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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

TRN 01 00:03:32.9, 13°.68N×59°.97W, h15km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.67**	**143**	*eP*	Pn	00 03 47.9	0.0
BBSP	**Saint Philip**	**0.76**	**139**	*eP*	Pn	00 03 49.6	+0.6
MCLT	**Moule a Chique**	**0.94**	**272**	*eP*	Pg	00 03 51.4	+0.2
MCLT				*eS*	Sn	00 04 05.8	+1.0
SSV	**Crater Summit**	**1.24**	**254**	*eP*	Pg	00 03 58.2	+1.4
SSV				*eS*	Sg	00 04 14.9	+1.9
SVV	**Soufriere Volc**	**1.26**	**254**	*eP*	Pg	00 03 58.5	+1.3
SVV				*eS*	Sg	00 04 16.0	+2.3
SVB	**Belmont**	**1.31**	**252**	*eP*	Pb	00 03 57.1	-0.1
SVB				*eS*	Sg	00 04 16.4	+1.2
FCV	**Fort Charlotte**	**1.34**	**248**	*eP*	Pg	00 03 58.6	-0.2
FCV				*eS*	Sg	00 04 17.4	+1.1
FDF	**Fort de France**	**1.55**	**313**	*eP*	Pb	00 04 01.7	+0.3
FDF				*eS*	Sn	00 04 20.3	+0.3
GRW	**Mount Saint Ca**	**2.23**	**228**	*eP*	Pn	00 04 11.2	+1.7
GRW				*eS*	Sn	00 04 38.7	+1.8
GRGR	**Grenville**	**2.25**	**227**	*eP*	Pn	00 04 11.0	+1.4
GRGR				*eS*	Sn	00 04 38.3	+1.2
DWS	**Wesley**	**2.29**	**326**	*eP*	Pn	00 04 11.7	+1.6
DWS				*eS*	Sn	00 04 39.4	+1.4
ANWB	**Willy Bob**	**4.34**	**336**	*eP*	Pn	00 04 39.6	+1.2
ANWB	**Willy Bob**	**4.34**	**336**	*eS*	Sn	00 05 30.0	+1.3

*IDC **01** 00:58:42.0±0.9, 36°.25N×23°.14E, h0km, mb3.7/9, mb1 3.7/13, mb1mx3.6/40, mbtmp3.7/13, ML3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.0/41, Error ellipse: s-maj=20.6km s-min=13.5km az=29.0*
*ATH **01** 00:58:42.6, 36°.23N×23°.02E, h19km±1km, ML3.5/8, Error ellipse: s-maj=1.4km s-min=0.7km az=227.0*
*ISCJB **01** 00:58:43.7±0.4, 36°.21N±0°.03×23°.01E±0°.03, h18km±3km, mb3.6/9, Error ellipse: s-maj=5.4km s-min=3.0km az=44.9*
*THE **01** 00:58:43.9, 36°.22N×23°.01E, h7km, ML3.4/6, Error ellipse: s-maj=1.4km s-min=0.7km az=59.0*
*CSEM **01** 00:58:43.5±0.2, 36°.22N×23°.05E, h8km, ML3.5, Error ellipse: s-maj=5.9km s-min=2.8km az=47.0*
ISC 01 00:58:43.6±0.7, 36°.23N±0°.02×23°.04E±0°.02, h12km±4km, n117, σ1§17/150, mb3.9/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.04**	**11**	P	**Pg**	**00 58 45.9**	**0.0**
KYTH				S	**Sg**	**00 58 47.4**	**-0.2**
KYTH	**Kithira**	**0.04**	**11**	P	**Pg**	**00 58 45.8**	**-0.1**
KYTH				S	**Sg**	**00 58 46.7**	**-0.9**
ANKY	**Antikythira Is**	**0.42**	**149**	P	**Pg**	**00 58 51.8**	**-0.1**
ANKY				S	**Sb**	**00 58 58.5**	**-0.7**
ANKY	**Antikythira Is**	**0.42**	**149**	P	**Pb**	**00 58 52.2**	**-0.7**
ANKY				S	**Sb**	**00 58 58.0**	**-1.2**
ANKY				AML	AML	00 58 59.2	
	comp=N,18860μm,0.5s						
ANKY				AML	AML	00 59 03.7	
	comp=E,22390μm,0.6s						
ANKY	**Antikythira Is**	**0.42**	**149**	P	**Pg**	**00 58 51.8**	**-0.1**
ANKY				S	**Sb**	**00 58 58.0**	**-1.2**
VLI	**Veliai**	**0.50**	**351**	P	**Pg**	**00 58 52.8**	**-0.6**
VLI				S	**Sg**	**00 59 00.0**	**0.0**
VLI	**Veliai**	**0.50**	**351**	P	**Pg**	**00 58 52.9**	**-0.5**
VLI				S	**Sg**	**00 58 59.4**	**-0.6**
VLI				AML	AML	00 59 00.8	
	comp=E,7265μm,0.5s						
VLI				AML	AML	00 59 01.6	
	comp=N,7938μm,0.5s						
VLI	**Veliai**	**0.50**	**351**	P	**Pg**	**00 58 52.9**	**-0.5**
VLI				S	**Sg**	**00 59 00.0**	**0.0**
IMMV	**Iera Moni Meta**	**1.08**	**135**	P	**Pb**	**00 59 04.1**	**-0.1**
IMMV	**Iera Moni Meta**	**1.08**	**135**	P	**Pb**	**00 59 03.9**	**-0.3**
IMMV				S	**Sg**	**00 59 18.5**	**0.0**
IMMV				AML	AML	00 59 28.7	
	comp=N,4389μm,0.4s						
IMMV				AML	AML	00 59 30.3	
	comp=E,4941μm,0.5s						
IMMV	**Iera Moni Meta**	**1.08**	**135**	P	**Pb**	**00 59 04.1**	**-0.1**
IMMV				S	**Sg**	**00 59 18.5**	**0.0**
MHLO	**Agia Marina, M**	**1.19**	**67**	P	**Pn**	**00 59 05.9**	**-0.2**
MHLO				S	**Sn**	**00 59 23.2**	**+1.0**
MHLO	**Agia Marina, M**	**1.19**	**67**	P	**Pb**	**00 59 06.3**	**+0.2**
MHLO				S	**Sn**	**00 59 23.5**	**+1.3**
MHLO				AML	AML	00 59 31.8	
	comp=N,6137μm,0.4s						
MHLO				AML	AML	00 59 33.9	
	comp=E,9224μm,0.6s						
MHLO	**Agia Marina, M**	**1.19**	**67**	P	**Pb**	**00 59 06.3**	**+0.2**
MHLO				S	**Sn**	**00 59 23.2**	**+1.0**
MHLA	**Plaka, Milos I**	**1.23**	**65**	P	**Pg**	**00 59 07.3**	**0.0**
MHLA				S	**Sb**	**00 59 23.2**	**+0.7**
MHLA				AML	AML	00 59 29.4	
	comp=N,6678μm,0.7s						
MHLA				AML	AML	00 59 35.2	
	comp=E,4430μm,1.2s						
MHLA	**Plaka, Milos I**	**1.23**	**65**	P	**Pg**	**00 59 07.2**	**0.0**
MHLA				S	**Sb**	**00 59 23.2**	**+0.7**
PYL	**PYLOS**	**1.24**	**303**	P	**Pn**	**00 59 05.5**	**-1.2**
PYL				S	**Sn**	**00 59 23.3**	**0.0**
PYL	**PYLOS**	**1.24**	**303**	P	**Pn**	**00 59 05.2**	**-1.5**
PYL				S	**Sb**	**00 59 22.9**	**0.0**
PYL				AML	AML	00 59 30.2	
	comp=E,1764μm,0.6s						
PYL				AML	AML	00 59 32.6	
	comp=N,1455μm,0.8s						
PYL	**PYLOS**	**1.24**	**303**	P	**Pn**	**00 59 05.5**	**-1.2**
PYL				S	**Sn**	**00 59 23.3**	**0.0**
VAM	**Vamos**	**1.25**	**131**	P	**Pn**	**00 59 06.6**	**-0.3**
VAM	**Vamos**	**1.25**	**131**	P	**Pn**	**00 59 06.8**	**-0.1**
VAM				S	**Sb**	**00 59 23.1**	**0.0**
VAM				AML	AML	00 59 26.2	
	comp=N,3607μm,0.6s						
VAM				AML	AML	00 59 28.8	
	comp=E,3355μm,0.7s						
VAM	**Vamos**	**1.25**	**131**	P	**Pn**	**00 59 06.8**	**-0.1**
VAM				S	**Sb**	**00 59 23.1**	**0.0**
VLX	**Vlachokerasia**	**1.26**	**335**	P	**Pn**	**00 59 06.8**	**-0.2**
VLX	**Vlachokerasia**	**1.26**	**335**	P	**Pn**	**00 59 06.9**	**-0.2**
VLX	**Vlachokerasia**	**1.26**	**335**	P	**Pn**	**00 59 06.9**	**-0.2**
ITM	**Ithomi**	**1.30**	**317**	P	**Pn**	**00 59 07.0**	**-0.6**
ITM				S	**Sg**	**00 59 26.4**	**+0.8**
ITM	**Ithomi**	**1.30**	**317**	P	**Pn**	**00 59 07.1**	**-0.6**
ITM				S	**Sg**	**00 59 25.7**	**0.0**
ITM				AML	AML	00 59 32.1	
	comp=E,2415μm,0.5s						
ITM				AML	AML	00 59 35.9	
	comp=N,1248μm,0.7s						
ITM	**Ithomi**	**1.30**	**317**	P	**Pn**	**00 59 07.1**	**-0.6**
ITM				S	**Sg**	**00 59 25.7**	**0.0**
TRIP	**Tripoli**	**1.44**	**335**	P	**Pb**	**00 59 10.1**	**-0.2**
TRIP	**Tripoli**	**1.44**	**335**	P	**Pb**	**00 59 10.1**	**-0.2**
AMT	**Artemida-Makis**	**1.68**	**321**	P	**Pn**	**00 59 12.7**	**-0.2**
AMT	**Artemida-Makis**	**1.68**	**321**	P	**Pb**	**00 59 14.1**	**-0.4**
AMT	**Artemida-Makis**	**1.68**	**321**	P	**Pb**	**00 59 14.1**	**-0.4**
VLY	**Voula,Athens**	**1.73**	**20**	P	**Pn**	**00 59 13.4**	**-0.1**
VLY				S	**Sb**	**00 59 36.9**	**-0.1**
VLY	**Voula,Athens**	**1.73**	**20**	P	**Pn**	**00 59 12.9**	**-0.6**
VLY	**Voula,Athens**	**1.73**	**20**	P	**Pn**	**00 59 13.4**	**-0.1**
VLY				S	**Sb**	**00 59 36.9**	**-0.1**
LOUT	**Loutraki**	**1.76**	**358**	P	**Pn**	**00 59 14.4**	**+0.5**
LOUT				S	**Sb**	**00 59 37.6**	**-0.2**
LOUT	**Loutraki**	**1.76**	**358**	P	**Pn**	**00 59 14.4**	**+0.5**
LOUT				S	**Sb**	**00 59 37.6**	**-0.2**
IDI	**Anoyia**	**1.77**	**121**	Pn	**Pn**	**00 59 13.9**	**-0.2**
	comp=N,3.2nm,0.3s,baz=282,slow=8.7,SNR=28						
IDI				Sn	**Sn**	**00 59 35.4**	**-1.3**
	comp=N,17nm,0.3s,baz=280,slow=17,SNR=8.4						
IDI				LR	LR	01 00 10.7	
	comp=N,145nm,18.8s,baz=266,slow=52						
IDI	**Anoyia**	**1.77**	**121**	P	**Pn**	**00 59 13.9**	**-0.2**
IDI	**Anoyia**	**1.77**	**121**	P	**Pn**	**00 59 12.5**	**-1.6**
LTK	**Loutraki**	**1.79**	**358**	P	**Pn**	**00 59 14.9**	**+0.5**
LTK	**Loutraki**	**1.79**	**358**	P	**Pn**	**00 59 14.6**	**+0.3**
LTK	**Loutraki**	**1.79**	**358**	P	**Pn**	**00 59 14.9**	**+0.5**
ATH	**Athens Observa**	**1.82**	**17**	P	**Pn**	**00 59 15.9**	**+1.2**
ATH	**Athens Observa**	**1.82**	**17**	P	**Pn**	**00 59 15.9**	**+1.2**
THAL	**Thalero**	**1.83**	**351**	P	**Pn**	**00 59 15.2**	**+0.3**
THAL	**Thalero**	**1.83**	**351**	P	**Pn**	**00 59 15.2**	**+0.3**
THR5	**Thira Island,**	**1.88**	**84**	P	**Pn**	**00 59 15.8**	**+0.3**
THR5	**Thira Island,**	**1.88**	**84**	P	**Pn**	**00 59 15.8**	**+0.3**
SIVA	**Sivas**	**1.88**	**129**	P	**Pb**	**00 59 16.9**	**-0.9**
SIVA	**Sivas**	**1.88**	**129**	P	**Pb**	**00 59 16.9**	**-0.9**
THR6	**Thira Island,**	**1.91**	**85**	P	**Pn**	**00 59 16.7**	**+0.8**
THR6	**Thira Island,**	**1.91**	**85**	P	**Pn**	**00 59 16.7**	**+0.8**
THR3	**Thira Island,**	**1.92**	**84**	P	**Pn**	**00 59 16.8**	**+0.8**
THR3	**Thira Island,**	**1.92**	**84**	P	**Pn**	**00 59 16.8**	**+0.8**
PTL	**Penteli**	**1.94**	**20**	P	**Pn**	**00 59 15.4**	**-0.9**
PTL	**Penteli**	**1.94**	**20**	P	**Pn**	**00 59 15.4**	**-0.9**
VILL	**Villia**	**1.95**	**6**	P	**Pn**	**00 59 15.6**	**-0.9**
KLV	**Kalavryta, Ach**	**1.95**	**339**	P	**Pn**	**00 59 17.2**	**+0.7**
KLV				S	**Sb**	**00 59 42.7**	**-0.6**
KLV	**Kalavryta, Ach**	**1.95**	**339**	P	**Pb**	**00 59 18.0**	**-1.0**
KLV	**Kalavryta, Ach**	**1.95**	**339**	P	**Pn**	**00 59 17.2**	**+0.7**
KLV				S	**Sb**	**00 59 42.7**	**-0.6**
VIL	**Platees**	**1.99**	**5**	P	**Pn**	**00 59 15.6**	**-1.5**
DRO	**Drossia**	**2.02**	**329**	P	**Pg**	**00 59 23.4**	**+1.0**
PROD	**Prodromos**	**2.03**	**357**	P	**Pn**	**00 59 17.1**	**-0.5**
PROD	**Prodromos**	**2.03**	**357**	P	**Pn**	**00 59 17.1**	**-0.5**
APE	**Apeiranthos**	**2.17**	**67**	P	**Pn**	**00 59 19.5**	**-0.1**
APE	**Apeiranthos**	**2.17**	**67**	P	**Pn**	**00 59 19.5**	**-0.1**
LAKA	**Lakka**	**2.18**	**338**	P	**Pb**	**00 59 22.2**	**-0.8**
LAKA	**Lakka**	**2.18**	**338**	P	**Pb**	**00 59 22.2**	**-0.8**
RLS	**Riolos of Patr**	**2.22**	**326**	P	**Pg**	**00 59 25.8**	**-0.3**
DSF	**Desfina**	**2.22**	**350**	P	**Pn**	**00 59 21.1**	**+0.8**
DSF	**Desfina**	**2.22**	**350**	P	**Pn**	**00 59 21.0**	**+0.8**
DSF	**Desfina**	**2.22**	**350**	P	**Pn**	**00 59 21.0**	**+0.8**
KALE	**Kalithea**	**2.28**	**342**	P	**Pn**	**00 59 21.8**	**+0.8**
KALE	**Kalithea**	**2.28**	**342**	P	**Pn**	**00 59 21.8**	**+0.8**
KALE	**Kalithea**	**2.28**	**342**	P	**Pn**	**00 59 21.8**	**+0.8**
EREA	**Eretria**	**2.30**	**18**	P	**Pn**	**00 59 20.7**	**-0.7**
EREA	**Eretria**	**2.30**	**18**	P	**Pn**	**00 59 20.7**	**-0.7**
NPS	**Neapolis**	**2.31**	**114**	P	**Pn**	**00 59 20.6**	**-0.8**
NPS	**Neapolis**	**2.31**	**114**	P	**Pn**	**00 59 20.6**	**-0.8**
EFP	**Efpalio**	**2.37**	**338**	P	**Pn**	**00 59 22.7**	**+0.4**
EFP	**Efpalio**	**2.37**	**338**	P	**Pn**	**00 59 22.7**	**+0.4**
LKR	**Lokris**	**2.42**	**359**	P	**Pn**	**00 59 23.2**	**+0.3**
LKR	**Lokris**	**2.42**	**359**	P	**Pn**	**00 59 21.2**	**-1.8**
LKR	**Lokris**	**2.42**	**359**	P	**Pn**	**00 59 23.2**	**+0.3**
AGG	**Agios Georgios**	**2.85**	**349**	P	**Pn**	**00 59 29.8**	**+1.0**
AGG	**Agios Georgios**	**2.85**	**349**	P	**Pn**	**00 59 29.8**	**+1.0**
EVR	**Evrytania**	**2.86**	**340**	P	**Pb**	**00 59 32.3**	**-2.2**
THL	**Klokotos Trika**	**3.43**	**347**	P	**Pn**	**00 59 36.9**	**+0.1**
THL	**Klokotos Trika**	**3.43**	**347**	P	**Pn**	**00 59 36.9**	**+0.1**
VAE	**Valguarnera**	**7.03**	**283**	Pn	**Pn**	**01 00 29.9**	**+3.5**
	comp=N,0.3nm,0.3s,baz=137,slow=18,SNR=3.4						
VAE				Sn	**Sn**	**01 01 49.7**	**+3.5**
	comp=N,0.7nm,0.3s,baz=35,slow=17,SNR=3.2						
STON	**Ston**	**7.81**	**330**	*e*Pn	**Pn**	**01 00 36.0**	**-1.0**
STON				Sn	**Sn**	**01 02 01.6**	**-3.7**
BBLS	**Lazići**	**8.12**	**341**	*e*Pn	**Pn**	**01 00 43.1**	**+1.8**
TEKS	**Tekeris**	**8.73**	**343**	*e*Pn	**Pn**	**01 00 51.2**	**+1.5**
BRTR	**Keskin Array B**	**9.07**	**64**	Pn	**Pn**	**01 00 59.1**	**+4.7**
	comp=N,0.1nm,0.3s,baz=242,slow=14,SNR=5.5						
MLR	**Muntele Rosu**	**9.51**	**12**	Pn	Pn	01 01 08.3	+7.9
	comp=N,0.0nm,0.3s,baz=240,slow=15,SNR=2.4						
UDBI	**Udbina**	**9.97**	**328**	*e*Pn	**Pn**	**01 01 06.8**	**+0.2**
UDBI				Sn	**Sn**	**01 02 55.9**	**-2.6**
NVLJ	**Novalja**	**10.39**	**326**	*i* Pn	**Pn**	**01 01 13.7**	**+1.3**
NVLJ				Sn	**Sn**	**01 03 04.8**	**-3.8**
NVLJ	**Novalja**	**10.39**	**326**	*i* Pn	**Pn**	**01 01 13.6**	**+1.3**
MMAI	**Mount Meron Ar**	**10.68**	**104**	Pn	**Pn**	**01 01 15.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=292,slow=12,SNR=5.6						
MMAI				Sn	**Sn**	**01 03 11.0**	**-4.9**
	comp=N,0.3nm,0.3s,baz=286,slow=25,SNR=2.8						
KEST	**Kesra**	**11.11**	**271**	LR	LR	01 06 46.3	
	comp=N,52nm,19.0s,baz=4.0,slow=43						
VRAC	**Vranov**	**13.90**	**342**	Pn	**Pn**	**01 02 02.5**	**+2.2**
	baz=198,slow=16,SNR=2.2						
GERES	**GERESS Array B**	**14.35**	**334**	Pn	**Pn**	**01 02 06.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=154,slow=9.3,SNR=2.6						
KHC	**Kasperske Hory**	**14.64**	**335**	*e*P	**P**	**01 02 18.9**	**+2.2**
DPC	**Dobruska-Polom**	**14.93**	**343**	*e*P	**P**	**01 02 21.6**	**+1.6**
DPC				*ex*	x	01 02 24.3	
CLL	**Collm**	**16.70**	**338**	*i* (PKP)	**P**	**01 02 41.6**	**+2.0**
	comp=Z,7.0nm,1.4s						
CLL				*i*		01 02 43.9	
	comp=Z,4.0nm,0.8s						
ESDC	**Sonseca Array**	**21.54**	**287**	P	**P**	**01 03 33.6**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=102,slow=19,SNR=3.7						
HFS	**Hagfors**	**24.67**	**349**	P	**P**	**01 04 02.9**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=156,slow=11,SNR=13						
FINES	**FINESS Array B**	**25.31**	**3**	P	**P**	**01 04 11.3**	**+1.6**
	comp=Z,4.5nm,1.1s,baz=183,slow=11,SNR=3.4						
NB2	**NORSAR Subarra**	**25.95**	**347**	P	**P**	**01 04 17.4**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**25.95**	**347**	P	**P**	**01 04 16.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=181,slow=18,SNR=7.1						
EKA	**Eskdalemuir Ar**	**26.18**	**325**	P	**P**	**01 04 17.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=122,slow=9.4,SNR=10						
GEYT	**Alibeck**	**27.94**	**76**	P	**P**	**01 04 33.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=281,slow=17,SNR=2.0						
TORD	**Torodi Ar. Bea**	**29.93**	**225**	P	**P**	**01 04 52.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=43,slow=9.6,SNR=2.8						
MKAR	**Makanchi Array**	**44.64**	**57**	P	**P**	**01 06 54.6**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=272,slow=7.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**45.52**	**47**	P	**P**	**01 07 02.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=272,slow=12,SNR=3.9						

*DDA **01** 01:05:27.9, 37°.98N×35°.18E, h7km, Md2.6*
*ISK **01** 01:05:27.9, 37°.99N×35°.15E, h6km, MD2.7*
*ISCJB **01** 01:05:28.1±0.7, 37°.98N±0°.03×35°.16E±0°.05, h3km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=158.8*
*CSEM **01** 01:05:28.2±0.2, 37°.97N×35°.14E, h2km, MD2.1, Error ellipse: s-maj=4.0km s-min=3.1km az=50.0*
ISC 01 01:05:28.1±1.1, 37°.98N±0°.02×35°.15E±0°.03, h7km±12km, n22, σ0§32/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.20**	**57**	*i* P	**Pg**	**01 05 32.1**	**-0.1**
YAHY				*i* S	**Sg**	**01 05 35.1**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.20**	**57**	P	**Pg**	**01 05 32.1**	**-0.1**
YAHY				S	**Sg**	**01 05 35.1**	**+0.1**
AKO	**Adana**	**0.57**	**155**	*i* P	**Pg**	**01 05 39.0**	**-0.2**
AKO				*i* S	**Sg**	**01 05 47.3**	**+0.7**
KOZT	**Kozan**	**0.74**	**133**	*e*PG	**Pg**	**01 05 42.4**	**+0.1**
KOZT				*e*SG	**Sb**	**01 05 53.2**	**-0.4**
KOZT	**Kozan**	**0.74**	**133**	*e*Pg	**Pg**	**01 05 42.4**	**+0.1**
KOZT				*e*Sg	**Sb**	**01 05 53.2**	**-0.4**
AVNS	**Nevsehir-Avano**	**0.85**	**344**	*i* P	**Pg**	**01 05 44.6**	**+0.1**
AVNS				*i* S	**Sb**	**01 05 57.4**	**+0.3**
AVNS	**Nevsehir-Avano**	**0.85**	**344**	P	**Pg**	**01 05 44.6**	**+0.1**
AVNS				S	**Sb**	**01 05 57.4**	**+0.3**
KERG	**Konya-Eregli**	**0.99**	**235**	*i* P	**Pg**	**01 05 46.9**	**-0.2**
KERG	**Konya-Eregli**	**0.99**	**235**	P	**Pg**	**01 05 46.9**	**-0.2**
BNN	**Bunyan**	**1.03**	**32**	*e*PG	**Pg**	**01 05 47.6**	**-0.2**
BNN				*e*SG	**Sb**	**01 06 02.5**	**+0.4**
BNN	**Bunyan**	**1.03**	**32**	*e*Pg	**Pg**	**01 05 47.6**	**-0.2**
BNN				*e*Sg	**Sb**	**01 06 02.5**	**+0.4**
ANDN	**Andirin**	**1.03**	**113**	*i* P	**Pb**	**01 05 48.2**	**-0.2**
ANDN	**Andirin**	**1.03**	**113**	P	**Pb**	**01 05 48.2**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.09**	**67**	*e*PN	**Pb**	**01 05 49.0**	**-0.4**
SARI				*e*SN	**Sb**	**01 06 04.4**	**+0.6**
SULT	**Sultanhani-AKS**	**1.30**	**280**	*e*Pn	**Pg**	**01 05 53.4**	**+0.2**
SULT	**Sultanhani-AKS**	**1.30**	**280**	*e*Pn	**Pg**	**01 05 53.4**	**+0.2**
KMRS	**Kahramanmaras**	**1.47**	**108**	*e*PN	**Pb**	**01 05 55.5**	**-0.3**
KMRS				*e*SN	**Sg**	**01 06 15.7**	**+0.4**
KMRS	**Kahramanmaras**	**1.47**	**108**	*e*Pn	**Pb**	**01 05 55.5**	**-0.3**
KMRS				*e*Sn	**Sg**	**01 06 15.7**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**1.67**	**31**	*i* P	**Pb**	**01 05 59.1**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.67**	**31**	P	**Pb**	**01 05 59.1**	**-0.2**
CDAG	**Cicekdag**	**1.75**	**340**	*i* P	**Pb**	**01 06 00.5**	**-0.1**
CDAG				*i* S	**Sg**	**01 06 23.7**	**-0.5**
CDAG	**Cicekdag**	**1.75**	**340**	P	**Pb**	**01 06 00.5**	**-0.1**
CDAG				S	**Sg**	**01 06 23.7**	**-0.5**

*IDC **01** 01:15:21.9±0.8, 19°.53S×70°.62W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/27, mbtmp3.9/10, ML3.6/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/23, Error ellipse: s-maj=27.6km s-min=18.4km az=58.0*
*ISCJB **01** 01:15:23.9±1.0, 19°.60S±0°.03×70°.82W±0°.04, h24km±6km, mb3.9/11, MS3.5/5, Error ellipse: s-maj=7.2km s-min=4.5km az=153.1*
*GUC **01** 01:15:25.9±0.5, 19°.61S×70°.69W, h37km±3km, ML3.8*
*NEIC **01** 01:15:27.5±0.9, 19°.64S×70°.76W, h38km±8km, mb4.2/5, Error ellipse: s-maj=11.6km s-min=7.2km az=81.0*
ISC 01 01:15:24.8±1.5, 19°.56S±0°.04×70°.67W±0°.05, h16km±9km, n46, σ1§34/48, mb4.2/11, MS3.6/5, 2C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.52**	**94**	⇓*i* P	**Pn**	**01 15 36.8**	**-0.8**
PSGC				*i* S	**Sn**	**01 15 44.8**	**-1.4**
PSGC				IAML		01 15 45.7	
	comp=N,9μm,0.2s						
PB11	**IPOC Station P**	**0.98**	**102**	⇓*i* P	**Pg**	**01 15 44.1**	**+0.2**
PB11				*i* S	**Sn**	**01 15 57.7**	**+0.1**
PB12	**IPOC Station P**	**1.00**	**19**	⇓*i* P	**Pg**	**01 15 44.9**	**+0.7**
PB12				*i* S	**Sn**	**01 15 58.7**	**+0.7**
HMBC	**Humberstone**	**1.03**	**134**	⇓*i* P	**Pn**	**01 15 44.1**	**-0.5**
HMBC				*i* S	**Sn**	**01 15 57.6**	**-1.1**
HMBC				IAML		01 16 04.4	
	comp=E,4μm,0.8s						
MNMC	**Minye Minye**	**1.10**	**67**	⇓*i* P	**Pg**	**01 15 46.9**	**+0.7**
MNMC				*i* S	**Sg**	**01 16 02.7**	**+1.9**
MNMC				IAML		01 16 06.7	
	comp=E,7μm,0.2s						
PB08	**IPOC Station P**	**1.54**	**112**	⇓*i* P	**Pb**	**01 15 53.1**	**-0.2**
PB08				*i* S	**Sg**	**01 16 13.9**	**-0.8**
PB08				IAML		01 16 20.6	
	comp=E,2μm,0.1s						
PB01	**IPOC Station P**	**1.85**	**143**	⇑*i* P	**Pn**	**01 15 56.3**	**+0.4**
PB01				*i* S	**Sb**	**01 16 19.9**	**-1.3**
PB01				IAML		01 16 20.1	
	comp=N,1μm,0.9s						
PB07	**IPOC Station P**	**2.28**	**161**	IAML		01 16 39.6	
	comp=E,1μm,1.1s						
PB09	**IPOC Station P**	**2.59**	**149**	⇑*i* P	**Pn**	**01 16 07.4**	**+1.1**
PB09				*i* S	**Sn**	**01 16 38.7**	**+1.1**
LVC	**Limon Verde**	**3.45**	**152**	Pn	**Pn**	**01 16 19.4**	**+1.2**
	comp=E,198nm,0.3s,baz=343,slow=9.4,SNR=50						
LVC				Sn	**Sn**	**01 17 00.4**	**+1.5**
	comp=E,539nm,0.3s,baz=217,slow=21,SNR=6.1						
LVC				LR	LR	01 17 56.7	
	comp=E,2μm,19.8s,baz=336,slow=45						
LPAZ	**La Paz**	**4.06**	**37**	Pn	**Pb**	**01 16 32.5**	**-3.8**
	comp=E,4.0nm,0.3s,baz=275,slow=4.1,SNR=35						
LPAZ				Sn	**Sb**	**01 17 23.2**	**-2.1**
	comp=E,2.3nm,0.3s,baz=270,slow=11,SNR=2.1						
LCO	**Las Campanas**	**9.41**	**180**	*e*Pn	**Pn**	**01 17 39.2**	**-0.8**
NNA	**Nana**	**9.59**	**321**	Pn	**Pn**	**01 17 42.3**	**0.0**
	comp=E,0.7nm,0.3s,baz=157,slow=13,SNR=2.3						
NNA				Sn	**Sn**	**01 19 31.8**	**+2.0**
	comp=E,1.4nm,0.3s,baz=213,slow=17,SNR=2.0						
NNA				LR	LR	01 21 37.6	
	comp=E,123nm,19.1s,baz=174,slow=39						
SIV	**San Ignacio**	**9.81**	**70**	Pn	**Pn**	**01 17 46.3**	**+1.0**
	comp=E,1.1nm,0.3s,baz=274,slow=11,SNR=9.7						
SIV				Sn	**Sn**	**01 19 39.5**	**+4.3**
	comp=E,0.2nm,0.3s,baz=324,slow=14,SNR=1.6						
SIV				LR	LR	01 22 00.3	
	comp=E,234nm,18.9s,baz=273,slow=41						
SAML	**Samuel**	**12.80**	**36**	*e*Pn	**Pn**	**01 18 29.3**	**+3.1**
	comp=E,4.6nm,0.9s						
CPUP	**Villa Florida**	**14.01**	**121**	Pn	**Pn**	**01 18 43.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=290,slow=13,SNR=4.4						
CPUP				LR	LR	01 24 19.3	
	comp=E,65nm,20.9s,baz=298,slow=38						
TRQA	**Tornquist**	**19.92**	**160**	*e*P	**P**	**01 19 55.6**	**-0.3**
	comp=E,20nm,1.4s						
**PL

KKAR	Karatay Array	37.15	329	eP	P	01 25 56.7	+0.2
	4.6nm,1.1s						
KURBB	Kurchatov Arra	40.16	343	P	P	01 26 21.9	+0.3
	1.8nm,0.3s,baz=153,slow=8.0,SNR=4.0						
KURK	Kurchatov	40.22	343	eP	P	01 26 22.6	+0.5
	45nm,0.8s						
GEYT	Alibeck	41.70	314	P	P	01 26 34.5	0.0
	1.9nm,0.6s,baz=141,slow=7.6,SNR=7.6						
GEYT				LR	LR	01 45 59.2	
	comp=Z,48nm,18.5s,baz=250,slow=39						
ZALV	Zalesovo Beam	41.87	350	P	P	01 26 33.8	-1.8
	0.4nm,0.3s,baz=184,slow=8.6,SNR=4.4						
BRVK	Borovoye	44.91	338	eP	P	01 27 00.1	-0.1
	5.5nm,0.8s						
ABKAR	Akbulak array	46.70	328	eP	P	01 27 14.7	+0.3
	7.5nm,0.9s						
WRA	Warramunga Arr	50.10	130	P	P	01 27 41.0	+0.1
	5.5nm,0.9s,baz=310,slow=8.5,SNR=33						
WRAB	Tennant Creek	50.10	130	eP	P	01 27 40.6	-0.4
	7.6nm,0.9s						
ARU	Arti	51.97	335	eP	P	01 27 54.3	-0.2
	9.8nm,1.4s						
ASAR	Alice Springs	52.11	134	P	P	01 27 56.5	+0.4
	4.5nm,0.6s,baz=314,slow=6.9,SNR=64						
COEN	Coen	54.07	118	eP	P	01 28 10.0	-0.6
	2.7nm,0.8s						
BRTR	Keskin Array B	60.44	308	P	P	01 28 56.4	+0.9
	0.5nm,0.8s,baz=96,slow=6.6,SNR=4.5						
BRTR				LR	LR	01 58 39.9	
	comp=Z,23nm,18.1s,baz=90,slow=40						
STKA	Stephens Creek	62.55	136	P	P	01 29 10.1	+0.5
	4.2nm,0.7s,baz=314,slow=5.8,SNR=7.1						
STKA				LR	LR	01 58 34.4	
	comp=Z,39nm,18.4s,baz=26,slow=38						
AKASG	Malin Array Be	65.26	320	P	P	01 29 28.3	+1.1
	0.3nm,0.4s,baz=82,slow=6.3,SNR=3.7						
FINES	FINESS Array B	69.06	331	P	P	01 29 50.2	-0.8
	2.1nm,0.9s,baz=108,slow=18,SNR=2.5						
FINES				LR	LR	02 02 48.1	
	comp=Z,46nm,19.8s,baz=358,slow=38						
ARCES	ARCESS Array B	71.12	340	LR	LR	02 03 46.8	
	comp=Z,30nm,18.5s,baz=48,slow=38						
MORC	Moravsky Berou	72.64	318	eP	P	01 30 13.0	-0.1
	7.8nm,0.9s						
GERES	GERESS Array B	75.17	317	P	P	01 30 28.4	+0.4
	0.2nm,0.5s,baz=102,slow=4.4,SNR=2.6						
NOA	NORSAR Array B	76.17	330	P	P	01 30 35.7	+2.3
	1.5nm,1.0s,baz=88,slow=5.0,SNR=3.6						
BOSA	Boshof	79.54	237	P	P	01 30 53.7	+0.8
	3.6nm,1.0s,baz=69,slow=8.6,SNR=2.7						
ILAR	Eielson Array	89.56	22	P	P	01 31 41.0	-1.7
	0.6nm,0.7s,baz=299,slow=4.3,SNR=7.2						
TORD	Torodi Ar. Bea	90.93	284	P	P	01 31 50.0	0.0
	0.4nm,0.8s,baz=76,slow=6.1,SNR=3.0						
PLCA	Paso Flores	149.74	201	PKPbc	PKPbc	01 38 35.6	0.0
	2.9nm,0.9s,baz=252,slow=1.0,SNR=5.5						
CPUP	Villa Florida	151.36	238	PKPbc	PKPbc	01 38 38.5	-1.3
	1.1nm,0.8s,baz=35,slow=12,SNR=2.9						

IDC 01 01:21:59.0±4.2, 17°.03S×177°.05W, h0km, mb4.5/3, mb1 4.6/3, mb1mx3.9/26, mbtmp4.5/3, Error ellipse: s-maj=183.3km s-min=41.1km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.19	241	P	P	01 29 38.0	+0.6
	1.4nm,0.5s,baz=90,slow=13,SNR=3.5						
WRA	Warramunga Arr	46.08	259	P	P	01 30 24.7	-0.5
	2.1nm,0.5s,baz=94,slow=6.8,SNR=42						
ASAR	Alice Springs	46.28	253	P	P	01 30 26.4	-0.4
	14nm,0.6s,baz=88,slow=8.3,SNR=172						
BRTR	Keskin Array B	145.07	317	PKPbc	PKPbc	01 41 36.7	-1.6
	0.5nm,0.4s,baz=103,slow=3.2,SNR=8.7						
GERES	GERESS Array B	147.08	347	PKPbc	PKPbc	01 41 44.3	+0.3
	0.4nm,0.6s,baz=27,slow=3.3,SNR=3.6						

CASC 01 01:40:11.6±2.0, 8°.24N×82°.82W, h2km±7km, MD4.1, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.54	320	eP	Pg	01 40 22.2	+0.3
BRU2	Volcan	0.57	13	⇓iP	Pg	01 40 23.3	+0.8
BRU2				⇓iP	Pb	01 40 23.3	-1.0
TBS2		0.58	17	⇑iP	Pb	01 40 24.3	-0.2
TBS2				eS	Sb	01 40 33.5	+0.3
DRK0	Durika	1.10	338	eP	Pg	01 40 31.4	-1.4
DRK0				eS	Sb	01 40 48.0	-0.3
BUS	Buena Vista	1.60	325	eP	Pn	01 40 40.2	-1.2
BUS				eS	Sg	01 41 03.7	+0.5
QCR1	Quepos	1.78	312	eP	Pn	01 40 41.5	-1.9
URSC	Urasca	1.85	329	eP	Pn	01 40 43.9	-0.6
URSC				eS	Sn	01 41 09.0	+0.5
LCR2	La Lucha 2	1.90	322	⇑eP	Pn	01 40 45.4	+0.2
LCR2				eS	Sb	01 41 11.5	+0.2
CVTR	Volcan Turrial	2.00	333	eP	Pn	01 40 47.0	+0.3
CVTR				eS	Sb	01 41 14.3	-0.2
CGA2	Cerro Gallo 2	2.40	318	eP	Pn	01 40 53.3	+1.3
CGA2				eS	Sb	01 41 24.0	-1.7
AZU	Azuero	2.56	100	eP	Pn	01 40 53.8	-0.4
AZU				eS	Sn	01 41 26.6	+0.7
ARE1	Arenal 1	2.90	320	eP	Pn	01 41 00.2	+1.4
ARE1				eS	Sn	01 41 33.6	-0.5
CUI	Cuipilapa	3.33	316	⇓iP	Pn	01 41 05.7	+0.8

*CSEM **01** 01:56:46.0±0.4, 34°.90N×30°.50E, h40km, ML3.2, Error ellipse: s-maj=12.1km s-min=4.1km az=140.0*
*NIC **01** 01:56:47.4±0.2, 35°.05N×30°.64E, h41km, ML3.2*
*HLW **01** 01:56:48.8, 34°.68N×30°.44E, h21km±12km, Md2.8, Ml2.6*
*NSSC **01** 01:56:49.1±1.5, 35°.07N×30°.87E, h27km±125km, ML2.3*

ISC 01 01:56:43.9±2.2, 34°.96N±0°.09×30°.5E±0°.1, h35km, n29, σ2°.57/42, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	Akamas	1.52	87	P	Pn	01 57 10.2	+1.6
AKMC	Akamas	1.52	87	P	Pn	01 57 10.2	+1.6
	baz=271						
PPCY	Paphos	1.53	92	P	Pn	01 57 10.6	+1.8
PPCY	Paphos	1.53	92	P	Pn	01 57 10.6	+1.8
	baz=277						
ALFC	Alefka	1.75	83	P	Pn	01 57 13.8	+2.0
ALFC				S	Sn	01 57 34.1	+1.3
ALFC	Alefka	1.75	83	P	Pn	01 57 13.8	+2.0
	baz=266						
ALFC				S	Sn	01 57 34.1	+1.3
SZAC	Souni	1.98	95	P	Pn	01 57 17.5	+2.5
SZAC				S	Sn	01 57 40.3	+1.6
SZAC	Souni	1.98	95	P	Pn	01 57 17.5	+2.5
	baz=279						
SZAC				S	Sn	01 57 40.3	+1.6
ARNB	Al Arnab	4.57	77	eP	Pn	01 57 53.5	+2.8
ARNB				eS	Sn	01 58 38.4	-4.2
ARNB				AML	AML	01 58 45.1	
	comp=E,11nm,0.4s						
ARNB				AML	AML	01 58 49.0	
	comp=N,11nm,0.4s						
BRBR	Barbar	4.79	107	eP	Pn	01 57 56.2	+2.5
BRBR				eS	Sn	01 58 45.1	-3.0
BRBR				AML	AML	01 58 47.9	
	comp=E,23nm,0.5s						
BRBR				AML	AML	01 58 50.4	
	comp=N,18nm,0.7s						
BIDA	Albida	4.79	88	eP	Pn	01 57 55.0	+1.3
BIDA				eS	Sn	01 58 44.5	-3.6
BIDA				AML	AML	01 58 49.1	
	comp=E,26nm,0.3s						
BIDA				AML	AML	01 58 51.2	
	comp=N,32nm,0.7s						
RSH		4.83	145	P	Pn	01 57 56.0	+1.8
	baz=142						
RSH		4.83	145	P	Pn	01 57 56.0	+1.8
HAWK	Haweek	4.89	93	eP	Pn	01 57 57.0	+1.9
HAWK				eS	Sn	01 58 47.8	-2.9
HAWK				AML	AML	01 58 48.8	
	comp=E,13nm,0.6s						
HAWK				AML	AML	01 58 50.6	
	comp=N,12nm,0.5s						
BTCH	Batrach	4.99	76	eP	Pn	01 57 59.5	+3.0
BTCH				eS	Sn	01 58 48.4	-4.5
BTCH				AML	AML	01 58 59.0	
	comp=E,11nm,0.4s						
BTCH				AML	AML	01 59 00.5	
	comp=N,14nm,0.3s						
MARH	Ras Al Marh	5.04	99	eP	Pn	01 58 00.8	+3.5
MARH				eS	Sn	01 58 50.9	-3.5
MARH				AML	AML	01 58 57.5	
	comp=E,5.0nm,0.4s						
MARH				AML	AML	01 58 59.5	
	comp=N,12nm,0.4s						
KOT	Kottamia	5.15	167	P	Pn	01 57 59.5	+0.9
	baz=165						
KOT				AMP		01 59 00.0	
	comp=E,10μm,0.4s,logA/T=4.4,baz=165						
KOT	Kottamia	5.15	167	P	Pn	01 57 59.5	+0.9
HHAG	Hagoal	5.18	164	P	Pn	01 58 00.1	+1.1
	baz=162						
HHAG	Hagoal	5.18	164	P	Pn	01 58 00.1	+1.1
DRWC	Darouich	5.29	70	eP	Pn	01 58 02.2	+1.7
DRWC				eS	Sn	01 58 55.2	-5.1
DRWC				AML	AML	01 59 10.9	
	comp=E,5.3nm,0.7s						
DRWC				AML	AML	01 59 11.1	
	comp=N,4.4nm,1.0s						
HSAF	As Saff	5.41	170	P	Pn	01 58 03.3	+1.2
	baz=169						
HSAF	As Saff	5.41	170	P	Pn	01 58 03.3	+1.2
GLL	Jalalah	5.47	169	P	Pn	01 58 03.4	+0.4
	baz=167						
GLL	Jalalah	5.47	169	P	Pn	01 58 03.4	+0.4
SALA	Sala	5.66	112	eP	Pn	01 58 08.8	+3.0
SALA				eS	Sn	01 59 07.3	-2.4
SALA				AML	AML	01 59 11.4	
	comp=E,0.7nm,0.5s						
SALA				AML	AML	01 59 11.9	
	comp=N,4.8nm,0.4s						
ROOS	tl_alroos	5.67	96	eP	Pn	01 58 08.7	+3.0
ROOS				eS	Sn	01 59 04.8	-4.9
ROOS				AML	AML	01 59 12.7	
	comp=E,14nm,0.5s						
ROOS				AML	AML	01 59 22.4	
	comp=N,9.2nm,0.4s						
SWA2		7.12	218	P	Pn	01 58 27.1	+1.5
	baz=220						
SWA2		7.12	218	P	Pn	01 58 27.1	+1.5

GUC 01 02:03:39.0±0.5, 22°.06S×68°.54W, h117km±3km, ML3.8, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.65	212	⇑iP	Pn	02 03 58.6	+0.5
LVC				eS	Sn	02 04 13.3	+0.7
PB09	IPOC Station P	0.70	291	⇑iP	Pn	02 03 59.0	+0.7
PB09				eS	Sn	02 04 13.7	+0.9
PB09				IAML		02 04 16.4	
	comp=E,5μm,0.3s						
PB06	IPOC Station P	1.15	236	⇑iP	Pn	02 04 03.2	+0.7
PB06				eS	Sn	02 04 21.5	+1.1
PB06				IAML		02 04 22.6	
	comp=E,2μm,0.3s						
PB07	IPOC Station P	1.29	284	⇑iP	Pn	02 04 04.8	+0.7
PB07				eS	Sn	02 04 23.9	+0.8
PB07				IAML		02 04 26.2	
	comp=E,1μm,0.1s						
PB01	IPOC Station P	1.34	319	eP	Pn	02 04 04.9	+0.4
PB01				eS	Sn	02 04 24.8	+1.0
PB01				IAML		02 04 26.3	
	comp=E,1μm,0.2s						
PB04	IPOC Station P	1.52	259	eP	Pn	02 04 06.9	+0.3
PB04				eS	Sn	02 04 29.0	+1.3
PB04				IAML		02 04 31.4	
	comp=N,1μm,0.3s						
PB11	IPOC Station P	2.51	335	⇓iP	Pn	02 04 18.6	-0.4
PB11				eS	Sn	02 04 49.2	-0.5

IDC 01 02:05:02.9±10.0, 21°.67N×143°.67E, h309km±97km, mb3.0/6, mb1 3.2/6, mb1mx2.9/50, mbtmp3.7/6, Error ellipse: s-maj=116.2km s-min=15.8km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	Kul'dur	29.09	344	P	P	02 10 35.7	+0.2
	0.2nm,0.6s,baz=180,slow=7.1,SNR=6.3						
SONM	Songino Array	39.65	320	P	P	02 12 05.1	-0.5
	0.3nm,0.4s,baz=122,slow=5.2,SNR=2.3						
WRA	Warramunga Arr	42.35	193	P	P	02 12 27.5	-0.1
	0.9nm,0.6s,baz=17,slow=8.9,SNR=11						
ASAR	Alice Springs	46.05	192	P	P	02 12 56.6	-0.1
	0.2nm,0.6s,baz=17,slow=13,SNR=6.4						
ARCES	ARCESS Array B	79.09	342	P	P	02 16 33.6	+0.6
	3.1nm,0.8s,baz=39,slow=9.3,SNR=2.7						
FINES	FINESS Array B	83.40	335	P	P	02 16 55.0	-0.7
	1.1nm,0.6s,baz=46,slow=4.0,SNR=7.4						

*IDC **01** 02:12:26.4±2.0, 1°.86N×100°.67W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/33, mbtmp4.1/8, MS3.5/9, Ms1 3.5/9, ms1mx3.3/33, Error ellipse: s-maj=96.9km s-min=20.2km az=56.0*
*ISCJB **01** 02:12:28.1±1.5, 2°.1N±0°.2×100°.2W±0°.3, h10km, mb3.9/23, MS3.4/8, Error ellipse: s-maj=51.3km s-min=10.4km az=139.7*
*NEIC **01** 02:12:29.4±0.9, 2°.05N×100°.27W, h10km, mb4.0/15, Error ellipse: s-maj=30.9km s-min=7.6km az=50.0*

ISC 01 02:12:29.4±1.6, 2°.1N±0°.3×100°.3W±0°.3, h10km, n40, σ0°.93/28, mb3.9/23, MS3.6/8, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	15.79	19	LR	LR	02 20 51.3	
	comp=Z,331nm,19.1s,baz=158,slow=31						
H06E1	SOCORRO T-PHASE	19.59	328	T	T	02 37 02.5	
OTAV	Otavalo	21.88	95	eP	P	02 17 22.4	-0.8
	3.0nm,0.9s						
TXAR	Lajitas Array	27.26	353	P	P	02 18 15.5	+1.3
	1.5nm,0.8s,baz=174,slow=12,SNR=13						
TXAR				LR	LR	02 28 01.4	
	comp=Z,190nm,18.1s,baz=0.0,slow=34						
MNTX	Cornudas Mount	29.82	351	eP	P	02 18 37.0	+0.2
	4.0nm,1.2s						
TUC	Tucson	31.63	343	eP	P	02 18 53.7	+0.8
	1.7nm,0.7s						
ANMO	Albuquerque	33.17	351	eP	P	02 19 07.4	+0.9
	1.4nm,0.8s						
MVCO	Mesa Verde	35.74	349	eP	P	02 19 29.7	+0.9
	2.7nm,0.8s						
LPAZ	La Paz	36.62	121	P	P	02 19 36.8	-0.2
	1.3nm,0.9s,baz=299,slow=19,SNR=2.5						
LPAZ				LR	LR	02 33 10.0	
	comp=Z,19nm,18.8s,baz=310,slow=34						
SAML	Samuel	38.55	107	eP	P	02 19 53.2	+0.6
	2.7nm,1.0s						
DUG	Dugway, Tooele	39.58	345	eP	P	02 20 02.9	+1.8
	2.6nm,1.0s						
CXM	Morne La Croix	40.58	70	eP	P	02 20 22.3	+13
GBMF	Grand Be	40.58	70	eP	P	02 20 24.3	+15
BAMF	Morne Balai	40.59	70	eP	P	02 20 17.0	+7.2
HWUT	Hardware Ranch	40.62	347	eP	P	02 20 11.2	+1.5
	2.7nm,0.8s						
BW06	Boulder Array	41.32	350	eP	P	02 20 16.0	+0.4
	1.8nm,0.8s						
PDAR	Pinedale Array	41.32	350	P	P	02 20 15.9	+0.3
	1.7nm,0.8s,baz=151,slow=6.5,SNR=14						
PDAR				LR	LR	02 36 20.5	
	comp=Z,90nm,18.1s,baz=190,slow=35						
RSSD	Black Hills	41.96	356	eP	P	02 20 21.9	+1.0
	3.2nm,0.8s						
TPAW	Teton Pass	42.29	348	eP	P	02 20 23.8	+0.2
	2.5nm,1.0s						
LOHW	Long Hollow	42.34	349	eP	P	02 20 24.2	+0.3
	2.1nm,0.8s						
MOOW	Moose Ponds	42.49	349	eP	P	02 20 25.1	-0.1
	1.3nm,0.8s						
HLID	Hailey	43.15	345	eP	P	02 20 31.4	+1.0
	1.5nm,0.8s						
WVOR	Wild Horse Val	43.39	340	eP	P	02 20 32.7	+0.4
	2.0nm,1.0s						
ULM	Lac du Bonnet	48.10	4	P	P	02 21 08.8	-0.5
	3.8nm,0.8s,baz=177,slow=13,SNR=4.2						
NEW	Newport	48.22	345	P	P	02 21 08.8	-1.5
	0.8nm,0.5s,baz=166,slow=12,SNR=4.5						
NEW	Newport	48.22	345	eP	P	02 21 10.2	-0.1
	2.5nm,0.9s						
CPUP	Villa Florida	50.17	127	P	P	02 21 26.4	+0.9
	1.4nm,0.9s,baz=302,slow=7.5,SNR=3.1						
PLCA	Paso Flores	50.52	151	LR	LR	02 38 01.2	
	comp=Z,76nm,20.1s,baz=338,slow=30						
SCHQ	Schefferville	59.17	22	LR	LR	02 47 35.7	
	comp=Z,60nm,21.5s,baz=316,slow=35						
YKA	Yellowknife Ar	61.19	352	LR	LR	02 48 29.6	
	comp=Z,6.6nm,19.1s,baz=180,slow=35						
INK	Inuvik	69.84	347	P	P	02 23 40.1	+0.2
	3.6nm,0.9s,baz=52,slow=10,SNR=4.2						
INK	Inuvik	69.84	347	eP	P	02 23 39.7	-0.2
	6.1nm,1.0s						
ILAR	Eielson Array	70.90	341	P	P	02 23 45.8	-0.8
	2.4nm,0.7s,baz=151,slow=5.0,SNR=25						
ILAR				LR	LR	02 55 48.9	
	comp=Z,32nm,18.2s,baz=177,slow=37						
H11S2	WAKE ISLAND Hy	92.22	288	T	T	04 07 39.0	
	baz=85,slow=74,SNR=7.0						
H11S1	WAKE ISLAND Hy	92.23	289	T	T	04 07 40.7	
	baz=85,slow=74,SNR=5.3						
H11S3	WAKE ISLAND Hy	92.24	288	T	T	04 07 41.0	
	baz=85,slow=74,SNR=4.9						
NOA	NORSAR Array B	98.39	27	LR	LR	03 09 58.5	
	comp=Z,8.1nm,19.2s,baz=55,slow=35						
BRVK	Borovoye	124.45	7	ePKPdf	PKPdf	02 31 29.4	+0.5
KURK	Kurchatov	127.36	1	PKP	PKPdf	02 31 33.1	-1.4
KURBB	Kurchatov Arra	127.46	1	PKP	PKPdf	02 31 33.1	-1.6
	0.1nm,0.3s,baz=347,slow=2.9,SNR=3.2						

*NIED **01** 02:29:00, 39°.80N×142°.40E, h41km, Mw3.9 Best double couple: M0 7.75000×10^14 NP1:φ0=200.00000°, δ25.00000°, λ89.00000°. NP2:φ0=21.00000°, δ65.00000°, λ91.00000°.*
*ISCJB **01** 02:29:48.6±0.8, 39°.76N±0°.04×142°.35E±0°.10, h52km±5km, mb3.9/15, MS3.6/2, Error ellipse: s-maj=12.6km s-min=6.0km az=5.2*
*JMA **01** 02:29:49.0, 39°.75N×142°.35E, h41km±1km, M3.9*
JMA Felt I J1.
*IDC **01** 02:29:51.5±2.5, 39°.68N×142°.30E, h66km±21km, mb3.6/15, mb1 3.7/19, mb1mx3.6/60, mbtmp3.9/19, MS3.2/4, Ms1 3.2/4, ms1mx2.6/56, Error ellipse: s-maj=21.2km s-min=16.8km az=88.0*

ISC 01 02:29:50.0±1.2, 39°.72N±0°.04×142°.27E±0°.09, h45km±9km, n38, σ1°.87/41, mb4.0/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.37	247	P	Pn	02 29 59.0	-0.5
MIYJ				S	Sn	02 30 06.2	+0.1
JTH	Tanohata	0.38	305	P	Pn	02 29 58.9	-0.6
JTH				eS	Sn	02 30 05.8	-0.4
JKZ	Kuzumaki	0.77	290	P	Pn	02 30 04.4	-0.1
JKZ				eS	Sn	02 30 15.1	+0.1
OFUJ	Ofunato	0.79	216	P	Pn	02 30 04.6	-0.2
OFUJ				S	Sn	02 30 15.8	+0.3
JOM	Ohasama	0.79	252	P	Pn	02 30 05.1	+0.3
JOM				S	Sn	02 30 16.7	+1.2
JANG	Nango	0.87	319	P	Pn	02 30 04.9	-1.0
JANG				eS	Sn	02 30 16.6	-0.8
JMK	Ichinoseki	1.12	227	P	Pn	02 30 09.5	+0.3
JMK				S	Sn	02 30 24.6	+1.2
JRG	Rokugo	1.30	256	P	Pn	02 30 12.3	+0.5
JAH	Hinai	1.34	291	P	Pn	02 30 12.7	+0.5
JTM	Tenmabayashi	1.40	320	P	Pn	02 30 12.7	-0.5
JIO	Ouri	1.45	210	P	Pn	02 30 13.8	0.0
JIO				eS	Sn	02 30 32.4	+0.8
ASAJ	Asahikawa	4.40	3	P	Pn	02 30 54.9	+0.7
	baz=197,slow=14						
ASAJ				S	Sn	02 31 51.2	+7.0
	1.1nm,0.3s,baz=272,slow=18,SNR=4.7						
MJAR	Matsushiro Arr	4.50	226	P	Pn	02 30 58.6	+2.8
	2.1nm,0.3s,baz=30,slow=13,SNR=20						
MAT	Matsushiro	4.51	226	P	Pn	02 30 58.7	+2.9
MAT				eS	Sn	02 31 52.8	+5.9
USRK	Ussuriysk Ar.	8.87	304	P	Pn	02 31 59.0	+3.5
	0.4nm,0.3s,baz=111,slow=16,SNR=3.9						
USRK				LR	LR	02 35 07.4	
	comp=Z,75nm,20.1s,baz=169,slow=35						
KSRS	Korea Array	11.45	263	P	Pn	02 32 31.4	+0.5
	baz=79,slow=15,SNR=2.4						
KSRS				LR	LR	02 36 23.8	
	comp=Z,25nm,18.7s,baz=80,slow=34						
SONM	Songino Array	26.94	299	P	P	02 35 27.3	+0.1
	1.1nm,0.7s,baz=78,slow=7.9,SNR=4.9						
H11N2	WAKE ISLAND Hy	29.07	126	T	T	03 06 21.3	
	baz=319,slow=75,SNR=722						
H11N1	WAKE ISLAND Hy	29.08	126	T	T	03 06 24.1	
	baz=319,slow=75,SNR=715						
H11N3	WAKE ISLAND Hy	29.09	126	T	T	03 06 24.5	
	baz=319,slow=75,SNR=814						
H11S1	WAKE ISLAND Hy	29.87	128	T	T	03 07 27.0	
	baz=320,slow=76,SNR=58						
H11S3	WAKE ISLAND Hy	29.87	128	T	T	03 07 34.1	
	baz=320,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	29.89	128	T	T	03 07 28.2	
	baz=320,slow=76,SNR=52						
ZALV	Zalesovo Beam	40.65	310	P	P	02 37 24.8	-0.7
	1.6nm,0.4s,baz=103,slow=8.3,SNR=6.7						
MKAR	Makanchi Array	43.31	300	P	P	02 37 46.9	-0.5
	0.8nm,0.4s,baz=88,slow=10,SNR=7.2						
KURBB	Kurchatov Arra	44.92	306	P	P	02 37 59.7	-0.5
	1.9nm,0.3s,baz=80,slow=8.2,SNR=4.2						
ILAR	Eielson Array	46.88	34	P	P	02 38 14.8	-0.6
	0.3nm,0.7s,baz=277,slow=6.0,SNR=4.7						
BVAR	Borovoye Array	49.29	311	P	P	02 38 33.9	-0.4
	0.7nm,0.4s,baz=56,slow=8.0,SNR=4.4						
ARU	Arti	54.81	317	P	P	02 39 15.0	-0.1
	2.5nm,0.4s,baz=63,slow=6.2,SNR=6.3						
AKTO	Aktyubinsk	57.40	311	P	P	02 39 33.5	-0.3
	2.0nm,0.6s,baz=71,slow=12,SNR=5.5						
WRA	Warramunga Arr	59.81	189	P	P	02 39 49.1	-1.7
	0.8nm,0.7s,baz=6.4,slow=7.0,SNR=5.9						
ARCES	ARCESS Array B	61.72	339	LR	LR	03 11 23.8	
	comp=Z,54nm,18.8s,baz=330,slow=40						
ASAR	Alice Springs	63.54	189	P	P	02 40 14.5	-1.4
	0.2nm,0.3s,baz=359,slow=5.3,SNR=5.0						
FINES	FINESS Array B	66.75	332	P	P	02 40 35.5	-0.8
	2.6nm,0.9s,baz=46,slow=11,SNR=4.9						
FINES				LR	LR	03 13 39.2	
	comp=Z,30nm,18.0s,baz=330,slow=39						
NOA	NORSAR Array B	71.97	337	P	P	02 41 07.5	-1.1
	0.5nm,0.7s,baz=43,slow=5.4,SNR=3.0						
AKASG	Malin Array Be	72.59	322	P	P	02 41 11.6	-0.8
	0.9nm,0.4s,baz=46,slow=6.5,SNR=6.3						
PDAR	Pinedale Array	75.32	46	P	P	02 41 28.7	-0.1
	0.4nm,0.9s,baz=298,slow=1.9,SNR=2.8						
BRTR	Ke

*ISCJB **01** 02:37:31.1±0.7, 52°.0N±0°.1×171°.09W±0°.06, h42km, mb3.9/13, Error ellipse: s-maj=15.1km s-min=3.4km az=162.9*
*NEIC **01** 02:37:31.5±0.0, 52°.02N×171°.12W, h26km, ML3.7(AEIC), After AEIC.*
*IDC **01** 02:37:33.3±3.8, 52°.17N×171°.02W, h46km±34km, mb3.6/13, mb1 3.9/16, mb1mx3.7/56, mbtmp3.9/16, ML3.5/2, Error ellipse: s-maj=26.1km s-min=17.3km az=173.0*

ISC 01 02:37:32.8±0.9, 52°.1N±0°.2×171°.14W±0°.05, h42km, n36, σ1§19/36, mb3.9/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.67**	**56**	P	**Pn**	**02 37 58.9**	**-0.6**
NIKH				S	**Sn**	**02 38 19.6**	**-0.1**
KOFP	**Korovin Flat P**	**1.84**	**278**	P	**Pn**	**02 38 02.1**	**+0.2**
ATKA	**Atka Island**	**1.89**	**276**	P	**Pn**	**02 38 02.0**	**-0.5**
ATKA				S	**Sn**	**02 38 26.2**	**+1.1**
OKSO	**Okmok South**	**2.23**	**53**	P	**Pn**	**02 38 07.9**	**+0.7**
OKSO				S	**Sn**	**02 38 36.5**	**+3.0**
OKCE	**Okmok Cone E**	**2.27**	**52**	P	**Pn**	**02 38 08.6**	**+0.9**
OKFG	**Magazine Ridge**	**2.38**	**54**	P	**Pn**	**02 38 09.8**	**+0.5**
GSTD	**Great Sitkin T**	**3.09**	**272**	P	**Pn**	**02 38 19.3**	**+0.2**
GSTD				S	**Sn**	**02 38 57.0**	**+2.1**
MSW	**Makushin Switc**	**3.22**	**53**	P	**Pn**	**02 38 21.9**	**+1.1**
MSW				S	**Sn**	**02 39 00.1**	**+2.1**
ETKA	**Kagalaska Isla**	**3.27**	**269**	P	**Pn**	**02 38 21.6**	**+0.2**
UNV	**Unalaska Valle**	**3.33**	**56**	P	**Pn**	**02 38 23.0**	**+0.8**
UNV				S	**Sn**	**02 39 02.8**	**+2.4**
ADAG	**Mount Adagdak**	**3.38**	**271**	P	**Pn**	**02 38 23.6**	**+0.7**
ADK	**Adak**	**3.44**	**269**	P	**Pn**	**02 38 24.9**	**+1.2**
ADK				S	**Sn**	**02 39 04.1**	**+0.9**
KDAK	**Kodiak Island**	**12.10**	**54**	P	**Pn**	**02 40 21.4**	**-0.8**
	0.3nm,0.3s,baz=254,slow=5.5,SNR=4.2						
ILAR	**Eielson Array**	**17.83**	**35**	P	**Pn**	**02 41 35.8**	**-1.5**
	0.1nm,0.3s,baz=236,slow=10,SNR=3.1						
PETK	**Petropavlovsk-**	**18.90**	**286**	P	**Pn**	**02 41 50.9**	**+0.6**
	baz=82,slow=15,SNR=2.0						
SEY	**Seymchan**	**22.09**	**314**	P	**P**	**02 42 24.0**	**+0.1**
	2.9nm,0.8s,baz=96,slow=18,SNR=4.1						
INK	**Inuvik**	**24.21**	**34**	P	**P**	**02 42 42.1**	**-2.8**
	1.0nm,0.4s,baz=250,slow=9.0,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**36.54**	**216**	T	T	03 23 46.4	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**36.55**	**216**	T	T	03 23 43.2	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**36.56**	**216**	T	T	03 23 52.5	
	baz=23						
H11S1	**WAKE ISLAND Hy**	**37.74**	**216**	T	T	03 25 38.8	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.75**	**216**	T	T	03 25 28.2	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.76**	**216**	T	T	03 25 20.7	
	baz=19						
PDAR	**Pinedale Array**	**41.53**	**78**	P	**P**	**02 45 15.7**	**-0.4**
	0.5nm,0.6s,baz=270,slow=3.0,SNR=4.0						
SONM	**Songino Array**	**50.52**	**300**	P	**P**	**02 46 27.3**	**+0.7**
	0.7nm,0.6s,baz=79,slow=6.2,SNR=4.4						
TXAR	**Lajitas Array**	**53.84**	**87**	P	**P**	**02 46 51.8**	**+0.3**
	0.5nm,0.8s,baz=307,slow=4.6,SNR=4.6						
ARCES	**ARCESS Array B**	**58.11**	**353**	P	**P**	**02 47 21.0**	**-0.3**
	2.4nm,0.8s,baz=23,slow=9.7,SNR=4.2						
MKAR	**Makanchi Array**	**63.22**	**312**	P	**P**	**02 47 55.6**	**-0.8**
	0.4nm,0.4s,baz=44,slow=8.8,SNR=3.9						
FINES	**FINESS Array B**	**66.02**	**351**	P	**P**	**02 48 13.4**	**-0.9**
	2.7nm,0.8s,baz=5.7,slow=7.7,SNR=7.4						
NOA	**NORSAR Array B**	**67.24**	**359**	P	**P**	**02 48 22.0**	**-0.2**
	0.4nm,0.6s,baz=2.8,slow=6.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**75.62**	**282**	P	**P**	**02 49 14.3**	**+1.0**
	4.3nm,0.7s,baz=20,slow=6.2,SNR=7.5						
WRA	**Warramunga Arr**	**85.96**	**230**	P	**P**	**02 50 07.6**	**-0.7**
	0.7nm,0.8s,baz=43,slow=6.3,SNR=2.9						
ESDC	**Sonseca Array**	**87.97**	**10**	P	**P**	**02 50 17.8**	**-0.3**
	0.5nm,0.7s,baz=5.7,slow=3.9,SNR=3.1						
ASAR	**Alice Springs**	**89.37**	**229**	P	**P**	**02 50 25.2**	**+0.6**
	2.2nm,0.8s,baz=25,slow=4.7,SNR=15						
TORD	**Torodi Ar. Bea**	**114.77**	**8**	PKP	PKPdf	02 56 08.9	+0.1
	0.3nm,0.6s,baz=342,slow=2.9,SNR=2.7						
BOSA	**Boshof**	**153.58**	**326**	PKPbc	**PKPbc**	**02 57 27.1**	**+0.4**
	1.3nm,0.4s,baz=90,slow=9.1,SNR=10.0						

IDC 01 02:43:56.2±6.2, 33°.66S×149°.57E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.3/38, mbtmp3.6/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/25, Error ellipse: s-maj=283.2km s-min=53.2km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**221**	P	P	02 48 51.5	-0.4
	2.0nm,0.8s,baz=42,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**24.99**	**216**	P	P	02 49 22.1	+0.2
	0.8nm,0.8s,baz=51,slow=8.4,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**27.74**	**37**	T	T	03 17 32.9	
	baz=216						
H11S2	**WAKE ISLAND Hy**	**27.75**	**37**	T	T	03 17 36.0	
	baz=216						
H11S1	**WAKE ISLAND Hy**	**27.76**	**37**	T	T	03 17 48.7	
	baz=216						
H11N1	**WAKE ISLAND Hy**	**28.81**	**36**	T	T	03 18 35.4	
	baz=218						
H11N3	**WAKE ISLAND Hy**	**28.82**	**36**	T	T	03 18 38.8	
	baz=218						
H11N2	**WAKE ISLAND Hy**	**28.82**	**36**	T	T	03 18 34.6	
	baz=218						
AFI	**Afiamalu**	**39.47**	**107**	LR	LR	03 05 52.8	
	comp=Z,120nm,19.2s,baz=120,slow=33						
MKAR	**Makanchi Array**	**77.36**	**319**	LR	LR	03 32 49.5	
	comp=Z,15nm,18.1s,baz=359,slow=38						
TORD	**Torodi Ar. Bea**	**146.89**	**288**	PKPbc	PKPbc	03 03 41.0	-0.8
	0.6nm,0.9s,baz=94,slow=3.5,SNR=3.5						

IDC 01 02:46:42.9±4.6, 33°.94S×148°.65E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.2/38, mbtmp3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=168.2km s-min=53.0km az=109.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**195**	LR	LR	02 50 41.9	
	comp=Z,163nm,20.7s,baz=3.0,slow=42						
WRA	**Warramunga Arr**	**21.16**	**220**	P	P	02 51 31.4	+1.5
	2.0nm,0.8s,baz=44,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**24.24**	**215**	P	P	02 52 00.3	-1.5
	0.5nm,0.7s,baz=52,slow=8.3,SNR=2.2						
DZM	**Mont Dzumac**	**24.95**	**138**	LR	LR	03 00 32.4	
	comp=Z,79nm,19.1s,baz=234,slow=33						
TORD	**Torodi Ar. Bea**	**146.11**	**288**	PKPbc	PKPdf	03 06 25.4	+0.1
	0.5nm,0.8s,baz=86,slow=2.8,SNR=3.6						

*ISCJB **01** 02:52:08.2±1.3, 39°.05N±0°.05×142°.46E±0°.09, h25km±7km, mb3.5/3, Error ellipse: s-maj=11.6km s-min=7.2km az=17.0*
*IDC **01** 02:52:08.1±2.7, 39°.43N×142°.19E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/49, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=62.0km s-min=32.1km az=145.0*
*JMA **01** 02:52:09.4±0.1, 39°.07N×142°.40E, h33km±1km, M3.6*
JMA Felt I J1.

ISC 01 02:52:08.7±2.0, 39°.14N±0°.06×142°.32E±0°.09, h16km±10km, n16, σ1§01/21, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.51**	**264**	P	**Pn**	**02 52 21.0**	**-0.3**
OFUJ				S	**Sn**	**02 52 28.9**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.58**	**319**	P	**Pn**	**02 52 22.3**	**-0.1**
MIYJ				S	**Sn**	**02 52 31.3**	**-0.3**
JOM	**Ohasama**	**0.86**	**293**	P	**Pn**	**02 52 26.8**	**+0.6**
JOM				S	**Sn**	**02 52 39.4**	**+0.9**
JTH	**Tanohata**	**0.87**	**336**	P	**Pn**	**02 52 26.6**	**+0.2**
JTH				*e*S	**Sn**	**02 52 38.9**	**+0.1**
JMK	**Ichinoseki**	**0.88**	**258**	P	**Pn**	**02 52 26.3**	**0.0**
JMK				S	**Sg**	**02 52 38.2**	**+1.1**
JIO	**Ouri**	**1.02**	**228**	P	**Pb**	**02 52 27.1**	**-0.9**
JIO				*e*S	**Sb**	**02 52 39.4**	**-1.7**
JKZ	**Kuzumaki**	**1.14**	**318**	P	**Pg**	**02 52 31.2**	**+0.5**
JKZ				S	**Sn**	**02 52 46.8**	**+1.4**
JRG	**Rokugo**	**1.33**	**282**	P	**Pg**	**02 52 33.9**	**-0.4**
JRG				*e*S	**Sg**	**02 52 52.3**	**+0.6**
JANG	**Nango**	**1.38**	**334**	P	**Pg**	**02 52 34.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.16**	**233**	Pn	**Pn**	**02 53 14.0**	**+2.5**
	1.0nm,0.3s,baz=40,slow=11,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	03 28 37.4	
	baz=318,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	03 28 38.5	
	baz=318,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	03 28 31.1	
	baz=318,slow=75,SNR=12						
MKAR	**Makanchi Array**	**43.64**	**300**	P	**P**	**03 00 12.6**	**+0.2**
	0.2nm,0.4s,baz=96,slow=5.8,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.30**	**306**	P	**P**	**03 00 25.1**	**-0.4**
	0.7nm,0.4s,baz=81,slow=8.5,SNR=6.9						
ILAR	**Eielson Array**	**47.34**	**33**	P	**P**	**03 00 41.7**	**+0.3**
	0.3nm,0.6s,baz=266,slow=6.0,SNR=4.4						

SJA 01 02:53:32.4±0.3, 30°.71S×65°.16W, h139km±8km, ML3.3, MW4.4, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.79**	**142**	*e*P	Pn	02 53 55.0	+0.5
TCA				*e*S	Sn	02 54 11.8	+0.6
TCA				IAML		02 54 15.0	
	comp=Z,20nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.22**	**285**	*e*P	Pn	02 53 58.8	+0.5
ACHE	**Chepes**	**1.37**	**250**	*e*P	Pn	02 54 00.8	+0.9
AVFE	**Valle Fertil**	**1.98**	**271**	*e*P	Pn	02 54 07.6	+0.9
ACLC	**CERRO LA CRUZ**	**2.01**	**309**	*e*P	Pn	02 54 08.2	+0.9
ACLC				IAML		02 54 38.3	
	comp=Z,3μm,0.4s						

IDC 01 03:01:56.7±6.3, 33°.80S×149°.55E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/28, mbtmp3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx3.2/27, Error ellipse: s-maj=292.5km s-min=48.9km az=111.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.06**	**203**	LR	LR	03 05 18.9	
	comp=Z,71nm,18.4s,baz=350,slow=33						
GUMO	**Guam**	**17.89**	**345**	LR	LR	03 12 12.0	
	comp=Z,58nm,20.4s,baz=171,slow=34						
WRA	**Warramunga Arr**	**21.85**	**222**	P	P	03 06 50.5	-0.6
	1.7nm,1.0s,baz=45,slow=12,SNR=6.1						
WRA				LR	LR	03 16 13.2	
	comp=Z,119nm,18.5s,baz=40,slow=39						
DZM	**Mont Dzumac**	**24.46**	**139**	LR	LR	03 16 13.2	
	comp=Z,137nm,18.3s,baz=20,slow=35						
ASAR	**Alice Springs**	**24.87**	**216**	P	P	03 07 21.8	+0.4
	1.5nm,1.0s,baz=55,slow=7.0,SNR=7.6						
ASAR				LR	LR	03 18 05.9	
	comp=Z,133nm,18.4s,baz=48,slow=39						
AFI	**Afiamalu**	**39.45**	**107**	LR	LR	03 22 15.9	
	comp=Z,254nm,21.1s,baz=136,slow=31						
MJAR	**Matsushiro Arr**	**41.51**	**346**	LR	LR	03 25 14.0	
	comp=Z,19nm,20.3s,baz=195,slow=34						
TORD	**Torodi Ar. Bea**	**146.92**	**288**	PKPbc	PKPbc	03 21 41.4	-0.9
	0.4nm,0.9s,baz=45,slow=0.6,SNR=2.8						

IDC 01 03:25:31.5±25.0, 1°.31N×99°.43W, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.7/34, mbtmp3.8/3, Error ellipse: s-maj=1091.0km s-min=125.5km az=103.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.16**	**352**	P	P	03 31 26.0	+0.2
	0.8nm,0.8s,baz=172,slow=9.1,SNR=9.2						
PDAR	**Pinedale Array**	**42.26**	**349**	P	P	03 33 26.6	-0.3
	1.2nm,0.9s,baz=146,slow=6.6,SNR=7.4						
ILAR	**Eielson Array**	**71.93**	**341**	P	P	03 36 56.5	0.0
	1.2nm,0.7s,baz=150,slow=4.8,SNR=15						

*ISCJB **01** 03:25:55.1±1.0, 1°.9N±0°.2×100°.4W±0°.2, h10km, mb4.0/27, Error ellipse: s-maj=41.3km s-min=11.5km az=148.2*
*NEIC **01** 03:25:57.4±0.5, 2°.01N×100°.32W, h10km, mb4.0/23, Error ellipse: s-maj=25.3km s-min=9.1km az=65.0*
*IDC **01** 03:25:59.9±1.0, 2°.14N×102°.16W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/35, mbtmp4.2/10, Error ellipse: s-maj=36.6km s-min=16.7km az=43.0*

ISC 01 03:25:57.5±0.8, 2°.0N±0°.2×100°.3W±0°.2, h10km, n38, σ1§12/40, mb4.0/27, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.33**	**354**	P	**P**	**03 31 44.0**	**+1.1**
	1.0nm,0.8s,baz=177,slow=10,SNR=8.4						
TXAR	**Lajitas Array**	**27.33**	**354**	P	**P**	**03 31 44.0**	**+1.1**
MNTX	**Cornudas Mount**	**29.89**	**351**	*e*P	**P**	**03 32 06.4**	**+0.9**
	12nm,1.5s						
TUC	**Tucson**	**31.69**	**343**	*e*P	**P**	**03 32 19.2**	**-2.4**
	1.2nm,0.8s						
WMOK	**Wichita Mounta**	**32.56**	**2**	*e*P	**P**	**03 32 28.9**	**-0.1**
ANMO	**Albuquerque**	**33.24**	**351**	*e*P	**P**	**03 32 35.1**	**-0.1**
	2.4nm,1.0s						
SDCO	**Great Sand Dun**	**35.85**	**353**	*e*P	**P**	**03 32 59.3**	**+1.4**
	5.5nm,1.4s						
WCI	**Wyandotte Cave**	**38.22**	**18**	P	**P**	**03 33 17.9**	**+0.1**
	50nm,0.9s						
SAML	**Samuel**	**38.54**	**107**	*e*P	**P**	**03 33 20.5**	**-0.2**
	3.4nm,0.9s						
LVC	**Limon Verde**	**39.19**	**130**	P	**P**	**03 33 24.9**	**-1.6**
	4.0nm,1.1s						
DUG	**Dugway, Tooele**	**39.65**	**345**	*e*P	**P**	**03 33 29.5**	**-0.3**
	1.6nm,0.9s						
HWUT	**Hardware Ranch**	**40.68**	**347**	*e*P	**P**	**03 33 39.0**	**+0.6**
	5.7nm,1.0s						
BW06	**Boulder Array**	**41.39**	**350**	*e*P	**P**	**03 33 44.9**	**+0.6**
	1.6nm,0.7s						
PDAR	**Pinedale Array**	**41.39**	**350**	P	**P**	**03 33 45.3**	**+1.0**
	1.5nm,0.9s,baz=152,slow=7.8,SNR=7.7						
PDAR	**Pinedale Array**	**41.39**	**350**	P	**P**	**03 33 45.3**	**+1.0**
RSSD	**Black Hills**	**42.03**	**356**	*e*P	**P**	**03 33 50.6**	**+1.1**
	4.1nm,0.9s						
SNOW	**Snow King Moun**	**42.29**	**349**	*e*P	**P**	**03 33 51.1**	**-0.5**
	1.7nm,0.6s						
TPAW	**Teton Pass**	**42.35**	**348**	*e*P	**P**	**03 33 52.1**	**-0.1**
	1.3nm,0.6s						
LOHW	**Long Hollow**	**42.40**	**349**	*e*P	**P**	**03 33 52.6**	**+0.1**
	2.3nm,0.8s						
MOOW	**Moose Ponds**	**42.56**	**349**	*e*P	**P**	**03 33 53.4**	**-0.4**
	0.9nm,0.8s						
HLID	**Hailey**	**43.22**	**345**	*e*P	**P**	**03 33 59.3**	**+0.2**
	1.3nm,0.8s						
WVOR	**Wild Horse Val**	**43.45**	**340**	*e*P	**P**	**03 33 59.5**	**-1.5**
	1.9nm,0.8s						
MFID	**Camas Ranch**	**43.46**	**343**	*e*P	**P**	**03 33 59.7**	**-1.3**
	2.3nm,0.8s						
NEW	**Newport**	**48.28**	**345**	P	**P**	**03 34 39.1**	**+0.2**
	1.2nm,0.8s						
TRQA	**Tornquist**	**53.31**	**142**	P	**P**	**03 35 17.9**	**+0.9**
	0.4nm,0.6s						
INK	**Inuvik**	**69.90**	**347**	P	**P**	**03 37 09.2**	**+0.8**
	2.2nm,1.0s,baz=159,slow=8.0,SNR=3.7						
INK	**Inuvik**	**69.90**	**347**	*e*P	**P**	**03 37 08.8**	**+0.4**
	8.2nm,1.1s						
ILAR	**Eielson Array**	**70.96**	**341**	P	**P**	**03 37 14.9**	**-0.1**
	2.5nm,0.8s,baz=152,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**70.96**	**341**	P	**P**	**03 37 14.9**	**-0.1**
MCK	**McKinley**	**71.01**	**339**	*e*P	**P**	**03 37 14.0**	**-1.4**
	2.5nm,0.8s						
COLA	**College**	**71.35**	**341**	*e*P	**P**	**03 37 13.6**	**-3.7**
	3.4nm,0.8s						
PPLA	**Purkeypile**	**71.71**	**338**	*e*P	**P**	**03 37 19.7**	**-0.1**
	15nm,1.1s						
WRA	**Warramunga Arr**	**123.82**	**247**	PKP	**PKPdf**	**03 44 56.8**	**0.0**
	0.5nm,1.0s,baz=84,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**123.82**	**247**	PKP	**PKPdf**	**03 44 56.8**	**0.0**
BRVK	**Borovoye**	**124.53**	**7**	*e*PKPdf	**PKPdf**	**03 44 59.1**	**+1.9**
FORT	**Forrest**	**126.15**	**233**	*e*PKPdf	**PKPdf**	**03 45 00.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**152.21**	**318**	PKP	**PKPdf**	**03 45 48.3**	**+0.5**
	1.3nm,0.3s,baz=11,slow=1.9,SNR=5.3						
CMAR				PKPbc	**PKiKP**	**03 45 56.1**	**+1.3**
	1.9nm,0.4s,baz=90,slow=0.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**152.21**	**318**	PKP	**PKPdf**	**03 45 48.3**	**+0.5**
CMAR				PKPbc	**PKiKP**	**03 45 56.1**	**+1.3**

*ISCJB **01** 03:26:13.0±0.8, 2°.0N±0°.1×100°.5W±0°.1, h10km, mb4.2/36, Error ellipse: s-maj=26.2km s-min=8.1km az=141.9*
*IDC **01** 03:26:14.6±1.1, 2°.06N×101°.20W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/37, mbtmp4.3/9, ML3.2/1, Error ellipse: s-maj=39.0km s-min=18.6km az=52.0*
*NEIC **01** 03:26:14.8±0.5, 2°.02N×100°.49W, h10km, mb4.3/26, Error ellipse: s-maj=16.0km s-min=5.9km az=54.0*

ISC 01 03:26:14.7±0.9, 2°.0N±0°.1×100°.5W±0°.2, h10km, n58, σ0§90/48, mb4.3/36, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.01**	**20**	Pn	**P**	**03 30 04.9**	**+1.3**
	0.1nm,0.3s,baz=251,slow=7.6,SNR=3.6						
H06E1	**SOCORRO T-PHASE**	**9.56**	**329**	T	T	03 50 48.1	
	SNR=11						
ATAH	**Atahualpa**	**23.87**	**112**	P	**P**	**03 31 29.3**	**+0.2**
	3.3nm,0.7s,baz=305,slow=14,SNR=4.7						
ATAH	**Atahualpa**	**23.87**	**112**	P	P	03 31 36.6	+7.5
	6.3nm,0.9s,baz=288,slow=13,SNR=7.4						
ATAH	**Atahualpa**	**23.87**	**112**	P	**P**	**03 31 29.3**	**+0.2**
ROSC	**El Rosal**	**26.31**	**83**	P	**P**	**03 31 52.9**	**+1.6**
	2.3nm,0.4s,baz=267,slow=18,SNR=4.6						
ROSC	**El Rosal**	**26.31**	**83**	P	**P**	**03 31 52.9**	**+1.6**
TXAR	**Lajitas Array**	**27.37**	**354**	P	**P**	**03 32 01.4**	**+1.1**
	1.9nm,0.9s,baz=179,slow=12,SNR=8.1						
JCT	**Junction City**	**28.36**	**1**	*e*P	**P**	**03 32 09.4**	**+0.3**
	14nm,1.1s						
MNTX	**Cornudas Mount**	**29.91**	**352**	*e*P	**P**	**03 32 22.4**	**-0.5**
	6.2nm,1.1s						
SDV	**Santo Domingo**	**30.52**	**76**	P	**P**	**03 32 29.5**	**+0.8**
	3.0nm,0.3s,baz=232,slow=10,SNR=3.9						
SDV	**Santo Domingo**	**30.52**	**76**	P	**P**	**03 32 29.5**	**+0.8**
TUC	**Tucson**	**31.68**	**343**	*e*P	**P**	**03 32 37.4**	**-1.2**
	3.3nm,0.9s						
WMOK	**Wichita Mounta**	**32.63**	**3**	*e*P	**P**	**03 32 46.7**	**-0.1**
	6.1nm,1.4s						
AMTX	**Amarillo**	**32.76**	**358**	*e*P	**P**	**03 32 48.3**	**+0.3**
	5.5nm,0.8s						
ANMO	**Albuquerque**	**33.26**	**351**	*e*P	**P**	**03 32 52.6**	**+0.1**
	4.1nm,1.2s						
SDCO	**Great Sand Dun**	**35.89**	**353**	*e*P	**P**	**03 33 15.6**	**+0.2**
	12nm,1.5s						
LPAZ	**La Paz**	**36.79**	**121**	P	**P**	**03 33 21.8**	**-1.9**
	2.2nm,1.0s,baz=319,slow=4.9,SNR=5.3						
LPAZ	**La Paz**	**36.79**	**121**	P	P	03 33 30.8	+7.1
	2.3nm,1.0s,baz=314,slow=8.6,SNR=5.5						
LPAZ	**La Paz**	**36.79**	**121**	P	**P**	**03 33 21.8**	**-1.9**
WCI	**Wyandotte Cave**	**38.37**	**18**	*e*P	**P**	**03 33 34.3**	**-1.8**
SAML	**Samuel**	**38.77**	**107**	*e*P	**P**	**03 33 38.9**	**-0.9**
	7.4nm,0.9s						
LVC	**Limon Verde**	**39.35**	**130**	P	**P**	**03 33 45.0**	**+0.1**
	5.4nm,1.0s						
DUG	**Dugway, Tooele**	**39.64**	**345**	*e*P	**P**	**03 33 46.0**	**-0.9**
	4.2nm,1.2s						
PTGA	**Pitinga**	**40.64**	**93**	P	**P**	**03 33 55.1**	**-0.4**
	1.8nm,0.3s,baz=289,slow=13,SNR=6.3						
PTGA	**Pitinga**	**40.64**	**93**	P	P	03 34 02.3	+6.8
	3.6nm,0.5s,baz=274,slow=9.6,SNR=7.0						
PTGA	**Pitinga**	**40.64**	**93**	P	**P**	**03 33 55.1**	**-0.4**
HWUT	**Hardware Ranch**	**40.69**	**347**	*e*P	**P**	**03 33 55.5**	**-0.1**
	3.9nm,0.8s						
BW06	**Boulder Array**	**41.41**	**350**	*e*P	**P**	**03 34 00.7**	**-0.8**
	4.8nm,0.9s						
PDAR	**Pinedale Array**	**41.41**	**350**	P	**P**	**03 34 01.4**	**-0.2**
	3.8nm,0.9s,baz=145,slow=6.3,SNR=10						
RSSD	**Black Hills**	**42.08**	**356**	*e*P	**P**	**03 34 07.3**	**+0.3**
	5.7nm,0.9s						
TPAW	**Teton Pass**	**42.37**	**349**	*e*P	**P**	**03 34 09.1**	**-0.3**
	4.3nm,1.0s						
LOHW	**Long Hollow**	**42.42**	**349**	*e*P	**P**	**03 34 09.9**	**+0.1**
	3.9nm,0.8s						
MOOW	**Moose Ponds**	**42.57**	**349**	*e*P	**P**	**03 34 10.4**	**-0.6**
	2.6nm,1.0s						
HLID	**Hailey**	**43.21**	**345**	*e*P	**P**	**03 34 16.4**	**+0.1**
	2.4nm,0.9s						
WVOR	**Wild Horse Val**	**43.43**	**340**	*e*P	**P**	**03 34 17.6**	**-0.3**
	1.2nm,1.0s						
MFID	**Camas Ranch**	**43.45**	**344**	*e*P	**P**	**03 34 18.1**	**0.0**
	3.6nm,0.9s						
SPMN	**Marine on St.**	**43.60**	**8**	*e*P	**P**	**03 34 17.5**	**-1.6**
	6.7nm,0.7s						
ULM	**Lac du Bonnet**	**48.26**	**4**	P	**P**	**03 34 55.2**	**-0.5**
	4.1nm,0.7s,baz=185,slow=9.8,SNR=5.4						
NEW	**Newport**	**48.28**	**345**	*e*P	**P**	**03 34 55.9**	**-0.1**
	3.8nm,0.9s						
CPUP	**Villa Florida**	**50.30**	**127**	P	**P**	**03 35 10.8**	**-1.0**
	3.3nm,0.8s,baz=291,slow=7.3,SNR=9.0						
CPUP	**Villa Florida**	**50.30**	**127**	P	**P**	**03 35 10.8**	**-1.0**
TRQA	**Tornquist**	**53.42**	**142**	*e*P	**P**	**03 35 36.1**	**+1.2**
	2.1nm,0.7s						
INK	**Inuvik**	**69.91**	**348**	P	**P**	**03 37 25.8**	**+0.1**
	6.1nm,1.0s,baz=132,slow=6.8,SNR=3.7						
INK	**Inuvik**	**69.91**	**348**	*e*P	**P**	**03 37 25.3**	**-0.3**
	9.9nm,1.1s

SILI	Silifke-Mersin	1.91	213	*e*Pn	Pb	03 31 12.6	-1.0
CHBY	Cihanbeyli	1.93	289	*e*PN	Pb	03 31 13.0	-1.0
CHBY	Cihanbeyli	1.93	289	*e*Pn	Pb	03 31 13.0	-1.0
KEBE	Keben-Mersin	1.94	219	*e*PN	Pb	03 31 13.2	-1.0
KEBE	Keben-Mersin	1.94	219	*e*Pn	Pb	03 31 13.2	-1.0
TEVE	Tevekalti-Mers	2.09	223	*e*PN	Pn	03 31 15.3	+1.1
TEVE	Tevekalti-Mers	2.09	223	*e*Pn	Pn	03 31 15.3	+1.2
IKL	Isikli	2.12	216	*e*PN	Pn	03 31 15.7	+1.2
IKL	Isikli	2.12	216	*e*Pn	Pn	03 31 15.7	+1.2
AFSR	Af´ar-Bala (A	2.23	312	*e*PN	Pn	03 31 17.3	+1.3
AFSR	Af´ar-Bala (A	2.23	312	*e*Pn	Pn	03 31 17.3	+1.2
CORM	Corum	2.25	348	*e*PN	Pn	03 31 17.6	+1.3
CORM	Corum	2.25	348	*e*Pn	Pn	03 31 17.6	+1.3
AKKU	Akkuyu-Mersin	2.25	217	*e*PN	Pn	03 31 17.7	+1.4
AKKU	Akkuyu-Mersin	2.25	217	*e*Pn	Pn	03 31 17.7	+1.4
KONT	Konya--Tatoy	2.26	270	*e*PN	Pn	03 31 17.6	+1.3
KONT	Konya--Tatoy	2.26	270	*e*Pn	Pn	03 31 17.6	+1.2
LADK	Ladik-KONYA	2.26	276	*e*PN	Pn	03 31 16.8	+0.3
LADK	Ladik-KONYA	2.26	276	*e*Pn	Pn	03 31 16.8	+0.3
BERE	Bereket-Mersin	2.28	225	*e*PN	Pn	03 31 17.9	+1.1
BERE	Bereket-Mersin	2.28	225	*e*Pn	Pn	03 31 17.9	+1.2
SVSK	Karacayir	2.38	35	*e*PN	Pb	03 31 20.1	-1.6
SVSK	Karacayir	2.38	35	*e*Pn	Pb	03 31 20.1	-1.5
TEKE	Tekeli-Mersin	2.49	223	*e*PN	Pn	03 31 20.9	+1.4
TEKE	Tekeli-Mersin	2.49	223	*e*Pn	Pn	03 31 20.9	+1.4
LOD	Lodumlu	2.70	316	*e*PN	Pn	03 31 24.3	+1.8
LOD	Lodumlu	2.70	316	*e*Pn	Pn	03 31 24.3	+1.8
KIZT	Kizilcal	2.77	290	*e*Pn	Pn	03 31 10.0	-14
URFA	Urfa	2.91	100	*e*PN	Pn	03 31 26.9	+1.5
URFA	Urfa	2.91	100	*e*Pn	Pn	03 31 26.9	+1.5
RSDY	Resadiye-TOKAT	2.92	33	*e*PN	Pn	03 31 27.2	+1.7
RSDY	Resadiye-TOKAT	2.92	33	*e*Pn	Pn	03 31 27.2	+1.7
PTK	Pertek	3.40	73	*e*PN	Pn	03 31 34.0	+1.7
PTK	Pertek	3.40	73	*e*Pn	Pn	03 31 34.0	+1.7

JMA 01 03:30:46.6±0.2, 24°.15N×123°.64E, h23km±1km, M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.18**	**122**	P		Pb		03 30 51.6	-0.2
HATJ				S		Sb		03 30 55.0	-0.2
IRIF	**Iriomote-Funau**	**0.20**	**24**	P		Pb		03 30 52.1	0.0
IRIF				S		Sb		03 30 55.7	-0.1
JKRS	**Kuro-shima**	**0.35**	**75**	P		Pb		03 30 54.2	0.0
JKRS				S		Sb		03 30 59.7	+0.3
JIJ	**Ishigaki jima**	**0.51**	**65**	P		Pb		03 30 56.7	-0.2
JIJ				S		Sb		03 31 03.2	-0.6
JISG	**Ishigakijimahi**	**0.75**	**54**	P		Pb		03 31 00.7	-0.3
JISG				*e*S		Sb		03 31 10.7	-0.1
JTJ	**Tarama**	**1.08**	**63**	*e*S		Sn		03 31 21.1	+0.4

TAP 01 03:31:33.2, 24°.47N×121°.75E, h23km±1km, ML2.5, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.05**	**195**	⇓*i*P			Pb	03 31 37.6	+0.4
	baz=185								
ENA				S			Sb	03 31 40.8	+0.9
	baz=185								
TWC	**Suao**	**0.16**	**33**	*i* S			Pb	03 31 38.4	+0.3
	baz=35								
TWC				*i* S			Sb	03 31 42.2	+0.8
	baz=35								
ENTT	**Nioudou**	**0.24**	**314**	⇑*i*P			Pb	03 31 39.7	+0.6
	baz=314								
ENTT				*e*S			Sb	03 31 44.1	+0.9
	baz=314								
TWE	**Neicheng**	**0.26**	**342**	*i* P			Pb	03 31 40.0	+0.5
	baz=344								
TWE				*e*S			Sb	03 31 44.6	+0.9
	baz=344								
NNS	**Nan Shan**	**0.35**	**265**	*e*P			Pb	03 31 41.2	+0.3
	baz=263								
NNS				*e*S			Sb	03 31 46.7	+0.5
	baz=263								
NSK	**Sanguang**	**0.41**	**299**	*e*P			Pb	03 31 42.1	+0.2
	baz=299								
NSK				*e*S			Sb	03 31 48.5	+0.6
	baz=299								
TWD	**Chiawan**	**0.42**	**200**	*e*P			Pb	03 31 41.6	-0.3
	baz=199								
WHF	**Hehuan Shan**	**0.55**	**234**	*e*P			Pb	03 31 44.5	0.0
	baz=233								
WHF				*e*S			Sb	03 31 52.6	+0.5
	baz=233								
NWF	**Wu-fen Shan**	**0.59**	**2**	*e*P			Pb	03 31 45.4	+0.4
	baz=2.0								
NSTT	**Nanjuang**	**0.70**	**283**	*e*P			Pn	03 31 47.8	0.0
	baz=282								

IDC 01 03:41:37.1±19.0, 1°.53N×98°.60W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=914.0km s-min=137.2km az=100.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**15.89**	**13**	LR		LR	LR	03 49 57.3	
	comp=Z,108nm,21.3s,baz=179,slow=32								
TXAR	**Lajitas Array**	**28.07**	**351**	P		P	P	03 47 31.6	+1.0
	0.5nm,0.8s,baz=176,slow=8.8,SNR=4.3								
PDAR	**Pinedale Array**	**42.21**	**348**	P		P	P	03 49 30.9	-1.2
	0.3nm,0.5s,baz=144,slow=10,SNR=3.9								
PDAR				LR		LR	LR	04 06 40.0	
	comp=Z,33nm,18.5s,baz=228,slow=36								
ILAR	**Eielson Array**	**72.00**	**340**	P		P	P	03 53 02.6	+0.1
	0.7nm,0.6s,baz=148,slow=5.2,SNR=11								

*NIED **01** 03:43:00, 35°.90N×141°.00E, h8km, Mw3.4 Best double couple: M₀1.58000×10¹⁴ NP1:φs349.00000°, δ53.00000°, λ-145.00000°. NP2:φs237.00000°, δ63.00000°, λ-43.00000°.*

*IDC **01** 03:43:15.5±2.5, 35°.84N×141°.07E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/37, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=57.0km s-min=25.5km az=64.0*

*ISCJB **01** 03:43:17.2±1.1, 35°.89N±0°.04×140°.99E±0°.10, h23km±5km, mb3.5/3, Error ellipse: s-maj=13.5km s-min=6.3km az=161.2*

*JMA **01** 03:43:18.0±0.1, 35°.91N×140°.97E, h17km±2km, M3.6*

JMA Felt I J1.

ISC 01 03:43:16.6±2.4, 35°.95N±0°.06×141°.0E±0°.1, h11km±13km, n15, σ0°95/15, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.28**	**207**	P			**Pb**	**03 43 22.9**	**-0.7**
CHOJ				S			**Sg**	**03 43 26.3**	**+0.2**
JYT	**Yasato**	**0.72**	**293**	P			**Pb**	**03 43 31.3**	**+0.2**
JYT				S			**Sb**	**03 43 40.3**	**-0.7**
JHO	**Hitachi**	**0.75**	**331**	P			**Pn**	**03 43 32.4**	**-0.7**
JHO				S			**Sn**	**03 43 43.0**	**-1.4**
MJAR	**Matsushiro Arr**	**2.34**	**285**	Pn			**Pn**	**03 43 54.9**	**-0.2**
	5.2nm,0.3s,baz=95,slow=8.7,SNR=40								
MJAR				Sn			**Sn**	**03 44 22.6**	**-1.2**
	5.7nm,0.3s,baz=195,slow=24,SNR=3.8								
MAT	**Matsushiro**	**2.35**	**285**	P			**Pn**	**03 43 55.2**	**+0.2**
MAT				*e*S			**Sn**	**03 44 24.1**	**+0.3**
JHJ	**Hachijo jima 2**	**3.00**	**200**	Pn			**Pn**	**03 44 04.0**	**0.0**
	11nm,0.3s,baz=245,slow=17,SNR=1.8								
JHJ				Sn			**Sn**	**03 44 39.5**	**-0.6**
	10nm,0.3s,baz=45,slow=20,SNR=1.2								
H11N2	**WAKE ISLAND Hy**	**27.89**	**118**	T			T	04 18 05.1	
	baz=311,slow=75,SNR=74								
H11N1	**WAKE ISLAND Hy**	**27.90**	**119**	T			T	04 18 09.8	
	baz=311,slow=75,SNR=106								
H11N3	**WAKE ISLAND Hy**	**27.91**	**118**	T			T	04 18 06.7	
	baz=311,slow=75,SNR=106								
H11S1	**WAKE ISLAND Hy**	**28.56**	**121**	T			T	04 18 59.8	
	baz=313,slow=75,SNR=47								
H11S3	**WAKE ISLAND Hy**	**28.56**	**121**	T			T	04 18 58.4	
	baz=313,slow=75,SNR=46								
H11S2	**WAKE ISLAND Hy**	**28.58**	**121**	T			T	04 18 58.1	
	baz=313,slow=75,SNR=37								
MKAR	**Makanchi Array**	**44.43**	**303**	P			**P**	**03 51 29.4**	**+2.0**
	0.2nm,0.3s,baz=72,slow=9.3,SNR=1.6								
WRA	**Warramunga Arr**	**55.95**	**188**	P			**P**	**03 52 54.1**	**-0.6**
	0.3nm,0.4s,baz=7.8,slow=7.5,SNR=6.6								
ASAR	**Alice Springs**	**59.68**	**188**	P			**P**	**03 53 21.1**	**+0.2**
	0.3nm,0.6s,baz=14,slow=7.6,SNR=5.1								

IDC 01 04:13:35.8±22.0, 2°.09N×101°.86W, h0km, mb3.9/3, mb1 4.4/3, mb1mx3.8/29, mbtmp3.9/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/27, Error ellipse: s-maj=788.5km s-min=115.6km az=113.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.41**	**24**	LR		LR	LR	04 21 45.6	
	comp=Z,181nm,21.3s,baz=188,slow=30								
LPIG	**La Paz**	**23.36**	**340**	LR		LR	LR	04 25 49.3	
	comp=Z,83nm,20.2s,baz=206,slow=31								
TXAR	**Lajitas Array**	**27.15**	**357**	P		P	P	04 19 21.1	+0.1
	1.0nm,0.8s,baz=175,slow=12,SNR=13								
TXAR				LR		LR	LR	04 28 57.9	
	comp=Z,76nm,19.2s,baz=0.0,slow=34								
ANMO	**Albuquerque**	**32.97**	**353**	LR		LR	LR	04 32 49.6	
	comp=Z,100nm,18.6s,baz=178,slow=35								
PFO	**Pinyon Flats O**	**34.21**	**338**	LR		LR	LR	04 32 12.5	
	comp=Z,55nm,18.1s,baz=184,slow=33								
PDAR	**Pinedale Array**	**41.08**	**351**	P		P	P	04 21 21.4	-0.2
	1.3nm,0.8s,baz=161,slow=8.6,SNR=13								
ILAR	**Eielson Array**	**70.40**	**341**	P		P	P	04 24 51.5	0.0
	2.4nm,0.7s,baz=150,slow=4.7,SNR=28								
MA2	**Magadan**	**96.93**	**331**	LR		LR	LR	05 05 50.8	
	comp=Z,245nm,18.2s,baz=280,slow=32								
HNR	**Honiara**	**98.42**	**261**	LR		LR	LR	05 02 52.6	
	comp=Z,425nm,19.6s,baz=312,slow=30								

*NIED **01** 04:19:00, 36°.70N×140°.60E, h8km, Mw3.5 Best double couple: M₀2.27000×10¹⁴ NP1:φs2.00000°, δ34.00000°, λ-9.00000°. NP2:φs100.00000°, δ85.00000°, λ-124.00000°.*

JMA 01 04:19:35.6, 36°.70N×140°.61E, h5km±1km, M3.6, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.10**	**200**	⇑P			Pg	04 19 37.7	+0.1
JHO				S			Sg	04 19 39.3	+0.3
ONAJ	**Iwakimizuishiy**	**0.43**	**21**	⇑P			Pg	04 19 43.9	0.0
ONAJ				S			Sg	04 19 49.6	+0.1
JYT	**Yasato**	**0.58**	**216**	⇑P			Pg	04 19 46.7	0.0
JYT				S			Sg	04 19 54.5	+0.3
JSB	**Shiboa**	**0.61**	**296**	P			Pg	04 19 47.9	+0.5
JSB				S			Sb	04 19 56.7	-1.1
JFK	**Kawauchi**	**0.70**	**18**	⇓P			Pg	04 19 48.6	-0.4
JFK				S			Sg	04 19 57.8	-0.3
JFT	**Otama**	**0.84**	**345**	⇓P			Pg	04 19 51.6	-0.2
JFT				S			Sg	04 20 02.6	-0.2
JAG	**Ashikaga**	**0.97**	**254**	⇑P			Pg	04 19 53.3	-0.9
JAG				S			Sg	04 20 06.0	-0.8
JFY	**Yanaizu**	**1.01**	**315**	P			Pg	04 19 54.6	-0.4
JFY				S			Sg	04 20 08.4	+0.3
MAT	**Matsushiro**	**1.94**	**266**	P			Pn	04 20 09.4	+0.2
MAT				S			Sn	04 20 34.8	+0.8

*BJI **01** 04:21:47.2, 7°.01N×123°.95E, h620km, mb5.3/72, mB5.1/46*

*MOS **01** 04:21:50.9±0.9, 7°.39N×123°.67E, h621km, mb5.2/79, Error ellipse: s-maj=8.6km s-min=4.7km az=108.8*

*MAN **01** 04:21:50, 7°.45N×123°.93E, h621km, mb5.8, ML4.8, MS5.2*

*ISCJB **01** 04:21:50.7±0.1, 7°.38N±0°.02×123°.73E±0°.02, h621km±1km, mb5.2/196, Error ellipse: s-maj=3.7km s-min=2.3km az=169.6*

*GCMT **01** 04:21:51.6±0.2, 7°.46N×123°.46E, h609km±2km, MW5.3/91, Moment Tensor Solution. s91,c124; Duration: 1ꝑ1 Moment tensor: Scale 10¹⁷Nm; Mrr-1.03±.03; Mθθ-0.16±.05; Mφφ 1.19±.05; Mrθ-0.03±.06; Mθφ-0.04±.05; Mφr~0.34±.06; Best double couple: M₀1.16200×10¹⁷ NP1:φs0.00000°, δ54.00000°, λ-87.00000°. NP2: φs176.00000°, δ37.00000°, λ-94.00000°. Principal axes: T 1.2420, Plg9.0000°, Azm89.0000°; N -0.1600, Plg2.0000°, Azm179.0000°; P -1.0830, Plg81.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s.*

*DJA **01** 04:21:51.7±0.3, 7°.N±4°×12°.4E±°, h606km±6km, M5.2/37, mb5.2/37, mB5.5/28, MLv5.9/5, Mw(mB)5.0/28*

*NEIC **01** 04:21:51.6±0.2, 7°.36N×123°.69E, h615km±3km, mb5.2/122, Error ellipse: s-maj=3.7km s-min=2.6km az=77.0*

*IDC **01** 04:21:52.1±0.7, 7°.36N×123°.69E, h621km±8km, mb4.6/48, mb1 4.6/49, mb1mx4.6/55, mbtmp5.6/49, Error ellipse: s-maj=8.9km s-min=5.6km az=72.0*

*KLM **01** 04:21:54.2, 7°.36N×123°.76E, h650km, mb5.4*

ISC 01 04:21:51.0±0.3, 7°.38N±0°.03×123°.74E±0°.04, h612km±2km, h613km:pP-P, n999, σ1°32/1129, mb5.2/198, 36C-41D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.52**	**108**	⇓*i*P			**P**	**04 23 03.3**	**+0.6**
PAGZ	**Pagadian**	**0.59**	**322**	*e*P			**P**	**04 23 03.3**	**+0.5**
DCPH	**Dipolog City**	**1.26**	**342**	⇑*i*P			**P**	**04 23 04.4**	**+0.4**
DCPH				*i* S			**S**	**04 24 03.4**	**+0.1**
KCP	**Kidapawan**	**1.39**	**105**	⇓*i*P			**P**	**04 23 04.7**	**+0.3**
GSPH	**General Santos**	**1.76**	**137**	⇓*i*P			**P**	**04 23 06.2**	**+0.4**
DAV	**Davao City (W)**	**1.85**	**99**	*e*P			**P**	**04 23 06.4**	**+0.5**
DAV	**Davao City (W)**	**1.85**	**99**	P			**P**	**04 23 06.5**	**+0.7**
	SNR=57								
DAV	**Davao City (W)**	**1.85**	**99**	P			**P**	**04 23 06.5**	**+0.7**
	SNR=57								
SNPH	**Sibulan**	**2.01**	**346**	⇓*e*P			**P**	**04 23 05.6**	**-0.9**
TBP	**Tagbilaran**	**2.30**	**3**	⇓*e*P			**P**	**04 23 07.8**	**+0.1**
MATI	**Mati**	**2.53**	**100**	*e*P			**P**	**04 23 07.6**	**-1.2**
MATI				*e*S			**S**	**04 24 10.4**	**-1.6**
BIPH	**Bislig**	**2.71**	**73**	⇓*e*P			**P**	**04 23 11.2**	**+1.5**
BIPH				*i* S			**S**	**04 24 11.6**	**-2.0**
LLP	**Lapu-Lapu**	**2.93**	**4**	⇓*i*P			**P**	**04 23 11.7**	**+0.9**
LLP				*e*S			**S**	**04 24 15.1**	**-0.7**
SCPH	**Surigao**	**2.95**	**36**	*e*P			**P**	**04 23 10.9**	**0.0**
OCLP	**Ormoc**	**3.75**	**13**	*e*P			**P**	**04 23 16.1**	**+0.5**
PLP	**Palo**	**3.95**	**18**	⇓*e*P			**P**	**04 23 16.7**	**-0.4**
RCP	**Roxas**	**4.27**	**347**	⇓*i*P			**P**	**04 23 18.6**	**-0.7**
BESP	**Borongan**	**4.51**	**22**	*e*P			**P**	**04 23 20.0**	**-1.0**
BESP				*e*S			**S**	**04 24 31.4**	**-3.0**
OTRP	**Odiongan**	**5.23**	**341**	*e*P			**P**	**04 23 27.1**	**+0.6**
MYLDM	**Lahad Datu**	**5.65**	**248**	*e*P			**P**	**04 23 31.9**	**+2.0**
SJMP	**San Jose**	**5.67**	**333**	*e*P			**P**	**04 23 31.3**	**+1.3**
SJMP				*e*S			**S**	**04 24 52.3**	**+1.4**
ENPP	**El Nido**	**5.71**	**312**	*e*P			**P**	**04 23 31.2**	**+0.8**
ENPP				*e*S			**S**	**04 24 51.5**	**0.0**
AUQP	**San Andres**	**6.00**	**350**	*e*P			**P**	**04 23 35.0**	**+2.2**
PVCP	**Virac**	**6.19**	**4**	*e*P			**P**	**04 23 33.9**	**-0.5**
PVCP				*e*S			**S**	**04 24 55.7**	**-3.2**
BOAC	**Boac**	**6.32**	**343**	*e*P			**P**	**04 23 36.5**	**+1.0**
BOAC				*e*S			**S**	**04 25 09.7**	**+8.6**
PGP	**Puerto Galera**	**6.67**	**336**	⇓*e*P			**P**	**04 23 39.1**	**+0.5**
PGP				*e*S			**P**	**04 23 40.7**	**+2.0**
MRSI	**Marisa**	**7.09**	**195**	P			**P**	**04 23 43.0**	**+0.5**
LUBP	**Lubang**	**7.19**	**332**	*e*P			**P**	**04 23 43.6**	**+0.3**
LUBP				*e*S			**S**	**04 25 13.7**	**-1.5**
TGY	**Tagaytay City**	**7.23**	**338**	P			**P**	**04 23 44.4**	**+0.7**
	558nm,0.3s,baz=188,slow=3.5,SNR=14								
TGY				S			**S**	**04 25 16.8**	**+0.9**
	baz=144,slow=21,SNR=7.7								
TGY	**Tagaytay City**	**7.23**	**338**	⇑*i*P			**P**	**04 23 41.7**	**-2.0**
KKM	**Kota Kinabalu**	**7.59**	**260**	*e*P			**P**	**04 23 46.7**	**-0.5**
	596nm,0.5s								
LBMI	**Labuha**	**8.80**	**155**	P			**P**	**04 23 58.3**	**-0.2**
PCI	**Palu**	**9.11**	**205**	P			**P**	**04 24 01.0**	**-0.4**
SCZP	**Santa Cruz**	**9.15**	**336**	*e*P			**P**	**04 24 00.5**	**-1.2**
SCZP				*e*S			**S**	**04 25 45.4**	**-3.5**
SANI	**Sanana**	**9.63**	**166**	P			**P**	**04 24 04.3**	**-2.2**
	426nm,0.5s,8μm								
SZP	**Santa**	**10.61**	**343**	*e*P			**P**	**04 24 16.5**	**+0.5**
SZP				*e*S			**S**	**04 26 13.6**	**-1.4**
PALU	**Palau**	**10.64**	**90**	P			**P**	**04 24 17.0**	**+0.5**
	baz=11,SNR=67								
NLAI	**Namlea**	**11.07**	**162**	P			**P**	**04 24 21.7**	**+1.0**
TTSI	**Tana Toraja**	**11.07**	**201**	P			**P**	**04 24 22.9**	**+2.2**
	95nm,0.6s,1μm								
SIJI	**Sorong**	**11.11**	**137**	P			**P**	**04 24 22.2**	**+1.1**
	239nm,0.3s,baz=314,slow=4.6,SNR=34								
SIJI				S			**S**	**04 26 25.5**	**+1.2**
	baz=115,slow=22,SNR=7.0								
KDI	**Kendari**	**11.32**	**186**	P			**P**	**04 24 24.1**	**+0.9**
	30nm,0.7s								
MSAI	**Masohi**	**11.85**	**154**	P			**P**	**04 24 31.6**	**+3.2**
AAI	**Ambon**	**11.86**	**158**	P			**P**	**04 24 29.5**	**+1.0**
SPSI	**Sidrap Palu**	**11.95**	**200**	P			**P**	**04 24 29.6**	**+0.2**
	45nm,0.7s,695nm								
MTKI	**Muara Teweh, K**	**12.09**	**227**	P			**P**	**04 24 31.9**	**+1.1**
	2μm,0.5s,22μm								
SBUM	**Sibu**	**12.48**	**247**	*e*P			**P**	**04 24 35.3**	**+0.6**
KAPI	**Kappang**	**12.94**	**198**	*e*P			**P**	**04 24 37.9**	**-1.3**
	23nm,0.9s								
FAKI	**Fak Fak**	**13.29**	**140**	P			**P**	**04 24 43.6**	**+0.9**
FAKI	**Fak Fak**	**13.29**	**140**	*e*P			**P**	**04 24 43.5**	**+0.7**
	341nm,0.7s								
FAKI				*e*S			**S**	**04 27 00.3**	**-3.2**
BNDI	**Bandanaira**	**13.33**	**152**	P			**P**	**04 24 45.0**	**+1.9**
BBKI	**Banjar Baru**	**13.96**	**220**	P			**P**	**04 24 49.3**	**0.0**
	153nm,0.7s								
STKI	**Sintang**	**14.23**	**240**	P			**P**	**04 24 52.1**	**+0.3**
	368nm,1.2s								
KSM	**Kuching**	**14.62**	**247**	*e*P			**P**	**04 24 55.9**	**+0.5**
	423nm,0.5s								
KSM				*e*S			**S**	**04 27 27.9**	**+2.1**
TWG	**Pinlang**	**15.57**	**351**	*e*P			**P**	**04 25 03.4**	**-0.5**
	350nm,0.5s								
TWG				*e*S			**S**	**04 27 42.5**	**+1.5**
PBKI	**Pangkalan Bun**	**15.67**	**231**	P			**P**	**04 25 07.1**	**+2.1**
DLV	**T Lat**	**15.71**	**288**	*e*P			**P**	**04 25 06.0**	**+0.4**
	458nm,0.9s								
MMRI	**Maumere**	**15.98**	**185**	P			**P**	**04 25 10.1**	**+2.3**
	415nm,0.6s,10μm								
MMRI	**Maumere**	**15.98**	**185**	*e*P			**P**	**04 25 07.1**	**-0.8**
	287nm,0.6s								
YULB	**Yu-li**	**16.09**	**352**	*e*P			**P**	**04 25 07.5**	**-1.2**
	429nm,1.9s								
YULB				*e*S			**S**	**04 27 48.6**	**-1.2**
TPUB	**Ta-pu**	**16.11**	**350**	*e*P			**P**	**04 25 09.6**	**+0.7**
	464nm,0.6s								
TPUB				*e*S			**S**	**04 27 49.0**	**-1.0**
SSLB	**Suanglung**	**16.53**	**351**	*e*P			**P**	**04 25 12.7**	**-0.1**
	104nm,0.7s								
SSLB				*e*S			**S**	**04 27 55.5**	**-1.5**
SAUI	**Saumlaki**	**17.02**	**154**	P			**P**	**04 25 20.8**	**+3.5**
SAUI	**Saumlaki**	**17.02**	**154**	*e*P			**P**	**04 25 17.6**	**+0.2**
	308nm,1.0s								
SOEI	**Soe**	**17.03**	**178**	P			**P**	**04 25 18.0**	**+0.4**
	178nm,0.6s,2μm								
SOEI	**Soe**	**17.03**	**178**	*e*P			**P**	**04 25 17.4**	**-0.1**
	131nm,0.5s								
SOEI				*e*S			**S**	**04 28 05.1**	**-0.3**
PLAI	**Plampang**	**17.16**	**200**	P			**P**	**04 25 19.5**	**+0.9**
KMMI	**Kalianget**	**17.34**	**214**	P			**P**	**04 25 22.6**	**+2.4**
YHNB	**Yeheng**	**17.34**	**353**	*e*P			**P**	**04 25 20.8**	**+0.5**
	282nm,1.5s								
YHNB				*e*S			**S**	**04 28 08.5**	**-1.6**
TWSI	**Taliwang, Sumb**	**17.41**	**203**	P			**P**	**04 25 21.5**	**+0.6**
SMPI	**Sarmi**	**17.60**	**121**	P			**P**	**04 25 24.0**	**+1.4**
TATO	**Taipei**	**17.63**	**353**	*e*P			**P**	**04 25 22.5**	**-0.3**
	68nm,0.6s								
QIZ	**Qiongzhong**	**17.79**	**312**	P			**P**	**04 25 25.7**	**+1.4**
QIZ				sP			**sP**	**04 27 48.1**	**-5.2**
QIZ				S			**S**	**04 28 18.2**	**+0.7**
QIZ				pmax			pmax		
	comp=Z,55nm,1.1s								
QIZ	**Qiongzhong**	**17.79**	**312**	*e*P			**P**	**04 25 25.0**	**+0.7**
	66nm,1.1s								
DNP	**Denpasar**	**18.08**	**208**	P			**P**	**04 25 33.1**	**+6.2**
QZH	**Quanzhou**	**18.15**	**345**	⇓*i*P			**P**	**04 25 27.8**	**+0.4**
QZH				pmax			pmax		
	comp=Z,220nm,0.6s								
IGBI	**Denpasar**	**18.23**	**208**	P			**P**	**04 25 31.1**	**+2.8**
JAGI	**Jajag, Banyuwa**	**18.42**	**211**	P			**P**	**04 25 31.2**	**+1.1**
JAGI	**Jajag, Banyuwa**	**18.42**	**211**	*e*P			**P**	**04 25 30.1**	**+0.1**
	392nm,1.4s								
GMJI	**Gumukmas**	**18.63**	**214**	P			**P**	**04 25 33.1**	**+1.1**
	62nm,1.2s								
NGJI	**Ngawi**	**19.09**	**220**	P			**P**	**04 25 41.6**	**+5.4**
GENI	**Genyem**	**19.15**	**121**	P			**P**	**04 25 39.3**	**+2.6**
PWJI	**Pagerwojo**	**19.39**	**218**	P			**P**	**04 25 39.8**	**+1.0**
	27nm,1.1s								
SMRI	**Semarang**	**19.53**	**223**	P			**P**	**04 25 42.1**	**+1.9**
	188nm,1.1s								
SMRI	**Semarang**	**19.53**	**223**	*e*P			**P**	**04 25 41.4**	**+1.2**
	131nm,0.9s								
JOW	**Kunigami**	**19.82**

SISI	**Saibi**	**26.07 252**	P	**P**	**04 26 38.6 +0.3**
CBIJ	**Chichi jima**	**26.29 40**	*e*P	**P**	**04 26 39.7 -0.3**
	comp=Z,264nm,1.2s				
ENH	**Enshi**	**26.41 331**	*e*P	**P**	**04 26 42.2 +1.1**
	comp=Z,116nm,0.8s				
JNU	**Nakatsue**	**26.46 14**	P	**P**	**04 26 41.5 +0.1**
	comp=Z,8.4nm,0.5s,baz=290,slow=0.6,SNR=5.0				
CMAR	**Chiang Mai Arr**	**26.52 297**	PcP	**PcP**	**04 29 46.8 +1.0**
	comp=Z,12nm,0.9s,baz=101,slow=0.9,SNR=4.5				
CMAR			S	**S**	**04 30 33.2 -2.0**
	comp=Z,13nm,1.1s,baz=112,slow=13,SNR=6.0				
CMAR			ScP	**ScP**	**04 32 28.6 -0.2**
	comp=Z,14nm,1.2s,baz=115,slow=2.1,SNR=7.8				
KMI	**Kunming**	**26.72 314**	P	**P**	**04 26 46.4 +2.3**
KMI			sP	sP	04 29 31.3 +0.6
KMI			S	**S**	**04 30 39.2 +0.6**
KMI			pmax	pmax	
	comp=Z,60nm,1.0s				
MBWA	**Marble Bar**	**28.63 188**	*e*P	**P**	**04 26 59.7 -0.8**
	comp=Z,33nm,0.6s				
MBWA			*e*PcP	**PcP**	**04 29 50.5 -0.5**
COEN	**Coen**	**28.66 138**	P	**P**	**04 27 00.4 -0.4**
	baz=29,SNR=400				
COEN	**Coen**	**28.66 138**	*e*P	**P**	**04 27 00.4 -0.4**
	comp=Z,89nm,0.9s				
COEN			*e*PcP	**PcP**	**04 29 51.7 +0.5**
COEN			*e*ScP	**ScP**	**04 32 35.1 -0.4**
PMG	**Port Moresby**	**28.68 125**	P	**P**	**04 27 00.9 -0.1**
	comp=Z,90nm,0.7s,baz=336,slow=5.5,SNR=16				
PMG	**Port Moresby**	**28.68 125***c*	*i*P	**P**	**04 27 00.7 -0.3**
PMG			pmax	pmax	
	comp=Z,389nm,0.9s				
PMG	**Port Moresby**	**28.68 125**	*e*P	**P**	**04 27 00.6 -0.3**
	comp=Z,105nm,0.9s				
WRAB	**Tennant Creek**	**29.08 159***c*	*i*P	**P**	**04 27 04.4 0.0**
WRAB			pmax	pmax	
	comp=Z,313nm,0.9s				
WRAB	**Tennant Creek**	**29.08 159**	*e*P	**P**	**04 27 04.3 -0.1**
	comp=Z,161nm,0.6s				
WRA	**Warramunga Arr**	**29.09 159**	P	**P**	**04 27 04.2 -0.2**
	comp=Z,126nm,0.5s,baz=333,slow=10,SNR=288				
WRA			PcP	**sP**	**04 29 52.1 +0.1**
	comp=Z,9.1nm,0.4s,baz=338,slow=3.3,SNR=11				
WRA	**Warramunga Arr**	**29.09 159**	P	**P**	**04 27 04.2 -0.2**
WRA					04 29 52.1
WRA			pmax	pmax	
	comp=Z,108nm,0.5s				
WRA			pmax	pmax	
	comp=Z,9.0nm,0.4s				
WB2	**Warramunga Arr**	**29.09 159**	*e*P	**P**	**04 27 04.3 -0.2**
	comp=Z,218nm,0.6s				
TIA	**Tai'an**	**29.33 349**	⇓P	**P**	**04 27 07.2 +0.9**
TIA			S	**S**	**04 31 23.5 +5.3**
TIA			pmax	pmax	
	comp=Z,90nm,1.0s				
XAN	**Xi'an**	**29.85 335**	P	**P**	**04 27 11.5 +0.6**
XAN			pmax	pmax	
	comp=Z,290nm,0.8s				
XAN			pmax	pmax	
	comp=Z,210nm,6.2s				
CD2	**Chengdu**	**29.96 324**	*e*P	**P**	**04 27 12.7 +0.8**
CD2			sP	sP	04 30 01.5 +1.6
CD2			S	**S**	**04 31 29.9 +1.7**
CD2			SS	**SS**	**04 34 39.6 +2.7**
CD2			pmax	pmax	
	comp=Z,110nm,0.7s				
CD2			pmax	pmax	
	comp=Z,410nm,4.7s				
KSAR	**Wonju Array Be**	**30.16 7**	P	**P**	**04 27 15.0 +1.6**
KSAR					04 29 55.3
KSAR	**Wonju Array Be**	**30.16 7**	P	**P**	**04 27 15.0 +1.6**
KSAR			PcP	**PcP**	**04 29 55.3 +0.6**
KSAR			ScP	**ScP**	**04 32 40.2 +0.3**
KSRS	**Korea Array**	**30.18 7**	P	**P**	**04 27 15.0 +1.5**
	comp=Z,4.7nm,0.5s,baz=185,slow=9.6,SNR=13				
KSRS			PcP	**PcP**	**04 29 55.3 +0.6**
	comp=Z,8.0nm,0.8s,baz=205,slow=2.3,SNR=8.4				
KSRS			ScP	**ScP**	**04 32 40.2 +0.2**
	comp=Z,9.1nm,0.9s,baz=191,slow=3.4,SNR=11				
KSRS	**Korea Array**	**30.18 7**	P	**P**	**04 27 15.0 +1.5**
KSRS					04 29 55.3
KSRS			pmax	pmax	
	comp=Z,4.0nm,0.4s				
KSRS			pmax	pmax	
	comp=Z,8.0nm,0.8s				
KSRS			pmax	pmax	
	comp=N,9.0nm,0.9s				
KS01	**Wonju Array Si**	**30.20 7**	*e*P	**P**	**04 27 16.6 +2.9**
KS01			*e*PcP	**PcP**	**04 29 55.3 +0.5**
INU	**Inuyama**	**30.39 22**	*e*P	**P**	**04 27 16.3 +0.9**
	comp=N,40nm,0.8s				
RABL	**Rabaul**	**30.60 111**	*e*P	**P**	**04 27 20.1 +2.5**
	comp=N,478nm,0.6s				
GIRL	**Giralia**	**31.26 197**	P	**P**	**04 27 24.0 +1.1**
	baz=31,SNR=30				
DL2	**Dalian**	**31.45 357**	⇓P	**P**	**04 27 25.4 +1.1**
DL2			pmax	pmax	
	comp=N,130nm,0.9s				
QIS	**Mount Isa**	**31.84 151**	P	**P**	**04 27 28.4 +0.4**
	baz=32,SNR=52				
MAJO	**Matsushiro**	**31.89 22**	*e*P	**P**	**04 27 27.1 -1.0**
MAJO			*e*		04 29 59.6
MAJO			pmax	pmax	
	comp=Z,33nm,0.8s				
MAJO	**Matsushiro**	**31.89 22**	*e*P	**P**	**04 27 27.1 -1.0**
	comp=Z,33nm,0.8s				
MAJO			*e*PcP	**PcP**	**04 29 59.6 +0.2**
MAJO			*e*ScP	**ScP**	**04 32 45.9 0.0**
MAT	**Matsuhiro**	**31.89 22**	P	**P**	**04 27 27.8 -0.4**
MAT			S	**S**	**04 31 51.6 -5.8**
MJAR	**Matsushiro Arr**	**31.89 22**	P	**P**	**04 27 28.1 -0.1**
	comp=Z,27nm,0.8s,baz=195,slow=9.0,SNR=59				
MJAR			PcP	**PcP**	**04 30 00.2 +0.7**
	comp=Z,9.7nm,0.7s,baz=192,slow=3.3,SNR=11				
MJAR			ScP	**ScP**	**04 32 46.2 +0.2**
	comp=Z,19nm,1.0s,baz=207,slow=4.2,SNR=13				
MJB9	**Matsu-Tunnel**	**31.89 22**	*e*P	**P**	**04 27 28.4 +0.2**
	comp=Z,8.6nm,0.9s				
TIY	**Taiyuan**	**31.89 343**	*e*P	**P**	**04 27 29.5 +1.3**
TIY			pmax	pmax	
	comp=Z,120nm,0.8s				
TIY			pmax	pmax	
	comp=Z,250nm,4.8s				
AS31	**Alice Springs**	**32.41 162**	*e*P	**P**	**04 27 33.5 +0.7**
	comp=Z,44nm,0.4s				
ASAR	**Alice Springs**	**32.41 162**	P	**P**	**04 27 33.5 +0.7**
	comp=Z,62nm,0.4s,baz=345,slow=6.9,SNR=1248				
ASAR			PcP	**PcP**	**04 30 00.9 -0.2**
	comp=Z,25nm,0.4s,baz=341,slow=2.7,SNR=24				
ASAR			S	**S**	**04 32 04.3 -1.5**
	comp=Z,57nm,0.8s,baz=350,slow=22,SNR=60				
ASAR			ScP	**ScP**	**04 32 46.7 -1.3**
	comp=Z,6.8nm,0.5s,baz=334,slow=3.1,SNR=4.5				
ASAR	**Alice Springs**	**32.41 162**	P	**P**	**04 27 33.5 +0.7**
ASAR					04 30 01.0
ASAR			S	**S**	**04 32 04.3 -1.5**
ASAR			pmax	pmax	
	comp=Z,54nm,0.4s				
ASAR			pmax	pmax	
	comp=Z,25nm,0.4s				
ASAR			smax	smax	
	comp=N,57nm,0.9s				
ASAR			pmax	pmax	
	comp=N,7.0nm,0.5s				
AS01	**Alice Springs**	**32.43 162**	*e*P	**P**	**04 27 33.0 +0.1**
MTSU	**Mount Surprise**	**32.48 142**	P	**P**	**04 27 34.0 +0.5**
	baz=33,SNR=35				
WRKA	**Warakurna**	**32.52 172**	P	**P**	**04 27 34.2 +0.5**
	baz=33,SNR=102				
BJT	**Baijiatuau**	**33.20 349**	*e*P	**P**	**04 27 39.9 +0.8**
BJT			*e*		04 30 03.8
BJT			pmax	pmax	
	comp=Z,125nm,0.8s				
BJT	**Baijiatuau**	**33.20 349**	*e*P	**P**	**04 27 39.9 +0.8**
	comp=Z,125nm,0.8s				
BJT			*e*PcP	**PcP**	**04 30 03.8 +0.7**
BJT			*e*ScP	**ScP**	**04 32 49.9 -0.5**
BJI	**Beijing**	**33.22 349**	P	**P**	**04 27 40.2 +1.0**
BJI			PcP	**PcP**	**04 30 04.1 +1.0**
BJI			sP	**sP**	**04 30 30.5 +1.8**
BJI			S	**S**	**04 32 17.6 +0.2**
BJI			ScS	**ScS**	**04 36 52.7 -0.2**
BJI			pmax	pmax	
	comp=Z,130nm,0.8s				
LZH	**Lanzhou**	**33.88 330**	⇓P	**P**	**04 27 47.1 +2.1**
LZH			pP	PP	04 29 27.4 -0.9
LZH			PcP	**PcP**	**04 30 06.0 +0.6**
LZH			sP	sP	04 30 37.0 +2.2
LZH			S	**S**	**04 32 31.2 +3.4**
LZH			PcS	**PcS**	**04 33 52.8 +0.2**
LZH			pmax	pmax	
	comp=Z,220nm,1.2s				
LZH			pmax	pmax	
	comp=Z,590nm,5.4s				
SNY	**Shenyang**	**34.31 360**	⇓P	**P**	**04 27 49.1 +0.8**
SNY			S	**S**	**04 32 33.0 -0.7**
SNY			pmax	pmax	
	comp=Z,50nm,0.6s				
SNY			pmax	pmax	
	comp=Z,270nm,5.7s				
HHC	**Hu-ho-hao-te**	**35.05 344**	*e*P	**P**	**04 27 56.3 +1.6**
HHC			S	**S**	**04 32 49.9 +4.7**
HHC			ScP	**ScP**	**04 32 58.9 +1.7**
HHC			SS	**SS**	**04 35 54.3 -7.2**
HHC			pmax	pmax	
	comp=Z,87nm,1.0s				
HHC			pmax	pmax	
	comp=Z,160nm,4.4s				
CTA	**Charters Tower**	**35.15 141**	P	**P**	**04 27 57.0 +1.4**
	comp=Z,30nm,0.5s,baz=324,slow=11,SNR=67				
CTAO	**Charters Tower**	**35.15 141**	*e*P	**P**	**04 27 57.1 +1.4**
CTAO			*e*		04 30 09.7
CTAO			*e*		04 32 57.5
CTAO			pmax	pmax	
	comp=Z,65nm,0.9s				
CTAO	**Charters Tower**	**35.15 141**	*e*P	**P**	**04 27 57.1 +1.4**
	comp=Z,65nm,0.9s				
CTAO			*e*PcP	**PcP**	**04 30 09.7 +0.5**
CTAO			*e*ScP	**ScP**	**04 32 57.5 -0.3**
BTO	**Baotou**	**35.28 342**	*e*P	**P**	**04 27 55.9 -0.7**
BTO			pmax	pmax	
	comp=Z,7.0nm,0.9s				
MSHR	**Mys Shultsa**	**35.66 9***c*	*i*P	**P**	**04 28 01.8 +2.3**
CN2	**Changchun**	**36.31 2**	*e*P	**P**	**04 28 01.1 -3.7**
CN2			*e*S	S	04 33 12.6 +9.1
CN2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CN2			pmax	pmax	
	comp=Z,100nm,3.0s				
VLA	**Vladivostok**	**36.31 10**	⇓*i*P	**P**	**04 28 06.3 +1.5**
VLA			*i*		04 30 12.8
VLA			*i* S	**S**	**04 33 05.2 +1.7**
VLA			pmax	pmax	
	comp=Z,18nm,0.6s				
MORW	**Morawa**	**36.99 191**	P	**P**	**04 28 10.5 -0.1**
	baz=37,SNR=60				
USRK	**Ussuriysk Ar.**	**37.38 10**	P	**P**	**04 28 14.6 +1.1**
	comp=Z,16nm,0.6s,baz=201,slow=7.0,SNR=28				
USRK			PcP	**PcP**	**04 30 15.2 -0.4**
	comp=Z,8.4nm,0.7s,baz=185,slow=3.7,SNR=5.5				
MDJ	**Mudanjiang**	**37.44 7**	P	**P**	**04 28 15.5 +1.5**
MDJ			pmax	pmax	
	comp=Z,24nm,0.6s				
MDJ			pmax	pmax	
	comp=Z,83nm,7.2s				
MDJ	**Mudanjiang**	**37.44 7**	*e*P	**P**	**04 28 15.2 +1.2**
	comp=Z,21nm,0.6s				
LSA	**Lhasa**	**37.82 310**	*e*P	**P**	**04 28 18.5 +0.6**
LSA			*e*		04 30 18.6
LSA			*e*S	**S**	**04 33 26.3 -0.9**
LSA			pmax	pmax	
	comp=Z,46nm,0.6s				
LSA	**Lhasa**	**37.82 310**	*e*P	**P**	**04 28 18.5 +0.6**
	comp=Z,46nm,0.6s				
LSA			*e*PcP	**PcP**	**04 30 18.6 +0.7**
LSA			*e*S	**S**	**04 33 26.3 -0.9**
FORT	**Forrest**	**38.17 174**	P	**P**	**04 28 20.6 +0.5**
	baz=38,SNR=233				
FORT	**Forrest**	**38.17 174**	*e*P	**P**	**04 28 20.6 +0.5**
	comp=Z,2μm,0.6s				
FORT			*e*PcP	**PcP**	**04 30 18.4 +0.1**
FORT			*e*ScP	**ScP**	**04 33 07.5 -1.4**
BLDU	**Ballidu**	**38.38 190**	P	**P**	**04 28 21.6 -0.2**
	baz=38,SNR=5.6				
GTA	**Gaotai**	**38.46 330**	*e*P	**P**	**04 28 23.3 +0.7**
GTA			PcP	**PcP**	**04 30 20.0 +0.7**
GTA			sP	sP	04 31 13.2 -1.4
GTA			S	**S**	**04 33 37.2 +1.5**
GTA			SS	**SS**	**04 36 53.6 -4.1**
GTA			pmax	pmax	
	comp=Z,140nm,1.6s				
GTA			pmax	pmax	
	comp=Z,330nm,6.7s				
GTA	**Gaotai**	**38.46 330**	SS	**S**	**04 33 37.4 +1.7**
KMBL	**Kambalda**	**38.57 183**	P	**P**	**04 28 23.2 -0.1**
	baz=39,SNR=33				
KLBR	**Kellerberrin**	**39.17 188**	P	**P**	**04 28 28.1 -0.1**
	baz=39,SNR=92				
QLP	**Quilpie**	**39.18 150**	P	**P**	**04 28 28.9 +0.6**
	baz=39,SNR=22				
NWAO	**Narrogin (SRO)**	**40.56 188**	P	**P**	**04 28 39.4 +0.3**
	comp=Z,71nm,0.4s,baz=257,slow=7.5,SNR=179				
NWAO	**Narrogin (SRO)**	**40.56 188**	P	**P**	**04 28 39.5 +0.3**
	baz=41,SNR=135				
NWAO			P	**P**	**04 28 39.5 +0.3**
	baz=41,SNR=135				
NWAO	**Narrogin (SRO)**	**40.56 188**	*e*P	**P**	**04 28 39.5 +0.3**
NWAO			pmax	pmax	
	comp=Z,91nm,0.5s				
NWAO	**Narrogin (SRO)**	**40.56 188**	*e*P	**P**	**04 28 39.5 +0.3**
	comp=Z,91nm,0.5s				
YUK	**Yuzh-Kuril'sk**	**41.31 24**⇑	*i*P	**P**	**04 28 46.1 +1.1**
RMQ	**Roma**	**41.50 145**	P	**P**	**04 28 48.0 +1.2**
	baz=42,SNR=8.9				
BBOO	**Buckleboo**	**41.65 164**	P	**P**	**04 28 48.4 +0.6**
	baz=42,SNR=231				
BBOO	**Buckleboo**	**41.65 164**	*e*P	**P**	**04 28 48.4 +0.6**
	comp=Z,116nm,0.7s				
BBOO			*e*PcP	**PcP**	**04 30 28.9 -0.8**
BBOO			*e*ScP	**ScP**	**04 33 20.9 -1.7**
HIA	**Hailar**	**41.88 356**	*e*P	**P**	**04 28 50.5 +1.1**
HIA			*e*		04 30 30.3
HIA			pmax	pmax	
	comp=Z,267nm,1.3s				
HIA	**Hailar**	**41.88 356**	*e*P	**P**	**04 28 50.5 +1.1**
	comp=Z,268nm,1.3s				
HIA			*e*PcP	**PcP**	**04 30 30.3 0.0**
EIDS	**Eidsvold**	**42.04 142**	P	**P**	**04 28 51.5 +0.5**
	baz=42,SNR=10.0				
EIDS	**Eidsvold**	**42.04 142**	*e*P	**P**	**04 28 51.5 +0.5**
	comp=Z,47nm,0.8s				
HABR	**Khabarovsk**	**42.06 11**	*e*P	**P**	**04 28 49.7 -1.0**
HABR			*e**PP	**pP**	**04 30 33.5 -2.4**
HABR			*e*		04 30 41.9
HABR			*e**SP	**sP**	**04 31 41.1 -3.6**
HABR			*e*S	**S**	**04 34 27.5 +0.5**
HABR			*e**SS	**sS**	**04 37 38.1 -1.0**
HABR			*e*		04 37 44.0
HABR			*e*SS	**SS**	**04 37 57.6 +2.0**
HABR			pmax	pmax	
	comp=N,15nm,1.5s				
HABR			pmax	pmax	
	comp=E,28nm,1.5s				
HABR			pmax	pmax	
	comp=Z,32nm,1.5s				
HABR			MLR	MLR	
	comp=Z,92nm,19.0s				
RKGY	**Rocky Gully**	**42.25 188**	P	**P**	**04 28 53.3 +0.8**
	baz=42,SNR=100				
KLR	**Kul'dur**	**42.25 8**	P	**P**	**04 28 52.8 +0.6**
	comp=Z,2.2nm,0.6s,baz=203,slow=4.9,SNR=67				
KLR			PcP	**PcP**	**04 30 31.7 +0.3**
	comp=Z,0.7nm,0.8s,baz=166,slow=3.3,SNR=3.8				
STKA	**Stephens Creek**	**42.60 157**	P	**P**	**04 28 56.1 +0.8**
	comp=Z,48nm,0.5s,baz=336,slow=7.9,SNR=160				
STKA			S	**S**	**04 34 34.1 -1.1**
	comp=Z,3.9nm,0.6s,baz=220,slow=24,SNR=5.1				
STKA	**Stephens Creek**	**42.60 157**	P	**P**	**04 28 56.0 +0.8**
	baz=43,SNR=23				
STKA	**Stephens Creek**	**42.60 157**	*e*P	**P**	**04 28 56.0 +0.8**
	comp=Z,11nm,0.7s				
STKA			S	**S**	**04 34 34.1 -1.1**
YSS	**Yuzh-Sakhalins**	**42.66 19**⇑	*i*P	**P**	**04 28 56.3 +0.8**
YSS			pmax	pmax	
	comp=Z,20nm,1.0s				
YSS	**Yuzh-Sakhalins**	**42.66 19**	*e*P	**P**	**04 28 55.7 +0.3**
PALK	**Pallekele**	**42.68 273**	*e*P	**P**	**04 28 57.7 +1.5**
PALK			*e*		04 30 33.1
PALK			pmax	pmax	
	comp=Z,16nm,1.0s				
PALK	**Pallekele**	**42.68 273**	*e*P	**P**	**04 28 57.7 +1.5**
	comp=Z,16nm,1.0s				
PALK			*e*PcP	**PcP**	**04 30 33.1 -0.6**
ULN	**Ulaanbaatar**	**42.77 343***d*	*i*P	**P**	**04 28 57.8 +1.3**
ULN			*e**SP	**sP**	**04 31 48.6 -2.3**
ULN			pmax	pmax	
	comp=Z,102nm,0.9s				
ULN	**Ulaanbaatar**	**42.77 343**	*e*P	**P**	**04 28 57.4 +0.9**
	comp=Z,202nm,1.2s				
ULN			*e*PcP	**PcP**	**04 30 33.2 -0.3**
ULN	**Ulaanbaatar**	**42.77 343**	P	**P**	**04 28 58.0 +1.5**
	SNR=61				
ULN	**Ulaanbaatar**	**42.77 343**	P	**P**	**04 28 58.0 +1.5**
	SNR=61				
SONM	**Songino Array**	**42.93 343**	P	**P**	**04 28 58.8 +1.1**
	comp=Z,82nm,0.9s,baz=160,slow=8.6,SNR=293				
SONM			PcP	**PcP**	**04 30 33.8 -0.2**
	comp=Z,15nm,0.8s,baz=150,slow=3.5,SNR=5.9				
SONA1	**Songino Array**	**42.94 343**	*e*P	**P**	**04 28 57.8 0.0**
HTT	**Hallett**	**43.07 161**	P	**P**	**04 28 59.9 +0.9**
	baz=43,SNR=17				
CMSA	**Cobar Meteorol**	**44.02 153**	P	**P**	**04 29 07.8 +1.6**
	baz=44,SNR=46				
HYB	**Hyderabad**	**45.15 287**	*i*P	P	04 29 08.5 -6.6
HYB			*e*	**P**	**04 29 15.0 -0.1**
CIT	**Chita**	**45.29 351**	*e*P	**P**	**04 29 17.1 +1.5**
CIT			*e*		04 30 40.6
CIT			pmax	pmax	
	comp=Z,245nm,1.2s				
ARMA	**Armidale**	**46.13 146**	P	**P**	**04 29 24.6 +2.1**
	baz=46,SNR=35				
ARMA	**Armidale**	**46.13 146**	*e*P	**P**	**04 29 23.9 +1.4**
	comp=Z,65nm,0.8s				
ZAK	**Zakamensk**	**46.14 342**	*e*P	**P**	**04 29 22.3 +0.1**
ZAK			pmax	pmax	
	comp=Z,26nm,1.1s				
ARPS	**Mount Arapiles**	**47.08 160**	P	**P**	**04 29 29.9 +0.6**
	baz=47,SNR=19				
TLY	**Talaya**	**47.17 343**	P	**P**	**04 29 31.4 +1.6**
	comp=Z,81nm,0.7s,baz=181,slow=4.9,SNR=49				
TLY	**Talaya**	**47.17 343**	*e*P	**P**	**04 29 31.4 +1.6**
TLY			*e*S	**S**	**04 35 36.6 -2.2**
TLY			pmax	pmax	
	comp=Z,121nm,0.9s				
TLY	**Talaya**	**47.17 343**	*e*P	**P**	**04 29 31.1 +1.3**
	comp=Z,102nm,0.7s				
TLY	**Talaya**	**47.17 343**	P	**P**	**04 29 31.6 +1.8**
	SNR=25				
TLY	**Talaya**	**47.17 343**	P	**P**	**04 29 31.6 +1.8**
	SNR=25				
IRK	**Irkutsk**	**47.50 344**	*e*P	**P**	**04 29 30.3 -1.9**
IRK			pmax	pmax	
	comp=Z,119nm,1.8s				
MOY	**Mondy**	**47.97 341**	*e*P	**P**	**04 29 37.5 +1.6**
MOY			pmax	pmax	
	comp=Z,140nm,1.7s				
MGCD	**Mangrove Creek**	**48.02 149**	P	**P**	**04 29 38.8 +2.4**
	baz=48,SNR=5.0				
WMQ	**Urumqi**	**48.05 325**	P	**P**	**04 29 37.6 +1.1**
WMQ			PcP	**PcP**	**04 30 52.6 +0.4**
WMQ			pP	pP	04 31 27.8 +1.6
WMQ			sP	sP	04 32 32.5 -1.1
WMQ			ScP	**ScP**	**04 33 50.1 +0.9**
WMQ			S	**S**	**04 35 45.2 -5.9**
WMQ			ScS	**ScS**	**04 38 22.6 -1.2**
WMQ			sS	sS	04 39 08.5 -1.1
WMQ			SS	**SS**	**04 39 37.8 +6.5**
WMQ			pmax	pmax	
	comp=Z,150nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,460nm,3.8s				
CAN	**Canberra**	**48.69 152**	*e*P	**P**	**04 29 43.0 +1.6**
CAN			*e*		04 30 55.2
CAN			pmax	pmax	
	comp=Z,36nm,0.8s				
CAN	**Canberra**	**48.69 152**	*e*P	**P**	**04 29 43.0 +1.6**
	comp=Z,36nm,0.8s				
CAN			*e*PcP	**PcP**	**04 30 55.2 +0.6**
CNB	**Canberra Magne**	**48.86 152**	P	**P**	**04 29 44.2 +1.6**
	baz=49,SNR=24				
TOO	**Toolangi**	**49.12 157**	P	**P**	**04 29 45.9 +1.4**
	baz=49,SNR=21				
CLNS	**Chul'man**	**49.34 1**	*e*P	**P**	**04 29 46.2 +0.5**
CLNS			pmax	pmax	
	comp=Z,35nm,0.7s				
CLNS			pmax	pmax	
	comp=E,9.0nm,0.9s				
CLNS			pmax	pmax	
	comp=N,20nm,0.8s				
CLNS			MLR	MLR	
	comp=N,522nm,11.0s				
CLNS			MLR	MLR	
	comp=Z,764nm,12.0s				
CLNS			MLR	MLR	
	comp=E,717nm,12.0s				
BOD	**Bodaibo**	**50.88 353**⇑	*i*P	**P**	**04 29 57.7 +0.8**
BOD			pmax	pmax	
	comp=Z,119nm,0.9s				
DZM	**Mont Dzumac**	**51.06 126**	*e*P	**P**	**04 29 59.0 0.0**
	comp=Z,29nm,0.7s				
DZM			*e*PcP	**PcP**	**04 31 03.0 -0.8**
PDGK	**Podgornoye**	**52.72 320**	P	**P**	**04 30 10.6 +0.1**
PDGK			pmax	pmax	
	comp=Z,207nm,1.2s				
MK31	**Makanchi Array**	**52.88 325**	P	**P**	**04 30 11.9 +0.4**
MK31			pmax	pmax	
	comp=Z,39nm,0.3s				
MKAR	**Makanchi Array**	**52.88 325**	P	**P**	**04 30 12.5 +1.1**
	comp=Z,173nm,0.5s,baz=120,slow=7.6,SNR=249				
MKAR			PcP	**PcP**	**04 31 10.1 -0.2**
	comp=Z,20nm,0.5s,baz=110,slow=6.1,SNR=5.7				
MKAR			ScP	**ScP**	**04 34 08.1 -1.8**
	comp=Z,4.1nm,0.7s,baz=99,slow=5.2,SNR=3.6				
MKAR			S	**S**	**04 36 57.1 +1.3**
	comp=Z,7.8nm,0.9s,baz=124,slow=16,SNR=11				
MAKZ	**Makanchi**	**53.07 325**	*e*P	**P**	**04 30 13.7 +1.0**
MAKZ			pmax	pmax	
	comp=Z,349nm,1.2s				
MAKZ	**Makanchi**	**53.07 325**	*e*P	**P**	**04 30 13.7 +1.0**
	comp=Z,349nm,1.2s				
PEA0	**Petropavlovsk-**	**53.29 25**	*e*P	**P**	**04 30 15.3 +1.2**
PETK	**Petropavlovsk-**	**53.29 25**	P	**P**	**04 30 15.5 +1.3**
	comp=Z,30nm,0.7s,baz=192,slow=3.2,SNR=20				
PETK			PcP	**PcP**	**04 31 11.8 +0.2**
	comp=Z,7.0nm,0.6s,baz=249,slow=2.5,SNR=3.5				
PETK	**Petropavlovsk-**	**53.29 25**	P	**P**	**04 30 15.5 +1.3**
PETK					04 31 11.8
PETK			pmax	pmax	
	comp=Z,29nm,0.7s				
PETK			pmax	pmax	
	comp=Z,7.0nm,0.6s				
KSH	**Kashi**	**53.38 314**⇓	*i*P	**P**	**04 30 17.5 +2.3**
KSH			*e*PcP	**PcP**	**04 31 13.4 +1.0**
KSH			*e*PP	**PP**	**04 32 29.3 +4.3**
KSH			*e*sP	sP	04 33 13.3 -1.5
KSH			PcS	**PcS**	**04 35 08.1 -4.5**
KSH			S	**S**	**04 37 02.0 -0.8**
KSH			ScS	**ScS**	**04 38 57.1 -4.3**
KSH			SS	**SS**	**04 40 57.0 +1.6**
KSH			pmax	pmax	
	comp=Z,110nm,1.2s				
KSH			pmax	pmax	
	comp=Z,160nm,5.7s				
KSH	**Kashi**	**53.38 314**	PcS	PcS	04 35 08.3 -4.3
PET	**Petropavlovsk**	**53.63 25**⇑	*i*P	**P**	**04 30 18.1 +1.6**
PET			pmax	pmax	
	comp=Z,31nm,1.2s				
YAK	**Yakutsk**	**54.72 3**	P	**P**	**04 30 24.4 +0.5**
	comp=Z,111nm,0.6s,baz=287,slow=0.5,SNR=32				
YAK	**Yakutsk**	**54.72 3**	*e*P	**P**	**04 30 24.0 +0.1**
YAK			*e*		04 31 17.1
YAK			*e**PP	**pP**	**04 32 19.7 +1.5**
YAK			*e*S	**S**	**04 37 17.7 -1.4**
YAK			*e*		04 39 06.2
YAK			*e**SS	**sS**	**04 40 42.8 -1.7**
YAK			pmax	pmax	
	comp=Z,140nm,0.8s				
YAK			pmax	pmax	
	comp=N,48nm,1.3s				
YAK			pmax	pmax	
	comp=N,25nm,1.1s				
YAK			pmax	pmax	
	comp=Z,25nm,0.9s				
YAK			smax	smax	
	comp=N,205nm,1.6s				
YAK	**Yakutsk**	**54.72 3**	*e*P	**P**	**04 30 24.1 +0.2**
	comp=N,147nm,0.6s				

TKM2 Tokmak 2 55.06 318 P P 04 30 27.4 +0.4
TKM2 pmax pmax
comp=Z,72nm,0.6s
AAK Ala-Archa 55.67 317 P P 04 30 32.4 +1.2
comp=Z,15nm,0.3s,baz=135,slow=9.0,SNR=18
AAK PcP **PcP 04 31 21.7 +0.3**
comp=Z,12nm,0.5s,baz=149,slow=4.4,SNR=4.1
AAK Ala-Archa 55.67 317 *d iP* **P 04 30 32.5 +1.2**
AAK pmax pmax
comp=Z,81nm,0.9s
AAK Ala-Archa 55.67 317 *eP* **P 04 30 31.6 +0.4**
comp=Z,37nm,0.8s
AAK PcP **PcP 04 31 21.7 +0.3**
AAK Ala-Archa 55.67 317 P **P 04 30 33.2 +1.9**
SNR=6.5
MA2 Magadan 55.98 16 P **P 04 30 34.3 +1.5**
comp=Z,51nm,0.6s,baz=209,slow=6.3,SNR=24
MA2 Magadan 55.98 16 ⇑ *iP* **P 04 30 34.6 +1.8**
ZALV Zalesovo Beam 56.01 333 P **P 04 30 32.8 -0.2**
comp=Z,59nm,0.7s,baz=134,slow=6.0,SNR=16
ZALV S **S 04 37 35.6 -0.6**
comp=Z,6.4nm,0.7s,baz=144,slow=11,SNR=9.2
ZALV PKP2bc 05 00 32.0
comp=Z,0.8nm,0.4s,baz=289,slow=4.4,SNR=4.0
MNAS Manas 56.96 317 P **P 04 30 41.0 +1.0**
MNAS pmax pmax
comp=Z,136nm,1.1s
KBL Kabul 56.97 307 *eP* **P 04 30 40.7 +0.4**
KBL pmax pmax
comp=Z,83nm,0.8s
KBL Kabul 56.97 307 *eP* **P 04 30 40.7 +0.4**
comp=Z,82nm,0.8s
KURBB Kurchatov Arra 57.08 327 P **P 04 30 41.0 +0.5**
comp=Z,284nm,0.7s,baz=130,slow=6.5,SNR=191
KURBB S **S 04 37 45.9 -4.1**
comp=Z,2.9nm,0.8s,baz=119,slow=15,SNR=7.8
KURK Kurchatov 57.09 328 *d iP* **P 04 30 41.3 +0.8**
KURK pmax pmax
comp=Z,1μm,0.9s
KURK Kurchatov 57.09 328 *eP* **P 04 30 41.0 +0.5**
comp=Z,3μm,0.7s
KURK *e*S **S 04 37 44.7 -5.3**
NVS Novosibirsk 57.30 333 *eP* **P 04 30 42.1 +0.3**
NVS *e* 04 31 21.2
NVS *e* 04 37 51.2
NVS pmax pmax
comp=N,84nm,1.0s
NVS pmax pmax
comp=E,95nm,1.0s
NVS pmax pmax
comp=Z,145nm,1.0s
KK31 Karatay Array 58.55 317 P **P 04 30 50.1 -0.5**
KK31 pmax pmax
comp=Z,105nm,0.9s
MSVF Nonsavu 59.14 116 *eP* **P 04 30 56.6 +1.6**
MSVF pmax pmax
comp=Z,21nm,0.9s
MSVF Nonsavu 59.14 116 *eP* **P 04 30 56.5 +1.6**
comp=Z,21nm,0.9s
SEY Seymchan 59.22 15 P **P 04 30 56.2 +1.6**
comp=Z,8.9nm,0.4s,baz=217,slow=5.6,SNR=22
SEY Seymchan 59.22 15 ⇓ *iP* **P 04 30 56.6 +2.0**
BVAR Borovoye Array 62.66 327 P **P 04 31 17.7 +0.4**
comp=Z,195nm,1.0s,baz=55,slow=5.2,SNR=99
BVAR S **S 04 38 58.0 -1.3**
comp=Z,3.9nm,1.0s,baz=144,slow=12,SNR=8.0
BRVK Borovoye 62.73 327 *d iP* **P 04 31 18.3 +0.6**
BRVK pmax pmax
comp=Z,956nm,1.2s
BRVK Borovoye 62.73 327 *eP* **P 04 31 17.8 +0.1**
comp=Z,748nm,1.0s
BRVK *e*S **S 04 38 59.7 -0.5**
BRVK Borovoye 62.73 327 P **P 04 31 18.6 +0.9**
SNR=17
WSAR Wadi Sarin 64.28 292 P **P 04 31 27.8 -0.3**
comp=Z,23nm,0.6s,baz=126,slow=5.5,SNR=29
TIXI Tiksi 64.28 2 P **P 04 31 27.2 0.0**
comp=Z,38nm,0.4s,baz=197,slow=3.9,SNR=29
TIXI Tiksi 64.28 2 *d iP* **P 04 31 26.9 -0.3**
TIXI pmax pmax
comp=Z,81nm,1.0s
TIXI Tiksi 64.28 2 *eP* **P 04 31 26.3 -0.9**
comp=Z,100nm,1.0s
BIDO Bidbid 64.75 292 P **P 04 31 32.0 +0.8**
SNR=14
BIDO Bidbid 64.75 292 P **P 04 31 32.0 +0.8**
SNR=14
NRIK Noril'sk 66.21 347 P **P 04 31 39.8 +0.6**
comp=Z,114nm,0.6s,baz=125,slow=6.2,SNR=132
GEYT Alibeck 66.31 308 P **P 04 31 41.5 +0.9**
comp=Z,76nm,0.8s,baz=129,slow=4.0,SNR=21
LBZ Lake Benmore 66.35 145 *eP* **P 04 31 40.7 +0.1**
comp=Z,51nm,0.8s
RPZ Rata Peaks 66.44 144 *eP* **P 04 31 42.2 +1.0**
comp=Z,52nm,0.6s
BANOM Banah 66.54 295 *i* P **P 04 31 42.7 +0.4**
SNR=8.4
BANOM Banah 66.54 295 P **P 04 31 43.7 +1.4**
SNR=7.1
BANOM Banah 66.54 295 P **P 04 31 43.7 +1.4**
SNR=7.1
UOSS Minazif 66.58 294 *eP* **P 04 31 42.1 -0.4**
comp=Z,43nm,1.1s
HATD Hatta, Dubai 66.64 294 *i* P **P 04 31 42.8 0.0**
SNR=14
ASHO Ashiyiah 66.70 294 *i* P **P 04 31 43.1 -0.2**
SNR=23
ASHO Ashiyiah 66.70 294 P **P 04 31 46.8 +3.5**
SNR=5.9
OXZ Oxford 66.78 144 *eP* **P 04 31 44.1 +0.9**
comp=Z,32nm,0.6s
NAZ Nazwa, Dubai 67.07 294 *i* P **P 04 31 45.1 -0.3**
SNR=6.3
FAQ Al Faqa, Dubai 67.12 294 P **P 04 31 45.6 -0.2**
SNZO South Karori 67.25 141 *eP* **P 04 31 45.6 -0.5**
comp=Z,139nm,0.6s
BKZ Black Stump Fm 67.27 138 *eP* **P 04 31 47.4 +1.0**
comp=Z,65nm,0.8s
AB31 Akbulak array 67.46 320 P **P 04 31 46.9 -0.4**
AB31 pmax pmax
comp=Z,105nm,0.8s
ABKAR Akbulak array 67.46 320 *eP* **P 04 31 47.4 0.0**
comp=Z,160nm,0.8s
ABKAR *e*S **S 04 39 55.5 -0.9**
AKTO Aktyubinsk 68.97 321 P **P 04 31 56.9 +0.4**
comp=Z,117nm,0.7s,baz=90,slow=6.7,SNR=63
AKTO S **S 04 40 12.4 -1.4**
comp=Z,2.7nm,0.8s,baz=12,slow=14,SNR=10
MSEY Mahe Island 69.16 262 *i* P **P 04 31 58.6 +0.3**
ARU Arti 70.28 328 P **P 04 32 03.6 -0.4**
comp=Z,130nm,0.6s,baz=100,slow=3.1,SNR=63
ARU S **S 04 40 25.2 -3.3**
comp=Z,2.6nm,0.5s,baz=288,slow=20,SNR=12
ARU Arti 70.28 328 *d iP* **P 04 32 03.7 -0.4**
ARU *PP **pP 04 34 08.0 +0.7**
ARU 04 34 49.2
ARU S **S 04 40 28.0 -0.4**
ARU pmax pmax
comp=Z,216nm,1.0s
ARU Arti 70.28 328 *eP* **P 04 32 03.5 -0.6**
comp=Z,168nm,0.7s
ARU S **S 04 40 25.2 -3.3**
MRIV Mauritius Mete 70.67 246 *eP* **P 04 32 06.7 -0.4**
SEAG Tbilisi Sea 76.88 311 P **P 04 32 42.7 +0.9**
GNI Garni 76.88 309 P **P 04 32 41.7 -0.3**
comp=Z,19nm,0.8s,baz=181,slow=5.3,SNR=6.2
GNI Garni 76.88 309 *ceP* **P 04 32 44.3 +2.3**
GNI pmax pmax
comp=Z,302nm,1.2s
GNI Garni 76.88 309 *eP* **P 04 32 42.5 +0.5**
comp=Z,85nm,0.9s
TBLG Delisi 76.92 311 P **P 04 32 42.5 +0.4**
TBLG Delisi 76.92 311 P **P 04 32 42.4 +0.4**
DUS Dusheti 76.96 311 P **P 04 32 44.8 +2.5**
DUS Dusheti 76.96 311 P **P 04 32 44.8 +2.5**
MIR Mirnyy 77.04 192 *i* P **P 04 32 41.0 -1.0**
MIR pmax pmax
comp=Z,9.0nm,1.0s
GUDG Gudauri 77.14 312 P **P 04 32 40.7 -2.7**
CHGN Chignik 77.15 34 *eP* **P 04 32 43.2 +0.3**
comp=Z,63nm,1.0s
ZEI Tsey 77.58 312 *eP* **P 04 32 44.2 -1.6**
ZEI pmax pmax
comp=Z,272nm,0.8s
BGD Bogdanovka 77.77 311 P **P 04 32 48.0 +1.1**
NCK Nalchik 77.82 313 ⇑ *iP* **P 04 32 46.3 -0.5**
NCK pmax pmax
comp=Z,55nm,1.0s
AKH Akhalkalaki 77.85 311 P **P 04 32 48.6 +1.4**
AKH Akhalkalaki 77.85 311 ⇑ *iP* **P 04 32 47.4 +0.2**
AKH Akhalkalaki 77.85 311 P **P 04 32 48.6 +1.4**
ONI Oni 77.90 312 P **P 04 32 48.0 +0.6**
ONI Oni 77.90 312 P **P 04 32 47.9 +0.6**
DAMY Dhamar 77.92 283 *eP* **P 04 32 49.7 +1.5**
comp=Z,72nm,0.8s
KBZ Khabaz 78.33 313 P **P 04 32 49.7 +0.2**
comp=Z,28nm,0.8s,baz=118,slow=3.4,SNR=14
NEY Neytrino 78.45 313 *c iP* **P 04 32 51.6 +1.2**
NEY pmax pmax
comp=Z,12nm,1.1s
KVAR Kislovodsk Arr 78.48 313 P **P 04 32 51.5 +1.0**
comp=Z,50nm,0.8s,baz=298,slow=1.4,SNR=11
KIV Kislovodsk 78.48 313 *i* P **P 04 32 51.7 +1.2**
SNR=5.8
KIV Kislovodsk 78.48 313 *c iP* **P 04 32 51.3 +0.9**
KIV *i* 04 32 57.3
KIV *i* *PP **pP 04 34 56.5 -1.1**
KIV *i* 04 36 00.6
KIV pmax pmax
comp=Z,73nm,1.0s
KIV Kislovodsk 78.48 313 *eP* **P 04 32 50.9 +0.5**
comp=Z,61nm,0.7s
TT01 Tatalina 79.02 27 *eP* **P 04 32 54.2 +1.4**
TTA Tatalina 79.03 27 *eP* **P 04 32 54.2 +1.3**
TTA pmax pmax
comp=Z,18nm,0.7s
TTA Tatalina 79.03 27 *eP* **P 04 32 54.2 +1.3**
comp=Z,18nm,0.7s
SVW2 Sparrevohn 79.07 29 *eP* **P 04 32 54.6 +1.5**
comp=Z,36nm,0.9s
ABPO Ambohimpanom 79.78 249 *eP* **P 04 32 56.4 -1.4**
ABPO pmax pmax
comp=Z,78nm,0.7s
ABPO Ambohimpanom 79.78 249 *eP* **P 04 32 56.4 -1.4**
comp=Z,78nm,0.7s
MARD Mardin 79.99 307 *eP* **P 04 32 59.2 +0.7**
comp=Z,62nm,0.7s
KOPT Kop Dagi 80.14 309 *eP* **P 04 33 01.2 +1.8**
comp=Z,86nm,0.8s
RSO Redoubt South 80.42 30 *eP* **P 04 33 01.0 +0.6**
KDAK Kodiak Island 80.43 33 *eP* **P 04 33 01.2 +1.1**
KDAK pmax pmax
comp=Z,39nm,0.8s
KDAK Kodiak Island 80.43 33 *eP* **P 04 33 01.2 +1.1**
comp=Z,40nm,0.8s
PPLA Purkeypile 80.77 27 *eP* **P 04 33 03.1 +1.0**
comp=Z,36nm,0.8s
SPU Mount Spurr 80.78 29 *eP* **P 04 33 02.6 +0.6**
KLMR Klimovskoe 80.78 330 *d iP* **P 04 33 01.3 -0.6**
KLMR *e* 04 36 18.5
KLMR pmax pmax
comp=Z,339nm,1.3s
CAST Castle Rocks 80.84 27 *eP* **P 04 33 03.3 +1.1**
comp=Z,60nm,0.9s
VORR Voronezh 80.87 321 P **P 04 33 02.0 -0.6**
VORR pmax pmax
comp=Z,250nm,1.0s
VSR Storozhevoye 80.90 321 *eP* **P 04 33 01.5 -1.2**
VSR pmax pmax
comp=Z,90nm,0.5s
LPSR Galich'ya Gora 81.04 322 *eP* **P 04 33 02.1 -1.3**
LPSR pmax pmax
comp=Z,160nm,0.9s
CNPM China Poot 81.16 31 *eP* **P 04 33 04.7 +0.7**
comp=Z,93nm,0.8s
BRLK Bradley Lake 81.34 31 *eP* **P 04 33 05.5 +0.6**
comp=Z,113nm,0.8s
KTH Kantishna Hill 81.36 27 *eP* **P 04 33 05.9 +0.9**
comp=Z,43nm,0.9s
SUA Susitna One 81.42 29 *eP* **P 04 33 05.8 +0.5**
comp=Z,81nm,0.8s
KSRV Kasrt alli 81.47 305 *eP* **P 04 33 06.8 +0.7**
TMCR Tamitsa 81.53 334 *eP* **P 04 33 05.0 -0.7**
TMCR pmax pmax
comp=Z,96nm,0.8s
TRF Thorofare Moun 81.64 27 *eP* **P 04 33 07.1 +0.5**
comp=Z,79nm,0.9s
COLD Coldfoot 81.72 23 *eP* **P 04 33 08.4 +1.8**
comp=Z,57nm,1.0s
MOS Moscow 81.77 325 *a iP* **P 04 33 06.0 -1.1**
MOS *e*S **S 04 42 25.2 -5.4**
MOS *e* 04 42 30.6
MOS pmax pmax
comp=Z,298nm,1.4s
MOS pmax pmax
comp=Z,600nm,1.7s
RC01 Rabbit Creek A 81.91 29 *eP* **P 04 33 07.3 -0.4**
comp=Z,49nm,0.8s
TOLK Toolik Lake Re 81.97 22 P **P 04 33 09.2 +1.3**
baz=270
SEW Seward 82.06 30 *eP* **P 04 33 08.6 +0.1**
comp=Z,45nm,0.9s
PMR Palmer 82.19 29 *eP* **P 04 33 09.1 0.0**
PMR pmax pmax
comp=Z,37nm,1.0s
PMR Palmer 82.19 29 *eP* **P 04 33 09.1 0.0**
comp=Z,37nm,1.0s
ANN Anapa 82.24 314 *d iP* **P 04 33 09.0 -0.7**
ANN *e*PP **pP 04 35 18.7 +0.3**
ANN *e* 04 36 27.9
ANN *e*S **S 04 42 30.9 -4.8**
ANN pmax pmax
comp=N,88nm,1.0s
ANN pmax pmax
comp=E,38nm,1.0s
ANN pmax pmax
comp=Z,35nm,1.7s
MCK McKinley 82.25 27 *eP* **P 04 33 09.8 +0.4**
MCK pmax pmax
comp=Z,151nm,0.8s
MCK McKinley 82.25 27 *eP* **P 04 33 09.8 +0.4**
comp=Z,151nm,0.8s
RND Reindeer 82.29 27 *eP* **P 04 33 09.8 +0.1**
RND pmax pmax
comp=Z,90nm,0.6s
RND Reindeer 82.29 27 *eP* **P 04 33 09.8 +0.1**
comp=Z,90nm,0.6s
OBN Obninsk 82.38 325 P **P 04 33 10.0 -0.2**
comp=Z,137nm,0.7s,baz=86,slow=4.9,SNR=10
OBN Obninsk 82.38 325 *d iP* **P 04 33 09.7 -0.5**
OBN pmax pmax
comp=Z,228nm,1.0s
OBN Obninsk 82.38 325 *eP* **P 04 33 10.1 -0.1**
comp=Z,222nm,0.9s
MDM Murphy Dome 82.53 25 *eP* **P 04 33 11.0 +0.2**
comp=Z,28nm,0.8s
SML Sawmill 82.57 29 *eP* **P 04 33 12.0 +0.9**
SML pmax pmax
comp=Z,62nm,0.8s
SML Sawmill 82.57 29 *eP* **P 04 33 12.0 +0.9**
comp=Z,62nm,0.8s
WRH Wood River Hil 82.60 26 *eP* **P 04 33 11.6 +0.5**
comp=Z,57nm,1.0s
COLA College 82.69 25 *eP* **P 04 33 11.4 -0.2**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 82.69 25 *eP* **P 04 33 11.3 -0.2**
comp=Z,18nm,0.8s
CCB Clear Creek Bu 82.72 26 *eP* **P 04 33 11.5 -0.2**
comp=Z,71nm,1.4s
LVZ Lovozero 82.87 338 *c iP* **P 04 33 12.2 -0.3**
LVZ pmax pmax
comp=Z,37nm,0.9s
DHY Denali Highway 82.97 27 *eP* **P 04 33 13.9 +0.8**
comp=Z,18nm,0.6s
ROOS tl_alroos 82.98 304 *eP* **P 04 33 09.2 -4.5**
RABH Abou Rabah 83.03 304 *eP* P 04 33 08.5 -5.5
SCM Sheep Creek Mo 83.04 29 *eP* **P 04 33 14.0 +0.5**
SCM pmax pmax
comp=Z,34nm,1.0s
SCM Sheep Creek Mo 83.04 29 *eP* **P 04 33 14.0 +0.5**
comp=Z,34nm,1.0s
IL1 Eielson Array 83.11 26 *eP* **P 04 33 12.6 -1.1**
ILAR Eielson Array 83.11 26 P **P 04 33 12.8 -0.9**
comp=Z,7.8nm,0.7s,baz=250,slow=4.5,SNR=105
ILAR PKKPbc **PKKPbc 04 51 29.0 -4.0**
comp=Z,1.6nm,1.0s,baz=67,slow=1.1,SNR=8.1
ILAR PKPPKP **P'P'df 04 59 30.1 -5.0**
comp=Z,1.2nm,1.1s,baz=75,slow=1.0,SNR=5.9
ILB Eielson Array 83.11 26 *eP* **P 04 33 13.1 -0.6**
KFRA Kufra 83.31 305 *eP* P 04 33 05.3 -10
DRWC Darouich 83.31 306 *eP* **P 04 33 13.0 -2.4**
ASF Jabal al Asfar 83.46 302 P **P 04 33 17.4 +1.1**
comp=Z,70nm,0.9s,baz=45,slow=3.1,SNR=50
BTCH Batrach 83.52 305 *eP* P 04 33 09.8 -6.6
MARH Ras Al Marh 83.66 303 *eP* P 04 33 12.1 -5.3
HAWK Haweek 83.68 304 *eP* P 04 33 11.1 -6.2
FYU Fort Yukon 83.69 24 *eP* **P 04 33 18.3 +1.8**
BIDA Albida 83.71 304 *eP* P 04 33 09.8 -7.6
KLU Klutina 83.73 29 *eP* **P 04 33 17.6 +0.7**
comp=Z,48nm,1.7s
DIV Divide 83.83 29 *eP* **P 04 33 17.4 0.0**
comp=Z,50nm,1.4s
PAX Paxson 83.84 27 *eP* **P 04 33 17.2 -0.2**
PAX pmax pmax
comp=Z,19nm,1.0s
PAX Paxson 83.84 27 *eP* **P 04 33 17.2 -0.2**
comp=Z,19nm,1.0s
ARNB Al Arnab 83.93 305 *eP* P 04 33 12.0 -6.5
BMRM Bremner River 84.41 29 *eP* **P 04 33 20.1 -0.1**
comp=Z,27nm,1.0s
DOT Dot Lake 84.42 27 *eP* **P 04 33 20.8 +0.7**
comp=Z,26nm,0.8s
SIM Simferopol' 84.58 314 *eP* **P 04 33 20.8 -0.5**
MMAI Mount Meron Ar 84.64 302 P **P 04 33 22.6 +0.7**
comp=Z,25nm,0.7s,baz=94,slow=5.8,SNR=27
CRQM Cirque 85.14 29 *eP* **P 04 33 24.9 +1.0**
PUL Pulkovo 85.41 330 ⇑ *iP* **P 04 33 24.9 0.0**
PUL pmax pmax
comp=Z,126nm,0.9s
BRTR Keskin Array B 85.42 309 P **P 04 33 24.5 -1.2**
comp=Z,35nm,0.8s,baz=116,slow=4.5,SNR=30
BRTR Keskin Array B 85.42 309 P **P 04 33 24.5 -1.2**
BRTR pmax pmax
comp=Z,37nm,0.9s
EGAK Eagle 85.55 25 *eP* **P 04 33 26.0 +0.5**
comp=Z,19nm,0.8s
ARA0 ARCESS Array S 86.02 340 *eP* **P 04 33 26.9 -0.8**
ARCES ARCESS Array B 86.02 340 P **P 04 33 26.9 -0.8**
comp=Z,39nm,0.8s,baz=88,slow=5.5,SNR=100
ARCES PKiKP **PKiKP 04 38 30.5 -0.5**
comp=Z,2.4nm,0.8s,baz=100,slow=1.0,SNR=6.7
ARCES PKKP **PKKPdf 04 51 19.6 +2.1**
comp=Z,2.3nm,0.8s,baz=243,slow=3.5,SNR=5.4
ARE0 ARCESS Array S 86.02 340 *eP* **P 04 33 26.9 -0.8**
ARE0 ARCESS Array S 86.02 340 *eP* **P 04 33 26.9 -0.8**
comp=Z,61nm,0.9s
ANTO Ankara 86.05 310 *eP* **P 04 33 28.0 -0.6**
ANTO pmax pmax
comp=Z,27nm,0.8s
ANTO Ankara 86.05 310 *eP* **P 04 33 28.0 -0.6**
comp=Z,26nm,0.8s
MAW Mawson 86.15 200 P **P 04 33 27.7 -0.5**
comp=Z,9.9nm,0.9s,baz=62,slow=6.3,SNR=20
MAW Mawson 86.15 200 P **P 04 33 27.8 -0.4**
baz=86,SNR=11
MAW Mawson 86.15 200 *eP* **P 04 33 27.8 -0.4**
MAW pmax pmax
comp=Z,8.0nm,1.3s
MAW Mawson 86.15 200 *eP* **P 04 33 27.8 -0.4**
comp=Z,7.7nm,1.3s
CSS Mathiatis 86.16 305 *eP* **P 04 33 28.6 -0.5**
comp=Z,11nm,0.8s
SPA0 Spitsbergen Ar 86.34 349 *eP* **P 04 33 28.7 -0.4**
SPA0 Spitsbergen Ar 86.34 349 *eP* **P 04 33 29.0 -0.1**
SPITS Spitsbergen Ar 86.34 349 P **P 04 33 28.8 -0.4**
comp=Z,39nm,0.6s,baz=90,slow=9.2,SNR=66
HAMF Hammerfest 86.41 341 *eP* **P 04 33 28.5 -1.0**
HAMF IAmb IAmb 04 33 29.1
comp=Z,67nm,0.8s
DAWY Dawson 86.42 26 *eP* **P 04 33 30.5 +0.7**
KMBO Kilima Mbogo 86.66 268 P **P 04 33 32.6 +0.4**
comp=Z,19nm,0.8s,baz=60,slow=7.1,SNR=30
KMBO Kilima Mbogo 86.66 268 *eP* **P 04 33 32.5 +0.4**
comp=Z,33nm,1.0s
HSPB Hornsund (broa 86.90 348 *eP* **P 04 33 31.4 -0.3**
KBS Kingsbay 86.91 350 *eP* **P 04 33 31.3 -0.4**
KTK1 Kautokeino 86.91 339 *eP* **P 04 33 30.8 -1.1**
AKASG Malin Array Be 87.20 321 P **P 04 33 32.1 -1.5**
comp=Z,31nm,0.9s,baz=68,slow=5.4,SNR=22
AKASG Malin Array Be 87.20 321 P **P 04 33 32.1 -1.5**
AKASG pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 87.21 321 *c iP* **P 04 33 33.1 -0.5**
KIEV pmax pmax
comp=Z,38nm,1.1s
KIEV Kiev 87.21 321 *eP* **P 04 33 32.3 -1.3**
comp=Z,42nm,1.1s
FINES FINESS Array B 87.23 332 P **P 04 33 32.5 -1.0**
comp=Z,48nm,0.8s,baz=76,slow=5.9,SNR=50
FINES PKiKP **PKiKP 04 38 32.5 -0.7**
comp=Z,2.3nm,0.9s,baz=16,slow=3.9,SNR=6.7
FINES PKKPbc **PKKPbc 04 51 20.3 -2.9**
comp=Z,0.8nm,0.4s,baz=248,slow=1.5,SNR=8.6
VNDA Vanda 87.41 172 P **P 04 33 34.0 +0.1**
comp=Z,14nm,0.5s,baz=317,slow=6.3,SNR=216
VNDA PKKPbc **PKKPbc 04 51 20.6 -2.7**
comp=Z,0.5nm,0.8s,baz=291,slow=7.0,SNR=7.7
VNDA Vanda 87.41 172 *eP* **P 04 33 34.1 +0.1**
comp=Z,19nm,0.6s
VNDA PKKPbc **PKKPbc 04 51 20.6 -2.7**
VSU Vasula 87.42 329 *c iP* **P 04 33 33.7 -0.7**
VSU pmax pmax
comp=Z,154nm,0.9s
BOLV Bolvadin 87.61 309 *eP* **P 04 33 35.8 -0.2**
KIF Kilpisjarvi 87.77 339 *eP* **P 04 33 34.8 -1.1**
INK Inuvik 87.87 21 P **P 04 33 36.5 +0.1**
comp=Z,14nm,0.9s,baz=279,slow=4.8,SNR=16
INK PKKPbc **PKKPdf 04 51 17.2 +3.0**
comp=Z,1.4nm,0.5s,baz=96,slow=2.5,SNR=8.1
INK Inuvik 87.87 21 *eP* **P 04 33 36.8 +0.4**
INK pmax pmax
comp=Z,32nm,1.2s
INK Inuvik 87.87 21 *eP* **P 04 33 36.8 +0.4**
comp=Z,32nm,1.2s
INK PKKPbc **PKKPdf 04 51 17.2 +3.0**
TRO Tromso 88.24 340 *eP* **P 04 33 40.1 +2.1**
TRO IAmb IAmb 04 33 40.8
comp=Z,27nm,0.8s
SBA Scott Base 88.34 172 *eP* **P 04 33 39.4 +1.1**
SBA pmax pmax
comp=Z,41nm,1.5s
SBA Scott Base 88.34 172 *eP* **P 04 33 39.4 +1.1**
comp=Z,41nm,1.5s
TIRR Tirgusor 88.68 315 ⇑ *iP* **P 04 33 40.0 -0.6**
CFR Carcaliu 88.76 315 ⇓ *iP* **P 04 33 40.2 -0.8**
TLB Topalu 88.92 315 ⇑ *iP* **P 04 33 41.3 -0.4**
WHY Whitehorse 89.16 29 *eP* **P 04 33 44.0 +1.3**
TESR Tescani 89.56 317 ⇓ *iP* **P 04 33 44.3 -0.4**
VRI Vrincioaia 89.62 316 ⇑ *iP* **P 04 33 45.2 +0.2**
STEI Steigen 90.05 339 *eP* **P 04 33 45.2 -1.2**
STEI IAmb IAmb 04 33 45.8
comp=Z,44nm,0.5s
MLR Muntele Rosu 90.23 316 P **P 04 33 47.9 -0.1**
comp=Z,6.0nm,0.8s,baz=92,slow=3.9,SNR=12
MLR Muntele Rosu 90.23 316 ⇑ *iP* **P 04 33 47.7 -0.3**
BURAR Bucovina Array 90.32 318 ⇓ *iP* **P 04 33 48.5 +0.2**
MOR8 Moi Rana 90.95 337 *eP* **P 04 33 48.3 -2.4**
MOR8 IAmb IAmb 04 33 49.1
comp=Z,21nm,0.9s
MOR8 IAMs_20 IAMs_20 05 10 19.9
comp=Z,708nm,18.5s
ARR Arges 91.16 316 ⇑ *iP* **P 04 33 51.8 -0.4**
WRAK Wrangell Islan 91.51 33 *eP* **P 04 33 54.8 +1.4**
comp=Z,26nm,0.9s
CJR Cluj-Napoca 91.58 317 ⇑ *iP* **P 04 33 53.7 -0.4**
LOT Lotru 91.73 316 ⇑ *iP* **P 04 33 54.7 -0.2**
UZH Uzhgorod 92.01 319 ⇓ *iP* **P 04 33 55.9 0.0**
DRGR 92.16 318 ⇓ *iP* **P 04 33 56.5 -0.3**
SRE Strehaia 92.30 315 ⇑ *iP* **P 04 33 58.1 +0.8**
GZR Gura Zlata 92.43 316 ⇑ *iP* **P 04 33 57.7 -0.3**
VTS Vitosha 92.74 313 ⇓ *iP* **P 04 33 58.7 -0.9**
VTS Vitosha 92.74 313 *eP* **P 04 33 58.4 -1.3**
VTS pmax pmax
comp=Z,13nm,0.8s
VTS Vitosha 92.74 313 *eP* **P 04 33 58.4 -1.3**
comp=Z,12nm,0.8s
SIRR Siria 92.99 317 ⇓ *iP* **P 04 34 00.2 -0.3**
BZS Buzias 93.17 317 ⇓ *iP* **P 04 34 00.2 -1.1**
DAG Danmarks Havn 93.25 352 *i* P **P 04 34 00.2 -0.8**
comp=Z,33nm,0.9s
DAG Danmarks Havn 93.25 352 *i* P **P 04 34 00.2 -0.8**
DAG pmax pmax
comp=Z,28nm,0.9s
MDVR Moldovita 93.30 316 ⇑ *iP* **P 04 34 01.8 -0.2**
HFS Hagfors 93.42 332 P **P 04 34 01.0 -1.1**
comp=Z,5.6nm,0.4s,baz=76,slow=6.4,SNR=50

HFS	**Hagfors**	93.42	332	P	**P**	04 34 01.0	-1.1
HFS				pmax	pmax		
comp=Z,6.0nm,0.4s							
HFS	**Hagfors**	93.42	332	P	**P**	04 34 01.0	-1.1
VAY	**Valandovo**	93.49	312	*i* P	**P**	04 34 01.5	-1.4
TBLU	**Trondheim**	93.73	335	*e*P	**P**	04 34 01.9	-1.5
SKO	**Skopje**	94.16	313	*i* P	**P**	04 34 04.7	-1.2
AGG	**Agios Georgios**	94.18	310	*e*P	**P**	04 34 03.8	-2.3
AGG	**Agios Georgios**	94.18	310	*e*P	**P**	04 34 03.8	-2.3
NB2	**NORSAR Subarra**	94.21	333	P	**P**	04 34 04.1	-1.7
comp=Z,30nm,0.9s,baz=70,slow=4.6							
NB2	**NORSAR Subarra**	94.21	333	P	**P**	04 34 04.1	-1.7
baz=70,slow=4.6							
NOA	**NORSAR Array B**	94.21	333	P	**P**	04 34 04.0	-1.7
comp=Z,18nm,0.8s,baz=68,slow=4.6,SNR=70							
OKC	**Ostrava-Krasne**	94.32	321	*e*P	**P**	04 34 05.9	-0.6
BIA	**Bitola**	94.47	312	*i* P	**P**	04 34 06.8	-0.6
BSD	**Bornholm Skovb**	94.56	327	‖ *i*P	**P**	04 34 06.4	-1.0
comp=Z,32nm,0.9s							
BSD	**Bornholm Skovb**	94.56	327	‖ *i*P	**P**	04 34 06.4	-1.0
BSD				pmax	pmax		
comp=Z,32nm,0.9s							
MORC	**Moravsky Berou**	94.72	321	‖ *i*P	**P**	04 34 07.7	-0.6
DOMB	**Dombas**	94.74	335	*e*P	**P**	04 34 06.8	-1.3
SYO	**Syowa Base**	94.74	201	‖ *e*X	**P**	04 34 06.0	-1.8
RES	**Resolute Bay**	94.75	10	*e*P	**P**	04 34 09.1	+1.3
RES				pmax	pmax		
comp=Z,21nm,0.8s							
RES	**Resolute Bay**	94.75	10	*e*P	**P**	04 34 09.1	+1.3
comp=Z,21nm,0.8s							
OHR	**Ohrid**	94.83	312	*i* P	**P**	04 34 07.0	-2.1
MOL	**Molde**	95.14	335	*e*P	**P**	04 34 09.1	-0.7
DPC	**Dobruska-Polom**	95.29	322	*e*P	**P**	04 34 09.9	-1.0
UPC	**Upice**	95.43	322	*e*P	**P**	04 34 09.7	-1.8
VRAC	**Vranov**	95.45	321	P	**P**	04 34 10.2	-1.4
comp=Z,9.2nm,0.9s,baz=65,slow=4.2,SNR=9.6							
VRAC	**Vranov**	95.45	321	P	**P**	04 34 10.2	-1.4
VRAC				pmax	pmax		
comp=Z,12nm,1.0s							
AKN	**Aaknes**	95.55	335	*e*P	**P**	04 34 11.4	-0.3
PDG	**Podgorica**	95.62	314	‖ *i*P	**P**	04 34 11.3	-1.2
RGN	**Rugen**	95.62	327	*e*P	**P**	04 34 12.3	+0.1
comp=Z,23nm,1.0s							
LLD	**Lille Linde**	95.92	328	*i* P	**P**	04 34 13.3	-0.2
LLD	**Lille Linde**	95.92	328	*e*P	**P**	04 34 13.3	-0.2
TREC	**Trest**	96.14	321	*e*P	**P**	04 34 11.8	-2.9
PVCC	**Panska Ves**	96.30	321	*e*P	**P**	04 34 15.2	-0.1
PRU	**Pruhonice**	96.49	322	*e*P	**P**	04 34 19.4	+3.2
BRG	**Berggiesshubel**	96.55	323	*i* P	**P**	04 34 16.4	-0.1
comp=Z,32nm,0.9s							
comp=Z,362nm,23.8s							
comp=N,213nm,21.8s							
comp=E,279nm,21.8s							
BRG	**Berggiesshubel**	96.55	323	*i* P	**P**	04 34 16.4	-0.1
BRG				pmax	pmax		
comp=Z,33nm,0.9s							
BRG				MLR	MLR		
comp=Z,362nm,23.8s							
BRG				MLR	MLR		
comp=N,213nm,21.8s							
BRG				MLR	MLR		
comp=E,279nm,21.8s							
CLL	**Collm**	96.96	324	‖ *i*P	**P**	04 34 17.8	-0.5
CLL				pmax	pmax		
comp=Z,42nm,1.6s							
CLL	**Collm**	96.96	324	*e*P	**P**	04 34 15.2	-3.1
CLL	**Collm**	96.96	324	*e*pP	**P**	04 34 15.0	-3.3
CLL	**Collm**	96.96	324	*e*SS	SS	04 51 44.0	+0.6
BLS5	**Blasjo**	97.05	333	*e*P	Pdif	04 34 17.5	-1.1
MUD	**Monsted U'grnd**	97.05	329	*i* P	Pdif	04 34 17.7	-0.8
comp=Z,17nm,1.1s							
MUD	**Monsted U'grnd**	97.05	329	*e*P	Pdif	04 34 17.7	-0.8
MUD				pmax	pmax		
comp=Z,17nm,1.1s							
LSZ	**Lusaka**	97.24	256	*e*P	Pdif	04 34 18.8	-1.6
LSZ				pmax	pmax		
comp=Z,11nm,0.9s							
LSZ	**Lusaka**	97.24	256	*e*P	Pdif	04 34 18.8	-1.6
comp=Z,11nm,0.9s							
QSPA	**South Pole Qui**	97.26	180	*e*P	Pdif	04 34 18.8	-0.6
comp=Z,26nm,1.1s							
KHC	**Kasperske Hory**	97.37	322	*e*P	Pdif	04 34 19.2	-1.1
YKA	**Yellowknife Ar**	97.39	23	P	Pdif	04 34 19.9	0.0
comp=Z,3.6nm,0.7s,baz=305,slow=4.4,SNR=4.5							
YKA				PKKPbc	**PKKPdf**	04 50 52.4	-5.0
comp=Z,1.2nm,0.4s,baz=128,slow=3.5,SNR=7.1							
GERES	**GERESS Array B**	97.40	321	PKKPbc	PKKPbc	04 50 53.4	-3.7
comp=Z,0.3nm,0.5s,baz=224,slow=2.7,SNR=4.3							
NKC	**Novy Kostel**	97.67	323	*e*P	Pdif	04 34 17.9	-3.6
NKC				*ex*	x	04 34 25.8	
NKC	**Novy Kostel**	97.67	323	*e*P	Pdif	04 34 17.9	-3.6
CEL	**Celeste**	99.24	311	*e*Pdif	**Pdif**	04 34 28.3	-0.6
SUMG	**Summit**	99.37	355	*i* P	**Pdif**	04 34 30.1	+1.0
SUMG	**Summit**	99.37	355	*e*P	**Pdif**	04 34 30.1	+1.0
AQU	**L'Aquila**	99.78	315	*e*P	**Pdif**	04 34 30.9	-0.2
AQU	**L'Aquila**	99.78	315	*e*Pdif	**Pdif**	04 34 30.9	-0.2
BFO	**Black Forest**	100.89	322	*e*P	**Pdif**	04 34 33.1	-2.8
BFO				pmax	pmax		
comp=Z,9.0nm,1.5s							
BFO	**Black Forest**	100.89	322	*e*Pdif	**Pdif**	04 34 33.0	-2.8
comp=Z,9.1nm,1.5s							
LANF	**Langenberg**	100.94	323	*e*P	**Pdif**	04 34 35.2	-0.9
WLS	**Welschbruch**	101.45	322	*e*P	**Pdif**	04 34 35.7	-2.7
WLF	**Walferdange**	101.62	324	*e*P	**Pdif**	04 34 40.3	+1.2
WLF				pmax	pmax		
comp=Z,61nm,1.5s							
WLF	**Walferdange**	101.62	324	*e*Pdif	**Pdif**	04 34 40.3	+1.2
comp=Z,61nm,1.5s							
MOF	**Molkenrain**	101.82	322	*e*P	**Pdif**	04 34 38.3	-1.8
THEF	**They Montfort**	102.36	323	*e*P	**Pdif**	04 34 41.2	-1.2
BNI	**Bardonecchia**	103.29	320	*e*P	**Pdif**	04 34 44.0	-2.8
BNI				pmax	pmax		
comp=Z,13nm,1.0s							
BNI	**Bardonecchia**	103.29	320	*e*Pdif	**Pdif**	04 34 44.0	-2.8
comp=Z,13nm,1.0s							
MENF	**Mencas**	103.48	326	*e*P	**Pdif**	04 34 53.4	+6.1
EKA	**Eskdalemuir Ar**	103.62	332	PKiKP	**PKiKP**	04 39 01.8	-0.4
comp=Z,0.4nm,0.4s,baz=33,slow=3.7,SNR=5.7							
EKA				PKKPbc	**PKKPbc**	04 50 37.5	-2.2
comp=Z,1.2nm,0.4s,baz=244,slow=3.2,SNR=24							
SSB	**Saint Sauveur**	104.55	320	*e*P	**Pdif**	04 34 48.8	-3.5
SSB				pmax	pmax		
comp=Z,4.0nm,0.9s							
SSB	**Saint Sauveur**	104.55	320	*e*Pdif	**Pdif**	04 34 48.8	-3.5
comp=Z,4.0nm,0.9s							
PLDF	**La Plantade**	104.81	321	*e*P	**Pdif**	04 34 52.5	-1.0
AGO	**Saint Agoulin**	105.08	322	*e*P	**Pdif**	04 34 54.4	-0.2
PYM	**Petit Puy Mans**	105.30	321	*e*P	**Pdif**	04 34 55.2	-0.4
LBL	**Lubilhac**	105.39	321	*e*P	**Pdif**	04 34 54.6	-1.4
MSO	**Missoula**	105.74	37	P	**PKiKP**	04 39 04.9	-1.6
baz=300							
HLID	**Hailey**	107.02	40	P	**PKiKP**	04 39 09.8	+0.8
baz=298							
HLID	**Hailey**	107.02	40	*e*PKP	**PKiKP**	04 39 10.0	+1.0
FFC	**Flin Flon**	107.32	26	*e*PKP	**PKiKP**	04 39 09.9	+0.9
FCC	**Fort Churchill**	107.42	20	*e*PKP	**PKiKP**	04 39 09.3	+0.2
EGMT	**Eagleton**	107.55	34	P	**PKiKP**	04 39 10.1	+0.3
baz=303							
CWC	**Cottonwood Cre**	107.59	48	P	**PKiKP**	04 39 10.8	+0.5
baz=294							
BOZ	**Bozeman (W)**	107.75	37	P	**PKiKP**	04 39 10.1	-0.2
baz=301							
SNAA	**Sanae**	107.94	195	PKiKP	**PKiKP**	04 39 09.8	+0.1
SNAA	**Sanae**	107.94	195	Pdiff	**Pdif**	04 35 07.9	+1.1
comp=Z,0.4nm,0.4s,baz=212,slow=7.3,SNR=8.8							
SNAA				PKiKP	**PKiKP**	04 39 08.8	-0.9
comp=Z,0.5nm,0.5s,baz=66,slow=2.8,SNR=8.8							
SNAA				PKKPbc	**PKKPbc**	04 50 23.5	-3.5
comp=Z,2.7nm,0.7s,baz=238,slow=3.5,SNR=21							
SNAA				PKKP	**PKKPdf**	04 50 39.3	+0.3
comp=Z,2.9nm,0.8s,baz=37,slow=2.1,SNR=8.7							
SNAA	**Sanae**	107.94	195	Pdif	**Pdif**	04 35 07.9	+1.1
SNAA				*e*PKP	**PKiKP**	04 39 09.1	-0.6
SNAA				PKKPbc	**PKKPbc**	04 50 23.5	-3.5
SNAA				PKKP	**PKKPdf**	04 50 39.3	+0.3
MPMC	**Manual Prospec**	108.18	48	P	**PKiKP**	04 39 11.0	-0.4
baz=294							
EDW2	**Edwards Air Fo**	108.27	50	P	**PKiKP**	04 39 11.9	+0.4
baz=293							
FURC	**Furnace Creek,**	108.47	48	P	**PKiKP**	04 39 12.4	+0.7
baz=294							
R11A	**Troy Canyon, C**	108.60	46	P	**PKiKP**	04 39 12.1	0.0
baz=296							
R11A	**Troy Canyon, C**	108.60	46	*e*PKP	**PKiKP**	04 39 13.0	+0.8
TPNV	**Topopah Spring**	108.72	47	P	**PKiKP**	04 39 12.4	0.0
baz=295							
GSC	**Goldstone, Bar**	108.99	49	P	**PKiKP**	04 39 13.4	+0.5
baz=294							
SHOC	**Shoshone, Teco**	109.14	48	P	**PKiKP**	04 39 12.7	-0.4
baz=295							
MOOW	**Moose Ponds**	109.24	39	*e*PKP	**PKiKP**	04 39 13.5	+0.2
TPAW	**Teton Pass**	109.25	39	*e*PKP	**PKiKP**	04 39 14.3	+0.9
REDW	**Red Top Meadow**	109.38	39	*e*PKP	**PKiKP**	04 39 14.3	+0.7
SNOW	**Snow King Moun**	109.39	39	*e*PKP	**PKiKP**	04 39 14.7	+1.1
LOHW	**Long Hollow**	109.40	39	*e*PKP	**PKiKP**	04 39 14.2	+0.6
VNA2	**Neumayer--Watz**	109.57	195	PKiKP	**PKiKP**	04 39 12.0	-0.8
baz=83,slow=1.3							
DUG	**Dugway, Tooele**	109.67	43	P	**PKiKP**	04 39 15.0	+0.9
baz=299							
DUG	**Dugway, Tooele**	109.67	43	*e*PKP	**PKiKP**	04 39 14.8	+0.8
VNA3	**Neumayer Olymp**	109.95	194	PKiKP	**PKiKP**	04 39 12.6	-0.9
VNA1	**Neumayer--Stat**	109.97	195	PKiKP	**PKiKP**	04 39 12.2	-1.3
GMRC	**Granite Mounta**	110.06	49	P	**PKiKP**	04 39 16.4	+1.5
baz=295							
BELC	**Belle Mtn. Jos**	110.13	50	P	**PKiKP**	04 39 15.9	+0.8
baz=294							
MONP2	**Monument Peak**	110.25	51	P	**PKiKP**	04 39 17.0	+1.5
baz=294							
LAO	**LASA Array**	110.28	34	P	**PKiKP**	04 39 16.1	+1.1
baz=306							
LAO	**LASA Array**	110.28	34	*e*PKP	**PKiKP**	04 39 15.9	+1.0
DGMT	**Dagmar**	110.30	32	P	**PKiKP**	04 39 16.1	+1.2
baz=308							
BW06	**Boulder Array**	110.50	39	P	**PKiKP**	04 39 15.7	0.0
baz=302							
BW06	**Boulder Array**	110.50	39	*e*PKP	**PKiKP**	04 39 15.6	0.0
PDAR	**Pinedale Array**	110.50	39	PKiKP	**PKiKP**	04 39 15.6	-0.1
comp=Z,0.9nm,0.5s,baz=78,slow=1.3,SNR=15							
PDAR				PKKPbc	**PKKPbc**	04 50 15.6	-3.1
comp=Z,0.5nm,0.5s,baz=112,slow=4.0,SNR=6.2							
PDAR				PKKP	**PKKPab**	04 50 28.1	-3.5
comp=Z,1.4nm,0.6s,baz=116,slow=4.1,SNR=13							
BC3	**Big Chuckawall**	110.69	50	P	**PKiKP**	04 39 16.1	0.0
baz=294							
Y12C	**Blythe**	111.35	50	P	**PKiKP**	04 39 18.0	+0.8
baz=295							
GLA	**Glamis**	111.41	50	P	**PKiKP**	04 39 17.8	+0.4
baz=295							
K22A	**Casper**	112.43	38	P	**PKiKP**	04 39 19.3	0.0
baz=304							
RWWY	**Rawlins**	112.55	39	*e*PKP	**PKiKP**	04 39 19.5	-0.1
TAM	**Tamanrasset**	112.56	298	*e*PKiKP	**PKiKP**	04 39 20.6	+0.5
TAM	**Tamanrasset**	112.56	298	*e*PKP	**PKiKP**	04 39 20.6	+0.5
O20A	**White River Ci**	112.73	41	P	**PKiKP**	04 39 20.8	+0.8
baz=302							
O20A	**White River Ci**	112.73	41	*e*PKP	**PKiKP**	04 39 20.7	+0.8
ESDC	**Sonseca Array**	112.77	319	Pdiff	**Pdif**	04 35 27.6	-1.4
comp=Z,0.3nm,0.5s,baz=64,slow=4.4,SNR=4.2							
WUAZ	**Wupatki**	112.89	47	P	**PKiKP**	04 39 21.8	+1.4
baz=298							
WUAZ	**Wupatki**	112.89	47	*e*PKP	**PKiKP**	04 39 21.5	+1.1
RSSD	**Black Hills**	113.05	35	P	**PKiKP**	04 39 20.3	-0.2
baz=307							
RSSD	**Black Hills**	113.05	35	*e*PKIKP	**PKiKP**	04 39 19.9	-0.6
RSSD	**Black Hills**	113.05	35	*e*PKP	**PKiKP**	04 39 19.9	-0.6
ULM	**Lac du Bonnet**	113.12	26	PKiKP	**PKiKP**	04 39 19.5	-0.6
comp=Z,6.1nm,0.6s,baz=295,slow=2.5,SNR=12							
PV01	**Paradox Valley**	113.56	43	*e*PKP	**PKiKP**	04 39 22.3	+0.6
B31A	**Greenbush Farm**	113.61	29	P	**PKiKP**	04 39 20.7	-0.4
baz=314							
A32A	**Rocking H Ranc**	113.80	28	P	**PKiKP**	04 39 20.9	-0.6
baz=316							
MVO	**Moncorvo**	113.91	321	*e*PKPdf	**PKiKP**	04 39 22.0	0.0
C31A	**Landman Farms,**	114.01	29	P	PKPdf	04 39 21.5	-0.4
baz=314							
SMCO	**Snowmass**	114.07	41	*e*PKP	PKPdf	04 39 23.7	+0.8
MVCO	**Mesa Verde**	114.08	44	P	PKPdf	04 39 23.5	+0.8
baz=301							
MVCO	**Mesa Verde**	114.08	44	*e*PKP	PKPdf	04 39 23.7	+1.0
B32A	**Ashes, Strandq**	114.15	28	P	PKPdf	04 39 21.7	-0.5
baz=316							
PGAV	**Gavieira, Arco**	114.21	323	*e*PKPdf	PKPdf	04 39 22.7	+0.1
POLO	**Lamas de Olo**	114.27	322	*e*PKPdf	PKPdf	04 39 23.0	+0.3
PVRL	**Vila Real**	114.27	322	*e*PKPdf	PKPdf	04 39 22.7	0.0
A33A	**Warroad**	114.29	27	P	PKPdf	04 39 22.1	-0.3
baz=317							
AGMN	**Agassiz Nation**	114.54	28	P	PKPdf	04 39 22.3	-0.6
baz=316							
ISCO	**Idaho Springs**	114.60	40	P	PKPdf	04 39 23.9	+0.2
baz=304							
ISCO	**Idaho Springs**	114.60	40	*e*PKIKP	PKPdf	04 39 24.3	+0.6
ISCO	**Idaho Springs**	114.60	40	*e*PKP	PKPdf	04 39 24.3	+0.6
MTE	**Manteigas**	114.67	321	*e*PKPdf	PKPdf	04 39 23.5	0.0
B33A	**Robert and Kas**	114.68	28	P	PKPdf	04 39 22.6	-0.6
baz=316							
PVIS	**Viseu**	114.71	321	*e*PKPdf	PKPdf	04 39 23.7	+0.1
E31A	**Nome**	114.78	30	P	PKPdf	04 39 23.3	-0.2
baz=314							
TUC	**Tucson**	114.80	49	P	PKPdf	04 39 23.5	-0.5
baz=297							
S22A	**4UR Ranch, Cre**	114.93	42	P	PKPdf	04 39 25.2	+0.8
baz=302							
PCBR	**Castelo Branco**	114.95	320	*e*PKPdf	PKPdf	04 39 24.3	+0.3
B34A	**Aery, Baudette**	114.95	27	P	PKPdf	04 39 23.4	-0.3
baz=317							
C33A	**Trail**	114.97	28	P	PKPdf	04 39 23.1	-0.7
baz=316							
PMRV	**Marv??o**	115.13	320	*e*PKPdf	**PKPdf**	04 39 24.4	+0.1
D33A	**AnnSam, Wauburn**	115.38	29	P	**PKPdf**	04 39 24.3	-0.3
baz=316							
C34A	**RKJ Ranch, Bem**	115.45	28	P	**PKPdf**	04 39 24.1	-0.6
baz=317							
B35A	**Bob, Littlefor**	115.46	27	P	**PKPdf**	04 39 23.9	-0.8
baz=318							
PCAS	**Casmilo, Conde**	115.47	321	*e*PKPdf	**PKPdf**	04 39 24.9	-0.1
PCAS	**Casmilo, Conde**	115.47	321	*e*PP	PP	04 40 39.4	+1.7
PBAR	**Barrancos**	115.60	319	*e*PKPdf	**PKPdf**	04 39 25.4	+0.1
PTOM	**Tomar**	115.66	321	*e*PKPdf	**PKPdf**	04 39 26.0	+0.7
D34A	**Park Rapids**	115.72	28	P	**PKPdf**	04 39 24.6	-0.6
baz=316							
E33A	**Westby DABS, E**	115.75	29	P	**PKPdf**	04 39 25.2	-0.1
baz=315							
SDCO	**Great Sand Dun**	115.82	42	P	**PKPdf**	04 39 26.7	+0.6
baz=304							
SDCO	**Great Sand Dun**	115.82	42	*e*PKPdf	**PKPdf**	04 39 26.7	+0.6
C35A	**Jirik Farms, M**	115.84	27	P	**PKPdf**	04 39 24.9	-0.6
baz=318							
H31A	**Wolsey**	115.89	32	P	**PKPdf**	04 39 25.8	+0.1
baz=312							
EVO	**Evora**	116.03	319	*e*PKPdf	**PKPdf**	04 39 26.1	0.0
F33A	**5 Mile Ranch,**	116.08	30	P	**PKPdf**	04 39 25.8	-0.1
baz=315							
E34A	**Wadena**	116.15	29	P	**PKPdf**	04 39 25.9	-0.2
baz=316							
OGNE	**Ogallala**	116.15	37	P	**PKPdf**	04 39 26.7	+0.3
baz=308							
D35A	**Remer**	116.26	28	P	**PKPdf**	04 39 25.3	-1.0
baz=318							
C36A	**Pine Crest Far**	116.31	27	P	**PKPdf**	04 39 25.4	-0.9
baz=319							
H32A	**Carlson Farm,**	116.42	32	P	**PKPdf**	04 39 26.6	-0.1
baz=313							
G33A	**Ortonville**	116.46	31	P	**PKPdf**	04 39 26.3	-0.4
baz=314							
E35A	**Pequot Lakes**	116.48	28	P	**PKPdf**	04 39 26.2	-0.5
baz=317							
MESJ	**Messejana**	116.56	319	*e*PKPdf	**PKPdf**	04 39 27.4	+0.3
PNCL	**Nicolau / Gran**	116.60	319	*e*PKPdf	**PKPdf**	04 39 27.4	+0.2
C37A	**Embarrass**	116.62	26	P	**PKPdf**	04 39 26.4	-0.6
baz=320							
ANMO	**Albuquerque**	116.67	45	P	**PKPdf**	04 39 28.4	+0.7
baz=302							
ANMO	**Albuquerque**	116.67	45	*e*PKIKP	**PKPdf**	04 39 28.1	+0.4
ANMO	**Albuquerque**	116.67	45	*e*PKPdf	**PKPdf**	04 39 28.1	+0.4
I32A	**Karley and Nic**	116.74	32	P	**PKPdf**	04 39 27.4	+0.1
baz=313							
EYMN	**Ely**	116.75	26	P	**PKPdf**	04 39 27.2	0.0
baz=320							
G34A	**Benson**	116.83	30	P	**PKPdf**	04 39 27.3	-0.1
baz=315							
T25A	**Trinidad**	116.88	42	P	**PKPdf**	04 39 28.6	+0.5
baz=304							
F35A	**Swanville**	116.91	29	P	**PKPdf**	04 39 27.2	-0.3
baz=316							
121A	**Cookes Peak, D**	116.93	48	P	**PKPdf**	04 39 29.0	+0.8
baz=300							
121A	**Cookes Peak, D**	116.93	48	*e*PKPdf	**PKPdf**	04 39 29.4	+1.2
D37A	**Cotton**	116.94	27	P	**PKPdf**	04 39 27.0	-0.6
baz=319							
J32A	**Parkston**	116.97	33	P	**PKPdf**	04 39 27.3	-0.5
baz=312							
K31A	**O'Neill**	116.98	34	P	**PKPdf**	04 39 27.8	0.0
baz=311							
E36A	**McGregor**	117.05	28	P	**PKPdf**	04 39 27.3	-0.5
baz=318							
PTEO	**Sao Teotonio**	117.05	319	*e*PKPdf	**PKPdf**	04 39 28.9	+0.8
I33A	**Coleman**	117.07	32	P	**PKPdf**	04 39 27.9	-0.1
baz=314							
H34A	**Spellman Lake,**	117.16	31	P	**PKPdf**	04 39 27.6	-0.4
baz=315							
ECSD	**EROS Data Cent**	117.38	32	P	**PKPdf**	04 39 28.2	-0.4
baz=314							
ECSD	**EROS Data Cent**	117.38	32	*e*PKPdf	**PKPdf**	04 39 28.2	-0.4
K32A	**Verdigre**	117.39	34	P	**PKPdf**	04 39 28.2	-0.4
baz=312							
SCHQ	**Schefferville**	117.39	7	PKP	**PKPdf**	04 39 28.4	+0.2
comp=Z,6.8nm,0.3s,baz=20,slow=3.2,SNR=16							
E37A	**Wrenshall**	117.40	27	P	**PKPdf**	04 39 27.9	-0.6
baz=319							
F36A	**Milaca**	117.41	28	P	**PKPdf**	04 39 28.0	-0.5
baz=318							
G35A	**Watkins**	117.41	30	P	**PKPdf**	04 39 28.5	0.0
baz=316							
C39A	**Grand Marais**	117.44	25	P	**PKPdf**	04 39 28.0	-0.5
baz=322							
J33A	**Davis**	117.48	32	P	**PKPdf**	04 39 28.2	-0.6
baz=313							
I34A	**Hadley**	117.56	31	P	**PKPdf**	04 39 28.9	0.0
baz=315							
H35A	**Sunnyside Ranc**	117.62	30	P	**PKPdf**	04 39 29.2	+0.3
baz=316							
E38A	**The Farm, Brul**	117.75	27	P	**PKPdf**	04 39 28.3	-0.8
baz=320							
G36A	**St. Michael**	117.76	29	P	**PKPdf**	04 39 29.6	+0.4
baz=317							
L32A	**Elgin**	117.80	34	P	**PKPdf**	04 39 29.1	-0.3
baz=312							
F37A	**Hinrichs Farm,**	117.93	28	P	**PKPdf**	04 39 29.6	+0.1
baz=318							
K33A	**Hardington**	117.95	33	P	**PKPdf**	04 39 29.5	-0.2
baz=313							
J34A	**George**	118.04	32	P	**PKPdf**	04 39 29.8	0.0
baz=314							
F38A	**Pierce - Schro**	118.10	27	P	**PKPdf**	04 39 29.8	0.0
baz=319							
L33A	**Hoskins**	118.10	34	P	**PKPdf**	04 39 29.6	-0.4
baz=313							
BGNE	**Belgrade**	118.12	35	P	**PKPdf**	04 39 29.8	-0.2
baz=312							
BGNE	**Belgrade**	118.12	35	*e*PKPdf	**PKPdf**	04 39 29.6	-0.5
I35A	**Creekview Farm**	118.14	31	P	**PKPdf**	04 39 29.4	-0.6
baz=315							
H36A	**Jessenland, He**	118.15	30	P	**PKPdf**	04 39 30.7	+0.8
baz=317							
SPMN	**Marine on St.**	118.22	29	P	**PKPdf**	04 39 30.4	+0.3
baz=318							
SPMN	**Marine on St.**	118.22	29	*e*PKPdf	**PKPdf**	04 39 29.9	-0.2
E39A	**Mellen**	118.37	26	P	**PKPdf**	04 39 30.3	-0.1
baz=321							
I36A	**Fitzsimmons Fa**	118.51	30	P	**PKPdf**	04 39 30.7	0.0
baz=316							
M33A	**Taylor Creek F**	118.54	34	P	**PKPdf**	04 39 30.1	-0.7
baz=312							
F39A	**Loretta**	118.57	27	P	**PKPdf**	04 39 30.6	-0.1
baz=320							
E40A	**Wakefield**	118.61	26	P	**PKPdf**	04 39 31.0	+0.2
baz=321							
H37A	**Dierke Farm, C**	118.64	29	P	**PKPdf**	04 39 30.9	0.0
baz=318							
D41A	**Chassel**	118.68	25	P	**PKPdf**	04 39 31.0	+0.1
baz=323							
G38A	**Ridgeland**	118.70	28	P	**PKPdf**	04 39 30.4	-0.6
baz=319							
L34A	**Svendsen Farm,**	118.73

	baz=312						
KSU1	Kansas State U	120.53	36	*e*PKPdf	PKPdf	04 39 34.8	+0.1
K39A	Oelwein	120.53	30	P	PKPdf	04 39 33.7	-0.9
	baz=318						
J40A	Soldiers Grove	120.57	29	P	PKPdf	04 39 33.6	-1.1
	baz=319						
P35A	Duane Minner,	120.58	35	P	PKPdf	04 39 34.5	-0.3
	baz=313						
E45A	Wooded Hills,	120.61	23	P	PKPdf	04 39 34.7	0.0
	baz=326						
R34A	Isabella, Hill	120.68	37	P	PKPdf	04 39 35.1	0.0
	baz=311						
H42A	Shiocton	120.72	26	P	PKPdf	04 39 33.9	-1.0
	baz=322						
N37A	Lee Faris, Mou	120.74	33	P	PKPdf	04 39 34.9	-0.2
	baz=315						
O36A	Bolckow	120.76	34	P	PKPdf	04 39 34.6	-0.5
	baz=314						
M38A	Pleasantville	120.81	32	P	PKPdf	04 39 34.9	-0.3
	baz=316						
U32A	Winter Ranch,	120.83	40	P	PKPdf	04 39 35.6	+0.2
	baz=308						
K40A	Colesburg	120.90	29	P	PKPdf	04 39 34.9	-0.5
	baz=319						
L39A	Vinton	120.90	30	P	PKPdf	04 39 34.8	-0.6
	baz=318						
J41A	Loganville	120.94	28	P	PKPdf	04 39 34.7	-0.6
	baz=320						
P36A	Good Intent, A	120.98	34	P	PKPdf	04 39 34.4	-1.2
	baz=314						
Q35A	Mercer Eighty,	121.02	36	P	PKPdf	04 39 35.5	-0.2
	baz=312						
I42A	Draeger Farm,	121.03	27	P	PKPdf	04 39 35.0	-0.5
	baz=322						
S34A	Willow Spring	121.15	37	P	PKPdf	04 39 35.6	-0.4
	baz=311						
R35A	Emporia Munici	121.29	36	P	PKPdf	04 39 36.5	+0.2
	baz=312						
M39A	Webster	121.29	31	P	PKPdf	04 39 35.7	-0.4
	baz=317						
L40A	Anamosa	121.34	30	P	PKPdf	04 39 35.5	-0.7
	baz=318						
K41A	Shullsburg	121.38	29	P	PKPdf	04 39 35.6	-0.7
	baz=320						
P37A	Lathrop	121.48	34	P	PKPdf	04 39 35.6	-1.0
	baz=314						
T34A	McClaskey Farm	121.55	38	P	PKPdf	04 39 36.4	-0.4
	baz=310						
N39A	Derby Farms, D	121.56	32	P	PKPdf	04 39 36.3	-0.4
	baz=317						
O38A	Galt	121.58	33	P	PKPdf	04 39 36.3	-0.4
	baz=315						
TXAR	Lajitas Array	121.59	49	PKP	PKPdf	04 39 37.6	+0.5
	comp=Z,3.5nm,0.7s,baz=252,slow=0.9,SNR=50						
TXAR				PKKPbc	PKKPbc	04 49 40.2	+0.1
	comp=Z,1.7nm,1.0s,baz=120,slow=5.3,SNR=7.6						
S35A	Otter Creek Ra	121.64	37	P	PKPdf	04 39 36.9	0.0
	baz=312						
M40A	Post Highland	121.68	31	P	PKPdf	04 39 36.4	-0.4
	baz=318						
R36A	Gordon, Harris	121.69	36	P	PKPdf	04 39 36.5	-0.5
	baz=313						
P38A	Dawn	121.90	33	P	PKPdf	04 39 37.0	-0.4
	baz=315						
Q37A	Longview Farm,	121.92	35	P	PKPdf	04 39 36.7	-0.7
	baz=314						
WMOK	Wichita Mounta	121.98	41	P	PKPdf	04 39 37.6	-0.1
	baz=308						
WMOK	Wichita Mounta	121.98	41	*e*PKIKP	PKPdf	04 39 37.7	0.0
WMOK	Wichita Mounta	121.98	41	*e*PKPdf	PKPdf	04 39 37.6	0.0
O39A	Kirksville	121.99	32	P	PKPdf	04 39 37.3	-0.2
	baz=316						
N40A	Mertquake, Sal	122.03	31	P	PKPdf	04 39 36.9	-0.7
	baz=319						
T35A	Sooner Cattle	122.03	38	P	PKPdf	04 39 37.8	+0.1
	baz=311						
S36A	Lake Cedric, C	122.04	36	P	PKPdf	04 39 37.6	-0.1
	baz=312						
R37A	Teagarden Farm	122.09	35	P	PKPdf	04 39 37.2	-0.5
	baz=313						
M41A	Milan	122.19	30	P	PKPdf	04 39 37.3	-0.5
	baz=319						
U35A	Pawnee	122.25	38	P	PKPdf	04 39 38.5	+0.3
	baz=311						
T36A	Boggs Farm, Ca	122.31	37	P	PKPdf	04 39 37.9	-0.3
	baz=312						
Q38A	Cooks Store, C	122.32	34	P	PKPdf	04 39 37.6	-0.6
	baz=315						
P39B	Salisbury	122.42	33	P	PKPdf	04 39 38.1	-0.2
	baz=316						
O40A	La Belle	122.44	32	P	PKPdf	04 39 38.1	-0.2
	baz=317						
S37A	Fort Scott	122.47	36	P	PKPdf	04 39 38.2	-0.3
	baz=313						
N41A	Harden Midland	122.53	31	P	PKPdf	04 39 37.6	-1.0
	baz=318						
V35A	Meyer Ranch, C	122.58	39	P	PKPdf	04 39 38.9	+0.2
	baz=310						
Q39A	Willow Grove F	122.62	34	P	PKPdf	04 39 38.5	-0.3
	baz=315						
ABTX	Abilene, Hawle	122.67	44	P	PKPdf	04 39 39.6	+0.4
	baz=306						
ABTX	Abilene, Hawle	122.67	44	*e*PKPdf	PKPdf	04 39 39.5	+0.4
R38A	Fenwick Farm,	122.70	35	P	PKPdf	04 39 38.1	-0.8
	baz=314						
P40A	Paris	122.77	33	P	PKPdf	04 39 38.7	-0.3
	baz=316						
T37A	Cheneyville 18	122.84	36	P	PKPdf	04 39 39.3	0.0
	baz=313						
U36A	Oologah	122.84	38	P	PKPdf	04 39 39.4	+0.2
	baz=312						
N42A	Yates City	122.85	30	P	PKPdf	04 39 38.4	-0.7
	baz=319						
W35A	Tecumseh	122.94	39	P	PKPdf	04 39 39.9	+0.4
	baz=310						
O41A	Passleys Farm,	122.96	31	P	PKPdf	04 39 38.9	-0.4
	baz=318						
S38A	Stockton	123.08	35	P	PKPdf	04 39 39.3	-0.4
	baz=314						
R39A	Chumby, Stover	123.10	34	P	PKPdf	04 39 39.2	-0.5
	baz=315						
V36A	Jenks	123.11	38	P	PKPdf	04 39 40.0	+0.2
	baz=311						
TUL1	Leonard	123.12	38	P	PKPdf	04 39 40.3	+0.5
	baz=311						
TUL1	Leonard	123.12	38	*e*PKPdf	PKPdf	04 39 39.9	+0.1
Q40A	Laux Farm, Aux	123.14	33	P	PKPdf	04 39 39.7	0.0
	baz=316						
P41A	Barry, Barry	123.19	32	P	PKPdf	04 39 39.4	-0.4
	baz=318						
U37A	Salina	123.21	37	P	PKPdf	04 39 40.0	0.0
	baz=312						
T38A	Diamond	123.27	36	P	PKPdf	04 39 40.0	-0.1
	baz=313						
O42A	Bath	123.31	31	P	PKPdf	04 39 39.2	-0.8
	baz=319						
W36A	Wetumka	123.36	39	P	PKPdf	04 39 40.6	+0.3
	baz=310						
X35A	Drake	123.36	40	P	PKPdf	04 39 40.2	-0.1
	baz=309						
S39A	Bolivar	123.38	35	P	PKPdf	04 39 40.1	-0.2
	baz=314						
HDIL	Hopedale	123.43	30	P	PKPdf	04 39 40.2	-0.1
	baz=320						
HDIL	Hopedale	123.43	30	*e*PKPdf	PKPdf	04 39 40.3	+0.1
233A	Rising Star	123.53	44	P	PKPdf	04 39 40.8	0.0
	baz=306						
V37A	Hulbert	123.54	38	P	PKPdf	04 39 40.4	-0.2
	baz=312						
R40A	Maddies Statio	123.54	34	P	PKPdf	04 39 40.4	-0.1
	baz=316						
U38A	Gravette	123.62	37	P	PKPdf	04 39 40.7	0.0
	baz=313						
O43A	Sugar Creek Fa	123.62	30	P	PKPdf	04 39 40.4	-0.3
	baz=320						
Y35A	Marietta	123.63	41	P	PKPdf	04 39 40.9	0.0
	baz=309						
P42A	Winchester	123.63	31	P	PKPdf	04 39 40.3	-0.3
	baz=318						
Q41A	Truxton	123.63	32	P	PKPdf	04 39 40.5	-0.2
	baz=317						
X36A	Centrahoma	123.64	40	P	PKPdf	04 39 40.9	+0.1
	baz=310						
JCT	Junction City	123.80	46	P	PKPdf	04 39 41.9	+0.5
	baz=305						
JCT	Junction City	123.80	46	*e*PKIKP	PKPdf	04 39 41.8	+0.5
JCT	Junction City	123.80	46	*e*PKPdf	PKPdf	04 39 41.8	+0.4
T39A	Clever	123.81	36	P	PKPdf	04 39 41.1	0.0
	baz=314						
W37B	Quinton	123.85	39	P	PKPdf	04 39 41.6	+0.4
	baz=311						
333A	Richland Sprin	123.88	44	P	PKPdf	04 39 41.5	0.0
	baz=306						
S40A	Lebanon	123.91	34	P	PKPdf	04 39 40.7	-0.6
	baz=315						
V38A	Canehill	124.00	37	P	PKPdf	04 39 41.4	-0.1
	baz=312						
P43A	Skaggs, Pawnee	124.01	31	P	PKPdf	04 39 41.5	+0.1
	baz=319						
R41A	Rosebud	124.02	33	P	PKPdf	04 39 41.6	+0.2
	baz=317						
Q42A	Golden Eagle	124.03	32	P	PKPdf	04 39 41.6	+0.1
	baz=318						
234A	Clairette	124.06	43	P	PKPdf	04 39 42.0	+0.3
	baz=307						
Y36A	Durant	124.11	40	P	PKPdf	04 39 42.0	+0.3
	baz=310						
433A	Art	124.14	45	P	PKPdf	04 39 41.8	-0.1
	baz=306						
U39A	Green Forest	124.19	36	P	PKPdf	04 39 41.3	-0.6
	baz=314						
T40A	Mansfield	124.21	35	P	PKPdf	04 39 41.5	-0.4
	baz=315						
X37A	Clayton	124.25	39	P	PKPdf	04 39 42.6	+0.6
	baz=311						
S41A	Jillco Farms,	124.33	34	P	PKPdf	04 39 41.8	-0.3
	baz=316						
R42A	Luebbering	124.35	33	P	PKPdf	04 39 41.7	-0.4
	baz=317						
334A	Lometa	124.39	44	P	PKPdf	04 39 42.4	0.0
	baz=307						
Z36A	Blue Ridge	124.42	41	P	PKPdf	04 39 42.8	+0.4
	baz=309						
Q43A	New Douglas	124.44	31	P	PKPdf	04 39 41.9	-0.3
	baz=319						
W38A	Poteau	124.46	38	P	PKPdf	04 39 42.3	0.0
	baz=312						
V39A	Pettigrew	124.47	37	P	PKPdf	04 39 41.9	-0.5
	baz=313						
Y37A	Hugo	124.49	40	P	PKPdf	04 39 43.1	+0.7
	baz=310						
WHTX	Lake Whitney,	124.53	43	P	PKPdf	04 39 43.3	+0.7
	baz=308						
WHTX	Lake Whitney,	124.53	43	*e*PKPdf	PKPdf	04 39 42.8	+0.2
X38A	Whitesboro	124.53	39	P	PKPdf	04 39 43.4	+0.8
	baz=312						
533A	Kerrville	124.57	46	P	PKPdf	04 39 42.5	-0.3
	baz=305						
U40A	Yellville	124.58	36	P	PKPdf	04 39 42.6	0.0
	baz=314						
P44A	Sand Creek, Wi	124.59	30	P	PKPdf	04 39 42.6	+0.1
	baz=320						
SFIN	Lafayette	124.62	28	P	PKPdf	04 39 42.7	+0.1
	baz=322						
434A	Burnet	124.68	44	P	PKPdf	04 39 43.0	0.0
	baz=306						
T41A	Mountain View	124.71	34	P	PKPdf	04 39 42.9	0.0
	baz=316						
S42A	Caledonia	124.72	33	P	PKPdf	04 39 42.7	-0.1
	baz=317						
R43A	Red Bud	124.81	32	P	PKPdf	04 39 43.0	0.0
	baz=318						
Q44A	Meyer Farm, Va	124.82	31	P	PKPdf	04 39 43.1	+0.1
	baz=319						
W39A	Magazine	124.82	37	P	PKPdf	04 39 42.4	-0.7
	baz=313						
136A	Ennis	124.85	42	P	PKPdf	04 39 44.2	+1.0
	baz=309						
832A	Faith Ranch, C	124.89	48	P	PKPdf	04 39 44.4	+1.0
	baz=304						
V40A	Witts Springs	124.97	36	P	PKPdf	04 39 43.3	-0.1
	baz=314						
335A	Moody	124.98	43	P	PKPdf	04 39 44.3	+0.8
	baz=307						
534A	Blanco	124.99	45	P	PKPdf	04 39 43.8	+0.2
	baz=306						
X39A	Fountain Ranch	125.08	38	P	PKPdf	04 39 44.1	+0.5
	baz=312						
Y38A	Idabel	125.08	39	P	PKPdf	04 39 43.3	-0.3
	baz=311						
T42A	Van Buren	125.10	34	P	PKPdf	04 39 43.8	+0.2
	baz=316						
U41A	Viola	125.12	35	P	PKPdf	04 39 43.4	-0.2
	baz=315						
236A	Katherine and	125.15	42	P	PKPdf	04 39 45.0	+1.2
	baz=308						
733A	Divot King Ran	125.15	47	P	PKPdf	04 39 44.8	+0.9
	baz=304						
435B	Jarrell	125.17	44	P	PKPdf	04 39 44.4	+0.5
	baz=307						
W40A	Ferguson Farm,	125.25	37	P	PKPdf	04 39 43.8	-0.1
	baz=314						
S43A	Fulton Ridge,	125.26	33	P	PKPdf	04 39 43.3	-0.6
	baz=318						
137A	Heron Place, G	125.28	41	P	PKPdf	04 39 45.6	+1.5
	baz=310						
833A	Chaparral WMA,	125.30	48	P	PKPdf	04 39 45.3	+1.1
	baz=304						
336A	Riesel	125.31	43	P	PKPdf	04 39 45.1	+1.0
	baz=308						
Z38A	Mt. Pleasant	125.36	40	P	PKPdf	04 39 44.9	+0.7
	baz=311						
V41A	Mountainview	125.38	36	P	PKPdf	04 39 43.8	-0.3
	baz=315						
MIAR	Mount Ida	125.38	38	P	PKPdf	04 39 44.6	+0.5
	baz=313						
MIAR	Mount Ida	125.38	38	*e*PKIKP	PKPdf	04 39 44.7	+0.5
MIAR	Mount Ida	125.38	38	*e*PKPdf	PKPdf	04 39 44.7	+0.5
Y39A	Lockesburg	125.47	39	P	PKPdf	04 39 44.6	+0.3
	baz=312						
T43A	Greenville	125.50	33	P	PKPdf	04 39 44.2	-0.1
	baz=317						
U42A	Revenden	125.50	35	P	PKPdf	04 39 44.5	+0.1
	baz=316						
S44A	Carbondale	125.60	32	P	PKPdf	04 39 44.6	+0.1
	baz=318						
734A	La Parita Cree	125.61	47	P	PKPdf	04 39 45.6	+0.8
	baz=305						
237A	Washetta, Mont	125.62	42	P	PKPdf	04 39 45.7	+1.0
	baz=309						
535A	Dale	125.63	45	P	PKPdf	04 39 45.5	+0.8
	baz=306						
436A	Wall Ranch, Ga	125.72	44	P	PKPdf	04 39 46.5	+1.6
	baz=308						
W41B	Gary Mavity, V	125.75	36	P	PKPdf	04 39 45.0	+0.2
	baz=314						
933A	Laredo	125.78	48	P	PKPdf	04 39 47.1	+1.9
	baz=304						
V42A	Cord	125.80	35	P	PKPdf	04 39 45.0	+0.1
	baz=315						
635A	Leesville	125.86	46	P	PKPdf	04 39 46.7	+1.5
	baz=306						
T44A	Benton	125.88	33	P	PKPdf	04 39 45.5	+0.5
	baz=318						
Y40A	Okolona	125.92	38	P	PKPdf	04 39 45.9	+0.7
	baz=313						
536A	Bastrop	125.95	44	P	PKPdf	04 39 46.5	+1.1
	baz=307						
U43A	Rector	125.95	34	P	PKPdf	04 39 45.3	+0.1
	baz=317						
S45A	Carrier Mills	125.97	32	P	PKPdf	04 39 45.8	+0.6
	baz=319						
337A	Centerville	126.00	42	P	PKPdf	04 39 47.3	+1.8
	baz=309						
834A	Tilden	126.03	47	P	PKPdf	04 39 47.5	+1.9
	baz=305						
X41A	Kaden, Bauxite	126.06	37	P	PKPdf	04 39 45.9	+0.4
	baz=314						
238A	Jacksonville	126.08	41	P	PKPdf	04 39 47.4	+1.8
	baz=310						
735A	Kenedy	126.15	46	P	PKPdf	04 39 47.3	+1.6
	baz=306						
PKME	Peaks-Kenny Pk	126.30	11	*e*PKPdf	PKPdf	04 39 45.5	-0.1
636A	Smothers Creek	126.31	45	P	PKPdf	04 39 47.9	+1.8
	baz=307						
934A	Benavides	126.34	48	P	PKPdf	04 39 48.0	+1.9
	baz=304						
338A	Crockett	126.36	42	P	PKPdf	04 39 47.4	+1.3
	baz=309						
Y41A	Eaglette Beard	126.42	38	P	PKPdf	04 39 47.0	+0.8
	baz=313						
835A	Beeville	126.46	47	P	PKPdf	04 39 48.2	+1.8
	baz=305						
537A	Green Hill Far	126.47	44	P	PKPdf	04 39 48.0	+1.6
	baz=308						
239A	Gary	126.49	41	P	PKPdf	04 39 47.7	+1.3
	baz=310						
034A	Hebbronville	126.52	48	P	PKPdf	04 39 48.4	+1.8
	baz=304						
U44B	Burton Farm, H	126.56	33	P	PKPdf	04 39 46.5	+0.1
	baz=318						
WCI	Wyandotte Cave	126.70	29	*e*PKIKP	PKPdf	04 39 46.6	0.0
WCI	Wyandotte Cave	126.70	29	*e*PKPdf	PKPdf	04 39 46.6	0.0
Z41A	Richland Creek	126.73	38	P	PKPdf	04 39 47.3	+0.6
	baz=313						
M54A	Oil Creek Stat	126.83	22	P	PKPdf	04 39 46.5	-0.3
	baz=331						
KIC	Kosan Boka	126.83	284	*e*PKIKP	PKPdf	04 39 46.8	-0.7
	comp=Z,134nm,1.2s						
637A	Eagle Lake	126.84	45	P	PKPdf	04 39 49.4	+2.3
	baz=307						
DBIC	Dimbokro	126.86	284	PKP	PKPdf	04 39 47.3	-0.2
	comp=Z,12nm,0.6s,baz=113,slow=3.9,SNR=18						
U45A	Rockin P Farm,	126.87	33	P	PKPdf	04 39 47.5	+0.6
	baz=318						
339A	Huntington	126.87	42	P	PKPdf	04 39 48.3	+1.2
	baz=310						
240A	Hunter Patters	126.93	40	P	PKPdf	04 39 48.6	+1.4
	baz=311						
TIC	Toumodi	127.03	284	*e*PKIKP	PKPdf	04 39 47.0	-0.9
439A	Center Grove,	127.08	42	P	PKPdf	04 39 49.1	+1.6
	baz=310						
141A	Papa Simpson,	127.10	39	P	PKPdf	04 39 49.1	+1.6
	baz=312						
LIC	Lamto	127.14	284	*e*PKIKP	PKPdf	04 39 47.4	-0.7
	comp=Z,185nm,1.2s						
N54A	Moraine State	127.18	22	P	PKPdf	04 39 47.6	+0.2
	baz=330						
V45A	Humboldt	127.21	33	P	PKPdf	04 39 48.6	+1.0
	baz=318						
Z42A	Norrel Spur, H	127.24	38	P	PKPdf	04 39 48.9	+1.2
	baz=314						
340A	Bronson	127.25	41	P	PKPdf	04 39 49.0	+1.2
	baz=311						
Y43A	Makayla and Ka	127.41	37	P	PKPdf	04 39 48.9	+0.9
	baz=315						
BINY	Binghamton	127.47	18	*e*PKPdf	PKPdf	04 39 48.4	+0.4
BINY				*ep*PKPdf	pPKPdf	04 42 10.1	+1.2
241A	Mo Tay, Goldon	127.48	40	P	PKPdf	04 39 49.3	+1.1
	baz=312						
W45A	Hickory Valley	127.52	34	P	PKPdf	04 39 48.7	+0.5
	baz=317						
142A	Monroe	127.74	39	P	PKPdf	04 39 49.6	+0.9
	baz=313						
341A	Kurthwood	127.78	41	P	PKPdf	04 39 49.8	+1.0
	baz=311						
Y44A	Strider, Charl	127.79	36	P	PKPdf	04 39 49.5	+0.7
	baz=316						
OXF	Oxford	127.86	35	*e*PKIKP	PKPdf	04 39 49.1	+0.2
OXF	Oxford	127.86	35	*e*PKPdf	PKPdf	04 39 49.1	+0.2
X45A	UM Field Stati	127.93	35	P	PKPdf	04 39 49.6	+0.6
	baz=317						
143A	Socs Landing,	127.96	38	P	PKPdf	04 39 49.9	+0.8
	baz=314						
Y45A	Yeager Farm, C	128.25	36	P	PKPdf	04 39 49.8	+0.1
	baz=316						
342A	Flagon Creek P	128.29	40	P	PKPdf	04 39 51.0	+1.2
	baz=312						
O56A	Blue Knob Stat	128.31	22	P	PKPdf	04 39 49.9	+0.3
	baz=332						
Z45A	Winona	128.52	36	P	PKPdf	04 39 50.5	+0.3
	baz=316						
Y46A	Houston	128.63	35	P	PKPdf	04 39 50.1	-0.3
	baz=317						
N59A	State Game Lan	128.70	19	P	PKPdf	04 39 50.4	+0.1
	baz=335						
244A	Avery, Jackson	128.86	38	P	PKPdf	04 39 51.6	+0.7
	baz=314						
Z46A	Louisville	129.08	36	P	PKPdf	04 39 51.3	+0.1
	baz=317						
Y47A	UCPARC, Winfie	129.18	34	P	PKPdf	04 39 51.3	-0.2
	baz=318						
344A	Westbrook Farm	129.24	39	P	PKPdf	04 39 52.0	+0.4
	baz=314						
Z47A	Carrollton	129.58	35	P	PKPdf	04 39 52.2	0.0
	baz=318						
Z48A	Northport	129.74	34	P	PKPdf	04 39 52.1	-0.3
	baz=318						
147A	Livingston	129.85	36	P	PKPdf	04 39 53.3	+0.6
	baz=317						
247A	Quitman	130.10	36	P	PKPdf	04 39 54.1	+0.9
	baz=316						
LRAL	Lakeview Retre	130.30	34	*e*PKPdf	PKPdf	04 39 53.7	+0.2
LRAL				*e*SKPbc	SKPbc	04 42 21.1	+0.2
248A	Dixon Mills	130.58	36	P	PKPdf	04 39 54.8	+0.7
	baz=317						
347A	Saraland	130.60	37	P	PKPdf	04 39 54.9	+0.8
	baz=316						
KMSC	Kings Mountain	131.54	28	P	PKPdf	04 39 56.5	+0.6
	baz=326						
KMSC	Kings Mountain	131.54	28	*e*PKPdf	PKPdf	04 39 55.9	0.0
KMSC				*e*SKPbc	SKPbc	04 42 25.3	+0.1
BRAL	Brewton	131.65	36	*e*PKPdf	PKPdf	04 39 57.0	+0.8
BRAL				*e*SKPbc	SKPab	04 42 26.9	-0.2
USHA	Ushuaia	131.68	171	PKP	PKPdf	04 39 56.9	+1.5
	comp=Z,19nm,0.5s,baz=267,slow=1.7,SNR=9.1						
TIGA	Tifton	133.38	33	P	PKPdf	04 40 00.1	+0.7
	baz=321						
PLCA	Paso Flores	144.42	161	PKP	PKPab	04 40 20.3	+0.3
	comp=Z,30nm,0.6s,baz=243,slow=3.7,SNR=86						
MTDJ	Mount Denham	147.01	39	*e*PKPbc	PKPbc	04 40 27.4	0.0
MTDJ				*e*PKPab	PKPab	04 40 31.3	+0.5
GTBY	Guantanamo Bay	147.13	34	*e*PKPbc	PKPbc	04 40 27.9	+0.4
GRTK	Grand Turk	147.79	27	*e*PKPbc	PKPbc	04 40 29.5	+0.4
GRTK				*e*PKPab	PKPab	04 40 33.7	0.0
TRQA	Tornquist	149.02	171	*e*PKPdf	PKPdf	04 40 26.9	0.0
TRQA				*e*PKPbc	PKPbc	04 40 31.6	-0.2
TRQA				*e*PKPab	PKPab	04 40 38.6	+0.2
SDDR	Presa de Saban	149.90	29	*e*PKPbc	PKPbc	04 40 34.8	+0.4
SDDR				*e*PKPab	PKPab	04 40 43.2	+0.5
SJG	San Juan	152.85	21	*e*PKIKP	PKPbc	04 40 41.2	+0.3
SJG	San Juan	152.85	21	*e*PKPbc	PKPbc	04 40 41.2	+0.3
OTAV	Otavalo	156.61	72	*e*PKPdf	PKPdf	04 40 39.5	+0.5
ROSC	El Rosal	158.27	57	PKP	PKPdf	04 40 41.7	+0.8
	comp=Z,7.3nm,0.8s,baz=13,slow=1.7,SNR=8.1						
SDV	Santo Domingo	158.40	42	*e*PKPdf	PKPdf	04 40 40.6	-0.2
SDV				*e*PKPab	PKPab	04 41 19.5	+0.1
NNA	Nana	159.20	104	*e*PKIKP	PKPdf	04 40 42.2	+0.7
NNA	Nana	159.20	104	*e*PKPdf	PKPdf	04 40 42.2	+0.7
RCBR	Riachuelo	159.72	273	*e*PKPdf	PKPdf	04 40 42.5	+0.4
RCBR				*e*PKPab	PKPab	04 41 24.6	-0.6
RCBR	Riachuelo	159.72	273	*e*PKPdf	PKPab	04 41 25.0	-0.3
LVC	Limon Verde	160.57	143	*e*PKPab	PKPab	04 41 29.0	+0.1
CPUP	Villa Florida	161.13	177	PKP	PKPdf	04 40 43.1	-0.2
	comp=Z,4.6nm,0.8s,baz=165,slow=1.6,SNR=10						
CPUP				PKPab	PKPab	04 41 30.6	0.0
	comp=Z,9.2nm,1.1s,baz=188,slow=5.1,SNR=3.6						
LPAZ	La Paz	165.40	128	PKP	PKPdf	04 40 49.0	+0.8
	comp=Z,11nm,1.0s,baz=21,slow=1.5,SNR=29						
LPAZ				PKPab	PKPab	04 41 53.0	+2.3
	comp=Z,6.7nm,1.0s,baz=259,slow=2.5,SNR=7.0						
SAML	Samuel	172.97	103	*e*PKPdf	PKPdf	04 40 51.7	-0.4

IDC ***01*

PATY Pattaya 5.02 89 P **Pn** **04 23 28.0 -3.5**
NAYO Nakonayok 5.63 74 P **Pn** **04 23 37.0 -3.0**
KRAB Krabi 5.74 143 P **Pn** **04 23 38.9 -2.5**
366nm,0.5s,5μm
TRTT Trang 6.34 142 P **Pn** **04 23 47.0 -2.7**
CM01 Chiang Mai Arr 6.35 29 *e*Pn **Pn** **04 23 48.4 -1.4**
CM31 Chiang Mai Arr 6.37 29 *e*Pn **Pn** **04 23 47.8 -2.4**
CMAR Chiang Mai Arr 6.37 29 Pn **Pn** **04 23 47.1 -3.0**
3.1nm,0.3s,baz=219,slow=15,SNR=35
CMAR LR LR 04 26 35.8
comp=Z,2μm,18.1s,baz=222,slow=42
CHTO Chiang Mai 6.68 27 *e*Pn **Pn** **04 23 51.4 -3.0**
UTTA Uttaradit 6.73 43 P **Pn** **04 23 53.3 -1.7**
10nm,0.9s,142nm0.1nm
LAMP Lampang 6.77 33 P **Pn** **04 23 53.6 -2.0**
30nm,0.7s,0.1nm
CHAI Chaiyaphum 6.78 63 P **Pn** **04 23 53.1 -2.7**
19nm,1.0s,360nm
KULM Kulim 8.96 147 *e*Pn **Pn** **04 24 26.5 +0.9**
KULM *e*Sn **Sn** **04 26 00.7 -4.6**
IPM Ipoh 9.84 147 *e*Pn **Pn** **04 24 37.6 -0.1**
PSI Prapat 10.48 162 Pn **Pn** **04 24 48.0 +1.3**
0.8nm,0.3s,baz=313,slow=7.8,SNR=5.7
PSI LR LR 04 29 09.9
comp=Z,4μm,18.2s,baz=326,slow=39
SLVN Son La 11.49 42 *e*Pn **Pn** **04 24 59.7 -0.7**
CHLP Challavanipeta 12.55 298 *e*Pn **Pn** **04 25 14.1 -0.6**
CHLP IAmb IAmb 04 25 18.5
comp=Z,56nm,1.4s
CHLP *e* 04 27 24.2
CHLP Sn **Sn** **04 27 32.9 -0.4**
CHLP IVMs_BB IVMs_BB 04 29 28.8
comp=Z,990nm,20.3s
VIS Vishakhapatnam 12.89 294 *i* P **Pn** **04 25 16.5 -3.0**
VIS *i* S Sn 04 27 28.9 -13
SHL Shillong 13.15 345 *e*P Pn 04 25 18.0 -5.0
SHL AMB AMB 04 25 26.6
comp=Z,26nm,0.5s
SHL *e*x x 04 30 11.0
MYKOM Kota Tinggi 13.63 143 *e*Pn **Pn** **04 25 31.0 +1.5**
KMI Kunming 13.88 28 P **Pn** **04 25 34.5 +1.4**
KMI pP P 04 25 42.5 +2.1
KMI PP **PnPn** **04 25 45.6 +4.2**
KMI sP 04 25 48.9
KMI S **Sn** **04 28 06.5 +0.5**
KMI sS S 04 28 20.5 -6.0
KMI SS **SnSn** **04 28 25.1 +6.0**
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,280nm,4.1s
KMI LR LR
comp=Z,3μm,10.6s
KMI LR LR
comp=Z,5μm,10.0s
KMI LR LR
comp=Z,3μm,9.7s
PVM Polavaram 14.29 290 *e*Pn **Pn** **04 25 35.4 -3.2**
PVM IAmb IAmb 04 25 47.9
comp=Z,110nm,1.5s
PVM *e* 04 28 00.5
PVM Sn **Sn** **04 28 19.1 +3.3**
PVM IVMs_BB IVMs_BB 04 30 04.5
comp=Z,628nm,34.3s
BOK Bokaro 14.32 321 *e*P Pn 04 25 32.8 -6.1
BOK AMB AMB 04 25 53.2
comp=Z,60nm,0.4s
MDRS Chennai 15.08 273 *e*P **Pn** **04 25 46.5 -2.5**
MDRS *e*S **Sn** **04 28 36.3 +1.3**
ADKI Addanki 15.55 283 *e*Pn **Pn** **04 25 53.3 -1.7**
ADKI *e* 04 28 47.0
SKHT Srikalahasti 15.61 275 *e*Pn **P** **04 25 59.4 -0.1**
SKHT IAmb IAmb 04 26 08.9
comp=Z,86nm,0.9s
SKHT *e* 04 28 30.0
SKHT Sn **Sn** **04 28 50.3 +2.5**
SKHT IVMsBB 04 30 44.2
comp=Z,561nm,19.4s
PALK Pallekele 15.79 251 Pn **P** **04 26 00.1 -1.4**
comp=Z,1.7nm,0.3s,baz=116,slow=9.0,SNR=13
PALK LR LR 04 32 25.2
comp=Z,813nm,18.6s,baz=297,slow=39
PALK Pallekele 15.79 251 *i* P **P** **04 26 03.5 +2.0**
SNR=12
PALK Pallekele 15.79 251 *e*Pn **P** **04 26 02.7 +1.2**
comp=Z,192nm,1.4s
ODAN Odare 15.97 332 *e*P **Pn** **04 25 57.9 -2.8**
TAPN Taplejung 16.25 334 *e*P **Pn** **04 26 01.8 -2.5**
NJS Nagarjunasagar 16.30 285 *e*Pn **Pn** **04 26 05.5 +0.9**
NJS IAmb IAmb 04 26 09.7
comp=Z,60nm,1.0s
NJS *e* 04 28 50.7
NJS Sn **Sn** **04 29 05.7 +1.2**
NJS IVMs_BB IVMs_BB 04 31 16.7
comp=Z,469nm,29.0s
RAMN Ramite 16.42 330 *e*P **Pn** **04 26 04.1 -2.3**
SRLM Srisailam 16.61 283 *e*Pn **Pn** **04 26 07.5 -1.1**
SRLM IAmb IAmb 04 26 19.4
comp=Z,100nm,1.0s
SRLM *e* 04 28 58.4
SRLM Sn **Sn** **04 29 11.1 -1.1**
SRLM IVMs_BB IVMs_BB 04 30 54.6
comp=Z,496nm,36.5s
RPR Rampur 16.88 293 *e*Pn **P** **04 26 13.1 -0.5**
RPR IAmb IAmb 04 26 27.9
comp=Z,42nm,0.9s
RPR *e* 04 28 48.1
RPR *i* 04 29 10.4
RPR IVMs_BB IVMs_BB 04 33 50.7
comp=Z,740nm,19.7s
GYA Guiyang 16.99 36⇑ *i*P **Pn** **04 26 12.0 -1.4**
GYA pP pP 04 26 22.0 -3.2
GYA PP **sP** **04 26 29.0 -1.7**
GYA S **Sn** **04 29 19.8 -1.6**
GYA sS S 04 29 33.2 +3.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.2s
GYA LR LR
comp=Z,3μm,11.5s
GYA LR LR
comp=Z,5μm,10.9s
GYA LR LR
comp=Z,5μm,11.2s
HYB Hyderabad 17.18 287 *i* P **Pn** **04 26 15.0 -0.7**
HYB Hyderabad 17.18 287 *e*P **Pn** **04 26 15.1 -0.7**
HYB AMB AMB 04 26 25.0
comp=Z,65nm,2.0s
HYBB Hyderabad (bro 17.18 287 *e*P **P** **04 26 17.6 +0.7**
HYBB IAmb IAmb 04 26 24.7
comp=Z,84nm,1.3s
HYBB *e* 04 29 07.1
HYBB Sn **Sn** **04 29 29.0 +3.0**
HYBB IVMs_BB IVMs_BB 04 35 00.2
comp=Z,544nm,19.0s
JIRN Jiri 17.21 330 *e*P **Pn** **04 26 13.6 -2.8**
LSA Lhasa 17.29 347 P **Pn** **04 26 16.0 -1.4**
LSA pmax pmax
comp=Z,7.0nm,1.3s
LSA Lhasa 17.29 347 *e*Pn **Pn** **04 26 17.1 -0.3**
comp=Z,57nm,0.8s
PKI Pulchoki 17.53 328 *e*P **Pn** **04 26 18.2 -2.1**
PKIN Phulchoki 17.54 328 *e*P **Pn** **04 26 18.8 -1.6**
GUN Gumba 17.57 330 *e*P **Pn** **04 26 18.2 -2.6**
comp=Z,166nm,1.1s
DMN Daman 17.72 328 *e*P **Pn** **04 26 20.8 -1.7**
SRSP Sriramsagar 17.76 292 *e*Pn **P** **04 26 23.2 -0.1**
SRSP IAmb IAmb 04 26 31.7
comp=Z,44nm,1.0s
SRSP *e* 04 28 48.7
SRSP Sn **Sn** **04 29 33.2 -6.8**
SRSP IVMs_BB IVMs_BB 04 32 34.9
comp=Z,750nm,22.5s
KKN Kakani 17.77 328 *e*P **Pn** **04 26 21.1 -2.1**
comp=Z,63nm,0.7s
NGP Nagpur 17.93 300 *e*P **Pn** **04 26 22.6 -2.4**
NGP IAmb IAmb 04 26 29.6
comp=Z,16nm,0.8s
URV Uravakonda 18.04 279 *e*Pn **Pn** **04 26 26.4 0.0**
URV IAmb IAmb 04 26 29.0
comp=Z,394nm,2.8s
URV *e* 04 29 21.0
URV Sn **S** **04 29 52.0 +0.8**
URV IVMs_BB IVMs_BB 04 32 16.6
comp=Z,491nm,28.3s
GKN Gorkha 18.28 327 *e*P **P** **04 26 27.2 -1.9**
comp=Z,132nm,1.0s
KOLN Koldanda 18.66 324 *e*P **P** **04 26 30.8 -2.6**
DANN Dangsing 19.02 326 *e*P **P** **04 26 36.2 -1.2**
KLRI Killari 19.14 288 *e*P **P** **04 26 39.0 +0.5**
KLRI *e*S **Sn** **04 30 13.7 +0.3**
PYUN Piuthan 19.27 324 *e*P **P** **04 26 37.6 -2.4**
CD2 Chengdu 19.44 21⇑ P **P** **04 26 40.8 -0.8**
CD2 pP pP 04 26 52.1 0.0
CD2 sP sP 04 26 58.7 +1.1
CD2 S **S** **04 30 16.5 -2.7**
CD2 sS sS 04 30 36.8 +0.9
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,410nm,4.7s
CD2 LR LR
comp=Z,2μm,9.6s
CD2 LR LR
comp=Z,4μm,10.2s
CD2 LR LR
comp=Z,3μm,10.2s
BHPL Bhopal 20.20 303 *e*P **P** **04 26 45.3 -4.7**
BHPL AMB AMB 04 26 59.7
comp=Z,88nm,0.0s
MNGI Mangalore 20.37 273 *e*x **P** **04 26 55.2 +3.4**
KKM Kota Kinabalu 21.31 107 *e*P **P** **04 27 02.9 +0.7**
comp=Z,34nm,0.8s
GOA Goa 21.39 280 *e*P **P** **04 27 00.6 -2.3**
POO Poona 21.79 288 *e*P **P** **04 27 05.7 -1.5**
POO AMB AMB 04 27 15.2
comp=Z,69nm,0.7s
KALG Kalgarh 22.85 319 *e*P **P** **04 27 15.3 -3.1**
JOSI Joshimath 23.09 322 *e*P **P** **04 27 20.7 -0.4**
AYAN Aya Nagar 23.28 315 *e*P **P** **04 27 20.0 -2.6**
KUDL Kundal 23.52 313 *e*P **P** **04 27 22.2 -2.8**
BHGR Bahadurgarh 23.53 315 *e*P **P** **04 27 22.1 -3.0**
LZH Lanzhou 24.26 16⇓ P **P** **04 27 32.5 +0.5**
LZH pP pP 04 27 43.2 -0.4
LZH sP sP 04 27 48.3 -0.4
LZH PP **PnPn** **04 28 08.5 +5.2**
LZH *e*S **S** **04 31 45.1 -2.9**
LZH sS sS 04 32 03.7 -3.5
LZH SS **SnSn** **04 32 40.3 +6.9**
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,570nm,4.0s
LZH LR LR
comp=Z,2μm,10.6s
LZH LR LR
comp=Z,3μm,11.7s
LZH LR LR
comp=Z,3μm,12.6s
WHN Wuhan 24.62 41⇑ P **P** **04 27 32.8 -2.3**
WHN LR LR
comp=Z,7μm,7.9s
WHN LR LR
comp=Z,5μm,9.8s
WHN LR LR
comp=Z,8μm,11.7s
GTA Gaotai 26.69 7 *e*P **P** **04 27 55.2 +1.2**
GTA pP pP 04 28 07.0 +1.5
GTA sP sP 04 28 13.0 +2.3
GTA S **S** **04 32 24.9 -1.6**
GTA sS sS 04 32 44.6 -1.4
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,650nm,10.5s
GTA LR LR
comp=Z,2μm,9.7s
GTA LR LR
comp=Z,720nm,12.6s
NACB Ningaichiao 26.94 62 *e*P **P** **04 27 54.9 -1.3**
comp=Z,45nm,0.7s
NJ2 Nanjing 28.56 44 *e*P **P** **04 28 10.0 -0.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,2μm,8.9s
NJ2 LR LR
comp=Z,2μm,9.1s
NJ2 LR LR
comp=Z,3μm,11.8s
THW Thamme Wali 29.57 316 P **P** **04 28 18.7 -0.9**
SSE Sheshan 29.66 48 *e*P **P** **04 28 21.0 +0.6**
SSE S **S** **04 33 12.9 -0.3**
SSE sS **sS** **04 33 34.4 +1.7**
SSE pmax pmax
comp=Z,16nm,0.8s
SSE pmax pmax
comp=Z,41nm,3.5s
SSE LR LR
comp=Z,690nm,18.4s
SSE LR LR
comp=Z,620nm,18.3s
SSE LR LR
comp=Z,640nm,16.4s
CEP Cherat 30.08 318 P **P** **04 28 25.0 +0.7**
HHC Hu-ho-hao-te 31.15 24 *e*P **P** **04 28 36.2 +2.6**
HHC S **S** **04 33 38.0 +1.4**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,83nm,4.6s
HHC LR LR
comp=Z,2μm,11.2s
HHC LR LR
comp=Z,2μm,11.2s
HHC LR LR
comp=Z,1μm,11.2s
WMQ Urumqi 31.62 349 P **P** **04 28 38.4 +0.8**
WMQ pP pP 04 28 46.0 -3.2
WMQ sP sP 04 28 58.2 +3.8
WMQ S **S** **04 33 41.4 -2.3**
WMQ PcS **PcS** **04 35 13.7 +0.2**
WMQ SS **SnSn** **04 35 38.7 +6.3**
WMQ ScS **ScS** **04 39 04.6 -2.4**
WMQ pmax pmax
comp=Z,18nm,1.3s
WMQ pmax pmax
comp=Z,70nm,3.8s
WMQ LR LR
comp=Z,1μm,17.3s
WMQ LR LR
comp=Z,520nm,9.3s
WMQ LR LR
comp=Z,660nm,31.7s
KSH Kashi 31.77 330 *e*P **P** **04 28 37.5 -1.6**
KSH *e*pP pP 04 28 49.7 -1.0
KSH *e*PP **PnPn** **04 29 44.1 -0.3**
KSH PcP **PcP** **04 31 27.4 -2.3**
KSH S **S** **04 33 39.7 -6.6**
KSH sS sS 04 34 00.6 -5.2
KSH pmax pmax
comp=Z,32nm,0.6s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,320nm,9.0s
KSH LR LR
comp=Z,1μm,20.6s
KSH LR LR
comp=Z,1μm,23.2s
KBL Kabul 32.42 316 *e*P **P** **04 28 44.9 0.0**
comp=Z,11nm,0.6s
BJT Baijiatuau 32.50 30 *e*P **P** **04 28 44.4 -0.9**
comp=Z,12nm,0.7s
BJI Beijing 32.52 30 P **P** **04 28 45.1 -0.3**
BJI pmax pmax
comp=Z,17nm,0.9s
JOW Kunigami 33.51 61 LR LR 04 42 49.6
comp=Z,666nm,21.7s,baz=278,slow=37
AAK Ala-Archa 34.91 332 P **P** **04 29 07.5 +1.1**
comp=Z,24nm,1.2s,baz=138,slow=6.8,SNR=38
AAK LR LR 04 45 22.3
comp=Z,2μm,21.1s,baz=125,slow=40
AAK Ala-Archa 34.91 332 *e*P **P** **04 29 07.9 +1.5**
comp=Z,78nm,1.5s
MK01 Makanchi Array 35.64 344 *e*P **P** **04 29 12.3 -0.2**
MK31 Makanchi Array 35.67 344 *e*P **P** **04 29 12.9 +0.2**
MKAR Makanchi Array 35.67 344 P **P** **04 29 12.7 0.0**
comp=Z,12nm,0.8s,baz=153,slow=9.0,SNR=53
MKAR LR LR 04 47 04.5
comp=Z,508nm,20.1s,baz=160,slow=42
MAKZ Makanchi 35.77 344 *e*P **P** **04 29 14.0 +0.4**
comp=Z,349nm,1.2s
WSAR Wadi Sarin 36.65 292 P **P** **04 29 22.0 +0.6**
comp=Z,11nm,1.1s,baz=107,slow=7.7,SNR=8.2
KKAR Karatay Array 37.17 329 *e*P **P** **04 29 26.4 +0.8**
comp=Z,123nm,1.2s
SNY Shenyang 37.69 35⇑ P **P** **04 29 29.4 -0.5**
SNY pmax pmax
comp=Z,25nm,1.5s
KSAR Wonju Array Be 37.72 44 P **P** **04 29 29.1 -1.2**
KSRS Korea Array 37.76 44 P **P** **04 29 29.1 -1.5**
comp=Z,5.2nm,0.9s,baz=242,slow=8.3,SNR=8.0
KSRS LR LR 04 46 19.1
comp=Z,374nm,18.6s,baz=243,slow=38
UOSS Minazif 39.13 294 *e*P **P** **04 29 43.8 +1.4**
comp=Z,24nm,1.4s
HATD Hatta, Dubai 39.17 294 P **P** **04 29 43.5 +0.8**
ASHO Ashiyiah 39.21 293 *i* P **P** **04 29 43.7 +0.6**
SNR=9.5
TLY Talaya 39.24 8 LR LR 04 48 51.4
comp=Z,305nm,19.5s,baz=184,slow=41
FAKI Fak Fak 39.51 111 *e*P **P** **04 29 45.0 -0.6**
comp=Z,56nm,1.2s
CN2 Changchun 40.03 34 *e*P **P** **04 29 48.5 -1.0**
CN2 *e*S **S** **04 35 53.5 +1.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,800nm,13.0s
KURBB Kurchatov Arra 40.19 343 P **P** **04 29 50.7 0.0**
comp=Z,13nm,0.7s,baz=160,slow=7.8,SNR=68
KURK Kurchatov 40.25 343 *e*P **P** **04 29 51.3 +0.1**
comp=Z,166nm,0.9s
HIA Hailar 41.36 24 *e*P **P** **04 29 59.5 -0.9**
comp=Z,11nm,0.4s
GEYT Alibeck 41.73 314 P **P** **04 30 04.3 +0.7**
comp=Z,22nm,0.9s,baz=142,slow=7.5,SNR=22
GEYT LR LR 04 49 48.3
comp=Z,845nm,19.2s,baz=125,slow=40
ZAA0 Zalesovo Array 41.89 350 *e*P **P** **04 30 04.5 -0.2**
ZALV Zalesovo Beam 41.89 350 P **P** **04 30 04.4 -0.3**
comp=Z,4.2nm,0.6s,baz=175,slow=7.6,SNR=11
ZALV LR LR 04 51 32.1
comp=Z,181nm,19.4s,baz=250,slow=42
USRK Ussuriysk Ar. 44.01 38 LR LR 04 48 24.1
comp=Z,372nm,21.6s,baz=219,slow=36
MAJO Matsushiro 44.74 51 *e*P **P** **04 30 27.0 -1.0**
comp=Z,28nm,1.2s
MJAR Matsushiro Arr 44.74 51 LR LR 04 50 52.5
comp=Z,330nm,18.6s,baz=245,slow=38
BVAR Borovoye Array 44.87 339 P **P** **04 30 28.2 -0.6**
comp=Z,4.9nm,0.8s,baz=134,slow=8.6,SNR=25
BRVK Borovoye 44.94 338 *e*P **P** **04 30 29.5 +0.2**
comp=Z,273nm,0.9s
ABKAR Akbulak array 46.73 328 *e*P **P** **04 30 43.7 +0.3**
comp=Z,20nm,0.8s
AKTO Aktyubinsk 48.44 328 P **P** **04 30 56.7 0.0**
comp=Z,9.3nm,0.6s,baz=120,slow=8.0,SNR=30
DAMY Dhamar 49.81 278 *e*P **P** **04 31 09.6 +1.4**
comp=Z,72nm,0.8s
NWAO Narrogin (SRO) 49.95 156 LR LR 04 52 52.1
comp=Z,554nm,19.9s,baz=216,slow=37
NWAO Narrogin (SRO) 49.95 156 *e*P **P** **04 31 09.8 +1.3**
comp=Z,83nm,1.1s
WB0 Warramunga Arr 50.00 130 P **P** **04 31 08.6 -0.5**
baz=50
WRA Warramunga Arr 50.07 130 P **P** **04 31 08.9 -0.7**
comp=Z,28nm,0.8s,baz=318,slow=7.6,SNR=18
WRA LR LR 04 55 12.0
comp=Z,225nm,18.5s,baz=315,slow=40
WRAB Tennant Creek 50.07 130 *e*P **P** **04 31 10.6 +1.0**
comp=Z,188nm,1.8s
ARU Arti 52.00 335 P **P** **04 31 23.4 -0.2**
comp=Z,11nm,0.6s,baz=132,slow=5.5,SNR=27
ARU Arti 52.00 335 *e*P **P** **04 31 23.2 -0.3**
comp=Z,18nm,0.7s
ASAR Alice Springs 52.08 134 P **P** **04 31 24.9 +0.2**
comp=Z,12nm,0.7s,baz=309,slow=6.9,SNR=16
ASAR LR LR 04 56 48.2
comp=Z,605nm,18.1s,baz=344,slow=40
GNI Garni 52.22 311 P **P** **04 31 26.2 +0.5**
comp=Z,12nm,0.8s,baz=131,slow=11,SNR=11
GNI Garni 52.22 311 *i* P **P** **04 31 26.8 +1.1**
SNR=6.4
GNI Garni 52.22 311 *e*P **P** **04 31 26.8 +1.1**
comp=Z,448nm,1.4s
FORT Forrest 53.38 145 *e*P **P** **04 31 34.6 +0.5**
comp=Z,322nm,1.0s
COEN Coen 54.04 118 *e*P **P** **04 31 38.6 -0.7**
comp=Z,17nm,1.1s
KBZ Khabaz 54.58 315 P **P** **04 31 43.6 +0.8**
comp=Z,3.4nm,0.9s,baz=37,slow=7.7,SNR=4.6
KBZ LR LR 04 59 21.4
comp=Z,308nm,20.1s,baz=122,slow=41
KVAR Kislovodsk Arr 54.79 315 P **P** **04 31 45.0 +0.5**
comp=Z,29nm,1.0s,baz=210,slow=3.2,SNR=9.9
KIV Kislovodsk 54.80 315 P **P** **04 31 44.2 -0.2**
KIV Kislovodsk 54.80 315 *e*P **P** **04 31 44.3 -0.2**
comp=Z,58nm,1.1s
PMG Port Moresby 55.67 111 *e*P **P** **04 31 50.9 -0.2**
comp=Z,17nm,0.7s
NRIK Noril'sk 56.68 357 LR LR 04 58 46.1
comp=Z,284nm,18.2s,baz=179,slow=39
ASF Jabal al Asfar 56.95 300 P **P** **04 32 00.8 +0.7**
comp=Z,2.1nm,0.6s,baz=80,slow=13,SNR=4.6
ABPO Ambohimpanom 57.33 237 *e*P **P** **04 32 02.8 -0.2**
comp=Z,56nm,1.4s
CTAO Charters Tower 59.53 123 *e*P **P** **04 32 17.1 -1.1**
comp=Z,27nm,1.0s
KMBO Kilima Mbogo 59.63 261 *e*P **P** **04 32 19.5 +0.3**
comp=Z,3.9nm,1.0s
BR131 Keskin Array S 60.47 308 *e*P **P** **04 32 23.9 -0.6**
BRTR Keskin Array B 60.47 308 P **P** **04 32 23.9 -0.6**
comp=Z,2.8nm,0.8s,baz=119,slow=6.9,SNR=12
BRTR LR LR 05 02 20.7
comp=Z,272nm,19.7s,baz=100,slow=40
QLP Quilpie 61.31 130 P **P** **04 32 31.5 +1.3**
baz=61,SNR=3.8
HTT Hallett 61.76 139 P **P** **04 32 34.6 +1.5**
baz=62
TIXI Tiksi 62.07 11 *e*P **P** **04 32 33.4 -1.1**
comp=Z,8.0nm,0.6s
STKA Stephens Creek 62.52 136 P **P** **04 32 38.5 +0.3**
comp=Z,12nm,0.8s,baz=325,slow=6.3,SNR=4.8
STKA LR LR 05 00 53.0
comp=Z,975nm,21.2s,baz=317,slow=37
STKA Stephens Creek 62.52 136 P **P** **04 32 39.0 +0.8**
baz=63,SNR=4.6
STKA Stephens Creek 62.52 136 *e*P **P** **04 32 39.1 +1.0**
comp=Z,3.2nm,0.7s
RMQ Roma 64.69 128 P **P** **04 32 55.3 +2.6**
baz=65,SNR=6.2
CMSA Cobar Meteorol 65.14 134 P **P** **04 32 56.3 +0.9**
baz=65,SNR=8.4
AKASG Malin Array Be 65.29 320 P **P** **04 32 54.2 -1.9**
comp=Z,1.3nm,0.6s,baz=82,slow=5.2,SNR=24
AKBB Malin Array Si 65.29 320 *e*P **P** **04 32 55.2 -0.9**
AKBB *e*PcP **PcP** **04 33 32.6 +4.4**
KIEV Kiev 65.30 320 *e*P **P** **04 32 53.6 -2.6**
comp=Z,15nm,1.0s
AK11 Malin Array Si 65.32 320 *e*P **P** **04 32 55.5 -0.8**
PLOR Plostina 66.32 315⇓ *i*P P 04 32 52.8 -10
MLR Muntele Rosu 66.78 314 P **P** **04 33 05.6 -0.4**
comp=Z,3.9nm,1.1s,baz=76,slow=10,SNR=12
MLR Muntele Rosu 66.78 314⇑ *i*P P 04 33 00.2 -5.8
MLR Muntele Rosu 66.78 314 *e*P **P** **04 33 05.9 -0.1**
comp=Z,38nm,0.9s
LVZ Lovozero 67.47 339 *e*P **P** **04 33 10.9 +1.1**
comp=Z,51nm,0.9s
BURAR Bucovina Array 67.48 316⇑ *i*P **P** **04 33 10.4 0.0**
NACGM Naroch 67.48 324 *e* **pP** **04 33 24.0 +1.3**
NACGM eLR LR 05 07 50.0
BUR08 Bucovina Ar. S 67.49 316 *e*P **P** **04 33 10.4 -0.1**
IDID Didziasalis 67.58 325 *e*P **P** **04 33 11.1 +0.4**
IDID IAmb IAmb 04 33 40.1
comp=Z,24nm,0.9s

ARR	Arges	67.69 314	⇑	*i* P		P	04 33 07.9	-3.8
IIGN	Ignalina	67.88 325		*e*P		P	04 33 13.0	+0.5
IIGN				IAmb		IAmb	04 33 38.9	
	comp=Z,30nm,0.9s							
IZAR	Zarasai	67.93 325		*e*P		P	04 33 13.2	+0.3
IZAR				IAmb		IAmb	04 33 40.1	
	comp=Z,44nm,1.1s							
ISAL	Salakas	67.97 325		*e*P		P	04 33 13.7	+0.5
ISAL				IAmb		IAmb	04 33 41.6	
	comp=Z,24nm,1.1s							
TOO	Toolangi	68.52 139		P		P	04 33 18.3	+1.4
	baz=69							
VTS	Vitosha	68.56 311	⇓	*i* P		P	04 33 16.5	-0.8
VTS	Vitosha	68.56 311		*e*P		P	04 33 16.1	-1.2
	comp=Z,12nm,0.8s							
ARMA	Armidale	68.85 130		P		P	04 33 21.4	+2.2
	baz=69							
ARMA	Armidale	68.85 130		*e*P		P	04 33 19.5	+0.3
	comp=Z,23nm,1.2s							
FIA1	FINESS Array S	69.09 331		*e*P		P	04 33 19.5	-0.5
FIA1				*e*pP		pP	04 33 32.9	+0.3
FINES	FINESS Array B	69.09 331		P		P	04 33 19.4	-0.6
	comp=Z,3.9nm,0.6s,baz=112,slow=6.2,SNR=17							
FINES				LR		LR	05 09 01.6	
	comp=Z,481nm,18.4s,baz=106,slow=41							
DRGR		69.11 315	⇓	*i* P		P	04 33 19.9	-0.7
KWP	Kalwaria Pacla	69.31 318		*e*P		P	04 33 21.6	-0.1
MDVR	Moldovita	69.72 313	⇑	*i* P		P	04 33 24.5	+0.2
CRVS	Cervenica-Dubn	70.08 318		*e*P		P	04 33 26.5	+0.1
CRVS				*e*			04 33 58.5	
STHS	Stebnicka Huta	70.25 318		*e*P		P	04 33 27.8	+0.3
STHS				*e*			04 33 48.8	
KECS	Kecovo	70.70 317		*e*P		P	04 33 30.6	+0.4
KECS				*e*			04 33 47.2	
KECS				*e*			04 34 01.1	
NIE	Niedzica	70.86 318		*e*P		P	04 33 31.3	+0.1
PSZ	Piszkesteto	71.08 316	⇓	*e*P		P	04 33 32.5	-0.1
PSZ	Piszkesteto	71.08 316		*e*P		P	04 33 31.2	-1.4
	comp=Z,17nm,1.0s							
ARCES	ARCESS Array B	71.15 340		LR		LR	05 08 15.5	
	comp=Z,433nm,20.7s,baz=109,slow=39							
OJC	Ojcow	71.22 319		*e*P		P	04 33 32.8	-0.5
OJC	Ojcow	71.22 319		*e*P		P	04 33 33.4	+0.1
	comp=Z,36nm,1.2s							
LANS	Liptovska Anna	71.40 318		*e*P		P	04 33 35.1	+0.6
LANS				*e*			04 33 50.4	
VYHS	Vyhne	71.80 317		*e*P		P	04 33 36.2	-0.7
VYHS				*e*			04 33 52.8	
OKC	Ostrava-Krasne	72.28 318		*e*P		P	04 33 40.1	+0.4
OKC				*e*pP		sP	04 33 55.9	-1.4
LSZ	Lusaka	72.43 249		*e*P		P	04 33 41.3	-0.1
	comp=Z,20nm,1.4s							
MORC	Moravsky Berou	72.67 318		*e*P		P	04 33 42.5	+0.5
	comp=Z,58nm,0.9s							
KRLC	Kraliky	73.16 319		*e*pP		pP	04 34 01.2	+3.5
VRAC	Vranov	73.28 318		P		P	04 33 45.3	-0.4
	comp=Z,0.6nm,0.3s,baz=57,slow=7.8,SNR=4.9							
DPC	Dobruska-Polom	73.46 319		*e*P		P	04 33 46.9	+0.2
DPC				*e*pP		PcP	04 34 02.4	-0.3
DPC				AMS		AMS	05 12 10.0	
	comp=Z,200nm,14.1s							
KSP	Ksiaz	73.47 319		*e*P		P	04 33 46.7	-0.1
KOGS	Kog	73.56 315		*e*P		P	04 33 47.1	-0.2
KOGS	Kog	73.56 315		*e*P		P	04 33 47.1	-0.2
UPC	Upice	73.65 319		*e*P		P	04 33 48.5	+0.7
UPC				*e*pP		PcP	04 34 04.2	+0.7
UPC				AMS		AMS	05 10 10.0	
	comp=Z,300nm,20.3s							
CONA	Conrad Observa	73.79 316		*i* P		P	04 33 48.3	-0.5
	comp=Z,9.0nm,1.6s							
TREC	Trest	74.01 318		*e*P		P	04 33 50.1	+0.1
TREC				*e*pP		PcP	04 34 05.9	+0.8
TREC				AMS		AMS	05 12 10.0	
	comp=Z,300nm,18.6s							
ARSA	Arzberg	74.04 316		*e*P		P	04 33 49.3	-0.9
	comp=Z,7.9nm,1.5s							
CRES	Cresnjev	74.13 314		*e*P		P	04 33 50.5	-0.3
CRES	Cresnjev	74.13 314		*e*P		P	04 33 50.5	-0.3
SOKA	Soboth	74.39 315		*e*P		P	04 33 51.4	-0.9
	comp=Z,12nm,1.3s							
GOPC	GO Pecny, Ondr	74.45 318		AMS		AMS	05 10 40.0	
	comp=Z,300nm,16.4s							
PVCC	Panska Ves	74.57 319		*e*pP		pP	04 34 10.0	+4.0
PVCC				AMS		AMS	05 13 00.0	
	comp=Z,200nm,13.5s							
PRU	Pruhonice	74.61 319		*e*P		P	04 33 53.9	+0.5
PRU				*e*pP		PcP	04 34 08.9	+1.3
PRU				AMS		AMS	05 10 40.0	
	comp=Z,400nm,21.7s							
PRA	Prague	74.67 319		*e*pP		pP	04 34 10.5	+4.0
OBKA	Obir	74.73 315		*e*P		P	04 33 53.9	-0.5
	comp=Z,22nm,1.1s							
LJU	Ljubljana	74.77 314		*e*P		P	04 33 54.5	+0.1
LJU	Ljubljana	74.77 314		*e*P		P	04 33 54.5	+0.1
BRG	Berggiesshubel	74.96 320		*e*P		P	04 33 55.5	+0.1
	comp=Z,15nm,1.5s							
BRG				pP		sP	04 34 12.2	-0.9
	comp=Z,11nm,1.0s							
HFS	Hagfors	74.98 329		P		P	04 33 54.5	-0.8
	comp=Z,3.0nm,0.6s,baz=96,slow=4.3,SNR=7.8							
GEA0	GERESS Array S	75.20 317		*e*P		P	04 33 56.2	-0.7
GEC2	GERESS Array S	75.20 317		*e*P		P	04 33 56.8	-0.2
	comp=Z,27nm,1.2s							
GERES	GERESS Array B	75.20 317		P		P	04 33 56.8	-0.2
	comp=Z,1.7nm,0.7s,baz=90,slow=5.3,SNR=18							
GERES				LR		LR	05 14 26.3	
	comp=Z,82nm,18.1s,baz=100,slow=42							
KHC	Kasperske Hory	75.27 318		*e*P		P	04 33 56.5	-0.8
KHC				*e*pP		PcP	04 34 12.5	+2.0
KHC				AMS		AMS	05 10 00.0	
	comp=Z,200nm,15.9s							
KHC	Kasperske Hory	75.27 318		*e*P		P	04 33 56.8	-0.5
	comp=Z,2.3nm,0.9s							
CLL	Collm	75.54 320		*e*P		P	04 33 58.0	-0.7
	comp=Z,13nm,1.7s							
CLL				*e*S		S	04 43 40.0	+3.8
CLL				LmV			05 12 00.0	
	comp=Z,200nm,19.1s							
NC405	NORSAR Array S	75.95 330		*e*P		P	04 34 00.7	-0.2
NC602	NORSAR Array S	76.04 330		*e*P		P	04 34 01.0	-0.4
NC303	NORSAR Array S	76.11 330		*e*P		P	04 34 02.3	+0.5
ABTA	Abfaltersbach	76.12 315		*e*P		P	04 34 02.0	-0.2
	comp=Z,4.5nm,1.1s							
NB201	NORSAR Array S	76.16 330		*e*P		P	04 34 04.5	+2.4
NOA	NORSAR Array B	76.19 330		LR		LR	05 12 02.0	
	comp=Z,224nm,18.2s,baz=80,slow=39							
NAO01	NORSAR Array S	76.36 330		*e*P		P	04 34 04.0	+0.8
NBO02	NORSAR Array S	76.37 330		*e*P		P	04 34 03.6	+0.3
NC204	NORSAR Array S	76.41 330		*e*P		P	04 34 04.2	+0.7
NBO00	NORSAR Array S	76.41 330		*e*P		P	04 34 05.7	+2.2
MOTA	Moosalm	77.03 316		*e*P		P	04 34 07.0	-0.6
	comp=Z,7.7nm,0.8s							
RETA	Reutte	77.25 316		*e*P		P	04 34 08.7	+0.1
	comp=Z,12nm,0.9s							
DZM	Mont Dzumac	77.53 116		LR		LR	05 09 27.3	
	comp=Z,550nm,21.1s,baz=280,slow=37							
DAVA	Damuels	77.87 316		*e*P		P	04 34 11.9	-0.3
	comp=Z,11nm,1.8s							
DAVOX	Davos/Dischmat	77.92 315		P		P	04 34 12.3	-0.2
	comp=Z,1.0nm,0.5s,baz=110,slow=7.4,SNR=3.8							
TUE	Stuetta	78.32 315		*e*P		P	04 34 14.9	+0.2
	comp=Z,18nm,1.1s							
BOSA	Boshof	79.55 237		*i* P		P	04 34 22.6	+1.0
BOSA				IAML			04 34 24.8	
	comp=Z,20nm,3.5s							
BOSA	Boshof	79.55 237		P		P	04 34 21.7	0.0
	comp=Z,12nm,1.0s,baz=127,slow=6.7,SNR=7.9							
BOSA	Boshof	79.55 237		*e*P		P	04 34 22.4	+0.7
	comp=Z,25nm,1.3s							
KEST	Kesra	79.70 304		P		P	04 34 21.6	-0.8
	comp=Z,6.6nm,1.0s,baz=248,slow=4.2,SNR=6.8							
KEST				LR		LR	05 15 57.7	
	comp=Z,129nm,19.0s,baz=342,slow=40							
KEST	Kesra	79.70 304		*e*P		P	04 34 22.1	-0.3
	comp=Z,27nm,1.5s							
SSB	Saint Sauveur	81.81 315		*e*P		P	04 34 33.0	-0.4
	comp=Z,5.6nm,1.2s							
MAW	Mawson	83.70 192		P		P	04 34 43.8	+1.3
	comp=Z,11nm,1.2s,baz=321,slow=6.5,SNR=5.5							
MAW	Mawson	83.70 192		P		P	04 34 44.6	+2.1
	baz=84							
MAW	Mawson	83.70 192		*e*P		P	04 34 44.4	+1.9
	comp=Z,3.2nm,1.2s							
SUR	Sutherland	84.43 235		*e*P		P	04 34 48.5	+1.2
	comp=Z,57nm,1.2s							
EKA	Eskdalemuir Ar	84.52 325		P		P	04 34 47.2	+0.1
	comp=Z,1.8nm,0.7s,baz=66,slow=3.4,SNR=9.4							
ESK	Eskdalemuir	84.55 325		*e*P		P	04 34 47.8	+0.6
	comp=Z,7.3nm,0.9s							
TAM	Tamanrasset	85.29 292		*e*P		P	04 34 52.4	+0.6
	comp=Z,21nm,1.5s							
COLD	Coldfoot	87.20 21		*e*P		P	04 34 59.6	-0.6
	comp=Z,4.8nm,0.9s							
PPLA	Purkeypile	88.36 25		*e*P		P	04 35 05.0	-1.0
	comp=Z,21nm,1.4s							
KTH	Kantishna Hill	88.59 24		*e*P		P	04 35 06.0	-0.9
	comp=Z,18nm,1.4s							
TRF	Thorofare Moun	88.89 24		*e*P		P	04 35 08.3	-0.2
	comp=Z,12nm,1.0s							
MDM	Murphy Dome	88.98 22		*e*P		P	04 35 09.2	+0.6
	comp=Z,42nm,1.6s							
ESDC	Sonseca Array	89.20 310		P		P	04 35 10.9	+0.6
	comp=Z,0.2nm,0.5s,baz=108,slow=4.2,SNR=4.2							
ESDC				LR		LR	05 21 10.6	
	comp=Z,62nm,19.5s,baz=120,slow=40							
MCK	McKinley	89.30 24		*e*P		P	04 35 09.5	-0.7
	comp=Z,8.6nm,0.6s							
RND	Reindeer	89.48 24		*e*P		P	04 35 11.2	0.0
	comp=Z,32nm,1.4s							
IL1	Eielson Array	89.57 22		*e*P		P	04 35 10.1	-1.3
ILAR	Eielson Array	89.57 22		P		P	04 35 10.1	-1.3
	comp=Z,1.4nm,0.7s,baz=286,slow=4.6,SNR=4.7							
ILAR				LR		LR	05 17 40.2	
	comp=Z,132nm,20.2s,baz=294,slow=37							
PMR	Palmer	90.23 26		*e*P		P	04 35 13.4	-1.1
	comp=Z,15nm,1.1s							
KDAK	Kodiak Island	90.37 30		*e*P		P	04 35 14.3	-0.9
	comp=Z,109nm,1.3s							
SML	Sawmill	90.46 25		*e*P		P	04 35 14.8	-0.9
	comp=Z,2.6nm,0.6s							
SYO	Syowa Base	90.60 197	⇓	*e*P		P	04 35 16.0	+0.1
TOA0	Torodi Ar. Sit	90.96 284		*e*P		P	04 35 19.9	+1.0
TORD	Torodi Ar. Bea	90.96 284		P		P	04 35 18.3	-0.6
	comp=Z,1.6nm,1.0s,baz=81,slow=3.7,SNR=9.1							
TORD				LR		LR	05 15 00.4	
	comp=Z,136nm,22.0s,baz=95,slow=35							
PAX	Paxson	91.03 24		*e*P		P	04 35 17.7	-0.7
	comp=Z,12nm,1.2s							
DOT	Dot Lake	91.21 23		*e*P		P	04 35 18.4	-0.8
	comp=Z,31nm,1.2s							
DIV	Divide	91.86 25		*e*P		P	04 35 21.6	-0.6
	comp=Z,41nm,1.5s							
BMRM	Bremner River	92.44 25		*e*P		P	04 35 25.1	+0.2
	comp=Z,35nm,1.2s							
DAWY	Dawson	92.67 21		*e*P		P	04 35 25.5	-0.4
	comp=Z,12nm,1.2s							
VNDA	Vanda	97.47 168		LR		LR	05 15 32.6	
	comp=Z,112nm,20.1s,baz=342,slow=33							
SBA	Scott Base	98.57 168		*e*P		P	04 35 51.2	-1.1
	comp=Z,8.3nm,1.2s							
DBIC	Dimbokro	98.76 279		LR		LR	05 20 57.6	
	comp=Z,85nm,18.9s,baz=49,slow=36							
TPAW	Teton Pass	118.86	22	*e*PKPdf		PKPdf	04 41 02.5	-0.6
LOHW	Long Hollow	118.87	22	*e*PKPdf		PKPdf	04 41 04.0	+0.9
SNOW	Snow King Moun	118.95	22	*e*PKPdf		PKPdf	04 41 03.1	-0.2
PDAR	Pinedale Array	119.98	21	PKP		PKPdf	04 41 03.5	-1.7
	comp=Z,0.9nm,0.8s,baz=22,slow=1.0,SNR=4.3							
DUG	Dugway, Tooele	120.94	25	*e*PKPdf		PKPdf	04 41 06.3	-0.8
RWWY	Rawlins	121.75	20	*e*PKPdf		PKPdf	04 41 08.3	-0.4
ISCO	Idaho Springs	123.98	20	*e*PKPdf		PKPdf	04 41 12.4	-0.6
SMCO	Snowmass	124.07	21	*e*PKPdf		PKPdf	04 41 13.1	-0.3
MVCO	Mesa Verde	125.23	24	*e*PKPdf		PKPdf	04 41 16.0	+0.5
WUAZ	Wupatki	125.48	27	*e*PKPdf		PKPdf	04 41 15.6	-0.3
ANMO	Albuquerque	128.01	23	*e*PKPdf		PKPdf	04 41 21.4	+0.6
MSTX	Muleshoe	130.21	20	*e*PKPdf		PKPdf	04 41 24.6	-0.4
MNTX	Cornudas Mount	131.29	24	*e*PKPdf		PKPdf	04 41 27.5	+0.6
TXAR	Lajitas Array	134.07	24	PKP		PKPdf	04 41 31.8	-0.5
	comp=Z,0.3nm,0.5s,baz=306,slow=3.0,SNR=2.6							
JCT	Junction City	134.40	19	*e*PKPdf		PKPdf	04 41 33.2	+0.4
GRTK	Grand Turk	143.49	339	*e*PKPdf		PKPdf	04 41 50.0	+0.5
TRQA	Tornquist	148.00	214	*e*PKPbc		PKPbc	04 42 00.1	+0.2
PLCA	Paso Flores	149.73	201	PKPbc		PKPbc	04 42 05.1	+0.8
	comp=Z,14nm,1.0s,baz=154,slow=3.0,SNR=3.9							
SAML	Samuel	158.93	278	*e*PKPdf		PKPdf	04 42 11.8	-1.3
LCO	Las Campanas	159.56	216	*e*PKPdf		PKPdf	04 42 13.8	+0.1
LCO				*e*PKPab		PKPab	04 42 52.0	+0.2

DDA ***01*** *04:23:31.8, 39°.66N×38°.71E, h5km, Ml3.4*
ISK ***01*** *04:23:32.2, 39°.71N×38°.74E, h6km, ML3.5*
CSEM ***01*** *04:23:32.7±0.1, 39°.70N×38°.74E, h2km, ML3.4, Error ellipse: s-maj=3.0km s-min=2.6km az=26.0*

ISC 01 04:23:32.1±1.1, 39°.66N±0°.02×38°.72E±0°.01, h2km±10km, n88, σ1s37/119, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	Refahiye_ERZ¨	0.27	173	*i* P	Pg	04 23 37.0	-0.2
REFA				*i* S	Sg	04 23 40.6	-0.1
REFA	Refahiye_ERZ¨	0.27	173	P	Pg	04 23 37.0	-0.2
KEMA	Kemaliye	0.43	205	*i* P	Pg	04 23 40.4	+0.1
KEMA				*i* S	Sb	04 23 47.4	-2.0
KEMA	Kemaliye	0.43	205	P	Pg	04 23 40.4	+0.1
KEMA				S	Sb	04 23 47.4	-2.0
KELT	Kelkit	0.64	40	*i* P	Pg	04 23 43.9	-0.4
KELT				*i* S	Sg	04 23 53.3	+0.7
KELT	Kelkit	0.64	40	P	Pg	04 23 43.9	-0.4
KELT				S	Sg	04 23 53.3	+0.7
SUSE	Susehri	0.68	324	*i* P	Pg	04 23 45.2	+0.1
SUSE				*i* S	Sb	04 23 55.6	-1.0
SUSE	Susehri	0.68	324	P	Pg	04 23 45.2	+0.1
SUSE				S	Sb	04 23 55.6	-1.0
EUZM	Uzumlu	0.75	86	*i* P	Pg	04 23 46.9	+0.3
EUZM				*i* S	Sb	04 23 59.4	+0.7
EUZM	Uzumlu	0.75	86	P	Pg	04 23 46.9	+0.3
CUZAR	Zara_SIVAS	0.77	288	*i* P	Pg	04 23 46.4	-0.4
CUZAR				*i* S	Sb	04 23 59.6	+0.4
CUZAR	Zara_SIVAS	0.77	288	P	Pg	04 23 46.4	-0.4
CUZAR				S	Sb	04 23 59.6	+0.4
ERZN	Erzincan	0.78	95	*e*PG	Pb	04 23 47.5	-0.9
ERZN				*e*SG	Sb	04 23 58.7	-0.7
TNCL	Tunceli-Merkez	0.84	130	*i* P	Pg	04 23 47.8	-0.4
TNCL				*i* S	Sb	04 24 01.8	+0.7
TNCL	Tunceli-Merkez	0.84	130	P	Pg	04 23 47.8	-0.4
TNCL				S	Sb	04 24 01.8	+0.7
PTK	Pertek	0.93	146	*e*PG	Pn	04 23 51.1	-1.2
PTK				*e*SG	Sn	04 24 04.9	-1.3
PTK	Pertek	0.93	146	*e*Pg	Pn	04 23 51.1	-1.2
PTK				*e*Sg	Sn	04 24 04.9	-1.3
CUKAN	kangal_SIVAS	1.03	251	*i* P	Pg	04 23 51.1	-0.8
CUKAN				*i* S	Sn	04 24 07.9	-0.8
ELZG	Elazig	1.18	170	*i* P	Pg	04 23 54.0	-0.7
ELZG				*i* S	Sn	04 24 11.7	-0.7
SCER	sogukcermik	1.25	280	*i* P	Pg	04 23 55.5	-0.5
SCER				*i* S	Sn	04 24 13.4	-0.6
SCER	sogukcermik	1.25	280	P	Pg	04 23 55.5	-0.5
SCER				S	Sn	04 24 13.4	-0.6
RSDY	Resadiye-TOKAT	1.30	305	*e*PN	Pb	04 23 57.0	-0.2
RSDY	Resadiye-TOKAT	1.30	305	*e*Pn	Pb	04 23 57.0	-0.2
GRSN	GIRESUNGRSN	1.31	345	*i* P	Pn	04 23 56.2	-1.2
GRSN				*i* S	Sb	04 24 14.1	-0.6
GRSN	GIRESUNGRSN	1.31	345	P	Pn	04 23 56.2	-1.2
GRSN				S	Sb	04 24 14.1	-0.6
SVSK	Karacayir	1.35	281	*e*PN	Pg	04 23 58.3	+0.3
SVSK	Karacayir	1.35	281	*e*Pn	Pg	04 23 58.3	+0.3
KOPT	Kop Dagi	1.41	75	*i* P	Pg	04 24 00.2	+1.0
KOPT				*i* S	Sn	04 24 24.6	+6.3
KOPT	Kop Dagi	1.41	75	P	Pg	04 24 00.2	+1.0
YEDI	Yedisu-Bingol	1.43	98	*e*PN	Pg	04 23 59.2	-0.2
YEDI	Yedisu-Bingol	1.43	98	*e*Pn	Pg	04 23 59.3	-0.2
DARE	Darende-Malaty	1.45	222	*e*PN	Pg	04 24 00.2	+0.2
DARE	Darende-Malaty	1.45	222	*e*Pn	Pg	04 24 00.2	+0.2
CUGUR	Gurin_S¨VAS	1.47	231	*i* P	Pg	04 24 00.4	+0.2
CUGUR				*i* S	Sg	04 24 21.4	+2.2
CUGUR	Gurin_S¨VAS	1.47	231	P	Pg	04 24 00.4	+0.2
CUGUR				S	Sg	04 24 21.4	+2.2
ORDU	Ordu-Boztepe	1.48	334	*i* P	Pb	04 23 59.6	-0.8
ORDU				*i* S	Sg	04 24 19.4	-0.4
ORDU	Ordu-Boztepe	1.48	334	P	Pb	04 23 59.6	-0.8
ORDU				S	Sg	04 24 19.4	-0.4
MACK	Trabzon	1.51	32	*i* P	Pn	04 23 59.6	-0.6
MACK				*i* S	Sg	04 24 20.5	-0.1
MACK	Trabzon	1.51	32	P	Pn	04 23 59.6	-0.6
MACK				S	Sg	04 24 20.5	-0.1
KTUT	Trabzon	1.55	31	*e*PN	Pn	04 24 00.4	-0.2
KTUT	Trabzon	1.55	31	*e*Pn	Pn	04 24 00.4	-0.2
CUALT	Altinyayla-SIV	1.57	256	*i* P	Pg	04 24 01.8	-0.4
CUALT				*i* S	Sg	04 24 25.7	+3.2
CUALT	Altinyayla-SIV	1.57	256	P	Pg	04 24 01.8	-0.4
CUALT				S	Sg	04 24 25.7	+3.2
BINT	Bingol	1.58	119	*e*Pn	Pg	04 24 02.7	+0.3
BNGB	Bing¨¶l	1.66	113	*e*PN	Pb	04 24 02.7	-0.7
TOKA	Tokat	1.85	292	*i* P	Pb	04 24 06.0	-0.7
TOKA				*i* S	Sg	04 24 33.0	+1.6
TOKA	Tokat	1.85	292	P	Pb	04 24 05.9	-0.7
CUSAR	Sarkisla-SIVAS	1.93	264	*i* P	Pg	04 24 08.1	-1.1
CUSAR	Sarkisla-SIVAS	1.93	264	P	Pg	04 24 08.1	-1.1
BNGL	BINGOL	2.01	110	*i* P	Pg	04 24 10.6	-0.1
ERZM	Erzurum	2.05	82	*i* P	Pg	04 24 11.0	-0.4
VRTB	Varto-Mus	2.17	102	*e*PN	Pn	04 24 09.9	+0.6
VRTB	Varto-Mus	2.17	102	*e*Pn	Pn	04 24 10.0	+0.6
SARI	SarD1z-Kayseri	2.19	236	*e*PN	Pb	04 24 10.7	-1.8
URFA	Urfa	2.22	178	*e*PN	Pb	04 24 11.3	-1.6
URFA	Urfa	2.22	178	*e*Pn	Pb	04 24 11.3	-1.6
BNN	Bunyan	2.38	251	*e*PN	Pb	04 24 13.5	-2.1
BNN	Bunyan	2.38	251	*e*Pn	Pb	04 24 13.5	-2.1
SVAN	Silvan-Diyarba	2.45	127	*e*PN	Pn	04 24 14.3	+1.3
SVAN	Silvan-Diyarba	2.45	127	*e*Pn	Pn	04 24 14.4	+1.3
HOMI	Horasan	2.48	80	*i* P	Pg	04 24 18.8	-0.9
KVT	Kavak	2.49	306	*e*PN	Pn	04 24 14.3	+0.8
KVT	Kavak	2.49	306	*e*Pn	Pn	04 24 14.4	+0.8
MAZI	Mazidag	2.58	148	*e*PN	Pn	04 24 16.3	+1.4
MAZI	Mazidag	2.58	148	*e*Pn	Pn	04 24 16.3	+1.4
KMRS	Kahramanmaras	2.58	214	*e*PN	Pb	04 24 16.4	-2.7
KMRS	Kahramanmaras	2.58	214	*e*Pn	Pb	04 24 16.4	-2.7
DDEM	Demirkent	2.62	61	*i* P	Pb	04 24 19.2	-0.6
BTMN	Batman	2.66	131	*i* P	Pg	04 24 21.7	-1.4
GAZ	Gaziantep	2.75	206	*e*PN	Pb	04 24 19.1	-3.0
GAZ	Gaziantep	2.75	206	*e*Pn	Pb	04 24 19.1	-3.0
ANDN	Andirin	2.79	223	*i* P	Pb	04 24 22.1	-0.6
ANDN	Andirin	2.79	223	P	Pb	04 24 22.1	-0.6
DBOC	Borcka	2.81	52	*i* P	Pb	04 24 20.4	-2.5
DAGI	Agillar	2.82	59	*i* P	Pb	04 24 22.5	-0.7
COAL	Corum-Alaca	2.93	283	*i* P	Pb	04 24 23.4	-1.7
KOZT	Kozan	3.15	227	*e*PN	Pn	04 24 24.5	+1.9
KOZT	Kozan	3.15	227	*e*Pn	Pn	04 24 24.5	+1.9
CORM	Corum	3.19	281	*e*PN	Pn	04 24 24.4	+1.1
CORM	Corum	3.19	281	*e*Pn	Pn	04 24 24.4	+1.1
AGRB	Hanur-Agry	3.30	90	*e*PN	Pn	04 24 25.9	+1.0
AGRB	Hanur-Agry	3.30	90	*e*Pn	Pn	04 24 25.9	+1.0
DIKM	Dikmen	3.30	308	*e*PN	Pn	04 24 25.9	+1.2
DIKM	Dikmen	3.30	308	*e*Pn	Pn	04 24 25.9	+1.2
TAHT	Tahtakopru-Hat	3.84	212	*e*PN	Pn	04 24 34.5	+2.3
TAHT	Tahtakopru-Hat	3.84	212	*e*Pn	Pn	04 24 34.5	+2.3
YAYL	Yayladag	4.17	211	*e*PN	Pn	04 24 39.0	+2.2
YAYL	Yayladag	4.17	211	*e*Pn	Pn	04 24 39.0	+2.2

NDI ***01*** *04:26:06.0±2.4, 29°.86N×82°.40E, h10km, ML3.8*
DMN ***01*** *04:26:08.5±0.2, 30°.16N×81°.81E, h10km, Ml4.8/9, Error ellipse: s-maj=4.8km s-min=3.4km az=36.0*
ISCJB ***01*** *04:26:10.7±1.7, 29°.93N±0°.07×81°.97E±0°.04, h29km±17km, Error ellipse: s-maj=11.8km s-min=3.1km az=20.8*

ISC 01 04:26:11.6±1.1, 29°.72N±0°.07×81°.88E±0°.04, h21km±5km, n28, σ1s85/48, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	Piuthan	1.88	149	*e*Pn	Pb	04 26 44.8	-0.6
PYUN				*e*Sn	Sb	04 27 11.2	+2.6
	2μm,0.7s						
JOSI	Joshimath	2.18	293	*e*P	Pn	04 26 48.2	+1.4
JOSI				*

ARIG	Puente Sto Nin	0.99	66	*eP*	Pn	04 35 21.5	-1.4
ARIG				*eS*	Sn	04 35 34.1	-2.0
CAIG	El Cayaco	1.29	130	*eP*	Pn	04 35 25.4	-1.5
MMIG	Aquila	1.99	282	*eP*	Pn	04 35 35.0	-1.4

*CSEM **01** 04:35:34.0, 46°.00N×13°.61E, h0km, ML0.1*

LJU 01 04:35:34.0, 46°.00N×13°.61E, h7km, ML0.1, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOJS	Vojsko	0.19	80	*i* Sg	Sg	04 35 41.3	+0.7
	comp=Z,1.0nm,0.1s						
VOJS	Vojsko	0.19	80	*i* Sg	Sg	04 35 41.3	+0.7
	comp=Z,1.0nm,0.1s						
CADS	Cadrg	0.24	21	*i* Sg	Sg	04 35 42.5	+0.3
	comp=Z,2.0nm,0.1s						
CADS	Cadrg	0.24	21	*i* Sg	Sg	04 35 42.5	+0.3
	comp=Z,2.0nm,0.1s						
ROBS	Robic	0.26	344	*i* Pg	Pg	04 35 39.0	-0.1
ROBS				*i* Sg	Sg	04 35 43.4	+0.9
	comp=Z,1.0nm,0.1s						
ROBS	Robic	0.26	344	*i* Pg	Pg	04 35 39.0	-0.1
ROBS				*i* Sg	Sg	04 35 43.4	+0.9
JAVS	Javornik	0.33	108	*i* Sg	Sg	04 35 45.7	+0.8
	comp=Z,0.0nm,0.1s						
JAVS	Javornik	0.33	108	*i* Sg	Sg	04 35 45.7	+0.7
GORS	Gorjuse	0.41	40	*i* Sg	Sg	04 35 47.9	+0.3
	comp=Z,0.0nm,0.1s						
GORS	Gorjuse	0.41	40	*i* Sg	Sg	04 35 47.9	+0.3

*ISCJB **01** 04:36:10.5±0.6, 7°.3N±0°.1×123°.8E±0°.2, h650km, mb3.7/15, Error ellipse: s-maj=34.4km s-min=9.7km az=155.7*
*IDC **01** 04:36:11.3±2.1, 7°.36N×123°.88E, h639km±27km, mb3.2/15, mb1 3.4/15, mb1mx3.0/55, mbtmp4.2/15, Error ellipse: s-maj=37.9km s-min=8.0km az=66.0*

ISC 01 04:36:12.2±0.7, 7°.4N±0°.1×123°.9E±0°.3, h650km, n16, σ0°.81/20, mb3.8/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.62	297	P	P	04 41 02.4	-0.1
	1.5nm,0.4s,baz=110,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	29.04	159	P	P	04 41 22.3	-1.0
	2.0nm,0.5s,baz=341,slow=9.3,SNR=14						
WRA				PcP	PcP	04 44 10.1	+0.6
	0.3nm,0.5s,baz=326,slow=2.8,SNR=4.3						
WRA				S	S	04 45 30.2	-1.6
	1.6nm,1.0s,baz=333,slow=16,SNR=5.9						
ASAR	Alice Springs	32.38	163	P	P	04 41 51.8	+0.1
	0.8nm,0.3s,baz=343,slow=7.0,SNR=15						
ASAR				PcP	PcP	04 44 19.5	+0.9
	0.8nm,0.4s,baz=341,slow=2.8,SNR=9.2						
ASAR				S	S	04 46 24.0	+1.4
	1.7nm,0.8s,baz=355,slow=19,SNR=14						
SONM	Songino Array	42.97	343	P	P	04 43 17.1	+0.3
	1.8nm,0.8s,baz=161,slow=8.5,SNR=6.8						
MKAR	Makanchi Array	52.95	325	P	P	04 44 30.8	+0.4
	7.1nm,0.4s,baz=119,slow=7.5,SNR=79						
ZALV	Zalesovo Beam	56.06	333	P	P	04 44 51.2	-0.7
	1.0nm,0.4s,baz=133,slow=6.3,SNR=3.2						
KURBB	Kurchatov Arra	57.14	327	P	P	04 44 59.4	+0.2
	6.7nm,0.6s,baz=128,slow=6.6,SNR=52						
BVAR	Borovoye Array	62.72	327	P	P	04 45 36.0	+0.1
	2.8nm,0.6s,baz=134,slow=8.5,SNR=11						
GEYT	Alibeck	66.40	308	P	P	04 46 00.2	+0.9
	2.4nm,0.6s,baz=121,slow=0.9,SNR=4.1						
ILAR	Eielson Array	83.06	26	P	P	04 47 31.7	+0.5
	0.2nm,0.6s,baz=232,slow=4.4,SNR=5.5						
BRTR	Keskin Array B	85.51	309	P	P	04 47 42.7	-1.2
	0.8nm,0.8s,baz=48,slow=2.1,SNR=3.6						
ARCES	ARCESS Array B	86.06	340	P	P	04 47 45.2	-0.5
	2.8nm,0.9s,baz=93,slow=6.3,SNR=4.9						
FINES	FINESS Array B	87.28	332	P	P	04 47 51.0	-0.5
	3.8nm,0.9s,baz=64,slow=4.8,SNR=8.0						
VNDA	Vanda	87.39	172	P	P	04 47 52.4	+0.7
	0.9nm,0.7s,baz=339,slow=3.5,SNR=5.3						
NOA	NORSAR Array B	94.27	333	P	P	04 48 23.1	-0.7
	0.6nm,0.7s,baz=54,slow=6.0,SNR=3.6						
TORD	Torodi Ar. Bea	119.04	289	PKP	PKPdf	04 53 49.9	0.0
	0.3nm,0.4s,baz=67,slow=1.5,SNR=9.5						

IDC 01 04:52:16.0±5.3, 3°.46S×149°.32E, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.5/34, mbtmp4.0/2, Error ellipse: s-maj=231.1km s-min=47.9km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.95	221	P	P	04 57 10.9	-0.6
	3.2nm,0.8s,baz=41,slow=11,SNR=19						
ASAR	Alice Springs	25.01	215	P	P	04 57 42.3	+0.5
	4.9nm,1.0s,baz=50,slow=8.1,SNR=20						
H11S3	WAKE ISLAND Hy	27.73	38	T	T	05 27 08.6	
	baz=222						
H11S2	WAKE ISLAND Hy	27.74	38	T	T	05 27 11.5	
	baz=222						
H11S1	WAKE ISLAND Hy	27.75	38	T	T	05 27 09.2	
	baz=222						
H11N1	WAKE ISLAND Hy	28.79	36	T	T	05 28 22.8	
	baz=218,slow=76,SNR=4.4						
H11N3	WAKE ISLAND Hy	28.80	36	T	T	05 28 18.9	
	baz=218,slow=76,SNR=5.3						
H11N2	WAKE ISLAND Hy	28.81	36	T	T	05 28 26.4	
	baz=218,slow=76,SNR=5.1						
TORD	Torodi Ar. Bea	146.59	289	PKPbc	PKPdf	05 11 59.8	+0.6
	1.7nm,1.0s,baz=57,slow=2.8,SNR=6.6						

JMA 01 04:52:50.9±0.1, 38°.51N×144°.42E, h33km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.22	286	P	Pn	04 53 26.9	+1.5
OFUJ				S	Sn	04 53 53.7	+1.9
MIYJ	Miyakonagasawa	2.29	299	P	Pn	04 53 27.7	+1.4
MIYJ				*eS*	Sn	04 53 54.6	+1.2
JMK	Ichinoseki	2.54	281	P	Pn	04 53 31.5	+1.7
JMK				S	Sn	04 54 01.9	+2.3
JOM	Ohasama	2.62	293	P	Pn	04 53 32.7	+1.8
JOM				*eS*	Sn	04 54 03.2	+1.7
JANG	Nango	2.92	311	P	Pn	04 53 36.2	+1.2
JANG				*eS*	Sn	04 54 10.0	+1.1
JYK	Kaneyama	3.20	279	P	Pn	04 53 41.1	+2.2
JYK				*eS*	Sn	04 54 20.0	+4.1
JFT	Otama	3.37	254	P	Pn	04 53 43.0	+1.7
JFT				S	Sn	04 54 22.1	+1.9
JOT	Ohata	3.87	319	P	Pn	04 53 50.8	+2.8
JCH	Churui	4.18	349	P	Pn	04 53 51.8	-0.5
JCH				*eS*	Sn	04 54 38.3	-1.6
JKB	Kayabe	4.25	324	P	Pn	04 53 55.6	+2.3
JKB				*eS*	Sn	04 54 45.4	+3.6
NEM2	Nemuro 2	4.95	11	P	Pn	04 54 00.3	-2.6
NEM2				*eS*	Sn	04 54 52.2	-6.8
JRY	Ryogami san	5.06	242	P	Pn	04 54 04.6	+0.2
JRY				*eS*	Sn	04 54 59.6	-2.1
JOSM	Okushiri--Mats	5.20	315	P	Pn	04 54 08.7	+2.4

IDC 01 04:55:33.5±14.0, 4°.76S×150°.60E, h108km±130km, mb3.6/5, mb1 3.9/5, mb1mx3.4/35, mbtmp4.0/5, MS3.9/4, Ms1 3.9/4, ms1mx3.5/23, Error ellipse: s-maj=75.5km s-min=45.2km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.87	225	P	P	05 00 17.2	-0.7
	4.0nm,0.8s,baz=34,slow=9.0,SNR=11						
ASAR	Alice Springs	24.75	219	P	P	05 00 46.9	+1.7
	1.2nm,0.6s,baz=54,slow=8.4,SNR=6.3						
FITZ	Fitzroy Crossi	27.77	239	P	P	05 01 11.3	-1.2
	7.7nm,0.9s,baz=90,slow=9.2						
JOW	Kunigami	38.11	327	LR	LR	05 15 21.0	
	comp=Z,422nm,20.5s,baz=144,slow=31						
MJAR	Matsushiro Arr	42.69	345	LR	LR	05 18 59.0	
	comp=Z,157nm,21.6s,baz=165,slow=33						
CMAR	Chiang Mai Arr	55.88	296	LR	LR	05 27 18.5	
	comp=Z,42nm,21.0s,baz=50,slow=34						
MKAR	Makanchi Array	78.86	319	P	P	05 07 25.8	+1.0
	0.9nm,0.6s,baz=109,slow=4.4,SNR=7.1						
ILAR	Eielson Array	82.95	23	P	P	05 07 45.8	-0.4
	0.5nm,0.9s,baz=250,slow=5.3,SNR=3.2						
MAW	Mawson	84.77	203	LR	LR	05 41 00.7	
	comp=Z,77nm,21.7s,baz=62,slow=32						
TORD	Torodi Ar. Bea	148.20	287	PKPbc	PKPbc	05 15 06.5	-1.5
	1.0nm,0.8s,baz=71,slow=2.3,SNR=4.0						

IDC 01 04:57:04.0±4.1, 3°.67S×149°.84E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/33, mbtmp4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx3.2/24, Error ellipse: s-maj=156.1km s-min=47.6km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.14	222	P	P	05 02 00.7	-0.8
	2.2nm,0.8s,baz=39,slow=13,SNR=6.2						
ASAR	Alice Springs	25.14	216	P	P	05 02 31.6	+0.5
	3.2nm,1.0s,baz=53,slow=8.1,SNR=5.6						
FITZ	Fitzroy Crossi	27.70	237	P	P	05 02 54.3	+0.2
	4.0nm,0.9s,baz=78,slow=11						
PETK	Petropavlovsk-	56.96	6	LR	LR	05 26 59.3	
	comp=Z,89nm,21.8s,baz=193,slow=32						
TORD	Torodi Ar. Bea	147.15	289	PKPbc	PKPbc	05 16 49.2	-1.0
	0.4nm,0.7s,baz=94,slow=2.4,SNR=3.6						

*MOS **01** 05:00:05.4±0.7, 49°.97N×156°.91E, h23km, mb4.4/2, Error ellipse: s-maj=17.6km s-min=5.2km az=80.3*
MOS Felt (II) at Severo-Kuril'sk.
*KRSC **01** 05:00:09.6±1.9, 50°.40N×157°.08E, h16km±29km, ML4.4*
*ISCJB **01** 05:00:10.3±0.7, 50°.32N±0°.06×156°.70E±0°.08, h65km±7km, mb4.2/17, Error ellipse: s-maj=13.1km s-min=4.3km az=141.3*
*SKHL **01** 05:00:10.6±1.0, 50°.35N×156°.85E, h48km±10km, mb5.0/4*
*NEIC **01** 05:00:11.7±1.1, 50°.26N×156°.74E, h64km±11km, mb4.4/12, Error ellipse: s-maj=18.0km s-min=5.9km az=139.0*
*IDC **01** 05:00:11.8±4.8, 50°.25N×156°.70E, h67km±50km, mb3.3/5, mb1 3.7/7, mb1mx3.3/44, mbtmp3.7/7, ML3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/31, Error ellipse: s-maj=83.0km s-min=18.3km az=138.0*

ISC 01 05:00:10.5±0.8, 50°.28N±0°.07×156°.84E±0°.05, h46km±7km, n83, σ1°.66/94, mb4.2/17, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.61	312	∥*i* pN	Pn	05 00 23.0	+0.1
SKR				*i* S	Sn	05 00 31.8	0.0
SKR				pmax	pmax		
	comp=Z,572nm,0.4s						
SKR				smax	smax		
	comp=E,30μm,0.4s						
SKR				smax	smax		
	comp=N,22μm,0.6s						
SKR	Severo-Kuril's	0.61	312	*eP*	Pn	05 00 22.7	-0.2
SKR				AMB	AMB	05 00 23.1	
	comp=N,570nm,0.3s						
SKR				*i* S	Sn	05 00 31.2	-0.6
SKR				A	A	05 00 31.9	
	comp=N,30μm,0.4s						
SKR				A	A	05 00 31.9	
	comp=N,22μm,0.4s						
SKR	Severo-Kuril's	0.61	312	*eP*	Pn	05 00 22.7	-0.2
SKR				*eS*	Sn	05 00 31.6	-0.2
PAU	Pauzhetka	1.19	359	PN	Pn	05 00 28.4	-2.3
PAU	Pauzhetka	1.19	359	*eP*	Pn	05 00 28.5	-2.3
PAU				AMB	AMB	05 00 28.8	
	comp=N,470nm,0.3s						
PAU				*eS*	Sn	05 00 42.8	-2.9
PAU				A	A	05 00 44.0	
	comp=N,4μm,0.3s						
PAU	Pauzhetka	1.19	359	*eP*	Pn	05 00 28.4	-2.3
PAU				*eS*	Sn	05 00 43.3	-2.4
ASAK	Asacha	2.21	17	PN	Pn	05 00 45.8	+1.1
ASAK	Asacha	2.21	17	*eP*	Pn	05 00 45.8	+1.1
MTVR	Mutnovka	2.36	20	PN	Pn	05 00 48.0	+1.1
MTVR	Mutnovka	2.36	20	*eP*	Pn	05 00 48.0	+1.1
MTVR				*eS*	Sn	05 01 14.9	+0.2
RUS	Russkaya	2.40	25	PN	Pn	05 00 47.2	0.0
RUS	Russkaya	2.40	25	*eP*	Pn	05 00 47.2	0.0
RUS				*eS*	Sn	05 01 14.7	-0.7
APC	Apacha	2.66	4	PN	Pn	05 00 52.0	+1.2
APC	Apacha	2.66	4	*eP*	Pn	05 00 52.0	+1.2
KRMR	Karymshinskiy	2.68	17	PN	Pn	05 00 52.6	+1.5
KRMR	Karymshinskiy	2.68	17	*eP*	Pn	05 00 52.6	+1.5
PEA0	Petropavlovsk-	2.88	10	*ePn*	Pn	05 00 55.2	+1.3
PEA0B	Petropavlovsk-	2.88	10	*ePn*	Pn	05 00 55.5	+1.6
PETK	Petropavlovsk-	2.88	10	P	Pn	05 00 55.2	+1.3
	comp=N,3.7nm,0.3s,baz=182,slow=10,SNR=47						
PETK				S	Sn	05 01 28.6	+1.3
	comp=N,2.0nm,0.3s,baz=216,slow=29,SNR=3.1						
PET	Petropavlovsk	2.97	22	*ePN*	Pn	05 00 56.4	+1.3
PET				pmax	pmax		
	comp=Z,40nm,0.5s						
PET	Petropavlovsk	2.97	22	*eP*	Pn	05 00 55.5	+0.4
PET				AMB	AMB	05 00 57.2	
	comp=Z,540nm,0.5s						
PET				*eS*	Sn	05 01 28.9	-0.6
PET				A	A	05 01 33.9	
	comp=Z,2μm,0.3s						
PET	Petropavlovsk	2.97	22	*eP*	Pn	05 00 56.1	+1.0
PET				*eS*	Sn	05 01 30.7	+1.2
PET	Petropavlovsk	2.97	22	*ePn*	Pn	05 00 56.5	+1.4
PET				*eSn*	Sn	05 01 33.2	+3.8
DALK	Dalny	3.00	23	PN	Pn	05 00 56.2	+0.7
DALK	Dalny	3.00	23	*eP*	Pn	05 00 56.2	+0.7
DALK				*eS*	Sn	05 01 30.8	+0.6
UGLR	Uglovaya	3.18	22	PN	Pn	05 01 01.5	+3.4
UGLR	Uglovaya	3.18	22	*eP*	Pn	05 01 01.5	+3.4
AVH	Avacha	3.21	21	PN	Pn	05 01 00.6	+2.1
AVH	Avacha	3.21	21	*eP*	Pn	05 01 00.6	+2.1
KOK	Koryaka	3.22	20	PN	Pn	05 01 00.9	+2.3
KOK	Koryaka	3.22	20	*eP*	Pn	05 01 00.9	+2.3
KOK				*eS*	Sn	05 01 39.0	+3.3
KRER	Koryakskii	3.25	21	PN	Pn	05 01 01.0	+1.8
KRER	Koryakskii	3.25	21	*eP*	Pn	05 01 01.0	+1.8
SDLR	Sedlovina	3.26	22	PN	Pn	05 00 59.9	+0.7
SDLR	Sedlovina	3.26	22	*eP*	Pn	05 00 59.9	+0.7
KRX	Arik	3.28	19	PN	Pn	05 01 01.8	+2.3
KRX	Arik	3.28	19	*eP*	Pn	05 01 01.8	+2.3
NLC	Nalytchevo	3.29	27	*eS*	Sn	05 01 36.1	-1.1
SPN	Mys Shipunski	3.45	34	PN	Pn	05 01 02.5	+0.9
SPN	Mys Shipunski	3.45	34	*eP*	Pn	05 01 02.5	+0.9
SPN				*eS*	Sn	05 01 41.0	-0.2
GNL	Ganaly	3.49	11	PN	Pn	05 01 04.2	+1.9
GNL	Ganaly	3.49	11	*eP*	Pn	05 01 04.2	+1.9
KBG	Krutoberegovo	6.94	28	*eP*	Pn	05 01 50.2	+0.7
KBG				AMB	AMB	05 01 52.0	
	comp=Z,110nm,0.9s						
KBG				*eS*	Sn	05 03 05.0	-2.0
KBG				A	A	05 03 17.3	
	comp=Z,220nm,0.9s						
KUR	Kuril'sk	7.87	234	*eP*	Pn	05 02 04.4	+2.1
TYV	Tymovskoe	9.05	279	*eP*	Pn	05 02 20.4	+2.0
UGL	Uglegorsk	9.65	269	*ePN*	Pn	05 02 25.4	-1.3
UGL				*eSS*	Sn	05 04 24.8	+11
YUK	Yuzh-Kuril'sk	9.74	234	∥*ePN*	Pn	05 02 29.8	+2.0
ASAJ	Asahikawa	11.47	243	P	Pn	05 02 52.9	+1.3
	comp=Z,0.6nm,0.3s,baz=66,slow=12,SNR=5.5						
HABR	Khabarovsk	14.30	271	*eP*	Pn	05 03 29.0	-1.0
HABR				*eS*	Sn	05 06 05.6	-1.5
HABR				pmax	pmax		
	comp=E,27nm,1.1s						
HABR				pmax	pmax		
	comp=N,44nm,2.0s						
HABR				pmax	pmax		
	comp=Z,42nm,2.0s						
HABR				MLR	MLR		
	comp=Z,124nm,17.0s						
YAK	Yakutsk	18.99	319	*eP*	P	05 04 28.0	+0.2
YAK				pmax	pmax		
	comp=Z,22nm,0.5s						
YAK	Yakutsk	18.99	319	*eP*	Pn	05 04 29.1	+0.2
YAK	Yakutsk	18.99	319	*eP*	P	05 04 28.0	+0.2
	comp=Z,22nm,0.5s						
MAJO	Matsushiro	19.20	231	∥*eP*	Pn	05 04 34.2	+2.5
MAJO	Matsushiro	19.20	231	*eP*	Pn	05 04 34.2	+2.5
INU	Inuyama	20.74	232	*eP*	P	05 04 46.6	-0.4
	comp=Z,12nm,1.1s						
AKUT	Akutan	23.05	66	*eP*	P	05 05 12.1	+0.6
	comp=Z,177nm,1.1s						
KSRS	Korea Array	24.30	249	P	P	05 05 22.2	-1.2
	comp=Z,0.9nm,0.5s,baz=44,slow=11,SNR=3.3						
KSAR	Wonju Array Be	24.33	249	P	P	05 05 22.2	-1.5
KSAR	Wonju Array Be	24.33	249	P	P	05 05 22.2	-1.5
TIXI	Tiksi	24.90	339	*eP*	P	05 05 32.2	+3.6
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TIXI	Tiksi	24.90	339	*eP*	P	05 05 32.2	+3.6
KDAK	Kodiak Island	30.01	56	LR	LR	05 18 02.0	
	comp=Z,171nm,21.0s,baz=313,slow=36						
BRLK	Bradley Lake	30.66	52	*eP*	P	05 06 20.5	+0.3
	comp=Z,20nm,1.1s						
H11N2	WAKE ISLAND Hy	31.51	162	T	T	05 40 06.0	
	baz=348,slow=76,SNR=4.4						
H11N1	WAKE ISLAND Hy	31.53	162	T	T	05 40 08.2	
	baz=348,slow=76,SNR=3.9						
H11N3	WAKE ISLAND Hy	31.53	162	T	T	05 40 07.9	
	baz=348,slow=76,SNR=5.6						
H11S1	WAKE ISLAND Hy	31.53	162	T	T	05 41 40.1	
	baz=348,slow=76,SNR=9.4						
H11S3	WAKE ISLAND Hy	32.68	162	T	T	05 41 11.1	
	baz=348,slow=76,SNR=10.0						
H11S2	WAKE ISLAND Hy	32.68	162	T	T	05 41 26.4	
	baz=348,slow=76,SNR=10.0						
EGAK	Eagle	34.70	42	*eP*	P	05 06 55.4	-0.1
	comp=Z,2.5nm,1.1s						
PCA	Pinnacle	35.88	50	*eP*	P	05 07 06.3	+0.6
	comp=Z,38nm,1.2s						
DLBC	Dease Lake	41.39	50	*eP*	P	05 07 53.3	+1.5
	comp=Z,11nm,0.6s						
PDAR	Pinedale Array	60.71	57	P	P	05 10 17.3	+0.1
	comp=Z,0.3nm,0.6s,baz=304,slow=4.5,SNR=3.9						
PDAR				pP	sP	05 10 33.8	-1.8
	comp=Z,0.4nm,0.7s,baz=310,slow=4.2,SNR=3.7						
PKCU	Pink Cliffs	62.82	63	*eP*	P	05 10 30.2	-1.4
	comp=Z,7.4nm,1.2s						
KNB	Kanab	62.82	64	*eP*	P	05 10 30.8	-0.7
KNB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KNB	Kanab	62.82	64	*eP*	P	05 10 30.8	-0.7
	comp=Z,2.6nm,1.1s						
SMCO	Snowmass	64.61	59	*eP*	P	05 10 44.0	+0.6
	comp=Z,1.4nm,1.1s						
ECSD	EROS Data Cent	66.67	49	*eP*	P	05 10 55.3	-0.9
	comp=Z,2.2nm,1.0s						
GSI	Gunungsitoli	69.81	246	*eP*	P	05 11 13.6	-2.5
	comp=Z,68nm,0.8s						
WB2	Warramunga Arr	72.69	202	*eP*	P	05 11 31.8	-1.6
	comp=Z,3.9nm,1.1s						
WRA	Warramunga Arr	72.69	202	P	P	05 11 31.3	-2.1
	comp=Z,0.4nm,0.3s,baz=17,slow=6.2,SNR=5.2						
TXAR	Lajitas Array	73.65	64	P	P	05 11 39.1	-0.2
	comp=Z,0.2nm,0.6s,baz=309,slow=3.0,SNR=3.3						
TXAR				pP	PcP	05 11 55.2	+0.3
	comp=Z,0.2nm,0.5s,baz=319,slow=5.2,SNR=2.7						
ASAR	Alice Springs	76.37	202	P	P	05 11 53.5	-1.2
	comp=Z,0.4nm,0.6s,baz=13,slow=4.9,SNR=7.0						

*CSEM **01** 05:00:51.0, 36°.44N×25°.43E, h6km, ML1.8/4*

THE 01 05:00:51.0, 36°.44N×25°.43E, h6km±1km, ML1.8/4, Error ellipse: s-maj=2.2km s-min=0.7km az=63.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	Thira island,	0.01	66	P	Pg	05 00 52.2	+0.1
THR2	Thira island,	0.01	66	P	Pg	05 00 52.2	+0.1
THR7	Fira-Santorini	0.02	174	P	Pg	05 00 52.2	0.0
THR7	Fira-Santorini	0.02	174	P	Pg	05 00 52.2	0.0
CMBO	Columbo, Santo	0.03	330	P	Pg	05 00 52.4	+0.1
CMBO				S	Sg	05 00 53.4	+0.2
CMBO	Columbo, Santo	0.03	330	P	Pg	05 00 52.4	+0.1
CMBO				S	Sg	05 00 53.4	+0.2
THR3	Thira Island,	0.04	210	P	Pg	05 00 52.2	-0.1
THR3	Thira Island,	0.04	210	P	Pg	05 00 52.2	-0.1
SAP4	Santorini-Oia	0.05	305	P	Pg	05 00 52.3	-0.2
THR5	Thira Island,	0.07	247	P	Pg	05 00 52.9	+0.2
THR5	Thira Island,	0.07	247	P	Pg	05 00 52.9	+0.2
SANT	Santorini	0.08	159	P	Pg	05 00 52.6	-0.3
SANT				S	Sg	05 00 54.1	-0.1
SANT	Santorini	0.08	159	P	Pg	05 00 52.6	-0.3
SANT				S	Sg	05 00 54.1	-0.1
SAP1	Santorini-Akro	0.09	196	P	Pg	05 00 53.5	+0.5
SAP1				S	Sg	05 00 54.9	+0.5

*IDC **01** 05:12:08.8±1.4, 17°.88N×145°.65E, h250km±12km, mb4.1/26, mb1 4.2/28, mb1mx4.0/49, mbtmp4.7/28, Error ellipse: s-maj=11.1km s-min=7.2km az=79.0*
*ISCJB **01** 05:12:09.2±0.7, 17°.75N±0°.03×145°.56E±0°.03, h258km±7km, mb4.6/168, Error ellipse: s-maj=5.4km s-min=4.9km az=155.3*
*BJI **01** 05:12:09.8, 17°.78N×145°.69E, h268km, mb4.4/20, mB4.6/19*
*NEIC **01** 05:12:14.4±1.3, 17°.75N×145°.53E, h300km±13km, mb4.7/137, Error ellipse: s-maj=4.9km s-min=4.3km az=65.0*

ISC 01 05:12:09.5±0.8, 17°.81N±0°.05×145°.66E±0°.06, h255km±7km, n245, σ1°.41/271, mb4.6/168, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.27	190	P	Pn	05 13 14.9	-1.9
	16nm,0.3s,baz=18,slow=3.2,SNR=20						
GUMO				S	S	05 14 07.0	-3.3
	74nm,0.3s,baz=17,slow=19,SNR=11						
GUMO	Guam	4.27	190	*ePn*	Pn	05 13 15.6	-1.2
GUMO				*eS*	S	05 14 09.5	-0.8
CBIJ	Chichi jima	9.78	341	*eS*	S	05 16 14.8	-0.7
PATS	Pohnpei	16.47	130	*eP*	Pn	05 15 47.5	+0.4
	172nm,1.4s						
JOW	Kunigami	18.40	302	P	P	05 16 05.2	-1.0
	3.2nm,0.3s,baz=138,slow=12,SNR=3.6						
JOW	Kunigami	18.40	302	*eP*	Pn	05 16 07.5	-2.1
	373nm,2.0s						
MJAR	Matsushiro Arr	19.79	342	P	P	05 16 18.1	-2.8
	0.4nm,0.3s,baz=150,slow=15,SNR=3.4						
MJAR				S	S	05 19 48.1	-1.6
	0.3nm,0.3s,baz=153,slow=15,SNR=

HHC sS sS 05 26 01.8 +5.1
HHC SS **SS** **05 27 08.9 -10**
HHC pmax pmax
comp=Z,19nm,1.4s
HHC pmax pmax
comp=Z,120nm,4.4s
HHC LR LR
comp=N,290nm,13.7s
HHC LR LR
comp=E,230nm,13.7s
HHC LR LR
comp=Z,200nm,16.2s
KSM Kuching 38.32 249 *e*P **P 05 19 06.8 +0.5**
13nm,0.8s
WRAB Tennant Creek 39.12 197 *e*P **P 05 19 12.9 +0.2**
45nm,0.8s
WRAB *e*PcP **PcP 05 21 17.0 +0.1**
WB2 Warramunga Arr 39.13 197 *e*P **P 05 19 12.8 0.0**
54nm,0.9s
WB2 *e*PcP **PcP 05 21 16.8 -0.2**
WRA Warramunga Arr 39.13 197 P **P 05 19 12.8 0.0**
36nm,0.7s,baz=18,slow=9.1,SNR=26
WRA PcP **PcP 05 21 16.6 -0.4**
4.6nm,0.7s,baz=8.9,slow=3.3,SNR=5.1
WC3 Warramunga Arr 39.14 197 *e*P **P 05 19 12.8 -0.1**
47nm,0.9s
WC3 *e*PcP **PcP 05 21 17.4 +0.4**
SLVN Son La 39.42 282 *e*P **P 05 19 16.9 +1.6**
9.4nm,0.6s
CD2 Chengdu 40.11 297 *e*P **P 05 19 21.0 +0.1**
KMI Kunming 40.47 288 P **P 05 19 24.0 -0.1**
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,190nm,4.9s
FITZ Fitzroy Crossi 40.76 210 P **P 05 19 26.6 +0.4**
16nm,0.3s,baz=35,slow=10
LZH Lanzhou 41.12 305 ⇑P **P 05 19 31.5 +2.3**
LZH pP pP 05 20 23.6 +1.8
LZH sP sP 05 20 52.0 +1.2
LZH PP **PP 05 21 12.4 +2.6**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,75nm,5.6s
CHAI Chaiyaphum 41.77 274 P **P 05 19 35.6 +1.1**
11nm,0.7s
AS01 Alice Springs 42.78 196 *e*P **P 05 19 42.1 -0.3**
AS01 *e*PP **PcP 05 21 29.0 +0.1**
AS31 Alice Springs 42.79 196 *e*P **P 05 19 42.6 0.0**
7.2nm,0.5s
ASAR Alice Springs 42.79 196 P **P 05 19 42.4 -0.2**
6.3nm,0.5s,baz=21,slow=9.5,SNR=102
ASAR PcP **PcP 05 21 28.6 -0.3**
2.9nm,0.6s,baz=28,slow=4.5,SNR=7.0
ASAR ScP **ScP 05 24 54.8 -0.6**
0.4nm,0.7s,baz=1.8,slow=3.0,SNR=3.3
ASAR S **S 05 25 45.7 -1.5**
3.8nm,1.0s,baz=20,slow=22,SNR=23
UTTA Uttaradit 42.87 277 P **P 05 19 44.5 +1.2**
6.6nm,0.7s
ULN Ulaanbaatar 43.44 322 *e*P **P 05 19 49.1 +1.5**
4.6nm,0.7s
SONM Songino Array 43.81 322 P **P 05 19 51.3 +0.8**
3.4nm,0.5s,baz=140,slow=7.8,SNR=17
SONM PcP **PcP 05 21 32.0 -0.2**
2.1nm,0.8s,baz=130,slow=4.2,SNR=4.8
SONA1 Songino Array 43.81 322 *e*P **P 05 19 51.3 +0.7**
CHTO Chiang Mai 44.26 279 P **P 05 19 55.8 +1.4**
44nm,0.7s
CHTO Chiang Mai 44.26 279 *e*P **P 05 19 55.8 +1.4**
6.9nm,0.6s
CM01 Chiang Mai Arr 44.29 278 *e*P **P 05 19 56.1 +1.5**
CMAR Chiang Mai Arr 44.30 278 P **P 05 19 55.8 +1.1**
13nm,0.8s,baz=69,slow=6.5,SNR=29
CMAR PcP **PcP 05 21 34.9 +0.6**
1.6nm,0.6s,baz=102,slow=2.0,SNR=5.4
DZM Mont Dzumac 44.55 152 P **P 05 19 57.1 +0.4**
23nm,0.5s,baz=319,slow=3.6,SNR=55
DZM Mont Dzumac 44.55 152 *e*P **P 05 19 56.3 -0.3**
86nm,1.3s
DZM *e*PcP **PcP 05 21 35.4 +0.3**
GTA Gaotai 45.06 308 *e*P **P 05 20 02.6 +2.0**
GTA pP pP 05 20 56.0 +1.8
GTA sP sP 05 21 24.3 +1.4
GTA PcP **PcP 05 21 36.9 +0.2**
KULM Kulim 45.69 260 *e*P **P 05 20 08.1 +2.4**
15nm,0.8s
MBWA Marble Bar 46.32 214 *e*P **P 05 20 10.9 +0.6**
38nm,0.6s
SURT Suratani 46.33 265 P **P 05 20 11.8 +1.2**
25nm,1.0s
MSVF Nonsavu 47.57 136 *e*P **P 05 20 21.7 +1.5**
10nm,0.7s
STKA Stephens Creek 49.56 185 P **P 05 20 34.0 -0.9**
7.2nm,0.8s,baz=9.3,slow=8.5,SNR=10.0
STKA Stephens Creek 49.56 185 *e*P **P 05 20 34.5 -0.4**
1.5nm,0.8s
FORT Forrest 51.19 200 *e*P **P 05 20 47.2 +0.1**
175nm,0.7s
CAN Canberra 52.93 177 *e*P **P 05 21 00.8 +0.9**
58nm,1.8s
WMQ Urumqi 54.86 311 P **P 05 21 16.3 +2.4**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,150nm,6.3s
WMQ LR LR
comp=N,55nm,24.3s
WMQ LR LR
comp=Z,38nm,17.5s
ZAA0 Zalesovo Array 58.70 323 *e*P **P 05 21 40.7 +0.3**
ZALV Zalesovo Beam 58.70 323 P **P 05 21 39.9 -0.5**
6.2nm,0.7s,baz=111,slow=7.2,SNR=23
ZALV PcP **PcP 05 22 25.3 -2.1**
1.7nm,0.6s,baz=109,slow=5.5,SNR=3.7
MK01 Makanchi Array 59.04 314 *e*P **P 05 21 43.3 +0.3**
MK01 *e*PcP **PcP 05 22 28.9 -0.1**
MK31 Makanchi Array 59.05 314 *e*P **P 05 21 43.7 +0.7**
MK31 *e*PcP **PcP 05 22 28.9 -0.2**
MKAR Makanchi Array 59.05 314 P **P 05 21 42.8 -0.2**
2.1nm,0.4s,baz=90,slow=8.3,SNR=23
MKAR PcP **PcP 05 22 27.7 -1.3**
3.1nm,0.8s,baz=87,slow=4.8,SNR=7.5
MKAR Makanchi Array 59.05 314 *e*P **P 05 21 43.7 +0.7**
24nm,0.4s
MKAR *e*PcP **PcP 05 22 28.8 -0.2**
MAKZ Makanchi 59.27 314 *e*P **P 05 21 45.5 +1.0**
5.8nm,0.6s
SVW2 Sparrevohn 59.62 29 *e*P P 05 21 52.1 +5.5
78nm,1.8s
TTA Tatalina 60.05 27 *e*P P 05 21 58.0 +8.4
50nm,2.0s
KDAK Kodiak Island 60.12 33 P **P 05 21 50.0 0.0**
8.2nm,0.9s,baz=252,slow=13,SNR=6.4
PPLA Purkeypile 61.70 27 *e*P P 05 22 05.6 +4.9
82nm,1.8s
CAST Castle Rocks 61.90 27 *e*P P 05 22 07.2 +5.2
7.8nm,1.1s
KURK Kurchatov 61.91 318 *e*P **P 05 22 02.1 -0.1**
20nm,1.1s
KURBB Kurchatov Arra 61.95 318 P **P 05 22 01.6 -0.9**
6.9nm,0.4s,baz=99,slow=6.7,SNR=56
NRIK Noril'sk 62.43 340 P **P 05 22 04.5 -0.7**
5.8nm,0.6s,baz=110,slow=9.7,SNR=4.2
MXZ Matakaoa Point 63.07 151 *e*P **P 05 22 08.5 -1.4**
146nm,1.2s
KSH Kashi 63.35 306 *e*P **P 05 22 16.7 +4.6**
KSH *e*PcP **PcP 05 22 50.2 +3.5**
KSH *e*pP pP 05 23 15.1 +5.5
KSH sP sP 05 23 41.2 +3.9
KSH PP **PP 05 24 40.4 +5.7**
KSH S **S 05 30 25.4 +1.4**
KSH ScS **SKSac 05 31 37.1 -2.9**
KSH pmax pmax
comp=Z,99nm,5.3s
KSH LR LR
comp=N,60nm,4.1s
KSH LR LR
comp=E,88nm,4.7s
KSH LR LR
comp=Z,110nm,5.1s
BKZ Black Stump Fm 63.60 154 *e*P **P 05 22 13.1 -0.3**
51nm,1.6s
SCM Sheep Creek Mo 63.63 29 *e*P **P 05 22 17.6 +4.2**
19nm,0.9s

COLD Coldfoot 63.78 23 *e*P **P 05 22 15.5 +1.3**
25nm,1.8s
THZ Tophouse 64.41 158 *e*P **P 05 22 18.7 +0.1**
100nm,1.6s
ILAR Eielson Array 64.45 26 P **P 05 22 17.5 -1.1**
4.7nm,0.8s,baz=246,slow=6.1,SNR=46
ILB Eielson Array 64.45 26 *e*P **P 05 22 17.7 -0.9**
IL1 Eielson Array 64.45 26 *e*P **P 05 22 17.3 -1.3**
PAX Paxson 64.70 28 *e*P **P 05 22 21.4 +1.0**
15nm,1.0s
DOT Dot Lake 65.45 28 *e*P **P 05 22 25.8 +0.7**
20nm,0.6s
EGAK Eagle 66.87 26 *e*P **P 05 22 34.8 +0.9**
32nm,2.0s
BVAR Borovoye Array 67.13 321 P **P 05 22 35.4 -0.4**
6.5nm,0.5s,baz=98,slow=7.4,SNR=37
BRVK Borovoye 67.20 321 *e*P **P 05 22 36.2 -0.1**
5.2nm,0.7s
DAWY Dawson 67.55 27 *e*P **P 05 22 39.2 +0.9**
7.4nm,0.8s
INK Inuvik 70.20 23 P **P 05 22 54.3 -0.1**
18nm,0.8s,baz=283,slow=6.9,SNR=34
INK Inuvik 70.20 23 *e*P **P 05 22 54.6 +0.2**
17nm,0.8s
DLBC Dease Lake 72.05 33 *e*P **P 05 23 07.3 +1.5**
22nm,1.4s
ARU Arti 73.77 325 P **P 05 23 14.6 -1.1**
1.4nm,0.3s,baz=129,slow=6.0,SNR=4.3
ABKAR Akbulak array 73.96 317 *e*P **P 05 23 16.4 -0.6**
121nm,0.4s
AKTO Aktyubinsk 75.00 319 P **P 05 23 21.8 -1.2**
1.0nm,0.5s,baz=102,slow=9.3,SNR=3.2
F04A Amboy 78.73 45 *e*P **P 05 23 44.9 +1.0**
25nm,1.0s
KRMB Red Mountain 78.73 50 *e*P **P 05 23 45.7 +1.5**
36nm,1.5s
YKA Yellowknife Ar 78.78 28 P **P 05 23 43.6 -0.2**
11nm,0.7s,baz=288,slow=5.4,SNR=8.2
KHMM Horse Mountain 79.02 51 *e*P **P 05 23 47.8 +2.1**
24nm,1.5s
KCPM Cahto Peak 79.42 52 *e*P **P 05 23 49.8 +1.9**
58nm,1.7s
YBH Yreka Blue Hor 79.55 50 *e*P **P 05 23 50.1 +1.5**
6.1nm,0.8s
WDC Whiskeytown Da 79.97 51 *e*P **P 05 23 50.6 0.0**
4.6nm,0.9s
B08A Colville Reser 80.15 42 *e*P **P 05 23 52.3 +0.8**
12nm,0.7s
WSAR Wadi Sarin 80.52 291 P **P 05 23 53.8 -0.1**
3.6nm,0.7s,baz=100,slow=8.8,SNR=5.3
HAWA Hanford 80.55 44 *e*P **P 05 23 54.9 +1.2**
7.3nm,0.9s
K05A Summer Lake 80.60 48 *e*P **P 05 23 55.7 +1.5**
20nm,0.9s
D08A Wollman Farm, 80.77 44 *e*P **P 05 23 55.9 +1.1**
17nm,1.3s
ORV Oroville 81.00 51 *e*P **P 05 23 56.7 +0.5**
6.9nm,0.8s
MOD Modoc Plateau 81.24 49 *e*P **P 05 23 58.7 +1.1**
6.0nm,0.7s
E09A Wood Farm, Sta 81.44 44 *e*P **P 05 23 59.4 +1.1**
9.3nm,0.9s
AFDM Forest Hills D 81.56 52 *e*P **P 05 24 00.2 +1.0**
5.8nm,0.9s
NEW Newport 81.59 42 *e*P **P 05 23 59.9 +0.8**
9.8nm,1.0s
BEKR Beckworth 81.77 51 *e*P **P 05 24 01.3 +0.9**
13nm,0.8s
UOSS Minazif 82.20 294 *e*P **P 05 24 03.0 +0.3**
14nm,1.4s
CMB Columbia Colle 82.26 53 *e*P **P 05 24 03.6 +0.7**
8.7nm,0.9s
WVOR Wild Horse Val 82.28 48 *e*P **P 05 24 03.9 +1.0**
7.3nm,0.9s
EDM Edmonton 82.31 37 *e*P **P 05 24 03.2 +0.4**
16nm,0.8s
BMO Blue Mountains 82.49 45 *e*P **P 05 24 04.9 +1.0**
9.8nm,0.8s
PAHR Pah Rah Range 82.53 51 *e*P **P 05 24 05.3 +0.9**
12nm,1.1s
PNTR Pine Nut 82.55 51 *e*P **P 05 24 05.9 +1.4**
13nm,0.9s
WAKR Walker 82.84 52 *e*P **P 05 24 07.4 +1.4**
4.6nm,0.7s
YERR Yerington 82.85 51 *e*P **P 05 24 07.2 +1.2**
10nm,0.8s
PAGB Antelope Grade 83.02 55 *e*P **P 05 24 08.1 +1.3**
8.8nm,1.0s
BSMT Bassoo Peak 83.21 42 *e*P **P 05 24 08.7 +1.0**
ARA0 ARCESS Array S 83.32 342 *e*P **P 05 24 06.3 -1.3**
ARCES ARCESS Array B 83.32 342 P **P 05 24 05.3 -2.3**
4.0nm,0.8s,baz=72,slow=7.8,SNR=10.0
ARE0 ARCESS Array S 83.32 342 *e*P **P 05 24 06.5 -1.1**
142nm,1.9s
TVH3 East Aurora ar 83.35 52 *e*P **P 05 24 09.0 +0.4**
7.2nm,0.9s
BLMT Blacktail Moun 83.43 42 *e*P **P 05 24 09.9 +1.1**
JTMT Jette 83.56 42 *e*P **P 05 24 10.0 +0.6**
YBMT Yellow Bay 83.70 42 *e*P **P 05 24 10.8 +0.7**
SWMT Swartz Lake 83.83 42 *e*P **P 05 24 11.0 +0.3**
BMN Battle Mountai 83.90 50 *e*P **P 05 24 12.4 +1.1**
4.1nm,0.6s
MFID Camas Ranch 83.95 46 *e*P **P 05 24 12.2 +0.8**
18nm,0.9s
SLMT Seeley Lake 84.24 42 *e*P **P 05 24 13.3 +0.5**
CHMT Chamberlain Mo 84.50 43 *e*P **P 05 24 14.7 +0.4**
HLID Hailey 84.87 46 *e*P **P 05 24 17.1 +1.0**
9.5nm,0.8s
LRM Limekiln Ridge 85.41 43 *e*P **P 05 24 19.4 +0.7**
DLMT Dillon 85.47 44 *e*P **P 05 24 19.6 +0.6**
18nm,1.4s
HRY Holter Researc 85.49 42 *e*P **P 05 24 19.9 +0.9**
MCMT McKenzie Canyo 85.49 44 *e*P **P 05 24 19.9 +0.6**
TPNV Topopah Spring 85.72 53 *e*P **P 05 24 21.5 +1.1**
11nm,0.8s
R11A Troy Canyon, C 85.77 51 *e*P **P 05 24 21.9 +1.3**
20nm,1.5s
GSC Goldstone, Bar 85.83 54 *e*P **P 05 24 21.8 +0.9**
13nm,1.5s
BOZ Bozeman (W) 86.02 43 *e*P **P 05 24 22.1 +0.3**
4.2nm,0.8s
EGMT Eagleton 86.31 41 *e*P **P 05 24 23.4 +0.4**
41nm,1.8s
QLMT Earthquake Lak 86.44 44 *e*P **P 05 24 25.1 +1.3**
HVU Hansel Valley 86.62 47 *e*P **P 05 24 25.6 +0.9**
15nm,1.1s
YHB Horse Butte 86.62 44 *e*P **P 05 24 26.2 +1.5**
12nm,0.8s
SHPR Sheep Range 86.70 53 *e*P **P 05 24 26.6 +1.4**
6.5nm,0.9s
KBZ Khabaz 86.74 315 P **P 05 24 23.2 -1.8**
4.4nm,0.8s,baz=58,slow=2.3,SNR=6.1
BGU Big Grassy Mou 86.74 48 *e*P **P 05 24 26.2 +0.9**
3.4nm,0.7s
YMR Madison River 86.80 44 *e*P **P 05 24 27.2 +1.6**
14nm,0.8s
YHH Holmes Hill 86.83 44 *e*P **P 05 24 27.2 +1.4**
11nm,1.3s
YFT Old Faithful 86.97 44 *e*P **P 05 24 25.4 -1.1**
7.2nm,0.6s
YNR Norris Junctio 86.97 44 *e*P **P 05 24 26.2 -0.3**
14nm,1.1s
SPUT South Promonto 87.02 48 *e*P **P 05 24 27.7 +1.1**
11nm,0.9s
IMW Indian Meadow 87.11 45 *e*P **P 05 24 28.1 +1.0**
6.0nm,0.9s
FXWY Fox Creek 87.14 45 *e*P **P 05 24 28.0 +0.7**
4.4nm,1.0s
DUG Dugway, Tooele 87.16 49 *e*P **P 05 24 28.0 +0.7**
16nm,0.6s
H17A Grant Village 87.16 44 *e*P **P 05 24 28.6 +1.3**
7.3nm,1.0s
GCMT Greycliff 87.23 43 *e*P **P 05 24 28.5 +1.0**
TPAW Teton Pass 87.25 45 *e*P **P 05 24 28.9 +1.1**
12nm,1.4s
MOOW Moose Ponds 87.29 45 *e*P **P 05 24 28.6 +0.7**
4.5nm,1.0s
LOHW Long Hollow 87.44 45 *e*P **P 05 24 29.5 +0.9**
6.1nm,1.2s
HWUT Hardware Ranch 87.53 47 *e*P **P 05 24 29.9 +0.8**
12nm,0.8s
FIA1 FINESS Array S 87.67 335 *e*P **P 05 24 26.8 -2.2**
FINES FINESS Array B 87.67 335 P **P 05 24 26.1 -2.9**
2.2nm,0.6s,baz=43,slow=3.6,SNR=11
CCUT Cedar City 87.69 51 *e*P **P 05 24 31.4 +1.5**
7.1nm,0.8s
RLMT Red Lodge 87.75 43 *e*P **P 05 24 31.3 +1.2**
10nm,1.4s

NLU North Lily Min 87.77 49 *e*P **P 05 24 31.3 +1.0**
9.9nm,0.8s
FFC Flin Flon 87.86 32 *e*P **P 05 24 30.3 +0.3**
15nm,0.8s
SZCU Shurtz Canyon 87.88 51 *e*P **P 05 24 32.3 +1.5**
7.7nm,0.8s
LCMT Little Creek M 87.97 52 *e*P **P 05 24 32.5 +1.4**
6.5nm,0.8s
JLU Jordanelle 87.98 48 *e*P **P 05 24 32.2 +0.9**
11nm,0.8s
GLA Glamis 88.12 56 *e*P **P 05 24 33.0 +1.2**
5.6nm,0.6s
W13A Hualapai Mount 88.15 54 *e*P **P 05 24 33.0 +0.9**
4.9nm,0.8s
MSU Marysvale 88.22 50 *e*P **P 05 24 33.9 +1.4**
KNB Kanab 88.28 52 *e*P **P 05 24 34.4 +1.7**
19nm,0.9s
BW06 Boulder Array 88.47 45 *e*P **P 05 24 33.5 -0.1**
PD31 Pinedale Array 88.47 45 *e*P **P 05 24 33.6 +0.1**
PDAR Pinedale Array 88.47 45 P **P 05 24 33.3 -0.2**
0.8nm,0.5s,baz=161,slow=1.2,SNR=17
TMUT Trail Mountain 88.63 49 *e*P **P 05 24 35.5 +1.0**
6.9nm,0.9s
U15A North Rim 88.89 52 *e*P **P 05 24 36.8 +1.1**
10nm,0.9s
P17A Butcher Ranch, 88.90 49 *e*P **P 05 24 37.1 +1.5**
10nm,0.9s
LAO LASA Array 89.05 41 *e*P **P 05 24 36.6 +0.7**
10nm,0.7s
113A Mohawk Valley, 89.05 56 *e*P **P 05 24 37.1 +1.0**
3.9nm,0.9s
SRU San Rafael Swe 89.20 49 *e*P **P 05 24 37.4 +0.5**
17nm,0.6s
P18A Preston Nutter 89.20 49 *e*P **P 05 24 38.0 +0.9**
7.1nm,0.7s
Y14A Wickenburg 89.24 55 *e*P **P 05 24 37.6 +0.5**
43nm,0.9s
WUAZ Wupatki 89.92 53 *e*P **P 05 24 41.8 +1.5**
12nm,0.9s
X16A Lo Mia Camp, P 90.27 54 *e*P **P 05 24 43.5 +1.5**
3.2nm,0.8s
O20A White River Ci 90.42 47 *e*P **P 05 24 43.2 +0.6**
9.6nm,0.8s
PV09 Paradox Valley 90.44 49 *e*P **P 05 24 43.8 +0.9**
PV10 Paradox Valley 90.55 49 *e*P **P 05 24 44.2 +0.8**
K22A Casper 90.56 45 *e*P **P 05 24 44.1 +0.9**
5.4nm,0.9s
PV05 Paradox Valley 90.62 50 *e*P **P 05 24 44.5 +0.8**
PV04 Paradox Valley 90.64 49 *e*P **P 05 24 43.8 +0.1**
PV01 Paradox Valley 90.99 49 *e*P **P 05 24 45.9 +0.6**
X18A Snowflake 91.37 53 *e*P **P 05 24 48.5 +1.4**
6.5nm,0.8s
MVCO Mesa Verde 91.41 50 *e*P **P 05 24 48.2 +0.9**
7.1nm,1.0s
RSSD Black Hills 91.56 43 *e*P **P 05 24 48.0 +0.2**
4.9nm,0.6s
TUC Tucson 91.57 55 *e*P **P 05 24 49.4 +1.4**
4.3nm,1.1s
N23A Red Feather La 91.70 46 *e*P **P 05 24 49.8 +1.1**
18nm,1.0s
SMCO Snowmass 91.70 48 *e*P **P 05 24 49.8 +1.0**
11nm,0.8s
ISCO Idaho Springs 92.39 47 *e*P **P 05 24 53.0 +1.0**
4.1nm,0.8s
S22A 4UR Ranch, Cre 92.40 49 *e*P **P 05 24 53.0 +1.0**
7.8nm,1.0s
SDCO Great Sand Dun 93.36 49 *e*P **P 05 24 56.9 +0.6**
6.3nm,1.4s
NB2 NORSAR Subarra 93.39 340 P **P 05 24 53.4 -2.3**
comp=Z,0.4nm,0.6s,baz=44,slow=4.8
NOA NORSAR Array B 93.39 340 P **P 05 24 53.3 -2.4**
comp=Z,0.5nm,0.6s,baz=43,slow=4.6,SNR=3.3
ANMO Albuquerque 93.84 52 *e*P **P 05 24 59.3 +0.8**
comp=Z,5.8nm,1.4s
BRTR Keskin Array B 94.70 314 P **P 05 24 59.6 -2.7**
comp=Z,2.5nm,0.8s,baz=114,slow=3.4,SNR=9.0
BR231 Keskin MP Arra 95.23 315 *e*P **P 05 25 01.8 -2.9**
MNTX Cornudas Mount 96.02 54 *e*P **P 05 25 09.2 +0.9**
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 98.36 56 P **P 05 25 19.1 +0.1**
comp=Z,0.4nm,0.7s,baz=242,slow=2.7,SNR=4.4
LSZ Lusaka 120.25 262 *e*PKPdf **PKPdf 05 30 31.3 +0.1**
SNAA Sanae 123.05 191 P **PKPdf 05 30 33.7 -1.3**
SNAA Sanae 123.05 191 *e*PKPdf **PKPdf 05 30 33.9 -1.1**
LBTB Lobatse 124.11 252 *e*PKPdf **PKPdf 05 30 38.8 +0.4**
VNA2 Neumayer--Watz 124.50 190 P **PKPdf 05 30 36.5 -1.2**
baz=324,slow=0.4
VNA3 Neumayer Olymp 124.59 189 P **PKPdf 05 30 36.5 -1.4**
VNA1 Neumayer--Stat 124.88 190 P **PKPdf 05 30 36.1 -2.3**
TORD Torodi Ar. Bea 132.98 308 PKP **PKPdf 05 30 53.9 -1.6**
comp=Z,0.4nm,0.5s,baz=129,slow=1.3,SNR=7.5
TORD SKPbc **SKPbc 05 33 56.3 -2.7**
comp=Z,1.4nm,0.8s,baz=42,slow=2.4,SNR=8.0
PLCA Paso Flores 141.42 134 PKP **PKPdf 05 31 08.3 -2.1**
comp=Z,2.8nm,1.1s,baz=195,slow=6.3,SNR=3.8
DBIC Dimbokro 142.06 307 PKhKP PKPpre 05 31 06.2
comp=Z,1.8nm,0.5s,baz=33,slow=2.6,SNR=6.4
GO05 Hualaas0 142.49 125 *e*PKPdf **PKPdf 05 31 11.6 -0.9**
ROC1 El Roble 143.80 122 *e*PKPdf PKPab 05 31 13.6 +0.9
LCO Las Campanas 144.95 115 *e*PKPbc PKPbc 05 31 17.6 +0.5
PB04 IPOC Station P 146.12 104 *e*PKPdf **PKPbc 05 31 20.9 +0.2**
PB04 *e*PKPbc **PKiKP 05 31 24.1 +0.5**
PB01 IPOC Station P 146.74 101 *e*PKPbc **PKPbc 05 31 23.2 +0.9**
LVC Limon Verde 147.26 104 PKPbc **PKPbc 05 31 24.3 +0.2**
comp=Z,26nm,0.7s,baz=280,slow=3.2,SNR=12
LVC Limon Verde 147.26 104 *e*PKPbc **PKPbc 05 31 24.8 +0.7**
LPAZ La Paz 147.68 92 PKP **PKPdf 05 31 22.4 -0.1**
comp=Z,12nm,0.7s,baz=296,slow=2.1,SNR=46
LPAZ PKPbc **PKPbc 05 31 25.9 +0.2**
comp=Z,12nm,0.7s,baz=342,slow=2.3,SNR=47
LPAZ La Paz 147.68 92 *e*PKPdf **PKPdf 05 31 23.0 +0.5**
LPAZ *e*PKPbc **PKPbc 05 31 26.5 +0.8**
TRQA Tornquist 148.52 135 *e*PKPbc **PKPbc 05 31 26.1 -0.4**
PTGA Pitinga 149.62 59 PKPbc **PKPbc 05 31 29.5 -0.5**
comp=Z,14nm,0.6s,baz=287,slow=2.8,SNR=31
PTGA PKPab **PKPab 05 31 34.7 -1.1**
comp=Z,5.9nm,0.6s,baz=350,slow=4.3,SNR=8.8
PTGA Pitinga 149.62 59 *e*PKPbc **PKPab 05 31 35.1 -0.8**
SAML Samuel 150.63 76 *e*PKPbc **PKPbc 05 31 31.8 -0.4**
CPUP Villa Florida 157.10 116 PKPab **PKPab 05 32 07.7 +0.4**
comp=Z,4.3nm,0.8s,baz=267,slow=2.6,SNR=9.9
CPUP Villa Florida 157.10 116 *e*PKPab **PKPab 05 32 08.3 +1.0**

*IDC **01** 05:20:37.9±3.0, 35°.87N×70°.84E, h93km±26km, mb3.6/13, mb1 3.7/19, mb1mx3.4/57, mbtmp3.9/19, Error ellipse: s-maj=20.6km s-min=17.6km az=167.0*
*ISCJB **01** 05:20:39.5±0.6, 36°.11N±0°.06×70°.67E±0°.09, h114km, mb3.7/12, Error ellipse: s-maj=9.8km s-min=8.6km az=166.3*
*NNC **01** 05:20:42.9±6.8, 37°.51N×71°.86E, h0km±1km, mb4.3, mpv3.8, Error ellipse: s-maj=58.2km s-min=24.8km az=164.0*

ISC 01 05:20:41.1±0.8, 36°.18N±0°.08×70°.59E±0°.07, h114km, n25, σ1§97/27, mb3.7/12, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.97**	**332**	⇓Pn		**Pn**	**05 21 27.0**	**0.0**
	5.4nm,0.1s,baz=161,slow=28							
DZET				⇓Sn		**Sn**	**05 22 03.0**	**+0.8**
	36nm,0.2s,baz=161,slow=28							
DZET				⇓Lg		Lg	05 22 04.9	
	279nm,0.5s,baz=161,slow=28							
MNAS	**Manas**	**6.47**	**13**	⇑Pg		**Pn**	**05 22 13.3**	**-0.5**
	4.7nm,0.4s,baz=161,slow=28							
MNAS				⇓Lg		Lg	05 23 25.2	
	18nm,0.6s,baz=161,slow=28							
KK31	**Karatay Array**	**6.91**	**359**	⇓Pn		Pn	05 22 12.4	-7.4
	5.0nm,0.3s,baz=167,slow=14,SNR=203							
KK31				⇑Lg		Lg	05 23 38.6	
	21nm,0.5s,baz=162,slow=28,SNR=8.0							
AAK	**Ala-Archa**	**7.12**	**24**	P		**Pn**	**05 22 22.4**	**-0.4**
	4.5nm,0.3s,baz=188,slow=7.9,SNR=26							
AAK				S		**Sn**	**05 23 40.3**	**-1.8**
	1.3nm,0.3s,baz=134,slow=22,SNR=7.0							
AAK	**Ala-Archa**	**7.12**	**24**	⇑Pg		**Pn**	**05 22 22.3**	**-0.4**
	7.4nm,0.4s,baz=161,slow=28							
AAK				Lg		Lg	05 23 39.7	
	6.5nm,0.5s,baz=161,slow=28							
TKM2	**Tokmak 2**	**7.76**	**28**	⇑Lg		Lg	05 23 55.1	
	2.8nm,0.7s,baz=161,slow=28							
GEYT	**Alibeck**	**10.12**	**284**	P		**Pn**	**05 23 02.5**	**-0.8**
	0.8nm,0.3s,baz=119,slow=8.6,SNR=5.0							
GEYT				S		**Sn**	**05 24 52.0**	**-2.9**

1.4nm,0.3s,baz=117,slow=18,SNR=5.3
MKAR Makanchi Array 13.74 36 P **Pn 05 23 52.2 +1.1**
0.1nm,0.3s,baz=213,slow=10.0,SNR=3.3
KURBB Kurchatov Arra 15.53 19 P **P 05 24 15.5 0.0**
0.1nm,0.3s,baz=208,slow=10,SNR=4.9
BVAR Borovoye Array 16.84 360 P **P 05 24 31.6 +1.6**
0.2nm,0.3s,baz=163,slow=10,SNR=2.9
AKTO Aktyubinsk 16.89 331 P **P 05 24 33.0 +2.3**
0.7nm,0.3s,baz=142,slow=13,SNR=17
AKTO S **Sn 05 27 32.8 -5.5**
0.2nm,0.3s,baz=68,slow=19,SNR=3.8
ZALV Zalesovo Beam 20.34 25 P **P 05 25 07.8 -0.3**
2.3nm,0.3s,baz=215,slow=11,SNR=7.2
BRTR Keskin Array B 29.22 288 P **P 05 26 34.3 +2.1**
0.7nm,0.6s,baz=90,slow=7.2,SNR=2.9
FINES FINESS Array B 37.56 326 P **P 05 27 46.3 +2.3**
1.5nm,0.6s,baz=120,slow=8.2,SNR=4.9
ARCES ARCESS Array B 41.31 338 P **P 05 28 17.4 +2.4**
0.9nm,0.6s,baz=110,slow=10,SNR=5.5
HFS Hagfors 43.11 322 P **P 05 28 31.8 +2.1**
0.6nm,0.3s,baz=98,slow=9.3,SNR=8.5
NB2 NORSAR Subarra 44.44 323 P **P 05 28 42.1 +1.7**
comp=Z,0.5nm,0.6s,baz=98,slow=7.9
NOA NORSAR Array B 44.44 323 P **P 05 28 41.4 +1.1**
comp=Z,0.7nm,0.6s,baz=97,slow=8.0,SNR=3.9
TORD Torodi Ar. Bea 65.38 269 P **P 05 31 11.0 -0.7**
comp=Z,0.4nm,0.5s,baz=55,slow=6.2,SNR=5.6
INK Inuvik 74.27 9 P **P 05 32 06.3 +1.1**
comp=Z,1.7nm,0.5s,baz=332,slow=6.2,SNR=10
ILAR Eielson Array 75.17 16 P **P 05 32 10.1 -0.5**
comp=Z,0.4nm,0.9s,baz=302,slow=5.3,SNR=4.9
BOSA Boshof 77.29 220 P **P 05 32 22.8 -0.3**
comp=Z,1.3nm,0.5s,baz=27,slow=2.3,SNR=4.4
YKA Yellowknife Ar 81.58 2 P **P 05 32 46.5 +0.7**
comp=Z,0.6nm,0.5s,baz=347,slow=5.5,SNR=2.5
WRA Warramunga Arr 82.10 122 P **P 05 32 46.6 -2.6**
comp=Z,0.4nm,0.3s,baz=326,slow=4.9,SNR=2.5
ASAR Alice Springs 84.34 125 P **P 05 32 58.0 -2.7**
comp=Z,0.4nm,0.7s,baz=328,slow=4.4,SNR=4.4

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*IDC **01** 05:55:37.5±15.0, 47°.27N×153°.25E, h103km±50km, mb3.5/7, mb1 3.6/8, mb1mx3.3/39, mbtmp3.8/8, Error ellipse: s-maj=248.4km s-min=35.1km az=152.0*
ISC 01 05:55:35.8±4.3, 47°.1N±0°.5×153°.4E±0°.4, h100km, n14, σ0§68/9, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.66**	**23**	P	**Pn**	**05 57 10.8**	**-0.2**
	0.1nm,0.3s,baz=186,slow=13,SNR=3.6						
PETK				S	**Sn**	**05 58 25.6**	**+0.2**
	0.1nm,0.3s,baz=188,slow=28,SNR=2.5						
H11N2	**WAKE ISLAND Hy 29.41**	**153**		T	T	06 33 44.0	
	baz=341,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy 29.43**	**153**		T	T	06 33 56.1	
	baz=341,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy 29.43**	**153**		T	T	06 33 37.6	
	baz=341,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 30.51**	**154**		T	T	06 35 22.2	
	baz=343,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy 30.52**	**155**		T	T	06 35 21.8	
	baz=343,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy 30.52**	**154**		T	T	06 35 17.8	
	baz=343,slow=76,SNR=40						
SONM	**Songino Array**	**31.40**	**289**	P	**P**	**06 01 46.4**	**-0.8**
	0.2nm,0.5s,baz=87,slow=10,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.58**	**306**	P	**P**	**06 03 21.9**	**+0.5**
	1.0nm,0.5s,baz=71,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**46.96**	**297**	P	**P**	**06 03 57.2**	**+0.8**
	0.2nm,0.3s,baz=53,slow=5.6,SNR=4.4						
ARCES	**ARCESS Array B**	**57.62**	**341**	P	**P**	**06 05 14.2**	**-0.6**
	2.2nm,0.9s,baz=42,slow=8.4,SNR=3.3						
FINES	**FINESS Array B**	**63.84**	**335**	P	**P**	**06 05 57.0**	**0.0**
	1.1nm,0.4s,baz=43,slow=7.2,SNR=16						
NOA	**NORSAR Array B**	**67.99**	**341**	P	**P**	**06 06 23.3**	**-0.4**
	0.5nm,0.8s,baz=26,slow=4.9,SNR=3.5						
GERES	**GERESS Array B**	**78.26**	**334**	P	**P**	**06 07 25.2**	**+0.8**
	0.3nm,0.4s,baz=37,slow=6.9,SNR=3.9						

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*IDC **01** 05:56:48.8±2.4, 51°.46N×179°.74W, h0km, mb3.8/8, mb1 4.2/9, mb1mx3.7/50, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=53.1km s-min=28.7km az=18.0*
*NEIC **01** 05:57:00.7±0.0, 51°.31N×179°.24W, h54km, ML3.8(AEIC), After AEIC.*
ISC 01 05:56:53.0±1.3, 51°.2N±0°.2×179°.89W±0°.09, h39km, n39, σ2§60/38, mb3.9/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.92**	**49**	P	**Pn**	**05 57 13.2**	**+3.8**
GAEA	**Gareloi East**	**0.94**	**49**	P	**Pn**	**05 57 13.2**	**+3.5**
TASE	**Tanaga Southea**	**1.34**	**59**	P	**Pn**	**05 57 18.0**	**+2.9**
TAFL	**Tanaga Flats**	**1.38**	**64**	P	**Pn**	**05 57 18.6**	**+3.0**
TAFP	**Tanaga Falls P**	**1.40**	**58**	P	**Pn**	**05 57 18.4**	**+2.4**
TAFP				S	**Sn**	**05 57 33.2**	**0.0**
TAPA	**Tanaga Point A**	**1.45**	**63**	P	**Pn**	**05 57 19.4**	**+2.7**
KIKV	**Kanaga Island**	**1.84**	**66**	P	**Pn**	**05 57 24.7**	**+2.6**
KIKV				S	**Sn**	**05 57 44.4**	**+0.2**
KICM	**Kanaga Island**	**1.84**	**65**	P	**Pn**	**05 57 25.1**	**+3.1**
KIRH	**Kanaga Island**	**1.89**	**66**	P	**Pn**	**05 57 25.4**	**+2.6**
ADK	**Adak**	**2.13**	**69**	P	**Pn**	**05 57 28.0**	**+2.1**
ADK				S	**Sn**	**05 57 50.5**	**-0.6**
ADAG	**Mount Adagdak**	**2.21**	**67**	P	**Pn**	**05 57 29.8**	**+2.7**
ETKA	**Kagalaska Isla**	**2.29**	**71**	P	**Pn**	**05 57 30.8**	**+2.7**
GSCK	**Great Sitkin C**	**2.47**	**69**	P	**Pn**	**05 57 33.3**	**+2.5**
GSTD	**Great Sitkin T**	**2.50**	**68**	P	**Pn**	**05 57 33.3**	**+2.1**
GSTD				S	**Sn**	**05 57 59.0**	**-1.4**
ATKA	**Atka Island**	**3.69**	**72**	P	**Pn**	**05 57 49.9**	**+2.4**
ATKA				S	**Sn**	**05 58 28.5**	**-1.2**
KOKL	**Mount Kliuchef**	**3.72**	**70**	P	**Pn**	**05 57 50.9**	**+3.0**
KOFP	**Korovin Flat P**	**3.77**	**71**	P	**Pn**	**05 57 52.0**	**+3.4**
KOSE	**Korovin Southe**	**3.82**	**70**	P	**Pn**	**05 57 52.6**	**+3.4**
NIKH	**Nikolski High**	**7.04**	**71**	P	**Pn**	**05 58 36.7**	**+3.3**
OKTU	**Okmok Mt. Tuli**	**7.60**	**68**	P	**Pn**	**05 58 44.9**	**+3.8**
SPIA	**Saint Paul Isl**	**8.26**	**39**	P	**Pn**	**05 58 53.5**	**+3.5**
MSW	**Makushin Switc**	**8.45**	**66**	P	**Pn**	**05 58 55.9**	**+3.2**
UNV	**Unalaska Valle**	**8.60**	**67**	P	**Pn**	**05 58 57.5**	**+2.8**
KDAK	**Kodiak Island**	**17.11**	**57**	Pn	**Pn**	**06 00 45.2**	**-3.6**
	1.2nm,0.3s,baz=299,slow=3.2,SNR=59						
KDAK				Sn	Sn	06 03 46.2	-12
	0.2nm,0.3s,baz=198,slow=20,SNR=2.9						
ILAR	**Eielson Array**	**21.84**	**39**	P	**P**	**06 01 38.5**	**-3.1**
	0.3nm,0.5s,baz=258,slow=12,SNR=6.1						
INK	**Inuvik**	**28.02**	**35**	P	**P**	**06 02 39.4**	**-0.5**
	1.5nm,0.9s,baz=235,slow=6.8,SNR=4.9						
H11N2	**WAKE ISLAND Hy 33.06**	**203**		T	T	06 39 04.6	
	baz=17,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy 33.07**	**203**		T	T	06 39 11.8	
	baz=17,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy 33.08**	**203**		T	T	06 39 05.9	
	baz=17,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy 34.28**	**203**		T	T	06 40 43.0	
	baz=15						
H11S2	**WAKE ISLAND Hy 34.30**	**203**		T	T	06 40 39.9	
	baz=15						
H11S3	**WAKE ISLAND Hy 34.30**	**203**		T	T	06 40 53.7	
	baz=15						
YKA	**Yellowknife Ar**	**35.87**	**46**	P	**P**	**06 03 47.1**	**-1.5**
	1.6nm,0.8s,baz=285,slow=7.2,SNR=3.1						
NEW	**Newport**	**39.60**	**69**	P	**P**	**06 04 19.8**	**-0.5**
	1.0nm,0.4s,baz=287,slow=3.1,SNR=3.8						
PDAR	**Pinedale Array**	**47.03**	**71**	P	**P**	**06 05 20.6**	**+0.1**
	3.6nm,0.6s,baz=309,slow=3.3,SNR=52						
ARCES	**ARCESS Array B**	**58.18**	**350**	P	**P**	**06 06 41.6**	**-0.7**
	2.2nm,0.9s,baz=29,slow=7.6,SNR=2.3						
TXAR	**Lajitas Array**	**59.36**	**80**	P	**P**	**06 06 51.6**	**+0.4**
	0.5nm,0.7s,baz=274,slow=3.4,SNR=6.0						
NOA	**NORSAR Array B**	**67.79**	**354**	P	**P**	**06 07 46.6**	**+0.3**
	0.5nm,0.6s,baz=8.8,slow=6.7,SNR=3.2						
LSZ	**Lusaka**	**137.69**	**318**	PKP	**PKPdf**	**06 16 14.2**	**+1.1**
	2.0nm,0.6s,baz=27,slow=6.8,SNR=6.1						

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*IDC **01** 06:05:03.2±0.9, 12°.85N×95°.64E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.7/44, mbtmp3.9/9, ML3.9/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/41, Error ellipse: s-maj=40.3km s-min=18.6km az=58.0*
ISC 01 06:05:05.5±1.0, 12°.9N±0°.1×95°.39E±0°.08, h18km, n13, σ1§73/14, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.50**	**31**	Pn	**Pn**	**06 06 38.6**	**-1.7**
	0.7nm,0.3s,baz=219,slow=15,SNR=6.9						
CMAR				Sn	**Sn**	**06 07 53.9**	**-0.3**
	1.2nm,0.3s,baz=207,slow=23,SNR=4.3						
CMAR				Lg	Lg	06 08 18.6	
	1.2nm,0.3s,baz=216,slow=31,SNR=4.7						
CMAR				LR	LR	06 09 35.6	
	comp=Z,157nm,18.2s,baz=224,slow=42						
PSI	**Prapat**	**10.62**	**160**	LR	LR	06 11 23.5	
	comp=Z,205nm,19.4s,baz=236,slow=36						
VIS	**Vishakhapatnam**	**12.58**	**294**	*i* P	**Pn**	**06 08 01.3**	**-2.4**
VIS				*i* S	**Sn**	**06 10 22.3**	**-1.1**
VIS				*i* S	**Sn**	**06 10 22.4**	**-1.1**
VIS				*ex*	x	06 10 23.8	
	comp=E,8.1nm,0.5s						
VIS				*ex*	x	06 10 23.9	
	comp=N,10nm,0.4s						
MKAR	**Makanchi Array**	**35.54**	**344**	P	**P**	**06 12 03.5**	**+2.0**
	comp=N,0.9nm,0.5s,baz=148,slow=9.7,SNR=8.2						
SONM	**Songino Array**	**36.02**	**13**	LR	LR	06 28 26.4	
	comp=N,57nm,21.7s,baz=172,slow=39						
KURBB	**Kurchatov Arra**	**40.06**	**343**	P	**P**	**06 12 41.1**	**+1.5**
	comp=N,1.4nm,0.5s,baz=152,slow=7.9,SNR=5.7						
GEYT	**Alibeck**	**41.47**	**314**	P	**P**	**06 12 54.8**	**+3.3**
	comp=N,1.7nm,0.4s,baz=142,slow=7.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.80**	**351**	P	**P**	**06 12 55.1**	**+1.2**
	comp=N,0.9nm,0.5s,baz=166,slow=9.7,SNR=2.6						
WRA	**Warramunga Arr**	**50.34**	**130**	P	**P**	**06 14 00.6**	**-1.2**
	comp=N,3.4nm,1.0s,baz=313,slow=8.2,SNR=4.9						
ASAR	**Alice Springs**	**52.34**	**134**	P	**P**	**06 14 16.0**	**-0.7**
	comp=N,1.7nm,0.6s,baz=314,slow=6.7,SNR=26						
GERES	**GERESS Array B**	**74.95**	**317**	P	**P**	**06 16 46.5**	**+0.7**
	comp=N,0.3nm,0.6s,baz=77,slow=4.2,SNR=2.3						
ILAR	**Eielson Array**	**89.66**	**22**	P	**P**	**06 18 01.7**	**-0.4**
	comp=N,0.4nm,0.7s,baz=283,slow=5.1,SNR=4.3						
CPUP	**Villa Florida**	**151.11**	**238**	PKPbc	**PKPbc**	**06 24 59.0**	**+0.6**
	comp=N,1.8nm,0.8s,baz=180,slow=3.0,SNR=3.9						

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*ISCJB **01** 06:08:44.4±0.9, 5°.5N±0°.2×61°.9E±0°.1, h10km, mb3.9/7, MS3.7/1, Error ellipse: s-maj=25.5km s-min=20.1km az=6.1*
*IDC **01** 06:08:44.4±1.0, 5°.41N×61°.85E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/40, mbtmp3.9/7, MS3.3/4, Ms1 3.3/4, ms1mx2.9/35, Error ellipse: s-maj=31.8km s-min=22.9km az=26.0*
ISC 01 06:08:45.9±1.1, 5°.4N±0°.2×61°.9E±0°.2, h10km, n15, σ0§87/8, mb3.9/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**14.81**	**142**	T	T	06 27 42.0	
	baz=321,slow=76,SNR=696						
H08N3	**Diego Garcia H**	**14.82**	**142**	T	T	06 27 42.9	
	baz=321,slow=76,SNR=822						
H08N1	**Diego Garcia H**	**14.83**	**142**	T	T	06 27 43.7	
	baz=321,slow=76,SNR=916						
WSAR	**Wadi Sarin**	**18.00**	**350**	LR	LR	06 18 38.8	
	comp=Z,66nm,18.8s,baz=158,slow=33						
PALK	**Pallekele**	**18.83**	**83**	LR	LR	06 18 27.9	
	comp=Z,114nm,21.9s,baz=296,slow=31						
ATD	**Arta Tunnel**	**19.75**	**289**	LR	LR	06 20 00.0	
	comp=Z,26nm,19.8s,baz=17,slow=34						
KMBO	**Kilima Mbogo**	**25.41**	**256**	P	**P**	**06 14 14.8**	**+0.6**
	1.2nm,0.5s,baz=55,slow=15,SNR=4.4						
CMAR	**Chiang Mai Arr**	**38.44**	**67**	LR	LR	06 30 00.5	
	comp=Z,116nm,18.4s,baz=214,slow=33						
BRTR	**Keskin Array B**	**42.59**	**327**	P	**P**	**06 16 43.1**	**+0.7**
	0.8nm,0.7s,baz=153,slow=9.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**51.88**	**17**	P	**P**	**06 17 53.9**	**-0.5**
	0.4nm,0.3s,baz=220,slow=6.6,SNR=3.2						
SONM	**Songino Array**	**56.82**	**34**	P	**P**	**06 18 31.4**	**+0.7**
	0.5nm,0.5s,baz=225,slow=7.7,SNR=3.9						
ESDC	**Sonseca Array**	**68.01**	**311**	P	**P**	**06 19 45.0**	**-0.7**
	1.0nm,0.7s,baz=83,slow=5.6,SNR=7.4						
WRA	**Warramunga Arr**	**75.52**	**112**	P	**P**	**06 20 31.4**	**+0.2**
	4.3nm,1.0s,baz=289,slow=5.1,SNR=4.8						
ASAR	**Alice Springs**	**75.89**	**116**	P	**P**	**06 20 33.4**	**+0.1**
	1.1nm,0.7s,baz=291,slow=5.6,SNR=13						
TXAR	**Lajitas Array**	**142.76**	**339**	PKP	**PKPdf**	**06 28 19.2**	**-1.3**
	0.2nm,0.8s,baz=45,slow=4.0,SNR=2.9						

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*IDC **01** 06:13:34.3±1.1, 13°.03N×96°.06E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/38, mbtmp3.7/9, ML3.9/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/45, Error ellipse: s-maj=48.7km s-min=18.8km az=58.0*
*ISCJB **01** 06:13:37.9±0.8, 13°.16N±0°.08×96°.3E±0°.1, h33km, mb3.7/8, MS3.5/5, Error ellipse: s-maj=19.6km s-min=11.6km az=12.5*
ISC 01 06:13:39.9±1.1, 13°.1N±0°.1×96°.2E±0°.2, h35km, n14, σ1§08/10, mb3.7/8, MS3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.95**	**26**	Pn	**Pn**	**06 15 07.2**	**+1.6**
	0.7nm,0.3s,baz=219,slow=15,SNR=11						
CMAR				Sn	**Sn**	**06 16 11.1**	**-1.4**
	0.7nm,0.3s,baz=208,slow=21,SNR=4.5						
CMAR				Lg	Lg	06 16 47.3	
	0.7nm,0.3s,baz=215,slow=31,SNR=4.9						
CMAR				LR	LR	06 17 56.1	
	comp=Z,138nm,18.4s,baz=214,slow=43						
PSI	**Prapat**	**10.60**	**165**	LR	LR	06 21 10.1	
	comp=Z,152nm,18.5s,baz=284,slow=43						
AAK	**Ala-Archa**	**34.89**	**332**	LR	LR	06 36 20.1	
	comp=Z,83nm,21.8s,baz=176,slow=39						
MKAR	**Makanchi Array**	**35.55**	**344**	P	**P**	**06 20 32.6**	**-1.0**
	0.6nm,0.5s,baz=158,slow=10.0,SNR=4.7						
KSRS	**Korea Array**	**37.27**	**44**	LR	LR	06 38 17.9	
	comp=Z,64nm,18.5s,baz=245,slow=40						
JNU	**Nakatsue**	**37.38**	**52**	LR	LR	06 36 10.4	
	comp=Z,40nm,18.2s,baz=288,slow=36						
KURBB	**Kurchatov Arra**	**40.08**	**343**	P	**P**	**06 21 10.6**	**-1.2**
	1.0nm,0.6s,baz=151,slow=9.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.72**	**350**	P	**P**	**06 21 25.5**	**+0.2**
	0.5nm,0.4s,baz=177,slow=8.5,SNR=1.8						
WRA	**Warramunga Arr**	**49.90**	**131**	P	**P**	**06 22 30.4**	**0.0**
	0.9nm,0.7s,baz=312,slow=8.2,SNR=2.2						
ASAR	**Alice Springs**	**51.94**	**135**	P	**P**	**06 22 45.1**	**-0.6**
	1.0nm,0.6s,baz=310,slow=6.8,SNR=16						
ASAR				LR	LR	06 48 42.3	
	comp=Z,69nm,18.1s,baz=82,slow=41						
GERES	**GERESS Array B**	**75.31**	**317**	P	**P**	**06 25 20.5**	**+0.8**
	0.2nm,0.2s,baz=64,slow=4.5,SNR=1.8						
NOA	**NORSAR Array B**	**76.19**	**330**	P	**P**	**06 25 24.6**	**+0.1**
	0.5nm,0.8s,baz=90,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**89.17**	**22**	P	**P**	**06 26 31.5**	**-0.2**
	0.3nm,0.8s,baz=319,slow=3.8,SNR=3.7						
RES	**Resolute Bay**	**92.11**	**3**	LR	LR	07 09 32.1	
	comp=Z,22nm,20.5s,baz=236,slow=36						

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*SOME **01** 06:14:39.5, 39°.55N×73°.13E, h5km*
*KRNET **01** 06:14:39.9±0.1, 39°.59N×73°.13E, h17km, mb3.1*
*NNC **01** 06:14:42.6±1.2, 39°.65N×73°.10E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=11.6km s-min=6.9km az=135.0*
ISC 01 06:14:35.8±1.3, 39°.49N±0°.06×73°.27E±0°.03, h1km±10km, n29, σ2§14/53, 22C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.09**	**340**	↓*iP*	**Pn**	**06 14 59.3**	**+0.9**
	baz=344						
OHH				↓*eS*	**Sn**	**06 15 12.8**	**-1.4**
	baz=344						
ARSB	**Arslanbob**	**1.84**	**353**	↑*eP*	**Pg**	**06 15 12.7**	**+1.6**
	baz=356						
ARSB				↑*eS*	**Sg**	**06 15 36.7**	**+1.7**
	baz=356						
BTK	**Batken**	**1.97**	**287**	↑*eP*	**Pb**	**06 15 14.1**	**+1.6**
	baz=285						
BTK				↑*eS*	**Sg**	**06 15 39.3**	**+0.2**
	baz=285						
TOKL	**Toktogul**	**2.46**	**353**	↓*eP*	**Pb**	**06 15 22.4**	**+1.5**
	baz=355						
TOKL				↓*iS*	**Sb**	**06 15 53.0**	**+1.2**
	baz=355						
ARLS	**Aral**	**2.50**	**18**	↑*eP*	**Pb**	**06 15 23.4**	**+1.8**
	baz=21						
ARLS				↑*iS*	**Sb**	**06 15 55.5**	**+2.6**
	baz=21						
ARK	**Arkit**	**2.51**	**337**	↑*eP*	**Pb**	**06 15 22.4**	**+0.7**
	baz=339						
ARK				↑*eS*	**Sb**	**06 15 53.0**	**-0.1**
	baz=339						
AML	**Almayashu**	**2.66**	**7**	↓*iP*	**Pb**	**06 15 25.0**	**+0.6**
	baz=9.0						
AML				↓*eS*	**Sb**	**06 15 58.2**	**+0.5**
	baz=9.0						
KZA	**Kyzart**	**2.99**	**30**	↑*eP*	**Pb**	**06 15 29.8**	**-0.3**
	baz=32						
KZA				↑*eS*	**Sb**	**06 16 07.1**	**-0.2**
	baz=32						
MNAS	**Manas**	**3.05**	**349**	↓*eP*	**Pb**	**06 15 30.6**	**-0.3**
	baz=351						
MNAS				↓*eS*	**Sb**	**06 16 06.7**	**-2.0**
	baz=351						
MNAS	**Manas**	**3.05**	**349**	↓Pn	**Pb**	**06 15 30.5**	**-0.3**
	7.9nm,0.4s						
MNAS				↑Pg	**Pg**	**06 15 33.8**	**-0.4**
	7.6nm,0.5s						
MNAS				↑Lg	Lg	06 16 11.7	
	35nm,0.5s						
MRKS	**Merke**	**3.25**	**359**	*eP*	**Pb**	**06 15 37.1**	**+2.8**
	18nm,0.6s						
MRKS				*eS*	**Sg**	**06 16 18.6**	**-1.6**
	73nm,0.4s						
AAK	**Ala-Archa**	**3.28**	**16**	↑*iP*	**Pb**	**06 15 33.3**	**-1.5**
	baz=18						
AAK				↑*iS*	**Sb**	**06 16 12.9**	**-2.4**
	baz=18						
AAK	**Ala-Archa**	**3.28**	**16**	↓Pn	**Pb**	**06 15 34.5**	**-0.3**
	2.9nm,0.4s						
AAK				↑Lg	Lg	06 16 25.7	
	35nm,1.1s						
KBK	**Karagaybulak**	**3.41**	**21**	↑*eP*	Pn	06 15 35.2	+5.0
	baz=24						
KBK				↑*eS*	**Sb**	**06 16 15.9**	**-3.1**
	baz=24						
DZET	**Dzherino**	**3.52**	**260**	↑Pn	**Pb**	**06 15 37.5**	**-1.4**
	4.3nm,0.4s						
DZET				↓Pg	**Pg**	**06 15 44.3**	**+1.1**
	44nm,0.5s						
DZET				↑Lg	Lg	06 16 30.8	
	91nm,0.6s						
ULHL	**Ulahol**	**3.56**	**38**	↓*eP*	**Pb**	**06 15 38.5**	**-1.1**
	baz=41						
ULHL				↓*eS*	**Sb**	**06 16 21.1**	**-2.3**
	baz=41						
IUG	**Iuzhnay**	**3.61**	**318**	*eP*	**Pb**	**06 15 43.0**	**+2.5**
	29nm,0.2s						
IUG				*eS*	**Sg**	**06 16 28.6**	**-3.3**
	80nm,0.4s						
BOOM	**Boomskoye usch**	**3.62**	**33**	↓*eP*	**Pb**	**06 15 39.5**	**-1.1**
	baz=35						
BOOM				↓*eS*	**Sb**	**06 16 22.7**	**-2.3**
	baz=35						
TKM2	**Tokmak 2**	**3.85**	**26**	↓Pn	**Pb**	**06 15 42.6**	**-2.0**
	1.8nm,0.4s						
TKM2				↓Lg	Lg	06 16 41.0	
	15nm,0.6s						
KST	**Kastek**	**4.09**	**29**	*eP*	**Pg**	**06 15 54.6**	**+0.5**
	2.2nm,0.3s						
KST				*eS*	**Sg**	**06 16 48.5**	**+1.4**
	25nm,0.5s						
KK31	**Karatay Array**	**4.16**	**331**	↑Pn	Pn	06 15 45.0	+4.5
	1.2nm,0.4s,baz=139,slow=12,SNR=25						
KK31				Pg	**Pg**	**06 15 54.0**	**-1.5**
	1.2nm,0.3s,baz=160,slow=14,SNR=9.8						
KK31				↑Sn	**Sb**	**06 16 33.8**	**-6.8**
	5.4nm,0.3s,baz=136,slow=16,SNR=5.1						
KK31				↑Lg	Lg	06 16 49.1	
	12nm,0.5s,baz=156,slow=31,SNR=4.9						
DGS	**Degeres**	**4.19**	**26**	*eP*	**Pg**	**06 15 56.5**	**+0.3**
	11nm,0.6s						
DGS				*eS*	**Sg**	**06 16 52.0**	**+1.5**
	20nm,0.5s						
IZV	**Izvestkoviy**	**4.35**	**34**	*eP*	**Pg**	**06 15 59.3**	**+0.2**
	14nm,0.4s						
IZV				*eS*	**Sg**	**06 16 57.3**	**+1.9**
	32nm,0.5s						
BRLS	**Borolday**	**4.38**	**325**	*eP*	**Pb**	**06 15 55.4**	**+1.9**
	0.7nm,0.2s						
BRLS				*eS*	**Sb**	**06 16 49.9**	**+3.1**
	29nm,0.6s						
TNSS	**Tian-Shan**	**4.50**	**37**	*eP*	**Pg**	**06 16 02.2**	**+0.3**
	6.2nm,0.4s						
TNSS				*eS*	**Sg**	**06 17 02.4**	**+2.1**
	36nm,0.7s						
MDOK	**Medeo**	**4.64**	**37**	Pg	**Pg**	**06 16 05.0**	**+0.3**
MDOK				Lg	Lg	06 17 06.0	
MDOK	**Medeo**	**4.64**	**37**	*eP*	**Pg**	**06 16 05.3**	**+0.6**
	7.0nm,0.5s						
MDOK				*eS*	**Sg**	**06 17 06.6**	**+1.7**
	20nm,0.7s						
SATY	**Saty**	**5.26**	**46**	*eP*	Pb	06 16 15.8	+7.2
	7.7nm,0.5s						
SATY				*eS*	**Sg**	**06 17 25.0**	**+0.2**
	18nm,0.7s						
BTLS	**Baital**	**5.58**	**6**	*eP*	**Pb**	**06 16 18.3**	**+4.5**
	2.5nm,0.7s						
BTLS				*eS*	**Sg**	**06 17 29.2**	**-5.6**
	8.3nm,0.5s						

IDC 01 06:17:34.8±8.0, 12°.43N×95°.78E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/35, mbtmp3.6/4, Error ellipse: s-maj=527.5km s-min=22.2km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**

KEBE	**Keben-Mersin**	**0.48**	**203**	*e*PG	**Pg**	**06 29 54.0**	**-0.2**
KEBE				*e*SG	**Sg**	**06 30 01.1**	**+0.5**
KEBE	**Keben-Mersin**	**0.48**	**203**	*e*Pg	**Pg**	**06 29 54.0**	**-0.2**
KEBE				*e*Sg	**Sg**	**06 30 01.1**	**+0.5**
SLFK	**Silifke-Mersin**	**0.50**	**180**	*e*PG	**Pg**	**06 29 54.5**	**0.0**
SLFK	**Silifke-Mersin**	**0.50**	**180**	*e*Pg	**Pg**	**06 29 54.5**	**0.0**
SILI	**Silifke-Mersin**	**0.52**	**182**	*e*PG	**Pg**	**06 29 55.0**	**0.0**
SILI	**Silifke-Mersin**	**0.52**	**182**	*e*Pg	**Pg**	**06 29 55.0**	**0.0**
TEVE	**Tevekalti-Mers**	**0.61**	**222**	*e*PG	**Pg**	**06 29 56.1**	**-0.5**
TEVE	**Tevekalti-Mers**	**0.61**	**222**	*e*Pg	**Pg**	**06 29 56.1**	**-0.5**
IKL	**Isikli**	**0.68**	**198**	*e*PG	**Pg**	**06 29 57.8**	**-0.2**
IKL	**Isikli**	**0.68**	**198**	*e*Pg	**Pg**	**06 29 57.8**	**-0.2**
YESI	**Yesilovacik-Me**	**0.73**	**199**	*e*PG	**Pg**	**06 29 58.4**	**-0.6**
YESI	**Yesilovacik-Me**	**0.73**	**199**	*e*Pg	**Pg**	**06 29 58.4**	**-0.6**
TEPE	**Tepekoy-Mersin**	**0.74**	**205**	*e*PG	**Pg**	**06 29 58.6**	**-0.4**
TEPE	**Tepekoy-Mersin**	**0.74**	**205**	*e*Pg	**Pg**	**06 29 58.6**	**-0.4**
OREN	**Orenkoy-Mersin**	**0.79**	**210**	*e*PG	**Pg**	**06 29 59.6**	**-0.3**
OREN	**Orenkoy-Mersin**	**0.79**	**210**	*e*Pg	**Pg**	**06 29 59.6**	**-0.3**
BERE	**Bereket-Mersin**	**0.79**	**227**	*e*PG	**Pg**	**06 29 59.5**	**-0.6**
BERE	**Bereket-Mersin**	**0.79**	**227**	*e*Pg	**Pg**	**06 29 59.5**	**-0.6**
AKKU	**Akkuyu-Mersin**	**0.80**	**204**	*e*PG	**Pg**	**06 29 59.7**	**-0.5**
AKKU	**Akkuyu-Mersin**	**0.80**	**204**	*e*Pg	**Pg**	**06 29 59.7**	**-0.5**
AKK1	**Akkuyu-Mersin**	**0.81**	**204**	*e*PG	**Pg**	**06 30 00.1**	**-0.4**
AKK1	**Akkuyu-Mersin**	**0.81**	**204**	*e*Pg	**Pg**	**06 30 00.1**	**-0.4**
AKK2	**Akkuyu-Mersin**	**0.82**	**203**	*e*PG	**Pg**	**06 30 00.0**	**-0.5**
AKK2	**Akkuyu-Mersin**	**0.82**	**203**	*e*Pg	**Pg**	**06 30 00.0**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.00**	**222**	*e*PG	**Pg**	**06 30 03.5**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.00**	**222**	*e*Pg	**Pg**	**06 30 03.5**	**-0.5**
KRTS	**Karatas**	**1.19**	**105**	*e*PN	**Pg**	**06 30 07.3**	**-0.4**
KRTS	**Karatas**	**1.19**	**105**	*e*Pn	**Pg**	**06 30 07.3**	**-0.4**
SULT	**Sultanhani-AKS**	**1.35**	**346**	*e*PN	**Pn**	**06 30 09.5**	**-0.1**
SULT	**Sultanhani-AKS**	**1.35**	**346**	*e*Pn	**Pn**	**06 30 09.5**	**-0.1**
YURE	**YUREGIR**	**1.36**	**92**	*i* P	**Pn**	**06 30 10.3**	**+0.6**
YURE				*i* S	**Sg**	**06 30 29.4**	**+0.9**
CEYT	**Ceyhan**	**1.45**	**85**	*e*PN	**Pn**	**06 30 11.3**	**+0.4**
CEYT	**Ceyhan**	**1.45**	**85**	*e*Pn	**Pn**	**06 30 11.3**	**+0.4**
KMER	**Konya-Meram**	**1.53**	**305**	*i* P	**Pb**	**06 30 13.1**	**-0.1**
KMER				*i* S	**Sn**	**06 30 32.1**	**0.0**
KMER	**Konya-Meram**	**1.53**	**305**	P	**Pb**	**06 30 13.1**	**-0.1**
KMER				S	**Sn**	**06 30 32.1**	**0.0**
KOZT	**Kozan**	**1.62**	**68**	*e*PN	**Pn**	**06 30 13.8**	**+0.6**
KOZT	**Kozan**	**1.62**	**68**	*e*Pn	**Pn**	**06 30 13.8**	**+0.6**
KONT	**Konya--Tatoy**	**1.64**	**310**	*e*PN	**Pn**	**06 30 13.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.64**	**310**	*i* P	**Pb**	**06 30 14.9**	**-0.1**
KONT				*i* S	**Sg**	**06 30 36.6**	**-1.1**
KONT	**Konya--Tatoy**	**1.64**	**310**	*e*Pn	**Pn**	**06 30 13.8**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**1.65**	**43**	*i* P	**Pn**	**06 30 13.8**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.88**	**105**	*e*PN	**Pn**	**06 30 17.6**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.88**	**105**	*e*Pn	**Pn**	**06 30 17.6**	**+0.8**
YAYL	**Yayladag**	**1.94**	**115**	*i* P	**Pn**	**06 30 14.8**	**-3.0**
YAYL				*i* S	**Sn**	**06 30 42.8**	**+0.6**
YAYL	**Yayladag**	**1.94**	**115**	P	**Pn**	**06 30 14.8**	**-3.0**
YAYL				S	**Sn**	**06 30 42.8**	**+0.6**
AVNS	**Nevsehir-Avano**	**2.04**	**20**	*i* P	**Pb**	**06 30 21.6**	**-0.3**
AVNS	**Nevsehir-Avano**	**2.04**	**20**	P	**Pb**	**06 30 21.6**	**-0.3**
KDHN	**Kadinhani**	**2.18**	**319**	*i* P	**Pn**	**06 30 22.7**	**+1.6**
KDHN	**Kadinhani**	**2.18**	**319**	P	**Pn**	**06 30 22.7**	**+1.6**

*ATH **01** 06:37:12.7, 35°.38N×27°.01E, h14^{km}±2^{km}, ML2.6/5, Error ellipse: s-maj=6.4km s-min=0.9km az=330.0*
*CSEM **01** 06:37:12.6, 35°.38N×27°.01E, h14^{km}, ML2.6/5*
ISC 01 06:37:12.5±1.0, **35°.45N**±0°.09×**26°.99E**±0°.05, **h17**^{km}±6^{km}, **n27**, σ1°**76**/47, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.17**	**55**	P	**Pg**	**06 37 16.4**	**-0.5**
KARP				S	**Sg**	**06 37 20.2**	**+0.3**
KARP				AML	AML	06 37 20.6	
	comp=E,5236μm,0.2s						
KARP				AML	AML	06 37 21.1	
	comp=N,8136μm,0.2s						
KARP	**Karpathos**	**0.17**	**55**	P	**Pg**	**06 37 16.5**	**-0.5**
KARP				S	**Sg**	**06 37 20.2**	**+0.3**
ZKR	**Zakros**	**0.71**	**242**	P	**Pg**	**06 37 26.1**	**-0.4**
ZKR				S	**Sb**	**06 37 36.0**	**-0.1**
ZKR				AML	AML	06 37 38.7	
	comp=N,526μm,0.4s						
ZKR				AML	AML	06 37 38.9	
	comp=E,910μm,0.4s						
ZKR	**Zakros**	**0.71**	**242**	P	**Pg**	**06 37 26.1**	**-0.4**
ZKR				S	**Sb**	**06 37 36.0**	**-0.1**
NPS	**Neapolis**	**1.14**	**261**	P	**Pg**	**06 37 34.8**	**+0.3**
NPS				S	**Sg**	**06 37 50.5**	**+1.0**
NPS				AML	AML	06 38 00.5	
	comp=N,500μm,0.7s						
NPS				AML	AML	06 38 02.0	
	comp=E,869μm,0.5s						
NPS	**Neapolis**	**1.14**	**261**	P	**Pg**	**06 37 34.8**	**+0.3**
NPS				S	**Sg**	**06 37 50.5**	**+1.0**
ARG	**Arkhangelos**	**1.20**	**50**	P	**Pg**	**06 37 36.6**	**+0.9**
ARG				S	**Sg**	**06 37 54.0**	**+2.5**
ARG				AML	AML	06 37 54.8	
	comp=E,513μm,0.3s						
ARG				AML	AML	06 37 55.2	
	comp=N,576μm,0.3s						
ARG	**Arkhangelos**	**1.20**	**50**	P	**Pg**	**06 37 36.6**	**+0.9**
ARG				S	**Sg**	**06 37 54.0**	**+2.5**
LAST	**Lasithi**	**1.27**	**257**	P	**Pb**	**06 37 36.5**	**+0.5**
LAST				S	**Sg**	**06 37 54.8**	**+1.3**
LAST				AML	AML	06 38 02.0	
	comp=N,469μm,0.6s						
LAST				AML	AML	06 38 04.7	
	comp=E,355μm,1.1s						
LAST	**Lasithi**	**1.27**	**257**	P	**Pb**	**06 37 36.5**	**+0.5**
LAST				S	**Sg**	**06 37 54.8**	**+1.3**
DAT	**Datca**	**1.36**	**20**	*i* P	**Pn**	**06 37 37.2**	**+0.2**
DAT				*i* S	**Sn**	**06 37 52.2**	**-2.5**
DAT	**Datca**	**1.36**	**20**	P	**Pn**	**06 37 37.2**	**+0.2**
DAT				S	**Sn**	**06 37 52.2**	**-2.5**
BDRM	**Kayabasi**	**1.66**	**13**	*i* P	**Pn**	**06 37 37.1**	**-3.7**
IDI	**Anoyia**	**1.72**	**265**	P	**Pb**	**06 37 43.7**	**-0.1**
IDI				S	**Sg**	**06 38 08.2**	**+0.2**
IDI	**Anoyia**	**1.72**	**265**	P	**Pb**	**06 37 43.7**	**-0.1**
IDI				S	**Sg**	**06 38 08.2**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.92**	**44**	*i* P	**Pb**	**06 37 47.6**	**+0.5**
DALY				*i* S	**Sg**	**06 38 13.8**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.92**	**44**	P	**Pb**	**06 37 47.6**	**+0.5**
DALY				S	**Sg**	**06 38 13.8**	**-0.5**
TURN	**Turunc**	**1.93**	**42**	*i* P	**Pn**	**06 37 43.2**	**-1.4**
TURN				*i* S	**Sn**	**06 38 04.6**	**-3.9**
TURN	**Turunc**	**1.93**	**42**	P	**Pn**	**06 37 43.2**	**-1.4**
TURN				S	**Sn**	**06 38 04.6**	**-3.9**
AKAS	**Kas**	**2.27**	**69**	*i* P	**Pb**	**06 37 52.1**	**-1.0**
AKAS	**Kas**	**2.27**	**69**	P	**Pb**	**06 37 52.1**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.54**	**37**	*i* P	**Pn**	**06 37 55.9**	**+2.7**
TAVA				*i* S	**Sn**	**06 38 27.0**	**+3.2**
TAVA	**DENIZLI_Tavas**	**2.54**	**37**	P	**Pn**	**06 37 55.8**	**+2.7**
TAVA				S	**Sn**	**06 38 27.0**	**+3.2**
GOLH	**Golhisar**	**2.74**	**49**	*i* P	**Pb**	**06 37 59.4**	**-1.7**
GOLH				*i* S	**Sb**	**06 38 36.2**	**+1.7**
GOLH	**Golhisar**	**2.74**	**49**	P	**Pb**	**06 37 59.4**	**-1.7**
GOLH				S	**Sb**	**06 38 36.2**	**+1.7**
DNZL	**Cakiroluk**	**2.78**	**36**	*i* P	Pn	06 37 52.1	-4.5
DNZL	**Cakiroluk**	**2.78**	**36**	P	Pn	06 37 52.1	-4.5

*MOS **01** 06:39:17.2±2.7, 52°.34N×106°.57E, h9^{km}, mb4.4/1, Error ellipse: s-maj=13.9km s-min=9.1km az=67.4*
BYKL 01 06:39:17.7±0.2, **52°.34N**×**106°.38E, h23**^{km}±3^{km}, **9C-6D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDB	**Stepnoy Dvoret**	**0.17**	**183**	⇑*i*Pg	Pb	06 39 22.7	-0.1
STDB				⇓*i*		06 39 25.1	
STDB				*e*Sg	Sb	06 39 27.0	+0.7
KAB	**Kabansk**	**0.34**	**150**	*e*Pg	Pb	06 39 24.7	-0.4
KAB				*e*Sg	Sb	06 39 30.0	-0.2
KAB				Pmax			
	680nm,0.1s						
KAB				Smax			
	5μm,0.3s						
KAB	**Kabansk**	**0.34**	**150**	⇑*i*PG	Pb	06 39 24.8	-0.3
KAB				*i*		06 39 30.0	
KAB				pmax	pmax		
	comp=Z,692nm,0.2s						
KAB				smax	smax		
	comp=E,5μm,0.7s						
TRG	**Tyrgan**	**0.42**	**357**	⇓*i*Pg	Pb	06 39 26.0	-0.6
TRG				*e*		06 39 28.1	
TRG				*e*Sg	Sb	06 39 32.2	-0.4
TRG				Pmax			
	comp=E,640nm,0.1s						
TRG				Smax			
	comp=E,3μm,0.2s						
TRG	**Tyrgan**	**0.42**	**357**	*e*PG	Pb	06 39 26.1	-0.5
TRG				*e*		06 39 32.2	
TRG				pmax	pmax		
	comp=Z,636nm,0.1s						
TRG				smax	smax		
	comp=N,4μm,0.1s						
ZRHB	**Zarechye**	**0.52**	**65**	⇑*i*Pg	Pb	06 39 28.0	-0.2
ZRHB				*i* Sg	Sb	06 39 35.3	0.0
ZRHB				Pmax			
	comp=N,631nm,0.1s						
ZRHB				Smax			
	comp=N,4μm,0.4s						
BGT	**Bolshoye Golou**	**0.67**	**244**	⇑*i*Pg	Pb	06 39 30.5	-0.2
BGT				*i* Sg	Sb	06 39 40.3	+0.8
BGT				*e*Sb	Sn	06 39 44.7	+3.2
BGT				Pmax			
	comp=N,161nm,0.1s						
BGT				Smax			
	comp=N,2μm,0.2s						
BGT	**Bolshoye Golou**	**0.67**	**244**	*e*PG	Pb	06 39 31.1	+0.4
BGT				*e*		06 39 40.4	
BGT				pmax	pmax		
	comp=Z,178nm,0.1s						
BGT				smax	smax		
	comp=N,1μm,0.1s						
TRTB	**Turuntaevo**	**0.78**	**98**	⇑*i*Pg	Pb	06 39 32.2	-0.3
TRTB				*e*Sg	Sb	06 39 43.3	+0.7
TRTB				Pmax			
	comp=N,620nm,0.2s						
TRTB				Smax			
	comp=N,518nm,0.4s						
UUDB	**Ulan-Yde**	**0.92**	**120**	⇑*i*Pg	Pb	06 39 34.7	-0.3
UUDB				*e*Pb	Pn	06 39 36.4	+1.1
UUDB				*e*Sg	Sb	06 39 46.8	-0.1
UUDB				Pmax			
	comp=N,306nm,0.1s						
UUDB				Smax			
	comp=N,644nm,0.6s						
LSTR	**Listvyanka**	**1.06**	**244**	*e*Pg	Pn	06 39 37.3	+0.1
LSTR				*e*Pb	Pb	06 39 38.6	+1.2
LSTR				*i* Sg	Sn	06 39 51.3	0.0
LSTR				*e*Sb	Sb	06 39 53.7	+2.8
LSTR				max			
	comp=N,91nm,0.1s						
LSTR				max			
	comp=N,793nm,0.2s						
LSTR	**Listvyanka**	**1.06**	**244**	*e*PG	Pn	06 39 37.3	+0.1
LSTR				*e*		06 39 51.2	
LSTR				pmax	pmax		
	comp=Z,144nm,0.1s						
LSTR				smax	smax		
	comp=E,766nm,0.4s						
KELR	**Kotokel**	**1.12**	**67**	⇓*i*Pg	Pn	06 39 38.0	0.0
KELR				*e*Sg	Sn	06 39 52.8	+0.1
KELR				*e*Sb	Sb	06 39 55.1	+2.6
IRK	**Irkutsk**	**1.30**	**267**	Pg	Pb	06 39 42.1	+0.7
IRK				*e*Sg	Sb	06 39 59.4	+1.7
IRK				Pmax			
	comp=E,324nm,0.1s						
IRK				Smax			
	comp=E,4μm,0.5s						
IRK	**Irkutsk**	**1.30**	**267**	*e*PG	Pb	06 39 41.2	-0.2
IRK				*e*		06 39 58.6	
IRK				pmax	pmax		
	comp=Z,315nm,0.1s						
IRK				smax	smax		
	comp=E,4μm,0.4s						
IVK	**Ivanovka**	**1.33**	**247**	⇓*i*Pg	Pb	06 39 42.0	+0.1
IVK				*e*Sg	Sb	06 39 59.6	+1.1
IVK				*e*Sb	Sn	06 40 01.4	+3.6
IVK				Pmax			
	comp=E,103nm,0.1s						
IVK				max			
	comp=E,1μm,0.2s						
OGRR	**Ongureny**	**1.50**	**29**	⇑*i*Pg	Pb	06 39 44.8	0.0
OGRR				*e*Sg	Sb	06 40 05.3	+1.9
OGRR				Pmax			
	comp=E,51nm,0.3s						
OGRR				Smax			
	comp=E,552nm,0.4s						
OGRR	**Ongureny**	**1.50**	**29**	*e*PG	Pb	06 39 44.9	+0.1
OGRR				*e*		06 40 04.3	
OGRR				pmax	pmax		
	comp=Z,75nm,0.3s						
OGRR				smax	smax		
	comp=E,698nm,0.8s						
MXMB	**Maximikha**	**1.71**	**56**	*e*Pg	Pb	06 39 48.8	+0.4
MXMB				*e*Sg	Sb	06 40 11.7	+2.3
TLY	**Talaya**	**1.81**	**250**	⇓*i*Pg	Pb	06 39 50.6	+0.4
TLY				*e*		06 39 52.8	
TLY				*e*Sg	Sb	06 40 14.2	+1.7
TLY				Pmax			
	comp=E,107nm,0.1s						
TLY				Smax			
	comp=E,1μm,0.3s						
TLY	**Talaya**	**1.81**	**250**	*e*PN	Pb	06 39 50.5	+0.3
TLY				*e*		06 40 13.4	
TLY				pmax	pmax		
	comp=Z,53nm,0.4s						
TLY				smax	smax		
	comp=N,473nm,0.2s						
ARS	**Arshan**	**2.48**	**262**	*e*	Pb	06 39 59.8	-1.7
ARS				*e*Pg	Pn	06 40 01.6	+4.9
ARS				*e*Sg	Sb	06 40 34.0	+2.5
ARS				Pmax			
	comp=N,58nm,0.2s						
ARS				Smax			
	comp=N,804nm,0.3s						
ARS	**Arshan**	**2.48**	**262**	*e*PN	Pb	06 40 00.5	-1.0
ARS				*e*		06 40 33.4	
ARS				pmax	pmax		
	comp=Z,55nm,0.1s						
ARS				smax	smax		
	comp=E,812nm,0.2s						
SYVR	**Suvo**	**2.56**	**57**	⇑*i*	Pn	06 39 59.0	+1.3
SYVR				*e*Pg	Pb	06 40 03.9	+1.1
SYVR				*e*		06 40 18.4	
SYVR				*e*Sg	Sb	06 40 37.7	+3.9
SYVR				Pmax			
	comp=E,32nm,0.3s						
SYVR				Smax			
	comp=E,113nm,0.4s						
ZAK	**Zakamensk**	**2.76**	**226**	*e*	Pn	06 40 03.2	+2.6
ZAK				*e*Pg	Pb	06 40 07.4	+1.0
ZAK				*e*		06 40 09.2	
ZAK				*e*Sg	Sb	06 40 43.7	+3.9
ZAK				Pmax			
	comp=E,14nm,0.1s						
ZAK				Smax			
	comp=E,175nm,0.3s						
ZAK	**Zakamensk**	**2.76**	**226**	*e*PN	Pb	06 40 05.2	-1.2
ZAK				*e*		06 40 43.4	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.1s						
ZAK				smax	smax		
	comp=E,89nm,0.2s						
MOY	**Mondy**	**3.40**	**261**	⇓*i*	Pb	06 40 14.3	-2.9
MOY				Pg	Pn	06 40 17.9	+8.5
MOY				*e*		06 40 23.8	
MOY				*e*		06 40 55.9	
MOY				*e*Sg	Sb	06 41 02.3	+4.2
MOY				max			
	comp=E,43nm,1.0s						
MOY				Smax			
	comp=E,294nm,1.3s						
MOY	**Mondy**	**3.40**	**261**	*e*PN	Pb	06 40 21.5	+4.3
MOY				*e*		06 41 02.1	
MOY				pmax	pmax		
	comp=Z,44nm,0.4s						
MOY				smax	smax		
	comp=N,242nm,0.5s						
YLYR	**Ulyunkhan**	**3.82**	**46**	⇑*i*Pn	Pn	06 40 16.5	+1.5
YLYR				*e*		06 40 20.1	
YLYR				*e*Pg	Pb	06 40 25.5	+1.2
YLYR				*e*		06 41 11.9	
YLYR				*e*Sg	Sb	06 41 15.5	+5.5
YLYR				Pmax			
	comp=N,10.0nm,0.7s						
YLYR				Smax			
	comp=N,83nm,0.8s						
NIZ	**Nizh Angarsk**	**3.91**	**27**	*e*Pn	Pn	06 40 18.3	+2.0
NIZ				*e*Pg	Pb	06 40 27.6	+1.7
NIZ				*e*Sn	Sn	06 41 01.9	+0.4
NIZ				*e*Sg	Sb	06 41 18.4	+5.6
NIZ				Pmax			
	comp=N,11nm,0.3s						
NIZ				Smax			
	comp=N,129nm,0.8s						
NIZ	**Nizh Angarsk**	**3.91**	**27**	*e*PN	Pn	06 40 18.1	+1.8
NIZ				*e*		06 40 25.6	
NIZ				*e*		06 41 18.2	
NIZ				pmax	pmax		
	comp=Z,12nm,0.5s						
NIZ				smax	smax		
	comp=E,128nm,0.8s						
ORL	**Orlik**	**4.03**	**275**	*e*Pn	Pn	06 40 20.2	+2.2
ORL				*e*Pg	Pb	06 40 30.7	+2.8
ORL				*e*		06 41 09.8	
ORL				*e*Sg	Sb	06 41 22.9	+6.7
ORL				Pmax			
	comp=E,14nm,0.6s						
ORL				Smax			
	comp=E,78nm,0.6s						
ORL	**Orlik**	**4.03**	**275**	*e*PN	Pn	06 40 21.1	+3.1
ORL				*e*		06 40 30.7	
ORL				*e*		06 41 22.8	
ORL				pmax	pmax		
	comp=Z,13nm,0.2s						
ORL				smax	smax		
	comp=N,104nm,0.8s						
CIT	**Chita**	**4.43**	**91**	*e*Sg	Sb	06 41 33.3	+5.7
CIT				Smax			
	comp=N,187nm,0.3s						
ULN	**Ulaanbaatar**	**4.50**	**174**	*e*Pn	Pn	06 40 27.3	+2.7
ULN				*e*Pg	Pb	06 40 38.2	+2.1
ULN				*e*Sg	Sb	06 41 37.6	+7.7
KMO	**Kumora**	**4.55**	**37**	*e*Pn	Pn	06 40 23.9	-1.1
KMO				*e*		06 40 27.5	
KMO				*e*Pg	Pb	06 40 38.5	+1.8
KMO				*e*		06 41 09.8	
KMO				*e*Sg	Sb	06 41 38.2	+7.2
KMO				Pmax			
	comp=N,11nm,0.4s						
KMO				Smax			
	comp=N,95nm,0.9s						
KMO	**Kumora**	**4.55**	**37**	*e*PN	Pn	06 40 26.4	+1.4
KMO				*e*		06 40 38.6	
KMO				*e*S	Sn	06 41 18.2	+1.1
KMO				*e*		06 41 36.7	
KMO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KMO				smax	smax		
	comp=N,94nm,1.3s						
KPC	**Khapcheranga**	**4.62**	**123**	*e*Pn	Pn	06 40 26.9	+0.8
KPC				*e*Pg	Pb	06 40 40.6	+2.6
KPC				*e*		06 41 22.1	
KPC				*e*Sg	Sb	06 41 41.1	+8.0
KPC				*e*		06 41 43.3	
KPC				Pmax			
	comp=N,16nm,0.6s						
KPC				max			
	comp=N,91nm,0.9s						
KPC	**Khapcheranga**	**4.62**	**123**	*e*PN	Pn	06 40 26.9	+0.8
KPC				*e*		06 40 39.8	
KPC				*e*		06 41 40.0	
KPC				pmax	pmax		
	comp=Z,16nm,0.4s						
KPC				smax	smax		
	comp=E,97nm,1.4s						
UKT	**Uakit**	**5.32**	**51**	*e*Pn	Pn	06 40 37.5	+1.8
UKT				*e*Pg	Pb	06 40 52.4	+2.5
UKT				*e*Sg	Sb	06 42 02.0	+8.7
UKT				Pmax			
	comp=E,4.0nm,1.0s						
UKT				Smax			
	comp=E,35nm,1.0s						
SVKR	**Severomuysk**	**5.66**	**45**	*e*Sg	Sb	06 42 15.1	+12
SVKR				Smax			
	comp=E,131nm,0.7s						
NLYR	**Nelyaty**	**6.85**	**49**	*e*	Pb	06 41 07.6	-8.3
NLYR				Pg	Pn	06 41 21.0	+24
NLYR				*e*Sg	Sb	06 42 50.8	+14
NLYR				Pmax			
	comp=E,1.0nm,0.1s						
NLYR				Smax			
	comp=E,46nm,1.1s						
BOD	**Bodaibo**	**7.02**	**36**	*e*Sg	Sb	06 42 53.9	+12
BOD				Smax			
	comp=E,19nm,0.9s						
CRS	**Chara**	**8.27**	**52**	*e*Sg	Sb	06 43 34.5	+17
CRS				Smax			
	comp=E,33nm,1.2s						
TUP	**Tupik**	**8.38**	**70**	*e*	Pb	06 41 37.8	-4.2
TUP				*e*Pg	Pn	06 41 48.2	+31
TUP				*e*Sg	Sb	06 43 37.3	+16
TUP				Smax			
	comp=E,80nm,1.4s						

*ISCJB **01** 06:55:55.0±0.8, 17°.6S±0°.3×178°.8W±0°.2, h539^{km}, mb3.8/6, Error ellipse: s-maj=40.2km s-min=14.0km az=157.7*
*IDC **01** 06:55:55.9±2.0, 17°.58S×178°.86W, h535^{km}±23^{km}, mb3.2/6, mb1 3.4/8, mb1mx3.1/37, mbtmp4.2/8, Error ellipse: s-maj=30.8km s-min=16.8km az=156.0*
ISC 01 06:55:55.9±0.8, **17°.5S**±0°.3×**178°.8W**±0°.2, **h539**^{km}, **n10**, σ0°**73**/11, **mb3.8**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68**	**63**	P	**P**	**06 57 49.9**	**-0.4**
	2.8nm,0.3s,baz=221,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**14.58**	**250**	P	**P**	**06 59 02.2**	**+0.9**
	0.1nm,0.3s,baz=96,slow=19,SNR=3.0						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**07 01 47.7**	**-0.1**
	1.8nm,0.5s,baz=93,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**07 02 32.1**	**+0.1**
	4.8nm,0.8s,baz=99,slow=13,SNR=6.4						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**07 03 17.4**	**-1.0**
	1.5nm,0.6s,baz=94,slow=7.3,SNR=6.0						
WRA				PcP	**PcP**	**07 04 50.0**	**-1.0**
	0.7nm,0.5s,baz=91,slow=3.4,SNR=3.4						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**07 03 19.8**	**-0.2**
	13nm,0.5s,baz=89,slow=8.1,SNR=357						
ASAR				PcP	**PcP**	**07 04 51.4**	**-0.3**
	0.6nm,0.5s,baz=105,slow=3.6,SNR=4.3						
VNDA	**Vanda**	**60.79**	**185**	P	**P**	**07 05 15.1**	**-0.1**
	0.4nm,0.6s,baz=18,slow=6.4,SNR=4.2						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**07 07 41.3**	**+0.9**
	0.5nm,0.8s,baz=231,slow=5.7,SNR=4.6						
BRTR	**Keskin Array B**	**144.23**	**315**	PKP	PKPbc	07 14 30.1	-0.6
	0.7nm,0.6s,baz=121,slow=2.5,SNR=3.0						
GERES	**GERESS Array B**	**147.14**	**345**	PKPbc	**PKPbc**	**07 14 39.2**	**+0.5**
	0.3nm,0.4s,baz=352,sl

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VOGL	Vogel Lake	0.62	207	P	Pn	06 59 55.1 +0.3
KNK	Knik Glacier	0.69	101	P	Pn	06 59 55.5 -0.2
KNK				S	Sn	07 00 06.5 +0.5
SML	Sawmill	0.77	70	P	Pn	06 59 56.0 -0.7
SML				S	Sn	07 00 08.0 +0.1
CUT	Chulitna	0.88	347	P	Pn	06 59 58.0 0.0
SKT	Skwentna	0.90	299	P	Pn	06 59 57.7 -0.6
SKT				S	Sn	07 00 10.5 -0.2
STLK	Strandline Lak	0.95	268	P	Pn	06 59 58.8 -0.2
PWL	Port Wells	1.01	133	P	Pn	06 59 59.5 -0.3
PWL				S	Sn	07 00 13.7 +0.4
NKA	Nikishka	1.05	220	P	Pn	07 00 01.5 +1.3
SLKM	Skilak Lake	1.06	190	P	Pn	06 59 59.7 -0.8
SPCG	Spurr Capps Gl	1.07	257	P	Pn	07 00 00.5 -0.2
SPCG				S	Sn	07 00 16.1 +1.4
SPU	Mount Spurr	1.12	252	ePn	Pn	07 00 00.8 -0.4
SPU				eSn	Sn	07 00 15.2 -0.7
SPCP	Crater Peak Br	1.14	256	P	Pn	07 00 01.4 -0.2
SPCP				S	Sn	07 00 17.5 +1.1
SPCN	Chakachatna No	1.17	255	P	Pn	07 00 01.7 -0.1
SPCR	Spurr Chakacha	1.18	254	P	Pn	07 00 01.6 -0.5
SPCR				S	Sn	07 00 18.0 +0.7
SCM	Sheep Creek Mo	1.24	76	P	Pn	07 00 02.6 -0.3
SCM				S	Sn	07 00 19.4 +0.7
CKL	Chakachamna La	1.25	254	P	Pn	07 00 02.5 -0.4
SPWE	Spurr West	1.33	259	P	Pn	07 00 03.9 -0.2
SPNN	North Nagishla	1.38	263	P	Pn	07 00 04.8 +0.1
HUR	Hurricane	1.44	4	P	Pn	07 00 05.9 +0.5
SEW	Seward	1.47	172	P	Pn	07 00 05.0 -0.7
BGRM	Barrier Glacie	1.47	238	P	Pn	07 00 05.4 -0.6
GLI	Glacier Island	1.50	116	P	Pn	07 00 05.6 -0.7
GLI				S	Sn	07 00 24.6 -0.1
JPK	Jack Peak	1.65	106	P	Pn	07 00 08.0 -0.3
DFR	Drift River	1.68	236	P	Pn	07 00 08.2 -0.5
RDJH	Redoubt Jeurge	1.73	237	P	Pn	07 00 09.0 -0.4
PPLA	Purkeypile	1.73	322	P	Pn	07 00 09.2 -0.4
VMT	TAPS TI Valdez	1.75	104	P	Pn	07 00 09.5 -0.1
VLZ	Valdez	1.75	102	P	Pn	07 00 09.1 -0.5
RSO	Redoubt South	1.78	233	ePn	Pn	07 00 09.9 -0.4
RDWB	Redoubt West	1.80	235	P	Pn	07 00 10.0 -0.5
RED	Redoubt Volcan	1.82	233	P	Pn	07 00 10.1 -0.5
FID	Port Fidalgo	1.83	115	P	Pn	07 00 09.5 -1.2
FID				eSn	Sn	07 00 32.8 0.0
BRLK	Bradley Lake	1.86	196	P	Pn	07 00 10.5 -0.7
BRLK				eSn	Sn	07 00 33.4 -0.2
KLU	Klutina	1.89	90	ePn	Pn	07 00 11.2 -0.3
KLU				eSn	Sn	07 00 35.0 +0.6
TRF	Thorofare Moun	1.92	354	P	Pn	07 00 12.1 +0.1
RND	Reindeer	1.92	14	P	Pn	07 00 12.1 +0.1
RND				eSn	Sn	07 00 28.7 -6.4
DHY	Denali Highway	1.92	36	P	Pn	07 00 12.0 -0.1
DIV	Divide	2.02	100	P	Pn	07 00 12.7 -0.6
KTH	Kantishna Hill	2.07	347	P	Pn	07 00 14.2 +0.2
HOM	Homer	2.09	206	ePn	Pn	07 00 14.2 -0.1
HOM				eSn	Sn	07 00 39.3 +0.1
ILIM	Iliamna	2.12	227	P	Pn	07 00 14.5 -0.2
CAST	Castle Rocks	2.14	332	ePn	Pn	07 00 14.7 -0.3
CNPM	China Poot	2.14	199	P	Pn	07 00 14.2 -0.8
CNPM				eSn	Sn	07 00 39.3 -1.2
PS11	TAPS Pump St11	2.15	74	P	Pn	07 00 15.9 +0.9
MCK	McKinley	2.23	11	P	Pn	07 00 16.8 +0.6
HARP	HAARP	2.38	67	P	Pn	07 00 18.8 +0.6
PAX	Paxson	2.50	53	ePn	Pn	07 00 20.7 +0.8
PAX				eSn	Sn	07 00 51.4 +2.1
BMRM	Bremner River	2.61	101	P	Pn	07 00 20.5 -0.8
MID	Middleton Isla	2.75	139	ePn	Pn	07 00 24.0 +0.7
SVW2	Sparrevohn	2.80	263	P	Pn	07 00 23.2 -0.7
WRH	Wood River Hil	3.04	15	P	Pn	07 00 27.5 +0.3
HDA	Harding Lake	3.16	24	ePn	Pn	07 00 30.0 +1.2
TT01	Tatalina	3.19	298	P	Pn	07 00 28.6 -0.6
TTA	Tatalina	3.19	298	P	Pn	07 00 28.7 -0.7
CCB	Clear Creek Bu	3.24	16	P	Pn	07 00 30.2 +0.2
MCARA	McCarthy VSAT	3.29	90	P	Pn	07 00 31.1 +0.5
CRQM	Cirque	3.35	101	ePn	Pn	07 00 32.5 +0.8
KHIT	Khitrov Hills	3.41	106	P	Pn	07 00 31.9 -0.4
DOT	Dot Lake	3.41	49	P	Pn	07 00 32.4 +0.1
COLA	College	3.46	14	P	Pn	07 00 33.4 +0.6
MDM	Murphy Dome	3.50	11	P	Pn	07 00 33.5 0.0
IL1	Eielson Array	3.50	21	P	Pn	07 00 32.9 -0.6
ILAR	Eielson Array	3.50	21	P	Pn	07 00 33.1 -0.4
	1.2nm,0.3s,baz=201,slow=14,SNR=47					
ILAR				S	Sn	07 01 12.6 -1.1
	4.6nm,0.3s,baz=191,slow=22,SNR=5.4					
ILAR				LR	LR	07 02 20.2
	comp=Z,55nm,20.1s,baz=126,slow=45					
ILB	Eielson Array	3.50	21	P	Pn	07 00 33.1 -0.4
PTPK	Patty Peak	3.58	93	P	Pn	07 00 34.7 -0.1
KAHC	Katmai Hardscr	3.89	224	P	Pn	07 00 38.3 -0.6
BAGL	Bagley Icefiel	3.93	102	P	Pn	07 00 39.5 +0.2
KDAK	Kodiak Island	4.03	201	P	Pn	07 00 38.5 -2.2
	1.7nm,0.3s,baz=23,slow=12,SNR=52					
KDAK				S	Sn	07 01 21.0 -5.4
	4.5nm,0.3s,baz=53,slow=11,SNR=7.5					
KDAK	Kodiak Island	4.03	201	P	Pn	07 00 39.9 -0.8
BCA3	Beaver Creek A	4.06	65	P	Pn	07 00 41.5 +0.3
CTGM	Chitina Glacie	4.16	94	P	Pn	07 00 42.1 -0.5
KABR	Katmai Barrier	4.29	219	P	Pn	07 00 44.3 -0.1
KELA	Mount Kelaz	4.30	226	P	Pn	07 00 43.9 -0.6
LOGN	Logan Glacier	4.35	96	P	Pn	07 00 44.6 -0.6
OHAK	Old Harbor	4.68	203	P	Pn	07 00 48.2 -1.5
IM3	Indian Mountai	4.77	341	P	Pn	07 00 50.7 -0.2
PCA	Pinnacle	4.92	103	P	Pn	07 00 52.2 -0.8
EGAK	Eagle	5.10	47	P	Pn	07 00 55.2 -0.2
DAWY	Dawson	5.42	58	P	Pn	07 00 59.3 -0.6
FYU	Fort Yukon	5.43	20	ePn	Pn	07 01 01.3 +1.5
COLD	Coldfoot	5.70	359	P	Pn	07 01 03.9 +0.4
DHAK	Deception Hill	6.29	108	ePn	Pn	07 01 11.5 -0.2
BM3	Burnt Mountain	6.31	19	P	Pn	07 01 12.5 +0.6
CHGN	Chignik	6.88	224	ePn	Pn	07 01 18.1 -1.5
WHY	Whitehorse	7.31	90	ePn	Pn	07 01 26.2 +0.4
BESE	Bessie Mountai	8.07	105	ePn	Pn	07 01 37.0 +0.9
INK	Inuvik	9.66	39	P	Pn	07 01 58.8 +1.1
	0.2nm,0.3s,baz=232,slow=16,SNR=6.5					
INK				S	Sn	07 03 41.3 -3.2
	0.1nm,0.3s,baz=204,slow=18,SNR=2.0					
INK	Inuvik	9.66	39	ePn	Pn	07 01 59.3 +1.6
INK				S	Sn	07 03 41.3 -3.2
DLBC	Dease Lake	10.40	99	LR	LR	07 05 55.8
	comp=Z,66nm,21.7s,baz=308,slow=36					
DLBC	Dease Lake	10.40	99	ePn	Pn	07 02 05.0 -2.9
DIB	Dawson Inlet,	12.53	124	ePn	Pn	07 02 37.0 +0.2
YKA	Yellowknife Ar	16.45	71	LR	LR	07 10 29.9
	comp=Z,4.6nm,19.5s,baz=0.0,slow=39					
NEW	Newport	22.74	111	P	P	07 04 39.6 +1.1
	2.3nm,0.9s,baz=329,slow=10,SNR=4.5					
MA2	Magadan	28.38	293	LR	LR	07 18 13.2
	comp=Z,31nm,19.7s,baz=198,slow=39					
PETK	Petropavlovsk-	28.79	277	P	P	07 05 34.5 +1.0
	0.9nm,0.5s,baz=53,slow=9.8,SNR=2.9					
PDAR	Pinedale Array	30.36	110	P	P	07 05 48.8 +1.0
	0.6nm,0.6s,baz=317,slow=5.2,SNR=8.7					
TXAR	Lajitas Array	44.17	115	P	P	07 07 45.2 +0.8
	0.6nm,0.8s,baz=336,slow=5.9,SNR=8.4					
TXAR				PcP	PP	07 09 27.9 -0.1
	0.1nm,0.6s,baz=321,slow=2.3,SNR=4.8					
SONM	Songino Array	55.10	307	P	P	07 09 07.5 +0.1
	0.5nm,0.6s,baz=35,slow=5.3,SNR=6.0					

NEIC ***01*** *07:07:00.9±0.0,38°.90N×118°.77W,h3km,mb4.6/13, MW4.1,ML4.5(REN),Moment Tensor Solution. s75 Moment tensor: Scale 1015Nm; Mrr-0.45; Mθθ-1.26; Mφφ1.71; Mrθ-0.36; Mθφ0.84; Mφr0.30; Best double couple: M01.80000×1015 NP1:φs152.00000°,δ80.00000°, λ-162.00000°. NP2:φs58.00000°,δ72.00000°, λ-11.00000°. Principal axes: T 1.9500, Plg5.0000°, Azm284.0000°; N -0.3100, Plg69.0000°, Azm181.0000°; P -1.6400, Plg20.0000°, Azm16.0000°; After REN.*

NEIC Felt [IV] at Schurz, [III] at Yerington and [II] at Dayton, Fernley and Hawthorne. Also felt at Carson City, Fallon, Glenbrook, Incline Village, Reno, Silver Springs and Wellington. Felt [III] at Pioneer and [II] at Arnold, Mi-Wuk Village, Murphys, Sonora and South Lake Tahoe, California. Felt in the Coleville-Foresthill-Mariposa area.

ISCJB ***01*** *07:07:01.4±0.2,38°.88N±0°.01×118°.79W±0°.02,h10km, mb4.8/12,MS3.2/7 Error ellipse: s-maj=2.1km s-min=1.8km az=158.3*

IDC ***01*** *07:07:01.6±1.2,38°.84N×118°.67W,h0km,mb3.5/2,*

mb1 3.9/8,mb1mx3.7/51,mbtmp3.6/8,ML3.4/6,MS3.3/9, Ms1 3.3/9,ms1mx3.0/25,Error ellipse: s-maj=22.1km s-min=11.9km az=76.0

ISC 01 07:07:04.0±0.9,38°.80N±0°.02×119°.00W±0°.02,h25km±6km, n171,o2§00/190,mb5.1/12,MS3.4/7,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YERR	Yerington	0.27	315	ePg	Pb	07 07 08.6	-2.1
TVH1	TV Hill, Hawth	0.38	152	ePg	Pb	07 07 09.5	-3.0
TVH1				eSg	Sb	07 07 15.7	-2.6
WAKR	Walker	0.45	230	ePg	Pb	07 07 13.6	+0.1
WAKR				eSg	Sn	07 07 22.6	+0.1
TVH2	Borealis Mine	0.46	156	ePg	Pb	07 07 10.9	-2.8
TVH2				eSg	Sb	07 07 18.2	-2.0
TVH3	East Aurora ar	0.46	163	ePg	Pb	07 07 11.5	-2.3
TVH3				eSg	Sb	07 07 19.3	-1.0
PNTR	Pine Nut	0.56	302	ePg	Pb	07 07 14.0	-1.3
PAHR	Pah Rah Range	0.96	342	ePg	Pn	07 07 18.7	-3.3
PAHR				eSg	Sb	07 07 32.5	-1.8
MLAC	Mammoth, Mammo	1.17	174	P	Pn	07 07 24.6	-0.4
	baz=1.3						
MLAC				S	Sb	07 07 42.3	+1.7
	baz=1.3						
CMB	Columbia Colle	1.33	236	ePn	Pb	07 07 29.0	+0.7
CMB				eSn	Sb	07 07 49.2	+4.2
BEKR	Beckworth	1.50	316	ePn	Pn	07 07 29.5	-0.1
BEKR				eSn	Sb	07 07 51.1	+1.0
AFDM	Forest Hills D	1.55	276	ePn	Pb	07 07 31.4	-0.6
AFDM				eSn	Sb	07 07 54.0	+2.8
TIN	Tinemaha, Big	1.84	161	P	Pn	07 07 33.8	-0.3
	baz=346						
TIN				S	Sn	07 07 58.4	+1.7
	baz=346						
ORV	Oroville	2.09	292	ePn	Pn	07 07 37.9	+0.5
ORV				eSn	Sb	07 08 12.2	+5.5
BMN	Battle Mountai	2.13	39	ePn	Pn	07 07 33.3	-4.9
BMN				eSn	Sn	07 08 03.3	-0.6
GRAC	Grapevine Rang	2.21	144	P	Pn	07 07 37.7	-1.4
	baz=330						
GRAC				Sb	Sb	07 08 10.4	+0.1
	baz=330						
CWC	Cottonwood Cre	2.46	163	P	Pn	07 07 42.5	-0.1
	baz=347						
CWC				Sb	Sb	07 08 19.4	+1.8
	baz=347						
RCTC	Rector, Farmer	2.49	185	P	Pn	07 07 44.6	+1.6
	baz=7.6						
RCTC				Sb	Sb	07 08 22.2	+3.9
	baz=7.6						
O03D	Paynes Creek	2.64	305	P	Pn	07 07 45.4	+0.4
	baz=120						
R11A	Troy Canyon, C	2.71	98	P	Pn	07 07 42.0	-4.1
	baz=283						
R11A				Sb	Sn	07 08 20.2	+2.0
	baz=283						
R11A	Troy Canyon, C	2.71	98	ePn	Pn	07 07 42.5	-3.7
R11A				eSn	Sn	07 08 20.9	+2.7
DAC	Darwin (Calif)	2.75	156	ePn	Pn	07 07 46.0	-0.7
DAC				eSn	Sb	07 08 29.1	+3.2
SAO	San Andreas Ge	2.81	225	ePn	Pn	07 07 50.2	+2.9
SAO				eSn	Sb	07 08 37.0	+10
TPNV	Topopah Spring	2.85	129	P	Pn	07 07 45.5	-2.5
	baz=315						
TPNV				Sb	Sb	07 08 27.8	-0.9
	baz=315						
TPNV	Topopah Spring	2.85	129	ePn	Pn	07 07 46.6	-1.4
TPNV				eSn	Sb	07 08 31.4	+2.7
FURC	Furnace Creek,	2.88	143	Pb	Pb	07 07 52.5	-2.1
	baz=328						
FURC				Sb	Sb	07 08 30.5	+1.2
	baz=328						
PMPB	Monarch Peak	2.95	210	ePn	Pb	07 07 55.4	-0.5
GDXM	Geysers	2.97	271	ePn	Pn	07 07 50.9	+1.4
MPMC	Manual Prospec	2.98	156	P	Pn	07 07 49.2	-0.7
	baz=340						
MCCM	Marconi Confer	3.12	259	ePn	Pn	07 07 53.1	+1.6
ISA	Isabella, Lake	3.15	172	ePn	Pn	07 07 54.6	+2.5
ISA				ePg	Pb	07 08 00.1	+0.8
ISA				eSg	Sb	07 08 41.8	+4.4
HOPS	Hopland Field	3.19	275	ePn	Pn	07 07 53.6	+1.1
PAGB	Antelope Grade	3.22	198	ePn	Pn	07 07 59.0	-1.4
MOD	Modoc Plateau	3.26	343	ePn	Pn	07 07 54.5	+0.8
MOD				ePg	Pb	07 08 01.8	+0.6
MOD				eSg	Sb	07 08 45.8	+5.2
WDC	Whiskeytown Da	3.27	304	ePn	Pn	07 07 53.8	+0.3
SHOC	Shoshone, Teco	3.61	142	P	Pn	07 07 56.7	-1.6
	baz=327						
WVOR	Wild Horse Val	3.64	4	ePn	Pn	07 07 56.4	-2.5
KCPM	Cahto Peak	3.67	285	ePn	Pb	07 08 03.9	-4.3
SHPR	Sheep Range	3.81	126	ePn	Pn	07 07 58.9	-2.3
GSC	Goldstone, Bar	3.90	153	ePn	Pn	07 08 01.6	-0.8
KMRM	Mail Ridge	3.91	293	ePn	Pn	07 08 05.1	+2.5
PSUT	Pine Spring	4.03	92	ePn	Pn	07 08 06.2	+1.8
YBH	Yreka Blue Hor	4.08	317	ePn	Pn	07 08 06.2	+1.3
OSI	Osito Audit: C	4.18	177	ePg	Pb	07 08 17.9	+1.0
K05A	Summer Lake	4.18	340	ePn	Pb	07 08 07.9	+1.5
KHMM	Horse Mountain	4.20	301	ePn	Pn	07 08 08.0	+1.5
JCC	Jacoby Creek,	4.37	299	ePn	Pn	07 08 10.1	+1.3
CCUT	Cedar City	4.61	104	ePn	Pn	07 08 09.0	-3.3
KRMB	Red Mountain	4.65	307	ePn	Pn	07 08 14.1	+1.4
SZCU	Shurtz Canyon	4.81	103	ePn	Pn	07 08 15.0	+0.1
LDFC	Landfair	4.84	139	ePg	Pb	07 08 29.9	+1.7
HUMO	Hull Mountain	4.85	323	ePn	Pn	07 08 17.7	+2.3
HUMO				ePg	Pb	07 08 33.9	+5.7
LCMT	Little Creek M	4.88	110	ePn	Pb	07 08 12.8	-3.2
LCMT				ePg	Pb	07 08 29.0	+0.1
DUG	Dugway, Tooele	4.98	72	ePn	Pb	07 08 15.0	-2.3
BGU	Big Grassy Mou	5.06	63	ePn	Pn	07 08 14.6	-3.8
TCRU	Three Creeks R	5.13	90	ePn	Pn	07 08 17.8	-1.6
TCRU				eSg	Sb	07 09 38.8	+4.5
MFID	Camas Ranch	5.20	26	ePn	Pn	07 08 18.9	-1.3
KBO	Bosley Butte	5.25	312	ePn	Pn	07 08 22.5	+1.6
MSU	Marysvale	5.34	91	ePn	Pn	07 08 20.0	-2.4
MTPU	Mount Pierson	5.40	96	ePn	Pn	07 08 21.7	-1.6
PKCU	Pink Cliffs	5.44	102	ePn	Pn	07 08 22.2	-1.6
PKCU				ePg	Pb	07 08 42.1	+3.6
NLU	North Lily Min	5.49	76	ePn	Pn	07 08 22.4	-1.9
NLU				ePg	Pb	07 08 40.9	+1.7
W13A	Hualapai Mount	5.51	130	ePn	Pn	07 08 22.9	-1.7
W13A				ePg	Pb	07 08 42.7	+3.1
PFO	Pinyon Flats O	5.56	158	Pn	Pn	07 08 25.3	0.0
	0.5nm,0.3s,baz=336,slow=10.0,SNR=4.3						
PFO				Lg	Lg	07 09 54.5	
	0.5nm,0.3s,baz=320,slow=16,SNR=1.7						
PFO	Pinyon Flats O	5.56	158	ePn	Pn	07 08 25.6	+0.3
PFO				Lg	Lg	07 09 54.5	
HVU	Hansel Valley	5.61	56	ePn	Pn	07 08 22.2	-3.8
SPUT	South Promonto	5.61	61	ePn	Pn	07 08 23.2	-2.8
SPUT				ePg	Pb	07 08 43.2	+1.8
KEBM	Edson Butte	5.74	317	ePn	Pn	07 08 31.2	+3.6
KEBM				ePg	Pb	07 08 51.5	+8.1
U15A	North Rim	5.82	112	ePn	Pn	07 08 26.9	-2.1
MPU	Maple Canyon	5.83	76	ePn	Pn	07 08 27.8	-1.2
HLID	Hailey	5.88	35	ePn	Pn	07 08 27.5	-2.2
TMUT	Trail Mountain	6.08	83	ePn	Pn	07 08 32.1	-0.5
JLU	Jordanelle	6.09	70	ePn	Pn	07 08 33.0	+0.4
BMO	Blue Mountains	6.18	11	ePn	Pn	07 08 33.1	-0.6
Y12C	Blythe	6.20	143	ePn	Pn	07 08 33.5	-0.3
HWUT	Hardware Ranch	6.34	61	ePn	Pn	07 08 33.8	-2.2
BAR	Barrett	6.39	162	ePn	Pn	07 08 38.0	+1.4
P17A	Butcher Ranch,	6.45	81	ePn	Pn	07 08 36.9	-0.7
G06A	Carlson Farm,	6.55	350	ePn	Pn	07 08 41.0	+2.3
SRU	San Rafael Swe	6.61	85	ePn	Pn	07 08 38.7	-1.0
COR	Corvallis	6.62	332	ePn	Pn	07 08 42.2	+2.6
Y14A	Wickenburg	6.84	133	ePn	Pn	07 08 42.4	-0.4
Y14A				eSg	Sb	07 10 36.5	+13
P18A	Preston Nutter	6.84	80	ePn	Pn	07 08 42.8	-0.3
WUAZ	Wupatki	6.91	116	ePg	Pb	07 09 06.5	+3.1
113A	Mohawk Valley,	7.36	143	ePg	Pb	07 09 19.4	+8.4
X16A	Lo Mia Camp, P	7.48	123	ePn	Pn	07 08 50.9	-0.8
F04A	Amboy	7.57	342	ePn	Pn	07 08 54.8	+2.2
MCMT	McKenzie Canyo	7.57	35	ePn	Pn	07 08 53.2	+0.3
HAWA	Hanford	7.60	357	ePn	Pn	07 08 55.6	+2.5
REDW	Red Top Meadow	7.66	51	ePn	Pn	07 08 53.6	-0.4
TPAW	Teton Pass	7.67	50	ePn	Pn	07 08 54.8	+0.5
FXWY	Fox Creek	7.71	49	ePn	Pn	07 08 54.9	+0.1
PV09	Paradox Valley	7.72	89	ePn	Pn	07 08 54.5	-0.6
E09A	Wood Farm, Sta	7.74	4	ePn	Pn	07 08 56.6	+1.7
SNOW	Snow King Moun	7.77	51	ePn	Pn	07 08 55.6	-0.1
E07A	Sunnyside	7.78	356	ePn	Pn	07 08 58.6	+3.0
PV05	Paradox Valley	7.80	92	ePn	Pn	07 08 57.0	+0.9
PV10	Paradox Valley	7.81	90	ePn	Pn	07 08 55.4	-0.9
IMW	Indian Meadow	7.92	47	ePn	Pn	07 08 58.5	+0.8
MOOW	Moose Ponds	7.94	49	ePn	Pn	07 08 57.9	-0.1
LOHW	Long Hollow	7.95	50	ePn	Pn	07 08 57.8	-0.3
DLMT	Dillon	8.10	34	ePn	Pn	07 09 00.7	+0.5
BW06	Boulder Array	8.18	58	ePn	Pn	07 09 00.2	-1.1
PD31	Pinedale Array	8.18	58	ePn	Pn	07 09 00.2	-1.1
PDAR	Pinedale Array	8.18	58	Pn	Pn	07 09 00.3	-1.1
	0.4nm,0.3s,baz=240,slow=15,SNR=40						
PDAR				Lg	Lg	07 11 06.4	
	0.6nm,0.3s,baz=216,slow=29,SNR=3.4						
PV01	Paradox Valley	8.21	91	ePn	Pn	07 09 00.7	-0.9
LON	Longmire	8.21	346	ePn	Pn	07 09 06.7	+5.1
YMR	Madison River	8.39	43	ePn	Pn	07 09 05.3	+1.2
O20A	White River Ci	8.43	77	ePn	Pn	07 09 04.4	-0.2
MVCO	Mesa Verde	8.44	98	ePn	Pn	07 09 04.0	-0.8
LRM	Limekiln Ridge	8.53	33	ePn	Pn	07 09 06.9	+0.8
LKWY	Lake	8.63	45	ePn	Pn	07 09 05.9	-1.6
D05A	Enumclaw	8.67	346	ePn	Pn	07 09 09.7	+2.0
BOZ	Bozeman (W)	8.72	36	ePn	Pn	07 09 09.3	+0.7
CHMT	Chamberlain Mo	9.14	26	ePn	Pn	07 09 14.9	+0.5
TUC	Tucson	9.30	132	ePn	Pn	07 09 16.4	-0.1
SLMT	Seeley Lake	9.35	24	ePn	Pn	07 09 17.8	+0.6
SMCO	Snowmass	9.37	84	ePn	Pn	07 09 17.4	-0.4
SWMT	Swartz Lake	9.44	21	ePn	Pn	07 09 18.3	-0.1
RWWY	Rawlins	9.46	68	ePn	Pn	07 09 19.0	+0.1
BSMT	Bassoo Peak	9.55	17	ePn	Pn	07 09 20.3	+0.3
NEW	Newport	9.56	8	Pn	Pn	07 09 20.9	+0.9
	0.1nm,0.3s,baz=184,slow=17,SNR=8.9						
NEW				Lg	Lg	07 11 59.5	
	0.1nm,0.3s,baz=133,slow=19,SNR=2.4						
B08A	Colville Reser	9.56	359	ePn	Pn	07 09 20.5	+0.5
JTMT	Jette	9.58	19	ePn	Pn	07 09 21.6	+1.2
S22A	4UR Ranch, Cre	9.63	92	ePn	Pn	07 09 20.4	-0.8
YBMT	Yellow Bay	9.76	20	ePn	Pn	07 09 23.9	+1.1
BLMT	Blacktail Moun	9.80	19	ePn	Pn	07 09 24.1	+0.6
K22A	Casper	10.22	64	ePn	Pn	07 09 28.0	-1.1
ISCO	Idaho Springs	10.42	80	ePn	Pn	07 09 33.1	+1.1
LAZ	Ladron	10.49	111	ePn	Pn	07 09 34.4	+1.5
SDCO	Great Sand Dun	10.66	91	ePn	Pn	07 09 34.7	-0.7
ANMO	Albuquerque	10.75	107	Pn	Pn	07 09 34.5	-2.0
	0.1nm,0.3s,baz=312,slow=14,SNR=1.9						
ANMO				Pg		07 10 15.0	
	0.1nm,0.3s,baz=293,slow=12,SNR=4.7						
ANMO				Lg	Lg	07 12 32.1	
	0.1nm,0.3s,baz=223,slow=19,SNR=2.2						
ANMO				LR	LR	07 14 01.1	
	comp=Z,107nm,21.4s,baz=277,slow=40						
319A	Douglas	10.86	130	ePn	Pn	07 09 39.4	+1.4
WALA	Waterton Lakes	10.89	18	ePn	Pn	07 09 39.0	+0.7
RSSD	Black Hills	12.41	60	ePn	Pn	07 09 57.8	-1.4
MNTX	Cornudas Mount	13.18	118	ePn	Pn	07 10 10.1	+0.6
BBB	Bella Bella	14.82	338	LR	LR	07 15 47.5	
	comp=Z,26nm,18.3s,baz=102,slow=35						
EDM	Edmonton	14.94	13	ePn	P	07 10 37.9	-1.0
TX31	Lajitas Ar. Si	15.80	122	ePn	Pn	07 10 46.5	+1.5
TXAR	Lajitas Array	15.81	122	Pn	Pn	07 10 46.6	+1.7
	0.0nm,0.3s,baz=302,slow=10,SNR=15						
LPIG	La Paz	16.40	151	LR	LR	07 15 40.5	
	comp=Z,68nm,19.9s,baz=328,slow=32						
WMOK	Wichita Mounta	16.69	98	ePn	Pn	07 10 56.2	+0.1
	11nm,1.3s						
JCT	Junction City	17.82	112	eP	P	07 11 11.6	+0.8
	9.9nm,1.4s						
TUL1	Leonard	18.66	92	eP	P	07 11 18.9	-1.1
	21nm,1.4s						
FFC	Flin Flon	19.66	30	eP	P	07 11 29.3	-1.4
	8.2nm,1.0s						
ULM	Lac du Bonnet	19.98	48	P	P	07 11 31.6	-2.8
	0.3nm,0.3s,baz=269,slow=10,SNR=5.1						
ULM	Lac du Bonnet	19.98	48	eP	P	07 11 32.1	-2.2
	23nm,1.5s						
DLB

ellipse: s-maj=7.2km s-min=6.8km az=109.9
*AZER **01** 07:07:40.0±3.0,39°.91N×42°.20E,h2km,Error ellipse: s-maj=91.4km s-min=27.6km az=157.0*
ISC 01 07:07:23.2±1.0,41°.49N±0°.02×41°.23E±0°.02,h12km±7km, n150,σ1§45/196,mb3.5/10,MS2.8/3,10C-12D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**0.36**	**113**	⇑*i*P	**Pb**	**07 07 31.1**	**-0.4**
DBOC				*i*S	**Sg**	**07 07 35.5**	**+0.4**
DBOC	**Borcka**	**0.36**	**113**	P	**Pb**	**07 07 31.0**	**-0.4**
DBOC				S	**Sg**	**07 07 35.5**	**+0.4**
ARTV	**Artvin**	**0.60**	**120**	⇓*i*P	**Pg**	**07 07 34.8**	**-0.2**
ARTV				*i*S	**Sg**	**07 07 42.3**	**-0.7**
ARTV	**Artvin**	**0.60**	**120**	P	**Pg**	**07 07 34.8**	**-0.2**
ARTV				S	**Sg**	**07 07 42.3**	**-0.7**
DAGI	**Agillar**	**0.66**	**128**	⇓*i*P	**Pg**	**07 07 35.4**	**-0.5**
DAGI				*i*S	**Sg**	**07 07 43.5**	**-1.0**
DDEM	**Demirkent**	**0.71**	**146**	⇓*i*P	**Pg**	**07 07 36.5**	**-0.5**
DDEM				*i*S	**Sg**	**07 07 45.2**	**-1.1**
DDEM	**Demirkent**	**0.71**	**146**	P	**Pg**	**07 07 36.5**	**-0.5**
DDEM				S	**Sg**	**07 07 45.2**	**-1.1**
EPOS	**Posof**	**1.12**	**89**	⇓*i*P	**Pg**	**07 07 44.1**	**-0.7**
EPOS				*i*S	**Sg**	**07 07 59.2**	**-0.3**
EPOS	**Posof**	**1.12**	**89**	P	**Pg**	**07 07 44.1**	**-0.7**
EPOS				S	**Sg**	**07 07 59.2**	**-0.3**
KTUT	**Trabzon**	**1.21**	**246**	*e*PN	**Pn**	**07 07 46.0**	**0.0**
KTUT				*e*SN	**Sn**	**07 08 02.7**	**+0.4**
KTUT	**Trabzon**	**1.21**	**246**	*e*Pn	**Pn**	**07 07 46.0**	**0.0**
KTUT				*e*Sn	**Sn**	**07 08 02.7**	**+0.4**
MACK	**Trabzon**	**1.23**	**244**	*i*P	**Pg**	**07 07 47.3**	**+0.5**
MACK				*i*S	**Sb**	**07 08 01.9**	**-0.3**
MACK	**Trabzon**	**1.23**	**244**	P	**Pg**	**07 07 47.3**	**+0.5**
MACK				S	**Sb**	**07 08 01.9**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.25**	**137**	*e*PN	**Pn**	**07 07 46.0**	**-0.7**
SENK				*e*SN	**Sg**	**07 08 03.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.25**	**137**	*e*Pn	**Pn**	**07 07 46.0**	**-0.7**
SENK				*e*Sn	**Sg**	**07 08 03.6**	**+0.1**
HOMI	**Horasan**	**1.53**	**160**	⇓*i*P	**Pn**	**07 07 51.1**	**+0.6**
HOMI				*i*S	**Sg**	**07 08 13.4**	**+1.1**
KOPT	**Kop Dagi**	**1.57**	**201**	*i*P	**Pb**	**07 07 52.4**	**+0.1**
KOPT				*i*S	**Sg**	**07 08 13.2**	**-0.5**
KOPT	**Kop Dagi**	**1.57**	**201**	P	**Pb**	**07 07 52.4**	**+0.1**
KOPT				S	**Sg**	**07 08 13.2**	**-0.5**
ERZM	**Erzurum**	**1.58**	**176**	*i*P	**Pb**	**07 07 52.3**	**-0.2**
ERZM	**Erzurum**	**1.58**	**176**	P	**Pb**	**07 07 52.3**	**-0.2**
AKH	**Akhalkalaki**	**1.70**	**92**	*e*PN	**Pn**	**07 07 52.2**	**-0.7**
AKH				*e*SN	**Sn**	**07 08 13.9**	**-0.7**
AKH	**Akhalkalaki**	**1.70**	**92**	P	**Pn**	**07 07 53.7**	**+0.9**
AKH				S	**Sn**	**07 08 14.8**	**+0.1**
AKH	**Akhalkalaki**	**1.70**	**92**	PN	**Pn**	**07 07 53.5**	**+0.7**
AKH	**Akhalkalaki**	**1.70**	**92**	Pn	**Pn**	**07 07 53.5**	**+0.7**
AKH				*e*Sn	**Sn**	**07 08 13.9**	**-0.7**
BGD	**Bogdanovka**	**1.79**	**96**	P	**Pn**	**07 07 55.1**	**+0.9**
BGD				S	**Sn**	**07 08 16.5**	**-0.5**
BGD	**Bogdanovka**	**1.79**	**96**	P	**Pb**	**07 07 56.0**	**-0.1**
BGD				S	**Sb**	**07 08 18.4**	**-0.2**
DIGO	**Kars**	**1.94**	**123**	*i*P	**Pb**	**07 07 58.9**	**+0.2**
DIGO				*i*S	**Sg**	**07 08 24.9**	**-0.8**
DIGO	**Kars**	**1.94**	**123**	P	**Pb**	**07 07 58.8**	**+0.2**
EAK	**Akyaka**	**1.96**	**113**	*i*P	**Pn**	**07 07 57.8**	**+1.3**
EAK	**Akyaka**	**1.96**	**113**	P	**Pn**	**07 07 57.8**	**+1.3**
ONI	**Oni**	**1.99**	**56**	P	**Pn**	**07 07 56.1**	**-0.6**
ONI				S	**Sn**	**07 08 21.2**	**-0.3**
ONI	**Oni**	**1.99**	**56**	PN	**Pn**	**07 07 56.1**	**-0.6**
ONI	**Oni**	**1.99**	**56**	P	**Pn**	**07 07 56.1**	**-0.6**
ONI				S	**Sn**	**07 08 19.5**	**-2.0**
KELT	**Kelkit**	**2.01**	**229**	*i*P	**Pn**	**07 07 57.4**	**+0.3**
KELT				*i*S	**Sn**	**07 08 23.1**	**+0.8**
KELT	**Kelkit**	**2.01**	**229**	P	**Pn**	**07 07 57.4**	**+0.3**
KELT				S	**Sn**	**07 08 23.0**	**+0.8**
NEY	**Neytrino**	**2.08**	**32**	*e*PN	**Pn**	**07 07 58.4**	**+0.4**
NEY				pmax	pmax		
	comp=Z,250nm,0.4s						
NEY	**Neytrino**	**2.08**	**32**	*e*Pn	**Pn**	**07 07 58.4**	**+0.4**
	comp=Z,250nm,0.4s						
YEDI	**Yedisu-Bingol**	**2.11**	**195**	*e*PN	**Pn**	**07 07 59.1**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.11**	**195**	*e*Pn	**Pn**	**07 07 59.1**	**+0.6**
ERZN	**Erzincan**	**2.22**	**212**	*e*PN	**Pn**	**07 08 00.6**	**+0.7**
DIGR	**Digorskoe uzhe**	**2.25**	**50**	PN	**Pg**	**07 08 08.6**	**+2.4**
EZC	**Erzincan**	**2.25**	**220**	*e*Pn	**Pn**	**07 08 00.6**	**+0.3**
GRSN	**GIRESUNGRSN**	**2.31**	**257**	*i*P	**Pn**	**07 08 01.6**	**+0.6**
GRSN	**GIRESUNGRSN**	**2.31**	**257**	P	**Pn**	**07 08 01.6**	**+0.6**
EKAR	**Karacoban**	**2.32**	**164**	*i*P	**Pb**	**07 08 03.5**	**-1.5**
EKAR	**Karacoban**	**2.32**	**164**	P	**Pb**	**07 08 03.5**	**-1.5**
AGRB	**Hanur-Agry**	**2.33**	**144**	*e*PN	**Pn**	**07 08 02.0**	**+0.4**
AGRB	**Hanur-Agry**	**2.33**	**144**	*e*Pn	**Pn**	**07 08 02.0**	**+0.4**
ZEI	**Tsey**	**2.37**	**56**	*e*PN	**Pn**	**07 08 01.6**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,127nm,0.6s						
SOC	**Sochi**	**2.38**	**332**	*e*PN	**Pn**	**07 08 03.2**	**+1.3**
SOC				*e*		07 08 30.8	
SOC						07 08 38.6	
SOC				pmax	pmax		
	comp=Z,84nm,0.2s						
SOC				MLR	MLR		
	comp=Z,68nm,7.0s						
SOC	**Sochi**	**2.38**	**332**	*e*Pn	**Pn**	**07 08 03.2**	**+1.3**
	comp=Z,84nm,0.2s						
SOC				*e*Sb	**Sn**	**07 08 30.8**	**-0.2**
	comp=Z,68nm,7.0s						
SOC				Sg	**Sg**	**07 08 38.6**	**-0.9**
TUTA	**Tutak**	**2.41**	**149**	*i*P	**Pn**	**07 08 03.4**	**+0.8**
TUTA	**Tutak**	**2.41**	**149**	P	**Pn**	**07 08 03.4**	**+0.8**
BNGB	**Bing¨ol**	**2.53**	**190**	*e*PN	**Pn**	**07 08 05.0**	**+0.8**
KBZ	**Khabaz**	**2.56**	**28**	Pn	**Pn**	**07 08 05.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=308,slow=3.1,SNR=4.2						
KBZ				Sn	**Sb**	**07 08 39.0**	**-1.2**
	comp=Z,5.5nm,0.3s,baz=271,slow=20,SNR=6.9						
LSNR	**Lesken**	**2.63**	**46**	PN	Pg	07 08 18.2	+4.7
SUSE	**Susehri**	**2.63**	**242**	*i*P	**Pn**	**07 08 06.7**	**+1.1**
SUSE				*i*S	**Sn**	**07 08 38.8**	**+1.3**
SUSE	**Susehri**	**2.63**	**242**	P	**Pn**	**07 08 06.7**	**+1.1**
SUSE				S	**Sn**	**07 08 38.8**	**+1.3**
TBLG	**Delisi**	**2.64**	**84**	P	**Pb**	**07 08 09.9**	**-0.5**
TBLG				S	**Sb**	**07 08 41.3**	**-1.5**
TBLG	**Delisi**	**2.64**	**84**	PN	**Pb**	**07 08 10.2**	**-0.2**
TBLG				S	**Sb**	**07 08 43.0**	**+0.2**
TBLG	**Delisi**	**2.64**	**84**	Pn	**Pb**	**07 08 10.2**	**-0.2**
TBLG				S	**Sb**	**07 08 43.0**	**+0.2**
KORR	**Kora**	**2.64**	**52**	PN	**Pn**	**07 08 06.8**	**+1.2**
KORR	**Kora**	**2.64**	**52**	Pn	**Pn**	**07 08 06.8**	**+1.2**
LACR	**Lac**	**2.64**	**59**	⇑*e*PN	**Pn**	**07 08 07.0**	**+1.3**
LACR	**Lac**	**2.64**	**59**	*e*Pn	**Pn**	**07 08 07.0**	**+1.3**
BINT	**Bingol**	**2.67**	**193**	*e*Pn	**Pn**	**07 08 05.0**	**-1.1**
KIV	**Kislovodsk**	**2.69**	**23**	*i*PN	**Pn**	**07 08 06.7**	**+0.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,92nm,17.0s						
KIV	**Kislovodsk**	**2.69**	**23**	*i*Pn	**Pn**	**07 08 06.7**	**+0.3**
	comp=Z,92nm,17.0s						
KVAR	**Kislovodsk Arr**	**2.69**	**23**	Pn	**Pn**	**07 08 07.3**	**+0.9**
	baz=185,slow=11,SNR=4.0						
KVAR				Sn	**Sn**	**07 08 39.1**	**+0.1**
	baz=288,slow=20,SNR=5.9						
KVAR				Lg	Lg	07 08 52.1	
	baz=261,slow=19,SNR=5.6						
DYDN	**Diyadin**	**2.70**	**135**	*i*P	**Pb**	**07 08 12.3**	**+0.8**
TNCL	**Tunceli-Merkez**	**2.70**	**209**	*i*P	**Pn**	**07 08 05.3**	**-1.2**
TNCL	**Tunceli-Merkez**	**2.70**	**209**	P	**Pn**	**07 08 05.3**	**-1.2**
REFA	**Refahiye_ERZ¨**	**2.81**	**223**	*i*P	**Pn**	**07 08 07.2**	**-0.9**
REFA	**Refahiye_ERZ¨**	**2.81**	**223**	P	**Pn**	**07 08 07.2**	**-0.9**
STDR	**Stavd-Durt**	**2.82**	**47**	PN	Pg	07 08 24.7	+7.6
ARNR	**Ardon**	**2.83**	**52**	PN	**Pn**	**07 08 09.4**	**+1.3**
ARNR	**Ardon**	**2.83**	**52**	Pn	**Pn**	**07 08 09.4**	**+1.3**
PTK	**Pertek**	**2.95**	**209**	*e*PN	**Pn**	**07 08 10.9**	**+0.9**
PTK	**Pertek**	**2.95**	**209**	*e*Pn	**Pn**	**07 08 10.9**	**+0.9**
GNI	**Garni**	**2.98**	**115**	Pn	**Pb**	**07 08 15.9**	**-0.3**
	comp=Z,7.5nm,0.3s,baz=292,slow=5.0,SNR=13						
GNI				Lg	Lg	07 08 53.6	
	comp=Z,7.6nm,0.3s,baz=344,slow=19,SNR=3.1						
GNI	**Garni**	**2.98**	**115**	*c*PN	**Pb**	**07 08 16.7**	**+0.4**
CUZAR	**Zara_SIVAS**	**3.08**	**240**	*i*P	**Pb**	**07 08 16.9**	**-1.1**
QZX	**Qazax, Azerbai**	**3.15**	**96**	⇑Pn	**Pb**	**07 08 18.8**	**-0.3**
QZX				⇓Sn	**Sb**	**07 08 57.2**	**-0.2**
RSDY	**Resadiye-TOKAT**	**3.15**	**251**	*e*PN	**Pn**	**07 08 13.7**	**+1.0**
RSDY	**Resadiye-TOKAT**	**3.15**	**251**	*e*Pn	**Pn**	**07 08 13.7**	**+1.0**
SVAN	**Silvan-Diyarba**	**3.33**	**180**	*e*PN	**Pn**	**07 08 16.3**	**+1.2**
SVAN	**Silvan-Diyarba**	**3.33**	**180**	*e*Pn	**Pn**	**07 08 16.3**	**+1.2**
GEVA	**Gevas**	**3.47**	**156**	*i*P	**Pb**	**07 08 25.7**	**+1.1**
GDB	**GEDABAY**	**3.50**	**101**	⇓Pn	**Pb**	**07 08 25.7**	**+0.6**
GDB				⇑Sn	**Sn**	**07 09 01.9**	**+2.8**
SVSK	**Karacayir**	**3.58**	**245**	*e*PN	**Pn**	**07 08 20.1**	**+1.6**
SVSK	**Karacayir**	**3.58**	**245**	*e*Pn	**Pn**	**07 08 20.1**	**+1.6**
KVT	**Kavak**	**3.93**	**266**	*e*PN	**Pn**	**07 08 24.6**	**+1.3**
KVT	**Kavak**	**3.93**	**266**	*e*Pn	**Pn**	**07 08 24.6**	**+1.3**
GANJ	**Ganja**	**3.94**	**101**	⇑Pn	**Pb**	**07 08 32.6**	**+0.1**
GANJ				⇓Sn	**Sn**	**07 09 12.3**	**+2.6**
ZKTA	**Zakatala**	**4.05**	**86**	⇑Pn	**Pg**	**07 08 39.1**	**-1.5**
ZKTA				⇓Sn	**Sb**	**07 09 25.5**	**+2.2**
MAZI	**Mazidag**	**4.07**	**189**	*e*PN	**Pn**	**07 08 26.9**	**+1.6**
MAZI	**Mazidag**	**4.07**	**189**	*e*Pn	**Pn**	**07 08 26.9**	**+1.6**
DARE	**Darende-Malaty**	**4.09**	**226**	*e*PN	**Pn**	**07 08 27.3**	**+1.6**
DARE	**Darende-Malaty**	**4.09**	**226**	*e*Pn	**Pn**	**07 08 27.3**	**+1.6**
ANN	**Anapa**	**4.32**	**321**	*e*PN	**Pn**	**07 08 31.3**	**+2.6**
ANN				*e*S	**Sn**	**07 09 21.9**	**+2.9**
ANN				pmax	pmax		
	comp=Z,60nm,0.8s						
ANN	**Anapa**	**4.32**	**321**	*e*Pn	**Pn**	**07 08 31.3**	**+2.6**
	comp=Z,60nm,0.8s						
ANN				*e*Sn	**Sn**	**07 09 21.9**	**+2.9**
GNBR	**Gunib**	**4.37**	**76**	*e*PN	**Pn**	**07 08 32.3**	**+2.9**
GNBR	**Gunib**	**4.37**	**76**	*e*Pn	**Pn**	**07 08 32.3**	**+2.9**
DIKM	**Dikmen**	**4.49**	**274**	*e*PN	**Pn**	**07 08 31.6**	**+0.7**
DIKM	**Dikmen**	**4.49**	**274**	*e*Pn	**Pn**	**07 08 31.6**	**+0.7**
SEKA	**Sheki**	**4.50**	**92**	⇓Pn	**Pb**	**07 08 44.1**	**+2.0**
SNOP	**Sinop**	**4.54**	**279**	*e*PN	**Pn**	**07 08 32.2**	**+0.5**
SNOP	**Sinop**	**4.54**	**279**	*e*Pn	**Pn**	**07 08 32.2**	**+0.5**
SUDU	**Sudak**	**5.69**	**309**	⇓*i*P	**Pn**	**07 08 47.7**	**+0.3**
SUDU				*e*S	**Sn**	**07 09 50.5**	**-2.1**
SUDU				pmax	pmax		
	comp=Z,19nm,0.4s						
SUDU				smax	smax		
	comp=N,18nm,0.5s						
SUDU				smax	smax		
	comp=E,18nm,0.4s						
SUDU	**Sudak**	**5.69**	**309**	*i*P	**Pn**	**07 08 47.7**	**+0.3**
	comp=E,19nm,0.4s						
ALU	**Alushta**	**5.93**	**305**	*e*P	**Pn**	**07 08 50.1**	**-0.7**
ALU				*e*S	**Sn**	**07 09 54.6**	**-4.0**
ALU				pmax	pmax		
	comp=Z,41nm,0.5s						
ALU				smax	smax		
	comp=N,27nm,0.3s						
ALU				smax	smax		
	comp=E,22nm,0.3s						
ALU	**Alushta**	**5.93**	**305**	*e*P	**Pn**	**07 08 50.1**	**-0.7**
	comp=E,41nm,0.5s						
YAL	**Yalta**	**5.99**	**302**	⇑*i*P	**Pn**	**07 08 51.9**	**+0.3**
YAL				*e*S	**Sn**	**07 09 57.6**	**-2.6**
YAL				pmax	pmax		
	comp=Z,73nm,0.3s						
YAL				smax	smax		
	comp=N,39nm,0.4s						
YAL				smax	smax		
	comp=E,36nm,0.3s						
YAL	**Yalta**	**5.99**	**302**	*i*P	**Pn**	**07 08 51.9**	**+0.3**
	comp=E,73nm,0.3s						
BRTR	**Keskin Array B**	**6.04**	**256**	Pn	Pn	07 08 58.4	+6.0
	comp=E,0.1nm,0.3s,baz=56,slow=11,SNR=2.2						
SIM	**Simferopol'**	**6.25**	**306**	*e*P	**Pn**	**07 08 54.9**	**-0.2**
SIM				*e*S	**Sn**	**07 10 04.7**	**-1.7**
SIM				*e*S	**Sn**	**07 10 08.2**	**+1.8**
SIM				pmax	pmax		
	comp=Z,33μm,0.8s						
SIM				smax	smax		
	comp=N,28μm,0.8s						
SIM				smax	smax		
	comp=E,27μm,1.0s						
SIM	**Simferopol'**	**6.25**	**306**	*e*P	**Pn**	**07 08 54.9**	**-0.2**
	comp=E,33μm,0.8s						
SIM				*e*S	**Sn**	**07 10 08.2**	**+1.8**
	comp=E,28μm,0.8s						
SEV	**Sevastopol'**	**6.33**	**301**	*e*P	**Pn**	**07 08 55.0**	**-1.2**
SEV				*e*S	**Sn**	**07 10 03.2**	**-5.2**
SEV				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SEV				smax	smax		
	comp=N,6.0nm,0.3s						
SEV				smax	smax		
	comp=E,8.0nm,0.4s						
SEV	**Sevastopol'**	**6.33**	**301**	*e*P	**Pn**	**07 08 55.0**	**-1.2**
	comp=E,7.0nm,0.4s						
MMAI	**Mount Meron Ar**	**9.64**	**211**	LR	LR	07 13 52.0	
	comp=E,62nm,18.9s,baz=170,slow=41						
MLR	**Muntele Rosu**	**11.80**	**295**	Pn	**Pn**	**07 10 09.6**	**-1.7**
	comp=E,0.1nm,0.3s,baz=126,slow=19,SNR=3.3						
MLR				Sn	**Sn**	**07 12 18.2**	**-4.8**
	comp=E,0.1nm,0.3s,baz=12,slow=20,SNR=3.0						
AKASG	**Malin Array Be**	**12.41**	**322**	Pn	**Pn**	**07 10 17.9**	**-1.7**
	comp=E,3.8nm,0.3s,baz=137,slow=14,SNR=25						
AKASG				Sn	**Sn**	**07 12 29.4**	**-8.2**
	comp=E,0.9nm,0.3s,baz=138,slow=24,SNR=7.3						
AKASG	**Malin Array Be**	**12.41**	**322**	*i*P	**Pn**	**07 10 18.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG	**Malin Array Be**	**12.41**	**322**	*i*P	**Pn**	**07 10 18.5**	**-1.0**
	comp=Z,4.0nm,0.4s						
KIEV	**Kiev**	**12.41**	**322**	*i*P	**Pn**	**07 10 18.2**	**-1.3**
KIEV	**Kiev**	**12.41**	**322**	*i*P	**Pn**	**07 10 18.2**	**-1.3**
CRVS	**Cervenica-Dubn**	**15.76**	**305**	*e*P	**P**	**07 11 09.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**15.76**	**305**	*e*P	**P**	**07 11 09.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**15.76**	**305**	*e*P	**P**	**07 11 09.0**	**+0.3**
KECS	**Kecovo**	**16.23**	**303**	*e*P	**Pn**	**07 11 11.2**	**+0.3**
KECS	**Kecovo**	**16.23**	**303**	*e*P	**Pn**	**07 11 11.2**	**+0.3**
ARU	**Arti**	**18.71**	**31**	⇑*e*P	**P**	**07 11 40.9**	**-0.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ARU	**Arti**	**18.71**	**31**	*e*P	**P**	**07 11 40.9**	**-0.3**
	comp=Z,1.0nm,0.2s						
GERES	**GERESS Array B**	**20.68**	**300**	P	Pn	07 12 05.6	+0.3
	comp=Z,0.7nm,0.5s,baz=104,slow=10,SNR=6.5						
CLL	**Collm**	**21.68**	**307**	*i*P	**P**	**07 12 17.2**	**+3.6**
CLL				*i*		07 12 22.2	
CLL	**Collm**	**21.68**	**307**	*i*(P)	**P**	**07 12 17.2**	**+3.6**
CLL				*i*		07 12 22.2	
	comp=Z,8.0nm,1.0s						
FINES	**FINESS Array B**	**22.00**	**340**	P	**P**	**07 12 16.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=140,slow=12,SNR=4.8						
FINES				LR	LR	07 21 50.9	
	comp=Z,33nm,19.5s,baz=67,slow=39						
FINES	**FINESS Array B**	**22.00**	**340**	P	**P**	**07 12 17.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES				MLR	MLR		
	comp=Z,33nm,19.5s						
FINES	**FINESS Array B**	**22.00**	**340**	P	**P**	**07 12 17.0**	**+0.1**
	comp=Z,33nm,19.5s						
BRVK	**Borovoye**	**22.69**	**49**	⇑*e*P	**P**	**07 12 26.6**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,12nm,1.5s						
BVAR	**Borovoye Array**	**22.74**	**50**	P	**P**	**07 12 23.8**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=251,slow=6.8,SNR=3.7						
HFS	**Hagfors**	**25.21**	**327**	P	**P**	**07 12 48.4**	**0.0**
	comp=Z,2.5nm,0.9s,baz=115,slow=10.0,SNR=2.6						
HFS				LR	LR	07 23 03.5	
	comp=Z,39nm,19.0s,baz=78,slow=37						
NB2	**NORSAR Subarra**	**26.73**	**327**	P	P	07 13 16.0	+14
	comp=Z,0.6nm,0.7s,baz=140,slow=10						
NOA	**NORSAR Array B**	**26.73**	**327**	P	**P**	**07 13 05.0**	**+2.7**
	comp=Z,0.5nm,0.9s,baz=125,slow=8.7,SNR=2.3						
NOA				LR	LR	07 24 39.1	
	comp=Z,24nm,20.1s,baz=90,slow=39						
KURBB	**Kurchatov Arra**	**27.20**	**58**	P	**P**	**07 13 06.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=274,slow=9.8,SNR=5.9						
KURK	**Kurchatov**	**27.26**	**57**	⇓*e*P	**P**	**07 13 10.2**	**+3.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MKAR	**Makanchi Array**	**29.69**	**66**	P	**P**	**07 13 28.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=272,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**29.69**	**66**	P	**P**	**07 13 28.0**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ESDC	**Sonseca Array**	**34.08**	**282**	P	**P**	**07 14 06.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=76,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**44.47**	**242**	P	**P**	**07 15 32.6**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=39,slow=7.5,SNR=4.4						

WEL 01 07:12:46.9±0.5,38°.65S×178°.78E,h33km,ML3.5/17,9C, Error ellipse: s-maj=5.1km s-min=1.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.71**	**325**	PN	Pn	07 12 59.7	-0.9
PUZ				SN	Sb	07 13 10.7	+0.3
PUZ				AML	AML	07 13 25.0	
PRGZ	**Paritu Road**	**0.75**	**248**	⇑PN	Pn	07 13 00.8	-0.4
PRGZ				SN	Sb	07 13 12.4	+0.8
PRGZ				AML	AML	07 13 14.1	
TKGZ	**Te Karaka**	**0.76**	**286**	⇑PN	Pn	07 13 00.3	-1.0
TKGZ				SN	Sb	07 13 11.7	0.0
TKGZ				AML	AML	07 13 22.2	
TWGZ	**Tauwhareparae**	**0.78**	**307**	⇑PN	Pn	07 13 01.0	-0.6
TWGZ				SN	Sb	07 13 13.2	+0.7
TWGZ				AML	AML	07 13 14.0	
RIGZ	**Rimuhau**	**0.80**	**266**	⇑PN	Pn	07 13 01.2	-0.6
RIGZ				AML	AML	07 13 26.1	
RIGZ				AML	AML	07 13 32.7	
MHGZ	**Mahia Peninsul**	**0.84**	**233**	PN	Pn	07 13 02.6	+0.1
MHGZ				AML	AML	07 13 27.0	
MHGZ				AML	AML	07 13 35.9	
WMGZ	**Waiomatatini S**	**0.88**	**341**	⇑PN	Pb	07 13 03.5	-0.2
WMGZ				AML	AML	07 13 18.2	
WMGZ				AML	AML	07 13 20.2	
KNZ	**Kokohu**	**0.94**	**246**	⇑PN	Pn	07 13 03.2	-0.5
KNZ				AML	AML	07 13 27.5	
KNZ				AML	AML	07 13 34.8	
PKGZ	**Pakihiroa**	**0.94**	**324**	⇑PN	Pn	07 13 03.7	-0.1
PKGZ				AML	AML	07 13 17.5	
PKGZ				AML	AML	07 13 17.9	
MWZ	**Matawai**	**1.03**	**287**	PN	Pn	07 13 03.9	-1.1
MWZ				SN	Sn	07 13 17.4	-0.9
MWZ				AML	AML	07 13 28.8	
RUGZ	**Raukumara Rang**	**1.10**	**308**	⇑PN	Pn	07 13 05.5	-0.6
SNGZ	**Shannon Statio**	**1.13**	**263**	PN	Pn	07 13 05.9	-0.6
SNGZ				AML	AML	07 13 33.2	
SNGZ				AML	AML	07 13 34.8	
MXZ	**Matakaoa Point**	**1.15**	**341**	PN	Pb	07 13 07.6	-0.6
MXZ				AML	AML	07 13 36.2	
MXZ				AML	AML	07 13 41.5	
HAZ	**Te Kaha**	**1.19**	**318**	PN	Pn	07 13 06.8	-0.3
HAZ				AML	AML	07 13 34.4	
HAZ				AML	AML	07 13 36.7	
URZ	**Urewera**	**1.36**	**286**	⇑PN	Pn	07 13 09.6	0.0
URZ				AML	AML	07 13 39.5	
URZ				AML	AML	07 13 44.2	
ARHZ	**Aropaoanui**	**1.52**	**246**	PN	Pn	07 13 12.5	+0.8
ARHZ				AML	AML	07 13 33.7	
ARHZ				AML	AML	07 13 34.3	
KWHZ	**Kaweka Forest**	**1.99**	**246**	PN	Pn	07 13 19.3	+1.0
KWHZ				AML	AML	07 13 42.0	
KWHZ				AML	AML	07 13 42.7	
PXZ	**Pawanui**	**2.03**	**226**	PN	Pn	07 13 14.3	-4.4
BHHZ	**Black Hill Sta**	**2.27**	**247**	PN	Pn	07 13 21.7	-0.5
PRHZ	**Porangahau**	**2.31**	**225**	PN	Pn	07 13 21.5	-1.2
WNVZ	**Wahianoa**	**2.57**	**254**	PN	Pn	07 13 25.9	-0.4
BFZ	**Birch Farm**	**2.82**	**223**	PN	Pn	07 13 27.5	-2.1
MRZ	**Mangatainoka R**	**3.18**	**230**	PN	Pn	07 13 32.9	-1.7
MRZ				AML	AML	07 14 10.2	

*ISCJB **01** 07:14:34.8±0.2,42°.51N±0°.02×7°.07W±0°.02,h10km,Error ellipse: s-maj=3.0km s-min=1.5km az=42.9*
*CSEM **01** 07:14:36.9±0.1,42°.54N×7°.20W,h15km,ML4.2/31,Error ellipse: s-maj=3.2km s-min=1.7km az=127.0*
*MDD **01** 07:14:38.2±0.3,42°.51N×7°.21W,h11km,mbLg3.7/60, Error ellipse: s-maj=2.9km s-min=2.3km az=128.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*INMG **01** 07:14:38.4±1.4,42°.53

EMAZ	**Mazaricos**	**1.36 288**	Pn	**Pn**	**07 15 01.4**	**-0.5**
	3.9nm,0.1s,SNR=7.9					
EMAZ			Pg	**Pb**	**07 15 03.6**	**+1.3**
	39nm,0.1s,SNR=7.9					
EMAZ			Lg	Lg	07 15 21.8	
	283nm,0.1s,SNR=7.9					
EMAZ	**Mazaricos**	**1.36 288**	Pn	**Pn**	**07 15 01.4**	**-0.5**
	3.9nm,0.1s,SNR=7.9					
MVO	**Moncorvo**	**1.39 174⇓**	*e*Pn	**Pn**	**07 15 01.4**	**-0.8**
MVO	**Moncorvo**	**1.39 174**	*e*Pg	**Pn**	**07 15 03.2**	**+1.0**
MVO			*e*Sg	**Sb**	**07 15 20.6**	**0.0**
MVO			A	A	07 15 26.2	
	1µm,0.4s					
MVO	**Moncorvo**	**1.39 174**	Pg	**Pn**	**07 15 01.5**	**-0.8**
	3.6nm,0.0s,SNR=116					
MVO			Lg	Lg	07 15 20.6	
	2µm,0.3s,SNR=32					
MVO	**Moncorvo**	**1.39 174⇓**	*e*Pn	**Pn**	**07 15 01.4**	**-0.8**
MVO	**Moncorvo**	**1.39 174**	*e*Pg	**Pn**	**07 15 03.2**	**+1.0**
MVO			*e*Sg	**Sb**	**07 15 20.6**	**0.0**
	1µm,0.4s					
EARI	**Arriondas**	**1.65 62**	Pn	**Pn**	**07 15 06.2**	**+0.3**
	83nm,0.1s,SNR=18					
EARI			Sn	**Sn**	**07 15 26.6**	**-0.6**
	88nm,0.2s,SNR=7.9					
EARI			Lg	Lg	07 15 29.7	
	85nm,0.2s,SNR=25					
EARI	**Arriondas**	**1.65 62**	Pn	**Pn**	**07 15 06.2**	**+0.3**
	83nm,0.1s,SNR=18					
EARI			Sn	**Sn**	**07 15 26.6**	**-0.6**
	88nm,0.2s,SNR=7.9					
EARI			Lg	Lg	07 15 29.7	
	85nm,0.2s,SNR=25					
PTO	**Porto**	**1.75 217**	*e*Pg	**Pb**	**07 15 10.8**	**+1.9**
PTO			*e*Sg	**Sb**	**07 15 32.6**	**+1.7**
PTO			A	A	07 15 35.1	
	388nm,0.3s					
PTO	**Porto**	**1.75 217**	Pg	**Pb**	**07 15 10.8**	**+1.9**
PTO			Lg	Lg	07 15 32.6	
	194nm,0.3s					
PTO	**Porto**	**1.75 217**	Pg	**Pb**	**07 15 10.8**	**+1.9**
PTO			*e*Sg	**Sb**	**07 15 32.6**	**+1.7**
	388nm,0.3s					
PVIS	**Viseu**	**1.90 196**	*e*Pn	**Pn**	**07 15 08.5**	**-0.8**
PVIS			*e*Sn	**Sn**	**07 15 31.1**	**-2.2**
PVIS			*e*Sg	**Sb**	**07 15 36.5**	**+1.2**
PVIS			A	A	07 15 38.9	
	320nm,0.1s					
PVIS	**Viseu**	**1.90 196**	Pn	**Pn**	**07 15 08.5**	**-0.8**
PVIS			Sn	**Sn**	**07 15 31.1**	**-2.2**
PVIS			Lg	Lg	07 15 36.5	
	160nm,0.1s					
PVIS	**Viseu**	**1.90 196**	Pn	**Pn**	**07 15 08.5**	**-0.8**
PVIS			Sn	**Sn**	**07 15 31.1**	**-2.2**
PVIS			*e*Sg	**Sb**	**07 15 36.5**	**+1.2**
	320nm,0.1s					
MTE	**Manteigas**	**2.16 187**	*e*Pn	**Pn**	**07 15 12.1**	**-0.7**
MTE	**Manteigas**	**2.16 187**	*e*Pg	**Pb**	**07 15 16.6**	**+0.7**
MTE			*e*Sn	**Sn**	**07 15 37.0**	**-2.7**
MTE			*e*Sg	**Sb**	**07 15 43.9**	**+1.1**
MTE			A	A	07 15 46.1	
	832nm,0.6s					
MTE	**Manteigas**	**2.16 187**	Pn	**Pn**	**07 15 12.1**	**-0.7**
MTE			Pg	**Pb**	**07 15 16.6**	**+0.7**
MTE			Sn	**Sn**	**07 15 37.0**	**-2.7**
MTE			Lg	Lg	07 15 43.9	
	416nm,0.6s					
MTE	**Manteigas**	**2.16 187**	Pn	**Pn**	**07 15 12.1**	**-0.7**
MTE	**Manteigas**	**2.16 187**	Pg	**Pb**	**07 15 16.6**	**+0.7**
MTE			Sn	**Sn**	**07 15 37.0**	**-2.7**
MTE			*e*Sg	**Sb**	**07 15 43.9**	**+1.1**
	832nm,0.6s					
COI	**Coimbra**	**2.50 202**	Lg	Lg	07 15 55.7	
	200nm,0.5s					
COI	**Coimbra**	**2.50 202**	*e*Sg	**Sb**	**07 15 55.7**	**+3.0**
	401nm,0.5s					
EPLA	**Plasencia**	**2.62 161**	⇓Pn	**Pn**	**07 15 18.9**	**-0.3**
	14nm,0.1s,SNR=18					
EPLA			Pg	**Pb**	**07 15 26.5**	**+2.7**
	16nm,0.1s,SNR=23					
EPLA			Sn	**Sn**	**07 15 49.5**	**-1.5**
	47nm,0.1s,SNR=9.4					
EPLA			Lg	Lg	07 15 59.1	
	44nm,0.1s,SNR=9.0					
EPLA	**Plasencia**	**2.62 161**	Pn	**Pn**	**07 15 18.9**	**-0.3**
	14nm,0.1s,SNR=18					
PCAS	**Casmilo, Conde**	**2.67 202**	*e*Pn	**Pn**	**07 15 20.0**	**+0.1**
PCAS			*e*Sn	**Sn**	**07 15 50.0**	**-2.3**
PCAS			*e*Sg	**Sb**	**07 16 00.1**	**+2.6**
PCAS			A	A	07 16 06.6	
	217nm,0.5s					
PCAS	**Casmilo, Conde**	**2.67 202**	*e*Pn	**Pn**	**07 15 20.0**	**+0.1**
PCAS			*e*Sn	**Sn**	**07 15 50.0**	**-2.3**
PCAS			*e*Sg	**Sb**	**07 16 00.1**	**+2.6**
	217nm,0.5s					
PCBR	**Castelo Branco**	**2.71 184**	*e*Pn	**Pn**	**07 15 19.7**	**-0.6**
PCBR			*e*Sn	**Sn**	**07 15 51.0**	**-2.2**
PCBR			*e*Sg	**Sb**	**07 16 01.4**	**+2.8**
PCBR			A	A	07 16 09.8	
	194nm,0.5s					
PCBR	**Castelo Branco**	**2.71 184**	Pn	**Pn**	**07 15 19.7**	**-0.6**
PCBR			Sn	**Sn**	**07 15 51.0**	**-2.2**
PCBR			Lg	Lg	07 16 01.4	
	97nm,0.5s					
PCBR	**Castelo Branco**	**2.71 184**	Pn	**Pn**	**07 15 19.7**	**-0.6**
PCBR			Sn	**Sn**	**07 15 51.0**	**-2.2**
PCBR			*e*Sg	**Sb**	**07 16 01.4**	**+2.8**
	194nm,0.5s					
ELAN	**Lanestosa**	**2.86 75**	⇓Pn	**Pn**	**07 15 23.5**	**+1.1**
	5.1nm,0.4s,SNR=18					
ELAN			Pg	**Pb**	**07 15 30.8**	**+2.9**
	47nm,0.3s,SNR=42					
ELAN			Sn	**Sn**	**07 15 57.3**	**+0.4**
	80nm,0.2s,SNR=4.7					
ELAN			Lg	Lg	07 16 06.9	
	197nm,0.3s,SNR=14					
ELAN	**Lanestosa**	**2.86 75**	Pn	**Pn**	**07 15 23.5**	**+1.1**
	5.1nm,0.4s,SNR=18					
GUD	**Guadarrama**	**2.98 129**	⇓Pn	**Pn**	**07 15 24.0**	**-0.2**
	51nm,0.3s,SNR=18					
GUD			Pg	**Pb**	**07 15 32.5**	**+2.6**
	20nm,0.2s,SNR=28					
GUD			Lg	Lg	07 16 10.2	
	126nm,0.4s,SNR=5.0					
GUD	**Guadarrama**	**2.98 129**	Pn	**Pn**	**07 15 24.0**	**-0.2**
	51nm,0.3s,SNR=18					
PTOM	**Tomar**	**3.06 198**	*e*Pn	**Pn**	**07 15 25.4**	**+0.2**
PTOM			*e*Sn	**Sn**	**07 16 00.1**	**-1.8**
PTOM			*e*Sg	**Sb**	**07 16 12.5**	**+3.8**
PTOM			A	A	07 16 19.1	
	380nm,0.6s					
PTOM	**Tomar**	**3.06 198**	Pn	**Pn**	**07 15 25.4**	**+0.2**
PTOM			Sn	**Sn**	**07 16 00.1**	**-1.8**
PTOM			Lg	Lg	07 16 12.5	
	190nm,0.6s					
PTOM	**Tomar**	**3.06 198**	Pn	**Pn**	**07 15 25.4**	**+0.2**
PTOM			Sn	**Sn**	**07 16 00.1**	**-1.8**
PTOM			*e*Sg	**Sb**	**07 16 12.5**	**+3.8**
	380nm,0.6s					
PMRV	**Marv??o**	**3.12 183**	*e*Pn	**Pn**	**07 15 25.2**	**-0.8**
PMRV			*e*Sn	**Sn**	**07 16 00.7**	**-2.6**
PMRV			*e*Sg	**Sb**	**07 16 13.5**	**+3.2**
PMRV			A	A	07 16 17.8	
	415nm,0.5s					
PMRV	**Marv??o**	**3.12 183**	Pn	**Pn**	**07 15 25.2**	**-0.8**
PMRV			Sn	**Sn**	**07 16 00.7**	**-2.6**
PMRV			Lg	Lg	07 16 13.5	
	415nm,0.5s					
PMRV	**Marv??o**	**3.12 183**	Pn	**Pn**	**07 15 25.2**	**-0.8**
PMRV			Sn	**Sn**	**07 16 00.7**	**-2.6**
PMRV			*e*Sg	**Sb**	**07 16 13.5**	**+3.2**
	415nm,0.5s					
PESTR	**Estremoz**	**3.69 185**	*e*Pn	**Pn**	**07 15 33.1**	**-0.7**
PESTR			*e*Sn	**Sn**	**07 16 14.5**	**-2.8**
PESTR			*e*Sg	**Sb**	**07 16 31.3**	**+4.6**
PESTR			A	A	07 16 37.4	
	168nm,0.7s					
PESTR	**Estremoz**	**3.69 185**	*e*Pn	**Pn**	**07 15 33.1**	**-0.7**
PESTR			*e*Sn	**Sn**	**07 16 14.5**	**-2.8**
PESTR			*e*Sg	**Sb**	**07 16 31.3**	**+4.6**
	168nm,0.7s					
ESDC	**Sonseca Array**	**3.77 138**	Pn	**Pn**	**07 15 34.7**	**-0.3**
	9.5nm,0.3s,baz=319,slow=12,SNR=95					
ESDC			Pg	**Pb**	**07 15 47.4**	**+3.9**
	3.2nm,0.2s,baz=318,slow=17,SNR=16					
ESDC			Lg	Lg	07 16 36.3	
	12nm,0.3s,baz=320,slow=29,SNR=10					
ESDC	**Sonseca Array**	**3.77 138**	Pn	**Pn**	**07 15 34.7**	**-0.3**
	9.5nm,0.3s,SNR=95					
ESDC	**Sonseca Array**	**3.77 138**	Pg	**Pb**	**07 15 47.4**	**+3.9**
	3.2nm,0.2s,SNR=16					
ESDC			Lg	Lg	07 16 36.3	
	12nm,0.3s,SNR=10					
EBAD	**Badajoz**	**3.79 178**	Pn	**Pn**	**07 15 35.0**	**-0.2**
	0.8nm,0.1s,SNR=12					
EBAD			Sn	**Sn**	**07 16 17.2**	**-2.6**
	8.1nm,0.1s,SNR=7.6					
EBAD			Lg	Lg	07 16 34.6	
	116nm,0.2s,SNR=9.7					
EBAD	**Badajoz**	**3.79 178**	Pn	**Pn**	**07 15 35.0**	**-0.2**
	0.8nm,0.1s,SNR=12					
EBAD			Sn	**Sn**	**07 16 17.2**	**-2.6**
	8.1nm,0.1s,SNR=7.6					
EBAD			Lg	Lg	07 16 34.6	
	116nm,0.2s,SNR=9.7					
PMAFR	**Mafra**	**3.92 204⇓**	*e*Pn	**Pn**	**07 15 36.9**	**-0.1**
PMAFR			*e*Sn	**Sn**	**07 16 20.3**	**-2.7**
PMAFR			*e*Sg	**Sg**	**07 16 39.5**	**-3.0**
PMAFR			A	A	07 16 54.2	
	83nm,0.4s					
PMAFR	**Mafra**	**3.92 204**	Pn	**Pn**	**07 15 37.5**	**+0.6**
	5.7nm,0.3s,SNR=6.1					
PMAFR			Sn	**Sn**	**07 16 20.3**	**-2.7**
	26nm,0.3s,SNR=5.7					
PMAFR			Lg	Lg	07 16 41.0	
	67nm,0.3s,SNR=7.9					
PMAFR	**Mafra**	**3.92 204⇓**	*e*Pn	**Pn**	**07 15 36.9**	**-0.1**
PMAFR			Sn	**Sn**	**07 16 20.3**	**-2.7**
	26nm,0.3s,SNR=5.7					
PMAFR			*e*Sg	**Sg**	**07 16 39.5**	**-3.0**
	83nm,0.4s					
PMAFR			Lg	Lg	07 16 41.0	
	67nm,0.3s,SNR=7.9					
EVO	**Evora**	**4.05 189**	*e*Pn	**Pn**	**07 15 38.5**	**-0.4**
EVO			*e*Sn	**Sn**	**07 16 23.0**	**-3.4**
EVO			*e*Sg	**Sb**	**07 16 42.3**	**+5.0**
EVO			A	A	07 16 49.1	
	136nm,0.5s					
EVO	**Evora**	**4.05 189**	Pn	**Pn**	**07 15 38.5**	**-0.4**
EVO			Sn	**Sn**	**07 16 23.0**	**-3.4**
EVO			Lg	Lg	07 16 42.3	
	136nm,0.5s					
EVO	**Evora**	**4.05 189**	Pn	**Pn**	**07 15 38.5**	**-0.4**
EVO			*e*Sn	**Sn**	**07 16 23.0**	**-3.4**
EVO			Lg	Lg	07 16 42.3	
	136nm,0.5s					
PMST	**Lisbon--Monsan**	**4.09 202**	*e*Sg	**Sg**	**07 16 44.9**	**-3.2**
PMST	**Lisbon--Monsan**	**4.09 202**	*e*Sg	**Sg**	**07 16 44.9**	**-3.2**
EARA	**Aranguren**	**4.16 85**	Pn	**Pn**	**07 15 41.3**	**+1.0**
	1.1nm,0.2s,SNR=6.3					
EARA			Sn	**Sn**	**07 16 27.4**	**-1.5**
	26nm,0.1s,SNR=6.2					
EARA			Lg	Lg	07 16 50.5	
	67nm,0.3s,SNR=7.9					
EARA	**Aranguren**	**4.16 85**	Pn	**Pn**	**07 15 41.3**	**+1.0**
	1.1nm,0.2s,SNR=6.3					
EARA			Sn	**Sn**	**07 16 27.4**	**-1.5**
	26nm,0.1s,SNR=6.2					
EARA			Lg	Lg	07 16 50.5	
	67nm,0.3s,SNR=7.9					
EALK	**Alkurruntz**	**4.24 79**	Pn	**Pn**	**07 15 42.3**	**+0.8**
	0.9nm,0.3s,SNR=12					
EALK			Sn	**Sn**	**07 16 29.4**	**-1.7**
	18nm,0.3s,SNR=4.6					
EALK			Lg	Lg	07 16 55.9	
	59nm,0.4s,SNR=100					
EALK	**Alkurruntz**	**4.24 79**	Pn	**Pn**	**07 15 42.3**	**+0.8**
	0.9nm,0.3s,SNR=12					
EALK			Sn	**Sn**	**07 16 29.4**	**-1.7**
	18nm,0.3s,SNR=4.6					
EALK			Lg	Lg	07 16 55.9	
	59nm,0.4s,SNR=100					
IPRE	**Itoiz**	**4.32 85**	Pn	**Pn**	**07 15 43.7**	**+1.2**
	3.9nm,0.3s,SNR=6.1					
IPRE			Sn	**Sn**	**07 16 32.2**	**-0.8**
	SNR=7.9					
IPRE			Lg	Lg	07 16 56.3	
	38nm,0.4s,SNR=7.9					
IPRE	**Itoiz**	**4.32 85**	Pn	**Pn**	**07 15 43.7**	**+1.2**
	3.9nm,0.3s,SNR=6.1					
IPRE			Sn	**Sn**	**07 16 32.2**	**-0.8**
	SNR=7.9					
IPRE			Lg	Lg	07 16 56.3	
	38nm,0.4s,SNR=7.9					
EORO	**Oroz-Betelu**	**4.36 83**	Pn	**Pn**	**07 15 44.3**	**+1.2**
	7.2nm,0.4s,SNR=25					
EORO			Sn	**Sn**	**07 16 32.3**	**-1.7**
	37nm,0.4s,SNR=5.9					
EORO			Lg	Lg	07 16 55.8	
	37nm,0.4s,SNR=5.8					
EORO	**Oroz-Betelu**	**4.36 83**	Pn	**Pn**	**07 15 44.3**	**+1.2**
	7.2nm,0.4s,SNR=25					
EORO			Sn	**Sn**	**07 16 32.3**	**-1.7**
	37nm,0.4s,SNR=5.9					
EORO			Lg	Lg	07 16 55.8	
	37nm,0.4s,SNR=5.8					
PBAR	**Barrancos**	**4.37 178**	*e*Pn	**Pn**	**07 15 42.9**	**-0.2**
PBAR			*e*Sn	**Sn**	**07 16 30.4**	**-3.7**
PBAR			*e*Sg	**Sb**	**07 16 52.4**	**+6.1**
PBAR			A	A	07 16 56.8	
	402nm,0.5s					
PBAR	**Barrancos**	**4.37 178**	Pn	**Pn**	**07 15 42.9**	**-0.2**
PBAR			Sn	**Sn**	**07 16 30.4**	**-3.7**
PBAR			Lg	Lg	07 16 52.4	
	402nm,0.5s					
PBAR	**Barrancos**	**4.37 178**	Pn	**Pn**	**07 15 42.9**	**-0.2**
PBAR			*e*Sn	**Sn**	**07 16 30.4**	**-3.7**
PBAR			Lg	Lg	07 16 52.4	
	402nm,0.5s					
IELO	**Elcoad**	**4.41 84**	Pn	**Pn**	**07 15 44.8**	**+1.0**
	3.4nm,0.1s,SNR=7.9					
IELO			Sn	**Sn**	**07 16 33.9**	**-1.4**
	21nm,0.3s,SNR=7.9					
IELO			Lg	Lg	07 16 58.1	
	11nm,0.2s,SNR=7.9					
IELO	**Elcoad**	**4.41 84**	Pn	**Pn**	**07 15 44.8**	**+1.0**
	3.4nm,0.1s,SNR=7.9					
IELO			Sn	**Sn**	**07 16 33.9**	**-1.4**
	21nm,0.3s,SNR=7.9					
IELO			Lg	Lg	07 16 58.1	
	11nm,0.2s,SNR=7.9					
OSSF	**Osses**	**4.43 79**	Pn	**Pn**	**07 15 43.9**	**0.0**
OSSF			Sg	**Sg**	**07 17 03.5**	**+4.7**
OSSF	**Osses**	**4.43 79**	Pn	**Pn**	**07 15 43.9**	**0.0**
OSSF			Sg	**Sg**	**07 17 03.5**	**+4.7**
SJPF	**Ste Jean**	**4.44 81**	*e*Pn	**Pn**	**07 15 45.0**	**+0.9**
	SNR=1.0					
SJPF			*e*Sn	**Sn**	**07 16 32.1**	**-3.7**
	41nm,0.3s					
SJPF			*e*Sg	**Sg**	**07 16 57.0**	**-2.2**
	122nm,0.8s,SNR=1.0					
SJPF	**Ste Jean**	**4.44 81**	Pn	**Pn**	**07 15 45.0**	**+0.9**
SJPF			Sn	**Sn**	**07 16 32.1**	**-3.7**
	20nm,0.3s					
SJPF			Lg	Lg	07 16 57.0	
	61nm,0.8s					
SJPF	**Ste Jean**	**4.44 81**	Pn	**Pn**	**07 15 45.0**	**+0.9**
SJPF			*e*Sn	**Sn**	**07 16 32.1**	**-3.7**
	20nm,0.3s					
SJPF			*e*Sg	**Sg**	**07 16 57.0**	**-2.2**
	61nm,0.8s,SNR=1.0					
PBEJ	**Beja**	**4.54 187**	*e*Pn	**Pn**	**07 15 46.0**	**+0.5**
PBEJ	**Beja**	**4.54 187**	Pn	**Pn**	**07 15 46.0**	**+0.5**
PBEJ	**Beja**	**4.54 187**	Pn	**Pn**	**07 15 46.0**	**+0.5**
PNCL	**Nicolau / Gran**	**4.54 193**	*e*Pn	**Pn**	**07 15 45.0**	**-0.5**
PNCL			*e*Sn	**Sn**	**07 16 35.1**	**-3.3**
PNCL			A	A	07 17 05.6	
	85nm,0.7s					
PNCL	**Nicolau / Gran**	**4.54 193**	*e*Pn	**Pn**	**07 15 45.0**	**-0.5**
PNCL			*e*Sn	**Sn**	**07 16 35.1**	**-3.3**
	85nm,0.7s					
LARF	**Larrau**	**4.60 82**	Pn	**Pn**	**07 15 46.4**	**0.0**
LARF			Sg	**Sg**	**07 17 09.0**	**+4.4**
LARF	**Larrau**	**4.60 82**	Pn	**Pn**	**07 15 46.4**	**0.0**
LARF			Sg	**Sg**	**07 17 09.0**	**+4.4**
ORDF	**Ordiarp**	**4.66 80**	Pn	**Pn**	**07 15 47.6**	**+0.5**
ORDF			Sg	**Sg**	**07 17 09.8**	**+3.5**
ORDF	**Ordiarp**	**4.66 80**	Pn	**Pn**	**07 15 47.6**	**+0.5**
ORDF			Sg	**Sg**	**07 17 09.8**	**+3.5**
ECAB	**El Cabril**	**4.67 162**	⇓Pn	**Pn**	**07 15 46.8**	**-0.5**
	6.6nm,0.3s,SNR=18					
ECAB			Sn	**Sn**	**07 16 38.6**	**-3.0**
	18nm,0.2s,SNR=5.0					
ECAB			Lg	Lg	07 17 02.4	
	61nm,0.4s,SNR=14					
ECAB	**El Cabril**	**4.67 162**	Pn	**Pn**	**07 15 46.8**	**-0.5**
	6.6nm,0.3s,SNR=18					
ECAB			Lg	Lg	07 17 02.4	
	61nm,0.4s,SNR=14					
EMIN	**Mina Concepcio**	**4.79 175**	Pn	**Pn**	**07 15 48.7**	**-0.3**
	1.3nm,0.2s,SNR=7.8					
EMIN			Pg	**Pb**	**07 16 05.2**	**+4.4**
	6.1nm,0.5s,SNR=7.9					
EMIN			Sn	**Sn**	**07 16 40.4**	**-4.1**
	3.6nm,0.3s,SNR=7.9					
EMIN			Lg	Lg	07 17 06.6	
	80nm,0.5s,SNR=5.0					
EMIN	**Mina Concepcio**	**4.79 175**	Pn	**Pn**	**07 15 48.7**	**-0.3**
	1.3nm,0.2s,SNR=7.8					
EMIN			Lg	Lg	07 17 06.6	
	80nm,0.5s,SNR=5.0					
EADA	**Adamuz**	**4.81 154**	⇓Pn	**Pn**	**07 15 48.7**	**-0.6**
	5.1nm,0.2s,SNR=18					
EADA			Sn	**Sn**	**07 16 40.8**	**-4.3**
	6.6nm,0.2s,SNR=5.4					
EADA			Lg	Lg	07 17 06.9	
	37nm,0.4s,SNR=4.9					
EADA	**Adamuz**	**4.81 154**	Pn	**Pn**	**07 15 48.7**	**-0.6**
	5.1nm,0.2s,SNR=18					
EADA			Lg	Lg	07 17 06.9	
	37nm,0.4s,SNR=4.9					
ATE	**Arette**	**4.82 81**	Pn	**Pn**	**07 15 50.4**	**+1.1**
	2.3nm,0.1s,SNR=7.9					
ATE			Sn	**Sn**	**07 16 43.4**	**-1.8**
	12nm,0.2s,SNR=7.9					
ATE			Lg	Lg	07 17 10.0	
	72nm,0.5s,SNR=7.9					
ATE	**Arette**	**4.82 81**	Pn	**Pn**	**07 15 50.4**	**+1.1**
	2.3nm,0.1s,SNR=7.9					
ATE			Sn	**Sn**	**07 16 43.4**	**-1.8**
	12nm,0.2s,SNR=7.9					
ATE			Lg	Lg	07 17 10.0	
	72nm,0.5s,SNR=7.9					
ETSF	**Etsaut**	**4.91 84**	*e*Pn	**Pn**	**07 15 51.4**	**+0.7**
	SNR=1.0					
ETSF			*e*Sn	**Sn**	**07 16 44.2**	**-3.4**
	27nm,0.3s					
ETSF			*e*Sg	**Sg**	**07 17 11.7**	**-2.7**
	69nm,0.7s					
ETSF	**Etsaut**	**4.91 84**	Pn	**Pn**	**07 15 51.4**	**+0.7**
ETSF			Sn	**Sn**	**07 16 44.2**	**-3.4**
	14nm,0.3s					
ETSF			Lg	Lg	07 17 11.7	
	35nm,0.7s					
ETSF	**Etsaut**	**4.91 84**	Pn	**Pn**	**07 15 51.4**	**+0.7**
ETSF			*e*Sn	**Sn**	**07 16 44.2**	**-3.4**
	13nm,0.3s					
ETSF			*e*Sg	**Sg**	**07 17 11.7**	**-2.7**
	35nm,0.7s					
PCVE	**Castro Verde**	**4.95 188**	*e*Pn	**Pn**	**07 15 50.9**	**-0.2**
PCVE			*e*Sn	**Sn**	**07 16 43.8**	**-4.6**
PCVE			*e*Sg	**Sb**	**07 17 10.0**	**+7.0**
PCVE			A	A	07 17 18.9	
	126nm,0.7s					
PCVE	**Castro Verde**	**4.95 188**	Pn	**Pn**	**07 15 50.9**	**-0.2**
PCVE			Sn	**Sn**	**07 16 43.8**	**-4.6**
PCVE			Lg	Lg	07 17 10.0	
	126nm,0.7s					
PCVE	**Castro Verde**	**4.95 188**	Pn	**Pn**	**07 15 50.9**	**-0.2**
PCVE			*e*Sn	**Sn**	**07 16 43.8**	**-4.6**
PCVE			Lg	Lg	07 17 10.0	
	126nm,0.7s					
EGRO	**El Granado**	**5.01 183**	Pn	**Pn**	**07 15 51.9**	**0.0**
	1.2nm,0.4s,SNR=12					
EGRO			Lg	Lg	07 17 14.4	
	53nm,0.4s,SNR=5.9					
EGRO	**El Granado**	**5.01 183**	Pn	**Pn**	**07 15 51.9**	**0.0**
	1.2nm,0.4s,SNR=12					
EGRO			Lg	Lg	07 17 14.4	
	53nm,0.4s,SNR=5.9					
ESAC	**San Caprasio**	**5.08 97**	Pn	**Pn**	**07 15 53.9**	**+0.9**
	4.4nm,0.2s,SNR=6.5					
ESAC			Lg	Lg	07 17 20.0	
	106nm,0.3s,SNR=8.7					
ESAC	**San Caprasio**	**5.08 97**	Pn	**Pn**	**07 15 53.9**	**+0.9**
	4.4nm,0.2s,SNR=6.5					
ESAC			Lg	Lg	07 17 20.0	
	106nm,0.3s,SNR=8.7					
PTEO	**Sao Teotonio**	**5.13 194**	*e*Pn	**Pn**	**07 15 53.5**	**-0.1**
PTEO			*e*Sn	**Sn**	**07 16 48.4**	**-4.4**
PTEO			*e*Sg	**Sb**	**07 17 15.5**	**+7.4**
PTEO			A	A	07 17 30.7	
	79nm,0.6s					
PTEO	**Sao Teotonio**	**5.13 194**	Pn	**Pn**	**07 15 53.5**	**-0.1**
PTEO			Sn	**Sn**	**07 16 48.4**	**-4.4**
PTEO			Lg	Lg	07 17 15.5	
	39nm,0.6s					
PTEO	**Sao Teotonio**	**5.13 194**	Pn	**Pn**	**07 15 53.5**	**-0.1**
PTEO			*e*Sn	**Sn**	**07 16 48.4**	**-4.4**
PTEO			Lg	Lg	07 17 15.5	
	39nm,0.6s					
PVAQ	**Vaqueiros**	**5.15 185**	*e*Pn	**Pn**	**07 15 53.3**	**-0.6**
PVAQ			*e*Sn	**Sn**	**07 16 48.5**	**-4.9**
PVAQ			*e*Sg	**Sb**	**07 17 16.1**	**+7.3**
PVAQ			A	A	07 17 28.1	
	123nm,0.6s					
PVAQ	**Vaqueiros**	**5.15 185**	Pn	**Pn**	**07 15 53.3**	**-0.6**
PVAQ			Sn	**Sn**	**07 16 48.5**	**-4.9**
PVAQ			Lg	Lg	07 17 16.1	
	123nm,0.6s					
PVAQ	**Vaqueiros**	**5.15 185**	Pn	**Pn**	**07 15 53.3**	**-0.6**
PVAQ			*e*Sn	**Sn**	**07 16 48.5**	**-4.9**
PVAQ			Lg	Lg	07 17 16.1	
	123nm,0.6s					
PBDV	**Barranco-do-Ve**	**5.32 186**	*e*Pn	**Pn**	**07 15 56.2**	**-0.1**
PBDV			*e*Sn	**Sn**	**07 16 53.3**	**-4.4**
PBDV			*e*Sg	**Sb**	**07 17 21.3**	**+7.4**
PBDV			A	A	07 17 35.4	
	115nm,0.6s					
PBDV	**Barranco-do-Ve**	**5.32 186**	Pn	**Pn**	**07 15 56.2**	**-0.1**
PBDV			Sn	**Sn**	**07 16 53.3**	**-4.4**
PBDV			Lg	Lg	07 17 21.3	
	115nm,0.6s					
PBDV	**Barranco-do-Ve**	**5.32 186**	Pn	**Pn**	**07 15 56.2**	**-0.1**
PBDV			*e*Sn	**Sn**	**07 16 53.3**	**-4.4**
PBDV			Lg	Lg	07 17 21.3	
	115nm,0.6s					
ECHI	**Chisagues Biel**	**5.46 86**	Pn	**Pn**	**07 15 59.1**	**+0.7**
	4.0nm,0.3s,SNR=7.3					
ECHI			Sn	**Sn**	**07 16 59.1**	**-2.2**

	78nm,0.6s,SNR=7.9						
EQES	**Quesada**	**5.70**	**145**	Pn	**Pn**	**07 16 01.2**	**-0.3**
	0.7nm,0.1s,SNR=9.3						
EQES				Lg	Lg	07 17 39.7	
	46nm,0.6s,SNR=9.4						
EQES	**Quesada**	**5.70**	**145**	Pn	**Pn**	**07 16 01.2**	**-0.3**
	0.7nm,0.1s,SNR=9.3						
EQES				Lg	Lg	07 17 39.7	
	46nm,0.6s,SNR=9.4						
ESPR	**Espera**	**5.76**	**169**	Pn	**Pn**	**07 16 02.9**	**+0.6**
	1.1nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	07 17 40.3	
	67nm,0.5s,SNR=8.4						
ESPR	**Espera**	**5.76**	**169**	Pn	**Pn**	**07 16 02.9**	**+0.6**
	1.1nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	07 17 40.3	
	67nm,0.5s,SNR=8.4						
ETOB	**Tobarra**	**5.81**	**130**	Pn	**Pn**	**07 16 02.6**	**-0.4**
	1.2nm,0.2s,SNR=27						
ETOB				Pg	Pb	07 16 23.1	+5.0
	15nm,0.5s,SNR=7.9						
ETOB				Lg	Lg	07 17 40.9	
	80nm,0.6s,SNR=5.0						
ETOB	**Tobarra**	**5.81**	**130**	Pn	**Pn**	**07 16 02.6**	**-0.4**
	1.2nm,0.2s,SNR=27						
ETOB				Lg	Lg	07 17 40.9	
	80nm,0.6s,SNR=5.0						
ERTA	**Horta de San J**	**5.86**	**103**	Pn	**Pn**	**07 16 03.9**	**+0.2**
	0.9nm,0.1s,SNR=5.6						
ERTA				Sn	**Sn**	**07 17 07.9**	**-3.0**
	2.8nm,0.1s,SNR=5.0						
ERTA				Lg	Lg	07 17 40.2	
	22nm,0.3s,SNR=4.8						
ERTA	**Horta de San J**	**5.86**	**103**	Pn	**Pn**	**07 16 03.9**	**+0.2**
	0.9nm,0.1s,SNR=5.6						
ERTA				Sn	**Sn**	**07 17 07.9**	**-3.0**
	2.8nm,0.1s,SNR=5.0						
ERTA				Lg	Lg	07 17 40.2	
	22nm,0.3s,SNR=4.8						
EGOR	**Sierra Gorda,**	**5.93**	**155**	Pn	**Pn**	**07 16 04.6**	**-0.2**
	2.3nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	07 17 45.5	
	68nm,0.7s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.93**	**155**	Pn	**Pn**	**07 16 04.6**	**-0.2**
	2.3nm,0.4s,SNR=7.9						
EGOR				Lg	Lg	07 17 45.5	
	68nm,0.7s,SNR=7.9						
SELV	**Sierra Elvira**	**5.94**	**152**	Lg	Lg	07 17 46.9	
	134nm,1.3s,SNR=7.9						
SELV	**Sierra Elvira**	**5.94**	**152**	Lg	Lg	07 17 46.9	
	134nm,1.3s,SNR=7.9						
EBR	**Ebro Roquetas**	**6.02**	**104**	Lg	Lg	07 17 49.5	
	258nm,0.8s,SNR=7.9						
EBR	**Ebro Roquetas**	**6.02**	**104**	Lg	Lg	07 17 49.5	
	258nm,0.8s,SNR=7.9						
EQUE	**Quentar**	**6.07**	**150**	Lg	Lg	07 17 50.8	
	14nm,0.5s,SNR=5.0						
EQUE	**Quentar**	**6.07**	**150**	Lg	Lg	07 17 50.8	
	14nm,0.5s,SNR=5.0						
QUIF	**Quistinic**	**6.08**	**27**	*e*Pn	**Pn**	**07 16 05.4**	**-1.3**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**07 17 10.2**	**-6.1**
	18nm,0.3s						
QUIF	**Quistinic**	**6.08**	**27**	Pn	**Pn**	**07 16 05.4**	**-1.3**
QUIF				Sn	**Sn**	**07 17 10.2**	**-6.1**
	9.1nm,0.3s						
QUIF	**Quistinic**	**6.08**	**27**	Pn	**Pn**	**07 16 05.4**	**-1.3**
SALF	**Salau**	**6.20**	**85**	Pn	**Pn**	**07 16 08.4**	**+0.1**
SALF	**Salau**	**6.20**	**85**	Pn	**Pn**	**07 16 08.4**	**+0.1**
EJIF	**Jimena Fronter**	**6.23**	**167**	Lg	Lg	07 17 52.8	
	55nm,0.7s,SNR=7.9						
EJIF	**Jimena Fronter**	**6.23**	**167**	Lg	Lg	07 17 52.8	
	55nm,0.7s,SNR=7.9						
LFF	**La Frestale**	**6.24**	**65**	*e*Sn	**Sn**	**07 17 15.1**	**-5.0**
	20nm,0.4s						
LFF	**La Frestale**	**6.24**	**65**	Sn	**Sn**	**07 17 15.1**	**-5.0**
	10nm,0.4s						
EMIJ	**Mijas**	**6.26**	**162**	Pn	**Pn**	**07 16 09.4**	**+0.2**
	0.7nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**07 17 13.7**	**-7.1**
	9.7nm,0.4s,SNR=5.5						
EMIJ				Lg	Lg	07 17 54.5	
	55nm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**6.26**	**162**	Pn	**Pn**	**07 16 09.4**	**+0.2**
	0.7nm,0.1s,SNR=7.9						
EMIJ				Lg	Lg	07 17 54.5	
	55nm,0.6s,SNR=7.9						
EPOB	**Poblet**	**6.29**	**98**	Pn	**Pn**	**07 16 09.6**	**0.0**
	2.4nm,0.2s,SNR=6.8						
EPOB				Sn	**Sn**	**07 17 15.7**	**-5.9**
	4.7nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**6.29**	**98**	Pn	**Pn**	**07 16 09.6**	**0.0**
	2.4nm,0.2s,SNR=6.8						
ROSF	**Rostrenen**	**6.42**	**24**	*e*Pn	**Pn**	**07 16 10.0**	**-1.3**
	SNR=1.0						
ROSF				*e*Sn	Sn	07 17 15.6	-9.0
	12nm,0.4s,SNR=1.0						
ROSF	**Rostrenen**	**6.42**	**24**	Pn	**Pn**	**07 16 10.0**	**-1.3**
ROSF				Sn	Sn	07 17 15.6	-9.0
	5.9nm,0.4s						
ROSF	**Rostrenen**	**6.42**	**24**	Pn	**Pn**	**07 16 10.0**	**-1.3**
MFF	**Saint Martin d**	**6.47**	**49**	*e*Pn	**Pn**	**07 16 10.8**	**-1.2**
	SNR=1.0						
MFF				*e*Sn	Sn	07 17 18.2	-7.7
	16nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**6.47**	**49**	Pn	**Pn**	**07 16 10.8**	**-1.2**
MFF				Sn	Sn	07 17 18.2	-7.7
	8.2nm,0.4s						
MFF	**Saint Martin d**	**6.47**	**49**	Pn	**Pn**	**07 16 10.8**	**-1.2**
EMIR	**Miracle**	**6.51**	**93**	Pn	**Pn**	**07 16 13.1**	**+0.4**
	SNR=7.9						
EMIR				Sn	**Sn**	**07 17 23.7**	**-3.4**
	47nm,0.6s,SNR=5.9						
EMIR				Lg	Lg	07 17 57.4	
	61nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**6.51**	**93**	Pn	**Pn**	**07 16 13.1**	**+0.4**
	SNR=7.9						
EMIR				Sn	**Sn**	**07 17 23.7**	**-3.4**
	47nm,0.6s,SNR=5.9						
EMIR				Lg	Lg	07 17 57.4	
	61nm,0.4s,SNR=7.9						
EBER	**Berja**	**6.55**	**148**	Pn	**Pn**	**07 16 15.1**	**+1.8**
	2.8nm,0.3s,SNR=6.6						
EBER				Lg	Lg	07 18 08.2	
	251nm,1.5s,SNR=7.9						
EBER	**Berja**	**6.55**	**148**	Pn	**Pn**	**07 16 15.1**	**+1.8**
	2.8nm,0.3s,SNR=6.6						
EBER				Lg	Lg	07 18 08.2	
	251nm,1.5s,SNR=7.9						
EMUR	**La Murta**	**6.55**	**134**	Pn	**Pn**	**07 16 13.1**	**-0.1**
	1.5nm,0.2s,SNR=4.6						
EMUR				Lg	Lg	07 18 04.1	
	69nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**6.55**	**134**	Pn	**Pn**	**07 16 13.1**	**-0.1**
	1.5nm,0.2s,SNR=4.6						
EMUR				Lg	Lg	07 18 04.1	
	69nm,0.5s,SNR=7.9						
SGMF	**Saint Gilles**	**6.58**	**28**	*e*Pn	**Pn**	**07 16 12.0**	**-1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**07 17 21.4**	**-7.1**
	8.5nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**6.58**	**28**	Pn	**Pn**	**07 16 12.0**	**-1.5**
SGMF				Sn	**Sn**	**07 17 21.4**	**-7.1**
	4.2nm,0.3s						
SGMF	**Saint Gilles**	**6.58**	**28**	Pn	**Pn**	**07 16 12.0**	**-1.5**
ENIJ	**Nijar**	**6.77**	**144**	Lg	Lg	07 18 08.6	
	61nm,0.8s,SNR=7.9						
ENIJ	**Nijar**	**6.77**	**144**	Lg	Lg	07 18 08.6	
	61nm,0.8s,SNR=7.9						
CLLI	**Llivia**	**6.79**	**87**	Pn	**Pn**	**07 16 17.7**	**+1.2**
	0.3nm,0.1s,SNR=5.8						
CLLI				Sn	**Sn**	**07 17 32.0**	**-1.9**
	0.8nm,0.2s,SNR=5.0						
CLLI	**Llivia**	**6.79**	**87**	Pn	**Pn**	**07 16 17.7**	**+1.2**
	0.3nm,0.1s,SNR=5.8						
CLLI				Sn	**Sn**	**07 17 32.0**	**-1.9**
	0.8nm,0.2s,SNR=5.0						
RJF	**Les Rejaudoux**	**6.88**	**63**	*e*Pn	**Pn**	**07 16 16.8**	**-0.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**6.88**	**63**	*e*P	**Pn**	**07 16 22.0**	**+4.4**
RJF				*e*Sn	**Sn**	**07 17 29.2**	**-6.7**
	20nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**6.88**	**63**	Pn	**Pn**	**07 16 16.8**	**-0.8**
RJF				Sn	**Sn**	**07 17 29.2**	**-6.7**
	9.9nm,0.3s						
RJF	**Les Rejaudoux**	**6.88**	**63**	Pn	**Pn**	**07 16 16.8**	**-0.8**
MTLF	**Montolieu**	**6.96**	**80**	*e*Pn	**Pn**	**07 16 18.6**	**-0.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**07 17 32.6**	**-5.4**
	6.0nm,0.4s						
MTLF				*e*Sg	**Sg**	**07 18 15.3**	**-4.9**
	8.9nm,0.6s,SNR=1.0						
MTLF	**Montolieu**	**6.96**	**80**	Pn	**Pn**	**07 16 18.6**	**-0.2**
MTLF				Sn	**Sn**	**07 17 32.6**	**-5.4**
	3.0nm,0.4s						
MTLF				Lg	Lg	07 18 15.3	
	4.4nm,0.6s						
MTLF	**Montolieu**	**6.96**	**80**	Pn	**Pn**	**07 16 18.6**	**-0.2**
MTLF				Lg	Lg	07 18 15.3	
	4.4nm,0.6s						
CAF	**Calviac**	**7.12**	**67**	*e*Pn	**Pn**	**07 16 19.9**	**-1.1**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**07 17 35.4**	**-6.7**
	7.4nm,0.3s						
CAF	**Calviac**	**7.12**	**67**	Pn	**Pn**	**07 16 19.9**	**-1.1**
CAF				Sn	**Sn**	**07 17 35.4**	**-6.7**
	3.7nm,0.3s						
CAF	**Calviac**	**7.12**	**67**	Pn	**Pn**	**07 16 19.9**	**-1.1**
CFON	**Fontmartina**	**7.21**	**93**	Pn	**Pn**	**07 16 22.5**	**+0.2**
	1.4nm,0.1s,SNR=8.6						
CFON	**Fontmartina**	**7.21**	**93**	Pn	**Pn**	**07 16 22.5**	**+0.2**
	1.4nm,0.1s,SNR=8.6						
GRR	**Gorron**	**7.35**	**35**	*e*Pn	**Pn**	**07 16 22.6**	**-1.5**
GRR				*e*Sn	Sn	07 17 39.2	-8.3
	8.3nm,0.3s,SNR=1.0						
GRR	**Gorron**	**7.35**	**35**	Pn	**Pn**	**07 16 22.6**	**-1.5**
GRR				Sn	Sn	07 17 39.2	-8.3
	4.2nm,0.3s						
GRR	**Gorron**	**7.35**	**35**	Pn	**Pn**	**07 16 22.6**	**-1.5**
EIBI	**Ibiza**	**7.38**	**116**	Pn	**Pn**	**07 16 24.3**	**-0.2**
	4.2nm,0.2s,SNR=7.5						
EIBI				Sn	**Sn**	**07 17 40.9**	**-7.4**
	8.1nm,0.4s,SNR=5.0						
EIBI	**Ibiza**	**7.38**	**116**	Pn	**Pn**	**07 16 24.3**	**-0.2**
	4.2nm,0.2s,SNR=7.5						
SJAF	**Saint Jean de**	**7.46**	**87**	Sn	**Sn**	**07 17 45.5**	**-4.7**
	2.4nm,0.4s,SNR=7.9						
TCF	**Toulx Ste Croi**	**7.71**	**58**	*e*Pn	**Pn**	**07 16 27.7**	**-1.4**
	SNR=1.0						
TCF				*e*Sn	Sn	07 17 48.0	-8.4
	9.4nm,0.3s						
TCF	**Toulx Ste Croi**	**7.71**	**58**	Pn	**Pn**	**07 16 27.7**	**-1.4**
TCF				Sn	Sn	07 17 48.0	-8.4
	4.7nm,0.3s						
TCF	**Toulx Ste Croi**	**7.71**	**58**	Pn	**Pn**	**07 16 27.7**	**-1.4**
LDF	**La Druitiere**	**7.83**	**37**	*e*Pn	**Pn**	**07 16 29.8**	**-0.8**
	SNR=1.0						
LDF				*e*Sn	Sn	07 17 51.3	-7.9
	11nm,0.5s,SNR=1.0						
LDF	**La Druitiere**	**7.83**	**37**	*e*Pn	**Pn**	**07 16 29.8**	**-0.8**
	SNR=1.0						
LBL	**Lubilhac**	**8.02**	**67**	Pn	**Pn**	**07 16 32.3**	**-1.0**
LBL	**Lubilhac**	**8.02**	**67**	Pn	**Pn**	**07 16 32.3**	**-1.0**
PYM	**Petit Puy Mans**	**8.02**	**63**	Pn	**Pn**	**07 16 32.3**	**-1.0**
PYM	**Petit Puy Mans**	**8.02**	**63**	Pn	**Pn**	**07 16 32.3**	**-1.0**
AGO	**Saint Agoulin**	**8.20**	**61**	Pn	**Pn**	**07 16 34.5**	**-1.3**
AGO	**Saint Agoulin**	**8.20**	**61**	Pn	**Pn**	**07 16 34.5**	**-1.3**
LASF	**Ste Croix**	**8.21**	**76**	*e*Pn	**Pn**	**07 16 35.5**	**-0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**07 18 02.3**	**-6.5**
	4.8nm,0.3s						
LASF	**Ste Croix**	**8.21**	**76**	Pn	**Pn**	**07 16 35.5**	**-0.5**
LASF				Sn	**Sn**	**07 18 02.3**	**-6.5**
	2.4nm,0.3s						
LASF	**Ste Croix**	**8.21**	**76**	Pn	**Pn**	**07 16 35.5**	**-0.5**
BGF	**Bois d'Agland**	**8.22**	**57**	*e*Pn	**Pn**	**07 16 35.0**	**-1.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**07 18 02.7**	**-6.3**
	22nm,0.4s						
BGF	**Bois d'Agland**	**8.22**	**57**	Pn	**Pn**	**07 16 35.0**	**-1.1**
BGF				Sn	**Sn**	**07 18 02.7**	**-6.3**
	11nm,0.4s						
BGF	**Bois d'Agland**	**8.22**	**57**	Pn	**Pn**	**07 16 35.0**	**-1.1**
HYF	**Humbligny**	**8.43**	**53**	*e*Pn	**Pn**	**07 16 38.4**	**-0.5**
HYF				*e*Sn	Sn	07 18 06.0	-8.2
HYF	**Humbligny**	**8.43**	**53**	Pn	**Pn**	**07 16 38.4**	**-0.5**
HYF				Sn	Sn	07 18 06.0	-8.2
HYF	**Humbligny**	**8.43**	**53**	Pn	**Pn**	**07 16 38.4**	**-0.5**
PLDF	**La Plantade**	**8.49**	**63**	Pn	**Pn**	**07 16 38.3**	**-1.5**
PLDF	**La Plantade**	**8.49**	**63**	Pn	**Pn**	**07 16 38.3**	**-1.5**
AVF	**Avril sur Loir**	**8.64**	**57**	*e*Pn	**Pn**	**07 16 40.1**	**-1.6**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**07 18 12.3**	**-6.9**
	2.8nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**8.64**	**57**	Pn	**Pn**	**07 16 40.1**	**-1.6**
AVF				Sn	**Sn**	**07 18 12.3**	**-6.9**
	1.4nm,0.4s						
AVF	**Avril sur Loir**	**8.64**	**57**	Pn	**Pn**	**07 16 40.1**	**-1.6**
SSF	**Saint Saulge**	**8.85**	**56**	*e*Pn	**Pn**	**07 16 43.1**	**-1.6**
	SNR=1.0						
SSF				*e*Sn	Sn	07 18 16.2	-8.3
	7.8nm,0.4s						
SSF	**Saint Saulge**	**8.85**	**56**	Pn	**Pn**	**07 16 43.1**	**-1.6**
SSF				Sn	Sn	07 18 16.2	-8.3
	3.9nm,0.4s						
SSF	**Saint Saulge**	**8.85**	**56**	Pn	**Pn**	**07 16 43.1**	**-1.6**
SMF	**Signal de Mont**	**8.88**	**59**	*e*Pn	**Pn**	**07 16 43.5**	**-1.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**07 18 19.5**	**-5.8**
	3.1nm,0.2s						
SMF	**Signal de Mont**	**8.88**	**59**	Pn	**Pn**	**07 16 43.5**	**-1.6**
SMF				Sn	**Sn**	**07 18 19.5**	**-5.8**
	1.6nm,0.2s						
SMF	**Signal de Mont**	**8.88**	**59**	Pn	**Pn**	**07 16 43.5**	**-1.6**
VIVF	**Saint-Julien-l**	**8.91**	**71**	*e*Pn	**Pn**	**07 16 45.4**	**-0.1**
	SNR=1.0						
VIVF				*e*Sn	Sn	07 18 16.9	-9.1
	9.7nm,0.4s						
VIVF	**Saint-Julien-l**	**8.91**	**71**	Pn	**Pn**	**07 16 45.4**	**-0.1**
VIVF				Sn	Sn	07 18 16.9	-9.1
	4.8nm,0.4s						
VIVF	**Saint-Julien-l**	**8.91**	**71**	Pn	**Pn**	**07 16 45.4**	**-0.1**
LOR	**Lormes**	**9.16**	**55**	*e*Pn	**Pn**	**07 16 47.2**	**-1.7**
	baz=240,SNR=1.0						
LOR				*e*Sn	**Sn**	**07 18 26.1**	**-6.0**
	5.6nm,0.4s						
LOR	**Lormes**	**9.16**	**55**	Pn	**Pn**	**07 16 47.2**	**-1.7**
LOR				Sn	**Sn**	**07 18 26.1**	**-6.0**
	2.8nm,0.4s						
LOR	**Lormes**	**9.16**	**55**	Pn	**Pn**	**07 16 47.2**	**-1.7**
ORIF	**Oris-en-Rattie**	**9.77**	**71**	*e*Pn	**Pn**	**07 16 58.0**	**+0.7**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**07 18 40.9**	**-6.2**
	6.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.77**	**71**	Pn	**Pn**	**07 16 58.0**	**+0.7**
ORIF				Sn	**Sn**	**07 18 40.9**	**-6.2**
	3.3nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.77**	**71**	Pn	**Pn**	**07 16 58.0**	**+0.7**
SFTF	**Sexfontaines**	**10.30**	**52**	*e*Pn	**Pn**	**07 17 02.6**	**-2.0**
	baz=234						
SFTF	**Sexfontaines**	**10.30**	**52**	Pn	**Pn**	**07 17 02.6**	**-2.0**
SFTF	**Sexfontaines**	**10.30**	**52**	Pn	**Pn**	**07 17 02.6**	**-2.0**
MBDF	**Montbardon**	**10.37**	**73**	*e*Pn	**Pn**	**07 17 06.0**	**+0.4**
MBDF	**Montbardon**	**10.37**	**73**	Pn	**Pn**	**07 17 06.0**	**+0.4**
MBDF	**Montbardon**	**10.37**	**73**	Pn	**Pn**	**07 17 06.0**	**+0.4**
PAGF	**Fort de Pagny**	**10.87**	**52**	*e*Pn	**Pn**	**07 17 10.9**	**-1.5**
	baz=238						
PAGF	**Fort de Pagny**	**10.87**	**52**	*e*Pn	**Pn**	**07 17 10.9**	**-1.5**
BAIF	**Baives**	**10.89**	**42**	*e*Pn	**Pn**	**07 17 12.6**	**0.0**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**07 19 07.4**	**-7.0**
	2.3nm,0.4s						
BAIF	**Baives**	**10.89**	**42**	Pn	**Pn**	**07 17 12.6**	**0.0**
BAIF				Sn	**Sn**	**07 19 07.4**	**-7.0**
	1.2nm,0.4s						
BAIF	**Baives**	**10.89**	**42**	Pn	**Pn**	**07 17 12.6**	**0.0**
HAU	**Haudompre**	**11.00**	**56**	*e*Pn	**Pn**	**07 17 12.0**	**-2.1**
HAU	**Haudompre**	**11.00**	**56**	Pn	**Pn**	**07 17 12.0**	**-2.1**
HAU	**Haudompre**	**11.00**	**56**	Pn	**Pn**	**07 17 12.0**	**-2.1**
HINF	**Hinteralfeld**	**11.23**	**57**	*e*Pn	**Pn**	**07 17 16.2**	**-1.1**
HINF	**Hinteralfeld**	**11.23**	**57**	Pn	**Pn**	**07 17 16.2**	**-1.1**
HINF	**Hinteralfeld**	**11.23**	**57**	Pn	**Pn**	**07 17 16.2**	**-1.1**
CDF	**Champ du Feu**	**11.73**	**55**	*e*Pn	**Pn**	**07 17 21.8**	**-2.4**
CDF	**Champ du Feu**	**11.73**	**55**	Pn	**Pn**	**07 17 21.8**	**-2.4**
CDF	**Champ du Feu**	**11.73**	**55**	Pn	**Pn**	**07 17 21.8**	**-2.4**

MEX 01 07:27:31.2±0.5, 14°.48N×92°.00W, h105^{km}±7^{km}, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.69**	**316**	*e*P	Pn	07 27 58.0	-2.1
CCIG	**Comitan**	**1.79**	**356**	*e*P	Pn	07 28 00.3	-1.3
CCIG				*e*S	Sn	07 28 22.8	-1.8

*GUC **01** 08:00:30.9±0.5, 31°.53S×70°.17W, h133^{km}±8^{km}, ML3.6*
*ISCJB **01** 08:00:31.5±0.8, 31°.52S±0°.03×69°.76W±0°.04, h113^{km}±10^{km}, Error ellipse: s-maj=6.2km s-min=4.1km az=22.4*
*SJA **01** 08:00:31.6±0.6, 31°.53S×69°.70W, h111^{km}±5^{km}, ML3.3, MW3.7*

ISC 01 08:00:32.1±1.7, 31°.53S±0°.03×69°.77W±0°.05, h109^{km}±17^{km}, n19, σ0°.79/35, 3C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.76**	**155**	*e*P	**Pn**	**08 00 51.7**	**+0.3**
AUSP				*e*S	**Sn**	**08 01 06.6**	**+0.9**
SJA	**San Juan**	**1.03**	**90**	*e*P	**Pn**	**08 00 54.0**	**+0.4**
SJA				*e*S	**Sn**	**08 01 09.7**	**-0.3**
RTCV	**Cerro Valdivia**	**1.10**	**108**	*e*P	**Pn**	**08 00 54.5**	**+0.2**
RTCV				*e*S	**Sn**	**08 01 10.9**	**-0.2**
RTLL	**Cerro Villicun**	**1.12**	**80**	*e*P	**Pn**	**08 00 54.3**	**-0.3**
RTLL				*e*S	**Sn**	**08 01 11.1**	**-0.5**
AMOG	**MOGNA**	**1.24**	**62**	*e*P	**Pn**	**08 00 55.8**	**-0.2**
AMOG				*e*S	**Sn**	**08 01 13.7**	**-0.3**
ASAL	**Salagasta**	**1.32**	**143**	*e*P	**Pn**	**08 00 57.2**	**+0.3**
ASAL				*e*S	**Sn**	**08 01 15.9**	**+0.2**
ARCO	**CERRO ARCO**	**1.49**	**152**	*e*P	**Pn**	**08 00 59.2**	**+0.3**
ARCO				*e*S	**Sn**	**08 01 19.5**	**+0.3**
ARCO				IAML		08 01 22.4	
	comp=Z,311nm,0.2s						
TLL	**Tololo Astrono**	**1.62**	**327**	*e*P	**Pn**	**08 01 00.2**	**-0.5**
TLL				*i* S	**Sn**	**08 01 22.2**	**-0.1**
TLL				IAML		08 01 25.0	
	comp=N,882nm,0.4s						
ROCH	**El Roble**	**1.78**	**216** ⇑	*i*P	**Pn**	**08 01 01.5**	**-1.0**
ROCH				*i* S	**Sn**	**08 01 24.9**	**-0.9**
ROCH				IAML		08 01 26.5	
	comp=N,878nm,0.4s						
PEL	**Peldehue**	**1.79**	**205** ⇓	*i*P	**Pn**	**08 01 01.7**	**-0.8**
PEL				*i* S	**Sn**	**08 01 25.1**	**-0.5**
PEL				IAML		08 01 26.9	
	comp=N,493nm,0.6s						
FCH	**Farellones**	**1.85**	**194** ⇑	*i*P	**Pn**	**08 01 04.0**	**+0.6**
FCH				*i* S	**Sn**	**08 01 28.9**	**+1.6**
FCH				IAML		08 01 31.8	
	comp=N,479nm,0.2s						
CLCH	**Cerro Calan**	**1.97**	**199** ⇑	*i*P	**Pn**	**08 01 04.6**	**-0.2**
CLCH				*i* S	**Sn**	**08 01 29.6**	**-0.1**
CLCH				IAML		08 01 35.6	
	comp=E,478nm,0.6s						
FSR	**Penalolen**	**2.05**	**198**	*e*P	**Pn**	**08 01 05.2**	**-0.5**
FSR				*i* S	**Sn**	**08 01 31.7**	**+0.3**
AVFE	**Valle Fertil**	**2.17**	**67**	*e*P	**Pn**	**08 01 06.8**	**-0.5**
AVFE				IAML		08 01 07.2	
	comp=Z,178nm,0.3s						
AVFE				*e*S	**Sn**	**08 01 33.5**	**-0.7**
AGUA	**GUANDACOL**	**2.32**	**29**	*e*P	**Pn**	**08 01 09.5**	**+0.3**
AGUA				*e*S	**Sn**	**08 01 37.4**	**-0.3**
ACAN	**Cantantal**	**2.32**	**109**	*e*P	**Pn**	**08 01 08.9**	**-0.3**
LCO	**Las Campanas**	**2.64**	**342** ⇓	*i*P	**Pn**	**08 01 12.9**	**-0.7**
LCO				*i* S	**Sn**	**08 01 44.0**	**-1.3**
LCO				IAML		08 01 47.5	
	comp=N,174nm,0.3s						
VACH	**Vallenar**	**3.07**	**344** ⇓	*i*P	**Pn**	**08 01 21.3**	**+2.3**
VACH				*i* S	**Sn**	**08 01 56.8**	**+1.7**
VCA	**Vinchina**	**3.10**	**26**	IAML		08 01 60.0	
	comp=E,232nm,0.3s						

*IDC **01** 08:09:47.5±1.4, 35°.44N×141°.22E, h0^{km}, mb3.6/2, mb1 3.8/5, mb1mx3.4/45, mbtmp3.6/5, ML3.2/3, MS2.5/3, Ms1 2.5/3, ms1mx2.4/38, Error ellipse: s-maj=38.9km s-min=20.7km az=107.0*
*ISCJB **01** 08:09:50.2±0.8, 35°.56N±0°.05×141°.28E±0°.08, h33^{km}, mb3.8/2, Error ellipse: s-maj=9.3km s-min=6.4km az=164.9*
*JMA **01** 08:09:52.2±0.1, 35°.58N×141°.05E, h36^{km}±1^{km}, M3.1*

ISC 01 08:09:51.9±1.1, 35°.54N±0°.05×141°.10E±0°.07, h33^{km}, n21, σ1§41/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.26**	**310**	P	**Pb**	**08 09 58.9**	**-0.2**
CHOJ				S	**Sn**	**08 10 03.8**	**+0.3**
JCN	**Nagara**	**0.74**	**261**	P	**Pb**	**08 10 07.1**	**+0.7**
BSO4	**Boso 4**	**0.83**	**229**	P	**Pb**	**08 10 07.6**	**-0.2**
BSO3	**Boso 3**	**0.88**	**213**	P	**Pb**	**08 10 08.0**	**-0.

KARP			S	Sn	08 11 35.3	+0.6
KARP			eSg	Sn	08 11 36.1	+1.4
ZKR	**Zakros**	**0.63 254**	P	**Pn**	08 11 34.3	-0.2
ZKR			S	**Sb**	08 11 43.7	+0.4
NPS	**Neapolis**	**1.10 269**	P	**Pn**	08 11 42.2	+1.3
NPS			S	**Sb**	08 11 57.4	+0.9
NPS	**Neapolis**	**1.10 269**	P	**Pn**	08 11 42.4	+1.3
NPS			S	**Sb**	08 11 57.8	+1.3
NPS			AML	AML	08 12 00.3	
	comp=N,6828μm,0.5s					
NPS			AML	AML	08 12 01.0	
	comp=E,8083μm,0.4s					
NPS	**Neapolis**	**1.10 269**	P	**Pn**	08 11 42.3	+1.3
NPS			S	**Sb**	08 11 57.4	+0.9
LAST	**Lasithi**	**1.22 264**	P	**Pn**	08 11 44.1	+1.4
LAST			S	**Sb**	08 12 01.9	+2.0
LAST	**Lasithi**	**1.22 264**	P	**Pn**	08 11 44.0	+1.3
LAST			S	**Sn**	08 11 59.9	+1.9
LAST			AML	AML	08 12 06.4	
	comp=E,4673μm,0.6s					
LAST			AML	AML	08 12 09.8	
	comp=N,3700μm,0.7s					
LAST	**Lasithi**	**1.22 264**	P	**Pn**	08 11 44.1	+1.4
LAST			S	**Sn**	08 11 59.9	+1.9
NIS1	**Nisyros Isl.**	**1.32 8**	ePN	**Pn**	08 11 43.5	-0.5
NIS1	**Nisyros Isl.**	**1.32 8**	P	**Pn**	08 11 44.0	0.0
NIS1	**Nisyros Isl.**	**1.32 8**	ePn	**Pn**	08 11 43.5	-0.5
NIS1	**Nisyros Isl.**	**1.32 8**	P	**Pn**	08 11 44.0	0.0
NISR	**Nisiros**	**1.32 6**	P	**Pn**	08 11 43.6	-0.4
NISR	**Nisiros**	**1.32 6**	P	**Pn**	08 11 43.6	-0.4
ARG	**Arkhangelos**	**1.32 46**	P	**Pn**	08 11 45.6	+1.6
ARG			S	**Sb**	08 12 03.6	+0.8
ARG	**Arkhangelos**	**1.32 46**	P	**Pn**	08 11 45.9	+1.9
ARG			S	**Sb**	08 12 04.6	+1.9
ARG			AML	AML	08 12 08.3	
	comp=E,2782μm,0.5s					
ARG			AML	AML	08 12 10.1	
	comp=N,2356μm,1.0s					
ARG	**Arkhangelos**	**1.32 46**	P	**Pn**	08 11 45.6	+1.6
ARG			S	**Sb**	08 12 04.7	+1.9
DAT	**Datca**	**1.52 19**	ePN	**Pn**	08 11 46.6	-0.2
DAT	**Datca**	**1.52 19**	*i* P	**Pn**	08 11 46.8	0.0
DAT			*i* S	**Sn**	08 12 04.5	-1.0
DAT	**Datca**	**1.52 19**	P	**Pn**	08 11 46.8	0.0
DAT			S	**Sn**	08 12 04.5	-1.0
IACM	**Heraklion**	**1.54 271**	P	**Pn**	08 11 49.1	+2.1
IACM	**Heraklion**	**1.54 271**	P	**Pn**	08 11 49.1	+2.1
SANT	**Santorini**	**1.62 312**	P	**Pn**	08 11 48.1	-0.1
SANT			S	**Sn**	08 12 06.4	-1.6
SANT	**Santorini**	**1.62 312**	P	**Pn**	08 11 48.1	-0.1
SANT			S	**Sn**	08 12 06.4	-1.6
THR6	**Thira Island,**	**1.65 310**	P	**Pn**	08 11 49.0	+0.5
THR6	**Thira Island,**	**1.65 310**	P	**Pn**	08 11 49.0	+0.5
THR7	**Fira-Santorini**	**1.67 313**	P	**Pn**	08 11 49.5	+0.6
THR7	**Fira-Santorini**	**1.67 313**	P	**Pn**	08 11 49.5	+0.6
THR3	**Thira Island,**	**1.68 312**	P	**Pn**	08 11 49.4	+0.4
THR3	**Thira Island,**	**1.68 312**	P	**Pn**	08 11 49.4	+0.4
THR2	**Thira island,**	**1.69 313**	P	**Pn**	08 11 49.3	+0.3
THR2	**Thira island,**	**1.69 313**	P	**Pn**	08 11 49.3	+0.3
IDI	**Anoyia**	**1.69 270**	Pn	**Pn**	08 11 50.1	+0.9
	comp=N,43nm,0.3s,baz=68,slow=15,SNR=77					
IDI			Sn	**Sn**	08 12 12.7	+3.0
	comp=N,28nm,0.3s,baz=30,slow=10,SNR=6.1					
IDI			LR	LR	08 12 31.7	
	comp=N,91nm,19.0s,baz=48,slow=38					
IDI	**Anoyia**	**1.69 270**	P	**Pn**	08 11 50.5	+1.4
IDI			S	**Sn**	08 12 12.7	+3.0
IDI	**Anoyia**	**1.69 270**	P	**Pn**	08 11 50.0	+0.8
IDI	**Anoyia**	**1.69 270**	P	**Pn**	08 11 50.5	+1.4
IDI			S	**Sn**	08 12 12.7	+3.0
CMBO	**Columbo, Santo**	**1.72 313**	P	**Pn**	08 11 49.5	0.0
CMBO			S	**Sn**	08 12 10.1	-0.2
CMBO	**Columbo, Santo**	**1.72 313**	P	**Pn**	08 11 49.5	0.0
CMBO			S	**Sn**	08 12 10.1	-0.2
THR5	**Thira Island,**	**1.72 311**	P	**Pn**	08 11 49.8	+0.3
THR5	**Thira Island,**	**1.72 311**	P	**Pn**	08 11 49.8	+0.3
SIVA	**Sivas**	**1.78 262**	P	**Pn**	08 11 52.4	+2.1
SIVA	**Sivas**	**1.78 262**	P	**Pn**	08 11 52.7	+2.4
SIVA	**Sivas**	**1.78 262**	P	**Pn**	08 11 52.4	+2.1
BODT	**Bodrum**	**1.79 9**	ePN	**Pn**	08 11 50.2	-0.2
BODT	**Bodrum**	**1.79 9**	P	**Pn**	08 11 50.4	0.0
BODT	**Bodrum**	**1.79 9**	P	**Pn**	08 11 50.4	0.0
TMBK	**Timbaki Herakl**	**1.81 264**	P	**Pn**	08 11 53.5	+2.8
TMBK	**Timbaki Herakl**	**1.81 264**	P	**Pn**	08 11 53.5	+2.8
DALY	**Dalyan (Mu¨la**	**2.05 42**	ePN	**Pn**	08 11 54.2	+0.3
DALY	**Dalyan (Mu¨la**	**2.05 42**	*i* P	**Pn**	08 11 55.9	+1.9
DALY			*i* S	**Sb**	08 12 25.6	+2.1
DALY	**Dalyan (Mu¨la**	**2.05 42**	ePn	**Pn**	08 11 54.3	+0.3
DALY	**Dalyan (Mu¨la**	**2.05 42**	P	**Pn**	08 11 55.9	+1.9
TURN	**Turunc**	**2.06 40**	*i* P	Pn	08 11 51.0	-3.2
TURN			*i* S	**Sn**	08 12 12.6	-6.1
TURN	**Turunc**	**2.06 40**	P	Pn	08 11 51.0	-3.2
MLSB	**Milas**	**2.10 18**	ePN	**Pn**	08 11 54.9	+0.1
MLSB	**Milas**	**2.10 18**	ePn	**Pn**	08 11 54.9	+0.1
APE	**Apeiranthos**	**2.11 327**	ePN	**Pn**	08 11 53.9	-1.1
APE	**Apeiranthos**	**2.11 327**	P	**Pn**	08 11 54.6	-0.3
APE			S	**Sn**	08 12 18.4	-1.7
APE	**Apeiranthos**	**2.11 327**	ePn	**Pn**	08 11 53.9	-1.1
APE	**Apeiranthos**	**2.11 327**	P	**Pn**	08 11 54.6	-0.3
APE			S	**Sn**	08 12 18.4	-1.7
FETY	**Fethiye**	**2.18 52**	ePN	**Pn**	08 11 56.1	+0.2
FETY	**Fethiye**	**2.18 52**	ePn	**Pn**	08 11 56.1	+0.2
FETY	**Fethiye**	**2.18 52**	P	**Pn**	08 11 56.5	+0.6
VAM	**Vamos**	**2.26 274**	P	**Pn**	08 11 59.2	+2.3
VAM	**Vamos**	**2.26 274**	P	**Pn**	08 11 59.2	+2.3
AKAS	**Kas**	**2.35 66**	ePN	**Pn**	08 11 58.5	+0.2
AKAS	**Kas**	**2.35 66**	*i* P	**Pn**	08 11 58.4	+0.2
AKAS			*i* S	**Sn**	08 12 26.2	+0.2
AKAS	**Kas**	**2.35 66**	ePn	**Pn**	08 11 58.5	+0.2
AKAS			S	**Sn**	08 12 26.2	+0.2
SMG	**Samos**	**2.41 358**	P	**Pn**	08 11 59.0	0.0
SMG	**Samos**	**2.41 358**	P	**Pn**	08 11 59.0	0.0
IMMV	**Iera Moni Meta**	**2.44 275**	P	**Pn**	08 11 59.5	+0.2
IMMV	**Iera Moni Meta**	**2.44 275**	P	**Pn**	08 11 59.5	+0.2
TAVA	**DENIZLI_Tavas**	**2.68 36**	*i* P	**Pn**	08 12 03.7	+0.9
TAVA			*i* S	**Sb**	08 12 40.5	-1.3
TAVA	**DENIZLI_Tavas**	**2.68 36**	P	**Pn**	08 12 03.7	+0.9
AYDB	**Zeytinkoy-Aydi**	**2.75 16**	ePN	**Pn**	08 12 04.0	+0.2
AYDB	**Zeytinkoy-Aydi**	**2.75 16**	ePn	**Pn**	08 12 04.0	+0.2
GLHS	**Gihisar (BURDU**	**2.77 47**	ePN	**Pn**	08 12 04.4	+0.4
GLHS	**Gihisar (BURDU**	**2.77 47**	ePn	**Pn**	08 12 04.4	+0.4
ELL	**Elmali**	**2.80 58**	ePN	**Pn**	08 12 04.8	+0.4
ELL	**Elmali**	**2.80 58**	ePn	**Pn**	08 12 04.8	+0.4
GOLH	**Golhisar**	**2.86 47**	*i* P	**Pn**	08 12 06.8	+1.5
GOLH			*i* S	**Sb**	08 12 49.5	+2.5
GOLH	**Golhisar**	**2.86 47**	P	**Pn**	08 12 06.8	+1.5
DNZL	**Cakiroluk**	**2.92 35**	*i* P	**Pn**	08 12 06.7	+0.5
DNZL			*i* S	**Sb**	08 12 55.2	+6.4
DNZL	**Cakiroluk**	**2.92 35**	P	**Pn**	08 12 06.7	+0.5
URLA	**Izmir**	**3.07 355**	ePN	**Pn**	08 12 07.6	-0.5
URLA	**Izmir**	**3.07 355**	ePn	**Pn**	08 12 07.6	-0.5
KORT	**Korkueli**	**3.23 57**	ePN	**Pn**	08 12 11.1	+0.7
KORT	**Korkueli**	**3.23 57**	*i* P	**Pn**	08 12 11.7	+1.3
KORT			*i* S	**Sn**	08 12 51.3	+3.5
KORT	**Korkueli**	**3.23 57**	ePn	**Pn**	08 12 11.1	+0.7
KORT	**Korkueli**	**3.23 57**	P	**Pn**	08 12 11.7	+1.3
KORT			S	**Sn**	08 12 51.3	+3.5
SLUM	**Salum**	**4.07 202**	P	**Pn**	08 12 21.7	-0.1
	baz=207					
SLUM			S	**Sn**	08 13 04.7	-3.5
	baz=207					
SLUM			AMP		08 15 00.0	
	comp=N,70μm,2.1s,logA/T=4.5,baz=207					
SLUM	**Salum**	**4.07 202**	P	**Pn**	08 12 21.7	-0.1
SWA2		**6.17 192**	P	**Pn**	08 12 49.9	-0.7
	baz=196					
HSAF	**As Saff**	**6.87 144**	P	**Pn**	08 12 58.1	-2.1
	baz=143					
BRTR	**Keskin Array B**	**6.91 48**	Pn	**Pn**	08 13 01.9	+1.0
	comp=N,0.1nm,0.3s,baz=248,slow=14,SNR=2.9					
BRTR			Sn	**Sn**	08 14 16.2	-2.2
	baz=205,slow=23,SNR=2.0					
GLL	**Jalalah**	**6.97 144**	P	**Pn**	08 13 00.1	-1.7
	baz=143					
HNKL	**Nakhl**	**7.98 130**	P	**Pn**	08 13 13.6	-2.0
	baz=129					
HNKL			S	**Sn**	08 14 38.0	-6.7
	baz=129					
HFRF	**Wahat Farafira**	**8.21 172**	P	**Pn**	08 13 17.0	-1.6
	baz=172					
TORD	**Torodi Ar. Bea**	**31.72 232**	P	**P**	08 17 41.0	-1.8
	comp=N,0.4nm,0.5s,baz=34,slow=8.9,SNR=4.5					
MKAR	**Makanchi Array**	**42.47 57**	P	**P**	08 19 12.8	-0.9
	comp=N,0.6nm,0.5s,baz=282,slow=8.0,SNR=3.3					

*IDC **01** 08:26:59.2±0.7, 3.10S×126.56E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.0/37, mbtmp4.1/11, ML4.7/2, MS3.7/12, Ms1 3.7/12, ms1mx3.4/39, Error ellipse: s-maj=29.8km s-min=14.0km az=69.0*

*ISCJB **01** 08:27:02.4±0.2, 3.03S±0.03×126.73E±0.03, h32km, mb4.8/28, MS3.7/12, Error ellipse: s-maj=4.8km s-min=3.7km az=37.7*

*DJA **01** 08:27:03.0±0.3, 3.3S±3.3×12.7E±.*, h10km, M4.8/12, mb5.2/6, mB5.4/6, MLv4.6/12, Mw(mB)4.8/6*

*NEIC **01** 08:27:05.4±0.8, 3.02S×126.76E, h42km±8km, mb4.8/19, Error ellipse: s-maj=8.7km s-min=5.0km az=54.0*

*BJI **01** 08:27:12.1, 2.25S×126.42E, h48km, mb4.6/29, mB5.1/17, Ms4.5/8, Ms7 4.4/7*

ISC 01 08:27:04.6±0.4, 3.04S±0.05×126.74E±0.05, h32km, n95, σ1§41/94, mb4.7/28, MS3.7/14, 1C, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.41**	**119**	P	**Pb**	**08 27 13.1**	**-0.7**
SANI	**Sanana**	**1.23**	**323**	P	Pn	08 27 19.8	-5.8
AAI	**Ambon**	**1.59**	**114**	P	**Pb**	**08 27 34.6**	**+1.2**
MSAI	**Masohi**	**2.21**	**98**	P	**Pb**	**08 27 43.3**	**-0.6**
LBMI	**Labuha**	**2.50**	**18**	P	**Pn**	**08 27 41.8**	**-1.3**
KDI	**Kendari**	**4.21**	**257**	P	**Pn**	**08 28 04.4**	**-2.2**
BBSI	**Bau Bau**	**4.82**	**239**	P	**Pn**	**08 28 17.5**	**+2.5**
SIJI	**Sorong**	**5.01**	**65**	Pn	**Pn**	**08 28 17.9**	**+0.3**
	233nm,0.3s,baz=243,slow=12,SNR=28						
SIJI				Sn	**Sn**	**08 29 14.9**	**+0.4**
	71nm,0.3s,baz=163,slow=20,SNR=10						
FAKI	**Fak Fak**	**5.50**	**89**	P	**Pn**	**08 28 27.0**	**+2.6**
FAKI	**Fak Fak**	**5.50**	**89**	ePn	**Pn**	**08 28 25.6**	**+1.2**
FAKI				eSn	**Sn**	**08 29 26.8**	**+0.1**
APSI	**Ampana**	**5.51**	**292**	P	**Pn**	**08 28 21.2**	**-3.2**
MRSI	**Marisa**	**5.93**	**306**	P	**Pn**	**08 28 27.1**	**-3.2**
	496nm,0.6s,6μm2.2nm						
BSSI	**Bau Bau, Buton**	**6.95**	**243**	P	**Pn**	**08 28 45.0**	**+0.7**
	127nm,0.6s,1μm0.5nm						
SPSI	**Sidrap Palu**	**7.02**	**262**	P	**Pn**	**08 28 45.2**	**0.0**
	54nm,0.5s,0.2nm						
SOEI	**Soe**	**7.11**	**200**	P	Pn	08 28 51.6	+5.0
SOEI	**Soe**	**7.11**	**200**	ePn	Pn	08 28 52.7	+6.0
MMRI	**Maumere**	**7.14**	**219**	ePn	**Pn**	**08 28 49.6**	**+2.7**
PCI	**Palu**	**7.21**	**287**	P	**Pn**	**08 28 46.1**	**-1.8**
	154nm,0.9s,1μm0.6nm						
MTN	**Manton Dam**	**10.67**	**156**	ePn	**Pn**	**08 29 37.1**	**+1.8**
MYLDM	**Lahad Datu**	**11.59**	**315**	ePn	**Pn**	**08 29 47.6**	**-0.4**
MYLDM				eSn	**Sn**	**08 31 59.1**	**+2.8**
JAGI	**Jajag, Banyuwa**	**13.63**	**246**	ePn	**Pn**	**08 30 17.2**	**+1.3**
KKM	**Kota Kinabalu**	**13.85**	**311**	ePn	**Pn**	**08 30 16.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**15.01**	**184**	Pn	**Pn**	**08 30 32.5**	**-2.1**
	baz=13,slow=10						
UGM	**Wanagama**	**16.85**	**253**	ePn	**P**	**08 31 00.5**	**+0.3**
	344nm,1.8s						
KSM	**Kuching**	**17.02**	**285**	ePn	**P**	**08 31 01.6**	**-0.4**
	18nm,1.1s						
WRAB	**Tennant Creek**	**18.37**	**157**	eP	**P**	**08 31 16.4**	**-0.4**
	42nm,1.0s						
WRA	**Warramunga Arr**	**18.37**	**157**	P	**P**	**08 31 16.3**	**-0.6**
	1.0nm,0.3s,baz=332,slow=12,SNR=15						
WRA				S	**Sn**	**08 34 41.7**	**+0.2**
	0.2nm,0.3s,baz=333,slow=21,SNR=3.7						
WB2	**Warramunga Arr**	**18.38**	**157**	eP	**Pn**	**08 31 16.9**	**-0.2**
	47nm,1.0s						
MBWA	**Marble Bar**	**19.26**	**200**	eP	**P**	**08 31 26.6**	**-0.1**
	38nm,1.4s						
COEN	**Coen**	**19.53**	**125**	eP	**P**	**08 31 29.7**	**+0.1**
	30nm,0.8s						
PMG	**Port Moresby**	**21.25**	**108**	LR	LR	08 42 22.1	
	comp=Z,378nm,21.7s,baz=285,slow=43						
PMG	**Port Moresby**	**21.25**	**108**	eP	**P**	**08 31 48.2**	**-0.2**
	105nm,1.9s						
AS31	**Alice Springs**	**21.65**	**162**	eP	**P**	**08 31 51.6**	**-0.9**
	27nm,1.4s						
ASAR	**Alice Springs**	**21.65**	**162**	P	**P**	**08 31 51.4**	**-1.1**
	5.4nm,0.7s,baz=340,slow=10,SNR=61						
ASAR				S	**S**	**08 35 49.0**	**-1.8**
	3.8nm,0.8s,baz=346,slow=20,SNR=6.9						
AS01	**Alice Springs**	**21.66**	**162**	eP	**P**	**08 31 52.2**	**-0.5**
GUMO	**Guam**	**24.42**	**47**	LR	LR	08 40 36.0	
	comp=Z,131nm,21.8s,baz=234,slow=33						
CTA	**Charters Tower**	**25.49**	**133**	P	**P**	**08 32 31.2**	**+1.0**
	1.2nm,0.4s,baz=304,slow=12,SNR=3.9						
CTAO	**Charters Tower**	**25.49**	**133**	eP	**P**	**08 32 29.6**	**-0.7**
	29nm,1.4s						
TPUB	**Ta-pu**	**26.84**	**347**	eP	**P**	**08 32 42.0**	**-0.4**
	296nm,1.9s						
QIZ	**Qiongzhong**	**27.51**	**323**	P	**P**	**08 32 48.5**	**0.0**
FORT	**Forrest**	**27.62**	**178**	eP	**P**	**08 32 50.1**	**+0.8**
	155nm,0.8s						
PSI	**Prapat**	**28.40**	**282**	LR	LR	08 46 07.7	
	comp=Z,364nm,18.2s,baz=103,slow=41						
BBOO	**Buckleboo**	**30.88**	**165**	eP	**P**	**08 33 19.7**	**+1.5**
	80nm,1.8s						
NWAO	**Narrogin (SRO)**	**31.04**	**196**	P	**P**	**08 33 17.0**	**-2.7**
	4.9nm,0.8s,baz=304,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**31.92**	**156**	P	**P**	**08 33 25.7**	**-1.7**
	1.3nm,0.5s,baz=337,slow=7.9,SNR=6.6						
STKA	**Stephens Creek**	**31.92**	**156**	eP	**P**	**08 33 26.0**	**-1.3**
	4.9nm,1.6s						
CMAR	**Chiang Mai Arr**	**34.72**	**309**	P	**P**	**08 33 51.6**	**-0.3**
	1.5nm,0.4s,baz=134,slow=7.7,SNR=8.2						
CMAR				LR	LR	08 49 26.4	
	comp=Z,81nm,18.1s,baz=130,slow=39						
CHTO	**Chiang Mai**	**34.92**	**310**	eP	**P**	**08 33 52.9**	**-0.8**
	41nm,1.9s						
GYA	**Guiyang**	**35.16**	**328**	eP	**P**	**08 33 58.2**	**+2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**35.69**	**348**	eP	**P**	**08 33 59.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	**Kunming**	**36.41**	**322**	P	**P**	**08 34 09.4**	**+2.7**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,170nm,4.4s						
CD2	**Chengdu**	**40.24**	**329**	eP	**P**	**08 34 39.0**	**+0.3**
KSAR	**Wonju Array Be**	**40.28**	**1**	P	**P**	**08 34 38.6**	**-0.2**
KSRS	**Korea Array**	**40.30**	**1**	P	**P**	**08 34 38.6**	**-0.3**
	2.7nm,0.8s,baz=176,slow=9.7,SNR=7.9						
KSRS				LR	LR	08 51 44.4	
	comp=Z,70nm,20.9s,baz=190,slow=37						
MJAR	**Matsushiro Arr**	**40.80**	**14**	LR	LR	08 50 46.8	
	comp=Z,89nm,19.7s,baz=210,slow=35						
LZH	**Lanzhou**	**44.41**	**333**	eP	**P**	**08 35 13.3**	**+0.6**
LZH				pP	sP	08 35 26.8	+0.8
LZH				sP	pP	08 35 32.7	+10
LZH				PP	**PP**	**08 36 58.3**	**+1.6**
LZH				eS	**S**	**08 41 45.2**	**-0.4**
LZH				sS	sS	08 42 06.3	+5.0
LZH				pmax	pmax		
	comp=Z,38nm,1.2s						
HHC	**Hu-ho-hao-te**	**45.82**	**344**	eP	**P**	**08 35 25.3**	**+1.6**
HHC				sP	sP	08 35 41.9	+4.8
HHC				PcS	**PcS**	**08 40 56.2**	**+1.1**
HHC				ScS	ScS	08 45 11.5	-6.1
HHC				pmax	pmax		
	comp=Z,23nm,1.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.3s						
HHC				LR	LR		
	comp=E,330nm,14.8s						
LSA	**Lhasa**	**47.11**	**316**	eP	**P**	**08 35 34.4**	**-0.1**
	35nm,1.6s						
ODAN	**Odare**	**48.22**	**311**	eP	**P**	**08 35 42.2**	**-0.7**
	22nm,0.7s						
TAPN	**Taplejung**	**48.24**	**311**	eP	**P**	**08 35 42.4**	**-0.7**
	35nm,1.0s						
RAMN	**Ramite**	**48.87**	**310**	eP	**P**	**08 35 47.5**	**-0.4**
	61nm,0.7s						
GTA	**Gaotai**	**48.97**	**332**	eP	**P**	**08 35 48.0**	**-0.2**
GTA				pP	sP	08 36 00.6	-1.1
GTA				sP	pP	08 36 05.3	+7.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JIRN	**Jiri**	**49.55**	**311**	eP	**P**	**08 35 52.4**	**-0.8**
	172nm,0.8s						
GUN	**Gumba**	**49.92**	**311**	eP	**P**	**08 35 55.3**	**-0.7**
	34nm,0.7s						
PKI	**Pulchoki**	**50.10**	**310**	eP	**P**	**08 35 56.2**	**-1.1**
PKIN	**Phulchoki**	**50.11**	**310**	eP	**P**	**08 35 56.5**	**-0.9**
	20nm,0.7s						
KKN	**Kakani**	**50.31**	**310**	eP	**P**	**08 35 57.5**	**-1.3**
DMN	**Daman**	**50.35**	**310**	eP	**P**	**08 35 58.3**	**-0.9**
GKN	**Gorkha**	**50.91**	**310**	eP	**P**	**08 36 02.3**	**-0.9**
	27nm,0.8s						
KOLN	**Koldanda**	**51.59**	**309**	eP	**P**	**08 36 07.7**	**-0.7**
	30nm,0.8s						
DANN	**Dangsing**	**51.75**	**310**	eP	**P**	**08 36 09.3**	**-0.4**
	6.6nm,0.9s						
PYUN	**Piuthan**	**52.22**	**309**	eP	**P**	**08 36 12.4**	**-0.7**
	30nm,0.8s						
ULN	**Ulaanbaatar**	**53.54**	**344**	eP	**P**	**08 36 21.5**	**-1.0**
	10nm,1.3s						
SONM	**Songino Array**	**53.70**	**343**	P	**P**	**08 36 22.6**	**-1.0**
	0.7nm,0.5s,baz=140,slow=7.7,SNR=6.0						
SONM				LR	LR	09 00 36.2	
	comp=Z,59nm,20.7s,baz=124,slow=38						
SONA1	**Songino Array**	**53.71**	**343**	eP	**P**	**08 36 23.8**	**+0.1**
WMQ	**Urumqi**	**58.32**	**328**	P	**P**	**08 36 58.0**	**+1.3**
WMQ				pP	pP	08 37 08.0	+1.5
WMQ				sP	sP	08 37 18.7	+8.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,47nm,3.7s						
WMQ				LR	LR		
	comp=N,170nm,27.3s						
KSH	**Kashi**	**62.92**	**318**	eP	**P**	**08 37 32.4**	**+4.2**
KSH				pP	sP	08 37 44.2	+2.4
KSH				eSP	pP	08 37 50.9	+13
KSH				PcP	**PcP**	**08 38 09.9**	**+3.7**
KSH				S	**S**	**08 45 57.0**	**+0.8**
KSH				ScS	**SKSac**	**08 47 18.3**	**-0.6**
KSH				pmax	pmax		
	comp=Z,130nm,4.7s						
KSH				LR	LR		
	comp=N,100nm,7.2s						
KSH				LR	LR		
	comp=E,110nm,8.7s						
KSH				LR	LR		
	comp=Z,110nm,5.7s						
MK01	**Makanchi Array**	**63.13**	**327**	eP	**P**	**08 37 29.1**	**-0.2**
MKAR	**Makanchi Array**	**63.15**	**327**	P	**P**	**08 37 28.4**	**-1.0**
	1.1nm,0.7s,baz=120,slow=7.3,SNR=6.5						
MKAR	**Makanchi Array**	**63.15**	**327**	eP	**P**	**08 37 29.4**	**-0.1**
	23nm,0.8s						
ZAA0	**Zalesovo Array**	**66.62**	**335**	eP	**P**	**08 37 51.4**	**-0.5**
ZALV	**Zalesovo Beam**	**66.62**	**335**	P	**P**	**08 37 50.9**	**-0.9**
	0.7nm,0.3s,baz=148,slow=6.5,SNR=2.4						
ZALV				LR	LR	09 09 30.8	
	comp=Z,34nm,18.2s,baz=70,slow=38						
MNAS	**Manas**	**66.65**	**319**	⇑Lg	Lg	08 37 55.8	
	3.7nm,0.9s						
KURK	**Kurchatov**	**67.47**	**329**	eP	**P**	**08 37 57.5**	**+0.3**
	11nm,0.9s						
WSAR	**Wadi Sarin**	**71.22**	**296**	LR	LR	09 10 42.0	
	comp=Z,40nm,20.9s,slow=37						
VNDA	**Vanda**	**76.76**	**173**	LR	LR	09 12 53.4	
	comp=Z,86nm,18.8s,baz=346,slow=36						
MAW	**Mawson**	**77.46**	**201**	LR	LR	09 09 03.6	
	comp=Z,43nm,21.6s,baz=61,slow=33						
SDHHI	**Sand Hill**	**79.68**	**70**	eP	**P**	**08 39 08.2**	**-1.7**
	401nm,1.5s						
SEW	**Seward**	**89.52**	**30**	eP	**P**	**08 39 57.8**	**-0.7**
	94nm,1.4s						
TOKA	**Tokat**	**92.14**	**310**	eP	**P**	**08 40 11.9**	**+0.7**
	22nm,0.4s						
BOSA	**Boshof**	**98.61**	**241**	LR	LR	09 22 36.0	
	comp=Z,27nm,18.2s,baz=188,slow=34						
CRVS	**Cervenica-Dubn**	**102.31**	**319**	ePDIFF	**Pdif**	**08 40 54.3**	**-2.7**
LCMT	**Little Creek M**	**115.56**	**50**	ePKPdf	**PKPdf**	**08 45 43.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**124.78**	**284**	PKP	**PKPdf**	**08 46 01.5**	**-0.8**
	0.8nm,1.0s,baz=107,slow=7.3,SNR=3.9						
LPAZ	**La Paz**	**155.82**	**143**	PKPab	**PKPab**	**08 47 24.2**	**+0.4**
	0.6nm,0.7s,baz=281,slow=5.2,SNR=3.2						

NNC 01 08:49:17.0±17.0, 38.25N×72.01E, h0km, mb3.5, mpv3.1, 2C-8D, Error ellipse: s-maj=177.3km s-min=62.7km az=156.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**284**	⇓Pg	Pn	08 49 58.9	-0.9
	4.9nm,0.3s						
DZET				⇓Lg	Lg	08

TWC	**Suao**	**0.23 136**	⇓*i*P	**Pn**	**08 56 04.7 +0.3**
TWC	baz=130		*i* S	**Sn**	**08 56 11.5 +0.4**
TAP1	**Taipei**	**0.30 332**	⇑*i*P	**Pn**	**08 56 04.7 -0.2**
TAP1	baz=328		S	**Sn**	**08 56 11.8 -0.2**
TAP	**Taipei**	**0.30 330**	*i* P	**Pn**	**08 56 04.7 -0.3**
TAP	baz=328		*e*S	**Sn**	**08 56 11.8 -0.3**
NSK	**Sanguang**	**0.31 251**	⇑*i*P	**Pn**	**08 56 04.8 -0.3**
NSK	baz=253		S	**Sn**	**08 56 11.6 -0.7**
NWF	**Wu-fen Shan**	**0.31 18**	⇑*i*P	**Pn**	**08 56 05.2 0.0**
NWF	baz=10.0		*i* S	**Sn**	**08 56 12.0 -0.4**
ENA	**Nanau**	**0.35 170**	⇓P	**Pn**	**08 56 05.0 -0.4**
ENA	baz=171		*e*S	**Sn**	**08 56 12.9 +0.2**
TWB1	**Santiao Chiao**	**0.37 51**	⇑*i*P	**Pn**	**08 56 05.7 +0.2**
TWB1	baz=46		*i* S	**Sn**	**08 56 13.1 +0.1**
TWS1	**Kuangyinshan**	**0.40 324**	⇑*i*P	**Pn**	**08 56 06.0 +0.1**
TWS1	baz=316		*e*S	**Sn**	**08 56 13.8 +0.2**
NNS	**Nan Shan**	**0.43 220**	⇓*i*P	**Pn**	**08 56 06.2 -0.1**
NNS	baz=223		S	**Sn**	**08 56 14.1 -0.3**
NCU	**National Centr**	**0.48 294**	⇑*i*P	**Pn**	**08 56 06.7 0.0**
NCU	baz=295		S	**Sn**	**08 56 15.5 +0.3**
TWY	**Chenhua**	**0.50 352**	⇑P	**Pn**	**08 56 06.9 -0.1**
TWY	baz=346		S	**Sn**	**08 56 15.2 -0.3**
NSTT	**Nanjuang**	**0.63 257**	⇑P	**Pn**	**08 56 08.0 -0.3**
NSTT	baz=258		*e*S	**Sn**	**08 56 17.3 -0.7**
HSN	**Hsinchu**	**0.64 273**	P	**Pn**	**08 56 07.9 -0.6**
HSN	baz=276		*e*S	**Sn**	**08 56 17.5 -0.7**
TWT	**Tachien**	**0.69 221**	*e*P	**Pn**	**08 56 09.3 0.0**
TWT	baz=228		S	**Sn**	**08 56 19.8 +0.2**
TWD	**Chiawan**	**0.70 186**	P	**Pn**	**08 56 07.8 -1.4**
TWD	baz=185		*e*S	**Sn**	**08 56 17.9 -1.5**
WHF	**Hehuan Shan**	**0.73 211**	⇓*i*P	**Pn**	**08 56 10.1 +0.1**
WHF	baz=202		S	**Sn**	**08 56 20.7 -0.2**
HWA	**Hwalien**	**0.80 185**	*e*P	**Pn**	**08 56 10.3 -0.1**
NSY	baz=184 **Sanyi**	**0.91 247**	*e*P	**Pn**	**08 56 11.8 -0.1**
NSY	baz=257		*e*S	**Sn**	**08 56 24.0 -0.2**
PCYT	**Pengchaiyu**	**0.92 23**	*e*P	**Pn**	**08 56 11.9 -0.2**
TWQ1	**Liyutan**	**0.93 243**	*e*P	**Pn**	**08 56 11.9 -0.2**
TWQ1	baz=253		*e*S	**Sn**	**08 56 23.9 -0.7**
ESL	**Shilin**	**0.98 193**	*e*P	**Pn**	**08 56 10.8 -2.0**
TCU	**Taichung**	**1.10 236**	*e*P	**Pn**	**08 56 14.3 -0.1**
WDT	**Danda**	**1.13 206**	P	**Pn**	**08 56 14.9 -0.2**
WDT	baz=196		*e*S	**Sn**	**08 56 29.5 -0.3**
SMLT	**Sun Moon Lake**	**1.14 219**	*e*P	**Pn**	**08 56 15.5 +0.6**
SMLT	baz=227		*e*S	**Sn**	**08 56 30.1 +0.4**
TYC	**Yuchr**	**1.15 221**	*e*P	**Pn**	**08 56 15.2 +0.3**
TYC	baz=228		*e*S	**Sn**	**08 56 29.8 +0.1**
JYNG	**Yonagunijimaku**	**1.20 105**	P	**Pn**	**08 56 15.4 -0.3**
JYNG			*e*S	**Sn**	**08 56 31.2 +0.2**
YOJ	**Yonaguni jima**	**1.25 104**	*e*P	**Pn**	**08 56 16.2 -0.2**
YOJ	baz=96 **Yonaguni jima**	**1.25 104**	P	**Pn**	**08 56 16.2 -0.2**
YOJ			*e*S	**Sn**	**08 56 32.4 +0.1**
WNT	**Mingjian**	**1.27 226**	*e*P	**Pn**	**08 56 16.9 +0.2**
WNT	baz=235		*e*S	**Sn**	**08 56 32.8 0.0**
EHY	**Hungye**	**1.30 194**	*e*P	**Pn**	**08 56 17.2 +0.1**
YUS	baz=185 **Yu-Shan**	**1.44 207**	*e*P	**Pn**	**08 56 19.6 +0.2**
YUS	baz=219		*e*S	**Sn**	**08 56 37.5 -0.1**
TWF1	**Yuli**	**1.46 194**	*e*P	**Pn**	**08 56 18.4 -0.8**
CHN5	baz=187 **Tsauling**	**1.49 218**	*e*P	**Pn**	**08 56 20.3 +0.6**
CHN5	baz=229		*e*S	**Sn**	**08 56 37.9 -0.2**
WGK	**Gukeng**	**1.49 223**	*e*P	**Pn**	**08 56 19.9 +0.3**
WGK	baz=234		*e*S	**Sn**	**08 56 37.8 -0.1**
ALS	**Alishan**	**1.49 212**	*e*P	**Pn**	**08 56 20.2 +0.3**
ALS	baz=212		*e*S	**Sn**	**08 56 38.8 +0.3**
WTCT	**Ta-ch'eng**	**1.56 235**	*e*P	**Pn**	**08 56 20.6 +0.1**
WTCT	baz=235		*e*S	**Sn**	**08 56 39.0 -0.8**
CHN2	**Minshiung**	**1.65 222**	*e*P	**Pn**	**08 56 22.5 +0.7**
CHN2	baz=232		*e*S	**Sn**	**08 56 42.0 0.0**
ELDTW	**Lidau**	**1.69 201**	*e*P	**Pn**	**08 56 22.1 -0.3**
ELDTW	baz=193		*e*S	**Sn**	**08 56 41.9 -1.2**
CHY	**Chiayi**	**1.71 222**	*e*P	**Pn**	**08 56 22.6 +0.1**
CHY	baz=232		*e*S	**Sn**	**08 56 43.3 -0.1**
CHN4	**Tsaushan**	**1.73 215**	*e*P	**Pn**	**08 56 23.0 +0.2**
CHN4	baz=214		*e*S	**Sn**	**08 56 44.5 +0.7**
WSF	**Szhu**	**1.75 230**	*e*P	**Pn**	**08 56 23.3 +0.3**
WSF	baz=238		*e*S	**Sn**	**08 56 43.6 -0.6**
WTP	**Ta-pu**	**1.81 213**	*e*P	**Pn**	**08 56 25.5 +1.6**
WTP	baz=212		*e*S	**Sn**	**08 56 46.0 +0.2**
STYT	**Tauyuan**	**1.81 208**	*e*P	**Pn**	**08 56 24.8 +0.7**
STYT	baz=218		*e*S	**Sn**	**08 56 46.3 +0.4**
TWK	**Hsinying**	**1.85 216**	*e*P	**Pn**	**08 56 25.6 +1.0**
TWK	baz=215		*e*S	**Sn**	**08 56 46.6 -0.4**
CHN1	**Nanshi**	**1.90 214**	*e*P	**Pn**	**08 56 25.9 +0.7**
CHN1	baz=213		*e*S	**Sn**	**08 56 47.9 -0.2**
IRIF	**Iriomote-Funau**	**1.92 103**	P	**Pn**	**08 56 25.3 -0.1**
IRIF			S	**Sn**	**08 56 48.1 -0.4**
SGST	**Jiashian**	**1.96 211**	*e*P	**Pn**	**08 56 26.5 +0.5**
SGST	baz=210		*e*S	**Sn**	**08 56 49.6 +0.1**
	baz=210				

TWG	**Pinlang**	**2.02 196**	*e*P	**Pn**	**08 56 27.9 +1.0**
	baz=186				
HATJ	**Hateruma jima**	**2.07 110**	*e*S	**Sn**	**08 56 51.2 -0.9**
JKRS	**Kuro-shima**	**2.19 104**	P	**Pn**	**08 56 29.4 +0.3**
JKRS			*e*S	**Sn**	**08 56 55.4 +0.3**
SSD	**Sandimen**	**2.23 206**	*e*P	**Pn**	**08 56 30.8 +1.0**
	baz=216				
SSD			*e*S	**Sn**	**08 56 55.7 -0.5**
	baz=216				
JIJ	**Ishigaki jima**	**2.28 100**	P	**Pn**	**08 56 30.1 -0.3**
JIJ			S	**Sn**	**08 56 56.7 -0.7**
JISG	**Ishigakijimahi**	**2.40 94**	P	**Pn**	**08 56 32.4 +0.4**
EAST	**Anshuo**	**2.50 198**	*e*P	**Pn**	**08 56 34.6 +1.2**
	baz=188				
SCZT	**Fangliau**	**2.58 202**	*e*P	**Pn**	**08 56 35.5 +1.0**
	baz=212				

NIED ***01*** *09:08:00, 38.°50N×144.°70E, h8km, Mw3.6 Best double couple: M₀2.89000×10¹⁴ NP1:φs32.00000°, δ26.00000°, λ-69.00000°. NP2:φs188.00000°, δ66.00000°, λ-100.00000°.*

JMA 01 09:08:21.8±0.2, 38.°51N×144.°66E, h40km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.41**	**285**	P	Pn	09 09 00.1	+1.5
OFUJ				S	Sn	09 09 28.7	+1.8
MIYJ	**Miyakonagasawa**	**2.46**	**297**	P	Pn	09 09 00.6	+1.3
MIYJ				S	Sn	09 09 29.2	+1.1
JMK	**Ichinoseki**	**2.73**	**280**	P	Pn	09 09 04.7	+1.7
JMK				*e*S	Sn	09 09 36.1	+1.3
JOM	**Ohasama**	**2.79**	**291**	P	Pn	09 09 05.8	+1.8
JOM				S	Sn	09 09 38.3	+1.8
JANG	**Nango**	**3.06**	**308**	P	Pn	09 09 08.6	+0.9
JOU	**Okura**	**3.14**	**269**	P	Pn	09 09 10.6	+1.8
JOU				S	Sn	09 09 46.7	+1.7
JRG	**Rokugo**	**3.26**	**287**	P	Pn	09 09 12.8	+2.4
JRG				S	Sn	09 09 51.2	+3.2
JYK	**Kaneyama**	**3.39**	**278**	P	Pn	09 09 14.5	+2.3
JYK				S	Sn	09 09 53.7	+2.6
JAH	**Hinai**	**3.54**	**300**	P	Pn	09 09 16.6	+2.4
JAH				S	Sn	09 09 57.3	+2.4
JFT	**Otama**	**3.56**	**255**	P	Pn	09 09 16.4	+1.9
JFT				S	Sn	09 09 56.6	+1.4
JTM	**Tenmabayashi**	**3.59**	**310**	S	Sn	09 09 56.8	+0.9
JOT	**Ohata**	**3.99**	**317**	S	Sn	09 10 06.0	+0.1
JCH	**Churui**	**4.22**	**347**	P	Pn	09 09 24.4	+0.9
JCH				S	Sn	09 10 09.2	-2.3
NEM2	**Nemuro 2**	**4.92**	**9**	P	Pn	09 09 31.5	-1.6
NEM2				S	Sn	09 10 24.3	-4.5
JRY	**Ryogami san**	**5.22**	**243**	P	Pn	09 09 38.3	+0.9
JRY				*e*S	Sn	09 10 34.1	-2.3
JTKR	**Abashiri--Toko**	**5.49**	**354**	P	Pn	09 09 41.4	+0.5
JTKR				S	Sn	09 10 40.3	-2.4
MAT	**Matsushiro**	**5.49**	**251**	P	Pn	09 09 43.3	+2.2
MAT				*e*S	Sn	09 10 46.0	+3.0
JOD2	**Odawara 2**	**5.52**	**236**	S	Sn	09 10 40.5	-3.1

ISCJB ***01*** *09:18:13.7±0.6, 37.°75N±0.°03×35.°88E±0.°04, h7km±6km, Error ellipse: s-maj=5.2km s-min=5.2km az=42.7*
CSEM ***01*** *09:18:13.9±0.2, 37.°75N×35.°88E, h10km, MD2.8, Error ellipse: s-maj=4.5km s-min=4.0km az=26.0*
ISK ***01*** *09:18:13.1, 37.°75N×35.°83E, h9km, MD2.8*
DDA ***01*** *09:18:14.0, 37.°73N×35.°87E, h7km, Md2.8*

ISC 01 09:18:14.1±1.1, 37.°74N±0.°03×35.°88E±0.°02, h9km±10km, n30, σ0.86/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.26**	**190**	*e*PG	**Pg**	**09 18 18.7**	**-0.6**
KOZT				*e*SG	**Sg**	**09 18 23.2**	**+0.3**
KOZT	**Kozan**	**0.26**	**190**	*e*Pg	**Pg**	**09 18 18.7**	**-0.6**
KOZT				*e*Sg	**Sg**	**09 18 23.2**	**+0.3**
ANDN	**Andirin**	**0.40**	**113**	*i* P	**Pg**	**09 18 21.7**	**-0.3**
ANDN				*i* S	**Sb**	**09 18 28.8**	**-0.9**
ANDN	**Andirin**	**0.40**	**113**	P	**Pg**	**09 18 21.7**	**-0.3**
ANDN				S	**Sb**	**09 18 28.8**	**-0.9**
AKO	**Adana**	**0.44**	**232**	*i* P	**Pg**	**09 18 21.8**	**-0.9**
YAHY	**KAYSERI_Yahyal**	**0.54**	**311**	*i* P	**Pg**	**09 18 24.2**	**-0.4**
YAHY				*i* S	**Sb**	**09 18 32.9**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**0.54**	**311**	P	**Pg**	**09 18 24.2**	**-0.4**
YAHY				S	**Sb**	**09 18 32.9**	**-1.0**
CEYT	**Ceyhan**	**0.73**	**188**	*e*PG	**Pg**	**09 18 27.8**	**-0.4**
CEYT				*e*SG	**Sb**	**09 18 38.6**	**-0.7**
CEYT	**Ceyhan**	**0.73**	**188**	*e*Pg	**Pg**	**09 18 27.8**	**-0.4**
CEYT				*e*Sg	**Sb**	**09 18 38.6**	**-0.7**
SARI	**SarD1z-Kayseri**	**0.79**	**32**	*e*PG	**Pg**	**09 18 29.1**	**-0.2**
KMRS	**Kahramanmaras**	**0.84**	**106**	*e*PG	**Pg**	**09 18 30.4**	**+0.1**
KMRS	**Kahramanmaras**	**0.84**	**106**	*e*Pg	**Pg**	**09 18 30.4**	**+0.1**
HCB	**Kahramanmara¯**	**0.91**	**115**	*i* P	**Pg**	**09 18 31.4**	**-0.1**
BNN	**Bunyan**	**1.11**	**359**	*e*PN	**Pg**	**09 18 34.8**	**-0.7**
BNN	**Bunyan**	**1.11**	**359**	*e*Pn	**Pg**	**09 18 34.8**	**-0.7**
DED	**Mersin**	**1.16**	**228**	*i* P	**Pn**	**09 18 36.3**	**-0.2**
DED				*i* S	**Sn**	**09 18 53.8**	**+1.2**
GAZ	**Gaziantep**	**1.20**	**118**	*e*PN	**Pb**	**09 18 37.0**	**0.0**
GAZ	**Gaziantep**	**1.20**	**118**	*e*Pn	**Pb**	**09 18 37.0**	**0.0**
MERS	**Mersin**	**1.39**	**232**	*e*PN	**Pn**	**09 18 38.9**	**-0.9**
MERS	**Mersin**	**1.39**	**232**	*e*Pn	**Pn**	**09 18 38.9**	**-0.9**
KERG	**Konya-Eregli**	**1.43**	**258**	*i* P	**Pg**	**09 18 41.6**	**0.0**
KERG				*i* S	**Sg**	**09 19 04.0**	**+3.8**
KERG	**Konya-Eregli**	**1.43**	**258**	P	**Pg**	**09 18 41.6**	**0.0**
DARE	**Darende-Malaty**	**1.51**	**56**	*e*PN	**Pn**	**09 18 41.5**	**0.0**
DARE	**Darende-Malaty**	**1.51**	**56**	*e*Pn	**Pn**	**09 18 41.5**	**0.0**
YAYL	**Yayladag**	**1.71**	**174**	*e*PN	**Pn**	**09 18 44.2**	**0.0**
YAYL	**Yayladag**	**1.71**	**174**	*e*Pn	**Pn**	**09 18 44.2**	**0.0**
KEBE	**Keben-Mersin**	**2.16**	**234**	*e*PN	**Pn**	**09 18 49.7**	**-0.7**
KEBE	**Keben-Mersin**	**2.16**	**234**	*e*Pn	**Pn**	**09 18 49.7**	**-0.7**
IKL	**Isikli**	**2.31**	**230**	*e*PN	**Pn**	**09 18 52.2**	**-0.2**
IKL	**Isikli**	**2.31**	**230**	*e*Pn	**Pn**	**09 18 52.2**	**-0.2**

MEX 01 09:19:21.8±0.3, 17.°83N×101.°25W, h64km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.30**	**222**	*i* P	Pn	09 19 30.9	-1.4
ZIIG				*e*S	Sn	09 19 38.2	-1.8
ARIG	**Puente Sto Nin**	**0.97**	**63**	*e*P	Pn	09 19 38.2	-1.4
ARIG				*i* S	Sn	09 19 50.7	-2.1
CAIG	**El Cayaco**	**1.22**	**130**	*e*P	Pn	09 19 41.4	-1.5

ISCJB ***01*** *09:23:47.7±0.1, 51.°74N±0.°02×172.°18E±0.°01, h12km, mb5.7/571, MS4.8/86, Error ellipse: s-maj=2.9km s-min=1.3km az=0.9*
IDC ***01*** *09:23:47.2±0.4, 51.°68N×172.°16E, h0km, mb5.4/52, mb1 5.5/55, mb1mx5.5/60, mbtmp5.4/55, ML4.9/3, MS4.7/37, Ms1 4.7/37, ms1mx4.6/41, Error ellipse: s-maj=11.4km s-min=8.3km az=4.0*
BJI ***01*** *09:23:47.6, 51.°99N×171.°83E, h6km, mb5.3/70, mB5.3/55, Ms5.2/75, Ms7 4.9/63*
GCMT ***01*** *09:23:49.2±0.1, 51.°75N×172.°13E, h12km, MW5.4/125, Moment Tensor Solution. s100,c171; s125,c274; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr-1.02±.02; Mθθ0.46±.02; Mφφ0.55±.01; Mrθ-0.35±.04; Mθφ-0.78±.01; Mφr0.81±.04; Best double couple: M₀1.46200×10¹⁷ NP1:φs151.00000°, δ64.00000°, λ-76.00000°. NP2:φs300.00000°, δ29.00000°, λ-117.00000°. Principal axes: T 1.5610, Plg18.0000°, Azm230.0000°; N -0.2010, Plg13.0000°, Azm324.0000°; P -1.3620, Plg67.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***01*** *09:23:49.2±0.1, 51.°78N×172.°13E, h10km, mb5.8/296, MW5.3 Error ellipse: s-maj=2.7km s-min=1.4km az=175.0, Moment Tensor Solution. s55 Moment tensor: Scale 10¹⁷Nm; Mrr-1.33; Mθθ0.48; Mφφ0.85; Mrθ-0.10; Mθφ-0.37; Mφr0.15; Best double couple: M₀1.20000×10¹⁷ NP1: φs328.00000°, δ41.00000°, λ-90.00000°. NP2: φs148.00000°, δ49.00000°, λ-90.00000°. Principal axes: T 1.0900, Plg4.0000°, Azm238.0000°; N 0.2500, Plg0.0000°, Azm148.0000°; P -1.3400, Plg86.0000°, Azm55.0000°;*

MOS ***01*** *09:23:51.4±1.1, 51.°79N×171.°97E, h41km, mb6.0/148*
Error ellipse: s-maj=4.9km s-min=3.5km az=119.4
KRSC ***01*** *09:23:51.6±3.6, 51.°84N×171.°48E, h40km±52km, ML5.4*

ISC 01 09:23:50.5±0.6, 51.°72N±0.°04×172.°06E±0.°03, h19km±2km, n1850, σ1.50/2056, mb5.8/623, MS4.8/89, 36C-166D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.61**	**50**	*e*P	**Pn**	**09 24 16.5**	**-1.4**
SMY				*e*		09 24 31.4	
SMY	**Shemya**	**1.61**	**50**	P	**Pn**	**09 24 16.2**	**-1.7**
SMY				S	**Sn**	**09 24 35.4**	**-2.7**
BKI	**Bering**	**5.04**	**316**	P	**Pn**	**09 25 02.6**	**-2.4**
BKI				S	**Sn**	**09 25 56.7**	**-5.9**
BKI	**Bering**	**5.04**	**316**	*e*P	**Pn**	**09 25 02.6**	**-2.4**
BKI				*e*S	**Sn**	**09 25 56.7**	**-5.9**
GALAA	**Gareloi Lava P**	**5.70**	**86**	P	**Pn**	**09 25 13.8**	**-0.2**
GAEA	**Gareloi East**	**5.71**	**86**	P	**Pn**	**09 25 13.6**	**-0.6**
TASE	**Tanaga Southea**	**6.15**	**85**	P	**Pn**	**09 25 19.6**	**-0.6**
TAFP	**Tanaga Falls P**	**6.18**	**84**	P	**Pn**	**09 25 19.7**	**-0.9**
KIKV	**Kanaga Island**	**6.68**	**84**	P	**Pn**	**09 25 27.1**	**-0.5**
ADK	**Adak**	**6.98**	**84**	P	**Pn**	**09 25 30.8**	**-0.8**
ADK				S	**Sn**	**09 26 49.1**	**-1.3**
ADK	**Adak**	**6.98**	**84**	P	**Pn**	**09 25 30.8**	**-0.8**
ADK				S	**Sn**	**09 26 49.1**	**-1.3**
KBG	**Krutoberegovo**	**7.15**	**313**	P	**Pn**	**09 25 33.5**	**-0.3**
KBG				S	**Sn**	**09 26 49.8**	**-4.6**
KBG	**Krutoberegovo**	**7.15**	**313**	*e*P	**Pn**	**09 25 33.5**	**-0.3**
KBG				*e*S	**Sn**	**09 26 49.8**	**-4.6**
GSCK	**Great Sitkin C**	**7.30**	**83**	P	**Pn**	**09 25 34.6**	**-1.4**
SPN	**Mys Shipunski**	**7.50**	**285**	P	**Pn**	**09 25 37.5**	**-1.2**
SPN	**Mys Shipunski**	**7.50**	**285**	*e*P	**Pn**	**09 25 37.5**	**-1.2**
SPN				*e*S	Sn	09 26 53.6	-9.4
TUMD	**Tumrok D**	**7.79**	**301**	*e*P	**Pn**	**09 25 40.0**	**-2.7**
TUMD				*e*S	Sn	09 27 00.3	-10
KZV	**Kizimen**	**7.81**	**300**	P	**Pn**	**09 25 39.5**	**-3.6**
KZV	**Kizimen**	**7.81**	**300**	*e*P	**Pn**	**09 25 39.5**	**-3.6**
SMKR	**Semkarok**	**7.90**	**312**	P	**Pn**	**09 25 43.6**	**-0.7**
SMKR				S	**Sn**	**09 27 08.3**	**-4.7**
SMKR	**Semkarok**	**7.90**	**312**	*e*P	**Pn**	**09 25 43.6**	**-0.7**
SMKR				*e*S	**Sn**	**09 27 08.3**	**-4.7**
ZLN	**Zelenaya**	**7.92**	**307**	P	**Pn**	**09 25 45.8**	**+1.2**
ZLN				S	**Sn**	**09 27 11.5**	**-2.2**
ZLN	**Zelenaya**	**7.92**	**307**	*e*P	**Pn**	**09 25 45.8**	**+1.2**
ZLN				*e*S	**Sn**	**09 27 11.5**	**-2.2**
TUMR	**Tumrok**	**7.95**	**301**	P	**Pn**	**09 25 43.5**	**-1.5**
TUMR				S	**Sn**	**09 27 09.7**	**-4.7**
TUMR	**Tumrok**	**7.95**	**301**	*e*P	**Pn**	**09 25 43.5**	**-1.5**
TUMR				*e*S	**Sn**	**09 27 09.7**	**-4.7**
CIRR	**Tsirk**	**8.00**	**308**	P	**Pn**	**09 25 46.2**	**+0.5**
CIRR				S	**Sn**	**09 27 12.5**	**-3.1**
CIRR	**Tsirk**	**8.00**	**308**	*e*P	**Pn**	**09 25 46.2**	**+0.5**
CIRR				*e*S	**Sn**	**09 27 12.5**	**-3.1**
LGNR	**Loginova**	**8.01**	**308**	P	**Pn**	**09 25 46.2**	**+0.2**
LGNR	**Loginova**	**8.01**	**308**	*e*P	**Pn**	**09 25 46.2**	**+0.2**
BZMR	**Bezymyannaya**	**8.04**	**306**	P	**Pn**	**09 25 46.8**	**+0.5**
BZMR	**Bezymyannaya**	**8.04**	**306**	*e*P	**Pn**	**09 25 46.8**	**+0.5**
SRKR	**Sorokina**	**8.08**	**312**	P	**Pn**	**09 25 47.0**	**+0.3**
SRKR	**Sorokina**	**8.08**	**312**	*e*P	**Pn**	**09 25 47.0**	**+0.3**
KMNR	**Kamenistaya**	**8.09**	**305**	P	**Pn**	**09 25 46.5**	**-0.4**
KMNR	**Kamenistaya**	**8.09**	**305**	*e*P	**Pn**	**09 25 46.5**	**-0.4**
KIRR	**Kirishev**	**8.12**	**306**	P	**Pn**	**09 25 48.8**	**+1.4**
KIRR	**Kirishev**	**8.12**	**306**	*e*P	**Pn**	**09 25 48.8**	**+1.4**
KRSR	**Krestovskiy**	**8.14**	**308**	P	**Pn**	**09 25 47.2**	**-0.4**
KRSR				S	**Sn**	**09 27 14.1**	**-4.9**
KRSR	**Krestovskiy**	**8.14**	**308**	*e*P	**Pn**	**09 25 47.2**	**-0.4**
KRSR				*e*S	**Sn**	**09 27 14.1**	**-4.9**
KLY	**Klyuchi**	**8.14**	**309**	P	**Pn**	**09 25 46.6**	**-0.9**
KLY				S	**Sn**	**09 27 13.1**	**-5.8**
KLY	**Klyuchi**	**8.14**	**309**	*e*P	**Pn**	**09 25 46.6**	**-0.9**
KLY				*e*S	**Sn**	**09 27 13.1**	**-5.8**
KPT	**Kopyto**	**8.19**	**306**	P	**Pn**	**09 25 49.8**	**+1.5**
KPT				S	**Sn**	**09 27 17.5**	**-2.8**
KPT	**Kopyto**	**8.19**	**306**	*e*P	**Pn**	**09 25 49.8**	**+1.5**
KPT				*e*S	**Sn**	**09 27 17.5**	**-2.8**
SDLR	**Sedlovina**	**8.20**	**286**	P	**Pn**	**09 25 47.7**	**-0.7**
SDLR	**Sedlovina**	**8.20**	**286**	*e*P	**Pn**	**09 25 47.7**	**-0.7**
UGLR	**Uglovaya**	**8.22**	**286**	P	**Pn**	**09 25 48.5**	**-0.3**
UGLR	**Uglovaya**	**8.22**	**286**	*e*P	**Pn**	**09 25 48.5**	**-0.3**
DALK	**Dalny**	**8.25**	**284**	P	**Pn**	**09 25 48.0**	**-1.0**
DALK				S	**Sn**	**09 27 12.9**	**-8.7**
DALK	**Dalny**	**8.25**	**284**	*e*P	**Pn**	**09 25 48.0**	**-1.0**
DALK				*e*S	**Sn**	**09 27 12.9**	**-8.7**
KRER	**Koryakskii**	**8.28**	**286**	P	**Pn**	**09 25 49.3**	**-0.3**
KRER				S	**Sn**	**09 27 17.2**	**-5.4**
KRER	**Koryakskii**	**8.28**	**286**	*e*P	**Pn**	**09 25 49.3**	**-0.3**
KRER				*e*S	**Sn**	**09 27 17.2**	**-5.4**
AVH	**Avacha**	**8.28**	**286**	P	**Pn**	**09 25 49.4**	**-0.1**
AVH	**Avacha**	**8.28**	**286**	*e*P	**Pn**	**09 25 49.4**	**-0.1**
AVH				*e*P	**Pn**	**09 25 49.4**	**-0.1**
PET	**Petropavlovsk**	**8.31**	**284**	*e*P	**Pn**	**09 25 49.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,1μm,17.7s						
PET				pmax	pmax		
	comp=Z,474nm,1.1s						
PET				MLR	MLR		
	comp=Z,6μm,17.0s						
PET	**Petropavlovsk**	**8.31**	**284**	*e*P	**Pn**	**09 25 49.1**	**-0.8**
PET	**Petropavlovsk**	**8.31**	**284**	P	**Pn**	**09 25 49.0**	**-0.8**
PET				S	**Sn**	**09 27 19.7**	**-3.4**
KRX	**Arik**	**8.34**	**287**	P	**Pn**	**09 25 49.8**	**-0.6**
KRX				S	**Sn**	**09 27 16.2**	**-7.9**
KRX	**Arik**	**8.34**	**287**	*e*P	**Pn**	**09 25 49.8**	**-0.6**
KRX				*e*S	**Sn**	**09 27 16.2**	**-7.9**
RUS	**Russkaya**	**8.38**	**280**	P	**Pn**	**09 25 49.8**	**-1.0**
RUS	**Russkaya**	**8.38**	**280**	*e*P	**Pn**	**09 25 49.8**	**-1.0**
KOZ	**Kozyrevsk**	**8.41**	**306**	P	**Pn**	**09 25 53.0**	**+1.8**
KOZ				S	**Sn**	**09 27 24.9**	**-0.6**
KOZ	**Kozyrevsk**	**8.41**	**306**	*e*P	**Pn**	**09 25 53.0**	**+1.8**
KOZ				*e*S	**Sn**	**09 27 24.9**	**-0.6**
KOKL	**Mount Kliuchef**	**8.50**	**81**	P	**Pn**	**09 25 51.9**	**-0.6**
ATKA	**Atka Island**	**8.50**	**81**	P	**Pn**	**09 25 52.5**	**0.0**
ATKA				S	**Sn**	**09 27 26.0**	**-1.8**
KOFP	**Korovin Flat P**	**8.56**	**81**	P	**Pn**	**09 25 51.8**	**-1.6**
MTVR	**Mutnovka**	**8.58**	**281**	P	**Pn**	**09 25 53.1**	**-0.6**
MTVR				S	**Sn**	**09 27 22.6**	**-7.4**
MTVR	**Mutnovka**	**8.58**	**281**	*e*P	**Pn**	**09 25 53.1**	**-0.6**
MTVR				*e*S	**Sn**	**09 27 22.6**	**-7.4**
KRMR	**Karymshinskiy**	**8.62**	**283**	P	**Pn**	**09 25 53.2**	**-0.9**
KRMR				S	**Sn**	**09 27 22.4**	**-8.2**
KRMR	**Karymshinskiy**	**8.62**	**283**	*e*P	**Pn**	**09 25 53.2**	**-0.9**
KRMR				*e*S	**Sn**	**09 27 22.4**	**-8.2**
ASAK	**Asacha**	**8.76**	**280**	P	**Pn**	**09 25 55.6**	**-0.5**
ASAK	**Asacha**	**8.76**	**280**	*e*P	**Pn**	**09 25 55.6**	**-0.5**
GNL	**Ganaly**	**8.80**	**289**	P	**Pn**	**09 25 56.5**	**-0.2**
GNL				S	**Sn**	**09 27 28.8**	**-6.5**
GNL	**Ganaly**	**8.80**	**289**	*e*P	**Pn**	**09 25 56.5**	**-0.2**
GNL				*e*S	**Sn**	**09 27 28.8**	**-6.5**
PEA0	**Petropavlovsk-**	**8.89**	**285**	*e*Pn	**Pn**	**09 25 57.3**	**-0.5**
PEA0B	**Petropavlovsk-**	**8.89**	**285**	*e*Pn	**Pn**	**09 25 57.6**	**-0.2**
PETK	**Petropavlovsk-**	**8.89**	**285**

KMSK **Kamenskaya** 11.23 346 P Pn 09 26 31.0 +1.2
KMSK **Kamenskaya** 11.23 346 *e*P Pn 09 26 31.0 +1.2
SPIA **Saint Paul Isl** 11.64 55 P Pn 09 26 33.5 -1.9
NIKH **Nikolski High** 11.74 76 P Pn 09 26 36.1 -0.6
UNV **Unalaska Valle** 13.14 72 *e*Pn Pn 09 26 53.2 -2.7
AKUT **Akutan** 13.58 71 *e*Pn Pn 09 27 01.3 -0.5
MA2 **Magadan** 14.32 312 Pn Pn 09 27 13.4 +1.5
comp=Z,1.0nm,0.3s,baz=121,slow=12,SNR=9.6
MA2 LR LR 09 33 11.8
comp=Z,2μm,18.6s,baz=110,slow=39
MA2 **Magadan** 14.32 312⇑ *e*P Pn 09 27 12.9 +1.0
GAMB **Gambell** 14.81 29 *e*Pn Pn 09 27 19.8 +1.2
SEY **Seymchan** 15.38 324 Pn Pn 09 27 27.4 +1.2
comp=Z,1.3nm,0.3s,baz=126,slow=12,SNR=64
SEY LR LR 09 33 05.5
comp=Z,3μm,18.6s,baz=132,slow=36
SEY **Seymchan** 15.38 324 *de*P Pn 09 27 26.7 +0.5
SDPT **Sand Point** 16.68 67 *e*Pn Pn 09 27 40.4 -2.4
comp=Z,211nm,0.6s
KUR **Kuril'sk** 17.26 257 *d i*P Pn 09 27 50.3 +0.1
KUR S Sn 09 31 05.4 +3.9
KUR pmax pmax
comp=Z,197nm,1.4s
KUR pmax pmax
comp=N,56nm,0.7s
KUR pmax pmax
comp=E,66nm,1.2s
KUR MLR MLR
comp=Z,3μm,14.0s
OKH **Okha** 17.72 287⇑ *i*P P 09 28 00.7 +4.0
OKH *i* S S 09 31 17.0 -2.6
OKH pmax pmax
comp=Z,500nm,12.0s
OKH smax smax
comp=E,2μm,16.0s
OKH MLR MLR
comp=Z,2μm,18.0s
CHGN **Chignik** 17.87 64 *e*P Pn 09 27 56.5 -1.2
YUK **Yuzh-Kuril'sk** 19.11 257 *c i*P P 09 28 12.2 +0.2
YUK *i* S Sn 09 31 46.9 +0.7
YUK pmax pmax
comp=Z,2μm,1.2s
YUK pmax pmax
comp=N,1μm,1.3s
YUK pmax pmax
comp=E,93nm,1.1s
YUK MLR MLR
comp=Z,2μm,19.0s
NKL **Nikolayevsk** 19.11 287 *i* P Pn 09 28 13.0 +0.1
NKL pmax pmax
comp=N,50nm,1.0s
NKL pmax pmax
comp=E,86nm,1.0s
NKL pmax pmax
comp=Z,300nm,1.0s
NKL pmax pmax
comp=E,4μm,12.0s
NKL pmax pmax
comp=Z,4μm,12.0s
NKL MLR MLR
comp=E,8μm,14.0s
NKL MLR MLR
comp=Z,8μm,14.0s
YSS **Yuzh-Sakhalins** 19.61 268 *oe*P Pn 09 28 19.0 +0.1
YSS *e*S Sn 09 31 59.6 +1.2
YSS pmax pmax
comp=Z,70nm,1.8s
YSS pmax pmax
comp=Z,900nm,3.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,13.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS **Yuzh-Sakhalins** 19.61 268 *e*P Pn 09 28 18.8 0.0
comp=E,161nm,1.1s
SVW2 **Sparrevohn** 20.01 49 *e*P P 09 28 21.0 -0.8
SVW2 *e*Pn Pn 09 28 21.3 -2.2
TT01 **Tatalina** 20.31 44 *e*P P 09 28 21.3 -3.7
TTA **Tatalina** 20.32 44 *e*P P 09 28 25.3 +0.1
TTA pmax pmax
comp=Z,330nm,1.0s
TTA **Tatalina** 20.32 44 *e*P P 09 28 25.3 +0.1
comp=Z,328nm,1.0s
TTA LR LR
comp=Z,2μm,21.0s
OHAK **Old Harbor** 20.71 61 *e*P P 09 28 26.8 -2.5
comp=Z,800nm,0.7s
OHAK LR LR
comp=Z,6μm,18.0s
ASAJ **Asahikawa** 21.05 260 P P 09 28 34.2 +1.0
comp=Z,86nm,0.7s,baz=69,slow=9.0,SNR=7.4
KDAK **Kodiak Island** 21.11 59 P P 09 28 31.6 -1.9
comp=Z,350nm,0.5s,baz=277,slow=6.6,SNR=148
KDAK S S 09 32 20.6 -6.7
comp=Z,13nm,0.7s,baz=348,slow=20,SNR=9.9
KDAK LR LR 09 37 06.7
comp=Z,5μm,19.6s,baz=250,slow=38
KDAK **Kodiak Island** 21.11 59 *e*P P 09 28 31.7 -1.9
KDAK *e*S S 09 32 27.1 -0.2
KDAK pmax pmax
comp=Z,480nm,0.6s
KDAK **Kodiak Island** 21.11 59 *e*P P 09 28 31.7 -1.9
comp=Z,478nm,0.6s
KDAK S S 09 32 20.6 -6.7
KDAK *e*S Sn 09 32 27.1 -7.0
RSO **Redoubt South** 21.25 52 *e*P P 09 28 35.4 0.0
SPU **Mount Spurr** 21.70 50 *e*P P 09 28 40.0 -0.1
HOM **Homer** 21.71 54 *e*P P 09 28 39.7 -0.3
comp=Z,2μm,0.8s
HOM LR LR
comp=Z,6μm,20.0s
ERM **Erimo** 21.89 255 *de*P P 09 28 42.8 +0.8
ERM pmax pmax
comp=Z,155nm,1.2s
ERM **Erimo** 21.89 255 *e*P P 09 28 42.9 +0.8
comp=Z,183nm,1.1s
CNPM **China Poot** 21.90 55 *e*P P 09 28 41.1 -1.1
comp=Z,502nm,0.9s
CNPM *e*S S 09 32 46.4 +3.4
CNPM LR LR
comp=Z,6μm,19.0s
PPLA **Purkeypile** 21.99 46 *e*P P 09 28 43.5 +0.2
comp=Z,966nm,1.2s
PPLA LR LR
comp=Z,4μm,20.0s
BRLK **Bradley Lake** 22.10 54 *e*P P 09 28 42.6 -1.7
comp=Z,274nm,0.9s
BRLK *e*S S 09 32 47.2 +0.4
BRLK LR LR
comp=Z,5μm,19.0s
CAST **Castle Rocks** 22.17 44 *e*P P 09 28 44.5 -0.5
comp=Z,474nm,1.2s
CAST LR LR
comp=Z,3μm,20.0s
SUA **Susitna One** 22.37 50 *e*P P 09 28 46.3 -1.1
comp=Z,294nm,0.9s
SUA LR LR
comp=Z,4μm,20.0s
KTH **Kantishna Hill** 22.71 44 *e*P P 09 28 50.4 -0.4
comp=Z,719nm,0.8s
KTH LR LR
comp=Z,2μm,19.0s
RC01 **Rabbit Creek A** 22.80 51 *e*P P 09 28 51.3 -0.5
comp=Z,426nm,1.1s
RC01 LR LR
comp=Z,5μm,19.0s
SEW **Seward** 22.85 53 *e*P P 09 28 50.2 -2.0
comp=Z,343nm,1.1s
SEW *e*S S 09 33 04.6 +4.2
SEW LR LR
comp=Z,4μm,21.0s
TRF **Thorofare Moun** 22.96 45 *e*P P 09 28 52.7 -0.8
comp=Z,772nm,0.9s
TRF *e*Sn S 09 33 09.1 +6.4
TRF LR LR
comp=Z,3μm,20.0s
PMR **Palmer** 23.16 50 *e*P P 09 28 52.2 -3.1
PMR pmax pmax
comp=Z,140nm,1.0s
PMR **Palmer** 23.16 50 *e*P P 09 28 52.2 -3.1
comp=Z,140nm,1.0s
PMR LR LR
comp=Z,4μm,20.0s
SML **Sawmill** 23.56 49 *e*P P 09 28 57.5 -2.0
SML pmax pmax
comp=Z,1μm,1.0s
SML **Sawmill** 23.56 49 *e*P P 09 28 57.5 -2.0
comp=Z,1μm,1.0s
RND **Reindeer** 23.58 45 *e*P P 09 28 57.8 -1.9
RND *e* 09 32 44.2
RND pmax pmax
comp=Z,320nm,0.9s
RND **Reindeer** 23.58 45 *e*P P 09 28 57.8 -1.9
comp=Z,318nm,0.9s
RND *e*PcP PcP 09 32 44.2 +0.1
MCK **McKinley** 23.61 44 *e*P P 09 28 58.3 -1.6
MCK pmax pmax
comp=Z,700nm,0.8s
MCK **McKinley** 23.61 44 *e*P P 09 28 58.3 -1.6
comp=Z,698nm,0.8s
MCK LR LR
comp=Z,3μm,20.0s
HABR **Khabarovsk** 23.80 277 *de*P P 09 29 00.2 -1.6
HABR *e*PPP PPP 09 29 36.0
HABR *e* 09 32 43.1
HABR *e*S S 09 33 17.0 +0.8
HABR *e*SS SnSn 09 33 56.7 +1.8
HABR *e*SSS SSS 09 34 10.2
HABR *e* 09 40 08.1
HABR MLR MLR
comp=Z,696nm,16.0s
SCM **Sheep Creek Mo** 24.04 49 *e*P P 09 29 02.8 -1.3
SCM pmax pmax
comp=Z,790nm,0.9s
SCM **Sheep Creek Mo** 24.04 49 *e*P P 09 29 02.8 -1.3
comp=Z,794nm,0.9s
GLI **Glacier Island** 24.07 52 *e*P P 09 29 02.7 -1.5
comp=Z,426nm,1.1s
COLD **Coldfoot** 24.12 36 *e*P P 09 29 03.8 -0.9
comp=Z,286nm,0.9s
WRH **Wood River Hil** 24.14 43 *e*P P 09 29 03.6 -1.3
comp=Z,294nm,0.9s
DHY **Denali Highway** 24.18 46 *e*P P 09 29 03.9 -1.6
comp=Z,223nm,0.9s
MDM **Murphy Dome** 24.19 42 *e*P P 09 29 04.5 -0.9
comp=Z,793nm,1.0s
CCB **Clear Creek Bu** 24.30 42 *e*P P 09 29 05.2 -1.1
comp=Z,195nm,1.0s
COLA **College** 24.33 42 *e*P P 09 29 06.1 -0.5
COLA pmax pmax
comp=Z,990nm,0.9s
COLA **College** 24.33 42 *e*P P 09 29 06.1 -0.5
comp=Z,993nm,0.8s
COLA LR LR
comp=Z,3μm,21.0s
FID **Port Fidalgo** 24.36 52 *e*P P 09 29 04.9 -2.0
comp=Z,2μm,2.0s
HDA **Harding Lake** 24.61 43 *e*P P 09 29 07.5 -1.7
comp=Z,122nm,0.6s
KLU **Klutina** 24.68 50 *e*P P 09 29 08.7 -1.2
comp=Z,456nm,0.9s
IL1 **Eielson Array** 24.71 42 *e*P P 09 29 08.4 -1.7
ILAR **Eielson Array** 24.71 42 P P 09 29 08.2 -1.9
comp=Z,242nm,0.8s,baz=246,slow=9.0,SNR=848
ILAR PcP PcP 09 32 45.5 -0.9
comp=Z,10nm,0.8s,baz=278,slow=3.0,SNR=5.7
ILAR S S 09 33 27.2 -3.4
comp=Z,6.5nm,1.3s,baz=226,slow=12,SNR=2.8
ILAR LR LR 09 40 08.3
comp=Z,2μm,18.6s,baz=262,slow=40
ILAR P3KPbc 10 02 21.9
comp=Z,0.9nm,1.1s,baz=73,slow=2.0,SNR=5.8
ILAR **Eielson Array** 24.71 42 P P 09 29 08.2 -1.9
ILAR 09 32 45.5
ILAR S S 09 33 27.2 -3.4
ILAR pmax pmax
comp=Z,238nm,0.8s
ILAR pmax pmax
comp=Z,10.0nm,0.8s
ILAR smax smax
comp=N,7.0nm,1.3s
ILAR MLR MLR
comp=Z,2μm,18.6s
ILB **Eielson Array** 24.71 42 *e*P P 09 29 08.5 -1.6
DIV **Divide** 24.72 51 *e*P P 09 29 09.3 -1.0
comp=Z,654nm,1.6s
DIV *e*S S 09 33 31.3 +0.2
MIDW **Midway** 24.78 157 *e*P P 09 29 12.3 +1.4
comp=Z,109nm,1.2s
TOLK **Toolik Lake Re** 24.88 33 P P 09 29 11.5 -0.1
baz=247,SNR=354
YAK **Yakutsk** 24.89 311 P P 09 29 11.1 -0.6
comp=Z,292nm,0.9s,baz=89,slow=2.8,SNR=70
YAK S S 09 33 33.4 -0.1
comp=Z,6.2nm,0.4s,baz=320,slow=22,SNR=7.0
YAK **Yakutsk** 24.89 311 *d i*P P 09 29 10.9 -0.8
YAK *e* 09 29 55.8
YAK *e*S S 09 33 32.1 -1.5
YAK *e**SS sS 09 33 52.6 +10
YAK pmax pmax
comp=Z,520nm,1.1s
YAK pmax pmax
comp=N,82nm,1.1s
YAK pmax pmax
comp=Z,157nm,1.3s
YAK pmax pmax
comp=N,103nm,1.4s
YAK smax smax
comp=N,572nm,2.1s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK **Yakutsk** 24.89 311 *e*P P 09 29 11.2 -0.5
comp=Z,490nm,1.0s
YAK S S 09 33 33.4 -0.1
PAX **Paxson** 25.03 47 *e*P P 09 29 12.3 -0.8
PAX pmax pmax
comp=Z,910nm,1.1s
PAX **Paxson** 25.03 47 *e*P P 09 29 12.3 -0.8
comp=Z,906nm,1.2s
HARP **HAARP** 25.11 48 *e*P P 09 29 13.4 -0.3
comp=Z,798nm,1.3s
RAGM **Ragged Mountai** 25.24 53 *e*P P 09 29 14.6 -0.3
comp=Z,746nm,1.0s
BMRM **Bremner River** 25.29 52 *e*P P 09 29 14.7 -0.7
comp=Z,360nm,0.9s
KLR **Kul'dur** 25.55 280 P P 09 29 17.9 +0.2
comp=Z,2.7nm,0.7s,baz=70,slow=9.4,SNR=52
KLR PcP PcP 09 32 48.6 +0.1
comp=Z,0.8nm,1.0s,baz=83,slow=4.7,SNR=3.8
KLR S S 09 33 35.4 -8.9
comp=Z,0.2nm,0.9s,baz=36,slow=8.7,SNR=2.1
KLR LR LR 09 38 59.7
comp=Z,228nm,21.4s,baz=75,slow=36
KLR **Kul'dur** 25.55 280 *c i*P P 09 29 18.3 +0.5
DOT **Dot Lake** 25.74 45 *e*P P 09 29 18.0 -1.4
comp=Z,723nm,0.8s
DOT *e*PcP PcP 09 32 49.4 +0.7
FYU **Fort Yukon** 25.79 39 *e*P P 09 29 19.5 -0.3
comp=Z,376nm,0.9s
CRQM **Cirque** 26.00 52 *e*P P 09 29 22.1 +0.1
comp=Z,448nm,0.8s
EGAK **Eagle** 27.13 43 *e*P P 09 29 30.7 -1.2
comp=Z,333nm,0.9s
PCA **Pinnacle** 27.45 53 *e*P P 09 29 34.3 -0.6
comp=Z,375nm,0.8s
CLNS **Chul'man** 27.56 299 *e*P P 09 29 35.8 -0.1
CLNS *e**PP sP 09 29 44.4 +0.3
CLNS *e* 09 30 21.6
CLNS *e* 09 32 53.1
CLNS *e*S S 09 34 14.6 -1.4
CLNS pmax pmax
comp=Z,24nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,23nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS smax smax
comp=N,256nm,10.3s
CLNS smax smax
comp=E,231nm,10.3s
CLNS MLR MLR
comp=N,1μm,13.0s
CLNS MLR MLR
comp=E,886nm,15.0s
CLNS MLR MLR
comp=Z,1μm,13.0s
USRK **Ussuriysk Ar.** 27.58 270 P P 09 29 36.1 0.0
comp=Z,12nm,0.9s,baz=60,slow=9.2,SNR=15
USRK PcP PcP 09 32 53.8 +0.4
comp=Z,17nm,0.8s,baz=50,slow=1.3,SNR=14
USRK LR LR 09 39 40.8
comp=Z,2μm,21.3s,baz=58,slow=34
TIXI **Tiksi** 27.59 332 P P 09 29 35.7 -0.2
comp=Z,36nm,0.8s,baz=113,slow=11,SNR=17
TIXI PcP PcP 09 32 52.9 0.0
comp=Z,18nm,0.9s,baz=131,slow=3.1,SNR=4.7
TIXI **Tiksi** 27.59 332 *d i*P P 09 29 35.8 -0.2
TIXI pmax pmax
comp=Z,77nm,1.2s
TIXI MLR MLR
comp=Z,939nm,14.0s
TIXI **Tiksi** 27.59 332 *e*P P 09 29 35.6 -0.4
comp=Z,54nm,0.9s
TIXI PcP PcP 09 32 52.9 0.0
YKU2 **Yakutat** 27.79 55 *e*P P 09 29 37.7 -0.2
comp=Z,1μm,1.1s
DAWY **Dawson** 27.84 45 *e*P P 09 29 38.0 -0.3
comp=Z,233nm,1.1s
VLA **Vladivostok** 28.20 268⇓ *i*P P 09 29 41.0 -0.7
VLA *i* 09 32 52.6
VLA *i* S S 09 34 27.5 +1.3
VLA pmax pmax
comp=Z,49nm,1.3s
MAJO **Matsushiro** 28.33 251 *c i*P P 09 29 43.9 +0.9
MAJO pmax pmax
comp=Z,227nm,1.0s
MAJO **Matsushiro** 28.33 251 *e*P P 09 29 43.4 +0.4
comp=Z,71nm,1.0s
MAT **Matsushiro** 28.33 251 P P 09 29 43.3 +0.3
MAT S S 09 34 30.2 +1.8
MJAR **Matsushiro Arr** 28.33 251 P P 09 29 43.0 +0.1
comp=Z,12nm,0.9s,baz=52,slow=7.1,SNR=27
MJAR PcP PcP 09 32 54.9 -0.5
comp=Z,5.4nm,0.9s,baz=61,slow=1.7,SNR=5.7
MJAR LR LR 09 39 44.9
comp=Z,1μm,21.7s,baz=70,slow=34
MJB9 **Matsu-Tunnel** 28.33 251 *e*P P 09 29 44.0 +1.1
comp=Z,17nm,1.0s
MDJ **Mudanjiang** 28.87 273 P P 09 29 47.0 -0.6
MDJ S S 09 34 33.6 -3.1
MDJ ScS ScS 09 40 27.6 -2.6
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,130nm,7.0s
MDJ LR LR
comp=Z,2μm,15.9s
MDJ LR LR
comp=Z,2μm,18.4s
MDJ LR LR
comp=Z,2μm,23.3s
MDJ **Mudanjiang** 28.87 273 *e*P P 09 29 47.0 -0.6
comp=Z,11nm,0.8s
JHJ **Hachijo jima 2** 29.87 244 LR LR 09 39 08.6
comp=Z,2μm,21.5s,baz=53,slow=31
WHY **Whitehorse** 30.05 52 *e*P P 09 29 58.5 +0.4
comp=Z,40nm,0.9s
BESE **Bessie Mountai** 30.38 56 *e*P P 09 30 00.9 0.0
comp=Z,187nm,1.3s
INK **Inuvik** 30.53 37 *e*P P 09 30 01.7 -0.3
INK *e*S S 09 35 04.2 +2.0
INK pmax pmax
comp=Z,140nm,0.9s
INK **Inuvik** 30.53 37 *e*P P 09 30 01.7 -0.3
comp=Z,140nm,0.9s
INK *e*S S 09 35 04.2 +2.0
CN2 **Changchun** 31.85 274 *e*P P 09 30 13.8 -0.2
CN2 *e*S S 09 35 25.2 +1.8
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,22.0s
CRAG **Craig** 32.03 61 *e*P P 09 30 16.8 +1.4
comp=Z,80nm,1.0s
H11N2 **WAKE ISLAND Hy** 32.18 189 T T 10 04 11.3
baz=5.7,slow=76,SNR=6.9
H11N3 **WAKE ISLAND Hy** 32.19 189 T T 10 04 10.7
baz=5.7,slow=76,SNR=11
WRAK **Wrangell Islan** 32.19 59 *e*P P 09 30 18.1 +1.3
comp=Z,114nm,1.3s
H11N1 **WAKE ISLAND Hy** 32.20 189 T T 10 04 11.3
baz=5.7,slow=76,SNR=8.5
HIA **Hailar** 32.79 287 *e*P P 09 30 22.5 +0.3
HIA pmax pmax
comp=Z,155nm,1.4s
HIA **Hailar** 32.79 287 *e*P P 09 30 22.5 +0.3
comp=Z,155nm,1.4s
DIB **Dawson Inlet,** 33.11 65 *e*P P 09 30 24.7 -0.2
comp=Z,80nm,1.2s
BOD **Bodaibo** 33.12 304 *e*P P 09 30 23.9 -1.0
BOD pmax pmax
comp=Z,61nm,1.6s
H11S1 **WAKE ISLAND Hy** 33.41 189 T T 10 05 38.8
baz=5.6
H11S3 **WAKE ISLAND Hy** 33.42 189 T T 10 05 38.8
baz=5.6
H11S2 **WAKE ISLAND Hy** 33.42 189 T T 10 05 43.7
baz=5.6
KSRS **Korea Array** 33.96 263 P P 09 30 33.9 +1.4
comp=Z,16nm,0.8s,baz=58,slow=8.3,SNR=41
KSRS PcP PcP 09 33 10.6 +0.3
comp=Z,2.2nm,0.7s,baz=76,slow=1.0,SNR=5.6
KSRS S S 09 35 49.6 -6.7
comp=Z,0.5nm,0.4s,baz=95,slow=24,SNR=4.4
KSRS LR LR 09 44 39.2
comp=Z,918nm,19.1s,baz=60,slow=37
KSRS **Korea Array** 33.96 263 P P 09 30 33.9 +1.4
KSRS 09 33 10.6
KSRS S S 09 35 49.6 -6.7
KSRS pmax pmax
comp=Z,17nm,0.9s
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS smax smax
comp=N,1.0nm,0.4s
KSRS MLR MLR
comp=Z,918nm,19.1s
KS01 **Wonju Array Si** 33.97 263 *e*P P 09 30 32.3 -0.2
KS15 **Wonju Array Si** 33.99 263 *e*P P 09 30 34.4 +1.6
KSAR **Wonju Array Be** 33.99 263 P P 09 30 33.9 +1.1
KSAR 09 33 10.6
KSAR S S 09 35 49.6 -7.2
KSAR **Wonju Array Be** 33.99 263 P P 09 30 33.9 +1.1
KSAR PcP PcP 09 33 10.6 +0.2
KSAR S S 09 35 49.6 -7.2
SNY **Shenyang** 34.07 273 ⇑P P 09 30 33.1 -0.3
SNY S S 09 36 00.4 +2.5
SNY pmax pmax
comp=Z,380nm,3.7s
SNY LR LR
comp=Z,830nm,15.7s
SNY LR LR
comp=Z,2μm,14.9s
SNY LR LR
comp=Z,3μm,16.3s
INCN **Inchon** 34.74 264 *e*P P 09 30 40.3 +1.0
comp=Z,78nm,1.0s
JNU **Nakatsue** 35.05 254 *e*P P 09 30 43.1 +1.1
comp=Z,71nm,1.2s
BBB **Bella Bella** 35.96 65 *e*P P 09 30 50.3 +0.8
comp=Z,84nm,1.1s
DL2 **Dalian** 36.98 270 P P 09 30 53.1 -5.2
DL2 S S 09 36 38.9 -3.6
DL2 pmax pmax
comp=Z,61nm,1.5s
DL2 LR LR
comp=N,2μm,15.7s
DL2 LR LR
comp=E,820nm,12.9s
DL2 LR LR
comp=Z,1μm,16.9s
OPA **Opana** 37.90 131 *e*P P 09 31 06.8 +0.5
OPA pmax pmax
comp=Z,170nm,1.0s
OPA **Opana** 37.90 131 *e*P P 09 31 06.8 +0.5
comp=Z,168nm,1.0s

KIP	**Kipapa**	**38.12**	**131**	*e*P	**P**	**09 31 09.6**	**+1.4**
KIP				pmax	pmax		
	comp=Z,230nm,1.0s						
KIP	**Kipapa**	**38.12**	**131**	*e*P	**P**	**09 31 09.6**	**+1.4**
	comp=Z,232nm,0.9s						
HON	**Honolulu**	**38.22**	**131**	*e*P	**P**	**09 31 09.8**	**+0.8**
HON				pmax	pmax		
	comp=Z,230nm,1.0s						
HON	**Honolulu**	**38.22**	**131**	*e*P	**P**	**09 31 09.8**	**+0.8**
	comp=Z,229nm,1.0s						
YKA	**Yellowknife Ar**	**39.08**	**45**	P	**P**	**09 31 16.0**	**+0.2**
	comp=Z,60nm,0.6s,baz=288,slow=7.8,SNR=70						
YKA				LR	LR	09 49 30.4	
	comp=Z,324nm,18.4s,baz=0.0,slow=40						
YKA	**Yellowknife Ar**	**39.08**	**45**	P	**P**	**09 31 16.0**	**+0.2**
YKA				pmax	pmax		
	comp=Z,60nm,0.6s						
YKA				MLR	MLR		
	comp=Z,325nm,18.5s						
BJI	**Beijing**	**39.69**	**276**	P	**P**	**09 31 21.8**	**+0.7**
BJI				PP	**PP**	**09 32 53.2**	**+1.0**
BJI				S	**S**	**09 37 24.6**	**+1.1**
BJI				pmax	pmax		
	comp=Z,260nm,3.6s						
BJI				LR	LR		
	comp=Z,2μm,17.0s						
BJI				LR	LR		
	comp=Z,1μm,24.2s						
LLLB	**Lillooet**	**40.16**	**65**	*e*P	**P**	**09 31 25.5**	**+0.5**
	comp=Z,63nm,0.9s						
PGC	**Sidney**	**40.21**	**68**	*e*P	**P**	**09 31 25.3**	**0.0**
	comp=Z,145nm,1.6s						
IRK	**Irkutsk**	**40.36**	**298**	*e*P	**P**	**09 31 24.6**	**-2.0**
IRK				*e*		09 33 24.7	
IRK				pmax	pmax		
	comp=Z,50nm,1.8s						
HPAH	**Hawaii Prepara**	**40.42**	**129**	*e*P	**P**	**09 31 27.8**	**+0.3**
	comp=Z,326nm,1.3s						
NLWA	**Neilton Lookou**	**40.60**	**70**	*e*P	**P**	**09 31 28.7**	**0.0**
	comp=Z,76nm,0.9s						
A04D	**Lummi Island**	**40.60**	**68**	P	**P**	**09 31 28.3**	**-0.3**
	baz=300						
POHA	**Pohakuloa**	**40.73**	**129**	*e*P	**P**	**09 31 31.2**	**+1.0**
	comp=Z,236nm,1.0s						
MLOA	**Mauna Loa Obse**	**40.90**	**130**	*e*P	**P**	**09 31 33.1**	**+1.2**
	comp=Z,156nm,0.9s						
ULN	**Ulaanbaatar**	**40.90**	**291**	*d iP*	**P**	**09 31 32.1**	**+0.7**
ULN				pmax	pmax		
	comp=Z,50nm,1.0s						
ULN	**Ulaanbaatar**	**40.90**	**291**	*e*P	**P**	**09 31 32.3**	**+0.9**
	comp=Z,44nm,1.0s						
ULN	**Ulaanbaatar**	**40.90**	**291**	P	**P**	**09 31 32.9**	**+1.6**
	SNR=20						
ULN	**Ulaanbaatar**	**40.90**	**291**	P	**P**	**09 31 32.9**	**+1.6**
	SNR=20						
MWH	**Moku'aweowe**	**40.93**	**130**	*e*P	**P**	**09 31 32.6**	**+0.3**
	comp=Z,201nm,1.1s						
HDW	**Hoodsport**	**40.94**	**69**	P	**P**	**09 31 31.9**	**+0.3**
TLY	**Talaya**	**40.96**	**298**	LR	LR	09 49 51.3	
	comp=Z,1μm,18.3s,baz=50,slow=38						
TLY	**Talaya**	**40.96**	**298**	*d iP*	**P**	**09 31 32.0**	**+0.4**
TLY				*e*PPP	PPP	09 33 32.8	
TLY				*e*S	**S**	**09 37 44.3**	**+1.9**
TLY				*e*SSS	SSS	09 41 29.6	
TLY				pmax	pmax		
	comp=Z,42nm,1.0s						
TLY				MLR	MLR		
	comp=Z,1μm,15.0s						
TLY	**Talaya**	**40.96**	**298**	*e*P	**P**	**09 31 31.3**	**-0.3**
	comp=Z,37nm,1.0s						
TLY	**Talaya**	**40.96**	**298**	P	**P**	**09 31 32.5**	**+0.8**
	SNR=12						
TLY	**Talaya**	**40.96**	**298**	P	**P**	**09 31 32.5**	**+0.8**
	SNR=12						
MLH	**Mauna Loa**	**41.03**	**129**	*e*P	**P**	**09 31 33.0**	**+0.3**
MLH				pmax	pmax		
	comp=Z,210nm,1.0s						
MLH	**Mauna Loa**	**41.03**	**129**	*e*P	**P**	**09 31 33.0**	**+0.3**
	comp=Z,211nm,1.1s						
MBW	**Mount Baker**	**41.03**	**67**	P	**P**	**09 31 32.1**	**-0.3**
AIN	**Ainahou**	**41.10**	**130**	*e*P	**P**	**09 31 32.4**	**-0.8**
	comp=Z,246nm,1.1s						
NRIK	**Noril'sk**	**41.14**	**328**	P	**P**	**09 31 32.8**	**0.0**
	comp=Z,41nm,1.1s,baz=80,slow=9.3,SNR=35						
NRIK				LR	LR	09 49 07.3	
	comp=Z,648nm,19.2s,baz=78,slow=37						
JOW	**Kunigami**	**41.17**	**250**	LR	LR	09 47 56.8	
	comp=Z,475nm,21.5s,baz=64,slow=35						
JOW	**Kunigami**	**41.17**	**250**	*e*P	**P**	**09 31 33.4**	**-0.2**
	comp=Z,363nm,1.7s						
B05A	**Bryant**	**41.18**	**68**	P	**P**	**09 31 33.2**	**-0.2**
	baz=301,SNR=21						
PUH	**Pauahi**	**41.21**	**129**	*e*P	**P**	**09 31 34.3**	**+0.3**
E03A	**Lebam**	**41.22**	**71**	*e*P	**P**	**09 31 34.0**	**+0.3**
	comp=Z,129nm,1.0s						
STCH	**Steam Cracks**	**41.24**	**129**	*e*P	**P**	**09 31 34.5**	**+0.2**
	comp=Z,109nm,0.9s						
SONA1	**Songino Array**	**41.29**	**292**	*e*P	**P**	**09 31 35.4**	**+0.8**
SONM	**Songino Array**	**41.30**	**292**	P	**P**	**09 31 35.7**	**+1.1**
	comp=Z,18nm,0.9s,baz=58,slow=10.0,SNR=47						
SONM				PcP	**PcP**	**09 33 33.0**	**+0.2**
	comp=Z,16nm,0.8s,baz=66,slow=2.2,SNR=11						
SONM				ScP	**ScP**	**09 37 23.4**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=3.6						
SONM				LR	LR	09 50 15.6	
	comp=Z,1μm,18.0s,baz=63,slow=38						
B06A	**Marblemount**	**41.41**	**67**	*e*P	**P**	**09 31 35.1**	**-0.1**
	comp=Z,42nm,1.2s						
TIA	**Tai'an**	**41.45**	**270**	⇑P	**P**	**09 31 36.5**	**+0.7**
TIA				S	**S**	**09 37 52.2**	**+2.3**
TIA				pmax	pmax		
	comp=Z,80nm,1.1s						
TIA				LR	LR		
	comp=Z,1μm,14.2s						
TIA				LR	LR		
	comp=Z,1μm,13.4s						
TIA				LR	LR		
	comp=Z,1μm,14.9s						
HTW	**Haystack Looko**	**41.61**	**68**	P	**P**	**09 31 36.8**	**-0.2**
RES	**Resolute Bay**	**41.75**	**23**	*e*P	**P**	**09 31 38.4**	**+0.6**
RES				pmax	pmax		
	comp=Z,130nm,1.1s						
RES	**Resolute Bay**	**41.75**	**23**	*e*P	**P**	**09 31 38.4**	**+0.6**
	comp=Z,131nm,1.1s						
F04D	**Rainier, OR**	**41.78**	**71**	P	**P**	**09 31 38.1**	**-0.3**
	baz=302,SNR=7.4						
ZAK	**Zakamensk**	**41.79**	**296**	*e*P	**P**	**09 31 38.6**	**+0.1**
ZAK				*e*		09 33 33.8	
ZAK				pmax	pmax		
	comp=Z,22nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
D05A	**Enumclaw**	**41.80**	**69**	*e*P	**P**	**09 31 38.6**	**+0.1**
	comp=Z,104nm,1.1s						
HHC	**Hu-ho-hao-te**	**42.05**	**280**	*e*P	**P**	**09 31 41.9**	**+1.1**
HHC				PP	**PP**	**09 33 22.7**	**+4.7**
HHC				PcP	**PcP**	**09 33 36.1**	**+0.7**
HHC				ScP	**ScP**	**09 37 27.4**	**+2.8**
HHC				S	**S**	**09 38 03.7**	**+4.8**
HHC				SS	**SS**	**09 41 00.1**	**-6.0**
HHC				pmax	pmax		
	comp=Z,22nm,1.3s						
HHC				pmax	pmax		
	comp=Z,230nm,4.8s						
HHC				LR	LR		
	comp=Z,2μm,16.0s						
HHC				LR	LR		
	comp=Z,2μm,13.6s						
WRW	**Wenatchee Ridg**	**42.09**	**68**	P	**P**	**09 31 40.7**	**-0.3**
G03D	**McMinnville, O**	**42.10**	**72**	P	**P**	**09 31 40.9**	**-0.1**
	baz=303						
LON	**Longmire**	**42.13**	**70**	*e*P	**P**	**09 31 41.0**	**-0.4**
LON				pmax	pmax		
	comp=Z,22nm,0.7s						
LON	**Longmire**	**42.13**	**70**	*e*P	**P**	**09 31 41.0**	**-0.4**
	comp=Z,22nm,0.6s						
F04A	**Amboy**	**42.21**	**71**	*e*P	**P**	**09 31 41.9**	**0.0**
	comp=Z,85nm,0.8s						
NLW	**Nelson Butte**	**42.29**	**67**	P	**P**	**09 31 42.3**	**-0.3**
SSE	**Sheshan**	**42.34**	**261**	*e*P	**P**	**09 31 44.3**	**+1.2**
SSE				S	**S**	**09 38 06.5**	**+3.4**
SSE				ScS	**ScS**	**09 41 42.4**	**-1.5**
SSE				pmax	pmax		
	comp=Z,41nm,1.3s						
SSE				pmax	pmax		
	comp=Z,390nm,3.6s						
SSE				LR	LR		
	comp=Z,430nm,19.6s						
SSE				LR	LR		
	comp=Z,210nm,19.6s						
MOY	**Mondy**	**42.42**	**299**	*e*P	**P**	**09 31 44.5**	**+0.8**
MOY				pmax	pmax		
	comp=Z,48nm,1.4s						
COR	**Corvallis**	**42.42**	**73**	*e*P	**P**	**09 31 43.7**	**+0.1**
COR				pmax	pmax		
	comp=Z,190nm,1.1s						
COR	**Corvallis**	**42.42**	**73**	*e*P	**P**	**09 31 43.7**	**+0.1**
	comp=Z,190nm,1.1s						
B08A	**Colville Reser**	**42.72**	**66**	*e*P	**P**	**09 31 45.2**	**-0.8**
	comp=Z,52nm,0.9s						
KEBM	**Edson Butte**	**42.77**	**76**	*e*P	**P**	**09 31 47.3**	**+0.8**
	comp=Z,134nm,1.2s						
I03D	**Drain, OR**	**42.89**	**74**	P	**P**	**09 31 47.2**	**-0.2**
	baz=304,SNR=12						
SAW	**Saint Andrews**	**43.02**	**67**	P	**P**	**09 31 47.8**	**-0.7**
TRW	**Toppenish Ridg**	**43.12**	**69**	P	**P**	**09 31 49.2**	**-0.1**
NJ2	**Nanjing**	**43.12**	**264**	*e*P	**P**	**09 31 49.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,32nm,1.0s						
BTO	**Baotou**	**43.14**	**280**	*e*P	**P**	**09 31 50.6**	**+1.0**
KBO	**Bosley Butte**	**43.22**	**77**	*e*P	**P**	**09 31 51.1**	**+0.9**
	comp=Z,218nm,1.4s						
G05D	**Wamic, OR**	**43.24**	**71**	P	**P**	**09 31 49.9**	**-0.3**
	baz=304,SNR=13						
E07A	**Sunnyside**	**43.37**	**69**	*e*P	**P**	**09 31 51.1**	**-0.2**
	comp=Z,71nm,1.1s						
MDW	**Midway**	**43.40**	**69**	P	**P**	**09 31 51.3**	**-0.2**
MDW	**Midway**	**43.40**	**69**	P	**P**	**09 31 51.3**	**-0.2**
I04A	**Tendick Farm,**	**43.40**	**74**	P	**P**	**09 31 51.3**	**-0.3**
	baz=305,SNR=32						
TIY	**Taiyuan**	**43.42**	**275**	*e*P	**P**	**09 31 53.7**	**+1.8**
TIY				S	**S**	**09 38 20.5**	**+1.5**
TIY				ScS	**ScS**	**09 41 45.0**	**-5.6**
TIY				pmax	pmax		
	comp=Z,81nm,0.9s						
TIY				pmax	pmax		
	comp=Z,320nm,5.5s						
TIY				LR	LR		
	comp=Z,1μm,14.5s						
TIY				LR	LR		
	comp=Z,210nm,6.0s						
TIY				LR	LR		
	comp=Z,1μm,19.5s						
BENWA	**Benson Ranch**	**43.47**	**69**	P	**P**	**09 31 51.0**	**-1.1**
EDM	**Edmonton**	**43.53**	**57**	*e*P	**P**	**09 31 52.3**	**-0.3**
EDM				pmax	pmax		
	comp=Z,450nm,1.2s						
EDM	**Edmonton**	**43.53**	**57**	*e*P	**P**	**09 31 52.3**	**-0.3**
	comp=Z,445nm,1.2s						
L02D	**Cave Junction,**	**43.62**	**76**	P	**P**	**09 31 52.9**	**-0.5**
	baz=306,SNR=17						
D08A	**Wollman Farm,**	**43.64**	**68**	*e*P	**P**	**09 31 52.7**	**-0.8**
	comp=Z,82nm,1.4s						
G06A	**Carlson Farm,**	**43.64**	**71**	*e*P	**P**	**09 31 53.2**	**-0.4**
	comp=Z,113nm,1.6s						
VTHM	**Trough**	**43.72**	**71**	P	**P**	**09 31 54.0**	**-0.2**
I05D	**Terrebonne, OR**	**43.73**	**72**	P	**P**	**09 31 53.8**	**-0.5**
	baz=304,SNR=16						
HUMO	**Hull Mountain**	**43.75**	**75**	*e*P	**P**	**09 31 54.7**	**+0.3**
	comp=Z,81nm,1.3s						
KRMB	**Red Mountain**	**43.81**	**77**	*e*P	**P**	**09 31 55.7**	**+0.7**
	comp=Z,125nm,1.3s						
J04D	**Umpqua Nationa**	**43.90**	**74**	P	**P**	**09 31 56.1**	**+0.3**
	baz=305,SNR=13						
KTRM	**Thompson Ridge**	**43.91**	**76**	P	**P**	**09 31 56.4**	**+0.5**
NEW	**Newport**	**44.02**	**65**	P	**P**	**09 31 55.9**	**-0.7**
	baz=302,SNR=34						
NEW	**Newport**	**44.02**	**65**	*e*P	**P**	**09 31 55.6**	**-1.0**
NEW				pmax	pmax		
	comp=Z,100nm,1.4s						
NEW	**Newport**	**44.02**	**65**	*e*P	**P**	**09 31 55.6**	**-1.0**
	comp=Z,101nm,1.4s						
JCC	**Jacoby Creek,**	**44.16**	**78**	*e*P	**P**	**09 31 58.2**	**+0.6**
	comp=Z,199nm,1.3s						
KHMM	**Horse Mountain**	**44.30**	**78**	*e*P	**P**	**09 31 60.0**	**+0.9**
	comp=Z,177nm,1.1s						
E09A	**Wood Farm, Sta**	**44.39**	**68**	*e*P	**P**	**09 31 58.7**	**-0.8**
	comp=Z,84nm,1.3s						
J05D	**Fort Rock, OR**	**44.39**	**73**	P	**P**	**09 32 00.2**	**+0.5**
	baz=305,SNR=53						
YBH	**Yreka Blue Hor**	**44.41**	**76**	*e*P	**P**	**09 32 00.7**	**+0.8**
YBH				pmax	pmax		
	comp=Z,130nm,1.3s						
YBH	**Yreka Blue Hor**	**44.41**	**76**	*e*P	**P**	**09 32 00.7**	**+0.8**
	comp=Z,127nm,1.3s						
K04D	**Chiloquin, OR**	**44.47**	**75**	P	**P**	**09 32 00.6**	**+0.3**
	baz=306,SNR=11						
M02C	**Callahan**	**44.53**	**77**	P	**P**	**09 32 01.3**	**+0.5**
	baz=307,SNR=31						
KMRM	**Mail Ridge**	**44.71**	**79**	*e*P	**P**	**09 32 03.3**	**+1.1**
	comp=Z,114nm,0.9s						
N02D	**Trinity Center**	**44.87**	**77**	P	**P**	**09 32 03.8**	**+0.4**
	baz=307,SNR=34						
M04C	**Macdoel**	**44.91**	**76**	P	**P**	**09 32 04.0**	**+0.2**
	baz=306,SNR=34						
K05A	**Sumner Lake**	**44.92**	**74**	*e*P	**P**	**09 32 03.2**	**-0.8**
	comp=Z,123nm,1.1s						
KCPM	**Cahto Peak**	**45.11**	**79**	*e*P	**P**	**09 32 06.1**	**+0.6**
	comp=Z,114nm,1.0s						
WDC	**Whiskeytown Da**	**45.20**	**77**	*e*P	**P**	**09 32 06.0**	**0.0**
WDC				pmax	pmax		
	comp=Z,84nm,1.0s						
WDC	**Whiskeytown Da**	**45.20**	**77**	*e*P	**P**	**09 32 06.0**	**0.0**
	comp=Z,84nm,1.0s						
WALA	**Waterton Lakes**	**45.39**	**63**	*e*P	**P**	**09 32 07.0**	**-0.6**
	comp=Z,173nm,1.0s						
LTIM	**Timbered Crate**	**45.48**	**76**	P	**P**	**09 32 08.7**	**+0.3**
BSMT	**Bassoo Peak**	**45.56**	**65**	P	**P**	**09 32 08.6**	**-0.4**
BLMT	**Blacktail Moun**	**45.71**	**64**	*e*P	**P**	**09 32 09.7**	**-0.5**
MOD	**Modoc Plateau**	**45.76**	**74**	*e*P	**P**	**09 32 10.4**	**-0.2**
	comp=Z,97nm,1.0s						
BMO	**Blue Mountains**	**45.81**	**69**	*e*P	**P**	**09 32 10.2**	**-0.7**
BMO				*e*		09 33 46.3	
BMO				pmax	pmax		
	comp=Z,116nm,1.5s						
BMO	**Blue Mountains**	**45.81**	**69**	*e*P	**P**	**09 32 10.2**	**-0.7**
	comp=Z,116nm,1.5s						
BMO				*e*PcP	**PcP**	**09 33 46.3**	**-1.8**
O03D	**Paynes Creek**	**45.82**	**77**	P	**P**	**09 32 10.7**	**-0.4**
	baz=308,SNR=114						
HOPS	**Hopland Field**	**45.85**	**80**	*e*P	**P**	**09 32 11.2**	**+0.1**
	comp=Z,162nm,1.0s						
JTMT	**Jette**	**45.90**	**64**	*e*P	**P**	**09 32 11.0**	**-0.6**
YBMT	**Yellow Bay**	**45.99**	**64**	*e*P	**P**	**09 32 12.1**	**-0.2**
GDXM	**Geysers**	**46.13**	**80**	*e*P	**P**	**09 32 14.4**	**+0.9**
	comp=Z,116nm,1.0s						
SWMT	**Swartz Lake**	**46.19**	**65**	*e*P	**P**	**09 32 13.0**	**-0.9**
WVOR	**Wild Horse Val**	**46.44**	**73**	*e*P	**P**	**09 32 15.3**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,120nm,1.4s						
WVOR	**Wild Horse Val**	**46.44**	**73**	*e*P	**P**	**09 32 15.2**	**-0.6**
	comp=Z,117nm,1.4s						
ORV	**Oroville**	**46.46**	**78**	*e*P	**P**	**09 32 15.1**	**-0.9**
ORV				pmax	pmax		
	comp=Z,71nm,1.0s						
ORV	**Oroville**	**46.46**	**78**	*e*P	**P**	**09 32 15.1**	**-0.9**
	comp=Z,71nm,1.0s						
MCCM	**Marconi Confer**	**46.49**	**80**	*e*P	**P**	**09 32 16.1**	**-0.1**
	comp=Z,82nm,0.9s						
MSO	**Missoula**	**46.61**	**65**	P	**P**	**09 32 16.2**	**-1.0**
	baz=305,SNR=26						
MSO	**Missoula**	**46.61**	**65**	*e*P	**P**	**09 32 16.4**	**-0.8**
	comp=Z,155nm,1.6s						
SLMT	**Seeley Lake**	**46.63**	**65**	*e*P	**P**	**09 32 16.4**	**-1.0**
CHMT	**Chamberlain Mo**	**46.95**	**65**	*e*P	**P**	**09 32 18.8**	**-1.2**
WHN	**Wuhan**	**46.95**	**266**	⇓P	**P**	**09 32 20.2**	**+0.3**
WHN				S	**S**	**09 39 09.8**	**-0.2**
WHN				pmax	pmax		
	comp=Z,44nm,1.2s						
WHN				LR	LR		
	comp=Z,2μm,5.2s						
WHN				LR	LR		
	comp=Z,2μm,12.2s						
WHN				LR	LR		
	comp=Z,2μm,14.8s						
BEKR	**Beckworth**	**46.96**	**77**	*e*P	**P**	**09 32 20.2**	**+0.1**
	comp=Z,90nm,1.2s						
AFDM	**Forest Hills D**	**47.16**	**78**	*e*P	**P**	**09 32 21.1**	**-0.4**
	comp=Z,75nm,1.2s						
MFID	**Camas Ranch**	**47.51**	**70**	*e*P	**P**	**09 32 23.5**	**-0.8**
	comp=Z,56nm,1.3s						
PAHR	**Pah Rah Range**	**47.65**	**76**	*e*P	**P**	**09 32 25.1**	**-0.3**
	comp=Z,142nm,1.1s						
SSLB	**Suanglung**	**47.79**	**254**	*e*P	**P**	**09 32 26.9**	**+0.4**
	comp=Z,76nm,1.3s						
HRY	**Holter Researc**	**47.86**	**64**	*e*P	**P**	**09 32 26.2**	**-0.7**
YULB	**Yu-li**	**47.89**	**254**	*e*P	**P**	**09 32 27.8**	**+0.5**
	comp=Z,42nm,0.9s						
PNTR	**Pine Nut**	**47.90**	**77**	*e*P	**P**	**09 32 27.8**	**+0.3**
	comp=Z,157nm,0.9s						
XAN	**Xi'an**	**47.96**	**274**	P	**P**	**09 32 28.1**	**+0.3**
XAN				pP	sP	09 32 35.8	-0.3
XAN				sP	pP	09 32 41.9	+8.1
XAN				S	**S**	**09 39 26.1**	**+1.6**
XAN				sS	sS	09 39 34.4	0.0
XAN				ScS	**ScS**	**09 42 20.2**	**+0.2**
XAN				pmax	pmax		
	comp=Z,36nm,1.0s						
XAN				pmax	pmax		
	comp=Z,280nm,9.6s						
XAN				LR	LR		
	comp=Z,630nm,15.7s						
XAN				LR	LR		
	comp=Z,980nm,18.1s						
XAN				LR	LR		
	comp=Z,2μm,18.0s						
LRM	**Limekiln Ridge**	**48.03**	**66**	*e*P	**P**	**09 32 27.2**	**-1.3**
CMB	**Columbia Colle**	**48.09**	**79**	*e*P	**P**	**09 32 28.3**	**-0.4**
CMB				pmax	pmax		
	comp=Z,64nm,1.0s						
CMB	**Columbia Colle**	**48.09**	**79**	*e*P	**P**	**09 32 28.3**	**-0.4**
	comp=Z,64nm,1.0s						
YERR	**Yerington**	**48.19**	**77**	*e*P	**P**	**09 32 29.5**	**-0.1**
	comp=Z,111nm,1.0s						
DLMT	**Dillon**	**48.22**	**66**	*e*P	**P**	**09 32 28.9**	**-0.8**
	comp=Z,26nm,0.9s						
HLID	**Hailey**	**48.25**	**69**	P	**P**	**09 32 29.4**	**-0.7**
	baz=307,SNR=42						
HLID	**Hailey**	**48.25**	**69**	*e*P	**P**	**09 32 29.0**	**-1.1**
	comp=Z,61nm,1.3s						
SAO	**San Andreas Ge**	**48.25**	**81**	*e*P	**P**	**09 32 29.6**	**-0.4**
SAO				pmax	pmax		
	comp=Z,31nm,1.0s						
SAO	**San Andreas Ge**	**48.25**	**81**	*e*P	**P**	**09 32 29.6**	**-0.4**
	comp=Z,31nm,1.0s						
EGMT	**Eagleton**	**48.25**	**62**	P	**P**	**09 32 29.1**	**-0.7**
	baz=305,SNR=36						
EGMT	**Eagleton**	**48.25**	**62**	*e*P	**P**	**09 32 29.2**	**-0.7**
	comp=Z,120nm,1.0s						
TPUB	**Ta-pu**	**48.35**	**254**	*e*P	**P**	**09 32 31.1**	**+0.2**
	comp=Z,84nm,0.9s						
QZH	**Quanzhou**	**48.35**	**257**	⇓*iP*	**P**	**09 32 31.3**	**+0.5**
QZH				S	**S**	**09 39 34.0**	**+4.0**
QZH				pmax	pmax		
	comp=Z,160nm,1.0s						
WAKR	**Walker**	**48.37**	**78**	*e*P	**P**	**09 32 31.1**	**0.0**
	comp=Z,103nm,1.0s						
MCMT	**McKenzie Canyo**	**48.40**	**67**	*e*P	**P**	**09 32 30.2**	**-1.1**
FFC	**Flin Flon**	**48.46**	**51**	*e*P	**P**	**09 32 30.9**	**-0.4**
FFC				pmax	pmax		
	comp=Z,63nm,1.0s						
FFC	**Flin Flon**	**48.46**	**51**	*e*P	**P**	**09 32 30.9**	**-0.4**
	comp=Z,63nm,0.9s						
BMN	**Battle Mountai**	**48.50**	**74**	*e*P	**P**	**09 32 32.0**	**0.0**
BMN				pmax	pmax		
	comp=Z,97nm,1.0s						
BMN	**Battle Mountai**	**48.50**	**74**	*e*P	**P**	**09 32 32.0**	**0.0**
	comp=Z,97nm,1.0s						
BOZ	**Bozeman (W)**	**48.63**	**65**	P	**P**	**09 32 32.1**	**-0.9**
	baz=306,SNR=55						
BOZ	**Bozeman (W)**	**48.63**	**65**	*e*P	**P**	**09 32 31.9**	**-1.0**
BOZ				pmax	pmax		
	comp=Z,170nm,1.5s						
BOZ	**Bozeman (W)**	**48.63**	**65**	*e*P	**P**	**09 32 31.9**	**-1.0**
	comp=Z,166nm,1.5s						
TVH1	**TV Hill, Hawth**	**48.81**	**77**	*e*P	**P**	**09 32 35.1**	**+0.4**
	comp=Z,155nm,1.1s						
TVH3	**East Aurora ar**	**48.84**	**77**	*e*P	**P**	**09 32 34.7**	**0.0**
	comp=Z,71nm,1.0s						
TVH2	**Borealis Mine**	**48.86**	**77**	*e*P	**P**	**09 32 35.5**	**+0.5**
	comp=Z,54nm,1.1s						
PMPB	**Monarch Peak**	**49.00**	**81**	*e*P	**P**	**09 32 35.9**	**+0.1**
	comp=Z,60nm,0.9s						
KBS	**Kingsbay**	**49.08**	**355**	*e*P	**P**	**09 32 36.5**	**+0.8**
KBS	**Kingsbay**	**49.08**	**355**	*e*P	**P**	**09 32 36.6**	**+0.8**
KBS				pmax	pmax		
	comp=Z,56nm,1.0s						
KBS	**Kingsbay**	**49.08**	**355**	*e*P	**P**	**09 32 36.6**	**+0.9**
	comp=Z,56nm,1.0s						
QLMT	**Earthquake Lak**	**49.20**	**66**	*e*P	**P**	**09 32 36.8**	**-0.6**
YHB	**Horse Butte**	**49.38**	**66**	*e*P	**P**	**09 32 38.3**	**-0.5**
	comp=Z,94nm,1.2s						
SPA0	**Spitsbergen Ar**	**49.52**	**354**	*e*P	**P**	**09 32 39.1**	**0.0**
SPA0				*e*S	**S**	**09 39 43.7**	**-1.6**
SPA0	**Spitsbergen Ar**	**49.52**	**354**	*e*P	**P**	**09 32 38.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**49.52**	**354**	P	**P**	**09 32 39.1**	**0.0**
	comp=Z,77nm,0.7s,baz=55,slow=7.3,SNR=58						
SPITS				S	S	09 39 26.9	-18
	comp=Z,9.3nm,1.0s,baz=133,slow=32,SNR=5.8						
ZAA0	**Zalesovo Array**	**49.52**	**309**	*e*P	**P**	**09 32 38.3**	**-1.1**
ZALV	**Zalesovo Beam**	**49.52**	**309**	P	**P**	**09 32 38.4**	**-1.0**
	comp=Z,8.9nm,0.8s,baz=61,slow=7.0,SNR=22						
ZALV				PcP	**PcP**	**09 34 01.6**	**+0.6**
	comp=Z,16nm,0.8s,baz=47,slow=3.9,SNR=8.7						
ZALV				LR	LR	09 56 23.4	
	comp=Z,781nm,18.0s,baz=68,slow=39						
YHH	**Holmes Hill**	**49.56**	**66**	*e*P	**P**	**09 32 39.6**	**-0.6**
	comp=Z,28nm,0.8s						
YMR	**Madison River**	**49.56**	**66**	*e*P	**P**	**09 32 39.8**	**-0.4**
	comp=Z,134nm,1.5s						
GCMT	**Greycliff**	**49.62**	**64**	*e*P	**P**	**09 32 40.2**	**-0.3**
PAGB	**Antelope Grade**	**49.66**	**81**	*e*P	**P**	**09 32 41.0**	**+0.3**
	comp=Z,67nm,0.8s						
YNR	**Norris Junctio**	**49.70**	**66**	*e*P	**P**	**09 32 41.7**	**+0.5**
	comp=Z,78nm,1.3s						
FCC	**Fort Churchill**	**49.73**	**43**	*e*P	**P**	**09 32 41.1**	**+0.2**
FCC				pmax	pmax		
	comp=Z,240nm,1.0s						
FCC	**F

H17A	Grant Village	49.95	66	eP	P	09 32 44.0	+0.8
	comp=Z,63nm,1.0s						
TIN	Tinemaha, Big	50.03	78	P	P	09 32 43.9	+0.2
	baz=311,SNR=14						
IMW	Indian Meadow	50.05	67	eP	P	09 32 43.8	-0.2
	comp=Z,36nm,1.3s						
GTA	Gaotai	50.06	286	eP	P	09 32 44.8	+0.9
GTA				pP	pP	09 32 49.0	-0.9
GTA				sP	sP	09 32 52.5	+0.2
GTA				PcP	PcP	09 34 04.4	+1.0
GTA				S	S	09 39 52.6	-1.4
GTA				sS	pS	09 39 58.3	-2.9
GTA				ScS	ScS	09 42 34.9	+0.8
GTA				SS	SS	09 43 21.0	-5.7
GTA				pmax	pmax		
	comp=Z,24nm,1.0s						
GTA				pmax	pmax		
	comp=Z,450nm,6.4s						
GTA				LR	LR		
	comp=Z,1μm,16.4s						
GTA				LR	LR		
	comp=Z,1μm,20.2s						
SMMC	Simmler	50.09	81	P	P	09 32 44.4	+0.3
	baz=312,SNR=7.4						
FXWY	Fox Creek	50.16	67	eP	P	09 32 44.2	-0.6
	comp=Z,12nm,1.1s						
ENH	Enshi	50.16	270	eP	P	09 32 44.6	0.0
	comp=Z,59nm,0.9s						
ENH				ePcP	PcP	09 34 04.3	+0.5
RLMT	Red Lodge	50.25	65	P	P	09 32 45.0	-0.4
	baz=308,SNR=49						
RLMT	Red Lodge	50.25	65	eP	P	09 32 44.8	-0.6
	comp=Z,169nm,1.4s						
MOOW	Moose Ponds	50.25	67	eP	P	09 32 45.0	-0.4
	comp=Z,27nm,1.4s						
TPAW	Teton Pass	50.29	67	eP	P	09 32 45.3	-0.5
	comp=Z,99nm,1.8s						
HVU	Hansel Valley	50.29	70	eP	P	09 32 45.5	-0.2
HVU				pmax	pmax		
	comp=Z,42nm,0.8s						
HVU	Hansel Valley	50.29	70	eP	P	09 32 45.5	-0.2
	comp=Z,42nm,0.8s						
VES	Vestal, Richgr	50.30	80	P	P	09 32 44.9	-0.7
	baz=311,SNR=41						
HOPEN	Hopen	50.32	350	e	P	09 32 45.1	-0.1
LOHW	Long Hollow	50.41	67	eP	P	09 32 46.3	-0.4
	comp=Z,51nm,1.6s						
SNOW	Snow King Moun	50.42	67	eP	P	09 32 46.6	-0.1
	comp=Z,81nm,1.8s						
REDW	Red Top Meadow	50.43	67	eP	P	09 32 46.5	-0.2
	comp=Z,72nm,1.5s						
PKM	Mcpherson Peak	50.48	81	P	P	09 32 47.2	0.0
	baz=312,SNR=17						
CWC	Cottonwood Cre	50.52	79	P	P	09 32 47.4	-0.1
	baz=311						
GRAC	Grapevine Rang	50.59	78	P	P	09 32 48.1	+0.3
	baz=311,SNR=21						
BGU	Big Grassy Mou	50.68	71	eP	P	09 32 48.4	-0.2
	comp=Z,119nm,1.7s						
HSPB	Hornsund (broa	50.70	353	eP	P	09 32 48.5	+0.5
HSPB				IAmb	IAmb	09 32 49.3	
	comp=Z,96nm,1.1s						
HSPB				eS	S	09 40 02.9	+1.2
SPUT	South Promonto	50.78	70	eP	P	09 32 49.6	+0.2
	comp=Z,58nm,1.0s						
ISA	Isabella, Lake	50.79	80	P	P	09 32 48.3	-1.1
	baz=311,SNR=17						
ISA	Isabella, Lake	50.79	80	eP	P	09 32 48.6	-0.8
ISA				pmax	pmax		
	comp=Z,45nm,1.0s						
ISA	Isabella, Lake	50.79	80	eP	P	09 32 48.6	-0.8
	comp=Z,45nm,1.0s						
R11A	Troy Canyon, C	50.80	75	P	P	09 32 49.3	-0.3
	baz=310,SNR=174						
R11A	Troy Canyon, C	50.80	75	eP	P	09 32 49.0	-0.6
	comp=Z,120nm,1.0s						
SBC	Santa Barbara	50.84	82	P	P	09 32 49.8	+0.2
	baz=312,SNR=6.2						
ARVC	Arvin	50.93	81	P	P	09 32 49.4	-0.9
	baz=312,SNR=13						
DAC	Darwin (Calif)	50.93	79	eP	P	09 32 49.8	-0.7
DAC				e		09 34 06.9	
DAC				pmax	pmax		
	comp=Z,55nm,1.0s						
DAC	Darwin (Calif)	50.93	79	eP	P	09 32 49.8	-0.7
	comp=Z,54nm,1.0s						
DAC				ePcP	PcP	09 34 06.9	+0.2
LAO	LASA Array	50.98	61	P	P	09 32 50.5	-0.2
	baz=308,SNR=72						
LAO	LASA Array	50.98	61	eP	P	09 32 50.6	-0.1
	comp=Z,262nm,1.3s						
DGMT	Dagmar	50.99	58	P	P	09 32 50.2	-0.4
	baz=307,SNR=34						
DGMT	Dagmar	50.99	58	eP	P	09 32 50.2	-0.4
	comp=Z,449nm,1.6s						
HWUT	Hardware Ranch	51.11	69	eP	P	09 32 51.7	-0.2
	comp=Z,45nm,1.0s						
MPMC	Manual Prospec	51.13	79	P	P	09 32 51.7	-0.4
	baz=311,SNR=97						
SCZ2	Santa Cruz Isl	51.19	82	P	P	09 32 52.4	+0.1
	baz=312,SNR=5.8						
FURC	Furnace Creek,	51.25	78	P	P	09 32 52.8	+0.1
	baz=311,SNR=40						
DUG	Dugway, Tooele	51.27	72	P	P	09 32 52.9	-0.2
	baz=310,SNR=185						
DUG	Dugway, Tooele	51.27	72	eP	P	09 32 53.0	0.0
DUG				pmax	pmax		
	comp=Z,130nm,0.9s						
DUG	Dugway, Tooele	51.27	72	eP	P	09 32 53.0	0.0
	comp=Z,132nm,0.9s						
TPNV	Topopah Spring	51.30	77	P	P	09 32 53.1	-0.3
	baz=311,SNR=261						
TPNV	Topopah Spring	51.30	77	eP	P	09 32 53.1	-0.3
TPNV				pmax	pmax		
	comp=Z,200nm,0.9s						
TPNV	Topopah Spring	51.30	77	eP	P	09 32 53.0	-0.3
	comp=Z,202nm,0.9s						
OSI	Osito Audit: C	51.33	81	P	P	09 32 53.4	-0.1
	baz=312,SNR=7.4						
OSI	Osito Audit: C	51.33	81	eP	P	09 32 53.2	-0.2
	comp=Z,110nm,0.8s						
LRMC	Laurel Mtn Rad	51.40	79	P	P	09 32 53.6	-0.4
	baz=312,SNR=11						
BLG	Laguna Peak, P	51.46	82	P	P	09 32 53.9	-0.4
	baz=312,SNR=11						
BW06	Boulder Array	51.54	67	P	P	09 32 54.3	-0.8
	baz=309,SNR=58						
BW06	Boulder Array	51.54	67	eP	P	09 32 54.4	-0.8
	comp=Z,47nm,1.0s						
PD31	Pinedale Array	51.54	67	eP	P	09 32 54.4	-0.7
PDAR	Pinedale Array	51.54	67	P	P	09 32 54.5	-0.6
	comp=Z,19nm,0.7s,baz=293,slow=2.9,SNR=135						
PDAR				PcP	PcP	09 34 08.4	-0.6
	comp=Z,4.5nm,0.7s,baz=285,slow=3.5,SNR=1.3						
PDAR				LR	LR	09 55 43.5	
	comp=Z,203nm,18.2s,baz=324,slow=37						
DAG	Danmarks Havn	51.60	3	‖iP	P	09 32 54.5	-0.3
	comp=Z,49nm,1.0s						
DAG	Danmarks Havn	51.60	3	‖iP	P	09 32 54.5	-0.3
DAG				pmax	pmax		
	comp=Z,49nm,1.0s						
EDW2	Edwards Air Fo	51.60	80	P	P	09 32 55.0	-0.5
	baz=312,SNR=43						
PSUT	Pine Spring	51.72	74	eP	P	09 32 56.9	+0.4
	comp=Z,56nm,1.0s						
SNCC	San Nicolas Is	51.75	83	P	P	09 32 56.2	-0.4
	baz=313						
DECC	Green Verdugo	51.81	81	P	P	09 32 56.8	-0.2
	baz=312,SNR=11						
JLU	Jordanelle	51.81	70	eP	P	09 32 57.0	-0.2
	comp=Z,86nm,1.1s						
NLU	North Lily Min	51.86	71	eP	P	09 32 57.4	-0.1
	comp=Z,55nm,0.8s						
SHOC	Shoshone, Teco	51.98	78	P	P	09 32 58.2	0.0
	baz=312,SNR=22						
MWC	Mount Wilson	52.00	81	eP	P	09 32 58.2	-0.4
MWC				pmax	pmax		
	comp=Z,260nm,1.3s						
MWC	Mount Wilson	52.00	81	eP	P	09 32 58.2	-0.4
	comp=Z,262nm,1.3s						
GSC	Goldstone, Bar	52.05	79	P	P	09 32 58.4	-0.4
	baz=312,SNR=128						
GSC	Goldstone, Bar	52.05	79	eP	P	09 32 58.5	-0.4
GSC				pmax	pmax		
	comp=Z,140nm,0.9s						
GSC	Goldstone, Bar	52.05	79	eP	P	09 32 58.5	-0.4
	comp=Z,137nm,0.9s						
FMP	Fort Macarthur	52.20	82	P	P	09 32 59.4	-0.4
	baz=313						
BFSC	Mount Baldy Ra	52.24	81	P	P	09 32 59.9	-0.4
	baz=312,SNR=33						
SHPR	Sheep Range	52.26	77	eP	P	09 33 00.2	-0.2
	comp=Z,177nm,1.9s						
CIS	Catalina Islan	52.33	82	P	P	09 33 00.3	-0.6
	baz=313						
TUQ	Turquoise Moun	52.50	78	P	P	09 33 01.9	-0.4
	baz=312,SNR=22						
CCUT	Cedar City	52.65	75	eP	P	09 33 03.4	-0.1
	comp=Z,62nm,0.9s						
HEC	Hector,Ludlow	52.65	79	P	P	09 33 02.8	-0.5
	baz=312,SNR=26						
BBRC	Big Bear Solar	52.67	80	P	P	09 33 03.4	-0.2
	baz=312,SNR=31						
MSU	Marysvale	52.73	73	eP	P	09 33 04.4	+0.4
MSU	Marysvale	52.73	73	eP	P	09 33 04.4	+0.4
BJO	Bjornoya	52.75	351	eP	P	09 33 03.9	+0.5
BJO				IAmb	IAmb	09 33 04.6	
	comp=Z,190nm,1.0s						
SZCU	Shurtz Canyon	52.79	74	eP	P	09 33 04.2	-0.2
	comp=Z,65nm,1.1s						
TMUT	Trail Mountain	52.80	71	eP	P	09 33 04.7	+0.1
	comp=Z,138nm,0.9s						
MURC	Murrieta	52.95	81	P	P	09 33 05.1	-0.4
	baz=313,SNR=27						
MTPU	Mount Pierson	53.03	73	eP	P	09 33 07.1	+0.6
	comp=Z,96nm,1.0s						
LCMT	Little Creek M	53.08	75	eP	P	09 33 06.7	+0.1
	comp=Z,167nm,1.0s						
GMRC	Granite Mounta	53.09	79	P	P	09 33 06.1	-0.6
	baz=312,SNR=77						
LDFC	Landfair	53.23	78	eP	P	09 33 07.2	-0.4
	comp=Z,132nm,0.8s						
CD2	Chengdu	53.28	275	eP	P	09 33 08.6	+0.6
CD2				sP	pP	09 33 13.1	-1.0
CD2				PP	PP	09 35 08.6	+0.6
CD2				S	S	09 40 40.1	+1.7
CD2				sS	pS	09 40 45.5	-0.2
CD2				SS	SKiKP	09 44 21.1	-2.6
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,310nm,5.3s						
CD2				LR	LR		
	comp=Z,1μm,18.4s						
CD2				LR	LR		
	comp=Z,1μm,17.6s						
CD2				LR	LR		
	comp=Z,1μm,20.4s						
SRU	San Rafael Swe	53.32	71	eP	P	09 33 08.3	0.0
SRU				pmax	pmax		
	comp=Z,140nm,0.8s						
SRU	San Rafael Swe	53.32	71	eP	P	09 33 08.3	0.0
	comp=Z,136nm,0.8s						
K22A	Casper	53.34	65	P	P	09 33 07.6	-0.8
	baz=310,SNR=21						
K22A	Casper	53.34	65	eP	P	09 33 08.1	-0.4
	comp=Z,48nm,1.0s						
PKCU	Pink Cliffs	53.35	74	eP	P	09 33 09.8	+1.0
	comp=Z,91nm,1.2s						
PFO	Pinyon Flats O	53.39	80	P	P	09 33 08.2	-0.7
	comp=Z,20nm,1.1s,baz=319,slow=6.9,SNR=16						
PFO				PcP	PcP	09 34 15.8	-0.2
	comp=Z,18nm,0.8s,baz=317,slow=2.4,SNR=6.8						
PFO	Pinyon Flats O	53.39	80	P	P	09 33 08.2	-0.7
	baz=313,SNR=13						
PFO	Pinyon Flats O	53.39	80	eP	P	09 33 07.9	-0.9
	comp=Z,36nm,1.1s						
PFO				PcP	PcP	09 34 15.8	-0.2
TPFO	Pinon Flats	53.40	80	P	P	09 33 08.2	-0.7
	baz=313,SNR=14						
BELC	Belle Mtn. Jos	53.41	80	P	P	09 33 08.3	-0.7
	baz=313,SNR=28						
ZSN	Zaisan	53.44	302	iP	P	09 33 08.2	-0.7
	comp=Z,71nm,0.5s						
ZSN				LRM	MLR	09 58 50.2	
	comp=Z,115nm,14.1s						
109C	Camp Elliot, M	53.49	81	P	P	09 33 09.2	-0.2
	baz=313,SNR=11						
RWWY	Rawlins	53.57	67	eP	P	09 33 09.6	-0.7
	comp=Z,52nm,0.9s						
NEE2	Needles Airpor	53.74	78	P	P	09 33 10.9	-0.3
	baz=312,SNR=16						
MDND	Maddock	53.78	57	P	P	09 33 11.6	+0.2
	baz=310,SNR=23						
MDND	Maddock	53.78	57	eP	P	09 33 11.8	+0.4
	comp=Z,609nm,1.2s						
RSSD	Black Hills	53.79	63	P	P	09 33 11.2	-0.5
	baz=310						
RSSD	Black Hills	53.79	63	eP	P	09 33 11.2	-0.5
RSSD				pmax	pmax		
	comp=Z,180nm,1.7s						
RSSD	Black Hills	53.79	63	eP	P	09 33 11.2	-0.5
	comp=Z,182nm,1.7s						
IRM	Iron Mountain	53.83	79	P	P	09 33 11.3	-0.6
	baz=313,SNR=69						
BAR	Barrett	53.90	81	eP	P	09 33 12.2	-0.3
	comp=Z,50nm,1.0s						
MONP2	Monument Peak	53.91	81	P	P	09 33 12.3	-0.5
	baz=313,SNR=16						
SEM	Semipalatinsk	53.91	308	iP	P	09 33 09.9	-2.6
	comp=Z,257nm,1.1s						
W13A	Hualapai Mount	53.96	77	eP	P	09 33 12.9	-0.2
	comp=Z,67nm,0.9s						
BC3	Big Chuckawall	53.98	80	P	P	09 33 12.4	-0.7
	baz=313,SNR=17						
O20A	White River Ci	53.98	69	P	P	09 33 12.8	-0.4
	baz=311,SNR=88						
O20A	White River Ci	53.98	69	eP	P	09 33 12.5	-0.7
	comp=Z,114nm,0.8s						
U15A	North Rim	54.04	75	eP	P	09 33 13.8	+0.1
	comp=Z,167nm,0.9s						
ULM	Lac du Bonnet	54.13	52	P	P	09 33 13.3	-0.6
	comp=Z,29nm,0.5s,baz=309,slow=7.3,SNR=46						
ULM				LR	LR	09 56 54.2	
	comp=Z,1μm,19.8s,baz=308,slow=37						
ULM	Lac du Bonnet	54.13	52	eP	P	09 33 13.6	-0.3
ULM				pmax	pmax		
	comp=Z,180nm,1.4s						
ULM	Lac du Bonnet	54.13	52	eP	P	09 33 13.6	-0.3
	comp=Z,181nm,1.4s						
SUMG	Summit	54.19	11	‖iP	P	09 33 14.9	+0.4
SUMG	Summit	54.19	11	‖iP	P	09 33 14.9	+0.4
SUMG	Summit	54.19	11	eP	P	09 33 14.6	+0.1
	comp=Z,260nm,1.2s						
WMQ	Urumqi	54.24	297	P	P	09 33 16.1	+1.3
WMQ				pP	pP	09 33 19.1	-1.8
WMQ				sP	sP	09 33 27.1	+3.8
WMQ				PcP	PcP	09 34 19.3	+0.3
WMQ				PP	PP	09 35 19.0	+2.7
WMQ				PcS	PcS	09 38 12.4	-6.0
WMQ				S	S	09 40 52.5	+1.4
WMQ				sS	sS	09 41 01.2	+0.1
WMQ				ScS	ScS	09 43 06.1	+3.2
WMQ				SS	SS	09 44 31.2	-1.2
WMQ				pmax	pmax		
	comp=Z,84nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,530nm,5.5s						
WMQ				LR	LR		
	comp=Z,2μm,17.1s						
WMQ				LR	LR		
	comp=Z,1μm,20.1s						
WMQ				LR	LR		
	comp=Z,860nm,23.3s						
SWSC	Sam W. Stewart	54.25	80	P	P	09 33 14.3	-0.7
	baz=313,SNR=8.8						
IKP	In-Ko-Pah, Jac	54.26	81	P	P	09 33 14.7	-0.5
	baz=314,SNR=7.6						
A31A	Linda, St. Vin	54.32	54	P	P	09 33 14.4	-0.8
	baz=310						
PDMCI	Parker Dam,Lak	54.34	78	P	P	09 33 15.4	-0.2
	baz=313,SNR=43						
B31A	Greenbush Farm	54.42	55	P	P	09 33 15.8	-0.2
	baz=310,SNR=8.0						
Y12C	Blythe	54.48	79	P	P	09 33 16.4	-0.2
	baz=313,SNR=39						
Y12C	Blythe	54.48	79	eP	P	09 33 16.2	-0.5
	comp=Z,66nm,0.9s						
KURK	Kurchatov	54.51	309	diP	P	09 33 16.1	-0.5
KURK				pmax	pmax		
	comp=Z,610nm,1.0s						
KURK	Kurchatov	54.51	309	eP	P	09 33 16.3	-0.3
	comp=Z,162nm,1.0s						
KURK				PcP	PcP	09 34 20.1	+0.3
KURK				P'P'		10 03 20.0	
KURK	Kurchatov	54.51	309	P	P	09 33 15.9	-0.6
	SNR=88						
KURK	Kurchatov	54.51	309	P	P	09 33 15.9	-0.6
	SNR=88						
PV09	Paradox Valley	54.54	71	eP	P	09 33 17.0	-0.4
KURBB	Kurchatov Arra	54.61	309	P	P	09 33 15.7	-1.7
	comp=Z,103nm,1.0s,baz=52,slow=7.0,SNR=426						
KURBB				PcP	PcP	09 34 20.1	-0.1
	comp=Z,30nm,0.9s,baz=50,slow=3.8,SNR=8.4						
KURBB				PKPPKP	P'P'df	10 03 20.0	-15
	comp=Z,1.3nm,1.0s,baz=268,slow=3.5,SNR=5.6						
GYA	Guiyang	54.61	269	eP	P	09 33 20.0	+2.2
GYA				PP	PP	09 35 23.0	+2.9
GYA				S	S	09 40 57.8	+1.2
GYA				SS	SS	09 44 40.2	+1.1
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=Z,800nm,19.5s						
GYA				LR	LR		
	comp=Z,670nm,20.9s						
GYA				LR	LR		
	comp=Z,730nm,19.2s						
PV10	Paradox Valley	54.68	71	eP	P	09 33 18.5	+0.2
A32A	Rocking H Ranc	54.68	54	P	P	09 33 17.5	-0.5
	baz=310,SNR=23						
PV04	Paradox Valley	54.74	71	eP	P	09 33 18.6	-0.2
GLA	Glamis	54.77	80	P	P	09 33 18.8	-0.1
	baz=313,SNR=21						
GLA	Glamis	54.77	80	eP	P	09 33 18.8	-0.1
GLA				pmax	pmax		
	comp=Z,64nm,0.8s						
GLA	Glamis	54.77	80	eP	P	09 33 18.8	-0.1
	comp=Z,64nm,0.8s						
C31A	Landman Farms,	54.78	56	P	P	09 33 18.1	-0.6
	baz=310,SNR=13						
N23A	Red Feather La	54.81	67	P	P	09 33 19.4	+0.1
	baz=311,SNR=46						
N23A	Red Feather La	54.81	67	eP	P	09 33 19.5	+0.2
	comp=Z,275nm,1.6s						
PHWY	Pilot Hill	54.82	66	eP	P	09 33 19.2	-0.1
	comp=Z,147nm,1.6s						
PV05	Paradox Valley	54.84	71	eP	P	09 33 19.3	-0.2
B32A	Ashes, Strandq	55.00	54	P	P	09 33 19.7	-0.5
	baz=311,SNR=24						
PV01	Paradox Valley	55.11	71	eP	P	09 33 21.2	-0.3
WUAZ	Wupatki	55.20	75	P	P	09 33 22.1	+0.1
	baz=313,SNR=105						
MK31	Makanchi Array	55.21	303	eP	P	09 33 21.2	-0.6
MK31	Makanchi Array	55.21	303	eP	P	09 33 21.2	-0.6
MKAR	Makanchi Array	55.21	303	P	P	09 33 21.0	-0.8
	comp=Z,24nm,0.8s,baz=59,slow=7.5,SNR=91						
MKAR				PcP	PcP	09 34 23.1	+0.5
	comp=Z,6.6nm,0.7s,baz=59,slow=4.8,SNR=2.5						
MKAR				LR	LR	09 57 37.6	
	comp=Z,484nm,21.3s,baz=44,slow=37						
MKAR				PKPPKP	P'P'df	10 03 28.4	-5.4
	comp=Z,0.7nm,0.8s,baz=304,slow=8.6,SNR=3.7						
MKAR	Makanchi Array	55.21	303	eP	P	09 33 21.2	-0.6
	comp=Z,139nm,0.8s						
MKAR				PcP	PcP	09 34 23.1	+0.5
MKAR				P'P'		10 03 28.4	
MK01	Makanchi Array	55.22	303	eP	P	09 33 21.0	-0.9
A33A	Warroad	55.22	53	P	P	09 33 21.5	-0.3
	baz=311,SNR=25						
D31A	Mcclaflin, Tow	55.27	56	P	P	09 33 21.5	-0.7
	baz=311						
Y14A	Wickenburg	55.28	78	eP	P	09 33 22.2	-0.3
	comp=Z,228nm,1.1s						
ILULI	Ilulissat	55.30	17	iP	P	09 33 21.6	-0.4
	comp=Z,91nm,1.0s						
ILULI	Ilulissat	55.30	17	iP	P	09 33 21.6	-0.4
ILULI				pmax	pmax		
	comp=Z,91nm,1.0s						
SMCO	Snowmass	55.35	69	eP	P	09 33 23.1	-0.3
	comp=Z,269nm,1.8s						
TGY	Tagaytay City	55.36	247	LR	LR	09 54 56.5	
	comp=Z,226nm,18.8s,baz=132,slow=34						
MAKZ	Makanchi	55.36	303	eP	P	09 33 22.1	-0.8
MAKZ				pmax	pmax		
	comp=Z,47nm,1.0s						
MAKZ	Makanchi	55.36	303	eP	P	09 33 22.1	-0.8
	comp=Z,47nm,0.9s						
AGMN	Agassiz Nation	55.41	54	P	P	09 33 22.6	-0.6
	baz=311,SNR=43						
E31A	Nome	55.51	57	P	P	09 33 23.3	-0.6
	baz=311,SNR=8.7						
B33A	Robert and Kas	55.56	54	P	P	09 33 23.8	-0.5
	baz=311,SNR=34						
113A	Mohawk Valley,	55.62	79	eP	P	09 33 24.2	-0.6
	comp=Z,39nm,1.1s						
ISCO	Idaho Springs	55.72	68	P	P	09 33 26.2	+0.3
	baz=312,SNR=145						
ISCO	Idaho Springs	55.72	68	eP	P	09 33 26.3	+0.3
ISCO				pmax	pmax		
	comp=Z,100nm,0.8s						
ISCO	Idaho Springs	55.72	68	eP	P	09 33 26.3	+0.3
	comp=Z,100nm,0.8s						
MVCO	Mesa Verde	55.77	72	P	P	09 33 26.0	-0.2
	baz=312,SNR=86						
MVCO	Mesa Verde	55.77	72	eP	P	09 33 26.0	-0.2
	comp=Z,116nm,1.0s						
F31A	Hecla	55.78	58	P	P	09 33 25.0	-0.8
	baz=311,SNR=5.3						
C33A	Trail	55.81	55	P	P	09 33 25.6	-0.4
	baz=311						
HAMF	Hammerfest	55.84	348	e	P	09 33 26.2	+0.3
HAMF				e		09 41 08.9	
B34A	Aery, Baudette	55.89	53	P	P	09 33 26.3	-0.3
	baz=312,SNR=25						
X16A	Lo Mia Camp, P	55.90	76	eP	P	09 33 27.4	+0.3
	comp=Z,118nm,1.0s						
E32A	Braaten, Kindr	55.91	56	P	P	09 33 26.0	-0.8
	baz=311						
D33A	AnnSam, Waubun	56.18	55	P	P	09 33 28.2	-0.5
	baz=312,SNR=8.2						
KEV	Kevo	56.19	346	eP	P	09 33 28.3	-0.1
G31A	Conde	56.22	58	P	P	09 33 28.2	-0.9
	baz=312,SNR=5.4						
C34A	RKJ Ranch, Bem	56.31	54	P	P	09 33 29.0	-0.6
	baz=312,SNR=9.9						
SUSD	Miller	56.34	59	P	P	09 33 29.2	-0.7
	baz=312						
F32A	Veblen	56.36	57	P	P	09 33 28.9	-1.1
	baz=312						
S22A	4UR Ranch, Cre	56.39	70	P	P	09 33 31.2	+0.5
	baz=313,SNR=251						
S22A	4UR Ranch, Cre	56.39	70	eP	P	09 33 31.2	+0.5
	comp=Z,167nm,0.9s						
B35A	Bob, Littlefor	56.43	53	P	P	09 33 30.0	-0.5
	baz=312,SNR=28						
W18A	Petrified Fore	56.45	74	P	P	09 33 31.0	-0.1
	baz=313,SNR=26						
W18A	Petrified Fore	56.45	74	eP	P	09 33 31.6	+0.6
	comp=Z,145nm,1.0s						
E33A	Westby DABS, E	56.52	56	P	P	09 33 30.5	-0.7
	baz=312,SNR=13						
LVZ	Lovozero	56.54	342	ciP	P	09 33 31.0	0.0
LVZ				pmax	pmax		
	comp=Z,173nm,1.2s						
LVZ	Lovozero	56.54	342	eP	P	09 33 30.7	-0.3
	comp=Z,134nm,0.9s						
D34A	Park Rapids	56.55	55	P	P	09 33 30.9	-0.5
	baz=312,SNR=27						
Q24A	Divide	56.55	68	P	P	09 33 32.1	+0.3
	baz=312,SNR=34						
Q24A	Divide	56.55	68	eP	P	09 33 32.2	+0.3
	comp=Z,60nm,0.9s						
H31A	Wolsey	56.57	59	P	P	09 33 30.

comp=Z,254nm,1.6s
X18A Snowflake 56.73 75 *e*P **P 09 33 33.4 +0.4**
comp=Z,112nm,0.9s
C35A Jirik Farms, M 56.75 54 P **P 09 33 32.3 -0.5**
baz=312,SNR=32
214A Organ Pipe Nat 56.76 79 P **P 09 33 32.9 -0.2**
baz=314,SNR=71
214A Organ Pipe Nat 56.76 79 *e*P **P 09 33 32.8 -0.3**
comp=Z,358nm,1.1s
BVA0 Borovoye Array 56.78 315 P **P 09 33 32.9 0.0**
BVA0 pmax pmax
comp=Z,161nm,1.2s
BVAR Borovoye Array 56.78 315 P **P 09 33 32.9 +0.1**
comp=Z,77nm,0.8s,baz=50,slow=7.9,SNR=292
BVAR PcP **PcP 09 34 28.6 +0.1**
comp=Z,14nm,0.6s,baz=62,slow=3.2,SNR=6.1
BRVK Borovoye 56.80 315*d i*P **P 09 33 32.9 -0.1**
BRVK pmax pmax
comp=Z,610nm,1.7s
BRVK Borovoye 56.80 315 P **P 09 33 33.3 +0.3**
SNR=74
BRVK Borovoye 56.80 315 P **P 09 33 33.3 +0.3**
SNR=74
F33A 5 Mile Ranch, 56.81 57 P **P 09 33 32.5 -0.7**
baz=312,SNR=19
I31A Royce, Wessing 56.84 59 P **P 09 33 33.0 -0.5**
baz=312
E34A Wadena 56.94 55 P **P 09 33 33.6 -0.6**
baz=312
OGNE Ogallala 56.99 64 P **P 09 33 35.0 +0.3**
baz=312,SNR=94
OGNE Ogallala 56.99 64 *e*P **P 09 33 35.2 +0.5**
comp=Z,1μm,1.3s
APA Apatity 57.06 342⇑ *i*P **P 09 33 33.7 -0.9**
APA pmax pmax
comp=Z,30nm,0.9s
APA MLR MLR
comp=Z,700nm,15.0s
H32A Carlson Farm, 57.11 58 P **P 09 33 34.6 -0.8**
baz=312,SNR=18
D35A Remer 57.13 54 P **P 09 33 35.0 -0.4**
baz=312,SNR=42
SDCO Great Sand Dun 57.17 69 P **P 09 33 36.4 +0.2**
baz=313,SNR=221
SDCO Great Sand Dun 57.17 69 *e*P **P 09 33 36.5 +0.2**
comp=Z,209nm,1.2s
G33A Ortonville 57.17 57 P **P 09 33 35.0 -0.8**
baz=312,SNR=28
J31A Geddes 57.23 60 P **P 09 33 35.8 -0.4**
baz=312,SNR=28
C36A Pine Crest Far 57.28 53 P **P 09 33 36.0 -0.5**
baz=313,SNR=19
E35A Pequot Lakes 57.30 55 P **P 09 33 36.3 -0.4**
baz=313,SNR=28
SFJD Kangerlussuaq 57.30 18 *i*P **P 09 33 35.8 -0.5**
SFJD Kangerlussuaq 57.30 18 *e*P **P 09 33 36.1 -0.2**
SFJD pmax pmax
comp=Z,45nm,0.8s
SFJD Kangerlussuaq 57.30 18 *e*P **P 09 33 36.1 -0.2**
comp=Z,45nm,0.8s
H33A Prehn Over Nor 57.36 58 P **P 09 33 36.2 -1.0**
baz=312,SNR=36
TRO Tromso 57.38 349 *e*P **P 09 33 40.6 +3.8**
TRO IAmb IAmb 09 33 40.8
comp=Z,78nm,1.0s
TRO *e*S **S 09 41 34.0 +2.0**
F34A Alexandria 57.38 56 P **P 09 33 36.6 -0.6**
baz=313,SNR=17
SOKR Solikamsk 57.38 327*d i*P **P 09 33 35.1 -1.9**
SOKR S S 09 41 41.4 +9.1
SOKR pmax pmax
comp=Z,174nm,1.4s
SOKR MLR MLR
comp=Z,751nm,23.0s
KTK1 Kautokeino 57.41 347 *e*P **P 09 33 37.2 +0.1**
KTK1 IAmb IAmb 09 33 38.0
comp=Z,264nm,1.4s
I32A Karley and Nic 57.42 59 P **P 09 33 36.5 -1.1**
baz=313,SNR=5.1
D36A Goodland 57.51 54 P **P 09 33 37.5 -0.7**
baz=313,SNR=24
G34A Benson 57.56 57 P **P 09 33 37.9 -0.6**
baz=313,SNR=19
C37A Embarrass 57.62 53 P **P 09 33 38.5 -0.5**
baz=313,SNR=26
J32A Parkston 57.65 60 P **P 09 33 38.3 -0.9**
baz=313,SNR=36
K31A O'Neill 57.67 61 P **P 09 33 39.1 -0.2**
baz=313,SNR=25
SCO Scoresbysund 57.69 6 *i*P **P 09 33 39.7 +0.7**
comp=Z,403nm,1.6s
SCO Scoresbysund 57.69 6 *i*P **P 09 33 39.7 +0.7**
SCO pmax pmax
comp=Z,400nm,1.6s
F35A Swanville 57.69 56 P **P 09 33 38.9 -0.5**
baz=313,SNR=38
TUC Tucson 57.75 77 P **P 09 33 40.1 0.0**
baz=314
TUC Tucson 57.75 77 *e*P **P 09 33 40.2 0.0**
TUC pmax pmax
comp=Z,120nm,1.1s
I33A Coleman 57.76 58 P **P 09 33 39.0 -1.0**
baz=313
EYMN Ely 57.81 52 P **P 09 33 39.8 -0.5**
baz=313,SNR=32
EYMN Ely 57.81 52 *e*P **P 09 33 40.1 -0.2**
comp=Z,293nm,1.5s
H34A Spellman Lake, 57.87 57 P **P 09 33 39.9 -0.8**
baz=313,SNR=24
D37A Cotton 57.89 53 P **P 09 33 40.4 -0.4**
baz=313,SNR=39
E36A McGregor 57.91 54 P **P 09 33 40.7 -0.2**
baz=313,SNR=45
HEF Hetta 57.91 347 *e*P **P 09 33 40.5 -0.1**
KSCO Kaye Shedlock' 57.96 66 P **P 09 33 42.1 +0.5**
baz=313,SNR=44
KSCO Kaye Shedlock' 57.96 66 *e*P **P 09 33 42.3 +0.6**
comp=Z,936nm,1.7s
KMI Kunming 58.01 271 P **P 09 33 43.4 +1.2**
KMI pP pP 09 33 45.7 -2.7
KMI sP sP 09 33 46.8 -3.9
KMI PP **PP 09 35 54.5 +3.9**
KMI S **S 09 41 43.0 +1.0**
KMI sS pS 09 41 45.9 -3.5
KMI SS **SS 09 45 34.9 +2.0**
KMI pmax pmax
comp=Z,42nm,1.0s
KMI pmax pmax
comp=Z,510nm,4.9s
KMI LR LR
comp=Z,780nm,20.6s
KMI LR LR
comp=Z,860nm,15.8s
KMI LR LR
comp=Z,710nm,18.3s
SVE Sverdlovsk 58.06 323*c i*P **P 09 33 42.4 +0.6**
SVE pmax pmax
comp=Z,112nm,1.5s
ECSD EROS Data Cent 58.07 59 P **P 09 33 41.3 -0.9**
baz=313,SNR=58
ECSD EROS Data Cent 58.07 59 *e*P **P 09 33 41.2 -0.9**
comp=Z,94nm,1.0s
K32A Verdigre 58.07 60 P **P 09 33 41.4 -0.8**
baz=313,SNR=13
C38A Sawbill Land. 58.08 52 P **P 09 33 41.6 -0.5**
baz=313,SNR=20
QIZ Qiongzhong 58.13 260 P **P 09 33 43.9 +1.1**
QIZ S **S 09 41 47.1 +4.0**
QIZ pmax pmax
comp=Z,17nm,1.0s
QIZ pmax pmax
comp=Z,210nm,3.3s
QIZ LR LR
comp=Z,490nm,19.6s
QIZ LR LR
comp=Z,740nm,25.2s
J33A Davis 58.16 59 P **P 09 33 42.0 -0.8**
baz=313,SNR=30
G35A Watkins 58.17 56 P **P 09 33 42.4 -0.4**
baz=313,SNR=13
T25A Trinidad 58.22 69 P **P 09 33 43.9 +0.4**
baz=314,SNR=142
T25A Trinidad 58.22 69 *e*P **P 09 33 43.9 +0.4**
comp=Z,308nm,1.1s
F36A Milaca 58.22 55 P **P 09 33 42.5 -0.7**
baz=313,SNR=20
I34A Hadley 58.26 58 P **P 09 33 42.8 -0.6**
baz=313,SNR=9.3
E37A Wrenshall 58.31 54 P **P 09 33 43.3 -0.4**
baz=313,SNR=8.3
H35A Sunnyside Ranc 58.35 57 P **P 09 33 43.7 -0.3**
baz=313,SNR=39
LAZ Ladron 58.49 73 *e*P **P 09 33 46.0 +0.6**
L32A Elgin 58.50 61 P **P 09 33 44.8 -0.3**
baz=313,SNR=13
ANMO Albuquerque 58.52 72 P **P 09 33 45.5 -0.1**
baz=314
ANMO Albuquerque 58.52 72 *e*P **P 09 33 45.8 +0.1**
ANMO pmax pmax
comp=Z,97nm,1.0s
ANMO Albuquerque 58.52 72 *e*P **P 09 33 45.8 +0.1**
comp=Z,97nm,0.9s
G36A St. Michael 58.54 56 P **P 09 33 45.3 -0.1**
baz=314,SNR=15
C39A Grand Marais 58.57 51 P **P 09 33 45.2 -0.4**
baz=314,SNR=10
K33A Hardington 58.63 60 P **P 09 33 45.8 -0.3**
baz=313,SNR=17
E38A The Farm, Brul 58.71 53 P **P 09 33 46.0 -0.5**
baz=314,SNR=50
J34A George 58.72 59 P **P 09 33 46.1 -0.6**
baz=314,SNR=9.8
LENM Lemitar 58.76 73 *e*P **P 09 33 48.6 +1.4**
F37A Hinrichs Farm, 58.77 55 P **P 09 33 46.9 -0.1**
baz=314,SNR=36
L33A Hoskins 58.78 60 P **P 09 33 46.4 -0.8**
baz=314,SNR=15
BGNE Belgrade 58.83 62 P **P 09 33 47.1 -0.4**
baz=314,SNR=38
BGNE Belgrade 58.83 62 *e*P **P 09 33 47.4 -0.1**
comp=Z,365nm,0.7s
I35A Creekview Farm 58.84 58 P **P 09 33 46.9 -0.7**
baz=314,SNR=7.8
Y22D IRIS PASSCAL I 58.85 73 P **P 09 33 48.7 +0.9**
baz=314,SNR=31
Y22D IRIS PASSCAL I 58.85 73 *e*P **P 09 33 48.8 +0.9**
comp=Z,276nm,0.8s
H36A Jessenland, He 58.90 56 P **P 09 33 48.1 +0.2**
baz=314,SNR=51
BNM Barren Site 58.97 73 *e*P **P 09 33 49.3 +0.5**
F38A Pierce - Schro 58.99 54 P **P 09 33 48.5 0.0**
baz=314,SNR=90
PDGK Podgornoye 59.01 302 P **P 09 33 48.5 -0.3**
PDGK pmax pmax
comp=Z,78nm,1.1s
SPMN Marine on St. 59.03 55 P **P 09 33 48.5 -0.3**
baz=314,SNR=42
SPMN Marine on St. 59.03 55 *e*P **P 09 33 48.8 0.0**
comp=Z,235nm,1.2s
TMCR Tamitsa 59.05 338 *e*P **P 09 33 47.9 -0.7**
TMCR pmax pmax
comp=Z,153nm,0.8s
K34A Le Mars 59.06 59 P **P 09 33 48.5 -0.5**
baz=314,SNR=65
J35A Milford 59.06 58 P **P 09 33 48.5 -0.6**
baz=314,SNR=6.0
ARU Arti 59.12 324 P **P 09 33 49.3 +0.1**
comp=Z,77nm,0.8s,baz=43,slow=3.9,SNR=103
ARU Arti 59.12 324*d i*P **P 09 33 49.2 0.0**
ARU 09 34 36.3
ARU 09 36 01.4
ARU PPP PPP 09 37 22.8
ARU S **S 09 41 57.4 +2.3**
ARU 09 43 38.9
ARU SS **SS 09 45 50.4 +1.9**
ARU pmax pmax
comp=Z,143nm,1.0s
ARU Arti 59.12 324 *e*P **P 09 33 49.4 +0.1**
comp=Z,108nm,0.8s
SHLS Shalkode 59.14 302 *i*P **P 09 33 46.0 -3.8**
comp=Z,702nm,1.3s
M33A Taylor Creek F 59.23 61 P **P 09 33 49.7 -0.6**
baz=314,SNR=30
I36A Fitzsimmons Fa 59.24 57 P **P 09 33 49.9 -0.4**
baz=314,SNR=25
319A Douglas 59.32 77 *e*P **P 09 33 51.4 +0.3**
comp=Z,211nm,0.9s
KPKS Kokpek 59.34 302 *i*P **P 09 33 48.9 -2.2**
comp=Z,816nm,1.1s
KPKS *e*S **S 09 41 55.0 -3.5**
KPKS LR LR 09 59 30.3
comp=Z,533nm,16.5s
E39A Mellen 59.36 53 P **P 09 33 50.4 -0.7**
baz=314,SNR=19
UZB Uzynbulak 59.38 302 *i*P **P 09 33 49.1 -2.3**
comp=Z,254nm,0.6s
LOF Lofoten 59.40 351 *e*P **P 09 33 50.8 -0.1**
LOF IAmb IAmb 09 33 51.8
comp=Z,98nm,1.0s
L34A Svendsen Farm, 59.41 60 P **P 09 33 50.9 -0.6**
baz=314,SNR=48
121A Cookes Peak, D 59.41 75 P **P 09 33 52.1 +0.3**
baz=315,SNR=71
121A Cookes Peak, D 59.41 75 *e*P **P 09 33 52.1 +0.3**
comp=Z,86nm,0.9s
H37A Dierke Farm, C 59.42 56 P **P 09 33 51.7 +0.2**
baz=314,SNR=26
STEI Steigen 59.42 350 *e*P **P 09 33 51.5 +0.5**
K35A Storm Lake 59.49 59 P **P 09 33 51.3 -0.7**
baz=314,SNR=35
F39A Loretta 59.50 54 P **P 09 33 52.0 0.0**
baz=314,SNR=26
J36A Seneca 1, Swea 59.55 58 P **P 09 33 51.9 -0.5**
baz=314,SNR=40
G38A Ridgeland 59.55 55 P **P 09 33 51.8 -0.6**
baz=314,SNR=52
I37A Lemond, Waseca 59.56 57 P **P 09 33 52.5 0.0**
baz=314,SNR=51
M34A Aspy Farms, Fr 59.62 61 P **P 09 33 52.5 -0.4**
baz=314,SNR=15
E40A Wakefield 59.64 53 P **P 09 33 53.1 +0.1**
baz=315,SNR=35
ZHN Zhinishke 59.67 302 *i*P **P 09 33 50.9 -2.5**
comp=Z,207nm,0.6s
ZHN LRM MLR 10 01 53.0
comp=Z,261nm,14.8s
H38A Maiden Rock 59.68 55 P **P 09 33 53.4 +0.2**
baz=314,SNR=43
CBKS Cedar Bluff 59.73 65 P **P 09 33 53.6 -0.2**
baz=314,SNR=52
CBKS Cedar Bluff 59.73 65 *e*P **P 09 33 53.8 0.0**
CBKS pmax pmax
comp=Z,230nm,0.9s
CBKS Cedar Bluff 59.73 65 *e*P **P 09 33 53.8 0.0**
comp=Z,229nm,0.9s
L35A Bielow Farm, R 59.75 59 P **P 09 33 52.9 -0.9**
baz=314,SNR=36
SATY Saty 59.77 302 *i*P **P 09 33 51.8 -2.2**
comp=Z,598nm,1.0s
G39A Holcombe 59.82 54 P **P 09 33 53.6 -0.6**
baz=314,SNR=31
D41A Chassel 59.86 51 P **P 09 33 54.4 -0.1**
baz=315,SNR=9.5
F40A Park Falls 59.90 53 P **P 09 33 54.3 -0.5**
baz=315,SNR=15
HSIG 59.97 80 *e*P **P 09 33 55.6 +0.1**
comp=Z,108nm,1.0s
K36A Gilmore City 59.97 58 P **P 09 33 54.8 -0.5**
baz=314,SNR=26
J37A Redenius Farm, 59.97 57 P **P 09 33 54.6 -0.7**
baz=314,SNR=20
O33A Hebron 60.06 62 P **P 09 33 55.0 -1.0**
baz=314,SNR=52
SLVN Son La 60.07 267 *e*P **P 09 33 57.4 +1.1**
comp=Z,68nm,1.1s
E41A Kenton 60.09 52 P **P 09 33 55.6 -0.4**
baz=315,SNR=17
I38A Scanlan Farm, 60.10 56 P **P 09 33 55.7 -0.4**
baz=315,SNR=21
M35A Neola 60.12 60 P **P 09 33 55.9 -0.4**
baz=314,SNR=52
N34A Lincoln 60.12 61 P **P 09 33 55.4 -1.0**
baz=314,SNR=37
H39A Augusta 60.18 55 P **P 09 33 56.3 -0.5**
baz=315,SNR=17
L36A Harm Buss Farm 60.23 59 P **P 09 33 56.4 -0.7**
baz=314,SNR=9.0
COWI Conover 60.26 52 *e*P **P 09 33 56.8 -0.4**
comp=Z,78nm,1.0s
KUU Kurty 60.26 304 *i*P **P 09 33 55.1 -2.2**
comp=Z,328nm,1.0s
KUU *e*S **S 09 42 06.6 -3.6**
KUU LRM MLR 10 02 37.5
comp=Z,159nm,13.5s
K37A Belmond 60.31 58 P **P 09 33 56.9 -0.7**
baz=315,SNR=23
G40A Rib Lake 60.32 54 P **P 09 33 57.2 -0.5**
baz=315,SNR=13
SRIG Santa Rosalia 60.38 83 *e*P **P 09 33 57.1 -1.2**
comp=Z,69nm,0.9s
MDOK Medeo 60.40 303 *i*P **P 09 33 55.7 -2.8**
comp=Z,331nm,1.2s
MDOK *e*S **S 09 42 07.7 -4.6**
MDOK LRM MLR 10 02 34.0
comp=Z,518nm,15.1s
AAA Alma-Ata 60.44 303 *i*P **P 09 33 59.1 +0.5**
AAA *e*S **S 09 42 11.0 -1.7**
AAA pmax pmax
comp=Z,300nm,1.4s
AAA smax smax
comp=E,600nm,8.9s
AAA MLR MLR
comp=Z,1μm,15.0s
AAA Alma-Ata 60.44 303 *e*P **P 09 33 56.3 -2.3**
comp=Z,960nm,1.0s
AAA *e*S **S 09 42 08.8 -3.9**
AAA LRM MLR 10 02 37.3
comp=Z,364nm,14.8s
O34A Beatrice 60.47 62 P **P 09 33 57.7 -1.1**
baz=314,SNR=50
J38A Wedel Dairy, R 60.53 57 P **P 09 33 58.7 -0.4**
baz=315,SNR=20
F41A Three Lakes 60.53 53 P **P 09 33 58.5 -0.6**
baz=315,SNR=30
N35A Tabor 60.57 60 P **P 09 33 59.3 -0.1**
baz=315,SNR=47
M36A Felix, Anita 60.61 59 P **P 09 33 59.1 -0.6**
baz=315,SNR=9.1
E42A Champion 60.62 51 P **P 09 33 59.5 -0.3**
baz=315,SNR=10
I39A Houston 60.64 56 P **P 09 33 59.3 -0.6**
baz=315,SNR=28
H40A Chili 60.68 54 P **P 09 33 59.8 -0.3**
baz=315,SNR=16
L37A Phoenix Point, 60.70 58 P **P 09 33 59.6 -0.7**
baz=315,SNR=31
O35A Humboldt 60.84 61 P **P 09 34 00.2 -1.1**
baz=315,SNR=18
P34A Walnut Farm, R 60.84 62 P **P 09 34 00.2 -1.1**
baz=315,SNR=26
K38A Parkersburg 60.85 57 P **P 09 34 00.6 -0.7**
baz=315,SNR=7.7
G41A Antigo 60.87 53 P **P 09 34 00.9 -0.5**
baz=315,SNR=7.4
J39A Decorah 60.91 56 P **P 09 34 00.7 -1.0**
baz=315,SNR=36
N36A Muff Farm, Cla 60.97 60 P **P 09 34 01.6 -0.6**
baz=315,SNR=18
F42A Maple Grove Fa 60.99 52 P **P 09 34 02.2 0.0**
baz=316,SNR=7.7
KONS Konsvik 61.03 351 *e*P **P 09 34 02.3 +0.2**
KONS IAmb IAmb 09 34 02.9
comp=Z,72nm,1.0s
M37A Trindle Farm, 61.04 59 P **P 09 34 02.3 -0.4**
baz=315,SNR=19
H41A Junction City 61.05 54 P **P 09 34 02.2 -0.5**
baz=315,SNR=13
I40A Norwalk 61.08 55 P **P 09 34 02.4 -0.5**
baz=315,SNR=13
L38A Oak Wood Farm, 61.10 58 P **P 09 34 02.4 -0.6**
baz=315,SNR=26
E43A Lone Tree Farm 61.11 51 P **P 09 34 02.9 -0.1**
baz=316,SNR=8.2
SCIA State Center 61.13 58 *e*P **P 09 34 02.9 -0.4**
comp=Z,224nm,1.0s
STOK Stokkvaagen 61.20 351 *e*P **P 09 34 03.7 +0.4**
STOK IAmb IAmb 09 34 04.1
comp=N,38nm,0.8s
MOR8 Moi Rana 61.20 350 *e*P **P 09 34 02.3 -1.0**
MOR8 IAmb IAmb 09 34 03.0
comp=Z,77nm,0.9s
G42A Mountain 61.22 53 P **P 09 34 02.8 -1.0**
baz=316
Q34A Chapman 61.22 63 P **P 09 34 02.9 -1.0**
baz=315,SNR=9.4
K39A Oelwein 61.27 57 P **P 09 34 03.0 -1.1**
baz=315,SNR=21
KSU1 Kansas State U 61.28 63 P **P 09 34 02.9 -1.3**
baz=315,SNR=17
KSU1 Kansas State U 61.28 63 *e*P **P 09 34 03.2 -1.1**
comp=Z,100nm,0.8s
P35A Duane Minner, 61.30 62 P **P 09 34 03.2 -1.2**
baz=315,SNR=38
I41A Arkdale 61.34 54 P **P 09 34 03.7 -0.9**
baz=316,SNR=11
J40A Soldiers Grove 61.37 55 P **P 09 34 03.9 -0.9**
baz=315,SNR=11
AMTX Amarillo 61.37 69 P **P 09 34 04.8 -0.3**
baz=315
AMTX Amarillo 61.37 69 *e*P **P 09 34 05.3 +0.3**
comp=Z,194nm,1.0s
MSTX Muleshoe 61.38 71 P **P 09 34 04.8 -0.4**
baz=315,SNR=72
MSTX Muleshoe 61.38 71 *e*P **P 09 34 05.0 -0.2**
comp=Z,692nm,1.8s
F43A Flat Rock, Esc 61.41 51 P **P 09 34 04.5 -0.6**
baz=316,SNR=5.2
N37A Lee Faris, Mou 61.42 60 P **P 09 34 04.6 -0.6**
baz=315,SNR=58
MNTX Cornudas Mount 61.44 74 P **P 09 34 05.8 +0.3**
baz=316,SNR=328
MNTX Cornudas Mount 61.44 74 *e*P **P 09 34 05.2 -0.3**
E44A Grand Marais A 61.45 50 P **P 09 34 04.2 -1.1**
baz=316
O36A Bolckow 61.45 61 P **P 09 34 04.5 -0.9**
baz=315,SNR=17
R34A Isabella, Hill 61.49 64 P **P 09 34 04.7 -1.0**
baz=315,SNR=58
M38A Pleasantville 61.49 59 P **P 09 34 04.8 -0.8**
baz=315,SNR=31
KLMR Klimovskoe 61.52 336 *e*P **P 09 34 04.0 -1.6**
KLMR *e* 09 36 18.3
KLMR pmax pmax
comp=Z,299nm,1.2s
G43A Wallace 61.57 52 P **P 09 34 05.2 -1.0**
baz=316,SNR=6.6
L39A Vinton 61.62 57 P **P 09 34 05.8 -0.7**
baz=315,SNR=19
K40A Colesburg 61.66 56 P **P 09 34 05.9 -0.9**
baz=316,SNR=25
F44A Big Bay de Noc 61.67 51 P **P 09 34 06.1 -0.7**
baz=316,SNR=5.9
P36A Good Intent, A 61.68 61 P **P 09 34 05.6 -1.4**
baz=315,SNR=25
H42A Shiocton 61.69 53 P **P 09 34 06.1 -0.9**
baz=316
J41A Loganville 61.76 55 P **P 09 34 06.8 -0.7**
baz=316,SNR=34
Q35A Mercer Eighty, 61.76 62 P **P 09 34 06.0 -1.6**
baz=315,SNR=19
U32A Winter Ranch, 61.86 66 P **P 09 34 07.7 -0.6**
baz=315,SNR=50
O37A Wolven Farm, M 61.87 60 P **P 09 34 07.1 -1.1**
baz=315,SNR=31
LSA Lhasa 61.87 283 P **P 09 34 10.1 +1.1**
LSA pmax pmax
comp=Z,11nm,0.9s
FRU Bishkek 61.90 304⇓ *i*P **P 09 34 09.0 +0.5**
FRU *e* 09 42 33.0
FRU pmax pmax
comp=Z,150nm,1.6s
FRU MLR MLR
comp=E,1μm,14.0s
N38A Joes South For 61.91 59 P **P 09 34 07.5 -1.0**
baz=316,SNR=39
I42A Draeger Farm, 61.94 54 P **P 09 34 08.2 -0.5**
baz=316,SNR=7.8
JFWS Jewell Farm 61.96 56 *e*P **P 09 34 08.0 -0.9**
JFWS pmax pmax
comp=Z,76nm,0.8s
JFWS Jewell Farm 61.96 56 *e*P **P 09 34 08.0 -0.9**
comp=Z,76nm,0.8s
M39A Webster 61.99 58 P **P 09 34 08.2 -0.8**
baz=316,SNR=23
S34A Willow Spring 61.99 64 P **P 09 34 07.9 -1.2**
baz=315,SNR=11
E45A Wooded Hills, 61.99 50 P **P 09 34 08.7 -0.3**
baz=317,SNR=15
Q36A Arnold C. Orve 62.01 62 P **P 09 34 07.7 -1.5**
baz=315,SNR=24
R35A Emporia Munici 62.05 63 P **P 09 34 08.5 -1.0**
baz=315,SNR=13

L40A Anamosa 62.07 57 P P 09 34 08.5 -1.0
baz=316,SNR=20
AAK Ala-Archa 62.10 304 P P 09 34 10.3 +0.3
comp=Z,46nm,0.9s,baz=94,slow=3.7,SNR=90
AAK Ala-Archa 62.10 304 *d iP* P 09 34 10.0 0.0
AAK pmax pmax
comp=Z,143nm,1.0s
AAK Ala-Archa 62.10 304 *eP* P 09 34 09.0 -1.0
comp=Z,64nm,0.9s
AAK Ala-Archa 62.10 304 P P 09 34 10.6 +0.6
SNR=43
AAK Ala-Archa 62.10 304 P P 09 34 10.6 +0.6
SNR=43
K41A Shullsburg 62.16 56 P P 09 34 09.2 -1.0
baz=316,SNR=29
P37A Lathrop 62.17 61 P P 09 34 08.9 -1.4
baz=316,SNR=29
N39A Derby Farms, D 62.24 59 P P 09 34 09.9 -0.9
baz=316,SNR=38
O38A Galt 62.26 60 P P 09 34 10.0 -0.9
baz=316,SNR=52
F45A CMU Biological 62.32 51 P P 09 34 10.4 -0.8
baz=317
M40A Post Highland 62.39 58 P P 09 34 10.7 -1.0
baz=316,SNR=24
T34A McClaskey Farm 62.43 65 P P 09 34 11.0 -1.0
baz=316,SNR=45
L41A Preston 62.44 56 P P 09 34 11.0 -1.0
baz=316,SNR=15
R36A Gordon, Harris 62.44 62 P P 09 34 10.9 -1.2
baz=316,SNR=42
S35A Otter Creek Ra 62.44 63 P P 09 34 11.1 -1.0
baz=316,SNR=48
P38A Dawn 62.59 60 P P 09 34 11.9 -1.2
baz=316,SNR=39
Q37A Longview Farm, 62.62 61 P P 09 34 11.4 -1.9
baz=316,SNR=7.7
O39A Kirksville 62.67 59 P P 09 34 12.6 -1.0
baz=316,SNR=28
SIJI Sorong 62.67 227 LR LR 09 56 54.0
comp=Z,5μm,21.7s,baz=56,slow=32
N40A Mertquake, Sal 62.72 58 P P 09 34 13.0 -0.9
baz=316,SNR=16
R37A Teagarden Farm 62.82 62 P P 09 34 12.8 -1.9
baz=316,SNR=11
S36A Lake Cedric, C 62.82 63 P P 09 34 13.4 -1.2
baz=316,SNR=48
T35A Sooner Cattle 62.88 64 P P 09 34 13.9 -1.1
baz=316,SNR=24
M41A Milan 62.92 57 P P 09 34 14.1 -1.1
baz=316,SNR=15
Q38A Cooks Store, C 63.01 61 P P 09 34 14.2 -1.7
baz=316,SNR=18
SCHQ Schefferville 63.09 34 P P 09 34 15.9 -0.2
comp=Z,145nm,0.8s,baz=334,slow=6.9,SNR=62
SCHQ LR LR 10 03 41.5
comp=Z,1μm,19.0s,baz=324,slow=38
SCHQ Schefferville 63.09 34 *eP* P 09 34 16.1 -0.1
comp=Z,231nm,1.0s
P39B Salisbury 63.10 60 P P 09 34 15.3 -1.2
baz=316,SNR=95
O40A La Belle 63.12 59 P P 09 34 15.4 -1.1
baz=316,SNR=89
T36A Boggs Farm, Ca 63.13 64 P P 09 34 15.4 -1.3
baz=316,SNR=31
U35A Pawnee 63.15 65 P P 09 34 16.0 -0.8
baz=316,SNR=29
WMOK Wichita Mounta 63.15 67 P P 09 34 16.5 -0.5
baz=316,SNR=135
WMOK Wichita Mounta 63.15 67 *eP* P 09 34 16.8 -0.1
WMOK pmax pmax
comp=Z,120nm,0.9s
WMOK Wichita Mounta 63.15 67 *eP* P 09 34 16.8 -0.1
comp=Z,122nm,0.9s
S37A Fort Scott 63.21 62 P P 09 34 15.5 -1.8
baz=316,SNR=30
MNAS Manas 63.23 305 P P 09 34 17.4 -0.1
MNAS pmax pmax
comp=Z,35nm,0.8s
N41A Harden Midland 63.23 58 P P 09 34 16.4 -0.9
baz=316,SNR=13
L43A Garden Prairie 63.26 55 P P 09 34 16.3 -1.2
baz=317
M42A Sheffield 63.27 56 P P 09 34 16.3 -1.3
baz=317
Q39A Willow Grove F 63.30 60 P P 09 34 16.5 -1.3
baz=316,SNR=10
GLMI Grayling 63.38 51 *eP* P 09 34 18.6 +0.4
comp=Z,468nm,1.3s
R38A Fenwick Farm, 63.41 62 P P 09 34 16.5 -2.1
baz=316,SNR=10
P40A Paris 63.45 59 P P 09 34 17.7 -1.1
baz=316,SNR=100
V35A Meyer Ranch, C 63.52 65 P P 09 34 18.6 -0.7
baz=316,SNR=32
NRS Narsarsuaq 63.55 19 *i* P P 09 34 18.7 -0.4
NRS Narsarsuaq 63.55 19 *i* P P 09 34 18.7 -0.4
KSH Kashi 63.57 301 ⇓P P 09 34 23.6 +3.9
KSH PP PP 09 36 45.7 +6.5
KSH S S 09 42 56.2 +3.8
KSH pmax pmax
comp=Z,86nm,1.0s
KSH pmax pmax
comp=Z,230nm,5.9s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,670nm,12.8s
KSH LR LR
comp=Z,820nm,19.6s
N42A Yates City 63.58 57 P P 09 34 18.6 -1.0
baz=317,SNR=12
T37A Cheneyville 18 63.62 63 P P 09 34 18.6 -1.3
baz=316,SNR=47
O41A Passleys Farm, 63.65 58 P P 09 34 19.2 -0.9
baz=317,SNR=27
U36A Oologah 63.69 64 P P 09 34 19.5 -0.9
baz=316,SNR=17
KK31 Karatay Array 63.78 307 *i* P P 09 34 20.6 -0.4
KK31 pmax pmax
comp=Z,38nm,0.8s
KKAR Karatay Array 63.78 307 *eP* P 09 34 20.8 -0.2
KKAR pmax pmax
comp=Z,300nm,0.8s
KKAR Karatay Array 63.78 307 *eP* P 09 34 20.8 -0.2
comp=Z,300nm,0.8s
R39A Chumby, Stover 63.80 61 P P 09 34 19.3 -1.8
baz=316,SNR=18
S38A Stockton 63.81 62 P P 09 34 19.3 -1.9
baz=316,SNR=40
Q40A Laux Farm, Aux 63.82 60 P P 09 34 20.2 -1.1
baz=317,SNR=39
P41A Barry, Barry 63.87 59 P P 09 34 20.6 -1.0
baz=317,SNR=21
AKTO Aktyubinsk 63.91 319 P P 09 34 21.9 +0.2
comp=Z,110nm,1.0s,baz=52,slow=7.2,SNR=164
LPIG La Paz 63.91 84 P P 09 34 22.2 +0.2
comp=Z,120nm,0.9s,baz=308,slow=1.1,SNR=13
W35A Tecumseh 63.94 66 P P 09 34 21.4 -0.7
baz=316,SNR=71
FIA1 FINESS Array S 63.97 343 *eP* P 09 34 21.7 -0.1
FINES FINESS Array B 63.97 343 P P 09 34 21.9 0.0
comp=Z,67nm,0.8s,baz=38,slow=7.5,SNR=102
FINES PKPPKP **P'P'df** 10 03 15.6 -6.1
comp=Z,5.2nm,0.9s,baz=217,slow=9.3,SNR=4.7
FINES LR LR 10 03 55.4
comp=Z,527nm,21.2s,baz=30,slow=38
TUL1 Leonard 64.01 64 P P 09 34 21.8 -0.7
baz=316,SNR=31
TUL1 Leonard 64.01 64 *eP* P 09 34 22.0 -0.6
comp=Z,261nm,1.4s
MYLDM Lahad Datu 64.01 243 *eP* P 09 34 24.3 +1.6
comp=Z,78nm,1.1s
V36A Jenks 64.01 65 P P 09 34 22.0 -0.6
baz=316,SNR=46
O42A Bath 64.01 58 P P 09 34 21.6 -0.9
baz=317,SNR=10
AB31 Akbulak array 64.02 318 *i* P P 09 34 22.3 -0.1
AB31 pmax pmax
comp=Z,182nm,1.4s
ABKAR Akbulak array 64.02 318 *eP* P 09 34 22.6 +0.2
comp=Z,383nm,0.8s
U37A Salina 64.03 64 P P 09 34 21.5 -1.2
baz=316,SNR=60
T38A Diamond 64.03 63 P P 09 34 21.3 -1.4
baz=316,SNR=67
S39A Bolivar 64.09 62 P P 09 34 21.1 -2.0
baz=317,SNR=13

HDIL Hopedale 64.16 57 P P 09 34 22.7 -0.8
baz=317,SNR=27
HDIL Hopedale 64.16 57 *eP* P 09 34 23.0 -0.5
comp=Z,164nm,0.6s
TX31 Lajitas Ar. Si 64.16 75 *eP* P 09 34 23.7 -0.1
TXAR Lajitas Array 64.16 75 P P 09 34 23.6 -0.2
comp=Z,103nm,0.7s,baz=301,slow=4.2,SNR=1137
TXAR LR LR 10 01 57.7
comp=Z,550nm,18.7s,baz=0.0,slow=36
TXAR PKPPKP **P'P'df** 10 03 17.1 -0.8
comp=Z,1.1nm,1.0s,baz=180,slow=5.0,SNR=5.7
TXAR Lajitas Array 64.16 75 P P 09 34 23.6 -0.2
TXAR pmax pmax
comp=Z,101nm,0.7s
TXAR MLR MLR
comp=Z,550nm,18.7s
BRLS Borolday 64.17 307 *eP* P 09 34 22.9 -0.6
comp=Z,10nm,1.3s
BRLS *eS* S 09 42 58.8 -0.7
BRLS LR LR 10 02 48.9
comp=Z,41nm,14.1s
ABTX Abilene, Hawle 64.17 70 P P 09 34 23.5 -0.2
baz=316,SNR=168
ABTX Abilene, Hawle 64.17 70 *eP* P 09 34 23.8 +0.1
comp=Z,330nm,0.9s
VLDQ Val d'Or 64.20 44 *eP* P 09 34 21.2 -2.3
comp=Z,100nm,0.9s
R40A Maddies Statio 64.23 60 P P 09 34 22.3 -1.6
baz=317,SNR=56
Q41A Truxton 64.31 59 P P 09 34 23.3 -1.1
baz=317,SNR=42
P42A Winchester 64.32 58 P P 09 34 23.3 -1.2
baz=317,SNR=21
W36A Wetumka 64.32 65 P P 09 34 24.3 -0.2
baz=316,SNR=110
O43A Sugar Creek Fa 64.35 57 P P 09 34 23.9 -0.8
baz=317,SNR=8.3
V37A Hulbert 64.39 64 P P 09 34 24.2 -0.9
baz=317,SNR=42
U38A Gravette 64.41 63 P P 09 34 23.8 -1.4
baz=317,SNR=54
DLV T Lat 64.41 256 *eP* P 09 34 26.7 +1.1
comp=Z,22nm,0.9s
SHL Shillong 64.41 279 *eP* P 09 34 26.6 +1.0
X35A Drake 64.43 66 P P 09 34 24.8 -0.5
baz=317
SLBS Sierra La Lagu 64.44 84 *eP* P 09 34 26.2 +0.6
comp=Z,131nm,1.3s
TBLU Trondheim 64.48 351 *eP* P 09 34 24.6 -0.6
TBLU IAmb IAmb 09 34 24.7
comp=Z,64nm,1.0s
T39A Clever 64.54 62 P P 09 34 24.2 -1.8
baz=317,SNR=44
PMG Port Moresby 64.55 207⇑ *eP* P 09 34 26.7 +0.5
PMG pmax pmax
comp=Z,61nm,1.3s
KKM Kota Kinabalu 64.58 246 *eP* P 09 34 27.1 +0.5
comp=Z,61nm,1.3s
S40A Lebanon 64.61 61 P P 09 34 24.6 -1.8
baz=317,SNR=24
PUL Pulkovo 64.66 340⇑ *eP* P 09 34 27.3 +1.0
PUL pmax pmax
comp=Z,120nm,0.6s
X36A Centrahoma 64.66 66 P P 09 34 26.4 -0.4
baz=317,SNR=114
HPIG 64.69 78 *eP* P 09 34 26.6 -0.8
comp=Z,152nm,1.4s
R41A Rosebud 64.70 60 P P 09 34 25.8 -1.3
baz=317,SNR=63
Q42A Golden Eagle 64.71 59 P P 09 34 26.4 -0.6
baz=317,SNR=43
P43A Skaggs, Pawnee 64.71 58 P P 09 34 26.2 -0.9
baz=317,SNR=19
Y35A Marietta 64.75 67 P P 09 34 27.4 0.0
baz=317,SNR=19
W37B Quinton 64.77 65 P P 09 34 27.2 -0.3
baz=317,SNR=80
HHAR Hobbs 64.77 63 *eP* P 09 34 26.2 -1.3
comp=Z,89nm,0.8s
CHM Chimkent 64.81 307 *eP* P 09 34 25.8 -1.9
CHM *eS* S 09 43 03.8 -3.6
CHM LR LR 10 03 06.5
comp=Z,274nm,15.9s
V38A Canehill 64.81 64 P P 09 34 26.7 -1.1
baz=317,SNR=112
LAMP Lampang 64.82 268 P P 09 34 31.4 +3.3
comp=Z,21nm,1.0s
UTTA Uttaradit 64.84 267 P P 09 34 28.6 +0.5
comp=Z,22nm,0.9s,comp=Z,188nm
T40A Mansfield 64.92 61 P P 09 34 26.7 -1.8
baz=317,SNR=70
U39A Green Forest 64.95 63 P P 09 34 27.0 -1.7
baz=317,SNR=150
S41A Jillco Farms, 65.02 61 P P 09 34 27.4 -1.7
baz=317,SNR=106
R42A Luebbering 65.03 59 P P 09 34 28.1 -1.1
baz=317,SNR=51
CMMT Chiang Mai 65.03 269 P P 09 34 30.0 +0.6
comp=Z,76nm,1.3s
CHTO Chiang Mai 65.03 269 P P 09 34 29.9 +0.5
comp=Z,342nm,1.3s,comp=Z,4μm
CHTO Chiang Mai 65.03 269 *eP* P 09 34 30.1 +0.6
CHTO pmax pmax
comp=Z,87nm,1.1s
CHTO Chiang Mai 65.03 269 *eP* P 09 34 30.1 +0.6
comp=Z,87nm,1.1s
CHTO Chiang Mai 65.03 269 P P 09 34 30.5 +1.1
SNR=21
CHTO Chiang Mai 65.03 269 P P 09 34 30.5 +1.1
SNR=21
CHTO P P 09 34 30.5 +1.1
SNR=21
233A Rising Star 65.04 70 P P 09 34 29.4 0.0
baz=317,SNR=119
SLM Saint Louis 65.07 59 *eP* P 09 34 28.9 -0.5
SLM pmax pmax
comp=Z,230nm,1.5s
SLM Saint Louis 65.07 59 *eP* P 09 34 28.9 -0.5
comp=Z,233nm,1.5s
Q43A New Douglas 65.13 58 P P 09 34 29.0 -0.8
baz=317,SNR=13
Y36A Durant 65.18 66 P P 09 34 29.9 -0.3
baz=317,SNR=51
X37A Clayton 65.20 65 P P 09 34 30.1 -0.3
baz=317,SNR=39
V39A Pettigrew 65.26 63 P P 09 34 29.6 -1.2
baz=317,SNR=109
CMAR Chiang Mai Arr 65.30 269 P P 09 34 31.8 +0.6
comp=Z,28nm,0.9s,baz=25,slow=7.1,SNR=42
CMAR PKPPKP **P'P'df** 10 03 12.3 -1.6
comp=Z,1.0nm,0.5s,baz=254,slow=5.0,SNR=4.2
CMAR PKP2ab 10 03 20.9
comp=Z,5.8nm,1.0s,baz=236,slow=4.4,SNR=13
CMAR LR LR 10 04 56.6
comp=Z,600nm,19.4s,baz=60,slow=38
P44A Sand Creek, Wi 65.31 57 P P 09 34 30.2 -0.8
baz=318,SNR=20
U40A Yellville 65.32 62 P P 09 34 29.8 -1.3
baz=317,SNR=119
CM01 Chiang Mai Arr 65.32 269 *eP* P 09 34 31.7 +0.4
W38A Poteau 65.33 64 P P 09 34 30.8 -0.4
baz=317,SNR=102
CHAI Chaiyaphum 65.34 264 P P 09 34 31.8 +0.3
comp=Z,21nm,1.0s,comp=Z,223nm
MOL Molde 65.40 352 *eP* P 09 34 31.6 +0.5
MOL IAmb IAmb 09 34 32.4
comp=Z,97nm,1.0s
S42A Caledonia 65.40 60 P P 09 34 30.4 -1.2
baz=317,SNR=93
T41A Mountain View 65.41 61 P P 09 34 30.1 -1.6
baz=317,SNR=46
SFIN Lafayette 65.43 56 P P 09 34 30.9 -0.8
baz=318,SNR=12
SFIN Lafayette 65.43 56 *eP* P 09 34 31.3 -0.4
comp=Z,135nm,0.8s
X38A Whitesboro 65.45 65 P P 09 34 31.4 -0.5
baz=317,SNR=48
PBKT Sadao Pong 65.47 266 P P 09 34 32.6 +0.4
comp=Z,48nm,1.1s
234A Clairette 65.50 69 P P 09 34 32.0 -0.3
baz=317,SNR=138
333A Richland Sprin 65.50 70 P P 09 34 32.0 -0.4
baz=317,SNR=142
R43A Red Bud 65.50 59 P P 09 34 31.1 -1.1
baz=318,SNR=21
Y37A Hugo 65.50 66 P P 09 34 31.9 -0.4
baz=317,SNR=24
Q44A Meyer Farm, Va 65.52 58 P P 09 34 31.4 -0.9
baz=318,SNR=22

Z36A Blue Ridge 65.56 67 P P 09 34 32.2 -0.5
baz=317,SNR=48
JCT Junction City 65.63 71 P P 09 34 32.4 -0.8
baz=317,SNR=107
JCT Junction City 65.63 71 *eP* P 09 34 32.6 -0.6
JCT pmax pmax
comp=Z,280nm,1.2s
JCT Junction City 65.63 71 *eP* P 09 34 32.6 -0.6
comp=Z,275nm,1.3s
W39A Magazine 65.65 64 P P 09 34 32.4 -0.8
baz=317,SNR=38
TAPN Taplejung 65.65 284 *eP* P 09 34 34.2 +0.5
comp=Z,227nm,1.1s
V40A Witts Springs 65.74 63 P P 09 34 32.6 -1.3
baz=317,SNR=173
DOMB Dombas 65.78 351 *eP* P 09 34 33.8 0.0
DOMB IAmb IAmb 09 34 34.6
comp=Z,110nm,0.8s
T42A Van Buren 65.78 61 P P 09 34 32.4 -1.7
baz=318
AKN Aaknes 65.83 352 ⇓*iP* P 09 34 34.6 +0.6
AKN IAmb IAmb 09 34 35.5
comp=Z,96nm,0.7s
AKN *eS* S 09 43 25.8 +6.4
U41A Viola 65.84 62 P P 09 34 33.0 -1.5
baz=318,SNR=98
433A Art 65.85 71 P P 09 34 34.2 -0.5
baz=317,SNR=145
WHTX Lake Whitney, 65.90 69 P P 09 34 34.4 -0.5
baz=317,SNR=40
WHTX Lake Whitney, 65.90 69 *eP* P 09 34 34.6 -0.3
comp=Z,126nm,0.9s
334A Lometa 65.92 70 P P 09 34 34.6 -0.5
baz=317,SNR=43
S43A Fulton Ridge, 65.94 60 P P 09 34 34.0 -1.0
baz=318,SNR=46
X39A Fountain Ranch 65.97 64 P P 09 34 34.6 -0.7
baz=317,SNR=98
R44A Waltonville 65.97 58 P P 09 34 34.2 -1.0
baz=318,SNR=25
SADO Sadowa 66.00 48 *eP* P 09 34 34.4 -0.9
comp=Z,72nm,1.2s
Y38A Idabel 66.04 65 P P 09 34 34.8 -0.9
baz=317,SNR=28
W40A Ferguson Farm, 66.05 63 P P 09 34 35.0 -0.8
baz=318,SNR=82
Z37A Pogue Cattle C 66.07 66 P P 09 34 34.8 -1.1
baz=317,SNR=6.2
136A Ennis 66.08 68 P P 09 34 35.4 -0.7
baz=317,SNR=30
V41A Mountainview 66.12 62 P P 09 34 34.7 -1.6
baz=318,SNR=95
OLIL Olney 66.12 57 *eP* P 09 34 35.7 -0.6
comp=Z,153nm,0.9s
T43A Greenville 66.18 60 P P 09 34 35.4 -1.2
baz=318,SNR=81
U42A Revenden 66.20 61 P P 09 34 35.1 -1.7
baz=318,SNR=37
ODAN Odare 66.21 284 *eP* P 09 34 37.4 +0.2
comp=Z,105nm,1.1s
MIAR Mount Ida 66.24 64 P P 09 34 36.3 -0.7
baz=318,SNR=78
MIAR Mount Ida 66.24 64 *eP* P 09 34 36.4 -0.7
MIAR pmax pmax
comp=Z,170nm,1.0s
MIAR Mount Ida 66.24 64 *eP* P 09 34 36.4 -0.7
comp=Z,172nm,1.0s
S44A Carbondale 66.28 59 P P 09 34 36.4 -0.9
baz=318,SNR=22
434A Burnet 66.29 70 P P 09 34 37.1 -0.3
baz=317,SNR=128
PBMO Poplar Bluff 66.33 60 *eP* P 09 34 36.5 -1.0
comp=Z,290nm,0.8s
JIRN Jiri 66.34 285 *eP* P 09 34 38.9 +0.6
comp=Z,2μm,0.9s
GUN Gumba 66.35 285 *eP* P 09 34 38.6 +0.4
comp=Z,915nm,1.5s
NC303 NORSAR Array S 66.35 350 *eP* P 09 34 37.5 +0.2
NC204 NORSAR Array S 66.37 350 *eP* P 09 34 37.5 0.0
533A Kerrville 66.38 71 P P 09 34 37.6 -0.4
baz=317,SNR=128
X301 Greenbrier Sit 66.39 63 *eP* P 09 34 36.4 -1.5
comp=Z,97nm,0.7s
Y39A Lockesburg 66.40 65 P P 09 34 37.2 -0.8
baz=318,SNR=28
Z38A Mt. Pleasant 66.40 66 P P 09 34 37.7 -0.3
baz=318,SNR=7.5
WHAR Wooly Hollow 66.41 63 *eP* P 09 34 36.8 -1.4
comp=Z,84nm,0.8s
NC405 NORSAR Array S 66.42 350 *eP* P 09 34 38.0 +0.2
236A Katherine and 66.43 68 P P 09 34 38.2 0.0
baz=317,SNR=45
335A Moody 66.43 69 P P 09 34 38.3 -0.1
baz=317,SNR=28
137A Heron Place, G 66.44 67 P P 09 34 38.0 -0.3
baz=318,SNR=18
MOS Moscow 66.46 334 *eP* P 09 34 38.0 -0.1
MOS pmax pmax
comp=Z,301nm,1.2s
MOS pmax pmax
comp=Z,600nm,1.7s
W41B Gary Mavity, V 66.52 63 P P 09 34 37.6 -1.2
baz=318,SNR=34
V42A Cord 66.52 62 P P 09 34 37.1 -1.7
baz=318,SNR=34
NB201 NORSAR Array S 66.53 350 *eP* P 09 34 38.8 +0.2
NB2 NORSAR Subarra 66.55 350 P P 09 34 38.5 -0.2
comp=Z,135nm,1.2s,baz=14,slow=6.5
NB2 NORSAR Subarra 66.55 350 P P 09 34 38.5 -0.2
baz=14,slow=6.5
NOA NORSAR Array B 66.55 350 P P 09 34 38.7 +0.1
comp=Z,58nm,0.9s,baz=14,slow=6.4,SNR=132
NOA PKPPKP P'P'df 10 03 04.0 -14
comp=Z,0.7nm,0.7s,baz=170,slow=3.7,SNR=3.4
NOA PKP2bc 10 03 12.1
comp=Z,0.7nm,0.7s,baz=231,slow=4.6,SNR=3.4
NOA LR LR 10 05 21.3
comp=Z,211nm,19.4s,baz=345,slow=38
T44A Benton 66.56 60 P P 09 34 38.1 -0.9
baz=318,SNR=22
NBO02 NORSAR Array S 66.58 350 *eP* P 09 34 38.1 -0.7
VSU Vasula 66.60 341 *d iP* P 09 34 39.2 +0.3
VSU pmax pmax
comp=Z,406nm,1.2s
NBO00 NORSAR Array S 66.61 350 *eP* P 09 34 39.2 +0.2
RAMN Ramite 66.62 284 *eP* P 09 34 40.2 +0.3
comp=Z,565nm,0.9s
BLO Bloomington 66.62 56 *eP* P 09 34 38.7 -0.7
BLO pmax pmax
comp=Z,140nm,1.0s
BLO Bloomington 66.62 56 *eP* P 09 34 38.7 -0.7
comp=Z,138nm,1.0s
U43A Rector 66.64 61 P P 09 34 38.5 -1.1
baz=318,SNR=12
S45A Carrier Mills 66.66 59 P P 09 34 38.8 -0.8
baz=318,SNR=15
336A Riesel 66.69 69 P P 09 34 39.8 -0.2
baz=318,SNR=45
X40A Basin Creek Fa 66.70 64 P P 09 34 39.0 -0.9
baz=318,SNR=37
435B Jarrell 66.71 70 P P 09 34 40.1 0.0
baz=318,SNR=26
PLVO Plevna 66.73 46 *eP* P 09 34 39.1 -0.9
comp=Z,112nm,1.3s
534A Blanco 66.74 71 P P 09 34 40.0 -0.3
baz=318,SNR=148
633A Saathoff Ranch 66.75 72 P P 09 34 40.1 -0.3
baz=318,SNR=13
UALR University of 66.76 63 *eP* P 09 34 39.4 -0.9
comp=Z,103nm,1.4s
138A Matatall Enter 66.77 66 P P 09 34 40.3 -0.2
baz=318,SNR=28
NAO01 NORSAR Array S 66.78 350 *eP* P 09 34 40.2 +0.2
PARMO Parma 66.78 60 *eP* P 09 34 40.3 -0.1
KKN Kakani 66.79 286 *eP* P 09 34 41.5 +0.6
comp=Z,277nm,0.8s
Y40A Okolona 66.80 64 P P 09 34 39.8 -0.8
baz=318
NC602 NORSAR Array S 66.81 350 *eP* P 09 34 40.2 -0.1
NC602 IAmb IAmb 09 34 40.9
comp=Z,90nm,1.4s
NC602 NORSAR Array S 66.81 350 *eP* P 09 34 40.4 +0.1
237A Washetta, Mont 66.84 67 P P 09 34 40.5 -0.4
baz=318,SNR=20
W42A Bald Knob 66.84 62 P P 09 34 40.0 -0.9
baz=318,SNR=22

Z39A Irene McRaven, 66.86 65 P P 09 34 40.6 -0.4
baz=318,SNR=8.3
X41A Kaden, Bauxite 66.87 63 P P 09 34 40.2 -0.8
baz=318,SNR=10.0
PKI Pulchoki 66.88 286 eP P 09 34 42.0 +0.4
comp=Z,332nm,0.9s
PKIN Phulchoki 66.88 286 eP P 09 34 42.3 +0.7
comp=Z,266nm,0.8s
HYA Hoyanger 66.90 353⇓iP P 09 34 41.0 +0.3
HYA IAmb IAmb 09 34 42.1
comp=Z,163nm,0.9s
TRQ Mont Tremblant 66.92 44 eP P 09 34 39.7 -1.5
USIN University of 66.92 58 eP P 09 34 41.0 -0.3
comp=Z,225nm,0.9s
U44A Portageville 66.93 60 P P 09 34 40.9 -0.5
baz=318,SNR=8.8
NAYO Nakonayok 66.97 264 P P 09 34 42.9 +1.0
comp=Z,46nm,1.2s
V43A Jonesboro 67.00 61 P P 09 34 41.0 -0.8
baz=318
GKN Gorkha 67.02 286 eP P 09 34 42.7 +0.4
comp=Z,305nm,1.0s
DMN Daman 67.03 286 eP P 09 34 43.1 +0.6
comp=Z,164nm,0.8s
UMPA Umpang Tak 67.05 267 P P 09 34 44.8 +2.3
comp=Z,27nm,0.9s,comp=Z,1µm
HBAR Harrisburg 67.11 61 eP P 09 34 42.3 -0.3
WLAR White Oak Lake 67.13 64 eP P 09 34 42.5 -0.2
comp=Z,231nm,0.8s
832A Faith Ranch, C 67.14 73 P P 09 34 42.9 0.0
baz=318,SNR=52
HFS Hagfors 67.15 348 P P 09 34 42.0 -0.4
comp=Z,17nm,0.6s,baz=36,slow=7.6,SNR=61
HFS Hagfors 67.15 348 P P 09 34 42.0 -0.4
HFS pmax pmax
comp=Z,17nm,0.6s
139A Bunkhouse Ranc 67.15 66 P P 09 34 42.4 -0.4
baz=318
436A Wall Ranch, Ga 67.18 69 P P 09 34 43.3 +0.2
baz=318,SNR=18
UTHA Uthaitani 67.18 266 P P 09 34 46.7 +3.5
comp=Z,15nm,1.0s,comp=Z,172nm
733A Divot King Ran 67.22 72 P P 09 34 43.4 +0.1
baz=318,SNR=19
238A Jacksonville 67.23 67 P P 09 34 43.5 +0.1
baz=318,SNR=25
U44B Burton Farm, H 67.24 60 P P 09 34 43.2 -0.1
baz=318,SNR=10
535A Dale 67.27 70 P P 09 34 43.7 0.0
baz=318,SNR=20
Y41A Eaglette Beard 67.27 64 P P 09 34 43.1 -0.5
baz=318,SNR=26
Z40A Long Farm, Mag 67.29 65 P P 09 34 43.5 -0.2
baz=318,SNR=19
634A China Grove, S 67.29 71 P P 09 34 43.9 +0.1
baz=318,SNR=7.5
DANN Dangsing 67.29 287 eP P 09 34 44.4 +0.2
comp=Z,25nm,0.9s
OBN Obninsk 67.30 334 P P 09 34 43.8 +0.4
comp=Z,107nm,0.8s,baz=17,slow=1.2,SNR=37
OBN Obninsk 67.30 334d iP P 09 34 43.3 -0.1
OBN i 09 35 12.8
OBN iS S 09 43 32.3 -4.9
OBN pmax pmax
comp=Z,172nm,1.1s
OBN MLR MLR
comp=Z,531nm,17.0s
OBN Obninsk 67.30 334 eP P 09 34 43.8 +0.4
comp=Z,217nm,1.1s
337A Centerville 67.30 68 P P 09 34 43.7 -0.1
baz=318
X42A Stuttgart 67.32 63 P P 09 34 43.0 -0.9
baz=318,SNR=8.4
V44A Blytheville 67.32 61 P P 09 34 43.6 -0.3
baz=318,SNR=5.8
GLAT Glass 67.32 60 eP P 09 34 44.2 +0.3
W43A Forest City 67.43 62 P P 09 34 43.7 -0.9
baz=318
WCI Wyandotte Cave 67.44 57 eP P 09 34 43.7 -1.0
WCI pmax pmax
comp=Z,170nm,1.0s
WCI Wyandotte Cave 67.44 57 eP P 09 34 43.7 -1.0
comp=Z,167nm,0.9s
833A Chaparral WMA, 67.45 73 P P 09 34 45.0 +0.2
baz=318,SNR=26
437A Phantom Ranch, 67.51 69 P P 09 34 45.5 +0.3
baz=318,SNR=10
536A Bastrop 67.53 70 P P 09 34 45.4 +0.1
baz=318,SNR=8.4
U45A Rockin P Farm, 67.55 60 P P 09 34 44.9 -0.4
baz=318,SNR=27
BUF Buffalo 67.55 49 eP P 09 34 45.4 +0.1
734A La Parita Cree 67.56 72 P P 09 34 45.9 +0.4
baz=318,SNR=20
239A Gary 67.60 67 P P 09 34 45.7 0.0
baz=318,SNR=16
338A Crockett 67.60 68 P P 09 34 45.7 0.0
baz=318,SNR=19
ACSO Alum Creek Sta 67.62 53 eP P 09 34 45.4 -0.3
comp=Z,75nm,1.0s
Z41A Richland Creek 67.62 64 P P 09 34 45.3 -0.5
baz=318,SNR=16
635A Leesville 67.62 71 P P 09 34 46.4 +0.5
baz=318,SNR=44
LMQ La Malbaie 67.63 40 eP P 09 34 45.2 -0.5
ERPA Erie 67.64 50 eP P 09 34 46.1 +0.3
comp=Z,428nm,0.9s
140A Cam and Jess, 67.64 65 P P 09 34 45.8 -0.2
baz=318
ASK Askoy 67.65 353 iP P 09 34 45.9 +0.4
NATX Nacogdoches 67.68 67 P P 09 34 46.2 0.0
baz=318,SNR=18
NATX Nacogdoches 67.68 67 eP P 09 34 46.5 +0.3
comp=Z,180nm,1.1s
OSL Oslo 67.68 350 eP P 09 34 46.4 +0.7
OSL IAmb IAmb 09 34 47.0
comp=Z,154nm,1.2s
CCAR Cane Creek 67.71 63 eP P 09 34 46.5 +0.1
comp=Z,274nm,1.1s
BER Bergen 67.74 353 eP P 09 34 46.6 +0.5
BER IAmb IAmb 09 34 47.5
comp=Z,168nm,1.5s
BER eS S 09 43 43.8 +1.5
X43A Marvell 67.76 62 P P 09 34 46.0 -0.7
baz=318,SNR=12
Y42A Garnett, Star 67.76 63 P P 09 34 46.3 -0.5
baz=318,SNR=21
KOLN Koldanda 67.81 287 eP P 09 34 47.6 +0.2
comp=Z,122nm,0.8s
MET Memphis--Engin 67.83 61 eP P 09 34 47.4 +0.3
comp=Z,853nm,1.4s
DZET Dzherino 67.83 305 P P 09 34 47.1 -0.1
DZET pmax pmax
comp=Z,54nm,0.8s
W44A Shelby Farms P 67.88 61 P P 09 34 47.2 -0.2
baz=319
V45A Humboldt 67.89 60 P P 09 34 47.1 -0.5
baz=319,SNR=38
ALLY Alegheny Colle 67.92 50 eP P 09 34 47.6 0.0
comp=Z,525nm,1.0s
PYUN Piuthan 67.93 288 eP P 09 34 48.5 +0.4
comp=Z,348nm,1.0s
YEL1 Yell 67.95 356⇓eP P 09 34 47.3 -0.1
438A Sam Houston St 67.96 68 P P 09 34 48.5 +0.5
baz=318,SNR=42
537A Green Hill Far 67.97 69 P P 09 34 48.7 +0.6
baz=318,SNR=6.9
636A Smothers Creek 67.97 70 P P 09 34 48.8 +0.7
baz=318,SNR=36
240A Hunter Patters 67.98 66 P P 09 34 48.2 0.0
baz=318,SNR=8.6
735A Kenedy 68.00 71 P P 09 34 48.9 +0.7
baz=318,SNR=31
933A Laredo 68.05 73 P P 09 34 49.2 +0.6
baz=318,SNR=80
141A Papa Simpson, 68.05 65 P P 09 34 48.5 0.0
baz=318,SNR=14
339A Huntington 68.05 67 P P 09 34 48.5 0.0
baz=318,SNR=25
Z42A Norrel Spur, H 68.09 64 P P 09 34 48.5 -0.3
baz=318,SNR=30
834A Tilden 68.10 72 P P 09 34 49.8 +0.9
baz=318,SNR=62
ODD1 Odda 68.11 352 eP P 09 34 48.8 +0.3
ODD1 IAmb IAmb 09 34 49.4
comp=Z,68nm,0.8s
MMNY Mt. Morris Dam 68.14 48 eP P 09 34 48.6 -0.3

LONY Lake Ozonia 68.17 45 eP P 09 34 47.0 -2.2
comp=Z,81nm,1.1s
X44A Crenshaw 68.17 62 P P 09 34 48.6 -0.7
baz=319,SNR=38
Y43A Makayla and Ka 68.18 63 P P 09 34 48.7 -0.6
baz=318,SNR=11
W45A Hickory Valley 68.21 61 P P 09 34 49.0 -0.5
baz=319,SNR=42
WVT Waverly 68.21 59 eP P 09 34 48.9 -0.6
WVT pmax pmax
comp=Z,140nm,1.0s
WVT Waverly 68.21 59 eP P 09 34 48.9 -0.6
comp=Z,141nm,0.9s
M54A Oil Creek Stat 68.26 50 P P 09 34 49.3 -0.5
baz=321,SNR=24
439A Center Grove, 68.33 68 P P 09 34 50.5 +0.2
baz=318,SNR=26
538A Harpers Horsep 68.34 69 P P 09 34 51.0 +0.6
baz=318,SNR=8.7
736A Circle Diamond 68.36 71 P P 09 34 51.7 +1.2
baz=318,SNR=42
LRW Lerwick 68.37 356⇓eP P 09 34 50.2 +0.2
LRW AMB AMB 09 34 51.1
comp=Z,121nm,1.0s
340A Bronson 68.37 67 P P 09 34 50.5 -0.1
baz=318,SNR=34
835A Beeville 68.40 72 P P 09 34 52.0 +1.2
baz=318,SNR=62
637A Eagle Lake 68.43 70 P P 09 34 51.5 +0.6
baz=318,SNR=41
FRNY Flat Rock 68.43 44 eP P 09 34 49.1 -1.6
comp=Z,54nm,1.2s
241A Mo Tay, Goldon 68.47 65 P P 09 34 51.1 -0.1
baz=318
SAN1 Sandwick 68.49 356⇓eP P 09 34 50.9 +0.1
934A Benavides 68.50 73 P P 09 34 52.5 +1.0
baz=318,SNR=81
N54A Moraine State 68.53 51 P P 09 34 50.8 -0.6
baz=321,SNR=19
Z43A Armstrong Fami 68.53 63 P P 09 34 51.1 -0.5
baz=319,SNR=9.1
Y44A Strider, Charl 68.54 62 P P 09 34 51.1 -0.5
baz=319,SNR=10
OXF Oxford 68.57 61 eP P 09 34 51.0 -0.7
OXF pmax pmax
comp=Z,610nm,1.0s
OXF Oxford 68.57 61 eP P 09 34 51.0 -0.7
comp=Z,605nm,1.0s
BLS5 Blasjo 68.60 352⇓iP P 09 34 52.0 +0.3
BLS5 IAmb IAmb 09 34 52.9
comp=Z,63nm,0.9s
BLS5 eS S 09 43 58.1 +5.3
142A Monroe 68.63 64 P P 09 34 52.1 -0.1
baz=318,SNR=14
X45A UM Field Stati 68.64 61 P P 09 34 51.3 -1.0
baz=319,SNR=48
DHRM DHARAMSHALA 68.72 295 eP P 09 34 53.4 +0.3
034A Hebbronville 68.80 73 P P 09 34 54.3 +1.0
baz=318,SNR=63
143A Socs Landing, 68.82 64 P P 09 34 53.0 -0.3
baz=319,SNR=15
440A Kirbyville 68.83 67 P P 09 34 53.7 +0.2
baz=318,SNR=7.3
NCB Newcomb 68.84 45 eP P 09 34 52.4 -0.9
comp=Z,0.8nm,1.0s
LPSR Galich'ya Gora 68.84 331 eP P 09 34 53.0 -0.1
LPSR pmax pmax
comp=Z,200nm,0.8s
341A Kurthwood 68.85 66 P P 09 34 53.6 +0.1
baz=318,SNR=25
539A Cross D Ranch, 68.87 68 P P 09 34 54.7 +1.0
baz=318,SNR=7.8
737A Port Lavaca 68.87 70 P P 09 34 54.8 +1.1
baz=318,SNR=6.3
242A Grayson 68.88 65 P P 09 34 53.7 0.0
baz=319,SNR=9.8
KMY Karmoy 68.91 353 eP P 09 34 54.2 +0.7
KMY ePP PP 09 37 25.4 +0.4
KVTX Kingsville 68.92 72 eP P 09 34 56.0 +2.0
comp=Z,203nm,1.0s
Z44A Pea Ridge, Bel 68.93 63 P P 09 34 53.5 -0.5
baz=319,SNR=16
638A Rosharon 68.96 69 P P 09 34 55.0 +0.7
baz=318,SNR=7.2
Y45A Yeager Farm, C 68.98 62 P P 09 34 54.0 -0.3
baz=319,SNR=59
SMLA Simla 69.07 294 eP P 09 34 55.0 +0.1
PHET Kaeng Krachan 69.09 264 P P 09 35 00.2 +5.0
comp=Z,12nm,1.4s,comp=Z,210nm
STAV Stavanger 69.15 352 eP P 09 34 55.3 +0.4
STAV IAmb IAmb 09 34 56.3
comp=Z,151nm,1.0s
DDI Dehra Dun 69.16 293 eP P 09 34 56.1 +0.5
IZAR Zarasai 69.22 340 eP P 09 34 56.1 +0.7
IZAR IAmb IAmb 09 34 57.1
comp=Z,65nm,0.9s
540A Vidor 69.22 67 P P 09 34 54.5 -1.4
baz=319
035A Encino 69.24 73 P P 09 34 57.2 +1.2
baz=318,SNR=38
PQI Presque Isle 69.27 40 eP P 09 34 55.0 -0.9
comp=Z,39nm,0.8s
441A DeRidder 69.27 67 P P 09 34 56.6 +0.4
baz=319,SNR=6.1
MDV Middlebury 69.27 44 eP P 09 34 54.6 -1.4
Z45A Winona 69.27 62 P P 09 34 55.6 -0.6
baz=319,SNR=30
738A Farr-Stevens R 69.27 70 P P 09 34 56.5 +0.3
baz=318
342A Flagon Creek P 69.29 66 P P 09 34 56.4 +0.1
baz=319,SNR=21
Y46A Houston 69.34 61 P P 09 34 55.8 -0.8
baz=319,SNR=53
936A North Padre Is 69.35 72 P P 09 34 57.0 +0.2
baz=318
BOK Bokaro 69.38 282 eP P 09 34 57.9 +0.9
243A Waterproof 69.39 65 P P 09 34 57.1 +0.2
baz=319,SNR=16
ISAL Salakas 69.41 340 eP P 09 34 57.3 +0.7
ISAL IAmb IAmb 09 34 58.5
comp=Z,60nm,1.0s
144A Alexander Plac 69.42 63 P P 09 34 57.0 -0.1
baz=319
IDID Didziasalis 69.52 340 eP P 09 34 58.1 +0.8
IDID IAmb IAmb 09 34 59.2
comp=Z,102nm,0.9s
ACCN Adirondack Com 69.55 45 eP P 09 34 56.6 -1.1
comp=Z,104nm,1.0s
HOMB Homborsund 69.55 351 eP P 09 34 57.9 +0.4
HOMB IAmb IAmb 09 34 58.5
comp=Z,47nm,0.9s
IIGN Ignalina 69.59 340 eP P 09 34 58.6 +0.8
IIGN IAmb IAmb 09 34 59.6
comp=Z,102nm,0.9s
MCWV Mont Chateau 69.60 52 eP P 09 34 57.9 -0.3
comp=Z,59nm,0.9s
SNART Snartemo 69.61 352 eP P 09 34 58.4 +0.6
SNART IAmb IAmb 09 34 59.0
comp=Z,96nm,1.4s
035Z Hargill 69.62 73 P P 09 34 59.3 +0.9
baz=319,SNR=39
LBNH Lisbon 69.62 44 eP P 09 34 57.0 -1.2
LBNH pmax pmax
comp=Z,81nm,1.0s
LBNH Lisbon 69.62 44 eP P 09 34 57.0 -1.2
comp=Z,81nm,1.0s
ZAIG Zacatecas 69.66 79 eP P 09 34 59.1 0.0
comp=Z,104nm,1.0s
VBMS Vicksburg 69.68 64 P P 09 34 58.6 -0.1
baz=319,SNR=16
145A Houston Renfro 69.72 63 P P 09 34 58.6 -0.3
baz=319,SNR=8.3
244A Avery, Jackson 69.72 64 P P 09 34 58.8 -0.1
baz=319,SNR=70
442A Mamou 69.73 66 P P 09 34 59.8 +0.8
baz=319,SNR=11
O56A Blue Knob Stat 69.75 50 P P 09 34 58.4 -0.7
baz=321,SNR=23
343A Vidalia 69.76 65 P P 09 34 59.5 +0.3
baz=319,SNR=5.4
SSPA Standing Stone 69.78 50 eP P 09 34 58.8 -0.4
comp=Z,228nm,0.8s
541A Lake Charles 69.78 67 P P 09 34 59.2 -0.2
baz=319
SBUM Sibu 69.79 247 eP P 09 35 00.4 +0.8
comp=Z,206nm,1.9s
Z46A Louisville 69.81 62 P P 09 34 58.8 -0.7

baz=319,SNR=18
Y47A UCPARC, Winfie 69.88 61 P P 09 34 59.0 -0.8
baz=319,SNR=47
NACGM Naroch 69.89 339 eP P 09 35 00.0 +0.4
NACGM PM 09 35 02.0
comp=Z,0.5nm,0.9s
HNH Hanover 69.89 44 eP P 09 34 59.4 -0.4
comp=Z,68nm,1.0s
PKME Peaks-Kenny Pk 69.90 41 eP P 09 34 59.6 -0.2
comp=Z,126nm,1.3s
SWET Sewanee 69.91 59 eP P 09 34 59.2 -0.9
comp=Z,53nm,1.0s
LNIG Linares 69.95 75 eP P 09 34 59.3 -1.1
comp=Z,31nm,0.9s
VSR Storozhevoye 69.98 331 eP P 09 35 00.7 +0.5
VSR eS S 09 44 07.6 -1.6
VSR pmax pmax
comp=Z,30nm,0.4s
VSR smax smax
comp=E,390nm,4.4s
VSR MLR MLR
comp=Z,690nm,14.0s
MICGM Minsk 70.02 339⇓eP P 09 35 01.0 +0.6
MICGM PM 09 35 02.0
comp=Z,0.9nm,1.0s
MICGM PM 09 35 02.0
comp=N,0.5nm,1.0s
MNK Minsk 70.02 339⇓eP P 09 35 01.0 +0.6
MNK pmax pmax
comp=N,540nm,1.0s
MNK pmax pmax
comp=Z,890nm,1.0s
COEN Coen 70.05 210 eP P 09 35 00.9 -0.1
comp=Z,45nm,1.4s
443A Delano Plantat 70.06 66 P P 09 35 01.3 +0.3
baz=319
TRY Troy 70.07 46 eP P 09 35 00.2 -0.7
comp=Z,94nm,1.1s
542A Morse 70.10 67 P P 09 35 01.5 +0.3
baz=319,SNR=6.3
344A Westbrook Farm 70.13 64 P P 09 35 01.7 +0.2
baz=319,SNR=29
245A Little AP, Sta 70.16 63 P P 09 35 01.4 -0.2
baz=319,SNR=34
146A Union 70.17 62 P P 09 35 01.6 -0.1
baz=319,SNR=74
RSC Scourie 70.27 358⇓eP P 09 35 02.1 +0.2
MLA1 Latheron 70.27 357⇓eP P 09 35 02.0 +0.1
Z47A Carrollton 70.29 61 P P 09 35 01.7 -0.7
baz=320,SNR=68
WVL Waterville 70.32 42 eP P 09 35 01.9 -0.5
comp=Z,161nm,1.1s
FFD Franklin Falls 70.36 44 eP P 09 35 02.3 -0.3
comp=Z,219nm,1.4s
Z48A Northport 70.43 61 P P 09 35 02.3 -1.0
baz=320,SNR=67
CPCT Cooper Cave 70.47 57 eP P 09 35 02.8 -0.7
comp=Z,123nm,1.1s
N59A State Game Lan 70.55 48 P P 09 35 02.9 -1.1
baz=322,SNR=28
147A Livingston 70.58 62 P P 09 35 03.6 -0.5
baz=320,SNR=31
246A Jackson Lee, B 70.60 63 P P 09 35 04.3 -0.1
baz=320,SNR=6.1
345A Thompson Farm, 70.63 64 P P 09 35 04.6 0.0
baz=319,SNR=15
444A Pine Grove 70.68 65 P P 09 35 05.1 +0.3
baz=319,SNR=5.8
TKL Tuckaleechee C 70.71 57 eP P 09 35 04.4 -0.5
TKL pmax pmax
comp=Z,160nm,1.0s
TKL Tuckaleechee C 70.71 57 eP P 09 35 04.4 -0.5
comp=Z,160nm,1.0s
RRH Rhenigidale 70.72 359⇓eP P 09 35 05.0 +0.4
RRR Rubha Reidh 70.77 359⇓eP P 09 35 05.1 +0.1
247A Quitman 70.86 62 P P 09 35 06.1 +0.2
baz=320,SNR=20
346A Big Creek Wild 70.89 64 P P 09 35 05.9 -0.2
baz=320,SNR=18
445A Amite 70.90 65 P P 09 35 06.4 +0.2
baz=319
544A White Castle 70.90 66 P P 09 35 06.1 -0.1
baz=319
DRLN Deer Lake 70.91 32 eP P 09 35 05.8 -0.1
comp=Z,61nm,1.2s
ODNJ Ogdensburg 70.96 47 eP P 09 35 05.0 -1.3
comp=Z,64nm,1.1s
KBL Kabul 70.96 302 eP P 09 35 05.9 -0.9
KBL pmax pmax
comp=Z,96nm,0.8s
KBL Kabul 70.96 302 eP P 09 35 05.9 -0.9
comp=Z,96nm,0.8s
LUPA Lehigh Univers 70.99 48 eP P 09 35 06.5 -0.1
comp=Z,172nm,1.0s
MCD Coleburn Disti 70.99 357⇓iP P 09 35 06.5 +0.2
LRAL Lakeview Retre 71.00 61 eP P 09 35 05.5 -1.2
comp=Z,72nm,0.8s
MVL Millersville 71.01 49 eP P 09 35 06.7 0.0
comp=Z,141nm,1.0s
QUA2 Belchertown 71.01 45 eP P 09 35 05.9 -0.8
comp=Z,117nm,1.4s
EMMW East Machias 71.10 41 eP P 09 35 06.9 -0.3
comp=Z,222nm,1.2s
KAC Achnashellach 71.12 358⇓eP P 09 35 07.0 -0.1
MDO Dochfour 71.16 358⇓iP P 09 35 07.5 +0.2
HRV Adam Dziewonsk 71.17 44 eP P 09 35 07.1 -0.6
HRV pmax pmax
comp=Z,120nm,1.2s
HRV Adam Dziewonsk 71.17 44 eP P 09 35 07.1 -0.6
comp=Z,117nm,1.3s
LMN Caledonia Moun 71.20 38 eP P 09 35 07.1 -0.7
comp=Z,177nm,1.2s
BLA Blacksburg 71.22 54 eP P 09 35 07.6 -0.5
BLA pmax pmax
comp=Z,88nm,0.9s
BLA Blacksburg 71.22 54 eP P 09 35 07.6 -0.5
comp=Z,88nm,0.9s
SDMD Soldier's Deli 71.24 50 eP P 09 35 07.0 -1.1
comp=Z,119nm,0.9s
MME1 Meikle Cairn 71.25 357⇓eP P 09 35 07.3 -0.6
MUD Monsted U'grnd 71.27 350⇓iP P 09 35 08.7 +0.7
comp=Z,94nm,1.1s
MUD Monsted U'grnd 71.27 350 eP P 09 35 08.8 +0.9
MUD IAmb IAmb 09 35 09.7
comp=Z,83nm,1.0s
MUD Monsted U'grnd 71.27 350⇓iP P 09 35 08.7 +0.7
MUD pmax pmax
comp=Z,94nm,1.1s
KPL Plockton 71.29 359⇓eP P 09 35 08.2 +0.1
BRNJ Basking Ridge 71.29 47 eP P 09 35 08.2 -0.2
comp=Z,87nm,1.0s
248A Dixon Mills 71.31 62 P P 09 35 08.4 -0.3
baz=320,SNR=13
545A Edgard 71.33 65 P P 09 35 08.2 -0.6
baz=320
PAL Palisades 71.34 47 eP P 09 35 08.2 -0.4
PAL pmax pmax
comp=Z,160nm,1.0s
PAL Palisades 71.34 47 eP P 09 35 08.2 -0.4
comp=Z,156nm,1.0s
WES Weston 71.38 44 eP P 09 35 08.5 -0.4
WES pmax pmax
comp=Z,270nm,1.3s
WES Weston 71.38 44 eP P 09 35 08.4 -0.4
comp=Z,267nm,1.4s
347A Saraland 71.39 63 P P 09 35 09.0 -0.1
baz=320,SNR=27
446A Poplarville 71.40 64 P P 09 35 09.2 0.0
baz=320,SNR=7.0
VWCC Virginia Weste 71.41 53 eP P 09 35 08.7 -0.5
KSB Sheil Bridge 71.42 359⇓eP P 09 35 09.2 +0.4
SUW Suwalki 71.48 341 eP P 09 35 09.4 +0.1
SUW Suwalki 71.48 341⇓eP P 09 35 09.4 +0.1
KLNR Kaliningrad 71.48 343d iP P 09 35 09.1 -0.2
KLNR pmax pmax
comp=Z,195nm,1.3s
BCX Boston College 71.48 44 eP P 09 35 08.9 -0.6
comp=Z,194nm,1.2s
CPNY Central Park 71.48 47 eP P 09 35 08.6 -0.9
comp=Z,196nm,1.0s
PSUB Penn St. - Bra 71.48 49 eP P 09 35 09.1 -0.5
comp=Z,100nm,1.1s
546A Slidell 71.62 65 P P 09 35 10.8 +0.3
baz=320
COP Copenhagen 71.64 348⇓iP P 09 35 10.5 +0.3
COP Copenhagen 71.64 348⇓iP P 09 35 10.5 +0.3
DRUM Mains of Drumt 71.64 357⇓eP P 09 35 09.9 -0.3

DRUM AMB AMB 09 35 10.9
comp=Z,101nm,1.2s
BRYW Bryant College 71.66 45 *e*P **P 09 35 10.0 -0.6**
comp=Z,172nm,1.2s
KSM Kuching 71.68 248 *e*P **P 09 35 11.2 +0.2**
comp=Z,40nm,0.9s
645A Chauvin 71.72 66 P **P 09 35 12.1 +0.9**
baz=320,SNR=6.0
348A Jackson 71.74 62 P **P 09 35 11.4 +0.2**
baz=320,SNR=28
447A Lucedale 71.79 63 P **P 09 35 11.6 0.0**
baz=320,SNR=7.4
BSD Bornholm Skovb 71.85 346⇓*i*P **P 09 35 11.3 -0.2**
comp=Z,26nm,0.9s
BSD Bornholm Skovb 71.85 346⇓*i*P **P 09 35 11.3 -0.2**
BSD pmax pmax
comp=Z,26nm,0.9s
KAPI Kappang 71.89 236 *e*P **P 09 35 11.9 -0.3**
comp=Z,37nm,1.2s
CBN Corbin Frederi 71.94 51 *e*P **P 09 35 11.1 -1.2**
comp=Z,123nm,0.9s
LLD Lille Linde 72.01 348 *i*P **P 09 35 13.0 +0.6**
LLD Lille Linde 72.01 348 *i*P **P 09 35 13.0 +0.6**
EDU Dundee 72.02 357⇓*i*P **P 09 35 12.5 0.0**
JSRW J. Sargeant Re 72.09 52 *e*P **P 09 35 12.8 -0.5**
448A Bay Minette 72.13 63 P **P 09 35 13.7 +0.1**
baz=320,SNR=8.3
KMSC Kings Mountain 72.36 55 *e*P **P 09 35 14.3 -0.6**
comp=Z,261nm,1.0s
EAB Aberfoyle 72.42 358 *e*P **P 09 35 15.2 +0.3**
GOGA Godfrey 72.60 58 *e*P **P 09 35 15.7 -0.7**
GOGA pmax pmax
comp=Z,160nm,1.4s
GOGA Godfrey 72.60 58 *e*P **P 09 35 15.7 -0.7**
comp=Z,165nm,1.4s
RGN Rugen 72.63 347 *e*P **P 09 35 15.1 -1.1**
comp=Z,548nm,0.2s
ESY Stoneypath 72.64 357 *i*P **P 09 35 16.3 0.0**
EDI Edinburgh 72.65 357 *e*P **P 09 35 16.2 0.0**
EDI AMB AMB 09 35 17.1
comp=Z,73nm,1.2s
SURT Suratani 72.66 262 P **P 09 35 20.1 +3.2**
comp=Z,27nm,1.4s
PGBU Glenifferbraes 72.80 358⇓*e*P **P 09 35 17.4 +0.3**
PGBU AMB AMB 09 35 18.9
comp=Z,217nm,1.1s
MOIG Morelia 72.82 80 *e*P **P 09 35 19.2 +1.0**
comp=Z,248nm,1.4s
SKLT Songkhla 72.93 260 P **P 09 35 22.4 +3.9**
comp=Z,50nm,1.3s,comp=Z,892nm
TRTT Trang 72.98 261 P **P 09 35 20.0 +1.2**
comp=Z,38nm,1.2s
DGPR DIGLIPUR 73.05 270 *e*P **P 09 35 18.6 -0.6**
DGPR IAmb IAmb 09 35 23.1
comp=Z,100nm,0.6s
JSC Jenkinsville 73.07 56 *e*P **P 09 35 19.0 -0.2**
JSC pmax pmax
comp=Z,170nm,1.0s
JSC Jenkinsville 73.07 56 *e*P **P 09 35 19.0 -0.2**
comp=Z,170nm,1.0s
AKASG Malin Array Be 73.20 336 P **P 09 35 18.6 -1.0**
comp=Z,108nm,0.7s,baz=27,slow=6.2,SNR=176
AKASG PKPPKP **P'P'df 10 03 01.8 -3.7**
comp=Z,0.3nm,0.3s,baz=242,slow=2.0,SNR=4.4
AKASG LR LR 10 11 35.7
comp=Z,488nm,18.2s,baz=0.0,slow=39
AKASG Malin Array Be 73.20 336 P **P 09 35 18.6 -1.0**
AKASG pmax pmax
comp=Z,107nm,0.7s
AKBB Malin Array Si 73.20 336 *e*P **P 09 35 19.6 0.0**
AKBB pmax pmax
comp=Z,100nm,0.8s
AKBB Malin Array Si 73.20 336 *e*P **P 09 35 19.6 0.0**
comp=Z,102nm,0.8s
KIEV Kiev 73.21 336 *e*P **P 09 35 19.6 -0.1**
KIEV pmax pmax
comp=Z,99nm,0.7s
KIEV Kiev 73.21 336 *e*P **P 09 35 19.6 -0.1**
comp=Z,99nm,0.7s
AK11 Malin Array Si 73.24 336 *e*P **P 09 35 19.5 -0.4**
ESK Eskdalemuir 73.26 357⇓*e*P **P 09 35 20.2 +0.3**
ESK AMB AMB 09 35 21.0
comp=Z,119nm,1.0s
ESK Eskdalemuir 73.26 357 *e*P **P 09 35 20.2 +0.3**
ESK pmax pmax
comp=Z,110nm,0.9s
ESK Eskdalemuir 73.26 357 *e*P **P 09 35 20.2 +0.3**
comp=Z,112nm,0.8s
GKP Gorka Klasztor 73.27 345 *e*P **P 09 35 20.5 +0.5**
GKP Gorka Klasztor 73.27 345 *e*P **P 09 35 20.5 +0.5**
GMK Mull of Kintyr 73.29 359⇓*i*P **P 09 35 20.2 +0.1**
ECK Cauldkaine Hil 73.39 357⇓*i*P **P 09 35 20.9 +0.2**
JBP Jabalpur 73.41 286 *e*P **P 09 35 21.9 +0.6**
JBP *e*x x 09 35 21.9
MTN Manton Dam 73.41 222 *e*P **P 09 35 20.8 -0.4**
comp=Z,85nm,1.0s
BHH Howats Hill 73.48 357⇓*e*P **P 09 35 21.7 +0.5**
GCL Cushendall 73.56 359 *e*P **P 09 35 22.0 +0.3**
IDGL Inch Island, C 73.58 360⇓*e*P **P 09 35 21.9 +0.1**
DZM Mont Dzumac 73.63 185 *e*P **P 09 35 24.4 +1.9**
comp=Z,80nm,1.6s
DZM *e*S **S 09 44 52.3 +0.5**
comp=Z,1μm,30.2s
DZM Mont Dzumac 73.63 185 *e*LR LR 09 58 01.5
comp=Z,1μm,24.3s
DZM Mont Dzumac 73.63 185 *e*P **P 09 35 25.9 +3.5**
comp=Z,92nm,1.7s
SOEI Soe 73.73 230 *e*P **P 09 35 22.0 -1.3**
comp=Z,53nm,0.9s
GAL1 Galloway 73.75 358⇓*e*P **P 09 35 22.8 0.0**
GAL1 AMB AMB 09 35 23.7
comp=Z,53nm,1.0s
GEYT Alibeck 73.76 311 P **P 09 35 24.0 +0.8**
comp=Z,42nm,0.8s,baz=2.4,slow=3.6,SNR=52
GEYT PP **PP 09 38 06.2 -1.0**
comp=Z,3.0nm,0.3s,baz=0.0,slow=1.6,SNR=3.8
GEYT S **S 09 44 55.7 +2.5**
comp=Z,1.1nm,0.2s,baz=82,slow=24,SNR=2.0
GEYT LR LR 10 10 25.6
comp=Z,498nm,18.1s,baz=25,slow=38
BBO1 Bothel 73.84 357⇓*i*P **P 09 35 23.7 +0.4**
KESW Keswick, Cumbr 73.99 357⇓*e*P **P 09 35 24.4 +0.2**
KESW AMB AMB 09 35 25.4
comp=Z,153nm,1.2s
BEL Belsk 74.01 342 *e*P **P 09 35 25.5 +1.1**
BEL Belsk 74.01 342⇓*e*P **P 09 35 25.5 +1.1**
CNNC Cliffs of the 74.03 53 *e*P **P 09 35 24.9 +0.1**
comp=Z,179nm,0.9s
GOF Gofitskoye 74.06 325⇑*e*P **P 09 35 26.0 +1.2**
GOF pmax pmax
comp=Z,406nm,1.1s
TIGA Tifton 74.06 59 P **P 09 35 24.4 -0.6**
baz=321,SNR=17
TIGA Tifton 74.06 59 *e*P **P 09 35 25.1 +0.1**
comp=Z,413nm,1.3s
MAK Makhachkala 74.18 321 *e*P **P 09 35 24.2 -1.3**
MAK *e* 09 38 12.3
MAK *e*PPP PPP 09 39 59.1
MAK *e*S **S 09 44 58.7 +1.1**
MAK pmax pmax
comp=Z,154nm,1.1s
KULM Kulim 74.39 259 *e*P **P 09 35 27.4 +0.3**
comp=Z,66nm,1.4s
GMM Mts of Mourne 74.40 359⇓*i*P **P 09 35 26.5 -0.1**
WIM Isle of Man 74.47 358⇓*i*P **P 09 35 27.5 +0.5**
CHLP Challavanipeta 74.48 280 *e*P **P 09 35 27.9 +0.3**
CHLP IAmb IAmb 09 35 31.9
comp=Z,80nm,1.0s
CHLP *e*S **S 09 44 60.0 -1.7**
CHLP IVMs_BB IVMs_BB 10 10 44.4
comp=Z,118nm,4.4s
NHSC New Hope 74.55 56 *e*P **P 09 35 27.8 -0.1**
comp=Z,332nm,0.9s
IPM Ipoh 74.79 258 *e*P **P 09 35 28.9 -0.6**
comp=Z,44nm,1.1s
BHPL Bhopal 74.88 288 *e*P **P 09 35 30.0 +0.1**
BHPL IAmb IAmb 09 35 41.3
comp=Z,60nm,0.5s
CTAO Charters Tower 74.98 205 *e*P **P 09 35 30.2 -0.1**
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 74.98 205 *e*P **P 09 35 30.2 -0.1**
comp=Z,30nm,1.1s
PMOR Pomariorio Ree 75.00 140 *e*P **P 09 35 30.7 +0.3**
comp=Z,179nm,1.2s
PMOR Pomariorio Ree 75.00 140 *e*T T 10 57 43.4
comp=Z,7.2nm,0.2s
LMK Market Rasen 75.00 355⇓*e*P **P 09 35 30.3 +0.3**
LMK AMB AMB 09 35 31.0
comp=Z,144nm,1.1s
KVAR Kislovodsk Arr 75.13 325 P **P 09 35 32.0 +0.9**
comp=Z,58nm,1.1s,baz=45,slow=1.4,SNR=15
KIV Kislovodsk 75.14 325 *i*P **P 09 35 29.5 -1.7**
SNR=7.3
KIV Kislovodsk 75.14 325 *d*/*i*P **P 09 35 31.8 +0.6**
KIV *i* 09 35 44.6
KIV *i* 09 38 20.7
KIV *i*S **S 09 45 12.5 +4.0**
KIV pmax pmax
comp=Z,69nm,1.1s
KIV Kislovodsk 75.14 325 *e*P **P 09 35 32.5 +1.3**
comp=Z,102nm,1.2s
KIV Kislovodsk 75.14 325 P **P 09 35 32.8 +1.6**
SNR=10
KIV Kislovodsk 75.14 325 P **P 09 35 32.8 +1.6**
SNR=10
KIV P **P 09 35 32.8 +1.6**
SNR=10
NCK Nalchik 75.20 324⇑*e*P **P 09 35 32.9 +1.4**
NCK pmax pmax
comp=Z,64nm,1.1s
WME Myndd Eilian 75.21 358⇓*e*P **P 09 35 31.1 -0.2**
WPS Cemaes, Angles 75.21 358⇓*e*P **P 09 35 30.9 -0.3**
WPS AMB AMB 09 35 31.9
comp=Z,82nm,1.0s
MYKOM Kota Tinggi 75.22 254 *e*P **P 09 35 32.6 +0.7**
comp=Z,28nm,0.9s
LVV L'vov 75.25 339 *e*P **P 09 35 33.5 +1.9**
LVV *e* 09 35 45.2
LVV *i*S **S 09 45 14.0 +4.6**
LVV *e*PS **PnS 09 45 55.1 +10**
KBZ Khabaz 75.26 324 P **P 09 35 33.1 +1.4**
comp=Z,53nm,1.0s,baz=42,slow=3.5,SNR=37
KBZ LR LR 10 13 43.4
comp=Z,582nm,18.6s,baz=22,slow=40
VAH Vaihoa 75.32 140 *e*P **P 09 35 32.5 +0.2**
comp=Z,121nm,1.0s
WLF1 Llynfaes 75.32 358⇓*e*P **P 09 35 31.8 -0.2**
WLF1 AMB AMB 09 35 32.6
comp=Z,108nm,1.2s
WPM1 Penmaenmawr 75.34 357⇓*i*P **P 09 35 32.1 0.0**
DSB Dublin 75.40 359 *e*P **P 09 35 33.0 +0.6**
comp=Z,136nm,0.8s
STNC Stoke 75.45 356⇓*e*P **P 09 35 33.3 +0.6**
STNC AMB AMB 09 35 34.0
comp=Z,131nm,1.1s
YLL Llanberis 75.47 358 *e*P **P 09 35 32.5 -0.3**
VIS Vishakhapatnam 75.53 280 *e*P **P 09 35 33.9 +0.3**
WACR West Acre 75.68 355⇓*e*P **P 09 35 34.0 0.0**
WACR AMB AMB 09 35 34.9
comp=Z,197nm,1.0s
FOEL Foel Wylfa 75.69 357⇓*e*P **P 09 35 34.4 +0.3**
FOEL AMB AMB 09 35 35.2
comp=Z,156nm,1.0s
ZEI Tsey 75.70 323 *e*P **P 09 35 30.9 -3.7**
ZEI pmax pmax
comp=Z,215nm,1.4s
KWP Kalwaria Pacla 75.71 340 *e*P **P 09 35 35.6 +1.3**
KWP Kalwaria Pacla 75.71 340⇓*e*P **P 09 35 35.6 +1.3**
NEY Neytrino 75.74 324⇓*e*P **P 09 35 36.5 +1.7**
NEY pmax pmax
comp=Z,3.0nm,0.9s
OJC Ojcow 75.74 342 *e*P **P 09 35 35.3 +0.9**
OJC Ojcow 75.74 342⇓*e*P **P 09 35 35.3 +0.9**
OJC Ojcow 75.74 342 *e*P **P 09 35 35.3 +0.9**
comp=Z,111nm,1.0s
LLW Llanuwychllyn 75.74 357⇓*e*P **P 09 35 34.2 -0.1**
LLW AMB AMB 09 35 35.4
comp=Z,778nm,1.1s
GUDG Gudauri 75.77 323 P **P 09 35 36.2 +1.2**
CWF Charnwood Fore 75.77 356⇓*e*P **P 09 35 34.5 0.0**
CWF AMB AMB 09 35 35.4
comp=Z,93nm,1.7s
CWF Charnwood Fore 75.77 356 *e*P **P 09 35 34.9 +0.4**
comp=Z,262nm,1.7s
KSP Ksiaz 75.77 344 *e*P **P 09 35 35.3 +0.7**
KSP Ksiaz 75.77 344⇓*e*P **P 09 35 35.3 +0.7**
CLL Collm 75.83 347⇓*i*P **P 09 35 34.5 -0.4**
CLL *e*S **S 09 45 19.0 +3.3**
CLL pmax pmax
comp=Z,144nm,1.6s
CLL Collm 75.83 347⇓*i*P **P 09 35 34.5 -0.4**
comp=Z,144nm,1.6s
CLL *e* 09 35 41.0
CLL *e* 09 35 46.0
CLL *e*PP **PP 09 38 24.0 -0.2**
CLL *e*S **S 09 45 19.0 +3.3**
CLL *e*SSS SSS 09 53 36.0
CLL Collm 75.83 347 *e*P **P 09 35 35.0 +0.1**
comp=Z,179nm,1.7s
WTSB Winterswijk 75.94 351 *e*P **P 09 35 35.6 +0.1**
comp=Z,96nm,1.3s
WTSB *e*pP **pP 09 35 39.5 -2.3**
TLIG Tlapa 76.03 79 *e*P **P 09 35 37.3 +0.6**
comp=Z,124nm,0.9s
ONI Oni 76.04 324 P **P 09 35 37.5 +1.1**
ONI Oni 76.04 324 P **P 09 35 37.4 +1.1**
HLM1 Long Mynd 76.05 357⇓*e*P **P 09 35 36.2 0.0**
HLM1 AMB AMB 09 35 37.2
comp=Z,101nm,1.0s
BRG Berggiesshubel 76.12 346⇓*i*P **P 09 35 36.8 +0.3**
comp=Z,114nm,1.4s
BRG *e* 09 35 48.2
comp=Z,13nm,0.8s
BRG S **S 09 45 20.0 +1.1**
comp=Z,535nm,15.3s
comp=N,809nm,20.6s
comp=E,236nm,20.6s
BRG Berggiesshubel 76.12 346⇓*i*P **P 09 35 36.8 +0.3**
BRG *e* 09 35 48.2
BRG S **S 09 45 20.0 +1.1**
BRG pmax pmax
comp=Z,114nm,1.4s
BRG pmax pmax
comp=Z,13nm,0.8s
BRG MLR MLR
comp=Z,535nm,15.3s
BRG MLR MLR
comp=N,809nm,20.6s
BRG MLR MLR
comp=E,236nm,20.6s
UPC Upice 76.14 345⇓*e*P **P 09 35 37.5 +0.8**
UPC *e*S **S 09 45 26.3 +7.1**
UPC AMS AMS 10 16 10.0
comp=E,500nm,15.3s
UPC Upice 76.14 345 *e*P **P 09 35 37.5 +0.8**
UPC MLR MLR
comp=Z,500nm,15.3s
RAC Raciborz 76.17 343 *e*P **P 09 35 38.3 +1.4**
ANN Anapa 76.19 329 *c*/*i*P **P 09 35 35.9 -1.1**
ANN *e*S **S 09 45 22.6 +2.7**
ANN pmax pmax
comp=Z,139nm,1.4s
STHS Stebnicka Huta 76.22 341 *e*P **P 09 35 39.1 +1.9**
STHS pmax pmax
comp=Z,92nm,1.6s
STHS Stebnicka Huta 76.22 341 *e*P **P 09 35 39.1 +1.9**
DPC Dobruska-Polom 76.24 344 *e*P **P 09 35 38.3 +1.0**
DPC AMS AMS 10 15 20.0
comp=Z,400nm,16.7s
DPC Dobruska-Polom 76.24 344 *e*P **P 09 35 38.3 +1.0**
DPC MLR MLR
comp=Z,400nm,16.7s
IWEX Carrickbyrne, 76.28 359⇓*e*P **P 09 35 37.5 +0.1**
DGRG David-gareji 76.30 322 P **P 09 35 38.1 +0.2**
DGRG David-gareji 76.30 322 P **P 09 35 38.0 +0.2**
TBLG Delisi 76.30 322 P **P 09 35 39.1 +1.2**
TBLG Delisi 76.30 322 P **P 09 35 39.0 +1.2**
PVCC Panska Ves 76.35 345⇓*e*P **P 09 35 38.6 +0.7**
PVCC AMS AMS 10 16 30.0
comp=Z,400nm,14.8s
NIE Niedzica 76.41 341 *e*P **P 09 35 39.6 +1.3**
NIE Niedzica 76.41 341⇓*e*P **P 09 35 39.6 +1.3**
OKC Ostrava-Krasne 76.42 343⇓*e*P **P 09 35 39.3 +1.0**
OKC *e*PCP **PcP 09 35 50.8 +0.8**
OKC *e*x x 09 35 59.7
OKC *e*S **S 09 45 27.9 +5.7**
OKC AMS AMS 10 15 50.0
comp=Z,500nm,14.9s
OKC Ostrava-Krasne 76.42 343 *e*P **P 09 35 39.3 +1.0**
OKC *e* 09 35 50.8
OKC *e* 09 35 59.7
OKC MLR MLR
comp=Z,500nm,14.9s
LPW Lampeter 76.49 358⇓*e*P **P 09 35 38.6 0.0**
SOC Sochi 76.51 326 *e*P **P 09 35 39.8 +0.9**
SOC *e* 09 38 28.5
SOC *e*PPP PPP 09 40 13.6
SOC *e*S **S 09 45 26.1 +2.7**
SOC *e*SS **SS 09 50 14.6 -2.5**
SOC pmax pmax
comp=Z,70nm,0.9s
SSW Stow on the Wo 76.56 356 *e*P **P 09 35 39.5 +0.5**
MCH1 Michaelchurch 76.58 357⇓*e*P **P 09 35 39.2 +0.1**
MCH1 AMB AMB 09 35 40.1
comp=Z,126nm,0.9s
MORC Moravsky Berou 76.58 343⇓*i*P **P 09 35 40.2 +0.9**
MORC Moravsky Berou 76.58 343 *e*P **P 09 35 40.0 +0.7**
MORC pmax pmax
comp=Z,490nm,1.3s
MORC Moravsky Berou 76.58 343 *e*P **P 09 35 40.0 +0.7**
comp=Z,490nm,1.3s
CRVS Cervenica-Dubn 76.66 341 *e*P **P 09 35 40.8 +1.1**
CRVS Cervenica-Dubn 76.66 341 *e*P **P 09 35 40.8 +1.1**
PPT Papeete 76.68 143 LR LR 10 04 59.2
comp=Z,549nm,18.7s,baz=333,slow=32
PPT2 Papeete2 76.70 143 *e*P **P 09 35 40.2 0.0**
comp=Z,66nm,1.2s
PPT2 Papeete2 76.70 143 *e*LR LR 09 59 23.3
comp=Z,642nm,23.2s
LHMI Lhok Sumawe 76.70 261 *e*P **P 09 35 41.3 +1.0**
comp=Z,334nm,0.8s
KIS Kishinev 76.72 335⇓*i*P **P 09 35 39.0 -1.0**
comp=Z,300nm,1.2s
KIS LRM MLR 10 12 56.0
comp=Z,800nm,18.0s
KIS Kishinev 76.72 335κ *i*P **P 09 35 39.0 -1.0**
KIS *i* 09 35 52.0
KIS pmax pmax
comp=Z,290nm,1.2s
KIS MLR MLR
comp=Z,800nm,18.0s
KIS MLR MLR
comp=Z,800nm,18.0s
MONM Monmouth 76.73 357⇓*e*P **P 09 35 40.2 +0.2**
MONM AMB AMB 09 35 41.1
comp=Z,164nm,1.0s
UZH Uzhgorod 76.75 340⇑*i*P **P 09 35 40.4 +0.3**
UZH *i* 09 35 49.3
UZH *i* 09 35 53.3
UZH *e*PPP PPP 09 40 22.1
UZH *e*S **S 09 45 24.3 -1.6**
UZH *e*SS **SS 09 50 18.9 -1.5**
TIAR Tiarei 76.75 142 *e*P **P 09 35 40.6 +0.2**
comp=Z,22nm,0.9s
STRD Stroud 76.77 356⇓*e*P **P 09 35 40.5 +0.3**
STRD AMB AMB 09 35 41.3
comp=Z,280nm,1.0s
PRA Prague 76.82 345⇓*e*P **P 09 35 41.5 +1.0**
PRA Prague 76.82 345 *e*P **P 09 35 41.5 +1.0**
LANS Liptovska Anna 76.83 342 *e*P **P 09 35 42.8 +2.1**
LANS Liptovska Anna 76.83 342 *e*P **P 09 35 42.8 +2.1**
PRU Pruhonice 76.88 345⇓*i*P **P 09 35 41.7 +0.8**
PRU *e*x x 09 36 01.5
PRU *e*S **S 09 45 31.0 +3.7**
PRU AMS AMS 10 16 40.0
comp=Z,400nm,14.3s
PRU Pruhonice 76.88 345⇓*i*P **P 09 35 41.7 +0.8**
PRU *e* 09 36 01.5
PRU *e*S **S 09 45 31.0 +3.7**
PRU MLR MLR
comp=Z,400nm,14.3s
OLDB Oldbury-Upon-S 76.90 357⇓*e*P **P 09 35 41.1 +0.3**
OLDB AMB AMB 09 35 41.8
comp=Z,77nm,1.0s
GOPC GO Pecny, Ondr 76.92 345 *e*P **P 09 35 42.0 +0.9**
GOPC *e*PCP **PcP 09 35 52.6 +0.4**
GOPC *e*S **S 09 45 28.6 +0.8**
GOPC AMS AMS 10 18 00.0
comp=Z,400nm,15.4s
GOPC GO Pecny, Ondr 76.92 345 *e*P **P 09 35 42.0 +0.9**
GOPC *e* 09 35 52.6
GOPC *e*S **S 09 45 28.6 +0.8**
GOPC MLR MLR
comp=Z,400nm,15.4s
PVM Polavaram 76.93 281 *e*P **P 09 35 41.9 +0.3**
PVM IAmb IAmb 09 35 45.7
comp=Z,73nm,0.9s
PVM *e*S **S 09 45 27.8 -0.9**
PVM IVMs_BB IVMs_BB 10 15 02.5
comp=Z,185nm,14.6s
HGH Gray Hill 76.93 357⇓*e*P **P 09 35 41.1 0.0**
NKC Novy Kostel 76.96 347⇓*e*P **P 09 35 42.2 +0.8**
NKC AMS AMS 10 17 10.0
comp=Z,500nm,16.9s
NKC Novy Kostel 76.96 347 *e*P **P 09 35 42.2 +0.8**
NKC MLR MLR
comp=Z,500nm,16.9s
SWN1 Swindon 77.01 356⇓*e*P **P 09 35 42.2 +0.6**
SWN1 AMB AMB 09 35 42.9
comp=Z,232nm,1.4s
BUR08 Bucovina Ar. S 77.02 338 *e*P **P 09 35 42.0 +0.1**
AKH Akhalkalaki 77.05 323 P **P 09 35 43.6 +1.4**
AKH Akhalkalaki 77.05 323⇓*i*P **P 09 35 43.8 +1.6**
AKH Akhalkalaki 77.05 323 P **P 09 35 43.6 +1.4**
BURAR Bucovina Array 77.05 338⇓*i*P **P 09 35 42.5 +0.5**
SIM Simferopol' 77.10 331 *e*P **P 09 35 43.0 +0.8**
SIM *e*PP **pP 09 35 47.0 -1.5**
SIM *e* 09 38 39.0
SIM *e*S **S 09 45 32.0 +2.1**
SIM *e* 09 45 40.0
SIM pmax pmax
comp=Z,64μm,0.8s
RPR Rampur 77.11 284 *e*P **P 09 35 42.6 0.0**
RPR IAmb IAmb 09 35 46.8
comp=Z,134nm,1.0s
RPR *e*S **S 09 45 31.1 +0.5**
RPR IVMs_BB IVMs_BB 10 15 01.2
comp=Z,321nm,5.3s
BGD Bogdanovka 77.13 323 P **P 09 35 44.6 +1.9**
CMBY CAMPBELL BAY 77.18 265 *e*P **P 09 35 45.1 +2.1**
CMBY IAmb IAmb 09 35 48.1
comp=Z,126nm,0.4s
WOL Wolverton 77.19 356 *e*P **P 09 35 42.6 +0.1**
WOL AMB AMB 09 35 43.4
comp=Z,112nm,1.3s
VRAC Vranov 77.20 344 P **P 09 35 43.9 +1.2**
comp=Z,71nm,1.0s,baz=13,slow=6.4,SNR=92
BEBN Eben Emael 77.21 351 P **P 09 35 43.1 +0.4**
comp=Z,28nm,1.5s
HGN Heimansgroeve 77.22 351 *e*P **P 09 35 43.0 +0.2**
comp=Z,135nm,1.1s
HGN *e*pP **pP 09 35 48.0 -1.0**
HGN *e*S **S 09 45 39.1 +8.1**
ELSH Elham, Standar 77.22 354⇓*e*P **P 09 35 42.9 +0.1**
ELSH AMB AMB 09 35 44.0
comp=Z,149nm,1.0s
KECS Kecovo 77.26 341 *e*P **P 09 35 44.3 +1.2**
KECS pmax pmax
comp=Z,36nm,1.0s
KECS Kecovo 77.26 341 *e*P **P 09 35 44.3 +1.2**
KECS *e*PP **PP 09 38 37.6 +1.3**
UCC Uccle 77.33 352 P **P 09 35 43.7 +0.3**
MEM Membach 77.36 351 P **P 09 35 44.0 +0.4**
comp=Z,86nm,1.3s
TREC Trest 77.40 345⇓*e*P **P 09 35 44.7 +0.8**
TREC AMS AMS 10 16 50.0
comp=Z,400nm,15.3s
TREC Trest 77.40 345 *e*P **P 09 35 44.7 +0.8**
TREC MLR MLR
comp=Z,400nm,15.3s
HMNX Herstmonceux 77.55 355⇓*e*P **P 09 35 45.0 +0.4**
HMNX AMB AMB 09 35 45.8
comp=Z,122nm,1.0s
VYHS Vyhne 77.58 342 *e*P **P 09 35 46.0 +1.2**
VYHS pmax pmax
comp=Z,48nm,1.3s
VYHS Vyhne 77.58 342 *e*P **P 09 35 46.0 +1.2**
VYHS *e*PP **PP 09 38 40.9 +1.9**
BCLA Clavier 77.62 351 P **P 09 35 45.4 +0.3**
comp=Z,44nm,1.3s
HTL Hartland 77.62 358⇓*e*P **P 09 35 45.2 +0.3**
HTL AMB AMB 09 35 46.2
comp=Z,74nm,1.0s
SNF Seneffe 77.62 352 P **P 09 35 45.9 +0.9**

SRSP **Sriramsagar** 77.63 285 *e*P P 09 35 45.0 -0.5
SRSP IAmb IAmb 09 35 49.1
comp=Z,72nm,0.9s
SRSP *e*S S 09 45 35.4 -1.0
SRSP IVMs_BB IVMs_BB 10 19 44.3
comp=Z,257nm,15.1s
GNI **Garni** 77.66 321 P P 09 35 47.3 +1.7
comp=Z,19nm,0.7s,baz=287,slow=0.5,SNR=17
GNI **Garni** 77.66 321 *i* P P 09 35 44.6 -1.1
SNR=7.6
GNI **Garni** 77.66 321 *d* iP P 09 35 47.1 +1.5
GNI pmax pmax
comp=Z,410nm,1.7s
GNI **Garni** 77.66 321 *e*P P 09 35 48.0 +2.4
comp=Z,320nm,1.9s
GNI **Garni** 77.66 321 P P 09 35 48.4 +2.8
SNR=11
GNI **Garni** 77.66 321 P P 09 35 48.4 +2.8
SNR=11
GNI P P 09 35 48.4 +2.8
SNR=11
TESR **Tescani** 77.73 336⇑ *i*P P 09 35 46.4 +0.7
ARCR **ARCALIA** 77.75 338⇑ *i*P P 09 35 47.5 +1.7
SMOL **Smolenice** 77.82 343 *e*P P 09 35 47.3 +1.1
SMOL **Smolenice** 77.82 343 *e*P P 09 35 47.3 +1.1
ARTV **Artvin** 77.82 324 *e*P P 09 35 48.2 +1.6
comp=Z,74nm,1.4s
DWPF **Disney Wildern** 77.83 60 *e*P P 09 35 47.1 +0.6
comp=Z,218nm,0.7s
KHC **Kasperske Hory** 77.87 346⇓ *i*P P 09 35 47.3 +0.8
KHC *e*PCP PcP 09 35 58.4 +2.1
KHC *e*S S 09 45 38.8 +0.7
KHC AMS AMS 10 17 40.0
comp=Z,500nm,14.7s
KHC **Kasperske Hory** 77.87 346⇓ *i*P P 09 35 47.3 +0.8
KHC *e* 09 35 58.4
KHC *e*S S 09 45 38.8 +0.7
KHC MLR MLR
comp=Z,500nm,14.7s
KHC **Kasperske Hory** 77.87 346 *e*P P 09 35 47.2 +0.8
comp=Z,56nm,1.3s
PSZ **Piszkesteto** 77.92 341⇓ *i*P P 09 35 48.4 +1.5
PSZ **Piszkesteto** 77.92 341 *e*P P 09 35 48.3 +1.4
PSZ pmax pmax
comp=Z,120nm,1.1s
PSZ **Piszkesteto** 77.92 341⇓ *e*P P 09 35 48.3 +1.4
PSZ **Piszkesteto** 77.92 341 *e*P P 09 35 48.3 +1.4
comp=Z,116nm,1.1s
DOU **Dourbes** 78.00 352 P P 09 35 47.5 +0.4
comp=Z,42nm,1.5s
GEC2 **GERESS Array S** 78.12 346 *e*P P 09 35 48.6 +0.6
GEC2 pmax pmax
comp=Z,140nm,1.5s
GEC2 **GERESS Array S** 78.12 346 *e*P P 09 35 48.6 +0.6
comp=Z,143nm,1.5s
GERES **GERESS Array B** 78.12 346 P P 09 35 48.6 +0.6
comp=Z,21nm,0.8s,baz=25,slow=4.4,SNR=107
GERES LR LR 10 11 46.3
comp=Z,334nm,21.5s,baz=10.0,slow=37
GEA0 **GERESS Array S** 78.13 346 *e*P P 09 35 47.8 -0.2
DYA **Yadsworthy** 78.17 357⇓ *e*P P 09 35 47.9 -0.1
DYA AMB AMB 09 35 49.0
comp=Z,168nm,1.0s
DYA **Yadsworthy** 78.17 357 *e*P P 09 35 48.4 +0.4
comp=Z,202nm,1.0s
CJR **Cluj-Napoca** 78.27 338⇑ *i*P P 09 35 50.3 +1.5
WLF **Walferdange** 78.28 351 P P 09 35 49.4 +0.7
comp=Z,38nm,1.2s
WLF **Walferdange** 78.28 351 *e*P P 09 35 49.5 +0.7
WLF pmax pmax
comp=Z,66nm,1.1s
WLF **Walferdange** 78.28 351 *e*P P 09 35 49.5 +0.7
comp=Z,66nm,1.1s
VRI **Vrincioaia** 78.31 336⇑ *i*P P 09 35 49.9 +0.9
PLOR **Plostina** 78.35 336⇓ *i*P P 09 35 50.1 +0.9
DRGR 78.40 339⇓ *i*P P 09 35 50.2 +0.7
CCA1 **Carnmenellis** 78.45 358⇓ *e*P P 09 35 49.7 +0.1
CCA1 AMB AMB 09 35 50.6
comp=Z,122nm,1.1s
BUD **Budapest** 78.51 342⇓ *e*P P 09 35 51.4 +1.4
BUD **Budapest** 78.51 342⇓ *e*P P 09 35 51.4 +1.4
BUD **Budapest** 78.51 342⇓ *e*P P 09 35 51.4 +1.4
DOPR **Dopca** 78.55 337⇑ *i*P P 09 35 50.6 +0.3
CFR **Carcaliu** 78.59 335⇑ *i*P P 09 35 51.1 +0.6
WRAB **Tennant Creek** 78.60 216 *c* iP P 09 35 49.9 -0.8
WRAB pmax pmax
comp=Z,117nm,1.0s
WRAB **Tennant Creek** 78.60 216 *e*P P 09 35 50.0 -0.8
comp=Z,58nm,1.0s
WB2 **Warramunga Arr** 78.61 216 *e*P P 09 35 49.9 -0.9
WRA **Warramunga Arr** 78.61 216 P P 09 35 50.1 -0.7
comp=Z,28nm,0.9s,baz=31,slow=6.1,SNR=46
WRA PKKPbc PKKPbc 09 54 45.1 -0.2
comp=Z,1.8nm,0.9s,baz=242,slow=3.6,SNR=3.5
WRA LR LR 10 06 50.8
comp=Z,728nm,21.9s,baz=35,slow=33
CMIG **Matias Romero** 78.64 77 P P 09 35 51.3 +0.2
comp=Z,96nm,1.0s,baz=317,slow=4.6,SNR=68
CONA **Conrad Observa** 78.66 344 *i* pP P 09 35 52.3 +1.3
comp=Z,112nm,1.4s,SNR=58
HYBB **Hyderabad (bro** 78.66 284 *e*P P 09 35 51.1 -0.2
HYBB IAmb IAmb 09 35 55.3
comp=Z,136nm,1.0s
HYBB *e*S S 09 45 47.0 -0.5
HYBB IVMs_BB IVMs_BB 10 15 32.2
comp=Z,212nm,4.7s
HYB **Hyderabad** 78.66 284 *i* P P 09 35 51.5 +0.1
HYB *e* 09 35 54.5
HYB *e*PcP PcP 09 36 02.5 +2.2
HYB *e*S S 09 45 48.0 +0.4
HYB **Hyderabad** 78.66 284 *e*P P 09 35 51.2 -0.2
LANF **Langenberg** 78.78 350⇓ *e*P P 09 35 52.0 +0.5
STU **Stuttgart** 78.82 349 *e*P P 09 35 52.3 +0.6
STU pmax pmax
comp=Z,54nm,1.1s
STU **Stuttgart** 78.82 349 *e*P P 09 35 52.3 +0.6
comp=Z,54nm,1.1s
MLR **Muntele Rosu** 78.86 336 P P 09 35 53.1 +1.0
comp=Z,13nm,0.9s,baz=338,slow=1.5,SNR=58
MLR **Muntele Rosu** 78.86 336⇑ *i*P P 09 35 53.0 +0.8
MLR **Muntele Rosu** 78.86 336 *e*P P 09 35 52.8 +0.6
MLR pmax pmax
comp=Z,71nm,1.0s
MLR **Muntele Rosu** 78.86 336 *e*P P 09 35 52.8 +0.6
comp=Z,71nm,1.0s
NJS **Nagarjunasagar** 78.87 282 *e*P P 09 35 52.5 0.0
NJS IAmb IAmb 09 35 56.3
comp=Z,80nm,1.0s
NJS *e*S S 09 45 49.2 -0.5
NJS IVMs_BB IVMs_BB 10 11 04.7
comp=Z,168nm,4.4s
MOA **Molln** 79.00 345 *i* pP P 09 35 53.5 +0.8
comp=Z,45nm,1.6s,SNR=19
ADKI **Addanki** 79.02 282 *e*P P 09 35 53.8 +0.6
ADKI IAmb IAmb 09 35 57.5
comp=Z,51nm,1.0s
ADKI *e*S S 09 45 49.0 -2.2
ADKI IVMs_BB IVMs_BB 10 13 11.8
comp=Z,209nm,9.2s
ISR **Istrita** 79.06 336⇑ *i*P P 09 35 54.1 +1.0
SIRR **Siria** 79.13 340⇓ *i*P P 09 35 54.7 +1.2
VOIR 79.13 337⇑ *i*P P 09 35 54.7 +1.1
TLB **Topalu** 79.16 335⇑ *i*P P 09 35 54.5 +0.9
TIRR **Tirgusor** 79.18 334⇓ *i*P P 09 35 54.5 +0.8
TIRR **Tirgusor** 79.18 334 *e*P P 09 35 54.3 +0.6
TIRR pmax pmax
comp=Z,77nm,1.0s
TIRR **Tirgusor** 79.18 334 *e*P P 09 35 54.3 +0.6
comp=Z,77nm,1.0s
UGM **Wanagama** 79.25 242 *e*P P 09 35 53.3 -1.1
comp=Z,177nm,1.1s
ARR **Arges** 79.30 337⇓ *i*P P 09 35 55.8 +1.3
JQE **Queens East** 79.33 356⇓ *e*P P 09 35 54.3 -0.1
KLRI **Killari** 79.34 286 *e*P P 09 35 54.7 -0.4
KLRI IAmb IAmb 09 35 58.8
comp=Z,101nm,0.9s
KLRI *e*S S 09 45 54.1 -0.6
KLRI IVMs_BB IVMs_BB 10 13 52.2
comp=Z,380nm,20.2s
JSA **Saint Aubin** 79.35 356⇓ *e*P P 09 35 54.6 0.0
JSA AMB AMB 09 35 55.5
comp=Z,140nm,1.0s
BFO **Black Forest** 79.36 349 *e*P P 09 35 54.4 -0.4
BFO pmax pmax
comp=Z,100nm,1.4s
BFO **Black Forest** 79.36 349 *e*P P 09 35 54.4 -0.4
comp=Z,101nm,1.4s
KOPT **Kop Dagi** 79.37 324 *e*P P 09 35 57.6 +2.4
comp=Z,98nm,1.3s
ARSA **Arzberg** 79.38 344 *i* pP P 09 35 56.3 +1.5
comp=Z,90nm,1.5s,SNR=34
LOT **Lotru** 79.43 338⇑ *i*P P 09 35 55.6 +0.4
SRLM **Srisailam** 79.47 283 *e*P P 09 35 55.3 -0.5
SRLM IAmb IAmb 09 35 59.5
comp=Z,82nm,1.1s
SRLM *e*S S 09 45 55.4 -0.8
SRLM IVMs_BB IVMs_BB 10 18 06.7
comp=Z,224nm,7.5s
EFOR **EFORIE** 79.47 334⇓ *i*P P 09 35 56.3 +1.0
ECH **Echery** 79.61 350⇓ *e*P P 09 35 56.4 +0.3
GZR **Gura Zlata** 79.71 339⇓ *i*P P 09 35 57.3 +0.6
THEF **They Montfort** 79.72 351⇓ *e*P P 09 35 57.2 +0.5
BZS **Buzias** 79.75 339⇓ *i*P P 09 35 57.3 +0.5
RETA **Reutte** 79.88 347 *i* pP P 09 35 58.2 +0.6
comp=Z,37nm,1.2s,SNR=20
KBA **Koelnbreinsper** 79.90 345 *i* pP P 09 35 59.3 +1.5
comp=Z,215nm,1.2s,SNR=86
WATA **Walderalm** 79.92 347 *i* pP P 09 35 58.7 +0.8
comp=Z,121nm,1.2s,SNR=26
MOF **Molkenrain** 79.97 350⇓ *e*P P 09 35 58.4 +0.3
MOTA **Moosalm** 79.97 347 *i* pP P 09 35 58.9 +0.7
comp=Z,93nm,1.1s,SNR=36
WTTA **Wattenberg** 79.98 347 *i* pP P 09 35 59.3 +1.1
comp=Z,108nm,1.5s,SNR=35
SOKA **Soboth** 80.01 344 *i* pP P 09 35 59.5 +1.2
comp=Z,159nm,1.2s,SNR=79
KOGS **Kog** 80.02 343 *i* P P 09 35 59.1 +0.8
PERS **Pernice** 80.04 344 *i* P P 09 35 59.6 +1.1
PERS *e*PP PP 09 38 59.7 +0.1
GROS **Grobnik** 80.14 344 *e*P P 09 35 59.9 +0.9
DAVA **Damuels** 80.20 348 *i* pP P 09 35 60.0 +0.6
comp=Z,50nm,1.2s,SNR=17
OBKA **Obir** 80.26 344 *i* pP P 09 36 00.8 +1.1
comp=Z,68nm,0.9s,SNR=24
MYKA **Terra Mystica** 80.29 345 *i* pP P 09 36 00.5 +0.6
comp=Z,58nm,1.6s,SNR=19
FETA **Feichten** 80.34 347 *i* pP P 09 36 01.1 +0.9
comp=Z,73nm,1.2s,SNR=32
ABTA **Abfaltersbach** 80.35 346 *i* pP P 09 36 00.8 +0.6
comp=Z,103nm,1.2s,SNR=43
LOMF **Lomont** 80.50 350⇓ *e*P P 09 36 01.7 +0.7
MDVR **Moldovita** 80.53 339⇑ *i*P P 09 36 01.8 +0.7
POO **Poona** 80.62 288 *e*P P 09 36 01.3 -0.7
POO **Poona** 80.62 288⇓ *i*P P 09 35 57.0 -5.0
comp=Z,14nm,1.0s
PRD **Provadia** 80.62 335 *e*P P 09 36 02.0 +0.5
CADS **Cadrg** 80.67 345 *i* P P 09 36 01.7 -0.2
DAVOX **Davos/Dischmat** 80.69 348 P P 09 36 02.8 +0.7
comp=Z,49nm,0.8s,baz=7.5,slow=3.6,SNR=55
ILGA **Ilgaz** 80.75 329 *e*P P 09 36 04.2 +1.6
comp=Z,131nm,1.0s
SKHT **Srikalahasti** 80.80 280 *e*P P 09 36 03.0 +0.1
SKHT IAmb IAmb 09 36 07.1
comp=Z,85nm,1.2s
SKHT *e*S S 09 46 10.0 -0.1
SKHT IVMs_BB IVMs_BB 10 17 31.3
comp=Z,228nm,21.6s
FUORN **Ofenpass-Fuorn** 80.80 347 *e*P P 09 36 03.9 +1.1
comp=Z,92nm,1.1s
CCIG **Comitan** 80.92 75 *e*P P 09 36 05.2 +1.4
comp=Z,173nm,1.4s
SZH **Strazhica** 80.94 336 *e*P P 09 36 03.2 -0.1
SISC **Sisak** 80.95 343 P P 09 36 04.1 +0.9
OZLJ **Ozalj** 80.97 344 P P 09 36 03.6 +0.3
MDRS **Chennai** 80.98 280 *e*P P 09 36 04.5 +0.6
MDRS IAmb IAmb 09 36 08.4
comp=Z,50nm,1.1s
TUE **Stuetta** 81.07 348 *e*P P 09 36 04.8 +0.6
comp=Z,77nm,1.1s
BOJS **Bojanci** 81.11 344 *i* P P 09 36 04.7 +0.6
URV **Uravakonda** 81.35 283 *e*P P 09 36 04.5 -1.4
URV IAmb IAmb 09 36 09.6
comp=Z,61nm,1.1s
URV *e*S S 09 46 15.8 -0.1
URV IVMs_BB IVMs_BB 10 17 39.1
comp=Z,183nm,5.3s
MPEP **Malo Peshtene** 81.41 337 *e*P P 09 36 05.8 0.0
SENIN **Lac Senin/Sane** 81.42 349 *e*P P 09 36 06.8 +0.8
comp=Z,38nm,1.0s
DIVS **Divibare** 81.55 340 P P 09 36 06.8 +0.2
MARD **Mardin** 81.64 323 *e*P P 09 36 08.9 +1.6
comp=Z,238nm,1.5s
UDBI **Udbina** 81.97 343 P P 09 36 08.9 +0.1
BR131 **Keskin Array S** 81.98 329 *e*P P 09 36 09.8 +0.8
BRTR **Keskin Array B** 81.98 329 P P 09 36 09.8 +0.8
comp=Z,30nm,0.8s,baz=42,slow=3.3,SNR=100
BRTR LR LR 10 18 53.6
comp=Z,194nm,18.1s,baz=10.0,slow=40
TBI **Tubuai** 82.01 145 *e*LR LR 10 02 00.8
comp=Z,584nm,25.2s
KBSD **Kabsdagh** 82.01 323 *e*P P 09 36 09.7 +0.6
EDRB **Edirne** 82.06 335 P P 09 36 09.7 +0.5
EDRB **Edirne** 82.06 335 P P 09 36 09.7 +0.5
PGB **Panagyurishte** 82.06 337 *e*P P 09 36 09.6 +0.3
NVLJ **Novalja** 82.09 344 P P 09 36 09.4 +0.1
ANTO **Ankara** 82.12 330 *e*P P 09 36 11.0 +1.3
ANTO pmax pmax
comp=Z,83nm,1.0s
ANTO **Ankara** 82.12 330 *e*P P 09 36 11.0 +1.3
comp=Z,83nm,1.0s
ANTO **Ankara** 82.12 330 P P 09 36 11.2 +1.5
SNR=9.6
ANTO **Ankara** 82.12 330 P P 09 36 11.2 +1.5
SNR=9.6
ANTO P P 09 36 11.2 +1.5
SNR=9.6
AGO **Saint Agoulin** 82.14 352⇓ *e*P P 09 36 10.8 +1.2
BR231 **Keskin MP Arra** 82.15 330 *e*P P 09 36 09.8 -0.1
AS01 **Alice Springs** 82.17 215 *e*P P 09 36 09.6 -0.3
AS31 **Alice Springs** 82.18 215 *e*P P 09 36 10.0 0.0
comp=Z,6.9nm,0.9s
ASAR **Alice Springs** 82.18 215 P P 09 36 09.9 0.0
comp=Z,14nm,0.8s,baz=24,slow=5.0,SNR=110
ASAR PKIKP PKiKP 09 41 36.5 +4.5
comp=Z,0.8nm,1.0s,baz=8.2,slow=1.5,SNR=4.7
ASAR S S 09 46 03.1 -21
comp=Z,0.3nm,0.5s,baz=90,slow=7.8,SNR=4.8
ASAR PKKPbc PKKPbc 09 54 38.1 +0.8
comp=Z,1.2nm,0.8s,baz=208,slow=1.7,SNR=8.9
ASAR PKPPKP P'P'df 10 02 40.2 +2.3
comp=Z,1.1nm,1.0s,baz=191,slow=1.7,SNR=5.4
ASAR LR LR 10 10 47.4
comp=Z,723nm,19.9s,baz=28,slow=34
PLDF **La Plantade** 82.18 352 *e*P P 09 36 11.2 +1.3
VTS **Vitosha** 82.26 337 P P 09 36 09.6 -0.8
VTS **Vitosha** 82.26 337⇓ *i*P P 09 36 10.7 +0.3
VTS **Vitosha** 82.26 337 *e*P P 09 36 10.7 +0.3
VTS pmax pmax
comp=Z,28nm,0.9s
VTS **Vitosha** 82.26 337 *e*P P 09 36 10.8 +0.3
VTS **Vitosha** 82.26 337 *e*P P 09 36 10.7 +0.3
comp=Z,28nm,0.9s
PLD **Plovdiv** 82.35 336 *e*P P 09 36 10.5 -0.2
PLE **Pljevlja** 82.41 340 *e*P P 09 36 11.6 +0.4
PYM **Petit Puy Mans** 82.45 352⇓ *e*P P 09 36 12.2 +0.9
KDZ **Kurdzhali** 82.59 335 *e*P P 09 36 12.5 +0.5
UPM **Unac-Piva** 82.64 341⇓ *i*P P 09 36 11.7 -0.8
SFNV **Sufian** 82.68 323 *e*P P 09 36 11.3 -1.3
GDM **Grand'Maison** 82.70 350⇓ *e*P P 09 36 14.2 +1.5
GRN **Grenoble** 82.70 350⇓ *e*P P 09 36 13.9 +1.3
RZN **Rozhen** 82.74 336 *e*P P 09 36 13.3 +0.3
IVA **Berane** 82.74 340 *e*P P 09 36 13.0 +0.1
SSB **Saint Sauveur** 82.78 351 *e*P P 09 36 13.7 +0.7
SSB pmax pmax
comp=Z,53nm,0.9s
SSB **Saint Sauveur** 82.78 351 *e*P P 09 36 13.7 +0.7
comp=Z,53nm,0.9s
BNI **Bardonecchia** 82.79 350 *e*P P 09 36 14.6 +1.4
BNI pmax pmax
comp=Z,57nm,0.9s
BNI **Bardonecchia** 82.79 350 *e*P P 09 36 14.6 +1.4
comp=Z,58nm,0.9s
KOME **Kolasin** 82.84 340⇓ *i*P P 09 36 13.2 -0.2
LBL **Lubilhac** 82.95 352 *e*P P 09 36 15.1 +1.2
KKB **Krupnik** 82.97 337 *e*P P 09 36 14.8 +0.8
NKY **Niksic** 82.99 340⇓ *i*P P 09 36 14.2 0.0
GOA **Goa** 83.00 286 *e*P P 09 36 14.7 +0.2
BRY **Bratogost** 83.00 341 *e*P P 09 36 13.7 -0.6
MZRK **Al-Mazaregh** 83.00 322 *e*P P 09 36 13.0 -1.3
RDO **Rodhopi** 83.03 335 P P 09 36 14.9 +0.6
RDO **Rodhopi** 83.03 335 P P 09 36 14.9 +0.6
NKME **Niksic** 83.04 340⇓ *i*P P 09 36 14.1 -0.3
MMB **Musomiste** 83.08 337 *e*P P 09 36 15.1 +0.5
ALN **Alexandroupoli** 83.13 335 P P 09 36 15.2 +0.4
ALN **Alexandroupoli** 83.13 335 P P 09 36 15.2 +0.4
ALN **Alexandroupoli** 83.13 335 P P 09 36 15.2 +0.4
VLC **Villacollemand** 83.19 347 *e*P P 09 36 15.7 +0.5
comp=Z,92nm,1.1s
STON **Ston** 83.20 341 P P 09 36 14.2 -0.8
SKO **Skopje** 83.26 338 P P 09 36 16.1 +0.6
SKO **Skopje** 83.26 338 *i* P P 09 36 16.2 +0.6
SKO **Skopje** 83.26 338 P P 09 36 16.1 +0.6
SKO **Skopje** 83.26 338 P P 09 36 16.1 +0.6
CEME **Cevo** 83.26 340⇓ *i*P P 09 36 15.1 -0.5
NVR **Nevrokopi** 83.27 336 P P 09 36 16.3 +0.7
NVR **Nevrokopi** 83.27 336 P P 09 36 16.3 +0.7
PDG **Podgorica** 83.30 340 P P 09 36 15.8 +0.1
PDG **Podgorica** 83.30 340⇑ *i*P P 09 36 16.1 +0.4
TTG **Podgorica** 83.30 340⇓ *i*P P 09 36 15.7 +0.1
TTG **Podgorica** 83.30 340 P P 09 36 15.8 +0.1
TTG **Podgorica** 83.30 340 P P 09 36 15.8 +0.1
KAVA **Kavala** 83.44 336 P P 09 36 16.7 +0.3
KAVA **Kavala** 83.44 336 P P 09 36 16.7 +0.3
HCY **Herceg Novi** 83.44 341⇓ *i*P P 09 36 15.8 -0.6
BUM **Brajici-Budva** 83.50 340⇓ *i*P P 09 36 16.7 -0.1
DRME **Dracevica, Mon** 83.55 340⇓ *i*P P 09 36 16.8 -0.2
SRS **Serrai** 83.56 337 P P 09 36 17.1 +0.1
KSRV **Kasrt alli** 83.59 323 *e*P P 09 36 17.6 +0.3
VAY **Valandovo** 83.61 337 P P 09 36 18.0 +0.7
VAY **Valandovo** 83.61 337 *i* P P 09 36 18.2 +0.9
SMTH **Samothraki Isl** 83.67 335 P P 09 36 17.6 0.0
SMTH **Samothraki Isl** 83.67 335 P P 09 36 17.6 0.0
SLMH **Al Salmeh** 83.67 324 *e*P P 09 36 17.9 +0.2
KNT **Kendrikon** 83.68 337 P P 09 36 18.2 +0.5
ARMA **Armidale** 83.73 198 *e*P P 09 36 19.3 +1.4
comp=Z,57nm,1.2s
BOLV **Bolvadin** 83.75 330 *e*P P 09 36 19.4 +1.1
comp=Z,208nm,1.4s
ULC **Ulcinj** 83.75 340⇓ *i*P P 09 36 18.3 +0.3
DRWC **Darouich** 83.76 325 *e*P P 09 36 17.4 -0.9
LUCF **Luceram** 83.85 349 *e*P P 09 36 19.4 +0.8
MVIF **Mont Vial** 83.87 349⇓ *e*P P 09 36 19.5 +0.7
KRUS **Krusevo** 83.88 338 *i* P P 09 36 19.2 +0.5
GRG **Griva** 84.00 337 P P 09 36 19.5 +0.2
REVF **Revere** 84.00 349⇓ *e*P P 09 36 20.0 +0.7
BIA **Bitola** 84.19 338 *i* P P 09 36 20.9 +0.6
OUR **Ouranopolis** 84.20 336 P P 09 36 20.4 +0.1
TIR **Tirane** 84.21 339 *e*P P 09 36 19.9 -0.4
TIR pmax pmax
comp=Z,38nm,0.8s
TIR **Tirane** 84.21 339 *e*P P 09 36 19.9 -0.4
comp=Z,38nm,0.8s
OHR **Ohrid** 84.22 339 *i* P P 09 36 20.6 +0.1
LIA **Limnos Island** 84.30 335 P P 09 36 20.9 +0.1
LIA **Limnos Island** 84.30 335 P P 09 36 20.9 +0.1
BTCH **Batrach** 84.36 325 *e*P P 09 36 17.9 -3.4
BANOM **Banah** 84.44 305 *i* P P 09 36 21.4 -0.4
SNR=7.9
BANOM **Banah** 84.44 305 P P 09 36 22.7 +0.9
SNR=5.2
BANOM **Banah** 84.44 305 P P 09 36 22.7 +0.9
SNR=5.2
BANOM P P 09 36 22.7 +0.9
SNR=5.2
PRK **Paraskevi** 84.62 334 P P 09 36 22.4 0.0
PRK **Paraskevi** 84.62 334 P P 09 36 22.4 0.0
PRK **Paraskevi** 84.62 334 P P 09 36 22.4 0.0
ARNB **Al Arnab** 84.69 326 *e*P P 09 36 20.9 -2.1
LIT **Litokhoron** 84.79 337 P P 09 36 22.7 -0.6
PALK **Pallekele** 85.19 276 *e*P P 09 36 26.3 +0.6
PALK pmax pmax
comp=Z,64nm,1.0s
PALK **Pallekele** 85.19 276 *e*P P 09 36 26.3 +0.6
comp=Z,64nm,0.9s
OSSF **Osses** 85.23 355 *e*P P 09 36 25.3 -0.1
ORDF **Ordiarp** 85.25 355 *e*P P 09 36 27.3 +1.7
LRDF **Laroque-de-Fa** 85.29 352 *e*P P 09 36 27.2 +1.4
UOSS **Minazif** 85.29 305 *e*P P 09 36 24.4 -1.7
comp=Z,69nm,1.1s
HATD **Hatta, Dubai** 85.43 305 *i* P P 09 36 26.2 -0.6
SNR=21
HATD **Hatta, Dubai** 85.43 305 P P 09 36 27.0 +0.3
SNR=12
HATD **Hatta, Dubai** 85.43 305 P P 09 36 27.0 +0.3
SNR=12
HATD P P 09 36 27.0 +0.3
SNR=12
LARF **Larrau** 85.43 355 *e*P P 09 36 27.9 +1.4
WSAR **Wadi Sarin** 85.43 302 P P 09 36 27.0 +0.2
comp=Z,41nm,1.1s,baz=21,slow=2.0,SNR=22
BIDO **Bidbid** 85.47 303 P P 09 36 28.0 +1.0
SNR=5.7
BIDO **Bidbid** 85.47 303 P P 09 36 28.0 +1.0
SNR=5.7
BIDO P P 09 36 28.0 +1.0
SNR=5.7
MELF **Melles** 85.49 354 *e*P P 09 36 27.2 +0.3
VIEF **Viey** 85.53 354 *e*P P 09 36 28.5 +1.4
NAZ **Nazwa, Dubai** 85.53 305 *i* P P 09 36 26.6 -0.6
SNR=7.3
NAZ **Nazwa, Dubai** 85.53 305 P P 09 36 28.0 +0.7
SNR=12
NAZ **Nazwa, Dubai** 85.53 305 P P 09 36 28.0 +0.7
SNR=12
NAZ P P 09 36 28.0 +0.7
SNR=12
CARF **Carcanieres** 85.54 353 *e*P P 09 36 28.0 +0.8
SALF **Salau** 85.57 353 *e*P P 09 36 27.8 +0.5
TGUH **Tegucigalpa,Un** 85.57 73 *e*P P 09 36 28.7 +1.2
comp=Z,465nm,1.2s
RESF **Ens** 85.58 354 *e*P P 09 36 28.7 +1.3
ASHO **Ashiyiah** 85.58 305 *i* P P 09 36 26.7 -0.9
SNR=30
ASHO **Ashiyiah** 85.58 305 P P 09 36 27.8 +0.2
SNR=20
ASHO **Ashiyiah** 85.58 305 P P 09 36 27.8 +0.2
SNR=20
ASHO P P 09 36 27.8 +0.2
SNR=20
FILF **Fillols** 85.66 352 *e*P P 09 36 28.8 +1.1
SJAF **Saint Jean de** 85.71 352 *e*P P 09 36 28.9 +1.0
HAWK **Haweek** 85.74 325 *e*P P 09 36 26.3 -1.9
MBWA **Marble Bar** 85.76 228 *e*P P 09 36 28.4 +0.2
comp=Z,39nm,1.0s
FAQ **Al Faqa, Dubai** 85.77 305 *i* P P 09 36 27.5 -0.9
SNR=16
FAQ **Al Faqa, Dubai** 85.77 305 P P 09 36 28.0 -0.5
SNR=11
FAQ **Al Faqa, Dubai** 85.77 305 P P 09 36 28.0 -0.5
SNR=11
FAQ P P 09 36 28.0 -0.5
SNR=11
VALF **Valcebollere** 85.86 353 *e*P P 09 36 30.0 +1.2
MARH **Ras Al Marh** 86.16 324 *e*P P 09 36 30.4 -0.3
TRD **Trivandrum** 86.54 279 *e*P P 09 36 32.6 +0.2
PGAV **Gavieira, Arco** 86.70 0⇓ *e*P P 09 36 32.6 -0.3
comp=Z,60nm,1.3s
PGAV **Gavieira, Arco** 86.70 0 *e*P P 09 36 32.6 -0.3
comp=Z,60nm,1.3s
PGAV A A 09 36 35.5
comp=Z,60nm,1.3s
PGAV **Gavieira, Arco** 86.70 0 *e*LR LR 10 05 04.1
comp=Z,346nm,18.0s
TOTH **TOTAH** 86.77 324 *e*P P 09 36 28.0 -5.4
PBRG **Braganca** 86.85 359⇓ *e*P P 09 36 33.3 -0.3
comp=Z,48nm,1.7s
PBRG **Braganca** 86.85 359 *e*P P 09 36 33.3 -0.3
comp=Z,48nm,1.7s
PBRG A A 09 36 36.8
comp=Z,48nm,1.7s
PBRG **Braganca** 86.85 359 *e*LR LR 10 05 08.8
comp=Z,220nm,18.0s
PCAB **Cabril** 86.95 0 *e*P P 09 36 34.1 +0.1
comp=Z,48nm,2.5s
POLO **Lamas de Olo** 87.29 360 *e*P P 09 36 35.1 -0.7
comp=Z,27nm,0.9s
POLO **Lamas de Olo** 87.29 360⇓ *e*P P 09 36 35.7 -0.1
comp=Z,27nm,0.9s
POLO A A 09 36 37.0
comp=Z,27nm,0.9s
POLO **Lamas de Olo** 87.29 360 *e*LR LR 10 05 23.4
PVRL **Vila Real** 87.39 360 *e*P P 09 36 36.5 +0.3
comp=Z,81nm,0.8s
STKA **Stephens Creek** 87.44 206 P P 09 36 35.9 -0.2

comp=Z,12nm,1.0s,baz=7.5,slow=9.9,SNR=10
STKA LR LR 10 12 08.1
comp=Z,359nm,21.2s,baz=7.2,slow=33
STKA Stephens Creek 87.44 206 *eP* **P 09 36 36.4 +0.3**
comp=Z,9.3nm,1.4s
MMAI Mount Meron Ar 87.45 325 P **P 09 36 37.5 +0.8**
comp=Z,8.7nm,0.7s,baz=50,slow=7.8,SNR=12
MVO Moncorvo 87.49 359⇓*eP* **P 09 36 36.4 -0.3**
comp=Z,57nm,1.0s
MVO Moncorvo 87.49 359 *eLR* LR 10 05 28.9
comp=Z,293nm,18.0s
PTO Porto 87.52 1 *eP* **P 09 36 37.2 +0.5**
comp=Z,71nm,0.9s
ASF Jabal al Asfar 87.67 323 P **P 09 36 38.2 +0.5**
comp=Z,17nm,0.8s,baz=6.4,slow=2.3,SNR=21
GTBY Guantanamo Bay 87.81 60 *eP* **P 09 36 39.1 +0.6**
comp=Z,85nm,1.3s
MTDJ Mount Denham 87.86 63 *eP* **P 09 36 38.9 0.0**
comp=Z,200nm,1.0s
PVIS Viseu 87.94 360 *eP* **P 09 36 38.7 -0.2**
comp=Z,85nm,1.1s
MCJ Malvern 88.02 63⇑*iP* **P 09 36 39.9 +0.3**
MTE Manteigas 88.26 360 *eP* **P 09 36 40.1 -0.3**
comp=Z,82nm,1.1s
MTE Manteigas 88.26 360⇓*eP* **P 09 36 40.1 -0.3**
comp=Z,82nm,1.1s
MTE A A 09 36 41.6
comp=Z,81nm,1.1s
MTE Manteigas 88.26 360 *eLR* LR 10 05 53.4
comp=Z,335nm,18.0s
MTE Manteigas 88.26 360 *eP* **P 09 36 40.0 -0.3**
comp=Z,53nm,1.0s
STH Stony Hill 88.39 63⇑*iP* **P 09 36 41.4 +0.2**
PCAS Casmilo, Conde 88.61 0⇓*eP* **P 09 36 41.6 -0.3**
comp=Z,128nm,1.1s
GRTK Grand Turk 88.61 56 *eP* **P 09 36 43.0 +0.8**
comp=Z,17nm,0.9s
PCBR Castelo Branco 88.82 360⇓*eP* **P 09 36 42.5 -0.4**
comp=Z,79nm,1.1s
ES19 SONSECA Array 88.89 357 *eP* **P 09 36 42.9 -0.5**
ESDC Sonseca Array 88.92 357 P **P 09 36 43.4 -0.1**
comp=Z,31nm,1.0s,baz=357,slow=4.5,SNR=82
ESDC LR LR 10 14 10.3
comp=Z,186nm,21.5s,baz=15,slow=34
ESLA Sonseca Array 88.92 357 *eP* **P 09 36 43.6 +0.1**
comp=Z,34nm,1.0s
PTOM Tomar 89.04 0 *eP* **P 09 36 43.6 -0.4**
comp=Z,117nm,1.2s
PAB San Pablo 89.06 357 *eP* **P 09 36 43.8 -0.4**
PAB pmax pmax
comp=Z,25nm,1.0s
PAB San Pablo 89.06 357 *eP* **P 09 36 43.8 -0.4**
comp=Z,24nm,1.0s
PMRV Marv??o 89.23 360⇓*eP* **P 09 36 44.3 -0.6**
comp=Z,56nm,1.3s
PMRV Marv??o 89.23 360 *eLR* LR 10 06 22.6
comp=Z,362nm,18.0s
PMAFR Mafra 89.69 1 *eP* **P 09 36 47.0 -0.1**
comp=Z,142nm,1.3s
PMAFR Mafra 89.69 1 *eLR* LR 10 06 24.9
comp=Z,339nm,20.0s
PESTR Estremoz 89.79 360 *eP* **P 09 36 47.1 -0.4**
comp=Z,59nm,1.1s
PESTR Estremoz 89.79 360 *eLR* LR 10 06 49.6
comp=Z,328nm,22.0s
HIZ Hauiti 89.89 178 *eP* **P 09 36 51.3 +3.7**
comp=Z,400nm,2.0s
BBOO Buckleboo 89.91 210 *eP* **P 09 36 47.8 0.0**
comp=Z,79nm,1.1s
EVO Evora 90.13 0 *eP* **P 09 36 48.8 -0.3**
comp=Z,43nm,1.4s
LGNH LOogne 90.31 59 *eP* **P 09 36 51.8 +1.6**
PBAR Barrancos 90.48 359⇓*eP* **P 09 36 50.3 -0.4**
comp=Z,218nm,1.1s
PBAR Barrancos 90.48 359 *eLR* LR 10 06 57.0
comp=Z,599nm,22.0s
COCO West Island 90.53 251 *i P* **P 09 36 47.7 -3.4**
PNCL Nicolau / Gran 90.54 0 *eP* **P 09 36 51.0 0.0**
comp=Z,66nm,1.6s
PNCL Nicolau / Gran 90.54 0 *eLR* LR 10 05 45.6
comp=Z,456nm,18.0s
SDDR Presa de Saban 90.62 58 *eP* **P 09 36 51.9 +0.2**
comp=Z,61nm,0.8s
PBEJ Beja 90.63 360 *eP* **P 09 36 51.3 -0.1**
comp=Z,46nm,1.2s
FORT Forrest 90.78 217 *eP* **P 09 36 52.2 +0.3**
comp=Z,406nm,1.0s
PCVE Castro Verde 91.02 0 *eP* **P 09 36 53.5 +0.2**
comp=Z,68nm,1.3s
PCVE Castro Verde 91.02 0 *eLR* LR 10 06 28.6
comp=Z,398nm,18.0s
PTEO Sao Teotonio 91.11 1 *eP* **P 09 36 50.8 -2.8**
PVAQ Vaqueiros 91.25 360 *eP* **P 09 36 54.4 +0.1**
comp=Z,66nm,1.1s
PVAQ Vaqueiros 91.25 360 *eLR* LR 10 07 08.3
comp=Z,359nm,20.0s
PBDV Barranco-do-Ve 91.41 360 *eP* **P 09 36 55.7 +0.6**
PBDV Barranco-do-Ve 91.41 360 *eLR* LR 10 06 48.5
comp=Z,423nm,18.0s
PFVI Vila Bisbo 91.52 1 *eLR* LR 10 07 28.6
comp=Z,384nm,20.0s
KEST Kesra 91.61 346 P **P 09 36 55.7 -0.5**
comp=Z,13nm,1.0s,baz=281,slow=3.6,SNR=9.4
KEST Kesra 91.61 346 *eP* **P 09 36 56.1 -0.1**
comp=Z,20nm,1.1s
AGP Aguadilla 93.25 55 *eP* **P 09 37 02.7 -1.1**
comp=Z,167nm,1.2s
CELP Cerrillos 93.81 54 *eP* **P 09 37 06.2 -0.2**
BCIP Isla Barro Col 93.84 70 *eP* **P 09 37 06.6 0.0**
comp=Z,75nm,1.8s
SJG San Juan 94.00 54 P **P 09 37 06.4 -0.9**
comp=Z,34nm,1.1s,baz=307,slow=4.5,SNR=13
SJG San Juan 94.00 54 *eP* **P 09 37 07.9 +0.6**
SJG pmax pmax
comp=Z,39nm,1.0s
SJG San Juan 94.00 54 *eP* **P 09 37 07.9 +0.6**
comp=Z,39nm,1.0s
CBYP Canovanas 94.01 54 *eP* **P 09 37 06.2 -1.2**
HUMP Col San Antoni 94.12 54 *eP* **P 09 37 07.7 -0.1**
comp=Z,21nm,1.0s
MTP Monte Pirata 94.31 54 *eP* **P 09 37 08.6 -0.1**
STVI Saint Thomas 94.40 53 *eP* **P 09 37 08.6 -0.5**
CAPC Capurgana 95.71 68 *eP* **P 09 37 12.5 -2.7**
MOTC Monteria, Cord 96.57 67 *eP* **P 09 37 17.4 -1.6**
HELC Santa Helena 98.74 68 *eP* **P 09 37 28.9 -0.4**
SDV Santo Domingo 99.31 63 P **Pdif 09 37 30.9 -0.8**
comp=Z,2.8nm,0.3s,baz=332,slow=5.2,SNR=4.5
PAMC Pamplona, Colo 99.42 65 *eP* **Pdif 09 37 33.5 +1.0**
NORC Norcasia 99.63 68 *eP* **Pdif 09 37 34.3 +1.4**
BARC Barichara 99.76 66 *eP* **Pdif 09 37 37.2 +3.5**
RUSC La Rusia 100.39 67 *eP* **Pdif 09 37 39.2 +2.4**
CHIC Chingaza 101.04 68 *eP* **Pdif 09 37 32.6 -7.0**
TORD Torodi Ar. Bea 114.87 350 PKP PKPdf 09 42 28.8 -1.3
comp=Z,3.5nm,0.8s,baz=351,slow=2.3,SNR=15
TORD PKKPbc **PKKPbc 09 53 04.4 -0.3**
comp=Z,1.1nm,1.1s,baz=222,slow=3.6,SNR=4.2
TORD PKKPab **PKKPab 09 53 11.4 -3.8**
comp=Z,1.7nm,0.9s,baz=196,slow=4.1,SNR=6.5
TORD PKKP **PKKPdf 09 53 22.6 -4.2**
comp=Z,1.9nm,0.8s,baz=190,slow=4.3,SNR=6.1
KMBO Kilima Mbogo 116.98 307 PKP **PKPdf 09 42 32.1 -2.3**
comp=Z,1.1nm,0.5s,baz=14,slow=4.6,SNR=3.2
KMBO PKKPab **PKKPab 09 53 05.5 +0.7**
comp=Z,0.7nm,0.3s,baz=280,slow=2.1,SNR=3.7
LPAZ La Paz 121.01 76 PKP **PKPdf 09 42 41.8 -0.7**
comp=Z,3.4nm,0.8s,baz=8.2,slow=3.8,SNR=16
DBIC Dimbokro 121.78 356 PKP **PKPdf 09 42 42.4 -0.9**
comp=Z,6.7nm,0.5s,baz=14,slow=1.6,SNR=16
TIC Toumodi 121.82 357 *e*PKIKP **PKPdf 09 42 42.3 -1.2**
KIC Kosan Boka 122.09 356 *e*PKIKP **PKPdf 09 42 42.9 -1.1**
comp=Z,30nm,1.0s
LIC Lamto 122.23 357 *e*PKIKP **PKPdf 09 42 43.1 -1.1**
comp=Z,40nm,0.9s
LVC Limon Verde 125.33 82 *e*PKPdf **PKPdf 09 42 50.2 -0.1**
LCO Las Campanas 128.84 89 *e*PKPdf **PKPdf 09 42 56.6 -0.1**
VNDA Vanda 129.12 183 PKP **PKPdf 09 42 54.8 -0.6**
comp=Z,4.0nm,0.9s,baz=321,slow=3.9,SNR=21
SBA Scott Base 129.34 181 *e*PKIKP **PKPdf 09 42 56.0 +0.2**
SBA Scott Base 129.34 181 *e*PKPdf **PKPdf 09 42 56.0 +0.2**
CPUP Villa Florida 135.14 75 PKP **PKPdf 09 43 08.0 -0.3**
comp=Z,7.4nm,0.8s,baz=298,slow=3.1,SNR=16
CPUP Villa Florida 135.14 75 PKIKP **PKPdf 09 43 08.0 -0.3**
CPUP pmax pmax
comp=Z,7.0nm,0.8s
PLCA Paso Flores 136.58 101 PKP **PKPdf 09 43 10.8 +0.2**
comp=Z,18nm,1.0s,baz=310,slow=2.5,SNR=22
SPB Sao Paulo 138.76 62 *e*PKPdf **PKPdf 09 43 15.3 +0.2**

TRQA Tornquist 140.26 92 *e*PKPdf **PKPdf 09 43 16.5 -1.0**
QSPA South Pole Qui 141.47 180 *e*PKPdf **PKPdf 09 43 21.0 +2.2**
MAW Mawson 143.28 217 PKhKP PKPpre 09 43 18.3
comp=Z,33nm,1.0s,baz=96,slow=4.5,SNR=51
BOSA Boshof 146.17 300 PKPbc **PKPbc 09 43 29.1 -0.2**
comp=Z,32nm,0.7s,baz=38,slow=1.8,SNR=60
SYO Syowa Base 151.85 214⇓*eX* **PKPdf 09 43 33.3 -2.6**
NVL N'lazarevskaya 158.86 198 *e*PKP2 **PKPab 09 44 21.7 +0.1**
SNAA Sanae 159.84 185 PKP **PKPdf 09 43 44.3 -2.2**
comp=Z,2.2nm,0.8s,baz=158,slow=2.7,SNR=16
SNAA PKPab **PKPab 09 44 24.4 -1.5**
baz=194,slow=4.2
SNAA Sanae 159.84 185 *e*PKIKP **PKPdf 09 43 44.5 -2.1**
SNAA *e* 09 44 23.8
SNAA Sanae 159.84 185 *e*PKPdf **PKPdf 09 43 44.5 -2.1**
SNAA *e*PKPab **PKPab 09 44 23.8 -2.1**

IDC 01 09:31:13.3±999.0, 43.°75N×40.°87E, h0km, Error ellipse: s-maj=7111.0km s-min=266.4km az=55.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**13.45**	**54**	*i*		10 56 00.0	
baz=247,slow=314,SNR=0.8							
I46RU	**ZALESOVO INFRA**	**30.21**	**55**	*i*		12 35 20.0	
baz=268,slow=322,SNR=3.7							
I34MN	**SONGINO INFRAS**	**44.67**	**61**	*i*		14 05 10.0	
baz=290,slow=327,SNR=0.4							

*ISCJB **01** 10:10:48.9±1.1, 39.°03N±0.°04×142.°48E±0.°07, h24km±6km, mb3.6/5, Error ellipse: s-maj=9.4km s-min=6.1km az=17.9*
*JMA **01** 10:10:50.7±0.1, 39.°07N×142.°39E, h32km±1km, M3.9*
JMA Felt I J1.
*IDC **01** 10:10:52.9±3.0, 39.°01N×142.°44E, h46km±30km, mb3.4/5, mb1 3.5/7, mb1mx3.4/41, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=34.7km s-min=20.9km az=102.0*
ISC 01 10:10:48.3±1.9, 39.°07N±0.°04×142.°45E±0.°07, h7km±11km, n24, σ1°48/28, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**271**	P	**Pb**	**10 11 02.0**	**+0.8**
OFUJ				S	**Sb**	**10 11 09.7**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.70**	**317**	P	**Pb**	**10 11 03.4**	**+0.5**
MIYJ				S	**Sg**	**10 11 12.2**	**+1.1**
JMK	**Ichinoseki**	**0.96**	**264**	P	**Pb**	**10 11 07.4**	**+0.1**
JMK				S	**Sg**	**10 11 19.1**	**-0.2**
JTH	**Tanohata**	**0.98**	**333**	P	**Pb**	**10 11 07.7**	**+0.1**
JTH				*e*S	**Sb**	**10 11 21.3**	**+0.6**
JOM	**Ohasama**	**0.98**	**295**	P	**Pb**	**10 11 07.9**	**+0.2**
JOM				S	**Sg**	**10 11 20.3**	**+0.3**
JIO	**Ouri**	**1.05**	**235**	P	**Pg**	**10 11 08.1**	**-0.4**
JIO				S	**Sg**	**10 11 20.6**	**-1.6**
JKZ	**Kuzumaki**	**1.26**	**317**	P	**Pn**	**10 11 12.5**	**+0.2**
JKZ				S	**Sb**	**10 11 27.7**	**-1.1**
JRG	**Rokugo**	**1.45**	**284**	P	**Pn**	**10 11 15.3**	**+0.4**
JRG				S	**Sn**	**10 11 33.6**	**-0.4**
JANG	**Nango**	**1.49**	**331**	P	**Pn**	**10 11 15.5**	**0.0**
JOU	**Okura**	**1.56**	**244**	P	**Pn**	**10 11 16.4**	**-0.1**
JOU				S	**Sn**	**10 11 35.9**	**-1.0**
MJAR	**Matsushiro Arr**	**4.20**	**234**	P	**Pn**	**10 11 54.2**	**+1.5**
1.4nm,0.3s,baz=34,slow=13,SNR=28							
MAT	**Matsushiro**	**4.20**	**234**	P	**Pn**	**10 11 55.7**	**+3.0**
MAT				*e*S	**Sn**	**10 12 46.6**	**+4.6**
ASAJ	**Asahikawa**	**5.05**	**1**	P	**Pn**	**10 12 06.1**	**+1.8**
0.6nm,0.3s,baz=196,slow=19,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	10 47 05.6	
baz=318,slow=75,SNR=100							
H11N1	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	10 47 09.3	
baz=318,slow=75,SNR=110							
H11N3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	10 47 07.0	
baz=318,slow=75,SNR=88							
H11S1	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	10 48 07.9	
baz=319,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	10 48 09.7	
baz=319,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**29.38**	**127**	T	T	10 48 06.8	
baz=319,slow=76,SNR=10							
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**10 18 34.1**	**+0.9**
0.7nm,0.4s,baz=78,slow=9.6,SNR=3.0							
MKAR	**Makanchi Array**	**43.76**	**300**	P	**P**	**10 18 52.0**	**-2.3**
0.2nm,0.3s,baz=83,slow=12,SNR=2.7							
ILAR	**Eielson Array**	**47.35**	**33**	P	**P**	**10 19 22.3**	**-0.1**
0.4nm,0.7s,baz=253,slow=6.1,SNR=6.4							
WRA	**Warramunga Arr**	**59.19**	**189**	P	**P**	**10 20 48.7**	**-1.3**
0.5nm,0.4s,baz=7.5,slow=7.1,SNR=2.9							
ASAR	**Alice Springs**	**62.91**	**189**	P	**P**	**10 21 14.0**	**-1.2**
0.3nm,0.9s,baz=357,slow=5.4,SNR=4.8							

IDC 01 10:16:34.2±2.2, 20.°26S×179.°64W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.5/4, Error ellipse: s-maj=141.1km s-min=29.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.08**	**257**	P	P	10 24 36.5	+0.3
0.2nm,0.4s,baz=90,slow=8.0,SNR=8.1							
WRA	**Warramunga Arr**	**43.11**	**262**	P	P	10 24 35.6	-1.0
0.2nm,0.4s,baz=96,slow=7.7,SNR=3.2							
TXAR	**Lajitas Array**	**88.23**	**58**	P	P	10 29 27.4	-0.4
0.3nm,0.6s,baz=247,slow=4.7,SNR=2.0							
ILAR	**Eielson Array**	**88.43**	**13**	P	P	10 29 28.0	+0.2
0.4nm,0.7s,baz=224,slow=5.0,SNR=2.4							
BVAR	**Borovoye Array**	**117.91**	**320**	PKP	PKPdf	10 35 23.6	+1.1
0.8nm,0.5s,baz=67,slow=4.8,SNR=3.6							
ARCES	**ARCESS Array B**	**128.40**	**349**	PKP	PKPdf	10 35 42.3	0.0
2.1nm,0.9s,baz=18,slow=3.2,SNR=3.8							
GERES	**GERESS Array B**	**149.53**	**343**	PKPbc	PKPbc	10 36 24.4	-1.2
1.1nm,0.4s,baz=30,slow=3.1,SNR=9.0							

*BJI **01** 10:16:40.5, 16.°72S×174.°60W, h209km, mb4.7/16, mB5.3/14*
*ISCJB **01** 10:16:45.7±0.1, 17.°12S±0.°04×175.°12W±0.°04, h256km, mb4.7/126, Error ellipse: s-maj=6.8km s-min=3.3km az=144.6*
*IDC **01** 10:16:45.8±1.6, 17.°02S×175.°12W, h243km±15km, mb4.2/16, mb1 4.4/19, mb1mx4.1/38, mbtmp4.8/19, Error ellipse: s-maj=14.2km s-min=9.3km az=133.0*
*NEIC **01** 10:16:47.9±0.6, 17.°12S×175.°08W, h265km±6km, mb4.8/52, Error ellipse: s-maj=6.0km s-min=3.2km az=143.0*
ISC 01 10:16:47.0±0.3, 17.°05S±0.°06×175.°02W±0.°05, h256km, n244, σ1°08/251, mb4.6/126, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.42**	**45**	P	**Pn**	**10 17 56.0**	**-0.1**
262nm,0.3s,baz=170,slow=1.4,SNR=238							
AFI				S	**S**	**10 18 46.8**	**-4.4**
171nm,0.3s,baz=199,slow=22,SNR=18							
NIUE	**Niue**	**5.24**	**113**	P	**Pn**	**10 18 07.0**	**+1.0**
baz=5.3,SNR=7.4							
MSVF	**Nonsavu**	**6.65**	**263**	*e*Pn	**Pn**	**10 18 27.8**	**+4.3**
RAR	**Rarotonga**	**14.99**	**108**	P	**Pn**	**10 20 07.5**	**+0.7**
3.7nm,0.3s,baz=243,slow=4.5,SNR=3.6							
DZM	**Mont Dzumac**	**18.16**	**251**	P	**P**	**10 20 40.2**	**-1.0**
2.5nm,0.3s,baz=88,slow=23,SNR=36							
DZM				S	**S**	**10 23 56.3**	**+0.5**
0.1nm,0.3s,baz=168,slow=20,SNR=2.4							
DZM	**Mont Dzumac**	**18.16**	**251**	*e*P	**P**	**10 20 39.5**	**-1.8**
30nm,0.7s							
DZM				S	**S**	**10 23 56.3**	**+0.5**
NFK	**Norfolk Island**	**19.68**	**230**	P	**P**	**10 20 58.6**	**+1.3**
baz=20							
URZ	**Urewera**	**22.23**	**197**	P	**P**	**10 21 21.4**	**-1.1**
83nm,0.5s,baz=311,slow=1.1,SNR=36							
URZ				S	**S**	**10 25 06.7**	**-1.3**
18nm,0.5s,baz=257,slow=22,SNR=16							
URZ	**Urewera**	**22.23**	**197**	*e*P	**P**	**10 21 21.6**	**-0.9**
96nm,0.6s							
URZ				*e*S	**S**	**10 25 09.7**	**+1.7**
HIZ	**Hauiti**	**23.15**	**201**	*e*P	**P**	**10 21 34.2**	**+3.3**
85nm,0.9s							
BKZ	**Black Stump Fm**	**23.25**	**197**	*e*P	**P**	**10 21 31.0**	**-0.8**
20nm,0.5s							
PPT	**Papeete**	**24.29**	**95**	*e*P	**P**	**10 21 40.2**	**-1.4**
BFZ	**Birch Farm**	**24.73**	**196**	*e*P	**P**	**10 21 43.6**	**-1.6**
56nm,1.0s							

THZ Tophouse 26.72 200 *eP* **P 10 22 03.2 +0.1**
37nm,0.9s
LTZ Lake Taylor 27.84 200 *eP* **P 10 22 11.2 -1.9**
30nm,0.6s
OXZ Oxford 28.41 200 *eP* **P 10 22 16.1 -1.9**
60nm,1.3s
CRLZ Canterbury Las 28.44 199 *eP* **P 10 22 17.5 -0.8**
216nm,1.6s
RPZ Rata Peaks 29.08 201 P **P 10 22 22.3 -1.6**
9.3nm,0.4s,baz=33,slow=4.5,SNR=13
WHZ Wether Hill Ro 32.07 203 *eP* **P 10 22 50.4 +0.3**
59nm,0.6s
EIDS Eidsvold 32.60 249 P **P 10 22 53.3 -1.6**
baz=32,SNR=12
EIDS Eidsvold 32.60 249 *eP* **P 10 22 53.6 -1.4**
17nm,0.8s
ARMA Armidale 33.17 240 P **P 10 22 59.9 0.0**
baz=33,SNR=143
ARMA Armidale 33.17 240 *eP* **P 10 23 00.0 0.0**
63nm,0.7s
MGCD Mangrove Creek 34.44 236 P **P 10 23 11.3 +0.6**
baz=34,SNR=5.8
RMQ Roma 34.83 248 P **P 10 23 13.7 -0.5**
baz=35,SNR=13
CNB Canberra Magne 36.52 233 P **P 10 23 28.1 -0.4**
baz=36,SNR=22
CTAO Charters Tower 36.78 259 *eP* **P 10 23 29.7 -1.0**
19nm,0.8s
PMG Port Moresby 37.54 277 *eP* **P 10 23 38.0 +0.8**
28nm,0.7s
CMSA Cobar Meteorol 38.39 241 P **P 10 23 43.5 -0.5**
baz=38,SNR=344
MTSU Mount Surprise 38.72 262 P **P 10 23 45.8 -1.2**
baz=39,SNR=18
QLP Quilpie 38.86 249 P **P 10 23 47.0 -1.0**
baz=39,SNR=70
H11S2 WAKE ISLAND Hy 39.63 332 T T 11 05 12.2
baz=146,slow=76,SNR=10.0
H11S3 WAKE ISLAND Hy 39.65 332 T T 11 05 13.3
baz=146,slow=76,SNR=8.7
H11S1 WAKE ISLAND Hy 39.65 332 T T 11 05 14.5
baz=146,slow=76,SNR=8.4
MANU Manus Island 39.86 288 *eP* **P 10 23 57.6 +1.2**
36nm,0.8s
TOO Toolangi 40.22 231 P **P 10 23 58.5 -0.6**
baz=40,SNR=12
COEN Coen 40.35 268 P **P 10 24 00.2 -0.2**
baz=40,SNR=40
COEN Coen 40.35 268 *eP* **P 10 24 00.3 -0.1**
16nm,0.6s
KIP Kipapa 41.71 24 *eP* **P 10 24 12.3 +1.0**
173nm,0.6s
STKA Stephens Creek 41.88 241 P **P 10 24 12.4 -0.1**
64nm,0.5s,baz=88,slow=9.8,SNR=226
STKA Stephens Creek 41.88 241 P **P 10 24 12.4 -0.1**
baz=42,SNR=189
STKA Stephens Creek 41.88 241 *eP* **P 10 24 12.5 -0.1**
21nm,0.9s
ARPS Mount Arapiles 42.77 234 P **P 10 24 18.5 -1.2**
baz=43,SNR=11
HTT Hallett 44.37 239 P **P 10 24 32.0 -0.5**
baz=44,SNR=25
JAY Jayapura 45.82 283 P **P 10 24 44.8 +0.7**
BBOO Buckleboo 46.65 241 P **P 10 24 49.5 -0.8**
baz=47,SNR=78
BBOO Buckleboo 46.65 241 *eP* **P 10 24 49.5 -0.8**
97nm,1.2s
WB2 Warramunga Arr 47.96 258 *eP* **P 10 24 58.8 -1.7**
WRAB Tennant Creek 47.96 258 *eP* **P 10 24 58.7 -1.8**
11nm,0.6s
WRA Warramunga Arr 47.97 258 P **P 10 24 59.3 -1.4**
11nm,0.5s,baz=96,slow=7.0,SNR=36
WRA PcP **PcP 10 26 24.3 -0.3**
1.1nm,0.5s,baz=94,slow=3.2,SNR=4.7
AS01 Alice Springs 48.09 253 *eP* **P 10 25 00.3 -1.3**
AS31 Alice Springs 48.13 253 *eP* **P 10 25 00.8 -1.0**
53nm,0.5s
ASAR Alice Springs 48.14 253 P **P 10 25 00.9 -0.9**
158nm,0.6s,baz=87,slow=8.5,SNR=2552
ASAR PcP **sP 10 26 24.7 -0.3**
4.9nm,0.5s,baz=104,slow=3.9,SNR=6.3
ASAR ScP **ScP 10 29 55.9 +0.8**
1.0nm,0.8s,baz=101,slow=4.1,SNR=5.3
ASAR S **S 10 31 34.5 -6.6**
0.9nm,0.9s,baz=91,slow=16,SNR=5.5
MTN Manton Dam 52.07 267 P **P 10 25 30.3 -1.1**
baz=52,SNR=18
MTN Manton Dam 52.07 267 *eP* **P 10 25 30.3 -1.1**
11nm,0.8s
WRKA Warakurna 53.18 251 P **P 10 25 38.6 -0.9**
baz=53,SNR=95
FORT Forrest 53.29 244 P **P 10 25 38.7 -1.4**
baz=53,SNR=37
FORT Forrest 53.29 244 *eP* **P 10 25 38.5 -1.6**
596nm,0.7s
KNRA Kununurra 53.80 263 P **P 10 25 42.8 -1.1**
baz=54,SNR=5.5
KMBL Kambalda 58.59 243 P **P 10 26 16.0 -1.5**
baz=58,SNR=7.0
SOEI Soe 59.32 269 P **P 10 26 24.1 +1.2**
SOEI Soe 59.32 269 *eP* **P 10 26 23.9 +1.0**
160nm,1.3s
MBWA Marble Bar 61.42 255 *eP* **P 10 26 35.8 -1.1**
20nm,0.6s
SBA Scott Base 61.49 184 *eP* **P 10 26 37.7 +1.4**
18nm,0.9s
VNDA Vanda 61.59 186 P **P 10 26 38.1 +1.1**
11nm,0.9s,baz=358,slow=7.2,SNR=43
VNDA Vanda 61.59 186 *eP* **P 10 26 38.1 +1.1**
12nm,0.8s
KLBR Kellerberrin 62.10 243 P **P 10 26 40.2 -1.1**
baz=62,SNR=48
NWAO Narrogin (SRO) 62.46 241 P **P 10 26 43.0 -0.6**
baz=62,SNR=6.5
NWAO P **P 10 26 43.0 -0.6**
baz=62,SNR=6.5
BLDU Ballidu 63.07 244 P **P 10 26 46.6 -1.0**
baz=63,SNR=21
MUN Mundaring 63.39 242 P **P 10 26 49.2 -0.5**
baz=63
MORW Morawa 63.78 246 P **P 10 26 51.2 -1.1**
baz=64,SNR=5.3
PLAI Plampang 65.75 268 P **P 10 27 04.7 -0.5**
97nm,0.7s,1μm
GIRL Giralia 66.24 252 P **P 10 27 08.6 +0.5**
baz=66,SNR=6.1
TWSI Taliwang, Sumb 66.63 268 P **P 10 27 10.3 -0.5**
112nm,0.9s,1μm
IGBI Denpasar 68.27 267 P **P 10 27 21.0 0.0**
180nm,0.8s
MJAR Matsushiro Arr 69.22 321 P **P 10 27 25.4 -1.0**
1.2nm,0.6s,baz=151,slow=5.4,SNR=4.5
MYLDM Lahad Datu 69.27 282 *eP* **P 10 27 29.1 +2.0**
42nm,1.5s
JAGI Jajag, Banyuwa 69.31 267 P **P 10 27 26.1 -1.3**
135nm,0.8s,1μm
JAGI Jajag, Banyuwa 69.31 267 *eP* **P 10 27 26.1 -1.3**
101nm,0.9s
KMMI Kalianget 69.86 269 P **P 10 27 31.2 +0.5**
GMJI Gumukmas 70.03 267 P **P 10 27 31.0 -0.8**
56nm,0.9s
PWJI Pagerwojo 71.67 267 P **P 10 27 41.5 -0.1**
38nm,0.6s
JNU Nakatsue 71.81 314 P **P 10 27 41.2 -0.9**
3.8nm,0.6s,baz=76,slow=1.6,SNR=4.4
NGJI Ngawi 72.17 268 P P 10 27 57.7 +13
PCJI Pacitan 72.22 267 P **P 10 27 45.2 +0.3**
267nm,0.7s,3μm
UGM Wanagama 72.92 267 P **P 10 27 48.9 -0.2**
128nm,0.9s
QSPA South Pole Qui 73.00 180 *eP* **P 10 27 48.8 +0.1**
83nm,0.8s
SAO San Andreas Ge 73.59 42 *eP* **P 10 27 53.0 +0.5**
12nm,1.0s
PMPB Monarch Peak 73.69 43 *eP* **P 10 27 54.2 +1.1**
37nm,1.5s
PETK Petropavlovsk- 73.74 343 P **P 10 27 52.8 -0.1**
4.5nm,0.8s,baz=124,slow=7.7,SNR=4.4
KMRM Mail Ridge 74.31 38 *eP* **P 10 27 58.0 +1.4**
26nm,0.8s
MWC Mount Wilson 74.39 46 *eP* **P 10 27 57.5 +0.1**
24nm,1.2s
ISA Isabella, Lake 74.91 45 *eP* **P 10 28 01.0 +0.8**
11nm,1.1s
CMB Columbia Colle 75.02 42 *eP* **P 10 28 00.9 +0.2**
7.4nm,0.9s
SRIG Santa Rosalia 75.15 55 *eP* **P 10 28 02.1 +0.5**
11nm,0.8s

AFDM	Forest Hills D	75.20	41	eP	P	10 28 02.0 +0.4
	6.5nm,0.9s					
WDC	Whiskeytown Da	75.23	39	eP	P	10 28 02.6 +0.8
	6.9nm,0.9s					
ORV	Oroville	75.23	40	eP	P	10 28 02.2 +0.4
	6.5nm,1.0s					
KSM	Kuching	75.80	276	eP	P	10 28 06.2 +0.6
	32nm,1.0s					
GSC	Goldstone, Bar	75.85	46	eP	P	10 28 05.7 +0.2
	16nm,1.3s					
YBH	Yreka Blue Hor	75.85	38	eP	P	10 28 06.2 +0.8
	8.3nm,0.9s					
WAKR	Walker	75.90	42	eP	P	10 28 06.8 +0.9
	8.3nm,0.8s					
PNTR	Pine Nut	76.14	41	eP	P	10 28 08.4 +1.2
	13nm,0.8s					
TVH3	East Aurora ar	76.21	42	eP	P	10 28 08.4 +0.7
	3.8nm,0.8s					
KSRS	Korea Array	76.26	317	P	P	10 28 06.1 -1.5
	1.9nm,0.9s,baz=111,slow=4.9,SNR=3.0					
KSAR	Wonju Array Be	76.28	317	P	P	10 28 06.1 -1.7
YERR	Yerington	76.31	42	eP	P	10 28 08.7 +0.6
	13nm,1.0s					
Y12C	Blythe	76.62	48	eP	P	10 28 10.6 +0.9
	9.3nm,0.9s					
PAHR	Pah Rah Range	76.64	41	eP	P	10 28 10.6 +0.7
	4.6nm,0.9s					
113A	Mohawk Valley,	76.67	49	eP	P	10 28 10.5 +0.5
LDFC	Landfair	76.90	47	eP	P	10 28 12.6 +1.1
	41nm,1.3s					
214A	Organ Pipe Nat	76.96	51	eP	P	10 28 12.2 +0.5
	39nm,1.2s					
TPNV	Topopah Spring	77.12	45	eP	P	10 28 13.1 +0.4
	9.5nm,0.8s					
MOD	Modoc Plateau	77.37	39	eP	P	10 28 14.3 +0.3
	15nm,1.4s					
K05A	Summer Lake	77.52	38	eP	P	10 28 15.7 +0.9
	8.3nm,0.9s					
SHPR	Sheep Range	77.62	46	eP	P	10 28 16.1 +0.6
	5.9nm,0.8s					
W13A	Hualapai Mount	77.77	47	eP	P	10 28 17.0 +0.6
CGJI	Cibinong	77.88	267	P	P	10 28 16.2 -1.0
BMN	Battle Mountai	78.41	41	eP	P	10 28 19.9 +0.2
	8.2nm,0.8s					
TUC	Tucson	78.63	51	eP	P	10 28 21.9 +0.9
	11nm,0.8s					
WVOR	Wild Horse Val	78.69	39	eP	P	10 28 21.4 +0.3
	9.2nm,1.1s					
LCMT	Little Creek M	79.20	46	eP	P	10 28 24.8 +0.8
	4.3nm,1.0s					
319A	Douglas	79.33	53	eP	P	10 28 25.8 +1.0
CCUT	Cedar City	79.39	45	eP	P	10 28 25.8 +0.7
	6.3nm,1.0s					
SZCU	Shurtz Canyon	79.60	45	eP	P	10 28 27.2 +1.0
	5.6nm,1.0s					
WUAZ	Wupatki	79.75	48	eP	P	10 28 28.2 +1.1
	8.7nm,1.1s					
NJ2	Nanjing	79.93	308	eP	P	10 28 29.0 +1.1
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
PKCU	Pink Cliffs	80.06	46	eP	P	10 28 31.0 +2.2
	11nm,1.2s					
E07A	Sunnyside	80.44	35	eP	P	10 28 31.0 +0.7
	7.5nm,0.9s					
HAWA	Hanford	80.51	35	eP	P	10 28 31.2 +0.6
BMO	Blue Mountains	80.87	38	eP	P	10 28 32.5 -0.2
	3.6nm,0.8s					
MFID	Camas Ranch	80.94	39	eP	P	10 28 33.5 +0.3
	6.1nm,1.1s					
121A	Cookes Peak, D	80.98	52	eP	P	10 28 34.7 +1.0
	7.7nm,0.8s					
DUG	Dugway, Tooele	81.12	43	eP	P	10 28 34.5 +0.3
	6.9nm,1.3s					
ZAIG	Zacatecas	81.14	63	eP	P	10 28 35.9 +1.1
	9.1nm,1.3s					
D08A	Wollman Farm,	81.25	35	eP	P	10 28 34.4 -0.1
	34nm,1.6s					
BMRM	Bremner River	81.49	14	eP	P	10 28 35.4 -0.1
	12nm,0.9s					
TMUT	Trail Mountain	81.73	45	eP	P	10 28 38.5 +0.9
	8.4nm,0.9s					
B08A	Colville Reser	81.81	34	eP	P	10 28 36.9 -0.5
	3.8nm,0.8s					
HLID	Hailey	81.88	40	eP	P	10 28 38.5 +0.3
	7.6nm,1.0s					
HVU	Hansel Valley	81.97	42	eP	P	10 28 38.8 +0.2
	7.4nm,1.0s					
SRU	San Rafael Swe	82.11	45	eP	P	10 28 40.0 +0.6
	10nm,0.9s					
P17A	Butcher Ranch,	82.14	45	eP	P	10 28 40.9 +1.4
	15nm,1.4s					
JLU	Jordanelle	82.22	43	eP	P	10 28 40.5 +0.4
	6.3nm,0.9s					
LAZ	Ladron	82.30	51	eP	P	10 28 41.5 +0.9
MNTX	Cornudas Mount	82.45	54	eP	P	10 28 41.7 +0.6
	4.7nm,0.8s					
BNM	Barren Site	82.57	51	eP	P	10 28 42.7 +0.7
PV05	Paradox Valley	82.59	47	eP	P	10 28 43.1 +1.1
MVCO	Mesa Verde	82.60	48	eP	P	10 28 42.6 +0.5
	11nm,1.4s					
HWUT	Hardware Ranch	82.66	43	eP	P	10 28 42.0 -0.2
	5.5nm,0.8s					
RND	Reindeer	82.75	12	eP	P	10 28 42.5 +0.5
PV10	Paradox Valley	82.77	46	eP	P	10 28 43.2 +0.2
TX31	Lajitas Ar. Si	82.82	56	eP	P	10 28 43.9 +0.7
TXAR	Lajitas Array	82.82	56	P	P	10 28 44.0 +0.8
	1.9nm,0.7s,baz=215,slow=7.6,SNR=21					
PV04	Paradox Valley	82.87	46	eP	P	10 28 43.3 -0.1
PV01	Paradox Valley	82.98	47	eP	P	10 28 44.2 +0.2
MCK	McKinley	83.03	11	eP	P	10 28 43.1 -0.3
ANMO	Albuquerque	83.05	50	eP	P	10 28 44.8 +0.4
	10nm,1.1s					
MCMT	McKenzie Canyo	83.51	39	eP	P	10 28 47.2 +0.6
SEY	Seymchan	83.71	346	P	P	10 28 46.7 -0.1
	1.3nm,0.3s,baz=8.7,slow=23,SNR=5.3					
WRH	Wood River Hil	83.86	11	eP	P	10 28 47.5 0.0
DLMT	Dillon	83.94	39	eP	P	10 28 49.1 +0.5
	6.1nm,0.9s					
DOT	Dot Lake	83.96	13	eP	P	10 28 48.3 +0.2
REDW	Red Top Meadow	83.99	41	eP	P	10 28 49.1 +0.1
	13nm,1.1s					
TPAW	Teton Pass	84.00	41	eP	P	10 28 49.3 +0.2
BSMT	Bassoo Peak	84.00	36	eP	P	10 28 48.4 -0.5
FXWY	Fox Creek	84.02	41	eP	P	10 28 49.6 +0.4
	6.0nm,1.0s					
S22A	4UR Ranch, Cre	84.03	48	eP	P	10 28 50.2 +0.8
HDA	Harding Lake	84.03	12	eP	P	10 28 48.3 -0.1
CCB	Clear Creek Bu	84.08	11	eP	P	10 28 48.0 -0.6
SNOW	Snow King Moun	84.11	41	eP	P	10 28 50.0 +0.4
	12nm,1.0s					
O20A	White River Ci	84.14	45	eP	P	10 28 49.9 +0.1
IMW	Indian Meadow	84.21	41	eP	P	10 28 50.8 +0.6
	8.2nm,0.8s					
MOOW	Moose Ponds	84.25	41	eP	P	10 28 50.6 +0.3
	5.7nm,1.3s					
COLA	College	84.27	11	eP	P	10 28 49.2 -0.4
	19nm,0.8s					
LOHW	Long Hollow	84.28	41	eP	P	10 28 50.8 +0.3
	5.8nm,1.0s					
MDM	Murphy Dome	84.28	11	eP	P	10 28 49.3 -0.4
IL1	Eielson Array	84.36	12	eP	P	10 28 48.7 -1.3
ILAR	Eielson Array	84.36	12	P	P	10 28 49.4 -0.6
	3.3nm,0.6s,baz=222,slow=6.0,SNR=51					
ILB	Eielson Array	84.36	12	eP	P	10 28 49.5 -0.6
QLMT	Earthquake Lak	84.38	40	eP	P	10 28 51.6 +0.7
YHB	Horse Butte	84.48	40	eP	P	10 28 52.5 +1.1
	13nm,1.2s					
BW06	Boulder Array	84.53	42	eP	P	10 28 51.5 -0.2
PD31	Pinedale Array	84.53	42	eP	P	10 28 51.5 -0.3
PDAR	Pinedale Array	84.53	42	P	P	10 28 51.4 -0.3
	2.8nm,0.8s,baz=210,slow=4.0,SNR=22					
LNIG	Linares	84.56	62	eP	P	10 28 52.0 0.0
SMCO	Snowmass	84.57	46	eP	P	10 28 52.1 -0.1
	6.1nm,1.2s					
YMR	Madison River	84.58	40	eP	P	10 28 53.1 +1.2
	36nm,2.0s					
BOZ	Bozeman (W)	84.64	39	eP	P	10 28 52.6 +0.4
	8.2nm,1.1s					
H17A	Grant Village	84.68	41	eP	P	10 28 54.3 +1.8
YHH	Holmes Hill	84.71	40	eP	P	10 28 54.0 +1.4
	7.8nm,1.4s					
LKWY	Lake	84.88	40	eP	P	10 28 55.8 +2.4
	9.3nm,1.3s					
SDCO	Great Sand Dun	84.97	48	eP	P	10 28 54.2 +0.1
	2.6nm,0.9s					
HRY	Holter Researc	85.10	38	eP	P	10 28 54.6 +0.3
MSTX	Muleshoe	85.39	53	eP	P	10 28 56.3 +0.3
	13nm,1.3s					
MSTX				epP	pP	10 29 58.1 +0.7
DAWY	Dawson	85.40	15	eP	P	10 28 55.5 +0.2
IPM	Ipoh	85.54	276	eP	P	10 28 57.9 +0.8
EGAK	Eagle	85.58	14	eP	P	10 28 56.5 +0.4
	10nm,0.9s					
MAW	Mawson	85.74	199	P	P	10 28 56.9 -0.1
	23nm,0.7s,baz=140,slow=5.4,SNR=69					
MAW	Mawson	85.74	199	P	P	10 28 57.0 -0.1
	baz=86,SNR=38					
JCT	Junction City	86.35	57	eP	P	10 29 00.9 +0.2
ABTX	Abilene, Hawle	87.28	55	eP	P	10 29 05.6 +0.5
GYA	Guiyang	87.45	299	eP	P	10 29 08.2 +2.0
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
HHC	Hu-ho-hao-te	89.01	313	eP	P	10 29 12.7 -0.5
HHC				pmax	pmax	
	comp=Z,37nm,1.3s					
HHC				pmax	pmax	
	comp=Z,50nm,4.9s					
INK	Inuvik	90.24	14	P	P	10 29 18.1 +0.1
	6.3nm,1.0s,baz=207,slow=2.8,SNR=4.1					
INK	Inuvik	90.24	14	eP	P	10 29 18.0 -0.1
KMI	Kunming	90.34	296	P	P	10 29 21.2 +1.3
KMI				pmax	pmax	
	comp=Z,6.0nm,0.5s					
KMI				pmax	pmax	
	comp=Z,240nm,4.3s					
DGMT	Dagmar	90.48	39	eP	P	10 29 20.5 +0.8
SYO	Syowa Base	90.68	192	eP	P	10 29 17.6 -2.7
SNAA	Sanae	91.34	178	P	P	10 29 22.7 -0.7
SNAA	Sanae	91.34	178	eP	P	10 29 22.8 -0.7
	7.5nm,0.8s					
VNA3	Neumayer Olymp	91.35	175	P	P	10 29 23.0 -0.5
CM01	Chiang Mai Arr	91.64	289	eP	P	10 29 27.0 +1.3
CMAR	Chiang Mai Arr	91.66	289	P	P	10 29 26.2 +0.4
	2.5nm,0.6s,baz=102,slow=2.4,SNR=13					
VNA2	Neumayer--Watz	91.83	176	P	P	10 29 25.4 -0.2
	baz=184,slow=3.4					
VNA1	Neumayer--Stat	92.04	176	P	P	10 29 26.5 -0.1
MIAR	Mount Ida	92.69	55	eP	P	10 29 30.0 -0.2
WLAR	White Oak Lake	92.78	56	eP	P	10 29 31.9 +1.2
LZH	Lanzhou	92.95	307	eP	P	10 29 31.2 -0.5
LZH				pP	pP	10 30 22.0 -12
LZH				sP	sP	10 30 43.5 -17
LZH				PP	PP	10 33 20.3 +1.9
LZH				pmax	pmax	
	comp=Z,20nm,1.4s					
LZH				pmax	pmax	
	comp=Z,75nm,5.5s					
WHAR	Wooly Hollow	93.93	54	eP	P	10 29 36.5 +0.5
GTA	Gaotai	97.00	309	eP	P	10 29 50.6 +0.6
GTA				pP	pP	10 30 41.4 -11
GTA				sP	sP	10 31 05.1 -14
GTA				pmax	pmax	
	comp=Z,4.0nm,0.7s					
MKAR	Makanchi Array	110.86	314	PKiKP	PKiKP	10 34 48.5 -1.1
	0.3nm,0.3s,baz=102,slow=0.2,SNR=2.6					
BVAR	Borovoye Array	118.21	321	PKP	PKPdf	10 35 02.7 -0.8
	1.7nm,0.4s,baz=95,slow=0.4,SNR=10.0					
ARCES	ARCESS Array B	126.01	351	PKP	PKPdf	10 35 17.8 -0.2
	3.1nm,1.0s,baz=356,slow=3.0,SNR=3.1					
FINES	FINESS Array B	133.19	346	PKP	PKPdf	10 35 32.3 +0.5
	2.8nm,1.0s,baz=50,slow=4.3,SNR=5.7					
KMBO	Kilima Mbogo	143.42	244	PKP	PKPbc	10 35 50.4 +0.1
	7.5nm,0.8s,baz=66,slow=5.5,SNR=9.2					
KMBO	Kilima Mbogo	143.42	244	ePKPdf	PKPbc	10 35 50.3 0.0
CLL	Collm	145.23	351	ePKPbc	PKPdf	10 35 54.0 0.0
	comp=Z,4.0nm,0.9s					
BURAR	Bucovina Array	145.27	336	iP	PKPab	10 35 55.8 +0.7
DPC	Dobruska-Polom	145.55	347	ePKP	PKPab	10 35 56.2 +0.2
DPC				ex	x	10 37 06.0
BRTR	Keskin Array B	146.40	318	PKPbc	PKPbc	10 35 58.1 -0.2
	comp=Z,4.6nm,0.8s,baz=145,slow=3.4,SNR=16					
VYHS	Vyhne	146.66	343	ePKP	PKPab	10 35 59.6 -0.7
DRGR		146.91	337	iP	PKPbc	10 35 59.5 +0.1
KHC	Kasperske Hory	147.25	350	ePKP	PKPbc	10 36 00.5 +0.3
KHC				ex	x	10 37 14.5
ARR	Arges	147.33	334	iP	PKPab	10 36 02.0 -1.1
GERES	GERESS Array B	147.50	349	PKPbc	PKPbc	10 36 01.8 +0.8
	comp=Z,0.7nm,0.6s,baz=97,slow=3.2,SNR=5.1					
CONA	Conrad Observa	147.94	346	iPKiKP	PKPbc	10 36 02.8 +0.6
	comp=Z,3.3nm,1.0s					
MMAI	Mount Meron Ar	148.33	306	PKPbc	PKPbc	10 36 04.2 +0.6
	comp=Z,5.9nm,0.6s,baz=64,slow=6.6,SNR=9.4					
MOTA	Moosalm	149.37	352	iPKiKP	PKiKP	10 36 06.7 -0.2
	comp=Z,1.0nm,0.4s					
ABTA	Abfaltersbach	149.74	350	iPKPbc	PKPbc	10 36 06.2 -0.5
	comp=Z,3.2nm,0.6s					
FETA	Feichten	149.74	352	ePKPbc	PKPbc	10 36 05.9 -0.9
	comp=Z,6.6nm,1.3s					
DAVOX	Davos/Dischmat	150.08	353	PKPbc	PKPbc	10 36 07.3 -0.4
	comp=Z,3.1nm,0.5s,baz=56,slow=3.6,SNR=5.2					
ESDC	Sonseca Array	156.15	17	PKPab	PKPab	10 36 39.9 -0.3
	comp=Z,0.8nm,0.5s,baz=327,slow=4.3,SNR=6.9					
TORD	Torodi Ar. Bea	174.99	140	PKP	PKPdf	10 36 25.2 -1.8
	comp=Z,0.8nm,0.9s,baz=341,slow=1.3,SNR=4.2					
TORD				PKPab	PKPab	10 38 05.2 +1.6
	comp=Z,0.5nm,1.0s,baz=208,slow=2.6,SNR=2.7					

PGC 01 10:28:42.2±0.3, 59°.03N×137°.95W, h1km, ML2.5/5, 92km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	Pleasant Camp	0.92	61	P	Pg	10 28 59.1	-0.8
PLBC				S	Sg	10 29 11.3	-0.6
PNL	Peninsula	0.98	312	P	Pg	10 28 59.6	-1.4
PNL				S	Sg	10 29 12.5	-1.3
BESE	Bessie Mountai	1.67	104	Pn	Pn	10 29 12.0	-0.7
BESE				Sn	Sn	10 29 34.9	+0.1
WHY	Whitehorse	2.25	42	Pn	Pn	10 29 19.9	-0.8
WHY				Sn	Sn	10 29 48.9	-0.3
CTGM	Chitina Glacie	2.58	320	Pn	Pn	10 29 24.2	-1.1
CTGM				Sn	Sn	10 29 56.2	-1.2
YUK3	Moose Creek	3.03	337	Pn	Pn	10 29 30.8	-0.6
YUK3				Sn	Sn	10 30 07.2	-1.3
YUK2	White River	3.12	334	Pn	Pn	10 29 32.1	-0.5
YUK2				Sn	Sn	10 30 08.9	-1.6
YUK2				Sg	Sg	10 30 19.7	-2.6
DLBC	Dease Lake	4.17	95	Pn	Pn	10 29 46.0	-1.0
DLBC				Sn	Sn	10 30 32.7	-3.7
DLBC				Sg	Sb	10 30 50.9	+3.7
DAWY	Dawson	5.11	353	Pn	Pn	10 29 59.0	-0.8
DAWY				Sn	Sn	10 30 56.1	-3.2
DAWY				Sg	Sg	10 31 20.3	-5.7

*IDC **01** 10:50:31.3±1.6, 2°.64N×95°.55E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/40, mbtmp4.0/8, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/46, Error ellipse: s-maj=42.1km s-min=19.0km az=52.0*

*DJA **01** 10:50:39.1±1.7, 3°N±5°×9°6E±°, h11km±14km, M4.0/6, mb4.5/2, MLv3.8/6*

ISC 01 10:50:37.4±1.0, 2°.80N±0°.08×95°.83E±0°.09, h31km, n21, σ1°59/17, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		1.42	71	P	Pn	10 51 02.4	+1.3
TPTI				S	Sb	10 51 22.4	+1.3
LHMI	Lhok Sumawe	2.66	25	P	Pb	10 51 23.7	-0.7
TSI	Tuntungan	2.81	76	P	Pn	10 51 10.2	-10
PSI	Prapat	3.09	90	Pn	Pn	10 51 26.3	+2.1
	2.1nm,0.3s,baz=290,slow=12,SNR=9.5						
PSI				Sn	Sb	10 52 05.8	-3.2
	1.2nm,0.3s,baz=204,slow=20,SNR=2.4						
PSI				LR	LR	10 53 04.7	
	comp=Z,198nm,18.6s,baz=257,slow=45						
PBSI	Pulau Batu	3.74	139	P	Pn	10 51 34.0	+0.9
MNSI	Mandailing Nat	4.24	118	P	Pn	10 51 41.1	+1.2
MNSI				S	Sn	10 52 27.9	-0.5
PDSI	Padang	5.92	128	P	Pn	10 52 05.9	+2.9
CMAR	Chiang Mai Arr	15.86	11	Pn	Pn	10 54 20.3	+1.7
	0.3nm,0.3s,baz=204,slow=12,SNR=13						
H08S2	Diego Garcia H	25.49	246	T	T	11 21 59.4	
	baz=67,slow=76,SNR=752						
H08S3	Diego Garcia H	25.50	246	T	T	11 21 59.4	
	baz=67,slow=76,SNR=613						
H08S1	Diego Carcia H	25.51	246	T	T	11 21 59.4	
	baz=67,slow=76,SNR=208						
H01W3	Cape Leeuwin H	41.24	157	T	T	11 41 59.8	
	baz=329						
H01W2	Cape Leeuwin H	41.25	157	T	T	11 41 59.8	
	baz=329						
H01W1	Cape Leeuwin H	41.25	157	T	T	11 42 00.6	
	baz=329						
WSAR	Wadi Sarin	41.34	303	LR	LR	11 13 43.2	
	comp=Z,54nm,19.5s,slow=34						
WRA	Warramunga Arr	44.04	123	P	P	10 58 42.3	-0.5
	0.4nm,0.4s,baz=300,slow=9.3,SNR=2.3						
KSRS	Korea Array	45.35	36	P	P	10 58 53.3	+0.4
	0.5nm,0.5s,baz=214,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	45.38	347	P	P	10 58 52.0	-1.0
	5.4nm,0.6s,baz=164,slow=7.8,SNR=30						
ASAR	Alice Springs	45.44	127	P	P	10 58 53.3	-0.6
	0.5nm,0.6s,baz=300,slow=8.0,SNR=12						
SONM	Songino Array	45.78	10	P	P	10 58 55.8	-0.5
	0.8nm,0.5s,baz=200,slow=8.5,SNR=5.5						
SONM				PcP	PcP	11 00 33.5	-0.1
	0.6nm,0.6s,baz=176,slow=5.8,SNR=3.4						
ZALV	Zalesovo Beam	51.78	352	P	P	10 59 41.2	-0.9
	4.4nm,0.5s,baz=179,slow=7.2,SNR=15						

*ISCJB **01** 10:54:30.2±1.1, 17°.8S±0°.3×178°.1W±0°.2, h590km, mb4.0/10, Error ellipse: s-maj=43.4km s-min=14.3km az=146.5*

*IDC **01** 10:54:30.9±4.4, 17°.89S×178°.03W, h589km±49km, mb3.5/10, mb1 3.7/11, mb1mx3.4/32, mbtmp4.4/11, Error ellipse: s-maj=41.1km s-min=22.8km az=143.0*

ISC 01 10:54:31.0±1.1, 17°.9S±0°.3×178°.1W±0°.2, h590km, n26, σ0°59/27, mb4.0/10, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.16	252	P	P	10 57 40.2	-0.9
	0.2nm,0.3s,baz=67,slow=15,SNR=4.3						
CTA	Charters Tower	33.79	260	P	P	11 00 26.1	+0.5
	1.5nm,0.3s,baz=78,slow=10,SNR=3.7						
STKA	Stephens Creek	38.94	241	P	P	11 01 08.0	+0.3
	10nm,0.8s,baz=90,slow=17,SNR=2.5						
WRA	Warramunga Arr	44.97	259	P	P	11 01 55.0	-0.1
	30nm,1.1s,baz=96,slow=8.3,SNR=5.5						
WRA				PcP	PcP	11 03 22.7	-0.8
	0.7nm,0.3s,baz=90,slow=3.7,SNR=2.9						
ASAR	Alice Springs	45.13	254	P	P	11 01 56.2	-0.1
	9.0nm,0.6s,baz=99,slow=7.2,SNR=5.4						
ASAR				PcP	PcP	11 03 23.1	-0.9
	1.3nm,0.5s,baz=101,slow=4.1,SNR=4.8						
MJAR	Matsushiro Arr	68.10	323	P	P	11 04 32.8	-0.2
	2.1nm,0.6s,baz=158,slow=6.4,SNR=6.1						
PETK	Petropavlovsk-	73.75	345	P	P	11 05 06.2	+0.5
	6.2nm,0.8s,baz=111,slow=7.9,SNR=4.2						
TXAR	Lajitas Array	85.69	57	P	P	11 06 09.4	+0.5
	0.9nm,0.8s,baz=216,slow=5.5,SNR=11						
ILAR	Eielson Array	85.79	13	P	P	11 06 07.3	-1.0
	0.9nm,0.5s,baz=219,slow=4.8,SNR=16						
PDAR	Pinedale Array	87.10	43	P	P	11 06 15.2	-0.2
	0.6nm,0.7s,baz=172,slow=3.0,SNR=7.1						
CMAR	Chiang Mai Arr	89.20	290	P	P	11 06 26.1	+0.7
	0.9nm,0.6s,baz=119,slow=3.3,SNR=5.3						
AKASG	Malin Array Be	140.71	333	PKP	PKPdf	11 12 55.5	+1.3
	0.3nm,0.3s,baz=40,slow=0.4,SNR=3.2						
KWP	Kalwaria Pacla	144.19	337	eP	PKPbc	11 13 00.1	-0.1
BRTR	Keskin Array B	145.01	315	PKPbc	PKPdf	11 13 02.6	+0.3
	3.2nm,0.8s,baz=141,slow=4.8,SNR=9.9						
KSP	Ksiaz	145.19	344	eP	PKPbc	11 13 03.3	+0.1
NIE	Niedzica	145.24	339	eP	PKPbc	11 13 03.5	+0.1
CLL	Collm	145.52	348	iPKPbc	PKPbc	11 13 03.5	-0.6
	comp=Z,11nm,0.9s						
UPC	Upice	145.57	344	ePKP	PKPbc	11 13 03.8	-0.5
DPC	Dobruska-Polom	145.63	344	ePKP	PKPbc	11 13 04.2	-0.3
BRG	Berggiesshubel	145.73	346	eP	PKPbc	11 13 04.5	-0.2
	comp=Z,3.6nm,0.7s						
KRLC	Kraliky	145.75	343	ePKP	PKPbc	11 13 04.5	-0.4
PVCC	Panska Ves	145.91	346	ePKP	PKPbc	11 13 05.0	-0.2
PRU	Pruhonice	146.42	345	ePKP	PKPbc	11 13 06.3	-0.3
GOPC	GO Pecny, Ondr	146.43	345	ePKP	PKPbc	11 13 06.2	-0.5
KHC	Kasperske Hory	147.45	346	ePKP	PKPbc	11 13 08.9	-0.6
GERES	GERESS Array B	147.68	345	PKPbc	PKPbc	11 13 09.7	-0.5
	comp=Z,2.4nm,0.7s,baz=29,slow=3.0,SNR=16						

*ISCJB **01** 10:54:28.6±0.2, 48°.89S±0°.03×164°.63E±0°.03, h10km, mb5.6/64, MS5.1/162, Error ellipse: s-maj=4.6km s-min=2.3km az=146.5*

*IDC **01** 10:54:28.2±0.4, 49°.01S×164°.52E, h0km, mb5.5/22, mb1 5.5/23, mb1mx5.4/28, mbtmp5.5/23, ML4.6/1, MS5.0/19, Ms1 5.0/19, ms1mx4.9/24, Error ellipse: s-maj=17.0km s-min=11.9km az=68.0*

*GCMT **01** 10:54:29.8±0.1, 48°.92S×164°.15E, h15km, MW5.5/116, Moment Tensor Solution. s106,c190; s116,c319; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.05±.03; $M_{\theta\theta}$0.62±.03; $M_{\phi\phi}$-2.67±.03; $M_{r\theta}$0.60±.06; $M_{\theta\phi}$0.36±.02; $M_{\phi r}$-0.31±.05; Best double couple: $M_0$2.50700×10^{17} NP1:ϕ_s156.00000°, δ52.00000°, λ66.00000°. NP2:ϕ_s13.00000°, δ44.00000°, λ118.00000°. Principal axes: T 2.2760, Plg70.0000°, Azm6.0000°; N 0.4610, Plg19.0000°, Azm172.0000°; P -2.7380, Plg5.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*WEL **01** 10:54:29.8±0.0, 48°.98S×164°.54E, h10km, ML5.6/35, Mw5.6*

WEL Felt from Wairarapa to Southland, maximum reported intensity MM 4.

*NEIC **01** 10:54:29.8±0.1, 48°.98S×164°.54E, h10km, mb5.6/35, MS5.1/130, MW5.6, Error ellipse: s-maj=4.8km s-min=3.7km az=143.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}2.84; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-2.48; $M_{r\theta}$0.62; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.63; Best double couple: $M_0$2.90000×

TUZ				SN	Sn	10 56 29.6	-1.9
TUZ				AML	AML	10 56 38.0	
TUZ				AML	AML	10 56 38.1	
TUZ				AML	AML	10 56 51.1	
MSZ	**Milford Sound**	**4.84**	**29**	PN	**Pn**	**10 55 43.9**	**+0.2**
MSZ				AML	AML	10 56 59.5	
MSZ				AML	AML	10 56 59.5	
MSZ				AML	AML	10 57 05.9	
EAZ	**Earnscleugh**	**4.91**	**43**	PN	**Pn**	**10 55 42.9**	**-1.8**
EAZ				*e*SN	**Sn**	**10 56 40.4**	**-0.3**
EAZ				AML	AML	10 56 43.9	
EAZ				AML	AML	10 56 55.0	
EAZ				AML	AML	10 56 55.0	
HHSZ	**Highcliff Hill**	**5.10**	**55**	PN	**Pn**	**10 55 46.1**	**-1.1**
HHSZ				AML	AML	10 56 59.1	
HHSZ				AML	AML	10 57 03.5	
WKZ	**Wanaka**	**5.11**	**38**	*e*Pn	**Pn**	**10 55 46.8**	**-0.6**
WKZ				*e*Sn	**Sn**	**10 56 47.0**	**+1.3**
WKZ	**Wanaka**	**5.11**	**38**	PN	**Pn**	**10 55 46.3**	**-1.1**
WKZ				AML	AML	10 56 49.4	
WKZ				AML	AML	10 56 49.4	
WKZ				AML	AML	10 57 07.1	
WKZ				AML	AML	10 57 07.1	
JCZ	**Jackson Bay**	**5.66**	**32**	PN	**Pn**	**10 55 55.1**	**0.0**
JCZ				AML	AML	10 57 08.9	
JCZ				AML	AML	10 57 15.4	
ODZ	**Otahua Downs**	**5.69**	**49**	*e*Pn	**Pn**	**10 55 53.2**	**-2.1**
ODZ				*e*Sn	**Sn**	**10 56 58.4**	**-1.3**
ODZ	**Otahua Downs**	**5.69**	**49**	PN	**Pn**	**10 55 52.8**	**-2.5**
ODZ				AML	AML	10 56 59.8	
ODZ				AML	AML	10 56 59.8	
ODZ				AML	AML	10 57 16.8	
ODZ				AML	AML	10 57 16.8	
LBZ	**Lake Benmore**	**5.96**	**42**	*e*Pn	**Pn**	**10 55 56.0**	**-3.2**
LBZ				*e*Sn	**Sn**	**10 57 05.4**	**-1.1**
LBZ	**Lake Benmore**	**5.96**	**42**	PN	**Pn**	**10 55 56.0**	**-3.2**
LBZ				AML	AML	10 57 23.5	
LBZ				AML	AML	10 57 37.3	
FOZ	**Fox Glacier**	**6.51**	**36**	*e*Pn	**Pn**	**10 56 05.6**	**-1.0**
FOZ	**Fox Glacier**	**6.51**	**36**	PN	**Pn**	**10 56 06.3**	**-0.3**
FOZ				AML	AML	10 57 46.4	
FOZ				AML	AML	10 57 55.6	
MCQ	**Macquarie Isla**	**6.57**	**210**	P	**Pn**	**10 56 04.7**	**-2.7**
baz=6.6,SNR=19							
MCQ	**Macquarie Isla**	**6.57**	**210**	*e*P	**Pn**	**10 56 04.3**	**-3.1**
MCQ	**Macquarie Isla**	**6.57**	**210**	*e*Pn	**Pn**	**10 56 03.5**	**-3.9**
RPZ	**Rata Peaks**	**6.88**	**43**	Pn	**Pn**	**10 56 07.6**	**-4.1**
24nm,0.3s,baz=208,slow=4.6,SNR=41							
RPZ				Sn	**Sn**	**10 57 26.9**	**-2.2**
85nm,0.3s,baz=357,slow=22,SNR=11							
RPZ				LR	LR	10 59 23.6	
comp=Z,24μm,18.9s,baz=217,slow=42							
RPZ	**Rata Peaks**	**6.88**	**43**	*e*Pn	**Pn**	**10 56 08.7**	**-3.0**
RPZ				*e*Sn	**Sn**	**10 57 29.8**	**+0.7**
RPZ	**Rata Peaks**	**6.88**	**43**	PN	**Pn**	**10 56 07.6**	**-4.1**
RPZ				AML	AML	10 57 40.8	
RPZ				AML	AML	10 58 14.3	
WVZ	**Waitaha Valley**	**7.26**	**38**	PN	**Pn**	**10 56 14.7**	**-2.2**
WVZ				AML	AML	10 57 51.7	
WVZ				AML	AML	10 58 11.9	
OXZ	**Oxford**	**7.63**	**45**	*e*Pn	**Pn**	**10 56 20.3**	**-1.8**
OXZ	**Oxford**	**7.63**	**45**	PN	**Pn**	**10 56 18.9**	**-3.1**
OXZ				AML	AML	10 58 32.8	
OXZ				AML	AML	10 58 46.2	
MQZ	**McQueen's Vall**	**7.65**	**50**	PN	**Pn**	**10 56 19.5**	**-2.7**
MQZ				AML	AML	10 58 37.5	
MQZ				AML	AML	10 58 49.6	
CRLZ	**Canterbury Las**	**7.73**	**49**	*e*Pn	**Pn**	**10 56 21.5**	**-1.8**
CRLZ	**Canterbury Las**	**7.73**	**49**	PN	**Pn**	**10 56 20.9**	**-2.4**
CRLZ				AML	AML	10 58 37.4	
CRLZ				AML	AML	10 58 40.1	
INZ	**Inchbonnie**	**7.84**	**40**	PN	**Pn**	**10 56 23.7**	**-1.1**
LTZ	**Lake Taylor**	**8.16**	**44**	*e*Pn	**Pn**	**10 56 29.1**	**-0.2**
LTZ	**Lake Taylor**	**8.16**	**44**	PN	**Pn**	**10 56 26.3**	**-3.0**
LTZ				AML	AML	10 58 47.3	
DSZ	**Denniston Nort**	**8.80**	**38**	PN	**Pn**	**10 56 36.6**	**-1.6**
DSZ				AML	AML	10 56 38.7	
DSZ				AML	AML	10 56 39.3	
KHZ	**Kahutara**	**9.04**	**47**	*e*Pn	**Pn**	**10 56 42.2**	**+0.9**
KHZ	**Kahutara**	**9.04**	**47**	PN	**Pn**	**10 56 38.5**	**-2.8**
KHZ				AML	AML	10 59 58.3	
KHZ				AML	AML	11 00 15.0	
THZ	**Tophouse**	**9.26**	**42**	*e*Pn	**Pn**	**10 56 43.4**	**-0.9**
THZ	**Tophouse**	**9.26**	**42**	PN	**Pn**	**10 56 41.3**	**-3.0**
THZ				AML	AML	10 58 38.4	
THZ				AML	AML	11 00 13.1	
QRZ	**Quartz Range**	**9.87**	**38**	PN	**Pn**	**10 56 51.0**	**-1.7**
QRZ				AML	AML	10 56 52.7	
QRZ				AML	AML	10 56 53.7	
NNZ	**Nelson**	**9.91**	**42**	PN	**Pn**	**10 56 53.0**	**-0.2**
NNZ				SN	**Sn**	**10 58 42.3**	**-1.1**
NNZ				AML	AML	10 59 51.8	
SNZO	**South Karori**	**10.45**	**47**	*e*Pn	**Pn**	**10 57 00.1**	**-0.4**
CAW	**Cannon Point**	**10.78**	**47**	PN	**Pn**	**10 57 05.9**	**+0.8**
CAW				AML	AML	10 59 07.7	
CAW				AML	AML	10 59 10.7	
MRZ	**Mangatainoka R**	**11.37**	**47**	PN	**Pn**	**10 57 10.2**	**-3.0**
MRZ				SN	**Sn**	**10 59 16.7**	**-2.6**
MRZ				AML	AML	10 59 23.0	
BFZ	**Birch Farm**	**11.68**	**49**	*e*Pn	**Pn**	**10 57 17.7**	**+0.2**
BFZ	**Birch Farm**	**11.68**	**49**	PN	**Pn**	**10 57 17.4**	**-0.1**
BFZ				AML	AML	10 57 24.0	
BFZ				SN	**Sn**	**10 59 23.6**	**-3.4**
TSZ	**Takapari Road**	**12.02**	**47**	PN	**Pn**	**10 57 20.8**	**-1.3**
TSZ				AML	AML	10 58 21.8	
WNVZ	**Wahianoa**	**12.43**	**43**	PN	**Pn**	**10 57 27.1**	**-0.8**
OTVZ	**Oturere**	**12.60**	**43**	PN	**Pn**	**10 57 29.2**	**-0.9**
HIZ	**Hauiti**	**12.78**	**39**	*e*Pn	**Pn**	**10 57 31.3**	**-1.3**
HIZ	**Hauiti**	**12.78**	**39**	PN	**Pn**	**10 57 30.4**	**-2.1**
HIZ				AML	AML	11 00 16.4	
HIZ				AML	AML	11 01 01.3	
BKZ	**Black Stump Fm**	**12.97**	**46**	*e*Pn	**Pn**	**10 57 35.7**	**+0.5**
TAU	**Tasmania Unive**	**13.44**	**290**	*e*P	**Pn**	**10 57 37.0**	**-4.5**
TAU	**Tasmania Unive**	**13.44**	**290**	*e*Pn	**Pn**	**10 57 37.0**	**-4.5**
TAU				*e*Sn	Sn	10 59 53.8	-16
KNZ	**Kokohu**	**13.66**	**48**	PN	**Pn**	**10 57 42.6**	**-1.8**
MOO	**Moorlands**	**13.78**	**292**	P	**Pn**	**10 57 42.0**	**-4.0**
baz=14,SNR=49							
CTZ	**Chatham Island**	**13.97**	**75**	PN	**Pn**	**10 57 47.0**	**-1.7**
URZ	**Urewera**	**13.99**	**45**	Pn	**Pn**	**10 57 46.7**	**-2.3**
2.6nm,0.3s,baz=211,slow=9.4,SNR=18							
URZ				Sn	**Sn**	**11 00 15.8**	**-7.5**
1.2nm,0.3s,baz=112,slow=19,SNR=3.3							
URZ				LR	LR	11 03 54.3	
comp=Z,19μm,19.0s,baz=236,slow=40							
URZ	**Urewera**	**13.99**	**45**	*e*Pn	**Pn**	**10 57 49.1**	**+0.2**
URZ				Sn	**Sn**	**11 00 15.8**	**-7.5**
URZ	**Urewera**	**13.99**	**45**	PN	**Pn**	**10 57 47.8**	**-1.1**
URZ				AML	AML	10 58 09.2	
MKAZ	**Moumakai**	**14.11**	**37**	PN	**Pn**	**10 57 48.2**	**-2.5**
MKAZ				AML	AML	11 03 13.0	
MKAZ				AML	AML	11 03 13.0	
MWZ	**Matawai**	**14.12**	**46**	PN	**Pn**	**10 57 49.5**	**-1.4**
MWZ				AML	AML	10 58 03.4	
MWZ				AML	AML	10 58 13.7	
HAZ	**Te Kaha**	**14.71**	**45**	PN	**Pn**	**10 57 57.9**	**-0.8**
HAZ				AML	AML	10 58 08.2	
WCZ	**Waipu Caves**	**14.84**	**32**	PN	**Pn**	**10 57 59.5**	**-1.0**
MXZ	**Matakaoa Point**	**15.11**	**46**	*e*Pn	**Pn**	**10 58 05.1**	**+0.9**
302nm,1.3s							
OUZ	**Omahuta**	**15.24**	**29**	*e*Pn	**Pn**	**10 58 05.6**	**-0.3**
104nm,1.0s							
OUZ	**Omahuta**	**15.24**	**29**	PN	**Pn**	**10 58 05.5**	**-0.3**
MILA	**Mila**	**16.35**	**311**	P	**Pn**	**10 58 18.0**	**-2.3**
baz=16,SNR=30							
CNB	**Canberra Magne**	**17.64**	**315**	P	**Pn**	**10 58 36.9**	**+0.4**
baz=18,SNR=30							
CAN	**Canberra**	**17.81**	**314**	*e*P	**Pn**	**10 58 38.9**	**+0.4**
CAN				*e*S	**Sn**	**11 01 58.7**	**+2.4**
CAN				pmax	pmax		
comp=Z,411nm,1.6s							
CAN	**Canberra**	**17.81**	**314**	*e*P	**Pn**	**10 58 38.9**	**+0.4**
comp=Z,411nm,1.6s							
CAN				*e*S	**Sn**	**11 01 58.7**	**+2.4**
LHI	**Lord Howe Isla**	**17.90**	**344**	*e*P	**P**	**10 58 40.8**	**+0.8**
comp=Z,318nm,1.4s							
TOO	**Toolangi**	**17.91**	**302**	P	**Pn**	**10 58 39.7**	**0.0**
baz=18,SNR=81							
MGCD	**Mangrove Creek**	**18.67**	**322**	P	**Pn**	**10 58 50.2**	**+1.2**
baz=19,SNR=15							
ARPS	**Mount Arapiles**	**20.55**	**298**	P	**P**	**10 59 09.8**	**+0.7**
baz=20,SNR=23							
ARMA	**Armidale**	**20.96**	**327**	P	**P**	**10 59 15.1**	**+1.4**
baz=21,SNR=21							
ARMA	**Armidale**	**20.96**	**327**	*e*P	**P**	**10 59 14.3**	**+0.7**
comp=Z,92nm,1.0s							
ARMA				*e*S	**S**	**11 03 06.8**	**+0.9**
CMSA	**Cobar Meteorol**	**22.49**	**314**	P	**P**	**10 59 29.6**	**-0.3**
baz=22,SNR=41							
RAO	**Raoul Island**	**23.79**	**41**	LR	LR	11 10 16.6	
comp=Z,6μm,19.1s,baz=198,slow=40							
STKA	**Stephens Creek**	**24.29**	**306**	P	**P**	**10 59 48.0**	**+0.3**
comp=Z,77nm,0.7s,baz=133,slow=11,SNR=116							
STKA				PcP	**PcP**	**11 03 26.8**	**-0.3**
comp=Z,12nm,0.8s,baz=66,slow=3.1,SNR=5.2							
STKA				LR	LR	11 08 41.5	
comp=Z,4μm,18.1s,baz=141,slow=35							
STKA	**Stephens Creek**	**24.29**	**306**	P	**P**	**10 59 48.3**	**+0.6**
baz=24,SNR=81							
STKA	**Stephens Creek**	**24.29**	**306**	*e*P	**P**	**10 59 48.2**	**+0.5**
comp=Z,18nm,0.8s							
STKA				PcP	**PcP**	**11 03 26.8**	**-0.3**
HTT	**Hallett**	**24.60**	**300**	P	**P**	**10 59 50.5**	**-0.1**
baz=24,SNR=12							
RMQ	**Roma**	**25.58**	**325**	P	**P**	**11 00 00.3**	**+0.9**
baz=26,SNR=250							
EIDS	**Eidsvold**	**25.80**	**331**	P	**P**	**11 00 01.9**	**+0.5**
baz=26,SNR=16							
EIDS	**Eidsvold**	**25.80**	**331**	*e*P	**P**	**11 00 01.6**	**+0.2**
comp=Z,275nm,1.5s							
BBOO	**Buckleboo**	**26.71**	**297**	P	**P**	**11 00 09.5**	**-0.2**
baz=27,SNR=9.5							
BBOO	**Buckleboo**	**26.71**	**297**	*e*P	**P**	**11 00 08.6**	**-1.1**
comp=Z,73nm,1.3s							
DZM	**Mont Dzumac**	**26.86**	**4**	P	**P**	**11 00 12.9**	**+1.8**
comp=Z,89nm,1.0s,baz=175,slow=7.8,SNR=40							
DZM				PcP	**PcP**	**11 03 34.1**	**+1.0**
comp=Z,4.7nm,0.7s,baz=143,slow=5.1,SNR=5.3							
DZM				LR	LR	11 09 20.8	
comp=Z,4μm,18.9s,baz=171,slow=33							
DZM	**Mont Dzumac**	**26.86**	**4**	*e*P	**P**	**11 00 12.0**	**+0.9**
comp=Z,342nm,1.4s							
DZM				*e*S	**S**	**11 04 44.1**	**-1.9**
comp=Z,694nm,27.0s							
DZM				*e*LR	LR	11 06 55.8	
comp=Z,4μm,21.4s							
DZM	**Mont Dzumac**	**26.86**	**4**	*e*P	**P**	**11 00 11.4**	**+0.3**
comp=Z,122nm,1.0s							
DZM				PcP	**PcP**	**11 03 34.1**	**+1.0**
QLP	**Quilpie**	**27.36**	**317**	P	**P**	**11 00 15.6**	**+0.2**
baz=27,SNR=66							
VNDA	**Vanda**	**28.70**	**181**	P	**P**	**11 00 27.5**	**+0.5**
comp=Z,41nm,1.3s,baz=354,slow=8.9,SNR=18							
VNDA				PcP	**PcP**	**11 03 36.9**	**+0.2**
comp=Z,5.1nm,0.7s,baz=334,slow=3.7,SNR=15							
VNDA				LR	LR	11 09 37.3	
comp=Z,3μm,19.3s,baz=14,slow=32							
VNDA	**Vanda**	**28.70**	**181**	*e*P	**P**	**11 00 28.1**	**+1.0**
comp=Z,82nm,1.5s							
VNDA				PcP	**PcP**	**11 03 36.9**	**+0.2**
SBA	**Scott Base**	**29.03**	**179**	*e*P	**P**	**11 00 31.7**	**+1.8**
SBA				pmax	pmax		
comp=Z,130nm,1.5s							
SBA	**Scott Base**	**29.03**	**179**	*e*P	**P**	**11 00 31.7**	**+1.8**
comp=Z,130nm,1.5s							
SBA				LR	LR		
comp=Z,3μm,20.0s							
CTA	**Charters Tower**	**32.33**	**326**	P	**P**	**11 00 59.5**	**-0.1**
comp=Z,69nm,0.9s,baz=165,slow=9.9,SNR=54							
CTA				PcP	**PcP**	**11 03 47.0**	**-0.1**
comp=Z,28nm,0.9s,baz=268,slow=1.3,SNR=8.6							
CTA				LR	LR	11 12 07.8	
comp=Z,3μm,20.0s,baz=150,slow=33							
CTAO	**Charters Tower**	**32.33**	**326**	*e*P	**P**	**11 00 59.8**	**+0.2**
CTAO				*e*		11 03 47.4	
CTAO				pmax	pmax		
comp=Z,78nm,1.0s							
CTAO	**Charters Tower**	**32.33**	**326**	*e*P	**P**	**11 00 59.8**	**+0.2**
comp=Z,78nm,1.0s							
CTAO				*e*PcP	**PcP**	**11 03 47.4**	**+0.3**
CTAO				LR	LR		
comp=Z,5μm,20.0s							
FORT	**Forrest**	**32.99**	**290**	P	**P**	**11 01 04.6**	**-0.6**
baz=33,SNR=8.8							
FORT	**Forrest**	**32.99**	**290**	*e*P	**P**	**11 01 04.8**	**-0.5**
comp=Z,701nm,1.1s							
MSVF	**Nonsavu**	**32.99**	**24**	*e*P	**P**	**11 01 05.5**	**+0.1**
MSVF	**Nonsavu**	**32.99**	**24**	*e*P	**P**	**11 01 05.5**	**+0.1**
MSVF				LR	LR		
comp=Z,3μm,20.0s							
QIS	**Mount Isa**	**34.67**	**316**	P	**P**	**11 01 19.8**	**-0.1**
baz=35,SNR=22							
MTSU	**Mount Surprise**	**34.84**	**325**	P	**P**	**11 01 21.8**	**+0.4**
baz=35,SNR=86							
AS01	**Alice Springs**	**34.89**	**305**	*e*P	**P**	**11 01 21.1**	**-0.8**
ASAR	**Alice Springs**	**34.92**	**305**	P	**P**	**11 01 21.4**	**-0.7**
comp=Z,89nm,0.8s,baz=136,slow=8.1,SNR=782							
ASAR				PcP	**PcP**	**11 03 53.5**	**-0.9**
comp=Z,25nm,0.8s,baz=139,slow=3.4,SNR=12							
ASAR				S	**S**	**11 06 50.3**	**-1.7**
comp=Z,2.0nm,1.1s,baz=144,slow=13,SNR=3.0							
ASAR				PKiKP	**PKiKP**	**11 11 14.8**	**-1.7**
comp=Z,1.1nm,0.8s,baz=140,slow=1.7,SNR=9.2							
ASAR				LR	LR	11 14 50.8	
comp=Z,3μm,18.2s,baz=154,slow=35							
ASAR				P3KP		11 33 45.0	
comp=Z,0.8nm,0.9s,baz=264,slow=2.9,SNR=5.4							
AS31	**Alice Springs**	**34.92**	**305**	*e*P	**P**	**11 01 21.5**	**-0.6**
comp=Z,38nm,0.8s							
KMBL	**Kambalda**	**36.50**	**283**	P	**P**	**11 01 34.9**	**-0.7**
baz=36,SNR=5.2							
WRKA	**Warakurna**	**37.02**	**297**	P	**P**	**11 01 39.2**	**-0.9**
baz=37,SNR=33							
WB2	**Warramunga Arr**	**37.74**	**309**	*e*P	**P**	**11 01 44.9**	**-1.4**
WRA	**Warramunga Arr**	**37.75**	**309**	P	**P**	**11 01 44.8**	**-1.5**
comp=Z,145nm,0.9s,baz=144,slow=7.9,SNR=114							
WRA				PcP	**PcP**	**11 04 02.4**	**-0.5**
comp=Z,53nm,0.8s,baz=142,slow=2.7,SNR=25							
WRA				S	**S**	**11 07 32.9**	**-2.4**
comp=Z,0.8nm,0.6s,baz=139,slow=11,SNR=3.7							
WRA				LR	LR	11 16 14.1	
comp=Z,1μm,19.6s,baz=130,slow=35							
WRAB	**Tennant Creek**	**37.75**	**309**	*c i*P	**P**	**11 01 44.7**	**-1.6**
WRAB				pmax	pmax		
comp=Z,615nm,1.0s							
WRAB	**Tennant Creek**	**37.75**	**309**	*e*P	**P**	**11 01 44.8**	**-1.6**
comp=Z,220nm,0.9s							
WRAB				LR	LR		
comp=Z,2μm,21.0s							
NWAO	**Narrogin (SRO)**	**38.52**	**277**	P	**P**	**11 01 51.4**	**-1.3**
comp=Z,25nm,0.9s,baz=334,slow=5.1,SNR=5.4							
NWAO				PcP	**PcP**	**11 04 03.5**	**-1.6**
comp=Z,27nm,0.9s,baz=360,slow=4.0,SNR=5.5							
NWAO				LR	LR	11 13 50.0	
comp=Z,2μm,20.8s,baz=351,slow=30							
NWAO	**Narrogin (SRO)**	**38.52**	**277**	P	**P**	**11 01 51.6**	**-1.0**
baz=38,SNR=6.4							
NWAO				P	**P**	**11 01 51.6**	**-1.0**
baz=38,SNR=6.4							
NWAO	**Narrogin (SRO)**	**38.52**	**277**	P	**P**	**11 01 51.4**	**-1.3**
NWAO						11 04 03.5	
NWAO				pmax	pmax		
comp=Z,16nm,0.9s							
NWAO				pmax	pmax		
comp=Z,27nm,0.9s							
NWAO	**Narrogin (SRO)**	**38.52**	**277**	*e*P	**P**	**11 01 51.8**	**-0.9**
comp=Z,33nm,0.9s							
NWAO				PcP	**PcP**	**11 04 03.5**	**-1.6**
KLBR	**Kellerberrin**	**39.03**	**279**	P	**P**	**11 01 56.0**	**-0.9**
baz=39,SNR=12							
COEN	**Coen**	**39.09**	**326**	P	**P**	**11 01 57.6**	**0.0**
baz=39,SNR=31							
COEN	**Coen**	**39.09**	**326**	*e*P	**P**	**11 01 57.5**	**-0.1**
comp=Z,71nm,1.0s							
H01W1	**Cape Leeuwin H**	**39.34**	**272**	T	T	11 43 34.3	
baz=128,slow=76,SNR=358							
H01W2	**Cape Leeuwin H**	**39.35**	**272**	T	T	11 43 34.4	
baz=128,slow=76,SNR=423							
H01W3	**Cape Leeuwin H**	**39.36**	**272**	T	T	11 43 33.4	
baz=128,slow=76,SNR=498							
MIR	**Mirnyy**	**39.43**	**217**	*e*P	**P**	**11 02 02.0**	**+2.2**
MIR				*i* S	**S**	**11 08 01.0**	**+1.4**
MIR				pmax	pmax		
comp=Z,12nm,1.8s							
MIR				pmax	pmax		
comp=Z,1μm,6.0s							
MIR				smax	smax		
comp=E,2μm,11.0s							
MIR				MLR	MLR		
comp=Z,6μm,14.0s							
HNR	**Honiara**	**39.57**	**353**	P	**P**	**11 02 00.7**	**-0.8**
comp=Z,266nm,0.7s,baz=194,slow=2.1,SNR=9.1							
HNR				LR	LR	11 15 35.8	
comp=Z,3μm,20.6s,baz=167,slow=32							
HNR	**Honiara**	**39.57**	**353**	*e*P	**P**	**11 02 02.0**	**+0.4**
HNR	**Honiara**	**39.57**	**353**	*e*P	**P**	**11 02 01.0**	**-0.6**
comp=Z,251nm,0.7s							
RAR	**Rarotonga**	**39.60**	**59**	PFAKE		11 02 10.0	+8.2
RAR				LR	LR		
comp=Z,3μm,21.0s							
AFI	**Afiamalu**	**39.99**	**37**	P	**P**	**11 02 05.6**	**+0.5**
comp=Z,62nm,1.1s,baz=19,slow=18,SNR=5.5							
AFI	**Afiamalu**	**39.99**	**37**	*e*P	**P**	**11 02 06.7**	**+1.6**
comp=Z,158nm,1.2s							
AFI				LR	LR		
comp=Z,1μm,20.0s							
BLDU	**Ballidu**	**40.34**	**279**	P	**P**	**11 02 06.9**	**-1.0**
baz=40,SNR=8.7							
QSPA	**South Pole Qui**	**41.18**	**180**	*e*P	**P**	**11 02 14.8**	**+0.2**
comp=Z,455nm,1.5s							
QSPA				LR	LR		
comp=Z,1μm,20.0s							
MORW	**Morawa**	**41.80**	**280**	P	**P**	**11 02 19.3**	**-0.6**
baz=42,SNR=13							
PMG	**Port Moresby**	**42.03**	**334**	P	**P**	**11 02 22.1**	**+0.3**
comp=Z,115nm,1.0s,baz=140,slow=4.1,SNR=27							
PMG				PcP	**PcP**	**11 04 17.8**	**+1.3**
comp=Z,59nm,0.9s,baz=195,slow=3.3,SNR=7.5							
PMG				LR	LR	11 16 55.9	
comp=Z,3μm,20.6s,baz=156,slow=32							
PMG	**Port Moresby**	**42.03**	**334**	*c i*P	**P**	**11 02 23.0**	**+1.2**
PMG				pmax	pmax		
comp=Z,1μm,1.7s							
PMG	**Port Moresby**	**42.03**	**334**	*e*P	**P**	**11 02 23.2**	**+1.4**
comp=Z,274nm,1.3s							
PMG				PcP	**PcP**	**11 04 17.8**	**+1.3**
FUNA	**Funafuti**	**42.12**	**22**	PFAKE		11 02 30.0	+7.5
FUNA				LR	LR		
comp=Z,13μm,19.0s							
FITZ	**Fitzroy Crossi**	**43.96**	**301**	P	**P**	**11 02 37.2**	**-0.2**
comp=Z,146nm,0.7s,baz=142,slow=10.0							
TBI	**Tubuai**	**44.14**	**72**	*e*S	**S**	**11 09 13.8**	**+3.6**
comp=Z,1μm,29.5s							
TBI				*e*LQ	LQ	11 12 43.5	
comp=Z,2μm,31.2s							
TBI				*e*LR	LR	11 14 42.9	
comp=Z,3μm,34.0s							
KNRA	**Kununurra**	**44.21**	**306**	P	**P**	**11 02 38.5**	**-0.9**
baz=44,SNR=52							
KDU	**Kakadu**	**44.84**	**313**	P	**P**	**11 02 44.1**	**-0.4**
baz=45,SNR=10							
MBWA	**Marble Bar**	**45.09**	**292**	*e*P	**P**	**11 02 45.4**	**-1.0**
comp=Z,100nm,1.0s							
MBWA				LR	LR		
comp=Z,1μm,21.0s							
MTN	**Manton Dam**	**45.37**	**311**	P	**P**	**11 02 48.1**	**-0.6**
baz=45,SNR=15							
MTN	**Manton Dam**	**45.37**	**311**	*e*P	**P**	**11 02 47.8**	**-0.9**
comp=Z,210nm,0.8s							
RABL	**Rabaul**	**45.83**	**343**	*e*P	**P**	**11 02 52.7**	**+0.3**
comp=Z,257nm,0.8s							
PPT2	**Papeete2**	**48.39**	**66**	*e*S	**S**	**11 10 14.1**	**+2.7**
comp=Z,2μm,27.5s							
PPT2				*e*LR	LR	11 16 51.6	
comp=Z,6μm,31.2s,baz=211							
PPT	**Papeete**	**48.41**	**66**	LR	LR	11 22 04.4	
comp=Z,1μm,18.2s,baz=204,slow=34							
TIAR	**Tiarei**	**48.56**	**66**	*e*P	**P**	**11 03 16.4**	**+2.8**
comp=Z,22nm,0.8s							
MANU	**Manus Island**	**49.01**	**337**	*e*P	**P**	**11 03 18.1**	**+1.1**
comp=Z,120nm,0.8s							
MAW	**Mawson**	**49.97**	**209**	P	**P**	**11 03 23.7**	**-0.1**
comp=Z,29nm,1.0s,baz=120,slow=8.8,SNR=30							
MAW				PcP	**PcP**	**11 04 43.6**	**+0.1**
comp=Z,12nm,1.0s,baz=112,slow=6.1,SNR=3.6							
MAW				LR	LR	11 22 53.4	
comp=Z,2μm,18.6s,baz=110,slow=34							
MAW	**Mawson**	**49.97**	**209**	P	**P**	**11 03 23.9**	**+0.1**
baz=50,SNR=18							
MAW	**Mawson**	**49.97**	**209**	*e*P	**P**	**11 03 23.6**	**-0.1**
comp=Z,20nm,1.3s							
MAW				PcP	**PcP**	**11 04 43.6**	**+0.1**
JAY	**Jayapura**	**50.58**	**328**	P	**P**	**11 03 29.2**	**+0.2**
comp=Z,3.2nm,1.1s,baz=174,slow=23,SNR=6.5							
TARA	**Tarawa**	**50.62**	**11**	*e*P	**P**	**11 03 30.6**	**+1.3**
comp=Z,87nm,1.0s							
TARA				LR	LR		
comp=Z,89nm,19.0s							
SOEI	**Soe**	**51.53**	**305**	*e*P	**P**	**11 03 37.3**	**+0.9**
comp=Z,141nm,1.0s							
FAKI	**Fak Fak**	**53.53**	**318**	*e*P	**P**	**11 03 49.7**	**-1.3**
comp=Z,150nm,1.4s							
MMRI	**Maumere**	**53.56**	**304**	*e*P	**P**	**11 03 51.2**	**0.0**
comp=Z,327nm,1.1s							
RKT	**Rikitea**	**53.63**	**84**	*e*S	**S**	**11 11 28.1**	**+4.5**
comp=Z,2μm,32.5s							
RKT				*e*LR	LR	11 19 30.5	
comp=Z,

KKO	Keanakako'i	76.85	39	eP	P	11 06 24.1	+1.9
PUH	Pauahi	76.85	39	eP	P	11 06 24.1	+1.9
UWE	Uwekahuna	76.86	39	eP	P	11 06 24.7	+2.4
OBL	Observatory Le	76.86	39	eP	P	11 06 24.7	+2.4
BYL	Byron's Ledge	76.86	39	eP	P	11 06 24.2	+1.9
HATHI	Halema'uma'u T	76.87	39	eP	P	11 06 24.8	+2.4
MLH	Mauna Loa	76.88	39	eP	P	11 06 24.5	+1.9
MLH	Mauna Loa	76.88	39	eP	P	11 06 24.5	+1.9
STCH	Steam Cracks	76.89	39	eP	P	11 06 24.3	+1.9
POHA	Pohakuloa	77.06	38	eP	P	11 06 25.3	+1.8
POHA				LR	LR		
	comp=Z,1μm,19.0s						
KULM	Kulim	77.32	294	eP	P	11 06 24.2	-0.7
KULM				LR	LR		
	comp=Z,757nm,22.0s						
KIP	Kipapa	77.58	35	ceP	P	11 06 27.5	+1.4
KIP				pmax	pmax		
	comp=Z,615nm,1.0s						
KIP	Kipapa	77.58	35	eP	P	11 06 27.6	+1.4
DLV	T Lat	78.16	304	eP	P	11 06 29.4	-0.3
PLCA	Paso Flores	78.33	140	P	P	11 06 30.2	-0.1
	comp=Z,11nm,0.8s,baz=249,slow=6.2,SNR=25						
PLCA				LR	LR	11 33 22.3	
	comp=Z,418nm,20.9s,baz=238,slow=30						
PLCA	Paso Flores	78.33	140	eP	P	11 06 31.4	+1.0
MIDW	Midway	78.48	16	PFAKE		11 06 40.0	+9.1
MIDW				LR	LR		
	comp=Z,1μm,21.0s						
KRAB	Krabi	80.51	294	P	P	11 06 47.4	+5.0
SSLB	Suanglung	82.21	320	eP	P	11 06 49.8	-1.4
GO05	HualaæØ	82.48	136	eP	P	11 06 53.5	+0.7
UBPT	Khong Chiam	82.55	303	P	P	11 06 53.4	+0.3
	comp=Z,74nm,1.3s,comp=Z,1μm						
QIZ	Qiongzhong	83.32	309	P	P	11 06 57.2	+0.2
QIZ				PP	PP	11 10 13.5	+4.3
QIZ				S	S	11 17 18.3	+2.2
QIZ				sS	sS	11 17 33.1	+3.2
QIZ				SS	SS	11 22 45.6	+3.5
QIZ				pmax	pmax		
	comp=Z,42nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,510nm,10.5s						
QIZ	Qiongzhong	83.32	309	PFAKE		11 07 10.0	+13
QIZ				LR	LR		
	comp=Z,556nm,20.0s						
TRQA	Tornquist	84.05	145	PFAKE		11 07 10.0	+9.3
TRQA				LR	LR		
	comp=Z,833nm,20.0s						
NAYO	Nakonayok	84.11	299	P	P	11 07 01.6	+0.5
	comp=Z,42nm,0.9s						
QZH	Quanzhou	84.23	319	⇑iP	P	11 07 01.3	-0.2
QZH				S	S	11 17 27.3	+2.2
ROC1	El Roble	84.59	136	eP	P	11 07 04.6	+0.7
CHAI	Chaiyaphum	85.00	301	P	P	11 07 07.5	+1.9
	comp=Z,3.8nm,0.8s						
H08S2	Diego Garcia H	85.67	263	T	T	12 41 14.6	
	baz=139,slow=76,SNR=1000						
H08S1	Diego Carcia H	85.69	263	T	T	12 41 13.2	
	baz=139,slow=76,SNR=371						
H08S3	Diego Garcia H	85.69	263	T	T	12 41 16.1	
	baz=139,slow=76,SNR=1230						
DGAR	Diego Garcia	85.88	264	⇓eP	P	11 07 09.4	-0.8
JNU	Nakatsue	87.06	332	eP	P	11 07 15.9	+0.4
UTTA	Uttaradit	87.29	301	P	P	11 07 16.9	0.0
	comp=Z,12nm,1.0s,comp=Z,127nm						
H08N1	Diego Carcia H	87.62	263	T	T	12 44 08.6	
	baz=136,slow=75,SNR=118						
H08N3	Diego Garcia H	87.63	263	T	T	12 44 06.0	
	baz=136,slow=75,SNR=183						
H08N2	Diego Garcia H	87.64	263	T	T	12 44 07.8	
	baz=136,slow=75,SNR=165						
MJAR	Matsushiro Arr	88.28	339	P	P	11 07 21.6	+0.4
	comp=Z,34nm,1.1s,baz=172,slow=5.7,SNR=28						
MAJO	Matsushiro	88.28	339	ciP	P	11 07 21.5	+0.3
MAJO				pmax	pmax		
	comp=Z,345nm,1.2s						
MAJO	Matsushiro	88.28	339	eP	P	11 07 21.9	+0.7
MAJO				LR	LR		
	comp=Z,449nm,20.0s						
MAT	Matsushiro	88.28	339	P	P	11 07 21.5	+0.3
MAT				S	S	11 18 01.6	-2.5
MJB9	Matsu-Tunnel	88.29	339	eP	P	11 07 22.4	+1.2
SLVN	Son La	88.34	306	eP	P	11 07 22.2	+0.3
SSE	Sheshan	88.60	324	⇑P	P	11 07 23.4	+0.6
SSE				pP	sP	11 07 34.3	+0.2
SSE				S	S	11 18 09.2	+2.0
SSE				pmax	pmax		
	comp=Z,70nm,0.9s						
SSE				pmax	pmax		
	comp=Z,270nm,3.5s						
SSE				LR	LR		
	comp=Z,310nm,23.2s						
SSE				LR	LR		
	comp=Z,120nm,23.1s						
CMAR	Chiang Mai Arr	88.77	300	P	P	11 07 24.3	+0.3
	comp=Z,36nm,0.9s,baz=160,slow=3.6,SNR=126						
CMAR				PP	PP	11 10 52.1	-1.3
	comp=Z,0.7nm,0.4s,baz=152,slow=6.9,SNR=4.3						
CMAR				LR	LR	11 50 16.8	
	comp=Z,283nm,19.1s,baz=150,slow=38						
CHTO	Chiang Mai	89.06	300	eP	P	11 07 25.6	+0.3
CHTO	Chiang Mai	89.06	300	eP	P	11 07 25.6	+0.3
CHTO				LR	LR		
	comp=Z,388nm,19.0s						
NJ2	Nanjing	90.36	323	eP	P	11 07 31.8	+0.8
WHN	Wuhan	90.94	318	⇓P	P	11 07 34.5	+0.7
GYA	Guiyang	91.11	311	⇑iP	P	11 07 34.9	+0.1
GYA				pP	sP	11 07 48.2	+2.0
GYA				PP	PP	11 11 16.8	+4.7
GYA				SKS	SKSac	11 18 04.6	-0.5
GYA				S	SKKSac	11 18 20.0	-0.3
GYA				SS	SS	11 24 39.7	+3.5
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,6.2s						
GYA				LR	LR		
	comp=Z,680nm,20.9s						
GYA				LR	LR		
	comp=Z,760nm,20.2s						
KSRS	Korea Array	91.97	332	P	P	11 07 39.8	+1.4
	comp=Z,36nm,0.9s,baz=149,slow=5.7,SNR=69						
KSRS				LR	LR	11 46 52.5	
	comp=Z,463nm,20.1s,baz=160,slow=34						
KSAR	Wonju Array Be	91.97	332	P	P	11 07 39.8	+1.4
KSAR	Wonju Array Be	91.97	332	P	P	11 07 39.8	+1.4
KMI	Kunming	92.03	307	P	P	11 07 40.5	+1.2
KMI				pmax	pmax		
	comp=Z,36nm,1.2s						
KMI				LR	LR		
	comp=Z,390nm,10.3s						
KMI				LR	LR		
	comp=Z,380nm,10.1s						
INCN	Inchon	92.41	331	eP	P	11 07 42.0	+1.6
INCN				LR	LR		
	comp=Z,48nm,20.0s						
ABPO	Ambohimpanom	92.48	237	eP	P	11 07 42.8	+1.2
ABPO	Ambohimpanom	92.48	237	eP	P	11 07 42.8	+1.2
ABPO				LR	LR		
	comp=Z,449nm,21.0s						
ERM	Erimo	92.52	344	PFAKE		11 07 50.0	+9.2
ERM				LR	LR		
	comp=Z,1μm,22.0s						
SUR	Sutherland	92.83	210	eP	P	11 07 42.3	-0.8
SUR				LR	LR		
	comp=Z,1μm,19.0s						
ENH	Enshi	92.91	315	PFAKE		11 07 50.0	+7.0
ENH				LR	LR		
	comp=Z,382nm,19.0s						
YUK	Yuzh-Kuril'sk	94.04	347	eP	P	11 07 47.9	+0.2
YUK				e		11 11 31.8	
YUK				ePPP	PPP	11 13 38.1	
YUK				S	SKSac	11 18 19.5	-0.7
YUK				eSS	SS	11 25 11.4	-6.1
YUK				pmax	pmax		
	comp=Z,356nm,1.4s						
YUK				pmax	pmax		
	comp=E,16nm,1.3s						
YUK				pmax	pmax		
	comp=N,147nm,1.6s						
LVC	Limon Verde	94.30	132	eP	P	11 07 51.2	+1.0
	comp=N,6.5nm,0.4s						
LVC				LR	LR		
	comp=Z,217nm,19.0s						
BOSA	Boshof	94.68	215	P	P	11 07 49.3	-2.2
	comp=Z,7.4nm,0.8s,baz=151,slow=5.1,SNR=13						
BOSA				LR	LR	11 43 50.1	
	comp=Z,560nm,20.2s,baz=180,slow=31						
TIA	Tai'an	94.69	323	⇑P	P	11 07 51.6	+0.6
TIA				pmax	pmax		
	comp=Z,60nm,0.8s						
CD2	Chengdu	96.21	311	eP	P	11 07 58.2	+0.1
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CPUP	Villa Florida	96.23	143	P	P	11 07 58.3	-0.2
	comp=Z,7.4nm,1.0s,baz=219,slow=5.2,SNR=9.3						
CPUP				PKKP	PKKPbc	11 24 43.5	+1.0
	comp=Z,2.1nm,0.9s,baz=350,slow=5.2,SNR=3.5						
CPUP				LR	LR	11 44 21.9	
	comp=Z,487nm,21.4s,baz=204,slow=31						
XAN	Xi'an	96.33	316	P	P	11 07 58.6	+0.1
XAN				pP	sP	11 08 10.0	+0.1
XAN				sP	pP	11 08 15.0	+8.1
SKHT	Srikalahasti	96.91	283	eP	P	11 08 00.9	-0.7
SKHT				eSKSac	SKSac	11 18 36.7	-0.2
SKHT				IVMs_BB	IVMs_BB	11 42 09.4	
	comp=Z,169nm,6.6s						
USRK	Ussuriysk Ar.	97.06	337	P	Pdif	11 08 02.3	+0.7
	comp=Z,1.8nm,0.6s,baz=186,slow=3.8,SNR=4.1						
YSS	Yuzh-Sakhalins	97.38	345	PFAKE		11 08 10.0	+7.0
YSS				LR	LR		
	comp=Z,301nm,19.0s						
CHLP	Challavanipeta	97.72	289	eP	P	11 08 04.6	-0.5
CHLP				eSKSac	SKSac	11 18 42.5	+1.6
CHLP				IVMs_BB	IVMs_BB	11 40 28.1	
	comp=Z,135nm,4.5s						
MDJ	Mudanjiang	98.08	336	PFAKE		11 08 20.0	+14
MDJ				LR	LR		
	comp=Z,361nm,21.0s						
PVM	Polavaram	98.31	287	eP	P	11 08 07.2	-0.6
PVM				eSKSac	SKSac	11 18 44.7	+0.8
PVM				IVMs_BB	IVMs_BB	11 43 22.8	
	comp=Z,186nm,23.3s						
BJT	Baijiatuau	98.37	325	PFAKE		11 08 20.0	+12
BJT				LR	LR		
	comp=Z,716nm,20.0s						
BJI	Beijing	98.39	325	P	Pdif	11 08 08.8	+1.2
BJI				PP	PP	11 12 08.3	-0.1
BJI				S	S	11 19 36.2	+2.5
BJI				SS	SS	11 26 22.0	+2.8
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
BJI				pmax	pmax		
	comp=Z,220nm,10.1s						
BJI				LR	LR		
	comp=Z,440nm,20.0s						
BJI				LR	LR		
	comp=Z,500nm,15.5s						
BJI				LR	LR		
	comp=Z,540nm,26.3s						
CN2	Changchun	98.53	332	eP	Pdif	11 08 13.5	+5.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NNA	Nana	98.82	120	PFAKE		11 08 20.0	+10
NNA				LR	LR		
	comp=Z,233nm,20.0s						
MSEY	Mahe Island	98.88	252	PFAKE		11 08 20.0	+9.3
MSEY				LR	LR		
	comp=Z,612nm,20.0s						
SRLM	Srisailam	99.19	284	eP	Pdif	11 08 11.2	-0.6
SRLM				eSKSac	SKSac	11 18 45.8	-2.7
SRLM				IVMs_BB	IVMs_BB	11 43 17.4	
	comp=Z,244nm,23.7s						
NJS	Nagarjunasagar	99.26	284	ePdif	Pdif	11 08 09.8	-2.3
NJS				IVMs_BB	IVMs_BB	11 43 15.9	
	comp=Z,206nm,12.4s						
URV	Uravakonda	99.38	282	ePdif	Pdif	11 08 11.7	-1.1
URV				eSKSac	SKSac	11 18 55.0	+5.5
URV				IVMs_BB	IVMs_BB	11 43 28.5	
	comp=Z,149nm,5.5s						
LPAZ	La Paz	100.02	129	P	Pdif	11 08 15.7	-0.7
	comp=Z,1.4nm,1.1s,baz=198,slow=8.3,SNR=3.6						
LPAZ				PP	PP	11 12 22.3	+1.3
	comp=Z,3.2nm,1.1s,baz=196,slow=6.3,SNR=6.2						
HABR	Khabarovsk	100.34	341	eP	Pdif	11 08 16.3	+0.2
HABR				e		11 12 22.7	
HABR				ePPP	PPP	11 14 30.4	
HABR				eS	SKSac	11 18 52.4	-0.1
HABR				eSP	SP	11 21 19.4	0.0
HABR				eSS	SS	11 26 46.5	+0.2
HABR				eSSS	SSS	11 30 37.1	
HABR				pmax	pmax		
	comp=E,47nm,2.3s						
HABR				pmax	pmax		
	comp=Z,51nm,2.3s						
HABR				pmax	pmax		
	comp=N,20nm,2.3s						
HABR				MLR	MLR		
	comp=Z,72nm,19.0s						
LZH	Lanzhou	100.37	314	eP	Pdif	11 08 17.1	+0.3
LZH				pP	sPdif	11 08 28.2	0.0
LZH				sP	sP	11 08 32.5	+4.3
LZH				PP	PP	11 12 26.0	+2.2
LZH				SKS		11 18 53.5	
LZH				eS	Sdif	11 19 49.0	-2.0
LZH				sS	sS	11 20 05.4	+0.4
LZH				eSS	SS	11 26 48.0	+0.6
LZH				pmax	pmax		
	comp=Z,45nm,1.1s						
LZH				pmax	pmax		
	comp=Z,210nm,8.7s						
LZH				LR	LR		
	comp=Z,500nm,17.8s						
LZH				LR	LR		
	comp=Z,600nm,19.5s						
HYBB	Hyderabad (bro	100.38	284	eP	Pdif	11 08 16.6	-0.5
HYBB				eSKSac	SKSac	11 18 56.2	+1.8
HYBB				IVMs_BB	IVMs_BB	11 42 51.1	
	comp=Z,159nm,4.4s						
HHC	Hu-ho-hao-te	100.90	322	eP	Pdif	11 08 22.4	+3.4
HHC				pP	sPdif	11 08 30.7	+0.4
HHC				PP	PP	11 12 32.6	+4.9
HHC				SKS		11 18 58.5	
HHC				S	Sdif	11 19 54.0	-1.1
HHC				SS	SS	11 26 58.2	+3.6
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,140nm,5.3s						
HHC				LR	LR		
	comp=Z,320nm,14.8s						
HHC				LR	LR		
	comp=Z,360nm,14.8s						
HHC				LR	LR		
	comp=Z,420nm,17.3s						
RPR	Rampur	100.97	286	ePdif	Pdif	11 08 18.8	-0.9
RPR				eSKSac	SKSac	11 18 51.5	-5.5
RPR				IVMs_BB	IVMs_BB	11 43 39.8	
	comp=Z,195nm,27.1s						
SRSP	Sriramsagar	101.63	285	ePdif	Pdif	11 08 22.2	-0.4
SRSP				eSKSac	SKSac	11 18 57.8	-2.5
SRSP				IVMs_BB	IVMs_BB	11 43 45.8	
	comp=Z,191nm,27.0s						
ADK	Adak	101.71	12	PFAKE		11 08 30.0	+7.9
ADK				LR	LR		
	comp=Z,972nm,21.0s						
PETK	Petropavlovsk-	101.84	356	P	Pdif	11 08 22.8	+0.1
	comp=Z,5.2nm,1.0s,baz=188,slow=8.7,SNR=3.0						
LSA	Lhasa	101.96	302	PFAKE		11 08 40.0	+16
LSA				LR	LR		
	comp=Z,306nm,21.0s						
KLRI	Killari	102.11	284	ePdif	Pdif	11 08 23.9	-1.0
KLRI				eSKSac	SKSac	11 18 57.9	-4.8
SPB	Sao Paulo	102.33	150	PFAKE		11 08 40.0	+14
SPB				LR	LR		
	comp=Z,368nm,20.0s						
HIA	Hailar	105.18	331	PFAKE		11 13 00.0	
HIA				LR	LR		
	comp=Z,357nm,21.0s						
LSZ	Lusaka	105.31	224	PFAKE		11 13 00.0	
LSZ				LR	LR		
	comp=Z,850nm,21.0s						
TSUM	Tsumeb	106.07	212	PFAKE		11 13 10.0	
TSUM				LR	LR		
	comp=Z,900nm,20.0s						
OTAV	Otavalo	107.58	111	PFAKE		11 13 10.0	
OTAV				LR	LR		
	comp=Z,166nm,20.0s						
PFO	Pinyon Flats O	107.99	59	PFAKE		11 13 10.0	
PFO				LR	LR		
	comp=Z,942nm,19.0s						
ULN	Ulaanbaatar	108.52	323	PFAKE		11 13 10.0	
ULN				LR	LR		
	comp=Z,409nm,21.0s						
SONM	Songino Array	108.75	323	PKiKP	PKiKP	11 12 56.5	-2.0
	comp=Z,1.1nm,0.7s,baz=140,slow=3.2,SNR=4.1						
SONM				PKKPbc	PKKPbc	11 24 07.1	0.0
	comp=Z,0.8nm,0.9s,baz=352,slow=3.1,SNR=4.0						
SAML	Samuel	108.76	129	PFAKE		11 13 10.0	
SAML				LR	LR		
	comp=Z,174nm,20.0s						
N02D	Trinity Center	110.04	50	P	PKiKP	11 13 02.0	+0.9
	baz=222						
TUC	Tucson	110.34	64	PFAKE		11 13 10.0	
TUC				LR	LR		
	comp=Z,992nm,20.0s						
R11A	Troy Canyon, C	111.90	57	P	PKiKP	11 13 05.5	+0.6
	baz=224						
SEY	Seymchan	111.95	354	⇑iPKIKP	PKiKP	11 13 03.6	-0.3
ZAK	Zakamensk	112.02	323	ePKIKP	PKiKP	11 12 59.5	-5.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
KDAK	Kodiak Island	112.08	23	PFAKE		11 13 20.0	
KDAK				LR	LR		
	comp=Z,453nm,20.0s						
WUAZ	Wupatki	112.27	61	PFAKE		11 13 20.0	
WUAZ				LR	LR		
	comp=Z,501nm,22.0s						
TXAR	Lajitas Array	112.58	71	PKiKP	PKiKP	11 13 06.4	0.0
	comp=Z,0.9nm,0.8s,baz=196,slow=4.5,SNR=11						
TXAR				PKKPbc	PKKPbc	11 23 55.8	+1.9
	comp=Z,0.3nm,0.6s,baz=83,slow=3.4,SNR=5.1						
KMBO	Kilima Mbogo	112.65	239	PFAKE		11 13 20.0	
KMBO				LR	LR		
	comp=Z,476nm,19.0s						
TLY	Talaya	112.89	324	PFAKE		11 13 20.0	
TLY				LR	LR		
	comp=Z,340nm,22.0s						
MNTX	Cornudas Mount	113.17	68	P	PKiKP	11 13 07.7	+0.4
	baz=226						
MNTX	Cornudas Mount	113.17	68	PFAKE		11 13 20.0	
MNTX				LR	LR		
	comp=Z,904nm,19.0s						
WVOR	Wild Horse Val	113.19	52	PFAKE		11 13 20.0	
WVOR				LR	LR		
	comp=Z,557nm,20.0s						
BCIP	Isla Barro Col	113.58	104	PFAKE		11 13 20.0	
BCIP				LR	LR		
	comp=Z,367nm,21.0s						
YAK	Yakutsk	114.09	343	PFAKE		11 13 20.0	+12
YAK				LR	LR		
	comp=Z,429nm,20.0s						
NLWA	Neilton Lookou	114.19	45	PFAKE		11 13 20.0	+11
NLWA				LR	LR		
	comp=Z,967nm,21.0s						
WMQ	Urumqi	114.24	309	PKP	PKiKP	11 13 08.3	-0.7
WMQ				PP	PP	11 14 09.8	+4.4
WMQ				SKS	SKSdf	11 20 17.9	-1.2
WMQ				SS	SS	11 29 55.8	+0.5
WMQ				AMB	AMB		
	comp=Z,250nm,7.3s						
WMQ				LR	LR		
	comp=Z,410nm,31.9s						
WMQ				LR	LR		
	comp=Z,210nm,35.1s						
BOD	Bodaibo	114.28	333	ePKIKP	PKiKP	11 13 06.4	-2.1
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s						
DUG	Dugway, Tooele	114.72	57	P	PKPdf	11 13 11.2	+1.0
	baz=226						
DUG	Dugway, Tooele	114.72	57	ePKIKP	PKPdf	11 13 10.4	+0.2
DUG				MLR	MLR		
	comp=Z,774nm,19.0s						
DUG	Dugway, Tooele	114.72	57	ePKPdf	PKPdf	11 13 10.4	+0.2
DUG				LR	LR		
	comp=Z,774nm,19.0s						
ANMO	Albuquerque	114.76	65	P	PKPdf	11 13 10.8	+0.3
	baz=226						
ANMO	Albuquerque	114.76	65	⇓iPKIKP	PKPdf	11 13 10.9	+0.4
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.7s						
ANMO	Albuquerque	114.76	65	PFAKE		11 13 20.0	+10
ANMO				LR	LR		
	comp=Z,870nm,19.0s						
SHEL	Horse Pasture	114.82	190	PFAKE		11 13 20.0	+8.9
SHEL				LR	LR		
	comp=Z,1μm,19.0s						
733A	Divot King Ran	114.90	74	P	PKPdf	11 13 11.2	+0.6
	baz=226						
KVTX	Kingsville	114.99	76	PFAKE		11 13 20.0	+9.1
KVTX				LR	LR		
	comp=Z,409nm,19.0s						
MVCO	Mesa Verde	115.11	62	P	PKPdf	11 13 11.3	+0.2
	baz=226						
MVCO	Mesa Verde	115.11	62	ePKPdf	PKPdf	11 13 11.2	0.0
MVCO				LR	LR		
	comp=Z,324nm,21.0s						
MFID	Camas Ranch	115.34	52	ePKPdf	PKPdf	11 13 11.8	+0.6
633A	Saathoff Ranch	115.49	74	P	PKPdf	11 13 12.4	+0.6
	baz=226						
HAWA	Hanford	115.55	48	PFAKE		11 13 20.0	+8.6
HAWA				LR	LR		
	comp=Z,799nm,20.0s						
BMO	Blue Mountains	115.58	51	PFAKE		11 13 20.0	+8.4
BMO				LR	LR		
	comp=Z,877nm,19.0s						
B05A	Bryant	115.65	45	P	PKPdf	11 13 12.2	+0.7
	baz=224						
JCT	Junction City	115.79	73	PFAKE		11 13 20.0	+7.6
JCT				LR	LR		
	comp=Z,971nm,19.0s						
HLID	Hailey	116.19	53	P	PKPdf	11 13 13.6	+0.6
	baz=226						
HLID	Hailey	116.19	53	PFAKE		11 13 20.0	+7.1
HLID				LR	LR		
	comp=Z,496nm,20.0s						
MSTX	Muleshoe	116.32	68	P	PKPdf	11 13 13.5	+0.1
	baz=227						
MSTX	Muleshoe	116.32	68	ePKPdf	PKPdf	11 13 13.0	-0.4
534A	Blanco	116.32	74	P	PKPdf	11 13 13.4	0.0
	baz=227						
HWUT	Hardware Ranch	116.38	56	ePKPdf	PKPdf	11 13 13.4	0.0
HWUT				LR	LR		
	comp=Z,755nm,20.0s						
433A	Art	116.42	73	P	PKPdf	11 13 13.2	-0.4
	baz=227						
S22A	4UR Ranch, Cre	116.45	62	P	PKPdf	11 13 14.1	+0.3
	baz=227						
636A	Smothers Creek	116.85	75	P	PKPdf	11 13 14.4	0.0
	baz=227						
333A	Richland Sprin	116.88	72	P	PKPdf	11 13 14.3	-0.1
	baz=227						
434A	Burnet	116.98	73	P	PKPdf	11 13 14.7	0.0
	baz=227						
SDCO	Great Sand Dun	117.22	63	P	PKPdf	11 13 15.6	+0.4
	baz=228						
SDCO	Great Sand Dun	117.22	63	ePKPdf	PKPdf	11 13 15.2	0.0
SDCO				LR	LR		
	comp=Z,306nm,19.0s						
O20A	White River Ci	117.24	59	P	PKPdf	11 13 15.4	+0.3
	baz=228						
637A	Eagle Lake	117.28	76	P	PKPdf	11 13 15.6	+0.4
	baz=227						
SMCO	Snowmass	117.33	61	ePKPdf	PKPdf	11 13 15.6	0.0
WRAK	Wrangell Islan	117.33	34	PFAKE		11 13 30.0	+16
WRAK				LR	LR		
	comp=Z,500nm,19.0s						
ABTX	Abilene, Hawle	117.34	71	P	PKPdf	11 13 15.5	+0.2
	baz=227						
ABTX	Abilene, Hawle	117.34	71	ePKPdf	PKPdf	11 13 15.1	-0.2
334A	Lometa	117.35	73	P	PKPdf	11 13 15.2	-0.1
	baz=227						
435B	Jarrell	117.39	74	P	PKPdf	11 13 15.6	+0.2
	baz=227						
233A	Rising Star	117.40	72	P	PKPdf	11 13 15.2	-0.2
	baz=227						
PTGA	Pitinga	117.40	128	PFAKE		11 13 30.0	+14
PTGA				LR	LR		
	comp=Z,40μm,20.0s						
WSAR	Wadi Sarin	117.50	274	PKP	PKPdf	11 13 15.1	-0.8
	comp=Z,4.6nm,0.9s,baz=153,slow=7.0,SNR=4.8						
AMTX	Amarillo	117.60	68	P	PKPdf	11 13 15.6	-0.2
	baz=228						
KSH	Kashi	117.66	299	ePKP	PKPdf	11 13 15.7	-0.1
KSH				PP	PP	11 14 34.7	+5.2
KSH				PKS	PKSdf	11 16 54.1	+1.5

KSH SKS **SKSdf** 11 20 24.5 -1.5
KSH SKKS **SKKSac** 11 21 24.2 -3.4
KSH AMB AMB
comp=Z,160nm,7.3s
KSH LR LR
comp=Z,87nm,10.3s
KSH LR LR
comp=Z,64nm,6.5s
KSH LR LR
comp=Z,65nm,5.9s
335A Moody 117.83 73 P **PKPdf** 11 13 16.1 -0.1
baz=227
234A Clairette 117.87 72 P **PKPdf** 11 13 16.1 -0.2
baz=228
REDW Red Top Meadow 117.95 55 *e*PKPdf **PKPdf** 11 13 16.4 -0.1
TPAW Teton Pass 117.99 55 *e*PKPdf **PKPdf** 11 13 16.6 +0.1
TPAW *e*PP **PP** 11 14 32.4 +0.5
NEW Newport 118.03 48 P **PKPdf** 11 13 16.5 +0.3
baz=227
NEW Newport 118.03 48 *e*PKIKP **PKPdf** 11 13 16.1 0.0
NEW MLR MLR
comp=Z,1μm,22.0s
NEW Newport 118.03 48 *e*PKPdf **PKPdf** 11 13 16.1 0.0
NEW LR LR
comp=Z,1μm,22.0s
MCK McKinley 118.12 21 *e*PKIKP **PKPdf** 11 13 15.4 -0.4
MCK McKinley 118.12 21 *e*PKPdf **PKPdf** 11 13 15.4 -0.4
BW06 Boulder Array 118.26 56 P **PKPdf** 11 13 17.2 +0.1
baz=228
BW06 Boulder Array 118.26 56 PFAKE 11 13 30.0 +13
BW06 LR LR
comp=Z,760nm,20.0s
IMW Indian Meadow 118.26 55 *e*PKPdf **PKPdf** 11 13 17.8 +0.7
PDAR Pinedale Array 118.26 56 PKP **PKPdf** 11 13 17.1 +0.1
comp=Z,1.9nm,0.9s,baz=183,slow=2.6,SNR=14
PDAR PKKPab **PKKPab** 11 23 41.3 +5.1
comp=Z,2.0nm,1.1s,baz=48,slow=2.2,SNR=6.9
MOOW Moose Ponds 118.27 55 *e*PKPdf **PKPdf** 11 13 17.5 +0.5
MOOW *e*PP **PP** 11 14 34.1 +0.3
WHTX Lake Whitney, 118.29 73 P **PKPdf** 11 13 17.0 -0.1
baz=228
DLMT Dillon 118.36 53 *e*PKPdf **PKPdf** 11 13 15.4 -1.7
ISCO Idaho Springs 118.52 61 P **PKPdf** 11 13 18.0 +0.2
baz=228
ISCO Idaho Springs 118.52 61 *e*PKIKP **PKPdf** 11 13 17.8 +0.1
ISCO MLR MLR
comp=Z,553nm,19.0s
ISCO Idaho Springs 118.52 61 *e*PKPdf **PKPdf** 11 13 17.8 +0.1
ISCO LR LR
comp=Z,553nm,19.0s
MSO Missoula 118.65 51 P **PKPdf** 11 13 17.6 +0.2
baz=228
LKWY Lake 119.00 55 PFAKE 11 13 30.0 +12
LKWY LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 119.03 53 P **PKPdf** 11 13 19.3 +0.9
baz=228
BOZ Bozeman (W) 119.03 53 *e*PKIKP **PKPdf** 11 13 18.9 +0.6
BOZ MLR MLR
comp=Z,346nm,19.0s
BOZ Bozeman (W) 119.03 53 *e*PKPdf **PKPdf** 11 13 18.9 +0.6
BOZ LR LR
comp=Z,346nm,19.0s
MKAR Makanchi Array 119.05 309 PKP **PKPdf** 11 13 17.2 -0.9
comp=Z,13nm,0.8s,baz=104,slow=2.5,SNR=48
N23A Red Feather La 119.06 60 P **PKPdf** 11 13 19.0 +0.3
baz=229
SDV Santo Domingo 119.14 112 PFAKE 11 13 30.0 +10
SDV LR LR
comp=Z,279nm,19.0s
136A Ennis 119.19 73 P **PKPdf** 11 13 18.9 +0.1
baz=228
439A Center Grove, 119.19 76 P **PKPdf** 11 13 20.0 +1.1
baz=228
338A Crockett 119.22 75 P **PKPdf** 11 13 19.0 +0.1
baz=228
WMOK Wichita Mounta 119.28 70 P **PKPdf** 11 13 19.1 +0.2
baz=228
WMOK Wichita Mounta 119.28 70 *e*PKIKP **PKPdf** 11 13 18.9 -0.1
WMOK MLR MLR
comp=Z,951nm,20.0s
WMOK Wichita Mounta 119.28 70 *e*PKPdf **PKPdf** 11 13 18.9 -0.1
WMOK LR LR
comp=Z,951nm,20.0s
COLA College 119.33 21 *e*PKIKP **PKPdf** 11 13 17.4 -0.6
COLA MLR MLR
comp=Z,714nm,20.0s
COLA College 119.33 21 *e*PKPdf **PKPdf** 11 13 17.4 -0.6
COLA LR LR
comp=Z,714nm,20.0s
237A Washetta, Mont 119.34 74 P **PKPdf** 11 13 19.7 +0.6
baz=228
ILAR Eielson Array 119.48 22 PKP **PKPdf** 11 13 17.7 -0.7
comp=Z,7.3nm,0.9s,baz=280,slow=3.6,SNR=47
ILAR PKKPbc **PKKPab** 11 23 28.8 -0.3
comp=Z,1.0nm,0.9s,baz=8.8,slow=3.7,SNR=7.1
ILAR SKKPbc SKKPbc 11 27 26.9 +8.1
comp=Z,1.2nm,0.9s,baz=21,slow=3.4,SNR=6.4
137A Heron Place, G 119.76 73 P **PKPdf** 11 13 20.7 +0.7
baz=228
Z36A Blue Ridge 119.78 72 P **PKPdf** 11 13 20.4 +0.4
baz=228
NATX Nacogdoches 119.90 75 PFAKE 11 13 30.0 +10
NATX LR LR
comp=Z,455nm,19.0s
RLMT Red Lodge 119.97 55 P **PKPdf** 11 13 21.1 +0.9
baz=229
RLMT Red Lodge 119.97 55 PFAKE 11 13 30.0 +10
RLMT LR LR
comp=Z,601nm,19.0s
WALA Waterton Lakes 120.14 49 *e*PKPdf **PKPdf** 11 13 20.3 0.0
340A Bronson 120.17 76 P **PKPdf** 11 13 21.3 +0.6
baz=228
X35A Drake 120.19 71 P **PKPdf** 11 13 20.3 -0.4
baz=229
239A Gary 120.20 75 P **PKPdf** 11 13 20.7 0.0
baz=228
Y36A Durant 120.29 72 P **PKPdf** 11 13 20.9 0.0
baz=229
AAK Ala-Archa 120.55 301 *i*PKIKP **PKPdf** 11 13 21.0 -0.3
AAK Ala-Archa 120.55 301 *e*PKPdf **PKPdf** 11 13 20.6 -0.7
AAK LR LR
comp=Z,214nm,20.0s
341A Kurthwood 120.58 76 P **PKPdf** 11 13 22.1 +0.6
baz=228
DAMY Dhamar 120.61 256 *e*PKPdf **PKPdf** 11 13 23.0 +0.6
FRU Bishkek 120.61 301 *e*PKIKP **PKPdf** 11 13 21.0 -0.3
FRU *e* 11 14 57.0
X36A Centrahoma 120.68 71 P **PKPdf** 11 13 21.1 -0.6
baz=229
W35A Tecumseh 120.74 71 P **PKPdf** 11 13 21.8 +0.1
baz=229
Y37A Hugo 120.76 72 P **PKPdf** 11 13 21.5 -0.3
baz=229
COLD Coldfoot 120.78 19 *e*PKPdf **PKPdf** 11 13 21.5 +0.7
DAWY Dawson 120.88 25 *e*PKPdf **PKPdf** 11 13 21.0 -0.1
EGAK Eagle 120.95 24 *e*PKPdf **PKPdf** 11 13 20.7 -0.5
EGAK LR LR
comp=Z,536nm,20.0s
W36A Wetumka 121.13 71 P **PKPdf** 11 13 22.7 +0.2
baz=229
V35A Meyer Ranch, C 121.16 70 P **PKPdf** 11 13 22.9 +0.4
baz=230
Y38A Idabel 121.28 73 P **PKPdf** 11 13 22.4 -0.4
baz=229
X37A Clayton 121.31 72 P **PKPdf** 11 13 22.7 -0.2
baz=229
CBKS Cedar Bluff 121.35 66 P **PKPdf** 11 13 23.2 +0.4
baz=230
CBKS Cedar Bluff 121.35 66 PFAKE 11 13 30.0 +7.2
CBKS LR LR
comp=Z,735nm,20.0s
OGNE Ogallala 121.35 62 P **PKPdf** 11 13 23.5 +0.6
baz=230
OGNE Ogallala 121.35 62 PFAKE 11 13 30.0 +7.2
OGNE LR LR
comp=Z,606nm,21.0s
EGMT Eagleton 121.58 52 P **PKPdf** 11 13 23.1 +0.1
baz=230
EGMT Eagleton 121.58 52 PFAKE 11 13 30.0 +7.0
EGMT LR LR
comp=Z,490nm,19.0s
U35A Pawnee 121.61 70 P **PKPdf** 11 13 23.7 +0.3
baz=230
W37B Quinton 121.63 71 P **PKPdf** 11 13 23.7 +0.3
baz=230

Y39A Lockesburg 121.69 73 P **PKPdf** 11 13 23.4 -0.2
baz=229
X38A Whitesboro 121.70 72 P **PKPdf** 11 13 23.5 -0.1
baz=230
V36A Jenks 121.73 71 P **PKPdf** 11 13 23.6 0.0
baz=230
T34A McClaskey Farm 121.75 69 P **PKPdf** 11 13 23.8 +0.1
baz=230
MTDJ Mount Denham 121.78 99 PFAKE 11 13 40.0 +16
MTDJ LR LR
comp=Z,344nm,20.0s
TUL1 Leonard 121.90 71 P **PKPdf** 11 13 24.0 +0.1
baz=230
TUL1 Leonard 121.90 71 *e*PKPdf **PKPdf** 11 13 24.1 +0.2
X39A Fountain Ranch 122.05 73 P **PKPdf** 11 13 24.6 +0.3
baz=230
TOLK Toolik Lake Re 122.09 18 P **PKPdf** 11 13 24.2 +0.8
baz=214
T35A Sooner Cattle 122.10 69 P **PKPdf** 11 13 24.6 +0.3
baz=230
RSSD Black Hills 122.21 58 P **PKPdf** 11 13 24.3 -0.3
baz=231
RSSD Black Hills 122.21 58 *e*PKIKP **PKPdf** 11 13 24.1 -0.5
RSSD Black Hills 122.21 58 *e*PKPdf **PKPdf** 11 13 24.1 -0.5
344A Westbrook Farm 122.22 78 P **PKPdf** 11 13 25.3 +0.6
baz=229
S34A Willow Spring 122.23 68 P **PKPdf** 11 13 24.6 0.0
baz=230
Y40A Okolona 122.25 74 P **PKPdf** 11 13 24.4 -0.3
baz=230
V37A Hulbert 122.29 71 P **PKPdf** 11 13 24.5 -0.2
baz=230
MIAR Mount Ida 122.41 73 P **PKPdf** 11 13 24.6 -0.4
baz=230
MIAR Mount Ida 122.41 73 PFAKE 11 13 40.0 +15
MIAR LR LR
comp=Z,435nm,20.0s
ZALV Zalesovo Beam 122.50 316 PKP **PKPdf** 11 13 22.8 -1.7
comp=Z,1.0nm,0.7s,baz=166,slow=2.4,SNR=31
R34A Isabella, Hill 122.53 67 P **PKPdf** 11 13 25.5 +0.4
baz=231
T36A Boggs Farm, Ca 122.58 69 P **PKPdf** 11 13 25.3 +0.1
baz=230
RCBR Riachuelo 122.59 156 PFAKE 11 13 40.0 +14
RCBR LR LR
comp=Z,373nm,19.0s
LAO LASA Array 122.61 55 P **PKPdf** 11 13 25.6 +0.6
baz=231
LAO LASA Array 122.61 55 *e*PKPdf **PKPdf** 11 13 25.9 +0.8
LAO LR LR
comp=Z,345nm,19.0s
Z42A Norrel Spur, H 122.62 75 P **PKPdf** 11 13 25.7 +0.3
baz=229
244A Avery, Jackson 122.63 77 P **PKPdf** 11 13 25.9 +0.5
baz=229
U37A Salina 122.64 70 P **PKPdf** 11 13 25.1 -0.2
baz=230
W39A Magazine 122.70 72 P **PKPdf** 11 13 25.4 0.0
baz=230
S35A Otter Creek Ra 122.70 69 P **PKPdf** 11 13 25.5 0.0
baz=230
V38A Canehill 122.73 71 P **PKPdf** 11 13 25.4 -0.2
baz=230
TIXI Tiksi 122.93 347 *c i*PKIKP **PKPdf** 11 13 23.7 -1.1
TIXI pmax pmax
comp=Z,27nm,0.8s
TIXI MLR MLR
comp=Z,385nm,21.0s
TIXI Tiksi 122.93 347 *e*PKPdf **PKPdf** 11 13 23.8 -0.9
TIXI LR LR
comp=Z,418nm,20.0s
346A Big Creek Wild 122.99 79 P **PKPdf** 11 13 26.3 +0.1
baz=229
EDM Edmonton 123.09 45 *e*PKIKP **PKPdf** 11 13 25.1 -0.6
EDM Edmonton 123.09 45 *e*PKPdf **PKPdf** 11 13 25.1 -0.6
KKAR Karatay Array 123.11 299 *e*PKIKP **PKPdf** 11 13 25.7 -0.4
KKAR Karatay Array 123.11 299 *e*PKPdf **PKPdf** 11 13 25.7 -0.4
U38A Gravette 123.11 71 P **PKPdf** 11 13 25.8 -0.5
baz=230
W40A Ferguson Farm, 123.14 73 P **PKPdf** 11 13 26.7 +0.4
baz=230
S36A Lake Cedric, C 123.18 69 P **PKPdf** 11 13 26.4 0.0
baz=231
R35A Emporia Munici 123.18 68 P **PKPdf** 11 13 26.5 +0.2
baz=231
V39A Pettigrew 123.19 72 P **PKPdf** 11 13 26.1 -0.4
baz=230
T37A Cheneyville 18 123.21 70 P **PKPdf** 11 13 26.2 -0.2
baz=231
ASCN Ascension 123.36 181 PFAKE 11 13 40.0 +12
ASCN LR LR
comp=Z,1μm,21.0s
KSU1 Kansas State U 123.42 67 PFAKE 11 13 40.0 +13
KSU1 LR LR
comp=Z,753nm,20.0s
KURK Kurchatov 123.43 311 *c i*PKIKP **PKPdf** 11 13 25.1 -1.3
KURK pmax pmax
comp=Z,155nm,1.2s
KURK Kurchatov 123.43 311 *e*PKPdf **PKPdf** 11 13 25.4 -0.9
KURK LR LR
comp=Z,499nm,20.0s
O33A Hebron 123.44 66 P **PKPdf** 11 13 27.0 +0.2
baz=231
145A Houston Renfro 123.48 77 P **PKPdf** 11 13 26.6 -0.5
baz=230
T38A Diamond 123.55 70 P **PKPdf** 11 13 26.9 -0.2
baz=231
P34A Walnut Farm, R 123.56 67 P **PKPdf** 11 13 27.1 +0.1
baz=231
Z44A Pea Ridge, Bel 123.59 76 P **PKPdf** 11 13 27.6 +0.4
baz=230
Q35A Mercer Eighty, 123.61 68 P **PKPdf** 11 13 27.1 0.0
baz=231
U39A Green Forest 123.64 72 P **PKPdf** 11 13 26.5 -0.8
baz=231
W41B Gary Mavity, V 123.65 73 P **PKPdf** 11 13 27.0 -0.3
baz=230
S37A Fort Scott 123.67 69 P **PKPdf** 11 13 27.1 -0.2
baz=231
Y43A Makayla and Ka 123.69 75 P **PKPdf** 11 13 27.6 +0.2
baz=230
V40A Witts Springs 123.69 72 P **PKPdf** 11 13 26.8 -0.6
baz=230
NVS Novosibirsk 123.78 317 *e*PKIKP **PKPdf** 11 13 25.4 -1.5
NVS pmax pmax
comp=Z,13nm,0.8s
NVS pmax pmax
comp=N,4.0nm,0.7s
BGNE Belgrade 123.92 64 P **PKPdf** 11 13 28.0 +0.3
baz=232
BGNE Belgrade 123.92 64 *e*PKPdf **PKPdf** 11 13 27.7 0.0
247A Quitman 123.98 79 P **PKPdf** 11 13 28.6 +0.5
baz=229
R37A Teagarden Farm 124.02 69 P **PKPdf** 11 13 27.7 -0.3
baz=231
U40A Yellville 124.02 72 P **PKPdf** 11 13 27.6 -0.4
baz=231
Q36A Arnold C. Orve 124.03 68 P **PKPdf** 11 13 27.7 -0.2
baz=231
O34A Beatrice 124.04 66 P **PKPdf** 11 13 27.5 -0.4
baz=232
P35A Duane Minner, 124.04 67 P **PKPdf** 11 13 28.1 +0.2
baz=232
146A Union 124.07 78 P **PKPdf** 11 13 28.2 0.0
baz=230
V41A Mountainview 124.10 73 P **PKPdf** 11 13 27.8 -0.4
baz=231
X43A Marvell 124.10 75 P **PKPdf** 11 13 28.5 +0.3
baz=230
T39A Clever 124.11 71 P **PKPdf** 11 13 27.9 -0.2
baz=231
Z45A Winona 124.13 77 P **PKPdf** 11 13 28.3 +0.1
baz=230
S38A Stockton 124.16 70 P **PKPdf** 11 13 27.8 -0.4
baz=231
Y44A Strider, Charl 124.17 76 P **PKPdf** 11 13 28.3 0.0
baz=230
K31A O'Neill 124.31 63 P **PKPdf** 11 13 28.1 -0.2
baz=232
L32A Elgin 124.37 64 P **PKPdf** 11 13 28.8 +0.3
baz=232
BRAL Brewton 124.42 80 PFAKE 11 13 40.0 +11
BRAL LR LR
comp=Z,372nm,21.0s
Z46A Louisville 124.50 77 P **PKPdf** 11 13 29.2 +0.2
baz=230
R38A Fenwick Farm, 124.50 70 P **PKPdf** 11 13 28.0 -0.9
baz=232
Y45A Yeager Farm, C 124.54 76 P **PKPdf** 11 13 28.8 -0.2
baz=230
N34A Lincoln 124.56 66 P **PKPdf** 11 13 28.7 -0.2
baz=232
S39A Bolivar 124.56 70 P **PKPdf** 11 13 28.6 -0.4
baz=231
O35A Humboldt 124.56 66 P **PKPdf** 11 13 28.8 -0.1
baz=232
GTBY Guantanamo Bay 124.59 99 PFAKE 11 13 40.0 +10
GTBY LR LR
comp=Z,387nm,19.0s
M33A Taylor Creek F 124.59 64 P **PKPdf** 11 13 28.5 -0.5
baz=232
P36A Good Intent, A 124.59 67 P **PKPdf** 11 13 28.3 -0.6
baz=232
V42A Cord 124.59 73 P **PKPdf** 11 13 28.3 -0.8
baz=231
Q37A Longview Farm, 124.59 69 P **PKPdf** 11 13 28.1 -0.9
baz=232
U41A Viola 124.60 73 P **PKPdf** 11 13 28.6 -0.5
baz=231
147A Livingston 124.60 78 P **PKPdf** 11 13 29.0 -0.2
baz=230
J31A Geddes 124.72 62 P **PKPdf** 11 13 28.9 -0.2
baz=233
T40A Mansfield 124.72 71 P **PKPdf** 11 13 28.9 -0.5
baz=231
DGMT Dagmar 124.78 54 P **PKPdf** 11 13 29.2 0.0
baz=233
DGMT Dagmar 124.78 54 *e*PKPdf **PKPdf** 11 13 29.1 0.0
DGMT LR LR
comp=Z,461nm,19.0s
K32A Verdigre 124.79 63 P **PKPdf** 11 13 28.5 -0.8
baz=233
L33A Hoskins 124.90 64 P **PKPdf** 11 13 29.2 -0.4
baz=233
X45A UM Field Stati 124.99 76 P **PKPdf** 11 13 29.2 -0.7
baz=230
Y46A Houston 124.99 77 P **PKPdf** 11 13 29.7 -0.3
baz=230
S40A Lebanon 125.01 71 P **PKPdf** 11 13 29.1 -0.8
baz=232
U42A Revenden 125.03 73 P **PKPdf** 11 13 29.3 -0.6
baz=231
Z47A Carrollton 125.06 78 P **PKPdf** 11 13 29.8 -0.3
baz=230
N35A Tabor 125.09 66 P **PKPdf** 11 13 29.8 -0.1
baz=232
P37A Lathrop 125.09 68 P **PKPdf** 11 13 29.2 -0.8
baz=232
R39A Chumby, Stover 125.12 70 P **PKPdf** 11 13 29.5 -0.5
baz=232
Q38A Cooks Store, C 125.16 69 P **PKPdf** 11 13 29.6 -0.5
baz=232
SUSD Miller 125.29 61 P **PKPdf** 11 13 30.4 +0.2
baz=233
L34A Svendsen Farm, 125.31 65 P **PKPdf** 11 13 29.9 -0.4
baz=233
K33A Hardington 125.33 64 P **PKPdf** 11 13 30.3 0.0
baz=233
M35A Neola 125.42 65 P **PKPdf** 11 13 30.7 +0.1
baz=233
N36A Muff Farm, Cla 125.47 66 P **PKPdf** 11 13 30.5 -0.1
baz=233
S41A Jillco Farms, 125.48 71 P **PKPdf** 11 13 30.0 -0.8
baz=232
Z48A Northport 125.51 78 P **PKPdf** 11 13 30.6 -0.3
baz=230
T42A Van Buren 125.54 72 P **PKPdf** 11 13 30.4 -0.4
baz=232
U43A Rector 125.57 73 P **PKPdf** 11 13 30.9 0.0
baz=231
O37A Wolven Farm, M 125.57 68 P **PKPdf** 11 13 30.8 0.0
baz=232
R40A Maddies Statio 125.58 70 P **PKPdf** 11 13 30.1 -0.8
baz=232
W45A Hickory Valley 125.58 75 P **PKPdf** 11 13 30.9 -0.1
baz=231
H31A Wolsey 125.59 61 P **PKPdf** 11 13 30.5 -0.3
baz=234
Q39A Willow Grove F 125.61 69 P **PKPdf** 11 13 30.4 -0.6
baz=232
P38A Dawn 125.62 68 P **PKPdf** 11 13 30.6 -0.3
baz=232
INK Inuvik 125.62 24 *e*PKIKP **PKPdf** 11 13 29.8 -0.2
INK Inuvik 125.62 24 *e*PKPdf **PKPdf** 11 13 29.8 -0.2
Y47A UCPARC, Winfie 125.65 77 P **PKPdf** 11 13 30.5 -0.7
baz=230
J33A Davis 125.78 63 P **PKPdf** 11 13 30.5 -0.6
baz=233
N37A Lee Faris, Mou 125.89 67 P **PKPdf** 11 13 31.5 +0.1
baz=233
L35A Bielow Farm, R 125.90 65 P **PKPdf** 11 13 31.4 -0.1
baz=233
I32A Karley and Nic 125.91 62 P **PKPdf** 11 13 31.5 +0.1
baz=234
K34A Le Mars 125.91 64 P **PKPdf** 11 13 31.1 -0.4
baz=233
M36A Felix, Anita 125.95 66 P **PKPdf** 11 13 31.5 -0.1
baz=233
O38A Galt 125.95 68 P **PKPdf** 11 13 31.2 -0.3
baz=233
P39B Salisbury 126.01 69 P **PKPdf** 11 13 31.4 -0.3
baz=233
T43A Greenville 126.08 73 P **PKPdf** 11 13 31.2 -0.7
baz=232
V45A Humboldt 126.09 75 P **PKPdf** 11 13 31.7 -0.3
baz=231
Q40A Laux Farm, Aux 126.13 70 P **PKPdf** 11 13 31.9 -0.1
baz=232
R41A Rosebud 126.14 71 P **PKPdf** 11 13 31.4 -0.6
baz=232
G31A Conde 126.18 60 P **PKPdf** 11 13 31.9 +0.1
baz=234
S42A Caledonia 126.19 72 P **PKPdf** 11 13 31.4 -0.7
baz=232
H32A Carlson Farm, 126.20 61 P **PKPdf** 11 13 31.7 -0.2
baz=234
U44B Burton Farm, H 126.22 74 P **PKPdf** 11 13 32.0 -0.2
baz=232
ECSD EROS Data Cent 126.23 63 P **PKPdf** 11 13 31.4 -0.6
baz=234
ECSD EROS Data Cent 126.23 63 *e*PKPdf **PKPdf** 11 13 31.4 -0.6
ECSD LR LR
comp=Z,654nm,19.0s
I33A Coleman 126.30 62 P **PKPdf** 11 13 31.7 -0.5
baz=234
J34A George 126.35 63 P **PKPdf** 11 13 31.6 -0.6
baz=234
M37A Trindle Farm, 126.37 66 P **PKPdf** 11 13 32.2 -0.2
baz=233
SDDR Presa de Saban 126.37 103 *e*PKPdf **PKPdf** 11 13 32.4 -0.7
SDDR LR LR
comp=Z,229nm,19.0s
L36A Harm Buss Farm 126.42 65 P **PKPdf** 11 13 32.5 0.0
baz=234
K35A Storm Lake 126.45 64 P **PKPdf** 11 13 32.4 -0.1
baz=234
P40A Paris 126.47 69 P **PKPdf** 11 13 32.1 -0.4
baz=233
R42A Luebbering 126.50 71 P **PKPdf** 11 13 32.2 -0.4
baz=232
N38A Joes South For 126.50 67 P **PKPdf** 11 13 32.2 -0.4
baz=233
S43A Fulton Ridge, 126.52 72 P **PKPdf** 11 13 32.2 -0.5
baz=232
T44A Benton 126.52 73 P **PKPdf** 11 13 32.3 -0.5
baz=232
F31A Hecla 126.53 60 P **PKPdf** 11 13 32.1 -0.4
baz=234
U45A Rockin P Farm, 126.59 74 P **PKPdf** 11 13 32.7 -0.2
baz=232
O39A Kirksville 126.60 68 P **PKPdf** 11 13 32.5 -0.3
baz=233
G32A Webster 126.61 61 P **PKPdf** 11 13 32.8 +0.1
baz=234
Q41A Truxton 126.63 70 P **PKPdf** 11 13 32.4 -0.5
baz=233
H33A Prehn Over Nor 126.71 62 P **PKPdf** 11 13 32.4 -0.5
baz=234
J35A Milford 126.84 64 P **PKPdf** 11 13 32.6 -0.6
baz=234
TIGA Tifton 126.85 83 P **PKPdf** 11 13 34.1 +0.6
baz=230
I34A Hadley 126.85 63 P **PKPdf** 11 13 32.8 -0.4
baz=234
K36A Gilmore City 126.86 65 P **PKPdf** 11 13 33.1 -0.1

baz=234
M38A Pleasantville 126.90 67 P PKPdf 11 13 33.0 -0.3
baz=234
MDND Maddock 126.92 57 P PKPdf 11 13 33.2 +0.1
baz=235
MDND Maddock 126.92 57 ePKPdf PKPdf 11 13 32.4 -0.7
O40A La Belle 126.94 69 P PKPdf 11 13 33.2 -0.2
baz=233
L37A Phoenix Point, 126.98 66 P PKPdf 11 13 33.1 -0.4
baz=234
N39A Derby Farms, D 127.00 68 P PKPdf 11 13 33.2 -0.3
baz=233
R43A Red Bud 127.03 72 P PKPdf 11 13 32.9 -0.8
baz=233
Q42A Golden Eagle 127.04 71 P PKPdf 11 13 33.2 -0.5
baz=233
GRGR Grenville 127.08 118 PFAKE 11 13 50.0 +16
GRGR LR LR
comp=Z,206nm,20.0s
S44A Carbondale 127.11 73 P PKPdf 11 13 33.8 -0.1
baz=232
E31A Nome 127.14 59 P PKPdf 11 13 33.1 -0.5
baz=235
P41A Barry, Barry 127.17 70 P PKPdf 11 13 33.3 -0.6
baz=233
F32A Veblen 127.17 60 P PKPdf 11 13 33.7 0.0
baz=235
G33A Ortonville 127.18 61 P PKPdf 11 13 33.3 -0.5
baz=235
I35A Creekview Farm 127.26 63 P PKPdf 11 13 33.9 -0.1
baz=234
H34A Spellman Lake, 127.26 62 P PKPdf 11 13 33.9 0.0
baz=235
J36A Seneca 1, Swea 127.33 64 P PKPdf 11 13 33.7 -0.4
baz=234
K37A Belmond 127.42 65 P PKPdf 11 13 34.0 -0.3
baz=234
GEYT Alibeck 127.45 287 PKP PKPdf 11 13 33.9 -0.7
comp=Z,12nm,0.9s,baz=241,slow=3.1,SNR=19
L38A Oak Wood Farm, 127.47 66 P PKPdf 11 13 34.2 -0.2
baz=234
S45A Carrier Mills 127.52 73 P PKPdf 11 13 34.2 -0.4
baz=233
O41A Passleys Farm, 127.54 69 P PKPdf 11 13 33.7 -0.9
baz=234
M39A Webster 127.56 67 P PKPdf 11 13 34.0 -0.6
baz=234
P42A Winchester 127.56 70 P PKPdf 11 13 33.7 -1.0
baz=233
N40A Mertquake, Sal 127.56 68 P PKPdf 11 13 34.0 -0.6
baz=234
F33A 5 Mile Ranch, 127.64 61 P PKPdf 11 13 34.3 -0.3
baz=235
G34A Benson 127.67 62 P PKPdf 11 13 34.6 -0.1
baz=235
J37A Redenius Farm, 127.79 65 P PKPdf 11 13 34.5 -0.5
baz=235
H35A Sunnyside Ranc 127.83 63 P PKPdf 11 13 34.8 -0.3
baz=235
K38A Parkersburg 127.87 66 P PKPdf 11 13 34.8 -0.4
baz=234
N41A Harden Midland 127.91 69 P PKPdf 11 13 34.7 -0.6
baz=234
M40A Post Highland 127.92 68 P PKPdf 11 13 34.8 -0.4
baz=234
C31A Landman Farms, 127.92 58 P PKPdf 11 13 34.7 -0.4
baz=236
I36A Fitzsimmons Fa 127.92 64 P PKPdf 11 13 35.0 -0.2
baz=235
Q44A Meyer Farm, Va 127.98 72 P PKPdf 11 13 35.0 -0.4
baz=233
L39A Vinton 128.04 67 P PKPdf 11 13 35.2 -0.3
baz=234
O42A Bath 128.09 70 P PKPdf 11 13 34.7 -0.9
baz=234
YKA Yellowknife Ar 128.09 36 PKP PKPdf 11 13 33.8 -1.1
comp=Z,6.5nm,0.8s,baz=217,slow=1.7,SNR=5.7
P43A Skaggs, Pawnee 128.10 71 P PKPdf 11 13 35.1 -0.6
baz=234
E33A Westby DABS, E 128.18 60 P PKPdf 11 13 35.4 -0.2
baz=236
GOGA Godfrey 128.18 81 PFAKE 11 13 50.0 +14
GOGA LR LR
comp=Z,299nm,20.0s
F34A Alexandria 128.21 61 P PKPdf 11 13 35.9 +0.2
baz=236
I37A Lemond, Waseca 128.28 64 P PKPdf 11 13 36.0 +0.1
baz=235
H36A Jessenland, He 128.29 63 P PKPdf 11 13 36.1 +0.2
baz=235
GRTK Grand Turk 128.31 101 PFAKE 11 13 50.0 +13
GRTK LR LR
comp=Z,372nm,21.0s
B31A Greenbush Farm 128.32 57 P PKPdf 11 13 35.1 -0.7
baz=236
G35A Watkins 128.33 62 P PKPdf 11 13 36.2 +0.2
baz=236
J38A Wedel Dairy, R 128.44 65 P PKPdf 11 13 35.8 -0.4
baz=235
K39A Oelwein 128.44 66 P PKPdf 11 13 35.3 -0.9
baz=235
L40A Anamosa 128.47 67 P PKPdf 11 13 36.1 -0.2
baz=235
N42A Yates City 128.49 69 P PKPdf 11 13 35.9 -0.5
baz=234
M41A Milan 128.49 68 P PKPdf 11 13 36.3 -0.1
baz=234
P44A Sand Creek, Wi 128.56 71 P PKPdf 11 13 36.4 -0.2
baz=234
O43A Sugar Creek Fa 128.61 70 P PKPdf 11 13 36.6 0.0
baz=234
F35A Swanville 128.64 61 P PKPdf 11 13 36.7 +0.2
baz=236
E34A Wadena 128.66 60 P PKPdf 11 13 36.8 +0.3
baz=236
G36A St. Michael 128.77 63 P PKPdf 11 13 37.1 +0.3
baz=236
HDIL Hopedale 128.78 70 P PKPdf 11 13 36.8 -0.1
baz=234
HDIL Hopedale 128.78 70 ePKPdf PKPdf 11 13 36.7 -0.3
HDIL LR LR
comp=Z,911nm,20.0s
H37A Dierke Farm, C 128.89 64 P PKPdf 11 13 37.0 0.0
baz=236
K40A Colesburg 128.89 67 P PKPdf 11 13 36.8 -0.3
baz=235
J39A Decorah 128.91 66 P PKPdf 11 13 36.3 -0.8
baz=235
L41A Preston 128.92 68 P PKPdf 11 13 36.3 -0.8
baz=235
B32A Ashes, Strandq 128.92 58 P PKPdf 11 13 36.8 -0.2
baz=237
I38A Scanlan Farm, 128.93 65 P PKPdf 11 13 36.4 -0.7
baz=236
D34A Park Rapids 128.96 60 P PKPdf 11 13 37.4 +0.2
baz=236
SJG San Juan 128.99 109 PFAKE 11 13 50.0 +12
SJG LR LR
comp=Z,181nm,20.0s
BRVK Borovoye 129.00 309 c iPKIKP PKPdf 11 13 36.0 -1.0
BRVK pmax pmax
comp=Z,85nm,1.2s
BRVK Borovoye 129.00 309 ePKPdf PKPdf 11 13 36.2 -0.7
BRVK LR LR
comp=Z,153nm,21.0s
M42A Sheffield 129.02 69 P PKPdf 11 13 37.2 -0.2
baz=235
A32A Rocking H Ranc 129.23 57 P PKPdf 11 13 36.6 -0.9
baz=237
AGMN Agassiz Nation 129.25 58 P PKPdf 11 13 37.1 -0.5
baz=237
AGMN Agassiz Nation 129.25 58 PFAKE 11 13 50.0 +12
AGMN LR LR
comp=Z,685nm,21.0s
F36A Milaca 129.25 62 P PKPdf 11 13 37.6 0.0
baz=236
WCI Wyandotte Cave 129.30 74 ePKIKP PKPdf 11 13 37.7 -0.3
WCI Wyandotte Cave 129.30 74 ePKPdf PKPdf 11 13 37.7 -0.3
I39A Houston 129.31 65 P PKPdf 11 13 37.1 -0.7
baz=236
SPMN Marine on St. 129.32 63 P PKPdf 11 13 37.4 -0.5
baz=236
SPMN Marine on St. 129.32 63 ePKPdf PKPdf 11 13 36.7 -1.1
K41A Shullsburg 129.34 67 P PKPdf 11 13 37.3 -0.6
baz=235
B33A Robert and Kas 129.39 58 P PKPdf 11 13 37.4 -0.5
baz=237
FDF Fort de France 129.44 116 PFAKE 11 13 50.0 +11
FDF LR LR
comp=Z,214nm,20.0s
FFC Flin Flon 129.44 49 PFAKE 11 13 50.0 +12
FFC LR LR
comp=Z,508nm,20.0s
J40A Soldiers Grove 129.52 66 P PKPdf 11 13 37.3 -1.0
baz=236
JFWS Jewell Farm 129.55 67 PFAKE 11 13 50.0 +12
JFWS LR LR
comp=Z,678nm,20.0s
D35A Remer 129.61 60 P PKPdf 11 13 37.4 -0.9
baz=237
F37A Hinrichs Farm, 129.70 63 P PKPdf 11 13 38.1 -0.4
baz=237
E36A McGregor 129.76 61 P PKPdf 11 13 38.6 0.0
baz=237
G38A Ridgeland 129.85 64 P PKPdf 11 13 38.8 0.0
baz=236
I40A Norwalk 129.88 66 P PKPdf 11 13 39.1 +0.2
baz=236
H39A Augusta 129.91 64 P PKPdf 11 13 38.9 -0.1
baz=236
J41A Loganville 129.95 67 P PKPdf 11 13 38.8 -0.3
baz=236
C35A Jirik Farms, M 129.99 60 P PKPdf 11 13 38.8 -0.3
baz=237
B34A Aery, Baudette 130.03 59 P PKPdf 11 13 38.1 -1.0
baz=238
SFIN Lafayette 130.05 71 P PKPdf 11 13 39.6 +0.2
baz=235
L43A Garden Prairie 130.06 68 P PKPdf 11 13 39.2 -0.1
baz=236
NHSC New Hope 130.14 83 PFAKE 11 13 50.0 +10
NHSC LR LR
comp=Z,309nm,20.0s
D36A Goodland 130.17 61 P PKPdf 11 13 39.5 +0.1
baz=237
F38A Pierce - Schro 130.26 63 P PKPdf 11 13 39.1 -0.5
baz=237
ULM Lac du Bonnet 130.28 56 PKP PKPdf 11 13 38.0 -1.5
comp=Z,9.0nm,0.9s,baz=209,slow=3.0,SNR=6.2
ULM Lac du Bonnet 130.28 56 PKIKP PKPdf 11 13 38.0 -1.5
ULM pmax pmax
comp=Z,9.0nm,0.9s
G39A Holcombe 130.31 64 P PKPdf 11 13 39.9 +0.2
baz=237
H40A Chili 130.41 65 P PKPdf 11 13 40.1 +0.1
baz=237
B35A Bob, Littlefor 130.49 59 P PKPdf 11 13 39.8 -0.1
baz=238
NRIK Noril'sk 130.57 333 PKP PKPdf 11 13 37.5 -1.9
comp=Z,16nm,0.8s,baz=105,slow=3.2,SNR=12
D37A Cotton 130.59 61 P PKPdf 11 13 39.6 -0.6
baz=238
KMSC Kings Mountain 130.63 80 P PKPdf 11 13 40.3 -0.3
baz=232
C36A Pine Crest Far 130.67 60 P PKPdf 11 13 40.4 0.0
baz=238
F39A Loretta 130.80 63 P PKPdf 11 13 40.6 0.0
baz=237
G40A Rib Lake 130.88 64 P PKPdf 11 13 40.9 +0.1
baz=237
I42A Draeger Farm, 130.90 67 P PKPdf 11 13 41.0 +0.1
baz=237
C37A Embarrass 131.03 61 P PKPdf 11 13 40.9 -0.1
baz=236
E39A Mellen 131.26 63 P PKPdf 11 13 41.5 0.0
baz=238
F40A Park Falls 131.28 64 P PKPdf 11 13 41.6 +0.1
baz=238
EYMN Ely 131.54 61 P PKPdf 11 13 42.4 +0.4
baz=239
EYMN Ely 131.54 61 ePKPdf PKPdf 11 13 41.5 -0.4
EYMN LR LR
comp=Z,750nm,19.0s
E40A Wakefield 131.69 63 P PKPdf 11 13 42.8 +0.5
baz=238
F41A Three Lakes 131.78 64 P PKPdf 11 13 42.6 +0.1
baz=238
G42A Mountain 131.92 65 P PKPdf 11 13 42.7 -0.1
baz=238
COWI Conover 131.95 64 PFAKE 11 13 50.0 +7.2
COWI LR LR
comp=Z,658nm,19.0s
C39A Grand Marais 132.26 61 P PKPdf 11 13 43.3 0.0
baz=239
BLA Blacksburg 132.46 79 PFAKE 11 14 00.0 +16
BLA LR LR
comp=Z,678nm,19.0s
ACSO Alum Creek Sta 132.55 74 PFAKE 11 14 00.0 +16
ACSO LR LR
comp=Z,557nm,20.0s
ABKAR Akbulak array 132.63 301 ePKPdf PKPdf 11 13 42.4 -1.6
D41A Chassel 132.79 63 P PKPdf 11 13 44.8 +0.5
baz=239
E42A Champion 132.85 64 P PKPdf 11 13 44.8 +0.3
baz=239
CNNC Cliffs of the 132.94 83 PFAKE 11 14 00.0 +15
CNNC LR LR
comp=Z,692nm,19.0s
F43A Flat Rock, Esc 132.99 65 P PKPdf 11 13 44.9 +0.2
baz=239
AAM Ann Arbor 133.27 71 PFAKE 11 14 00.0 +15
AAM LR LR
comp=Z,1μm,20.0s
E43A Lone Tree Farm 133.37 65 P PKPdf 11 13 45.9 +0.5
baz=239
E45A Wooded Hills, 134.45 66 P PKPdf 11 13 47.5 0.0
baz=240
N54A Moraine State 134.85 75 P PKPdf 11 13 49.1 +0.6
baz=237
CBN Corbin Frederi 135.01 80 PFAKE 11 14 00.0 +11
CBN LR LR
comp=Z,589nm,21.0s
O56A Blue Knob Stat 135.39 76 P PKPdf 11 13 49.2 -0.3
baz=237
LIC Lamto 136.53 195 ePKP1 PKPpre 11 13 39.8
comp=Z,73nm,1.1s
ARU Arti 136.58 309 i PKIKP PKPdf 11 13 51.5 +0.4
ARU 11 16 29.3
ARU Arti 136.58 309 ePKPdf PKPdf 11 13 49.8 -1.3
ARU LR LR
comp=Z,248nm,20.0s
KIC Kosan Boka 136.61 196 ePKP1 PKPpre 11 13 40.4
comp=Z,43nm,0.9s
DBIC Dimbokro 136.94 195 PKhKP PKPpre 11 13 39.1
comp=Z,5.5nm,0.7s,baz=160,slow=4.4,SNR=7.7
DBIC PKP PKPdf 11 13 52.3 -0.9
comp=Z,26nm,0.8s,baz=147,slow=4.1,SNR=11
TIC Toumodi 136.94 195 ePKP1 PKPpre 11 13 39.5
GNI Garni 137.26 282 c iPKIKP PKPdf 11 13 53.0 -0.1
GNI pmax pmax
comp=Z,122nm,1.7s
GNI Garni 137.26 282 ePKPdf PKPdf 11 13 53.1 -0.1
GNI LR LR
comp=Z,315nm,20.0s
N59A State Game Lan 137.53 77 P PKPdf 11 13 53.6 +0.2
baz=238
AKH Akhalkalaki 138.73 282 ⇑ iP PKPdf 11 13 56.7 +0.9
ZEI Tsey 139.17 285 i PKHKP PKPpre 11 13 49.5
ZEI pmax pmax
comp=Z,23nm,0.8s
NCK Nalchik 139.71 285 ⇑ iPKIKP PKPdf 11 13 57.7 +0.4
LONY Lake Ozonia 140.14 73 PFAKE 11 14 10.0 +12
LONY LR LR
comp=Z,708nm,20.0s
NEY Neytrino 140.15 284 d iPKIKP PKPdf 11 14 01.5 +3.1
KBZ Khabaz 140.27 285 PKhKP PKPpre 11 13 50.2
comp=Z,6.6nm,0.8s,baz=99,slow=5.1,SNR=5.7
KIV Kislovodsk 140.51 285 i PKIKP PKPdf 11 13 57.7 -1.2
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,144nm,18.0s
KIV Kislovodsk 140.51 285 PFAKE 11 14 10.0 +11
KIV LR LR
comp=Z,203nm,21.0s
TORD Torodi Ar. Bea 141.61 207 PKhKP PKPpre 11 13 54.8
comp=Z,12nm,0.9s,baz=157,slow=2.4,SNR=52
CSS Mathiatis 141.82 267 PFAKE 11 14 10.0 +8.6
CSS LR LR
comp=Z,85nm,21.0s
SOC Sochi 142.23 283 i PKIKP PKPdf 11 14 10.0 +8.2
SOC ePPP PPP 11 20 16.3
PKME Peaks-Kenny Pk 143.78 75 ePKPdf PKPbc 11 14 02.6 +0.3
PKME LR LR
comp=Z,830nm,20.0s
ANN Anapa 144.25 284 i PKIKP PKPab 11 14 02.3 -1.0
ANN pmax pmax
comp=Z,104nm,1.0s
ANN pmax pmax
comp=Z,390nm,8.1s
BRTR Keskin Array B 144.28 274 PKP PKPab 11 14 03.5 -0.3
comp=Z,43nm,0.8s,baz=143,slow=4.3,SNR=95
BRTR Keskin Array B 144.28 274 PKIKP PKPab 11 14 03.5 -0.3
BRTR pmax pmax
comp=Z,60nm,1.0s
ANTO Ankara 144.91 274 ePKIKP PKPab 11 14 04.1 -1.9
ANTO MLR MLR
comp=Z,303nm,22.0s
ANTO Ankara 144.91 274 ePKPdf PKPab 11 14 04.1 -1.9
ANTO LR LR
comp=Z,303nm,22.0s
SACV Santiago Islan 145.46 166 ePKPbc PKPdf 11 14 07.5 -0.9
SACV LR LR
comp=Z,169nm,19.0s
VSR Storozhevoye 145.58 295 ePKIKP PKPdf 11 14 06.9 -0.5
VSR pmax pmax
comp=Z,550nm,0.8s
VORR Voronezh 145.69 296 ⇑ i PKP2 PKPdf 11 14 07.0 -0.6
VORR pmax pmax
comp=Z,1μm,1.2s
LPSR Galich'ya Gora 146.13 297 ePKP2 PKPdf 11 14 08.9 +0.6
LPSR pmax pmax
comp=Z,370nm,1.0s
KARP Karpathos 146.22 263 P PKPbc 11 14 09.9 -0.3
SIM Simferopol' 146.44 282 ePKP2 PKPdf 11 14 10.0 +0.9
SIM pmax pmax
comp=Z,90μm,0.8s
SIM pmax pmax
comp=Z,420nm,10.4s
KLMR Klimovskoe 147.25 312 ePKIKP PKPdf 11 14 09.3 -0.6
KLMR pmax pmax
comp=Z,428nm,1.1s
IDI Anoyia 147.54 260 ePKPdf PKPdf 11 14 11.3 0.0
IDI ePKPbc PKPbc 11 14 14.2 +0.2
IDI ePKPab PKPab 11 14 16.4 +0.2
MOS Moscow 147.60 303 ePKP2 PKPbc 11 14 12.5 -0.9
MOS e 11 17 41.6
MOS pmax pmax
comp=Z,157nm,1.0s
SANT Santorini 147.82 262 ePKPdf PKPdf 11 14 10.4 -1.4
SANT ePKPbc PKPbc 11 14 14.0 -0.7
SANT LR LR
comp=Z,237nm,19.0s
TMCR Tamitsa 147.99 318 ePKP2 PKPbc 11 14 13.7 -0.5
TMCR pmax pmax
comp=Z,184nm,0.9s
HOPEN Hopen 148.07 343 ePKPab PKPbc 11 14 15.4 +1.3
OBN Obninsk 148.07 301 c i PKP2 PKPbc 11 14 14.8 +0.1
OBN pmax pmax
comp=Z,175nm,0.9s
OBN Obninsk 148.07 301 ePKPdf PKPdf 11 14 11.2 -0.3
OBN ePKPbc PKPbc 11 14 15.0 +0.3
OBN LR LR
comp=Z,393nm,22.0s
APE Apeiranthos 148.17 264 ⇓ iP PKPbc 11 14 14.5 -1.2
APE Apeiranthos 148.17 264 ⇑ ePKIKP PKPdf 11 14 13.4 +1.1
KBS Kingsbay 148.31 350 ePKPdf PKPdf 11 14 08.9 -2.4
KBS ePKPab PKPbc 11 14 15.3 +0.6
KBS epPKPdf pPKPdf 11 14 19.4 -0.4
KBS Kingsbay 148.31 350 ePKIKP PKPdf 11 14 10.6 -0.7
KBS e 11 14 15.2
KBS MLR MLR
comp=Z,319nm,19.0s
KBS Kingsbay 148.31 350 ePKPdf PKPdf 11 14 10.6 -0.7
KBS ePKPbc PKPbc 11 14 15.2 +0.4
KBS LR LR
comp=Z,319nm,19.0s
SCHQ Schefferville 148.33 59 PKPbc PKPbc 11 14 15.0 -0.4
comp=Z,26nm,0.8s,baz=280,slow=2.0,SNR=13
SPA0 Spitsbergen Ar 148.35 348 ePKPab PKPbc 11 14 14.5 -0.4
SPA0 IAmb IAmb 11 14 15.8
comp=Z,210nm,1.1s
KULLO Kullorsuaq 148.86 20 i P PKPbc 11 14 16.7 +0.5
KULLO Kullorsuaq 148.86 20 i PKP2 PKPbc 11 14 16.7 +0.5
LVZ Lovozero 148.88 326 ePKP2 PKPbc 11 14 15.9 -0.6
LVZ MLR MLR
comp=Z,1μm,19.0s
LVZ Lovozero 148.88 326 ePKPbc PKPbc 11 14 15.9 -0.6
LVZ ePKPab PKPab 11 14 20.0 -0.6
LVZ LR LR
comp=Z,1μm,19.0s
PRK Paraskevi 148.88 268 P PKPbc 11 14 16.6 -0.7
TAM Tamanrasset 149.08 220 ePKIKP PKPdf 11 14 14.8 +0.4
TAM e 11 14 18.9
TAM e 11 14 23.2
TAM MLR MLR
comp=Z,545nm,19.0s
TAM Tamanrasset 149.08 220 ePKPdf PKPdf 11 14 14.8 +0.4
TAM ePKPbc PKPbc 11 14 18.9 +0.3
TAM ePKPab PKPab 11 14 23.1 +0.4
TAM LR LR
comp=Z,545nm,19.0s
EFOR EFORIE 149.63 278 ⇓ iP PKPbc 11 14 19.2 +0.2
PSN Preselentsi 149.76 277 eP PKPbc 11 14 18.4 -1.0
EDRB Edirne 149.88 272 P PKPbc 11 14 18.5 -1.2
ALN Alexandroupoli 149.88 270 P PKPbc 11 14 18.6 -1.1
TIRR Tirgusor 149.93 278 ⇑ iP PKPbc 11 14 19.1 -0.6
TIRR Tirgusor 149.93 278 ⇑ PKP2 PKPbc 11 14 19.1 -0.6
TIRR Tirgusor 149.93 278 ePKPbc PKPbc 11 14 19.3 -0.4
TIRR ePKPab pPKPdf 11 14 24.3 +0.9
SMTH Samothraki Isl 150.00 269 P PKPbc 11 14 19.1 -1.0
PRD Provadia 150.06 275 eP PKPbc 11 14 19.4 -0.7
TLB Topalu 150.23 278 ⇑ iP PKPbc 11 14 20.0 -0.4
TLB Topalu 150.23 278 ⇑ PKIKP PKPbc 11 14 20.0 -0.4
RDO Rodhopi 150.34 270 P PKPbc 11 14 19.9 -0.9
HARR Harsova 150.34 278 ⇑ iP PKPbc 11 14 20.5 -0.2
HARR Harsova 150.34 278 ⇑ PKIKP PKPbc 11 14 20.5 -0.2
LOUT Loutraki 150.37 263 P PKPbc 11 14 19.9 -1.1
LTK Loutraki 150.39 263 P PKPbc 11 14 19.5 -1.6
CFR Carcaliu 150.40 279 ⇑ iP PKPbc 11 14 20.4 -0.4
CFR Carcaliu 150.40 279 ⇑ PKIKP PKPbc 11 14 20.4 -0.4
BJO Bjornoya 150.47 342 epPKPdf PKPbc 11 14 19.9 -0.2
BJO IAmb IAmb 11 14 20.8
comp=Z,159nm,1.0s
PYL PYLOS 150.54 260 P PKPbc 11 14 20.3 -1.2
THAL Thalero 150.60 263 P PKPbc 11 14 20.5 -1.1
KIS Kishinev 150.64 283 ⇑ iP PKPbc 11 14 20.0 -1.4
KIS XM 11 14 21.0
comp=Z,400nm,1.4s
KIS Kishinev 150.64 283 α i PKIKP PKPbc 11 14 20.0 -1.4
KIS e 11 14 25.0
KIS i 11 14 29.0
KIS pmax pmax
comp=Z,360nm,1.4s
KIS pmax pmax
comp=Z,500nm,6.0s
KDZ Kurdzhali 150.66 271 eP PKPbc 11 14 20.5 -1.1
SKIA Skiathos 150.69 265 P PKPbc 11 14 20.9 -0.9
SMIA Simia 150.70 265 P PKPbc 11 14 21.0 -0.8
DSF Desfina 150.90 263 P PKPbc 11 14 21.1 -1.2
NEO Neokhori 150.92 265 P PKPbc 11 14 21.3 -1.0
KAVA Kavala 150.94 269 P PKPbc 11 14 21.3 -1.0
KLV Kalavryta, Ach 150.94 262 P PKPbc 11 14 21.9 -0.6
OUR Ouranopolis 150.96 268 P PKPbc 11 14 21.1 -1.2
KEV Kevo 150.96 331 ePKIKP PKPdf 11 14 15.9 +0.2
KEV e 11 14 21.1
KEV MLR MLR
comp=Z,601nm,21.0s
KEV Kevo 150.96 331 ePKPdf PKPdf 11 14 15.9 +0.2
KEV ePKPbc PKPbc 11 14 21.1 -0.3
KEV LR LR
comp=Z,601nm,21.0s
XOR Xorichti 150.97 265 P PKPbc 11 14 21.5 -1.0
PGOR Pogoanele 151.05 278 ⇓ iP PKPbc 11 14 23.0 +0.6
SZH Strazhica 151.05 274 eP PKPbc 11 14 21.6 -0.9
KALE Kalithea 151.14 263 P PKPbc 11 14 22.3 -0.6
RZN Rozhen 151.14 271 eP PKPbc 11 14 21.7 -1.3
LAKA Lakka 151.16 262 P PKPbc 11 14 22.7 -0.2
FYTO Fytoko, Volos 151.16 265 P PKPbc 11 14 22.0 -0.8
DRO Drossia 151.17 262 P PKPbc 11 14 23.0 0.0
SERG Sergoula 151.20 263 P PKPbc 11 14 22.7 -0.3
EFP Efpalio 151.31 263 P PKPbc 11 14 23.0 -0.2
PLG Polygyros 151.33 267 P PKPbc 11 14 22.0 -1.3
ODBI Odobesti 151.33 280 ⇓ iP PKPbc 11 14 24.0 +1.0
PLD Plovdiv 151.34 271 eP PKPbc 11 14 21.8 -1.4
AGG Agios Georgios 151.36 264 P PKPbc 11 14 22.6 -0.8
RLS Riolos of Patr 151.39 262 P PKPbc 11 14 23.7 +0.3
ANX Ano Chora 151.39 263 P PKPbc 11 14 23.5 0.0

ISR	Istrita	151.42 278	⇓*i*P	PKPbc	11 14 23.2	-0.1
ISR	Istrita	151.42 278	⇓PKIKP	PKPbc	11 14 23.2	-0.1
PVL	Pavlikeni	151.43 274	*e*P	PKPbc	11 14 22.6	-0.7
AKASG	Malin Array Be	151.48 291	PKP	PKPdf	11 14 14.3	-2.7
	comp=Z,5.0nm,0.8s,baz=68,slow=1.8,SNR=20					
AKASG			PKPbc	PKPbc	11 14 22.6	-0.6
	comp=Z,83nm,0.7s,baz=83,slow=2.4,SNR=164					
KIEV	Kiev	151.49 291	*e*PKIKP	PKPdf	11 14 15.2	-1.8
KIEV			*e*		11 14 22.3	
KIEV			MLR	MLR		
	comp=Z,406nm,21.0s					
KIEV	Kiev	151.49 291	*e*PKPdf	PKPdf	11 14 15.2	-1.8
KIEV			*e*PKPbc	PKPbc	11 14 22.3	-0.9
KIEV			LR	LR		
	comp=Z,406nm,21.0s					
IAS	Iasi	151.51 283	⇑*i*P	PKPbc	11 14 23.2	-0.2
IAS	Iasi	151.51 283	⇑PKIKP	PKPbc	11 14 23.2	-0.2
AXS	Araxos	151.53 262	P	PKPbc	11 14 23.4	-0.3
ARCES	ARCESS Array B	151.53 331	PKP	PKPdf	11 14 15.1	-1.5
	comp=Z,3.4nm,0.8s,baz=56,slow=4.5,SNR=5.9					
ARCES			PKPbc	PKPbc	11 14 23.0	+0.2
	comp=Z,128nm,0.8s,baz=64,slow=2.8,SNR=158					
ARE0	ARCESS Array S	151.53 331	*ep*PKPdf	PKPbc	11 14 23.0	+0.2
ARE0			*e*PP	PP	11 18 00.3	-2.9
ARE0			IAMs_20	IAMs_20	12 20 07.8	
	comp=Z,503nm,21.1s					
NVR	Nevrokopi	151.54 269	P	PKPbc	11 14 22.6	-1.1
HAMF	Hammerfest	151.58 334	*e*PKPbc	PKPbc	11 14 22.8	0.0
HAMF			IAmb	IAmb	11 14 23.6	
	comp=Z,174nm,1.3s					
VRI	Vrincioaia	151.58 280	⇑*i*P	PKPbc	11 14 23.0	-0.6
VRI	Vrincioaia	151.58 280	⇑PKIKP	PKPbc	11 14 23.0	-0.6
ZIMR		151.59 275	⇓*i*P	PKPbc	11 14 23.7	0.0
ZIMR		151.59 275	⇓PKIKP	PKPbc	11 14 23.7	0.0
SRS	Serrai	151.60 269	P	PKPbc	11 14 22.2	-1.6
PLOR	Plostina	151.63 280	⇑*i*P	PKPbc	11 14 23.0	-0.8
PLOR	Plostina	151.63 280	⇑PKIKP	PKPbc	11 14 23.0	-0.8
EVR	Evrytania	151.64 263	P	PKPbc	11 14 23.5	-0.6
PVO	Paravola	151.66 263	P	PKPbc	11 14 24.1	+0.1
HORT	Hortiatis	151.67 268	P	PKPbc	11 14 22.6	-1.5
SECR		151.70 278	⇑*i*P	PKPbc	11 14 23.6	-0.3
MMB	Musomiste	151.74 270	*e*P	PKPbc	11 14 22.6	-1.6
PUL	Pulkovo	151.81 310	*c i*PKIKP	PKPbc	11 14 24.5	+0.9
PUL			pmax	pmax		
	comp=Z,138nm,0.4s					
LIT	Litokhoron	151.82 266	P	PKPbc	11 14 23.2	-1.2
THL	Klokotos Trika	151.85 265	P	PKPbc	11 14 23.2	-1.2
KFL	Anninata	151.86 261	P	PKPbc	11 14 24.2	-0.3
TESR	Tescani	151.87 281	⇑*i*P	PKPbc	11 14 23.8	-0.4
PGB	Panagyurishte	151.90 272	*e*P	PKPbc	11 14 23.0	-1.5
MLR	Muntele Rosu	151.95 279	⇑*i*P	PKPbc	11 14 23.9	-0.7
MLR	Muntele Rosu	151.95 279	⇑PKIKP	PKPbc	11 14 23.9	-0.7
VLS	Valsamata	152.03 261	P	PKPbc	11 14 24.2	-0.7
DAG	Danmarks Havn	152.04 2	*i* P	PKPbc	11 14 23.3	-0.4
DAG	Danmarks Havn	152.04 2	*i* PKIKP	PKPbc	11 14 23.3	-0.4
KNT	Kendrikon	152.08 268	P	PKPbc	11 14 23.5	-1.4
DSL	Palaion Diasel	152.23 263	P	PKPbc	11 14 24.9	-0.4
KKB	Krupnik	152.30 270	*e*P	PKPbc	11 14 23.8	-1.6
GRG	Griva	152.31 268	P	PKPbc	11 14 24.3	-1.2
LKD2	Lefkada island	152.32 262	P	PKPbc	11 14 25.2	-0.4
VAY	Valandovo	152.38 268	*i* P	PKPbc	11 14 24.3	-1.3
PRAR	RASCA	152.42 283	⇑*i*P	PKPbc	11 14 25.0	-0.5
KPRO	Kipourio	152.49 265	P	PKPbc	11 14 24.8	-1.2
KTK1	Kautokeino	152.49 331	*e*PKPbc	PKPbc	11 14 24.9	-0.1
KTK1			IAmb	IAmb	11 14 25.0	
	comp=Z,41nm,0.8s					
DOPR	Dopca	152.49 279	⇑*i*P	PKPbc	11 14 25.2	-0.5
VOIR		152.51 278	⇑*i*P	PKPbc	11 14 24.9	-1.0
VOIR		152.51 278	⇑PKIKP	PKPbc	11 14 24.9	-1.0
MPEP	Malo Peshtene	152.53 273	*e*P	PKPbc	11 14 24.9	-1.0
VTS	Vitosha	152.55 271	P	PKPbc	11 14 25.1	-1.1
VTS	Vitosha	152.55 271	⇑*i*P	PKPbc	11 14 25.0	-1.1
VTS	Vitosha	152.55 271	⇑PKIKP	PKPbc	11 14 25.0	-1.1
VTS	Vitosha	152.55 271	*e*P	PKPbc	11 14 25.1	-1.1
ARR	Arges	152.76 278	⇓*i*P	PKPbc	11 14 26.1	-0.3
FNA	Florina	152.90 266	P	PKPbc	11 14 25.6	-1.2
MICGM	Minsk	152.95 298	*e*P	PKPbc	11 14 23.0	-3.4
MICGM			PM		11 14 25.0	
	comp=Z,0.2nm,1.0s					
MNK	Minsk	152.95 298	*e*PKIKP	PKPbc	11 14 23.0	-3.4
MNK			pmax	pmax		
	comp=Z,210nm,1.0s					
BIA	Bitola	153.05 267	*i* P	PKPbc	11 14 27.0	-0.1
BURAR	Bucovina Array	153.15 283	⇑*i*P	PKPbc	11 14 27.5	+0.3
BURAR	Bucovina Array	153.15 283	⇑PKIKP	PKPbc	11 14 27.5	+0.3
KRUS	Krusevo	153.27 267	*i* P	PKPbc	11 14 26.7	-0.9
ILULI	Ilulissat	153.31 28	*i* P	PKPbc	11 14 25.8	-0.9
ILULI	Ilulissat	153.31 28	*i* PKIKP	PKPbc	11 14 25.8	-0.9
LOT	Lotru	153.35 277	⇑*i*P	PKPbc	11 14 27.4	-0.4
SRE	Strehaia	153.43 275	⇓*i*P	PKPbc	11 14 27.9	+0.1
SRE	Strehaia	153.43 275	⇓PKIKP	PKPbc	11 14 27.9	+0.1
SKO	Skopje	153.43 269	*i* P	PKPbc	11 14 27.1	-0.8
OHR	Ohrid	153.44 267	*i* P	PKPbc	11 14 27.8	-0.2
TRO	Tromso	153.49 334	*e*PKPbc	PKPbc	11 14 25.1	-2.0
NACGM	Naroch	153.63 299	*e*	PKPbc	11 14 27.0	-0.8
IDID	Didziasalis	153.68 300	*e*P	PKPbc	11 14 28.0	0.0
IDID			IAmb	IAmb	11 14 29.5	
	comp=Z,30nm,0.8s					
VSU	Vasula	153.71 307	*c i*PKIKP	PKPbc	11 14 28.4	+0.5
VSU			pmax	pmax		
	comp=Z,89nm,1.0s					
FINES	FINESS Array B	153.73 314	PKP	PKPdf	11 14 18.7	-1.3
	comp=Z,2.2nm,0.7s,baz=66,slow=4.6,SNR=5.5					
FINES			PKPbc	PKPbc	11 14 27.6	-0.2
	comp=Z,42nm,0.7s,baz=98,slow=4.2,SNR=64					
IIGN	Ignalina	153.98 300	*e*P	PKPbc	11 14 28.6	0.0
IIGN			IAmb	IAmb	11 14 30.2	
	comp=Z,28nm,1.0s					
GZR	Gura Zlata	153.99 277	⇑*i*P	PKPdf	11 14 18.8	-2.2
GZR	Gura Zlata	153.99 277	⇑PKIKP	PKPdf	11 14 18.8	-2.2
IZAR	Zarasai	153.99 301	*e*P	PKPbc	11 14 28.2	-0.4
IZAR			IAmb	IAmb	11 14 30.1	
	comp=Z,19nm,0.9s					
ISAL	Salakas	154.04 301	*e*P	PKPbc	11 14 28.4	-0.3
ISAL			IAmb	IAmb	11 14 30.3	
	comp=Z,22nm,0.9s					
DEV	Deva	154.08 278	⇑*i*P	PKPdf	11 14 21.8	+0.8
DEV	Deva	154.08 278	⇑PKIKP	PKPdf	11 14 21.8	+0.8
SUMG	Summit	154.12 16	*i* P	PKPdf	11 14 19.6	-1.2
SUMG			*i*		11 14 43.3	
SUMG	Summit	154.12 16	*i* PKIKP	PKPdf	11 14 19.6	-1.2
SUMG	Summit	154.12 16	*e*PKPdf	PKPdf	11 14 20.2	-0.6
SUMG			*e*PKPab	PKPab	11 14 43.4	+0.6
TIR	Tirane	154.17 266	*e*PKIKP	PKPdf	11 14 21.8	+0.5
TIR			*e*		11 14 29.6	
TIR			MLR	MLR		
	comp=Z,362nm,21.0s					
TIR	Tirane	154.17 266	*e*PKPdf	PKPdf	11 14 21.8	+0.5
TIR			*e*PKPbc	PKPbc	11 14 29.6	+0.1
TIR			LR	LR		
	comp=Z,362nm,21.0s					
MDVR	Moldovita	154.45 275	⇑*i*P	PKPbc	11 14 29.3	-0.7
WDD	Wied Dalam	154.49 250	PFAKE		11 14 30.0	-0.3
WDD			LR	LR		
	comp=Z,323nm,19.0s					
LVV	L'vov	154.51 287	*e*PKIKP	PKPbc	11 14 30.9	+1.0
SFJD	Kangerlussuaq	154.56 32	*i* P	PKPab	11 14 44.4	+0.1
SFJD	Kangerlussuaq	154.56 32	*i* PKP2	PKPab	11 14 44.4	+0.1
BZS	Buzias	154.83 277	⇑*i*P	PKPbc	11 14 29.9	-0.8
BZS	Buzias	154.83 277	⇑PKIKP	PKPbc	11 14 29.9	-0.8
CEL	Celeste	155.11 256	*e*PKPdf	PKPdf	11 14 22.4	-0.4
CEL			*e*PKPbc	pPKPdf	11 14 31.8	+0.4
CEL			*e*PKPab	PKPab	11 14 47.9	+0.3
CEL			LR	LR		
	comp=Z,439nm,21.0s					
KWP	Kalwaria Pacla	155.30 286	*e*PKPab	PKPab	11 14 47.4	-0.6
KWP	Kalwaria Pacla	155.30 286	*e*PKP2	PKPab	11 14 47.4	-0.6
UZH	Uzhgorod	155.32 284	*e*PKIKP	PKPdf	11 14 16.0	-6.6
UZH			*e*		11 14 33.8	
STEI	Steigen	155.57 332	*e*PKPab	PKPab	11 14 48.2	-0.3
CRVS	Cervenica-Dubn	155.92 284	*e*PKIKP	PKPdf	11 14 25.7	+2.2
CRVS	Cervenica-Dubn	155.92 284	*e*PKP	PKPdf	11 14 25.6	+2.1
CUC	Castrocucco	156.13 260	PFAKE		11 14 30.0	+5.9
CUC			LR	LR		
	comp=Z,200nm,19.0s					
STHS	Stebnicka Huta	156.18 285	*e*PKIKP	PKPdf	11 14 25.7	+1.9
STHS	Stebnicka Huta	156.18 285	*e*PKP	PKPdf	11 14 25.7	+1.9
STHS			*e*		11 14 52.2	
KECS	Kecovo	156.44 283	*e*PKIKP	PKPdf	11 14 23.4	-0.7
KECS			*e*		11 14 34.0	
KECS	Kecovo	156.44 283	*e*PKP	PKPdf	11 14 23.4	-0.7
KECS			*e*		11 14 34.0	
			e		11 14 52.8	
PSZ	Piszkesteto	156.68 281	PFAKE		11 14 40.0	-14
PSZ			LR	LR		
	comp=Z,341nm,22.0s					
NIE	Niedzica	156.78 285	*e*PKPdf	PKPdf	11 14 23.3	-1.3
NIE	Niedzica	156.78 285	*e*PKIKP	PKPdf	11 14 23.3	-1.3
MOR8	Moi Rana	156.83 329	*e*PKPdf	PKPdf	11 14 23.9	-0.2
MOR8			*e*PKPab	PKPab	11 14 50.6	-3.5
MOR8			IAmb	IAmb	11 14 52.7	
	comp=Z,53nm,0.9s					
BEL	Belsk	156.89 291	*e*PKPab	PKPab	11 14 55.1	+0.4
BEL	Belsk	156.89 291	*e*PKP2	PKPab	11 14 55.1	+0.4
OJC	Ojcow	157.26 287	*e*PKPdf	PKPdf	11 14 23.9	-1.2
OJC			*e*PKPab	PKPab	11 14 56.4	0.0
OJC			*e*PP	PP	11 18 36.7	+0.6
OJC	Ojcow	157.26 287	*e*PKIKP	PKPdf	11 14 23.9	-1.2
VYHS	Vyhne	157.51 282	*e*PKIKP	PKPdf	11 14 24.0	-1.5
VYHS			*e*		11 18 31.8	
VYHS	Vyhne	157.51 282	*e*PKP	PKPdf	11 14 24.0	-1.5
VYHS			*e*		11 14 57.6	
VYHS			*e*PP	PP	11 18 31.8	-5.7
KEST	Kesra	157.56 243	PKP	PKPdf	11 14 27.3	+1.2
	comp=Z,4.9nm,0.8s,baz=335,slow=7.0,SNR=6.5					
KEST			PKPab	PKPab	11 14 58.7	+0.5
	comp=Z,41nm,1.0s,baz=176,slow=1.2,SNR=19					
OKC	Ostrava-Krasne	158.24 285	AMS	AMS	12 34 30.0	
	comp=Z,400nm,26.5s					
MORC	Moravsky Berou	158.61 285	⇑*i*P	PKPdf	11 14 25.0	-1.9
MORC	Moravsky Berou	158.61 285	*e*PKIKP	PKPdf	11 14 25.6	-1.3
MORC			*e*		11 15 02.3	
MORC			*e*		11 18 42.7	
MORC	Moravsky Berou	158.61 285	*e*PKPdf	PKPdf	11 14 25.6	-1.3
MORC			*e*PKPab	PKPab	11 15 02.3	0.0
MORC			*e*PP	PP	11 18 42.7	-0.8
AQU	L'Aquila	158.89 263	PFAKE		11 14 40.0	+13
AQU			LR	LR		
	comp=Z,351nm,20.0s					
BOJS	Bojanci	158.97 272	*e*PKPdf	PKPdf	11 14 25.5	-1.9
KRLC	Kraliky	159.15 285	*e*PKPAB	PKPab	11 15 04.3	-0.4
KRLC	Kraliky	159.15 285	*e*PKP2	PKPab	11 15 04.3	-0.4
CONA	Conrad Observa	159.30 279	*e*PKPdf	PKPdf	11 14 25.5	-2.3
	comp=Z,7.2nm,1.3s					
CONA			*e*PKPab	PKPab	11 15 04.5	-0.9
	comp=Z,13nm,1.5s					
ARSA	Arzberg	159.34 277	*i* PKPdf	PKPdf	11 14 25.6	-2.2
	comp=Z,11nm,1.4s					
ARSA			*i* PKPab	PKPab	11 15 05.5	-0.1
	comp=Z,16nm,0.9s,SNR=8.4					
DPC	Dobruska-Polom	159.48 286	*e*PKPDF	PKPdf	11 14 26.5	-1.4
DPC			*e*PKPAB	PKPab	11 15 06.2	+0.1
DPC			*e*PP	PP	11 18 45.6	-2.7
DPC			AMS	AMS	12 29 40.0	
	comp=Z,500nm,27.2s					
DPC	Dobruska-Polom	159.48 286	*e*PKIKP	PKPdf	11 14 26.5	-1.4
DPC			*e*		11 18 45.6	
DPC			MLR	MLR		
	comp=Z,500nm,27.2s					
SOKA	Soboth	159.50 275	*i* PKPdf	PKPdf	11 14 26.0	-2.1
	comp=Z,15nm,1.1s					
SOKA			*e*PKPab	PKPab	11 15 05.9	-0.4
	comp=Z,55nm,1.8s,SNR=8.6					
KSP	Ksiaz	159.57 287	*e*PKPdf	PKPdf	11 14 29.6	+1.7
KSP			*e*PKPab	PKPab	11 15 06.8	+0.4
KSP	Ksiaz	159.57 287	*e*PKP2	PKPab	11 15 06.8	+0.4
LJU	Ljubljana	159.63 273	*e*PKPdf	PKPdf	11 14 26.7	-1.4
LJU			*e*		11 15 06.0	
LJU			*e*		11 15 10.3	
UPC	Upice	159.70 286	*e*PKPAB	PKPab	11 15 06.9	-0.1
UPC			AMS	AMS	12 36 40.0	
	comp=Z,600nm,21.2s					
UPC	Upice	159.70 286	*e*PKP2	PKPab	11 15 06.9	-0.1
UPC			MLR	MLR		
	comp=Z,600nm,21.2s					
OBKA	Obir	159.76 274	*i* PKPdf	PKPdf	11 14 26.4	-2.0
	comp=Z,9.1nm,1.1s					
TREC	Trest	159.84 283	AMS	AMS	12 32 50.0	
	comp=Z,600nm,22.5s					
TBLU	Trondheim	159.95 325	*e*PKPab	PKPab	11 15 05.8	-1.9
TBLU			*e*SS	SS	11 30 29.2	-508
VSL	Villasalto	159.96 251	PFAKE		11 14 40.0	+11
VSL			LR	LR		
	comp=Z,422nm,19.0s					
MOA	Molln	160.32 278	*i* PKPdf	PKPdf	11 14 26.1	-2.8
	comp=Z,6.8nm,1.5s					
MOA			*e*PKPab	PKPab	11 15 08.9	-0.9
	comp=Z,16nm,1.5s					
GOPC	GO Pecny, Ondr	160.40 284	AMS	AMS	12 33 50.0	
	comp=Z,500nm,22.0s					
MYKA	Terra Mystica	160.40 274	*i* PKPdf	PKPdf	11 14 27.0	-2.1
	comp=Z,10nm,1.0s					
MYKA			*i* PKPab	PKPab	11 15 09.3	-0.9
	comp=Z,34nm,1.8s					
BSD	Bornholm Skovb	160.45 300	*i* P	PKPdf	11 14 27.0	-1.7
BSD			*i*		11 15 10.2	
BSD	Bornholm Skovb	160.45 300	*i* PKIKP	PKPdf	11 14 27.0	-1.7
PRU	Pruhonice	160.56 284	*e*PKPDF	PKPdf	11 14 27.4	-1.6
PRU			*e*PKPAB	PKPab	11 15 10.2	-0.6
PRU			*e*PP	PP	11 18 53.4	-0.7
PRU			*e*SS	SS	11 39 05.3	+0.7
PRU			AMS	AMS	12 34 10.0	
	comp=Z,600nm,24.6s					
PRU	Pruhonice	160.56 284	*e*PKIKP	PKPdf	11 14 27.4	-1.6
PRU			*e*		11 15 10.2	
PRU			*e*		11 18 53.4	
PRU			*e*SS	SS	11 39 05.3	+0.7
PRU			MLR	MLR		
	comp=Z,600nm,24.6s					
PVCC	Panska Ves	160.62 286	AMS	AMS	12 34 00.0	
	comp=Z,500nm,20.1s					
NC602	NORSAR Array S	160.67 318	*e*PKPdf	PKPdf	11 14 26.6	-2.2
NC602			*e*PKPab	PKPab	11 15 08.8	-2.0
NB2	NORSAR Subarra	160.68 319	PKPdf	PKPdf	11 14 25.9	-3.0
	comp=Z,13nm,0.9s,baz=63,slow=1.2					
NB2	NORSAR Subarra	160.68 319	PKPdf	PKPdf	11 14 25.9	-3.0
	baz=63,slow=1.2					
NOA	NORSAR Array B	160.68 319	PKP	PKPdf	11 14 26.4	-2.5
	comp=Z,2.1nm,0.9s,baz=76,slow=1.6,SNR=5.3					
NOA			PKPab	PKPab	11 15 10.1	-0.9
	comp=Z,27nm,0.8s,baz=63,slow=4.6,SNR=88					
KBA	Koelnbreinsper	160.72 275	*i* PKPdf	PKPdf	11 14 26.7	-2.9
	comp=Z,10nm,1.2s					
GERES	GERESS Array B	160.91 281	PKP	PKPdf	11 14 28.4	-1.2
	comp=Z,2.2nm,0.9s,baz=166,slow=0.6,SNR=12					
GERES			PKPab	PKPab	11 15 11.8	-0.7
	comp=Z,8.5nm,0.7s,baz=108,slow=4.3,SNR=23					
GERES			PP	PP	11 18 55.2	-0.9
	comp=Z,3.1nm,1.0s,baz=76,slow=5.6,SNR=6.0					
KHC	Kasperske Hory	161.04 282	*e*PKPDF	PKPdf	11 14 27.2	-2.4
KHC			*e*PKPAB	PKPab	11 15 11.7	-1.2
KHC			*e*PP	PP	11 18 53.0	-3.7
KHC			*e*SS	SS	11 39 07.5	-2.3
KHC			AMS	AMS	12 35 00.0	
	comp=Z,600nm,21.7s					
KHC	Kasperske Hory	161.04 282	*e*PKIKP	PKPdf	11 14 27.2	-2.4
KHC			*e*		11 18 53.0	
KHC			*e*SS	SS	11 39 07.5	-2.3
KHC			MLR	MLR		
	comp=Z,600nm,21.7s					
BRG	Berggiesshubel	161.05 287	*e*PKP	PKPdf	11 14 27.2	-2.3
	comp=Z,62nm,2.2s					
BRG			*i*		11 15 12.9	
	comp=Z,113nm,2.1s					
BRG	Berggiesshubel	161.05 287	*e*PKIKP	PKPdf	11 14 27.2	-2.3
BRG			*i*		11 15 12.9	
BRG			pmax	pmax		
	comp=Z,62nm,2.2s					
BRG			pmax	pmax		
	comp=Z,113nm,2.1s					
DOMB	Dombas	161.07 323	*e*PKPab	PKPab	11 15 11.7	-0.9
DOMB			IAmb	IAmb	11 15 12.5	
	comp=Z,44nm,1.0s					
DOMB			*e*PP	PP	11 18 52.8	-3.5
ABTA	Abfaltersbach	161.17 274	*i* PKPdf	PKPdf	11 14 27.4	-2.5
	comp=Z,8.7nm,1.0s					
ABTA			*e*PKPab	PKPab	11 15 12.7	-1.0
	comp=Z,18nm,1.5s					
MOL	Molde	161.36 326	*e*PKPab	PKPab	11 15 13.4	-0.4
VLC	Villacollemand	161.66 265	PFAKE		11 14 40.0	+10
VLC			LR	LR		
	comp=Z,504nm,20.0s					
CLL	Collm	161.68 288	*e*PKPdf	PKPdf	11 14 30.0	-0.2
CLL			*e*PKPab	PKPab	11 15 14.0	-1.6
	comp=Z,12nm,1.0s					
CLL			*e*PP	PP	11 19 00.0	0.0
CLL			*e*PPP	PPP	11 22 42.0	
CLL			*e*PPPrev		11 26 55.0	
CLL			*e*PSKS		11 29 24.0	
CLL			*e*PPS	PPS	11 32 26.0	
CLL			*e*SS	SS	11 39 17.0	+0.8
CLL			*e*PSS	PSS	11 40 21.0	
CLL			*e*SSS	SSS	11 45 24.0	
CLL			LmV		12 35 00.0	
	comp=Z,400nm,20.3s					
COP	Copenhagen	161.78 302	*i* P	PKPpre	11 14 25.1	
COP			*i*		11 15 14.9	
COP	Copenhagen	161.78 302	*e*PKIKP	PKPpre	11 14 25.1	
COP			*i*		11 15 14.9	
AKN	Aaknes	161.80 325	*e*PKPab	PKPab	11 15 15.4	-0.4
WTTA	Wattenberg	161.89 275	*e*PKPdf	PKPdf	11 14 28.8	-2.0
	comp=Z,8.5nm,0.9s					
WTTA			*e*PKPab	PKPab	11 15 16.1	-0.8
	comp=Z,43nm,1.9s					
NKC	Novy Kostel	161.93 285	*e*PKPAB	PKPab	11 15 17.2	+0.4
NKC			AMS	AMS	12 31 30.0	
	comp=Z,300nm,17.2s					
NKC	Novy Kostel	161.93 285	*e*PKP2	PKPab	11 15 17.2	+0.4
NKC			MLR	MLR		
	comp=Z,300nm,17.2s					
WATA	Walderalm	161.95 275	*e*PKPdf	PKPdf	11 14 28.1	-2.7
	comp=Z,16nm,1.4s					
MOTA	Moosalm	162.26 275	*i* PKPdf	PKPdf	11 14 28.6	-2.6
	comp=Z,12nm,1.0s					
MOTA			*i* PKPab	PKPab	11 15 17.3	-1.2
	comp=Z,9.3nm,0.9s					
FETA	Feichten	162.42 274	*e*PKPdf	PKPdf	11 14 29.4	-1.9
	comp=Z,11nm,0.9s					
FETA			*e*PKPab	PKPab	11 15 18.5	-0.7
	comp=Z,36nm,1.3s,SNR=5.5					
RETA	Reutte	162.52 275	*i* PKPdf	PKPdf	11 14 29.6	-1.7
	comp=Z,8.8nm,1.1s					
RETA			*e*PKPab	PKPab	11 15 18.6	-1.0
	comp=Z,38nm,1.3s,SNR=15					
DAVA	Damuels	163.05 274	*e*PKPdf	PKPdf	11 14 29.6	-2.3
	comp=Z,10nm,1.0s					
DAVA			*e*PKPab	PKPab	11 15 21.3	-0.7
	comp=Z,71nm,1.5s,SNR=17					
HOMB	Homborsund	163.10 313	*e*P	PKPdf	11 14 28.5	-2.8
HOMB			*e*PKPab	PKPab	11 15 19.1	-2.4
HOMB			*e*PP	PP	11 19 04.8	-2.3
TUE	Stuetta	163.18 271	*e*PKPdf	PKPdf	11 14 32.6	+0.5
TUE			LR	LR		
	comp=Z,479nm,20.0s					
REVF	Revere	163.46 260	PKP	PKPab	11 15 30.0	+6.3
BLS5	Blasjo	163.54 318	*e*PKPdf	PKPdf	11 14 29.1	-2.7
BLS5			*e*PKPab	PKPab	11 15 23.4	-0.1
LUCF	Luceram	163.54 261	PKP	PKPab	11 15 27.8	+3.7
MVIF	Mont Vial	163.67 261	PKP	PKPab	11 15 28.3	+3.5
RTC	Rabat Centre	163.76 206	PFAKE		11 14 40.0	+7.2
RTC			LR	LR		
	comp=Z,4μm,20.0s					
STAV	Stavanger	164.12 317	*e*PKPdf	PKPdf	11 14 28.8	-3.4
STAV			*e*PKPab	PKPab	11 15 23.4	-2.6
BFO	Black Forest	164.31 277	PFAKE		11 14 40.0	+7.1
BFO			LR	LR		
	comp=Z,440nm,19.0s					
BNI	Bardonecchia	164.45 264	PFAKE		11 14 40.0	+6.8
BNI			LR	LR		
	comp=Z,558nm,19.0s					
GRN	Grenoble	165.13 264	PKP	PKPab	11 15 30.4	-0.7
WLF	Walferdange	165.92 281	PFAKE		11 14 40.0	+5.9
WLF			LR	LR		
	comp=Z,489nm,20.0s					
SSB	Saint Sauveur	165.94 262	*e*PKIKP	PKPdf	11 14 32.7	-1.7
SSB			MLR	MLR		
	comp=Z,542nm,19.0s					
SSB	Saint Sauveur	165.94 262	*e*PKPdf	PKPdf	11 14 32.7	-1.7
SSB			LR	LR		
	comp=Z,542nm,19.0s					
PLDF	La Plantade	166.79 264	PKP	PKPab	11 15 37.3	-1.1
PBDV	Barranco-do-Ve	167.10 208	*e*LR	LR	12 14 50.0	
	comp=Z,569nm,18.0s					
PVAQ	Vaqueiros	167.18 209	*e*LR	LR	12 14 09.8	
	comp=Z,418nm,20.0s					
PCVE	Castro Verde	167.49 208	*e*LR	LR	12 12 43.3	
	comp=Z,622nm,20.0s					
ESDC	Sonseca Array	167.64 226	PKP	PKPdf	11 14 35.3	-0.5
	comp=Z,0.5nm,0.4s,baz=241,slow=0.1,SNR=7.2					
ESDC			PKPab	PKPab	11 15 41.0	-1.2
	comp=Z,1.1nm,0.7s,baz=150,slow=3.6,SNR=5.1					
ESDC			PP	PP	11 19 36.8	+6.0
	comp=Z,0.1nm,0.3s,baz=130,slow=2.3,SNR=4.3					
PBAR	Barrancos	167.65 212	*e*LR	LR	12 17 01.9	
	comp=Z,1μm,20.0s					
PAB	San Pablo	167.72 224	PFAKE		11 14 50.0	+14
PAB			LR	LR		
	comp=Z,662nm,19.0s					
PBEJ	Beja	167.80 209	*e*PKPdf	PKPdf	11 14 36.6	+0.6
PBEJ	Beja	167.80 209	*e*PKPdf	PKPdf	11 14 37.1	+1.1
PNCL	Nicolau / Gran	168.09 207	*e*PKPdf	PKPdf	11 14 36.6	+0.5
PNCL	Nicolau / Gran	168

LNY12			P	Pn	11 13 37.0	-0.4
LNY12	**LNY12**	**0.20 303**	S	Sn	11 13 42.3	-0.7
LNY12			P	Pn	11 13 37.0	-0.5
LNY11	**LNY11**	**0.23 313**	S	Sn	11 13 43.0	-0.4
LNY11			P	Pn	11 13 37.2	-0.4
LNY03	**LNY03**	**0.24 337**	S	Sn	11 13 42.8	-0.6
LNY03			P	Pn	11 13 37.2	-0.5
LNY03	**LNY03**	**0.24 337**	S	Sn	11 13 42.5	-0.9
LNY03			P	Pn	11 13 37.2	-0.5
LNY05	**LNY05**	**0.27 245**	S	Sn	11 13 42.5	-1.2
LNY05			P	Pn	11 13 37.3	-0.6
LNY04	**LNY04**	**0.31 292**	S	Sn	11 13 43.9	-0.5
LNY04			P	Pn	11 13 37.8	-0.5
LNY04	**LNY04**	**0.31 292**	S	Sn	11 13 43.8	-0.6
LNY04			P	Pn	11 13 37.7	-0.5
LNY07	**LNY07**	**0.35 265**	S	Sn	11 13 44.9	-0.4
LNY07			P	Pn	11 13 38.3	-0.5
LNY09	**LNY09**	**0.36 312**	S	Sn	11 13 45.0	-0.5
LNY09			P	Pn	11 13 38.4	-0.5
LNY09	**LNY09**	**0.36 312**	S	Sn	11 13 44.7	-0.8
LNY09			P	Pn	11 13 38.3	-0.6
UMJS	**Umm Lajj**	**0.59 277**	P	Pn	11 13 41.3	-0.3
YNBS	**Yanbu' al Bahr**	**0.82 178**	S	Sn	11 13 54.5	-1.1
YNBS			P	Pn	11 13 43.9	-0.8

MEX 01 11:21:25.3±0.5, 16°.16N×97°.57W, h11km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**293**	*eP*	Pg	11 21 35.4	-1.3
PNIG				*eS*	Sg	11 21 43.5	-0.9
VHO	**Vista Hermosa**	**1.21**	**41**	*eP*	Pb	11 21 44.5	-3.8
VHO				*eS*	Sb	11 21 59.6	-4.4
HUIG	**Huatulco**	**1.46**	**105**	*eP*	Pn	11 21 48.1	-3.5
HUIG				*eS*	Sn	11 22 04.5	-6.2
TLIG	**Tlapa**	**1.69**	**326**	*eP*	Pn	11 21 52.7	-2.2
TLIG				*i* S	Sn	11 22 11.4	-5.3

IDC 01 11:49:02.0±8.1, 23°.44S×177°.48W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=208.5km s-min=49.6km az=31.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.03**	**248**	P	P	11 56 13.4	-0.3
	0.8nm,0.4s,baz=88,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**44.39**	**260**	P	P	11 57 14.3	-0.3
	0.4nm,0.4s,baz=92,slow=6.7,SNR=29						
WRA	**Warramunga Arr**	**44.74**	**265**	P	P	11 57 17.6	+0.2
	0.8nm,0.3s,baz=104,slow=8.1,SNR=3.5						
MAW	**Mawson**	**78.97**	**200**	P	P	12 01 07.3	+0.1
	1.6nm,0.6s,baz=130,slow=7.2,SNR=10.0						

*ISCJB **01** 12:04:17.8±0.5, 12°.06S±0°.08×167°.3E±0°.1, h250km, mb4.0/21, Error ellipse: s-maj=16.2km s-min=10.3km az=9.6*
*IDC **01** 12:04:21.4±2.7, 12°.16S×167°.22E, h271km±24km, mb3.6/17, mb1 3.7/19, mb1mx3.6/36, mbtmp4.2/19, Error ellipse: s-maj=19.3km s-min=12.9km az=95.0*

ISC 01 12:04:19.0±0.6, 12°.08S±0°.09×167°.3E±0°.1, h250km, n32, σ0§89/35, mb4.0/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.73**	**289**	P	**Pn**	**12 06 10.7**	**+1.7**
	12nm,0.3s,baz=141,slow=6.5,SNR=3.3						
DZM	**Mont Dzumac**	**9.97**	**185**	P	**Pn**	**12 06 39.1**	**+1.8**
	0.3nm,0.3s,baz=357,slow=16,SNR=4.2						
CTA	**Charters Tower**	**21.75**	**246**	P	**P**	**12 08 50.4**	**-0.6**
	3.5nm,0.3s,baz=68,slow=13,SNR=7.0						
STKA	**Stephens Creek**	**30.81**	**226**	P	**P**	**12 10 11.9**	**+0.1**
	1.6nm,0.7s,baz=55,slow=9.4,SNR=4.3						
RPZ	**Rata Peaks**	**31.68**	**175**	P	**P**	**12 10 19.7**	**+0.4**
	18nm,0.8s,baz=5.2,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**32.62**	**252**	P	**P**	**12 10 26.5**	**-1.3**
	0.6nm,0.3s,baz=83,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**33.76**	**245**	P	**P**	**12 10 36.0**	**-1.6**
	0.5nm,0.4s,baz=69,slow=9.4,SNR=24						
ASAR				PcP	**PcP**	**12 13 09.3**	**-1.6**
	0.2nm,0.5s,baz=60,slow=3.7,SNR=3.6						
JHJ	**Hachijo jima 2**	**52.08**	**331**	P	**P**	**12 13 03.9**	**+0.3**
	120nm,0.8s,baz=67,slow=16,SNR=3.5						
MJAR	**Matsushiro Arr**	**55.62**	**332**	P	**P**	**12 13 28.4**	**-0.8**
	2.0nm,0.7s,baz=170,slow=8.1,SNR=8.7						
MAT	**Matsushiro**	**55.62**	**332**	P	**P**	**12 13 29.3**	**+0.1**
JNU	**Nakatsue**	**56.84**	**323**	P	**P**	**12 13 37.5**	**-0.4**
	3.2nm,0.6s,baz=219,slow=5.3,SNR=4.8						
ASAJ	**Asahikawa**	**60.30**	**340**	P	**P**	**12 14 02.6**	**+1.2**
	9.0nm,0.8s,baz=136,slow=1.6,SNR=5.4						
KSRS	**Korea Array**	**61.62**	**325**	P	**P**	**12 14 10.9**	**+0.6**
	0.9nm,0.8s,baz=149,slow=6.6,SNR=2.9						
USRK	**Ussuriysk Ar.**	**64.58**	**333**	P	**P**	**12 14 29.8**	**+0.1**
	2.1nm,0.6s,baz=86,slow=7.8,SNR=4.0						
PETK	**Petropavlovsk-**	**65.45**	**354**	P	**P**	**12 14 34.7**	**-0.5**
	3.9nm,0.9s,baz=156,slow=7.4,SNR=4.0						
KLR	**Kul'dur**	**68.63**	**336**	P	**P**	**12 14 56.2**	**+1.0**
	0.2nm,0.7s,baz=60,slow=2.9,SNR=6.9						
CMAR	**Chiang Mai Arr**	**73.96**	**293**	P	**P**	**12 15 27.8**	**+0.1**
	2.2nm,0.8s,baz=126,slow=4.3,SNR=11						
SONM	**Songino Array**	**80.43**	**323**	P	**P**	**12 16 03.0**	**0.0**
	0.8nm,0.5s,baz=143,slow=6.3,SNR=6.5						
ILAR	**Eielson Array**	**84.00**	**18**	P	**P**	**12 16 21.2**	**+0.2**
	9.6nm,0.6s,baz=245,slow=5.1,SNR=160						
MAW	**Mawson**	**84.35**	**202**	P	**P**	**12 16 21.8**	**-0.9**
	2.4nm,0.7s,baz=106,slow=2.5,SNR=6.4						
PDAR	**Pinedale Array**	**93.11**	**47**	P	**P**	**12 17 04.7**	**-0.4**
	0.2nm,0.5s,baz=102,slow=3.8,SNR=2.5						
TXAR	**Lajitas Array**	**94.95**	**61**	P	**P**	**12 17 14.0**	**+0.4**
	0.4nm,0.7s,baz=262,slow=2.5,SNR=7.2						
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**12 17 13.2**	**-0.4**
	1.1nm,0.7s,baz=257,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**95.35**	**317**	P	**P**	**12 17 15.0**	**+0.1**
	3.6nm,0.6s,baz=94,slow=6.7,SNR=26						
ARCES	**ARCESS Array B**	**117.72**	**346**	PKP	**PKPdf**	**12 22 34.2**	**-0.7**
	1.8nm,0.4s,baz=73,slow=2.0,SNR=25						
FINES	**FINESS Array B**	**123.30**	**339**	PKP	**PKPdf**	**12 22 45.0**	**-0.8**
	1.7nm,0.6s,baz=88,slow=2.5,SNR=16						
NOA	**NORSAR Array B**	**128.10**	**346**	PKP	**PKPdf**	**12 22 54.5**	**-0.6**
	0.5nm,0.6s,baz=56,slow=16,SNR=3.3						
HFS	**Hagfors**	**128.22**	**344**	PKP	**PKPdf**	**12 22 55.0**	**-0.3**
	1.3nm,0.6s,baz=114,slow=7.1,SNR=4.7						
GERES	**GERESS Array B**	**137.32**	**334**	PKP	**PKPdf**	**12 23 13.9**	**+1.0**
	0.4nm,0.6s,baz=72,slow=3.2,SNR=2.9						
KEST	**Kesra**	**149.18**	**323**	PKPbc	**PKPbc**	**12 23 39.1**	**+0.6**
	5.5nm,0.6s,baz=74,slow=15,SNR=9.3						
ESDC	**Sonseca Array**	**151.46**	**346**	PKPbc	**PKPbc**	**12 23 44.0**	**+0.3**
	1.1nm,0.6s,baz=48,slow=2.0,SNR=8.9						
ESDC				PKPab	**PKPab**	**12 23 54.0**	**+1.1**
	0.9nm,0.5s,baz=7.2,slow=4.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**165.95**	**276**	PKP	**PKPdf**	**12 23 53.9**	**-1.1**
	1.0nm,1.0s,baz=13,slow=4.6,SNR=3.9						
TORD				PKPab	**PKPab**	**12 24 55.8**	**-0.7**
	0.9nm,0.9s,baz=124,slow=3.1,SNR=4.6						

IDC 01 12:06:57.4±3.4, 35°.12S×179°.01W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/29, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=81.6km s-min=37.5km az=126.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.42**	**224**	Pn	Pn	12 08 06.3	+0.6
	6.8nm,0.3s,baz=330,slow=1.6,SNR=48						
URZ					Sn	12 08 57.2	-0.6
	12nm,0.3s,baz=352,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**42.23**	**273**	P	P	12 14 52.4	-0.2
	1.0nm,0.6s,baz=116,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**43.65**	**278**	P	P	12 15 04.0	0.0
	1.3nm,0.6s,baz=118,slow=7.5,SNR=3.5						
FINES	**FINESS Array B**	**149.21**	**337**	PKPbc	PKPbc	12 26 46.4	-0.7
	1.9nm,0.7s,baz=35,slow=5.1,SNR=3.6						

*IDC **01** 12:14:23.9±0.9, 12°.83N×95°.54E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/69, mbtmp3.8/14, ML4.5/1, Error ellipse: s-maj=32.7km s-min=16.7km az=53.0*
*NEIC **01** 12:14:28.9±0.5, 12°.91N×95°.66E, h35km, mb4.2/2, Error ellipse: s-maj=17.9km s-min=8.2km az=60.0*

ISC 01 12:14:25.5±0.7, 12°.69N±0°.08×95°.47E±0°.08, h13km, n26, σ2§45/26, mb3.9/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**3.92**	**65**	P	**Pg**	**12 15 44.1**	**+3.5**
PHET	**Kaeng Krachan**	**4.07**	**87**	P	**Pn**	**12 15 23.4**	**-4.1**
UMPA	**Umpang Tak**	**4.79**	**43**	P	Pn	12 15 30.6	-7.0
	20nm,0.7s,757nm						
UTHA	**Uthaitani**	**4.79**	**53**	P	**Pn**	**12 15 32.8**	**-4.7**
	48nm,0.8s,425nm						
PBKT	**Sadao Pong**	**6.57**	**53**	P	**Pn**	**12 15 57.5**	**-4.5**
CMAR	**Chiang Mai Arr**	**6.64**	**30**	Pn	**Pn**	**12 15 59.2**	**-3.7**
	2.4nm,0.3s,baz=219,slow=15,SNR=54						
KULM	**Kulim**	**8.96**	**145**	*e*Pn	**Pn**	**12 16 36.3**	**+1.5**
KULM				*e*Sn	**Sn**	**12 18 12.6**	**-3.1**
AAK	**Ala-Archa**	**34.94**	**333**	P	**P**	**12 21 15.4**	**-2.0**
	0.9nm,0.5s,baz=172,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**35.76**	**344**	P	**P**	**12 21 22.8**	**-1.5**
	1.3nm,0.8s,baz=144,slow=9.0,SNR=5.9						
SONM	**Songino Array**	**36.20**	**12**	P	**P**	**12 21 28.0**	**-0.2**
	0.3nm,0.4s,baz=191,slow=7.0,SNR=2.3						
KSAR	**Wonju Array Be**	**38.01**	**44**	P	**P**	**12 21 47.2**	**+3.7**
KSRS	**Korea Array**	**38.05**	**44**	P	**P**	**12 21 47.2**	**+3.5**
	0.3nm,0.3s,baz=235,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**40.27**	**343**	P	**P**	**12 22 02.1**	**-0.1**
	1.3nm,0.9s,baz=158,slow=7.7,SNR=6.9						
KURK	**Kurchatov**	**40.33**	**343**	P	**P**	**12 22 02.1**	**-0.6**
GEYT	**Alibeck**	**41.66**	**314**	P	**P**	**12 22 15.3**	**+1.4**
	4.2nm,0.7s,baz=128,slow=9.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**42.01**	**351**	P	**P**	**12 22 17.6**	**+1.2**
	0.7nm,0.6s,baz=171,slow=6.8,SNR=2.3						
BVAR	**Borovoye Array**	**44.94**	**339**	P	**P**	**12 22 38.8**	**-1.3**
	0.3nm,0.5s,baz=130,slow=10,SNR=2.4						
ABKAR	**Akbulak array**	**46.74**	**328**	*e*P	**P**	**12 22 54.1**	**-0.2**
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**48.45**	**329**	P	**P**	**12 23 08.2**	**+0.6**
	1.1nm,0.5s,baz=110,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**50.15**	**130**	P	**P**	**12 23 21.6**	**+0.4**
	0.6nm,0.3s,baz=313,slow=7.9,SNR=2.9						
WRAB	**Tennant Creek**	**50.16**	**130**	*e*P	**P**	**12 23 20.9**	**-0.3**
	2.9nm,0.8s						
ASAR	**Alice Springs**	**52.14**	**134**	P	**P**	**12 23 37.1**	**+1.0**
	0.4nm,0.4s,baz=316,slow=6.6,SNR=16						
IDI	**Anoyia**	**66.98**	**303**	P	**P**	**12 25 18.0**	**-0.4**
	22nm,1.0s,baz=111,slow=5.4,SNR=2.9						
FINES	**FINESS Array B**	**69.11**	**331**	P	**P**	**12 25 31.1**	**-0.1**
	2.6nm,1.1s,baz=125,slow=12,SNR=2.7						
GERES	**GERESS Array B**	**75.15**	**317**	P	**P**	**12 26 07.6**	**-0.2**
	0.3nm,0.6s,baz=72,slow=4.2,SNR=2.2						
ILAR	**Eielson Array**	**89.82**	**22**	P	**P**	**12 27 22.3**	**-1.5**
	0.2nm,0.6s,baz=290,slow=5.4,SNR=2.9						

*IDC **01** 12:17:55.9±0.9, 12°.81N×95°.82E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.6/66, mbtmp3.8/12, ML4.2/1, MS3.8/8, Ms1 3.8/8, ms1mx3.4/42, Error ellipse: s-maj=40.7km s-min=15.9km az=54.0*
*ISCJB **01** 12:17:58.9±0.7, 12°.9N±0°.1×95°.9E±0°.1, h33km, mb3.9/17, MS3.9/6, Error ellipse: s-maj=22.6km s-min=11.1km az=147.3*
*NEIC **01** 12:18:01.0±0.5, 12°.89N×95°.89E, h35km, mb4.1/2, Error ellipse: s-maj=18.6km s-min=9.0km az=61.0*

ISC 01 12:18:00.5±0.8, 12°.9N±0°.1×95°.8E±0°.2, h35km, n25, σ1§70/19, mb3.9/17, MS3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.32**	**28**	Pn	**Pn**	**12 19 30.6**	**-0.7**
	1.5nm,0.3s,baz=220,slow=15,SNR=6.1						
CMAR				LR	LR	12 22 28.0	
	comp=Z,485nm,19.8s,baz=219,slow=43						
PSI	**Prapat**	**10.44**	**163**	LR	LR	12 24 52.9	
	comp=Z,260nm,19.5s,baz=304,slow=40						
AAK	**Ala-Archa**	**34.97**	**332**	P	**P**	**12 24 54.1**	**+4.5**
	0.8nm,0.4s,baz=153,slow=14,SNR=2.0						
MKAR	**Makanchi Array**	**35.71**	**344**	P	**P**	**12 24 56.2**	**+0.5**
	0.9nm,0.5s,baz=149,slow=9.9,SNR=3.6						
SONM	**Songino Array**	**35.97**	**12**	LR	LR	12 41 10.5	
	comp=Z,131nm,20.3s,baz=210,slow=39						
SIJI	**Sorong**	**37.70**	**109**	LR	LR	12 44 13.9	
	comp=Z,315nm,18.9s,baz=272,slow=42						
KURBB	**Kurchatov Arra**	**40.23**	**343**	P	**P**	**12 25 34.5**	**+0.8**
	1.3nm,0.8s,baz=154,slow=8.0,SNR=6.9						
KURK	**Kurchatov**	**40.29**	**343**	P	**P**	**12 25 34.5**	**+0.4**
	1.3nm,1.1s						
GEYT	**Alibeck**	**41.81**	**313**	P	**P**	**12 25 47.8**	**+0.7**
	1.0nm,0.4s,baz=140,slow=5.6,SNR=2.3						
GEYT				LR	LR	12 44 51.9	
	comp=Z,129nm,19.8s,baz=310,slow=39						
ZALV	**Zalesovo Beam**	**41.92**	**350**	P	**P**	**12 25 49.2**	**+1.6**
	0.5nm,0.3s,baz=175,slow=7.2,SNR=2.6						
USRK	**Ussuriysk Ar.**	**43.95**	**38**	LR	LR	12 44 04.7	
	comp=Z,74nm,18.0s,baz=208,slow=36						
BVAR	**Borovoye Array**	**44.92**	**338**	P	**P**	**12 26 12.6**	**+0.8**
	0.5nm,0.5s,baz=132,slow=8.6,SNR=3.1						
ABKAR	**Akbulak array**	**46.80**	**328**	*e*P	**P**	**12 26 25.9**	**-0.8**
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**48.50**	**328**	P	**P**	**12 26 40.3**	**+0.4**
	0.8nm,0.4s,baz=106,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**49.98**	**130**	P	**P**	**12 26 52.5**	**+0.9**
	1.4nm,1.0s,baz=304,slow=8.3,SNR=2.7						
WRA				LR	LR	12 51 02.8	
	comp=Z,55nm,18.3s,baz=345,slow=40						
WRAB	**Tennant Creek**	**49.98**	**130**	*e*P	**P**	**12 26 52.1**	**+0.5**
	7.8nm,1.3s						
ASAR	**Alice Springs**	**51.99**	**134**	P	**P**	**12 27 07.9**	**+1.2**
	0.4nm,0.7s,baz=313,slow=7.1,SNR=7.6						
BRTR	**Keskin Array B**	**60.56**	**308**	P	**P**	**12 28 08.3**	**+0.4**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.1						
STKA	**Stephens Creek**	**62.44**	**137**	P	**P**	**12 28 19.6**	**-0.7**
	1.9nm,0.9s,baz=26,slow=3.8,SNR=3.1						
CUC	**Castrocucco**	**74.26**	**308**	*e*P	**P**	**12 29 30.4**	**-4.0**
	4.5nm,0.3s						
GERES	**GERESS Array B**	**75.28**	**317**	P	P	12 29 46.7	+6.5
	0.2nm,0.5s,baz=129,slow=4.2,SNR=2.3						
RPZ	**Rata Peaks**	**88.38**	**135**	LR	LR	13 12 12.5	
	comp=Z,156nm,19.1s,baz=264,slow=37						
ILAR	**Eielson Array**	**89.53**	**22**	P	**P**	**12 30 54.2**	**+0.1**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=3.1						
HWUT	**Hardware Ranch**	**120.20**	**24**	*e*PKPdf	**PKPdf**	**12 36 48.1**	**-0.3**
SAML	**Samuel**	**159.04**	**279**	*e*PKPdf	**PKPdf**	**12 37 56.7**	**+0.7**

IDC 01 12:34:48.0±5.3, 4°.01S×153°.11E, h98km±43km, mb3.5/5, mb1 3.7/6, mb1mx3.4/32, mbtmp3.9/6, Error ellipse: s-maj=65.1km s-min=27.6km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.98**	**227**	P	Pn	12 36 42.2	+1.0
	0.8nm,0.3s,baz=50,slow=18,SNR=3.2						
PMG				S	Sn	12 38 10.8	+0.9
	0.7nm,0.3s,baz=331,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**24.20**	**228**	P	P	12 39 55.7	+0.1
	2.8nm,0.6s,baz=52,slow=9.8,SNR=8.1						
WRA				PcP	PcP	12 43 34.6	+0.6
	0.5nm,0.4s,baz=57,slow=2.7,SNR=3.2						
ASAR	**Alice Springs**	**26.94**	**222**	P	P	12 40 20.4	0.0
	0.0nm,0.4s,baz=55,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**29.76**	**200**	P	P	12 40 44.7	-0.6
	1.6nm,0.7s,baz=12,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.31**	**240**	P	P	12 40 49.6	-0.8
	1.8nm,0.5s,baz=56,slow=9.0,SNR=13						
ILAR	**Eielson Array**	**81.31**	**22**	P	P	12 46 53.0	-0.3
	0.5nm,1.0s,baz=235,slow=6.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.35**	**290**	PKPbc	PKPbc	12 54 29.0	0.0
	0.3nm,0.5s,baz=62,slow=1.3,SNR=3.3						

*IDC **01** 12:35:29.5±1.1, 12°.97N×95°.77E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/38, mbtmp3.7/8, ML4.2/2, MS3.2/2, Ms1 3.3/2, ms1mx2.8/49, Error ellipse: s-maj=48.1km s-min=18.9km az=64.0*
*ISCJB **01** 12:35:32.5±0.9, 12°.97N±0°.10×95°.9E±0°.2, h33km, mb3.6/6, Error ellipse: s-maj=29.9km s-min=12.7km az=167.6*

ISC 01 12:35:34.6±1.0, 13°.0N±0°.1×95°.9E±0°.2, h35km, n8, σ0§70/8, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.20**	**28**	Pn	**Pn**	**12 37 03.4**	**-0.3**
	1.9nm,0.3s,baz=219,slow=15,SNR=40						
CMAR				LR	LR	12 40 00.4	
	comp=Z,166nm,18.0s,baz=217,slow=43						
PSI	**Prapat**	**10.56**	**163**	Pn	**Pn**	**12 38 02.9**	**-0.7**
	1.0nm,0.3s,baz=108,slow=2.0,SNR=4.2						
PSI				LR	LR	12 42 25.1	
	comp=Z,114nm,19.1s,baz=246,slow=39						
MKAR	**Makanchi Array**	**35.59**	**344**	P	**P**	**12 42 28.4**	**-0.4**
	0.8nm,0.8s,baz=133,slow=9.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.79**	**350**	P	**P**	**12 43 21.0**	**+0.4**
	0.6nm,0.6s,baz=153,slow=9.7,SNR=3.9						
WRA	**Warramunga Arr**	**50.04**	**130**	P	**P**	**12 44 27.1**	**+1.0**
	0.4nm,0.3s,baz=313,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**52.06**	**134**	P	**P**	**12 44 41.9**	**+0.6**
	0.4nm,0.6s,baz=315,slow=7.0,SNR=6.7						
GERES	**GERESS Array B**	**75.21**	**317**	P	**P**	**12 47 14.2**	**+0.3**
	0.1nm,0.3s,baz=110,slow=4.6,SNR=2.2						
ILAR	**Eielson Array**	**89.40**	**22**	P	**P**	**12 48 27.1**	**-0.4**
	0.4nm,0.8s,baz=285,slow=4.5,SNR=4.7						

*BKK **01** 12:48:53.8±0.9, 13°.N±3°.×9°.6E±°., h10km, M4.5/12, mB4.9/6, mb4.6/12, MLv4.8/11, Mw(mB)4.1/6*
*BJI **01** 12:48:54.7, 12°.57N×95°.73E, h29km, mb4.7/50, mB5.0/45, Ms4.9/48, Ms7 4.7/31*
*IDC **01** 12:48:54.9±0.4, 12°.94N×95°.68E, h0km, mb4.4/28, mb1 4.5/30, mb1mx4.4/51, mbtmp4.4/30, ML4.2/2, MS4.1/29, Ms1 4.1/29, ms1mx4.0/54, Error ellipse: s-maj=13.7km s-min=10.9km az=56.0*
*ISCJB **01** 12:48:55.6±0.2, 12°.93N±0°.02×95°.79E±0°.02, h18km, mb4.7/89, MS4.3/43, Error ellipse: s-maj=3.2km s-min=2.4km az=3.0*
*DJA **01** 12:48:56.8±0.6, 12°N±12°×9°5E±1°5, h10km, M4.6/10, mb4.7/10, mB5.1/4, Mw(mB)4.5/4*
*NEIC **01** 12:48:57.4±1.5, 12°.99N×95°.78E, h15km±9km, mb5.1/27, Error ellipse: s-maj=4.6km s-min=3.2km az=76.0*
*GCMT **01** 12:48:57.4±0.3, 12°.85N×95°.76E, h12km, MW5.0/71, Moment Tensor Solution. s16,c18; s71,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.99±.11; $M_{\theta\theta}$0.94±.10; $M_{\phi\phi}$1.05±.11; $M_{r\theta}$1.96±.36; $M_{\theta\phi}$2.58±.08; $M_{\phi r}$-0.53±.31; Best double couple: $M_0$3.70700×10^{16} NP1:ϕ_s258.00000°, δ66.00000°, λ-47.00000°. NP2: ϕ_s11.00000°, δ48.00000°, λ-148.00000°. Principal axes: T 3.7650, Plg11.0000°, Azm318.0000°; N -0.1150, Plg39.0000°, Azm57.0000°; P -3.6500, Plg49.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 12:48:58.0±1.0, 13°.01N×95°.83E, h34km, mb5.1/34, MS4.3/7 Error ellipse: s-maj=8.0km s-min=4.9km az=110.5*

ISC 01 12:48:57.7±0.3, 12°.90N±0°.04×95°.73E±0°.04, h18km, n289, σ1§47/312, mb4.8/89, MS4.3/43, 31C-13D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**2.74**	**276**	*e*P	**Pn**	**12 49 40.4**	**-0.5**
DGPR				*e*S	**Sn**	**12 50 15.8**	**+2.2**
PBA	**Port Blair**	**3.17**	**247**	*e*P	Pn	12 49 48.8	+2.1
PBA				*e*S	Sb	12 50 28.4	-3.6
SRDT	**SRDT**	**3.59**	**66**	P	**Pn**	**12 49 50.6**	**-2.0**
PHET	**Kaeng Krachan**	**3.80**	**89**	P	**Pn**	**12 49 53.7**	**-1.7**
UTHA	**Uthaitani**	**4.46**	**53**	P	**Pn**	**12 50 02.8**	**-1.7**
UMPA	**Umpang Tak**	**4.47**	**42**	P	**Pn**	**12 50 01.7**	**-2.9**
SURT	**Suratani**	**4.94**	**142**	P	**Pn**	**12 50 10.1**	**-1.0**
PATY	**Pattaya**	**5.00**	**89**	P	**Pn**	**12 50 10.1**	**-1.9**
	74nm,0.7s,4μm0.9nm						
NAYO	**Nakonayok**	**5.61**	**75**	P	**Pn**	**12 50 19.1**	**-1.2**
	38nm,0.6s,1.2nm						
KRAB	**Krabi**	**5.77**	**143**	P	**Pn**	**12 50 21.1**	**-1.3**
	374nm,0.4s,6μm2.4nm						
CMBY	**CAMPBELL BAY**	**6.12**	**197**	*e*P	**Pn**	**12 50 30.8**	**+3.4**
CMBY				*e*S	**Sn**	**12 51 36.8**	**-0.2**
PBKT	**Sadao Pong**	**6.24**	**54**	P	**Pn**	**12 50 27.4**	**-1.5**
	44nm,0.8s						
CM01	**Chiang Mai Arr**	**6.30**	**29**	*e*Pn	**Pn**	**12 50 28.2**	**-1.6**
CM31	**Chiang Mai Arr**	**6.33**	**29**	*e*Pn	**Pn**	**12 50 28.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**6.33**	**29**	Pn	**Pn**	**12 50 29.1**	**-1.1**
	2.8nm,0.3s,baz=219,slow=15,SNR=77						
CMAR				LR	LR	12 53 26.0	
	comp=Z,2μm,18.9s,

comp=Z,146nm,0.7s
SRLM Srisailam 16.61 283 *e*Pn **Pn 12 52 48.9 -1.0**
SRLM *e* 12 55 45.4
RPR Rampur 16.88 293 *e*Pn **Pn 12 52 54.0 +0.8**
RPR *e*Sn **Sn 12 55 59.8 -0.6**
GYA Guiyang 16.95 36⇑ *i*P **P 12 52 59.4 +3.4**
GYA sP sP 12 53 06.4 +3.0
GYA S **Sn 12 56 00.8 -1.4**
GYA SS **SnSn 12 56 21.0 +5.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,3μm,14.5s
GYA LR LR
comp=Z,2μm,15.0s
GYA LR LR
comp=Z,2μm,14.2s
HYB Hyderabad 17.18 287 *i*P **P 12 53 00.0 +1.5**
HYB *e*S **Sn 12 56 07.0 -0.7**
HYB Hyderabad 17.18 287 *e*P **Pn 12 52 56.9 -0.1**
HYBB Hyderabad (bro 17.18 287 *e*Pn **Pn 12 52 56.5 -0.5**
HYBB *e*Sn **Sn 12 56 06.9 -0.9**
JIRN Jiri 17.18 330 *e*P **Pn 12 52 57.6 +0.3**
LSA Lhasa 17.25 346 P **P 12 52 59.2 -0.5**
LSA pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 17.25 346 *e*P **Pn 12 52 57.3 -0.9**
LSA pmax pmax
comp=Z,39nm,0.7s
LSA Lhasa 17.25 346 *e*P **Pn 12 52 57.2 -0.9**
comp=Z,39nm,0.7s
PKIN Phulchoki 17.51 328 *e*P **P 12 53 01.9 -0.5**
GUN Gumba 17.54 330 *e*P **Pn 12 53 02.1 +0.4**
comp=Z,63nm,0.8s
DMN Daman 17.69 327 *e*P **Pn 12 53 03.4 -0.1**
KKN Kakani 17.74 328 *e*P **Pn 12 53 03.6 -0.5**
SRSP Sriramsagar 17.76 292 *e*Pn **P 12 53 04.6 -0.3**
SRSP *e* 12 56 16.0
NGP Nagpur 17.92 299 *e*P **Pn 12 53 06.4 +0.1**
NGP *e*S **Sn 12 56 25.2 -0.6**
URV Uravakonda 18.05 279 *e*Pn **Pn 12 53 06.9 -0.9**
URV Sn **Sn 12 56 28.0 -0.8**
JBP Jabalpur 18.11 307 *e*P **Pn 12 53 07.3 -1.1**
JBP *ex* x 12 57 01.2
GKN Gorkha 18.25 327 *e*P **P 12 53 10.4 0.0**
KSM Kuching 18.37 127 *e*P **Pn 12 53 12.0 +0.3**
comp=Z,15nm,1.1s
KOLN Koldanda 18.64 324 *e*P **P 12 53 14.0 -0.7**
comp=Z,75nm,0.6s
TRD Trivandrum 18.95 259 *e*P **Pn 12 53 18.7 -0.1**
DANN Dangsing 19.00 326 *e*P **Pn 12 53 19.2 -0.3**
comp=Z,8.7nm,1.0s
KLRI Killari 19.14 288 *e*P **P 12 53 20.3 +0.2**
KLRI IAmb IAmb 12 53 31.6
comp=Z,65nm,1.5s
KLRI *e*Sn **Sn 12 56 55.7 +0.4**
KLRI IVMs_BB IVMs_BB 12 59 58.3
comp=Z,536nm,20.6s
PYUN Piuthan 19.24 324 *e*P **P 12 53 21.7 +0.4**
SBUM Sibu 19.34 121 *e*P **Pn 12 53 26.7 +3.2**
comp=Z,92nm,2.0s
CD2 Chengdu 19.39 21 P **P 12 53 22.4 -0.4**
CD2 S **Sn 12 57 00.2 -1.0**
CD2 sS sS 12 57 07.1 -2.6
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,260nm,4.5s
CD2 LR LR
comp=Z,2μm,11.0s
CD2 LR LR
comp=Z,2μm,11.6s
CD2 LR LR
comp=Z,2μm,10.2s
STKI Sintang 20.16 128 P Pn 12 53 38.9 +5.7
BHPL Bhopal 20.19 303 *e*P **P 12 53 30.9 -0.7**
ENH Enshi 21.46 34 *e*P **P 12 53 45.0 -0.3**
comp=Z,24nm,0.9s
POO Poona 21.79 288 *e*P **P 12 53 49.4 +0.5**
MYLDM Lahad Datu 23.74 107 *e*P **P 12 54 12.0 +2.8**
comp=Z,160nm,1.8s
LZH Lanzhou 24.21 16⇑ P **P 12 54 14.0 +0.4**
LZH pP sP 12 54 21.8 +0.5
LZH sP pP 12 54 27.6 +8.5
LZH PP **PnPn 12 54 48.9 +5.5**
LZH *e*S **S 12 58 27.2 -4.1**
LZH sS sS 12 58 41.5 +1.2
LZH SS **SnSn 12 59 20.5 +6.6**
LZH pmax pmax
comp=Z,79nm,1.0s
LZH pmax pmax
comp=Z,250nm,5.4s
LZH LR LR
comp=Z,1μm,10.2s
LZH LR LR
comp=Z,2μm,10.5s
LZH LR LR
comp=Z,2μm,12.3s
XAN Xi'an 24.22 28 P **P 12 54 12.4 -1.2**
XAN pP sP 12 54 23.0 +1.7
XAN sP pP 12 54 25.2 +6.1
XAN pmax pmax
comp=Z,33nm,1.1s
XAN pmax pmax
comp=Z,100nm,6.6s
XAN LR LR
comp=Z,1μm,10.8s
XAN LR LR
comp=Z,980nm,18.1s
XAN LR LR
comp=Z,2μm,10.8s
WHN Wuhan 24.58 41 P **P 12 54 13.8 -3.0**
SMLA Simla 24.93 320 *e*P **P 12 54 19.3 -0.7**
SMLA AMB AMB 12 54 21.8
comp=Z,42nm,0.8s
NGJI Ngawi 25.49 141 P P 12 54 38.7 +14
DHRM DHARAMSHALA 26.23 320 *e*P **P 12 54 31.7 -0.4**
DHRM AMB AMB 12 54 37.2
comp=Z,20nm,0.9s
GTA Gaotai 26.65 7 *e*P **P 12 54 35.7 +0.1**
GTA pP sP 12 54 43.3 0.0
GTA sP pP 12 54 46.1 +5.0
GTA S **S 12 59 07.8 -2.2**
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,460nm,11.6s
GTA LR LR
comp=Z,830nm,10.0s
NACB Ninganchiao 26.91 62 *e*P **P 12 54 35.9 -2.1**
comp=Z,134nm,1.6s
YOJ Yonaguni jima 28.22 62 *e*P **P 12 54 48.1 -1.6**
YOJ pmax pmax
comp=Z,159nm,0.8s
YOJ Yonaguni jima 28.22 62 *e*P **P 12 54 48.1 -1.6**
comp=Z,159nm,0.8s
NJ2 Nanjing 28.52 44 *e*P **P 12 54 52.3 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
DGAR Diego Garcia 30.70 230⇓ *e*P **P 12 55 13.5 +1.7**
HHC Hu-ho-hao-te 31.11 24 *e*P **P 12 55 15.6 +0.3**
HHC PP **PnPn 12 56 19.0 +2.1**
HHC S **S 13 00 23.2 +3.1**
HHC sS sS 13 00 31.8 +2.6
HHC pmax pmax
comp=Z,14nm,1.5s
HHC pmax pmax
comp=Z,150nm,4.6s
HHC LR LR
comp=Z,930nm,9.9s
HHC LR LR
comp=Z,2μm,11.1s
HHC LR LR
comp=Z,880nm,12.3s
WMQ Urumqi 31.57 349 P **P 12 55 20.2 +0.9**
WMQ pP pP 12 55 23.8 -1.0
WMQ PP **PnPn 12 56 20.3 -2.6**
WMQ S **S 13 00 25.9 -1.4**
WMQ PcS **PcS 13 01 56.3 +0.3**
WMQ ScS **ScS 13 05 46.1 -5.9**
WMQ pmax pmax
comp=Z,18nm,2.3s
WMQ pmax pmax
comp=Z,250nm,3.9s
WMQ LR LR
comp=Z,440nm,12.3s
WMQ LR LR
comp=Z,270nm,13.7s
BJI Beijing 32.48 30 P **P 12 55 28.1 +1.0**
BJI S **S 13 00 41.9 +0.7**
BJI pmax pmax
comp=Z,9.0nm,1.8s
BJI LR LR
comp=Z,990nm,12.6s
BJI LR LR
comp=Z,600nm,12.6s
PDGK Podgornoye 33.40 338 P **P 12 55 36.2 +0.8**
PDGK pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 34.61 334 P **P 12 55 45.5 -0.5**
TKM2 pmax pmax
comp=Z,17nm,1.4s
AAK Ala-Archa 34.87 332 *e*P **P 12 55 48.8 +0.6**
AAK pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 34.87 332 *e*P **P 12 55 48.8 +0.6**
comp=Z,17nm,1.0s
FRU Bishkek 34.97 332 *e*P **P 12 55 50.0 +1.1**
FRU *e* 12 56 09.0
FRU pmax pmax
comp=Z,80nm,1.6s
MK01 Makanchi Array 35.60 344 *e*P **P 12 55 54.2 -0.1**
MK31 Makanchi Array 35.63 344 *i*P **P 12 55 54.1 -0.4**
MK31 pmax pmax
comp=Z,39nm,1.1s
MK31 Makanchi Array 35.63 344 *e*P **P 12 55 54.4 -0.1**
MKAR Makanchi Array 35.63 344 P **P 12 55 54.8 +0.3**
comp=Z,11nm,0.8s,baz=153,slow=9.5,SNR=54
MKAR LR LR 13 13 34.6
comp=Z,308nm,20.4s,baz=160,slow=42
MKAR Makanchi Array 35.63 344 *ce*P **P 12 55 54.7 +0.2**
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 35.63 344 *e*P **P 12 55 54.4 -0.1**
comp=Z,153nm,1.0s
MNAS Manas 35.70 330 P **P 12 55 55.4 +0.1**
MNAS pmax pmax
comp=Z,21nm,1.0s
MAKZ Makanchi 35.73 344 *e*P **P 12 55 55.6 +0.3**
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 35.73 344 *e*P **P 12 55 55.6 +0.3**
comp=Z,25nm,0.8s
SONM Songino Array 35.95 12 P **P 12 55 57.7 +0.4**
comp=Z,0.7nm,0.5s,baz=193,slow=6.1,SNR=7.9
SONM PcP **PcP 12 58 24.3 +0.3**
comp=Z,1.3nm,0.8s,baz=204,slow=3.2,SNR=3.6
SONM LR LR 13 13 34.7
comp=Z,300nm,18.2s,baz=196,slow=41
SONA1 Songino Array 35.96 12 *e*P **P 12 55 56.1 -1.4**
ULN Ulaanbaatar 36.11 13⇑ *e*P **P 12 55 59.2 +0.4**
ULN pmax pmax
comp=Z,2.0nm,0.6s
MSAI Masohi 36.71 114 P P 12 56 11.8 +7.7
comp=Z,8.9nm,0.9s,comp=Z,352nm
KK31 Karatay Array 37.14 329 *i*P **P 12 56 07.1 -0.4**
KK31 pmax pmax
comp=Z,19nm,1.5s
KKAR Karatay Array 37.14 329 *e*P **P 12 56 06.9 -0.6**
KKAR pmax pmax
comp=Z,92nm,1.3s
KKAR Karatay Array 37.14 329 *e*P **P 12 56 06.9 -0.6**
comp=Z,92nm,1.3s
DGZ Jazzator, Alta 37.32 351⇑ *e*P **P 12 56 09.1 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
KSAR Wonju Array Be 37.68 44 P **P 12 56 12.3 +0.2**
KSAR Wonju Array Be 37.68 44 P **P 12 56 12.2 +0.2**
KSRS Korea Array 37.72 44 P **P 12 56 12.2 -0.1**
comp=Z,3.7nm,0.9s,baz=241,slow=9.8,SNR=9.2
KSRS LR LR 13 13 19.6
comp=Z,286nm,19.8s,baz=244,slow=39
JNU Nakatsue 37.84 52 P **P 12 56 14.4 +0.9**
comp=Z,8.0nm,1.0s,baz=284,slow=4.2,SNR=2.5
TLY Talaya 39.20 8 *e*P **P 12 56 21.4 -3.3**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,265nm,12.0s
CN2 Changchun 39.98 34 *e*P **P 12 56 32.0 +0.7**
CN2 *e*S **S 13 02 34.6 -1.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
KURK Kurchatov 40.21 343 *d i*P **P 12 56 33.2 +0.2**
KURK pmax pmax
comp=Z,159nm,1.7s
KURK Kurchatov 40.21 343 *e*P **P 12 56 33.2 +0.2**
comp=Z,33nm,0.8s
GEYT Alibeck 41.70 313 P **P 12 56 46.3 +0.7**
comp=Z,18nm,0.9s,baz=134,slow=8.5,SNR=24
GEYT LR LR 13 16 20.4
comp=Z,449nm,19.2s,baz=125,slow=40
ZAA0 Zalesovo Array 41.85 350 *e*P **P 12 56 46.4 -0.1**
ZALV Zalesovo Beam 41.85 350 P **P 12 56 47.0 +0.5**
comp=Z,4.5nm,0.6s,baz=176,slow=8.5,SNR=25
ZALV LR LR 13 18 03.1
comp=Z,166nm,18.1s,baz=268,slow=42
ZALV Zalesovo Beam 41.85 350 P **P 12 56 47.0 +0.5**
FITZ Fitzroy Crossi 42.66 136 P **P 12 56 53.5 0.0**
comp=Z,5.0nm,0.8s,baz=285,slow=2.3,SNR=9.9
NVS Novosibirsk 42.97 349 *e*P **P 12 56 55.6 0.0**
NVS pmax pmax
comp=E,9.0nm,1.8s
NVS pmax pmax
comp=Z,16nm,1.8s
VLA Vladivostok 43.31 39⇑ *i*P **P 12 56 55.0 -3.6**
VLA *e**PP **pP 12 57 04.8 +0.6**
VLA *e**SP **sP 12 57 08.9 +2.5**
VLA *e* 12 58 37.0
VLA *i* 12 58 44.0
VLA pmax pmax
comp=Z,40nm,0.6s
USRK Ussuriysk Ar. 43.97 38 P **P 12 57 03.7 -0.2**
comp=Z,2.1nm,0.6s,baz=243,slow=9.5,SNR=3.8
USRK LR LR 13 15 16.3
comp=Z,241nm,21.8s,baz=228,slow=36
MJB9 Matsu-Tunnel 44.70 51 *e*P **P 12 57 08.7 -1.2**
comp=Z,16nm,0.8s
MJAR Matsushiro Arr 44.71 51 LR LR 13 17 03.5
comp=Z,231nm,18.7s,baz=240,slow=38
BVA0 Borovoye Array 44.84 338 P **P 12 57 09.8 -0.9**
BVA0 pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 44.90 338 *d i*P **P 12 57 10.7 -0.5**
BRVK pmax pmax
comp=Z,22nm,0.7s
BRVK Borovoye 44.90 338 *e*P **P 12 57 10.6 -0.6**
comp=Z,12nm,0.8s
AB31 Akbulak array 46.70 328 *i*P **P 12 57 25.8 +0.4**
AB31 pmax pmax
comp=Z,23nm,0.9s
ABKAR Akbulak array 46.70 328 *e*P **P 12 57 25.6 +0.2**
comp=Z,172nm,1.0s
KLR Kul'dur 46.80 32 P **P 12 57 25.6 -0.6**
comp=Z,0.1nm,0.8s,baz=258,slow=9.3,SNR=3.3
KLR LR LR 13 19 47.4
comp=Z,25nm,19.0s,baz=218,slow=40
KLR Kul'dur 46.80 32⇓ *e*P **P 12 57 26.2 0.0**
AKTO Aktyubinsk 48.41 328 LR LR 13 22 52.8
comp=Z,206nm,19.0s,slow=42
AKTO Aktyubinsk 48.41 328 P **P 12 57 38.9 +0.2**
AKTO pmax pmax
comp=Z,19nm,1.0s
DAMY Dhamar 49.82 278 *e*P **P 12 57 51.5 +1.1**
comp=Z,19nm,0.8s
WRA Warramunga Arr 50.09 130 P **P 12 57 52.5 +0.5**
comp=Z,8.3nm,0.9s,baz=310,slow=8.3,SNR=19
WRA LR LR 13 23 38.3
comp=Z,212nm,18.0s,baz=280,slow=42
WRA Warramunga Arr 50.09 130 *i*P **P 12 57 52.5 +0.5**
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 50.09 130 *d i*P **P 12 57 52.3 +0.3**
WRAB pmax pmax
comp=Z,35nm,1.0s
WRAB Tennant Creek 50.09 130 *e*P **P 12 57 52.6 +0.6**
comp=Z,24nm,0.9s
WB2 Warramunga Arr 50.10 130 *e*P **P 12 57 52.0 0.0**
SVE Sverdlovsk 51.40 336 *e*P **P 12 58 01.8 +0.5**
SVE pmax pmax
comp=Z,71nm,0.9s
ATD Arta Tunnel 51.63 275 LR LR 13 17 49.7
comp=Z,112nm,19.5s,slow=34
YSS Yuzh-Sakhalins 51.90 40⇑ *e*P **P 12 58 03.7 -1.5**
YSS pmax pmax
comp=Z,12nm,1.0s
ARU Arti 51.96 335 LR LR 13 23 22.9
comp=Z,276nm,19.1s,baz=129,slow=40
ARU Arti 51.96 335 *d i*P **P 12 58 05.5 -0.1**
ARU 12 59 14.6
ARU 13 00 00.5
ARU S **S 13 05 28.3 +0.5**
ARU SS **SS 13 09 00.8 -4.0**
ARU pmax pmax
comp=Z,43nm,1.7s
ARU MLR MLR
comp=Z,349nm,24.0s
ARU Arti 51.96 335 *e*P **P 12 58 05.4 -0.2**
comp=Z,24nm,0.7s
AS31 Alice Springs 52.10 134 *e*P **P 12 58 07.1 0.0**
comp=Z,4.3nm,0.8s
ASAR Alice Springs 52.10 134 P **P 12 58 06.8 -0.3**
comp=Z,10.0nm,0.7s,baz=313,slow=6.9,SNR=149
ASAR LR LR 13 23 29.9
comp=Z,292nm,18.5s,baz=297,slow=40
AS01 Alice Springs 52.13 134 *e*P **P 12 58 07.5 +0.1**
GNI Garni 52.20 311 LR LR 13 24 14.3
comp=Z,267nm,19.6s,baz=104,slow=41
GNI Garni 52.20 311 *d i*P **P 12 58 08.4 +0.6**
GNI pmax pmax
comp=Z,76nm,1.2s
ZEI Tsey 53.58 314 *e*P **P 12 58 17.8 -0.2**
ZEI pmax pmax
comp=Z,21nm,0.8s
NEY Neytrino 54.54 314⇓ *e*P **P 12 58 24.5 -0.5**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 54.56 315 P **P 12 58 24.6 -0.2**
comp=Z,3.1nm,0.8s,baz=113,slow=10,SNR=4.0
KBZ LR LR 13 26 03.3
comp=Z,168nm,19.9s,baz=125,slow=41
KIV Kislovodsk 54.77 315 *c i*P **P 12 58 26.1 -0.5**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,231nm,19.0s
KIV Kislovodsk 54.77 315 *e*P **P 12 58 26.8 +0.2**
comp=Z,27nm,0.8s
SOKR Solikamsk 54.77 337 *e*P **P 12 58 24.6 -1.5**
SOKR pmax pmax
comp=Z,39nm,0.9s
SOKR MLR MLR
comp=Z,358nm,24.0s
PMG Port Moresby 55.68 111 P **P 12 58 33.8 +0.4**
comp=Z,9.6nm,0.9s,baz=333,slow=2.3,SNR=2.9
PMG Port Moresby 55.68 111⇓ *e*P **P 12 58 34.2 +0.8**
PMG pmax pmax
comp=Z,32nm,0.9s
NRIK Noril'sk 56.63 357 LR LR 13 26 55.6
comp=Z,120nm,19.2s,baz=202,slow=40
ANN Anapa 58.63 315 *e*P **P 12 58 51.5 -2.3**
ANN pmax pmax
comp=Z,33nm,0.9s
VSR Storozhevoye 59.31 322 *e*P **P 12 58 57.2 -1.2**
VSR pmax pmax
comp=Z,20nm,1.3s
KMBO Kilima Mbogo 59.65 261 P **P 12 59 00.3 -1.4**
comp=Z,0.7nm,0.3s,baz=58,slow=11,SNR=4.0
KMBO Kilima Mbogo 59.65 261 *ce*P **P 12 59 02.7 +1.0**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
LPSR Galich'ya Gora 59.90 324 *e*P **P 12 59 02.3 -0.2**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
BR131 Keskin Array S 60.45 308 *e*P **P 12 59 06.0 -0.7**
BRTR Keskin Array B 60.45 308 P **P 12 59 05.4 -1.3**
comp=Z,3.4nm,0.8s,baz=126,slow=7.6,SNR=14
BRTR LR LR 13 28 52.6
comp=Z,172nm,20.2s,baz=110,slow=40
BRTR Keskin Array B 60.45 308 *i*P **P 12 59 05.4 -1.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
MOS Moscow 61.68 327 *e*P **P 12 59 13.6 -0.9**
OBN Obninsk 62.05 326 *i*P **P 12 59 16.2 -0.8**
OBN pmax pmax
comp=Z,15nm,1.3s
OBN MLR MLR
comp=Z,209nm,18.0s
STKA Stephens Creek 62.54 137 P **P 12 59 21.0 +0.3**
comp=Z,8.9nm,0.8s,baz=305,slow=6.7,SNR=17
STKA LR LR 13 28 24.3
comp=Z,472nm,19.5s,baz=309,slow=38
STKA Stephens Creek 62.54 137 *e*P **P 12 59 21.7 +1.0**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 62.54 137 *e*P **P 12 59 21.7 +1.0**
comp=Z,3.4nm,0.8s
KLMR Klimovskoe 62.68 333 *e*P **P 12 59 18.3 -2.9**
KLMR pmax pmax
comp=Z,21nm,1.2s
PETK Petropavlovsk- 63.04 37 P **P 12 59 23.6 -0.1**
comp=Z,5.7nm,0.8s,baz=192,slow=4.2,SNR=5.2
PETK LR LR 13 30 01.1
comp=Z,169nm,18.3s,baz=221,slow=39
CFR Carcaliu 65.18 314⇑ *i*P **P 12 59 37.6 -0.3**
CFR Carcaliu 65.18 314⇑ P **P 12 59 37.6 -0.3**
AKASG Malin Array Be 65.27 320 P **P 12 59 36.6 -1.8**
comp=Z,0.8nm,0.5s,baz=82,slow=5.3,SNR=15
AKASG LR LR 13 32 16.6
comp=Z,268nm,21.3s,baz=85,slow=40
AKASG Malin Array Be 65.27 320 *ce*P **P 12 59 37.5 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 65.27 320 *e*P **P 12 59 37.6 -0.8**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 65.27 320 *e*P **P 12 59 37.5 -0.8**
comp=Z,7.0nm,0.8s
KIEV Kiev 65.27 320⇑ *e*P **P 12 59 37.3 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 65.27 320 *e*P **P 12 59 37.5 -0.9**
KIEV *e*pP **pP 12 59 43.2 -1.0**
AK11 Malin Array Si 65.30 320 *e*P **P 12 59 38.7 +0.2**
VRI Vrincioaia 66.24 315⇑ *i*P **P 12 59 45.0 +0.2**
VRI Vrincioaia 66.24 315⇑ P **P 12 59 45.0 +0.2**
PLOR Plostina 66.30 315⇑ *i*P **P 12 59 45.4 +0.2**
PLOR Plostina 66.30 315⇑ P **P 12 59 45.4 +0.2**
TESR Tescani 66.37 315⇑ *i*P **P 12 59 45.4 -0.2**
MLR Muntele Rosu 66.75 314⇑ *i*P **P 12 59 46.6 -1.6**
MLR Muntele Rosu 66.75 314⇑ P **P 12 59 46.6 -1.6**
MLR Muntele Rosu 66.75 314 *e*P **P 12 59 48.1 -0.1**
comp=Z,18nm,0.9s
VOIR 67.38 314⇑ *i*P **P 12 59 51.1 -1.0**
VOIR 67.38 314⇑ P **P 12 59 51.1 -1.0**
LVZ Lovozero 67.43 339⇑ *e*P **P 12 59 50.6 -1.4**
LVZ pmax pmax
comp=Z,26nm,1.2s
BURAR Bucovina Array 67.45 316⇑ *i*P **P 12 59 52.8 +0.2**
BURAR Bucovina Array 67.45 316⇑ P **P 12 59 52.8 +0.2**
BUR08 Bucovina Ar. S 67.47 316 *e*P **P 12 59 52.9 +0.2**
VSU Vasula 68.13 328 *d i*P **P 12 59 55.8 -0.7**
VSU pmax pmax
comp=Z,39nm,1.0s
GZR Gura Zlata 68.97 314⇑ *i*P **P 13 00 00.3 -1.8**
GZR Gura Zlata 68.97 314⇑ P **P 13 00 00.3 -1.8**
FIA1 FINESS Array S 69.05 331 *e*P **P 13 00 02.2 0.0**
FINES FINESS Array B 69.05 331 P **P 13 00 02.1 0.0**
comp=Z,4.9nm,0.7s,baz=104,slow=6.5,SNR=19
FINES LR LR 13 33 09.3
comp=Z,262nm,20.9s,baz=106,slow=38
DRGR 69.09 315⇓ *i*P **P 13 00 00.4 -2.4**
DRGR 69.09 315⇓ P **P 13 00 00.4 -2.4**
UZH Uzhgorod 69.49 317 *e*P **P 13 00 00.4 -4.7**
MDVR Moldovita 69.70 313⇑ *i*P **P 13 00 05.6 -1.0**

CRVS	**Cervenica-Dubn**	**70.05 317**	*eP*	**P**	**13 00 09.1**	**+0.4**
CRVS			*e*		13 00 18.0	
CRVS	**Cervenica-Dubn**	**70.05 317**	*eP*	**P**	**13 00 09.1**	**+0.4**
CRVS			*e*		13 00 18.0	
STHS	**Stebnicka Huta**	**70.22 318**	*eP*	**P**	**13 00 09.4**	**-0.3**
STHS			pmax	pmax		
	comp=Z,9.0nm,1.8s					
STHS	**Stebnicka Huta**	**70.22 318**	*eP*	**P**	**13 00 09.4**	**-0.3**
KECS	**Kecovo**	**70.68 317**	*eP*	**P**	**13 00 13.1**	**+0.6**
KECS			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KECS	**Kecovo**	**70.68 317**	*eP*	**P**	**13 00 13.1**	**+0.6**
KECS			*e*		13 00 18.1	
ARCES	**ARCESS Array B**	**71.11 340**	P	**P**	**13 00 14.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=88,slow=8.6,SNR=7.0					
ARCES			LR	LR	13 34 46.8	
	comp=Z,218nm,20.9s,baz=106,slow=39					
VYHS	**Vyhne**	**71.78 317**	*eP*	**P**	**13 00 18.5**	**-0.6**
VYHS			pmax	pmax		
	comp=Z,10.0nm,2.1s					
VYHS	**Vyhne**	**71.78 317**	*eP*	**P**	**13 00 18.5**	**-0.6**
MORC	**Moravsky Berou**	**72.64 318**	*eP*	**P**	**13 00 24.0**	**-0.4**
MORC			pmax	pmax		
	comp=Z,57nm,1.2s					
MORC	**Moravsky Berou**	**72.64 318**	*eP*	**P**	**13 00 24.0**	**-0.4**
	comp=Z,57nm,1.2s					
DPC	**Dobruska-Polom**	**73.43 319**	*eP*	**P**	**13 00 29.5**	**+0.5**
DPC			*ex*	x	13 00 54.5	
DPC			AMS	AMS	13 39 10.0	
	comp=Z,200nm,18.8s					
DPC	**Dobruska-Polom**	**73.43 319**	*eP*	**P**	**13 00 29.5**	**+0.5**
DPC			MLR	MLR		
	comp=Z,200nm,18.8s					
UPC	**Upice**	**73.63 319**	AMS	AMS	13 36 40.0	
	comp=Z,200nm,20.6s					
GOPC	**GO Pecny, Ondr**	**74.42 318**	AMS	AMS	13 37 20.0	
	comp=Z,200nm,24.6s					
PRU	**Pruhonice**	**74.58 319**	*eP*	**P**	**13 00 35.8**	**+0.1**
PRU			*ex*	x	13 01 01.9	
PRU			AMS	AMS	13 37 20.0	
	comp=Z,200nm,16.6s					
PRU	**Pruhonice**	**74.58 319**	*eP*	**P**	**13 00 35.8**	**+0.1**
PRU			MLR	MLR		
	comp=Z,200nm,16.6s					
BRG	**Berggiesshubel**	**74.94 320**	*eP*	**P**	**13 00 37.9**	**+0.2**
	comp=Z,3.5nm,0.9s					
BRG			*i*		13 00 43.8	
	comp=Z,6.0nm,0.8s					
BRG			*e*		13 01 03.7	
	comp=Z,29nm,1.7s					
BRG	**Berggiesshubel**	**74.94 320**	*eP*	**P**	**13 00 37.9**	**+0.2**
BRG			pmax	pmax		
	comp=Z,4.0nm,0.8s					
BRG			pmax	pmax		
	comp=Z,6.0nm,1.7s					
GEA0	**GERESS Array S**	**75.17 317**	*eP*	**P**	**13 00 38.8**	**-0.4**
GEC2	**GERESS Array S**	**75.17 317**	*eP*	**P**	**13 00 39.8**	**+0.5**
GEC2	**GERESS Array S**	**75.17 317**	*eP*	**P**	**13 00 39.8**	**+0.5**
GERES	**GERESS Array B**	**75.17 317**	P	**P**	**13 00 39.2**	**0.0**
	comp=Z,1.8nm,0.7s,baz=86,slow=5.6,SNR=13					
GERES			LR	LR	13 38 45.2	
	comp=Z,63nm,21.2s,baz=112,slow=40					
KHC	**Kasperske Hory**	**75.24 318**	*eP*	**P**	**13 00 39.4**	**-0.2**
KHC			*ep*P	**pP**	**13 00 45.1**	**-0.4**
KHC			*ex*	x	13 01 02.4	
KHC	**Kasperske Hory**	**75.24 318**	*eP*	**P**	**13 00 39.4**	**-0.2**
KHC			*e*		13 00 45.1	
NC405	**NORSAR Array S**	**75.92 330**	*eP*	**P**	**13 00 43.3**	**+0.2**
NKC	**Novy Kostel**	**75.92 319**	AMS	AMS	13 37 40.0	
	comp=Z,200nm,20.5s					
NC303	**NORSAR Array S**	**76.08 330**	*eP*	**P**	**13 00 44.3**	**+0.2**
NB2	**NORSAR Subarra**	**76.16 330**	P	**P**	**13 00 43.7**	**-0.9**
	comp=Z,5.9nm,0.8s,baz=89,slow=5.6					
NOA	**NORSAR Array B**	**76.16 330**	P	**P**	**13 00 43.6**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=89,slow=5.8,SNR=17					
NOA			LR	LR	13 38 43.6	
	comp=Z,101nm,18.1s,baz=100,slow=39					
NC204	**NORSAR Array S**	**76.37 330**	*eP*	**P**	**13 00 45.7**	**-0.1**
BOSA	**Boshof**	**79.58 237**	P	**P**	**13 01 05.0**	**+0.7**
	comp=Z,9.2nm,0.9s,baz=64,slow=5.7,SNR=9.8					
BOSA			LR	LR	13 32 31.6	
	comp=Z,104nm,18.8s,baz=18,slow=33					
KEST	**Kesra**	**79.69 304**	P	**P**	**13 01 04.5**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=307,slow=5.8,SNR=6.6					
KEST	**Kesra**	**79.69 304**	*eP*	**P**	**13 01 05.0**	**+0.2**
	comp=Z,8.8nm,0.9s					
MAW	**Mawson**	**83.75 192**	P	**P**	**13 01 25.7**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=24,slow=7.9,SNR=6.0					
MAW	**Mawson**	**83.75 192**	*eP*	**P**	**13 01 26.6**	**+1.4**
MAW	**Mawson**	**83.75 192**	*eP*	**P**	**13 01 26.6**	**+1.4**
SUR	**Sutherland**	**84.47 235**	P	**P**	**13 01 31.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=83,slow=8.3,SNR=7.0					
TAM	**Tamanrasset**	**85.29 292**	*eP*	**P**	**13 01 35.1**	**+0.8**
TAM	**Tamanrasset**	**85.29 292**	*eP*	**P**	**13 01 35.1**	**+0.8**
CAST	**Castle Rocks**	**88.14 25**	*eP*	**P**	**13 01 48.5**	**+1.2**
TRF	**Thorofare Moun**	**88.84 24**	*eP*	**P**	**13 01 51.2**	**+0.4**
MDM	**Murphy Dome**	**88.93 22**	*eP*	**P**	**13 01 51.8**	**+0.8**
ESDC	**Sonseca Array**	**89.18 310**	P	**P**	**13 01 52.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=33,slow=3.1,SNR=3.5					
MCK	**McKinley**	**89.25 24**	*eP*	**P**	**13 01 53.1**	**+0.6**
MCK	**McKinley**	**89.25 24**	*eP*	**P**	**13 01 53.1**	**+0.6**
ILAR	**Eielson Array**	**89.52 22**	P	**P**	**13 01 53.0**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=296,slow=4.4,SNR=28					
ILB	**Eielson Array**	**89.52 22**	*eP*	**P**	**13 01 53.4**	**-0.3**
IL1	**Eielson Array**	**89.53 22**	*eP*	**P**	**13 01 52.7**	**-1.0**
HDA	**Harding Lake**	**89.68 23**	*eP*	**P**	**13 01 53.9**	**-0.6**
SML	**Sawmill**	**90.41 25**	*eP*	**P**	**13 01 58.3**	**+0.3**
SML	**Sawmill**	**90.41 25**	*eP*	**P**	**13 01 58.3**	**+0.3**
SYO	**Syowa Base**	**90.64 197**⇑	*ep*P	pP	13 02 04.3	-0.4
TORD	**Torodi Ar. Bea**	**90.96 284**	P	**P**	**13 02 00.7**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=88,slow=4.9,SNR=6.0					
TORD			LR	LR	13 44 08.6	
	comp=Z,60nm,18.9s,baz=105,slow=36					
DBIC	**Dimbokro**	**98.77 279**	LR	LR	13 47 09.3	
	comp=Z,70nm,19.1s,baz=52,slow=35					
KIP	**Kipapa**	**100.00 65**⇑	*eP*	**Pdif**	**13 02 39.7**	**-2.8**
VNA2	**Neumayer--Watz**	**106.40 199**	PKiKP	**PKiKP**	**13 07 19.4**	**-1.4**
	baz=257,slow=3.4					
VNA1	**Neumayer--Stat**	**106.73 200**	PKiKP	**PKiKP**	**13 07 21.0**	**-0.3**
REDW	**Red Top Meadow**	**118.96 22**	*e*PKPdf	**PKPdf**	**13 07 46.3**	**+0.4**
PDAR	**Pinedale Array**	**119.94 21**	PKP	**PKPdf**	**13 07 46.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=90,slow=1.5,SNR=7.2					
ANMO	**Albuquerque**	**127.96 23**⇓	*i*PKiKP	**PKPdf**	**13 08 04.7**	**+1.3**
ANMO			pmax	pmax		
	comp=Z,10.0nm,2.5s					
ANMO	**Albuquerque**	**127.96 23**	*e*PKPdf	**PKPdf**	**13 08 04.4**	**+1.1**
TXAR	**Lajitas Array**	**134.02 24**	PKhKP	PKPpre	13 08 11.3	
	comp=Z,0.4nm,0.5s,baz=352,slow=5.7,SNR=2.6					
TXAR			PKP	**PKPdf**	**13 08 14.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=296,slow=1.9,SNR=6.4					
JCT	**Junction City**	**134.35 19**	*e*PKiKP	**PKPdf**	**13 08 16.2**	**+0.8**
JCT	**Junction City**	**134.35 19**	*e*PKPdf	**PKPdf**	**13 08 16.2**	**+0.8**
SDDR	**Presa de Saban**	**145.83 338**	*e*PKPbc	**PKPbc**	**13 08 36.6**	**-0.2**
TRQA	**Tornquist**	**148.04 214**	*e*PKPdf	**PKPdf**	**13 08 39.7**	**+0.2**
TRQA			*e*PKPbc	**PKPbc**	**13 08 42.9**	**+0.2**
TRQA			*e*PKPab	**PKPab**	**13 08 45.3**	**0.0**
PLCA	**Paso Flores**	**149.78 201**	PKPbc	**PKPbc**	**13 08 47.4**	**+0.4**
	comp=Z,8.4nm,0.8s,baz=207,slow=2.6,SNR=24					
CPUP	**Villa Florida**	**151.40 238**	PKPbc	**PKPbc**	**13 08 50.5**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=55,slow=2.7,SNR=8.1					
LPAZ	**La Paz**	**164.03 256**	PKP	**PKPdf**	**13 09 02.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=47,slow=3.3,SNR=3.6					
LPAZ			PKPab	**PKPab**	**13 09 54.9**	**0.0**
	comp=Z,1.3nm,0.8s,baz=44,slow=9.5,SNR=4.2					

MEX 01 12:49:06.7±0.4, 18°.30N×102°.81W, h23km±97km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.51**	**269**	*eP*	Pb	12 49 15.2	-1.9
MMIG				*eS*	Sb	12 49 22.5	-1.6
EZ5V		**1.40**	**327**	*eP*	Pn	12 49 28.2	-2.9
EZ5V				*eS*	Sn	12 49 45.0	-4.0
R15V		**1.41**	**308**	*i P*	Pn	12 49 28.4	-2.7
R15V				*eS*	Sn	12 49 45.3	-3.8
ZIIG	**Zihuatanejo**	**1.45**	**118**	*eP*	Pb	12 49 35.8	+2.8
ARIG	**Puente Sto Nin**	**2.34**	**90**	*eP*	Pn	12 49 42.3	-1.5

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*ISK **01** 12:54:14.3, 39°.51N×39°.94E, h25km, MD2.2*
*ISCJB **01** 12:54:15.6±0.6, 39°.46N±0°.03×39°.96E±0°.04, h0km±7km, Error ellipse: s-maj=5.7km s-min=4.7km az=177.3*
*CSEM **01** 12:54:15.6±0.3, 39°.47N×39°.96E, h10km, MD2.5, Error ellipse: s-maj=6.7km s-min=5.2km az=168.0*
*DDA **01** 12:54:15.3, 39°.45N×39°.95E, h7km, Md2.5*
ISC 01 12:54:15.5±1.0, 39°.47N±0°.03×39°.95E±0°.03, h10km±8km, n21, σ0s74/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.22**	**304**	*e*PG	**Pg**	**12 54 20.2**	**+0.1**
ERZN				*e*SG	**Sg**	**12 54 24.5**	**+1.3**
YEDI	**Yedisu-Bingol**	**0.46**	**93**	*e*PG	**Pg**	**12 54 24.7**	**+0.2**
YEDI				*e*SG	**Sb**	**12 54 32.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**0.46**	**93**	*e*Pg	**Pg**	**12 54 24.7**	**+0.2**
YEDI				*e*Sg	**Sb**	**12 54 32.2**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.47**	**222**	*i P*	**Pg**	**12 54 23.6**	**-1.2**
TNCL				*i S*	**Sg**	**12 54 31.3**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.47**	**222**	P	**Pg**	**12 54 23.6**	**-1.2**
TNCL				S	**Sg**	**12 54 31.3**	**+0.2**
PTK	**Pertek**	**0.72**	**217**	*e*PG	**Pg**	**12 54 29.6**	**+0.2**
PTK				*e*SG	**Sb**	**12 54 40.7**	**+0.5**
PTK	**Pertek**	**0.72**	**217**	*e*Pg	**Pg**	**12 54 29.6**	**+0.2**
PTK				*e*Sg	**Sb**	**12 54 40.7**	**+0.5**
BINT	**Bingol**	**0.72**	**145**	*e*Pg	**Pb**	**12 54 29.8**	**-0.4**
BNGB	**Bing¶ll**	**0.74**	**130**	*e*PG	**Pg**	**12 54 29.8**	**+0.1**
KELT	**Kelkit**	**0.87**	**322**	*i P*	**Pg**	**12 54 32.0**	**-0.2**
KELT				*i S*	**Sg**	**12 54 41.9**	**-1.7**
KELT	**Kelkit**	**0.87**	**322**	P	**Pg**	**12 54 32.0**	**-0.2**
KELT				S	**Sg**	**12 54 41.9**	**-1.7**
KEMA	**Kemaliye**	**1.15**	**261**	*i P*	**Pb**	**12 54 37.2**	**-0.3**
KEMA				*i S*	**Sn**	**12 54 54.1**	**+0.6**
KEMA	**Kemaliye**	**1.15**	**261**	P	**Pb**	**12 54 37.2**	**-0.3**
KEMA				S	**Sn**	**12 54 54.1**	**+0.6**
ERZM	**Erzurum**	**1.17**	**68**	*i P*	**Pn**	**12 54 38.1**	**0.0**
ERZM	**Erzurum**	**1.17**	**68**	P	**Pn**	**12 54 38.1**	**0.0**
ELZG	**Elazig**	**1.23**	**218**	*i P*	**Pn**	**12 54 38.5**	**-0.3**
ELZG				*i S*	**Sn**	**12 54 56.1**	**+0.6**
ELZG	**Elazig**	**1.23**	**218**	P	**Pn**	**12 54 38.5**	**-0.3**
ELZG				S	**Sn**	**12 54 56.1**	**+0.6**
SUSE	**Susehri**	**1.54**	**299**	*i P*	**Pb**	**12 54 44.3**	**+0.2**
SUSE				*i S*	**Sg**	**12 55 06.8**	**+1.8**
SUSE	**Susehri**	**1.54**	**299**	P	**Pb**	**12 54 44.3**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.93**	**266**	*i P*	**Pb**	**12 54 50.4**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.93**	**266**	P	**Pb**	**12 54 50.4**	**-0.5**

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*NIED **01** 12:56:00, 35°.20N×142°.30E, h8km, Mw4.0 Best double couple: M0=1.22000×10^15 NP1:φ=33.00000°, δ=40.00000°, λ=-91.00000°. NP2:φ=214.00000°, δ=50.00000°, λ=-89.00000°.*
*IDC **01** 12:56:11.3±0.7, 34°.99N×142°.35E, h0km, mb3.8/13, mb1 4.0/18, mb1mx3.9/53, mbtmp3.8/18, ML3.2/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/45, Error ellipse: s-maj=19.2km s-min=17.2km az=136.0*
*JMA **01** 12:56:12.9±0.3, 35°.15N×142°.33E, h60km, M3.8*
*NEIC **01** 12:56:16.4±0.5, 35°.15N×142°.28E, h35km, mb4.1/3, Error ellipse: s-maj=11.0km s-min=9.1km az=108.0*
ISC 01 12:56:13.0±2.3, 35°.17N±0°.05×142°.25E±0°.06, h11km±14km, n52, σ2s12/58, mb3.9/17, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.16**	**244**	P	**Pb**	**12 56 33.9**	**-0.9**
BSO1				S	**Sg**	**12 56 49.1**	**-1.2**
CHOJ	**Chosi**	**1.26**	**296**	P	**Pn**	**12 56 35.9**	**-0.6**
CHOJ				*e*S	**Sb**	**12 56 52.1**	**-0.8**
BSO2	**Boso 2**	**1.30**	**252**	S	**Sg**	**12 56 53.6**	**-1.0**
BSO3	**Boso 3**	**1.47**	**256**	P	**Pn**	**12 56 38.9**	**-0.3**
BSO4	**Boso 4**	**1.58**	**264**	P	**Pn**	**12 56 40.8**	**0.0**
KTR	**Katsuura**	**1.59**	**270**	P	**Pn**	**12 56 40.2**	**-0.8**
JCN	**Nagara**	**1.69**	**279**	P	**Pn**	**12 56 42.5**	**0.0**
JIM2	**Oshima 3**	**2.36**	**260**	P	**Pn**	**12 56 50.4**	**-1.3**
JIM2				*e*S	**Sn**	**12 57 16.8**	**-3.8**
JFK	**Kawauchi**	**2.46**	**334**	P	**Pn**	**12 56 51.1**	**-2.0**
JFK				S	**Sn**	**12 57 18.2**	**-5.0**
JOD2	**Odawara 2**	**2.59**	**273**	P	**Pn**	**12 56 53.8**	**-1.1**
JOD2				*e*S	**Sn**	**12 57 23.5**	**-2.9**
JAG	**Ashikaga**	**2.60**	**300**	P	**Pn**	**12 56 54.2**	**-0.7**
JAG				S	**Sn**	**12 57 24.2**	**-2.3**
JHJ	**Hachijo jima 2**	**2.89**	**226**	Pn	**Pn**	**12 56 56.9**	**-2.1**
	15nm,0.3s,baz=346,slow=20,SNR=23						
JHJ				Sn	**Sn**	**12 57 27.7**	**-6.0**
	103nm,0.3s,baz=92,slow=23,SNR=6.5						
MJAR	**Matsushiro Arr**	**3.56**	**294**	Pn	**Pn**	**12 57 08.2**	**+0.1**
	4.3nm,0.3s,baz=106,slow=14,SNR=36						
MJAR				Sn	**Sn**	**12 57 50.6**	**+0.3**
	3.4nm,0.3s,baz=193,slow=22,SNR=5.5						
MJAR				LR	LR	12 58 53.1	
	comp=Z,144nm,21.2s,baz=110,slow=44						
MAJO	**Matsushiro**	**3.56**	**294**	*de*P	**Pn**	**12 57 08.7**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,109nm,0.9s						
MAJO	**Matsushiro**	**3.56**	**294**	*e*P	**Pn**	**12 57 08.8**	**+0.6**
	comp=Z,62nm,0.8s						
MAT	**Matsushiro**	**3.56**	**294**	P	**Pn**	**12 57 08.2**	**0.0**
MAT				*e*S	**Sn**	**12 57 49.0**	**-1.3**
ERM	**Erimo**	**6.88**	**6**	*e*Pn	**Pn**	**12 57 52.0**	**-1.7**
ERM				*e*Sn	**Sn**	**12 59 03.9**	**-8.0**
CBIJ	**Chichi jima**	**8.04**	**180**	*e*Pn	**Pn**	**12 58 09.6**	**-0.2**
CBIJ				*e*Sn	Sn	12 59 29.8	-11
ASAJ	**Asahikawa**	**8.94**	**2**	Pn	**Pn**	**12 58 20.8**	**-1.3**
	comp=Z,2.9nm,0.3s,baz=213,slow=8.7,SNR=30						
ASAJ	**Asahikawa**	**8.94**	**2**	*e*Pn	**Pn**	**12 58 20.8**	**-1.3**
ASAJ				*e*Sn	**Sn**	**13 00 00.2**	**-2.6**
JNU	**Nakatsue**	**9.64**	**261**	Pn	**Pn**	**12 58 31.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=42,slow=8.2,SNR=4.7						
KSRS	**Korea Array**	**11.78**	**285**	Pn	**Pn**	**12 59 04.3**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=96,slow=16,SNR=3.4						
KSAR	**Wonju Array Be**	**11.81**	**285**	Pn	**Pn**	**12 59 04.3**	**+2.9**
USRK	**Ussuriysk Ar.**	**11.98**	**322**	Pn	**Pn**	**12 59 06.2**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=3.8						
MDJ	**Mudanjiang**	**13.53**	**318**	*e*Pn	**Pn**	**12 59 25.0**	**+0.2**
JOW	**Kunigami**	**14.57**	**239**	*e*Pn	**Pn**	**12 59 40.1**	**+1.0**
PET	**Petropavlovsk**	**21.30**	**28**	*e*P	**P**	**13 01 00.5**	**+1.1**
HIA	**Hailar**	**21.72**	**317**	*e*P	**P**	**13 01 04.8**	**+0.7**
	comp=Z,4.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.63**	**119**	T	T	13 30 05.9	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**26.64**	**119**	T	T	13 30 14.9	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**26.65**	**119**	T	T	13 30 13.7	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**27.30**	**121**	T	T	13 30 51.3	
	baz=312,slow=74,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**27.30**	**121**	T	T	13 31 02.5	
	baz=312,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**27.31**	**121**	T	T	13 30 44.4	
	baz=312						
ULN	**Ulaanbaatar**	**28.99**	**307**	*e*P	**P**	**13 02 13.1**	**+0.4**
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**29.41**	**307**	P	**P**	**13 02 18.9**	**+2.4**
	comp=Z,2.1nm,1.0s,baz=105,slow=8.6,SNR=7.6						
CMAR	**Chiang Mai Arr**	**41.73**	**258**	P	**P**	**13 04 02.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=64,slow=8.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**43.68**	**314**	P	**P**	**13 04 20.5**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=99,slow=9.2,SNR=3.9						
ZALV				PcP	**PcP**	**13 06 04.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=98,slow=4.4,SNR=2.9						
MKAR	**Makanchi Array**	**45.70**	**304**	P	**P**	**13 04 36.2**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=9.3,SNR=4.1						
KURK	**Kurchatov**	**47.63**	**310**	*e*P	**P**	**13 04 50.3**	**+1.4**
	comp=Z,26nm,0.6s						
ILAR	**Eielson Array**	**50.72**	**32**	P	**P**	**13 05 12.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=260,slow=5.8,SNR=8.4						
WRAB	**Tennant Creek**	**55.31**	**189**	*e*P	**P**	**13 05 46.3**	**-0.4**
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**55.32**	**189**	P	**P**	**13 05 44.8**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=2.8,slow=7.1,SNR=3.7						
INK	**Inuvik**	**55.74**	**27**	P	**P**	**13 05 49.9**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=198,slow=0.6,SNR=4.4						
ASAR	**Alice Springs**	**59.04**	**189**	P	**P**	**13 06 12.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=3.7,slow=7.1,SNR=14						
NB2	**NORSAR Subarra**	**76.17**	**338**	P	**P**	**13 08 01.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**76.17**	**338**	P	**P**	**13 08 01.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=39,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**76.19**	**323**	P	**P**	**13 08 00.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=51,slow=4.7,SNR=3.0						
PDAR	**Pinedale Array**	**78.49**	**46**	P	**P**	**13 08 15.7**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=261,slow=2.3,SNR=5.2						
GERES	**GERESS Array B**	**84.66**	**329**	P	**P**	**13 08 46.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=243,slow=26,SNR=2.4						
TXAR	**Lajitas Array**	**90.71**	**53**	P	**P**	**13 09 17.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=274,slow=3.5,SNR=2.5						
LPAZ	**La Paz**	**146.99**	**63**	PKPbc	**PKPbc**	**13 15 57.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=31,slow=12,SNR=4.2						

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*ISCJB **01** 13:07:57.0±0.7, 12°.9N±0°.1×95°.8E±0°.1, h10km, mb4.0/14, MS3.5/1, Error ellipse: s-maj=22.7km s-min=12.1km az=145.6*
*IDC **01** 13:07:57.4±1.0, 12°.88N×95°.66E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.7/63, mbtmp3.9/13, ML4.0/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/43, Error ellipse: s-maj=40.4km s-min=16.9km az=54.0*
*NEIC **01** 13:08:02.5±0.6, 12°.96N×95°.81E, h35km, mb4.2/2, Error ellipse: s-maj=19.4km s-min=9.9km az=57.0*
ISC 01 13:07:58.8±1.1, 12°.9N±0°.2×95°.8E±0°.2, h10km, n18, σ0s71/16, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.31**	**29**	Pn	**Pn**	**13 09 31.6**	**-0.3**
	0.9nm,0.3s,baz=219,slow=15,SNR=26						
CMAR				LR	LR	13 12 38.4	
	comp=Z,223nm,18.2s,baz=184,slow=44						
PSI	**Prapat**	**10.53**	**162**	LR	LR	13 14 46.3	
	comp=Z,236nm,18.1s,baz=202,slow=38						
AAK	**Ala-Archa**	**34.88**	**332**	P	**P**	**13 14 51.8**	**+1.2**
	0.6nm,0.3s,baz=120,slow=6.0,SNR=4.0						
MKAR	**Makanchi Array**	**35.63**	**344**	P	**P**	**13 14 57.1**	**+0.3**
	1.4nm,0.8s,baz=158,slow=9.8,SNR=6.5						
KSRS	**Korea Array**	**37.69**	**44**	LR	LR	13 31 10.9	
	comp=Z,76nm,20.1s,baz=225,slow=37						
KURBB	**Kurchatov Arra**	**40.15**	**343**	P	**P**	**13 15 35.5**	**+0.6**
	1.9nm,0.9s,baz=155,slow=8.3,SNR=9.1						
KURK	**Kurchatov**	**40.20**	**343**	P	**P**	**13 15 35.5**	**+0.1**
GEYT	**Alibeck**	**41.72**	**313**	P	**P**	**13 15 48.8**	**+0.7**
	2.6nm,0.6s,baz=142,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**41.84**	**350**	P	**P**	**13 15 49.0**	**+0.2**
	1.5nm,0.3s,baz=134,slow=7.7,SNR=4.3						
BVAR	**Borovoye Array**	**44.84**	**338**	P	**P**	**13 16 12.7**	**-0.3**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=3.4						
ABKAR	**Akbulak array**	**46.70**	**328**	*eP*	**P**	**13 16 28.0**	**+0.2**
	3.5nm,1.0s						
AKTO	**Aktyubinsk**	**48.41**	**328**	P	**P**	**13 16 41.4**	**+0.2**
	1.2nm,0.5s,baz=102,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**50.08**	**130**	P	**P**	**13 16 54.9**	**+0.7**
	1.0nm,0.9s,baz=313,slow=8.5,SNR=3.2						
WRAB	**Tennant Creek**	**50.08**	**130**	P	**P**	**13 16 53.6**	**-0.7**
	1.8nm,0.9s						
ASAR	**Alice Springs**	**52.09**	**134**	P	**P**	**13 17 09.8**	**+0.5**
	0.6nm,0.7s,baz=315,slow=6.9,SNR=14						
NRIK	**Noril'sk**	**56.62**	**357**	P	**P**	**13 17 42.0**	**+0.4**
	2.5nm,0.4s,baz=172,slow=7.1,SNR=3.1						
BRTR	**Keskin Array B**	**60.46**	**308**	P	**P**	**13 18 07.8**	**-1.4**
	0.3nm,0.5s,baz=97,slow=7.4,SNR=2.4						
FINES	**FINESS Array B**	**69.06**	**331**	P	**P**	**13 19 04.0**	**-0.6**
	1.3nm,0.9s,baz=95,slow=7.9,SNR=2.9						

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*IDC **01** 13:10:09.1±6.4, 34°.44N×23°.05E, h51km±41km, mb3.5/8, mb1 3.5/9, mb1mx3.2/49, mbtmp3.7/9, ML4.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=57.1km s-min=22.4km az=11.0*
*ISCJB **01** 13:10:13.2±1.3,

AKASG	Malin Array Be	16.39	13	P		P	13 14 02.9	+1.1
	comp=E,0.9nm,0.3s,baz=209,slow=9.5,SNR=4.4							
HFS	Hagfors	26.05	349	P		P	13 15 40.8	-0.8
	comp=E,1.0nm,0.4s,baz=123,slow=10,SNR=8.9							
FINES	FINESS Array B	26.65	3	P		P	13 15 45.9	-1.1
	comp=E,1.6nm,0.8s,baz=211,slow=7.8,SNR=2.6							
NOA	NORSAR Array B	27.32	347	P		P	13 15 51.7	-1.5
	comp=E,0.7nm,0.8s,baz=166,slow=9.6,SNR=2.7							
EKA	Eskdalemuir Ar	27.43	326	P		P	13 15 53.6	-0.5
	comp=E,0.2nm,0.4s,baz=125,slow=7.3,SNR=4.9							
ARCES	ARCESS Array B	34.74	1	P		P	13 16 56.8	-1.5
	comp=E,0.8nm,0.6s,baz=172,slow=9.6,SNR=6.5							
KURBB	Kurchatov Arra	42.46	51	P		P	13 18 01.5	-1.7
	comp=E,0.8nm,0.6s,baz=277,slow=8.6,SNR=6.7							
MKAR	Makanchi Array	45.17	56	P		P	13 18 24.7	-0.4
	comp=E,0.6nm,0.4s,baz=268,slow=6.7,SNR=9.5							
SONM	Songino Array	60.82	50	P		P	13 20 20.4	+0.1
	comp=E,0.6nm,0.6s,baz=278,slow=8.2,SNR=2.8							

*ISK **01** 13:11:38.4, 40°.93N×35°.81E, h5km, MD2.5*
*ISCJB **01** 13:11:39.4±0.5, 40°.90N±0°.03×35°.81E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=3.3km az=38.1*
*DDA **01** 13:11:39.6, 40°.93N×35°.77E, h3km, Md2.9, Suspected Mining explosion.*
*CSEM **01** 13:11:39.4±0.2, 40°.91N×35°.80E, h1km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.8km az=129.0, Suspected Mining explosion.*

ISC 01 13:11:39.6±0.8, 40°.92N±0°.02×35°.82E±0°.02, h0km, n28, σ0s 86/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVZ	Havza	0.17	332	*i* P	Pg	13 11 42.6	-0.3
HAVZ				*i* S	Sg	13 11 46.2	+1.1
HAVZ	Havza	0.17	332	P	Pg	13 11 42.6	-0.3
HAVZ				S	Sg	13 11 46.2	+1.1
KVT	Kavak	0.23	47	*e*P	Pg	13 11 44.2	+0.2
KVT				*e*SG	Sg	13 11 48.4	+1.4
KVT	Kavak	0.23	47	*e*Pg	Pg	13 11 44.2	+0.2
KVT				*e*Sg	Sg	13 11 48.4	+1.4
SAMS	Samsun-Alacam	0.52	32	*i* P	Pg	13 11 49.8	+0.3
SAMS				*i* S	Sb	13 11 58.6	-1.0
SAMS	Samsun-Alacam	0.52	32	P	Pg	13 11 49.8	+0.3
SAMS				S	Sb	13 11 58.6	-1.0
TOKA	Tokat	0.78	140	*i* P	Pb	13 11 55.4	-0.7
TOKA	Tokat	0.78	140	P	Pb	13 11 55.3	-0.7
CTAK	Corum_Osmancik	0.83	251	*i* P	Pg	13 11 55.4	-0.1
CTAK				*i* S	Sg	13 12 07.2	+1.0
CTAK	Corum_Osmancik	0.83	251	P	Pg	13 11 55.4	-0.1
CTAK				S	Sg	13 12 07.2	+1.0
DIKM	Dikmen	0.84	330	*e*PG	Pg	13 11 55.5	-0.2
DIKM				*e*SG	Sb	13 12 08.1	-0.9
DIKM	Dikmen	0.84	330	*e*Pg	Pg	13 11 55.5	-0.2
DIKM				*e*Sg	Sb	13 12 08.1	-0.9
COAL	Corum-Alaca	0.92	224	*i* P	Pg	13 11 56.4	-0.9
COAL				*i* S	Sg	13 12 08.9	-0.3
COAL	Corum-Alaca	0.92	224	P	Pg	13 11 56.4	-0.9
COAL				S	Sg	13 12 08.9	-0.3
CORM	Corum	1.17	231	*e*PN	Pg	13 12 01.8	-0.3
CORM	Corum	1.17	231	*e*Pn	Pg	13 12 01.8	-0.3
SNOP	Sinop	1.19	337	*e*PN	Pg	13 12 02.1	-0.3
SNOP	Sinop	1.19	337	*e*Pn	Pg	13 12 02.1	-0.3
SVSK	Karacayir	1.35	138	*e*PN	Pg	13 12 05.3	-0.1
SVSK	Karacayir	1.35	138	*e*Pn	Pg	13 12 05.3	-0.1
CUSAR	Sarkisla-SIVAS	1.54	168	*i* P	Pg	13 12 09.0	0.0
CUSAR				*i* S	Sn	13 12 31.8	+2.6
CUSAR	Sarkisla-SIVAS	1.54	168	P	Pg	13 12 09.0	0.0
ORDU	Ordu-Boztepe	1.54	87	*i* P	Pn	13 12 07.1	-1.3
ORDU	Ordu-Boztepe	1.54	87	P	Pn	13 12 07.1	-1.3
ILGA	Ilgaz	1.60	275	*i* P	Pn	13 12 08.9	-0.4
ILGA				*i* S	Sb	13 12 31.7	+0.7
ILGA	Ilgaz	1.60	275	P	Pn	13 12 08.9	-0.4
ILGA				S	Sb	13 12 31.7	+0.7
CDAG	Cicekdag	1.71	221	*i* P	Pn	13 12 10.5	-0.2
CDAG				*i* S	Sg	13 12 36.2	+1.8
CDAG	Cicekdag	1.71	221	P	Pn	13 12 10.5	-0.2

*ISK **01** 13:39:44.4, 37°.55N×35°.68E, h5km, ML2.1*
*DDA **01** 13:39:44.8, 37°.55N×35°.68E, h7km, Md2.6*
*ISCJB **01** 13:39:45.3±0.6, 37°.53N±0°.04×35°.69E±0°.04, h8km±5km, Error ellipse: s-maj=6.1km s-min=5.3km az=25.3*
*CSEM **01** 13:39:45.1±0.3, 37°.53N×35°.66E, h5km, ML2.1, Error ellipse: s-maj=6.2km s-min=4.1km az=25.0*

ISC 01 13:39:45.0±1.0, 37°.56N±0°.04×35°.68E±0°.03, h9km±7km, n15, σ0s 34/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.14	124	*e*PG	Pg	13 39 47.8	-0.3
KOZT				*e*SG	Sg	13 39 50.2	0.0
KOZT	Kozan	0.14	124	*e*Pg	Pg	13 39 47.8	-0.3
KOZT				*e*Sg	Sg	13 39 50.2	0.0
AKO	Adana	0.21	243	*i* P	Pg	13 39 49.7	+0.3
AKO				*i* S	Sg	13 39 52.6	+0.3
ANDN	Andirin	0.53	87	*i* P	Pg	13 39 55.3	+0.1
ANDN				*i* S	Sb	13 40 04.4	+0.2
CEYT	Ceyhan	0.55	175	*e*PG	Pg	13 39 55.5	-0.1
CEYT				*e*SG	Sg	13 40 03.5	+0.7
CEYT	Ceyhan	0.55	175	*e*Pg	Pg	13 39 55.5	-0.1
CEYT				*e*Sg	Sg	13 40 03.5	+0.7
YAHY	KAYSERI_Yahyal	0.59	335	*i* P	Pb	13 39 57.7	+0.1
YAHY				*i* S	Sb	13 40 06.0	-0.1
YAHY	KAYSERI_Yahyal	0.59	335	S	Sb	13 40 06.0	-0.1
YURE	YUREGIR	0.73	183	*i* P	Pg	13 39 58.6	-0.5
YURE	YUREGIR	0.73	183	P	Pg	13 39 58.6	-0.5
DED	Mersin	0.92	230	*i* P	Pg	13 40 01.9	-0.8
DED				*i* S	Sb	13 40 15.8	+0.4
MERS	Mersin	1.16	234	*e*PN	Pb	13 40 06.9	-0.2
MERS				*e*SN	Sn	13 40 23.3	+0.1
MERS	Mersin	1.16	234	*e*Pn	Pb	13 40 06.9	-0.2
MERS				*e*Sn	Sn	13 40 23.3	+0.1
KERG	Konya-Eregli	1.25	264	*i* P	Pb	13 40 08.8	+0.1
KERG				*i* S	Sn	13 40 25.5	-0.1
KERG	Konya-Eregli	1.25	264	P	Pb	13 40 08.8	+0.1
KERG				S	Sn	13 40 25.5	-0.1

*IDC **01** 14:17:04.7±2.3, 6°.57S×130°.55E, h69km±21km, mb3.9/11, mb1 4.0/14, mb1mx3.9/30, mbtmp4.2/14, MS4.1/1, Ms1 4.1/1, ms1mx2.8/28, Error ellipse: s-maj=21.4km s-min=13.6km az=71.0*
*ISCJB **01** 14:17:05.1±0.3, 6°.69S±0°.03×130°.72E±0°.04, h100km, mb4.5/26, Error ellipse: s-maj=5.3km s-min=3.6km az=151.8*
*NEIC **01** 14:17:05.7±1.0, 6°.64S×130°.61E, h87km±10km, mb4.5/10, Error ellipse: s-maj=10.4km s-min=7.9km az=80.0*
*DJA **01** 14:17:08.2±0.3, 6°.5±3°×13°.1E±°, h124km±6km, M4.7/2, mB4.8/1, mb4.7/2, Mw(mB)4.1/1*

ISC 01 14:17:06.4±0.4, 6°.67S±0°.04×130°.75E±0°.04, h100km, n69, σ2s 90/87, mb4.5/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.42	157	P	Pn	14 17 37.3	+5.6
SAUI				S	Sn	14 17 59.7	+8.9
SAUI	Saumlaki	1.42	157	*e*Pn	Pn	14 17 37.0	+5.3
BNDI	Bandanaira	2.29	338	P	Pn	14 17 43.4	+0.6
BNDI				S	Sn	14 18 10.6	0.0
MSAI	Masohi	3.77	331	P	Pn	14 18 04.1	+1.6
MSAI				S	Sn	14 18 45.0	-0.9
AAI	Ambon	3.90	319	P	Pn	14 18 03.9	-0.4
FAKI	Fak Fak	4.01	22	P	Pn	14 18 05.7	-0.1
FAKI				S	Sn	14 18 48.3	-3.5
FAKI	Fak Fak	4.01	22	*e*Pn	Pn	14 18 05.3	-0.5
FAKI				*e*Sn	Sn	14 18 48.5	-3.4
NLAI	Namlea	4.98	313	P	Pn	14 18 25.3	+6.4
SIJI	Sorong	5.78	5	P	Pn	14 18 27.9	-1.9
	757nm,0.3s,baz=206,slow=7.8,SNR=350						
SIJI				S	Sn	14 19 27.4	-7.4
	368nm,0.3s,baz=236,slow=23,SNR=21						
MTN	Manton Dam	6.15	177	*e*Pn	Pn	14 18 37.5	+2.7
SANI	Sanana	6.60	314	P	Pn	14 18 42.9	+2.0
SANI				S	Sn	14 19 53.0	-1.8
LBMI	Labuha	6.81	331	P	Pn	14 18 44.8	+1.0
LBMI				S	Sn	14 19 56.6	-3.3
SOEI	Soe	7.11	244	P	Pn	14 18 50.4	+2.4
	73nm,0.7s,1μm						
SOEI				S	Sn	14 20 06.1	-1.3
	73nm,0.7s,1μm						
SOEI	Soe	7.11	244	*e*Pn	Pn	14 18 48.6	+0.7
SOEI				*e*Sn	Sn	14 20 02.9	-4.4
JAY	Jayapura	10.74	68	P	Pn	14 19 39.3	+1.9
	0.1nm,0.3s,baz=191,slow=23,SNR=6.2						
JAY				S	Sn	14 21 36.0	+0.3
	0.1nm,0.3s,baz=38,slow=19,SNR=2.7						
FITZ	Fitzroy Crossi	12.41	203	P	Pn	14 19 58.2	-1.4
	baz=35,slow=12						
FITZ				S	Sn	14 22 08.3	-7.7
WRAB	Tennant Creek	13.64	165	*e*Pn	Pn	14 20 14.1	-1.6
WRAB				*e*Sn	Sn	14 22 37.8	-8.2
WRA	Warramunga Arr	13.65	166	P	Pn	14 20 14.4	-1.5
	5.0nm,0.3s,baz=351,slow=13,SNR=35						
WRA				S	Sn	14 22 38.8	-7.4
	8.5nm,0.3s,baz=351,slow=23,SNR=14						
WB2	Warramunga Arr	13.65	165	*e*Pn	Pn	14 20 14.6	-1.3
WC3	Warramunga Arr	13.67	165	*e*Pn	Pn	14 20 14.6	-1.6
COEN	Coen	14.20	122	*e*Pn	Pn	14 20 23.5	+0.4
COEN				*e*Sn	Sn	14 22 52.6	-7.0
PMG	Port Moresby	16.47	101	P	Pn	14 20 52.8	+1.1
	1.7nm,0.3s,baz=262,slow=3.2,SNR=14						
PMG				S	Sn	14 23 48.8	-5.7
	1.0nm,0.3s,baz=222,slow=20,SNR=6.1						
PMG	Port Moresby	16.47	101	*e*Pn	P	14 20 53.6	+1.0
	18nm,0.7s						
PMG				S	Sn	14 23 48.8	-5.7
JAGI	Jajag, Banyuwa	16.55	263	P	P	14 20 51.9	-1.6
AS31	Alice Springs	17.17	170	*e*P	P	14 21 01.6	+1.3
	6.6nm,0.4s						
ASAR	Alice Springs	17.17	170	P	P	14 21 00.8	+0.5
	2.2nm,0.3s,baz=344,slow=8.7,SNR=162						
ASAR				S	Sn	14 24 03.6	-7.7
	1.4nm,0.3s,baz=349,slow=26,SNR=14						
AS01	Alice Springs	17.18	170	*e*P	P	14 21 01.4	+1.0
CTA	Charters Tower	20.11	133	P	Pn	14 21 35.0	-0.2
	5.5nm,0.7s,baz=318,slow=15,SNR=7.5						
CTA				S	S	14 25 12.1	-0.9
	0.9nm,0.3s,baz=318,slow=20,SNR=2.2						
CISI	Cisompet, Garu	22.77	266	P	P	14 21 59.9	-0.9
CISI	Cisompet, Garu	22.77	266	*e*P	P	14 21 57.8	-3.0
	72nm,0.7s						
CNJI	Cibinong	23.45	267	P	P	14 22 06.9	-0.2
PSI	Prapat	33.13	286	P	P	14 23 31.3	-2.3
	4.0nm,0.5s,baz=225,slow=1.4,SNR=3.5						
CM01	Chiang Mai Arr	40.06	309	*e*P	P	14 24 31.4	-0.8
CMAR	Chiang Mai Arr	40.10	309	P	P	14 24 32.5	0.0
	2.1nm,0.7s,baz=142,slow=6.9,SNR=13						
CMAR				PcP	PcP	14 26 37.2	+1.8
	1.1nm,0.8s,baz=157,slow=1.5,SNR=4.4						
NJ2	Nanjing	40.14	344	*e*P	P	14 24 34.3	+1.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CHTO	Chiang Mai	40.30	309	*e*P	P	14 24 33.8	-0.4
	comp=Z,7.6nm,1.0s						
MJAR	Matsushiro Arr	43.55	9	P	P	14 25 00.5	+0.1
	comp=Z,1.1nm,0.8s,baz=192,slow=9.7,SNR=3.3						
LZH	Lanzhou	49.47	331	*e*P	P	14 25 49.5	+2.7
LZH				pP	sP	14 26 19.7	-2.2
LZH				sP	pP	14 26 34.5	+24
LZH				PP	PP	14 27 43.6	+1.6
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,72nm,6.5s						
LZH				LR	LR		
	comp=N,260nm,13.6s						
LZH				LR	LR		
	comp=E,280nm,14.2s						
LZH				LR	LR		
	comp=Z,340nm,18.0s						
HHC	Hu-ho-hao-te	50.47	341	*e*P	P	14 25 57.6	+3.4
HHC				pP	sP	14 26 30.2	+0.8
HHC				S	S	14 33 02.4	+1.9
HHC				pmax	pmax		
	comp=Z,44nm,1.5s						
HHC				pmax	pmax		
	comp=Z,70nm,4.6s						
LSA	Lhasa	52.48	316	*e*P	P	14 26 08.8	-1.1
	comp=Z,3.4nm,0.5s						
RAO	Raoul Island	53.24	122	LR	LR	14 49 05.9	
	comp=Z,183nm,21.5s,baz=132,slow=36						
GTA	Gaotai	54.05	331	*e*P	P	14 26 21.8	+1.0
GTA				pP	pP	14 26 25.9	-19
GTA				sP	sP	14 26 29.2	-27
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ULN	Ulaanbaatar	58.19	341	*e*P	P	14 26 49.2	-0.8
	comp=Z,6.4nm,0.6s						
SONM	Songino Array	58.37	341	P	P	14 26 52.6	+1.2
	comp=Z,2.1nm,0.5s,baz=162,slow=7.3,SNR=12						
SONA1	Songino Array	58.38	341	*e*P	P	14 26 51.4	0.0
WMQ	Urumqi	63.53	326	P	P	14 27 27.4	+1.1
WMQ				pP	sP	14 27 58.1	-4.1
WMQ				sP	PcP	14 28 13.0	+11
WMQ				PP	PP	14 29 51.5	+4.2
WMQ				S	S	14 35 42.7	-9.3
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,97nm,4.5s						
WMQ				LR	LR		
	comp=N,36nm,18.5s						
WMQ				LR	LR		
	comp=E,17nm,13.1s						
WMQ				LR	LR		
	comp=Z,24nm,18.5s						
PETK	Petropavlovsk-	63.78	18	P	P	14 27 29.6	+1.9
	comp=Z,4.5nm,0.9s,baz=207,slow=9.3,SNR=2.4						
KSH	Kashi	68.28	317	*e*P	P	14 27 59.2	+2.3
KSH				*e*PcP	PcP	14 28 25.2	+3.2
KSH				*e*sP	sP	14 28 44.9	+12
KSH				PP	PP	14 30 35.2	+6.2
KSH				S	S	14 36 45.7	-4.4
KSH				sS	SKiKP	14 37 39.6	-2.3
KSH	Kashi	68.28	317	SS	SS	14 41 13.6	-1.7
KSH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,63nm,7.8s						
KSH				LR	LR		
	comp=N,80nm,6.5s						
KSH				LR	LR		
	comp=E,89nm,5.4s						
KSH				LR	LR		
	comp=Z,95nm,5.5s						
MK01	Makanchi Array	68.34	326	*e*P	P	14 27 58.2	+1.2
MK31	Makanchi Array	68.36	326	*e*P	P	14 27 58.5	+1.4
MKAR	Makanchi Array	68.36	326	P	P	14 27 58.1	+0.9
	comp=Z,21nm,0.4s,baz=114,slow=8.4,SNR=483						
MKAR	Makanchi Array	68.36	326	*e*P	P	14 27 58.5	+1.4
	comp=Z,203nm,0.4s						
MAKZ	Makanchi	68.54	326	*e*P	P	14 27 59.7	+1.4
	comp=Z,21nm,0.6s						
AAK	Ala-Archa	70.77	319	*e*P	P	14 28 10.5	-1.8
	comp=Z,6.0nm,0.6s						
ZAA0	Zalesovo Array	71.62	333	*e*P	P	14 28 17.5	+0.6
ZALV	Zalesovo Beam	71.62	333	P	P	14 28 16.9	0.0
	comp=Z,4.1nm,0.6s,baz=112,slow=5.1,SNR=18						
KURK	Kurchatov	72.63	328	*e*P	P	14 28 22.2	-0.7
VNDA	Vanda	72.69	173	P	P	14 28 26.0	+3.1
	comp=Z,0.6nm,0.5s,baz=318,slow=7.1,SNR=6.0						
KKAR	Karatay Array	73.58	318	P	P	14 28 27.4	-1.5
	comp=Z,2.0nm,0.6s						
MAW	Mawson	75.53	202	P	P	14 28 42.3	+2.7
	comp=Z,0.8nm,0.4s,baz=96,slow=9.7,SNR=4.5						
BRVK	Borovoye	78.25	328	*e*P	P	14 28 55.2	+0.1
	comp=Z,5.3nm,0.8s						
GEYT	Alibeck	80.57	310	P	P	14 29 08.8	+0.7
	comp=Z,1.6nm,0.4s,baz=157,slow=4.2,SNR=4.9						
ABKAR	Abkulak array	82.71	321	*e*P	P	14 29 17.9	-1.2
	comp=Z,1.8nm,0.6s						
ILAR	Eielson Array	92.73	25	P	P	14 30 07.0	0.0
	comp=Z,0.5nm,0.7s,baz=272,slow=4.3,SNR=6.1						
TORD	Torodi Ar. Bea	129.47	281	PKP	PKPdf	14 36 05.7	+1.2
	comp=Z,1.4nm,0.5s,baz=97,slow=2.6,SNR=14						
DBIC	Dimbokro	135.92	273	PKP	PKPdf	14 36 18.4	+1.7
	comp=Z,2.4nm,0.5s,baz=162,slow=2.3,SNR=4.2						
CPUP	Villa Florida	146.27	167	PKPbc	PKPab	14 36 37.3	+0.3
	comp=Z,0.7nm,0.3s,baz=60,slow=3.5,SNR=3.9						
LPAZ	La Paz	150.51	141	PKPbc	PKPab	14 36 51.5	-3.6
	comp=Z,2.6nm,0.4s,baz=352,slow=2.8,SNR=14						

*IDC **01** 14:42:50.4±7.0, 21°.41S×178°.65W, h579km±68km, mb3.1/8, mb1 3.3/9, mb1mx3.0/30, mbtmp4.1/9, Error ellipse: s-maj=63.2km s-min=32.6km az=124.0*

ISC 01 14:42:45.7±1.9, 21°.55S±0°.4×178°.3W±0°.3, h536km, n14, σ1s 31/13, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.19	265	P	P	14 45 50.0	+2.9
	0.3nm,0.3s,baz=117,slow=18,SNR=5.4						
CTA	Charters Tower	33.13	266	P	P	14 48 36.8	-1.0
	2.2nm,0.4s,baz=89,slow=11,SNR=9.3						
STKA	Stephens Creek	37.12	245	P	P	14 49 10.6	-0.3
	1.1nm,0.5s,baz=76,slow=8.5,SNR=4.4						
ASAR	Alice Springs	44.03	258	P	P	14 50 05.1	-1.1
	3.4nm,0.8s,baz=95,slow=7.7,SNR=33						
FITZ	Fitzroy Crossi	52.63	263	P	P	14 51 09.8	-0.4
	1.1nm,0.4s,baz=90,slow=6.1,SNR=4.1						
SIJI	Sorong	53.23	286	P	P	14 51 13.3	-1.2
	68nm,0.7s,baz=72,slow=9.6,SNR=6.9						
MJAR	Matsushiro Arr	70.84	324	P	P	14 53 07.6	-0.9
	0.8nm,0.5s,baz=184,slow=2.9,SNR=3.9						
PETK	Petropavlovsk-	77.15	345	P	P	14 53 44.3	+0.5
	2.1nm,0.7s,baz=133,slow=10,SNR=3.7						
ILAR	Eielson Array	89.33	13	P	P	14 54 44.6	+0.2
	0.2nm,0.4s,baz=216,slow=5.4,SNR=6.2						
CMAR	Chiang Mai Arr	90.18	290	P	P	14 54 50.0	+0.5
	0.7nm,0.8s,baz=134,slow=3.3,SNR=4.9						
ARCES	ARCESS Array B	129.84	349	PKP	PKPdf	15 00 53.4	-0.1
	3.5nm,1.0s,baz=354,slow=3.7,SNR=3.6						
FINES	FINESS Array B	136.64	343	PKP	PKPdf	15 01 08.2	+1.8
	2.6nm,0.9s,baz=14,slow=2.8,SNR=2.7						
AKASG	Malin Array Be	143.74	330	PKP	PKPab	15 01 17.8	-0.8
	1.5nm,0.5s,baz=42,slow=4.0,SNR=10						
GERES	GERESS Array B	151.07	344	PKPbc	PKPbc	15 01 38.2	0.0
	0.4nm,0.6s,baz=29,slow=2.2,SNR=4.0						

IDC 01 14:44:31.6±3.5, 7°.64S×127°.61E, h155km±47km, mb3.0/1, mb1 3.3/5, mb1mx3.0/29, mbtmp3.7/5, Error ellipse: s-maj=63.0km s-min=18.1km az=96.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	7.66	29	P	Pn	14 46 20.5	+0.1
	12nm,0.3s,baz=0.0,slow=20,SNR=8.3						
SIJI				S	Sn	14 47 46.6	+0.5
	3.1nm,0.3s,baz=253,slow=19,SNR=2.1						
FITZ	Fitzroy Crossi	10.57	190	P	Pn	14 46 59.6	+0.5
	0.1nm,0.3s,baz=13,slow=14,SNR=3.7						
FITZ				S	Sn	14 48 50.6	-5.6
	0.2nm,0.3s,baz=102,slow=20,SNR=3.8						
WRA	Warramunga Arr	13.86	153	P	Pn	14 47 39.6	-2.0
	0.3nm,0.3s,baz=323,slow=14,SNR=3.0						
WRA				S	Sn	14 50 02.1	-13
	0.9nm,0.3s,baz=335,slow=23,SNR=5.9						
ASAR	Alice Springs	17.04	160	P	Pn	14 48 21.3	+0.5
	0.2nm,0.3s,baz=338,slow=12,SNR=19						
ASAR				S	S	14 51 21.9	-8.0
	0.1nm,0.3s,baz=347,slow=25,SNR=4.9						
MKAR	Makanchi Array	67.49	328	P	P	14 55 10.7	-0.1
	0.3nm,0.8s,baz=111,slow=8.2,SNR=2.7						

*IDC **01** 15:07:53.1±2.6, 69°.86N×6°.68E, h0km, mb3.1/1, mb1 3.4/6, mb1mx3.2/40, mbtmp3.4/6, ML3.0/5, Error ellipse: s-maj=38.5km s-min=19.0km az=94.0*
*NAO **01** 15:08:03.2±1.7, 69°.47N×9°.16E, ML2.9*
*BER **01** 15:08:06.1±3.7, 69°.50N×8°.88E, h10km, ML2.2, ML2.9(NAO)*
*CSEM **01** 15:08:08.0±0.6, 69°.37N×9°.61E, h10km, ML2.8, Error ellipse: s-maj=12.7km s-min=6.3km az=121.0*
*HEL **01** 15:08:08.1±0.4, 69°.43N×9°.53E, h10km, ML2.8, ML2.9(NAO), ML2.3(UPP)*
*UPP **01** 15:08:09.1±3.0, 69°.45N×9°.71E, h0km, ML2.3*

ISC 01 15:08:03.1±1.5, 69°.44N±0°.05×9°.34E±0°.08, h0km, n109, σ2s 46/160, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	2.01	129	*e*P	Pb	15 08 40.7	+0.2
LOF	Lofoten	2.01	129	*e*P	Pb	15 08 40.7	+0.2
LOF	Lofoten	2.01	129	*e*P	Pb	15 08 40.7	+0.2
	SNR=50						
STEI	Steigen	2.63	122	*e*P	Pb	15 08 51.0	-0.1
STEI	Steigen	2.63	122	*e*P	Pb	15 08 51.0	-0.1
STEI	Steigen	2.63	122	P	Pb	15 08 50.9	-0.1
KONS	Konsvik	3.27	152	*e*P	Pn	15 08 57.5	+1.9
KONS				*e*S	Sn	15 09 35.4	+0.2
KONS				IAML		15 09 37.6	
	comp=Z,12nm,0.2s						
KONS	Konsvik	3.27	152	*e*P	Pn	15 08 57.5	+1.9
KONS				*e*S	Sn	15 09 35.4	+0.2
KONS				IAML		15 09 37.6	
	comp=Z,12nm,0.2s						
KONS	Konsvik	3.27	152	P	Pn	15 08 57.5	+1.9
KONS				*e*S	Sn	15 09 35.4	+0.2
	SNR=50						
TRO	Tromso	3.37	82	*e*P	Pb	15 09 02.2	-1.5
TRO				*e*S	Sn	15 09 39.5	+1.9
TRO				IAML		15 09 45.4	
	comp=Z,19nm,0.3s						
TRO	Tromso	3.37	82	*e*P	Pb	15 09 02.2	-1.5
TRO				*e*S	Sn	15 09 39.5	+1.9
TRO				IAML		15 09 45.4	
	comp=Z,19nm,0.3s						
TRO	Tromso	3.37	82	P	Pb	15 09 02.2	-1.5
TRO				S	Sn	15 09 39.4	+1.9
STOK	Stokkvaagen	3.41	154	*e*P	Pn	15 09 00.1	+2.7
STOK				*e*S	Sn	15 09 37.7	-0.8
STOK	Stokkvaagen	3.41	154	*e*P	Pn	15

ERTU	**Ertsjaerv**	**5.62 115**	P	**Pn**	**15 09 30.7**	**+2.9**
ERTU			S	**Sn**	**15 10 33.6**	**+0.6**
PAJU	**Pajala**	**5.66 109**	P	**Pn**	**15 09 31.6**	**+3.2**
PAJU			S	**Sn**	**15 10 35.5**	**+1.4**
PAJU	**Pajala**	**5.66 109**	*e*P	**Pn**	**15 09 31.6**	**+3.2**
PAJU			*e*S	**Sn**	**15 10 35.5**	**+1.4**
PAJU	**Pajala**	**5.66 109**	P	**Pn**	**15 09 31.6**	**+3.2**
PAJU			S	**Sn**	**15 10 35.4**	**+1.4**
ARA0	**ARCESS Array S**	**5.68 81**	Pn	**Pn**	**15 09 30.7**	**+2.0**
	baz=277,slow=12					
ARA0			Sn	**Sn**	**15 10 31.2**	**-3.3**
	baz=267,slow=22					
ARA0	**ARCESS Array S**	**5.68 81**	Pn	**Pn**	**15 09 30.7**	**+2.0**
	baz=277,slow=12					
ARA0			Sn	**Sn**	**15 10 31.2**	**-3.3**
	baz=267,slow=22					
ARA0	**ARCESS Array S**	**5.68 81**	Pn	**Pn**	**15 09 30.7**	**+2.0**
	baz=277,slow=12,SNR=50					
ARCES	**ARCESS Array B**	**5.68 81**	Pn	**Pn**	**15 09 30.8**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=277,slow=13,SNR=15					
ARCES			Sn	**Sn**	**15 10 31.7**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=265,slow=18,SNR=3.5					
ARE0	**ARCESS Array S**	**5.68 81**	*e*P	**Pn**	**15 09 32.0**	**+3.4**
ARE0	**ARCESS Array S**	**5.68 81**	*e*P	**Pn**	**15 09 31.0**	**+2.4**
ARE0	**ARCESS Array S**	**5.68 81**	P	**Pn**	**15 09 31.0**	**+2.4**
SJUU	**Sjulsmark**	**6.14 124**	P	**Pn**	**15 09 37.9**	**+3.0**
SJUU			S	**Sn**	**15 10 45.5**	**-0.2**
SJUU	**Sjulsmark**	**6.14 124**	*e*P	**Pn**	**15 09 37.9**	**+3.0**
SJUU			*e*S	**Sn**	**15 10 45.5**	**-0.2**
SJUU	**Sjulsmark**	**6.14 124**	P	**Pn**	**15 09 37.8**	**+3.0**
SJUU			S	**Sn**	**15 10 45.5**	**-0.2**
KEV	**Kevo**	**6.18 79**	*e*P	**Pn**	**15 09 37.6**	**+2.2**
KEV	**Kevo**	**6.18 79**	*e*P	**Pn**	**15 09 37.3**	**+1.8**
KEV			MPN		15 09 43.2	
	comp=Z,0.6nm,0.2s					
KEV	**Kevo**	**6.18 79**	*e*P	**Pn**	**15 09 37.6**	**+2.2**
	SNR=47					
SVAU	**Svanoeiden**	**6.38 136**	P	**Pn**	**15 09 41.0**	**+2.9**
SVAU	**Svanoeiden**	**6.38 136**	*e*P	**Pn**	**15 09 41.0**	**+2.9**
SVAU	**Svanoeiden**	**6.38 136**	P	**Pn**	**15 09 41.0**	**+2.9**
KALU	**Kalix**	**6.43 117**	P	**Pn**	**15 09 41.8**	**+3.0**
KALU	**Kalix**	**6.43 117**	*e*P	**Pn**	**15 09 41.8**	**+3.0**
KALU	**Kalix**	**6.43 117**	P	**Pn**	**15 09 41.8**	**+3.0**
TOF	**Tornio**	**6.60 114**	*e*P	**Pn**	**15 09 43.8**	**+2.5**
TOF			*e*S	**Sn**	**15 10 55.3**	**-1.7**
TOF	**Tornio**	**6.60 114**	P	**Pn**	**15 09 43.7**	**+2.5**
TOF			S	**Sn**	**15 10 55.3**	**-1.7**
SGF	**Sodankyl**	**6.63 99**	*e*P	**Pn**	**15 09 43.8**	**+2.1**
SGF			*e*S	**Sn**	**15 10 55.8**	**-2.1**
SGF	**Sodankyl**	**6.63 99**	P	**Pn**	**15 09 43.7**	**+2.1**
BREU	**Bredtraesk**	**6.66 142**	P	**Pn**	**15 09 45.1**	**+3.0**
BREU	**Bredtraesk**	**6.66 142**	*e*P	**Pn**	**15 09 45.1**	**+3.0**
BREU	**Bredtraesk**	**6.66 142**	P	**Pn**	**15 09 45.0**	**+3.0**
BURU	**Burvik**	**6.77 130**	P	**Pn**	**15 09 47.2**	**+3.7**
BURU	**Burvik**	**6.77 130**	*e*P	**Pn**	**15 09 47.2**	**+3.7**
BURU	**Burvik**	**6.77 130**	P	**Pn**	**15 09 47.1**	**+3.7**
RNF	**Rovaniemi**	**6.86 106**	*e*P	**Pn**	**15 09 48.8**	**+4.0**
RNF			*e*S	**Sn**	**15 11 00.1**	**-3.3**
RNF	**Rovaniemi**	**6.86 106**	P	**Pn**	**15 09 48.7**	**+4.0**
AKN	**Aaknes**	**7.35 189**	Pn	**Pn**	**15 09 50.9**	**-0.7**
AKN			Sn	**Sn**	**15 11 09.8**	**-5.8**
AKN	**Aaknes**	**7.35 189**	Pn	**Pn**	**15 09 50.9**	**-0.7**
AKN			Sn	**Sn**	**15 11 09.8**	**-5.8**
OUL	**Oulu**	**7.74 116**	*e*P	**Pn**	**15 09 58.5**	**+1.6**
OUL			*e*S	**Sn**	**15 11 21.1**	**-4.0**
OUL	**Oulu**	**7.74 116**	P	**Pn**	**15 09 58.4**	**+1.6**
OUFX	**Oulainen**	**7.88 123**	*e*P	**Pn**	**15 10 01.0**	**+2.3**
OUFX			*e*S	**Sn**	**15 11 25.8**	**-2.6**
OUFX	**Oulainen**	**7.88 123**	P	**Pn**	**15 10 01.0**	**+2.3**
MSF	**Maaselka**	**8.27 106**	*e*P	**Pn**	**15 10 05.5**	**+1.4**
MSF			*e*S	**Sn**	**15 11 34.1**	**-4.0**
MSF	**Maaselka**	**8.27 106**	P	**Pn**	**15 10 05.5**	**+1.4**
VAF	**Ylistaro**	**8.36 134**	*e*P	**Pn**	**15 10 08.3**	**+3.0**
VAF			*e*S	**Sn**	**15 11 37.6**	**-2.6**
VAF	**Ylistaro**	**8.36 134**	P	**Pn**	**15 10 08.2**	**+3.0**
NB2	**NORSAR Subarra**	**8.47 174**	Pn	**Pn**	**15 10 08.3**	**+1.4**
	baz=351,slow=16					
NB2	**NORSAR Subarra**	**8.47 174**	Pn	**Pn**	**15 10 08.3**	**+1.4**
	baz=351,slow=16					
NB2	**NORSAR Subarra**	**8.47 174**	*e*P	**Pn**	**15 10 08.3**	**+1.4**
NB2	**NORSAR Subarra**	**8.47 174**	Pn	**Pn**	**15 10 08.3**	**+1.4**
	baz=351,slow=14,SNR=50					
NOA	**NORSAR Array B**	**8.47 174**	Pn	**Pn**	**15 10 07.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=357,slow=14,SNR=3.5					
NOA			Sn	**Sn**	**15 11 38.4**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=3.0					
KU6	**Riekki**	**8.50 104**	*e*P	**Pn**	**15 10 08.3**	**+1.0**
KU6			*e*S	**Sn**	**15 11 38.6**	**-5.0**
KU6	**Riekki**	**8.50 104**	P	**Pn**	**15 10 08.2**	**+1.0**
APA0	**Apatity Array**	**8.84 91**	Pn	**Pn**	**15 10 13.9**	**+2.0**
APA0	**Apatity Array**	**8.84 91**	Pn	**Pn**	**15 10 13.9**	**+2.0**
APA0	**Apatity Array**	**8.84 91**	*e*P	**Pn**	**15 10 13.9**	**+2.0**
APA0	**Apatity Array**	**8.84 91**	P	**Pn**	**15 10 13.9**	**+2.0**
SPA0	**Spitsbergen Ar**	**8.99 9**	Pn	**Pn**	**15 10 12.5**	**-1.5**
	baz=174,slow=18					
SPA0	**Spitsbergen Ar**	**8.99 9**	Pn	**Pn**	**15 10 12.5**	**-1.5**
	baz=174,slow=18					
SPA0	**Spitsbergen Ar**	**8.99 9**	*e*P	**Pn**	**15 10 12.5**	**-1.5**
SPITS	**Spitsbergen Ar**	**8.99 9**	Pn	Pn	15 09 59.7	-14
	baz=139,slow=9.0,SNR=8.2					
SPITS			Sn	Sn	15 11 46.0	-10
	baz=179,slow=30,SNR=1.9					
KJN	**Kajaani**	**9.00 118**	*e*P	**Pn**	**15 10 15.8**	**+1.7**
KJN			*e*S	**Sn**	**15 11 51.6**	**-4.4**
KJN	**Kajaani**	**9.00 118**	P	**Pn**	**15 10 15.7**	**+1.7**
HFS	**Hagfors**	**9.52 167**	Pn	**Pn**	**15 10 22.6**	**+1.4**
	baz=4.8,slow=14					
HFS	**Hagfors**	**9.52 167**	Pn	**Pn**	**15 10 22.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=352,slow=13,SNR=11					
HFS			Sn	**Sn**	**15 12 04.8**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=354,slow=25,SNR=4.4					
HFS	**Hagfors**	**9.52 167**	Pn	**Pn**	**15 10 22.6**	**+1.4**
	baz=4.8,slow=14					
HFS	**Hagfors**	**9.52 167**	Pn	**Pn**	**15 10 22.6**	**+1.4**
	baz=4.8,slow=13,SNR=50					
SUF	**Sumiainen**	**9.56 127**	*e*P	**Pn**	**15 10 25.1**	**+3.3**
SUF			*e*S	**Sn**	**15 12 06.1**	**-3.6**
SUF	**Sumiainen**	**9.56 127**	P	**Pn**	**15 10 25.0**	**+3.3**
KEF	**Keuruu**	**9.65 131**	*e*P	**Pn**	**15 10 25.3**	**+2.3**
KEF			MPN		15 10 29.1	
	comp=Z,1.2nm,0.3s					
KEF			*e*S	**Sn**	**15 12 06.6**	**-5.4**
KEF	**Keuruu**	**9.65 131**	P	**Pn**	**15 10 25.3**	**+2.3**
KAF	**Kangasniemi**	**10.09 128**	MPN		15 10 28.6	
	comp=Z,0.4nm,0.2s					
FIA0	**FINESS Array S**	**10.58 131**	Pn	**Pn**	**15 10 37.9**	**+2.2**
	baz=336,slow=14					
FIA0	**FINESS Array S**	**10.58 131**	Pn	**Pn**	**15 10 37.9**	**+2.2**
	baz=336,slow=14					
FIA0	**FINESS Array S**	**10.58 131**	Pn	**Pn**	**15 10 37.8**	**+2.2**
	baz=336,slow=13,SNR=50					
FINES	**FINESS Array B**	**10.58 131**	Pn	**Pn**	**15 10 37.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=331,slow=12,SNR=8.6					
FINES			Sn	**Sn**	**15 12 31.3**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=3.3					
AKASG	**Malin Array Be**	**21.05 143**	P	**P**	**15 12 49.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=337,slow=10,SNR=5.0					

*ISK **01** 15:10:36.3,40°.61N×31°.19E,h4km,MD2.7*
*CSEM **01** 15:10:37.9±0.2,40°.54N×31°.10E,h5km,MD2.7,Error ellipse: s-maj=4.5km s-min=3.5km az=20.0*
*DDA **01** 15:10:37.7,40°.52N×31°.09E,h7km,Md2.7*
*ISCJB **01** 15:10:38.1±0.5,40°.55N±0°.04×31°.14E±0°.04,h9km±4km, Error ellipse: s-maj=6.9km s-min=5.1km az=28.1*

ISC 01 15:10:38.0±1.0,40°.55N±0°.03×31°.10E±0°.02,h4km±9km, n43,σ0°56/51,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.11**	**138**	*e*PG	**Pg**	**15 10 39.9**	**-0.3**
MDUB				*e*SG	**Sg**	**15 10 42.4**	**+0.7**
MDUB	**Mudurnu**	**0.11**	**138**	*e*Pg	**Pg**	**15 10 39.9**	**-0.3**
MDUB				*e*Sg	**Sg**	**15 10 42.4**	**+0.7**
SAHE	**Sakarya_HENDEK**	**0.36**	**328**	*i* P	**Pg**	**15 10 44.9**	**0.0**
SAHE				*i* S	**Sb**	**15 10 51.5**	**-1.4**
SAHE	**Sakarya_HENDEK**	**0.36**	**328**	P	**Pg**	**15 10 44.9**	**0.0**
SAHE				S	**Sb**	**15 10 51.5**	**-1.4**
GULT	**Gulveren**	**0.46**	**255**	*e*PG	**Pg**	**15 10 46.9**	**0.0**
GULT				*e*SG	**Sb**	**15 10 56.0**	**0.0**
GULT	**Gulveren**	**0.46**	**255**	*e*Pg	**Pg**	**15 10 46.9**	**0.0**
BCAM	**Yenicaga**	**0.78**	**70**	*i* P	**Pg**	**15 10 53.0**	**+0.1**
BCAM	**Yenicaga**	**0.78**	**70**	P	**Pg**	**15 10 53.0**	**+2.9**
BORA	**Eskisehir**	**0.83**	**217**	*i* P	**Pg**	**15 10 53.4**	**-0.6**
BORA	**Eskisehir**	**0.83**	**217**	P	**Pg**	**15 10 53.4**	**-0.6**
KAND	**Kocaeli-Kandir**	**0.88**	**308**	*i* P	**Pg**	**15 10 54.5**	**-0.3**
KAND	**Kocaeli-Kandir**	**0.88**	**308**	P	**Pg**	**15 10 54.5**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.05**	**93**	*i* P	**Pb**	**15 10 58.4**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.05**	**93**	P	**Pb**	**15 10 58.4**	**-0.3**
ESKT	**Eskisehir**	**1.05**	**191**	*i* P	**Pn**	**15 10 59.4**	**-0.1**
ESKT				*i* S	**Sn**	**15 11 16.6**	**+2.0**
SEYT	**Eskypehyr**	**1.05**	**191**	P	**Pn**	**15 10 59.4**	**-0.1**
ADVT	**Abdulvahap**	**1.05**	**264**	*e*PN	**Pb**	**15 10 58.5**	**-0.1**
ADVT	**Abdulvahap**	**1.05**	**264**	*e*Pn	**Pb**	**15 10 58.5**	**-0.1**
HRT	**Hereke**	**1.12**	**284**	*e*PN	**Pg**	**15 10 59.3**	**-0.2**
HRT	**Hereke**	**1.12**	**284**	*e*Pn	**Pg**	**15 10 59.3**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.15**	**164**	*e*PN	**Pb**	**15 10 59.8**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.15**	**164**	*e*Pn	**Pb**	**15 10 59.8**	**-0.6**
SILT	**Sile**	**1.26**	**299**	*e*PN	**Pg**	**15 11 01.6**	**-0.6**
SILT	**Sile**	**1.26**	**299**	*e*Pn	**Pg**	**15 11 01.6**	**-0.6**
BTIN	**Bart¨–n**	**1.39**	**38**	*i* P	**Pg**	**15 11 04.4**	**-0.2**
BTIN	**Bart¨–n**	**1.39**	**38**	P	**Pg**	**15 11 04.4**	**-0.2**
IGD	**Bursa**	**1.48**	**259**	*i* P	**Pn**	**15 11 05.0**	**-0.3**
BUY	**Buyukada**	**1.54**	**282**	*e*PN	**Pn**	**15 11 06.2**	**+0.1**
BUY	**Buyukada**	**1.54**	**282**	*i* P	**Pb**	**15 11 06.8**	**-0.2**
BUY				*i* S	**Sg**	**15 11 28.4**	**+1.0**
BUY	**Buyukada**	**1.54**	**282**	*e*Pn	**Pn**	**15 11 06.2**	**+0.1**
BUY	**Buyukada**	**1.54**	**282**	P	**Pb**	**15 11 06.8**	**-0.2**
BUY				S	**Sg**	**15 11 28.5**	**+1.0**
KAVV	**Kandilli-Istan**	**1.63**	**289**	*e*PN	**Pn**	**15 11 07.4**	**-0.1**
KAVV	**Kandilli-Istan**	**1.63**	**289**	*e*Pn	**Pn**	**15 11 07.4**	**-0.1**
TVSB	**Tavsanli**	**1.67**	**229**	*e*PN	**Pb**	**15 11 08.7**	**-0.7**
TVSB	**Tavsanli**	**1.67**	**229**	*e*Pn	**Pb**	**15 11 08.7**	**-0.7**
SBT5	**Esenkoy-Cinarc**	**1.69**	**273**	*e*PN	**Pn**	**15 11 08.5**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**1.69**	**273**	*e*Pn	**Pn**	**15 11 08.5**	**+0.3**
ARMT	**Armutlu**	**1.71**	**271**	*e*PN	**Pn**	**15 11 08.6**	**+0.1**
ARMT	**Armutlu**	**1.71**	**271**	*e*Pn	**Pn**	**15 11 08.6**	**+0.1**
KLYT	**Kilyos**	**1.71**	**295**	*e*PN	**Pn**	**15 11 08.3**	**-0.2**
KLYT	**Kilyos**	**1.71**	**295**	*e*Pn	**Pn**	**15 11 08.3**	**-0.2**
CTKS	**Kestanelik-??a**	**2.08**	**290**	*e*PN	**Pn**	**15 11 13.7**	**+0.1**
CTKS	**Kestanelik-??a**	**2.08**	**290**	*e*Pn	**Pn**	**15 11 13.7**	**+0.1**

*CSEM **01** 15:11:28.0±0.4,49°.69N×18°.24E,h2km, Error ellipse: s-maj=15.6km s-min=7.1km az=45.0*

PRU 01 15:11:28.5,49°.79N×18°.40E,h0km,1D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.17**	**286**	⇓*i*PG	Pg	15 11 31.3	-0.5
OKC				*e*SG	Sg	15 11 34.5	+0.5
	comp=Z,8.4nm,0.3s						
OKC	**Ostrava-Krasne**	**0.17**	**286**	Pg	Pg	15 11 31.3	-0.5
OKC				Sg	Sg	15 11 34.5	+0.5
	8.4nm,0.3s						
MORC	**Moravsky Berou**	**0.56**	**269**	*e*Sg	Sg	15 11 47.0	+0.7
KRLC	**Kraliky**	**1.08**	**286**	*e*PG	Pg	15 11 47.5	-1.8
KRLC				*e*SG	Sg	15 12 03.9	+0.6
KRLC	**Kraliky**	**1.08**	**286**	Pg	Pg	15 11 47.5	-1.8
KRLC				Sg	Sg	15 12 03.9	+0.6
VYHS	**Vyhne**	**1.33**	**167**	*e*Pg	Pg	15 11 52.0	-1.9
VYHS				*e*Sn	Sb	15 12 12.0	+0.1
VYHS	**Vyhne**	**1.33**	**167**	*e*PG	Pg	15 11 52.0	-1.9
VYHS				*e*SN	Sb	15 12 12.0	+0.1
DPC	**Dobruska-Polom**	**1.45**	**294**	*e*PG	Pn	15 11 53.7	-2.4
DPC				*e*SG	Sg	15 12 13.7	-1.4
	comp=Z,1.5nm,0.5s						
DPC	**Dobruska-Polom**	**1.45**	**294**	Pg	Pn	15 11 53.7	-2.4
DPC				Sg	Sg	15 12 13.7	-1.4
	1.5nm,0.5s						
STHS	**Stebnicka Huta**	**1.89**	**100**	*e*Pn	Pn	15 12 02.6	+0.6
STHS	**Stebnicka Huta**	**1.89**	**100**	*e*PN	Pn	15 12 02.6	+0.6

*CSEM **01** 15:12:58.3±0.3,49°.88N×18°.46E,h2km,ML2.0/5,Error ellipse: s-maj=7.3km s-min=3.4km az=8.0*

IPEC 01 15:12:58.3±0.2,49°.83N×18°.56E,h0km,ML1.3/3,6D, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**271**	⇓*i*PG	Pg	15 13 03.7	+0.3
OKC				*e*SG	Sg	15 13 07.2	+0.4
	comp=Z,54nm,0.6s						
OKC	**Ostrava-Krasne**	**0.27**	**271**	Pg	Pg	15 13 03.7	+0.3
OKC				Sg	Sg	15 13 07.2	+0.4
	54nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**266**	*e*Pg	Pg	15 13 10.9	0.0
MORC				*e*Sg	Sg	15 13 18.8	-0.6
	5.4nm,0.4s,baz=85						
OJC	**Ojcow**	**0.89**	**64**	*e*Pg	Pg	15 13 15.6	+0.2
OJC				*e*Sg	Sb	15 13 28.3	-0.7
OJC	**Ojcow**	**0.89**	**64**	*e*Pg	Pg	15 13 15.6	+0.2
OJC				*e*Sg	Sb	15 13 28.3	-0.8
LANS	**Liptovska Anna**	**0.90**	**139**	*e*Pg	Pb	15 13 17.3	+0.4
LANS				*e*Sg	Sn	15 13 31.0	-1.1
LANS	**Liptovska Anna**	**0.90**	**139**	*e*PG	Pb	15 13 17.3	+0.4
LANS				*e*SG	Sn	15 13 31.0	-1.1
KRLC	**Kraliky**	**1.17**	**283**	⇓*i*PG	Pg	15 13 19.1	-1.6
KRLC				*e*SG	Sg	15 13 35.2	-0.7
KRLC	**Kraliky**	**1.17**	**283**	Pg	Pg	15 13 19.1	-1.6
KRLC				Sg	Sg	15 13 35.2	-0.7
NIE	**Niedzica**	**1.21**	**109**	*e*Pg	Pn	15 13 22.8	+0.4
NIE				*e*Sg	Sn	15 13 41.4	+1.9
NIE	**Niedzica**	**1.21**	**109**	*e*Pg	Pn	15 13 22.8	+0.3
NIE				*e*Sg	Sn	15 13 41.2	+1.7
VYHS	**Vyhne**	**1.35**	**172**	*e*Pg	Pg	15 13 23.9	-0.3
VYHS	**Vyhne**	**1.35**	**172**	*e*PG	Pg	15 13 23.9	-0.3
VYHS				*e*SN	Sb	15 13 42.0	-0.3
VYHS				*e*LG	Lg	15 13 44.3	
VRAC	**Vranov**	**1.38**	**248**	*e*Pg	Pg	15 13 23.8	-0.9
	baz=67						
VRAC				*e*Sg	Sg	15 13 41.7	-0.9
	6.8nm,0.5s,baz=67						
DPC	**Dobruska-Polom**	**1.53**	**291**	⇓*i*PG	Pn	15 13 26.0	-0.9
DPC				*e*SG	Sg	15 13 46.3	-1.1
DPC	**Dobruska-Polom**	**1.53**	**291**	Pg	Pn	15 13 26.0	-0.9
DPC				Sg	Sg	15 13 46.3	-1.1
KRUC	**Moravsky**	**1.61**	**242**	*e*Pg	Pn	15 13 27.3	-0.6
	baz=60						
KRUC				*e*Sg	Sn	15 13 48.7	-0.7
	2.7nm,0.2s,baz=60						
UPC	**Upice**	**1.77**	**293**	⇓*e*PG	Pn	15 13 28.7	-1.5
UPC				*e*SG	Sb	15 13 54.0	-0.4
UPC	**Upice**	**1.77**	**293**	Pg	Pn	15 13 28.7	-1.5
UPC				Sg	Sb	15 13 54.0	-0.4
STHS	**Stebnicka Huta**	**1.80**	**102**	*e*Pn	Pg	15 13 33.5	+0.8
STHS				*e*Sn	Sg	15 14 00.0	+4.0
STHS	**Stebnicka Huta**	**1.80**	**102**	*e*PN	Pg	15 13 33.5	+0.8
STHS				*e*SN	Sg	15 14 00.0	+4.0
STHS				*e*LG	Lg	15 14 03.0	
KECS	**Kecovo**	**1.85**	**136**	*e*Sn	Sb	15 13 56.5	-0.2
KECS	**Kecovo**	**1.85**	**136**	*e*SN	Sb	15 13 56.5	-0.2
KECS				*e*LG	Lg	15 14 00.9	
PRU	**Pruhonice**	**2.60**	**275**	⇓*e*SG	Sg	15 14 20.4	-1.4
	comp=Z,2.1nm,0.4s						
PRU	**Pruhonice**	**2.60**	**275**	Sg	Sg	15 14 20.4	-1.4
	2.1nm,0.4s						
KHC	**Kasperske Hory**	**3.32**	**260**	⇓*e*SG	Sg	15 14 42.7	-2.2
KHC	**Kasperske Hory**	**3.32**	**260**	Sg	Sg	15 14 42.7	-2.2

MEX 01 15:32:46.5±0.3,17°.18N×99°.94W,h49km±6km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.31**	**170**	*e*P	Pn	15 32 54.2	-1.4
ACP2				*e*S	Sn	15 33 00.5	-1.8
ACX	**Acapulco**	**0.32**	**165**	*e*P	Pn	15 32 59.2	+3.4
ACX				*e*S	Sn	15 33 05.5	+3.1
CAIG	**El Cayaco**	**0.34**	**247**	*e*P	Pn	15 32 54.5	-1.5
CAIG				*e*S	Sn	15 33 00.9	-1.8
MEIG	**Mezcala**	**0.80**	**23**	*e*P	Pn	15 33 00.3	-1.4
MEIG				*e*S	Sn	15 33 10.7	-2.1

*IDC **01** 15:34:22.9±1.2,7°.97S×129°.22E,h0km,mb3.9/1, mb1 4.1/4,mb1mx3.6/41,mbtmp4.0/4,ML4.2/2,Error ellipse: s-maj=35.7km s-min=22.2km az=86.0*
*DJA **01** 15:34:31.8±0.9,8°.S±4°×12°.9E±°,h111km±23km,M4.5/5, mB5.1/1,mb4.7/2,MLv4.4/5,Mw(mB)4.5/1*

ISC 01 15:34:22.6±0.7,7°.95S±0°.04×129°.21E±0°.05,h10km,n16, σ3°37/21,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.07**	**91**	P	**Pg**	**15 35 02.9**	**+0.5**
SAUI				S	**Sb**	**15 35 27.2**	**+1.0**
BNDI	**Bandanaira**	**3.47**	**12**	P	**Pb**	**15 35 22.5**	**-1.8**
AAI	**Ambon**	**4.35**	**347**	P	**Pb**	**15 35 35.4**	**-3.8**
AAI				S	**Sn**	**15 36 22.6**	**+2.9**
NLAI	**Namlea**	**5.13**	**336**	P	**Pb**	**15 35 49.4**	**-3.1**
SOEI	**Soe**	**5.20**	**249**	P	**Pb**	**15 35 51.5**	**-2.3**
	60nm,0.8s,0.4nm						
SOEI				S	**Sb**	**15 36 53.5**	**-2.9**
	60nm,0.8s,0.4nm						
FAKI	**Fak Fak**	**5.84**	**31**	P	**Pn**	**15 35 51.2**	**+1.8**
FAKI				S	**Sn**	**15 36 50.9**	**-5.6**
SANI	**Sanana**	**6.68**	**331**	P	Pb	15 36 11.0	-7.9
SIJI	**Sorong**	**7.33**	**16**	Pn	**Pn**	**15 36 12.9**	**+3.1**
	31nm,0.3s,baz=212,slow=15,SNR=42						
SIJI				Sn	**Sn**	**15 37 29.2**	**-3.8**
	40nm,0.3s,baz=170,slow=22,SNR=6.4						
LBMI	**Labuha**	**7.46**	**347**	P	Pn	15 36 20.8	+9.2
FITZ	**Fitzroy Crossi**	**10.67**	**199**	Pn	**Pn**	**15 36 58.0**	**+2.3**
	baz=270,slow=0.0						
FITZ				Sn	**Sn**	**15 38 56.9**	**+1.6**
	baz=180,slow=20						
WRA	**Warramunga Arr**	**12.92**	**158**	Pn	**Pn**	**15 37 27.0**	**+0.6**
	1.7nm,0.3s,baz=339,slow=13,SNR=17						
WRA				Sn	**Sn**	**15 39 43.2**	**-7.1**
	2.2nm,0.3s,baz=331,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**16.27**	**164**	Pn	**Pn**	**15 38 12.6**	**+1.2**
	0.6nm,0.3s,baz=348,slow=9.2,SNR=53						
ASAR				Sn	**Sn**	**15 41 06.8**	**-5.2**
	0.6nm,0.3s,baz=350,slow=25,SNR=7.1						
PMG	**Port Moresby**	**17.81**	**96**	P	**P**	**15 38 33.0**	**+1.5**
	0.5nm,0.3s,baz=260,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**26.46**	**156**	P	P	15 40 08.9	+9.0
	1.6nm,0.9s,baz=343,slow=14,SNR=2.5						
MKAR	**Makanchi Array**	**68.59**	**327**	P	**P**	**15 45 27.5**	**+1.7**
	0.5nm,0.4s,baz=126,slow=6.6,SNR=16						
TORD	**Torodi Ar. Bea**	**128.21**	**280**	PKP	**PKPdf**	**15 53 32.0**	**+1.7**
	0.5nm,0.5s,baz=99,slow=2.2,SNR=5.9						

*NIED **01** 15:44:00,38°.40N×133°.80E,h520km,Mw4.8 Best double couple: M0 1.53000×10^16 NP1:φ0=59.00000°, δ51.00000°,λ-154.00000°. NP2:φ0=312.00000°, δ70.00000°,λ-42.00000°.*
*BJI **01** 15:44:19.5,38°.27N×133°.80E,h443km,mb4.9/59, mB4.6/35*
*JMA **01** 15:44:20.7±0.1,38°.39N×133°.83E,h473km±2km,M4.8*
*ISCJB **01** 15:44:21.6±0.1,38°.42N±0°.02×133°.76E±0°.03, h454km±2km,mb4.4/115,Error ellipse: s-maj=3.4km s-min=3.0km az=145.2*
*MOS **01** 15:44:21.2±0.9,38°.46N×133°.75E,h449km,mb4.5/47, Error ellipse: s-maj=7.5km s-min=5.2km az=104.5*
*IDC **01** 15:44:22.4±0.5,38°.42N×133°.70E,h449km±5km,mb3.8/35, mb1 3.9/43,mb1mx3.9/52,mbtmp4.7/43,Error ellipse: s-maj=7.4km s-min=6.0km az=102.0*
*NEIC **01** 15:44:22.1±0.2,38°.41N×133°.70E,h446km±3km,mb4.6/46, Error ellipse: s-maj=4.1km s-min=3.5km az=142.0*

ISC 01 15:44:22.1±0.4,38°.45N±0°.04×133°.81E±0°.04,h446km±4km, h446km:pP-P,n313,σ1°09/387,mb4.4/115,20C-25D,Sea of Japan

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

comp=Z,200nm,3.0s
ASAJ Asahikawa 8.71 47 P **P 15 46 24.8 -0.2**
comp=Z,26nm,0.3s,baz=237,slow=11,SNR=128
ASAJ S **S 15 48 00.7 -5.3**
comp=Z,3.2nm,0.3s,baz=336,slow=20,SNR=4.6
ASAJ Asahikawa 8.71 47 *e*P **P 15 46 24.7 -0.2**
ASAJ *e*S **S 15 48 04.2 -1.8**
DL2 Dalian 9.54 277‖ *i*P **P 15 46 35.4 +1.3**
DL2 sP 15 48 03.3
DL2 S **S 15 48 24.6 +1.9**
HABR Khabarovsk 10.06 5 *e*P **P 15 46 39.1 -0.5**
HABR *e*S **S 15 48 33.4 +0.4**
HABR pmax pmax
comp=E,11nm,0.9s
HABR pmax pmax
comp=N,39nm,1.1s
HABR pmax pmax
comp=Z,109nm,1.1s
HABR MLR MLR
comp=Z,12nm,11.0s
YUK Yuzh-Kuril'sk 10.65 55*c i*P **P 15 46 47.9 +1.8**
YUK *i* S **S 15 48 45.0 +0.1**
YUK pmax pmax
comp=Z,162nm,0.3s
YUK pmax pmax
comp=N,52nm,0.2s
YUK pmax pmax
comp=E,16nm,0.2s
YUK pmax pmax
comp=Z,814nm,2.1s
YSS Yuzh-Sakhalins 10.75 35 *e*P **P 15 46 47.3 +0.2**
YSS *e*S **S 15 48 43.8 -2.9**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS smax smax
comp=N,700nm,5.0s
YSS smax smax
comp=E,50nm,1.5s
YSS Yuzh-Sakhalins 10.75 35 *e*P **P 15 46 47.7 +0.5**
YSS *e*S **S 15 48 47.4 +0.7**
KLR Kul'dur 10.88 353 P **P 15 46 49.2 +0.6**
comp=E,1.5nm,0.3s,baz=170,slow=8.9,SNR=148
KLR S **S 15 48 48.6 -0.8**
baz=3.9,slow=18,SNR=2.5
KLR Kul'dur 10.88 353*c i*P **P 15 46 48.7 +0.1**
SHO Shikotan 11.21 57*d i*P **P 15 46 52.9 +0.7**
SHO *i* S **S 15 48 54.3 -1.8**
SHO pmax pmax
comp=Z,105nm,0.8s
SHO pmax pmax
comp=E,60nm,0.4s
SHO pmax pmax
comp=N,73nm,0.3s
KUR Kuril'sk 12.48 53 P **P 15 47 07.8 +1.8**
KUR S **S 15 49 22.6 +1.3**
KUR pmax pmax
comp=Z,18nm,0.6s
KUR pmax pmax
comp=E,47nm,0.7s
KUR pmax pmax
comp=N,21nm,0.3s
JOW Kunigami 12.48 203 P **P 15 47 04.4 -1.9**
comp=N,7.1nm,0.3s,baz=12,slow=9.3,SNR=7.3
TIA Tai'an 13.46 266‖ P **P 15 47 16.8 0.0**
TIA pmax pmax
comp=N,80nm,0.9s
BJI Beijing 13.76 282 P **P 15 47 18.2 -1.7**
BJI pmax pmax
comp=N,6.0nm,0.8s
BJT Baijiatuau 13.76 282 *e*P **P 15 47 18.3 -1.7**
BJT pmax pmax
comp=Z,23nm,0.4s
BJT Baijiatuau 13.76 282 *e*P **P 15 47 18.3 -1.7**
comp=Z,23nm,0.4s
NJ2 Nanjing 13.78 247 *e*P **P 15 47 20.5 +0.3**
NJ2 pmax pmax
comp=Z,99nm,1.0s
TYV Tymovskoe 13.90 24 *e*P **P 15 47 23.5 +2.2**
TYV pmax pmax
comp=Z,100nm,1.8s
HIA Hailar 14.80 321 *e*P **P 15 47 30.0 -1.0**
HIA pmax pmax
comp=Z,7.0nm,0.3s
HIA Hailar 14.80 321 *e*P **P 15 47 30.0 -1.0**
comp=Z,6.8nm,0.3s
NKL Nikolayevsk 15.45 16 *e*P **P 15 47 37.5 -0.3**
NKL pmax pmax
comp=E,35nm,0.8s
NKL pmax pmax
comp=Z,150nm,0.8s
HHC Hu-ho-hao-te 17.29 285 *e*P **P 15 47 55.7 -1.9**
HHC pmax pmax
comp=Z,20nm,1.3s
HHC pmax pmax
comp=Z,190nm,5.2s
XAN Xi'an 20.52 265 P **P 15 48 27.2 -1.3**
XAN pmax pmax
comp=Z,33nm,0.7s
XAN pmax pmax
comp=Z,91nm,3.3s
ULN Ulaanbaatar 21.57 304*d i*P **P 15 48 37.8 -0.2**
ULN pmax pmax
comp=Z,21nm,0.5s
ULN Ulaanbaatar 21.57 304 *e*P **P 15 48 37.5 -0.5**
comp=Z,35nm,0.5s
ENH Enshi 21.62 255 *e*P **P 15 48 36.5 -2.1**
comp=Z,52nm,0.6s
SONA1 Songino Array 21.99 304 *e*P **P 15 48 40.8 -0.9**
SONM Songino Array 21.99 304 P **P 15 48 41.6 -0.1**
comp=Z,22nm,0.5s,baz=111,slow=9.1,SNR=74
SONM PcP **PcP 15 52 22.9 +0.3**
comp=Z,0.9nm,0.7s,baz=139,slow=2.3,SNR=3.8
SONM ScP **ScP 15 55 16.5 -0.5**
comp=Z,0.9nm,0.5s,baz=110,slow=2.4,SNR=8.3
SONM Songino Array 21.99 304 P **P 15 48 41.6 -0.1**
SONM 15 52 22.9
SONM pmax pmax
comp=Z,22nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.5s
PETK Petropavlovsk- 22.05 41 P **P 15 48 42.2 +0.1**
comp=N,2.9nm,0.7s,baz=203,slow=5.7,SNR=7.3
YAK Yakutsk 23.75 355 P **P 15 48 56.8 -0.3**
comp=N,16nm,0.4s,baz=128,slow=0.3,SNR=11
YAK Yakutsk 23.75 355 *e*P **P 15 48 56.5 -0.6**
YAK *e* 15 52 24.6
YAK *e*S **S 15 52 39.4 0.0**
YAK *e* 15 59 04.4
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,17nm,1.5s
YAK smax smax
comp=N,86nm,2.3s
YAK Yakutsk 23.75 355 *e*P **P 15 48 54.1 -3.0**
comp=N,45nm,1.1s
MA2 Magadan 23.75 22 P **P 15 48 57.6 +0.3**
comp=N,12nm,0.8s,baz=222,slow=14,SNR=4.3
LZH Lanzhou 23.91 274⇑ P **P 15 48 58.1 -1.1**
LZH sP sP 15 51 04.5 -1.5
LZH S **S 15 52 47.0 +3.9**
LZH pmax pmax
comp=N,67nm,1.0s
LZH pmax pmax
comp=N,240nm,4.2s
ZAK Zakamensk 24.67 309 *e*P **P 15 49 03.0 -2.7**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 24.87 312 P **P 15 49 07.1 -0.2**
comp=Z,7.0nm,0.7s,baz=55,slow=16,SNR=6.4
TLY Talaya 24.87 312 *e*P **P 15 49 07.1 -0.2**
TLY pmax pmax
comp=Z,9.0nm,0.8s
GYA Guiyang 25.74 250⇑ *i*P **P 15 49 13.9 -1.6**
GYA sP sP 15 51 23.0 -1.9
GYA PcP **PcP 15 52 32.2 +1.0**
GYA S **S 15 53 11.8 0.0**
GYA ScP **ScP 15 55 28.4 +0.7**
GYA PcS **PcS 15 56 12.8 +0.1**
GYA ScS **ScS 15 59 17.5 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
CD2 Chengdu 25.75 262 *e*P **P 15 49 14.5 -1.0**
GTA Gaotai 26.37 283 P **P 15 49 20.3 -0.7**
GTA sP sP 15 51 29.0 -1.9
GTA pmax pmax
comp=Z,33nm,0.7s
SEY Seymchan 26.98 19 P **P 15 49 27.0 +1.1**
comp=Z,8.0nm,0.5s,baz=205,slow=7.7,SNR=37
SEY Seymchan 26.98 19‖ *e*P **P 15 49 26.4 +0.5**
KMI Kunming 29.41 252 P **P 15 49 47.0 -0.9**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,180nm,4.2s
SLVN Son La 30.84 245 P **P 15 49 59.1 -1.1**
TIXI Tiksi 33.37 357 P **P 15 50 21.4 +0.3**
comp=Z,15nm,0.4s,baz=161,slow=8.1,SNR=26
TIXI Tiksi 33.37 357*ce*P **P 15 50 20.7 -0.4**
TIXI pmax pmax
comp=Z,11nm,0.5s
TIXI Tiksi 33.37 357 *e*P **P 15 50 20.8 -0.4**
comp=Z,19nm,0.5s
SKNT Sakolnakorn 33.74 239 P **P 15 50 25.0 0.0**
comp=Z,63nm,0.9s
DGZ Jazzator, Alta 34.64 304 *i* P **P 15 50 32.4 0.0**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
WMQ Urumqi 34.79 294 P **P 15 50 33.4 -0.2**
WMQ pP pP 15 51 52.6 -1.6
WMQ PP **PP 15 52 06.7 +1.6**
WMQ sP sP 15 52 44.2 -1.5
WMQ S **S 15 55 31.3 +0.1**
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ pmax pmax
comp=Z,140nm,6.5s
UTTA Uttaradit 35.57 244 P **P 15 50 40.3 -0.1**
comp=Z,6.9nm,0.7s,comp=Z,76nm
LAMP Lampang 35.72 246 P **P 15 50 42.3 +0.7**
comp=Z,9.2nm,0.7s
CHAI Chaiyaphum 35.84 240 P **P 15 50 42.0 -0.7**
comp=Z,14nm,0.6s,comp=Z,178nm
CMMT Chiang Mai 36.02 247 P **P 15 50 43.9 -0.3**
comp=Z,28nm,1.0s
CHTO Chiang Mai 36.02 247 P **P 15 50 43.9 -0.3**
comp=Z,123nm,1.0s
CHTO Chiang Mai 36.02 247 *e*P **P 15 50 44.2 0.0**
CHTO pmax pmax
comp=Z,19nm,0.6s
CHTO Chiang Mai 36.02 247 *e*P **P 15 50 44.2 0.0**
comp=Z,19nm,0.6s
CM31 Chiang Mai Arr 36.25 247 *e*P **P 15 50 46.3 +0.2**
CMAR Chiang Mai Arr 36.25 247 P **P 15 50 45.9 -0.2**
comp=Z,4.8nm,0.5s,baz=40,slow=7.5,SNR=46
CMAR PP **PP 15 52 21.5 +0.3**
comp=Z,0.8nm,0.9s,baz=41,slow=8.4,SNR=4.9
CMAR PcP **PcP 15 52 60.0 +0.3**
comp=Z,1.1nm,0.5s,baz=27,slow=2.1,SNR=5.7
CMAR ScP **ScP 15 56 02.0 -0.9**
comp=Z,0.6nm,0.4s,baz=358,slow=1.2,SNR=5.9
CMAR Chiang Mai Arr 36.25 247*ce*P **P 15 50 46.2 +0.1**
CMAR pmax pmax
comp=Z,6.0nm,0.5s
CM01 Chiang Mai Arr 36.27 246 *e*P **P 15 50 45.4 -0.8**
ZAA0 Zalesovo Array 36.48 311 *e*P **P 15 50 46.5 -1.1**
ZALV Zalesovo Beam 36.48 311 P **P 15 50 46.7 -0.9**
comp=Z,9.1nm,0.3s,baz=104,slow=7.2,SNR=46
ZALV PcP **PcP 15 52 59.4 -0.3**
comp=Z,3.8nm,0.6s,baz=95,slow=3.3,SNR=10
ZALV ScP **ScP 15 56 02.0 -1.1**
comp=Z,1.4nm,0.4s,baz=109,slow=3.3,SNR=7.1
NVS Novosibirsk 37.48 313 *e*P **P 15 50 54.8 -0.9**
MK01 Makanchi Array 38.21 300 *e*P **P 15 51 01.2 -0.8**
MK31 Makanchi Array 38.22 300 *e*P **P 15 51 01.2 -0.8**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 38.22 300 *e*P **P 15 51 01.3 -0.8**
MKAR Makanchi Array 38.22 300 P **P 15 51 01.3 -0.8**
comp=Z,8.6nm,0.6s,baz=86,slow=10,SNR=90
MKAR PcP **PcP 15 53 05.0 -0.4**
comp=Z,1.5nm,0.8s,baz=101,slow=2.9,SNR=3.6
MKAR ScP **ScP 15 56 09.0 -1.0**
comp=Z,0.5nm,0.5s,baz=88,slow=3.8,SNR=5.9
MKAR Makanchi Array 38.22 300*ce*P **P 15 51 01.5 -0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 38.22 300 *e*P **P 15 51 01.2 -0.8**
comp=Z,76nm,0.6s
MKAR PcP **PcP 15 53 05.0 -0.4**
MKAR ScP **ScP 15 56 09.0 -1.0**
MAKZ Makanchi 38.43 300 *e*P **P 15 51 03.2 -0.6**
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 38.43 300 *e*P **P 15 51 03.2 -0.6**
comp=Z,12nm,0.8s
SIJI Sorong 39.19 184 P **P 15 51 10.1 -0.2**
comp=Z,73nm,0.5s,baz=4.4,slow=13,SNR=9.1
NRIK Noril'sk 39.50 336 P **P 15 51 11.7 -0.4**
comp=Z,3.8nm,0.4s,baz=116,slow=8.6,SNR=17
NRIK ScP **ScP 15 56 13.5 -0.9**
comp=Z,1.5nm,0.5s,baz=45,slow=2.9,SNR=5.5
PHET Kaeng Krachan 39.57 239 P **P 15 51 14.0 +0.7**
TAPN Taplejung 39.89 268 *e*P **P 15 51 15.7 -0.5**
comp=Z,28nm,0.5s
KURK Kurchatov 40.27 306*d i*P **P 15 51 17.7 -0.9**
KURK pmax pmax
comp=Z,120nm,0.7s
KURK Kurchatov 40.27 306 *e*P **P 15 51 17.0 -1.5**
comp=Z,36nm,0.7s
KURBB Kurchatov Arra 40.34 306 P **P 15 51 18.3 -0.8**
comp=Z,17nm,0.6s,baz=86,slow=8.5,SNR=118
ODAN Odare 40.37 267 *e*P **P 15 51 19.5 -0.5**
comp=Z,33nm,0.7s
PDGK Podgornoye 40.74 295 P **P 15 51 22.0 -0.7**
PDGK pmax pmax
comp=Z,26nm,0.6s
JIRN Jiri 40.94 269 *e*P **P 15 51 24.5 -0.2**
comp=Z,256nm,0.3s
RAMN Ramite 40.95 268 *e*P **P 15 51 24.0 -0.7**
comp=Z,166nm,1.0s
GUN Gumba 41.06 270 *e*P **P 15 51 25.2 -0.5**
comp=Z,125nm,0.4s
FAKI Fak Fak 41.19 182 *e*P **P 15 51 26.4 0.0**
comp=Z,31nm,0.9s
KKN Kakani 41.59 270 *e*P **P 15 51 29.3 -0.5**
comp=Z,111nm,0.6s
PKI Pulchoki 41.59 270 *e*P **P 15 51 29.2 -0.7**
PKIN Phulchoki 41.60 270 *e*P **P 15 51 28.8 -1.1**
comp=Z,26nm,0.4s
DMN Daman 41.81 270 *e*P **P 15 51 30.9 -0.7**
comp=Z,28nm,0.4s
GKN Gorkha 42.00 271 *e*P **P 15 51 32.2 -0.7**
comp=Z,89nm,0.5s
DANN Dangsing 42.53 272 *e*P **P 15 51 37.0 -0.3**
comp=Z,12nm,0.7s
KOLN Koldanda 42.92 271 *e*P **P 15 51 39.8 -0.5**
comp=Z,30nm,0.4s
PYUN Piuthan 43.24 272 *e*P **P 15 51 42.5 -0.3**
comp=Z,119nm,0.4s
KSH Kashi 44.29 290 P **P 15 51 54.4 +3.7**
KSH *e*pP pP 15 53 20.6 +4.8
KSH *e*PcP **PcP 15 53 29.1 +3.4**
KSH PP **PP 15 53 45.2 +2.6**
KSH sP sP 15 54 08.6 +2.6
KSH PcS **PcS 15 57 21.6 +1.7**
KSH S **S 15 57 56.0 +5.0**
KSH sS sS 16 00 28.6 +3.6
KSH ScS **ScS 16 01 01.2 +2.2**
KSH SS **SS 16 01 18.6 -0.7**
KSH pmax pmax
comp=Z,51nm,1.9s
KSH pmax pmax
comp=Z,71nm,7.2s
AAK Ala-Archa 44.47 295 P **P 15 51 51.9 -0.3**
comp=Z,6.9nm,0.4s,baz=105,slow=8.0,SNR=32
AAK Ala-Archa 44.47 295 *e*P **P 15 51 51.9 -0.3**
comp=Z,10nm,0.6s
KULM Kulim 44.66 231 *e*P **P 15 51 52.8 -0.9**
comp=Z,15nm,0.9s
BVA0 Borovoye Array 45.11 310 P **P 15 51 56.2 -0.5**
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 45.17 310*d i*P **P 15 51 56.4 -0.8**
BRVK pmax pmax
comp=Z,17nm,0.5s
BRVK Borovoye 45.17 310 *e*P **P 15 51 56.2 -1.0**
comp=Z,13nm,0.4s
RABL Rabaul 45.71 154 *e*P **P 15 52 02.8 +1.0**
comp=Z,38nm,0.4s
MNAS Manas 45.92 295 P **P 15 52 03.4 +0.1**
MNAS pmax pmax
comp=Z,18nm,1.0s
KK31 Karatay Array 47.15 297 *i* P **P 15 52 11.9 -0.6**
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 47.15 297 *e*P **P 15 52 12.3 -0.3**
KKAR pmax pmax
comp=Z,149nm,1.2s
KKAR Karatay Array 47.15 297 *e*P **P 15 52 12.2 -0.3**
comp=Z,149nm,1.2s
PSI Prapat 47.67 231 P **P 15 52 16.7 -0.2**
comp=Z,6.4nm,0.7s,baz=5.1,slow=6.9,SNR=5.9
PSI Prapat 47.67 231 P **P 15 52 16.7 -0.2**
PSI pmax pmax
comp=Z,2.0nm,0.4s
COLD Coldfoot 49.88 30 *e*P **P 15 52 34.2 +1.7**
comp=Z,4.9nm,0.6s
KTH Kantishna Hill 49.98 34 *e*P **P 15 52 35.6 +2.2**
comp=Z,115nm,2.0s
KDAK Kodiak Island 50.09 42 P **P 15 52 35.2 +1.0**
comp=Z,7.1nm,0.4s,baz=274,slow=3.4,SNR=22
MCK McKinley 50.83 34 *e*P **P 15 52 41.4 +1.8**
MCK pmax pmax
comp=Z,82nm,2.0s
MCK McKinley 50.83 34 *e*P **P 15 52 41.4 +1.8**
comp=Z,82nm,2.0s
RND Reindeer 50.92 34 *e*P **P 15 52 41.4 +1.1**
RND pmax pmax
comp=Z,23nm,1.4s
RND Reindeer 50.92 34 *e*P **P 15 52 41.4 +1.1**
comp=Z,23nm,1.4s
MDM Murphy Dome 50.95 32 *e*P **P 15 52 42.6 +2.1**
comp=Z,40nm,1.4s
WRH Wood River Hil 51.08 33 *e*P **P 15 52 43.6 +2.2**
comp=Z,51nm,2.0s
MTN Manton Dam 51.08 183 *e*P **P 15 52 41.0 -1.0**
comp=Z,12nm,0.4s
CCB Clear Creek Bu 51.17 33 *e*P **P 15 52 43.7 +1.6**
comp=Z,8.8nm,1.3s
ARU Arti 51.24 316*d i*P **P 15 52 42.1 -0.6**
ARU 15 53 47.7
ARU 15 54 43.7
ARU S **S 15 59 27.4 +0.7**
ARU 16 01 43.1
ARU SS **SS 16 03 08.4 -0.4**
ARU pmax pmax
comp=Z,25nm,0.6s
ARU Arti 51.24 316 *e*P **P 15 52 41.7 -1.0**
comp=Z,39nm,0.5s
KBL Kabul 51.25 287 *e*P **P 15 52 42.2 -1.2**
KBL pmax pmax
comp=Z,100nm,1.8s
KBL Kabul 51.25 287 *e*P **P 15 52 42.2 -1.2**
comp=Z,100nm,1.8s
ILAR Eielson Array 51.54 33 P **P 15 52 45.7 +0.9**
comp=Z,6.4nm,0.5s,baz=272,slow=6.1,SNR=93
ILAR pP **pP 15 54 14.2 +1.0**
comp=Z,1.7nm,1.1s,baz=277,slow=7.4,SNR=2.4
ILB Eielson Array 51.54 33 *e*P **P 15 52 45.4 +0.6**
IL1 Eielson Array 51.54 33 *e*P **P 15 52 44.9 +0.2**
HDA Harding Lake 51.58 33 *e*P **P 15 52 46.0 +0.9**
comp=Z,12nm,0.6s
DHY Denali Highway 51.64 35 *e*P **P 15 52 46.9 +1.2**
comp=Z,7.7nm,0.8s
AB31 Akbulak array 52.35 307 *i* P **P 15 52 50.0 -0.9**
AB31 pmax pmax
comp=Z,17nm,0.4s
ABKAR Akbulak array 52.35 307 *e*P **P 15 52 50.4 -0.5**
comp=Z,580nm,0.4s
COEN Coen 52.86 169 *e*P **P 15 52 55.6 +0.7**
comp=Z,12nm,0.8s
DOT Dot Lake 52.98 34 *e*P **P 15 52 55.6 +0.4**
comp=Z,95nm,2.0s
EGAK Eagle 53.94 32 *e*P **P 15 53 02.8 +0.8**
comp=Z,7.7nm,0.8s
INK Inuvik 55.86 27 P **P 15 53 16.6 +1.2**
comp=Z,3.9nm,0.4s,baz=282,slow=6.5,SNR=31
FITZ Fitzroy Crossi 56.77 189 P **P 15 53 22.2 -0.2**
comp=Z,1.3nm,0.3s,baz=0.5,slow=8.2,SNR=11
PALK Pallekele 56.94 251 P **P 15 53 23.5 -0.3**
comp=Z,7.7nm,0.8s,baz=116,slow=3.8,SNR=3.5
GEYT Alibeck 57.82 295 P **P 15 53 29.4 -0.2**
comp=Z,14nm,0.5s,baz=62,slow=3.8,SNR=34
WRAB Tennant Creek 58.07 179*ce*P **P 15 53 30.9 -0.4**
WRAB *i* *PP **pP 15 55 02.0 -0.6**
WRAB pmax pmax
comp=Z,37nm,1.5s
WB2 Warramunga Arr 58.08 179 *e*P **P 15 53 31.2 -0.1**
comp=Z,9.3nm,0.8s
WRA Warramunga Arr 58.08 179 P **P 15 53 30.9 -0.6**
comp=Z,7.8nm,0.4s,baz=355,slow=7.6,SNR=42
WRA Warramunga Arr 58.08 179 *i* P **P 15 53 30.8 -0.6**
WRA pmax pmax
comp=Z,9.0nm,0.4s
KLMR Klimovskoe 59.25 325 *e*P **P 15 53 36.5 -2.3**
KLMR pmax pmax
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 60.46 337 P **P 15 53 47.0 +0.2**
comp=Z,2.2nm,0.4s,baz=62,slow=8.5,SNR=28
AS01 Alice Springs 61.78 180 *e*P **P 15 53 55.6 -0.5**
AS31 Alice Springs 61.78 180 *e*P **P 15 53 56.1 0.0**
comp=Z,1.8nm,0.3s
ASAR Alice Springs 61.79 180 P **P 15 53 56.0 -0.1**
comp=Z,1.8nm,0.4s,baz=1.0,slow=6.3,SNR=84
ASAR pP **pP 15 55 29.7 +0.9**
comp=Z,0.9nm,0.9s,baz=7.8,slow=7.5,SNR=3.5
OBN Obninsk 63.26 320 *i* P **P 15 54 03.6 -1.7**
OBN *i* 15 54 37.1
OBN pmax pmax
comp=Z,5.0nm,0.8s
LPSR Galich'ya Gora 63.26 317 *e*P **P 15 54 04.2 -1.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 63.80 316 *e*P **P 15 54 07.9 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.5s
GOF Gofitskoye 64.57 308‖ *e*P **P 15 54 13.1 -0.8**
FIA1 FINESS Array S 64.65 330 *e*P **P 15 54 14.3 +0.2**
FINES FINESS Array B 64.65 330 P **P 15 54 13.9 -0.2**
comp=Z,14nm,0.5s,baz=87,slow=5.1,SNR=120
WSAR Wadi Sarin 64.67 280 P **P 15 54 14.8 -0.2**
comp=Z,4.8nm,0.7s,baz=86,slow=2.2,SNR=7.9
NCK Nalchik 65.00 307‖ *e*P **P 15 54 16.0 -0.7**
NCK pmax pmax
comp=Z,10.0nm,1.1s
BANOM Banah 65.03 284 *i* P **P 15 54 17.1 -0.1**
SNR=8.6
KBZ Khabaz 65.32 307 P **P 15 54 18.4 -0.2**
comp=Z,5.9nm,0.8s,baz=66,slow=6.6,SNR=6.9
KIV Kislovodsk 65.34 307 *i* P **P 15 54 18.6 -0.4**
KIV *i* 15 54 46.0
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 65.34 307 *e*P **P 15 54 19.2 +0.3**
comp=Z,33nm,1.0s
YKA Yellowknife Ar 65.52 28 P **P 15 54 20.7 +1.1**
comp=Z,1.5nm,0.5s,baz=308,slow=5.6,SNR=9.0
YKA Yellowknife Ar 65.52 28 P **P 15 54 20.7 +1.1**
YKA pmax pmax
comp=Z,1.0nm,0.4s
UOSS Minazif 65.62 283 *e*P **P 15 54 20.8 -0.2**
comp=Z,10nm,0.6s
HATD Hatta, Dubai 65.74 283 *i* P **P 15 54 21.7 +0.1**
SNR=5.5
ASHO Ashiyiah 65.87 283 P **P 15 54 22.2 -0.3**
VSU Vasula 66.07 327‖ *e*P **P 15 54 22.6 -0.5**
VSU pmax pmax
comp=Z,35nm,0.7s
SOC Sochi 67.37 308 *e*P **P 15 54 29.5 -2.0**
SOC *e**PP **pP 15 56 05.8 -0.3**
SOC *e* 15 57 08.1
SOC *e*S **S 16 02 49.3 -1.6**
SOC pmax pmax
comp=Z,61nm,1.2s
AKASG Malin Array Be 69.38 319 P **P 15 54 43.0 -0.6**
comp=Z,5.7nm,0.4s,baz=51,slow=6.4,SNR=32
AKBB Malin Array Si 69.38 319 *e*P **P 15 54 43.0 -0.6**
AKBB pmax pmax
comp=Z,11nm,0.8s
AKBB Malin Array Si 69.38 319 *e*P **P 15 54 43.0 -0.6**
comp=Z,11nm,0.8s
KIEV Kiev 69.39 319*d i*P **P 15 54 43.0 -0.7**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 69.39 319 *e*P **P 15 54 42.9 -0.8**

comp=Z,11nm,0.8s
AK11 Malin Array Si 69.42 319 *e*P **P 15 54 43.3 -0.6**
MARD Mardin 70.08 302 *e*P **P 15 54 48.6 +0.4**
comp=Z,31nm,0.6s
NC405 NORSAR Array S 70.20 334 *e*P **P 15 54 48.5 +0.2**
NC303 NORSAR Array S 70.23 334 *e*P **P 15 54 48.9 +0.3**
NB201 NORSAR Array S 70.39 334 *e*P **P 15 54 49.5 0.0**
NC204 NORSAR Array S 70.41 335 *e*P **P 15 54 49.7 +0.1**
NB2 NORSAR Subarra 70.42 334 P **P 15 54 49.5 -0.2**
comp=Z,6.0nm,0.6s,baz=44,slow=6.2
NOA NORSAR Array B 70.42 334 P **P 15 54 49.6 -0.2**
comp=Z,1.2nm,0.4s,baz=43,slow=6.0,SNR=34
NOA NORSAR Array B 70.42 334 P **P 15 54 49.6 -0.2**
NOA pmax pmax
comp=Z,5.0nm,0.5s
NWAO Narrogin (SRO) 72.67 195 P **P 15 55 03.0 -0.1**
comp=Z,6.3nm,0.7s,baz=8.1,slow=4.9,SNR=4.7
NWAO Narrogin (SRO) 72.67 195 P **P 15 55 03.0 -0.1**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
TESR Tescani 73.27 316 ⇓*i*P **P 15 55 06.8 +0.2**
BR131 Keskin Array S 73.30 308 *e*P **P 15 55 07.2 0.0**
BR131 *e*PcP PcP 15 55 28.9 +8.0
BRTR Keskin Array B 73.30 308 P **P 15 55 06.8 -0.3**
comp=Z,6.4nm,1.0s,baz=90,slow=4.9,SNR=18
BRTR Keskin Array B 73.30 308 P **P 15 55 06.9 -0.3**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BUR08 Bucovina Ar. S 73.33 318 *e*P **P 15 55 07.3 +0.2**
KWP Kalwaria Pacla 73.34 321 *e*P **P 15 55 08.0 +1.0**
KWP Kalwaria Pacla 73.34 321 *e*P **P 15 55 08.0 +1.0**
BURAR Bucovina Array 73.34 318 ⇓*i*P **P 15 55 07.8 +0.6**
BURAR Bucovina Array 73.34 318 ⇓P **P 15 55 07.8 +0.6**
VRI Vrincioaia 73.63 316 ⇑*i*P **P 15 55 09.8 +1.1**
VRI Vrincioaia 73.63 316 ⇑P **P 15 55 09.8 +1.1**
TLB Topalu 73.69 314 ⇑*i*P **P 15 55 09.4 +0.3**
TLB Topalu 73.69 314 ⇑P **P 15 55 09.4 +0.3**
BR231 Keskin MP Arra 73.77 308 *e*P **P 15 55 07.5 -2.3**
STHS Stebnicka Huta 74.20 321 *e*P **P 15 55 12.8 +0.8**
STHS pmax pmax
comp=Z,9.0nm,1.4s
STHS Stebnicka Huta 74.20 321 *e*P **P 15 55 12.8 +0.8**
OJC Ojcow 74.37 322 *e*P **P 15 55 13.4 +0.5**
OJC Ojcow 74.37 322 *e*P **P 15 55 13.4 +0.5**
OJC Ojcow 74.37 322 *e*P **P 15 55 13.3 +0.5**
comp=Z,28nm,1.1s
CRVS Cervenica-Dubn 74.44 321 *e*P **P 15 55 14.0 +0.7**
CRVS Cervenica-Dubn 74.44 321 *e*P **P 15 55 14.0 +0.7**
NIE Niedzica 74.67 322 *e*P **P 15 55 15.6 +1.0**
NIE Niedzica 74.67 322 *e*P **P 15 55 15.6 +1.0**
DRGR 75.18 318 ⇓*i*P **P 15 55 18.2 +0.6**
DRGR 75.18 318 ⇓P **P 15 55 18.2 +0.6**
LANS Liptovska Anna 75.25 322 *e*P **P 15 55 19.2 +1.3**
LANS Liptovska Anna 75.25 322 *e*P **P 15 55 19.2 +1.3**
OKC Ostrava-Krasne 75.42 323 *e*P **P 15 55 19.2 +0.5**
OKC Ostrava-Krasne 75.42 323 *e*P **P 15 55 19.2 +0.5**
KSP Ksiaz 75.59 325 *e*P **P 15 55 20.4 +0.7**
KSP Ksiaz 75.59 325 *e*P **P 15 55 20.4 +0.7**
MORC Moravsky Berou 75.74 323 ⇓*i*P **P 15 55 21.2 +0.6**
MORC Moravsky Berou 75.74 323 ⇓P **P 15 55 21.2 +0.6**
MORC Moravsky Berou 75.74 323 *e*P **P 15 55 21.2 +0.6**
comp=Z,35nm,1.0s
DPC Dobruska-Polom 75.92 324 *e*P **P 15 55 22.3 +0.7**
DPC Dobruska-Polom 75.92 324 *e*P **P 15 55 22.3 +0.7**
UPC Upice 75.95 324 *e*P **P 15 55 22.3 +0.6**
UPC Upice 75.95 324 *e*P **P 15 55 22.3 +0.6**
VYHS Vyhne 76.00 322 *e*P **P 15 55 23.1 +1.0**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 76.00 322 *e*P **P 15 55 23.1 +1.0**
GZR Gura Zlata 76.06 317 ⇓*i*P **P 15 55 22.7 +0.2**
GZR Gura Zlata 76.06 317 ⇓P **P 15 55 22.7 +0.2**
BZS Buzias 76.53 318 ⇑*i*P **P 15 55 24.3 -0.7**
BZS Buzias 76.53 318 ⇑P **P 15 55 24.3 -0.7**
CLL Collm 76.72 326 ⇓*i*P **P 15 55 26.1 +0.2**
CLL pmax pmax
comp=Z,11nm,0.6s
CLL Collm 76.72 326 ⇓*i*P **P 15 55 26.1 +0.2**
comp=Z,11nm,0.6s
CLL Collm 76.72 326 *e*P **P 15 55 26.1 +0.2**
GOPC GO Pecny, Ondr 76.92 325 *e*P **P 15 55 28.0 +0.8**
GOPC GO Pecny, Ondr 76.92 325 *e*P **P 15 55 28.0 +0.8**
PRU Pruhonice 76.98 325 *e*P **P 15 55 27.9 +0.5**
PRU Pruhonice 76.98 325 *e*P **P 15 55 27.9 +0.5**
MDVR Moldovita 77.03 317 ⇑*i*P **P 15 55 27.8 -0.1**
TREC Trest 77.04 324 *e*P **P 15 55 28.6 +0.8**
TREC Trest 77.04 324 *e*P **P 15 55 28.6 +0.8**
DLMT Dillon 77.43 41 *e*P **P 15 55 32.0 +1.8**
comp=Z,4.4nm,0.6s
VTS Vitosha 77.67 315 ⇓*i*P **P 15 55 31.9 +0.4**
VTS Vitosha 77.67 315 ⇓P **P 15 55 31.9 +0.4**
VTS Vitosha 77.67 315 *e*P **P 15 55 31.3 -0.2**
comp=Z,14nm,1.0s
BOZ Bozeman (W) 77.77 41 *e*P **P 15 55 30.5 -1.6**
BOZ pmax pmax
comp=Z,11nm,1.6s
BOZ Bozeman (W) 77.77 41 *e*P **P 15 55 30.4 -1.6**
comp=Z,11nm,1.6s
CONA Conrad Observa 77.83 323 *e*P **P 15 55 33.3 +1.1**
comp=Z,9.8nm,1.3s
KHC Kasperske Hory 78.04 325 *e*P **P 15 55 33.7 +0.5**
KHC Kasperske Hory 78.04 325 *e*P **P 15 55 33.7 +0.5**
KHC Kasperske Hory 78.04 325 *e*P **P 15 55 33.7 +0.5**
comp=Z,6.4nm,1.7s
GERES GERESS Array B 78.19 324 P **P 15 55 34.3 +0.2**
comp=Z,0.9nm,0.5s,baz=46,slow=4.1,SNR=13
GEA0 GERESS Array S 78.19 324 *e*P **P 15 55 34.1 0.0**
ARSA Arzberg 78.47 322 *i*P **P 15 55 36.1 +0.5**
comp=Z,1.4nm,0.6s
MOA Molln 78.64 323 *i*P **P 15 55 37.7 +1.1**
comp=Z,1.9nm,0.5s
SOKA Soboth 79.11 322 *i*P **P 15 55 39.5 +0.4**
comp=Z,8.4nm,0.5s
OBKA Obir 79.47 322 *i*P **P 15 55 41.0 0.0**
comp=Z,3.4nm,0.6s
MYKA Terra Mystica 79.81 323 *i*P **P 15 55 42.5 -0.4**
comp=Z,2.5nm,0.4s
PDG Podgorica 79.94 317 ⇑*i*P **P 15 55 43.9 +0.5**
MOTA Moosalm 80.47 325 *i*P **P 15 55 46.3 -0.1**
comp=Z,2.0nm,0.5s
RETA Reutte 80.52 325 *e*P **P 15 55 46.9 +0.3**
comp=Z,7.6nm,1.0s
PDAR Pinedale Array 80.81 42 P **P 15 55 49.4 +1.0**
comp=Z,0.3nm,0.3s,baz=298,slow=1.9,SNR=4.4
FETA Feichten 80.88 325 *i*P **P 15 55 48.6 0.0**
comp=Z,5.4nm,1.2s
BFO Black Forest 80.96 327 *i*P **P 15 55 49.1 +0.3**
BFO Black Forest 80.96 327 *e*P **P 15 55 49.1 +0.3**
TPNV Topopah Spring 81.02 50 *e*P **P 15 55 51.4 +1.9**
TPNV pmax pmax
comp=Z,4.0nm,1.1s
TPNV Topopah Spring 81.02 50 *e*P **P 15 55 51.4 +1.9**
comp=Z,3.9nm,1.1s
FUORN Ofenpass-Fuorn 81.40 324 *e*P **P 15 55 52.1 +0.8**
TUE Stuetta 81.92 325 *e*P **P 15 55 54.4 +0.4**
ESDC Sonseca Array 93.15 329 P **P 15 56 46.8 -0.6**
comp=Z,0.3nm,0.5s,baz=31,slow=4.2,SNR=3.0
TXAR Lajitas Array 93.83 48 P **P 15 56 51.8 +1.0**
comp=Z,0.2nm,0.5s,baz=282,slow=1.1,SNR=4.6
TXAR pP **pP 15 58 33.3 +1.0**
comp=Z,0.5nm,0.9s,baz=298,slow=3.8,SNR=4.3
TORD Torodi Ar. Bea 111.90 309 PP PP 16 02 49.9 -6.5
comp=Z,0.7nm,0.7s,baz=31,slow=7.5,SNR=5.3
DBIC Dimbokro 120.94 310 PKP **PKPdf 16 02 22.2 -1.1**
comp=Z,1.5nm,0.4s,baz=24,slow=2.2,SNR=5.4
BOSA Boshof 120.97 256 PKP **PKPdf 16 02 22.7 -0.4**
comp=Z,1.3nm,0.3s,baz=187,slow=1.5,SNR=5.7
LPAZ La Paz 150.70 47 PKPbc **PKPbc 16 03 24.0 0.0**
comp=Z,0.8nm,0.5s,baz=16,slow=3.0,SNR=5.5
LPAZ La Paz 150.70 47 PKIKP **PKPbc 16 03 24.0 0.0**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

CASC 01 16:00:44.5±2.0, 10°.53N×85°.49W, h1km±3km, MD4.0, ML3.6, 12C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUEV	**Buena Vista**	**0.28**	**17**	⇓*e*P	Pb	16 00 51.2	-1.2
BUEV				*e*S	Sg	16 00 55.6	+2.0
LIM1	**Limonal**	**0.29**	**54**	⇑*e*P	Pb	16 00 51.8	-0.7
LIM1				*e*S	Sb	16 00 56.7	-1.2
GB1A	**Borinquen Arri**	**0.30**	**17**	⇓*e*P	Pb	16 00 51.6	-1.2
GB1A				*e*S	Sg	16 00 56.1	+1.8
COLC	**Colonia**	**0.31**	**64**	⇑*e*P	Pb	16 00 52.3	-0.7
COLC				*e*S	Sb	16 00 57.8	-0.9
CUI	**Cuipilapa**	**0.34**	**68**	⇑*e*P	Pb	16 00 53.0	-0.6
CUI				*e*S	Sb	16 00 58.6	-1.0
MESS	**Mesas**	**0.36**	**54**	⇑*e*P	Pb	16 00 53.0	-0.7
MESS				*e*S	Sb	16 00 58.8	-1.2
VCR	**Vista de Mar**	**0.42**	**199**	*e*P	Pg	16 00 53.6	+1.0
CRZ1	**La Cruz**	**0.56**	**345**	⇑*e*P	Pb	16 00 56.3	-0.9
ARE1	**Arenal 1**	**0.76**	**95**	⇑*i*P	Pb	16 01 00.5	-0.1
CONN	**Concepcion**	**1.04**	**353**	*e*P	Pg	16 01 04.4	-0.1
CGA2	**Cerro Gallo 2**	**1.13**	**117**	⇑*e*P	Pg	16 01 06.2	+0.1
ACON	**Acoyapa**	**1.47**	**12**	*e*P	Pn	16 01 10.9	-1.3
ACON				AML	AML	16 01 31.7	
comp=N,693nm,0.4s							
SJS	**Escuela Geolog**	**1.53**	**112**	*e*P	Pn	16 01 12.9	-0.2
SJS				*e*S	Sn	16 01 34.8	+1.0
LCR2	**La Lucha 2**	**1.66**	**118**	⇑*e*P	Pn	16 01 14.2	-0.8
LCR2				*e*S	Sn	16 01 36.6	-0.5
QCR1	**Quepos**	**1.70**	**130**	⇑*e*P	Pn	16 01 15.1	-0.3
QCR1				*e*S	Sb	16 01 38.5	-0.1
TRT1	**Tortuguero**	**1.76**	**88**	*e*P	Pn	16 01 16.5	+0.3
TRT1				*e*S	Sg	16 01 41.3	+0.2
MGAN	**Managua**	**1.77**	**335**	*e*P	Pn	16 01 16.0	-0.4
MGAN				*e*S	Sg	16 01 42.6	+1.1
VTR0	**Volcan Turrial**	**1.77**	**106**	*e*P	Pb	16 01 17.5	-0.6
CVTR	**Volcan Turrial**	**1.78**	**106**	⇑*e*P	Pn	16 01 17.0	+0.2
CVTR				*e*S	Sn	16 01 40.7	+0.4
TISN	**Laguna Tiscapa**	**1.78**	**335**	*e*P	Pn	16 01 15.6	-0.9
URSC	**Urasca**	**1.82**	**112**	⇑*i*P	Pb	16 01 18.0	-0.8
URSC				*e*S	Sb	16 01 42.3	+0.2
BOAB	**BOACO BROADBAN**	**.92**	**355**	*e*P	Pn	16 01 17.3	-1.0
BUS	**Buena Vista**	**1.96**	**119**	*e*P	Pn	16 01 19.9	+0.5
COPN	**Copaltepe**	**1.97**	**327**	*e*P	Pn	16 01 17.9	-1.2
ESPN	**Las Esperanzas**	**2.03**	**35**	*e*P	Pn	16 01 19.5	-0.4
ESPN				*e*S	Sb	16 01 48.1	+0.2
ESPN				AML	AML	16 01 49.1	
comp=N,486nm,0.6s							
MOMN	**Momotombo**	**2.13**	**331**	*e*P	Pn	16 01 20.6	-0.9
CNGN	**Cerro Negro**	**2.29**	**329**	*e*P	Pn	16 01 22.7	-0.9
CNGN				*e*S	Sb	16 01 54.9	-0.8
CNGN				AML	AML	16 02 04.0	
comp=N,686nm,0.3s							
DRK0	**Durika**	**2.54**	**119**	⇑*e*P	Pn	16 01 28.5	+1.4
DRK0				*e*S	Sn	16 02 00.4	+1.5

*PGC **01** 16:30:47.1±1.9, 55°.24N×134°.46W, h10km, ML3.4/9, 201km Wnw of Masset, Bc Southeastern Alaska*
*NEIC **01** 16:30:50.1±0.0, 55°.24N×134°.80W, h21km, ML3.3(AEIC), ML3.4(OTT), After AEIC.*
ISC 01 16:30:44.8±2.4, 55°.26N±0°.04×134°.72W±0°.07, h8km±17km, n28, σ1°.37/45, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**0.94**	**77**	P	**Pn**	**16 31 04.5**	**+0.2**
CRAG				S	**Sn**	**16 31 17.5**	**-0.3**
NDB	**Naden**	**1.67**	**141**	Pn	**Pn**	**16 31 15.1**	**+0.7**
NDB	**Naden**	**1.67**	**141**	P	**Pn**	**16 31 15.1**	**+0.7**
WRAK	**Wrangell Islan**	**1.77**	**48**	P	**Pb**	**16 31 17.1**	**-0.4**
WRAK				S	**Sn**	**16 31 37.8**	**-0.6**
VIB	**Van Inlet**	**2.39**	**147**	Pn	**Pn**	**16 31 24.9**	**+0.7**
VIB				Sn	**Sn**	**16 31 52.0**	**-1.7**
VIB				Sg	**Sb**	**16 31 58.9**	**+1.2**
VIB	**Van Inlet**	**2.39**	**147**	P	**Pn**	**16 31 25.0**	**+0.7**
VIB				S	**Sn**	**16 31 52.0**	**-1.7**
DIB	**Dawson Inlet,**	**2.45**	**147**	Pn	**Pn**	**16 31 25.5**	**+0.5**
DIB				Sn	**Sn**	**16 31 53.6**	**-1.5**
DIB				Sg	**Sb**	**16 32 00.6**	**+1.3**
MOBC	**Moresby Island**	**2.67**	**142**	Pn	**Pn**	**16 31 28.7**	**+0.6**
MOBC				Sg	**Sb**	**16 32 07.3**	**+1.6**
BNAB	**Bonilla**	**2.98**	**125**	Pg	**Pb**	**16 31 37.8**	**-0.2**
JIS	**Juneau Island**	**3.03**	**3**	P	**Pn**	**16 31 33.6**	**+0.7**
JIS				S	**Sn**	**16 32 07.9**	**-1.4**
BNB	**Barry Inlet**	**3.21**	**146**	Pn	**Pn**	**16 31 35.7**	**+0.1**
BNB	**Barry Inlet**	**3.21**	**146**	P	**Pn**	**16 31 35.7**	**+0.1**
BESE	**Bessie Mountai**	**3.33**	**359**	Pn	**Pn**	**16 31 38.6**	**+1.5**
BESE				Sn	**Sn**	**16 32 17.0**	**+0.1**
BESE	**Bessie Mountai**	**3.33**	**359**	P	**Pn**	**16 31 37.9**	**+0.7**
BESE				S	**Sn**	**16 32 15.4**	**-1.5**
DLBC	**Dease Lake**	**4.09**	**37**	Pn	**Pn**	**16 31 47.4**	**-0.3**
DLBC	**Dease Lake**	**4.09**	**37**	P	**Pn**	**16 31 49.1**	**+1.4**
DHAK	**Deception Hill**	**4.28**	**335**	P	**Pn**	**16 31 51.0**	**+0.8**
DHAK				S	**Sn**	**16 32 36.9**	**-3.5**
PLBC	**Pleasant Camp**	**4.30**	**349**	Pn	**Pn**	**16 31 52.4**	**+1.9**
PLBC				Sn	**Sn**	**16 32 40.9**	**+0.2**
BBB	**Bella Bella**	**4.99**	**125**	Pn	**Pn**	**16 32 00.6**	**+0.7**
BBB				Sn	**Sn**	**16 32 57.1**	**-0.6**
BBB	**Bella Bella**	**4.99**	**125**	P	**Pn**	**16 32 00.6**	**+0.7**
BBB				S	**Sn**	**16 32 55.1**	**-2.6**
PNL	**Peninsula**	**5.09**	**332**	Pn	**Pn**	**16 32 03.2**	**+2.0**
BCPM	**Bancas Point**	**5.39**	**333**	P	**Pn**	**16 32 06.0**	**+0.5**
WHY	**Whitehorse**	**5.41**	**359**	Pn	**Pn**	**16 32 07.8**	**+2.0**
WHY				Sn	**Sn**	**16 33 08.4**	**0.0**
WHY				Sg	**Sg**	**16 33 36.7**	**-1.7**
WHY	**Whitehorse**	**5.41**	**359**	P	**Pn**	**16 32 06.7**	**+0.8**
PCA	**Pinnacle**	**5.68**	**331**	Pn	**Pn**	**16 32 11.8**	**+2.3**
PHC	**Port Hardy**	**6.34**	**133**	Pn	**Pn**	**16 32 19.4**	**+1.0**
CTGM	**Chitina Glacie**	**6.70**	**331**	Pn	**Pn**	**16 32 26.3**	**+2.7**
WAX	**Waxell Ridge**	**6.77**	**323**	P	**Pn**	**16 32 24.8**	**+0.4**

JMA 01 16:37:58.8±0.1, 36°.22N×141°.21E, h45km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.59**	**209**	P	Pn	16 38 10.9	0.0
CHOJ				S	Sn	16 38 19.2	-0.3
JHO	**Hitachi**	**0.65**	**307**	P	Pn	16 38 11.4	-0.3
JHO				S	Sn	16 38 21.5	+0.6
JYT	**Yasato**	**0.82**	**271**	P	Pn	16 38 14.2	+0.2
JYT				S	Sn	16 38 25.6	+0.6
ONAJ	**Iwakimizuishiy**	**0.94**	**340**	P	Pn	16 38 15.6	-0.1
JFK	**Kawauchi**	**1.18**	**347**	P	Pn	16 38 18.6	-0.3
JAG	**Ashikaga**	**1.43**	**279**	P	Pn	16 38 23.3	+1.0
MAT	**Matsushiro**	**2.44**	**278**	P	Pn	16 38 38.4	+2.2
MAT				*e*S	Sn	16 39 08.3	+3.4

*CSEM **01** 16:46:34.6, 41°.88N×43°.82E, h7km, MD2.6*
*DDA **01** 16:46:34.6, 41°.88N×43°.82E, h7km, Md2.6*
*ISCJB **01** 16:46:35.4±1.1, 41°.27N±0°.08×44°.00E±0°.05, h11km±7km, Error ellipse: s-maj=12.9km s-min=5.8km az=169.4*
*TIF **01** 16:46:35.4, 41°.32N×44°.00E, h17km*
ISC 01 16:46:35.1±1.3, 41°.34N±0°.06×44°.00E±0°.04, h19km±3km, n11, σ0°.62/20, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.31**	**257**	P	**Pg**	**16 46 42.1**	**0.0**
BGD				S	**Sg**	**16 46 46.4**	**-0.4**
AKH	**Akhalkalaki**	**0.39**	**281**	P	**Pb**	**16 46 43.6**	**0.0**
AKH				S	**Sb**	**16 46 49.1**	**-0.3**
TBLG	**Delisi**	**0.68**	**54**	P	**Pn**	**16 46 49.4**	**-0.2**
TBLG				S	**Sn**	**16 46 59.4**	**-0.3**
TBLG	**Delisi**	**0.68**	**54**	P	**Pg**	**16 46 47.9**	**-0.6**
TBLG				S	**Sn**	**16 46 59.0**	**-0.7**
SEAG	**Tbilisi Sea**	**0.74**	**54**	P	**Pn**	**16 47 01.5**	**+0.3**
EPOS	**Posof**	**0.97**	**280**	*i*P	**Pb**	**16 46 52.8**	**-0.6**
EPOS				*i*S	**Sb**	**16 47 06.4**	**+0.4**
EPOS	**Posof**	**0.97**	**280**	P	**Pb**	**16 46 52.8**	**-0.6**
EPOS				S	**Sb**	**16 47 06.4**	**+0.4**
DGRG	**David-gareji**	**1.04**	**83**	P	**Pg**	**16 46 55.9**	**+0.7**
ONI	**Oni**	**1.32**	**342**	P	**Pg**	**16 47 00.3**	**-0.2**
ONI				S	**Sg**	**16 47 19.2**	**+1.4**
ARTV	**Artvin**	**1.57**	**265**	*i*P	**Pb**	**16 47 03.6**	**0.0**
ARTV				*i*S	**Sb**	**16 47 24.1**	**+0.8**
ARTV	**Artvin**	**1.57**	**265**	P	**Pb**	**16 47 03.6**	**0.0**
ARTV				S	**Sb**	**16 47 24.0**	**+0.8**

*TIF **01** 17:02:51.5, 42°.74N×45°.64E, h8km±1km*
*ISCJB **01** 17:02:52.0±0.3, 42°.83N±0°.02×45°.67E±0°.02, h5km±3km, Error ellipse: s-maj=3.5km s-min=2.1km az=14.9*
*CSEM **01** 17:02:52.6±0.1, 42°.78N×45°.64E, h2km, mb4.0, Error ellipse: s-maj=3.8km s-min=2.3km az=14.0*
*MOS **01** 17:02:52.8±1.2, 42°.81N×45°.66E, h13km, mb4.0/1, Error ellipse: s-maj=7.2km s-min=5.1km az=29.3*
ISC 01 17:02:52.5±1.0, 42°.78N±0°.02×45°.63E±0°.01, h5km±8km, n77, σ0°.71/137, 4C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.40**	**64**	⇓*i*PG	**Pg**	**17 02 59.6**	**-0.7**
DVE				*e*S	**Sg**	**17 03 05.3**	**-0.3**
DVE	**Vedeno**	**0.40**	**64**	*i*Pg	**Pg**	**17 02 59.6**	**-0.7**
DVE				*e*Sg	**Sg**	**17 03 05.3**	**-0.3**
GROC	**Groznyy**	**0.44**	**16**	⇓*i*PG	**Pg**	**17 03 01.2**	**+0.2**
GROC				*i*S	**Sb**	**17 03 08.8**	**-0.9**
GROC	**Groznyy**	**0.44**	**16**	*i*Pg	**Pg**	**17 03 01.2**	**+0.2**
GROC				*i*Sg	**Sb**	**17 03 08.8**	**-0.9**
KMGR	**Komgaron**	**0.63**	**297**	*e*PG	**Pb**	**17 03 06.0**	**0.0**
KMGR				*e*S	**Sb**	**17 03 15.7**	**+0.6**
KMGR	**Komgaron**	**0.63**	**297**	*e*Pg	**Pb**	**17 03 06.0**	**0.0**
KMGR				*e*Sg	**Sb**	**17 03 15.7**	**+0.6**
VLKR	**Vladikavkaz**	**0.75**	**291**	*e*PG	**Pb**	**17 03 07.7**	**-0.4**
VLKR				*e*S	**Sb**	**17 03 19.2**	**+0.5**
VLKR	**Vladikavkaz**	**0.75**	**291**	*e*Pg	**Pb**	**17 03 07.7**	**-0.4**
VLKR				*e*Sg	**Sb**	**17 03 19.2**	**+0.5**
XNZR	**Khunzakh**	**0.83**	**106**	⇓*i*PG	**Pg**	**17 03 08.0**	**-0.3**
XNZR				*e*S	**Sg**	**17 03 19.0**	**-0.1**
XNZR	**Khunzakh**	**0.83**	**106**	*i*Pg	**Pg**	**17 03 08.0**	**-0.3**
XNZR				*e*Sg	**Sg**	**17 03 19.0**	**-0.1**
GUDG	**Gudauri**	**0.91**	**250**	P	**Pg**	**17 03 09.5**	**-0.5**
GUDG				S	**Sg**	**17 03 21.3**	**-0.5**
KRNR	**Karanay**	**0.94**	**87**	*e*PG	**Pg**	**17 03 10.0**	**-0.5**
KRNR				*i*S	**Sg**	**17 03 23.0**	**+0.3**
KRNR	**Karanay**	**0.94**	**87**	*e*Pg	**Pg**	**17 03 10.0**	**-0.5**
KRNR				*i*Sg	**Sg**	**17 03 23.0**	**+0.3**
DUS	**Dusheti**	**0.97**	**225**	P	**Pb**	**17 03 12.2**	**+0.2**
DUS				S	**Sn**	**17 03 26.4**	**-0.8**
DUS	**Dusheti**	**0.97**	**225**	PG	**Pb**	**17 03 12.1**	**+0.2**
DUS				S	**Sn**	**17 03 26.3**	**-0.8**
DUS	**Dusheti**	**0.97**	**225**	Pg	**Pb**	**17 03 12.1**	**+0.2**
DUS				Sg	**Sn**	**17 03 26.3**	**-0.8**
LACR	**Lac**	**0.98**	**273**	*e*PG	**Pg**	**17 03 10.5**	**-0.9**
LACR				*e*S	**Sg**	**17 03 24.3**	**+0.1**
LACR	**Lac**	**0.98**	**273**	*e*Pg	**Pg**	**17 03 10.5**	**-0.9**
LACR				*e*Sg	**Sg**	**17 03 24.3**	**+0.1**
GNBR	**Gunib**	**1.06**	**111**	⇑*i*PG	**Pg**	**17 03 12.1**	**-0.7**
GNBR				*e*		17 03 26.2	
GNBR				pmax	pmax		
comp=Z,152nm,0.4s							
GNBR				smax	smax		
comp=N,288nm,0.4s							
GNBR				smax	smax		
comp=E,330nm,0.5s							
GNBR				smax	smax		
comp=E,298nm,0.6s							
GNBR	**Gunib**	**1.06**	**111**	*i*Pg	**Pg**	**17 03 12.1**	**-0.7**
comp=E,152nm,0.4s							
GNBR				*e*Sg	**Sg**	**17 03 26.2**	**-0.3**
comp=E,288nm,0.4s							
ARNR	**Ardon**	**1.07**	**293**	*e*PG	**Pb**	**17 03 13.7**	**+0.2**
ARNR				*e*S	**Sn**	**17 03 29.0**	**-0.4**
ARNR	**Ardon**	**1.07**	**293**	*e*Pg	**Pb**	**17 03 13.7**	**+0.2**
ARNR				*e*Sg	**Sn**	**17 03 29.0**	**-0.4**
BUJR	**Buynaksk**	**1.09**	**87**	*e*PG	**Pn**	**17 03 14.8**	**+0.4**
BUJR				*e*S	**Sn**	**17 03 31.0**	**+1.2**
BUJR	**Buynaksk**	**1.09**	**87**	*e*Pg	**Pn**	**17 03 14.8**	**+0.4**
TRKR	**Terskaya**	**1.15**	**325**	*e*PG	**Pn**	**17 03 15.3**	**+0.1**
TRKR				*e*S	**Sn**	**17 03 32.5**	**+1.1**
TRKR	**Terskaya**	**1.15**	**325**	*e*Pg	**Pn**	**17 03 15.3**	**+0.1**
TRKR				*e*Sg	**Sn**	**17 03 32.5**	**+1.1**
SEAG	**Tbilisi Sea**	**1.19**	**212**	P	**Pn**	**17 03 15.7**	**-0.1**
SEAG				S	**Sn**	**17 03 32.5**	**+0.2**
KORR	**Kora**	**1.19**	**285**	⇓*i*PG	**Pg**	**17 03 15.5**	**+0.2**
KORR				*e*S	**Sn**	**17 03 32.5**	**+0.1**
KORR	**Kora**	**1.19**	**285**	*i*Pg	**Pg**	**17 03 15.5**	**+0.2**
KORR				*e*Sg	**Sn**	**17 03 32.5**	**+0.1**
TBLG	**Delisi**	**1.24**	**213**	P	**Pn**	**17 03 16.3**	**-0.2**
TBLG				S	**Sn**	**17 03 33.6**	**-0.1**
TBLG	**Delisi**	**1.24**	**213**	PG	**Pn**	**17 03 16.1**	**-0.4**
TBLG				S	**Sn**	**17 03 33.5**	**-0.1**
TBLG	**Delisi**	**1.24**	**213**	Pg	**Pn**	**17 03 16.1**	**-0.4**
TBLG	**Delisi**	**1.24**	**213**	P	**Pg**	**17 03 16.5**	**+0.2**
TBLG				S	**Sn**	**17 03 33.5**	**-0.1**
KMKR	**Kumukh**	**1.26**	**120**	*e*PG	**Pb**	**17 03 16.0**	**-0.9**
KMKR				*e*S	**Sb**	**17 03 33.5**	**0.0**
KMKR	**Kumukh**	**1.26**	**120**	*e*Pg	**Pb**	**17 03 16.0**	**-0.9**
KMKR				*e*Sg	**Sb**	**17 03 33.5**	**0.0**
ZEI	**Tsey**	**1.27**	**271**	*e*PG	**Pn**	**17 03 15.6**	**-1.6**
ZEI				*e*S	**Sg**	**17 03 33.1**	**-0.4**
ZEI	**Tsey**	**1.27**	**271**	*e*Pg	**Pn**	**17 03 15.6**	**-1.6**
ZEI				*e*Sg	**Sg**	**17 03 33.1**	**-0.4**
STDR	**Stavd-Durt**	**1.29**	**298**	⇓*i*PG	**Pg**	**17 03 17.5**	**+0.2**
STDR				*e*S	**Sn**	**17 03 35.5**	**+0.6**
STDR	**Stavd-Durt**	**1.29**	**298**	*i*Pg	**Pg**	**17 03 17.5**	**+0.2**
STDR				*e*Sg	**Sn**	**17 03 35.5**	**+0.6**
DGRG	**David-gareji**	**1.34**	**188**	P	**Pg**	**17 03 19.5**	**+1.3**
PRTR	**Priterechnaya**	**1.39**	**315**	*e*PG	**Pn**	**17 03 18.2**	**-0.3**
PRTR				*e*S	**Sg**	**17 03 37.5**	**+0.5**
**

ARU	Arti	15.99	27	P	Pn	17 06 37.4	-0.5
ARU				S	Sn	17 09 33.7	-1.6
BRVK	Borovoye	19.36	49	⇓eP	P	17 07 18.9	+0.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	19.36	49	eP	P	17 07 18.9	+0.1
	comp=Z,2.0nm,0.8s						

*ISCJB **01** 17:03:30.6±0.5,24°.73N±0°.03×122°.40E±0°.02,h4km±4km, Error ellipse: s-maj=5.6km s-min=2.6km az=11.2*
*TAP **01** 17:03:30.7,24°.74N×122°.37E,h17km,ML3.0,C*
*JMA **01** 17:03:31.4±0.1,24°.66N×122°.37E,h28km±5km,M2.4*
ISC 01 17:03:31.0±1.0,**24°.70N**±0°.04×**122°.38E**±0°.02,**h17**km±9km, **n36**,σ0$58/55,**2C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**311**	P	**Pg**	**17 03 40.2**	**-0.2**
	baz=307						
TWB1				*i* S	**Sg**	**17 03 46.0**	**-0.8**
	baz=307						
TWC	**Suao**	**0.49**	**259**	P	**Pg**	**17 03 40.2**	**-0.6**
	baz=262						
TWC				*e*S	**Sg**	**17 03 47.4**	**-0.1**
	baz=262						
JYNG	**Yonagunijimaku**	**0.57**	**116**	P	**Pb**	**17 03 42.4**	**-0.1**
JYNG				S	**Sb**	**17 03 50.1**	**-0.3**
ILA	**Ilan**	**0.58**	**277**	*e*P	**Pg**	**17 03 43.3**	**+0.8**
	baz=272						
YOJ	**Yonaguni jima**	**0.62**	**112**	P	**Pb**	**17 03 43.4**	**0.0**
YOJ				*e*S	**Sb**	**17 03 51.4**	**-0.4**
ENA	**Nanau**	**0.64**	**245**	*e*P	**Pb**	**17 03 43.2**	**-0.6**
	baz=248						
ENA				S	**Sb**	**17 03 52.6**	**+0.2**
	baz=248						
TWE	**Neicheng**	**0.65**	**272**	⇑*i*P	**Pb**	**17 03 43.2**	**-0.7**
	baz=268						
TWE				S	**Sb**	**17 03 52.5**	**-0.1**
	baz=268						
NWF	**Wu-fen Shan**	**0.66**	**304**	⇓*e*P	**Pg**	**17 03 44.7**	**+0.7**
	baz=314						
NWF				*e*S	**Sg**	**17 03 53.1**	**+0.4**
	baz=314						
ENTT	**Nioudou**	**0.74**	**266**	⇑P	**Pb**	**17 03 45.0**	**-0.5**
	baz=250						
ENTT				*e*S	**Sb**	**17 03 55.5**	**+0.1**
	baz=250						
TWY	**Chenhua**	**0.91**	**309**	*e*P	**Pb**	**17 03 48.2**	**-0.1**
	baz=307						
TWY				*e*S	**Sb**	**17 04 00.2**	**0.0**
	baz=307						
NSK	**Sanguang**	**0.93**	**269**	P	**Pb**	**17 03 48.7**	**0.0**
	baz=266						
NSK				S	**Sg**	**17 04 01.5**	**+0.2**
	baz=266						
TWD	**Chiawan**	**0.94**	**229**	*e*P	**Pb**	**17 03 49.0**	**+0.1**
	baz=233						
TWD				*e*S	**Sg**	**17 04 02.1**	**+0.4**
	baz=233						
NNS	**Nan Shan**	**0.95**	**254**	*e*P	**Pb**	**17 03 49.1**	**0.0**
	baz=252						
NNS				*e*S	**Sb**	**17 04 01.1**	**-0.4**
	baz=252						
TWS1	**Kuangyinshan**	**0.96**	**295**	*e*P	**Pg**	**17 03 50.5**	**+0.8**
	baz=292						
TWS1				*e*S	**Sn**	**17 04 02.6**	**-0.4**
	baz=292						
WHF	**Hehuan Shan**	**1.16**	**242**	*e*P	**Pn**	**17 03 52.7**	**-0.1**
	baz=249						
TWT	**Tachien**	**1.18**	**248**	*e*P	**Pb**	**17 03 53.5**	**+0.4**
	baz=245						
ESL	**Shilin**	**1.23**	**225**	*e*P	**Pb**	**17 03 54.5**	**+0.6**
	baz=222						
NSTT	**Nanjuang**	**1.26**	**267**	*e*P	**Pg**	**17 03 55.5**	**+0.2**
	baz=265						
NSTT				*e*S	**Sn**	**17 04 10.3**	**0.0**
	baz=265						
IRIF	**Iriomote-Funau**	**1.28**	**106**	S	**Sb**	**17 04 11.7**	**+0.8**
HATJ	**Hateruma jima**	**1.45**	**116**	S	**Sb**	**17 04 16.2**	**+0.5**
NSY	**Sanyi**	**1.50**	**259**	*e*P	**Pg**	**17 04 00.7**	**+0.8**
	baz=257						
TWQ1	**Liyutan**	**1.50**	**257**	*e*P	**Pg**	**17 03 59.9**	**-0.1**
	baz=272						
JKRS	**Kuro-shima**	**1.56**	**107**	P	**Pn**	**17 03 57.6**	**-0.3**
JKRS				S	**Sn**	**17 04 17.2**	**-0.5**
SMLT	**Sun Moon Lake**	**1.58**	**239**	*e*P	**Pb**	**17 04 00.0**	**+0.2**
	baz=243						
SMLT				*e*S	**Sg**	**17 04 21.4**	**-0.5**
	baz=243						
TYC	**Yuchr**	**1.60**	**241**	*e*P	**Pb**	**17 04 01.1**	**+1.0**
	baz=245						
TYC				*e*S	**Sg**	**17 04 22.3**	**-0.2**
	baz=245						
JIJ	**Ishigaki jima**	**1.64**	**101**	P	**Pn**	**17 03 58.3**	**-0.8**
JISG	**Ishigakijimahi**	**1.76**	**93**	P	**Pn**	**17 04 01.5**	**+0.8**
YUS	**Yu-Shan**	**1.78**	**228**	*e*P	**Pb**	**17 04 02.8**	**-0.6**
	baz=226						
ALS	**Alishan**	**1.86**	**231**	*e*P	**Pb**	**17 04 05.4**	**+0.6**
	baz=216						
CHN5	**Tsauling**	**1.90**	**235**	*e*P	**Pb**	**17 04 06.5**	**+1.1**
	baz=216						
WGK	**Gukeng**	**1.94**	**239**	*e*P	**Pb**	**17 04 04.8**	**-1.2**
	baz=237						
ELDTW	**Lidau**	**1.95**	**220**	*e*P	**Pb**	**17 04 05.3**	**-0.9**
	baz=205						
CHN4	**Tsaushan**	**2.12**	**231**	*e*P	**Pb**	**17 04 10.1**	**+1.2**
	baz=214						
CHN4				*e*S	**Sb**	**17 04 35.7**	**+0.8**
	baz=214						
STYT	**Tauyuan**	**2.13**	**224**	*e*P	**Pb**	**17 04 08.9**	**-0.3**
	baz=208						
WTP	**Ta-pu**	**2.17**	**228**	*e*P	**Pb**	**17 04 09.4**	**-0.4**
	baz=211						
CHN1	**Nanshi**	**2.27**	**229**	*e*P	**Pb**	**17 04 11.1**	**-0.5**
	baz=214						
CHN1				*e*S	**Sb**	**17 04 39.2**	**-0.1**
	baz=214						

*IDC **01** 17:07:01.9±1.1, 14°.33N×90°.02W,h0km,mb3.8/5, mb1 4.0/8,mb1mx3.8/49,mbtmp3.8/8,ML3.6/3,MS3.5/10, Ms1 3.5/10,ms1mx3.2/35,Error ellipse: s-maj=38.6km s-min=20.6km az=37.0*
*ISCJB **01** 17:07:04.1±1.0, 13°.9N±0°.1×90°.25W±0°.07,h37km±6km, mb4.0/14,MS3.5/8,Error ellipse: s-maj=24.8km s-min=6.4km az=22.6*
*NEIC **01** 17:07:07.5±1.5, 13°.97N×90°.32W,h48km±13km,mb4.2/13, Error ellipse: s-maj=18.6km s-min=10.1km az=207.0*
NEIC Felt [I] at Ahuachapan, El Salvador.
*CASC **01** 17:07:09.5±1.4, 14°.01N×89°.90W,h1km±6km,ML3.6*
ISC 01 17:07:05.6±1.0,**13°.99N**±0°.08×**90°.12W**±0°.06,**h25**km±7km, **n50**,σ0$50/41,**mb4.0**/14,**MS3.5**/8,**2C,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**0.19**	**115**	*e*P	**Pb**	**17 07 11.8**	**+0.5**
CUS1				*e*S	**Sb**	**17 07 14.4**	**-0.6**
RBDL	**Robledal**	**0.44**	**74**	⇑*e*P	**Pb**	**17 07 14.5**	**-0.5**
RBDL				*e*S	**Sb**	**17 07 19.7**	**-1.6**
RTR	**El Retiro**	**0.47**	**101**	*e*P	**Pb**	**17 07 16.7**	**+1.2**
RTR				*e*S	**Sb**	**17 07 20.6**	**-1.6**
MONT	**Ecomontaæa**	**0.48**	**106**	⇑*e*P	**Pb**	**17 07 17.3**	**+1.7**
SBLS	**San Blas**	**0.51**	**107**	*e*P	**Pb**	**17 07 17.8**	**+1.7**
SBLS				*e*S	**Sb**	**17 07 22.7**	**-0.6**
SNJE	**San Jose**	**0.52**	**104**	*e*P	**Pb**	**17 07 17.3**	**+1.0**
MTO3	**Montecristo**	**0.84**	**61**	AML	AML	17 07 38.6	
	comp=Z,2μm,0.5s						
TGUH	**Tegucigalpa,Un**	**2.77**	**88**	*e*Pn	**Pn**	**17 07 49.2**	**+0.9**
CCIG	**Comitan**	**3.00**	**320**	*e*Pn	Pn	17 07 49.5	-2.3
SCIG	**Sabancuy**	**5.05**	**348**	*e*Pn	**Pn**	**17 08 23.9**	**+4.1**
CMIG	**Matias Romero**	**5.53**	**304**	Pn	Pn	17 08 24.2	-2.2
	comp=Z,1.4nm,0.3s,baz=135,slow=11,SNR=4.3						
CMIG				Pg	Pb	17 08 37.3	-4.1
	comp=Z,3.2nm,0.3s,baz=131,slow=10,SNR=12						
CMIG				Sn	**Sn**	**17 09 29.9**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=198,slow=20,SNR=2.7						
CMIG				Lg	Lg	17 09 47.3	
	comp=Z,4.0nm,0.3s,baz=14,slow=20,SNR=7.9						
CMIG				LR	LR	17 10 33.0	
	comp=Z,805nm,18.7s,baz=138,slow=39						
TLIG	**Tlapa**	**8.87**	**295**	*e*Pn	**Pn**	**17 09 12.5**	**+0.1**
ROSC	**El Rosal**	**18.03**	**119**	LR	LR	17 20 13.0	
	comp=Z,31nm,18.1s,baz=39,slow=44						
JCT	**Junction City**	**18.68**	**333**	*e*P	**P**	**17 11 21.7**	**-0.3**
	comp=Z,7.4nm,1.0s						
SDV	**Santo Domingo**	**19.76**	**103**	P	**P**	**17 11 34.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=297,slow=6.8,SNR=2.4						
SDV	**Santo Domingo**	**19.76**	**103**	*e*P	**P**	**17 11 35.0**	**+0.8**
	comp=Z,20nm,1.0s						
TXAR	**Lajitas Array**	**19.76**	**323**	P	**P**	**17 11 33.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=148,slow=11,SNR=10.0						
LTX	**Lajitas**	**19.76**	**323**	*e*P	**P**	**17 11 33.0**	**-1.0**
TX31	**Lajitas Ar. Si**	**19.76**	**323**	*e*P	**P**	**17 11 32.8**	**-1.1**
SDD	**Santo Domingo**	**19.90**	**74**	*e*P	**Pn**	**17 11 39.2**	**+2.0**
	comp=Z,81nm,0.5s						
MIAR	**Mount Ida**	**20.70**	**352**	*e*P	**P**	**17 11 45.6**	**+1.6**
	comp=Z,9.2nm,1.1s						
UALR	**University of**	**20.79**	**355**	*e*P	**P**	**17 11 46.3**	**+1.3**
	comp=Z,42nm,1.9s						
SWET	**Sewanee**	**21.47**	**9**	*e*P	**P**	**17 11 52.6**	**+0.3**
	comp=Z,8.9nm,0.8s						
HBAR	**Harrisburg**	**21.48**	**359**	*e*P	**P**	**17 11 51.3**	**-1.0**
	comp=Z,38nm,0.7s						
LPIG	**La Paz**	**21.54**	**301**	LR	LR	17 20 13.1	
	comp=Z,195nm,18.2s,baz=116,slow=37						
WMOK	**Wichita Mounta**	**22.09**	**341**	*e*P	**P**	**17 11 59.6**	**+0.6**
	comp=Z,3.7nm,1.1s						
HHAR	**Hobbs**	**22.46**	**352**	*e*P	**P**	**17 12 02.5**	**-0.4**
	comp=Z,7.2nm,0.9s						
MNTX	**Cornudas Mount**	**22.50**	**324**	*e*P	**P**	**17 12 01.2**	**-2.2**
	comp=Z,1.9nm,1.0s						
SJG	**San Juan**	**23.39**	**77**	LR	LR	17 20 43.7	
	comp=Z,95nm,18.4s,baz=268,slow=35						
MTP	**Monte Pirata**	**23.95**	**77**	*e*P	**P**	**17 12 19.6**	**+1.5**
	comp=Z,20nm,1.0s						
USIN	**University of**	**23.98**	**5**	*e*P	**P**	**17 12 18.2**	**+0.1**
	comp=Z,15nm,0.7s						
WCI	**Wyandotte Cave**	**24.38**	**7**	*e*P	**P**	**17 12 20.4**	**-1.5**
	comp=Z,7.4nm,0.7s						
PCRV	**Puerto La Cruz**	**25.20**	**96**	LR	LR	17 23 23.7	
	comp=Z,74nm,19.0s,baz=297,slow=39						
TUC	**Tucson**	**26.25**	**317**	*e*P	**P**	**17 12 38.3**	**-0.7**
	comp=Z,7.4nm,1.7s						
FRD	**Ford Ranch, An**	**30.91**	**313**	*e*P	P	17 13 14.2	-6.3
BHU	**Blowhard Mount**	**31.01**	**323**	*e*P	P	17 13 18.3	-3.4
DEVC	**Devers**	**31.13**	**314**	*e*P	P	17 13 17.8	-4.5
BTPC	**Burnt Peak**	**32.92**	**314**	*e*P	P	17 13 33.6	-4.7
WASM	**Alta Sierra Ca**	**33.47**	**315**	*e*S	**S**	**17 19 06.0**	**+2.4**
ULM	**Lac du Bonnet**	**36.46**	**354**	LR	LR	17 32 37.3	
	comp=Z,55nm,18.9s,baz=338,slow=42						
LPAZ	**La Paz**	**37.11**	**143**	P	**P**	**17 14 17.9**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=320,slow=9.3,SNR=4.6						
SCHQ	**Schefferville**	**44.62**	**19**	LR	LR	17 34 28.5	
	comp=Z,117nm,19.5s,baz=212,slow=37						
ILAR	**Eielson Array**	**63.57**	**336**	P	**P**	**17 17 32.7**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=134,slow=5.1,SNR=4.5						
ILAR				LR	LR	17 48 26.5	
	comp=Z,62nm,18.5s,baz=144,slow=39						
EKA	**Eskdalemuir Ar**	**76.91**	**36**	P	**P**	**17 18 53.8**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=283,slow=4.8,SNR=4.7						
ESDC	**Sonseca Array**	**78.29**	**52**	P	**P**	**17 19 02.2**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=288,slow=6.4,SNR=4.1						
NOA	**NORSAR Array B**	**83.28**	**29**	P	**P**	**17 19 28.6**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=291,slow=4.8,SNR=3.1						
NOA				LR	LR	17 55 33.7	
	comp=Z,14nm,20.0s,baz=5.0,slow=35						
TORD	**Torodi Ar. Bea**	**88.61**	**77**	LR	LR	17 57 05.2	
	comp=Z,23nm,20.1s,baz=195,slow=34						
WRA	**Warramunga Arr**	**137.16**	**256**	PKP	**PKPdf**	**17 26 26.7**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=92,slow=2.6,SNR=3.2						
ASAR	**Alice Springs**	**137.38**	**250**	PKP	**PKPdf**	**17 26 27.0**	**-0.9**
	comp=Z,0.7nm,1.1s,baz=91,slow=3.7,SNR=3.6						
FITZ	**Fitzroy Crossi**	**145.43**	**258**	PKPbc	**PKPdf**	**17 26 41.2**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=270,slow=2.0,SNR=3.3						

IDC 01 17:12:52.1±1.6,**5°.18S**×**146°.16E,h0km,mb3.2/3, mb1 3.6/5,mb1mx3.4/33,mbtmp3.4/5,ML3.6/1,Error ellipse: s-maj=52.7km s-min=27.2km az=117.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.32**	**167**	Pn	Pn	17 13 59.9	+0.8
	4.6nm,0.3s,baz=350,slow=5.7,SNR=32						
PMG				Sn	Sn	17 14 40.1	-10
	6.9nm,0.3s,baz=323,slow=20,SNR=6.0						
CTA	**Charters Tower**	**14.82**	**180**	Pn	P	17 16 26.4	-2.9
	0.4nm,0.3s,baz=350,slow=14,SNR=8.6						
WRA	**Warramunga Arr**	**18.64**	**217**	P	P	17 17 11.8	+0.1
	0.2nm,0.3s,baz=42,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**21.85**	**212**	P	P	17 17 46.0	-0.5
	0.1nm,0.3s,baz=50,slow=8.3,SNR=9.0						
FITZ	**Fitzroy Crossi**	**23.81**	**236**	P	P	17 18 07.1	+0.1
	0.8nm,0.7s,baz=45,slow=12,SNR=1.9						
ILAR	**Eielson Array**	**85.06**	**23**	P	P	17 25 29.8	+0.2
	0.4nm,0.6s,baz=247,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**144.07**	**285**	PKP	PKPbc	17 32 29.3	+0.4
	0.4nm,0.6s,baz=79,slow=3.2,SNR=3.4						

*CSEM **01** 17:15:41.2±0.6,51°.43N×16°.16E,h1km,ML2.9/7,Error ellipse: s-maj=8.6km s-min=4.8km az=19.0*
*WAR **01** 17:15:42.3,51°.44N×16°.20E,h1km,Mw2.2*
*PRU **01** 17:15:42.9,51°.39N×16°.15E,h0km*
ISC 01 17:15:41.2±1.8,**51°.46N**±0°.08×**16°.21E**±0°.05,**h0**km,**n23**, σ0$48/45,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**175**	*e*Pg	**Pg**	**17 15 53.5**	**+0.4**
KSP				*e*Sg	**Sg**	**17 16 01.3**	**+0.2**
KSP	**Ksiaz**	**0.62**	**175**	*e*Pg	**Pg**	**17 15 53.5**	**+0.4**
KSP				*e*Sg	**Sg**	**17 16 01.3**	**+0.2**
KSP	**Ksiaz**	**0.62**	**175**	*e*Pg	**Pg**	**17 15 53.5**	**+0.4**
KSP				*e*Sg	**Sg**	**17 16 01.3**	**+0.2**
UPC	**Upice**	**0.96**	**187**	*e*PG	**Pg**	**17 15 59.8**	**+0.2**
UPC				*e*SG	**Sg**	**17 16 12.1**	**0.0**
	comp=Z,33nm,0.3s						
UPC	**Upice**	**0.96**	**187**	Pg	**Pg**	**17 15 59.8**	**+0.2**
UPC				Sg	**Sg**	**17 16 12.1**	**0.0**
	33nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**176**	*e*PG	**Pg**	**17 16 02.3**	**-0.2**
DPC				*e*SG	**Sg**	**17 16 17.1**	**+0.1**
	comp=Z,9.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**176**	Pg	**Pg**	**17 16 02.3**	**-0.2**
DPC				Sg	**Sg**	**17 16 17.1**	**+0.1**
	9.0nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG	**Pb**	**17 16 08.1**	**0.0**
PVCC				*e*SG	**Sg**	**17 16 25.7**	**-0.2**
	comp=Z,51nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**228**	Pg	**Pb**	**17 16 08.1**	**0.0**
PVCC				Sg	**Sg**	**17 16 25.7**	**-0.2**
	51nm,0.3s						
KRLC	**Kraliky**	**1.44**	**165**	*e*PG	**Pn**	**17 16 08.5**	**0.0**
KRLC				*e*SG	**Sg**	**17 16 26.8**	**-0.5**
KRLC	**Kraliky**	**1.44**	**165**	Pg	**Pn**	**17 16 08.5**	**0.0**
KRLC				Sg	**Sg**	**17 16 26.8**	**-0.5**
BRG	**Berggiesshubel**	**1.54**	**248**	PG	**Pg**	**17 16 11.3**	**+0.6**
BRG				SG	**Sg**	**17 16 31.0**	**+0.4**
	16nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.79**	**211**	*e*PG	**Pb**	**17 16 14.8**	**-0.1**
GOPC				*e*SG	**Sb**	**17 16 37.4**	**-0.5**
	comp=Z,5.4nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.79**	**211**	Pg	**Pb**	**17 16 14.8**	**-0.1**
GOPC				Sg	**Sb**	**17 16 37.4**	**-0.5**
	5.4nm,0.4s						
PRU	**Pruhonice**	**1.82**	**216**	*e*PG	**Pb**	**17 16 15.0**	**-0.3**
PRU				*e*SG	**Sb**	**17 16 38.1**	**-0.4**
	comp=Z,8.5nm,0.4s						
PRU	**Pruhonice**	**1.82**	**216**	Pg	**Pb**	**17 16 15.0**	**-0.3**
PRU				Sg	**Sb**	**17 16 38.1**	**-0.4**
	8.5nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**153**	*e*Pn	**Pn**	**17 16 13.9**	**-0.8**
MORC				*e*Sg	**Sb**	**17 16 40.9**	**+0.2**
CLL	**Collm**	**2.01**	**267**	*e*Pg	**Pb**	**17 16 19.0**	**+0.4**
CLL				*e*Sg	**Sg**	**17 16 46.0**	**+0.2**
	comp=Z,5.0nm,0.6s						
VRAC	**Vranov**	**2.17**	**173**	*e*Sg	**Sb**	**17 16 49.0**	**+0.2**
NKC	**Novy Kostel**	**2.68**	**244**	*e*PG	**Pg**	**17 16 31.8**	**-0.7**
NKC				*e*SG	**Sg**	**17 17 06.6**	**-0.6**
	comp=Z,11nm,0.3s						
NKC	**Novy Kostel**	**2.68**	**244**	Pg	**Pg**	**17 16 31.8**	**-0.7**
NKC				Sg	**Sg**	**17 17 06.6**	**-0.6**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**217**	*e*PN	**Pn**	**17 16 28.5**	**+0.2**
KHC				*e*PG	**Pb**	**17 16 34.2**	**+0.8**
KHC				*e*SG	**Sb**	**17 17 11.0**	**+1.8**
	comp=Z,3.2nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**217**	Pn	**Pn**	**17 16 28.5**	**+0.2**

*IDC **01** 17:54:13.8±1.1,12°.98N×95°.88E,h0km,mb3.9/11, mb1 4.1/12,mb1mx3.8/51,mbtmp3.9/12,ML4.5/1,MS3.6/17, Ms1 3.6/17,ms1mx3.4/44,Error ellipse: s-maj=35.2km s-min=19.1km az=52.0*
*BKK **01** 17:54:13.5±1.1,13°.N±4°.×9°.6E±1°.2,h10km,M4.3/8, mb4.2/5,mB5.2/1,MLv4.4/8,Mw(mB)4.6/1*
*ISCJB **01** 17:54:15.8±0.4,12°.90N±0°.04×95°.92E±0°.05,h33km, mb4.2/24,MS3.6/15,Error ellipse: s-maj=7.5km s-min=4.6km az=150.1*
*NEIC **01** 17:54:15.2±4.0,12°.87N×95°.92E,h15km±25km,mb4.5/16, Error ellipse: s-maj=14.8km s-min=5.9km az=68.0*
ISC 01 17:54:18.1±0.6,**12°.93N**±0°.08×**95°.95E**±0°.09,**h35**km,**n76**, σ1$68/63,**mb4.2**/24,**MS3.5**/15,**1C,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**3.39**	**65**	P	**Pn**	**17 55 09.3**	**+0.8**
PHET	**Kaeng Krachan**	**3.59**	**90**	P	**Pn**	**17 55 12.4**	**+1.2**
UTHA	**Uthaitani**	**4.28**	**52**	P	**Pn**	**17 55 21.0**	**+0.3**
UMPA	**Umpang Tak**	**4.30**	**41**	P	**Pn**	**17 55 20.0**	**-1.1**
SURT	**Suratani**	**4.84**	**144**	P	**Pn**	**17 55 28.6**	**+0.2**
KRAB	**Krabi**	**5.67**	**145**	P	**Pn**	**17 55 39.8**	**0.0**
	72nm,0.8s,2μm0.7nm						
PBKT	**Sadao Pong**	**6.05**	**53**	P	**Pn**	**17 55 46.4**	**+1.3**
CM01	**Chiang Mai Arr**	**6.18**	**28**	*e*Pn	**Pn**	**17 55 47.0**	**+0.1**
CM31	**Chiang Mai Arr**	**6.20**	**27**	*e*Pn	**Pn**	**17 55 47.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**6.20**	**27**	Pn	**Pn**	**17 55 47.3**	**+0.1**
	2.6nm,0.3s,baz=219,slow=15,SNR=100						
CMAR				LR	LR	17 58 44.3	
	comp=Z,500nm,18.2s,baz=222,slow=44						
TRTT	**Trang**	**6.26**	**144**	P	**Pn**	**17 55 47.5**	**-0.5**
CHTO	**Chiang Mai**	**6.52**	**26**	P	**Pn**	**17 55 51.6**	**0.0**
	50nm,0.6s,0.6nm						
CHTO	**Chiang Mai**	**6.52**	**26**	*e*Pn	**Pn**	**17 55 51.4**	**-0.2**
CMMT	**Chiang Mai**	**6.52**	**26**	P	**Pn**	**17 55 51.3**	**-0.3**
LAMP	**Lampang**	**6.59**	**32**	P	**Pn**	**17 55 53.6**	**+1.0**
	9.6nm,0.7s,0.1nm						
KULM	**Kulim**	**8.90**	**148**	*e*Pn	**Pn**	**17 56 24.3**	**0.0**
IPM	**Ipoh**	**9.78**	**149**	*e*Pn	**Pn**	**17 56 34.8**	**-1.6**
PSI	**Prapat**	**10.49**	**163**	LR	LR	18 00 35.5	
	comp=Z,250nm,21.8s,baz=316,slow=36						
ODAN	**Odare**	**16.01**	**331**	*e*P	**Pn**	**17 57 58.8**	**-2.2**
TAPN	**Taplejung**	**16.29**	**333**	*e*P	**Pn**	**17 57 58.6**	**-5.9**
RAMN	**Ramite**	**16.47**	**329**	*e*P	**Pn**	**17 58 06.2**	**-0.6**
JIRN	**Jiri**	**17.26**	**330**	*e*P	**Pn**	**17 58 13.7**	**-3.1**
LSA	**Lhasa**	**17.27**	**346**	*e*Pn	**Pn**	**17 58 17.3**	**+0.3**
	5.2nm,0.8s						
KKN	**Kakani**	**17.83**	**328**	*e*P	**Pn**	**17 58 21.3**	**-2.4**
KSM	**Kuching**	**18.22**	**128**	*e*Pn	**P**	**17 58 25.3**	**-3.0**
	13nm,1.4s						
GKN	**Gorkha**	**18.34**	**327**	*e*P	**P**	**17 58 26.3**	**-3.5**
KOLN	**Koldanda**	**18.74**	**324**	*e*P	**P**	**17 58 33.1**	**-1.1**
SBUM	**Sibu**	**19.18**	**122**	*e*P	**P**	**17 58 37.8**	**-1.0**
	30nm,1.6s						
POO	**Poona**	**21.98**	**287**	*ex*	**P**	**17 59 15.0**	**+5.7**
SMRI	**Semarang**	**24.52**	**143**	*e*P	**P**	**17 59 33.4**	**-1.1**
	157nm,1.8s						
NACB	**Ninganchiao**	**26.71**	**62**	*e*P	**P**	**17 59 54.4**	**+0.1**
	155nm,1.6s						
JOW	**Kunigami**	**33.28**	**61**	LR	LR	18 14 47.4	
	comp=Z,109nm,21.9s,baz=272,slow=37						
AAK	**Ala-Archa**	**34.95**	**332**	*e*P	**P**	**18 01 08.4**	**+1.5**
	7.1nm,1.4s						
MK01	**Makanchi Array**	**35.64**	**344**	*e*P	**P**	**18 01 13.1**	**+0.4**
MK31	**Makanchi Array**	**35.66**	**344**	*e*P	**P**	**18 01 13.3**	**+0.5**
MK32	**Makanchi Array**	**35.66**	**344**	*e*P	**P**	**18 01 13.5**	**+0.6**
MKAR	**Makanchi Array**	**35.66**	**344**	P	**P**	**18 01 13.5**	**+0.6**
	2.0nm,0.8s,baz=157,slow=9.7,SNR=11						
MKAR				LR	LR	18 18 52.8	
	comp=Z,87nm,20.2s,baz=163,slow=42						
MKAR	**Makanchi Array**	**35.66**	**344**	*e*P	**P**	**18 01 13.6**	**+0.8**
	23nm,1.1s						
SONM	**Songino Array**	**35.87**	**12**	LR	LR	18 19 15.9	
	comp=Z,102nm,18.1s,baz=216,slow=42						
SONA1	**Songino Array**	**35.89**	**12**	*e*P	**P**	**18 01 15.7**	**+0.8**
ULN	**Ulaanbaatar**	**36.04**	**13**	*e*P	**P**	**18 01 18.8**	**+2.6**
	9.3nm,1.9s						
KS15	**Wonju Array Si**	**37.52**	**44**	*e*P	**P**	**18 01 29.8**	**+1.1**
KSAR	**Wonju Array Be**	**37.52**	**44**	P	**P**	**18 01 29.8**	**+1.1**
KSRS	**Korea Array**	**37.55**	**44**	P	**P**	**18 01 29.8**	**+0.8**
	1.9nm,0.

*DDA **01** 17:58:30.4, 39°.74N×26°.19E, h7km, Md2.7*
ISC 01 17:58:26.6±0.9, 39°.50N±0°.02×26°.10E±0°.03, h15km±8km, n25, σ0°.39/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.29**	**152**	P	**Pg**	**17 58 32.6**	**-0.1**
PRK				S	**Sg**	**17 58 37.1**	**+0.3**
PRK				AML	AML	17 58 37.9	
	comp=E,495μm,0.2s						
PRK				AML	AML	17 58 38.1	
	comp=N,515μm,0.2s						
PRK	**Paraskevi**	**0.29**	**152**	P	**Pg**	**17 58 32.6**	**-0.1**
PRK				S	**Sg**	**17 58 37.1**	**+0.3**
BOZC	**Bozcaada**	**0.34**	**355**	*i* P	**Pg**	**17 58 33.3**	**-0.3**
BOZC				*i* S	**Sg**	**17 58 38.4**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.42**	**55**	*i* P	**Pg**	**17 58 35.1**	**0.0**
BAYC				*i* S	**Sg**	**17 58 41.0**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.42**	**55**	P	**Pg**	**17 58 35.1**	**0.0**
BAYC				S	**Sg**	**17 58 41.0**	**+0.1**
AYVA	**Ayvalik**	**0.50**	**112**	*i* P	**Pg**	**17 58 35.7**	**-0.8**
AYVA	**Ayvalik**	**0.50**	**112**	P	**Pg**	**17 58 35.7**	**-0.8**
LIA	**Limnos Island**	**0.81**	**300**	P	**Pg**	**17 58 41.8**	**-0.5**
LIA	**Limnos Island**	**0.81**	**300**	P	**Pg**	**17 58 41.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.06**	**336**	P	**Pg**	**17 58 46.6**	**-0.5**
SMTH				S	**Sg**	**17 59 00.9**	**-0.1**
SMTH				AML	AML	17 59 03.2	
	comp=E,42μm,0.3s						
SMTH				AML	AML	17 59 03.5	
	comp=N,56μm,0.1s						
SMTH	**Samothraki Isl**	**1.06**	**336**	P	**Pg**	**17 58 46.6**	**-0.5**
SMTH				S	**Sg**	**17 59 00.9**	**-0.1**
CHOS	**Chios island**	**1.11**	**182**	P	**Pb**	**17 58 48.0**	**+0.5**
CHOS				S	**Sg**	**17 59 02.3**	**-0.3**
CHOS	**Chios island**	**1.11**	**182**	P	**Pb**	**17 58 48.0**	**+0.5**
CHOS				S	**Sg**	**17 59 02.3**	**-0.3**
BALY	**Balya**	**1.20**	**78**	*i* P	**Pg**	**17 58 49.0**	**-0.7**
BALY				*i* S	**Sn**	**17 59 05.2**	**+0.2**
BALY	**Balya**	**1.20**	**78**	P	**Pg**	**17 58 49.0**	**-0.7**
BALY				S	**Sn**	**17 59 05.2**	**+0.2**
ZEY	**¨zmir**	**1.30**	**166**	*i* P	**Pn**	**17 58 49.9**	**-0.3**
KNL	**Bal¨–kesir**	**1.34**	**55**	*i* P	**Pg**	**17 58 51.8**	**-0.7**
KNL				*i* S	**Sg**	**17 59 10.0**	**+0.1**
ALN	**Alexandroupoli**	**1.40**	**358**	P	**Pn**	**17 58 52.0**	**+0.5**
ALN				S	**Sg**	**17 59 11.4**	**-0.2**
KESN	**Edirne-Kesan**	**1.40**	**19**	*i* P	**Pg**	**17 58 53.5**	**0.0**
KESN	**Edirne-Kesan**	**1.40**	**19**	P	**Pg**	**17 58 53.5**	**0.0**
SART	**Tekirdag**	**1.45**	**35**	*i* P	**Pb**	**17 58 53.2**	**-0.2**
SART				*i* S	**Sg**	**17 59 13.7**	**+0.3**
SART	**Tekirdag**	**1.45**	**35**	P	**Pb**	**17 58 53.2**	**-0.2**
SART				S	**Sg**	**17 59 13.6**	**+0.3**
RDO	**Rodhopi**	**1.70**	**346**	P	**Pn**	**17 58 55.9**	**+0.2**
RDO	**Rodhopi**	**1.70**	**346**	P	**Pn**	**17 58 55.9**	**+0.2**

IDC 01 18:02:43.5±2.8, 6°.93S×130°.37E, h63km±38km, mb3.4/1, mb1 3.8/4, mb1mx3.3/42, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=74.1km s-min=24.0km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.09**	**8**	P	Pn	18 04 10.9	-0.1
	48nm,0.3s,baz=181,slow=16,SNR=28						
SIJI				S	Sn	18 05 13.0	-6.3
	47nm,0.3s,baz=82,slow=24,SNR=16						
FITZ	**Fitzroy Crossi**	**12.02**	**202**	P	Pn	18 05 32.3	+0.2
	baz=29,slow=13						
FITZ				S	Sn	18 07 37.9	-6.7
	baz=33,slow=0.0						
WRA	**Warramunga Arr**	**13.49**	**164**	P	Pn	18 05 51.2	-0.9
	0.6nm,0.3s,baz=346,slow=13,SNR=4.6						
WRA				S	Sn	18 08 11.8	-8.7
	1.2nm,0.3s,baz=333,slow=25,SNR=8.9						
ASAR	**Alice Springs**	**16.98**	**169**	P	P	18 06 37.5	-0.4
	0.3nm,0.3s,baz=340,slow=9.3,SNR=6.0						
ASAR				S	Sn	18 09 36.3	-8.8
	0.4nm,0.3s,baz=356,slow=27,SNR=10						
MKAR	**Makanchi Array**	**68.37**	**327**	P	P	18 13 38.4	0.0
	0.4nm,0.5s,baz=121,slow=7.3,SNR=8.0						

TRN 01 18:05:18.6, 10°.28N×62°.42W, h9km, MD3.9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.96**	**88**	*e*P	Pn	18 05 38.3	0.0
TRN	**Trinidad (W)**	**1.07**	**70**	*e*	Pg	18 05 36.3	-2.9
TRN	**Trinidad (W)**	**1.07**	**70**	*e*P	Pn	18 05 40.3	+0.5
TRN				*e*S	Sb	18 05 53.9	+0.5
TBH	**Brigand Hill**	**1.35**	**81**	*e*P	Pn	18 05 43.6	-0.1
TBH				*e*S	Sg	18 06 03.0	+0.9
BOT	**Bacolet**	**1.89**	**62**	*e*P	Pn	18 05 51.1	-0.1
BOT				*e*S	Sn	18 06 15.2	0.0
GRGR	**Grenville**	**1.99**	**22**	*e*P	Pn	18 05 52.3	-0.2
GRGR				*e*S	Sn	18 06 18.1	+0.6
GRW	**Mount Saint Ca**	**2.01**	**22**	*e*P	Pn	18 05 53.6	+0.7
GRW				*e*S	Sn	18 06 18.7	+0.4
TOSP	**Speyside**	**2.11**	**61**	*e*P	Pn	18 05 54.9	+0.7
TOSP				*e*S	Sn	18 06 20.9	+0.3
SVB	**Belmont**	**3.19**	**21**	*e*P	Pn	18 06 09.4	+0.4
SVB				*e*S	Sn	18 06 47.3	+0.2
MCLT	**Moule a Chique**	**3.70**	**23**	*e*P	Pn	18 06 16.3	+0.2
MCLT				*e*S	Sn	18 06 59.3	-0.6
TRMF	**Trois Ilets**	**4.44**	**17**	*e*P	Pn	18 06 26.1	-0.1
TRMF	**Trois Ilets**	**4.44**	**17**	*e*S	Sn	18 07 17.8	-0.2
MVM	**Montagne Vaucl**	**4.50**	**19**	*e*P	Pn	18 06 27.6	+0.5
MVM	**Montagne Vaucl**	**4.50**	**19**	*e*S	Sn	18 07 15.8	-3.9
PML	**Morne Lenard**	**4.63**	**15**	*e*P	Pn	18 06 28.6	-0.3
PML	**Morne Lenard**	**4.63**	**15**	*e*S	Sb	18 07 31.9	-4.3
GBMF	**Grand Be**	**4.66**	**15**	*e*P	Pn	18 06 32.0	+2.7
GBMF	**Grand Be**	**4.66**	**15**	*e*S	Sb	18 07 32.5	-4.3
PCM	**Pelee Case Pet**	**4.66**	**15**	*e*P	Pn	18 06 30.7	+1.4
PCM	**Pelee Case Pet**	**4.66**	**15**	*e*S	Sb	18 07 32.9	-4.0
BAMF	**Morne Balai**	**4.68**	**15**	*e*P	Pn	18 06 31.6	+2.0
BAMF	**Morne Balai**	**4.68**	**15**	*e*S	Sb	18 07 31.1	-6.3

*NIED **01** 18:12:00, 38°.10N×143°.90E, h32km, Mw3.8 Best double couple: M0=5.50000×10^14 NP1:φ=61.00000°, δ=69.00000°, λ=13.00000°. NP2:φ=326.00000°, δ=77.00000°, λ=159.00000°.*
*IDC **01** 18:12:26.3±0.8, 37°.93N×144°.23E, h0km, mb3.8/9, mb1 4.0/14, mb1mx3.8/49, mbtmp3.9/14, ML3.9/4, Error ellipse: s-maj=21.6km s-min=17.6km az=116.0*
*NEIC **01** 18:12:27.9±0.5, 37°.99N×144°.20E, h10km, mb4.4/2, Error ellipse: s-maj=10.4km s-min=7.9km az=144.0*
*ISCJB **01** 18:12:29.3±0.5, 38°.09N±0°.03×144°.00E±0°.05, h33km, mb3.9/11, Error ellipse: s-maj=5.5km s-min=4.4km az=32.1*
*JMA **01** 18:12:30.1±0.2, 38°.14N×143°.95E, h47km, M4.2*
ISC 01 18:12:31.5±0.8, 38°.08N±0°.05×144°.04E±0°.07, h35km, n47, σ2°.22/61, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.11**	**299**	P	**Pn**	**18 13 02.7**	**-1.5**
JIO	**Ouri**	**2.15**	**281**	P	**Pn**	**18 13 03.3**	**-1.5**
JIO				*e*S	**Sn**	**18 13 27.8**	**-2.4**
MIYJ	**Miyakonagasawa**	**2.29**	**312**	P	**Pn**	**18 13 04.8**	**-1.9**
MIYJ				*e*S	**Sn**	**18 13 30.5**	**-3.1**
JMK	**Ichinoseki**	**2.37**	**292**	P	**Pn**	**18 13 06.6**	**-1.3**
JOM	**Ohasama**	**2.56**	**304**	P	**Pn**	**18 13 09.2**	**-1.2**
JOM				*e*S	**Sn**	**18 13 38.6**	**-1.7**
JFT	**Otama**	**2.98**	**260**	P	**Pn**	**18 13 15.6**	**-0.7**
JFT				*e*S	**Sn**	**18 13 49.0**	**-1.9**
JYK	**Kaneyama**	**3.00**	**287**	P	**Pn**	**18 13 15.9**	**-0.7**
JANG	**Nango**	**3.01**	**320**	P	**Pn**	**18 13 15.1**	**-1.6**
JANG				*e*S	**Sn**	**18 13 48.9**	**-2.7**
JNS	**Sasagawa**	**3.74**	**267**	P	**Pn**	**18 13 26.1**	**-0.6**
JAW	**Awa shima**	**3.79**	**277**	P	**Pn**	**18 13 27.1**	**-0.2**
ERM	**Erimo**	**3.99**	**351**	*e*Pn	**Pn**	**18 13 29.2**	**-0.9**
JAG	**Ashikaga**	**4.01**	**247**	P	**Pn**	**18 13 29.0**	**-1.4**
JOT	**Ohata**	**4.02**	**326**	P	**Pn**	**18 13 29.4**	**-1.2**
JOT				*e*S	**Sn**	**18 14 12.0**	**-4.4**
BSO1	**Boso 1**	**4.22**	**217**	P	**Pn**	**18 13 30.6**	**-2.2**
JNBK	**Urakawa-nobuka**	**4.31**	**347**	P	**Pn**	**18 13 33.1**	**-1.4**
JKB	**Kayabe**	**4.45**	**330**	P	**Pn**	**18 13 35.6**	**-0.8**
JKB				*e*S	**Sn**	**18 14 22.4**	**-4.5**
JCH	**Churui**	**4.56**	**354**	P	**Pn**	**18 13 36.1**	**-1.8**
JCH				*e*S	**Sn**	**18 14 24.6**	**-5.0**
JRY	**Ryogami san**	**4.59**	**245**	P	**Pn**	**18 13 37.1**	**-1.4**
JRY				*e*S	**Sn**	**18 14 26.8**	**-3.8**
JOD2	**Odawara 2**	**4.87**	**236**	P	**Pn**	**18 13 40.1**	**-2.2**
JOD2				*e*S	**Sn**	**18 14 32.2**	**-5.2**
MJAR	**Matsushiro Arr**	**4.89**	**253**	Pn	**Pn**	**18 13 42.4**	**-0.1**
	6.0nm,0.3s,baz=81,slow=15,SNR=77						
MJAR				Sn	**Sn**	**18 14 38.8**	**+0.9**
	1.5nm,0.3s,baz=70,slow=22,SNR=2.9						
MAJO	**Matsushiro**	**4.89**	**254**	*e*Pn	**Pn**	**18 13 42.7**	**+0.1**
MAT	**Matsushiro**	**4.89**	**254**	P	**Pn**	**18 13 42.9**	**+0.3**
MAT				S	**Sn**	**18 14 39.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**4.89**	**254**	*e*Pn	**Pn**	**18 13 42.5**	**0.0**
JHJ	**Hachijo jima 2**	**6.04**	**216**	Pn	**Pn**	**18 13 56.2**	**-2.1**
	7.6nm,0.3s,baz=39,slow=13,SNR=4.5						
JHJ				Sn	**Sn**	**18 14 59.3**	**-6.9**
	29nm,0.3s,baz=249,slow=23,SNR=6.0						
ASAJ	**Asahikawa**	**6.13**	**350**	Pn	**Pn**	**18 13 58.7**	**-0.8**
	3.6nm,0.3s,baz=188,slow=12,SNR=28						
ASAJ				Sn	**Sn**	**18 15 09.1**	**+0.8**
	2.0nm,0.3s,baz=88,slow=29,SNR=6.5						
INU	**Inuyama**	**6.26**	**246**	*e*Pn	**Pn**	**18 14 01.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.94**	**308**	Pn	**Pn**	**18 15 06.6**	**+1.1**
	0.3nm,0.3s,baz=109,slow=15,SNR=4.4						
MDJ	**Mudanjiang**	**12.66**	**306**	*e*Pn	**Pn**	**18 15 28.4**	**-0.5**
KSRS	**Korea Array**	**12.77**	**272**	Pn	**Pn**	**18 15 31.9**	**+1.4**
	0.2nm,0.3s,baz=92,slow=12,SNR=5.2						
KS15	**Wonju Array Si**	**12.80**	**277**	*e*Pn	**Pn**	**18 15 32.2**	**+1.3**
KSAR	**Wonju Array Be**	**12.80**	**272**	Pn	**Pn**	**18 15 31.9**	**+0.9**
SONA1	**Songino Array**	**28.96**	**302**	*e*P	**P**	**18 18 30.2**	**+2.5**
SONA0	**Songino Array**	**28.97**	**302**	*e*P	**P**	**18 18 28.9**	**+1.2**
	5.2nm,1.5s						
SONM	**Songino Array**	**28.97**	**302**	P	**P**	**18 18 28.9**	**+1.2**
	0.5nm,0.7s,baz=99,slow=8.9,SNR=3.9						
ZAA1	**Zalesovo Array**	**42.77**	**312**	*e*P	**P**	**18 20 28.6**	**+3.3**
ZALV	**Zalesovo Beam**	**42.77**	**312**	P	**P**	**18 20 28.6**	**+3.3**
	0.3nm,0.4s,baz=78,slow=9.0,SNR=2.2						
MK01	**Makanchi Array**	**45.33**	**302**	*e*P	**P**	**18 20 49.7**	**+3.7**
MK32	**Makanchi Array**	**45.34**	**302**	*e*P	**P**	**18 20 47.3**	**+1.3**
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**18 20 47.3**	**+1.3**
	0.7nm,0.7s,baz=87,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**47.49**	**33**	P	**P**	**18 21 02.8**	**+0.2**
	1.0nm,0.7s,baz=259,slow=6.0,SNR=4.3						
INK	**Inuvik**	**52.50**	**28**	P	**P**	**18 21 41.3**	**+0.7**
	1.6nm,0.8s,baz=310,slow=4.2,SNR=4.0						
WR1	**Warramunga Arr**	**58.43**	**191**	*e*P	**P**	**18 22 23.0**	**-0.7**
	7.3nm,0.8s						
WRA	**Warramunga Arr**	**58.43**	**191**	P	**P**	**18 22 23.0**	**-0.7**
	3.4nm,0.7s,baz=7.7,slow=6.8,SNR=10						
ASAR	**Alice Springs**	**62.15**	**191**	P	**P**	**18 22 48.2**	**-1.0**
	0.7nm,0.7s,baz=14,slow=9.2,SNR=7.6						
PDAR	**Pinedale Array**	**75.44**	**47**	P	**P**	**18 24 12.5**	**+0.4**
	0.6nm,0.5s,baz=292,slow=2.0,SNR=6.4						
LTX	**Lajitas**	**87.83**	**54**	*e*P	**P**	**18 25 17.4**	**-0.1**
TXAR	**Lajitas Array**	**87.83**	**54**	P	**P**	**18 25 17.4**	**-0.1**
	0.1nm,0.6s,baz=320,slow=3.5,SNR=2.6						

*IDC **01** 18:28:56.3±0.7, 20°.27S×179°.57E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.5/26, mbtmp4.4/18, ML3.3/2, MS3.7/11, Ms1 3.6/11, ms1mx3.4/39, Error ellipse: s-maj=23.6km s-min=16.7km az=107.0*
*ISCJB **01** 18:28:60.0±0.3, 20°.31S±0°.04×179°.36E±0°.06, h33km, mb4.7/35, MS3.7/9, Error ellipse: s-maj=8.5km s-min=6.1km az=0.1*
*NEIC **01** 18:29:02.5±0.7, 20°.31S×179°.36E, h43km±6km, mb4.9/23, Error ellipse: s-maj=8.7km s-min=6.7km az=111.0*
ISC 01 18:29:01.7±0.4, 20°.32S±0°.07×179°.37E±0°.08, h35km, n101, σ1°.05/104, mb4.7/35, MS3.7/9, 5C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.86**	**334**	*e*Pn	**Pn**	**18 29 44.1**	**-0.9**
MSVF				*e*Sn	**Sn**	**18 30 16.6**	**-1.6**
DZM	**Mont Dzumac**	**12.19**	**259**	Pn	**Pn**	**18 31 54.9**	**+1.9**
	0.0nm,0.3s,baz=84,slow=19,SNR=1.8						
DZM				LR	LR	18 36 05.4	
	comp=Z,341nm,19.3s,baz=108,slow=35						
URZ	**Urewera**	**17.99**	**186**	P	**P**	**18 33 09.6**	**+0.4**
	0.5nm,0.3s,baz=6.3,slow=9.2,SNR=3.9						
URZ				LR	LR	18 39 07.9	
	comp=Z,182nm,18.2s,baz=5.5,slow=34						
URZ	**Urewera**	**17.99**	**186**	*e*P	**Pn**	**18 33 05.8**	**-3.1**
	186nm,2.0s						
HIZ	**Hauiti**	**18.55**	**191**	*e*P	**P**	**18 33 14.1**	**-1.3**
	183nm,1.5s						
BKZ	**Black Stump Fm**	**18.95**	**187**	*e*P	**P**	**18 33 19.2**	**-0.7**
	23nm,1.2s						
HNR	**Honiara**	**21.64**	**297**	*e*P	**P**	**18 33 48.9**	**-0.3**
	58nm,0.9s						
THZ	**Tophouse**	**22.07**	**193**	*e*P	**P**	**18 33 55.4**	**+1.7**
	35nm,1.0s						
LTZ	**Lake Taylor**	**23.18**	**193**	*e*P	**P**	**18 34 04.3**	**-1.0**
	48nm,1.3s						
RPZ	**Rata Peaks**	**24.34**	**195**	P	**P**	**18 34 17.0**	**+0.7**
	8.2nm,0.8s,baz=11,slow=10,SNR=2.9						
CTAO	**Charters Tower**	**31.05**	**265**	*e*P	**P**	**18 35 14.6**	**-2.0**
	32nm,1.4s						
PMG	**Port Moresby**	**32.91**	**284**	*e*P	**P**	**18 35 32.5**	**-0.4**
	20nm,1.3s						
COEN	**Coen**	**35.11**	**275**	*e*P	**P**	**18 35 53.0**	**+0.9**
	11nm,1.0s						
STKA	**Stephens Creek**	**35.66**	**243**	P	**P**	**18 35 57.7**	**+1.0**
	4.0nm,0.9s,baz=96,slow=8.1,SNR=4.7						
STKA				LR	LR	18 49 19.5	
	comp=Z,82nm,18.3s,baz=30,slow=34						
STKA	**Stephens Creek**	**35.66**	**243**	*e*P	**P**	**18 35 57.2**	**+0.6**
	2.7nm,1.3s						
AS01	**Alice Springs**	**42.12**	**257**	*e*P	**P**	**18 36 51.8**	**+0.9**
AS31	**Alice Springs**	**42.16**	**257**	*e*P	**P**	**18 36 52.5**	**+1.3**
	7.7nm,0.8s						
ASAR	**Alice Springs**	**42.16**	**257**	P	**P**	**18 36 52.7**	**+1.5**
	26nm,0.8s,baz=86,slow=8.3,SNR=172						
ASAR				LR	LR	18 54 08.2	
	comp=Z,69nm,18.9s,baz=90,slow=36						
WRAB	**Tennant Creek**	**42.17**	**262**	*e*P	**P**	**18 36 52.0**	**+0.6**
	42nm,1.6s						
WR1	**Warramunga Arr**	**42.18**	**262**	*e*P	**P**	**18 36 51.8**	**+0.4**
	34nm,1.8s						
WRA	**Warramunga Arr**	**42.18**	**262**	P	**P**	**18 36 51.8**	**+0.4**
	3.0nm,0.9s,baz=95,slow=7.4,SNR=6.8						
WRA				LR	LR	18 54 07.6	
	comp=Z,159nm,18.7s,baz=175,slow=36						
AIN	**Ainahou**	**46.52**	**34**	*e*P	**P**	**18 37 26.4**	**+0.2**
	392nm,1.6s						
HPAH	**Hawaii Prepara**	**46.95**	**33**	*e*P	**P**	**18 37 30.9**	**+1.5**
	156nm,1.4s						
SOEI	**Soe**	**54.03**	**273**	*e*P	**P**	**18 38 21.3**	**-1.9**
	42nm,1.1s						
NWAO	**Narrogin (SRO)**	**56.25**	**243**	LR	LR	19 01 20.2	
	comp=Z,58nm,19.0s,slow=34						
VNDA	**Vanda**	**57.89**	**184**	P	**P**	**18 38 50.0**	**+0.3**
	1.5nm,0.8s,baz=7.5,slow=7.0,SNR=6.3						
VNDA	**Vanda**	**57.89**	**184**	*e*P	**P**	**18 38 49.6**	**-0.1**
SBA	**Scott Base**	**57.90**	**183**	*e*P	**P**	**18 38 50.5**	**+0.7**
	8.0nm,1.0s						
JAGI	**Jajag, Banyuwa**	**63.92**	**270**	*e*P	**P**	**18 39 30.5**	**-1.2**
	30nm,1.1s						
MJAR	**Matsushiro Arr**	**68.63**	**325**	P	**P**	**18 40 01.0**	**-0.4**
	5.9nm,1.0s,baz=153,slow=6.3,SNR=9.6						
QSPA	**South Pole Qui**	**69.75**	**180**	*e*P	**P**	**18 40 07.4**	**-0.7**
KSM	**Kuching**	**70.95**	**279**	*e*P	**P**	**18 40 15.9**	**-0.2**
	7.7nm,0.8s						
YSS	**Yuzh-Sakhalins**	**74.66**	**335**	*e*P	**P**	**18 40 36.0**	**-1.4**
	35nm,1.0s						
KSRS	**Korea Array**	**75.14**	**320**	P	**P**	**18 40 42.1**	**+1.7**
	4.8nm,0.9s,baz=135,slow=4.9,SNR=9.5						
KSRS				LR	LR	19 08 33.7	
	comp=Z,17nm,21.7s,baz=215,slow=32						
KS15	**Wonju Array Si**	**75.16**	**320**	*e*P	**P**	**18 40 38.0**	**-2.5**
KSAR	**Wonju Array Be**	**75.16**	**320**	P	**P**	**18 40 42.1**	**+1.6**
KS01	**Wonju Array Si**	**75.17**	**320**	*e*P	**P**	**18 40 40.9**	**+0.2**
PETK	**Petropavlovsk-**	**75.50**	**347**	P	**P**	**18 40 42.7**	**+0.5**
	5.2nm,0.9s,baz=170,slow=12,SNR=3.9						
PEA1	**Petropavlovsk-**	**75.50**	**347**	*e*P	**P**	**18 40 42.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**77.45**	**327**	P	**P**	**18 40 53.5**	**+0.1**
	8.0nm,0.9s,baz=114,slow=4.6,SNR=6.7						
DPD	**Davis Peak**	**79.18**	**46**	*e*P	**P**	**18 41 04.0**	**+0.8**
CIAC	**Catalina I. Ai**	**79.81**	**49**	*e*P	**P**	**18 41 08.0**	**+1.3**
RPV	**Rancho Palos V**	**80.00**	**48**	*e*P	**P**	**18 41 06.5**	**-1.2**
MAW	**Mawson**	**80.89**	**200**	P	**P**	**18 41 12.0**	**+0.1**
	4.4nm,0.9s,baz=90,slow=3.0,SNR=8.6						
MAW				LR	LR	19 12 29.1	
	comp=Z,42nm,21.1s,baz=62,slow=32						
MAW	**Mawson**	**80.89**	**200**	*e*P	**P**	**18 41 11.8**	**-0.1**
	2.5nm,1.4s						
PFO	**Pinyon Flats O**	**81.31**	**49**	LR	LR	19 07 42.7	
	comp=Z,89nm,20.2s,baz=298,slow=29						
ENH	**Enshi**	**83.91**	**305**	*e*P	**P**	**18 41 28.8**	**+0.4**
	26nm,1.1s						
BBB	**Bella Bella**	**85.43**	**29**	LR	LR	19 12 55.3	
	comp=Z,27nm,20.9s,baz=238,slow=31						
SEY	**Seymchan**	**85.66**	**348**	P	**P**	**18 41 36.8**	**+0.4**
	9.7nm,0.8s,baz=94,slow=4.5,SNR=8.7						
CM01	**Chiang Mai Arr**	**87.71**	**290**	*e*P	**P**	**18 41 48.5**	**+1.1**
CM31	**Chiang Mai Arr**	**87.74**	**290**	*e*P	**P**	**18 41 48.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**87.74**	**290**	P	**P**	**18 41 49.0**	**+1.5**
	1.5nm,0.9s,baz=110,slow=2.0,SNR=10.0						
IL1	**Eielson Array**	**88.70**	**14**	*e*P	**P**	**18 41 49.3**	**-1.8**
ILAR	**Eielson Array**	**88.70**	**14**	P	**P**	**18 41 49.7**	**-1.3**
	1.4nm,0.9s,baz=229,slow=5.9,SNR=6.5						
LTX	**Lajitas**	**89.05**	**58**	*e*P	**P**	**18 41 53.7**	**+0.1**
TXAR	**Lajitas Array**	**89.05**	**58**	P	**P**	**18 41 53.7**	**+0.1**
	1.8nm,0.9s,baz=216,slow=6.2,SNR=13						
TXAR				LR	LR	19 13 08.6	
	comp=Z,47nm,21.9s,baz=0.0,slow=30						
COLD	**Coldfoot**	**90.17**	**11**	*e*P	**P**	**18 41 57.7**	**-0.2**
	6.6nm,1.1s						
PD31	**Pinedale Array**	**90.53**	**44**	*e*P	**P**	**18 42 01.2**	**+0.8**
PDAR	**Pinedale Array**	**90.53**	**44**	P	**P**	**18 41 59.8**	**-0.7**
	0.2nm,0.4s,baz=255,slow=2.7,SNR=3.3						
BOZ	**Bozeman (W)**	**90.55**	**41**	*e*pP	pP	18 42 14.1	+2.6
SONA0	**Songino Array**	**94.01**	**320**	*e*P	**P**	**18 42 16.4**	**+0.1**
	14nm,2.0s						
SONM	**Songino Array**	**94.01**	**320**	P	**P**	**18 42 16.4**	**+0.1**
	0.4nm,0.7s,baz=102,slow=4.7,SNR=2.9						
BR101	**Keskin Array S**	**144.88**	**311**	*e*PKPdf	**PKPab**	**18 48 34.5**	**-0.1**
BR131	**Keskin Array S**	**144.88**	**311**	*e*PKPdf	**PKPab**	**18 48 34.5**	**-0.1**
BRTR	**Keskin Array B**	**144.88**	**311**	PKP	**PKPab**	**18 48 34.5**	**-0.1**
	5.4nm,1.1s,baz=116,slow=2.9,SNR=13						
BR231	**Keskin MP Arra**	**145.44**	**312**	*e*PKPbc	**PKPdf**	**18 48 35.1**	**-1.3**
BUR08	**Bucovina Ar. S**	**145.64**	**329**	*e*PKPdf	**PKPbc**	**18 48 36.7**	**-0.2**
BURAR	**Bucovina Array**	**145.66**	**328** ⇑	*i*P	**PKPab**	**18 48 37.3**	**+0.1**
TESR	**Tescani**	**145.66**	**326** ⇑	*i*P	**PKPab**	**18 48 37.0**	**-0.1**
STHS	**Stebnicka Huta**	**146.12**	**334**	*e*PKP	**PKPab**	**18 48 39.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**146.43**	**333**	*e*PKP	**PKPbc**	**18 48 39.1**	**+0.1**
LANS	**Liptovska Anna**	**147.04**	**336**	*e*PKP	**PKPab**	**18 48 44.7**	**+2.3**
UPC	**Upice**	**147.12**	**340**	*e*PKP	**PKPbc**	**18 48 40.9**	**-0.1**
UPC				*e*pPKP	**pPKPdf**	**18 48 50.1**	**-0.2**
DPC	**Dobruska-Polom**	**147.16**	**340**	*e*PKP	**PKPbc**	**18 48 40.6**	**-0.5**
VOIR		**147.21**	**326** ⇓	*i*P	**PKPab**	**18 48 42.8**	**-0.4**
CLL	**Collm**	**147.27**	**344**	*i* PKPbc	**PKPbc**	**18 48 41.1**	**-0.2**
	comp=Z,6.0nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**18 48 45.5**	**+1.9**
CLL				*i*		18 48 49.6	
BRG	**Berggiesshubel**	**147.41**	**343**	*e*P	**PKPdf**	**18 48 40.1**	**+0.9**
	comp=Z,3.7nm,1.0s						
DRGR		**147.45**	**330** ⇑	*i*P	**PKPbc**	**18 48 42.6**	**+0.5**
PVCC	**Panska Ves**	**147.54**	**342**	*e*PKP	**PKPbc**	**18 48 43.0**	**+0.9**
VYHS	**Vyhne**	**147.82**	**335**	*e*PKP	**PKPbc**	**18 48 42.7**	**-0.2**
PSZ	**Pöszkesteto**	**147.85**	**334** ⇓	*i*P	**PKPbc**	**18 48 44.0**	**+0.9**
PRU	**Pruhonice**	**148.

SPSI	**Sidrap Palu**	8.49	248	P	Pn	18 54 21.8 +2.6
SPSI				S	Sn	18 55 52.4 -1.0
BSSI	**Bau Bau, Buton**	8.90	234	P	Pn	18 54 27.8 +2.9
WRA	**Warramunga Arr**	20.08	161	P	P	18 56 44.4 -0.2
	1.1nm,0.5s,baz=345,slow=13,SNR=4.5					
ASAR	**Alice Springs**	23.49	166	P	P	18 57 19.9 -0.1
	0.6nm,0.6s,baz=345,slow=12,SNR=8.6					
ASAR				PcP	PcP	19 01 03.4 +0.2
	0.2nm,0.6s,baz=6.7,slow=2.5,SNR=4.3					
CMAR	**Chiang Mai Arr**	34.14	306	P	P	18 58 55.8 +1.1
	0.3nm,0.4s,baz=144,slow=7.6,SNR=6.0					
MJAR	**Matsushiro Arr**	38.45	14	P	P	18 59 29.5 -1.7
	1.1nm,0.8s,baz=191,slow=9.1,SNR=5.1					
MKAR	**Makanchi Array**	61.84	326	P	P	19 02 27.5 -0.1
	1.7nm,0.8s,baz=125,slow=8.4,SNR=11					
MKAR				PcP	sP	19 03 06.1 +2.7
	0.5nm,0.7s,baz=122,slow=6.7,SNR=3.0					
YAK	**Yakutsk**	62.72	1	P	P	19 02 32.6 -0.4
	6.2nm,0.7s,baz=342,slow=3.7,SNR=5.5					
KURBB	**Kurchatov Arra**	66.08	328	P	P	19 02 54.8 -0.5
	2.2nm,0.9s,baz=128,slow=5.9,SNR=17					
GEYT	**Alibeck**	74.50	310	P	P	19 03 46.9 -0.1
	1.5nm,0.8s,baz=126,slow=2.5,SNR=4.2					
AKTO	**Aktyubinsk**	77.81	322	P	P	19 04 04.6 -0.8
	1.0nm,0.6s,baz=124,slow=7.3,SNR=5.7					

*IDC **01** 19:02:54.6±0.9, 52°.04N×171°.86W, h0km, mb3.9/14, mb1 4.1/16, mb1mx3.9/47, mbtmp3.9/16, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/51, Error ellipse: s-maj=28.8km s-min=14.9km az=166.0*

*ISCJB **01** 19:02:59.3±0.4, 51°.78N±0°.06×171°.82W±0°.04, h50km, mb4.0/20, MS3.0/2, Error ellipse: s-maj=8.9km s-min=3.2km az=166.0*

*NEIC **01** 19:03:00.8±0.7, 51°.79N×171°.83W, h50km±6km, mb4.4/16, ML3.7(AEIC), Error ellipse: s-maj=11.6km s-min=4.2km az=169.0*

ISC 01 19:03:00.9±0.7, 51°.8N±0°.1×171°.84W±0°.04, h50km, n87, σ1§30/84, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	1.47	293	eP	Pn	Pn	19 03 24.6	-0.4
KOFP	**Korovin Flat P**	1.48	290	ePn	Pn	Pn	19 03 24.9	-0.2
ATKA	**Atka Island**	1.51	286	ePn	Pn	Pn	19 03 24.4	-1.1
ATKA				eSn	Sn	Sn	19 03 42.5	-1.6
KOKL	**Mount Kliuchef**	1.55	291	ePn	Pn	Pn	19 03 26.1	0.0
NIKH	**Nikolski High**	2.17	56	ePn	Pn	Pn	19 03 32.1	-2.4
NIKH				eSn	Sn	Sn	19 03 59.1	-1.2
GSTR	**Great Sitkin T**	2.63	278	ePn	Pn	Pn	19 03 40.2	-0.6
OKSO	**Okmok South**	2.73	54	ePn	Pn	Pn	19 03 41.6	-0.6
OKSO				eSn	Sn	Sn	19 04 14.6	+0.6
OKCE	**Okmok Cone E**	2.77	53	ePn	Pn	Pn	19 03 42.6	-0.2
OKNC	**Okmok New Cone**	2.81	52	P	Pn	Pn	19 03 43.0	-0.3
OKNC				S	Sn	Sn	19 04 18.2	+2.4
OKTU	**Okmok Mt. Tuli**	2.81	54	ePn	Pn	Pn	19 03 43.0	-0.2
OKFG	**Magazine Ridge**	2.88	54	ePn	Pn	Pn	19 03 44.7	+0.3
ADK	**Adak**	3.01	273	ePn	Pn	Pn	19 03 46.2	+0.2
ADK				eSn	Sn	Sn	19 04 22.5	+1.8
MREP	**Makushin Rep't**	3.69	55	P	Pn	Pn	19 03 55.3	0.0
MTBL	**Makushin Table**	3.80	53	ePn	Pn	Pn	19 03 56.6	-0.4
UNV	**Unalaska Valle**	3.83	56	ePn	Pn	Pn	19 03 57.2	-0.1
AKUT	**Akutan**	4.35	55	ePn	Pn	Pn	19 04 05.6	+1.3
SPIA	**Saint Paul Isl**	5.47	9	ePn	Pn	Pn	19 04 19.6	0.0
SDPT	**Sand Point**	7.64	58	ePn	Pn	Pn	19 04 50.6	+1.2
CHGN	**Chignik**	9.09	55	ePn	Pn	Pn	19 05 09.7	+0.5
GAMB	**Gambell**	12.01	0	ePn	Pn	Pn	19 05 48.8	-0.3
OHAK	**Old Harbor**	12.05	56	ePn	Pn	Pn	19 05 47.5	-2.2
KDAK	**Kodiak Island**	12.60	54	Pn	Pn	Pn	19 05 55.8	-1.3
	0.4nm,0.3s,baz=281,slow=16,SNR=4.4							
SVW2	**Sparrevohn**	12.90	38	ePn	Pn	Pn	19 06 04.2	+2.8
CNPM	**China Poot**	13.92	48	ePn	Pn	Pn	19 06 15.4	+0.3
TTO1	**Tatalina**	13.97	31	ePn	Pn	Pn	19 06 17.2	+1.3
BRLK	**Bradley Lake**	14.18	48	ePn	Pn	Pn	19 06 20.9	+2.2
SEW	**Seward**	14.98	48	ePn	Pn	Pn	19 06 26.9	-2.3
PPLA	**Purkeypile**	15.28	36	ePn	P	P	19 06 39.9	+2.7
	78nm,2.0s							
GLI	**Glacier Island**	16.36	47	ePn	Pn	Pn	19 06 45.4	-1.4
	159nm,1.8s							
FID	**Port Fidalgo**	16.59	47	ePn	Pn	Pn	19 06 48.3	-1.4
	66nm,1.2s							
SCM	**Sheep Creek Mo**	16.65	43	ePn	P	P	19 06 52.2	-0.1
	101nm,1.8s							
IMAR	**Indian Mountai**	16.91	26	ePn	Pn	Pn	19 06 53.0	-0.7
KLU	**Klutina**	17.12	45	ePn	P	P	19 06 57.1	-0.4
	59nm,1.8s							
BMRM	**Bremner River**	17.52	48	ePn	Pn	Pn	19 07 01.2	-0.1
	31nm,1.2s							
WRH	**Wood River Hil**	17.69	35	ePn	P	P	19 07 04.8	+1.2
	17nm,1.6s							
HARP	**HAARP**	17.82	43	ePn	P	P	19 07 06.5	+1.4
	118nm,1.9s							
CCB	**Clear Creek Bu**	17.89	35	ePn	P	P	19 07 07.5	+1.7
	19nm,1.9s							
MDM	**Murphy Dome**	17.92	34	ePn	P	P	19 07 09.0	+2.7
	13nm,1.4s							
IL1	**Eielson Array**	18.29	35	eP	P	P	19 07 09.7	-0.5
ILAR	**Eielson Array**	18.29	35	P	P	P	19 07 07.8	-2.5
	0.1nm,0.3s,baz=233,slow=10,SNR=6.5							
ILB	**Eielson Array**	18.29	35	eP	P	P	19 07 08.9	-1.3
PEA1	**Petropavlovsk-**	18.55	286	eP	Pn	Pn	19 07 14.4	+0.5
PETK	**Petropavlovsk-**	18.55	286	P	Pn	Pn	19 07 14.4	+0.5
	0.2nm,0.3s,baz=111,slow=11,SNR=4.1							
PETK				LR	LR	LR	19 15 09.9	
	comp=Z,42nm,18.6s,baz=101,slow=40							
SEY	**Seymchan**	21.96	314	P	P	P	19 07 50.7	+0.7
	2.4nm,0.7s,baz=77,slow=15,SNR=3.7							
DLBC	**Dease Lake**	24.48	58	P	P	P	19 08 17.1	+2.0
	3.2nm,0.6s,baz=276,slow=10,SNR=4.9							
DLBC	**Dease Lake**	24.48	58	eP	P	P	19 08 17.3	+2.2
	39nm,1.8s							
INK	**Inuvik**	24.66	34	P	P	P	19 08 15.2	-1.3
	1.1nm,0.4s,baz=243,slow=5.6,SNR=7.3							
INK	**Inuvik**	24.66	34	eP	P	P	19 08 15.4	-1.0
	12nm,1.5s							
YKA	**Yellowknife Ar**	31.76	48	P	P	P	19 09 19.8	0.0
	1.3nm,0.6s,baz=272,slow=8.0,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	36.08	215	T	T	T	19 48 34.3	
	baz=20,slow=76,SNR=41							
H11N3	**WAKE ISLAND Hy**	36.09	215	T	T	T	19 48 35.4	
	baz=20,slow=76,SNR=41							
H11N1	**WAKE ISLAND Hy**	36.10	215	T	T	T	19 48 35.7	
	baz=20,slow=76,SNR=39							
H11S1	**WAKE ISLAND Hy**	37.28	215	T	T	T	19 50 06.7	
	baz=22,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy**	37.29	215	T	T	T	19 50 02.0	
	baz=22,slow=76,SNR=33							
H11S3	**WAKE ISLAND Hy**	37.30	215	T	T	T	19 50 01.0	
	baz=22,slow=76,SNR=28							
HLPM	**Lions Peak**	37.98	93	ePP	pP	pP	19 10 21.9	-5.0
MJAR	**Matsushiro Ar**	38.15	266	P	P	P	19 10 16.1	+0.9
	0.7nm,0.7s,baz=351,slow=16,SNR=8.5							
MJAR				LR	LR	LR	19 23 38.5	
	comp=Z,22nm,21.6s,baz=150,slow=33							
BCGM	**Cienega Road**	38.37	93	eP	P	P	19 10 13.6	-3.5
PTRM	**Twissleman Ran**	39.75	93	eP	P	P	19 10 27.3	-1.3
YHH	**Holmes Hill**	40.11	75	eP	P	P	19 10 31.9	+0.1
	4.1nm,1.2s							
SBC	**Santa Barbara**	40.85	94	eP	P	P	19 10 36.7	-0.9
PD31	**Pinedale Array**	42.01	77	eP	P	P	19 10 47.1	-0.2
PDAR	**Pinedale Array**	42.01	77	P	P	P	19 10 47.9	+0.5
	1.1nm,0.8s,baz=291,slow=4.6,SNR=7.6							
PDAR	**Pinedale Array**	42.01	77	eP	P	P	19 10 47.0	-0.3
KSRS	**Korea Array**	43.95	275	P	P	P	19 11 03.6	+0.9
	1.9nm,0.8s,baz=291,slow=9.4,SNR=5.0							
KSAR	**Wonju Array Be**	43.98	276	P	P	P	19 11 03.6	+0.6
YUH	**Yuha Desert**	44.40	93	eP	P	P	19 11 05.5	-0.9
113A	**Mohawk Valley,**	45.66	91	eP	P	P	19 11 19.4	+3.0
	2.5nm,0.8s							
LTX	**Lajitas**	54.29	87	eP	P	P	19 12 22.4	+0.4
TX31	**Lajitas Ar. Si**	54.29	87	eP	P	P	19 12 22.4	+0.3
TXAR	**Lajitas Array**	54.29	87	P	P	P	19 12 22.4	+0.4
	1.1nm,0.7s,baz=298,slow=5.4,SNR=15							
KURK	**Kurchatov**	61.77	317	eP	P	P	19 13 13.9	0.0
	2.5nm,0.8s							
KURBB	**Kurchatov Arra**	61.88	317	P	P	P	19 13 14.1	-0.6
	1.3nm,0.7s,baz=46,slow=7.1,SNR=7.2							
MK32	**Makanchi Array**	63.07	312	eP	P	P	19 13 21.6	-1.2
MKAR	**Makanchi Array**	63.07	312	P	P	P	19 13 21.6	-1.2
	0.3nm,0.5s,baz=40,slow=5.9,SNR=4.7							
FIA0	**FINESS Array S**	66.20	351	eP	P	P	19 13 41.8	-1.0
FINES	**FINESS Array B**	66.20	351	P	P	P	19 13 41.8	-1.0
	2.8nm,1.1s,baz=64,slow=6.3,SNR=3.0							
NB2	**NORSAR Subarra**	67.48	358	P	P	P	19 13 49.9	-1.1
	comp=Z,0.9nm,0.7s,baz=4.3,slow=6.5							
NB200	**NORSAR Array S**	67.48	358	eP	P	P	19 13 49.7	-1.3
NOA	**NORSAR Array B**	67.48	358	P	P	P	19 13 49.7	-1.3
	comp=Z,0.5nm,0.6s,baz=3.1,slow=6.3,SNR=3.8							
AKTO	**Aktyubinsk**	69.72	329	P	P	P	19 14 04.9	-0.2
	comp=Z,4.1nm,0.5s,baz=52,slow=6.0,SNR=11							
CM31	**Chiang Mai Arr**	75.25	281	eP	P	P	19 14 37.9	-0.6
CMAR	**Chiang Mai Arr**	75.25	281	P	P	P	19 14 38.9	+0.4
	comp=Z,0.8nm,0.7s,baz=32,slow=7.2,SNR=7.2							
GERES	**GERESS Array B**	79.62	356	P	P	P	19 15 02.2	-0.3
	comp=Z,0.3nm,0.6s,baz=17,slow=5.6,SNR=3.5							
MLR	**Muntele Rosu**	81.88	347	LR	LR	LR	19 53 37.5	
	comp=Z,7.4nm,19.7s,baz=354,slow=37							
AS31	**Alice Springs**	88.87	228	eP	P	P	19 15 49.8	+0.2
	comp=Z,1.0nm,1.0s							
ASAR	**Alice Springs**	88.87	228	P	P	P	19 15 50.4	+0.8
	comp=Z,1.5nm,0.9s,baz=28,slow=4.9,SNR=15							

*ECX **01** 19:10:38.8±0.6, 31°.21N×115°.63W, h5km, MD2.3, ML2.5*

*MEX **01** 19:10:38.7±0.8, 30°.96N×115°.58W, h26km±29km, MD3.6*

ISC 01 19:10:36.8±1.8, 31°.2N±0°.2×115°.6W±0°.1, h29km±16km, n10, σ0§44/17, 2C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	0.16	143	eP	Pb	Pb	19 10 43.7	+0.8
SPIG				eS	Sb	Sb	19 10 46.6	-0.4
SPIG	**San Pedro Mart**	0.16	143	eP	Pb	Pb	19 10 43.3	+0.4
SPIG				eS	Sb	Sb	19 10 46.7	-0.3
SPX	**San Pedro Mart**	0.16	142	⇑P	Pb	Pb	19 10 42.7	-0.2
SPX				eS	Sb	Sb	19 10 46.4	-0.7
SPX				⇓e			19 10 46.7	
SPX				IAML			19 10 46.7	
	comp=E,703nm,0.1s							
ECBX	**El Chinero**	0.54	56	⇑eP	Pn	Pn	19 10 48.5	-0.1
ECBX				eS	Sn	Sn	19 10 56.8	+0.1
ECNX	**Esteban Cantu**	1.00	299	eP	Pb	Pb	19 10 55.7	+0.1
PBX	**Punta Banda**	1.13	300	eP	Pb	Pb	19 10 57.7	-0.1
CBX	**Cerro Bola**	1.47	321	eP	Pb	Pb	19 11 03.3	-0.2
CBX				eS	Sb	Sb	19 11 22.7	+0.8
CBX	**Cerro Bola**	1.47	321	eP	Pb	Pb	19 11 03.5	0.0
CBX				eS	Sb	Sb	19 11 22.1	+0.2
CBX				IAML			19 11 24.5	
	comp=N,75nm,0.4s							
CBX				⇓e			19 11 24.5	
TJIG	**Tijuana**	1.57	324	eP	Pb	Pb	19 11 05.0	-0.2
TJIG				eS	Sb	Sb	19 11 24.5	-0.1
BAR	**Barrett**	1.77	329	eP	Pb	Pb	19 11 08.5	-0.2

IDC 01 19:12:58.1±1.8, 1°.29N×128°.20E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/28, mbtmp3.4/4, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/17, Error ellipse: s-maj=63.5km s-min=25.7km az=61.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	3.74	125	Pn	Pn	Pn	19 13 57.0	-0.1
	7.0nm,0.3s,baz=96,slow=23,SNR=1.9							
SIJI					Sn	Sn	19 14 43.7	+1.8
	6.2nm,0.3s,baz=232,slow=22,SNR=1.7							
GUMO	**Guam**	20.53	53	LR	LR	LR	19 23 16.4	
	comp=Z,137nm,20.1s,baz=335,slow=30							
WRA	**Warramunga Arr**	21.94	164	P	P	P	19 17 54.5	+1.1
	1.2nm,0.6s,baz=347,slow=10,SNR=4.7							
ASAR	**Alice Springs**	25.42	168	P	P	P	19 18 26.6	-1.1
	0.1nm,0.4s,baz=350,slow=8.9,SNR=2.5							
SONM	**Songino Array**	50.07	341	P	P	P	19 21 54.8	0.0
	0.4nm,0.6s,baz=152,slow=6.5,SNR=2.4							

*ISCJB **01** 19:13:12.8±0.2, 25°.82N±0°.06×124°.52E±0°.04, h187km±4km, mb4.2/28, Error ellipse: s-maj=10.2km s-min=3.3km az=150.3*

*IDC **01** 19:13:13.4±2.1, 26°.02N×124°.50E, h167km±22km, mb3.8/13, mb1 3.8/15, mb1mx3.6/36, mbtmp4.3/15, Error ellipse: s-maj=20.7km s-min=17.5km az=63.0*

*JMA **01** 19:13:14.9±0.3, 25°.95N×124°.37E, h160km, M3.9*

*NEIC **01** 19:13:14.3±0.4, 25°.85N×124°.42E, h184km±4km, mb4.4/14, Error ellipse: s-maj=9.2km s-min=4.7km az=140.0*

ISC 01 19:13:13.8±0.6, 25°.90N±0°.07×124°.50E±0°.04, h178km±7km, n84, σ1§51/116, mb4.2/28, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	1.18	145	P	Pn	Pn	19 13 43.8	+1.0
JIKM				S	Sn	Sn	19 14 05.6	+0.5
JIRB	**Irabujima**	1.23	150	P	Pn	Pn	19 13 43.8	+0.7
JIRB				eS	Sn	Sn	19 14 05.4	-0.4
JTJ	**Tarama**	1.27	172	P	Pn	Pn	19 13 44.0	+0.5
JTJ				S	Sn	Sn	19 14 05.8	-0.6
JMJ	**Miyako jima 2**	1.30	146	P	Pn	Pn	19 13 44.8	+1.1
JMJ				S	Sn	Sn	19 14 07.1	+0.2
JISG	**Ishigakijimahi**	1.32	188	P	Pn	Pn	19 13 44.0	+0.1
JISG				S	Sn	Sn	19 14 05.5	-1.7
JOGS	**Gusukube**	1.40	144	P	Pn	Pn	19 13 46.1	+1.4
JOGS				S	Sn	Sn	19 14 09.1	+0.6
JIJ	**Ishigaki jima**	1.56	192	P	Pn	Pn	19 13 45.7	-0.5
JIJ				S	Sn	Sn	19 14 08.7	-2.7
IRIF	**Iriomote-Funau**	1.71	204	P	Pn	Pn	19 13 47.2	-0.5
IRIF				S	Sn	Sn	19 14 12.6	-1.3
JKRS	**Kuro-shima**	1.71	195	P	Pn	Pn	19 13 47.5	-0.2
JKRS				S	Sn	Sn	19 14 12.5	-1.5
HATJ	**Hateruma jima**	1.94	199	P	Pn	Pn	19 13 50.0	-0.1
HATJ				S	Sn	Sn	19 14 16.4	-1.9
YOJ	**Yonaguni jima**	1.97	224	P	Pn	Pn	19 13 50.8	+0.4
YOJ				eS	Sn	Sn	19 14 17.7	-1.1
YOJ	**Yonaguni jima**	1.97	224	ePn	Pn	Pn	19 13 50.4	0.0
YOJ				eSn	Sn	Sn	19 14 19.1	+0.3
JYNG	**Yonagunijimaku**	2.02	225	P	Pn	Pn	19 13 50.8	-0.1
JYNG				S	Sn	Sn	19 14 19.0	-0.7
JKE	**Kume jima 2**	2.10	78	P	Pn	Pn	19 13 52.9	+1.2
JKE				eS	Sn	Sn	19 14 21.5	+0.3
JAGN	**Aguni-jima**	2.55	74	P	Pn	Pn	19 13 58.0	+1.0
JAGN				S	Sn	Sn	19 14 30.8	+0.2
TATO	**Taipei**	2.88	252	ePn	Pn	Pn	19 14 02.1	+1.3
JJT2	**Tamagusuku 2**	2.93	85	P	Pn	Pn	19 14 03.1	+1.6
JJT2				S	Sn	Sn	19 14 38.7	+0.1
YHNB	**Yeheng**	3.08	247	ePn	Pn	Pn	19 14 04.7	+1.2
YHNB				eSn	Sn	Sn	19 14 43.7	+1.6
NACB	**Ninganchiao**	3.15	238	ePn	Pn	Pn	19 14 03.3	-0.9
JNTH	**Nagotoyohara**	3.22	78	P	Pn	Pn	19 14 06.1	+1.1
JNTH				S	Sn	Sn	19 14 43.8	-1.2
JIH	**Iheya**	3.31	69	P	Pn	Pn	19 14 06.9	+0.9
JIH				S	Sn	Sn	19 14 45.6	-1.2
JOW	**Kunigami**	3.51	74	P	Pn	Pn	19 14 09.2	+0.6
	92nm,0.3s,baz=131,slow=24,SNR=377							
JOW				S	Sn	Sn	19 14 48.8	-2.6
	91nm,0.3s,baz=134,slow=26,SNR=28							
JOW	**Kunigami**	3.51	74	P	Pn	Pn	19 14 09.1	+0.6
JOW				S	Sn	Sn	19 14 48.8	-2.6
JOW	**Kunigami**	3.51	74	ePn	Pn	Pn	19 14 09.2	+0.6
JOW				eSn	Sn	Sn	19 14 49.6	-1.9
YULB	**Yu-li**	3.84	230	ePn	Pn	Pn	19 14 11.0	-1.8
YULB				eSn	Sn	Sn	19 14 53.5	-5.5
SSLB	**Suanglung**	3.85	238	ePn	Pn	Pn	19 14 12.6	-0.4
JOKE	**Okinoerabujima**	3.92	67	P	Pn	Pn	19 14 13.8	0.0
JOKE				eS	Sn	Sn	19 14 58.7	-2.1
TPUB	**Ta-pu**	4.37	235	ePn	Pn	Pn	19 14 19.3	-0.4
TPUB				eSn	Sn	Sn	19 15 09.2	-2.0
TWG	**Pinlang**	4.38	226	ePn	Pn	Pn	19 14 17.6	-2.1
TWG				eSn	Sn	Sn	19 15 05.9	-5.5
JTK	**Tokunoshima**	4.39	64	P	Pn	Pn	19 14 19.6	-0.3
JTK				eS	Sn	Sn	19 15 08.6	-3.0
JAMN	**Amaminishikomi**	4.78	60	P	Pn	Pn	19 14 24.2	-0.5
JAM	**Amami Oshima**	5.19	60	P	Pn	Pn	19 14 29.2	-0.9
JAM				eS	Sn	Sn	19 15 26.8	-3.3
JTAJ	**Takarajima**	5.28	51	P	Pn	Pn	19 14 31.5	+0.2
JMZ	**Minamidaito 2**	6.05	89	P	Pn	Pn	19 14 41.4	0.0
JMZ				S	Sn	Sn	19 15 43.7	-6.7
JNU	**Nakatsue**	9.09	36	P	Pn	Pn	19 15 23.9	+2.6
	0.6nm,0.3s,baz=189,slow=18,SNR=11							
JNU	**Nakatsue**	9.09	36	ePn	Pn	Pn	19 15 23.1	+1.7
KS15	**Wonju Array Si**	11.86	13	ePn	Pn	Pn	19 15 59.9	+2.5
KSAR	**Wonju Array Be**	11.86	13	P	P	P	19 16 00.1	-3.1
KSRS	**Korea Array**	11.88	13	P	Pn	Pn	19 16 00.1	+2.5
	0.5nm,0.3s,baz=195,slow=12,SNR=9.7							
MJAR	**Matsushiro Arr**	15.79	45	P	P	P	19 16 47.9	+1.1
	0.1nm,0.3s,baz=232,slow=8.9,SNR=4.3							
ASAJ	**Asahikawa**	23.36	34	P	P	P	19 18 06.2	+0.1
	14nm,1.0s,baz=235,slow=9.2,SNR=11							
ASAJ	**Asahikawa**	23.36	34	eP	P	P	19 18 06.5	+0.3
	123nm,1.5s							
HIA	**Hailar**	23.62	352	eP	P	P	19 18 09.0	+0.5
	20nm,1.4s							
KLR	**Kul'dur**	23.96	12	P	P	P	19 18 12.1	+0.5
	0.2nm,0.6s,baz=187,slow=7.1,SNR=4.2							
ULN	**Ulaanbaatar**	25.87	332	eP	P	P	19 18 29.7	+0.7
	2.3nm,0.9s							
SONA0	**Songino Array**	26.13	332	eP	P	P	19 18 31.4	+0.1
	15nm,2.0s							
SONM	**Songino Array**	26.13	332	P	P	P	19 18 31.4	+0.1
	0.9nm,0.3s,baz=152,slow=11,SNR=8.8							
SONA1	**Songino Array**	26.13	332	eP	P	P	19 18 31.3	-0.1
SBUM	**Sibu**	26.14	209	eP	P	P	19 18 31.3	-0.2
	5.0nm,1.1s							
LSA	**Lhasa**	29.69	285	eP	P	P	19 19 03.2	-0.3
	12nm,1.9s							
YAK	**Yakutsk**	36.29	4	eP	P	P	19 20 00.1	+0.3
	33nm,1.9s							
PETK	**Petropavlovsk-**	36.77	33	P	P	P	19 20 04.3	+0.2
	3.7nm,0.8s,baz=177,slow=2.7,SNR=7.0							
PETK	**Petropavlovsk-**	36.77	33	eP	P	P	19 20 05.0	+0.9
PEA1	**Petropavlovsk-**	36.78	33	eP	P	P	19 20 04.3	+0.2
PET	**Petropavlovsk**	37.20	34	eP	P	P	19 20 08.4	+0.8
	134nm,1.7s							
MK01	**Makanchi Array**	39.27	313	eP	P	P	19 20 24.8	-0.2
MK31	**Makanchi Array**	39.28	313	eP	P	P	19 20 24.9	-0.2
MK32	**Makanchi Array**	39.28	313	eP	P	P	19 20 25.0	-0.2
MK32				ePcP	PcP	PcP	19 22 30.7	+0.5
MKAR	**Makanchi Array**	39.28	313	P	P	P	19 20 25.0	-0.2
	3.1nm,0.5s,baz=102,slow=9.6,SNR=46							
MKAR				PcP	PcP	PcP	19 22 30.7	+0.5
	0.7nm,0.8s,baz=104,slow=2.3,SNR=4.0							
MKAR	**Makanchi Array**	39.28	313	eP	P	P	19 20 24.5	-0.7
	31nm,0.5s							
MKAR				PcP	PcP	PcP	19 22 30.7	+0.5
ZAA0	**Zalesovo Array**	40.52	324	eP	P	P	19 20 33.9	-1.3
ZALV	**Zalesovo Beam**	40.52	324	P	P	P	19 20 34.5	-0.7
	4.1nm,0.4s,baz=119,slow=8.5,SNR=20							
ZALV	**Zalesovo Beam**	40.52	324	eP	P	P	19 20 34.2	-1.0
ZAA1	**Zalesovo Array**	40.53	324	eP	P	P	19 20 34.5	-0.7
KURK	**Kurchatov**	42.78	318	eP	P	P	19 20 52.9	-0.7
	4.5nm,1.2s							
KKAR	**Karatay Array**	46.87	306	eP	P	P	19 21 25.3	-0.8
	6.5nm,0.7s							
KBL	**Kabul**	48.18	294	eP	P	P	19 21 37.4	+0.8
	4.9nm,0.6s							
NRIK	**Noril'sk**	48.58	343	P	P	P	19 21 39.0	+0.3
	2.2nm,0.3s,baz=117,slow=4.3,SNR=5.3							
ASAR	**Alice Springs**	50.11	169	P	P	P	19 21 52.6	+1.7
	0.1nm,0.6s,baz=350,slow=4.7,SNR=2.8							
ABKAR	**Akbulak array**	54.43	313	eP	P	P	19 22 22.3	-0.1
	46nm,0.5s							
ARU	**Arti**	55.58	322	eP	P	P	19 22 30.2	-0.3
	3.8nm,0.6s							
GEYT	**Alibeck**	56.55	300	P	P	P	19 22 39.1	+1.3
	4.0nm,0.6s,baz=29,slow=3.4,SNR=13							
KBZ	**Khabaz**	66.76	309	P	P	P	19 23 46.0	+0.1
	2.4nm,0.8s,baz=104,slow=3.5,SNR

BOLP Bolinao 2.15 197 *eP* **Pn 19 29 30.6 +1.3**
SCZP Santa Cruz 2.74 193 *eP* **Pn 19 29 39.1 +1.8**
TGY Tagaytay City 4.34 175 Pn **Pn 19 29 59.6 +0.3**
17nm,0.3s,baz=4.4,slow=13,SNR=1.9
TGY Sn **Sn 19 30 53.9 +5.1**
baz=4.4,slow=22,SNR=1.6
TWG Pinlang 4.37 6 *e*Pn **Pn 19 29 59.7 0.0**
TWG *e*Sn **Sn 19 30 49.2 -0.1**
LQP Lukban 4.42 168⇑ *e*P Pn 19 30 09.6 +9.1
TPUB Ta-pu 4.82 1 *e*Pn **Pn 19 30 05.7 -0.2**
TPUB *e*Sn **Sn 19 30 55.5 -4.9**
GQP Guinayangan 4.87 158⇑ *e*P **Pn 19 30 06.1 -0.5**
GQP *e*S **Sn 19 31 05.6 +3.9**
YULB Yu-li 4.96 8 *e*Pn **Pn 19 30 07.4 -0.4**
YULB *e*Sn **Sn 19 31 03.5 -0.4**
SSLB Suanglung 5.32 4 *e*Pn **Pn 19 30 12.3 -0.4**
SSLB *e*Sn **Sn 19 31 08.8 -3.9**
NACB Ninganchiao 5.77 9 *e*Pn **Pn 19 30 18.9 +0.1**
NACB *e*Sn **Sn 19 31 19.3 -4.5**
SJMP San Jose 5.98 175 *e*P **Pn 19 30 23.3 +1.5**
YHNB Yeheng 6.23 7 *e*Pn **Pn 19 30 25.4 +0.2**
YHNB *e*Sn **Sn 19 31 28.7 -6.4**
TATO Taipei 6.55 7 *e*Pn **Pn 19 30 31.6 +2.1**
TATO *e*Sn **Sn 19 31 39.3 -3.4**
QZH Quanzhou 6.71 344 Sn **Sn 19 31 41.6 -5.3**
QZH smax smax
comp=N,160nm,0.4s
QZH smax smax
comp=E,260nm,0.4s
QIZ Qiongzhong 10.18 275 P **Pn 19 31 16.3 -2.9**
QIZ S **Sn 19 33 08.0 -3.9**
QIZ pmax pmax
comp=E,36nm,0.7s
QIZ Qiongzhong 10.18 275 *e*Pn **Pn 19 31 16.3 -2.9**
QIZ *e*Sn Sn 19 33 01.8 -10
MYLDM Lahad Datu 13.35 189 *e*Pn **Pn 19 32 05.8 +3.2**
NJ2 Nanjing 13.63 354 *e*P **Pn 19 32 05.7 -0.6**
NJ2 pmax pmax
comp=E,8.0nm,0.5s
GYA Guiyang 15.11 304 *e*P **Pn 19 32 27.8 +1.8**
GYA pmax pmax
comp=E,10.0nm,0.7s
SLVN Son La 15.93 283 *e*Pn **Pn 19 32 36.9 +0.5**
comp=E,14nm,0.9s
KMI Kunming 17.83 295 P **P 19 33 02.3 +2.0**
KMI pmax pmax
comp=E,13nm,0.9s
KMI pmax pmax
comp=E,220nm,4.3s
SBUM Sibu 17.89 208 *e*Pn **P 19 33 00.3 -0.4**
comp=E,10.0nm,1.2s
CD2 Chengdu 19.64 312 *e*P **Pn 19 33 21.5 -0.3**
KSM Kuching 19.65 212 *e*P **P 19 33 19.7 -0.4**
comp=E,9.9nm,1.0s
KS15 Wonju Array Si 19.98 17 *e*P **Pn 19 33 25.7 +0.1**
KSAR Wonju Array Be 19.98 17 P **P 19 33 23.9 +0.5**
KSRS Korea Array 20.00 17 P **P 19 33 23.9 +0.3**
comp=E,1.1nm,0.5s,baz=201,slow=11,SNR=6.2
KSRS LR LR 19 41 14.2
comp=E,28nm,18.6s,baz=197,slow=37
KS01 Wonju Array Si 20.01 17 *e*P Pn 19 33 26.7 +0.7
CHTO Chiang Mai 20.49 274 *e*P **P 19 33 30.1 +0.9**
comp=E,9.1nm,0.9s
CM01 Chiang Mai Arr 20.50 273 *e*P **P 19 33 30.5 +1.2**
CM31 Chiang Mai Arr 20.51 273 *e*P **P 19 33 30.5 +1.1**
CMAR Chiang Mai Arr 20.51 273 P **P 19 33 30.6 +1.2**
comp=E,7.7nm,1.0s,baz=91,slow=8.7,SNR=35
CMAR PcP **PcP 19 37 39.6 +0.3**
comp=E,0.8nm,0.6s,baz=107,slow=0.1,SNR=5.3
CMAR LR LR 19 40 26.4
comp=E,72nm,20.5s,baz=146,slow=34
SIJI Sorong 21.90 150 P **P 19 33 41.8 -2.5**
comp=E,42nm,0.4s,baz=329,slow=20,SNR=7.8
LZH Lanzhou 22.95 323 *e*P **P 19 33 57.2 +1.7**
LZH pP pP 19 34 06.0 -2.3
LZH sP sP 19 34 09.8 -5.6
LZH PP **PnPn 19 34 30.7 +8.4**
LZH pmax pmax
comp=E,21nm,1.2s
LZH pmax pmax
comp=E,65nm,4.3s
LZH LR LR
comp=E,370nm,10.2s
LZH LR LR
comp=E,380nm,11.0s
LZH LR LR
comp=E,430nm,14.6s
HHC Hu-ho-hao-te 23.62 343 *e*P **P 19 34 03.8 +1.9**
HHC sP pP 19 34 17.5 +2.1
HHC PP **PnPn 19 34 37.4 +6.0**
HHC S **S 19 38 16.7 +4.4**
HHC sS sS 19 38 31.5 -4.5
HHC pmax pmax
comp=E,20nm,1.5s
HHC pmax pmax
comp=E,55nm,4.7s
HHC LR LR
comp=E,180nm,12.3s
HHC LR LR
comp=E,210nm,11.1s
GUMO Guam 23.84 98 LR LR 19 43 39.3
comp=E,76nm,18.0s,baz=290,slow=38
GTA Gaotai 27.55 324 *e*P **P 19 34 38.5 +1.0**
GTA pP pP 19 34 47.7 -3.9
GTA sP sP 19 34 51.5 -6.9
GTA pmax pmax
comp=E,2.0nm,0.5s
LSA Lhasa 29.01 298 *e*P **P 19 34 51.8 +0.7**
comp=E,12nm,1.5s
TAPN Taplejung 31.46 292 *e*P **P 19 35 13.2 +0.7**
SONA0 Songino Array 31.51 342 *e*P **P 19 35 13.4 +0.9**
comp=E,12nm,1.8s
SONM Songino Array 31.51 342 P **P 19 35 13.4 +0.9**
comp=E,0.6nm,0.7s,baz=163,slow=12,SNR=4.3
SONM LR LR 19 48 30.8
comp=E,59nm,21.2s,baz=206,slow=37
SONA1 Songino Array 31.52 342 *e*P **P 19 35 12.1 -0.4**
ODAN Odare 31.66 291 *e*P **P 19 35 14.7 +0.5**
comp=E,13nm,0.6s
KLR Kul'dur 32.00 14 P **P 19 35 17.4 +0.8**
comp=E,0.2nm,0.6s,baz=226,slow=5.1,SNR=5.8
RAMN Ramite 32.38 291 *e*P **P 19 35 21.3 +0.8**
comp=E,29nm,0.6s
JIRN Jiri 32.84 293 *e*P **P 19 35 25.4 +0.7**
comp=E,87nm,0.7s
GUN Gumba 33.15 293 *e*P **P 19 35 28.1 +0.8**
comp=E,34nm,0.7s
PKIN Phulchoki 33.52 292 *e*P **P 19 35 30.8 +0.3**
comp=E,8.4nm,0.6s
KKN Kakani 33.66 293 *e*P **P 19 35 31.7 +0.1**
GKN Gorkha 34.25 293 *e*P **P 19 35 36.6 -0.1**
comp=E,22nm,0.9s
DANN Dangsing 35.07 293 *e*P **P 19 35 44.6 +0.7**
KOLN Koldanda 35.13 292 *e*P **P 19 35 44.5 +0.2**
comp=E,12nm,0.7s
PYUN Piuthan 35.70 293 *e*P **P 19 35 49.5 +0.2**
comp=E,16nm,0.7s
WMQ Urumqi 37.42 320 P **P 19 36 04.8 +1.2**
WMQ pP pP 19 36 14.5 -3.5
WMQ sP sP 19 36 17.8 -6.9
WMQ PP **PnPn 19 37 38.1 +7.1**
WMQ PcP **PcP 19 38 22.7 +1.4**
WMQ pmax pmax
comp=E,8.0nm,0.6s
WMQ pmax pmax
comp=E,120nm,6.9s
COEN Coen 39.17 144 *e*P **P 19 36 15.2 -3.2**
comp=E,3.4nm,0.9s
WRAB Tennant Creek 40.48 160 *e*P **P 19 36 25.1 -4.0**
comp=E,18nm,0.8s
WRAB *e*S **S 19 42 32.3 -1.8**
WR1 Warramunga Arr 40.48 160 *e*P **P 19 36 25.4 -3.8**
comp=E,7.7nm,0.9s
WR1 *e*PcP **PcP 19 38 30.8 -0.3**
WRA Warramunga Arr 40.48 160 P **P 19 36 25.4 -3.8**
comp=E,3.1nm,0.5s,baz=341,slow=9.1,SNR=19
WRA PcP **PcP 19 38 30.8 -0.3**
comp=E,4.3nm,0.7s,baz=341,slow=3.4,SNR=19
WB2 Warramunga Arr 40.48 160 *e*P P 19 36 24.4 -4.9
MK01 Makanchi Array 42.20 321 *e*P **P 19 36 43.9 +0.8**
MK31 Makanchi Array 42.22 321 *e*P **P 19 36 44.4 +1.2**
MK32 Makanchi Array 42.22 321 *e*P **P 19 36 44.5 +1.2**
MK32 *e*PcP **PcP 19 38 37.0 +0.5**
MKAR Makanchi Array 42.22 321 P **P 19 36 44.5 +1.2**
comp=E,5.1nm,0.9s,baz=118,slow=9.6,SNR=27
MKAR PcP **PcP 19 38 36.9 +0.5**
comp=E,0.6nm,0.7s,baz=93,slow=2.8,SNR=3.4
MKAR LR LR 19 55 11.6
comp=E,60nm,19.2s,baz=74,slow=37
MKAR Makanchi Array 42.22 321 *e*P **P 19 36 44.4 +1.2**
comp=E,34nm,0.9s
MKAR PcP **PcP 19 38 37.0 +0.5**
H11S3 WAKE ISLAND Hy 43.65 82 T T 20 22 19.0
baz=276,slow=75,SNR=40
H11S1 WAKE ISLAND Hy 43.66 82 T T 20 22 19.8
baz=276,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 43.67 82 T T 20 22 20.4
baz=276,slow=75,SNR=30
H11N1 WAKE ISLAND Hy 43.69 81 T T 20 22 30.5
baz=275,slow=74,SNR=4.4
H11N2 WAKE ISLAND Hy 43.70 81 T T 20 22 25.0
baz=275,slow=74,SNR=4.9
H11N3 WAKE ISLAND Hy 43.71 81 T T 20 22 26.0
baz=275,slow=74,SNR=4.4
KSH Kashi 43.76 308 P **P 19 36 59.6 +3.7**
KSH pP pP 19 37 09.7 -1.0
KSH sP sP 19 37 13.3 -4.0
KSH PP **PcP 19 38 44.6 +2.7**
KSH S **S 19 43 29.1 +6.6**
KSH pmax pmax
comp=E,6.0nm,0.7s
KSH pmax pmax
comp=E,87nm,4.9s
KSH LR LR
comp=E,67nm,6.2s
KSH LR LR
comp=E,85nm,4.6s
KSH LR LR
comp=E,59nm,7.1s
AS31 Alice Springs 43.84 162 *e*P **P 19 36 53.5 -3.1**
comp=E,1.9nm,0.6s
ASAR Alice Springs 43.84 162 P **P 19 36 53.5 -3.1**
comp=E,2.6nm,0.4s,baz=342,slow=7.0,SNR=79
AS01 Alice Springs 43.85 162 *e*P **P 19 36 53.7 -2.9**
YAK Yakutsk 44.00 6 *e*P **P 19 36 56.2 -1.1**
comp=E,19nm,0.5s
ZAA0 Zalesovo Array 44.83 331 *e*P **P 19 37 03.6 -0.5**
ZALV Zalesovo Beam 44.83 331 P **P 19 37 04.8 +0.7**
comp=E,1.2nm,0.6s,baz=111,slow=8.1,SNR=7.9
ZALV LR LR 19 56 45.2
comp=E,40nm,20.1s,baz=68,slow=37
ZALV Zalesovo Beam 44.83 331 *e*P **P 19 37 04.1 0.0**
ZAA1 Zalesovo Array 44.84 331 *e*P **P 19 37 04.8 +0.7**
AAK Ala-Archa 45.71 312 *e*P **P 19 37 12.8 +1.3**
comp=E,11nm,1.8s
KURK Kurchatov 46.23 324 *e*P **P 19 37 16.3 +1.0**
comp=E,11nm,0.8s
KURBB Kurchatov Arra 46.24 324 P **P 19 37 16.6 +1.2**
comp=E,8.7nm,0.6s,baz=122,slow=8.1,SNR=88
KBL Kabul 48.31 300 *e*P **P 19 37 32.7 +0.8**
comp=E,5.1nm,0.9s
KKAR Karatay Array 48.66 312 *e*P **P 19 37 35.2 +0.9**
comp=E,16nm,0.9s
BVAR Borovoye Array 51.83 324 P **P 19 37 59.1 +1.0**
comp=E,0.9nm,0.6s,baz=108,slow=9.2,SNR=8.5
BRVK Borovoye 51.91 324 *e*P **P 19 37 59.6 +1.0**
comp=E,4.1nm,0.9s
BBOO Buckleboo 53.09 164 *e*P **P 19 38 05.3 -2.2**
comp=E,19nm,0.7s
STKA Stephens Creek 53.95 158 P **P 19 38 12.2 -1.7**
comp=E,4.0nm,0.8s,baz=343,slow=7.3,SNR=9.9
STKA Stephens Creek 53.95 158 *e*P **P 19 38 11.8 -2.1**
comp=E,8.9nm,2.0s
NRIK Noril'sk 54.78 346 LR LR 20 03 28.5
comp=E,60nm,18.5s,baz=141,slow=38
ABKAR Abkulak array 57.13 317 *e*P **P 19 38 36.5 0.0**
comp=E,12nm,0.6s
GEYT Alibeck 57.33 304 LR LR 20 06 46.0
comp=E,57nm,19.8s,baz=150,slow=40
GSTR Great Sitkin T 59.33 40 *e*P **P 19 38 51.3 -0.6**
ARU Arti 59.39 325 *e*P **P 19 38 51.9 -0.3**
comp=E,3.0nm,0.9s
IMAR Indian Mountai 71.56 25 *e*P **P 19 40 09.2 -1.5**
ILAR Eielson Array 74.56 26 P **P 19 40 28.1 -0.3**
comp=E,0.3nm,0.5s,baz=259,slow=4.7,SNR=4.6
ILB Eielson Array 74.56 26 *e*P **P 19 40 28.4 0.0**
ARCES ARCESS Array B 74.63 339 LR LR 20 18 18.5
comp=E,18nm,18.4s,baz=90,slow=40
FIA0 FINESS Array S 76.10 330 *e*P **P 19 40 36.9 -0.3**
FINES FINESS Array B 76.10 330 P **P 19 40 36.9 -0.3**
comp=E,0.6nm,0.6s,baz=75,slow=5.9,SNR=3.7
BRTR Keskin Array B 76.14 308 LR LR 20 17 36.5
comp=E,21nm,18.8s,baz=95,slow=38
NB2 NORSAR Subarra 83.00 332 P **P 19 41 15.5 +0.7**
comp=Z,1.0nm,0.8s,baz=67,slow=4.8
NB200 NORSAR Array S 83.00 332 *e*P **P 19 41 15.2 +0.4**
NOA NORSAR Array B 83.00 332 P **P 19 41 15.2 +0.4**
comp=Z,0.5nm,0.8s,baz=67,slow=4.7,SNR=3.1
NOA LR LR 20 21 06.4
comp=Z,26nm,18.6s,baz=325,slow=38
LTX Lajitas 116.14 43 *e*PKPdf **PKPdf 19 47 32.4 -1.0**
TXAR Lajitas Array 116.14 43 PKP **PKPdf 19 47 32.4 -1.0**
comp=Z,0.5nm,0.7s,baz=219,slow=2.1,SNR=5.4
SNAA Sanae 117.63 197 PKP **PKPdf 19 47 30.8 -4.1**
VNA2 Neumayer--Watz 119.28 197 PKP **PKPdf 19 47 34.0 -3.9**
baz=268,slow=3.5
VNA1 Neumayer--Stat 119.67 197 PKP **PKPdf 19 47 35.4 -3.2**

*ISCJB **01** 19:36:06.7±0.8,20°.7S±0°.1×178°.1W±0°.1,h534km, mb4.1/10, Error ellipse: s-maj=21.0km s-min=13.2km az=137.0*
*IDC **01** 19:36:08.9±2.1,20°.70S×178°.01W,h549km±22km, mb3.7/10,mb1 3.9/12,mb1mx3.6/25,mbtmp4.6/12, Error ellipse: s-maj=19.7km s-min=11.5km az=150.0*
ISC 01 19:36:07.2±0.7,20.7S±0°.2×178.0W±0°.1,h534km,n67, σ0°69/68,mb4.2/10,**9C-4D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.97**	**42**	P	P	19 38 09.3	-5.3
	15nm,0.3s,baz=164,slow=2.8,SNR=14						
AFI				S	S	19 39 46.4	-13
	10nm,0.3s,baz=38,slow=19,SNR=5.6						
DZM	**Mont Dzumac**	**14.56**	**262**	P	**P**	**19 39 12.0**	**-0.6**
	2.3nm,0.3s,baz=86,slow=16,SNR=28						
URZ	**Urewera**	**18.03**	**193**	P	**P**	**19 39 45.1**	**-0.9**
	1.6nm,0.3s,baz=292,slow=3.1,SNR=10						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**19 42 38.5**	**+1.1**
	5.0nm,0.6s,baz=95,slow=11,SNR=22						
ASAR	**Alice Springs**	**44.48**	**257**	P	**P**	**19 43 31.9**	**+0.5**
	5.5nm,0.5s,baz=90,slow=8.5,SNR=182						
ASAR				PcP	**PcP**	**19 45 03.9**	**+0.6**
	1.7nm,0.6s,baz=100,slow=4.3,SNR=9.5						
ASAR				S	**S**	**19 49 27.4**	**-0.5**
	2.0nm,0.9s,baz=96,slow=15,SNR=13						
WRA	**Warramunga Arr**	**44.58**	**262**	P	**P**	**19 43 32.2**	**+0.1**
	4.2nm,0.5s,baz=97,slow=7.5,SNR=60						
WRA				S	**S**	**19 49 27.9**	**-1.4**
	1.9nm,0.9s,baz=96,slow=13,SNR=7.3						
MJAR	**Matsushiro Arr**	**70.35**	**324**	P	**P**	**19 46 27.4**	**0.0**
	5.4nm,0.5s,baz=159,slow=6.0,SNR=40						
MAT	**Matsushiro**	**70.35**	**324**	P	**P**	**19 46 27.2**	**-0.1**
PETK	**Petropavlovsk-**	**76.44**	**345**	P	**P**	**19 47 01.4**	**-0.3**
	3.7nm,0.7s,baz=119,slow=5.2,SNR=3.9						
KSRS	**Korea Array**	**77.02**	**319**	P	**P**	**19 47 06.5**	**+1.3**
	2.0nm,0.6s,baz=122,slow=6.1,SNR=10						
USRK	**Ussuriysk Ar.**	**79.11**	**326**	P	**P**	**19 47 17.1**	**+0.8**
	4.8nm,0.8s,baz=188,slow=2.3,SNR=6.4						
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**19 47 58.1**	**+1.1**
	2.0nm,0.7s,baz=216,slow=6.9,SNR=23						
ILAR	**Eielson Array**	**88.48**	**13**	P	**P**	**19 48 01.2**	**-1.0**
	1.3nm,0.4s,baz=215,slow=5.5,SNR=18						
CMAR	**Chiang Mai Arr**	**90.17**	**290**	P	**P**	**19 48 13.0**	**+1.9**
	2.7nm,0.9s,baz=127,slow=2.8,SNR=9.3						
ZALV	**Zalesovo Beam**	**110.63**	**321**	PKiKP	**PKiKP**	**19 53 37.5**	**-1.3**
	0.7nm,0.6s,baz=187,slow=1.5,SNR=4.2						
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP	**PKiKP**	**19 53 39.6**	**-0.8**
	0.7nm,0.6s,baz=183,slow=1.0,SNR=9.4						
GEYT	**Alibeck**	**128.88**	**303**	PKP	**PKPdf**	**19 54 14.5**	**0.0**
	1.2nm,0.7s,baz=94,slow=22,SNR=4.1						
ARCES	**ARCESS Array B**	**129.09**	**350**	PKP	**PKPdf**	**19 54 13.5**	**-0.4**
	1.1nm,0.5s,baz=352,slow=1.7,SNR=10						
FINES	**FINESS Array B**	**135.94**	**344**	PKhKP	PKPpre	19 54 22.8	
	0.5nm,0.5s,baz=64,slow=4.4,SNR=5.9						
NB2	**NORSAR Subarra**	**139.15**	**353**	PKP	PKPpre	19 54 22.7	
	comp=Z,1.0nm,0.8s,baz=17,slow=2.4						
NOA	**NORSAR Array B**	**139.15**	**353**	PKhKP	PKPpre	19 54 22.7	
	comp=Z,1.1nm,1.0s,baz=8,3,slow=2.3,SNR=4.1						
HFS	**Hagfors**	**139.71**	**351**	PKhKP	PKPpre	19 54 25.4	
	comp=Z,0.7nm,0.4s,baz=53,slow=5.6,SNR=10						
AKASG	**Malin Array Be**	**143.16**	**331**	PKP	PKPab	19 54 37.5	-0.6
	comp=Z,4.5nm,0.7s,baz=43,slow=4.5,SNR=39						
EKA	**Eskdalemuir Ar**	**145.18**	**5**	PKPbc	**PKPdf**	**19 54 43.9**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=337,slow=2.3,SNR=15						
BRTR	**Keskin Array B**	**146.95**	**312**	PKPbc	**PKPbc**	**19 54 50.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=134,slow=4.9,SNR=14						
BURAR	**Bucovina Array**	**147.21**	**330⇓**	*i*P	**PKPbc**	**19 54 51.8**	**+1.1**
CFR	**Carcaliu**	**147.42**	**325⇓**	*i*P	**PKPbc**	**19 54 51.3**	**+0.2**
STHS	**Stebnicka Huta**	**147.47**	**336**	*e*	**PKPbc**	**19 54 51.3**	**+0.4**
STHS				*e*		19 54 56.3	
VRI	**Vrincioaia**	**147.71**	**327⇓**	*i*P	**PKPbc**	**19 54 51.5**	**-0.4**
CRVS	**Cervenica-Dubn**	**147.81**	**336**	*e*	**PKPbc**	**19 54 53.0**	**+1.0**
CRVS				*e*		19 54 56.9	
MMAI	**Mount Meron Ar**	**147.90**	**299**	PKPbc	**PKPbc**	**19 54 53.1**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=73,slow=7.1,SNR=16						
CLL	**Collm**	**148.23**	**347⇓**	*i*PKPbc	**PKPbc**	**19 54 53.0**	**0.0**
	comp=Z,14nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	**19 54 57.6**	**-0.4**
	comp=Z,6.0nm,0.8s						
UPC	**Upice**	**148.24**	**343**	*e*PKP	**PKPbc**	**19 54 53.4**	**+0.4**
DPC	**Dobruska-Polom**	**148.29**	**342**	*e*PKP	**PKPbc**	**19 54 53.8**	**+0.6**
DPC				*ex*	x	19 54 59.0	
LANS	**Liptovska Anna**	**148.34**	**338**	*e*	**PKPbc**	**19 54 54.6**	**+1.2**
LANS				*e*		19 54 59.2	
MLR	**Muntele Rosu**	**148.37**	**327**	PKPbc	**PKPbc**	**19 54 53.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=276,slow=4.4,SNR=4.2						
MLR	**Muntele Rosu**	**148.37**	**327⇑**	*i*P	**PKPbc**	**19 54 53.4**	**-0.3**
KRLC	**Kraliky**	**148.40**	**342**	*e*PKP	**PKPbc**	**19 54 53.8**	**+0.3**
BRG	**Berggiesshubel**	**148.43**	**345**	*i* P	**PKPbc**	**19 54 53.4**	**-0.1**
	comp=Z,5.6nm,0.7s						
BRG				*i*		19 54 58.7	
	comp=Z,4.6nm,0.8s						
MORC	**Moravsky Berou**	**148.44**	**341⇑**	*i*P	**PKPbc**	**19 54 54.3**	**+0.7**
KECS	**Kecovo**	**148.53**	**336**	*e*	**PKPbc**	**19 54 53.3**	**-0.5**
KECS				*e*		19 54 59.4	
PVCC	**Panska Ves**	**148.59**	**345**	*e*PKP	**PKPbc**	**19 54 54.3**	**+0.4**
PVCC				*ex*	x	19 54 59.9	
VOIR		**148.86**	**328⇑**	*i*P	**PKPbc**	**19 54 55.0**	**+0.1**
DRGR		**148.96**	**332⇑**	*i*P	**PKPbc**	**19 54 55.1**	**+0.1**
PRU	**Pruhonice**	**149.10**	**344**	*e*PKP	**PKPbc**	**19 54 55.1**	**-0.1**
PRU				*ex*	x	19 55 01.8	
GOPC	**GO Pecny, Ondr**	**149.10**	**344**	*e*PKP	**PKPbc**	**19 54 55.2**	**0.0**
ARR	**Arges**	**149.11**	**328⇑**	*i*P	**PKPbc**	**19 54 56.0**	**+0.5**
VYHS	**Vyhne**	**149.12**	**338**	*e*	**PKPbc**	**19 54 55.4**	**+0.1**
VYHS				*e*		19 55 02.3	
VRAC	**Vranov**	**149.14**	**341**	PKPbc	**PKPbc**	**19 54 54.7**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=244,slow=22,SNR=3.0						
NKC	**Novy Kostel**	**149.36**	**347**	*e*PKP	**PKPbc**	**19 54 56.1**	**+0.3**
LOT	**Lotru**	**149.48**	**329⇑**	*i*P	**PKPbc**	**19 54 56.1**	**-0.3**
SIRR	**Siria**	**149.82**	**332⇑**	*i*P	**PKPbc**	**19 54 57.8**	**+0.7**
KHC	**Kasperske Hory**	**150.13**	**345**	*e*PKP	**PKPbc**	**19 54 57.8**	**+0.1**
KHC				*ex*	x	19 55 06.4	
BZS	**Buzias**	**150.35**	**332⇑**	*i*P	**PKPbc**	**19 54 58.3**	**0.0**
GERES	**GERESS Array B**	**150.37**	**344**	PKP	**PKPdf**	**19 54 52.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=318,slow=1.3,SNR=2.9						
GERES				PKPbc	**PKPbc**	**19 54 58.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=31,slow=2.0,SNR=18						
GERES				PKPab	**PKPab**	**19 55 05.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=11,slow=2.7,SNR=4.0						
CONA	**Conrad Observa**	**150.59**	**341**	*i* PKPbc	**PKPbc**	**19 54 59.1**	**+0.2**
	comp=Z,4.0nm,0.6s						
MOA	**Molln**	**151.13**	**343**	*i* PKPbc	**PKPbc**	**19 54 59.6**	**-0.5**
	comp=Z,2.2nm,0.6s						
SOKA	**Soboth**	**151.96**	**341**	*i* PKPbc	**PKPbc**	**19 55 01.0**	**-1.0**
	comp=Z,1.7nm,0.7s						
KBA	**Koelnbreinsper**	**152.09**	**343**	*i* PKPbc	**PKPbc**	**19 55 01.6**	**-0.8**
	comp=Z,1.3nm,0.4s						
WATA	**Walderalm**	**152.29**	**346**	*i* PKPbc	**PKPbc**	**19 55 02.7**	**-0.1**
	comp=Z,1.3nm,0.5s						
RETA	**Reutte**	**152.32**	**347**	*i* PKPbc	**PKPbc**	**19 55 02.2**	**-0.5**
	comp=Z,6.3nm,1.8s						
WTTA	**Wattenberg**	**152.34**	**346**	*i* PKPbc	**PKPbc**	**19 55 02.7**	**-0.3**
	comp=Z,1.8nm,0.4s						
MOTA	**Moosalm**	**152.38**	**347**	*i* PKPbc	**PKPbc**	**19 55 02.5**	**-0.5**
	comp=Z,1.9nm,0.8s						
ABTA	**Abfaltersbach**	**152.61**	**344**	*i* PKPbc	**PKPbc**	**19 55 02.5**	**-1.0**
	comp=Z,3.5nm,0.5s						
DAVA	**Damuels**	**152.69**	**348**	*i* PKPbc	**PKPbc**	**19 55 03.1**	**-0.6**
	comp=Z,3.7nm,1.2s						
FETA	**Feichten**	**152.77**	**347**	*i* PKPbc	**PKPbc**	**19 55 03.7**	**-0.1**
	comp=Z,3.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**172.51**	**178**	PKP	**PKPdf**	**19 55 14.6**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=73,slow=0.5,SNR=7.0						
TORD				PKPab	**PKPab**	**19 56 44.6**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=167,slow=1.8,SNR=3.1						

*JMA **01** 19:52:10.8±0.3,23°.99N×122°.53E,h23km±4km,M2.3*
*ISCJB **01** 19:52:11.3±0.5,23°.98N±0°.04×122°.57E±0°.02,h23km±5km, Error ellipse: s-maj=6.4km s-min=2.7km az=173.1*
*TAP **01** 19:52:11.1,24°.02N×122°.63E,h56km±2km,ML3.1,D*
ISC 01 19:52:11.3±1.2,23°.99N±0°.04×122°.57E±0°.02,h23km±14km, n40,σ0°93/71,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.57**	**37**	P	**Pb**	**19 52 22.3**	**-0.4**
JYNG				S	**Sb**	**19 52 30.4**	**0.0**
YOJ	**Yonaguni jima**	**0.62**	**41**	P	**Pb**	**19 52 23.4**	**-0.1**
YOJ				S	**Sb**	**19 52 31.6**	**-0.2**
ENA	**Nanau**	**0.87**	**300**	*e*P	**Pb**	**19 52 28.3**	**+0.6**
	baz=297						
ENA				*e*S	**Sn**	**19 52 40.3**	**+0.3**
	baz=297						
TWD	**Chiawan**	**0.89**	**276**	*e*P	**Pn**	**19 52 28.4**	**0.0**
	baz=274						
TWD				*e*S	**Sb**	**19 52 38.9**	**-0.7**
	baz=274						
TWC	**Suao**	**0.90**	**313**	P	**Pn**	**19 52 27.9**	**-0.6**
	baz=310						
TWC				S	**Sb**	**19 52 39.7**	**0.0**
	baz=310						
TWE	**Neicheng**	**1.09**	**312**	P	**Pn**	**19 52 31.3**	**+0.1**
	baz=303						
TWE				S	**Sb**	**19 52 46.2**	**+0.8**
	baz=303						
IRIF	**Iriomote-Funau**	**1.12**	**72**	P	**Pn**	**19 52 31.4**	**-0.1**
IRIF				S	**Sb**	**19 52 46.6**	**+0.6**
ENTT	**Nioudou**	**1.12**	**305**	*e*P	**Pb**	**19 52 31.9**	**-0.1**
	baz=303						
ENTT				*e*S	**Sb**	**19 52 46.7**	**+0.6**
	baz=303						
HATJ	**Hateruma jima**	**1.13**	**87**	S	**Sb**	**19 52 47.8**	**+1.2**
NNS	**Nan Shan**	**1.18**	**292**	*e*P	**Pn**	**19 52 32.4**	**-0.1**
	baz=290						
NNS				*e*S	**Sn**	**19 52 47.2**	**-0.6**
	baz=290						
WHF	**Hehuan Shan**	**1.20**	**277**	*e*P	**Pn**	**19 52 32.8**	**-0.3**
	baz=276						
WHF				*e*S	**Sn**	**19 52 48.1**	**-0.7**
	baz=276						
EHY	**Hungye**	**1.24**	**247**	*e*P	**Pn**	**19 52 32.5**	**-0.8**
	baz=246						
NSK	**Sanguang**	**1.29**	**302**	P	**Pn**	**19 52 33.4**	**-0.6**
	baz=300						
NSK				*e*S	**Sn**	**19 52 49.7**	**-0.9**
	baz=300						
TWT	**Tachien**	**1.30**	**282**	*e*P	**Pb**	**19 52 35.5**	**+0.3**
	baz=272						
TWT				*e*S	**Sn**	**19 52 50.7**	**-0.1**
	baz=272						
TWF1	**Yuli**	**1.33**	**241⇑**	*i*P	**Pn**	**19 52 34.1**	**-0.3**
	baz=234						
TWF1				*e*S	**Sn**	**19 52 49.8**	**-1.6**
	baz=234						
JKRS	**Kuro-shima**	**1.34**	**79**	P	**Pb**	**19 52 35.9**	**+0.1**
JKRS				S	**Sb**	**19 52 53.0**	**+0.5**
CHKT	**Chengkung**	**1.42**	**231**	*e*P	**Pn**

TWQ1				*e*S		**Sb**	**19 53 01.7 -0.5**
	baz=281						
ALS	**Alishan**	**1.68 254**	⇓*i*P			**Pn**	**19 52 40.3 +0.7**
	baz=253						
ALS				*e*S		**Sn**	**19 53 00.5 -0.2**
	baz=253						
JISG	**Ishigakijimahi**	**1.70 69**	P			**Pn**	**19 52 39.3 -0.2**
WNT	**Mingjian**	**1.73 267**	*e*P			**Pb**	**19 52 41.6 -0.7**
	baz=266						
WNT				*e*S		**Sb**	**19 53 03.0 -0.6**
	baz=266						
TCU	**Taichung**	**1.73 275**	*e*P			**Pn**	**19 52 41.0 +1.0**
	baz=274						
TCU				*e*S		**Sb**	**19 53 03.8 -0.1**
	baz=274						
CHN5	**Tsauling**	**1.77 258**	*e*P			**Pn**	**19 52 41.9 +1.3**
	baz=251						
CHN5				*e*S		**Sb**	**19 53 04.5 -0.6**
	baz=251						
TWG	**Pinlang**	**1.80 230**	*e*P			**Pn**	**19 52 40.0 -1.0**
	baz=240						
TWG				*e*S		**Sn**	**19 53 01.1 -2.0**
	baz=240						
STYT	**Tauyuan**	**1.85 244**	*e*P			**Pn**	**19 52 41.4 -0.3**
	baz=238						
STYT				*e*S		**Sn**	**19 53 03.8 -0.7**
	baz=238						
WGK	**Gukeng**	**1.86 261**	*e*P			**Pn**	**19 52 41.8 +0.1**
	baz=260						
WGK				*e*S		**Sn**	**19 53 05.6 +1.1**
	baz=260						
CHN4	**Tsaushan**	**1.92 251**	*e*P			**Pn**	**19 52 43.8 +1.2**
	baz=250						
CHN4				*e*S		**Sn**	**19 53 07.9 +1.9**
	baz=250						
WTP	**Ta-pu**	**1.94 248**	*e*P			**Pn**	**19 52 43.9 +1.0**
	baz=247						
WTP				*e*S		**Sn**	**19 53 08.0 +1.4**
	baz=247						
SGST	**Jiashian**	**2.03 244**	*e*P			**Pn**	**19 52 45.6 +1.4**
	baz=236						
SGST				*e*S		**Sn**	**19 53 11.0 +2.2**
	baz=236						
CHN1	**Nanshi**	**2.04 247**	*e*P			**Pn**	**19 52 45.6 +1.4**
	baz=246						
CHN1				*e*S		**Sb**	**19 53 11.4 -1.1**
	baz=246						
TWK	**Hsinying**	**2.04 250**	*e*P			**Pn**	**19 52 45.4 +1.2**
	baz=249						
TWK				*e*S		**Sn**	**19 53 11.2 +2.1**
	baz=249						
SSD	**Sandimen**	**2.17 235**	*e*P			**Pn**	**19 52 46.4 +0.4**
	baz=230						
WSF	**Szhu**	**2.18 261**	*e*P			**Pn**	**19 52 47.2 +1.1**
	baz=261						
WSF				*e*S		**Sn**	**19 53 13.6 +1.3**
	baz=261						
CHN8	**Yiju**	**2.25 254**	*e*P			**Pn**	**19 52 47.8 +0.6**
	baz=253						
SCZT	**Fangliau**	**2.41 228**	*e*P			**Pn**	**19 52 49.8 +0.5**
	baz=223						

*IDC **01** 20:18:33.1±1.4, 4°.14N×95°.71E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/29, mbtmp3.5/6, MS2.9/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=61.0km s-min=20.8km az=53.0*
*ISCJB **01** 20:18:38.4±1.2, 4°.2N±0°.2×95°.8E±0°.2, h51km, mb3.5/6, MS3.2/1, Error ellipse: s-maj=38.2km s-min=10.0km az=38.1*
ISC 01 20:18:40.5±1.4, 4°.2N±0°.2×95°.8E±0°.2, h51km, n12, σ1§42/9, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.44 113**		Pn	**Pn**	**20 19 34.0**	**+2.4**
	1.0nm,0.3s,baz=289,slow=14,SNR=4.3						
PSI				Sn	**Sn**	**20 20 08.9**	**-2.3**
	1.9nm,0.3s,baz=97,slow=5.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**14.52 12**		Pn	**P**	**20 22 08.9**	**+0.3**
	0.1nm,0.3s,baz=198,slow=11,SNR=4.8						
CMAR				LR	LR	20 27 39.1	
	comp=Z,24nm,19.7s,baz=178,slow=37						
H08S2	**Diego Garcia H**	**26.03 243**		T	T	20 51 14.3	
	baz=68,slow=74,SNR=6.7						
H08S3	**Diego Garcia H**	**26.03 243**		T	T	20 51 05.3	
	baz=68,slow=74,SNR=12						
H08S1	**Diego Carcia H**	**26.04 243**		T	T	20 50 58.7	
	baz=68						
MKAR	**Makanchi Array**	**44.03 347**		P	**P**	**20 26 42.9**	**-0.3**
	0.5nm,0.7s,baz=156,slow=8.6,SNR=6.4						
SONM	**Songino Array**	**44.44 10**		P	**P**	**20 26 46.5**	**0.0**
	0.7nm,0.7s,baz=184,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**44.84 124**		P	**P**	**20 26 49.1**	**-1.0**
	0.6nm,0.8s,baz=302,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**46.34 128**		P	**P**	**20 27 01.9**	**0.0**
	0.2nm,0.8s,baz=302,slow=7.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**50.41 352**		P	**P**	**20 27 32.1**	**-0.5**
	0.8nm,0.5s,baz=186,slow=4.0,SNR=4.1						
GNI	**Garni**	**58.17 315**		LR	LR	20 54 37.0	
	comp=Z,19nm,21.8s,baz=78,slow=37						
BRTR	**Keskin Array B**	**66.06 312**		P	**P**	**20 29 22.3**	**-0.2**
	0.3nm,0.7s,baz=78,slow=7.3,SNR=2.8						

*IDC **01** 20:35:56.5±13.0, 25°.03N×126°.07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/50, mbtmp3.5/3, Error ellipse: s-maj=751.9km s-min=29.4km az=61.0*
*ISCJB **01** 20:36:04.4±0.6, 24°.65N±0°.09×125°.22E±0°.06, h51km±4km, mb3.4/3, Error ellipse: s-maj=16.3km s-min=4.8km az=151.3*
*JMA **01** 20:36:05.4±0.1, 24°.71N×125°.16E, h45km±2km, M3.3*
ISC 01 20:36:05.2±1.0, 24°.69N±0°.10×125°.18E±0°.06, h44km±6km, n18, σ0§80/27, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.14 359**		P	**Pn**	**20 36 12.4**	**-0.1**
JIRB				S	**Sn**	**20 36 17.6**	**0.0**
JMJ	**Miyako jima 2**	**0.17 41**		P	**Pn**	**20 36 12.8**	**+0.1**
JMJ				S	**Sn**	**20 36 18.4**	**+0.5**
JOGS	**Gusukube**	**0.22 71**		P	**Pn**	**20 36 13.4**	**+0.3**
JOGS				S	**Sn**	**20 36 19.4**	**+0.8**
JIKM	**Ikemajima**	**0.24 16**		P	**Pn**	**20 36 13.4**	**+0.1**
JIKM				S	**Sn**	**20 36 19.5**	**+0.6**
JTJ	**Tarama**	**0.43 264**		P	**Pn**	**20 36 15.4**	**+0.1**
JTJ				S	**Sn**	**20 36 22.6**	**+0.2**
JISG	**Ishigakijimahi**	**0.79 263**		P	**Pn**	**20 36 19.9**	**-0.1**
JISG				S	**Sn**	**20 36 30.4**	**-0.3**
JIJ	**Ishigaki jima**	**0.99 251**		P	**Pn**	**20 36 23.2**	**+0.5**
JIJ				S	**Sn**	**20 36 36.6**	**+1.0**
JKRS	**Kuro-shima**	**1.15 247**		P	**Pn**	**20 36 25.8**	**+0.9**
IRIF	**Iriomote-Funau**	**1.36 255**		P	**Pn**	**20 36 28.2**	**+0.4**
HATJ	**Hateruma jima**	**1.40 244**		P	**Pn**	**20 36 30.3**	**+2.0**
JYNG	**Yonagunijimaku**	**2.04 264**		P	**Pn**	**20 36 37.5**	**+0.4**
JKE	**Kume jima 2**	**2.19 41**		P	**Pn**	**20 36 39.7**	**+0.6**
JKE				S	**Sn**	**20 37 06.2**	**+1.3**
JAGN	**Aguni-jima**	**2.66 44**		P	**Pn**	**20 36 45.6**	**+0.1**
JAGN				S	**Sn**	**20 37 16.8**	**+0.3**
JNTH	**Nagotoyohara**	**3.15 54**		P	**Pn**	**20 36 53.0**	**+0.7**
JOW	**Kunigami**	**3.52 52**		P	**Pn**	**20 36 57.9**	**+0.5**
MKAR	**Makanchi Array**	**40.56 314**		P	**P**	**20 43 40.5**	**+0.2**
	0.7nm,0.8s,baz=96,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**45.25 168**		P	**P**	**20 44 17.2**	**-1.3**
	0.8nm,0.9s,baz=350,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**48.81 169**		P	**P**	**20 44 44.9**	**-1.4**
	0.2nm,0.7s,baz=352,slow=5.5,SNR=5.0						

*IDC **01** 20:37:42.7±4.6, 22°.62S×174°.75W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/24, mbtmp4.1/4, Error ellipse: s-maj=217.9km s-min=43.2km az=152.0*
*NEIC **01** 20:37:46.5±1.1, 23°.10S×174°.55W, h35km, mb4.0/2, Error ellipse: s-maj=31.3km s-min=24.0km az=178.0*
ISC 01 20:37:47.4±1.4, 23°.1S±0°.3×174°.6W±0°.2, h36km, n15, σ1§38/15, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.68 306**		*e*Pn	**Pn**	**20 39 50.3**	**-0.3**
CTA	**Charters Tower**	**36.43 267**		P	**P**	**20 44 49.0**	**+0.2**
	1.8nm,0.5s,baz=108,slow=6.4,SNR=5.3						
AS31	**Alice Springs**	**47.03 259**		*e*P	**P**	**20 46 14.8**	**-0.9**
	0.8nm,1.0s						
ASAR	**Alice Springs**	**47.03 259**		P	**P**	**20 46 15.8**	**+0.1**
	2.1nm,0.9s,baz=92,slow=8.5,SNR=15						
WB2	**Warramunga Arr**	**47.38 264**		*e*P	**P**	**20 46 17.6**	**-0.8**
WR1	**Warramunga Arr**	**47.39 264**		*e*P	**P**	**20 46 17.9**	**-0.5**
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**47.39 264**		P	**P**	**20 46 17.9**	**-0.5**
	1.8nm,0.7s,baz=100,slow=8.2,SNR=19						
CM01	**Chiang Mai Arr**	**93.88 288**		*e*P	**P**	**20 51 03.4**	**+1.8**
CM31	**Chiang Mai Arr**	**93.91 288**		*e*P	**P**	**20 51 04.1**	**+2.3**
CMAR	**Chiang Mai Arr**	**93.91 288**		P	**P**	**20 51 03.5**	**+1.7**
	1.1nm,0.8s,baz=143,slow=3.6,SNR=4.5						
AKASG	**Malin Array Be**	**146.76 332**		PKPbc	**PKPbc**	**20 57 24.9**	**-0.4**
	0.6nm,0.4s,baz=45,slow=4.3,SNR=7.9						
AKBB	**Malin Array Si**	**146.76 332**		*e*PKPdf	**PKPdf**	**20 57 22.6**	**-1.0**
BR101	**Keskin Array S**	**150.88 311**		*e*PKPbc	**PKPbc**	**20 57 34.7**	**-1.8**
BRTR	**Keskin Array B**	**150.88 311**		PKPbc	**PKPbc**	**20 57 34.7**	**-1.8**
	0.9nm,0.8s,baz=28,slow=6.5,SNR=4.8						
CLL	**Collm**	**151.20 350**		*e*PKPbc	**PKPbc**	**20 57 38.0**	**+1.4**

*IPEC **01** 20:41:27.1±0.5, 51°.55N×16°.22E, h0km±2km, ML2.3/3, Error ellipse: s-maj=4.2km s-min=2.5km az=76.0*
*ISCJB **01** 20:41:27.2±0.5, 51°.41N±0°.03×16°.14E±0°.02, h0km, Error ellipse: s-maj=3.7km s-min=2.2km az=5.1*
*CSEM **01** 20:41:27.2±0.2, 51°.53N×16°.16E, h2km, ML3.0/22, Ms2.9, Error ellipse: s-maj=4.1km s-min=2.9km az=176.0*
*IDC **01** 20:41:28.8±1.2, 51°.46N×16°.14E, h0km, mb1 3.2/5, mb1mx3.0/37, mbtmp3.0/5, ML2.8/5, Error ellipse: s-maj=15.4km s-min=9.8km az=126.0*
*WAR **01** 20:41:28.4, 51°.53N×16°.16E, h1km, Mw2.6*
*PRU **01** 20:41:28.7, 51°.50N×16°.14E, h0km*
*VIE **01** 20:41:30.8±0.6, 51°.26N×16°.14E, h0km, mb2.4/9, ML2.4/13, Ms2.9/2, Error ellipse: s-maj=4.8km s-min=3.8km az=127.0, Suspected Mining induced.*
ISC 01 20:41:26.3±0.7, 51°.57N±0°.03×16°.15E±0°.02, h0km, n69, σ1§14/122, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73 173**		*i* Pg	**Pb**	**20 41 41.3**	**-0.6**
KSP				*i* Sg	**Sg**	**20 41 50.6**	**+0.8**
KSP	**Ksiaz**	**0.73 173**		*i* Pg	**Pb**	**20 41 41.3**	**-0.6**
KSP				*i* Sg	**Sg**	**20 41 50.6**	**+0.8**
KSP	**Ksiaz**	**0.73 173**		*i* Pg	**Pb**	**20 41 41.3**	**-0.6**
KSP				*i* Sg	**Sg**	**20 41 50.6**	**+0.8**
UPC	**Upice**	**1.06 185**		*i* PG	**Pb**	**20 41 47.5**	**-0.1**
UPC				*e*SG	**Sg**	**20 42 01.1**	**+0.6**
UPC	**Upice**	**1.06 185**		Pg	**Pb**	**20 41 47.5**	**-0.1**
UPC				Sg	**Sg**	**20 42 01.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.22 175**		*i* PG	**Pg**	**20 41 50.2**	**+0.4**
DPC				*e*SG	**Sg**	**20 42 05.5**	**-0.1**
	comp=Z,49nm,0.2s						
DPC	**Dobruska-Polom**	**1.22 175**		Pg	**Pg**	**20 41 50.2**	**+0.4**
DPC				Sg	**Sg**	**20 42 05.5**	**-0.1**
	49nm,0.2s						
PVCC	**Panska Ves**	**1.44 224**		*i* PG	**Pb**	**20 41 54.3**	**+0.3**
PVCC				*e*SG	**Sn**	**20 42 14.4**	**+1.1**
	comp=Z,122nm,0.2s						
PVCC	**Panska Ves**	**1.44 224**		Pg	**Pb**	**20 41 54.3**	**+0.3**
PVCC				Sg	**Sn**	**20 42 14.4**	**+1.1**
	122nm,0.2s						
KRLC	**Kraliky**	**1.55 165**		*i* PG	**Pn**	**20 41 55.3**	**+0.1**
KRLC				*e*SG	**Sn**	**20 42 15.0**	**-1.0**
KRLC	**Kraliky**	**1.55 165**		Pg	**Pn**	**20 41 55.3**	**+0.1**
KRLC				Sg	**Sn**	**20 42 15.0**	**-1.0**
BRG	**Berggiesshubel**	**1.55 244**		PN	**Pn**	**20 41 55.3**	**+0.1**
BRG				PG	**Pg**	**20 41 57.1**	**+1.1**
BRG				SG	**Sg**	**20 42 17.9**	**+1.8**
	62nm,0.4s						
PRA	**Prague**	**1.85 217**		*e*PN	**Pn**	**20 41 59.9**	**+0.6**
PRA				*e*PG	**Pg**	**20 42 02.5**	**+0.7**
PRA	**Prague**	**1.85 217**		Pn	**Pn**	**20 41 59.9**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.87 208**		*e*PN	**Pn**	**20 42 00.2**	**+0.6**
GOPC				*e*PG	**Pg**	**20 42 02.0**	**-0.1**
GOPC				*e*SG	**Sg**	**20 42 26.1**	**-0.2**
	comp=Z,17nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.87 208**		Pn	**Pn**	**20 42 00.2**	**+0.6**
PRU	**Pruhonice**	**1.88 213**		*e*PN	**Pn**	**20 41 59.9**	**+0.2**
PRU				*e*PG	**Pg**	**20 42 02.1**	**-0.3**
PRU				*e*SG	**Sg**	**20 42 26.6**	**-0.1**
	comp=Z,30nm,0.4s						
PRU	**Pruhonice**	**1.88 213**		Pn	**Pn**	**20 41 59.9**	**+0.2**
RAC	**Raciborz**	**1.97 138**		*e*Pg	**Pb**	**20 42 03.3**	**+0.2**
RAC				*e*Sg	**Sb**	**20 42 28.9**	**+0.7**
CLL	**Collm**	**1.98 264**		*i* Pn	**Pn**	**20 42 01.4**	**+0.3**
CLL				*i* Pg	**Pg**	**20 42 04.7**	**+0.3**
CLL				*i*		20 42 07.6	
CLL				*i* Sg	**Sg**	**20 42 31.7**	**+1.6**
	comp=Z,27nm,0.8s						
MORC	**Moravsky Berou**	**2.00 153**		*e*Pn	**Pn**	**20 42 01.4**	**0.0**
MORC				*e*Sg	**Sb**	**20 42 28.8**	**-0.3**
	comp=Z,21nm,0.4s						
OKC	**Ostrava-Krasne**	**2.15 143**		*e*SG	**Sb**	**20 42 33.5**	**+0.2**
	comp=Z,24nm,0.5s						
OKC	**Ostrava-Krasne**	**2.15 143**		Sg	**Sb**	**20 42 33.5**	**+0.2**
	comp=Z,24nm,0.5s						
VRAC	**Vranov**	**2.28 173**		Pn	**Pn**	**20 42 05.9**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=351,slow=18,SNR=21						
VRAC				Pg	**Pg**	**20 42 09.5**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=354,slow=16,SNR=12						
VRAC				Lg	Lg	20 42 38.3	
	comp=Z,5.7nm,0.3s,baz=103,slow=21,SNR=8.8						
VRAC	**Vranov**	**2.28 173**		*e*Pn	**Pn**	**20 42 05.8**	**+0.6**
VRAC				*e*Sg	**Sb**	**20 42 37.7**	**+0.6**
	comp=Z,14nm,0.2s						
TREC	**Trest**	**2.31 191**		*e*PG	**Pg**	**20 42 10.0**	**-0.7**
TREC	**Trest**	**2.31 191**		Pg	**Pg**	**20 42 10.0**	**-0.7**
KRUC	**Moravsky**	**2.51 176**		*e*Pn	**Pn**	**20 42 09.0**	**+0.6**
KRUC				*e*Sg	**Sb**	**20 42 45.1**	**+1.3**
	comp=Z,9.8nm,0.3s						
OJC	**Ojcow**	**2.68 119**		*e*Pn	**Pn**	**20 42 10.4**	**-0.2**
OJC				*e*Pg	**Pg**	**20 42 18.6**	**+1.0**
OJC				*e*Sg	**Sg**	**20 42 54.0**	**+1.7**
OJC	**Ojcow**	**2.68 119**		*e*Pn	**Pn**	**20 42 10.5**	**-0.2**
OJC	**Ojcow**	**2.68 119**		*e*Pn	**Pn**	**20 42 10.5**	**-0.2**
OJC				*e*Pg	**Pg**	**20 42 18.6**	**+1.0**
OJC				*e*Sg	**Sg**	**20 42 54.0**	**+1.7**
NKC	**Novy Kostel**	**2.70 242**		*e*PN	**Pn**	**20 42 11.8**	**+0.8**
NKC				*e*PG	**Pg**	**20 42 17.7**	**-0.3**
NKC				*e*SG	**Sg**	**20 42 54.0**	**+1.1**
	comp=Z,39nm,0.3s						
NKC	**Novy Kostel**	**2.70 242**		Pn	**Pn**	**20 42 11.8**	**+0.8**
KHC	**Kasperske Hory**	**2.94 215**		*e*PN	**Pn**	**20 42 15.0**	**+0.6**
KHC				*e*PG	**Pb**	**20 42 21.3**	**+1.7**
KHC				*e*SN	**Sn**	**20 42 50.5**	**+0.1**
KHC				*e*SG	**Sg**	**20 43 00.1**	**-0.7**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.94 215**		Pn	**Pn**	**20 42 15.0**	**+0.6**
GERES	**GERESS Array B**	**3.15 211**		Pn	**Pn**	**20 42 18.2**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=12,SNR=19						
GERES				Pg	**Pg**	**20 42 25.3**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=32,slow=15,SNR=28						
GERES				Lg	Lg	20 43 03.8	
	comp=Z,1.4nm,0.3s,baz=33,slow=27,SNR=4.1						
LANS	**Liptovska Anna**	**3.22 137**		*e*Pg	**Pg**	**20 42 27.3**	**-0.7**
LANS				*e*Sg	**Sg**	**20 43 10.6**	**+0.8**
LANS	**Liptovska Anna**	**3.22 137**		*e*PG	**Pg**	**20 42 27.3**	**-0.7**
LANS				*e*SG	**Sg**	**20 43 10.6**	**+0.8**
NIE	**Niedzica**	**3.42 127**		*e*P	**Pg**	**20 42 31.5**	**-0.2**
NIE				*e*S	**Sg**	**20 43 15.8**	**-0.2**
NIE	**Niedzica**	**3.42 127**		*e*P	**Pg**	**20 42 31.5**	**-0.2**
NIE				*e*S	**Sg**	**20 43 15.8**	**-0.2**
VYHS	**Vyhne**	**3.53 150**		*e*Pg	**Pg**	**20 42 35.2**	**+1.2**
VYHS				*e*Sg	**Sg**	**20 43 19.8**	**+0.1**
VYHS	**Vyhne**	**3.53 150**		*e*	**Pn**	**20 42 22.5**	**+0.1**
VYHS	**Vyhne**	**3.53 150**		*e*PG	**Pg**	**20 42 35.2**	**+1.2**
VYHS				*e*SG	**Sg**	**20 43 19.8**	**+0.1**
BSD	**Bornholm Skovb**	**3.63 349**		*i* P	**Pn**	**20 42 23.6**	**-0.1**
BSD				*i* S	**Sn**	**20 43 05.6**	**-1.6**
BSD	**Bornholm Skovb**	**3.63 349**		*i* P	**Pn**	**20 42 23.6**	**-0.1**
BSD				*i* S	**Sn**	**20 43 05.6**	**-1.6**
CONA	**Conrad Observa**	**3.65 183**		Pn	**Pn**	**20 42 24.5**	**+0.4**
	comp=Z,1.1nm,0.3s						
CONA				Sg	**Sg**	**20 43 21.7**	**-1.8**
	comp=Z,6.3nm,0.3s						
STHS	**Stebnicka Huta**	**3.90 122**		*e*Pg	**Pg**	**20 42 41.6**	**+0.5**
STHS				*e*Sg	**Sg**	**20 43 35.1**	**+3.5**
STHS	**Stebnicka Huta**	**3.90 122**		*e*	**Pn**	**20 42 28.9**	**+1.4**
STHS	**Stebnicka Huta**	**3.90 122**		*e*PG	**Pg**	**20 42 41.6**	**+0.5**
STHS				*e*SG	**Sg**	**20 43 35.1**	**+3.5**
STHS				*e*LG	Lg	20 43 39.6	
MOA	**Molln**	**3.92 199**		Pn	**Pn**	**20 42 28.7**	**+1.0**
	comp=Z,1.4nm,0.3s						
MOA				Sg	**Sg**	**20 43 29.9**	**-2.2**
	comp=Z,6.0nm,0.3s						
KECS	**Kecovo**	**4.17 136**		*e*Pg	**Pg**	**20 42 47.2**	**+1.1**
KECS	**Kecovo**	**4.17 136**		*e*PG	**Pg**	**20 42 47.2**	**+1.1**
KECS				*e*LG	Lg	20 43 47.5	
CRVS	**Cervenica-Dubn**	**4.33 126**		*e*Pg	**Pg**	**20 42 51.3**	**+2.0**
CRVS	**Cervenica-Dubn**	**4.33 126**		*e*PG	**Pg**	**20 42 51.3**	**+2.0**
ARSA	**Arzberg**	**4.34 186**		Pn	**Pn**	**20 42 33.9**	**+0.3**
	comp=Z,0.5nm,0.3s						
ARSA				Sg	**Sg**	**20 43 42.7**	**-3.0**
	comp=Z,3.7nm,0.7s						
KBA	**Koelnbreinsper**	**4.85 203**		Pn	**Pn**	**20 42 41.8**	**+1.1**
	comp=Z,1.2nm,0.3s						
KBA				Sg	**Sg**	**20 44 00.9**	**-1.2**
	comp=Z,1.8nm,0.4s						
SOKA	**Soboth**	**4.95 189**		Sg	**Sg**	**20 44 04.4**	**-0.8**
	comp=Z,0.9nm,0.4s						
OBKA	**Obir**	**5.17 192**		Sg	**Sg**	**20 44 13.0**	**+0.7**
	comp=Z,2.3nm,0.4s						
MYKA	**Terra Mystica**	**5.21 199**		Sg	**Sg**	**20 44 13.1**	**-0.5**
	comp=Z,1.3nm,0.3s						
WTTA	**Wattenberg**	**5.22 216**		Sg	**Sg**	**20 44 16.9**	**+3.1**
	comp=Z,3.4nm,0.5s						
MOTA	**Moosalm**	**5.35 220**		Pn	**Pn**	**20 42 48.5**	**+0.9**
	comp=Z,0.1nm,0.1s						
MOTA				Sg	**Sg**	**20 44 20.6**	**+2.4**
	comp=Z,0.8nm,0.3s						
ABTA	**Abfaltersbach**	**5.38 208**		Pn	**Pn**	**20 42 48.8**	**+0.9**
	comp=Z,0.4nm,0.2s						
ABTA				Sg	**Sg**	**20 44 19.1**	**0.0**
	comp=Z,1.0nm,0.3s						
RETA	**Reutte**	**5.38 223**		Pn	**Pn**	**20 42 48.5**	**+0.6**
RETA				Sg	**Sg**	**20 44 20.7**	**+1.6**
	comp=Z,1.6nm,0.5s						
FETA	**Feichten**	**5.77 220**		Sg	**Sg**	**20 44 33.6**	**+2.1**
	comp=Z,0.8nm,0.6s						
DAVA	**Damuels**	**5.92 226**		Pn	**Pn**	**20 42 56.0**	**+0.6**
	comp=Z,0.6nm,0.2s						
DAVA				Sg	**Sg**	**20 44 38.2**	**+1.8**
	comp=Z,1.0nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.31 223**		Pn	**Pn**	**20 43 03.5**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=37,slow=15,SNR=1.6						
DAVOX				Lg	Lg	20 44 45.1	
	comp=Z,0.1nm,0.3s,baz=360,slow=23,SNR=2.1						
AKASG	**Malin Array Be**	**8.27 91**		Pn	**Pn**	**20 43 26.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**11.30 25**		Pn	**Pn**	**20 44 07.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=11,SNR=1.8						
EKA	**Eskdalemuir Ar**	**12.10 296**		Pn	**Pn**	**20 44 17.4**	**-2.5**
	baz=103,slow=15,SNR=3.4						

MEX 01 21:01:23.7±0.5, 17°.02N×100°.10W, h9km±3km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16 281**		*i* P	Pg	21 01 26.9	-0.2
CAIG				*e*S	Sg	21 01 29.2	-0.3
ACP2	**Acapulco**	**0.25 125**		*e*P	Pg	21 01 28.2	-0.6
ACP2				*i* S	Sg	21 01 32.5	+0.3
MEIG	**Mezcala**	**1.01 27**		*i* P	Pg	21 01 40.2	-3.0
MEIG				*e*S	Sg	21 01 52.8	-3.7
ARIG	**Puente Sto Nin**	**1.28 349**		*i* P	Pn	21 01 44.2	-3.6
ARIG				*i* S	Sb	21 01 59.6	-4.9
ZIIG	**Zihuatanejo**	**1.43 294**		*i* P	Pn	21 01 46.0	-3.8
ZIIG				*e*S	Sn	21 02 03.8	-4.9
PLIG	**Platanillo**	**1.48 23**		*e*P	Pn	21 01 47.3	-3.4
PLIG				*i* S	Sn	21 02 05.1	-5.2
TLIG	**Tlapa**	**1.56 70**		*e*P	Pn	21 01 48.6	-3.2
TLIG				*i* S	Sn	21 02 07.7	-4.6
PNIG	**Pinotepa**	**1.99 108**		*e*P	Pn	21 01 54.0	-3.7
PNIG				*i* S	Sn	21 02 18.4	-4.3

*NEIC **01** 21:12:01.7±0.3, 18°.60N×119°.83E, h35km, mb4.4/6, Error ellipse: s-maj=12.5km s-min=6.5km az=70.0*
*IDC **01** 21:12:01.4±0.6, 18°.67N×119°.84E, h31km±4km, mb3.9/17, mb1 4.0/18, mb1mx3.9/43, mbtmp4.0/18, ML3.7/1, MS3.3/15, Ms1 3.3/15, ms1mx3.1/47, Error ellipse: s-maj=22.9km s-min=10.8km az=66.0*
ISC 01 21:12:01.3±0.7, 18°.63N±0°.07×119°.9E±0°.1, h31km±4km, h31km:pP-P, n35, σ0§92/41, mb4.2/25, MS3.3/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**1.21 153**		*e*Pn	**Pn**	**21 12 22.0**	**0.0**
TWG	**Pinlang**	**4.31 15**		*e*Pn	**Pn**	**21 13 06.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**19.85 273**		P	**Pn**	**21 16 34.2**	**+2.5**
	0.1n

13nm,0.8s
KBZ Khabaz 68.06 310 P **P 21 22 58.4 +0.4**
2.6nm,0.9s,baz=178,slow=5.4,SNR=3.7
KBZ LR LR 21 56 01.2
comp=Z,60nm,18.7s,baz=124,slow=39
ILAR Eielson Array 74.69 26 P **P 21 23 36.9 -0.9**
0.8nm,0.7s,baz=270,slow=4.0,SNR=7.2
BRTR Keskin Array B 75.52 307 P **P 21 23 42.4 -0.7**
0.4nm,0.7s,baz=100,slow=3.5,SNR=1.7
BRTR LR LR 21 59 11.8
comp=Z,17nm,18.9s,baz=76,slow=38
FINES FINESS Array B 75.62 330 P **P 21 23 42.0 -1.1**
0.7nm,0.5s,baz=55,slow=6.8,SNR=11
FINES pP **pP 21 23 52.2 -0.6**
1.6nm,0.6s,baz=23,slow=6.2,SNR=3.0
AKASG Malin Array Be 76.22 319 P **P 21 23 45.2 -1.5**
0.5nm,0.4s,baz=64,slow=5.8,SNR=2.6
NB2 NORSAR Subarra 82.55 332 P **P 21 24 19.6 -1.5**
comp=Z,0.9nm,0.7s,baz=65,slow=5.6
NOA NORSAR Array B 82.55 332 P **P 21 24 19.8 -1.3**
comp=Z,1.0nm,0.8s,baz=68,slow=5.3,SNR=4.4
NOA LR LR 22 04 16.2
comp=Z,34nm,19.2s,baz=55,slow=38
GERES GERESS Array B 86.34 321 P **P 21 24 38.9 -1.7**
comp=Z,0.3nm,0.6s,baz=38,slow=6.8,SNR=4.0
GERES pP **pP 21 24 49.8 -0.7**
comp=Z,0.5nm,0.9s,baz=49,slow=2.5,SNR=2.5
YKA Yellowknife Ar 88.54 22 LR LR 22 09 39.4
comp=Z,6.2nm,18.1s,baz=180,slow=39
TXAR Lajitas Array 116.44 42 PKP **PKPdf 21 30 43.2 +0.4**
comp=Z,0.2nm,0.5s,baz=355,slow=3.0,SNR=2.4

*NIED **01** 21:24:00,37.°30N×141.°20E,h11km,Mw3.7 Best double couple: M₀3.48000×10¹⁴ NP1:φs295.00000°,δ23.00000°, λ-138.00000°. NP2:φs166.00000°,δ75.00000°, λ-73.00000°.*
*IDC **01** 21:24:00.3±1.2,37.°27N×141.°37E,h0km,mb3.6/9, mb1 3.8/12,mb1mx3.6/56,mbtmp3.7/12,ML3.4/3,MS2.8/1, Ms1 2.8/1,ms1mx2.2/45,Error ellipse: s-maj=22.9km s-min=15.9km az=136.0*
*ISCJB **01** 21:24:01.5±1.0,37.°2N±0.°03×141.°41E±0.°06,h22km±5km, mb3.6/9,Error ellipse: s-maj=8.4km s-min=4.8km az=19.4*
*JMA **01** 21:24:03.7±0.1,37.°28N×141.°25E,h27km±1km,M4.0*
JMA Felt III J1.
ISC 01 21:24:01.9±1.5,37.°28N±0.°04×141.°32E±0.°05,h11km±9km, n30,σ0.81/36,mb3.6/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.37**	**283**	P	**Pb**	**21 24 11.0**	**+0.6**
JFK				S	**Sb**	**21 24 15.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.46**	**247**	P	**Pb**	**21 24 12.4**	**+0.5**
ONAJ				S	**Sb**	**21 24 18.1**	**-0.7**
JMM	**Marumori**	**0.72**	**324**	P	**Pb**	**21 24 16.7**	**+0.3**
JMM				S	**Sg**	**21 24 25.5**	**+0.3**
JFT	**Otama**	**0.82**	**287**	P	**Pb**	**21 24 18.5**	**+0.4**
JFT				S	**Sg**	**21 24 28.4**	**0.0**
JHO	**Hitachi**	**0.90**	**222**	P	**Pg**	**21 24 18.6**	**-0.6**
JSB	**Shiboa**	**1.16**	**255**	P	**Pg**	**21 24 24.3**	**+0.1**
JSB				S	**Sb**	**21 24 39.0**	**-0.1**
JIO	**Ouri**	**1.17**	**1**	P	**Pb**	**21 24 23.7**	**-0.4**
JIO				S	**Sb**	**21 24 38.1**	**-1.2**
JOU	**Okura**	**1.20**	**334**	P	**Pg**	**21 24 24.9**	**-0.1**
JOU				S	**Sb**	**21 24 40.1**	**-0.1**
JFY	**Yanaizu**	**1.29**	**276**	P	**Pn**	**21 24 25.7**	**-0.2**
JFY				S	**Sb**	**21 24 41.7**	**-1.2**
JYS	**Shiratake**	**1.37**	**314**	P	**Pb**	**21 24 27.3**	**-0.2**
JYS				S	**Sb**	**21 24 44.9**	**-0.1**
MJAR	**Matsushiro Arr**	**2.60**	**254**	Pn	**Pn**	**21 24 44.5**	**+0.6**
	16nm,0.3s,baz=78,slow=17,SNR=143						
MJAR				Sn	**Sb**	**21 25 19.1**	**-1.4**
	5.2nm,0.3s,baz=82,slow=25,SNR=1.9						
MJAR				Lg	Lg	21 25 23.9	
	9.1nm,0.3s,baz=83,slow=28,SNR=12						
MAT	**Matsushiro**	**2.60**	**254**	P	**Pn**	**21 24 45.0**	**+1.1**
MAT				eS	**Sb**	**21 25 19.4**	**-1.2**
JHJ	**Hachijo jima 2**	**4.34**	**197**	Pn	**Pn**	**21 25 08.7**	**+0.9**
	17nm,0.3s,baz=6.5,slow=23,SNR=1.6						
JHJ				Sn	**Sn**	**21 25 57.0**	**-1.4**
	20nm,0.3s,baz=75,slow=24,SNR=1.3						
ASAJ	**Asahikawa**	**6.90**	**8**	Pn	**Pn**	**21 25 42.8**	**0.0**
	0.3nm,0.3s,baz=210,slow=11,SNR=1.8						
ASAJ				Sn	**Sn**	**21 27 00.3**	**-1.0**
	0.2nm,0.3s,baz=155,slow=10,SNR=1.5						
JNU	**Nakatsue**	**9.50**	**247**	LR	LR	21 30 16.2	
	comp=Z,54nm,19.6s,baz=90,slow=39						
SONM	**Songino Array**	**27.59**	**304**	P	**P**	**21 29 48.5**	**-0.6**
	0.4nm,0.7s,baz=96,slow=7.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy 28.34 121**			T	T	21 59 53.8	
	baz=314,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy 28.34 121**			T	T	21 59 55.1	
	baz=314,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy 28.36 121**			T	T	21 59 55.1	
	baz=314,slow=75,SNR=93						
H11S1	**WAKE ISLAND Hy 29.05 123**			T	T	22 00 53.9	
	baz=316,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy 29.06 123**			T	T	22 00 58.7	
	baz=316,slow=76,SNR=27.4						
H11S2	**WAKE ISLAND Hy 29.07 123**			T	T	22 00 52.6	
	baz=316,slow=76,SNR=48						
ZALV	**Zalesovo Beam**	**41.69**	**312**	P	**P**	**21 31 49.2**	**-1.2**
	0.3nm,0.4s,baz=81,slow=8.9,SNR=1.6						
MKAR	**Makanchi Array**	**43.93**	**302**	P	**P**	**21 32 08.5**	**-0.2**
	0.3nm,0.7s,baz=92,slow=9.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**45.79**	**308**	P	**P**	**21 32 23.1**	**-0.3**
	0.8nm,0.2s,baz=82,slow=7.5,SNR=1.9						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**21 32 51.1**	**+0.4**
	0.5nm,0.7s,baz=278,slow=7.3,SNR=5.1						
BVAR	**Borovoye Array**	**50.35**	**312**	P	**P**	**21 32 59.2**	**+0.6**
	0.2nm,0.4s,baz=86,slow=9.7,SNR=1.7						
WRA	**Warramunga Arr**	**57.30**	**188**	P	**P**	**21 33 49.2**	**-0.5**
	0.3nm,0.4s,baz=2.3,slow=7.5,SNR=5.3						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**21 35 04.9**	**+0.7**
	3.5nm,1.1s,baz=54,slow=7.8,SNR=2.7						
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**21 35 39.5**	**+1.9**
	0.9nm,0.6s,baz=49,slow=6.6,SNR=2.3						

*DJA **01** 21:30:48.4±0.6,8.°S±6.°×12.°4E±.°,h187km±8km,M4.4/5, mB5.5/1,MLv4.4/5,Mw(mB)5.0/1*
*IDC **01** 21:30:53.7±4.5,8.°01S×124.°21E,h214km±43km,mb3.4/10, mb1 3.5/11,mb1mx3.3/44,mbtmp4.0/11,Error ellipse: s-maj=43.8km s-min=9.4km az=63.0*
ISC 01 21:30:47.2±0.6,8.°16S±0.°06×124.°06E±0.°07,h150km,n28, σ2.76/32,mb3.8/10,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.60**	**173**	P	**Pn**	**21 31 21.8**	**+3.9**
SOEI				S	**Sn**	**21 31 46.6**	**+5.0**
MMRI	**Maumere**	**1.87**	**255**	P	**Pn**	**21 31 22.7**	**+1.9**
MMRI				S	**Sn**	**21 31 52.8**	**+6.3**
BBSI	**Bau Bau**	**3.04**	**331**	P	**Pn**	**21 31 38.5**	**+3.4**
WSI	**Waingapu**	**4.01**	**248**	P	**Pn**	**21 31 47.7**	**+0.1**
WSI				S	**Sn**	**21 32 31.5**	**-3.0**
KDI	**Kendari**	**4.42**	**341**	P	**Pn**	**21 31 55.3**	**+2.4**
LBMI	**Labuha**	**8.22**	**25**	P	Pn	21 32 53.4	+10
WRA	**Warramunga Arr**	**15.37**	**141**	P	**Pn**	**21 34 16.3**	**0.0**
	3.1nm,0.3s,baz=314,slow=14,SNR=58						
WRA				S	**Sn**	**21 36 58.1**	**-9.2**
	1.4nm,0.3s,baz=312,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**18.07**	**150**	P	**Pn**	**21 34 50.0**	**+1.0**
	1.8nm,0.3s,baz=325,slow=12,SNR=178						
ASAR				S	**S**	**21 38 06.2**	**-0.6**
	0.5nm,0.3s,baz=330,slow=24,SNR=8.5						
STKA	**Stephens Creek**	**28.69**	**148**	P	**P**	**21 36 31.9**	**+1.7**
	0.6nm,0.3s,baz=343,slow=8.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**36.25**	**317**	P	**P**	**21 37 36.2**	**+0.1**
	1.1nm,0.7s,baz=145,slow=7.2,SNR=8.4						
ODAN	**Odare**	**49.76**	**316**	*eP*	**P**	**21 39 22.9**	**-2.0**
	3.4nm,0.4s						
TAPN	**Taplejung**	**49.85**	**316**	*eP*	**P**	**21 39 24.5**	**-1.2**
	5.3nm,0.4s						
RAMN	**Ramite**	**50.37**	**315**	*eP*	**P**	**21 39 29.3**	**-0.2**
	10nm,0.5s						
PKIN	**Phulchoki**	**51.59**	**315**	*eP*	**P**	**21 39 38.1**	**-0.6**
KKN	**Kakani**	**51.81**	**315**	*eP*	**P**	**21 39 40.2**	**0.0**
GKN	**Gorkha**	**52.39**	**315**	*eP*	**P**	**21 39 43.4**	**-1.0**
	6.6nm,0.2s						
USRK	**Ussuriysk Ar.**	**52.61**	**7**	P	**P**	**21 39 44.4**	**-1.1**
	1.3nm,0.6s,baz=194,slow=7.3,SNR=5.0						
KOLN	**Koldanda**	**52.98**	**314**	*eP*	**P**	**21 39 47.5**	**-1.3**
	3.7nm,0.3s						
PYUN	**Piuthan**	**53.61**	**314**	*eP*	**P**	**21 39 52.7**	**-0.7**
	8.0nm,0.4s						
SONM	**Songino Array**	**57.90**	**346**	P	**P**	**21 40 23.1**	**-0.5**
	0.9nm,0.7s,baz=167,slow=8.7,SNR=7.4						
MKAR	**Makanchi Array**	**66.12**	**330**	P	**P**	**21 41 17.4**	**-0.9**
	0.8nm,0.6s,baz=140,slow=6.7,SNR=9.0						
AAK	**Ala-Archa**	**67.75**	**323**	P	**P**	**21 41 28.3**	**-0.6**
	0.9nm,0.4s,baz=138,slow=8.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**70.16**	**337**	P	**P**	**21 41 42.2**	**-1.1**
	0.6nm,0.3s,baz=134,slow=5.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**70.55**	**331**	P	**P**	**21 41 44.6**	**-1.1**
	1.0nm,0.8s,baz=142,slow=5.0,SNR=6.0						
VNDA	**Vanda**	**72.07**	**172**	P	**P**	**21 41 55.2**	**+0.7**
	0.4nm,0.5s,baz=305,slow=7.7,SNR=4.4						
AKTO	**Aktyubinsk**	**81.45**	**324**	P	**P**	**21 42 47.4**	**-0.1**
	1.2nm,0.6s,baz=81,slow=8.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.24**	**280**	PKP	**PKPdf**	**21 49 24.8**	**-2.4**
	0.3nm,0.6s,baz=72,slow=1.7,SNR=4.4						
CPUP	**Villa Florida**	**145.69**	**178**	PKPbc	**PKPdf**	**21 50 09.7**	**+1.1**
	1.9nm,0.6s,baz=57,slow=8.1,SNR=5.2						

KRSC 01 21:32:45.9±1.0,56.°09N×163.°10E,h8km±9km,ML3.9, FELT [III] at Krutoberegovo.,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.28**	**307**	*eP*	Pg	21 32 52.0	+0.6
KBG				*eS*	Sg	21 32 55.5	+0.3
SMKR	**Semkarok**	**1.04**	**299**	*eP*	Pg	21 33 05.4	-0.4
SMKR				*eS*	Sg	21 33 18.9	-0.4
SRKR	**Sorokina**	**1.22**	**299**	*eP*	Pb	21 33 08.3	-0.9
SRKR				*eS*	Sg	21 33 24.3	-0.7
ZLN	**Zelenaya**	**1.29**	**268**	*eP*	Pb	21 33 10.5	0.0
ZLN				*eS*	Sg	21 33 27.6	+0.2
CIRR	**Tsirk**	**1.32**	**272**	*eP*	Pn	21 33 10.6	-0.1
CIRR				*eS*	Sb	21 33 27.5	-0.6
LGNR	**Loginova**	**1.35**	**271**	*eP*	Pb	21 33 11.5	-0.1
LGNR				*eS*	Sb	21 33 28.8	-0.4
KLY	**Klyuchi**	**1.39**	**280**	*eP*	Pn	21 33 09.4	-2.1
KLY				*eS*	Sb	21 33 25.5	-4.4
KRSR	**Krestovskiy**	**1.43**	**276**	*eP*	Pn	21 33 11.8	-0.4
KRSR				*eS*	Sb	21 33 29.3	-1.8
BZWR	**Bezymyannyi-We**	**1.47**	**266**	*eP*	Pb	21 33 13.3	-0.2
BZWR				*eS*	Sn	21 33 32.2	-0.1
BZMR	**Bezymyannaya**	**1.48**	**265**	*eP*	Pb	21 33 13.4	-0.2
BZMR				*eS*	Sb	21 33 32.7	+0.1
KIRR	**Kirishev**	**1.56**	**266**	*eP*	Pn	21 33 14.4	+0.4
KIRR				*eS*	Sn	21 33 34.5	+0.1
KPT	**Kopyto**	**1.62**	**267**	*eP*	Pn	21 33 15.4	+0.6
KPT				*eS*	Sb	21 33 36.7	0.0
KMNR	**Kamenistaya**	**1.65**	**260**	*eP*	Pb	21 33 16.5	0.0
KMNR				*eS*	Sg	21 33 38.5	-0.3
KOZ	**Kozyrevsk**	**1.81**	**270**	*eP*	Pb	21 33 18.7	-0.6
KOZ				*eS*	Sb	21 33 42.2	+0.1
BKI	**Bering**	**1.85**	**117**	*eP*	Pb	21 33 19.2	-0.8
BKI				*eS*	Sb	21 33 44.0	+0.8
TUMR	**Tumrok**	**1.86**	**245**	*eP*	Pb	21 33 20.3	+0.1
ESO	**Esso**	**2.48**	**268**	*eP*	Pn	21 33 28.4	+1.8
ESO				*eS*	Sb	21 34 00.1	-1.2
SPN	**Mys Shipunski**	**3.49**	**212**	*eP*	Pn	21 33 41.2	+0.8
SPN				*eS*	Sn	21 34 22.3	+0.4
SDLR	**Sedlovina**	**3.73**	**223**	*eP*	Pn	21 33 47.1	+3.2
KRER	**Koryakskii**	**3.76**	**224**	*eP*	Pb	21 33 48.8	-3.9
AVH	**Avacha**	**3.80**	**224**	*eP*	Pn	21 33 48.8	+4.1
UGLR	**Uglovaya**	**3.81**	**223**	*eP*	Pn	21 33 48.8	+3.9
GNL	**Ganaly**	**3.82**	**233**	*eP*	Pn	21 33 48.2	+3.1
KRMR	**Karymshinskiy**	**4.37**	**224**	*eS*	Sn	21 34 48.8	+5.3

MEX 01 21:37:49.4±0.3,18.°12N×103.°41W,h13km±6km,MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.18**	**18**	*eP*	Pg	21 37 53.1	-0.5
MMIG				*eS*	Sg	21 37 55.9	-0.5
R15V		**1.18**	**333**	*eP*	Pn	21 38 08.0	-3.7
R15V				*eS*	Sb	21 38 22.5	-4.5
EZ5V		**1.37**	**352**	*eP*	Pn	21 38 10.9	-3.7
EZ5V				*eS*	Sb	21 38 27.6	-5.1

*IDC **01** 21:42:25.8±2.8,35.°93N×141.°07E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.3/33,mbtmp3.4/3,ML3.2/1,MS2.3/1, Ms1 2.3/1,ms1mx2.1/44,Error ellipse: s-maj=64.8km s-min=27.7km az=48.0*
*ISCJB **01** 21:42:26.3±1.9,36.°49N±0.°06×141.°3E±0.°1,h15km±10km, mb3.4/2,Error ellipse: s-maj=15.5km s-min=8.5km az=28.8*
*JMA **01** 21:42:27.0±0.1,36.°50N×141.°25E,h45km±3km,M3.2*
ISC 01 21:42:25.8±2.3,36.°49N±0.°06×141.°33E±0.°09,h16km±10km, n12,σ1.51/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.62**	**281**	P	**Pg**	**21 42 38.5**	**+0.5**
JHO				S	**Sg**	**21 42 46.6**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.74**	**325**	P	**Pg**	**21 42 40.4**	**+0.1**
ONAJ				*eS*	**Sg**	**21 42 49.8**	**-0.3**
JFK	**Kawauchi**	**0.94**	**337**	P	**Pb**	**21 42 43.3**	**-0.5**
JFK				S	**Sb**	**21 42 54.6**	**-1.6**
JYT	**Yasato**	**0.95**	**254**	P	**Pb**	**21 42 43.1**	**-0.8**
JYT				S	**Sb**	**21 42 54.3**	**-2.0**
JFT	**Otama**	**1.29**	**322**	P	**Pn**	**21 42 49.4**	**+0.1**
JFT				S	**Sn**	**21 43 04.9**	**-1.4**
MJAR	**Matsushiro Arr**	**2.51**	**272**	Pn	**Pn**	**21 43 06.2**	**+0.1**
	6.2nm,0.3s,baz=103,slow=11,SNR=59						
MJAR				Sn	**Sn**	**21 43 36.5**	**+0.1**
	4.5nm,0.3s,baz=104,slow=15,SNR=6.8						
MJAR				LR	LR	21 44 16.4	
	comp=Z,64nm,19.4s,baz=120,slow=47						
MAT	**Matsushiro**	**2.52**	**272**	P	**Pn**	**21 43 06.5**	**+0.4**
MAT				*eS*	**Sn**	**21 43 37.2**	**+0.8**
SONM	**Songino Array**	**28.03**	**305**	P	**P**	**21 48 20.0**	**+3.7**
	0.4nm,0.6s,baz=110,slow=9.5,SNR=3.7						
H11S1	**WAKE ISLAND Hy 28.63 122**			T	T	22 18 37.5	
	baz=311,slow=74,SNR=7.6						
H11S3	**WAKE ISLAND Hy 28.63 122**			T	T	22 18 37.5	
	baz=311,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy 28.64 122**			T	T	22 18 44.3	
	baz=311						
WRA	**Warramunga Arr**	**56.52**	**188**	P	**P**	**21 52 05.6**	**-1.8**
	0.2nm,0.4s,baz=2.5,slow=7.2,SNR=6.1						

MEX 01 21:55:36.4±0.9,15.°38N×92.°97W,h16km±51km,MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.41**	**323**	*eP*	Pg	21 55 44.2	-0.4
PCIG				*eS*	Sg	21 55 48.5	-1.8
CCIG	**Comitan**	**1.20**	**42**	*eP*	Pn	21 55 57.2	-1.5

*ISCJB **01** 22:04:52.8±0.2,51.°50N±0.°01×16.°10E±0.°02,h0km, mb3.6/6,Error ellipse: s-maj=2.0km s-min=1.7km az=17.0*
*IPEC **01** 22:04:53.6±0.4,51.°58N×16.°06E,h0km±2km,ML3.1/3, Error ellipse: s-maj=4.1km s-min=2.3km az=71.0*
*LDG **01** 22:04:54.6±0.2,51.°47N×16.°08E,h1km,Ml3.9/13,Error ellipse: s-maj=5.9km s-min=2.5km az=8.0,Suspected Mining induced.*
*CSEM **01** 22:04:54.4±0.1,51.°53N×16.°12E,h0km,ML3.7/25,Ms3.5, Error ellipse: s-maj=1.7km s-min=1.4km az=28.0*
*BGR **01** 22:04:55.8±0.4,51.°52N×16.°13E,h1km,ML3.5/15,Error ellipse: s-maj=6.7km s-min=2.2km az=18.0*
*STR **01** 22:04:55.0±0.6,51.°63N×16.°04E,h5km,Ml4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **01** 22:04:55.4±0.5,51.°52N×16.°00E,h0km,mb3.6/5, mb1 3.7/13,mb1mx3.5/44,mbtmp3.6/13,ML3.5/8,Error ellipse: s-maj=9.4km s-min=5.8km az=102.0*
*PRU **01** 22:04:55.8,51.°50N×16.°10E,h0km*
*WAR **01** 22:04:56.1,51.°49N×16.°09E,h1km,Mw3.1*
*VIE **01** 22:04:57.9±0.3,51.°32N×15.°97E,h0km,mb2.9/14, ML3.1/15,Ms3.5/1,Error ellipse: s-maj=3.2km s-min=2.6km az=76.0,Suspected Mining induced.*
*BNS **01** 22:04:58.2±1.1,51.°40N×15.°93E,h5km,ML3.1*

*UPP **01** 22:05:00.0±3.0,51.°81N×15.°96E,h0km,ML2.8*
ISC 01 22:04:53.8±0.5,51.°57N±0.°03×16.°10E±0.°02,h0km,n207, σ1.74/308,mb3.6/6,11C-12D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pg**	**22 05 08.5**	**+0.6**
KSP				*eSg*	**Sg**	**22 05 17.3**	**-0.1**
KSP				*e*		22 05 20.4	
KSP	**Ksiaz**	**0.73**	**170**	*ePg*	**Pg**	**22 05 08.6**	**+0.6**
KSP				*eSg*	**Sg**	**22 05 18.1**	**+0.7**
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pg**	**22 05 08.5**	**+0.6**
KSP				*eSg*	**Sg**	**22 05 17.3**	**-0.1**
KSP	**Ksiaz**	**0.73**	**170**	*i* Pg	**Pg**	**22 05 08.5**	**+0.6**
KSP				*eSg*	**Sg**	**22 05 17.3**	**-0.1**
KSP				*e*		22 05 20.4	
UPC	**Upice**	**1.06**	**183**	⇓*i*PG	**Pg**	**22 05 14.5**	**+0.3**
UPC				*eSG*	**Sg**	**22 05 27.7**	**-0.2**
	comp=Z,446nm,0.4s						
UPC	**Upice**	**1.06**	**183**	Pg	**Pg**	**22 05 14.5**	**+0.3**
UPC				Sg	**Sg**	**22 05 27.7**	**-0.2**
	446nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**173**	⇓*i*PG	**Pg**	**22 05 17.4**	**+0.1**
DPC				*eSG*	**Sg**	**22 05 32.1**	**-1.1**
	comp=Z,219nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**173**	*ePg*	**Pg**	**22 05 17.4**	**+0.1**
DPC				*eSg*	**Sg**	**22 05 33.2**	**0.0**
DPC	**Dobruska-Polom**	**1.23**	**173**	Pg	**Pg**	**22 05 17.4**	**+0.1**
DPC				Sg	**Sg**	**22 05 33.2**	**0.0**
PVCC	**Panska Ves**	**1.42**	**223**	⇓*i*PG	**Pb**	**22 05 21.3**	**+0.1**
PVCC				*eSG*	**Sn**	**22 05 40.3**	**+0.1**
	comp=Z,530nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**223**	Pg	**Pb**	**22 05 21.3**	**+0.1**
PVCC				Sg	**Sn**	**22 05 40.3**	**+0.1**
	530nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	⇓*i*PN	**Pn**	**22 05 22.4**	**+0.2**
BRG				PG	**Pg**	**22 05 24.3**	**+1.3**
BRG				SG	**Sn**	**22 05 44.1**	**+1.3**
	303nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**244**	*e*Pn	**Pn**	**22 05 22.5**	**+0.2**
BRG				*eSg*	**Sn**	**22 05 44.1**	**+1.3**
BRG	**Berggiesshubel**	**1.52**	**244**	Pn	**Pn**	**22 05 22.5**	**+0.2**
BRG				Sg	**Sn**	**22 05 44.1**	**+1.3**
KRLC	**Kraliky**	**1.56**	**164**	⇓*eSG*	**Sn**	**22 05 42.6**	**-1.1**
KRLC	**Kraliky**	**1.56**	**164**	Sg	**Sn**	**22 05 42.6**	**-1.1**
PRA	**Prague**	**1.83**	**216**	⇓*e*PN	**Pn**	**22 05 27.0**	**+0.4**
PRA				*e*PG	**Pg**	**22 05 29.7**	**+0.8**
PRA				*eSG*	**Sg**	**22 05 52.5**	**-0.2**
	comp=Z,139nm,0.4s						
PRA	**Prague**	**1.83**	**216**	Pn	**Pn**	**22 05 27.0**	**+0.4**
FBE	**Freiberg**	**1.84**	**251**	*e*Pn	**Pn**	**22 05 27.1**	**+0.4**
FBE				*eSg*	**Sg**	**22 05 53.8**	**+0.8**
FBE	**Freiberg**	**1.84**	**251**	Pn	**Pn**	**22 05 27.1**	**+0.4**
FBE				Sg	**Sg**	**22 05 53.8**	**+0.8**
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	⇓*e*PN	**Pn**	**22 05 26.9**	**0.0**
GOPC				*e*PG	**Pb**	**22 05 28.9**	**+0.3**
GOPC				*eSG*	**Sb**	**22 05 52.5**	**+0.2**
	comp=Z,102nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	Pn	**Pn**	**22 05 26.9**	**0.0**
PRU	**Pruhonice**	**1.86**	**213**	⇓*e*PN	**Pn**	**22 05 27.0**	**0.0**
PRU				*e*PG	**Pb**	**22 05 28.9**	**+0.2**
PRU				*eSG*	**Sb**	**22 05 52.5**	**-0.1**
	comp=Z,208nm,0.6s						
PRU	**Pruhonice**	**1.86**	**213**	Pn	**Pn**	**22 05 27.0**	**0.0**
PRU	**Pruhonice**	**1.86**	**213**	Pg	**Pb**	**22 05 28.9**	**+0.2**
PRU				Sg	**Sb**	**22 05 52.5**	**-0.1**
	208nm,0.6s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**22 05 28.8**	**+0.6**
CLL				*eSg*	**Sg**	**22 05 58.2**	**+1.6**
CLL	**Collm**	**1.96**	**264**	Pn	**Pn**	**22 05 28.8**	**+0.6**
CLL				Sg	**Sg**	**22 05 58.2**	**+1.6**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**22 05 29.0**	**+0.8**
CLL				*e*Pg	**Pg**	**22 05 32.0**	**+0.7**
CLL				*e*		22 05 35.0	
CLL				*i* Sg	**Sg**	**22 05 57.8**	**+1.2**
	comp=Z,108nm,0.5s						
RAC	**Raciborz**	**1.99**	**137**	*e*Pn	**Pn**	**22 05 28.3**	**-0.4**
RAC	**Raciborz**	**1.99**	**137**	*e*Pg	**Pb**	**22 05 31.4**	**+0.5**
RAC				*eSg*	**Sg**	**22 05 57.7**	**-0.1**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**22 05 29.1**	**0.0**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**22 05 28.9**	**-0.2**
MORC				*eSg*	**Sb**	**22 05 56.4**	**-0.5**
	comp=Z,112nm,0.5s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	⇓*e*PN	**Pn**	**22 05 30.7**	**-0.4**
OKC				*eSG*	**Sb**	**22 06 01.8**	**+0.5**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pn	**Pn**	**22 05 30.7**	**-0.4**
OKC				*eSg*	**Sb**	**22 06 02.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pn	**Pn**	**22 05 30.7**	**-0.4**
OKC				Sg	**Sb**	**22 06 02.0**	**+0.7**
VRAC	**Vranov**	**2.28**	**172**

NIE	Niedzica	3.44	127	*e*Pn	Pn	22 05 49.5 +0.8
NIE	Niedzica	3.44	127	*e*Pn	Pn	22 05 49.5 +0.8
NIE				*e*Pg	Pg	22 05 59.7 0.0
NIE				*e*Sg	Sg	22 06 44.1 -0.1
VYHS	Vyhne	3.55	149	*e*Pg	Pg	22 06 01.6 -0.2
VYHS				*e*Sg	Sg	22 06 46.4 -1.3
VYHS	Vyhne	3.55	149	*e*	Pn	22 05 50.1 0.0
VYHS	Vyhne	3.55	149	*e*PG	Pg	22 06 01.6 -0.2
VYHS				*e*SG	Sg	22 06 46.4 -1.3
VYHS				*e*LG	Lg	22 06 59.6
CLZ	Clausthal	3.57	277	*e*Pn	Pn	22 05 52.4 +1.9
CLZ				*e*Sg	Sg	22 06 49.4 +0.8
CLZ	Clausthal	3.57	277	Pn	Pn	22 05 52.4 +1.9
CLZ				Sg	Sg	22 06 49.4 +0.8
BSD	Bornholm Skovb	3.62	349	*i* P	Pn	22 05 51.8 +0.7
BSD				*e*S	Sn	22 06 32.9 -1.7
BSD	Bornholm Skovb	3.62	349	*i* P	Pn	22 05 51.8 +0.7
BSD				*e*S	Sn	22 06 32.9 -1.7
CONA	Conrad Observa	3.65	183	Pn	Pn	22 05 52.0 +0.4
	comp=Z,4.2nm,0.2s,SNR=13					
CONA				Sg	Sg	22 06 50.0 -0.9
	comp=Z,13nm,0.3s					
MOA	Molln	3.91	198	Pn	Pn	22 05 55.8 +0.7
	comp=Z,14nm,0.4s,SNR=15					
MOA				Sg	Sg	22 06 58.8 -0.5
	comp=Z,55nm,0.4s					
STHS	Stebnicka Huta	3.93	121	*e*Pg	Pg	22 06 09.5 +0.4
STHS				*e*Sg	Sg	22 07 03.6 +3.7
STHS	Stebnicka Huta	3.93	121	*e*	Pn	22 05 56.5 +1.1
STHS	Stebnicka Huta	3.93	121	*e*PG	Pg	22 06 09.5 +0.4
STHS				*e*SG	Sg	22 07 03.6 +3.7
STHS				*e*LG	Lg	22 07 17.0
KECS	Kecovo	4.19	136	*e*Pg	Pg	22 06 13.7 -0.3
KECS				*e*Sg	Sg	22 07 07.5 -0.7
KECS	Kecovo	4.19	136	*e*	Pn	22 05 58.6 -0.3
KECS	Kecovo	4.19	136	*e*PG	Pg	22 06 13.7 -0.3
KECS				*e*SG	Sg	22 07 07.5 -0.7
KECS				*e*LG	Lg	22 07 21.0
ARSA	Arzberg	4.34	185	Pn	Pn	22 06 01.9 +0.9
	comp=Z,3.2nm,0.3s					
ARSA				Sg	Sg	22 07 13.6 +0.5
	comp=Z,20nm,0.4s					
CRVS	Cervenica-Dubn	4.35	126	*e*Pg	Pg	22 06 17.9 +0.7
CRVS				*e*Sg	Sg	22 07 13.1 -0.5
CRVS	Cervenica-Dubn	4.35	126	*e*	Pn	22 06 02.3 +1.1
CRVS	Cervenica-Dubn	4.35	126	*e*PG	Pg	22 06 17.9 +0.7
CRVS				*e*SG	Sg	22 07 13.1 -0.5
PSZ	Piszkesteto	4.40	145	⇑*i*P	Pn	22 06 02.9 +1.0
PSZ	Piszkesteto	4.40	145	*e*P	Pn	22 06 03.0 +1.0
PSZ	Piszkesteto	4.40	145	*e*x	Pn	22 06 03.0 +1.0
PSZ				*e*x	x	22 07 13.6
PSZ	Piszkesteto	4.40	145	*e*x	Pn	22 06 03.0 +1.0
PSZ				*e*x	x	22 07 13.6
PSZ	Piszkesteto	4.40	145	*e*x	Pn	22 06 03.0 +1.0
PSZ				*e*x	x	22 07 13.6
LLD	Lille Linde	4.43	330	*i* P	Pn	22 06 02.5 +0.3
LLD	Lille Linde	4.43	330	*i* P	Pn	22 06 02.5 +0.3
KBA	Koelnbreinsper	4.84	203	Pn	Pn	22 06 09.1 +1.0
	comp=Z,12nm,0.4s,SNR=10					
KBA				Sg	Sg	22 07 29.9 +0.7
	comp=Z,11nm,0.4s					
SOKA	Soboth	4.94	189	Sg	Sg	22 07 32.5 -0.1
	comp=Z,8.8nm,0.6s					
WATA	Walderalm	5.16	217	Pn	Pn	22 06 13.2 +0.8
	comp=Z,6.5nm,0.3s,SNR=15					
WATA				Sg	Sg	22 07 40.9 +1.4
	comp=Z,6.0nm,0.5s					
OBKA	Obir	5.16	192	Pn	Pn	22 06 13.3 +0.9
	comp=Z,1.7nm,0.3s					
OBKA				Sg	Sg	22 07 39.3 -0.3
	comp=Z,14nm,0.8s					
MYKA	Terra Mystica	5.20	199	Pn	Pn	22 06 12.7 -0.2
	comp=Z,1.0nm,0.4s					
MYKA				Sg	Sg	22 07 39.7 -1.0
	comp=Z,5.1nm,0.4s					
WTTA	Wattenberg	5.20	216	Pn	Pn	22 06 13.7 +0.7
	comp=Z,5.4nm,0.4s					
WTTA				Sg	Sg	22 07 41.9 +1.1
	comp=Z,8.0nm,0.4s					
MOTA	Moosalm	5.33	220	Pn	Pn	22 06 15.6 +0.8
	comp=Z,4.4nm,0.2s,SNR=18					
MOTA				Sg	Sg	22 07 45.4 +0.3
	comp=Z,13nm,0.7s					
RETA	Reutte	5.36	222	Pn	Pn	22 06 15.3 +0.2
	comp=Z,4.0nm,0.4s,SNR=5.6					
RETA				Sg	Sg	22 07 45.9 -0.1
	comp=Z,9.4nm,0.5s					
ABTA	Abfaltersbach	5.37	207	Pn	Pn	22 06 16.6 +1.4
	comp=Z,6.8nm,0.6s,SNR=10					
ABTA				Sg	Sg	22 07 45.5 -0.6
	comp=Z,11nm,0.5s					
TRPA	Tarpa	5.40	127⇑	*e*P	Pn	22 06 15.5 -0.1
TRPA	Tarpa	5.40	127⇑	*e*x	Pn	22 06 15.5 -0.1
KOE	Koeppel	5.41	261	*e*Pn	Pn	22 06 16.7 +1.0
KOE	Koeppel	5.41	261	Pn	Pn	22 06 16.7 +1.0
VXJU	Vaexsjoe	5.41	353	P	Pn	22 06 17.1 +1.4
VXJU				S	Sn	22 07 16.1 -2.4
VXJU	Vaexsjoe	5.41	353	P	Pn	22 06 17.1 +1.4
HOBG	Hohbusch	5.53	267	*e*Pn	Pn	22 06 18.3 +0.9
HOBG	Hohbusch	5.53	267	Pn	Pn	22 06 18.3 +0.9
VNDS	Vrh nad Dolski	5.55	190	*e*Pn	Pn	22 06 18.8 +1.2
VNDS	Vrh nad Dolski	5.55	190	*e*Pn	Pn	22 06 18.8 +1.2
PDKS	Podkum	5.56	188	*e*Pn	Pn	22 06 19.3 +1.5
PDKS	Podkum	5.56	188	*e*Pn	Pn	22 06 19.3 +1.5
GOLS	Golise	5.57	183	*i* Pn	Pn	22 06 19.1 +1.1
GOLS	Golise	5.57	183	*i* Pn	Pn	22 06 19.0 +1.1
OSKU	Oskarshamn	5.64	0	P	Pn	22 06 20.2 +1.4
OSKU				S	Sn	22 07 21.5 -2.7
OSKU	Oskarshamn	5.64	0	P	Pn	22 06 20.2 +1.4
BGG	Burgeitz	5.71	260	*e*Pn	Pn	22 06 19.9 +0.1
BGG				*e*Sn	Sn	22 07 23.1 -2.9
	comp=Z,8.8nm,1.2s					
BGG	Burgeitz	5.71	260	Pn	Pn	22 06 19.9 +0.1
LAUG	Laupendahl	5.73	271	*e*Pn	Pn	22 06 20.7 +0.7
LAUG	Laupendahl	5.73	271	Pn	Pn	22 06 20.7 +0.7
FETA	Feichten	5.75	220	Pn	Pn	22 06 21.1 +0.6
	comp=Z,2.8nm,0.4s					
FETA				Sg	Sg	22 07 59.4 +1.1
	comp=Z,2.4nm,0.4s					
SPAK	Spaichingen-Ko	5.87	237	P	Pn	22 06 22.7 +0.7
ASPU	Aespoe	5.87	3	P	Pn	22 06 23.8 +1.8
ASPU	Aespoe	5.87	3	P	Pn	22 06 23.8 +1.8
GNOU	Gnosjoe	5.89	348	P	Pn	22 06 23.2 +0.8
GNOU				S	Sn	22 07 29.0 -1.5
GNOU	Gnosjoe	5.89	348	P	Pn	22 06 23.2 +0.8
DAVA	Damuels	5.90	226	Pn	Pn	22 06 22.8 +0.2
	comp=Z,4.4nm,0.3s					
DAVA				Sg	Sg	22 08 03.7 +0.5
	comp=Z,0.1nm,0.0s					
LANF	Langenberg	5.91	247	P	Pn	22 06 22.9 +0.3
LANF	Langenberg	5.91	247	P	Pn	22 06 22.9 +0.3
OZLJ	Ozalj	5.97	184	P	Pn	22 06 25.0 +1.6
OZLJ	Ozalj	5.97	184	*i* P	Pn	22 06 24.9 +1.6
HILG	Hillesheim	6.09	262	*e*Pn	Pn	22 06 26.0 +0.9
HILG	Hillesheim	6.09	262	Pn	Pn	22 06 26.0 +0.9
DREG	Dreilaegerbach	6.28	266	*e*Pn	Pn	22 06 29.9 +2.3
DREG	Dreilaegerbach	6.28	266	Pn	Pn	22 06 29.9 +2.3
DAVOX	Davos/Dischmat	6.29	223	Pn	Pn	22 06 28.2 +0.2
	comp=Z,1.5nm,0.3s,baz=58,slow=8.4,SNR=15					
DAVOX				Lg	Lg	22 08 05.3
	comp=Z,0.8nm,0.3s,baz=231,slow=6.2,SNR=3.0					
BORU	Boraas	6.38	344	P	Pn	22 06 30.0 +1.0
BORU	Boraas	6.38	344	P	Pn	22 06 30.0 +1.0
FELD	Feldberg im Sc	6.42	238	P	Pn	22 06 29.5 -0.2
DRGR		6.45	135	⇑*i*P	Pn	22 06 30.3 +0.2
DRGR		6.45	135	⇑*i*P	Pn	22 06 30.3 +0.2
WLS	Welschbruch	6.46	244	P	Pn	22 06 30.4 +0.2
WLS	Welschbruch	6.46	244	P	Pn	22 06 30.4 +0.2
CDF	Champ du Feu	6.51	244	*e*Pn	Pn	22 06 30.2 -0.6
CDF	Champ du Feu	6.51	244	*e*P	Pn	22 06 32.1 +1.3
CDF				*e*Sg	Sg	22 08 16.8 -5.9
	comp=Z,64nm,0.9s					
CDF	Champ du Feu	6.51	244	*e*Pn	Pn	22 06 30.2 -0.6
CDF	Champ du Feu	6.51	244	*e*P	Pn	22 06 32.1 +1.3
LNKU	Linkoeping	6.68	357	P	Pn	22 06 33.9 +0.8
LNKU	Linkoeping	6.68	357	P	Pn	22 06 33.9 +0.8
BZS	Buzias	6.99	146	⇑*i*P	Pn	22 06 38.7 +1.3
BZS	Buzias	6.99	146	⇑*i*P	Pn	22 06 38.7 +1.3
HINF	Hinteralfeld	7.07	242	*e*P	Pn	22 06 38.9 +0.3
HINF				*e*Sg	Sg	22 08 35.4 -5.5
	comp=Z,34nm,0.8s					
HINF	Hinteralfeld	7.07	242	*e*P	Pn	22 06 38.9 +0.3
BURAR	Bucovina Array	7.12	120	⇑*i*P	Pn	22 06 40.0 +0.7
BURAR	Bucovina Array	7.12	120	⇑*i*P	Pn	22 06 40.0 +0.7
NACGM	Naroch	7.23	58	*e*	Sn	22 08 09.0 +5.6
HAU	Haudompre	7.25	244	*e*Sg	Sg	22 08 39.4 -7.1
	comp=Z,69nm,1.1s					
GIVF	Givet	7.29	263	*e*Sg	Sg	22 08 42.2 -5.6
	comp=Z,53nm,1.0s					
PAGF	Fort de Pagny	7.33	250	*e*P	Pn	22 06 42.2 +0.2
	baz=61					
PAGF				*e*Sg	Sg	22 08 43.5 -5.5
	comp=Z,21nm,1.1s					
PAGF	Fort de Pagny	7.33	250	*e*P	Pn	22 06 42.2 +0.2
THEF	They Montfort	7.34	247	P	Pn	22 06 42.3 +0.1
THEF	They Montfort	7.34	247	P	Pn	22 06 42.3 +0.1
ASKU	Askersund	7.38	355	P	Pn	22 06 44.2 +1.5
ASKU	Askersund	7.38	355	P	Pn	22 06 44.2 +1.5
NASU	Vaermlandsnaes	7.56	348	P	Pn	22 06 46.3 +1.1
NASU	Vaermlandsnaes	7.56	348	P	Pn	22 06 46.3 +1.1
GZR	Gura Zlata	7.60	142	⇑*i*P	Pn	22 06 47.9 +2.0
GZR	Gura Zlata	7.60	142	⇑*i*P	Pn	22 06 47.9 +2.0
BAIF	Baives	7.68	263	*e*Sg	Sg	22 08 52.8 -7.6
	comp=Z,37nm,1.1s					
MEZF	Maizieres J'vi	7.75	251	*e*Sg	Sg	22 08 55.1 -7.3
	comp=Z,23nm,0.9s					
SFTF	Sexfontaines	7.90	249	*e*P	Pn	22 06 50.3 +0.5
	baz=72					
SFTF				*e*Sg	Sg	22 09 00.3 -6.9
	comp=Z,44nm,1.2s					
SFTF	Sexfontaines	7.90	249	*e*P	Pn	22 06 50.3 +0.5
CABF	La Chapelle	8.23	237	*e*Sg	Sg	22 09 10.7 -7.2
	comp=Z,47nm,0.9s					
AKASG	Malin Array Be	8.30	91	Pn	Pn	22 06 54.7 -0.7
	comp=Z,2.6nm,0.3s,baz=280,slow=12,SNR=14					
AKASG				Pg	Pg	22 07 28.7 -4.1
	comp=Z,0.8nm,0.3s,baz=276,slow=16,SNR=4.2					
AKASG				Sn	Sn	22 08 25.7 -4.1
	comp=Z,1.2nm,0.3s,baz=276,slow=22,SNR=3.3					
AKASG				Lg	Lg	22 09 20.1
	baz=278,slow=28,SNR=3.3					
LPL	La Plagne	8.67	229	*e*P	Pn	22 07 02.1 +1.4
LPL	La Plagne	8.67	229	*e*P	Pn	22 07 02.1 +1.4
LPG	La Plagne	8.68	229	*e*P	Pn	22 07 02.0 +1.2
LPG				*e*Sg	Sg	22 09 24.1 -8.2
	comp=Z,25nm,1.2s					
LPG	La Plagne	8.68	229	*e*P	Pn	22 07 02.0 +1.2
HFS	Hagfors	8.69	352	Pn	Pn	22 07 00.8 +0.2
	comp=Z,0.3nm,0.3s,baz=180,slow=15,SNR=10					
HFS				Sn	Sn	22 08 36.0 -3.3
	comp=Z,0.3nm,0.3s,baz=176,slow=26,SNR=3.0					
LOR	Lormes	9.06	246	*e*P	Pn	22 07 05.6 -0.2
	baz=65					
LOR				*e*Sg	Sn	22 09 35.5 +47
	comp=Z,13nm,0.9s					
LOR	Lormes	9.06	246	*e*P	Pn	22 07 05.6 -0.2
LOR				*e*Sg	Sn	22 09 35.5 +47
	comp=Z,6.6nm,0.9s					
MBDF	Montbardon	9.25	226	*e*P	Pn	22 07 08.9 +0.3
MBDF	Montbardon	9.25	226	*e*P	Pn	22 07 08.9 +0.3
SSF	Saint Saulge	9.38	246	*e*Sg	Sn	22 09 46.3 +50
	comp=Z,6.4nm,0.6s					
SBF	Sospel	9.66	220	*e*P	Pn	22 07 15.2 +1.1
SBF	Sospel	9.66	220	*e*P	Pn	22 07 15.2 +1.1
NOA	NORSAR Array B	9.87	346	Pn	Pn	22 07 15.9 -1.0
	comp=Z,0.3nm,0.3s,baz=96,slow=17,SNR=7.0					
NOA				Sn	Sn	22 09 03.5 -4.8
	comp=Z,0.2nm,0.3s,baz=145,slow=22,SNR=3.3					
FRF	La Foret Royal	10.24	222	*e*P	Pn	22 07 22.7 +0.8
FRF	La Foret Royal	10.24	222	*e*P	Pn	22 07 22.7 +0.8
SMRF	Simiane la Rot	10.38	227	*e*P	Pn	22 07 27.3 +3.4
LMR	La Mourre	10.48	222	*e*P	Pn	22 07 25.4 +0.2
LMR	La Mourre	10.48	222	*e*P	Pn	22 07 25.4 +0.2
FINES	FINESS Array B	11.31	25	Pn	Pn	22 07 35.7 -0.9
	comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=18					
FINES				Sn	Sn	22 09 34.7 -8.9
	comp=Z,0.3nm,0.3s,baz=216,slow=21,SNR=4.3					
EKA	Eskdalemuir Ar	12.07	296	Pn	Pn	22 07 45.0 -2.0
	baz=98,slow=14,SNR=8.4					
ARCES	ARCESS Array B	18.57	10	Pn	P	22 09 09.5 -2.4
	comp=Z,0.4nm,0.3s,baz=193,slow=14,SNR=11					
ARU	Arti	25.12	62	P	P	22 10 19.9 -0.1
	comp=Z,1.6nm,0.5s,baz=292,slow=11,SNR=4.9					
AKTO	Aktyubinsk	26.15	76	P	P	22 10 30.4 +1.0
	comp=Z,1.2nm,0.5s,baz=295,slow=6.3,SNR=5.0					
TORD	Torodi Ar. Bea	40.05	202	P	P	22 12 31.4 +0.8
	comp=Z,0.6nm,0.8s,baz=15,slow=8.8,SNR=4.8					
MKAR	Makanchi Array	42.20	69	P	P	22 12 49.9 +1.7
	comp=Z,0.5nm,0.7s,baz=291,slow=6.2,SNR=3.2					
SONM	Songino Array	54.89	55	P	P	22 14 27.6 +1.6
	comp=Z,0.4nm,0.7s,baz=266,slow=4.3,SNR=2.9					
PDAR	Pinedale Array	74.89	322	P	P	22 16 37.9 +1.5
	comp=Z,0.4nm,0.6s,baz=35,slow=6.9,SNR=3.2					

LJU ***01*** *22:07:39.7, 46°.07N×14°.96E, h7km, ML0.7*

CSEM 01 22:07:39.7, 46°.07N×14°.96E, h0km, ML0.7, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	Podkum	0.03	109	⇑*i*Pg	Pg	22 07 41.1	+0.9
PDKS				*i* Sg	Sg	22 07 42.0	+1.5
	comp=Z,59nm,0.1s						
PDKS	Podkum	0.03	109	⇑*i*Pg	Pg	22 07 41.1	+0.9
PDKS				*i* Sg	Sg	22 07 42.0	+1.4
	comp=Z,59nm,0.1s						
VNDS	Vrh nad Dolski	0.18	280	⇓*i*Pg	Pg	22 07 43.7	+0.5
VNDS				*i* Sg	Sg	22 07 46.4	+0.8
	comp=Z,3.0nm,0.1s						
VNDS	Vrh nad Dolski	0.18	280	⇓*i*Pg	Pg	22 07 43.7	+0.5
VNDS				*i* Sg	Sg	22 07 46.3	+0.7
	comp=Z,3.0nm,0.1s						
LEGS	Legarje	0.28	116	*i* Pg	Pg	22 07 45.4	+0.4
LEGS				*i* Sg	Sg	22 07 49.3	+0.8
LEGS	Legarje	0.28	116	*i* Pg	Pg	22 07 45.4	+0.4
LEGS				*i* Sg	Sg	22 07 49.3	+0.7
VISS	Visnje	0.28	198	*i* Pg	Pg	22 07 45.2	+0.2
VISS				*i* Sg	Sg	22 07 49.5	+0.8
	comp=Z,2.0nm,0.1s						
VISS	Visnje	0.28	198	*i* Pg	Pg	22 07 45.2	+0.2
VISS				*i* Sg	Sg	22 07 49.5	+0.9
	comp=Z,2.0nm,0.1s						
LJU	Ljubljana	0.30	265	*i* Sg	Sg	22 07 50.3	+0.9
	comp=Z,3.0nm,0.1s						
LJU	Ljubljana	0.30	265	*i* Sg	Sg	22 07 50.3	+0.9
	comp=Z,3.0nm,0.1s						
DOBS	Dobrina	0.36	77	*i* Pg	Pg	22 07 46.8	+0.1
DOBS				*i* Sg	Sg	22 07 52.0	+0.7
	comp=Z,3.0nm,0.1s						
DOBS	Dobrina	0.36	77	*i* Pg	Pg	22 07 46.8	+0.1
DOBS				*i* Sg	Sg	22 07 52.0	+0.6
	comp=Z,3.0nm,0.1s						
GBAS	Gorenja Brezov	0.39	250	*i* Pg	Pg	22 07 47.4	+0.3
GBAS				*i* Sg	Sg	22 07 52.3	+0.3
	comp=Z,2.0nm,0.1s						
GBAS	Gorenja Brezov	0.39	250	*i* Pg	Pg	22 07 47.3	+0.2
GBAS				*i* Sg	Sg	22 07 52.3	+0.2
CRNS	Crni Vrh	0.49	272	*i* Pg	Pg	22 07 49.5	+0.5
CRNS	Crni Vrh	0.49	272	*i* Pg	Pg	22 07 49.5	+0.5
CEY	Cerknica	0.50	229	*i* Pg	Pg	22 07 49.4	+0.2
CEY				*i* Sg	Sg	22 07 57.0	+1.3
CEY	Cerknica	0.50	229	*i* Pg	Pg	22 07 49.4	+0.2
CEY				*i* Sg	Sg	22 07 57.0	+1.3
GBRS	Gornja Briga	0.55	191	*i* Pg	Pg	22 07 50.3	+0.1

IDC 01 23:00:44.2±3.0, 6°.26N×123°.99E, h612km±46km, mb2.9/6, mb1 3.1/6, mb1mx2.6/38, mbtmp4.0/6, Error ellipse: s-maj=143.6km s-min=10.4km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.96	159	P	P	23 05 47.2	-0.6
	1.7nm,0.5s,baz=340,slow=9.4,SNR=20						
WRA				S	S	23 09 51.2	+0.6
	0.5nm,0.5s,baz=338,slow=15,SNR=4.8						
ASAR	Alice Springs	31.28	162	P	P	23 06 16.5	+0.2
	0.8nm,0.4s,baz=339,slow=7.1,SNR=14						
ASAR				S	S	23 10 41.9	+0.3
	0.3nm,0.7s,baz=337,slow=10,SNR=4.5						
STKA	Stephens Creek	41.48	157	P	P	23 07 40.8	+1.2
	0.8nm,0.3s,baz=346,slow=12,SNR=2.9						
SONM	Songino Array	44.07	343	P	P	23 07 59.3	-0.3
	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.7						
MKAR	Makanchi Array	53.93	326	P	P	23 09 12.0	0.0
	0.8nm,0.4s,baz=119,slow=7.9,SNR=18						
FINES	FINESS Array B	88.32	332	P	P	23 12 31.4	-0.2
	2.7nm,1.1s,baz=148,slow=16,SNR=1.8						

MOS ***01*** *23:20:15.8±0.8, 25°.02S×179°.72E, h491km, mb5.1/11, Error ellipse: s-maj=14.2km s-min=10.8km az=33.7*

ISCJB ***01*** *23:20:16.1±0.5, 25°.03S±0°.03×179°.74E±0°.03, h498km±6km, mb4.7/60, Error ellipse: s-maj=5.7km s-min=4.4km az=153.6*

IDC ***01*** *23:20:16.9±0.5, 25°.09S×179°.77E, h494km±4km, mb4.2/15, mb1 4.4/18, mb1mx4.3/25, mbtmp5.0/18, Error ellipse: s-maj=10.0km s-min=9.3km az=14.0*

NEIC ***01*** *23:20:16.7±0.7, 25°.09S×179°.74E, h499km±7km, mb4.9/41, Error ellipse: s-maj=7.6km s-min=7.4km az=46.0*

ISC 01 23:20:16.5±0.4, 25°.04S±0°.05×179°.92E±0°.05, h502km±3km, h503km; pP-P, n323, σ=61/373, mb4.8/60, 11C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.62	156	P	P	23 21 40.9	+0.9
	330nm,0.3s,baz=249,slow=5.5,SNR=11						
RAO				S	S	23 22 46.2	-2.1
	170nm,0.3s,baz=86,slow=23,SNR=4.9						
RAO	Raoul Island	4.62	156	*e*P	P	23 21 40.0	0.0
RAO				*e*S	S	23 22 47.8	-0.6
RAO	Raoul Island	4.62	156	*e*P	P	23 21 40.0	0.0
RAO				*e*S	S	23 22 47.8	-0.6
MSVF	Nonsavu	7.47	346	*e*P	P	23 22 07.9	+0.2
MSVF	Nonsavu	7.47	346	*e*P	P	23 22 07.9	+0.2
DZM	Mont Dzumac	12.70	281	P	P	23 23 04.4	+1.7
	2.3nm,0.3s,baz=96,slow=15,SNR=38						
DZM	Mont Dzumac	12.70	281	*e*P	P	23 23 03.4	+0.8
URZ	Urewera	13.39	190	P	P	23 23 08.4	-1.2
	2.5nm,0.3s,baz=28,slow=2.9,SNR=14						
URZ				S	S	23 25 30.1	-2.3
	4.1nm,0.3s,baz=206,slow=23,SNR=14						
AFI	Afiamalu	13.55	37	P	P	23 23 10.5	-1.2
	3.7nm,0.3s,baz=348,slow=10,SNR=5.2						
AFI	Afiamalu	13.55	37	*e*P	P	23 23 08.6	-3.1
AFI	Afiamalu	13.55	37	*e*P	P	23 23 08.6	-3.1
BKZ	Black Stump Fm	14.38	191	*e*P	P	23 23 19.3	-0.7
BKZ				*e*S	S	23 25 48.6	-2.8
BFZ	Birch Farm	15.90	190	*e*P	P	23 23 34.4	-1.5
BFZ				*e*S	S	23 26 17.9	-2.4
SNZO	South Karori	16.80	194	*e*P	P	23 23 44.4	-0.7
	59nm,0.9s						
SNZO				*e*S	S	23 26 35.5	-0.7
THZ	Tophouse	17.66	198	*e*P	P	23 23 52.5	-1.0
	31nm,0.4s						
THZ				*e*S	S	23 26 50.9	+0.1
KHZ	Kahutara	18.12	195	*e*P	P	23 23 56.5	-1.0
	32nm,0.5s						
KHZ				*e*S	S	23 26 58.0	+0.1
LTZ	Lake Taylor	18.79	198	*e*P	P	23 24 02.2	-1.6
	44nm,0.9s						
OXZ	Oxford	19.35	198	*e*P	P	23 24 07.9	-1.0
	40nm,0.7s						
LHI	Lord Howe Isla	19.45	246	P	P	23 24 11.3	+1.3
	baz=20,SNR=6.4						
RPZ	Rata Peaks	19.99	199	P	P	23 24 14.2	-0.6
	4.8nm,0.3s,baz=323,slow=0.6,SNR=13						
RPZ	Rata Peaks	19.99	199	*e*P	P	23 24 13.8	-1.0
	20nm,0.6s						
HNR	Honiara	24.53	306	P	P	23 24 55.4	-0.4
	242nm,0.7s,baz=12,slow=3.7,SNR=7.1						
HNR	Honiara	24.53	306	*e*P	P	23 24 55.0	-0.9
HNR				pmax	pmax		
	comp=Z,305nm,0.8s						
HNR	Honiara	24.53	306	*e*P	P	23 24 55.0	-0.9
	comp=Z,305nm,0.8s						
ARMA	Armidale	25.57	252	P	P	23 25 06.8	+1.7
	baz=26,SNR=26						
ARMA	Armidale	25.57	252	*e*P	P	23 25 05.5	+0.4
	comp=Z,45nm,0.8s						
EIDS	Eidsvold	26.07	263	P	P	23 25 10.4	+1.0
	baz=26,SNR=24						
EIDS	Eidsvold	26.07	263	*e*P	P	23 25 10.4	+1.0
	comp=Z,72nm,0.8s						
MGCD	Mangrove Creek	26.39	245	P	P	23 25 13.6	+1.5
	baz=26,SNR=24						
RMQ	Roma	28.07	260	P	P	23 25 28.8	+1.9
	baz=28,SNR=7.9						
CNB	Canberra Magne	28.23	242	P	P	23 25 29.5	+1.1
	baz=28,SNR=19						
YNG	Young	28.81	244	P	P	23 25 33.7	+0.3
	baz=29,SNR=6.1						
MILA	Mila	28.82	238	P	P	23 25 34.7	+1.2
	baz=29,SNR=17						
CMSA	Cobar Meteorol	30.74

comp=Z,14nm,1.0s,baz=102,slow=14,SNR=18
JAY Jayapura 43.90 294 P **P 23 27 38.3 -0.1**
comp=Z,1.1nm,0.6s,baz=139,slow=23,SNR=9.1
JAY Jayapura 43.90 294 P **P 23 27 38.3 -0.1**
GENI Genyem 44.30 294 P **P 23 27 44.3 +2.8**
FORT Forrest 45.85 251 P **P 23 27 52.4 -0.7**
baz=46,SNR=39
FORT Forrest 45.85 251 *eP* **P 23 27 52.2 -1.0**
comp=Z,750nm,0.6s
KDU Kakadu 46.33 276 P **P 23 27 56.4 -0.6**
baz=46,SNR=7.4
WRKA Warakurna 46.52 258 P **P 23 27 58.0 -0.4**
baz=47,SNR=63
MTN Manton Dam 47.48 275 P **P 23 28 04.8 -0.8**
baz=48,SNR=17
MTN Manton Dam 47.48 275 *eP* **P 23 28 03.9 -1.8**
comp=Z,16nm,0.6s
KNRA Kununurra 48.62 271 P **P 23 28 14.3 +0.1**
baz=49,SNR=34
SAUI Saumlaki 49.31 281 P **P 23 28 19.9 +0.5**
comp=Z,138nm,0.9s
SAUI Saumlaki 49.31 281 *eP* **P 23 28 18.5 -0.8**
comp=Z,85nm,0.7s
HPAH Hawaii Prepara 50.69 30 *eP* **P 23 28 25.4 -4.0**
FAKI Fak Fak 50.85 288 *eP* **P 23 28 27.8 -2.9**
comp=Z,84nm,1.5s
GUMO Guam 51.40 314 *eP* **P 23 28 34.0 -0.6**
GUMO pmax pmax
comp=Z,63nm,0.8s
GUMO Guam 51.40 314 *eP* **P 23 28 34.0 -0.6**
comp=Z,63nm,0.8s
VNDA Vanda 53.24 185 P **P 23 28 48.4 +1.5**
comp=Z,0.6nm,0.5s,baz=26,slow=4.3,SNR=5.9
VNDA ScP **ScP 23 32 57.9 +1.8**
comp=Z,1.6nm,0.7s,baz=356,slow=5.3,SNR=8.0
MSAI Masohi 53.53 285 P **P 23 28 52.7 +2.7**
comp=Z,12nm,0.6s,comp=Z,687nm
AAI Ambon 54.01 284 P **P 23 28 54.1 +0.7**
KLBR Kellerberrin 54.49 248 P **P 23 28 56.1 -0.5**
baz=55,SNR=55
RKGY Rocky Gully 54.66 244 P **P 23 28 57.5 -0.3**
baz=55,SNR=11
NWAO Narrogin (SRO) 54.70 246 P **P 23 28 57.8 -0.3**
baz=55,SNR=11
NWAO P **P 23 28 57.8 -0.3**
baz=55,SNR=11
SOEI Soe 54.87 276 P **P 23 29 00.8 +1.2**
SOEI Soe 54.87 276 *eP* **P 23 28 58.6 -1.1**
comp=Z,80nm,0.9s
MBWA Marble Bar 55.11 261 *eP* **P 23 28 59.9 -1.1**
MBWA *ep*P **pP 23 30 45.5 +5.9**
NLAI Namlea 55.18 284 P **P 23 29 02.2 +0.6**
BLDU Ballidu 55.54 249 P **P 23 29 03.3 -0.7**
baz=56,SNR=103
LBMI Labuha 56.09 287 P **P 23 29 09.2 +1.2**
comp=Z,52nm,0.8s,comp=Z,1μm
MORW Morawa 56.42 251 P **P 23 29 09.6 -0.5**
baz=56,SNR=18
SANI Sanana 56.72 285 P **P 23 29 12.0 -0.3**
MMRI Maumere 57.16 276 *eP* **P 23 29 14.2 -1.1**
comp=Z,60nm,1.0s
GIRL Giralia 59.59 257 P **P 23 29 32.8 +1.2**
baz=60,SNR=6.7
PLAI Plampang 61.11 274 P **P 23 29 41.9 0.0**
SPSI Sidrap Palu 61.35 280 P **P 23 29 42.9 -0.6**
comp=Z,21nm,0.8s,comp=Z,1μm
TWSI Taliwang, Sumb 61.96 273 P **P 23 29 47.7 +0.3**
JAGI Jajag, Banyuwa 64.54 272 P **P 23 30 03.5 -0.6**
QSPA South Pole Qui 65.05 180 *eP* **P 23 30 08.0 +1.4**
GMJI Gumukmas 65.26 272 P **P 23 30 07.4 -1.2**
KMMI Kalianget 65.28 274 P **P 23 30 09.6 +0.9**
PWJI Pagerwojo 66.84 272 P **P 23 30 18.7 +0.2**
PBKI Pangkalan Bun 69.17 277 P **P 23 30 35.1 +2.4**
KSM Kuching 72.23 280 *eP* **P 23 30 49.8 -1.0**
comp=Z,30nm,0.8s
MJA0 Matsu Arr-Jizo 72.77 326 *eP* **P 23 30 54.0 +0.5**
MJA0 pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 72.79 326 P **P 23 30 53.9 +0.4**
comp=Z,8.9nm,0.8s,baz=160,slow=6.0,SNR=25
MAJO Matsushiro 72.79 326⇑ *eP* **P 23 30 54.4 +0.9**
MAJO pmax pmax
comp=Z,99nm,1.0s
MAJO Matsushiro 72.79 326 *eP* **P 23 30 51.0 -2.5**
comp=Z,17nm,0.9s
MAT Matsushiro 72.79 326 P **P 23 30 53.8 +0.3**
MJB9 Matsu-Tunnel 72.80 326 *eP* **P 23 30 51.5 -2.1**
comp=Z,4.3nm,0.9s
MAW Mawson 76.66 201 P **P 23 31 15.9 +1.1**
comp=Z,5.8nm,0.5s,baz=137,slow=6.0,SNR=20
MAW Mawson 76.66 201 P **P 23 31 15.9 +1.1**
baz=77,SNR=11
MAW Mawson 76.66 201 *eP* **P 23 31 12.6 -2.2**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 76.66 201 *eP* **P 23 31 12.6 -2.2**
comp=Z,1.4nm,0.8s
KSRS Korea Array 79.07 320 P **P 23 31 29.7 +1.5**
comp=Z,5.2nm,0.8s,baz=132,slow=5.6,SNR=14
KSAR Wonju Array Be 79.08 320 P **P 23 31 29.7 +1.4**
KSAR Wonju Array Be 79.08 320 P **P 23 31 29.7 +1.4**
KS01 Wonju Array Si 79.10 320 *eP* **P 23 31 27.1 -1.3**
PETK Petropavlovsk- 80.18 347 P **P 23 31 35.0 +1.2**
comp=Z,7.0nm,0.6s,baz=131,slow=6.3,SNR=5.3
PETK Petropavlovsk- 80.18 347 P **P 23 31 35.0 +1.2**
NJ2 Nanjing 81.35 311 *eP* **P 23 31 38.3 -2.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USRK Ussuriysk Ar. 81.68 327 P **P 23 31 43.5 +1.8**
comp=Z,3.2nm,0.5s,baz=145,slow=4.9,SNR=7.0
IPM Ipoh 81.86 279 *eP* **P 23 31 40.6 -2.8**
comp=Z,12nm,0.7s
SYO Syowa Base 81.89 193⇓ *eP* **P 23 31 41.0 -1.5**
ARVC Arvin 83.31 46 P **P 23 31 51.9 +1.7**
baz=233
MURC Murrieta 83.50 48 P **P 23 31 52.9 +1.7**
baz=234,SNR=5.2
SNAA Sanae 83.53 179 P **P 23 31 50.9 0.0**
BFSC Mount Baldy Ra 83.56 48 P **P 23 31 52.7 +1.0**
baz=234
VES Vestal, Richgr 83.57 46 P **P 23 31 52.8 +1.3**
baz=233
MONP2 Monument Peak 83.62 49 P **P 23 31 53.2 +1.1**
baz=235,SNR=12
IKP In-Ko-Pah, Jac 83.70 50 P **P 23 31 54.0 +1.6**
baz=235,SNR=7.2
EDW2 Edwards Air Fo 83.72 47 P **P 23 31 54.0 +1.7**
baz=234,SNR=10
VNA3 Neumayer Olymp 83.75 177 P **P 23 31 52.8 +1.0**
ISA Isabella, Lake 83.86 46 P **P 23 31 54.7 +1.7**
baz=233,SNR=7.3
PFO Pinyon Flats O 84.01 49 P **P 23 31 55.7 +1.8**
comp=Z,7.0nm,1.0s,baz=298,slow=3.8,SNR=6.5
PFO Pinyon Flats O 84.01 49 P **P 23 31 55.3 +1.4**
baz=235
TPFO Pinon Flats 84.01 49 P **P 23 31 55.6 +1.7**
baz=235,SNR=5.8
CMB Columbia Colle 84.08 43 *eP* **P 23 31 55.6 +1.6**
CMB pmax pmax
comp=Z,90nm,1.3s
CMB Columbia Colle 84.08 43 *eP* **P 23 31 55.6 +1.6**
comp=Z,90nm,1.3s
SWSC Sam W. Stewart 84.08 50 P **P 23 31 56.1 +2.0**
baz=235,SNR=8.0
VNA2 Neumayer--Watz 84.16 178 P **P 23 31 52.4 -1.5**
baz=268,slow=3.4
N02D Trinity Center 84.53 40 P **P 23 31 58.4 +2.1**
baz=230
BELC Belle Mtn. Jos 84.55 49 P **P 23 31 58.4 +1.8**
baz=235,SNR=14
CWC Cottonwood Cre 84.58 46 P **P 23 31 58.2 +1.5**
baz=234
O03D Paynes Creek 84.63 41 P **P 23 31 58.2 +1.5**
baz=231,SNR=9.2
M02C Callahan 84.71 39 P **P 23 31 59.3 +2.2**
baz=230,SNR=5.3
BC3 Big Chuckawall 84.72 49 P **P 23 31 59.3 +1.9**
baz=235,SNR=9.6
MPMC Manual Prospec 84.74 46 P **P 23 31 59.2 +1.7**
baz=234,SNR=8.0
GSC Goldstone, Bar 84.75 47 P **P 23 31 59.1 +1.6**
baz=234,SNR=12
CN2 Changchun 84.75 324 *eP* **P 23 31 58.0 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HEC Hector,Ludlow 84.79 48 P **P 23 31 59.2 +1.5**
baz=235,SNR=16

GLA Glamis 84.81 50 P **P 23 31 59.8 +2.0**
baz=236,SNR=5.4
IRM Iron Mountain 85.22 49 P **P 23 32 01.6 +1.9**
baz=236,SNR=15
GMRC Granite Mounta 85.22 48 P **P 23 32 01.1 +1.3**
baz=235,SNR=7.3
Y12C Blythe 85.41 50 P **P 23 32 02.4 +1.8**
baz=236,SNR=6.0
TUQ Turquoise Moun 85.42 48 P **P 23 32 02.6 +1.8**
baz=235,SNR=6.3
SHOC Shoshone, Teco 85.45 47 P **P 23 32 02.2 +1.5**
baz=235
KLR Kul'dur 85.48 331⇑ *eP* **P 23 32 01.5 +1.0**
KLR *i* *PP **pP 23 33 49.6 -1.5**
M04C Macdoel 85.55 40 P **P 23 32 03.5 +2.3**
baz=231
214A Organ Pipe Nat 85.63 52 P **P 23 32 03.7 +1.9**
baz=237,SNR=7.6
214A Organ Pipe Nat 85.63 52 *eP* **P 23 32 03.9 +2.2**
comp=Z,34nm,1.1s
PDMCI Parker Dam,Lak 85.99 49 P **P 23 32 04.7 +1.4**
baz=236
TPNV Topopah Spring 86.07 46 P **P 23 32 05.4 +1.5**
baz=235,SNR=10
K04D Chiloquin, OR 86.13 39 P **P 23 32 06.2 +2.2**
baz=231
J04D Umpqua Nationa 86.32 38 P **P 23 32 06.8 +1.8**
baz=230
J05D Fort Rock, OR 86.84 39 P **P 23 32 09.0 +1.6**
baz=231
SLVN Son La 87.01 295 *eP* **P 23 32 06.5 -2.1**
ENH Enshi 87.03 305 *eP* **P 23 32 09.0 +0.6**
comp=Z,14nm,0.9s
GYA Guiyang 87.26 301 *eP* **P 23 32 08.2 -1.5**
GYA pP pP 23 34 04.6 +3.8
GYA sP sP 23 34 56.0 +4.1
GYA PP **PP 23 35 45.4 +2.2**
GYA SKS **SKSac 23 41 45.2 -4.2**
GYA S **S 23 42 04.8 -2.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
TUC Tucson 87.27 52 P **P 23 32 11.3 +1.8**
baz=238
TUC Tucson 87.27 52 *eP* **P 23 32 12.0 +2.4**
TUC pmax pmax
comp=Z,38nm,1.3s
TUC Tucson 87.27 52 *eP* **P 23 32 12.0 +2.4**
comp=Z,38nm,1.3s
R11A Troy Canyon, C 87.31 45 P **P 23 32 11.1 +1.4**
baz=235
I05D Terrebonne, OR 87.44 38 P **P 23 32 11.8 +1.8**
baz=231
BMN Battle Mountai 87.48 43 *eP* **P 23 32 12.2 +1.7**
BMN pmax pmax
comp=Z,21nm,1.4s
BMN Battle Mountai 87.48 43 *eP* **P 23 32 12.2 +1.7**
comp=Z,21nm,1.4s
PLCA Paso Flores 87.53 134 P **P 23 32 12.9 +2.1**
comp=Z,3.8nm,0.8s,baz=216,slow=6.4,SNR=6.6
WVOR Wild Horse Val 87.82 41 *eP* **P 23 32 13.2 +1.2**
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 87.82 41 *eP* **P 23 32 13.2 +1.2**
comp=Z,12nm,1.0s
LVP Lakeview Peak 87.96 36 P **P 23 32 14.2 +1.7**
G05D Wamic, OR 88.03 37 P **P 23 32 13.9 +1.2**
baz=231
FL2 Flat Top 2 88.08 36 P **P 23 32 15.3 +2.3**
B201 Coldwater, Mou 88.19 36 P **P 23 32 15.8 +2.3**
TDL Tradedollar La 88.25 36 P **P 23 32 16.1 +2.3**
WUAZ Wupatki 88.55 49 P **P 23 32 16.5 +0.9**
baz=238
A04D Lummi Island 89.51 34 P **P 23 32 21.5 +2.0**
baz=230
B05A Bryant 89.53 35 P **P 23 32 21.5 +2.0**
baz=230
121A Cookes Peak, D 89.56 54 P **P 23 32 22.2 +1.9**
baz=240
KMI Kunming 89.72 298 P **P 23 32 19.6 -1.8**
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI pmax pmax
comp=Z,91nm,4.5s
CM01 Chiang Mai Arr 89.82 290 *eP* **P 23 32 22.9 +1.2**
CMAR Chiang Mai Arr 89.85 290 P **P 23 32 23.9 +2.2**
comp=Z,7.5nm,0.9s,baz=139,slow=3.4,SNR=36
CMAR pP **pP 23 34 13.0 -0.5**
comp=Z,0.5nm,0.4s,baz=132,slow=3.9,SNR=1.9
CHTO Chiang Mai 90.00 291 *eP* **P 23 32 20.6 -1.9**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 90.00 291 *eP* **P 23 32 20.6 -1.9**
comp=Z,12nm,0.8s
MFID Camas Ranch 90.06 41 *eP* **P 23 32 24.1 +1.7**
comp=Z,14nm,1.1s
DUG Dugway, Tooele 90.12 45 P **P 23 32 24.1 +1.4**
baz=237
DUG Dugway, Tooele 90.12 45 *eP* **P 23 32 24.3 +1.6**
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG Dugway, Tooele 90.12 45 *eP* **P 23 32 24.3 +1.6**
comp=Z,5.5nm,1.2s
F10A Beach Ranch, E 90.75 38 *eP* **P 23 32 21.9 -3.5**
comp=Z,4.7nm,0.8s
MNTX Cornudas Mount 90.92 55 P **P 23 32 27.5 +1.1**
baz=241
HLID Hailey 91.00 41 P **P 23 32 28.3 +1.6**
baz=236
TXAR Lajitas Array 91.09 58 P **P 23 32 29.3 +1.8**
comp=Z,6.8nm,0.8s,baz=213,slow=6.3,SNR=64
TXAR pP **pP 23 34 20.8 +1.5**
comp=Z,1.1nm,1.0s,baz=216,slow=6.2,SNR=5.2
TXAR PP **PP 23 36 19.3 +6.0**
comp=Z,0.6nm,0.9s,baz=213,slow=9.0,SNR=4.4
CD2 Chengdu 91.64 303 P **P 23 32 28.0 -1.9**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,360nm,5.5s
HWUT Hardware Ranch 91.68 44 *eP* **P 23 32 31.1 +1.2**
comp=Z,2.9nm,0.8s
ANMO Albuquerque 91.72 52 P **P 23 32 31.5 +1.1**
baz=240
ANMO Albuquerque 91.72 52 *eP* **P 23 32 31.7 +1.4**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 91.72 52 *eP* **P 23 32 31.7 +1.4**
comp=Z,3.6nm,0.9s
S22A 4UR Ranch, Cre 92.83 49 P **P 23 32 37.0 +1.5**
baz=240
COLA College 93.04 13 *ep*P pP 23 34 31.7 +4.3
O20A White River Ci 93.07 47 P **P 23 32 36.9 +0.5**
baz=240
MSO Missoula 93.10 39 P **P 23 32 37.1 +0.8**
baz=236
IMW Indian Meadow 93.29 43 *eP* **P 23 32 33.7 -3.8**
IMW *ep*P **pP 23 34 22.8 -6.7**
SMCO Snowmass 93.44 48 *eP* **P 23 32 39.9 +1.5**
comp=Z,3.4nm,0.9s
BW06 Boulder Array 93.56 44 P **P 23 32 38.8 +0.2**
baz=239
BW06 Boulder Array 93.56 44 *eP* **P 23 32 34.8 -3.8**
PDAR Pinedale Array 93.56 44 P **P 23 32 39.1 +0.5**
comp=Z,1.2nm,0.8s,baz=205,slow=2.8,SNR=9.2
SDCO Great Sand Dun 93.75 50 P **P 23 32 39.6 -0.1**
baz=241
034A Hebbronville 93.99 62 P **P 23 32 40.1 -0.6**
baz=244
LZH Lanzhou 94.01 308 *eP* **P 23 32 39.4 -1.4**
LZH pP pP 23 34 36.5 +3.7
LZH sP sP 23 35 28.4 +4.8
LZH PP **PP 23 36 37.3 +1.5**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,95nm,6.5s
035A Encino 94.40 62 P **P 23 32 41.5 -1.0**
baz=244
N23A Red Feather La 94.97 47 P **P 23 32 45.3 +0.2**
baz=241
433A Art 95.27 59 P **P 23 32 46.3 -0.1**
baz=244
534A Blanco 95.44 60 P **P 23 32 47.3 +0.1**
baz=244
333A Richland Sprin 95.60 58 P **P 23 32 48.0 +0.1**
baz=244
ABTX Abilene, Hawle 95.67 57 P **P 23 32 47.4 -0.7**
baz=244
434A Burnet 95.94 59 P **P 23 32 49.0 -0.4**
baz=244
736A Circle Diamond 96.09 61 P **P 23 32 49.6 -0.5**
baz=245
334A Lometa 96.18 58 P **P 23 32 49.9 -0.6**
baz=244
737A Port Lavaca 96.51 61 P **P 23 32 49.8 -2.1**
baz=245
LAO LASA Array 97.57 42 *eP* Pdif 23 32 51.2 -5.2
LAO *ep*P pP 23 34 44.4 -4.4
SONM Songino Array 97.91 319 PP PP 23 37 01.5 -3.7
comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=3.6
GTA Gaotai 98.36 310 *eP* **P 23 33 03.2 +3.0**
GTA pP pP 23 34 57.0 +4.3
GTA sP sP 23 35 48.3 +5.0
GTA pmax pmax
comp=Z,3.0nm,1.5s
MKAR Makanchi Array 112.86 312 PKiKP **PKiKP 23 37 55.4 -0.4**
comp=Z,0.8nm,0.7s,baz=198,slow=0.8,SNR=7.4
MKAR PKKPbc **PKKPbc 23 48 46.0 +0.5**
comp=Z,0.5nm,0.6s,baz=270,slow=3.7,SNR=5.3
KSH Kashi 115.84 303 *e*PKP **PKPdf 23 37 57.5 -4.4**
KSH *e*PP **PP 23 39 18.1 +3.1**
KSH sPKP 23 40 56.5
KSH PKS **PKSdf 23 41 32.5 -6.2**
KSH SKS **SKSdf 23 44 19.4 -6.9**
KSH AMB AMB
comp=Z,98nm,8.1s
KURK Kurchatov 115.97 316 PKIKP **PKPdf 23 38 01.4 -0.2**
KURK Kurchatov 115.97 316 PKP **PKPdf 23 38 01.4 -0.2**
KURBB Kurchatov Arra 116.01 316 PKP **PKPdf 23 38 01.4 -0.3**
comp=Z,0.7nm,0.3s,baz=87,slow=2.1,SNR=4.0
AAK Ala-Archa 117.52 307 PKKPbc PKKPbc 23 48 30.4 +0.7
comp=Z,1.1nm,0.5s,baz=266,slow=7.3,SNR=6.9
KKAR Karatay Array 120.48 307 *e*PKIKP **PKPdf 23 38 10.5 -0.1**
KKAR Karatay Array 120.48 307 *e*PKPdf **PKPdf 23 38 10.5 -0.1**
BVAR Borovoye Array 121.24 318 PKP **PKPdf 23 38 11.6 -0.1**
comp=Z,2.9nm,0.5s,baz=349,slow=0.2,SNR=13
BRVK Borovoye 121.30 318⇑ *i*PKIKP **PKPdf 23 38 10.8 -1.0**
ARU Arti 127.75 323 PKP **PKPdf 23 38 24.6 +0.5**
comp=Z,4.0nm,0.4s,baz=84,slow=2.9,SNR=13
ARU Arti 127.75 323 *i* PKIKP **PKPdf 23 38 23.0 -1.0**
ARU 23 41 03.0
ARU 23 44 44.2
AKTO Aktyubinsk 129.06 316 PKP **PKPdf 23 38 27.6 +0.8**
comp=Z,1.5nm,0.6s,baz=71,slow=4.2,SNR=6.0
GEYT Alibeck 129.47 299 PKP **PKPdf 23 38 28.3 +0.3**
comp=Z,2.7nm,0.8s,baz=101,slow=3.0,SNR=6.1
GEYT SKPbc SKPbc 23 41 04.3 +1.5
comp=Z,9.6nm,1.0s,baz=222,slow=2.0,SNR=14
ARCES ARCESS Array B 132.98 348 PKP **PKPdf 23 38 33.8 +0.2**
comp=Z,1.7nm,0.5s,baz=56,slow=1.9,SNR=9.3
ARCES SKPbc **SKPbc 23 41 15.9 +1.7**
comp=Z,12nm,0.8s,baz=30,slow=3.7,SNR=18
ARCES ARCESS Array B 132.98 348 *i* PKIKP **PKPdf 23 38 34.4 +0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 135.47 240 SKPbc **SKPbc 23 41 26.1 +1.9**
comp=Z,0.7nm,0.3s,baz=54,slow=1.2,SNR=4.2
FINES FINESS Array B 139.49 341 PKhKP PKPpre 23 38 38.1
comp=Z,1.6nm,0.7s,baz=33,slow=4.5,SNR=16
FINES SKPbc **PKiKP 23 38 47.9 -0.4**
comp=Z,1.1nm,0.5s,baz=105,slow=2.8,SNR=9.2
FINES SKPbc **SKPbc 23 41 35.6 +1.7**
comp=Z,13nm,0.8s,baz=64,slow=4.4,SNR=26
NCK Nalchik 140.00 309⇓ *i*PKIKP **PKPdf 23 38 48.6 +1.2**
NB2 NORSAR Subarra 143.19 351 PKP PKPab 23 38 50.1 -0.1
comp=Z,1.1nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 143.19 351 PKhKP PKPpre 23 38 50.5
comp=Z,3.6nm,0.8s,baz=16,slow=4.8,SNR=15
NOA SKPbc **SKiKP 23 41 45.3 +1.0**
comp=Z,1.1nm,0.6s,baz=13,slow=4.1,SNR=6.7
IZAR Zarasai 143.79 335 *eP* PKPab 23 38 53.3 +0.7
IZAR IAmb IAmb 23 38 54.0
comp=Z,15nm,0.5s
ANN Anapa 143.88 313 *i* PKIKP **PKPdf 23 38 54.6 +0.4**
ANN pmax pmax
comp=Z,154nm,1.1s
IDID Didziasalis 143.91 334 *eP* PKPab 23 38 53.6 +0.5
IDID IAmb IAmb 23 38 54.4
comp=Z,8.1nm,0.5s
ISAL Salakas 143.96 335 *eP* PKPab 23 38 53.8 +0.6
ISAL IAmb IAmb 23 38 54.6
comp=Z,8.4nm,0.5s
MICGM Minsk 144.01 332 *e* **PKPab 23 38 54.0 +0.5**
MNK Minsk 144.01 332 *e*PKIKP **PKPab 23 38 54.0 +0.5**
IIGN Ignalina 144.09 334 *eP* **PKPab 23 38 54.3 +0.6**
IIGN IAmb IAmb 23 38 55.1
comp=Z,26nm,0.5s
NACGM Naroch 144.19 334 *e* **PKPdf 23 38 56.0 +1.6**
KSRV Kasrt alli 144.83 297 *eP* **PKPab 23 38 57.8 +0.6**
AKASG Malin Array Be 145.88 326 PKPbc **PKPbc 23 38 58.8 -0.3**
comp=Z,7.1nm,0.5s,baz=45,slow=4.4,SNR=26
AKASG pPKPbc pPKPab 23 40 53.5 -2.0
comp=Z,0.5nm,0.4s,baz=44,slow=4.3,SNR=2.6
AKASG SKPbc **SKiKP 23 41 51.2 +1.1**
comp=Z,1.3nm,0.5s,baz=47,slow=2.6,SNR=4.8
KIEV Kiev 145.89 326 *e*PKIKP **PKPbc 23 38 59.0 -0.1**
KIEV Kiev 145.89 326 *e*PKPdf **PKPbc 23 38 59.0 -0.1**
ROOS tl_alroos 146.41 295 *eP* **PKPab 23 39 03.0 -0.6**
DRWC Darouich 146.59 299 *eP* **PKPbc 23 39 02.5 +0.8**
KFRA Kufra 146.69 297 *eP* **PKPbc 23 39 02.7 +0.8**
BTCH Batrach 146.85 298 *eP* **PKPbc 23 39 03.0 +0.6**
MARH Ras Al Marh 147.09 294 *eP* **PKPbc 23 39 05.0 +1.6**
HAWK Haweek 147.10 295 *eP* **PKPbc 23 39 04.0 +0.9**
BIDA Albida 147.10 296 *eP* **PKPbc 23 39 04.7 +1.5**
BSD Bornholm Skovb 147.98 344 *i* P **PKPbc 23 39 05.0 +0.4**
comp=Z,2.1nm,0.4s
BSD Bornholm Skovb 147.98 344 *i* PKP2 **PKPbc 23 39 05.0 +0.4**
BSD pmax pmax
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 148.19 306 PKPbc **PKPbc 23 39 06.0 +0.2**
comp=Z,3.8nm,0.6s,baz=142,slow=3.1,SNR=37
BRTR pPKPbc **pPKPdf 23 41 01.6 +0.5**
comp=Z,1.2nm,0.8s,baz=111,slow=5.4,SNR=4.8
ANTO Ankara 148.76 306 *e*PKP2 **PKPbc 23 39 07.7 +0.5**
ANTO Ankara 148.76 306 *e*PKPbc **PKPbc 23 39 07.7 +0.5**
GKP Gorka Klasztor 148.94 340 *e*PKP **PKPbc 23 39 07.9 +0.9**
CSS Mathiatis 149.54 297 *e*PKPbc **PKPbc 23 39 09.4 +0.2**
CSS *e*PKPab **PKPab 23 39 16.8 +0.5**
KWP Kalwaria Pacla 149.72 330 *e*PKP **PKPbc 23 39 09.9 +0.8**
OJC Ojcow 150.52 334 *e*PKP **PKPbc 23 39 11.4 +0.5**
OJC Ojcow 150.52 334 *e*PKIKP **PKPbc 23 39 11.4 +0.5**
STHS Stebnicka Huta 150.53 331 *e*PKIKP **PKPbc 23 39 12.0 +1.0**
STHS Stebnicka Huta 150.53 331 *e*PKP **PKPbc 23 39 12.0 +1.0**
CRVS Cervenica-Dubn 150.81 330 *e*PKIKP **PKPbc 23 39 11.9 +0.3**
CRVS *e* 23 39 22.0
CRVS Cervenica-Dubn 150.81 330 *e*PKP **PKPbc 23 39 11.9 +0.3**
CRVS *e* 23 39 21.9
NIE Niedzica 150.93 332 *e*PKP **PKPbc 23 39 13.0 +1.1**
NIE Niedzica 150.93 332 *e*PKIKP **PKPbc 23 39 13.0 +1.1**
KSP Ksiaz 151.31 338 *e*PKP **PKPbc 23 39 13.7 +1.0**
KSP Ksiaz 151.31 338 *e*PKIKP **PKPbc 23 39 13.7 +1.0**
OKC Ostrava-Krasne 151.47 335⇑ *e*PKP **PKPbc 23 39 13.8 +0.7**
OKC *e*PKPAB **PKPab 23 39 25.4 +1.6**
OKC *ex* x 23 41 22.8
OKC Ostrava-Krasne 151.47 335 *e*PKIKP **PKPbc 23 39 13.8 +0.7**
OKC *e* 23 39 25.4
KECS Kecovo 151.55 331 *e*PKIKP **PKPab 23 39 24.2 0.0**
KECS Kecovo 151.55 331 *e*PKP **PKPab 23 39 24.2 0.0**
UPC Upice 151.69 338⇑ *e*PKP **PKPbc 23 39 14.5 +0.9**
UPC *e*PKPAB **PKPab 23 39 26.1 +1.4**
UPC *ep*PKP **pPKPab 23 41 15.8 -2.5**
UPC Upice 151.69 338 *e*PKIKP **PKPbc 23 39 14.5 +0.9**
UPC *e* 23 39 26.1
DPC Dobruska-Polom 151.72 338⇑ *e*PKP **PKPbc 23 39 14.4 +0.7**
DPC *e*PKPAB **PKPab 23 39 25.9 +1.0**
DPC *ep*PKP **pPKPab 23 41 16.1 -2.4**
DPC Dobruska-Polom 151.72 338 *e*PKIKP **PKPbc 23 39 14.4 +0.7**
DPC *e* 23 39 25.9
CLL Collm 151.91 342⇑ *i*PKIKP **PKPbc 23 39 14.2 +0.2**
CLL *i* 23 39 26.0
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 151.91 342⇑ *i*PKPbc **PKPbc 23 39 14.2 +0.2**
comp=Z,4.0nm,0.8s
CLL ⇓ *i*PKPab **PKPab 23 39 26.0 +0.4**
comp=Z,5.0nm,0.8s
CLL *i* pPKPab **pPKPbc 23 41 15.5 +3.2**

comp=Z,7.0nm,1.0s
CLL *i* 23 41 19.1
CLL *e*PP **PP** **23 42 58.0 -1.6**
BRG Berggiesshubel 152.03 341 *i* PKP PKiKP 23 39 27.2 +13
comp=Z,3.2nm,0.5s
BRG *i* **PKPab 23 39 27.1 +1.0**
comp=Z,3.2nm,0.6s
BRG pPKP **pPKPbc 23 41 16.3 +3.6**
comp=Z,4.3nm,0.9s
VYHS Vyhne 152.26 332 *e*PKIKP **PKPbc 23 39 15.3 +0.4**
VYHS *e* 23 39 28.3
VYHS Vyhne 152.26 332 *e*PKP **PKPbc 23 39 15.3 +0.4**
VYHS *e* 23 39 28.3
PRU Pruhonice 152.62 339 *e*PKP **PKPbc 23 39 16.1 +0.5**
PRU *e*pPKP **pPKPbc 23 41 17.2 +3.2**
PRU Pruhonice 152.62 339 *e*PKIKP **PKPbc 23 39 16.1 +0.5**
MDVR Moldovita 153.55 324 *i*P **PKPab 23 39 33.7 +0.9**
KHC Kasperske Hory 153.68 340 *e*PKP **PKPbc 23 39 18.6 +0.6**
KHC *e*PKPAB **PKPab 23 39 34.3 +1.1**
KHC *e*pPKP **pPKPab 23 41 23.2 -3.4**
KHC Kasperske Hory 153.68 340 *e*PKP2 **PKPab 23 39 34.1 +0.9**
GERES GERESS Array B 153.89 339 PKPbc **PKPbc 23 39 17.9 -0.6**
comp=Z,0.3nm,0.6s,baz=0.0,slow=1.3,SNR=4.3
GERES PKPab **PKPab 23 39 35.0 +0.8**
comp=Z,0.8nm,0.6s,baz=33,slow=3.7,SNR=8.1
GERES pPKPbc **pPKPbc 23 41 17.6 +0.6**
comp=Z,0.1nm,0.3s,baz=353,slow=18,SNR=1.6
CONA Conrad Observa 153.91 335 *i* PKPab **PKPab 23 39 35.5 +1.2**
comp=Z,2.4nm,0.7s
VTS Vitosha 154.04 318 *i*P **PKPab 23 39 37.0 +1.8**
SOKA Soboth 155.26 335 *e*PKPab **PKPab 23 39 41.6 +1.5**
comp=Z,2.4nm,0.6s
KBA Koelnbreinsper 155.54 337 PKPab **PKPab 23 39 42.1 +0.6**
comp=Z,1.2nm,0.5s
OBKA Obir 155.58 335 *e*PKPab **PKPab 23 39 41.9 +0.4**
comp=Z,4.9nm,1.6s
MYKA Terra Mystica 155.82 336 *e*PKPab **PKPab 23 39 41.7 -0.8**
comp=Z,3.5nm,0.8s
WATA Walderalm 155.89 340 *i* PKPab **PKPab 23 39 43.2 +0.3**
comp=Z,2.1nm,0.5s
RETA Reutte 156.00 342 *i* PKPab **PKPab 23 39 43.9 +0.6**
comp=Z,2.8nm,0.7s
MOTA Moosalm 156.03 341 *i* PKPab **PKPab 23 39 43.8 +0.3**
comp=Z,2.8nm,0.7s
ABTA Abfaltersbach 156.11 338 *i* PKPab **PKPab 23 39 43.9 +0.1**
comp=Z,2.9nm,0.6s
DAVA Damuels 156.42 343 *i* PKPab **PKPab 23 39 44.6 -0.6**
comp=Z,4.3nm,1.2s
FETA Feichten 156.43 341 *i* PKPab **PKPab 23 39 44.5 -0.8**
comp=Z,1.8nm,1.0s
ESDC Sonseca Array 165.04 12 PKPab **PKPab 23 40 23.7 +0.7**
comp=Z,0.1nm,0.4s,baz=350,slow=3.6,SNR=6.0
TORD Torodi Ar. Bea 168.05 188 PKP **PKPdf 23 39 24.1 -1.7**
comp=Z,0.6nm,0.9s,baz=335,slow=6.6,SNR=3.7
TORD PKPab **PKPab 23 40 36.8 0.0**
comp=Z,0.9nm,0.6s,baz=167,slow=4.0,SNR=14
TORD pPKPab **pPKPab 23 42 33.9 +4.6**
comp=Z,0.6nm,0.8s,baz=147,slow=6.5,SNR=3.1

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*CSEM **01** 23:22:45.9, 41°.51N×13°.99E, h9km, MD2.1/5*
ROM 01 23:22:45.9±0.3, 41°.51N×13°.99E, h9km±3km, Md2.1/5, MI1.3/2, Error ellipse: s-maj=3.8km s-min=2.4km az=66.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.09**	**14**	Pg	Pg	23 22 48.5	+0.2
CERA				Sg	Sg	23 22 50.8	+0.7
CERA	**Filignano**	**0.09**	**14**	Pg	Pg	23 22 48.5	+0.2
CERA				Sg	Sg	23 22 50.8	+0.7
VAGA	**Valle Agricola**	**0.21**	**117**	Pg	Pg	23 22 51.0	+0.8
VAGA				Sg	Sg	23 22 55.1	+2.0
62nm,0.2s							
VAGA	**Valle Agricola**	**0.21**	**117**	Pg	Pg	23 22 51.0	+0.8
VAGA				Sg	Sg	23 22 55.1	+2.0
62nm,0.2s							
RNI2	**Rionero Sannit**	**0.23**	**33**	Pg	Pg	23 22 51.5	+0.9
RNI2				Sg	Sg	23 22 55.6	+1.8
RNI2	**Rionero Sannit**	**0.23**	**33**	Pg	Pg	23 22 51.5	+0.9
RNI2				Sg	Sg	23 22 55.6	+1.8
MIDA	**Miranda**	**0.24**	**57**	Pg	Pg	23 22 50.7	-0.1
MIDA				Sg	Sg	23 22 55.5	+1.4
37nm,0.6s							
MIDA	**Miranda**	**0.24**	**57**	Pg	Pg	23 22 50.7	-0.1
MIDA				Sg	Sg	23 22 55.5	+1.4
37nm,0.6s							
POFI	**Posta Fibreno**	**0.29**	**315**	Pg	Pg	23 22 52.3	+0.5
POFI				Sg	Sb	23 22 57.8	-0.6
POFI	**Posta Fibreno**	**0.29**	**315**	Pg	Pg	23 22 52.3	+0.5
POFI				Sg	Sb	23 22 57.8	-0.6

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*CSEM **01** 23:48:39.5±0.7, 51°.51N×16°.07E, h1km, ML2.7/7, Error ellipse: s-maj=10.0km s-min=5.5km az=6.0*
*WAR **01** 23:48:40.4, 51°.51N×16°.06E, h1km*
PRU 01 23:48:40.6, 51°.49N×16°.06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	23 48 53.3	0.0
KSP				*e*Sg	Sg	23 49 02.6	+0.7
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	23 48 53.3	0.0
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	23 48 53.3	0.0
KSP				*e*Sg	Sg	23 49 02.6	+0.7
UPC	**Upice**	**0.98**	**182**	*e*PG	Pb	23 49 00.1	-0.4
UPC				*e*SG	Sg	23 49 12.5	+0.3
comp=Z,15nm,0.2s							
UPC	**Upice**	**0.98**	**182**	Pg	Pb	23 49 00.1	-0.4
UPC				Sg	Sg	23 49 12.5	+0.3
15nm,0.2s							
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	Pg	23 49 02.2	-0.5
DPC				*e*SG	Sg	23 49 16.9	-0.7
comp=Z,3.9nm,0.2s							
DPC	**Dobruska-Polom**	**1.15**	**172**	Pg	Pg	23 49 02.2	-0.5
DPC				Sg	Sg	23 49 16.9	-0.7
3.9nm,0.2s							
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	Pg	23 49 06.2	-0.2
PVCC				*e*SG	Sb	23 49 24.4	-0.1
comp=Z,20nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**225**	Pg	Pg	23 49 06.2	-0.2
PVCC				Sg	Sb	23 49 24.4	-0.1
20nm,0.3s							
BRG	**Berggiesshubel**	**1.47**	**246**	PG	Pn	23 49 08.4	+0.1
BRG				SG	Sb	23 49 28.1	+0.1
7.9nm,0.4s							
KRLC	**Kraliky**	**1.49**	**162**	*e*PG	Pn	23 49 08.8	+0.2
KRLC				*e*SG	Sg	23 49 27.4	-1.0
KRLC	**Kraliky**	**1.49**	**162**	Pg	Pn	23 49 08.8	+0.2
KRLC				Sg	Sg	23 49 27.4	-1.0
GOPC	**GO Pecny, Ondr**	**1.77**	**208**	*e*SG	Sg	23 49 37.4	-0.1
comp=Z,2.1nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.77**	**208**	Sg	Sg	23 49 37.4	-0.1
2.1nm,0.3s							
PRU	**Pruhonice**	**1.79**	**213**	*e*PG	Pn	23 49 13.3	+0.6
PRU				*e*SG	Sb	23 49 37.3	+0.2
comp=Z,2.6nm,0.2s							
PRU	**Pruhonice**	**1.79**	**213**	Pg	Pn	23 49 13.3	+0.6
PRU				Sg	Sb	23 49 37.3	+0.2
2.6nm,0.2s							
CLL	**Collm**	**1.92**	**266**	*e*Pg	Pb	23 49 16.0	-0.5
CLL				*e*Sg	Sb	23 49 41.0	-0.1
comp=Z,4.0nm,0.4s							
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	Pn	23 49 13.7	-1.4
MORC				*e*Sg	Sb	23 49 42.0	-0.1
VRAC	**Vranov**	**2.21**	**171**	*e*Sg	Sg	23 49 50.6	-1.0
NKC	**Novy Kostel**	**2.61**	**243**	*e*SG	Sg	23 50 04.9	+0.4
comp=Z,4.3nm,0.2s							
NKC	**Novy Kostel**	**2.61**	**243**	Sg	Sg	23 50 04.9	+0.4
comp=Z,4.3nm,0.2s							
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PG	Pb	23 49 33.4	+1.1
KHC				*e*SN	Sn	23 50 01.2	-1.1
KHC				*e*SG	Sg	23 50 11.0	-1.0
comp=Z,1.8nm,0.3s							
KHC	**Kasperske Hory**	**2.85**	**215**	Pg	Pb	23 49 33.4	+1.1
KHC				Sn	Sn	23 50 01.2	-1.1
KHC				Sg	Sg	23 50 11.0	-1.0
comp=Z,1.8nm,0.3s							

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*ISK **01** 23:53:45.9, 36°.94N×26°.47E, h20km, MD2.7*
*ATH **01** 23:53:45.9, 36°.93N×26°.43E, h35km±5km, ML2.1/3, Error ellipse: s-maj=6.1km s-min=1.4km az=14.0*
*CSEM **01** 23:53:46.7±0.1, 36°.93N×26°.46E, h24km±2km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.3km az=17.0*
ISC 01 23:53:45.3±3.3, 36°.97N±0°.03×26°.43E±0°.03, h11km±25km, n27, σ0°.41/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.70**	**121**	*e*PG	**Pb**	**23 53 59.2**	**-0.3**
NIS1				*e*SG	**Sb**	**23 54 09.2**	**0.0**
NIS1	**Nisyros Isl.**	**0.70**	**121**	P	**Pb**	**23 53 59.6**	**+0.1**
NIS1				S	**Sb**	**23 54 10.1**	**+0.9**
NIS1				AML	AML	23 54 11.6	
comp=E,215μm,0.4s							
NIS1				AML	AML	23 54 12.3	
comp=N,253μm,0.3s							
NIS1	**Nisyros Isl.**	**0.70**	**121**	*e*Pg	**Pb**	**23 53 59.2**	**-0.3**
NIS1	**Nisyros Isl.**	**0.70**	**121**	P	**Pb**	**23 53 59.6**	**+0.1**
NIS1				*e*Sg	**Sb**	**23 54 09.2**	**0.0**
NIS1				S	**Sb**	**23 54 10.1**	**+0.9**
BODT	**Bodrum**	**0.71**	**82**	*e*PG	**Pb**	**23 53 59.8**	**+0.1**
BODT				*e*SG	**Sb**	**23 54 09.8**	**+0.3**
BODT	**Bodrum**	**0.71**	**82**	*e*Pg	**Pb**	**23 53 59.8**	**+0.1**
BODT				*e*Sg	**Sb**	**23 54 09.8**	**+0.3**
APE	**Apeiranthos**	**0.73**	**278**	*e*PG	**Pn**	**23 54 01.4**	**-0.2**
APE				*e*SG	**Sn**	**23 54 12.5**	**-0.2**
APE	**Apeiranthos**	**0.73**	**278**	P	**Pn**	**23 54 01.1**	**-0.4**
APE				S	**Sb**	**23 54 11.0**	**+1.0**
APE				AML	AML	23 54 15.8	
comp=N,342μm,0.3s							
APE				AML	AML	23 54 15.9	
comp=E,257μm,0.2s							
APE	**Apeiranthos**	**0.73**	**278**	P	**Pn**	**23 54 01.1**	**-0.4**
APE	**Apeiranthos**	**0.73**	**278**	*e*Pg	**Pn**	**23 54 01.4**	**-0.2**
APE				S	**Sb**	**23 54 11.0**	**+1.0**
APE				*e*Sg	**Sn**	**23 54 12.5**	**-0.2**
SMG	**Samos**	**0.81**	**24**	P	**Pn**	**23 54 02.3**	**-0.4**
SMG				S	**Sn**	**23 54 14.5**	**-0.2**
SMG				AML	AML	23 54 15.7	
comp=N,221μm,0.5s							
SMG				AML	AML	23 54 18.2	
comp=E,272μm,0.2s							
SMG	**Samos**	**0.81**	**24**	P	**Pn**	**23 54 02.3**	**-0.4**
SMG				S	**Sn**	**23 54 14.5**	**-0.2**
DAT	**Datca**	**0.95**	**104**	*e*PG	**Pb**	**23 54 03.9**	**+0.1**
DAT	**Datca**	**0.95**	**104**	*e*Pg	**Pb**	**23 54 03.9**	**+0.1**
MLSB	**Milas**	**1.12**	**73**	*e*PN	**Pb**	**23 54 06.6**	**-0.2**
MLSB	**Milas**	**1.12**	**73**	*e*Pn	**Pb**	**23 54 06.6**	**-0.2**
URLA	**Izmir**	**1.40**	**5**	*e*PN	**Pb**	**23 54 11.2**	**-0.2**
URLA	**Izmir**	**1.40**	**5**	*e*Pn	**Pb**	**23 54 11.2**	**-0.2**
CHOS	**Chios island**	**1.45**	**348**	*e*PN	**Pb**	**23 54 12.2**	**-0.1**
CHOS	**Chios island**	**1.45**	**348**	*e*Pn	**Pb**	**23 54 12.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**49**	*e*PN	**Pn**	**23 54 12.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**49**	*e*Pn	**Pn**	**23 54 12.6**	**+0.1**
KARP	**Karpathos**	**1.53**	**157**	*e*PN	**Pn**	**23 54 12.5**	**-0.1**
KARP	**Karpathos**	**1.53**	**157**	P	**Pn**	**23 54 12.5**	**-0.1**
KARP	**Karpathos**	**1.53**	**157**	P	**Pn**	**23 54 12.5**	**-0.1**
NPS	**Neapolis**	**1.82**	**202**	P	**Pn**	**23 54 16.1**	**-0.5**
NPS	**Neapolis**	**1.82**	**202**	P	**Pn**	**23 54 16.1**	**-0.5**

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*DDA **02** 00:04:12.9, 35°.82N×25°.65E, h4km, Md3.1*
*ATH **02** 00:04:14.6, 35°.79N×25°.67E, h30km±1km, ML3.1/10, Error ellipse: s-maj=1.4km s-min=0.7km az=276.0*
*THE **02** 00:04:15.4, 35°.79N×25°.64E, h6km±1km, ML3.4/10, Error ellipse: s-maj=1.7km s-min=0.6km az=101.0*
*ISCJB **02** 00:04:15.3±0.5, 35°.78N±0°.02×25°.64E±0°.03, h11km±4km, mb3.4/3, Error ellipse: s-maj=3.6km s-min=2.7km az=2.5*
*CSEM **02** 00:04:15.5±0.1, 35°.79N×25°.60E, h12km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.5km az=97.0*
*IDC **02** 00:04:24.9±4.1, 35°.42N×25°.99E, h114km±42km, mb3.2/3, mb1 2.9/4, mb1mx2.7/40, mbtmp3.3/4, Error ellipse: s-maj=239.3km s-min=21.6km az=142.0*
ISC 02 00:04:13.8±1.2, 35°.79N±0°.02×25°.68E±0°.02, h7km±9km, n88, σ1°.02/132, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.53**	**186**	P	**Pb**	**00 04 26.0**	**+0.7**
NPS				S	**Sb**	**00 04 33.5**	**+0.4**
NPS	**Neapolis**	**0.53**	**186**	P	**Pn**	**00 04 27.2**	**-0.4**
NPS				S	**Sb**	**00 04 32.4**	**-0.7**
NPS				AML	AML	00 04 36.0	
comp=N,3055μm,0.4s							
NPS				AML	AML	00 04 36.4	
comp=E,5020μm,0.3s							
NPS	**Neapolis**	**0.53**	**186**	P	**Pb**	**00 04 26.0**	**+0.7**
NPS				S	**Sb**	**00 04 33.5**	**+0.4**
SANT	**Santorini**	**0.61**	**343**	P	**Pb**	**00 04 27.1**	**+0.3**
SANT				S	**Sb**	**00 04 36.2**	**+0.6**
SANT	**Santorini**	**0.61**	**343**	P	**Pb**	**00 04 27.2**	**+0.4**
SANT				S	**Sb**	**00 04 35.6**	**+0.1**
SANT				AML	AML	00 04 37.4	
comp=E,4914μm,0.2s							
SANT				AML	AML	00 04 38.0	
comp=N,2465μm,0.2s							
SANT	**Santorini**	**0.61**	**343**	P	**Pb**	**00 04 27.2**	**+0.4**
SANT				S	**Sb**	**00 04 35.6**	**+0.1**
THR6	**Thira Island,**	**0.61**	**338**	P	**Pb**	**00 04 27.1**	**+0.4**
THR6	**Thira Island,**	**0.61**	**338**	P	**Pb**	**00 04 27.2**	**+0.4**
THR6	**Thira Island,**	**0.61**	**338**	P	**Pb**	**00 04 27.2**	**+0.4**
SAP1	**Santorini-Akro**	**0.61**	**338**	P	**Pb**	**00 04 26.6**	**-0.2**
SAP1				S	**Sb**	**00 04 36.1**	**+0.4**
SAP1	**Santorini-Akro**	**0.61**	**338**	P	**Pb**	**00 04 26.6**	**-0.2**
SAP1				S	**Sb**	**00 04 36.1**	**+0.4**
THT1	**Athinios (Pele**	**0.63**	**341**	P	**Pb**	**00 04 27.3**	**+0.2**
THT1				S	**Sb**	**00 04 36.2**	**+0.1**
THT1	**Athinios (Pele**	**0.63**	**341**	P	**Pb**	**00 04 27.2**	**+0.1**
THT1				S	**Sb**	**00 04 35.6**	**-0.5**
THT1	**Athinios (Pele**	**0.63**	**341**	P	**Pb**	**00 04 27.3**	**+0.2**
THT1				S	**Sb**	**00 04 35.6**	**-0.5**
LAST	**Lasithi**	**0.65**	**195**	P	**Pb**	**00 04 27.9**	**+0.6**
LAST				S	**Sb**	**00 04 37.2**	**+0.6**
LAST	**Lasithi**	**0.65**	**195**	P	**Pb**	**00 04 28.0**	**+0.6**
LAST				S	**Sb**	**00 04 37.1**	**+0.5**
LAST				AML	AML	00 04 38.2	
comp=N,1901μm,0.4s							
LAST				AML	AML	00 04 39.2	
comp=E,1114μm,0.3s							
LAST	**Lasithi**	**0.65**	**195**	P	**Pb**	**00 04 28.0**	**+0.6**
LAST				S	**Sb**	**00 04 37.1**	**+0.5**
SAP2K	**Karterados**	**0.65**	**343**	P	**Pb**	**00 04 28.0**	**+0.5**
SAP2K				S	**Sb**	**00 04 37.5**	**+0.8**
SAP2K				AML	AML	00 04 38.5	
comp=E,9032μm,0.3s							
SAP2K				AML	AML	00 04 38.9	
comp=N,13086μm,0.5s							
THR3	**Thira Island,**	**0.66**	**340**	P	**Pb**	**00 04 28.0**	**+0.4**
THR3	**Thira Island,**	**0.66**	**340**	P	**Pb**	**00 04 28.1**	**+0.5**
THR3	**Thira Island,**	**0.66**	**340**	P	**Pb**	**00 04 28.1**	**+0.5**
THR7	**Fira-Santorini**	**0.67**	**342**	P	**Pb**	**00 04 28.3**	**+0.6**
THR7	**Fira-Santorini**	**0.67**	**342**	P	**Pb**	**00 04 28.6**	**+0.9**
THR7	**Fira-Santorini**	**0.67**	**342**	P	**Pb**	**00 04 28.3**	**+0.6**
THR5	**Thira Island,**	**0.68**	**337**	P	**Pb**	**00 04 28.3**	**+0.3**
THR5	**Thira Island,**	**0.68**	**337**	P	**Pb**	**00 04 28.4**	**+0.4**
THR5	**Thira Island,**	**0.68**	**337**	P	**Pb**	**00 04 28.4**	**+0.4**
THR2	**Thira Island,**	**0.69**	**343**	P	**Pb**	**00 04 28.6**	**+0.5**
THR2	**Thira Island,**	**0.69**	**343**	P	**Pb**	**00 04 28.9**	**+0.8**
THR2	**Thira Island,**	**0.69**	**343**	P	**Pb**	**00 04 28.6**	**+0.5**
IACM	**Heraklion**	**0.69**	**226**	P	**Pb**	**00 04 28.6**	**+0.5**
IACM				S	**Sb**	**00 04 39.0**	**+1.2**
IACM	**Heraklion**	**0.69**	**226**	P	**Pb**	**00 04 28.8**	**+0.7**
IACM				S	**Sb**	**00 04 38.2**	**+0.4**
IACM				AML	AML	00 04 43.5	
comp=E,10263μm,0.3s							
IACM				AML	AML	00 04 44.9	
comp=N,9188μm,0.4s							
IACM	**Heraklion**	**0.69**	**226**	P	**Pb**	**00 04 28.6**	**+0.5**
IACM				S	**Sb**	**00 04 38.2**	**+0.4**
CMBO	**Columbo, Santo**	**0.72**	**342**	P	**Pb**	**00 04 29.1**	**+0.5**
CMBO				S	**Sb**	**00 04 39.5**	**+0.8**
CMBO	**Columbo, Santo**	**0.72**	**342**	P	**Pb**	**00 04 29.3**	**+0.7**
CMBO				P	**Pb**	**00 04 29.4**	**+0.8**
CMBO				S	**Sb**	**00 04 39.3**	**+0.7**
CMBO				S	**Sb**	**00 04 39.4**	**+0.8**
CMBO				AML	AML	00 04 41.5	
comp=N,4375μm,0.2s							
CMBO				AML	AML	00 04 42.1	
comp=E,3810μm,0.7s							
CMBO	**Columbo, Santo**	**0.72**	**342**	P	**Pb**	**00 04 29.3**	**+0.8**
CMBO				S	**Sb**	**00 04 39.3**	**+0.7**
ZKR	**Zakros**	**0.80**	**147**	P	**Pn**	**00 04 32.2**	**+0.8**
ZKR				S	**Sb**	**00 04 41.4**	**+0.3**
ZKR				AML	AML	00 04 42.9	
comp=E,2433μm,0.3s							
ZKR				AML	AML	00 04 44.8	
comp=N,1122μm,0.2s							
ZKR	**Zakros**	**0.80**	**147**	P	**Pn**	**00 04 32.2**	**+0.8**
ZKR				S	**Sb**	**00 04 41.3**	**+0.3**
IDI	**Anoyia**	**0.81**	**232**	P	**Pb**	**00 04 30.3**	**+0.1**
IDI				S	**Sb**	**00 04 41.0**	**-0.4**
IDI	**Anoyia**	**0.81**	**232**	P	**Pb**	**00 04 30.4**	**+0.1**
IDI				S	**Sg**	**00 04 40.2**	**+0.2**
IDI				AML	AML	00 04 42.6	
comp=E,2584μm,0.5s							
IDI				AML	AML	00 04 43.8	
comp=N,2828μm,0.3s							
IDI	**Anoyia**	**0.81**	**232**	P	**Pb**	**00 04 30.4**	**+0.2**
IDI				S	**Sg**	**00 04 40.2**	**+0.2**
TMBK	**Timbaki Herakl**	**1.03**	**227**	P	**Pn**	**00 04 34.6**	**0.0**
TMBK	**Timbaki Herakl**	**1.03**	**227**	P	**Pn**	**00 04 34.6**	**0.0**
SIVA	**Sivas**	**1.04**	**223**	P	**Pn**	**00 04 34.7**	**-0.1**
SIVA				S	**Sn**	**00 04 49.5**	**-0.1**
SIVA	**Sivas**	**1.04**	**223**	P	**Pn**	**00 04 35.1**	**+0.3**
SIVA				S	**Sb**	**00 04 47.5**	**-0.5**
SIVA				AML	AML	00 04 50.7	
comp=E,2017μm,0.8s							
SIVA				AML	AML	00 04 50.7	
comp=N,1840μm,0.3s							
SIVA	**Sivas**	**1.04**	**223**	P	**Pn**	**00 04 34.7**	**-0.1**
SIVA				S	**Sb**	**00 04 47.5**	**-0.5**
KARP	**Karpathos**	**1.23**	**101**	P	**Pb**	**00 04 37.4**	**0.0**
KARP	**Karpathos**	**1.23**	**101**	P	**Pg**	**00 04 37.2**	**-0.2**
KARP				S	**Sg**	**00 04 52.7**	**-0.7**
KARP				AML	AML	00 04 57.1	
comp=E,824μm,0.2s							
KARP				AML	AML	00 04 57.5	
comp=N,679μm,0.1s							
KARP	**Karpathos**	**1.23**	**101**	P	**Pb**	**00 04 37.4**	**0.0**
VAM	**Vamos**	**1.26**	**253**	P	**Pg**	**00 04 37.5**	**-0.5**
VAM	**Vamos**	**1.26**	**253**	P	**Pn**	**00 04 38.8**	**+1.0**
VAM	**Vamos**	**1.26**	**253**	P	**Pg**	**00 04 37.5**	**-0.5**
APE	**Apeiranthos**	**1.28**	**355**	P	**Pn**	**00 04 37.6**	**-0.6**
APE				S	**Sn**	**00 04 57.5**	**+1.9**
APE	**Apeiranthos**	**1.28**	**355**	P	**Pn**	**00 04 37.0**	**-1.2**
APE	**Apeiranthos**	**1.28**	**355**	P	**Pn**	**00 04 37.6**	**-0.6**
APE				S	**Sn**	**00 04 57.5**	**+1.9**
MHLO	**Agia Marina, M**	**1.37**	**311**	P	**Pb**	**00 04 39.6**	**-0.1**
MHLO				S	**Sn**	**00 04 58.9**	**+1.2**
MHLO	**Agia Marina, M**	**1.37**	**311**	P	**Pg**	**00 04 40.9**	**+0.8**
MHLO	**Agia Marina, M**	**1.37**	**311**	P	**Pb**	**00 04 39.6**	**-0.1**
MHLO				S	**Sn**	**00 04 58.9**	**+1.2**
MHLA	**Plaka, Milos I**	**1.40**	**314**	P	**Pg**	**00 04 40.9**	**+0.4**
MHLA	**Plaka, Milos I**	**1.40**	**314**	P	**Pg**	**00 04 40.9**	**+0.4**
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**00 04 39.9**	**-0.1**
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**00 04 39.6**	**-0.4**
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**00 04 39.9**	**-0.1**
NIS1	**Nisyros Isl.**	**1.46**	**56**	P	**Pg**	**00 04 42.5**	**+0.7**
NIS1	**Nisyros Isl.**	**1.46**	**56**	P	**Pg**	**00 04 42.5**	**+0.7**
GVD	**Gavdhos**	**1.61**	**234**	P	**Pb**	**00 04 43.2**	**-0.6**
GVD	**Gavdhos**	**1.61**	**234**	P	**Pb**	**00 04 43.2**	**-0.6**
DAT	**Datca**	**1.80**	**58**	*i* P	**Pb**	**00 04 46.3**	**-0.8**
DAT	**Datca**	**1.80**	**58**	P	**Pb**	**00 04 46.3**	**-0.8**
BODT	**Bodrum**	**1.83**	**45**	P	**Pn**	**00 04 45.5**	**-0.1**
BODT	**Bodrum**	**1.83**	**45**	P	**Pn**	**00 04 45.5**	**-0.1**
VLI	**Veliai**	**2.40**	**294**	P	**Pn**	**00 04 53.4**	**-0.1**
VLI				S	**Sn**	**00 05 22.0**	**-1.1**
VLI	**Veliai**	**2.40**	**294**	P	**Pn**	**00 04 53.4**	**-0.1**
VLI				S	**Sn**	**00 05 22.0**	**-1.1**
DALY	**Dalyan (Mu¨la**	**2.61**	**66**	*i* P	**Pb**	**00 04 59.0**	**-1.9**
DALY				*i* S	**Sn**	**00 05 30.0**	**+1.7**
DALY	**Dalyan (Mu¨la**	**2.61**	**66**	P	**Pb**	**00 04 59.0**	**-1.9**
DALY				S	**Sn**	**00 05 30.0**	**+1.7**
FETY	**Fethiye**	**2.88**	**72**	P	**Pb**	**00 05 03.0**	**-2.5**
FETY				S	**Sb**	**00 05 39.0**	**-1.9**
TAVA	**DENIZLI_Tavas**	**3.10**	**56**	*i* P	**Pb**	**00 05 08.0**	**-1.2**
TAVA				*i* S	**Sb**	**00 05 45.6**	**-1.6**
TAVA	**DENIZLI_Tavas**	**3.10**	**56**	P	**Pb**	**00 05 08.0**	**-1.2**
TAVA				S	**Sb**	**00 05 45.6**	**-1.6**
AKAS	**Kas**	**3.21**	**81**	*i* P	**Pn**	**00 05 07.1**	**+2.3**
AKAS	**Kas**	**3.21**	**81**	P	**Pn**	**00 05 07.1**	**+2.3**
GOLH	**Golhisar**	**3.45**	**64**	*i* P	**Pn**	**00 05 10.9**	**+3.0**
GOLH				*i* S	**Sb**	**00 05 55.8**	**-1.5**
GOLH	**Golhisar**	**3.45**	**64**	P	**Pn**	**00 05 10.9**	**+3.0**
GOLH				S	**Sb**	**00 05 55.8**	**-1.5**
KORT	**Korkueli**	**3.96**	**71**	*i* P	**Pn**	**00 05 18.7**	**+3.7**
KORT	**Korkueli**	**3.96**	**71**	P	**Pn**	**00 05 18.7**	**+3.7**
BRTR	**Keskin Array B**	**7.43**	**56**	P	Pn	00 06 10.9	+8.2
comp=N,0.1nm,0.3s,baz=223,slow=12,SNR=3.6							
TORD	**Torodi Ar. Bea**	**31.22**	**230**	P	**P**	**00 10 33.2**	**-0.7**
comp=N,0.1nm,0.3s,baz=31,slow=8.5,SNR=8.1							
MKAR	**Makanchi Array**	**43.08**	**57**	P	**P**	**00 12 13.9**	**-0.4**
comp=N,0.2nm,0.3s,baz=270,slow=8.2,SNR=7.8							
ZALV	**Zalesovo Beam**	**44.27**	**47**	P	**P**	**00 12 22.2**	**-

RAO	Raoul Island	15.51	195	*e*Pn		Pn	00 15 38.7	-0.8
	144nm,0.4s							
PMG	Port Moresby	39.01	273	*e*P		P	00 19 27.6	0.0
	2.8nm,0.5s							
WRAB	Tennant Creek	50.24	256	P		P	00 20 56.7	-0.5
	5.4nm,1.9s							
WRA	Warramunga Arr	50.25	256	P		P	00 20 53.0	-4.3
	0.3nm,0.4s,baz=96,slow=6.7,SNR=3.4							
WRA	Warramunga Arr	50.25	256	P		P	00 20 53.0	-4.3
ASAR	Alice Springs	50.60	251	P		P	00 20 54.6	-5.4
	1.7nm,0.6s,baz=87,slow=7.7,SNR=25							
ASAR	Alice Springs	50.60	251	P		P	00 20 54.6	-5.4
DIV	Divide	78.28	13	P		P	00 24 00.4	0.0
	2.2nm,0.5s							
NEW	Newport	79.71	34	P		P	00 24 08.0	-0.5
	1.1nm,0.6s							
SDCO	Great Sand Dun	81.86	48	P		P	00 24 20.1	-0.5
	0.3nm,0.6s							
CHTO	Chiang Mai	92.49	289	*e*P		P	00 25 13.5	+1.0
	0.7nm,0.6s							
BRTR	Keskin Array B	145.37	322	PKPbc		PKPbc	00 31 41.5	+2.5
	0.8nm,0.8s,baz=50,slow=1.9,SNR=3.9							
BRTR	Keskin Array B	145.37	322	PKPbc		PKPbc	00 31 41.5	+2.5

DDA ***02*** *00:18:28.0,39.°07N×29.°08E, h7km, Md2.9*
ISK ***02*** *00:18:27.7,39.°10N×29.°10E, h5km, MD2.7*
ISCJB ***02*** *00:18:28.1±0.4,39.°07N±0.°03×29.°08E±0.°03, h5km±4km, Error ellipse: s-maj=4.8km s-min=3.7km az=163.9*
CSEM ***02*** *00:18:28.1±0.1,39.°08N×29.°09E, h5km, MD2.7, Error ellipse: s-maj=1.7km s-min=1.5km az=169.0*

ISC 02 00:18:28.2±0.9, 39.°09N±0.°02×29.°08E±0.°02, h8km±6km, n35, σ0.°54/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.07	269	*e*PG	Pg	00 18 30.3	0.0
SIMA				*e*SG	Sg	00 18 31.6	-0.2
SIMA	Simav-Kutahya	0.07	269	*e*Pg	Pg	00 18 30.3	0.0
SIMA				*e*Sg	Sg	00 18 31.6	-0.2
DEMI	Demirci	0.28	262	*i* P	Pg	00 18 34.1	+0.3
DEMI				*i* S	Sg	00 18 38.1	+0.5
DEMI	Demirci	0.28	262	P	Pg	00 18 34.1	+0.3
DEMI				S	Sg	00 18 38.1	+0.5
GDZ	Gediz	0.32	89	*i* P	Pg	00 18 34.5	0.0
GDZ				*i* S	Sg	00 18 39.0	+0.3
GDZ	Gediz	0.32	89	P	Pg	00 18 34.5	0.0
GDZ				S	Sg	00 18 39.0	+0.3
TVSB	Tavsanli	0.47	39	*e*PG	Pg	00 18 36.9	-0.5
TVSB				*e*SG	Sg	00 18 43.4	-0.2
TVSB	Tavsanli	0.47	39	*e*Pg	Pg	00 18 36.9	-0.5
TVSB				*e*Sg	Sg	00 18 43.4	-0.2
MANT	Manisa	0.72	214	*i* P	Pg	00 18 41.8	-0.2
MANT				*i* S	Sg	00 18 50.9	-0.5
MANT	Manisa	0.72	214	P	Pg	00 18 41.8	-0.2
MANT				S	Sg	00 18 50.9	-0.5
KHAL	Karahalli	0.78	155	*i* P	Pg	00 18 43.3	0.0
KHAL				*i* S	Sg	00 18 53.4	-0.1
KHAL	Karahalli	0.78	155	P	Pg	00 18 43.3	0.0
KHAL				S	Sg	00 18 53.4	-0.1
AKHS	Akhisar	1.00	259	*i* P	Pg	00 18 47.7	+0.2
AKHS				*i* S	Sg	00 19 01.6	+0.3
AKHS	Akhisar	1.00	259	P	Pg	00 18 47.7	+0.2
AKHS				S	Sg	00 19 01.5	+0.3
BALB	Balikesir	1.08	301	*e*PN	Pb	00 18 49.6	+0.5
BALB				*e*SN	Sn	00 19 05.1	+0.3
BALB	Balikesir	1.08	301	*e*Pn	Pb	00 18 49.6	+0.5
BALB				*e*Sn	Sn	00 19 05.1	+0.3
STEP	BALIKESIR_Sava	1.09	286	*i* P	Pn	00 18 50.0	+0.1
STEP				*i* S	Sg	00 19 03.5	+0.1
STEP	BALIKESIR_Sava	1.09	286	P	Pn	00 18 50.0	+0.1
STEP				S	Sg	00 19 03.5	+0.1
KZIL	AFYON_Kizioren	1.17	134	*i* P	Pb	00 18 50.7	-0.1
KZIL	AFYON_Kizioren	1.17	134	P	Pb	00 18 50.7	-0.1
IGD	Bursa	1.18	5	*i* P	Pn	00 18 51.4	+0.4
IGD				*i* S	Sn	00 19 07.3	0.0
MDNY	Mudanya-Bursa	1.29	354	*e*PN	Pb	00 18 52.8	+0.1
MDNY	Mudanya-Bursa	1.29	354	*e*Pn	Pb	00 18 52.8	+0.1
KCTX	Karacabey (Bur	1.30	335	*e*PN	Pg	00 18 53.1	-0.1
KCTX	Karacabey (Bur	1.30	335	*e*Pn	Pg	00 18 53.1	-0.1
BALY	Balya	1.30	301	*i* P	Pn	00 18 50.7	-2.1
BALY				*i* S	Sg	00 19 09.2	-1.0
BALY	Balya	1.30	301	P	Pn	00 18 50.7	-2.1
BALY				S	Sg	00 19 09.1	-1.0
AYDB	Zeytinkoy-Aydi	1.47	220	*e*PN	Pb	00 18 56.0	+0.2
AYDB	Zeytinkoy-Aydi	1.47	220	*e*Pn	Pb	00 18 56.0	+0.2
ARMT	Armutlu	1.49	354	*e*PN	Pn	00 18 55.8	+0.5
ARMT	Armutlu	1.49	354	*e*Pn	Pn	00 18 55.8	+0.5
SBT5	Esenkoy-Cinarc	1.55	355	*e*PN	Pn	00 18 56.6	+0.5
SBT5	Esenkoy-Cinarc	1.55	355	*e*Pn	Pn	00 18 56.6	+0.5
GULT	Gulveren	1.75	39	*e*PN	Pn	00 18 59.1	+0.2
GULT	Gulveren	1.75	39	*e*Pn	Pn	00 18 59.1	+0.2

ISCJB ***02*** *00:25:14.6±0.4,38.°56S±0.°08×16.°70W±0.°10, h10km, mb4.4/25, MS3.9/10, Error ellipse: s-maj=12.0km s-min=10.8km az=23.1*
IDC ***02*** *00:25:14.9±0.6,38.°48S×16.°66W, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/25, mbtmp4.1/14, MS3.7/9, Ms1 3.7/9, ms1mx3.4/19, Error ellipse: s-maj=18.5km s-min=17.0km az=154.0*
NEIC ***02*** *00:25:16.2±0.4,38.°47S×16.°82W, h10km, mb4.7/15, Error ellipse: s-maj=12.1km s-min=10.8km az=172.0*
BJI ***02*** *00:25:18.4,38.°91S×17.°19W, h10km, mB5.1/1, Ms4.9/2, Ms7 4.8/2*

ISC 02 00:25:17.3±0.4, 38.°6S±0.°1×16.°88W±0.°10, h10km, n54, σ2.°48/41, mb4.4/25, MS3.8/11, 1C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	29.56	4	T	T	01 02 13.2	
	baz=184,slow=74,SNR=332						
H10S3	ASCENSION HYDR	29.57	4	T	T	01 02 13.5	
	baz=184,slow=74,SNR=466						
H10S1	ASCENSION HYDR	29.58	4	T	T	01 02 12.3	
	baz=184,slow=74,SNR=479						
H10N1	ASCENSION HYDR	30.67	5	T	T	01 03 39.1	
	baz=191,slow=78,SNR=67						
H10N3	ASCENSION HYDR	30.68	5	T	T	01 03 39.6	
	baz=191,slow=78,SNR=331						
H10N2	ASCENSION HYDR	30.69	5	T	T	01 03 38.4	
	baz=191,slow=78,SNR=207						
SNAA	Sanae	33.93	172	P	P	00 31 59.5	-0.7
	3.1nm,1.0s,baz=324,slow=9.8,SNR=7.2						
SNAA	Sanae	33.93	172	*e*P	P	00 31 59.9	-0.4
	10nm,1.3s						
CPUP	Villa Florida	35.98	278	P	P	00 32 19.4	+1.1
	3.4nm,0.9s,baz=120,slow=6.5,SNR=7.1						
CPUP	Villa Florida	35.98	278	*e*P	P	00 32 18.0	-0.3
LBTB	Lobatse	38.22	82	P	P	00 32 35.2	-2.3
	1.6nm,0.7s,baz=224,slow=17,SNR=3.9						
PLCA	Paso Flores	40.84	249	P	P	00 32 58.0	-1.2
	2.4nm,0.8s,baz=69,slow=8.5,SNR=4.2						
PLCA				LR	LR	00 47 28.2	
	comp=Z,45nm,20.1s,baz=149,slow=32						
SYO	Syowa Base	42.67	154	*e*P	P	00 33 10.6	-3.0
MATP	Matopo	42.96	78	P	P	00 33 15.2	-1.6
	1.2nm,0.6s,baz=251,slow=9.1,SNR=6.2						
SIV	San Ignacio	44.72	288	P	P	00 33 32.6	+1.8
	3.5nm,0.8s,baz=141,slow=7.0,SNR=7.2						
LCO	Las Campanas	45.18	265	*e*P	P	00 33 32.1	-2.6
	33nm,0.4s						
DBIC	Dimbokro	46.38	17	LR	LR	00 48 16.2	
	comp=Z,92nm,20.0s,baz=167,slow=30						
PB11	IPOC Station P	49.06	277	*e*P	P	00 34 04.4	-0.5
	16nm,1.1s						
LPAZ	La Paz	49.89	282	P	P	00 34 12.2	+0.4
	3.2nm,0.9s,baz=124,slow=3.5,SNR=3.6						
LPAZ	La Paz	49.89	282	*e*P	P	00 34 12.5	+0.7
	4.5nm,0.9s						
SAML	Samuel	50.88	293	*e*P	P	00 34 15.6	-3.0
	9.7nm,0.8s						
MAW	Mawson	51.17	151	P	P	00 34 19.6	-0.4
	5.5nm,1.0s,baz=258,slow=8.2,SNR=10.0						
MAW				LR	LR	00 51 22.5	
	comp=Z,74nm,20.1s,baz=242,slow=31						
MAW	Mawson	51.17	151	*e*P	P	00 34 20.5	+0.5
	2.4nm,1.1s						
QSPA	South Pole Qui	51.68	180	*e*P	P	00 34 23.6	-0.5
	46nm,1.0s						
TORD	Torodi Ar. Bea	54.31	22	P	P	00 34 41.1	-2.8
	2.8nm,0.9s,baz=199,slow=6.4,SNR=17						
TORD				LR	LR	00 53 30.1	
	comp=Z,120nm,18.2s,baz=175,slow=31						
PTGA	Pitinga	54.53	303	*e*P	P	00 34 47.6	+2.0
	5.5nm,0.9s						
SBA	Scott Base	63.82	181	*e*P	P	00 35 48.9	-0.1
	13nm,1.2s						
VNDA	Vanda	64.17	180	P	P	00 35 51.1	-0.2
	2.5nm,1.1s,baz=202,slow=6.4,SNR=8.0						
VNDA				LR	LR	01 03 26.4	
	comp=Z,62nm,18.1s,baz=134,slow=36						
VNDA	Vanda	64.17	180	*e*P	P	00 35 51.2	-0.2
	6.6nm,1.1s						
TAM	Tamanrasset	64.56	23	*e*P	P	00 35 53.6	-1.1
	3.7nm,1.3s						
OTAV	Otavalo	68.25	289	*e*P	P	00 36 18.4	-0.7
	6.8nm,1.3s						
RUSC	La Rusia	68.26	297	*e*P	P	00 36 20.2	+1.1
	7.1nm,1.2s						
ROSC	El Rosal	68.39	295	LR	LR	01 04 57.1	
	comp=Z,48nm,18.4s,baz=124,slow=35						
KEST	Kesra	77.82	22	P	P	00 37 12.2	-2.5
	3.9nm,1.1s,baz=243,slow=14,SNR=1.9						
KEST				LR	LR	01 09 07.1	
	comp=Z,96nm,18.2s,baz=242,slow=34						
ESDC	Sonseca Array	78.77	10	P	P	00 37 17.7	-2.1
	0.1nm,0.4s,baz=177,slow=6.6,SNR=3.2						
ESDC				LR	LR	01 09 29.2	
	comp=Z,38nm,18.9s,baz=150,slow=34						
ES19	SONSECA Array	78.81	10	*e*P	P	00 37 24.7	+4.7
BRTR	Keskin Array B	90.63	37	P	P	00 38 18.7	-1.1
	0.6nm,0.9s,baz=186,slow=3.7,SNR=3.6						
GERES	GERESS Array B	91.17	20	P	P	00 38 21.5	-0.5
	0.3nm,0.8s,baz=159,slow=4.2,SNR=3.1						
GERES				LR	LR	01 17 32.8	
	comp=Z,37nm,18.2s,baz=282,slow=34						
KHC	Kasperske Hory	91.40	19	*e*pP	P	00 38 27.4	+4.4
KHC	Kasperske Hory	91.40	19	*e*P	P	00 38 27.6	+4.6
	1.9nm,1.3s						
MLR	Muntele Rosu	92.12	29	*e*P	P	00 38 31.3	+4.7
	11nm,1.2s						
PRU	Pruhonice	92.44	20	*e*pP	P	00 38 32.9	+5.1
DPC	Dobruska-Polom	93.25	21	*e*pP	P	00 38 37.0	+5.4
DPC				*ex*	x	00 38 41.3	
H01W2	Cape Leeuwin H	93.96	142	T	T	02 23 56.7	
	baz=218,slow=75,SNR=63						
H01W3	Cape Leeuwin H	93.97	142	T	T	02 23 57.3	
	baz=218,slow=75,SNR=86						
H01W1	Cape Leeuwin H	93.97	142	T	T	02 23 56.2	
	baz=218,slow=75,SNR=73						
KSH	Kashi	115.07	59	*e*PKP	PKPdf	00 44 04.6	+6.1
KSH				PKS	PKSdf	00 47 39.7	+4.4
KSH				LR	LR		
	comp=Z,78nm,6.5s						
WMQ	Urumqi	124.84	59	*e*PKP	PKPdf	00 44 20.2	+3.1
WMQ				LR	LR		
	comp=N,110nm,39.1s						
WMQ				LR	LR		
	comp=E,87nm,15.1s						
GYA	Guiyang	131.56	87	*e*Pdif	Pdif	00 41 28.0	+4.8
GYA				PKP	pPKPdf	00 44 34.0	+0.1
GYA				PP	PP	00 46 58.8	+8.6
LZH	Lanzhou	133.51	74	*e*PKP	PKPdf	00 44 37.5	+3.5
LZH				sPKP		00 44 43.1	
LZH				LR	LR		
	comp=N,130nm,18.1s						
LZH				LR	LR		
	comp=E,140nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.0s						
SONM	Songino Array	138.47	58	PKP	PKPdf	00 44 40.7	-2.0
	0.2nm,0.4s,baz=204,slow=3.2,SNR=2.3						
HHC	Hu-ho-hao-te	140.74	70	*e*PKP	PKPdf	00 44 52.0	+4.9
HHC				PP	PP	00 47 58.4	+11
HHC				SKS	SKSdf	00 52 00.5	+3.2
HHC				AMB	AMB		
	comp=Z,53nm,5.3s						
ILAR	Eielson Array	140.99	329	PKhKP	PKPpre	00 44 40.8	
	0.4nm,1.0s,baz=129,slow=7.1,SNR=4.0						
ILAR				PKP	PKPdf	00 44 45.5	-1.1
	0.8nm,0.8s,baz=25,slow=1.6,SNR=6.1						
NJ2	Nanjing	143.57	86	*e*PKP	PKPdf	00 44 54.9	+2.7

RSPR 02 01:05:14.9, 18.°28N×68.°02W, h106km, MD3.5/12, 9C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	Mona Island, P	0.22	157	⇓*e*P	Pn	01 05 29.3	-0.5
IMPR	Mona Island, P	0.22	157	*e*S	Sn	01 05 40.9	-0.1
IDE	Isla Desecheo	0.53	78	⇑*e*P	Pn	01 05 31.0	-0.5
IDE	Isla Desecheo	0.53	78	*e*S	Sn	01 05 43.5	-0.4
AGPR	Aguadilla, PR	0.88	77	⇑*e*P	Pn	01 05 34.5	-0.1
LSP	Las Mesas	0.89	96	⇓*e*P	Pn	01 05 34.2	-0.5
CRPR	Cabo Rojo, PR	0.91	107	⇑*e*P	Pn	01 05 34.2	-0.6
CRPR	Cabo Rojo, PR	0.91	107	*e*S	Sn	01 05 49.7	-0.1
GBPR	Guanica, Bosqu	1.12	105	⇓*e*P	Pn	01 05 37.0	-0.1
GBPR	Guanica, Bosqu	1.12	105	*e*S	Sn	01 05 53.6	-0.3
AOPR	Arecibo Observ	1.20	86	⇑*e*P	Pn	01 05 37.6	-0.4
AOPR	Arecibo Observ	1.20	86	*e*S	Sn	01 05 55.4	-0.2
OBIP	Obispado Ponce	1.36	100	⇑*e*P	Pn	01 05 38.6	-1.3
OBIP	Obispado Ponce	1.36	100	*e*S	Sn	01 05 59.5	+0.7
SJG	San Juan	1.78	95	⇑*e*P	Pn	01 05 44.3	-0.7
SJG	San Juan	1.78	95	*e*S	Sn	01 06 07.9	-0.1
CBYP	Canovanas	2.06	90	*e*S	Sn	01 06 14.3	+0.2
HUMP	Col San Antoni	2.07	93	⇑*e*P	Pn	01 05 48.1	-0.5
HUMP	Col San Antoni	2.07	93	*e*S	Sn	01 06 14.2	-0.1
MTP	Monte Pirata	2.35	94	⇑*e*P	Pn	01 05 52.4	+0.1
MTP	Monte Pirata	2.35	94	*e*S	Sn	01 06 21.4	+0.5
STVI	Saint Thomas	2.91	88	⇑*e*P	Pn	01 05 59.3	-0.3
STVI	Saint Thomas	2.91	88	*e*S	Sn	01 06 33.6	-0.5

IDC ***02*** *01:08:59.8±1.8,34.°68S×72.°84W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/30, mbtmp3.6/5, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=56.4km s-min=22.1km az=81.0*
ISCJB ***02*** *01:09:01.3±1.5,34.°60S±0.°04×72.°91W±0.°08, h23km±10km, mb3.5/3, Error ellipse: s-maj=11.6km s-min=7.0km az=10.2*
GUC ***02*** *01:09:01.9±0.6,34.°59S×72.°93W, h35km±3km, ML4.0*

ISC 02 01:09:01.7±2.3, 34.°63S±0.°05×72.°77W±0.°09, h11km±13km, n16, σ0.°60/19, mb3.7/3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	Pichilemu	0.68	70	*e*P	Pb	01 09 15.7	+0.2
CHPI				*i* S	Sn	01 09 27.0	-0.7
GO05	HualaæØ	0.79	119	⇑*i*P	Pn	01 09 18.0	-0.8
GO05				*e*S	Sn	01 09 30.1	-0.5
GO05				IAML		01 09 32.9	
	comp=N,7μm,0.3s						
NICH	Los Niches	1.32	107	⇓*i*P	Pg	01 09 26.6	-0.5
NICH				*e*S	Sg	01 09 44.7	+0.5
COCH	Cobquecura	1.50	181	⇑*i*P	Pn	01 09 27.5	-1.0
CHCH	Chadas Angostu	1.89	69	⇓*i*P	Pn	01 09 34.1	+0.2
CCHI	Chillan	2.05	164	*e*P	Pn	01 09 36.0	-0.1
CCHI				*e*S	Sn	01 10 01.7	+0.1
CCHI				IAML		01 10 14.5	
	comp=E,2μm,0.8s						
ROCH	El Roble	2.21	42	*e*P	Pn	01 09 37.8	-0.6
ROCH				IAML		01 10 20.9	
	comp=E,710nm,0.9s						
CLCH	Cerro Calan	2.23	57	*e*P	Pn	01 09 39.0	+0.4
CLCH				IAML		01 10 20.5	
	comp=N,2μm,0.6s						
CLCH				IAML		01 10 26.2	
	comp=E,1μm,1.0s						
PEL	Peldehue	2.28	50	*e*P	Pn	01 09 39.1	-0.2
PEL				*e*S	Sn	01 10 07.4	0.0
PEL				IAML		01 10 22.4	
	comp=E,842nm,0.6s						
FCH	Farellones	2.44	58	IAML		01 10 26.0	
	comp=E,563nm,0.4s						
PLCA	Paso Flores	6.34	165	Pn	Pn	01 10 36.2	+1.1
	comp=E,0.3nm,0.3s,baz=350,slow=15,SNR=4.1						
PLCA				Lg	Lg	01 12 17.9	
	comp=E,0.2nm,0.3s,baz=288,slow=20,SNR=1.6						
CPUP	Villa Florida	15.66	62	LR	LR	01 19 18.1	
	comp=E,68nm,18.2s,baz=238,slow=39						
LPAZ	La Paz	18.73	14	P	P	01 13 21.4	+0.3
	comp=E,0.1nm,0.3s,baz=198,slow=6.4,SNR=3.5						
SIV	San Ignacio	21.33	32	P	P	01 13 49.3	+0.6
	comp=E,2.8nm,0.8s,baz=227,slow=12,SNR=4.7						
TXAR	Lajitas Array	69.99	332	P	P	01 20 13.1	-0.2
	comp=E,0.3nm,0.8s,baz=158,slow=5.7,SNR=3.4						
TORD	Torodi Ar. Bea	84.99	70	P	P	01 21 37.6	+0.1
	comp=E,0.5nm,0.9s,baz=252,slow=5.3,SNR=3.5						

ATH ***02*** *01:14:35.8,36.°02N×28.°14E, h72km±5km, ML2.2/3, Error ellipse: s-maj=11.1km s-min=1.8km az=344.0*
ISCJB ***02*** *01:14:36.5±0.6,36.°04N±0.°04×28.°12E±0.°03, h68km±7km, Error ellipse: s-maj=6.6km s-min=4.1km az=155.3*
ISK ***02*** *01:14:36.0,36.°04N×28.°13E, h21km, MD2.7*
CSEM ***02*** *01:14:37.4±0.1,36.°05N×28.°12E, h60km, ML2.2, Error ellipse: s-maj=4.4km s-min=2.8km az=155.0*
DDA ***02*** *01:15:30.8,35.°99N×28.°22E, h38km, Md3.1*

ISC 02 01:14:36.8±1.3, 36.°04N±0.°04×28.°12E±0.°03, h69km±8km, n53, σ0.°84/85, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.18	3	P	Pn	01 14 48.1	+0.9
ARG				S	Sn	01 14 54.2	-0.6
ARG				AML	AML	01 14 55.8	
	comp=E,444μm,0.2s						
ARG				AML	AML	01 14 57.7	
	comp=N,318μm,0.3s						
ARG	Arkhangelos	0.18	3	P	Pn	01 14 48.1	+0.9
ARG				S	Sn	01 14 54.2	-0.6
DAT	Datca	0.81	328	*e*PG	Pn	01 14 52.7	-0.4
DAT				*e*SG	Sn	01 15 04.6	-0.5
DAT	Datca	0.81	328	*i* P	Pn	01 14 54.2	+1.1
DAT				*i* S	Sn	01 15 05.0	-0.1
DAT	Datca	0.81	328	*e*Pg	Pn	01 14 52.7	-0.4
DAT	Datca	0.81	328	P	Pn	01 14 54.2	+1.1
DAT				*e*Sg	Sn	01 15 04.6	-0.5
DAT				S	Sn	01 15 05.0	-0.1
DALY	Dalyan (Mu¨la	0.89	29	*e*PG	Pn	01 14 53.7	-0.2
DALY				*e*SG	Sn	01 15 06.6	+0.1
DALY	Dalyan (Mu¨la	0.89	29	*i* P	Pn	01 14 54.1	+0.2
DALY				*i* S	Sn	01 15 06.8	+0.3
DALY	Dalyan (Mu¨la	0.89	29	*e*Pg	Pn	01 14 53.7	-0.2
DALY	Dalyan (Mu¨la	0.89	29	P	Pn	01 14 54.1	+0.2
DALY				*e*Sg	Sn	01 15 06.6	+0.1
KARP	Karpathos	0.92	238	*e*PG	Pn	01 14 54.3	0.0
KARP	Karpathos	0.92	238	P	Pn	01 14 55.0	+0.7
KARP				S	Sn	01 15 07.2	0.0
KARP				AML	AML	01 15 07.9	
	comp=E,405μm,0.2s						
KARP				AML	AML	01 15 08.1	
	comp=N,286μm,0.1s						
KARP	Karpathos	0.92	238	*e*Pg	Pn	01 14 54.3	0.0
KARP	Karpathos	0.92	238	P	Pn	01 14 55.0	+0.7
KARP				S	Sn	01 15 07.2	0.0
TURN	Turunc	0.92	25	*i* P	Pn	01 14 53.4	-0.9
TURN				*i* S	Sn	01 15 04.6	-2.5
TURN	Turunc	0.92	25	P	Pn	01 14 53.4	-0.9
TURN				S	Sn	01 15 04.6	-2.5
NIS1	Nisyros Isl.	0.94	307	*e*PG	Pn	01 14 54.6	+0.1
NIS1				*e*SG	Sn	01 15 08.2	+0.5
NIS1	Nisyros Isl.	0.94	307	*e*Pg	Pn	01 14 54.6	+0.1
NIS1				*e*Sg	Sn	01 15 08.2	+0.5
FETY	Fethiye	0.98	52	*e*PG	Pn	01 14 54.8	-0.2
FETY	Fethiye	0.98	52	P	Pn	01 14 54.6	-0.5
FETY	Fethiye	0.98	52	*e*Pg	Pn	01 14 54.8	-0.2
FETY				S	Sn	01 15 08.8	+0.2
BDRM	Kayabasi	1.16	332	*i* P	Pn	01 14 57.4	0.0
BDRM				*i* S	Sn	01 15 12.3	-0.2
BDRM	Kayabasi	1.16	332	P	Pn	01 14 57.3	0.0
BDRM				S	Sn	01 15 12.3	-0.2
KSL	Kastellorizon	1.19	84	P	Pn	01 14 57.9	+0.2
KSL				S	Sn	01 15 12.0	-1.4
KSL				AML	AML	01 15 14.8	
	comp=E,139μm,0.4s						
KSL				AML	AML	01 15 15.6	
	comp=N,87μm,0.6s						
KSL	Kastellorizon	1.19	84	P	Pn	01 14 57.9	+0.2
KSL				S	Sn	01 15 12.0	-1.4
BODT	Bodrum	1.21	328	*e*PN	Pn	01 14 58.3	+0.4
BODT	Bodrum	1.21	328	*e*Pn	Pn	01 14 58.3	+0.4
AKAS	Kas	1.22	81	*e*PN	Pn	01 14 58.2	+0.1
AKAS	Kas	1.22	81	*i* P	Pn	01 14 57.9	-0.3
AKAS				*i* S	Sn	01 15 13.8	-0.4
AKAS	Kas	1.22	81	P	Pn	01 14 57.9	-0.3
AKAS	Kas	1.22	81	*e*Pn	Pn	01 14 58.3	+0.1
AKAS				S	Sn	01 15 13.8	-0.4
TAVA	DENIZLI_Tavas	1.56	24	*i* P	Pn	01 15 02.8	+0.1
TAVA				*i* S	Sn	01 15 22.7	+0.6
TAVA	DENIZLI_Tavas	1.56	24	P	Pn	01 15 02.8	+0.1
TAVA				S	Sn	01 15 22.7	+0.6
ELL	Elmali	1.61	63	*e*PN	Pn	01 15 03.9	+0.6
ELL	Elmali	1.61	63	*e*Pn	Pn	01 15 03.9	+0.6
AYDN	Tasoluk	1.63	353	*i* P	Pn	01 15 03.6	+0.1
AYDN				*i* S	Sn	01 15 24.0	+0.3
AYDN	Tasoluk	1.63	353	P	Pn	01 15 03.6	+0.1
AYDN				S	Sn	01 15 24.0	+0.3
GOLH	Golhisar	1.67	44	*i* P	Pn	01 15 05.3	+1.2
GOLH				*i* S	Sn	01 15 26.1	+1.4
GOLH	Golhisar	1.67	44	P	Pn	01 15 05.3	+1.2
GOLH				S	Sn	01 15 26.1	+1.4
ZKR	Zak

0.2nm,0.3s,baz=105,slow=17,SNR=3.5
H11N2 WAKE ISLAND Hy 29.04 127 T T 01 52 34.1
baz=319,slow=75,SNR=104
H11N1 WAKE ISLAND Hy 29.05 127 T T 01 52 34.1
baz=319,slow=75,SNR=117
H11N3 WAKE ISLAND Hy 29.06 127 T T 01 52 34.6
baz=319,slow=75,SNR=99
H11S1 WAKE ISLAND Hy 29.85 129 T T 01 53 35.9
baz=321,slow=76,SNR=58
H11S3 WAKE ISLAND Hy 29.85 129 T T 01 53 37.0
baz=321,slow=76,SNR=42
H11S2 WAKE ISLAND Hy 29.87 129 T T 01 53 35.9
baz=321,slow=76,SNR=57
ZALV Zalesovo Beam 40.66 310 P **P 01 23 34.7 +0.3**
0.8nm,0.5s,baz=81,slow=9.5,SNR=3.4
NRIK Noril'sk 40.99 334 LR LR 01 41 08.3
comp=Z,44nm,18.4s,baz=354,slow=37
MKAR Makanchi Array 43.38 300 P **P 01 23 57.2 +0.4**
0.3nm,0.6s,baz=86,slow=12,SNR=5.2
WRA Warramunga Arr 60.12 189 P **P 01 26 01.3 -0.5**
0.3nm,0.5s,baz=3.3,slow=6.9,SNR=3.4
FINES FINESS Array B 66.63 332 P **P 01 26 45.1 +0.6**
0.8nm,0.8s,baz=354,slow=13,SNR=3.0
NOA NORSAR Array B 71.81 337 P **P 01 27 16.1 -0.5**
0.4nm,0.7s,baz=41,slow=5.5,SNR=3.5

MAN 02 01:22:29,8.32N×123.37E,h31km,mb3.5,ML2.2,MS1.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolo City**	**0.27**	**357⇑**	*e*P	Pn	01 22 38.5	+1.7
DCPH				*e*S	Sn	01 22 43.9	+2.0
PAGZ	**Pagadian**	**0.46**	**178**	*e*P	Pn	01 22 40.5	+0.9
PAGZ				*e*S	Sn	01 22 48.3	+1.5

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*ISCJB **02** 01:23:45.6±0.8,28.11S±0.05×69.09W±0.05, h124km±10km, Error ellipse: s-maj=8.6km s-min=6.6km az=39.9*
*GUC **02** 01:23:45.8±0.5,28.04S×69.15W,h123km±5km,ML3.3*
*SJA **02** 01:23:46.5±0.7,28.15×68.96W,h129km±4km,ML3.2, MW3.1*
ISC 02 01:23:45.4±1.6,28.07S±0.05×69.09W±0.05, h128km±13km,n20,σ1§18/30,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.03**	**131⇑**	*i*P	**Pn**	**01 24 09.1**	**+0.5**
VCA				*i* S	**Sn**	**01 24 25.8**	**-0.3**
VCA				IAML		01 24 27.2	
comp=N,752nm,0.3s
VCA	**Vinchina**	**1.03**	**131**	*e*P	**Pn**	**01 24 09.1**	**+0.5**
VCA				*e*S	**Sn**	**01 24 25.7**	**-0.5**
AGUA	**GUANDACOL**	**1.51**	**160**	*e*P	**Pn**	**01 24 14.3**	**+0.7**
AGUA				*e*S	**Sn**	**01 24 35.0**	**-0.1**
VACH	**Vallenar**	**1.56**	**251**	*e*P	**Pn**	**01 24 16.5**	**+2.5**
VACH				*i* S	**Sn**	**01 24 37.2**	**+1.4**
LCO	**Las Campanas**	**1.70**	**236⇑**	*i*P	**Pn**	**01 24 15.4**	**-0.6**
LCO				*e*S	**Sn**	**01 24 37.6**	**-1.6**
LCO				IAML		01 24 39.2	
comp=N,244nm,0.3s
CDCH	**Caldera**	**1.83**	**302**	*e*P	**Pn**	**01 24 16.8**	**-0.3**
CDCH				*i* S	**Sn**	**01 24 39.4**	**-2.1**
ACLC	**CERRO LA CRUZ**	**2.32**	**126**	*e*P	**Pn**	**01 24 24.0**	**+0.6**
AMOG	**MOGNA**	**2.91**	**170**	*e*P	**Pn**	**01 24 31.4**	**+0.5**
AMOG				*e*S	**Sn**	**01 25 05.1**	**-0.8**
CYA	**Choya**	**2.93**	**98**	IAML		01 25 05.0	
comp=N,42nm,0.3s
CYA	**Choya**	**2.93**	**98**	*e*P	**Pn**	**01 24 31.5**	**+0.5**
CYA				IAML		01 24 31.7	
comp=Z,132nm,0.2s
AVFE	**Valle Fertil**	**2.95**	**151**	*e*P	**Pn**	**01 24 32.1**	**+0.6**
AVFE				IAML		01 24 32.6	
comp=Z,43nm,0.2s
AVFE				*e*S	**Sn**	**01 25 05.9**	**-1.0**
APLL	**PUNTA DE LOS L**	**3.23**	**137**	*e*P	**Pn**	**01 24 35.2**	**+0.2**
RTLL	**Cerro Villicun**	**3.30**	**171⇑**	*i*P	**Pn**	**01 24 36.7**	**+0.8**
RTLL				*i* S	**Sn**	**01 25 13.7**	**-1.2**
RTLL				IAML		01 25 17.1	
comp=E,142nm,0.7s
RTLL	**Cerro Villicun**	**3.30**	**171**	*e*P	**Pn**	**01 24 36.9**	**+1.0**
RTLL				*e*S	**Sn**	**01 25 13.6**	**-1.3**
FSA	**Cafayete**	**3.39**	**56**	*e*P	**Pn**	**01 24 38.9**	**+1.6**
AHML	**Horco Molle**	**3.58**	**70**	*e*P	**Pn**	**01 24 40.1**	**+0.5**
ACHE	**Chepes**	**3.74**	**146**	*e*P	**Pn**	**01 24 42.8**	**+1.0**
ACHE				*e*S	**Sn**	**01 25 23.3**	**-2.2**
RTCV	**Cerro Valdivia**	**3.81**	**173**	*e*P	**Pn**	**01 24 43.9**	**+1.2**
ACAN	**Cantantal**	**4.51**	**159**	*e*P	**Pn**	**01 24 52.7**	**+0.8**
ASAL	**Salagasta**	**4.52**	**177**	*e*P	**Pn**	**01 24 53.3**	**+1.2**
ASAL				*e*S	Sn	01 25 32.9	-11

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*IDC **02** 01:28:31.2±1.1,31.61N×50.60E,h0km,mb3.8/7, mb1 3.8/10,mb1mx3.5/43,mbtmp3.7/10,ML3.4/3,MS3.2/4, Ms1 3.2/4,ms1mx2.6/51,Error ellipse: s-maj=24.3km s-min=19.6km az=125.0*
*ISCJB **02** 01:28:33.0±0.6,31.71N±0.06×50.87E±0.05,h18km, mb3.7/7,MS3.6/2,Error ellipse: s-maj=8.1km s-min=6.2km az=179.5*
*CSEM **02** 01:28:33.0±0.6,31.92N×50.89E,h2km,ML3.3,Error ellipse: s-maj=16.8km s-min=10.4km az=22.0*
*TEH **02** 01:28:33.1,31.81N×50.95E,h10km,ML3.3*
ISC 02 01:28:32.8±0.7,31.75N±0.04×50.93E±0.04,h18km,n47, σ2§33/45,mb3.6/7,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**0.94**	**358**	*e*Pg	**Pb**	**01 28 47.7**	**-3.0**
IPIR				*e*AMB	AMB	01 29 08.7	
comp=Z,14μm,0.4s
IPIR	**Pirpir**	**0.94**	**358**	*e*Pg	**Pb**	**01 28 47.7**	**-3.0**
IGAR	**Gharneh**	**1.15**	**55**	*e*Pg	**Pb**	**01 28 53.2**	**-1.1**
IGAR				*e*Sg	**Sb**	**01 29 07.3**	**-1.7**
IGAR				*e*AMB	AMB	01 29 15.1	
comp=Z,7μm,0.2s
IRAM	**Ramesheh**	**1.24**	**87**	*e*Pg	**Pn**	**01 28 55.1**	**-0.3**
IRAM				*e*AMB	AMB	01 29 26.1	
comp=Z,6μm,0.3s
IRAM	**Ramesheh**	**1.24**	**87**	*e*Pg	**Pn**	**01 28 55.1**	**-0.3**
IZEF	**Zefreh**	**1.65**	**46**	*e*Pn	**Pn**	**01 29 01.2**	**+0.1**
IZEF				*e*AMB	AMB	01 29 36.0	
comp=Z,3μm,0.2s
IZEF	**Zefreh**	**1.65**	**46**	*e*Pn	**Pn**	**01 29 01.2**	**+0.1**
IKLH	**Kolahrood**	**1.66**	**19**	*e*Pn	**Pn**	**01 29 01.1**	**-0.2**
IKLH				*e*Sg	**Sb**	**01 29 23.7**	**-0.1**
IKLH				*e*AMB	AMB	01 29 30.3	
comp=Z,4μm,0.3s
IKLH	**Kolahrood**	**1.66**	**19**	*e*Pn	**Pn**	**01 29 01.1**	**-0.2**
IKLH				*e*Sg	**Sb**	**01 29 23.7**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.85**	**282**	*e*Pg	**Pn**	**01 29 05.4**	**+1.8**
NASN	**Na'in**	**1.91**	**56**	*e*Pg	**Pg**	**01 29 08.6**	**-0.9**
QAM	**Ghamsar**	**2.05**	**12**	*e*AMB	AMB	01 29 45.0	
comp=Z,5μm,0.2s
QAM				*e*Pn	**Pn**	**01 29 07.6**	**+0.9**
KHMZ	**Khomeyn**	**2.15**	**338**	*e*Pg	**Pb**	**01 29 11.2**	**-0.2**
ASAO	**Ashtian**	**2.90**	**345**	*e*Pn	**Pn**	**01 29 20.6**	**+2.3**
ICHK	**Chekchek**	**3.00**	**80**	*e*Pn	**Pb**	**01 29 24.0**	**-1.8**
ICHK				*e*AMB	AMB	01 30 27.2	
comp=Z,1μm,0.3s
ICHK	**Chekchek**	**3.00**	**80**	*e*Pn	**Pb**	**01 29 24.0**	**-1.8**
ISRV	**Sarvestan**	**3.02**	**141**	*e*Pn	**Pn**	**01 29 24.3**	**+4.3**
ISRV				*e*AMB	AMB	01 30 36.9	
comp=Z,1μm,0.4s
ISRV	**Sarvestan**	**3.02**	**141**	*e*Pn	**Pn**	**01 29 24.3**	**+4.3**
IKFM	**Kafar-mosalman**	**3.15**	**305**	*e*Pn	**Pn**	**01 29 22.3**	**+0.8**
IKFM	**Kafar-mosalman**	**3.15**	**305**	*e*Pn	**Pn**	**01 29 22.3**	**+0.8**
IMEH	**Mehriz**	**3.16**	**95**	*e*Pn	**Pb**	**01 29 27.1**	**-1.6**
IMEH				*e*AMB	AMB	01 29 59.6	
comp=Z,380nm,0.3s
IMEH	**Mehriz**	**3.16**	**95**	*e*Pn	**Pb**	**01 29 27.1**	**-1.6**
IVRN	**Varamin**	**3.31**	**11**	*e*Pn	**Pb**	**01 29 29.3**	**-1.7**
IVRN				*e*AMB	AMB	01 30 28.0	
comp=Z,1μm,0.4s
IVRN	**Varamin**	**3.31**	**11**	*e*Pn	**Pb**	**01 29 29.3**	**-1.7**
IRAZ	**Razeghan**	**3.74**	**347**	*e*Pn	**Pn**	**01 29 31.1**	**+1.2**
IRAZ				*e*AMB	AMB	01 30 41.8	
comp=Z,764nm,0.3s
IRAZ	**Razeghan**	**3.74**	**347**	*e*Pn	**Pn**	**01 29 31.1**	**+1.2**
IBAF	**Bafgh**	**3.96**	**91**	*e*Pn	Pn	01 29 37.8	+5.0
IBAF				*e*AMB	AMB	01 29 41.3	
comp=Z,328nm,0.2s
IBAF	**Bafgh**	**3.96**	**91**	*e*Pn	Pn	01 29 37.8	+5.0
IVIS	**Veis**	**4.41**	**310**	*e*Pn	**Pn**	**01 29 39.6**	**+0.7**
IVIS				*e*AMB	AMB	01 31 09.4	
comp=Z,506nm,0.5s
IVIS	**Veis**	**4.41**	**310**	*e*Pn	**Pn**	**01 29 39.6**	**+0.7**
IANJ	**Anjilo**	**4.47**	**33**	*e*Pn	**Pn**	**01 29 44.5**	**+4.6**
IANJ				*e*AMB	AMB	01 31 12.3	
comp=Z,362nm,0.3s
IANJ	**Anjilo**	**4.47**	**33**	*e*Pn	**Pn**	**01 29 44.5**	**+4.6**
GEYT	**Alibeck**	**8.54**	**42**	Pn	Pn	01 30 42.1	+6.6
comp=Z,0.3nm,0.3s,baz=206,slow=9.7,SNR=4.6
GEYT				LR	LR	01 34 35.3	
comp=Z,55nm,18.2s,baz=190,slow=41
WSAR	**Wadi Sarin**	**10.88**	**139**	Pn	**Pn**	**01 31 09.6**	**+1.9**
comp=Z,0.5nm,0.3s,baz=335,slow=10.0,SNR=9.1
WSAR				Sn	**Sn**	**01 33 02.2**	**-6.9**
comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=2.2
ASF	**Jabal al Asfar**	**11.93**	**276**	Pn	**Pn**	**01 31 19.6**	**-2.5**
comp=Z,0.2nm,0.3s,baz=39,slow=14,SNR=5.2
KVAR	**Kislovodsk Arr**	**13.81**	**334**	LR	LR	01 36 45.2	
comp=Z,34nm,19.2s,baz=133,slow=36
BRTR	**Keskin Array B**	**16.12**	**304**	Pn	**P**	**01 32 22.7**	**+0.8**
comp=Z,0.1nm,0.3s,baz=122,slow=9.2,SNR=4.8
AKASG	**Malin Array Be**	**24.84**	**326**	P	**P**	**01 33 54.4**	**+0.4**
comp=Z,0.6nm,0.4s,baz=120,slow=7.6,SNR=3.1
BVAR	**Borovoye Array**	**25.51**	**28**	P	**P**	**01 34 04.4**	**+4.3**
comp=Z,0.5nm,0.4s,baz=232,slow=9.2,SNR=4.8
MKAR	**Makanchi Array**	**28.32**	**49**	P	**P**	**01 34 28.8**	**+3.3**
comp=Z,0.9nm,0.9s,baz=240,slow=26,SNR=4.2
FINES	**FINESS Array B**	**33.83**	**339**	P	**P**	**01 35 14.1**	**+0.3**
comp=Z,1.4nm,0.8s,baz=138,slow=13,SNR=5.3
KMBO	**Kilima Mbogo**	**35.17**	**204**	P	**P**	**01 35 23.9**	**-2.3**
comp=Z,1.1nm,0.3s,baz=186,slow=21,SNR=6.7
NB2	**NORSAR Subarra**	**39.07**	**330**	P	**P**	**01 35 58.8**	**+0.2**
comp=Z,0.7nm,0.8s,baz=118,slow=8.6
NOA	**NORSAR Array B**	**39.07**	**330**	P	**P**	**01 35 58.4**	**-0.2**
comp=Z,0.8nm,0.7s,baz=121,slow=8.3,SNR=5.1
TLY	**Talaya**	**43.02**	**47**	LR	LR	01 56 11.8	
comp=Z,36nm,20.1s,baz=116,slow=38
TORD	**Torodi Ar. Bea**	**48.68**	**259**	P	**P**	**01 37 16.8**	**+0.5**
comp=Z,0.9nm,0.6s,baz=55,slow=8.5,SNR=14
PSI	**Prapat**	**53.49**	**113**	LR	LR	02 01 51.5	
comp=Z,94nm,19.2s,slow=37

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*OBM **02** 01:51:41.8±0.1,44.87N×103.42E,h2km,Ml3.9/1,Error ellipse: s-maj=1.3km s-min=0.7km az=8.0*
*IDC **02** 01:51:44.9±1.4,44.94N×103.55E,h0km,mb3.7/2, mb1 3.8/5,mb1mx3.4/50,mbtmp3.6/5,ML3.2/3,Error ellipse: s-maj=29.8km s-min=15.5km az=99.0*
ISC 02 01:51:43.5±0.9,44.96N±0.04×103.43E±0.04,h10km,n38, σ2§55/52,8C-6D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZBM		**1.38**	**146⇓**	*i*Pg	**Pg**	**01 52 07.3**	**-2.7**
DZBM				*e*Sg	**Sb**	**01 52 23.7**	**-3.5**
SONB4	**Songino Array**	**3.52**	**34**	*e*Pn	**Pn**	**01 52 40.8**	**+2.5**
SONB4				*e*Sg	**Sg**	**01 53 35.0**	**-1.5**
SONA0	**Songino Array**	**3.53**	**34⇑**	*i*Pn	**Pn**	**01 52 41.0**	**+2.5**
SONA0	**Songino Array**	**3.53**	**34**	*e*Pg	**Pg**	**01 52 49.3**	**-1.9**
SONA0				*e*Sg	**Sg**	**01 53 34.9**	**-2.0**
463nm,0.5s
SONM	**Songino Array**	**3.53**	**34**	Pn	**Pn**	**01 52 41.5**	**+2.9**
3.6nm,0.3s,baz=212,slow=16,SNR=97
SONM				Pg	**Pg**	**01 52 50.5**	**-0.7**
17nm,0.3s,baz=214,slow=18,SNR=36
SONM				Lg	Lg	01 53 34.8	
72nm,0.3s,baz=218,slow=32,SNR=34
SONB5	**Songino Array**	**3.54**	**34**	*e*Pn	**Pn**	**01 52 41.1**	**+2.5**
SONB5	**Songino Array**	**3.54**	**34**	*e*Pg	**Pg**	**01 52 50.2**	**-1.1**
SONB5				*e*Sg	**Sg**	**01 53 35.4**	**-1.7**
SONB3	**Songino Array**	**3.54**	**35⇑**	*i*Pn	**Pn**	**01 52 41.2**	**+2.5**
SONB3	**Songino Array**	**3.54**	**35**	*e*Pg	**Pg**	**01 52 49.5**	**-1.8**
SONB3				*e*Sg	**Sg**	**01 53 35.4**	**-1.8**
SONA1	**Songino Array**	**3.55**	**34**	*e*Pn	**Pn**	**01 52 41.2**	**+2.5**
SONA2	**Songino Array**	**3.55**	**34⇑**	*i*Pn	**Pn**	**01 52 41.3**	**+2.5**
SONB2	**Songino Ar. Si**	**3.56**	**35⇑**	*i*Pn	**Pn**	**01 52 41.4**	**+2.5**
SONB2	**Songino Ar. Si**	**3.56**	**35**	*e*Pg	**Pg**	**01 52 50.5**	**-1.1**
SONB2				*e*Sg	**Sg**	**01 53 35.6**	**-2.1**
326nm,0.2s
SONB1	**Songino Array**	**3.56**	**34⇑**	*i*Pn	**Pn**	**01 52 41.4**	**+2.5**
SONB1	**Songino Array**	**3.56**	**34**	*e*Pg	**Pg**	**01 52 49.9**	**-1.8**
SONB1				*e*Sg	**Sg**	**01 53 35.7**	**-2.1**
SEMM		**3.58**	**42⇑**	*i*Pn	**Pn**	**01 52 41.7**	**+2.4**
SEMM		**3.58**	**42**	*e*Pg	**Pg**	**01 52 49.3**	**-2.8**
SEMM				*e*Sg	**Sg**	**01 53 35.8**	**-2.7**
UB1M		**3.68**	**35⇓**	*i*Pn	**Pn**	**01 52 43.2**	**+2.6**
UB1M		**3.68**	**35**	*e*Pg	**Pb**	**01 52 49.2**	**+0.5**
UB1M				*e*Sg	**Sg**	**01 53 38.6**	**-3.1**
314nm,0.4s
UB5M		**3.68**	**38⇓**	*i*Pn	**Pn**	**01 52 43.1**	**+2.5**
UB5M		**3.68**	**38**	*e*Pg	**Pg**	**01 52 51.3**	**-2.7**
UB5M				*e*Sg	**Sg**	**01 53 38.4**	**-3.3**
350nm,0.6s
ALFM		**3.81**	**36⇓**	*i*Pn	**Pn**	**01 52 45.0**	**+2.6**
ALFM		**3.81**	**36**	*e*Pg	**Pg**	**01 52 54.4**	**-2.2**
ALFM				*e*Sg	**Sg**	**01 53 42.7**	**-3.3**
286nm,0.3s
BLGM	**Bulgan**	**3.83**	**1⇑**	*i*Pn	**Pn**	**01 52 44.6**	**+2.0**
BLGM	**Bulgan**	**3.83**	**1**	*e*Pg	**Pb**	**01 52 53.5**	**+2.2**
BLGM				*e*Sg	**Sg**	**01 53 44.5**	**-2.0**
207nm,0.2s
UGDM		**3.84**	**44⇑**	*i*Pn	**Pn**	**01 52 45.3**	**+2.4**
UGDM		**3.84**	**44**	*e*Pg	**Pb**	**01 52 53.4**	**+1.9**
UGDM				*e*Sg	**Sg**	**01 53 43.2**	**-3.7**
268nm,0.3s
ARTM		**3.98**	**40⇓**	*i*Pn	**Pn**	**01 52 47.2**	**+2.4**
ARTM		**3.98**	**40**	*e*Pg	**Pg**	**01 52 58.5**	**-1.3**
ARTM				*e*Sg	**Sg**	**01 53 48.5**	**-2.9**
337nm,0.4s
TSC	**Tosontsengel**	**5.21**	**319⇓**	*i*Pn	**Pn**	**01 53 04.4**	**+2.8**
TSC	**Tosontsengel**	**5.21**	**319**	*e*Pg	**Pg**	**01 53 19.3**	**-3.9**
TSC				*e*Sg	**Sg**	**01 54 27.1**	**-3.5**
148nm,0.3s
HTG	**Hatgal**	**5.92**	**339**	*e*Pg	**Pg**	**01 53 33.8**	**-3.1**
HTG				*e*Sg	**Sg**	**01 54 51.1**	**-2.5**
137nm,0.5s
TLY	**Talaya**	**6.73**	**1**	Pn	**Pn**	**01 53 25.3**	**+3.0**
0.0nm,0.3s,baz=229,slow=18,SNR=2.9
TLY				Pg	Pb	01 53 45.5	+5.1
0.1nm,0.3s,baz=185,slow=14,SNR=9.4
TLY				Lg	Lg	01 55 18.4	
0.0nm,0.3s,baz=258,slow=21,SNR=5.9
HBD	**Hovd**	**8.68**	**295**	*e*Sg	Sg	01 56 11.3	-11
ZALV	**Zalesovo Beam**	**15.04**	**313**	Lg	Lg	01 59 40.6	
0.2nm,0.3s,baz=136,slow=21,SNR=5.3
KURBB	**Kurchatov Arra**	**17.62**	**298**	Pn	**P**	**01 55 52.0**	**+2.0**
0.0nm,0.3s,baz=101,slow=11,SNR=4.2
WRA	**Warramunga Arr**	**70.47**	**149**	P	**P**	**02 03 00.3**	**+2.2**
0.4nm,0.6s,baz=344,slow=6.7,SNR=5.7
ASAR	**Alice Springs**	**73.74**	**151**	P	P	02 03 20.4	+2.7
0.5nm,0.6s,baz=352,slow=8.7,SNR=6.1

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*IDC **02** 01:55:08.5±2.2,10.21N×144.45E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.7/45,mbtmp4.0/7,ML4.2/1,Error ellipse: s-maj=62.3km s-min=23.6km az=97.0*
*ISCJB **02** 01:55:12.1±0.9,10.16N±0.07×144.3E±0.2,h33km, mb4.1/10,Error ellipse: s-maj=31.0km s-min=8.7km az=9.9*
*NEIC **02** 01:55:15.2±1.6,10.27N×144.83E,h64km±23km,mb4.1/3, Error ellipse: s-maj=52.6km s-min=11.0km az=84.0*
ISC 02 01:55:13.8±1.3,10.14N±0.10×144.4E±0.3,h35km,n17, σ1§27/12,mb4.1/10,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.45**	**7**	Pn	**Pn**	**01 56 04.4**	**-0.7**
GUMO				Sn	**Sn**	**01 56 46.5**	**+1.7**
26nm,0.3s,baz=184,slow=16,SNR=15
48nm,0.3s,baz=180,slow=20,SNR=13
H11S3	**WAKE ISLAND Hy 23.08**	**66**	T	T		02 23 33.5	
baz=249,slow=75,SNR=41
H11S2	**WAKE ISLAND Hy 23.09**	**66**	T	T		02 23 35.2	
baz=249,slow=75,SNR=37
H11S1	**WAKE ISLAND Hy 23.09**	**66**	T	T		02 23 34.7	
baz=249,slow=75,SNR=28
H11N1	**WAKE ISLAND Hy 23.66**	**64**	T	T		02 24 21.7	
baz=246,slow=75,SNR=59
H11N2	**WAKE ISLAND Hy 23.67**	**64**	T	T		02 24 22.2	
baz=246,slow=75,SNR=55
H11N3	**WAKE ISLAND Hy 23.68**	**64**	T	T		02 24 24.1	
baz=246,slow=75,SNR=46
COEN	**Coen**	**23.98**	**183**	*e*P	**P**	**02 00 24.9**	**-0.3**
1.7nm,0.7s
WRAB	**Tennant Creek**	**31.50**	**198**	*e*P	**P**	**02 01 33.3**	**+0.7**
1.6nm,0.5s
WRA	**Warramunga Arr**	**31.51**	**198**	P	**P**	**02 01 33.7**	**+1.0**
1.3nm,1.0s,baz=23,slow=9.9,SNR=6.1
CMAR	**Chiang Mai Arr**	**44.76**	**286**	P	**P**	**02 03 25.1**	**+0.7**
1.9nm,0.7s,baz=83,slow=6.0,SNR=6.3
SONM	**Songino Array**	**49.33**	**327**	P	**P**	**02 04 00.2**	**+0.5**
0.2nm,0.4s,baz=142,slow=7.3,SNR=2.8
MKAR	**Makanchi Array**	**63.70**	**317**	P	**P**	**02 05 41.6**	**-0.3**
1.3nm,0.8s,baz=87,slow=8.1,SNR=6.1
KURK	**Kurchatov**	**66.96**	**321**	*e*P	**P**	**02 06 01.1**	**-1.8**
12nm,0.8s
KURBB	**Kurchatov Arra**	**66.99**	**321**	P	**P**	**02 06 01.9**	**-1.3**
1.9nm,0.7s,baz=106,slow=6.6,SNR=14
BVAR	**Borovoye Array**	**72.37**	**322**	P	**P**	**02 06 35.0**	**-1.3**
1.4nm,0.5s,baz=115,slow=7.7,SNR=7.9
BRVK	**Borovoye**	**72.44**	**322**	*e*P	**P**	**02 06 35.2**	**-1.4**
4.6nm,0.5s

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*ISCJB **02** 02:06:45.5±0.5,36.89N±0.03×54.10E±0.04,h10km,Error ellipse: s-maj=5.1km s-min=3.9km az=157.7*
*TEH **02** 02:06:46.4,36.69N×54.28E,h3km,ML3.1*
*CSEM **02** 02:06:46.2±0.3,36.72N×54.24E,h10km,ML3.1,Error ellipse: s-maj=8.7km s-min=6.9km az=8.0*
*AZER **02** 02:06:52.5±99.0,36.77N×53.25E,h5km±154km,Error ellipse: s-maj=640.6km s-min=28.5km az=309.0*
ISC 02 02:06:45.3±1.0,36.71N±0.05×54.23E±0.04,h10km,n49, σ2§25/64,11C-10D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.38**	**237**	*e*Pg	**Pg**	**02 06 51.9**	**-1.0**
IGLO				*e*Sg	**Sg**	**02 06 58.5**	**+0.6**
IGLO				*e*AMB	AMB	02 07 01.1	
comp=Z,38μm,0.2s
ISHM	**Shahmirzad**	**1.18**	**220**	*e*AMB	AMB	02 07 36.9	
comp=Z,3μm,0.2s
ISHM				*e*Pg	**Pb**	**02 07 08.0**	**+0.1**
IANJ	**Anjilo**	**1.27**	**192**	*e*AMB	AMB	02 07 14.6	
comp=Z,1μm,0.1s
IANJ				*e*Pg	**Pn**	**02 07 08.9**	**-0.3**
IALA	**Alasht**	**1.30**	**242**	*e*Pg	**Pn**	**02 07 10.0**	**+0.2**
IALA				*e*AMB	AMB	02 07 37.7	
comp=Z,6μm,0.1s
IALA	**Alasht**	**1.30**	**242**	*e*Pg	**Pn**	**02 07 10.0**	**+0.2**
IPRN	**Peran**	**1.59**	**253**	*e*Pn	**Pn**	**02 07 15.0**	**+1.4**
IPRN				*e*Sg	**Sb**	**02 07 37.9**	**+2.8**
IPRN				*e*AMB	AMB	02 07 43.2	
comp=Z,6μm,0.1s
IFIR	**Firoozkooh**	**1.60**	**229**	*e*Pn	**Pn**	**02 07 14.9**	**+1.0**
IFIR				*e*AMB	AMB	02 07 40.5	
comp=Z,2μm,0.1s
IFIR	**Firoozkooh**	**1.60**	**229**	*e*Pn	**Pn**	**02 07 14.9**	**+1.0**
SHRO	**Shahrood**	**1.61**	**116**	*e*Pg	**Pb**	**02 07 15.9**	**+0.8**
ILAS	**Lasjerd**	**1.68**	**218**	*e*Pn	**Pb**	**02 07 17.2**	**+0.8**
ILAS				*e*AMB	AMB	02 07 44.4	
comp=E,3μm,0.2s
ILAS	**Lasjerd**	**1.68**	**218**	*e*Pn	**Pb**	**02 07 17.2**	**+0.8**
MRVT	**Maraveh tapeh**	**1.76**	**57**	*e*Pg	**Pn**	**02 07 16.3**	**+0.4**
IDMV	**Damavand**	**2.10**	**238**	*e*Pn	**Pb**	**02 07 23.8**	**+0.1**
IDMV				*e*AMB	AMB	02 07 28.2	
comp=Z,772nm,0.2s
IDMV	**Damavand**	**2.10**	**238**	*e*Pn	**Pb**	**02 07 23.8**	**+0.1**
IAFJ	**Afjeh**	**2.20**	**248**	*e*Pn	**Pn**	**02 07 24.4**	**+2.2**
IAFJ

1μm,0.6s
KUR Kuril'sk 1.35 352 *e*P **Pn 02 12 40.0 +0.5**
KUR AMB AMB 02 12 41.5
160nm,0.3s
KUR *i* S **Sg 02 12 56.4 -1.9**
KUR A A 02 12 57.5
680nm,0.5s
KUR A A 02 12 57.5
390nm,0.5s
YUK Yuzh-Kuril'sk 1.64 276 *e*P **Pn 02 12 43.8 +0.3**
YUK AMB AMB 02 12 46.7
131nm,0.3s
YUK *i* S **Sn 02 13 02.6 -1.9**
YUK A A 02 13 06.7
440nm,0.3s
NEM2 Nemuro 2 1.81 254 P **Pn 02 12 45.8 0.0**
NEM2 *e*S **Sn 02 13 07.0 -1.7**
JRA Rausu 2.17 272 P **Pn 02 12 52.0 +1.2**
JRA *e*S **Sn 02 13 18.2 +0.6**
JAK Akkeshi 2.65 251 P **Pn 02 12 57.9 +0.5**
YSS Yuzh-Sakhalins 4.86 311 *e*P **Pn 02 13 30.1 +2.3**

IDC ***02*** *02:15:56.8±2.4, 38°.02N×141°.90E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/37, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=45.2km s-min=36.5km az=59.0*
JMA ***02*** *02:16:07.1±0.1, 37°.00N×141°.29E, h22km±2km, M3.1*
ISC 02 02:16:03.3±2.9, 36°.96N±0°.07×141°.5E±0°.1, h14km±11km**, n17,** σ1**9**47/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.58 284**		P	**Pb**	**02 16 15.5**	**+0.3**
ONAJ				S	**Sg**	**02 16 21.3**	**-1.1**
JFK	**Kawauchi**	**0.64 309**		P	**Pb**	**02 16 17.0**	**+0.7**
JFK				S	**Sg**	**02 16 23.6**	**-0.8**
JHO	**Hitachi**	**0.83 245**		P	**Pn**	**02 16 20.4**	**-0.1**
JHO				S	**Sb**	**02 16 29.9**	**-0.5**
JMM	**Marumori**	**1.06 328**		P	**Pg**	**02 16 24.4**	**+0.6**
JMM				S	**Sb**	**02 16 36.8**	**-0.5**
JFT	**Otama**	**1.08 301**		P	**Pg**	**02 16 24.5**	**+0.3**
JFT				S	**Sb**	**02 16 36.6**	**-1.2**
JFY	**Yanaizu**	**1.50 288**		P	**Pb**	**02 16 31.2**	**+0.2**
JFY				S	**Sn**	**02 16 48.2**	**-1.0**
JAG	**Ashikaga**	**1.73 253**		P	**Pb**	**02 16 34.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.68 262**		Pn	**Pb**	**02 16 48.4**	**-2.5**
	1.6nm,0.3s,baz=90,slow=16,SNR=11						
MJAR				Sn	**Sg**	**02 17 32.2**	**+2.9**
	2.3nm,0.3s,baz=74,slow=18,SNR=9.1						
MAT	**Matsushiro**	**2.68 262**		P	**Pb**	**02 16 49.9**	**-1.1**
MAT				*e*S	**Sn**	**02 17 20.7**	**+2.4**
H11N2	**WAKE ISLAND Hy 28.05 121**			T	T	02 51 27.3	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy 28.06 121**			T	T	02 51 27.8	
	baz=314,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy 28.07 121**			T	T	02 51 28.4	
	baz=314,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy 28.76 123**			T	T	02 52 20.6	
	baz=315,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy 28.76 123**			T	T	02 52 22.1	
	baz=315,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 28.78 123**			T	T	02 52 19.9	
	baz=315,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.22 302**		P	P	02 24 05.3	-6.6
	0.4nm,0.6s,baz=80,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**57.00 188**		P	P	02 25 52.0	+3.5
	0.2nm,0.5s,baz=5.4,slow=7.4,SNR=3.1						

NIED ***02*** *02:25:00, 37°.10N×141°.50E, h5km, Mw3.4 Best double couple: M0=1.22000×10^14 NP1:φ=43.00000°, δ=26.00000°, λ=-69.00000°. NP2:φ=200.00000°, δ=66.00000°, λ=-100.00000°.*
ISCJB ***02*** *02:25:35.2±1.5, 37°.12N±0°.05×141°.55E±0°.07, h7km±7km, mb3.4/3, Error ellipse: s-maj=10.2km s-min=8.7km az=34.5*
IDC ***02*** *02:25:36.7±1.6, 36°.85N×141°.69E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=31.5km s-min=28.0km az=143.0*
JMA ***02*** *02:25:37.1±0.1, 37°.12N×141°.46E, h22km±1km, M3.5*
ISC 02 02:25:36.6±2.2, 37°.12N±0°.06×141°.47E±0°.09, h6km±12km**, n16,** σ0**9**2/15**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.54 298**		P	**Pg**	**02 25 47.3**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.54 269**		P	**Pg**	**02 25 47.5**	**+0.5**
ONAJ				S	**Sg**	**02 25 55.0**	**+1.0**
JHO	**Hitachi**	**0.88 235**		P	**Pg**	**02 25 53.0**	**-0.5**
JHO				S	**Sg**	**02 26 05.0**	**0.0**
JMM	**Marumori**	**0.92 324**		P	**Pg**	**02 25 53.8**	**-0.5**
JMM				S	**Sg**	**02 26 05.7**	**-0.5**
JFT	**Otama**	**0.99 294**		P	**Pg**	**02 25 55.4**	**-0.2**
JFT				S	**Sg**	**02 26 08.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.68 259**		Pn	**Pn**	**02 26 20.7**	**+0.4**
	3.5nm,0.3s,baz=85,slow=15,SNR=17						
MJAR				Sn	**Sb**	**02 26 56.1**	**-2.0**
	2.4nm,0.3s,baz=79,slow=30,SNR=7.4						
MAT	**Matsushiro**	**2.68 259**		P	**Pn**	**02 26 20.9**	**+0.6**
MAT				*e*S	**Sn**	**02 26 54.1**	**+0.9**
H11N2	**WAKE ISLAND Hy 28.15 121**			T	T	03 00 56.6	
	baz=314,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy 28.16 121**			T	T	03 00 57.7	
	baz=314,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy 28.17 121**			T	T	03 00 58.3	
	baz=314,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy 28.86 123**			T	T	03 01 53.8	
	baz=316,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy 28.87 123**			T	T	03 01 54.0	
	baz=316,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy 28.88 123**			T	T	03 01 53.5	
	baz=316,slow=76,SNR=18						
MKAR	**Makanchi Array**	**44.12 302**		P	P	02 33 50.6	+5.0
	0.3nm,0.5s,baz=77,slow=9.9,SNR=2.5						
ILAR	**Eielson Array**	**49.40 32**		P	**P**	**02 34 27.6**	**+0.9**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**57.15 188**		P	**P**	**02 35 23.4**	**-0.8**
	0.3nm,0.8s,baz=5.5,slow=7.3,SNR=2.9						

NIED ***02*** *02:29:00, 39°.30N×143°.00E, h20km, Mw3.5 Best double couple: M0=1.95000×10^14 NP1:φ=130.00000°, δ=46.00000°, λ=-33.00000°. NP2:φ=243.00000°, δ=67.00000°, λ=-131.00000°.*
IDC ***02*** *02:29:23.9±3.0, 38°.83N×143°.68E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/35, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=70.4km s-min=37.2km az=63.0*
JMA ***02*** *02:29:24.5±0.1, 39°.31N×143°.03E, h20km±2km, M3.5*
ISC 02 02:29:21.2±3.7, 39°.30N±0°.06×143°.1E±0°.2, h1km±27km**, n20,** σ0**9**60/20**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.01 286**		P	**Pn**	**02 29 42.5**	**-0.1**
MIYJ				S	**Sb**	**02 29 54.9**	**-0.5**
OFUJ	**Ofunato**	**1.12 259**		P	**Pn**	**02 29 44.1**	**+0.1**
OFUJ				S	**Sb**	**02 29 58.1**	**-0.3**
JTH	**Tanohata**	**1.13 305**		P	**Pb**	**02 29 44.4**	**+0.8**
JTH				S	**Sb**	**02 29 59.0**	**+0.1**
JOM	**Ohasama**	**1.40 278**		P	**Pb**	**02 29 48.7**	**+0.6**
JOM				S	**Sn**	**02 30 05.9**	**-1.0**
JMK	**Ichinoseki**	**1.49 257**		P	**Pb**	**02 29 50.1**	**+0.5**
JMK				S	**Sn**	**02 30 08.8**	**-0.3**
JIO	**Ouri**	**1.59 238**		P	**Pb**	**02 29 51.4**	**0.0**
JIO				*e*S	**Sn**	**02 30 11.3**	**-0.4**
JANG	**Nango**	**1.61 312**		P	**Pb**	**02 29 51.7**	**-0.1**
JANG				*e*S	**Sn**	**02 30 12.2**	**0.0**
JAH	**Hinai**	**2.08 296**		P	**Pb**	**02 30 00.0**	**+0.2**
JOU	**Okura**	**2.10 244**		P	**Pb**	**02 30 00.2**	**0.0**
JOU				*e*S	**Sn**	**02 30 25.3**	**+0.9**
JTM	**Tenmabayashi**	**2.14 315**		P	**Pb**	**02 29 59.8**	**-1.0**
JTM				S	**Sn**	**02 30 26.3**	**+1.0**
JYK	**Kaneyama**	**2.15 261**		P	**Pb**	**02 30 00.6**	**-0.3**
MJAR	**Matsushiro Arr**	**4.73 236**		Pn	Pn	02 30 38.6	+4.9
	0.5nm,0.3s,baz=37,slow=12,SNR=9.8						
H11N2	**WAKE ISLAND Hy 28.31 127**			T	T	03 04 57.0	
	baz=319,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy 28.32 127**			T	T	03 04 59.6	
	baz=319,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy 28.33 127**			T	T	03 04 58.8	
	baz=319,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy 29.12 129**			T	T	03 06 02.6	
	baz=321,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy 29.12 129**			T	T	03 05 59.9	
	baz=321,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy 29.13 129**			T	T	03 06 02.0	
	baz=321,slow=76,SNR=5.1						
MKAR	**Makanchi Array**	**44.07 300**		P	P	02 37 38.5	+7.8
	0.3nm,0.7s,baz=74,slow=9.7,SNR=2.4						
WRA	**Warramunga Arr**	**59.50 190**		P	P	02 39 26.2	+0.2
	0.2nm,0.6s,baz=9.3,slow=7.5,SNR=4.1						

DDA ***02*** *02:31:52.7, 38°.51N×26°.34E, h7km, Md2.5*
ATH ***02*** *02:31:53.6, 38°.42N×26°.38E, h24km±9km, ML1.5/3, Error ellipse: s-maj=10.8km s-min=1.1km az=249.0*
CSEM ***02*** *02:31:53.8±0.2, 38°.45N×26°.43E, h12km, MD2.5, Error ellipse: s-maj=7.4km s-min=4.6km az=76.0*
ISCJB ***02*** *02:31:54.1±0.5, 38°.44N±0°.03×26°.42E±0°.05, h12km±5km, Error ellipse: s-maj=7.0km s-min=4.8km az=141.6*
ISC 02 02:31:53.4±0.9, 38°.46N±0°.03×26°.38E±0°.04, h13km±8km**, n18,** σ0**9**49/33**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20 121**		*i* P	**Pg**	**02 31 57.9**	**0.0**
URLA				*i* S	**Sg**	**02 32 01.1**	**+0.1**
URLA	**Izmir**	**0.20 121**		P	**Pg**	**02 31 57.9**	**0.0**
URLA				S	**Sg**	**02 32 01.1**	**+0.1**
ZEY	**˜zmir**	**0.25 156**		*i* P	**Pg**	**02 31 58.5**	**-0.1**
ZEY				*i* S	**Sg**	**02 32 01.9**	**-0.2**
CHOS	**Chios island**	**0.26 253**		P	**Pb**	**02 32 00.8**	**+0.8**
CHOS				S	**Sb**	**02 32 04.2**	**-0.3**
CHOS				AML	AML	02 32 05.1	
	comp=E,173μm,0.2s						
CHOS				AML	AML	02 32 05.6	
	comp=N,98μm,0.2s						
CHOS	**Chios island**	**0.26 253**		P	**Pb**	**02 32 00.7**	**+0.6**
CHOS				S	**Sb**	**02 32 04.3**	**-0.3**
DGB	**˜zmir**	**0.57 136**		*i* P	**Pg**	**02 32 04.0**	**-0.7**
PRK	**Paraskevi**	**0.79 354**		P	**Pg**	**02 32 08.8**	**+0.1**
PRK				S	**Sn**	**02 32 22.4**	**+0.6**
PRK				AML	AML	02 32 22.6	
	comp=N,110μm,0.5s						
PRK				AML	AML	02 32 23.1	
	comp=E,126μm,0.4s						
PRK	**Paraskevi**	**0.79 354**		P	**Pg**	**02 32 08.6**	**0.0**
PRK				S	**Sn**	**02 32 22.3**	**+0.5**
SMG	**Samos**	**0.84 154**		P	**Pg**	**02 32 09.3**	**-0.3**
SMG				S	**Sg**	**02 32 20.2**	**-0.3**
SMG				AML	AML	02 32 23.1	
	comp=N,92μm,0.2s						
SMG				AML	AML	02 32 23.2	
	comp=E,58μm,0.2s						
SMG	**Samos**	**0.84 154**		P	**Pg**	**02 32 09.3**	**-0.3**
SMG				S	**Sg**	**02 32 20.3**	**-0.3**
SIGR	**SIGRI**	**0.85 332**		P	**Pn**	**02 32 11.1**	**0.0**
SIGR				S	**Sn**	**02 32 23.1**	**-0.3**
SIGR	**SIGRI**	**0.85 332**		P	**Pn**	**02 32 11.1**	**0.0**
SIGR				S	**Sn**	**02 32 23.2**	**-0.2**
AYVA	**Ayvalik**	**0.88 16**		*i* P	**Pb**	**02 32 10.2**	**-0.3**
AYVA	**Ayvalik**	**0.88 16**		P	**Pb**	**02 32 10.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.28 6**		*i* P	**Pn**	**02 32 17.0**	**0.0**
BAYC				*i* S	**Sb**	**02 32 32.8**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**1.28 6**		P	**Pn**	**02 32 17.0**	**0.0**
BAYC				S	**Sb**	**02 32 32.8**	**-1.0**
STEP	**BALIKESIR_Sava**	**1.39 49**		*i* P	**Pb**	**02 32 19.8**	**+0.5**
STEP				*i* S	**Sb**	**02 32 37.7**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.39 49**		P	**Pb**	**02 32 19.8**	**+0.5**
STEP				S	**Sb**	**02 32 37.7**	**+0.8**

MEX 02 02:45:47.0±0.4, 19°.23N×104°.04W, h9km±2km**, MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.08 136**		*e*P	Pg	02 45 48.7	-0.6
R15V				*e*S	Sg	02 45 50.6	-0.4
EZ5V		**0.48 59**		*e*P	Pg	02 45 56.1	-0.4
EZ5V				*e*S	Sg	02 46 03.4	+0.4
CJM	**Chamela**	**0.98 286**		*e*P	Pg	02 46 03.2	-2.6
CJM				*e*S	Sg	02 46 15.2	-3.4
MMIG	**Aquila**	**1.15 145**		*e*P	Pb	02 46 05.3	-3.7
MMIG				*e*S	Sg	02 46 19.9	-4.0
ARIG	**Puente Sto Nin**	**3.63 104**		*e*P	Pn	02 46 45.6	+2.2

DDA ***02*** *02:49:20.3, 41°.29N×43°.98E, h7km, Md3.1*
ISK ***02*** *02:49:20.9, 41°.44N×43°.94E, h21km, MD3.2*
TIF ***02*** *02:49:20.3, 41°.28N×44°.01E, h19km*
CSEM ***02*** *02:49:20.6±0.2, 41°.28N×44°.06E, h10km, MD3.2, Error ellipse: s-maj=7.2km s-min=3.6km az=177.0*
ISCJB ***02*** *02:49:20.2±0.4, 41°.25N±0°.02×44°.04E±0°.02, h2km±4km, Error ellipse: s-maj=3.6km s-min=2.4km az=170.1*
AZER ***02*** *02:49:22.6±3.4, 41°.21N×44°.17E, h37km, Error ellipse: s-maj=4.2km s-min=3.7km az=249.0*
ISC 02 02:49:20.4±0.9, 41°.27N±0°.02×44°.01E±0°.01, h14km±8km**, n54,** σ1**9**00/101**, 10C-14D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.31 268**		P	**Pb**	**02 49 27.4**	**-0.5**
BGD				S	**Sg**	**02 49 31.7**	**+0.4**
KZR	**Kazreti**	**0.32 70**		P	**Pb**	**02 49 28.0**	**-0.1**
KZR				S	**Sb**	**02 49 32.7**	**-0.5**
AKH	**Akhalkalaki**	**0.41 289**		*e*PG	**Pg**	**02 49 28.6**	**-0.1**
AKH				*e*SG	**Sg**	**02 49 34.1**	**-0.2**
AKH	**Akhalkalaki**	**0.41 289**		P	**Pg**	**02 49 28.9**	**+0.1**
AKH				S	**Sg**	**02 49 34.5**	**+0.2**
AKH	**Akhalkalaki**	**0.41 289**		*e*Pg	**Pg**	**02 49 28.6**	**-0.1**
AKH				*e*Sg	**Sg**	**02 49 34.1**	**-0.2**
EAK	**Akyaka**	**0.66 208**		*i* P	**Pb**	**02 49 33.7**	**-0.2**
EAK				*i* S	**Sb**	**02 49 43.0**	**0.0**
EAK	**Akyaka**	**0.66 208**		P	**Pb**	**02 49 33.7**	**-0.2**
EAK				S	**Sb**	**02 49 43.0**	**0.0**
TBLG	**Delisi**	**0.71 50**		*e*PG	**Pb**	**02 49 34.4**	**-0.2**
TBLG				*e*SG	**Sb**	**02 49 44.6**	**+0.2**
TBLG	**Delisi**	**0.71 50**		P	**Pb**	**02 49 34.5**	**-0.1**
TBLG				S	**Sb**	**02 49 44.9**	**+0.5**
TBLG	**Delisi**	**0.71 50**		*e*Pg	**Pb**	**02 49 34.4**	**-0.2**
TBLG				S	**Sb**	**02 49 44.5**	**+0.1**
SEAG	**Tbilisi Sea**	**0.77 50**		P	**Pb**	**02 49 35.8**	**+0.2**
SEAG				S	**Sn**	**02 49 47.1**	**-1.4**
DUS	**Dusheti**	**0.97 32**		P	**Pn**	**02 49 40.3**	**+0.6**
DUS				S	**Sn**	**02 49 54.4**	**+1.0**
DIGO	**Kars**	**0.98 210**		*i* P	**Pn**	**02 49 39.7**	**-0.4**
DIGO				*i* S	**Sn**	**02 49 53.0**	**-1.0**
DIGO	**Kars**	**0.98 210**		P	**Pn**	**02 49 39.7**	**-0.4**
DIGO				S	**Sn**	**02 49 53.0**	**-1.0**
EPOS	**Posof**	**0.99 284**		*i* P	**Pg**	**02 49 39.2**	**-0.3**
EPOS				*i* S	**Sg**	**02 49 52.7**	**+0.2**
EPOS	**Posof**	**0.99 284**		P	**Pg**	**02 49 39.2**	**-0.3**
EPOS				S	**Sg**	**02 49 52.7**	**+0.2**
QZX	**Qazax, Azerbai**	**1.05 101**		⇑P	**Pg**	**02 49 40.9**	**+0.2**
	SNR=661						
QZX				⇑S	**Sn**	**02 49 55.5**	**+0.2**
QZX	**Qazax, Azerbai**	**1.05 101**		P	**Pg**	**02 49 40.9**	**+0.2**
	SNR=661						
QZX				S	**Sn**	**02 49 55.5**	**+0.2**
GUDG	**Gudauri**	**1.24 16**		P	**Pg**	**02 49 44.0**	**-0.3**
GUDG				S	**Sg**	**02 50 00.8**	**+0.3**
ONI	**Oni**	**1.38 343**		P	**Pb**	**02 49 46.0**	**0.0**
ONI				S	**Sg**	**02 50 04.6**	**-0.2**
GDB	**GEDABAY**	**1.43 112**		⇓P	**Pb**	**02 49 47.0**	**0.0**
	SNR=14						
GDB				⇓S	**Sb**	**02 50 05.7**	**+0.5**
GDB	**GEDABAY**	**1.43 112**		P	**Pb**	**02 49 47.0**	**0.0**
	SNR=14						
GDB				S	**Sb**	**02 50 05.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.45 241**		*e*PN	**Pb**	**02 49 47.2**	**0.0**
SENK	**Senkaya-Erzuru**	**1.45 241**		*e*Pn	**Pb**	**02 49 47.2**	**0.0**
ARTV	**Artvin**	**1.57 267**		*i* P	**Pb**	**02 49 49.4**	**0.0**
ARTV				*i* S	**Sg**	**02 50 09.8**	**-1.2**
ARTV	**Artvin**	**1.57 267**		P	**Pb**	**02 49 49.4**	**0.0**
ARTV				S	**Sg**	**02 50 09.8**	**-1.2**
DAGI	**Agillar**	**1.59 264**		*i* P	**Pb**	**02 49 49.9**	**+0.2**
DAGI				*i* S	**Sg**	**02 50 11.3**	**-0.4**
DDEM	**Demirkent**	**1.75 258**		*i* P	**Pb**	**02 49 52.4**	**0.0**
DDEM				*i* S	**Sg**	**02 50 15.3**	**-1.4**
DDEM	**Demirkent**	**1.75 258**		P	**Pb**	**02 49 52.4**	**0.0**
DDEM				S	**Sg**	**02 50 15.3**	**-1.4**
DBOC	**Borcka**	**1.77 273**		*i* P	**Pb**	**02 49 52.6**	**0.0**
DBOC				*i* S	**Sb**	**02 50 15.5**	**+0.8**
DBOC	**Borcka**	**1.77 273**		P	**Pb**	**02 49 52.6**	**0.0**
DBOC				S	**Sb**	**02 50 15.5**	**+0.8**
GANJ	**Ganja**	**1.86 109**		⇑Pn	**Pb**	**02 49 54.0**	**-0.2**
	SNR=29						
GANJ				⇓Sg	**Sb**	**02 50 18.6**	**+1.2**
GANJ	**Ganja**	**1.86 109**		Pn	**Pb**	**02 49 54.0**	**-0.2**
	SNR=29						
GANJ				Sg	**Sb**	**02 50 18.6**	**+1.2**
AGRB	**Hanur-Agry**	**1.87 205**		*e*PN	**Pb**	**02 49 54.1**	**-0.3**
AGRB	**Hanur-Agry**	**1.87 205**		*e*Pn	**Pb**	**02 49 54.1**	**-0.3**
ZKTA	**Zakatala**	**2.00 79**		⇓Pn	**Pb**	**02 49 55.2**	**-1.3**
	SNR=22						
ZKTA				⇓Sn	**Sb**	**02 50 20.6**	**-0.7**
ZKTA				⇑Sg	**Sg**	**02 50 24.3**	**-0.3**
CLDR	**Caldiran**	**2.13 182**		*e*PN	**Pb**	**02 49 58.5**	**-0.4**
CLDR	**Caldiran**	**2.13 182**		*e*Pn	**Pb**	**02 49 58.5**	**-0.4**
MNGR	**Mingechevir, A**	**2.38 101**		⇑Pg	**Pb**	**02 50 03.8**	**+0.8**
MNGR				⇑Sg	**Sb**	**02 50 33.7**	**+1.4**
MNGR	**Mingechevir, A**	**2.38 101**		Pg	**Pb**	**02 50 03.8**	**+0.8**
MNGR				Sg	**Sb**	**02 50 33.7**	**+1.4**
NAX	**Nakhchivan**	**2.39 151**		⇓Pg	**Pg**	**02 50 06.0**	**-0.1**
NAX				⇓Sg	**Sg**	**02 50 39.0**	**+1.9**
NAX	**Nakhchivan**	**2.39 151**		Pg	**Pg**	**02 50 06.0**	**-0.1**
NAX				Sg	**Sg**	**02 50 39.0**	**+1.9**
SEKA	**Sheki**	**2.41 90**		⇓Pn	**Pb**	**02 50 02.2**	**-1.3**
	SNR=17						
SEKA				⇓Sg	**Sg**	**02 50 37.3**	**-0.4**
SEKA	**Sheki**	**2.41 90**		Pn	**Pb**	**02 50 02.2**	**-1.3**
	SNR=17						
SEKA				Sg	**Sg**	**02 50 37.3**	**-0.4**
BRDA	**Brd**	**2.61 112**		⇑Pg	**Pb**	**02 50 08.0**	**+1.0**
	SNR=6.0						
BRDA				⇓Sg	**Sg**	**02 50 43.1**	**-1.2**
BRDA	**Brd**	**2.61 112**		Pg	**Pb**	**02 50 08.0**	**+1.0**
	SNR=6.0						
BRDA				Sg	**Sg**	**02 50 43.1**	**-1.2**
QBL	**Gabala**	**2.91 95**		⇓Pg	**Pb**	**02 50 12.9**	**+0.8**
QBL				⇑Sg	**Sg**	**02 50 51.6**	**-2.3**
QBL	**Gabala**	**2.91 95**		Pg	**Pb**	**02 50 12.9**	**+0.8**
QBL				Sg	**Sg**	**02 50 51.6**	**-2.3**
XNQ	**Khinaliq**	**3.12 91**		⇑Pn	**Pn**	**02 50 11.0**	**+1.6**
	SNR=11						
XNQ				⇑Sg	**Sg**	**02 50 57.4**	**-3.1**
XNQ	**Khinaliq**	**3.12 91**		Pn	**Pn**	**02 50 11.0**	**+1.6**
	SNR=11						
XNQ				Sg	**Sg**	**02 50 57.4**	**-3.1**
QSAR	**Qusar**	**3.21 84**		⇓Sn	**Sn**	**02 50 49.0**	**+0.4**
QSAR	**Qusar**	**3.21 84**		Sn	**Sn**	**02 50 49.0**	**+0.4**
PQL	**Pirkuli**	**3.50 96**		⇓Pg	**Pb**	**02 50 22.6**	**+0.3**
PQL				⇓Sg	**Sg**	**02 51 10.0**	**-2.8**
PQL	**Pirkuli**	**3.50 96**		Pg	**Pb**	**02 50 22.6**	**+0.3**
PQL				Sg	**Sg**	**02 51 10.0**	**-2.8**

ISCJB ***02*** *03:36:08.4±0.4, 51°.85N±0°.07×178°.94W±0°.05, h95km±2km, mb4.3/50, Error ellipse: s-maj=11.6km s-min=5.4km az=177.4*
NEIC ***02*** *03:36:10.3±0.0, 51°.82N×178°.72W, h83km, mb4.4/32, After AEIC.*
IDC ***02*** *03:36:11.4±2.7, 51°.94N×178°.94W, h107km±22km, mb3.7/18, mb1 3.9/18, mb1mx3.7/38, mbtmp4.0/18, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=19.3km s-min=12.8km az=168.0*
ISC 02 03:36:09.2±0.7, 51°.8N±0°.1×178°.91W±0°.05, h93km±5km**, n162,** σ1**9**23/171**, mb4.4**/50**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.09 82**		P	**Pn**	**03 36 22.5**	**+0.3**
GAEA	**Gareloi East**	**0.11 72**		P	**Pn**	**03 36 22.5**	**+0.2**
GANE	**Gareloi Northe**	**0.11 50**		P	**Pn**	**03 36 22.6**	**+0.3**
GANE				S	**Sn**	**03 36 32.0**	**-0.1**
TANO	**Tanaga North**	**0.52 71**		P	**Pn**	**03 36 24.5**	**+0.2**
TAFP	**Tanaga Falls P**	**0.60 75**		P	**Pn**	**03 36 24.5**	**-0.5**
TAFP				S	**Sn**	**03 36 36.1**	**-0.8**
TAFL	**Tanaga Flats**	**0.63 89**		P	**Pn**	**03 36 24.9**	**-0.3**
TAPA	**Tanaga Point A**	**0.69 84**		P	**Pn**	**03 36 25.6**	**-0.3**
KICM	**Kanaga Island**	**1.08 80**		P	**Pn**	**03 36 29.9**	**0.0**
KICM				S	**Sn**	**03 36 44.7**	**-0.9**
KIKV	**Kanaga Island**	**1.09 82**		P	**Pn**	**03 36 29.8**	**-0.3**
KIRH	**Kanaga Island**	**1.14 82**		P	**Pn**	**03 36 30.4**	**-0.2**
ADK	**Adak**	**1.39 84**		P	**Pn**	**03 36 33.0**	**-0.6**
ADK				S	**Sn**	**03 36 50.5**	**-1.6**
ADAG	**Mount Adagdak**	**1.45 80**		P	**Pn**	**03 36 34.2**	**-0.2**
ETKA	**Kagalaska Isla**	**1.56 85**		P	**Pn**	**03 36 35.5**	**-0.3**
ETKA				S	**Sn**	**03 36 54.3**	**-1.7**
GSCK	**Great Sitkin C**	**1.73 80**		P	**Pn**	**03 36 37.7**	**-0.2**
GSTD	**Great Sitkin T**	**1.74 79**		P	**Pn**	**03 36 37.7**	**-0.5**
GSTD				S	**Sn**	**03 36 58.5**	**-1.7**
GSTR	**Great Sitkin T**	**1.80 78**		*e*Pn	**Pn**	**03 36 38.4**	**-0.5**
KOWE	**Korovin West**	**2.94 76**		P	**Pn**	**03 36 53.8**	**-0.2**
ATKA	**Atka Island**	**2.95 79**		P	**Pn**	**03 36 54.0**	**0.0**
KOKL	**Mount Kliuchef**	**2.97 77**		P	**Pn**	**03 36 54.8**	**+0.5**
KOFP	**Korovin Flat P**	**3.02 78**		P	**Pn**	**03 36 55.7**	**+0.6

comp=E,4.1nm,0.8s
J04D Umpqua Nationa 38.42 80 P **P 03 43 23.8 +2.1**
baz=303
NEW Newport 38.82 70 P **P 03 43 25.6 +0.8**
comp=E,1.2nm,0.6s,baz=272,slow=9.3,SNR=4.8
NEW Newport 38.82 70 P **P 03 43 25.4 +0.7**
baz=299
J05D Fort Rock, OR 38.94 79 P **P 03 43 26.9 +1.0**
baz=303
M04C Macdoel 39.40 81 P **P 03 43 30.1 +0.3**
baz=305
HLID Hailey 42.91 75 P **P 03 43 59.1 +0.6**
baz=305,SNR=6.2
HLID Hailey 42.91 75 *eP* **P 03 43 59.8 +1.2**
comp=E,2.1nm,0.8s
BOZ Bozeman (W) 43.42 70 P **P 03 44 02.8 +0.2**
baz=304
YHH Holmes Hill 44.33 71 *eP* **P 03 44 10.8 +0.8**
comp=E,3.0nm,0.6s
HVU Hansel Valley 44.92 76 *eP* **P 03 44 15.3 +0.7**
comp=E,4.5nm,0.6s
CWC Cottonwood Cre 44.96 85 P **P 03 44 16.3 +1.3**
baz=310
TPAW Teton Pass 45.01 73 *eP* **P 03 44 15.9 +0.5**
comp=E,1.8nm,0.7s
R11A Troy Canyon, C 45.30 81 P **P 03 44 18.9 +1.2**
baz=309,SNR=6.1
R11A Troy Canyon, C 45.30 81 *eP* **P 03 44 18.5 +0.9**
comp=E,9.4nm,1.8s
FURC Furnace Creek, 45.70 84 P **P 03 44 21.3 +0.7**
baz=310
TPNV Topopah Spring 45.77 83 P **P 03 44 22.7 +1.3**
baz=310,SNR=5.5
TPNV Topopah Spring 45.77 83 *eP* **P 03 44 22.1 +0.7**
comp=E,11nm,1.4s
DUG Dugway, Tooele 45.85 77 P **P 03 44 23.1 +1.1**
baz=308,SNR=8.7
DUG Dugway, Tooele 45.85 77 *eP* **P 03 44 23.4 +1.4**
comp=E,5.6nm,0.8s
BW06 Boulder Array 46.26 73 P **P 03 44 25.7 +0.4**
baz=306,SNR=8.3
BW06 Boulder Array 46.26 73 *eP* **P 03 44 24.9 -0.4**
comp=E,3.7nm,0.7s
PD31 Pinedale Array 46.26 73 *eP* **P 03 44 25.4 +0.2**
PDAR Pinedale Array 46.26 73 P **P 03 44 25.6 +0.3**
comp=E,3.1nm,0.5s,baz=318,slow=3.0,SNR=46
PDAR ScP **ScP 03 49 41.4 -2.4**
comp=E,0.6nm,0.9s,baz=286,slow=4.4,SNR=3.6
SONM Songino Array 46.42 296 P **P 03 44 26.0 -0.3**
comp=E,0.2nm,0.5s,baz=63,slow=6.8,SNR=4.3
SONM PcP **PcP 03 46 00.5 +0.9**
comp=E,0.5nm,0.6s,baz=96,slow=1.7,SNR=4.1
JLU Jordanelle 46.43 76 *eP* **P 03 44 28.3 +1.7**
comp=E,3.8nm,0.9s
NLU North Lily Min 46.45 77 *eP* **P 03 44 28.1 +1.4**
comp=E,3.4nm,0.9s
GSC Goldstone, Bar 46.49 85 P **P 03 44 28.2 +1.3**
baz=311
HEC Hector,Ludlow 47.09 86 P **P 03 44 33.3 +1.7**
baz=311
TMUT Trail Mountain 47.38 77 *eP* **P 03 44 35.8 +1.7**
comp=E,7.2nm,0.8s
HHC Hu-ho-hao-te 47.52 286 *eP* **P 03 44 34.0 -0.9**
HHC PP **PP 03 46 25.5 -1.3**
HHC S **S 03 51 20.2 -2.5**
HHC sS sS 03 51 52.5 -8.4
HHC Hu-ho-hao-te 47.52 286 SS SS 03 54 41.7 -10
HHC pmax pmax
comp=Z,34nm,1.1s
HHC LR LR
comp=N,180nm,15.5s
HHC LR LR
comp=E,170nm,14.9s
HHC LR LR
comp=Z,71nm,15.7s
GMRC Granite Mounta 47.54 85 P **P 03 44 36.6 +1.4**
baz=311
LCMT Little Creek M 47.58 81 *eP* **P 03 44 38.4 +2.9**
comp=Z,2.5nm,0.8s
SRU San Rafael Swe 47.91 77 *eP* **P 03 44 40.3 +2.2**
comp=Z,5.8nm,0.7s
K22A Casper 48.12 71 P **P 03 44 39.0 -0.6**
baz=307
U15A North Rim 48.54 81 *eP* **P 03 44 44.5 +1.5**
comp=Z,3.8nm,0.6s
O20A White River Ci 48.65 75 P **P 03 44 43.7 0.0**
baz=309,SNR=7.3
O20A White River Ci 48.65 75 *eP* **P 03 44 44.5 +0.7**
comp=Z,9.9nm,0.6s
NJ2 Nanjing 48.73 271 *eP* **P 03 44 42.3 -1.9**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PV09 Paradox Valley 49.14 77 *eP* **P 03 44 48.7 +1.0**
PV10 Paradox Valley 49.28 77 *eP* **P 03 44 50.0 +1.4**
PV04 Paradox Valley 49.35 77 *eP* **P 03 44 49.7 +0.6**
WUAZ Wupatki 49.70 81 P **P 03 44 53.0 +1.3**
baz=311
PV01 Paradox Valley 49.72 77 *eP* **P 03 44 52.9 +1.0**
SPITS Spitsbergen Ar 50.00 356 P **P 03 44 53.1 -0.1**
comp=Z,6.2nm,0.6s,baz=51,slow=6.6,SNR=11
C31A Landman Farms, 50.01 60 P **P 03 44 56.1 +2.4**
baz=307
SMCO Snowmass 50.01 75 *eP* **P 03 44 55.3 +0.9**
comp=Z,12nm,1.6s
MVCO Mesa Verde 50.35 78 P **P 03 44 57.8 +1.1**
baz=311
ISCO Idaho Springs 50.43 73 P **P 03 44 58.0 +0.7**
baz=310
S22A 4UR Ranch, Cre 51.02 76 P **P 03 45 03.1 +1.3**
baz=311
X18A Snowflake 51.23 81 *eP* **P 03 45 05.2 +1.9**
comp=Z,3.7nm,0.6s
SDCO Great Sand Dun 51.82 75 P **P 03 45 08.0 +0.3**
baz=311,SNR=5.7
SDCO Great Sand Dun 51.82 75 *eP* **P 03 45 08.8 +1.0**
comp=Z,17nm,1.9s
TUC Tucson 52.21 84 P **P 03 45 10.8 +0.3**
baz=313
T25A Trinidad 52.87 75 P **P 03 45 15.6 +0.1**
baz=312
ANMO Albuquerque 53.09 78 P **P 03 45 17.5 +0.4**
baz=312
LZH Lanzhou 55.21 286 *eP* **P 03 45 30.0 -2.5**
LZH pP pP 03 45 46.0 -9.2
LZH sP sP 03 45 53.1 -12
LZH PP **PP 03 47 35.2 -1.3**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,52nm,6.2s
LZH LR LR
comp=N,190nm,14.8s
LZH LR LR
comp=E,160nm,15.2s
LZH LR LR
comp=Z,230nm,18.5s
MNTX Cornudas Mount 55.96 81 P **P 03 45 38.0 +0.4**
baz=314
MNTX Cornudas Mount 55.96 81 *eP* **P 03 45 38.6 +1.0**
comp=Z,3.0nm,0.8s
MSTX Muleshoe 55.98 77 P **P 03 45 38.2 +0.2**
baz=313
MSTX Muleshoe 55.98 77 *eP* **P 03 45 39.8 +1.9**
comp=Z,14nm,1.4s
T34A McClaskey Farm 57.23 70 P **P 03 45 46.1 -0.5**
baz=313
ARCES ARCESS Array B 57.71 350 P **P 03 45 49.3 -0.1**
comp=Z,3.9nm,0.9s,baz=19,slow=7.8,SNR=5.8
WMOK Wichita Mounta 57.85 73 P **P 03 45 51.5 +0.5**
baz=314
WMOK Wichita Mounta 57.85 73 *eP* **P 03 45 52.0 +0.9**
comp=Z,3.2nm,0.8s
Q39A Willow Grove F 58.28 66 P **P 03 45 52.4 -1.5**
baz=313
TX31 Lajitas Ar. Si 58.67 81 *eP* **P 03 45 57.7 +0.9**
TXAR Lajitas Array 58.67 81 P **P 03 45 57.7 +0.8**
comp=Z,2.2nm,0.6s,baz=304,slow=4.8,SNR=44
W35A Tecumseh 58.70 72 P **P 03 45 57.2 +0.4**
baz=314,SNR=5.0
ABTX Abilene, Hawle 58.80 76 P **P 03 45 58.9 +1.2**
baz=315
ABTX Abilene, Hawle 58.80 76 *eP* **P 03 45 59.3 +1.6**
comp=Z,8.7nm,0.9s
WMQ Urumqi 59.08 303 P **P 03 46 01.8 +2.3**
WMQ pP pP 03 46 20.2 -2.3
WMQ sP sP 03 46 29.7 -3.1
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.3s
WMQ LR LR
comp=N,220nm,26.1s
WMQ LR LR
comp=E,810nm,28.1s
WMQ LR LR
comp=Z,150nm,22.1s
X35A Drake 59.16 72 P **P 03 46 00.4 +0.4**
baz=314
X36A Centrahoma 59.41 72 P **P 03 46 02.1 +0.3**
baz=314
Y35A Marietta 59.47 73 P **P 03 46 01.9 -0.3**
baz=315
W37B Quinton 59.56 71 P **P 03 46 02.5 -0.3**
baz=314
MKAR Makanchi Array 59.75 308 P **P 03 46 02.9 -1.0**
comp=Z,0.5nm,0.7s,baz=46,slow=8.3,SNR=3.3
Y36A Durant 59.92 72 P **P 03 46 04.9 -0.4**
baz=315
X37A Clayton 59.98 71 P **P 03 46 06.0 +0.3**
baz=315
S41A Jillco Farms, 59.99 66 P **P 03 46 05.2 -0.5**
baz=314
333A Richland Sprin 60.12 76 P **P 03 46 06.4 -0.3**
baz=315
W38A Poteau 60.14 70 P **P 03 46 06.5 -0.3**
baz=315
JCT Junction City 60.22 78 P **P 03 46 07.2 -0.3**
baz=316
X38A Whitesboro 60.24 71 P **P 03 46 07.2 -0.3**
baz=315
Z36A Blue Ridge 60.27 73 P **P 03 46 07.6 -0.1**
baz=315
433A Art 60.45 77 P **P 03 46 09.4 +0.4**
baz=316
334A Lometa 60.56 76 P **P 03 46 10.8 +1.1**
baz=315
WHTX Lake Whitney, 60.56 75 P **P 03 46 10.5 +0.8**
baz=315
WHTX Lake Whitney, 60.56 75 *eP* **P 03 46 10.8 +1.1**
comp=Z,7.6nm,0.6s
V40A Witts Springs 60.62 69 P **P 03 46 09.6 -0.4**
baz=315
X39A Fountain Ranch 60.77 70 P **P 03 46 11.3 +0.3**
baz=315
434A Burnet 60.91 76 P **P 03 46 12.6 +0.5**
baz=316,SNR=7.7
MIAR Mount Ida 61.06 70 P **P 03 46 13.5 +0.5**
baz=315
S44A Carbondale 61.32 65 P **P 03 46 14.8 0.0**
baz=315
336A Riesel 61.36 75 P **P 03 46 14.9 -0.1**
baz=316
138A Matatall Enter 61.50 73 P **P 03 46 15.7 -0.3**
baz=316
832A Faith Ranch, C 61.68 79 P **P 03 46 18.1 +0.8**
baz=316
635A Leesville 62.23 77 P **P 03 46 22.2 +1.3**
baz=316
ARU Arti 62.25 328 *eP* **P 03 46 20.7 +0.1**
comp=Z,1.8nm,0.5s
933A Laredo 62.59 80 P **P 03 46 25.0 +1.7**
baz=317
034A Hebbronville 63.35 80 P **P 03 46 28.9 +0.5**
baz=317
341A Kurthwood 63.59 72 P **P 03 46 30.4 +0.5**
baz=316
Y46A Houston 64.27 67 P **P 03 46 34.0 -0.3**
baz=316
244A Avery, Jackson 64.54 70 P **P 03 46 35.8 -0.3**
baz=317
Y47A UCPARC, Winfie 64.83 67 P **P 03 46 37.7 -0.3**
baz=317
Z47A Carrollton 65.22 67 P **P 03 46 40.2 -0.3**
baz=317
Z48A Northport 65.38 67 P **P 03 46 41.2 -0.3**
baz=317
FINES FINESS Array B 65.41 347 P **P 03 46 40.5 -0.7**
comp=Z,0.6nm,0.4s,baz=5.7,slow=5.4,SNR=9.7
KSH Kashi 68.22 306 *eP* **P 03 47 00.2 +0.5**
KSH pP pP 03 47 18.7 -4.6
KSH PcP **PcP 03 47 27.3 +2.4**
KSH PP **PP 03 49 34.4 +3.6**
KSH PcS 03 51 20.2
KSH S **S 03 55 52.8 +0.1**
KSH sS pS 03 56 21.9 +1.3
KSH ScS **SKSac 03 56 48.0 -1.7**
KSH Kashi 68.22 306 SS SS 04 00 19.4 +3.1
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,56nm,4.0s
KSH LR LR
comp=N,69nm,5.3s
KSH LR LR
comp=E,110nm,4.9s
KSH LR LR
comp=Z,100nm,5.6s
AKASG Malin Array Be 75.17 342 P **P 03 47 40.3 -0.6**
comp=Z,0.6nm,0.3s,baz=18,slow=6.0,SNR=4.4
GERES GERESS Array B 79.21 352 P **P 03 48 03.7 0.0**
comp=Z,0.3nm,0.6s,baz=18,slow=5.6,SNR=6.3
WRA Warramunga Arr 82.23 224 P **P 03 48 20.5 +0.6**
comp=Z,0.7nm,0.8s,baz=31,slow=6.0,SNR=7.4
BRTR Keskin Array B 84.58 335 P **P 03 48 32.1 0.0**
comp=Z,1.1nm,0.7s,baz=36,slow=2.8,SNR=5.1
ASAR Alice Springs 85.71 222 P **P 03 48 39.1 +1.5**
comp=Z,1.1nm,0.8s,baz=24,slow=5.5,SNR=11
STKA Stephens Creek 90.20 213 P **P 03 49 00.3 +1.6**
comp=Z,1.4nm,0.7s,baz=337,slow=1.4,SNR=4.4

MEX 02 03:37:31.9±0.4, 14°.41N×92°.25W, h50km±52km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.59**	**324**	*eP*	Pn	03 37 56.4	-1.3
PCIG				*eS*	Sn	03 38 14.9	-2.1
TGIG		**2.50**	**340**	*eP*	Pn	03 38 09.0	-1.2

ISCJB ***02*** *03:39:58.4±0.9, 22°.06N±0°.09×37°.97E±0°.06, h10km, Error ellipse: s-maj=13.3km s-min=6.7km az=26.5*
HLW ***02*** *03:40:01.6, 22°.05N×37°.89E, h10km±11km, Ml3.3*
SGS ***02*** *03:40:02.8, 22°.07N×38°.22E, h11km*
ISC 02 03:39:58.6±1.3, 22°.13N±0°.09×38°.01E±0°.07, h10km, n8, σ1§25/12, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRJS	**Jabal Farasan**	**1.34**	**70**	S	**Sg**	**03 40 41.3**	**-0.4**
FRJS				P	**Pg**	**03 40 24.7**	**+0.4**
SHMS		**1.70**	**113**	P	**Pb**	**03 40 29.9**	**-0.2**
SHBS		**1.92**	**125**	S	**Sn**	**03 40 53.6**	**-1.9**
SHBS				P	**Pn**	**03 40 32.2**	**+0.8**
FDAS		**2.20**	**97**	P	**Pb**	**03 40 37.7**	**-0.8**
FRAS	**Faraa**	**2.57**	**114**	S	**Sn**	**03 41 12.4**	**+0.5**
FRAS				P	**Pb**	**03 40 42.9**	**-2.0**
HSHL	**Bi'r Shalatayn** baz=295	**2.60**	**293**	P	**Pn**	**03 40 40.9**	**+0.2**
LTHS	**Al Lith**	**2.90**	**129**	S	**Sn**	**03 41 20.6**	**+0.8**
LTHS				P	**Pn**	**03 40 46.5**	**+1.6**
EMRS	**Mersa Alam** baz=318	**4.09**	**315**	P	**Pn**	**03 41 02.2**	**+1.0**

IDC ***02*** *03:53:28.1±9.4, 51°.90N×172°.57W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/34, mbtmp3.7/5, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=163.8km s-min=63.6km az=71.0*
ISCJB ***02*** *03:53:37.5±0.8, 51°.8N±0°.1×171°.62W±0°.06, h50km, mb3.6/4, MS3.1/1, Error ellipse: s-maj=17.8km s-min=3.5km az=167.9*
NEIC ***02*** *03:53:37.8±0.0, 51°.77N×171°.62W, h40km, ML3.4(AEIC), After AEIC.*
ISC 02 03:53:38.1±1.3, 51°.8N±0°.2×171°.64W±0°.05, h50km, n35, σ1§24/33, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.57**	**290**	P	**Pn**	**03 54 05.0**	**+1.3**
KOSE				S	**Sn**	**03 54 24.4**	**+1.5**
KOFP	**Korovin Flat P**	**1.58**	**287**	P	**Pn**	**03 54 04.7**	**+1.0**
ATKA	**Atka Island**	**1.62**	**284**	P	**Pn**	**03 54 04.1**	**-0.1**
ATKA				S	**Sn**	**03 54 23.0**	**-1.0**
KONE	**Korovin Northe**	**1.63**	**291**	P	**Pn**	**03 54 05.4**	**+1.0**
KOKL	**Mount Kliuchef**	**1.66**	**288**	P	**Pn**	**03 54 05.8**	**+1.1**
NIKH	**Nikolski High**	**2.05**	**55**	P	**Pn**	**03 54 10.2**	**+0.1**
NIKH				S	**Sn**	**03 54 32.9**	**-1.6**
OKSP	**Okmok Steeple**	**2.49**	**54**	P	**Pn**	**03 54 17.1**	**+0.9**
OKSO	**Okmok South**	**2.62**	**53**	P	**Pn**	**03 54 18.9**	**+1.1**
OKWE	**Okmok W'ng Wal**	**2.64**	**50**	P	**Pn**	**03 54 19.7**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**2.69**	**53**	P	**Pn**	**03 54 20.6**	**+1.7**
OKNC	**Okmok New Cone**	**2.69**	**51**	P	**Pn**	**03 54 20.2**	**+1.3**
OKNC				S	**Sn**	**03 54 51.5**	**+1.3**
GSTD	**Great Sitkin T**	**2.80**	**276**	P	**Pn**	**03 54 21.0**	**+0.6**
GSCK	**Great Sitkin C**	**2.81**	**275**	P	**Pn**	**03 54 21.3**	**+0.8**
ETKA	**Kagalaska Isla**	**2.96**	**272**	P	**Pn**	**03 54 23.2**	**+0.7**
ADAG	**Mount Adagdak**	**3.08**	**275**	P	**Pn**	**03 54 25.6**	**+1.4**
ADK	**Adak**	**3.13**	**273**	P	**Pn**	**03 54 25.7**	**+0.9**
ADK				S	**Sn**	**03 54 59.5**	**-1.4**
MSOM	**Makushin Julie**	**3.47**	**53**	P	**Pn**	**03 54 30.0**	**+0.5**
MSW	**Makushin Switc**	**3.61**	**53**	P	**Pn**	**03 54 32.2**	**+0.8**
UNV	**Unalaska Valle**	**3.71**	**55**	P	**Pn**	**03 54 33.4**	**+0.6**
TAFP	**Tanaga Falls P**	**3.93**	**273**	P	**Pn**	**03 54 36.4**	**+0.5**
SPIA	**Saint Paul Isl**	**5.42**	**8**	P	**Pn**	**03 54 56.7**	**+0.5**
DT1	**Dutton Round H**	**6.48**	**56**	P	**Pn**	**03 55 11.2**	**+0.4**
SDPT	**Sand Point**	**7.52**	**58**	P	**Pn**	**03 55 24.9**	**0.0**
KDAK	**Kodiak Island** 0.3nm,0.3s,baz=198,slow=4.4,SNR=17	**12.48**	**54**	Pn	Pn	03 56 29.0	-3.8
ILAR	**Eielson Array** 0.2nm,0.3s,baz=230,slow=9.5,SNR=12	**18.19**	**35**	P	**P**	**03 57 43.4**	**-3.0**
DLBC	**Dease Lake** 2.7nm,0.5s,baz=251,slow=7.9,SNR=14	**24.36**	**58**	P	**P**	**03 58 53.1**	**+2.0**
DLBC				LR	LR	04 08 18.0	
	comp=Z,56nm,18.6s,baz=216,slow=36						
INK	**Inuvik** 2.5nm,0.6s,baz=242,slow=7.9,SNR=24	**24.57**	**34**	P	**P**	**03 58 51.0**	**-1.8**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=274,slow=7.4,SNR=5.1	**31.65**	**48**	P	**P**	**03 59 56.5**	**+0.5**
H11N2	**WAKE ISLAND Hy** baz=22,slow=74,SNR=7.2	**36.18**	**216**	T	T	04 39 02.8	
H11N3	**WAKE ISLAND Hy** baz=22,slow=74,SNR=5.1	**36.19**	**216**	T	T	04 39 02.8	
H11N1	**WAKE ISLAND Hy** baz=22	**36.20**	**216**	T	T	04 38 59.9	
H11S1	**WAKE ISLAND Hy** baz=26	**37.38**	**215**	T	T	04 40 35.0	
H11S2	**WAKE ISLAND Hy** baz=26	**37.39**	**215**	T	T	04 40 33.3	
H11S3	**WAKE ISLAND Hy** baz=26	**37.39**	**215**	T	T	04 40 33.3	
PDAR	**Pinedale Array** 0.5nm,0.9s,baz=306,slow=6.1,SNR=3.1	**41.88**	**77**	P	**P**	**04 01 23.8**	**+0.2**

IDC ***02*** *03:53:54.1±9.5, 51°.91N×172°.39W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/34, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=165.4km s-min=63.7km az=71.0*
ISCJB ***02*** *03:54:02.1±1.0, 51°.9N±0°.2×171°.62W±0°.08, h33km, mb3.6/4, Error ellipse: s-maj=23.7km s-min=4.8km az=168.6*
NEIC ***02*** *03:54:03.2±0.0, 51°.94N×171°.65W, h42km, ML3.5(AEIC), After AEIC.*
ISC 02 03:54:03.5±1.7, 52°.1N±0°.4×171°.71W±0°.09, h35km, n19, σ1§51/19, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.53**	**275**	P	**Pn**	**03 54 29.4**	**+1.1**
ATKA				S	**Sn**	**03 54 48.2**	**+1.2**
OKNC	**Okmok New Cone**	**2.57**	**56**	P	Pn	03 54 46.2	+3.5
OKNC				S	Sn	03 55 18.8	+6.1
OKTU	**Okmok Mt. Tuli**	**2.58**	**58**	P	**Pn**	**03 54 45.1**	**+2.3**
GSTD	**Great Sitkin T**	**2.74**	**271**	P	**Pn**	**03 54 46.5**	**+1.5**
GSCK	**Great Sitkin C**	**2.75**	**270**	P	**Pn**	**03 54 46.4**	**+1.4**
ETKA	**Kagalaska Isla**	**2.91**	**267**	P	**Pn**	**03 54 48.4**	**+1.1**
ADK	**Adak**	**3.08**	**268**	P	**Pn**	**03 54 50.9**	**+1.3**
ADK				S	**Sn**	**03 55 25.3**	**+0.1**
MSW	**Makushin Switc**	**3.49**	**57**	P	**Pn**	**03 54 56.9**	**+1.7**
UNV	**Unalaska Valle**	**3.61**	**59**	P	**Pn**	**03 54 58.8**	**+2.0**
TAFP	**Tanaga Falls P**	**3.88**	**270**	P	**Pn**	**03 55 02.0**	**+1.4**
SPIA	**Saint Paul Isl**	**5.17**	**9**	P	Pn	03 55 22.1	+3.9
DT1	**Dutton Round H**	**6.37**	**58**	P	**Pn**	**03 55 36.6**	**+1.8**
SDPT	**Sand Point**	**7.42**	**60**	P	**Pn**	**03 55 50.2**	**+1.1**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=196,slow=7.4,SNR=4.9	**12.37**	**55**	Pn	**Pn**	**03 56 55.2**	**-1.6**
ILAR	**Eielson Array** 0.3nm,0.3s,baz=231,slow=9.6,SNR=10	**18.00**	**36**	P	**P**	**03 58 09.2**	**-1.7**
DLBC	**Dease Lake** 3.7nm,0.5s,baz=260,slow=11,SNR=12	**24.26**	**58**	P	**P**	**03 59 17.6**	**+0.6**
INK	**Inuvik** 3.2nm,0.6s,baz=243,slow=7.5,SNR=18	**24.38**	**34**	P	**P**	**03 59 16.9**	**-1.0**
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=274,slow=7.2,SNR=6.0	**31.50**	**48**	P	**P**	**04 00 20.9**	**-0.7**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=305,slow=3.2,SNR=3.5	**41.87**	**77**	P	**P**	**04 01 49.3**	**-1.0**

ISCJB ***02*** *04:37:59.5±0.4, 33°.86N±0°.04×135°.49E±0°.03, h53km±4km, mb3.4/4, Error ellipse: s-maj=6.1km s-min=4.2km az=161.4*
JMA ***02*** *04:38:00.5, 33°.87N×135°.51E, h49km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs24.00000°, δ89.00000°, λ-23.00000°. NP2: φs115.00000°, δ67.00000°, λ-179.00000°. Principal axes: T Plg15.0000°, Azm72.0000°; N Plg67.0000°, Azm201.0000°; P Plg17.0000°, Azm337.0000°;*
JMA Felt I J1.
NIED ***02*** *04:38:00, 33°.90N×135°.50E, h50km, Mw3.7 Best double couple: M0 3.45000×10^14 NP1: φs108.00000°, δ61.00000°, λ-176.00000°. NP2: φs16.00000°, δ86.00000°, λ-29.00000°.*
IDC ***02*** *04:38:00.9±1.9, 33°.99N×135°.54E, h44km±24km, mb3.3/4, mb1 3.5/8, mb1mx3.3/35, mbtmp3.6/8, ML3.7/4, Error ellipse: s-maj=19.3km s-min=16.1km az=149.0*
ISC 02 04:38:00.6±0.9, 33°.85N±0°.04×135°.51E±0°.03, h47km±7km, n28, σ1§01/37, mb3.4/4, 5C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.13**	**268**	⇑P	**Pn**	**04 38 08.1**	**-0.2**
JWM				S	**Sn**	**04 38 13.5**	**-0.2**
JWZ	**Kozaga**	**0.36**	**152**	⇓P	**Pn**	**04 38 09.9**	**-0.3**
JWZ				S	**Sn**	**04 38 17.1**	**+0.1**
JWY	**Kouya**	**0.37**	**11**	⇓P	**Pn**	**04 38 10.2**	**-0.2**
JWY				S	**Sn**	**04 38 16.9**	**-0.4**
JKN2	**Miekihoku**	**0.74**	**59**	⇑P	**Pn**	**04 38 14.6**	**-0.2**
JKN2				S	**Sn**	**04 38 24.9**	**-0.2**
JAJ2	**Tsuna**	**0.77**	**318**	⇓P	**Pn**	**04 38 14.9**	**-0.3**
JAJ2				S	**Sn**	**04 38 25.4**	**-0.3**
JHE	**Heguri**	**0.81**	**10**	⇓P	**Pn**	**04 38 15.3**	**-0.5**
JHE				S	**Sn**	**04 38 26.2**	**-0.6**
JAI	**Aioi**	**0.88**	**266**	⇑P	**Pn**	**04 38 16.3**	**-0.4**
JAI				S	**Sn**	**04 38 27.9**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.09**	**102**	P	**Pn**	**04 38 19.1**	**-0.1**
TTO1				X		04 38 33.7	
JIE	**Ise**	**1.13**	**61**	⇑P	**Pn**	**04 38 19.8**	**-0.3**
JIE				S	**Sn**	**04 38 33.7**	**-0.8**
TSUJ	**Tsu 2**	**1.14**	**41**	P	**Pn**	**04 38 19.8**	**-0.4**
TSUJ				S	**Sn**	**04 38 34.0**	**-0.7**
JKS	**Kasai**	**1.25**	**334**	⇓P	**Pn**	**04 38 21.3**	**-0.5**
JKS				S	**Sn**	**04 38 36.6**	**-0.9**
TTO2	**TONANKAI O.B.S**	**1.27**	**95**	P	**Pn**	**04 38 21.5**	**-0.2**
TTO2				X		04 38 38.5	
JMN	**Monobe**	**1.36**	**265**	⇑P	**Pn**	**04 38 22.6**	**-0.7**
JMN				S	**Sn**	**04 38 38.8**	**-1.4**
MAT	**Matsushiro**	**3.48**	**39**	P	**Pn**	**04 38 52.2**	**0.0**
MAT				S	**Sn**	**04 39 33.3**	**+1.2**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=208,slow=13,SNR=22	**3.48**	**39**	P	**Pn**	**04 38 52.7**	**+0.4**
MJAR				S	**Sn**	**04 39 29.8**	**-2.4**
JHJ	**Hachijo jima 2** 3.2nm,0.3s,baz=219,slow=16,SNR=6.8	**3.65**	**100**	P	**Pn**	**04 38 54.3**	**-0.2**
JHJ				S	**Sn**	**04 39 33.0**	**-3.3**
JNU	**Nakatsue** 17nm,0.3s,baz=92,slow=22,SNR=7.0	**3.94**	**261**	P	**Pn**	**04 38 58.4**	**-0.2**
	35nm,0.3s,baz=236,slow=24,SNR=6.5						
	15nm,0.3s,baz=67,slow=2.2,SNR=141						

JNU				S	Sn	04 39 42.2	-1.4
	3.2nm,0.3s,baz=153,slow=17,SNR=5.6						
KSRS	**Korea Array**	**7.14**	**302**	P	**Pn**	**04 39 43.5**	**+1.0**
	0.5nm,0.3s,baz=120,slow=14,SNR=4.7						
SONM	**Songino Array**	**25.90**	**311**	P	**P**	**04 43 27.2**	**-1.0**
	1.1nm,0.6s,baz=125,slow=11,SNR=4.9						
H11N2	**WAKE ISLAND Hy 31.21**	**109**		T	T	05 16 50.5	
	baz=303,slow=74,SNR=8.8						
H11N1	**WAKE ISLAND Hy 31.21**	**109**		T	T	05 16 46.5	
	baz=303						
H11N3	**WAKE ISLAND Hy 31.23**	**109**		T	T	05 16 51.7	
	baz=303,slow=74,SNR=6.4						
H11S3	**WAKE ISLAND Hy 31.73**	**111**		T	T	05 17 32.7	
	baz=305,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 31.74**	**111**		T	T	05 17 30.0	
	baz=305,slow=75,SNR=9.6						
H11S2	**WAKE ISLAND Hy 31.75**	**111**		T	T	05 17 29.7	
	baz=305,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**41.82**	**304**	P	**P**	**04 45 46.0**	**+0.2**
	1.2nm,0.6s,baz=95,slow=9.6,SNR=9.8						
WRA	**Warramunga Arr**	**53.51**	**181**	P	**P**	**04 47 17.4**	**+1.0**
	0.2nm,0.7s,baz=353,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**57.22**	**182**	P	**P**	**04 47 45.3**	**+2.2**
	0.1nm,0.4s,baz=9.2,slow=12,SNR=3.1						

MEX 02 04:48:35.9±0.6, 16°.62N×94°.67W, h157km±32km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.49**	**84**	*e*P	Pn	04 49 03.8	-2.2
TGIG				*e*S	Sn	04 49 27.5	-1.5
PCIG		**1.67**	**123**	*e*P	Pn	04 49 06.8	-1.0
PCIG				*i* S	Sn	04 49 30.1	-2.1
VHO	**Vista Hermosa**	**2.02**	**283**	*e*P	Pn	04 49 11.1	-0.9
VHO				*i* S	Sn	04 49 37.2	-2.5
PNIG	**Pinotepa**	**3.32**	**267**	*e*P	Pn	04 49 26.3	-1.3
PNIG				*i* S	Sn	04 50 05.0	-2.8

*CSEM **02** 04:51:54.9, 39°.50N×29°.82W, h10km, ML3.1*
PDA 02 04:51:54.9±1.2, 39°.50N×29°.82W, h10km, MD3.6, ML3.1, Error ellipse: s-maj=11.1km s-min=2.9km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.02**	**281**	*e*S	Sg	04 52 22.4	-5.4
H07S1	**FLORES T-PHASE**	**1.08**	**264**	*e*S	Sg	04 52 23.4	-6.2
PCED	**Cedros**	**1.23**	**134**	*e*S	Sb	04 52 27.1	-7.0
PCED				A	A	04 52 29.4	
	188nm,0.3s						
PCED	**Cedros**	**1.23**	**134**	*e*S	Sb	04 52 27.1	-7.0
CALA	**Caldeira**	**1.26**	**136**	*e*S	Sb	04 52 28.4	-6.8
CALA	**Caldeira**	**1.26**	**136**	*e*S	Sb	04 52 28.4	-6.8
HOR	**Horta**	**1.34**	**136**	*e*P	Pn	04 52 15.3	-4.4
HOR				*e*S	Sb	04 52 30.0	-7.3
HOR				A	A	04 52 31.1	
	232nm,0.2s						
HOR	**Horta**	**1.34**	**136**	*e*P	Pn	04 52 15.3	-4.4
HOR				*e*S	Sb	04 52 30.0	-7.3
ROSA	**Rosais**	**1.46**	**122**	*e*S	Sn	04 52 32.7	-7.7
ROSA				A	A	04 52 35.3	
	49nm,0.3s						
ROSA	**Rosais**	**1.46**	**122**	*e*S	Sn	04 52 32.7	-7.7
PCAN	**Candelaria**	**1.47**	**134**	*e*P	Pn	04 52 17.1	-4.3
PCAN				*e*S	Sn	04 52 33.1	-7.6
PCAN				A	A	04 52 36.3	
	167nm,0.3s						
PCAN	**Candelaria**	**1.47**	**134**	*e*P	Pn	04 52 17.1	-4.3
PCAN				*e*S	Sn	04 52 33.1	-7.6
PICO	**Pico**	**1.47**	**132**	*e*P	Pn	04 52 17.4	-4.2
PICO				*e*S	Sn	04 52 33.7	-7.2
PICO				A	A	04 52 35.9	
	241nm,0.2s						
PICO	**Pico**	**1.47**	**132**	*e*P	Pn	04 52 17.4	-4.2
PICO				*e*S	Sn	04 52 33.7	-7.2
PGRA	**Graciosa**	**1.50**	**107**	*e*S	Sn	04 52 33.7	-7.9
PGRA				A	A	04 52 33.9	
	61nm,0.4s						
PGRA	**Graciosa**	**1.50**	**107**	*e*S	Sn	04 52 33.7	-7.9
PMAN	**Manadas**	**1.60**	**122**	*e*S	Sn	04 52 36.2	-7.8
PMAN				A	A	04 52 43.8	
	75nm,0.3s						
PMAN	**Manadas**	**1.60**	**122**	*e*S	Sn	04 52 36.2	-7.8

*NIED **02** 04:53:00, 23°.80N×122°.50E, h14km, Mw4.2 Best double couple: M0=1.92000×10^15 NP1:φ=279.00000°, δ=25.00000°, λ=112.00000°. NP2:φ=75.00000°, δ=67.00000°, λ=80.00000°.*
*IDC **02** 04:53:42.9±0.7, 23°.90N×122°.67E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/41, mbtmp3.9/15, MS3.2/7, Ms1 3.2/7, ms1mx2.9/42, Error ellipse: s-maj=28.1km s-min=16.0km az=60.0*
*ISCJB **02** 04:53:45.5±0.4, 23°.75N±0°.02×122°.56E±0°.02, h20km±3km, mb3.9/18, MS3.0/6, Error ellipse: s-maj=3.3km s-min=2.3km az=156.4*
*JMA **02** 04:53:45.9±0.1, 23°.78N×122°.49E, h23km, M3.8*
*NEIC **02** 04:53:45.0±1.0, 23°.79N×122°.53E, h15km±6km, mb4.2/5, Error ellipse: s-maj=7.0km s-min=5.5km az=152.0*
*TAP **02** 04:53:46.5, 23°.80N×122°.52E, h25km±1km, ML4.3, C*
ISC 02 04:53:42.4±1.2, 23°.70N±0°.02×122°.54E±0°.02, h1km±8km, n116, σ1°01/164, mb4.0/18, MS3.0/6, 17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.83**	**26**	P	**Pn**	**04 54 00.7**	**-0.6**
JYNG				S	**Sb**	**04 54 10.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.87**	**30**	P	**Pn**	**04 54 01.4**	**-0.4**
YOJ				*e*S	**Sb**	**04 54 11.7**	**-0.8**
YOJ	**Yonaguni jima**	**0.87**	**30**	*e*Pg	**Pn**	**04 54 01.1**	**-0.7**
HWA	**Hwalien**	**0.90**	**288**	*e*P	**Pn**	**04 54 02.1**	**-0.1**
	baz=268						
HWA				*e*S	**Sb**	**04 54 12.8**	**-0.5**
	baz=268						
TEGC	**Jichi Village**	**0.92**	**271**	*e*P	**Pn**	**04 54 02.6**	**+0.2**
	baz=264						
TWD	**Chiawan**	**0.94**	**294**	⇓*i*P	**Pn**	**04 54 02.4**	**-0.4**
	baz=275						
TWD				S	**Sb**	**04 54 14.2**	**-0.4**
	baz=275						
NACB	**Ninganchiao**	**0.98**	**299**	*e*Pg	**Pn**	**04 54 02.8**	**-0.6**
ESL	**Shilin**	**1.02**	**277**	⇓*i*P	**Pn**	**04 54 03.4**	**-0.5**
	baz=269						
ESL				*e*S	**Sg**	**04 54 15.3**	**+0.1**
	baz=269						
ENA	**Nanau**	**1.03**	**315**	P	**Pn**	**04 54 04.1**	**+0.1**
	baz=311						
TWC	**Suao**	**1.10**	**325**	⇓*i*P	**Pn**	**04 54 04.9**	**-0.1**
	baz=321						
TWC				S	**Sn**	**04 54 19.6**	**-1.3**
	baz=321						
EHY	**Hungye**	**1.14**	**260**	*i* P	**Pn**	**04 54 06.0**	**+0.5**
	baz=254						
EHY				*e*S	**Sb**	**04 54 19.4**	**-0.7**
	baz=254						
YULB	**Yu-li**	**1.18**	**255**	*e*Pn	**Pn**	**04 54 06.7**	**+0.6**
YULB				*e*Sg	**Sn**	**04 54 22.6**	**-0.3**
TWF1	**Yuli**	**1.19**	**253**	⇓*i*P	**Pn**	**04 54 07.0**	**+0.7**
	baz=247						
TWF1				*e*S	**Sn**	**04 54 22.0**	**-1.1**
	baz=247						
HATJ	**Hateruma jima**	**1.21**	**73**	P	**Pn**	**04 54 08.2**	**+1.7**
HATJ				*e*S	**Sn**	**04 54 23.7**	**+0.1**
CHKT	**Chengkung**	**1.23**	**241**	P	**Pn**	**04 54 07.2**	**+0.3**
	baz=236						
CHKT				*e*S	**Sg**	**04 54 21.6**	**-0.5**
	baz=236						
WHF	**Hehuan Shan**	**1.25**	**291**	*e*P	**Pn**	**04 54 07.4**	**0.0**
	baz=272						
WHF				*e*S	**Sg**	**04 54 22.4**	**-0.2**
	baz=272						
IRIF	**Iriomote-Funau**	**1.26**	**60**	P	**Pb**	**04 54 08.5**	**+1.6**
ILA	**Ilan**	**1.28**	**326**	P	**Pb**	**04 54 08.5**	**+1.1**
	baz=322						
ILA				*e*S	**Sn**	**04 54 24.6**	**-0.7**
	baz=322						
ENTT	**Nioudou**	**1.29**	**317**	P	**Pb**	**04 54 08.1**	**+0.6**
	baz=297						
ENTT				*e*S	**Sn**	**04 54 26.0**	**+0.4**
	baz=297						
TWE	**Neicheng**	**1.29**	**322**	⇓*i*P	**Pg**	**04 54 08.5**	**+1.4**
	baz=318						
TWE				S	**Sn**	**04 54 24.6**	**-1.0**
	baz=318						
NNS	**Nan Shan**	**1.30**	**305**	⇓P	**Pb**	**04 54 08.2**	**+0.6**
	baz=289						
NNS				*e*S	**Sb**	**04 54 23.8**	**-1.1**
	baz=289						
TWT	**Tachien**	**1.36**	**294**	⇓*i*P	**Pg**	**04 54 09.7**	**+1.2**
	baz=277						
TWT				*e*S	**Sn**	**04 54 26.2**	**-1.4**
	baz=277						
TWB1	**Santiao Chiao**	**1.40**	**339**	P	**Pb**	**04 54 08.8**	**-0.4**
	baz=353						
TWB1				*e*S	**Sg**	**04 54 27.1**	**-0.2**
	baz=353						
YHNB	**Yeheng**	**1.44**	**312**	*e*Pn	**Pg**	**04 54 10.1**	**+0.2**
JKRS	**Kuro-shima**	**1.45**	**68**	P	**Pg**	**04 54 11.3**	**+1.2**
NSK	**Sanguang**	**1.45**	**312**	⇓*i*P	**Pg**	**04 54 10.7**	**+0.4**
	baz=293						
NSK				*e*S	**Sg**	**04 54 29.4**	**+0.3**
	baz=293						
SSLB	**Suanglung**	**1.46**	**274**	*e*Pn	**Pg**	**04 54 10.4**	**0.0**
SSLB				*e*Sn	**Sb**	**04 54 27.9**	**-1.5**
YUS	**Yu-Shan**	**1.47**	**262**	⇓P	**Pg**	**04 54 11.9**	**+1.3**
	baz=255						
YUS				*e*S	**Sg**	**04 54 29.3**	**-0.4**
	baz=255						
ELDTW	**Lidau**	**1.49**	**250**	*e*P	**Pg**	**04 54 11.3**	**+0.4**
	baz=246						
SMLT	**Sun Moon Lake**	**1.51**	**277**	⇓*i*P	**Pg**	**04 54 12.0**	**+0.6**
	baz=271						
SMLT				S	**Sb**	**04 54 30.2**	**-0.9**
	baz=271						
NWF	**Wu-fen Shan**	**1.53**	**333**	⇓*i*P	**Pg**	**04 54 11.6**	**-0.1**
	baz=327						
NWF				*e*S	**Sg**	**04 54 31.7**	**+0.1**
	baz=327						
TWA	**Mucha**	**1.54**	**326**	P	**Pg**	**04 54 12.7**	**+0.7**
	baz=320						
TWA				*e*S	**Sg**	**04 54 32.0**	**-0.1**
	baz=320						
TYC	**Yuchr**	**1.56**	**278**	⇓*i*P	**Pg**	**04 54 12.5**	**+0.3**
	baz=272						
TYC				*e*S	**Sb**	**04 54 31.1**	**-1.1**
	baz=272						
TATO	**Taipei**	**1.59**	**323**	*e*Pn	**Pg**	**04 54 12.6**	**-0.3**
TATO				*e*Sn	**Sn**	**04 54 31.5**	**-1.4**
ALS	**Alishan**	**1.60**	**264**	⇓*i*P	**Pg**	**04 54 14.0**	**+0.9**
	baz=257						
ALS				*e*S	**Sg**	**04 54 33.5**	**-0.4**
	baz=257						
JIJ	**Ishigaki jima**	**1.61**	**65**	P	**Pb**	**04 54 12.9**	**0.0**
TWG	**Pinlang**	**1.61**	**237**	*e*P	**Pg**	**04 54 13.1**	**-0.2**
	baz=223						
TWG				*e*S	**Sn**	**04 54 31.9**	**-1.6**
	baz=223						
TWG	**Pinlang**	**1.61**	**237**	*e*Pn	**Pb**	**04 54 12.5**	**-0.4**
TWG				*e*Sn	**Sn**	**04 54 32.0**	**-1.4**
TAP1	**Taipei**	**1.62**	**325**	*e*P	**Pg**	**04 54 13.1**	**-0.4**
	baz=321						
TAP	**Taipei**	**1.63**	**325**	*e*P	**Pg**	**04 54 13.6**	**-0.1**
	baz=321						
NSTT	**Nanjuang**	**1.68**	**304**	P	**Pg**	**04 54 15.1**	**+0.4**
	baz=286						
NSTT				S	**Sb**	**04 54 35.5**	**-0.4**
	baz=286						
WNT	**Mingjian**	**1.71**	**276**	*e*P	**Pg**	**04 54 15.7**	**+0.6**
	baz=269						
WNT				*e*S	**Sg**	**04 54 36.7**	**-0.7**
	baz=269						
CHN5	**Tsauling**	**1.71**	**267**	⇓*i*P	**Pg**	**04 54 15.8**	**+0.6**
	baz=261						
CHN5				*e*S	**Sb**	**04 54 36.1**	**-0.7**
	baz=261						
STYT	**Tauyuan**	**1.72**	**252**	*e*P	**Pg**	**04 54 15.4**	**0.0**
	baz=247						
STYT				*e*S	**Sb**	**04 54 36.2**	**-0.9**
	baz=247						
TWS1	**Kuangyinshan**	**1.73**	**324**	*e*P	**Pg**	**04 54 15.1**	**-0.4**
	baz=319						
TWS1				*e*S	**Sg**	**04 54 39.5**	**+1.5**
	baz=319						
TWQ1	**Liyutan**	**1.74**	**292**	P	**Pg**	**04 54 16.4**	**+0.6**
	baz=286						
TWQ1				*e*S	**Sg**	**04 54 37.8**	**-0.6**
	baz=286						
TCU	**Taichung**	**1.76**	**285**	⇓*i*P	**Pg**	**04 54 16.7**	**+0.5**
	baz=278						
TCU				*e*S	**Sg**	**04 54 38.8**	**-0.3**
	baz=278						
NCU	**National Centr**	**1.77**	**316**	*e*P	**Pb**	**04 54 15.5**	**-0.1**
	baz=308						
NCU				*e*S	**Sb**	**04 54 37.2**	**-1.1**
	baz=308						
NSY	**Sanyi**	**1.77**	**294**	*e*P	**Pg**	**04 54 16.7**	**+0.3**
	baz=286						
NSY				*e*S	**Sn**	**04 54 36.6**	**-1.0**
	baz=286						
TWY	**Chenhua**	**1.79**	**332**	*e*P	**Pg**	**04 54 15.9**	**-0.7**
	baz=328						
TPUB	**Ta-pu**	**1.80**	**258**	*e*Pn	**Pg**	**04 54 17.0**	**+0.1**
TPUB				*e*Sn	**Sb**	**04 54 38.4**	**-0.9**
HSN	**Hsinchu**	**1.81**	**308**	*e*P	**Pb**	**04 54 15.9**	**-0.4**
	baz=304						
WGK	**Gukeng**	**1.81**	**270**	*e*P	**Pg**	**04 54 17.2**	**0.0**
	baz=263						
WGK				S	**Sb**	**04 54 39.4**	**-0.3**
	baz=263						
CHN4	**Tsaushan**	**1.82**	**259**	⇓*i*P	**Pg**	**04 54 17.8**	**+0.5**
	baz=253						
CHN4				S	**Sg**	**04 54 41.0**	**+0.1**
	baz=253						
WTP	**Ta-pu**	**1.83**	**256**	⇓*i*P	**Pg**	**04 54 17.6**	**+0.2**
	baz=250						
WTP				*e*S	**Sg**	**04 54 40.7**	**-0.4**
	baz=250						
ECL	**Taimali**	**1.83**	**233**	*e*P	**Pb**	**04 54 15.4**	**-1.3**
	baz=242						
JISG	**Ishigakijimahi**	**1.84**	**61**	P	**Pb**	**04 54 16.4**	**-0.5**
LAY	**Lan-yu**	**1.89**	**209**	*e*P	**Pn**	**04 54 15.8**	**0.0**
	baz=208						
SGST	**Jiashian**	**1.90**	**251**	*e*P	**Pg**	**04 54 18.9**	**+0.1**
	baz=246						
SGST				*e*S	**Sg**	**04 54 42.7**	**-0.8**
	baz=246						
CHN2	**Minshiung**	**1.90**	**265**	*e*P	**Pg**	**04 54 18.5**	**-0.3**
	baz=259						
CHN2				*e*S	**Sg**	**04 54 42.5**	**-1.0**
	baz=259						
CHN1	**Nanshi**	**1.92**	**255**	P	**Pg**	**04 54 19.3**	**+0.1**
	baz=249						
CHN1				*e*S	**Sg**	**04 54 43.1**	**-0.9**
	baz=249						
TWK	**Hsinying**	**1.93**	**257**	*e*P	**Pg**	**04 54 19.4**	**-0.1**
	baz=251						
TWK				S	**Sg**	**04 54 43.5**	**-1.1**
	baz=251						
CHY	**Chiayi**	**1.95**	**264**	*e*P	**Pg**	**04 54 19.2**	**-0.6**
	baz=258						
CHY				*e*S	**Sg**	**04 54 44.5**	**-0.7**
	baz=258						
PCYT	**Pengchaiyu**	**1.97**	**348**	*e*P	**Pb**	**04 54 17.7**	**-1.3**
	baz=345						
SSD	**Sandimen**	**2.00**	**242**	*e*P	**Pg**	**04 54 20.8**	**+0.1**
	baz=231						
TAW	**Tawu**	**2.02**	**229**	*e*P	**Pg**	**04 54 20.3**	**-0.9**
	baz=237						
EAST	**Anshuo**	**2.04**	**230**	*e*P	**Pb**	**04 54 19.1**	**-1.1**
	baz=237						
WTCT	**Ta-ch'eng**	**2.08**	**275**	*e*P	**Pg**	**04 54 21.4**	**-0.8**
	baz=267						
WTCT				*e*S	**Sb**	**04 54 47.0**	**-0.2**
	baz=267						
CHN3	**Shinhua**	**2.09**	**253**	*e*P	**Pg**	**04 54 22.9**	**+0.4**
	baz=247						
CHN3				*e*S	**Sb**	**04 54 47.8**	**+0.1**
	baz=247						
SGLT	**Jiouru**	**2.12**	**243**	*e*P	**Pb**	**04 54 21.8**	**+0.2**
	baz=235						
SGLT				*e*S	**Sg**	**04 54 50.3**	**-0.3**
	baz=235						
WSF	**Szhu**	**2.13**	**269**	*e*P	**Pb**	**04 54 21.8**	**+0.1**
	baz=261						
WSF				*e*S	**Sb**	**04 54 47.8**	**-0.8**
	baz=261						
TWM1	**Shoushan**	**2.13**	**246**	*e*P	**Pg**	**04 54 24.1**	**+0.8**
	baz=243						
CHN8	**Yiju**	**2.17**	**261**	*e*P	**Pb**	**04 54 22.6**	**+0.2**
	baz=254						
CHN8				*e*S	**Sb**	**04 54 49.3**	**-0.6**
	baz=254						
JTJ	**Tarama**	**2.18**	**64**	P	**Pb**	**04 54 22.2**	**-0.5**
SCZT	**Fangliau**	**2.21**	**234**	*e*P	**Pg**	**04 54 23.6**	**-1.1**
	baz=224						
SCLT	**Jiali**	**2.22**	**257**	*e*P	**Pb**	**04 54 23.1**	**-0.2**
	baz=250						
SCLT				S	**Sb**	**04 54 50.2**	**-1.1**
	baz=250						
TAI1	**Yung-k'ang**	**2.23**	**253**	*e*P	**Pb**	**04 54 23.5**	**+0.1**
	baz=247						
TAI1				*e*S	**Sb**	**04 54 51.4**	**-0.1**
	baz=247						
KAU	**Kaohsiung**	**2.34**	**242**	*e*P	**Pb**	**04 54 25.4**	**0.0**
	baz=237						
KAU				*e*S	**Sb**	**04 54 54.8**	**-0.1**
	baz=237						
TWK1	**Hengchun**	**2.37**	**223**	*e*P	**Pb**	**04 54 24.6**	**-1.4**
	baz=221						
TWP	**Hsiaoliuchiu**	**2.42**	**237**	*e*P	**Pg**	**04 54 30.1**	**+1.4**
	baz=229						
JIRB	**Irabujima**	**2.65**	**64**	P	**Pb**	**04 54 28.7**	**-2.0**
WDGT	**Dungji**	**2.68**	**261**	*e*P	**Pb**	**04 54 29.0**	**-2.2**
	baz=254						
WDGT				*e*S	**Sn**	**04 54 59.3**	**-0.6**
	baz=254						
PNG	**Penghu**	**2.74**	**268**	*e*P	**Pb**	**04 54 29.9**	**-2.4**
	baz=250						
PNG				*e*S	**Sn**	**04 55 01.9**	**+0.5**
	baz=250						
KNM	**Kinmen**	**3.82**	**282**	*e*P	**Pn**	**04 54 44.5**	**+2.1**
	baz=275						
JOW	**Kunigami**	**6.05**	**58**	Pn	**Pn**	**04 55 12.8**	**-0.4**
	baz=300,slow=17						
JOW				Sn	**Sn**	**04 56 16.1**	**-7.0**
	baz=173,slow=16,SNR=2.5						
KSAR	**Wonju Array Be**	**14.44**	**17**	Pn	**Pn**	**04 57 08.6**	**+0.6**
KSRS	**Korea Array**	**14.46**	**17**	Pn	**Pn**	**04 57 08.6**	**+0.3**
	0.2nm,0.3s,baz=196,slow=12,SNR=3.0						
KSRS				LR	LR	05 02 40.9	
	comp=Z,120nm,18.4s,baz=169,slow=38						
CMAR	**Chiang Mai Arr**	**22.62**	**261**	LR	LR	05 08 25.2	
	comp=Z,27nm,18.1s,baz=165,slow=39						
GUMO	**Guam**	**23.39**	**112**	LR	LR	05 07 28.5	
	comp=Z,35nm,19.8s,baz=118,slow=35						
KLR	**Kul'dur**	**26.49**	**14**	LR	LR	05 11 07.1	
	comp=Z,10nm,18.8s,baz=277,slow=40						
SONM	**Songino Array**	**27.30**	**336**	P	**P**	**04 59 28.1**	**-0.6**
	1.3nm,0.5s,baz=151,slow=8.9,SNR=8.1						
SONM				LR	LR	05 11 14.8	
	comp=Z,63nm,20.0s,baz=87,slow=39						
MKAR	**Makanchi Array**	**39.55**	**316**	P	**P**	**05 01 15.2**	**+0.2**
	1.9nm,0.4s,baz=105,slow=10,SNR=19						
H11N1	**WAKE ISLAND Hy 41.27**	**87**		T	T	05 45 35.6	
	baz=283						
H11N2	**WAKE ISLAND Hy 41.28**	**87**		T	T	05 45 35.1	
	baz=283						
H11N3	**WAKE ISLAND Hy 41.29**	**87**		T	T	05 45 35.6	
	baz=283						
ZALV	**Zalesovo Beam**	**41.32**	**327**	P	**P**	**05 01 28.3**	**-1.3**
	1.0nm,0.5s,baz=116,slow=8.6,SNR=5.5						
H11S3	**WAKE ISLAND Hy 41.39**	**89**		T	T	05 45 46.8	
	baz=285						
H11S1	**WAKE ISLAND Hy 41.40**	**89**		T	T	05 45 43.3	
	baz=285						
H11S2	**WAKE ISLAND Hy 41.41**	**89**		T	T	05 45 43.5	
	baz=285						
AAK	**Ala-Archa**	**43.78**	**308**	P	**P**	**05 01 50.5**	**+0.6**
	1.9nm,0.5s,baz=124,slow=6.6,SNR=6.8						
AAK	**Ala-Archa**	**43.78**	**308**	*e*P	**P**	**05 01 51.4**	**+1.4**
	2.0nm,0.6s						
WRAB	**Tennant Creek**	**44.87**	**164**	*e*P	**P**	**05 01 59.5**	**+0.9**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**44.88**	**164**	P	**P**	**05 01 59.7**	**+1.0**
	0.5nm,0.8s,baz=344,slow=9.0,SNR=4.2						
KKAR	**Karatay Array**	**46.75**	**308**	*e*P	**P**	**05 02 13.7**	**+0.4**
	2.0nm,0.7s						
ASAR	**Alice Springs**	**48.36**	**166**	P	**P**	**05 02 28.1**	**+2.1**
	0.3nm,0.5s,baz=347,slow=8.0,SNR=5.9						
BVAR	**Borovoye Array**	**48.83**	**321**	P	**P**	**05 02 29.3**	**0.0**
	0.7nm,0.4s,baz=114,slow=6.6,SNR=4.7						
NRIK	**Noril'sk**	**50.19**	**345**	LR	LR	05 25 49.5	
	comp=Z,46nm,19.4s,baz=172,slow=38						
ABKAR	**Akbulak array**	**54.66**	**315**	*e*P	**P**	**05 03 13.4**	**+0.4**
	2.1nm,0.6s						
GEYT	**Alibeck**	**56.11**	**301**	P	**P**	**05 03 25.6**	**+2.0**
	1.8nm,0.6s,baz=116,slow=3.4,SNR=3.5						
STKA	**Stephens Creek**	**58.19**	**161**	P	**P**	**05 03 40.2**	**+2.0**
	1.4nm,0.8s,baz=341,slow=13,SNR=3.1						
ILAR	**Eielson Array**	**69.07**	**27**	P	**P**	**05 04 48.9**	**-0.8**
	0.2nm,0.5s,baz=276,slow=6.2,SNR=5.1						
FINES	**FINESS Array B**	**72.48**	**330**	P	**P**	**05 05 09.7**	**-0.8**
	2.7nm,1.0s,baz=31,slow=4.4,SNR=9.2						
FINES				LR	LR	05 40 18.5	
	comp=Z,36nm,18.6s,baz=90,slow=39						
BRTR	**Keskin Array B**	**74.45**	**307**	P	**P**	**05 05 23.3**	**+0.5**
	1.0nm,0.7s,baz=96,slow=6.2,SNR=5.1						
PSZ	**Piszkesteto**	**80.75**	**318**	*e*P	**P**	**05 05 56.9**	**-0.8**
	2.5nm,0.8s						
YKA	**Yellowknife Ar**	**82.93**	**23**	P	**P**	**05 06 08.2**	**-0.6**
	0.8nm,0.6s,baz=306,slow=5.2,SNR=5.4						
GERES	**GERESS Array B**	**84.00**	**321**	P	**P**	**05 06 14.6**	**-0.1**
	0.5nm,0.7s,baz=52,slow=5.2,SNR=6.9						

*IDC **02** 04:58:31.3±0.9, 0°.46S×125°.56E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/40, mbtmp3.8/9, MS2.8/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=52.3km s-min=17.1km az=77.0*
*ISCJB **02** 04:58:36.3±0.5, 0°.51S±0°.08×125°.6E±0°.1, h57km, mb4.0/12, MS2.7/1, Error ellipse: s-maj=22.1km s-min=9.0km az=158.2*
*NEIC **02** 04:58:36.3±0.4, 0°.48S×125°.68E, h35km, mb4.0/3, Error ellipse: s-maj=15.5km s-min=6.2km az=66.0*
ISC 02 04:58:38.2±0.8, 0°.5S±0°.1×125°.6E±0°.2, h57km, n16, σ0°65/15, mb3.9/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.40**	**305**	*e*Pn	**Pn**	**05 01 17.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**17.46**	**180**	P	**P**	**05 02 38.4**	**0.0**
	baz=355,slow=10						
WRAB	**Tennant Creek**	**21.11**	**157**	*e*P	**P**	**05 03 17.5**	**-0.7**
	8.0nm,1.2s						
WRA	**Warramunga Arr**	**21.11**	**157**	P	**P**	**05 03 17.7**	**-0.6**
	1.4nm,0.5s,baz=334,slow=11,SNR=15						
COEN	**Coen**	**21.94**	**128**	*e*P	**P**	**05 03 26.4**	**-0.8**
	4.0nm,0.9s						
ASAR	**Alice Springs**	**24.38

	comp=Z,5μm,0.2s						
JNE	Jan Mayen East	0.22	270	⇓iP		Pb	05 04 32.1 +0.4
	SNR=97						
JNE				eS		Sb	05 04 36.3 +0.9
	SNR=97						
JNW	Jan Mayen West	0.27	278	⇓iP		Pb	05 04 32.6 +0.2
JNW				eS		Sb	05 04 36.6 0.0
JNW				IAML			05 04 38.3
	comp=Z,7μm,0.2s						
JNW	Jan Mayen West	0.27	278	⇓iP		Pb	05 04 32.6 +0.2
	SNR=96						
JNW				eS		Sb	05 04 36.6 0.0
	SNR=96						
JMIC	Jan Mayen	0.29	269	Pg		Pb	05 04 32.9 +0.1
JMIC				Lg		Lg	05 04 37.8
JMIC	Jan Mayen	0.29	269	⇓iP		Pb	05 04 32.8 +0.1
JMIC				eS		Sb	05 04 37.6 +0.4
JMIC				IAML			05 04 38.3
	comp=Z,3μm,0.3s						
JMIC	Jan Mayen	0.29	269	Pg		Pb	05 04 32.9 +0.1
JMIC				eS		Sb	05 04 37.6 +0.4
	SNR=96						
JMI	Jan Mayen	0.37	260	⇓iP		Pb	05 04 34.5 +0.4
JMI				eS		Sb	05 04 40.6 +1.2
JMI				eS		Sn	05 04 40.8 -2.2
JMI	Jan Mayen	0.37	260	⇓iP		Pb	05 04 34.5 +0.4
	SNR=95						
JMI				eS		Sb	05 04 40.6 +1.2
	SNR=95						
KBS	Kingsbay	9.37	23	Pn		Pn	05 06 39.6 -0.3
KBS	Kingsbay	9.37	23	Pn		Pn	05 06 39.6 -0.3
KBS	Kingsbay	9.37	23	Pn		Pn	05 06 39.6 -0.3
	SNR=50						
SPA0	Spitsbergen Ar	9.52	30	Pn		Pn	05 06 43.2 +1.2
	baz=225,slow=12						
SPA0	Spitsbergen Ar	9.52	30	Pn		Pn	05 06 43.2 +1.2
	baz=225,slow=12						
SPA0	Spitsbergen Ar	9.52	30	Pn		Pn	05 06 43.2 +1.2
	SNR=50						
ARA0	ARCESS Array S	11.20	82	Pn		Pn	05 07 04.4 -0.6
	baz=293,slow=12						
ARA0	ARCESS Array S	11.20	82	Pn		Pn	05 07 04.4 -0.6
	baz=293,slow=12						
ARA0	ARCESS Array S	11.20	82	Pn		Pn	05 07 04.4 -0.6
	SNR=50						

IDC 02 05:04:35.7±5.9, 19°.36N×147°.25E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/45, mbtmp3.6/3, Error ellipse: s-maj=370.8km s-min=36.0km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.05	199	P	P	05 12 21.5	+0.4
	0.3nm,0.6s,baz=20,slow=9.0,SNR=8.9						
ASAR	Alice Springs	44.70	198	P	P	05 12 50.1	-0.6
	0.4nm,0.9s,baz=19,slow=6.0,SNR=3.8						
FINES	FINESS Array B	86.90	336	P	P	05 17 22.2	0.0
	1.2nm,0.9s,baz=57,slow=7.0,SNR=4.0						

*ISCJB **02** 05:06:33.9±0.7, 8°.29N±0°.05×72°.54W±0°.04, h10km, mb3.8/1, MS2.8/1, Error ellipse: s-maj=7.8km s-min=5.6km az=159.0*
*RSNC **02** 05:06:36.3±0.8, 8°.21N×72°.61W, h5km±8km, ML3.3*
*IDC **02** 05:06:37.9±2.9, 8°.41N×72°.53W, h63km±30km, mb3.4/1, mb1 3.7/2, mb1mx3.1/30, mbtmp3.7/2, ML2.5/1, MS2.9/1, Ms1 3.1/1, ms1mx2.3/16, Error ellipse: s-maj=44.7km s-min=17.9km az=144.0*
ISC 02 05:06:33.9±1.0, 8°.33N±0°.05×72°.52W±0°.05, h10km, n14, σ1§58/18, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.80	264	eS	Sg	05 06 58.6	-1.1
OCAC				i		05 07 00.7	
	comp=Z,1μm,0.7s						
BRRC	Barranca, Sant	1.69	224	eP	Pn	05 07 03.9	+0.3
BARC	Barichara	1.84	201	eP	Pn	05 07 04.9	-0.9
BARC				eS	Sn	05 07 28.0	-1.4
BARC				i		05 07 39.5	
	comp=Z,312nm,0.5s						
SDV	Santo Domingo	1.95	73	P	Pn	05 07 07.0	-0.2
	comp=Z,24nm,0.3s,baz=261,slow=13,SNR=81						
SDV				S	Sn	05 07 32.7	+0.9
	comp=Z,56nm,0.3s,baz=358,slow=12,SNR=12						
ZARC	Zaragoza, Cauc	2.46	250	eP	Pn	05 07 13.9	-0.2
ZARC				eS	Sn	05 07 43.8	-0.4
ZARC				i		05 07 52.5	
	comp=Z,201nm,0.5s						
RUSC	La Rusia	2.48	193	eP	Pn	05 07 14.9	+0.1
RUSC				eS	Sn	05 07 44.5	-0.9
RUSC				i		05 07 56.3	
	comp=Z,109nm,0.4s						
SJCC	San Jacinto, C	3.06	301	eP	Pn	05 07 23.6	+1.2
SJCC				i		05 08 21.2	
	comp=Z,100nm,0.8s						
MOTC	Monteria, Cord	3.14	278	eP	Pn	05 07 24.7	+1.2
CHIC	Chingaza	3.87	198	eP	Pn	05 07 34.2	+0.3
CHIC				i		05 07 51.2	
	comp=Z,39nm,0.5s						
ROSC	El Rosal	3.90	207	P	Pn	05 07 37.4	+3.2
	comp=Z,7.4nm,0.3s,baz=137,slow=21,SNR=18						
ROSC				S	Sb	05 08 32.3	+1.8
	comp=Z,5.0nm,0.3s,baz=135,slow=20,SNR=2.6						
LPAZ	La Paz	24.84	170	LR	LR	05 21 26.5	
	comp=Z,29nm,19.6s,baz=98,slow=36						
YKA	Yellowknife Ar	62.07	339	P	P	05 16 51.8	-2.7
	comp=Z,0.6nm,0.8s,baz=128,slow=7.0,SNR=4.7						
ASAR	Alice Springs	150.46	236	PKPbc	PKPdf	05 26 22.7	+1.2
	comp=Z,0.2nm,0.7s,baz=114,slow=3.5,SNR=4.0						
WRA	Warramunga Arr	151.56	243	PKPbc	PKPdf	05 26 25.7	+2.5
	comp=Z,0.5nm,0.6s,baz=106,slow=2.8,SNR=11						

IDC 02 05:11:34.2±66.0, 14°.99S×164°.84E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, Error ellipse: s-maj=1107.0km s-min=108.3km az=65.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.06	228	P	P	05 17 19.3	+0.8
	0.9nm,0.4s,baz=61,slow=10,SNR=4.5						
WRA	Warramunga Arr	29.48	256	P	P	05 17 41.0	+0.7
	0.2nm,0.5s,baz=86,slow=9.1,SNR=3.8						
ASAR	Alice Springs	30.39	249	P	P	05 17 46.9	-1.5
	0.4nm,0.6s,baz=86,slow=8.4,SNR=6.1						

KRSC 02 05:37:29.2±0.9, 55°.05N×162°.68E, h41km±23km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	Krutoberegovo	1.21	1	eP	Pn	05 37 50.7	+1.1
KBG				eS	Sn	05 38 06.3	+1.6
TUMD	Tumrok D	1.32	278	eP	Pn	05 37 51.7	+0.6
TUMD				eS	Sn	05 38 07.9	+0.5
KZV	Kizimen	1.37	274	eP	Pn	05 37 52.9	+0.9
ZLN	Zelenaya	1.44	313	eP	Pn	05 37 54.9	+2.0
ZLN				eS	Sn	05 38 13.1	+2.5
TUMR	Tumrok	1.47	280	eP	Pn	05 37 54.7	+1.4
TUMR				eS	Sn	05 38 12.6	+1.2
BZMR	Bezymyannaya	1.53	306	eP	Pn	05 37 55.2	+1.1
CIRR	Tsirk	1.53	315	eP	Pn	05 37 55.7	+1.6
CIRR				eS	Sn	05 38 14.4	+1.6
LGNR	Loginova	1.53	313	eP	Pn	05 37 56.0	+1.7
LGNR				eS	Sn	05 38 16.0	+2.9
BZWR	Bezymyannyi-We	1.54	307	eP	Pn	05 37 55.9	+1.6
BZWR				S	Sn	05 38 15.7	+2.5
KMNR	Kamenistaya	1.56	298	eP	Pn	05 37 55.9	+1.4
KMNR				eS	Sn	05 38 15.1	+1.5
KIRR	Kirishev	1.61	305	eP	Pn	05 37 57.5	+2.3
KIRR				eS	Sn	05 38 17.8	+3.0
KPT	Kopyto	1.67	304	P	Pn	05 37 57.5	+1.5
KRSR	Krestovskiy	1.67	315	eP	Pn	05 37 57.7	+1.6
KRSR				eS	Sn	05 38 17.7	+1.4
SMKR	Semkarok	1.68	337	eP	Pn	05 37 58.3	+2.2
SMKR				eS	Sn	05 38 19.5	+3.0
KLY	Klyuchi	1.71	319	eP	Pn	05 37 57.2	+0.8
KLY				eS	Sn	05 38 17.2	+0.2
SRKR	Sorokina	1.82	333	eP	Pn	05 38 00.1	+2.1
KOZ	Kozyrevsk	1.89	304	P	Pn	05 38 02.2	+3.3
BKI	Bering	1.90	84	eS	Sn	05 38 24.9	+3.2
KII	Karymskiy	2.14	243	eP	Pn	05 38 04.6	+2.2
ESO	Esso	2.43	293	eP	Pn	05 38 07.5	+1.2
SPN	Mys Shipunski	2.50	220	eP	Pn	05 38 09.0	+1.6
SPN				eS	Sn	05 38 38.2	+1.6
NLC	Nalytchevo	2.72	228	eS	Sn	05 38 45.8	+3.9
SDLR	Sedlovina	2.85	233	eP	Pn	05 38 15.4	+3.2
SDLR				eS	Sn	05 38 49.4	+4.1
KRER	Koryakskii	2.90	234	eP	Pn	05 38 16.7	+3.8
KRER				eS	Sn	05 38 51.3	+4.7
KRX	Arik	2.91	236	eP	Pn	05 38 16.1	+3.0
KRX				eS	Sn	05 38 50.0	+3.2
UGLR	Uglovaya	2.92	232	eP	Pn	05 38 16.6	+3.4
UGLR				eS	Sn	05 38 51.4	+4.3
AVH	Avacha	2.93	234	eP	Pn	05 38 16.8	+3.6
AVH				eS	Sn	05 38 51.6	+4.5
KOK	Koryaka	2.96	235	eP	Pn	05 38 18.3	+4.6
KOK				eS	Sn	05 38 53.7	+5.8
DALK	Dalny	3.07	230	eP	Pn	05 38 18.5	+3.3
DALK				eS	Sn	05 38 54.9	+4.3
GNL	Ganaly	3.08	246	eP	Pn	05 38 18.3	+2.9
PET	Petropavlovsk	3.12	231	eP	Pn	05 38 19.3	+3.5
PET				eS	Sn	05 38 56.1	+4.3
KRMR	Karymshinskiy	3.49	232	eP	Pn	05 38 25.6	+4.7
KRMR				eS	Sn	05 39 06.3	+5.5
RUS	Russkaya	3.60	225	eP	Pn	05 38 26.9	+4.5
RUS				eS	Sn	05 39 08.2	+4.5

IDC 02 05:55:29.4±2.9, 29°.48S×178°.31W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/29, mbtmp4.0/2, Error ellipse: s-maj=107.1km s-min=45.4km az=21.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.90	266	P	P	06 03 29.6	-0.4
	0.6nm,0.4s,baz=104,slow=7.1,SNR=13						
WRA	Warramunga Arr	43.80	271	P	P	06 03 37.4	+0.1
	1.9nm,0.4s,baz=111,slow=7.8,SNR=31						
FINES	FINESS Array B	144.19	340	PKP	PKPdf	06 15 06.4	-0.1
	1.7nm,0.4s,baz=45,slow=3.6,SNR=23						
TORD	Torodi Ar. Bea	163.75	180	PKPab	PKPab	06 16 26.4	-0.6
	0.4nm,0.6s,baz=172,slow=4.1,SNR=6.1						

*ISCJB **02** 06:02:01.2±0.4, 1°.03S±0°.04×99°.70E±0°.04, h70km±4km, mb4.2/13, Error ellipse: s-maj=7.2km s-min=5.0km az=139.9*
*DJA **02** 06:02:01.1±0.4, 1°.S±3°×10°0E±°, h13km±4km, M4.2/13, mb4.2/1, MLv4.2/13*
*NEIC **02** 06:02:03.9±1.4, 0°.98S×99°.86E, h76km±10km, mb4.2/1, Error ellipse: s-maj=20.4km s-min=6.0km az=64.0*
*IDC **02** 06:02:04.0±8.5, 1°.00S×99°.76E, h75km±73km, mb3.9/11, mb1 3.9/12, mb1mx3.5/48, mbtmp4.1/12, ML4.2/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/40, Error ellipse: s-maj=51.1km s-min=13.8km az=59.0*
ISC 02 06:02:01.9±0.9, 1°.00S±0°.04×99°.70E±0°.04, h56km±9km, n42, σ1§79/45, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.69	242	P	Pn	06 02 15.1	-0.7
SISI				S	Sn	06 02 25.5	-0.5
PDSI	Padang	0.77	83	P	Pn	06 02 17.0	+0.2
PDSI				S	Sn	06 02 28.0	+0.3
PBSI	Pulau Batu	1.70	303	P	Pn	06 02 30.3	+1.0
PBSI				S	Sn	06 02 52.1	+2.2
SDSI	Sungai Dareh	1.73	88	P	Pn	06 02 31.2	+1.5
SDSI				S	Sn	06 02 44.3	-6.4
PPSI	Pulau Pagai	1.78	170	P	Pn	06 02 30.8	+0.4
PPSI				S	Sn	06 03 03.5	+12
MNSI	Mandailing Nat	1.79	356	P	Pn	06 02 31.3	+0.8
MNSI				S	Sn	06 02 53.1	+1.0
BKNI	Bangkinang	1.88	46	P	Pn	06 02 32.5	+0.8
BKNI	Bangkinang	1.88	46	ePn	Pn	06 02 32.4	+0.6
RGRI	Rengat	2.71	76	P	Pn	06 02 44.7	+1.6
GSI	Gunungsitoli	3.12	317	P	Pn	06 02 49.0	+0.3
MASI	Maura Aman, Be	3.31	130	P	Pn	06 02 53.5	+2.1
MASI				S	Sn	06 03 35.7	+6.1
MNAI	Manna	4.66	136	P	Pn	06 03 12.1	+2.3
MNAI	Manna	4.66	136	ePn	Pn	06 03 10.4	+0.6
MNAI				eSn	Sn	06 04 01.7	-1.0
DSRI	Dabo	4.91	84	P	Pn	06 03 14.6	+1.4
TPTI		4.92	329	P	Pn	06 03 14.0	+0.6
IPM	Ipoh	5.60	14	ePn	Pn	06 03 25.5	+2.8
	12nm,0.4s						
MDSI	Maura Dua	5.66	128	P	Pn	06 03 25.7	+2.2
KULM	Kulim	6.32	9	ePn	Pn	06 03 34.2	+1.7
KULM				eSn	Sn	06 04 44.0	+0.5
KSM	Kuching	10.89	77	ePn	Pn	06 04 34.2	-0.9
CMAR	Chiang Mai Arr	19.35	358	P	Pn	06 06 24.8	+0.2
	0.3nm,0.3s,baz=185,slow=9.7,SNR=10						
CMAR				LR	LR	06 13 14.0	
	comp=Z,45nm,18.8s,baz=100,slow=35						
CHTO	Chiang Mai	19.70	358	eP	P	06 06 27.1	+0.3
	0.9nm,0.3s						
H08S2	Diego Garcia H	27.90	256	T	T	06 35 55.3	
	baz=77,slow=75,SNR=17						
H08S3	Diego Garcia H	27.91	256	T	T	06 35 58.2	
	baz=77,slow=75,SNR=38						
H08S1	Diego Carcia H	27.92	256	T	T	06 35 59.2	
	baz=77,slow=75,SNR=11						
MBWA	Marble Bar	27.99	137	eP	P	06 07 47.0	-0.7
	79nm,1.4s						
H01W3	Cape Leeuwin H	36.30	160	T	T	06 46 57.3	
	baz=334,slow=76,SNR=8.8						
H01W2	Cape Leeuwin H	36.32	160	T	T	06 46 58.2	
	baz=334,slow=76,SNR=10.0						
H01W1	Cape Leeuwin H	36.32	160	T	T	06 46 58.8	
	baz=334,slow=76,SNR=8.6						
WRA	Warramunga Arr	38.76	121	P	P	06 09 20.3	-1.0
	1.9nm,0.6s,baz=305,slow=8.8,SNR=23						
WRA				PcP	PcP	06 11 31.8	-0.3
	0.3nm,0.4s,baz=318,slow=2.6,SNR=6.8						
WRAB	Tennant Creek	38.77	121	eP	P	06 09 19.2	-2.1
	3.6nm,1.2s						
ASAR	Alice Springs	40.09	127	P	P	06 09 32.0	-0.3
	2.0nm,0.8s,baz=296,slow=8.0,SNR=22						
ASAR				PcP	PcP	06 11 36.6	+0.4
	0.6nm,0.6s,baz=298,slow=2.5,SNR=7.1						
ASAR				LR	LR	06 28 44.2	
	comp=Z,36nm,18.3s,baz=118,slow=40						
KSAR	Wonju Array Be	46.29	31	P	P	06 10 21.6	-0.5
KSRS	Korea Array	46.32	31	P	P	06 10 21.6	-0.7
	1.3nm,0.7s,baz=226,slow=7.1,SNR=4.0						
SONM	Songino Array	48.99	6	P	P	06 10 43.2	+0.2
	1.2nm,0.5s,baz=182,slow=11,SNR=9.3						
MKAR	Makanchi Array	49.99	344	P	P	06 10 51.0	+0.5
	2.4nm,0.5s,baz=155,slow=8.6,SNR=20						
STKA	Stephens Creek	50.04	132	P	P	06 10 51.5	+0.3
	0.9nm,0.5s,baz=292,slow=16,SNR=3.0						
USRK	Ussuriysk Ar.	53.42	29	P	P	06 11 15.9	-0.3
	4.1nm,0.7s,baz=235,slow=6.9,SNR=6.3						
ZALV	Zalesovo Beam	56.14	349	P	P	06 11 35.8	+0.2
	8.8nm,0.7s,baz=182,slow=6.1,SNR=21						
BVAR	Borovoye Array	59.15	340	P	P	06 11 55.9	-0.9
	1.0nm,0.6s,baz=132,slow=8.6,SNR=5.9						
FINES	FINESS Array B	83.09	332	P	P	06 14 21.2	-0.2
	1.6nm,0.9s,baz=96,slow=5.7,SNR=6.5						
ARCES	ARCESS Array B	85.44	340	P	P	06 14 33.0	-0.1
	1.5nm,0.6s,baz=92,slow=6.1,SNR=7.3						
TXAR	Lajitas Array	144.09	36	PKP	PKPbc	06 21 30.8	+0.5
	0.6nm,0.5s,baz=254,slow=1.1,SNR=12						

*NIED **02** 06:27:00.37°.00N×141°.40E, h5km, Mw3.4 Best double couple: M0:1.57000×10^14 NP1:φs=37.00000°, δ=30.00000°, λ=-53.00000°. NP2:φs=176.00000°, δ=66.00000°, λ=-109.00000°.*
JMA 02 06:27:26.0±0.1, 36°.98N×141°.40E, h23km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.50	284	P	Pb	06 27 35.9	-0.2
ONAJ				eS	Sb	06 27 43.0	0.0
JFK	Kawauchi	0.57	313	P	Pb	06 27 37.1	-0.3
JFK				S	Sb	06 27 44.5	-0.6
JHO	Hitachi	0.76	241	P	Pb	06 27 40.4	-0.2
JHO				S	Sb	06 27 50.7	+0.2
JFT	Otama	1.00	303	P	Pb	06 27 44.8	+0.1
JFT				S	Sb	06 27 57.7	+0.2
JMM	Marumori	1.01	332	P	Pn	06 27 44.0	-0.7
JMM				S	Sb	06 27 57.2	-0.4
JSB	Shiboa	1.19	270	P	Pb	06 27 47.9	+0.1
JSB				S	Sb	06 28 03.6	+0.9
JFY	Yanaizu	1.42	288	P	Pb	06 27 51.3	-0.5
JFY				S	Sb	06 28 09.5	0.0
JIO	Ouri	1.47	358	P	Pn	06 27 51.1	0.0
JIO				S	Sn	06 28 09.5	-0.1
MAT	Matsushiro	2.60	261	P	Pn	06 28 08.7	+2.0
MAT				S	Sn	06 28 40.4	+2.8

*ISCJB **02** 06:27:47.0±0.2, 46°.92N±0°.01×4°.79E±0°.02, h14km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=141.5*
*CSEM **02** 06:27:48.2±0.1, 46°.93N×4°.76E, h10km, ML2.7/28, Error ellipse: s-maj=3.1km s-min=2.2km az=140.0*
*LDG **02** 06:27:49.6±0.0, 46°.94N×4°.77E, h13km, Md3.0/3, Ml2.7/28, Error ellipse: s-maj=1.0km s-min=0.7km az=145.0*
*STR **02** 06:27:49.8±0.9, 46°.94N×4°.63E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 02 06:27:50.4±1.0, 46°.96N±0°.02×4°.76E±0°.01, h23km±11km, n106, σ2§15/183, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOR	Lormes	0.69	297	ePg	Pn	06 28 03.5	-1.3
	baz=119,SNR=1.0						
LOR				eSg	Sn	06 28 12.4	-2.4
	140nm,0.2s,baz=125,SNR=1.0						
LOR	Lormes	0.69	297	ePg	Pn	06 28 03.5	-1.3
	SNR=1.0						
LOR				eSg	Sn	06 28 12.4	-2.4
	70nm,0.2s,SNR=1.0						
SMF	Signal de Mont	0.70	244	ePg	Pn	06 28 03.6	-1.4
	SNR=1.0						
SMF				eSg	Sn	06 28 12.4	-2.7
	97nm,0.3s,SNR=1.0						
SMF	Signal de Mont	0.70	244	ePg	Pn	06 28 03.6	-1.4
	SNR=1.0						
SMF				eSg	Sn	06 28 12.4	-2.7
	48nm,0.3s,SNR=1.0						
SSF	Saint Saulge	0.86	277	ePg	Pn	06 28 05.8	-1.4
SSF	Saint Saulge	0.86	277	ePn	Pn	06 28 06.4	-0.8
	SNR=1.0						
SSF				eSg	Sn	06 28 17.4	-1.7
	33nm,0.2s,SNR=1.0						
SSF	Saint Saulge	0.86	277	ePg	Pn	06 28 05.8	-1.4
SSF	Saint Saulge	0.86	277	ePn	Pn	06 28 06.4	-0.8
	SNR=1.0						
SSF				eSg	Sn	06 28 17.4	-1.7
	16nm,0.2s,SNR=1.0						
CABF	La Chapelle	0.97	110	ePn	Pn	06 28 06.9	-1.9
	SNR=1.0						
CABF	La Chapelle	0.97	110	ePg	Pn	06 28 08.3	-0.5
CABF				eSg	Sn	06 28 20.6	-1.3
	33nm,0.2s						
CABF	La Chapelle	0.97	110	ePn	Pn	06 28 06.9	-1.9
	SNR=1.0						
CABF	La Chapelle	0.97	110	ePg	Pn	06 28 08.3	-0.5
CABF				eSg	Sn	06 28 20.6	-1.3
	16nm,0.2s						
AVF	Avril sur Loir	0.98	261	ePn	Pn	06 28 07.3	-1.4
	SNR=1.0						
AVF	Avril sur Loir	0.98	261	ePg	Pn	06 28 08.2	-0.5
AVF				eSn	Sn	06 28 20.4	-1.5
AVF				eSg	Sb	06 28 20.8	-0.3
	13nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	0.98	261	ePn	Pn	06 28 07.3	-1.4
	SNR=1.0						
AVF	Avril sur Loir	0.98	261	ePg	Pn	06 28 08.2	-0.5
AVF				eSn	Sn	06 28 20.4	-1.5
AVF				eSg	Sb	06 28 20.8	-0.3
	6.7nm,0.3s,SNR=1.0						
PLDF	La Plantade	1.26	219	Pg	Pb	06 28 12.9	-0.6
PLDF				Sg	Sb	06 28 29.7	+0.3
PLDF	La Plantade	1.26	219	Pg	Pb	06 28 12.9	-0.6
PLDF				Sg	Sb	06 28 29.7	+0.3
SFTF	Sexfontaines	1.26	8	ePn	Pb	06 28 11.5	-2.0
SFTF	Sexfontaines	1.26	8	ePg	Pb	06 28 13.7	+0.2
	baz=182						
SFTF				eSn	Sn	06 28 27.6	-1.3
SFTF				eSg	Sb	06 28 30.0	+0.7
	28nm,0.3s						
SFTF	Sexfontaines	1.26	8	ePn	Pb	06 28 11.5	-2.0
SFTF	Sexfontaines	1.26	8	ePg	Pb	06 28 13.7	+0.2
SFTF				eSn	Sn	06 28 27.6	-1.3
SFTF				eSg	Sb	06 28 30.0	+0.7
	14nm,0.3s						
BGF	Bois d'Agland	1.38	254	ePn	Pb	06 28 12.9	-2.5
	SNR=1.0						
BGF	Bois d'Agland	1.38	254	ePg	Pb	06 28 15.2	-0.2
BGF				eSn	Sn	06 28 29.9	-1.8
	22nm,0.3s						
BGF				eSg	Sb	06 28 33.0	+0.5
	33nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	1.38	254	ePn	Pb	06 28 12.9	-2.5
	SNR=1.0						
BGF	Bois d'Agland	1.38	254	ePg	Pb	06 28 15.2	-0.2
BGF				eSn	Sn	06 28 29.9	-1.8
	11nm,0.3s						
BGF				eSg	Sb	06 28 33.0	+0.5
	16nm,0.3s,SNR=1.0						
AGO	Saint Agoulin	1.44	232	Pg	Pb	06 28 16.2	-0.4
AGO				Sg	Sb	06 28 34.4	-0.1
AGO	Saint Agoulin	1.44	232	Pg	Pb	06 28 16.2	-0.4
AGO				Sg	Sb	06 28 34.4	-0.1
LOMF	Lomont	1.47	74	Pn	Pb	06 28 17.5	+0.5
LOMF				Sg	Sb	06 28 35.8	+0.6
LOMF	Lomont	1.47	74	Pn	Pb	06 28 17.5	+0.5
LOMF				Sg	Sb	06 28 35.8	+0.6
HYF	Humbligny	1.48	283	ePn	Pn	06 28 14.3	-1.4
HYF				eSg	Sb	06 28 36.4	+0.8
HYF	Humbligny	1.48	283	ePn	Pn	06 28 14.3	-1.4
HYF				eSg	Sb	06 28 36.4	+0.8
HAU	Haudompre	1.50	45	ePn	Pn	06 28 13.3	-2.7
	SNR=1.0						
HAU	Haudompre	1.50	45	ePg	Pb	06 28 18.1	+0.5
	SNR=1.0						
HAU				eSn	Sn	06 28 33.5	-1.4
	SNR=1.0						
HAU				eSg	Sb	06 28 37.5	+1.3
	24nm,0.2s,SNR=1.0						
HAU	Haudompre	1.50	45	ePn	Pn	06 28 13.3	-2.7
	SNR=1.0						
HAU	Haudompre	1.50	45	ePg	Pb	06 28 18.1	+0.5
	SNR=1.0						
HAU				eSn	Sn	06 28 33.5	-1.4
	SNR=1.0						
HAU				eSg	Sb	06 28 37.5	+1.3
	12nm,0.2s,SNR=1.0						
THEF	They Montfort	1.52	33	Pn

HINF eSg **Sb** **06 28 42.3 +1.5**
6.9nm,0.3s
PYM Petit Puy Mans 1.71 226 Pg **Pb** **06 28 20.0 -1.2**
PYM Sg **Sb** **06 28 42.9 +0.6**
PYM Petit Puy Mans 1.71 226 Pg **Pb** **06 28 20.0 -1.2**
PYM Sg **Sb** **06 28 42.9 +0.6**
PAGF Fort de Pagny 1.73 22 ePn **Pn** **06 28 18.0 -1.0**
PAGF Fort de Pagny 1.73 22 ePg **Pb** **06 28 22.5 +1.1**
baz=205
PAGF eSg **Sb** **06 28 44.3 +1.7**
2.6nm,0.2s
PAGF Fort de Pagny 1.73 22 ePn **Pn** **06 28 18.0 -1.0**
PAGF Fort de Pagny 1.73 22 ePg **Pb** **06 28 22.5 +1.1**
PAGF eSg **Sb** **06 28 44.3 +1.7**
1.3nm,0.2s
MOF Molkenrain 1.84 60 Pn **Pb** **06 28 23.3 -0.1**
MOF Molkenrain 1.84 60 Pg **Pb** **06 28 26.0 +2.6**
MOF Sg **Sb** **06 28 48.0 +1.9**
MOF Molkenrain 1.84 60 Pn **Pb** **06 28 23.3 -0.1**
MOF Molkenrain 1.84 60 Pg **Pb** **06 28 26.0 +2.6**
MOF Sg **Sb** **06 28 48.0 +1.9**
TCF Toulx Ste Croi 1.88 250 ePn **Pn** **06 28 19.9 -1.3**
SNR=1.0
TCF Toulx Ste Croi 1.88 250 ePg **Pb** **06 28 24.2 +0.2**
SNR=1.0
TCF eSn **Sn** **06 28 41.9 -2.3**
TCF eSg **Sb** **06 28 49.0 +1.9**
7.1nm,0.3s
TCF Toulx Ste Croi 1.88 250 ePn **Pn** **06 28 19.9 -1.3**
SNR=1.0
TCF Toulx Ste Croi 1.88 250 ePg **Pb** **06 28 24.2 +0.2**
SNR=1.0
TCF eSn **Sn** **06 28 41.9 -2.3**
TCF eSg **Sb** **06 28 49.0 +1.9**
3.5nm,0.3s
LPL La Plagne 1.99 136 ePg **Pb** **06 28 27.1 +1.2**
SNR=1.0
LPL eSg **Sb** **06 28 51.4 +1.1**
5.1nm,0.3s,SNR=1.0
LPL La Plagne 1.99 136 ePg **Pb** **06 28 27.1 +1.2**
SNR=1.0
LPL eSg **Sb** **06 28 51.4 +1.1**
2.5nm,0.3s,SNR=1.0
LPG La Plagne 2.01 136 ePg **Pb** **06 28 26.0 -0.4**
SNR=1.0
LPG eSg **Sb** **06 28 52.2 +1.1**
7.7nm,0.3s,SNR=1.0
LPG La Plagne 2.01 136 ePg **Pb** **06 28 26.0 -0.4**
SNR=1.0
LPG eSg **Sb** **06 28 52.2 +1.1**
3.8nm,0.3s,SNR=1.0
LBL Lubilhac 2.02 212 Pg **Pb** **06 28 26.2 -0.2**
LBL Sg **Sb** **06 28 53.9 +2.7**
LBL Lubilhac 2.02 212 Pg **Pb** **06 28 26.2 -0.2**
LBL Sg **Sb** **06 28 53.9 +2.7**
ECH Echery 2.05 51 Pg **Pb** **06 28 28.7 +1.7**
ECH Sg **Sb** **06 28 54.4 +2.3**
ECH Echery 2.05 51 Pg **Pb** **06 28 28.7 +1.7**
ECH Sg **Sb** **06 28 54.4 +2.3**
VIVF Saint-Julien-l 2.10 182 ePn **Pn** **06 28 22.7 -1.5**
SNR=1.0
VIVF Saint-Julien-l 2.10 182 ePg **Pb** **06 28 28.2 +0.4**
SNR=1.0
VIVF eSg **Sb** **06 28 54.3 +0.8**
9.1nm,0.2s
VIVF Saint-Julien-l 2.10 182 ePn **Pn** **06 28 22.7 -1.5**
SNR=1.0
VIVF Saint-Julien-l 2.10 182 ePg **Pb** **06 28 28.2 +0.4**
SNR=1.0
VIVF eSg **Sb** **06 28 54.3 +0.8**
4.6nm,0.2s
ORIF Oris-en-Rattie 2.18 159 ePg **Pb** **06 28 29.9 +0.7**
ORIF eSn **Sn** **06 28 49.0 -2.8**
SNR=1.0
ORIF eSg **Sb** **06 28 58.0 +2.1**
3.0nm,0.2s,SNR=1.0
ORIF Oris-en-Rattie 2.18 159 ePg **Pb** **06 28 29.9 +0.7**
ORIF eSn **Sn** **06 28 49.0 -2.8**
SNR=1.0
ORIF eSg **Sb** **06 28 58.0 +2.1**
1.5nm,0.2s,SNR=1.0
CDF Champ du Feu 2.24 48 ePn **Pn** **06 28 23.6 -2.5**
SNR=1.0
CDF Champ du Feu 2.24 48 ePg **Pb** **06 28 30.7 +0.6**
SNR=1.0
CDF eSg **Sb** **06 29 00.2 +2.8**
7.6nm,0.4s
CDF Champ du Feu 2.24 48 ePn **Pn** **06 28 23.6 -2.5**
SNR=1.0
CDF Champ du Feu 2.24 48 ePg **Pb** **06 28 30.7 +0.6**
SNR=1.0
CDF eSg **Sb** **06 29 00.2 +2.8**
3.8nm,0.4s
MBDF Montbardon 2.64 147 ePn **Pn** **06 28 30.6 -1.1**
MBDF Montbardon 2.64 147 ePn **Pn** **06 28 30.6 -1.1**
CAF Calviac 2.77 224 ePn **Pn** **06 28 31.7 -1.7**
CAF eSg **Sb** **06 29 16.2 +3.6**
2.0nm,0.2s
CAF Calviac 2.77 224 ePn **Pn** **06 28 31.7 -1.7**
CAF eSg **Sb** **06 29 16.2 +3.6**
1.0nm,0.2s
RJF Les Rejaudoux 2.80 235 ePn **Pn** **06 28 32.2 -1.5**
RJF Les Rejaudoux 2.80 235 ePg **Pb** **06 28 41.8 +2.2**
RJF eSg **Sb** **06 29 16.8 +3.4**
1.6nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.80 235 ePn **Pn** **06 28 32.2 -1.5**
RJF Les Rejaudoux 2.80 235 ePg **Pb** **06 28 41.8 +2.2**
RJF eSg **Sb** **06 29 16.8 +3.4**
0.8nm,0.2s,SNR=1.0
LASF Ste Croix 2.95 193 ePn **Pn** **06 28 35.7 -0.2**
SNR=1.0
LASF eSg **Sb** **06 29 21.7 +3.9**
3.8nm,0.3s
LASF Ste Croix 2.95 193 ePn **Pn** **06 28 35.7 -0.2**
SNR=1.0
LASF eSg **Sb** **06 29 21.7 +3.9**
1.9nm,0.3s
SMRF Simiane la Rot 3.04 169 ePg **Pb** **06 28 45.5 +1.8**
SMRF Simiane la Rot 3.04 169 ePg **Pb** **06 28 45.5 +1.8**
BAIF Baives 3.13 353 eSn **Sn** **06 29 11.6 -3.2**
SNR=1.0
BAIF eSg **Sb** **06 29 28.4 +5.5**
2.2nm,0.3s
GIVF Givet 3.15 1 eSg **Sb** **06 29 29.2 +5.7**
4.5nm,0.3s
GIVF Givet 3.15 1 eSg **Sb** **06 29 29.2 +5.7**
2.2nm,0.3s
MFF Saint Martin d 3.39 266 ePn **Pn** **06 28 40.5 -1.4**
MFF Saint Martin d 3.39 266 ePg **Pb** **06 28 52.0 +2.3**
MFF eSn **Sn** **06 29 18.3 -3.1**
MFF Saint Martin d 3.39 266 ePn **Pn** **06 28 40.5 -1.4**
MFF Saint Martin d 3.39 266 ePg **Pb** **06 28 52.0 +2.3**
MFF eSn **Sn** **06 29 18.3 -3.1**
LFF La Frestale 3.46 236 eSg **Sb** **06 29 38.0 +5.7**
4.3nm,0.3s
LFF La Frestale 3.46 236 eSg **Sb** **06 29 38.0 +5.7**
2.2nm,0.3s
LDF La Druitiere 3.68 298 eSg **Sb** **06 29 45.0 +6.3**
3.7nm,0.3s
LDF La Druitiere 3.68 298 eSg **Sb** **06 29 45.0 +6.3**
1.9nm,0.3s
MTLF Montolieu 4.04 207 eSg **Sb** **06 29 55.3 +6.2**
1.6nm,0.3s,SNR=1.0
MTLF Montolieu 4.04 207 eSg **Sb** **06 29 55.3 +6.2**
0.8nm,0.3s,SNR=1.0
GRR Gorron 4.06 293 eSn **Sn** **06 29 33.9 -3.9**
GRR eSg Sb 06 29 57.5 +7.9
2.6nm,0.3s,SNR=1.0

ISCJB ***02*** *06:31:02.7±0.3, 43°.13N±0°.02×0°.24W±0°.02, h8km±4km, Error ellipse: s-maj=3.5km s-min=2.5km az=146.0*
CSEM ***02*** *06:31:04.0±0.1, 43°.08N×0°.27W, h10km, ML2.1/10, Error ellipse: s-maj=1.9km s-min=1.4km az=162.0*
MDD ***02*** *06:31:05.2±0.3, 43°.07N×0°.29W, h6km±7km, mbLg1.5/24, Error ellipse: s-maj=3.2km s-min=1.8km az=179.0, PRXIMO*
LDG ***02*** *06:31:05.1±0.1, 43°.07N×0°.30W, h2km, Md2.4/3, Ml2.3/4, Error ellipse: s-maj=1.6km s-min=1.5km az=1.0*
ISC 02 06:31:04.7±1.0,**43°.09N**±0°.02×**0°.28W**±0°.02,**h7**km±9km,**n93,** σ**1**°**09**/113,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.28**	**227**	*e*Pg	**Pg**	**06 31 09.8**	**-0.6**
ETSF				*e*Sg	**Sg**	**06 31 13.5**	**-0.6**
37nm,0.2s							
ETSF				*e*S	**Sb**	**06 31 21.3**	**+4.1**
ETSF	**Etsaut**	**0.28**	**227**	Pg	**Pg**	**06 31 09.8**	**-0.6**
ETSF				Lg	Lg	06 31 13.5	
19nm,0.2s							
ETSF	**Etsaut**	**0.28**	**227**	*e*Pg	**Pg**	**06 31 09.8**	**-0.6**
ETSF				*e*Sg	**Sg**	**06 31 13.5**	**-0.6**
19nm,0.2s							
ATE	**Arette**	**0.31**	**269**	Pg	**Pg**	**06 31 10.9**	**0.0**
1.8nm,0.1s,SNR=7.9							
ATE				Lg	Lg	06 31 15.2	
31nm,0.2s,SNR=7.9							
ATE	**Arette**	**0.31**	**269**	Pg	**Pg**	**06 31 10.9**	**0.0**
1.8nm,0.1s,SNR=7.9							
ATE				Lg	Lg	06 31 15.2	
31nm,0.2s,SNR=7.9							
EPF	**Esparros**	**0.46**	**97**	*e*Pg	**Pg**	**06 31 13.4**	**-0.2**
EPF				*e*Sg	**Sg**	**06 31 19.8**	**+0.3**
17nm,0.3s							
EPF	**Esparros**	**0.46**	**97**	Pg	**Pg**	**06 31 13.4**	**-0.2**
EPF				Lg	Lg	06 31 19.8	
8.3nm,0.3s							
EPF	**Esparros**	**0.46**	**97**	*e*Pg	**Pg**	**06 31 13.4**	**-0.2**
EPF				*e*Sg	**Sg**	**06 31 19.8**	**+0.3**
8.3nm,0.3s							
ECHI	**Chisagues Biel**	**0.55**	**141**	Pg	**Pg**	**06 31 14.8**	**-0.6**
1.7nm,0.2s,SNR=8.9							
ECHI				Lg	Lg	06 31 21.7	
14nm,0.3s,SNR=44							
ECHI	**Chisagues Biel**	**0.55**	**141**	Pg	**Pg**	**06 31 14.8**	**-0.6**
1.7nm,0.2s,SNR=8.9							
ECHI				Lg	Lg	06 31 21.7	
14nm,0.3s,SNR=44							
SJPF	**Ste Jean**	**0.70**	**272**	*e*Pg	**Pg**	**06 31 16.1**	**-2.0**
SJPF				*e*Sg	**Sg**	**06 31 26.5**	**-0.7**
4.0nm,0.3s							
SJPF				*e*Sn	**Sn**	**06 31 31.1**	**-0.9**
SJPF	**Ste Jean**	**0.70**	**272**	Pg	**Pg**	**06 31 16.1**	**-2.0**
SJPF				Lg	Lg	06 31 26.5	
2.0nm,0.3s							
SJPF	**Ste Jean**	**0.70**	**272**	*e*Pg	**Pg**	**06 31 16.1**	**-2.0**
SJPF				*e*Sg	**Sg**	**06 31 26.5**	**-0.7**
2.0nm,0.3s							
YBER	**Berdun**	**0.70**	**223**	Pg	**Pg**	**06 31 17.6**	**-0.5**
SNR=7.9							
YBER				Lg	Lg	06 31 26.5	
SNR=7.9							
YBER	**Berdun**	**0.70**	**223**	Pg	**Pg**	**06 31 17.6**	**-0.5**
SNR=7.9							
YBER				Lg	Lg	06 31 26.5	
SNR=7.9							
YSIG	**Sigues**	**0.70**	**230**	Pg	**Pg**	**06 31 17.6**	**-0.5**
SNR=7.9							
YSIG				Lg	Lg	06 31 26.5	
SNR=7.9							
YSIG	**Sigues**	**0.70**	**230**	Pg	**Pg**	**06 31 17.6**	**-0.5**
SNR=7.9							
YSIG				Lg	Lg	06 31 26.5	
SNR=7.9							
YASP	**Aspurt**	**0.75**	**241**	Pg	**Pg**	**06 31 18.6**	**-0.5**
SNR=7.9							
YASP				Lg	Lg	06 31 28.1	
SNR=7.9							
YASP	**Aspurt**	**0.75**	**241**	Pg	**Pg**	**06 31 18.6**	**-0.5**
SNR=7.9							
YASP				Lg	Lg	06 31 28.1	
SNR=7.9							
IELO	**Elcoad**	**0.75**	**251**	Pg	**Pg**	**06 31 18.8**	**-0.3**
0.7nm,0.1s,SNR=7.9							
IELO				Lg	Lg	06 31 28.3	
5.8nm,0.1s,SNR=7.9							
IELO	**Elcoad**	**0.75**	**251**	Pg	**Pg**	**06 31 18.8**	**-0.3**
0.7nm,0.1s,SNR=7.9							
IELO				Lg	Lg	06 31 28.3	
5.8nm,0.1s,SNR=7.9							
EORO	**Oroz-Betelu**	**0.78**	**256**	Pg	**Pg**	**06 31 19.9**	**+0.1**
1.9nm,0.4s,SNR=12							
EORO				Lg	Lg	06 31 29.8	
2.7nm,0.3s,SNR=7.6							
EORO	**Oroz-Betelu**	**0.78**	**256**	Pg	**Pg**	**06 31 19.9**	**+0.1**
1.9nm,0.4s,SNR=12							
EORO				Lg	Lg	06 31 29.8	
2.7nm,0.3s,SNR=7.6							
IEPA	**Eparoz**	**0.79**	**247**	Pg	**Pg**	**06 31 19.7**	**-0.2**
SNR=7.9							
IEPA				Lg	Lg	06 31 30.6	
SNR=7.9							
IEPA	**Eparoz**	**0.79**	**247**	Pg	**Pg**	**06 31 19.7**	**-0.2**
SNR=7.9							
IEPA				Lg	Lg	06 31 30.6	
SNR=7.9							
YARA	**Arangoiti**	**0.81**	**237**	Pg	**Pg**	**06 31 19.7**	**-0.5**
SNR=7.9							
YARA				Lg	Lg	06 31 30.2	
SNR=7.9							
YARA	**Arangoiti**	**0.81**	**237**	Pg	**Pg**	**06 31 19.7**	**-0.5**
SNR=7.9							
YARA				Lg	Lg	06 31 30.2	
SNR=7.9							
YUND	**Undues**	**0.81**	**231**	Pg	**Pg**	**06 31 19.8**	**-0.6**
SNR=7.9							
YUND				Lg	Lg	06 31 31.0	
SNR=7.9							
YUND	**Undues**	**0.81**	**231**	Pg	**Pg**	**06 31 19.8**	**-0.6**
SNR=7.9							
YUND				Lg	Lg	06 31 31.0	
SNR=7.9							
IPRE	**Itoiz**	**0.84**	**251**	Lg	Lg	06 31 32.5	
4.3nm,0.4s,SNR=5.6							
IPRE	**Itoiz**	**0.84**	**251**	Lg	Lg	06 31 32.5	
4.3nm,0.4s,SNR=5.6							
IZUN	**Zunzarren**	**0.90**	**256**	Pg	**Pg**	**06 31 21.4**	**-0.5**
SNR=7.9							
IZUN				Lg	Lg	06 31 33.7	
SNR=7.9							
IZUN	**Zunzarren**	**0.90**	**256**	Pg	**Pg**	**06 31 21.4**	**-0.5**
SNR=7.9							
IZUN				Lg	Lg	06 31 33.7	
SNR=7.9							
YSOS	**Sos del Rey Ca**	**0.90**	**226**	Pg	**Pg**	**06 31 21.3**	**-0.8**
SNR=7.9							
YSOS	**Sos del Rey Ca**	**0.90**	**226**	Pg	**Pg**	**06 31 21.3**	**-0.8**
SNR=7.9							
EALK	**Alkurruntz**	**0.91**	**278**	Pg	**Pg**	**06 31 22.4**	**+0.2**
0.1nm,0.1s,SNR=5.7							
EALK				Lg	Lg	06 31 34.5	
2.9nm,0.2s,SNR=5.0							
EALK	**Alkurruntz**	**0.91**	**278**	Pg	**Pg**	**06 31 22.4**	**+0.2**
0.1nm,0.1s,SNR=5.7							
EALK				Lg	Lg	06 31 34.5	
2.9nm,0.2s,SNR=5.0							
IUNC	**Unciti**	**0.96**	**250**	Pg	**Pg**	**06 31 22.5**	**-0.7**
SNR=7.9							
IUNC				Lg	Lg	06 31 34.7	
SNR=7.9							
IUNC	**Unciti**	**0.96**	**250**	Pg	**Pg**	**06 31 22.5**	**-0.7**
SNR=7.9							
IUNC				Lg	Lg	06 31 34.7	
SNR=7.9							
MLS	**Moulis**	**1.01**	**97**	Pg	**Pg**	**06 31 23.1**	**-1.1**
MLS				Lg	Lg	06 31 38.1	
MLS	**Moulis**	**1.01**	**97**	Pg	**Pg**	**06 31 23.1**	**-1.1**
MLS				Lg	Lg	06 31 38.1	
CTRE	**Tremp**	**1.09**	**134**	Pg	**Pg**	**06 31 25.1**	**-0.5**
CTRE				Lg	Lg	06 31 41.8	
10nm,0.3s							
CTRE	**Tremp**	**1.09**	**134**	Pg	**Pg**	**06 31 25.1**	**-0.5**
CTRE				Lg	Lg	06 31 41.8	
10nm,0.3s							
CEST	**Esterri de Car**	**1.23**	**113**	Pg	**Pg**	**06 31 27.5**	**-0.8**
CEST				Lg	Lg	06 31 45.0	
2.4nm,0.2s							
CEST	**Esterri de Car**	**1.23**	**113**	Pg	**Pg**	**06 31 27.5**	**-0.8**
CEST				Lg	Lg	06 31 45.0	
2.4nm,0.2s							
ESAC	**San Caprasio**	**1.38**	**186**	Pg	**Pg**	**06 31 31.1**	**0.0**
9.8nm,0.3s,SNR=10							
ESAC				Lg	Lg	06 31 48.7	
23nm,0.3s,SNR=13							
ESAC	**San Caprasio**	**1.38**	**186**	Pg	**Pg**	**06 31 31.1**	**0.0**
9.8nm,0.3s,SNR=10							
ESAC				Lg	Lg	06 31 48.7	
23nm,0.3s,SNR=13							
CAVN	**Les Avellanes**	**1.43**	**147**	Pg	**Pn**	**06 31 30.6**	**-0.5**
CAVN				Lg	Lg	06 31 51.2	
9.4nm,0.1s							
CAVN	**Les Avellanes**	**1.43**	**147**	Pg	**Pn**	**06 31 30.6**	**-0.5**
CAVN				Lg	Lg	06 31 51.2	
9.4nm,0.1s							
CORG	**Organya**	**1.46**	**126**	Pg	**Pn**	**06 31 31.7**	**+0.2**
CORG				Lg	Lg	06 31 52.0	
1.4nm,0.3s							
CORG	**Organya**	**1.46**	**126**	Pg	**Pn**	**06 31 31.7**	**+0.2**
CORG				Lg	Lg	06 31 52.0	
1.4nm,0.3s							
CLLI	**Llivia**	**1.77**	**110**	Pg	**Pb**	**06 31 38.3**	**+0.8**
4.4nm,0.5s,SNR=6.1							
CLLI				Lg	Lg	06 32 02.5	
3.1nm,0.3s,SNR=12							
CLLI	**Llivia**	**1.77**	**110**	Pg	**Pb**	**06 31 38.3**	**+0.8**
4.4nm,0.5s,SNR=6.1							
CLLI				Lg	Lg	06 32 02.5	
3.1nm,0.3s,SNR=12							
EMIR	**Miracle**	**1.78**	**131**	Pg	**Pg**	**06 31 38.7**	**-0.1**
2.7nm,0.4s,SNR=7.9							
EMIR				Lg	Lg	06 32 02.4	
2.7nm,0.3s,SNR=5.9							
EMIR	**Miracle**	**1.78**	**131**	Pg	**Pg**	**06 31 38.7**	**-0.1**
2.7nm,0.4s,SNR=7.9							
EMIR				Lg	Lg	06 32 02.4	
2.7nm,0.3s,SNR=5.9							
MTLF	**Montolieu**	**1.84**	**81**	*e*Pg	**Pb**	**06 31 39.6**	**+0.9**
MTLF				*e*Sg	**Sb**	**06 32 03.3**	**+1.4**
1.3nm,0.2s							
MTLF	**Montolieu**	**1.84**	**81**	Pg	**Pb**	**06 31 39.6**	**+0.9**
MTLF				Lg	Lg	06 32 03.3	
0.6nm,0.2s							
MTLF	**Montolieu**	**1.84**	**81**	*e*Pg	**Pb**	**06 31 39.6**	**+0.9**
MTLF				*e*Sg	**Sb**	**06 32 03.3**	**+1.4**
0.6nm,0.2s							
LFF	**La Frestale**	**1.99**	**21**	*e*Pg	**Pg**	**06 31 42.9**	**+0.1**
LFF				*e*Sg	**Sg**	**06 32 08.5**	**-0.1**
5.6nm,0.2s							
LFF	**La Frestale**	**1.99**	**21**	Pg	**Pg**	**06 31 42.9**	**+0.1**
LFF				Lg	Lg	06 32 08.5	
2.8nm,0.2s							
LFF	**La Frestale**	**1.99**	**21**	*e*Pg	**Pg**	**06 31 42.9**	**+0.1**
LFF				*e*Sg	**Sg**	**06 32 08.5**	**-0.1**
2.8nm,0.2s							
EPOB	**Poblet**	**2.01**	**149**	Pg	**Pb**	**06 31 41.9**	**+0.3**
0.2nm,0.3s,SNR=7.9							
EPOB				Lg	Lg	06 32 07.5	
5.9nm,0.8s,SNR=7.9							
EPOB	**Poblet**	**2.01**	**149**	Pg	**Pb**	**06 31 41.9**	**+0.3**
0.2nm,0.3s,SNR=7.9							
EPOB				Lg	Lg	06 32 07.5	
5.9nm,0.8s,SNR=7.9							
ERTA	**Horta de San J**	**2.18**	**168**	Pg	**Pb**	**06 31 45.4**	**+0.9**
0.6nm,0.3s,SNR=7.9							
ERTA				Sn	**Sn**	**06 32 06.7**	**-2.0**
2.5nm,0.7s,SNR=7.9							
ERTA				Lg	Lg	06 32 13.3	
6.1nm,1.0s,SNR=7.9							
ERTA	**Horta de San J**	**2.18**	**168**	Pg	**Pb**	**06 31 45.4**	**+0.9**
0.6nm,0.3s,SNR=7.9							
ERTA				Sn	**Sn**	**06 32 06.7**	**-2.0**
2.5nm,0.7s,SNR=7.9							
ERTA				Lg	Lg	06 32 13.3	
6.1nm,1.0s,SNR=7.9							
CBEU	**Beuda**	**2.33**	**110**	Pn	**Pn**	**06 31 44.0**	**+0.5**
CBEU				Sn	**Sn**	**06 32 13.6**	**+1.2**
8.5nm,0.4s							
CBEU	**Beuda**	**2.33**	**110**	Pn	**Pn**	**06 31 44.0**	**+0.5**
CBEU				Sn	**Sn**	**06 32 13.6**	**+1.2**
8.5nm,0.4s							
SJAF	**Saint Jean de**	**2.40**	**104**	Pg	**Pb**	**06 31 49.4**	**+1.1**
0.4nm,0.4s,SNR=7.9							
SJAF				Lg	Lg	06 32 22.2	
13nm,1.7s,SNR=7.9							
SJAF	**Saint Jean de**	**2.40**	**104**	Pg	**Pb**	**06 31 49.4**	**+1.1**
0.4nm,0.4s,SNR=7.9							
SJAF				Lg	Lg	06 32 22.2	
13nm,1.7s,SNR=7.9							
CFON	**Fontmartina**	**2.41**	**123**	Pn	**Pn**	**06 31 43.2**	**-1.4**
0.6nm,0.2s,SNR=7.9							
CFON				Pg	**Pb**	**06 31 48.4**	**0.0**
0.9nm,0.2s,SNR=7.9							
CFON				Sn	**Sn**	**06 32 11.5**	**-2.8**
0.8nm,0.2s,SNR=7.9							
CFON				Lg	Lg	06 32 20.5	
1.9nm,0.3s,SNR=5.7							
CFON	**Fontmartina**	**2.41**	**123**	Pn	**Pn**	**06 31 43.2**	**-1.4**
0.6nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.42**	**104**	Lg	Lg	06 32 23.2	
5.5nm,1.0s,SNR=7.9							
EJON	**La Jonquera**	**2.42**	**104**	Lg	Lg	06 32 23.2	
5.5nm,1.0s,SNR=7.9							
CAF	**Calviac**	**2.49**	**42**	*e*Pg	**Pb**	**06 31 51.7**	**+1.9**
CAF				*e*Sn	**Sn**	**06 32 14.2**	**-2.2**
CAF				*e*Sg	**Sg**	**06 32 24.2**	**-0.6**
3.8nm,0.3s							
CAF	**Calviac**	**2.49**	**42**	Pg	**Pb**	**06 31 51.7**	**+1.9**
CAF				Sn	**Sn**	**06 32 14.2**	**-2.2**
CAF				Lg	Lg	06 32 24.2	
1.9nm,0.3s							
CAF	**Calviac**	**2.49**	**42**	*e*Pg	**Pb**	**06 31 51.7**	**+1.9**
CAF				*e*Sn	**Sn**	**06 32 14.2**	**-2.2**
CAF				*e*Sg	**Sg**	**06 32 24.2**	**-0.6**
1.9nm,0.3s							
RJF	**Les Rejaudoux**	**2.56**	**30**	*e*Pg	**Pb**	**06 31 52.7**	**+1.7**
RJF				*e*Sg	**Sg**	**06 32 26.3**	**-0.7**
RJF	**Les Rejaudoux**	**2.56**	**30**	Pg	**Pb**	**06 31 52.7**	**+1.7**
RJF				Lg	Lg	06 32 26.3	
RJF	**Les Rejaudoux**	**2.56**	**30**	*e*Pg	**Pb**	**06 31 52.7**	**+1.7**
RJF				*e*Sg	**Sg**	**06 32 26.3**	**-0.7**
EMOS	**Mosqueruela**	**2.73**	**183**	Pg	**Pb**	**06 31 55.1**	**+1.1**
1.0nm,0.4s,SNR=7.9							
EMOS				Lg	Lg	06 32 30.8	
3.3nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**2.73**	**183**	Pg	**Pb**	**06 31 55.1**	**+1.1**
1.0nm,0.4s,SNR=7.9							
EMOS				Lg	Lg	06 32 30.8	
3.3nm,0.5s,SNR=7.9							
LASF	**Ste Croix**	**3.16**	**70**	*e*Sg	**Sg**	**06 32 45.1**	**-1.1**
LASF	**Ste Croix**	**3.16**	**70**	Lg	Lg	06 32 45.1	
LASF	**Ste Croix**	**3.16**	**70**	*e*Sg	**Sg**	**06 32 45.1**	**-1.1**
MFF	**Saint Martin d**	**3.51**	**1**	*e*Pg	**Pg**	**06 32 11.1**	**-0.9**
MFF				*e*Sg	**Sg**	**06 32 56.1**	**-1.4**
MFF	**Saint Martin d**	**3.51**	**1**	Pg	**Pg**	**06 32 11.1**	**-0.9**
MFF				Lg	Lg	06 32 56.1	
MFF	**Saint Martin d**	**3.51**	**1**	*e*Pg	**Pg**	**06 32 11.1**	**-0.9**
MFF				*e*Sg	**Sg**	**06 32 56.1**	**-1.4**
TCF	**Toulx Ste Croi**	**3.65**	**28**	*e*Sg	**Sg**	**06 33 01.8**	**-0.3**
1.1nm,0.2s							
TCF	**Toulx Ste Croi**	**3.65**	**28**	Lg	Lg	06 33 01.8	
0.6nm,0.2s							
TCF	**Toulx Ste Croi**	**3.65**	**28**	*e*Sg	**Sg**	**06 33 01.8**	**-0.3**
0.6nm,0.2s							
BGF	**Bois d'Agland**	**4.12**	**32**	*e*Sg	**Sg**	**06 33 15.5**	**-1.4**
BGF	**Bois d'Agland**	**4.12**	**32**	Lg	Lg	06 33 15.5	
BGF	**Bois d'Agland**	**4.12**	**32**	*e*Sg	**Sg**	**06 33 15.5**	**-1.4**

ISCJB ***02*** *06:34:53.9±0.4, 23°.85N±0°.03×121°.86E±0°.03, h40km±9km, Error ellipse: s-maj=5.2km s-min=3.0km az=136.7*
TAP ***02*** *06:34:53.9, 23°.87N×121°.79E, h48km, ML2.8, C*
JMA ***02*** *06:34:54.0±0.2, 23°.89N×121°.83E, h42km±4km, M2.3*
ISC 02 06:34:52.6±1.3,**23°.83N**±0°.03×**121°.87E**±0°.03,**h21**km±5km,
n31, σ**0**°**46**/57,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.28**	**300**	*e*P	**Pn**	**06 35 01.6**	**0.0**
baz=303							
HWA				*e*S	**Sn**	**06 35 07.7**	**+0.5**
baz=303							
TWD	**Chiawan**	**0.35**	**314**	*i* P	**Pn**	**06 35 02.6**	**+0.1**
baz=321							
TWD				S	**Sn**	**06 35 08.8**	**-0.1**
baz=321							
ESL	**Shilin**	**0.40**	**267**	P	**Pn**	**06 35 03.0**	**-0.2**
baz=269							
ESL				S	**Sn**	**06 35 09.6**	**-0.5**
baz=269							
ENA	**Nanau**	**0.60**	**349**	*e*P	**Pn**	**06 35 05.8**	**-0.2**
baz=351							
ENA				*e*S

TWF1	Yuli	0.71	228	eP		Pn	06 35 06.9	-0.6
	baz=230							
TWF1				eS		Sb	06 35 16.0	+0.2
	baz=230							
NNS	Nan Shan	0.76	323	eP		Pn	06 35 07.8	-0.5
	baz=327							
NNS				eS		Sb	06 35 17.8	+0.7
	baz=327							
TWT	Tachien	0.76	303	P		Pn	06 35 08.1	-0.3
	baz=307							
TWT				eS		Sb	06 35 17.7	+0.3
	baz=307							
TWC	Suao	0.77	358	P		Pn	06 35 08.4	+0.1
	baz=5.0							
TWC				S		Sn	06 35 19.0	-0.2
	baz=5.0							
ENTT	Nioudou	0.85	341	eP		Pn	06 35 09.3	-0.1
	baz=345							
ENTT				eS		Sn	06 35 20.4	-0.9
	baz=345							
SMLT	Sun Moon Lake	0.89	273	eP		Pb	06 35 09.2	-0.3
	baz=271							
TWE	Neicheng	0.90	348	P		Pn	06 35 10.5	+0.4
	baz=344							
TWE				eS		Sb	06 35 21.6	+0.3
	baz=344							
YUS	Yu-Shan	0.91	248	P		Pn	06 35 10.4	-0.2
	baz=237							
YUS				S		Sb	06 35 21.8	-0.2
	baz=237							
TYC	Yuchr	0.93	275	eP		Pn	06 35 10.3	-0.1
	baz=272							
NSK	Sanguang	0.96	331	P		Pn	06 35 10.9	-0.1
	baz=334							
NSK				eS		Sb	06 35 22.2	-0.7
	baz=334							
ELDTW	Lidau	1.01	231	eP		Pn	06 35 11.9	+0.2
	baz=224							
ELDTW				eS		Sb	06 35 23.6	-0.9
	baz=224							
ALS	Alishan	1.03	252	eP		Pn	06 35 12.3	+0.1
	baz=248							
ALS				eS		Sb	06 35 25.3	+0.2
	baz=248							
CHN5	Tsauling	1.12	258	eP		Pb	06 35 13.6	+0.3
	baz=255							
CHN5				eS		Sn	06 35 28.4	+0.4
	baz=255							
NSTT	Nanjuang	1.12	315	eP		Pb	06 35 13.4	+0.1
	baz=303							
NSTT				eS		Sb	06 35 27.5	-0.1
	baz=303							
TWQ1	Liyutan	1.13	297	eP		Pn	06 35 13.2	-0.1
	baz=297							
YOJ	Yonaguni jima	1.21	59	eS		Sb	06 35 30.4	+0.3
STYT	Tauyan	1.22	237	eP		Pn	06 35 14.7	+0.1
	baz=228							
STYT				eS		Sb	06 35 30.6	+0.1
	baz=228							
CHN4	Tsaushan	1.27	248	eP		Pb	06 35 15.8	0.0
	baz=245							
CHN4				eS		Sb	06 35 31.8	+0.1
	baz=245							
WTP	Ta-pu	1.29	243	eP		Pb	06 35 17.1	+0.7
	baz=240							
WTP				eS		Sb	06 35 33.0	+0.5
	baz=240							
TWK	Hsinying	1.39	246	eP		Pn	06 35 16.2	-0.6
	baz=243							
TWK				eS		Sn	06 35 34.5	-0.1
	baz=243							
CHN1	Nanshi	1.39	243	eP		Pb	06 35 17.8	-0.2
	baz=239							
CHN1				eS		Sb	06 35 35.5	+0.1
	baz=239							
SGST	Jiashian	1.40	238	eP		Pn	06 35 16.7	-0.2
	baz=235							
SSD	Sandimen	1.57	227	eP		Pb	06 35 20.7	-0.3
	baz=223							
SSD				eS		Sn	06 35 39.5	+0.5
	baz=223							
JKRS	Kuro-shima	1.99	78	P		Pb	06 35 26.9	-1.3
JKRS				eS		Sn	06 35 49.9	+0.5
JIJ	Ishigaki jima	2.14	75	P		Pn	06 35 27.7	+0.6
JIJ				S		Sn	06 35 53.4	+0.4
JISG	Ishigakijimahi	2.35	71	P		Pn	06 35 30.9	+0.9
JISG				eS		Sn	06 35 58.1	-0.1

*KRSC **02** 06:35:40.2±1.3,51°.01N×158°.08E,h40km±17km, ML4.8, FELT [II-III] at lighthouse Krugliy.*
*SKHL **02** 06:35:40.4±0.3,50°.96N×158°.13E,h55km±13km,mb5.1/5*
*ISCJB **02** 06:35:41.6±0.7,51°.01N±0°.05×157°.91E±0°.07,h60km±5km, mb4.0/18,MS3.2/9,Error ellipse: s-maj=10.2km s-min=4.1km az=45.0*
*MOS **02** 06:35:41.2±1.0,51°.01N×157°.82E,h58km,mb4.3/13,Error ellipse: s-maj=12.3km s-min=3.9km az=81.1*
*IDC **02** 06:35:45.6±2.3,51°.23N×157°.93E,h75km±20km,mb3.7/17, mb1 3.9/19,mb1mx3.8/43,mbtmp4.1/19,MS3.2/11, Ms1 3.2/11,ms1mx3.0/44,Error ellipse: s-maj=21.5km s-min=11.5km az=140.0*

ISC 02 06:35:42.8±1.1,51°.07N±0°.06×157°.97E±0°.06,h52km±10km, n107,σ1§87/130,mb4.1/18,MS3.3/9,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.83	299		PN	Pn	06 35 56.3	-2.0
PAU	Pauzhetka	0.83	299	eP		Pn	06 35 56.4	-1.9
PAU					AMB	AMB	06 35 57.0	
	4μm,0.6s							
PAU				eS		Sn	06 36 08.5	-1.1
PAU					A	A	06 36 12.2	
	6μm,0.3s							
PAU	Pauzhetka	0.83	299	eP		Pn	06 35 56.3	-2.0
SKR	Severo-Kuril's	1.23	252	ePN		Pn	06 36 03.1	-0.6
SKR				eS		Sn	06 36 19.9	+0.6
SKR					pmax	pmax		
	comp=Z,1μm,0.5s							
SKR					smax	smax		
	comp=N,9μm,0.5s							
SKR					smax	smax		
	comp=E,5μm,0.4s							
SKR	Severo-Kuril's	1.23	252	eP		Pn	06 36 02.9	-0.8
SKR					AMB	AMB	06 36 04.9	
	comp=E,1μm,0.5s							
SKR				eS		Sn	06 36 19.9	+0.6
SKR					A	A	06 36 20.4	
	comp=E,9μm,0.5s							
SKR					A	A	06 36 20.4	
	comp=E,5μm,0.5s							
SKR	Severo-Kuril's	1.23	252	eP		Pn	06 36 03.2	-0.5
SKR				eS		Sn	06 36 19.3	0.0
ASAK	Asacha	1.32	358	PN		Pn	06 36 04.8	-0.1
ASAK				S		Sn	06 36 22.2	+0.8
ASAK	Asacha	1.32	358	eP		Pn	06 36 04.8	-0.1
ASAK				eS		Sn	06 36 22.2	+0.8
RUS	Russkaya	1.41	14	PN		Pn	06 36 04.9	-1.2
RUS				S		Sn	06 36 22.4	-1.1
RUS	Russkaya	1.41	14	eP		Pn	06 36 04.9	-1.2
RUS				eS		Sn	06 36 22.4	-1.1
MTVR	Mutnovka	1.42	5	PN		Pn	06 36 06.1	-0.3
MTVR				S		Sn	06 36 24.1	0.0
MTVR	Mutnovka	1.42	5	eP		Pn	06 36 06.1	-0.3
MTVR				eS		Sn	06 36 24.1	0.0
GRL	Gorelyy	1.49	2	PN		Pn	06 36 07.4	+0.1
GRL				S		Sn	06 36 26.5	+0.9
GRL	Gorelyy	1.49	2	eP		Pn	06 36 07.4	+0.1
GRL				eS		Sn	06 36 26.5	+0.9
KRMR	Karymshinskiy	1.77	3	PN		Pn	06 36 11.3	+0.4
KRMR				S		Sn	06 36 34.5	+2.2
KRMR	Karymshinskiy	1.77	3	eP		Pn	06 36 11.3	+0.4
KRMR				eS		Sn	06 36 34.5	+2.2
APC	Apacha	1.93	345	PN		Pn	06 36 14.2	+1.1
APC				S		Sn	06 36 39.2	+3.1
APC	Apacha	1.93	345	eP		Pn	06 36 14.2	+1.1
APC				eS		Sn	06 36 39.2	+3.1
PET	Petropavlovsk	2.00	12	PN		Pn	06 36 13.8	-0.4
PET				S		Sn	06 36 38.3	+0.3
PET	Petropavlovsk	2.00	12	eP		Pn	06 36 13.3	-0.9
PET					AMB	AMB	06 36 14.2	
	comp=E,100nm,0.4s							
PET				eS		Sn	06 36 37.7	-0.3
PET					A	A	06 36 41.0	
	comp=E,1μm,0.4s							
PET	Petropavlovsk	2.00	12	eP		Pn	06 36 14.0	-0.2
PET				eS		Sn	06 36 38.3	+0.3
DALK	Dalny	2.02	14	PN		Pn	06 36 14.1	-0.4
DALK				S		Sn	06 36 38.2	-0.3
DALK	Dalny	2.02	14	eP		Pn	06 36 14.1	-0.4
DALK				eS		Sn	06 36 38.2	-0.3
PETK	Petropavlovsk-	2.05	355	P		Pn	06 36 15.3	+0.5
	comp=E,52nm,0.3s,baz=241,slow=27,SNR=154							
PETK				S		Sn	06 36 43.6	+4.4
	comp=E,60nm,0.3s,baz=343,slow=29,SNR=9.1							
PETK				LR		LR	06 37 25.0	
	comp=E,500nm,18.3s,baz=176,slow=53							
UGLR	Uglovaya	2.21	13	PN		Pn	06 36 17.4	+0.3
UGLR	Uglovaya	2.21	13	eP		Pn	06 36 17.4	+0.3
AVH	Avacha	2.25	12	PN		Pn	06 36 18.2	+0.6
AVH				S		Sn	06 36 46.1	+1.9
AVH	Avacha	2.25	12	eP		Pn	06 36 18.2	+0.6
AVH				eS		Sn	06 36 46.1	+1.9
KOK	Koryaka	2.27	10	PN		Pn	06 36 19.0	+1.1
KOK				S		Sn	06 36 47.5	+2.9
KOK	Koryaka	2.27	10	eP		Pn	06 36 19.0	+1.1
KOK				eS		Sn	06 36 47.5	+2.9
NLC	Nalytchevo	2.27	21	PN		Pn	06 36 17.2	-0.6
NLC	Nalytchevo	2.27	21	P		Pn	06 36 17.2	-0.6
SDLR	Sedlovina	2.28	14	PN		Pn	06 36 17.7	-0.4
SDLR	Sedlovina	2.28	14	eP		Pn	06 36 17.7	-0.4
KRER	Koryakskii	2.29	12	PN		Pn	06 36 18.8	+0.5
KRER				S		Sn	06 36 47.1	+1.7
KRER	Koryakskii	2.29	12	eP		Pn	06 36 18.8	+0.5
KRER				eS		Sn	06 36 47.1	+1.7
KRX	Arik	2.33	10	PN		Pn	06 36 19.5	+0.7
KRX				S		Sn	06 36 48.7	+2.4
KRX	Arik	2.33	10	eP		Pn	06 36 19.5	+0.7
KRX				eS		Sn	06 36 48.7	+2.4
SPN	Mys Shipunski	2.40	31	PN		Pn	06 36 20.6	+1.1
SPN				S		Sn	06 36 50.2	+2.5
SPN	Mys Shipunski	2.40	31	eP		Pn	06 36 20.6	+1.1
SPN				eS		Sn	06 36 50.2	+2.5
GNL	Ganaly	2.63	360	PN		Pn	06 36 23.9	+1.0
GNL	Ganaly	2.63	360	eP		Pn	06 36 23.9	+1.0
KII	Karymskiy	3.11	16	PN		Pn	06 36 29.8	+0.4
KII	Karymskiy	3.11	16	eP		Pn	06 36 29.8	+0.4
KMNR	Kamenistaya	4.89	15	PN		Pn	06 36 56.7	+2.9
KMNR	Kamenistaya	4.89	15	eP		Pn	06 36 56.7	+2.9
KPT	Kopyto	5.09	14	PN		Pn	06 36 59.0	+2.5
KPT	Kopyto	5.09	14	eP		Pn	06 36 59.0	+2.5
KIRR	Kirishev	5.09	15	PN		Pn	06 36 59.0	+2.4
KIRR	Kirishev	5.09	15	eP		Pn	06 36 59.0	+2.4
BZMR	Bezymyannaya	5.10	16	PN		Pn	06 36 59.4	+2.6
BZMR	Bezymyannaya	5.10	16	eP		Pn	06 36 59.4	+2.6
BZWR	Bezymyannyi-We	5.13	16	PN		Pn	06 37 00.2	+3.0
BZWR	Bezymyannyi-We	5.13	16	eP		Pn	06 37 00.2	+3.0
LGNR	Loginova	5.28	17	PN		Pn	06 37 02.3	+3.0
LGNR	Loginova	5.28	17	eP		Pn	06 37 02.3	+3.0
CIRR	Tsirk	5.32	17	PN		Pn	06 37 02.9	+3.2
CIRR	Tsirk	5.32	17	eP		Pn	06 37 02.9	+3.2
KRSR	Krestovskiy	5.38	16	PN		Pn	06 37 03.6	+3.0
KRSR	Krestovskiy	5.38	16	eP		Pn	06 37 03.6	+3.0
SRKR	Sorokina	5.91	17	PN		Pn	06 37 08.3	+0.6
SRKR	Sorokina	5.91	17	eP		Pn	06 37 08.3	+0.6
KUR	Kuril'sk	8.92	233	PN		Pn	06 37 53.4	+4.5
KUR				S		Sn	06 39 34.8	+6.9
KUR					pmax	pmax		
	comp=Z,46nm,0.6s							
KUR					pmax	pmax		
	comp=E,35nm,0.4s							
KUR					pmax	pmax		
	comp=N,19nm,0.6s							
KUR	Kuril'sk	8.92	233	eP		Pn	06 37 47.8	-1.1
KUR					AMB	AMB	06 38 00.9	
	comp=N,50nm,0.6s							
KUR				eS		Sn	06 39 24.3	-3.6
MA2	Magadan	9.46	337	LR		LR	06 41 37.8	
	comp=N,92nm,20.9s,baz=186,slow=38							
UGL	Uglegorsk	10.42	265	ePN		Pn	06 38 07.2	-2.1
SHO	Shikotan	10.42	231	PN		Pn	06 38 08.3	-1.1
SHO					pmax	pmax		
	comp=Z,89nm,0.8s							
SHO					pmax	pmax		
	comp=E,23nm,0.5s							
SHO					pmax	pmax		
	comp=N,26nm,0.7s							
SHO	Shikotan	10.42	231	eP		Pn	06 38 08.3	-1.1
SHO					AMB	AMB	06 38 14.0	
	comp=N,89nm,0.8s							
SHO				eS		Sn	06 39 58.8	-5.8
SEY	Seymchan	12.27	348	P		Pn	06 38 36.1	+1.6
	comp=N,0.1nm,0.3s,baz=156,slow=20,SNR=3.0							
ASAJ	Asahikawa	12.48	242	P		Pn	06 38 42.1	+4.6
	comp=N,1.1nm,0.3s,baz=276,slow=5.2,SNR=7.3							
HABR	Khabarovsk	15.02	269	eP		Pn	06 39 09.6	-2.0
HABR				eS		Sn	06 41 55.2	-1.4
HABR					pmax	pmax		
	comp=N,78nm,1.8s							
HABR					pmax	pmax		
	comp=Z,85nm,1.8s							
HABR					pmax	pmax		
	comp=E,60nm,1.8s							
HABR					MLR	MLR		
	comp=Z,73nm,14.0s							
KLR	Kul'dur	16.88	274	P		P	06 39 38.3	+1.7
	comp=Z,0.1nm,0.3s,baz=65,slow=7.6,SNR=9.8							
KLR				LR		LR	06 45 56.1	
	comp=Z,8.2nm,21.5s,baz=52,slow=36							
KLR	Kul'dur	16.88	274	iP		Pn	06 39 35.4	+0.2
MJA0	Matsu Arr-Jizo	20.24	232	eP		Pn	06 40 17.9	+2.0
MJA0					pmax	pmax		
	comp=Z,1.0nm,0.5s							
MJAR	Matsushiro Arr	20.26	232	P		P	06 40 14.3	+0.5
	comp=Z,1.2nm,0.5s,baz=16,slow=9.3,SNR=6.1							
TIXI	Tiksi	24.43	338	P		P	06 40 55.4	-0.6
	comp=Z,6.6nm,0.5s,baz=119,slow=9.7,SNR=6.5							
TIXI				LR		LR	06 51 37.4	
	comp=Z,47nm,18.4s,baz=222,slow=39							
KSRS	Korea Array	25.25	249	P		P	06 41 05.2	+1.4
	comp=Z,2.9nm,0.8s,baz=47,slow=9.5,SNR=6.6							
KSRS				LR		LR	06 49 46.5	
	comp=Z,30nm,19.5s,baz=220,slow=33							
JNU	Nakatsue	26.71	238	P		P	06 41 17.9	+0.8
	comp=Z,4.5nm,0.7s,baz=90,slow=6.1,SNR=3.7							
JNU				LR		LR	06 52 32.5	
	comp=Z,41nm,18.9s,baz=136,slow=38							
ILAR	Eielson Array	31.18	43	P		P	06 41 55.6	-0.9
	comp=Z,0.7nm,0.7s,baz=260,slow=7.4,SNR=7.4							
H11N2	WAKE ISLAND Hy	32.06	164	T		T	07 15 52.4	
	baz=350,slow=76,SNR=553							
H11N3	WAKE ISLAND Hy	32.07	164	T		T	07 16 01.0	
	baz=350,slow=76,SNR=503							
H11N1	WAKE ISLAND Hy	32.07	164	T		T	07 16 01.3	
	baz=350,slow=76,SNR=341							
ULN	Ulaanbaatar	32.71	285	eP		P	06 42 09.1	-1.1
ULN					pmax	pmax		
	comp=Z,1.0nm,1.1s							
SONM	Songino Array	33.12	285	PcP		PcP	06 44 56.1	+0.3
	comp=Z,0.8nm,0.6s,baz=90,slow=2.9,SNR=5.1							
SONM				LR		LR	06 56 57.6	
	comp=Z,68nm,18.2s,baz=90,slow=38							
H11S1	WAKE ISLAND Hy	33.22	165	T		T	07 17 22.7	
	baz=350,slow=76,SNR=439							
H11S3	WAKE ISLAND Hy	33.23	165	T		T	07 17 23.5	
	baz=350,slow=76,SNR=289							
H11S2	WAKE ISLAND Hy	33.24	165	T		T	07 17 24.1	
	baz=350,slow=76,SNR=117							
INK	Inuvik	36.28	36	P		P	06 42 40.3	-0.3
	comp=Z,2.6nm,0.7s,baz=295,slow=6.6,SNR=7.1							
INK	Inuvik	36.28	36	P		P	06 42 40.3	-0.3
INK					pmax	pmax		
	comp=Z,2.0nm,0.6s							
NRIK	Noril'sk	36.83	326	LR		LR	06 57 58.8	
	comp=Z,51nm,22.0s,baz=117,slow=36							
ZALV	Zalesovo Beam	42.79	304	LR		LR	07 00 21.2	
	comp=Z,20nm,21.5s,baz=70,slow=35							
ZALV	Zalesovo Beam	42.79	304	eP		P	06 43 30.5	-4.4
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.3s							
YKA	Yellowknife Ar	45.55	41	P		P	06 43 55.2	-1.6
	comp=Z,0.9nm,0.7s,baz=296,slow=7.5,SNR=2.7							
MKAR	Makanchi Array	47.86	296	P		P	06 44 14.4	-0.8
	comp=Z,0.8nm,0.4s,baz=60,slow=7.3,SNR=13							
MKAR				LR		LR	07 05 05.5	
	comp=Z,55nm,19.0s,baz=44,slow=37							
ARCES	ARCESS Array B	54.80	341	P		P	06 45 06.2	-0.5
	comp=Z,3.3nm,1.0s,baz=40,slow=9.6,SNR=5.1							
CMAR	Chiang Mai Arr	56.47	257	P		P	06 45 20.1	+0.7
	comp=Z,3.8nm,0.7s,baz=29,slow=7.2,SNR=19							
CMAR	Chiang Mai Arr	56.47	257	eP		P	06 45 21.0	+1.6
CMAR					pmax	pmax		
	comp=Z,4.0nm,0.7s							
PDAR	Pinedale Array	59.68	58	P		P	06 45 42.8	+0.9
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=6.1							
FINES	FINESS Array B	61.45	336	P		P	06 45 51.9	-1.4
	comp=Z,2.6nm,0.8s,baz=36,slow=7.1,SNR=8.3							
GEYT	Alibeck	67.07	302	P		P	06 46 30.6	0.0
	comp=Z,2.1nm,0.7s,baz=0.0,slow=3.0,SNR=3.5							
AKASG	Malin Array Be	69.66	328	LR		LR	07 20 32.1	
	comp=Z,24nm,19.2s,baz=325,slow=39							
TXAR	Lajitas Array	72.66	65	P		P	06 47 05.4	+0.3
	comp=Z,0.8nm,0.7s,baz=299,slow=5.1,SNR=14							
BURAR	Bucovina Array	73.65	329	iP		P	06 47 10.1	-0.5
GERES	GERESS Array B	75.87	337	P		P	06 47 22.9	-0.5
	comp=Z,0.6nm,0.4s,baz=34,slow=6.4,SNR=12							
ASAR	Alice Springs	77.38	203	P		P	06 47 32.8	+0.9
	comp=Z,0.6nm,0.6s,baz=19,slow=5.5,SNR=4.5							
ESDC	Sonseca Array	88.26	346	P		P	06 48 27.2	-1.2
	comp=Z,0.9nm,0.7s,baz=7.9,slow=4.2,SNR=5.8							
KEST	Kesra	89.27	335	LR		LR	07 31 57.2	
	comp=Z,33nm,18.1s,baz=227,slow=38							

*IDC **02** 06:37:34.2±0.7,32°.80S×178°.89W,h0km,mb4.4/9, mb1 4.5/11,mb1mx4.3/28,mbtmp4.4/11,ML4.4/2,MS3.9/17, Ms1 3.9/17,ms1mx3.8/30,Error ellipse: s-maj=20.3km s-min=16.8km az=3.0*
*ISCJB **02** 06:37:37.9±0.5,33°.09S±0°.03×178°.74W±0°.09,h32km, mb4.7/20,MS4.0/19,Error ellipse: s-maj=11.4km s-min=4.7km az=9.9*
*NEIC **02** 06:37:39.5±0.4,32°.94S×178°.68W,h35km,mb4.7/10, Error ellipse: s-maj=12.3km s-min=6.6km az=105.0*

ISC 02 06:37:39.3±0.5,33°.00S±0°.05×178°.65W±0°.09,h32km, n114,σ1§97/114,mb4.9/20,MS4.0/19,1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.79	10		Pn	Pn	06 38 26.7	-8.9
	44nm,0.3s,baz=81,slow=19,SNR=2.7							
RAO					Sn	Sn	06 39 17.0	-2.1
	106nm,0.3s,baz=270,slow=20,SNR=3.1							
RAO	Raoul Island	3.79	10	ePn		Pn	06 38 32.8	-2.7
RAO				eSn		Sn	06 39 20.0	+0.9
RAO				ePcP		PcP	06 46 03.7	-2.9
MXZ	Matakaoa Point	5.18	208	ePn		Pn	06 38 53.9	-0.8
MXZ	Matakaoa Point	5.18	208	PN		Pn	06 38 54.8	+0.2
WMGZ	Waiomatatini S	5.37	206	PN		Pn	06 38 57.4	+0.2
WMGZ				SN		Sn	06 40 02.2	+4.4
PKGZ	Pakihiroa	5.56	208	PN		Pn	06 38 58.9	-1.0
HAZ	Te Kaha	5.56	211	PN		Pn	06 38 59.4	-0.5
PUZ	Puketiti	5.65	206	PN		Pn	06 39 00.1	-1.0
RUGZ	Raukumara Rang	5.79	210	PN		Pn	06 39 03.4	+0.3
RUGZ				SN		Sn	06 40 13.1	+4.7
TWGZ	Tauwhareparae	5.84	207	PN		Pn	06 39 05.5	+1.7
TKGZ	Te Karaka	6.12	207	PN		Pn	06 39 08.0	+0.4
MWZ	Matawai	6.16	209	PN		Pn	06 39 07.0	-1.1
URZ	Urewera	6.28	212	Pn		Pn	06 39 09.7	0.0
	12nm,0.3s,baz=273,slow=3.2,SNR=38							
URZ				Sn		Sn	06 40 20.8	+0.5
	9.4nm,0.3s,baz=278,slow=11,SNR=6.5							
URZ	Urewera	6.28	212	PN		Pn	06 39 08.8	-0.8
RIGZ	Rimuhau	6.39	206	PN		Pn	06 39 10.2	-1.1
PRGZ	Paritu Road	6.54	204	PN		Pn	06 39 11.1	-2.3
KNZ	Kokohu	6.70	205	PN		Pn	06 39 12.5	-3.0
MHGZ	Mahia Peninsul	6.74	203	PN		Pn	06 39 12.8	-3.2
OUZ	Omahuta	6.80	249	ePn		Pn	06 39 22.2	+5.4
NMHZ	Naumai	7.11	210	PN		Pn	06 39 21.1	0.0
BKZ	Black Stump Fm	7.30	211	ePn		Pn	06 39 23.4	-0.3
KWHZ	Kaweka Forest	7.54	210	PN		Pn	06 39 25.5	-1.6
HIZ	Hauiti	7.62	222	ePn		Pn	06 39 27.6	-0.5
BFZ	Birch Farm	8.68	207	ePn		Pn	06 39 38.5	-4.1
BFZ				eSn		Sn	06 41 16.9	-2.6
MRZ	Mangatainoka R	8.93	210	PN		Pn	06 39 42.1	-4.0
SNZO	South Karori	9.84	211	ePn		Pn	06 39 59.4	+0.9
SNZO				eSn		Sn	06 41 41.4	-6.3
THZ	Tophouse	11.02	215	ePn		Pn	06 40 08.8	-5.9
THZ				eSn		Sn	06 42 13.7	-3.1
KHZ	Kahutara	11.24	211	ePn		Pn	06 40 14.4	-3.3
KHZ				eSn		Sn	06 42 16.9	-5.3
RPZ	Rata Peaks	13.39	214	Pn		Pn	06 40 46.4	-0.7
	1.2nm,0.3s,baz=7.6,slow=17,SNR=4.5							
RPZ				Sn		Sn	06 43 05.0	-10
	1.3nm,0.3s,baz=322,slow=21,SNR=6.0							
MSVF	Nonsavu	15.49	348	ePn		Pn	06 41 15.2	-0.4
	60nm,1.6s							
DCZ	Deep Cove	16.57	217	ePn		Pn	06 41 28.3	-0.9
	159nm,1.9s							
DZM	Mont Dzumac	17.11	306	Pn		P	06 41 38.6	+1.0
	0.1nm,0.3s,baz=107,slow=17,SNR=7.1							
DZM				LR		LR	06 47 10.0	
	comp=Z,1μm,18.3s,baz=178,slow=34							
DZM	Mont Dzumac	17.11	306	eP		P	06 41 39.8	+2.2
	82nm,1.1s							
DZM				eLR		LR	06 45 36.9	
	1μm,23.1s							
DZM	Mont Dzumac	17.11	306	ePn		P	06 41 39.9	+2.2
	38nm,1.1s							
MCQ	Macquarie Isla	26.68	210	eP		P	06 43 15.2	0.0
	463nm,1.9s							
TBI	Tubuai	27.39	77	eLR		LR	06 50 07.7	
	372nm,28.2s							
EIDS	Eidsvold	27.43	278	eP		P	06 43 23.1	+0.8
	34nm,1.2s							
PPT2	Papeete2	30.31	67	eLR		LR	06 51 25.6	
	363nm,26.0s,baz=216							
HNR	Honiara	30.66	315	LR		LR	06 54 03.0	
	comp=Z,66nm,18.4s,baz=158,slow=32							
STKA	Stephens Creek	33.44	261	P		P	06 44 14.1	-1.2
	3.9nm,0.9s,baz=96,slow=6.6,SNR=5.8							
STKA				LR		LR	06 57 14.8	
	comp=Z,522

SNAA	**Sanae**	**75.57**	**179**	*e*P		**P**	**06 49 20.7**	**+0.3**
	9.1nm,1.1s							
MJAR	**Matsushiro Arr**	**80.07**	**326**	LR		LR	07 20 49.2	
	comp=Z,33nm,20.9s,baz=85,slow=32							
PLCA	**Paso Flores**	**81.14**	**133**	P		**P**	**06 49 52.4**	**+0.6**
	1.1nm,0.4s,baz=214,slow=11,SNR=3.0							
PLCA				LR		LR	07 18 22.2	
	comp=Z,43nm,19.9s,baz=302,slow=30							
KSRS	**Korea Array**	**85.98**	**320**	P		**P**	**06 50 15.6**	**-0.7**
	1.7nm,0.7s,baz=146,slow=4.2,SNR=4.8							
KSAR	**Wonju Array Be**	**85.99**	**320**	P		**P**	**06 50 15.6**	**-0.8**
NJ2	**Nanjing**	**87.52**	**311**	*e*P		**P**	**06 50 25.4**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
PETK	**Petropavlovsk-**	**88.19**	**346**	P		**P**	**06 50 26.0**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=124,slow=5.8,SNR=3.1							
PETK	**Petropavlovsk-**	**88.19**	**346**	P		**P**	**06 50 26.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**89.03**	**327**	P		**P**	**06 50 30.8**	**0.0**
	comp=Z,2.0nm,0.7s,baz=132,slow=2.1,SNR=3.3							
CMAR	**Chiang Mai Arr**	**93.74**	**289**	LR		LR	07 37 24.0	
	comp=Z,28nm,18.1s,baz=115,slow=38							
TXAR	**Lajitas Array**	**94.25**	**58**	LR		LR	07 27 45.2	
	comp=Z,44nm,18.0s,baz=0.0,slow=32							
LPAZ	**La Paz**	**97.57**	**115**	LR		LR	07 25 18.3	
	comp=Z,32nm,21.8s,baz=258,slow=29							
HHC	**Hu-ho-hao-te**	**97.64**	**314**	*e*P		Pdif	06 51 12.1	+1.3
HHC				PP		**PP**	**06 55 13.4**	**+4.3**
HHC	**Hu-ho-hao-te**	**97.64**	**314**	SKS		**SKSac**	**07 01 45.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**97.64**	**314**	S		**S**	**07 02 32.0**	**-1.7**
HHC	**Hu-ho-hao-te**	**97.64**	**314**	SS		SS	07 09 17.2	+2.3
HHC				pmax		pmax		
	comp=Z,19nm,1.1s							
HHC				pmax		pmax		
	comp=Z,110nm,5.2s							
HHC				LR		LR		
	comp=N,170nm,17.7s							
HHC				LR		LR		
	comp=E,290nm,17.1s							
HHC				LR		LR		
	comp=Z,64nm,18.0s							
PDAR	**Pinedale Array**	**98.39**	**44**	LR		LR	07 30 08.5	
	comp=Z,50nm,18.9s,baz=254,slow=32							
CPUP	**Villa Florida**	**98.79**	**129**	LR		LR	07 30 37.8	
	comp=Z,41nm,18.4s,baz=214,slow=32							
LZH	**Lanzhou**	**99.83**	**307**	*e*P		**Pdif**	**06 51 20.2**	**-0.5**
LZH				pP		pP	06 51 31.3	+0.3
LZH				sP		sP	06 51 36.5	+1.9
LZH				*e*PP		**PP**	**06 55 28.4**	**+2.4**
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
LZH				pmax		pmax		
	comp=Z,75nm,6.3s							
LZH				LR		LR		
	comp=N,140nm,17.0s							
LZH				LR		LR		
	comp=E,120nm,17.3s							
LZH				LR		LR		
	comp=Z,170nm,19.6s							
MKAR	**Makanchi Array**	**119.00**	**309**	PKP		**PKPdf**	**06 56 23.0**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=93,slow=2.4,SNR=4.2							
KSH	**Kashi**	**121.06**	**299**	*e*PKP		**PKPdf**	**06 56 29.7**	**+0.9**
KSH				*es*PKP			06 56 45.8	
KSH				*e*PP		**PP**	**06 58 05.9**	**+6.7**
KSH				PKS		**PKSdf**	**07 00 06.5**	**+1.0**
KSH				SKS		**SKSdf**	**07 03 37.1**	**-1.4**
KSH				SKKS		**SKKSac**	**07 04 51.8**	**-4.1**
KSH	**Kashi**	**121.06**	**299**	SS		SS	07 14 35.2	+5.1
KSH				AMB		AMB		
	comp=Z,38nm,4.5s							
KSH				LR		LR		
	comp=N,93nm,5.0s							
KSH				LR		LR		
	comp=E,70nm,4.7s							
KSH				LR		LR		
	comp=Z,87nm,5.4s							
KURK	**Kurchatov**	**122.42**	**313**	*e*PKPdf		**PKPdf**	**06 56 30.9**	**+0.1**
KMBO	**Kilima Mbogo**	**132.06**	**232**	SKPbc		**SKPab**	**07 00 16.4**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=68,slow=3.6,SNR=8.9							
ARCES	**ARCESS Array B**	**141.00**	**347**	PKP		**PKPdf**	**06 57 04.0**	**-1.2**
	comp=Z,5.5nm,1.1s,baz=75,slow=1.4,SNR=4.3							
FIA1	**FINESS Array S**	**147.37**	**338**	*e*PKPdf		**PKPbc**	**06 57 18.1**	**-0.8**
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc		**PKPbc**	**06 57 17.8**	**-1.2**
	comp=Z,12nm,0.6s,baz=52,slow=3.6,SNR=46							
MARD	**Mardin**	**147.64**	**289**	*e*PKPdf		**PKPbc**	**06 57 20.4**	**-0.3**
NB2	**NORSAR Subarra**	**151.22**	**350**	PKP		**PKPbc**	**06 57 27.7**	**-1.1**
	comp=Z,7.3nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.22**	**350**	PKPbc		**PKPbc**	**06 57 27.6**	**-1.1**
	baz=24,slow=4.1							
IZAR	**Zarasai**	**151.41**	**330**	*e*P		**PKPbc**	**06 57 27.2**	**-2.0**
IZAR				IAmb		IAmb	06 57 30.7	
	comp=Z,5.2nm,0.5s							
IDID	**Didziasalis**	**151.50**	**329**	*e*P		**PKPbc**	**06 57 29.0**	**-0.4**
IDID				IAmb		IAmb	06 57 30.8	
	comp=Z,3.0nm,0.5s							
ISAL	**Salakas**	**151.59**	**330**	*e*P		**PKPdf**	**06 57 24.3**	**+0.9**
ISAL				IAmb		IAmb	06 57 29.5	
	comp=Z,4.9nm,0.9s							
IIGN	**Ignalina**	**151.69**	**330**	*e*P		**PKPdf**	**06 57 25.9**	**+2.3**
IIGN				IAmb		IAmb	06 57 31.0	
	comp=Z,13nm,1.5s							
AKASG	**Malin Array Be**	**152.97**	**319**	PKPbc		**PKPbc**	**06 57 31.1**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=52,slow=2.6,SNR=13							
KIEV	**Kiev**	**152.98**	**319**	*e*PKPbc		**PKPbc**	**06 57 32.8**	**-0.1**
BR131	**Keskin Array S**	**153.25**	**294**	*e*PKPbc		**PKPbc**	**06 57 33.5**	**-0.6**
BRTR	**Keskin Array B**	**153.25**	**294**	PKPbc		**PKPbc**	**06 57 33.0**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=116,slow=3.8,SNR=11							
DPC	**Dobruska-Polom**	**159.44**	**332**	*e*PKPAB		**PKPab**	**06 58 11.5**	**-0.6**
DPC				*ex*		x	06 58 16.6	
CLL	**Collm**	**159.82**	**338**	*i* PKPab		**PKPab**	**06 58 12.3**	**-1.3**
BRG	**Berggiesshubel**	**159.89**	**336**	*e*PKP		**PKPab**	**06 58 12.8**	**-1.2**
	comp=Z,5.3nm,1.1s							
PVCC	**Panska Ves**	**159.96**	**335**	*e*PKPAB		**PKPab**	**06 58 13.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**160.23**	**181**	PKPab		**PKPab**	**06 58 15.3**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=168,slow=3.2,SNR=4.6							
PRU	**Pruhonice**	**160.41**	**334**	*e*PKPab		**PKPab**	**06 58 15.7**	**-0.6**
KHC	**Kasperske Hory**	**161.48**	**334**	*e*PKPab		**PKPab**	**06 58 20.3**	**-0.7**
CONA	**Conrad Observa**	**161.50**	**328**	*i* PKPab		**PKPab**	**06 58 20.8**	**-0.4**
	comp=Z,2.5nm,0.8s							
GERES	**GERESS Array B**	**161.67**	**333**	PKPab		**PKPab**	**06 58 19.9**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=42,slow=4.2,SNR=7.4							
ARSA	**Arzberg**	**162.16**	**327**	*i* PKPab		**PKPab**	**06 58 22.5**	**-1.5**
	comp=Z,1.3nm,1.1s							
MOA	**Molln**	**162.25**	**330**	*i* PKPab		**PKPab**	**06 58 23.7**	**-0.7**
	comp=Z,2.1nm,0.8s							
SOKA	**Soboth**	**162.81**	**327**	*i* PKPab		**PKPab**	**06 58 26.9**	**-0.1**
	comp=Z,2.0nm,1.2s							
WATA	**Walderalm**	**163.71**	**334**	*i* PKPab		**PKPab**	**06 58 29.4**	**-1.6**
	comp=Z,2.6nm,0.8s							
RETA	**Reutte**	**163.87**	**336**	*i* PKPab		**PKPab**	**06 58 30.9**	**-0.7**
	comp=Z,2.5nm,0.5s							
MOTA	**Moosalm**	**163.87**	**335**	*i* PKPab		**PKPab**	**06 58 29.3**	**-2.5**
	comp=Z,2.8nm,0.9s							
FETA	**Feichten**	**164.28**	**336**	*i* PKPab		**PKPab**	**06 58 32.3**	**-1.2**
	comp=Z,2.9nm,0.8s							
DAVA	**Damuels**	**164.33**	**338**	*i* PKPab		**PKPab**	**06 58 32.8**	**-0.9**
	comp=Z,5.0nm,1.0s							

SKHL ***02*** *06:40:08.6±0.1,50°.94N×158°.18E,h41km±1km,mb4.2/2*
KRSC ***02*** *06:40:08.3±1.5,51°.03N×157°.99E,h42km±19km,ML4.0*
MOS ***02*** *06:40:09.4±0.8,51°.02N×157°.91E,h38km,mb4.2/1,Error ellipse: s-maj=33.4km s-min=5.9km az=83.5*
ISC 02 06:40:11.6±5.8,51°.08N±0°.10×157°.89E±0°.09,h38km±9km, n38,σ1°25/70,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.19**	**251**	PN	**Pn**	**06 40 30.3**	**-1.4**
SKR				S	**Sn**	**06 40 47.0**	**+0.4**
SKR	**Severo-Kuril's**	**1.19**	**251**	*e*P	**Pn**	**06 40 30.3**	**-1.4**
SKR				AMB	AMB	06 40 31.1	
	400nm,1.0s						
SKR				*e*S	**Sn**	**06 40 46.6**	**0.0**
SKR				A	A	06 40 50.0	
	2μm,0.5s						
SKR				A	A	06 40 50.0	
	999nm,0.5s						
SKR	**Severo-Kuril's**	**1.19**	**251**	*e*P	**Pn**	**06 40 30.3**	**-1.4**
SKR				*e*S	**Sn**	**06 40 47.0**	**+0.4**
ASAK	**Asacha**	**1.31**	**0**	PN	**Pn**	**06 40 32.0**	**-1.3**
ASAK				S	**Sn**	**06 40 49.7**	**+0.1**
ASAK	**Asacha**	**1.31**	**0**	*e*P	**Pn**	**06 40 32.0**	**-1.3**
ASAK				*e*S	**Sn**	**06 40 49.7**	**+0.1**
RUS	**Russkaya**	**1.41**	**16**	PN	**Pn**	**06 40 32.4**	**-2.3**
RUS				S	**Sn**	**06 40 50.4**	**-1.6**
RUS	**Russkaya**	**1.41**	**16**	*i* P	**Pn**	**06 40 32.4**	**-2.3**
RUS				*e*S	**Sn**	**06 40 50.4**	**-1.6**
MTVR	**Mutnovka**	**1.42**	**7**	PN	**Pn**	**06 40 33.2**	**-1.7**
MTVR				S	**Sn**	**06 40 51.7**	**-0.7**
MTVR	**Mutnovka**	**1.42**	**7**	*e*P	**Pn**	**06 40 33.2**	**-1.7**
MTVR				*e*S	**Sn**	**06 40 51.7**	**-0.7**
GRL	**Gorelyy**	**1.48**	**4**	PN	**Pn**	**06 40 34.7**	**-1.1**
GRL				S	**Sn**	**06 40 54.1**	**+0.2**
GRL	**Gorelyy**	**1.48**	**4**	*e*P	**Pn**	**06 40 34.7**	**-1.1**
GRL				*e*S	**Sn**	**06 40 54.1**	**+0.2**
KRMR	**Karymshinskiy**	**1.76**	**5**	PN	**Pn**	**06 40 38.9**	**-0.6**
KRMR				S	**Sn**	**06 41 01.9**	**+1.3**
KRMR	**Karymshinskiy**	**1.76**	**5**	*e*P	**Pn**	**06 40 38.9**	**-0.6**
KRMR				*e*S	**Sn**	**06 41 01.9**	**+1.3**
APC	**Apacha**	**1.91**	**346**	PN	**Pn**	**06 40 41.5**	**+0.1**
APC	**Apacha**	**1.91**	**346**	*e*P	**Pn**	**06 40 41.5**	**+0.1**
PET	**Petropavlovsk**	**2.00**	**13**	⇑*i*PN	**Pn**	**06 40 41.3**	**-1.6**
PET				*e*S	**Sn**	**06 41 05.6**	**-1.0**
PET				pmax	pmax		
	comp=Z,34nm,0.3s						
PET				smax	smax		
	comp=E,221nm,0.5s						
PET				smax	smax		
	comp=N,297nm,0.5s						
PET	**Petropavlovsk**	**2.00**	**13**	*e*P	**Pn**	**06 40 41.1**	**-1.7**
PET				AMB	AMB	06 40 41.5	
	comp=N,30nm,0.4s						
PET				*e*S	**Sn**	**06 41 05.4**	**-1.2**
PET				A	A	06 41 12.3	
	comp=N,200nm,0.4s						
PET	**Petropavlovsk**	**2.00**	**13**	*e*P	**Pn**	**06 40 41.2**	**-1.6**
PET				*e*S	**Sn**	**06 41 05.7**	**-0.9**
DALK	**Dalny**	**2.03**	**15**	PN	**Pn**	**06 40 41.5**	**-1.6**
DALK				S	**Sn**	**06 41 06.0**	**-1.2**
DALK	**Dalny**	**2.03**	**15**	*e*P	**Pn**	**06 40 41.5**	**-1.6**
DALK				*e*S	**Sn**	**06 41 06.0**	**-1.2**
UGLR	**Uglovaya**	**2.21**	**15**	PN	**Pn**	**06 40 45.9**	**+0.1**
UGLR				S	**Sn**	**06 41 13.9**	**+2.0**
UGLR	**Uglovaya**	**2.21**	**15**	*e*P	**Pn**	**06 40 45.9**	**+0.1**
UGLR				*e*S	**Sn**	**06 41 13.9**	**+2.0**
AVH	**Avacha**	**2.25**	**13**	PN	**Pn**	**06 40 46.5**	**+0.2**
AVH				S	**Sn**	**06 41 14.5**	**+1.7**
AVH	**Avacha**	**2.25**	**13**	*e*P	**Pn**	**06 40 46.5**	**+0.2**
AVH				*e*P	**Pn**	**06 40 46.7**	**+0.4**
AVH				*e*S	**Sn**	**06 41 14.5**	**+1.7**
AVH				*e*S	**Sn**	**06 41 14.6**	**+1.7**
KOK	**Koryaka**	**2.26**	**11**	PN	**Pn**	**06 40 46.9**	**+0.4**
KOK				S	**Sn**	**06 41 15.0**	**+1.8**
KOK	**Koryaka**	**2.26**	**11**	*e*P	**Pn**	**06 40 46.9**	**+0.4**
KOK				*e*S	**Sn**	**06 41 15.0**	**+1.8**
SDLR	**Sedlovina**	**2.29**	**15**	PN	**Pn**	**06 40 45.8**	**-1.0**
SDLR				S	**Sn**	**06 41 14.6**	**+0.8**
SDLR	**Sedlovina**	**2.29**	**15**	*e*P	**Pn**	**06 40 45.8**	**-1.0**
SDLR				*e*S	**Sn**	**06 41 14.6**	**+0.8**
KRER	**Koryakskii**	**2.29**	**13**	PN	**Pn**	**06 40 47.2**	**+0.2**
KRER	**Koryakskii**	**2.29**	**13**	*e*P	**Pn**	**06 40 47.2**	**+0.2**
KRX	**Arik**	**2.33**	**11**	PN	**Pn**	**06 40 47.7**	**+0.2**
KRX				S	**Sn**	**06 41 16.7**	**+1.8**
KRX	**Arik**	**2.33**	**11**	*e*P	**Pn**	**06 40 47.7**	**+0.2**
KRX				*e*S	**Sn**	**06 41 16.7**	**+1.8**
SPN	**Mys Shipunski**	**2.41**	**32**	PN	**Pn**	**06 40 48.6**	**+0.2**
SPN				S	**Sn**	**06 41 18.8**	**+2.1**
SPN	**Mys Shipunski**	**2.41**	**32**	*e*P	**Pn**	**06 40 48.6**	**+0.2**
SPN				*e*S	**Sn**	**06 41 18.8**	**+2.1**
GNL	**Ganaly**	**2.62**	**1**	PN	**Pn**	**06 40 51.6**	**+0.2**
GNL	**Ganaly**	**2.62**	**1**	*e*P	**Pn**	**06 40 51.6**	**+0.2**
KBG	**Krutoberegovo**	**5.92**	**27**	*e*P	**Pn**	**06 41 36.0**	**-0.6**
TYV	**Tymovskoe**	**9.62**	**275**	*e*P	**Pn**	**06 42 29.0**	**+1.7**

MEX 02 06:50:05.8±0.6,17°.00N×100°.08W,h5km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**285**	*e*P	Pg	06 50 08.9	-0.5
CAIG				*e*S	Sg	06 50 11.5	-0.4
ACP2	**Acapulco**	**0.23**	**123**	*e*P	Pg	06 50 09.8	-0.5
ACP2				*e*S	Sg	06 50 13.4	+0.2
ACX	**Acapulco**	**0.25**	**121**	*e*P	Pb	06 50 13.9	+1.1
ACX				*e*S	Sb	06 50 17.7	+0.2
MEIG	**Mezcala**	**1.02**	**26**	*e*P	Pg	06 50 22.5	-2.9
MEIG				*e*S	Sg	06 50 36.5	-2.3
ARIG	**Puente Sto Nin**	**1.30**	**349**	*e*P	Pn	06 50 27.3	-3.4
ARIG				*e*S	Sg	06 50 43.4	-4.2
ZIIG	**Zihuatanejo**	**1.45**	**295**	*e*P	Pn	06 50 29.8	-2.9
ZIIG				*e*S	Sb	06 50 47.8	-4.3

IDC 02 06:57:19.0±3.4,5°.71S×154°.05E,h0km,mb3.1/2, mb1 3.4/2,mb1mx3.2/25,mbtmp3.1/2,MS3.6/2,Ms1 3.6/2, ms1mx3.0/14,Error ellipse: s-maj=157.1km s-min=48.8km az=126.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.82**	**232**	P	P	07 02 33.9	-0.1
	0.5nm,0.7s,baz=59,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**26.36**	**225**	P	P	07 02 57.6	+0.5
	0.2nm,0.6s,baz=58,slow=11,SNR=3.3						
TGY	**Tagaytay City**	**38.30**	**301**	LR	LR	07 19 16.3	
	comp=Z,84nm,19.6s,baz=94,slow=34						
JOW	**Kunigami**	**40.86**	**324**	LR	LR	07 20 00.4	
	comp=Z,70nm,19.3s,baz=348,slow=33						
TORD	**Torodi Ar. Bea**	**151.77**	**287**	PKPbc	PKPbc	07 17 16.1	-0.7
	0.6nm,0.7s,baz=81,slow=2.3,SNR=4.5						

JMA ***02*** *07:02:41.9,24°.10N×121°.74E,h45km±1km,M3.0*
TAP ***02*** *07:02:42.3,24°.10N×121°.69E,h46km,ML3.3,C*
ISC 02 07:02:40.3±1.1,24°.07N±0°.02×121°.77E±0°.02,h13km±9km, n52,σ1°23/87,1C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.16**	**275**	⇓*i*P	Pb	07 02 49.8	+4.6
TWD	baz=272						
				i S	**Sb**	**07 02 55.0**	**+6.6**
	baz=272						
HWA	**Hwalien**	**0.17**	**240**	P	Pb	07 02 50.1	+4.7
HWA	baz=201						
				*e*S	**Sb**	**07 02 55.6**	**+6.8**
	baz=201						
ESF	**Shoufeng Towns**	**0.31**	**231**	*e*P	**Pn**	**07 02 51.1**	**+0.6**
	baz=227						
ENA	**Nanau**	**0.36**	**356**	*e*P	**Pn**	**07 02 51.6**	**+0.3**
	baz=6.0						
ENA				*e*S	**Sn**	**07 02 58.4**	**+0.1**
	baz=6.0						
ESL	**Shilin**	**0.40**	**231**	*e*P	**Pn**	**07 02 51.2**	**-0.5**
	baz=225						
WHF	**Hehuan Shan**	**0.47**	**280**	⇓*e*P	**Pn**	**07 02 52.2**	**-0.9**
	baz=273						
WHF				*e*S	**Sn**	**07 02 59.6**	**-1.9**
	baz=273						
NNS	**Nan Shan**	**0.52**	**316**	P	**Pn**	**07 02 53.0**	**-0.6**
	baz=326						
NNS				S	**Sn**	**07 03 00.4**	**-2.0**
	baz=326						
TWC	**Suao**	**0.55**	**8**	P	**Pn**	**07 02 54.5**	**+0.6**
	baz=23						
TWC				*e*S	**Sn**	**07 03 03.2**	**+0.4**
	baz=23						
TWT	**Tachien**	**0.57**	**289**	P	**Pn**	**07 02 54.3**	**-0.1**
	baz=287						
TWT				S	**Sn**	**07 03 02.0**	**-1.7**
	baz=287						
ENTT	**Nioudou**	**0.60**	**342**	*i* P	**Pn**	**07 02 54.3**	**-0.3**
	baz=349						
ENTT				S	**Sn**	**07 03 02.5**	**-1.7**
	baz=349						
TWE	**Neicheng**	**0.66**	**352**	*i* P	**Pn**	**07 02 55.2**	**-0.2**
	baz=353						
TWE				*e*S	**Sn**	**07 03 05.6**	**-0.1**
	baz=353						
EHY	**Hungye**	**0.69**	**216**	*e*P	**Pn**	**07 02 55.9**	**+0.1**
	baz=209						
NSK	**Sanguang**	**0.71**	**328**	⇑*i*P	**Pn**	**07 02 55.7**	**-0.5**
	baz=333						
NSK				*i* S	**Sb**	**07 03 04.4**	**0.0**
	baz=333						
SMLT	**Sun Moon Lake**	**0.82**	**257**	P	**Pn**	**07 02 57.4**	**-0.2**
	baz=249						
SMLT				*e*S	**Sn**	**07 03 08.6**	**-1.1**
	baz=249						
TWF1	**Yuli**	**0.83**	**212**	*e*P	**Pg**	**07 02 56.1**	**-0.3**
	baz=213						
TYC	**Yuchr**	**0.85**	**259**	*e*P	**Pn**	**07 02 57.5**	**-0.4**
	baz=252						
TYC				*e*S	**Sb**	**07 03 08.5**	**+0.3**
	baz=252						
NSTT	**Nanjuang**	**0.90**	**309**	*i* P	**Pn**	**07 02 59.0**	**+0.3**
	baz=310						
NSTT				*i* S	**Sb**	**07 03 10.1**	**+0.4**
	baz=310						
TWA	**Mucha**	**0.93**	**349**	*e*P	**Pn**	**07 02 58.9**	**-0.2**
	baz=4.0						
YUS	**Yu-Shan**	**0.94**	**233**	*e*P	**Pn**	**07 02 59.6**	**-0.1**
	baz=222						
YUS				*e*S	**Sn**	**07 03 12.0**	**-1.3**
	baz=222						
TWQ1	**Liyutan**	**0.95**	**287**	P	**Pn**	**07 02 59.5**	**+0.1**
	baz=286						
TWQ1				*e*S	**Sg**	**07 03 11.8**	**+0.6**
	baz=286						
TWB1	**Santiao Chiao**	**0.96**	**12**	*e*P	**Pn**	**07 02 59.5**	**0.0**
	baz=27						
TWB1				*e*S	**Sn**	**07 03 13.5**	**+0.5**
	baz=27						
NSY	**Sanyi**	**0.98**	**291**	*e*P	**Pn**	**07 02 59.9**	**0.0**
	baz=290						
NSY				*e*S	**Sn**	**07 03 13.2**	**-0.5**
	baz=290						
NWF	**Wu-fen Shan**	**1.00**	**1**	*e*P	**Pb**	**07 02 59.4**	**-0.2**
	baz=354						
NWF				*e*S	**Sn**	**07 03 13.9**	**-0.2**
	baz=354						
TCU	**Taichung**	**1.00**	**275**	P	**Pn**	**07 03 00.4**	**+0.3**
	baz=273						
TCU				*e*S	**Sn**	**07 03 13.6**	**-0.5**
	baz=273						
WNT	**Mingjian**	**1.01**	**260**	*e*P	**Pn**	**07 03 00.8**	**+0.6**
	baz=256						
WNT				*e*S	**Sn**	**07 03 14.4**	**+0.1**
	baz=256						
CHKT	**Chengkung**	**1.03**	**201**	*e*P	**Pb**	**07 02 59.3**	**-0.7**
	baz=206						
ALS	**Alishan**	**1.04**	**238**	*e*P	**Pn**	**07 03 01.0**	**+0.1**
	baz=234						
ALS				*e*S	**Sg**	**07 03 14.3**	**+0.2**
	baz=234						
NCU	**National Centr**	**1.05**	**330**	*e*P	**Pn**	**07 03 00.5**	**-0.2**
	baz=332						
NCU				*e*S	**Sb**	**07 03 13.9**	**0.0**
	baz=332						
TWS1	**Kuangyinshan**	**1.08**	**343**	*e*P	**Pg**	**07 03 01.2**	**+0.1**
	baz=346						
TWS1				*e*S	**Sg**	**07 03 15.1**	**-0.1**
	baz=346						
CHN5	**Tsauling**	**1.10**	**245**	P	**Pg**	**07 03 02.1**	**+0.5**
	baz=233						
CHN5				*e*S	**Sn**	**07 03 16.6**	**-0.1**
	baz=233						
ELDTW	**Lidau**	**1.11**	**219**	*e*P	**Pg**	**07 03 01.5**	**-0.3**
	baz=207						
JYNG	**Yonagunijimaku**	**1.14**	**70**	P	**Pb**	**07 03 01.6**	**-0.3**
WGK	**Gukeng**	**1.17**	**251**	*e*P	**Pg**	**07 03 02.9**	**0.0**
	baz=248						
WGK				*e*S	**Sg**	**07 03 18.2**	**+0.2**
	baz=248						
CHN4	**Tsaushan**	**1.29**	**237**	*e*P	**Pg**	**07 03 05.0**	**-0.2**
	baz=224						
CHN4				*e*S	**Sg**	**07 03 21.4**	**-0.6**
	baz=224						
STYT	**Tauyuan**	**1.29**	**226**	*e*P	**Pg**	**07 03 04.8**	**-0.4**
	baz=222						
CHN2	**Minshiung**	**1.30**	**246**	*e*P	**Pg**	**07 03 06.4**	**+1.1**
	baz=234						
CHN2				*e*S	**Sg**	**07 03 22.3**	**+0.1**
	baz=234						
WTP	**Ta-pu**	**1.34**	**233**	*e*P	**Pb**	**07 03 05.3**	**0.0**
	baz=229						
WTP				*e*S	**Sg**	**07 03 22.8**	**-0.7**
	baz=229						
CHY	**Chiayi**	**1.36**	**246**	*e*P	**Pg**	**07 03 06.0**	**-0.4**
	baz=233						
CHY				*e*S	**Sb**	**07 03 23.1**	**+0.3**
	baz=233						
WTCT	**Ta-ch'eng**	**1.38**	**262**	*e*P	**Pg**	**07 03 06.9**	**+0.1**
	baz=260						
WTCT				*e*S	**Sb**	**07 03 23.2**	**-0.2**
	baz=260						
TWG	**Pinlang**	**1.40**	**208**	*e*P	**Pn**	**07 03 05.0**	**-0.5**
	baz=194						
TWK	**Hsinying**	**1.42**	**236**	*e*P	**Pg**	**07 03 07.1**	**-0.5**
	baz=233						
TWK				*e*S	**Sb**	**07 03 24.5**	**-0.2**
	baz=233						
CHN1	**Nanshi**	**1.44**	**233**	*e*P	**Pg**	**07 03 07.3**	**-0.7**
	baz=230						
CHN1				*e*S	**Sb**	**07 03 24.8**	**-0.4**
	baz=230						
SGST	**Jiashian**	**1.46**	**228**	*e*P	**Pb**	**07 03 07.2**	**-0.2**
	baz=217						
SGST				*e*S	**Sb**	**07 03 26.3**	**+0.4**
	baz=217						
WSF	**Szhu**	**1.48**	**254**	*e*P	**Pb**	**07 03 07.2**	**-0.5**
	baz=264						
WSF				*e*S	**Sb**	**07 03 26.7**	**+0.4**
	baz=264						
SSD	**Sandimen**	**1.68**	**219**	*e*P	**Pn**	**07 03 09.7**	**+0.3**
	baz=206						
IRIF	**Iriomote-Funau**	**1.81**	**81**	*e*S	**Sn**	**07 03 34

STKA	**Stephens Creek**	**43.63**	**240**	P	P	07 35 10.2	+0.1
	2.0nm,0.5s,baz=76,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**49.45**	**257**	P	P	07 35 55.8	-0.1
	0.9nm,0.5s,baz=93,slow=7.2,SNR=31						
ASAR	**Alice Springs**	**49.71**	**252**	P	P	07 35 57.6	-0.3
	8.1nm,0.6s,baz=88,slow=8.2,SNR=159						

*ISCJB **02** 07:47:18.8±0.7, 49°.85N±0°.04×78°.71E±0°.07, h0km, Error ellipse: s-maj=7.7km s-min=5.3km az=142.8*
*NNC **02** 07:47:22.7±0.5, 50°.00N×78°.69E, h0km±3km, mb3.3, mpv2.8, Error ellipse: s-maj=6.2km s-min=2.9km az=72.0*
*IDC **02** 07:47:24.1±0.8, 50°.05N×78°.77E, h0km, mb1 3.1/3, mb1mx2.9/41, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=11.2km s-min=6.2km az=58.0*

ISC 02 07:47:23.6±0.9, 50°.05N±0°.05×78°.69E±0°.06, h0km, n11, σ0s82/15, 5C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.58**	**350**	Pg	**Pg**	**07 47 35.1**	**+0.3**
	4.7nm,0.3s,baz=166,slow=17,SNR=89						
KURBB				Lg	Lg	07 47 44.2	
	4.2nm,0.3s,baz=168,slow=32,SNR=26						
KURK	**Kurchatov**	**0.67**	**356**	⇑P	**Pg**	**07 47 36.3**	**-0.1**
	13nm,0.3s						
KURK				⇓S	**Sb**	**07 47 46.9**	**-1.1**
	20nm,0.4s						
MAKZ	**Makanchi**	**3.91**	**145**	⇓Pg	**Pb**	**07 48 33.8**	**+0.4**
	2.8nm,0.6s						
MAKZ				⇑Lg	Lg	07 49 25.5	
	6.5nm,0.5s						
MK31	**Makanchi Array**	**4.04**	**142**	⇑Pn	**Pn**	**07 48 26.2**	**-0.5**
	0.1nm,0.1s,baz=325,slow=10,SNR=35						
MK31				⇑Pg	**Pb**	**07 48 36.3**	**+0.6**
	0.9nm,0.3s,baz=322,slow=14,SNR=26						
MK31				Lg	Lg	07 49 29.5	
	8.1nm,0.5s,baz=326,slow=29,SNR=18						
MKAR	**Makanchi Array**	**4.04**	**142**	Pn	**Pn**	**07 48 27.5**	**+0.8**
	0.6nm,0.3s,baz=322,slow=10,SNR=54						
MKAR				Pg	**Pb**	**07 48 34.2**	**-1.4**
	1.4nm,0.3s,baz=324,slow=14,SNR=21						
MKAR				Lg	Lg	07 49 29.3	
	3.0nm,0.3s,baz=329,slow=30,SNR=16						
ZAA0	**Zalesovo Array**	**5.44**	**42**	⇓Pn	**Pn**	**07 48 45.2**	**-0.7**
	0.3nm,0.6s						
ZAA0				⇓Sn	**Sn**	**07 49 49.7**	**+0.7**
	0.3nm,0.6s						
ZAA0				⇓Lg	Lg	07 50 16.0	
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**5.44**	**42**	Pn	**Pn**	**07 48 46.7**	**+0.8**
	1.4nm,0.3s,baz=230,slow=14,SNR=8.6						
ZALV				Lg	Lg	07 50 16.2	
	0.5nm,0.3s,baz=220,slow=23,SNR=4.3						
I46RU	**ZALESOVO INFRA**	**5.44**	**42**	*i*		08 18 00.0	
	baz=224,slow=315,SNR=3.5						
BVA0	**Borovoye Array**	**5.97**	**303**	⇑Pn	**Pn**	**07 48 52.7**	**-0.5**
	0.8nm,0.4s						
BVA0				⇓Sn	**Sn**	**07 50 03.6**	**+1.3**
	1.2nm,0.4s						
BVA0				⇓Lg	Lg	07 50 33.7	
	2.3nm,0.6s						
BVAR	**Borovoye Array**	**5.97**	**303**	Pn	**Pn**	**07 48 53.3**	**+0.1**
	0.4nm,0.3s,baz=106,slow=11,SNR=5.7						
BVAR				Sn	**Sn**	**07 50 02.4**	**+0.1**
	0.9nm,0.3s,baz=113,slow=24,SNR=7.3						
AAK	**Ala-Archa**	**7.96**	**203**	Lg	Lg	07 51 35.3	
	0.2nm,0.3s,baz=107,slow=20,SNR=3.1						

JMA 02 08:03:06.5±0.3, 36°.78N×144°.28E, h52km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.79**	**283**	P	Pn	08 03 50.0	+1.4
JFK				*e*S	Sn	08 04 21.9	+0.8
ONAJ	**Iwakimizuishiy**	**2.81**	**278**	P	Pn	08 03 50.6	+1.6
ONAJ				*e*S	Sn	08 04 22.4	+0.8
JIO	**Ouri**	**2.87**	**307**	P	Pn	08 03 51.1	+1.4
JFT	**Otama**	**3.24**	**284**	P	Pn	08 03 57.1	+2.3
JFT				*e*S	Sn	08 04 34.1	+2.0
JMK	**Ichinoseki**	**3.25**	**313**	P	Pn	08 03 56.2	+1.2
JMK				*e*S	Sn	08 04 34.0	+1.6
BSO1	**Boso 1**	**3.42**	**233**	P	Pn	08 03 57.8	+0.9
BSO1				*e*S	Sn	08 04 37.2	+1.3
JRY	**Ryogami san**	**4.41**	**262**	P	Pn	08 04 12.3	+1.5
JRY				*e*S	Sn	08 05 01.8	+0.9
MAT	**Matsushiro**	**4.89**	**269**	P	Pn	08 04 20.5	+3.0
MAT				S	Sn	08 05 14.8	+2.1
JOT	**Ohata**	**5.24**	**332**	P	Pn	08 04 24.2	+2.0
JKB	**Kayabe**	**5.69**	**335**	P	Pn	08 04 29.9	+1.6
JCH	**Churui**	**5.87**	**353**	P	Pn	08 04 29.8	-1.1
JCH				*e*S	Sn	08 05 32.5	-4.3
NEM2	**Nemuro 2**	**6.67**	**9**	P	Pn	08 04 38.5	-3.3
NEM2				*e*S	Sn	08 05 49.2	-7.2
JTKR	**Abashiri--Toko**	**7.19**	**358**	P	Pn	08 04 47.5	-1.4
JTKR				*e*S	Sn	08 06 04.0	-5.1

*IDC **02** 08:06:47.4±0.9, 4°.04S×139°.79E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=32.4km s-min=13.7km az=121.0*

ISC 02 08:06:47.4±0.9, 4°.3S±0°.1×139°.9E±0°.2, h10km, n10, σ2s79/9, mb3.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.95**	**24**	Pn	**Pn**	**08 07 17.6**	**-3.0**
	1.8nm,0.3s,baz=221,slow=24,SNR=29						
JAY				Lg	Lg	08 07 42.9	
	1.4nm,0.3s,baz=240,slow=23,SNR=9.0						
WRA	**Warramunga Arr**	**16.46**	**199**	Pn	**Pn**	**08 10 38.2**	**-0.4**
	0.4nm,0.3s,baz=17,slow=13,SNR=12						
WRA				Sn	Sn	08 13 35.9	-5.6
	0.6nm,0.3s,baz=16,slow=22,SNR=5.8						
FITZ	**Fitzroy Crossi**	**19.57**	**224**	P	**P**	**08 11 17.0**	**+1.4**
	0.2nm,0.3s,baz=36,slow=13,SNR=3.7						
FITZ				Sn	S	08 14 45.9	-11
	0.9nm,0.3s,baz=226,slow=18,SNR=7.0						
ASAR	**Alice Springs**	**20.10**	**196**	P	Pn	08 11 25.0	+1.8
	4.7nm,0.6s,baz=24,slow=9.4,SNR=54						
ASAR				S	**S**	**08 15 02.5**	**-4.8**
	0.8nm,0.4s,baz=14,slow=28,SNR=4.0						
CMAR	**Chiang Mai Arr**	**46.28**	**301**	P	**P**	**08 15 13.1**	**-0.5**
	0.5nm,0.3s,baz=128,slow=5.8,SNR=4.1						
MKAR	**Makanchi Array**	**71.78**	**322**	P	**P**	**08 18 10.6**	**+0.4**
	0.8nm,0.7s,baz=108,slow=7.8,SNR=5.2						
ILAR	**Eielson Array**	**86.79**	**24**	P	**P**	**08 19 33.8**	**+2.1**
	0.2nm,0.6s,baz=267,slow=3.9,SNR=3.8						
DBIC	**Dimbokro**	**144.86**	**275**	PKP	PKPbc	08 26 24.6	-0.3
	2.4nm,0.7s,baz=90,slow=6.1,SNR=5.0						
CPUP	**Villa Florida**	**145.26**	**152**	PKPbc	**PKPab**	**08 26 27.1**	**+1.2**
	2.3nm,0.9s,baz=194,slow=12,SNR=6.3						
LPAZ	**La Paz**	**145.53**	**127**	PKPbc	**PKPab**	**08 26 30.4**	**+2.4**
	2.1nm,0.8s,baz=193,slow=3.1,SNR=10						

MEX 02 08:21:17.5±0.3, 17°.36N×101°.23W, h9km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.33**	**317**	*e*P	Pg	08 21 23.8	-0.3
ZIIG				*e*S	Sg	08 21 28.4	-0.1
CAIG	**El Cayaco**	**0.97**	**109**	*e*P	Pg	08 21 33.4	-2.8
CAIG				*e*S	Sg	08 21 45.3	-3.4
ARIG	**Puente Sto Nin**	**1.24**	**42**	*e*P	Pn	08 21 37.3	-3.7
ARIG				*e*S	Sb	08 21 52.3	-4.9
MEIG	**Mezcala**	**1.63**	**70**	*e*P	Pn	08 21 43.0	-3.5
MEIG				*e*S	Sn	08 22 03.0	-4.7
MMIG	**Aquila**	**2.22**	**295**	*e*P	Pn	08 21 51.6	-2.9

*IDC **02** 08:22:49.7±1.1, 51°.19N×64°.19W, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.5/60, mbtmp3.9/7, ML2.2/1, MS3.0/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=28.8km s-min=11.5km az=58.0*
*NEIC **02** 08:22:53.0±0.0, 51°.21N×64°.18W, h26km, mb4.0/1, MN4.0(OTT), After OTT.*
*OTT **02** 08:22:53.9±0.2, 51°.21N×64°.18W, h26km, MN4.0/50, 102km northeast from Mingan, Qc Eastern Background Seismic Zone.*

ISC 02 08:22:52.1±1.2, 51°.23N±0°.04×64°.27W±0°.04, h30km±10km, n78, σ2s32/124, mb4.0/4, 2D, Eastern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATG	**Natashquan Que**	**1.33**	**135**	⇓PG	**Pb**	**08 23 16.3**	**0.0**
NATG				SG	**Sb**	**08 23 33.6**	**+0.7**
NATG				Trac		08 23 36.2	
	comp=Z,1μm,0.2s						
SMQ	**Clarke City**	**1.85**	**238**	PN	**Pn**	**08 23 23.7**	**+2.0**
SMQ				SN	**Sn**	**08 23 47.1**	**+3.1**
SMQ				Trac		08 23 53.2	
	comp=Z,515nm,0.1s						
WBHL	**Wabush**	**2.31**	**317**	PN	**Pn**	**08 23 30.4**	**+2.2**
WBHL				PG	**Pb**	**08 23 33.0**	**-0.1**
WBHL				SN	**Sn**	**08 23 57.8**	**+2.1**
WBHL				LG	Lg	08 24 03.8	
WBHL				Trac		08 24 07.6	
	comp=Z,427nm,0.2s						
ICQ	**Pointe Anglais**	**2.57**	**229**	PN	**Pn**	**08 23 33.5**	**+1.9**
ICQ				PG	**Pb**	**08 23 36.0**	**-1.5**
ICQ				SN	**Sn**	**08 24 03.2**	**+1.4**
ICQ				SG	**Sb**	**08 24 11.2**	**+2.5**
ICQ				Trac		08 24 18.0	
	comp=Z,114nm,0.1s						
MNQ	**Manicouagan**	**2.94**	**258**	⇓PN	**Pn**	**08 23 38.1**	**+1.5**
MNQ				PG	**Pb**	**08 23 43.2**	**-0.5**
MNQ				SN	**Sn**	**08 24 11.9**	**+1.0**
MNQ				LG	Lg	08 24 26.5	
MNQ				Trac		08 24 29.4	
	comp=Z,171nm,0.2s						
GSQ	**Grosses Roches**	**2.96**	**219**	PN	**Pn**	**08 23 39.4**	**+2.5**
GSQ				PG	**Pb**	**08 23 43.9**	**-0.2**
GSQ				SN	**Sn**	**08 24 14.6**	**+3.1**
GSQ				SG	**Sb**	**08 24 25.1**	**+5.3**
GSQ				Trac		08 24 26.2	
	comp=Z,234nm,0.2s						
CNQ	**Baie Comeau**	**3.11**	**233**	Trac		08 24 35.0	
	comp=Z,213nm,0.2s						
SCHQ	**Schefferville**	**3.92**	**338**	Pn	**Pn**	**08 23 52.1**	**+1.9**
	1.6nm,0.3s,baz=172,slow=9.9,SNR=8.2						
SCHQ				Pg	**Pb**	**08 23 58.5**	**-2.0**
	5.8nm,0.3s,baz=78,slow=20,SNR=6.3						
SCHQ				Sn	**Sn**	**08 24 36.4**	**+1.2**
	22nm,0.3s,baz=78,slow=20,SNR=6.3						
SCHQ				Lg	Lg	08 24 51.2	
	64nm,0.3s,baz=258,slow=16,SNR=12						
SCHQ				LR	LR	08 25 34.6	
	comp=Z,107nm,19.1s,baz=28,slow=41						
SCHQ	**Schefferville**	**3.92**	**338**	PN	**Pn**	**08 23 51.8**	**+1.6**
SCHQ				SN	**Sn**	**08 24 37.8**	**+2.5**
SCHQ				LG	Lg	08 24 51.5	
SCHQ				Trac		08 24 58.2	
	comp=Z,152nm,0.2s						
BATG	**Bathurst New B**	**4.13**	**197**	PN	**Pn**	**08 23 54.7**	**+1.6**
BATG				SN	**Sn**	**08 24 41.5**	**+1.2**
BATG				LG	Lg	08 24 56.2	
BATG				Trac		08 25 05.0	
	comp=Z,37nm,0.2s						
DRLN	**Deer Lake**	**4.77**	**112**	PN	**Pn**	**08 24 02.5**	**+0.7**
DRLN				SN	**Sn**	**08 24 53.9**	**-2.2**
DRLN				LG	Lg	08 25 16.0	
DRLN				Trac		08 25 27.6	
	comp=Z,214nm,0.3s						
CHEG	**Cheticamp, Nov**	**5.02**	**150**	PN	**Pn**	**08 24 06.7**	**+1.4**
CHEG				SN	**Sn**	**08 25 02.1**	**-0.2**
YOSQ	**Ashton Mining**	**5.16**	**292**	PN	**Pn**	**08 24 08.2**	**+0.9**
PQI	**Presque Isle**	**5.19**	**210**	PN	**Pn**	**08 24 09.1**	**+1.5**
PQI				SN	**Sn**	**08 25 04.9**	**-1.5**
PQI				LG	Lg	08 25 35.5	
A16	**Riviere Ouelle**	**5.31**	**227**	PN	Pn	08 24 04.8	-4.4
A16				SN	**Sn**	**08 25 07.9**	**-1.5**
A16				LG	Lg	08 25 37.1	
A16				Trac		08 25 49.3	
	comp=Z,138nm,0.4s						
LMN	**Caledonia Moun**	**5.40**	**184**	PN	**Pn**	**08 24 11.8**	**+1.3**
LMN				SN	**Sn**	**08 25 08.8**	**-2.8**
LMN				LG	Lg	08 25 43.6	
LMN				Trac		08 25 53.3	
	comp=Z,26nm,0.4s						
LMQ	**La Malbaie**	**5.41**	**229**	PN	**Pn**	**08 24 12.1**	**+1.5**
LMQ				SN	**Sn**	**08 25 11.1**	**-0.6**
LMQ				LG	Lg	08 25 40.1	
LMQ				Trac		08 25 47.6	
	comp=Z,70nm,0.2s						
LMQ	**La Malbaie**	**5.41**	**229**	*e*Pn	**Pn**	**08 24 11.8**	**+1.2**
LMQ				*e*Sn	**Sn**	**08 25 08.2**	**-3.6**
DMCQ	**Dolbeau-Mistas**	**5.51**	**249**	PN	**Pn**	**08 24 11.5**	**-0.4**
DMCQ				SN	**Sn**	**08 25 14.4**	**+0.2**
DMCQ				LG	Lg	08 25 42.4	
DMCQ				Trac		08 25 44.8	
	comp=Z,81nm,0.2s						
A54	**Misere**	**5.51**	**229**	PN	**Pn**	**08 24 13.4**	**+1.4**
A54				SN	**Sn**	**08 25 13.7**	**-0.7**
A54				LG	Lg	08 25 42.4	
A54				Trac		08 25 50.1	
	comp=Z,95nm,0.4s						
A11	**Saint Roch-des**	**5.57**	**226**	PN	Pn	08 24 08.6	-4.2
A11				SN	**Sn**	**08 25 15.6**	**-0.1**
A11				LG	Lg	08 25 44.2	
A11				Trac		08 25 53.7	
	comp=Z,211nm,0.6s						
DAQ	**Lac Daran**	**5.59**	**237**	PN	**Pn**	**08 24 13.4**	**+0.2**
DAQ				SN	**Sn**	**08 25 17.0**	**+0.6**
DAQ				LG	Lg	08 25 44.4	
DAQ				Trac		08 25 52.1	
	comp=Z,71nm,0.2s						
GBN	**Guysborough**	**6.11**	**161**	PN	**Pn**	**08 24 21.8**	**+1.5**
GBN				SN	**Sn**	**08 25 27.2**	**-1.9**
GBN				LG	Lg	08 26 02.4	
GBN				Trac		08 26 12.7	
	comp=Z,75nm,0.5s						
BCLQ	**Boischatel**	**6.25**	**229**	PN	**Pn**	**08 24 24.3**	**+2.1**
BCLQ				SN	**Sn**	**08 25 31.5**	**-1.1**
BCLQ				LG	Lg	08 26 02.6	
GGN	**Saint George**	**6.36**	**197**	PN	**Pn**	**08 24 24.4**	**+0.8**
GGN				SN	**Sn**	**08 25 33.4**	**-1.7**
GGN				LG	Lg	08 26 12.3	
GGN				Trac		08 26 24.5	
	comp=Z,49nm,0.5s						
QCQ	**Quebec**	**6.41**	**229**	SN	**Sn**	**08 25 34.2**	**-2.3**
QCQ				LG	Lg	08 26 08.4	
QCQ				Trac		08 26 17.8	
	comp=Z,40nm,0.2s						
CHGQ	**Chibougamau**	**6.57**	**262**	PN	**Pn**	**08 24 25.8**	**-0.8**
CHGQ				SN	**Sn**	**08 25 37.9**	**-2.6**
CHGQ				LG	Lg	08 26 09.6	
CHGQ				Trac		08 26 20.7	
	comp=Z,104nm,0.4s						
HAL	**Halifax**	**6.62**	**176**	PN	**Pn**	**08 24 28.8**	**+1.7**
HAL				SN	**Sn**	**08 25 39.5**	**-2.0**
LATQ	**La Tuque**	**6.77**	**239**	PN	**Pn**	**08 24 27.8**	**-1.5**
LATQ				SN	**Sn**	**08 25 42.5**	**-2.7**
LATQ				LG	Lg	08 26 21.0	
LATQ				Trac		08 26 24.1	
	comp=Z,87nm,0.3s						
PKME	**Peaks-Kenny Pk**	**6.85**	**211**	PN	**Pn**	**08 24 31.4**	**+1.0**
PKME				SN	**Sn**	**08 25 44.4**	**-2.9**
PKME	**Peaks-Kenny Pk**	**6.85**	**211**	*e*Pn	**Pn**	**08 24 27.9**	**-2.4**
PKME				*e*Sn	**Sn**	**08 25 45.6**	**-1.6**
EMMW	**East Machias**	**6.87**	**199**	PN	**Pn**	**08 24 31.9**	**+1.3**
EMMW				SN	**Sn**	**08 25 44.7**	**-3.0**
EMMW				LG	Lg	08 26 27.1	
DPQ	**Saint Jean**	**7.22**	**234**	Trac		08 26 40.1	
	comp=Z,85nm,0.4s						
KUQ	**Kuujjuuaa**	**7.29**	**342**	PN	**Pn**	**08 24 37.5**	**+1.1**
KUQ				SN	**Sn**	**08 25 56.0**	**-2.1**
KUQ				LG	Lg	08 26 36.4	
KUQ				Trac		08 26 43.0	
	comp=Z,67nm,0.3s						
NMSQ	**Nemaska Statio**	**7.36**	**278**	PN	**Pn**	**08 24 38.1**	**+0.7**
NMSQ				SN	**Sn**	**08 25 56.8**	**-2.9**
NMSQ				LG	Lg	08 26 36.0	
NMSQ				Trac		08 26 48.0	
	comp=Z,156nm,0.5s						
WVL	**Waterville**	**7.59**	**211**	SN	**Sn**	**08 26 04.2**	**-1.3**
MOQ	**Mont Orford**	**7.96**	**225**	PN	**Pn**	**08 24 43.0**	**-2.8**
MOQ				SN	**Sn**	**08 26 11.9**	**-2.8**
MOQ				LG	Lg	08 26 58.0	
MOQ				Trac		08 27 12.6	
	comp=Z,20nm,0.7s						
SJNN	**Saint John's**	**8.39**	**111**	PN	**Pn**	**08 24 51.7**	**+0.1**
SJNN				SN	**Sn**	**08 26 19.7**	**-5.4**
SJNN				LG	Lg	08 27 07.6	
SJNN				Trac		08 27 14.3	
	comp=Z,121nm,0.8s						
TRQ	**Mont Tremblant**	**8.44**	**238**	PN	**Pn**	**08 24 51.5**	**-0.9**
TRQ				SN	**Sn**	**08 26 22.2**	**-4.4**
TRQ				LG	Lg	08 27 11.2	
TRQ				Trac		08 27 25.4	
	comp=Z,59nm,0.4s						
LSQQ	**Lebel-sur-Quev**	**8.45**	**260**	PN	**Pn**	**08 24 51.2**	**-1.1**
LSQQ				SN	Sn	08 26 20.1	-6.5
LSQQ				LG	Lg	08 27 10.5	
LSQQ				Trac		08 27 16.6	
	comp=Z,152nm,0.7s						
MATQ	**Matagami**	**8.65**	**265**	PN	**Pn**	**08 24 54.3**	**-0.8**
MATQ				SN	**Sn**	**08 26 29.2**	**-2.3**
MATQ				LG	Lg	08 27 17.2	
MATQ				Trac		08 27 29.3	
	comp=Z,59nm,0.5s						
LBNH	**Lisbon**	**8.69**	**219**	PN	**Pn**	**08 24 56.3**	**+0.7**
LBNH				SN	**Sn**	**08 26 30.0**	**-2.5**
GRQ	**Grand Remous**	**8.92**	**243**	PN	**Pn**	**08 24 57.2**	**-1.6**
GRQ				SN	**Sn**	**08 26 32.9**	**-5.3**
GRQ				LG	Lg	08 27 26.2	
GRQ				Trac		08 27 43.5	
	comp=Z,46nm,0.4s						
FRNY	**Flat Rock**	**8.94**	**228**	PN	**Pn**	**08 24 58.9**	**-0.1**
FRNY				SN	**Sn**	**08 26 32.2**	**-6.3**
FRNY				LG	Lg	08 27 22.4	
ALFO	**Alfred**	**9.01**	**236**	PN	**Pn**	**08 24 59.6**	**-0.4**
ALFO				SN	**Sn**	**08 26 40.6**	**+0.4**
ALFO				LG	Lg	08 27 26.7	
KJKQ	**Kuujjuarapik**	**9.03**	**302**	PN	**Pn**	**08 24 59.6**	**-0.6**
KJKQ				SN	**Sn**	**08 26 35.9**	**-4.9**
KJKQ				LG	Lg	08 27 26.2	
KJKQ				Trac		08 27 34.3	
	comp=Z,26nm,0.2s						
VLDQ	**Val d'Or**	**9.10**	**255**	PN	**Pn**	**08 25 01.2**	**0.0**
VLDQ				SN	**Sn**	**08 26 39.3**	**-3.3**
VLDQ				LG	Lg	08 27 35.4	
VLDQ				Trac		08 27 44.0	
	comp=Z,147nm,0.7s						
VABQ	**Val Des Bois**	**9.21**	**239**	PN	**Pn**	**08 25 01.7**	**-1.1**
VABQ				SN	**Sn**	**08 26 41.3**	**-4.0**
VABQ				LG	Lg	08 27 31.8	
VABQ				Trac		08 27 50.2	
	comp=Z,65nm,0.6s						
GAC	**Glen Almond**	**9.27**	**238**	PN	**Pn**	**08 25 06.0**	**+2.4**
GAC				SN	**Sn**	**08 26 47.4**	**+0.7**
GAC				Trac		08 27 46.4	
	comp=Z,101nm,0.8s						
GAC				Trac		08 27 46.5	
	comp=Z,59nm,0.6s						
ORIO	**Orleans, Innes**	**9.45**	**237**	Trac		08 28 05.1	
	comp=Z,60nm,0.6s						
LONY	**Lake Ozonia**	**9.57**	**230**	PN	**Pn**	**08 25 07.2**	**-0.5**
LONY				SN	**Sn**	**08 26 50.6**	**-3.6**
LONY				LG	Lg	08 27 43.6	
OTT	**Ottawa**	**9.60**	**237**	SN	**Sn**	**08 26 54.8**	**0.0**
OTT				LG	Lg	08 27 46.6	
OTT				Trac		08 27 54.6	
	comp=Z,62nm,0.4s						
WBO	**Williamsburg**	**9.64**	**234**	PN	**Pn**	**08 25 08.9**	**+0.3**
WBO				SN	**Sn**	**08 26 51.1**	**-4.7**
WBO				LG	Lg	08 27 46.6	
WBO				Trac		08 27 55.8	
	comp=Z,48nm,0.5s						
NCB	**Newcomb**	**9.89**	**227**	PN	**Pn**	**08 25 12.3**	**+0.2**
NCB				SN	**Sn**	**08 26 58.3**	**-3.7**
NCB				LG	Lg	08 27 53.1	
MALO	**McAlpine Lake**	**9.92**	**269**	PN	**Pn**	**08 25 11.7**	**-0.8**
MALO				SN	Sn	08 26 54.3	-8.4
MALO				LG	Lg	08 27 53.7	
MALO				Trac		08 28 03.5	
	comp=Z,70nm,0.6s						
CRLO	**Chalk River**	**10.11**	**244**	PN	**Pn**	**08 25 12.5**	**-2.5**
CRLO				SN	Sn	08 27 00.2	-7.1
CRLO				LG	Lg	08 27 56.1	
CRLO				Trac		08 28 12.5	
	comp=Z,45nm,0.6s						
BELQ	**Belleterre**	**10.16**	**253**	PN	Pn	08 25 12.9	-3.0
BELQ				SN	Sn	08 27 00.1	-8.6
BELQ				LG	Lg	08 28 00.9	
BELQ				Trac		08 28 07.1	
	comp=Z,83nm,0.7s						
PEMO	**Pembroke**	**10.25**	**242**	PN	**Pn**	**08 25 14.7**	**-2.3**
PEMO				SN	Sn	08 27 03.9	-6.8
PEMO				LG	Lg	08 28 03.2	
PEMO				Trac		08 28 27.4	
	comp=Z,81nm,0.6s						
KILO	**Kirkland Lake**	**10.35**	**261**	PN	**Pn**	**08 25 16.4**	**-2.0**
KILO				SN	Sn	08 27 06.4	-6.7
KILO				LG	Lg	08 28 05.4	
KILO				Trac		08 28 12.6	
	comp=Z,105nm,0.8s						
PLVO	**Plevna**	**10.56**	**239**	PN	**Pn**	**08 25 19.2**	**-2.0**
PLVO				SN	**Sn**	**08 27 14.8**	**-3.6**
PLVO				LG	Lg	08 28 13.4	
PLVO				Trac		08 28 29.8	
	comp=Z,38nm,0.5s						
INUQ	**Inukjuak**	**10.76**	**318**	PN	**Pn**	**08 25 21.4**	**-2.5**
INUQ				SN	Sn	08 27 13.7	-9.3
INUQ				LG	Lg	08 28 19.5	
INUQ				Trac		08 28 25.2	
	comp=Z,167nm,1.1s						
EEO	**Eldee**	**10.76**	**250**	PN	**Pn**	**08 25 21.6**	**-2.4**
EEO				SN	**Sn**	**08 27 17.6**	**-5.7**
EEO				LG	Lg	08 28 23.3	
EEO				Trac		08 28 36.1	
	comp=Z,55nm,0.4s						
KGNO	**Kingston**	**10.80**	**234**	LG	Lg	08 28 22.3	
DELO	**Deloro Mine**	**11.19**	**238**	SN	**Sn**	**08 27 29.4**	**-4.5**
DELO				LG	Lg	08 28 31.4	
DELO				Trac		08 28 52.7	
	comp=Z,108nm,1.0s						
BUKO	**Buck Lake**	**11.61**	**246**	PN	**Pn**	**08 25 32.9**	**-2.7**
BUKO				SN	Sn	08 27 36.1	-7.9
BUKO				LG	Lg	08 28 47.9	
BUKO				Trac		08 29 01.7	
	comp=Z,112nm,1.1s						
KAPO	**Kapuskasing**	**11.79**	**268**	PN	Pn	08 25 35.0	-3.1
KAPO				SN	Sn	08 27 41.1	-7.3
KAPO				LG	Lg	08 28 53.7	
SADO	**Sadowa**	**11.86**	**243**	LR	LR	08 30 15.3	
	comp=Z,100nm,19.5s,baz=171,slow=38						
SADO	**Sadowa**	**11.86**	**243**	PN	**Pn**	**08 25 37.8**	**-1.3**
SAD

WRA Warramunga Arr 21.09 222 P P 08 31 04.0 -0.3
0.7nm,0.6s,baz=49,slow=10,SNR=9.0
ASAR Alice Springs 24.07 217 P P 08 31 35.6 +0.2
0.3nm,0.5s,baz=48,slow=8.4,SNR=9.7
ILAR Eielson Array 83.32 23 P P 08 38 46.6 0.0
0.2nm,0.7s,baz=244,slow=5.7,SNR=3.7

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*ISCJB **02** 08:46:30.6±0.5, 37°.27N×0°.03×28°.24E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=3.3km az=35.1*
*CSEM **02** 08:46:30.8±0.2, 37°.26N×28°.23E, h2km, MD2.6, Error ellipse: s-maj=4.6km s-min=3.3km az=28.0, Suspected Mining explosion.*
*DDA **02** 08:46:30.5, 37°.23N×28°.21E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **02** 08:46:30.4, 37°.29N×28°.23E, h5km, ML2.3*
ISC 02 08:46:29.3±0.8, 37°.23N±0°.03×28°.10E±0°.03, h0km, n30, σ0$49/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.47**	**338**	*i* P	**Pb**	**08 46 40.1**	**-0.3**
AYDN				*i* S	**Sb**	**08 46 47.9**	**-0.1**
AYDN	**Tasoluk**	**0.47**	**338**	P	**Pb**	**08 46 40.2**	**-0.3**
AYDN				S	**Sb**	**08 46 47.9**	**-0.1**
TURN	**Turunc**	**0.54**	**131**	*i* P	**Pg**	**08 46 39.5**	**0.0**
TURN				*i* S	**Sg**	**08 46 46.7**	**+0.2**
TURN	**Turunc**	**0.54**	**131**	P	**Pg**	**08 46 39.5**	**0.0**
TURN				S	**Sg**	**08 46 46.7**	**+0.2**
BDRM	**Kayabasi**	**0.55**	**253**	*i* P	**Pn**	**08 46 43.1**	**-1.3**
BDRM	**Kayabasi**	**0.55**	**253**	P	**Pn**	**08 46 43.1**	**-1.3**
DALY	**Dalyan (Mu¨la**	**0.60**	**133**	*e*PG	**Pb**	**08 46 42.2**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.60**	**133**	*i* P	**Pg**	**08 46 40.5**	**-0.3**
DALY				*i* S	**Sg**	**08 46 50.0**	**+1.4**
DALY	**Dalyan (Mu¨la**	**0.60**	**133**	P	**Pg**	**08 46 40.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.60**	**133**	*e*Pg	**Pb**	**08 46 42.2**	**-0.5**
DALY				S	**Sg**	**08 46 50.0**	**+1.4**
DAT	**Datca**	**0.65**	**220**	*e*PG	**Pn**	**08 46 45.5**	**-0.3**
DAT				*e*SG	**Sn**	**08 46 56.6**	**-0.3**
DAT	**Datca**	**0.65**	**220**	*i* P	**Pb**	**08 46 43.7**	**+0.2**
DAT				*i* S	**Sn**	**08 46 57.1**	**+0.2**
DAT	**Datca**	**0.65**	**220**	P	**Pb**	**08 46 43.7**	**+0.2**
DAT	**Datca**	**0.65**	**220**	*e*Pg	**Pn**	**08 46 45.5**	**-0.3**
DAT				*e*Sg	**Sn**	**08 46 56.6**	**-0.3**
DAT				S	**Sn**	**08 46 57.1**	**+0.2**
BODT	**Bodrum**	**0.65**	**256**	*e*PG	**Pn**	**08 46 45.6**	**-0.1**
BODT				*e*SG	**Sn**	**08 46 56.8**	**0.0**
BODT	**Bodrum**	**0.65**	**256**	*e*Pg	**Pn**	**08 46 45.7**	**-0.1**
BODT				*e*Sg	**Sn**	**08 46 56.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.69**	**70**	*i* P	**Pg**	**08 46 42.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.69**	**70**	P	**Pg**	**08 46 42.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**347**	*e*PG	**Pb**	**08 46 44.5**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**347**	*e*Pg	**Pb**	**08 46 44.5**	**-0.6**
GCAM	**G?zelcaml?**	**0.84**	**305**	*i* P	**Pn**	**08 46 48.7**	**+0.4**
GCAM	**G?zelcaml?**	**0.84**	**305**	P	**Pn**	**08 46 48.7**	**+0.4**
FETY	**Fethiye**	**0.98**	**127**	*e*PG	**Pb**	**08 46 48.9**	**-0.3**
FETY				*e*SG	**Sb**	**08 47 02.5**	**-0.2**
FETY	**Fethiye**	**0.98**	**127**	*e*Pg	**Pb**	**08 46 48.9**	**-0.3**
FETY				*e*Sg	**Sb**	**08 47 02.5**	**-0.2**
AKAS	**Kas**	**1.56**	**129**	*e*PN	**Pb**	**08 46 58.9**	**-0.3**
AKAS	**Kas**	**1.56**	**129**	*e*Pn	**Pb**	**08 46 58.9**	**-0.3**
KORT	**Korkueli**	**1.81**	**96**	*e*PN	**Pn**	**08 47 01.9**	**0.0**
KORT	**Korkueli**	**1.81**	**96**	*e*Pn	**Pn**	**08 47 01.9**	**0.0**
KARP	**Karpathos**	**1.84**	**205**	*e*PN	**Pg**	**08 47 04.8**	**+0.3**
KARP	**Karpathos**	**1.84**	**205**	*e*Pn	**Pg**	**08 47 04.8**	**+0.3**

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*CSEM **02** 09:19:14.6, 36°.15N×37°.03E, h7km, MD2.7*
*DDA **02** 09:19:14.6, 36°.15N×37°.03E, h7km, Md2.7*
*NSSC **02** 09:19:15.1±1.6, 36°.22N×37°.09E, h0km±7km, ML1.6*
ISC 02 09:19:14.9±1.2, 36°.17N±0°.03×37°.00E±0°.04, h6km±11km, n13, σ0$92/24, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.46**	**253**	*e*P	**Pb**	**09 19 25.6**	**+0.1**
BTCH				*e*S	**Sb**	**09 19 33.0**	**+0.5**
BTCH				AML	AML	09 19 43.1	
	comp=E,82nm,0.6s						
BTCH				AML	AML	09 19 44.1	
	comp=N,78nm,0.6s						
DRWC	**Darouich**	**0.52**	**329**	*e*P	**Pg**	**09 19 25.2**	**+0.2**
DRWC				*e*S	**Sg**	**09 19 33.4**	**+1.6**
DRWC				AML	AML	09 19 58.5	
	comp=E,36nm,0.6s						
DRWC				AML	AML	09 19 59.6	
	comp=N,57nm,0.6s						
KUZU	**Kuzuini**	**0.60**	**6**	*i* P	**Pg**	**09 19 26.5**	**-0.1**
KUZU	**Kuzuini**	**0.60**	**6**	P	**Pg**	**09 19 26.5**	**-0.1**
YAYL	**Yayladag**	**0.73**	**259**	*i* P	**Pg**	**09 19 27.2**	**-1.8**
YAYL				*i* S	**Sb**	**09 19 40.2**	**-0.4**
YAYL	**Yayladag**	**0.73**	**259**	P	**Pg**	**09 19 27.2**	**-1.8**
YAYL				S	**Sb**	**09 19 40.2**	**-0.4**
ARNB	**Al Arnab**	**0.89**	**250**	*e*P	**Pn**	**09 19 34.3**	**+0.2**
ARNB				*e*S	**Sn**	**09 19 48.5**	**+1.1**
ARNB				AML	AML	09 19 52.9	
	comp=E,23nm,0.3s						
ARNB				AML	AML	09 19 53.5	
	comp=N,19nm,0.3s						
HCB	**Kahramanmara¨**	**1.17**	**357**	*i* P	**Pn**	**09 19 37.7**	**-0.3**
HCB				*i* S	**Sn**	**09 19 54.4**	**+0.1**
GZT	**Gaziantep**	**1.27**	**21**	*i* P	**Pn**	**09 19 38.5**	**-0.9**
GZT				*i* S	**Sn**	**09 19 57.6**	**+0.8**
BIDA	**Albida**	**1.28**	**206**	*e*P	**Pg**	**09 19 40.8**	**+1.3**
BIDA				*e*S	**Sn**	**09 19 57.2**	**+0.2**
BIDA				AML	AML	09 20 02.7	
	comp=N,10nm,0.3s						
BIDA				AML	AML	09 20 06.3	
	comp=E,21nm,0.3s						
SURC	**SANLIURFA_SURC**	**1.48**	**61**	*i* P	**Pb**	**09 19 42.5**	**-0.5**
SURC				*i* S	**Sg**	**09 20 03.0**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.48**	**61**	P	**Pb**	**09 19 42.5**	**-0.5**
SURC				S	**Sg**	**09 20 03.0**	**+0.4**
HAWK	**Haweek**	**1.72**	**197**	*e*P	**Pg**	**09 19 46.9**	**-1.0**
HAWK				*e*S	**Sg**	**09 20 10.9**	**+0.8**
HAWK				AML	AML	09 20 15.7	
	comp=N,5.7nm,0.5s						
HAWK				AML	AML	09 20 35.1	
	comp=E,6.8nm,0.6s						

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*MOS **02** 09:19:21.6±0.9, 8°.25N×126°.48E, h33km, mb4.7/20, Error ellipse: s-maj=18.8km s-min=7.4km az=102.9*
*BJI **02** 09:19:22.5, 8°.31N×126°.74E, h39km, mb4.7/30, mB5.1/19, Ms4.6/13, Ms7.4.5/5*
*MAN **02** 09:19:22, 8°.27N×126°.95E, h10km, mb5.5, ML4.5, MS4.9*
*ISCJB **02** 09:19:24.5±0.6, 8°.33N±0°.03×126°.88E±0°.04, h58km±5km, mb4.7/70, MS3.6/12, Error ellipse: s-maj=7.4km s-min=3.8km az=162.0*
*IDC **02** 09:19:24.6±3.2, 8°.19N×126°.48E, h48km±31km, mb4.1/23, mb1 4.2/23, mb1mx4.1/34, mbtmp4.3/23, ML5.8/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/39, Error ellipse: s-maj=27.9km s-min=10.1km az=83.0*
*NEIC **02** 09:19:25.4±1.0, 8°.30N×126°.72E, h51km±9km, mb5.0/38, Error ellipse: s-maj=10.1km s-min=4.9km az=77.0*
*DJA **02** 09:20:03.8±0.7, 6°N±7°×12°6E±°, h72km±29km, M4.8/7, mB5.2/1, mb4.7/7, MLv4.8/5, Mw(mB)4.6/1*
ISC 02 09:19:26.1±0.7, 8°.34N±0°.04×126°.86E±0°.05, h56km±6km, n179, σ1$79/196, mb4.8/70, MS3.5/12, 14C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.52**	**253**	⇑*i*P	Pn	09 19 35.4	-2.5
BIPH				*i* S	**Sn**	**09 19 42.8**	**-3.7**
MATI	**Mati**	**1.51**	**203**	*e*P	**Pn**	**09 19 47.7**	**-3.1**
MATI				*e*S	**Sn**	**09 20 07.8**	**-1.5**
DAV	**Davao City (W)**	**1.79**	**225**	*e*Pn	**Pn**	**09 19 55.3**	**+0.6**
DAV				*e*Sn	**Sn**	**09 20 24.8**	**+8.5**
SCPH	**Surigao**	**1.97**	**317**	⇑*e*P	**Pn**	**09 19 56.0**	**-1.2**
KCP	**Kidapawan**	**2.19**	**233**	⇑*e*P	**Pn**	**09 20 00.5**	**+0.3**
KCP				*i* S	**Sn**	**09 20 30.8**	**+4.5**
CTBH	**Cotabato--PC H**	**2.82**	**247**	*e*P	**Pn**	**09 20 08.7**	**0.0**
CTBH				*i* S	**Sn**	**09 20 43.7**	**+2.3**
GSPH	**General Santos**	**2.93**	**220**	⇑*e*P	**Pn**	**09 20 09.2**	**-1.2**
TBP	**Tagbilaran**	**3.25**	**295**	⇑*i*P	**Pn**	**09 20 16.4**	**+1.7**
PLP	**Palo**	**3.37**	**327**	⇓*e*P	**Pn**	**09 20 13.6**	**-2.6**
PLP				*e*S	**Sn**	**09 20 53.6**	**-1.4**
LLP	**Lapu-Lapu**	**3.47**	**305**	⇑*e*P	**Pn**	**09 20 17.5**	**-0.1**
LLP				*e*S	**Sn**	**09 21 01.7**	**+4.2**
PAGZ	**Pagadian**	**3.48**	**262**	*e*P	**Pn**	**09 20 21.5**	**+3.8**
DCPH	**Dipolog City**	**3.48**	**274**	⇓*e*P	**Pn**	**09 20 19.7**	**+2.0**
BESP	**Borongan**	**3.53**	**337**	*e*P	**Pn**	**09 20 20.2**	**+1.7**
BESP				*e*S	**Sn**	**09 21 06.8**	**+7.7**
SNPH	**Sibulan**	**3.72**	**286**	*e*P	**Pn**	**09 20 22.7**	**+1.6**
SNPH				*e*S	**Sn**	**09 21 05.2**	**+1.5**
RCP	**Roxas**	**5.17**	**309**	⇓*e*P	**Pn**	**09 20 41.0**	**+0.1**
LBMI	**Labuha**	**8.94**	**176**	P	**Pn**	**09 21 35.9**	**+3.3**
MRSI	**Marisa**	**9.22**	**212**	P	**Pn**	**09 21 38.1**	**+1.6**
SIJI	**Sorong**	**10.15**	**154**	P	**Pn**	**09 21 48.6**	**-0.5**
	76nm,0.3s,baz=356,slow=22,SNR=19						
SANI	**Sanana**	**10.36**	**185**	P	**Pn**	**09 21 53.4**	**+1.4**
SZP	**Santa**	**11.08**	**326**	*e*Pn	**Pn**	**09 21 59.5**	**-2.4**
FAKI	**Fak Fak**	**12.41**	**154**	P	**P**	**09 22 32.4**	**+2.1**
FAKI	**Fak Fak**	**12.41**	**154**	*e*Pn	**Pn**	**09 22 17.4**	**-2.6**
TTSI	**Tana Toraja**	**13.31**	**212**	P	**Pn**	**09 22 34.0**	**+1.6**
SPSI	**Sidrap Palu**	**14.12**	**210**	P	**Pn**	**09 22 44.9**	**+1.6**
KAPI	**Kappang**	**15.04**	**208**	*e*Pn	**Pn**	**09 22 55.5**	**+0.2**
	324nm,0.7s						
YULB	**Yu-li**	**15.89**	**341**	*e*Pn	**Pn**	**09 23 03.5**	**-2.7**
	108nm,1.6s						
TPUB	**Ta-pu**	**16.03**	**339**	*e*Pn	**Pn**	**09 23 07.0**	**-1.0**
	232nm,1.8s						
BBKI	**Banjar Baru**	**16.77**	**226**	P	**P**	**09 23 24.3**	**+5.6**
SOEI	**Soe**	**18.16**	**188**	*e*P	**Pn**	**09 23 34.8**	**+0.3**
	64nm,0.7s						
QIZ	**Qiongzhong**	**19.63**	**305**	P	**P**	**09 23 48.7**	**-1.6**
QIZ				S	S	09 27 16.8	-12
MTN	**Manton Dam**	**21.47**	**169**	*e*P	**P**	**09 24 09.1**	**-0.9**
	21nm,0.8s						
SMRI	**Semarang**	**22.40**	**227**	*e*P	**P**	**09 24 20.3**	**+0.2**
	64nm,1.1s						
UGM	**Wanagama**	**22.93**	**226**	*e*P	**P**	**09 24 25.1**	**-0.6**
	358nm,1.6s						
NJ2	**Nanjing**	**24.74**	**344**	*e*P	**P**	**09 24 43.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.9s						
JNU	**Nakatsue**	**24.94**	**8**	P	**P**	**09 24 47.1**	**+2.8**
	9.1nm,1.0s,baz=36,slow=11,SNR=3.5						
FITZ	**Fitzroy Crossi**	**26.30**	**183**	P	**P**	**09 24 55.7**	**-0.9**
	baz=109,slow=7.4						
GYA	**Guiyang**	**26.31**	**316**	P	**P**	**09 24 56.0**	**-0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COEN	**Coen**	**27.44**	**144**	*e*P	**P**	**09 25 06.6**	**-0.3**
	13nm,0.9s						
RABL	**Rabaul**	**28.14**	**115**	*e*P	**P**	**09 25 13.3**	**0.0**
	20nm,0.6s						
KMI	**Kunming**	**28.41**	**309**	P	**P**	**09 25 16.5**	**+0.7**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI				pmax	pmax		
	comp=Z,160nm,4.5s						
CMAR	**Chiang Mai Arr**	**28.92**	**293**	LR	LR	09 37 16.3	
	comp=Z,93nm,18.5s,baz=116,slow=37						
KSAR	**Wonju Array Be**	**28.99**	**2**	P	**P**	**09 25 22.4**	**+1.9**
KSAR	**Wonju Array Be**	**28.99**	**2**	P	**P**	**09 25 22.4**	**+1.9**
KSRS	**Korea Array**	**29.00**	**2**	P	**P**	**09 25 22.4**	**+1.8**
	1.0nm,0.7s,baz=176,slow=9.4,SNR=3.7						
KSRS				LR	LR	09 38 46.2	
	comp=Z,72nm,18.4s,baz=195,slow=40						
WRAB	**Tennant Creek**	**29.04**	**165**	⇓*e*P	**P**	**09 25 19.2**	**-2.0**
WRA	**Warramunga Arr**	**29.05**	**165**	P	**P**	**09 25 19.1**	**-2.2**
	1.2nm,0.6s,baz=347,slow=9.6,SNR=16						
WRA	**Warramunga Arr**	**29.05**	**165**	*i* P	**P**	**09 25 21.5**	**+0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB2	**Warramunga Arr**	**29.05**	**165**	*e*P	**P**	**09 25 19.4**	**-1.9**
	comp=Z,6.4nm,0.8s						
MJAR	**Matsushiro Arr**	**29.92**	**19**	P	**P**	**09 25 30.3**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=194,slow=9.3,SNR=3.5						
MJAR				LR	LR	09 36 35.5	
	comp=Z,57nm,19.7s,baz=190,slow=34						
MBWA	**Marble Bar**	**30.14**	**193**	*e*P	**P**	**09 25 29.9**	**-1.0**
	comp=Z,45nm,1.5s						
CD2	**Chengdu**	**31.14**	**319**	*e*P	**P**	**09 25 39.0**	**-0.7**
AS31	**Alice Springs**	**32.54**	**168**	*e*P	**P**	**09 25 51.2**	**-0.8**
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**32.54**	**168**	P	**P**	**09 25 50.5**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=357,slow=8.4,SNR=32						
ASAR				PcP	**PcP**	**09 28 37.9**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=350,slow=2.8,SNR=8.1						
ASAR				LR	LR	09 40 13.0	
	comp=Z,64nm,19.6s,baz=22,slow=38						
AS01	**Alice Springs**	**32.55**	**168**	*e*P	**P**	**09 25 50.9**	**-1.2**
BJI	**Beijing**	**32.98**	**345**	P	**P**	**09 25 56.1**	**+0.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
CTA	**Charters Tower**	**34.09**	**146**	P	**P**	**09 26 05.4**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=336,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**34.09**	**146**	*e*P	**P**	**09 26 06.4**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,15nm,1.3s						
CTAO	**Charters Tower**	**34.09**	**146**	*e*P	**P**	**09 26 06.4**	**+0.9**
	comp=Z,15nm,1.3s						
LZH	**Lanzhou**	**34.69**	**326**	*e*P	**P**	**09 26 10.0**	**-0.8**
LZH				pP	pP	09 26 22.5	-2.5
LZH				sP	sP	09 26 27.8	-3.8
LZH				PP	**PnPn**	**09 27 28.0**	**-0.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,82nm,5.2s						
LZH				LR	LR		
	comp=Z,380nm,12.9s						
LZH				LR	LR		
	comp=Z,390nm,13.2s						
HHC	**Hu-ho-hao-te**	**35.12**	**340**	*e*P	**P**	**09 26 17.0**	**+2.7**
HHC				S	**S**	**09 31 46.4**	**+3.1**
HHC				SS	**SnSn**	**09 34 04.6**	**+0.2**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,43nm,5.6s						
USRK	**Ussuriysk Ar.**	**36.00**	**6**	P	**P**	**09 26 22.2**	**+0.5**
	comp=Z,8.3nm,0.8s,baz=178,slow=9.0,SNR=9.8						
MDJ	**Mudanjiang**	**36.22**	**3**	P	**P**	**09 26 24.4**	**+0.8**
MDJ				pP	pP	09 26 34.4	-3.4
MDJ				S	**S**	**09 32 03.0**	**+3.2**
MDJ				ScP	**ScP**	**09 32 30.2**	**+0.5**
MDJ				PcS	**PcS**	**09 32 35.7**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,39nm,2.8s						
SHL	**Shillong**	**37.42**	**302**	*e*P	**P**	**09 26 34.5**	**+0.2**
FORT	**Forrest**	**38.91**	**178**	*e*P	**P**	**09 26 46.0**	**-0.4**
	comp=Z,198nm,0.8s						
GTA	**Gaotai**	**39.30**	**326**	*e*P	**P**	**09 26 48.7**	**-1.1**
GTA				pP	pP	09 27 00.9	-3.3
GTA				sP	sP	09 27 06.2	-4.6
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**39.95**	**71**	T	T	10 10 04.6	
	baz=261,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hy**	**39.96**	**71**	T	T	10 10 14.2	
	baz=261,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hy**	**39.97**	**71**	T	T	10 10 12.7	
	baz=261,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.35**	**69**	T	T	10 10 45.0	
	baz=265,slow=74,SNR=22						
H11N2	**WAKE ISLAND Hy**	**40.35**	**69**	T	T	10 10 48.5	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.35**	**69**	T	T	10 10 48.4	
	baz=265,slow=74,SNR=21						
KLR	**Kul'dur**	**40.96**	**5**	⇑*i*P	**P**	**09 27 03.0**	**-0.3**
EIDS	**Eidsvold**	**40.97**	**146**	*e*P	**P**	**09 27 02.6**	**-1.0**
	comp=Z,52nm,1.7s						
TAPN	**Taplejung**	**41.55**	**302**	*e*Pn	**P**	**09 27 08.7**	**-0.1**
	comp=Z,23nm,0.7s						
ODAN	**Odare**	**41.66**	**301**	*e*P	**P**	**09 27 09.5**	**-0.1**
BBOO	**Buckleboo**	**41.85**	**168**	*e*P	**P**	**09 27 10.0**	**-0.7**
	comp=Z,44nm,1.4s						
NWAO	**Narrogin (SRO)**	**42.05**	**192**	P	**P**	**09 27 09.9**	**-2.4**
	comp=Z,9.9nm,0.7s,baz=258,slow=8.2,SNR=8.6						
NWAO	**Narrogin (SRO)**	**42.05**	**192**	*e*P	**P**	**09 27 12.3**	**0.0**
NWAO				pmax	pmax		
	comp=Z,84nm,1.6s						
NWAO	**Narrogin (SRO)**	**42.05**	**192**	*e*P	**P**	**09 27 12.2**	**0.0**
	comp=Z,84nm,1.6s						
RAMN	**Ramite**	**42.35**	**301**	*e*Pn	**P**	**09 27 15.1**	**-0.2**
	comp=Z,34nm,0.9s						
STKA	**Stephens Creek**	**42.40**	**161**	P	**P**	**09 27 13.5**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=342,slow=8.7,SNR=11						
STKA				LR	LR	09 47 44.4	
	comp=Z,68nm,18.2s,baz=23,slow=40						
STKA	**Stephens Creek**	**42.40**	**161**	*e*P	**P**	**09 27 14.4**	**-0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
STKA	**Stephens Creek**	**42.40**	**161**	*e*P	**P**	**09 27 14.4**	**-0.8**
	comp=Z,4.1nm,1.5s						
ULN	**Ulaanbaatar**	**42.83**	**340**	*ce*P	**P**	**09 27 17.7**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JIRN	**Jiri**	**42.92**	**302**	*e*Pn	**P**	**09 27 19.7**	**-0.4**
	comp=Z,17nm,0.4s						
SONM	**Songino Array**	**43.02**	**340**	P	**P**	**09 27 18.7**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=155,slow=8.0,SNR=6.0						
SONM				PcP	**PcP**	**09 29 09.8**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=156,slow=4.8,SNR=5.2						
SONM				LR	LR	09 48 38.5	
	comp=Z,59nm,18.1s,baz=130,slow=41						
SONA1	**Songino Array**	**43.03**	**340**	*e*P	**P**	**09 27 19.8**	**-0.6**
GUN	**Gumba**	**43.26**	**302**	*e*Pn	**P**	**09 27 22.5**	**-0.3**
	comp=Z,14nm,0.5s						
DMN	**Daman**	**43.82**	**301**	*e*Pn	**P**	**09 27 26.4**	**-0.8**
	comp=Z,8.0nm,0.4s						
KOLN	**Koldanda**	**45.14**	**301**	*e*Pn	**P**	**09 27 36.9**	**-0.8**
	comp=Z,18nm,0.6s						
DANN	**Dangsing**	**45.18**	**302**	*e*Pn	**P**	**09 27 37.7**	**-0.3**
ARMA	**Armidale**	**45.28**	**149**	*e*P	**P**	**09 27 39.8**	**+1.3**
	comp=Z,106nm,1.8s						
PYUN	**Piuthan**	**45.75**	**301**	*e*Pn	**P**	**09 27 42.1**	**-0.4**
	comp=Z,19nm,0.7s						
WMQ	**Urumqi**	**49.10**	**323**	P	**P**	**09 28 09.0**	**+0.9**
WMQ				pP	pP	09 28 18.0	-4.9
WMQ				sP	sP	09 28 23.6	-5.8
WMQ				S	**S**	**09 35 08.4**	**-0.8**
WMQ				ScS	**ScS**	**09 37 48.8**	**-6.5**
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,82nm,3.7s						
WMQ				LR	LR		
	comp=Z,210nm,11.7s						
WMQ				LR	LR		
	comp=Z,120nm,16.3s						
PETK	**Petropavlovsk-**	**51.16**	**23**	P	**P**	**09 28 24.9**	**+1.5**
	comp=Z,5.0nm,1.0s,baz=132,slow=12,SNR=3.1						
DGZ	**Jazzator, Alta**	**52.71**	**329**	*i* P	**P**	**09 28 34.8**	**-0.4**
MK01	**Makanchi Array**	**53.89**	**323**	*e*P	**P**	**09 28 42.5**	**-1.3**
MK31	**Makanchi Array**	**53.91**	**323**	*e*P	**P**	**09 28 43.0**	**-0.9**
MK31	**Makanchi Array**	**53.91**	**323**	*e*P	**P**	**09 28 43.0**	**-0.9**
MKAR	**Makanchi Array**	**53.91**	**323**	P	**P**	**09 28 42.5**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=124,slow=8.0,SNR=20						
MKAR				PcP	**PcP**	**09 29 48.3**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=116,slow=5.5,SNR=4.2						
MKAR	**Makanchi Array**	**53.91**	**323**	*e*P	**P**	**09 28 43.0**	**-0.9**
MKAR						09 29 48.3	
MKAR				pmax	pmax		
	comp=Z,17nm,0.8s						
MKAR	**Makanchi Array**	**53.91**	**323**	*e*P	**P**	**09 28 43.0**	**-0.9**
	comp=Z,17nm,0.8s						
MKAR				PcP	**PcP**	**09 29 48.3**	**-0.5**
MA2	**Magadan**	**54.24**	**15**	LR	LR	09 52 00.7	
	comp=Z,34nm,18.1s,baz=232,slow=36						
KSH	**Kashi**	**54.96**	**313**	*e*P	**P**	**09 28 53.6**	**+1.8**
KSH				*es*P	pP	09 29 12.4	+5.6
KSH				PcP	**PcP**	**09 29 55.4**	**+2.3**
KSH				PcS	**PcS**	**09 33 53.3**	**+0.2**
KSH				S	**S**	**09 36 29.5**	**-0.3**
KSH				ScS	**ScS**	**09 38 34.4**	**-2.0**
KSH				SS	**SS**	**09 40 13.1**	**-0.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,81nm,6.0s						
KSH				LR	LR		
	comp=Z,110nm,8.8s						
KSH				LR	LR		
	comp=Z,99nm,6.3s						
ZAA0	**Zalesovo Array**	**56.59**	**332**	*e*P	**P**	**09 29 01.7**	**-1.4**
ZALV	**Zalesovo Beam**	**56.59**	**332**	P	**P**	**09 29 01.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=88,slow=14,SNR=5.0						
ZALV				LR	LR	09 54 53.1	
	comp=Z,25nm,18.7s,baz=66,slow=38						
NVS	**Novosibirsk**	**57.87**	**332**	*e*P	**P**	**09 29 08.7**	**-3.3**
KURK	**Kurchatov**	**57.98**	**326**	*ce*P	**P**	**09 29 12.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,19nm,0.6s						
KKAR	**Karatay Array**	**60.02**	**315**	*e*P	**P**	**09 29 26.3**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,36nm,0.6s						
KKAR	**Karatay Array**	**60.02**	**315**	*e*P	**P**	**09 29 26.3**	**-0.9**
	comp=Z,36nm,0.6s						
TIXI	**Tiksi**	**63.26**	**1**	*ce*P	**P**	**09 29 49.4**	**+0.9**
TIXI				pmax	pmax		
	comp=

comp=Z,12nm,1.3s
BRTR Keskin Array B 87.20 310 P **P 09 32 05.2 -1.6**
comp=Z,1.2nm,0.5s,baz=113,slow=4.5,SNR=4.8
BR231 Keskin MP Arra 87.84 310 *e*P **P 09 32 06.1 -3.8**
FIA1 FINESS Array S 87.86 332 *e*P **P 09 32 08.3 -1.0**
comp=Z,21nm,1.4s
FINES FINESS Array B 87.86 332 P **P 09 32 08.2 -1.1**
comp=Z,4.3nm,0.4s,baz=76,slow=4.8,SNR=55
VNDA Vanda 87.95 173 P **P 09 32 09.0 -0.3**
comp=Z,1.9nm,0.9s,baz=306,slow=5.9,SNR=8.5
VNDA Vanda 87.95 173 *e*P **P 09 32 09.7 +0.4**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 87.95 173 *e*P **P 09 32 09.7 +0.4**
comp=Z,1.7nm,0.8s
MAW Mawson 88.09 200 *e*P **P 09 32 10.9 +0.7**
MAW pmax pmax
comp=Z,1.0nm,1.5s
MAW Mawson 88.09 200 *e*P **P 09 32 10.9 +0.7**
comp=Z,1.3nm,1.5s
CSS Mathiatis 88.16 305 *e*P **P 09 32 11.0 -0.3**
comp=Z,3.4nm,1.2s
AKASG Malin Array Be 88.42 321 P **P 09 32 10.5 -1.7**
comp=Z,1.2nm,0.5s,baz=65,slow=5.1,SNR=7.1
AK11 Malin Array Si 88.46 321 *e*P **P 09 32 11.4 -1.0**
BURAR Bucovina Array 91.66 318⇑*i*P **P 09 32 26.4 -1.2**
BUR08 Bucovina Ar. S 91.67 319 *e*P **P 09 32 27.3 -0.3**
NB2 NORSAR Subarra 94.74 334 P **P 09 32 39.6 -1.7**
comp=Z,0.8nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 94.74 334 P **P 09 32 39.8 -1.5**
comp=Z,0.9nm,0.7s,baz=66,slow=4.6,SNR=4.7
IDI Anoyia 94.88 307 LR LR 10 22 38.4
comp=Z,14nm,18.1s,baz=94,slow=40
YKA Yellowknife Ar 95.27 24 P **P 09 32 42.5 -1.1**
comp=Z,2.1nm,0.8s,baz=302,slow=4.5,SNR=5.1
YKA Yellowknife Ar 95.27 24*c*e**P P 09 32 44.0 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 98.57 322 P **P 09 32 57.5 -1.5**
comp=Z,0.4nm,0.5s,baz=60,slow=5.3,SNR=5.5
GERES GERESS Array B 98.57 322 P **P 09 32 57.5 -1.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
TX31 Lajitas Ar. Si 118.63 50 *e*PKPdf **PKPdf 09 38 10.4 +1.8**
TXAR Lajitas Array 118.63 50 PKP **PKPdf 09 38 09.5 +0.9**
comp=Z,0.4nm,0.9s,baz=235,slow=0.8,SNR=4.2
TOA0 Torodi Ar. Sit 121.51 291 *e*PKPdf **PKPdf 09 38 14.3 -0.1**
TORD Torodi Ar. Bea 121.51 291 PKP **PKPdf 09 38 13.6 -0.8**
comp=Z,0.9nm,0.8s,baz=48,slow=1.8,SNR=7.1
PLCA Paso Flores 144.21 157 PKP **PKPdf 09 38 54.9 -1.3**
comp=Z,4.2nm,0.9s,baz=234,slow=4.6,SNR=7.3
PLCA Paso Flores 144.21 157 *e*PKIKP **PKPdf 09 38 56.0 -0.2**
PLCA Paso Flores 144.21 157 *e*PKPdf **PKPdf 09 38 56.0 -0.2**
SDDR Presa de Saban 147.49 33 *e*PKPdf **PKPbc 09 39 04.3 -0.6**
SDD Santo Domingo 148.65 32 *e*PKPbc **PKPbc 09 39 08.7 +0.8**
TRQA Tornquist 149.35 166 *e*PKPbc **PKPbc 09 39 10.1 +0.9**
MPR Mayaguez 150.22 28 *e*PKPdf **PKPdf 09 39 05.2 -1.5**
HUMP Col San Antoni 150.85 25 *e*PKPbc **PKPbc 09 39 13.0 -0.3**
MTP Monte Pirata 151.01 25 *e*PKPbc **PKPbc 09 39 14.5 +0.8**
STVI Saint Thomas 151.03 24 *e*PKPbc **PKPbc 09 39 13.9 +0.2**

NEIC ***02*** *09:35:60.0±0.0, 35°.20S×179°.07E, h246km, mb4.2/6, After WEL.*
WEL ***02*** *09:36:02.1±0.6, 35°.32S×178°.98E, h239km±6km, ML4.9/54, Error ellipse: s-maj=5.4km s-min=4.6km az=0.0*
IDC ***02*** *09:36:04.7±3.8, 35°.73S×179°.03E, h231km±29km, mb3.5/3, mb1 3.8/5, mb1mx3.5/29, mbtmp4.3/5, Error ellipse: s-maj=50.5km s-min=28.5km az=30.0*
ISC 02 09:36:08.0±0.9, 35°.86S±0°.08×178°.79E±0°.09, h263km±7km, n211, σ1$42/230, mb4.0/9, 14C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.74 193**		Pn	**Pn**	**09 36 46.1**	**-3.2**
MXZ				Sn	**S**	**09 37 21.3**	**-0.7**
MXZ	**Matakaoa Point**	**1.74 193**		⇑PN	**Pn**	**09 36 46.1**	**-3.2**
MXZ				SN	**S**	**09 37 21.3**	**-0.7**
MXZ				AML	AML	09 37 23.7	
WMGZ	**Waiomatatini S**	**1.98 189**		Pn	**Pn**	**09 36 49.4**	**-1.8**
WMGZ				Sn	**S**	**09 37 27.3**	**+1.8**
WMGZ	**Waiomatatini S**	**1.98 189**		⇑PN	**Pn**	**09 36 49.4**	**-1.8**
WMGZ				SN	**S**	**09 37 26.1**	**+0.5**
WMGZ				AML	AML	09 37 32.0	
HAZ	**Te Kaha**	**2.06 203**		PN	**Pn**	**09 36 49.3**	**-2.6**
HAZ				SN	**S**	**09 37 27.3**	**+0.5**
HAZ				AML	AML	09 37 28.1	
HAZ				AML	AML	09 37 28.1	
HAZ				AML	AML	09 37 28.9	
PKGZ	**Pakihiroa**	**2.10 196**		⇑PN	**Pn**	**09 36 50.3**	**-2.1**
PKGZ				SN	**S**	**09 37 26.9**	**-0.8**
PKGZ				AML	AML	09 37 31.0	
PUZ	**Puketiti**	**2.25 191**		Pn	**Pn**	**09 36 51.8**	**-1.9**
PUZ	**Puketiti**	**2.25 191**		⇑PN	**Pn**	**09 36 51.8**	**-1.9**
PUZ				SN	**S**	**09 37 29.3**	**-0.7**
PUZ				AML	AML	09 37 32.9	
RUGZ	**Raukumara Rang**	**2.28 203**		PN	**Pn**	**09 36 51.7**	**-2.5**
TWGZ	**Tauwhareparae**	**2.40 195**		Pn	**Pn**	**09 36 53.8**	**-1.3**
TWGZ	**Tauwhareparae**	**2.40 195**		⇑PN	**Pn**	**09 36 53.8**	**-1.3**
TWGZ				AML	AML	09 37 38.2	
TWGZ				AML	AML	09 37 39.6	
KUZ	**Kuaotunu**	**2.63 249**		Pn	**Pn**	**09 36 53.4**	**-4.0**
KUZ	**Kuaotunu**	**2.63 249**		⇑PN	**Pn**	**09 36 53.4**	**-4.0**
CNGZ	**Carnagh Statio**	**2.66 190**		Pn	**Pn**	**09 36 56.8**	**-0.8**
CNGZ	**Carnagh Statio**	**2.66 190**		PN	**Pn**	**09 36 56.8**	**-0.8**
CNGZ				AML	AML	09 37 43.6	
CNGZ				AML	AML	09 37 44.3	
MWZ	**Matawai**	**2.67 202**		Pn	**Pn**	**09 36 56.5**	**-1.3**
MWZ	**Matawai**	**2.67 202**		PN	**Pn**	**09 36 56.5**	**-1.3**
MWZ				AML	AML	09 37 40.3	
MWZ				AML	AML	09 37 41.6	
OPRZ	**Ohinepanea**	**2.67 221**		Pn	**Pn**	**09 36 56.3**	**-1.4**
OPRZ	**Ohinepanea**	**2.67 221**		PN	**Pn**	**09 36 56.3**	**-1.4**
TKGZ	**Te Karaka**	**2.68 196**		Pn	**Pn**	**09 36 56.7**	**-1.2**
TKGZ	**Te Karaka**	**2.68 196**		⇑PN	**Pn**	**09 36 56.7**	**-1.2**
TKGZ				AML	AML	09 37 41.4	
TKGZ				AML	AML	09 37 42.4	
URZ	**Urewera**	**2.75 209**		P	**Pn**	**09 36 56.0**	**-2.5**
83nm,0.3s,baz=269,slow=3.4,SNR=326
URZ S **S 09 37 40.3 +1.6**
79nm,0.3s,baz=256,slow=23,SNR=18
URZ Urewera 2.75 209 Pn **Pn 09 36 56.8 -1.7**
URZ *e*S **S 09 37 41.5 +2.9**
URZ Urewera 2.75 209 ⇑PN **Pn 09 36 56.8 -1.7**
URZ SN **S 09 37 40.0 +1.3**
URZ AML AML 09 37 43.1
TGRZ Tauranga 2.76 227 Pn **Pn 09 36 57.5 -1.2**
TGRZ Tauranga 2.76 227 PN **Pn 09 36 57.5 -1.2**
RAGZ Rawiri 2.85 202 Pn **Pn 09 36 58.7 -1.0**
RAGZ Rawiri 2.85 202 PN **Pn 09 36 58.7 -1.0**
RAGZ AML AML 09 37 48.1
RAGZ AML AML 09 37 48.7
RIGZ Rimuhau 2.96 196 PN **Pn 09 36 59.6 -1.1**
RIGZ AML AML 09 37 47.4
RIGZ AML AML 09 37 47.4
TARZ Mount Tarawera 2.99 217 Pn **Pn 09 37 01.4 +0.2**
TARZ Mount Tarawera 2.99 217 PN **Pn 09 37 01.3 +0.1**
MUGZ Murupara 3.07 211 PN **Pn 09 37 00.7 -1.2**
RRRZ Republican Roa 3.07 216 Pn **Pn 09 37 01.6 -0.4**
RRRZ Republican Roa 3.07 216 PN **Pn 09 37 01.6 -0.4**
HLRZ Highlands Stat 3.08 218 PN **Pn 09 37 01.6 -0.5**
RTZ Ruatahuna 3.11 207 PN **Pn 09 37 00.9 -1.5**
SNGZ Shannon Statio 3.14 201 Pn **Pn 09 37 01.7 -0.9**
SNGZ Shannon Statio 3.14 201 PN **Pn 09 37 01.7 -0.9**
SNGZ SN **S 09 37 48.4 +2.3**
SNGZ AML AML 09 37 51.1
PRGZ Paritu Road 3.14 193 Pn **Pn 09 37 01.9 -0.9**
PRGZ Paritu Road 3.14 193 PN **Pn 09 37 01.9 -0.9**
PRGZ AML AML 09 37 52.3
PRGZ AML AML 09 37 57.0
HSRZ Hossack Road 3.18 219 PN **Pn 09 37 02.9 -0.2**
HRRZ Handcock Road 3.22 218 Pn **Pn 09 37 03.5 -0.1**
HRRZ Handcock Road 3.22 218 PN **Pn 09 37 03.1 -0.5**
TOZ Tahuroa Road 3.23 234 Pn **Pn 09 37 02.6 -1.0**
TOZ Tahuroa Road 3.23 234 PN **Pn 09 37 02.9 -0.8**
PRRZ Plateau Road 3.26 215 Pn **Pn 09 37 03.1 -0.8**
PRRZ Plateau Road 3.26 215 PN **Pn 09 37 03.1 -0.8**
KNZ Kokohu 3.28 195 Pn **Pn 09 37 03.1 -1.1**
KNZ Kokohu 3.28 195 PN **Pn 09 37 02.9 -1.2**
KNZ AML AML 09 37 54.2
KNZ AML AML 09 37 55.3
ALRZ Allen Road 3.33 215 Pn **Pn 09 37 04.1 -0.7**
ALRZ Allen Road 3.33 215 PN **Pn 09 37 03.9 -0.8**
MHGZ Mahia Peninsul 3.36 192 Pn **Pn 09 37 04.6 -0.5**
MHGZ Mahia Peninsul 3.36 192 PN **Pn 09 37 04.5 -0.5**
MHGZ AML AML 09 38 00.4
MHGZ AML AML 09 38 02.5
WPRZ Whakapapatarin 3.38 218 Pn **Pn 09 37 05.1 -0.2**
WPRZ Whakapapatarin 3.38 218 PN **Pn 09 37 05.0 -0.4**
WHHZ Waihua 3.44 201 PN **Pn 09 37 05.1 -0.9**
WHHZ SN **S 09 37 55.5 +3.4**
WHHZ AML AML 09 38 00.0
MRHZ Matea Rd 3.52 212 PN **Pn 09 37 06.0 -0.9**
MRHZ AML AML 09 37 10.8
MRHZ AML AML 09 37 13.9
TLZ Tolley Road 3.58 226 Pn **Pn 09 37 07.7 +0.1**
TLZ Tolley Road 3.58 226 ⇑PN **Pn 09 37 07.8 +0.3**
NMHZ Naumai 3.60 205 Pn **Pn 09 37 07.3 -0.5**
NMHZ Naumai 3.60 205 ⇑PN **Pn 09 37 07.3 -0.5**
NMHZ AML AML 09 38 00.8
NMHZ AML AML 09 38 01.8
ARHZ Aropaoanui 3.68 202 Pn **Pn 09 37 08.1 -0.6**
ARHZ Aropaoanui 3.68 202 PN **Pn 09 37 07.9 -0.8**
ARHZ AML AML 09 38 04.3
ARHZ AML AML 09 38 05.2
BKZ Black Stump Fm 3.77 208 Pn **Pn 09 37 08.7 -1.0**
BKZ *e*S S 09 38 04.0 +5.1
BKZ Black Stump Fm 3.77 208 PN **Pn 09 37 08.5 -1.2**
BKZ AML AML 09 38 03.5
BKZ AML AML 09 38 04.2
RITZ Rihia Road 3.89 216 Pn **Pn 09 37 10.7 -0.3**
RITZ Rihia Road 3.89 216 PN **Pn 09 37 10.6 -0.4**
MCHZ McNeill Hill 3.94 204 Pn **Pn 09 37 11.2 -0.4**
MCHZ McNeill Hill 3.94 204 PN **Pn 09 37 11.2 -0.4**
MCHZ AML AML 09 38 11.5
MCHZ AML AML 09 38 12.0
KWHZ Kaweka Forest 4.02 207 PN **Pn 09 37 11.6 -1.0**
KWHZ AML AML 09 38 10.1
KWHZ AML AML 09 38 10.4
CKHZ Cape Kidnapper 4.03 199 Pn **Pn 09 37 11.9 -0.6**
CKHZ Cape Kidnapper 4.03 199 PN **Pn 09 37 11.9 -0.6**
CKHZ AML AML 09 38 10.1
CKHZ AML AML 09 38 10.5
KRVZ Karewarewa 4.09 217 Pn **Pn 09 37 13.8 +0.4**
KRVZ Karewarewa 4.09 217 PN **Pn 09 37 13.8 +0.4**
HIZ Hauiti 4.11 229 Pn **Pn 09 37 15.3 +1.8**
HIZ Hauiti 4.11 229 PN **Pn 09 37 15.3 +1.8**
OTVZ Oturere 4.13 216 Pn **Pn 09 37 13.4 -0.5**
OTVZ Oturere 4.13 216 PN **Pn 09 37 13.4 -0.5**
NGZ Ngauruhoe 4.17 216 Pn **Pn 09 37 14.3 -0.1**
KAHZ Kahuranaki 4.21 200 Pn **Pn 09 37 14.1 -0.6**
KAHZ Kahuranaki 4.21 200 PN **Pn 09 37 14.1 -0.6**
KAHZ AML AML 09 38 15.1
KAHZ AML AML 09 38 18.2
BHHZ Black Hill Sta 4.22 210 Pn **Pn 09 37 13.8 -1.1**
BHHZ Black Hill Sta 4.22 210 PN **Pn 09 37 13.8 -1.1**
BHHZ AML AML 09 38 15.3
BHHZ AML AML 09 38 15.7
KRHZ Kereru 4.24 206 PN **Pn 09 37 13.8 -1.2**
KRHZ AML AML 09 38 12.7
KRHZ AML AML 09 38 13.1
FWVZ Far West T-bar 4.25 216 Pn **Pn 09 37 14.8 -0.6**
FWVZ Far West T-bar 4.25 216 PN **Pn 09 37 14.8 -0.6**
WHVZ Whangaehu Hut 4.26 216 Pn **Pn 09 37 15.4 -0.1**
WHVZ Whangaehu Hut 4.26 216 PN **Pn 09 37 15.4 -0.1**
OUZ Omahuta 4.28 277 *e*Pn Pn 09 37 09.0 -6.6
MOVZ Moawhango 4.28 213 Pn **Pn 09 37 14.2 -1.5**
WNVZ Wahianoa 4.29 215 Pn **Pn 09 37 15.4 -0.4**
WNVZ Wahianoa 4.29 215 PN **Pn 09 37 15.4 -0.4**
MTVZ Mangateitei 4.39 216 Pn **Pn 09 37 16.8 -0.2**
MTVZ Mangateitei 4.39 216 PN **Pn 09 37 16.8 -0.2**
PXZ Pawanui 4.43 199 Pn **Pn 09 37 16.2 -1.1**
PXZ Pawanui 4.43 199 ⇓PN **Pn 09 37 16.2 -1.1**
PXZ AML AML 09 38 18.0
PXZ AML AML 09 38 18.0
PXZ AML AML 09 38 18.6
PXZ AML AML 09 38 18.6
PNHZ Pukenui 4.54 206 Pn **Pn 09 37 17.3 -1.3**
PNHZ Pukenui 4.54 206 PN **Pn 09 37 17.3 -1.3**
PNHZ AML AML 09 38 19.1
PNHZ AML AML 09 38 19.5
WPHZ Waipukurau 4.59 203 Pn **Pn 09 37 18.4 -0.8**
WPHZ Waipukurau 4.59 203 PN **Pn 09 37 18.4 -0.8**
WPHZ AML AML 09 38 25.9
WPHZ AML AML 09 38 27.7
PRHZ Porangahau 4.72 200 Pn **Pn 09 37 19.9 -0.8**
PRHZ Porangahau 4.72 200 ⇑PN **Pn 09 37 19.9 -0.8**
PRHZ AML AML 09 38 26.3
PRHZ AML AML 09 38 26.9
TSZ Takapari Road 4.75 207 Pn **Pn 09 37 19.9 -1.2**
TSZ Takapari Road 4.75 207 ⇓PN **Pn 09 37 19.9 -1.2**
TSZ AML AML 09 38 23.6
TSZ AML AML 09 38 24.8
DVHZ Dannevirke 4.89 204 Pn **Pn 09 37 21.4 -1.4**
DVHZ Dannevirke 4.89 204 PN **Pn 09 37 21.4 -1.4**
DVHZ AML AML 09 38 27.8
DVHZ AML AML 09 38 28.0
WAZ Wanganui 4.92 217 Pn **Pn 09 37 22.9 -0.2**
WAZ Wanganui 4.92 217 PN **Pn 09 37 22.9 -0.2**
POWZ Post Office Ro 5.11 207 Pn **Pn 09 37 24.7 -0.8**
POWZ Post Office Ro 5.11 207 PN **Pn 09 37 24.7 -0.8**
POWZ AML AML 09 38 38.0
POWZ AML AML 09 38 39.5
OHWZ Ohakea 5.13 211 PN **Pn 09 37 25.1 0.0**
PRWZ Pori Road 5.19 204 Pn **Pn 09 37 25.6 -0.8**
PRWZ Pori Road 5.19 204 PN **Pn 09 37 25.6 -0.8**
PRWZ AML AML 09 38 35.6
PRWZ AML AML 09 38 37.5
BFZ Birch Farm 5.21 202 Pn **Pn 09 37 25.6 -1.1**
BFZ *e*S **S 09 38 33.2 +3.6**
BFZ Birch Farm 5.21 202 PN **Pn 09 37 25.6 -1.1**
BFZ AML AML 09 38 35.8
BFZ AML AML 09 38 35.8
BFZ AML AML 09 38 35.9
BFZ AML AML 09 38 36.0
TIWZ Tintock 5.41 204 Pn **Pn 09 37 28.2 -0.9**
TIWZ Tintock 5.41 204 PN **Pn 09 37 28.2 -0.9**
TIWZ AML AML 09 38 40.3
TIWZ AML AML 09 38 41.3
MRZ Mangatainoka R 5.42 207 Pn **Pn 09 37 27.7 -1.4**
MRZ Mangatainoka R 5.42 207 ⇑PN **Pn 09 37 27.7 -1.4**
MRZ AML AML 09 38 38.0
MRZ AML AML 09 38 39.6
CPWZ Castlepoint 5.44 201 Pn **Pn 09 37 29.2 -0.2**
CPWZ Castlepoint 5.44 201 PN **Pn 09 37 29.2 -0.2**
CPWZ AML AML 09 38 43.7
CPWZ AML AML 09 38 44.9
HOWZ Holdsworth Sta 5.65 206 Pn **Pn 09 37 30.4 -1.6**
HOWZ Holdsworth Sta 5.65 206 PN **Pn 09 37 30.4 -1.6**
HOWZ AML AML 09 38 43.5
HOWZ AML AML 09 38 43.8
OGWZ Otaki Gorge 5.71 209 Pn **Pn 09 37 31.3 -1.4**
OGWZ Otaki Gorge 5.71 209 PN **Pn 09 37 31.3 -1.4**
OGWZ AML AML 09 38 46.5
OGWZ AML AML 09 38 46.6
TMWZ Te Maipa 5.71 203 Pn **Pn 09 37 31.4 -1.3**
TMWZ Te Maipa 5.71 203 PN **Pn 09 37 31.4 -1.3**
TMWZ AML AML 09 38 45.0
TMWZ AML AML 09 38 46.3
KIW Kapiti Island 5.85 210 Pn **Pn 09 37 33.1 -1.4**
KIW Kapiti Island 5.85 210 PN **Pn 09 37 33.1 -1.4**
KIW AML AML 09 38 46.2
KIW AML AML 09 38 47.5
MTW Mount Morrison 5.88 205 Pn **Pn 09 37 33.3 -1.5**
MTW Mount Morrison 5.88 205 PN **Pn 09 37 33.3 -1.5**
MTW AML AML 09 38 49.8
MTW AML AML 09 38 52.0
CAW Cannon Point 6.00 208 Pn **Pn 09 37 34.6 -1.6**
CAW Cannon Point 6.00 208 PN **Pn 09 37 34.6 -1.6**
CAW AML AML 09 38 51.8
CAW AML AML 09 38 54.5
TRWZ Traveller 6.04 203 Pn **Pn 09 37 35.7 -1.1**
TRWZ Traveller 6.04 203 PN **Pn 09 37 35.7 -1.1**
TRWZ AML AML 09 38 52.1
TRWZ AML AML 09 38 53.1
PAWZ Paruwai Farm 6.11 204 Pn **Pn 09 37 36.0 -1.6**
PAWZ Paruwai Farm 6.11 204 PN **Pn 09 37 36.0 -1.6**
PAWZ AML AML 09 38 53.7
PAWZ AML AML 09 38 53.9
MSWZ Moikau Station 6.20 205 Pn **Pn 09 37 37.5 -1.2**
MSWZ Moikau Station 6.20 205 PN **Pn 09 37 37.5 -1.2**
MSWZ AML AML 09 38 58.1
MSWZ AML AML 09 38 58.2
DUWZ D'Urville Isla 6.24 216 Pn **Pn 09 37 37.5 -1.8**
DUWZ D'Urville Isla 6.24 216 PN **Pn 09 37 37.5 -1.8**
WEL Wellington 6.26 209 Pn **Pn 09 37 38.0 -1.5**
WEL Wellington 6.26 209 PN **Pn 09 37 38.0 -1.5**
WEL AML AML 09 38 57.5
WEL AML AML 09 38 58.3
WEL AML AML 09 38 58.3
WEL AML AML 09 39 00.8
SNZO South Karori 6.31 209 *e*Pn **Pn 09 37 38.6 -1.4**
SNZO *e*S **S 09 38 56.0 +1.9**
BHW Baring Head 6.33 208 Pn **Pn 09 37 38.7 -1.7**
BHW Baring Head 6.33 208 PN **Pn 09 37 38.7 -1.7**
BHW AML AML 09 38 57.1
BHW AML AML 09 38 57.8
PLWZ Palliser 6.33 205 Pn **Pn 09 37 39.1 -1.4**
PLWZ Palliser 6.33 205 PN **Pn 09 37 39.1 -1.4**
PLWZ AML AML 09 38 58.3
PLWZ AML AML 09 38 59.7
TCW Tory Channel 6.41 212 Pn **Pn 09 37 39.3 -2.0**
TCW Tory Channel 6.41 212 PN **Pn 09 37 39.3 -2.0**
TCW AML AML 09 38 59.4
TCW AML AML 09 39 00.3
TUWZ Tuamarina 6.73 213 Pn **Pn 09 37 43.3 -2.0**
TUWZ Tuamarina 6.73 213 PN **Pn 09 37 43.3 -2.0**
TUWZ AML AML 09 39 06.3
TUWZ AML AML 09 39 07.1
NNZ Nelson 6.82 217 Pn **Pn 09 37 44.7 -1.8**
NNZ Nelson 6.82 217 PN **Pn 09 37 44.7 -1.8**
QRZ Quartz Range 6.98 223 Pn **Pn 09 37 47.1 -1.4**
QRZ Quartz Range 6.98 223 PN **Pn 09 37 47.1 -1.4**
BSWZ Blackbirch Sta 6.99 212 Pn **Pn 09 37 47.0 -1.6**
BSWZ Blackbirch Sta 6.99 212 PN **Pn 09 37 47.0 -1.6**
THZ Tophouse 7.47 216 Pn **Pn 09 37 52.7 -2.0**
THZ *e*S **S 09 39 21.6 +1.1**
THZ Tophouse 7.47 216 PN **Pn 09 37 52.7 -2.0**
KHZ Kahutara 7.71 210 Pn **Pn 09 37 56.3 -1.2**
KHZ *e*S **S 09 39 26.6 +0.6**
KHZ Kahutara 7.71 210 ⇓PN **Pn 09 37 56.3 -1.2**
KHZ AML AML 09 37 57.9
KHZ AML AML 09 39 30.3
DSZ Denniston Nort 8.01 221 Pn **Pn 09 37 59.8 -1.7**
DSZ Denniston Nort 8.01 221 PN **Pn 09 37 59.8 -1.7**
LTZ Lake Taylor 8.56 214 *e*Pn **Pn 09 38 06.9 -1.4**
LTZ *e*S **S 09 39 45.4 -0.2**
CTZ Chatham Island 8.62 157 Pn Pn 09 38 15.6 +6.6
CTZ Chatham Island 8.62 157 PN Pn 09 38 15.6 +6.6
INZ Inchbonnie 8.91 217 PN **Pn 09 38 10.5 -2.1**
CRLZ Canterbury Las 9.05 210 Pn **Pn 09 38 13.0 -1.3**
CRLZ *e*S **S 09 39 57.0 +0.3**
CRLZ Canterbury Las 9.05 210 ⇑PN **Pn 09 38 13.0 -1.3**
OXZ Oxford 9.09 213 Pn **Pn 09 38 12.8 -2.2**
OXZ *e*S **S 09 39 55.9 -1.9**
OXZ Oxford 9.09 213 PN **Pn 09 38 12.7 -2.2**
MQZ McQueen's Vall 9.15 209 Pn **Pn 09 38 13.6 -1.9**
MQZ *e*S **S 09 39 58.3 -0.7**
MQZ McQueen's Vall 9.15 209 ⇑PN **Pn 09 38 13.6 -1.9**
WVZ Waitaha Valley 9.52 218 Pn **Pn 09 38 19.1 -1.2**
WVZ Waitaha Valley 9.52 218 PN **Pn 09 38 19.0 -1.2**
RPZ Rata Peaks 9.84 215 P **Pn 09 38 22.8 -1.5**
4.4nm,0.3s,baz=270,slow=2.2,SNR=59
RPZ S **S 09 40 13.9 -1.3**
3.3nm,0.3s,baz=317,slow=22,SNR=7.5
RPZ Rata Peaks 9.84 215 Pn **Pn 09 38 23.1 -1.2**
RPZ *e*S **S 09 40 16.4 +1.3**
RPZ Rata Peaks 9.84 215 PN **Pn 09 38 23.1 -1.2**
FOZ Fox Glacier 10.31 219 Pn **Pn 09 38 29.4 -0.8**
FOZ Fox Glacier 10.31 219 PN **Pn 09 38 29.3 -0.8**
LBZ Lake Benmore 10.76 215 Pn **Pn 09 38 35.1 -0.7**
LBZ *e*S **S 09 40 37.0 +0.8**
LBZ Lake Benmore 10.76 215 PN **Pn 09 38 35.1 -0.7**
ODZ Otahua Downs 11.07 212 Pn **P 09 38 39.8 -3.6**
ODZ *e*S **S 09 40 45.5 +2.2**
ODZ Otahua Downs 11.07 212 PN **P 09 38 39.7 -3.6**
JCZ Jackson Bay 11.23 220 Pn **Pn 09 38 40.6 -1.1**
JCZ Jackson Bay 11.23 220 PN **Pn 09 38 40.6 -1.1**
WKZ Wanaka 11.64 217 Pn **Pn 09 38 45.4 -1.4**
WKZ Wanaka 11.64 217 PN **Pn 09 38 45.4 -1.4**
EAZ Earnscleugh 11.81 215 Pn **P 09 38 48.4 -3.1**
EAZ Earnscleugh 11.81 215 PN **P 09 38 48.4 -3.1**
TUZ Tuapeka 12.22 212 Pn **P 09 38 55.9 -0.3**
TUZ Tuapeka 12.22 212 PN **P 09 38 55.9 -0.3**
MLZ Mavora Lakes 12.47 217 *e*Pn **P 09 38 58.1 -0.9**
WHZ Wether Hill Ro 12.94 216 *e*Pn **P 09 39 03.4 -0.7**
MSVF Nonsavu 18.07 358 *e*P P 09 39 53.6 -7.1
20nm,0.6s
STKA Stephens Creek 31.02 266 P **P 09 42 03.4 +2.0**
1.2nm,0.9s,baz=123,slow=12,SNR=2.7
CTAO Charters Tower 32.56 290 *e*P **P 09 42 15.6 +0.6**
9.6nm,1.3s
COEN Coen 38.65 295 *e*P **P 09 43 05.9 -0.7**
4.1nm,0.8s
AS01 Alice Springs 40.45 275 *e*P **P 09 43 22.6 +1.2**
AS31 Alice Springs 40.49 275 *e*P **P 09 43 22.8 +1.1**
1.3nm,0.6s
ASAR Alice Springs 40.49 275 P **P 09 43 22.8 +1.1**
2.4nm,0.5s,baz=114,slow=7.6,SNR=26
WB2 Warramunga Arr 41.98 280 *e*P **P 09 43 34.3 +0.5**
4.1nm,0.6s
WRA Warramunga Arr 41.99 280 P **P 09 43 34.1 +0.2**
2.6nm,0.6s,baz=119,slow=7.7,SNR=26
SLVN Son La 90.77 296 *e*P **P 09 48 42.5 +0.9**
4.6nm,1.3s
KRMB Red Mountain 93.19 39 *e*P **P 09 48 53.6 +1.2**
TVH1 TV Hill, Hawth 93.80 44 *e*P **P 09 48 54.1 -1.5**
21nm,0.6s
RSO Redoubt South 98.78 14 *e*P Pdif 09 49 16.9 -0.5
FIA1 FINESS Array S 149.13 335 *e*PKPbc **PKPbc 09 55 24.7 +0.4**
FINES FINESS Array B 149.13 335 PKPbc **PKPbc 09 55 24.4 0.0**
1.6nm,0.6s,baz=62,slow=4.5,SNR=8.8
TORD Torodi Ar. Bea 157.24 187 PKPab **PKPab 09 56 05.2 +0.2**
0.3nm,0.7s,baz=167,slow=4.2,SNR=3.4

NNC 02 09:48:49.3±2.2, 36°.79N×70°.83E, h0km, mb3.7, mpv3.3, 6C-3D, Error ellipse: s-maj=18.5km s-min=9.4km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56 322**		⇑Pn	Pn	09 49 32.1	-0.1
8.4nm,0.3s
DZET ⇑Sn Sn 09 50 05.4 +1.2
66nm,0.5s
MNAS Manas 5.84 12 ⇓Pn Pn 09 50 17.2 0.0
3.0nm,1.1s
MNAS ⇓Sn Sn 09 51 25.2 +0.3
7.2nm,0.4s
KK31 Karatay Array 6.31 358 ⇑Pn Pn 09 50 22.2 -1.4
0.3nm,0.3s,baz=174,slow=10.0,SNR=14
KK31 ⇑Sn Sn 09 51 35.7 -0.8
0.7nm,0.3s,baz=186,slow=24,SNR=5.9
AAK Ala-Archa 6.49 25 ⇑Pn Pn 09 50 26.9 +0.7
2.1nm,0.7s
AAK ⇓Sn Sn 09 51 43.6 +2.6
3.9nm,0.6s
TKM2 Tokmak 2 7.14 29 ⇑Pn Pn 09 50 34.9 -0.2
2.5nm,0.5s

MEX 02 09:55:11.0±0.4, 32°.38N×115°.23W, h12km±29km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	**Cerro Bola**	**1.22 267**		*e*P	Pn	09 55 30.4	-3.6
CBX *e*S Sb 09 55 45.8 -4.0
TJIG Tijuana 1.23 273 *e*P Pn 09 55 30.4 -3.6
TJIG *e*S Sb 09 55 45.1 -4.8
SPIG San Pedro Mart 1.35 189 *e*P Pn 09 55 32.3 -3.7
SPIG *e*S Sb 09 55 49.2 -4.5

ISCJB ***02*** *10:00:48.9±0.4, 25°.30N±0°.06×123°.16E±0°.06, h186km±5km, mb3.7/17, Error ellipse: s-maj=11.8km s-min=6.5km az=143.2*
IDC ***02*** *10:00:51.0±2.5, 25°.37N×123°.12E, h190km±25km, mb3.4/18, mb1 3.6/20, mb1mx3.5/43, mbtmp4.0/20, Error ellipse: s-maj=18.6km s-min=10.9km az=70.0*

JMA **02** *10:00:51.6±0.2,25°.13N×123°.08E,h170km±3km,M4.4*
ISC 02 10:00:49.9±0.7,25°.33N±0°.08×123°.16E±0°.07,h182km±7km,
n44,σ1§38/58,mb3.6/17,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.88**	**189**	P	**Pn**	**10 01 16.3**	**-0.6**
JYNG	**Yonagunijimaku**	**0.90**	**192**	P	**Pn**	**10 01 16.6**	**-0.4**
IRIF	**Iriomote-Funau**	**1.12**	**152**	P	**Pn**	**10 01 18.3**	**-0.4**
IRIF				*e*S	**Sn**	**10 01 38.1**	**-2.8**
JISG	**Ishigakijimahi**	**1.28**	**125**	P	**Pn**	**10 01 20.1**	**+0.1**
JISG				S	**Sn**	**10 01 42.3**	**-1.0**
JIJ	**Ishigaki jima**	**1.32**	**137**	P	**Pn**	**10 01 20.3**	**0.0**
JIJ				S	**Sn**	**10 01 41.7**	**-2.1**
JKRS	**Kuro-shima**	**1.34**	**144**	P	**Pn**	**10 01 20.8**	**+0.3**
JKRS				S	**Sn**	**10 01 42.7**	**-1.5**
HATJ	**Hateruma jima**	**1.40**	**155**	P	**Pn**	**10 01 21.2**	**+0.1**
HATJ				*e*S	**Sn**	**10 01 43.4**	**-1.8**
JTJ	**Tarama**	**1.56**	**116**	P	**Pn**	**10 01 23.8**	**+1.2**
JTJ				S	**Sn**	**10 01 47.4**	**-0.4**
JIRB	**Irabujima**	**1.90**	**105**	P	**Pn**	**10 01 27.0**	**+1.1**
JIRB				S	**Sn**	**10 01 53.4**	**-0.5**
JIKM	**Ikemajima**	**1.94**	**102**	P	**Pn**	**10 01 28.0**	**+1.6**
JIKM				*e*S	**Sn**	**10 01 55.0**	**+0.3**
JMJ	**Miyako jima 2**	**2.01**	**104**	P	**Pn**	**10 01 28.7**	**+1.6**
JMJ				S	**Sn**	**10 01 56.1**	**+0.1**
JOGS	**Gusukube**	**2.12**	**105**	P	**Pn**	**10 01 30.0**	**+1.7**
JOGS				S	**Sn**	**10 01 58.8**	**+0.6**
JKE	**Kume jima 2**	**3.42**	**72**	P	**Pn**	**10 01 44.9**	**+1.2**
JAGN	**Aguni-jima**	**3.89**	**70**	P	**Pn**	**10 01 50.7**	**+1.2**
JJT2	**Tamagusuku 2**	**4.22**	**78**	P	**Pn**	**10 01 54.9**	**+1.1**
JNTH	**Nagotoyohara**	**4.54**	**74**	P	**Pn**	**10 01 58.2**	**+0.3**
JNTH				S	**Sn**	**10 02 49.5**	**-1.7**
JIH	**Iheya**	**4.64**	**68**	P	**Pn**	**10 01 59.8**	**+0.6**
JIH				*e*S	**Sn**	**10 02 52.2**	**-1.4**
JOW	**Kunigami**	**4.84**	**71**	P	**Pn**	**10 02 01.8**	**0.0**
	78nm,0.3s,baz=152,slow=15,SNR=242						
JOW				S	**Sn**	**10 02 55.5**	**-2.8**
	19nm,0.3s,baz=139,slow=19,SNR=2.8						
JOW	**Kunigami**	**4.84**	**71**	P	**Pn**	**10 02 01.7**	**0.0**
JOKE	**Okinoerabujima**	**5.26**	**66**	P	**Pn**	**10 02 07.0**	**-0.2**
JTK	**Tokunoshima**	**5.74**	**64**	P	**Pn**	**10 02 13.0**	**-0.4**
JAMN	**Amaminishikomi**	**6.11**	**60**	P	**Pn**	**10 02 17.5**	**-0.8**
JAM	**Amami Oshima**	**6.53**	**61**	P	**Pn**	**10 02 22.7**	**-1.0**
JMZ	**Minamidaito 2**	**7.30**	**84**	P	**Pn**	**10 02 33.0**	**-0.9**
JMZ				*e*S	**Sn**	**10 03 49.8**	**-6.4**
KSRS	**Korea Array**	**12.75**	**17**	P	**Pn**	**10 03 46.0**	**+1.3**
	0.5nm,0.3s,baz=197,slow=12,SNR=15						
USRK	**Ussuriysk Ar.**	**20.15**	**19**	P	**P**	**10 05 11.4**	**+1.4**
	4.9nm,0.6s,baz=205,slow=11,SNR=11						
ASAJ	**Asahikawa**	**24.52**	**35**	P	**P**	**10 05 53.4**	**+0.9**
	3.8nm,0.4s,baz=248,slow=14,SNR=17						
KLR	**Kul'dur**	**24.78**	**14**	P	**P**	**10 05 55.1**	**+0.4**
	0.3nm,0.6s,baz=152,slow=3.2,SNR=8.6						
SONM	**Songino Array**	**26.07**	**334**	P	**P**	**10 06 06.7**	**+0.1**
	0.8nm,0.6s,baz=158,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**38.80**	**314**	P	**P**	**10 07 56.9**	**0.0**
	3.3nm,0.3s,baz=99,slow=9.4,SNR=25						
ZALV	**Zalesovo Beam**	**40.29**	**325**	P	**P**	**10 08 08.4**	**-0.6**
	2.1nm,0.5s,baz=111,slow=8.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**42.41**	**318**	P	**P**	**10 08 26.0**	**-0.4**
	1.3nm,0.6s,baz=111,slow=9.0,SNR=8.9						
WRA	**Warramunga Arr**	**46.30**	**165**	P	**P**	**10 08 58.0**	**+0.5**
	1.2nm,0.5s,baz=347,slow=8.7,SNR=19						
ASAR	**Alice Springs**	**49.81**	**167**	P	**P**	**10 09 25.4**	**+1.0**
	0.2nm,0.3s,baz=349,slow=7.0,SNR=8.0						
GEYT	**Alibeck**	**55.77**	**300**	P	**P**	**10 10 08.8**	**+0.7**
	1.1nm,0.5s,baz=350,slow=7.5,SNR=3.7						
STKA	**Stephens Creek**	**59.55**	**162**	P	**P**	**10 10 34.4**	**+0.1**
	1.5nm,0.7s,baz=328,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**67.37**	**28**	P	**P**	**10 11 24.4**	**-0.8**
	0.3nm,0.4s,baz=271,slow=4.7,SNR=7.8						
ARCES	**ARCESS Array B**	**69.15**	**338**	P	**P**	**10 11 36.1**	**+0.1**
	1.0nm,0.5s,baz=80,slow=6.8,SNR=7.0						
FINES	**FINESS Array B**	**71.36**	**330**	P	**P**	**10 11 48.9**	**-0.8**
	0.9nm,0.5s,baz=57,slow=7.0,SNR=9.7						
BRTR	**Keskin Array B**	**73.93**	**307**	P	**P**	**10 12 05.2**	**-0.2**
	0.7nm,0.5s,baz=100,slow=6.3,SNR=2.8						
NB2	**NORSAR Subarra**	**78.04**	**333**	P	**P**	**10 12 27.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**78.04**	**333**	P	**P**	**10 12 26.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=53,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**81.21**	**23**	P	**P**	**10 12 45.6**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=308,slow=5.2,SNR=5.0						
GERES	**GERESS Array B**	**83.09**	**321**	P	**P**	**10 12 55.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=73,slow=4.5,SNR=3.5						

CSEM **02** *10:01:54.7,46°.05N×14°.42E,h0km,ML0.7*
LJU 02 10:01:54.7,46°.05N×14°.42E,h10km,ML0.6,2C-2D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.08**	**96**	*i* Pg	Pg	10 01 57.2	+0.2
LJU				*i* Sg	Sg	10 01 58.7	+0.2
LJU	**Ljubljana**	**0.08**	**96**	*i* Pg	Pg	10 01 57.2	+0.3
LJU				*i* Sg	Sg	10 01 58.7	+0.1
CRNS	**Crni Vrh**	**0.11**	**285**	⇑*i*Pg	Pg	10 01 57.7	+0.2
CRNS				*i* Sg	Sg	10 01 59.7	+0.3
	comp=Z,34nm,0.1s						
CRNS	**Crni Vrh**	**0.11**	**285**	⇑*i*Pg	Pg	10 01 57.7	+0.2
CRNS				*i* Sg	Sg	10 01 59.7	+0.3
	comp=Z,34nm,0.1s						
GBAS	**Gorenja Brezov**	**0.12**	**172**	⇓*i*Pg	Pg	10 01 57.6	+0.1
GBAS				*i*		10 01 57.7	
GBAS				*e*Sg	Sg	10 01 59.4	-0.1
	comp=Z,4.0nm,0.1s						
GBAS	**Gorenja Brezov**	**0.12**	**172**	⇓*i*Pg	Pg	10 01 57.6	+0.1
GBAS				*e*Sg	Sg	10 01 59.4	-0.1
VNDS	**Vrh nad Dolski**	**0.20**	**76**	*i* Pg	Pg	10 01 59.3	+0.3
VNDS				*i* Sg	Sg	10 02 02.0	+0.1
	comp=Z,2.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.20**	**76**	*i* Pg	Pg	10 01 59.3	+0.4
VNDS				*i* Sg	Sg	10 02 02.0	+0.2
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.24**	**4**	*e*Pg	Pg	10 01 59.6	0.0
MOZS	**Mozjanca**	**0.24**	**4**	*e*Pg	Pg	10 01 59.7	0.0
VISS	**Visnje**	**0.39**	**130**	*i* Pg	Pg	10 02 02.5	+0.2
VISS	**Visnje**	**0.39**	**130**	*i* Pg	Pg	10 02 02.5	+0.2
GORS	**Gorjuse**	**0.40**	**312**	*i* Pg	Pg	10 02 02.5	-0.1
GORS				*i* Sg	Sg	10 02 08.3	+0.5
	comp=Z,1.0nm,0.1s						
GORS	**Gorjuse**	**0.40**	**312**	*i* Pg	Pg	10 02 02.5	0.0
GORS				*i* Sg	Sg	10 02 08.3	+0.5
	comp=Z,1.0nm,0.1s						

CSEM **02** *10:03:06.9,33°.79N×35°.80E,h8km,ML2.7*
GRAL **02** *10:03:06.9±0.3,33°.79N×35°.80E,h8km±10km,MD2.7*
NSSC **02** *10:03:06.8±1.6,33°.74N×35°.72E,h7km±12km,ML1.6*
ISCJB **02** *10:03:07.2±0.6,33°.77N±0°.03×35°.76E±0°.04,h0km±10km,*
Error ellipse: s-maj=5.4km s-min=4.7km az=9.1
ISC 02 10:03:06.8±1.1,33°.79N±0°.03×35°.80E±0°.04,h4km±13km,
n13,σ0§58/22,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17**	**314**	*e*P	**Pg**	**10 03 10.2**	**0.0**
BHL	**Bhannes**	**0.17**	**314**	*e*P	**Pg**	**10 03 10.2**	**0.0**
DQRL	**Deir Qamar**	**0.21**	**247**	*e*P	**Pg**	**10 03 10.9**	**0.0**
DQRL				*e*S	**Sg**	**10 03 13.8**	**+0.2**
DQRL	**Deir Qamar**	**0.21**	**247**	*e*P	**Pg**	**10 03 10.9**	**0.0**
DQRL				*e*S	**Sg**	**10 03 13.8**	**+0.2**
RCY	**Rachaya**	**0.29**	**174**	*e*P	**Pg**	**10 03 12.4**	**-0.1**
RCY				*e*S	**Sg**	**10 03 16.5**	**+0.2**
BRBR	**Barbar**	**0.40**	**161**	*e*P	**Pg**	**10 03 14.8**	**+0.3**
BRBR				*e*S	**Sg**	**10 03 20.7**	**+1.0**
BRBR				AML	AML	10 03 26.2	
	comp=N,46nm,0.4s						
BRBR				AML	AML	10 03 29.6	
	comp=E,23nm,0.3s						
HWQ	**Hawqa**	**0.51**	**14**	*e*P	**Pg**	**10 03 16.0**	**-0.6**
HWQ	**Hawqa**	**0.51**	**14**	*e*P	**Pg**	**10 03 16.0**	**-0.6**
MARH	**Ras Al Marh**	**0.62**	**67**	*e*P	**Pb**	**10 03 19.6**	**-0.7**
MARH				*e*S	**Sb**	**10 03 30.1**	**+0.6**
MARH				AML	AML	10 03 34.0	
	comp=E,79nm,0.5s						
MARH				AML	AML	10 03 34.2	
	comp=N,37nm,0.4s						
TOTH	**TOTAH**	**0.68**	**129**	*e*P	**Pb**	**10 03 20.6**	**-0.6**
TOTH				*e*S	**Sb**	**10 03 30.6**	**-0.4**
TOTH				AML	AML	10 03 34.8	
	comp=N,16nm,0.3s						
HAWK	**Haweek**	**0.89**	**34**	*e*P	**Pb**	**10 03 24.7**	**-0.2**
HAWK				*e*S	**Sn**	**10 03 39.4**	**-0.2**
HAWK				AML	AML	10 03 44.7	
	comp=E,12nm,0.5s						
HAWK				AML	AML	10 03 48.6	
	comp=N,10nm,0.4s						
ROOS	**tl_alroos**	**1.30**	**72**	*e*P	**Pn**	**10 03 31.3**	**-0.5**
ROOS				*e*S	**Sn**	**10 03 50.3**	**+0.7**
ROOS				AML	AML	10 03 56.8	
	comp=E,14nm,0.7s						
ROOS				AML	AML	10 04 00.9	
	comp=N,15nm,0.4s						
BIDA	**Albida**	**1.30**	**19**	*e*P	**Pg**	**10 03 32.6**	**+0.9**
BIDA				*e*S	**Sn**	**10 03 50.8**	**+1.1**
BIDA				AML	AML	10 03 54.8	
	comp=N,24nm,0.3s						
BIDA				AML	AML	10 03 56.4	
	comp=E,60nm,0.4s						

PRU **02** *10:14:30.6,48°.34N×23°.89E,h0km,M4.7*
MOS **02** *10:14:31.5±1.2,48°.50N×23°.80E,h10km,mb4.3/8,Error ellipse: s-maj=5.8km s-min=4.5km az=132.3*
IDC **02** *10:14:31.7±0.5,48°.45N×23°.83E,h0km,mb3.8/9,mb1 3.9/19,mb1mx3.8/41,mbtmp3.8/19,ML4.0/9,MS2.7/8,Ms1 2.7/8,ms1mx2.5/46,Error ellipse: s-maj=9.2km s-min=6.5km az=2.0*
SIGU **02** *10:14:32.2,48°.50N×23°.81E,h9km,mb3.3*
NEIC **02** *10:14:32.9±0.3,48°.66N×23°.78E,h10km,mb4.7/8,Error ellipse: s-maj=6.3km s-min=4.7km az=194.0*
ISCJB **02** *10:14:33.3±0.3,48°.57N±0°.02×23°.75E±0°.02,h22km±2km,mb4.2/18,MS2.9/3,Error ellipse: s-maj=2.8km s-min=2.1km az=178.0*
CSEM **02** *10:14:34.0±0.1,48°.54N×23°.79E,h15km,mb4.4/13,ML3.2/4,Error ellipse: s-maj=2.8km s-min=2.3km az=16.0*
ISC 02 10:14:32.9±0.9,48°.50N±0°.02×23°.88E±0°.02,h10km±6km,
n296,σ1§70/353,mb4.2/18,MS3.1/3,23C-27D,
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEZ	**Mezhgor'ye**	**0.25**	**275**	*e*Pg	**Pg**	**10 14 36.8**	**-1.2**
MEZ				Pmg		10 14 37.4	
MEZ				*e*Sg	**Sg**	**10 14 40.1**	**-1.3**
MEZ				Smg		10 14 40.4	
STNU	**Starunia**	**0.46**	**62**	*e*Pg	**Pg**	**10 14 42.3**	**+0.3**
STNU				*e*Sg	**Sb**	**10 14 50.3**	**+0.2**
NSLU	**Nyzhne Selyshc**	**0.48**	**128**	*e*Pg	**Pg**	**10 14 40.1**	**-2.3**
NSLU				Pmg		10 14 42.6	
NSLU				*e*Sg	**Sg**	**10 14 45.8**	**-3.0**
NSLU				Smg		10 14 46.6	
RAKU	**Rahkiv**	**0.51**	**158**	*e*Pg	**Pg**	**10 14 43.0**	**+0.2**
RAKU				Pmg		10 14 43.6	
BRIU	**Brid**	**0.60**	**255**	*e*Pg	**Pg**	**10 14 43.6**	**-0.9**
BRIU				Pmg		10 14 44.9	
BRIU				*e*Sg	**Sg**	**10 14 52.0**	**-0.3**
BRIU				Smg		10 14 54.2	
KORU	**Korolevo**	**0.60**	**236**	*e*Pg	**Pg**	**10 14 44.0**	**-0.6**
KORU				Pmg		10 14 45.8	
KORU				*e*Sg	**Sg**	**10 14 52.4**	**-0.2**
KORU				Smg		10 14 52.8	
MORS	**Morshin**	**0.64**	**1**	*e*Pg	**Pg**	**10 14 45.4**	**+0.1**
MORS				*e*Sg	**Sb**	**10 14 55.0**	**-0.1**
TRSU	**Trosnyk**	**0.74**	**237**	*e*Pg	**Pg**	**10 14 46.6**	**-0.5**
TRSU				Pmg		10 14 48.0	
TRSU				*e*Sg	**Sg**	**10 14 56.9**	**+0.1**
TRSU				Smg		10 14 59.0	
MUKU	**Mukachevo**	**0.80**	**267**	*e*Pg	**Pg**	**10 14 47.5**	**-0.8**
MUKU				Pmg		10 14 49.3	
MUKU				*e*Sg	**Sg**	**10 14 58.4**	**-0.3**
MUKU				Smg		10 14 58.6	
SHIU	**Shidnytsya**	**0.81**	**335**	*e*Pg	**Pg**	**10 14 47.6**	**-0.9**
SHIU				Pmg		10 14 48.4	
SHIU				*e*Sg	**Sb**	**10 15 00.0**	**0.0**
SHIU				Smg		10 15 02.2	
SHIU				Smg		10 15 02.2	
KSV	**Kosov**	**0.81**	**102**	*e*Pg	**Pb**	**10 14 49.5**	**+0.5**
KSV				Pmg		10 14 51.2	
KSV				*e*Sg	**Sn**	**10 15 01.6**	**-0.8**
KSV				Smg		10 15 02.4	
BMR	**Baia Mare**	**0.86**	**198**	⇓*i*P	**Pg**	**10 14 49.5**	**0.0**
BMR	**Baia Mare**	**0.86**	**198**	⇓*i*P	**Pg**	**10 14 49.5**	**0.0**
BMR				S	**Sg**	**10 15 01.5**	**+0.8**
BERU	**Beregovo**	**0.86**	**253**	*e*Pg	**Pg**	**10 14 48.7**	**-0.9**
BERU				*e*Sg	**Sg**	**10 15 00.7**	**-0.2**
TRPA	**Tarpa**	**0.97**	**248**	*e*Sg	**Sg**	**10 15 04.2**	**+0.1**
TRPA	**Tarpa**	**0.97**	**248**	⇓*e*Pg	**Pg**	**10 14 51.6**	**0.0**
TRPA				*e*Sg	**Sg**	**10 15 04.2**	**+0.1**
UZH	**Uzhgorod**	**1.06**	**278**	⇓*i*P	**Pg**	**10 14 52.6**	**-0.8**
UZH				*i*		10 15 08.0	
UZH	**Uzhgorod**	**1.06**	**278**	*e*Pg	**Pg**	**10 14 52.4**	**-1.0**
UZH				Pmg		10 14 54.0	
UZH				*e*Sg	**Sg**	**10 15 07.2**	**0.0**
UZH				Smg		10 15 08.5	
UZH	**Uzhgorod**	**1.06**	**278**	*i* P	**Pg**	**10 14 52.6**	**-0.8**
BUR08	**Bucovina Ar. S**	**1.23**	**133**	*e*Pn	**Pb**	**10 14 56.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**1.23**	**133**	*e*Pn	**Pb**	**10 14 56.6**	**+0.4**
BURAR	**Bucovina Array**	**1.25**	**134**	⇓*i*P	**Pn**	**10 14 56.6**	**0.0**
BURAR	**Bucovina Array**	**1.25**	**134**	P	**Pn**	**10 14 56.6**	**0.0**
BURAR	**Bucovina Array**	**1.25**	**134**	⇓*i*P	**Pn**	**10 14 56.6**	**0.0**
BURAR				S	**Sn**	**10 15 16.8**	**+3.3**
LVV	**L'vov**	**1.33**	**4**	*e*P	**Pg**	**10 14 59.8**	**+1.4**
LVV				*e*S	**Sg**	**10 15 20.4**	**+4.7**
LVV	**L'vov**	**1.33**	**4**	*e*Pg	**Pg**	**10 14 58.6**	**+0.2**
LVV				Pmg		10 15 00.5	
LVV				*e*Sg	**Sg**	**10 15 17.7**	**+2.0**
LVV				Smg		10 15 20.0	
LVV	**L'vov**	**1.33**	**4**	*e*P	**Pg**	**10 14 59.8**	**+1.4**
KWP	**Kalwaria Pacla**	**1.38**	**326**	*e*Pn	**Pb**	**10 14 58.8**	**+0.1**
KWP				*e*Sn	**Sg**	**10 15 18.9**	**+1.7**
KWP	**Kalwaria Pacla**	**1.38**	**326**	*e*P	**Pb**	**10 14 58.8**	**+0.1**
KWP				*e*		10 15 18.9	
KWP	**Kalwaria Pacla**	**1.38**	**326**	*e*P	**Pb**	**10 14 58.8**	**+0.1**
KWP				*e*Sn	**Sg**	**10 15 18.9**	**+1.7**
ARCR	**ARCALIA**	**1.45**	**167**	⇓*i*P	**Pb**	**10 15 00.5**	**+0.6**
ARCR	**ARCALIA**	**1.45**	**167**	⇓*i*P	**Pb**	**10 15 00.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**1.66**	**285**	*e*P	**Pn**	**10 15 01.3**	**-0.7**
CRVS	**Cervenica-Dubn**	**1.66**	**285**	*e*P	**Pn**	**10 15 01.3**	**-0.7**
CRVS	**Cervenica-Dubn**	**1.66**	**285**	*e*	**Pn**	**10 15 01.3**	**-0.7**
KMPD	**K-Podol'skiy**	**1.71**	**87**	*e*Pn	**Pb**	**10 15 04.1**	**-0.3**
KMPD				*e*Sn	**Sg**	**10 15 28.5**	**+0.5**
CJR	**Cluj-Napoca**	**1.79**	**186**	⇓*i*P	**Pb**	**10 15 05.5**	**-0.3**
CJR	**Cluj-Napoca**	**1.79**	**186**	⇓*i*P	**Pb**	**10 15 05.5**	**-0.3**
CJR				S	**Sb**	**10 15 29.8**	**+1.5**
HORU	**Horodok**	**1.83**	**66**	*e*Pn	**Pb**	**10 15 06.0**	**-0.4**
HORU				*e*Sn	**Sg**	**10 15 31.0**	**-0.6**
DRGR		**1.88**	**205**	⇑*i*P	**Pn**	**10 15 05.4**	**+0.3**
DRGR		**1.88**	**205**	P	**Pn**	**10 15 05.6**	**+0.5**
DRGR		**1.88**	**205**	P	**Pn**	**10 15 05.6**	**+0.5**
DRGR				S	**Sb**	**10 15 30.4**	**-0.5**
PRAR	**RASCA**	**1.94**	**125**	⇑*i*P	**Pb**	**10 15 08.8**	**+0.4**
PRAR	**RASCA**	**1.94**	**125**	⇑*i*P	**Pb**	**10 15 08.8**	**+0.4**
STHS	**Stebnicka Huta**	**1.97**	**299**	*e*P	**Pn**	**10 15 06.3**	**0.0**
STHS				pmax	pmax		
	comp=N,158nm,0.6s						
STHS	**Stebnicka Huta**	**1.97**	**299**	*e*P	**Pn**	**10 15 06.3**	**0.0**
	comp=N,158nm,0.6s						
STHS	**Stebnicka Huta**	**1.97**	**299**	*e*Pg	**Pg**	**10 15 11.2**	**+0.5**
STHS	**Stebnicka Huta**	**1.97**	**299**	*e*	**Pn**	**10 15 06.2**	**0.0**
STHS	**Stebnicka Huta**	**1.97**	**299**	*e*PG	**Pg**	**10 15 11.2**	**+0.5**
STHS				*e*LG	Lg	10 15 46.5	
JOSR	**Joseni**	**2.10**	**148**	⇑*i*P	**Pn**	**10 15 09.4**	**+1.2**
JOSR	**Joseni**	**2.10**	**148**	⇑*i*P	**Pn**	**10 15 09.4**	**+1.2**
KECS	**Kecovo**	**2.26**	**271**	*e*P	**Pn**	**10 15 09.7**	**-0.6**
KECS				*e*		10 15 45.3	
KECS				pmax	pmax		
	comp=N,95nm,0.5s						
KECS	**Kecovo**	**2.26**	**271**	*e*P	**Pn**	**10 15 09.7**	**-0.6**
KECS	**Kecovo**	**2.26**	**271**	*e*Pg	**Pg**	**10 15 17.1**	**+0.9**
KECS				*e*Sg	**Sg**	**10 15 45.3**	**-0.2**
KECS	**Kecovo**	**2.26**	**271**	*e*	**Pn**	**10 15 09.7**	**-0.6**
KECS	**Kecovo**	**2.26**	**271**	*e*PG	**Pg**	**10 15 17.1**	**+0.9**
KECS				*e*SG	**Sg**	**10 15 45.3**	**-0.2**
KECS				*e*LG	Lg	10 15 47.1	
NDNU	**Novodnistrovsk**	**2.32**	**86**	*e*Sn	**Sb**	**10 15 43.8**	**+0.4**
NDNU				Smn		10 15 44.1	
NIE	**Niedzica**	**2.54**	**293**	*e*Pn	**Pn**	**10 15 14.3**	**+0.2**
NIE				*e*Sn	**Sb**	**10 15 50.7**	**+1.0**
NIE	**Niedzica**	**2.54**	**293**	*e*P	**Pn**	**10 15 14.3**	**+0.2**
NIE				*e*		10 15 50.7	
SIRR	**Siria**	**2.69**	**215**	⇑*i*P	**Pn**	**10 15 17.1**	**+0.9**
SIRR	**Siria**	**2.69**	**215**	⇑*i*P	**Pn**	**10 15 17.1**	**+0.9**
SIRR				S	**Sn**	**10 15 49.7**	**+0.8**
DOPR	**Dopca**	**2.73**	**157**	⇓*i*P	**Pn**	**10 15 18.7**	**+2.0**
DOPR	**Dopca**	**2.73**	**157**	⇓*i*P	**Pn**	**10 15 18.7**	**+2.0**
TESR	**Tescani**	**2.73**	**136**	⇓*i*P	**Pn**	**10 15 19.0**	**+2.3**
TESR	**Tescani**	**2.73**	**136**	⇓*i*P	**Pn**	**10 15 19.0**	**+2.3**
PSZ	**Piszkesteto**	**2.73**	**259**	⇑*i*Pn	**Pn**	**10 15 16.1**	**-0.8**
PSZ	**Piszkesteto**	**2.73**	**259**	*e*P	**Pn**	**10 15 16.0**	**-0.8**
PSZ	**Piszkesteto**	**2.73**	**259**	⇓*e*Pn	**Pn**	**10 15 16.0**	**-0.8**
PSZ				S	**Sn**	**10 15 49.9**	**0.0**
PSZ	**Piszkesteto**	**2.73**	**259**	⇓*e*Pn	**Pn**	**10 15 16.0**	**-0.8**
PSZ				*e*Sn	**Sb**	**10 15 55.8**	**+0.5**
PSZ	**Piszkesteto**	**2.73**	**259**	*e*Pn	**Pn**	**10 15 16.0**	**-0.8**
IAS	**Iasi**	**2.80**	**116**	⇑*i*P	**Pn**	**10 15 20.3**	**+2.6**
IAS	**Iasi**	**2.80**	**116**	⇑*i*P	**Pn**	**10 15 20.3**	**+2.6**
LANS	**Liptovska Anna**	**2.99**	**284**	*e*P	**Pn**	**10 15 21.0**	**+0.6**
LANS	**Liptovska Anna**	**2.99**	**284**	*e*P	**Pn**	**10 15 21.0**	**+0.6**
LANS				*e*Sg	**Sg**	**10 16 11.3**	**+2.4**
LANS	**Liptovska Anna**	**2.99**	**284**	*e*	**Pn**	**10 15 21.0**	**+0.6**
LOT	**Lotru**	**3.05**	**182**	⇑*i*P	**Pn**	**10 15 23.4**	**+2.2**
LOT	**Lotru**	**3.05**	**182**	⇑*i*P	**Pn**	**10 15 23.4**	**+2.2**
VOIR		**3.16**	**165**	⇓*i*P	**Pn**	**10 15 24.4**	**+1.7**
VOIR		**3.16**	**165**	⇓*i*P	**Pn**	**10 15 24.4**	**+1.7**
ARR	**Arges**	**3.17**	**170**	⇓*i*P	**Pn**	**10 15 25.2**	**+2.3**
ARR	**Arges**	**3.17**	**170**	⇓*i*P	**Pn**	**10 15 25.2**	**+2.3**
OJC	**Ojcow**	**3.18**	**304**	*e*Pn	**Pn**	**10 15 22.5**	**-0.4**
OJC	**Ojcow**	**3.18**	**304**	*e*P	**Pn**	**10 15 22.5**	**-0.4**
OJC	**Ojcow**	**3.18**	**304**	*e*P	**Pn**	**10 15 22.5**	**-0.4**
OJC	**Ojcow**	**3.18**	**304**	*e*Pn	**Pn**	**10 15 22.1**	**-0.8**
GZR	**Gura Zlata**	**3.19**	**194**	⇓*i*P	**Pn**	**10 15 24.5**	**+1.3**
GZR	**Gura Zlata**	**3.19**	**194**	⇓*i*P	**Pn**	**10 15 24.5**	**+1.3**
PLOR	**Plostina**	**3.25**	**143**	⇑*i*P	**Pn**	**10 15 25.8**	**+1.8**
PLOR	**Plostina**	**3.25**	**143**	P	**Pn**	**10 15 25.7**	**+1.8**
PLOR	**Plostina**	**3.25**	**143**	P	**Pn**	**10 15 25.7**	**+1.8**
VRI	**Vrincioaia**	**3.27**	**143**	⇑*i*P	**Pn**	**10 15 26.4**	**+2.3**
VRI	**Vrincioaia**	**3.27**	**143**	P	**Pn**	**10 15 26.4**	**+2.3**
VRI	**Vrincioaia**	**3.27**	**143**	P	**Pn**	**10 15 26.4**	**+2.3**
BZS	**Buzias**	**3.27**	**209**	⇓*i*P	**Pn**	**10 15 24.9**	**+0.8**
BZS	**Buzias**	**3.27**	**209**	P	**Pn**	**10 15 24.9**	**+0.8**
BZS	**Buzias**	**3.27**	**209**	P	**Pn**	**10 15 24.9**	**+0.8**
MLR	**Muntele Rosu**	**3.32**	**154**	Pn	**Pn**	**10 15 26.1**	**+1.1**
	comp=N,0.4nm,0.3s,baz=349,slow=3.3,SNR=18						
MLR				LR	LR	10 17 11.7	
	comp=N,35nm,21.9s,baz=15,slow=49						
MLR	**Muntele Rosu**	**3.32**	**154**	⇑*i*P	**Pn**	**10 15 26.8**	**+1.8**
MLR	**Muntele Rosu**	**3.32**	**154**	*e*Pn	**Pn**	**10 15 26.6**	**+1.6**
MLR	**Muntele Rosu**	**3.32**	**154**	*e*Pn	**Pn**	**10 15 26.6**

TREC				MLR	MLR		
	comp=Z,200nm,8.5s						
ARSA	**Arzberg**	**5.76 261**	*i* Pn		**Pn**	**10 15 58.2**	**-0.2**
	comp=Z,5.1nm,0.3s						
ARSA			*e*Sn		**Sn**	**10 17 04.4**	**-0.1**
	comp=Z,2.7nm,0.4s						
ARSA	**Arzberg**	**5.76 261**	Pn		**Pn**	**10 15 58.2**	**-0.2**
	comp=Z,5.1nm,0.3s						
ARSA			Sn		**Sn**	**10 17 04.4**	**-0.1**
	comp=Z,2.7nm,0.4s						
BARS	**Barje**	**5.86 195**	*e*Pn		**Pn**	**10 16 00.5**	**+0.7**
GOPC	**GO Pecny, Ondr**	**6.13 287**	*e*PN		**Pn**	**10 16 03.1**	**-0.3**
GOPC	**GO Pecny, Ondr**	**6.13 287**	*e*P		**Pn**	**10 16 03.1**	**-0.3**
SOKA	**Soboth**	**6.26 256**	*i* Pn		**Pn**	**10 16 05.0**	**-0.3**
	comp=Z,0.2nm,0.1s						
SOKA	**Soboth**	**6.26 256**	Pn		**Pn**	**10 16 05.0**	**-0.3**
	comp=Z,0.2nm,0.1s						
PRU	**Pruhonice**	**6.30 287**	*e*PN		**Pn**	**10 16 05.0**	**-0.7**
PRU			*ex*		x	10 16 13.2	
PRU			*e*SN		**Sn**	**10 17 17.4**	**-0.3**
PRU			*ex*		x	10 17 31.8	
PRU			AMS		AMS	10 18 30.0	
	comp=Z,200nm,8.3s						
PRU	**Pruhonice**	**6.30 287**	*e*P		**Pn**	**10 16 05.0**	**-0.7**
PRU			*e*			10 17 17.4	
PRU			MLR		MLR		
	comp=Z,200nm,8.3s						
PVCC	**Panska Ves**	**6.40 292**	*e*PN		**Pn**	**10 16 06.8**	**-0.3**
MOA	**Molln**	**6.47 268**	*i* Pn		**Pn**	**10 16 07.9**	**-0.2**
	comp=Z,1.6nm,0.3s						
MOA			*e*Sn		**Sn**	**10 17 20.4**	**-1.5**
	comp=Z,2.8nm,0.6s						
MOA	**Molln**	**6.47 268**	Pn		**Pn**	**10 16 07.9**	**-0.2**
	comp=Z,1.6nm,0.3s						
MOA			Sn		**Sn**	**10 17 20.4**	**-1.5**
	comp=Z,2.8nm,0.6s						
MICGM	**Minsk**	**6.51 21**	*e*P		**Pb**	**10 16 27.0**	**+0.8**
MICGM			*e*S		**Sg**	**10 17 53.0**	**-8.8**
MNK	**Minsk**	**6.51 21**	*e*P		**Pb**	**10 16 27.0**	**+0.8**
KLNR	**Kaliningrad**	**6.53 341⇑**	*i* Pn		**Pn**	**10 16 10.4**	**+1.5**
KLNR	**Kaliningrad**	**6.53 341**	*e*P		**Pn**	**10 16 10.4**	**+1.5**
OBKA	**Obir**	**6.63 256**	*i* Pn		**Pn**	**10 16 10.0**	**-0.4**
OBKA	**Obir**	**6.63 256**	Pn		**Pn**	**10 16 10.0**	**-0.4**
NACGM	**Naroch**	**6.67 15**	*e*P		Pn	10 16 17.0	+6.2
NACGM			*e*S		**Sn**	**10 17 31.0**	**+4.3**
GEA0	**GERESS Array S**	**6.75 277**	*e*Pn		**Pn**	**10 16 11.4**	**-0.7**
GEC2	**GERESS Array S**	**6.75 277**	*e*P		**Pn**	**10 16 11.6**	**-0.5**
GEC2	**GERESS Array S**	**6.75 277**	*e*P		**Pn**	**10 16 11.6**	**-0.5**
GEC2	**GERESS Array S**	**6.75 277**	*e*Pn		**Pn**	**10 16 11.6**	**-0.5**
GERES	**GERESS Array B**	**6.75 277**	Pn		**Pn**	**10 16 11.6**	**-0.5**
	comp=Z,5.8nm,0.3s,baz=82,slow=15,SNR=159						
GERES			Sn		**Sn**	**10 17 29.2**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=88,slow=24,SNR=8.9						
KHC	**Kasperske Hory**	**6.84 279**	*e*PN		**Pn**	**10 16 12.1**	**-1.1**
KHC			*e*SN		**Sn**	**10 17 29.6**	**-1.4**
KHC			*ex*		x	10 17 41.7	
KHC			AMS		AMS	10 19 10.0	
	comp=Z,300nm,8.4s						
KHC	**Kasperske Hory**	**6.84 279**	*e*P		**Pn**	**10 16 12.1**	**-1.1**
KHC			*e*			10 17 29.6	
KHC			MLR		MLR		
	comp=Z,300nm,8.4s						
KHC	**Kasperske Hory**	**6.84 279**	Sn		**Sn**	**10 17 29.6**	**-1.4**
KHC	**Kasperske Hory**	**6.84 279**	*e*Pn		**Pn**	**10 16 11.6**	**-1.6**
BRG	**Berggiesshubel**	**6.88 294**	PN		**Pn**	**10 16 14.3**	**+0.7**
	comp=Z,3.2nm,0.4s						
BRG			PB		Pb	10 16 26.2	-6.2
BRG			SB		**Sb**	**10 17 59.2**	**+4.8**
BRG			*e*			10 18 20.0	
	comp=Z,9.5nm,0.9s						
	comp=Z,218nm,12.0s						
	comp=N,199nm,13.4s						
	comp=E,123nm,13.4s						
BRG	**Berggiesshubel**	**6.88 294**	P		**Pn**	**10 16 14.3**	**+0.7**
BRG			pmax		pmax		
	comp=Z,3.0nm,0.4s						
BRG			pmax		pmax		
	comp=Z,10.0nm,0.8s						
BRG			MLR		MLR		
	comp=Z,218nm,12.0s						
BRG			MLR		MLR		
	comp=N,199nm,13.4s						
BRG			MLR		MLR		
	comp=E,123nm,13.4s						
BRG	**Berggiesshubel**	**6.88 294**	P		**Pn**	**10 16 14.3**	**+0.7**
	comp=E,218nm,12.0s						
STON	**Ston**	**7.10 220**	*e*Pn		**Pn**	**10 16 18.7**	**+2.1**
STON			Sn		**Sn**	**10 17 33.8**	**-3.5**
KBA	**Koelnbreinsper**	**7.24 263**	*e*Pn		**Pn**	**10 16 18.5**	**-0.4**
	comp=E,5.1nm,0.3s						
KBA			*i* Sn		**Sn**	**10 17 41.1**	**0.0**
	comp=E,0.7nm,0.2s						
KBA	**Koelnbreinsper**	**7.24 263**	Pn		**Pn**	**10 16 18.5**	**-0.4**
	comp=E,5.1nm,0.3s						
KBA			Sn		**Sn**	**10 17 41.1**	**0.0**
	comp=E,0.7nm,0.2s						
NVLJ	**Novalja**	**7.35 241**	*e*Pn		**Pn**	**10 16 19.8**	**-0.4**
NVLJ			Sn		**Sn**	**10 17 41.7**	**-1.9**
CLL	**Collm**	**7.57 296**	*e*P		Pn	10 16 18.0	-5.2
CLL	**Collm**	**7.57 296**	*e*Pn		Pn	10 16 18.0	-5.2
CLL			*e*Sn		Sn	10 17 35.0	-14
CLL			*e*			10 18 07.0	
CLL			*e*Sb		**Sb**	**10 18 20.0**	**+5.6**
CLL			*e*Sg		**Sg**	**10 18 34.0**	**-1.7**
CLL			Lmax			10 19 00.0	
NKC	**Novy Kostel**	**7.67 287**	*e*PN		**Pn**	**10 16 24.1**	**-0.5**
NKC	**Novy Kostel**	**7.67 287**	*e*P		**Pn**	**10 16 24.1**	**-0.5**
SEV	**Sevastopol'**	**7.82 117**	*e*P		**Pn**	**10 16 25.6**	**-1.0**
SEV			*e*S		**Sn**	**10 17 52.6**	**-2.4**
SEV			pmax		pmax		
	comp=Z,17nm,0.3s						
SEV			smax		smax		
	comp=E,37nm,1.0s						
SEV			smax		smax		
	comp=N,26nm,0.9s						
SEV	**Sevastopol'**	**7.82 117**	*e*Pn		**Pn**	**10 16 25.6**	**-1.0**
SEV			Pmn			10 16 28.8	
SEV			*e*Sn		**Sn**	**10 17 52.6**	**-2.4**
SEV			Smn			10 17 55.4	
SIM	**Simferopol'**	**7.87 113**	P		**Pn**	**10 16 27.1**	**-0.3**
SIM			*e*S		**Sn**	**10 17 56.0**	**-0.5**
SIM			pmax		pmax		
	comp=Z,24nm,0.8s						
SIM			smax		smax		
	comp=E,39nm,1.0s						
SIM	**Simferopol'**	**7.87 113**	P		**Pn**	**10 16 27.1**	**-0.3**
	comp=E,24nm,0.8s						
SUDU	**Sudak**	**8.45 111**	*e*P		**Pn**	**10 16 34.8**	**-0.4**
SUDU			pmax		pmax		
	comp=Z,15nm,0.3s						
SUDU			smax		smax		
	comp=E,15nm,0.4s						
SUDU			smax		smax		
	comp=N,6.0nm,0.5s						
SUDU	**Sudak**	**8.45 111**	*e*Pn		**Pn**	**10 16 34.8**	**-0.4**
SUDU			Pmn			10 16 38.4	
SUDU			*e*Sn		**Sn**	**10 18 10.3**	**-0.2**
SUDU			Smn			10 18 15.5	
SUDU	**Sudak**	**8.45 111**	*e*P		**Pn**	**10 16 34.8**	**-0.4**
	comp=N,15nm,0.3s						
BSD	**Bornholm Skovb**	**8.64 323**	*i* P		**Pn**	**10 16 36.3**	**-1.6**
BSD	**Bornholm Skovb**	**8.64 323**	*i* P		**Pn**	**10 16 36.3**	**-1.6**
BSD	**Bornholm Skovb**	**8.64 323**	*i* P		**Pn**	**10 16 36.3**	**-1.6**
DAVOX	**Davos/Dischmat**	**9.61 265**	Pn		**Pn**	**10 16 51.9**	**+0.5**
	comp=N,0.4nm,0.3s,baz=20,slow=11,SNR=3.8						
DAVOX			LR		LR	10 20 08.1	
	comp=N,17nm,20.1s,baz=78,slow=35						
ANN	**Anapa**	**10.02 107**	*e*P		**Pn**	**10 16 53.9**	**-2.9**
ANN			pmax		pmax		
	comp=Z,70nm,1.1s						
VSU	**Vasula**	**10.13 9**	*e*P		**Pn**	**10 16 59.9**	**+1.7**
VSU			pmax		pmax		
	comp=Z,17nm,0.6s						
VSU	**Vasula**	**10.13 9**	*e*P		**Pn**	**10 16 59.9**	**+1.7**
	comp=Z,17nm,0.6s						
VSR	**Storozhevoye**	**10.24 69**	*e*P		**Pn**	**10 17 03.7**	**+4.0**
OBN	**Obninsk**	**10.27 45**	*i* P		**Pn**	**10 17 01.1**	**+1.0**
OBN			pmax		pmax		
	comp=Z,10.0nm,0.9s						
OBN			MLR		MLR		
	comp=Z,36nm,15.0s						
OBN	**Obninsk**	**10.27 45**	*i* P		**Pn**	**10 17 01.1**	**+1.0**
	comp=Z,36nm,15.0s						
BFO	**Black Forest**	**10.35 275**	*e*P		**Pn**	**10 17 00.7**	**-0.6**
BFO	**Black Forest**	**10.35 275**	*e*P		**Pn**	**10 17 00.7**	**-0.6**
BFO	**Black Forest**	**10.35 275**	*e*Pn		**Pn**	**10 17 00.7**	**-0.6**
LPSR	**Galich'ya Gora**	**10.42 61**	*e*P		**Pn**	**10 17 05.4**	**+3.3**
LPSR	**Galich'ya Gora**	**10.42 61**	*e*P		**Pn**	**10 17 05.4**	**+3.3**
BRTR	**Keskin Array B**	**11.22 138**	Pn		**Pn**	**10 17 13.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=3.7						
BRTR	**Keskin Array B**	**11.22 138**	*e*P		**Pn**	**10 17 15.9**	**+2.6**
BRTR	**Keskin Array B**	**11.22 138**	*e*P		**Pn**	**10 17 15.9**	**+2.6**
SENIN	**Lac Senin/Sane**	**11.44 265**	*e*Pn		**Pn**	**10 17 15.8**	**-0.5**
FINES	**FINESS Array B**	**13.04 5**	Pn		**Pn**	**10 17 33.8**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=15						
FINES			Sn		**Sn**	**10 19 56.9**	**-5.9**
	comp=Z,0.7nm,0.3s,baz=192,slow=17,SNR=4.1						
FINES			LR		LR	10 22 50.4	
	comp=Z,48nm,20.5s,baz=6.0,slow=38						
FIA1	**FINESS Array S**	**13.04 5**	*e*Pn		**Pn**	**10 17 34.1**	**-3.8**
HFS	**Hagfors**	**13.07 337**	Pn		**Pn**	**10 17 34.9**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=146,slow=14,SNR=22						
HFS			Sn		Sn	10 19 54.1	-9.5
	comp=Z,0.4nm,0.3s,baz=127,slow=18,SNR=4.0						
NC602	**NORSAR Array S**	**14.16 335**	*e*Pn		**Pn**	**10 17 49.1**	**-4.2**
WDD	**Wied Dalam**	**14.41 212**	*e*Pn		**Pn**	**10 17 53.6**	**-3.2**
NC405	**NORSAR Array S**	**14.42 336**	*e*Pn		**Pn**	**10 17 52.8**	**-4.1**
NAO01	**NORSAR Array S**	**14.44 334**	*e*Pn		**Pn**	**10 17 54.0**	**-3.1**
NB201	**NORSAR Array S**	**14.49 335**	*e*Pn		**Pn**	**10 17 53.7**	**-4.1**
NOA	**NORSAR Array B**	**14.50 335**	Pn		**Pn**	**10 17 53.8**	**-4.2**
	comp=Z,0.8nm,0.3s,baz=143,slow=13,SNR=16						
NOA			Sn		**Sn**	**10 20 32.3**	**-6.4**
	comp=Z,0.3nm,0.3s,baz=152,slow=20,SNR=4.3						
NC303	**NORSAR Array S**	**14.61 335**	*e*Pn		**Pn**	**10 17 55.0**	**-4.4**
NBO02	**NORSAR Array S**	**14.61 334**	*e*Pn		**Pn**	**10 17 57.0**	**-2.5**
NBO02	**NORSAR Array S**	**14.61 334**	*e*Pn		**Pn**	**10 17 57.0**	**-2.5**
NBO00	**NORSAR Array S**	**14.62 334**	*e*Pn		**Pn**	**10 17 58.3**	**-1.3**
NBO00	**NORSAR Array S**	**14.62 334**	*e*Pn		**Pn**	**10 17 58.3**	**-1.3**
ARTV	**Artvin**	**14.72 113**	*e*Pn		**Pn**	**10 18 00.6**	**-0.6**
NC204	**NORSAR Array S**	**14.82 335**	*e*Pn		**Pn**	**10 17 58.0**	**-4.3**
KLMR	**Klimovskoe**	**15.28 30**	*e*P		**Pn**	**10 18 06.4**	**-1.9**
KLMR			*e*			10 21 00.1	
KLMR			pmax		pmax		
	comp=Z,8.0nm,0.8s						
KEST	**Kesra**	**16.66 225**	LR		LR	10 26 25.4	
	comp=Z,47nm,18.8s,baz=251,slow=43						
EKA	**Eskdalemuir Ar**	**17.95 303**	Pn		**Pn**	**10 18 40.5**	**-1.8**
	baz=103,slow=13,SNR=9.1						
ARA0	**ARCESS Array S**	**21.12 2**	*e*P		**P**	**10 19 17.1**	**-0.2**
ARA0	**ARCESS Array S**	**21.12 2**	*e*P		**P**	**10 19 17.1**	**-0.2**
ARCES	**ARCESS Array B**	**21.12 2**	P		**P**	**10 19 16.2**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=182,slow=13,SNR=13						
ARCES	**ARCESS Array B**	**21.12 2**	*e*P		**P**	**10 19 16.5**	**-0.9**
ARCES			pmax		pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**21.12 2**	*e*P		**P**	**10 19 16.5**	**-0.9**
	comp=Z,1.0nm,0.3s						
ARE0	**ARCESS Array S**	**21.12 2**	*e*P		**P**	**10 19 17.4**	**0.0**
	comp=Z,41nm,1.4s						
ARE0	**ARCESS Array S**	**21.12 2**	*e*P		**P**	**10 19 17.4**	**0.0**
	comp=Z,41nm,1.4s						
ESDC	**Sonseca Array**	**21.76 256**	P		**P**	**10 19 25.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=52,slow=9.4,SNR=5.7						
ESDC			LR		LR	10 27 34.5	
	comp=Z,24nm,19.6s,baz=15,slow=36						
AKTK	**Aktyubinsk**	**22.16 72**	P		**P**	**10 19 28.9**	**+0.2**
	comp=Z,3.0nm,0.5s						
AKTO	**Aktyubinsk**	**22.16 72**	P		**P**	**10 19 28.9**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=269,slow=7.4,SNR=11						
ARU	**Arti**	**22.37 56**	P		**P**	**10 19 31.0**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=282,slow=10,SNR=5.6						
ARU	**Arti**	**22.37 56**	*c iP*		**P**	**10 19 29.6**	**-1.3**
ARU			S		**S**	**10 23 36.6**	**+0.2**
ARU			pmax		pmax		
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**22.37 56**	*e*P		**P**	**10 19 30.2**	**-0.6**
	comp=Z,4.7nm,0.6s						
ARU			S		**S**	**10 23 36.6**	**+0.2**
ARU	**Arti**	**22.37 56**	*e*P		**P**	**10 19 30.2**	**-0.6**
	comp=Z,4.7nm,0.6s						
SVE	**Sverdlovsk**	**23.55 55**	*e*P		**P**	**10 19 44.5**	**+1.4**
SVE	**Sverdlovsk**	**23.55 55**	*e*P		**P**	**10 19 44.5**	**+1.4**
ABKAR	**Akbulak array**	**23.59 74**	*e*P		**P**	**10 19 44.4**	**+0.8**
	comp=Z,23nm,0.8s						
ABKAR	**Akbulak array**	**23.59 74**	*e*P		**P**	**10 19 44.4**	**+0.8**
	comp=Z,23nm,0.8s						
JMIC	**Jan Mayen**	**27.18 337**	LR		LR	10 29 58.2	
	comp=Z,53nm,20.3s,baz=242,slow=34						
BRVK	**Borovoye**	**29.28 63**	*e*P		**P**	**10 20 36.8**	**+1.8**
BRVK			pmax		pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**29.28 63**	*e*P		**P**	**10 20 36.8**	**+1.8**
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**29.28 63**	*e*P		**P**	**10 20 36.8**	**+1.8**
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**29.35 63**	P		**P**	**10 20 35.6**	**0.0**
	comp=Z,3.2nm,0.7s,baz=284,slow=7.5,SNR=14						
KBL	**Kabul**	**36.04 96**	*e*P		**P**	**10 21 34.8**	**+0.3**
KBL			pmax		pmax		
	comp=Z,3.0nm,0.5s						
KBL	**Kabul**	**36.04 96**	*e*P		**P**	**10 21 34.8**	**+0.3**
	comp=Z,3.3nm,0.5s						
KBL	**Kabul**	**36.04 96**	*e*P		**P**	**10 21 34.8**	**+0.3**
	comp=Z,3.3nm,0.5s						
NVS	**Novosibirsk**	**36.37 57**	*e*P		**P**	**10 21 38.2**	**+1.4**
NVS	**Novosibirsk**	**36.37 57**	*e*P		**P**	**10 21 38.2**	**+1.4**
ZAA0	**Zalesovo Array**	**37.51 58**	*e*P		**P**	**10 21 47.8**	**+1.3**
ZAA0	**Zalesovo Array**	**37.51 58**	*e*P		**P**	**10 21 47.8**	**+1.3**
ZALV	**Zalesovo Beam**	**37.51 58**	P		**P**	**10 21 47.5**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=288,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**38.56 70**	P		**P**	**10 21 56.8**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=298,slow=5.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**39.76 215**	P		**P**	**10 22 07.5**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=12,slow=7.0,SNR=3.6						
DBIC	**Dimbokro**	**48.28 220**	LR		LR	10 48 09.2	
	comp=Z,18nm,18.0s,baz=146,slow=42						
SONM	**Songino Array**	**52.40 57**	P		**P**	**10 23 46.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=198,slow=4.1,SNR=3.5						
INK	**Inuvik**	**62.30 351**	*e*P		**P**	**10 24 55.5**	**+1.0**
INK			pmax		pmax		
	comp=Z,11nm,1.5s						
INK	**Inuvik**	**62.30 351**	*e*P		**P**	**10 24 55.5**	**+1.0**
	comp=Z,11nm,1.5s						
INK	**Inuvik**	**62.30 351**	*e*P		**P**	**10 24 55.5**	**+1.0**
	comp=Z,11nm,1.5s						
MDM	**Murphy Dome**	**66.72 356**	*e*P		**P**	**10 25 24.0**	**+0.5**
	comp=Z,18nm,1.7s						
MDM	**Murphy Dome**	**66.72 356**	*e*P		**P**	**10 25 24.0**	**+0.5**
	comp=Z,18nm,1.7s						
SEUS	**St. Eustatius**	**75.06 280**	*e*P		**P**	**10 26 13.6**	**-1.3**
	comp=Z,163nm,1.0s						
SEUS	**St. Eustatius**	**75.06 280**	*e*P		**P**	**10 26 13.6**	**-1.3**
	comp=Z,163nm,1.0s						
GSI	**Gunungsitoli**	**78.25 101**	*e*P		**P**	**10 26 31.5**	**-1.4**
	comp=Z,33nm,0.8s						
GSI	**Gunungsitoli**	**78.25 101**	*e*P		**P**	**10 26 31.6**	**-1.4**
	comp=Z,33nm,0.8s						
AFI	**Afiamalu**	**143.16 26**	*e*PKIKP		**PKPdf**	**10 34 07.7**	**+0.3**
AFI	**Afiamalu**	**143.16 26**	*e*PKIKP		**PKPdf**	**10 34 07.7**	**+0.3**
AFI	**Afiamalu**	**143.16 26**	*e*PKPdf		**PKPdf**	**10 34 07.7**	**+0.3**

*CSEM **02** 10:33:21.3±0.2, 44°.15N×22°.12E, h2km, ML1.6, Error ellipse: s-maj=4.1km s-min=2.8km az=94.0, Mining explosion.*

BEO 02 10:33:22.2±0.4, 44°.14N×22°.16E, h0km, M1.6/1, 8C-4D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLS	**Boljevac**	**0.34**	**206**	*e*Pg	Pg	10 33 27.5	-1.3
BOLS				*e*Sg	Sg	10 33 32.6	-0.6
BOLS	**Boljevac**	**0.34**	**206**	*e*Pg	Pg	10 33 27.5	-1.3
BOLS				*e*Sg	Sg	10 33 32.6	-0.6
KUBS	**Kucevo**	**0.44**	**308**	*e*Pg	Pg	10 33 29.0	-1.7
KUBS				*e*Sg	Sg	10 33 35.3	-1.1
KUBS	**Kucevo**	**0.44**	**308**	*e*Pg	Pg	10 33 29.0	-1.7
KUBS				*e*Sg	Sg	10 33 35.3	-1.1
BOVS	**Bovan**	**0.60**	**213**	*e*Pg	Pg	10 33 32.3	-1.4
BOVS				*e*Sg	Sg	10 33 42.6	+1.1
BOVS	**Bovan**	**0.60**	**213**	*e*Pg	Pg	10 33 32.3	-1.4
BOVS				*e*Sg	Sg	10 33 42.6	+1.1
MDVR	**Moldovita**	**0.72**	**334⇑**	*i*P	Pg	10 33 34.5	-1.4
MDVR				S	Sg	10 33 44.9	-0.3
MDVR	**Moldovita**	**0.72**	**334⇑**	*i*P	Pg	10 33 34.5	-1.4
MDVR				S	Sg	10 33 44.9	-0.3
ZAPS	**Zavoj**	**0.93**	**158**	*e*Pg	Pg	10 33 38.8	-1.2
ZAPS				*e*Sg	Sg	10 33 51.8	-0.3
GRUS	**Gruza**	**1.07**	**257**	*e*Pg	Pg	10 33 41.7	-1.0
GRUS				*e*Sg	Sg	10 33 57.1	+0.5
GRUS	**Gruza**	**1.07**	**257**	*e*Pg	Pg	10 33 41.7	-1.0
GRUS				*e*Sg	Sg	10 33 57.1	+0.5
SELS	**Selova**	**1.19**	**220**	*e*Pg	Pg	10 33 43.6	-1.4
SELS				*e*Sg	Sb	10 34 01.2	-0.4
TRUS	**Trudelj**	**1.26**	**274**	*e*Pg	Pg	10 33 44.2	-2.2
TRUS				*e*Sg	Sg	10 34 02.6	-0.2
TRUS	**Trudelj**	**1.26**	**274**	*e*Pg	Pg	10 33 44.2	-2.2
TRUS				*e*Sg	Sg	10 34 02.6	-0.2
GZR	**Gura Zlata**	**1.33**	**19⇑**	*i*P	Pg	10 33 45.3	-2.4
GZR	**Gura Zlata**	**1.33**	**19⇑**	*i*P	Pg	10 33 45.3	-2.4
GZR				S	Sb	10 34 05.8	+0.2
BARS	**Barje**	**1.35**	**191**	*e*Pg	Pg	10 33 46.3	-1.7
BARS				*e*Sg	Sg	10 34 05.0	-0.4
BARS	**Barje**	**1.35**	**191**	*e*Pg	Pg	10 33 46.3	-1.7
BARS				*e*Sg	Sg	10 34 05.0	-0.4
BZS	**Buzias**	**1.53**	**346**	*e*Pg	Pn	10 33 50.2	-0.5
BZS	**Buzias**	**1.53**	**346⇓**	*i*P	Pn	10 33 48.7	-2.0
BZS	**Buzias**	**1.53**	**346⇓**	*i*P	Pn	10 33 48.7	-2.0
BZS	**Buzias**	**1.53**	**346**	*e*Pg	Pn	10 33 50.2	-0.5
BZS				S	Sg	10 34 10.9	-0.3
IVAS	**Ivanjica**	**1.56**	**249**	*e*Pg	Pn	10 33 50.2	-1.0
IVAS				*e*Sg	Sn	10 34 11.0	-1.1
IVAS	**Ivanjica**	**1.56**	**249**	*e*Pg	Pn	10 33 50.2	-1.0
IVAS				*e*Sg	Sn	10 34 11.0	-1.1
VTS	**Vitosha**	**1.73**	**153⇓**	*i*P	Pn	10 33 53.0	-0.6
VTS	**Vitosha**	**1.73**	**153⇓**	*i*P	Pn	10 33 53.0	-0.6
VTS				S	Sn	10 34 16.5	+0.1
VOIR		**2.43**	**57⇑**	*i*P	Pn	10 34 03.9	+0.6
VOIR		**2.43**	**57⇑**	*i*P	Pn	10 34 03.9	+0.6
DRGR		**2.68**	**8⇑**	*i*P	Pn	10 34 05.4	-1.3
DRGR		**2.68**	**8**	S	Sn	10 34 40.0	+0.1
DRGR		**2.68**	**8⇑**	*i*P	Pn	10 34 05.4	-1.3

*ISCJB **02** 10:47:40.0±0.9, 56°.6N±0°.2×34°.2W±0°.2, h10km, mb3.7/7, MS2.8/4, Error ellipse: s-maj=29.9km s-min=14.1km az=4.3*

*IDC **02** 10:47:40.2±1.0, 56°.64N×34°.18W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/38, mbtmp3.7/8, ML4.1/1, MS2.9/4, Ms1 3.0/4, ms1mx2.6/46, Error ellipse: s-maj=34.0km s-min=19.3km az=9.0*

ISC 02 10:47:41.7±0.9, 56°.6N±0°.2×34°.2W±0°.1, h10km, n13, σ1♀00/9, mb3.8/7, MS2.7/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**17.05**	**172**	T	T	11 08 58.8	
	SNR=17						
EKA	**Eskdalemuir Ar**	**17.36**	**81**	P	**Pn**	**10 51 44.5**	**+0.6**
	baz=288,slow=9.4,SNR=5.7						
NOA	**NORSAR Array B**	**23.55**	**60**	LR	LR	11 00 13.5	
	comp=Z,22nm,20.1s,baz=255,slow=32						
HFS	**Hagfors**	**24.93**	**62**	LR	LR	11 01 16.5	
	comp=Z,22nm,19.2s,baz=320,slow=33						
DAVOX	**Davos/Dischmat**	**28.58**	**91**	LR	LR	11 04 41.6	
	comp=Z,62nm,18.4s,baz=278,slow=36						
GERES	**GERESS Array B**	**29.51**	**85**	P	**P**	**10 53 46.1**	**+0.2**
	0.1nm,0.4s,baz=292,slow=11,SNR=3.0						
GERES				LR	LR	11 05 12.4	
	comp=Z,21nm,20.3s,baz=300,slow=36						
FINES	**FINESS Array B**	**30.42**	**56**	P	**P**	**10 53 53.9**	**+0.2**
	0.7nm,0.5s,baz=275,slow=9.4,SNR=4.1						
PDAR	**Pinedale Array**	**48.18**	**287**	P	**P**	**10 56 21.9**	**-0.3**
	0.4nm,0.6s,baz=69,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**48.59**	**328**	P	**P**	**10 56 25.1**	**+0.3**
	1.2nm,0.8s,baz=42,slow=5.7,SNR=9.8						
TORD	**Torodi Ar. Bea**	**51.35**	**133**	P	**P**	**10 56 46.2**	**-0.1**
	1.8nm,0.8s,baz=338,slow=7.5,SNR=13						
TXAR	**Lajitas Array**	**54.86**	**271**	P	**P**	**10 57 13.1**	**+0.9**
	0.3nm,0.7s,baz=65,slow=5.5,SNR=5.7						
MKAR	**Makanchi Array**	**64

h106km±12km, Error ellipse: s-maj=8.5km s-min=5.9km az=35.3
GUC ***02*** *11:28:40.6±0.4, 31°.85S×70°.13W, h152km±3km, ML2.9*
SJA ***02*** *11:28:41.3±0.4, 31°.83S×69°.61W, h96km±3km, ML2.6, MW3.1*
ISC 02 11:28:40.6±2.2,**31°.85S**±0°.05×**69°.67W**±0°.06,
h108km±20km,**n13**,σ1§**57**/24,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.45**	**147**	*eP*	**Pn**	**11 28 57.7**	**+0.3**
AUSP				*eS*	**Sn**	**11 29 09.7**	**-0.1**
RTCV	**Cerro Valdivia**	**0.96**	**91**	*eP*	**Pn**	**11 29 01.5**	**+0.1**
RTCV				*eS*	**Sn**	**11 29 16.5**	**-0.5**
ASAL	**Salagasta**	**1.03**	**136**	*eP*	**Pn**	**11 29 02.5**	**+0.4**
ASAL				*eS*	**Sn**	**11 29 18.0**	**-0.3**
RTLL	**Cerro Villicun**	**1.15**	**64**	*eP*	**Pn**	**11 29 03.0**	**-0.3**
RTLL				*eS*	**Sn**	**11 29 20.1**	**-0.3**
RTLL				IAML		11 29 21.2	
	comp=N,428nm,0.5s						
RTLL	**Cerro Villicun**	**1.15**	**64**	*eP*	**Pn**	**11 29 03.2**	**-0.1**
RTLL				*eS*	**Sn**	**11 29 19.7**	**-0.7**
ARCO	**CERRO ARCO**	**1.17**	**148**	*eP*	**Pn**	**11 29 04.3**	**+0.6**
ARCO				*eS*	**Sn**	**11 29 21.6**	**+0.4**
ARCO				IAML		11 29 23.5	
	comp=Z,90nm,0.3s						
AMOG	**MOGNA**	**1.35**	**48**	*eP*	**Pn**	**11 29 06.2**	**+0.5**
AMOG				*eS*	**Sn**	**11 29 24.2**	**-0.5**
AAGR	**Agrelo**	**1.43**	**150**	*eP*	**Pn**	**11 29 07.8**	**+1.2**
PEL	**Peldehue**	**1.55**	**213**	*eP*	**Pn**	**11 29 08.4**	**+0.4**
PEL				*eS*	**Sn**	**11 29 29.6**	**+0.8**
ROCH	**El Roble**	**1.59**	**225**	*eP*	**Pn**	**11 29 08.7**	**0.0**
ROCH				*eS*	**Sn**	**11 29 30.5**	**+0.4**
ROCH				IAML		11 29 33.6	
	comp=N,189nm,0.3s						
CLCH	**Cerro Calan**	**1.71**	**205**	*eP*	**Pn**	**11 29 10.9**	**+0.9**
CLCH				*eS*	**Sn**	**11 29 33.9**	**+1.6**
CLCH				IAML		11 29 39.0	
	comp=E,76nm,0.5s						
RCDM	**Rinconada Maip**	**1.90**	**210**	*eP*	Pn	11 29 05.8	-6.5
RCDM				*eS*	**Sn**	**11 29 30.0**	**-6.4**
TLL	**Tololo Astrono**	**1.94**	**330**	*eP*	**Pn**	**11 29 13.5**	**+0.5**
TLL				*eS*	**Sn**	**11 29 38.1**	**+0.4**

IDC ***02*** *11:29:37.1±1.4, 29°.29N×81°.49E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/47, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=51.0km s-min=17.2km az=64.0*
NDI ***02*** *11:29:40.6±1.6, 28°.06N×80°.30E, h10km, ML2.7*
ISC 02 11:29:40.8±0.9,**29°.6N**±0°.1×**81°.94E**±0°.07,**h10**km,**n20**,
σ1§**88**/19,**mb3.8**/8,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.50**	**270**	*eP*	**Pn**	**11 30 08.5**	**+0.5**
PTH				*eS*	**Sb**	**11 30 29.5**	**+1.4**
JOSI	**Joshimath**	**2.29**	**296**	*eP*	**Pb**	**11 30 23.9**	**+1.6**
JOSI				*eS*	**Sb**	**11 30 52.3**	**+1.6**
KALG	**Kalgarh**	**2.78**	**269**	*eP*	Pn	11 30 21.2	-4.1
KALG				*eS*	Sn	11 30 46.9	-12
NDI	**New Delhi**	**4.23**	**259**	*ex*	**Pn**	**11 30 46.0**	**+0.7**
SONA	**Sohna**	**4.46**	**254**	*eS*	Pg	11 31 00.1	-6.1
SONA				AML	AML	11 31 58.8	
	comp=E,69nm,0.6s						
SONA				AML	AML	11 31 59.1	
	comp=N,60nm,0.1s						
KUDL	**Kundal**	**4.99**	**255**	*eS*	Pg	11 31 12.0	-4.4
KUDL				AML	AML	11 32 11.6	
	comp=E,14nm,0.3s						
KUDL				AML	AML	11 32 11.7	
	comp=N,25nm,0.2s						
KHET	**Khetri**	**5.58**	**256**	*eS*	Pg	11 31 23.1	-4.7
CHCP	**Chirah Chowk**	**8.45**	**301**	P	**Pn**	**11 31 46.3**	**+3.1**
THW	**Thamme Wali**	**9.31**	**293**	P	**Pn**	**11 31 54.5**	**-0.6**
CEP	**Cherat**	**9.54**	**299**	P	**Pn**	**11 31 57.6**	**-0.7**
CEP				S	**Sn**	**11 33 41.0**	**-4.7**
MKAR	**Makanchi Array**	**17.20**	**1**	P	**Pn**	**11 33 41.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=186,slow=9.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**19.04**	**122**	P	**P**	**11 34 04.4**	**+1.2**
	comp=N,0.1nm,0.3s,baz=299,slow=9.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**21.18**	**354**	P	**P**	**11 34 25.7**	**-0.5**
	comp=N,1.3nm,0.2s,baz=176,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**24.45**	**4**	P	**P**	**11 34 59.8**	**+0.2**
	comp=N,0.7nm,0.3s,baz=192,slow=13,SNR=6.3						
BVAR	**Borovoye Array**	**24.92**	**343**	P	**P**	**11 35 04.5**	**+0.5**
	comp=N,0.4nm,0.5s,baz=140,slow=11,SNR=3.2						
SONM	**Songino Array**	**26.22**	**39**	P	**P**	**11 35 18.3**	**+2.5**
	comp=N,1.2nm,0.8s,baz=232,slow=9.1,SNR=6.6						
FINES	**FINESS Array B**	**48.28**	**328**	P	**P**	**11 38 19.9**	**-1.9**
	comp=N,0.7nm,0.6s,baz=105,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**70.51**	**128**	P	**P**	**11 40 54.4**	**-1.6**
	comp=N,0.8nm,0.6s,baz=322,slow=6.2,SNR=20						
ASAR	**Alice Springs**	**72.77**	**131**	P	**P**	**11 41 08.2**	**-1.4**
	comp=N,0.5nm,0.4s,baz=313,slow=6.3,SNR=45						
ILAR	**Eielson Array**	**78.59**	**19**	P	**P**	**11 41 42.4**	**0.0**
	comp=N,0.4nm,0.8s,baz=312,slow=5.2,SNR=4.3						

KRSC ***02*** *11:42:52.8±1.3, 55°.81N×163°.14E, h6km±29km, ML4.6*
IDC ***02*** *11:42:52.8±0.7, 55°.85N×162°.64E, h0km, mb4.1/25, mb1 4.3/25, mb1mx4.1/62, mbtmp4.1/25, MS3.6/15, Ms1 3.6/15, ms1mx3.4/38, Error ellipse: s-maj=18.1km s-min=14.4km az=150.0*
MOS ***02*** *11:42:54.2±0.9, 55°.94N×163°.05E, h14km, mb4.6/25, Error ellipse: s-maj=7.0km s-min=5.4km az=74.2*
BJI ***02*** *11:42:56.6, 56°.01N×162°.91E, h52km, mb4.7/24, mB5.0/17, Ms4.5/13, Ms7 4.4/10*
ISCJB ***02*** *11:42:57.2±0.2, 55°.97N±0°.02×162°.89E±0°.04, h33km, mb4.5/79, MS3.7/19, Error ellipse: s-maj=4.0km s-min=2.4km az=146.2*
NEIC ***02*** *11:43:00.8±0.7, 55°.98N×162°.50E, h53km±7km, mb4.7/46, Error ellipse: s-maj=7.0km s-min=4.1km az=163.0*
ISC 02 11:42:57.6±0.9,**55°.94N**±0°.04×**162°.93E**±0°.03,**h31**km±5km,
n223,σ1§**85**/252,**mb4.6**/79,**MS3.7**/19,**2C-4D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.34**	**339**	PN	**Pb**	**11 43 03.3**	**-2.4**
KBG				S	**Sb**	**11 43 10.7**	**-0.5**
KBG	**Krutoberegovo**	**0.34**	**339**	*eP*	**Pb**	**11 43 03.3**	**-2.4**
KBG				*eS*	**Sb**	**11 43 10.7**	**-0.5**
SMKR	**Semkarok**	**1.04**	**309**	PN	**Pn**	**11 43 15.2**	**-0.9**
SMKR	**Semkarok**	**1.04**	**309**	*eP*	**Pn**	**11 43 15.2**	**-0.9**
BDR	**Baidarnaya**	**1.15**	**304**	PN	**Pb**	**11 43 18.6**	**-0.3**
BDR	**Baidarnaya**	**1.15**	**304**	P	**Pb**	**11 43 18.6**	**-0.3**
ZLN	**Zelenaya**	**1.20**	**275**	PN	**Pn**	**11 43 17.7**	**-0.6**
ZLN	**Zelenaya**	**1.20**	**275**	*eP*	**Pn**	**11 43 17.7**	**-0.6**
SRKR	**Sorokina**	**1.22**	**307**	PN	**Pn**	**11 43 18.4**	**-0.2**
SRKR	**Sorokina**	**1.22**	**307**	*eP*	**Pn**	**11 43 18.4**	**-0.2**
CIRR	**Tsirk**	**1.24**	**279**	PN	**Pn**	**11 43 18.3**	**-0.6**
CIRR	**Tsirk**	**1.24**	**279**	*eP*	**Pn**	**11 43 18.3**	**-0.6**
LGNR	**Loginova**	**1.27**	**278**	PN	**Pn**	**11 43 18.8**	**-0.6**
LGNR	**Loginova**	**1.27**	**278**	*eP*	**Pn**	**11 43 18.8**	**-0.6**
KRSR	**Krestovskiy**	**1.35**	**283**	PN	**Pn**	**11 43 19.4**	**-1.1**
KRSR				S	**Sb**	**11 43 38.8**	**-0.6**
KRSR	**Krestovskiy**	**1.35**	**283**	*eP*	**Pn**	**11 43 19.4**	**-1.1**
KRSR				*eS*	**Sb**	**11 43 38.8**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.37**	**272**	PN	**Pn**	**11 43 20.4**	**-0.3**
BZWR				S	**Sb**	**11 43 41.3**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.37**	**272**	*eP*	**Pn**	**11 43 20.4**	**-0.3**
BZWR				*eS*	**Sb**	**11 43 41.3**	**+1.4**
BZMR	**Bezymyannaya**	**1.37**	**271**	PN	**Pn**	**11 43 20.3**	**-0.5**
BZMR				S	**Sb**	**11 43 39.3**	**-0.6**
BZMR	**Bezymyannaya**	**1.37**	**271**	*eP*	**Pn**	**11 43 20.3**	**-0.5**
BZMR				*eS*	**Sb**	**11 43 39.3**	**-0.6**
KIRR	**Kirishev**	**1.46**	**272**	PN	**Pn**	**11 43 21.5**	**-0.4**
KIRR				S	**Sb**	**11 43 42.9**	**+0.6**
KIRR	**Kirishev**	**1.46**	**272**	*eP*	**Pn**	**11 43 21.5**	**-0.4**
KIRR				*eS*	**Sb**	**11 43 42.9**	**+0.6**
KPT	**Kopyto**	**1.52**	**272**	PN	**Pn**	**11 43 22.6**	**-0.2**
KPT				S	**Sb**	**11 43 45.0**	**+0.8**
KPT	**Kopyto**	**1.52**	**272**	*eP*	**Pn**	**11 43 22.6**	**-0.2**
KPT				*eS*	**Sb**	**11 43 45.0**	**+0.8**
KMNR	**Kamenistaya**	**1.53**	**264**	PN	**Pn**	**11 43 22.9**	**0.0**
KMNR				S	**Sb**	**11 43 43.8**	**-0.6**
KMNR	**Kamenistaya**	**1.53**	**264**	*eP*	**Pn**	**11 43 22.9**	**0.0**
KMNR				*eS*	**Sb**	**11 43 43.8**	**-0.6**
TUMD	**Tumrok D**	**1.61**	**244**	*eP*	**Pn**	**11 43 23.7**	**-0.3**
TUMD				*eS*	**Sb**	**11 43 45.9**	**-0.8**
TUMR	**Tumrok**	**1.71**	**249**	PN	**Pn**	**11 43 25.8**	**+0.4**
TUMR				S	**Sb**	**11 43 49.6**	**0.0**
TUMR	**Tumrok**	**1.71**	**249**	*eP*	**Pn**	**11 43 25.8**	**+0.4**
TUMR				*eS*	**Sb**	**11 43 49.6**	**0.0**
KZV	**Kizimen**	**1.71**	**242**	PN	**Pn**	**11 43 25.2**	**-0.2**
KZV				S	**Sn**	**11 43 48.2**	**+1.9**
KZV	**Kizimen**	**1.71**	**242**	*eP*	**Pn**	**11 43 25.2**	**-0.2**
KZV				*eS*	**Sn**	**11 43 48.2**	**+1.9**
KOZ	**Kozyrevsk**	**1.72**	**275**	PN	**Pn**	**11 43 26.2**	**+0.8**
KOZ				S	**Sb**	**11 43 51.7**	**+1.9**
KOZ	**Kozyrevsk**	**1.72**	**275**	*eP*	**Pn**	**11 43 26.2**	**+0.8**
KOZ				*eS*	**Sb**	**11 43 51.7**	**+1.9**
BKI	**Bering**	**1.88**	**112**	PN	**Pn**	**11 43 25.4**	**-2.1**
BKI				S	**Sn**	**11 43 48.6**	**-1.5**
BKI	**Bering**	**1.88**	**112**	*eP*	**Pn**	**11 43 25.4**	**-2.1**
BKI				*eS*	**Sn**	**11 43 48.6**	**-1.5**
ESO	**Esso**	**2.38**	**271**	PN	**Pn**	**11 43 35.7**	**+1.2**
ESO				S	**Sb**	**11 44 07.3**	**-1.4**
ESO	**Esso**	**2.38**	**271**	*eP*	**Pn**	**11 43 35.7**	**+1.2**
ESO				*eS*	**Sb**	**11 44 07.3**	**-1.4**
SPN	**Mys Shipunski**	**3.31**	**212**	PN	**Pn**	**11 43 46.2**	**-1.1**
SPN	**Mys Shipunski**	**3.31**	**212**	*eP*	**Pn**	**11 43 46.2**	**-1.1**
SPN				*eS*	**Sn**	**11 44 24.8**	**-0.7**
OSSR	**Ossora**	**3.32**	**1**	PN	**Pn**	**11 43 48.6**	**+1.2**
OSSR	**Ossora**	**3.32**	**1**	*eP*	**Pn**	**11 43 48.6**	**+1.2**
SDLR	**Sedlovina**	**3.55**	**223**	PN	**Pn**	**11 43 51.1**	**+0.4**
SDLR	**Sedlovina**	**3.55**	**223**	*eP*	**Pn**	**11 43 51.1**	**+0.4**
KRX	**Arik**	**3.59**	**226**	PN	**Pn**	**11 43 52.7**	**+1.5**
KRX	**Arik**	**3.59**	**226**	*eP*	**Pn**	**11 43 52.7**	**+1.5**
KRER	**Koryakskii**	**3.59**	**224**	PN	**Pn**	**11 43 53.8**	**+2.6**
KRER	**Koryakskii**	**3.59**	**224**	*eP*	**Pn**	**11 43 53.8**	**+2.6**
AVH	**Avacha**	**3.62**	**224**	PN	**Pn**	**11 43 52.1**	**+0.5**
AVH				S	**Sn**	**11 44 36.1**	**+2.8**
AVH	**Avacha**	**3.62**	**224**	*eP*	**Pn**	**11 43 52.1**	**+0.5**
AVH				*eS*	**Sn**	**11 44 36.1**	**+2.8**
UGLR	**Uglovaya**	**3.63**	**223**	PN	**Pn**	**11 43 52.8**	**+1.0**
UGLR	**Uglovaya**	**3.63**	**223**	*eP*	**Pn**	**11 43 52.8**	**+1.0**
GNL	**Ganaly**	**3.66**	**234**	PN	**Pn**	**11 43 52.8**	**+0.7**
GNL	**Ganaly**	**3.66**	**234**	*eP*	**Pn**	**11 43 52.8**	**+0.7**
DALK	**Dalny**	**3.80**	**222**	PN	**Pn**	**11 43 54.0**	**+0.1**
DALK				S	**Sn**	**11 44 39.8**	**+2.3**
DALK	**Dalny**	**3.80**	**222**	*eP*	**Pn**	**11 43 54.0**	**+0.1**
DALK				*eS*	**Sn**	**11 44 39.8**	**+2.3**
PET	**Petropavlovsk**	**3.84**	**222**	*e*PN	**Pn**	**11 43 55.9**	**+1.4**
PET				*eS*	**Sn**	**11 44 41.9**	**+3.4**
PET				pmax	pmax		
	comp=Z,63nm,0.5s						
PET				smax	smax		
	comp=N,287nm,0.7s						
PET				smax	smax		
	comp=E,272nm,1.0s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s						
PET	**Petropavlovsk**	**3.84**	**222**	*eP*	**Pn**	**11 43 55.0**	**+0.5**
PET				*eS*	**Sn**	**11 44 40.6**	**+2.1**
PET	**Petropavlovsk**	**3.84**	**222**	*e*Pn	**Pn**	**11 43 55.2**	**+0.7**
PEA0	**Petropavlovsk-**	**4.16**	**229**	*e*Pn	**Pn**	**11 44 00.0**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.16**	**229**	*e*Pn	**Pn**	**11 43 59.7**	**+0.8**
PETK	**Petropavlovsk-**	**4.16**	**229**	Pn	**Pn**	**11 43 59.1**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=66,slow=16,SNR=27						
KRMR	**Karymshinskiy**	**4.19**	**224**	PN	**Pn**	**11 44 00.8**	**+1.5**
KRMR				S	**Sn**	**11 44 51.6**	**+4.4**
KRMR	**Karymshinskiy**	**4.19**	**224**	*eP*	**Pn**	**11 44 00.8**	**+1.5**
KRMR				*eS*	**Sn**	**11 44 51.6**	**+4.4**
RUS	**Russkaya**	**4.37**	**218**	PN	**Pn**	**11 44 02.6**	**+0.9**
RUS	**Russkaya**	**4.37**	**218**	*eP*	**Pn**	**11 44 02.6**	**+0.9**
SKR	**Severo-Kuril's**	**6.66**	**221**	*e*PN	**Pn**	**11 44 30.7**	**-2.5**
SKR				pmax	pmax		
	comp=Z,1μm,2.6s						
SKR				pmax	pmax		
	comp=Z,417nm,1.1s						
SMY	**Shemya**	**7.28**	**112**	*e*PN	Pn	11 44 49.4	+7.7
SMY	**Shemya**	**7.28**	**112**	*e*Pn	Pn	11 44 49.4	+7.7
UGL	**Uglegorsk**	**14.41**	**250**	*eP*	**Pn**	**11 46 14.8**	**-4.4**
YSS	**Yuzh-Sakhalins**	**15.41**	**243**	*eP*	**Pn**	**11 46 34.6**	**+2.0**
YAK	**Yakutsk**	**18.03**	**303**	*eP*	**P**	**11 47 06.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
HABR	**Khabarovsk**	**18.55**	**258**	*eP*	**P**	**11 47 07.8**	**-3.7**
HABR				*eS*	**Sn**	**11 50 33.1**	**-5.0**
HABR				pmax	pmax		
	comp=Z,96nm,2.5s						
HABR				pmax	pmax		
	comp=N,103nm,2.5s						
HABR				pmax	pmax		
	comp=E,220nm,2.5s						
HABR				pmax	pmax		
	comp=Z,78nm,2.5s						
HABR				MLR	MLR		
	comp=Z,86nm,13.0s						
TIXI	**Tiksi**	**21.29**	**331**	P	**P**	**11 47 41.3**	**+0.2**
	comp=Z,23nm,0.7s,baz=108,slow=12,SNR=34						
TIXI	**Tiksi**	**21.29**	**331**	*dIP*	**P**	**11 47 42.0**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,30nm,0.9s						
TIXI	**Tiksi**	**21.29**	**331**	*eP*	**P**	**11 47 40.9**	**-0.2**
	comp=Z,24nm,0.7s						
CHGN	**Chignik**	**21.37**	**73**	*eP*	**P**	**11 47 44.9**	**+2.8**
	comp=Z,157nm,2.0s						
TT01	**Tatalina**	**21.69**	**54**	*eP*	**P**	**11 47 48.3**	**+2.9**
USRK	**Ussuriysk Ar.**	**22.86**	**252**	LR	LR	11 58 08.2	
	comp=Z,182nm,18.1s,baz=61,slow=40						
RSO	**Redoubt South**	**23.43**	**61**	*eP*	**P**	**11 48 07.9**	**+4.0**
PPLA	**Purkeypile**	**23.44**	**54**	*eP*	**P**	**11 48 09.0**	**+5.0**
	comp=Z,25nm,1.2s						
CAST	**Castle Rocks**	**23.46**	**53**	*eP*	**P**	**11 48 05.2**	**+1.1**
	comp=Z,40nm,2.0s						
KTH	**Kantishna Hill**	**23.98**	**53**	*eP*	**P**	**11 48 12.7**	**+3.7**
	comp=Z,17nm,1.0s						
COLD	**Coldfoot**	**24.33**	**44**	*eP*	**P**	**11 48 12.8**	**+0.7**
	comp=Z,4.2nm,1.0s						
CNPM	**China Poot**	**24.35**	**62**	*eP*	**P**	**11 48 13.6**	**+1.2**
	comp=Z,143nm,1.9s						
CCB	**Clear Creek Bu**	**25.28**	**50**	*eP*	**P**	**11 48 21.4**	**+0.6**
	comp=Z,21nm,1.8s						
MJA0	**Matsu Arr-Jizo**	**25.60**	**231**	*eP*	**P**	**11 48 29.3**	**+5.3**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**25.62**	**231**	P	**P**	**11 48 21.0**	**-3.1**
	comp=Z,0.7nm,0.5s,baz=36,slow=7.4,SNR=3.4						
MJAR				LR	LR	11 59 53.9	
	comp=Z,106nm,19.2s,baz=40,slow=40						
IL1	**Eielson Array**	**25.67**	**49**	*eP*	**P**	**11 48 25.4**	**+1.1**
ILAR	**Eielson Array**	**25.67**	**49**	P	**P**	**11 48 24.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=261,slow=8.3,SNR=12						
ILAR				LR	LR	11 58 47.4	
	comp=Z,115nm,19.1s,baz=266,slow=37						
ILB	**Eielson Array**	**25.67**	**49**	*eP*	**P**	**11 48 25.2**	**+0.9**
FYU	**Fort Yukon**	**26.27**	**45**	*eP*	**P**	**11 48 31.9**	**+2.2**
	comp=Z,26nm,1.3s						
BOD	**Bodaibo**	**26.34**	**295**	*eP*	**P**	**11 48 30.4**	**0.0**
BOD				pmax	pmax		
	comp=Z,11nm,1.7s						
KLU	**Klutina**	**26.54**	**57**	*eP*	**P**	**11 48 37.6**	**+5.3**
	comp=Z,31nm,1.4s						
HARP	**HAARP**	**26.72**	**55**	*eP*	**P**	**11 48 37.8**	**+3.9**
	comp=Z,106nm,1.9s						
MID	**Middleton Isla**	**26.80**	**61**	*eP*	**P**	**11 48 37.8**	**+3.3**
MID				pmax	pmax		
	comp=Z,395nm,1.0s						
MID	**Middleton Isla**	**26.80**	**61**	*eP*	**P**	**11 48 37.8**	**+3.3**
	comp=Z,395nm,1.0s						
KSRS	**Korea Array**	**29.85**	**247**	LR	LR	12 00 02.2	
	comp=Z,61nm,20.3s,baz=54,slow=35						
INK	**Inuvik**	**30.62**	**41**	P	**P**	**11 49 08.8**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=299,slow=6.9,SNR=13						
INK	**Inuvik**	**30.62**	**41**	*eP*	**P**	**11 49 09.4**	**+1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	**Inuvik**	**30.62**	**41**	*eP*	**P**	**11 49 09.4**	**+1.1**
	comp=Z,5.8nm,0.8s						
CBIJ	**Chichi jima**	**32.48**	**216**	*eP*	**P**	**11 49 25.8**	**+0.7**
	comp=Z,29nm,0.9s						
BJI	**Beijing**	**34.34**	**262**	P	**P**	**11 49 39.3**	**-1.9**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NRIK	**Noril'sk**	**34.59**	**323**	LR	LR	12 04 52.1	
	comp=Z,147nm,20.5s,baz=76,slow=38						
SONM	**Songino Array**	**34.92**	**281**	P	**P**	**11 49 44.8**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=66,slow=7.1,SNR=4.4						
SONM				LR	LR	12 05 12.1	
	comp=Z,66nm,19.5s,baz=52,slow=38						
SONM	**Songino Array**	**34.92**	**281**	*eP*	**P**	**11 49 46.9**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**36.27**	**174**	T	T	12 28 33.6	
	baz=356,slow=76,SNR=1028						
H11N3	**WAKE ISLAND Hy**	**36.29**	**174**	T	T	12 28 35.4	
	baz=356,slow=76,SNR=1038						
H11N1	**WAKE ISLAND Hy**	**36.29**	**174**	T	T	12 28 34.8	
	baz=356,slow=76,SNR=1471						
HHC	**Hu-ho-hao-te**	**36.38**	**268**	*eP*	**P**	**11 49 56.4**	**-2.5**
HHC				S	**S**	**11 55 31.4**	**-6.7**
HHC				ScS	**ScS**	**12 00 07.9**	**-5.0**
HHC				pmax	pmax		
	comp=Z,33nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
HHC				LR	LR		
	comp=Z,170nm,15.9s						
HHC				LR	LR		
	comp=Z,150nm,16.7s						
H11S1	**WAKE ISLAND Hy**	**37.48**	**174**	T	T	12 30 22.8	
	baz=10.0,slow=78,SNR=35						
H11S3	**WAKE ISLAND Hy**	**37.49**	**174**	T	T	12 30 23.6	
	baz=10.0,slow=78,SNR=32						
H11S2	**WAKE ISLAND Hy**	**37.49**	**174**	T	T	12 30 23.0	
	baz=10.0,slow=78,SNR=30						
JOW	**Kunigami**	**38.30**	**235**	*eP*	**P**	**11 50 17.0**	**+1.8**
	comp=Z,76nm,1.3s						
NJ2	**Nanjing**	**38.75**	**251**	*eP*	**P**	**11 50 16.0**	**-2.9**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
YKA	**Yellowknife Ar**	**39.97**	**46**	P	**P**	**11 50 28.8**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=301,slow=8.3,SNR=5.9						
DGZ	**Jazzator, Alta**	**43.93**	**295**	*eP*	**P**	**11 51 01.1**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	**43.96**	**275**	*eP*	**P**	**11 51 01.3**	**-0.4**
GTA				pP	sP	11 51 13.2	-1.4
GTA				sP	pP	11 51 19.1	+8.2
GTA				S	**S**	**11 57 26.2**	**-5.2**
GTA				sS	sS	11 57 50.0	+3.6
GTA				SS	SS	12 00 35.7	-13
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,140nm,6.2s						
GTA				LR	LR		
	comp=Z,200nm,11.9s						
GTA				LR	LR		
	comp=Z,180nm,11.9s						
GTA				LR	LR		
	comp=Z,170nm,15.9s						
LZH	**Lanzhou**	**44.03**	**269**	*eP*	**P**	**11 51 01.2**	**-1.2**
LZH				pP	pP	11 51 13.2	+1.6
LZH				sP	sP	11 51 18.5	+3.3
LZH				PP	**PP**	**11 52 45.0**	**-0.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,93nm,5.6s						
LZH				LR	LR		
	comp=Z,370nm,13.5s						
LZH				LR	LR		
	comp=Z,380nm,13.8s						
LZH				LR	LR		
	comp=Z,440nm,17.5s						
SPA0	**Spitsbergen Ar**	**44.59**	**351**	*eP*	**P**	**11 51 07.2**	**+1.0**
SPITS	**Spitsbergen Ar**	**44.59**	**351**	P	**P**	**11 51 07.1**	**+1.0**
	comp=Z,5.5nm,0.5s,baz=58,slow=8.3,SNR=15						
EDM	**Edmonton**	**45.77**	**57**	*eP*	**P**	**11 51 18.0**	**+2.1**
EDM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EDM	**Edmonton**	**45.77**	**57**	*eP*	**P**	**11 51 18.0**	**+2.1**
	comp=Z,7.2nm,1.0s						
WMQ	**Urumqi**	**47.61**	**289**	P	**P**	**11 51 32.2**	**+1.8**
WMQ				pP	sP	11 51 44.2	+0.9
WMQ				sP	pP	11 51 48.4	+8.8
WMQ				S	S	11 58 15.7	-8.0
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.1s						
WMQ				LR	LR		
	comp=Z,140nm,13.5s						
WMQ				LR	LR		
	comp=Z,240nm,14.7s						
WMQ				LR	LR		
	comp=Z,140nm,17.1s						
KURK	**Kurchatov**	**47.66**	**301**	*ceP*	**P**	**11 51 29.0**	**-1.6**
KURK				pmax	pmax		
	comp=Z,40nm,1.2s						
KURK	**Kurchatov**	**47.66**	**301**	*eP*	**P**	**11 51 28.7**	**-1.8**
	comp=Z,13nm,1.1

comp=Z,3.0nm,0.8s
KKAR Karatay Array 56.94 299 *e*P **P 11 52 37.9 -1.7**
KKAR pmax pmax
comp=Z,58nm,0.9s
KKAR Karatay Array 56.94 299 *e*P **P 11 52 37.9 -1.7**
comp=Z,58nm,0.9s
ABKAR Akbulak array 57.20 311 *e*P **P 11 52 40.0 -1.3**
comp=Z,14nm,0.5s
O20A White River Ci 57.34 66 *e*P **P 11 52 44.7 +2.0**
comp=Z,19nm,1.7s
PFO Pinyon Flats O 57.85 77 *e*P **P 11 52 47.9 +1.6**
PFO pmax pmax
comp=Z,8.0nm,1.4s
PFO Pinyon Flats O 57.85 77 *e*P **P 11 52 47.9 +1.6**
comp=Z,8.4nm,1.4s
N23A Red Feather La 57.95 63 *e*P **P 11 52 48.8 +1.8**
comp=Z,4.4nm,1.0s
FIA1 FINESS Array S 58.15 337 *e*P **P 11 52 48.2 +0.5**
comp=Z,72nm,1.9s
FINES FINESS Array B 58.15 337 P **P 11 52 48.0 +0.2**
comp=Z,2.6nm,0.6s,baz=34,slow=8.7,SNR=9.4
FINES LR LR 12 20 12.4
comp=Z,19nm,21.3s,baz=63,slow=38
FINES FINESS Array B 58.15 337 *e*P **P 11 52 48.6 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.6s
PV10 Paradox Valley 58.24 67 *e*P **P 11 52 52.4 +3.2**
PV05 Paradox Valley 58.44 68 *e*P **P 11 52 53.0 +2.5**
SMCO Snowmass 58.71 65 *e*P **P 11 52 54.9 +2.4**
comp=Z,2.7nm,0.9s
ISCO Idaho Springs 58.93 64 *e*P **P 11 52 56.3 +2.3**
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 58.93 64 *e*P **P 11 52 56.3 +2.3**
comp=Z,5.5nm,1.4s
EYMN Ely 59.31 49 *e*P **P 11 52 57.6 +1.5**
comp=Z,21nm,1.5s
S22A 4UR Ranch, Cre 59.86 66 *e*P **P 11 53 02.7 +2.3**
comp=Z,13nm,1.9s
113A Mohawk Valley, 59.96 75 *e*P **P 11 53 02.9 +2.1**
comp=Z,2.4nm,1.0s
X16A Lo Mia Camp, P 59.96 72 *e*P **P 11 53 03.8 +2.8**
comp=Z,1.9nm,1.0s
CHTO Chiang Mai 60.08 259 *e*P **P 11 53 00.7 -1.0**
CHTO pmax pmax
comp=Z,10.0nm,1.5s
CHTO Chiang Mai 60.08 259 *e*P **P 11 53 00.7 -1.0**
comp=Z,9.5nm,1.5s
ECSD EROS Data Cent 60.30 55 *e*P **P 11 53 04.6 +1.7**
comp=Z,24nm,1.9s
CMAR Chiang Mai Arr 60.37 259 LR LR 12 22 05.6
comp=Z,46nm,18.3s,baz=40,slow=39
NC204 NORSAR Array S 61.09 345 *e*P **P 11 53 08.1 0.0**
NC405 NORSAR Array S 61.10 345 *e*P **P 11 53 08.8 +0.6**
NB201 NORSAR Array S 61.23 345 *e*P **P 11 53 09.2 +0.2**
NB2 NORSAR Subarra 61.25 345 P **P 11 53 09.1 -0.1**
comp=Z,3.6nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 61.25 345 P **P 11 53 09.4 +0.2**
comp=Z,2.8nm,0.5s,baz=19,slow=6.9,SNR=12
NC602 NORSAR Array S 61.49 344 *e*P **P 11 53 10.8 +0.1**
HFS Hagfors 61.73 343 P **P 11 53 12.0 -0.3**
comp=Z,3.5nm,0.5s,baz=49,slow=4.4,SNR=17
MSTX Muleshoe 64.87 66 *e*P **P 11 53 35.4 +1.7**
comp=Z,8.2nm,1.2s
MNTX Cornudas Mount 65.28 70 *e*P **P 11 53 38.9 +2.5**
comp=Z,3.4nm,0.9s
WMOK Wichita Mounta 66.29 63 *e*P **P 11 53 44.4 +1.6**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 66.29 63 *e*P **P 11 53 44.4 +1.6**
comp=Z,4.8nm,0.9s
GEYT Alibeck 66.90 304 P **P 11 53 45.2 -1.5**
comp=Z,1.2nm,0.6s,baz=306,slow=5.3,SNR=3.9
AKASG Malin Array Be 67.00 330 P **P 11 53 46.0 -0.9**
comp=Z,0.5nm,0.3s,baz=28,slow=6.0,SNR=4.8
KIEV Kiev 67.01 330⇑ *e*P **P 11 53 46.3 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
TX31 Lajitas Ar. Si 68.05 70 *e*P **P 11 53 56.2 +2.1**
TXAR Lajitas Array 68.05 70 P **P 11 53 55.8 +1.7**
comp=Z,1.3nm,0.8s,baz=299,slow=5.1,SNR=16
EKA Eskdalemuir Ar 68.51 352 P **P 11 53 57.1 +0.8**
comp=Z,2.5nm,0.6s,baz=20,slow=5.3,SNR=17
EKA Eskdalemuir Ar 68.51 352 P **P 11 53 57.2 +0.8**
EKA pmax pmax
comp=Z,2.0nm,0.6s
ESK Eskdalemuir 68.53 352 *e*P **P 11 53 57.9 +1.4**
ESK pmax pmax
comp=Z,22nm,1.4s
ESK Eskdalemuir 68.53 352 *e*P **P 11 53 57.9 +1.4**
comp=Z,22nm,1.4s
KBZ Khabaz 68.58 318 LR LR 12 28 54.3
comp=Z,66nm,18.7s,baz=44,slow=40
UPC Upice 70.42 338 *e*P **P 11 54 09.1 +0.8**
UPC *e*x x 11 54 18.2
UPC Upice 70.42 338 *e*P **P 11 54 09.1 +0.8**
UPC *e* 11 54 18.2
DPC Dobruska-Polom 70.50 338 *e*P **P 11 54 10.4 +1.5**
DPC *e*x x 11 54 18.1
DPC Dobruska-Polom 70.50 338 *e*P **P 11 54 10.4 +1.5**
DPC *e* 11 54 18.1
PRU Pruhonice 71.21 339 *e*P **P 11 54 14.4 +1.3**
PRU *e*x x 11 54 21.7
PRU Pruhonice 71.21 339 *e*P **P 11 54 14.4 +1.3**
PRU *e* 11 54 21.7
VRAC Vranov 71.43 337 P **P 11 54 15.2 +0.7**
comp=Z,0.9nm,0.4s,baz=3.9,slow=3.7,SNR=4.6
KHC Kasperske Hory 72.22 339 *e*P **P 11 54 19.9 +0.6**
KHC *e*x x 11 54 28.9
KHC Kasperske Hory 72.22 339 *e*P **P 11 54 19.9 +0.6**
KHC *e* 11 54 28.9
KHC Kasperske Hory 72.22 339 *e*P **P 11 54 20.3 +1.0**
comp=Z,5.2nm,1.7s
GERES GERESS Array B 72.47 339 P **P 11 54 21.1 +0.3**
comp=Z,1.0nm,0.9s,baz=25,slow=4.4,SNR=6.2
GERES LR LR 12 31 35.2
comp=Z,57nm,18.1s,baz=346,slow=40
GERES GERESS Array B 72.47 339 *e*P **P 11 54 21.9 +1.1**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GEA0 GERESS Array S 72.48 339 *e*P **P 11 54 20.7 -0.1**
MLR Muntele Rosu 72.65 330 P **P 11 54 23.2 +1.2**
comp=Z,0.4nm,0.6s,baz=126,slow=11,SNR=3.4
BRTR Keskin Array B 75.44 322 LR LR 12 34 30.3
comp=Z,24nm,18.1s,baz=13,slow=41
WRAB Tennant Creek 79.36 207 *e*P **P 11 55 01.2 +1.0**
WRAB pmax pmax
comp=Z,34nm,1.9s
WRAB Tennant Creek 79.36 207 *e*P **P 11 55 01.2 +1.0**
comp=Z,34nm,1.9s
WB2 Warramunga Arr 79.36 207 *e*P **P 11 55 00.3 +0.1**
comp=Z,6.5nm,1.1s
WRA Warramunga Arr 79.37 207 P **P 11 54 59.8 -0.5**
comp=Z,1.0nm,0.7s,baz=13,slow=5.9,SNR=8.3
ASF Jabal al Asfar 80.95 316 P **P 11 55 08.4 -0.5**
comp=Z,2.2nm,0.7s,baz=239,slow=22,SNR=3.1
AS01 Alice Springs 83.03 207 *e*P **P 11 55 19.3 -0.3**
AS31 Alice Springs 83.04 207 *e*P **P 11 55 19.6 -0.1**
comp=Z,1.5nm,1.1s
ASAR Alice Springs 83.04 207 P **P 11 55 19.6 -0.1**
comp=Z,1.3nm,0.9s,baz=18,slow=4.6,SNR=11
ES19 SONSECA Array 84.07 350 *e*P **P 11 55 25.4 +0.3**
ESDC Sonseca Array 84.11 350 P **P 11 55 26.1 +0.9**
comp=Z,0.9nm,0.7s,baz=3.4,slow=5.3,SNR=7.4
STKA Stephens Creek 89.34 198 LR LR 12 30 37.4
comp=Z,23nm,20.3s,baz=26,slow=32
STKA Stephens Creek 89.34 198 *e*P **P 11 55 48.0 -2.5**
STKA pmax pmax
comp=Z,1.0nm,0.3s
RPZ Rata Peaks 99.52 174 LR LR 12 40 26.1
comp=Z,41nm,18.2s,baz=16,slow=35
TRQA Tornquist 145.29 78 *e*PKPdf **PKPbc 12 02 31.6 +0.3**

IDC 02 12:08:12.2±2.8, 5°.45N×93°.71E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=101.9km s-min=26.0km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.90**	**21**	Pn	Pn	12 11 32.4	+1.7
	0.1nm,0.3s,baz=211,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**42.36**	**348**	P	P	12 16 07.8	-0.4
	0.2nm,0.5s,baz=152,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**47.24**	**123**	P	P	12 16 46.8	-0.7
	0.1nm,0.5s,baz=305,slow=8.5,SNR=9.3						
ASAR	**Alice Springs**	**48.73**	**128**	P	P	12 16 59.4	+0.5
	0.1nm,0.4s,baz=308,slow=7.8,SNR=3.7						

*ISCJB **02** 12:31:57.2±0.7, 33°.77N±0°.03×35°.67E±0°.05, h24km±4km, Error ellipse: s-maj=7.9km s-min=4.4km az=161.2*
*CSEM **02** 12:31:58.7, 33°.79N×35°.78E, h4km, ML3.0*
*NSSC **02** 12:31:58.0±1.1, 33°.75N×35°.73E, h29km±4km, MD1.4, ML2.0*
*GRAL **02** 12:31:58.7±0.3, 33°.79N×35°.78E, h5km±5km, MD3.0*

ISC 02 12:31:57.6±0.9, 33°.79N±0°.03×35°.73E±0°.04, h17km±7km, n17, σ0s75/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13**	**332**	*e*P	**Pg**	**12 32 01.5**	**-0.1**
BHL				*e*S	**Sg**	**12 32 03.7**	**-0.7**
BHL	**Bhannes**	**0.13**	**332**	*e*P	**Pg**	**12 32 01.5**	**-0.1**
BHL				*e*S	**Sg**	**12 32 03.7**	**-0.7**
DQRL	**Deir Qamar**	**0.16**	**238**	*e*P	**Pg**	**12 32 02.2**	**+0.3**
DQRL				*e*S	**Sg**	**12 32 04.9**	**+0.1**
DQRL	**Deir Qamar**	**0.16**	**238**	*e*P	**Pg**	**12 32 02.2**	**+0.3**
DQRL				*e*S	**Sg**	**12 32 04.9**	**+0.1**
BEYL	**Beirut**	**0.21**	**293**	*e*P	**Pg**	**12 32 03.3**	**+0.6**
BEYL	**Beirut**	**0.21**	**293**	*e*P	**Pg**	**12 32 03.3**	**+0.6**
RCY	**Rachaya**	**0.30**	**163**	*e*P	**Pg**	**12 32 04.2**	**0.0**
RCY				*e*S	**Sg**	**12 32 08.2**	**-0.5**
BRBR	**Barbar**	**0.42**	**154**	*e*P	**Pg**	**12 32 06.4**	**+0.1**
BRBR				*e*S	**Sg**	**12 32 12.5**	**+0.4**
BRBR				AML	AML	12 32 17.2	
	comp=E,95nm,0.6s						
BRBR				AML	AML	12 32 18.3	
	comp=N,205nm,0.5s						
HWQ	**Hawqa**	**0.52**	**20**	*e*P	**Pg**	**12 32 07.8**	**-0.3**
HWQ	**Hawqa**	**0.52**	**20**	*e*P	**Pg**	**12 32 07.8**	**-0.3**
QASN	**Qassioun**	**0.52**	**119**	*e*P	**Pg**	**12 32 09.0**	**+0.9**
QASN				*e*S	**Sb**	**12 32 16.5**	**+0.9**
QASN				AML	AML	12 32 21.0	
	comp=E,254nm,0.5s						
QASN				AML	AML	12 32 21.5	
	comp=N,280nm,0.4s						
MARH	**Ras Al Marh**	**0.67**	**69**	*e*P	**Pg**	**12 32 11.3**	**+0.4**
MARH				*e*S	**Sb**	**12 32 21.0**	**+0.9**
MARH				AML	AML	12 32 26.2	
	comp=N,131nm,0.5s						
MARH				AML	AML	12 32 27.4	
	comp=E,182nm,0.6s						
TOTH	**TOTAH**	**0.72**	**126**	*e*P	**Pg**	**12 32 12.5**	**+0.8**
TOTH				*e*S	**Sg**	**12 32 20.5**	**-0.8**
TOTH				AML	AML	12 32 27.0	
	comp=N,47nm,0.4s						
TOTH				AML	AML	12 32 32.4	
	comp=E,42nm,0.5s						
HAWK	**Haweek**	**0.92**	**37**	*e*P	**Pb**	**12 32 15.7**	**+0.6**
HAWK				*e*S	**Sb**	**12 32 27.9**	**+0.7**
HAWK				AML	AML	12 32 36.1	
	comp=Z,25nm,0.4s						
HAWK				AML	AML	12 32 36.5	
	comp=N,25nm,0.5s						
BIDA	**Albida**	**1.32**	**22**	*e*P	**Pn**	**12 32 21.9**	**+0.6**
BIDA				*e*S	**Sb**	**12 32 38.4**	**-0.1**
BIDA				AML	AML	12 32 44.3	
	comp=N,71nm,0.7s						
BIDA				AML	AML	12 32 46.6	
	comp=E,103nm,0.6s						
SALA	**Sala**	**1.36**	**142**	*e*P	**Pn**	**12 32 20.9**	**-1.1**
SALA				*e*S	**Sn**	**12 32 38.0**	**-1.7**
SALA				AML	AML	12 32 48.8	
	comp=N,31nm,0.4s						
SALA				AML	AML	12 32 49.3	
	comp=E,3.4nm,0.6s						
ARNB	**Al Arnab**	**2.08**	**5**	*e*P	**Pn**	**12 32 32.5**	**+0.7**
ARNB				*e*S	**Sn**	**12 32 55.8**	**-1.5**
ARNB				AML	AML	12 33 07.1	
	comp=N,32nm,0.4s						
ARNB				AML	AML	12 33 08.2	
	comp=E,20nm,0.4s						

*IDC **02** 12:35:54.1±1.6, 5°.10N×125°.13E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.8/4, Error ellipse: s-maj=188.6km s-min=21.2km az=66.0*
*ISCJB **02** 12:35:56.7±1.0, 5°.18N±0°.09×125°.3E±0°.2, h33km, mb3.7/4, Error ellipse: s-maj=27.1km s-min=10.6km az=14.5*

ISC 02 12:35:59.2±1.3, 5°.2N±0°.1×125°.3E±0°.2, h35km, n6, σ1s76/7, mb3.8/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.96**	**28**	*e*P	**Pn**	**12 36 32.3**	**+2.3**
MATI				*e*S	**Sn**	**12 36 51.8**	**-1.6**
BIPH	**Bislig**	**3.13**	**19⇑**	*i*P	**Pn**	**12 36 46.0**	**-0.1**
BIPH				*i* S	Sn	12 37 13.0	-9.2
WRA	**Warramunga Arr**	**26.52**	**161**	P	**P**	**12 41 33.0**	**-0.8**
	0.4nm,0.5s,baz=337,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**29.90**	**164**	P	**P**	**12 42 03.7**	**-0.2**
	0.1nm,0.3s,baz=345,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**55.55**	**325**	P	**P**	**12 45 32.4**	**+1.3**
	1.4nm,0.5s,baz=116,slow=7.6,SNR=21						
ZALV	**Zalesovo Beam**	**58.64**	**333**	P	**P**	**12 45 51.2**	**-1.5**
	0.8nm,0.3s,baz=125,slow=6.6,SNR=4.6						

*IDC **02** 13:03:06.6±3.0, 3°.23S×100°.14E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/37, mbtmp3.8/7, MS2.9/2, Ms1 2.9/2, ms1mx2.6/27, Error ellipse: s-maj=126.0km s-min=18.2km az=58.0*
*ISCJB **02** 13:03:09.0±0.9, 3°.25S±0°.07×100°.22E±0°.09, h27km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=15.5km s-min=6.0km az=144.8*
*DJA **02** 13:03:10.1±0.7, 3°.5S±5°.×10°.0E±°, h28km±4km, M3.9/6, MLv3.9/6*

ISC 02 13:03:11.0±1.0, 3°.19S±0°.09×100°.2E±0°.1, h27km, n25, σ0s82/18, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.48**	**332**	P	**Pb**	**13 03 21.3**	**+0.3**
PPSI				S	**Sn**	**13 03 29.4**	**-0.3**
MASI	**Maura Aman, Be**	**2.00**	**89**	P	**Pn**	**13 03 41.9**	**-1.2**
SISI	**Saibi**	**2.18**	**328**	P	**Pn**	**13 03 44.6**	**-0.9**
SISI				S	**Sn**	**13 04 11.0**	**-0.6**
PDSI	**Padang**	**2.28**	**6**	P	**Pn**	**13 03 46.2**	**-0.7**
PDSI				S	**Sn**	**13 04 14.3**	**+0.2**
SDSI	**Sungai Dareh**	**2.54**	**28**	P	**Pn**	**13 03 50.5**	**0.0**
PBSI	**Pulau Batu**	**3.68**	**328**	P	**Pb**	**13 04 17.0**	**+1.6**
MDSI	**Maura Dua**	**4.14**	**108**	P	**Pn**	**13 04 12.5**	**0.0**
PSI	**Prapat**	**6.09**	**348**	LR	LR	13 06 31.7	
	comp=Z,39nm,19.4s,baz=218,slow=34						
CMAR	**Chiang Mai Arr**	**21.55**	**357**	P	**P**	**13 07 59.0**	**+0.5**
	0.6nm,0.5s,baz=187,slow=11,SNR=6.0						
H08S2	**Diego Garcia H**	**27.96**	**260**	T	T	13 38 03.4	
	baz=82,slow=75,SNR=340						
H08S3	**Diego Garcia H**	**27.97**	**260**	T	T	13 38 05.4	
	baz=82,slow=75,SNR=252						
H08S1	**Diego Garcia H**	**27.98**	**260**	T	T	13 38 04.8	
	baz=82,slow=75,SNR=154						
H08N1	**Diego Garcia H**	**29.28**	**263**	T	T	13 40 46.2	
	baz=155,slow=77,SNR=13						
H08N2	**Diego Garcia H**	**29.30**	**263**	T	T	13 40 54.1	
	baz=155,slow=77,SNR=16						
H08N3	**Diego Garcia H**	**29.31**	**263**	T	T	13 40 47.1	
	baz=155,slow=77,SNR=14						
H01W3	**Cape Leeuwin H**	**34.08**	**159**	T	T	13 45 51.5	
	baz=335,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**34.09**	**159**	T	T	13 45 52.4	
	baz=335,slow=76,SNR=33						
H01W1	**Cape Leeuwin H**	**34.09**	**159**	T	T	13 45 52.6	
	baz=335,slow=76,SNR=23						
WRA	**Warramunga Arr**	**37.20**	**119**	P	**P**	**13 10 19.8**	**-0.6**
	0.4nm,0.5s,baz=304,slow=9.3,SNR=9.7						
ASAR	**Alice Springs**	**38.37**	**125**	P	**P**	**13 10 29.8**	**-0.5**
	0.7nm,0.8s,baz=303,slow=7.5,SNR=11						
ASAR				LR	LR	13 28 42.2	
	comp=Z,42nm,18.5s,baz=19,slow=40						
STKA	**Stephens Creek**	**48.19**	**131**	P	**P**	**13 11 50.6**	**+1.2**
	2.3nm,0.9s,baz=280,slow=6.1,SNR=3.2						
SONM	**Songino Array**	**51.10**	**5**	P	**P**	**13 12 11.4**	**0.0**
	0.9nm,0.6s,baz=182,slow=7.5,SNR=6.1						
MKAR	**Makanchi Array**	**52.23**	**344**	P	**P**	**13 12 19.5**	**-0.2**
	1.4nm,0.7s,baz=150,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**58.38**	**349**	P	**P**	**13 13 02.5**	**-1.3**
	0.9nm,0.5s,baz=157,slow=4.8,SNR=5.0						
TXAR	**Lajitas Array**	**145.49**	**39**	PKPbc	**PKPab**	**13 22 47.8**	**0.0**
	1.5nm,0.7s,baz=225,slow=1.2,SNR=23						

JMA 02 13:03:59.9, 41°.72N×140°.75E, h14km±1km, M0.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.27**	**51**	P	Pg	13 04 05.7	+0.1
JKB				*e*S	Sg	13 04 09.4	-0.1
JSR	**Shiriuchi**	**0.31**	**233**	P	Pg	13 04 06.4	0.0
JSR				*e*S	Sg	13 04 10.8	+0.1
JOT	**Ohata**	**0.41**	**146**	*e*S	Sg	13 04 13.4	-0.1
JYM2	**Yakumo 2**	**0.49**	**325**	*e*S	Sg	13 04 16.3	+0.2

*IDC **02** 13:04:34.0±7.4, 41°.13N×141°.21E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/34, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=210.9km s-min=83.6km az=138.0*
*ISCJB **02** 13:04:54.1±1.5, 38°.37N±0°.05×142°.25E±0°.09, h27km±8km, mb3.8/2, Error ellipse: s-maj=12.2km s-min=8.2km az=13.1*
*JMA **02** 13:04:55.3±0.1, 38°.44N×142°.23E, h32km±1km, M3.6*
JMA Felt I J1.

ISC 02 13:04:54.7±2.3, 38°.42N±0°.06×142°.2E±0°.1, h24km±16km, n12, σ0s87/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.66**	**274**	P	**Pn**	**13 05 08.5**	**-0.1**
JIO				*e*S	**Sn**	**13 05 17.6**	**-0.7**
OFUJ	**Ofunato**	**0.78**	**329**	P	**Pn**	**13 05 09.8**	**-0.4**
OFUJ				S	**Sb**	**13 05 20.0**	**+0.3**
JMK	**Ichinoseki**	**0.93**	**305**	P	**Pb**	**13 05 12.4**	**+0.3**
JMK				*e*S	**Sb**	**13 05 24.4**	**+0.4**
JOU	**Okura**	**1.20**	**268**	P	**Pb**	**13 05 16.7**	**-0.1**
JOU				S	**Sb**	**13 05 32.4**	**+0.5**
JMM	**Marumori**	**1.23**	**244**	P	**Pb**	**13 05 16.3**	**-0.9**
JMM				*e*S	**Sn**	**13 05 31.7**	**-0.6**
JOM	**Ohasama**	**1.27**	**327**	P	**Pb**	**13 05 17.5**	**-0.4**
JOM				S	**Sb**	**13 05 33.8**	**0.0**
JFK	**Kawauchi**	**1.48**	**225**	P	**Pn**	**13 05 19.4**	**-0.4**
JFK				*e*S	**Sn**	**13 05 36.7**	**-1.7**
JYK	**Kaneyama**	**1.52**	**290**	P	**Pb**	**13 05 21.7**	**-0.5**
JRG	**Rokugo**	**1.56**	**309**	P	**Pb**	**13 05 22.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.68**	**241**	Pn	**Pn**	**13 05 52.3**	**+2.2**
	1.1nm,0.3s,baz=21,slow=15,SNR=13						
WRA	**Warramunga Arr**	**58.51**	**189**	P	**P**	**13 14 49.3**	**+0.2**
	0.7nm,0.6s,baz=6.8,slow=6.9,SNR=8.7						
ASAR	**Alice Springs**	**62.24**	**189**	P	**P**	**13 15 15.2**	**+0.7**
	0.4nm,0.7s,baz=14,slow=6.7,SNR=5.7						

*CSEM **02** 13:10:32.8, 44°.10N×19°.22E, h0km, ML1.3, Mining explosion.*

BEO 02 13:10:32.8±0.8, 44°.10N×19°.22E, h0km, M1.3/3, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.27**	**150**	*e*Pg	Pg	13 10 37.1	-0.8
BBLS				*e*Sg	Sg	13 10 42.1	+0.7
BBLS	**Lazići**	**0.27**	**150**	*e*Pg	Pg	13 10 37.1	-0.8
BBLS				*e*Sg	Sg	13 10 42.1	+0.7
TEKS	**Tekeris**	**0.50**	**26**	*e*Pg	Pg	13 10 42.7	+0.3
TEKS	**Tekeris**	**0.50**	**26**	*e*Pg	Pg	13 10 42.7	+0.3
DIVS	**Divibare**	**0.56**	**90**	*e*Pg	Pg	13 10 42.5	-0.9
DIVS				*e*Sg	Sg	13 10 50.4	-0.2
DIVS	**Divibare**	**0.56**	**90**	*e*Pg	Pg	13 10 42.5	-0.9
DIVS				*e*Sg	Sg	13 10 50.4	-0.2
IVAS	**Ivanjica**	**0.85**	**127**	*e*Sg	Sg	13 11 00.5	+0.3
IVAS	**Ivanjica**	**0.85**	**127**	*e*Sg	Sg	13 11 00.5	+0.3
TRUS	**Trudelj**	**0.86**	**81**	*e*Pg	Pg	13 10 46.8	-2.5
TRUS	**Trudelj**	**0.86**	**81**	*e*Pg	Pg	13 10 46.8	-2.5
FGSL	**Fruska Gora**	**1.14**	**22**	*e*Pg	Pg	13 10 52.2	-2.4
FGSL				*e*Sg	Sg	13 11 10.0	+0.6
FRGS	**Fruska Gora**	**1.14**	**22**	*e*Pg	Pg	13 10 52.2	-2.4
FRGS				*e*Sg	Sg	13 11 10.0	+0.6

*ISCJB **02** 13:11:43.5±0.3, 37°.96N±0°.02×1°.92W±0°.02, h11km±2km, Error ellipse: s-maj=3.9km s-min=2.0km az=147.1*
*CSEM **02** 13:11:44.6±0.1, 37°.90N×1°.91W, h5km, ML3.8/4.1, Error ellipse: s-maj=3.0km s-min=1.7km az=146.0*
*INMG **02** 13:11:44.9±1.1, 37°.80N×1°.68W, h21km±3km, MD3.9, ML3.6, Error ellipse: s-maj=3.4km s-min=1.6km az=115.0*
*MDD **02** 13:11:45.3±0.2, 37°.82N×1°.80W, h10km, mbLg3.4/48, Error ellipse: s-maj=2.1km s-min=1.7km az=38.0, PRXIMO*
MDD EMS: IV INTENSIDAD MAXIMA.
*SFS **02** 13:11:45.0, 37°.80N×1°.80W, h0km, ML3.5*
*LDG **02** 13:11:45.7±0.1, 37°.80N×1°.82W, h2km, Md3.7/1, Ml3.4/10, Error ellipse: s-maj=3.9km s-min=1.6km az=129.0*
*STR **02** 13:11:46.8±0.2, 37°.83N×1°.72W, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 02 13:11:43.5±1.1, 37°.88N±0°.03×1°.85W±0°.02, h9km±9km, n192, σ1s82/344, 13C-10D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.49**	**94**	⇑Pg	**Pg**	**13 11 52.9**	**-0.1**
	254nm,0.3s,SNR=18						
EMUR				Lg	Lg	13 11 59.9	
	1μm,0.3s,SNR=5.0						
EMUR	**La Murta**	**0.49**	**94**	Lg	Lg	13 11 59.9	
	1μm,0.3s,SNR=5.0						
SESP	**Santiago Espad**	**0.60**	**294**	⇑Pg	**Pb**	**13 11 57.0**	**+0.7**
	12nm,0.2s,SNR=18						
SESP				Lg	Lg	13 12 06.5	
	1μm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**0.60**	**294**	Pg	**Pb**	**13 11 57.0**	**+0.7**
	12nm,0.2s,SNR=18						
SESP				Lg	Lg	13 12 06.5	
	1μm,0.3s,SNR=7.9						
CART	**Cartagena**	**0.73**	**113**	⇑Pg	**Pb**	**13 11 57.5**	**-1.0**
CART				Lg	Lg	13 12 05.7	
CART	**Cartagena**	**0.73**	**113**	*i* P	**Pb**	**13 11 57.5**	**-1.0**
CART				Lg	Lg	13 12 05.7	
ETOB	**Tobarra**	**0.81**	**17**	⇓Pg	**Pb**	**13 12 00.2**	**+0.4**
	1.0nm,0.2s,SNR=18						
ETOB				Lg	Lg	13 12 12.4	
	681nm,0.2s,SNR=32						
ETOB	**Tobarra**	**0.81**	**17**	Pg	**Pb**	**13 12 00.2**	**+0.4**
	1.0nm,0.2s,SNR=18						
ETOB				Lg	Lg	13 12 12.4	
	681nm,0.2s,SNR=32						
ENIJ	**Nijar**	**0.94**	**197**	⇓Pg	**Pb**	**13 12 01.8**	**-0.3**
	9.4nm,0.3s,SNR=18						
ENIJ				Lg	Lg	13 12 14.2	
	857nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**0.94**	**197**	Lg	Lg	13 12 14.2	
	857nm,0.4s,SNR=7.9						
EQES	**Quesada**	**0.97**	**266**	⇑Pg	**Pn**	**13 12 03.7**	**+0.3**
	72nm,0.5s,SNR=18						
EQES				Lg	Lg	13 12 18.4	
	514nm,0.3s,SNR=28						
EQES	**Quesada**	**0.97**	**266**	Pg	**Pn**	**13 12 03.7**	**+0.3**
	72nm,0.5s,SNR=18						
EQES				Lg	Lg	13 12 18.4	
	514nm,0.3s,SNR=28						
GORA	**Gorafe**	**1.02**	**248**	Pg	**Pn**	**13 12 04.0**	**-0.1**
	1.1nm,0.1s,SNR=7.9						
GORA				Lg	Lg	13 12 19.4	
	972nm,0.4s,SNR=7.9						
**GORA

185nm,0.5s,SNR=80
EQUE Lg Lg 13 12 32.5
411nm,0.4s,SNR=17
EQUE Quentar 1.43 243 Pg Pg 13 12 12.3 +1.4
185nm,0.5s,SNR=80
EQUE Lg Lg 13 12 32.5
411nm,0.4s,SNR=17
SELV Sierra Elvira 1.62 247 ⇑Pg Pg 13 12 14.5 -0.1
136nm,0.8s,SNR=18
SELV Lg Lg 13 12 38.1
179nm,0.5s,SNR=7.9
SELV Sierra Elvira 1.62 247 Pg Pg 13 12 14.5 -0.1
136nm,0.8s,SNR=18
SELV Lg Lg 13 12 38.1
179nm,0.5s,SNR=7.9
EGOR Sierra Gorda, 1.95 248 ⇑Pg Pg 13 12 20.0 -0.9
12nm,0.3s,SNR=18
EGOR Lg Lg 13 12 48.5
159nm,0.4s,SNR=7.9
EGOR Sierra Gorda, 1.95 248 Pg Pg 13 12 20.0 -0.9
12nm,0.3s,SNR=18
EGOR Lg Lg 13 12 48.5
159nm,0.4s,SNR=7.9
EADA Adamuz 2.17 279 ⇑Pn Pn 13 12 21.1 +1.2
16nm,0.4s,SNR=18
EADA Pg Pg 13 12 25.5 +0.4
10nm,0.3s,SNR=9.2
EADA Sn Sn 13 12 48.6 +1.7
76nm,0.4s,SNR=7.6
EADA Lg Lg 13 12 54.9
177nm,0.7s,SNR=5.0
EADA Adamuz 2.17 279 Pn Pn 13 12 21.1 +1.2
16nm,0.4s,SNR=18
ESDC Sonseca Array 2.44 318 Pn Pn 13 12 24.8 +1.2
7.4nm,0.3s,baz=129,slow=13,SNR=94
ESDC Pg Pg 13 12 30.7 +0.5
12nm,0.3s,baz=130,slow=16,SNR=8.0
ESDC Sn Sn 13 12 55.0 +1.4
5.9nm,0.3s,baz=145,slow=16,SNR=9.4
ESDC Lg Lg 13 13 02.9
112nm,0.5s,baz=133,slow=29,SNR=21
ESDC Sonseca Array 2.44 318 Pn Pn 13 12 24.8 +1.2
7.4nm,0.3s,SNR=94
ESDC Sonseca Array 2.44 318 Pg Pg 13 12 30.7 +0.5
12nm,0.3s,SNR=8.0
ESDC Sn Sn 13 12 55.0 +1.4
5.9nm,0.3s,SNR=9.4
ESDC Lg Lg 13 13 02.9
112nm,0.5s,SNR=21
EMIJ Mijas 2.67 242 Pn Pn 13 12 28.2 +1.4
0.8nm,0.2s,SNR=4.0
EMIJ Pg Pg 13 12 34.8 +0.1
26nm,0.6s,SNR=4.0
EMIJ Sn Sn 13 13 00.4 +1.1
22nm,0.4s,SNR=5.7
EMIJ Mijas 2.67 242 Pn Pn 13 12 28.2 +1.4
0.8nm,0.2s,SNR=4.0
EMOS Mosqueruela 2.71 23 Pn Pn 13 12 29.0 +1.6
1.9nm,0.3s,SNR=15
EMOS Pg Pg 13 12 35.8 +0.4
1.2nm,0.1s,SNR=15
EMOS Sn Sn 13 13 01.6 +1.2
31nm,0.6s,SNR=5.7
EMOS Lg Lg 13 13 10.6
112nm,0.7s,SNR=5.0
EMOS Mosqueruela 2.71 23 Pn Pn 13 12 29.0 +1.6
1.9nm,0.3s,SNR=15
OKGL Djebel Kef Gue 2.71 132 Pn Pn 13 12 28.8 +1.4
4.0nm,0.2s,SNR=7.9
OKGL Sn Sn 13 13 00.3 -0.1
15nm,1.3s,SNR=7.9
OKGL Djebel Kef Gue 2.71 132 Pn Pn 13 12 28.8 +1.4
4.0nm,0.2s,SNR=7.9
EIBI Ibiza 2.76 64 Pn Pn 13 12 27.6 -0.4
8.1nm,0.3s,SNR=14
EIBI Sn Sn 13 12 58.4 -3.1
12nm,0.5s,SNR=9.1
ECAB El Cabril 2.82 275 ⇑Pn Pn 13 12 30.0 +1.1
23nm,0.4s,SNR=18
ECAB Pg Pg 13 12 37.2 -0.5
21nm,0.2s,SNR=12
ECAB Sn Sn 13 13 03.9 +0.8
164nm,0.4s,SNR=5.0
ECAB Lg Lg 13 13 16.7
199nm,0.6s,SNR=7.9
ECAB El Cabril 2.82 275 Pn Pn 13 12 30.0 +1.1
23nm,0.4s,SNR=18
GUD Guadarrama 3.29 328 ⇑Pn Pn 13 12 37.1 +1.7
6.0nm,0.2s,SNR=18
GUD Pg Pg 13 12 46.5 0.0
14nm,0.3s,SNR=7.7
GUD Sn Sn 13 13 14.6 -0.1
14nm,0.3s,SNR=8.5
GUD Lg Lg 13 13 29.4
146nm,0.4s,SNR=5.0
GUD Guadarrama 3.29 328 Pn Pn 13 12 37.1 +1.7
6.0nm,0.2s,SNR=18
ESPR Espera 3.34 254 Pn Pn 13 12 38.2 +2.2
4.3nm,0.4s,SNR=7.2
ESPR Pg Pg 13 12 47.8 +0.2
12nm,0.5s,SNR=8.0
ESPR Sn Sn 13 13 16.1 +0.3
35nm,0.7s,SNR=9.4
ESPR Lg Lg 13 13 34.7
50nm,0.5s,SNR=7.9
ESPR Espera 3.34 254 Pn Pn 13 12 38.2 +2.2
4.3nm,0.4s,SNR=7.2
ERTA Horta de San J 3.51 28 Pn Pn 13 12 39.9 +1.6
14nm,0.4s,SNR=37
ERTA Pg Pg 13 12 49.4 -1.5
14nm,0.4s,SNR=4.0
ERTA Sn Sn 13 13 20.7 +0.6
11nm,0.2s,SNR=7.9
ERTA Horta de San J 3.51 28 Pn Pn 13 12 39.9 +1.6
14nm,0.4s,SNR=37
ERTA Sn Sn 13 13 20.7 +0.6
11nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.82 270 Pn Pn 13 12 43.3 +0.8
6.4nm,0.5s,SNR=29
EMIN Pg Pg 13 12 55.2 -1.4
5.2nm,0.3s,SNR=9.9
EMIN Sn Sn 13 13 27.8 +0.3
10nm,0.5s,SNR=8.5
EMIN Lg Lg 13 13 48.1
20nm,0.5s,SNR=7.9
EMIN Mina Concepcio 3.82 270 Pn Pn 13 12 43.3 +0.8
6.4nm,0.5s,SNR=29
EPLA Plasencia 3.95 305 Pn Pn 13 12 45.6 +1.2
9.8nm,0.3s,SNR=13
EPLA Pg Pg 13 12 58.8 -0.4
8.9nm,0.2s,SNR=7.9
EPLA Sn Sn 13 13 31.3 +0.4
3.8nm,0.3s,SNR=6.8
EPLA Lg Lg 13 13 48.9
98nm,0.3s,SNR=5.0
EPLA Plasencia 3.95 305 Pn Pn 13 12 45.6 +1.2
9.8nm,0.3s,SNR=13
ESAC San Caprasio 3.99 15 Pn Pn 13 12 47.3 +2.4
12nm,0.3s,SNR=13
ESAC Pg Pg 13 12 60.0 +0.1
27nm,0.3s,SNR=7.9
ESAC Lg Lg 13 13 50.7
224nm,0.6s,SNR=7.9
ESAC San Caprasio 3.99 15 Pn Pn 13 12 47.3 +2.4
12nm,0.3s,SNR=13
ESAC San Caprasio 3.99 15 Pg Pg 13 13 00.0 +0.1
27nm,0.3s,SNR=7.9
ESAC Lg Lg 13 13 50.7
224nm,0.6s,SNR=7.9
PBAR Barrancos 4.11 276 *e*Pn Pn 13 12 47.7 +1.3
PBAR *e*Sn Sn 13 13 35.6 +1.0
PBAR A A 13 14 02.8
178nm,0.5s
PBAR Barrancos 4.11 276 Pn Pn 13 12 47.7 +1.3
PBAR Sn Sn 13 13 35.6 +1.0
178nm,0.5s
PBAR Barrancos 4.11 276 Pn Pn 13 12 47.7 +1.3
PBAR *e*Sn Sn 13 13 35.6 +1.0
178nm,0.5s
ETOS Mallorca 4.11 61 Pn Pn 13 12 46.3 -0.2
5.4nm,0.4s,SNR=12
ETOS Sn Sn 13 13 33.6 -1.1
5.6nm,0.3s,SNR=11
EPOB Poblet 4.15 32 ⇓Pn Pn 13 12 48.5 +1.4
9.5nm,0.5s,SNR=18
EPOB Sn Sn 13 13 34.5 -1.2
5.4nm,0.3s,SNR=7.9
EPOB Poblet 4.15 32 Pn Pn 13 12 48.5 +1.4
9.5nm,0.5s,SNR=18
EBAD Badajoz 4.15 284 Pn Pn 13 12 48.0 +0.9
2.6nm,0.3s,SNR=17
EBAD Pg Pg 13 13 00.5 -2.6
5.5nm,0.2s,SNR=7.9
EBAD Sn Sn 13 13 36.3 +0.6
40nm,0.2s,SNR=5.3
EBAD Lg Lg 13 13 58.2
90nm,0.4s,SNR=7.9
EBAD Badajoz 4.15 284 Pn Pn 13 12 48.0 +0.9
2.6nm,0.3s,SNR=17
EBAD Sn Sn 13 13 36.3 +0.6
40nm,0.2s,SNR=5.3
EBAD Lg Lg 13 13 58.2
90nm,0.4s,SNR=7.9
EGRO El Granado 4.48 267 ⇓Pn Pn 13 12 52.8 +1.3
11nm,0.4s,SNR=18
EGRO Sn Sn 13 13 43.3 -0.5
4.8nm,0.2s,SNR=9.6
EGRO Lg Lg 13 14 07.7
33nm,0.4s,SNR=5.4
EGRO El Granado 4.48 267 Pn Pn 13 12 52.8 +1.3
11nm,0.4s,SNR=18
EGRO Sn Sn 13 13 43.3 -0.5
4.8nm,0.2s,SNR=9.6
EGRO Lg Lg 13 14 07.7
33nm,0.4s,SNR=5.4
PMRV Marv??o 4.60 291 *e*Pn Pn 13 12 54.6 +1.3
PMRV *e*Sn Sn 13 13 47.4 +0.5
PMRV *e*Sg Sg 13 14 09.1 -2.2
PMRV A A 13 14 18.5
135nm,0.5s
PMRV Marv??o 4.60 291 Pn Pn 13 12 54.6 +1.3
PMRV Sn Sn 13 13 47.4 +0.5
PMRV Lg Lg 13 14 09.1
135nm,0.5s
PMRV Marv??o 4.60 291 Pn Pn 13 12 54.6 +1.3
PMRV Sn Sn 13 13 47.4 +0.5
PMRV Lg Lg 13 14 09.1
135nm,0.5s
PESTR Estremoz 4.62 284 *e*Pn Pn 13 12 54.3 +0.8
PESTR *e*Sn Sn 13 13 47.6 +0.4
PESTR A A 13 14 18.6
103nm,0.6s
PESTR Estremoz 4.62 284 *e*Pn Pn 13 12 54.3 +0.8
PESTR *e*Sn Sn 13 13 47.6 +0.4
103nm,0.6s
PVAQ Vaqueiros 4.68 266 *e*Pn Pn 13 12 55.1 +0.8
PVAQ *e*Sn Sn 13 13 48.3 -0.4
PVAQ *e*Sg Sg 13 14 13.7 0.0
PVAQ A A 13 14 25.5
33nm,0.8s
PVAQ Vaqueiros 4.68 266 Pn Pn 13 12 55.1 +0.8
PVAQ Sn Sn 13 13 48.3 -0.4
PVAQ Lg Lg 13 14 13.7
33nm,0.8s
PVAQ Vaqueiros 4.68 266 Pn Pn 13 12 55.1 +0.8
PVAQ Sn Sn 13 13 48.3 -0.4
PVAQ Lg Lg 13 14 13.7
33nm,0.8s
PBEJ Beja 4.75 274 *e*Pn Pn 13 12 56.8 +1.4
PBEJ *e*Sn Sn 13 13 49.9 -0.7
PBEJ A A 13 14 21.7
40nm,0.5s
PBEJ Beja 4.75 274 Pn Pn 13 12 56.8 +1.4
PBEJ Sn Sn 13 13 49.9 -0.7
20nm,0.5s
PBEJ Beja 4.75 274 Pn Pn 13 12 56.8 +1.4
PBEJ *e*Sn Sn 13 13 49.9 -0.7
40nm,0.5s
EMIR Miracle 4.80 32 Pn Pn 13 12 57.7 +1.7
1.4nm,0.3s,SNR=5.6
EMIR Sn Sn 13 13 51.3 -0.5
3.3nm,0.2s,SNR=7.9
EMIR Miracle 4.80 32 Pn Pn 13 12 57.7 +1.7
1.4nm,0.3s,SNR=5.6
EMIR Sn Sn 13 13 51.3 -0.5
3.3nm,0.2s,SNR=7.9
PCBR Castelo Branco 4.81 296 *e*Pn Pn 13 12 57.6 +1.5
PCBR *e*Sn Sn 13 13 51.8 -0.1
PCBR A A 13 14 23.1
62nm,0.5s
PCBR Castelo Branco 4.81 296 Pn Pn 13 12 57.6 +1.5
PCBR Sn Sn 13 13 51.8 -0.1
31nm,0.5s
PCBR Castelo Branco 4.81 296 Pn Pn 13 12 57.6 +1.5
PCBR *e*Sn Sn 13 13 51.8 -0.1
62nm,0.5s
PBDV Barranco-do-Ve 4.87 264 *e*Pn Pn 13 12 57.8 +0.8
PBDV *e*Sn Sn 13 13 53.3 -0.2
PBDV A A 13 14 27.0
40nm,0.6s
PBDV Barranco-do-Ve 4.87 264 Pn Pn 13 12 57.8 +0.8
PBDV Sn Sn 13 13 53.3 -0.2
40nm,0.6s
PBDV Barranco-do-Ve 4.87 264 Pn Pn 13 12 57.8 +0.8
PBDV *e*Sn Sn 13 13 53.3 -0.2
40nm,0.6s
EVO Evora 4.89 280 *e*Pn Pn 13 12 58.7 +1.4
EVO *e*Sn Sn 13 13 54.1 0.0
EVO A A 13 14 31.6
69nm,0.5s
EVO Evora 4.89 280 Pn Pn 13 12 58.7 +1.4
EVO Sn Sn 13 13 54.1 0.0
69nm,0.5s
EVO Evora 4.89 280 Pn Pn 13 12 58.7 +1.4
EVO *e*Sn Sn 13 13 54.1 0.0
69nm,0.5s
EARA Aranguren 4.90 2 Pn Pn 13 13 00.4 +3.0
0.6nm,0.1s,SNR=7.9
EARA Sn Sn 13 13 53.0 -1.1
9.2nm,0.3s,SNR=7.9
EARA Lg Lg 13 14 23.1
21nm,0.4s,SNR=7.9
EARA Aranguren 4.90 2 Pn Pn 13 13 00.4 +3.0
0.6nm,0.1s,SNR=7.9
EARA Sn Sn 13 13 53.0 -1.1
9.2nm,0.3s,SNR=7.9
EARA Lg Lg 13 14 23.1
21nm,0.4s,SNR=7.9
IPRE Itoiz 4.94 4 Pn Pn 13 12 60.0 +2.0
6.5nm,0.4s,SNR=8.3
IPRE Itoiz 4.94 4 Pn Pn 13 13 00.0 +2.0
6.5nm,0.4s,SNR=8.3
IELO Elcoad 4.99 5 ⇑Pn Pn 13 13 01.2 +2.6
2.4nm,0.2s,SNR=18
IELO Sn Sn 13 13 56.3 -0.1
2.0nm,0.2s,SNR=7.9
IELO Lg Lg 13 14 24.5
32nm,0.7s,SNR=7.9
IELO Elcoad 4.99 5 Pn Pn 13 13 01.2 +2.6
2.4nm,0.2s,SNR=18
IELO Sn Sn 13 13 56.3 -0.1
2.0nm,0.2s,SNR=7.9
IELO Lg Lg 13 14 24.5
32nm,0.7s,SNR=7.9
EORO Oroz-Betelu 5.03 5 ⇑Pn Pn 13 13 02.1 +2.9
4.6nm,0.3s,SNR=18
EORO Pg Pg 13 13 20.5 +0.6
14nm,0.4s,SNR=7.9
EORO Sn Sn 13 13 57.3 -0.2
37nm,0.5s,SNR=7.9
EORO Lg Lg 13 14 26.1
55nm,0.6s,SNR=7.9
EORO Oroz-Betelu 5.03 5 Pn Pn 13 13 02.1 +2.9
4.6nm,0.3s,SNR=18
MTE Manteigas 5.09 301 *e*Pn Pn 13 13 02.3 +2.2
MTE *e*Sn Sn 13 14 00.0 +1.0
MTE *e*Sg Sg 13 14 23.9 -3.1
MTE A A 13 14 41.4
89nm,0.6s
MTE Manteigas 5.09 301 Pn Pn 13 13 02.3 +2.2
MTE Sn Sn 13 14 00.0 +1.0
MTE Lg Lg 13 14 23.9
45nm,0.6s
MTE Manteigas 5.09 301 Pn Pn 13 13 02.3 +2.2
MTE Sn Sn 13 14 00.0 +1.0
MTE *e*Sg Sg 13 14 23.9 -3.1
89nm,0.6s
CFON Fontmartina 5.10 39 Pn Pn 13 13 00.6 +0.5
1.1nm,0.3s,SNR=7.9
CFON Sn Sn 13 13 57.7 -1.5
6.2nm,0.2s,SNR=7.9
CFON Fontmartina 5.10 39 Pn Pn 13 13 00.6 +0.5
1.1nm,0.3s,SNR=7.9
ETSF Etsaut 5.11 11 *e*P Pn 13 13 06.9 +6.5
ETSF *e*Sn Sn 13 13 57.5 -2.1
ETSF *e*Sg Sg 13 14 28.2 +0.5
17nm,0.5s
ETSF Etsaut 5.11 11 Pn Pn 13 13 02.6 +2.2
ETSF Sn Sn 13 13 57.5 -2.1
ETSF Lg Lg 13 14 28.2
8.7nm,0.5s
ETSF Etsaut 5.11 11 Pn Pn 13 13 02.6 +2.2
ETSF *e*Sn Sn 13 13 57.5 -2.1
ETSF Lg Lg 13 14 28.2
8.7nm,0.5s
MVO Moncorvo 5.18 311 ⇓*e*Pn Pn 13 13 02.4 +1.2
MVO *e*Sn Sn 13 14 00.9 -0.2
MVO A A 13 14 40.5
74nm,0.6s
MVO Moncorvo 5.18 311 Pn Pn 13 13 02.6 +1.4
1.2nm,0.1s,SNR=7.9
MVO Sn Sn 13 14 00.2 -0.9
7.7nm,0.2s,SNR=7.9
MVO Lg Lg 13 14 31.1
211nm,0.9s,SNR=7.9
MVO Moncorvo 5.18 311 ⇓*e*Pn Pn 13 13 02.4 +1.2
MVO *e*Sn Sn 13 14 00.9 -0.2
74nm,0.6s
MVO Lg Lg 13 14 31.1
211nm,0.9s,SNR=7.9
RESF Ens 5.20 18 Pn Pn 13 13 02.6 +0.9
RESF Sn Sn 13 14 07.4 +5.5
RESF Ens 5.20 18 Pn Pn 13 13 02.6 +0.9
RESF Sn Sn 13 14 07.4 +5.5
VIEF Viey 5.20 15 Pn Pn 13 13 03.1 +1.5
VIEF Sg Sg 13 14 37.4 +6.8
VIEF Viey 5.20 15 Pn Pn 13 13 03.1 +1.5
SJPF Ste Jean 5.25 5 *e*Pn Pn 13 13 04.9 +2.6
SJPF *e*Sg Sg 13 14 33.0 +0.8
42nm,0.8s
SJPF Ste Jean 5.25 5 Pn Pn 13 13 04.9 +2.6
SJPF Lg Lg 13 14 33.0
21nm,0.8s
SJPF Ste Jean 5.25 5 Pn Pn 13 13 04.9 +2.6
SJPF Lg Lg 13 14 33.0
21nm,0.8s
PNCL Nicolau / Gran 5.28 275 *e*Pn Pn 13 13 03.9 +1.3
PNCL *e*Sn Sn 13 14 03.5 0.0
PNCL *e*Sg Sg 13 14 29.6 -3.4
PNCL A A 13 14 46.8
46nm,0.6s
PNCL Nicolau / Gran 5.28 275 *e*Pn Pn 13 13 03.9 +1.3
PNCL *e*Sn Sn 13 14 03.5 0.0
PNCL *e*Sg Sg 13 14 29.6 -3.4
46nm,0.6s
ATE Arette 5.28 9 Pn Pn 13 13 04.5 +1.9
1.2nm,0.3s,SNR=7.9
ATE Sn Sn 13 14 02.8 -0.8
6.9nm,0.4s,SNR=7.9
ATE Lg Lg 13 14 34.6
21nm,0.9s,SNR=7.9
ATE Arette 5.28 9 Pn Pn 13 13 04.5 +1.9
1.2nm,0.3s,SNR=7.9
ATE Sn Sn 13 14 02.8 -0.8
6.9nm,0.4s,SNR=7.9
ATE Lg Lg 13 14 34.6
21nm,0.9s,SNR=7.9
REYF Montagne du Re 5.31 12 Pn Pn 13 13 04.2 +1.1
REYF Sg Sg 13 14 40.7 +6.8
REYF Montagne du Re 5.31 12 Pn Pn 13 13 04.2 +1.1
EALK Alkurruntz 5.35 3 ⇓Pn Pn 13 13 06.3 +2.7
34nm,0.7s,SNR=18
EALK Sn Sn 13 14 04.7 -0.6
54nm,0.6s,SNR=7.9
EALK Alkurruntz 5.35 3 Pn Pn 13 13 06.3 +2.7
34nm,0.7s,SNR=18
EALK Sn Sn 13 14 04.7 -0.6
54nm,0.6s,SNR=7.9
ORDF Ordiarp 5.38 7 Pn Pn 13 13 05.3 +1.4
ORDF Sn Sn 13 14 12.1 +6.1
ORDF Ordiarp 5.38 7 Pn Pn 13 13 05.3 +1.4
OSSF Osses 5.39 5 Pn Pn 13 13 05.6 +1.4
OSSF Sn Sn 13 14 12.4 +6.0
OSSF Osses 5.39 5 Pn Pn 13 13 05.6 +1.4
VALF Valcebollere 5.41 32 Pn Pn 13 13 04.6 +0.1
VALF Sg Sg 13 14 43.0 +5.9
VALF Valcebollere 5.41 32 Pn Pn 13 13 04.6 +0.1
VALF Sg Sg 13 14 43.0 +5.9
PTOM Tomar 5.41 291 *e*Pn Pn 13 13 06.1 +1.7
PTOM *e*Sn Sn 13 14 06.0 -0.8
PTOM A A 13 14 45.9
96nm,0.5s
PTOM Tomar 5.41 291 Pn Pn 13 13 06.1 +1.7
PTOM Sn Sn 13 14 06.0 -0.8
48nm,0.5s
PTOM Tomar 5.41 291 Pn Pn 13 13 06.1 +1.7
PTOM *e*Sn Sn 13 14 06.0 -0.8
96nm,0.5s
EPF Esparros 5.42 17 *e*Pn Pn 13 13 06.9 +2.4
EPF *e*Sn Sn 13 14 07.0 0.0
EPF *e*Sg Sg 13 14 35.3 -2.1
21nm,0.5s
EPF Esparros 5.42 17 Pn Pn 13 13 06.9 +2.4
EPF Sn Sn 13 14 07.0 0.0
EPF Lg Lg 13 14 35.3
10nm,0.5s
EPF Esparros 5.42 17 Pn Pn 13 13 06.9 +2.4
EPF Sn Sn 13 14 07.0 0.0
EPF *e*Sg Sg 13 14 35.3 -2.1
10nm,0.5s
PBRG Braganca 5.43 318 *e*Pn Pn 13 13 06.4 +1.6
PBRG *e*Sn Sn 13 14 07.0 -0.5
PBRG A A 13 14 47.2
54nm,0.6s
PBRG Braganca 5.43 318 Pn Pn 13 13 06.4 +1.6
PBRG Sn Sn 13 14 07.0 -0.5
27nm,0.6s
PBRG Braganca 5.43 318 Pn Pn 13 13 06.4 +1.6
PBRG *e*Sn Sn 13 14 07.0 -0.5
54nm,0.6s
CLLI Llivia 5.45 31 Pn Pn 13 13 06.9 +1.8
2.1nm,0.2s,SNR=7.9
CLLI Sn Sn 13 14 05.8 -2.2
22nm,4.1s,SNR=7.0
CLLI Llivia 5.45 31 Pn Pn 13 13 06.9 +1.8
2.1nm,0.2s,SNR=7.9
PTEO Sao Teotonio 5.46 269 *e*Pn Pn 13 13 06.5 +1.5
PTEO *e*Sn Sn 13 14 06.9 -1.0
PTEO A A 13 14 43.3
44nm,0.6s
PTEO Sao Teotonio 5.46 269 Pn Pn 13 13 06.5 +1.5
PTEO Sn Sn 13 14 06.9 -1.0
22nm,0.6s
PTEO Sao Teotonio 5.46 269 Pn Pn 13 13 06.5 +1.5
PTEO *e*Sn Sn 13 14 06.9 -1.0
44nm,0.6s
PVIS Viseu 5.48 303 *e*Pn Pn 13 13 07.1 +1.7
PVIS *e*Sn Sn 13 14 08.7 +0.2
PVIS *e*Sg Sg 13 14 37.0 -2.3
PVIS A A 13 14 52.9
34nm,0.5s
PVIS Viseu 5.48 303 Pn Pn 13 13 07.1 +1.7
PVIS Sn Sn 13 14 08.7 +0.2
PVIS Lg Lg 13 14 37.0
17nm,0.5s
PVIS Viseu 5.48 303 Pn Pn 13 13 07.1 +1.7
PVIS Sn Sn 13 14 08.7 +0.2
PVIS *e*Sg Sg 13 14 37.0 -2.3
34nm,0.5s
ELAN Lanestosa 5.48 348 ⇓Pn Pn 13 13 07.5 +2.1
0.7nm,0.2s,SNR=18
ELAN Pg Pg 13 13 26.3 -2.2
16nm,0.7s,SNR=7.9
ELAN Sn Sn 13 14 05.9 -2.8
2.5nm,0.2s,SNR=7.9
ELAN Lg Lg 13 14 41.4
20nm,0.6s,SNR=4.5
ELAN Lanestosa 5.48 348 Pn Pn 13 13 07.5 +2.1
0.7nm,0.2s,SNR=18
ELAN Lg Lg 13 14 41.4
20nm,0.6s,SNR=4.5
ECAL Calabor 5.53 319 Pn Pn 13 13 07.0 +0.9
4.8nm,0.4s,SNR=7.9
ECAL Sn Sn 13 14 08.8 -1.0
1.0nm,0.2s,SNR=7.9
ECAL Lg Lg 13 14 39.5
78nm,0.5s,SNR=7.9
ECAL Calabor 5.53 319 Pn Pn 13 13 07.0 +0.9

NIED **02** *13:30:00,38.°50N×144.°20E,h14km,Mw4.7 Best double couple: M₀1.34000×10¹⁶ NP1:ϕ₀202.00000°,δ42.00000°, λ-87.00000°. NP2:ϕ₀18.00000°,δ49.00000°,λ-92.00000°.*
ISCJB **02** *13:30:09.4±0.8,38.°46N±0.°03×144.°46E±0.°02,h9km±4km, mb4.9/245,MS4.2/41,Error ellipse: s-maj=4.3km s-min=2.1km az=175.3*
IDC **02** *13:30:09.2±0.5,38.°35N×144.°59E,h0km,mb4.6/32, mb1 4.7/40,mb1mx4.7/46,mbtmp4.6/40,ML4.3/6,MS4.0/25, Ms1 4.0/25,ms1mx3.9/34,Error ellipse: s-maj=13.8km s-min=11.5km az=112.0*
NEIC **02** *13:30:11.9±1.3,38.°41N×144.°44E,h14km±8km,mb5.1/177, Error ellipse: s-maj=3.6km s-min=2.6km az=148.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
GCMT **02** *13:30:11.9±0.3,38.°67N×144.°48E,h24km,MW4.9/65, Moment Tensor Solution. s35,c47; s65,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.84±.15; Mθθ0.09±.09; Mϕϕ2.76±.10; Mrθ0.32±.15; Mϕθ1.07±.07; Mϕr0.37±.12; Best double couple: M₀3.02900×10¹⁶ NP1:ϕ₀203.00000°,δ49.00000°,λ-85.00000°. NP2: ϕ₀15.00000°,δ41.00000°,λ-96.00000°. Principal axes: T 3.1700, Plg4.0000°, Azm290.0000°; N -0.2770, Plg4.0000°, Azm20.0000°; P -2.8870, Plg84.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI **02** *13:30:13.2,38.°66N×144.°25E,h17km,mb4.8/68,mB5.0/42, Ms4.6/56,Ms7 4.4/52*
JMA **02** *13:30:13.6±0.2,38.°48N×144.°35E,h53km,M4.7*
JMA Felt I J1.
MOS **02** *13:30:14.8±1.0,38.°62N×144.°39E,h39km,mb5.1/83, MS4.1/19,Error ellipse: s-maj=6.8km s-min=4.5km az=107.3*

ISC 02 13:30:13.5±0.6,38.°49N±0.°04×144.°53E±0.°04,h25km±3km, n856,σ1.5 27/917,mb5.0/251,MS4.3/42,35C-19D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.31**	**286**	P	**Pn**	**13 30 48.5**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.37**	**298**	P	**Pn**	**13 30 49.3**	**-1.5**
MIYJ				S	**Sn**	**13 31 15.7**	**-3.3**
JIO	**Ouri**	**2.49**	**270**	P	**Pn**	**13 30 50.7**	**-1.8**
JIO				S	**Sn**	**13 31 18.0**	**-4.1**
JMK	**Ichinoseki**	**2.63**	**281**	P	**Pn**	**13 30 53.1**	**-1.2**
JMK				S	**Sn**	**13 31 22.2**	**-3.1**
JOM	**Ohasama**	**2.71**	**292**	P	**Pn**	**13 30 54.4**	**-1.0**
JOM				S	**Sn**	**13 31 24.7**	**-2.6**
JANG	**Nango**	**3.00**	**310**	P	**Pn**	**13 30 58.1**	**-1.3**
JANG				*e*S	**Sn**	**13 31 31.6**	**-2.9**
JYK	**Kaneyama**	**3.29**	**279**	P	**Pn**	**13 31 02.5**	**-0.9**
JYK				*e*S	**Sn**	**13 31 39.6**	**-2.1**
JFT	**Otama**	**3.45**	**255**	P	**Pn**	**13 31 04.7**	**-0.9**
JFT				S	**Sn**	**13 31 42.8**	**-2.9**
ERM	**Erimo**	**3.67**	**344**	*d i*P	**Pn**	**13 31 07.4**	**-1.3**
ERM	**Erimo**	**3.67**	**344**	*e*Pn	**Pn**	**13 31 07.9**	**-0.8**
JOT	**Ohata**	**3.94**	**318**	P	**Pn**	**13 31 11.3**	**-1.0**
JOT				*e*S	**Sn**	**13 31 53.7**	**-3.9**
JCH	**Churui**	**4.21**	**348**	P	**Pn**	**13 31 14.5**	**-1.6**
JCH				S	**Sn**	**13 32 00.4**	**-4.1**
JKB	**Kayabe**	**4.32**	**323**	P	**Pn**	**13 31 16.6**	**-1.0**
JKB				*e*S	**Sn**	**13 32 04.2**	**-2.9**
BSO1	**Boso 1**	**4.78**	**218**	P	**Pn**	**13 31 21.0**	**-2.3**
BSO1				S	**Sn**	**13 32 14.2**	**-3.4**
NEM2	**Nemuro 2**	**4.96**	**10**	P	**Pn**	**13 31 24.0**	**-2.3**
NEM2				S	**Sn**	**13 32 16.6**	**-6.2**
JRY	**Ryogami san**	**5.12**	**243**	P	**Pn**	**13 31 26.7**	**-1.9**
JRY				*e*S	**Sn**	**13 32 21.1**	**-5.8**
JOSM	**Okushiri--Mats**	**5.27**	**314**	P	**Pn**	**13 31 30.2**	**-0.4**
MJAR	**Matsushiro Arr**	**5.38**	**251**	Pn	**Pn**	**13 31 31.5**	**-0.8**
MJAR	46nm,0.3s,baz=59,slow=11,SNR=455			Sn	**Sn**	**13 32 32.6**	**-0.8**
	18nm,0.3s,baz=89,slow=26,SNR=5.5						
MJAR				LR	LR	13 33 53.0	
	comp=Z,2μm,18.9s,baz=70,slow=42						
MAJO	**Matsushiro**	**5.39**	**251**	*c i*P	**Pn**	**13 31 32.2**	**-0.1**
MAJO	**Matsushiro**	**5.39**	**251**	*e*Pn	**Pn**	**13 31 31.6**	**-0.6**
MAT	**Matsushiro**	**5.39**	**251**	P	**Pn**	**13 31 31.8**	**-0.5**
MAT				S	**Sn**	**13 32 32.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**5.39**	**251**	*e*Pn	**Pn**	**13 31 31.7**	**-0.6**
JOD2	**Odawara 2**	**5.42**	**235**	P	**Pn**	**13 31 31.0**	**-1.7**
JOD2				*e*S	**Sn**	**13 32 28.1**	**-6.2**
JTKR	**Abashiri--Toko**	**5.50**	**355**	P	**Pn**	**13 31 32.5**	**-1.2**
JTKR				S	**Sn**	**13 32 31.2**	**-4.8**
YUK	**Yuzh-Kuril'sk**	**5.63**	**10**	*c i*P	**Pn**	**13 31 34.1**	**-1.4**
YUK				*i* S	**Sn**	**13 32 33.3**	**-6.1**
YUK				pmax	pmax		
	comp=Z,353nm,0.4s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,5μm,0.5s						
SHO	**Shikotan**	**5.65**	**17**	*e*P	**Pn**	**13 31 33.2**	**-2.6**
SHO				*e*S	**Sn**	**13 32 32.5**	**-7.3**
SHO				pmax	pmax		
	comp=Z,433nm,0.5s						
SHO				pmax	pmax		
	comp=E,173nm,0.3s						
SHO				pmax	pmax		
	comp=N,246nm,0.5s						
JHR	**Hokuryu**	**5.66**	**339**	P	**Pn**	**13 31 36.5**	**+0.6**
JHR				S	**Sn**	**13 32 38.4**	**-1.7**
ASAJ	**Asahikawa**	**5.81**	**346**	Pn	**Pn**	**13 31 37.6**	**-0.4**
	comp=N,17nm,0.3s,baz=196,slow=12,SNR=159						
ASAJ				Sn	**Sn**	**13 32 39.0**	**-4.7**
	comp=N,13nm,0.3s,baz=117,slow=19,SNR=7.5						
JHJ2	**Mitsune**	**6.59**	**217**	P	**Pn**	**13 31 45.5**	**-3.3**
JHJ2	**Mitsune**	**6.59**	**217**	*e*Pn	**Pn**	**13 31 46.0**	**-2.8**
JHJ	**Hachijo jima 2**	**6.60**	**217**	Pn	**Pn**	**13 31 45.5**	**-3.4**
	comp=N,26nm,0.3s,baz=332,slow=17,SNR=29						
JHJ				Sn	Sn	13 32 54.0	-9.3
	comp=N,422nm,0.3s,baz=192,slow=22,SNR=17						
INU	**Inuyama**	**6.78**	**245**	*e*Pn	**Pn**	**13 31 50.8**	**-0.6**
KUR	**Kuril'sk**	**7.18**	**19**	*c i*P	**Pn**	**13 31 55.3**	**-1.6**
KUR				*i* S	**Sn**	**13 33 10.8**	**-6.8**
KUR				pmax	pmax		
	comp=Z,144nm,0.8s						
KUR				pmax	pmax		
	comp=E,49nm,0.1s						
KUR				pmax	pmax		
	comp=N,50nm,0.4s						
KUR				smax	smax		
	comp=N,206nm,0.5s						
KUR				smax	smax		
	comp=E,491nm,0.5s						
KUR				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**8.56**	**352**	*e*P	**Pn**	**13 32 15.2**	**-0.5**
YSS				*e*S	**Sn**	**13 33 46.2**	**-5.2**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				smax	smax		
	comp=E,100nm,1.1s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,17.0s						
YSS				MLR	MLR		
	comp=E,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.56**	**352**	*e*Pn	**Pn**	**13 32 15.1**	**-0.6**
VLA	**Vladivostok**	**10.64**	**300**	*c i*P	**Pn**	**13 32 44.9**	**+0.7**
VLA				*i* S	**Sn**	**13 34 44.7**	**+2.3**
VLA				pmax	pmax		
	comp=Z,398nm,1.2s						
MSHR	**Mys Shultsa**	**10.96**	**296**	*ce*P	**Pn**	**13 32 48.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.01**	**305**	Pn	**Pn**	**13 32 49.6**	**+0.3**
	comp=Z,4.3nm,0.3s,baz=110,slow=13,SNR=81						
USRK				LR	LR	13 37 11.4	
	comp=Z,2μm,18.2s,baz=99,slow=38						
CBIJ	**Chichi jima**	**11.53**	**190**	*e*Pn	Pn	13 32 51.9	-4.6
HABR	**Khabarovsk**	**12.11**	**329**	*e*P	**Pn**	**13 33 01.7**	**-2.6**
HABR				*e*S	**Sn**	**13 35 14.1**	**-4.3**
HABR				pmax	pmax		
	comp=N,102nm,1.2s						
HABR				pmax	pmax		
	comp=E,122nm,1.2s						
HABR				pmax	pmax		
	comp=Z,229nm,1.2s						
HABR				MLR	MLR		
	comp=Z,186nm,15.0s						
JNU	**Nakatsue**	**12.30**	**248**	Pn	**Pn**	**13 33 06.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=49,slow=6.0,SNR=8.0						
JNU				LR	LR	13 38 34.7	
	comp=Z,793nm,18.1s,baz=56,slow=41						
JNU	**Nakatsue**	**12.30**	**248**	*e*Pn	**Pn**	**13 33 04.3**	**-2.8**
TYV	**Tymovskoe**	**12.44**	**354**	*e*P	**Pn**	**13 33 09.4**	**+0.5**
TYV				pmax	pmax		
	comp=Z,35nm,1.0s						
MDJ	**Mudanjiang**	**12.74**	**303**	P	**Pn**	**13 33 12.8**	**-0.2**
MDJ				S	**Sn**	**13 35 34.3**	**+0.3**
MDJ				ScP	**ScP**	**13 42 20.5**	**+0.6**
MDJ				PcS	**PcS**	**13 42 23.0**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,210nm,1.4s						
MDJ				LR	LR		
	comp=Z,690nm,19.3s						
MDJ				LR	LR		
	comp=Z,900nm,19.3s						
MDJ	**Mudanjiang**	**12.74**	**303**	*e*Pn	**Pn**	**13 33 12.7**	**-0.3**
KSRS	**Korea Array**	**13.14**	**271**	Pn	**Pn**	**13 33 18.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=86,slow=14,SNR=22						
KSRS				LR	LR	13 38 24.6	
	comp=Z,768nm,18.2s,baz=76,slow=38						
KS01	**Wonju Array Si**	**13.16**	**271**	*e*Pn	**Pn**	**13 33 17.7**	**-1.1**
KS15	**Wonju Array Si**	**13.18**	**271**	*e*Pn	**Pn**	**13 33 19.3**	**+0.3**
KSAR	**Wonju Array Be**	**13.18**	**271**	P	**Pn**	**13 33 18.3**	**-0.7**
KSAR	**Wonju Array Be**	**13.18**	**271**	Pn	**Pn**	**13 33 18.3**	**-0.7**
KLR	**Kul'dur**	**14.13**	**324**	Pn	**Pn**	**13 33 30.4**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=135,slow=13,SNR=37						
KLR				LR	LR	13 39 30.2	
	comp=Z,54nm,18.6s,baz=143,slow=39						
KLR	**Kul'dur**	**14.13**	**324**	⇑*i*P	**Pn**	**13 33 30.3**	**-1.6**
INCN	**Inchon**	**14.15**	**271**	*e*Pn	**Pn**	**13 33 32.2**	**-0.1**
CN2	**Changchun**	**15.31**	**296**	*e*P	**Pn**	**13 33 46.0**	**-1.9**
CN2				*e*pP	P	13 33 51.7	-0.7
CN2				*e*S	**Sn**	**13 36 34.3**	**-2.3**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
SNY	**Shenyang**	**16.35**	**288**	⇑P	**Pn**	**13 33 59.0**	**-2.3**
SNY				S	**Sn**	**13 37 01.0**	**-0.9**
SNY				pmax	pmax		
	comp=Z,28nm,1.4s						
SNY				pmax	pmax		
	comp=Z,310nm,5.7s						
SNY				LR	LR		
	comp=Z,600nm,16.1s						
SNY				LR	LR		
	comp=Z,1μm,17.5s						
SNY				LR	LR		
	comp=Z,2μm,17.5s						
PEA0	**Petropavlovsk-**	**17.22**	**28**	*e*Pn	**P**	**13 34 12.7**	**-0.8**
PETK	**Petropavlovsk-**	**17.22**	**28**	P	**Pn**	**13 34 12.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=198,slow=8.5,SNR=4.0						
PETK				LR	LR	13 40 14.5	
	comp=Z,278nm,21.9s,baz=216,slow=35						
PETK	**Petropavlovsk-**	**17.22**	**28**	P	**Pn**	**13 34 12.0**	**-0.2**
PETK				MLR	MLR		
	comp=Z,278nm,21.9s						
DL2	**Dalian**	**17.88**	**278**	P	**Pn**	**13 34 18.9**	**-1.4**
DL2				S	**Sn**	**13 37 40.7**	**+1.9**
DL2				pmax	pmax		
	comp=Z,140nm,1.0s						
DL2				pmax	pmax		
	comp=Z,460nm,5.5s						
DL2				LR	LR		
	comp=Z,500nm,12.6s						
DL2				LR	LR		
	comp=Z,890nm,16.1s						
DL2				LR	LR		
	comp=Z,890nm,15.9s						
JOW	**Kunigami**	**17.92**	**234**	LR	LR	13 41 04.3	
	comp=Z,301nm,21.2s,slow=37						
HIA	**Hailar**	**20.77**	**309**	*e*P	**P**	**13 34 50.3**	**-2.1**
HIA				pmax	pmax		
	comp=Z,31nm,0.9s						
HIA	**Hailar**	**20.77**	**309**	*e*P	**P**	**13 34 50.3**	**-2.1**
	comp=Z,31nm,0.9s						
MA2	**Magadan**	**21.48**	**9**	P	**P**	**13 35 01.8**	**+1.9**
	comp=Z,18nm,0.8s,baz=184,slow=8.6,SNR=6.7						
MA2				LR	LR	13 43 12.3	
	comp=Z,206nm,20.6s,baz=198,slow=36						
NJ2	**Nanjing**	**21.88**	**261**	*e*P	**P**	**13 35 06.7**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
BJI	**Beijing**	**21.97**	**283**	P	**P**	**13 35 04.2**	**-1.2**
BJI				sP	**pP**	**13 35 12.5**	**+0.1**
BJI				S	**S**	**13 39 01.7**	**-4.9**
BJI				sS	**pS**	**13 39 13.0**	**-3.1**
BJI				pmax	pmax		
	comp=Z,27nm,1.4s						
BJI				LR	LR		
	comp=Z,500nm,13.7s						
BJI				LR	LR		
	comp=Z,770nm,14.4s						
BJI				LR	LR		
	comp=Z,380nm,15.3s						
BJT	**Baijiatuau**	**21.98**	**283**	*e*P	**P**	**13 35 03.1**	**-2.4**
BJT				pmax	pmax		
	comp=Z,44nm,1.1s						
BJT	**Baijiatuau**	**21.98**	**283**	*e*P	**P**	**13 35 03.1**	**-2.4**
	comp=Z,44nm,1.1s						
CLNS	**Chul'man**	**22.48**	**331**	*e*P	**P**	**13 35 10.6**	**-0.1**
CLNS				*e**PP	**sP**	**13 35 20.3**	**-0.7**
CLNS				*e*		13 35 33.7	
CLNS				*e*		13 39 04.2	
CLNS				*e*S	**S**	**13 39 15.0**	**-0.9**
CLNS				*e*SS	**SnSn**	**13 39 55.1**	**+10**
CLNS				pmax	pmax		
	comp=E,22nm,1.2s						
CLNS				pmax	pmax		
	comp=N,43nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,101nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,33nm,0.9s						
CLNS				pmax	pmax		
	comp=N,31nm,0.9s						
CLNS				pmax	pmax		
	comp=E,46nm,1.1s						
CLNS				smax	smax		
	comp=E,177nm,9.6s						
CLNS				smax	smax		
	comp=N,322nm,11.9s						
CLNS				MLR	MLR		
	comp=Z,303nm,15.0s						
CLNS				MLR	MLR		
	comp=N,244nm,13.0s						
CLNS				MLR	MLR		
	comp=E,181nm,15.0s						
GUMO	**Guam**	**24.80**	**179**	LR	LR	13 43 20.0	
	comp=E,264nm,21.3s,baz=33,slow=32						
SEY	**Seymchan**	**24.94**	**9**	P	**P**	**13 35 36.7**	**+2.3**
	comp=E,54nm,0.8s,baz=185,slow=7.3,SNR=88						
SEY	**Seymchan**	**24.94**	**9**	⇑*i*P	**P**	**13 35 35.7**	**+1.3**
YAK	**Yakutsk**	**25.28**	**344**	P	**P**	**13 35 38.4**	**+1.0**
	comp=E,26nm,0.7s,baz=203,slow=0.8,SNR=15						
YAK				LR	LR	13 46 00.4	
	comp=E,336nm,20.1s,baz=90,slow=37						
YAK	**Yakutsk**	**25.28**	**344**	*e*P	**P**	**13 35 38.5**	**+1.0**
YAK				*e**PP	**pP**	**13 35 46.0**	**+1.1**
YAK				*e*		13 36 10.4	
YAK				*e*S	**S**	**13 40 03.7**	**+2.1**
YAK				*e**SS	**sS**	**13 40 16.7**	**+2.8**
YAK				*e*SS	**SnSn**	**13 40 54.9**	**+1.5**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=Z,75nm,1.5s						
YAK				pmax	pmax		
	comp=N,203nm,2.3s						
YAK				smax	smax		
	comp=N,357nm,2.6s						
YAK				MLR	MLR		
	comp=Z,229nm,13.0s						
YAK				MLR	MLR		
	comp=N,2μm,20.0s						
YAK	**Yakutsk**	**25.28**	**344**	*e*P	**P**	**13 35 37.5**	**0.0**
	comp=N,51nm,0.9s						
HHC	**Hu-ho-hao-te**	**25.40**	**286**	*e*P	**P**	**13 35 41.1**	**+2.1**
HHC				S	**S**	**13 40 03.8**	**-0.4**
HHC				sS	sS	13 40 15.5	-1.0
HHC				pmax	pmax		

comp=N,16nm,1.0s
HHC pmax pmax
comp=N,160nm,5.2s
HHC LR LR
comp=N,490nm,15.7s
HHC LR LR
comp=N,950nm,15.3s
HHC LR LR
comp=N,1μm,15.9s
CIT Chita 25.43 312 *e*P **P 13 35 39.2 +0.1**
CIT *e* 13 35 52.1
CIT *e* 13 36 27.6
CIT pmax pmax
comp=Z,110nm,2.3s
WHN Wuhan 26.01 261 ||P **P 13 35 46.1 +1.6**
WHN LR LR
comp=Z,3μm,21.0s
BTO Baotou 26.59 286 *e*P **P 13 35 50.0 +0.2**
H11N2 WAKE ISLAND Hy 26.92 128 T T 14 03 51.9
baz=317,SNR=39
H11N1 WAKE ISLAND Hy 26.93 128 T T 14 04 09.8
baz=317,SNR=42
H11N3 WAKE ISLAND Hy 26.94 128 T T 14 04 02.0
baz=317
BOD Bodaibo 27.70 324 *e*P **P 13 35 59.6 +0.2**
BOD pmax pmax
comp=Z,107nm,1.0s
ULN Ulaanbaatar 28.64 301⇑*e*P **P 13 36 08.7 +0.6**
ULN pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 28.64 301 *e*P **P 13 36 07.2 -1.0**
comp=Z,16nm,1.0s
XAN Xi'an 28.93 272 P **P 13 36 11.7 +1.0**
XAN pP sP 13 36 21.2 -0.1
XAN pmax pmax
comp=Z,27nm,1.5s
XAN pmax pmax
comp=Z,250nm,4.3s
XAN LR LR
comp=Z,350nm,10.2s
XAN LR LR
comp=Z,700nm,12.5s
XAN LR LR
comp=Z,580nm,8.2s
SONA1 Songino Array 29.08 301 *e*P **P 13 36 11.4 -0.6**
SONM Songino Array 29.08 301 P **P 13 36 12.9 +0.9**
comp=Z,5.9nm,0.8s,baz=105,slow=9.7,SNR=21
ENH Enshi 29.92 265 *e*P **P 13 36 19.2 -0.3**
comp=Z,68nm,1.1s
IRK Irkutsk 31.01 310 *e*P **P 13 36 29.3 +0.4**
IRK *e* 13 37 43.2
IRK pmax pmax
comp=Z,60nm,2.4s
TLY Talaya 31.30 308 *e*P **P 13 36 35.5 +4.0**
TLY *e*S **S 13 41 32.3 -4.4**
TLY pmax pmax
comp=Z,26nm,1.5s
TLY MLR MLR
comp=Z,493nm,16.0s
ZAK Zakamensk 31.36 306 *e*P **P 13 36 31.7 -0.4**
ZAK pmax pmax
comp=Z,13nm,1.2s
LZH Lanzhou 32.27 279 *e*P **P 13 36 39.6 -0.7**
LZH pP pP 13 36 46.8 -1.0
LZH sP sP 13 36 50.2 -0.8
LZH PP **PnPn 13 37 45.7 -1.1**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,83nm,5.2s
LZH LR LR
comp=Z,520nm,13.0s
LZH LR LR
comp=Z,630nm,13.5s
LZH LR LR
comp=Z,760nm,17.2s
GYA Guiyang 33.89 261 P **P 13 36 53.0 -1.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 34.14 270 *e*P **P 13 36 55.0 -1.5**
CD2 S **S 13 42 19.6 -1.7**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,430nm,6.9s
CD2 LR LR
comp=Z,870nm,12.2s
CD2 LR LR
comp=Z,600nm,15.7s
TIXI Tiksi 34.18 351 P **P 13 36 56.3 0.0**
comp=Z,4.7nm,0.8s,baz=151,slow=6.1,SNR=11
TIXI PcP **PcP 13 39 32.5 -0.1**
comp=Z,1.6nm,0.6s,baz=108,slow=3.2,SNR=3.2
TIXI Tiksi 34.18 351||*e*P **P 13 36 55.9 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 34.18 351 *e*P **P 13 36 55.9 -0.4**
comp=Z,9.5nm,1.1s
TIXI PcP **PcP 13 39 32.5 -0.1**
GTA Gaotai 34.52 286 *e*P **P 13 37 00.8 +1.0**
GTA pP pP 13 37 08.1 +0.8
GTA sP sP 13 37 11.7 +1.2
GTA PcP **PcP 13 39 35.2 +0.8**
GTA S **S 13 42 27.3 +0.2**
GTA sS pS 13 42 37.7 +2.2
GTA SS **SnSn 13 44 38.1 -0.8**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=Z,500nm,18.3s
GTA LR LR
comp=Z,740nm,16.2s
GTA LR LR
comp=Z,860nm,18.1s
QIZ Qiongzhong 35.77 247 P **P 13 37 10.0 -0.6**
QIZ S **S 13 42 45.1 -1.3**
QIZ LR LR
comp=Z,590nm,23.2s
KMI Kunming 37.62 262 P **P 13 37 26.4 -0.1**
KMI pmax pmax
comp=Z,13nm,0.7s
KMI pmax pmax
comp=Z,160nm,4.3s
KMI LR LR
comp=Z,610nm,9.9s
KMI LR LR
comp=Z,750nm,13.8s
KMI LR LR
comp=Z,650nm,16.1s
MYLDM Lahad Datu 40.72 222 *e*P **P 13 37 52.3 +0.1**
comp=Z,30nm,1.0s
DGZ Jazzator, Alta 41.57 305 *i*P **P 13 38 00.4 +1.3**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 42.40 296 *e*P **P 13 38 07.0 +1.1**
WMQ pP pP 13 38 14.2 +0.6
WMQ sP sP 13 38 17.8 +1.1
WMQ S **S 13 44 27.9 +2.0**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,89nm,5.1s
WMQ LR LR
comp=Z,390nm,17.5s
WMQ LR LR
comp=Z,280nm,13.9s
WMQ LR LR
comp=Z,230nm,18.7s
ZAA0 Zalesovo Array 42.78 311 *e*P **P 13 38 09.0 +0.3**
ZALV Zalesovo Beam 42.78 311 P **P 13 38 09.0 +0.3**
comp=Z,2.8nm,0.4s,baz=87,slow=7.9,SNR=12
ZALV PcP **PcP 13 39 59.8 +0.1**
comp=Z,13nm,0.6s,baz=93,slow=3.0,SNR=16
ZALV LR LR 13 57 01.2
comp=Z,494nm,18.9s,baz=70,slow=38
NRIK Noril'sk 43.01 334 P **P 13 38 10.7 +0.3**
comp=Z,4.1nm,0.8s,baz=90,slow=7.2,SNR=3.9
NRIK PcP **PcP 13 40 00.5 +0.3**
comp=Z,6.9nm,0.9s,baz=87,slow=2.1,SNR=3.5
NRIK LR LR 13 56 56.4
comp=Z,313nm,20.8s,baz=100,slow=37
NVS Novosibirsk 43.64 313 *e*P **P 13 38 16.5 +0.8**
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s
CHTO Chiang Mai 44.03 257 *e*P **P 13 38 19.3 0.0**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 44.03 257 *e*P **P 13 38 19.3 0.0**
comp=Z,8.8nm,0.9s
CMAR Chiang Mai Arr 44.24 256 P **P 13 38 21.3 +0.3**
comp=Z,0.6nm,0.4s,baz=46,slow=7.1,SNR=5.3
CMAR PcP **PP 13 40 05.0 +0.7**
comp=Z,0.8nm,0.6s,baz=354,slow=3.2,SNR=4.1
CMAR LR LR 13 59 22.4
comp=Z,245nm,18.0s,baz=52,slow=40
CM01 Chiang Mai Arr 44.25 256 *e*P **P 13 38 20.8 -0.3**
KDAK Kodiak Island 44.36 43 *i*P **P 13 38 21.4 0.0**
KDAK Kodiak Island 44.36 43 *e*P **P 13 38 21.4 0.0**
comp=Z,43nm,0.9s
MK01 Makanchi Array 45.45 301 *e*P **P 13 38 29.6 -0.7**
MK31 Makanchi Array 45.45 301 *e*P **P 13 38 30.3 0.0**
MK31 Makanchi Array 45.45 301 *e*P **P 13 38 30.3 0.0**
MKAR Makanchi Array 45.45 301 P **P 13 38 30.6 +0.3**
comp=Z,4.0nm,0.7s,baz=84,slow=8.8,SNR=27
MKAR PcP **PcP 13 40 08.7 -0.3**
comp=Z,2.2nm,0.7s,baz=75,slow=4.7,SNR=2.5
MKAR LR LR 13 58 22.8
comp=Z,313nm,19.4s,baz=69,slow=37
MKAR Makanchi Array 45.45 301 *e*P **P 13 38 30.3 0.0**
MKAR 13 40 08.7
MKAR pmax pmax
comp=Z,117nm,1.2s
MKAR Makanchi Array 45.45 301 *e*P **P 13 38 30.3 0.0**
comp=Z,117nm,1.2s
MKAR PcP **PcP 13 40 08.7 -0.3**
MAKZ Makanchi 45.66 302 *e*P **P 13 38 32.0 +0.1**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 45.66 302 *e*P **P 13 38 32.0 +0.1**
comp=Z,18nm,1.0s
TOLK Toolik Lake Re 46.04 28 P **P 13 38 35.2 +0.5**
baz=264
MDM Murphy Dome 46.37 33 *e*P **P 13 38 38.2 +1.0**
comp=Z,22nm,1.0s
COLA College 46.53 33 *e*P **P 13 38 38.7 +0.3**
COLA pmax pmax
comp=Z,15nm,1.1s
COLA College 46.53 33 *e*P **P 13 38 38.7 +0.3**
comp=Z,15nm,1.1s
ILAR Eielson Array 46.94 33 P **P 13 38 42.1 +0.4**
comp=Z,5.9nm,0.8s,baz=263,slow=6.6,SNR=56
ILAR PcP **PcP 13 40 13.1 -0.8**
comp=Z,2.5nm,1.0s,baz=268,slow=3.8,SNR=4.4
ILAR LR LR 14 01 57.3
comp=Z,57nm,19.1s,baz=270,slow=41
ILB Eielson Array 46.94 33 *e*P **P 13 38 41.6 -0.1**
IL1 Eielson Array 46.94 33 *e*P **P 13 38 41.7 0.0**
KURK Kurchatov 46.99 307 *d i*P **P 13 38 42.4 +0.1**
KURK pmax pmax
comp=Z,63nm,1.2s
KURK Kurchatov 46.99 307 *e*P **P 13 38 42.0 -0.3**
comp=Z,48nm,0.7s
FYU Fort Yukon 47.61 31 *e*P **P 13 38 48.3 +1.4**
comp=Z,63nm,1.6s
TAPN Taplejung 48.30 274 *e*P **P 13 38 54.4 +1.3**
comp=Z,46nm,1.2s
ODAN Odare 48.78 274 *e*P **P 13 38 57.3 +0.5**
comp=Z,49nm,1.0s
CRQM Cirque 48.94 38 *e*P **P 13 38 58.4 +0.9**
comp=Z,49nm,1.0s
JIRN Jiri 49.34 276 *e*P **P 13 39 02.0 +0.8**
RAMN Ramite 49.35 275 *e*P **P 13 39 01.7 +0.5**
comp=Z,43nm,0.7s
GUN Gumba 49.46 276 *e*P **P 13 39 02.8 +0.7**
comp=Z,51nm,0.8s
KKN Kakani 49.99 276 *e*P **P 13 39 06.4 +0.5**
comp=Z,40nm,0.7s
GKN Gorkha 50.39 277 *e*P **P 13 39 09.6 +0.7**
comp=Z,100nm,1.2s
DANN Dangsing 50.91 278 *e*P **P 13 39 14.2 +1.2**
comp=Z,12nm,1.0s
KOLN Koldanda 51.30 277 *e*P **P 13 39 16.8 +0.9**
comp=Z,84nm,1.2s
BRVK Borovoye 51.48 312 *c e*P **P 13 39 17.2 +0.6**
BRVK pmax pmax
comp=Z,71nm,2.5s
BRVK Borovoye 51.48 312 *e*P **P 13 39 17.1 +0.5**
comp=Z,32nm,1.1s
PYUN Piuthan 51.62 278 *e*P **P 13 39 19.2 +0.9**
comp=Z,121nm,1.1s
FRU Bishkek 51.82 298 *e*P P 13 39 27.0 +7.7
FRU pmax pmax
comp=Z,30nm,1.6s
INK Inuvik 51.96 28 *e*P **P 13 39 20.7 +0.8**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 51.96 28 *e*P **P 13 39 20.7 +0.8**
comp=Z,13nm,1.0s
AAK Ala-Archa 51.97 298||*e*P **P 13 39 20.7 +0.1**
AAK pmax pmax
comp=Z,8.0nm,1.6s
AAK Ala-Archa 51.97 298 *e*P **P 13 39 21.0 +0.3**
comp=Z,3.6nm,0.6s
KSH Kashi 52.06 294 P **P 13 39 25.8 +4.5**
KSH pP sP 13 39 33.1 +0.9
KSH sP pP 13 39 35.4 +6.3
KSH PcP **PcP 13 40 36.0 +2.8**
KSH PP **PP 13 41 23.7 +4.3**
KSH PcS **PcS 13 44 34.1 +2.6**
KSH S **S 13 46 48.1 +4.4**
KSH ScS **ScS 13 49 11.7 +1.9**
KSH SS **SS 13 50 23.5 +2.9**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,85nm,3.6s
KSH LR LR
comp=Z,53nm,4.5s
KSH LR LR
comp=Z,68nm,5.9s
KSH LR LR
comp=Z,130nm,5.3s
MTN Manton Dam 52.58 197 *e*P **P 13 39 24.4 -0.6**
comp=Z,20nm,0.8s
WHY Whitehorse 52.94 38 *e*P **P 13 39 29.0 +1.5**
comp=Z,26nm,1.3s
KKAR Karatay Array 54.53 300 *e*P **P 13 39 39.0 -0.3**
KKAR pmax pmax
comp=Z,45nm,0.8s
KKAR Karatay Array 54.53 300 *e*P **P 13 39 39.0 -0.3**
comp=Z,45nm,0.8s
DLBC Dease Lake 55.95 39 *e*P **P 13 39 50.6 +1.2**
comp=Z,16nm,1.1s
ARU Arti 56.90 319 *c i*P **P 13 39 56.6 +0.6**
ARU 13 40 51.3
ARU 13 42 03.0
ARU PPP PPP 13 43 16.7
ARU S **S 13 47 48.0 0.0**
ARU SS **SS 13 51 32.3 -3.6**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU MLR MLR
comp=Z,467nm,18.0s
ARU Arti 56.90 319 *e*P **P 13 39 56.2 +0.1**
comp=Z,32nm,1.1s
ABKAR Akbulak array 58.88 310 *e*P **P 13 40 09.9 -0.1**
comp=Z,82nm,0.6s
WRAB Tennant Creek 58.89 191||*i*P **P 13 40 08.9 -1.4**
WRAB Tennant Creek 58.89 191 *e*P **P 13 40 08.0 -2.3**
comp=Z,13nm,0.8s
WB2 Warramunga Arr 58.90 191 *e*P **P 13 40 08.7 -1.6**
WRA Warramunga Arr 58.90 191 P **P 13 40 08.5 -1.9**
comp=Z,9.5nm,0.6s,baz=11,slow=7.2,SNR=100
WRA LR LR 14 03 52.6
comp=Z,79nm,21.9s,baz=350,slow=34
HYB Hyderabad 60.70 270 *i*P **P 13 40 23.0 0.0**
YKA Yellowknife Ar 61.30 31 P **P 13 40 26.3 -0.1**
comp=Z,5.2nm,0.8s,baz=300,slow=7.1,SNR=7.5
YKA LR LR 14 11 58.7
comp=Z,6.3nm,18.3s,baz=0.0,slow=41
APA Apatity 62.37 336||*i*P P 13 40 28.1 -5.4
AS01 Alice Springs 62.62 191 *e*P **P 13 40 34.8 -0.9**
AS31 Alice Springs 62.62 191 *e*P **P 13 40 34.6 -1.1**
comp=Z,1.8nm,0.6s
ASAR Alice Springs 62.63 191 P **P 13 40 34.8 -0.9**
comp=Z,3.1nm,0.7s,baz=13,slow=7.4,SNR=43
ASAR PKP2bc 14 09 46.7
comp=Z,1.8nm,1.0s,baz=151,slow=2.1,SNR=7.1
TMCR Tamitsa 62.64 332 *e*P **P 13 40 35.3 0.0**
TMCR pmax pmax
comp=Z,26nm,1.0s
LLLB Lillooet 63.49 45 *e*P **P 13 40 41.7 +0.4**
comp=Z,15nm,1.2s
ARCES ARCESS Array B 63.49 340 P **P 13 40 41.5 +0.5**
comp=Z,5.5nm,0.9s,baz=64,slow=12,SNR=7.6
ARCES PcP **PcP 13 41 19.1 +1.7**
comp=Z,2.4nm,0.8s,baz=30,slow=5.6,SNR=4.1
ARCES LR LR 14 13 11.1
comp=Z,132nm,19.4s,baz=44,slow=41
ARCES ARCESS Array B 63.49 340 P **P 13 40 41.5 +0.5**
ARCES 13 41 19.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,132nm,19.4s
DZM Mont Dzumac 63.66 157 *e*P **P 13 40 42.2 -0.4**
comp=Z,85nm,1.3s
DZM Mont Dzumac 63.66 157 *e*LR LR 14 00 19.9
comp=Z,242nm,22.3s
DZM Mont Dzumac 63.66 157 *e*P **P 13 40 42.7 +0.1**
comp=Z,37nm,1.1s
KLMR Klimovskoe 63.83 328 *e*P **P 13 40 41.1 -2.2**
KLMR *e* 13 43 01.1
KLMR pmax pmax
comp=Z,20nm,1.4s
NLWA Neilton Lookou 63.91 49 *e*P **P 13 40 45.8 +1.7**
comp=Z,41nm,1.0s
A04D Lummi Island 63.94 47 P **P 13 40 44.7 +0.5**
baz=299
E03A Lebam 64.50 50 *e*P **P 13 40 49.6 +1.6**
comp=Z,36nm,1.1s
B05A Bryant 64.52 48 P **P 13 40 48.5 +0.5**
baz=300,SNR=7.9
D05A Enumclaw 65.12 49 *e*P **P 13 40 52.8 +0.9**
comp=Z,35nm,1.1s
GEYT Alibeck 65.28 300 P **P 13 40 53.7 +0.5**
comp=Z,3.0nm,0.5s,baz=60,slow=3.6,SNR=7.7
G03D McMinnville, O 65.35 51 P **P 13 40 54.5 +1.0**
baz=300
C06D Leavenworth 65.39 48 P **P 13 40 55.0 +1.3**
baz=301
LON Longmire 65.45 49 *e*P **P 13 40 55.1 +0.9**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 65.45 49 *e*P **P 13 40 55.0 +0.9**
comp=Z,7.1nm,1.0s
F04A Amboy 65.50 50 *e*P **P 13 40 55.7 +1.3**
comp=Z,35nm,1.0s
B08A Colville Reser 66.06 47 *e*P **P 13 40 58.6 +0.6**
comp=Z,18nm,1.2s
I03D Drain, OR 66.07 52 P **P 13 40 59.4 +1.3**
baz=301
G05D Wamic, OR 66.52 50 P **P 13 41 01.7 +0.7**
baz=302
I04A Tendick Farm, 66.60 52 P **P 13 41 02.6 +0.9**
baz=301,SNR=6.0
EDM Edmonton 66.66 40 *e*P **P 13 41 02.1 +0.2**
EDM pmax pmax
comp=Z,28nm,1.1s
EDM Edmonton 66.66 40 *e*P **P 13 41 02.1 +0.2**
comp=Z,28nm,1.1s
E07A Sunnyside 66.70 48 *e*P **P 13 41 02.5 +0.3**
comp=Z,30nm,1.1s
L02D Cave Junction, 66.71 54 P **P 13 41 04.1 +1.8**
baz=301
G06A Carlson Farm, 66.93 50 *e*P **P 13 41 04.9 +1.1**
comp=Z,18nm,1.0s
HAWA Hanford 66.97 48 *e*P **P 13 41 05.1 +1.2**
comp=Z,16nm,1.1s
I05D Terrebonne, OR 66.98 51 P **P 13 41 04.9 +0.9**
baz=302
D08A Wollman Farm, 66.98 48 *e*P **P 13 41 04.8 +0.9**
comp=Z,20nm,1.0s
KHMM Horse Mountain 67.30 55 *e*P **P 13 41 08.6 +2.4**
comp=Z,19nm,1.0s
NEW Newport 67.36 46 P **P 13 41 06.7 +0.3**
baz=303
NEW Newport 67.36 46 *e*P **P 13 41 06.2 -0.2**
NEW pmax pmax
comp=Z,24nm,1.0s
NEW Newport 67.36 46 *e*P **P 13 41 06.2 -0.2**
comp=Z,24nm,1.0s
YBH Yreka Blue Hor 67.50 54 *e*P **P 13 41 08.7 +1.3**
YBH pmax pmax
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 67.50 54 *e*P **P 13 41 08.7 +1.3**
comp=Z,17nm,1.4s
MOS Moscow 67.53 324 *e*P **P 13 41 05.6 -1.6**
M02C Callahan 67.59 54 P **P 13 41 08.1 +0.1**
baz=302
J05D Fort Rock, OR 67.60 52 P **P 13 41 08.1 0.0**
baz=302,SNR=10
K04D Chiloquin, OR 67.63 53 P **P 13 41 08.5 +0.2**
baz=302
E09A Wood Farm, Sta 67.72 48 *e*P **P 13 41 09.7 +1.1**
comp=Z,26nm,1.1s
N02D Trinity Center 67.90 55 P **P 13 41 10.6 +0.6**
baz=302,SNR=5.1
M04C Macdoel 68.02 54 P **P 13 41 10.9 +0.1**
baz=302,SNR=7.4
K05A Summer Lake 68.11 52 *e*P **P 13 41 13.1 +1.7**
comp=Z,56nm,1.1s
WDC Whiskeytown Da 68.22 55 *e*P **P 13 41 13.5 +1.6**
WDC pmax pmax
comp=Z,12nm,1.0s
WDC Whiskeytown Da 68.22 55 *e*P **P 13 41 13.5 +1.6**
comp=Z,12nm,1.0s
OBN Obninsk 68.39 324 *d i*P **P 13 41 12.7 +0.1**
OBN *i* 13 41 37.8
OBN *i* 13 43 53.0
OBN pmax pmax
comp=Z,29nm,1.4s
OBN MLR MLR
comp=Z,182nm,17.0s
F10A Beach Ranch, E 68.55 48 *e*P **P 13 41 15.0 +1.0**
comp=Z,7.2nm,1.0s
FIA1 FINESS Array S 68.66 333 *e*P **P 13 41 14.1 -0.1**
FINES FINESS Array B 68.66 333 P **P 13 41 14.4 +0.3**
comp=Z,11nm,0.7s,baz=48,slow=8.8,SNR=26
FINES LR LR 14 13 35.1
comp=Z,165nm,20.1s,baz=57,slow=38
WALA Waterton Lakes 68.69 44 *e*P **P 13 41 15.2 +0.4**
comp=Z,24nm,0.9s
LPSR Galich'ya Gora 68.75 321 *e*P **P 13 41 15.0 +0.1**
LPSR *e* 13 41 41.1
LPSR pmax pmax
comp=Z,10.0nm,0.6s
O03D Paynes Creek 68.85 55 P **P 13 41 16.1 +0.2**
baz=303,SNR=12
MOD Modoc Plateau 68.92 53 *e*P **P 13 41 16.6 +0.2**
comp=Z,16nm,1.0s
GDXM Geysers 69.01 57 *e*P **P 13 41 19.4 +2.5**
comp=Z,17nm,1.2s
BMO Blue Mountains 69.12 49 *e*P **P 13 41 18.1 +0.5**
BMO pmax pmax
comp=Z,10.0nm,1.0s
BMO Blue Mountains 69.12 49 *e*P **P 13 41 18.1 +0.5**
comp=Z,10nm,1.0s
SUMG Summit 69.21 1 *i*P **P 13 41 18.8 +0.8**
comp=Z,30nm,1.1s
SUMG Summit 69.21 1 *e*P **P 13 41 18.6 +0.6**
SUMG pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 69.21 1 *e*P **P 13 41 18.6 +0.6**
comp=Z,30nm,1.1s
JTMT Jette 69.23 45 *e*P **P 13 41 18.9 +0.7**
YBMT Yellow Bay 69.32 45 *e*P **P 13 41 19.8 +1.0**
VSR Storozhevoye 69.44 320 *e*P **P 13 41 18.8 -0.5**
VSR *e* 13 41 45.9
VSR pmax pmax
comp=Z,9.0nm,0.6s
ORV Oroville 69.45 55 *e*P **P 13 41 19.7 +0.2**
ORV pmax pmax
comp=Z,13nm,1.1s
ORV Oroville 69.45 55 *e*P **P 13 41 19.7 +0.2**
comp=Z,13nm,1.1s
SWMT Swartz Lake 69.53 45 *e*P **P 13 41 20.8 +0.8**
WVOR Wild Horse Val 69.67 52 *e*P **P 13 41 22.0 +1.0**
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR Wild Horse Val 69.67 52 *e*P **P 13 41 22.0 +1.0**
comp=Z,15nm,1.0s
MSO Missoula 69.95 46 P **P 13 41 22.7 +0.1**

baz=305
MSO Missoula 69.95 46 eP P 13 41 22.8 +0.2
comp=Z,13nm,1.0s
SLMT Seeley Lake 69.96 45 eP P 13 41 23.2 +0.4
BEKR Beckworth 70.01 55 eP P 13 41 23.8 +0.6
comp=Z,19nm,1.0s
STKA Stephens Creek 70.06 183 P P 13 41 22.8 -0.3
comp=Z,2.1nm,0.8s,baz=299,slow=7.9,SNR=4.8
STKA Stephens Creek 70.06 183 P P 13 41 22.8 -0.3
STKA pmax pmax
comp=Z,1.0nm,0.5s
AFDM Forest Hills D 70.12 56 eP P 13 41 24.7 +1.0
comp=Z,8.7nm,1.1s
PAHR Pah Rah Range 70.72 54 eP P 13 41 28.5 +0.9
comp=Z,17nm,1.0s
MFID Camas Ranch 70.81 50 eP P 13 41 29.0 +1.1
comp=Z,16nm,1.1s
GOF Gofitskoye 70.94 313⇑eP P 13 41 29.9 +1.3
GOF pmax pmax
comp=Z,27nm,0.7s
CMB Columbia Colle 71.01 56 eP P 13 41 30.0 +0.8
CMB pmax pmax
comp=Z,19nm,1.1s
CMB Columbia Colle 71.01 56 eP P 13 41 30.0 +0.8
comp=Z,19nm,1.1s
HRY Holter Researc 71.19 45 eP P 13 41 30.9 +0.7
YERR Yerington 71.22 55 eP P 13 41 31.4 +0.8
comp=Z,23nm,1.0s
WAKR Walker 71.36 55 eP P 13 41 32.9 +1.4
comp=Z,10nm,1.0s
LRM Limekiln Ridge 71.37 46 eP P 13 41 32.3 +0.8
EGMT Eagleton 71.54 43 P P 13 41 32.4 +0.1
baz=307
EGMT Eagleton 71.54 43 eP P 13 41 32.9 +0.6
comp=Z,28nm,0.9s
DLMT Dillon 71.56 46 eP P 13 41 33.3 +0.8
comp=Z,20nm,1.1s
HLID Hailey 71.57 49 P P 13 41 32.4 -0.2
baz=306
HLID Hailey 71.57 49 eP P 13 41 33.5 +0.9
comp=Z,11nm,1.0s
BMN Battle Mountai 71.67 53 eP P 13 41 34.4 +1.1
BMN pmax pmax
comp=Z,18nm,0.9s
BMN Battle Mountai 71.67 53 eP P 13 41 34.4 +1.1
comp=Z,18nm,0.9s
ZEI Tsey 71.76 310 eP P 13 41 35.4 +1.6
ZEI pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 71.80 312 eP P 13 41 35.7 +1.8
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,168nm,18.0s
KIV Kislovodsk 71.80 312 eP P 13 41 35.4 +1.5
comp=Z,34nm,1.0s
KBZ Khabaz 71.81 312 P P 13 41 35.0 +1.3
comp=Z,12nm,0.9s,baz=75,slow=5.6,SNR=11
KBZ LR LR 14 18 44.1
comp=Z,144nm,18.6s,baz=38,slow=40
TVH3 East Aurora ar 71.85 55 eP P 13 41 35.8 +1.3
comp=Z,16nm,1.0s
BOZ Bozeman (W) 71.97 46 P P 13 41 34.6 -0.4
baz=307
BOZ Bozeman (W) 71.97 46 eP P 13 41 35.5 +0.5
BOZ pmax pmax
comp=Z,7.0nm,0.6s
BOZ Bozeman (W) 71.97 46 eP P 13 41 35.5 +0.5
comp=Z,7.0nm,0.6s
MLAC Mammoth, Mammo 72.25 56 P P 13 41 37.1 +0.2
baz=305
PAGB Antelope Grade 72.41 58 eP P 13 41 38.2 +0.6
comp=Z,27nm,1.0s
QLMT Earthquake Lak 72.54 46 eP P 13 41 39.2 +0.7
YHB Horse Butte 72.72 46 eP P 13 41 40.4 +0.8
comp=Z,15nm,1.1s
YHH Holmes Hill 72.90 46 eP P 13 41 41.6 +0.9
comp=Z,9.9nm,1.1s
YMR Madison River 72.91 46 eP P 13 41 41.5 +0.8
comp=Z,51nm,1.8s
GCMT Greycliff 72.95 45 eP P 13 41 40.9 +0.1
YNR Norris Junctio 73.04 46 eP P 13 41 44.2 +2.7
comp=Z,23nm,1.4s
YFT Old Faithful 73.11 46 eP P 13 41 43.4 +1.5
comp=Z,18nm,1.3s
VES Vestal, Richgr 73.12 58 P P 13 41 42.2 +0.4
baz=306
PKM Mcpherson Peak 73.19 59 P P 13 41 42.6 +0.2
baz=305
YPP Pitchstone Pla 73.24 47 eP P 13 41 44.8 +2.1
comp=Z,25nm,1.6s
LKWY Lake 73.29 46 eP P 13 41 45.1 +2.1
LKWY pmax pmax
comp=Z,16nm,1.2s
LKWY Lake 73.29 46 eP P 13 41 45.1 +2.1
comp=Z,16nm,1.2s
H17A Grant Village 73.29 46 P P 13 41 45.1 +2.1
baz=308
H17A Grant Village 73.29 46 eP P 13 41 45.5 +2.5
comp=Z,24nm,1.0s
IMW Indian Meadow 73.39 47 eP P 13 41 45.3 +1.6
comp=Z,18nm,1.0s
CWC Cottonwood Cre 73.43 57 P P 13 41 43.8 0.0
baz=306
FXWY Fox Creek 73.50 47 eP P 13 41 45.7 +1.5
comp=Z,17nm,1.0s
SBC Santa Barbara 73.51 59 P P 13 41 44.0 -0.1
baz=306
GRAC Grapevine Rang 73.58 56 P P 13 41 44.6 +0.1
baz=306
RLMT Red Lodge 73.58 45 P P 13 41 43.9 -0.7
baz=308
RLMT Red Lodge 73.58 45 eP P 13 41 45.5 +0.9
comp=Z,25nm,1.6s
MOOW Moose Ponds 73.59 47 eP P 13 41 46.0 +1.3
comp=Z,17nm,1.1s
HVU Hansel Valley 73.60 50 eP P 13 41 45.6 +0.9
HVU pmax pmax
comp=Z,17nm,0.9s
HVU Hansel Valley 73.60 50 eP P 13 41 45.6 +0.9
comp=Z,17nm,0.9s
ISA Isabella, Lake 73.63 57 P P 13 41 44.9 0.0
baz=306
TPAW Teton Pass 73.63 47 eP P 13 41 45.9 +0.9
comp=Z,16nm,1.0s
UOSS Minazif 73.69 289 eP P 13 41 45.2 -0.1
comp=Z,14nm,1.0s
ARVC Arvin 73.70 58 P P 13 41 45.7 +0.5
baz=306
NC204 NORSAR Array S 73.71 339 eP P 13 41 44.6 -0.3
NB201 NORSAR Array S 73.74 338 eP P 13 41 45.1 0.0
HFS Hagfors 73.75 337 P P 13 41 45.1 0.0
comp=Z,9.9nm,0.9s,baz=52,slow=5.7,SNR=12
LOHW Long Hollow 73.75 47 eP P 13 41 46.7 +1.0
comp=Z,15nm,1.4s
SNOW Snow King Moun 73.76 47 eP P 13 41 47.2 +1.4
comp=Z,13nm,1.0s
REDW Red Top Meadow 73.77 47 eP P 13 41 47.0 +1.3
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 73.77 338 P P 13 41 45.1 -0.1
comp=Z,15nm,1.0s,baz=39,slow=5.9
NOA NORSAR Array B 73.77 338 P P 13 41 45.4 +0.2
comp=Z,7.4nm,0.9s,baz=38,slow=5.8,SNR=19
NOA LR LR 14 17 47.0
comp=Z,164nm,21.5s,baz=20,slow=39
SCZ2 Santa Cruz Isl 73.82 59 P P 13 41 45.1 -0.9
baz=306
NBO02 NORSAR Array S 73.87 339 eP P 13 41 45.7 -0.1
R11A Troy Canyon, C 73.92 54 P P 13 41 46.7 0.0
baz=306
R11A Troy Canyon, C 73.92 54 eP P 13 41 46.9 +0.2
comp=Z,16nm,1.0s
BGU Big Grassy Mou 73.96 50 eP P 13 41 47.6 +0.8
comp=Z,11nm,1.2s
MPMC Manual Prospec 74.05 57 P P 13 41 47.4 -0.1
baz=306
BLG Laguna Peak, P 74.14 59 P P 13 41 48.0 +0.2
baz=306
DGMT Dagmar 74.15 40 P P 13 41 47.8 0.0
baz=311
DGMT Dagmar 74.15 40 eP P 13 41 47.7 0.0
comp=Z,22nm,0.8s
FURC Furnace Creek, 74.21 56 P P 13 41 48.4 +0.3
baz=306
LAO LASA Array 74.25 42 P P 13 41 48.1 -0.2
baz=310
LAO LASA Array 74.25 42 eP P 13 41 48.8 +0.4
comp=Z,25nm,1.0s

LRMC Laurel Mtn Rad 74.26 57 P P 13 41 48.9 +0.2
baz=306
ANN Anapa 74.27 315 eP P 13 41 52.0 +3.6
ANN pmax pmax
comp=Z,92nm,1.1s
TPNV Topopah Spring 74.32 55 P P 13 41 49.3 +0.2
baz=306
TPNV Topopah Spring 74.32 55 eP P 13 41 49.3 +0.2
TPNV pmax pmax
comp=Z,26nm,1.1s
TPNV Topopah Spring 74.32 55 eP P 13 41 49.3 +0.2
comp=Z,26nm,1.1s
EDW2 Edwards Air Fo 74.40 58 P P 13 41 49.6 +0.2
baz=306
HWUT Hardware Ranch 74.42 49 eP P 13 41 50.1 +0.6
comp=Z,26nm,1.1s
DUG Dugway, Tooele 74.53 51 P P 13 41 50.3 +0.1
baz=308
DUG Dugway, Tooele 74.53 51 eP P 13 41 51.4 +1.2
DUG pmax pmax
comp=Z,18nm,0.9s
DUG Dugway, Tooele 74.53 51 eP P 13 41 51.4 +1.2
comp=Z,18nm,0.9s
DECC Green Verdugo 74.55 59 P P 13 41 50.2 0.0
baz=306
AKASG Malin Array Be 74.63 323 P P 13 41 50.6 +0.2
comp=Z,3.7nm,0.6s,baz=46,slow=6.0,SNR=21
AKBB Malin Array Si 74.63 323 eP P 13 41 50.1 -0.2
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 74.63 323 eP P 13 41 50.1 -0.2
comp=Z,8.6nm,0.8s
KIEV Kiev 74.64 323⇑iP P 13 41 49.6 -0.8
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 74.64 323 eP P 13 41 50.1 -0.3
comp=Z,8.3nm,0.8s
AK11 Malin Array Si 74.67 323 eP P 13 41 49.7 -0.9
MWC Mount Wilson 74.75 58 eP P 13 41 52.3 +0.7
MWC pmax pmax
comp=Z,29nm,1.3s
MWC Mount Wilson 74.75 58 eP P 13 41 52.2 +0.7
comp=Z,29nm,1.3s
BW06 Boulder Array 74.88 47 P P 13 41 52.1 -0.1
baz=309
BW06 Boulder Array 74.88 47 eP P 13 41 52.5 +0.2
PD31 Pinedale Array 74.88 47 eP P 13 41 52.5 +0.2
PDAR Pinedale Array 74.88 47 P P 13 41 52.9 +0.6
comp=Z,5.4nm,0.7s,baz=263,slow=2.5,SNR=27
PDAR LR LR 14 14 12.6
comp=Z,37nm,19.5s,baz=308,slow=35
SHOC Shoshone, Teco 74.93 56 P P 13 41 52.7 +0.3
baz=307
GSC Goldstone, Bar 74.94 57 P P 13 41 52.8 +0.2
baz=307
GSC Goldstone, Bar 74.94 57 eP P 13 41 53.0 +0.5
GSC pmax pmax
comp=Z,17nm,1.0s
GSC Goldstone, Bar 74.94 57 eP P 13 41 53.0 +0.5
comp=Z,16nm,1.0s
CIS Catalina Islan 74.99 59 P P 13 41 52.8 0.0
baz=306
BFSC Mount Baldy Ra 75.01 58 P P 13 41 53.1 +0.1
baz=306
RRX Edison Barstow 75.07 57 P P 13 41 53.5 +0.3
baz=307
JLU Jordanelle 75.11 50 eP P 13 41 54.6 +0.9
comp=Z,17nm,1.1s
NLU North Lily Min 75.13 51 eP P 13 41 54.0 +0.3
comp=Z,11nm,0.9s
SCI2 San Clemente I 75.15 60 P P 13 41 53.6 -0.1
baz=306
SHPR Sheep Range 75.29 55 eP P 13 41 55.6 +1.0
comp=Z,18nm,1.0s
TUQ Turquoise Moun 75.44 56 P P 13 41 55.7 +0.3
baz=307
BBRC Big Bear Solar 75.48 58 P P 13 41 55.5 -0.4
baz=307
HEC Hector,Ludlow 75.53 57 P P 13 41 55.9 0.0
baz=307
MURC Murrieta 75.69 58 P P 13 41 57.4 +0.5
baz=307
CCUT Cedar City 75.80 53 eP P 13 41 58.7 +1.1
comp=Z,16nm,1.0s
SZCU Shurtz Canyon 75.95 53 eP P 13 41 59.4 +0.9
comp=Z,12nm,1.0s
MSU Marysvale 75.95 52 eP P 13 41 59.8 +1.3
MSU Marysvale 75.95 52 eP P 13 41 59.8 +1.3
GMRC Granite Mounta 76.00 57 P P 13 41 59.1 +0.3
baz=307
TMUT Trail Mountain 76.06 51 eP P 13 41 59.9 +0.7
comp=Z,25nm,1.6s
PFO Pinyon Flats O 76.18 58 P P 13 41 60.0 +0.2
baz=307
PFO Pinyon Flats O 76.18 58 eP P 13 42 00.0 +0.2
PFO pmax pmax
comp=Z,12nm,0.9s
PFO Pinyon Flats O 76.18 58 eP P 13 41 60.0 +0.2
comp=Z,12nm,0.9s
109C Camp Elliot, M 76.18 59 P P 13 41 59.6 +0.1
baz=307
LDFC Landfair 76.18 56 eP P 13 41 59.1 -0.6
comp=Z,18nm,0.8s
TPFO Pinon Flats 76.19 58 P P 13 41 59.5 -0.2
baz=307
LCMT Little Creek M 76.20 54 eP P 13 42 00.4 +0.6
comp=Z,19nm,0.9s
BELC Belle Mtn. Jos 76.25 58 P P 13 42 00.4 +0.2
baz=307
PKCU Pink Cliffs 76.53 53 eP P 13 42 03.3 +1.4
comp=Z,31nm,1.7s
SRU San Rafael Swe 76.59 51 eP P 13 42 02.8 +0.7
SRU pmax pmax
comp=Z,27nm,0.8s
SRU San Rafael Swe 76.59 51 eP P 13 42 02.8 +0.7
comp=Z,27nm,0.8s
BAR Barrett 76.60 59 eP P 13 42 02.6 +0.6
comp=Z,8.7nm,0.8s
MONP2 Monument Peak 76.64 59 P P 13 42 02.6 +0.2
baz=307
K22A Casper 76.68 46 P P 13 42 02.7 +0.2
baz=310
K22A Casper 76.68 46 eP P 13 42 02.6 +0.2
comp=Z,19nm,1.0s
IRM Iron Mountain 76.72 57 P P 13 42 03.1 +0.4
baz=308
BC3 Big Chuckawall 76.82 58 P P 13 42 03.6 +0.3
baz=308
MDND Maddock 76.85 38 P P 13 42 02.7 -0.4
baz=314
MDND Maddock 76.85 38 eP P 13 42 03.1 -0.1
comp=Z,38nm,0.9s
RWWY Rawlins 76.91 47 eP P 13 42 04.2 +0.2
comp=Z,26nm,1.0s
ULM Lac du Bonnet 76.92 35 P P 13 42 03.5 0.0
comp=Z,9.6nm,0.9s,baz=310,slow=6.8,SNR=7.5
ULM Lac du Bonnet 76.92 35 eP P 13 42 03.1 -0.3
ULM pmax pmax
comp=Z,25nm,1.1s
ULM Lac du Bonnet 76.92 35 eP P 13 42 03.1 -0.3
comp=Z,25nm,1.1s
W13A Hualapai Mount 76.97 56 eP P 13 42 04.8 +0.5
comp=Z,9.3nm,1.1s
MARD Mardin 76.97 307 eP P 13 42 04.2 0.0
comp=Z,18nm,1.0s
IKP In-Ko-Pah, Jac 76.99 59 P P 13 42 04.1 -0.2
baz=308
SWSC Sam W. Stewart 77.02 58 P P 13 42 04.9 +0.6
baz=308
RSSD Black Hills 77.09 43 P P 13 42 04.7 0.0
baz=312
RSSD Black Hills 77.09 43 eP P 13 42 04.8 0.0
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 77.09 43 eP P 13 42 04.8 0.0
comp=Z,12nm,1.0s
U15A North Rim 77.17 54 eP P 13 42 05.8 +0.3
comp=Z,16nm,0.9s
PDMCI Parker Dam,Lak 77.29 56 P P 13 42 05.7 -0.1
baz=308
O20A White River Ci 77.31 49 P P 13 42 06.1 0.0
baz=310
O20A White River Ci 77.31 49 eP P 13 42 06.2 +0.2
comp=Z,19nm,1.0s
Y12C Blythe 77.38 57 P P 13 42 06.8 +0.5
baz=308
Y12C Blythe 77.38 57 eP P 13 42 06.6 +0.3
comp=Z,22nm,1.0s

A32A Rocking H Ranc 77.58 36 P P 13 42 07.0 -0.2
baz=315
GLA Glamis 77.60 58 P P 13 42 07.9 +0.3
baz=308
GLA Glamis 77.60 58 eP P 13 42 08.1 +0.4
GLA pmax pmax
comp=Z,17nm,0.9s
GLA Glamis 77.60 58 eP P 13 42 08.1 +0.4
comp=Z,17nm,0.9s
PV09 Paradox Valley 77.82 50 eP P 13 42 09.9 +0.8
B32A Ashes, Strandq 77.94 37 P P 13 42 09.1 0.0
baz=316
PV10 Paradox Valley 77.95 50 eP P 13 42 10.6 +0.8
PV04 Paradox Valley 78.02 50 eP P 13 42 10.7 +0.6
A33A Warroad 78.08 36 P P 13 42 09.7 -0.3
baz=316
PV05 Paradox Valley 78.11 51 eP P 13 42 11.8 +1.2
N23A Red Feather La 78.15 47 P P 13 42 11.5 +0.7
baz=311
N23A Red Feather La 78.15 47 eP P 13 42 11.8 +0.9
comp=Z,22nm,0.9s
Y14A Wickenburg 78.25 56 eP P 13 42 12.0 +0.7
comp=Z,69nm,0.9s
WUAZ Wupatki 78.32 54 P P 13 42 11.1 -0.7
baz=309
WUAZ Wupatki 78.32 54 eP P 13 42 12.7 +1.0
comp=Z,21nm,0.9s
AGMN Agassiz Nation 78.32 36 P P 13 42 11.1 -0.2
baz=316
AGMN Agassiz Nation 78.32 36 eP P 13 42 10.4 -0.9
comp=Z,15nm,0.8s
PV01 Paradox Valley 78.39 50 eP P 13 42 12.8 +0.5
113A Mohawk Valley, 78.48 57 eP P 13 42 13.0 +0.6
comp=Z,14nm,1.1s
E31A Nome 78.59 39 P P 13 42 12.3 -0.5
baz=315
BUR08 Bucovina Ar. S 78.66 323 eP P 13 42 14.6 +1.2
BURAR Bucovina Array 78.67 323⇑iP P 13 42 14.3 +0.9
BURAR Bucovina Array 78.67 323 ⇑P P 13 42 14.3 +0.9
SMCO Snowmass 78.67 49 eP P 13 42 14.3 +0.3
comp=Z,13nm,1.1s
B34A Aery, Baudette 78.74 36 P P 13 42 13.3 -0.3
baz=317
C33A Trail 78.75 37 P P 13 42 13.1 -0.5
baz=316
TESR Tescani 78.77 322⇓iP P 13 42 14.4 +0.6
F31A Hecla 78.90 39 P P 13 42 14.2 -0.4
baz=315
CFR Carcaliu 78.96 320⇓iP P 13 42 15.3 +0.4
CFR Carcaliu 78.96 320 ⇓P P 13 42 15.3 +0.4
X16A Lo Mia Camp, P 78.96 55 eP P 13 42 16.3 +0.9
comp=Z,17nm,0.9s
MVCO Mesa Verde 79.03 51 P P 13 42 15.5 -0.2
baz=310
MVCO Mesa Verde 79.03 51 eP P 13 42 16.4 +0.7
comp=Z,20nm,1.1s
ISCO Idaho Springs 79.06 48 P P 13 42 15.3 -0.6
baz=311
ISCO Idaho Springs 79.06 48 eP P 13 42 16.6 +0.6
ISCO pmax pmax
comp=Z,30nm,1.8s
ISCO Idaho Springs 79.06 48 eP P 13 42 16.6 +0.6
comp=Z,30nm,1.8s
STHS Stebnicka Huta 79.16 326 eP P 13 42 17.4 +1.5
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 79.16 326 eP P 13 42 17.4 +1.5
D33A AnnSam, Waubun 79.16 37 P P 13 42 15.5 -0.4
baz=316
OJC Ojcow 79.17 327 eP P 13 42 16.6 +0.6
OJC Ojcow 79.17 327 eP P 13 42 16.4 +0.4
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 79.17 327 eP P 13 42 16.4 +0.4
comp=Z,11nm,1.0s
VRI Vrincioaia 79.18 321⇑iP P 13 42 18.1 +2.0
VRI Vrincioaia 79.18 321 ⇑P P 13 42 18.1 +2.0
C34A RKJ Ranch, Bem 79.23 36 P P 13 42 16.1 -0.2
baz=317
PLOR Plostina 79.23 321⇑iP P 13 42 18.1 +1.7
PLOR Plostina 79.23 321 ⇑P P 13 42 18.1 +1.7
B35A Bob, Littlefor 79.25 35 P P 13 42 16.3 -0.1
baz=317
G31A Conde 79.37 40 P P 13 42 17.0 -0.1
baz=315
CRVS Cervenica-Dubn 79.44 326 eP P 13 42 17.8 +0.3
CRVS Cervenica-Dubn 79.44 326 eP P 13 42 17.8 +0.3
F32A Veblen 79.45 39 P P 13 42 17.5 -0.1
baz=316
D34A Park Rapids 79.51 37 P P 13 42 17.7 -0.1
baz=316
E33A Westby DABS, E 79.54 38 P P 13 42 18.0 0.0
baz=316
NIE Niedzica 79.56 327 eP P 13 42 19.1 +0.9
NIE Niedzica 79.56 327 eP P 13 42 19.1 +0.9
W18A Petrified Fore 79.60 53 eP P 13 42 20.0 +1.2
comp=Z,12nm,1.0s
214A Organ Pipe Nat 79.62 57 P P 13 42 19.0 +0.2
baz=309
214A Organ Pipe Nat 79.62 57 eP P 13 42 19.4 +0.6
comp=Z,80nm,1.4s
C35A Jirik Farms, M 79.62 36 P P 13 42 18.1 -0.4
baz=317
S22A 4UR Ranch, Cre 79.69 50 P P 13 42 19.8 +0.4
baz=311
S22A 4UR Ranch, Cre 79.69 50 eP P 13 42 20.4 +1.0
comp=Z,13nm,1.0s
BRTR Keskin Array B 79.70 313 P P 13 42 19.9 +0.7
comp=Z,1.5nm,0.7s,baz=116,slow=5.6,SNR=6.9
BRTR PP PP 13 45 26.6 +6.8
comp=Z,0.7nm,0.4s,baz=63,slow=7.5,SNR=3.8
BRTR LR LR 14 23 00.4
comp=Z,110nm,19.6s,baz=39,slow=40
BRTR Keskin Array B 79.70 313ceP P 13 42 19.8 +0.6
BRTR pmax pmax
comp=Z,2.0nm,1.0s
G32A Webster 79.70 39 P P 13 42 19.0 0.0
baz=315
H31A Wolsey 79.76 40 P P 13 42 18.7 -0.6
baz=315
ISR Istrita 79.81 321⇑iP P 13 42 21.1 +1.5
ISR Istrita 79.81 321 ⇑P P 13 42 21.2 +1.6
MLR Muntele Rosu 79.84 321 P P 13 42 21.2 +1.3
comp=Z,0.4nm,0.6s,baz=310,slow=8.6,SNR=3.1
MLR PP PP 13 45 26.0 +5.3
comp=Z,0.2nm,0.3s,baz=225,slow=1.4,SNR=3.4
MLR Muntele Rosu 79.84 321⇑iP P 13 42 21.4 +1.6
MLR Muntele Rosu 79.84 321 ⇑P P 13 42 21.4 +1.6
X18A Snowflake 79.84 54 eP P 13 42 20.4 +0.2
comp=Z,15nm,1.1s
F33A 5 Mile Ranch, 79.88 38 P P 13 42 20.0 +0.1
baz=316
E34A Wadena 79.93 37 P P 13 42 19.9 -0.3
baz=317
D35A Remer 80.04 36 P P 13 42 20.2 -0.6
baz=317
C36A Pine Crest Far 80.10 35 P P 13 42 20.7 -0.3
baz=318
BR231 Keskin MP Arra 80.12 313 eP P 13 42 20.3 -1.2
KSP Ksiaz 80.13 330 eP P 13 42 21.7 +0.5
KSP Ksiaz 80.13 330 eP P 13 42 21.7 +0.6
OKC Ostrava-Krasne 80.16 328 eP P 13 42 21.9 +0.6
OKC Ostrava-Krasne 80.16 328 eP P 13 42 21.9 +0.6
KECS Kecovo 80.19 326 eP P 13 42 24.2 +2.7
KECS pmax pmax
comp=Z,3.0nm,1.4s
KECS Kecovo 80.19 326 eP P 13 42 24.2 +2.7
H32A Carlson Farm, 80.27 40 P P 13 42 21.5 -0.6
baz=315
G33A Ortonville 80.27 39 P P 13 42 21.9 -0.1
baz=316
VOIR 80.31 322⇓iP P 13 42 23.6 +1.3
VOIR 80.31 322 ⇓P P 13 42 23.6 +1.3
OGNE Ogallala 80.32 45 P P 13 42 22.0 -0.5
baz=313
OGNE Ogallala 80.32 45 eP P 13 42 22.7 +0.2
comp=Z,47nm,1.2s
D36A Goodland 80.38 36 P P 13 42 22.1 -0.5
baz=318
F34A Alexandria 80.41 38 P P 13 42 22.7 -0.1
baz=317
C37A Embarrass 80.42 35 P P 13 42 22.3 -0.4
baz=318
MORC Moravsky Berou 80.45 328⇑iP P 13 42 23.9 +0.9
MORC Moravsky Berou 80.45 328 ⇑P P 13 42 23.9 +0.9
MORC Moravsky Berou 80.45 328 eP P 13 42 23.2 +0.2

comp=Z,24nm,1.0s
J31A Geddes 80.46 41 P P 13 42 23.0 -0.1
baz=315
SDCO Great Sand Dun 80.48 49 P P 13 42 23.4 -0.2
baz=312
SDCO Great Sand Dun 80.48 49 eP P 13 42 24.4 +0.7
comp=Z,5.0nm,1.0s
H33A Prehn Over Nor 80.49 39 P P 13 42 22.9 -0.4
baz=316
DPC Dobruska-Polom 80.50 329 eP P 13 42 23.8 +0.6
DPC ePP PP 13 45 22.7 -3.2
DPC AMS AMS 14 20 50.0
comp=Z,100nm,17.9s
DPC Dobruska-Polom 80.50 329 eP P 13 42 23.8 +0.6
DPC e 13 45 22.7
DPC MLR MLR
comp=Z,100nm,17.9s
UPC Upice 80.50 330 eP P 13 42 24.1 +0.9
UPC AMS AMS 14 20 50.0
comp=Z,100nm,19.3s
UPC Upice 80.50 330 eP P 13 42 24.1 +0.9
UPC MLR MLR
comp=Z,100nm,19.3s
KRLC Kraliky 80.53 329 eP P 13 42 24.2 +0.8
KRLC Kraliky 80.53 329 eP P 13 42 24.2 +0.8
EYMN Ely 80.56 34 P P 13 42 23.1 -0.4
baz=319
EYMN Ely 80.56 34 eP P 13 42 23.3 -0.3
comp=Z,17nm,0.9s
ARR Arges 80.57 322⇑ iP P 13 42 24.8 +1.1
G34A Benson 80.63 38 P P 13 42 23.8 -0.1
baz=316
F35A Swanville 80.69 37 P P 13 42 23.7 -0.6
baz=317
TUC Tucson 80.72 56 P P 13 42 24.7 0.0
baz=310
TUC Tucson 80.72 56 eP P 13 42 25.4 +0.6
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 80.72 56 eP P 13 42 25.4 +0.6
comp=Z,13nm,1.1s
D37A Cotton 80.73 35 P P 13 42 24.0 -0.5
baz=318
E36A McGregor 80.83 36 P P 13 42 25.0 0.0
baz=318
C38A Sawbill Land. 80.83 34 P P 13 42 24.9 -0.1
baz=319
J32A Parkston 80.86 41 P P 13 42 25.0 -0.2
baz=315
PSZ Piszkesteto 80.87 326⇓ iP P 13 42 26.1 +0.8
PSZ Piszkesteto 80.87 326⇓ P P 13 42 26.1 +0.8
VYHS Vyhne 80.89 327 eP P 13 42 26.2 +0.9
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 80.89 327 eP P 13 42 26.2 +0.9
I33A Coleman 80.92 40 P P 13 42 25.4 -0.2
baz=316
K31A O'Neill 80.92 42 P P 13 42 25.4 -0.2
baz=315
LOT Lotru 80.93 322⇑ iP P 13 42 27.1 +1.4
H34A Spellman Lake, 80.98 39 P P 13 42 25.9 +0.1
baz=316
BRG Berggiesshubel 81.02 331 eP P 13 42 26.0 +0.1
comp=Z,5.9nm,0.9s
BRG Berggiesshubel 81.02 331 eP P 13 42 26.0 +0.1
BRG pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 81.03 332 iP P 13 42 26.0 +0.1
CLL eS S 13 52 28.0 -5.4
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 81.03 332 iP P 13 42 26.0 +0.1
comp=Z,9.0nm,0.8s
CLL eS S 13 52 36.0 +2.6
CLL eSS SS 13 58 06.0 +19
CLL eSSS SSS 14 01 42.0
CLL LmV 16 03 00.0
comp=Z,100nm,20.8s
CLL Collm 81.03 332 eP P 13 42 25.5 -0.4
comp=Z,8.8nm,0.8s
PVCC Panska Ves 81.06 330 eP P 13 42 26.7 +0.6
PVCC AMS AMS 14 21 10.0
comp=Z,200nm,16.5s
F36A Milaca 81.19 37 P P 13 42 26.9 0.0
baz=318
G35A Watkins 81.20 38 P P 13 42 27.2 +0.2
baz=317
VRAC Vranov 81.21 329 P P 13 42 27.7 +0.7
comp=Z,4.3nm,0.8s,baz=43,slow=5.4,SNR=8.7
ECSD EROS Data Cent 81.23 40 P P 13 42 27.2 0.0
baz=316
ECSD EROS Data Cent 81.23 40 eP P 13 42 27.1 -0.2
comp=Z,18nm,0.9s
C39A Grand Marais 81.26 34 P P 13 42 26.7 -0.6
baz=320
H35A Sunnyside Ranc 81.42 38 P P 13 42 28.4 +0.2
baz=317
GZR Gura Zlata 81.44 323⇑ iP P 13 42 28.6 +0.3
GZR Gura Zlata 81.44 323 ⇑P P 13 42 28.6 +0.3
GOPC GO Pecny, Ondr 81.46 330 eP P 13 42 29.0 +0.7
GOPC ex x 13 42 48.5
GOPC AMS AMS 14 21 10.0
comp=Z,200nm,19.4s
GOPC GO Pecny, Ondr 81.46 330 eP P 13 42 29.0 +0.7
GOPC e 13 42 48.5
GOPC MLR MLR
comp=Z,200nm,19.4s
PRA Prague 81.47 330 eP P 13 42 29.0 +0.7
PRA Prague 81.47 330 eP P 13 42 29.0 +0.7
PRU Pruhonice 81.50 330 eP P 13 42 29.1 +0.7
PRU AMS AMS 14 24 00.0
comp=Z,200nm,15.9s
PRU Pruhonice 81.50 330 eP P 13 42 29.1 +0.7
PRU MLR MLR
comp=Z,200nm,15.9s
T25A Trinidad 81.53 49 P P 13 42 29.3 +0.1
baz=312
T25A Trinidad 81.53 49 eP P 13 42 29.8 +0.6
comp=Z,16nm,0.9s
E38A The Farm, Brul 81.55 35 P P 13 42 28.4 -0.3
baz=319
G36A St. Michael 81.55 37 P P 13 42 28.9 +0.1
baz=318
TREC Trest 81.67 329 eP P 13 42 30.3 +0.9
TREC AMS AMS 14 24 30.0
comp=Z,200nm,15.2s
TREC Trest 81.67 329 eP P 13 42 30.3 +0.9
TREC MLR MLR
comp=Z,200nm,15.2s
LAZ Ladron 81.69 52 eP P 13 42 31.3 +1.2
ANMO Albuquerque 81.76 52 P P 13 42 30.4 0.0
baz=312
ANMO Albuquerque 81.76 52 ceP P 13 42 31.5 +1.1
ANMO pmax pmax
comp=Z,18nm,1.2s
ANMO Albuquerque 81.76 52 eP P 13 42 31.2 +0.9
comp=Z,15nm,1.1s
BZS Buzias 81.82 323⇓ iP P 13 42 30.4 +0.1
BZS Buzias 81.82 323 ⇓P P 13 42 30.4 +0.1
F38A Pierce - Schro 81.88 36 P P 13 42 30.6 0.0
baz=319
H36A Jessenland, He 81.94 38 P P 13 42 30.9 -0.1
baz=318
I35A Creekview Farm 81.96 39 P P 13 42 31.1 0.0
baz=317
SPMN Marine on St. 82.00 37 P P 13 42 31.3 0.0
baz=318
SPMN Marine on St. 82.00 37 eP P 13 42 30.9 -0.3
comp=Z,36nm,1.4s
BGNE Belgrade 82.10 42 P P 13 42 31.6 -0.3
baz=315
BGNE Belgrade 82.10 42 eP P 13 42 31.6 -0.3
comp=Z,55nm,0.8s
E39A Mellen 82.17 35 P P 13 42 32.0 -0.1
baz=320
BNM Barren Site 82.18 52 eP P 13 42 33.2 +0.6
J35A Milford 82.20 39 P P 13 42 32.4 0.0
baz=317
K34A Le Mars 82.25 40 P P 13 42 32.6 0.0
baz=316
319A Douglas 82.30 56 eP P 13 42 33.8 +0.6
comp=Z,23nm,1.0s
I36A Fitzsimmons Fa 82.31 38 P P 13 42 32.8 -0.1
baz=318
F39A Loretta 82.36 35 P P 13 42 32.9 -0.2
baz=319

MDVR Moldovita 82.40 323⇓ iP P 13 42 33.7 +0.3
E40A Wakefield 82.41 35 P P 13 42 33.0 -0.3
baz=320
H37A Dierke Farm, C 82.43 37 P P 13 42 33.2 -0.3
baz=318
G38A Ridgeland 82.49 36 P P 13 42 33.4 -0.4
baz=319
121A Cookes Peak, D 82.51 54 P P 13 42 34.3 0.0
baz=311
121A Cookes Peak, D 82.51 54 eP P 13 42 35.4 +1.1
comp=Z,29nm,1.3s
EKA Eskdalemuir Ar 82.55 342 P P 13 42 34.5 +0.6
comp=Z,3.1nm,0.7s,baz=29,slow=5.2,SNR=13
KHC Kasperske Hory 82.56 330 eP P 13 42 34.3 +0.2
KHC ex x 13 43 04.1
KHC ePP PP 13 45 42.5 -0.4
KHC AMS AMS 14 21 50.0
comp=Z,200nm,17.2s
KHC Kasperske Hory 82.56 330 eP P 13 42 34.3 +0.2
KHC e 13 45 42.5
KHC MLR MLR
comp=Z,200nm,17.2s
KHC Kasperske Hory 82.56 330 eP P 13 42 34.0 -0.1
comp=Z,2.6nm,0.8s
CONA Conrad Observa 82.59 328 iP P 13 42 34.7 +0.3
comp=Z,8.5nm,1.1s
I37A Lemond, Waseca 82.62 38 P P 13 42 34.4 -0.1
baz=318
L34A Svendsen Farm, 82.63 41 P P 13 42 34.5 -0.1
baz=316
H38A Maiden Rock 82.66 37 P P 13 42 34.3 -0.4
baz=319
K35A Storm Lake 82.66 40 P P 13 42 34.1 -0.7
baz=317
J36A Seneca 1, Swea 82.66 39 P P 13 42 34.7 0.0
baz=318
F40A Park Falls 82.71 35 P P 13 42 34.7 -0.3
baz=320
G39A Holcombe 82.72 36 P P 13 42 34.6 -0.4
baz=319
HSIG 82.72 59 eP P 13 42 35.8 +0.5
comp=Z,13nm,1.1s
GEC2 GERESS Array S 82.74 330 eP P 13 42 35.0 -0.1
GEC2 pmax pmax
comp=Z,6.0nm,1.2s
GEC2 GERESS Array S 82.74 330 eP P 13 42 35.0 -0.1
comp=Z,5.9nm,1.2s
GERES GERESS Array B 82.74 330 P P 13 42 35.4 +0.2
comp=Z,1.7nm,0.7s,baz=35,slow=4.9,SNR=18
GERES PP PP 13 45 46.5 +2.1
comp=Z,0.8nm,0.8s,baz=45,slow=6.4,SNR=4.5
GERES LR LR 14 22 45.3
comp=Z,182nm,19.2s,baz=26,slow=38
GEA0 GERESS Array S 82.75 330 eP P 13 42 35.0 -0.2
E41A Kenton 82.81 34 P P 13 42 35.3 -0.1
baz=321
J37A Redenius Farm, 83.06 39 P P 13 42 36.5 -0.3
baz=318
CBKS Cedar Bluff 83.07 45 P P 13 42 36.6 -0.4
baz=315
I38A Scanlan Farm, 83.11 37 P P 13 42 36.6 -0.5
baz=319
K36A Gilmore City 83.12 40 P P 13 42 36.7 -0.4
baz=318
H39A Augusta 83.12 36 P P 13 42 36.9 -0.2
baz=319
PPT2 Papeete2 83.14 119 eLR LR 14 08 42.4
comp=Z,184nm,21.2s
G40A Rib Lake 83.17 35 P P 13 42 37.1 -0.2
baz=320
SCHQ Schefferville 83.23 18 P P 13 42 37.5 0.0
comp=Z,8.7nm,0.7s,baz=299,slow=16,SNR=4.0
ARSA Arzberg 83.27 328 iP P 13 42 38.4 +0.6
comp=Z,3.1nm,0.8s
E42A Champion 83.30 34 P P 13 42 37.7 -0.3
baz=321
VTS Vitosha 83.30 321⇑ iP P 13 42 39.4 +1.2
VTS Vitosha 83.30 321 ⇑P P 13 42 39.4 +1.2
VTS Vitosha 83.30 321 eP P 13 42 38.4 +0.2
comp=Z,6.9nm,0.9s
F41A Three Lakes 83.31 35 P P 13 42 37.8 -0.3
baz=321
MOA Molln 83.31 329 iP P 13 42 38.5 +0.5
comp=Z,7.0nm,1.2s,SNR=5.4
M35A Neola 83.34 41 P P 13 42 38.3 0.0
baz=317
O33A Hebron 83.35 43 P P 13 42 37.6 -0.8
baz=316
N34A Lincoln 83.38 42 P P 13 42 38.0 -0.5
baz=316
L36A Harm Buss Farm 83.40 40 P P 13 42 38.4 -0.2
baz=317
K37A Belmond 83.42 39 P P 13 42 38.7 0.0
baz=318
H40A Chili 83.58 36 P P 13 42 39.3 -0.2
baz=320
J38A Wedel Dairy, R 83.58 38 P P 13 42 39.5 +0.1
baz=319
I39A Houston 83.64 37 P P 13 42 39.3 -0.4
baz=319
F42A Maple Grove Fa 83.72 34 P P 13 42 40.0 -0.2
baz=321
E43A Lone Tree Farm 83.73 33 P P 13 42 39.9 -0.2
baz=322
O34A Beatrice 83.75 42 P P 13 42 39.9 -0.5
baz=316
M36A Felix, Anita 83.81 41 P P 13 42 40.5 -0.2
baz=317
N35A Tabor 83.81 41 P P 13 42 40.1 -0.6
baz=317
L37A Phoenix Point, 83.84 40 P P 13 42 40.6 -0.2
baz=318
PERS Pernice 83.92 328 iP P 13 42 41.4 +0.1
SOKA Soboth 83.92 328 iP P 13 42 41.7 +0.4
comp=Z,18nm,1.2s
H41A Junction City 83.92 36 P P 13 42 40.9 -0.3
baz=320
J39A Decorah 83.94 38 P P 13 42 40.8 -0.5
baz=319
K38A Parkersburg 83.94 39 P P 13 42 40.9 -0.4
baz=318
G42A Mountain 83.99 35 P P 13 42 41.1 -0.5
baz=321
E44A Grand Marais A 84.00 32 P P 13 42 40.9 -0.6
baz=323
I40A Norwalk 84.03 37 P P 13 42 41.3 -0.5
baz=320
MEM Membach 84.08 335 P P 13 42 42.2 +0.3
comp=Z,4.0nm,1.0s
F43A Flat Rock, Esc 84.09 33 P P 13 42 41.5 -0.5
baz=322
P34A Walnut Farm, R 84.14 43 P P 13 42 41.9 -0.5
baz=316
M37A Trindle Farm, 84.22 40 P P 13 42 42.8 0.0
baz=318
L38A Oak Wood Farm, 84.23 39 P P 13 42 42.7 -0.1
baz=318
I41A Arkdale 84.25 36 P P 13 42 42.8 -0.1
baz=320
OBKA Obir 84.26 328 iP P 13 42 42.9 -0.1
comp=Z,3.9nm,0.8s
F44A Big Bay de Noc 84.30 33 P P 13 42 42.8 -0.2
baz=322
KBA Koelnbreinsper 84.30 329 iPcP P 13 42 44.3 +1.0
comp=Z,8.6nm,1.1s,SNR=5.8
G43A Wallace 84.31 34 P P 13 42 42.9 -0.3
baz=322
K39A Oelwein 84.33 38 P P 13 42 42.7 -0.6
baz=319
J40A Soldiers Grove 84.35 37 P P 13 42 43.0 -0.4
baz=320
BCLA Clavier 84.48 335 P P 13 42 44.2 +0.4
E45A Wooded Hills, 84.52 32 P P 13 42 43.8 -0.3
baz=323
Q34A Chapman 84.53 44 P P 13 42 43.7 -0.7
baz=316
MYKA Terra Mystica 84.54 328 iP P 13 42 44.1 -0.3
comp=Z,3.7nm,0.8s
KSU1 Kansas State U 84.58 43 P P 13 42 44.3 -0.3
baz=316
P35A Duane Minner, 84.58 43 P P 13 42 44.3 -0.4
baz=317
MNTX Cornudas Mount 84.59 54 P P 13 42 45.0 +0.2
baz=312
MNTX Cornudas Mount 84.59 54 eP P 13 42 45.1 +0.2
comp=Z,13nm,1.0s
M38A Pleasantville 84.65 40 P P 13 42 45.0 0.0
baz=318

MSTX Muleshoe 84.66 50 P P 13 42 45.1 -0.2
baz=314
MSTX Muleshoe 84.66 50 eP P 13 42 45.4 +0.1
comp=Z,12nm,0.8s
AMTX Amarillo 84.69 49 P P 13 42 45.2 -0.2
baz=314
AMTX Amarillo 84.69 49 eP P 13 42 46.0 +0.7
comp=Z,38nm,0.9s
K40A Colesburg 84.69 38 P P 13 42 44.9 -0.2
baz=320
VISS Visnje 84.70 327 iP P 13 42 44.6 -0.5
L39A Vinton 84.71 39 P P 13 42 45.1 -0.1
baz=319
J41A Loganville 84.72 37 P P 13 42 45.0 -0.3
baz=320
SNF Seneffe 84.73 336 P P 13 42 45.5 +0.4
BOJS Bojanci 84.76 327 iP P 13 42 45.4 -0.1
WATA Walderalm 84.80 330 iP P 13 42 45.5 -0.2
comp=Z,4.9nm,0.9s
R34A Isabella, Hill 84.81 44 P P 13 42 44.8 -1.1
baz=316
I42A Draeger Farm, 84.82 36 P P 13 42 44.8 -1.0
baz=321
WTTA Wattenberg 84.83 330 iPcP P 13 42 46.4 +0.4
comp=Z,7.3nm,1.0s
WLF Walferdange 84.84 334 P P 13 42 47.6 +1.8
comp=Z,7.2nm,1.9s
LANF Langenberg 84.84 333 eP P 13 42 46.4 +0.6
ABTA Abfaltersbach 84.91 329 iP P 13 42 45.4 -0.8
comp=Z,5.8nm,1.0s
F45A CMU Biological 84.91 33 P P 13 42 45.7 -0.5
baz=323
P36A Good Intent, A 84.94 42 P P 13 42 46.0 -0.5
baz=317
JAVS Javornik 84.96 328 iP P 13 42 45.8 -0.7
MOTA Moosalm 84.97 330 iPcP P 13 42 47.0 +0.3
comp=Z,12nm,1.0s,SNR=8.6
RETA Reutte 84.99 331 iPcP P 13 42 47.4 +0.8
comp=Z,14nm,0.8s,SNR=7.9
Q35A Mercer Eighty, 85.06 43 P P 13 42 46.7 -0.3
baz=317
N38A Joes South For 85.09 40 P P 13 42 46.7 -0.5
baz=318
O37A Wolven Farm, M 85.09 41 P P 13 42 46.8 -0.4
baz=318
M39A Webster 85.11 39 P P 13 42 47.1 -0.1
baz=319
L40A Anamosa 85.14 38 P P 13 42 47.1 -0.3
baz=320
K41A Shullsburg 85.16 37 P P 13 42 47.1 -0.3
baz=320
U32A Winter Ranch, 85.20 46 P P 13 42 47.8 0.0
baz=315
BFO Black Forest 85.20 332 eP P 13 42 47.6 0.0
BFO pmax pmax
comp=Z,20nm,1.2s
BFO Black Forest 85.20 332 eP P 13 42 47.6 0.0
comp=Z,20nm,1.2s
Q36A Arnold C. Orve 85.29 43 P P 13 42 48.0 -0.2
baz=317
S34A Willow Spring 85.31 44 P P 13 42 48.2 -0.1
baz=316
PDG Podgorica 85.34 323⇑ iP P 13 42 48.6 +0.2
R35A Emporia Munici 85.36 44 P P 13 42 48.5 0.0
baz=317
FETA Feichten 85.39 330 iPcP P 13 42 49.1 +0.3
comp=Z,7.5nm,0.8s,SNR=6.1
N39A Derby Farms, D 85.40 40 P P 13 42 48.7 0.0
baz=319
P37A Lathrop 85.41 42 P P 13 42 48.5 -0.3
baz=318
O38A Galt 85.47 41 P P 13 42 49.0 -0.1
baz=318
L41A Preston 85.48 38 P P 13 42 49.0 -0.1
baz=320
M40A Post Highland 85.49 39 P P 13 42 49.2 +0.1
baz=319
DAVA Damuels 85.49 331 iPcP P 13 42 49.9 +0.6
comp=Z,17nm,0.9s,SNR=6.7
ECH Echery 85.72 333 eP P 13 42 50.5 +0.3
R36A Gordon, Harris 85.73 43 P P 13 42 50.5 +0.1
baz=317
T34A McClaskey Farm 85.76 45 P P 13 42 50.4 -0.2
baz=316
S35A Otter Creek Ra 85.76 44 P P 13 42 50.7 +0.1
baz=317
P38A Dawn 85.81 41 P P 13 42 50.6 -0.1
baz=318
O39A Kirksville 85.84 40 P P 13 42 51.0 0.0
baz=319
N40A Mertquake, Sal 85.85 39 P P 13 42 50.9 -0.1
baz=319
Q37A Longview Farm, 85.89 42 P P 13 42 50.6 -0.6
baz=318
FUORN Ofenpass-Fuorn 85.90 330 eP P 13 42 51.8 +0.4
comp=Z,20nm,0.8s
DAVOX Davos/Dischmat 85.91 331 P P 13 42 51.7 +0.3
comp=Z,6.4nm,0.7s,baz=358,slow=3.0,SNR=11
GLMI Grayling 85.98 33 eP P 13 42 52.0 +0.5
comp=Z,63nm,1.0s
M41A Milan 85.99 38 P P 13 42 51.3 -0.3
baz=320
MOF Molkenrain 86.04 333 eP P 13 42 52.1 +0.2
VLDQ Val d'Or 86.04 27 eP P 13 42 50.5 -1.2
comp=Z,20nm,0.9s
R37A Teagarden Farm 86.10 43 P P 13 42 51.9 -0.4
baz=318
S36A Lake Cedric, C 86.12 44 P P 13 42 52.2 -0.1
baz=317
THEF They Montfort 86.12 334 eP P 13 42 52.2 0.0
L43A Garden Prairie 86.22 37 P P 13 42 52.7 -0.1
baz=321
Q38A Cooks Store, C 86.26 42 P P 13 42 52.7 -0.3
baz=318
O40A La Belle 86.28 40 P P 13 42 52.9 -0.1
baz=319
M42A Sheffield 86.31 38 P P 13 42 52.4 -0.7
baz=320
P39B Salisbury 86.31 41 P P 13 42 53.0 -0.2
baz=319
TUE Stuetta 86.37 331 eP P 13 42 53.5 -0.2
comp=Z,8.7nm,1.0s
T36A Boggs Farm, Ca 86.45 44 P P 13 42 54.1 +0.1
baz=317
U35A Pawnee 86.48 45 P P 13 42 54.1 -0.1
baz=316
WMOK Wichita Mounta 86.49 47 P P 13 42 54.2 -0.1
baz=316
WMOK Wichita Mounta 86.49 47 eP P 13 42 54.5 +0.2
WMOK pmax pmax
comp=Z,15nm,0.9s
WMOK Wichita Mounta 86.49 47 eP P 13 42 54.5 +0.2
comp=Z,15nm,0.9s
S37A Fort Scott 86.51 43 P P 13 42 53.9 -0.3
baz=318
Q39A Willow Grove F 86.53 41 P P 13 42 54.0 -0.3
baz=319
LOMF Lomont 86.57 333 eP P 13 42 55.0 +0.5
P40A Paris 86.64 40 P P 13 42 54.9 0.0
baz=319
N42A Yates City 86.65 38 P P 13 42 54.7 -0.2
baz=320
R38A Fenwick Farm, 86.68 42 P P 13 42 54.6 -0.5
baz=318
O41A Passleys Farm, 86.78 39 P P 13 42 55.5 -0.1
baz=320
V35A Meyer Ranch, C 86.86 46 P P 13 42 55.8 -0.3
baz=316
T37A Cheneyville 18 86.93 44 P P 13 42 56.3 -0.1
baz=318
P41A Barry, Barry 87.03 40 P P 13 42 56.6 -0.1
baz=320
Q40A Laux Farm, Aux 87.03 41 P P 13 42 56.7 0.0
baz=319
R39A Chumby, Stover 87.04 42 P P 13 42 56.4 -0.5
baz=319
S38A Stockton 87.09 43 P P 13 42 56.6 -0.5
baz=318
TBI Tubuai 87.19 123 eLR LR 14 10 36.9
comp=Z,134nm,22.0s
HDIL Hopedale 87.22 38 P P 13 42 57.7 0.0
baz=321
HDIL Hopedale 87.22 38 eP P 13 42 57.7 0.0
comp=Z,26nm,0.9s
SENIN Lac Senin/Sane 87.24 332 eP P 13 42 57.6 -0.3
comp=Z,3.7nm,0.8s
TX31 Lajitas Ar. Si 87.27 54 eP P 13 42 58.5 +0.3
TXAR Lajitas Array 87.28 54 P P 13 42 58.8 +0.5

comp=Z,4.4nm,0.9s,baz=301,slow=2.9,SNR=32
TXAR LR LR 14 19 03.9
comp=Z,62nm,19.3s,baz=0.0,slow=34
W35A Tecumseh 87.28 46 P P 13 42 58.0 -0.1
baz=316
T38A Diamond 87.33 43 P P 13 42 58.2 -0.1
baz=318
TUL1 Leonard 87.34 45 P P 13 42 58.5 +0.2
baz=317
TUL1 Leonard 87.34 45 eP P 13 42 58.5 +0.2
comp=Z,31nm,1.4s
V36A Jenks 87.34 45 P P 13 42 58.6 +0.3
baz=317
U37A Salina 87.35 44 P P 13 42 58.4 +0.1
baz=317
S39A Bolivar 87.36 42 P P 13 42 57.9 -0.6
baz=318
P42A Winchester 87.45 39 P P 13 42 58.5 -0.3
baz=320
R40A Maddies Statio 87.46 41 P P 13 42 58.5 -0.3
baz=319
ABTX Abilene, Hawle 87.48 49 P P 13 42 59.2 +0.1
baz=315
ABTX Abilene, Hawle 87.48 49 eP P 13 42 59.1 +0.1
comp=Z,14nm,1.1s
Q41A Truxton 87.49 40 P P 13 42 59.0 +0.1
baz=320
HPIG 87.60 57 eP P 13 43 00.1 0.0
comp=Z,12nm,1.2s
W36A Wetumka 87.66 46 P P 13 43 00.1 +0.2
baz=317
V37A Hulbert 87.72 45 P P 13 43 00.1 0.0
baz=317
U38A Gravette 87.72 44 P P 13 43 00.0 -0.2
baz=318
X35A Drake 87.77 47 P P 13 43 00.3 -0.2
baz=316
P43A Skaggs, Pawnee 87.82 39 P P 13 43 00.3 -0.3
baz=321
T39A Clever 87.83 43 P P 13 43 00.3 -0.4
baz=318
S40A Lebanon 87.86 42 P P 13 43 00.3 -0.5
baz=319
Q42A Golden Eagle 87.88 40 P P 13 43 00.8 -0.1
baz=320
R41A Rosebud 87.91 41 P P 13 43 01.0 -0.1
baz=320
X36A Centrahoma 88.00 46 P P 13 43 01.3 -0.2
baz=317
HHAR Hobbs 88.08 44 eP P 13 43 01.4 -0.5
comp=Z,10nm,1.2s
W37B Quinton 88.10 45 P P 13 43 02.2 +0.2
baz=317
V38A Canehill 88.13 44 P P 13 43 02.2 0.0
baz=318
T40A Mansfield 88.19 42 P P 13 43 02.2 -0.2
baz=319
R42A Luebbering 88.22 40 P P 13 43 02.4 -0.1
baz=320
U39A Green Forest 88.25 43 P P 13 43 02.4 -0.3
baz=318
S41A Jillco Farms, 88.26 41 P P 13 43 02.3 -0.4
baz=319
Q43A New Douglas 88.27 39 P P 13 43 02.4 -0.3
baz=321
P44A Sand Creek, Wi 88.39 38 P P 13 43 03.3 +0.1
baz=321
SFIN Lafayette 88.41 37 P P 13 43 03.2 -0.1
baz=322
Y36A Durant 88.52 47 P P 13 43 04.0 0.0
baz=317
X37A Clayton 88.54 46 P P 13 43 03.5 -0.5
baz=317
V39A Pettigrew 88.57 44 P P 13 43 03.9 -0.4
baz=318
U40A Yellville 88.61 43 P P 13 43 04.1 -0.3
baz=319
S42A Caledonia 88.61 41 P P 13 43 04.3 -0.1
baz=320
Q44A Meyer Farm, Va 88.64 39 P P 13 43 04.2 -0.3
baz=321
W38A Poteau 88.66 45 P P 13 43 04.7 +0.1
baz=318
T41A Mountain View 88.66 42 P P 13 43 04.2 -0.4
baz=319
R43A Red Bud 88.67 40 P P 13 43 04.4 -0.2
baz=320
TRQ Mont Tremblant 88.67 26 eP P 13 43 04.1 -0.5
X38A Whitesboro 88.78 45 P P 13 43 05.1 -0.1
baz=318
Y37A Hugo 88.84 46 P P 13 43 05.7 +0.1
baz=317
PLDF La Plantade 88.89 334 eP P 13 43 05.8 +0.2
JCT Junction City 88.89 51 P P 13 43 05.9 +0.1
baz=315
JCT Junction City 88.89 51 eP P 13 43 05.7 -0.2
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 88.89 51 eP P 13 43 05.7 -0.2
comp=Z,6.0nm,0.8s
Z36A Blue Ridge 88.89 47 P P 13 43 05.9 +0.1
baz=317
W39A Magazine 88.97 44 P P 13 43 05.9 -0.1
baz=318
V40A Witts Springs 89.03 43 P P 13 43 05.9 -0.5
baz=319
U41A Viola 89.11 42 P P 13 43 06.2 -0.5
baz=319
R44A Waltonville 89.11 39 P P 13 43 06.2 -0.5
baz=321
433A Art 89.13 50 P P 13 43 06.2 -0.8
baz=315
S43A Fulton Ridge, 89.13 40 P P 13 43 06.0 -0.8
baz=320
OLIL Olney 89.22 38 eP P 13 43 07.5 +0.4
comp=Z,24nm,1.0s
WHTX Lake Whitney, 89.22 49 P P 13 43 06.7 -0.6
baz=316
WHTX Lake Whitney, 89.22 49 eP P 13 43 07.7 +0.3
comp=Z,21nm,0.9s
334A Lometa 89.23 50 P P 13 43 06.9 -0.5
baz=316
X39A Fountain Ranch 89.30 45 P P 13 43 06.6 -1.0
baz=318
W40A Ferguson Farm, 89.36 44 P P 13 43 06.8 -1.1
baz=319
Y38A Idabel 89.38 46 P P 13 43 06.9 -1.1
baz=318
T43A Greenville 89.40 41 P P 13 43 06.9 -1.1
baz=320
V41A Mountainview 89.41 43 P P 13 43 07.4 -0.7
baz=319
Z37A Pogue Cattle C 89.41 47 P P 13 43 07.0 -1.2
baz=317
S44A Carbondale 89.45 40 P P 13 43 08.1 -0.2
baz=321
U42A Revenden 89.46 42 P P 13 43 08.3 -0.1
baz=320
PBMO Poplar Bluff 89.56 41 eP P 13 43 08.8 0.0
comp=Z,26nm,1.1s
MIAR Mount Ida 89.57 44 P P 13 43 08.5 -0.4
baz=318
MIAR Mount Ida 89.57 44 eP P 13 43 09.4 +0.5
MIAR pmax pmax
comp=Z,18nm,0.9s
MIAR Mount Ida 89.57 44 eP P 13 43 09.3 +0.5
comp=Z,18nm,0.9s
434A Burnet 89.58 50 P P 13 43 08.7 -0.4
baz=316
533A Kerrville 89.65 51 P P 13 43 09.2 -0.2
baz=316
WHAR Wooly Hollow 89.71 43 eP P 13 43 09.5 0.0
comp=Z,17nm,1.0s
Y39A Lockesburg 89.73 45 P P 13 43 09.4 -0.3
baz=318
Z38A Mt. Pleasant 89.74 46 P P 13 43 08.8 -0.9
baz=318
335A Moody 89.75 49 P P 13 43 09.6 -0.2
baz=316
T44A Benton 89.75 40 P P 13 43 09.3 -0.5
baz=321
V42A Cord 89.80 42 P P 13 43 09.6 -0.4
baz=320
S45A Carrier Mills 89.80 39 P P 13 43 08.8 -1.1
baz=321
W41B Gary Mavity, V 89.82 43 P P 13 43 09.7 -0.4
baz=319
633A Saathoff Ranch 90.00 51 P P 13 43 10.6 -0.5
baz=315
X40A Basin Creek Fa 90.02 44 P P 13 43 10.9 -0.1
baz=319
534A Blanco 90.02 51 P P 13 43 10.9 -0.2
baz=316
Z39A Irene McRaven, 90.20 46 P P 13 43 11.7 -0.1
baz=318
M54A Oil Creek Stat 90.77 32 P P 13 43 13.7 -0.7
baz=327
Y42A Garnett, Star 91.08 44 P P 13 43 15.0 -1.0
baz=319
933A Laredo 91.24 53 P P 13 43 16.9 +0.1
baz=315
636A Smothers Creek 91.27 50 P P 13 43 16.2 -0.7
baz=316
834A Tilden 91.33 52 P P 13 43 16.0 -1.2
baz=316
Z42A Norrel Spur, H 91.41 44 P P 13 43 16.2 -1.3
baz=319
ACCN Adirondack Com 91.46 27 eP P 13 43 17.5 0.0
comp=Z,14nm,0.9s
736A Circle Diamond 91.64 50 P P 13 43 17.3 -1.3
baz=316
637A Eagle Lake 91.73 50 P P 13 43 18.1 -1.0
baz=317
Y44A Strider, Charl 91.83 43 P P 13 43 18.2 -1.2
baz=320
OXF Oxford 91.83 42 eP P 13 43 19.2 -0.2
OXF pmax pmax
comp=Z,25nm,0.9s
OXF Oxford 91.83 42 eP P 13 43 19.2 -0.2
comp=Z,25nm,0.9s
SWET Sewanee 93.05 39 eP P 13 43 24.5 -0.6
comp=Z,3.2nm,0.9s
KEST Kesra 95.31 325 LR LR 14 33 06.8
comp=Z,92nm,18.1s,baz=296,slow=40
ESDC Sonseca Array 97.02 336 P P 13 43 42.5 -0.7
comp=Z,0.3nm,0.7s,baz=23,slow=4.7,SNR=5.3
ESDC LR LR 14 33 06.9
comp=Z,50nm,18.9s,baz=260,slow=39
TOA0 Torodi Ar. Sit 117.97 318 ePKPdf PKPdf 13 48 57.3 -1.2
TORD Torodi Ar. Bea 117.97 318 PKP PKPdf 13 48 57.5 -0.9
comp=Z,1.1nm,0.6s,baz=32,slow=1.3,SNR=15
TORD PP PP 13 50 10.8 -1.1
comp=Z,0.5nm,0.8s,baz=41,slow=6.0,SNR=4.5
MAW Mawson 121.93 207 PKP PKPdf 13 49 04.2 -0.2
comp=Z,1.8nm,0.8s,baz=188,slow=2.5,SNR=5.5
DBIC Dimbokro 126.82 321 PKP PKPdf 13 49 14.9 -0.6
comp=Z,3.4nm,0.8s,baz=70,slow=7.2,SNR=3.9
SAML Samuel 141.46 48 ePKPdf PKPdf 13 49 42.0 -0.8
LPAZ La Paz 143.83 61 PKP PKPab 13 49 44.6 -0.1
comp=Z,4.1nm,0.9s,baz=333,slow=2.7,SNR=14
LPAZ La Paz 143.83 61 ePKPpre PKPpre 13 49 44.4
PB11 IPOC Station P 145.06 68 ePKPbc PKPbc 13 49 48.6 0.0
PB01 IPOC Station P 145.98 69 ePKPdf PKPab 13 49 51.9 0.0
LVC Limon Verde 147.36 71 ePKPdf PKPdf 13 49 54.6 +1.3
LCO Las Campanas 149.38 83 ePKPbc PKPbc 13 50 00.2 -0.4
GO09 Cerro Castillo 151.24 128 ePKPbc PKPbc 13 50 05.4 +1.4
PLCA Paso Flores 152.99 106 PKPbc PKPbc 13 50 07.3 -1.1
comp=Z,1.1nm,0.7s,baz=321,slow=6.5,SNR=3.8
CPUP Villa Florida 157.98 63 PKPab PKPab 13 50 41.1 -0.4
comp=Z,1.2nm,0.7s,baz=248,slow=5.4,SNR=3.8

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*NEIC **02** 13:39:45.0±0.0, 18°.95N×65°.72W, h133km, MD3.6(RSPR), After RSPR.*
NEIC Felt [II] at Carolina.

RSPR 02 13:39:45.0, 18°.95N×65°.72W, h133km±2km, MD3.6/5, 21C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.69**	**191**	↑eP	Pn	13 40 05.6	0.0
CBYP	**Canovanas**	**0.69**	**191**	↑eP	Pn	13 40 05.6	0.0
CBYP	**Canovanas**	**0.69**	**191**	↑eP	Pn	13 40 05.6	0.0
HUMP	**Col San Antoni**	**0.81**	**189**	eS	Sn	13 40 22.8	-0.1
HUMP	**Col San Antoni**	**0.81**	**189**	↑eP	Pn	13 40 06.2	-0.3
HUMP	**Col San Antoni**	**0.81**	**189**	↑eP	Pn	13 40 06.2	-0.3
HUMP				eS	Sn	13 40 22.8	-0.1
HUMP	**Col San Antoni**	**0.81**	**189**	↑eP	Pn	13 40 06.2	-0.3
HUMP				eS	Sn	13 40 22.8	-0.1
MTP	**Monte Pirata**	**0.86**	**169**	eS	Sn	13 40 23.7	+0.1
MTP	**Monte Pirata**	**0.86**	**169**	↑eP	Pn	13 40 06.6	-0.4
MTP	**Monte Pirata**	**0.86**	**169**	↑eP	Pn	13 40 06.6	-0.4
MTP				eS	Sn	13 40 23.7	+0.1
MTP	**Monte Pirata**	**0.86**	**169**	↑eP	Pn	13 40 06.6	-0.4
MTP				eS	Sn	13 40 23.7	+0.1
SJG	**San Juan**	**0.93**	**206**	eS	Sn	13 40 24.4	-0.2
SJG	**San Juan**	**0.93**	**206**	↑eP	Pn	13 40 07.1	-0.4
SJG	**San Juan**	**0.93**	**206**	↑eP	Pn	13 40 07.1	-0.4
SJG				eS	Sn	13 40 24.4	-0.2
SJG	**San Juan**	**0.93**	**206**	↑eP	Pn	13 40 07.1	-0.4
SJG				eS	Sn	13 40 24.4	-0.2
AOPR	**Arecibo Observ**	**1.15**	**239**	eS	Sn	13 40 28.2	0.0
AOPR	**Arecibo Observ**	**1.15**	**239**	↑eP	Pn	13 40 09.3	-0.3
AOPR	**Arecibo Observ**	**1.15**	**239**	↑eP	Pn	13 40 09.3	-0.3
AOPR				eS	Sn	13 40 28.2	0.0
AOPR	**Arecibo Observ**	**1.15**	**239**	↑eP	Pn	13 40 09.3	-0.3
AOPR				eS	Sn	13 40 28.2	0.0
CELP	**Cerrillos**	**1.19**	**223**	↓eP	Pn	13 40 09.8	-0.2
CELP	**Cerrillos**	**1.19**	**223**	↓eP	Pn	13 40 09.8	-0.2
CELP	**Cerrillos**	**1.19**	**223**	↓eP	Pn	13 40 09.8	-0.2
OBIP	**Obispado Ponce**	**1.23**	**223**	↑eP	Pn	13 40 10.1	-0.3
OBIP	**Obispado Ponce**	**1.23**	**223**	eS	Sn	13 40 29.6	-0.1
OBIP	**Obispado Ponce**	**1.23**	**223**	↑eP	Pn	13 40 10.1	-0.3
OBIP				eS	Sn	13 40 29.6	-0.1
OBIP	**Obispado Ponce**	**1.23**	**223**	↑eP	Pn	13 40 10.1	-0.3
OBIP				eS	Sn	13 40 29.6	-0.1
CRPR	**Cabo Rojo, PR**	**1.62**	**235**	↑eP	Pn	13 40 14.3	-0.2
CRPR	**Cabo Rojo, PR**	**1.62**	**235**	eS	Sn	13 40 37.5	+0.3
CRPR	**Cabo Rojo, PR**	**1.62**	**235**	↑eP	Pn	13 40 14.3	-0.2
CRPR				eS	Sn	13 40 37.5	+0.3
CRPR	**Cabo Rojo, PR**	**1.62**	**235**	↑eP	Pn	13 40 14.3	-0.2
CRPR				eS	Sn	13 40 37.5	+0.3

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*CSEM **02** 13:52:11.8±0.2, 39°.55N×30°.54E, h2km, MD2.5, Error ellipse: s-maj=6.2km s-min=5.5km az=127.0*
*DDA **02** 13:52:11.5, 39°.55N×30°.55E, h7km, Md2.5*
*ISK **02** 13:52:11.7, 39°.44N×30°.53E, h27km, MD2.6*
*ISCJB **02** 13:52:12.3±0.5, 39°.54N±0°.03×30°.57E±0°.04, h11km, Error ellipse: s-maj=4.9km s-min=4.8km az=5.6*

ISC 02 13:52:12.0±0.8, 39°.56N±0°.03×30°.54E±0°.03, h11km, n22, σ0§49/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKT	**Eskisehir**	**0.24**	**100**	*i*P	**Pg**	**13 52 16.6**	**-0.6**
ESKT				*i*S	**Sg**	**13 52 20.4**	**-0.1**
SEYT	**Eskypehyr**	**0.24**	**100**	P	**Pg**	**13 52 16.5**	**-0.6**
SEYT				S	**Sg**	**13 52 20.4**	**-0.1**
BORA	**Eskisehir**	**0.33**	**348**	*i*P	**Pg**	**13 52 17.6**	**-1.0**
BORA	**Eskisehir**	**0.33**	**348**	P	**Pg**	**13 52 17.6**	**-1.0**
SVRH	**Sivrihisar-ESK**	**0.77**	**98**	*e*PG	**Pg**	**13 52 27.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**0.77**	**98**	*e*Pg	**Pg**	**13 52 27.0**	**+0.2**
TVSB	**Tavsanli**	**0.84**	**263**	*e*PG	**Pg**	**13 52 27.9**	**-0.4**
TVSB	**Tavsanli**	**0.84**	**263**	*e*Pg	**Pg**	**13 52 27.9**	**-0.4**
GULT	**Gulveren**	**0.87**	**359**	*e*PG	**Pn**	**13 52 30.1**	**-0.1**
GULT				*e*SG	**Sn**	**13 52 43.8**	**+0.8**
GULT	**Gulveren**	**0.87**	**359**	*e*Pg	**Pn**	**13 52 30.2**	**-0.1**
BOLV	**Bolvadin**	**0.90**	**159**	*i*P	**Pg**	**13 52 28.9**	**-0.5**
BOLV				*i*S	**Sb**	**13 52 41.5**	**-0.2**
BOLV	**Bolvadin**	**0.90**	**159**	P	**Pg**	**13 52 28.9**	**-0.5**
BOLV				S	**Sb**	**13 52 41.5**	**-0.2**
GDZ	**Gediz**	**0.95**	**240**	*i*P	**Pg**	**13 52 29.7**	**-0.5**
GDZ	**Gediz**	**0.95**	**240**	P	**Pg**	**13 52 29.7**	**-0.5**
MDUB	**Mudurnu**	**1.04**	**29**	*e*PN	**Pb**	**13 52 32.5**	**+0.5**
MDUB	**Mudurnu**	**1.04**	**29**	*e*Pn	**Pb**	**13 52 32.6**	**+0.5**
SAHE	**Sakarya_HENDEK**	**1.31**	**10**	*i*P	**Pb**	**13 52 37.1**	**+0.4**
SAHE	**Sakarya_HENDEK**	**1.31**	**10**	P	**Pb**	**13 52 37.1**	**+0.4**
KHAL	**Karahalli**	**1.44**	**215**	*i*P	**Pn**	**13 52 37.6**	**-0.5**
KHAL	**Karahalli**	**1.44**	**215**	P	**Pn**	**13 52 37.7**	**-0.5**
DEMI	**Demirci**	**1.51**	**250**	*i*P	**Pg**	**13 52 41.0**	**+0.1**
DEMI				*i*S	**Sg**	**13 53 00.9**	**+0.4**
DEMI	**Demirci**	**1.51**	**250**	P	**Pg**	**13 52 41.0**	**+0.1**
DEMI				S	**Sg**	**13 53 00.9**	**+0.4**

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*DJA **02** 13:59:11.9±1.0, 1°S±16°×12°7E±°, h33km±41km, M4.0/6, mb4.2/1, MLv3.8/6*
*ISCJB **02** 13:59:12.1±1.2, 1°.20S±0°.10×127°.05E±0°.08, h33km, mb3.5/2, Error ellipse: s-maj=15.6km s-min=8.8km az=144.9*
*IDC **02** 13:59:13.3±1.5, 1°.79S×127°.38E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/30, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=33.6km s-min=25.1km az=60.0*

ISC 02 13:59:11.8±1.6, 1°.14S±0°.09×126°.97E±0°.08, h35km, n11, σ1§33/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.73**	**47**	P	**Pn**	**13 59 25.7**	**0.0**
SANI	**Sanana**	**1.33**	**227**	P	**Pn**	**13 59 35.2**	**+1.3**
NLAI	**Namlea**	**2.09**	**176**	P	**Pn**	**13 59 44.8**	**+0.5**
AAI	**Ambon**	**2.81**	**154**	P	**Pn**	**13 59 55.2**	**+0.9**
MSAI	**Masohi**	**2.94**	**138**	P	**Pn**	**13 59 57.2**	**+1.1**
SIJI	**Sorong**	**4.31**	**86**	Pn	**Pn**	**14 00 16.8**	**+1.9**
	26nm,0.3s,baz=268,slow=23,SNR=15						
SIJI				Sn	**Sn**	**14 01 04.7**	**+0.7**
	8.8nm,0.3s,baz=114,slow=20,SNR=5.8						
BNDI	**Bandanaira**	**4.46**	**139**	P	**Pn**	**14 00 17.2**	**+0.2**
FAKI	**Fak Fak**	**5.56**	**109**	P	**Pn**	**14 00 32.4**	**+0.2**
WRA	**Warramunga Arr**	**20.03**	**159**	P	**P**	**14 03 40.0**	**-2.0**
	0.2nm,0.3s,baz=341,slow=12,SNR=13						
ASAR	**Alice Springs**	**23.38**	**164**	P	**P**	**14 04 16.1**	**-1.4**
	0.5nm,0.4s,baz=348,slow=12,SNR=7.8						
MKAR	**Makanchi Array**	**61.70**	**327**	P	P	14 09 38.3	+12
	0.4nm,0.7s,baz=128,slow=8.4,SNR=3.2						

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*SOME **02** 14:03:22.9, 42°.05N×81°.23E, h15km*
*NNC **02** 14:03:26.2±1.0, 42°.17N×81°.32E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=7.5km s-min=4.5km az=156.0*

ISC 02 14:03:24.1±2.1, 42°.06N±0°.08×81°.17E±0°.07, h10km, n28, σ1§95/49, 12C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.67**	**312**	*e*P	**Pn**	**14 03 52.9**	**-0.6**
	51nm,0.2s						
SHLS				*e*S	**Sn**	**14 04 14.3**	**-0.8**
	279nm,0.5s						
PDGK	**Podgornoye**	**1.77**	**316**	⇑P	**Pg**	**14 03 58.6**	**+0.5**
	30nm,0.5s						
PDGK				⇑S	**Sg**	**14 04 22.2**	**+1.1**
	55nm,0.4s						
UZB	**Uzynbulak**	**1.92**	**305**	*e*P	**Pg**	**14 04 01.4**	**+0.4**
	28nm,0.6s						
UZB				*e*S	**Sg**	**14 04 28.8**	**+3.0**
	58nm,0.5s						
SATY	**Saty**	**2.27**	**297**	*e*P	**Pg**	**14 04 07.2**	**-0.4**
	29nm,0.8s						
SATY				*e*S	**Sg**	**14 04 39.6**	**+2.5**
	214nm,0.5s						
ZHN	**Zhinishke**	**2.30**	**300**	*e*P	**Pg**	**14 04 08.1**	**-0.1**
	17nm,0.3s						
ZHN				*e*S	**Sg**	**14 04 40.4**	**+2.4**
	147nm,0.3s						
DJR	**Jarkent**	**2.49**	**337**	*e*P	**Pb**	**14 04 07.8**	**-1.1**
	13nm,0.5s						
DJR				*e*S	**Sb**	**14 04 40.0**	**+0.4**
	74nm,0.5s						
KURS	**Kuram**	**2.63**	**304**	*e*P	**Pb**	**14 04 10.7**	**-0.6**
KURS				*e*S	**Sb**	**14 04 44.8**	**+1.1**
MNBS	**Baschi**	**2.86**	**316**	*e*P	**Pb**	**14 04 12.9**	**-2.4**
MNBS				*e*S	**Sb**	**14 04 49.0**	**-1.4**
KOTS	**Kotyrbulak**	**3.21**	**293**	*e*P	**Pb**	**14 04 19.9**	**-1.5**
KOTS				*e*S	**Sb**	**14 05 00.8**	**+0.1**
MDOK	**Medeo**	**3.23**	**291**	⇑Pg	**Pg**	**14 04 26.9**	**+0.9**
MDOK				⇑Lg	Lg	14 05 09.3	
MDOK	**Medeo**	**3.23**	**291**	*e*P	**Pg**	**14 04 23.8**	**-2.2**
	3.4nm,0.4s						
MDOK				*e*S	**Sg**	**14 05 08.0**	**0.0**
	37nm,0.8s						
ARXS	**Arharly**	**3.26**	**313**	*e*P	**Pb**	**14 04 22.1**	**0.0**
ARXS				*e*S	**Sb**	**14 05 05.0**	**+3.2**
TNSS	**Tian-Shan**	**3.27**	**289**	*e*P	**Pb**	**14 04 23.4**	**+1.0**
TNSS				*e*S	**Sg**	**14 05 07.5**	**-1.5**
AAA	**Alma-Ata**	**3.34**	**292**	*e*P	**Pg**	**14 04 26.4**	**-1.7**
	21nm,0.2s						
AAA				*e*S	**Sg**	**14 05 12.4**	**+1.0**
	94nm,0.3s						
KAPS	**Kapalarasan**	**3.48**	**338**	*e*P	**Pb**	**14 04 22.3**	**-3.5**
	10nm,0.3s						
KAPS				*e*S	**Sb**	**14 05 04.7**	**-3.5**
	24nm,0.6s						
IZV	**Izvestkoviy**	**3.50**	**288**	*e*P	**Pb**	**14 04 28.0**	**+1.7**
	6.8nm,0.6s						
IZV				*e*S	**Sg**	**14 05 14.8**	**-1.8**
	46nm,0.8s						
CHKK	**Chushkaly**	**3.55**	**302**	*e*P	**Pb**	**14 04 28.5**	**+1.4**
CHKK				*e*S	**Sg**	**14 05 15.7**	**-2.5**
TDK	**Taldyqorghan**	**3.56**	**327**	*e*P	**Pb**	**14 04 28.6**	**+1.5**
	13nm,0.3s						
TDK				*e*S	**Sg**	**14 05 15.7**	**-2.7**
	54nm,0.7s						
MTBS	**Maitube**	**3.66**	**289**	*e*P	**Pb**	**14 04 30.4**	**+1.5**
	3.8nm,0.2s						
MTBS				*e*S	**Sg**	**14 05 18.9**	**-2.6**
	27nm,0.5s						
KTBS	**Karatobe**	**3.69**	**298**	*e*P	**Pb**	**14 04 30.7**	**+1.4**
KTBS				*e*S	**Sg**	**14 05 19.5**	**-3.0**
DGS	**Degeres**	**4.15**	**288**	*e*P	**Pb**	**14 04 36.9**	**-0.4**
	3.6nm,0.6s						
DGS				*e*S	**Sb**	**14 05 30.0**	**+2.5**
	17nm,0.9s						
TKM2	**Tokmak 2**	**4.21**	**284**	⇑Pg	**Pg**	**14 04 44.3**	**-0.4**
	2.5nm,0.5s						
TKM2				⇓Lg	Lg	14 05 42.0	
	9.9nm,0.5s						
MAKZ	**Makanchi**	**4.79**	**7**	⇑Pn	**Pn**	**14 04 37.7**	**+1.5**
	5.9nm,0.9s						
MAKZ				⇑Sn	**Sn**	**14 05 33.5**	**+1.8**
	3.4nm,0.5s						
MAKZ				⇓Lg	Lg	14 05 53.5	
	4.9nm,0.7s						
MK31	**Makanchi Array**	**4.80**	**9**	⇑Pn	**Pn**	**14 04 36.4**	**-0.1**
	0.3nm,0.2s,baz=189,slow=13,SNR=11						
MK31				⇑Sn	**Sn**	**14 05 35.6**	**+3.4**
	6.5nm,0.7s,baz=187,slow=23,SNR=6.9						
MK31				⇓Lg	Lg	14 05 52.0	
	5.8nm,0.4s,baz=186,slow=29,SNR=6.0						
AAK	**Ala-Archa**	**4.98**	**279**	Pg	**Pg**	**14 04 57.8**	**-1.6**
AAK				⇑Lg	Lg	14 06 07.2	
	13nm,0.9s						
MNAS	**Manas**	**6.44**	**277**	⇑Lg	Lg	14 06 55.1	
KK31	**Karatay Array**	**7.93**	**281**	⇓Pg	**Pg**	**14 05 52.3**	**-3.6**
	0.3nm,0.3s						
KK31				⇑Lg	Lg	14 07 40.4	
	1.0nm,0.6s						
KURK	**Kurchatov**	**8.84**	**349**	⇓Sn	**Sn**	**14 07 14.1**	**+2.7**
	1.7nm,0.5s						
KURK				⇓Lg	Lg	14 08 04.2	
	8.5nm,1.4s						

KRNET 02 14:04:29.3±0.1, 42°.45N×73°.97E, h17km, mb1.7, 11C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.25**	**327**	⇓*i*P	Pg	14 04 35.3	+0.2
	baz=329						
EKS2				⇓*i*S	Sg	14 04 39.1	0.0
	baz=329						
AML	**Almayashu**	**0.38**	**213**	⇑*i*P	Pg	14 04 37.4	+0.1
	baz=214						
AML				⇑*i*S	Sg	14 04 42.8	+0.1
	baz=214						
AAK	**Ala-Archa**	**0.43**	**64**	⇑*i*P	Pg	14 04 38.3	+0.1
	baz=65						
AAK				⇑*i*S	Sg	14 04 44.1	-0.1
	baz=65						
AAK	**Ala-Archa**	**0.43**	**64**	⇑Pn	Sg	14 04 43.7	-0.5
	1.7nm,0.5s						
CHMS	**Chumysh**	**0.80**	**46**	⇑*i*P	Pg	14 04 45.0	+0.1
	baz=46						
CHMS				⇑*i*S	Sg	14 04 55.6	+0.1
	baz=46						
USP	**Ospenovka**	**0.91**	**25**	⇑*i*P	Pg	14 04 46.8	-0.2
	baz=25						
USP				⇑*i*S	Sg	14 04 59.3	+0.4
	baz=25						
MNAS	**Manas**	**1.08**	**272**	⇑*i*P	Pn	14 04 50.0	+0.1
	baz=273						
MNAS				⇑*i*S	Sg	14 05 04.2	-0.3
	baz=273						

*IDC **02** 14:39:06.7±0.4, 1.°35N×126.°16E, h0km, mb4.5/27, mb1 4.5/29, mb1mx4.5/37, mbtmp4.5/29, ML4.6/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/33, Error ellipse: s-maj=19.1km s-min=8.7km az=75.0*
*NEIC **02** 14:39:11.4±0.2, 1.°34N×126.°24E, h35km, mb4.8/21, Error ellipse: s-maj=7.6km s-min=3.8km az=70.0*
*BJI **02** 14:39:12.5, 0.°93N×126.°37E, h93km, mb4.7/43, mB5.0/34*
*ISCJB **02** 14:39:13.8±0.6, 1.°30N±0.°03×126.°28E±0.°05, h73km±6km, mb4.5/52, Error ellipse: s-maj=8.0km s-min=4.6km az=157.4*
*DJA **02** 14:39:13.7±0.5, 1.°N±3.°×12.°6E±.°, h10km, M4.5/6, mB4.8/1, mb4.5/2, MLv4.5/6, Mw(mB)4.0/1*

ISC 02 14:39:16.1±0.8, 1.°31N±0.°04×126.°26E±0.°07, h76km±7km, n107, σ1ϑ81/123, mb4.6/52, 1C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.30**	**147**	P		**Pn**		**14 39 50.3**	**-1.6**
SANI	**Sanana**	**3.35**	**185**	P		**Pn**		**14 40 04.1**	**-2.0**
SANI				S		**Sn**		**14 40 42.9**	**-1.9**
MRSI	**Marisa**	**4.40**	**259**	P		**Pn**		**14 40 21.5**	**+1.0**
NLAI	**Namlea**	**4.59**	**169**	P		**Pn**		**14 40 22.4**	**-0.7**
NLAI				S		**Sn**		**14 41 12.6**	**-2.6**
GSPH	**General Santos**	**4.92**	**345**	∥*iP*		**Pn**		**14 40 25.4**	**-2.4**
AAI	**Ambon**	**5.32**	**159**	P		**Pn**		**14 40 32.7**	**-0.4**
AAI				S		**Sn**		**14 41 31.5**	**-1.6**
MSAI	**Masohi**	**5.34**	**150**	P		**Pn**		**14 40 34.6**	**+1.3**
SIJI	**Sorong**	**5.45**	**113**	Pn		**Pn**		**14 40 32.2**	**-2.6**
	19nm,0.3s,baz=312,slow=8.4,SNR=31								
MATI	**Mati**	**5.60**	**360**	*e*P		**Pn**		**14 40 37.5**	**+0.6**
MATI				*e*S		**Sn**		**14 41 43.8**	**+3.9**
FAKI	**Fak Fak**	**7.31**	**125**	*e*Pn		**Pn**		**14 41 01.0**	**+0.7**
MYLDM	**Lahad Datu**	**8.65**	**297**	*e*Pn		**Pn**		**14 41 19.2**	**+0.7**
KAPI	**Kappang**	**9.04**	**226**	*e*Pn		**Pn**		**14 41 25.2**	**+1.3**
	23nm,0.6s								
SOEI	**Soe**	**11.17**	**190**	*e*Pn		**Pn**		**14 41 57.4**	**+4.3**
KSM	**Kuching**	**15.95**	**271**	*e*Pn		**P**		**14 42 57.8**	**-0.4**
	46nm,1.3s								
FITZ	**Fitzroy Crossi**	**19.30**	**182**	P		**P**		**14 43 34.1**	**-0.9**
	baz=356,slow=4.8,SNR=6.2								
MYKOM	**Kota Tinggi**	**22.41**	**272**	*e*P		**P**		**14 44 08.1**	**-0.6**
	39nm,1.3s								
TPUB	**Ta-pu**	**22.54**	**346**	*e*P		**P**		**14 44 06.5**	**-3.4**
	515nm,2.0s								
WRAB	**Tennant Creek**	**22.55**	**160**	*e*P		**P**		**14 44 08.4**	**-1.7**
	44nm,1.1s								
WRA	**Warramunga Arr**	**22.56**	**160**	P		**P**		**14 44 08.6**	**-1.6**
	22nm,0.7s,baz=337,slow=11,SNR=88								
WRA				S		**S**		**14 48 12.0**	**-0.3**
	2.6nm,1.0s,baz=340,slow=14,SNR=7.8								
WB2	**Warramunga Arr**	**22.56**	**160**	*e*P		**P**		**14 44 08.1**	**-2.1**
COEN	**Coen**	**22.60**	**133**	*e*P		**P**		**14 44 09.0**	**-1.7**
	11nm,0.9s								
MBWA	**Marble Bar**	**23.23**	**196**	*e*P		**P**		**14 44 16.0**	**-0.9**
PMG	**Port Moresby**	**23.38**	**118**	P		**P**		**14 44 18.4**	**0.0**
	12nm,0.9s,baz=268,slow=12,SNR=5.1								
PMG	**Port Moresby**	**23.38**	**118**	*e*P		**P**		**14 44 17.9**	**-0.5**
	12nm,0.8s								
QIZ	**Qiongzhong**	**23.86**	**319**	P		**P**		**14 44 22.2**	**-0.4**
QIZ				S		**S**		**14 48 36.7**	**+3.4**
QIZ				LR		LR			
	comp=Z,240nm,26.7s								
JOW	**Kunigami**	**25.45**	**4**	LR		LR		14 53 36.5	
	comp=Z,16nm,21.4s,baz=342,slow=34								
KULM	**Kulim**	**25.87**	**279**	*e*P		**P**		**14 44 40.2**	**-0.7**
AS31	**Alice Springs**	**25.91**	**164**	*e*P		**P**		**14 44 40.9**	**-0.4**
	4.1nm,0.6s								
ASAR	**Alice Springs**	**25.91**	**164**	P		**P**		**14 44 40.9**	**-0.4**
	4.5nm,0.6s,baz=345,slow=7.8,SNR=47								
ASAR				S		**S**		**14 49 14.6**	**+8.5**
	1.8nm,0.7s,baz=347,slow=20,SNR=7.2								
AS01	**Alice Springs**	**25.93**	**164**	*e*P		**P**		**14 44 40.6**	**-0.8**
PSI	**Prapat**	**27.36**	**274**	LR		LR		14 55 57.6	
	comp=Z,114nm,18.7s,baz=82,slow=37								
CTA	**Charters Tower**	**28.92**	**138**	P		**P**		**14 45 08.4**	**+0.2**
	4.7nm,1.0s,baz=9.5,slow=12,SNR=3.3								
GYA	**Guiyang**	**31.31**	**325**	*e*P		**P**		**14 45 31.0**	**+1.6**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NJ2	**Nanjing**	**31.37**	**348**	*e*P		**P**		**14 45 27.9**	**-1.7**
NJ2				pmax		pmax			
	comp=Z,29nm,1.1s								
CM01	**Chiang Mai Arr**	**31.73**	**304**	*e*P		**P**		**14 45 31.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**31.76**	**304**	P		**P**		**14 45 33.0**	**-0.3**
	1.6nm,0.9s,baz=119,slow=7.3,SNR=11								
CMAR				PcP		**PcP**		**14 48 25.4**	**+2.1**
	1.2nm,0.8s,baz=129,slow=2.3,SNR=6.1								
JNU	**Nakatsue**	**31.94**	**7**	P		**P**		**14 45 33.8**	**-1.0**
	8.2nm,1.0s,baz=291,slow=3.3,SNR=3.5								
KMI	**Kunming**	**32.80**	**318**	P		**P**		**14 45 43.7**	**+1.1**
KMI				pmax		pmax			
	comp=Z,14nm,1.1s								
KMI				pmax		pmax			
	comp=Z,350nm,4.3s								
NWAO	**Narrogin (SRO)**	**35.10**	**193**	P		**P**		**14 46 02.7**	**+0.5**
	7.6nm,0.6s,baz=241,slow=7.9,SNR=8.6								
NWAO				LR		LR		15 01 57.6	
	comp=Z,121nm,19.6s,baz=237,slow=39								
KSAR	**Wonju Array Be**	**35.99**	**2**	P		**P**		**14 46 10.8**	**+1.1**
KSRS	**Korea Array**	**36.00**	**2**	P		**P**		**14 46 10.8**	**+1.0**
	2.9nm,0.9s,baz=181,slow=10,SNR=6.6								
STKA	**Stephens Creek**	**36.06**	**158**	P		**P**		**14 46 10.7**	**+0.3**
	6.9nm,0.6s,baz=330,slow=9.5,SNR=23								
STKA	**Stephens Creek**	**36.06**	**158**	*e*P		**P**		**14 46 10.6**	**+0.1**
	2.6nm,1.0s								
MJAR	**Matsushiro Arr**	**36.76**	**16**	P		**P**		**14 46 15.4**	**-0.9**
	2.3nm,0.8s,baz=185,slow=10.0,SNR=6.1								
BJI	**Beijing**	**39.63**	**348**	P		**P**		**14 46 40.9**	**+0.6**
BJI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BJI				pmax		pmax			
	comp=Z,130nm,4.2s								
LZH	**Lanzhou**	**40.37**	**332**	*e*P		**P**		**14 46 47.0**	**+0.2**
LZH				pP		pP		14 47 08.5	+3.3
LZH				sP		sP		14 47 19.3	+5.3
LZH				PP		**PP**		**14 48 23.1**	**+2.0**
LZH				pmax		pmax			
	comp=Z,22nm,1.3s								
LZH				pmax		pmax			
	comp=Z,78nm,5.4s								
LZH				LR		LR			
	comp=N,310nm,14.0s								
LZH				LR		LR			
	comp=E,310nm,13.8s								
LZH				LR		LR			
	comp=Z,370nm,17.6s								
HHC	**Hu-ho-hao-te**	**41.55**	**343**	*e*P		**P**		**14 46 56.4**	**+0.1**
HHC				S		**S**		**14 53 09.2**	**+2.4**
HHC				SS		**SS**		**14 56 10.2**	**-4.2**
HHC				pmax		pmax			
	comp=Z,14nm,1.2s								
HHC				pmax		pmax			
	comp=Z,41nm,5.6s								
HHC				LR		LR			
	comp=N,280nm,17.7s								
HHC				LR		LR			
	comp=E,250nm,17.1s								
HHC				LR		LR			
	comp=Z,120nm,16.3s								
USRK	**Ussuriysk Ar.**	**43.01**	**6**	P		**P**		**14 47 08.6**	**+0.7**
	4.0nm,0.6s,baz=160,slow=6.1,SNR=6.3								
MDJ	**Mudanjiang**	**43.23**	**3**	P		**P**		**14 47 09.8**	**+0.1**
MDJ				S		**S**		**14 53 34.0**	**+3.0**
MDJ				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,64nm,3.7s								
MDJ				LR		LR			
	comp=N,56nm,26.9s								
MDJ				LR		LR			
	comp=E,25nm,22.6s								
MDJ				LR		LR			
	comp=Z,76nm,28.6s								
LSA	**Lhasa**	**43.72**	**314**	*e*P		**P**		**14 47 13.8**	**-0.7**
	6.3nm,0.6s								
GTA	**Gaotai**	**44.95**	**331**	*e*P		**P**		**14 47 23.2**	**-0.5**
GTA				PcP		**PcP**		**14 49 06.3**	**+2.4**
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ASAJ	**Asahikawa**	**45.03**	**17**	P		**P**		**14 47 25.1**	**+0.9**
	13nm,1.0s,baz=259,slow=16,SNR=5.6								
TAPN	**Taplejung**	**45.11**	**309**	*e*P		**P**		**14 47 24.3**	**-1.1**
ODAN	**Odare**	**45.13**	**308**	*e*P		**P**		**14 47 24.8**	**-0.7**
DZM	**Mont Dzumac**	**45.57**	**123**	LR		LR		15 07 06.9	
	comp=Z,38nm,19.9s,baz=206,slow=37								
RAMN	**Ramite**	**45.80**	**307**	*e*P		**P**		**14 47 30.1**	**-0.7**
	13nm,0.7s								
JIRN	**Jiri**	**46.45**	**308**	*e*P		**P**		**14 47 35.1**	**-0.9**
GUN	**Gumba**	**46.80**	**308**	*e*P		**P**		**14 47 38.2**	**-0.6**
	23nm,0.6s								
PKIN	**Phulchoki**	**47.03**	**307**	*e*P		**P**		**14 47 40.1**	**-0.4**
	9.6nm,0.6s								
KKN	**Kakani**	**47.22**	**308**	*e*P		**P**		**14 47 40.5**	**-1.4**
KLR	**Kul'dur**	**47.97**	**5**	P		**P**		**14 47 46.9**	**-0.2**
	0.3nm,0.6s,baz=191,slow=4.9,SNR=8.9								
KOLN	**Koldanda**	**48.55**	**307**	*e*P		**P**		**14 47 51.0**	**-1.2**
	39nm,0.6s								
PYUN	**Piuthan**	**49.18**	**307**	*e*P		**P**		**14 47 56.1**	**-0.9**
	42nm,0.8s								
SONM	**Songino Array**	**49.44**	**342**	P		**P**		**14 47 57.9**	**-0.6**
	2.4nm,1.0s,baz=162,slow=9.9,SNR=8.5								
SONM				PcP		**PcP**		**14 49 20.8**	**+1.0**
	1.2nm,0.9s,baz=117,slow=1.9,SNR=3.6								
SONA1	**Songino Array**	**49.45**	**342**	*e*P		**P**		**14 47 57.9**	**-0.7**
TLY	**Talaya**	**53.68**	**343**	LR		LR		15 13 38.0	
	comp=Z,15nm,19.8s,baz=173,slow=39								
WMQ	**Urumqi**	**54.45**	**326**	*e*P		**P**		**14 48 36.2**	**+0.4**
WMQ				pP		pP		14 48 57.3	+2.2
WMQ				sP		sP		14 49 08.1	+4.4
WMQ				ScP		**ScP**		**14 53 26.9**	**-3.3**
WMQ				S		**S**		**14 56 02.0**	**-6.9**
WMQ				pmax		pmax			
	comp=Z,10.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,77nm,4.7s								
WMQ				LR		LR			
	comp=N,100nm,32.3s								
WMQ				LR		LR			
	comp=E,84nm,28.1s								
WMQ				LR		LR			
	comp=Z,46nm,29.5s								
PETK	**Petropavlovsk-**	**57.84**	**22**	P		**P**		**14 49 00.5**	**+0.8**
	9.6nm,1.1s,baz=186,slow=10,SNR=4.7								
MK01	**Makanchi Array**	**59.26**	**326**	*e*P		**P**		**14 49 08.8**	**-1.0**
MK31	**Makanchi Array**	**59.28**	**326**	*e*P		**P**		**14 49 09.1**	**-0.8**
MKAR	**Makanchi Array**	**59.28**	**326**	P		**P**		**14 49 09.3**	**-0.6**
	5.0nm,0.6s,baz=119,slow=7.5,SNR=38								
MKAR				PcP		**PcP**		**14 49 57.9**	**+0.6**
	1.6nm,0.6s,baz=106,slow=5.8,SNR=4.5								
MKAR	**Makanchi Array**	**59.28**	**326**	*e*P		**P**		**14 49 09.1**	**-0.8**
	38nm,0.6s								
MKAR				PcP		**PcP**		**14 49 57.9**	**+0.6**
KSH	**Kashi**	**59.44**	**316**	P		**P**		**14 49 12.3**	**+1.1**
KSH				PcP		**PcP**		**14 49 58.2**	**-0.1**
KSH				*e*PP		**PP**		**14 51 25.7**	**+2.4**
KSH				S		**S**		**14 57 12.9**	**-2.0**
KSH				ScS		**ScS**		**14 58 50.4**	**-4.3**
KSH				pmax		pmax			
	comp=Z,15nm,1.5s								
KSH				pmax		pmax			
	comp=Z,59nm,5.4s								
KSH				LR		LR			
	comp=N,58nm,5.8s								
KSH				LR		LR			
	comp=E,76nm,7.2s								
KSH				LR		LR			
	comp=Z,85nm,5.6s								
MAKZ	**Makanchi**	**59.46**	**326**	*e*P		**P**		**14 49 10.3**	**-0.8**
	8.3nm,0.9s								
RPZ	**Rata Peaks**	**60.08**	**144**	LR		LR		15 15 56.4	
	comp=Z,86nm,20.6s,baz=298,slow=37								
YAK	**Yakutsk**	**60.63**	**2**	P		**P**		**14 49 18.5**	**-0.2**
	7.8nm,0.6s,baz=298,slow=2.5,SNR=7.7								
YAK	**Yakutsk**	**60.63**	**2**	*e*P		**P**		**14 49 17.9**	**-0.8**
	14nm,0.8s								
AAK	**Ala-Archa**	**61.85**	**319**	*e*P		**P**		**14 49 27.4**	**-0.2**
	6.1nm,1.2s								
ZAA0	**Zalesovo Array**	**62.53**	**334**	*e*P		**P**		**14 49 30.1**	**-1.6**
ZALV	**Zalesovo Beam**	**62.53**	**334**	P		**P**		**14 49 30.2**	**-1.5**
	1.3nm,0.4s,baz=122,slow=4.9,SNR=9.2								
KBL	**Kabul**	**62.64**	**309**	*e*P		**P**		**14 49 32.1**	**-0.9**
	8.1nm,0.8s								
KURK	**Kurchatov**	**63.53**	**328**	*e*P		**P**		**14 49 37.5**	**-0.9**
	22nm,0.8s								
KKAR	**Karatay Array**	**64.69**	**318**	*e*P		**P**		**14 49 45.1**	**-1.1**
	30nm,0.8s								
BRVK	**Borovoye**	**69.16**	**328**	*e*P		**P**		**14 50 13.6**	**-0.8**
	6.8nm,0.8s								
TIXI	**Tiksi**	**70.25**	**1**	P		**P**		**14 50 20.6**	**-0.1**
	baz=192,slow=5.4								
GEYT	**Alibeck**	**72.05**	**310**	P		**P**		**14 50 32.3**	**0.0**
	3.2nm,0.7s,baz=132,slow=2.2,SNR=8.7								
NRIK	**Noril'sk**	**72.66**	**347**	P		**P**		**14 50 35.3**	**+0.1**
	8.3nm,0.8s,baz=133,slow=7.1,SNR=14								
ABKAR	**Akbulak array**	**73.73**	**321**	*e*P		**P**		**14 50 41.1**	**-0.8**
	56nm,0.6s								
ARU	**Arti**	**76.73**	**328**	*e*P		**P**		**14 50 58.0**	**-0.9**
	14nm,0.7s								
VNDA	**Vanda**	**81.10**	**173**	P		**P**		**14 51 23.8**	**+1.3**
	2.2nm,0.5s,baz=318,slow=5.8,SNR=9.5								
VNDA	**Vanda**	**81.10**	**173**	*e*P		**P**		**14 51 22.9**	**+0.4**
	4.1nm,0.9s								
MAW	**Mawson**	**81.34**	**200**	P		**P**		**14 51 25.0**	**+1.1**
	1.7nm,0.7s,baz=46,slow=6.8,SNR=5.8								
MAW	**Mawson**	**81.34**	**200**	*e*P		**P**		**14 51 24.7**	**+0.8**
	3.2nm,1.8s								
TT01	**Tatalina**	**83.25**	**27**	*e*P		**P**		**14 51 35.0**	**+1.0**
KBZ	**Khabaz**	**84.30**	**314**	P		**P**		**14 51 40.0**	**+0.3**
	5.7nm,1.0s,baz=85,slow=12,SNR=6.0								
ILAR	**Eielson Array**	**87.48**	**25**	P		**P**		**14 51 54.5**	**-0.5**
	0.6nm,0.7s,baz=253,slow=4.8,SNR=6.8								
KMBO	**Kilima Mbogo**	**89.04**	**269**	P		**P**		**14 52 04.3**	**+0.5**
	0.7nm,0.2s,baz=45,slow=15,SNR=3.2								
ARCES	**ARCESS Array B**	**92.55**	**340**	P		**P**		**14 52 18.0**	**-0.6**
	2.9nm,0.9s,baz=318,slow=1.6,SNR=3.9								
AKASG	**Malin Array Be**	**93.46**	**321**	P		**P**		**14 52 23.7**	**+0.5**
	0.9nm,0.7s,baz=68,slow=4.9,SNR=6.4								
FINES	**FINESS Array B**	**93.73**	**332**	P		**P**		**14 52 24.9**	**+0.7**
	2.5nm,0.6s,baz=44,slow=5.8,SNR=13								
TESR	**Tescani**	**95.68**	**317**	∥*iP*		**P**		**14 52 33.8**	**+0.3**
VRI	**Vrinciooaia**	**95.71**	**316**	⇑*iP*		**P**		**14 52 38.2**	**+4.5**
MLR	**Muntele Rosu**	**96.31**	**316**	⇑*iP*		**P**		**14 52 37.2**	**+0.6**
BURAR	**Bucovina Array**	**96.48**	**318**	∥*iP*		**P**		**14 52 37.6**	**+0.3**
DRGR		**98.31**	**318**	∥*iP*		Pdif		14 52 45.9	+0.4
TORD	**Torodi Ar. Bea**	**123.19**	**287**	PKP		**PKPdf**		**14 58 06.1**	**+1.0**
	1.5nm,0.9s,baz=30,slow=2.5,SNR=7.3								
TXAR	**Lajitas Array**	**123.43**	**53**	PKP		**PKPdf**		**14 58 05.2**	**-0.2**
	0.2nm,0.8s,baz=236,slow=1.0,SNR=3.1								

*IDC **02** 14:43:51.7±0.8, 1.°48N×126.°52E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/34, mbtmp4.0/10, ML3.8/2, Error ellipse: s-maj=40.4km s-min=15.9km az=74.0*
*NEIC **02** 14:43:55.7±3.6, 1.°52N×126.°54E, h26km±27km, mb4.3/1, Error ellipse: s-maj=18.0km s-min=8.0km az=76.0*

ISC 02 14:43:58.0±0.6, 1.°50N±0.°08×126.°7E±0.°1, h47km, n18, σ1ϑ70/19, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.18**	**117**	Pn		**Pn**		**14 45 10.8**	**-2.3**
	1.9nm,0.3s,baz=107,slow=19,SNR=2.1								
DAV	**Davao City (W)**	**5.63**	**349**	Pn		**Pn**		**14 45 16.1**	**-3.2**
KAPI	**Kappang**	**9.45**	**227**	*e*Pn		**Pn**		**14 46 11.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.50**	**183**	P		**P**		**14 48 20.2**	**-1.2**
	0.3nm,0.3s,baz=18,slow=12,SNR=7.1								
COEN	**Coen**	**22.45**	**134**	*e*P		**P**		**14 48 55.5**	**+2.1**
WRAB	**Tennant Creek**	**22.60**	**161**	*e*P		**P**		**14 48 54.1**	**-0.7**
	7.1nm,0.7s								
WRA	**Warramunga Arr**	**22.61**	**161**	P		**P**		**14 48 55.0**	**+0.1**
	2.5nm,0.3s,baz=339,slow=11,SNR=28								
ASAR	**Alice Springs**	**25.99**	**165**	P		**P**		**14 49 27.3**	**+0.6**
	3.1nm,0.9s,baz=348,slow=14,SNR=7.9								
ASAR				PcP		**PcP**		**14 52 55.1**	**+0.9**
	0.4nm,0.5s,baz=347,slow=2.5,SNR=4.7								
NWAO	**Narrogin (SRO)**	**35.38**	**194**	P		**P**		**14 50 47.9**	**-1.4**
	8.6nm,0.9s,baz=90,slow=1.0,SNR=3.4								
STKA	**Stephens Creek**	**36.09**	**158**	P		**P**		**14 50 56.2**	**+0.7**
	1.8nm,0.6s,baz=331,slow=12,SNR=4.3								
SONM	**Songino Array**	**49.38**	**342**	P		**P**		**14 52 43.6**	**+0.6**
	0.3nm,0.4s,baz=162,slow=8.1,SNR=3.1								
MKAR	**Makanchi Array**	**59.34**	**326**	P		**P**		**14 53 55.0**	**-0.3**
	1.1nm,0.4s,baz=119,slow=7.5,SNR=24								
KURK	**Kurchatov**	**63.57**	**328**	*e*P		**P**		**14 54 23.6**	**-0.2**
	21nm,0.3s								
TIXI	**Tiksi**	**70.06**	**1**	P		**P**		**14 55 05.7**	**+1.0**
ABKAR	**Akbulak array**	**73.82**	**321**	*e*P		**P**		**14 55 26.9**	**-0.8**
VNDA	**Vanda**	**81.24**	**173**	P		**P**		**14 56 08.8**	**+0.2**
	1.0nm,0.9s,baz=294,slow=3.8,SNR=5.2								
ILAR	**Eielson Array**	**87.14**	**25**	P		**P**		**14 56 39.4**	**+0.6**
	0.4nm,0.9s,baz=235,slow=5.3,SNR=4.0								
FINES	**FINESS Array B**	**93.75**	**332**	P		**P**		**14 57 13.8**	**+4.1**
	2.2nm,0.9s,baz=27,slow=10,SNR=5.4								

*BJI **02** 14:56:54.0, 0.°86N×126.°48E, h40km, mb5.0/58, mB5.2/46, Ms4.7/32, Ms7 4.5/19*
*IDC **02** 14:56:56.0±1.8, 1.°35N×126.°20E, h12km±10km, mb4.9/40, mb1 5.0/42, mb1mx4.9/47, mbtmp5.0/42, ML5.0/2, MS3.9/22, Ms1 3.9/22, ms1mx3.8/28, Error ellipse: s-maj=12.9km s-min=7.2km az=68.0*
*MOS **02** 14:56:57.4±1.1, 1.°41N×126.°22E, h33km, mb5.4/72, Error ellipse: s-maj=9.1km s-min=4.8km az=114.9*
*ISCJB **02** 14:57:00.3±0.4, 1.°37N±0.°02×126.°31E±0.°02, h61km±3km, mb5.2/165, Error ellipse: s-maj=4.2km s-min=2.6km az=159.4*
*NEIC **02** 14:57:01.1±0.5, 1.°36N×126.°24E, h54km±5km, mb5.2/93, Error ellipse: s-maj=4.5km s-min=3.1km az=59.0*
*GCMT **02** 14:57:01.1±0.2, 1.°47N×126.°21E, h49km, MW5.2/94, Moment Tensor Solution. s94,c144; s83,c133; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.83±.02; Mθθ0.02±.01; Mϕϕ-0.84±.01; Mrθ-0.06±.01; Mϕθ-0.06±.01; Mϕr0.11±.01; Best double couple: M0 0.84600×10^17 NP1:ϕs359.00000°, δ49.00000°, λ84.00000°. NP2:ϕs188.00000°, δ42.00000°, λ97.00000°. Principal axes: T 0.8380, Plg84.0000°, Azm221.0000°; N 0.0170, Plg5.0000°, Azm3.0000°; P -0.8540, Plg4.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **02** 14:57:02.1±1.5, 1.°N±3.°×12.°6E±.°, h20km±14km, M5.2/25, mb5.5/25, mB5.6/21, MLv5.3/13, Mw(mB)5.2/21*
*KLM **02** 14:57:06.7, 1.°37N×126.°05E, h73km, mb5.2*

ISC 02 14:57:00.1±0.4, 1.°39N±0.°03×126.°31E±0.°04, h44km±3km, h44km:pP-P, n748, σ1ϑ39/800, mb5.2/165, MS4.0/32, 33C-31D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.34**	**150**	P		**Pn**		**14 57 37.1**	**+0.9**
SANI	**Sanana**	**3.44**	**185**	P		**Pn**		**14 57 51.2**	**0.0**
SANI				S		**Sn**		**14 58 33.6**	**+2.9**
MRSI	**Marisa**	**4.46**	**258**	P		**Pn**		**14 58 08.3**	**+3.0**
NLAI	**Namlea**	**4.67**	**170**	P		**Pn**		**14 58 09.4**	**+1.3**
GSPH	**General Santos**	**4.86**	**344**	∥*iP*		**Pn**		**14 58 12.1**	**+1.2**
GSPH				*i*S		**Sn**		**14 59 09.4**	**+3.5**
AAI	**Ambon**	**5.39**	**160**	P		**Pn**		**14 58 20.5**	**+2.5**
	516nm,0.8s,5μm1.6nm								
MSAI	**Masohi**	**5.39**	**151**	P		**Pn**		**14 58 22.2**	**+4.2**
	138nm,1.5s,3μm0.9nm								
SIJI	**Sorong**	**5.44**	**114**	Pn		**Pn**		**14 58 20.2**	**+1.5**
	65nm,0.3s,baz=299,slow=6.5,SNR=53								
MATI	**Mati**	**5.52**	**359**	*e*P		**Pn**		**14 58 22.7**	**+3.0**
MATI				*e*S		Sn		14 59 32.3	+10
DAV	**Davao City (W)**	**5.69**	**353**	*e*Pn		**Pn**		**14 58 25.0**	**+2.9**
KCP	**Kidapawan**	**5.71**	**348**	⇑*e*P		**Pn**		**14 58 25.6**	**+3.1**
KCP				*i*S		**Sn**		**14 59 33.6**	**+6.7**
CTBH	**Cotabato--PC H**	**6.14**	**340**	*e*P		**Pn**		**14 58 31.1**	**+2.7**
CTBH				*i*S		**Sn**		**14 59 39.8**	**+2.3**
KDI	**Kendari**	**6.47**	**215**	P		**Pn**		**14 58 35.0**	**+2.1**
	365nm,0.8s,3μm								
PCI	**Palu**	**6.87**	**251**	P		**Pn**		**14 58 40.7**	**+2.4**
	381nm,0.9s,4μm								
BNDI	**Bandanaira**	**6.89**	**149**	P		**Pn**		**14 58 40.7**	**+2.1**
	511nm,1.0s,6μm								
PAGZ	**Pagadian**	**7.04**	**336**	*e*P		**Pn**		**14 58 42.3**	**+1.5**
PAGZ				*e*S		**Sn**		**15 00 01.6**	**+2.0**
FAKI	**Fak Fak**	**7.32**	**126**	P		**Pn**		**14 58 48.3**	**+3.7**
	343nm,1.1s,5μm								
FAKI	**Fak Fak**	**7.32**	**126**	*e*Pn		**Pn**		**14 58 48.0**	**+3.4**
BBSI	**Bau Bau**	**7.79**	**209**	P		**Pn**		**14 58 53.2**	**+2.2**
	113nm,0.8s,931nm								
TTSI	**Tana Toraja**	**7.85**	**236**	P		**Pn**

comp=N,47nm,0.6s
SSLB Suanglung 22.86 347 *e*P **P 15 01 59.1 -0.8**
comp=N,60nm,0.8s
KGM Kluang 22.99 272 ⇓P **P 15 02 01.1 -0.3**
MBWA Marble Bar 23.32 196 *e*P **P 15 02 02.9 -1.5**
comp=N,40nm,0.8s
PMG Port Moresby 23.37 118 P **P 15 02 05.2 +0.2**
comp=N,67nm,0.8s,baz=301,slow=6.5,SNR=31
PMG Port Moresby 23.37 118 ⇓*i*P **P 15 02 04.7 -0.4**
PMG pmax pmax
comp=Z,278nm,0.8s
PMG Port Moresby 23.37 118 *e*P **P 15 02 04.9 -0.2**
comp=Z,69nm,0.8s
KTGM Kuala Trenggan 23.46 280 ⇓P **P 15 02 07.0 +1.1**
YHNB Yeheng 23.63 349 *e*P **P 15 02 05.7 -1.8**
QIZ Qiongzhong 23.83 318 P **P 15 02 09.6 +0.3**
QIZ pP **pP 15 02 20.4 -0.5**
QIZ S **S 15 06 21.8 -0.5**
QIZ pmax pmax
comp=Z,23nm,0.9s
QIZ pmax pmax
comp=Z,230nm,5.3s
QIZ Qiongzhong 23.83 318 *e*P **P 15 02 09.6 +0.3**
FRIM Kepong 24.73 275 ⇑P **P 15 02 18.0 +0.3**
UBPT Khong Chiam 24.77 305 P **P 15 02 19.5 +1.6**
comp=Z,49nm,1.0s
JOW Kunigami 25.36 4 P **P 15 02 25.3 +2.1**
comp=Z,60nm,0.8s,baz=207,slow=8.7,SNR=8.3
JOW Kunigami 25.36 4 *e*P **P 15 02 23.8 +0.6**
comp=Z,86nm,0.9s
QIS Mount Isa 25.41 150 P **P 15 02 23.3 -0.4**
baz=26,SNR=63
IPM Ipoh 25.44 277 *e*P **P 15 02 24.0 -0.1**
comp=Z,92nm,1.6s
IPM *e*PcP **PcP 15 05 56.2 +0.6**
IPM Ipoh 25.44 277 ⇑P **P 15 02 24.5 +0.4**
KULM Kulim 25.90 279 *e*P **P 15 02 28.4 +0.1**
comp=Z,66nm,1.5s
KULM Kulim 25.90 279 ⇓P **P 15 02 28.7 +0.4**
AS31 Alice Springs 25.98 164 *e*P **P 15 02 28.3 -0.6**
comp=Z,24nm,0.6s
ASAR Alice Springs 25.98 164 P **P 15 02 28.1 -0.9**
comp=Z,30nm,0.5s,baz=346,slow=9.7,SNR=242
ASAR PcP **PcP 15 05 56.5 -0.2**
comp=Z,7.7nm,0.7s,baz=354,slow=1.8,SNR=7.4
ASAR S **S 15 07 01.8 +5.2**
comp=Z,12nm,0.8s,baz=345,slow=20,SNR=12
AS01 Alice Springs 25.99 164 *e*P **P 15 02 27.9 -1.2**
MTSU Mount Surprise 26.28 138 P **P 15 02 31.8 +0.1**
baz=26,SNR=55
CHBT CHBT 26.30 297 P **P 15 02 33.4 +1.5**
comp=Z,96nm,0.9s
WRKA Warakurna 26.34 176 P **P 15 02 32.4 +0.2**
baz=26,SNR=19
RABL Rabaul 26.42 102 *e*P **P 15 02 32.5 -0.5**
comp=Z,86nm,0.6s
GIRL Giralia 26.64 206 P **P 15 02 35.8 +1.0**
baz=27,SNR=4.9
SKNT Sakolnakorn 26.88 306 P **P 15 02 40.1 +3.0**
comp=Z,34nm,0.9s
PSI Prapat 27.41 273 P **P 15 02 41.4 -0.6**
comp=Z,42nm,1.0s,baz=130,slow=3.4,SNR=15
PSI LR LR 15 15 38.3
comp=Z,412nm,20.3s,baz=95,slow=41
NAYO Nakonayok 27.84 299 P **P 15 02 47.0 +1.3**
comp=Z,66nm,0.8s,comp=Z,9μm
CHAI Chaiyaphum 27.98 302 P **P 15 02 46.4 -0.5**
comp=Z,10nm,0.7s,comp=Z,101nm
NONG Nongkai 28.14 307 P **P 15 02 49.4 +1.1**
comp=Z,444nm,1.0s,comp=Z,4μm
CTA Charters Tower 28.95 139 P **P 15 02 56.5 +1.0**
comp=Z,13nm,0.7s,baz=323,slow=11,SNR=16
CTA ScP **ScP 15 09 43.8 +1.8**
comp=Z,5.9nm,0.9s,baz=288,slow=6.4,SNR=4.2
CTA LR LR 15 16 08.2
comp=Z,469nm,20.1s,baz=318,slow=40
CTAO Charters Tower 28.95 139 *e*P **P 15 02 55.7 +0.1**
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 28.95 139 *e*P **P 15 02 55.7 +0.1**
comp=Z,17nm,0.8s
SLVN Son La 29.50 314 *e*P **P 15 02 59.7 -0.8**
comp=Z,67nm,2.0s
SSE Sheshan 29.94 351 *e*P **P 15 03 05.4 +1.3**
SSE pP **pP 15 03 14.5 -1.5**
SSE S **S 15 08 03.5 +4.8**
SSE sS **sS 15 08 22.6 +4.1**
SSE pmax pmax
comp=Z,24nm,0.8s
SSE pmax pmax
comp=Z,390nm,5.3s
UTTA Uttaradit 30.07 304 P **P 15 03 05.9 +0.4**
comp=Z,4.2nm,0.8s
NANT Nan 30.49 306 P **P 15 03 09.7 +0.5**
comp=Z,11nm,0.7s
UMPA Umpang Tak 30.79 300 P **P 15 03 15.1 +3.2**
comp=Z,6.5nm,0.8s,comp=Z,313nm
WHN Wuhan 31.13 340 ⇓P **P 15 03 19.0 +4.3**
GYA Guiyang 31.27 325 ⇑*i*P **P 15 03 16.6 +0.5**
GYA pP pP 15 03 30.2 +2.2
GYA PP **PnPn 15 04 22.7 +3.1**
GYA PcP **PcP 15 06 11.1 +1.2**
GYA S **S 15 08 22.0 +2.0**
GYA sS sS 15 08 40.8 +0.9
GYA ScP **ScP 15 09 50.5 +1.0**
GYA SS **SnSn 15 10 11.4 +5.4**
GYA ScS **ScS 15 13 46.6 -0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,620nm,16.5s
GYA LR LR
comp=Z,580nm,17.0s
NJ2 Nanjing 31.30 348 *e*P **P 15 03 17.6 +1.5**
NJ2 pmax pmax
comp=Z,22nm,0.5s
CM01 Chiang Mai Arr 31.73 304 *e*P **P 15 03 19.5 -0.6**
CM01 *e*PcP **PcP 15 06 12.0 +0.9**
CMAR Chiang Mai Arr 31.76 304 P **P 15 03 20.1 -0.3**
comp=Z,3.2nm,0.9s,baz=126,slow=7.9,SNR=16
CMAR PcP **PcP 15 06 12.7 +1.5**
comp=Z,5.7nm,0.8s,baz=167,slow=1.8,SNR=19
CMAR ScP **ScP 15 09 53.5 +2.3**
comp=Z,0.6nm,0.7s,baz=162,slow=3.1,SNR=4.7
CMAR LR LR 15 17 50.8
comp=Z,314nm,19.3s,baz=105,slow=40
MORW Morawa 31.85 197 P **P 15 03 20.9 -0.1**
baz=32,SNR=14
JNU Nakatsue 31.85 7 P **P 15 03 21.9 +0.9**
comp=Z,28nm,0.8s,baz=135,slow=1.9,SNR=14
JNU LR LR 15 15 07.3
comp=Z,182nm,20.8s,baz=147,slow=34
JNU Nakatsue 31.85 7 *e*P **P 15 03 20.9 -0.1**
comp=Z,39nm,0.9s
CHTO Chiang Mai 31.93 305 P **P 15 03 21.9 0.0**
comp=Z,57nm,0.8s
CHTO Chiang Mai 31.93 305 *e*P **P 15 03 20.9 -1.0**
CHTO *e* 15 06 12.7
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 31.93 305 *e*P **P 15 03 20.9 -1.0**
comp=Z,8.6nm,0.8s
CHTO *e*PcP **PcP 15 06 12.7 +1.0**
FORT Forrest 32.04 177 P **P 15 03 22.8 +0.1**
baz=32,SNR=21
FORT Forrest 32.04 177 *e*P **P 15 03 22.7 +0.1**
comp=Z,650nm,0.7s
QLP Quilpie 32.75 149 P **P 15 03 28.3 -0.7**
baz=33,SNR=17
KMI Kunming 32.77 318 P **P 15 03 31.3 +1.8**
KMI pP pP 15 03 42.7 +1.3
KMI sP sP 15 03 47.8 +1.1
KMI PP **PP 15 04 42.3 -1.9**
KMI S **S 15 08 43.9 +0.2**
KMI sS sS 15 09 01.8 -1.8
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,340nm,4.5s
KMI LR LR
comp=Z,830nm,8.2s
KMI LR LR
comp=Z,600nm,10.7s
KMI LR LR
comp=Z,820nm,11.2s
KMBL Kambalda 32.85 187 P **P 15 03 29.4 -0.4**
baz=33,SNR=17
ENH Enshi 32.86 333 *e*P **P 15 03 29.3 -0.7**
comp=Z,25nm,0.8s
BLDU Ballidu 33.12 195 P **P 15 03 31.9 -0.2**
baz=33,SNR=18
KLBR Kellerberrin 33.80 193 P **P 15 03 38.0 0.0**
baz=34,SNR=25
JHJ Hachijo jima 2 34.00 20 LR LR 15 16 11.2
comp=Z,196nm,21.7s,baz=4.0,slow=34
MUN Mundaring 34.55 195 P **P 15 03 44.3 -0.2**
baz=35
HNR Honiara 35.18 108 P **P 15 03 49.3 -0.9**
comp=Z,73nm,0.8s,baz=126,slow=4.7,SNR=5.4
HNR Honiara 35.18 108 *e*P **P 15 03 49.3 -0.9**
comp=Z,93nm,0.8s
NWAO Narrogin (SRO) 35.20 193 P **P 15 03 49.9 -0.3**
comp=Z,34nm,0.6s,baz=247,slow=8.1,SNR=37
NWAO Narrogin (SRO) 35.20 193 P **P 15 03 50.3 +0.2**
baz=35,SNR=29
NWAO P **P 15 03 50.3 +0.2**
baz=35,SNR=29
NWAO Narrogin (SRO) 35.20 193 *e*P **P 15 03 49.8 -0.3**
NWAO pmax pmax
comp=Z,41nm,0.6s
NWAO Narrogin (SRO) 35.20 193 *e*P **P 15 03 49.8 -0.3**
comp=Z,41nm,0.6s
INU Inuyama 35.22 15 *e*P **P 15 03 49.6 -0.7**
comp=Z,27nm,0.8s
BBOO Buckleboo 35.24 166 P **P 15 03 50.1 -0.4**
baz=35,SNR=28
BBOO Buckleboo 35.24 166 *e*P **P 15 03 49.8 -0.7**
comp=Z,146nm,1.8s
EIDS Eidsvold 35.81 140 P **P 15 03 55.4 -0.2**
baz=36,SNR=7.6
EIDS Eidsvold 35.81 140 *e*P **P 15 03 55.4 -0.2**
comp=Z,15nm,0.8s
KS15 Wonju Array Si 35.90 2 *e*P **P 15 03 57.3 +1.2**
KSAR Wonju Array Be 35.90 2 P **P 15 03 57.7 +1.6**
KSAR 15 06 24.1
KSAR Wonju Array Be 35.90 2 P **P 15 03 57.7 +1.6**
KSAR PcP **PcP 15 06 24.1 +1.5**
KSRS Korea Array 35.91 2 P **P 15 03 57.7 +1.5**
comp=Z,6.4nm,0.8s,baz=178,slow=9.6,SNR=21
KSRS PcP **PcP 15 06 24.1 +1.5**
comp=Z,3.5nm,0.7s,baz=197,slow=3.0,SNR=8.5
KSRS LR LR 15 17 25.8
comp=Z,114nm,21.6s,baz=184,slow=34
KS01 Wonju Array Si 35.94 2 *e*P **P 15 03 56.2 -0.2**
KS01 *e*PcP **PcP 15 06 23.7 +1.0**
STKA Stephens Creek 36.12 158 P **P 15 03 58.0 -0.2**
comp=Z,40nm,0.7s,baz=330,slow=8.7,SNR=58
STKA PP **PnPn 15 05 19.9 -0.6**
comp=Z,14nm,0.7s,baz=315,slow=12,SNR=2.6
STKA Stephens Creek 36.12 158 P **P 15 03 57.7 -0.4**
baz=36,SNR=84
STKA Stephens Creek 36.12 158 *e*P **P 15 03 57.9 -0.2**
STKA 15 05 19.9
STKA pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 36.12 158 *e*P **P 15 03 57.9 -0.2**
comp=Z,8.4nm,0.8s
STKA PP **PnPn 15 05 19.9 -0.6**
CD2 Chengdu 36.30 326 P **P 15 03 59.4 -0.3**
CD2 S **S 15 09 38.0 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,400nm,4.7s
CD2 LR LR
comp=Z,770nm,11.3s
CD2 LR LR
comp=Z,650nm,12.7s
XAN Xi'an 36.33 335 P **P 15 03 58.6 -1.3**
XAN pP pP 15 04 07.2 -4.7
XAN pmax pmax
comp=Z,36nm,1.0s
XAN pmax pmax
comp=Z,390nm,6.9s
HTT Hallett 36.62 162 P **P 15 04 02.7 +0.3**
baz=37,SNR=9.0
MAJO Matsushiro 36.67 16 *i*P **P 15 04 02.5 -0.2**
MAJO Matsushiro 36.67 16 *e*P **P 15 04 02.5 -0.2**
comp=Z,23nm,0.7s
MAT Matsushiro 36.67 16 P **P 15 04 02.2 -0.5**
MAT *e*S **S 15 09 36.8 -6.2**
MJAR Matsushiro Arr 36.67 16 P **P 15 04 02.7 0.0**
comp=Z,17nm,0.9s,baz=185,slow=9.4,SNR=36
MJAR PcP **PcP 15 06 26.2 +1.3**
comp=Z,5.0nm,0.8s,baz=182,slow=2.9,SNR=6.3
MJAR LR LR 15 19 27.7
comp=Z,141nm,20.6s,baz=195,slow=37
MJB9 Matsu-Tunnel 36.67 16 *e*P **P 15 04 02.5 -0.2**
comp=Z,6.0nm,0.7s
RKGY Rocky Gully 36.87 193 P **P 15 04 05.5 +1.1**
baz=37,SNR=47
CMSA Cobar Meteorol 37.56 152 P **P 15 04 10.5 +0.1**
baz=38,SNR=23
DL2 Dalian 37.58 354 P **P 15 04 11.5 +1.2**
DL2 S **S 15 09 56.3 -0.4**
DL2 pmax pmax
comp=Z,120nm,0.7s
DL2 pmax pmax
comp=Z,220nm,5.0s
DL2 LR LR
comp=Z,290nm,15.3s
DL2 LR LR
comp=Z,580nm,17.3s
DL2 LR LR
comp=Z,490nm,14.2s
BJT Baijiatuau 39.54 348 *e*P **P 15 04 27.4 +0.6**
BJT pmax pmax
comp=Z,25nm,0.7s
BJT Baijiatuau 39.54 348 *e*P **P 15 04 27.4 +0.6**
comp=Z,25nm,0.7s
BJI Beijing 39.56 348 P **P 15 04 27.2 +0.3**
BJI sP **sP 15 04 42.9 -1.4**
BJI S **S 15 10 26.6 +0.1**
BJI SS **SnSn 15 13 27.5 +1.5**
BJI pmax pmax
comp=Z,34nm,0.7s
BJI pmax pmax
comp=Z,140nm,3.8s
ARMA Armidale 39.78 145 P **P 15 04 30.0 +0.8**
baz=40,SNR=39
ARMA Armidale 39.78 145 *e*P **P 15 04 29.7 +0.6**
comp=Z,52nm,0.7s
LZH Lanzhou 40.32 331 *e*P **P 15 04 34.1 +0.5**
LZH pP pP 15 04 44.6 -1.1
LZH sP sP 15 04 49.5 -1.4
LZH PP **PnPn 15 06 10.2 -0.8**
LZH *e*S **S 15 10 41.0 +2.6**
LZH sS sS 15 11 00.2 +1.5
LZH *e*SS **SS 15 13 34.5 -3.9**
LZH pmax pmax
comp=Z,65nm,1.4s
LZH pmax pmax
comp=Z,280nm,5.3s
ARPS Mount Arapiles 40.62 161 P **P 15 04 36.7 +0.9**
baz=41,SNR=85
HHC Hu-ho-hao-te 41.48 343 *e*P **P 15 04 46.3 +3.3**
HHC S **S 15 11 00.8 +5.3**
HHC sS sS 15 11 17.0 +1.2
HHC SS **SS 15 14 01.6 +0.2**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.5s
HHC LR LR
comp=Z,250nm,17.1s
HHC LR LR
comp=Z,270nm,16.1s
MGCD Mangrove Creek 41.61 148 P **P 15 04 45.8 +1.8**
baz=42,SNR=6.1
VLA Vladivostok 41.84 6 *e*P **P 15 04 43.6 -2.1**
VLA *e*PP **pP 15 04 52.6 -5.3**
VLA *e* 15 06 39.3
VLA *e*S **S 15 11 00.2 -0.3**
VLA pmax pmax
comp=Z,40nm,1.5s
CN2 Changchun 42.23 359 *e*P **P 15 04 48.2 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CAN Canberra 42.24 152 *e*P **P 15 04 50.0 +0.8**
CAN pmax pmax
comp=Z,37nm,0.7s
CAN Canberra 42.24 152 *e*P **P 15 04 50.0 +0.8**
comp=Z,37nm,0.7s
CNB Canberra Magne 42.41 152 P **P 15 04 52.1 +1.6**
baz=42,SNR=9.2
TOO Toolangi 42.64 157 P **P 15 04 54.1 +1.7**
baz=43,SNR=19
USRK Ussuriysk Ar. 42.92 6 P **P 15 04 55.2 +0.7**
comp=Z,23nm,0.7s,baz=190,slow=6.7,SNR=37
USRK PcP **PcP 15 06 45.4 +0.8**
comp=Z,3.0nm,0.7s,baz=126,slow=2.5,SNR=3.6
USRK LR LR 15 23 27.2
comp=Z,87nm,20.7s,baz=199,slow=37
MDJ Mudanjiang 43.14 3 P **P 15 04 57.2 +0.9**
MDJ pP pP 15 05 08.9 +0.4
MDJ sP sP 15 05 13.3 -0.4
MDJ ScP **ScP 15 10 33.5 +0.3**
MDJ PcS **PcS 15 10 37.9 +0.2**
MDJ S **S 15 11 22.2 +2.7**
MDJ pmax pmax
comp=Z,48nm,0.8s
MDJ pmax pmax
comp=Z,180nm,5.1s
MDJ Mudanjiang 43.14 3 *e*P **P 15 04 57.4 +1.1**
comp=Z,40nm,0.8s
LSA Lhasa 43.70 314 *e*P **P 15 05 01.3 -0.3**
LSA pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 43.70 314 *e*P **P 15 05 01.2 -0.3**
comp=Z,17nm,0.7s
GTA Gaotai 44.90 331 *e*P **P 15 05 10.2 -0.4**
GTA pP pP 15 05 22.5 -0.4
GTA sP sP 15 05 27.3 -0.8
GTA S **S 15 11 43.7 -1.9**
GTA sS sS 15 12 06.5 +0.4
GTA SS **ScS 15 14 59.0 -5.5**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,230nm,5.2s
GTA LR LR
comp=Z,210nm,19.7s
GTA LR LR
comp=Z,270nm,16.6s
GTA LR LR
comp=Z,380nm,17.3s
ASAJ Asahikawa 44.93 17 P **P 15 05 12.1 +1.5**
comp=Z,22nm,0.7s,baz=243,slow=8.6,SNR=12
TAPN Taplejung 45.09 308 *e*P **P 15 05 11.8 -0.8**
comp=Z,10nm,0.4s
ODAN Odare 45.12 308 *e*P **P 15 05 12.0 -0.7**
comp=Z,34nm,0.8s
DZM Mont Dzumac 45.58 123 P **P 15 05 16.2 -0.1**
comp=Z,17nm,0.8s,baz=309,slow=12,SNR=14
DZM Mont Dzumac 45.58 123 *e*P **P 15 05 15.2 -1.0**
comp=Z,54nm,0.9s
DZM Mont Dzumac 45.58 123 *e*LR LR 15 18 16.2
comp=Z,681nm,29.0s
DZM Mont Dzumac 45.58 123 *e*P **P 15 05 16.7 +0.5**
comp=Z,24nm,0.9s
RAMN Ramite 45.78 307 *e*P **P 15 05 17.5 -0.5**
comp=Z,34nm,0.6s
PALK Pallekele 45.83 279 P **P 15 05 18.0 -0.3**
comp=Z,6.9nm,0.8s,baz=111,slow=3.0,SNR=4.9
PALK PcP **PcP 15 06 55.9 +0.6**
comp=Z,6.0nm,0.8s,baz=117,slow=6.1,SNR=3.5
PALK Pallekele 45.83 279 P **P 15 05 18.0 -0.3**
PALK 15 06 55.9
PALK pmax pmax
comp=Z,5.0nm,0.7s
PALK pmax pmax
comp=Z,6.0nm,0.8s
JIRN Jiri 46.43 308 *e*P **P 15 05 22.5 -0.8**
comp=Z,26nm,0.3s
GUN Gumba 46.79 308 *e*P **P 15 05 25.3 -0.7**
comp=Z,56nm,0.6s
PKI Pulchoki 47.01 307 *e*P **P 15 05 26.8 -0.9**
comp=Z,20nm,0.5s
PKIN Phulchoki 47.02 307 *e*P **P 15 05 26.8 -1.0**
comp=Z,19nm,0.6s
KKN Kakani 47.21 308 *e*P **P 15 05 28.1 -1.1**
comp=Z,17nm,0.5s
HABR Khabarovsk 47.50 8 *e*P **P 15 05 29.2 -1.5**
HABR *e**PP **pP 15 05 38.9 -4.2**
HABR *e**SP **sP 15 05 43.6 -4.7**
HABR *e* 15 06 58.6
HABR *e* 15 07 20.9
HABR *e*PPP PPP 15 08 06.9
HABR *e*S **S 15 12 22.7 +0.3**
HABR *e**SS **sS 15 12 39.6 -3.3**
HABR *e* 15 15 20.2
HABR SSS SSS 15 16 58.3
HABR pmax pmax
comp=N,36nm,2.2s
HABR pmax pmax
comp=Z,48nm,2.2s
HABR pmax pmax
comp=E,46nm,2.2s
HABR MLR MLR
comp=Z,52nm,18.0s
MOO Moorlands 47.53 159 P **P 15 05 32.5 +1.4**
baz=48,SNR=4.5
GKN Gorkha 47.81 307 *e*P **P 15 05 32.8 -1.0**
comp=Z,11nm,0.3s
KLR Kul'dur 47.88 5 ⇑*i*P **P 15 05 34.6 +0.8**
comp=Z,2.5nm,0.8s,baz=199,slow=5.0,SNR=47
KLR Kul'dur 47.88 5 ⇑*i*P **P 15 05 34.2 +0.5**
KOLN Koldanda 48.54 307 *e*P **P 15 05 38.7 -0.8**
comp=Z,64nm,0.6s
DANN Dangsing 48.66 307 *e*P **P 15 05 39.8 -0.7**
comp=Z,5.4nm,0.7s
PYUN Piuthan 49.17 307 *e*P **P 15 05 43.7 -0.6**
comp=Z,87nm,0.6s
ULN Ulaanbaatar 49.21 343 ⇑*i*P **P 15 05 44.1 0.0**
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 49.21 343 *e*P **P 15 05 43.8 -0.4**
comp=Z,9.3nm,0.9s
SONM Songino Array 49.37 342 P **P 15 05 45.7 +0.3**
comp=Z,5.5nm,0.6s,baz=160,slow=7.9,SNR=14
SONM PcP **PcP 15 07 08.3 +0.9**
comp=Z,6.6nm,0.8s,baz=158,slow=4.7,SNR=7.8
SONM LR LR 15 29 46.7
comp=Z,160nm,20.6s,baz=152,slow=40
SONA1 Songino Array 49.38 342 *e*P **P 15 05 45.5 0.0**
HYB Hyderabad 49.55 292 *i*P **P 15 05 46.0 -1.1**
CIT Chita 51.57 350 *e*P **P 15 06 03.0 +1.2**
CIT *e* 15 06 09.4
CIT *e* 15 06 20.0
CIT *e* 15 07 13.4
CIT pmax pmax
comp=Z,86nm,1.1s
ZAK Zakamensk 52.59 342 *e*P **P 15 06 09.6 +0.1**
ZAK *e* 15 07 19.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 53.61 343 P **P 15 06 18.0 +1.1**
comp=Z,4.5nm,0.7s,baz=231,slow=3.8,SNR=8.0
TLY Talaya 53.61 343 *e*P **P 15 06 17.9 +1.1**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY Talaya 53.61 343 *e*P **P 15 06 16.8 -0.1**
comp=Z,6.5nm,0.8s
POO Poona 54.16 292 *e*P P 15 06 10.0 -11
MSVF Nonsavu 54.36 113 *e*P **P 15 06 22.7 -0.3**
MSVF pmax pmax
comp=Z,59nm,0.5s
MSVF Nonsavu 54.36 113 *e*P **P 15 06 22.7 -0.3**
comp=Z,59nm,0.5s
WMQ Urumqi 54.41 326 P **P 15 06 23.6 +0.7**
WMQ pP pP 15 06 35.6 +0.2
WMQ sP sP 15 06 40.3 -0.3
WMQ S **S 15 13 54.9 -3.4**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.6s
WMQ LR LR
comp=Z,310nm,21.9s
WMQ LR LR
comp=Z,230nm,17.3s
MOY Mondy 54.43 341 *e*P **P 15 06 23.7 +0.7**
CLNS Chul'man 55.29 359 *e*P **P 15 06 29.9 +0.9**
CLNS pmax pmax

comp=Z,30nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=N,21nm,0.8s
THN Thein Dam 56.66 309 *e*P P 15 06 34.0 -5.2
THN *e*S P 15 06 44.4 +5.2
BOD Bodaibo 57.10 352⇑ *i*P **P 15 06 42.5 +0.6**
BOD pmax pmax
comp=Z,30nm,0.9s
PEA0 Petropavlovsk- 57.74 22 *e*P **P 15 06 47.6 +1.1**
PETK Petropavlovsk- 57.74 22 P **P 15 06 47.8 +1.4**
comp=Z,17nm,0.7s,baz=175,slow=5.4,SNR=25
PETK LR LR 15 32 23.9
comp=Z,48nm,19.7s,baz=207,slow=37
DGZ Jazzator, Alta 58.42 331 *i* P **P 15 06 51.4 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
PDGK Podgornoye 58.96 322 P **P 15 06 54.5 -0.8**
PDGK pmax pmax
comp=Z,26nm,0.8s
MK01 Makanchi Array 59.22 326 *e*P **P 15 06 56.4 -0.5**
MK31 Makanchi Array 59.24 326 *e*P **P 15 06 56.6 -0.5**
MK31 Makanchi Array 59.24 326 *e*P **P 15 06 56.6 -0.5**
MKAR Makanchi Array 59.24 326 P **P 15 06 56.5 -0.6**
comp=Z,4.8nm,0.3s,baz=124,slow=8.6,SNR=69
MKAR PcP **PcP 15 07 45.0 -0.1**
comp=Z,16nm,0.7s,baz=125,slow=4.4,SNR=8.1
MKAR LR LR 15 35 04.1
comp=Z,153nm,18.8s,baz=114,slow=39
MKAR Makanchi Array 59.24 326 *e*P **P 15 06 56.4 -0.7**
comp=Z,100nm,0.7s
MKAR PcP **PcP 15 07 45.0 -0.1**
KSH Kashi 59.41 316 P **P 15 06 59.7 +1.2**
KSH pP pP 15 07 12.3 +1.1
KSH sP sP 15 07 18.4 +2.1
KSH PcP **PcP 15 07 45.9 -0.1**
KSH PP **PP 15 09 13.2 +3.1**
KSH PcS **PcS 15 11 44.3 -3.9**
KSH S **S 15 15 02.1 -2.6**
KSH sS sS 15 15 24.1 -1.7
KSH ScS **ScS 15 16 40.0 -5.4**
KSH SS **SS 15 19 01.0 +0.7**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,140nm,4.6s
KSH LR LR
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,120nm,6.5s
MAKZ Makanchi 59.42 326 *e*P **P 15 06 58.0 -0.3**
MAKZ pmax pmax
comp=Z,13nm,0.6s
MAKZ Makanchi 59.42 326 *e*P **P 15 06 58.0 -0.3**
comp=Z,13nm,0.6s
LBZ Lake Benmore 60.01 145 *e*P **P 15 07 02.3 -0.1**
comp=Z,194nm,1.9s
RPZ Rata Peaks 60.12 144 P **P 15 07 03.1 -0.1**
comp=Z,12nm,0.7s,baz=289,slow=4.3,SNR=9.6
THZ Tophouse 60.14 141 *e*P **P 15 07 03.0 -0.4**
comp=Z,26nm,0.7s
YAK Yakutsk 60.54 2 P **P 15 07 06.4 +0.7**
comp=Z,69nm,0.7s,baz=315,slow=0.3,SNR=45
YAK Yakutsk 60.54 2 *e*P **P 15 07 05.8 +0.2**
YAK pmax pmax
comp=Z,110nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK Yakutsk 60.54 2 *e*P **P 15 07 05.9 +0.2**
comp=N,97nm,0.8s
MA2 Magadan 61.06 14⇓ *i*P **P 15 07 10.6 +1.4**
URZ Urewera 61.15 136 P **P 15 07 09.5 -0.7**
comp=N,15nm,0.7s,baz=124,slow=2.5,SNR=9.1
BKZ Black Stump Fm 61.15 137 *e*P **P 15 07 09.9 -0.4**
comp=N,46nm,0.3s
TKM2 Tokmak 2 61.23 320 P **P 15 07 10.4 -0.6**
TKM2 pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 61.81 319 P **P 15 07 14.7 -0.2**
comp=Z,5.3nm,0.8s,baz=163,slow=5.6,SNR=15
AAK Ala-Archa 61.81 319 P **P 15 07 14.8 -0.1**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 61.81 319 *e*P **P 15 07 13.6 -1.3**
comp=Z,9.3nm,0.9s
FRU Bishkek 61.82 319 *e*P **P 15 07 17.0 +2.2**
ZAA0 Zalesovo Array 62.48 334 *e*P **P 15 07 16.7 -2.2**
ZALV Zalesovo Beam 62.48 334 P **P 15 07 17.9 -1.0**
comp=Z,3.6nm,0.4s,baz=130,slow=6.3,SNR=16
ZALV LR LR 15 34 38.3
comp=Z,64nm,21.0s,baz=70,slow=36
ZALV PKP2bc 15 36 29.4
comp=Z,1.5nm,0.7s,baz=286,slow=5.4,SNR=5.0
KBL Kabul 62.62 309 *e*P **P 15 07 18.5 -2.0**
KBL pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 62.62 309 *e*P **P 15 07 18.5 -2.0**
comp=Z,14nm,0.7s
MNAS Manas 63.07 318 P **P 15 07 22.6 -0.7**
MNAS pmax pmax
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 63.48 328 P **P 15 07 24.9 -0.7**
comp=Z,25nm,0.7s,baz=126,slow=6.2,SNR=178
KURK Kurchatov 63.48 328 P **P 15 07 24.9 -0.7**
KURK pmax pmax
comp=Z,25nm,0.7s
KURK Kurchatov 63.48 328 *e*P **P 15 07 24.9 -0.7**
comp=Z,51nm,0.6s
NVS Novosibirsk 63.76 334 *e*P **P 15 07 25.9 -1.5**
NVS pmax pmax
comp=Z,18nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.5s
SEY Seymchan 64.39 13⇓ *e*P **P 15 07 33.2 +1.9**
KK31 Karatay Array 64.66 318 *i* P **P 15 07 32.4 -1.2**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 64.66 318 *e*P **P 15 07 32.8 -0.8**
KKAR pmax pmax
comp=Z,73nm,0.9s
KKAR Karatay Array 64.66 318 *e*P **P 15 07 32.8 -0.8**
comp=Z,73nm,0.9s
BVA0 Borovoye Array 69.05 328 P **P 15 07 59.9 -1.3**
BVA0 pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 69.12 328 *c i*P **P 15 08 01.2 -0.5**
BRVK pmax pmax
comp=Z,71nm,1.3s
BRVK Borovoye 69.12 328 *e*P **P 15 08 00.6 -1.1**
comp=Z,26nm,1.1s
TIXI Tiksi 70.17 1 *ce*P **P 15 08 08.1 +0.3**
TIXI pmax pmax
comp=Z,16nm,0.7s
TIXI Tiksi 70.17 1 *e*P **P 15 08 07.5 -0.2**
comp=Z,17nm,0.8s
GEYT Alibeck 72.03 309 P **P 15 08 20.0 +0.2**
comp=Z,9.4nm,0.8s,baz=134,slow=4.3,SNR=22
NRIK Noril'sk 72.59 347 P **P 15 08 22.9 +0.4**
comp=Z,41nm,0.7s,baz=130,slow=6.0,SNR=70
ABKAR Akbulak array 73.69 321 *e*P **P 15 08 28.6 -0.8**
comp=Z,99nm,0.7s
AKTO Aktyubinsk 75.23 322 P **P 15 08 37.4 -0.9**
AKTO pmax pmax
comp=Z,28nm,0.7s
SVE Sverdlovsk 75.73 329 *de*P **P 15 08 40.6 -0.4**
SVE pmax pmax
comp=Z,42nm,0.7s
ARU Arti 76.68 328 *c i*P **P 15 08 45.5 -0.9**
ARU 15 11 37.6
ARU PPP PPP 15 13 23.6
ARU S **S 15 18 31.1 +1.3**
ARU SS **SS 15 23 23.0 -3.0**
ARU pmax pmax
comp=Z,37nm,0.8s
ARU Arti 76.68 328 *e*P **P 15 08 45.9 -0.5**
comp=Z,34nm,0.8s
GAMB Gambell 76.69 24 *e*P **P 15 08 46.5 +0.2**
comp=Z,26nm,0.9s
SOKR Solikamsk 78.54 331 *e*P **P 15 08 53.8 -2.8**
SOKR pmax pmax
comp=Z,27nm,1.1s

SDPT Sand Point 79.35 34 *e*P **P 15 09 01.3 +0.1**
comp=Z,98nm,0.6s
ABPO Ambohimpanom 80.14 251 *e*P **P 15 09 05.5 -1.0**
ABPO pmax pmax
comp=Z,9.0nm,0.8s
ABPO Ambohimpanom 80.14 251 *e*P **P 15 09 05.5 -1.0**
comp=Z,9.3nm,0.8s
CHGN Chignik 80.69 33 *e*P **P 15 09 08.8 +0.4**
comp=Z,99nm,1.8s
VNDA Vanda 81.18 173 P **P 15 09 10.9 +0.3**
comp=Z,12nm,0.7s,baz=315,slow=6.4,SNR=86
VNDA LR LR 15 45 31.1
comp=Z,80nm,19.6s,baz=346,slow=36
VNDA Vanda 81.18 173 *e*P **P 15 09 10.9 +0.3**
VNDA pmax pmax
comp=Z,14nm,0.8s
VNDA Vanda 81.18 173 *e*P **P 15 09 10.9 +0.3**
comp=Z,14nm,0.8s
MAW Mawson 81.43 200 P **P 15 09 12.6 +0.5**
comp=Z,10.0nm,0.7s,baz=64,slow=6.0,SNR=32
MAW LR LR 15 43 30.1
comp=Z,48nm,18.5s,baz=62,slow=34
MAW Mawson 81.43 200 P **P 15 09 12.6 +0.5**
baz=81,SNR=19
MAW Mawson 81.43 200 *e*P **P 15 09 12.5 +0.4**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 81.43 200 *e*P **P 15 09 12.5 +0.4**
comp=Z,2.5nm,0.8s
SBA Scott Base 82.09 172 *e*P **P 15 09 16.9 +1.4**
SBA pmax pmax
comp=Z,10.0nm,0.8s
SBA Scott Base 82.09 172 *e*P **P 15 09 16.9 +1.4**
comp=Z,10nm,0.8s
TBLG Delisi 82.78 312 P **P 15 09 20.6 +0.8**
TBLG Delisi 82.78 312 P **P 15 09 20.6 +0.8**
GUDG Gudauri 83.03 312 P **P 15 09 25.5 +4.2**
SVW2 Sparrevohn 83.04 29 *e*P **P 15 09 22.6 +1.9**
comp=Z,28nm,0.8s
SII Sitkinak Islan 83.05 33 *e*P **P 15 09 22.8 +1.9**
comp=Z,49nm,0.8s
TT01 Tatalina 83.15 27 *e*P **P 15 09 23.2 +1.9**
ZEI Tsey 83.48 313 *e*P **P 15 09 23.0 -0.7**
ZEI pmax pmax
comp=Z,79nm,0.8s
BGD Bogdanovka 83.60 311 P **P 15 09 25.6 +1.2**
OHAK Old Harbor 83.63 33 *e*P **P 15 09 25.1 +1.3**
comp=Z,106nm,1.7s
AKH Akhalkalaki 83.69 311 P **P 15 09 26.5 +1.8**
AKH Akhalkalaki 83.69 311 P **P 15 09 26.5 +1.8**
NCK Nalchik 83.75 313⇓ *i*P **P 15 09 24.9 +0.1**
NCK pmax pmax
comp=Z,34nm,0.7s
ONI Oni 83.80 313 P **P 15 09 25.6 +0.4**
ONI Oni 83.80 313 P **P 15 09 25.5 +0.4**
KDAK Kodiak Island 84.08 32 *i* P **P 15 09 27.4 +1.3**
KDAK Kodiak Island 84.08 32 *e*P **P 15 09 27.6 +1.6**
comp=Z,30nm,0.8s
KBZ Khabaz 84.28 314 P **P 15 09 27.6 +0.3**
comp=Z,14nm,0.8s,baz=104,slow=8.0,SNR=17
KBZ LR LR 15 51 28.6
comp=Z,38nm,21.7s,baz=64,slow=39
RSO Redoubt South 84.32 29 *e*P **P 15 09 27.9 +0.3**
NEY Neytrino 84.37 313⇓ *e*P **P 15 09 28.8 +0.6**
NEY pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 84.44 314 *e*P **P 15 09 29.3 +0.9**
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,63nm,19.0s
KIV Kislovodsk 84.44 314 *e*P **P 15 09 28.9 +0.4**
comp=Z,25nm,0.7s
SPU Mount Spurr 84.74 29 *e*P **P 15 09 31.0 +1.5**
PPT Papeete 84.80 108 LR LR 15 47 12.8
comp=Z,160nm,18.1s,baz=314,slow=36
PPT2 Papeete2 84.80 108 *e*LR LR 15 36 31.7
comp=Z,367nm,27.5s
ARTV Artvin 84.85 311 *e*P **P 15 09 31.2 +0.5**
comp=Z,13nm,0.7s
CNPM China Poot 84.97 30 *e*P **P 15 09 31.8 +1.2**
comp=Z,58nm,0.8s
CAST Castle Rocks 85.00 27 *e*P **P 15 09 32.1 +1.4**
comp=Z,6.6nm,0.8s
BRLK Bradley Lake 85.17 30 *e*P **P 15 09 32.5 +0.9**
comp=Z,50nm,0.9s
TBI Tubuai 85.25 113 *e*LR LR 15 36 43.2
comp=Z,406nm,35.2s
SUA Susitna One 85.40 29 *e*P **P 15 09 33.8 +0.9**
comp=Z,44nm,0.8s
MARD Mardin 85.60 307 *e*P **P 15 09 34.9 +0.5**
comp=Z,29nm,0.8s
KBSD Kabsdagh 85.78 307 *e*P **P 15 09 35.1 -0.1**
RC01 Rabbit Creek A 85.85 29 *e*P **P 15 09 35.5 +0.6**
comp=Z,21nm,0.9s
SFNV Sufian 86.12 306 *e*P **P 15 09 38.1 +1.2**
PMR Palmer 86.18 28 *e*P **P 15 09 35.2 -1.3**
PMR pmax pmax
comp=Z,19nm,1.0s
PMR Palmer 86.18 28 *e*P **P 15 09 35.2 -1.3**
comp=Z,19nm,1.0s
COLD Coldfoot 86.19 23 *e*P **P 15 09 37.8 +1.3**
comp=Z,19nm,0.8s
MCK McKinley 86.43 26 *e*P **P 15 09 38.1 +0.3**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 86.43 26 *e*P **P 15 09 38.1 +0.3**
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 86.56 21 P **P 15 09 38.9 +0.6**
baz=265
SOC Sochi 86.58 313 *e*P **P 15 09 38.7 -0.2**
SOC *e* 15 12 57.8
SOC *e*PPP PPP 15 14 54.2
SOC *e*S S 15 20 01.7 -11
SML Sawmill 86.58 28 *e*P **P 15 09 37.9 -0.7**
SML pmax pmax
comp=Z,23nm,0.7s
SML Sawmill 86.58 28 *e*P **P 15 09 37.9 -0.7**
comp=Z,23nm,0.7s
MDM Murphy Dome 86.81 25 *e*P **P 15 09 39.4 -0.2**
comp=Z,8.2nm,0.9s
WRH Wood River Hil 86.84 26 *e*P **P 15 09 39.7 -0.1**
comp=Z,9.2nm,0.8s
COLA College 86.97 25 *e*P **P 15 09 40.1 -0.2**
COLA pmax pmax
comp=Z,7.0nm,0.7s
COLA College 86.97 25 *e*P **P 15 09 40.1 -0.2**
comp=Z,6.7nm,0.7s
CCB Clear Creek Bu 86.98 25 *e*P **P 15 09 39.6 -0.8**
comp=Z,11nm,1.0s
KSRV Kasrt alli 87.01 306 *e*P **P 15 09 41.5 +0.3**
VSR Storozhevoye 87.13 321 *e*P **P 15 09 42.3 +0.9**
VSR pmax pmax
comp=Z,40nm,1.6s
KLMR Klimovskoe 87.22 331 *e*P **P 15 09 39.6 -2.0**
KLMR pmax pmax
comp=Z,41nm,1.2s
LPSR Galich'ya Gora 87.31 322 *e*P **P 15 09 42.2 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
IL1 Eielson Array 87.38 25 *e*P **P 15 09 40.5 -1.9**
ILAR Eielson Array 87.38 25 P **P 15 09 41.2 -1.1**
comp=Z,2.4nm,0.6s,baz=238,slow=5.1,SNR=38
ILAR PKKPbc **PKKPbc 15 27 32.3 -2.8**
comp=Z,0.4nm,0.8s,baz=36,slow=1.4,SNR=4.7
ILB Eielson Array 87.38 25 *e*P **P 15 09 40.9 -1.4**
PAX Paxson 87.95 27 *e*P **P 15 09 45.1 -0.1**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 87.95 27 *e*P **P 15 09 45.1 -0.1**
comp=Z,7.4nm,0.9s
TMCR Tamitsa 88.00 334 *e*P **P 15 09 44.6 -0.7**
TMCR pmax pmax
comp=Z,25nm,0.9s
ANN Anapa 88.23 315 *e*P **P 15 09 49.4 +2.6**
ANN pmax pmax
comp=Z,48nm,0.7s
DOT Dot Lake 88.59 27 *e*P **P 15 09 48.5 +0.3**
comp=Z,28nm,0.8s
OBN Obninsk 88.72 325 *i* P **P 15 09 47.9 -1.0**
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,169nm,23.0s
KMBO Kilima Mbogo 89.09 269 P **P 15 09 51.7 -0.2**
comp=Z,3.1nm,0.7s,baz=57,slow=10,SNR=7.6

KMBO LR LR 15 46 44.0
comp=Z,158nm,21.2s,baz=95,slow=34
KMBO Kilima Mbogo 89.09 269 *e*P **P 15 09 51.3 -0.5**
KMBO pmax pmax
comp=Z,13nm,1.3s
KMBO Kilima Mbogo 89.09 269 *e*P **P 15 09 51.3 -0.5**
comp=Z,13nm,1.3s
MARH Ras Al Marh 89.09 304 *e*P **P 15 09 52.6 +1.0**
HAWK Haweek 89.14 304 *e*P **P 15 09 51.0 -0.5**
TOTH TOTAH 89.14 303 *e*P **P 15 09 53.9 +2.4**
ARNB Al Arnab 89.47 306 *e*P **P 15 09 55.8 +2.8**
EGAK Eagle 89.83 25 *e*P **P 15 09 54.4 +0.4**
comp=Z,7.7nm,0.9s
APA Apatity 89.84 337⇑ *i*P **P 15 09 52.3 -1.6**
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,500nm,16.0s
SYO Syowa Base 90.11 201⇑ *e*P **P 15 09 54.0 -1.1**
SYO Syowa Base 90.11 201⇓ *e*sP sP 15 10 18.2 +4.8
DAWY Dawson 90.64 26 *e*P **P 15 09 58.6 +0.8**
comp=Z,9.9nm,0.9s
BR131 Keskin Array S 91.18 310 *e*P **P 15 09 59.9 -1.1**
BRTR Keskin Array B 91.18 310 P **P 15 09 59.9 -1.1**
comp=Z,3.4nm,0.8s,baz=129,slow=6.1,SNR=13
BRTR LR LR 15 57 19.3
comp=Z,21nm,19.6s,baz=89,slow=40
INK Inuvik 92.47 21 *e*P **P 15 10 05.6 -0.5**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 92.47 21 *e*P **P 15 10 05.6 -0.5**
comp=Z,8.6nm,1.0s
ARA0 ARCESS Array S 92.48 340 *e*P **P 15 10 04.9 -1.2**
ARCES ARCESS Array B 92.48 340 P **P 15 10 05.3 -0.8**
comp=Z,15nm,0.8s,baz=76,slow=5.1,SNR=27
ARCES LR LR 15 57 04.9
comp=Z,45nm,20.4s,baz=90,slow=39
ARE0 ARCESS Array S 92.48 340 *e*P **P 15 10 05.2 -0.9**
comp=Z,16nm,0.8s
WHY Whitehorse 93.11 29 *e*P **P 15 10 10.1 +0.7**
comp=Z,11nm,0.8s
AKASG Malin Array Be 93.43 321 P **P 15 10 09.3 -1.6**
comp=Z,1.3nm,0.6s,baz=67,slow=5.2,SNR=7.5
AKASG LR LR 15 55 42.7
comp=Z,64nm,21.2s,baz=250,slow=38
AKASG Malin Array Be 93.43 321 P **P 15 10 09.3 -1.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG MLR MLR
comp=Z,64nm,21.2s
AKBB Malin Array Si 93.43 321 *e*P **P 15 10 10.3 -0.6**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 93.43 321 *e*P **P 15 10 10.3 -0.6**
comp=Z,3.9nm,0.9s
KIEV Kiev 93.44 321 *e*P **P 15 10 09.9 -1.0**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 93.44 321 *e*P **P 15 10 09.9 -1.0**
comp=Z,4.3nm,1.0s
AK11 Malin Array Si 93.47 321 *e*P **P 15 10 09.8 -1.2**
FIA1 FINESS Array S 93.68 332 *e*P **P 15 10 10.5 -1.3**
FINES FINESS Array B 93.68 332 P **P 15 10 10.4 -1.4**
comp=Z,3.4nm,0.8s,baz=92,slow=9.5,SNR=7.7
FINES LR LR 15 56 36.3
comp=Z,45nm,19.8s,baz=67,slow=38
FINES FINESS Array B 93.68 332 *i* P **P 15 10 10.3 -1.5**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KIS Kishinev 94.11 317 *e*P **P 15 10 13.0 -1.1**
KIS Kishinev 94.11 317 *e*P **P 15 10 13.0 -1.1**
CFR Carcaliu 94.79 315⇑ *i*P **P 15 10 17.5 +0.3**
CFR Carcaliu 94.79 315⇑ *e*P **P 15 10 17.5 +0.3**
TLB Topalu 94.92 315⇑ *i*P **P 15 10 18.1 +0.2**
TLB Topalu 94.92 315⇑ P **P 15 10 18.1 +0.2**
HARR Harsova 94.99 315⇓ *i*P P 15 10 33.6 +15
HARR Harsova 94.99 315⇓ P P 15 10 33.6 +15
WRAK Wrangell Islan 95.11 33 *e*P **P 15 10 19.2 +0.7**
comp=Z,19nm,0.8s
TESR Tescani 95.65 317⇑ *i*P **P 15 10 20.6 -0.6**
VRI Vrincioaia 95.68 316⇓ *i*P **P 15 10 21.6 +0.2**
VRI Vrincioaia 95.68 316⇓ P **P 15 10 21.6 +0.2**
PLOR Plostina 95.74 316⇑ *i*P **P 15 10 22.5 +0.8**
PLOR Plostina 95.74 316⇑ P **P 15 10 22.5 +0.8**
MLR Muntele Rosu 96.28 316⇓ *i*P **P 15 10 23.8 -0.5**
MLR Muntele Rosu 96.28 316 *e*P **P 15 10 23.7 -0.5**
MLR pmax pmax
comp=Z,14nm,1.2s
MLR Muntele Rosu 96.28 316 *e*P **P 15 10 23.7 -0.5**
comp=Z,14nm,1.2s
BURAR Bucovina Array 96.45 318⇓ *i*P **P 15 10 25.0 0.0**
BURAR Bucovina Array 96.45 318 ⇓P **P 15 10 25.0 0.0**
BUR08 Bucovina Ar. S 96.46 318 *e*P **P 15 10 24.6 -0.4**
DOPR Dopca 96.59 316⇓ *i*P **P 15 10 28.4 +2.9**
VOIR 96.91 316⇑ *i*P **P 15 10 30.9 +3.8**
VOIR 96.91 316 ⇑P **P 15 10 30.9 +3.8**
BMR Baia Mare 97.59 318⇑ *i*P **P 15 10 29.4 -0.5**
BMR Baia Mare 97.59 318 ⇑P **P 15 10 29.4 -0.5**
UZH Uzhgorod 98.20 319 *e*P **P 15 10 31.0 -1.6**
UZH *e* 15 10 38.0
DRGR 98.28 318⇓ *i*P **P 15 10 31.6 -1.6**
DRGR 98.28 318 ⇓P **P 15 10 31.6 -1.6**
GZR Gura Zlata 98.50 316⇑ *i*P **P 15 10 34.0 -0.2**
GZR Gura Zlata 98.50 316 ⇑P **P 15 10 34.0 -0.2**
RKT Rikitea 98.56 113 *e*LR LR 15 42 53.3
comp=Z,374nm,36.5s
CRVS Cervenica-Dubn 98.68 320 *e*P Pdif 15 10 35.6 +0.7
CRVS Cervenica-Dubn 98.68 320 *e*PDIFF Pdif 15 10 35.6 +0.7
VTS Vitosha 98.69 313⇑ *i*P P 15 10 25.7 -10
VTS Vitosha 98.69 313 ⇑P P 15 10 25.7 -10
STHS Stebnicka Huta 98.71 320 *e*P Pdif 15 10 37.3 +2.3
STHS Stebnicka Huta 98.71 320 *e*PDIFF Pdif 15 10 37.3 +2.3
BZS Buzias 99.25 317⇓ *i*P **Pdif 15 10 36.9 -0.6**
BZS Buzias 99.25 317 ⇓P **Pdif 15 10 36.9 -0.6**
KECS Kecovo 99.40 320 *e*P **Pdif 15 10 43.8 +5.7**
KECS Kecovo 99.40 320 *e* **Pdif 15 10 43.8 +5.7**
NB2 NORSAR Subarra 100.68 333 P **Pdif 15 10 41.7 -1.8**
comp=Z,2.2nm,0.7s,baz=70,slow=4.4
NB2 NORSAR Subarra 100.68 333 P **Pdif 15 10 41.7 -1.8**
baz=70,slow=4.4
NOA NORSAR Array B 100.68 333 P **Pdif 15 10 42.2 -1.3**
comp=Z,2.1nm,0.8s,baz=70,slow=4.5,SNR=10
NOA PKKPbc **PKKPbc 15 26 58.0 -1.9**
comp=Z,0.7nm,0.7s,baz=73,slow=3.0,SNR=4.0
MORC Moravsky Berou 100.96 321⇑ *i*P **Pdif 15 10 45.4 +0.4**
MORC Moravsky Berou 100.96 321 ⇑P **Pdif 15 10 45.4 +0.4**
PDG Podgorica 101.59 314⇓ *i*P **Pdif 15 10 44.9 -3.0**
YKA Yellowknife Ar 101.78 24 P **Pdif 15 10 48.8 +0.5**
comp=Z,1.5nm,0.6s,baz=299,slow=4.8,SNR=4.5
GERES GERESS Array B 103.64 321 Pdiff **Pdif 15 10 56.5 -0.5**
comp=Z,0.4nm,0.3s,baz=57,slow=4.9,SNR=4.1
HLID Hailey 109.80 42 P **PKiKP 15 15 26.0 -1.0**
baz=292
EDW2 Edwards Air Fo 110.03 52 P **PKiKP 15 15 26.7 -0.8**
baz=287
MPMC Manual Prospec 110.09 51 P **PKiKP 15 15 26.7 -1.1**
baz=287
TPNV Topopah Spring 110.77 49 P **PKiKP 15 15 28.0 -1.0**
baz=288
BOZ Bozeman (W) 110.81 40 P **PKiKP 15 15 27.6 -1.2**
baz=295
R11A Troy Canyon, C 110.81 48 P **PKiKP 15 15 28.0 -1.0**
baz=290
PFO Pinyon Flats O 111.62 53 P **PKiKP 15 15 29.5 -1.1**
baz=287
TPFO Pinon Flats 111.62 53 P **PKiKP 15 15 29.2 -1.5**
baz=287
MONP2 Monument Peak 111.86 54 P **PKiKP 15 15 30.2 -1.0**
baz=287
GMRC Granite Mounta 111.90 52 P **PKiKP 15 15 30.3 -0.8**
baz=288
DUG Dugway, Tooele 112.17 45 P **PKiKP 15 15 30.7 -0.8**
baz=292
IKP In-Ko-Pah, Jac 112.18 54 P **PKiKP 15 15 30.1 -1.5**
baz=287
BC3 Big Chuckawall 112.41 53 P **PKiKP 15 15 30.9 -1.3**
baz=288
IRM Iron Mountain 112.50 52 P **PKiKP 15 15 31.0 -1.2**
baz=288
RLMT Red Lodge 112.52 39 P **PKiKP 15 15 31.2 -0.9**
baz=297
PDAR Pinedale Array 113.37 42 PKKPab PKKPab 15 26 25.8 -1.1
comp=Z,1.1nm,0.4s,baz=106,slow=6.7,SNR=3.9
LAO LASA Array 113.65 37 P **PKiKP 15 15 33.0 -1.1**
baz=300

LAO	LASA Array	113.65	37	ePKiKP	PKiKP	15 15 35.0	+1.0
WUAZ	Wupatki	114.96	50	P	PKPdf	15 15 35.9	-1.1
	baz=291						
WUAZ	Wupatki	114.96	50	ePKiKP	PKPdf	15 15 38.1	+1.1
O20A	White River Ci	115.40	44	P	PKPdf	15 15 36.7	-1.1
	baz=296						
O20A	White River Ci	115.40	44	ePKPdf	PKPdf	15 15 38.1	+0.3
PV10	Paradox Valley	115.58	46	ePKPdf	PKPdf	15 15 37.9	-0.4
RSSD	Black Hills	116.28	38	P	PKPdf	15 15 38.3	-1.1
	baz=301						
RSSD	Black Hills	116.28	38	ePKIKP	PKPdf	15 15 39.0	-0.4
RSSD	Black Hills	116.28	38	ePKPdf	PKPdf	15 15 39.0	-0.4
TUC	Tucson	116.55	53	P	PKPdf	15 15 39.1	-1.0
	baz=290						
ULM	Lac du Bonnet	117.19	29	PKP	PKPdf	15 15 40.0	-0.7
	comp=Z,4.6nm,0.7s,baz=325,slow=7.0,SNR=5.7						
ULM	Lac du Bonnet	117.19	29	PKIKP	PKPdf	15 15 40.0	-0.7
ULM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ISCO	Idaho Springs	117.36	43	P	PKPdf	15 15 40.3	-1.4
	baz=298						
S22A	4UR Ranch, Cre	117.43	46	P	PKPdf	15 15 40.8	-1.1
	baz=296						
C31A	Landman Farms,	117.82	32	P	PKPdf	15 15 41.4	-0.5
	baz=308						
B32A	Ashes, Strandq	118.06	31	P	PKPdf	15 15 41.7	-0.7
	baz=310						
D31A	Mcclaflin, Tow	118.28	33	P	PKPdf	15 15 42.2	-0.7
	baz=308						
E31A	Nome	118.49	33	P	PKPdf	15 15 42.6	-0.7
	baz=308						
ANMO	Albuquerque	118.89	48	P	PKPdf	15 15 43.4	-1.2
	baz=295						
ANMO	Albuquerque	118.89	48	ePKIKP	PKPdf	15 15 43.9	-0.8
ANMO	Albuquerque	118.89	48	ePKPdf	PKPdf	15 15 43.9	-0.8
ESDC	Sonseca Array	118.91	318	PKKPbc	PKKPbc	15 25 59.5	-0.8
	comp=Z,0.1nm,0.4s,baz=248,slow=3.5,SNR=4.5						
B34A	Aery, Baudette	118.96	30	P	PKPdf	15 15 43.0	-1.1
	baz=312						
D33A	AnnSam, Wauburn	119.23	32	P	PKPdf	15 15 43.5	-1.1
	baz=310						
T25A	Trinidad	119.42	45	P	PKPdf	15 15 44.4	-1.2
	baz=297						
T25A	Trinidad	119.42	45	ePKPdf	PKPdf	15 15 45.2	-0.4
B35A	Bob, Littlefor	119.50	30	P	PKPdf	15 15 44.3	-0.8
	baz=312						
E33A	Westby DABS, E	119.55	32	P	PKPdf	15 15 44.4	-0.9
	baz=310						
D34A	Park Rapids	119.60	31	P	PKPdf	15 15 44.6	-0.8
	baz=310						
F33A	5 Mile Ranch,	119.81	33	P	PKPdf	15 15 45.0	-0.8
	baz=309						
C35A	Jirik Farms, M	119.82	30	P	PKPdf	15 15 44.9	-0.9
	baz=312						
E34A	Wadena	119.98	32	P	PKPdf	15 15 45.3	-0.8
	baz=310						
H32A	Carlson Farm,	119.99	35	P	PKPdf	15 15 46.8	+0.6
	baz=307						
G33A	Ortonville	120.13	34	P	PKPdf	15 15 45.7	-0.8
	baz=308						
D35A	Remer	120.19	31	P	PKPdf	15 15 45.7	-0.8
	baz=312						
I32A	Karley and Nic	120.26	35	P	PKPdf	15 15 46.0	-0.8
	baz=307						
H33A	Prehn Over Nor	120.28	34	P	PKPdf	15 15 45.8	-1.0
	baz=308						
K31A	O'Neill	120.32	37	P	PKPdf	15 15 45.9	-1.0
	baz=305						
E35A	Pequot Lakes	120.36	31	P	PKPdf	15 15 46.1	-0.8
	baz=311						
G34A	Benson	120.54	33	P	PKPdf	15 15 46.4	-0.9
	baz=309						
D36A	Goodland	120.58	30	P	PKPdf	15 15 46.4	-0.8
	baz=313						
I33A	Coleman	120.63	35	P	PKPdf	15 15 46.6	-0.9
	baz=308						
C37A	Embarrass	120.69	29	P	PKPdf	15 15 46.6	-0.8
	baz=314						
F35A	Swanville	120.72	32	P	PKPdf	15 15 46.9	-0.7
	baz=311						
K32A	Verdigre	120.77	37	P	PKPdf	15 15 46.8	-1.0
	baz=306						
H34A	Spellman Lake,	120.83	34	P	PKPdf	15 15 46.8	-1.0
	baz=309						
EYMN	Ely	120.87	29	P	PKPdf	15 15 47.1	-0.7
	baz=315						
ECSD	EROS Data Cent	120.93	35	P	PKPdf	15 15 47.3	-0.8
	baz=308						
ECSD	EROS Data Cent	120.93	35	ePKPdf	PKPdf	15 15 47.8	-0.2
D37A	Cotton	120.96	30	P	PKPdf	15 15 47.1	-0.9
	baz=313						
J33A	Davis	120.97	36	P	PKPdf	15 15 47.3	-0.9
	baz=307						
E36A	McGregor	120.98	31	P	PKPdf	15 15 47.4	-0.6
	baz=312						
MNTX	Cornudas Mount	121.04	51	P	PKPdf	15 15 47.7	-0.9
	baz=294						
MNTX	Cornudas Mount	121.04	51	ePKPdf	PKPdf	15 15 49.1	+0.5
G35A	Watkins	121.18	33	P	PKPdf	15 15 47.8	-0.7
	baz=310						
F36A	Milaca	121.28	32	P	PKPdf	15 15 48.1	-0.5
	baz=312						
H35A	Sunnyside Ranc	121.33	33	P	PKPdf	15 15 48.2	-0.6
	baz=310						
BGNE	Belgrade	121.39	38	P	PKPdf	15 15 48.2	-0.8
	baz=305						
BGNE	Belgrade	121.39	38	ePKPdf	PKPdf	15 15 48.7	-0.3
G36A	St. Michael	121.57	32	P	PKPdf	15 15 48.5	-0.7
	baz=311						
J34A	George	121.58	35	P	PKPdf	15 15 48.6	-0.7
	baz=308						
F37A	Hinrichs Farm,	121.83	31	P	PKPdf	15 15 49.1	-0.6
	baz=312						
K34A	Le Mars	121.87	36	P	PKPdf	15 15 49.1	-0.8
	baz=308						
M33A	Taylor Creek F	121.88	37	P	PKPdf	15 15 49.2	-0.8
	baz=306						
H36A	Jessenland, He	121.90	33	P	PKPdf	15 15 49.2	-0.6
	baz=311						
MSTX	Muleshoe	122.05	48	P	PKPdf	15 15 49.7	-1.0
	baz=297						
SPMN	Marine on St.	122.08	32	P	PKPdf	15 15 49.6	-0.6
	baz=312						
SPMN	Marine on St.	122.08	32	ePKPdf	PKPdf	15 15 49.4	-0.8
L34A	Svendsen Farm,	122.14	37	P	PKPdf	15 15 49.4	-1.1
	baz=307						
N33A	J Bar K, Exete	122.20	38	P	PKPdf	15 15 49.6	-1.0
	baz=305						
I36A	Fitzsimmons Fa	122.22	33	P	PKPdf	15 15 49.6	-0.9
	baz=310						
AMTX	Amarillo	122.43	46	P	PKPdf	15 15 50.3	-1.0
	baz=298						
AMTX	Amarillo	122.43	46	ePKPdf	PKPdf	15 15 50.8	-0.5
E39A	Mellen	122.43	29	P	PKPdf	15 15 50.2	-0.6
	baz=315,SNR=7.2						
H37A	Dierke Farm, C	122.44	32	P	PKPdf	15 15 50.3	-0.6
	baz=312						
J36A	Seneca 1, Swea	122.48	34	P	PKPdf	15 15 50.5	-0.5
	baz=310						
O33A	Hebron	122.50	39	P	PKPdf	15 15 50.4	-0.8
	baz=305						
L35A	Bielow Farm, R	122.54	36	P	PKPdf	15 15 50.2	-1.0
	baz=308						
I37A	Lemond, Waseca	122.56	33	P	PKPdf	15 15 50.6	-0.6
	baz=311						
F39A	Loretta	122.57	30	P	PKPdf	15 15 50.7	-0.5
	baz=314,SNR=7.7						
HPIG		122.61	57	ePKPdf	PKPdf	15 15 52.1	+0.1
G38A	Ridgeland	122.61	31	P	PKPdf	15 15 50.6	-0.7
	baz=313						
E40A	Wakefield	122.70	29	P	PKPdf	15 15 50.8	-0.5
	baz=316						
H38A	Maiden Rock	122.72	32	P	PKPdf	15 15 50.8	-0.6
	baz=312						
N34A	Lincoln	122.73	38	P	PKPdf	15 15 50.6	-1.0
	baz=306						
M35A	Neola	122.84	37	P	PKPdf	15 15 50.9	-0.9
	baz=307						
K36A	Gilmore City	122.85	35	P	PKPdf	15 15 51.3	-0.5
	baz=309						
G39A	Holcombe	122.88	31	P	PKPdf	15 15 51.2	-0.6
	baz=314						
D41A	Chassel	122.89	28	P	PKPdf	15 15 50.9	-0.8
	baz=317						
F40A	Park Falls	122.97	30	P	PKPdf	15 15 51.5	-0.4
	baz=315,SNR=10						
O34A	Beatrice	122.99	39	P	PKPdf	15 15 51.2	-0.9
	baz=306						
L36A	Harm Buss Farm	123.06	36	P	PKPdf	15 15 51.6	-0.6
	baz=309						
I38A	Scanlan Farm,	123.12	33	P	PKPdf	15 15 51.9	-0.4
	baz=312,SNR=7.3						
TOA0	Torodi Ar. Sit	123.21	287	ePKPdf	PKPdf	15 15 53.2	0.0
TORD	Torodi Ar. Bea	123.21	287	PKP	PKPdf	15 15 53.5	+0.3
	comp=Z,7.7nm,0.8s,baz=60,slow=2.0,SNR=49						
TORD				PKKPbc	PKKPab	15 25 44.4	+0.7
	comp=Z,2.8nm,0.7s,baz=280,slow=3.6,SNR=17						
K37A	Belmond	123.23	34	P	PKPdf	15 15 51.9	-0.6
	baz=310						
H39A	Augusta	123.24	31	P	PKPdf	15 15 52.0	-0.4
	baz=313,SNR=9.4						
P34A	Walnut Farm, R	123.28	39	P	PKPdf	15 15 52.1	-0.6
	baz=305						
COWI	Conover	123.32	29	ePKPdf	PKPdf	15 15 52.3	-0.3
TX31	Lajitas Ar. Si	123.34	53	ePKPdf	PKPdf	15 15 53.1	-0.2
TXAR	Lajitas Array	123.34	53	PKP	PKPdf	15 15 53.8	+0.5
	comp=Z,2.6nm,0.8s,baz=237,slow=1.1,SNR=33						
TXAR				PKKPbc	PKKPbc	15 25 43.5	+0.1
	comp=Z,0.5nm,0.8s,baz=98,slow=6.5,SNR=5.6						
G40A	Rib Lake	123.39	30	P	PKPdf	15 15 52.5	-0.3
	baz=315,SNR=6.8						
O35A	Humboldt	123.43	38	P	PKPdf	15 15 52.1	-0.9
	baz=306						
J38A	Wedel Dairy, R	123.52	33	P	PKPdf	15 15 52.5	-0.5
	baz=312						
L37A	Phoenix Point,	123.57	35	P	PKPdf	15 15 52.6	-0.6
	baz=310						
F41A	Three Lakes	123.59	29	P	PKPdf	15 15 52.6	-0.5
	baz=316,SNR=5.5						
E42A	Champion	123.66	28	P	PKPdf	15 15 52.7	-0.6
	baz=318						
KSU1	Kansas State U	123.67	40	P	PKPdf	15 15 52.8	-0.6
	baz=305						
KSU1	Kansas State U	123.67	40	ePKPdf	PKPdf	15 15 54.6	+1.1
I39A	Houston	123.68	32	P	PKPdf	15 15 52.7	-0.6
	baz=313,SNR=10						
R34A	Isabella, Hill	123.72	41	P	PKPdf	15 15 52.7	-0.9
	baz=304						
H40A	Chili	123.74	31	P	PKPdf	15 15 52.9	-0.5
	baz=314						
K38A	Parkersburg	123.80	34	P	PKPdf	15 15 52.9	-0.7
	baz=311						
P35A	Duane Minner,	123.80	39	P	PKPdf	15 15 53.0	-0.7
	baz=306						
M37A	Trindle Farm,	123.85	36	P	PKPdf	15 15 53.0	-0.8
	baz=309						
J39A	Decorah	123.93	33	P	PKPdf	15 15 52.9	-0.9
	baz=312,SNR=13						
L38A	Oak Wood Farm,	124.02	35	P	PKPdf	15 15 53.4	-0.6
	baz=310						
F42A	Maple Grove Fa	124.05	29	P	PKPdf	15 15 53.1	-0.9
	baz=317						
H41A	Junction City	124.12	30	P	PKPdf	15 15 53.3	-0.9
	baz=315						
E43A	Lone Tree Farm	124.13	27	P	PKPdf	15 15 53.3	-0.8
	baz=319						
I40A	Norwalk	124.13	32	P	PKPdf	15 15 53.4	-0.8
	baz=314						
Q35A	Mercer Eighty,	124.18	39	P	PKPdf	15 15 53.5	-0.9
	baz=306						
K39A	Oelwein	124.25	33	P	PKPdf	15 15 53.6	-0.9
	baz=312						
P36A	Good Intent, A	124.25	38	P	PKPdf	15 15 53.5	-1.0
	baz=307						
G42A	Mountain	124.28	29	P	PKPdf	15 15 53.7	-0.8
	baz=317						
M38A	Pleasantville	124.34	35	P	PKPdf	15 15 53.8	-0.9
	baz=310						
R35A	Emporia Munici	124.38	40	P	PKPdf	15 15 54.1	-0.7
	baz=305						
J40A	Soldiers Grove	124.40	32	P	PKPdf	15 15 53.9	-0.8
	baz=313						
E44A	Grand Marais A	124.43	26	P	PKPdf	15 15 53.8	-0.8
	baz=320						
F43A	Flat Rock, Esc	124.45	28	P	PKPdf	15 15 54.2	-0.5
	baz=318						
L39A	Vinton	124.57	34	P	PKPdf	15 15 54.6	-0.5
	baz=311,SNR=7.8						
WMOK	Wichita Mounta	124.58	45	P	PKPdf	15 15 54.8	-0.6
	baz=301						
WMOK	Wichita Mounta	124.58	45	ePKIKP	PKPdf	15 15 55.5	+0.1
WMOK	Wichita Mounta	124.58	45	ePKPdf	PKPdf	15 15 55.5	+0.1
G43A	Wallace	124.63	29	P	PKPdf	15 15 54.6	-0.5
	baz=317						
K40A	Colesburg	124.66	33	P	PKPdf	15 15 54.9	-0.3
	baz=312,SNR=18						
S35A	Otter Creek Ra	124.67	41	P	PKPdf	15 15 55.1	-0.3
	baz=305						
F44A	Big Bay de Noc	124.69	27	P	PKPdf	15 15 54.4	-0.8
	baz=319						
P37A	Lathrop	124.80	38	P	PKPdf	15 15 54.6	-0.9
	baz=308						
J41A	Loganville	124.81	32	P	PKPdf	15 15 54.9	-0.6
	baz=314,SNR=5.9						
R36A	Gordon, Harris	124.83	40	P	PKPdf	15 15 55.1	-0.6
	baz=306						
M39A	Webster	124.89	35	P	PKPdf	15 15 55.3	-0.4
	baz=311,SNR=5.3						
JFWS	Jewell Farm	125.00	32	ePKIKP	PKPdf	15 15 55.4	-0.5
JFWS	Jewell Farm	125.00	32	ePKPdf	PKPdf	15 15 55.4	-0.5
I42A	Draeger Farm,	125.01	31	P	PKPdf	15 15 55.1	-0.8
	baz=315						
L40A	Anamosa	125.04	34	P	PKPdf	15 15 55.4	-0.5
	baz=312,SNR=10.0						
N39A	Derby Farms, D	125.09	36	P	PKPdf	15 15 55.3	-0.8
	baz=310						
S36A	Lake Cedric, C	125.12	40	P	PKPdf	15 15 55.6	-0.7
	baz=305						
U35A	Pawnee	125.13	42	P	PKPdf	15 15 55.8	-0.5
	baz=304						
K41A	Shullsburg	125.18	33	P	PKPdf	15 15 55.8	-0.4
	baz=313						
R37A	Teagarden Farm	125.26	39	P	PKPdf	15 15 55.5	-1.0
	baz=306						
P38A	Dawn	125.27	37	P	PKPdf	15 15 55.6	-0.9
	baz=308,SNR=6.1						
M40A	Post Highland	125.32	34	P	PKPdf	15 15 55.6	-0.9
	baz=311						
F45A	CMU Biological	125.32	27	P	PKPdf	15 15 55.7	-0.7
	baz=320						
V35A	Meyer Ranch, C	125.39	43	P	PKPdf	15 15 56.1	-0.8
	baz=303						
L41A	Preston	125.43	33	P	PKPdf	15 15 55.8	-0.9
	baz=313						
S37A	Fort Scott	125.59	40	P	PKPdf	15 15 56.6	-0.6
	baz=306						
N40A	Mertquake, Sal	125.62	35	P	PKPdf	15 15 56.7	-0.5
	baz=311						
Q38A	Cooks Store, C	125.63	38	P	PKPdf	15 15 56.4	-0.8
	baz=308						
W35A	Tecumseh	125.69	44	P	PKPdf	15 15 56.7	-0.7
	baz=303						
P39B	Salisbury	125.83	37	P	PKPdf	15 15 56.7	-0.8
	baz=309,SNR=6.2						
JCT	Junction City	125.88	50	P	PKPdf	15 15 57.3	-0.6
	baz=297						
JCT	Junction City	125.88	50	ePKIKP	PKPdf	15 15 58.3	+0.3
JCT	Junction City	125.88	50	ePKPdf	PKPdf	15 15 58.3	+0.3
M41A	Milan	125.88	34	P	PKPdf	15 15 56.7	-0.9
	baz=312						
T37A	Cheneyville 18	125.90	41	P	PKPdf	15 15 57.2	-0.6
	baz=306						
R38A	Fenwick Farm,	125.92	39	P	PKPdf	15 15 57.0	-0.8
	baz=307,SNR=5.1						
O40A	La Belle	125.95	36	P	PKPdf	15 15 57.4	-0.4
	baz=310						
Q39A	Willow Grove F	125.97	38	P	PKPdf	15 15 57.5	-0.3
	baz=309,SNR=9.9						
V36A	Jenks	125.98	43	P	PKPdf	15 15 57.4	-0.6
	baz=304						
X35A	Drake	126.03	45	P	PKPdf	15 15 57.7	-0.5
	baz=302						
W36A	Wetumka	126.15	43	P	PKPdf	15 15 57.9	-0.4
	baz=303						
N41A	Harden Midland	126.15	35	P	PKPdf	15 15 57.8	-0.3
	baz=312						
U37A	Salina	126.19	41	P	PKPdf	15 15 57.9	-0.5
	baz=305						
P40A	Paris	126.22	37	P	PKPdf	15 15 57.8	-0.5
	baz=310						
Y35A	Marietta	126.24	45	P	PKPdf	15 15 58.1	-0.4
	baz=302						
S38A	Stockton	126.25	39	P	PKPdf	15 15 58.0	-0.4
	baz=307						
433A	Art	126.30	50	P	PKPdf	15 15 58.3	-0.5
	baz=298						
L43A	Garden Prairie	126.30	32	P	PKPdf	15 15 58.2	-0.2
	baz=315						
T38A	Diamond	126.36	40	P	PKPdf	15 15 58.2	-0.5
	baz=306,SNR=7.1						
X36A	Centrahoma	126.37	44	P	PKPdf	15 15 58.5	-0.2
	baz=303						
R39A	Chumby, Stover	126.38	38	P	PKPdf	15 15 58.4	-0.3
	baz=308,SNR=7.4						
V37A	Hulbert	126.47	42	P	PKPdf	15 15 58.6	-0.3
	baz=305						
O41A	Passleys Farm,	126.53	35	P	PKPdf	15 15 58.6	-0.3
	baz=311,SNR=7.2						
N42A	Yates City	126.53	34	P	PKPdf	15 15 58.4	-0.5
	baz=313						
Q40A	Laux Farm, Aux	126.55	37	P	PKPdf	15 15 58.6	-0.4
	baz=310						
S39A	Bolivar	126.59	39	P	PKPdf	15 15 59.0	-0.1
	baz=308,SNR=20						
U38A	Gravette	126.65	41	P	PKPdf	15 15 58.9	-0.4
	baz=306						
334A	Lometa	126.66	48	P	PKPdf	15 15 59.2	-0.3
	baz=299						
W37B	Quinton	126.69	43	P	PKPdf	15 15 59.1	-0.3
	baz=304						
P41A	Barry, Barry	126.71	36	P	PKPdf	15 15 59.0	-0.2
	baz=311						
832A	Faith Ranch, C	126.72	53	P	PKPdf	15 15 59.2	-0.4
	baz=296						
Y36A	Durant	126.78	45	P	PKPdf	15 15 59.1	-0.4
	baz=302						
R40A	Maddies Statio	126.87	38	P	PKPdf	15 15 59.3	-0.3
	baz=309,SNR=15						
434A	Burnet	126.89	49	P	PKPdf	15 15 59.3	-0.6
	baz=299						
WHTX	Lake Whitney,	126.92	47	P	PKPdf	15 15 59.6	-0.3
	baz=300						
T39A	Clever	126.95	40	P	PKPdf	15 15 59.7	-0.1
	baz=307,SNR=7.9						
V38A	Canehill	126.97	42	P	PKPdf	15 15 59.8	-0.1
	baz=305						
Z36A	Blue Ridge	127.00	45	P	PKPdf	15 16 00.0	0.0
	baz=302						
X37A	Clayton	127.04	43	P	PKPdf	15 16 00.1	+0.1
	baz=304						
Q41A	Truxton	127.08	37	P	PKPdf	15 15 59.9	0.0
	baz=310,SNR=5.8						
534A	Blanco	127.11	50	P	PKPdf	15 16 00.1	-0.2
	baz=298						
S40A	Lebanon	127.16	39	P	PKPdf	15 16 00.1	-0.1
	baz=308						
833A	Chaparral WMA,	127.16	52	P	PKPdf	15 15 60.0	-0.5
	baz=296						
P42A	Winchester	127.19	35	P	PKPdf	15 15 59.7	-0.4
	baz=312						
U39A	Green Forest	127.27	40	P	PKPdf	15 16 00.2	-0.2
	baz=307						
335A	Moody	127.29	48	P	PKPdf	15 16 00.4	-0.2
	baz=300						
O43A	Sugar Creek Fa	127.31	34	P	PKPdf	15 16 00.3	-0.1
	baz=313						
W38A	Poteau	127.35	42	P	PKPdf	15 16 00.4	-0.2
	baz=305						
X38A	Whitesboro	127.36	43	P	PKPdf	15 16 00.3	-0.3
	baz=304						
R41A	Rosebud	127.41	37	P	PKPdf	15 16 00.5	-0.1
	baz=310,SNR=13						
T40A	Mansfield	127.42	39	P	PKPdf	15 16 00.5	-0.2
	baz=308,SNR=6.2						
V39A	Pettigrew	127.48	41	P	PKPdf	15 16 00.6	-0.3
	baz=306						
Q42A	Golden Eagle	127.52	36	P	PKPdf	15 16 00.5	-0.3
	baz=311						
933A	Laredo	127.57	53	P	PKPdf	15 16 00.5	-0.7
	baz=296						
P43A	Skaggs, Pawnee	127.62	35	P	PKPdf	15 16 00.8	-0.1
	baz=312						
S41A	Jillco Farms,	127.64	38	P	PKPdf	15 16 00.9	-0.2
	baz=309,SNR=5.3						
U40A	Yellville	127.69	40	P	PKPdf	15 16 00.9	-0.3
	baz=307,SNR=7.6						
W39A	Magazine	127.77	42	P	PKPdf	15 16 00.9	-0.5
	baz=306						
R42A	Luebbering	127.77	37	P	PKPdf	15 16 01.1	-0.3
	baz=310,SNR=6.1						
GO09	Cerro Castillo	127.87	165	ePKPdf	PKPdf	15 16 01.7	+0.6
X39A	Fountain Ranch	127.94	43	P	PKPdf	15 16 01.4	-0.3
	baz=305						
T41A	Mountain View	127.96	39	P	PKPdf	15 16 01.3	-0.4
	baz=309						
Q43A	New Douglas	127.99	36	P	PKPdf	15 16 01.5	-0.2
	baz=312						
V40A	Witts Springs	128.04	41	P	PKPdf	15 16 01.8	-0.2
	baz=307,SNR=6.3						
S42A	Caledonia	128.10	37	P	PKPdf	15 16 01.2	-0.7
	baz=310,SNR=6.7						
W40A	Ferguson Farm,	128.24	41	P	PKPdf	15 16 02.0	-0.3
	baz=306						
P44A	Sand Creek, Wi	128.25	34	P	PKPdf	15 16 01.8	-0.4
	baz=313						
Y39A	Lockesburg	128.28	43	P	PKPdf	15 16 01.8	-0.6
	baz=304						
MIAR	Mount Ida	128.28	42	P	PKPdf	15 16 02.3	-0.1
	baz=305						
MIAR	Mount Ida	128.28	42	ePKIKP	PKPdf	15 16 03.0	+0.6
MIAR	Mount Ida	128.28	42	ePKPdf	PKPdf	15 16 03.0	+0.6
R43A	Red Bud	128.29	36	P	PKPdf	15 16 02.0	-0.3
	baz=311						
U41A	Viola	128.30	40	P	PKPdf	15 16 02.1	-0.3
	baz=308,SNR=6.0						
S43A	Fulton Ridge,	128.67	37	P	PKPdf	15 16 02.4	-0.7
	baz=311						
U42A	Revenden	128.72	39	P	PKPdf	15 16 02.8	-0.3
	baz=309						
V42A	Cord	128.97	40	P	PKPdf	15 16 02.9	-0.7
	baz=308						
438A	Sam Houston St	129.01	48	P	PKPdf	15 16 02.8	-1.1
	baz=301						
OLIL	Olney	129.05	35	ePKPdf	PKPdf	15 16 04.0	+0.3
S45A	Carrier Mills	129.49	36	P	PKPdf	15 16 03.9	-0.6
	baz=312						
BLO	Bloomington	129.62	33	ePKIKP	PKPdf	15 16 05.4	+0.6
BLO	Bloomington	129.62	33	ePKPdf	PKPdf	15 16 05.4	+0.6
WCI	Wyandotte Cave	130.42	34	ePKIKP	PKPdf	15 16 06.3	0.0
WCI	Wyandotte Cave	130.42	34	ePKPdf	PKPdf	15 16 06.3	0.0
KIC	Kosan Boka	130.54	280	ePKP1	PKPdf	15 16 08.1	+0.9
	comp=Z,14nm,0.9s						
DBIC	Dimbokro	130.61	280	PKP	PKPdf	15 16 07.9	+0.5
	comp=Z,5.0nm,0.8s,baz=136,slow=5.6,SNR=5.2						
DBIC				SKPbc	SKPab	15 19 28.6	+0.8
	comp=Z,2.4nm,0.7s,baz=27,slow=4.5,SNR=3.6						
TIC	Toumodi	130.77	280	ePKP1	PKPdf	15 16 08.7	+1.0
LIC	Lamto	130.84	279	ePKP1	PKPdf	15 16 08.8	+1.0
	comp=Z,66nm,1.9s						
WVT	Waverly	130.97	37	ePKIKP	PKPdf	15 16 07.6	+0.1
WVT	Waverly	130.

comp=Z,1.0nm,0.8s
PLCA pmax pmax
comp=Z,5.0nm,0.7s
TGUH Tegucigalpa,Un 143.36 64 *e*PKPdf **PKPdf 15 16 30.0 -0.8**
ROC1 El Roble 144.61 154 *e*PKPbc PKPbc 15 16 31.9 +0.3
LCO Las Campanas 148.10 151 *e*PKPbc **PKPbc 15 16 42.3 +0.1**
GTBY Guantanamo Bay 150.16 44 *e*PKPbc **PKPbc 15 16 47.3 +0.1**
GRTK Grand Turk 151.56 36 *e*PKPbc **PKPbc 15 16 50.5 +0.1**
LVC Limon Verde 154.24 146 PKPbc **PKPbc 15 16 58.0 +1.2**
comp=Z,14nm,0.5s,baz=338,slow=5.4,SNR=5.0
LVC Limon Verde 154.24 146 *e*PKPbc **PKPbc 15 16 58.2 +1.4**
NNA Nana 154.74 116 PKPbc **PKPbc 15 16 58.9 +1.3**
comp=Z,9.2nm,0.7s,baz=245,slow=11,SNR=5.0
CPUP Villa Florida 154.96 172 PKP **PKPdf 15 16 49.9 +0.9**
comp=Z,2.9nm,0.9s,baz=79,slow=2.2,SNR=7.2
CPUP PKPbc **PKiKP 15 16 58.2 +0.5**
comp=Z,6.9nm,0.8s,baz=116,slow=0.4,SNR=15
CPUP Villa Florida 154.96 172 *e*PKIKP **PKPdf 15 16 48.9 -0.1**
CPUP *e* 15 16 58.8
CPUP Villa Florida 154.96 172 *e*PKPdf **PKPdf 15 16 48.9 -0.1**
CPUP *e*PKPbc **PKiKP 15 16 58.8 +1.1**
SJCC San Jacinto, C 155.84 62 *e*P **PKPdf 15 16 51.0 +0.3**
PB11 IPOC Station P 155.97 140 *e*PKPdf **PKPdf 15 16 48.9 -1.9**
PB11 *e*PKPab **PKPab 15 17 20.3 +2.5**
ZARC Zaragoza, Cauc 157.11 67 *e*P **PKPdf 15 16 50.4 -1.8**
ROSC El Rosal 158.48 73 PKP **PKPdf 15 16 54.2 -0.2**
comp=Z,8.5nm,0.7s,baz=225,slow=19,SNR=6.6
ROSC El Rosal 158.48 73 *e*P **PKPdf 15 16 53.8 -0.6**
ROSC El Rosal 158.48 73 *e*PKPdf **PKPdf 15 16 55.1 +0.7**
BARC Barichara 158.99 68 *e*P **PKPdf 15 16 53.8 -1.0**
CHIC Chingaza 159.10 73 *e*P **PKPdf 15 16 53.2 -1.9**
PAMC Pamplona, Colo 159.14 65 *e*P **PKPdf 15 16 55.5 +0.2**
RUSC La Rusia 159.32 69 *e*P **PKPdf 15 16 53.8 -1.7**
LPAZ La Paz 159.47 137 PKP **PKPdf 15 16 56.6 +0.9**
comp=Z,3.5nm,0.8s,baz=275,slow=0.7,SNR=20
LPAZ SKP 15 20 28.9
comp=Z,0.9nm,0.5s,baz=257,slow=4.3,SNR=5.2
LPAZ La Paz 159.47 137 *e*PKIKP **PKPdf 15 16 56.4 +0.7**
SDV Santo Domingo 160.26 59 *e*PKPdf **PKPdf 15 16 56.0 -0.2**
SIV San Ignacio 163.77 154 PKP **PKPdf 15 17 00.6 +1.1**
comp=Z,2.5nm,0.8s,baz=243,slow=2.3,SNR=4.0

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*IDC **02** 15:01:37.3±1.6, 1°.44N×126°.28E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.7/44, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=115.7km s-min=19.5km az=69.0*
*NEIC **02** 15:01:42.3±1.0, 1°.40N×126°.22E, h35km, mb4.5/2, Error ellipse: s-maj=72.8km s-min=11.4km az=70.0*
ISC 02 15:01:44.3±1.6, 1°.4N±0°.3×126°.2E±0°.7, h54km, n7, σ0s23/7, mb4.1/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.35**	**182**	P		**P**	**15 06 05.4 -0.1**
	0.2nm,0.3s,baz=17,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**22.62**	**160**	P		**P**	**15 06 40.6 -0.2**
	4.3nm,0.5s,baz=338,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.98**	**164**	P		**P**	**15 07 12.3 +0.2**
	5.1nm,1.0s,baz=346,slow=12,SNR=6.9						
MKAR	**Makanchi Array**	**59.21**	**326**	P		**P**	**15 11 40.0 0.0**
	0.9nm,0.4s,baz=120,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**63.46**	**328**	P		**P**	**15 12 08.9 +0.3**
	0.7nm,0.4s,baz=128,slow=5.8,SNR=7.5						
KURK	**Kurchatov**	**63.46**	**328**	*e*P		**P**	**15 12 08.4 -0.2**
	15nm,0.5s						
ABKAR	**Abkulak array**	**73.66**	**321**	*e*P		**P**	**15 13 12.1 -0.1**
	0.3nm,0.4s						

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*NSSC **02** 15:10:33.8±0.8, 33°.77N×35°.63E, h12km±4km, ML1.1*
*ISCJB **02** 15:10:34.9±0.6, 33°.76N±0°.03×35°.69E±0°.09, h15km±7km, Error ellipse: s-maj=13.4km s-min=5.4km az=170.2*
*GRAL **02** 15:10:35.7±0.3, 33°.79N×35°.78E, h2km±24km, MD2.6*
*CSEM **02** 15:10:35.7, 33°.79N×35°.78E, h2km, ML2.6*
ISC 02 15:10:34.8±0.9, 33°.79N±0°.03×35°.77E±0°.07, h13km±11km, n11, σ0s32/18, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.15**	**321**	*e*P	**Pg**	**15 10 38.5 -0.1**
BHL	**Bhannes**	**0.15**	**321**	*e*P	**Pg**	**15 10 38.5 -0.1**
DQRL	**Deir Qamar**	**0.18**	**244**	*e*P	**Pg**	**15 10 39.2 +0.1**
DQRL				*e*S	**Sg**	**15 10 41.8 -0.2**
DQRL	**Deir Qamar**	**0.18**	**244**	*e*P	**Pg**	**15 10 39.2 +0.1**
DQRL				*e*S	**Sg**	**15 10 41.8 -0.2**
RCY	**Rachaya**	**0.29**	**169**	*e*P	**Pg**	**15 10 41.1 +0.1**
RCY				*e*S	**Sg**	**15 10 45.0 0.0**
BRBR	**Barbar**	**0.40**	**158**	*e*P	**Pg**	**15 10 42.8 -0.1**
BRBR				*e*S	**Sg**	**15 10 49.0 +0.6**
BRBR				AML	AML	15 10 52.8
	comp=N,27nm,0.3s					
BRBR				AML	AML	15 10 56.2
	comp=E,12nm,0.6s					
HWQ	**Hawqa**	**0.51**	**17**	*e*P	**Pg**	**15 10 44.8 -0.1**
HWQ	**Hawqa**	**0.51**	**17**	*e*P	**Pg**	**15 10 44.8 -0.1**
MARH	**Ras Al Marh**	**0.64**	**68**	*e*P	**Pb**	**15 10 48.1 +0.1**
MARH				*e*S	**Sn**	**15 10 59.5 -0.5**
MARH				AML	AML	15 11 01.9
	comp=E,21nm,0.4s					
MARH				AML	AML	15 11 07.1
	comp=N,15nm,0.6s					
BIDA	**Albida**	**1.31**	**20**	*e*P	**Pn**	**15 10 59.2 +0.4**
BIDA				*e*S	**Sb**	**15 11 16.4 +0.5**
BIDA				AML	AML	15 11 23.1
	comp=E,14nm,0.3s					
SALA	**Sala**	**1.34**	**143**	*e*P	**Pn**	**15 10 58.9 -0.4**
SALA				*e*S	**Sb**	**15 11 17.0 0.0**
SALA				AML	AML	15 11 24.6
	comp=E,0.4nm,0.4s					
SALA				AML	AML	15 11 25.7
	comp=N,4.1nm,0.4s					

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*ISCJB **02** 15:52:35.3±0.4, 39°.83N±0°.03×27°.76E±0°.04, h0km, Error ellipse: s-maj=5.1km s-min=3.4km az=37.1*
*CSEM **02** 15:52:35.6±0.1, 39°.82N×27°.76E, h1km, MD2.5, Error ellipse: s-maj=3.9km s-min=2.8km az=128.0, Suspected Mining explosion.*
*DDA **02** 15:52:35.6, 39°.82N×27°.76E, h7km, Md2.4, Suspected Mining explosion.*
*ISK **02** 15:52:35.5, 39°.82N×27°.79E, h5km, MD2.5*
ISC 02 15:52:35.6±0.9, 39°.82N±0°.02×27°.76E±0°.03, h0km, n28, σ0s46/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.13**	**235**	*i* P	**Pg**	**15 52 38.9 +0.7**
BALY				*i* S	**Sg**	**15 52 41.2 +1.3**
BALB	**Balikesir**	**0.20**	**152**	*e*PG	**Pg**	**15 52 39.5 +0.1**
BALB				*e*SG	**Sg**	**15 52 42.5 +0.5**
BALB	**Balikesir**	**0.20**	**152**	*e*Pg	**Pg**	**15 52 39.5 +0.1**
BALB				*e*Sg	**Sg**	**15 52 42.5 +0.5**
STEP	**BALIKESIR_Sava**	**0.44**	**184**	*i* P	**Pg**	**15 52 44.5 +0.4**
EDC	**Edincik**	**0.54**	**8**	*e*PG	**Pg**	**15 52 46.3 +0.4**
EDC				*e*SG	**Sg**	**15 52 53.5 +0.7**
EDC	**Edincik**	**0.54**	**8**	*e*Pg	**Pg**	**15 52 46.3 +0.4**
EDC				*e*Sg	**Sg**	**15 52 53.6 +0.7**
KCTX	**Karacabey (Bur**	**0.64**	**45**	*e*PG	**Pg**	**15 52 47.7 -0.2**
KCTX				*e*SG	**Sg**	**15 52 56.8 +0.5**
KCTX	**Karacabey (Bur**	**0.64**	**45**	*e*Pg	**Pg**	**15 52 47.7 -0.2**
KCTX				*e*Sg	**Sg**	**15 52 56.8 +0.5**
MRMT	**Marmara Adasi**	**0.80**	**351**	*e*PG	**Pg**	**15 52 51.3 +0.4**
MRMT	**Marmara Adasi**	**0.80**	**351**	*e*Pg	**Pg**	**15 52 51.3 +0.4**
BAYC	**CANAKKALE_Bayr**	**0.94**	**266**	*i* P	**Pg**	**15 52 53.2 -0.4**
BAYC				*i* S	**Sg**	**15 53 05.1 -0.7**
BAYC	**CANAKKALE_Bayr**	**0.94**	**266**	P	**Pg**	**15 52 53.2 -0.4**
BAYC				S	**Sg**	**15 53 05.1 -0.7**
DKL	**Dikili**	**1.00**	**222**	*e*PG	**Pb**	**15 52 55.4 -0.3**
DKL	**Dikili**	**1.00**	**222**	*e*Pg	**Pb**	**15 52 55.4 -0.3**
MDNY	**Mudanya-Bursa**	**1.02**	**57**	*e*PG	**Pg**	**15 52 55.2 0.0**
MDNY	**Mudanya-Bursa**	**1.02**	**57**	*e*Pg	**Pg**	**15 52 55.2 0.0**
ARMT	**Armutlu**	**1.13**	**48**	*e*PN	**Pg**	**15 52 57.2 -0.1**
ARMT	**Armutlu**	**1.13**	**48**	*e*Pn	**Pg**	**15 52 57.2 -0.1**
SBT5	**Esenkoy-Cinarc**	**1.18**	**46**	*e*PN	**Pg**	**15 52 58.5 +0.2**
SBT5	**Esenkoy-Cinarc**	**1.18**	**46**	*e*Pn	**Pg**	**15 52 58.5 +0.2**
TVSB	**Tavsanli**	**1.36**	**105**	*e*PN	**Pg**	**15 53 01.4 -0.3**
TVSB	**Tavsanli**	**1.36**	**105**	*e*Pn	**Pg**	**15 53 01.5 -0.3**
SLVT	**Silivri**	**1.45**	**13**	*e*PN	**Pn**	**15 53 02.8 -0.4**
SLVT	**Silivri**	**1.45**	**13**	*e*Pn	**Pn**	**15 53 02.8 -0.4**
CTKS	**Kestanelik-??a**	**1.53**	**22**	*e*PN	**Pn**	**15 53 04.1 -0.1**
CTKS	**Kestanelik-??a**	**1.53**	**22**	*e*Pn	**Pn**	**15 53 04.1 -0.1**
SIGR	**SIGRI**	**1.59**	**248**	*e*PN	**Pn**	**15 53 05.2 +0.2**
SIGR	**SIGRI**	**1.59**	**248**	*e*Pn	**Pn**	**15 53 05.2 +0.2**

MEX 02 15:55:10.5±0.6, 15°.42N×93°.29W, h91km±5km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.29**	**14**	*e*P	Pn	15 55 22.6	-1.4
PCIG				*e*S	Sn	15 55 32.5	-1.6
TGIG		**1.36**	**7**	*e*P	Pn	15 55 33.7	-0.9
TGIG				*e*S	Sn	15 55 50.6	-2.3
CCIG	**Comitan**	**1.41**	**52**	*e*P	Pn	15 55 34.6	-0.7

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*IDC **02** 16:10:20.1±1.4, 7°.01S×154°.81E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/31, mbtmp3.9/7, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=33.8km s-min=26.6km az=115.0*
*ISCJB **02** 16:10:23.4±0.8, 7°.1S±0°.1×155°.01E±0°.06, h41km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=18.3km s-min=8.5km az=12.5*
*NEIC **02** 16:10:27.6±1.6, 7°.21S×155°.02E, h67km±18km, mb4.2/1, Error ellipse: s-maj=22.2km s-min=13.5km az=165.0*
ISC 02 16:10:25.5±0.9, 7°.1S±0°.2×154°.99E±0°.09, h41km, n11, σ1s32/11, mb4.0/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.44**	**116**	Pn	**Pn**	**16 11 44.8 +0.6**
	2.9nm,0.3s,baz=217,slow=19,SNR=4.5						
HNR				Sn	**Sn**	**16 12 45.5 -0.1**
	1.2nm,0.3s,baz=322,slow=12,SNR=2.6						
HNR				LR	LR	16 13 34.9
	comp=Z,148nm,21.0s,baz=83,slow=35						
PMG	**Port Moresby**	**8.09**	**253**	Pn	**Pn**	**16 12 22.2 +1.6**
CTAO	**Charters Tower**	**15.48**	**212**	*e*P	**Pn**	**16 14 01.2 +0.1**
WRAB	**Tennant Creek**	**23.76**	**235**	*e*P	**P**	**16 15 33.3 -1.2**
	10nm,1.1s						
WRA	**Warramunga Arr**	**23.78**	**235**	P	**P**	**16 15 34.0 -0.5**
	6.2nm,1.0s,baz=58,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**26.13**	**229**	P	**P**	**16 15 54.1 -1.9**
	0.7nm,0.5s,baz=58,slow=9.8,SNR=29						
STKA	**Stephens Creek**	**27.68**	**205**	LR	LR	16 25 46.8
	comp=Z,85nm,19.4s,baz=26,slow=34						
FITZ	**Fitzroy Crossi**	**30.62**	**246**	P	**P**	**16 16 34.9 -1.2**
	1.6nm,0.6s,baz=61,slow=9.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**60.81**	**296**	P	**P**	**16 20 34.3 +0.3**
	0.7nm,0.6s,baz=121,slow=5.7,SNR=5.9						
SONM	**Songino Array**	**69.39**	**327**	P	**P**	**16 21 27.9 -1.5**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.8						
MKAR	**Makanchi Array**	**83.45**	**319**	P	**P**	**16 22 50.3 +1.4**
	0.4nm,0.7s,baz=114,slow=7.1,SNR=3.0						

NEIC 02 16:13:02.3±0.0, 61°.63N×151°.94W, h102km, MG3.6(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STLK	**Strandline Lak**	**0.14**	**158**	P	Pn	16 13 15.7	-1.0
SPCG	**Spurr Capps Gl**	**0.34**	**186**	P	Pn	16 13 16.5	-1.0
SPCG				S	Sn	16 13 28.1	-0.7
SKT	**Skwentna**	**0.40**	**29**	P	Pn	16 13 17.0	-0.7
SKT				S	Sn	16 13 28.4	-0.8
SPU	**Mount Spurr**	**0.45**	**187**	P	Pn	16 13 17.2	-0.9
SUA	**Susitna One**	**0.60**	**106**	P	Pn	16 13 19.0	-0.2
SUA				S	Sn	16 13 31.9	+0.1
BGRM	**Barrier Glacie**	**0.91**	**195**	P	Pn	16 13 21.2	-0.7
FIB	**Fire Island**	**0.97**	**118**	P	Pn	16 13 23.1	+0.6
RDJH	**Redoubt Jeurge**	**1.12**	**202**	P	Pn	16 13 23.8	-0.5
RDJH				S	Sn	16 13 40.9	-0.1
RC01	**Rabbit Creek A**	**1.19**	**116**	P	Pn	16 13 24.7	-0.3
RC01				S	Sn	16 13 42.5	+0.3
RDWB	**Redoubt West**	**1.23**	**201**	P	Pn	16 13 24.8	-0.7
PPLA	**Purkeypile**	**1.28**	**355**	P	Pn	16 13 25.5	-0.6
PPLA				S	Sn	16 13 43.7	-0.4
RED	**Redoubt Volcan**	**1.28**	**199**	P	Pn	16 13 25.3	-0.8
PMR	**Palmer**	**1.34**	**90**	P	Pn	16 13 25.6	-1.1
PMR				S	Sn	16 13 44.2	-1.0
GHO	**Glory Hole Cre**	**1.45**	**83**	P	Pn	16 13 27.0	-1.1
GHO				S	Sn	16 13 47.0	-0.6
ILIM	**Iliamna**	**1.63**	**198**	P	Pn	16 13 29.4	-0.9
KNK	**Knik Glacier**	**1.69**	**96**	P	Pn	16 13 29.9	-1.1
KNK				S	Sn	16 13 52.3	-0.5
IVE	**Iliamna Volcan**	**1.70**	**198**	P	Pn	16 13 30.3	-1.0
SML	**Sawmill**	**1.73**	**82**	P	Pn	16 13 30.5	-1.0
HUR	**Hurricane**	**1.73**	**38**	P	Pn	16 13 31.0	-0.5
CAST	**Castle Rocks**	**1.80**	**358**	P	Pn	16 13 31.4	-1.0
CAST				S	Sn	16 13 53.2	-2.0
SVW2	**Sparrevohn**	**1.83**	**255**	P	Pn	16 13 31.6	-1.2
SVW2				S	Sn	16 13 53.8	-2.2
PWL	**Port Wells**	**1.91**	**112**	P	Pn	16 13 32.3	-1.5
BRLK	**Bradley Lake**	**1.94**	**164**	P	Pn	16 13 32.8	-1.5
SEW	**Seward**	**1.96**	**140**	P	Pn	16 13 33.1	-1.2
TRF	**Thorofare Moun**	**1.98**	**22**	P	Pn	16 13 34.5	-0.4
HOM	**Homer**	**1.98**	**176**	P	Pn	16 13 33.9	-0.8
KTH	**Kantishna Hill**	**1.99**	**13**	P	Pn	16 13 34.5	-0.3
CNPM	**China Poot**	**2.14**	**170**	P	Pn	16 13 35.2	-1.6
CHUM	**Lake Minchumin**	**2.27**	**356**	P	Pn	16 13 37.7	-0.6
CHUM				S	Sn	16 14 04.3	-1.6
RND	**Reindeer**	**2.29**	**37**	P	Pn	16 13 38.1	-0.6
TT01	**Tatalina**	**2.30**	**306**	P	Pn	16 13 37.7	-1.1
AUW	**Augustine West**	**2.39**	**199**	P	Pn	16 13 39.7	-0.3
GLI	**Glacier Island**	**2.46**	**106**	P	Pn	16 13 38.5	-2.4
FOPK	**Fourpeaked Vol**	**2.98**	**196**	P	Pn	16 13 46.2	-1.7
KAPH	**Katmai Pasha**	**3.27**	**203**	P	Pn	16 13 51.3	-0.5
PAX	**Paxson**	**3.31**	**63**	*e*Pn	Pn	16 13 52.6	+0.3
KAHC	**Katmai Hardscr**	**3.36**	**208**	P	Pn	16 13 52.7	-0.3
KAWH	**Katmai**	**3.56**	**205**	P	Pn	16 13 54.9	-0.7
KAKN	**Katmai Knife C**	**3.69**	**206**	P	Pn	16 13 56.7	-0.7
KELA	**Mount Kelaz**	**3.72**	**212**	P	Pn	16 13 57.6	-0.2
MDM	**Murphy Dome**	**3.74**	**25**	P	Pn	16 13 56.5	-1.5
KABR	**Katmai Barrier**	**3.83**	**205**	P	Pn	16 13 58.5	-0.7
KDAK	**Kodiak Island**	**3.87**	**185**	P	Pn	16 13 58.2	-1.5
CRQM	**Cirque**	**4.35**	**98**	P	Pn	16 14 05.0	-1.3
KHIT	**Khitrov Hills**	**4.39**	**102**	P	Pn	16 14 05.9	-0.9
IM3	**Indian Mountai**	**4.44**	**350**	P	Pn	16 14 06.7	-0.7
OHAK	**Old Harbor**	**4.47**	**189**	P	Pn	16 14 05.8	-2.1
TGL	**Tana Glacier**	**4.50**	**97**	P	Pn	16 14 07.9	-0.3
PTPK	**Patty Peak**	**4.58**	**91**	P	Pn	16 14 09.1	-0.3
KULT	**Kultieth River**	**4.71**	**103**	P	Pn	16 14 10.0	-1.1
GRNC	**Granite Creek**	**5.01**	**96**	P	Pn	16 14 14.5	-0.9
LOGN	**Logan Glacier**	**5.35**	**94**	P	Pn	16 14 19.3	-0.5
COLD	**Coldfoot**	**5.67**	**7**	P	Pn	16 14 23.6	-0.4
EGAK	**Eagle**	**5.81**	**52**	P	Pn	16 14 24.9	-1.0
PCA	**Pinnacle**	**5.91**	**100**	P	Pn	16 14 26.9	-0.5
DAWY	**Dawson**	**6.24**	**61**	P	Pn	16 14 30.7	-1.1
BM3	**Burnt Mountain**	**6.61**	**25**	P	Pn	16 14 36.0	-0.9
INK	**Inuvik**	**10.24**	**41**	*e*Pn	Pn	16 15 24.2	-1.8
	5.0nm,0.6s						
EDM	**Edmonton**	**22.11**	**95**	*e*P	P	16 17 48.5	-0.6

MEX 02 16:13:56.7±0.3, 16°.29N×95°.93W, h51km±52km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.54**	**198**	*e*P	Pn	16 14 07.1	-1.4
HUIG				*e*S	Sn	16 14 15.2	-1.9
VHO	**Vista Hermosa**	**1.09**	**316**	*e*P	Pn	16 14 14.4	-1.5
VHO				*e*S	Sn	16 14 28.0	-2.1

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*IDC **02** 16:40:44.2±1.2, 32°.93S×178°.50W, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.2/36, mbtmp4.5/7, ML4.5/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=30.4km s-min=23.8km az=18.0*
*ISCJB **02** 16:40:47.0±1.0, 33°.17S±0°.05×178°.5W±0°.2, h33km, mb4.4/9, MS3.9/10, Error ellipse: s-maj=19.5km s-min=6.3km az=7.3*
*NEIC **02** 16:40:50.3±1.5, 33°.06S×178°.39W, h46km±12km, mb4.7/5, Error ellipse: s-maj=21.5km s-min=12.8km az=102.0*
ISC 02 16:40:47.8±1.0, 33°.22S±0°.07×178°.2W±0°.1, h32km, n74, σ2s45/71, mb4.5/9, MS3.9/10, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.96**	**4**	*e*Pn	**Pn**	**16 41 45.8 -0.6**
MXZ	**Matakaoa Point**	**5.18**	**212**	*e*Pn	**Pn**	**16 42 04.9 +1.9**
MXZ	**Matakaoa Point**	**5.18**	**212**	PN	**Pn**	**16 42 05.0 +1.9**
MXZ				SN	**Sn**	**16 43 05.7 +3.9**
WMGZ	**Waiomatatini S**	**5.35**	**210**	*e*PN	**Pn**	**16 42 07.5 +2.0**
WMGZ				SN	**Sn**	**16 43 10.9 +5.0**
PKGZ	**Pakihiroa**	**5.55**	**212**	*e*PN	**Pn**	**16 42 09.0 +0.7**
HAZ	**Te Kaha**	**5.58**	**215**	*e*PN	**Pn**	**16 42 10.1 +1.5**
PUZ	**Puketiti**	**5.63**	**210**	*e*PN	**Pn**	**16 42 09.5 +0.2**
RUGZ	**Raukumara Rang**	**5.80**	**214**	PN	**Pn**	**16 42 14.5 +2.8**
TWGZ	**Tauwhareparae**	**5.83**	**211**	*e*PN	**Pn**	**16 42 13.3 +1.1**
TKGZ	**Te Karaka**	**6.11**	**210**	*e*PN	**Pn**	**16 42 17.6 +1.8**
MWZ	**Matawai**	**6.17**	**213**	PN	**Pn**	**16 42 17.4 +0.7**
URZ	**Urewera**	**6.30**	**216**	Pn	**Pn**	**16 42 20.2 +1.7**
	10nm,0.3s,baz=263,slow=4.7,SNR=55						
URZ				Sn	**Sn**	**16 43 32.7 +3.3**
	17nm,0.3s,baz=133,slow=22,SNR=13						
URZ	**Urewera**	**6.30**	**216**	*e*Pn	**Pn**	**16 42 19.5 +1.0**
URZ				Sn	**Sn**	**16 43 32.7 +3.3**
URZ	**Urewera**	**6.30**	**216**	PN	**Pn**	**16 42 18.9 +0.4**
URZ				SN	**Sn**	**16 43 32.0 +2.6**
RIGZ	**Rimuhau**	**6.37**	**210**	PN	**Pn**	**16 42 20.2 +0.7**
SNGZ	**Shannon Statio**	**6.62**	**212**	PN	**Pn**	**16 42 23.4 +0.5**
KNZ	**Kokohu**	**6.68**	**209**	PN	**Pn**	**16 42 22.6 -1.1**
WHHZ	**Waihua**	**6.91**	**211**	PN	**Pn**	**16 42 28.8 +2.0**
OUZ	**Omahuta**	**7.07**	**251**	*e*Pn	**Pn**	**16 42 32.6 +3.6**
ARHZ	**Aropaoanui**	**7.16**	**211**	PN	**Pn**	**16 42 30.6 +0.3**
BKZ	**Black Stump Fm**	**7.31**	**214**	*e*Pn	**Pn**	**16 42 33.0 +0.5**
BKZ	**Black Stump Fm**	**7.31**	**214**	PN	**Pn**	**16 42 32.9 +0.4**
MCHZ	**McNeill Hill**	**7.44**	**212**	PN	**Pn**	**16 42 35.3 +1.1**
KWHZ	**Kaweka Forest**	**7.55**	**213**	PN	**Pn**	**16 42 36.5 +0.8**
KAHZ	**Kahuranaki**	**7.66**	**210**	*e*PN	**Pn**	**16 42 35.6 -1.5**
HIZ	**Hauiti**	**7.71**	**225**	*e*Pn	**Pn**	**16 42 41.2 +3.3**
HIZ	**Hauiti**	**7.71**	**225**	PN	**Pn**	**16 42 41.5 +3.6**
BHHZ	**Black Hill Sta**	**7.77**	**215**	PN	**Pn**	**16 42 39.9 +1.1**
BFZ	**Birch Farm**	**8.66**	**209**	*e*Pn	**Pn**	**16 42 50.5 -0.5**
BFZ				*e*Sn	**Sn**	**16 44 28.7 +1.1**
BFZ	**Birch Farm**	**8.66**	**209**	PN	**Pn**	**16 42 47.2 -3.7**
MRZ	**Mangatainoka R**	**8.93**	**212**	*e*PN	**Pn**	**16 42 52.5 -2.1**
SNZO	**South Karori**	**9.85**	**213**	*e*Sn	**Sn**	**16 44 51.9 -4.6**
THZ	**Tophouse**	**11.06**	**217**	*e*Pn	**Pn**	**16 43 22.2 -1.5**
THZ				*e*Sn	**Sn**	**16 45 22.9 -3.4**
THZ	**Tophouse**	**11.06**	**217**	*e*PN	**Pn**	**16 43 20.9 -2.9**
KHZ	**Kahutara**	**11.25**	**213**	*e*Pn	**Pn**	**16 43 23.7 -2.7**
KHZ				*e*Sn	**Sn**	**16 45 27.2 -3.8**
LTZ	**Lake Taylor**	**12.13**	**215**	*e*Pn	**Pn**	**16 43 34.9 -3.5**
OXZ	**Oxford**	**12.66**	**214**	*e*Pn	**Pn**	**16 43 42.7 -2.8**
MQZ	**McQueen's Vall**	**12.67**	**212**	*e*Pn	**Pn**	**16 43 42.3 -3.5**
RPZ	**Rata Peaks**	**13.42**	**216**	Pn	Pn	16 43 50.7 -5.3
	0.3nm,0.3s,baz=315,slow=16,SNR=2.8						
RPZ				Sn	Sn	16 46 12.9 -11
	1.3nm,0.3s,baz=155,slow=22,SNR=8.9						
RPZ	**Rata Peaks**	**13.42**	**216**	*e*Pn	**Pn**	**16 43 53.1 -2.9**
RPZ				Sn	Sn	16 46 12.9 -11
LBZ	**Lake Benmore**	**14.34**	**216**	*e*Pn	**Pn**	**16 44 07.6 -0.9**
ODZ	**Otahua Downs**	**14.62**	**213**	*e*Pn	**Pn**	**16 44 10.2 -2.1**
WKZ	**Wanaka**	**15.23**	**217**	*e*Pn	**Pn**	**16 44 14.5 -6.0**
	207nm,1.8s						
MLZ	**Mavora Lakes**	**16.07**	**217**	*e*Pn	**Pn**	**16 44 26.0 -5.3**
	61nm,1.6s						
WHZ	**Wether Hill Ro**	**16.52**	**216**	*e*P	**Pn**	**16 44 36.3 -0.7**
	111nm,1.9s						
DCZ	**Deep Cove**	**16.63**	**218**	*e*Pn	**Pn**	**16 44 36.2 -2.2**
	128nm,1.9s						
DZM	**Mont Dzumac**	**17.52**	**305**	Pn	**P**	**16 44 50.9 +0.2**
	0.1nm,0.3s,baz=103,slow=12,SNR=5.0						
DZM				LR	LR	16 50 10.9
	comp=Z,1μm,19.3s,baz=137,slow=33						
DZM	**Mont Dzumac**	**17.52**	**305**	*e*P	**P**	**16 44 50.6 -0.1**
	74nm,1.4s						
DZM				*e*LR	LR	16 48 41.4
	1μm,23.0s						
RAR	**Rarotonga**	**20.27**	**58**	LR	LR	16 50 52.7
	comp=Z,233nm,21.8s,baz=270,slow=30						
TBI	**Tubuai**	**27.09**	**76**	*e*LR	LR	16 53 19.3

BJI **02** *16:48:57.3,37°.26N×141°.84E,h15km,mb4.8/69,mB5.2/51, Ms5.0/69,Ms7 4.7/67*
JMA **02** *16:49:00.6±0.1,37°.34N×141°.64E,h18km±1km,M5.3*
JMA Felt II J1.
IDC **02** *16:49:00.5±0.4,37°.36N×141°.47E,h0km,mb5.0/39, mb1 5.0/42,mb1mx5.0/52,mbtmp5.0/42,ML4.2/3,MS4.3/40, Ms1 4.3/40,ms1mx4.1/56,Error ellipse: s-maj=12.9km s-min=8.8km az=97.0*
NIED **02** *16:49:00,37°.40N×141°.70E,h5km,Mw4.9 Best double couple: M₀2.82000×10¹⁶ NP1:φ₁50.00000°,δ41.00000°, λ-66.00000°. NP2:φ₂200.00000°,δ53.00000°, λ-109.00000°.*
ISCJB **02** *16:49:02.6±0.4,37°.34N±0°.02×141°.48E±0°.02,h22km±3km, mb5.1/312,MS4.6/66,Error ellipse: s-maj=3.0km s-min=2.2km az=144.2*
GCMT **02** *16:49:04.9±0.2,37°.47N×141°.55E,h12km,MW5.0/78, Moment Tensor Solution. s31,c40; s78,c127; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.04±.08; Mθθ0.88±.07; Mφφ2.16±.07; Mrθ0.88±.27; Mθφ1.53±.06; Mφr-0.08±.24; Best double couple: M₀3.23400×10¹⁶ NP1:φ₁227.00000°,δ51.00000°,λ-72.00000°. NP2: φ₂20.00000°,δ43.00000°,λ-111.00000°. Principal axes: T 3.2070, Plg4.0000°, Azm305.0000°; N 0.0540, Plg14.0000°, Azm36.0000°; P -3.2610, Plg76.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **02** *16:49:05.0±0.9,37°.37N×141°.40E,h28km±6km,mb5.2/215 Error ellipse: s-maj=2.8km s-min=2.1km az=140.0*
NEIC Recorded [2 JMA] in Fukushima, Miyagi and Yamagata.
MOS **02** *16:49:05.6±0.9,37°.68N×141°.41E,h34km,mb5.4/107, MS4.7/27,Error ellipse: s-maj=6.0km s-min=3.9km az=103.9*

ISC 02 16:49:03.9±0.5,**37°.37N**±0°.03×**141°.58E**±0°.03,**h23**km±3km, **h23**km:**pP-P,n1090,**σ1**938**/1154,**mb5.2**/322,**MS4.6**/67, **40C-46D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**270**	P	**Pb**	**16 49 12.4**	**-2.8**
JFK				*e*S	**Sb**	**16 49 20.4**	**-2.4**
ONAJ	**Iwakimizuishiy**	**0.68**	**247**	P	**Pb**	**16 49 14.3**	**-2.8**
ONAJ				S	**Sb**	**16 49 24.2**	**-2.0**
JMM	**Marumori**	**0.80**	**308**	P	**Pb**	**16 49 16.3**	**-2.8**
JMM				*e*S	**Sb**	**16 49 27.4**	**-2.1**
JFT	**Otama**	**1.00**	**279**	P	**Pn**	**16 49 20.3**	**-2.2**
JFT				S	**Sb**	**16 49 34.2**	**-1.2**
JIO	**Ouri**	**1.10**	**350**	P	**Pn**	**16 49 21.4**	**-2.4**
JIO				*e*S	**Sb**	**16 49 35.6**	**-2.4**
JHO	**Hitachi**	**1.11**	**227**	P	**Pn**	**16 49 21.1**	**-2.9**
JHO				*e*S	**Sb**	**16 49 35.6**	**-2.9**
JOU	**Okura**	**1.23**	**324**	P	**Pn**	**16 49 24.1**	**-1.6**
JOU				S	**Sn**	**16 49 40.8**	**-0.8**
JSB	**Shiboa**	**1.39**	**254**	P	**Pn**	**16 49 26.6**	**-1.2**
JYS	**Shiratake**	**1.47**	**306**	P	**Pn**	**16 49 28.1**	**-0.9**
JYS				S	**Sn**	**16 49 48.2**	**+0.7**
JFY	**Yanaizu**	**1.50**	**272**	P	**Pn**	**16 49 28.2**	**-1.1**
JFY				*e*S	**Sn**	**16 49 48.2**	**+0.1**
JYT	**Yasato**	**1.60**	**225**	P	**Pn**	**16 49 27.7**	**-3.0**
OFUJ	**Ofunato**	**1.71**	**2**	P	**Pn**	**16 49 30.4**	**-1.8**
JKT	**Katashina**	**1.96**	**253**	P	**Pn**	**16 49 35.3**	**-0.5**
JOM	**Ohasama**	**2.11**	**354**	P	**Pn**	**16 49 36.8**	**-0.9**
JRG	**Rokugo**	**2.15**	**340**	P	**Pn**	**16 49 38.1**	**-0.3**
MIYJ	**Miyakonagasawa**	**2.21**	**5**	P	**Pn**	**16 49 37.3**	**-1.8**
JRY	**Ryogami san**	**2.54**	**239**	P	**Pn**	**16 49 42.1**	**-1.7**
MJAR	**Matsushiro Arr**	**2.83**	**254**	Pn	**Pn**	**16 49 47.2**	**-0.4**
	29nm,0.3s,baz=81,slow=16,SNR=226						
MJAR				Sn	**Sb**	**16 50 25.4**	**-2.5**
	30nm,0.3s,baz=81,slow=16,SNR=4.6						
MJAR				LR	LR	16 50 55.5	
	comp=Z,3μm,19.1s,baz=70,slow=42						
MAJO	**Matsushiro**	**2.83**	**254**	*d* iP	**Pn**	**16 49 47.6**	**-0.1**
MAJO	**Matsushiro**	**2.83**	**254**	*e*Pn	**Pn**	**16 49 47.5**	**-0.1**
MAT	**Matsushiro**	**2.83**	**254**	P	**Pn**	**16 49 47.2**	**-0.4**
MAT				*e*S	**Sn**	**16 50 22.9**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.83**	**254**	*e*Pn	**Pn**	**16 49 47.7**	**0.0**
JAH	**Hinai**	**2.91**	**346**	P	**Pn**	**16 49 49.0**	**+0.3**
JNG	**Nsakai**	**2.95**	**252**	P	**Pn**	**16 49 49.4**	**0.0**
AJI	**Ajiro2**	**3.07**	**222**	P	**Pn**	**16 49 49.5**	**-1.5**
JYN	**Shimob**	**3.08**	**234**	P	**Pn**	**16 49 50.2**	**-1.0**
JNT	**Takato**	**3.15**	**243**	P	**Pn**	**16 49 52.2**	**+0.1**
JIM2	**Oshima 3**	**3.17**	**214**	P	**Pn**	**16 49 50.9**	**-1.5**
JIZS	**Izushimoda**	**3.44**	**220**	P	**Pn**	**16 49 54.6**	**-1.4**
SHZ3	**Shizuoka 3**	**3.57**	**231**	P	**Pn**	**16 49 57.6**	**-0.3**
JNY	**Yasuok**	**3.61**	**237**	P	**Pn**	**16 49 58.9**	**+0.4**
JGF	**Kuroka**	**3.84**	**244**	P	**Pn**	**16 50 02.0**	**+0.5**
INU	**Inuyama**	**4.20**	**243**	*e*Pn	**Pn**	**16 50 06.8**	**+0.3**
JHJ2	**Mitsune**	**4.49**	**199**	*e*Pn	**Pn**	**16 50 10.3**	**-0.1**
JHJ	**Hachijo jima 2**	**4.49**	**200**	Pn	**Pn**	**16 50 08.9**	**-1.5**
	48nm,0.3s,baz=335,slow=12,SNR=17						
JHJ				Sn	**Sn**	**16 51 03.8**	**+1.7**
	42nm,0.3s,baz=43,slow=19,SNR=3.6						
ERM	**Erimo**	**4.79**	**14**	*c*e*P	**Pn**	**16 50 13.8**	**-0.8**
ERM				pmax	pmax		
	comp=Z,141nm,1.0s						
ERM	**Erimo**	**4.79**	**14**	*e*Pn	**Pn**	**16 50 13.8**	**-0.8**
ASAJ	**Asahikawa**	**6.78**	**6**	Pn	**Pn**	**16 50 40.8**	**-1.2**
	comp=Z,3.7nm,0.3s,baz=225,slow=9.4,SNR=26						
ASAJ				Sn	**Sn**	**16 51 57.2**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=222,slow=7.7,SNR=3.6						
ASAJ	**Asahikawa**	**6.78**	**6**	*e*Pn	**Pn**	**16 50 40.4**	**-1.6**
ASAJ				Sn	**Sn**	**16 51 57.2**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**7.41**	**25**	*e*P	**Pn**	**16 50 48.7**	**-1.8**
YUK				*e*S	**Sn**	**16 52 09.3**	**-4.4**
YUK				pmax	pmax		
	comp=Z,204nm,0.5s						
YUK				pmax	pmax		
	comp=N,79nm,0.3s						
YUK				pmax	pmax		
	comp=E,28nm,0.3s						
SHO	**Shikotan**	**7.62**	**30**	*e*P	**Pn**	**16 50 50.1**	**-3.3**
SHO				*e*S	**Sn**	**16 52 12.0**	**-6.9**
SHO				pmax	pmax		
	comp=Z,73nm,0.5s						
SHO				pmax	pmax		
	comp=E,52nm,0.4s						
KUR	**Kuril'sk**	**9.16**	**29**	*e*P	**Pn**	**16 51 14.4**	**-0.2**
KUR				S	**Sn**	**16 52 54.5**	**-2.4**
KUR				pmax	pmax		
	comp=Z,91nm,0.7s						
KUR				smax	smax		
	comp=E,132nm,0.6s						
KUR				smax	smax		
	comp=N,44nm,0.4s						
VLA	**Vladivostok**	**9.37**	**311**	*c i*P	**Pn**	**16 51 21.0**	**+3.6**
VLA				*i* S	**Sn**	**16 53 07.3**	**+5.2**
VLA				pmax	pmax		
	comp=Z,252nm,1.3s						
MSHR	**Mys Shultsa**	**9.54**	**306**	*i* P	**Pn**	**16 51 22.0**	**+2.2**
YSS	**Yuzh-Sakhalins**	**9.62**	**5**	*e*P	**Pn**	**16 51 20.6**	**-0.1**
YSS				*e*S	**Sn**	**16 53 02.3**	**-5.7**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				MLR	MLR		
	comp=Z,3μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.62**	**5**	*e*Pn	**Pn**	**16 51 20.6**	**-0.1**
JNU	**Nakatsue**	**9.73**	**247**	Pn	**Pn**	**16 51 23.6**	**+1.2**
	comp=E,0.4nm,0.3s,baz=38,slow=12,SNR=7.3						
JNU				LR	LR	16 55 31.0	
	comp=E,2μm,19.0s,baz=60,slow=40						
JNU	**Nakatsue**	**9.73**	**247**	*e*Pn	**Pn**	**16 51 21.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**9.97**	**316**	Pn	**Pn**	**16 51 29.9**	**+4.3**
	comp=E,0.9nm,0.3s,baz=133,slow=13,SNR=30						
USRK				LR	LR	16 54 57.7	
	comp=E,4μm,19.2s,baz=127,slow=36						
CBIJ	**Chichi jima**	**10.26**	**177**	*e*Pn	**Pn**	**16 51 29.2**	**-0.5**
KSRS	**Korea Array**	**10.87**	**275**	Pn	**Pn**	**16 51 41.8**	**+3.9**
	comp=E,0.2nm,0.3s,baz=89,slow=13,SNR=31						
KSRS				LR	LR	16 55 36.9	
	comp=E,2μm,19.9s,baz=82,slow=37						
KS01	**Wonju Array Si**	**10.89**	**275**	*e*Pn	**Pn**	**16 51 39.4**	**+1.1**
KS15	**Wonju Array Si**	**10.90**	**275**	*e*Pn	**Pn**	**16 51 40.8**	**+2.5**
KSAR	**Wonju Array Be**	**10.90**	**275**	P	**Pn**	**16 51 41.8**	**+3.4**
KSAR	**Wonju Array Be**	**10.90**	**275**	Pn	**Pn**	**16 51 41.8**	**+3.4**
MDJ	**Mudanjiang**	**11.59**	**312**	P	**Pn**	**16 51 51.5**	**+3.7**
MDJ				S	**Sn**	**16 54 05.1**	**+8.7**
MDJ				pmax	pmax		
	comp=E,20nm,1.1s						
MDJ				pmax	pmax		
	comp=E,310nm,5.0s						
MDJ				LR	LR		
	comp=E,2μm,20.3s						
MDJ				LR	LR		
	comp=E,2μm,19.8s						
MDJ				LR	LR		
	comp=E,3μm,18.3s						
MDJ	**Mudanjiang**	**11.59**	**312**	*e*Pn	**Pn**	**16 51 52.2**	**+4.5**
HABR	**Khabarovsk**	**12.08**	**339**	*e*P	**Pn**	**16 51 52.2**	**-2.2**
HABR				*e*S	**Sn**	**16 54 05.4**	**-2.9**
HABR				pmax	pmax		
	comp=E,20nm,1.5s						
HABR				pmax	pmax		
	comp=N,59nm,1.5s						
HABR				pmax	pmax		
	comp=Z,30nm,1.5s						
HABR				MLR	MLR		
	comp=Z,917nm,13.0s						
TYV	**Tymovskoe**	**13.51**	**3**	*e*P	**Pn**	**16 52 13.1**	**-0.9**
TYV				MLR	MLR		
	comp=E,3μm,14.0s						
TYV				MLR	MLR		
	comp=Z,2μm,14.0s						
KLR	**Kul'dur**	**13.83**	**332**	Pn	**Pn**	**16 52 18.8**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=132,slow=12,SNR=10						
KLR				LR	LR	16 57 30.5	
	comp=Z,237nm,18.7s,baz=148,slow=37						
KLR	**Kul'dur**	**13.83**	**332**	⇑*i*P	**Pn**	**16 52 18.3**	**-0.1**
CN2	**Changchun**	**13.83**	**303**	*e*P	**Pn**	**16 52 18.3**	**-0.1**
CN2				pmax	pmax		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
SNY	**Shenyang**	**14.57**	**293**	⇓P	**Pn**	**16 52 31.5**	**+3.0**
SNY				S	**Sn**	**16 55 15.3**	**+6.0**
SNY				pmax	pmax		
	comp=Z,17nm,1.2s						
SNY				pmax	pmax		
	comp=Z,350nm,3.5s						
SNY				LR	LR		
	comp=Z,3μm,11.2s						
SNY				LR	LR		
	comp=Z,3μm,14.8s						
SNY				LR	LR		
	comp=Z,6μm,15.6s						
DL2	**Dalian**	**15.78**	**282**	P	**P**	**16 52 46.5**	**-1.7**
DL2				S	**Sn**	**16 55 43.7**	**+5.1**
DL2				pmax	pmax		
	comp=Z,73nm,1.2s						
DL2				pmax	pmax		
	comp=Z,410nm,8.7s						
DL2				LR	LR		
	comp=Z,3μm,12.7s						
DL2				LR	LR		
	comp=Z,1μm,13.3s						
DL2				LR	LR		
	comp=Z,2μm,15.1s						
NKL	**Nikolayevsk**	**15.79**	**358**	*e*P	**Pn**	**16 52 46.0**	**+1.4**
NKL				MLR	MLR		
	comp=N,2μm,20.0s						
NKL				MLR	MLR		
	comp=E,10μm,20.0s						
NKL				MLR	MLR		
	comp=Z,4μm,20.0s						
SKR	**Severo-Kuril's**	**16.88**	**33**	*e*P	P	16 53 11.8	+11
SKR				pmax	pmax		
	comp=Z,1μm,7.0s						
SSE	**Sheshan**	**17.98**	**256**	P	**Pn**	**16 53 11.5**	**-0.7**
SSE				sP	**sP**	**16 53 24.4**	**+2.4**
SSE				S	**Sn**	**16 56 28.6**	**-3.4**
SSE				sS	**sS**	**16 56 43.5**	**-4.4**
SSE				pmax	pmax		
	comp=Z,29nm,0.9s						
SSE				pmax	pmax		
	comp=Z,310nm,3.5s						
SSE				LR	LR		
	comp=Z,2μm,19.9s						
SSE				LR	LR		
	comp=Z,1μm,19.9s						
SSE				LR	LR		
	comp=Z,790nm,17.1s						
PEA0	**Petropavlovsk-**	**19.33**	**30**	*e*P	**P**	**16 53 27.4**	**0.0**
PETK	**Petropavlovsk-**	**19.33**	**30**	P	**P**	**16 53 27.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=210,slow=9.5,SNR=4.0						
NJ2	**Nanjing**	**19.41**	**261**	*e*P	**Pn**	**16 53 30.4**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,16nm,0.8s						
TIA	**Tai'an**	**19.61**	**274**	⇑P	**P**	**16 53 28.6**	**-2.0**
TIA				S	**Sn**	**16 57 17.2**	**+5.6**
TIA				pmax	pmax		
	comp=Z,30nm,0.8s						
TIA				LR	LR		
	comp=Z,3μm,12.4s						
TIA				LR	LR		
	comp=Z,2μm,15.3s						
TIA				LR	LR		
	comp=Z,3μm,14.7s						
PET	**Petropavlovsk**	**19.66**	**32**	*e*P	**Pn**	**16 53 32.1**	**-0.3**
PET				*e*S	**S**	**16 57 09.2**	**-2.0**
PET				pmax	pmax		
	comp=Z,51nm,1.1s						
PET				MLR	MLR		
	comp=Z,2μm,15.0s						
PET	**Petropavlovsk**	**19.66**	**32**	*e*P	**Pn**	**16 53 31.8**	**-0.5**
	comp=Z,155nm,1.6s						
BJI	**Beijing**	**19.99**	**286**	P	**P**	**16 53 32.9**	**-1.7**
BJI				S	**S**	**16 57 09.4**	**-8.8**
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				pmax	pmax		
	comp=Z,250nm,3.5s						
BJI				LR	LR		
	comp=Z,2μm,15.8s						
BJI				LR	LR		
	comp=Z,870nm,16.8s						
BJI				LR	LR		
	comp=Z,820nm,22.4s						
BJT	**Baijiatuau**	**19.99**	**285**	*e*P	**P**	**16 53 32.5**	**-2.2**
BJT				pmax	pmax		
	comp=Z,55nm,1.3s						
BJT	**Baijiatuau**	**19.99**	**285**	*e*P	**P**	**16 53 32.5**	**-2.2**
	comp=Z,55nm,1.3s						
CLNS	**Chul'man**	**22.43**	**336**	*e*P	**P**	**16 53 56.8**	**-4.0**
CLNS				*e*PP	**sP**	**16 54 10.7**	**+0.4**
CLNS				*e*		16 54 24.5	
CLNS				*e*PPP	PPP	16 54 36.8	
CLNS				*e*S	**S**	**16 58 03.4**	**-2.4**
CLNS				pmax	pmax		
	comp=N,66nm,1.6s						
CLNS				pmax	pmax		
	comp=Z,69nm,1.8s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,38nm,1.0s						
CLNS				pmax	pmax		
	comp=N,106nm,1.5s						
CLNS				pmax	pmax		
	comp=E,19nm,1.0s						
CLNS				smax	smax		
	comp=E,19nm,1.1s						
CLNS				smax	smax		
	comp=N,15nm,1.1s						
CLNS				MLR	MLR		
	comp=E,731nm,16.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s						
CLNS				MLR	MLR		
	comp=N,888nm,12.0s						
MA2	**Magadan**	**23.00**	**12**	P	**P**	**16 54 07.0**	**+0.3**
	comp=N,46nm,0.7s,baz=198,slow=9.7,SNR=16						
MA2				LR	LR	17 04 09.5	
	comp=N,365nm,18.4s,baz=204,slow=40						
MA2	**Magadan**	**23.00**	**12**	*c*e*P	**P**	**16 54 08.4**	**+1.7**
HHC	**Hu-ho-hao-te**	**23.50**	**288**	*e*P	**P**	**16 54 11.6**	**-0.4**
HHC				S	**S**	**16 58 19.1**	**-5.4**
HHC				sS	pS	16 58 28.9	-2.8
HHC				SS	**SnSn**	**16 59 05.7**	**+4.7**
HHC				pmax	pmax		
	comp=N,12nm,1.0s						
HHC				pmax	pmax		
	comp=N,130nm,5.0s						
HHC				LR	LR		
	comp=N,1μm,11.6s						
HHC				LR	LR		
	comp=N,1μm,13.5s						
HHC				LR	LR		
	comp=N,800nm,11.6s						
WHN	**Wuhan**	**23.54**	**261**	⇓P	**P**	**16 54 12.3**	**-0.1**
WHN				S	**S**	**16 58 30.1**	**+5.0**
WHN				pmax	pmax		
	comp=N,32nm,0.8s						
WHN				LR	LR		
	comp=N,3μm,14.4s						
GUMO	**Guam**	**23.87**	**172**	LR	LR	17 05 52.6	
	comp=N,114nm,20.0s,baz=14,slow=42						
CIT	**Chita**	**24.53**	**316**	*e*P	**P**	**16 54 18.2**	**-3.4**
CIT				*e*		16 54 35.7	
CIT				*e*		16 54 50.4	
CIT				*e*		16 55 07.8	
CIT				pmax	pmax		
	comp=Z,97nm,2.3s						
YAK	**Yakutsk**	**25.77**	**347**	P	**P**	**16 54 32.5**	**0.0**
	comp=Z,116nm,0.8s,baz=159,slow=0.8,SNR=64						
YAK	**Yakutsk**	**25.77**	**347**	*e*P	**P**	**16 54 31.6**	**-1.0**
YAK				*e*PP	**sP**	**16 54 41.4**	**-1.0**
YAK				*e*		16 55 07.0	
YAK				*e*S	**S**	**16 58 59.9**	**-0.3**
YAK				*e*SS	**sS**	**16 59 16.5**	**+4.9**
YAK				*e*SS	**SnSn**	**16 59 52.7**	**-3.4**
YAK				pmax	pmax		
	comp=Z,135nm,1.0s						
YAK				pmax	pmax		
	comp=N,73nm,1.1s						
YAK				pmax	pmax		
	comp=Z,88nm,1.3s						
YAK				pmax	pmax		
	comp=N,79nm,1.7s						
YAK				smax	smax		
	comp=N,305nm,2.8s						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s						
YAK	**Yakutsk**	**25.77**	**347**	*e*P	**P**	**16 54 31.4**	**-1.1**
	comp=N,155nm,0.9s						
SEY	**Seymchan**	**26.43**	**11**	P	**P**	**16 54 39.0**	**+0.5**
	comp=N,42nm,1.0s,baz=190,slow=7.7,SNR=25						
SEY	**Seymchan**	**26.43**	**11**	⇑*i*P	**P**	**16 54 39.8**	**+1.2**
XAN	**Xi'an**	**26.66**	**273**	P	**P**	**16 54 39.0**	**-2.0**
XAN				pP	pP	16 54 49.0	+1.1
XAN				sP	sP	16 54 52.2	+1.4
XAN				S	**S**	**16 59 07.4**	**-7.5**
XAN				pmax	pmax		
	comp=N,21nm,0.9s						
XAN				pmax	pmax		
	comp=N,590nm,5.6s						
XAN				LR	LR		
	comp=N,1μm,13.3s						
XAN				LR	LR		
	comp=N,920nm,13.3s						
XAN				LR	LR		
	comp=N,1μm,14.9s						
ULN	**Ulaanbaatar**	**27.28**	**304**	*c*e*P	**P**	**16 54 45.5**	**-1.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.28**	**304**	*e*P	**P**	**16 54 44.8**	**-1.8**
	comp=Z,13nm,0.8s						
BOD	**Bodaibo**	**27.32**	**327**	⇓*i*P	**P**	**16 54 45.7**	**-0.9**
BOD				pmax	pmax		
	comp=Z,46nm,0.9s						
ENH	**Enshi**	**27.50**	**265**	*e*P	**P**	**16 54 46.9**	**-1.6**
	comp=Z,26nm,0.9s						
SONA1	**Songino Array**	**27.71**	**303**	*e*P	**P**	**16 54 48.8**	**-1.6**
SONM	**Songino Array**	**27.71**	**303**	P	**P**	**16 54 49.1**	**-1.3**
	comp=Z,20nm,0.8s,baz=102,slow=7.3,SNR=74						
SONM				PcP	**PcP**	**16 58 07.1**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=153,slow=3.6,SNR=4.0						
SONM				LR	LR	17 06 08.7	
	comp=Z,746nm,19.3s,baz=88,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	17 24 24.0	
	baz=314,slow=75,SNR=2356						
H11N1	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	17 24 25.1	
	baz=314,slow=75,SNR=1797						
H11N3	**WAKE ISLAND Hy**	**28.22**	**122**	T	T	17 24 25.7	
	baz=314,slow=75,SNR=2413						
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	17 25 18.9	
	baz=316,slow=76,SNR=1389						
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	17 25 19.0	
	baz=316,slow=76,SNR=1292						
H11S2	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	17 25 20.0	
	baz=316,slow=76,SNR=1268						
IRK	**Irkutsk**	**29.97**	**312**	*e*P	**P**	**16 55 14.2**	**+3.9**
IRK				pmax	pmax		
	comp=Z,44nm,2.9s						
LZH	**Lanzhou**	**30.14**	**279**	*e*P	**P**	**16 55 11.7**	**-0.5**
LZH				pP	pP	16 55 16.2	-3.0
LZH				sP	sP	16 55 18.8	-3.2
LZH				PP	**PnPn**	**16 56 11.5**	**+1.8**
LZH				*e*S	**S**	**17 00 08.0**	**-2.0**
LZH				SS	**SnSn**	**17 01 46.0**	**+2.4**
LZH				pmax	pmax		
	comp=Z,39nm,1.1s						
LZH				pmax	pmax		
	comp=Z,270nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,12.8s						
LZH				LR	LR		
	comp=Z,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
ZAK	**Zakamensk**	**30.17**	**308**	*e*P	**P**	**16 55 10.3**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY	**Talaya**	**30.21**	**310**	*e*P	**P**	**16 55 11.0**	**-1.5**
TLY				*e*		16 56 11.8	
TLY				*e*S	**S**	**17 00 07.5**	**-2.9**
TLY				*e*SS	**SnSn**	**17 01 47.1**	**+2.5**
TLY				pmax	pmax		
	comp=Z,11nm,0.9s						
TLY				MLR	MLR		
	comp=Z,1μm,18.0s						
TLY	**Talaya**	**30.21**	**310**	*e*P	**P**	**16 55 10.2**	**-2.3**
	comp=Z,9.1nm,0.7s						
GYA	**Guiyang**	**31.41**	**260**	⇑*i*P	**P**	**16 55 21.8**	**-1.6**
GYA				pP	pP	16 55 28.0	-2.4
GYA				PP	**PnPn**	**16 56 26.7**	**+0.3**
GYA				PcP	**PcP**	**16 58 18.0**	**+1.4**
GYA				S	**S**	**17 00 28.9**	**-1.0**
GYA				ScP	**ScP**	**17 01 59.8**	**+1.6**
GYA				SS	**SnSn**	**17 02 15.5**	**+1.0**
GYA				ScS	**ScS**	**17 05 55.4**	**-0.7**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.5s						
GYA				LR	LR		
	comp=Z,640nm,16.8s						
GYA				LR	LR		
	comp=Z,590nm,17.2s						
GYA				LR	LR		
	comp=Z,570nm,17.5s						
CD2	**Chengdu**	**31.81**	**270**	P	**P**	**16 55 25.2**	**-1.6**
CD2				sP	pP	16 55 35.3	+1.5
CD2				PP	**PP**	**16 56 36.7**	**-2.0**
CD2				S	**S**	**17 00 33.6**	**-2.3**
CD2				sS	pS	17 00 45.5	+1.7
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,240nm,5.0s						
CD2				LR	LR		
	comp=Z,2μm,12.8s						
CD2				LR	LR		
	comp=Z,2μm,15.3s						
CD2				LR	LR		
	comp=Z,2μm,13.3s						
GTA	**Gaotai**	**32.59**	**287**	*e*P	**P**	**16 55 32.0**	**-1.7**
GTA				pP	pP	16 55 36.3	-4.4
GTA				sP	sP	16 55 39.2	-4.3
GTA				PcP	**PcP**	**16 58 20.2**	**+0.5**
GTA				S	**S**	**17 00 43.3**	**-4.8**
GTA				pmax	pmax		

comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=Z,950nm,15.2s
GTA LR LR
comp=Z,770nm,16.6s
GTA LR LR
comp=Z,1µm,20.7s
QIZ Qiongzhong 33.19 245 P **P 16 55 38.3 -0.6**
QIZ S **S 17 00 59.3 +1.9**
QIZ pmax pmax
comp=Z,440nm,3.2s
QIZ LR LR
comp=Z,750nm,21.4s
QIZ LR LR
comp=Z,740nm,11.7s
TIXI Tiksi 34.97 353 P **P 16 55 53.4 -0.4**
comp=Z,19nm,0.8s,baz=145,slow=6.7,SNR=22
TIXI Tiksi 34.97 353 *c iP* **P 16 55 53.2 -0.6**
TIXI pmax pmax
comp=Z,30nm,1.0s
TIXI Tiksi 34.97 353 *eP* **P 16 55 53.0 -0.7**
comp=Z,24nm,0.9s
KMI Kunming 35.15 261 P **P 16 55 55.6 -0.5**
KMI pP pP 16 56 00.6 -2.5
KMI sP sP 16 56 02.4 -3.6
KMI PP **PnPn 16 57 14.6 +0.7**
KMI S **S 17 01 24.5 -3.5**
KMI sS pS 17 01 36.8 +0.7
KMI SS **SnSn 17 03 41.1 -4.3**
KMI pmax pmax
comp=Z,36nm,0.9s
KMI pmax pmax
comp=Z,210nm,4.0s
KMI LR LR
comp=Z,1µm,15.8s
KMI LR LR
comp=Z,860nm,17.5s
KMI LR LR
comp=Z,830nm,15.4s
MYLDM Lahad Datu 38.36 219 *eP* **P 16 56 23.6 +0.4**
comp=Z,97nm,1.1s
MYLDM Lahad Datu 38.36 219 ⇓P **P 16 56 24.8 +1.6**
UBPT Khong Chiam 38.79 245 P **P 16 56 27.4 +0.5**
comp=Z,36nm,1.4s
DLV T Lat 38.97 238 *eP* **P 16 56 28.9 +0.3**
comp=Z,127nm,1.4s
SIJI Sorong 39.23 196 P **P 16 56 30.1 -0.4**
comp=Z,88nm,0.8s,baz=3.2,slow=1.6,SNR=7.1
TSM Tawau 39.43 219 ⇓P **P 16 56 32.8 +0.5**
LBMI Labuha 40.00 202 P **P 16 56 36.7 -0.3**
comp=Z,31nm,0.9s,comp=Z,689nm
DGZ Jazzator, Alta 40.30 306 *i* P **P 16 56 40.2 +0.8**
DGZ pmax pmax
comp=Z,40nm,0.8s
WMQ Urumqi 40.81 297 P **P 16 56 44.1 +0.6**
WMQ pP pP 16 56 48.7 -1.9
WMQ PP **PnPn 16 58 20.7 -1.1**
WMQ ScP **ScP 17 02 32.8 +0.5**
WMQ S **S 17 02 56.8 +3.7**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,910nm,15.3s
WMQ LR LR
comp=Z,610nm,17.5s
WMQ LR LR
comp=Z,630nm,24.5s
UTTA Uttaradit 40.90 253 P **P 16 56 49.1 +4.7**
comp=Z,4.5nm,1.0s
MRSI Marisa 40.95 211 P **P 16 56 45.1 +0.3**
PBKT Sadao Pong 41.30 251 P **P 16 56 47.6 -0.1**
comp=Z,12nm,1.4s
CHTO Chiang Mai 41.51 256 P **P 16 56 50.3 +0.9**
comp=Z,42nm,1.9s
CHTO Chiang Mai 41.51 256 *eP* **P 16 56 48.8 -0.6**
CHTO pmax pmax
comp=Z,26nm,1.7s
CHTO Chiang Mai 41.51 256 *eP* **P 16 56 48.8 -0.6**
comp=Z,26nm,1.7s
CMAR Chiang Mai Arr 41.71 255 P **P 16 56 50.8 -0.4**
comp=Z,1.5nm,0.7s,baz=46,slow=6.5,SNR=14
CMAR PcP **PcP 16 58 48.3 +0.8**
comp=Z,4.2nm,0.9s,baz=27,slow=2.3,SNR=8.1
CMAR LR LR 17 13 17.6
comp=Z,111nm,21.5s,baz=46,slow=35
CM01 Chiang Mai Arr 41.72 255 *eP* **P 16 56 50.3 -0.9**
ZAA0 Zalesovo Array 41.79 312 *eP* **P 16 56 50.5 -0.8**
ZALV Zalesovo Beam 41.79 312 P **P 16 56 51.0 -0.2**
comp=Z,34nm,0.8s,baz=88,slow=7.0,SNR=97
ZALV PcP **PcP 16 58 47.3 +0.2**
comp=Z,5.1nm,0.7s,baz=146,slow=2.8,SNR=4.0
ZALV LR LR 17 15 05.6
comp=Z,1µm,18.1s,baz=70,slow=38
SANI Sanana 41.81 204 P **P 16 56 51.0 -0.8**
LSA Lhasa 42.31 275 *eP* **P 16 56 56.5 0.0**
LSA pmax pmax
comp=Z,20nm,1.0s
LSA Lhasa 42.31 275 *eP* **P 16 56 56.5 0.0**
comp=Z,20nm,1.0s
NVS Novosibirsk 42.70 313 ⇑*iP* **P 16 56 58.6 -0.1**
NVS *eS* **S 17 03 20.0 -0.7**
NVS pmax pmax
comp=Z,45nm,1.2s
NVS pmax pmax
comp=E,38nm,1.4s
NVS smax smax
comp=N,6.0nm,1.4s
NVS smax smax
comp=E,21nm,2.0s
AAI Ambon 42.71 200 P **P 16 57 00.0 +0.9**
NRIK Noril'sk 43.02 335 P **P 16 57 00.5 -0.6**
comp=E,4.7nm,0.7s,baz=128,slow=2.8,SNR=4.4
NRIK LR LR 17 15 55.0
comp=E,930nm,18.9s,baz=106,slow=38
NRIK Noril'sk 43.02 335 P **P 16 57 00.5 -0.6**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
NRIK MLR MLR
comp=Z,930nm,18.9s
UTHA Uthaitani 43.07 251 P P 16 57 07.2 +5.0
comp=Z,4.6nm,1.3s
PCI Palu 43.08 213 P **P 16 57 01.5 -0.7**
UMPA Umpang Tak 43.12 252 P P 16 57 07.8 +5.2
comp=Z,7.0nm,1.1s
SHL Shillong 43.55 269 *eP* **P 16 57 06.2 0.0**
SBUM Sibu 44.00 225 ⇑P **P 16 57 09.9 +0.3**
MK01 Makanchi Array 44.05 302 *eP* **P 16 57 09.0 -0.8**
MK31 Makanchi Array 44.05 302 *eP* **P 16 57 09.2 -0.6**
MK31 Makanchi Array 44.05 302 *eP* **P 16 57 09.2 -0.6**
MKAR Makanchi Array 44.05 302 P **P 16 57 09.5 -0.3**
comp=Z,28nm,0.8s,baz=89,slow=9.6,SNR=146
MKAR LR LR 17 15 47.8
comp=Z,444nm,20.0s,baz=74,slow=36
MKAR Makanchi Array 44.05 302 *eP* **P 16 57 09.2 -0.6**
MKAR pmax pmax
comp=Z,205nm,0.8s
MKAR Makanchi Array 44.05 302 *eP* **P 16 57 09.2 -0.6**
comp=Z,205nm,0.8s
MAKZ Makanchi 44.26 302 P **P 16 57 10.7 -0.8**
MAKZ pmax pmax
comp=Z,33nm,0.9s
MAKZ Makanchi 44.26 302 *eP* **P 16 57 11.2 -0.3**
comp=Z,33nm,0.8s
PHET Kaeng Krachan 44.61 248 P **P 16 57 16.1 +1.5**
comp=Z,10nm,0.8s
KDI Kendari 44.75 207 P **P 16 57 16.4 +0.8**
TT01 Tatalina 45.06 35 *eP* **P 16 57 19.1 +1.5**
SVW2 Sparrevohn 45.17 38 *eP* **P 16 57 20.3 +1.8**
comp=Z,14nm,0.9s
KURK Kurchatov 45.83 308 *d iP* **P 16 57 23.4 -0.4**
KURK pmax pmax
comp=Z,352nm,1.0s
KURK Kurchatov 45.83 308 *eP* **P 16 57 22.9 -0.9**
comp=Z,77nm,0.9s
KURK Kurchatov 45.83 308 P **P 16 57 23.6 -0.3**
SNR=39
SPSI Sidrap Palu 45.86 211 P **P 16 57 24.1 -0.3**
KSM Kuching 45.88 226 *eP* **P 16 57 25.0 +0.4**
comp=Z,26nm,0.9s
TAPN Taplejung 46.05 274 *eP* **P 16 57 25.9 -0.4**
comp=Z,31nm,0.8s
SAUI Saumlaki 46.13 194 P **P 16 57 27.1 +0.6**
SAUI Saumlaki 46.13 194 *eP* **P 16 57 26.8 +0.3**
comp=Z,142nm,1.3s
BBSI Bau Bau 46.18 207 P **P 16 57 27.7 +0.8**
STKI Sintang 46.38 224 P **P 16 57 28.2 -0.3**
OHAK Old Harbor 46.41 43 *eP* **P 16 57 28.9 +0.6**
comp=Z,100nm,1.8s
ODAN Odare 46.53 273 *eP* **P 16 57 29.4 -0.5**
comp=Z,74nm,1.0s
RSO Redoubt South 46.55 38 *eP* **P 16 57 29.4 -0.2**
PDGK Podgornoye 46.74 298 P **P 16 57 30.3 -0.9**
PDGK pmax pmax
comp=Z,56nm,1.1s
KDAK Kodiak Island 46.76 42 P **P 16 57 31.8 +0.8**
comp=Z,29nm,0.7s,baz=274,slow=5.5,SNR=33
KDAK Kodiak Island 46.76 42 *i* P **P 16 57 31.4 +0.4**
KDAK Kodiak Island 46.76 42 *eP* **P 16 57 31.4 +0.4**
comp=Z,91nm,1.3s
KAPI Kappang 46.82 211 *eP* **P 16 57 32.0 +0.1**
comp=Z,90nm,1.1s
KAPI Kappang 46.82 211 P **P 16 57 33.0 +1.1**
SNR=12
KAPI P **P 16 57 33.0 +1.1**
SNR=12
KAPI Kappang 46.82 211 P **P 16 57 33.0 +1.1**
SNR=12
PMG Port Moresby 46.82 172 P **P 16 57 32.5 +0.6**
comp=Z,5.5nm,0.7s,baz=297,slow=2.3,SNR=3.3
CAST Castle Rocks 46.87 34 *eP* **P 16 57 33.3 +1.4**
comp=Z,12nm,0.9s
SPU Mount Spurr 46.88 37 *eP* **P 16 57 33.3 +1.3**
RAMN Ramite 47.12 274 *eP* **P 16 57 34.1 -0.4**
comp=Z,152nm,1.0s
JIRN Jiri 47.12 275 *eP* **P 16 57 34.7 0.0**
comp=Z,182nm,1.3s
GUN Gumba 47.26 275 *eP* **P 16 57 35.5 -0.3**
comp=Z,110nm,0.9s
BSSI Bau Bau, Buton 47.56 209 P **P 16 57 37.0 -0.7**
KKN Kakani 47.79 276 *eP* **P 16 57 39.0 -0.7**
comp=Z,119nm,1.3s
PKIN Phulchoki 47.79 275 *eP* **P 16 57 39.6 -0.2**
comp=Z,28nm,0.8s
COLD Coldfoot 47.79 29 *eP* **P 16 57 39.8 +0.8**
comp=Z,13nm,1.1s
DMN Daman 48.01 275 *eP* **P 16 57 40.6 -0.9**
TOLK Toolik Lake Re 48.11 27 P **P 16 57 43.0 +1.6**
baz=267,SNR=10
GKN Gorkha 48.20 276 *eP* **P 16 57 42.3 -0.6**
comp=Z,176nm,1.2s
PMR Palmer 48.27 37 *eP* **P 16 57 43.3 +0.6**
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 48.27 37 *eP* **P 16 57 43.3 +0.6**
comp=Z,23nm,1.0s
MCK McKinley 48.28 34 *eP* **P 16 57 43.5 +0.7**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 48.28 34 *eP* **P 16 57 43.5 +0.7**
comp=Z,13nm,0.8s
MDM Murphy Dome 48.56 32 *eP* **P 16 57 46.1 +1.2**
comp=Z,37nm,1.1s
AAA Alma-Ata 48.58 298 *i* P **P 16 57 49.9 +4.4**
AAA *i* S **S 17 04 47.0 +1.1**
AAA pmax pmax
comp=Z,400nm,2.5s
AAA smax smax
comp=E,300nm,5.1s
AAA MLR MLR
comp=Z,2µm,12.0s
WRH Wood River Hil 48.63 33 *eP* **P 16 57 46.4 +1.0**
comp=Z,16nm,0.8s
SML Sawmill 48.64 37 *eP* **P 16 57 46.5 +0.9**
SML pmax pmax
comp=Z,26nm,0.8s
SML Sawmill 48.64 37 *eP* **P 16 57 46.5 +0.9**
comp=Z,26nm,0.8s
COLA College 48.72 32 *eP* **P 16 57 47.0 +0.9**
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 48.72 32 *eP* **P 16 57 47.0 +0.9**
comp=Z,11nm,0.8s
DANN Dangsing 48.74 277 *eP* **P 16 57 47.2 0.0**
comp=Z,16nm,0.9s
CCB Clear Creek Bu 48.75 33 *eP* **P 16 57 47.0 +0.6**
comp=Z,14nm,1.4s
SCM Sheep Creek Mo 49.11 36 *eP* **P 16 57 50.7 +1.4**
SCM pmax pmax
comp=Z,190nm,2.0s
SCM Sheep Creek Mo 49.11 36 *eP* **P 16 57 50.6 +1.4**
comp=Z,190nm,2.0s
KOLN Koldanda 49.13 276 *eP* **P 16 57 49.6 -0.4**
comp=Z,57nm,1.0s
IL1 Eielson Array 49.14 33 *eP* **P 16 57 49.5 +0.2**
ILAR Eielson Array 49.14 33 P **P 16 57 49.8 +0.5**
comp=Z,11nm,0.7s,baz=268,slow=6.4,SNR=103
ILAR LR LR 17 20 46.2
comp=Z,171nm,18.5s,baz=295,slow=39
ILB Eielson Array 49.14 33 *eP* **P 16 57 49.7 +0.3**
IPM Ipoh 49.43 239 *eP* **P 16 57 50.9 -1.4**
comp=Z,25nm,0.9s
IPM Ipoh 49.43 239 ⇑P **P 16 57 51.5 -0.7**
PYUN Piuthan 49.46 277 *eP* **P 16 57 52.3 -0.3**
comp=Z,239nm,1.1s
TKM2 Tokmak 2 49.59 298 P **P 16 57 53.2 -0.2**
TKM2 pmax pmax
comp=Z,38nm,0.9s
SOEI Soe 49.61 203 P **P 16 57 53.2 -0.4**
SOEI Soe 49.61 203 *eP* **P 16 57 52.9 -0.8**
comp=Z,150nm,1.2s
KGM Kluang 49.74 234 ⇓P **P 16 57 55.5 +0.9**
FYU Fort Yukon 49.75 30 *eP* **P 16 57 55.9 +2.0**
comp=Z,60nm,1.5s
KLU Klutina 49.81 37 *eP* **P 16 57 55.4 +0.7**
comp=Z,50nm,1.4s
DIV Divide 49.92 37 *eP* **P 16 57 56.6 +1.1**
comp=Z,108nm,1.7s
FRIM Kepong 49.94 237 ⇑P **P 16 57 56.1 0.0**
FRU Bishkek 50.30 298 *eP* **P 16 57 59.0 +0.4**
FRU pmax pmax
comp=Z,45nm,2.0s
KSH Kashi 50.39 294 P **P 16 58 03.3 +3.9**
KSH pP sP 16 58 08.7 -0.8
KSH PcP **PcP 16 59 21.2 +3.5**
KSH PP **PP 17 00 00.3 +5.4**
KSH PcS **PcS 17 03 17.4 +2.4**
KSH S **S 17 05 16.2 +4.8**
KSH sS sS 17 05 25.1 +1.8
KSH ScS **ScS 17 07 51.3 +2.1**
KSH SS **SS 17 08 47.7 +2.7**
KSH pmax pmax
comp=Z,75nm,2.2s
KSH pmax pmax
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,1µm,15.3s
KSH LR LR
comp=Z,720nm,14.4s
KSH LR LR
comp=Z,1µm,16.2s
BVA0 Borovoye Array 50.45 312 *i* P **P 16 57 58.1 -1.4**
BVA0 pmax pmax
comp=Z,19nm,1.1s
AAK Ala-Archa 50.45 298 *eP* **P 16 57 59.6 -0.3**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 50.45 298 *eP* **P 16 57 59.6 -0.3**
comp=Z,13nm,1.0s
AAK Ala-Archa 50.45 298 P **P 16 58 03.7 +3.9**
SNR=6.7
AAK P **P 16 58 03.7 +3.9**
SNR=6.7
AAK Ala-Archa 50.45 298 P **P 16 58 03.7 +3.9**
SNR=6.7
DOT Dot Lake 50.45 34 *eP* **P 16 57 60.0 +0.6**
comp=Z,26nm,0.8s
BRVK Borovoye 50.50 312 *d iP* **P 16 57 59.6 -0.3**
BRVK pmax pmax
comp=Z,106nm,2.5s
BRVK Borovoye 50.50 312 *eP* **P 16 57 59.5 -0.4**
comp=Z,19nm,1.1s
BRVK Borovoye 50.50 312 P **P 16 58 00.4 +0.5**
SNR=10
BRVK P **P 16 58 00.4 +0.5**
SNR=10
BRVK Borovoye 50.50 312 P **P 16 58 00.4 +0.5**
SNR=10
MTN Manton Dam 50.91 193 *eP* **P 16 58 02.7 -0.5**
comp=Z,44nm,1.1s
COEN Coen 51.08 178 *eP* **P 16 58 04.6 +0.1**
comp=Z,35nm,1.1s
TWSI Taliwang, Sumb 51.37 212 P **P 16 58 05.3 -1.5**
EGAK Eagle 51.58 32 *eP* **P 16 58 08.8 +1.0**
comp=Z,12nm,0.9s
MNAS Manas 51.89 299 P **P 16 58 10.2 -0.5**
MNAS pmax pmax
comp=Z,26nm,0.7s
JAGI Jajag, Banyuwa 52.34 215 *eP* **P 16 58 13.1 -0.8**
comp=Z,56nm,1.0s
DAWY Dawson 52.44 33 *eP* **P 16 58 15.7 +1.4**
comp=Z,31nm,1.8s
NGJI Ngawi 52.66 219 P **P 16 58 13.5 -2.9**
PWJI Pagerwojo 53.06 218 P **P 16 58 18.0 -1.3**
KK31 Karatay Array 53.07 300 P **P 16 58 18.5 -0.8**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 53.07 300 *eP* **P 16 58 18.4 -0.9**
KKAR pmax pmax
comp=Z,94nm,0.9s
KKAR Karatay Array 53.07 300 *eP* **P 16 58 18.4 -0.9**
comp=Z,94nm,0.9s
MNSI Mandailing Nat 53.11 237 P **P 16 58 19.1 -0.7**
UGM Wanagama 53.60 219 P **P 16 58 20.9 -2.5**
comp=Z,187nm,1.4s
INK Inuvik 54.02 27 P **P 16 58 27.1 +1.3**
comp=Z,18nm,0.7s,baz=298,slow=5.7,SNR=39
INK Inuvik 54.02 27 *eP* **P 16 58 26.7 +0.9**
INK pmax pmax
comp=Z,23nm,0.8s
INK Inuvik 54.02 27 *eP* **P 16 58 26.7 +0.9**
comp=Z,23nm,0.8s
KLSI 54.11 228 P **P 16 58 25.4 -1.7**
MDSI Maura Dua 54.27 228 P **P 16 58 27.1 -1.1**
comp=Z,36nm,1.4s
MASI Maura Aman, Be 54.39 231 P **P 16 58 28.4 -0.8**
SVE Sverdlovsk 54.98 318 *c eP* **P 16 58 33.3 +0.4**
SVE pmax pmax
comp=Z,74nm,1.3s
SVE MLR MLR
comp=Z,1µm,17.0s
WHY Whitehorse 55.24 37 *eP* **P 16 58 36.8 +1.9**
comp=Z,67nm,1.8s
SOKR Solikamsk 56.14 322 *eP* **P 16 58 40.1 -1.0**
SOKR pmax pmax
comp=Z,60nm,1.4s
SOKR MLR MLR
comp=Z,528nm,17.0s
ARU Arti 56.20 318 P **P 16 58 41.7 0.0**
comp=Z,34nm,0.8s,baz=79,slow=3.8,SNR=34
ARU LR 17 24 47.2
comp=Z,759nm,19.5s,baz=73,slow=38
ARU Arti 56.20 318 *d iP* **P 16 58 41.3 -0.4**
ARU 16 59 39.9
ARU 17 00 49.5
ARU PPP PPP 17 01 59.2
ARU S **S 17 06 29.9 +0.3**
ARU 17 08 23.3
ARU SS **SS 17 10 16.4 +0.8**
ARU pmax pmax
comp=Z,57nm,1.0s
ARU MLR MLR
comp=Z,968nm,16.0s
ARU Arti 56.20 318 *eP* **P 16 58 41.3 -0.4**
comp=Z,73nm,1.1s
FITZ Fitzroy Crossi 57.19 198 P **P 16 58 48.7 -0.3**
comp=Z,11nm,0.9s,baz=19,slow=8.6,SNR=22
CTA Charters Tower 57.32 175 P **P 16 58 49.8 -0.2**
comp=Z,2.9nm,0.9s,baz=194,slow=23,SNR=3.1
WRAB Tennant Creek 57.40 188 *d iP* **P 16 58 50.0 -0.6**
WRAB pmax pmax
comp=Z,145nm,1.7s
WRAB Tennant Creek 57.40 188 *eP* **P 16 58 49.0 -1.5**
comp=Z,34nm,1.0s
WB2 Warramunga Arr 57.41 188 *eP* **P 16 58 49.1 -1.5**
WRA Warramunga Arr 57.41 188 P **P 16 58 49.8 -0.8**
comp=Z,18nm,0.8s,baz=5.3,slow=7.3,SNR=110
WRA LR LR 17 22 25.8
comp=Z,100nm,21.5s,baz=10.0,slow=35
KBL Kabul 57.42 291 *eP* **P 16 58 50.3 -0.7**
KBL pmax pmax
comp=Z,30nm,1.1s
KBL Kabul 57.42 291 *eP* **P 16 58 50.3 -0.7**
comp=Z,30nm,1.1s
AB31 Akbulak array 57.83 310 *i* P **P 16 58 52.4 -0.9**
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 57.83 310 *eP* **P 16 58 52.2 -1.1**
comp=Z,167nm,0.6s
DLBC Dease Lake 58.28 38 *eP* **P 16 58 58.1 +1.6**
comp=Z,21nm,1.1s
HYB Hyderabad 58.35 268 *i* P **P 16 58 58.0 +0.5**
AKTO Aktyubinsk 58.55 312 LR LR 17 25 23.8
comp=Z,731nm,18.2s,baz=66,slow=37
AKTO Aktyubinsk 58.55 312 P **P 16 58 57.2 -1.2**
AKTO pmax pmax
comp=Z,21nm,0.8s
SPITS Spitsbergen Ar 60.22 349 P **P 16 59 10.0 +0.5**
comp=Z,12nm,0.9s,baz=106,slow=14,SNR=3.7
SPITS Spitsbergen Ar 60.22 349 P **P 16 59 10.0 +0.5**
SPITS pmax pmax
comp=Z,12nm,0.9s
KBS Kingsbay 60.35 350 *eP* **P 16 59 11.2 +0.9**
KBS pmax pmax
comp=Z,40nm,0.9s
KBS Kingsbay 60.35 350 *eP* **P 16 59 11.2 +0.9**
comp=Z,40nm,0.9s
AS01 Alice Springs 61.13 188 *eP* **P 16 59 15.3 -1.0**
AS31 Alice Springs 61.14 188 *eP* **P 16 59 15.9 -0.5**
comp=Z,3.7nm,0.8s
ASAR Alice Springs 61.14 188 P **P 16 59 16.1 -0.3**
comp=Z,11nm,0.8s,baz=9.8,slow=6.2,SNR=80
ASAR LR LR 17 24 30.6
comp=Z,130nm,21.4s,baz=4.5,slow=35
ASAR PKP2bc 17 28 40.1
comp=Z,1.4nm,0.9s,baz=187,slow=1.6,SNR=7.3
MBWA Marble Bar 61.75 203 *eP* **P 16 59 20.4 -0.1**
comp=Z,52nm,1.0s
LVZ Lovozero 61.86 336 *c eP* **P 16 59 20.5 -0.3**
LVZ pmax pmax
comp=Z,65nm,1.7s
TMCR Tamitsa 62.51 331 *eP* **P 16 59 25.0 -0.1**
TMCR pmax pmax
comp=Z,104nm,1.4s
KEV Kevo 63.17 339 *eP* **P 16 59 29.6 +0.1**
KEV pmax pmax
comp=Z,27nm,0.8s
KEV Kevo 63.17 339 *eP* **P 16 59 29.6 +0.1**
comp=Z,27nm,0.8s
YKA Yellowknife Ar 63.45 30 P **P 16 59 32.0 +0.6**
comp=Z,7.0nm,0.8s,baz=304,slow=6.6,SNR=6.9
YKA Yellowknife Ar 63.45 30 P **P 16 59 32.0 +0.6**
YKA pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 63.54 328 *eP* **P 16 59 30.7 -1.3**
KLMR *e* 17 00 06.7
KLMR pmax pmax
comp=Z,65nm,1.0s
DZM Mont Dzumac 63.60 154 LR LR 17 24 21.6
comp=Z,298nm,21.1s,baz=12,slow=33
DZM Mont Dzumac 63.60 154 *eP* **P 16 59 34.3 +1.4**
comp=Z,89nm,1.4s
DZM Mont Dzumac 63.60 154 *e* LR LR 17 18 34.0
comp=Z,546nm,21.9s
DZM Mont Dzumac 63.60 154 *eP* **P 16 59 33.3 +0.4**
comp=Z,56nm,1.3s
ARA0 ARCESS Array S 63.73 339 *eP* **P 16 59 33.3 +0.1**
ARCES ARCESS Array B 63.73 339 P **P 16 59 33.3 +0.1**
comp=Z,21nm,0.9s,baz=57,slow=7.7,SNR=21
ARCES LR LR 17 30 58.0
comp=Z,130nm,18.9s,baz=57,slow=40
ARE0 ARCESS Array S 63.73 339 *eP* **P 16 59 33.2 +0.1**
comp=Z,35nm,1.0s
GEYT Alibeck 63.79 299 P **P 16 59 34.2 0.0**
comp=Z,29nm,0.8s,baz=28,slow=3.5,SNR=51
GEYT LR LR 17 30 02.1
comp=Z,314nm,18.2s,baz=45,slow=39
MSVF Nonsavu 64.68 141 *eP* **P 16 59 41.6 +1.5**
MSVF pmax pmax
comp=Z,26nm,1.1s
MSVF Nonsavu 64.68 141 *eP* **P 16 59 41.6 +1.5**
comp=Z,26nm,1.1s
DAG Danmarks Havn 65.45 355 ⇓*iP* **P 16 59 44.3 0.0**
comp=Z,28nm,0.9s
DAG Danmarks Havn 65.45 355 ⇓*iP* **P 16 59 44.3 0.0**

DAG pmax pmax
comp=Z,24nm,0.9s
LLLB Lilloet 65.92 44 *e*P **P 16 59 48.9 +1.1**
comp=Z,25nm,1.2s
PGC Sidney 66.00 46 *e*P **P 16 59 49.6 +1.3**
comp=Z,21nm,1.3s
NLWA Neilton Lookou 66.39 48 *e*P **P 16 59 52.8 +2.0**
comp=Z,37nm,1.2s
A04D Lummi Island 66.40 46 P **P 16 59 51.8 +1.0**
baz=300
B05A Bryant 66.98 46 P **P 16 59 55.3 +0.8**
baz=301,SNR=6.5
MOS Moscow 67.06 323 *e*P **P 16 59 53.3 -1.6**
MOS *e* 17 00 28.2
MOS pmax pmax
comp=Z,101nm,1.3s
MOS pmax pmax
comp=Z,200nm,2.0s
G03D McMinnville, O 67.86 49 P **P 17 00 00.8 +0.7**
baz=301
OBN Obninsk 67.91 323 LR LR 17 32 14.1
comp=Z,298nm,18.5s,baz=76,slow=38
OBN Obninsk 67.91 323 *i* P **P 16 59 59.9 -0.3**
OBN Obninsk 67.91 323 *e*P **P 16 59 59.6 -0.6**
comp=Z,50nm,0.9s
F04A Amboy 67.99 48 *e*P **P 17 00 02.1 +1.1**
comp=Z,44nm,1.2s
LPSR Galich'ya Gora 68.13 320 *e*P **P 17 00 01.3 -0.4**
LPSR pmax pmax
comp=Z,30nm,0.7s
B08A Colville Reser 68.50 45 *e*P **P 17 00 05.0 +0.8**
comp=Z,30nm,1.4s
FIA1 FINESS Array S 68.58 332 *e*P **P 17 00 04.3 -0.1**
FINES FINESS Array B 68.58 332 P **P 17 00 04.5 +0.1**
comp=Z,43nm,0.7s,baz=57,slow=7.7,SNR=71
FINES LR LR 17 32 07.5
comp=Z,400nm,18.7s,baz=41,slow=38
I03D Drain, OR 68.59 51 P **P 17 00 05.6 +0.8**
baz=302
VSR Storozhevoye 68.77 319 *e*P **P 17 00 05.2 -0.5**
VSR pmax pmax
comp=Z,50nm,1.1s
VSR MLR MLR
comp=Z,1μm,16.0s
STKA Stephens Creek 68.89 180 P **P 17 00 06.5 0.0**
comp=Z,9.6nm,0.8s,baz=346,slow=7.7,SNR=16
STKA LR LR 17 29 33.1
comp=Z,63nm,19.8s,baz=19,slow=35
STKA Stephens Creek 68.89 180 *e*P **P 17 00 06.8 +0.2**
comp=Z,3.7nm,1.0s
FORT Forrest 68.97 192 *e*P **P 17 00 07.4 +0.3**
comp=Z,754nm,0.8s
EDM Edmonton 69.00 38 *e*P **P 17 00 08.2 +1.0**
EDM pmax pmax
comp=Z,54nm,1.2s
EDM Edmonton 69.00 38 *e*P **P 17 00 08.2 +1.0**
comp=Z,54nm,1.2s
G05D Wamic, OR 69.01 49 P **P 17 00 08.6 +1.1**
baz=302
I04A Tendick Farm, 69.12 50 P **P 17 00 09.2 +1.1**
baz=302,SNR=8.2
E07A Sunnyside 69.17 47 *e*P **P 17 00 09.8 +1.4**
comp=Z,43nm,1.5s
L02D Cave Junction, 69.24 52 P **P 17 00 09.5 +0.6**
baz=302
G06A Carlson Farm, 69.42 48 *e*P **P 17 00 11.8 +1.7**
comp=Z,37nm,1.4s
D08A Wollman Farm, 69.44 46 *e*P **P 17 00 11.3 +1.3**
comp=Z,36nm,1.6s
HAWA Hanford 69.45 47 *e*P **P 17 00 10.8 +0.8**
comp=Z,21nm,1.4s
I05D Terrebonne, OR 69.48 49 P **P 17 00 11.9 +1.5**
baz=303
J04D Umpqua Nationa 69.60 51 P **P 17 00 11.9 +0.6**
baz=302
NEW Newport 69.79 44 P **P 17 00 13.0 +0.7**
baz=304,SNR=10
NEW Newport 69.79 44 *e*P **P 17 00 13.1 +0.9**
NEW pmax pmax
comp=Z,33nm,1.4s
NEW Newport 69.79 44 *e*P **P 17 00 13.1 +0.9**
comp=Z,34nm,1.4s
JMIC Jan Mayen 69.84 350 LR LR 17 31 01.5
comp=Z,54nm,20.6s,baz=72,slow=36
KHMM Horse Mountain 69.84 54 *e*P **P 17 00 14.1 +1.3**
comp=Z,58nm,1.3s
GOF Goftitskoye 69.97 312⇑ *e*P **P 17 00 13.8 +0.5**
GOF pmax pmax
comp=Z,48nm,0.7s
BBOO Buckleboo 70.01 185 *e*P **P 17 00 13.8 +0.3**
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 70.03 52 *e*P **P 17 00 15.1 +1.2**
YBH pmax pmax
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 70.03 52 *e*P **P 17 00 15.1 +1.2**
comp=Z,21nm,1.1s
J05D Fort Rock, OR 70.11 50 P **P 17 00 16.1 +1.7**
baz=303
M02C Callahan 70.12 53 P **P 17 00 16.4 +1.9**
baz=303
K04D Chiloquin, OR 70.15 51 P **P 17 00 16.4 +1.8**
baz=303
E09A Wood Farm, Sta 70.18 46 *e*P **P 17 00 15.9 +1.4**
comp=Z,29nm,1.3s
VSU Vasula 70.23 330 *d i*P **P 17 00 14.6 0.0**
VSU pmax pmax
comp=Z,231nm,1.2s
SUMG Summit 70.35 0 *i* P **P 17 00 16.6 +1.0**
comp=Z,43nm,1.1s
SUMG Summit 70.35 0 *e*P **P 17 00 16.3 +0.7**
SUMG pmax pmax
comp=Z,38nm,1.0s
SUMG Summit 70.35 0 *e*P **P 17 00 16.3 +0.7**
comp=Z,38nm,1.0s
N02D Trinity Center 70.44 53 P **P 17 00 18.1 +1.8**
baz=303
M04C Macdoel 70.55 52 P **P 17 00 18.8 +1.7**
baz=303,SNR=7.8
KCPM Cahto Peak 70.57 55 *e*P **P 17 00 18.9 +1.7**
comp=Z,28nm,1.0s
K05A Summer Lake 70.63 51 *e*P **P 17 00 19.6 +2.0**
comp=Z,56nm,1.1s
ZEI Tsey 70.69 309 *e*P **P 17 00 16.3 -1.7**
ZEI pmax pmax
comp=Z,38nm,0.6s
WDC Whiskeytown Da 70.76 53 *e*P **P 17 00 19.4 +1.2**
WDC pmax pmax
comp=Z,16nm,1.1s
WDC Whiskeytown Da 70.76 53 *e*P **P 17 00 19.4 +1.2**
comp=Z,16nm,1.1s
KVAR Kislovodsk Arr 70.78 311 LR LR 17 33 59.4
comp=Z,291nm,18.3s,baz=36,slow=38
KBZ Khabaz 70.78 311 P **P 17 00 18.9 +0.7**
comp=Z,21nm,0.9s,baz=23,slow=2.6,SNR=21
KBZ LR LR 17 35 53.8
comp=Z,382nm,19.0s,baz=56,slow=40
KIV Kislovodsk 70.79 311 *i* P **P 17 00 18.6 +0.2**
SNR=14
KIV Kislovodsk 70.79 311 *e*P **P 17 00 19.0 +0.5**
KIV *e*S **S 17 09 30.0 -1.9**
KIV *e*SS **SS 17 14 07.4 +3.8**
KIV pmax pmax
comp=Z,97nm,1.0s
KIV pmax pmax
comp=Z,14nm,2.7s
KIV MLR MLR
comp=Z,267nm,18.0s
KIV Kislovodsk 70.79 311 *e*P **P 17 00 18.8 +0.3**
comp=Z,93nm,1.0s
KIV Kislovodsk 70.79 311 P **P 17 00 19.5 +1.1**
SNR=8.5
KIV P **P 17 00 19.5 +1.1**
SNR=8.5
KIV Kislovodsk 70.79 311 P **P 17 00 19.5 +1.1**
SNR=8.5
F10A Beach Ranch, E 71.01 46 *e*P **P 17 00 21.1 +1.2**
comp=Z,42nm,1.9s
WALA Waterton Lakes 71.10 42 *e*P **P 17 00 21.5 +1.2**
comp=Z,20nm,0.9s
BIDO Bidbid 71.14 286 P P 17 00 26.0 +5.2
SNR=6.4
NEY Neytrino 71.16 310⇓ *i*P **P 17 00 21.4 +0.6**
NEY pmax pmax
comp=Z,5.0nm,0.9s
BANOM Banah 71.23 289 *i* P **P 17 00 21.4 +0.1**
SNR=14
BANOM Banah 71.23 289 P **P 17 00 22.7 +1.3**
SNR=6.2
BANOM P **P 17 00 22.7 +1.3**
SNR=6.2
BANOM Banah 71.23 289 P **P 17 00 22.7 +1.3**
SNR=6.2
O03D Paynes Creek 71.39 53 P **P 17 00 23.4 +1.3**
baz=304,SNR=13
MOD Modoc Plateau 71.44 51 *e*P **P 17 00 24.0 +1.5**
comp=Z,41nm,1.5s
BLMT Blacktail Moun 71.46 43 *e*P **P 17 00 24.3 +1.7**
GDXM Geysers 71.56 55 *e*P **P 17 00 25.1 +1.8**
comp=Z,22nm,1.3s
BMO Blue Mountains 71.60 47 *e*P **P 17 00 24.9 +1.5**
BMO pmax pmax
comp=Z,26nm,1.3s
BMO Blue Mountains 71.60 47 *e*P **P 17 00 24.9 +1.5**
comp=Z,26nm,1.3s
GNI Garni 71.61 307 LR LR 17 34 32.3
comp=Z,293nm,18.9s,baz=76,slow=38
GNI Garni 71.61 307 *c e*P **P 17 00 24.7 +1.1**
GNI pmax pmax
comp=Z,157nm,1.7s
GNI Garni 71.61 307 *e*P **P 17 00 23.9 +0.3**
comp=Z,272nm,1.3s
JTMT Jette 71.66 44 *e*P **P 17 00 25.1 +1.4**
YBMT Yellow Bay 71.74 43 *e*P **P 17 00 25.6 +1.4**
UOSS Minazif 71.83 288 *e*P **P 17 00 24.8 -0.2**
comp=Z,37nm,0.8s
SWMT Swartz Lake 71.95 44 *e*P **P 17 00 26.7 +1.2**
HATD Hatta, Dubai 71.95 288 *i* P **P 17 00 26.2 +0.5**
SNR=14
HATD Hatta, Dubai 71.95 288 P **P 17 00 27.0 +1.3**
SNR=6.7
HATD P **P 17 00 27.0 +1.3**
SNR=6.7
HATD Hatta, Dubai 71.95 288 P **P 17 00 27.0 +1.3**
SNR=6.7
ORV Oroville 71.99 54 *e*P **P 17 00 26.4 +0.7**
ORV pmax pmax
comp=Z,26nm,1.3s
ORV Oroville 71.99 54 *e*P **P 17 00 26.4 +0.7**
comp=Z,26nm,1.3s
ASHO Ashiyiah 72.09 288 *i* P **P 17 00 26.4 -0.1**
SNR=13
ASHO Ashiyiah 72.09 288 P **P 17 00 30.8 +4.2**
SNR=7.6
ASHO P **P 17 00 30.8 +4.2**
SNR=7.6
ASHO Ashiyiah 72.09 288 P **P 17 00 30.8 +4.2**
SNR=7.6
WVOR Wild Horse Val 72.17 50 *e*P **P 17 00 27.6 +0.7**
WVOR pmax pmax
comp=Z,39nm,1.4s
WVOR Wild Horse Val 72.17 50 *e*P **P 17 00 27.6 +0.7**
comp=Z,39nm,1.4s
IZAR Zarasai 72.19 328 *e*P **P 17 00 27.2 +0.6**
IZAR IAmb IAmb 17 00 27.8
comp=Z,22nm,0.7s
IDID Didziasalis 72.27 327 *e*P **P 17 00 27.5 +0.5**
IDID IAmb IAmb 17 00 32.4
comp=Z,20nm,0.7s
MICGM Minsk 72.29 326 *e*P **P 17 00 28.0 +0.8**
MICGM *e*LR LR 17 34 28.0
MNK Minsk 72.29 326 *e*P **P 17 00 28.0 +0.8**
ISAL Salakas 72.36 327 *e*P **P 17 00 28.2 +0.6**
ISAL IAmb IAmb 17 00 33.1
comp=Z,34nm,0.8s
MSO Missoula 72.38 44 P **P 17 00 29.4 +1.4**
baz=306
MSO Missoula 72.38 44 *e*P **P 17 00 28.8 +0.8**
comp=Z,24nm,1.4s
SLMT Seeley Lake 72.39 44 *e*P **P 17 00 28.8 +0.6**
FAQ Al Faqa, Dubai 72.41 288 *i* P **P 17 00 28.0 -0.4**
SNR=8.0
IIGN Ignalina 72.47 327 *e*P **P 17 00 28.7 +0.4**
IIGN IAmb IAmb 17 00 33.6
comp=Z,21nm,0.9s
NACGM Naroch 72.52 327 *e* **P 17 00 28.0 -0.5**
NACGM *e*LR LR 17 34 08.0
BEKR Beckworth 72.55 53 *e*P **P 17 00 30.5 +1.3**
comp=Z,25nm,0.6s
AFDM Forest Hills D 72.67 54 *e*P **P 17 00 30.9 +1.1**
comp=Z,18nm,1.3s
CHMT Chamberlain Mo 72.71 44 *e*P **P 17 00 30.5 +0.4**
PAHR Pah Rah Range 73.25 53 *e*P **P 17 00 34.6 +1.2**
comp=Z,28nm,1.2s
MFID Camas Ranch 73.30 48 *e*P **P 17 00 35.0 +1.4**
comp=Z,21nm,1.1s
CMB Columbia Colle 73.56 55 *e*P **P 17 00 36.0 +0.9**
CMB pmax pmax
comp=Z,35nm,1.3s
CMB Columbia Colle 73.56 55 *e*P **P 17 00 36.0 +0.9**
comp=Z,35nm,1.3s
HRY Holter Researc 73.62 43 *e*P **P 17 00 36.4 +1.0**
NC405 NORSAR Array S 73.72 337 *e*P **P 17 00 35.6 +0.1**
NC303 NORSAR Array S 73.74 337 *e*P **P 17 00 35.5 -0.1**
YERR Yerington 73.76 53 *e*P **P 17 00 37.7 +1.3**
comp=Z,69nm,1.5s
LRM Limekiln Ridge 73.81 44 *e*P **P 17 00 37.9 +1.2**
HFS Hagfors 73.84 336 P **P 17 00 36.2 0.0**
comp=Z,25nm,0.8s,baz=67,slow=3.7,SNR=21
NC204 NORSAR Array S 73.88 338 *e*P **P 17 00 36.3 -0.2**
NB201 NORSAR Array S 73.89 337 *e*P **P 17 00 36.7 +0.1**
WAKR Walker 73.91 54 *e*P **P 17 00 39.0 +1.7**
comp=Z,16nm,1.0s
NB2 NORSAR Subarra 73.93 337 P **P 17 00 36.8 0.0**
comp=Z,49nm,0.8s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.93 337 P **P 17 00 36.8 0.0**
baz=39,slow=6.2
NOA NORSAR Array B 73.93 337 P **P 17 00 36.8 0.0**
comp=Z,38nm,0.8s,baz=39,slow=5.8,SNR=60
NOA LR LR 17 35 46.5
comp=Z,336nm,19.4s,baz=40,slow=38
EGMT Eagleton 73.93 41 P **P 17 00 38.3 +1.2**
baz=308,SNR=12
EGMT Eagleton 73.93 41 *e*P **P 17 00 38.1 +0.9**
comp=Z,49nm,1.1s
DLMT Dillon 74.01 45 *e*P **P 17 00 39.4 +1.7**
comp=Z,49nm,1.3s
NBO02 NORSAR Array S 74.03 337 *e*P **P 17 00 37.4 0.0**
HLID Hailey 74.04 47 P **P 17 00 39.0 +1.0**
baz=307,SNR=14
HLID Hailey 74.04 47 *e*P **P 17 00 39.4 +1.4**
comp=Z,17nm,1.2s
NC602 NORSAR Array S 74.06 337 *e*P **P 17 00 37.1 -0.5**
NBO00 NORSAR Array S 74.07 337 *e*P **P 17 00 37.2 -0.4**
AKASG Malin Array Be 74.11 322 P **P 17 00 37.6 -0.4**
comp=Z,15nm,0.5s,baz=46,slow=6.1,SNR=75
AKASG LR LR 17 35 05.4
comp=Z,385nm,20.2s,baz=50,slow=37
AKBB Malin Array Si 74.11 322 *e*P **P 17 00 37.4 -0.6**
AKBB pmax pmax
comp=Z,41nm,0.8s
AKBB Malin Array Si 74.11 322 *e*P **P 17 00 37.4 -0.6**
comp=Z,41nm,0.8s
KIEV Kiev 74.12 322 *d i*P **P 17 00 36.7 -1.4**
KIEV pmax pmax
comp=Z,44nm,0.8s
KIEV Kiev 74.12 322 *e*P **P 17 00 37.4 -0.7**
comp=Z,39nm,0.8s
AK11 Malin Array Si 74.16 322 *e*P **P 17 00 37.5 -0.7**
NAO01 NORSAR Array S 74.18 337 *e*P **P 17 00 38.0 -0.2**
MCMT McKenzie Canyo 74.19 45 *e*P **P 17 00 40.1 +1.2**
BMN Battle Mountai 74.19 51 *e*P **P 17 00 40.3 +1.4**
BMN pmax pmax
comp=Z,29nm,1.4s
BMN Battle Mountai 74.19 51 *e*P **P 17 00 40.3 +1.4**
comp=Z,29nm,1.4s
TVH3 East Aurora ar 74.39 54 *e*P **P 17 00 42.4 +2.3**
comp=Z,25nm,1.2s
BOZ Bozeman (W) 74.40 44 P **P 17 00 40.1 +0.1**
baz=308,SNR=6.4
BOZ Bozeman (W) 74.40 44 *e*P **P 17 00 38.9 -1.2**
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ Bozeman (W) 74.40 44 *e*P **P 17 00 38.9 -1.2**
comp=Z,24nm,1.0s
SUW Suwalki 74.68 327 *e*P **P 17 00 41.4 +0.2**
SUW Suwalki 74.68 327 *e*P **P 17 00 41.4 +0.2**
MLAC Mammoth, Mammo 74.80 54 P **P 17 00 43.4 +0.8**
baz=306
PAGB Antelope Grade 74.97 57 *e*P **P 17 00 45.5 +2.1**
comp=Z,34nm,1.0s
QLMT Earthquake Lak 74.98 45 *e*P **P 17 00 45.0 +1.5**
YHB Horse Butte 75.17 45 *e*P **P 17 00 46.6 +2.1**
comp=Z,20nm,1.0s
SIM Simferopol' 75.18 316 *e*P **P 17 00 44.7 +0.4**
SIM *e*S **S 17 10 19.0 -2.6**
SIM pmax pmax
comp=Z,26nm,0.9s
SIM MLR MLR
comp=Z,490nm,14.5s
YHH Holmes Hill 75.34 45 *e*P **P 17 00 46.8 +1.2**
comp=Z,15nm,1.2s
GCMT Greycliff 75.36 43 *e*P **P 17 00 46.1 +0.6**
SMMC Simmler 75.38 57 P **P 17 00 46.3 +0.6**
baz=306
YNR Norris Junctio 75.48 45 *e*P **P 17 00 49.1 +2.7**
comp=Z,15nm,1.1s
KLNR Kaliningrad 75.51 329⇑ *i*P **P 17 00 46.2 +0.2**
KLNR pmax pmax
comp=Z,47nm,0.9s
TIN Tinemaha, Big 75.53 54 P **P 17 00 48.6 +2.0**
baz=306
SFJD Kangerlussuaq 75.54 5 P **P 17 00 46.1 +0.2**
comp=Z,8.7nm,0.7s,baz=63,slow=3.4,SNR=3.5
SFJD LR LR 17 33 57.1
comp=Z,82nm,21.1s,baz=353,slow=36
YFT Old Faithful 75.55 45 *e*P **P 17 00 50.3 +3.5**
comp=Z,33nm,1.4s
VES Vestal, Richgr 75.68 56 P **P 17 00 48.3 +1.0**
baz=306,SNR=11
YPP Pitchstone Pla 75.68 45 *e*P **P 17 00 50.6 +3.0**
comp=Z,7.6nm,0.8s
H17A Grant Village 75.73 45 *e*P **P 17 00 50.9 +3.1**
comp=Z,37nm,1.0s
PKM Mcpherson Peak 75.75 57 P **P 17 00 49.6 +1.6**
baz=306,SNR=8.3
MARD Mardin 75.77 306 *e*P **P 17 00 48.4 +0.3**
comp=Z,26nm,0.8s
IMW Indian Meadow 75.84 45 *e*P **P 17 00 50.2 +1.7**
comp=Z,28nm,1.2s
FXWY Fox Creek 75.95 46 *e*P **P 17 00 50.8 +1.7**
comp=Z,22nm,1.2s
CWC Cottonwood Cre 75.98 55 P **P 17 00 50.1 +0.8**
baz=306
RLMT Red Lodge 76.00 44 P **P 17 00 49.7 +0.4**
baz=309,SNR=8.0
RLMT Red Lodge 76.00 44 *e*P **P 17 00 51.3 +1.9**
comp=Z,30nm,1.4s
MOOW Moose Ponds 76.04 45 *e*P **P 17 00 51.3 +1.7**
comp=Z,21nm,1.3s
HVU Hansel Valley 76.08 48 *e*P **P 17 00 51.9 +2.1**
HVU pmax pmax
comp=Z,21nm,1.2s
HVU Hansel Valley 76.08 48 *e*P **P 17 00 51.9 +2.1**
comp=Z,21nm,1.2s
TPAW Teton Pass 76.08 46 *e*P **P 17 00 51.8 +1.9**
comp=Z,20nm,1.1s
GRAC Grapevine Rang 76.12 54 P **P 17 00 51.3 +1.4**
baz=307,SNR=12
ISA Isabella, Lake 76.18 56 P **P 17 00 50.8 +0.4**
baz=306
LOHW Long Hollow 76.21 45 *e*P **P 17 00 52.2 +1.7**
comp=Z,13nm,1.1s
REDW Red Top Meadow 76.22 46 *e*P **P 17 00 52.1 +1.5**
comp=Z,18nm,1.1s
ARVC Arvin 76.26 56 P **P 17 00 51.2 +0.5**
baz=306
RAO Raoul Island 76.38 144 LR LR 17 30 31.3
comp=Z,140nm,18.9s,baz=62,slow=33
DAC Darwin (Calif) 76.40 55 *e*P **P 17 00 52.6 +0.9**
DAC pmax pmax
comp=Z,19nm,1.2s
DAC Darwin (Calif) 76.40 55 *e*P **P 17 00 52.6 +0.9**
comp=Z,19nm,1.2s
FRB Frobisher Bay 76.41 13 P **P 17 00 51.3 +0.3**
comp=Z,25nm,0.8s,baz=309,slow=2.3,SNR=4.8
R11A Troy Canyon, C 76.45 52 P **P 17 00 53.4 +1.5**
baz=307,SNR=30
R11A Troy Canyon, C 76.45 52 *e*P **P 17 00 53.2 +1.2**
comp=Z,43nm,1.4s
BGU Big Grassy Mou 76.45 49 *e*P **P 17 00 53.9 +2.0**
comp=Z,14nm,1.2s
DGMT Dagmar 76.49 39 P **P 17 00 52.7 +0.9**
baz=312,SNR=5.6
DGMT Dagmar 76.49 39 *e*P **P 17 00 52.4 +0.6**
comp=Z,42nm,1.1s
MPMC Manual Prospec 76.60 55 P **P 17 00 54.0 +1.2**
baz=307,SNR=16
LAO LASA Array 76.63 41 P **P 17 00 54.2 +1.5**
baz=311,SNR=8.9
LAO LASA Array 76.63 41 *e*P **P 17 00 53.5 +0.9**
comp=Z,46nm,1.1s
OSI Osito Audit: C 76.64 57 P **P 17 00 54.6 +1.7**
baz=306
KIS Kishinev 76.72 320 *e*P **P 17 00 56.0 +2.9**
KIS LRM MLR 17 37 28.0
comp=Z,2μm,16.0s
KIS Kishinev 76.72 320 *e*P **P 17 00 56.0 +2.9**
KIS MLR MLR
comp=N,900nm,15.0s
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,1μm,15.0s
KIS MLR MLR
comp=Z,2μm,16.0s
FURC Furnace Creek, 76.76 54 P **P 17 00 55.1 +1.6**
baz=307,SNR=16
LRMC Laurel Mtn Rad 76.81 55 P **P 17 00 55.4 +1.4**
baz=307
TPNV Topopah Spring 76.86 54 P **P 17 00 55.8 +1.5**
baz=307,SNR=21
TPNV Topopah Spring 76.86 54 *e*P **P 17 00 55.4 +1.1**
TPNV pmax pmax
comp=Z,25nm,1.1s
TPNV Topopah Spring 76.86 54 *e*P **P 17 00 55.4 +1.1**
comp=Z,24nm,1.1s
HWUT Hardware Ranch 76.90 47 *e*P **P 17 00 55.6 +1.1**
comp=Z,35nm,1.2s
SNCC San Nicolas Is 76.90 58 P **P 17 00 56.1 +1.7**
baz=306
EDW2 Edwards Air Fo 76.96 56 P **P 17 00 56.1 +1.4**
baz=307,SNR=14
DUG Dugway, Tooele 77.03 49 P **P 17 00 56.6 +1.4**
baz=308,SNR=15
DUG Dugway, Tooele 77.03 49 *e*P **P 17 00 56.3 +1.2**
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway, Tooele 77.03 49 *e*P **P 17 00 56.3 +1.2**
comp=Z,27nm,1.3s
LVV L'vov 77.19 324 *e*P **P 17 00 57.3 +1.7**
BSD Bornholm Skovb 77.21 332 *i* P **P 17 00 55.3 -0.3**
comp=Z,49nm,1.0s
BSD Bornholm Skovb 77.21 332 *i* P **P 17 00 55.3 -0.3**
BSD pmax pmax
comp=Z,49nm,1.0s
BEL Belsk 77.24 327 *e*P **P 17 00 56.6 +0.8**
BEL Belsk 77.24 327 *e*P **P 17 00 56.6 +0.8**
IAS Iasi 77.24 320⇑ *i*P **P 17 00 56.2 +0.2**
MWC Mount Wilson 77.31 57 *e*P **P 17 00 57.0 +0.1**
MWC pmax pmax
comp=Z,34nm,1.4s
MWC Mount Wilson 77.31 57 *e*P **P 17 00 57.0 +0.1**
comp=Z,34nm,1.4s
BW06 Boulder Array 77.33 46 P **P 17 00 57.9 +1.0**
baz=310,SNR=8.7
BW06 Boulder Array 77.33 46 *e*P **P 17 00 57.8 +0.9**
comp=Z,13nm,1.2s
PD31 Pinedale Array 77.33 46 *e*P **P 17 00 57.7 +0.8**
PDAR Pinedale Array 77.33 46 P **P 17 00 57.8 +0.8**
comp=Z,4.5nm,0.8s,baz=273,slow=2.8,SNR=21
PDAR LR LR 17 33 00.0
comp=Z,73nm,19.9s,baz=268,slow=34
SHOC Shoshone, Teco 77.48 54 P **P 17 00 58.2 +0.6**
baz=307
GSC Goldstone, Bar 77.49 55 P **P 17 00 58.3 +0.6**
baz=307,SNR=7.9
GSC Goldstone, Bar 77.49 55 *e*P **P 17 00 58.8 +1.0**
GSC pmax pmax
comp=Z,19nm,1.3s
GSC Goldstone, Bar 77.49 55 *e*P **P 17 00 58.8 +1.0**
comp=Z,18nm,1.3s
BFSC Mount Baldy Ra 77.57 56 P **P 17 00 58.8 +0.5**
baz=307
JLU Jordanelle 77.59 48 *e*P **P 17 00 59.6 +1.2**
comp=Z,17nm,1.1s
NLU North Lily Min 77.62 49 *e*P **P 17 00 59.8 +1.2**
comp=Z,14nm,1.1s
COP Copenhagen 77.69 333 *i* P **P 17 00 58.4 +0.1**
comp=Z,30nm,0.9s
COP Copenhagen 77.69 333 *i* P **P 17 00 58.4 +0.1**

COP pmax pmax
comp=Z,30nm,0.9s
GKP Gorka Klasztor 77.69 329 *eP* **P 17 01 00.3 +2.0**
GKP Gorka Klasztor 77.69 329 *eP* **P 17 01 00.3 +2.0**
SHPR Sheep Range 77.83 53 *eP* **P 17 01 01.3 +1.6**
comp=Z,26nm,1.1s
MPU Maple Canyon 77.85 49 *eP* **P 17 01 01.3 +1.4**
comp=Z,56nm,1.7s
KWP Kalwaria Pacla 77.93 324 *eP* **P 17 01 00.7 +0.8**
KWP Kalwaria Pacla 77.93 324 *eP* **P 17 01 00.7 +0.8**
TUQ Turquoise Moun 77.99 55 P **P 17 01 01.7 +1.2**
baz=308,SNR=17
HEC Hector,Ludlow 78.08 55 P **P 17 01 02.2 +1.1**
baz=307,SNR=13
BUR08 Bucovina Ar. S 78.12 322 *eP* **P 17 01 01.4 +0.3**
BURAR Bucovina Array 78.13 322⇓ *iP* **P 17 01 01.4 +0.3**
TESR Tescani 78.16 320⇓ *iP* **P 17 01 01.2 0.0**
MUD Monsted U'grnd 78.20 335 *i P* **P 17 01 00.9 -0.2**
MUD Monsted U'grnd 78.20 335 *i P* **P 17 01 00.9 -0.2**
MURC Murrieta 78.26 57 P **P 17 01 02.7 +0.8**
baz=307
CFR Carcaliu 78.28 318⇓ *iP* **P 17 01 01.5 -0.3**
CCUT Cedar City 78.33 52 *eP* **P 17 01 04.6 +2.1**
comp=Z,28nm,1.2s
PETR Petresti 78.39 319⇓ *iP* **P 17 01 03.3 +0.9**
ODBI Odobesti 78.46 319⇑ *iP* **P 17 01 02.4 -0.4**
MSU Marysvale 78.46 50 *eP* **P 17 01 04.9 +1.6**
MSU Marysvale 78.46 50 *eP* **P 17 01 04.9 +1.6**
SZCU Shurtz Canyon 78.47 51 *eP* **P 17 01 04.7 +1.4**
comp=Z,8.1nm,1.0s
GMRC Granite Mounta 78.55 55 P **P 17 01 04.6 +0.9**
baz=308,SNR=7.0
VRI Vrincioaia 78.56 320⇓ *iP* **P 17 01 04.6 +1.2**
TMUT Trail Mountain 78.56 49 *eP* **P 17 01 04.9 +1.0**
comp=Z,36nm,1.6s
PLOR Plostina 78.61 320⇓ *iP* **P 17 01 04.7 +1.0**
TIRR Tirgusor 78.61 318⇑ *iP* **P 17 01 04.1 +0.4**
HARR Harsova 78.72 318⇑ *iP* **P 17 01 04.7 +0.5**
TLB Topalu 78.73 318⇓ *iP* **P 17 01 04.3 0.0**
BR131 Keskin Array S 78.73 312 *eP* **P 17 01 04.5 -0.1**
BRTR Keskin Array B 78.73 312 P **P 17 01 04.7 +0.1**
comp=Z,5.3nm,1.0s,baz=115,slow=4.4,SNR=13
BRTR LR LR 17 40 33.5
comp=Z,125nm,18.0s,baz=55,slow=39
BRTR Keskin Array B 78.73 312 *eP* **P 17 01 04.9 +0.3**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
LCMT Little Creek M 78.73 52 *eP* **P 17 01 06.1 +1.5**
comp=Z,29nm,1.2s
PFO Pinyon Flats O 78.74 56 LR LR 17 28 34.3
comp=Z,102nm,20.7s,baz=312,slow=30
PFO Pinyon Flats O 78.74 56 P **P 17 01 05.7 +0.9**
baz=308,SNR=7.4
PFO Pinyon Flats O 78.74 56 *eP* **P 17 01 05.7 +0.9**
PFO pmax pmax
comp=Z,22nm,1.3s
PFO Pinyon Flats O 78.74 56 *eP* **P 17 01 05.7 +0.9**
comp=Z,22nm,1.3s
109C Camp Elliot, M 78.75 57 P **P 17 01 06.0 +1.4**
baz=307
TPFO Pinon Flats 78.75 56 P **P 17 01 05.8 +1.0**
baz=308,SNR=8.0
STHS Stebnicka Huta 78.76 325 *eP* **P 17 01 05.6 +1.2**
STHS pmax pmax
comp=Z,15nm,1.0s
STHS Stebnicka Huta 78.76 325 *eP* **P 17 01 05.6 +1.2**
BELC Belle Mtn. Jos 78.81 56 P **P 17 01 05.9 +0.8**
baz=308,SNR=6.5
UZH Uzhgorod 78.83 324 *eP* **P 17 01 04.0 -0.8**
OJC Ojcow 78.83 326 *eP* **P 17 01 05.3 +0.5**
OJC Ojcow 78.83 326 *eP* **P 17 01 05.1 +0.3**
OJC pmax pmax
comp=Z,48nm,1.0s
OJC Ojcow 78.83 326 *eP* **P 17 01 05.1 +0.3**
comp=Z,48nm,1.0s
ARCR ARCALIA 78.92 322⇑ *iP* **P 17 01 06.6 +1.3**
BMR Baia Mare 78.93 323⇓ *iP* **P 17 01 06.9 +1.5**
KNB Kanab 78.99 52 *eP* **P 17 01 07.6 +1.5**
KNB pmax pmax
comp=Z,40nm,1.3s
KNB Kanab 78.99 52 *eP* **P 17 01 07.6 +1.5**
comp=Z,40nm,1.3s
CRVS Cervenica-Dubn 79.03 324 *eP* **P 17 01 06.7 +0.8**
CRVS Cervenica-Dubn 79.03 324 *eP* **P 17 01 06.7 +0.8**
PKCU Pink Cliffs 79.05 51 *eP* **P 17 01 08.4 +1.8**
comp=Z,46nm,1.6s
TRPA Tarpa 79.07 323⇓ *e*PKPdf **P 17 01 06.9 +0.8**
SRU San Rafael Swe 79.09 49 *eP* **P 17 01 07.5 +0.9**
SRU pmax pmax
comp=Z,27nm,1.1s
SRU San Rafael Swe 79.09 49 *eP* **P 17 01 07.5 +0.9**
comp=Z,27nm,1.1s
K22A Casper 79.11 44 P **P 17 01 07.7 +1.0**
baz=311
K22A Casper 79.11 44 *eP* **P 17 01 07.4 +0.7**
comp=Z,25nm,1.3s
ANTO Ankara 79.14 312 *eP* **P 17 01 07.1 +0.3**
ANTO pmax pmax
comp=Z,20nm,0.8s
ANTO Ankara 79.14 312 *eP* **P 17 01 07.1 +0.3**
comp=Z,20nm,0.8s
ULM Lac du Bonnet 79.15 33 P **P 17 01 07.0 +0.5**
comp=Z,11nm,0.8s,baz=324,slow=5.0,SNR=6.6
ULM Lac du Bonnet 79.15 33 *eP* **P 17 01 06.7 +0.2**
ULM pmax pmax
comp=Z,24nm,1.1s
ULM Lac du Bonnet 79.15 33 *eP* **P 17 01 06.7 +0.2**
comp=Z,24nm,1.1s
ISR Istrita 79.16 319⇓ *iP* **P 17 01 07.2 +0.5**
BAR Barrett 79.16 57 *eP* **P 17 01 07.2 +0.2**
comp=Z,26nm,1.3s
DOPR Dopca 79.17 320⇓ *iP* **P 17 01 08.3 +1.5**
NIE Niedzica 79.19 325 *eP* **P 17 01 07.8 +1.0**
NIE Niedzica 79.19 325 *eP* **P 17 01 07.8 +1.0**
MONP2 Monument Peak 79.20 57 P **P 17 01 08.8 +1.4**
baz=308
MLR Muntele Rosu 79.22 320⇑ *iP* **P 17 01 07.8 +0.7**
MLR Muntele Rosu 79.22 320 *eP* **P 17 01 07.3 +0.2**
MLR pmax pmax
comp=Z,38nm,1.5s
MLR Muntele Rosu 79.22 320 *eP* **P 17 01 07.3 +0.2**
comp=Z,38nm,1.5s
IRM Iron Mountain 79.27 55 P **P 17 01 08.6 +1.1**
baz=308,SNR=10
RWWY Rawlins 79.36 45 *eP* **P 17 01 08.2 0.0**
comp=Z,30nm,1.1s
BC3 Big Chuckawall 79.38 56 P **P 17 01 09.1 +0.9**
baz=308,SNR=9.4
SECR 79.46 319⇑ *iP* **P 17 01 09.7 +1.4**
RSSD Black Hills 79.49 42 P **P 17 01 09.1 +0.4**
baz=313
RSSD Black Hills 79.49 42 *eP* **P 17 01 08.5 -0.2**
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD Black Hills 79.49 42 *eP* **P 17 01 08.5 -0.2**
comp=Z,14nm,1.0s
W13A Hualapai Mount 79.51 54 *eP* **P 17 01 10.8 +1.7**
CJR Cluj-Napoca 79.55 322⇑ *iP* **P 17 01 10.1 +1.3**
IKP In-Ko-Pah, Jac 79.56 57 P **P 17 01 10.6 +1.4**
baz=308
SWSC Sam W. Stewart 79.58 57 P **P 17 01 10.6 +1.4**
baz=308
U15A North Rim 79.69 52 *eP* **P 17 01 11.8 +1.7**
comp=Z,59nm,1.5s
VOIR 79.71 320⇑ *iP* **P 17 01 09.9 +0.1**
LANS Liptovska Anna 79.76 326 *eP* **P 17 01 11.3 +1.4**
LANS Liptovska Anna 79.76 326 *eP* **P 17 01 11.3 +1.4**
KECS Kecovo 79.78 325 *eP* **P 17 01 09.5 -0.5**
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 79.78 325 *eP* **P 17 01 09.5 -0.5**
O20A White River Ci 79.78 47 P **P 17 01 11.8 +1.4**
baz=311,SNR=6.4
O20A White River Ci 79.78 47 *eP* **P 17 01 11.3 +0.9**
comp=Z,13nm,0.9s
PDMCI Parker Dam,Lak 79.84 55 P **P 17 01 11.6 +1.1**
baz=309
OKC Ostrava-Krasne 79.84 327⇓ *eP* **P 17 01 10.8 +0.5**
OKC AMS AMS 17 39 30.0
comp=Z,500nm,15.1s
OKC Ostrava-Krasne 79.84 327 *eP* **P 17 01 10.8 +0.5**
OKC MLR MLR
comp=Z,500nm,15.1s
A32A Rocking H Ranc 79.84 35 P **P 17 01 10.9 +0.6**
baz=317

KSP Ksiaz 79.89 328 *eP* **P 17 01 11.1 +0.6**
KSP Ksiaz 79.89 328 *eP* **P 17 01 11.1 +0.6**
Y12C Blythe 79.93 55 P **P 17 01 12.4 +1.4**
baz=308
Y12C Blythe 79.93 55 *eP* **P 17 01 12.3 +1.2**
comp=Z,24nm,1.3s
DRGR 79.93 322⇓ *iP* **P 17 01 11.2 +0.3**
ARR Arges 79.97 320⇓ *iP* **P 17 01 12.5 +1.3**
C31A Landman Farms, 80.08 36 P **P 17 01 12.5 +0.9**
baz=316
MORC Moravsky Berou 80.15 327⇑ *iP* **P 17 01 12.9 +0.9**
MORC Moravsky Berou 80.15 327 *eP* **P 17 01 12.4 +0.4**
MORC pmax pmax
comp=Z,123nm,1.1s
MORC Moravsky Berou 80.15 327 *eP* **P 17 01 12.3 +0.4**
comp=Z,123nm,1.1s
GLA Glamis 80.16 56 P **P 17 01 13.5 +1.1**
baz=308
GLA Glamis 80.16 56 *eP* **P 17 01 13.1 +0.7**
GLA pmax pmax
comp=Z,49nm,1.6s
GLA Glamis 80.16 56 *eP* **P 17 01 13.1 +0.7**
comp=Z,49nm,1.6s
B32A Ashes, Strandq 80.20 35 P **P 17 01 12.6 +0.4**
baz=317,SNR=8.5
DPC Dobruska-Polom 80.24 328⇓ *iP* **P 17 01 13.3 +0.8**
DPC *e*PCP **PcP 17 01 17.3 -2.4**
DPC AMS AMS 17 41 30.0
comp=Z,600nm,13.4s
DPC Dobruska-Polom 80.24 328⇓ *iP* **P 17 01 13.3 +0.8**
DPC *e* 17 01 17.3
DPC MLR MLR
comp=Z,600nm,13.4s
RAR Rarotonga 80.25 126 LR LR 17 30 56.5
comp=Z,256nm,19.9s,baz=293,slow=31
KRLC Kraliky 80.25 328⇓ *eP* **P 17 01 13.3 +0.7**
KRLC *e*PCP **PcP 17 01 17.0 -2.7**
KRLC Kraliky 80.25 328 *eP* **P 17 01 13.3 +0.7**
KRLC *e* 17 01 17.0
UPC Upice 80.26 328⇓ *eP* **P 17 01 13.1 +0.6**
UPC *e*PCP **PcP 17 01 17.0 -2.7**
UPC AMS AMS 17 39 40.0
comp=Z,500nm,18.2s
UPC Upice 80.26 328 *eP* **P 17 01 13.1 +0.6**
UPC *e* 17 01 17.0
UPC MLR MLR
comp=Z,500nm,18.2s
PV09 Paradox Valley 80.31 49 *eP* **P 17 01 14.9 +1.5**
A33A Warroad 80.32 34 P **P 17 01 13.4 +0.5**
baz=318,SNR=9.6
LOT Lotru 80.35 321⇑ *iP* **P 17 01 13.7 +0.4**
PV10 Paradox Valley 80.45 49 *eP* **P 17 01 15.7 +1.6**
PSZ Piszkesteto 80.46 325⇑ *iP* **P 17 01 14.9 +1.1**
PSZ Piszkesteto 80.46 325 *eP* **P 17 01 14.1 +0.3**
PSZ pmax pmax
comp=Z,31nm,1.1s
PSZ Piszkesteto 80.46 325⇑ *e*PKPdf **P 17 01 14.4 +0.6**
PSZ Piszkesteto 80.46 325⇑ *e*PKPdf **P 17 01 14.4 +0.6**
PSZ Piszkesteto 80.46 325⇑ *e*PKPdf **P 17 01 14.4 +0.6**
PSZ Piszkesteto 80.46 325 *eP* **P 17 01 14.1 +0.3**
comp=Z,31nm,1.1s
PV04 Paradox Valley 80.52 49 *eP* **P 17 01 15.4 +1.0**
VYHS Vyhne 80.52 325 *eP* **P 17 01 14.5 +0.5**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 80.52 325 *eP* **P 17 01 14.5 +0.5**
AGMN Agassiz Nation 80.58 35 P **P 17 01 14.4 +0.1**
baz=317,SNR=7.3
AGMN Agassiz Nation 80.58 35 *eP* **P 17 01 14.4 +0.1**
comp=Z,20nm,0.9s
N23A Red Feather La 80.60 45 P **P 17 01 15.8 +0.9**
baz=312,SNR=14
N23A Red Feather La 80.60 45 *eP* **P 17 01 16.4 +1.5**
comp=Z,41nm,1.3s
PHWY Pilot Hill 80.60 45 *eP* **P 17 01 15.9 +0.9**
comp=Z,32nm,1.5s
PV05 Paradox Valley 80.61 49 *eP* **P 17 01 16.4 +1.5**
D31A Mcclaflin, Tow 80.62 37 P **P 17 01 15.1 +0.5**
baz=316
B33A Robert and Kas 80.72 35 P **P 17 01 15.2 +0.1**
baz=318
Y14A Wickenburg 80.80 54 *eP* **P 17 01 16.8 +0.9**
comp=Z,51nm,0.9s
BRG Berggiesshubel 80.83 329 *i P* **P 17 01 15.9 +0.2**
comp=Z,20nm,1.2s
BRG *i* 17 01 20.2
comp=Z,24nm,1.1s
BRG *e* 17 01 26.3
comp=Z,8.2nm,98.0s
comp=Z,809nm,16.9s
comp=N,503nm,17.8s
comp=E,492nm,17.8s
BRG Berggiesshubel 80.83 329 *i P* **P 17 01 15.8 +0.2**
BRG *e* 17 01 26.2
BRG pmax pmax
comp=Z,20nm,1.2s
BRG pmax pmax
comp=Z,24nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG MLR MLR
comp=Z,809nm,16.9s
BRG MLR MLR
comp=N,503nm,17.8s
BRG MLR MLR
comp=E,492nm,17.8s
PVCC Panska Ves 80.84 329⇓ *eP* **P 17 01 16.6 +1.0**
PVCC *ex* x 17 01 20.1
PVCC AMS AMS 17 39 30.0
comp=E,600nm,15.8s
WUAZ Wupatki 80.85 52 P **P 17 01 17.8 +1.6**
baz=310,SNR=14
WUAZ Wupatki 80.85 52 *eP* **P 17 01 17.8 +1.6**
comp=E,23nm,1.1s
CLL Collm 80.87 330⇓ *iP* **P 17 01 15.7 -0.1**
CLL *e*S **S 17 11 19.0 -3.7**
CLL pmax pmax
comp=Z,31nm,1.1s
CLL Collm 80.87 330⇓ *iP* **P 17 01 15.7 -0.1**
comp=Z,31nm,1.1s
CLL *i* 17 01 19.4
comp=Z,41nm,1.0s
CLL *e*PP **PP 17 04 21.0 +1.5**
CLL *i* pPP 17 04 38.9
CLL *e*S **S 17 11 19.0 -3.7**
CLL *e*SS SS 17 16 54.0 +19
CLL *e*(SSS) 17 20 42.0
CLL Collm 80.87 330 *eP* **P 17 01 15.7 -0.1**
comp=Z,37nm,1.0s
GZR Gura Zlata 80.89 321⇑ *iP* **P 17 01 16.5 +0.4**
PV01 Paradox Valley 80.89 49 *eP* **P 17 01 17.9 +1.5**
E31A Nome 80.90 37 P **P 17 01 17.1 +1.0**
baz=316,SNR=9.4
B34A Aery, Baudette 80.99 34 P **P 17 01 16.4 -0.1**
baz=318
C33A Trail 81.02 35 P **P 17 01 16.9 +0.2**
baz=317
SMCO Snowmass 81.15 47 *eP* **P 17 01 19.5 +1.4**
comp=Z,42nm,1.6s
GOPC GO Pecny, Ondr 81.22 328⇓ *iP* **P 17 01 18.2 +0.5**
GOPC *ex* x 17 01 22.1
GOPC AMS AMS 17 40 10.0
comp=Z,500nm,15.4s
GOPC GO Pecny, Ondr 81.22 328⇓ *iP* **P 17 01 18.2 +0.5**
GOPC MLR MLR
comp=Z,500nm,15.4s
PRA Prague 81.25 329⇓ *eP* **P 17 01 18.9 +1.1**
PRA AMS AMS 17 40 10.0
comp=Z,800nm,19.7s
PRA Prague 81.25 329 *eP* **P 17 01 18.9 +1.1**
PRA MLR MLR
comp=Z,800nm,19.7s
PRU Pruhonice 81.27 329⇓ *iP* **P 17 01 18.5 +0.6**
PRU *ex* x 17 01 22.4
PRU AMS AMS 17 40 10.0
comp=Z,600nm,17.5s
PRU Pruhonice 81.27 329⇓ *iP* **P 17 01 18.5 +0.6**
PRU MLR MLR
comp=Z,600nm,17.5s
BZS Buzias 81.30 322⇑ *iP* **P 17 01 18.0 -0.2**
TREC Trest 81.40 328⇓ *eP* **P 17 01 19.1 +0.4**
TREC *e*PCP **PcP 17 01 23.1 -1.6**
TREC AMS AMS 17 42 10.0
comp=Z,500nm,16.3s
TREC Trest 81.40 328 *eP* **P 17 01 19.1 +0.4**

TREC MLR MLR
comp=Z,500nm,16.3s
ASF Jabal al Asfar 81.43 304 P **P 17 01 19.9 +0.7**
comp=Z,7.0nm,0.8s,baz=333,slow=5.6,SNR=8.2
D33A AnnSam, Waubun 81.44 36 P **P 17 01 18.8 -0.1**
baz=317
C34A RKJ Ranch, Bem 81.49 35 P **P 17 01 19.0 -0.2**
baz=318
B35A Bob, Littlefor 81.49 34 P **P 17 01 19.3 +0.1**
baz=319,SNR=9.5
X16A Lo Mia Camp, P 81.50 53 *eP* **P 17 01 21.4 +1.7**
comp=Z,18nm,1.1s
ISCO Idaho Springs 81.52 46 P **P 17 01 21.1 +1.2**
baz=312,SNR=11
ISCO Idaho Springs 81.52 46 *eP* **P 17 01 21.3 +1.4**
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO Idaho Springs 81.52 46 *eP* **P 17 01 21.3 +1.4**
comp=Z,8.6nm,0.9s
MVCO Mesa Verde 81.53 49 P **P 17 01 20.8 +0.9**
baz=311,SNR=8.9
MVCO Mesa Verde 81.53 49 *eP* **P 17 01 21.2 +1.3**
comp=Z,45nm,1.5s
D34A Park Rapids 81.78 35 P **P 17 01 21.1 +0.4**
baz=318,SNR=8.5
E33A Westby DABS, E 81.83 36 P **P 17 01 20.8 -0.2**
baz=317
MDVR Moldovita 81.85 321⇑ *iP* **P 17 01 21.2 0.0**
C35A Jirik Farms, M 81.87 34 P **P 17 01 21.3 +0.1**
baz=319,SNR=12
SUSD Miller 81.89 39 P **P 17 01 21.2 -0.1**
baz=316
NKC Novy Kostel 81.93 330⇓ *eP* **P 17 01 21.9 +0.4**
NKC *ex* x 17 01 25.7
NKC AMS AMS 17 40 50.0
comp=Z,600nm,14.4s
NKC Novy Kostel 81.93 330 *eP* **P 17 01 21.9 +0.4**
NKC MLR MLR
comp=Z,600nm,14.4s
CSS Mathiatis 81.96 308 *eP* **P 17 01 21.7 -0.2**
comp=Z,4.6nm,1.1s
G32A Webster 82.03 38 P **P 17 01 22.1 0.0**
baz=317
URZ Urewera 82.08 152 LR LR 17 33 38.0
comp=Z,134nm,20.5s,baz=336,slow=33
W18A Petrified Fore 82.13 52 P **P 17 01 22.6 -0.5**
baz=311
W18A Petrified Fore 82.13 52 *eP* **P 17 01 23.4 +0.4**
comp=Z,12nm,1.2s
214A Organ Pipe Nat 82.17 56 P **P 17 01 22.5 -0.6**
baz=310
214A Organ Pipe Nat 82.17 56 P **P 17 01 23.2 +0.1**
comp=Z,129nm,1.7s
S22A 4UR Ranch, Cre 82.18 48 P **P 17 01 24.0 +0.7**
baz=312,SNR=15
S22A 4UR Ranch, Cre 82.18 48 *eP* **P 17 01 25.3 +1.9**
comp=Z,17nm,1.1s
F33A 5 Mile Ranch, 82.18 37 P **P 17 01 23.3 +0.5**
baz=317
E34A Wadena 82.21 36 P **P 17 01 22.8 -0.2**
baz=318
CONA Conrad Observa 82.27 327 *i P* **P 17 01 24.3 +0.9**
comp=Z,9.2nm,0.8s,SNR=22
D35A Remer 82.30 35 P **P 17 01 23.4 -0.1**
baz=319
KHC Kasperske Hory 82.33 329⇓ *iP* **P 17 01 23.9 +0.3**
KHC *ex* x 17 01 27.7
KHC AMS AMS 17 40 40.0
comp=Z,600nm,17.5s
KHC Kasperske Hory 82.33 329⇓ *iP* **P 17 01 23.9 +0.3**
KHC MLR MLR
comp=Z,600nm,17.5s
KHC Kasperske Hory 82.33 329 *eP* **P 17 01 23.8 +0.3**
comp=Z,11nm,1.0s
C36A Pine Crest Far 82.34 34 P **P 17 01 23.6 0.0**
baz=319,SNR=11
Q24A Divide 82.35 46 P **P 17 01 24.2 -0.1**
baz=313
X18A Snowflake 82.38 52 *eP* **P 17 01 25.2 +0.9**
comp=Z,32nm,1.7s
GEC2 GERESS Array S 82.50 328 *eP* **P 17 01 24.4 -0.2**
GEC2 pmax pmax
comp=Z,15nm,1.0s
GEC2 GERESS Array S 82.50 328 *eP* **P 17 01 24.4 -0.2**
comp=Z,15nm,1.0s
GERES GERESS Array B 82.50 328 P **P 17 01 24.7 +0.2**
comp=Z,8.9nm,0.9s,baz=35,slow=4.9,SNR=32
GERES LR LR 17 40 19.8
comp=Z,387nm,19.1s,baz=35,slow=37
GEA0 GERESS Array S 82.50 328 *eP* **P 17 01 24.1 -0.4**
E35A Pequot Lakes 82.53 35 P **P 17 01 24.8 +0.1**
baz=318
G33A Ortonville 82.58 37 P **P 17 01 25.4 +0.4**
baz=317
D36A Goodland 82.63 34 P **P 17 01 25.1 -0.1**
baz=319
C37A Embarrass 82.65 33 P **P 17 01 25.5 +0.2**
baz=320,SNR=12
VTS Vitosha 82.65 319⇑ *iP* **P 17 01 26.0 +0.5**
VTS Vitosha 82.65 319 *eP* **P 17 01 25.5 0.0**
VTS pmax pmax
comp=Z,19nm,1.0s
VTS Vitosha 82.65 319 *eP* **P 17 01 25.5 0.0**
comp=Z,19nm,1.0s
F34A Alexandria 82.70 36 P **P 17 01 25.6 0.0**
baz=318
OGNE Ogallala 82.74 43 P **P 17 01 26.3 +0.3**
baz=314
EYMN Ely 82.78 33 P **P 17 01 26.1 +0.2**
baz=320,SNR=8.7
EYMN Ely 82.78 33 *eP* **P 17 01 26.1 +0.2**
comp=Z,28nm,1.0s
H33A Prehn Over Nor 82.81 38 P **P 17 01 26.4 +0.3**
baz=317
J31A Geddes 82.82 40 P **P 17 01 26.3 +0.1**
baz=316
EKA Eskdalemuir Ar 82.86 341 P **P 17 01 26.7 +0.5**
comp=Z,5.8nm,0.8s,baz=34,slow=6.1,SNR=7.1
G34A Benson 82.93 37 P **P 17 01 26.9 +0.2**
baz=318
I32A Karley and Nic 82.93 39 P **P 17 01 26.9 0.0**
baz=317
ARSA Arzberg 82.94 326 *i P* **P 17 01 27.5 +0.7**
comp=Z,2.7nm,0.8s,SNR=6.9
SDCO Great Sand Dun 82.96 47 P **P 17 01 27.7 +0.2**
baz=312,SNR=14
SDCO Great Sand Dun 82.96 47 *eP* **P 17 01 28.4 +1.0**
comp=Z,9.8nm,1.1s
D37A Cotton 82.97 34 P **P 17 01 25.9 -1.0**
baz=320
F35A Swanville 82.98 36 P **P 17 01 27.0 0.0**
baz=318
MOA Molln 83.03 327 *i P* **P 17 01 27.8 +0.6**
SNR=12
C38A Sawbill Land. 83.05 33 P **P 17 01 27.6 +0.3**
baz=320,SNR=11
E36A McGregor 83.09 35 P **P 17 01 27.8 +0.3**
baz=319
J32A Parkston 83.22 39 P **P 17 01 28.9 +0.7**
baz=316
I33A Coleman 83.25 38 P **P 17 01 29.2 +0.7**
baz=317
TUC Tucson 83.27 54 P **P 17 01 30.0 +1.1**
baz=310
TUC Tucson 83.27 54 *eP* **P 17 01 29.9 +1.1**
TUC pmax pmax
comp=Z,30nm,1.8s
TUC Tucson 83.27 54 *eP* **P 17 01 29.9 +1.1**
comp=Z,30nm,1.8s
H34A Spellman Lake, 83.29 37 P **P 17 01 29.1 +0.5**
baz=318
K31A O'Neill 83.29 40 P **P 17 01 29.6 +0.9**
baz=316
F36A Milaca 83.46 35 P **P 17 01 29.4 -0.1**
baz=319
C39A Grand Marais 83.46 32 P **P 17 01 29.6 +0.1**
baz=321
G35A Watkins 83.50 36 P **P 17 01 30.5 +0.8**
baz=318
ECSD EROS Data Cent 83.57 38 P **P 17 01 30.4 +0.3**
baz=317,SNR=13
ECSD EROS Data Cent 83.57 38 *eP* **P 17 01 30.2 +0.2**
comp=Z,18nm,1.0s
PERS Pernice 83.58 326 *eP* **P 17 01 30.2 +0.1**
SOKA Soboth 83.59 326 *i P* **P 17 01 30.5 +0.2**
comp=Z,34nm,1.2s,SNR=18
J33A Davis 83.70 39 P **P 17 01 31.1 +0.3**
baz=317

H35A	Sunnyside Ranc	83.72	37	P		P	17 01 31.5 +0.7
	baz=318,SNR=8.2						
E38A	The Farm, Brul	83.78	34	P		P	17 01 31.2 0.0
	baz=320,SNR=10						
G36A	St. Michael	83.83	36	P		P	17 01 31.2 -0.2
	baz=319						
VAY	Valandovo	83.89	319	*i* P		P	17 01 32.4 +0.7
OBKA	Obir	83.93	326	*i* P		P	17 01 28.5 -3.5
	comp=Z,8.4nm,1.1s						
F37A	Hinrichs Farm,	83.97	35	P		P	17 01 32.2 +0.1
	baz=320						
SKO	Skopje	84.01	320	*i* P		P	17 01 33.5 +1.2
T25A	Trinidad	84.01	47	P		P	17 01 33.8 +1.1
	baz=313,SNR=16						
T25A	Trinidad	84.01	47	*e*P		P	17 01 33.7 +0.9
	comp=Z,30nm,1.0s						
KBA	Koelnbreinsper	84.02	327	*i* PcP		P	17 01 33.2 +0.7
	comp=Z,12nm,0.8s						
MEM	Membach	84.07	333	P		P	17 01 32.8 +0.3
F38A	Pierce - Schro	84.14	34	P		P	17 01 33.5 +0.6
	baz=320,SNR=26						
PMOR	Pomariorio Ree	84.19	114	*e*T		T	18 34 13.5
	comp=Z,19nm,0.2s						
K33A	Hardington	84.20	39	P		P	17 01 33.9 +0.6
	baz=317						
LAZ	Ladron	84.21	51	*e*P		P	17 01 35.4 +1.6
J34A	George	84.22	38	P		P	17 01 34.0 +0.6
	baz=318						
MYKA	Terra Mystica	84.24	327	*i* P		P	17 01 33.2 -0.3
	comp=Z,11nm,0.9s						
H36A	Jessenland, He	84.24	36	P		P	17 01 34.4 +0.9
	baz=319						
ANMO	Albuquerque	84.27	50	P		P	17 01 34.1 +0.1
	baz=312						
ANMO	Albuquerque	84.27	50	*ce*P		P	17 01 34.6 +0.5
ANMO				pmax		pmax	
	comp=Z,28nm,1.7s						
ANMO	Albuquerque	84.27	50	*e*P		P	17 01 35.4 +1.3
	comp=Z,21nm,1.2s						
I35A	Creekview Farm	84.27	37	P		P	17 01 34.7 +1.0
	baz=318						
SPMN	Marine on St.	84.27	35	P		P	17 01 33.3 -0.3
	baz=320						
SPMN	Marine on St.	84.27	35	*e*P		P	17 01 34.2 +0.5
	comp=Z,20nm,1.0s						
VISS	Visnje	84.35	326	*i* P		P	17 01 34.0 0.0
STU	Stuttgart	84.38	331	*e*P		P	17 01 34.3 +0.2
STU				pmax		pmax	
	comp=Z,52nm,1.3s						
STU	Stuttgart	84.38	331	*e*P		P	17 01 34.3 +0.2
	comp=Z,52nm,1.3s						
BOJS	Bojanci	84.39	325	*i* P		P	17 01 34.3 +0.1
E39A	Mellen	84.40	33	P		P	17 01 34.5 +0.2
	baz=321						
BCLA	Clavier	84.48	334	P		P	17 01 34.1 -0.4
	comp=Z,14nm,1.5s						
BGNE	Belgrade	84.48	41	P		P	17 01 35.0 +0.2
	baz=316						
BGNE	Belgrade	84.48	41	*e*P		P	17 01 35.1 +0.3
	comp=Z,90nm,1.1s						
J35A	Milford	84.53	38	P		P	17 01 35.3 +0.3
	baz=318						
KRUS	Krusevo	84.54	319	*i* P		P	17 01 35.5 +0.3
WATA	Walderalm	84.56	328	*i* P		P	17 01 35.2 -0.1
	comp=Z,8.6nm,0.9s						
K34A	Le Mars	84.59	39	P		P	17 01 35.7 +0.4
	baz=318						
F39A	Loretta	84.60	34	P		P	17 01 35.7 +0.4
	baz=321,SNR=7.9						
WTTA	Wattenberg	84.60	328	*i* PcP		P	17 01 36.0 +0.5
	comp=Z,9.9nm,1.1s						
JAVS	Javornik	84.62	326	*i* P		P	17 01 34.6 -0.9
CWF	Charnwood Fore	84.63	338	*e*P		P	17 01 35.3 0.0
	comp=Z,51nm,1.5s						
E40A	Wakefield	84.63	33	P		P	17 01 36.0 +0.6
	baz=321,SNR=14						
ABTA	Abfaltersbach	84.63	328	*i* P		P	17 01 34.9 -0.7
	comp=Z,10nm,1.3s						
PPT	Papeete	84.66	117	LR		LR	17 36 23.0
	comp=Z,170nm,19.1s,baz=326,slow=34						
PPT2	Papeete2	84.68	117	*e*LR		LR	17 27 23.8
	comp=Z,575nm,29.8s						
BNM	Barren Site	84.69	51	*e*P		P	17 01 37.2 +0.9
H37A	Dierke Farm, C	84.71	36	P		P	17 01 36.2 +0.4
	baz=320						
D41A	Chassel	84.72	32	P		P	17 01 36.0 +0.2
	baz=322						
G38A	Ridgeland	84.75	35	P		P	17 01 36.1 0.0
	baz=320						
MOTA	Moosalm	84.75	329	*i* PcP		P	17 01 36.4 +0.1
	comp=Z,37nm,1.4s						
BIA	Bitola	84.76	319	*i* P		P	17 01 40.6 +4.4
SNF	Seneffe	84.76	334	P		P	17 01 36.3 +0.3
RETA	Reutte	84.78	329	*i* PcP		P	17 01 36.8 +0.5
	comp=Z,37nm,1.3s,SNR=14						
PDG	Podgorica	84.78	321⇑	*i* P		P	17 01 36.6 +0.3
WLF	Walferdange	84.80	333	P		P	17 01 37.8 +1.6
	comp=Z,19nm,1.7s						
WLF	Walferdange	84.80	333	*e*P		P	17 01 37.6 +1.4
WLF	Walferdange	84.80	333	*e*P		P	17 01 37.6 +1.4
319A	Douglas	84.85	54	*e*P		P	17 01 38.0 +1.0
	comp=Z,24nm,1.0s						
M33A	Taylor Creek F	84.85	40	P		P	17 01 37.1 +0.4
	baz=317						
I37A	Lemond, Waseca	84.91	36	P		P	17 01 37.6 +0.7
	baz=319,SNR=14						
H38A	Maiden Rock	84.93	35	P		P	17 01 37.3 +0.3
	baz=320						
F40A	Park Falls	84.94	33	P		P	17 01 37.3 +0.2
	baz=321,SNR=5.8						
OHR	Ohrid	84.96	319	*i* P		P	17 01 36.9 -0.4
G39A	Holcombe	84.97	34	P		P	17 01 37.2 0.0
	baz=321						
J36A	Seneca 1, Swea	84.98	37	P		P	17 01 37.2 0.0
	baz=319						
L34A	Svendsen Farm,	84.98	39	P		P	17 01 37.9 +0.6
	baz=318						
K35A	Storm Lake	85.00	38	P		P	17 01 37.9 +0.5
	baz=318						
DOU	Dourbes	85.00	334	P		P	17 01 36.8 -0.4
	comp=Z,14nm,1.9s						
E41A	Kenton	85.02	32	P		P	17 01 38.1 +0.8
	baz=322,SNR=6.4						
121A	Cookes Peak, D	85.05	53	P		P	17 01 38.9 +0.9
	baz=312,SNR=8.9						
121A	Cookes Peak, D	85.05	53	*e*P		P	17 01 38.0 0.0
	comp=Z,25nm,1.1s						
BFO	Black Forest	85.08	331	*e*P		P	17 01 37.5 -0.2
BFO				pmax		pmax	
	comp=Z,39nm,1.0s						
BFO	Black Forest	85.08	331	*e*P		P	17 01 37.5 -0.2
	comp=Z,39nm,1.0s						
FETA	Feichten	85.17	329	*i* PcP		P	17 01 38.3 0.0
	comp=Z,18nm,1.3s						
COWI	Conover	85.23	33	*e*P		P	17 01 38.9 +0.4
	comp=Z,16nm,0.9s						
HSIG		85.28	57	*e*P		P	17 01 39.7 +0.7
	comp=Z,8.3nm,0.9s						
DAVA	Damuels	85.30	329	*i* PcP		P	17 01 39.1 +0.2
	comp=Z,37nm,1.1s,SNR=18						
KARP	Karpathos	85.34	312	*e*P		P	17 01 38.8 -0.4
	comp=Z,36nm,1.2s						
J37A	Redenius Farm,	85.37	37	P		P	17 01 39.9 +0.6
	baz=319						
WLS	Welschbruch	85.38	331	PKP		P	17 01 38.9 -0.3
H39A	Augusta	85.39	35	P		P	17 01 39.7 +0.4
	baz=321						
I38A	Scanlan Farm,	85.39	36	P		P	17 01 39.9 +0.6
	baz=320,SNR=7.3						
G40A	Rib Lake	85.42	34	P		P	17 01 39.7 +0.3
	baz=321,SNR=12						
K36A	Gilmore City	85.44	38	P		P	17 01 39.5 0.0
	baz=319						
E42A	Champion	85.49	32	P		P	17 01 39.8 +0.1
	baz=323						
CBKS	Cedar Bluff	85.49	43	P		P	17 01 40.2 +0.3
	baz=316						
F41A	Three Lakes	85.53	33	P		P	17 01 40.1 +0.1
	baz=322,SNR=16						
ECH	Echery	85.62	331	PKP		P	17 01 40.1 -0.3
AGG	Agios Georgios	85.66	317	*e*P		P	17 01 39.9 -0.9
AGG				pmax		pmax	
	comp=Z,101nm,1.6s						
AGG	Agios Georgios	85.66	317	*e*P		P	17 01 39.9 -0.9
	comp=Z,101nm,1.6s						
FUORN	Ofenpass-Fuorn	85.68	329	*e*P		P	17 01 40.5 -0.5
	comp=Z,26nm,1.0s						
M35A	Neola	85.69	39	P		P	17 01 41.5 +0.6
	baz=318						
L36A	Harm Buss Farm	85.74	38	P		P	17 01 41.8 +0.7
	baz=319						
K37A	Belmond	85.74	37	P		P	17 01 41.6 +0.5
	baz=319,SNR=13						
N34A	Lincoln	85.75	40	P		P	17 01 41.2 0.0
	baz=318						
H40A	Chili	85.83	34	P		P	17 01 41.8 +0.3
	baz=321,SNR=7.3						
J38A	Wedel Dairy, R	85.88	36	P		P	17 01 42.4 +0.6
	baz=320,SNR=10.0						
I39A	Houston	85.91	35	P		P	17 01 42.3 +0.4
	baz=320,SNR=7.2						
E43A	Lone Tree Farm	85.92	31	P		P	17 01 41.8 0.0
	baz=323						
MOF	Molkenrain	85.93	331	PKP		P	17 01 41.5 -0.5
F42A	Maple Grove Fa	85.93	32	P		P	17 01 42.5 +0.6
	baz=323						
THEF	They Montfort	86.05	332	PKP		P	17 01 42.1 -0.4
TAOE	Nuku Hiva Isla	86.12	104	*e*LR		LR	17 28 33.8
	comp=Z,416nm,25.7s						
O34A	Beatrice	86.13	41	P		P	17 01 42.9 -0.2
	baz=317						
M36A	Felix, Anita	86.15	39	P		P	17 01 43.5 +0.4
	baz=318						
E44A	Grand Marais A	86.16	31	P		P	17 01 43.2 +0.1
	baz=324						
H41A	Junction City	86.17	34	P		P	17 01 43.6 +0.4
	baz=322,SNR=6.0						
L37A	Phoenix Point,	86.17	38	P		P	17 01 43.7 +0.5
	baz=319						
N35A	Tabor	86.17	40	P		P	17 01 44.1 +0.9
	baz=318						
TUE	Stuetta	86.17	329	*e*P		P	17 01 42.8 -0.6
	comp=Z,19nm,1.2s						
G42A	Mountain	86.21	33	P		P	17 01 43.9 +0.5
	baz=322						
J39A	Decorah	86.22	36	P		P	17 01 43.3 -0.1
	baz=320,SNR=11						
K38A	Parkersburg	86.25	37	P		P	17 01 43.7 +0.1
	baz=320						
F43A	Flat Rock, Esc	86.28	32	P		P	17 01 44.4 +0.8
	baz=323,SNR=6.3						
I40A	Norwalk	86.30	35	P		P	17 01 44.3 +0.5
	baz=321						
LOMF	Lomont	86.46	331	PKP		P	17 01 43.1 -1.5
O35A	Humboldt	86.47	40	P		P	17 01 45.4 +0.7
	baz=318						
F44A	Big Bay de Noc	86.48	31	P		P	17 01 45.1 +0.5
	baz=324,SNR=10						
I41A	Arkdale	86.51	34	P		P	17 01 45.4 +0.6
	baz=322						
G43A	Wallace	86.52	32	P		P	17 01 45.4 +0.5
	baz=323,SNR=6.3						
P34A	Walnut Farm, R	86.52	41	P		P	17 01 45.1 +0.1
	baz=317,SNR=6.8						
L38A	Oak Wood Farm,	86.54	37	P		P	17 01 45.3 +0.3
	baz=320						
N36A	Muff Farm, Cla	86.55	39	P		P	17 01 45.8 +0.7
	baz=318						
M37A	Trindle Farm,	86.56	38	P		P	17 01 45.7 +0.5
	baz=319						
K39A	Oelwein	86.62	36	P		P	17 01 45.4 0.0
	baz=320,SNR=9.3						
J40A	Soldiers Grove	86.63	35	P		P	17 01 45.6 +0.1
	baz=321						
E45A	Wooded Hills,	86.68	30	P		P	17 01 46.0 +0.4
	baz=325						
H42A	Shiocton	86.75	33	P		P	17 01 46.7 +0.7
	baz=322						
IDI	Anoyia	86.86	313	*e*P		P	17 01 47.9 +1.2
Q34A	Chapman	86.92	42	P		P	17 01 47.7 +0.7
	baz=317						
P35A	Duane Minner,	86.96	41	P		P	17 01 47.5 +0.4
	baz=318						
KSU1	Kansas State U	86.97	41	P		P	17 01 47.4 +0.2
	baz=318						
KSU1	Kansas State U	86.97	41	*e*P		P	17 01 47.4 +0.2
	comp=Z,29nm,1.0s						
N37A	Lee Faris, Mou	86.97	39	P		P	17 01 48.1 +0.9
	baz=319,SNR=7.9						
M38A	Pleasantville	86.97	38	P		P	17 01 47.9 +0.8
	baz=320,SNR=8.9						
K40A	Colesburg	86.98	36	P		P	17 01 47.7 +0.5
	baz=321,SNR=12						
J41A	Loganville	86.98	35	P		P	17 01 47.6 +0.4
	baz=322,SNR=8.9						
L39A	Vinton	87.02	37	P		P	17 01 48.0 +0.7
	baz=320,SNR=16						
O36A	Bolckow	87.06	40	P		P	17 01 48.3 +0.7
	baz=318						
I42A	Draeger Farm,	87.07	34	P		P	17 01 48.4 +0.8
	baz=322,SNR=9.2						
F45A	CMU Biological	87.08	31	P		P	17 01 48.1 +0.5
	baz=324						
SENIN	Lac Senin/Sane	87.09	330	*e*P		P	17 01 47.4 -0.5
	comp=Z,7.2nm,1.0s						
MNTX	Cornudas Mount	87.11	52	P		P	17 01 48.8 +0.7
	baz=313						
MNTX	Cornudas Mount	87.11	52	*e*P		P	17 01 48.7 +0.7
	comp=Z,11nm,1.4s						
MSTX	Muleshoe	87.16	49	P		P	17 01 48.8 +0.4
	baz=314						
MSTX	Muleshoe	87.16	49	*e*P		P	17 01 48.3 0.0
	comp=Z,16nm,1.4s						
AMTX	Amarillo	87.17	47	P		P	17 01 49.3 +1.0
	baz=315						
AMTX	Amarillo	87.17	47	*e*P		P	17 01 49.4 +1.0
	comp=Z,23nm,0.8s						
R34A	Isabella, Hill	87.21	42	P		P	17 01 49.3 +0.9
	baz=317						
JFWS	Jewell Farm	87.23	35	*e*P		P	17 01 48.3 -0.1
JFWS				pmax		pmax	
	comp=Z,23nm,0.9s						
JFWS	Jewell Farm	87.23	35	*e*P		P	17 01 48.3 -0.1
	comp=Z,23nm,0.9s						
P36A	Good Intent, A	87.31	40	P		P	17 01 49.2 +0.4
	baz=318						
M39A	Webster	87.43	37	P		P	17 01 49.9 +0.6
	baz=320,SNR=7.9						
N38A	Joes South For	87.43	38	P		P	17 01 50.3 +0.9
	baz=320						
L40A	Anamosa	87.43	36	P		P	17 01 49.9 +0.6
	baz=321,SNR=8.2						
K41A	Shullsburg	87.44	36	P		P	17 01 49.9 +0.5
	baz=321,SNR=6.9						
Q35A	Mercer Eighty,	87.45	41	P		P	17 01 50.1 +0.6
	baz=318,SNR=8.3						
O37A	Wolven Farm, M	87.45	39	P		P	17 01 49.8 +0.4
	baz=319						
Q36A	Arnold C. Orve	87.67	41	P		P	17 01 50.6 0.0
	baz=318						
S34A	Willow Spring	87.72	43	P		P	17 01 51.5 +0.6
	baz=317						
N39A	Derby Farms, D	87.73	38	P		P	17 01 51.5 +0.8
	baz=320,SNR=9.7						
R35A	Emporia Munici	87.75	42	P		P	17 01 51.6 +0.6
	baz=318						
L41A	Preston	87.76	36	P		P	17 01 51.3 +0.3
	baz=321,SNR=6.1						
P37A	Lathrop	87.78	40	P		P	17 01 51.5 +0.5
	baz=319						
M40A	Post Highland	87.80	37	P		P	17 01 51.6 +0.4
	baz=321						
O38A	Galt	87.82	39	P		P	17 01 51.9 +0.7
	baz=319						
VLDQ	Val d'Or	88.06	25	*e*P		P	17 01 51.5 -0.7
	comp=Z,29nm,0.9s						
R36A	Gordon, Harris	88.12	41	P		P	17 01 53.4 +0.6
	baz=318,SNR=8.8						
GLMI	Grayling	88.15	31	*e*P		P	17 01 53.7 +1.0
	comp=Z,63nm,0.8s						
S35A	Otter Creek Ra	88.16	42	P		P	17 01 53.7 +0.8
	baz=318,SNR=12						
P38A	Dawn	88.17	39	P		P	17 01 53.9 +1.0
	baz=319,SNR=8.1						
N40A	Mertquake, Sal	88.17	37	P		P	17 01 53.6 +0.7
	baz=321						
T34A	McClaskey Farm	88.18	43	P		P	17 01 53.5 +0.5
	baz=317						
O39A	Kirksville	88.18	38	P		P	17 01 53.7 +0.7
	baz=320						
M41A	Milan	88.29	36	P		P	17 01 53.9 +0.5
	baz=321,SNR=9.3						
BNI	Bardonecchia	88.41	330	*e*P		P	17 01 54.1 0.0
BNI				pmax		pmax	
	comp=Z,6.0nm,1.0s						
BNI	Bardonecchia	88.41	330	*e*P		P	17 01 54.1 0.0
	comp=Z,5.5nm,1.0s						
R37A	Teagarden Farm	88.48	41	P		P	17 01 54.7 +0.3
	baz=319						
L43A	Garden Prairie	88.49	35	P		P	17 01 54.7 +0.3
	baz=322						
S36A	Lake Cedric, C	88.52	42	P		P	17 01 55.1 +0.5
	baz=318						
TBI	Tubuai	88.58	121	*e*LR		LR	17 29 19.9
	comp=Z,386nm,29.8s,baz=319						
TBI	Tubuai	88.58	121	*e*T		T	18 39 44.4
	comp=Z,40nm,0.2s						
O40A	La Belle	88.61	38	P		P	17 01 55.8 +0.8
	baz=320,SNR=7.9						
Q38A	Cooks Store, C	88.62	40	P		P	17 01 55.2 +0.1
	baz=319						
T35A	Sooner Cattle	88.62	43	P		P	17 01 55.7 +0.6
	baz=318						
N41A	Harden Midland	88.66	37	P		P	17 01 55.8 +0.6
	baz=321						
P39B	Salisbury	88.66	39	P		P	17 01 55.7 +0.4
	baz=320						
T36A	Boggs Farm, Ca	88.86	42	P		P	17 01 57.0 +0.8
	baz=318						
Q39A	Willow Grove F	88.89	39	P		P	17 01 57.0 +0.7
	baz=320,SNR=12						
S37A	Fort Scott	88.90	41	P		P	17 01 57.0 +0.6
	baz=319,SNR=7.3						
U35A	Pawnee	88.90	43	P		P	17 01 56.7 +0.3
	baz=318						
WMOK	Wichita Mounta	88.94	46	P		P	17 01 57.0 +0.3
	baz=316,SNR=14						
WMOK	Wichita Mounta	88.94	46	*e*P		P	17 01 57.4 +0.7
WMOK				pmax		pmax	
	comp=Z,20nm,1.3s						
WMOK	Wichita Mounta	88.94	46	*e*P		P	17 01 57.4 +0.7
	comp=Z,20nm,1.3s						
N42A	Yates City	88.95	37	P		P	17 01 56.9 +0.3
	baz=322						
P40A	Paris	88.98	39	P		P	17 01 57.1 +0.3
	baz=320,SNR=12						
R38A	Fenwick Farm,	89.06	40	P		P	17 01 57.1 0.0
	baz=319						
O41A	Passleys Farm,	89.10	37	P		P	17 01 58.0 +0.7
	baz=321,SNR=7.0						
V35A	Meyer Ranch, C	89.29	44	P		P	17 01 59.0 +0.7
	baz=318						
T37A	Cheneyville 18	89.33	42	P		P	17 01 58.9 +0.4
	baz=319						
P41A	Barry, Barry	89.35	38	P		P	17 01 59.3 +0.8
	baz=321,SNR=7.0						
Q40A	Laux Farm, Aux	89.38	39	P		P	17 01 59.2 +0.6
	baz=320,SNR=6.2						
R39A	Chumby, Stover	89.41	40	P		P	17 01 59.1 +0.4
	baz=320,SNR=6.5						
U36A	Oologah	89.43	43	P		P	17 01 59.5 +0.6
	baz=318						
S38A	Stockton	89.48	41	P		P	17 01 59.0 -0.1
	baz=319						
HDIL	Hopedale	89.52	36	P		P	17 01 59.3 +0.1
	baz=322						
HDIL	Hopedale	89.52	36	*e*P		P	17 01 59.4 +0.1
	comp=Z,45nm,1.1s						
W35A	Tecumseh	89.72	44	P		P	17 02 00.6 +0.3
	baz=318						
T38A	Diamond	89.72	41	P		P	17 02 01.0 +0.7
	baz=319,SNR=13						
S39A	Bolivar	89.73	40	P		P	17 02 00.4 +0.1
	baz=320,SNR=8.0						
U37A	Salina	89.75	42	P		P	17 02 00.8 +0.4
	baz=318						
TUL1	Leonard	89.76	43	P		P	17 02 01.0 +0.5
	baz=318						
TUL1	Leonard	89.76	43	*e*P		P	17 02 01.1 +0.7
	comp=Z,63nm,1.8s						
V36A	Jenks	89.77	43	P		P	17 02 01.3 +0.8
	baz=318						
P42A	Winchester	89.77	37	P		P	17 02 01.0 +0.6
	baz=321,SNR=7.3						
TX31	Lajitas Ar. Si	89.81	52	*e*P		P	17 02 01.8 +0.8
TXAR	Lajitas Array	89.81	52	P		P	17 02 02.1 +1.2
	comp=Z,6.7nm,0.7s,baz=300,slow=3.2,SNR=77						
TXAR				PP		PP	17 05 33.5 +0.6
	comp=Z,0.4nm,0.8s,baz=348,slow=8.6,SNR=3.2						
R40A	Maddies Statio	89.82	39	P		P	17 02 01.0 +0.3
	baz=320,SNR=7.5						
Q41A	Truxton	89.83	38	P		P	17 02 00.9 +0.2
	baz=321						
ABTX	Abilene, Hawle	89.96	48	P		P	17 02 02.1 +0.6
	baz=316,SNR=11						
ABTX	Abilene, Hawle	89.96	48	*e*P		P	17 02 02.4 +0.9
	comp=Z,27nm,1.1s						
W36A	Wetumka	90.09	44	P		P	17 02 02.8 +0.8
	baz=318						
U38A	Gravette	90.12	42	P		P	17 02 02.8 +0.6
	baz=319,SNR=8.6						
V37A	Hulbert	90.13	43	P		P	17 02 02.8 +0.6
	baz=318,SNR=10						
HPIG		90.16	55	*e*P		P	17 02 03.7 +0.9
	comp=Z,6.3nm,0.8s						
T39A	Clever	90.21	41	P		P	17 02 02.8 +0.2
	baz=320						
X35A	Drake	90.21	45	P		P	17 02 03.2 +0.6
	baz=317,SNR=10						
S40A	Lebanon	90.23	40	P		P	17 02 03.0 +0.3
	baz=320						
R41A	Rosebud	90.26	39	P		P	17 02 03.2 +0.4
	baz=321,SNR=6.2						
X36A	Centrahoma	90.44	44	P		P	17 02 04.5 +0.8
	baz=318,SNR=9.3						
HHAR	Hobbs	90.47	42	*e*P		P	17 02 04.0 +0.1
	comp=Z,9.9nm,0.8s						
W37B	Quinton	90.53	43	P		P	17 02 04.6 +0.5
	baz=318,SNR=6.5						
Y35A	Marietta	90.54	45	P		P	17 02 04.4 +0.3
	baz=317						
V38A	Canehill	90.54	42	P		P	17 02 04.8 +0.7
	baz=319,SNR=12						
T40A	Mansfield	90.56	40	P		P	17 02 04.2 0.0
	baz=320,SNR=5.8						
R42A	Luebbering	90.56	39	P		P	17 02 04.6 +0.4
	baz=321						
S41A	Jillco Farms,	90.62	40	P		P	17 02 04.6 +0.1
	baz=320						
U39A	Green Forest	90.64	41	P		P	17 02 04.8 +0.2
	baz=320,SNR=19						
SFIN	Lafayette	90.68	35	*e*P		P	17 02 04.5 -0.1
P44A	Sand Creek, Wi	90.69	36	P		P	17 02 05.3 +0.6
	baz=322						
Q44A	Meyer Farm, Va	90.95	37	P		P	17 02 06.5 +0.6
	baz=322						
S42A	Caledonia	90.96	39	P		P	17 02 06.5 +0.5
	baz=321						
V39A	Pettigrew	90.97	42	P		P	17 02 06.2 0.0
	baz=319,SNR=14						
X37A	Clayton	90.97	44	P		P	17 02 06.4 +0.3
	baz=318						
Y36A	Durant	90.97	45	P		P	17 02 06.6 +0.4
	baz=318						
U40A	Yellville	90.99	41	P		P	17 02 06.4 +0.2
	baz=320,SNR=26						
R43A	Red Bud	91.00	38	P		P	17 02 06.7 +0.5
	baz=322						
T41A	Mountain View	91.03	40	P		P	17 02 06.3 -0.1
	baz=320						
W38A	Poteau	91.07	43	P		P	17 02 07.0 +0.4
	baz=319						
X38A	Whitesboro	91.20	43	P		P	17 02 07.9 +0.7
	baz=319,SNR=8.2						
Y37A	Hugo	91.28	44	P		P	17 02 07.8 +0.2
	baz=318						
Z36A	Blue Ridge	91.35	45	P		P	17 02 08.5 +0.6
	baz=318,SNR=6.1						
W39A	Magazine	91.38	42	P		P	17 02 08.1 +0.1
	baz=319						
JCT	Junction City	91.39	49	P		P	17 02 08.4 +0.1
	baz=316						
JCT	Junction City	91.39	49	*e*P		P	17 02 08.6 +0.3
JCT				pmax		pmax	
	com

U41A	Viola	91.49	40	P		P	17 02 08.8 +0.3
	baz=320						
433A	Art	91.62	49	P		P	17 02 09.8 +0.5
	baz=316						
WHTX	Lake Whitney,	91.70	47	P		P	17 02 10.3 +0.7
	baz=317,SNR=16						
WHTX	Lake Whitney,	91.70	47	eP		P	17 02 10.4 +0.9
	comp=Z,38nm,0.9s						
X39A	Fountain Ranch	91.71	43	P		P	17 02 10.2 +0.6
	baz=319,SNR=10.0						
334A	Lometa	91.72	48	P		P	17 02 10.5 +0.8
	baz=317,SNR=12						
T43A	Greenville	91.75	39	P		P	17 02 10.2 +0.5
	baz=321						
W40A	Ferguson Farm,	91.76	42	P		P	17 02 10.1 +0.4
	baz=320,SNR=7.2						
S44A	Carbondale	91.78	38	P		P	17 02 10.1 +0.3
	baz=322						
V41A	Mountainview	91.79	41	P		P	17 02 10.0 +0.1
	baz=320,SNR=10.0						
U42A	Revenden	91.83	40	P		P	17 02 09.9 -0.1
	baz=321						
Z37A	Pogue Cattle C	91.86	45	P		P	17 02 10.5 +0.2
	baz=318						
PBMO	Poplar Bluff	91.91	39	eP		P	17 02 11.0 +0.6
	comp=Z,14nm,0.9s						
MIAR	Mount Ida	91.98	43	P		P	17 02 11.3 +0.5
	baz=319,SNR=15						
MIAR	Mount Ida	91.98	43	eP		P	17 02 11.6 +0.8
MIAR				pmax		pmax	
	comp=Z,24nm,0.9s						
MIAR	Mount Ida	91.98	43	eP		P	17 02 11.6 +0.8
	comp=Z,24nm,0.9s						
434A	Burnet	92.07	48	P		P	17 02 11.5 +0.1
	baz=317						
X301	Greenbrier Sit	92.08	41	eP		P	17 02 11.6 +0.3
	comp=Z,20nm,1.2s						
WHAR	Wooly Hollow	92.10	41	eP		P	17 02 11.8 +0.4
	comp=Z,28nm,0.9s						
S45A	Carrier Mills	92.12	38	P		P	17 02 11.4 0.0
	baz=322						
Y39A	Lockesburg	92.15	43	P		P	17 02 12.2 +0.6
	baz=319,SNR=10.0						
V42A	Cord	92.17	40	P		P	17 02 11.9 +0.2
	baz=321						
W41B	Gary Mavity, V	92.21	41	P		P	17 02 12.1 +0.3
	baz=320						
335A	Moody	92.23	47	P		P	17 02 11.9 -0.1
	baz=317						
X40A	Basin Creek Fa	92.42	42	P		P	17 02 13.0 +0.2
	baz=320,SNR=5.2						
336A	Riesel	92.49	47	P		P	17 02 13.3 +0.1
	baz=317						
435B	Jarrell	92.50	48	P		P	17 02 13.7 +0.4
	baz=317						
633A	Saathoff Ranch	92.50	50	P		P	17 02 13.8 +0.4
	baz=316						
534A	Blanco	92.52	49	P		P	17 02 13.7 +0.3
	baz=316,SNR=8.2						
Y40A	Okolona	92.54	43	P		P	17 02 13.7 +0.3
	baz=320						
X41A	Kaden, Bauxite	92.59	42	P		P	17 02 13.4 -0.2
	baz=320						
WLAR	White Oak Lake	92.88	43	eP		P	17 02 16.9 +2.0
436A	Wall Ranch, Ga	92.97	47	P		P	17 02 15.5 0.0
	baz=317						
Y41A	Eaglette Beard	93.00	43	P		P	17 02 15.8 +0.2
	baz=320						
Y42A	Garnett, Star	93.48	42	P		P	17 02 17.3 -0.5
	baz=320						
438A	Sam Houston St	93.75	46	P		P	17 02 18.7 -0.3
	baz=318						
537A	Green Hill Far	93.76	47	P		P	17 02 18.7 -0.4
	baz=318						
933A	Laredo	93.76	51	P		P	17 02 19.5 +0.4
	baz=316						
Z42A	Norrel Spur, H	93.82	42	P		P	17 02 19.0 -0.3
	baz=320						
736A	Circle Diamond	94.14	49	P		P	17 02 20.8 0.0
	baz=317						
034A	Hebbronville	94.52	51	P		P	17 02 22.5 -0.2
	baz=316						
KEST	Kesra	94.84	323	P		P	17 02 24.4 +0.4
	comp=Z,4.9nm,1.0s,baz=234,slow=6.5,SNR=4.6						
KEST				LR		LR	17 48 39.0
	comp=Z,141nm,18.1s,baz=352,slow=38						
ES19	SONSECA Array	97.00	334	eP		P	17 02 32.3 -1.5
ESDC	Sonseca Array	97.05	334	P		P	17 02 32.4 -1.6
	comp=Z,0.7nm,0.7s,baz=4.3,slow=4.1,SNR=6.4						
ESDC				LR		LR	17 51 04.9
	comp=Z,256nm,18.8s,baz=0.0,slow=38						
RKT	Rikitea	98.76	112	eLR		LR	17 34 22.9
	comp=Z,364nm,27.2s						
TORD	Torodi Ar. Bea	117.19	315	PKP		PKPdf	17 07 47.7 0.0
	comp=Z,0.8nm,0.6s,baz=7.3,slow=1.3,SNR=4.8						
TORD				PP		PP	17 08 47.0 -10
	comp=Z,2.2nm,0.9s,baz=34,slow=7.0,SNR=6.8						
LSZ	Lusaka	117.62	271	PKP		PKPdf	17 07 49.1 +0.5
	comp=Z,1.3nm,0.6s,baz=252,slow=3.2,SNR=3.9						
MATP	Matopo	120.17	266	PKP		PKPdf	17 07 53.4 +0.1
	comp=Z,1.6nm,0.5s,baz=111,slow=2.3,SNR=4.7						
LBTB	Lobatse	124.81	263	PKP		PKPdf	17 08 02.5 +0.4
	comp=Z,5.5nm,0.9s,baz=114,slow=2.0,SNR=6.7						
LBTB	Lobatse	124.81	263	PKIKP		PKPdf	17 08 02.5 +0.4
LBTB				pmax		pmax	
	comp=Z,5.0nm,0.8s						
SDV	Santo Domingo	124.98	40	PKP		PKPdf	17 08 02.8 -0.1
	comp=Z,6.3nm,0.6s,baz=287,slow=5.6,SNR=5.0						
DBIC	Dimbokro	126.14	317	PKP		PKPdf	17 08 04.7 -0.2
	comp=Z,5.3nm,0.8s,baz=39,slow=6.5,SNR=4.9						
TIC	Toumodi	126.25	317	ePKP1		PKPdf	17 08 04.7 -0.4
KIC	Kosan Boka	126.33	317	ePKP1		PKPdf	17 08 05.0 -0.3
	comp=Z,28nm,1.3s						
LIC	Lamto	126.60	317	ePKP1		PKPdf	17 08 05.5 -0.3
	comp=Z,26nm,1.0s						
SNAA	Sanae	141.11	197	PKhKP		PKPpre	17 08 24.7
	baz=141,slow=2.3						
SNAA				PKP		PKPdf	17 08 30.3 -0.9
	comp=Z,5.7nm,1.0s,baz=137,slow=2.7,SNR=5.0						
SNAA				PP		PP	17 11 31.8 -1.4
	comp=Z,2.5nm,0.9s,baz=160,slow=8.4,SNR=5.2						
SNAA	Sanae	141.11	197	ePKPpre		PKPpre	17 08 23.7
SNAA				PKP		PKPdf	17 08 30.3 -0.9
SNAA				PP		PP	17 11 31.8 -1.4
SAML	Samuel	143.91	45	ePKPdf		PKPbc	17 08 35.8 +0.2
LPAZ	La Paz	146.41	59	PKPbc		PKPab	17 08 44.6 -0.4
	comp=Z,10nm,0.9s,baz=343,slow=4.1,SNR=34						
LPAZ	La Paz	146.41	59	ePKPdf		PKPbc	17 08 44.0 -0.1
PB11	IPOC Station P	147.64	66	ePKPbc		PKPbc	17 08 47.9 +0.9
PB01	IPOC Station P	148.56	68	ePKPbc		PKPbc	17 08 49.8 +0.5
LVC	Limon Verde	149.93	69	PKPbc		PKPbc	17 08 54.3 +1.3
	comp=Z,57nm,0.9s,baz=236,slow=1.6,SNR=9.1						
SIV	San Ignacio	150.76	49	PKPbc		PKPbc	17 08 55.4 +0.7
	comp=Z,14nm,1.1s,baz=334,slow=2.3,SNR=13						
LCO	Las Campanas	151.83	82	ePKPbc		PKPbc	17 08 58.0 +0.9
GO09	Cerro Castillo	152.32	131	ePKPbc		PKPbc	17 08 58.2 +1.0
GO05	HualaæØ	152.93	95	ePKPbc		PKPbc	17 08 59.5 +0.3
ROC1	El Roble	153.07	90	ePKPbc		PKPbc	17 08 59.8 0.0
PLCA	Paso Flores	154.90	108	PKPbc		PKPbc	17 09 04.6 +1.3
	comp=Z,4.0nm,1.0s,baz=272,slow=5.8,SNR=5.6						

NIED ***02*** *16:52:00,36.°50N×137.°70E,h8km,Mw4.4 Best double couple: M0=4.30000×10^15 NP1:φ=198.00000°,δ77.00000°, λ-2.00000°. NP2:φ=288.00000°,δ88.00000°, λ-167.00000°.*

JMA 02 16:52:28.2±0.1,36.°54N×137.°65E,h1km±1km,M3.9,1C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.26	284	P		Pg	16 52 34.0 +0.8
JTT				S		Sg	16 52 38.1 +1.4
JNG	Nsakai	0.39	110	⇓P		Pg	16 52 36.2 +0.6
JNG				S		Sg	16 52 41.5 +0.9
JGN	Niukaw	0.42	221	⇑P		Pg	16 52 36.5 +0.3
JGN				S		Sg	16 52 42.2 +0.6
MAT	Matsushiro	0.45	89	P		Pg	16 52 37.1 +0.3
MAT				S		Sg	16 52 43.2 +0.6
MAT	Matsushiro	0.45	89	P		Pg	16 52 37.1 +0.3
MAT				S		Sg	16 52 43.3 +0.7
JSZ	Suzu	0.94	346	⇓P		Pg	16 52 45.9 -0.2

LDG ***02*** *17:19:01.7±0.1,49.°88N×18.°54E,h2km,Ml4.2/11,Error ellipse: s-maj=3.3km s-min=1.7km az=13.0*

ISCJB ***02*** *17:19:01.9±0.2,49.°80N±0.°02×18.°41E±0.°01,h0km, mb3.1/1,MS2.8/1,Error ellipse: s-maj=2.2km s-min=1.2km az=9.3*

SIGU ***02*** *17:19:02.0±0.2,49.°79N±0.°01×18.°45E±0.°01,h7km, mb3.2/10*

IDC ***02*** *17:19:03.1±0.9,49.°71N×18.°53E,h0km,mb3.4/1, mb1 3.7/9,mb1mx3.4/56,mbtmp3.6/9,ML3.4/7,MS2.9/1, Ms1 2.9/1,ms1mx2.2/32,Error ellipse: s-maj=15.9km s-min=7.5km az=150.0*

CSEM ***02*** *17:19:03.1±0.1,49.°82N×18.°47E,h1km,ML3.7/18,Ms3.7, Error ellipse: s-maj=2.6km s-min=1.5km az=24.0,Mining induced.*

IPEC ***02*** *17:19:03.1±0.2,49.°83N×18.°53E,h2km±3km,ML3.4/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*

VIE ***02*** *17:19:03.1±0.4,49.°78N×18.°43E,h0km,mb2.9/13, ML3.2/12,Ms3.7/3,Error ellipse: s-maj=5.0km s-min=3.0km az=166.0,Suspected Mining induced.*

BGR ***02*** *17:19:05.2±0.5,49.°78N×18.°38E,h1km,ML3.9/18,Error ellipse: s-maj=10.0km s-min=6.7km az=8.0*

ISC 02 17:19:02.4±0.5,49.°84N±0.°02×18.°41E±0.°01,h0km,n216, σ1§93/321,20C-32D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.17	271	⇓iPG		Pg	17 19 08.7 +3.0
OKC				eSG		Sg	17 19 11.9 +4.0
	comp=Z,4μm,0.6s						
OKC				AMS		AMS	17 19 20.0
	comp=Z,9μm,2.1s						
OKC	Ostrava-Krasne	0.17	271	Pg		Pg	17 19 08.7 +3.0
OKC				Sg		Sg	17 19 11.9 +4.0
	4μm,0.6s						
RAC	Raciborz	0.29	330	ePg		Pb	17 19 10.5 +0.1
RAC				eSg		Sb	17 19 16.0 +0.2
MORC	Moravsky Berou	0.57	264	⇓iP		Pb	17 19 15.3 0.0
MORC				S		Sb	17 19 24.0 +0.1
MORC	Moravsky Berou	0.57	264	ePg		Pb	17 19 15.2 0.0
MORC				eSg		Sb	17 19 23.3 -0.6
	765nm,0.9s						
MORC				S		Sb	17 19 24.0 +0.1
LANS	Liptovska Anna	0.97	135	ePg		Pb	17 19 21.8 -0.3
LANS				eSg		Sb	17 19 36.0 +0.5
LANS	Liptovska Anna	0.97	135	ePG		Pb	17 19 21.8 -0.3
LANS				eSG		Sb	17 19 36.0 +0.5
OJC	Ojcow	0.97	66	ePg		Pg	17 19 20.6 -0.4
OJC				eSg		Sg	17 19 33.7 +0.1
OJC	Ojcow	0.97	66	ePg		Pg	17 19 20.6 -0.4
OJC				eSg		Sg	17 19 33.7 +0.1
KRLC	Kraliky	1.08	283	⇓iPG		Pb	17 19 24.1 +0.1
KRLC				eSG		Sn	17 19 40.0 -0.6
KRLC	Kraliky	1.08	283	Pg		Pb	17 19 24.1 +0.1
KRLC				Sg		Sn	17 19 40.0 -0.6
NIE	Niedzica	1.29	108	ePg		Pb	17 19 27.4 -0.3
NIE				eSg		Sn	17 19 46.1 +0.3
NIE	Niedzica	1.29	108	ePg		Pb	17 19 27.4 -0.3
NIE				eSg		Sn	17 19 46.1 +0.3
VRAC	Vranov	1.30	247	Pg		Pn	17 19 28.6 +0.8
	110nm,0.3s,baz=67,slow=15,SNR=484						
VRAC				Lg		Lg	17 19 46.9
	63nm,0.3s,baz=49,slow=9.9,SNR=16						
VRAC	Vranov	1.30	247	ePg		Pn	17 19 28.9 +1.1
VRAC				eSg		Sn	17 19 45.9 +0.1
	594nm,0.9s						
VYHS	Vyhne	1.37	168	ePg		Pg	17 19 28.5 -0.1
VYHS				eSn		Sg	17 19 46.1 -0.3
VYHS	Vyhne	1.37	168	ePG		Pg	17 19 28.5 -0.1
VYHS				eSN		Sg	17 19 46.1 -0.3
VYHS				eLG		Lg	17 19 49.0
DPC	Dobruska-Polom	1.44	292	⇓iPG		Pb	17 19 30.6 +0.4
DPC				eSG		Sn	17 19 51.7 +2.2
	comp=Z,216nm,0.5s						
DPC				AMS		AMS	17 20 10.0
	comp=Z,400nm,3.8s						
DPC	Dobruska-Polom	1.44	292	Pg		Pb	17 19 30.6 +0.4
DPC				Sg		Sn	17 19 51.7 +2.2
	216nm,0.5s						
SMOL	Smolenice	1.47	206	ePg		Pb	17 19 31.1 +0.5
SMOL				eSn		Sn	17 19 51.3 +1.2
SMOL	Smolenice	1.47	206	ePG		Pb	17 19 31.1 +0.5
SMOL				eSN		Sn	17 19 51.3 +1.2
KRUC	Moravsky	1.53	240	ePg		Pg	17 19 31.9 +0.2
KRUC				eSg		Sb	17 19 52.7 +1.2
	317nm,0.9s						
UPC	Upice	1.69	294	⇓ePN		Pn	17 19 33.8 +0.7
UPC				ePG		Pg	17 19 35.3 +0.6
UPC				eSG		Sg	17 19 59.1 +2.6
	comp=Z,343nm,0.7s						
UPC				AMS		AMS	17 20 10.0
	comp=Z,400nm,4.0s						
UPC	Upice	1.69	294	Pn		Pn	17 19 33.8 +0.7
UPC	Upice	1.69	294	Pg		Pg	17 19 35.3 +0.6
UPC				Sg		Sg	17 19 59.1 +2.6
	343nm,0.7s						
KSP	Ksiaz	1.69	307	ePn		Pn	17 19 33.8 +0.6
KSP				ePg		Pg	17 19 36.7 +1.8
KSP				eSg		Sg	17 19 58.9 +2.2
KSP	Ksiaz	1.69	307	ePn		Pn	17 19 33.8 +0.6
STHS	Stebnicka Huta	1.89	102	ePn		Pn	17 19 36.0 +0.1
STHS	Stebnicka Huta	1.89	102	ePN		Pn	17 19 36.0 +0.1
STHS				eLG		Lg	17 20 11.1
KECS	Kecovo	1.92	134	ePn		Pn	17 19 36.2 -0.1
KECS				eSn		Sb	17 20 02.5 -0.2
KECS	Kecovo	1.92	134	ePN		Pn	17 19 36.2 -0.1
KECS				eSN		Sb	17 20 02.5 -0.2
KECS				eLG		Lg	17 20 07.4
TREC	Trest	1.98	255	⇓ePG		Pg	17 19 40.1 -0.2
TREC				eSG		Sg	17 20 08.1 +2.1
	comp=Z,241nm,0.7s						
TREC				AMS		AMS	17 20 20.0
	comp=Z,500nm,3.3s						
TREC	Trest	1.98	255	Pg		Pg	17 19 40.1 -0.2
TREC				Sg		Sg	17 20 08.1 +2.1
	241nm,0.7s						
PSZ	Piszkesteto	2.15	152	⇓iP		Pn	17 19 39.8 +0.2
PSZ	Piszkesteto	2.15	152	⇓ePn		Pn	17 19 39.9 +0.3
PSZ				S		Sn	17 20 05.5 -1.5
PSZ	Piszkesteto	2.15	152	⇓ePKKPdf		Pn	17 19 39.9 +0.3
PSZ	Piszkesteto	2.15	152	⇓ePKKPdf		Pn	17 19 39.9 +0.3
PSZ	Piszkesteto	2.15	152	⇓ePKKPdf		Pn	17 19 39.9 +0.3
GOPC	GO Pecny, Ondr	2.35	273	⇓ePN		Pn	17 19 43.0 +0.8
GOPC				ePG		Pb	17 19 46.0 +0.4
GOPC				eSG		Sg	17 20 20.5 +2.7
	comp=Z,128nm,0.7s						
GOPC	GO Pecny, Ondr	2.35	273	Pn		Pn	17 19 43.0 +0.8
GOPC				Sg		Sg	17 20 20.5 +2.7
	128nm,0.7s						
BUD	Budapest	2.39	170	ePKKPdf		Pg	17 19 48.6 +0.5
BUD	Budapest	2.39	170	ePKKPdf		Pg	17 19 48.6 +0.5
BUD	Budapest	2.39	170	ePKKPdf		Pg	17 19 48.6 +0.5
CSKK	Cs‡tkako	2.48	182	⇑ePn		Pn	17 19 44.4 +0.4
CSKK	Cs‡tkako	2.48	182	⇑ePKKPdf		Pn	17 19 44.4 +0.4
CSKK	Cs‡tkako	2.48	182	⇑ex		Pn	17 19 44.4 +0.4
CSKK	Cs‡tkako	2.48	182	⇑ePKKPdf		Pn	17 19 44.4 +0.4
BEL	Belsk	2.51	36	ePn		Pn	17 19 45.6 +1.2
BEL				ePg		Pg	17 19 52.7 +2.3
BEL				eSn		Sg	17 20 29.7 +6.9
BEL	Belsk	2.51	36	ePn		Pn	17 19 45.6 +1.2
PRU	Pruhonice	2.51	275	⇓ePN		Pn	17 19 44.6 +0.2
PRU				ePG		Pb	17 19 49.1 +0.8
PRU				eSG		Sg	17 20 24.6 +1.7
	comp=Z,124nm,0.7s						
PRU	Pruhonice	2.51	275	Pn		Pn	17 19 44.6 +0.2
PRU				Sg		Sg	17 20 24.6 +1.7
	124nm,0.7s						
CONA	Conrad Observa	2.54	222	Pn		Pn	17 19 45.5 +0.5
	14nm,0.4s,SNR=54						
CONA				Sn		Sn	17 20 18.0 +1.3
	41nm,0.5s						
PVCC	Panska Ves	2.57	287	⇓ePN		Pn	17 19 45.3 +0.1
PVCC				ePG		Pg	17 19 51.6 0.0
PVCC				eSG		Sg	17 20 26.2 +1.4
	comp=Z,325nm,0.8s						
PVCC				AMS		AMS	17 20 50.0
	comp=Z,300nm,4.2s						
PVCC	Panska Ves	2.57	287	Pn		Pn	17 19 45.3 +0.1
KWP	Kalwaria Pacla	2.79	93	ePn		Pb	17 19 53.7 +0.5
KWP				eSn		Sg	17 20 39.0 +6.9
UZH	Uzhgorod	2.81	114	ePn		Pn	17 19 48.7 +0.1
UZH				Pnm			17 19 50.0
UZH				eSn		Sn	17 20 23.3 +0.1
UZH				Snm			17 20 38.2
BRG	Berggiesshubel	3.05	292	PN		Pn	17 19 51.8 0.0
BRG				PG		Pg	17 19 59.7 -1.1
BRG				SG		Sg	17 20 41.5 +1.3
	95nm,0.7s						
BRG	Berggiesshubel	3.05	292	ePn		Pn	17 19 52.3 +0.5
BRG				eSg		Sg	17 20 41.8 +1.6
BRG	Berggiesshubel	3.05	292	Pn		Pn	17 19 52.3 +0.5
BRG				Sg		Sg	17 20 41.8 +1.6
TRPA	Tarpa	3.21	121	⇓ePn		Pn	17 19 53.2 -0.8
TRPA	Tarpa	3.21	121	⇓ePKKPdf		Pn	17 19 53.2 -0.8
TRPA				ex		x	17 20 46.1
BERU	Beregovo	3.21	118	ePn		Pn	17 19 54.1 0.0
BERU				eSn		Sn	17 20 33.1 +0.1
ARSA	Arzberg	3.22	218	Pn		Pn	17 19 55.7 +1.5
	3.8nm,0.3s,SNR=19						
ARSA				Sn		Sn	17 20 33.8 +0.5
	10.0nm,0.5s						
KHC	Kasperske Hory	3.23	259	⇓ePN		Pn	17 19 55.2 +0.8
KHC				ePG		Pb	17 20 02.7 +2.1
KHC				eSG		Sg	17 20 48.3 +2.2
	comp=Z,80nm,0.6s						
KHC				AMS		AMS	17 21 00.0
	comp=Z,200nm,5.5s						
KHC	Kasperske Hory	3.23	259	Pn		Pn	17 19 55.2 +0.8
KHC				Sg		Sg	17 20 48.3 +2.2
	80nm,0.6s						
GEC2	GERESS Array S	3.24	254	ePn		Pn	17 19 56.1 +1.6
GEC2				eSg		Sg	17 20 48.3 +1.9
GEC2	GERESS Array S	3.24	254	Pn		Pn	17 19 56.1 +1.6
GEC2				Sg		Sg	17 20 48.3 +1.9
GERES	GERESS Array B	3.24	254	Pn		Pn	17 19 55.2 +0.7
	1.0nm,0.3s,baz=63,slow=14,SNR=21						
GERES				Pg		Pb	17 20 02.7 +1.9
	15nm,0.3s,baz=63,slow=17,SNR=84						
GERES				Lg		Lg	17 20 47.4
	10nm,0.3s,baz=68,slow=26,SNR=14						
SHIU	Shidnytsya	3.28	99	iPn		Pn	17 19 55.6 +0.5
SHIU				Pnm			17 20 03.6
SHIU				eSn		Sn	17 20 35.8 +1.0
SHIU				Snm			17 21 20.0
BRIU	Brid	3.38	115	ePn		Pn	17 19 56.7 +0.3
BRIU				Pnm			17 20 06.5
BRIU				iSn		Sn	17 20 37.9 +0.8
BRIU				Snm			17 20 55.5
MOA	Molln	3.38	236	Pn		Pn	17 19 57.1 +0.6
	2.4nm,0.2s						
MOA				Sn		Sn	17 20 38.7 +1.4
	17nm,0.4s						
FBE	Freiberg	3.42	290	ePn		Pn	17 19 58.3 +1.4
FBE				eSg		Sg	17 20 52.9 +0.8
FBE	Freiberg	3.42	290	Pn		Pn	17 19 58.3 +1.4
FBE				Sg		Sg	17 20 52.9 +0.8
TRSU	Trosnyk	3.46	118	iPn		Pn	17 19 57.4 -0.1
TRSU				Pnm			17 19 59.4
TRSU				eSn		Sn	17 20 40.4 +1.2
TRSU				Snm			17 20 58.2
GKP	Gorka Klasztor	3.52	348	ePn		Pn	17 19 60.0 +1.7
GKP				ePg		Pg	17 20 15.9 +6.1
GKP				eSn		Sg	17 20 57.6 +2.3
GKP	Gorka Klasztor	3.52	348	ePn		Pn	17 20 00.0 +1.7
KORU	Korolevo	3.53	117	ePn		Pn	17 19 58.6 +0.1
KORU				Pnm			17 20 08.6
KORU				eSn		Sn	17 20 42.2 +1.3
KORU				Snm			17 20 53.4
BEHE	Becsehely	3.54	199	ePn		Pn	17 20 00.0 +1.4
BEHE				eSn		Sn	17 20 41.9 +0.7
BEHE	Becsehely	3.54	199	ex		Pn	17 20 00.0 +1.4
BEHE				ex		Sn	17 20 41.9 +0.7
BEHE	Becsehely	3.54	199	ex		Pn	17 20 00.0 +1.4
BEHE				ex		Sn	17 20 41.9 +0.7
BEHE	Becsehely	3.54	199	ex		Pn	17 20 00.0 +1.4
BEHE				ex		Sn	17 20 41.9 +0.7
MEZ	Mezhgor'ye	3.60	110	ePn		Pn	17 19 59.4 0.0
MEZ				Pnm			17 20 13.5
MEZ				eSn		Sn	17 20 44.3 +1.7
MEZ				Snm			17 21 14.5
LVV	L'vov	3.64	88	ePn		Pn	17 20 00.6 +0.7
LVV				Pnm			17 20 03.5
LVV				eSn		Sn	17 20 45.5 +2.0
LVV				Snm			17 21 11.1
MORS	Morshin	3.64	99	iPn		Pn	17 20 00.7 +0.7
MORS				eSn		Sn	17 20 46.1 +2.5
WET	Wettzell	3.67	261	ePn		Pn	17 20 01.3 +0.8
WET				eSg		Sg	17 21 00.2 -0.2
WET	Wettzell	3.67	261	Pn		Pn	17 20 01.3 +0.8
WET				Sg		Sg	17 21 00.2 -0.2
CLL	Collm	3.75	295	ePn		Pn	17 20 02.6 +1.1
CLL				eSg		Sg	17 21 03.7 +0.8
CLL	Collm	3.75	295	Pn		Pn	17 20 02.6 +1.1
CLL				Sg		Sg	17 21 03.7 +0.8
CLL	Collm	3.75	295	ePn		Pn	17 20 02.0 +0.5
CLL				ePg		Pg	17 20 14.0 -0.3
CLL				eSn		Sb	17 20 52.0 -3.4
CLL				iSg		Sg	17 21 03.7 +0.8
	comp=Z,89nm,0.7s						
NKC	Novy Kostel	3.87	278	⇓ePN		Pn	17 20 04.6 +1.5
NKC				ePG		Pg	17 20 15.7 -0.8
NKC				eSG		Sg	17 21 08.0 +1.4
	comp=Z,78nm,0.5s						
NKC	Novy Kostel	3.87	278	ePn		Pn	17 20 04.8 +1.7
NKC				eSg		Sg	17 21 08.7 +2.1
NKC	Novy Kostel	3.87	278	Pn		Pn	17 20 04.6 +1.5
NKC				Sg		Sg	17 21 08.7 +2.1
SOKA	Soboth	3.88	217	Pn		Pn	17 20 04.6 +1.2
	comp=Z,1.8nm,0.4s						
SOKA				Sg		Sg	17 21 11.7 +4.6
	comp=Z,3.4nm,0.4s						
PERS	Pernice	3.89	216	iPn		Pn	17 20 04.3 +0.9
PERS	Pernice	3.89	216	Pn		Pn	17 20 04.3 +0.9
MULD	Muldenberg	3.91	281	ePn		Pn	17 20 04.6 +0.9
MULD	Muldenberg	3.91	281	Pn		Pn	17 20 04.6 +0.9
WERN	Wernitzgruen	3.92	279	ePn		Pn	17 20 05.2 +1.4
WERN	Wernitzgruen	3.92	279	Pn		Pn	17 20 05.2 +1.4
SCHF	Schoenfels	3.95

NEUB Neuenburg 4.45 291 Sg **Sg 17 21 28.6 +3.2**
CRES Cresnjev 4.48 208 *e*Pn **Pn 17 20 12.3 +0.8**
MYKA Terra Mystica 4.52 227 Sg **Sg 17 21 30.6 +3.0**
comp=Z,5.4nm,0.5s
CJR Cluj-Napoca 4.66 130 ⇓*i*P **Pn 17 20 14.8 +0.7**
CJR Cluj-Napoca 4.66 130 ⇓*i*P **Pn 17 20 14.8 +0.7**
CJR S **Sn 17 21 08.4 -0.5**
BZS Buzias 4.74 152 ⇓*i*P **Pn 17 20 15.5 +0.4**
BZS Buzias 4.74 152 ⇓*i*P **Pn 17 20 15.5 +0.4**
FGSL Fruska Gora 4.78 168 *e*Pn **Pn 17 20 16.1 +0.5**
ARCR ARCALIA 4.81 123 ⇓*i*P **Pn 17 20 15.9 -0.2**
ARCR ARCALIA 4.81 123 ⇓*i*P **Pn 17 20 15.9 -0.2**
CEY Cerknica 4.90 215 *e*Pn **Pn 17 20 18.6 +1.3**
MRAK Mrakovica 4.93 193 *e*Pn **Pn 17 20 18.9 +1.1**
ABTA Abfaltersbach 5.01 234 Pn **Pn 17 20 20.4 +1.6**
comp=Z,0.1nm,0.1s
ABTA Sg **Sg 17 21 48.1 +5.0**
comp=Z,19nm,0.6s
BURAR Bucovina Array 5.02 114 ⇓*i*P **Pn 17 20 19.4 +0.4**
BURAR Bucovina Array 5.02 114 ⇓*i*P **Pn 17 20 19.4 +0.4**
BLY Banja Luka 5.16 190 *e*Pn **Pn 17 20 22.1 +1.3**
WATA Walderalm 5.18 244 Pn **Pn 17 20 21.6 +0.3**
comp=Z,0.4nm,0.2s
WATA Sg **Sg 17 21 52.0 +3.2**
comp=Z,23nm,0.6s
WTTA Wattenberg 5.18 243 Pn **Pn 17 20 22.9 +1.5**
comp=Z,1.8nm,0.4s
WTTA Sg **Sg 17 21 53.0 +4.1**
comp=Z,20nm,0.5s
HORU Horodok 5.26 94 *i* Pn **Pn 17 20 24.2 +2.0**
HORU *e*Sn **Sn 17 21 27.4 +4.0**
GZR Gura Zlata 5.33 145 ⇓*i*P **Pn 17 20 24.3 +1.0**
GZR Gura Zlata 5.33 145 ⇓*i*P **Pn 17 20 24.3 +1.0**
GZR S **Sn 17 21 24.2 -1.2**
TEKS Tekeris 5.34 171 *e*Pn **Pn 17 20 23.3 -0.1**
KMPD K-Podol'skiy 5.43 101 *e*Pn **Pn 17 20 26.5 +2.0**
KMPD *e*Sn **Sn 17 21 31.7 +4.1**
VITZ Vitzeroda 5.43 284 *e*Pn **Pn 17 20 26.6 +2.0**
VITZ Vitzeroda 5.43 284 Pn **Pn 17 20 26.6 +2.0**
MOTA Moosalm 5.45 246 Pn **Pn 17 20 26.9 +1.9**
comp=Z,0.2nm,0.1s
MDVR Moldovita 5.53 155 ⇑*i*P **Pn 17 20 26.5 +0.5**
MDVR Moldovita 5.53 155 ⇑*i*P **Pn 17 20 26.5 +0.5**
MDVR S **Sn 17 21 27.9 -2.4**
RETA Reutte 5.59 248 Pn **Pn 17 20 28.2 +1.4**
comp=Z,1.7nm,0.2s
LOT Lotru 5.69 138 ⇑*i*P **Pn 17 20 26.2 -2.0**
LOT Lotru 5.69 138 ⇑*i*P **Pn 17 20 26.2 -2.0**
BSD Bornholm Skovb 5.70 339 *i* P **Pn 17 20 28.0 -0.3**
BSD *e*S **Sn 17 21 27.1 -7.3**
BSD Bornholm Skovb 5.70 339 *i* P **Pn 17 20 28.0 -0.3**
TRUS Trudelj 5.78 166 *e*Pn **Pn 17 20 29.3 0.0**
NVLJ Novalja 5.80 206 *e*Pn **Pn 17 20 31.3 +1.6**
NVLJ Sn **Sn 17 21 37.8 +1.0**
NVLJ Novalja 5.80 206 *e*Pn **Pn 17 20 31.2 +1.6**
NVLJ Sn **Sn 17 21 37.8 +1.0**
KUBS Kucevo 5.86 156 *e*Pn **Pn 17 20 30.0 -0.5**
NDNU Novodnistrovsk 6.00 99 *e*Pn **Pn 17 20 35.1 +2.8**
NDNU Pnm 17 20 41.3
NDNU *e*Sn **Sn 17 21 46.9 +5.3**
NDNU Snm 17 21 55.7
DOPR Dopca 6.08 127 ⇑*i*P **Pn 17 20 34.1 +0.6**
DOPR Dopca 6.08 127 ⇑*i*P **Pn 17 20 34.1 +0.6**
GRUS Gruza 6.15 164 *e*Pn **Pn 17 20 34.9 +0.4**
DAVA Damuels 6.21 249 Pn **Pn 17 20 36.7 +1.3**
comp=Z,0.3nm,0.1s
VOIR 6.28 132 ⇑*i*P **Pn 17 20 37.0 +0.7**
VOIR 6.28 132 ⇑*i*P **Pn 17 20 37.0 +0.7**
DAVOX Davos/Dischmat 6.46 245 Pn **Pn 17 20 41.2 +2.3**
comp=Z,1.2nm,0.3s,baz=55,slow=15,SNR=20
DAVOX Sn Sn 17 22 03.0 +10
comp=Z,0.6nm,0.3s,baz=169,slow=19,SNR=3.4
DAVOX Lg Lg 17 22 33.6
comp=Z,1.7nm,0.3s,baz=295,slow=19,SNR=7.0
BOVS Bovan 6.60 159 *e*Pn **Pn 17 20 41.1 +0.5**
MLR Muntele Rosu 6.69 128 ⇑*i*P **Pn 17 20 41.5 -0.5**
MLR Muntele Rosu 6.69 128 ⇑*i*P **Pn 17 20 41.5 -0.5**
PLOR Plostina 6.83 123 ⇑*i*P **Pn 17 20 44.6 +0.8**
PLOR Plostina 6.83 123 ⇑*i*P **Pn 17 20 44.6 +0.8**
VRI Vrincioaia 6.86 122 ⇓*i*P **Pn 17 20 44.9 +0.7**
VRI Vrincioaia 6.86 122 ⇓*i*P **Pn 17 20 44.9 +0.7**
AKASG Malin Array Be 6.99 79 Pn **Pn 17 20 43.6 -2.2**
comp=Z,1.7nm,0.3s,baz=261,slow=13,SNR=13
AKASG Sn **Sn 17 22 11.4 +5.4**
comp=Z,0.7nm,0.3s,baz=269,slow=24,SNR=4.5
NACGM Naroch 7.21 42 *e* **Pb 17 21 11.0 +2.7**
IIGN Ignalina 7.29 38 *e*P **Pg 17 21 18.3 -3.6**
IIGN IAmb IAmb 17 23 12.0
comp=Z,12nm,0.7s
BARS Barje 7.40 160 *e*Pn **Pn 17 20 52.3 +0.6**
ISAL Salakas 7.41 36 *e*P **Pg 17 21 20.6 -3.6**
ISAL IAmb IAmb 17 23 17.1
comp=Z,13nm,1.0s
CDF Champ du Feu 7.45 263 *e*Pn **Pn 17 20 50.0 -2.3**
CDF Champ du Feu 7.45 263 *e*Pg Pg 17 21 20.2 -4.8
CDF *e*Sg **Sg 17 22 57.7 -3.7**
comp=Z,158nm,1.1s
IDID Didziasalis 7.47 40 *e*P **Pg 17 21 20.6 -4.8**
IDID IAmb IAmb 17 23 23.5
comp=Z,8.7nm,0.8s
IZAR Zarasai 7.59 36 *e*P **Pg 17 21 22.9 -4.7**
IZAR IAmb IAmb 17 23 17.3
comp=Z,17nm,0.9s
HINF Hinteralfeld 7.89 260 *e*Pn **Pn 17 20 56.3 -2.1**
HINF *e*Sg **Sg 17 23 11.9 -3.8**
comp=Z,43nm,1.0s
PAGF Fort de Pagny 8.41 266 *e*Pn **Pn 17 21 02.0 -3.5**
baz=87
PAGF *e*Sg **Sg 17 23 27.1 -5.2**
comp=Z,18nm,1.2s
CABF La Chapelle 8.84 253 *e*Pg Pg 17 21 46.6 -5.0
CABF *e*Sg **Sg 17 23 40.6 -5.4**
comp=Z,70nm,1.0s
LPG La Plagne 8.98 246 *e*P **Pn 17 21 16.8 +3.2**
LPG *e*Sg **Sg 17 23 45.6 -5.1**
comp=Z,54nm,1.3s
LPG La Plagne 8.98 246 *e*P **Pn 17 21 16.8 +3.2**
LPL La Plagne 8.99 246 *e*P **Pn 17 21 15.9 +2.4**
LPL *e*Sg **Sg 17 23 45.7 -5.1**
comp=Z,50nm,1.4s
LPL La Plagne 8.99 246 *e*P **Pn 17 21 15.9 +2.4**
BAIF Baives 9.17 277 *e*Pn **Pn 17 21 13.1 -2.7**
BAIF Baives 9.17 277 *e*Pg Pn 17 21 53.4 +38
BAIF *e*Sg Sn 17 23 51.3 +52
comp=Z,22nm,1.1s
MBDF Montbardon 9.42 242 *e*Pn **Pn 17 21 17.0 -2.4**
MBDF *e*Sg Sn 17 24 01.1 +55
comp=Z,22nm,1.2s
ORIF Oris-en-Rattie 9.82 245 *e*Pn **Pn 17 21 21.9 -2.9**
ORIF Oris-en-Rattie 9.82 245 *e*P **Pn 17 21 28.2 +3.4**
ORIF Oris-en-Rattie 9.82 245 *e*P **Pn 17 21 28.2 +3.4**
LOR Lormes 9.99 261 *e*Pn **Pn 17 21 24.0 -3.1**
baz=80
LOR *e*Sg Sn 17 24 19.0 +59
comp=Z,46nm,1.2s
VIVF Saint-Julien-l 10.57 247 *e*Pn **Pn 17 21 32.4 -2.6**
VIVF *e*Sg 17 24 34.8
comp=Z,24nm,1.2s
HFS Hagfors 10.67 347 Pn **Pn 17 21 33.8 -2.5**
comp=Z,0.2nm,0.3s,baz=167,slow=19,SNR=5.6
NB2 NORSAR Subarra 11.94 343 Pn **Pn 17 21 51.7 -2.0**
comp=Z,2.3nm,1.1s,baz=157,slow=14
NOA NORSAR Array B 11.94 343 Pn **Pn 17 21 51.7 -2.0**
comp=Z,0.4nm,0.3s,baz=164,slow=13,SNR=9.2
FINES FINESS Array B 12.40 17 Pn **Pn 17 21 55.5 -4.5**
comp=Z,0.5nm,0.3s,baz=189,slow=11,SNR=17
EKA Eskdalemuir Ar 14.20 301 Pn **Pn 17 22 25.6 +1.1**
baz=109,slow=14,SNR=4.0
BRTR Keskin Array B 14.77 127 Pn **P 17 22 40.2 +1.3**
comp=Z,0.0nm,0.3s,baz=334,slow=8.2,SNR=5.3
ARCES ARCESS Array B 20.06 7 Pn **P 17 23 34.5 -2.4**
comp=Z,5.1nm,1.0s,baz=184,slow=13,SNR=6.4
MDT Midelt 24.10 234 LR LR 17 33 02.7
comp=Z,30nm,19.0s,baz=102,slow=35
TORD Torodi Ar. Bea 39.07 206 P **P 17 26 30.9 -0.3**
comp=Z,0.4nm,0.7s,baz=14,slow=8.3,SNR=4.1

ISCJB ***02*** *17:19:04.7±1.0, 20°.5S±0°.2×177°.7W±0°.2, h500km, mb3.8/6, Error ellipse: s-maj=24.9km s-min=17.7km az=156.2*
IDC ***02*** *17:19:05.9±2.3, 20°.51S×177°.70W, h506km±26km, mb3.4/6, mb1 3.6/8, mb1mx3.2/34, mbtmp4.2/8, Error ellipse: s-maj=26.1km s-min=15.4km az=157.0*

ISC 02 17:19:05.3±1.0, 20°.5S±0°.2×177°.7W±0°.1, h500km, n12, σ0°.78/13, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**17 22 14.2**	**-0.3**
	0.2nm,0.3s,baz=72,slow=20,SNR=2.3						
URZ	**Urewera**	**18.25**	**193**	P	**P**	**17 22 46.9**	**-0.8**
	1.0nm,0.3s,baz=321,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**38.05**	**244**	P	**P**	**17 25 41.1**	**+0.6**
	1.4nm,0.5s,baz=87,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**44.81**	**257**	P	**P**	**17 26 34.8**	**+0.5**
	9.1nm,0.5s,baz=91,slow=8.1,SNR=338						
ASAR				S	**S**	**17 32 34.4**	**-0.5**
	0.9nm,0.9s,baz=94,slow=15,SNR=5.6						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**17 26 34.8**	**-0.3**
	5.5nm,0.6s,baz=98,slow=7.8,SNR=134						
WRA				S	**S**	**17 32 36.0**	**-0.2**
	0.3nm,0.9s,baz=109,slow=17,SNR=4.5						
MJAR	**Matsushiro Arr**	**70.41**	**323**	P	**P**	**17 29 27.8**	**-0.8**
	1.6nm,0.6s,baz=158,slow=6.3,SNR=6.2						
TXAR	**Lajitas Array**	**86.81**	**57**	P	**P**	**17 30 56.7**	**+0.2**
	0.2nm,0.7s,baz=210,slow=7.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**90.41**	**289**	P	**P**	**17 31 15.1**	**+1.6**
	1.3nm,0.9s,baz=126,slow=3.3,SNR=5.8						
AKASG	**Malin Array Be**	**143.18**	**331**	PKhKP	PKPpre	17 37 38.4	
	1.0nm,0.5s,baz=39,slow=4.5,SNR=7.3						
BRTR	**Keskin Array B**	**147.08**	**312**	PKPbc	**PKPbc**	**17 37 51.5**	**-0.6**
	0.7nm,0.5s,baz=102,slow=4.2,SNR=3.5						
GERES	**GERESS Array B**	**150.30**	**345**	PKPbc	**PKPbc**	**17 37 58.9**	**-0.8**
	0.7nm,0.8s,baz=276,slow=1.2,SNR=6.9						
TORD	**Torodi Ar. Bea**	**152.64**	**175**	PKPab	**PKPab**	**17 39 46.4**	**+0.3**
	0.2nm,0.4s,baz=203,slow=2.3,SNR=2.3						

ISCJB ***02*** *17:26:26.9±0.4, 2°.63N×0°.06×76°.59W±0°.05, h150km±4km, mb3.7/7, Error ellipse: s-maj=9.4km s-min=7.3km az=160.0*
RSNC ***02*** *17:26:29.4±1.2, 2°.63N×76°.60W, h132km±7km, ML3.7*
IDC ***02*** *17:26:29.9±1.9, 2°.55N×76°.36W, h174km±17km, mb3.4/7, mb1 3.6/10, mb1mx3.4/36, mbtmp3.9/10, Error ellipse: s-maj=21.0km s-min=16.5km az=62.0*

ISC 02 17:26:27.3±0.7, 2°.61N±0°.07×76°.59W±0°.05, h147km±6km, n23, σ1°.37/27, mb3.7/7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POPC	**Popayan, Colom**	**0.11**	**231**	*e*P	**Pn**	**17 26 47.0**	**-0.2**
POPC				*i*		17 26 48.2	
	comp=Z,4μm,0.1s						
POPC				*e*S	**Sn**	**17 27 01.6**	**-0.9**
CRUC	**La Cruz**	**1.09**	**199**	*e*P	**Pn**	**17 26 54.1**	**+1.1**
CRUC				*i*		17 26 56.6	
	comp=Z,442nm,0.8s						
BETC	**Betania**	**1.15**	**86**	*e*P	**Pn**	**17 26 53.6**	**+0.5**
BETC				*e*S	**Sn**	**17 27 12.5**	**-0.4**
MALC	**Bahia Malaga**	**1.58**	**332**	*e*P	**Pn**	**17 26 58.8**	**+1.3**
MALC				*e*S	**Sn**	**17 27 20.0**	**-0.5**
MALC				*i*		17 27 30.1	
	comp=Z,533nm,0.4s						
GRGC	**Isla de Gorgon**	**1.62**	**284**	*e*P	**Pn**	**17 26 57.6**	**-0.3**
GRGC				*e*S	**Sn**	**17 27 20.8**	**-0.5**
GRGC				*i*		17 27 27.0	
	comp=Z,463nm,0.5s						
PRAC	**Prado**	**2.03**	**57**	*e*P	**Pn**	**17 27 03.4**	**+0.9**
CMBC	**Cumbal**	**2.06**	**217**	*e*P	**Pn**	**17 27 04.6**	**+1.1**
TUMC	**Tumaco**	**2.27**	**250**	*e*P	**Pn**	**17 27 06.2**	**+0.7**
TOLC	**Tolima**	**2.34**	**33**	*e*P	**Pn**	**17 27 06.9**	**+0.3**
ROSC	**El Rosal**	**3.17**	**46**	P	**Pn**	**17 27 18.6**	**+1.6**
	comp=Z,5.5nm,0.3s,baz=240,slow=5.4,SNR=13						
ROSC				S	**Sn**	**17 27 55.9**	**+0.3**
	comp=Z,8.8nm,0.3s,baz=86,slow=22,SNR=7.4						
ATAH	**Atahualpa**	**9.85**	**191**	P	**Pn**	**17 28 49.2**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=26,slow=9.0,SNR=5.3						
PTGA	**Pitinga**	**16.95**	**101**	P	**P**	**17 30 15.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=285,slow=20,SNR=5.0						
LPAZ	**La Paz**	**20.55**	**156**	P	**P**	**17 30 52.9**	**-2.3**
	comp=Z,1.1nm,0.4s,baz=355,slow=9.9,SNR=6.7						
LVC	**Limon Verde**	**26.16**	**164**	P	**P**	**17 31 50.2**	**+1.7**
	comp=Z,28nm,0.8s,baz=49,slow=5.2,SNR=7.1						
TXAR	**Lajitas Array**	**36.99**	**319**	P	**P**	**17 33 24.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=138,slow=8.2,SNR=9.9						
ANMO	**Albuquerque**	**42.48**	**323**	P	**P**	**17 34 10.2**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=136,slow=7.4,SNR=5.7						
ESDC	**Sonseca Array**	**74.99**	**50**	P	**P**	**17 37 52.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=264,slow=6.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**78.01**	**77**	P	**P**	**17 38 08.6**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=282,slow=5.9,SNR=6.8						
ILAR	**Eielson Array**	**79.33**	**336**	P	**P**	**17 38 16.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=113,slow=4.0,SNR=15						
NOA	**NORSAR Array B**	**86.67**	**29**	P	**P**	**17 38 53.1**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=268,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**127.40**	**18**	PKP	**PKPdf**	**17 45 13.6**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=354,slow=1.1,SNR=3.8						
ASAR	**Alice Springs**	**143.83**	**232**	PKP	PKPbc	17 45 43.0	-1.0
	comp=Z,2.6nm,0.6s,baz=121,slow=3.6,SNR=50						
WRA	**Warramunga Arr**	**145.23**	**238**	PKPbc	**PKPab**	**17 45 47.9**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=115,slow=2.8,SNR=32						

IDC ***02*** *17:27:04.1±0.5, 11°.54N×69°.41W, h0km, mb4.1/10, mb1 4.3/15, mb1mx4.0/43, mbtmp4.2/15, ML3.5/4, MS3.4/9, Ms1 3.4/9, ms1mx3.2/31, Error ellipse: s-maj=17.1km s-min=14.1km az=97.0*
ISCJB ***02*** *17:27:05.6±0.4, 11°.53N±0°.04×69°.46W±0°.04, h26km, mb4.2/14, MS3.3/6, Error ellipse: s-maj=6.8km s-min=4.5km az=155.8*
NEIC ***02*** *17:27:06.0±0.0, 11°.74N×69°.56W, h19km, mb3.9/1, MW4.1(CAR), After CAR.*

ISC 02 17:27:07.4±0.5, 11°.65N±0°.05×69°.54W±0°.05, h26km, n44, σ2°.33/56, mb4.3/14, MS3.4/6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**2.40**	**271**	*e*P	**Pn**	**17 27 44.9**	**-0.1**
URIC				*e*S	**Sn**	**17 28 09.8**	**-3.8**
SDV	**Santo Domingo**	**2.95**	**201**	Pn	**Pn**	**17 27 53.5**	**+0.7**
	14nm,0.3s,baz=21,slow=8.3,SNR=26						
SDV				Pg	**Pb**	**17 27 59.5**	**+0.1**
	91nm,0.3s,baz=56,slow=11,SNR=48						
SDV				Sn	**Sn**	**17 28 30.5**	**+3.0**
	55nm,0.3s,baz=338,slow=19,SNR=3.9						
SDV	**Santo Domingo**	**2.95**	**201**	*e*Pn	**Pn**	**17 27 52.6**	**-0.2**
SDV				*e*Sn	**Sn**	**17 28 27.9**	**+0.4**
OCAC	**Ocana**	**5.03**	**228**	*e*P	**Pn**	**17 28 21.3**	**-0.1**
PCRV	**Puerto La Cruz**	**5.04**	**106**	Pn	**Pn**	**17 28 21.4**	**0.0**
	44nm,0.3s,baz=288,slow=2.5,SNR=242						
PCRV				Sn	**Sn**	**17 29 16.1**	**-2.7**
	39nm,0.3s,baz=119,slow=20,SNR=12						
PAMC	**Pamplona, Colo**	**5.30**	**216**	*e*P	**Pn**	**17 28 24.9**	**-0.4**
PAMC				*e*S	**Sn**	**17 29 19.7**	**-6.1**
SJCC	**San Jacinto, C**	**5.81**	**253**	*e*P	**Pn**	**17 28 32.0**	**0.0**
BRRC	**Barranca, Sant**	**6.11**	**223**	*e*P	**Pn**	**17 28 36.3**	**+0.3**
BRRC				*i*		17 28 38.2	
	comp=Z,206nm,0.6s						
BRRC				*e*S	**Sn**	**17 29 39.0**	**-6.2**
BARC	**Barichara**	**6.18**	**216**	*e*P	**Pn**	**17 28 37.0**	**-0.2**
MOTC	**Monteria, Cord**	**6.67**	**245**	*e*P	**Pn**	**17 28 42.2**	**-1.6**
ZARC	**Zaragoza, Cauc**	**6.67**	**232**	*e*P	Pn	17 28 38.8	-5.1
SJG	**San Juan**	**7.21**	**27**	Pn	**Pn**	**17 28 50.1**	**-1.1**
	comp=Z,5.9nm,0.3s,baz=204,slow=11,SNR=22						
SJG				Sn	**Sn**	**17 30 05.8**	**-6.5**
	comp=Z,16nm,0.3s,baz=45,slow=20,SNR=7.2						
SJG				LR	LR	17 31 46.6	
	comp=Z,289nm,19.3s,baz=261,slow=39						
SJG	**San Juan**	**7.21**	**27**	*e*Pn	**Pn**	**17 28 49.7**	**-1.4**
	comp=Z,101nm,0.9s						
SJG				*e*Sn	**Sn**	**17 30 06.0**	**-6.2**
SDDR	**Presa de Saban**	**7.48**	**347**	*e*Pn	**Pn**	**17 28 57.9**	**+3.0**
	comp=Z,51nm,0.8s						
SDDR				*e*Sn	**Sn**	**17 30 16.2**	**-2.8**
GRGR	**Grenville**	**7.74**	**86**	Pn	**Pn**	**17 28 57.0**	**-1.4**
GRGR				*e*Sn	**Sn**	**17 30 24.0**	**-1.3**
NORC	**Norcasia**	**8.02**	**221**	*e*P	**Pn**	**17 29 02.1**	**-0.2**
CHIC	**Chingaza**	**8.12**	**211**	*e*P	**Pn**	**17 29 03.9**	**0.0**
ROSC	**El Rosal**	**8.25**	**215**	Pn	**Pn**	**17 29 06.6**	**+0.8**
	comp=Z,6.9nm,0.3s,baz=53,slow=20,SNR=2.5						
ROSC				Sn	**Sn**	**17 30 37.1**	**-1.4**
	baz=17,slow=19,SNR=1.7						
ROSC				LR	LR	17 32 58.9	
	comp=Z,247nm,21.3s,baz=87,slow=43						
BCIP	**Isla Barro Col**	**10.42**	**257**	*e*Pn	**Pn**	**17 29 31.9**	**-3.3**
	comp=Z,41nm,0.4s						
PTGA	**Pitinga**	**15.55**	**142**	Pn	**Pn**	**17 30 43.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=253,slow=20,SNR=2.5						
PTGA				Lg	Lg	17 35 04.0	
	comp=Z,0.6nm,0.3s,baz=72,slow=19,SNR=3.1						
PTGA				LR	LR	17 36 57.2	
	comp=Z,283nm,19.4s,baz=292,slow=39						
ATAH	**Atahualpa**	**20.64**	**206**	LR	LR	17 40 45.7	
	comp=Z,133nm,18.6s,baz=323,slow=40						
NNA	**Nana**	**24.58**	**197**	LR	LR	17 44 56.4	
	comp=Z,127nm,19.4s,baz=346,slow=44						
TKL	**Tuckaleechee C**	**27.16**	**334**	LR	LR	17 44 27.9	
	comp=Z,107nm,18.3s,baz=225,slow=38						
LPAZ	**La Paz**	**27.80**	**177**	P	**P**	**17 32 57.7**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=272,slow=5.2,SNR=3.9						
LVC	**Limon Verde**	**34.05**	**179**	P	**P**	**17 33 50.7**	**+0.6**
	comp=Z,9.8nm,0.5s,baz=355,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**36.30**	**304**	P	**P**	**17 34 10.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=140,slow=7.6,SNR=6.5						
TXAR				PcP	**PcP**	**17 36 35.3**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=140,slow=5.4,SNR=5.7						
MNTX	**Cornudas Mount**	**38.57**	**307**	*e*P	**P**	**17 34 29.1**	**+0.9**
	comp=Z,2.1nm,0.8s						
CPUP	**Villa Florida**	**39.58**	**163**	P	**P**	**17 34 34.6**	**-2.0**
	comp=Z,1.6nm,0.9s,baz=356,slow=15,SNR=3.3						
CPUP				LR	LR	17 51 59.6	
	comp=Z,91nm,19.6s,baz=337,slow=38						
ULM	**Lac du Bonnet**	**44.15**	**336**	P	**P**	**17 35 16.5**	**+2.7**
	comp=Z,2.0nm,0.7s,baz=129,slow=15,SNR=2.0						
PDAR	**Pinedale Array**	**46.51**	**319**	LR	LR	18 00 16.8	
	comp=Z,35nm,18.1s,baz=60,slow=43						
PLCA	**Paso Flores**	**52.13**	**181**	P	**P**	**17 36 13.7**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=21,slow=7.9,SNR=15						
YKA	**Yellowknife Ar**	**60.07**	**338**	P	**P**	**17 37 14.7**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=115,slow=6.3,SNR=4.1						
YKA				LR	LR	18 03 57.5	
	comp=Z,5.8nm,18.1s,baz=180,slow=37						
TIC	**Toumodi**	**63.79**	**88**	*e*P	**P**	**17 37 40.7**	**+2.8**
LIC	**Lamto**	**63.85**	**89**	*e*P	**P**	**17 37 37.6**	**-0.7**
	comp=Z,43nm,1.4s						
DBIC	**Dimbokro**	**63.95**	**88**	P	**P**	**17 37 39.1**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=259,slow=12,SNR=5.0						
KIC	**Kosan Boka**	**64.11**	**89**	*e*P	**P**	**17 37 40.1**	**+0.1**
	comp=Z,13nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.37**	**80**	P	**P**	**17 38 13.6**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=290,slow=6.7,SNR=12						
GERES	**GERESS Array B**	**76.89**	**42**	P	**P**	**17 38 59.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=270,slow=5.9,SNR=6.9						
FINES	**FINESS Array B**	**82.54**	**29**	P	**P**	**17 39 28.7**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=222,slow=2.6,SNR=4.1						
CTA	**Charters Tower**	**144.62**	**252**	PKP	**PKPdf**	**17 46 41.6**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=90,slow=4.8,SNR=9.0						
STKA	**Stephens Creek**	**144.97**	**230**	PKPbc	**PKPdf**	**17 46 42.3**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=98,slow=5.1,SNR=18						
CMAR	**Chiang Mai Arr**	**148.00**	**21**	PKPbc	**PKPab**	**17 46 53.1**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=319,slow=3.8,SNR=16						
ASAR	**Alice Springs**	**154.71**	**239**	PKP	**PKPdf**	**17 46 58.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=1.6,SNR=4.9						
ASAR				PKPbc	**pPKPdf**	**17 47 06.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=105,slow=2.3,SNR=9.9						
ASAR				PKPab	**PKPab**	**17 47 20.9**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=109,slow=3.7,SNR=6.2						
WRA	**Warramunga Arr**	**155.61**	**247**	PKP	**PKPdf**	**17 47 02.6**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=85,slow=1.1,SNR=4.7						
WRA				PKPbc	**pPKPdf**	**17 47 08.8**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=99,slow=2.8,SNR=16						
WRA				PKPab	**PKPab**	**17 47 26.1**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=100,slow=4.1,SNR=17						

CSEM ***02*** *18:07:38.3, 41°.52N×13°.99E, h8km, MD2.7/16*

ROM 02 18:07:38.3±0.1, 41°.52N×13°.99E, h8km±1km, Md2.7/16, Ml2.2/15, 2C, Error ellipse: s-maj=1.6km s-min=1.1km az=39.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.08**	**16**	Pg	Pg	18 07 40.8	+0.2
CERA				Sg	Sg	18 07 43.3	+1.1
CERA	**Filignano**	**0.08**	**16**	Pg	Pg	18 07 40.8	+0.2
CERA				Sg	Sg	18 07 43.3	+1.1
VAGA	**Valle Agricola**	**0.21**	**119**	⇑Pg	Pg	18 07 43.1	+0.5
VAGA				Sg	Sg	18 07 47.6	+2.0
	655nm,0.3s						
VAGA	**Valle Agricola**	**0.21**	**119**	⇑Pg	Pg	18 07 43.1	+0.5
VAGA				Sg	Sg	18 07 47.6	+2.0
	655nm,0.3s						
RNI2	**Rionero Sannit**	**0.22**	**34**	Pg	Pg	18 07 43.5	+0.6
RNI2				Sg	Sg	18 07 47.8	+1.8
	718nm,0.7s						
RNI2	**Rionero Sannit**	**0.22**	**34**	Pg	Pg	18 07 43.5	+0.6
RNI2				Sg	Sg	18 07 47.8	+1.8
	718nm,0.7s						
MIDA	**Miranda**	**0.24**	**58**	Pg	Pg	18 07 43.2	+0.1
MIDA				Sg	Sg	18 07 47.1	+0.8

*CSEM **02** 18:08:15.8, 42°.90N×13°.18E, h12km, MD1.2/1*
ROM 02 18:08:15.8±0.1, 42°.90N×13°.18E, h12km±1km, Md1.2/1, Ml0.8/2, Error ellipse: s-maj=2.1km s-min=0.7km az=102.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.08**	**216**	Pg	Pg	18 08 18.8	+0.4
NRCA	396nm,0.1s			Sg	Sg	18 08 20.7	+0.4
NRCA	**Norcia**	**0.08**	**216**	Pg	Pg	18 08 18.8	+0.4
NRCA	396nm,0.1s			Sg	Sg	18 08 20.7	+0.4
FDMO	**Fiordimonte**	**0.15**	**335**	Pg	Pg	18 08 19.9	+0.5
FDMO	35nm,0.2s			Sg	Sg	18 08 22.7	+0.7
FDMO	**Fiordimonte**	**0.15**	**335**	Pg	Pg	18 08 19.9	+0.5
FDMO	35nm,0.2s			Sg	Sg	18 08 22.7	+0.7
CESI	**CESI - Serrava**	**0.23**	**298**	Pg	Pg	18 08 21.3	+0.6
CESI	7.0nm,0.3s			Sg	Sg	18 08 24.9	+1.0
CESI	**CESI - Serrava**	**0.23**	**298**	Pg	Pg	18 08 21.3	+0.6
CESI	7.0nm,0.3s			Sg	Sg	18 08 24.9	+1.0
LNSS	**Leonessa**	**0.31**	**199**	Pg	Pg	18 08 22.3	+0.2
LNSS				Sg	Sb	18 08 27.5	-1.0
LNSS	**Leonessa**	**0.31**	**199**	Pg	Pg	18 08 22.3	+0.2
LNSS				Sg	Sb	18 08 27.5	-1.0

MAN 02 18:20:49, 13°.60N×121°.36E, h55km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.40**	**256**	⇑eP	Pn	18 21 01.4	+1.8
PGP				iS	Sn	18 21 07.3	+0.1
BOAC	**Boac**	**0.50**	**106**	eP	Pn	18 21 04.3	+3.7
BOAC				eS	Sn	18 21 12.6	+3.7
LUBP	**Lubang**	**1.09**	**277**	eP	Pn	18 21 08.6	+0.6
LUBP				eS	Sn	18 21 29.1	+7.0
SJMP	**San Jose**	**1.16**	**192**	eP	Pn	18 21 11.1	+2.1
SJMP				eS	Sn	18 21 24.9	+1.2
OTRP	**Odiongan**	**1.39**	**152**	eP	Pn	18 21 12.3	+0.2
OTRP				eS	Sn	18 21 27.8	-1.7
BUSP	**Coron**	**1.95**	**216**	eP	Pn	18 21 23.3	+3.6
BUSP				eS	Sn	18 21 44.8	+1.8

*NEIC **02** 18:21:48.4±0.0, 38°.31S×178°.07E, h29km, ML4.2(WEL), After WEL.*
WEL 02 18:21:48.2±0.2, 38°.32S×178°.08E, h32km±1km, ML2.6/7, 2C-1D, Error ellipse: s-maj=1.8km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.19**	**149**	P*	Pb	18 21 54.2	-0.4
CNGZ	**Carnagh Statio**	**0.19**	**149**	P*	Pb	18 21 54.5	-0.1
CNGZ				AML	AML	18 22 02.0	
TKGZ	**Te Karaka**	**0.22**	**238**	P*	Pb	18 21 54.6	-0.3
TKGZ	**Te Karaka**	**0.22**	**238**	P*	Pb	18 21 54.6	-0.3
TKGZ				AML	AML	18 22 00.4	
TKGZ				S*	Sn	18 22 00.5	+0.8
PUZ	**Puketiti**	**0.28**	**29**	P*	Pb	18 21 55.3	-0.4
PUZ				S*	Sn	18 22 01.7	+0.3
PUZ	**Puketiti**	**0.28**	**29**	⇓P*	Pb	18 21 55.3	-0.4
PUZ				S*	Sn	18 22 01.4	+0.1
PKGZ	**Pakihiroa**	**0.43**	**359**	P*	Pb	18 21 57.9	+0.1
PKGZ				S*	Sn	18 22 05.7	+0.6
PKGZ				AML	AML	18 22 06.3	
MWZ	**Matawai**	**0.44**	**268**	P*	Pb	18 21 57.5	-0.3
MWZ	**Matawai**	**0.44**	**268**	⇑P*	Pb	18 21 57.5	-0.3
MWZ				S*	Sn	18 22 05.1	-0.1
MWZ				AML	AML	18 22 05.8	
RIGZ	**Rimuhau**	**0.46**	**213**	P*	Pb	18 21 58.2	+0.1
RIGZ				AML	AML	18 22 07.7	
RIGZ				AML	AML	18 22 08.7	
RUGZ	**Raukumara Rang**	**0.48**	**318**	PN	Pb	18 21 58.1	-0.4
RUGZ				S*	Sn	18 22 06.3	0.0
WMGZ	**Waiomatatini S**	**0.57**	**28**	P*	Pn	18 21 59.9	-0.1
WMGZ	**Waiomatatini S**	**0.57**	**28**	PN	Pn	18 21 59.9	-0.1
WMGZ				AML	AML	18 22 10.5	
WMGZ				AML	AML	18 22 10.5	
HAZ	**Te Kaha**	**0.61**	**337**	⇑PN	Pb	18 21 60.0	-0.6
HAZ				AML	AML	18 22 11.2	
HAZ				AML	AML	18 22 11.6	
URZ	**Urewera**	**0.77**	**274**	Pn	Pn	18 22 02.5	-0.2
URZ	**Urewera**	**0.77**	**274**	PN	Pn	18 22 02.5	-0.2
TUZ	**Tuapeka**	**9.87**	**217**	Pn	Pn	18 23 52.9	-15

*IDC **02** 18:26:34.3±2.1, 13°.63N×91°.53W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/36, mbtmp3.7/4, ML3.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/36, Error ellipse: s-maj=61.9km s-min=42.0km az=45.0*
*MEX **02** 18:26:42.5±0.8, 13°.88N×91°.76W, h20km, MD4.0*
ISC 02 18:26:43.1±1.8, 13°.9N±0°.2×91°.9W±0°.2, h54km, n11, σ1§07/11, MS3.1/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.22**	**326**	eP	**Pn**	**18 27 17.0**	**-0.6**
PCIG				eS	**Sn**	**18 27 43.7**	**-0.1**
CCIG	**Comitan**	**2.41**	**355**	eP	**Pn**	**18 27 20.9**	**+0.5**
TGIG		**3.12**	**338**	eP	**Pn**	**18 27 30.4**	**+0.4**
CMIG	**Matias Romero**	**4.30**	**319**	Pn	**Pn**	**18 27 46.1**	**+0.1**
CMIG	2.4nm,0.3s,baz=140,slow=10,SNR=22			Sn	**Sn**	**18 28 34.0**	**-1.0**
CMIG	4.3nm,0.3s,baz=19,slow=20,SNR=4.6			LR	LR	18 29 35.8	
TXAR	**Lajitas Array**	**18.85**	**327**	P	**Pn**	**18 31 01.8**	**+1.8**
TKL	**Tuckaleechee C**	**22.91**	**17**	P	**P**	**18 31 40.7**	**-1.8**
TKL	2.1nm,0.7s,baz=200,slow=10,SNR=4.1			LR	LR	18 41 34.3	
SJG	**San Juan**	**25.12**	**77**	LR	LR	18 41 14.5	
ILAR	**Eielson Array**	**63.00**	**337**	P	**P**	**18 37 04.8**	**+0.7**
RAO	**Raoul Island**	**93.24**	**241**	LR	LR	19 16 35.7	
GEYT	**Alibeck**	**121.31**	**28**	PKP	**PKPdf**	**18 45 30.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**146.15**	**341**	PKPbc	**PKPdf**	**18 46 17.5**	**+0.2**

comp=Z,40nm,18.2s,baz=5.0,slow=32
0.9nm,0.7s,baz=318,slow=1.9,SNR=3.1
2.9nm,0.8s,baz=338,slow=4.1,SNR=16

MEX 02 18:28:27.9±0.3, 17°.91N×101°.71W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.38**	**142**	eP	Pg	18 28 34.9	-0.4
ZIIG				eS	Sg	18 28 40.5	+0.1
ARIG	**Puente Sto Nin**	**1.35**	**74**	eP	Pn	18 28 49.2	-3.6
ARIG				eS	Sb	18 29 05.6	-5.0
CAIG	**El Cayaco**	**1.62**	**122**	eP	Pn	18 28 52.6	-3.9
MEIG	**Mezcala**	**1.99**	**89**	eP	Pn	18 28 56.5	-5.2

*ISCJB **02** 18:40:40.9±0.5, 1°.21S±0°.07×138°.81E±0°.06, h33km, mb4.0/11, MS3.3/4, Error ellipse: s-maj=11.7km s-min=7.4km az=38.6*
*NEIC **02** 18:40:42.6±0.5, 1°.15S×138°.88E, h35km, mb4.4/3, Error ellipse: s-maj=13.6km s-min=9.1km az=71.0*
*IDC **02** 18:40:43.4±0.7, 1°.14S×138°.91E, h38km±5km, mb3.9/11, mb1 4.1/13, mb1mx4.0/36, mbtmp4.2/13, ML4.7/2, MS3.2/5, Ms1 3.2/5, ms1mx3.0/26, Error ellipse: s-maj=20.3km s-min=11.1km az=75.0*
ISC 02 18:40:43.0±0.6, 1°.24S±0°.07×138°.77E±0°.07, h35km, n25, σ2§20/30, mb4.2/11, MS3.3/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.31**	**123**	**Pn**	**Pn**	**18 41 17.2**	**-1.4**
JAY	1.4nm,0.3s,baz=214,slow=23,SNR=95			Sn	**Sn**	**18 41 44.0**	**-1.8**
JAY	8.8nm,0.3s,baz=107,slow=19,SNR=24						
SIJI	**Sorong**	**7.51**	**273**	Pn	**Pn**	**18 42 30.4**	**+0.2**
SIJI	8.9nm,0.3s,baz=81,slow=19,SNR=3.6			Sn	**Sn**	**18 43 51.2**	**-3.0**
SIJI	5.7nm,0.3s,baz=52,slow=17,SNR=2.5						
PMG	**Port Moresby**	**11.64**	**134**	LR	LR	18 48 05.6	
SOEI	**Soe**	**16.72**	**239**	ePn	**Pn**	**18 44 35.1**	**+0.3**
WRAB	**Tennant Creek**	**19.07**	**193**	eP	**Pn**	**18 45 03.9**	**+0.3**
WRA	**Warramunga Arr**	**19.08**	**193**	P	**P**	**18 45 03.9**	**+1.1**
WRA	2.3nm,0.3s,baz=19,slow=12,SNR=144			S	Sn	18 48 25.1	-12
CTA	**Charters Tower**	**20.11**	**159**	P	Pn	18 45 15.9	0.0
CTAO	**Charters Tower**	**20.11**	**159**	eP	**P**	**18 45 12.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.14**	**217**	P	**P**	**18 45 26.2**	**+1.1**
FITZ	5.2nm,0.9s,baz=32,slow=8.9,SNR=5.4			S	**S**	**18 49 11.3**	**-7.2**
ASAR	**Alice Springs**	**22.79**	**192**	P	**P**	**18 45 43.8**	**+1.0**
ASAR	12nm,0.6s,baz=21,slow=10,SNR=121			S	**S**	**18 49 53.3**	**+3.8**
CMAR	**Chiang Mai Arr**	**43.78**	**299**	P	**P**	**18 48 45.1**	**-0.6**
CMAR	1.6nm,1.0s,baz=114,slow=6.8,SNR=7.0			pP	**pP**	**18 48 55.8**	**-0.2**
SONM	**Songino Array**	**56.43**	**334**	P	**P**	**18 50 22.1**	**+0.8**
SONM	0.3nm,0.6s,baz=156,slow=11,SNR=2.5			LR	LR	19 15 02.4	
MKAR	**Makanchi Array**	**68.67**	**322**	P	**P**	**18 51 43.5**	**+0.5**
MKAR	2.5nm,0.8s,baz=108,slow=7.8,SNR=16			pP	**pP**	**18 51 55.0**	**+1.2**
ZALV	**Zalesovo Beam**	**70.71**	**330**	P	**P**	**18 51 54.7**	**-0.6**
ZALV	2.0nm,0.7s,baz=114,slow=6.4,SNR=7.5			pP	**pP**	**18 52 06.8**	**+0.6**
VNDA	**Vanda**	**77.23**	**175**	P	**P**	**18 52 34.7**	**+1.7**
GEYT	**Alibeck**	**83.39**	**308**	P	**P**	**18 53 08.6**	**+1.6**
GEYT	1.5nm,0.7s,baz=86,slow=5.9,SNR=4.7			pP	**sP**	**18 53 20.4**	**-1.7**
GEYT	4.1nm,0.8s,baz=93,slow=2.9,SNR=8.5			LR	LR	19 33 03.0	
ABKAR	**Akbulak array**	**83.65**	**320**	eP	**P**	**18 53 07.0**	**-1.0**
ILAR	**Eielson Array**	**84.48**	**24**	P	**P**	**18 53 10.9**	**-1.0**
PLCA	**Paso Flores**	**130.42**	**151**	PKP	**PKPdf**	**18 59 50.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**135.89**	**288**	PKP	**PKPdf**	**19 00 00.8**	**-0.4**
LPAZ	**La Paz**	**148.24**	**124**	PKPbc	**PKPbc**	**19 00 25.6**	**-1.6**
CPUP	**Villa Florida**	**148.49**	**152**	PKPbc	**PKPdf**	**19 00 24.6**	**+1.3**

IDC 02 18:46:56.2±7.3, 22°.46S×177°.38W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/22, mbtmp3.9/3, Error ellipse: s-maj=346.7km s-min=33.9km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.66**	**259**	P	P	18 55 11.4	+0.3
WRA	**Warramunga Arr**	**44.93**	**264**	P	P	18 55 12.9	-0.3
ILAR	**Eielson Array**	**90.09**	**13**	P	P	18 59 58.3	+0.8
FINES	**FINESS Array B**	**137.81**	**343**	PKP	PKPdf	19 06 20.6	-1.5
AKASG	**Malin Array Be**	**145.00**	**330**	PKPbc	PKPbc	19 06 31.4	-3.2
BRTR	**Keskin Array B**	**148.56**	**310**	PKPbc	PKPbc	19 06 46.2	+0.7

*NNC **02** 18:50:51.9±1.0, 43°.16N×80°.18E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=10.5km s-min=4.6km az=0.0*
*SOME **02** 18:50:51.2, 43°.08N×80°.22E, h25km*
*KRNET **02** 18:50:51.9±0.1, 43°.23N×80°.21E, h29km, mb2.3*
ISC 02 18:50:48.1±1.9, 43°.14N±0°.06×80°.40E±0°.06, h4km±10km, n28, σ1§73/51, 14C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.69**	**272**	eP	Pg	18 50 57.3	-4.1
SHLS	125nm,0.1s			eS	Sg	18 51 01.8	-8.5
PDGK	**Podgornoye**	**0.69**	**286**	⇓iP	**Pg**	**18 51 02.2**	**+0.8**
PDGK	960nm,0.4s baz=280			⇓iS	**Sg**	**18 51 10.2**	**-0.3**
PDGK	**Podgornoye**	**0.69**	**286**	⇓P	**Pg**	**18 51 02.1**	**+0.7**
PDGK	6.8nm,0.2s			⇑S	**Sg**	**18 51 10.0**	**-0.5**
UZB	**Uzynbulak**	**1.01**	**271**	eP	**Pg**	**18 51 06.7**	**-0.8**
UZB	38nm,0.4s 5.2nm,0.1s			eS	**Sg**	**18 51 17.8**	**-2.8**
DJR	**Jarkent**	**1.28**	**340**	eP	**Pg**	**18 51 15.0**	**+2.5**
DJR	48nm,0.2s 18nm,0.0s			eS	**Sn**	**18 51 33.1**	**+2.8**
KPKS	**Kokpek**	**1.30**	**285**	eP	**Pn**	**18 51 12.1**	**-0.9**
KPKS	22nm,0.2s 43nm,0.1s			eS	**Sb**	**18 51 27.4**	**-2.7**
ZHN	**Zhinishke**	**1.44**	**272**	eP	**Pn**	**18 51 14.7**	**-0.3**
ZHN	321nm,0.2s 21nm,0.2s			eS	**Sb**	**18 51 31.5**	**-2.7**
SATY	**Saty**	**1.47**	**268**	eP	**Pn**	**18 51 15.8**	**+0.4**
SATY	71nm,0.2s 41nm,0.1s			eS	**Sn**	**18 51 34.1**	**-0.9**
PRZ	**Przheval'sk**	**1.61**	**247**	⇑iP	**Pb**	**18 51 18.9**	**+0.4**
PRZ	142nm,0.1s baz=241			⇑iS	**Sn**	**18 51 38.0**	**-0.7**
KURS	**Kuram**	**1.67**	**283**	⇑eP	**Pb**	**18 51 19.8**	**+0.4**
KURS	baz=241 2.6nm,0.7s			⇓eS	**Sb**	**18 51 41.0**	**+0.3**
MNBS	**Baschi**	**1.73**	**304**	eP	**Pn**	**18 51 18.6**	**-0.5**
MNBS	15nm,0.6s 28nm,0.2s			eS	**Sn**	**18 51 38.9**	**-2.7**
ANVS	**Anan'yevo**	**2.04**	**261**	⇑eP	**Pn**	**18 51 24.8**	**+1.5**
ANVS	110nm,0.2s baz=257			⇑iS	**Sn**	**18 51 49.4**	**+0.1**
ARXS	**Arharly**	**2.16**	**301**	eP	**Pn**	**18 51 26.6**	**+1.8**
ARXS	8.8nm,0.2s 26nm,0.3s			eS	**Sn**	**18 51 52.7**	**+0.6**
KAPS	**Kapalarasan**	**2.28**	**341**	eP	**Pb**	**18 51 31.5**	**+1.8**
KAPS	4.2nm,0.1s 14nm,0.1s			eS	**Sg**	**18 52 01.2**	**0.0**
KOTS	**Kotyrbulak**	**2.41**	**273**	eP	**Pb**	**18 51 31.7**	**-0.4**
KOTS				eS	**Sb**	**18 52 01.5**	**-0.7**
MDOK	**Medeo**	**2.46**	**272**	Pn	**Pb**	**18 51 32.3**	**-0.6**
MDOK				Lg	Lg	18 52 03.1	
MDOK	**Medeo**	**2.46**	**272**	eP	**Pb**	**18 51 32.3**	**-0.6**
MDOK	3.1nm,0.1s			eS	**Sb**	**18 52 02.6**	**-0.8**
TNSS	**Tian-Shan**	**2.53**	**269**	eP	**Pn**	**18 51 33.0**	**+2.6**
TNSS	11nm,0.6s 2.8nm,0.1s			eS	**Sn**	**18 52 03.7**	**+1.9**
KDJ	**Kajisay**	**2.58**	**248**	⇓eP	**Pn**	**18 51 32.7**	**+1.9**
KDJ	26nm,0.3s baz=245			⇓eS	**Sn**	**18 52 02.6**	**-0.1**
CHKK	**Chushkaly**	**2.59**	**287**	eP	**Pb**	**18 51 33.8**	**-1.2**
CHKK	1.5nm,0.1s 26nm,0.1s			eS	**Sn**	**18 52 05.2**	**+2.7**
IZV	**Izvestkoviy**	**2.78**	**269**	eP	**Pb**	**18 51 37.3**	**-1.1**
IZV	2.3nm,0.1s 30nm,0.4s			eS	**Sb**	**18 52 11.2**	**-1.6**
KUU	**Kurty**	**3.05**	**286**	eP	**Pb**	**18 51 41.7**	**-1.3**
KUU	0.6nm,0.2s 10nm,0.2s			eS	**Sb**	**18 52 18.8**	**-1.7**
ULHL	**Ulahol**	**3.19**	**255**	⇑iP	**Pn**	**18 51 41.4**	**+2.2**
ULHL	baz=253			⇑iS	**Sn**	**18 52 18.4**	**+0.6**
BOOM	**Boomskoye usch**	**3.35**	**260**	⇑eP	**Pn**	**18 51 43.2**	**+1.9**
BOOM	baz=258			⇑iS	**Sn**	**18 52 20.2**	**-1.3**
TKM2	**Tokmak 2**	**3.53**	**268**	⇑iP	**Pn**	**18 51 45.9**	**+2.1**
TKM2	baz=266			⇑iS	**Sn**	**18 52 25.5**	**-0.6**
TKM2	**Tokmak 2**	**3.53**	**268**	⇓Pg	**Pb**	**18 51 53.9**	**+2.7**
TKM2	0.9nm,0.5s 3.1nm,0.5s			⇑Lg	Lg	18 52 37.4	
MK31	**Makanchi Array**	**3.90**	**19**	Pn	**Pb**	**18 51 54.6**	**-2.7**
MK31	1.0nm,0.5s,baz=203,slow=14,SNR=9.0 0.3nm,0.3s			⇓Sn	**Sb**	**18 52 41.3**	**-3.4**
MK31	0.8nm,0.4s			⇓Lg	Lg	18 52 55.9	
AAK	**Ala-Archa**	**4.37**	**265**	Pn	**Pn**	**18 51 58.3**	**+2.9**
AAK	2.2nm,1.1s 1.8nm,0.6s			⇑Lg	Lg	18 53 04.9	

IDC 02 18:58:08.3±3.4, 23°.40S×179°.92E, h515km±31km, mb3.5/4, mb1 3.7/5, mb1mx3.2/22, mbtmp4.4/5, Error ellipse: s-maj=101.5km s-min=25.4km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.50**	**273**	P	P	19 00 54.1	+1.9
STKA	**Stephens Creek**	**34.84**	**247**	P	P	19 04 15.5	-0.4
ASAR	**Alice Springs**	**42.04**	**260**	P	P	19 05 14.6	-0.1
ASAR	0.3nm,0.3s,baz=58,slow=9.5,SNR=3.5 3.6nm,0.5s,baz=95,slow=7.4,SNR=117			ScP	ScP	19 09 59.4	+0.2
WRA	**Warramunga Arr**	**42.37**	**266**	P	P	19 05 16.8	-0.4
TXAR	**Lajitas Array**	**90.23**	**58**	P	P	19 10 14.0	-0.1

*IDC **02** 19:13:29.4±6.7, 15°.21S×167°.48E, h129km±65km, mb3.8/5, mb1 3.9/6, mb1mx3.5/30, mbtmp4.1/6, Error ellipse: s-maj=57.1km s-min=36.0km az=149.0*
ISC 02 19:13:29.4±1.7, 15°.2S±0°.1×167°.5E±0°.3, h129km, n7, σ1§00/8, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.90**	**188**	P	**Pn**	**19 15 08.9**	**+0.8**
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**19 19 16.8**	**+1.1**
WRA	**Warramunga Arr**	**31.91**	**257**	P	**P**	**19 19 42.1**	**-0.8**
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**19 19 49.4**	**-0.5**
SONM	**Songino Array**	**82.99**	**324**	P	**P**	**19 25 40.4**	**+0.1**
MKAR	**Makanchi Array**	**97.68**	**316**	P	**P**	**19 26 49.9**	**+0.3**
ARCES	**ARCESS Array B**	**120.76**	**345**	PKP	**PKPdf**	**19 32 04.6**	**-1.1**

JMA 02 19:33:16.1±0.1, 38°.08N×144°.20E, h0km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.22**	**298**	P	Pn	19 33 55.2	+1.0
OFUJ				eS	Sb	19 34 23.8	-1.4
JIO	**Ouri**	**2.27**	**280**	P	Pn	19 33 55.8	+0.9
JIO				eS	Sn	19 34 24.9	+1.3
MIYJ	**Miyakonagasawa**	**2.38**	**310**	P	Pn	19 33 57.4	+1.0
MIYJ				eS	Sn	19 34 27.1	+0.7
JMK	**Ichinoseki**	**2.49**	**291**	P	Pn	19 33 59.4	+1.5
JMK				eS	Sn	19 34 30.5	+1.4
JOM	**Ohasama**	**2.66**	**302**	P	Pn	19 34 01.9	+1.6
JOM				eS	Sn	19 34 35.1	+1.8
JOU	**Okura**	**2.80**	**277**	P	Pn	19 34 03.8	+1.6
JOU				eS	Sn	19 34 38.5	+1.9
JRG	**Rokugo**	**3.08**	**296**	P	Pn	19 34 08.0	+2.0
JRG				eS	Sn	19 34 45.3	+1.7
JANG	**Nango**	**3.10**	**319**	P	Pn	19 34 07.4	+1.2
JANG				eS	Sn	19 34 46.0	+2.0
JFT	**Otama**	**3.11**	**261**	P	Pn	19 34 07.8	+1.4
JFT				eS	Sn	19 34 45.2	+0.9
JYK	**Kaneyama**	**3.13**	**287**	P	Pn	19 34 08.6	+1.9
JYK				S	Sn	19 34 47.6	+2.9
JCH	**Churui**	**4.57**	**352**	P	Pn	19 34 24.3	-2.2
JCH				S	Sn	19 35 16.2	-4.2
JRY	**Ryogami san**	**4.71**	**246**	P	Pn	19 34 27.8	-0.7
JRY				S	Sn	19 35 20.4	-3.4
NEM2	**Nemuro 2**	**5.41**	**12**	P	Pn	19 34 32.7	-5.3

IDC 02 19:46:10.4±2.1, 7°.03S×129°.02E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/29, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=89.6km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.49**	**196**	Pn	Pn	19 48 56.5	+0.5
FITZ	0.4nm,0.3s,baz=18,slow=8.4,SNR=12 0.2nm,0.3s,baz=78,slow=20,SNR=3.3			Sn	Sn	19 50 50.9	-14
WRA	**Warramunga Arr**	**13.84**	**159**	Pn	Pn	19 49 28.9	+0.9
WRA	0.1nm,0.3s,baz=340,slow=12,SNR=8.7 0.5nm,0.3s,baz=331,slow=23,SNR=11			Sn	Sn	19 51 51.2	-11
ASAR	**Alice Springs**	**17.20**	**165**	P	Pn	19 50 11.0	-1.3
ASAR	0.1nm,0.3s,baz=340,slow=12,SNR=5.2 0.1nm,0.3s,baz=335,slow=22,SNR=6.5			S	Sn	19 53 11.4	-13
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	19 57 09.8	0.0

*MOS **02** 20:16:39.2±1.1, 55°.48N×110°.49E, h11km, mb4.4/1, Error ellipse: s-maj=12.4km s-min=7.6km az=70.5*
*BYKL **02** 20:16:39.5±0.3, 55°.52N×110°.45E*
*IDC **02** 20:16:41.8±1.7, 55°.39N×110°.60E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/42, mbtmp3.3/4, ML2.8/3, Error ellipse: s-maj=47.3km s-min=21.5km az=123.0*
ISC 02 20:16:40.3±0.6, 55°.48N±0°.02×110°.49E±0°.02, h10km, n53, σ2§81/102, 4C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.57**	**44**	⇓iPg	**Pg**	**20 16 49.7**	**-1.7**
KMO				eSg	**Sg**	**20 16 57.3**	**-1.6**
KMO	242nm,0.4s			Pmax			

KMO				Smax			
	2μm,1.1s						
KMO	**Kumora**	**0.57**	**44**	*e*PG	**Pg**	**20 16 49.6**	**-1.8**
KMO				*e*		20 16 56.9	
KMO				pmax	pmax		
	comp=Z,175nm,0.5s						
KMO				smax	smax		
	comp=N,2μm,1.1s						
NIZ	**Nizh Angarsk**	**0.61**	**299**	⇓*i*Pg	**Pg**	**20 16 50.7**	**-1.5**
NIZ				*e*Sg	**Sg**	**20 16 59.0**	**-1.2**
NIZ				Pmax			
	comp=N,67nm,0.3s						
NIZ				Smax			
	comp=N,362nm,0.4s						
NIZ	**Nizh Angarsk**	**0.61**	**299**	*e*PG	**Pg**	**20 16 50.7**	**-1.5**
NIZ				*e*		20 16 58.0	
NIZ				pmax	pmax		
	comp=Z,122nm,0.5s						
NIZ				smax	smax		
	comp=N,638nm,1.0s						
YLYR	**Ulyunkhan**	**0.72**	**147**	⇑*i*Pg	**Pg**	**20 16 52.3**	**-1.8**
YLYR				*e*Sg	**Sg**	**20 17 03.0**	**-0.5**
YLYR				Pmax			
	comp=N,53nm,0.3s						
YLYR				Smax			
	comp=N,356nm,0.1s						
YLYR	**Ulyunkhan**	**0.72**	**147**	⇑*i*PG	**Pg**	**20 16 52.3**	**-1.8**
YLYR				*e*		20 17 03.3	
YLYR				pmax	pmax		
	comp=Z,49nm,0.2s						
YLYR				smax	smax		
	comp=N,929nm,0.9s						
YOA	**Uoyan**	**0.96**	**46**	*e*Pg	**Pg**	**20 16 56.3**	**-2.4**
YOA				*e*Sg	**Sg**	**20 17 09.6**	**-1.5**
YOA				Pmax			
	comp=N,174nm,0.4s						
YOA				Smax			
	comp=N,2μm,1.2s						
YOA	**Uoyan**	**0.96**	**46**	*e*PG	**Pg**	**20 16 57.0**	**-1.7**
YOA				*i*		20 17 10.5	
YOA				pmax	pmax		
	comp=Z,214nm,0.5s						
YOA				smax	smax		
	comp=E,3μm,1.3s						
UKT	**Uakit**	**1.79**	**88**	⇑*i*Pg	**Pn**	**20 17 11.7**	**+0.5**
UKT				*e*Sg	**Sg**	**20 17 36.5**	**-1.1**
UKT				Pmax			
	comp=E,186nm,1.1s						
UKT				Smax			
	comp=E,389nm,1.0s						
UKT	**Uakit**	**1.79**	**88**	⇑*i*PN	**Pn**	**20 17 11.6**	**+0.4**
UKT				*e*		20 17 34.7	
UKT				pmax	pmax		
	comp=Z,168nm,0.6s						
UKT				smax	smax		
	comp=N,328nm,0.8s						
SVKR	**Severomuysk**	**1.85**	**69**	*e*Pg	**Pb**	**20 17 13.0**	**-1.1**
SVKR				*e*Sg	**Sb**	**20 17 38.1**	**+0.8**
SVKR				Pmax			
	comp=N,185nm,0.4s						
SVKR				Smax			
	comp=N,2μm,1.1s						
SVKR	**Severomuysk**	**1.85**	**69**	*e*PN	**Pb**	**20 17 13.3**	**-0.8**
SVKR				*e*		20 17 37.5	
SVKR				pmax	pmax		
	comp=Z,184nm,0.8s						
SVKR				smax	smax		
	comp=N,2μm,1.1s						
SYVR	**Suvo**	**1.85**	**189**	*e*Pg	**Pb**	**20 17 13.3**	**-0.8**
SYVR				*e*		20 17 15.5	
SYVR				*e*Sg	**Sg**	**20 17 39.1**	**-0.5**
SYVR				max			
	comp=N,83nm,0.8s						
SYVR				Smax			
	comp=N,396nm,1.4s						
SYVR	**Suvo**	**1.85**	**189**	*e*PN	**Pb**	**20 17 13.6**	**-0.5**
SYVR				*e*		20 17 37.9	
SYVR				pmax	pmax		
	comp=Z,84nm,0.8s						
SYVR				smax	smax		
	comp=E,408nm,1.0s						
MXMB	**Maximikha**	**2.44**	**205**	*e*Pn	**Pn**	**20 17 21.4**	**+1.2**
MXMB				*e*Pg	**Pb**	**20 17 23.7**	**-0.6**
MXMB				*e*Sg	**Sg**	**20 17 56.6**	**-2.2**
OGRR	**Ongureny**	**2.50**	**224**	*e*Pn	**Pn**	**20 17 21.6**	**+0.7**
OGRR				*e*Pg	**Pb**	**20 17 24.2**	**-1.0**
OGRR				*e*Sg	**Sb**	**20 17 56.9**	**+1.0**
OGRR				Pmax			
	comp=E,27nm,0.4s						
OGRR				Smax			
	comp=E,189nm,1.1s						
BOD	**Bodaibo**	**3.04**	**38**	*e*Pn	**Pn**	**20 17 28.2**	**-0.2**
BOD				*e*Pg	**Pb**	**20 17 33.3**	**-1.2**
BOD				*e*		20 17 39.6	
BOD				*e*Sg	**Sb**	**20 18 12.9**	**+1.3**
BOD				Pmax			
	comp=E,17nm,0.3s						
BOD				Smax			
	comp=E,157nm,1.0s						
KELR	**Kotokel**	**3.07**	**208**	*e*Pn	**Pn**	**20 17 29.0**	**+0.1**
KELR				*e*Pg	**Pb**	**20 17 35.0**	**0.0**
KELR				*e*Sg	**Sg**	**20 18 15.5**	**-3.4**
KELR				*e*		20 18 20.0	
NLYR	**Nelyaty**	**3.10**	**69**	*e*Pn	**Pn**	**20 17 29.5**	**+0.3**
NLYR				*e*Pg	**Pb**	**20 17 34.7**	**-0.8**
NLYR				*e*Sg	**Sb**	**20 18 15.0**	**+1.7**
NLYR				Pmax			
	comp=E,60nm,0.8s						
NLYR				Smax			
	comp=E,348nm,1.1s						
NLYR	**Nelyaty**	**3.10**	**69**	*e*PN	**Pn**	**20 17 29.6**	**+0.3**
NLYR				*e*		20 17 37.5	
NLYR				*e*		20 18 13.3	
NLYR				pmax	pmax		
	comp=Z,60nm,1.1s						
NLYR				smax	smax		
	comp=E,347nm,1.4s						
ZRHB	**Zarechye**	**3.53**	**215**	Pg	**Pb**	**20 17 44.6**	**+1.8**
ZRHB				*e*Sg	**Sg**	**20 18 32.3**	**-1.3**
ZRHB				Smax			
	comp=E,416nm,1.1s						
TRG	**Tyrgan**	**3.66**	**224**	*e*Pn	**Pn**	**20 17 37.8**	**+0.9**
TRG				Pg	**Pb**	**20 17 44.1**	**-0.9**
TRG				*e*Sg	**Sb**	**20 18 32.3**	**+3.0**
TRG				Pmax			
	comp=E,14nm,0.6s						
TRG				Smax			
	comp=E,74nm,0.8s						
TRTB	**Turuntaevo**	**3.67**	**209**	*e*Pn	**Pn**	**20 17 37.5**	**+0.4**
TRTB				*e*		20 17 39.6	
TRTB				*e*Pg	**Pb**	**20 17 45.6**	**+0.4**
TRTB				*e*		20 18 22.0	
TRTB				*e*Sg	**Sg**	**20 18 33.8**	**-4.3**
TRTB				Pmax			
	comp=E,10.0nm,0.4s						
TRTB				Smax			
	comp=E,94nm,1.5s						
CIT	**Chita**	**3.91**	**151**	*e*Sg	**Sb**	**20 18 40.2**	**+3.5**
CIT				Smax			
	comp=E,71nm,0.9s						
CIT	**Chita**	**3.91**	**151**	*e*PN	**Pn**	**20 17 40.9**	**+0.5**
CIT				*e*		20 17 49.8	
CIT				*e*S	**Sn**	**20 18 24.9**	**-1.5**
CIT				*e*		20 18 39.1	
CIT				pmax	pmax		
	comp=Z,32nm,0.2s						
CIT				smax	smax		
	comp=E,136nm,1.9s						
UUDB	**Ulan-Yde**	**3.99**	**206**	*e*Pg	**Pb**	**20 17 51.1**	**+0.4**
UUDB				*e*Sg	**Sg**	**20 18 43.2**	**-5.1**
UUDB				*e*		20 18 51.3	
UUDB				Pmax			
	comp=E,23nm,1.1s						
UUDB				max			
	comp=E,157nm,1.9s						
STDB	**Stepnoy Dvoret**	**4.12**	**218**	*e*Sg	**Sg**	**20 18 49.2**	**-3.3**
KAB	**Kabansk**	**4.12**	**215**	*e*Sg	**Sg**	**20 18 47.2**	**-5.3**
KAB				Smax			
	comp=E,297nm,1.5s						
CRS	**Chara**	**4.57**	**69**	*e*Pn	**Pn**	**20 17 50.8**	**+1.3**
CRS				*e*Pg	**Pb**	**20 18 01.9**	**+1.3**
CRS				*e*Sn	Sn	20 18 29.7	-13
CRS				*e*Sg	**Sg**	**20 19 01.4**	**-5.6**
CRS				*e*		20 19 12.6	
CRS				Pmax			
	comp=E,55nm,1.2s						
CRS				Smax			
	comp=E,188nm,1.0s						
CRS	**Chara**	**4.57**	**69**	*e*PN	**Pg**	**20 18 04.4**	**-3.4**
CRS				*e*		20 19 00.5	
CRS				pmax	pmax		
	comp=Z,55nm,1.0s						
CRS				smax	smax		
	comp=E,217nm,1.0s						
BGT	**Bolshoye Golou**	**4.58**	**223**	*e*Sg	**Sb**	**20 19 00.2**	**+4.5**
BGT				Smax			
	comp=E,139nm,1.2s						
IRK	**Irkutsk**	**4.91**	**231**	*e*	**Sn**	**20 18 52.6**	**+1.8**
IRK				*e*Sg	**Sg**	**20 19 11.0**	**-6.6**
IRK				Smax			
	comp=E,275nm,1.0s						
IRK	**Irkutsk**	**4.91**	**231**	*e*PN	**Pn**	**20 17 54.4**	**+0.4**
IRK				*e*		20 18 08.0	
IRK				*e*S	**Sn**	**20 18 50.2**	**-0.6**
IRK				*e*		20 19 11.5	
IRK				pmax	pmax		
	comp=Z,36nm,0.1s						
IRK				smax	smax		
	comp=N,274nm,1.2s						
LSTR	**Listvyanka**	**4.94**	**225**	*e*Pn	**Pn**	**20 17 54.8**	**+0.3**
LSTR				*e*Pg	**Pb**	**20 18 06.9**	**+0.1**
LSTR				*e*		20 18 55.3	
LSTR				*e*Sg	**Sb**	**20 19 11.5**	**+5.3**
IVK	**Ivanovka**	**5.16**	**227**	*e*Pn	**Pn**	**20 17 57.5**	**0.0**
IVK				Pg	**Pb**	**20 18 12.3**	**+1.7**
IVK				*e*		20 18 55.8	
IVK				*e*Sg	**Sg**	**20 19 19.5**	**-6.4**
IVK				*e*		20 19 22.0	
IVK				max			
	comp=N,117nm,1.5s						
TUP	**Tupik**	**5.56**	**97**	*e*Pn	**Pn**	**20 18 02.7**	**-0.3**
TUP				Pg	**Pb**	**20 18 20.3**	**+3.0**
TUP				*e*Sn	**Sn**	**20 19 05.8**	**-1.0**
TUP				*e*Sg	**Sg**	**20 19 33.7**	**-4.8**
TUP				*e*		20 19 41.2	
TUP				Pmax			
	comp=N,7.0nm,0.8s						
TUP				Smax			
	comp=N,113nm,1.2s						
TUP	**Tupik**	**5.56**	**97**	*e*PN	**Pn**	**20 18 03.2**	**+0.2**
TUP				*e*		20 18 19.8	
TUP				*e*S	**Sn**	**20 19 06.8**	**0.0**
TUP				*e*		20 19 32.6	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TUP				smax	smax		
	comp=N,111nm,1.2s						
TLY	**Talaya**	**5.58**	**230**	*e*Pg	**Pb**	**20 18 19.5**	**+1.8**
TLY				*e*Sn	**Sn**	**20 19 04.4**	**-3.0**
TLY				*e*Sg	**Sg**	**20 19 31.8**	**-7.4**
TLY				Pmax			
	comp=N,4.0nm,0.4s						
TLY				Smax			
	comp=N,75nm,1.4s						
TLY	**Talaya**	**5.58**	**230**	*e*PN	**Pn**	**20 18 03.6**	**+0.3**
TLY				*e*		20 18 19.9	
TLY				*e*S	**Sn**	**20 19 07.3**	**-0.1**
TLY				*e*		20 19 30.0	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TLY				smax	smax		
	comp=E,66nm,0.9s						
KPC	**Khapcheranga**	**5.90**	**168**	*e*Pn	**Pn**	**20 18 07.0**	**-0.7**
KPC				*e*		20 18 19.3	
KPC				*e*Pg	**Pb**	**20 18 26.8**	**+3.6**
KPC				*e*Sn	**Sn**	**20 19 12.3**	**-3.1**
KPC				*e*Sg	**Sg**	**20 19 44.9**	**-4.6**
KPC				Pmax			
	comp=E,3.0nm,0.6s						
KPC				Smax			
	comp=E,67nm,1.1s						
KPC	**Khapcheranga**	**5.90**	**168**	*e*PN	**Pn**	**20 18 07.0**	**-0.7**
KPC				*e*		20 18 26.0	
KPC				*e*S	**Sn**	**20 19 12.9**	**-2.5**
KPC				*e*		20 19 43.2	
KPC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KPC				smax	smax		
	comp=E,78nm,1.9s						
ARS	**Arshan**	**5.97**	**237**	*e*Pn	**Pn**	**20 18 07.1**	**-1.6**
ARS				*e*		20 18 11.4	
ARS				*e*Pg	**Pb**	**20 18 26.5**	**+2.1**
ARS				*e*Sn	**Sn**	**20 19 15.8**	**-1.3**
ARS				*e*Sg	**Sg**	**20 19 45.3**	**-6.5**
ARS				*e*		20 19 57.1	
ARS				Pmax			
	comp=E,17nm,0.7s						
ARS				max			
	comp=E,199nm,1.0s						
ARS	**Arshan**	**5.97**	**237**	*e*PN	**Pn**	**20 18 08.6**	**-0.1**
ARS				*e*		20 18 25.1	
ARS				*e*S	**Sn**	**20 19 16.9**	**-0.2**
ARS				*e*		20 19 45.6	
ARS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARS				smax	smax		
	comp=E,199nm,0.7s						
ZAK	**Zakamensk**	**6.71**	**223**	Pg	**Pb**	**20 18 39.9**	**+2.9**
ZAK				*e*		20 19 58.8	
ZAK				*e*Sg	**Sg**	**20 20 08.5**	**-7.0**
ZAK				Pmax			
	comp=E,7.0nm,0.4s						
ZAK				Smax			
	comp=E,54nm,1.1s						
MOY	**Mondy**	**6.82**	**240**	*e*Pn	**Pn**	**20 18 21.7**	**+1.3**
MOY				*e*		20 19 39.0	
MOY				*e*Sg	**Sg**	**20 20 11.9**	**-7.2**
MOY				Smax			
	comp=E,64nm,1.5s						
MOY	**Mondy**	**6.82**	**240**	*e*PN	**Pn**	**20 18 21.5**	**+1.1**
MOY				*e*		20 18 43.9	
MOY				*e*		20 20 12.7	
MOY				pmax	pmax		
	comp=Z,16nm,0.8s						
MOY				smax	smax		
	comp=N,64nm,1.5s						
ORL	**Orlik**	**6.95**	**249**	*e*Pn	**Pn**	**20 18 23.1**	**+0.9**
ORL				*e*		20 19 42.7	
ORL				*e*Sg	**Sg**	**20 20 15.0**	**-8.2**
ORL				Smax			
	comp=N,93nm,1.7s						
ORL	**Orlik**	**6.95**	**249**	*e*PN	**Pn**	**20 18 22.8**	**+0.6**
ORL				*e*		20 18 44.6	
ORL				*e*		20 20 16.9	
ORL				pmax	pmax		
	comp=Z,24nm,1.0s						
ORL				smax	smax		
	comp=N,93nm,1.7s						
SONM	**Songino Array**	**8.07**	**200**	Pn	**Pn**	**20 18 41.0**	**+3.4**
	comp=N,0.1nm,0.3s,baz=15,slow=14,SNR=2.7						
SONM				Pg	Pg	20 19 08.2	-6.4
	comp=N,0.2nm,0.3s,baz=11,slow=15,SNR=4.0						
SONM				Lg	Lg	20 20 52.4	
	comp=N,0.3nm,0.3s,baz=21,slow=25,SNR=7.5						
IENR	**Iengra**	**8.12**	**79**	*e*	Sb	20 20 41.1	+3.5
IENR				*e*Sg	Sg	20 20 50.6	-10
ZALV	**Zalesovo Beam**	**14.89**	**275**	Pn	**Pn**	**20 20 12.6**	**+2.0**
	comp=N,0.1nm,0.3s,baz=67,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**19.60**	**255**	P	**Pn**	**20 21 12.6**	**+2.8**
	comp=N,0.1nm,0.3s,baz=56,slow=10,SNR=6.5						
ILAR	**Eielson Array**	**46.41**	**35**	P	**P**	**20 25 09.4**	**+3.0**
	comp=N,0.3nm,0.8s,baz=302,slow=8.4,SNR=3.7						

CSEM ***02*** *20:27:53.5, 35˚.41N×26˚.98E, h14km, ML1.9/7*
DDA ***02*** *20:28:20.5, 36˚.73N×28˚.38E, h7km, Md2.9*
ATH 02 20:27:53.5, 35˚.41N×26˚.98E, h14km±2km, ML1.9/7, Error ellipse: s-maj=6.4km s-min=0.9km az=150.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**47**	P	Pg	20 27 57.4	-0.7
KARP				AML	AML	20 28 01.2	
	comp=E,1423μm,0.2s						
KARP				S	Sg	20 28 01.4	+0.2
KARP				AML	AML	20 28 01.9	
	comp=N,1889μm,0.2s						
KARP	**Karpathos**	**0.20**	**47**	P	Pg	20 27 57.4	-0.7
KARP				S	Sg	20 28 01.3	+0.1
ZKR	**Zakros**	**0.69**	**245**	P	Pg	20 28 06.0	-0.9
ZKR				S	Sb	20 28 17.1	+0.4
ZKR				AML	AML	20 28 19.6	
	comp=N,158μm,0.4s						
ZKR				AML	AML	20 28 22.3	
	comp=E,169μm,0.4s						
ZKR	**Zakros**	**0.69**	**245**	P	Pg	20 28 06.0	-0.9
ZKR				S	Sb	20 28 17.1	+0.4
NPS	**Neapolis**	**1.13**	**263**	P	Pn	20 28 14.9	+0.1
NPS				S	Sn	20 28 31.8	+1.6
NPS				AML	AML	20 28 38.4	
	comp=N,102μm,0.4s						
NPS				AML	AML	20 28 41.5	
	comp=E,202μm,0.4s						
NPS	**Neapolis**	**1.13**	**263**	P	Pn	20 28 14.9	0.0
NPS				S	Sn	20 28 31.8	+1.6
ARG	**Arkhangelos**	**1.23**	**49**	P	Pg	20 28 17.3	+0.2
ARG				S	Sg	20 28 34.6	+1.4
ARG				AML	AML	20 28 36.2	
	comp=N,97μm,0.4s						
ARG				AML	AML	20 28 37.5	
	comp=E,97μm,0.3s						
ARG	**Arkhangelos**	**1.23**	**49**	P	Pg	20 28 17.3	+0.1
ARG				S	Sg	20 28 34.5	+1.3
LAST	**Lasithi**	**1.25**	**259**	P	Pb	20 28 17.1	+0.2
LAST				S	Sn	20 28 33.4	0.0
LAST				AML	AML	20 28 37.8	
	comp=N,85μm,0.6s						
LAST				AML	AML	20 28 43.2	
	comp=E,62μm,0.6s						
LAST	**Lasithi**	**1.25**	**259**	P	Pb	20 28 17.1	+0.2
LAST				S	Sn	20 28 33.4	0.0
DAT	**Datca**	**1.40**	**20**	*i* S	Sn	20 28 34.3	-2.8
DAT	**Datca**	**1.40**	**20**	S	Sn	20 28 34.3	-2.8
IDI	**Anoyia**	**1.71**	**267**	P	Pb	20 28 24.8	0.0
IDI				S	Sg	20 28 48.9	+0.3
IDI				AML	AML	20 28 52.0	
	comp=E,48μm,0.4s						
IDI				AML	AML	20 28 52.7	
	comp=N,42μm,0.4s						
IDI	**Anoyia**	**1.71**	**267**	P	Pb	20 28 24.8	0.0
IDI				S	Sg	20 28 48.9	+0.3
DALY	**Dalyan (Mu¨la**	**1.95**	**43**	*i* P	Pb	20 28 28.1	-0.7
DALY	**Dalyan (Mu¨la**	**1.95**	**43**	P	Pb	20 28 28.1	-0.7
TURN	**Turunc**	**1.96**	**41**	*i* P	Pn	20 28 23.5	-2.8
TURN	**Turunc**	**1.96**	**41**	P	Pn	20 28 23.5	-2.8
APE	**Apeiranthos**	**2.03**	**325**	P	Pn	20 28 27.9	+0.6
APE				AML	AML	20 29 03.7	
	comp=N,50μm,0.8s						
APE				AML	AML	20 29 08.5	
	comp=E,102μm,1.0s						
APE	**Apeiranthos**	**2.03**	**325**	P	Pn	20 28 27.9	+0.6
FETY	**Fethiye**	**2.10**	**54**	P	Pb	20 28 31.2	-0.1
TAVA	**DENIZLI_Tavas**	**2.58**	**37**	*i* P	Pn	20 28 36.3	+1.5
TAVA	**DENIZLI_Tavas**	**2.58**	**37**	P	Pn	20 28 36.3	+1.4
GOLH	**Golhisar**	**2.77**	**48**	*i* P	Pb	20 28 40.6	-2.2
GOLH	**Golhisar**	**2.77**	**48**	P	Pb	20 28 40.6	-2.2

NNC ***02*** *20:40:32.5±2.5, 41˚.88N×83˚.26E, h11km±10km, mb3.3, mpv2.9, Error ellipse: s-maj=22.8km s-min=10.5km az=170.0*
SOME ***02*** *20:40:42.4, 42˚.90N×83˚.10E, h10km*
ISC 02 20:40:43.3±2.0, 42˚.90N±0˚.09×83˚.05E±0˚.07, h10km, n18, σ2s54/29, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.64**	**281**	⇑Pn	**Pn**	**20 41 22.2**	**-3.9**
	4.9nm,1.1s						
PDGK				⇓Sn	**Sn**	**20 42 00.3**	**+2.0**
	6.0nm,0.4s						
SHLS	**Shalkode**	**2.64**	**277**	*e*P	**Pn**	**20 41 25.4**	**-0.7**
	5.6nm,0.2s						
SHLS				*e*S	**Sn**	**20 41 56.1**	**-2.2**
	40nm,0.4s						
DJR	**Jarkent**	**2.77**	**302**	*e*P	**Pg**	**20 41 34.8**	**-1.6**
	4.8nm,0.3s						
DJR				*e*S	**Sg**	**20 42 12.2**	**0.0**
	4.4nm,0.2s						
UZB	**Uzynbulak**	**2.96**	**276**	*e*P	**Pg**	**20 41 38.2**	**-2.0**
	5.9nm,0.7s						
UZB				*e*S	**Sg**	**20 42 18.5**	**-0.1**
	29nm,0.6s						
KPKS	**Kokpek**	**3.24**	**282**	*e*P	**Pg**	**20 41 44.7**	**-0.8**
	9.5nm,0.5s						
KPKS				*e*S	**Sg**	**20 42 29.7**	**+2.2**
	41nm,0.7s						
SATY	**Saty**	**3.41**	**274**	*e*P	**Pb**	**20 41 44.4**	**+0.4**
	3.3nm,0.2s						
SATY				*e*S	**Sb**	**20 42 29.0**	**+3.5**
	24nm,0.3s						
KAPS	**Kapalarasan**	**3.57**	**313**	*e*P	**Pb**	**20 41 48.3**	**+1.7**
	2.1nm,0.3s						
KAPS				*e*S	**Sg**	**20 42 36.0**	**-2.1**
	2.8nm,0.5s						
MNBS	**Baschi**	**3.58**	**291**	*e*P	**Pb**	**20 41 45.9**	**-0.9**
	5.7nm,0.4s						
MNBS				*e*S	**Sb**	**20 42 31.5**	**+1.1**
	7.9nm,0.3s						
KURS	**Kuram**	**3.62**	**281**	*e*P	**Pb**	**20 41 47.6**	**+0.2**
	2.8nm,0.9s						
KURS				*e*S	**Sb**	**20 42 34.9**	**+3.6**
	6.1nm,0.7s						
MK31	**Makanchi Array**	**3.93**	**352**	⇑Pn	**Pn**	**20 41 46.4**	**+2.7**
	1.5nm,0.9s						
MK31				⇑Pg	Pg	20 42 03.3	+4.7
	1.1nm,0.5s,baz=166,slow=15,SNR=7.2						
MK31				⇑Lg	Lg	20 43 11.7	
	2.2nm,0.6s						
ARXS	**Arharly**	**4.02**	**291**	*e*P	**Pb**	**20 41 56.7**	**+2.5**
	2.4nm,0.2s						
ARXS				*e*S	**Sg**	**20 42 50.4**	**-1.9**
	4.7nm,0.4s						
MDOK	**Medeo**	**4.41**	**275**	Lg	Lg	20 43 04.1	
MDOK	**Medeo**	**4.41**	**275**	*e*P	**Pb**	**20 42 03.7**	**+2.8**
	1.8nm,0.2s						
MDOK				*e*S	**Sg**	**20 43 02.2**	**-2.7**
	6.0nm,0.4s						
TNSS	**Tian-Shan**	**4.48**	**274**	*e*P	**Pb**	**20 42 05.4**	**+3.1**
	2.0nm,0.3s						
TNSS				*e*S	**Sg**	**20 43 05.0**	**-2.2**
	9.2nm,0.6s						
CHKK	**Chushkaly**	**4.52**	**284**	*e*P	**Pb**	**20 42 05.2**	**+2.4**
	1.6nm,0.2s						
CHKK				*e*S	**Sg**	**20 43 04.6**	**-3.8**
	8.2nm,0.2s						
ZSN	**Zaisan**	**4.73**	**15**	*e*P	**Pb**	**20 42 08.4**	**+2.1**
	0.5nm,0.3s						
ZSN				*e*S	**Sg**	**20 43 09.9**	**-5.1**
	1.9nm,0.7s						
TKM2	**Tokmak 2**	**5.47**	**273**	⇑Lg	Lg	20 43 34.4	
	4.0nm,0.6s						
AAK	**Ala-Archa**	**6.30**	**271**	⇑Lg	Lg	20 43 59.1	
	4.8nm,0.9s						

ISCJB ***02*** *20:41:26.5±0.5, 38˚.71N±0˚.02×26˚.49E±0˚.04, h8km±5km, Error ellipse: s-maj=5.5km s-min=3.4km az=166.0*
CSEM ***02*** *20:41:26.3±0.2, 38˚.70N×26˚.51E, h8km, MD2.7, Error ellipse: s-maj=5.9km s-min=4.3km az=82.0*
ATH ***02*** *20:41:26.8, 38˚.70N×26˚.44E, h23km±1km, ML1.9/8, Error ellipse: s-maj=3.3km s-min=1.2km az=257.0*
DDA ***02*** *20:41:26.0, 38˚.73N×26˚.46E, h7km, Md2.7*
ISC 02 20:41:26.1±1.0, 38˚.71N±0˚.02×26˚.47E±0˚.03, h10km±9km, n29, σ0s73/52, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.36**	**164**	*i* P	**Pg**	**20 41 33.4**	**+0.1**
URLA				*i* S	**Sb**	**20 41 39.7**	**-0.6**
URLA	**Izmir**	**0.36**	**164**	P	**Pg**	**20 41 33.4**	**+0.1**
URLA				S	**Sb**	**20 41 39.7**	**-0.6**
CHOS	**Chios island**	**0.46**	**226**	P	**Pb**	**20 41 35.7**	**-0.6**
CHOS				S	**Sg**	**20 41 42.0**	**+0.9**
CHOS				AML	AML	20 41 43.6	
	comp=N,239μm,0.2s						
CHOS				AML	AML	20 41 48.6	
	comp=E,315μm,0.2s						
CHOS	**Chios island**	**0.46**	**226**	P	**Pb**	**20 41 35.7**	**-0.6**
CHOS				S	**Sg**	**20 41 42.0**	**+0.9**
PRK	**Paraskevi**	**0.56**	**344**	P	**Pg**	**20 41 36.3**	**-0.7**
PRK				S	**Sb**	**20 41 46.5**	**+0.4**

PRK AML AML 20 41 49.1
comp=N,318μm,0.2s
PRK AML AML 20 41 49.3
comp=E,295μm,0.2s
PRK Paraskevi 0.56 344 P Pg 20 41 36.3 -0.7
PRK S Sb 20 41 46.5 +0.4
AYVA Ayvalik 0.62 16 *i* P Pg 20 41 37.2 -1.1
AYVA *i* S Sg 20 41 47.2 +0.7
AYVA Ayvalik 0.62 16 P Pg 20 41 37.2 -1.1
AYVA S Sg 20 41 47.2 +0.7
SIGR SIGRI 0.70 317 P Pg 20 41 39.0 -0.6
SIGR AML AML 20 41 52.2
comp=E,182μm,0.4s
SIGR S Sn 20 41 52.4 -0.5
SIGR AML AML 20 41 52.7
comp=N,187μm,0.4s
SIGR SIGRI 0.70 317 P Pg 20 41 39.0 -0.6
SIGR S Sn 20 41 52.4 -0.5
BAYC CANAKKALE_Bayr 1.03 3 *i* P Pg 20 41 45.7 -0.4
BAYC *i* S Sg 20 41 59.1 -0.4
BAYC CANAKKALE_Bayr 1.03 3 P Pg 20 41 45.7 -0.4
BAYC S Sg 20 41 59.2 -0.4
SMG Samos 1.04 164 P Pb 20 41 46.4 +0.2
SMG S Sn 20 42 02.8 +1.5
SMG AML AML 20 42 03.3
comp=E,230μm,0.3s
SMG AML AML 20 42 04.2
comp=N,311μm,0.2s
SMG Samos 1.04 164 P Pb 20 41 46.4 +0.2
SMG S Sn 20 42 02.8 +1.5
AKHS Akhisar 1.06 80 *i* P Pg 20 41 46.7 +0.1
AKHS *i* S Sb 20 42 01.3 +0.7
AKHS Akhisar 1.06 80 P Pg 20 41 46.7 +0.1
AKHS S Sb 20 42 01.3 +0.7
BOZC Bozcaada 1.18 344 *i* P Pb 20 41 49.0 +0.3
BOZC *i* S Sg 20 42 03.5 -0.6
STEP BALIKESIR_Sava 1.18 55 *i* P Pb 20 41 48.5 -0.1
STEP *i* S Sg 20 42 04.4 +0.2
STEP BALIKESIR_Sava 1.18 55 P Pb 20 41 48.5 -0.1
STEP S Sg 20 42 04.4 +0.2
AYDN Tasoluk 1.52 133 *i* P Pn 20 41 51.8 -1.7
AYDN *i* S Sn 20 42 13.0 -0.4
AYDN Tasoluk 1.52 133 P Pn 20 41 51.8 -1.7
AYDN S Sn 20 42 13.0 -0.4
LIA Limnos Island 1.55 320 P Pb 20 41 55.4 +0.4
LIA AML AML 20 42 19.5
comp=E,84μm,1.1s
LIA AML AML 20 42 23.5
comp=N,59μm,1.0s
LIA Limnos Island 1.55 320 P Pb 20 41 55.4 +0.4
APE Apeiranthos 1.80 205 P Pn 20 41 57.1 -0.1
APE AML AML 20 42 25.1
comp=E,132μm,1.6s
APE AML AML 20 42 30.0
comp=N,24μm,0.3s
APE Apeiranthos 1.80 205 P Pn 20 41 57.1 -0.1
SMTH Samothraki Isl 1.91 338 P Pb 20 42 01.3 +0.3
SMTH S Sb 20 42 24.8 -0.1
SMTH AML AML 20 42 34.1
comp=N,32μm,0.5s
SMTH AML AML 20 42 39.5
comp=E,26μm,0.7s
SMTH Samothraki Isl 1.91 338 P Pb 20 42 01.3 +0.3
SMTH S Sb 20 42 24.8 -0.1
ALN Alexandroupoli 2.21 352 P Pn 20 42 04.2 +1.3
ALN AML AML 20 42 45.7
comp=E,20μm,1.1s
ALN AML AML 20 42 48.1
comp=N,18μm,1.1s
ALN Alexandroupoli 2.21 352 P Pn 20 42 04.2 +1.3

IDC ***02*** *20:42:07.2±7.2, 5.°99S×150.°19E, h61km±53km, mb3.7/5, mb1 4.0/6, mb1mx3.5/38, mbtmp4.1/6, ML2.9/1, Error ellipse: s-maj=59.7km s-min=26.9km az=179.0*

ISC 02 20:42:05.5±2.7, 5.°9S±0.°3×150.°2E±0.°2, h52km, n6, σ1$04/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**220**	P	**Pn**	**20 43 14.5**	**+1.2**
	39nm,0.3s,baz=56,slow=6.2,SNR=69						
PMG				S	**Sn**	**20 44 05.1**	**-0.9**
	25nm,0.3s,baz=334,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**20.84**	**226**	P	**P**	**20 46 42.8**	**-0.3**
	4.0nm,0.4s,baz=53,slow=11,SNR=67						
DZM	**Mont Dzumac**	**22.50**	**137**	P	**P**	**20 47 00.5**	**-0.5**
	4.2nm,0.6s,baz=243,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.67**	**220**	P	**P**	**20 47 11.8**	**-0.8**
	0.9nm,0.5s,baz=55,slow=8.9,SNR=19						
FITZ	**Fitzroy Crossi**	**26.90**	**241**	P	**P**	**20 47 41.3**	**-0.6**
	2.0nm,0.5s,baz=74,slow=10						
STKA	**Stephens Creek**	**27.12**	**196**	P	**P**	**20 47 44.6**	**+0.9**
	1.1nm,0.5s,baz=18,slow=9.9,SNR=3.9						

MAN 02 20:49:07, 8.°14N×126.°35E, h22km, mb4.5, ML3.4, MS3.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.05**	**16⇑**	*i* P	Pb	20 49 13.1	+2.1
MATI	**Mati**	**1.19**	**184**	*e* P	Pn	20 49 28.0	-0.3
MATI				*e* S	Sn	20 49 47.0	+3.3
SCPH	**Surigao**	**1.84**	**333⇑**	*e* P	Pn	20 49 37.8	+0.4

ISCJB ***02*** *20:54:40.8±0.8, 77.°23N±0.°03×20.°1E±0.°1, h0km±5km, mb4.0/27, MS3.3/20, Error ellipse: s-maj=5.6km s-min=4.2km az=40.5*
NAO ***02*** *20:54:42.6±1.5, 77.°36N×19.°95E, h12km±15km, ML4.7*
IDC ***02*** *20:54:42.1±0.5, 77.°31N×19.°50E, h0km, mb3.9/18, mb1 4.1/23, mb1mx3.9/54, mbtmp4.0/23, ML4.4/5, MS3.3/26, Ms1 3.3/26, ms1mx3.2/46, Error ellipse: s-maj=13.3km s-min=6.6km az=65.0*
NEIC ***02*** *20:54:43.9±0.5, 77.°21N×19.°78E, h10km, mb4.3/2, Error ellipse: s-maj=11.3km s-min=8.5km az=64.0*
MOS ***02*** *20:54:43.1±1.9, 77.°18N×19.°83E, h16km, mb4.3/21, Error ellipse: s-maj=39.3km s-min=6.0km az=92.7*
CSEM ***02*** *20:54:43.7±0.2, 77.°23N×20.°06E, h10km, mb4.2/4, Error ellipse: s-maj=6.3km s-min=5.5km az=37.0*
BER ***02*** *20:54:44.9±4.5, 77.°42N×20.°25E, h14km±17km, MD3.0, ML3.9, ML4.7(NAO)*

ISC 02 20:54:42.1±1.3, 77.°30N±0.°03×20.°01E±0.°03, h3km±9km, n142, σ1$95/148, mb4.0/31, MS3.2/20, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.04**	**256**	Pg	**Pb**	**20 55 02.9**	**+0.2**
HSP				Lg	Lg	20 55 17.6	
HSPB	**Hornsund (broa**	**1.05**	**255**	*e*P	**Pb**	**20 55 03.0**	**+0.2**
HSPB				*e*Pg	**Pn**	**20 55 04.4**	**+0.7**
HSPB				*e*S	**Sb**	**20 55 17.2**	**+0.3**
HSPB				IAML		20 55 22.4	
	comp=Z,1μm,0.3s						
HSPB	**Hornsund (broa**	**1.05**	**255**	*e*P	**Pb**	**20 55 03.0**	**+0.2**
HSPB				*e*		20 55 17.1	
HSPB	**Hornsund (broa**	**1.05**	**255**	*e*P	**Pb**	**20 55 03.0**	**+0.2**
	SNR=55						
HSPB	**Hornsund (broa**	**1.05**	**255**	*e*Pg	**Pn**	**20 55 04.5**	**+0.9**
HSPB				*e*S	**Sb**	**20 55 17.2**	**+0.3**
	SNR=55						
HSPB				*e*Sn	**Sn**	**20 55 18.8**	**+0.1**
SPA0	**Spitsbergen Ar**	**1.17**	**320**	Pg	**Pg**	**20 55 04.1**	**-0.4**
	baz=142,slow=22						
SPA0				Lg	Lg	20 55 18.5	
	baz=137,slow=37						
SPA0	**Spitsbergen Ar**	**1.17**	**320**	Pg	**Pg**	**20 55 04.1**	**-0.4**
	baz=142,slow=22						
SPA0				Lg	Lg	20 55 18.5	
	baz=137,slow=37						
SPA0	**Spitsbergen Ar**	**1.17**	**320**	Lg	Lg	20 55 18.5	
	SNR=6.9						
SPITS	**Spitsbergen Ar**	**1.17**	**320**	Pn	**Pg**	**20 55 03.9**	**-0.6**
	baz=138,slow=21,SNR=3310						
SPITS				Sn	**Sg**	**20 55 18.7**	**-1.0**
	baz=138,slow=39,SNR=36						
HOPEN	**Hopen**	**1.39**	**123**	Pn	**Pb**	**20 55 08.7**	**0.0**
HOPEN				Lg	Lg	20 55 28.9	
HOPEN	**Hopen**	**1.39**	**123**	*e*P	**Pb**	**20 55 08.7**	**0.0**
HOPEN				*e*Sg	**Sb**	**20 55 26.9**	**+0.1**
HOPEN				IAML		20 55 31.3	
	comp=Z,10μm,0.5s						
HOPEN	**Hopen**	**1.39**	**123**	*e*P	**Pb**	**20 55 08.7**	**0.0**
	SNR=55						
HOPEN				*e*Sg	**Sb**	**20 55 26.9**	**+0.1**
	SNR=91						
HOPEN				Lg	Lg	20 55 28.9	
BRBA	**Barentsburg A**	**1.46**	**304**	Pn	**Pn**	**20 55 09.2**	**-0.1**
	SNR=55						
BRBA				Lg	Lg	20 55 28.0	
	SNR=50						
KBS	**Kingsbay**	**2.33**	**318**	Pn	**Pn**	**20 55 20.5**	**-0.8**
KBS				Lg	Lg	20 55 53.4	
KBS	**Kingsbay**	**2.33**	**318**	*e*P	**Pn**	**20 55 20.5**	**-0.8**
KBS				*e*Pg	**Pb**	**20 55 25.3**	**+0.5**
KBS				*e*Sg	**Sb**	**20 55 53.5**	**-0.4**
KBS				IAML		20 55 59.8	
	comp=Z,3μm,0.4s						
KBS	**Kingsbay**	**2.33**	**318**	*e*P	**Pn**	**20 55 20.5**	**-0.8**
KBS				*e*		20 55 47.0	
KBS	**Kingsbay**	**2.33**	**318**	*e*Sn	**Sn**	**20 55 47.0**	**-3.4**
KBS				*i* S	**Sb**	**20 55 53.3**	**-0.6**
	SNR=91						
KBS	**Kingsbay**	**2.33**	**318**	*e*Pn	**Pn**	**20 55 20.5**	**-0.8**
KBS				*e*Sn	**Sn**	**20 55 47.0**	**-3.4**
BJO	**Bjornoya**	**2.82**	**184**	*e*P	**Pn**	**20 55 28.5**	**+0.5**
BJO				*e*Pg	**Pg**	**20 55 35.7**	**-0.4**
BJO				*e*Sg	**Sg**	**20 56 12.6**	**0.0**
BJO				IAML		20 56 16.8	
	comp=Z,913nm,0.6s						
BJO	**Bjornoya**	**2.82**	**184**	*e*P	**Pn**	**20 55 28.5**	**+0.5**
	SNR=55						
HAMF	**Hammerfest**	**6.77**	**170**	*e*P	**Pn**	**20 56 20.8**	**-1.4**
HAMF				*e*S	**Sn**	**20 57 32.4**	**-7.3**
HAMF				IAML		20 57 38.3	
	comp=Z,60nm,0.3s						
HAMF	**Hammerfest**	**6.77**	**170**	*e*P	**Pn**	**20 56 20.8**	**-1.4**
	SNR=51						
TRO	**Tromso**	**7.72**	**183**	*e*P	**Pn**	**20 56 38.0**	**+2.8**
KEV	**Kevo**	**7.84**	**162**	*e*P	**Pn**	**20 56 35.8**	**-1.0**
KEV	**Kevo**	**7.84**	**162**	*e*P	**Pn**	**20 56 36.0**	**-0.8**
KEV				*e*		20 58 04.7	
KEV				pmax	pmax		
	comp=Z,27nm,0.5s						
KEV	**Kevo**	**7.84**	**162**	*e*Pn	**Pn**	**20 56 36.0**	**-0.8**
	comp=Z,27nm,0.5s						
KEV				*e*S	**Sn**	**20 58 04.7**	**-1.1**
KEV	**Kevo**	**7.84**	**162**	*e*Pn	**Pn**	**20 56 36.0**	**-0.8**
	comp=Z,27nm,0.5s						
KEV				*e*Sn	**Sn**	**20 58 04.7**	**-1.1**
ARA0	**ARCESS Array S**	**7.96**	**166**	Pn	**Pn**	**20 56 37.5**	**-1.0**
	baz=355,slow=14						
ARA0				Sn	**Sn**	**20 58 03.4**	**-5.6**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**7.96**	**166**	P	**Pn**	**20 56 37.5**	**-1.0**
	baz=355,slow=14						
ARA0				S	**Sn**	**20 58 03.4**	**-5.6**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**7.96**	**166**	P	**Pn**	**20 56 37.5**	**-1.0**
	SNR=51						
ARCES	**ARCESS Array B**	**7.96**	**166**	Pn	**Pn**	**20 56 37.4**	**-1.1**
	comp=Z,16nm,0.3s,baz=353,slow=12,SNR=158						
ARCES				Sn	**Sn**	**20 58 03.7**	**-5.3**
	comp=Z,13nm,0.3s,baz=351,slow=17,SNR=4.2						
ARCES				LR	LR	20 59 51.0	
	comp=Z,172nm,21.5s,baz=330,slow=39						
ARE0	**ARCESS Array S**	**7.96**	**166**	*e*P	**Pn**	**20 56 37.0**	**-1.6**
ARE0				*e*S	**Sn**	**20 58 02.9**	**-6.0**
ARE0	**ARCESS Array S**	**7.96**	**166**	*e*P	**Pn**	**20 56 37.0**	**-1.6**
	SNR=51						
KIF	**Kilpisjarvi**	**8.35**	**178**	*e*P	**Pn**	**20 56 42.9**	**-0.9**
KIF	**Kilpisjarvi**	**8.35**	**178**	*e*P	**Pn**	**20 56 42.9**	**-0.9**
	SNR=51						
KTK1	**Kautokeino**	**8.39**	**172**	*e*P	**Pn**	**20 56 43.5**	**-0.9**
KTK1	**Kautokeino**	**8.39**	**172**	*e*P	**Pn**	**20 56 43.5**	**-0.9**
	SNR=51						
HEF	**Hetta**	**9.01**	**171**	*e*P	**Pn**	**20 56 52.2**	**-0.6**
HEF	**Hetta**	**9.01**	**171**	*e*P	**Pn**	**20 56 52.2**	**-0.6**
	SNR=51						
LOF	**Lofoten**	**9.41**	**195**	*e*P	**Pn**	**20 56 59.1**	**+0.8**
LOF	**Lofoten**	**9.41**	**195**	*e*P	**Pn**	**20 56 59.1**	**+0.8**
	SNR=51						
STEI	**Steigen**	**9.53**	**191**	*e*P	**Pn**	**20 57 01.3**	**+1.4**
STEI	**Steigen**	**9.53**	**191**	*e*P	**Pn**	**20 57 01.3**	**+1.4**
	SNR=51						
JMIC	**Jan Mayen**	**9.91**	**245**	LR	LR	21 00 02.4	
	comp=Z,161nm,18.7s,baz=358,slow=33						
LVZ	**Lovozero**	**10.36**	**148**	*e*P	**Pn**	**20 57 09.6**	**-1.8**
LVZ				pmax	pmax		
	comp=Z,23nm,0.6s						
LVZ	**Lovozero**	**10.36**	**148**	*e*P	**Pn**	**20 57 09.6**	**-1.8**
	comp=Z,23nm,0.6s						
LVZ	**Lovozero**	**10.36**	**148**	*e*Pn	**Pn**	**20 57 09.6**	**-1.8**
	comp=Z,22nm,0.6s						
APA0	**Apatity Array**	**10.46**	**152**	Pn	**Pn**	**20 57 10.5**	**-2.2**
	baz=337,slow=14						
APA0	**Apatity Array**	**10.46**	**152**	Pn	**Pn**	**20 57 10.5**	**-2.2**
	baz=337,slow=14						
APA0	**Apatity Array**	**10.46**	**152**	Pn	**Pn**	**20 57 10.5**	**-2.2**
	SNR=55						
KONS	**Konsvik**	**11.05**	**195**	*e*P	**Pn**	**20 57 22.1**	**+1.3**
KONS	**Konsvik**	**11.05**	**195**	*e*P	**Pn**	**20 57 22.1**	**+1.3**
	SNR=51						
STOK	**Stokkvaagen**	**11.23**	**195**	*e*P	**Pn**	**20 57 24.2**	**+1.0**
STOK	**Stokkvaagen**	**11.23**	**195**	*e*P	**Pn**	**20 57 24.2**	**+1.0**
	SNR=51						
MOR8	**Moi Rana**	**11.32**	**192**	*e*P	**Pn**	**20 57 25.5**	**+1.0**
MOR8	**Moi Rana**	**11.32**	**192**	*e*P	**Pn**	**20 57 25.5**	**+1.0**
	SNR=51						
SUMG	**Summit**	**15.25**	**283**	*i* P	**P**	**20 58 24.1**	**+0.6**
	comp=Z,26nm,1.2s						
SUMG	**Summit**	**15.25**	**283**	P	**P**	**20 58 21.3**	**-2.2**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SUMG	**Summit**	**15.25**	**283**	Pn	**P**	**20 58 21.3**	**-2.2**
	comp=Z,6.2nm,0.6s						
SUMG	**Summit**	**15.25**	**283**	Pn	**P**	**20 58 21.3**	**-2.2**
	comp=Z,6.2nm,0.6s						
FIA0	**FINESS Array S**	**16.06**	**169**	Pn	**Pn**	**20 58 24.7**	**-3.9**
	baz=358,slow=12						
FIA0	**FINESS Array S**	**16.06**	**169**	Pn	**Pn**	**20 58 24.7**	**-3.9**
	baz=358,slow=12						
FINES	**FINESS Array B**	**16.06**	**169**	Pn	**Pn**	**20 58 24.4**	**-4.1**
	comp=Z,3.2nm,0.3s,baz=3.0,slow=11,SNR=137						
FINES				Sn	Sn	21 01 14.0	-13
	comp=Z,0.7nm,0.3s,baz=352,slow=18,SNR=3.1						
FINES				LR	LR	21 04 30.5	
	comp=Z,116nm,19.5s,baz=14,slow=37						
NB2	**NORSAR Subarra**	**16.60**	**195**	P	**Pn**	**20 58 36.4**	**+0.8**
	baz=11,slow=12						
NB2	**NORSAR Subarra**	**16.60**	**195**	P	**Pn**	**20 58 36.4**	**+0.8**
	baz=11,slow=12						
NB2	**NORSAR Subarra**	**16.60**	**195**	P	**Pn**	**20 58 36.3**	**+0.8**
	SNR=51						
NOA	**NORSAR Array B**	**16.60**	**195**	Pn	**Pn**	**20 58 34.1**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=7.1,slow=12,SNR=14						
NOA				LR	LR	21 06 10.8	
	comp=Z,43nm,18.4s,baz=0.0,slow=42						
HFS	**Hagfors**	**17.38**	**191**	P	**Pn**	**20 58 43.9**	**-1.4**
	baz=29,slow=11						
HFS	**Hagfors**	**17.38**	**191**	P	**Pn**	**20 58 44.8**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=25,slow=11,SNR=33						
HFS				LR	LR	21 06 05.7	
	comp=Z,94nm,18.1s,baz=356,slow=39						
HFS	**Hagfors**	**17.38**	**191**	P	**Pn**	**20 58 43.9**	**-1.4**
	baz=29,slow=11						
KLMR	**Klimovskoe**	**17.74**	**148**	*i* P	**Pn**	**20 58 44.8**	**-4.9**
NRIK	**Noril'sk**	**19.66**	**77**	P	**P**	**20 59 12.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=339,slow=9.9,SNR=5.7						
NRIK				LR	LR	21 09 23.2	
	comp=Z,80nm,18.1s,baz=340,slow=45						
SOKR	**Solikamsk**	**21.60**	**124**	*e*P	**P**	**20 59 39.5**	**+6.9**
SOKR				pmax	pmax		
	comp=Z,14nm,1.4s						
IZAR	**Zarasai**	**21.77**	**170**	*e*P	**P**	**20 59 34.3**	**-0.2**
IZAR				IAmb	IAmb	20 59 38.0	
	comp=Z,7.7nm,0.9s						
ISAL	**Salakas**	**21.94**	**171**	*e*P	**P**	**20 59 36.2**	**-0.2**
ISAL				IAmb	IAmb	20 59 37.8	
	comp=Z,13nm,0.9s						
IIGN	**Ignalina**	**22.16**	**171**	*e*P	**P**	**20 59 38.5**	**-0.2**
IIGN				IAmb	IAmb	20 59 43.9	
	comp=Z,11nm,0.6s						
IDID	**Didziasalis**	**22.22**	**170**	*e*P	**P**	**20 59 39.1**	**-0.2**
IDID				IAmb	IAmb	20 59 40.6	
	comp=Z,6.8nm,0.7s						
BSD	**Bornholm Skovb**	**22.36**	**188**	*i* P	**P**	**20 59 40.8**	**-0.1**
	comp=Z,2.6nm,0.6s						
BSD	**Bornholm Skovb**	**22.36**	**188**	*i* P	**P**	**20 59 40.8**	**-0.1**
BSD				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BSD	**Bornholm Skovb**	**22.36**	**188**	*i* P	**P**	**20 59 40.8**	**-0.1**
	comp=Z,3.0nm,0.6s						
NACGM	**Naroch**	**22.63**	**170**	*e*	**P**	**20 59 43.0**	**-0.7**
OBN	**Obninsk**	**23.07**	**155**	*e*P	**P**	**20 59 50.1**	**+1.8**
OBN				pmax	pmax		
	comp=Z,28nm,1.4s						
OBN	**Obninsk**	**23.07**	**155**	*e*P	**P**	**20 59 50.1**	**+1.8**
	comp=Z,28nm,1.4s						
ARU	**Arti**	**24.91**	**125**	P	**P**	**21 00 06.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=270,slow=20,SNR=2.7						
ARU	**Arti**	**24.91**	**125**	*c i* P	P	21 00 15.8	+10
ARU						21 00 47.9	
ARU				PPP	PPP	21 00 58.8	
ARU				SS	S	21 05 23.6	+54
ARU				SSS	SSS	21 05 41.9	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LPSR	**Galich'ya Gora**	**25.78**	**153**	*e*P	P	21 00 24.7	+11
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKASG	**Malin Array Be**	**26.94**	**167**	P	**P**	**21 00 23.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=356,slow=9.6,SNR=8.8						
AKASG				LR	LR	21 10 46.5	
	comp=Z,65nm,20.6s,baz=340,slow=36						
AKASG	**Malin Array Be**	**26.94**	**167**	P	**P**	**21 00 24.0**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,65nm,20.6s						
AKASG	**Malin Array Be**	**26.94**	**167**	P	**P**	**21 00 24.0**	**-0.2**
KIEV	**Kiev**	**26.95**	**167**	*e*P	**P**	**21 00 21.3**	**-2.9**
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIEV	**Kiev**	**26.95**	**167**	*e*P	**P**	**21 00 21.3**	**-2.9**
	comp=Z,9.6nm,0.8s						
DPC	**Dobruska-Polom**	**27.10**	**185**	*e*P	**P**	**21 00 26.7**	**+1.0**
DPC	**Dobruska-Polom**	**27.10**	**185**	*e*P	**P**	**21 00 26.7**	**+1.0**
DPC	**Dobruska-Polom**	**27.10**	**185**	P	**P**	**21 00 26.7**	**+1.0**
VSR	**Storozhevoye**	**27.18**	**153**	*e*P	**P**	**21 00 29.5**	**+3.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NKC	**Novy Kostel**	**27.33**	**191**	*e*P	**P**	**21 00 29.1**	**+1.3**
NKC	**Novy Kostel**	**27.33**	**191**	*e*P	**P**	**21 00 29.1**	**+1.3**
NKC	**Novy Kostel**	**27.33**	**191**	P	**P**	**21 00 29.1**	**+1.3**
STHS	**Stebnicka Huta**	**28.00**	**178**	*e*P	**P**	**21 00 35.2**	**+1.4**
STHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STHS	**Stebnicka Huta**	**28.00**	**178**	*e*P	**P**	**21 00 35.2**	**+1.4**
	comp=Z,4.1nm,1.0s						
STHS	**Stebnicka Huta**	**28.00**	**178**	*e*P	**P**	**21 00 35.2**	**+1.4**
VRAC	**Vranov**	**28.13**	**185**	P	**P**	**21 00 36.2**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=70,slow=22,SNR=3.7						
VRAC				LR	LR	21 12 09.7	
	comp=Z,63nm,19.5s,baz=351,slow=37						
LANS	**Liptovska Anna**	**28.26**	**181**	*e*P	**P**	**21 00 37.8**	**+1.7**
LANS	**Liptovska Anna**	**28.26**	**181**	*e*P	**P**	**21 00 37.8**	**+1.7**
LANS	**Liptovska Anna**	**28.26**	**181**	*e*P	**P**	**21 00 37.8**	**+1.7**
KHC	**Kasperske Hory**	**28.39**	**189**	*e*P	**P**	**21 00 33.8**	**-3.5**
KHC	**Kasperske Hory**	**28.39**	**189**	*e*P	**P**	**21 00 33.8**	**-3.5**
GERES	**GERESS Array B**	**28.67**	**189**	P	**P**	**21 00 40.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=19,slow=8.6,SNR=14						
GERES				LR	LR	21 12 07.6	
	comp=Z,44nm,18.9s,baz=352,slow=36						
VYHS	**Vyhne**	**28.92**	**182**	*e*P	**P**	**21 00 42.8**	**+0.8**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VYHS	**Vyhne**	**28.92**	**182**	*e*P	**P**	**21 00 42.8**	**+0.8**
	comp=Z,2.5nm,1.1s						
VYHS	**Vyhne**	**28.92**	**182**	*e*P	**P**	**21 00 42.8**	**+0.8**
BVAR	**Borovoye Array**	**30.41**	**113**	P	**P**	**21 00 57.0**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=336,slow=10,SNR=3.8						
BVAR	**Borovoye Array**	**30.41**	**113**	P	**P**	**21 00 57.0**	**+1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**30.41**	**113**	P	**P**	**21 00 57.0**	**+1.9**
DAVOX	**Davos/Dischmat**	**30.90**	**194**	LR	LR	21 14 04.1	
	comp=Z,58nm,19.8s,baz=56,slow=38						
MLR	**Muntele Rosu**	**32.01**	**172**	LR	LR	21 15 05.3	
	comp=Z,20nm,20.3s,baz=36,slow=38						
ZALV	**Zalesovo Beam**	**32.62**	**97**	P	**P**	**21 01 15.8**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=329,slow=7.6,SNR=5.8						
ZALV				LR	LR	21 16 04.0	
	comp=Z,21nm,20.4s,baz=248,slow=38						
KURK	**Kurchatov**	**34.31**	**106**	P	**P**	**21 01 30.9**	**+1.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**34.31**	**106**	P	**P**	**21 01 30.9**	**+1.7**
KURK	**Kurchatov**	**34.31**	**106**	P	**P**	**21 01 30.9**	**+1.7**
KURBB	**Kurchatov Arra**	**34.38**	**106**	P	**P**	**21 01 30.9**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=342,slow=8.2,SNR=6.4						
KVAR	**Kislovodsk Arr**	**34.72**	**151**	LR	LR	21 15 38.6	
	comp=Z,45nm,18.9s,baz=356,slow=36						
KBZ	**Khabaz**	**34.97**	**151**	LR	LR	21 14 58.2	
	comp=Z,26nm,19.0s,baz=39,slow=35						
YKA	**Yellowknife Ar**	**37.66**	**327**	LR	LR	21 17 09.5	
	comp=Z,9.0nm,18.4s,baz=0.0,slow=36						
ILAR	**Eielson Array**	**37.93**	**351**	P	**P**	**21 02 01.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=358,slow=7.0,SNR=17						
ILAR				LR	LR	21 17 54.0	
	comp=Z,34nm,18.0s,baz=342,slow=37						
BRTR	**Keskin Array B**	**38.13**	**163**	P	**P**	**21 02 03.5**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=1.1,slow=6.2,SNR=4.3						
BRTR				LR	LR	21 20 45.6	
	comp=Z,33nm,18.1s,baz=346,slow=41						
MKAR	**Makanchi Array**	**38.80**	**104**	P	**P**	**21 02 09.5**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=338,slow=5.9,SNR=14						
MKAR				LR	LR	21 21 47.2	
	comp=Z,61nm,18.5s,baz=352,slow=42						
ESDC	**Sonseca Array**	**39.09**	**210**	P	**P**	**21 02 10.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=10,slow=7.6,SNR=3.4						
AAK	**Ala-Archa**	**41.15**	**114**	P	**P**	**21 02 29.8**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=10,SNR=2.8						
KEST	**Kesra**	**41.94**	**193**	P	**P**	**21 02 35.5**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=134,slow=1.9,SNR=4.3						
GEYT	**Alibeck**	**42

SENK	Senkaya-Erzuru	1.33 122	*e*PN	Pn	21 46 04.0	-0.4
SENK			*e*SN	Sg	21 46 22.8	+0.1
SENK	Senkaya-Erzuru	1.33 122	*e*Pn	Pn	21 46 04.0	-0.4
SENK			*e*Sn	Sg	21 46 22.8	+0.1
YEDI	Yedisu-Bingol	1.85 188	*e*PN	Pn	21 46 11.8	+0.3
YEDI	Yedisu-Bingol	1.85 188	*e*Pn	Pn	21 46 11.8	+0.3
ERZN	Erzincan	1.90 208	*e*PN	Pn	21 46 12.2	+0.1
EZC	Erzincan	1.91 218	*e*Pn	Pn	21 46 12.2	0.0
AKH	Akhalkalaki	1.99 85	P	Pb	21 46 15.3	-0.6
AKH			S	Sb	21 46 40.4	-0.3
AKH	Akhalkalaki	1.99 85	P	Pb	21 46 15.3	-0.6
AKH			S	Sb	21 46 40.4	-0.3
BGD	Bogdanovka	2.06 89	P	Pb	21 46 17.0	-0.2
BGD			S	Sb	21 46 42.5	-0.4
BGD	Bogdanovka	2.06 89	P	Pb	21 46 17.1	-0.2
BGD			S	Sb	21 46 43.6	+0.6
VRTB	Varto-Mus	2.16 168	*e*PN	Pn	21 46 16.3	+0.6
VRTB	Varto-Mus	2.16 168	*e*Pn	Pn	21 46 16.3	+0.6
BNGB	Bing^¶l	2.28 184	*e*PN	Pn	21 46 18.1	+0.7
ONI	Oni	2.34 55	P	Pn	21 46 18.3	+0.2
ONI			S	Sn	21 46 47.5	+0.7
AGRB	Hanur-Agry	2.35 135	*e*PN	Pn	21 46 18.6	+0.3
AGRB	Hanur-Agry	2.35 135	*e*Pn	Pn	21 46 18.6	+0.3
BINT	Bingol	2.41 187	*e*Pn	Pn	21 46 18.1	-1.0
PTK	Pertek	2.63 206	*e*PN	Pn	21 46 22.7	+0.5
PTK	Pertek	2.63 206	*e*Pn	Pn	21 46 22.7	+0.5

WEL 02 21:46:29.9±0.1, 40.°23S×175.°03E, h5km, ML3.5/60, 4C-16D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.22	83	PG	Pg	21 46 35.9	+1.6
OHWZ				SG	Sg	21 46 40.2	+3.0
WAZ	Wanganui	0.48	356	⇑PG	Pb	21 46 41.3	+0.4
WAZ				SG	Sb	21 46 49.0	+0.8
WAZ				AML	AML	21 46 49.7	
POWZ	Post Office Ro	0.59	106	P*	Pg	21 46 41.7	+0.5
POWZ				SG	Sg	21 46 49.4	+0.5
POWZ				AML	AML	21 46 56.3	
OGWZ	Otaki Gorge	0.59	170	⇓P*	Pg	21 46 41.8	+0.5
OGWZ				SG	Sg	21 46 49.4	+0.3
OGWZ				AML	AML	21 46 50.3	
MRZ	Mangatainoka R	0.60	136	⇓P*	Pg	21 46 41.9	+0.4
MRZ				SG	Sg	21 46 49.8	+0.5
MRZ				AML	AML	21 46 50.1	
KIW	Kapiti Island	0.63	188	⇓P*	Pg	21 46 42.2	0.0
KIW				AML	AML	21 46 51.3	
KIW				AML	AML	21 46 53.9	
TSZ	Takapari Road	0.74	77	P*	Pg	21 46 44.3	+0.2
TSZ				AML	AML	21 46 53.6	
TSZ				AML	AML	21 47 01.3	
HOWZ	Holdsworth Sta	0.76	151	⇓P*	Pg	21 46 44.9	+0.4
HOWZ				S*	Sg	21 46 54.8	+0.4
HOWZ				AML	AML	21 46 55.8	
PRWZ	Pori Road	0.79	114	P*	Pb	21 46 45.7	-0.5
PRWZ				AML	AML	21 47 00.5	
PRWZ				AML	AML	21 47 01.3	
TIWZ	Tintock	0.85	130	P*	Pg	21 46 46.7	+0.4
TIWZ				S*	Sg	21 46 57.9	+0.6
TIWZ				AML	AML	21 47 01.8	
CAW	Cannon Point	0.87	178	⇓P*	Pg	21 46 46.7	0.0
CAW				AML	AML	21 46 59.3	
CAW				AML	AML	21 47 00.8	
DVHZ	Dannevirke	0.87	95	P*	Pg	21 46 47.0	+0.3
DVHZ				AML	AML	21 47 01.7	
DVHZ				AML	AML	21 47 02.2	
LREZ	Lake Rotokare	0.91	328	P*	Pn	21 46 49.4	0.0
LREZ				AML	AML	21 47 05.6	
LREZ				AML	AML	21 47 06.7	
MTVZ	Mangateitei	0.91	22	P*	Pg	21 46 47.4	0.0
MTVZ				AML	AML	21 47 03.6	
MTVZ				AML	AML	21 47 04.3	
PNHZ	Pukenui	0.95	71	⇓P*	Pg	21 46 47.8	-0.5
PNHZ				AML	AML	21 47 00.1	
PNHZ				AML	AML	21 47 01.2	
PKVZ	Pokaka	0.97	15	P*	Pg	21 46 48.6	0.0
MTW	Mount Morrison	0.99	159	P*	Pb	21 46 49.4	-0.3
MTW				AML	AML	21 47 04.5	
MTW				AML	AML	21 47 04.5	
MOVZ	Moawhango	1.00	34	P*	Pg	21 46 48.0	-1.1
MOVZ				AML	AML	21 47 03.7	
MOVZ				AML	AML	21 47 03.7	
WNVZ	Wahianoa	1.01	26	P*	Pg	21 46 48.7	-0.5
TRVZ	Turoa	1.01	23	P*	Pg	21 46 49.1	-0.4
TRVZ				AML	AML	21 47 03.4	
TRVZ				AML	AML	21 47 05.9	
DUWZ	D'Urville Isla	1.02	236	⇓P*	Pg	21 46 49.2	-0.2
DUWZ				AML	AML	21 47 05.8	
DUWZ				AML	AML	21 47 07.1	
BFZ	Birch Farm	1.03	116	P*	Pg	21 46 49.8	+0.1
BFZ				AML	AML	21 47 09.3	
BFZ				AML	AML	21 47 09.3	
BFZ				AML	AML	21 47 11.7	
BFZ				AML	AML	21 47 11.7	
DRZ	Dome Shelter	1.04	24	P*	Pg	21 46 50.0	+0.1
DRZ				AML	AML	21 47 07.0	
DRZ				AML	AML	21 47 10.6	
WHVZ	Whangaehu Hut	1.04	25	⇑P*	Pg	21 46 49.5	-0.4
WHVZ				AML	AML	21 47 08.8	
WHVZ				AML	AML	21 47 10.2	
FWVZ	Far West T-bar	1.06	23	⇓P*	Pg	21 46 49.6	-0.6
FWVZ				AML	AML	21 47 04.4	
FWVZ				AML	AML	21 47 04.4	
WEL	Wellington	1.07	191	P*	Pg	21 46 49.8	-0.6
WEL				AML	AML	21 47 07.1	
WEL				AML	AML	21 47 07.1	
WEL				AML	AML	21 47 09.5	
WEL				AML	AML	21 47 09.5	
TUVZ	Tukino	1.08	27	P*	Pg	21 46 50.0	-0.6
TUVZ				AML	AML	21 47 08.9	
TUVZ				AML	AML	21 47 11.5	
BHHZ	Black Hill Sta	1.09	47	⇓P*	Pg	21 46 49.6	-1.3
BHHZ				AML	AML	21 47 06.9	
BHHZ				AML	AML	21 47 06.9	
TMWZ	Te Maipa	1.09	143	P*	Pg	21 46 50.8	-0.1
TMWZ				AML	AML	21 47 07.3	
TMWZ				AML	AML	21 47 07.4	
WPHZ	Waipukurau	1.10	82	P*	Pg	21 46 51.2	+0.2
WPHZ				AML	AML	21 47 08.4	
WPHZ				AML	AML	21 47 08.6	
CPWZ	Castlepoint	1.12	127	P*	Pg	21 46 51.2	-0.2
CPWZ				AML	AML	21 47 12.2	
CPWZ				AML	AML	21 47 13.3	
VRZ	Vera Road	1.13	349	⇓P*	Pb	21 46 52.0	+0.1
VRZ				AML	AML	21 47 14.4	
VRZ				AML	AML	21 47 15.5	
TCW	Tory Channel	1.13	210	⇓P*	Pg	21 46 50.2	-1.4
TCW				AML	AML	21 47 08.2	
TCW				AML	AML	21 47 10.3	
NGZ	Ngauruhoe	1.15	23	P*	Pg	21 46 51.3	-0.6
NGZ				AML	AML	21 47 13.9	
NGZ				AML	AML	21 47 16.4	
OTVZ	Oturere	1.18	25	⇑P*	Pg	21 46 51.8	-0.7
OTVZ				AML	AML	21 47 10.1	
OTVZ				AML	AML	21 47 13.6	
BHW	Baring Head	1.18	186	⇓P*	Pg	21 46 51.9	-0.7
BHW				AML	AML	21 47 09.1	
BHW				AML	AML	21 47 11.2	
PAWZ	Paruwai Farm	1.19	165	P*	Pg	21 46 52.4	-0.3
PAWZ				AML	AML	21 47 09.7	
PAWZ				AML	AML	21 47 10.2	
KRHZ	Kereru	1.19	61	⇓P*	Pg	21 46 51.7	-1.0
KRHZ				AML	AML	21 47 10.4	
KRHZ				AML	AML	21 47 11.5	
MSWZ	Moikau Station	1.19	172	⇑P*	Pg	21 46 52.6	-0.2
MSWZ				AML	AML	21 47 09.9	
MSWZ				AML	AML	21 47 10.2	
WTVZ	West Tongariro	1.20	21	P*	Pg	21 46 52.2	-0.7
WTVZ				AML	AML	21 47 11.4	
WTVZ				AML	AML	21 47 14.2	
NEZ	North Egmont	1.20	323	P*	Pn	21 46 54.7	+1.3
TWVZ	Taurewa	1.20	15	P*	Pg	21 46 52.0	-1.0
TWVZ				AML	AML	21 47 11.9	
TWVZ				AML	AML	21 47 13.0	
PRHZ	Porangahau	1.23	92	P*	Pg	21 46 53.5	0.0
PRHZ				AML	AML	21 47 12.2	
PRHZ				AML	AML	21 47 16.5	
KRVZ	Karewarewa	1.23	23	P*	Pg	21 46 52.7	-0.9
KRVZ				AML	AML	21 47 12.8	
KRVZ				AML	AML	21 47 12.9	
TRWZ	Traveller	1.27	157	P*	Pg	21 46 54.0	-0.3
TRWZ				AML	AML	21 47 12.9	
TRWZ				AML	AML	21 47 13.5	
MHEZ	Mangahewa	1.28	335	P*	Pb	21 46 55.9	+1.5
KWHZ	Kaweka Forest	1.34	53	PN	Pn	21 46 54.4	-1.0
KWHZ				AML	AML	21 47 16.9	
KWHZ				AML	AML	21 47 20.3	
PLWZ	Palliser	1.35	173	PN	Pn	21 46 54.9	-0.6
PLWZ				AML	AML	21 47 14.7	
PLWZ				AML	AML	21 47 15.3	
KATZ	Kakaramea	1.36	23	PN	Pn	21 46 55.2	-0.5
KATZ				AML	AML	21 47 16.0	
KATZ				AML	AML	21 47 25.3	
TUWZ	Tuamarina	1.45	214	PN	Pn	21 46 55.9	-1.0
TUWZ				AML	AML	21 47 20.0	
TUWZ				AML	AML	21 47 21.4	
RATZ	Rangitukua	1.48	23	PN	Pn	21 46 57.4	+0.1
RATZ				AML	AML	21 47 24.3	
RATZ				AML	AML	21 47 24.9	
KAHZ	Kahuranaki	1.49	73	PN	Pn	21 46 56.6	-0.7
KAHZ				AML	AML	21 47 24.7	
KAHZ				AML	AML	21 47 27.7	
MCHZ	McNeill Hill	1.51	59	PN	Pn	21 46 57.5	-0.1
MCHZ				AML	AML	21 47 26.2	
MCHZ				AML	AML	21 47 35.0	
BKZ	Black Stump Fm	1.55	47	⇓PN	Pn	21 46 57.9	-0.4
BKZ				AML	AML	21 47 24.7	
BKZ				AML	AML	21 47 28.0	
NNZ	Nelson	1.59	231	PN	Pn	21 46 58.9	+0.1
NNZ				AML	AML	21 47 22.0	
NNZ				AML	AML	21 47 22.0	
NNZ				AML	AML	21 47 23.9	
NNZ				AML	AML	21 47 27.7	
WATZ	Wairara	1.62	20	PN	Pn	21 46 59.6	+0.4
BSWZ	Blackbirch Sta	1.72	210	PN	Pn	21 47 00.6	+0.1
BSWZ				AML	AML	21 47 28.1	
BSWZ				AML	AML	21 47 29.6	
HIZ	Hauiti	1.72	355	⇓PN	Pn	21 47 01.0	+0.5
HIZ				AML	AML	21 47 24.4	
HIZ				AML	AML	21 47 28.9	
MRHZ	Matea Rd	1.76	38	PN	Pn	21 47 00.8	-0.3
MRHZ				AML	AML	21 47 28.9	
MRHZ				AML	AML	21 47 30.8	
NMHZ	Naumai	1.78	51	PN	Pn	21 47 01.7	+0.2
NMHZ				AML	AML	21 47 34.8	
NMHZ				AML	AML	21 47 35.9	
KUTZ	Kaahu Road	1.85	20	PN	Pb	21 47 04.6	+0.3
KUTZ				AML	AML	21 47 35.2	
KUTZ				AML	AML	21 47 38.6	
TLZ	Tolley Road	1.94	12	PN	Pn	21 47 04.1	+0.4
TLZ				AML	AML	21 47 31.1	
TLZ				AML	AML	21 47 36.9	
QRZ	Quartz Range	2.00	252	⇓PN	Pn	21 47 04.3	0.0
QRZ				AML	AML	21 47 32.5	
QRZ				AML	AML	21 47 32.5	
QRZ				AML	AML	21 47 42.6	
QRZ				AML	AML	21 47 42.6	
THZ	Tophouse	2.22	226	PN	Pn	21 47 08.1	+0.6
THZ				AML	AML	21 47 47.7	
THZ				AML	AML	21 47 49.9	
KHZ	Kahutara	2.45	207	PN	Pn	21 47 09.6	-1.0
TOZ	Tahuroa Road	2.53	9	PN	Pb	21 47 15.1	-0.7
TOZ				AML	AML	21 47 54.6	
DSZ	Denniston Nort	2.87	237	AML	AML	21 48 08.7	
LTZ	Lake Taylor	3.28	218	PN	Pn	21 47 21.4	-0.6
INZ	Inchbonnie	3.67	226	PN	Pn	21 47 25.9	-1.3

NIED ***02*** *21:48:00, 35.°60N×141.°00E, h11km, Mw4.4 Best double couple: M0=4.72000×10^15^ NP1:φs=160.00000°, δ=25.00000°, λ=-106.00000°. NP2:φs=357.00000°, δ=66.00000°, λ=-83.00000°.*

IDC ***02*** *21:48:54.5±0.7, 35.°57N×140.°93E, h0km, mb4.0/15, mb1 4.1/20, mb1mx4.0/46, mbtmp3.9/20, ML3.6/4, MS3.5/16, Ms1 3.5/16, ms1mx3.3/42, Error ellipse: s-maj=19.0km s-min=14.5km az=79.0*

ISCJB ***02*** *21:48:55.6±0.6, 35.°62N±0.°02×141.°07E±0.°04, h22km±3km, mb4.5/36, MS3.7/12, Error ellipse: s-maj=5.7km s-min=4.2km az=171.7*

JMA ***02*** *21:48:56.4±0.1, 35.°65N×141.°02E, h17km±1km, M4.3*

JMA Felt II J1.

NEIC ***02*** *21:48:56.7±3.8, 35.°53N×140.°92E, h14km±23km, mb4.8/14, Error ellipse: s-maj=9.3km s-min=6.5km az=80.0*

NEIC Recorded [2 JMA] in Chiba.

BJI ***02*** *21:48:57.9, 35.°54N×140.°66E, h15km, mb4.5/32, mB4.9/21, Ms4.4/12, Ms7 4.2/10*

ISC 02 21:48:56.2±1.0, 35.°58N±0.°04×140.°99E±0.°05, h9km±6km, n97, σ1=71/105, mb4.6/36, MS3.7/13, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.16	320	⇑P	Pg	21 49 00.4	+0.7
CHOJ				S	Sg	21 49 03.2	+1.1
I30JP	ISUMI INFRASON	0.61	244	Pg	Pn	21 49 10.7	-0.3
	baz=68,slow=20,SNR=1.3						
JCN	Nagara	0.66	256	⇑P	Pb	21 49 09.9	+0.1
JCN				*e*S	Sb	21 49 19.6	+0.5
KTR	Katsuura	0.70	232	P	Pn	21 49 11.3	-0.8
BSO4	Boso 4	0.79	222	P	Pn	21 49 12.7	-0.6
BSO3	Boso 3	0.87	207	P	Pn	21 49 14.1	-0.1
JYT	Yasato	0.92	315	P	Pg	21 49 12.7	-1.1
JYT				S	Sg	21 49 24.8	-0.9
BSO1	Boso 1	0.92	181	P	Pb	21 49 14.0	+0.1
JHO	Hitachi	1.09	342	P	Pg	21 49 15.0	-2.0
MJAR	Matsushiro Arr	2.45	294	Pn	Pn	21 49 36.3	+0.1
	10nm,0.3s,baz=100,slow=12,SNR=39						
MJAR				LR	LR	21 50 04.5	
	comp=Z,355nm,18.3s,baz=110,slow=30						
MJAR				Sn	Sn	21 50 05.5	-0.8
	11nm,0.3s,baz=137,slow=16,SNR=8.1						
MAJO	Matsushiro	2.45	294	*e*Pn	Pn	21 49 36.6	+0.3
MAJO				*e*Sn	Sn	21 50 05.1	-1.3
MAT	Matsushiro	2.45	294	P	Pn	21 49 36.3	0.0
MAT				*e*S	Sn	21 50 05.8	-0.6
MJB9	Matsu-Tunnel	2.46	294	*e*Pn	Pn	21 49 35.6	-0.7
MJB9				*e*Sn	Sn	21 50 04.9	-1.5
JHJ2	Mitsune	2.64	202	*e*Pn	Pn	21 49 38.0	-0.9
JHJ2				*e*Sn	Sn	21 50 10.7	-0.3
JHJ	Hachijo jima 2	2.65	202	Pn	Pn	21 49 37.8	-1.2
	21nm,0.3s,baz=327,slow=21,SNR=19						
JHJ				LR	LR	21 50 08.6	
	comp=Z,231nm,19.0s,baz=94,slow=28						
JHJ				Sn	Sn	21 50 10.5	-0.7
	70nm,0.3s,baz=41,slow=24,SNR=6.7						
INU	Inuyama	3.25	267	*e*Pn	Pn	21 49 46.5	-0.8
ERM	Erimo	6.65	14	*e*Pn	Pn	21 50 33.0	-0.9
ERM				*e*Sn	Sn	21 51 46.9	-2.8
CBIJ	Chichi jima	8.52	173	*e*Pn	Pn	21 50 59.0	-0.6
CBIJ				*e*Sn	Sn	21 52 30.9	-5.0
ASAJ	Asahikawa	8.62	8	Pn	Pn	21 50 58.6	-2.3
	1.4nm,0.3s,baz=196,slow=11,SNR=8.1						
ASAJ	Asahikawa	8.62	8	*e*Pn	Pn	21 50 59.6	-1.4
JNU	Nakatsue	8.71	257	LR	LR	21 54 22.6	
	comp=Z,323nm,20.1s,baz=83,slow=38						
KSRS	Korea Array	10.68	284	Pn	Pn	21 51 27.3	-1.9
	0.2nm,0.3s,baz=103,slow=14,SNR=2.8						
KSRS				LR	LR	21 55 36.9	
	comp=Z,265nm,20.0s,baz=92,slow=38						
KS15	Wonju Array Si	10.71	284	*e*Pn	Pn	21 51 27.3	-2.4
KSAR	Wonju Array Be	10.71	284	Pn	Pn	21 51 27.3	-2.4
USRK	Ussuriysk Ar.	11.04	324	Pn	Pn	21 51 33.1	-1.0
	0.1nm,0.3s,baz=139,slow=11,SNR=2.7						
MDJ	Mudanjiang	12.54	319	P	Pn	21 51 54.0	-0.7
MDJ				S	Sn	21 54 12.5	-2.0
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,53nm,4.0s						
JOW	Kunigami	13.93	235	LR	LR	21 56 55.4	
	comp=Z,218nm,21.4s,baz=70,slow=35						
KLR	Kul'dur	15.24	336	LR	LR	21 58 10.1	
	comp=Z,23nm,18.8s,baz=150,slow=36						
NJ2	Nanjing	18.72	266	*e*P	P	21 53 11.7	-3.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI	Beijing	20.08	290	P	P	21 53 29.6	-0.2
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC	Hu-ho-hao-te	23.65	292	*e*P	P	21 54 07.8	0.0
HHC				S	S	21 58 16.4	-6.2
HHC				SS	SnSn	21 59 04.6	+5.1
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.3s						
HHC				LR	LR		
	comp=N,250nm,13.9s						
HHC				LR	LR		
	comp=E,190nm,13.3s						
MA2	Magadan	24.85	12	LR	LR	22 04 16.2	
	comp=Z,60nm,18.6s,baz=162,slow=37						
YAK	Yakutsk	27.42	348	LR	LR	22 05 43.9	
	comp=Z,144nm,18.6s,baz=270,slow=37						
H11N2	WAKE ISLAND Hy	27.73	118	T	T	22 23 41.3	
	baz=311,slow=75,SNR=868						
H11N1	WAKE ISLAND Hy	27.74	118	T	T	22 23 36.9	
	baz=311,slow=75,SNR=867						
H11N3	WAKE ISLAND Hy	27.75	118	T	T	22 23 41.6	
	baz=311,slow=75,SNR=1025						
SONA1	Songino Array	28.34	306	*e*P	P	21 54 47.4	-3.0
SONA0	Songino Array	28.34	306	*e*P	P	21 54 51.0	+0.7
	16nm,2.0s						
SONM	Songino Array	28.34	306	P	P	21 54 51.0	+0.7
	0.7nm,0.7s,baz=103,slow=8.9,SNR=6.9						
SONM				LR	LR	22 05 53.5	
	comp=Z,73nm,18.8s,baz=104,slow=36						
H11S1	WAKE ISLAND Hy	28.39	120	T	T	22 24 30.3	
	baz=312,slow=76,SNR=3099						
H11S3	WAKE ISLAND Hy	28.39	120	T	T	22 24 29.6	
	baz=312,slow=76,SNR=2731						
H11S2	WAKE ISLAND Hy	28.41	120	T	T	22 24 31.8	
	baz=312,slow=76,SNR=2208						
LZH	Lanzhou	30.00	282	*e*P	P	21 55 06.0	+0.7
LZH				pP	sP	21 55 13.8	+4.4
LZH				sP	pP	21 55 17.5	+9.3
LZH				PP	PnPn	21 56 03.2	+1.5
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,4.9s						
LZH				LR	LR		
	comp=N,360nm,12.7s						
LZH				LR	LR		
	comp=E,380nm,13.0s						
LZH				LR	LR		
	comp=Z,410nm,16.2s						
GYA	Guiyang	30.66	262	*e*P	P	21 55 12.0	+0.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	31.36	272	*e*P	P	21 55 16.0	-1.2
KMI	Kunming	34.42	263	P	P	21 55 44.7	+0.5
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
MYLDM	Lahad Datu	36.67	220	*e*P	P	21 56 01.9	-1.3
	45nm,1.6s						
CM31	Chiang Mai Arr	40.81	257	*e*P	P	21 56 38.1	0.0
CMAR	Chiang Mai Arr	40.81	257	P	P	21 56 38.1	0.0
	0.3nm,0.4s,baz=35,slow=7.0,SNR=4.4						
CMAR				LR	LR	22 15 35.9	
	comp=Z,100nm,20.4s,baz=60,slow=39						
WMQ	Urumqi	41.21	298	P	P	21 56 42.7	+1.5
WMQ				pP	sP	21 56 49.8	+4.5
WMQ				sP	pP	21 56 52.9	+8.8
WMQ				ScS	ScS	22 06 38.2	-7.5
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,93nm,4.3s						
WMQ				LR	LR		
	comp=N,97nm,21.1s						
WMQ				LR	LR		
	comp=E,68nm,15.3s						
ZAA0	Zalesovo Array	42.66	314	*e*P	P	21 56 57.5	+4.8
ZAA1	Zalesovo Array	42.66	314	*e*P	P	21 56 52.0	-0.7
ZALV	Zalesovo Beam	42.66	314	P	P	21 56 52.0	-0.7
	1.1nm,0.6s,baz=91,slow=7.4,SNR=6.3						
MK01	Makanchi Array	44.61	303	*e*P	P	21 57 08.2	-0.5
MK31	Makanchi Array	44.62	303	*e*P	P	21 57 09.0	+0.3
MK32	Makanchi Array	44.62	303	*e*P	P	21 57 08.3	-0.3
MKAR	Makanchi Array	44.62	303	P	P	21 57 08.3	-0.3
	2.1nm,0.8s,baz=88,slow=11,SNR=10						
MKAR				LR	LR	22 16 32.1	
	comp=Z,64nm,18.6s,baz=92,slow=37						
MKAR	Makanchi Array	44.62	303	*e*P	P	21 57 09.0	+0.3
	24nm,0.9s						
KURK	Kurchatov	46.57	309	*e*P	P	21 57 22.6	-1.4
	9.9nm,1.1s						
KURBB	Kurchatov Arra	46.64	309	P	P	21 57 23.9	-0.7
	2.9nm,0.8s,baz=85,slow=8.2,SNR=18						
MDM	Murphy Dome	50.33	31	*e*P	P	21 57 52.8	-0.1
	10nm,1.1s						
SML	Sawmill	50.37	36	*e*P	P	21 57 52.3	-0.9
	44nm,1.4s						
KSH	Kashi	50.70	295	*e*P	P	21 58 00.7	+4.5
KSH				pP	sP	21 58 08.5	+8.2
KSH				sP	pP	21 58 10.7	+12
KSH				PcP	PcP	21 59 17.9	+4.5
KSH				PP	PP	21 59 56.8	+4.8
KSH				PcS	PcS	22 03 14.2	+3.4
KSH				S	S	22 05 14.0	+2.5
KSH				sS	sS	22 05 27.5	+11
KSH				ScS	ScS	22 07 47.8	+0.4
KSH				SS	SS	22 08 47.5	+2.0
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,75nm,4.2s						
KSH				LR	LR		
	comp=N,98nm,6.3s						
KSH				LR	LR		
	comp=E,100nm,5.2s						
KSH				LR	LR		
	comp=Z,110nm,5.2s						
IL1	Eielson Array	50.91	32	*e*P	P	21 57 56.8	-0.4
ILAR	Eielson Array	50.91	32	P	P	21 57 57.5	+0.2
	1.6nm,0.9s,baz=254,slow=5.4,SNR=12						
ILB	Eielson Array	50.91	32	*e*P	P	21 57 57.5	+0.2
BRVK	Borovoye	51.36	313	*e*P	P	21 58 00.9	+0.1
	4.3nm,1.2s						
MID	Middleton Isla	51.54	39	*e*P	P	21 58 01.0	-1.0
	743nm,1.3s						
WB2	Warramunga Arr	55.57	188	*e*P	P	21 58 30.6	-1.4
WR1	Warramunga Arr	55.57	188	*e*P	P	21 58 31.0	-0.9
	15nm,1.2s						
WRA	Warramunga Arr	55.57	188	P	P	21 58 31.0	-0.9
	5.2nm,0.8s,baz=5.5,slow=7.5,SNR=42						
WC3	Warramunga Arr	55.59	188	*e*P	P	21 58 30.6	-1.5
	7.4nm,0.9s						
ARU	Arti	57.23	319	*e*P	P	21 58 43.0	-0.5
	9.8nm,1.3s						
ABKAR	Akbulak array	58.62	311	*e*P	P	21 58 52.9	-0.5
	13nm,0.5s						
AS31	Alice Springs	59.30	188	*e*P	P	21 58 58.3	+0.1
	1

BRTR	Keskin Array B	79.56	312	P	P	22 01 03.8 +0.2
	1.4nm,1.0s,baz=30,slow=5.7,SNR=4.1					
PV10	Paradox Valley	82.00	48	eP	P	22 01 19.4 +2.5
CLL	Collm	82.19	330	↓iP	P	22 01 16.6 -0.7
KHC	Kasperske Hory	83.60	328	eP	P	22 01 24.6 -0.1
GERES	GERESS Array B	83.77	328	P	P	22 01 23.7 -1.9
	0.4nm,0.8s,baz=52,slow=8.0,SNR=3.8					
GERES				LR	LR	22 42 35.8
	comp=Z,36nm,18.3s,baz=15,slow=38					
LTX	Lajitas	91.28	52	eP	P	22 02 03.4 +1.0
TXAR	Lajitas Array	91.28	52	P	P	22 02 03.4 +1.0
	0.7nm,0.9s,baz=308,slow=6.2,SNR=5.4					
GLAT	Glass	94.58	39	eP	P	22 02 19.9 +2.6
LPAZ	La Paz	147.71	61	PKPbc	PKPbc	22 08 42.6 +0.2
	2.5nm,0.9s,baz=8.4,slow=3.2,SNR=10					
LPAZ	La Paz	147.71	61	ePKPbc	PKPbc	22 08 42.9 +0.5

IDC 02 22:10:28.8±4.3, 5°.06S×152°.79E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=147.7km s-min=38.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.27	229	P	P	22 15 38.3	+0.1
	0.3nm,0.8s,baz=49,slow=9.9,SNR=3.0						
MKAR	Makanchi Array	80.51	319	P	P	22 22 44.5	+1.6
	0.3nm,0.6s,baz=98,slow=6.1,SNR=4.9						
ZALV	Zalesovo Beam	81.36	326	P	P	22 22 46.6	-0.6
	0.7nm,0.5s,baz=120,slow=6.0,SNR=3.2						
TORD	Torodi Ar. Bea	150.37	288	PKPbc	PKPdf	22 30 20.6	+2.5
	0.7nm,0.9s,baz=77,slow=1.8,SNR=4.2						
TORD				PKPab	PKPab	22 30 30.4	+0.7
	0.4nm,0.6s,baz=82,slow=2.4,SNR=2.7						

NIED 02 22:29:00,37°.10N×140°.90E,h5km,Mw3.6 Best double couple: M0 3.19000×10^14 NP1:φs48.00000°,δ32.00000°, λ-99.00000°. NP2:φs239.00000°,δ59.00000°, λ-84.00000°.
IDC 02 22:29:52.0±0.9,37°.10N×140°.83E,h0km,mb3.7/7, mb1 3.8/9,mb1mx3.7/40,mbtmp3.7/9,ML3.3/2,MS2.1/1, Ms1 2.1/1,ms1mx2.0/32, Error ellipse: s-maj=18.5km s-min=15.8km az=142.0
ISCJB 02 22:29:52.1±0.8,37°.11N±0°.03×140°.90E±0°.06,h13km±4km, mb3.6/7, Error ellipse: s-maj=8.3km s-min=5.1km az=3.4
JMA 02 22:29:52.9,37°.12N×140°.82E,h5km±1km,M3.7
JMA Felt III J1.
ISC 02 22:29:53.0±1.1, 37°.12N±0°.03×140°.84E±0°.05, h6km±6km, n23, σ0°.58/24, mb3.6/7, 6C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.03	242	↓P	Pg	22 29 53.8	-0.5
JFK	Kawauchi	0.25	7	↑P	Pg	22 29 58.1	+0.2
JFK				eS	Sg	22 30 02.2	+0.9
JHO	Hitachi	0.55	203	↑P	Pg	22 30 03.4	-0.1
JHO				eS	Sg	22 30 11.3	+0.6
JFT	Otama	0.56	315	↑P	Pg	22 30 03.9	0.0
JFT				eS	Sg	22 30 11.8	+0.6
JSB	Shiboa	0.75	259	↑P	Pg	22 30 07.8	+0.5
JSB				S	Sb	22 30 18.2	-0.7
JMM	Marumori	0.75	357	↑P	Pg	22 30 07.0	-0.4
JMM				S	Sg	22 30 17.5	+0.4
JFY	Yanaizu	0.95	288	↑P	Pg	22 30 10.8	-0.4
JFY				S	Sg	22 30 23.3	-0.1
MJAR	Matsushiro Arr	2.18	256	Pn	Pn	22 30 30.7	+0.8
	11nm,0.3s,baz=69,slow=16,SNR=44						
MJAR				Lg	Lg	22 30 59.8	
	21nm,0.3s,baz=83,slow=30,SNR=17						
MJAR				LR	LR	22 31 26.4	
	comp=Z,40nm,20.5s,baz=110,slow=44						
JHJ	Hachijo jima 2	4.08	192	Pn	Pn	22 30 56.3	+0.3
	5.1nm,0.3s,baz=60,slow=20,SNR=3.5						
JHJ				Sn	Sn	22 31 45.2	+1.2
	7.4nm,0.3s,baz=240,slow=20,SNR=2.8						
SONM	Songino Array	27.36	304	P	P	22 35 38.8	-0.1
	0.8nm,0.8s,baz=108,slow=7.0,SNR=5.1						
H11N2	WAKE ISLAND Hy 28.59	120		T	T	23 05 35.3	
	baz=312,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy 28.60	120		T	T	23 05 35.9	
	baz=312,slow=75,SNR=50						
H11N3	WAKE ISLAND Hy 28.61	120		T	T	23 05 36.7	
	baz=312,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy 29.29	122		T	T	23 06 29.0	
	baz=314,slow=75,SNR=34						
H11S3	WAKE ISLAND Hy 29.30	122		T	T	23 06 30.1	
	baz=314,slow=75,SNR=25						
H11S2	WAKE ISLAND Hy 29.31	122		T	T	23 06 30.1	
	baz=314,slow=75,SNR=14						
ZALV	Zalesovo Beam	41.52	312	P	P	22 37 40.5	-0.4
	0.6nm,0.5s,baz=94,slow=6.4,SNR=3.1						
MKAR	Makanchi Array	43.68	302	P	P	22 37 58.7	+0.1
	0.6nm,0.6s,baz=91,slow=10,SNR=5.7						
ILAR	Eielson Array	49.67	32	P	P	22 38 45.3	+0.1
	0.5nm,0.7s,baz=270,slow=6.4,SNR=6.3						
WRA	Warramunga Arr	57.08	187	P	P	22 39 39.2	-0.9
	0.9nm,0.7s,baz=3.5,slow=7.3,SNR=15						
ASAR	Alice Springs	60.81	187	P	P	22 40 05.5	-0.5
	0.2nm,0.6s,baz=12,slow=5.4,SNR=4.5						
FINES	FINESS Array B	68.52	332	P	P	22 40 55.6	-0.4
	1.2nm,0.8s,baz=46,slow=8.0,SNR=2.7						
LPAZ	La Paz	147.05	59	PKPbc	PKPbc	22 49 38.0	+0.1
	0.8nm,0.6s,baz=297,slow=2.6,SNR=4.7						

IDC 02 22:37:48.3±14.0, 12°.83S×166°.88E, h174km±122km, mb3.4/4, mb1 3.6/4, mb1mx3.1/32, mbtmp3.9/4, Error ellipse: s-maj=98.6km s-min=44.3km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.97	227	P	P	22 43 40.6	+0.1
	1.2nm,0.4s,baz=36,slow=10,SNR=8.0						
WRA	Warramunga Arr	31.97	253	P	P	22 43 58.1	-0.1
	0.3nm,0.5s,baz=84,slow=8.8,SNR=5.1						
ASAR	Alice Springs	33.04	246	P	P	22 44 07.3	-0.2
	0.7nm,0.6s,baz=76,slow=9.0,SNR=10						
ILAR	Eielson Array	84.85	18	P	P	22 50 03.0	0.0
	0.7nm,0.5s,baz=234,slow=5.3,SNR=13						
ARCES	ARCESS Array B	118.33	346	PKP	PKPdf	22 56 13.9	-0.5
	0.9nm,0.3s,baz=72,slow=2.0,SNR=35						
FINES	FINESS Array B	123.83	339	PKP	PKPdf	22 56 24.5	-0.6
	1.2nm,0.8s,baz=108,slow=4.9,SNR=5.0						
KEST	Kesra	149.50	322	PKPbc	PKPbc	22 57 17.7	+0.2
	1.3nm,0.6s,baz=330,slow=3.8,SNR=4.1						
ESDC	Sonseca Array	152.07	345	PKPbc	PKPbc	22 57 23.3	-0.1
	0.4nm,0.6s,baz=7.3,slow=3.5,SNR=7.2						

NIED 02 22:38:00,32°.40N×141°.90E,h5km,Mw3.7 Best double couple: M0 4.03000×10^14 NP1:φs137.00000°,δ51.00000°, λ40.00000°. NP2:φs19.00000°,δ60.00000°,λ134.00000°.
IDC 02 22:38:07.9±3.4,32°.14N×141°.61E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.5/32,mbtmp3.5/5,ML3.2/1,MS2.8/3, Ms1 2.8/3,ms1mx2.6/29, Error ellipse: s-maj=113.6km s-min=20.4km az=64.0
ISCJB 02 22:38:09.3±0.9,32°.32N±0°.06×141°.84E±0°.09,h31km, mb3.6/4,MS3.0/1, Error ellipse: s-maj=11.7km s-min=7.6km az=153.7
JMA 02 22:38:09.3±0.1,32°.35N×141°.88E,h34km,M3.6
ISC 02 22:38:11.6±1.3, 32°.30N±0°.09×141°.7E±0°.1, h31km, n13, σ0°.96/17, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.81	296	P	Pn	22 38 40.2	-0.5
JHCJ				eS	Sn	22 39 02.9	+0.3
JHJ2	Mitsune	1.81	297	P	Pn	22 38 40.4	-0.3
JHJ2				eS	Sn	22 39 03.3	+0.6
JHJ	Hachijo jima 2	1.84	297	Pn	Pn	22 38 40.5	-0.6
	34nm,0.3s,baz=158,slow=23,SNR=19						
JHJ				Sn	Sn	22 39 00.7	-2.7
	51nm,0.3s,baz=240,slow=22,SNR=5.7						
BSO1	Boso 1	2.43	345	P	Pn	22 38 47.7	-1.0
BSO1				eS	Sn	22 39 16.5	-0.6
BSO3	Boso 3	2.70	338	P	Pn	22 38 52.0	-0.6
BSO3				eS	Sn	22 39 24.1	0.0
JOD2	Odawara 2	3.69	324	P	Pn	22 39 06.5	0.0
JOD2				eS	Sn	22 39 49.2	+0.2
MJAR	Matsushiro Arr	5.14	326	Pn	Pn	22 39 26.2	-0.3
	0.8nm,0.3s,baz=146,slow=10,SNR=7.2						
JNU	Nakatsue	9.19	278	LR	LR	22 43 18.2	
	comp=Z,27nm,21.4s,baz=124,slow=34						
KSRS	Korea Array	12.45	298	LR	LR	22 45 11.0	
	comp=Z,45nm,18.2s,baz=121,slow=34						
SONM	Songino Array	30.86	311	P	P	22 44 26.6	+1.4
	0.5nm,0.6s,baz=96,slow=7.5,SNR=3.9						
MKAR	Makanchi Array	46.99	306	P	P	22 46 40.2	+0.4
	0.9nm,0.9s,baz=91,slow=6.3,SNR=3.5						
MKAR				LR	LR	23 07 01.2	
	comp=Z,18nm,19.8s,baz=358,slow=37						
WRA	Warramunga Arr	52.43	189	P	P	22 47 20.6	-0.8
	0.5nm,0.5s,baz=5.8,slow=7.7,SNR=9.0						
ASAR	Alice Springs	56.16	189	P	P	22 47 48.4	-0.1
	0.1nm,0.3s,baz=7.5,slow=7.9,SNR=2.9						

CASC 02 22:47:53.7±1.7,6°.29N×82°.58W,h36km±51km,MD4.3
ISC 02 22:47:45.7±3.2, 5°.94N±0°.07×83°.2W±0°.2, h35km, n34, σ2°.23/21, 2C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	Malpelo	2.50	140	eP	Pn	22 48 24.2	+0.3
MAPC				eS	Sn	22 48 48.5	-4.7
BRU2	Volcan	2.88	10	eP	Pn	22 48 31.9	+2.7
TBS2		2.88	11	↓eP	Pn	22 48 32.6	+3.2
AZU	Azuero	3.44	58	iP	Pn	22 48 35.2	-1.7
AZU				eS	Sn	22 49 07.3	-9.1
QCR1	Quepos	3.59	345	↑iP	Pn	22 48 44.6	+5.7
BUS	Buena Vista	3.63	351	↓iP	Pn	22 48 45.7	+5.9
LCR2	La Lucha 2	3.86	348	↓eP	Pn	22 48 48.5	+5.8
URSC	Urasca	3.91	352	↓eP	Pn	22 48 49.4	+6.0
VTR0	Volcan Turrial	4.08	352	eP	Pn	22 48 53.1	+7.0
CVTR	Volcan Turrial	4.09	352	eP	Pn	22 48 52.1	+6.0
HDC	Heredia	4.13	347	eP	Pn	22 48 52.9	+6.4
HDC				eS	Sn	22 49 40.6	+6.9
CGA2	Cerro Gallo 2	4.23	343	eP	Pn	22 48 54.5	+6.6
ZANG	Zanguenga, Cho	4.46	48	iP	Pn	22 48 51.0	+0.1
BCIP	Isla Barro Col	4.62	46	eP	Pn	22 48 53.2	+0.1
UPA	Univ. de Panam	4.73	50	eP	Pn	22 48 54.1	-0.4
UPA				eS	Sn	22 49 39.0	-9.2
ARE1	Arenal 1	4.73	342	eP	Pn	22 49 02.6	+8.0
CUI	Cuipilapa	5.07	338	eP	Pn	22 49 06.7	+7.4
GPS3	Bodega del ICE	5.24	336	eP	Pn	22 49 10.6	+9.0
CRZ1	La Cruz	5.63	335	eP	Pn	22 49 16.1	+9.1
SOLC	Bahia Solano	5.77	87	eP	Pn	22 49 08.0	-0.9
MALC	Bahia Malaga	6.15	108	eP	Pn	22 49 16.0	+1.9
CAPC	Capurgana	6.39	65	eP	Pn	22 49 18.2	+0.8
CAPC				i		22 49 25.1	
	comp=Z,21nm,0.2s						
POPC	Popayan, Colom	7.34	117	eP	Pn	22 49 32.5	+1.9
HELC	Santa Helena	7.64	88	eP	Pn	22 49 35.5	+0.7
TOLC	Tolima	7.97	99	eP	Pn	22 49 41.5	+2.1
MOTC	Monteria, Cord	7.99	69	eP	Pn	22 49 41.6	+2.2
NORC	Norcasia	8.30	92	eP	Pn	22 49 46.3	+2.6
BETC	Betania	8.39	112	eP	Pn	22 49 46.6	+1.7
ZARC	Zaragoza, Cauc	8.43	79	eP	Pn	22 49 46.6	+1.1
PRAC	Prado	8.58	105	eP	Pn	22 49 50.3	+2.7
SJCC	San Jacinto, C	8.87	63	eP	Pn	22 49 53.6	+2.2
ROSC	El Rosal	8.91	97	eP	Pn	22 49 58.2	+5.8
CHIC	Chingaza	9.52	97	eP	Pn	22 50 01.9	+1.0
VILC	Villavicencio,	9.65	100	eP	Pn	22 50 06.2	+3.9

ISCJB 02 23:04:11.8±0.5,26°.1S±0°.1×71°.1E±0°.1,h11km,mb4.0/15, MS3.8/20, Error ellipse: s-maj=15.1km s-min=14.6km az=151.2
IDC 02 23:04:11.8±0.6,26°.11S×71°.05E,h0km,mb4.1/13, mb1 4.2/13,mb1mx3.9/38,mbtmp4.1/13,MS3.7/20, Ms1 3.7/20,ms1mx3.6/27, Error ellipse: s-maj=19.4km s-min=18.1km az=167.0
NEIC 02 23:04:13.5±0.4,26°.14S×71°.06E,h10km,mb4.6/2, Error ellipse: s-maj=11.5km s-min=11.1km az=151.0
ISC 02 23:04:13.7±0.6, 26°.1S±0°.1×71°.0E±0°.1, h11km, n28, σ0°.71/16, mb4.0/15, MS3.7/20, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.45	4	T	T	23 27 28.3	
	baz=186,slow=75,SNR=72						
H08S2	Diego Garcia H	18.45	5	T	T	23 27 18.1	
	baz=186,slow=75,SNR=115						
H08S3	Diego Garcia H	18.47	5	T	T	23 27 19.4	
	baz=186,slow=75,SNR=102						
MATP	Matopo	39.36	269	P	P	23 11 43.5	-0.1
	1.5nm,0.7s,baz=94,slow=11,SNR=6.1						
NWAO	Narrogin (SRO)	40.50	111	LR	LR	23 25 28.9	
	comp=Z,86nm,19.4s,baz=306,slow=32						
BOSA	Boshof	40.54	256	P	P	23 11 54.5	+1.2
	1.9nm,0.7s,baz=107,slow=13,SNR=3.3						
BOSA				LR	LR	23 25 28.8	
	comp=Z,91nm,18.2s,baz=103,slow=32						
KMBO	Kilima Mbogo	40.93	302	LR	LR	23 25 02.4	
	comp=Z,47nm,20.2s,baz=89,slow=31						
LSZ	Lusaka	41.35	276	P	P	23 12 00.3	+0.2
	1.1nm,0.6s,baz=106,slow=8.3,SNR=4.7						
MAW	Mawson	41.78	185	P	P	23 12 02.5	-0.2
	2.6nm,0.8s,baz=18,slow=9.6,SNR=6.1						
MAW				LR	LR	23 25 19.7	
	comp=Z,303nm,20.5s,baz=60,slow=30						
CMAR	Chiang Mai Arr	51.97	34	P	P	23 13 22.9	-0.2
	1.6nm,0.4s,baz=227,slow=7.6,SNR=12						
CMAR				LR	LR	23 32 59.7	
	comp=Z,52nm,18.6s,baz=212,slow=33						
ASAR	Alice Springs	56.58	102	P	P	23 13 56.3	-0.5
	0.8nm,0.8s,baz=255,slow=6.2,SNR=6.4						
ASAR				LR	LR	23 35 36.3	
	comp=Z,64nm,18.9s,baz=272,slow=33						
WRA	Warramunga Arr	58.09	98	P	P	23 14 07.5	0.0
	3.4nm,1.0s,baz=254,slow=7.0,SNR=4.5						
WRA				LR	LR	23 36 19.5	
	comp=Z,77nm,19.1s,baz=285,slow=33						
STKA	Stephens Creek	60.99	113	LR	LR	23 36 53.9	
	comp=Z,65nm,21.6s,baz=207,slow=32						
QSPA	South Pole Qui	63.99	180	eP	P	23 14 47.0	0.0
	7.0nm,0.6s						
VNDA	Vanda	64.85	166	P	P	23 14 52.4	+0.1
	4.7nm,0.9s,baz=278,slow=7.1,SNR=23						
VNDA				LR	LR	23 40 29.6	
	comp=Z,86nm,18.1s,baz=234,slow=34						
GEYT	Alibeck	64.88	349	LR	LR	23 39 08.1	
	comp=Z,47nm,20.6s,baz=180,slow=32						
MKAR	Makanchi Array	73.31	8	P	P	23 15 44.4	-0.6
	2.5nm,0.9s,baz=197,slow=7.0,SNR=11						
MKAR				LR	LR	23 47 13.7	
	comp=Z,36nm,18.4s,baz=156,slow=35						
KBZ	Khabaz	74.17	339	LR	LR	23 46 51.3	
	comp=Z,58nm,20.1s,baz=170,slow=34						
BRTR	Keskin Array B	74.23	331	P	P	23 15 49.7	-1.1
	0.5nm,0.7s,baz=157,slow=7.3,SNR=3.9						
BRTR				LR	LR	23 46 15.7	
	comp=Z,23nm,20.2s,baz=127,slow=34						
ABKAR	Akbulak array	75.71	353	eP	P	23 16 00.0	+1.2
	1.4nm,0.8s						
TORD	Torodi Ar. Bea	77.89	291	P	P	23 16 11.1	-0.9
	1.1nm,0.9s,baz=113,slow=5.9,SNR=6.6						
TORD				LR	LR	23 49 10.7	
	comp=Z,36nm,19.2s,baz=315,slow=35						
SONM	Songino Array	80.21	23	P	P	23 16 25.1	+1.0
	1.8nm,1.0s,baz=220,slow=4.1,SNR=7.5						
SONM				LR	LR	23 54 07.2	
	comp=Z,26nm,18.2s,baz=187,slow=37						
DBIC	Dimbokro	80.39	282	LR	LR	23 49 56.9	
	comp=Z,42nm,19.9s,baz=99,slow=34						
ZALV	Zalesovo Beam	80.65	8	P	P	23 16 26.1	0.0
	1.1nm,0.6s,baz=178,slow=7.4,SNR=5.0						
ZALV				LR	LR	23 49 49.7	
	comp=Z,38nm,21.9s,baz=250,slow=34						
KSRS	Korea Array	82.80	42	LR	LR	23 51 19.1	
	comp=Z,45nm,19.7s,baz=219,slow=34						
FINES	FINESS Array B	94.52	340	LR	LR	23 58 34.7	
	comp=Z,44nm,19.1s,baz=113,slow=34						
NRIK	Noril'sk	95.96	6	LR	LR	00 01 27.7	
	comp=Z,72nm,19.6s,baz=144,slow=36						
BW06	Boulder Array	163.41	2	ePKPdf	PKPdf	23 24 16.9	+0.1

IDC 02 23:11:49.2±74.0, 57°.28S×148°.13E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=1309.0km s-min=292.3km az=142.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	25.80	347	P	P	23 17 21.4	-0.3
	3.8nm,1.0s,baz=170,slow=14,SNR=3.5						
H01W1	Cape Leeuwin H	31.96	300	T	T	23 50 50.3	
	baz=143,slow=75						
H01W2	Cape Leeuwin H	31.97	300	T	T	23 50 51.2	
	baz=143,slow=75						
H01W3	Cape Leeuwin H	31.98	300	T	T	23 50 51.5	
	baz=143,slow=75						
ASAR	Alice Springs	35.13	337	P	P	23 18 44.6	+0.3
	0.7nm,0.9s,baz=168,slow=8.9,SNR=4.1						
WRA	Warramunga Arr	38.66	339	P	P	23 19 14.2	-0.2
	1.0nm,0.6s,baz=167,slow=8.3,SNR=11						
H08S2	Diego Garcia H	75.85	278	T	T	00 46 10.2	
	baz=147						
H08S1	Diego Carcia H	75.86	278	T	T	00 46 09.7	
	baz=147						
H08S3	Diego Garcia H	75.87	278	T	T	00 46 12.6	
	baz=147						

NIED 02 23:12:00,38°.30N×141°.90E,h74km,Mw3.8 Best double couple: M0 5.14000×10^14 NP1:φs212.00000°,δ52.00000°, λ178.00000°. NP2:φs304.00000°,δ88.00000°,λ38.00000°.
JMA 02 23:12:07.2±0.1, 38°.33N×141°.89E, h62km±1km, M3.4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.44	286	P	Pn	23 12 18.8	+0.1
JIO				S	Sn	23 12 26.9	-0.2
OFUJ	Ofunato	0.77	347	P	Pn	23 12 22.4	0.0
OFUJ				S	Sn	23 12 33.4	-0.2
JMK	Ichinoseki	0.81	320	P	Pn	23 12 23.2	+0.3
JMK				S	Sn	23 12 34.7	+0.2
JOU	Okura	0.96	272	P	Pn	23 12 24.9	0.0
JOU				S	Sn	23 12 38.1	+0.1
JMM	Marumori	0.98	242	S	Sn	23 12 37.5	-0.8
JOM	Ohasama	1.23	338	P	Pn	23 12 28.8	+0.4
JOM				S	Sn	23 12 44.6	+0.4
JFK	Kawauchi	1.25	220	P	Pn	23 12 28.3	-0.4
JFK				S	Sn	23 12 44.0	-0.7
JYK	Kaneyama	1.33	297	P	Pn	23 12 30.0	+0.3
JYK				eS	Sn	23 12 47.2	+0.6
JYS	Shiratake	1.44	266	P	Pn	23 12 31.5	+0.4
JYS				S	Sn	23 12 49.7	+0.6
JRG	Rokugo	1.45	318	P	Pn	23 12 31.8	+0.6
JRG				S	Sn	23 12 50.4	+1.1
JFT	Otama	1.47	237	P	Pn	23 12 31.9	+0.3
JFT				S	Sn	23 12 49.6	-0.3
JYA	Atsumi	1.73	279	P	Pn	23 12 35.4	+0.4

MEX 02 23:54:33.4±0.5, 17°.13N×100°.24W, h38km±8km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.09	198	eP	Pn	23 54 38.2	-1.5
CAIG				iS	Sn	23 54 42.3	-1.8
ACP2	Acapulco	0.42	127	iP	Pn	23 54 41.7	-1.1
ACP2				iS	Sn	23 54 47.6	-2.1
ACX	Acapulco	0.45	126	eP	Pn	23 54 43.4	+0.2
ACX				eS	Sn	23 54 49.9	-0.4
MEIG	Mezcala	0.99	37	eP	Pn	23 54 49.8	-1.0
MEIG				eS	Sn	23 55 01.0	-2.6

JMA 03 00:07:52.2±0.3,35°.14N×142°.33E,h41km,M3.3
ISCJB 03 00:07:54.9±1.5,35°.14N±0°.08×142°.1E±0°.1,h29km, mb3.8/4,MS3.9/1, Error ellipse: s-maj=12.9km s-min=11.1km az=149.4
IDC 03 00:07:58.0±1.5,34°.27N×140°.77E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.4/53,mbtmp3.6/5,ML3.3/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/40, Error ellipse: s-maj=51.9km s-min=26.4km az=60.0
ISC 03 00:07:58.0±1.6, 35°.11N±0°.08×141°.9E±0°.1, h29km, n12, σ2°.12/15, mb3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.87	239	P	Pn	00 08 12.9	-0.9
BSO1				S	Sn	00 08 28.8	+3.6
CHOJ	Chosi	1.02	306	P	Pn	00 08 15.1	-1.3
CHOJ				eS	Sb	00 08 31.4	+1.2
BSO3	Boso 3	1.16	255	P	Pn	00 08 18.3	+0.2
JOD2	Odawara 2	2.29	275	P	Pn	00 08 33.3	-0.6
JOD2				eS	Sb	00 09 04.2	-2.4
JRY	Ryogami san	2.59	291	P	Pn	00 08 38.0	0.0
JRY				eS	Sb	00 09 11.9	-3.3
MJAR	Matsushiro Arr	3.31	297	Pn	Pn	00 08 47.6	-0.3
	3.7nm,0.3s,baz=105,slow=8.9,SNR=16						
MJAR				LR	LR	00 09 34.2	
	comp=Z,24nm,20.9s,baz=70,slow=32						
MAT	Matsushiro	3.31	297	P	Pn	00 08 47.8	-0.1
MAT				S	Sn	00 09 26.5	+0.3
MKAR	Makanchi Array	45.48	304	P	P	00 16 17.7	+3.1
	1.1nm,1.0s,baz=82,slow=9.6,SNR=3.4						
KURBB	Kurchatov Arra	47.50	309	P	P	00 16 32.0	+1.8
	0.7nm,0.5s,baz=76,slow=7.4,SNR=10						
WRA	Warramunga Arr	55.21	189	P	P	00 17 25.6	-2.7
	0.2nm,0.4s,baz=5.1,slow=7.3,SNR=4.5						
PPT	Papeete	83.44	117	LR	LR	01 00 21.4	
	comp=Z,48nm,18.0s,baz=282,slow=38						
TXAR	Lajitas Array	90.99	53	P	P	00 21 10.3	+10
	0.5nm,0.9s,baz=297,slow=4.0,SNR=4.3						

IDC 03 00:26:12.8±3.8,21°.88S×69°.52W,h0km,mb3.7/1, mb1 3.7/2,mb1mx3.5/19,mbtmp3.6/2,ML3.5/1, Error ellipse: s-maj=122.4km s-min=58.7km az=85.0
GUC 03 00:26:16.7±0.5,21°.26S×70°.05W,h32km±2km,ML3.9
ISCJB 03 00:26:17.2±0.7,21°.27S±0°.03×70°.08W±0°.07,h25km±5km, mb3.6/1, Error ellipse: s-maj=10.6km s-min=4.3km az=177.4
ISC 03 00:26:13.9±1.4, 21°.24S±0°.03×70°.24W±0°.07, h16km±9km, n16, σ1°.21/25, 1C-4D, Near coast of northern Chile

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

*IDC **03** 00:30:42.3±1.0, 10°.09N×126°.23E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.8/38, mbtmp4.0/10, Error ellipse: s-maj=67.0km s-min=16.8km az=67.0*
*NEIC **03** 00:30:47.5±2.4, 10°.09N×126°.17E, h36km±22km, mb4.4/5, Error ellipse: s-maj=28.4km s-min=9.7km az=68.0*
*MAN **03** 00:30:50, 9°.92N×126°.09E, h23km, mb4.6, ML3.5, MS3.5*
ISC 03 00:30:47.6±1.5, 9°.97N±0°.05×126°.14E±0°.06, h32km±10km, n30, σ1§65/31, mb4.2/14, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.66	254	↓↓*iP*	Pn	00 31 02.4	+1.6
SCPH				*i* S	Sn	00 31 12.3	+2.1
PLP	**Palo**	1.64	316	↓↓*eP*	Pb	00 31 17.1	-0.3
PLP				*e*S	Sb	00 31 38.5	+0.8
BESP	**Borongan**	1.76	337	*e*P	Pb	00 31 19.4	+0.1
BESP				*e*S	Sb	00 31 42.7	+1.7
BIPH	**Bislig**	1.79	173	↓↓*iP*	Pn	00 31 18.8	+2.4
BIPH				*i* S	Sn	00 31 40.0	+2.0
OCLP	**Ormoc**	1.84	306	*e*P	Pb	00 31 21.0	+0.3
LLP	**Lapu-Lapu**	2.16	279	↑↑*e*P	Pb	00 31 25.5	-0.7
LLP				*i* S	Sb	00 31 51.5	-1.2
TBP	**Tagbilaran**	2.26	263	↑↑*iP*	Pb	00 31 26.4	-1.4
TBP				*i* S	Sn	00 31 52.3	+2.8
SNPH	**Sibulan**	2.93	258	↑↑*iP*	Pn	00 31 36.6	+4.6
SNPH				*i* S	Sb	00 32 13.3	-1.3
DCPH	**Dipolog City**	3.07	244	↓↓*e*P	Pn	00 31 37.6	+3.6
GUIM	**Jordan**	3.55	281	*e*P	Pn	00 31 45.5	+4.9
RCP	**Roxas**	3.69	296	↓↓*iP*	Pn	00 31 47.1	+4.6
YHNB	**Yeheng** 4.8nm,0.5s	15.30	343	Pn	Pn	00 34 19.2	-2.3
CMAR	**Chiang Mai Arr** 1.0nm,0.7s,baz=102,slow=7.5,SNR=1.4	27.64	291	P	P	00 36 33.1	+0.4
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=341,slow=9.0,SNR=4.8	30.80	165	P	P	00 37 00.7	0.0
ASAR	**Alice Springs** 0.7nm,0.5s,baz=354,slow=6.9,SNR=11	34.28	167	P	P	00 37 31.4	+0.2
H11N1	**WAKE ISLAND Hy** baz=265,slow=74,SNR=70	40.48	71	T	T	01 21 44.1	
H11N2	**WAKE ISLAND Hy** baz=265,slow=74,SNR=61	40.48	71	T	T	01 21 46.3	
H11N3	**WAKE ISLAND Hy** baz=265,slow=74,SNR=62	40.49	71	T	T	01 21 47.1	
SONM	**Songino Array** 0.7nm,0.6s,baz=160,slow=9.5,SNR=4.2	41.25	340	P	P	00 38 30.2	+0.3
STKA	**Stephens Creek** 1.2nm,0.5s,baz=355,slow=9.5,SNR=3.7	44.16	161	P	P	00 38 54.4	+0.8
MKAR	**Makanchi Array** 1.9nm,0.7s,baz=120,slow=8.2,SNR=13	52.18	323	P	P	00 39 54.8	-0.6
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=121,slow=6.5,SNR=5.5	54.82	331	P	P	00 40 13.1	-1.4
KURK	**Kurchatov** 28nm,1.0s	56.24	326	*e*P	P	00 40 22.9	-1.9
BRVK	**Borovoye** 3.7nm,0.7s	61.91	326	*e*P	P	00 41 02.1	-1.9
ARU	**Arti** 2.1nm,0.5s	69.40	327	*e*P	P	00 41 49.8	-2.5
COLA	**College** 1.5nm,0.6s	79.35	26	*e*P	P	00 42 49.3	-0.7
ARCES	**ARCESS Array B** 1.9nm,0.7s,baz=77,slow=5.9,SNR=9.8	84.42	340	P	P	00 43 15.9	-0.8
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=57,slow=4.7,SNR=3.7	85.62	309	P	P	00 43 21.9	-1.5
FINES	**FINESS Array B** 1.1nm,0.4s,baz=77,slow=4.3,SNR=23	86.09	332	P	P	00 43 24.1	-1.0
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=72,slow=1.3,SNR=4.2	120.25	292	PKP	PKPdf	00 49 35.8	-0.8

*BJI **03** 00:55:36.0, 58°.10N×153°.20W, h18km, mb4.8/25, mB5.1/18, Ms4.9/8, Ms7 4.6/5*
*MOS **03** 00:55:38.6±0.8, 58°.17N×153°.55W, h34km, mb5.0/25, Error ellipse: s-maj=20.7km s-min=6.0km az=91.6*
*ISCJB **03** 00:55:41.7±0.2, 58°.21N±0°.02×153°.25W±0°.02, h57km±1km, mb4.7/162, MS3.6/22, Error ellipse: s-maj=2.7km s-min=2.1km az=16.5*
*IDC **03** 00:55:42.6±0.6, 58°.19N×153°.41W, h56km±4km, mb4.2/22, mb1 4.4/26, mb1mx4.3/41, mbtmp4.5/26, MS3.6/24, Ms1 3.6/24, ms1mx3.5/37, Error ellipse: s-maj=15.7km s-min=9.6km az=17.0*
*NEIC **03** 00:55:43.2±0.0, 58°.09N×153°.24W, h46km, mb4.7/95, MW4.7, ML4.6(AEIC), Moment Tensor Solution. s26 Moment tensor: Scale 10^16Nm; Mrr=1.17; Mθθ 0.46; Mφφ0.71; Mrθ 0.08; Mθφ0.53; Mφr-0.26; Best double couple: M=1.20000×10^16 NP1:φ=228.00000°, δ42.00000°, λ-75.00000°. NP2:φ=29.00000°, δ50.00000°, λ-103.00000°. Principal axes: T 1.1400, Plg4.0000°, Azm128.0000°; N 0.0800, Plg10.0000°, Azm37.0000°; P -1.2200, Plg79.0000°, Azm239.0000°; After AEIC.*
NEIC Felt (II) at Kodiak. Also felt at Homer.
ISC 03 00:55:42.1±0.3, 58°.14N±0°.03×153°.20W±0°.03, h50km±2km, h50km: pP-P, n860, σ1§29/975, mb4.7/162, MS3.6/22, 27C-20D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island** 5μm,0.3s,baz=3.7,slow=2.9	0.48	137	P	Pn	00 55 53.1	0.0
KDAK				S	Sn	00 56 01.6	+0.6
KDAK	7μm,0.3s,baz=135,slow=20,SNR=112			LR	LR	00 56 19.7	
KDAK	comp=Z,6μm,20.9s,baz=47,slow=62 **Kodiak Island**	0.48	137	*i* P	Pn	00 55 51.9	-1.2
FOPK	**Fourpeaked Vol**	0.64	347	P	Pn	00 55 55.3	+0.2
FOSS	**Fourpeaked Sta**	0.72	339	P	Pn	00 55 56.3	+0.2
KAPH	**Katmai Pasha**	0.76	308	P	Pn	00 55 56.9	+0.2
CDD	**Cape Douglas**	0.83	344	P	Pn	00 55 58.5	+1.0
KAWH	**Katmai**	0.88	287	P	Pn	00 55 58.3	0.0
OHAK	**Old Harbor**	0.92	183	P	Pn	00 55 58.2	-0.4
OHAK				S	Sn	00 56 09.3	-1.5
KABR	**Katmai Barrier**	0.94	270	P	Pn	00 55 58.8	-0.3
KAKN	**Katmai Knife C**	1.00	280	P	Pn	00 55 59.8	-0.1
KAKN				S	Sn	00 56 13.4	+0.4
KCG	**Knife Ck. Glac**	1.03	280	P	Pn	00 56 00.3	+0.1
KAHC	**Katmai Hardscr**	1.08	299	P	Pn	00 56 01.2	+0.2
KABU	**Katmai Buttres**	1.11	278	P	Pn	00 56 01.8	+0.4
KABU				S	Sn	00 56 17.0	+1.3
KVTA	**Katmai Vly 10**	1.14	283	P	Pn	00 56 02.0	+0.3
AUI	**Augustine Isla**	1.21	354	P	Pn	00 56 04.1	+1.5
AUE	**Augustine Isla**	1.23	356	P	Pn	00 56 04.7	+1.8
AUL	**Augustine Lava**	1.26	354	P	Pn	00 56 04.4	+1.1
KELA	**Mount Kelaz**	1.38	284	P	Pn	00 56 05.2	+0.2
SII	**Sitkinak Islan**	1.67	199	P	Pn	00 56 08.1	-0.8
PLWL	**Peulik Whale M**	1.67	268	P	Pn	00 56 09.2	+0.3
PLK3	**Peulik 3**	1.70	256	P	Pn	00 56 09.9	+0.5
PLK3				S	Sn	00 56 31.6	+1.7
CNPM	**China Poot**	1.73	35	*e*Pn	Pn	00 56 10.9	+1.2
HOM	**Homer**	1.73	27	P	Pn	00 56 11.6	+2.0
ILS	**Iliamna Low So**	1.83	2	P	Pn	00 56 12.4	+1.3
PLK1	**Peulik 1**	1.85	261	P	Pn	00 56 11.8	+0.5
ILIM	**Iliamna**	1.96	3	P	Pn	00 56 14.3	+1.5
BRLK	**Bradley Lake**	2.02	35	P	Pn	00 56 14.5	+0.7
RED	**Redoubt Volcan**	2.30	5	P	Pn	00 56 18.9	+1.3
RED				S	Sn	00 56 49.4	+4.6
RSO	**Redoubt South**	2.34	5	*e*Pn	Pn	00 56 19.7	+1.4
RDWB	**Redoubt West**	2.37	4	P	Pn	00 56 19.7	+1.2
RDJH	**Redoubt Jeurge**	2.47	4	P	Pn	00 56 21.6	+1.6
DFR	**Drift River**	2.48	6	P	Pn	00 56 21.4	+1.4
BGRM	**Barrier Glacie**	2.66	8	P	Pn	00 56 23.8	+1.3
SEW	**Seward**	2.76	43	*e*Pn	Pn	00 56 24.0	+0.2
SLKM	**Skilak Lake**	2.83	31	P	Pn	00 56 25.1	+0.4
ANNE	**Aniakchak Nort**	2.90	247	P	Pn	00 56 25.8	+0.1
ANPB	**Aniakchak Plen**	3.06	246	P	Pn	00 56 28.0	+0.2
CKL	**Chakachamna La**	3.10	8	P	Pn	00 56 30.0	+1.4
SPU	**Mount Spurr**	3.11	10	*e*Pn	Pn	00 56 29.8	+1.2
CKT	**Bend**	3.12	9	P	Pn	00 56 30.0	+1.3
SPCR	**Spurr Chakacha**	3.12	9	P	Pn	00 56 30.0	+1.3
SPWE	**Spurr West**	3.17	6	P	Pn	00 56 31.0	+1.5
SPCP	**Crater Peak Br**	3.19	9	P	Pn	00 56 31.1	+1.4
SVW2	**Sparrevohn**	3.21	339	P	Pn	00 56 30.6	+0.6
CHGN	**Chignik**	3.38	239	P	Pn	00 56 32.1	-0.1
CHGN				S	Sn	00 57 09.9	-1.2
FIB	**Fire Island**	3.41	25	P	Pn	00 56 34.0	+1.4
STLK	**Strandline Lak**	3.44	11	P	Pn	00 56 34.5	+1.3
RC01	**Rabbit Creek A**	3.44	29	*e*Pn	Pn	00 56 34.2	+1.0
SUA	**Susitna One**	3.56	19	P	Pn	00 56 36.1	+1.2
PWL	**Port Wells**	3.69	40	P	Pn	00 56 36.8	+0.3
PWL				S	Sn	00 57 16.3	-2.4
VNHG	**Veniaminof 1**	3.77	242	P	Pn	00 56 38.9	+1.2
MID	**Middleton Isla**	3.80	67	P	Pn	00 56 38.1	+0.1
SKT	**Skwentna**	3.95	12	P	Pn	00 56 40.7	+0.6
SKT				S	Sn	00 57 28.4	+3.4
PMR	**Palmer**	4.03	29	P	Pn	00 56 41.2	+0.1
KNK	**Knik Glacier**	4.07	34	P	Pn	00 56 41.8	+0.1
GLI	**Glacier Island**	4.15	46	P	Pn	00 56 42.4	-0.5
GHO	**Glory Hole Cre**	4.23	29	P	Pn	00 56 44.4	+0.4
GHO				S	Sn	00 57 30.5	-1.7
FID	**Port Fidalgo**	4.32	50	P	Pn	00 56 44.2	-0.9
SML	**Sawmill**	4.42	31	P	Pn	00 56 46.9	+0.3
JPK	**Jack Peak**	4.45	46	P	Pn	00 56 46.8	-0.2
CUT	**Chulitna**	4.52	18	P	Pn	00 56 48.6	+0.7
VMT	**TAPS Tl Valdez**	4.56	47	P	Pn	00 56 48.8	+0.4
VLZ	**Valdez**	4.60	46	P	Pn	00 56 49.9	+0.9
VLZ				S	Sn	00 57 38.1	-2.9
SCM	**Sheep Creek Mo**	4.74	36	P	Pn	00 56 51.7	+0.7
SCM				S	Sn	00 57 41.5	-3.0
PPLA	**Purkeypile**	4.80	6	P	Pn	00 56 53.2	+1.3
DIV	**Divide**	4.82	48	P	Pn	00 56 52.3	+0.2
SDPT	**Sand Point**	4.88	238	P	Pn	00 56 52.4	-0.5
GOAT	**Goat Mountain**	4.98	57	P	Pn	00 56 54.6	+0.3
KLU	**Klutina**	4.98	44	P	Pn	00 56 54.8	+0.5
TT01	**Tatalina**	4.99	345	P	Pn	00 56 55.3	+1.0
BMRM	**Bremner River**	5.21	53	P	Pn	00 56 57.4	-0.1
CAST	**Castle Rocks**	5.33	5	*e*Pn	Pn	00 57 00.7	+1.7
GRIN	**Grindle Hills**	5.51	63	P	Pn	00 57 02.6	+1.1
TRF	**Thorofare Moun**	5.52	14	*e*Pn	Pn	00 57 03.1	+1.3
PS4A	**Pavlof South-4**	5.53	243	P	Pn	00 57 02.1	+0.4
KTH	**Kantishna Hill**	5.55	11	*e*Pn	Pn	00 57 03.7	+1.6
KHIT	**Khitrov Hills**	5.60	61	P	Pn	00 57 02.9	+0.1
RND	**Reindeer**	5.70	20	*e*Pn	Pn	00 57 02.9	-1.2
DHY	**Denali Highway**	5.72	28	P	Pn	00 57 04.5	-0.1
CRQM	**Cirque**	5.75	59	*e*Pn	Pn	00 57 05.5	+0.4
KULT	**Kultieth River**	5.79	64	P	Pn	00 57 05.8	+0.5
DTNA	**Dutton South F**	5.82	243	P	Pn	00 57 05.8	0.0
HARP	**HAARP**	5.86	40	P	Pn	00 57 07.4	+1.1
MCK	**McKinley**	5.99	18	*e*Pn	Pn	00 57 09.1	+1.1
MCARA	**McCarthy VSAT**	6.08	53	P	Pn	00 57 10.4	+1.1
MESA	**MESA**	6.14	66	P	Pn	00 57 10.9	+0.6
BAGL	**Bagley Icefiel**	6.16	63	P	Pn	00 57 11.2	+0.9
PAX	**Paxson**	6.17	35	P	Pn	00 57 11.0	+0.5
PTPK	**Patty Peak**	6.24	56	P	Pn	00 57 12.5	+0.9
PTPK				S	Sn	00 58 19.6	-2.0
GRNC	**Granite Creek**	6.39	61	P	Pn	00 57 14.3	+0.6
GRNC				S	Sn	00 58 22.6	-2.8
RKAV	**Rock Avalanche**	6.46	65	P	Pn	00 57 15.4	+0.8
RKAV				S	Sn	00 58 24.3	-2.7
TABL	**Table Mountain**	6.59	64	P	Pn	00 57 16.9	+0.4
TABL				S	Sn	00 58 26.8	-3.6
CTGM	**Chitina Glacie**	6.66	60	P	Pn	00 57 18.1	+0.7
CTGM				S	Sn	00 58 28.2	-3.8
SAMH	**Samovar Hills**	6.70	67	P	Pn	00 57 18.9	+1.1
WRH	**Wood River Hil**	6.81	19	P	Pn	00 57 18.8	-0.5
PCA	**Pinnacle**	6.95	68	P	Pn	00 57 21.6	+0.4
HDA	**Harding Lake**	6.97	23	*e*Pn	Pn	00 57 22.0	+0.4
CCB	**Clear Creek Bu**	7.03	19	P	Pn	00 57 21.4	-0.8
DOT	**Dot Lake**	7.10	35	*e*Pn	Pn	00 57 25.4	+2.2
COLA	**College**	7.23	18	P	Pn	00 57 24.9	0.0
COLA	**College**	7.23	18	P	Pn	00 57 25.0	0.0
BCPM	**Bancas Point**	7.23	70	P	Pn	00 57 25.4	+0.4
MDM	**Murphy Dome**	7.24	17	P	Pn	00 57 25.2	0.0
IL1	**Eielson Array**	7.31	22	*e*Pn	Pn	00 57 25.2	-0.9
ILAR	**Eielson Array** 2.6nm,0.3s,baz=209,slow=14,SNR=87	7.31	22	P	Pn	00 57 25.4	-0.7
ILAR				S	Sn	00 58 41.8	-5.7
ILB	**Eielson Array** 5.6nm,0.3s,baz=205,slow=19,SNR=4.8	7.31	22	P	Pn	00 57 25.4	-0.7
PNL	**Peninsula**	7.31	72	P	Pn	00 57 25.9	-0.2
BCA3	**Beaver Creek A**	7.48	44	P	Pn	00 57 29.6	+1.1
DHAK	**Deception Hill**	7.88	77	P	Pn	00 57 33.4	-0.6
IM3	**Indian Mountai**	7.88	358	P	Pn	00 57 34.5	+0.6
UNV	**Unalaska Valle**	8.60	246	*e*Pn	Pn	00 57 43.4	-0.4
EGAK	**Eagle**	8.79	36	*e*Pn	Pn	00 57 47.5	+1.0
PLBC	**Pleasant Camp**	8.84	74	P	Pn	00 57 47.2	+0.2
DAWY	**Dawson**	8.93	43	*e*Pn	Pn	00 57 49.7	+1.4
SPIA	**Saint Paul Isl**	9.19	271	*e*Pn	Pn	00 57 51.9	+0.1
FYU	**Fort Yukon**	9.22	20	*e*Pn	Pn	00 57 53.8	+1.5
COLD	**Coldfoot**	9.23	7	*e*Pn	Pn	00 57 52.2	-0.1
BESE	**Bessie Mountai**	9.65	80	*e*Pn	Pn	00 57 59.8	+1.7
WHY	**Whitehorse**	9.67	67	P	Pn	00 57 59.2	+0.7
JIS	**Juneau Island**	9.93	81	P	Pn	00 58 02.2	+0.3
BM3	**Burnt Mountain**	10.10	19	P	Pn	00 58 03.4	-0.9
GAMB	**Gambell**	10.60	310	*e*Pn	Pn	00 58 10.7	-0.3
WRAK	**Wrangell Islan**	11.41	90	*e*Pn	Pn	00 58 23.0	+0.9
DLBC	**Dease Lake** 2.4nm,0.3s,baz=260,slow=9.9,SNR=35	12.18	79	P	Pn	00 58 33.4	+0.7
DLBC				S	Sn	01 00 45.7	-1.3
	1.2nm,0.3s,baz=165,slow=18,SNR=4.5			LR	LR	01 03 18.3	
DLBC	comp=Z,404nm,19.1s,baz=264,slow=37						
INK	**Inuvik** 0.2nm,0.3s,baz=231,slow=13,SNR=8.0	13.43	33	P	Pn	00 58 49.3	-0.4
INK	**Inuvik**	13.43	33	P	Pn	00 58 49.7	0.0
BBB	**Bella Bella** comp=Z,503nm,20.8s,baz=308,slow=32	15.47	102	LR	LR	01 04 09.4	
YKA	**Yellowknife Ar** 2.1nm,0.3s,baz=273,slow=9.9,SNR=37	19.39	61	P	P	01 00 04.0	+0.6
YKA				pP	pP	01 00 16.4	+1.6
	2.3nm,0.3s,baz=273,slow=9.9,SNR=16			PcP	PcP	01 04 22.9	0.0
YKA	0.2nm,0.3s,baz=274,slow=1.2,SNR=4.8			LR	LR	01 08 21.4	
YKA	comp=Z,47nm,18.8s,baz=0.0,slow=39						
YKA	**Yellowknife Ar** comp=Z,9.0nm,0.4s	19.39	61	*c*eP	Pn	01 00 04.5	-0.4
YKA				pmax	pmax		
LLLB	**Lilloet** comp=Z,23nm,1.1s	19.59	99	*e*P	Pn	01 00 08.3	+0.8
A04D	**Lummi Island** baz=309	20.30	104	P	Pn	01 00 14.9	-0.9
NLWA	**Neilton Lookou** comp=Z,43nm,1.3s	20.57	109	*e*P	Pn	01 00 18.1	-1.0
B05A	**Bryant** baz=310	20.90	105	P	Pn	01 00 22.0	-1.0
C06D	**Leavenworth** baz=310	21.74	104	P	P	01 00 30.3	+1.3
LON	**Longmire** comp=Z,29nm,1.4s	22.05	107	*e*P	P	01 00 33.3	+0.9
B08A	**Colville Reser** comp=Z,20nm,1.0s	22.27	101	*e*P	P	01 00 36.5	+1.8
F04A	**Amboy**	22.30	110	*e*P	P	01 00 38.9	+3.9
F04A				*ep*P	sP	01 00 50.6	-2.2
G03D	**McMinnville, O** baz=316	22.39	112	P	P	01 00 38.0	+1.9
EDM	**Edmonton** comp=Z,74nm,1.4s	22.75	85	*e*P	P	01 00 41.0	+1.3
E07A	**Sunnyside** comp=Z,27nm,1.1s	23.17	105	*e*P	P	01 00 45.8	+1.7
D08A	**Wollman Farm,**	23.32	103	*e*P	P	01 00 46.8	+1.3
D08A				*ep*P	pP	01 01 00.2	+2.7
HAWA	**Hanford**	23.45	105	*e*P	P	01 00 48.7	+2.0
HAWA				*ep*P	sP	01 01 02.0	-2.9
NEW	**Newport** comp=Z,2.6nm,0.8s,baz=339,slow=7.9,SNR=7.2	23.48	99	P	P	01 00 48.4	+1.3
NEW				pP	pP	01 01 01.9	+2.7
	comp=Z,5.7nm,0.7s,baz=318,slow=8.9,SNR=8.9						
NEW	**Newport** baz=308	23.48	99	P	P	01 00 48.6	+1.5
NEW	**Newport** comp=Z,10nm,0.9s	23.48	99	*e*P	P	01 00 49.6	+2.5
NEW				pP	pP	01 01 01.9	+2.7
I04A	**Tendick Farm,** baz=318	23.85	114	P	P	01 00 52.2	+1.7
I05D	**Terrebonne, OR** baz=316	23.97	111	P	P	01 00 53.8	+2.2
E09A	**Wood Farm, Sta** comp=Z,15nm,1.1s	24.08	104	*e*P	P	01 00 54.1	+1.6
J04D	**Umpqua Nationa** baz=318	24.41	114	P	P	01 00 58.2	+2.4
HUMO	**Hull Mountain** comp=Z,11nm,0.8s	24.48	116	*e*P	P	01 00 58.5	+2.2
WALA	**Waterton Lakes** comp=Z,11nm,0.9s	24.69	94	*e*P	P	01 00 60.0	+1.7
J05D	**Fort Rock, OR** baz=318	24.80	113	P	P	01 01 02.0	+2.7
F10A	**Beach Ranch, E** comp=Z,9.0nm,0.9s	24.91	103	*e*P	P	01 01 01.4	+1.2
BSMT	**Bassoo Peak**	24.97	98	*e*P	P	01 01 02.9	+2.1
BSMT				*ep*P	pP	01 01 16.0	+2.5
K04D	**Chiloquin, OR** baz=319	25.04	115	P	P	01 01 03.9	+2.5
YBH	**Yreka Blue Hor** comp=Z,8.0nm,0.9s	25.27	117	*e*P	P	01 01 05.2	+1.7
JTMT	**Jette**	25.30	97	*e*P	P	01 01 05.6	+1.8
JTMT				*ep*P	pP	01 01 19.4	+2.9
YBMT	**Yellow Bay**	25.37	97	*e*P	P	01 01 05.9	+1.5
YBMT				*ep*P	pP	01 01 19.9	+2.8
SWMT	**Swartz Lake**	25.59	97	*e*P	P	01 01 08.2	+1.7
SWMT				*ep*P	pP	01 01 17.6	-1.6
BMO	**Blue Mountains**	25.64	105	*e*P	P	01 01 08.8	+1.9
BMO				*ep*P	sP	01 01 24.4	-1.1
M04C	**Macdoel** baz=320	25.64	116	P	P	01 01 10.0	+3.1
N02D	**Trinity Center** baz=322	25.86	118	P	P	01 01 11.9	+3.0
SLMT	**Seeley Lake**	26.03	97	*e*P	P	01 01 12.1	+1.6
SLMT				*ep*P	pP	01 01 25.6	+2.4
MSO	**Missoula**	26.06	99	*e*P	P	01 01 12.1	+1.5
MSO				*ep*P	sP	01 01 28.0	-1.3
WDC	**Whiskeytown Da**	26.25	119	*e*P	P	01 01 15.8	+3.5
WDC				*ep*P	sP	01 01 29.7	-1.2
MOD	**Modoc Plateau** comp=Z,13nm,1.0s	26.29	114	*e*P	P	01 01 15.9	+3.1
CHMT	**Chamberlain Mo**	26.37	98	*e*P	P	01 01 15.1	+1.6
CHMT				*ep*P	pP	01 01 28.5	+2.2
SEY	**Seymchan** comp=Z,3.4nm,0.5s,baz=74,slow=12,SNR=13	26.49	303	P	P	01 01 13.1	-1.2
SEY	**Seymchan**	26.49	303	↑↑*iP*	P	01 01 12.8	-1.5
WVOR	**Wild Horse Val** comp=Z,11nm,1.0s	26.71	111	*e*P	P	01 01 18.5	+1.9
O03D	**Paynes Creek** baz=322,SNR=6.4	26.82	118	P	P	01 01 19.8	+2.3
HRY	**Holter Researc**	27.25	97	*e*P	P	01 01 23.6	+2.3
MFID	**Camas Ranch** comp=Z,8.1nm,1.1s	27.41	106	*e*P	P	01 01 25.0	+2.2
EGMT	**Eagleton** baz=308	27.52	92	P	P	01 01 25.2	+1.5
EGMT	**Eagleton** comp=Z,10nm,0.9s	27.52	92	*e*P	P	01 01 25.2	+1.5
PETK	**Petropavlovsk-** comp=Z,56nm,19.7s,baz=77,slow=36	27.66	281	LR	LR	01 12 04.7	
MCMT	**McKenzie Canyo**	27.96	101	*e*P	P	01 01 29.1	+1.2
MCMT				*ep*P	pP	01 01 43.2	+2.5
HLID	**Hailey**	28.03	104	*e*P	P	01 01 30.4	+2.0
HLID				*ep*P	sP	01 01 44.8	-2.3
BOZ	**Bozeman (W)** baz=312	28.08	98	P	P	01 01 30.4	+1.5
BOZ	**Bozeman (W)**	28.08	98	*e*P	P	01 01 29.5	+0.7
BOZ				*ep*P	sP	01 01 46.6	-1.0
PNTR	**Pine Nut** comp=Z,12nm,0.8s	28.81	117	*e*P	P	01 01 37.4	+2.0
YHB	**Horse Butte**	28.88	99	*e*P	P	01 01 36.9	+0.9
YHB				*ep*P	sP	01 01 52.6	-2.1
GCMT	**Greycliff**	28.98	96	*e*P	P	01 01 39.1	+2.3
GCMT				*ep*P	sP	01 01 53.6	-2.0
YHH	**Holmes Hill**	29.03	99	*e*P	P	01 01 38.9	+1.5
YHH				*ep*P	pP	01 01 53.2	+2.9
YFT	**Old Faithful**	29.27	99	*ep*P	pP	01 01 57.8	+5.4
WAKR	**Walker** comp=Z,4.3nm,0.7s	29.35	117	*e*P	P	01 01 42.1	+1.8
WAKR				*ep*P	sP	01 01 56.8	-2.2
YPP	**Pitchstone Pla**	29.41	99	*e*P	P	01 01 42.1	+1.3
YPP				*ep*P	sP	01 01 57.7	-1.8
H17A	**Grant Village**	29.44	99	*e*P	P	01 01 43.0	+2.0
H17A				*ep*P	sP	01 01 58.6	-1.2
IMW	**Indian Meadow** comp=Z,9.4nm,0.8s	29.59	100	*e*P	P	01 01 44.4	+1.9
RLMT	**Red Lodge** baz=312	29.64	97	P	P	01 01 44.8	+2.0
RLMT	**Red Lodge** comp=Z,7.7nm,1.0s	29.64	97	*e*P	P	01 01 44.1	+1.4
FXWY	**Fox Creek**	29.73	101	*ep*P	pP	01 01 59.9	+3.5
MOOW	**Moose Ponds**	29.80	100	*e*P	P	01 01 45.5	+1.4
MOOW				*ep*P	sP	01 02 00.0	-2.9
TPAW	**Teton Pass**	29.87	101	*e*P	P	01 01 46.3	+1.4
TPAW				*ep*P	pP	01 01 58.1	+0.4
LOHW	**Long Hollow**	29.97	100	*e*P	P	01 01 47.8	+2.1
LOHW				*ep*P	pP	01 02 00.6	+2.0
REDW	**Red Top Meadow**	30.01	101	*ep*P	pP	01 02 03.0	+4.1
LAO	**LASA Array** baz=310	30.23	92	P	P	01 01 49.4	+1.6
HWUT	**Hardware Ranch**	30.89	104	*e*P	P	01 01 56.0	+2.1
HWUT				*ep*P	sP	01 02 10.1	-2.5
BW06	**Boulder Array**	31.10	100	*e*P	P	01 01 57.5	+1.8
BW06				*ep*P	pP	01 02 09.9	+1.3
BW06				*ep*P	sP	01 02 11.0	-3.5
PD31	**Pinedale Array**	31.10	100	*e*P	P	01 01 57.2	+1.5
PD31				*ep*P	pP	01 02 10.2	+1.5
PDAR	**Pinedale Array

ULM				LR	LR		01 16 28.4
	comp=Z,197nm,18.3s,baz=315,slow=37						
ULM	**Lac du Bonnet**	**33.51**	**78**	*e*P	**P**		**01 02 18.4 +2.0**
ULM				pP	**pP**		**01 02 30.7 +1.4**
ULM				*ep*P	**sP**		**01 02 30.9 -4.3**
LCMT	**Little Creek M**	**33.53**	**111**	*e*P	**P**		**01 02 18.5 +1.6**
	comp=Z,5.0nm,0.9s						
BFSC	**Mount Baldy Ra**	**33.66**	**120**	P	**P**		**01 02 18.9 +0.9**
	baz=326						
B31A	**Greenbush Farm**	**33.68**	**82**	P	**P**		**01 02 19.1 +1.2**
	baz=308						
O20A	**White River Ci**	**33.69**	**102**	P	**P**		**01 02 19.6 +1.2**
	baz=318						
O20A	**White River Ci**	**33.69**	**102**	*e*P	**P**		**01 02 19.5 +1.2**
	comp=Z,12nm,0.6s						
KNB	**Kanab**	**33.73**	**111**	*e*P	**P**		**01 02 19.2 +0.5**
	comp=Z,39nm,1.9s						
HEC	**Hector,Ludlow**	**33.79**	**117**	P	**P**		**01 02 20.5 +1.4**
	baz=325						
A32A	**Rocking H Ranc**	**33.98**	**81**	P	**P**		**01 02 21.4 +0.9**
	baz=308						
GMRC	**Granite Mounta**	**34.14**	**117**	P	**P**		**01 02 23.9 +1.7**
	baz=325						
B32A	**Ashes, Strandq**	**34.28**	**81**	P	**P**		**01 02 24.2 +1.1**
	baz=308						
MURC	**Murrieta**	**34.40**	**120**	P	**P**		**01 02 26.2 +1.9**
	baz=326						
PV09	**Paradox Valley**	**34.45**	**105**	*e*P	**P**		**01 02 26.6 +1.5**
PV09				*ep*P	**pP**		**01 02 41.0 +2.9**
U15A	**North Rim**	**34.46**	**111**	*e*P	**P**		**01 02 26.3 +1.2**
	comp=Z,8.2nm,1.0s						
U15A				*e*PcP	**PcP**		**01 05 00.8 +1.4**
D31A	**Mcclaflin, Tow**	**34.50**	**84**	P	**P**		**01 02 25.6 +0.5**
	baz=310						
PV10	**Paradox Valley**	**34.59**	**105**	*e*P	**P**		**01 02 27.4 +1.2**
PV10				*e*PcP	**PcP**		**01 05 01.0 +1.3**
BELC	**Belle Mtn. Jos**	**34.62**	**118**	P	**P**		**01 02 27.5 +1.1**
	baz=326						
PV04	**Paradox Valley**	**34.65**	**105**	*e*P	**P**		**01 02 28.5 +1.9**
PV04				*ep*P	**pP**		**01 02 42.3 +2.8**
AGMN	**Agassiz Nation**	**34.69**	**81**	P	**P**		**01 02 27.2 +0.5**
	baz=308						
AGMN	**Agassiz Nation**	**34.69**	**81**	*e*P	**P**		**01 02 27.8 +1.1**
	comp=Z,16nm,0.9s						
PFO	**Pinyon Flats O**	**34.73**	**119**	P	**P**		**01 02 29.3 +2.0**
	baz=326						
W13A	**Hualapai Mount**	**34.74**	**114**	*e*P	**P**		**01 02 28.9 +1.4**
W13A				*ep*P	**pP**		**01 02 39.0 -1.4**
PV05	**Paradox Valley**	**34.79**	**106**	*e*P	**P**		**01 02 28.8 +0.9**
PV05				*ep*P	**pP**		**01 02 43.7 +2.9**
B33A	**Robert and Kas**	**34.85**	**81**	P	**P**		**01 02 29.2 +1.2**
	baz=308						
IRM	**Iron Mountain**	**34.90**	**117**	P	**P**		**01 02 31.1 +2.4**
	baz=325,SNR=9.8						
PV01	**Paradox Valley**	**35.01**	**105**	*e*P	**P**		**01 02 30.7 +0.9**
PV01				*ep*P	**pP**		**01 02 45.2 +2.4**
109C	**Camp Elliot, M**	**35.03**	**120**	P	**P**		**01 02 31.3 +1.5**
	baz=327						
SMCO	**Snowmass**	**35.05**	**102**	*e*P	**P**		**01 02 31.9 +1.5**
SMCO				*ep*P	**sP**		**01 02 47.2 -2.0**
C33A	**Trail**	**35.08**	**82**	P	**P**		**01 02 31.0 +0.9**
	baz=309						
E32A	**Braaten, Kindr**	**35.14**	**84**	P	**P**		**01 02 31.6 +1.1**
	baz=310						
BC3	**Big Chuckawall**	**35.16**	**118**	P	**P**		**01 02 32.4 +1.4**
	baz=326						
B34A	**Aery, Baudette**	**35.21**	**80**	P	**P**		**01 02 32.1 +0.9**
	baz=308,SNR=5.3						
PDMCI	**Parker Dam,Lak**	**35.26**	**115**	P	**P**		**01 02 33.2 +1.6**
	baz=325						
ISCO	**Idaho Springs**	**35.30**	**100**	P	**P**		**01 02 33.6 +1.3**
	baz=317						
MONP2	**Monument Peak**	**35.34**	**119**	P	**P**		**01 02 34.6 +1.9**
	baz=327						
G31A	**Conde**	**35.43**	**87**	P	**P**		**01 02 33.8 +0.7**
	baz=312						
D33A	**AnnSam, Waubun**	**35.43**	**83**	P	**P**		**01 02 34.5 +1.5**
	baz=310						
Y12C	**Blythe**	**35.53**	**116**	P	**P**		**01 02 36.2 +2.3**
	baz=325,SNR=5.5						
Y12C	**Blythe**	**35.53**	**116**	*e*P	**P**		**01 02 36.0 +2.0**
	comp=Z,12nm,0.8s						
SWSC	**Sam W. Stewart**	**35.59**	**119**	P	**P**		**01 02 36.3 +1.7**
	baz=326						
WUAZ	**Wupatki**	**35.63**	**111**	P	**P**		**01 02 37.3 +2.2**
	baz=323,SNR=13						
WUAZ	**Wupatki**	**35.63**	**111**	*e*P	**P**		**01 02 36.8 +1.7**
	comp=Z,12nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**35.69**	**119**	P	**P**		**01 02 37.5 +1.9**
	baz=327						
E33A	**Westby DABS, E**	**35.76**	**83**	P	**P**		**01 02 36.6 +0.7**
	baz=310						
MVCO	**Mesa Verde**	**35.76**	**106**	P	**P**		**01 02 37.4 +1.2**
	baz=320						
MVCO	**Mesa Verde**	**35.76**	**106**	*e*P	**P**		**01 02 36.6 +0.4**
	comp=Z,5.7nm,0.9s						
B35A	**Bob, Littlefor**	**35.77**	**79**	P	**P**		**01 02 36.9 +1.0**
	baz=309						
H31A	**Wolsey**	**35.78**	**88**	P	**P**		**01 02 36.6 +0.5**
	baz=312						
D34A	**Park Rapids**	**35.81**	**82**	P	**P**		**01 02 37.3 +1.0**
	baz=310						
GLA	**Glamis**	**35.96**	**117**	P	**P**		**01 02 39.0 +1.2**
	baz=326						
GLA	**Glamis**	**35.96**	**117**	*e*P	**P**		**01 02 38.7 +0.9**
	comp=Z,6.6nm,0.6s						
F33A	**5 Mile Ranch,**	**36.04**	**85**	P	**P**		**01 02 37.9 -0.4**
	baz=311						
C35A	**Jirik Farms, M**	**36.05**	**80**	P	**P**		**01 02 38.4 0.0**
	baz=309						
Y14A	**Wickenburg**	**36.10**	**114**	*e*P	**P**		**01 02 40.6 +1.6**
	comp=Z,24nm,0.6s						
Q24A	**Divide**	**36.16**	**101**	P	**P**		**01 02 40.1 +0.4**
	baz=318						
S22A	**4UR Ranch, Cre**	**36.20**	**104**	P	**P**		**01 02 41.0 +0.9**
	baz=320						
S22A	**4UR Ranch, Cre**	**36.20**	**104**	*e*P	**P**		**01 02 41.4 +1.3**
S22A				*ep*P	**sP**		**01 02 56.2 -2.8**
H32A	**Carlson Farm,**	**36.32**	**87**	P	**P**		**01 02 39.6 -1.1**
	baz=312						
G33A	**Ortonville**	**36.38**	**86**	P	**P**		**01 02 42.2 +1.0**
	baz=312						
D35A	**Remer**	**36.41**	**81**	P	**P**		**01 02 42.8 +1.4**
	baz=310						
J31A	**Geddes**	**36.45**	**90**	P	**P**		**01 02 42.5 +0.6**
	baz=313						
X16A	**Lo Mia Camp, P**	**36.48**	**112**	*e*P	**P**		**01 02 42.5 +0.1**
	comp=Z,5.3nm,0.8s						
YAK	**Yakutsk**	**36.55**	**309**	P	**P**		**01 02 41.9 -0.5**
	comp=Z,32nm,0.4s,baz=6.3,slow=0.0,SNR=4.4						
YAK	**Yakutsk**	**36.55**	**309**	*e*P	**P**		**01 02 42.6 +0.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**36.55**	**309**	*e*P	**P**		**01 02 41.8 -0.5**
	comp=Z,33nm,0.6s						
E35A	**Pequot Lakes**	**36.56**	**82**	P	**P**		**01 02 43.8 +1.1**
	baz=310						
H33A	**Prehn Over Nor**	**36.56**	**86**	P	**P**		**01 02 42.9 +0.1**
	baz=312						
F34A	**Alexandria**	**36.61**	**84**	P	**P**		**01 02 44.5 +1.3**
	baz=311						
C36A	**Pine Crest Far**	**36.61**	**80**	P	**P**		**01 02 43.7 +0.6**
	baz=309						
113A	**Mohawk Valley,**	**36.69**	**116**	*e*P	**P**		**01 02 44.9 +0.9**
	comp=Z,7.1nm,1.4s						
D36A	**Goodland**	**36.81**	**80**	P	**P**		**01 02 45.9 +1.1**
	baz=310,SNR=6.2						
SDCO	**Great Sand Dun**	**36.89**	**102**	P	**P**		**01 02 47.8 +1.8**
	baz=319						
SDCO	**Great Sand Dun**	**36.89**	**102**	*e*P	**P**		**01 02 48.3 +2.4**
	comp=Z,4.7nm,0.9s						
K31A	**O'Neill**	**36.90**	**91**	P	**P**		**01 02 45.8 0.0**
	baz=314						
F35A	**Swanville**	**36.93**	**83**	P	**P**		**01 02 47.2 +1.4**
	baz=311						
C37A	**Embarrass**	**36.97**	**79**	P	**P**		**01 02 47.4 +1.2**
	baz=310						
H34A	**Spellman Lake,**	**37.09**	**86**	P	**P**		**01 02 48.3 +1.1**
	baz=312						
X18A	**Snowflake**	**37.12**	**110**	*e*P	**P**		**01 02 49.5 +1.6**
	comp=Z,12nm,0.7s						
E36A	**McGregor**	**37.19**	**81**	P	**P**		**01 02 49.0 +1.0**
	baz=311						
EYMN	**Ely**	**37.19**	**78**	P	**P**		**01 02 49.0 +0.9**
	baz=309,SNR=10						
EYMN	**Ely**	**37.19**	**78**	*e*P	**P**		**01 02 49.3 +1.2**
	comp=Z,20nm,0.7s						
D37A	**Cotton**	**37.21**	**80**	P	**P**		**01 02 49.0 +0.7**
	baz=310						
ECSD	**EROS Data Cent**	**37.27**	**87**	P	**P**		**01 02 48.9 +0.1**
	baz=313						
ECSD	**EROS Data Cent**	**37.27**	**87**	*e*P	**P**		**01 02 49.0 +0.2**
	comp=Z,6.8nm,0.8s						
J33A	**Davis**	**37.37**	**88**	P	**P**		**01 02 49.7 0.0**
	baz=313						
C38A	**Sawbill Land.**	**37.45**	**78**	P	**P**		**01 02 51.1 +0.8**
	baz=310						
F36A	**Milaca**	**37.48**	**82**	P	**P**		**01 02 51.4 +0.9**
	baz=311						
E37A	**Wrenshall**	**37.61**	**81**	P	**P**		**01 02 52.6 +1.0**
	baz=311						
G36A	**St. Michael**	**37.78**	**83**	P	**P**		**01 02 54.2 +1.2**
	baz=312						
214A	**Organ Pipe Nat**	**37.82**	**116**	P	**P**		**01 02 55.6 +2.1**
	baz=326,SNR=8.4						
214A	**Organ Pipe Nat**	**37.82**	**116**	*e*P	**P**		**01 02 55.5 +1.9**
	comp=Z,22nm,0.8s						
214A				*ep*P	**pP**		**01 03 09.6 +2.9**
K33A	**Hardington**	**37.85**	**89**	P	**P**		**01 02 54.7 +1.1**
	baz=314						
T25A	**Trinidad**	**37.91**	**102**	P	**P**		**01 02 55.9 +1.3**
	baz=320						
C39A	**Grand Marais**	**37.98**	**78**	P	**P**		**01 02 55.3 +0.5**
	baz=310						
L33A	**Hoskins**	**38.01**	**90**	P	**P**		**01 02 55.5 +0.5**
	baz=314						
E38A	**The Farm, Brul**	**38.02**	**80**	P	**P**		**01 02 55.8 +0.7**
	baz=311,SNR=6.6						
F37A	**Hinrichs Farm,**	**38.04**	**82**	P	**P**		**01 02 56.3 +1.0**
	baz=312,SNR=5.2						
I35A	**Creekview Farm**	**38.05**	**86**	P	**P**		**01 02 56.3 +0.9**
	baz=313						
H36A	**Jessenland, He**	**38.12**	**84**	P	**P**		**01 02 57.5 +1.5**
	baz=312						
F38A	**Pierce - Schro**	**38.28**	**81**	P	**P**		**01 02 58.2 +0.9**
	baz=311,SNR=16						
SPMN	**Marine on St.**	**38.28**	**83**	P	**P**		**01 02 58.5 +1.3**
	baz=312,SNR=6.8						
SPMN	**Marine on St.**	**38.28**	**83**	*e*P	**P**		**01 02 58.4 +1.1**
	comp=Z,42nm,0.9s						
TUC	**Tucson**	**38.50**	**113**	P	**P**		**01 03 00.8 +1.4**
	baz=325						
TUC	**Tucson**	**38.50**	**113**	*e*P	**P**		**01 03 00.3 +0.9**
TUC				*ep*P	**sP**		**01 03 16.0 -2.3**
ANMO	**Albuquerque**	**38.55**	**106**	P	**P**		**01 03 00.3 +0.4**
	baz=322						
ANMO	**Albuquerque**	**38.55**	**106**	*ce*P	**P**		**01 03 00.7 +0.8**
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ANMO	**Albuquerque**	**38.55**	**106**	*e*P	**P**		**01 03 00.5 +0.6**
ANMO				*ep*P	**pP**		**01 03 15.8 +2.7**
ANMO				*e*PcP	**PcP**		**01 05 12.8 +1.2**
L34A	**Svendsen Farm,**	**38.62**	**89**	P	**P**		**01 03 00.8 +0.6**
	baz=315						
LAZ	**Ladron**	**38.63**	**108**	*e*P	**P**		**01 03 03.4 +2.8**
LAZ				*ep*P	**sP**		**01 03 16.7 -2.9**
H37A	**Dierke Farm, C**	**38.65**	**83**	P	**P**		**01 03 02.1 +1.6**
	baz=312						
E39A	**Mellen**	**38.70**	**80**	P	**P**		**01 03 02.6 +1.8**
	baz=311						
K35A	**Storm Lake**	**38.70**	**88**	P	**P**		**01 03 01.3 +0.5**
	baz=314						
I37A	**Lemond, Waseca**	**38.78**	**85**	P	**P**		**01 03 02.7 +1.2**
	baz=313						
F39A	**Loretta**	**38.81**	**80**	P	**P**		**01 03 02.5 +0.8**
	baz=312						
G38A	**Ridgeland**	**38.82**	**82**	P	**P**		**01 03 02.6 +0.8**
	baz=312						
M34A	**Aspy Farms, Fr**	**38.84**	**90**	P	**P**		**01 03 02.9 +0.8**
	baz=315						
H38A	**Maiden Rock**	**38.92**	**83**	P	**P**		**01 03 04.0 +1.4**
	baz=312,SNR=9.0						
E40A	**Wakefield**	**38.99**	**79**	P	**P**		**01 03 04.8 +1.5**
	baz=311						
BNM	**Barren Site**	**39.09**	**107**	*e*P	**P**		**01 03 05.9 +1.4**
BNM				*ep*P	**sP**		**01 03 20.8 -2.6**
G39A	**Holcombe**	**39.10**	**81**	P	**P**		**01 03 04.9 +0.8**
	baz=312,SNR=5.8						
CBKS	**Cedar Bluff**	**39.11**	**96**	P	**P**		**01 03 05.9 +1.6**
	baz=318						
K36A	**Gilmore City**	**39.18**	**87**	P	**P**		**01 03 05.5 +0.7**
	baz=314						
J37A	**Redenius Farm,**	**39.19**	**85**	P	**P**		**01 03 05.8 +0.9**
	baz=314						
F40A	**Park Falls**	**39.23**	**80**	P	**P**		**01 03 06.1 +0.9**
	baz=312,SNR=14						
D41A	**Chassel**	**39.28**	**77**	P	**P**		**01 03 06.3 +0.7**
	baz=311						
I38A	**Scanlan Farm,**	**39.33**	**84**	P	**P**		**01 03 07.1 +1.0**
	baz=313,SNR=7.0						
O33A	**Hebron**	**39.33**	**92**	P	**P**		**01 03 06.2 0.0**
	baz=316						
N34A	**Lincoln**	**39.36**	**91**	P	**P**		**01 03 06.2 -0.2**
	baz=316						
L36A	**Harm Buss Farm**	**39.44**	**88**	P	**P**		**01 03 07.7 +0.7**
	baz=315						
H39A	**Augusta**	**39.45**	**82**	P	**P**		**01 03 08.1 +1.0**
	baz=313,SNR=6.7						
E41A	**Kenton**	**39.47**	**78**	P	**P**		**01 03 08.5 +1.3**
	baz=311						
K37A	**Belmond**	**39.52**	**86**	P	**P**		**01 03 08.4 +0.7**
	baz=314						
COWI	**Conover**	**39.62**	**79**	*e*P	**P**		**01 03 09.3 +0.9**
	comp=Z,7.7nm,0.8s						
G40A	**Rib Lake**	**39.62**	**81**	P	**P**		**01 03 09.3 +0.8**
	baz=312,SNR=8.4						
O34A	**Beatrice**	**39.73**	**92**	P	**P**		**01 03 10.6 +1.2**
	baz=316						
J38A	**Wedel Dairy, R**	**39.75**	**85**	P	**P**		**01 03 10.5 +0.9**
	baz=314						
N35A	**Tabor**	**39.80**	**90**	P	**P**		**01 03 10.9 +0.9**
	baz=316						
121A	**Cookes Peak, D**	**39.80**	**110**	P	**P**		**01 03 11.9 +1.6**
	baz=324						
121A	**Cookes Peak, D**	**39.80**	**110**	*e*P	**P**		**01 03 12.5 +2.2**
	comp=Z,13nm,0.9s						
121A				*ep*P	**sP**		**01 03 26.8 -2.5**
M36A	**Felix, Anita**	**39.82**	**89**	P	**P**		**01 03 12.0 +1.8**
	baz=315						
F41A	**Three Lakes**	**39.88**	**79**	P	**P**		**01 03 09.5 -1.1**
	baz=312						
I39A	**Houston**	**39.88**	**83**	P	**P**		**01 03 11.3 +0.7**
	baz=313,SNR=8.5						
L37A	**Phoenix Point,**	**39.90**	**87**	P	**P**		**01 03 11.8 +1.0**
	baz=315						
H40A	**Chili**	**39.95**	**82**	P	**P**		**01 03 12.4 +1.1**
	baz=313,SNR=6.3						
K38A	**Parkersburg**	**40.06**	**86**	P	**P**		**01 03 12.9 +0.7**
	baz=314						
P34A	**Walnut Farm, R**	**40.12**	**92**	P	**P**		**01 03 13.1 +0.4**
	baz=317						
J39A	**Decorah**	**40.14**	**84**	P	**P**		**01 03 13.5 +0.6**
	baz=314						
G41A	**Antigo**	**40.19**	**80**	P	**P**		**01 03 13.7 +0.5**
	baz=312						
N36A	**Muff Farm, Cla**	**40.19**	**89**	P	**P**		**01 03 13.9 +0.7**
	baz=316						
M37A	**Trindle Farm,**	**40.25**	**88**	P	**P**		**01 03 14.8 +1.1**
	baz=315						
L38A	**Oak Wood Farm,**	**40.31**	**86**	P	**P**		**01 03 14.7 +0.4**
	baz=315						
I40A	**Norwalk**	**40.33**	**83**	P	**P**		**01 03 15.3 +0.9**
	baz=313						
H41A	**Junction City**	**40.35**	**81**	P	**P**		**01 03 15.1 +0.6**
	baz=313						
F42A	**Maple Grove Fa**	**40.37**	**79**	P	**P**		**01 03 15.7 +1.0**
	baz=312						
K39A	**Oelwein**	**40.48**	**85**	P	**P**		**01 03 15.8 +0.1**
	baz=314,SNR=7.2						
E43A	**Lone Tree Farm**	**40.55**	**77**	P	**P**		**01 03 17.0 +0.9**
	baz=312,SNR=7.4						
P35A	**Duane Minner,**	**40.56**	**92**	P	**P**		**01 03 17.1 +0.8**
	baz=317,SNR=5.7						
J40A	**Soldiers Grove**	**40.61**	**83**	P	**P**		**01 03 17.5 +0.8**
	baz=314						
I41A	**Arkdale**	**40.61**	**82**	P	**P**		**01 03 17.9 +1.2**
	baz=313						
N37A	**Lee Faris, Mou**	**40.63**	**89**	P	**P**		**01 03 18.3 +1.4**
	baz=316						
O36A	**Bolckow**	**40.68**	**90**	P	**P**		**01 03 18.6 +1.3**
	baz=316						
M38A	**Pleasantville**	**40.70**	**87**	P	**P**		**01 03 18.3 +0.9**
	baz=315						
R34A	**Isabella, Hill**	**40.81**	**94**	P	**P**		**01 03 19.1 +0.7**
	baz=318						
F43A	**Flat Rock, Esc**	**40.82**	**78**	P	**P**		**01 03 19.2 +0.8**
	baz=312						
L39A	**Vinton**	**40.83**	**86**	P	**P**		**01 03 19.1 +0.6**
	baz=315						
K40A	**Colesburg**	**40.88**	**84**	P	**P**		**01 03 19.5 +0.6**
	baz=314						
P36A	**Good Intent, A**	**40.92**	**91**	P	**P**		**01 03 20.1 +0.8**
	baz=317						
G43A	**Wallace**	**40.94**	**79**	P	**P**		**01 03 20.2 +0.8**
	baz=313						
J41A	**Loganville**	**41.01**	**83**	P	**P**		**01 03 20.6 +0.6**
	baz=314,SNR=5.5						
Q35A	**Mercer Eighty,**	**41.04**	**92**	P	**P**		**01 03 20.2 0.0**
	baz=317						
AMTX	**Amarillo**	**41.06**	**102**	P	**P**		**01 03 21.1 +0.5**
	baz=321						
O37A	**Wolven Farm, M**	**41.09**	**89**	P	**P**		**01 03 21.8 +1.1**
	baz=316						
F44A	**Big Bay de Noc**	**41.11**	**77**	P	**P**		**01 03 21.9 +1.2**
	baz=312						
N38A	**Joes South For**	**41.12**	**88**	P	**P**		**01 03 21.7 +0.8**
	baz=316						
M39A	**Webster**	**41.20**	**86**	P	**P**		**01 03 22.3 +0.8**
	baz=315						
JFWS	**Jewell Farm**	**41.20**	**83**	*e*P	**P**		**01 03 22.1 +0.5**
	comp=Z,34nm,0.8s						
MSTX	**Muleshoe**	**41.21**	**104**	P	**P**		**01 03 23.0 +1.2**
	baz=322						
MSTX	**Muleshoe**	**41.21**	**104**	*e*P	**P**		**01 03 22.8 +1.0**
	comp=Z,15nm,1.4s						
I42A	**Draeger Farm,**	**41.23**	**81**	P	**P**		**01 03 22.6 +0.8**
	baz=314,SNR=5.8						
Q36A	**Arnold C. Orve**	**41.27**	**92**	P	**P**		**01 03 23.1 +0.9**
	baz=317						
L40A	**Anamosa**	**41.29**	**85**	P	**P**		**01 03 22.7 +0.4**
	baz=315						
S34A	**Willow Spring**	**41.32**	**95**	P	**P**		**01 03 23.3 +0.7**
	baz=318						
K41A	**Shullsburg**	**41.39**	**84**	P	**P**		**01 03 23.6 +0.5**
	baz=314						
P37A	**Lathrop**	**41.40**	**90**	P	**P**		**01 03 24.1 +0.8**
	baz=317						
N39A	**Derby Farms, D**	**41.45**	**87**	P	**P**		**01 03 24.3 +0.7**
	baz=316						
O38A	**Galt**	**41.48**	**89**	P	**P**		**01 03 24.8 +1.0**
	baz=316						
E45A	**Wooded Hills,**	**41.50**	**76**	P	**P**		**01 03 24.9 +0.9**
	baz=312						
M40A	**Post Highland**	**41.60**	**86**	P	**P**		**01 03 25.4 +0.6**
	baz=315						
L41A	**Preston**	**41.66**	**84**	P	**P**		**01 03 25.6 +0.3**
	baz=315						
MNTX	**Cornudas Mount**	**41.68**	**108**	P	**P**		**01 03 27.6 +2.0**
	baz=324,SNR=9.6						
MNTX	**Cornudas Mount**	**41.68**	**108**	*e*P	**P**		**01 03 26.6 +1.0**
	comp=Z,12nm,1.0s						
R36A	**Gordon, Harris**	**41.71**	**92**	P	**P**		**01 03 26.0 +0.2**
	baz=318						
S35A	**Otter Creek Ra**	**41.76**	**94**	P	**P**		**01 03 26.9 +0.8**
	baz=318,SNR=8.0						
F45A	**CMU Biological**	**41.77**	**77**	P	**P**		**01 03 27.0 +0.8**
	baz=313						
T34A	**McClaskey Farm**	**41.79**	**95**	P	**P**		**01 03 27.2 +0.7**
	baz=319						
P38A	**Dawn**	**41.81**	**89**	P	**P**		**01 03 27.4 +0.9**
	baz=317						
Q37A	**Longview Farm,**	**41.86**	**91**	P	**P**		**01 03 27.6 +0.6**
	baz=317						
O39A	**Kirksville**	**41.88**	**88**	P	**P**		**01 03 27.6 +0.5**
	baz=316						
N40A	**Mertquake, Sal**	**41.93**	**87**	P	**P**		**01 03 28.0 +0.4**
	baz=316						
S36A	**Lake Cedric, C**	**42.11**	**93**	P	**P**		**01 03 29.3 +0.3**
	baz=318						
M41A	**Milan**	**42.13**	**85**	P	**P**		**01 03 29.4 +0.3**
	baz=315						
SUMG	**Summit**	**42.15**	**24**	*i* P	**P**		**01 03 29.8 +0.4**
SUMG	**Summit**	**42.15**	**24**	*i* P	**P**		**01 03 29.8 +0.4**
T35A	**Sooner Cattle**	**42.23**	**95**	P	**P**		**01 03 30.8 +0.8**
	baz=319						
Q38A	**Cooks Store, C**	**42.24**	**90**	P	**P**		**01 03 30.4 +0.3**
	baz=317,SNR=6.5						
P39B	**Salisbury**	**42.32**	**89**	P	**P**		**01 03 31.1 +0.4**
	baz=317						
O40A	**La Belle**	**42.33**	**88**	P	**P**		**01 03 31.1 +0.4**
	baz=316						
DAG	**Danmarks Havn**	**42.33**	**14⇓**	*i*P	**P**		**01 03 29.9 -0.5**
	comp=Z,21nm,0.6s						
DAG	**Danmarks Havn**	**42.33**	**14⇓**	*i*P	**P**		**01 03 29.9 -0.5**
DAG				pmax	pmax		
	comp=Z,14nm,0.6s						
N41A	**Harden Midland**	**42.44**	**86**	P	**P**		**01 03 32.0 +0.3**
	baz=316						
T36A	**Boggs Farm, Ca**	**42.45**	**94**	P	**P**		**01 03 32.5 +0.7**
	baz=319						
S37A	**Fort Scott**	**42.49**	**92**	P	**P**		**01 03 32.4 +0.3**
	baz=318						
L43A	**Garden Prairie**	**42.51**	**83**	P	**P**		**01 03 32.6 +0.4**
	baz=315						
U35A	**Pawnee**	**42.52**	**96**	P	**P**		**01 03 33.1 +0.7**
	baz=319						
Q39A	**Willow Grove F**	**42.52**	**90**	P	**P**		**01 03 32.7 +0.3**
	baz=317,SNR=9.3						
R38A	**Fenwick Farm,**	**42.66**	**91**	P	**P**		**01 03 33.2 -0.3**
	baz=318						
P40A	**Paris**	**42.66**	**88**	P	**P**		**01 03 33.7 +0.2**
	baz=317						
WMOK	**Wichita Mounta**	**42.69**	**99**	P	**P**		**01 03 35.1 +1.3**
	baz=320						
WMOK	**Wichita Mounta**	**42.69**	**99**	*e*P	**P**		**01 03 34.4 +0.6**
	comp=Z,6.1nm,0.8s						
SFJD	**Kangerlussuaq**	**42.77**	**34**	*i* P	**P**		**01 03 35.1 +1.1**
	comp=Z,8.7nm,0.7s						
SFJD	**Kangerlussuaq**	**42.77**	**34**	*i* P	**P**		**01 03 35.1 +1.1**
SFJD				pmax	pmax		
	comp=Z,9.0nm,0.7s						
N42A	**Yates City**	**42.79**	**85**	P	**P**		**01 03 34.9 +0.4**
	baz=316						
O41A	**Passleys Farm,**	**42.86**	**87**	P	**P**		**01 03 35.4 +0.3**
	baz=316						
T37A	**Cheneyville 18**	**42.91**	**93**	P	**P**		**01 03 35.8 +0.3**
	baz=319,SNR=11						
V35A	**Meyer Ranch, C**	**42.92**	**96**	P	**P**		**01 03 36.3 +0.6**
	baz=320						
R39A	**Chumby, Stover**	**43.03**	**90**	P	**P**		**01 03 37.0 +0.5**
	baz=318						

baz=320
V37A **Hulbert** 43.73 95 P P 01 03 42.3 +0.2
baz=319,SNR=5.0
T39A **Clever** 43.80 92 P P 01 03 42.2 -0.5
baz=319,SNR=10
S40A **Lebanon** 43.84 91 P P 01 03 42.5 -0.6
baz=318
ABTX **Abilene, Hawle** 43.88 102 P P 01 03 44.4 +1.0
baz=322
ABTX **Abilene, Hawle** 43.88 102 *eP* P 01 03 43.7 +0.3
comp=Z,7.5nm,0.9s
ABTX *epP* **pP** 01 03 58.6 +1.9
X35A **Drake** 43.90 98 P P 01 03 44.4 +0.9
baz=321
R41A **Rosebud** 43.92 89 P P 01 03 43.6 0.0
baz=318
P43A **Skaggs, Pawnee** 43.92 86 P P 01 03 44.0 +0.3
baz=317
HHAR **Hobbs** 44.06 93 *eP* P 01 03 44.8 0.0
comp=Z,8.8nm,0.9s
X36A **Centrahoma** 44.09 97 P P 01 03 45.9 +0.9
baz=320
V38A **Canehill** 44.13 94 P P 01 03 45.4 0.0
baz=319,SNR=9.2
W37B **Quinton** 44.14 95 P P 01 03 46.4 +0.9
baz=320
T40A **Mansfield** 44.17 91 P P 01 03 45.3 -0.3
baz=318
U39A **Green Forest** 44.23 93 P P 01 03 45.7 -0.5
baz=319,SNR=8.2
Y35A **Marietta** 44.24 98 P P 01 03 47.8 +1.5
baz=321
S41A **Jillco Farms,** 44.25 90 P P 01 03 46.1 -0.2
baz=318,SNR=26
Q43A **New Douglas** 44.34 87 P P 01 03 47.4 +0.4
baz=317
TX31 **Lajitas Ar. Si** 44.45 108 *eP* P 01 03 49.9 +1.7
TXAR **Lajitas Array** 44.45 108 P P 01 03 49.2 +1.1
comp=Z,1.6nm,0.9s,baz=316,slow=5.5,SNR=12
TXAR pP **pP** 01 04 04.0 +2.5
comp=Z,3.5nm,0.8s,baz=304,slow=5.6,SNR=17
TXAR PcP **PcP** 01 05 30.6 -0.3
comp=Z,1.4nm,0.8s,baz=304,slow=0.5,SNR=4.6
TXAR LR LR 01 21 57.1
comp=Z,132nm,18.0s,baz=0.0,slow=35
P44A **Sand Creek, Wi** 44.52 86 P P 01 03 48.9 +0.5
baz=317
V39A **Pettigrew** 44.55 93 P P 01 03 48.4 -0.4
baz=319,SNR=6.6
U40A **Yellville** 44.58 92 P P 01 03 48.8 -0.2
baz=319
X37A **Clayton** 44.59 96 P P 01 03 49.9 +0.8
baz=320
S42A **Caledonia** 44.62 89 P P 01 03 49.2 0.0
baz=318
Y36A **Durant** 44.64 97 P P 01 03 50.6 +1.2
baz=321
SFIN **Lafayette** 44.67 83 P P 01 03 50.3 +0.7
baz=316
SFIN **Lafayette** 44.67 83 *eP* P 01 03 50.4 +0.7
comp=Z,33nm,1.0s
SFIN *epP* **pP** 01 04 04.0 +1.1
W38A **Poteau** 44.68 95 P P 01 03 50.9 +1.1
baz=320
SCHQ **Schefferville** 44.69 55 LR LR 01 23 28.8
comp=Z,157nm,21.2s,baz=296,slow=37
R43A **Red Bud** 44.70 88 P P 01 03 49.8 -0.1
baz=318
Q44A **Meyer Farm, Va** 44.73 86 P P 01 03 50.6 +0.5
baz=317
X38A **Whitesboro** 44.82 95 P P 01 03 51.8 +0.9
baz=320
Y37A **Hugo** 44.93 97 P P 01 03 53.3 +1.6
baz=321
W39A **Magazine** 44.97 94 P P 01 03 52.3 +0.3
baz=320
V40A **Witts Springs** 45.02 93 P P 01 03 51.9 -0.6
baz=319,SNR=21
Z36A **Blue Ridge** 45.05 98 P P 01 03 53.8 +1.1
baz=321
U41A **Viola** 45.09 91 P P 01 03 52.8 -0.2
baz=319
S43A **Fulton Ridge,** 45.15 89 P P 01 03 53.6 +0.1
baz=318
X39A **Fountain Ranch** 45.32 95 P P 01 03 55.3 +0.4
baz=320
OLIL **Olney** 45.34 86 *eP* P 01 03 55.6 +0.7
comp=Z,56nm,0.9s
V41A **Mountainview** 45.38 92 P P 01 03 54.5 -0.9
baz=319,SNR=7.6
BOD **Bodaibo** 45.39 311 *eP* P 01 03 54.5 -0.6
BOD pmax pmax
comp=Z,11nm,1.1s
T43A **Greenville** 45.40 89 P P 01 03 55.2 -0.2
baz=318,SNR=8.7
Y38A **Idabel** 45.44 96 P P 01 03 56.6 +0.8
baz=321
U42A **Revenden** 45.44 91 P P 01 03 55.1 -0.7
baz=319
S44A **Carbondale** 45.49 88 P P 01 03 55.9 -0.3
baz=318
JCT **Junction City** 45.50 104 P P 01 03 57.4 +1.1
baz=323
JCT **Junction City** 45.50 104 *eP* P 01 03 56.7 +0.4
comp=Z,14nm,0.8s
WHTX **Lake Whitney,** 45.52 100 P P 01 03 57.5 +1.1
baz=322
WHTX **Lake Whitney,** 45.52 100 *eP* P 01 03 56.9 +0.5
WHTX *epP* **pP** 01 04 12.6 +2.8
NRIK **Noril'sk** 45.53 334 P P 01 03 54.3 -1.7
comp=Z,3.1nm,0.6s,baz=42,slow=7.4,SNR=4.5
NRIK LR LR 01 25 06.0
comp=Z,113nm,19.8s,baz=18,slow=39
PBMO **Poplar Bluff** 45.55 90 *eP* P 01 03 56.4 -0.2
comp=Z,15nm,0.8s
MIAR **Mount Ida** 45.58 94 P P 01 03 57.3 +0.4
baz=320
MIAR **Mount Ida** 45.58 94 *eP* P 01 03 57.6 +0.7
comp=Z,9.2nm,0.8s
136A **Ennis** 45.62 99 P P 01 03 57.9 +0.7
baz=322
334A **Lometa** 45.63 101 P P 01 03 58.3 +0.9
baz=323,SNR=5.2
T44A **Benton** 45.77 89 P P 01 03 58.3 0.0
baz=318
Y39A **Lockesburg** 45.77 95 P P 01 03 58.3 -0.1
baz=321
W41B **Gary Mavity, V** 45.80 93 P P 01 03 59.3 +0.7
baz=320
BLO **Bloomington** 45.85 84 *eP* P 01 03 59.6 +0.7
BLO *epP* **pP** 01 04 12.6 +0.3
U43A **Rector** 45.87 90 P P 01 03 59.2 0.0
baz=319
434A **Burnet** 46.02 102 P P 01 04 01.6 +1.1
baz=323,SNR=7.8
533A **Kerrville** 46.22 103 P P 01 04 02.4 +0.4
baz=324
138A **Matatall Enter** 46.23 97 P P 01 04 01.9 -0.1
baz=322
Z39A **Irene McRaven,** 46.26 96 P P 01 04 03.0 +0.7
baz=321
336A **Riesel** 46.31 100 P P 01 04 03.8 +1.2
baz=322
435B **Jarrell** 46.41 101 P P 01 04 04.6 +1.2
baz=323
USRK **Ussuriysk Ar.** 46.46 287 LR LR 01 24 23.6
comp=Z,70nm,20.7s,baz=64,slow=37
534A **Blanco** 46.55 103 P P 01 04 05.3 +0.8
baz=323
Y41A **Eaglette Beard** 46.60 94 P P 01 04 05.4 +0.5
baz=321
633A **Saathoff Ranch** 46.64 104 P P 01 04 05.9 +0.6
baz=324
WCI **Wyandotte Cave** 46.66 85 *eP* P 01 04 06.2 +0.8
WCI *epP* **pP** 01 04 19.8 +1.0
WCI *ePcP* **PcP** 01 05 38.5 +0.1
ACSO **Alum Creek Sta** 46.93 80 *eP* P 01 04 08.8 +1.3
ACSO *epP* **pP** 01 04 21.9 +1.1
140A **Cam and Jess,** 47.05 96 P P 01 04 09.8 +1.3
baz=321
239A **Gary** 47.06 97 P P 01 04 09.6 +1.1
baz=322
Y42A **Garnett, Star** 47.07 93 P P 01 04 09.2 +0.7
baz=321
NATX **Nacogdoches** 47.16 98 P P 01 04 10.4 +1.0
baz=322
733A **Divot King Ran** 47.18 105 P P 01 04 10.6 +1.2
baz=324

832A **Faith Ranch, C** 47.18 106 P P 01 04 09.6 +0.1
baz=325
VLA **Vladivostok** 47.28 286⇑ *iP* P 01 04 08.4 -1.7
VLA *i* *PP **pP** 01 04 21.8 -1.7
VLA *i* 01 05 39.1
VLA *i* 01 05 59.4
VLA pmax pmax
comp=Z,22nm,1.5s
ALLY **Alegheny Colle** 47.38 77 *eP* P 01 04 12.1 +1.1
ALLY *epP* **pP** 01 04 25.9 +1.6
Z42A **Norrel Spur, H** 47.42 94 P P 01 04 12.0 +0.8
baz=321
240A **Hunter Patters** 47.42 97 P P 01 04 12.7 +1.3
baz=322
WVT **Waverly** 47.42 88 *eP* P 01 04 12.0 +0.8
WVT *epP* **pP** 01 04 24.5 -0.2
635A **Leesville** 47.42 103 P P 01 04 12.9 +1.6
baz=324
X44A **Crenshaw** 47.43 91 P P 01 04 11.9 +0.5
baz=320
Y43A **Makayla and Ka** 47.46 93 P P 01 04 12.0 +0.4
baz=320
438A **Sam Houston St** 47.53 99 P P 01 04 14.0 +1.8
baz=323
537A **Green Hill Far** 47.63 101 P P 01 04 14.6 +1.7
baz=323
636A **Smothers Creek** 47.72 102 P P 01 04 15.9 +2.2
baz=324,SNR=7.3
M54A **Oil Creek Stat** 47.73 77 P P 01 04 14.3 +0.6
baz=317
Y44A **Strider, Charl** 47.81 92 P P 01 04 14.9 +0.6
baz=320,SNR=5.2
OXF **Oxford** 47.81 91 *eP* P 01 04 15.2 +0.9
comp=Z,62nm,1.0s
340A **Bronson** 47.84 97 P P 01 04 15.9 +1.3
baz=322
X45A **UM Field Stati** 47.88 91 P P 01 04 15.2 +0.3
baz=320
N54A **Moraine State** 47.96 77 P P 01 04 16.1 +0.6
baz=317
HKT **Hockley** 47.98 100 *eP* P 01 04 16.7 +1.1
HKT *epP* **pP** 01 04 31.9 +2.8
834A **Tilden** 48.04 104 P P 01 04 17.3 +1.2
baz=324
933A **Laredo** 48.08 105 P P 01 04 18.1 +1.6
baz=325
637A **Eagle Lake** 48.13 101 P P 01 04 17.3 +0.5
baz=323
736A **Circle Diamond** 48.13 102 P P 01 04 17.6 +0.7
baz=324
143A **Socs Landing,** 48.15 94 P P 01 04 18.2 +1.3
baz=321
Z44A **Pea Ridge, Bel** 48.22 93 P P 01 04 18.4 +0.9
baz=321
Y45A **Yeager Farm, C** 48.23 91 P P 01 04 17.9 +0.3
baz=320
242A **Grayson** 48.25 95 P P 01 04 18.9 +1.2
baz=322
341A **Kurthwood** 48.28 97 P P 01 04 19.1 +1.1
baz=322
440A **Kirbyville** 48.33 98 P P 01 04 20.0 +1.6
baz=322
934A **Benavides** 48.48 105 P P 01 04 21.4 +1.9
baz=325
Y46A **Houston** 48.58 91 P P 01 04 21.1 +0.8
baz=320,SNR=26
144A **Alexander Plac** 48.72 93 P P 01 04 21.5 +0.2
baz=321
441A **DeRidder** 48.73 97 P P 01 04 21.5 0.0
baz=322
MCWV **Mont Chateau** 48.99 79 *eP* P 01 04 23.9 +0.5
comp=Z,17nm,0.8s
VBMS **Vicksburg** 48.99 94 P P 01 04 24.0 +0.6
baz=321
145A **Houston Renfro** 49.01 93 P P 01 04 24.7 +1.1
baz=321
244A **Avery, Jackson** 49.04 94 P P 01 04 25.1 +1.3
baz=322,SNR=7.4
Y47A **UCPARC, Winfie** 49.10 90 P P 01 04 24.9 +0.6
baz=320
SWET **Sewanee** 49.12 87 *eP* P 01 04 24.7 +0.3
comp=Z,6.7nm,0.8s
O56A **Blue Knob Stat** 49.20 77 P P 01 04 25.3 +0.2
baz=318
035A **Encino** 49.23 105 P P 01 04 26.5 +1.2
baz=325
541A **Lake Charles** 49.28 98 P P 01 04 26.7 +1.1
baz=323
SSPA **Standing Stone** 49.28 76 *eP* P 01 04 26.8 +1.2
comp=Z,22nm,0.9s
146A **Union** 49.44 92 P P 01 04 27.9 +1.0
baz=321,SNR=7.9
344A **Westbrook Farm** 49.48 94 P P 01 04 28.6 +1.4
baz=322
Z47A **Carrollton** 49.53 91 P P 01 04 28.0 +0.5
baz=321,SNR=12
035Z **Hargill** 49.64 105 P P 01 04 30.4 +2.0
baz=325
Z48A **Northport** 49.66 90 P P 01 04 28.9 +0.3
baz=321
CPCT **Cooper Cave** 49.69 86 *eP* P 01 04 29.3 +0.5
CPCT *epP* **pP** 01 04 42.8 +0.6
147A **Livingston** 49.83 91 P P 01 04 29.4 -0.4
baz=321
TKL **Tuckaleechee C** 49.92 85 *eP* P 01 04 30.9 +0.4
TKL *epP* **pP** 01 04 45.2 +1.2
345A **Thompson Farm,** 49.96 94 P P 01 04 31.8 +0.9
baz=322
444A **Pine Grove** 50.05 95 P P 01 04 33.0 +1.5
baz=322
247A **Quitman** 50.13 92 P P 01 04 33.3 +1.1
baz=321
N59A **State Game Lan** 50.16 74 P P 01 04 32.5 +0.2
baz=318
346A **Big Creek Wild** 50.20 93 P P 01 04 33.6 +1.0
baz=322
LNIG **Linares** 50.22 108 *eP* P 01 04 34.1 +1.3
LNIG *epP* **pP** 01 04 46.7 +0.3
LRAL **Lakeview Retre** 50.23 90 *eP* P 01 04 32.5 -0.3
comp=Z,13nm,1.3s
445A **Amite** 50.25 95 P P 01 04 34.6 +1.6
baz=322
544A **White Castle** 50.31 96 P P 01 04 34.2 +0.8
baz=323
BLA **Blacksburg** 50.52 81 *eP* P 01 04 35.5 +0.5
comp=Z,20nm,0.8s
248A **Dixon Mills** 50.56 91 P P 01 04 36.2 +0.8
baz=321
LUPA **Lehigh Univers** 50.60 74 *eP* P 01 04 36.6 +1.0
LUPA *epP* **pP** 01 04 50.1 +1.0
347A **Saraland** 50.68 93 P P 01 04 37.2 +1.0
baz=322,SNR=5.3
SDMD **Soldier's Deli** 50.73 77 *eP* P 01 04 37.9 +1.3
SDMD *epP* **pP** 01 04 51.3 +1.2
348A **Jackson** 51.01 92 P P 01 04 39.6 +0.9
baz=322
645A **Chauvin** 51.12 96 P P 01 04 40.4 +0.9
baz=323
JSRW **J. Sargeant Re** 51.48 79 *eP* P 01 04 43.3 +1.1
JSRW *epP* **pP** 01 04 56.9 +1.1
KMSC **Kings Mountain** 51.60 84 P P 01 04 43.6 +0.4
baz=320
KMSC **Kings Mountain** 51.60 84 *eP* P 01 04 43.6 +0.4
KMSC *epP* **pP** 01 04 57.7 +1.0
ARCES **ARCESS Array B** 52.62 1 P P 01 04 49.2 -1.1
comp=Z,3.5nm,0.6s,baz=9.0,slow=7.4,SNR=20
ARCES PcP **PcP** 01 05 59.6 0.0
comp=Z,4.7nm,0.8s,baz=357,slow=3.6,SNR=5.5
ARCES LR LR 01 28 39.4
comp=Z,34nm,20.0s,baz=260,slow=38
KS01 **Wonju Array Si** 53.50 284 *eP* P 01 04 56.1 -1.0
KSRS **Korea Array** 53.51 284 P P 01 04 56.0 -1.2
comp=Z,4.3nm,0.8s,baz=40,slow=6.4,SNR=12
KSAR **Wonju Array Be** 53.53 284 P P 01 04 56.0 -1.4
TLY **Talaya** 53.97 311 LR LR 01 30 44.0
comp=Z,153nm,18.6s,baz=19,slow=39
ULN **Ulaanbaatar** 55.51 306 *ceP* P 01 05 09.7 -2.1
ULN pmax pmax
comp=Z,2.0nm,0.6s
SONA1 **Songino Array** 55.80 307 *eP* P 01 05 13.5 -0.4
SONM **Songino Array** 55.82 307 P P 01 05 13.5 -0.4
comp=Z,3.8nm,0.6s,baz=43,slow=5.3,SNR=20
SONM pP **pP** 01 05 27.6 -0.1
comp=Z,6.3nm,0.8s,baz=48,slow=6.5,SNR=6.0
SONM PcP **PcP** 01 06 12.2 -0.1
comp=Z,3.5nm,0.7s,baz=60,slow=2.1,SNR=4.0
ZAA0 **Zalesovo Array** 58.83 324 *eP* P 01 05 35.0 +0.2

ZAA0 *epP* **sP** 01 05 52.9 -1.5
ZALV **Zalesovo Beam** 58.83 324 P P 01 05 33.4 -1.5
comp=Z,1.7nm,0.6s,baz=30,slow=7.2,SNR=7.8
ZALV pP **pP** 01 05 50.8 +2.1
comp=Z,4.4nm,0.7s,baz=28,slow=6.7,SNR=7.3
ZALV LR LR 01 32 04.4
comp=Z,56nm,20.3s,baz=68,slow=37
HHC **Hu-ho-hao-te** 58.96 298 *eP* P 01 05 37.4 +1.2
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,90nm,7.4s
NC303 **NORSAR Array S** 60.37 9 *eP* P 01 05 44.7 -0.7
NC405 **NORSAR Array S** 60.51 8 *eP* P 01 05 46.1 -0.2
NB2 **NORSAR Subarra** 60.54 9 P P 01 05 45.9 -0.7
comp=Z,4.4nm,0.6s,baz=351,slow=6.9
NOA **NORSAR Array B** 60.54 9 P P 01 05 45.8 -0.7
comp=Z,3.7nm,0.6s,baz=352,slow=6.8,SNR=23
NOA LR LR 01 33 03.8
comp=Z,12nm,18.9s,baz=350,slow=37
FINES **FINESS Array B** 60.75 0 P P 01 05 47.2 -0.8
comp=Z,4.8nm,0.6s,baz=4.8,slow=8.6,SNR=36
KLMR **Klimovskoe** 60.93 353 *eP* P 01 05 47.5 -1.7
KLMR *e* 01 08 01.6
KLMR pmax pmax
comp=Z,16nm,1.0s
DGZ **Jazzator, Alta** 61.59 320 *i* P P 01 05 53.4 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.7s
NJ2 **Nanjing** 62.37 287 *eP* P 01 06 02.1 +2.8
NJ2 pmax pmax
comp=Z,20nm,0.6s
ARU **Arti** 62.98 341 LR LR 01 37 23.3
comp=Z,47nm,19.4s,baz=16,slow=40
ARU **Arti** 62.98 341 *c iP* P 01 06 01.7 -1.3
ARU 01 06 37.7
ARU 01 08 18.9
ARU S **S** 01 14 29.4 +0.3
ARU pmax pmax
comp=Z,8.0nm,1.2s
KURK **Kurchatov** 63.52 326 *eP* P 01 06 04.9 -1.8
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK **Kurchatov** 63.52 326 *eP* P 01 06 05.5 -1.1
comp=Z,3.7nm,1.0s
BRVK **Borovoye** 63.67 332 *ceP* P 01 06 05.9 -1.7
BRVK pmax pmax
comp=Z,18nm,2.5s
VSU **Vasula** 63.75 0 *ceP* P 01 06 07.1 -0.9
VSU pmax pmax
comp=Z,69nm,1.7s
MKAR **Makanchi Array** 65.83 322 P P 01 06 20.0 -1.9
comp=Z,1.7nm,0.8s,baz=45,slow=6.8,SNR=10
MKAR **Makanchi Array** 65.83 322 *ceP* P 01 06 20.5 -1.4
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MK01 **Makanchi Array** 65.85 322 *eP* P 01 06 20.4 -1.6
WMQ **Urumqi** 66.54 316 P P 01 06 29.5 +3.0
WMQ S **S** 01 15 12.6 -0.8
WMQ ScS **SKSac** 01 16 17.8 -0.8
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,99nm,3.7s
WMQ LR LR
comp=Z,220nm,13.3s
WMQ LR LR
comp=Z,100nm,10.9s
BSD **Bornholm Skovb** 66.70 7 *i* P P 01 06 26.7 -0.5
comp=Z,2.4nm,0.5s
BSD **Bornholm Skovb** 66.70 7 *i* P P 01 06 26.7 -0.5
BSD pmax pmax
comp=Z,2.0nm,0.5s
OBN **Obninsk** 66.83 354 LR LR 01 39 32.7
comp=Z,43nm,18.1s,baz=348,slow=39
OBN **Obninsk** 66.83 354⇑ *eP* P 01 06 27.2 -0.8
OBN *e**PP **pP** 01 06 40.5 -1.5
OBN *e* 01 06 56.8
OBN *e* 01 15 41.2
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,44nm,16.0s
SUW **Suwalki** 68.17 2 *eP* P 01 06 35.7 -0.8
SUW **Suwalki** 68.17 2 *eP* P 01 06 35.7 -0.8
GKP **Gorka Klasztor** 68.68 6 *eP* P 01 06 39.8 +0.1
GKP **Gorka Klasztor** 68.68 6 *eP* P 01 06 39.8 +0.1
AKTO **Aktyubinsk** 68.80 339 LR LR 01 39 33.9
comp=Z,30nm,18.8s,slow=38
LPSR **Galich'ya Gora** 69.18 352 *eP* P 01 06 41.2 -1.6
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ABKAR **Akbulak array** 69.55 338 *eP* P 01 06 44.0 -1.2
comp=Z,30nm,0.7s
MEM **Membach** 70.28 14 P P 01 06 49.8 +0.2
comp=Z,5.1nm,1.1s
CLL **Collm** 70.33 9 *i* P P 01 06 48.9 -1.0
CLL *e**PP **pP** 01 07 03.0 -1.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL **Collm** 70.33 9 *i* P P 01 06 48.9 -1.0
comp=Z,6.0nm,1.0s
CLL *i* 01 06 51.8
comp=Z,31nm,2.0s
CLL *epP* **pP** 01 07 03.0 -1.0
CLL **Collm** 70.33 9 *eP* P 01 06 49.1 -0.8
comp=Z,7.1nm,1.0s
BCLA **Clavier** 70.38 14 P P 01 06 50.2 0.0
VSR **Storozhevoye** 70.54 352 *eP* P 01 06 49.3 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.5s
DOU **Dourbes** 70.60 15 P P 01 06 52.0 +0.4
BRG **Berggiesshubel** 70.84 9 *eP* P 01 06 53.2 +0.2
comp=Z,11nm,1.2s
BRG *e* 01 07 08.9
comp=Z,42nm,2.7s
BRG **Berggiesshubel** 70.84 9 *eP* P 01 06 53.2 +0.2
BRG *e* 01 07 08.9
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG pmax pmax
comp=Z,11nm,2.7s
KSP **Ksiaz** 71.04 7 *eP* P 01 06 54.3 0.0
KSP **Ksiaz** 71.04 7 *eP* P 01 06 54.3 0.0
WLF **Walferdange** 71.23 14 *eP* P 01 06 55.7 +0.3
comp=Z,23nm,1.5s
PVCC **Panska Ves** 71.23 8 *eP* P 01 06 56.0 +0.6
PVCC *epP* **pP** 01 07 10.7 +1.1
PVCC **Panska Ves** 71.23 8 *eP* P 01 06 56.0 +0.6
PVCC *e* 01 07 10.7
NKC **Novy Kostel** 71.35 10 *eP* P 01 06 56.7 +0.5
NKC **Novy Kostel** 71.35 10 *eP* P 01 06 56.7 +0.5
UPC **Upice** 71.36 7 *eP* P 01 06 56.7 +0.5
UPC **Upice** 71.36 7 *eP* P 01 06 56.7 +0.5
AKASG **Malin Array Be** 71.51 358 P P 01 06 55.9 -1.1
comp=Z,11nm,0.5s,baz=5.3,slow=6.1,SNR=48
AKASG LR LR 01 40 34.5
comp=Z,25nm,18.7s,baz=310,slow=38
AKBB **Malin Array Si** 71.51 358 *eP* P 01 06 56.0 -1.0
comp=Z,17nm,0.6s
KIEV **Kiev** 71.51 358 *d iP* P 01 06 55.8 -1.3
KIEV pmax pmax
comp=Z,13nm,0.6s
KIEV **Kiev** 71.51 358 *eP* P 01 06 55.7 -1.3
comp=Z,16nm,0.6s
AK11 **Malin Array Si** 71.53 358 *eP* P 01 06 56.0 -1.2
DPC **Dobruska-Polom** 71.53 7 *eP* P 01 06 57.9 +0.6
DPC *ex* x 01 07 02.7
DPC *epP* **pP** 01 07 13.1 +1.6
DPC **Dobruska-Polom** 71.53 7 *eP* P 01 06 57.9 +0.6
DPC *e* 01 07 13.1
PRA **Prague** 71.68 8 *eP* P 01 06 58.6 +0.5
PRA **Prague** 71.68 8 *eP* P 01 06 58.6 +0.5
PRU **Pruhonice** 71.77 8 *eP* P 01 06 59.2 +0.6
PRU *epP* **pP** 01 07 12.6 -0.2
PRU **Pruhonice** 71.77 8 *eP* P 01 06 59.2 +0.6
PRU *e* 01 07 12.6
KRLC **Kraliky** 71.84 7 *eP* P 01 06 59.5 +0.4
KRLC *epP* **pP** 01 07 14.3 +1.0
KRLC **Kraliky** 71.84 7 *eP* P 01 06 59.5 +0.4
KRLC *e* 01 07 14.3
OJC **Ojcow** 71.85 5 *eP* P 01 06 59.1 -0.1
OJC **Ojcow** 71.85 5 *eP* P 01 06 59.1 -0.1
AAK **Ala-Archa** 72.03 325⇑ *iP* P 01 06 59.3 -1.2

AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 72.03 325 *eP* **P 01 06 59.5 -1.0**
comp=Z,3.1nm,0.7s
OKC Ostrava-Krasne 72.15 6 *eP* **P 01 07 01.3 +0.3**
OKC Ostrava-Krasne 72.15 6 *eP* **P 01 07 01.3 +0.3**
MORC Moravsky Berou 72.18 6 *eP* **P 01 07 01.2 0.0**
comp=Z,17nm,0.9s
TREC Trest 72.53 8 *eP* **P 01 07 03.4 +0.2**
TREC Trest 72.53 8 *eP* **P 01 07 03.4 +0.2**
KHC Kasperske Hory 72.54 9 *eP* **P 01 07 04.0 +0.6**
KHC *epP* **pP 01 07 17.8 +0.3**
KHC *esP* **sP 01 07 25.3 +2.2**
KHC Kasperske Hory 72.54 9 *eP* **P 01 07 04.0 +0.6**
KHC *e* 01 07 09.9
KHC *e* 01 07 17.8
KHC *e* 01 07 25.3
KHC Kasperske Hory 72.54 9 *eP* **P 01 07 03.9 +0.6**
comp=Z,3.6nm,1.1s
KWP Kalwaria Pacla 72.54 3 *eP* **P 01 07 03.6 +0.3**
KWP Kalwaria Pacla 72.54 3 *eP* **P 01 07 03.6 +0.3**
NIE Niedzica 72.68 4 *eP* **P 01 07 03.8 -0.3**
NIE Niedzica 72.68 4 *eP* **P 01 07 03.8 -0.3**
STHS Stebnicka Huta 72.71 4 *eP* **P 01 07 05.3 +1.0**
STHS pmax pmax
comp=Z,7.0nm,0.6s
STHS Stebnicka Huta 72.71 4 *eP* **P 01 07 05.3 +1.0**
KKAR Karatay Array 72.76 328 *eP* **P 01 07 04.0 -0.7**
comp=Z,14nm,0.6s
BFO Black Forest 72.81 13 *i* P **P 01 07 05.7 +0.8**
BFO Black Forest 72.81 13 *eP* **P 01 07 05.3 +0.4**
comp=Z,5.2nm,1.0s
GEC2 GERESS Array S 72.84 9 *eP* **P 01 07 05.4 +0.2**
comp=Z,3.8nm,0.8s
GERES GERESS Array B 72.84 9 P **P 01 07 05.2 0.0**
comp=Z,2.3nm,0.6s,baz=0.2,slow=5.7,SNR=28
GERES pP **pP 01 07 20.3 +1.0**
comp=Z,2.5nm,0.7s,baz=353,slow=4.2,SNR=8.3
GERES LR LR 01 40 55.8
comp=Z,28nm,18.9s,baz=314,slow=37
GEA0 GERESS Array S 72.84 9 *eP* **P 01 07 05.2 0.0**
LANS Liptovska Anna 72.91 5 *eP* **P 01 07 06.5 +1.0**
LANS Liptovska Anna 72.91 5 *eP* **P 01 07 06.5 +1.0**
CRVS Cervenica-Dubn 73.23 4 *eP* **P 01 07 07.6 +0.2**
CRVS Cervenica-Dubn 73.23 4 *eP* **P 01 07 07.6 +0.2**
VYHS Vyhne 73.53 6 *eP* **P 01 07 09.1 -0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 73.53 6 *eP* **P 01 07 09.1 -0.1**
KECS Kecovo 73.62 4 *eP* **P 01 07 09.8 +0.1**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 73.62 4 *eP* **P 01 07 09.8 +0.1**
MOA Molln 73.87 9 *eP* **P 01 07 12.5 +1.3**
comp=Z,7.1nm,1.3s
RETA Reutte 73.91 11 *i* P **P 01 07 11.9 +0.4**
comp=Z,0.5nm,0.3s
CONA Conrad Observa 73.91 8 *eP* **P 01 07 11.7 +0.2**
comp=Z,7.4nm,1.1s
MOTA Moosalm 74.08 11 *eP* **P 01 07 13.0 +0.4**
comp=Z,6.9nm,1.1s
WATA Walderalm 74.14 11 *eP* **P 01 07 13.4 +0.5**
comp=Z,3.6nm,0.5s
WTTA Wattenberg 74.22 11 *i* P **P 01 07 13.7 +0.3**
comp=Z,2.9nm,0.5s
FETA Feichten 74.37 11 *eP* **P 01 07 15.1 +0.8**
comp=Z,5.3nm,0.9s
KSH Kashi 74.40 323 P **P 01 07 17.1 +2.6**
KSH *epP* pP 01 07 27.2 -1.6
KSH PcP **PcP 01 07 31.1 +2.1**
KSH *e*PP **PP 01 10 05.2 +4.7**
KSH S **S 01 16 44.2 -0.9**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,52nm,4.7s
KSH LR LR
comp=Z,64nm,4.2s
KSH LR LR
comp=Z,93nm,8.0s
KBA Koelnbreinsper 74.56 9 *eP* **P 01 07 16.4 +1.0**
comp=Z,5.7nm,0.4s
BUR08 Bucovina Ar. S 74.58 1 *eP* **P 01 07 15.4 0.0**
BURAR Bucovina Array 74.61 1⇑ *iP* **P 01 07 15.3 -0.3**
BURAR Bucovina Array 74.61 1⇑ P **P 01 07 15.3 -0.3**
FUORN Ofenpass-Fuorn 74.71 12 *eP* **P 01 07 17.5 +1.1**
comp=Z,5.8nm,0.6s
TUE Stuetta 74.76 12 *eP* **P 01 07 17.6 +1.0**
comp=Z,5.4nm,0.6s
ABTA Abfaltersbach 74.81 10 *i* P **P 01 07 18.1 +1.4**
comp=Z,2.9nm,0.5s
MYKA Terra Mystica 75.03 9 *eP* **P 01 07 18.2 +0.2**
comp=Z,1.9nm,0.4s
SOKA Soboth 75.10 8 *eP* **P 01 07 19.3 +0.9**
comp=Z,5.6nm,0.8s
OBKA Obir 75.23 9 *i* P **P 01 07 19.5 +0.4**
comp=Z,8.8nm,0.4s
DRGR 75.38 3⇓ *iP* **P 01 07 17.7 -2.3**
DRGR 75.38 3⇓ P **P 01 07 17.7 -2.3**
BNI Bardonecchia 75.83 15 *eP* **P 01 07 22.9 +0.2**
comp=Z,14nm,1.4s
MANU Manus Island 76.14 242 *eP* **P 01 07 24.2 -0.4**
comp=Z,38nm,0.8s
GOF Gofitskoye 76.29 348⇑ *eP* **P 01 07 24.9 -0.2**
GOF pmax pmax
comp=Z,30nm,0.6s
VRI Vrincioaia 76.36 0⇓ *iP* **P 01 07 25.8 +0.3**
VRI Vrincioaia 76.36 0⇓ P **P 01 07 25.8 +0.3**
PLOR Plostina 76.38 0⇑ *iP* **P 01 07 25.7 0.0**
PLOR Plostina 76.38 0⇑ P **P 01 07 25.7 0.0**
BZS Buzias 76.52 4⇓ *iP* **P 01 07 26.1 -0.3**
BZS Buzias 76.52 4⇓ P **P 01 07 26.1 -0.3**
PBRG Braganca 76.56 25 *eP* **P 01 07 27.7 +0.9**
comp=Z,12nm,1.8s
POLO Lamas de Olo 76.73 26 *eP* **P 01 07 28.7 +0.9**
comp=Z,5.2nm,1.6s
MLR Muntele Rosu 76.74 1⇓ *iP* **P 01 07 27.9 +0.1**
MLR Muntele Rosu 76.74 1⇓ P **P 01 07 27.9 +0.1**
MLR Muntele Rosu 76.74 1 *eP* **P 01 07 28.9 +1.1**
comp=Z,17nm,1.5s
LOT Lotru 76.75 2⇑ *iP* **P 01 07 26.5 -1.4**
GZR Gura Zlata 76.78 3⇓ *iP* **P 01 07 27.5 -0.5**
GZR Gura Zlata 76.78 3⇓ P **P 01 07 27.5 -0.5**
VOIR 76.78 1⇓ *iP* **P 01 07 26.8 -1.2**
VOIR 76.78 1⇓ P **P 01 07 26.8 -1.2**
PVRL Vila Real 76.84 26 *eP* **P 01 07 29.3 +0.9**
comp=Z,16nm,1.7s
ARR Arges 76.85 2⇑ *iP* **P 01 07 28.6 +0.2**
TLCR 77.03 359⇓ *iP* **P 01 07 29.2 -0.1**
TLCR 77.03 359⇓ P **P 01 07 29.2 -0.1**
CFR Carcaliu 77.05 359⇑ *iP* **P 01 07 29.1 -0.2**
CFR Carcaliu 77.05 359⇑ P **P 01 07 29.1 -0.2**
MVO Moncorvo 77.11 26 *eP* **P 01 07 30.7 +0.8**
comp=Z,11nm,1.4s
PVIS Viseu 77.33 26 *eP* **P 01 07 32.0 +0.9**
comp=Z,10.0nm,0.9s
MDVR Moldovita 77.36 4⇓ *iP* **P 01 07 30.8 -0.4**
LSA Lhasa 77.41 307 *eP* **P 01 07 32.2 -0.1**
comp=Z,9.3nm,0.6s
KVAR Kislovodsk Arr 77.42 348 LR LR 01 44 45.0
comp=Z,22nm,21.6s,slow=38
KIV Kislovodsk 77.42 348 *eP* **P 01 07 31.3 -0.3**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 77.42 348 *eP* **P 01 07 31.5 -0.1**
comp=Z,17nm,0.7s
KBZ Khabaz 77.62 348 P **P 01 07 32.6 0.0**
comp=Z,9.1nm,0.8s,baz=342,slow=5.7,SNR=16
KBZ LR LR 01 44 50.4
comp=Z,35nm,19.0s,baz=52,slow=38
TLB Topalu 77.64 359⇓ *iP* **P 01 07 32.7 0.0**
TLB Topalu 77.64 359⇓ P **P 01 07 32.7 0.0**
QIZ Qiongzhong 77.65 286 P **P 01 07 34.3 +1.2**
QIZ S **S 01 17 20.1 -1.0**
MTE Manteigas 77.71 26 *eP* **P 01 07 34.0 +0.7**
MTE Manteigas 77.71 26 *eP* **P 01 07 34.5 +1.2**
comp=Z,12nm,0.9s
NCK Nalchik 77.77 348⇑ *iP* **P 01 07 33.9 +0.4**
NCK pmax pmax
comp=Z,33nm,0.7s
PCAS Casmilo, Conde 77.82 27 *eP* **P 01 07 34.3 +0.5**
comp=Z,27nm,1.9s
HELC Santa Helena 78.26 97 *eP* **P 01 07 36.3 -0.7**
comp=Z,16nm,0.9s
PCBR Castelo Branco 78.26 26 *eP* **P 01 07 36.9 +0.7**
comp=Z,13nm,1.6s
ZEI Tsey 78.43 347 *eP* **P 01 07 35.9 -1.5**
ZEI pmax pmax
comp=Z,24nm,1.1s
SDV Santo Domingo 78.58 92 *eP* **P 01 07 38.4 -0.1**
comp=Z,6.5nm,0.7s
PMAFR Mafra 78.66 28 *eP* **P 01 07 39.4 +0.9**
comp=Z,63nm,1.5s
PMRV Marv??o 78.67 26 *eP* **P 01 07 38.9 +0.3**
PESTR Estremoz 79.16 27 *eP* **P 01 07 41.6 +0.4**
ES19 SONSECA Array 79.20 24 *eP* **P 01 07 42.0 +0.6**
ESDC Sonseca Array 79.21 24 P **P 01 07 42.0 +0.5**
comp=Z,2.6nm,0.6s,baz=342,slow=5.3,SNR=36
ESLA Sonseca Array 79.21 24 *eP* **P 01 07 42.5 +1.0**
comp=Z,7.2nm,1.0s
PAB San Pablo 79.25 24 *eP* **P 01 07 42.7 +0.9**
comp=Z,22nm,1.8s
EVO Evora 79.38 27 *eP* **P 01 07 42.9 +0.5**
VTS Vitosha 79.59 3⇑ *iP* **P 01 07 43.2 -0.5**
VTS Vitosha 79.59 3⇑ P **P 01 07 43.2 -0.5**
VTS Vitosha 79.59 3 *eP* **P 01 07 43.1 -0.5**
comp=Z,3.6nm,0.8s
PDG Podgorica 79.60 6⇑ *iP* **P 01 07 43.3 -0.2**
PNCL Nicolau / Gran 79.65 28 *eP* **P 01 07 44.1 +0.2**
comp=Z,21nm,1.6s
RUSC La Rusia 79.80 95 *eP* **P 01 07 44.8 -0.8**
comp=Z,7.7nm,1.2s
PBAR Barrancos 79.95 26 *eP* **P 01 07 46.3 +0.8**
comp=Z,28nm,1.6s
PTEO Sao Teotonio 80.14 28 *eP* **P 01 07 47.5 +1.0**
PVAQ Vaqueiros 80.52 27 *eP* **P 01 07 49.0 +0.4**
GEYT Alibeck 80.76 335 P **P 01 07 49.6 -0.3**
comp=Z,6.4nm,0.8s,baz=343,slow=4.6,SNR=12
TAPN Taplejung 80.91 308 *eP* **P 01 07 50.5 -0.7**
comp=Z,36nm,0.7s
GUN Gumba 81.17 310 *eP* **P 01 07 51.9 -0.7**
comp=Z,33nm,0.8s
JIRN Jiri 81.27 309 *eP* **P 01 07 52.7 -0.5**
comp=Z,367nm,0.6s
ODAN Odare 81.48 308 *eP* **P 01 07 52.8 -1.3**
comp=Z,8.9nm,0.6s
KKN Kakani 81.52 310 *eP* **P 01 07 53.7 -0.6**
comp=Z,11nm,0.5s
GKN Gorkha 81.59 311 *eP* **P 01 07 53.8 -0.8**
comp=Z,17nm,0.6s
DANN Dangsing 81.63 312 *eP* **P 01 07 53.7 -1.3**
PKI Pulchoki 81.66 310 *eP* **P 01 07 54.3 -0.9**
comp=Z,19nm,0.6s
PKIN Phulchoki 81.66 310 *eP* **P 01 07 54.7 -0.5**
comp=Z,21nm,0.7s
RAMN Ramite 81.72 309 *eP* **P 01 07 54.5 -1.0**
comp=Z,47nm,0.7s
OTAV Otavalo 81.78 103 *eP* **P 01 07 56.2 +0.2**
OTAV *epP* **pP 01 08 11.2 +0.7**
PYUN Piuthan 82.16 312 *eP* **P 01 07 56.8 -0.9**
comp=Z,45nm,0.7s
KOLN Koldanda 82.21 312 *eP* **P 01 07 56.9 -1.1**
comp=Z,21nm,0.8s
BR231 Keskin MP Arra 82.26 355 *eP* **P 01 07 58.1 +0.2**
BR131 Keskin Array S 82.33 355 *eP* **P 01 07 58.1 -0.2**
BRTR Keskin Array B 82.33 355 P **P 01 07 57.8 -0.5**
comp=Z,3.1nm,0.9s,baz=359,slow=2.8,SNR=9.6
BRTR LR LR 01 50 08.0
comp=Z,22nm,19.5s,baz=25,slow=40
PMG Port Moresby 82.71 239 *ceP* **P 01 07 59.9 -0.4**
PMG pmax pmax
comp=Z,110nm,1.2s
PMG Port Moresby 82.71 239 *eP* **P 01 07 59.8 -0.4**
comp=Z,17nm,0.8s
CHTO Chiang Mai 83.25 295 *eP* **P 01 08 02.2 -1.0**
comp=Z,4.6nm,0.8s
CMAR Chiang Mai Arr 83.55 295 P **P 01 08 03.2 -1.5**
comp=Z,3.6nm,0.7s,baz=17,slow=5.4,SNR=16
CMAR LR LR 01 48 26.4
comp=Z,41nm,18.3s,baz=110,slow=38
CMAR Chiang Mai Arr 83.55 295 *ceP* **P 01 08 03.7 -1.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CM01 Chiang Mai Arr 83.58 295 *eP* **P 01 08 03.4 -1.5**
MARD Mardin 84.19 349 *eP* **P 01 08 09.1 +1.2**
comp=Z,24nm,0.6s
DRWC Darouich 85.24 352 *eP* **P 01 08 12.2 -0.9**
KEST Kesra 85.35 14 P **P 01 08 14.0 +0.3**
comp=Z,9.9nm,0.8s,baz=304,slow=6.8,SNR=11
KEST Kesra 85.35 14 *eP* **P 01 08 14.3 +0.7**
KEST *epP* **pP 01 08 30.4 +2.2**
BTCH Batrach 85.83 352 *eP* **P 01 08 14.5 -1.6**
ARNB Al Arnab 86.04 353 *eP* **P 01 08 14.8 -2.3**
HAWK Haweek 87.34 352 *eP* **P 01 08 21.7 -1.8**
ROOS tl_alroos 87.62 351 *eP* **P 01 08 24.5 -0.4**
MARH Ras Al Marh 87.83 352 *eP* **P 01 08 25.0 -1.1**
TOTH TOTAH 88.49 352 *eP* **P 01 08 27.6 -1.4**
SALA Sala 89.12 352 *eP* **P 01 08 30.5 -1.6**
PTGA Pitinga 92.33 88 *eP* **P 01 08 47.0 0.0**
comp=Z,11nm,0.8s
PTGA *epP* **pP 01 09 01.8 +0.2**
CTAO Charters Tower 92.54 235 *eP* **P 01 08 47.4 -0.3**
comp=Z,12nm,1.2s
SAML Samuel 97.53 95 *eP* **P 01 09 09.1 -1.6**
comp=Z,72nm,0.6s
WRA Warramunga Arr 97.88 245 P **P 01 09 09.7 -2.4**
comp=Z,1.2nm,1.0s,baz=37,slow=5.7,SNR=6.3
WRA pP **pP 01 09 25.5 -1.2**
comp=Z,1.0nm,0.8s,baz=38,slow=6.1,SNR=4.5
WRA PKiKP **PKiKP 01 13 44.1 -1.4**
comp=Z,0.5nm,0.7s,baz=23,slow=1.8,SNR=5.8
WRA Warramunga Arr 97.88 245 *i* P **P 01 09 10.6 -1.5**
WRA pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 101.27 243 P **Pdif 01 09 26.5 -0.7**
comp=Z,0.4nm,0.8s,baz=27,slow=6.3,SNR=3.5
PLCA Paso Flores 119.96 120 PKP **PKPdf 01 14 25.4 -0.8**
comp=Z,1.5nm,0.9s,baz=236,slow=3.6,SNR=2.9
KMBO Kilima Mbogo 122.56 348 PKP **PKPdf 01 14 32.3 0.0**
comp=Z,2.0nm,0.6s,baz=25,slow=6.9,SNR=6.8
QSPA South Pole Qui 147.93 180 *e*PKPbc **PKPbc 01 15 20.0 -0.2**
BOSA Boshof 150.47 3 PKPbc **PKPbc 01 15 27.1 -0.6**
comp=Z,14nm,0.6s,baz=6.6,slow=1.7,SNR=62
MAW Mawson 161.32 225 PKPab **PKPab 01 16 18.9 -0.8**
comp=Z,2.3nm,0.6s,baz=129,slow=4.1,SNR=9.5

CSEM ***03*** *01:04:39.0, 38°.32N×21°.78E, h6km, ML0.6/1*
ATH 03 01:04:39.0, 38°.32N×21°.78E, h6km±2km, ML0.6/1, Error ellipse: s-maj=2.6km s-min=0.8km az=161.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.03**	**175**	P	Pg	01 04 39.7	-0.5
UPR				S	Sg	01 04 41.2	+0.1
UPR	**University Cam**	**0.03**	**175**	P	Pg	01 04 39.7	-0.5
UPR				S	Sg	01 04 41.2	+0.1
EFP	**Efpalio**	**0.15**	**42**	P	Pg	01 04 41.5	-0.5
EFP				AML	AML	01 04 44.8	
	comp=E,95μm,0.2s						
EFP				S	Sg	01 04 44.9	+0.9
EFP				AML	AML	01 04 45.2	
	comp=N,68μm,0.2s						
EFP	**Efpalio**	**0.15**	**42**	P	Pg	01 04 41.5	-0.5
EFP				S	Sg	01 04 44.9	+0.9
TRIZ	**Trizonia**	**0.23**	**78**	P	Pg	01 04 43.7	+0.1
TRIZ				S	Sg	01 04 47.6	+0.9
TRIZ	**Trizonia**	**0.23**	**78**	P	Pg	01 04 43.7	+0.2
TRIZ				S	Sg	01 04 47.6	+1.0
KALE	**Kalithea**	**0.29**	**75**	P	Pg	01 04 43.5	-1.2
KALE				S	Sg	01 04 49.8	+1.3
KALE	**Kalithea**	**0.29**	**75**	P	Pg	01 04 43.5	-1.2
KALE				S	Sg	01 04 49.8	+1.3
ANX	**Ano Chora**	**0.30**	**21**	P	Pg	01 04 44.2	-0.6
ANX				S	Sg	01 04 50.0	+1.3
ANX	**Ano Chora**	**0.30**	**21**	P	Pg	01 04 44.2	-0.6
ANX				S	Sg	01 04 50.0	+1.3
AXS	**Araxos**	**0.34**	**249**	P	Pb	01 04 47.1	-0.3
AXS	**Araxos**	**0.34**	**249**	P	Pb	01 04 47.1	-0.3
PVO	**Paravola**	**0.36**	**326**	P	Pg	01 04 44.5	-1.4
PVO				S	Sg	01 04 51.3	+0.6
PVO	**Paravola**	**0.36**	**326**	P	Pg	01 04 44.5	-1.5
PVO				S	Sg	01 04 51.3	+0.6
RLS	**Riolos of Patr**	**0.36**	**224**	P	Pg	01 04 45.8	-0.1
RLS				S	Sg	01 04 52.0	+1.3
RLS	**Riolos of Patr**	**0.36**	**224**	P	Pg	01 04 45.8	-0.1
RLS				S	Sg	01 04 52.0	+1.3
DRO	**Drossia**	**0.37**	**189**	P	Pg	01 04 45.3	-0.8
DRO				S	Sg	01 04 51.8	+0.8
DRO	**Drossia**	**0.37**	**189**	P	Pg	01 04 45.3	-0.8
DRO				S	Sg	01 04 51.8	+0.8
KLV	**Kalavryta, Ach**	**0.40**	**133**	P	Pg	01 04 46.7	0.0
KLV				S	Sg	01 04 52.5	+0.6
KLV	**Kalavryta, Ach**	**0.40**	**133**	P	Pg	01 04 46.7	0.0
KLV				S	Sg	01 04 52.5	+0.6
GUR	**Goura**	**0.58**	**131**	P	Pg	01 04 49.5	-0.7
GUR	**Goura**	**0.58**	**131**	P	Pg	01 04 49.5	-0.7

ISCJB ***03*** *01:15:13.6±0.3, 8°.43N±0°.04×127°.02E±0°.04, h39km, mb4.5/36, MS3.8/7, Error ellipse: s-maj=6.1km s-min=4.9km az=29.0*
MAN ***03*** *01:15:15, 8°.23N×126°.76E, h2km, mb5.2, ML4.1, MS4.3*
IDC ***03*** *01:15:17.9±3.5, 8°.36N×126°.70E, h60km±32km, mb4.2/27, mb1 4.3/27, mb1mx4.2/47, mbtmp4.5/27, ML5.5/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/36, Error ellipse: s-maj=21.7km s-min=12.0km az=75.0*
NEIC ***03*** *01:15:20.2±1.1, 8°.37N×126°.67E, h81km±10km, mb4.6/8, Error ellipse: s-maj=11.4km s-min=6.7km az=73.0*
ISC 03 01:15:15.5±0.5, 8°.37N±0°.04×127°.00E±0°.07, h39km, n80, σ2S07/79, mb4.5/36, MS3.5/7, 5C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.66**	**254⇑**	*eP*	**Pn**	**01 15 24.5**	**-3.9**
BIPH				*i* S	**Sn**	**01 15 32.1**	**-5.5**
MATI	**Mati**	**1.60**	**208**	*eP*	**Pn**	**01 15 40.2**	**-1.0**
MATI				*e*S	**Sn**	**01 15 59.8**	**-0.8**
DAV	**Davao City (W)**	**1.91**	**228⇑**	*eP*	**Sn**	**01 16 16.2**	**+7.8**
DAV	**Davao City (W)**	**1.91**	**228**	*e*Pn	**Pn**	**01 15 47.9**	**+2.3**
DAV				*e*S	**Sn**	**01 16 13.1**	**+4.7**
SCPH	**Surigao**	**2.05**	**313⇑**	*eP*	**Pn**	**01 15 47.0**	**-0.4**
SCPH				*e*S	**Sn**	**01 16 15.5**	**+3.8**
KCP	**Kidapawan**	**2.33**	**235**	*e*S	**Sn**	**01 16 19.1**	**+0.3**
CTBH	**Cotabato--PC H**	**2.96**	**247**	*eP*	**Pn**	**01 16 01.2**	**+1.3**
CTBH				*i* S	**Sn**	**01 16 36.0**	**+1.8**
TBP	**Tagbilaran**	**3.37**	**293⇑**	*iP*	**Pn**	**01 16 07.8**	**+2.2**
TBP				*i* S	**Sn**	**01 16 46.4**	**+2.1**
BESP	**Borongan**	**3.56**	**335**	*eP*	Pn	01 16 14.7	+6.5
LLP	**Lapu-Lapu**	**3.56**	**303**	*eP*	**Pn**	**01 16 09.3**	**+1.0**
LLP				*e*S	**Sn**	**01 16 53.3**	**+4.1**
DCPH	**Dipolog City**	**3.62**	**274⇑**	*eP*	**Pn**	**01 16 10.6**	**+1.7**
PAGZ	**Pagadian**	**3.62**	**262**	*eP*	**Pn**	**01 16 13.1**	**+4.0**
SNPH	**Sibulan**	**3.84**	**285**	*i* P	Pn	01 16 16.6	+4.4
SNPH				*i* S	**Sn**	**01 17 02.2**	**+6.0**
RCP	**Roxas**	**5.25**	**307⇓**	*eP*	**Pn**	**01 16 32.8**	**+1.3**
SIJI	**Sorong**	**10.12**	**155**	P	**Pn**	**01 17 40.4**	**+2.1**
	42nm,0.3s,baz=334,slow=18,SNR=5.4						
GUMO	**Guam**	**18.29**	**72**	LR	LR	01 24 57.9	
	comp=Z,111nm,20.4s,baz=140,slow=31						
JNU	**Nakatsue**	**24.89**	**8**	P	**P**	**01 20 34.4**	**-0.3**
	10nm,0.7s,baz=225,slow=1.4,SNR=4.6						
JNU				LR	LR	01 29 18.6	
	comp=Z,72nm,19.5s,baz=111,slow=34						
JHJ	**Hachijo jima 2**	**27.32**	**24**	LR	LR	01 31 19.3	
	comp=Z,147nm,19.3s,baz=232,slow=35						
KSAR	**Wonju Array Be**	**28.95**	**1**	P	**P**	**01 21 11.3**	**+0.2**
KSRS	**Korea Array**	**28.96**	**2**	P	**P**	**01 21 11.3**	**+0.1**
	1.3nm,0.9s,baz=187,slow=11,SNR=4.5						
KSRS				LR	LR	01 35 25.6	
	comp=Z,49nm,18.1s,baz=50,slow=42						
CMAR	**Chiang Mai Arr**	**29.03**	**293**	P	**P**	**01 21 11.7**	**-0.5**
	6.2nm,0.9s,baz=108,slow=6.8,SNR=27						
WRAB	**Tennant Creek**	**29.04**	**166**	*eP*	**P**	**01 21 14.3**	**+2.2**
	3.5nm,1.0s						
WRA	**Warramunga Arr**	**29.05**	**166**	P	**P**	**01 21 13.2**	**+1.0**
	0.8nm,0.6s,baz=349,slow=9.3,SNR=10						
CHTO	**Chiang Mai**	**29.13**	**294**	*eP*	**P**	**01 21 12.2**	**-0.8**
	3.7nm,0.8s						
MJAR	**Matsushiro Arr**	**29.84**	**18**	LR	LR	01 32 27.4	
	comp=Z,96nm,19.1s,baz=210,slow=34						
ASAR	**Alice Springs**	**32.55**	**168**	P	**P**	**01 21 44.4**	**+1.3**
	4.1nm,0.3s,baz=346,slow=7.4,SNR=10						
ASAR				PcP	**PcP**	**01 24 29.2**	**0.0**
	0.8nm,0.7s,baz=344,slow=2.2,SNR=4.3						
USRK	**Ussuriysk Ar.**	**35.95**	**6**	P	**P**	**01 22 13.5**	**+1.2**
	9.0nm,0.7s,baz=190,slow=7.5,SNR=20						
MDJ	**Mudanjiang**	**36.18**	**3**	*eP*	**P**	**01 22 15.8**	**+1.5**
	14nm,0.9s						
H11S3	**WAKE ISLAND Hy 39.81**		**71**	T	T	02 06 06.7	
	baz=261,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy 39.82**		**71**	T	T	02 05 55.1	
	baz=261,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy 39.82**		**71**	T	T	02 05 54.0	
	baz=261,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy 40.20**		**69**	T	T	02 06 41.6	
	baz=265,slow=74,SNR=9.2						
H11N2	**WAKE ISLAND Hy 40.21**		**69**	T	T	02 06 44.5	
	baz=265,slow=74,SNR=7.9						
H11N3	**WAKE ISLAND Hy 40.22**		**69**	T	T	02 06 39.3	
	baz=265,slow=74,SNR=10						
KLR	**Kul'dur**	**40.92**	**5**	P	**P**	**01 22 55.0**	**+1.0**
	0.4nm,0.6s,baz=209,slow=5.9,SNR=12						
TAPN	**Taplejung**	**41.65**	**302**	*eP*	**P**	**01 23 00.1**	**-0.6**
ODAN	**Odare**	**41.76**	**301**	*eP*	**P**	**01 23 00.4**	**-1.1**
	44nm,0.8s						
STKA	**Stephens Creek**	**42.38**	**161**	P	**P**	**01 23 07.4**	**+1.2**
	1.7nm,0.5s,baz=342,slow=11,SNR=5.1						
RAMN	**Ramite**	**42.45**	**301**	*eP*	**P**	**01 23 06.3**	**-0.9**
	56nm,1.1s						
JIRN	**Jiri**	**43.02**	**302**	*eP*	**P**	**01 23 11.0**	**-1.0**
	109nm,0.5s						
SONM	**Songino Array**	**43.04**	**340**	P	**P**	**01 23 10.8**	**-0.7**
	1.5nm,0.9s,baz=158,slow=9.1,SNR=8.1						
SONM				PcP	**PcP**	**01 25 01.1**	**-0.1**
	1.3nm,0.7s,baz=152,slow=3.3,SNR=5.8						
GUN	**Gumba**	**43.36**	**302**	*eP*	**P**	**01 23 13.6**	**-1.1**
	40nm,0.8s						
KKN	**Kakani**	**43.83**	**302**	*eP*	**P**	**01 23 17.0**	**-1.3**
DMN	**Daman**	**43.92**	**301**	*eP*	**P**	**01 23 17.7**	**-1.4**
GKN	**Gorkha**	**44.44**	**302**	*eP*	**P**	**01 23 21.4**	**-1.7**
KOLN	**Koldanda**	**45.24**	**301**	*eP*	**P**	**01 23 28.5**	**-1.1**
	41nm,0.7s						
DANN	**Dangsing**	**45.28**	**302**	*eP*	**P**	**01 23 29.0**	**-0.9**
PYUN	**Piuthan**	**45.86**	**301**	*eP*	**P**	**01 23 33.5**	**-0.9**
	62nm,0.9s						
PETK	**Petropavlovsk-**	**51.07**	**23**	P	**P**	**01 24 15.9**	**+2.0**
	7.3nm,0.8s,baz=217,slow=5.0,SNR=4.8						
MKAR	**Makanchi Array**	**53.97**	**323**	P	**P**	**01 24 34.5**	**-1.0**
	3.3nm,0.6s,baz=123,slow=8.4,SNR=21						
MKAR				PcP	**PcP**	**01 25 39.5**	**-1.0**
	1.8nm,0.8s,baz=126,slow=2.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.63**	**332**	P	**P**	**01 24 52.9**	**-1.6**
	0.7nm,0.3s,baz=129,slow=6.6,SNR=5.3						
AAK	**Ala-Archa**	**57.18**	**316**	P	**P**	**01 24 57.6**	**-1.2**
	0.7nm,0.3s,baz=156,slow=6.9,SNR=4.2						
KURK	**Kurchatov**	**58.03**	**326**	P	**P**	**01 25 03.4**	**-1.0**
KURBB	**Kurchatov Arra**	**58.04**	**326**	P	**P**	**01 25 03.4**	**-1.1**
	5.8nm,0.2s,baz=126,slow=6.3,SNR=34						
KKAR	**Karatay Array**	**60.09**	**315**	*eP*	**P**	**01 25 17.8**	**-1.2**
	9.6nm,0.9s						
TIXI	**Tiksi**	**63.23**	**1**	P	**P**	**01 25 40.4**	**+0.9**
	11nm,0.6s,baz=193,slow=6.0,SNR=8.3						
BVAR	**Borovoye Array**	**63.63**	**326**	P	**P**	**01 25 41.5**	**-1.0**
	10nm,0.8s,baz=120,slow=8.5,SNR=48						
BRVK	**Borovoye**	**63.70**	**326**	*eP*	**P**	**01 25 41.7**	**-1.3**
	39nm,0.8s						
NRIK	**Noril'sk**	**66.02**	**346**	P	**P**	**01 25 57.7**	**0.0**
	7.9nm,0.8s,baz=106,slow=3.3,SNR=7.3						
NRIK				LR	LR	01 58 06.7	
	comp=Z,26nm,18.4s,baz=96,slow=39						
GEYT	**Alibeck**	**68.26**	**307**	P	**P

BRTR	Keskin Array B	87.29	310	P	P	01 27 56.5	-2.2
	0.9nm,0.6s,baz=123,slow=4.8,SNR=4.5						
FINES	FINESS Array B	87.89	332	P	P	01 27 59.5	-1.3
	6.2nm,0.8s,baz=73,slow=4.7,SNR=20						
AKASG	Malin Array Be	88.48	321	P	P	01 28 01.1	-2.8
	1.5nm,0.5s,baz=67,slow=4.5,SNR=11						
STHS	Stebnicka Huta	93.78	321	*e*P	P	01 28 29.0	+0.4
CRVS	Cervenica-Dubn	93.80	320	*e*P	P	01 28 27.9	-0.7
NB2	NORSAR Subarra	94.77	334	P	P	01 28 31.1	-1.7
	comp=Z,2.8nm,0.8s,baz=65,slow=4.6						
NOA	NORSAR Array B	94.77	334	P	P	01 28 31.2	-1.7
	comp=Z,1.9nm,0.8s,baz=64,slow=4.7,SNR=6.2						
NOA				LR	LR	02 14 50.0	
	comp=Z,27nm,18.5s,baz=260,slow=38						
YKA	Yellowknife Ar	95.19	24	P	P	01 28 34.8	+0.2
	comp=Z,1.4nm,0.7s,baz=303,slow=4.7,SNR=4.3						
GERES	GERESS Array B	98.62	322	P	P	01 28 49.7	-1.0
	comp=Z,0.8nm,0.7s,baz=64,slow=4.5,SNR=11						
TORD	Torodi Ar. Bea	121.63	291	PKP	PKPdf	01 34 04.9	-1.2
	comp=Z,0.9nm,0.8s,baz=89,slow=1.3,SNR=6.6						
PLCA	Paso Flores	144.19	157	PKP	PKPdf	01 34 47.4	-0.3
	comp=Z,2.8nm,0.9s,baz=287,slow=1.9,SNR=5.9						

*CSEM **03** 01:31:17.2, 39.40N×28.17E, h18km, MD2.7*

ISK 03 01:31:17.2, 39.40N×28.17E, h18km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.33	317	*e*PG	Pb	01 31 24.8	+0.2
BALB				*e*SG	Sb	01 31 30.4	+0.9
BALB	Balikesir	0.33	317	*e*Pg	Pb	01 31 24.8	+0.3
BALB				*e*Sg	Sb	01 31 30.4	+1.0
SIMA	Simav-Kutahya	0.71	117	*e*PG	Pg	01 31 31.4	+0.3
SIMA				*e*SG	Sn	01 31 42.1	-0.8
SIMA	Simav-Kutahya	0.71	117	*e*Pg	Pg	01 31 31.4	+0.3
SIMA				*e*Sg	Sn	01 31 42.1	-0.8
KCTX	Karacabey (Bur	0.87	9	*e*PG	Pg	01 31 34.4	+0.1
KCTX				*e*SG	Sn	01 31 47.0	+0.1
KCTX	Karacabey (Bur	0.87	9	*e*Pg	Pg	01 31 34.4	+0.2
KCTX				*e*Sg	Sn	01 31 47.0	+0.1
EDC	Edincik	0.97	346	*e*PG	Pg	01 31 36.4	+0.4
EDC	Edincik	0.97	346	*e*Pg	Pg	01 31 36.4	+0.3
TVSB	Tavsanli	1.00	87	*e*PG	Pg	01 31 36.8	+0.1
TVSB	Tavsanli	1.00	87	*e*Pg	Pg	01 31 36.8	+0.1
GEDZ	Gediz	1.03	110	*e*PG	Pg	01 31 37.2	0.0
GEDZ	Gediz	1.03	110	*e*Pg	Pg	01 31 37.2	0.0
MDNY	Mudanya-Bursa	1.11	29	*e*PN	Pb	01 31 38.3	+0.4
MDNY	Mudanya-Bursa	1.11	29	*e*Pn	Pg	01 31 38.3	-0.4
ARMT	Armutlu	1.28	24	*e*PN	Pb	01 31 40.9	+0.2
ARMT	Armutlu	1.28	24	*e*Pn	Pb	01 31 40.9	+0.2
AYDB	Zeytinkoy-Aydi	1.47	189	*e*PN	Pn	01 31 43.4	+0.5
AYDB	Zeytinkoy-Aydi	1.47	189	*e*Pn	Pn	01 31 43.4	+0.5
ADVT	Abdulvahap	1.58	49	*e*PN	Pn	01 31 44.9	+0.5
ADVT	Abdulvahap	1.58	49	*e*Pn	Pn	01 31 44.9	+0.5

*IASPEI **03** 01:33:21.3±1.0, 35.38N±0.02×92.27W±0.02, h9km±9km, Error ellipse: s-maj=3.4km s-min=2.9km az=124.6, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*NEIC **03** 01:33:21.8±0.0, 35.38N×92.26W, h4km, MN2.9, After CERI.*

NEIC Felt [IV] at Damascus, [III] at Greenbrier and [II] at Quitman. Also felt at Benton, Romance, Sheridan and Vilonia.

ISC 03 01:33:21.5±1.1, 35.38N±0.02×92.27W±0.02, h2km±10km, n57, σ0°81/94, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	0.09	188	*e*Pg	Pg	01 33 23.4	+0.1
X301	Greenbrier Sit	0.17	217	*e*Pg	Pg	01 33 24.8	-0.1
W41B	Gary Mavity, V	0.20	174	P	Pg	01 33 25.3	-0.1
	baz=356,SNR=552						
W41B				S	Sg	01 33 28.0	0.0
	baz=356						
V41A	Mountainview	0.42	13	P	Pg	01 33 29.8	+0.1
	baz=192						
V41A				S	Sg	01 33 35.6	+0.5
	baz=192						
UALR	University of	0.60	185	*e*Pg	Pg	01 33 33.0	0.0
V40A	Witts Springs	0.62	314	P	Pg	01 33 33.4	0.0
	baz=133						
V40A				S	Sg	01 33 41.6	+0.2
	baz=133						
W42A	Bald Knob	0.62	99	P	Pg	01 33 33.4	0.0
	baz=280,SNR=11						
W42A				S	Sg	01 33 41.7	+0.1
	baz=280						
W40A	Ferguson Farm,	0.68	255	P	Pg	01 33 34.4	-0.1
	baz=74,SNR=164						
W40A				S	Sg	01 33 43.7	+0.4
	baz=74						
V42A	Cord	0.84	59	P	Pg	01 33 37.2	-0.4
	baz=239						
V42A				S	Sg	01 33 48.4	-0.2
	baz=239						
X41A	Kaden, Bauxite	0.90	193	P	Pg	01 33 38.3	-0.5
	baz=13,SNR=14						
X41A				S	Sg	01 33 50.5	+0.1
	baz=13						
X42A	Stuttgart	0.98	147	P	Pg	01 33 39.8	-0.5
	baz=328,SNR=36						
X42A				S	Sg	01 33 53.4	+0.5
	baz=328						
X40A	Basin Creek Fa	1.00	208	P	Pg	01 33 40.1	-0.6
	baz=28,SNR=43						
X40A				S	Sg	01 33 53.6	0.0
	baz=28						
U41A	Viola	1.01	16	P	Pg	01 33 40.3	-0.5
	baz=196						
U41A				S	Sg	01 33 54.0	0.0
	baz=196						
U40A	Yellville	1.09	334	P	Pg	01 33 41.9	-0.5
	baz=154						
U40A				S	Sg	01 33 56.3	-0.1
	baz=154						
V39A	Pettigrew	1.21	293	Pb	Pg	01 33 44.0	-0.8
	baz=112						
V39A				S	Sg	01 33 59.8	-0.5
	baz=112						
W39A	Magazine	1.25	262	Pb	Pg	01 33 44.6	-0.8
	baz=81,SNR=95						
W39A				S	Sg	01 34 01.4	-0.2
	baz=81						
U42A	Revenden	1.29	41	Pb	Pg	01 33 45.2	-1.0
	baz=221						
U42A				S	Sg	01 34 02.1	-0.8
	baz=221						
W43A	Forest City	1.32	102	Sb	Sb	01 34 04.0	-0.2
	baz=283						
HBAR	Harrisburg	1.33	82	*e*Pn	Pn	01 33 46.1	-1.1
MIAR	Mount Ida	1.35	233	Pb	Pn	01 33 46.2	-1.2
	baz=52,SNR=128						
MIAR				S	Sg	01 34 04.2	-0.8
	baz=52						
MIAR	Mount Ida	1.35	233	*e*Pn	Pn	01 33 46.3	-1.1
MIAR				*e*Sg	Sg	01 34 04.2	-0.8
U39A	Green Forest	1.40	316	Pb	Pn	01 33 47.3	-0.9
	baz=135						
U39A				S	Sb	01 34 05.4	-1.4
	baz=135						
X43A	Marvell	1.43	126	Pb	Pn	01 33 47.7	-0.8
	baz=308,SNR=23						
X43A				Sb	Sb	01 34 07.3	-0.2
	baz=308						
V43A	Jonesboro	1.47	73	Pb	Pn	01 33 48.3	-0.7
	baz=254,SNR=10						
V43A				Sb	Sb	01 34 08.4	-0.3
	baz=254						
CCAR	Cane Creek	1.51	164	*e*Pn	Pn	01 33 49.4	-0.2
Y41A	Eaglette Beard	1.52	191	Pb	Pn	01 33 49.3	-0.4
	baz=11,SNR=12						
Y41A				Sb	Sn	01 34 09.7	-0.2
	baz=11						
Y42A	Garnett, Star	1.59	165	Pb	Pn	01 33 50.4	-0.3
	baz=346,SNR=28						
Y42A				Sb	Sb	01 34 11.9	-0.1
	baz=346						
Y40A	Okolona	1.59	212	Pb	Pn	01 33 50.3	-0.4
	baz=31,SNR=32						
Y40A				Sb	Sn	01 34 11.9	0.0
	baz=31						
HHAR	Hobbs	1.63	304	*e*Pn	Pn	01 33 51.1	-0.2
T41A	Mountain View	1.71	14	Pb	Pn	01 33 52.4	0.0
	baz=194,SNR=30						
T41A				Sb	Sb	01 34 15.5	-0.3
	baz=194						
X39A	Fountain Ranch	1.74	241	Pb	Pn	01 33 52.8	+0.1
	baz=60,SNR=176						
X39A				Sb	Sn	01 34 16.2	+0.6
	baz=60						
T40A	Mansfield	1.78	354	Pb	Pn	01 33 53.6	+0.2
	baz=173,SNR=29						
T40A				Sb	Sb	01 34 17.5	-0.2
	baz=173						
V38A	Canehill	1.81	286	Pb	Pn	01 33 53.7	+0.1
	baz=105,SNR=23						
V38A				Sb	Sn	01 34 17.8	+0.6
	baz=105						
U43A	Rector	1.81	56	Pb	Pn	01 33 53.9	+0.2
	baz=237,SNR=16						
U43A				Sb	Sb	01 34 18.1	-0.5
	baz=237						
WLAR	White Oak Lake	1.82	203	*e*Pn	Pn	01 33 54.1	+0.3
Y43A	Makayla and Ka	1.83	142	Pb	Pn	01 33 53.9	-0.1
	baz=324,SNR=32						
Y43A				Sb	Sb	01 34 19.1	-0.1
	baz=324						
W38A	Poteau	1.86	261	Pb	Pn	01 33 54.7	+0.3
	baz=80,SNR=82						
W38A				Sb	Sb	01 34 20.0	0.0
	baz=80						
T39A	Clever	1.87	332	Pb	Pn	01 33 55.1	+0.5
	baz=151,SNR=26						
T39A				Sb	Sb	01 34 20.5	+0.2
	baz=151						
GNAR	Gosnell	1.93	72	*e*Pn	Pn	01 33 55.7	+0.3
X44A	Crenshaw	1.96	116	Pb	Pn	01 33 56.4	+0.7
	baz=297						
X44A				Sb	Sb	01 34 22.5	-0.1
	baz=297						
U38A	Gravette	2.02	302	Pb	Pn	01 33 57.2	+0.7
	baz=121,SNR=26						
W44A	Shelby Farms P	2.03	96	Sb	Sb	01 34 24.4	-0.3
	baz=278						
PBMO	Poplar Bluff	2.05	46	*e*Pn	Pn	01 33 57.7	+0.7
Z41A	Richland Creek	2.16	192	P	Pn	01 33 57.8	-0.6
	baz=12						
S40A	Lebanon	2.23	355	Pb	Pn	01 34 00.6	+1.1
	baz=175,SNR=28						
S41A	Jillco Farms,	2.25	11	Pb	Pn	01 34 01.0	+1.2
	baz=191,SNR=22						
T38A	Diamond	2.33	316	P	Pn	01 34 00.8	0.0
	baz=135,SNR=9.4						
V37A	Hulbert	2.39	283	P	Pn	01 34 01.7	0.0
	baz=101,SNR=15						
PARMO	Parma	2.42	57	*e*Pn	Pn	01 34 03.1	+1.1
S39A	Bolivar	2.46	340	P	Pn	01 34 03.0	+0.4
	baz=160,SNR=24						
OXF	Oxford	2.51	109	*e*Pn	Pn	01 34 02.8	-0.5
OXF				*e*S	Sn	01 34 33.5	-0.9
V45A	Humboldt	2.73	81	P	Pn	01 34 05.4	-1.0
	baz=263						
TUL1	Leonard	2.91	282	*e*Pn	Pn	01 34 08.8	-0.1
TUL1				*e*Pg	Pb	01 34 14.7	+0.5
TUL1				*e*S	Sb	01 34 51.1	+0.8
WVT	Waverly	3.69	77	*e*Pn	Pn	01 34 20.8	+1.2
W35A	Tecumseh	3.77	268	P	Pn	01 34 20.5	-0.2
	baz=85,SNR=5.1						
LRAL	Lakeview Retre	4.96	117	*e*Pn	Pn	01 34 36.0	-1.0
LRAL				*e*Sg	Sb	01 35 53.2	+4.2
WCI	Wyandotte Cave	5.58	58	*e*Pn	Pn	01 34 44.0	-1.5
	20nm,0.6s						
WCI				*e*Pg	Pb	01 35 00.7	+1.0
WCI				*e*S	Sb	01 36 03.9	-3.1

*NIED **03** 02:16:00, 36.30N×140.90E, h20km, Mw3.5 Best double couple: M0=2.26000×10^14 NP1:φs=181.00000°, δ19.00000°, λ79.00000°. NP2:φs=12.00000°, δ71.00000°, λ94.00000°.*

JMA 03 02:16:35.9±0.1, 36.23N×140.88E, h45km±1km, M3.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.46	327	P	Pn	02 16 46.0	-0.3
JHO				S	Sn	02 16 52.7	-1.0
CHOJ	Chosi	0.53	182	P	Pn	02 16 47.1	-0.1
CHOJ				S	Sn	02 16 54.3	-0.9
JYT	Yasato	0.56	270	P	Pn	02 16 47.7	+0.2
JYT				S	Sn	02 16 55.8	-0.1
JAG	Ashikaga	1.17	280	P	Pn	02 16 56.2	+0.4
JAG				S	Sn	02 17 10.8	+0.2
MAT	Matsushiro	2.18	279	P	Pn	02 17 11.3	+1.6
MAT				S	Sn	02 17 38.1	+2.6

IDC 03 02:22:15.4±1.9, 0.17S×132.76E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/31, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=31.8km s-min=26.4km az=46.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	1.65	245	Pn	Pn	02 22 45.7	0.0
	382nm,0.3s,baz=15,slow=17,SNR=37						
SIJI				Sn	Sg	02 23 08.9	+0.3
	140nm,0.3s,baz=288,slow=22,SNR=7.7						
WRA	Warramunga Arr	19.72	176	P	P	02 26 46.7	0.0
	0.3nm,0.3s,baz=354,slow=12,SNR=16						
WRA				S	S	02 30 15.2	-15
	0.0nm,0.3s,baz=355,slow=25,SNR=2.8						
ASAR	Alice Springs	23.39	177	P	P	02 27 26.1	0.0
	2.1nm,0.6s,baz=1.2,slow=12,SNR=21						
STKA	Stephens Creek	32.63	166	P	P	02 28 49.0	-0.1
	1.9nm,0.9s,baz=339,slow=14,SNR=2.2						
MKAR	Makanchi Array	64.20	324	P	P	02 32 52.1	-0.1
	0.2nm,0.3s,baz=112,slow=6.4,SNR=2.1						

*ISCJB **03** 02:42:30.4±0.7, 25.60N±0.06×105.73E±0.05, h10km, mb3.9/9, Error ellipse: s-maj=9.8km s-min=4.9km az=147.3*

*IDC **03** 02:42:30.2±0.9, 25.62N×105.97E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.6/48, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=27.7km s-min=16.8km az=74.0*

*BJI **03** 02:42:32.0, 25.50N×105.75E, h5km, ML3.9/16*

ISC 03 02:42:32.3±0.8, 25.65N±0.06×105.83E±0.06, h10km, n16, σ1°47/21, mb3.8/9, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	Guiyang	1.10	43	⇑*i*Pg	Pn	02 42 53.9	-0.1
GYA				Sg	Sn	02 43 10.3	+0.9
GYA				smax	smax		
	comp=N,2μm,0.7s						
GYA				smax	smax		
	comp=E,2μm,0.7s						
KMI	Kunming	2.84	260	Pn	Pn	02 43 19.8	+1.8
KMI				Sn	Sn	02 43 49.2	-3.2
KMI				Sg	Sb	02 44 00.4	+2.2
KMI				smax	smax		
	comp=N,180nm,0.9s						
KMI				smax	smax		
	comp=E,94nm,0.9s						
CD2	Chengdu	5.55	341	Pn	Pn	02 43 56.4	+1.3
CD2				Pg	Pg	02 44 16.8	-1.8
CD2				Sn	Sn	02 44 58.8	-0.1
CD2				Sg	Sg	02 45 29.3	-1.2
CD2				smax	smax		
	comp=N,170nm,0.9s						
CD2				smax	smax		
	comp=E,190nm,0.7s						
XAN	Xi'an	8.78	17	P	Pn	02 44 40.6	+1.2
XAN				smax	smax		
	comp=N,99nm,0.9s						
XAN				smax	smax		
	comp=E,45nm,0.8s						
CMAR	Chiang Mai Arr	9.59	223	Pn	Pn	02 44 51.7	+1.2
	0.2nm,0.3s,baz=39,slow=13,SNR=4.0						
CMAR				Pg		02 45 26.7	
	0.3nm,0.3s,baz=42,slow=16,SNR=3.9						
CMAR				Lg	Lg	02 47 37.0	
	0.4nm,0.3s,baz=53,slow=32,SNR=3.6						
LZH	Lanzhou	10.54	351	*e*P	Pn	02 45 08.2	+4.5
LZH				pP		02 45 11.6	
LZH				sP		02 45 14.3	
SONM	Songino Array	22.15	1	P	P	02 47 29.8	+1.4
	2.2nm,0.7s,baz=182,slow=11,SNR=11						
WMQ	Urumqi	23.38	325	*e*P	P	02 47 42.6	+1.4
MKAR	Makanchi Array	28.19	324	P	P	02 48 25.0	-0.1
	0.4nm,0.4s,baz=128,slow=11,SNR=3.2						
ZALV	Zalesovo Beam	32.30	337	P	P	02 49 00.8	-0.4
	4.2nm,0.7s,baz=137,slow=7.8,SNR=14						
KURBB	Kurchatov Arra	32.56	327	P	P	02 49 03.9	+0.3
	2.3nm,0.2s,baz=131,slow=9.9,SNR=18						
GEYT	Alibeck	41.94	299	P	P	02 50 23.9	+0.5
	1.5nm,0.7s,baz=111,slow=7.9,SNR=4.0						
WRA	Warramunga Arr	53.12	146	P	P	02 51 48.3	-2.1
	1.4nm,1.1s,baz=332,slow=8.7,SNR=4.6						
ASAR	Alice Springs	56.06	149	P	P	02 52 10.7	-1.0
	0.4nm,0.8s,baz=328,slow=6.8,SNR=3.3						
FINES	FINESS Array B	62.95	328	P	P	02 52 58.2	-0.6
	1.5nm,0.8s,baz=70,slow=4.6,SNR=4.2						
GERES	GERESS Array B	72.48	316	P	P	02 53 59.4	+0.1
	0.3nm,0.7s,baz=69,slow=5.6,SNR=4.3						

GUC 03 03:00:13.2±0.5, 21.31S×68.86W, h125km±3km, ML3.7, 10C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.60	216	⇑*i*P	Pn	03 00 33.1	+0.5
PB09				*i*S	Sn	03 00 47.9	+0.8
PB09				IAML		03 00 48.9	
	comp=N,5μm,0.2s						
PB01	IPOC Station P	0.64	294	⇑*i*P	Pn	03 00 33.3	+0.6
PB01				*i*S	Sn	03 00 48.0	+0.6
PB01				IAML		03 00 48.9	
	comp=N,5μm,0.2s						
PB02	IPOC Station P	0.96	269	⇑*i*P	Pn	03 00 36.5	+1.1
PB02				*i*S	Sn	03 00 53.5	+1.3
PB02				IAML		03 00 56.7	
	comp=E,3μm,0.2s						
PB07	IPOC Station P	1.04	246	⇑*i*P	Pn	03 00 37.1	+0.9
PB07				*i*S	Sn	03 00 54.7	+1.0
PB07				IAML		03 00 55.8	
	comp=E,1μm,0.3s						
PB08	IPOC Station P	1.19	347	⇓*i*P	Pn	03 00 39.0	+1.0
PB08				*i*S	Sn	03 00 58.2	+1.5
PB08				IAML		03 00 59.5	
	comp=E,658nm,0.2s						
LVC	Limon Verde	1.30	182	*e*P	Pn	03 00 39.1	0.0
HMBC	Humberstone	1.40	317	⇑*i*P	Pn	03 00 40.6	+0.6
HMBC				*i*S	Sn	03 01 01.5	+1.1
HMBC				IAML		03 01 03.2	
	comp=E,1μm,0.8s						
PB06	IPOC Station P	1.54	205	⇑*i*P	Pn	03 00 42.1	+0.5
PB06				*i*S	Sn	03 01 03.5	+0.3
PB06				IAML		03 01 04.0	
	comp=E,1μm,0.2s						
PB04	IPOC Station P	1.57	229	⇑*i*P	Pn	03 00 42.5	+0.6
PB04				*i*S	Sn	03 01 04.3	+0.4
PB11	IPOC Station P	1.71	334	⇑*i*P	Pn	03 00 44.1	+0.6
PB11				*i*S	Sn	03 01 07.8	+1.1
PSGC	Pisagua	2.07	325	⇑*i*P	Pn	03 00 48.0	+0.1
PSGC				*i*S	Sn	03 01 14.7	+0.2
PSGC				IAML		03 01 16.4	
	comp=E,325nm,0.4s						
MNMC	Minye Minye	2.27	342	⇑*i*P	Pn	03 00 51.3	+0.7
MNMC				*i*S	Sn	03 01 21.1	+1.9
PB10	IPOC Station P	2.70	215	⇓*i*P	Pn	03 00 55.4	-0.3
PB10				*i*S	Sn	03 01 23.5	-5.0
PB10				IAML		03 01 26.5	
	comp=E,334nm,0.1s						

JMA 03 03:07:14.5±0.2, 43.26N×146.55E, h71km±2km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.60	280	P	Pn	03 07 28.5	+0.2
NEM2				*e*S	Sn	03 07 38.8	+0.3
JRA	Rausu	1.24	304	P	Pn	03 07 36.2	+0.2
JRA				*e*S	Sn	03 07 52.7	+0.5
JNK	Nakash	1.37	284	P	Pn	03 07 37.6	-0.2
JAK	Akkeshi	1.38	260	P	Pn	03 07 38.1	+0.2
JAK				*e*S	Sn	03 07 55.7	+0.2
JOB	Onbets	2.02	261	P	Pn	03 07 47.0	+0.6
JAR	Ashorobuto	2.03	272	P	Pn	03 07 47.2	+0.7
JAR				*e*S	Sn	03 08 11.4	+0.4
JCH	Churui	2.43	256	P	Pn	03 07 52.5	+0.6

*IDC **03** 03:13:45.8±2.6, 34.07N×92.19E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/39, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=216.2km s-min=38.4km az=61.0*

ISC 03 03:13:41.3±1.2, 32.6N±0.1×87.4E±0.1, h35km, n16, σ1°01/16, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	4.83	196	*e*P	Pn	03 14 52.8	+0.9
	40nm,0.3s						
JIRN	Jiri	5.01	192	*e*P	Pn	03 14 55.6	+1.2
	97nm,0.3s						
KKN	Kakani	5.11	201	*e*P	Pn	03 14 55.9	+0.4
GKN	Gorkha	5.14	208	*e*P	Pn	03 14 57.1	+1.2
	33nm,0.6s						
TAPN	Taplejung	5.22	177	*e*P	Pn	03 14 58.7	+1.5
	22nm,0.4s						
PKIN	Phulchoki	5.27	200	*e*P	Pn	03 14 58.8	+0.9
	47nm,0.6s						
PKI	Pulchoki	5.27	199	*e*P	Pn	03 14 58.6	+0.6
	19nm,0.3s						
DMN	Daman	5.33	202	*e*P	Pn	03 14 59.4	+0.7
	21nm,0.3s						
RAMN	Ramite	5.65	187	*e*P	Pn	03 15 03.2	+0.1
	32nm,0.4s						
ODAN	Odare	5.70	180	*e*P	Pn	03 15 04.1	+0.4
	24nm,0.5s						
KOLN	Koldanda	5.80	215	*e*P	Pn	03 15 05.5	+0.4
	16nm,0.4s						
PYUN	Piuthan	5.86	221	*e*P	Pn	03 15 05.1	-0.7
	21nm,0.4s						
MKAR	Makanchi Array	14.72	346	Pn	P	03 17 13.6	+1.0
	0.1nm,0.3s,baz=140,slow=11,SNR=4.2						
CMAR	Chiang Mai Arr	17.49	141	Pn	P	03 17 43.0	-0.5
	0.5nm,0.3s,baz=333,slow=12,SNR=3.9						
WRA	Warramunga Arr	68.88	133	P	P	03 24 41.7	-0.9
	0.6nm,0.7s,baz=327,slow=6.7,SNR=6.0						
ASAR	Alice Springs	71.42	135	P	P	03 24 56.6	-1.5
	0.3nm,0.8s,baz=316,slow=7.7,SNR=2.1						

JMA 03 03:22:57.7±0.1, 38.46N×142.22E, h26km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.68	270	P	Pb	03 23 10.7	-0.3
JIO				S	Sb	03 23 19.5	-0.6
OFUJ	Ofunato	0.75	325	P	Pb	03 23 11.9	-0.3
OFUJ				S	Sb	03 23 21.8	-0.3
JMK	Ichinoseki	0.92	302	P	Pn	03 23 14.6	-0.4
JMK				S	Sb	03 23 27.1	+0.2
JOU	Okura	1.23	266	P	Pn	03 23 19.5	+0.3
JOU				S	Sn	03 23 35.1	+0.2
JOM	Ohasama	1.24	325	P	Pn	03 23 19.6	+0.2
JOM				S	Sb	03 23 35.8	-0.3
JMM	Marumori	1.27	243	P	Pn	03 23 19.3	-0.5
JMM				*e*S	Sn	03 23 34.6	-1.4

*IDC **03** 03:31:56.7±18.0, 20.45S×177.47W, h494km±169km, mb3.4/5, mb1 3.6/5, mb1mx3.2/22, mbtmp4.3/5, Error ellipse: s-maj=125.9km s-min=50.2km az=102.0*

ISC 03 03:31:57.8±2.8, 20.4S±0.4×177.6W±0.5, h500km, n8, σ0°73/8, mb3.8/5, Fiji Islands region

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

WRA	Warramunga Arr	45.03 262	P	P	03 39 27.5	-1.0
	1.3nm,0.3s,baz=96,slow=7.6,SNR=46					
MJAR	Matsushiro Arr	70.36 323	P	P	03 42 21.0	+0.1
	1.0nm,0.5s,baz=139,slow=5.9,SNR=4.0					
CMAR	Chiang Mai Arr	90.47 289	P	P	03 44 07.1	+0.9
	0.5nm,0.4s,baz=108,slow=2.9,SNR=5.1					
AKASG	Malin Array Be	143.11 331	PKP	PKPab	03 50 31.2	-0.6
	1.2nm,0.5s,baz=43,slow=4.4,SNR=11					
BRTR	Keskin Array B	147.07 313	PKPbc	PKPbc	03 50 43.9	-0.6
	0.6nm,0.6s,baz=146,slow=6.0,SNR=4.2					
GERES	GERESS Array B	150.20 345	PKPbc	PKPbc	03 50 52.0	0.0
	0.6nm,0.8s,baz=40,slow=1.7,SNR=5.6					

*ISCJB **03** 03:46:10.4±0.6, 35°.23N±0°.05×1°.31W±0°.03, h28km±7km, Error ellipse: s-maj=8.9km s-min=4.4km az=175.4*
*SFS **03** 03:46:10.0, 35°.06N×1°.21W, h0km, ML3.9*
*CSEM **03** 03:46:10.6±0.4, 35°.29N×1°.32W, h5km, ML2.4, Error ellipse: s-maj=9.1km s-min=4.7km az=5.0*
*INMG **03** 03:46:10.5±0.8, 35°.15N×1°.36W, h5km, ML2.2, Error ellipse: s-maj=6.3km s-min=5.4km az=48.0*
*MDD **03** 03:46:10.4±1.0, 35°.11N×1°.22W, h16km±10km, mbLg2.4/15, Error ellipse: s-maj=16.2km s-min=6.1km az=166.0, PRXIMO*

ISC 03 03:46:10.7±1.2, 35°.18N±0°.06×1°.25W±0°.02, h25km±9km, n95, σ1°52/152, 1C-2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	Oulhaca	0.16	298	P	Pb	03 46 15.4	-0.5
OLHC	Oulhaca	0.16	298	P	Pb	03 46 15.4	-0.5
OLHC	Oulhaca	0.16	298	P	Pb	03 46 15.4	-0.5
OTSS	Djebel Tessala	0.39	74	P	Pb	03 46 18.5	-0.6
OTSS	Djebel Tessala	0.39	74	P	Pb	03 46 18.5	-0.6
OTSS	Djebel Tessala	0.39	74	P	Pb	03 46 18.5	-0.6
USTO	Oran	0.80	46	P	Pb	03 46 24.8	-1.1
USTO	Oran	0.80	46	P	Pb	03 46 24.8	-1.1
ODJA	Bouhanifia	0.91	80	P	Pn	03 46 29.0	+1.0
ODJA	Bouhanifia	0.91	80	P	Pn	03 46 29.0	+1.0
ODJA	Bouhanifia	0.91	80	P	Pn	03 46 29.0	+1.0
EALB	Alboran	1.64	298	P	Pn	03 46 37.6	-0.3
	2.6nm,0.1s,SNR=7.9						
EALB				S	Sn	03 46 58.4	+0.2
	24nm,0.2s,SNR=7.9						
EALB	Alboran	1.64	298	P	Pn	03 46 37.6	-0.3
	2.6nm,0.1s,SNR=7.9						
EALB				S	Sn	03 46 58.4	+0.2
	24nm,0.2s,SNR=7.9						
OKGL	Djebel Kef Gue	1.77	60	P	Pn	03 46 39.3	-0.4
	5.6nm,0.1s,SNR=7.9						
OKGL				S	Sn	03 47 01.7	+0.3
	82nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	1.77	60	P	Pn	03 46 39.3	-0.4
	5.6nm,0.1s,SNR=7.9						
OKGL				S	Sn	03 47 01.7	+0.3
	82nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.95	337	⇓P	Pn	03 46 41.6	-0.6
	3.1nm,0.1s,SNR=18						
ENIJ				⇑S	Sn	03 47 03.5	-2.4
	278nm,0.4s,SNR=18						
ENIJ	Nijar	1.95	337	P	Pn	03 46 41.6	-0.6
	3.1nm,0.1s,SNR=18						
ENIJ				S	Sn	03 47 03.5	-2.4
	278nm,0.4s,SNR=18						
EBER	Berja	2.17	323	P	Pn	03 46 45.1	-0.3
	3.6nm,0.2s,SNR=23						
EBER				S	Sn	03 47 11.9	+0.3
	13nm,0.4s,SNR=6.6						
EBER	Berja	2.17	323	P	Pn	03 46 45.1	-0.3
	3.6nm,0.2s,SNR=23						
EBER				S	Sn	03 47 11.9	+0.3
	13nm,0.4s,SNR=6.6						
CART	Cartagena	2.42	5	P	Pn	03 46 47.9	-0.7
CART				S	Sn	03 47 13.1	-4.2
CART	Cartagena	2.42	5	P	Pn	03 46 47.8	-0.7
CART				S	Sn	03 47 13.1	-4.2
EMUR	La Murta	2.66	0	P	Pn	03 46 51.8	-0.2
	1.5nm,0.2s,SNR=11						
EMUR				S	Sn	03 47 22.5	-0.9
	5.5nm,0.3s,SNR=5.3						
EMUR	La Murta	2.66	0	P	Pn	03 46 51.8	-0.2
	1.5nm,0.2s,SNR=11						
EMUR				S	Sn	03 47 22.5	-0.9
	5.5nm,0.3s,SNR=5.3						
EQUE	Quentar	2.69	319	P	Pn	03 46 53.6	+1.2
	1.1nm,0.1s,SNR=7.4						
EQUE				S	Sn	03 47 24.1	-0.1
	0.9nm,0.0s						
EQUE	Quentar	2.69	319	P	Pn	03 46 53.6	+1.2
	1.1nm,0.1s,SNR=7.4						
EQUE				S	Sn	03 47 24.1	-0.1
	0.9nm,0.0s						
GORA	Gorafe	2.72	328	P	Pn	03 46 53.7	+0.9
	1.3nm,0.1s,SNR=7.9						
GORA				S	Sn	03 47 27.1	+2.2
	5.7nm,0.2s,SNR=7.9						
GORA	Gorafe	2.72	328	P	Pn	03 46 53.7	+0.9
	1.3nm,0.1s,SNR=7.9						
GORA				S	Sn	03 47 27.1	+2.2
	5.7nm,0.2s,SNR=7.9						
SELV	Sierra Elvira	2.87	317	P	Pn	03 46 57.5	+2.6
	0.6nm,0.2s,SNR=7.9						
SELV				S	Sn	03 47 29.2	+0.5
	1.2nm,0.3s,SNR=7.9						
SELV	Sierra Elvira	2.87	317	P	Pn	03 46 57.5	+2.6
	0.6nm,0.2s,SNR=7.9						
SELV				S	Sn	03 47 29.2	+0.5
	1.2nm,0.3s,SNR=7.9						
EQES	Quesada	3.00	331	P	Pn	03 46 58.9	+2.2
	6.5nm,0.2s,SNR=12						
EQES				S	Sn	03 47 33.4	+1.4
	12nm,0.3s						
EQES	Quesada	3.00	331	P	Pn	03 46 58.9	+2.2
	6.5nm,0.2s,SNR=12						
EQES				S	Sn	03 47 33.4	+1.4
	12nm,0.3s						
EGOR	Sierra Gorda,	3.01	311	P	Pn	03 46 57.7	+0.8
	0.3nm,0.1s,SNR=7.9						
EGOR				S	Sn	03 47 33.6	+1.4
	1.4nm,0.3s,SNR=4.0						
EGOR	Sierra Gorda,	3.01	311	P	Pn	03 46 57.7	+0.8
	0.3nm,0.1s,SNR=7.9						
EGOR				S	Sn	03 47 33.7	+1.4
	1.4nm,0.3s,SNR=4.0						
SESP	Santiago Espad	3.12	341	⇓P	Pn	03 46 59.8	+1.5
	3.3nm,0°.2s,SNR=18						
SESP				S	Sn	03 47 34.6	-0.3
	52nm,0.5s,SNR=7.9						
SESP	Santiago Espad	3.12	341	P	Pn	03 46 59.8	+1.5
	3.3nm,0.2s,SNR=18						
SESP				S	Sn	03 47 34.6	-0.3
	52nm,0.5s,SNR=7.9						
EMIJ	Mijas	3.18	297	P	Pn	03 46 58.2	-0.9
	0.3nm,0.1s,SNR=12						
EMIJ				S	Sn	03 47 34.3	-1.9
	2.1nm,0.2s,SNR=5.0						
EMIJ	Mijas	3.18	297	P	Pn	03 46 58.2	-0.9
	0.3nm,0.1s,SNR=12						
EMIJ				S	Sn	03 47 34.3	-1.9
	2.1nm,0.2s,SNR=5.0						
ETOB	Tobarra	3.47	356	P	Pn	03 47 04.3	+1.1
	1.1nm,0.1s,SNR=57						
ETOB				S	Sn	03 47 42.9	-0.6
	4.2nm,0.4s,SNR=5.9						
ETOB	Tobarra	3.47	356	P	Pn	03 47 04.3	+1.1
	1.1nm,0.1s,SNR=57						
ETOB				S	Sn	03 47 42.9	-0.6
	4.2nm,0.4s,SNR=5.9						
EADA	Adamuz	4.01	319	P	Pn	03 47 11.5	+1.0
	0.2nm,0.1s,SNR=11						
EADA				S	Sn	03 47 56.5	-0.2
	0.1nm,0.1s,SNR=4.0						
EADA	Adamuz	4.01	319	P	Pn	03 47 11.5	+1.0
	0.2nm,0.1s,SNR=11						
EADA				S	Sn	03 47 56.5	-0.2
	0.1nm,0.1s,SNR=4.0						
EIBI	Ibiza	4.37	28	P	Pn	03 47 15.7	+0.3
	0.8nm,0.1s,SNR=8.6						
EIBI				S	Sn	03 48 03.0	-2.5
	0.3nm,0.1s						
EIBI	Ibiza	4.37	28	P	Pn	03 47 15.7	+0.3
	0.8nm,0.1s,SNR=8.6						
EIBI				S	Sn	03 48 03.0	-2.5
	0.3nm,0.1s						
ECAB	El Cabril	4.43	312	P	Pn	03 47 16.7	+0.4
	0.1nm,0.1s,SNR=6.6						
ECAB				S	Sn	03 48 05.3	-1.7
	0.5nm,0.3s,SNR=5.0						
ECAB	El Cabril	4.43	312	P	Pn	03 47 16.7	+0.4
	0.1nm,0.1s,SNR=6.6						
ECAB				S	Sn	03 48 05.3	-1.7
	0.5nm,0.3s,SNR=5.0						
ESDC	Sonseca Array	4.98	335	P	Pn	03 47 25.2	+1.3
	0.3nm,0.2s,baz=154,slow=13,SNR=9.3						
ESDC				S	Sn	03 48 19.4	-1.3
	1.0nm,0.3s,baz=152,slow=22,SNR=6.6						
ESDC	Sonseca Array	4.98	335	P	Pn	03 47 25.2	+1.3
	0.3nm,0.2s,SNR=9.3						
ESDC				S	Sn	03 48 19.4	-1.3
	1.0nm,0.3s,SNR=6.6						
EMIN	Mina Concepcio	5.08	302	P	Pn	03 47 24.9	-0.2
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	03 48 20.8	-2.2
	0.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.08	302	P	Pn	03 47 24.9	-0.2
	0.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	03 48 20.8	-2.2
	0.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.22	7	P	Pn	03 47 28.4	+1.2
	0.2nm,0.1s,SNR=7.1						
EMOS				S	Sn	03 48 25.0	-1.7
	0.1nm,0.1s,SNR=4.0						
EMOS	Mosqueruela	5.22	7	P	Pn	03 47 28.4	+1.2
	0.2nm,0.1s,SNR=7.1						
EMOS				S	Sn	03 48 25.0	-1.7
	0.1nm,0.1s,SNR=4.0						
PBAR	Barrancos	5.53	304	*e*Pn	Pn	03 47 31.8	+0.4
PBAR				*e*Sn	Sn	03 48 33.2	-0.9
PBAR	Barrancos	5.53	304	P	Pn	03 47 31.8	+0.4
PBAR				S	Sn	03 48 33.2	-0.9
PBAR	Barrancos	5.53	304	P	Pn	03 47 31.8	+0.4
PBAR				S	Sn	03 48 33.2	-0.9
EGRO	El Granado	5.55	297	P	Pn	03 47 31.1	-0.6
	0.2nm,0.1s,SNR=5.8						
EGRO				S	Sn	03 48 32.2	-2.5
	0.3nm,0.2s						
EGRO	El Granado	5.55	297	P	Pn	03 47 31.1	-0.6
	0.2nm,0.1s,SNR=5.8						
EGRO				S	Sn	03 48 32.2	-2.5
	0.3nm,0.2s						
ETOS	Mallorca	5.61	34	P	Pn	03 47 32.6	+0.1
	0.1nm,0.1s,SNR=7.9						
ETOS				S	Sn	03 48 33.9	-2.2
	0.1nm,0.2s,SNR=7.9						
ETOS	Mallorca	5.61	34	P	Pn	03 47 32.6	+0.1
	0.1nm,0.1s,SNR=7.9						
ETOS				S	Sn	03 48 33.9	-2.2
	0.1nm,0.2s,SNR=7.9						
PVAQ	Vaqueiros	5.68	295	*e*Pn	Pn	03 47 34.6	+1.2
PVAQ				*e*Sn	Sn	03 48 35.9	-1.8
PVAQ				A	A	03 48 42.5	
	2.2nm,0.6s						
PVAQ	Vaqueiros	5.68	295	P	Pn	03 47 34.6	+1.2
PVAQ				S	Sn	03 48 35.9	-1.8
	2.2nm,0.6s						
PVAQ	Vaqueiros	5.68	295	P	Pn	03 47 34.6	+1.2
PVAQ				S	Sn	03 48 35.9	-1.8
	2.2nm,0.6s						
PBDV	Barranco-do-Ve	5.78	293	*e*Pn	Pn	03 47 36.5	+1.7
PBDV				*e*Sn	Sn	03 48 37.5	-2.9
PBDV				A	A	03 48 50.5	
	2.6nm,0.7s						
PBDV	Barranco-do-Ve	5.78	293	P	Pn	03 47 36.5	+1.7
PBDV				S	Sn	03 48 37.5	-2.9
	2.6nm,0.7s						
PBDV	Barranco-do-Ve	5.78	293	P	Pn	03 47 36.5	+1.7
PBDV				S	Sn	03 48 37.5	-2.9
	2.6nm,0.7s						
EBAD	Badajoz	5.83	309	P	Pn	03 47 36.1	+0.6
	0.3nm,0.1s,SNR=23						
EBAD				S	Sn	03 48 39.8	-1.8
	0.4nm,0.2s						
EBAD	Badajoz	5.83	309	P	Pn	03 47 36.1	+0.6
	0.3nm,0.1s,SNR=23						
EBAD				S	Sn	03 48 39.8	-1.8
	0.4nm,0.2s						
EPLA	Plasencia	6.20	323	P	Pn	03 47 41.3	+0.6
	0.2nm,0.2s,SNR=5.8						
EPLA				S	Sn	03 48 47.4	-3.5
	0.6nm,0.1s						
EPLA	Plasencia	6.20	323	P	Pn	03 47 41.3	+0.6
	0.2nm,0.2s,SNR=5.8						
EPLA				S	Sn	03 48 47.3	-3.5
	0.6nm,0.1s						
PESTR	Estremoz	6.27	308	*e*Pn	Pn	03 47 41.9	+0.4
PESTR	Estremoz	6.27	308	*e*Pn	Pn	03 47 41.9	+0.4
EVO	Evora	6.37	304	*e*Pn	Pn	03 47 43.5	+0.6
EVO				A	A	03 48 53.0	
	1.2nm,0.5s						
EVO	Evora	6.37	304	P	Pn	03 47 43.5	+0.6
EVO	Evora	6.37	304	P	Pn	03 47 43.5	+0.6
PNCL	Nicolau / Gran	6.54	299	*e*Pn	Pn	03 47 45.8	+0.5
PNCL	Nicolau / Gran	6.54	299	*e*Pn	Pn	03 47 45.8	+0.5
PCBR	Castelo Branco	6.79	315	*e*Pn	Pn	03 47 49.4	+0.7
PCBR	Castelo Branco	6.79	315	P	Pn	03 47 49.4	+0.7
PCBR	Castelo Branco	6.79	315	P	Pn	03 47 49.4	+0.7
PMAFR	Mafra	7.45	303	*e*Pn	Pn	03 47 58.6	+0.9
PMAFR	Mafra	7.45	303	*e*Pn	Pn	03 47 58.6	+0.9
MVO	Moncorvo	7.51	324	P	Pn	03 47 59.8	+1.2
	0.4nm,0.1s,SNR=7.5						
MVO	Moncorvo	7.51	324	P	Pn	03 47 59.8	+1.2
	0.4nm,0.1s,SNR=7.5						
IELO	Elcoad	7.66	0	P	Pn	03 48 02.9	+2.3
	0.4nm,0.4s,SNR=7.9						
IELO	Elcoad	7.66	0	P	Pn	03 48 02.9	+2.3
	0.4nm,0.4s,SNR=7.9						
EORO	Oroz-Betelu	7.71	360	P	Pn	03 48 03.9	+2.6
	19nm,0.5s,SNR=12						
EORO	Oroz-Betelu	7.71	360	P	Pn	03 48 03.9	+2.6
	19nm,0.5s,SNR=12						
ATE	Arette	7.91	3	P	Pn	03 48 06.3	+2.2
	1.7nm,0.4s,SNR=7.9						
ATE	Arette	7.91	3	P	Pn	03 48 06.3	+2.2
	1.7nm,0.4s,SNR=7.9						
EALK	Alkurruntz	8.04	359	P	Pn	03 48 08.0	+2.2
	0.1nm,0.1s,SNR=8.8						
EALK	Alkurruntz	8.04	359	P	Pn	03 48 08.0	+2.2
	0.1nm,0.1s,SNR=8.8						
ELAN	Lanestosa	8.22	349	P	Pn	03 48 09.8	+1.5
	0.1nm,0.2s,SNR=7.9						
ELAN	Lanestosa	8.22	349	P	Pn	03 48 09.8	+1.5
	0.1nm,0.2s,SNR=7.9						
EARI	Arriondas	8.67	340	P	Pn	03 48 15.9	+1.3
	0.0nm,0.1s,SNR=7.1						
EARI	Arriondas	8.67	340	P	Pn	03 48 15.9	+1.3
	SNR=7.1						
VYHS	Vyhne	19.95	42	*e*P	Pn	03 50 45.3	+2.8

MEX 03 03:48:42.5±0.8, 16°.71N×99°.35W, h20km±11km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.51	289	*e*P	Pb	03 48 52.6	-0.3
ACX				*e*S	Sb	03 48 59.2	-0.7
ACP2	Acapulco	0.54	288	*e*P	Pb	03 48 51.4	-1.9
ACP2				*e*S	Sb	03 48 58.8	-1.9
CAIG	El Cayaco	0.94	291	*e*P	Pb	03 48 57.1	-3.0
CAIG				*e*S	Sb	03 49 08.3	-3.9
TLIG	Tlapa	1.14	41	*e*P	Pn	03 48 59.9	-3.5
PNIG	Pinotepa	1.22	105	*e*P	Pn	03 49 01.4	-3.0
PNIG				*e*S	Sb	03 49 16.2	-3.9
MEIG	Mezcala	1.24	348	*e*P	Pn	03 49 01.4	-3.4
MEIG				*e*S	Sb	03 49 16.3	-4.6
PLIG	Platanillo	1.68	355	*e*P	Pn	03 49 08.9	-2.0
ARIG	Puente Sto Nin	1.83	329	*e*P	Pn	03 49 10.5	-2.4
ZIIG	Zihuatanejo	2.21	294	*e*P	Pn	03 49 15.5	-2.6
ZIIG				*i* S	Sn	03 49 40.5	-4.3
VHO	Vista Hermosa	2.53	81	*e*P	Pn	03 49 20.2	-2.4
VHO				*e*S	Sn	03 49 49.7	-3.4

ROM 03 04:14:24.6±0.1, 42°.44N×13°.41E, h5km, Md1.7/4, Ml1.0/2, Error ellipse: s-maj=2.2km s-min=1.1km az=77.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.08	184	Pg	Pg	04 14 26.5	+0.1
AQU				Sg	Sg	04 14 28.2	+0.5
T0104	Madonna delle	0.09	215	Pg	Pg	04 14 27.0	+0.4
T0104				Sg	Sg	04 14 28.8	+0.8
FAGN	Fagnano	0.21	143	Pg	Pg	04 14 29.3	+0.5
FAGN				Sg	Sg	04 14 33.7	+2.1
	37nm,0.3s						
NRCA	Norcia	0.45	331	Pg	Pb	04 14 34.3	-0.8
NRCA				Sg	Sb	04 14 42.2	0.0
	16nm,1.3s						

*CSEM **03** 04:29:46.4±0.1, 39°.26N×23°.23E, h8km, ML2.1, Error ellipse: s-maj=3.6km s-min=2.4km az=97.0*
*ATH **03** 04:29:46.4, 39°.26N×23°.23E, h13km±2km, ML1.9/9, Error ellipse: s-maj=2.2km s-min=0.8km az=33.0*

THE 03 04:29:46.4, 39°.26N×23°.25E, h12km, ML2.1/8, Error ellipse: s-maj=1.1km s-min=0.4km az=22.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.05	341	P	Pg	04 29 48.7	-0.1
NEO				S	Sg	04 29 50.3	-0.3
NEO	Neokhori	0.05	341	P	Pg	04 29 48.5	-0.4
NEO				S	Sg	04 29 50.2	-0.4
NEO				AML	AML	04 29 50.6	
	comp=E,36928μm,0.2s						
NEO				AML	AML	04 29 50.6	
	comp=N,27366μm,0.3s						
NEO	Neokhori	0.05	341	P	Pg	04 29 48.7	-0.1
NEO				S	Sg	04 29 50.3	-0.3
XOR	Xorichti	0.11	339	P	Pg	04 29 49.5	0.0
XOR				S	Sg	04 29 51.6	-0.2
XOR	Xorichti	0.11	339	P	Pg	04 29 49.5	-0.1
XOR				AML	AML	04 29 52.0	
	comp=E,1506μm,0.3s						
XOR				AML	AML	04 29 52.3	
	comp=N,2366μm,0.1s						
XOR				S	Sg	04 29 52.3	+0.5
XOR	Xorichti	0.11	339	P	Pg	04 29 49.5	0.0
XOR				S	Sg	04 29 51.6	-0.2
SKIA	Skiathos	0.20	118	P	Pg	04 29 50.8	+0.1
SKIA				S	Sg	04 29 53.9	+0.2
SKIA	Skiathos	0.20	118	P	Pg	04 29 50.8	+0.1
SKIA				S	Sg	04 29 54.4	+0.7
SKIA				AML	AML	04 29 54.4	
	comp=E,790μm,0.1s						
SKIA				AML	AML	04 29 54.9	
	comp=N,1074μm,0.2s						
SKIA	Skiathos	0.20	118	P	Pg	04 29 50.8	+0.1
SKIA				S	Sg	04 29 54.0	+0.3
FYTO	Fytoko, Volos	0.28	302	P	Pg	04 29 52.4	+0.2
FYTO				S	Sg	04 29 56.4	+0.3
FYTO	Fytoko, Volos	0.28	302	P	Pg	04 29 52.8	+0.6
FYTO	Fytoko, Volos	0.28	302	P	Pg	04 29 52.3	+0.1
FYTO				S	Sg	04 29 56.4	+0.3
SMIA	Simia	0.38	184	P	Pg	04 29 54.3	+0.3
SMIA				S	Sg	04 29 59.9	+0.8
SMIA	Simia	0.38	184	P	Pb	04 29 55.0	-0.1
SMIA	Simia	0.38	184	P	Pg	04 29 54.3	+0.3
SMIA				S	Sg	04 29 59.9	+0.8
LKR	Lokris	0.64	198	P	Pg	04 29 58.6	-0.2
LKR				S	Sg	04 30 07.7	+0.5
LKR	Lokris	0.64	198	P	Pg	04 29 58.8	0.0
LKR				S	Sg	04 30 07.3	+0.1
LKR				AML	AML	04 30 10.8	
	comp=N,145μm,0.2s						
LKR				AML	AML	04 30 11.4	
	comp=E,174μm,0.2s						
LKR	Lokris	0.64	198	P	Pg	04 29 58.6	-0.2
LKR				S	Sg	04 30 06.8	-0.4
AGG	Agios Georgios	0.75	252	P	Pg	04 30 00.6	-0.3
AGG				S	Sb	04 30 12.0	+0.4
AGG	Agios Georgios	0.75	252	P	Pg	04 30 00.6	-0.3
AGG				S	Sg	04 30 10.7	-0.1
AGG				AML	AML	04 30 12.7	
	comp=N,205μm,0.4s						
AGG				AML	AML	04 30 14.7	
	comp=E,285μm,0.5s						
AGG	Agios Georgios	0.75	252	P	Pg	04 30 00.6	-0.3
AGG				S	Sg	04 30 09.8	-1.0
EREA	Eretria	0.99	147	P	Pb	04 30 05.2	-0.4
EREA				S	Sb	04 30 19.3	+0.7
EREA	Eretria	0.99	147	P	Pb	04 30 05.4	-0.1
EREA				S	Sb	04 30 19.0	+0.4
EREA				AML	AML	04 30 21.1	
	comp=N,185μm,0.4s						
EREA				AML	AML	04 30 22.3	
	comp=E,161μm,0.4s						
EREA	Eretria	0.99	147	P	Pb	04 30 05.5	-0.1
EREA				S	Sb	04 30 18.7	+0.1
DSF	Desfina	1.02	214	P	Pb	04 30 05.3	-0.6
DSF				S	Sb	04 30 19.6	+0.4
DSF	Desfina	1.02	214	P	Pb	04 30 05.1	-0.8
DSF				S	Sb	04 30 19.6	+0.4
DSF				AML	AML	04 30 19.8	
	comp=E,63μm,0.4s						
DSF				AML	AML	04 30 21.9	
	comp=N,74μm,0.2s						
DSF	Desfina	1.02	214	P	Pb	04 30 05.4	-0.5
DSF				S	Sb	04 30 19.6	+0.4
VIL2	Platees	1.05	179	P	Pb	04 30 06.1	-0.3
VIL2				S	Sn	04 30 22.5	+1.1
VIL2				AML	AML	04 30 23.9	
	comp=E,72μm,0.7s						
VIL2				AML	AML	04 30 27.1	
	comp=N,137μm,0.7s						
VILL	Villia	1.09	177	P	Pb	04 30 06.8	-0.5
VILL				S	Sn	04 30 23.2	+0.6
PLG	Polygyros	1.12	8	P	Pb	04 30 07.5	-0.3
PLG	Polygyros	1.12	8	P	Pb	04 30 07.5	-0.3
OUR	Ouranopolis	1.21	28	P	Pg	04 30 10.3	+0.6
OUR	Ouranopolis	1.21	28	P	Pg	04 30 10.9	+1.1
KALE	Kalithea	1.22	225	P	Pn	04 30 08.3	-1.1
KALE				S	Sg	04 30 26.0	+0.1
KALE				AML	AML	04 30 28.9	
	comp=N,44μm,0.7s						
KALE				AML	AML	04 30 32.9	
	comp=E,30μm,0.4s						
KALE	Kalithea	1.22	225	P	Pb	04 30 09.5	0.0
KALE				S	Sg	04 30 27.7	+1.8
HORT	Hortiatis	1.34	355	P	Pn	04 30 10.2	-0.8
HORT	Hortiatis	1.34	355	P	Pb	04 30 11.3	-0.2
ATHU	Athens Univers	1.36	162	P	Pn	04 30 10.6	-0.5
ATHU	Athens Univers	1.36	162	P	Pg	04 30 12.4	-0.1

*IDC **03** 04:34:56.7±0.6, 12°.93N×95°.74E, h0km, mb4.2/19, mb1 4.4/20, mb1mx4.2/39, mbtmp4.2/20, ML4.5/1, MS4.0/29, Ms1 4.0/29, ms1mx3.9/41, Error ellipse: s-maj=23.1km s-min=13.3km az=55.0*
*ISCJB **03** 04:34:57.7±0.2, 12°.97N±0°.03×95°.77E±0°.02, h18km, mb4.6/75, MS4.2/37, Error ellipse: s-maj=4.2km s-min=3.3km az=179.0*
*BKK **03** 04

CM31	Chiang Mai Arr	6.33	29	*e*Pn	Pn	04 36 30.9	-1.5
CMAR	Chiang Mai Arr	6.33	29	Pn	Pn	04 36 30.7	-1.7
	2.6nm,0.3s,baz=220,slow=15,SNR=28						
CMAR				LR	LR	04 39 27.4	
	comp=Z,2μm,18.6s,baz=226,slow=43						
CHTO	Chiang Mai	6.64	28	P	Pn	04 36 34.8	-1.8
	44nm,0.6s,1.2nm						
CHTO	Chiang Mai	6.64	28	*e*Pn	Pn	04 36 34.9	-1.7
CHTO				*e*S	Pg	04 37 03.9	-3.2
CMMT	Chiang Mai	6.64	28	P	Pn	04 36 34.8	-1.9
UTTA	Uttaradit	6.71	44	P	Pn	04 36 35.4	-2.2
	3.2nm,0.8s,86nm0.0nm						
LAMP	Lampang	6.74	34	P	Pn	04 36 36.0	-2.0
	14nm,0.6s,122nm0.1nm						
SKLT	Songkhla	7.53	139	P	Pn	04 36 46.4	-2.4
	24nm,1.1s						
KULM	Kulim	9.05	147	*e*Pn	Pn	04 37 11.9	+2.1
KULM				*e*S	Sn	04 38 39.2	-12
IPM	Ipoh	9.93	147	*e*Pn	Pn	04 37 25.1	+3.2
IPM				*e*S	Sn	04 39 04.4	-8.6
PSI	Prapat	10.57	162	LR	LR	04 42 19.9	
	comp=Z,674nm,19.9s,baz=251,slow=42						
VIS	Vishakhapatnam	12.81	293	*e*P	Pn	04 38 01.8	+0.5
VIS				*i* x	Sn	04 40 20.4	-3.1
SHL	Shillong	13.06	345	*e*P	Pn	04 38 03.8	-0.9
BKNI	Bangkinang	13.62	157	Pn	Pn	04 38 15.5	+3.2
KMI	Kunming	13.84	28	P	Pn	04 38 16.4	+0.9
KMI				sP	P	04 38 30.6	+6.8
KMI				S	Sn	04 40 47.1	-1.8
KMI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KMI				LR	LR		
	comp=N,2μm,11.5s						
KMI				LR	LR		
	comp=E,2μm,9.8s						
KMI				LR	LR		
	comp=Z,2μm,12.5s						
BOK	Bokaro	14.23	321	*e*P	Pn	04 38 23.3	+2.6
QIZ	Qiongzhong	14.91	64	P	Pn	04 38 29.2	-0.7
QIZ				S	Sn	04 41 12.8	-2.0
QIZ				LR	LR		
	comp=N,4μm,10.8s						
QIZ				LR	LR		
	comp=E,2μm,10.8s						
QIZ				LR	LR		
	comp=Z,2μm,10.2s						
MDRS	Chennai	15.03	272	*e*x	Sn	04 41 09.8	-7.8
PALK	Pallekele	15.77	251	Pn	P	04 38 44.3	-0.7
	0.6nm,0.3s,baz=115,slow=7.3,SNR=7.5						
PALK	Pallekele	15.77	251	*ce*P	P	04 38 45.8	+0.7
ODAN	Odare	15.88	332	*e*P	Pn	04 38 41.9	-0.9
TAPN	Taplejung	16.16	334	*e*P	Pn	04 38 46.8	+0.3
RAMN	Ramite	16.33	330	*e*P	Pn	04 38 48.1	-0.5
GYA	Guiyang	16.96	36	*e*P	Pn	04 38 56.9	+0.4
GYA				pP	pP	04 39 02.5	-0.9
GYA				PP	PnPn	04 39 11.0	+4.7
GYA				S	Sn	04 42 01.8	-2.9
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,14.2s						
GYA				LR	LR		
	comp=E,1μm,15.0s						
GYA				LR	LR		
	comp=Z,920nm,14.8s						
HYB	Hyderabad	17.10	287	*i* P	P	04 39 00.0	+0.1
HYB				*e*		04 39 15.0	
HYB				*e*S	Sn	04 42 06.0	-2.2
HYB	Hyderabad	17.10	287	*e*P	Pn	04 38 58.5	+0.3
JIRN	Jiri	17.12	330	*e*P	Pn	04 38 57.3	-1.4
LSA	Lhasa	17.20	347	*e*Pn	P	04 39 00.7	-0.6
	39nm,0.9s						
PKI	Pulchoki	17.43	328	*e*P	Pn	04 39 01.7	-0.9
PKIN	Phulchoki	17.45	328	*e*P	Pn	04 39 02.5	-0.2
GUN	Gumba	17.48	330	*e*P	Pn	04 39 02.6	-0.6
DMN	Daman	17.62	328	*e*P	Pn	04 39 04.0	-0.9
JBP	Jabalpur	18.03	307	*e*P	P	04 39 10.9	+0.8
JBP				*e*x	x	04 42 42.0	
GKN	Gorkha	18.18	327	*e*P	Pn	04 39 11.1	-0.6
KSM	Kuching	18.44	127	*e*Pn	Pn	04 39 15.0	+0.3
	33nm,1.4s						
KOLN	Koldanda	18.57	324	*e*P	P	04 39 16.0	-0.2
DANN	Dangsing	18.93	326	*e*P	Pn	04 39 20.8	-0.1
PYUN	Piuthan	19.17	324	*e*P	Pn	04 39 24.2	+0.5
CD2	Chengdu	19.38	21	*e*P	P	04 39 24.6	-0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SBUM	Sibu	19.42	121	*e*P	Pn	04 39 28.6	+2.1
	33nm,1.1s						
BHPL	Bhopal	20.12	303	*e*P	P	04 39 33.7	+0.7
GOA	Goa	21.32	279	*e*P	P	04 39 46.2	+0.1
ENH	Enshi	21.47	34	*e*P	P	04 39 47.3	-0.2
	11nm,0.6s						
POO	Poona	21.71	288	*e*P	P	04 39 50.1	-0.2
MYLDM	Lahad Datu	23.81	107	*e*P	P	04 40 17.3	+5.2
	47nm,1.0s						
LZH	Lanzhou	24.20	16	*e*P	P	04 40 22.0	+6.3
LZH				pP	sP	04 40 28.6	+5.2
LZH				sP	pP	04 40 31.6	+10
LZH				PP	PnPn	04 40 56.0	+11
LZH				*e*S	S	04 44 35.1	+1.8
LZH				sS	sS	04 44 50.0	+7.7
LZH				SS	SnSn	04 45 28.0	+12
LZH				pmax	pmax		
	comp=Z,120nm,1.4s						
LZH				pmax	pmax		
	comp=Z,360nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,12.1s						
LZH				LR	LR		
	comp=E,2μm,12.8s						
LZH				LR	LR		
	comp=Z,1μm,13.7s						
WHN	Wuhan	24.59	42	⇓P	P	04 40 25.8	+6.7
WHN				LR	LR		
	comp=Z,4μm,17.1s						
TGY	Tagaytay City	24.60	84	LR	LR	04 50 54.1	
	comp=Z,310nm,18.0s,baz=0.5,slow=39						
SMLA	Simla	24.87	320	*e*P	P	04 40 20.7	-0.9
SMLA				AMB	AMB	04 40 23.2	
	comp=Z,40nm,1.1s						
DHRM	DHARAMSHALA	26.17	320	*e*P	P	04 40 33.3	-0.3
DHRM				AMB	AMB	04 40 34.0	
	comp=Z,14nm,0.6s						
GTA	Gaotai	26.62	7	*e*P	P	04 40 38.8	+1.2
GTA				pP	sP	04 40 46.3	+1.0
GTA				sP	pP	04 40 49.4	+6.3
GTA				S	S	04 45 11.4	-0.4
GTA				sS	sS	04 45 22.3	+1.4
GTA				SS	SnSn	04 46 24.1	+9.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,95nm,6.2s						
GTA				LR	LR		
	comp=Z,360nm,11.6s						
GTA				LR	LR		
	comp=Z,620nm,10.9s						
GTA				LR	LR		
	comp=Z,440nm,10.7s						
NJ2	Nanjing	28.54	44	*e*P	P	04 40 55.7	+1.0
NJ2				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC	Hu-ho-hao-te	31.10	24	*e*P	P	04 41 19.7	+2.3
HHC				S	S	04 46 21.8	-0.4
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,8.6s						
HHC				LR	LR		
	comp=Z,740nm,8.5s						
HHC				LR	LR		
	comp=Z,1μm,15.1s						
HHC				LR	LR		
	comp=Z,750nm,12.0s						
WMQ	Urumqi	31.53	349	P	P	04 41 24.0	+2.9
WMQ				pP	sP	04 41 28.8	-0.1
WMQ				sP	pP	04 41 34.7	+8.1
WMQ				S	S	04 46 30.1	+1.4
WMQ				PcS	PcS	04 47 57.0	-1.0
WMQ				pmax	pmax		
	comp=Z,12nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.1s						
WMQ				LR	LR		
	comp=Z,420nm,13.1s						
WMQ				LR	LR		
	comp=Z,340nm,11.9s						
KSH	Kashi	31.68	330	P	P	04 41 21.2	-1.3
KSH				pP	pP	04 41 27.6	-0.4
KSH				*e*PP	PnPn	04 42 26.1	-0.4
KSH				*e*PcP	PcP	04 44 12.7	-1.6
KSH				S	S	04 46 23.6	-7.7
KSH				SS	SnSn	04 48 14.7	-3.3
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,86nm,5.8s						
KSH				LR	LR		
	comp=Z,100nm,5.2s						
KSH				LR	LR		
	comp=Z,110nm,9.1s						
BJI	Beijing	32.48	30	P	P	04 41 29.2	-0.2
BJI				pP	pP	04 41 35.9	+1.0
BJI				S	S	04 46 42.5	-1.0
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJI				LR	LR		
	comp=Z,900nm,11.4s						
BJI				LR	LR		
	comp=Z,620nm,11.6s						
BJI				LR	LR		
	comp=Z,540nm,17.7s						
PDGK	Podgornoye	33.34	338	P	P	04 41 37.0	-0.1
PDGK				pmax	pmax		
	comp=Z,29nm,1.6s						
TKM2	Tokmak 2	34.55	334	P	P	04 41 47.6	-0.1
TKM2				pmax	pmax		
	comp=Z,19nm,1.1s						
AAK	Ala-Archa	34.81	332	P	P	04 41 51.2	+1.3
	comp=Z,2.3nm,0.5s,baz=158,slow=7.6,SNR=15						
AAK	Ala-Archa	34.81	332	*i* P	P	04 41 50.6	+0.7
AAK	Ala-Archa	34.81	332	*e*P	P	04 41 51.0	+1.1
	comp=Z,17nm,1.1s						
FRU	Bishkek	34.91	333	⇓*e*P	P	04 41 53.0	+2.4
FRU				pmax	pmax		
	comp=Z,45nm,2.0s						
MK01	Makanchi Array	35.55	344	*e*P	P	04 41 56.1	+0.1
MK31	Makanchi Array	35.58	344	*i* P	P	04 41 56.0	-0.3
MK31				pmax	pmax		
	comp=Z,30nm,1.2s						
MK31	Makanchi Array	35.58	344	*e*P	P	04 41 57.0	+0.8
MKAR	Makanchi Array	35.58	344	P	P	04 41 56.3	+0.1
	comp=Z,3.4nm,0.6s,baz=153,slow=9.1,SNR=16						
MKAR				LR	LR	04 59 47.0	
	comp=Z,157nm,19.6s,baz=158,slow=42						
MKAR	Makanchi Array	35.58	344	*ce*P	P	04 41 57.2	+0.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	Makanchi	35.67	344	*e*P	P	04 41 56.0	-1.1
	comp=Z,18nm,1.1s						
SONM	Songino Array	35.93	12	P	P	04 42 01.2	+1.8
	comp=Z,1.1nm,1.0s,baz=189,slow=8.4,SNR=5.7						
SONM				LR	LR	04 58 10.6	
	comp=Z,323nm,20.6s,baz=190,slow=39						
SONA1	Songino Array	35.94	12	*e*P	P	04 42 02.2	+2.7
ULN	Ulaanbaatar	36.10	13	*i* P	P	04 41 57.0	-3.8
KK31	Karatay Array	37.08	329	P	P	04 42 09.1	0.0
KK31				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KKAR	Karatay Array	37.08	329	*e*P	P	04 42 09.6	+0.5
	comp=Z,29nm,0.9s						
DGZ	Jazzator, Alta	37.28	351	*i* P	P	04 42 08.6	-2.3
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.7s						
SNY	Shenyang	37.66	35	⇑P	P	04 42 15.6	+1.6
SNY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SNY				pmax	pmax		
	comp=Z,250nm,5.9s						
SNY				LR	LR		
	comp=Z,720nm,12.6s						
SNY				LR	LR		
	comp=Z,680nm,12.9s						
SNY				LR	LR		
	comp=Z,530nm,12.8s						
KSAR	Wonju Array Be	37.70	44	P	P	04 42 13.3	-1.1
KSRS	Korea Array	37.74	44	P	P	04 42 13.3	-1.4
	comp=Z,0.9nm,0.5s,baz=235,slow=8.6,SNR=3.6						
KSRS				LR	LR	04 58 09.1	
	comp=Z,247nm,18.4s,baz=240,slow=37						
CN2	Changchun	39.99	34	*e*P	P	04 42 34.0	+0.4
CN2				*es*P	sP	04 42 44.8	+3.4
CN2				*e*S	S	04 48 36.6	-1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
KURBB	Kurchatov Arra	40.10	343	P	P	04 42 34.2	-0.1
	comp=Z,5.3nm,0.8s,baz=155,slow=7.9,SNR=31						
KURK	Kurchatov	40.16	343	P	P	04 42 33.3	-1.5
KURK				pmax	pmax		
	comp=Z,33nm,1.2s						
KURK	Kurchatov	40.16	343	*e*P	P	04 42 34.6	-0.2
	comp=Z,34nm,1.2s						
GEYT	Alibeck	41.63	313	P	P	04 42 47.6	+0.4
	comp=Z,8.5nm,0.6s,baz=140,slow=7.4,SNR=12						
GEYT				LR	LR	05 02 31.4	
	comp=Z,309nm,18.7s,baz=135,slow=40						
ZAA0	Zalesovo Array	41.80	350	*e*P	P	04 42 48.5	+0.2
ZALV	Zalesovo Beam	41.80	350	P	P	04 42 48.8	+0.4
	comp=Z,1.2nm,0.4s,baz=183,slow=7.4,SNR=4.4						
ZALV				LR	LR	05 01 58.6	
	comp=Z,95nm,19.5s,baz=72,slow=39						
USRK	Ussuriysk Ar.	43.98	38	LR	LR	05 01 06.8	
	comp=Z,237nm,21.1s,baz=219,slow=36						
MJAR	Matsushiro Arr	44.74	51	LR	LR	05 03 05.1	
	comp=Z,193nm,18.8s,baz=255,slow=38						
BRVK	Borovoye	44.84	338	⇓*e*P	P	04 43 13.1	+0.2
BRVK				pmax	pmax		
	comp=Z,21nm,1.2s						
BRVK	Borovoye	44.84	338	*e*P	P	04 43 13.4	+0.5
	comp=Z,8.2nm,1.0s						
JHJ	Hachijo jima 2	44.90	56	LR	LR	05 01 16.9	
	comp=Z,91nm,19.6s,baz=250,slow=35						
ABKAR	Akbulak array	46.63	328	*e*P	P	04 43 27.4	+0.3
	comp=Z,88nm,0.9s						
KLR	Kul'dur	46.80	32	LR	LR	05 05 48.3	
	comp=Z,21nm,19.1s,slow=40						
BOD	Bodaibo	46.91	13	*e*P	P	04 43 26.3	-2.8
BOD				pmax	pmax		
	comp=Z,11nm,1.5s						
AKTO	Aktyubinsk	48.34	328	P	P	04 43 39.2	-1.2
AKTO				pmax	pmax		
	comp=Z,15nm,1.1s						
WRA	Warramunga Arr	50.16	130	P	P	04 43 53.8	-0.9
	comp=Z,4.8nm,1.0s,baz=314,slow=8.2,SNR=58						
WRA				LR	LR	05 07 36.0	
	comp=Z,98nm,18.1s,baz=265,slow=39						
WRAB	Tennant Creek	50.16	130	*i* P	P	04 43 58.1	+3.3
WRAB	Tennant Creek	50.16	130	*e*P	P	04 43 53.5	-1.3
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	50.17	130	*e*P	P	04 43 54.1	-0.7
SVE	Sverdlovsk	51.34	336	*e*P	P	04 44 02.5	-0.6
SVE				pmax	pmax		
	comp=Z,74nm,1.4s						
ARU	Arti	51.91	335	P	P	04 44 07.2	-0.1
	comp=Z,5.2nm,0.2s,baz=140,slow=3.2,SNR=7.0						
ARU	Arti	51.91	335	*d i* P	P	04 44 07.5	+0.2
ARU				S	S	04 51 29.4	+0.2
ARU				SS	SS	04 55 04.7	-1.4
ARU				pmax	pmax		
	comp=Z,18nm,1.7s						
ARU	Arti	51.91	335	*e*P	P	04 44 06.8	-0.5
	comp=Z,27nm,1.2s						
AS31	Alice Springs	52.17	134	*e*P	P	04 44 12.8	+3.0
ASAR	Alice Springs	52.17	134	P	P	04 44 09.2	-0.6
	comp=Z,3.1nm,0.7s,baz=315,slow=7.0,SNR=23						
ASAR				LR	LR	05 09 49.1	
	comp=Z,172nm,18.4s,baz=299,slow=40						
AS01	Alice Springs	52.20	134	*e*P	P	04 44 08.5	-1.5
ZEI	Tsey	53.51	314	*e*P	P	04 44 21.3	+1.6
ZEI				pmax	pmax		
	comp=Z,35nm,1.5s						
KBZ	Khabaz	54.49	315	P	P	04 44 26.8	+0.3
	comp=Z,2.6nm,0.8s,baz=82,slow=10,SNR=3.5						
KIV	Kislovodsk	54.70	315	*e*P	P	04 44 27.9	-0.4
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KIV				MLR	MLR		
	comp=Z,119nm,16.0s						
KIV	Kislovodsk	54.70	315	*e*P	P	04 44 29.2	+1.0
	comp=Z,33nm,1.1s						
YAK	Yakutsk	54.75	19	LR	LR	05 07 24.2	
	comp=Z,427nm,20.7s,baz=5.0,slow=36						
YAK	Yakutsk	54.75	19	*e*P	P	04 44 18.3	-10
YAK				pmax	pmax		
	comp=Z,35nm,0.8s						
GOF	Gofitskoye	54.80	316	⇑*e*P	P	04 44 28.3	-0.5
GOF				pmax	pmax		
	comp=Z,48nm,1.4s						
NRIK	Noril'sk	56.60	357	LR	LR	05 12 57.2	
	comp=Z,92nm,19.8s,baz=152,slow=40						
ANN	Anapa	58.56	315	*e*P	P	04 44 51.8	-3.7
ANN				*e**PP	sP	04 45 04.5	+1.0
ANN				*e*		04 45 42.6	
ANN				*e*S	S	04 52 51.1	-7.5
ANN				*e*SS	SS	04 56 49.7	-1.6
ANN				*e*SSS	SSS	04 59 21.1	
ANN				pmax	pmax		
	comp=Z,36nm,1.2s						
KMBO	Kilima Mbogo	59.59	261	LR	LR	05 07 30.4	
	comp=Z,89nm,21.3s,baz=98,slow=33						
BRTR	Keskin Array B	60.38	308	P	P	04 45 07.1	-1.3
	comp=Z,1.6nm,0.8s,baz=104,slow=5.2,SNR=6.8						
BRTR				LR	LR	05 14 54.4	
	comp=Z,106nm,20.1s,baz=109,slow=40						
BRTR	Keskin Array B	60.38	308	*ce*P	P	04 45 07.4	-1.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MOS	Moscow	61.62	327	*e*P	P	04 45 16.4	+0.1
OBN	Obninsk	61.98	326	⇓*e*P	P	04 45 18.6	-0.1
OBN				*e*		04 45 24.8	
OBN				*e**SP	sP	04 45 34.0	+7.3
OBN						04 46 00.0	
OBN				pmax	pmax		
	comp=Z,11nm,0.4s						
OBN				MLR	MLR		
	comp=Z,210nm,20.0s						
STKA	Stephens Creek	62.61	136	P	P	04 45 22.9	-0.5
	comp=Z,7.9nm,0.8s,baz=308,slow=7.5,SNR=7.9						
STKA				LR	LR	05 14 25.5	
	comp=Z,278nm,19.4s,baz=334,slow=38						
KLMR	Klimovskoe	62.62	333	*e*P	P	04 45 20.9	-2.0
KLMR				pmax	pmax		
	comp=Z,29nm,1.5s						
PETK	Petropavlovsk-	63.05	37	LR	LR	05 15 33.7	
	comp=Z,147nm,18.6s,baz=218,slow=39						
AKASG	Malin Array Be	65.20	320	P	P	04 45 39.0	-1.1
	comp=Z,0.8nm,0.6s,baz=82,slow=6.2,SNR=5.1						
AKASG				LR	LR	05 18 18.1	
	comp=Z,165nm,21.1s,baz=75,slow=40						
AKASG	Malin Array Be	65.20	320	*ce*P	P	04 45 38.2	-1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	65.20	320	P	P	04 45 39.0	-1.1
KIEV	Kiev	65.21	320	*i* P	P	04 45 39.2	-1.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIEV	Kiev	65.21	320	*e*P	P	04 45 39.0	-1.1
	comp=Z,8.5nm,1.2s						
SORM	Soroca	65.35	317	⇑*i*P	P	04 45 40.2	-0.9
SORM	Soroca	65.35	317	⇑P	P	04 45 40.2	-0.9
VRI	Vrincioaia	66.17	315	⇓*i*P	P	04 45 46.7	+0.1
VRI	Vrincioaia	66.17	315	⇓P	P	04 45 46.7	+0.1
PLOR	Plostina	66.23	315	⇓*i*P	P	04 45 47.0	+0.1
PLOR	Plostina	66.23	315	⇓P	P	04 45 47.0	+0.1
MLR	Muntele Rosu	66.68	314	⇑*i*P	P	04 45 50.2	+0.2
MLR	Muntele Rosu	66.68	314	⇑P	P	04 45 50.2	+0.2
MLR	Muntele Rosu	66.68	314	*e*P	P	04 45 50.3	+0.4
	comp=Z,9.9nm,0.9s						
BURAR	Bucovina Array	67.38	316	⇑*i*P	P	04 45 54.2	-0.1
BURAR	Bucovina Array	67.38	316	⇑P	P	04 45 54.2	-0.1
BUR08	Bucovina Ar. S	67.40	316	*e*P	P	04 45 54.8	+0.3
ARR	Arges	67.59	314	⇑*i*P	P	04 45 55.2	-0.5
LVV	L'vov	68.38	319	*e*P	P	04 45 53.3	-7.1
FINES	FINESS Array B	68.99	331	P	P	04 46 04.0	0.0
	comp=Z,2.1nm,0.6s,baz=101,slow=9.9,SNR=6.1						
FINES				LR	LR	05 18 49.7	
	comp=Z,190nm,21.9s,baz=114,slow=38						
DRGR		69.02	315	⇓*i*P	P	04 46 04.9	+0.3
DRGR		69.02	315	⇓P	P	04 46 04.9	+0.3
UZH	Uzhgorod	69.42	317	*e*P	P	04 46 12.7	+5.8
UZH				*e*		04 46 21.2	
UZH				*i*		04 46 27.6	
CRVS	Cervenica-Dubn	69.98	317	*e*P	P	04 46 11.0	+0.6
CRVS	Cervenica-Dubn	69.98	317	*e*P	P	04 46 11.0	+0.6
STHS	Stebnicka Huta	70.16	318	*e*P	P	04 46 11.2	-0.3
STHS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
STHS	Stebnicka Huta	70.16	318	*e*P	P	04 46 11.1	-0.4
KECS	Kecovo	70.61	317	*e*P	P	04 46 14.1	-0.1
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KECS	Kecovo	70.61	317	*e*P	P	04 46 14.1	-0.1
ARCES	ARCESS Array B	71.06	340	P	P	04 46 16.9	+0.3
	comp=Z,5.4nm,1.1s,baz=94,slow=9.9,SNR=3.5						
ARCES				LR	LR	05 20 59.6	
	comp=Z,153nm,20.1s,baz=106,slow=39						
VYHS	Vyhne	71.71	317	*e*P	P	04 46 20.6	-0.3
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
VYHS	Vyhne	71.71	317	*e*P	P	04 46 20.6	-0.3
OKC	Ostrava-Krasne	72.18	318	AMS	AMS	05 24 20.0	
MORC	Moravsky Berou	72.57	318	*e*P	P	04 46 27.4	+1.3
	comp=Z,56nm,1.1s						
DPC	Dobruska-Polom	73.36	319	*e*pP	pP	04 46 41.3	+4.6
DPC				*es*P	PcP	04 46 49.1	+2.1
DPC				*ex*	x	04 46 54.9	
DPC	Dobruska-Polom	73.36	319	*e*P	pP	04 46 41.3	+4.6
DPC				*e*		04 46 49.1	
DPC				*e*		04 46 54.9	
CONA	Conrad Observa	73.70	316	*e*P	P	04 46 34.1	+1.2
	comp=Z,3.8nm,1.2s						
ARSA	Arzberg	73.94	316	P	P	04 46 33.6	-0.6
	comp=Z,5.4nm,1.1s						
SOKA	Soboth	74.30	315	pP	pP	04 46 42.7	+0.4
	comp=Z,5.5nm,1.3s						
PRU	Pruhonice	74.51	319	AMS	AMS	05 23 30.0	
OBKA	Obir	74.64	315	*e*P	P	04 46 43.3	+4.9
	comp=Z,12nm,1.5s						
MOA	Molln	74.77	316	P	P	04 46 36.9	-2.2
	comp=Z,4.5nm,1.1s						
BRG	Berggiesshubel	74.87	319	*e*P	P	04 46 45.5	+6.0
	comp=Z,4.8nm,1.2s						
BRG				*e*		04 46 57.4	
	comp=Z,18nm,1.3s						
BRG	Berggiesshubel	74.87	319	*e*P	P	04 46 45.5	+6.0
BRG				*e*		04 46 57.4	
BRG				pmax	pmax		
	comp=Z,42nm,1.2s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GEA0	GERESS Array S	75.11	317	*e*P	P	04 46 40.3	-0.7
GERES	GERESS Array B	75.11	317	P	P	04 46 40.7	-0.4
	comp=Z,0.6nm,0.7s,baz=62,slow=6.2,SNR=5.8						
GERES				LR	LR	05 28 04.5	
	comp=Z,56nm,18.0s,baz=31,slow=42						
KHC	Kasperske Hory	75.17	318	*e*P	P	04 46 44.1	+2.7
KHC				*ex*	x	04 47 04.4	
KHC	Kasperske Hory	75.17	318	*e*P

NOA				MLR	MLR		
	comp=Z,72nm,18.4s						
NOA	**NORSAR Array B**	**76.10**	**330**	P	**P**	**04 46 44.0**	**-2.4**
WTTA	**Wattenberg**	**76.59**	**316**	*e*P	**P**	**04 46 54.2**	**+4.5**
	comp=Z,6.6nm,1.2s						
MOTA	**Moosalm**	**76.94**	**316**	*e*P	**P**	**04 46 53.6**	**+1.9**
	comp=Z,6.6nm,1.3s						
RETA	**Reutte**	**77.16**	**316**	P	**P**	**04 46 54.8**	**+2.0**
	comp=Z,6.7nm,1.5s						
FETA	**Feichten**	**77.22**	**316**	*e*P	**P**	**04 46 52.3**	**-1.0**
	comp=Z,3.6nm,1.2s						
DZM	**Mont Dzumac**	**77.61**	**116**	LR	LR	05 21 53.5	
	comp=Z,212nm,20.7s,baz=198,slow=36						
DAVA	**Damuels**	**77.78**	**316**	P	**P**	**04 46 57.9**	**+1.6**
	comp=Z,7.9nm,1.5s						
TUE	**Stuetta**	**78.23**	**315**	*e*P	P	04 47 07.1	+8.3
	comp=Z,10nm,1.0s						
BOSA	**Boshof**	**79.55**	**237**	P	**P**	**04 47 06.8**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=63,slow=4.0,SNR=4.9						
BOSA				LR	LR	05 19 12.7	
	comp=Z,110nm,18.1s,baz=80,slow=33						
BNI	**Bardonecchia**	**80.26**	**314**	*e*P	P	04 47 15.7	+5.8
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**83.77**	**192**	LR	LR	05 20 34.1	
	comp=Z,61nm,18.0s,baz=60,slow=33						
TAM	**Tamanrasset**	**85.21**	**292**	*e*P	**P**	**04 47 36.7**	**+0.5**
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**89.52**	**22**	P	**P**	**04 47 54.0**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=303,slow=5.1,SNR=6.0						
ILAR				LR	LR	05 33 54.2	
	comp=Z,71nm,20.3s,baz=298,slow=40						
SYO	**Syowa Base**	**90.66**	**197**	⇓*e*sP	sP	04 48 19.9	+11
TORD	**Torodi Ar. Bea**	**90.89**	**284**	P	**P**	**04 48 02.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=108,slow=3.3,SNR=3.6						
PLCA	**Paso Flores**	**149.79**	**201**	PKPbc	**PKPbc**	**04 54 49.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=290,slow=0.3,SNR=5.3						
CPUP	**Villa Florida**	**151.36**	**238**	PKPbc	**PKPbc**	**04 54 52.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=70,slow=5.1,SNR=3.4						

GUC 03 05:02:50.4±0.3, 32°.48S×70°.77W, h76km±10km, ML2.6, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.53**	**202**	⇓*i*P	Pn	05 03 04.6	+0.2
ROCH				*i*S	Sn	05 03 15.2	+0.5
ROCH				IAML		05 03 15.7	
	comp=N,474nm,0.1s						
PEL	**Peldehue**	**0.66**	**174**	⇓*i*P	Pn	05 03 05.2	-0.3
PEL				*i*S	Sn	05 03 16.7	+0.1
PEL				IAML		05 03 17.4	
	comp=E,218nm,0.2s						
CLCH	**Cerro Calan**	**0.93**	**168**	*i*P	Pn	05 03 08.4	-0.1
CLCH				*i*S	Sn	05 03 22.4	+0.3
CLCH				IAML		05 03 22.6	
	comp=E,173nm,0.3s						
FCH	**Farellones**	**0.94**	**154**	*e*P	Pn	05 03 09.4	+0.6
FCH				*i*S	Sn	05 03 23.4	+0.8
FCH				IAML		05 03 24.2	
	comp=E,468nm,0.1s						

*IASPEI **03** 05:04:01.9±0.8, 38°.91N±0°.03×27°.91E±0°.02, h15km±5km, Error ellipse: s-maj=3.7km s-min=2.8km az=10.8, GT5 selection from ISC bulletin GT5 identified by Bond˘¡r and McLaughlin (2009) selection criteria Bond˘¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **03** 05:04:01.8±0.4, 38°.92N±0°.02×27°.91E±0°.03, h8km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=3.3*
*CSEM **03** 05:04:01.8±0.1, 38°.90N×27°.90E, h10km, MD2.6, Error ellipse: s-maj=1.6km s-min=1.4km az=3.0*
*ISK **03** 05:04:01.1, 38°.92N×27°.91E, h8km, MD2.7*
*DDA **03** 05:04:01.6, 38°.91N×27°.92E, h14km, Md2.6*

ISC 03 05:04:02.0±0.8, 38°.91N±0°.02×27°.91E±0°.02, h14km±5km, n47, σ0°.46/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.08**	**249**	*i*P	**Pg**	**05 04 05.0**	**0.0**
AKHS				*i*S	**Sg**	**05 04 06.8**	**-0.1**
AKHS	**Akhisar**	**0.08**	**249**	P	**Pg**	**05 04 05.0**	**0.0**
AKHS				S	**Sg**	**05 04 06.8**	**-0.1**
STEP	**BALIKESIR_Sava**	**0.49**	**342**	*i*P	**Pg**	**05 04 11.3**	**-0.4**
STEP				*i*S	**Sg**	**05 04 18.5**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.49**	**342**	P	**Pg**	**05 04 11.3**	**-0.4**
STEP				S	**Sg**	**05 04 18.5**	**+0.2**
DEMI	**Demirci**	**0.64**	**78**	*i*P	**Pb**	**05 04 14.7**	**-0.3**
DEMI				*i*S	**Sg**	**05 04 23.0**	**-0.1**
DEMI	**Demirci**	**0.64**	**78**	P	**Pb**	**05 04 14.7**	**-0.3**
DEMI				S	**Sg**	**05 04 23.0**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**124**	*e*PG	**Pg**	**05 04 15.5**	**-0.3**
KULA				*e*SG	**Sb**	**05 04 25.3**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**124**	*e*Pg	**Pg**	**05 04 15.5**	**-0.3**
KULA				*e*Sg	**Sb**	**05 04 25.3**	**-0.4**
BALB	**Balikesir**	**0.73**	**358**	*e*PG	**Pg**	**05 04 15.8**	**-0.4**
BALB				*e*SG	**Sb**	**05 04 26.4**	**0.0**
BALB	**Balikesir**	**0.73**	**358**	*e*Pg	**Pg**	**05 04 15.8**	**-0.4**
BALB				*e*Sg	**Sb**	**05 04 26.4**	**0.0**
DKL	**Dikili**	**0.80**	**282**	*e*PG	**Pg**	**05 04 16.8**	**-0.7**
DKL	**Dikili**	**0.80**	**282**	*e*Pg	**Pg**	**05 04 16.8**	**-0.7**
SIMA	**Simav-Kutahya**	**0.85**	**78**	*e*PG	**Pg**	**05 04 18.1**	**-0.4**
SIMA				*e*SG	**Sb**	**05 04 29.6**	**-0.4**
SIMA	**Simav-Kutahya**	**0.85**	**78**	*e*Pg	**Pg**	**05 04 18.1**	**-0.4**
SIMA				*e*Sg	**Sb**	**05 04 29.6**	**-0.4**
FOCM	**Fo^§a**	**0.94**	**258**	*e*PG	**Pg**	**05 04 19.8**	**-0.4**
FOCM				*e*SG	**Sb**	**05 04 33.2**	**+0.8**
FOCM	**Fo^§a**	**0.94**	**258**	*e*Pg	**Pg**	**05 04 19.8**	**-0.4**
FOCM				*e*Sg	**Sb**	**05 04 33.2**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**181**	*e*PG	**Pb**	**05 04 20.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**181**	*e*Pg	**Pb**	**05 04 20.3**	**-0.2**
AYVA	**Ayvalik**	**1.03**	**293**	*i*P	**Pn**	**05 04 21.9**	**-0.1**
AYVA	**Ayvalik**	**1.03**	**293**	P	**Pn**	**05 04 21.9**	**-0.1**
URLA	**Izmir**	**1.17**	**242**	*e*PN	**Pn**	**05 04 24.0**	**+0.1**
URLA	**Izmir**	**1.17**	**242**	*i*P	**Pb**	**05 04 23.8**	**-0.1**
URLA	**Izmir**	**1.17**	**242**	P	**Pb**	**05 04 23.8**	**-0.1**
URLA	**Izmir**	**1.17**	**242**	*e*Pn	**Pn**	**05 04 24.0**	**+0.1**
GDZ	**Gediz**	**1.24**	**81**	*i*P	**Pg**	**05 04 25.6**	**-0.2**
GDZ				*i*S	**Sn**	**05 04 41.6**	**+0.1**
GDZ	**Gediz**	**1.24**	**81**	P	**Pg**	**05 04 25.6**	**-0.2**
GDZ				S	**Sn**	**05 04 41.6**	**+0.1**
AYDN	**Tasoluk**	**1.25**	**181**	*i*P	**Pn**	**05 04 24.7**	**-0.3**
AYDN				*i*S	**Sn**	**05 04 42.4**	**+0.8**
AYDN	**Tasoluk**	**1.25**	**181**	P	**Pn**	**05 04 24.7**	**-0.3**
AYDN				S	**Sn**	**05 04 42.4**	**+0.8**
TVSB	**Tavsanli**	**1.32**	**65**	*e*PN	**Pb**	**05 04 26.4**	**-0.2**
TVSB	**Tavsanli**	**1.32**	**65**	*e*Pn	**Pb**	**05 04 26.4**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.34**	**309**	*i*P	**Pb**	**05 04 26.8**	**-0.2**
BAYC				*i*S	**Sb**	**05 04 43.3**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.34**	**309**	P	**Pb**	**05 04 26.8**	**-0.2**
BAYC				S	**Sb**	**05 04 43.3**	**-0.8**
KCTX	**Karacabey (Bur**	**1.40**	**14**	*e*PN	**Pn**	**05 04 27.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.40**	**14**	*e*Pn	**Pn**	**05 04 27.3**	**+0.2**
EDC	**Edincik**	**1.44**	**359**	*e*PN	**Pn**	**05 04 28.0**	**+0.4**
EDC	**Edincik**	**1.44**	**359**	*e*Pn	**Pn**	**05 04 28.0**	**+0.4**
EZN	**Ezine**	**1.53**	**307**	*e*PN	**Pn**	**05 04 29.1**	**+0.2**
EZN	**Ezine**	**1.53**	**307**	*e*Pn	**Pn**	**05 04 29.1**	**+0.2**
MRMT	**Marmara Adasi**	**1.71**	**352**	*e*PN	**Pn**	**05 04 31.8**	**+0.4**
MRMT	**Marmara Adasi**	**1.71**	**352**	*e*Pn	**Pn**	**05 04 31.8**	**+0.4**
BOZC	**Bozcaada**	**1.71**	**304**	*e*PN	**Pn**	**05 04 32.0**	**+0.6**
BOZC	**Bozcaada**	**1.71**	**304**	*e*Pn	**Pn**	**05 04 32.0**	**+0.6**
ARMT	**Armutlu**	**1.81**	**24**	*e*PN	**Pn**	**05 04 33.4**	**+0.7**
ARMT	**Armutlu**	**1.81**	**24**	*e*Pn	**Pn**	**05 04 33.4**	**+0.7**
BDRM	**Kayabasi**	**1.88**	**191**	*i*P	**Pg**	**05 04 37.7**	**-0.3**
GULT	**Gulveren**	**2.52**	**52**	*e*PN	**Pn**	**05 04 43.9**	**+1.3**
GULT	**Gulveren**	**2.52**	**52**	*e*Pn	**Pn**	**05 04 43.9**	**+1.3**

*IDC **03** 05:10:26.2±0.8, 21°.61S×174°.46W, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/30, mbtmp4.3/14, MS3.9/8, Ms1 3.9/8, ms1mx3.6/26, Error ellipse: s-maj=27.9km s-min=18.6km az=120.0*
*NEIC **03** 05:10:28.0±0.3, 21°.46S×174°.57W, h10km, mb4.9/30, Error ellipse: s-maj=11.0km s-min=6.2km az=127.0*
*ISCJB **03** 05:10:30.4±0.3, 21°.52S±0°.05×174°.65W±0°.05, h33km, mb4.7/44, MS3.9/7, Error ellipse: s-maj=8.2km s-min=6.2km az=44.3*
*BJI **03** 05:10:31.7, 21°.50S×174°.30W, h39km, mb5.1/12, mB5.3/5, Ms5.2/6, Ms7 4.8/5*

ISC 03 05:10:30.9±0.4, 21°.41S±0°.07×174°.39W±0°.07, h30km, n113, σ1§95/122, mb4.7/44, MS4.0/9, 6C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.87**	**19**	Pn	**Pn**	**05 12 20.1**	**-3.2**
	5.7nm,0.3s,baz=132,slow=6.0,SNR=5.9						
AFI				Sn	Sn	05 13 38.8	-13
	4.4nm,0.3s,baz=181,slow=22,SNR=2.1						
AFI	**Afiamalu**	**7.87**	**19**	*e*Pn	**Pn**	**05 12 20.5**	**-2.8**
AFI				*e*Sn	**Sn**	**05 13 43.4**	**-8.1**
MSVF	**Nonsavu**	**8.01**	**296**	*e*Pn	**Pn**	**05 12 23.1**	**-2.3**
MSVF				*e*Sn	**Sn**	**05 13 51.7**	**-3.3**
RAR	**Rarotonga**	**13.63**	**92**	Pn	Pn	05 13 30.1	-12
	11nm,0.3s,baz=255,slow=6.9,SNR=18						
RAR				LR	LR	05 18 21.6	
	comp=Z,503nm,19.3s,baz=283,slow=35						
DZM	**Mont Dzumac**	**17.82**	**264**	P	**P**	**05 14 40.0**	**+2.7**
	0.5nm,0.3s,baz=71,slow=21,SNR=9.5						
DZM	**Mont Dzumac**	**17.82**	**264**	*e*P	**P**	**05 14 39.8**	**+2.5**
	69nm,1.4s						
DZM				*e*LR	LR	05 18 49.0	
	311nm,22.2s						
DZM	**Mont Dzumac**	**17.82**	**264**	*e*Pn	**Pn**	**05 14 33.9**	**-2.9**
	72nm,1.6s						
BKZ	**Black Stump Fm**	**19.35**	**202**	*e*P	**P**	**05 14 49.0**	**-4.9**
	104nm,2.0s						
BKZ				*e*Sn	**S**	**05 18 28.5**	**-2.7**
HIZ	**Hauiti**	**19.40**	**206**	*e*P	**P**	**05 14 53.5**	**-0.9**
	213nm,1.6s						
THZ	**Tophouse**	**22.94**	**205**	*e*P	**P**	**05 15 31.8**	**-0.9**
	161nm,2.0s						
TBI	**Tubuai**	**23.13**	**99**	*e*LR	LR	05 21 13.8	
	305nm,21.0s						
PPT2	**Papeete2**	**23.69**	**85**	*e*S	S	05 19 40.8	-13
	93nm,23.6s						
PPT2				*e*LR	LR	05 21 24.4	
	270nm,20.5s						
PPT	**Papeete**	**23.70**	**85**	LR	LR	05 23 09.9	
	comp=Z,365nm,19.3s,baz=288,slow=32						
LTZ	**Lake Taylor**	**24.06**	**205**	*e*P	**P**	**05 15 42.6**	**-0.8**
	22nm,0.9s						
RPZ	**Rata Peaks**	**25.32**	**205**	P	**P**	**05 15 54.6**	**-0.4**
	8.1nm,0.5s,baz=334,slow=2.6,SNR=8.8						
FOZ	**Fox Glacier**	**25.68**	**207**	*e*P	**P**	**05 15 58.0**	**-0.2**
	392nm,2.0s						
LBZ	**Lake Benmore**	**26.23**	**206**	*e*P	**P**	**05 16 01.6**	**-1.6**
	50nm,1.4s						
WKZ	**Wanaka**	**27.07**	**207**	*e*P	**P**	**05 16 08.1**	**-2.7**
	346nm,1.9s						
MLZ	**Mavora Lakes**	**27.88**	**207**	*e*P	**P**	**05 16 19.1**	**+1.1**
	67nm,1.7s						
DCZ	**Deep Cove**	**28.37**	**208**	*e*P	**P**	**05 16 22.6**	**+0.3**
	43nm,1.2s						
WHZ	**Wether Hill Ro**	**28.37**	**206**	*e*P	**P**	**05 16 22.8**	**+0.4**
	130nm,2.0s						
RKT	**Rikitea**	**36.45**	**100**	*e*LR	LR	05 27 27.9	
	232nm,21.8s						
CTAO	**Charters Tower**	**36.76**	**265**	*e*P	**P**	**05 17 35.3**	**-0.7**
	9.3nm,1.0s						
STKA	**Stephens Creek**	**40.46**	**246**	P	**P**	**05 18 04.2**	**-2.7**
	2.7nm,0.7s,baz=92,slow=11,SNR=7.5						
STKA				LR	LR	05 33 50.5	
	comp=Z,272nm,18.9s,baz=36,slow=35						
STKA	**Stephens Creek**	**40.46**	**246**	*e*P	**P**	**05 18 04.9**	**-2.0**
	2.4nm,1.2s						
AS01	**Alice Springs**	**47.55**	**257**	*e*P	**P**	**05 19 01.4**	**-2.7**
AS31	**Alice Springs**	**47.60**	**257**	*e*P	**P**	**05 19 02.9**	**-1.4**
	2.6nm,0.9s						
ASAR	**Alice Springs**	**47.60**	**257**	P	**P**	**05 19 02.5**	**-1.9**
	7.8nm,0.9s,baz=93,slow=8.0,SNR=53						
ASAR				PcP	**PcP**	**05 20 34.1**	**+0.2**
	1.0nm,0.6s,baz=109,slow=3.7,SNR=4.6						
ASAR				LR	LR	05 37 58.4	
	comp=Z,144nm,18.3s,baz=111,slow=35						
WB2	**Warramunga Arr**	**47.80**	**262**	*e*P	**P**	**05 19 03.1**	**-2.8**
WR1	**Warramunga Arr**	**47.81**	**262**	*e*P	**P**	**05 19 03.8**	**-2.2**
	15nm,0.8s						
WR1				*e*PcP	**PcP**	**05 20 35.1**	**+0.4**
WRA	**Warramunga Arr**	**47.81**	**262**	P	**P**	**05 19 03.8**	**-2.2**
	9.1nm,0.9s,baz=101,slow=8.1,SNR=50						
WRA				PcP	**PcP**	**05 20 35.1**	**+0.4**
	1.2nm,0.6s,baz=100,slow=3.1,SNR=4.1						
VNDA	**Vanda**	**57.33**	**186**	P	**P**	**05 20 14.9**	**-0.7**
	2.0nm,1.2s,baz=320,slow=5.0,SNR=3.4						
VNDA				LR	LR	05 40 42.9	
	comp=Z,73nm,21.1s,baz=9.0,slow=32						
VNDA	**Vanda**	**57.33**	**186**	*e*P	**P**	**05 20 14.3**	**-1.3**
MJAR	**Matsushiro Arr**	**72.97**	**322**	P	**P**	**05 21 58.3**	**+0.7**
	4.0nm,0.5s,baz=154,slow=6.2,SNR=10						
MJAR				LR	LR	05 50 53.8	
	comp=Z,31nm,20.3s,baz=300,slow=33						
MAT	**Matsushiro**	**72.98**	**322**	P	**P**	**05 21 58.3**	**+0.6**
DPP	**Dos Picos Cty**	**77.02**	**47**	*e*P	**P**	**05 22 22.6**	**+1.4**
ARVC	**Arvin**	**77.05**	**44**	*e*P	P	05 22 26.1	+4.9
PETK	**Petropavlovsk-**	**78.06**	**343**	P	**P**	**05 22 27.9**	**+1.4**
	4.2nm,0.6s,baz=120,slow=7.0,SNR=3.7						
PETK				LR	LR	05 52 44.0	
	comp=Z,61nm,19.6s,baz=127,slow=32						
PEA1	**Petropavlovsk-**	**78.06**	**343**	*e*P	**P**	**05 22 27.9**	**+1.4**
WAKR	**Walker**	**78.77**	**41**	*e*P	**P**	**05 22 32.4**	**+1.4**
	14nm,1.6s						
BEKR	**Beckworth**	**79.08**	**39**	*e*P	**P**	**05 22 33.6**	**+1.0**
	12nm,1.6s						
KSRS	**Korea Array**	**79.83**	**317**	P	**P**	**05 22 38.1**	**+1.7**
	3.0nm,0.9s,baz=136,slow=6.7,SNR=9.2						
KS15	**Wonju Array Si**	**79.84**	**317**	*e*P	**P**	**05 22 34.3**	**-2.3**
KS01	**Wonju Array Si**	**79.86**	**317**	*e*P	**P**	**05 22 38.3**	**+1.7**
USRK	**Ussuriysk Ar.**	**81.64**	**324**	P	**P**	**05 22 47.7**	**+1.7**
	2.5nm,0.7s,baz=180,slow=0.4,SNR=4.7						
MAW	**Mawson**	**81.83**	**199**	P	**P**	**05 22 44.0**	**-2.7**
	1.2nm,0.5s,baz=142,slow=3.8,SNR=4.2						
MAW	**Mawson**	**81.83**	**199**	*e*P	**P**	**05 22 46.4**	**-0.3**
	3.7nm,1.7s						
KNB	**Kanab**	**82.10**	**45**	*e*P	**P**	**05 22 50.6**	**+1.8**
	30nm,2.0s						
U15A	**North Rim**	**82.12**	**46**	*e*P	**P**	**05 22 50.7**	**+1.6**
	11nm,1.5s						
SZCU	**Shurtz Canyon**	**82.25**	**45**	*e*P	**P**	**05 22 50.6**	**+1.0**
	7.7nm,1.4s						
PANH	**Panhandle Gap,**	**82.93**	**33**	*e*P	**P**	**05 22 56.5**	**+3.5**
MYKOM	**Kota Tinggi**	**82.98**	**275**	*e*P	**P**	**05 22 54.8**	**+1.0**
	19nm,0.8s						
NJ2	**Nanjing**	**83.07**	**308**	*e*P	**P**	**05 22 56.0**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,16nm,1.1s						
MSU	**Marysvale**	**83.36**	**44**	*e*P	**P**	**05 22 57.4**	**+1.9**
BMO	**Blue Mountains**	**83.97**	**37**	*e*P	**P**	**05 22 58.2**	**-0.1**
	19nm,1.9s						
TMUT	**Trail Mountain**	**84.42**	**44**	*e*P	**P**	**05 23 01.7**	**+0.8**
	16nm,1.5s						
D08A	**Wollman Farm,**	**84.48**	**34**	*e*P	**P**	**05 23 02.3**	**+1.7**
	48nm,2.0s						
MNTX	**Cornudas Mount**	**84.56**	**53**	*e*P	**P**	**05 23 01.9**	**+0.4**
	8.6nm,1.6s						
F10A	**Beach Ranch, E**	**84.71**	**36**	*e*P	**P**	**05 23 02.9**	**+1.0**
	8.8nm,1.2s						
TX31	**Lajitas Ar. Si**	**84.74**	**56**	*e*P	**P**	**05 23 03.0**	**+0.5**
LTX	**Lajitas**	**84.74**	**56**	*e*P	**P**	**05 23 03.5**	**+1.0**
TXAR	**Lajitas Array**	**84.74**	**56**	P	**P**	**05 23 03.5**	**+1.0**
	0.2nm,0.6s,baz=212,slow=12,SNR=6.1						
SRU	**San Rafael Swe**	**84.76**	**45**	*e*P	**P**	**05 23 04.2**	**+1.7**
	4.7nm,0.8s						
HLID	**Hailey**	**84.86**	**39**	*e*P	**P**	**05 23 04.2**	**+1.4**
	4.7nm,1.3s						
BNM	**Barren Site**	**84.86**	**50**	*e*P	**P**	**05 23 04.6**	**+1.4**
ANMO	**Albuquerque**	**85.38**	**50**	*e*P	**P**	**05 23 06.5**	**+0.8**
	8.0nm,1.3s						
PLCA	**Paso Flores**	**86.19**	**132**	LR	LR	05 53 28.3	
	comp=Z,94nm,20.9s,baz=282,slow=30						
PLCA	**Paso Flores**	**86.19**	**132**	*e*P	**P**	**05 23 08.9**	**-0.7**
	22nm,1.8s						
SYO	**Syowa Base**	**86.55**	**192**	⇑*e*P	**P**	**05 23 08.7**	**-2.0**
PD31	**Pinedale Array**	**87.35**	**42**	*e*P	**P**	**05 23 16.0**	**+0.7**
PDAR	**Pinedale Array**	**87.35**	**42**	P	**P**	**05 23 14.8**	**-0.5**
	0.5nm,0.8s,baz=205,slow=3.1,SNR=4.1						
IL1	**Eielson Array**	**88.49**	**11**	*e*P	**P**	**05 23 20.4**	**+0.5**
ILAR	**Eielson Array**	**88.49**	**11**	P	**P**	**05 23 20.4**	**+0.5**
	0.7nm,1.0s,baz=215,slow=5.4,SNR=5.2						
ILB	**Eielson Array**	**88.49**	**11**	*e*P	**P**	**05 23 20.4**	**+0.5**
BJI	**Beijing**	**88.93**	**314**	P	**P**	**05 23 24.9**	**+2.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.8s						
GYA	**Guiyang**	**90.04**	**298**	*e*P	**P**	**05 23 30.0**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**92.42**	**313**	*e*P	**P**	**05 23 40.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,95nm,5.7s						
CM01	**Chiang Mai Arr**	**93.57**	**288**	*e*P	**P**	**05 23 46.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P	**P**	**05 23 46.7**	**+2.0**
	1.9nm,0.7s,baz=124,slow=2.9,SNR=14						
CD2	**Chengdu**	**94.13**	**301**	*e*P	**P**	**05 23 47.6**	**+0.6**
WMQ	**Urumqi**	**110.08**	**310**	*e*PKP	**PKiKP**	**05 29 00.2**	**+0.5**
WMQ				PP	**PP**	**05 29 38.2**	**+4.5**
WMQ				LR	LR		
	comp=N,130nm,20.3s						
WMQ				LR	LR		
	comp=E,110nm,31.7s						
KSH	**Kashi**	**118.18**	**304**	SKKS	**SS**	**05 46 49.2**	**+4.1**
KSH	**Kashi**	**118.18**	**304**	*e*PKP	**PKPdf**	**05 29 17.8**	**+2.4**
KSH				*es*PKP		05 29 32.5	
KSH				PP	PP	05 30 40.3	+9.1
KSH				PKS	**PKSdf**	**05 32 53.9**	**+1.8**
KSH				SKS	**SKSdf**	**05 36 24.7**	**-0.8**
KSH				SKKS	**SKKSac**	**05 37 28.7**	**-0.8**
KSH				SS	**SS**	**05 46 52.4**	**+7.3**
KSH				AMB	AMB		
	comp=Z,59nm,5.4s						
KSH				LR	LR		
	comp=N,50nm,6.5s						
KSH				LR	LR		
	comp=E,58nm,4.8s						
KSH				LR	LR		
	comp=Z,100nm,5.9s						
FIA0	**FINESS Array S**	**137.54**	**346**	*e*PKPdf	**PKPdf**	**05 29 50.1**	**-1.1**
FINES	**FINESS Array B**	**137.54**	**346**	PKP	**PKPdf**	**05 29 50.1**	**-1.1**
	3.0nm,1.0s,baz=57,slow=7.0,SNR=3.9						
SUW	**Suwalki**	**144.81**	**342**	*e*PKP	**PKPdf**	**05 30 04.5**	**0.0**
AKASG	**Malin Array Be**	**145.39**	**333**	PKPbc	**PKPab**	**05 30 05.4**	**-0.3**
	2.1nm,0.5s,baz=36,slow=4.1,SNR=22						
AKBB	**Malin Array Si**	**145.39**	**333**	*e*PKPbc	**PKPab**	**05 30 05.8**	**0.0**
KIEV	**Kiev**	**145.40**	**333**	*e*PKPbc	**PKPab**	**05 30 05.8**	**-0.1**
AK11	**Malin Array Si**	**145.43**	**333**	*e*PKPbc	**PKPab**	**05 30 05.8**	**-0.2**
OJC	**Ojcow**	**149.15**	**342**	*e*PKP	**PKPbc**	**05 30 17.5**	**+1.3**
KSP	**Ksiaz**	**149.45**	**347**	*e*PKP	**PKPbc**	**05 30 18.2**	**+1.3**
CLL	**Collm**	**149.60**	**351**	⇑*i*PKPbc	**PKPbc**	**05 30 17.3**	**0.0**
	comp=Z,41nm,1.8s						
CLL				*i*pPKPab	**sPKPdf**	**05 30 25.9**	**-0.1**
CLL				*i*		05 30 28.9	
CLL				Lm	MLR	06 12 00.0	
	comp=Z,100nm,20.0s						
CLL	**Collm**	**149.60**	**351**	*e*PKPbc	**PKPbc**	**05 30 17.9**	**+0.6**
NIE	**Niedzica**	**149.71**	**341**	*e*PKP	**PKPbc**	**05 30 19.2**	**+1.6**
CRVS	**Cervenica-Dubn**	**149.79**	**339**	*e*PKP	**PKPbc**	**05 30 15.7**	**-2.1**
CRVS				*e*		05 30 19.5	
UPC	**Upice**	**149.83**	**347**	⇑*e*PKP	**PKPbc**	**05 30 18.7**	**+0.8**
BRG	**Berggiesshubel**	**149.88**	**349**	*e*PKP	**PKPbc**	**05 30 19.0**	**+1.1**
	comp=Z,32nm,1.8s						
BRG				*e*		05 30 29.1	
	comp=Z,13nm,1.4s						
DPC	**Dobruska-Polom**	**149.91**	**346**	⇑*e*PKP	**PKPbc**	**05 30 18.9**	**+0.8**
DPC				*e*PKPAB	**sPKPdf**	**05 30 25.7**	**-0.9**
DPC				*e*pPKP	**sPKPbc**	**05 30 29.7**	**-1.7**
BR101	**Keskin Array S**	**149.92**	**314**	*e*PKPbc	**PKPbc**	**05 30 18.8**	**+0.2**
BRTR	**Keskin Array B**	**149.92**	**314**	PKPbc	**PKPbc**	**05 30 18.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=174,slow=1.2,SNR=4.8						
PVCC	**Panska Ves**	**150.10**	**348**	⇑*e*PKP	**PKPbc**	**05 30 19.8**	**+1.3**
PVCC				*ex*	x	05 30 31.2	
MORC	**Moravsky Berou**	**150.15**	**344**	*e*PKPbc	**PKPbc**	**05 30 19.7**	**+1.0**
LANS	**Liptovska Anna**	**150.20**	**342**	*e*PKP	**PKPab**	**05 30 22.4**	**

PB01 IAML 05 18 02.4
comp=N,6μm,0.7s
PB01 IPOC Station P 1.89 139 *e*Pn **Pn 05 17 37.7 +0.3**
PB01 *e*Sn **Sn 05 18 00.7 +0.2**
PB07 IPOC Station P 2.27 157 IAML 05 18 21.8
comp=E,6μm,0.8s
PB09 IPOC Station P 2.62 146⇑ *i*P **Pn 05 17 48.9 +1.3**
PB09 *i* S **Sn 05 18 20.9 +2.2**
PB04 IPOC Station P 2.77 167 IAML 05 18 40.2
comp=E,4μm,0.4s
PB04 IPOC Station P 2.77 167 *e*Pn **Pn 05 17 49.4 -0.2**
PB04 *e*Sn **Sn 05 18 20.8 -1.6**
LVC Limon Verde 3.47 149 P **Pn 05 18 00.8 +1.4**
comp=E,620nm,0.3s,baz=312,slow=7.3,SNR=78
LVC S **Sn 05 18 41.3 +1.4**
comp=E,6μm,0.3s,baz=172,slow=22,SNR=11
LVC Limon Verde 3.47 149 *e*P **Pn 05 18 00.7 +1.4**
LVC *e*S **Sb 05 18 50.8 +1.3**
BBOJ La Paz, Jacaqu 3.63 44⇑ *i*Pn **Pn 05 18 05.3 +3.5**
BBOD La Paz, Gloria 3.65 36⇑ *i*Pn **Pn 05 18 04.8 +2.8**
BBOD ⇑ *i*Sn **Sb 05 18 52.8 -2.0**
comp=E,874nm,1.0s
PB10 IPOC Station P 3.88 176 *e*P **Pn 05 18 03.5 -1.2**
PB10 IPOC Station P 3.88 176 *e*Pn **Pn 05 18 03.7 -1.0**
PB10 *e*Sn **Sn 05 18 47.2 -2.3**
BBOE La Paz, Chanca 3.89 45⇑ *i*Pn **Pn 05 18 08.9 +3.6**
LPAZ La Paz 4.20 38 P **Pn 05 18 12.6 +3.0**
comp=E,6.3nm,0.3s,baz=224,slow=5.7,SNR=51
LPAZ LR LR 05 19 55.8
comp=E,2μm,18.0s,baz=222,slow=42
LPAZ La Paz 4.20 38 *e*P **Pn 05 18 12.9 +3.3**
LPAZ La Paz 4.20 38⇑ *i*Pn **Pn 05 18 12.2 +2.6**
LPAZ La Paz 4.20 38 *e*Pn **Pn 05 18 12.8 +3.3**
BBOB La Paz, Bander 4.31 37⇑ *i*Pn **Pn 05 18 13.9 +2.8**
PB14 IPOC Station P 5.00 176 *e*P **Pn 05 18 18.6 -1.7**
PB14 *e*S **Sn 05 19 15.2 -2.2**
MOCB Mochara 5.13 109 *e*Pn **Sn 05 18 26.0 +3.7**
MOCB *e*Sn **Sn 05 19 27.5 +6.5**
comp=E,1μm,1.8s
YJA Yavi 5.58 118 *e*P **Pn 05 18 31.4 +3.0**
YJA IAML 05 18 46.2
comp=Z,39nm,0.6s
HJA Humahuaca 6.18 126 *e*P Pn 05 18 42.8 +6.1
SLA San Lorenzo 7.08 137 *e*P **Pn 05 18 52.8 +4.0**
SLA IAML 05 19 00.3
comp=Z,69nm,0.8s
FSA Cafayete 7.85 146⇓ *e*P Pn 05 19 07.1 +7.6
AHML Horco Molle 8.74 146 *e*P Pn 05 19 19.6 +8.1
LCO Las Campanas 9.35 179 *e*Pn **Pn 05 19 21.7 +1.7**
NNA Nana 9.54 322 P **Pn 05 19 24.7 +2.1**
comp=Z,1.1nm,0.3s,baz=142,slow=15,SNR=3.4
NNA S **Sn 05 21 04.5 -4.7**
comp=Z,0.6nm,0.3s,baz=260,slow=15,SNR=2.4
NNA LR LR 05 23 23.5
comp=Z,269nm,19.5s,baz=173,slow=39
SIV San Ignacio 9.97 70 P **Pn 05 19 27.2 -1.2**
comp=Z,4.1nm,0.3s,baz=282,slow=10,SNR=30
SIV LR LR 05 23 52.7
comp=Z,1μm,19.0s,baz=262,slow=42
SIV San Ignacio 9.97 70 *e*P **Pn 05 19 27.1 -1.3**
AGUA GUANDACOL 10.05 168 *e*P **Pn 05 19 30.1 +0.7**
SAML Samuel 12.94 36 *e*Pn **Pn 05 20 09.8 +0.8**
CPUP Villa Florida 14.11 121 P **Pn 05 20 24.7 -0.2**
comp=Z,0.3nm,0.3s,baz=309,slow=12,SNR=19
CPUP Villa Florida 14.11 121 *e*Pn **Pn 05 20 26.5 +1.6**
TRQA Tornquist 19.92 159 *e*P **P 05 21 37.0 +0.6**
comp=Z,18nm,0.8s
PLCA Paso Flores 21.04 179 P **P 05 21 48.1 -0.6**
comp=Z,3.0nm,0.9s,baz=29,slow=10,SNR=3.8
PLCA LR LR 05 29 19.3
comp=Z,173nm,18.5s,baz=348,slow=34
PLCA Paso Flores 21.04 179 *e*P **P 05 21 51.0 +2.3**
comp=Z,22nm,1.3s
CMBC Cumbal 21.56 341 *e*P P 05 22 03.9 +9.1
PTGA Pitinga 21.58 31 P **P 05 21 52.2 -2.4**
comp=Z,26nm,0.5s,baz=212,slow=11,SNR=89
PTGA Pitinga 21.58 31 *e*P **P 05 21 52.2 -2.4**
comp=Z,58nm,1.2s
CRUC La Cruz 21.90 343 *e*P **P 05 22 02.6 +4.2**
POPC Popayan, Colom 22.76 345 *e*P **P 05 22 07.9 +0.4**
PRAC Prado 23.53 350 *e*P **P 05 22 16.7 +1.6**
comp=Z,13nm,0.9s
CHIC Chingaza 24.27 353 *e*P **P 05 22 23.1 +0.6**
ROSC El Rosal 24.55 352 P **P 05 22 25.9 +0.9**
comp=Z,7.2nm,0.5s,baz=111,slow=11,SNR=11
ROSC LR LR 05 32 51.5
comp=Z,241nm,20.0s,baz=198,slow=38
ROSC El Rosal 24.55 352 *e*P **P 05 22 25.8 +0.8**
GUYC Guyana, Colomb 25.09 349 *e*P **P 05 22 31.1 +1.1**
NORC Norcasia 25.34 351 *e*P **P 05 22 31.3 -0.5**
RUSC La Rusia 25.45 355 *e*P **P 05 22 32.8 -0.5**
RUSC La Rusia 25.45 355 *e*P **P 05 22 33.4 +0.1**
comp=Z,17nm,1.1s
HELC Santa Helena 26.07 349 *e*P **P 05 22 38.8 +0.1**
HELC Santa Helena 26.07 349 *e*P **P 05 22 38.9 +0.2**
comp=Z,38nm,0.7s
BARC Barichara 26.15 355 *e*P **P 05 22 37.8 -1.6**
MOTC Monteria, Cord 28.62 350 *e*P **P 05 23 01.2 0.0**
SJCC San Jacinto, C 29.64 351 *e*P **P 05 23 09.2 -1.2**
PCRV Puerto La Cruz 30.23 12 LR LR 05 36 42.1
comp=Z,499nm,18.8s,slow=39
WLAR White Oak Lake 57.11 338 *e*P **P 05 26 52.1 +1.1**
comp=Z,18nm,0.8s
WVT Waverly 57.74 344 *e*P **P 05 26 54.3 -1.1**
comp=Z,5.2nm,0.6s
TXAR Lajitas Array 58.07 326 P **P 05 26 58.6 +0.6**
comp=Z,0.6nm,0.8s,baz=144,slow=7.9,SNR=5.8
LTX Lajitas 58.07 326 *e*P **P 05 26 58.6 +0.6**
MNTX Cornudas Mount 60.84 326 *e*P **P 05 27 16.8 -0.3**
comp=Z,16nm,1.9s
SNAA Sanae 64.63 161 *e*P **P 05 27 42.7 +0.9**
comp=Z,4.8nm,0.7s
SDCO Great Sand Dun 65.73 330 *e*P **P 05 27 50.9 +1.2**
comp=Z,2.9nm,0.9s
SHPR Sheep Range 69.78 323 *e*P **P 05 28 16.4 +1.3**
comp=Z,3.3nm,1.1s
RPV Rancho Palos V 69.80 319 *e*P **P 05 28 17.1 +2.1**
DBIC Dimbokro 69.96 75 P **P 05 28 14.5 -1.9**
comp=Z,4.2nm,0.6s,baz=248,slow=3.8,SNR=7.8
DBIC LR LR 05 58 34.6
comp=Z,97nm,18.6s,baz=270,slow=36
DBIC Dimbokro 69.96 75 *e*P **P 05 28 14.4 -1.9**
comp=Z,32nm,1.7s
QSPA South Pole Qui 70.56 180 *e*P **P 05 28 21.3 +1.9**
comp=Z,24nm,1.8s
JLU Jordanelle 70.83 328 *e*P **P 05 28 23.4 +1.9**
comp=Z,5.5nm,1.2s
DUG Dugway, Tooele 71.21 327 *e*P **P 05 28 25.6 +1.9**
comp=Z,3.8nm,1.0s
PD31 Pinedale Array 71.60 331 *e*P **P 05 28 26.3 +0.3**
PDAR Pinedale Array 71.60 331 P **P 05 28 26.8 +0.8**
comp=Z,0.4nm,0.7s,baz=134,slow=6.4,SNR=4.5
HWUT Hardware Ranch 71.65 329 *e*P **P 05 28 27.4 +1.0**
comp=Z,27nm,2.0s
TPAW Teton Pass 72.80 331 *e*P **P 05 28 35.3 +2.0**
comp=Z,18nm,1.9s
YHH Holmes Hill 73.76 332 *e*P **P 05 28 41.6 +2.6**
comp=Z,8.3nm,1.3s
PAHR Pah Rah Range 74.40 323 *e*P **P 05 28 44.9 +2.3**
comp=Z,6.5nm,1.0s
HLID Hailey 74.51 329 *e*P **P 05 28 45.3 +2.1**
comp=Z,5.8nm,1.1s
MFID Camas Ranch 75.10 328 *e*P **P 05 28 49.1 +2.6**
ORV Oroville 75.51 322 *e*P **P 05 28 51.3 +2.4**
comp=Z,4.5nm,1.0s
TOA1 Torodi Ar. Sit 78.44 72 *e*P **P 05 29 04.0 -1.9**
TOA0 Torodi Ar. Sit 78.45 72 *e*P **P 05 29 04.1 -1.8**
TORD Torodi Ar. Bea 78.45 72 P **P 05 29 04.0 -1.9**
comp=Z,8.8nm,0.7s,baz=252,slow=5.0,SNR=50
TORD LR LR 06 01 45.7
comp=Z,110nm,21.4s,baz=320,slow=34
SYO Syowa Base 78.88 160⇑ *e*P **P 05 29 07.0 -0.3**
SYO Syowa Base 78.88 160⇑ *e*pP pP 05 29 19.6 +4.3
EDM Edmonton 81.31 336 *e*P **P 05 29 20.4 -0.2**
comp=Z,60nm,1.9s
PCBR Castelo Branco 83.54 44 *e*P **P 05 29 32.6 +0.1**
PCAB Cabril 84.19 42 *e*P **P 05 29 35.9 +0.1**
MVO Moncorvo 84.53 43 *e*P **P 05 29 37.9 +0.2**
PBRG Braganca 85.05 42 *e*P **P 05 29 40.3 +0.1**
PAB San Pablo 85.46 45 *e*P **P 05 29 42.1 -0.3**
comp=Z,6.1nm,1.0s
TAM Tamanrasset 85.60 64 *e*P **P 05 29 43.5 -0.1**
comp=Z,3.7nm,1.0s
ESDC Sonseca Array 85.78 45 P **P 05 29 43.5 -0.4**
comp=Z,1.2nm,0.8s,baz=254,slow=5.2,SNR=8.9
ESDC LR LR 06 04 29.6
comp=Z,57nm,19.4s,baz=280,slow=33
ES19 SONSECA Array 85.84 45 *e*P **P 05 29 44.0 -0.2**
BOSA Boshof 85.92 119 LR LR 06 05 21.7
comp=Z,124nm,18.8s,baz=204,slow=34
MAW Mawson 86.63 164 P **P 05 29 48.6 +1.0**
comp=Z,2.3nm,0.9s,baz=211,slow=11,SNR=4.9
MAW Mawson 86.63 164 *e*P **P 05 29 48.6 +1.0**
comp=Z,1.4nm,1.3s
YKA Yellowknife Ar 88.83 341 P **P 05 29 57.8 -0.2**
comp=Z,3.2nm,0.7s,baz=139,slow=4.8,SNR=6.6
H11S2 WAKE ISLAND Hyl 25.83 279 T T 07 55 18.3
baz=100,slow=74,SNR=117
H11S1 WAKE ISLAND Hyl 25.84 279 T T 07 55 18.9
baz=100,slow=74,SNR=139
H11S3 WAKE ISLAND Hyl 25.85 279 T T 07 55 18.7
baz=100,slow=74,SNR=122
H11N3 WAKE ISLAND Hyl 25.87 281 T T 07 55 16.0
baz=100,slow=74,SNR=42
H11N2 WAKE ISLAND Hyl 25.89 281 T T 07 55 18.4
baz=100,slow=74,SNR=49
H11N1 WAKE ISLAND Hyl 25.89 281 T T 07 55 17.2
baz=100,slow=74,SNR=33
ASAR Alice Springs 130.67 210 PKP **PKPdf 05 36 16.4 +0.1**
comp=Z,0.8nm,0.5s,baz=130,slow=1.8,SNR=9.7
WB2 Warramunga Arr 133.58 214 *e*PKPdf **PKPdf 05 36 22.1 +0.2**
WR1 Warramunga Arr 133.58 214 *e*PKPdf **PKPdf 05 36 22.3 +0.4**
WRA Warramunga Arr 133.58 214 PKP **PKPdf 05 36 22.3 +0.4**
comp=Z,1.5nm,0.7s,baz=158,slow=1.7,SNR=18
ZAA1 Zalesovo Array 140.97 23 *e*PKPdf **PKPdf 05 36 33.0 -1.4**
ZALV Zalesovo Beam 140.98 23 PKP **PKPdf 05 36 33.0 -1.4**
comp=Z,1.2nm,0.3s,baz=236,slow=1.6,SNR=5.1
MK32 Makanchi Array 145.11 33 *e*PKPbc **PKPbc 05 36 41.3 -0.1**
MKAR Makanchi Array 145.11 33 PKP **PKPbc 05 36 41.3 -0.1**
comp=Z,6.9nm,0.8s,baz=323,slow=3.2,SNR=29
KSH Kashi 145.26 48 *e*PKPbc **PKPdf 05 36 42.7 +0.1**
KSH pPKP sPKPab 05 36 52.4 -1.0
KSH sPKP 05 36 56.4
KSH PP **PP 05 40 03.8 +2.0**
KSH PKS **PKSdf 05 40 16.4 -1.8**
KSH SKS **SKSdf 05 43 46.7 -3.7**
KLR Kul'dur 145.35 334 PKPbc **PKPdf 05 36 42.2 0.0**
comp=Z,0.1nm,0.5s,baz=42,slow=4.6,SNR=5.5
SONA0 Songino Array 151.77 4 *e*PKPbc **PKPbc 05 36 59.7 +0.4**
SONM Songino Array 151.77 4 PKPbc **PKPbc 05 36 59.7 +0.4**
comp=Z,1.8nm,0.8s,baz=253,slow=1.5,SNR=7.6

*SJA **03** 05:52:46.7±1.1, 32°.26S×71°.71W, h9km±125km, ML3.1, MW3.3*
*GUC **03** 05:52:46.9±0.4, 32°.10S×71°.46W, h53km±6km, ML3.3*
ISC 03 05:52:47.5±3.3, 32°.39S±0°.07×71°.7W±0°.1, h4km±14km, n12, σ1§06/17, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.82**	**135**	*e*P	**Pg**	**05 53 04.6**	**+1.3**
ROC1				*e*S	**Sb**	**05 53 18.0**	**+1.9**
ROCH	**El Roble**	**0.82**	**135**	IAML		05 53 18.6	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.14**	**131**⇓	*i*P	**Pn**	**05 53 09.4**	**-0.9**
PEL				*i* S	**Sb**	**05 53 26.1**	**+1.0**
PEL				IAML		05 53 27.6	
	comp=N,953nm,0.3s						
CLCH	**Cerro Calan**	**1.41**	**136**	*e*P	**Pn**	**05 53 13.2**	**-0.7**
CLCH				*i* S	**Sn**	**05 53 33.4**	**+0.4**
CLCH				IAML		05 53 35.4	
	comp=N,496nm,0.5s						
FSR	**Penalolen**	**1.47**	**138**⇑	*i*P	**Pn**	**05 53 14.2**	**-0.6**
FCH	**Farellones**	**1.52**	**128**	*e*P	**Pn**	**05 53 14.8**	**-0.9**
FCH				*i* S	**Sn**	**05 53 36.2**	**+0.1**
FCH				IAML		05 53 37.1	
	comp=E,397nm,0.2s						
AUSP	**Uspallata**	**1.98**	**86**	*e*P	**Pb**	**05 53 23.0**	**-1.2**
AUSP				*e*S	**Sg**	**05 53 50.0**	**-1.0**
TLL	**Tololo Astrono**	**2.35**	**20**	IAML		05 54 02.1	
	comp=N,239nm,0.3s						
ARCO	**CERRO ARCO**	**2.39**	**102**	*e*P	**Pb**	**05 53 30.0**	**-1.2**
ARCO				IAML		05 54 07.0	
	comp=Z,58nm,0.4s						
ASAL	**Salagasta**	**2.44**	**95**⇓	*e*P	**Pb**	**05 53 30.8**	**-1.1**
ASAL				*e*S	**Sg**	**05 54 05.3**	**-0.5**
AMOG	**MOGNA**	**3.10**	**63**	*e*P	**Pn**	**05 53 37.7**	**+0.4**
AMOG				*e*S	**Sg**	**05 54 26.9**	**-0.2**
AVFE	**Valle Fertil**	**4.02**	**66**	*e*P	**Pn**	**05 53 50.5**	**+0.6**
AVFE				IAML		05 54 56.6	
	comp=Z,37nm,0.7s						

MAN 03 05:55:53, 13°.65N×125°.24E, h42km, mb4.3, ML3.1, MS2.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.05**	**267**	*e*P	Pn	05 56 11.5	+0.2
PVCP				*e*S	Sn	05 56 26.3	+1.4
GQP	**Guinayangan**	**2.73**	**276**⇓	*e*P	Pn	05 56 36.1	+1.8

IDC 03 06:24:28.3±351.0, 51°.19N×116°.19E, h0km, Error ellipse: s-maj=220.9km s-min=120.5km az=3.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**12.71**	**117**	*i*		07 44 20.0	
	baz=308,slow=319,SNR=5.6						
I46RU	**ZALESOVO INFRA**	**19.18**	**291**	*i*		08 25 25.1	
	baz=86,slow=320,SNR=1.5						
I44RU	**PETROPAVLOVSK**	**25.30**	**69**	*i*		08 58 50.0	
	baz=286,slow=326,SNR=0.9						

MEX 03 06:24:30.1±0.5, 14°.28N×92°.52W, h14km±972km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.02**	**10**	*e*P	Pn	06 25 01.6	-2.4
CCIG				*e*S	Sn	06 25 29.0	-0.2
TGIG		**2.55**	**347**	*e*P	Pb	06 25 15.5	-0.3

*IDC **03** 06:36:15.9±0.6, 4°.97S×129°.83E, h0km, mb4.4/10, mb1 4.6/13, mb1mx4.3/39, mbtmp4.5/13, ML2.9/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/30, Error ellipse: s-maj=29.0km s-min=13.2km az=71.0*
*ISCJB **03** 06:36:17.4±0.8, 4°.95S±0°.03×130°.00E±0°.04, h24km±6km, mb4.5/24, MS3.4/4, Error ellipse: s-maj=6.8km s-min=3.8km az=160.4*
*NEIC **03** 06:36:17.1±0.4, 4°.94S×129°.92E, h10km, mb4.6/16, Error ellipse: s-maj=11.7km s-min=6.8km az=70.0*
*DJA **03** 06:36:18.0±0.4, 5°.S±2°.×13°.0E±°, h11km±2km, M4.7/12, mb4.7/12, mB5.4/3, MLv4.6/10, Mw(mB)4.8/3*
ISC 03 06:36:18.3±1.2, 4°.90S±0°.04×130°.01E±0°.05, h15km±8km, n88, σ1§73/92, mb4.5/24, MS3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.39**	**344**	P	**Pg**	**06 36 26.6**	**+0.3**
BNDI				S	**Sg**	**06 36 32.5**	**+0.8**
MSAI	**Masohi**	**1.89**	**325**	P	**Pn**	**06 36 48.9**	**-1.0**
MSAI				S	**Sn**	**06 37 12.7**	**-0.7**
AAI	**Ambon**	**2.18**	**304**	P	**Pn**	**06 36 51.4**	**-2.6**
AAI				S	**Sg**	**06 37 27.1**	**-1.3**
FAKI	**Fak Fak**	**2.97**	**49**	P	**Pn**	**06 37 06.4**	**+1.4**
FAKI				S	**Sn**	**06 37 39.7**	**-0.6**
FAKI	**Fak Fak**	**2.97**	**49**	*e*Pn	**Pn**	**06 37 06.3**	**+1.4**
FAKI				*e*Sn	**Sn**	**06 37 42.6**	**+2.3**
SAUI	**Saumlaki**	**3.32**	**157**	P	**Pn**	**06 37 12.8**	**+3.1**
SAUI				S	**Sb**	**06 37 56.3**	**-0.8**
SAUI	**Saumlaki**	**3.32**	**157**	*e*Pn	**Pn**	**06 37 11.1**	**+1.4**
SAUI				*e*Sn	**Sn**	**06 37 52.1**	**+3.2**
NLAI	**Namlea**	**3.34**	**299**	P	**Pn**	**06 37 12.5**	**+2.5**
SIJI	**Sorong**	**4.20**	**17**	Pn	**Pn**	**06 37 22.5**	**+0.8**
	304nm,0.3s,baz=219,slow=14,SNR=31						
SIJI				Sn	**Sn**	**06 38 10.0**	**-0.5**
	247nm,0.3s,baz=34,slow=18,SNR=6.6						
SIJI				LR	LR	06 39 36.4	
	comp=Z,3μm,18.6s,baz=304,slow=46						
SANI	**Sanana**	**4.92**	**305**	P	**Pn**	**06 37 31.6**	**0.0**
SANI				S	**Sn**	**06 38 31.0**	**+2.7**
LBMI	**Labuha**	**4.92**	**329**	P	**Pn**	**06 37 33.7**	**+2.0**
LBMI				S	**Sn**	**06 38 28.9**	**+0.5**
SOEI	**Soe**	**7.47**	**229**	P	**Pn**	**06 38 08.1**	**+1.3**
	84nm,1.2s,0.3nm						
SOEI	**Soe**	**7.47**	**229**	*e*Pn	**Pn**	**06 38 06.8**	**0.0**
MTN	**Manton Dam**	**7.97**	**172**	P	**Pn**	**06 38 14.9**	**+1.3**
	baz=8.0,SNR=7.5						
MTN	**Manton Dam**	**7.97**	**172**	*e*Pn	**Pn**	**06 38 14.7**	**+1.1**
MTN				*e*Sn	**Sn**	**06 39 42.5**	**-1.0**
KDU	**Kakadu**	**8.11**	**163**	P	**Pn**	**06 38 14.9**	**-0.6**
	baz=8.1,SNR=12						
MMRI	**Maumere**	**8.57**	**244**	P	Pn	06 38 36.9	+15
MRSI	**Marisa**	**9.67**	**303**	P	**Pn**	**06 38 38.5**	**+1.5**
	50nm,0.7s,5μm						
KNRA	**Kununurra**	**10.78**	**186**	P	**Pn**	**06 38 50.8**	**-1.4**
	baz=11,SNR=20						
PLAI	**Plampang**	**12.76**	**252**	P	**Pn**	**06 39 20.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**13.80**	**198**	Pn	**Pn**	**06 39 29.6**	**-3.8**
FITZ				Sn	Sn	06 41 56.4	-10
	0.7nm,0.3s,baz=170,slow=19,SNR=2.4						
BBKI	**Banjar Baru**	**15.20**	**275**	P	P	06 40 11.8	+14
WRAB	**Tennant Creek**	**15.53**	**165**	*e*Pn	**Pn**	**06 39 52.0**	**-4.9**
	17nm,0.6s						
WRAB				*e*Sn	Sn	06 42 37.2	-11
WR1	**Warramunga Arr**	**15.53**	**165**	*e*Pn	**Pn**	**06 39 51.4**	**-5.5**
	15nm,0.6s						
WR1				*e*Sn	Sn	06 42 37.1	-12
WRA	**Warramunga Arr**	**15.53**	**165**	Pn	**Pn**	**06 39 51.4**	**-5.5**
	1.8nm,0.3s,baz=352,slow=13,SNR=48						
WRA				Sn	Sn	06 42 37.2	-12
	0.7nm,0.3s,baz=344,slow=21,SNR=6.4						
WRA				LR	LR	06 45 52.3	
	comp=Z,107nm,20.1s,baz=305,slow=37						
WB2	**Warramunga Arr**	**15.54**	**165**	*e*Pn	**Pn**	**06 39 51.4**	**-5.6**
COEN	**Coen**	**15.79**	**126**	P	**Pn**	**06 39 57.7**	**-2.4**
	baz=16,SNR=21						
COEN	**Coen**	**15.79**	**126**	*e*Pn	**Pn**	**06 39 57.8**	**-2.4**
	82nm,1.4s						
PMG	**Port Moresby**	**17.59**	**106**	P	**P**	**06 40 23.9**	**0.0**
	1.4nm,0.3s,baz=327,slow=8.7,SNR=6.8						
PMG				LR	LR	06 49 50.1	
	comp=Z,155nm,19.9s,baz=300,slow=46						
PMG	**Port Moresby**	**17.59**	**106**	*e*Pn	**P**	**06 40 24.4**	**+0.4**
	41nm,1.1s						
QIS	**Mount Isa**	**18.14**	**150**	P	**Pn**	**06 40 28.3**	**-1.5**
	baz=18,SNR=21						
PWJI	**Pagerwojo**	**18.36**	**259**	P	Pn	06 40 46.5	+14
AS31	**Alice Springs**	**19.03**	**169**	*e*P	**P**	**06 40 39.3**	**-0.5**
	27nm,0.4s						
ASAR	**Alice Springs**	**19.03**	**169**	P	**P**	**06 40 38.4**	**-1.4**
	6.9nm,0.3s,baz=349,slow=9.3,SNR=133						
ASAR				S	Sn	06 44 02.6	-11
	baz=353,slow=25,SNR=4.6						
ASAR				LR	LR	06 49 25.9	
	comp=Z,113nm,19.0s,baz=341,slow=42						
AS01	**Alice Springs**	**19.04**	**169**	*e*P	**P**	**06 40 39.3**	**-0.7**
MTSU	**Mount Surprise**	**19.20**	**134**	P	**Pn**	**06 40 43.0**	**+0.3**
	baz=19,SNR=76						
WRKA	**Warakurna**	**20.09**	**185**	P	**P**	**06 40 51.8**	**+0.4**
	baz=20,SNR=15						
CTA	**Charters Tower**	**21.86**	**135**	P	**P**	**06 41 12.3**	**+1.7**
	14nm,0.7s,baz=314,slow=13,SNR=17						
CTAO	**Charters Tower**	**21.86**	**135**	*e*P	**P**	**06 41 12.2**	**+1.7**
	19nm,0.8s						
QLP	**Quilpie**	**25.49**	**149**	P	**P**	**06 41 46.6**	**+0.6**
	baz=26,SNR=19						
FORT	**Forrest**	**25.81**	**184**	*e*P	**P**	**06 41 48.8**	**-0.1**
	271nm,0.8s						
KMBL	**Kambalda**	**27.41**	**195**	P	**P**	**06 42 03.3**	**-0.2**
	baz=28,SNR=6.8						
BBOO	**Buckleboo**	**28.34**	**169**	P	**P**	**06 42 11.4**	**-0.2**
	baz=28,SNR=11						
BBOO	**Buckleboo**	**28.34**	**169**	*e*P	**P**	**06 42 11.3**	**-0.4**
	53nm,1.6s						
STKA	**Stephens Creek**	**28.95**	**159**	P	**P**	**06 42 17.2**	**+0.2**
	13nm,0.5s,baz=340,slow=8.7,SNR=54						
STKA				LR	LR	06 53 53.9	
	comp=Z,74nm,19.4s,baz=252,slow=36						
STKA	**Stephens Creek**	**28.95**	**159**	P	**P**	**06 42 17.3**	**+0.2**
	baz=29,SNR=38						
STKA	**Stephens Creek**	**28.95**	**159**	*e*P	**P**	**06 42 17.3**	**+0.2**
	3.7nm,1.0s						
HTT	**Hallett**	**29.57**	**165**	P	**P**	**06 42 22.9**	**+0.2**
	baz=30,SNR=5.7						
CMSA	**Cobar Meteorol**	**30.31**	**153**	P	**P**	**06 42 29.5**	**+0.3**
	baz=30,SNR=20						
ARPS	**Mount Arapiles**	**33.52**	**163**	P	**P**	**06 42 58.4**	**+1.1**
	baz=34,SNR=8.9						
TOO	**Toolangi**	**35.46**	**159**	P	**P**	**06 43 15.9**	**+1.8**
	baz=36,SNR=9.6						
NJ2	**Nanjing**	**38.25**	**345**	*e*P	**P**	**06 43 38.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,18nm,0.8s						
CM31	**Chiang Mai Arr**	**38.43**	**308**	*e*P	**P**	**06 43 39.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.43**	**308**	P	**P**	**06 43 39.5**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=142,slow=8.0,SNR=8.3						
CMAR				LR	LR	07 00 46.0	
	comp=Z,51nm,19.6s,baz=110,slow=38						
MJAR	**Matsushiro Arr**	**41.93**	**10**	P	**P**	**06 44 09.3**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=188,slow=9.4,SNR=4.0						
LZH	**Lanzhou**	**47.58**	**331**	*e*P	**P**	06 44 59.8	+6.1
LZH				pP	sP	06 45 16.8	+16
LZH				sP	pP	06 45 22.2	+24
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC	**Hu-ho-hao-te**	**48.57**	**341**	*e*P	**P**	**06 45 04.0**	**+2.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,8.6s						
GTA	**Gaotai**	**52.16**	**330**	*e*P	**P**	**06 45 31.3**	**+2.9**
GTA				pP	sP	06 45 46.0	+11
GTA				sP	pP	06 45 53.4	+20
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**56.29**	**342**	*e*P	**P**	**06 45 57.8**	**-0.6**
	comp=Z,4.9nm,1.0s						
SONA0	**Songino Array**	**56.47**	**341**	*e*P	**P**	**06 46 00.4**	**+0.8**
	comp=Z,8.6nm,1.3s						
SONM	**Songino Array**	**56.47**	**341**	P	**P**	**06 46 00.4**	**+0.8**
	comp=Z,2.6nm,1.1s,baz=167,slow=7.9,SNR=8.0						
SONA1	**Songino Array**	**56.48**	**341**	*e*P	**P**	**06 45 59.5**	**-0.2**
WMQ	**Urumqi**	**61.66**	**326**	P	**P**	**06 46 36.3**	**+0.6**
WMQ				pP	sP	06 46 52.9	+10
WMQ				sP	PcP	06 47 01.6	-15
WMQ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,82nm,3.8s						
PETK	**Petropavlovsk-**	**62.34**	**18**	LR	LR	07 13 42.9	
	comp=Z,24nm,19.9s,baz=81,slow=36						
MK01	**Makanchi Array**	**66.47**	**326**	*e*P	**P**	**06 47 06.7**	**-0.5**
MK31	**Makanchi Array**	**66.49**	**326**	*e*P	**P**	**06 47 07.0**	**-0.4**
MK32	**Makanchi Array**	**66.49**	**326**	*e*P	**P**	**06 47 06.8**	**-0.5**
MKAR	**Makanchi Array**	**66.49**	**326**	P	**P**	**06 47 06.8**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=126,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**66.49**	**326**	*e*P	**P**	**06 47 07.0**	**-0.4**
	comp=Z,28nm,0.9s						
KSH	**Kashi**	**66.50**	**317**	*e*P	P	06 47 16.1	+8.5
KSH				p

PLCA	**Paso Flores**	**130.83 159**	PKP	**PKPdf**	**06 55 30.3**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=259,slow=2.2,SNR=4.9					
CPUP	**Villa Florida**	**148.15 167**	PKPbc	**PKPbc**	**06 56 03.9**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=198,slow=2.7,SNR=21					
LPAZ	**La Paz**	**152.33 140**	PKPbc	**PKPbc**	**06 56 15.6**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=356,slow=2.4,SNR=29					

SJA 03 06:46:08.7±0.8, 26°.69S×65°.20W, h28km±2km, ML3.2, MW3.8, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**0.16**	**232**	*i* P	Pb	06 46 14.5	+0.1
AHML				IAML		06 46 19.0	
	comp=Z,3μm,0.2s						
AHML				*i* S	Sb	06 46 19.1	+0.8
FSA	**Cafayete**	**0.91**	**309**	*i* P	Pb	06 46 27.3	+1.3
FSA				*i* S	Sn	06 46 40.1	+2.1
FSA				IAML		06 46 40.7	
	comp=Z,761nm,0.4s						
CYA	**Choya**	**1.83**	**197**	*i* P	Pb	06 46 40.0	-1.5
CYA				*i* S	Sb	06 47 04.2	+0.1
CYA				IAML		06 47 06.8	
	comp=Z,217nm,0.4s						
VCA	**Vinchina**	**3.36**	**232**	*i* P	Pn	06 47 02.0	+2.6

*IDC **03** 06:51:42.9±1.1, 34°.95N×141°.43E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/42, mbtmp3.7/6, ML3.3/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/36, Error ellipse: s-maj=35.5km s-min=22.2km az=74.0*
*JMA **03** 06:51:43.5±0.4, 35°.03N×141°.41E, h51km±5km, M3.3*
*ISCJB **03** 06:51:46.1±0.8, 35°.00N±0°.05×141°.19E±0°.08, h35km, mb3.8/5, MS3.7/1, Error ellipse: s-maj=9.8km s-min=7.7km az=170.3*
ISC 03 06:51:47.6±1.1, 35°.00N±0°.06×141°.20E±0°.09, h35km, n21, σ1§78/16, mb3.9/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.39**	**207**	P	**Pn**	**06 51 55.0**	**-1.2**
BSO1				X		06 52 04.1	
BSO3	**Boso 3**	**0.60**	**251**	P	**Pn**	**06 51 58.7**	**-0.7**
BSO3				*e*X		06 52 09.0	
BSO4	**Boso 4**	**0.70**	**269**	P	**Pn**	**06 52 00.0**	**-1.0**
KTR	**Katsuura**	**0.74**	**282**	P	**Pn**	**06 52 00.0**	**-1.5**
CHOJ	**Chosi**	**0.75**	**339**	P	**Pn**	**06 51 58.6**	**-3.1**
CHOJ				*e*S	**Sn**	**06 52 10.3**	**-1.6**
JIM2	**Oshima 3**	**1.48**	**259**	P	**Pn**	**06 52 09.8**	**-1.9**
JIM2				*e*S	**Sn**	**06 52 27.9**	**-2.0**
MJAR	**Matsushiro Arr**	**2.87**	**303**	Pn	**Pn**	**06 52 32.7**	**+1.8**
	3.7nm,0.3s,baz=98,slow=13,SNR=17						
MJAR				LR	LR	06 53 17.1	
	comp=Z,39nm,19.3s,baz=120,slow=31						
MAT	**Matsushiro**	**2.88**	**303**	P	**Pn**	**06 52 32.8**	**+1.8**
MAT				S	**Sn**	**06 53 03.5**	**-0.8**
KSRS	**Korea Array**	**11.00**	**287**	LR	LR	06 58 39.8	
	comp=Z,102nm,18.4s,baz=101,slow=37						
H11N2	**WAKE ISLAND Hy 27.32**	**117**		T	T	07 26 00.6	
	baz=310,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy 27.33**	**117**		T	T	07 26 00.6	
	baz=310,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy 27.34**	**117**		T	T	07 26 02.3	
	baz=310,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy 27.96**	**119**		T	T	07 26 59.3	
	baz=312,slow=75,SNR=73						
H11S3	**WAKE ISLAND Hy 27.96**	**119**		T	T	07 26 49.1	
	baz=312,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy 27.98**	**119**		T	T	07 26 50.8	
	baz=312,slow=75,SNR=35						
ZALV	**Zalesovo Beam**	**43.17**	**314**	P	**P**	**06 59 47.4**	**+2.7**
	1.0nm,0.4s,baz=101,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**45.07**	**304**	P	**P**	**07 00 00.3**	**+0.2**
	0.4nm,0.6s,baz=80,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**51.31**	**31**	P	**P**	**07 00 47.8**	**-0.1**
	0.4nm,0.9s,baz=262,slow=6.9,SNR=3.8						
WRA	**Warramunga Arr**	**55.03**	**188**	P	**P**	**07 01 15.6**	**-0.1**
	3.1nm,0.7s,baz=5.5,slow=7.4,SNR=38						
ASAR	**Alice Springs**	**58.76**	**188**	P	**P**	**07 01 43.4**	**+1.2**
	0.9nm,1.0s,baz=6.6,slow=8.9,SNR=4.5						
KBZ	**Khabaz**	**72.09**	**311**	LR	LR	07 35 32.4	
	comp=Z,40nm,18.6s,baz=204,slow=36						

*SFS **03** 07:12:17.0, 34°.23N×2°.62W, h0km, ML3.0*
*CNRM **03** 07:12:17.0, 34°.69N×2°.14W, h30km, MD3.4*
*INMG **03** 07:12:18.6±0.8, 34°.40N×2°.62W, h15km, ML2.4, Error ellipse: s-maj=4.0km s-min=3.1km az=11.0*
*MDD **03** 07:12:19.1±1.2, 34°.50N×2°.54W, h6km±9km, mb4.1/15, Error ellipse: s-maj=7.8km s-min=5.6km az=110.0, PRXIMO*
*CSEM **03** 07:12:20.2±0.2, 34°.56N×2°.64W, h20km, mb4.1, Error ellipse: s-maj=5.7km s-min=4.0km az=124.0*
ISC 03 07:12:18.2±2.1, 34°.55N±0°.03×2°.61W±0°.04, h14km±15km, n72, σ1§37/120, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELI	**Melilla**	**0.79**	**341**	P	**Pn**	**07 12 35.0**	**+0.1**
MELI				S	**Sn**	**07 12 48.3**	**+1.8**
MELI	**Melilla**	**0.79**	**341**	P	**Pn**	**07 12 35.0**	**+0.1**
MELI				*e*S	**Sn**	**07 12 48.3**	**+1.8**
EALB	**Alboran**	**1.43**	**346**	P	**Pb**	**07 12 44.4**	**-0.2**
	45nm,0.4s,SNR=9.6						
EALB				S	**Sg**	**07 13 05.4**	**+1.0**
	43nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.43**	**346**	P	**Pb**	**07 12 44.4**	**-0.2**
	45nm,0.4s,SNR=9.6						
EBER	**Berja**	**2.36**	**355**	P	**Pn**	**07 12 57.6**	**+1.0**
	6.8nm,0.4s,SNR=16						
EBER				S	**Sn**	**07 13 24.0**	**-1.4**
	49nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.36**	**355**	P	**Pn**	**07 12 57.6**	**+1.0**
	6.8nm,0.4s,SNR=16						
EBER				S	**Sn**	**07 13 24.0**	**-1.4**
	49nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.44**	**8**	P	**Pn**	**07 12 57.7**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**07 13 25.5**	**-1.8**
	31nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.44**	**8**	P	**Pn**	**07 12 57.7**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.52**	**234**	P	**Pb**	**07 13 02.0**	**-1.4**
CZD				S	**Sb**	**07 13 34.0**	**-0.5**
CZD	**Col de Zad**	**2.52**	**234**	*i* P	**Pb**	**07 13 02.0**	**-1.4**
EMIJ	**Mijas**	**2.67**	**319**	P	**Pn**	**07 13 00.9**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**07 13 32.2**	**-0.8**
	23nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.67**	**319**	P	**Pn**	**07 13 00.9**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**07 13 32.2**	**-0.8**
	23nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**2.73**	**346**	P	**Pn**	**07 13 03.2**	**+1.5**
	6.0nm,0.4s,SNR=6.2						
EQUE				S	**Sn**	**07 13 36.5**	**+1.8**
	8.9nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.73**	**346**	P	**Pn**	**07 13 03.2**	**+1.5**
	6.0nm,0.4s,SNR=6.2						
EQUE				S	**Sn**	**07 13 36.5**	**+1.8**
	8.9nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.83**	**335**	P	**Pn**	**07 13 05.4**	**+2.3**
	0.7nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**07 13 39.0**	**+1.9**
	2.6nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.83**	**335**	P	**Pn**	**07 13 05.4**	**+2.3**
	0.7nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**07 13 39.0**	**+1.9**
	2.6nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**2.90**	**211**	P	**Pn**	**07 13 06.0**	**+1.9**
ZFT				S	**Sn**	**07 13 39.0**	**+0.2**
ZFT	**Errachidia**	**2.90**	**211**	P	**Pn**	**07 13 06.0**	**+1.9**
ZFT				S	**Sn**	**07 13 39.0**	**+0.2**
OKGL	**Djebel Kef Gue**	**3.05**	**60**	P	**Pn**	**07 13 06.3**	**+0.3**
	15nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**07 13 41.0**	**-1.3**
	80nm,0.4s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.05**	**60**	P	**Pn**	**07 13 06.3**	**+0.3**
	15nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.27**	**354**	P	**Pn**	**07 13 11.8**	**+2.7**
	18nm,0.3s,SNR=80						
EQES				S	**Sb**	**07 13 51.9**	**-3.9**
	20nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.27**	**354**	P	**Pn**	**07 13 11.8**	**+2.7**
	18nm,0.3s,SNR=80						
CART	**Cartagena**	**3.30**	**23**	P	**Pn**	**07 13 10.3**	**+1.0**
CART	**Cartagena**	**3.30**	**23**	P	**Pn**	**07 13 10.4**	**+1.0**
EMUR	**La Murta**	**3.47**	**18**	P	**Pn**	**07 13 12.2**	**+0.4**
	17nm,0.4s,SNR=9.3						
EMUR				S	**Sn**	**07 13 53.9**	**+1.2**
	10nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.47**	**18**	P	**Pn**	**07 13 12.2**	**+0.4**
	17nm,0.4s,SNR=9.3						
EMUR				S	**Sn**	**07 13 53.9**	**+1.2**
	10nm,0.3s,SNR=7.9						
KIB	**El Ksiba**	**3.47**	**236**	P	**Pn**	**07 13 12.0**	**+0.2**
KIB				S	**Sn**	**07 13 56.0**	**+3.2**
KIB	**El Ksiba**	**3.47**	**236**	P	**Pn**	**07 13 12.0**	**+0.2**
KIB				*i* S	**Sn**	**07 13 56.0**	**+3.2**
SESP	**Santiago Espad**	**3.57**	**1**	⇑P	**Pn**	**07 13 15.7**	**+2.5**
	26nm,0.2s,SNR=18						
SESP				S	**Sn**	**07 13 57.5**	**+2.3**
	35nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.57**	**1**	P	**Pn**	**07 13 15.7**	**+2.5**
	26nm,0.2s,SNR=18						
SESP				S	**Sn**	**07 13 57.5**	**+2.3**
	35nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.94**	**337**	P	**Pn**	**07 13 21.1**	**+2.8**
	2.1nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**07 14 04.4**	**0.0**
	6.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.94**	**337**	P	**Pn**	**07 13 21.1**	**+2.8**
	2.1nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**07 14 04.4**	**0.0**
	6.8nm,0.3s,SNR=7.9						
TZC	**Tazercounte**	**4.03**	**235**	P	**Pn**	**07 13 20.0**	**+0.4**
TZC				S	**Sn**	**07 14 08.0**	**+1.2**
TZC	**Tazercounte**	**4.03**	**235**	P	**Pn**	**07 13 20.0**	**+0.4**
TZC				S	**Sn**	**07 14 08.0**	**+1.2**
ETOB	**Tobarra**	**4.18**	**12**	P	**Pn**	**07 13 23.1**	**+1.6**
	5.0nm,0.3s,SNR=30						
ETOB				S	**Sn**	**07 14 09.9**	**-0.3**
	8.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.18**	**12**	P	**Pn**	**07 13 23.1**	**+1.6**
	5.0nm,0.3s,SNR=30						
ETOB				S	**Sn**	**07 14 09.9**	**-0.3**
	8.5nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**4.19**	**328**	P	**Pn**	**07 13 23.9**	**+2.3**
	0.7nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**07 14 10.8**	**+0.5**
	6.9nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**4.19**	**328**	P	**Pn**	**07 13 23.9**	**+2.3**
	0.7nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**07 14 10.8**	**+0.5**
	6.9nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.59**	**316**	P	**Pn**	**07 13 27.7**	**+0.5**
	2.1nm,0.4s,SNR=8.7						
EMIN				S	**Sn**	**07 14 20.4**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.59**	**316**	P	**Pn**	**07 13 27.7**	**+0.5**
	2.1nm,0.4s,SNR=8.7						
EMIN				S	**Sn**	**07 14 20.4**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.94**	**308**	P	**Pn**	**07 13 32.2**	**+0.2**
	3.0nm,0.3s,SNR=9.9						
EGRO				S	**Sn**	**07 14 28.4**	**-0.6**
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.94**	**308**	P	**Pn**	**07 13 32.2**	**+0.2**
	3.0nm,0.3s,SNR=9.9						
EGRO				S	**Sn**	**07 14 28.4**	**-0.6**
	1.1nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.03**	**306**	*e*Pn	**Pn**	**07 13 33.5**	**+0.4**
PVAQ				*e*Sn	**Sn**	**07 14 30.7**	**-0.3**
PVAQ				A	A	07 14 34.2	
	2.7nm,0.3s						
PVAQ	**Vaqueiros**	**5.03**	**306**	P	**Pn**	**07 13 33.5**	**+0.4**
PVAQ				S	**Sn**	**07 14 30.7**	**-0.3**
	2.7nm,0.3s						
PVAQ	**Vaqueiros**	**5.03**	**306**	P	**Pn**	**07 13 33.5**	**+0.4**
PVAQ				S	**Sn**	**07 14 30.7**	**-0.3**
	2.7nm,0.3s						
PBAR	**Barrancos**	**5.08**	**317**	*e*Pn	**Pn**	**07 13 34.7**	**+0.8**
PBAR				*e*Sn	**Sn**	**07 14 32.6**	**+0.2**
PBAR				A	A	07 14 37.7	
	4.7nm,0.6s						
PBAR	**Barrancos**	**5.08**	**317**	P	**Pn**	**07 13 34.7**	**+0.8**
PBAR				S	**Sn**	**07 14 32.6**	**+0.2**
	4.7nm,0.6s						
PBAR	**Barrancos**	**5.08**	**317**	P	**Pn**	**07 13 34.7**	**+0.8**
PBAR				S	**Sn**	**07 14 32.6**	**+0.2**
	4.7nm,0.6s						
PBDV	**Barranco-do-Ve**	**5.09**	**303**	*e*Pn	**Pn**	**07 13 34.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**07 14 31.5**	**-1.0**
PBDV	**Barranco-do-Ve**	**5.09**	**303**	P	**Pn**	**07 13 34.6**	**+0.6**
PBDV				S	**Sn**	**07 14 31.5**	**-1.0**
PBDV	**Barranco-do-Ve**	**5.09**	**303**	P	**Pn**	**07 13 34.6**	**+0.6**
PBDV				S	**Sn**	**07 14 31.5**	**-1.0**
ESDC	**Sonseca Array**	**5.23**	**348**	P	**Pn**	**07 13 38.2**	**+2.2**
	1.0nm,0.3s,baz=172,slow=12,SNR=8.2						
ESDC	**Sonseca Array**	**5.23**	**348**	P	**Pn**	**07 13 38.2**	**+2.2**
	1.0nm,0.3s,SNR=8.2						
PCVE	**Castro Verde**	**5.36**	**307**	*e*Pn	**Pn**	**07 13 38.4**	**+0.6**
PCVE	**Castro Verde**	**5.36**	**307**	P	**Pn**	**07 13 38.4**	**+0.6**
PCVE	**Castro Verde**	**5.36**	**307**	P	**Pn**	**07 13 38.4**	**+0.6**
EIBI	**Ibiza**	**5.48**	**34**	P	**Pn**	**07 13 40.4**	**+1.0**
	4.7nm,0.3s,SNR=7.2						
EIBI	**Ibiza**	**5.48**	**34**	P	**Pn**	**07 13 40.4**	**+1.0**
	4.7nm,0.3s,SNR=7.2						
EBAD	**Badajoz**	**5.49**	**321**	P	**Pn**	**07 13 40.1**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**07 14 42.3**	**-0.1**
	3.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.49**	**321**	P	**Pn**	**07 13 40.1**	**+0.6**
	0.7nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**07 14 42.3**	**-0.1**
	3.6nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.78**	**303**	*e*Pn	**Pn**	**07 13 44.7**	**+1.2**
PTEO	**Sao Teotonio**	**5.78**	**303**	P	**Pn**	**07 13 44.7**	**+1.2**
PTEO	**Sao Teotonio**	**5.78**	**303**	P	**Pn**	**07 13 44.7**	**+1.2**
PNCL	**Nicolau / Gran**	**5.95**	**308**	*e*Pn	**Pn**	**07 13 46.5**	**+0.6**
PNCL				*e*Sn	**Sn**	**07 14 52.5**	**-1.3**
PNCL	**Nicolau / Gran**	**5.95**	**308**	*e*Pn	**Pn**	**07 13 46.5**	**+0.6**
PNCL				*e*Sn	**Sn**	**07 14 52.5**	**-1.3**
PMRV	**Marv??o**	**6.19**	**323**	*e*Pn	**Pn**	**07 13 50.7**	**+1.5**
PMRV	**Marv??o**	**6.19**	**323**	P	**Pn**	**07 13 50.7**	**+1.5**
PMRV	**Marv??o**	**6.19**	**323**	P	**Pn**	**07 13 50.7**	**+1.5**
ETOS	**Mallorca**	**6.78**	**38**	P	**Pn**	**07 13 58.3**	**+1.1**
	2.5nm,0.5s,SNR=8.4						
ETOS	**Mallorca**	**6.78**	**38**	P	**Pn**	**07 13 58.3**	**+1.1**
	2.5nm,0.5s,SNR=8.4						
ERTA	**Horta de San J**	**6.81**	**19**	P	**Pn**	**07 13 59.4**	**+1.7**
	3.7nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**6.81**	**19**	P	**Pn**	**07 13 59.4**	**+1.7**
	3.7nm,0.5s,SNR=7.9						

MEX 03 07:29:41.8±0.3, 16°.74N×99°.71W, h13km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**312**	*i* P	Pb	07 29 46.8	-0.4
ACX				*e*S	Sb	07 29 50.2	-0.6
ACP2	**Acapulco**	**0.21**	**308**	*e*P	Pg	07 29 45.9	-0.6
ACP2				*e*S	Sg	07 29 49.5	-0.2
CAIG	**El Cayaco**	**0.61**	**300**	*e*P	Pg	07 29 52.1	-1.6
CAIG				*e*S	Sg	07 30 00.4	-1.6
MEIG	**Mezcala**	**1.18**	**4**	*e*P	Pn	07 30 00.1	-4.0
MEIG				*e*S	Sb	07 30 14.8	-4.6
TLIG	**Tlapa**	**1.37**	**53**	*e*P	Pn	07 30 03.3	-3.4
TLIG				*e*S	Sn	07 30 19.8	-5.0
PNIG	**Pinotepa**	**1.56**	**103**	*e*P	Pn	07 30 05.7	-3.6
PNIG				*e*S	Sn	07 30 24.5	-4.9

*ISCJB **03** 07:55:10.5±0.9, 37°.55N±0°.05×144°.59E±0°.08, h33km, mb3.7/2, Error ellipse: s-maj=8.8km s-min=6.5km az=170.7*
*IDC **03** 07:55:11.6±10.0, 36°.70N×144°.53E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/49, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=230.7km s-min=46.5km az=30.0*
*JMA **03** 07:55:12.7±0.2, 37°.48N×144°.42E, h44km, M4.2*
ISC 03 07:55:11.3±1.5, 37°.49N±0°.06×144°.64E±0°.09, h35km, n26, σ1§26/28, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.78**	**291**	P	**Pn**	**07 55 53.9**	**+0.7**
JIO				*e*S	**Sn**	**07 56 24.5**	**-1.0**
OFUJ	**Ofunato**	**2.83**	**305**	P	**Pn**	**07 55 54.7**	**+0.7**
OFUJ				*e*S	**Sn**	**07 56 26.4**	**-0.4**
JFK	**Kawauchi**	**3.00**	**269**	P	**Pn**	**07 55 56.6**	**+0.2**
JFK				*e*S	**Sn**	**07 56 29.3**	**-1.9**
JMK	**Ichinoseki**	**3.07**	**300**	P	**Pn**	**07 55 58.2**	**+1.0**
JMK				*e*S	**Sn**	**07 56 31.8**	**-0.9**
JOU	**Okura**	**3.27**	**287**	P	**Pn**	**07 56 01.3**	**+1.3**
JOM	**Ohasama**	**3.29**	**308**	P	**Pn**	**07 56 01.5**	**+1.1**
JOM				*e*S	**Sn**	**07 56 37.8**	**-0.5**
JFT	**Otama**	**3.43**	**272**	P	**Pn**	**07 56 03.3**	**+1.1**
JFT				*e*S	**Sn**	**07 56 41.2**	**-0.4**
JYK	**Kaneyama**	**3.67**	**294**	P	**Pn**	**07 56 06.8**	**+1.3**
JRG	**Rokugo**	**3.68**	**302**	P	**Pn**	**07 56 07.2**	**+1.5**
JAH	**Hinai**	**4.13**	**312**	P	**Pn**	**07 56 13.6**	**+1.7**
JTM	**Tenmabayashi**	**4.31**	**321**	P	**Pn**	**07 56 15.9**	**+1.6**
JTM				*e*S	**Sn**	**07 57 01.7**	**-1.6**
JOT	**Ohata**	**4.78**	**326**	*e*S	**Sn**	**07 57 13.5**	**-1.5**
JRY	**Ryogami san**	**4.84**	**254**	P	**Pn**	**07 56 21.5**	**-0.1**
JOD2	**Odawara 2**	**5.00**	**245**	P	**Pn**	**07 56 23.8**	**-0.1**
JKB	**Kayabe**	**5.20**	**329**	*e*S	**Sn**	**07 57 23.4**	**-1.9**
JCH	**Churui**	**5.21**	**350**	P	**Pn**	**07 56 27.4**	**+0.7**
JCH				*e*S	**Sn**	**07 57 23.5**	**-2.1**
MJAR	**Matsushiro Arr**	**5.24**	**262**	Pn	**Pn**	**07 56 28.5**	**+1.4**
	1.7nm,0.3s,baz=89,slow=15,SNR=18						
MAT	**Matsushiro**	**5.24**	**262**	P	**Pn**	**07 56 28.7**	**+1.6**
H11N2	**WAKE ISLAND Hy 26.25**	**126**		T	T	08 27 55.0	
	baz=318,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy 26.26**	**126**		T	T	08 27 39.9	
	baz=318,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy 26.27**	**126**		T	T	08 27 53.7	
	baz=318,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy 27.03**	**128**		T	T	08 28 47.7	
	baz=319,SNR=3.6						
H11S3	**WAKE ISLAND Hy 27.03**	**128**		T	T	08 28 38.2	
	baz=319						
H11S2	**WAKE ISLAND Hy 27.04**	**128**		T	T	08 28 51.3	
	baz=319						
WRA	**Warramunga Arr**	**57.94**	**191**	P	**P**	**08 05 00.1**	**0.0**
	0.4nm,0.4s,baz=9.9,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**61.66**	**191**	P	**P**	**08 05 26.0**	**+0.3**
	0.4nm,0.7s,baz=9.5,slow=7.8,SNR=4.7						

WEL 03 08:01:58.5±0.3, 37°.04S×176°.33E, h223km±4km, ML3.6/12, 3C-2D, Error ellipse: s-maj=7.6km s-min=6.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.36**	**122**	PN	Pn	08 02 33.3	+0.2
HAZ				SN	S	08 03 00.3	+0.1
HAZ				AML	AML	08 03 05.5	
URZ	**Urewera**	**1.37**	**153**	PN	Pn	08 02 33.5	+0.3
URZ				SN	S	08 03 00.6	+0.2
RUGZ	**Raukumara Rang**	**1.42**	**131**	PN	Pn	08 02 33.2	-0.5
MWZ	**Matawai**	**1.61**	**144**	PN	Pn	08 02 35.4	+0.2
MWZ				*e*SN	S	08 03 03.2	-0.7
PKGZ	**Pakihiroa**	**1.63**	**122**	PN	Pn	08 02 35.7	+0.2
PKGZ				AML	AML	08 03 05.5	
PKGZ				AML	AML	08 03 06.9	
TWGZ	**Tauwhareparae**	**1.74**	**131**	PN	Pn	08 02 36.7	+0.4
TWGZ				AML	AML	08 03 09.1	
TWGZ				AML	AML	08 03 09.2	
WMGZ	**Waiomatatini S**	**1.84**	**116**	PN	Pn	08 02 37.3	+0.1
WMGZ				AML	AML	08 03 08.6	
WMGZ				AML	AML	08 03 08.7	
TKGZ	**Te Karaka**	**1.85**	**140**	*e*PN	Pn	08 02 37.1	-0.1
TKGZ				AML	AML	08 03 09.1	
TKGZ				AML	AML	08 03 11.3	
PUZ	**Puketiti**	**1.85**	**125**	PN	Pn	08 02 37.0	-0.3
SNGZ	**Shannon Statio**	**1.92**	**156**	PN	Pn	08 02 38.1	+0.1
SNGZ				AML	AML	08 03 13.8	
SNGZ				AML	AML	08 03 14.1	
RIGZ	**Rimuhau**	**2.02**	**146**	PN	Pn	08 02 38.8	-0.1
RIGZ				AML	AML	08 03 11.5	
RIGZ				AML	AML	08 03 12.6	
CNGZ	**Carnagh Statio**	**2.08**	**135**	PN	Pn	08 02 39.4	-0.1
NMHZ	**Naumai**	**2.09**	**170**	⇑PN	Pn	08 02 40.3	+0.6
NMHZ				AML	AML	08 03 15.4	
BKZ	**Black Stump Fm**	**2.13**	**177**	⇑PN	Pn	08 02 39.9	-0.2
BKZ				*e*SN	S	08 03 11.4	-1.2
WHHZ	**Waihua**	**2.16**	**161**	PN	Pn	08 02 39.9	-0.4
WHHZ				AML	AML	08 03 14.8	
WHHZ				AML	AML	08 03 15.2	
KNZ	**Kokohu**	**2.25**	**152**	⇑PN	Pn	08 02 40.2	-0.9
ARHZ	**Aropaoanui**	**2.29**	**167**	PN	Pn	08 02 41.4	-0.2
ARHZ				SN	S	08 03 14.0	-1.2
ARHZ				AML	AML	08 03 16.7	
KWHZ	**Kaweka Forest**	**2.39**	**178**	PN	Pn	08 02 42.5	-0.2
KWHZ				AML	AML	08 03 18.7	
KWHZ				AML	AML	08 03 19.8	
MCHZ	**McNeill Hill**

0.9nm,0.7s,baz=84,slow=2.9,SNR=7.0

*IDC **03** 08:47:54.6±1.2,32°.25N×45°.71E,h0km,mb3.8/8, mb1 3.8/11,mb1mx3.6/54,mbtmp3.8/11,ML3.3/3,MS2.7/2, Ms1 2.7/2,ms1mx2.2/38,Error ellipse: s-maj=26.8km s-min=18.9km az=2.0*

*ISCJB **03** 08:47:55.3±0.6,32°.30N±0°.06×45°.69E±0°.05,h10km, mb3.8/7,MS2.7/1,Error ellipse: s-maj=8.0km s-min=6.6km az=176.9*

*ISN **03** 08:47:58.5±0.3,32°.49N×45°.92E,h0km±1km,ML3.6*

*TEH **03** 08:48:00.2,32°.47N×45°.81E,h10km,ML3.5*

*CSEM **03** 08:48:00.2±0.2,32°.46N×45°.88E,h10km,ML3.6,Error ellipse: s-maj=5.5km s-min=3.9km az=34.0*

ISC 03 08:47:57.4±0.6,32°.38N±0°.04×45°.74E±0°.05,h10km,n33, σ1**92**/35,**mb3.9/7,Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.75**	**12**	*e*Pg	**Pg**	**08 48 12.5**	**+0.6**
	SNR=90						
IBDR				*e*Sg	**Sg**	**08 48 22.0**	**+0.2**
	SNR=9.0						
NSR	**Nassriya**	**1.40**	**166**	*e*Pn	**Pg**	**08 48 26.3**	**+1.9**
	SNR=3.0						
NSR				*i* Sn	**Sg**	**08 48 46.0**	**+3.4**
	SNR=3.0						
BHD	**Baghdad**	**1.45**	**308**	*e*Pn	**Pn**	**08 48 26.5**	**+2.8**
	SNR=39						
BHD				*i* Sn	**Sn**	**08 48 46.5**	**+3.7**
	SNR=3.0						
IGHG	**Ghaleghazi**	**2.07**	**19**	*e*Sg	**Sn**	**08 49 01.3**	**+2.8**
IGHG				*e*AMB	AMB	08 49 24.2	
	comp=Z,10μm,0.4s						
IGHG	**Ghaleghazi**	**2.07**	**19**	*e*Sg	**Sn**	**08 49 01.3**	**+2.8**
IKOM	**Komasi**	**2.33**	**39**	*e*Pn	**Pn**	**08 48 37.5**	**+1.5**
IKOM				*e*AMB	AMB	08 49 24.0	
	comp=Z,8μm,0.4s						
IKOM	**Komasi**	**2.33**	**39**	*e*Pn	**Pn**	**08 48 37.5**	**+1.5**
IVIS	**Veis**	**2.34**	**23**	*e*Pn	**Pn**	**08 48 37.5**	**+1.4**
IVIS				*e*AMB	AMB	08 49 25.7	
	comp=Z,3μm,0.4s						
IVIS	**Veis**	**2.34**	**23**	*e*Pn	**Pn**	**08 48 37.5**	**+1.4**
IPIR	**Pirpir**	**4.36**	**85**	*e*Pn	**Pn**	**08 49 04.8**	**+0.7**
IPIR				*e*AMB	AMB	08 50 47.9	
	comp=Z,338nm,0.4s						
IPIR	**Pirpir**	**4.36**	**85**	*e*Pn	**Pn**	**08 49 04.8**	**+0.7**
RTB	**Rutbah**	**4.63**	**280**	*e*Pn	Pn	08 49 12.5	+5.0
	SNR=3.0						
RTB				*i* Sn	**Sn**	**08 50 04.5**	**+3.2**
	SNR=3.0						
IKLH	**Kolahrood**	**5.00**	**78**	*e*Pn	**Pn**	**08 49 14.4**	**+1.6**
IKLH				*e*AMB	AMB	08 51 05.3	
	comp=Z,215nm,0.3s						
IKLH	**Kolahrood**	**5.00**	**78**	*e*Pn	**Pn**	**08 49 14.4**	**+1.6**
IZEF	**Zefreh**	**5.58**	**83**	*e*Pn	**Pn**	**08 49 21.8**	**+1.0**
IZEF				*e*AMB	AMB	08 50 13.9	
	comp=Z,103nm,0.3s						
IZEF	**Zefreh**	**5.58**	**83**	*e*Pn	**Pn**	**08 49 21.8**	**+1.0**
IVRN	**Varamin**	**5.63**	**61**	*e*Pn	**Pn**	**08 49 22.1**	**+0.8**
IVRN				*e*AMB	AMB	08 49 24.1	
	comp=Z,266nm,0.1s						
IVRN	**Varamin**	**5.63**	**61**	*e*Pn	**Pn**	**08 49 22.1**	**+0.8**
IRAM	**Ramesheh**	**5.66**	**94**	*e*Pn	**Pn**	**08 49 22.7**	**+0.8**
IRAM				*e*AMB	AMB	08 51 31.4	
	comp=Z,142nm,0.4s						
IRAM	**Ramesheh**	**5.66**	**94**	*e*Pn	**Pn**	**08 49 22.7**	**+0.8**
ASF	**Jabal al Asfar**	**7.49**	**271**	Pn	**Pn**	**08 49 45.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=100,slow=6.1,SNR=3.8						
ASF				Sn	**Sn**	**08 51 08.3**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=167,slow=18,SNR=2.5						
ASF				Lg	Lg	08 51 56.5	
	comp=Z,0.8nm,0.3s,baz=221,slow=22,SNR=7.3						
MMAI	**Mount Meron Ar**	**8.74**	**277**	Lg	Lg	08 52 35.7	
	comp=Z,0.9nm,0.3s,baz=95,slow=33,SNR=2.7						
KVAR	**Kislovodsk Arr**	**11.81**	**349**	LR	LR	08 56 26.5	
	comp=Z,22nm,21.4s,baz=266,slow=43						
BRTR	**Keskin Array B**	**12.23**	**310**	Pn	**Pn**	**08 50 53.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=3.5						
WSAR	**Wadi Sarin**	**14.58**	**125**	Pn	**Pn**	**08 51 20.6**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=317,slow=3.3,SNR=4.1						
AKTO	**Aktyubinsk**	**20.21**	**23**	P	**P**	**08 52 31.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=217,slow=5.1,SNR=2.9						
AKTO				LR	LR	09 02 01.9	
	comp=Z,35nm,19.2s,baz=325,slow=42						
AKASG	**Malin Array Be**	**22.00**	**331**	P	**P**	**08 52 52.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=140,slow=9.3,SNR=7.4						
KURBB	**Kurchatov Arra**	**30.24**	**43**	P	**P**	**08 54 08.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=251,slow=9.2,SNR=5.9						
HFS	**Hagfors**	**34.88**	**332**	P	**P**	**08 54 48.1**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=122,slow=12,SNR=20						
ZALV	**Zalesovo Beam**	**35.10**	**40**	P	**P**	**08 54 50.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=232,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**38.91**	**349**	P	**P**	**08 55 22.1**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=170,slow=8.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**44.53**	**255**	P	**P**	**08 56 07.5**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**49.55**	**93**	P	**P**	**08 56 47.7**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=291,slow=7.5,SNR=3.5						

*IDC **03** 08:57:43.7±0.4,5°.08S×152°.67E,h0km,mb5.0/30, mb1 5.1/31,mb1mx5.0/39,mbtmp5.0/31,ML4.0/1,MS4.5/27, Ms1 4.5/27,ms1mx4.5/30,Error ellipse: s-maj=16.1km s-min=10.2km az=92.0*

*ISCJB **03** 08:57:46.7±0.9,5°.09S±0°.03×152°.58E±0°.03,h33km±7km, mb5.3/167,MS4.7/43,Error ellipse: s-maj=4.6km s-min=4.2km az=162.8*

*BJI **03** 08:57:48.9,5°.20S×152°.60E,h57km,mb5.1/57,mB5.3/47, Ms5.1/39,Ms7 4.7/38*

*MOS **03** 08:57:48.6±1.0,4°.97S×152°.51E,h33km,mb5.5/36, MS4.9/7,Error ellipse: s-maj=10.6km s-min=7.1km az=87.2*

*NEIC **03** 08:57:51.2±0.5,5°.15S×152°.60E,h52km±4km,mb5.4/104, Error ellipse: s-maj=4.1km s-min=3.3km az=119.0*

*DJA **03** 08:57:51.0±0.6,5°.S±4°.×15°.3E±°.,h77km±5km,ML5.3/22, mb5.1/22,mB5.5/10,MLv5.8/1,Mw(mB)5.0/10,Mwp6.4/1*

*GCMT **03** 08:57:51.2±0.1,5°.33S×152°.59E,h31km,MW5.3/95, Moment Tensor Solution. s95,c154; s91,c145; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.84±.02; Mθθ-0.88±.01; Mφφ0.04±.01; Mrθ0.54±.02; Mθφ-0.15±.01; Mφr-0.07±.02; Best double couple: M0 1.02800×1017 NP1:φs90.00000°,δ61.00000°, λ99.00000°. NP2:φs251.00000°,δ30.00000°,λ74.00000°. Principal axes: T 1.0080, Plg72.0000°, Azm22.0000°; N 0.0410, Plg8.0000°, Azm266.0000°; P -1.0480, Plg16.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 08:57:50.9±0.5,5°.12S±0°.03×152°.62E±0°.04,h50km±4km, n567, σ1**42**/600,**mb5.3**/164,**MS4.6**/44,**24C-12D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.02**	**334**	*e*Pn	**Pn**	**08 58 09.4**	**+0.4**
RABL				*e*Sn	**Sn**	**08 58 25.8**	**+3.5**
MANU	**Manus Island**	**6.06**	**300**	*e*Pn	**Pn**	**08 59 21.2**	**+3.2**
MANU				*e*Sn	**Sn**	**09 00 23.7**	**-2.5**
PMG	**Port Moresby**	**6.89**	**231**	Pn	**Pn**	**08 59 29.8**	**+0.4**
	5.5nm,0.3s,baz=37,slow=8.2,SNR=49						
PMG				Sn	**Sn**	**09 00 45.9**	**-0.6**
	27nm,0.3s,baz=316,slow=23,SNR=9.1						
PMG	**Port Moresby**	**6.89**	**231**	*de*P	**Pn**	**08 59 29.0**	**-0.4**
PMG				pmax	pmax		
	comp=Z,659nm,0.8s						
PMG	**Port Moresby**	**6.89**	**231**	*e*Pn	**Pn**	**08 59 29.8**	**+0.4**
PMG				*e*Sn	**Sn**	**09 00 47.2**	**+0.7**
HNR	**Honiara**	**8.44**	**121**	Pn	Pn	09 00 00.7	+10
	comp=Z,5.4nm,0.3s,baz=157,slow=7.7,SNR=2.4						
HNR				Sn	**Sn**	**09 01 26.1**	**+1.5**
	baz=58,slow=19,SNR=2.1						
HNR				LR	LR	09 03 31.5	
	comp=Z,5μm,18.7s,baz=304,slow=41						
HNR	**Honiara**	**8.44**	**121**	*e*P	**Pn**	**08 59 48.7**	**-2.0**
HNR				*e*		09 01 26.9	
HNR	**Honiara**	**8.44**	**121**	*e*Pn	**Pn**	**08 59 48.7**	**-2.0**
HNR				*e*Sn	**Sn**	**09 01 26.9**	**+2.3**
JAY	**Jayapura**	**12.16**	**282**	Pn	**Pn**	**09 00 45.0**	**+3.4**
	comp=Z,0.0nm,0.3s,baz=343,slow=19,SNR=1.8						
JAY	**Jayapura**	**12.16**	**282**	P	**P**	**09 00 51.0**	**-1.9**
GENI	**Genyem**	**12.67**	**281**	P	**Pn**	**09 00 52.8**	**+4.3**
	comp=Z,179nm,1.8s,comp=Z,7μm						
COEN	**Coen**	**12.79**	**226**	P	**Pn**	**09 00 49.1**	**-1.1**
	baz=13,SNR=7.0						
COEN	**Coen**	**12.79**	**226**	*e*Pn	**Pn**	**09 00 49.8**	**-0.4**
PATS	**Pohnpei**	**13.16**	**26**	P	**Pn**	**09 00 52.5**	**-2.8**
	baz=13,SNR=6.7						
PATS	**Pohnpei**	**13.16**	**26**	*e*Pn	**Pn**	**09 00 56.6**	**+1.3**
SMPI	**Sarmi**	**14.22**	**282**	P	**Pn**	**09 01 12.3**	**+2.7**
	comp=Z,118nm,1.5s,comp=Z,1μmcomp=Z,134μm						
MTSU	**Mount Surprise**	**15.27**	**211**	P	**Pn**	**09 01 23.5**	**+0.1**
	baz=15,SNR=40						
CTA	**Charters Tower**	**16.12**	**202**	Pn	**Pn**	**09 01 34.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=21,slow=16,SNR=8.0						
CTA				Sn	**Sn**	**09 04 31.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=279,slow=19,SNR=1.8						
CTA				LR	LR	09 07 38.0	
	comp=Z,2μm,18.4s,baz=32,slow=37						
CTAO	**Charters Tower**	**16.12**	**202**	*e*P	**Pn**	**09 01 34.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,62nm,1.3s						
CTAO	**Charters Tower**	**16.12**	**202**	*e*Pn	**Pn**	**09 01 34.6**	**+0.3**
	comp=Z,62nm,1.3s						
QIS	**Mount Isa**	**19.89**	**218**	P	**P**	**09 02 18.5**	**+0.1**
	baz=20,SNR=9.5						
GUMO	**Guam**	**20.11**	**338**	P	Pn	09 02 22.1	-0.8
	comp=Z,139nm,1.0s,baz=160,slow=15,SNR=3.6						
GUMO				LR	LR	09 09 21.1	
	comp=Z,881nm,19.4s,baz=158,slow=35						
GUMO	**Guam**	**20.11**	**338**	*e*P	Pn	09 02 22.0	-0.9
GUMO				pmax	pmax		
	comp=Z,354nm,1.2s						
GUMO	**Guam**	**20.11**	**338**	*e*P	Pn	09 02 22.0	-1.0
	comp=Z,354nm,1.2s						
EIDS	**Eidsvold**	**20.19**	**184**	P	**P**	**09 02 20.9**	**-0.6**
	baz=20,SNR=3.5						
EIDS	**Eidsvold**	**20.19**	**184**	*e*P	**P**	**09 02 21.4**	**-0.2**
	comp=Z,38nm,1.0s						
FAKI	**Fak Fak**	**20.43**	**275**	P	**P**	**09 02 25.5**	**+1.2**
	comp=Z,64nm,1.2s,comp=Z,912nm						
FAKI	**Fak Fak**	**20.43**	**275**	*e*P	**P**	**09 02 25.0**	**+0.7**
	comp=Z,75nm,1.1s						
KDU	**Kakadu**	**21.26**	**248**	P	**P**	**09 02 33.2**	**0.0**
	baz=21,SNR=15						
SAUI	**Saumlaki**	**21.36**	**261**	*e*P	**P**	**09 02 35.9**	**+1.5**
	comp=Z,314nm,1.0s						
DZM	**Mont Dzumac**	**21.52**	**143**	P	**P**	**09 02 35.3**	**-0.8**
	comp=Z,26nm,0.5s,baz=199,slow=10,SNR=19						
DZM				LR	LR	09 09 56.0	
	comp=Z,2μm,21.1s,baz=319,slow=34						
DZM	**Mont Dzumac**	**21.52**	**143**	*e*P	**P**	**09 02 35.8**	**-0.3**
	comp=Z,205nm,1.1s						
DZM				*e*S	**S**	**09 06 32.5**	**+0.3**
	comp=Z,2μm,23.6s						
DZM				*e*LR	LR	09 07 49.7	
	comp=Z,3μm,24.1s						
DZM	**Mont Dzumac**	**21.52**	**143**	*e*P	**P**	**09 02 36.8**	**+0.8**
	comp=Z,131nm,1.3s						
RMQ	**Roma**	**21.57**	**189**	P	**P**	**09 02 36.5**	**+0.1**
	baz=22,SNR=15						
SIJI	**Sorong**	**21.73**	**281**	P	**P**	**09 02 38.5**	**+0.2**
	comp=Z,477nm,0.8s,baz=70,slow=8.2,SNR=13						
MTN	**Manton Dam**	**22.55**	**249**	P	**P**	**09 02 45.6**	**-1.5**
	baz=23,SNR=24						
MTN	**Manton Dam**	**22.55**	**249**	*e*P	**P**	**09 02 45.6**	**-1.5**
	comp=Z,56nm,0.8s						
BNDI	**Bandanaira**	**22.64**	**271**	P	**P**	**09 02 50.9**	**+2.9**
	comp=Z,123nm,1.2s						
QLP	**Quilpie**	**22.80**	**200**	P	**P**	**09 02 49.3**	**-0.3**
	baz=23,SNR=21						
WRAB	**Tennant Creek**	**23.08**	**229**	*c i*P	**P**	**09 02 52.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,200nm,1.2s						
WRAB	**Tennant Creek**	**23.08**	**229**	*e*P	**P**	**09 02 51.9**	**-0.7**
	comp=Z,82nm,1.0s						
WB2	**Warramunga Arr**	**23.09**	**229**	*e*P	**P**	**09 02 51.8**	**-0.8**
WR1	**Warramunga Arr**	**23.10**	**229**	*e*P	**P**	**09 02 51.6**	**-1.1**
	comp=Z,212nm,1.3s						
WR1				*e*S	**S**	**09 07 00.7**	**+0.3**
WRA	**Warramunga Arr**	**23.10**	**229**	P	**P**	**09 02 51.6**	**-1.1**
	comp=Z,57nm,1.1s,baz=52,slow=9.0,SNR=94						
WRA				S	**S**	**09 07 00.7**	**+0.3**
	comp=Z,18nm,1.1s,baz=54,slow=18,SNR=10						
WRA				LR	LR	09 13 18.1	
	comp=Z,2μm,18.1s,baz=55,slow=40						
WRA	**Warramunga Arr**	**23.10**	**229**	*i* P	**P**	**09 02 51.2**	**-1.5**
WRA				pmax	pmax		
	comp=Z,59nm,1.1s						
ARMA	**Armidale**	**25.18**	**182**	*e*P	**P**	**09 03 11.7**	**-0.3**
	comp=Z,57nm,1.4s						
LBMI	**Labuha**	**25.47**	**279**	P	**P**	**09 03 17.0**	**+2.4**
	comp=Z,128nm,1.1s,comp=Z,1μm						
KNRA	**Kununurra**	**25.67**	**244**	P	**P**	**09 03 16.1**	**-0.3**
	baz=26,SNR=24						
AS01	**Alice Springs**	**25.76**	**222**	*e*P	**P**	**09 03 15.7**	**-1.5**
AS31	**Alice Springs**	**25.79**	**223**	*e*P	**P**	**09 03 17.3**	**-0.2**
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**25.79**	**223**	P	**P**	**09 03 17.1**	**-0.5**
	comp=Z,15nm,0.7s,baz=58,slow=7.5,SNR=80						
ASAR				S	**S**	**09 07 50.1**	**+6.5**
	comp=Z,4.1nm,1.0s,baz=53,slow=14,SNR=2.6						
ASAR				LR	LR	09 12 58.7	
	comp=Z,1μm,21.6s,baz=36,slow=35						
SANI	**Sanana**	**26.75**	**276**	P	**P**	**09 03 28.2**	**+2.0**
	comp=Z,70nm,0.9s,comp=Z,771nm						
CMSA	**Cobar Meteorol**	**27.07**	**193**	P	**P**	**09 03 28.4**	**-0.6**
	baz=27,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**27.26**	**30**	T	T	09 31 38.5	
	baz=202,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.26**	**30**	T	T	09 32 29.3	
	baz=202						
H11S1	**WAKE ISLAND Hy**	**27.27**	**30**	T	T	09 31 30.1	
	baz=202,slow=74						
SOEI	**Soe**	**28.48**	**259**	P	**P**	**09 03 37.5**	**-4.3**
SOEI	**Soe**	**28.48**	**259**	*e*P	**P**	**09 03 41.3**	**-0.5**
	comp=Z,73nm,1.0s						
STKA	**Stephens Creek**	**28.55**	**200**	P	**P**	**09 03 40.9**	**-1.3**
	comp=Z,3.8nm,0.7s,baz=21,slow=12,SNR=13						
STKA				LR	LR	09 15 40.8	
	comp=Z,2μm,18.9s,baz=15,slow=38						
STKA	**Stephens Creek**	**28.55**	**200**	P	**P**	**09 03 41.5**	**-0.6**
	baz=29,SNR=11						
STKA	**Stephens Creek**	**28.55**	**200**	*e*P	**P**	**09 03 41.5**	**-0.6**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	**Stephens Creek**	**28.55**	**200**	*e*P	**P**	**09 03 41.5**	**-0.6**
	comp=Z,4.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.35**	**242**	P	**P**	**09 03 48.5**	**-0.8**
	comp=Z,27nm,0.8s,baz=76,slow=8.0,SNR=27						
FITZ				S	**S**	**09 08 38.9**	**-0.8**
	baz=308,slow=18						
WRKA	**Warakurna**	**30.61**	**227**	P	**P**	**09 03 59.8**	**-0.7**
	baz=31,SNR=16						
HTT	**Hallett**	**30.92**	**203**	P	**P**	**09 04 02.5**	**-0.7**
	baz=31,SNR=3.1						
PCI	**Palu**	**32.99**	**276**	P	**P**	**09 04 22.5**	**+1.0**
ARPS	**Mount Arapiles**	**33.02**	**196**	P	**P**	**09 04 21.3**	**-0.1**
	baz=33,SNR=5.2						
FORT	**Forrest**	**34.43**	**219**	*e*P	**P**	**09 04 33.8**	**0.0**
	comp=Z,588nm,1.0s						
MYLDM	**Lahad Datu**	**35.57**	**286**	*e*P	**P**	**09 04 44.7**	**+0.8**
	comp=Z,116nm,1.4s						
MBWA	**Marble Bar**	**35.65**	**240**	*e*P	**P**	**09 04 43.5**	**-1.0**
	comp=Z,34nm,1.0s						
AFI	**Afiamalu**	**36.14**	**107**	LR	LR	09 17 51.5	
	comp=Z,547nm,19.3s,baz=281,slow=34						
MOO	**Moorlands**	**37.48**	**187**	P	**P**	**09 05 00.5**	**+0.8**
	baz=38,SNR=3.7						
KKM	**Kota Kinabalu**	**38.00**	**287**	*e*P	**P**	**09 05 03.5**	**-1.1**
	comp=Z,36nm,1.0s						
KMBL	**Kambalda**	**38.90**	**224**	P	**P**	**09 05 11.5**	**-0.4**
	baz=39,SNR=5.8						
BTM	**Bintulu**	**40.35**	**181**	⇓P	**P**	**09 05 25.7**	**+1.5**
SBUM	**Sibu**	**41.05**	**280**	*e*P	**P**	**09 05 30.3**	**+0.3**
	comp=Z,14nm,1.1s						
SBUM	**Sibu**	**41.05**	**280**	⇓P	**P**	**09 05 30.8**	**+0.8**
RPZ	**Rata Peaks**	**41.74**	**160**	P	**P**	**09 05 34.9**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=321,slow=6.5,SNR=3.3						
KLBR	**Kellerberrin**	**41.96**	**227**	P	**P**	**09 05 36.1**	**-1.0**
	baz=42,SNR=8.0						
MORW	**Morawa**	**42.01**	**231**	P	**P**	**09 05 37.0**	**-0.6**
	baz=42,SNR=4.3						
KSM	**Kuching**	**42.77**	**278**	*e*P	**P**	**09 05 43.9**	**-0.1**
	comp=Z,36nm,1.1s						
KSM	**Kuching**	**42.77**	**278**	⇑P	**P**	**09 05 44.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**43.03**	**226**	P	**P**	**09 05 41.9**	**-4.0**
	comp=Z,9.2nm,0.6s,baz=49,slow=5.9,SNR=2.6						
NWAO				LR	LR	09 23 48.6	
	comp=Z,1μm,20.9s,baz=324,slow=36						
NWAO	**Narrogin (SRO)**	**43.03**	**226**	P	**P**	**09 05 46.7**	**+0.8**
	baz=43,SNR=4.1						
NWAO				P	**P**	**09 05 46.7**	**+0.8**
	baz=43,SNR=4.1						
JNU	**Nakatsue**	**43.26**	**333**	P	**P**	**09 05 46.1**	**-1.6**
	comp=Z,63nm,0.9s,baz=126,slow=4.8,SNR=20						
JNU	**Nakatsue**	**43.26**	**333**	*e*P	**P**	**09 05 47.2**	**-0.5**
	comp=Z,88nm,1.0s						
MJAR	**Matsushiro Arr**	**43.58**	**343**	P	**P**	**09 05 47.7**	**-2.5**
	comp=Z,8.7nm,1.0s,baz=162,slow=8.5,SNR=12						
MJAR				PcP	**PcP**	**09 07 37.5**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=174,slow=3.2,SNR=11						
MJAR				LR	LR	09 22 02.8	
	comp=Z,633nm,21.9s,baz=175,slow=34						
MAJO	**Matsushiro**	**43.58**	**343**	*c i*P	**P**	**09 05 47.6**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,122nm,1.1s						
MAT	**Matsushiro**	**43.58**	**343**	P	**P**	**09 05 48.1**	**-2.1**
MAT				S	S	09 12 33.8	+18
CNJI	**Cibinong**	**45.26**	**265**	P	**P**	**09 06 03.2**	**-0.8**
DLV	**T Lat**	**47.04**	**291**	*e*P	**P**	**09 06 18.7**	**+0.5**
	comp=Z,48nm,0.9s						
KASI	**Kota Agung**	**47.90**	**267**	P	**P**	**09 06 21.9**	**-2.8**
DSRI	**Dabo**	**48.19**	**274**	P	**P**	**09 06 26.8**	**-0.1**
KSRS	**Korea Array**	**48.20**	**334**	P	**P**	**09 06 26.4**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=149,slow=8.6,SNR=25						
KSRS				PcP	**PcP**	**09 07 54.1**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=131,slow=5.1,SNR=5.3						
KSRS				LR	LR	09 25 48.1	
	comp=Z,259nm,18.9s,baz=172,slow=35						
KS15	**Wonju Array Si**	**48.21**	**333**	*e*P	**P**	**09 06 26.6**	**0.0**
KS01	**Wonju Array Si**	**48.23**	**334**	*e*P	**P**	**09 06 26.4**	**-0.4**
MDSI	**Maura Dua**	**48.26**	**269**	P	**P**	**09 06 25.6**	**-1.9**
TPRI	**Tanjung Pinang**	**48.41**	**276**	P	**P**	**09 06 28.5**	**-0.1**
QIZ	**Qiongzhong**	**48.47**	**301**	P	**P**	**09 06 30.4**	**+1.4**
QIZ				S	**S**	**09 13 32.0**	**+5.2**
QIZ				LR	LR		
	comp=Z,670nm,20.3s						
INCN	**Inchon**	**48.81**	**332**	*e*P	**P**	**09 06 32.0**	**+0.7**
	comp=Z,57nm,0.9s						
NJ2	**Nanjing**	**48.97**	**321**	*e*P	**P**	**09 06 33.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,28nm,1.2s						
MYKOM	**Kota Tinggi**	**49.20**	**277**	*e*P	**P**	**09 06 34.6**	**-0.1**
	comp=Z,41nm,1.0s						
ASAJ	**Asahikawa**	**49.83**	**351**	P	**P**	**09 06 37.9**	**-1.0**
	comp=Z,36nm,0.8s,baz=246,slow=12,SNR=9.9						
ASAJ	**Asahikawa**	**49.83**	**351**	*e*P	**P**	**09 06 39.2**	**+0.3**
	comp=Z,77nm,1.1s						
KTGM	**Kuala Trenggan**	**50.49**	**281**	⇑P	**P**	**09 06 45.2**	**+0.7**
PDSI	**Padang**	**52.23**	**273**	P	**P**	**09 06 55.2**	**-2.4**
PANO	**Nakornpanom**	**52.32**	**296**	P	**P**	**09 07 00.0**	**+1.9**
	comp=Z,92nm,0.7s						
IPM	**Ipoh**	**52.40**	**280**	*e*P	**P**	**09 06 58.2**	**-0.6**
	comp=Z,27nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.49**	**341**	P	**P**	**09 06 58.8**	**-0.1**
	comp=Z,14nm,1.0s,baz=170,slow=8.9,SNR=21						
USRK				PcP	**PcP**	**09 08 09.8**	**+0.9**
	comp=Z,10nm,1.0s,baz=148,slow=4.3,SNR=6.7						
USRK				LR	LR	09 27 44.1	
	comp=Z,217nm,20.5s,baz=140,slow=34						
YSS	**Yuzh-Sakhalins**	**52.58**	**352**	*e*P	**P**	**09 06 59.2**	**-0.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**52.58**	**352**	*e*P	**P**	**09 06 59.0**	**-0.5**
	comp=Z,48nm,1.2s						
TIA	**Tai'an**	**52.86**	**324**	⇑P	**P**	**09 07 01.4**	**-0.4**
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
KULM	**Kulim**	**52.91**	**281**	*e*P	**P**	**09 07 02.4**	**-0.2**
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**53.65**	**340**	P	**P**	**09 07 07.2**	**-0.2**
MDJ				pP	pP	09 07 20.2	-0.8
MDJ				sP	sP	09 07 25.5	-1.2
MDJ				PP	**PP**	**09 09 14.6**	**+5.8**
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.0s						
MDJ				LR	LR		
	comp=Z,130nm,28.8s						
MDJ				LR	LR		
	comp=Z,180nm,23.6s						
MDJ	**Mudanjiang**	**53.65**	**340**	*e*P	**P**	**09 07 07.2**	**-0.2**
	comp=Z,27nm,1.1s						
ENH	**Enshi**	**54.23**	**313**	*e*P	**P**	**09 07 12.5**	**+0.5**
	comp=Z,102nm,1.1s						
NAYO	**Nakonayok**	**54.41**	**292**	P	**P**	**

KLR PcP **PcP** **09 08 26.8 +0.2**
comp=Z,1.8nm,1.0s,baz=121,slow=1.4,SNR=7.2
KLR Kul'dur 57.10 344*c i*P **P** **09 07 31.7 -0.4**
UMPA Umpang Tak 57.23 293 P **P** **09 07 35.1 +1.4**
comp=Z,6.7nm,1.1s,comp=Z,999nm
LAMP Lampang 57.25 296 P **P** **09 07 34.9 +1.1**
comp=Z,24nm,0.9s,comp=Z,173nm
PPT Papeete 57.81 107 LR LR 09 29 33.4
comp=Z,253nm,19.2s,baz=300,slow=33
PPT2 Papeete2 57.81 107 *e*S **S** **09 15 40.9 +6.8**
comp=Z,114nm,22.8s
PPT2 *e*LQ LQ 09 22 13.7
comp=Z,634nm,27.0s
PPT2 *e*LR LR 09 24 35.4
comp=Z,194nm,21.0s
CM01 Chiang Mai Arr 57.82 295 *e*P **P** **09 07 38.1 +0.3**
CM31 Chiang Mai Arr 57.84 295 *e*P **P** **09 07 39.4 +1.4**
CMAR Chiang Mai Arr 57.84 295 P **P** **09 07 39.0 +1.0**
comp=Z,36nm,0.9s,baz=109,slow=5.2,SNR=133
CMAR PcP **PcP** **09 08 31.2 +1.1**
comp=Z,2.2nm,0.4s,baz=99,slow=2.7,SNR=5.0
CMAR LR LR 09 33 37.6
comp=Z,212nm,18.4s,baz=121,slow=37
CMAR PKP2bc 09 37 33.8
comp=Z,1.1nm,0.6s,baz=280,slow=4.9,SNR=5.4
CMAR Chiang Mai Arr 57.84 295 *i*P **P** **09 07 39.0 +1.0**
CMAR pmax pmax
comp=Z,36nm,0.9s
CMMT Chiang Mai 57.95 296 P **P** **09 07 39.3 +0.5**
comp=Z,46nm,1.1s,comp=Z,566nm
CHTO Chiang Mai 57.96 296 P **P** **09 07 40.1 +1.3**
comp=Z,210nm,1.1s
PETK Petropavlovsk- 58.16 4 P **P** **09 07 39.2 -0.4**
comp=Z,10nm,0.4s,baz=150,slow=6.4,SNR=24
PETK PcP **PcP** **09 08 30.7 0.0**
comp=Z,9.4nm,0.8s,baz=186,slow=4.0,SNR=3.0
PETK LR LR 09 28 50.2
comp=Z,429nm,22.0s,baz=194,slow=32
PETK Petropavlovsk- 58.16 4 *e*P **P** **09 07 39.6 0.0**
PETK Petropavlovsk- 58.16 4 *e*P **P** **09 07 39.6 0.0**
PEA1 Petropavlovsk- 58.17 4 *e*P **P** **09 07 39.2 -0.4**
PEA1 *e*PcP **PcP** **09 08 30.7 0.0**
TBI Tubuai 58.60 114 *e*S **S** **09 15 47.2 +3.1**
comp=Z,126nm,29.2s
TBI *e*LQ LQ 09 22 37.7
comp=Z,1μm,32.8s
TBI *e*LR LR 09 25 06.4
comp=Z,1μm,28.2s
CD2 Chengdu 58.80 311 *e*P **P** **09 07 44.6 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
HHC Hu-ho-hao-te 59.20 325 *e*P **P** **09 07 49.6 +2.5**
HHC S **S** **09 15 51.7 +0.2**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.4s
HHC LR LR
comp=Z,330nm,8.8s
HHC LR LR
comp=Z,350nm,12.9s
HHC LR LR
comp=Z,430nm,17.2s
LZH Lanzhou 61.33 316 *e*P **P** **09 08 03.2 +1.3**
LZH pP sP 09 08 20.4 -1.0
LZH *e*S **S** **09 16 21.0 +1.9**
LZH SS **SS** **09 20 20.0 -0.5**
LZH pmax pmax
comp=Z,120nm,1.4s
LZH pmax pmax
comp=Z,310nm,5.8s
LZH LR LR
comp=Z,1μm,17.6s
LZH LR LR
comp=Z,2μm,18.6s
LZH LR LR
comp=Z,1μm,18.7s
MA2 Magadan 64.51 359 P **P** **09 08 21.7 -0.6**
comp=Z,26nm,0.8s,baz=149,slow=5.3,SNR=12
MA2 Magadan 64.51 359*c i*P **P** **09 08 21.8 -0.5**
GTA Gaotai 65.76 317 *e*P **P** **09 08 31.9 +0.8**
GTA pP sP 09 08 48.0 -2.7
GTA sP PcP 09 08 55.0 -7.0
GTA S **S** **09 17 12.8 -1.3**
GTA sS sS 09 17 40.1 +2.6
GTA SS **SS** **09 21 30.7 +1.2**
GTA pmax pmax
comp=Z,27nm,1.0s
GTA pmax pmax
comp=Z,330nm,5.5s
GTA LR LR
comp=Z,340nm,14.5s
GTA LR LR
comp=Z,400nm,16.9s
GTA LR LR
comp=Z,530nm,20.0s
ULN Ulaanbaatar 66.17 328*c i*P **P** **09 08 34.1 +0.6**
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 66.17 328 *e*P **P** **09 08 34.2 +0.7**
comp=Z,21nm,1.3s
SONA0 Songino Array 66.49 328 *e*P **P** **09 08 36.1 +0.5**
comp=Z,35nm,1.4s
SONM Songino Array 66.49 328 P **P** **09 08 36.1 +0.5**
comp=Z,4.3nm,0.5s,baz=147,slow=5.3,SNR=36
SONM LR LR 09 35 58.2
comp=Z,507nm,21.2s,baz=134,slow=34
SONM PKP2bc 09 37 10.3
comp=Z,1.2nm,0.8s,baz=292,slow=1.9,SNR=4.8
SONA1 Songino Array 66.50 328 *e*P **P** **09 08 36.1 +0.5**
SEY Seymchan 67.86 360 P **P** **09 08 43.6 -0.1**
comp=Z,2.3nm,0.4s,baz=243,slow=12,SNR=9.0
SEY Seymchan 67.86 360⇑*i*P **P** **09 08 43.3 -0.4**
LSA Lhasa 68.27 305 *e*P **P** **09 08 48.8 +1.2**
LSA pmax pmax
comp=Z,27nm,0.9s
LSA Lhasa 68.27 305 *e*P **P** **09 08 48.8 +1.2**
comp=Z,27nm,0.9s
YAK Yakutsk 69.25 349 P **P** **09 08 51.6 -0.7**
comp=Z,14nm,0.3s,baz=200,slow=1.7,SNR=5.0
YAK Yakutsk 69.25 349 *e*P **P** **09 08 52.2 -0.2**
YAK pmax pmax
comp=Z,56nm,1.4s
YAK pmax pmax
comp=N,21nm,1.3s
YAK Yakutsk 69.25 349 *e*P **P** **09 08 53.4 +1.1**
comp=N,31nm,0.6s
ZAK Zakamensk 69.67 329 *e*P **P** **09 08 55.1 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.4s
BOD Bodaibo 70.02 339 *e*P **P** **09 08 56.4 -0.8**
BOD pmax pmax
comp=Z,18nm,1.7s
TLY Talaya 70.26 330 *e*P **P** **09 08 57.6 -1.3**
TLY *e*S **S** **09 18 04.4 -2.7**
TLY *e*SSS SSS 09 25 50.2
TLY pmax pmax
comp=Z,15nm,1.0s
TLY MLR MLR
comp=Z,263nm,18.0s
TAPN Taplejung 70.41 301 *e*P **P** **09 09 00.9 +0.2**
comp=Z,128nm,1.0s
ODAN Odare 70.55 301 *e*P **P** **09 09 01.6 +0.2**
comp=Z,130nm,0.9s
RAMN Ramite 71.25 301 *e*P **P** **09 09 05.7 0.0**
comp=Z,49nm,0.9s
MOY Mondy 71.59 329 *e*P **P** **09 09 08.1 +1.0**
MOY pmax pmax
comp=Z,37nm,1.4s
JIRN Jiri 71.79 301 *e*P **P** **09 09 09.3 +0.2**
comp=Z,495nm,0.9s
RKT Rikitea 71.84 113 *e*LR LR 09 31 05.1
comp=Z,495nm,29.5s
GUN Gumba 72.13 301 *e*P **P** **09 09 11.3 +0.2**
comp=Z,151nm,0.9s
PKI Pulchoki 72.44 301 *e*P **P** **09 09 12.7 -0.2**
comp=Z,111nm,1.1s
PKIN Phulchoki 72.45 301 *e*P **P** **09 09 13.4 +0.5**
comp=Z,36nm,0.8s
VNDA Vanda 72.52 178 P **P** **09 09 12.4 +0.3**
comp=Z,3.6nm,0.8s,baz=331,slow=5.9,SNR=12
VNDA LR LR 09 39 01.5
comp=Z,240nm,18.7s,baz=352,slow=34
VNDA Vanda 72.52 178 *e*P **P** **09 09 12.4 +0.3**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 72.52 178 *e*P **P** **09 09 12.4 +0.3**
comp=Z,11nm,1.2s
KKN Kakani 72.61 301 *e*P **P** **09 09 13.8 0.0**
comp=Z,93nm,1.0s
DMN Daman 72.70 301 *e*P **P** **09 09 14.6 +0.1**
comp=Z,228nm,1.1s
PALK Pallekele 72.80 279 *i*P **P** **09 09 16.2 +1.2**
SBA Scott Base 73.07 177 *e*P **P** **09 09 17.1 +1.8**
SBA pmax pmax
comp=Z,13nm,1.2s
SBA Scott Base 73.07 177 *e*P **P** **09 09 17.1 +1.8**
comp=Z,13nm,1.2s
CHGN Chignik 73.09 26 *e*P **P** **09 09 15.0 -0.7**
comp=Z,32nm,0.6s
GKN Gorkha 73.21 301 *e*P **P** **09 09 17.2 -0.1**
comp=Z,181nm,1.0s
MIR Mirnyy 73.57 201 *e*P **P** **09 09 19.0 +0.6**
MIR pmax pmax
comp=Z,4.0nm,1.7s
GAMB Gambell 73.74 16 *e*P **P** **09 09 20.5 +1.2**
comp=Z,73nm,1.1s
KOLN Koldanda 74.04 301 *e*P **P** **09 09 22.1 -0.1**
comp=Z,73nm,0.8s
DANN Dangsing 74.05 301 *e*P **P** **09 09 22.5 +0.1**
comp=Z,7.0nm,1.0s
PYUN Piuthan 74.64 301 *e*P **P** **09 09 25.4 -0.4**
comp=Z,168nm,0.9s
WMQ Urumqi 75.85 317 P **P** **09 09 33.3 +1.1**
WMQ pP pP 09 09 46.5 +0.1
WMQ sP sP 09 09 52.5 +0.5
WMQ S **S** **09 19 07.8 -3.2**
WMQ SKS **SKSac** **09 19 33.3 -5.5**
WMQ SS **SS** **09 24 04.4 +0.2**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,310nm,4.9s
WMQ LR LR
comp=Z,280nm,14.1s
WMQ LR LR
comp=Z,440nm,16.9s
WMQ LR LR
comp=Z,360nm,22.5s
OHAK Old Harbor 75.91 27 *e*P **P** **09 09 32.2 +0.1**
comp=Z,118nm,1.4s
HYB Hyderabad 76.42 289 *i*P **P** **09 09 36.0 +0.1**
KDAK Kodiak Island 76.54 27 P **P** **09 09 35.6 -0.1**
comp=Z,30nm,0.8s,baz=270,slow=3.9,SNR=23
KDAK Kodiak Island 76.54 27 *e*P **P** **09 09 36.0 +0.3**
comp=Z,40nm,1.0s
SVW2 Sparrevohn 77.19 23 *e*P **P** **09 09 40.4 +1.2**
comp=Z,35nm,1.0s
RSO Redoubt South 77.95 24 *e*P **P** **09 09 42.9 -0.9**
HOM Homer 77.97 25 *e*P **P** **09 09 44.0 +0.3**
comp=Z,470nm,1.2s
CNPM China Poot 78.08 26 *e*P **P** **09 09 44.5 +0.2**
comp=Z,366nm,1.3s
TT01 Tatalina 78.11 21 *e*P **P** **09 09 45.2 +0.8**
TIXI Tiksi 78.19 353 P **P** **09 09 44.2 -0.4**
comp=Z,3.9nm,0.4s,baz=172,slow=6.9,SNR=7.5
TIXI Tiksi 78.19 353*de*P **P** **09 09 44.9 +0.3**
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 78.19 353 *e*P **P** **09 09 44.6 0.0**
DGZ Jazzator, Alta 78.22 323 *e*P **P** **09 09 45.7 +0.2**
DGZ pmax pmax
comp=Z,14nm,1.1s
BRLK Bradley Lake 78.36 26 *e*P **P** **09 09 45.7 -0.1**
comp=Z,136nm,1.3s
SEW Seward 79.15 26 *e*P **P** **09 09 50.1 -0.1**
comp=Z,51nm,0.8s
SUA Susitna One 79.32 24 *e*P **P** **09 09 50.7 -0.5**
comp=Z,61nm,0.9s
PPLA Purkeypile 79.53 22 *e*P **P** **09 09 52.4 0.0**
comp=Z,74nm,1.3s
RC01 Rabbit Creek A 79.54 25 *e*P **P** **09 09 52.3 +0.1**
comp=Z,103nm,0.5s
CAST Castle Rocks 79.87 22 *e*P **P** **09 09 53.8 -0.2**
comp=Z,56nm,0.8s
PMR Palmer 80.05 24 *e*P **P** **09 09 54.8 -0.2**
PMR pmax pmax
comp=Z,79nm,1.1s
PMR Palmer 80.05 24 *e*P **P** **09 09 54.8 -0.2**
comp=Z,79nm,1.1s
KTH Kantishna Hill 80.38 22 *e*P **P** **09 09 56.0 -0.9**
comp=Z,73nm,1.0s
MK01 Makanchi Array 80.43 319 *e*P **P** **09 09 57.5 +0.1**
MK31 Makanchi Array 80.44 319 *i*P **P** **09 09 57.5 0.0**
MK31 pmax pmax
comp=Z,23nm,1.1s
MK31 Makanchi Array 80.44 319 *e*P **P** **09 09 58.0 +0.5**
MK32 Makanchi Array 80.44 319 *e*P **P** **09 09 57.3 -0.2**
MKAR Makanchi Array 80.44 319 P **P** **09 09 57.3 -0.2**
comp=Z,16nm,1.1s,baz=110,slow=5.3,SNR=28
MKAR PP **PP** **09 12 59.8 -1.4**
comp=Z,1.4nm,1.0s,baz=110,slow=7.8,SNR=3.5
MKAR LR LR 09 45 11.8
comp=Z,413nm,19.6s,baz=92,slow=35
MKAR Makanchi Array 80.44 319 *i*P **P** **09 09 58.2 +0.7**
MKAR pmax pmax
comp=Z,16nm,1.0s
SML Sawmill 80.49 24 *e*P **P** **09 09 57.5 +0.1**
SML pmax pmax
comp=Z,215nm,1.2s
SML Sawmill 80.49 24 *e*P **P** **09 09 57.5 +0.1**
comp=Z,215nm,1.2s
TRF Thorofare Moun 80.56 22 *e*P **P** **09 09 57.5 -0.5**
comp=Z,48nm,1.1s
MAKZ Makanchi 80.65 319 *e*P **P** **09 09 59.3 +0.7**
MAKZ pmax pmax
comp=Z,25nm,1.1s
MAKZ Makanchi 80.65 319 *e*P **P** **09 09 59.3 +0.7**
comp=Z,25nm,1.1s
IMAR Indian Mountai 80.74 20 *e*P **P** **09 09 59.2 +0.6**
SCM Sheep Creek Mo 80.91 25 *e*P **P** **09 10 00.0 +0.2**
SCM pmax pmax
comp=Z,71nm,0.9s
SCM Sheep Creek Mo 80.91 25 *e*P **P** **09 09 60.0 +0.2**
comp=Z,71nm,0.9s
MCK McKinley 81.22 23 *e*P **P** **09 10 00.8 -0.5**
MCK pmax pmax
comp=Z,203nm,1.1s
MCK McKinley 81.22 23 *e*P **P** **09 10 00.8 -0.5**
comp=Z,203nm,1.1s
DIV Divide 81.24 26 *e*P **P** **09 10 02.2 +0.7**
comp=Z,54nm,0.9s
ZAA0 Zalesovo Array 81.31 326 *e*P **P** **09 10 01.3 -0.7**
ZALV Zalesovo Beam 81.31 326 P **P** **09 10 01.2 -0.7**
comp=Z,8.4nm,0.5s,baz=109,slow=4.9,SNR=30
ZALV LR LR 09 46 13.0
comp=Z,267nm,20.7s,baz=70,slow=36
ZALV Zalesovo Beam 81.31 326 *e*P **P** **09 10 01.0 -0.9**
ZALV Zalesovo Beam 81.31 326 *e*P **P** **09 10 01.0 -0.9**
ZAA1 Zalesovo Array 81.31 326 *e*P **P** **09 10 01.2 -0.7**
KLU Klutina 81.34 25 *e*P **P** **09 10 02.7 +0.7**
comp=Z,112nm,1.0s
DHY Denali Highway 81.50 23 *e*P **P** **09 10 03.0 0.0**
comp=Z,59nm,1.0s
BMRM Bremner River 81.67 26 *e*P **P** **09 10 04.3 +0.5**
comp=Z,97nm,1.2s
WRH Wood River Hil 81.92 22 *e*P **P** **09 10 04.2 -0.7**
comp=Z,104nm,1.2s
HARP HAARP 82.09 25 *e*P **P** **09 10 06.2 +0.3**
comp=Z,70nm,1.1s
CCB Clear Creek Bu 82.11 22 *e*P **P** **09 10 05.1 -0.9**
comp=Z,76nm,1.1s
MDM Murphy Dome 82.11 22 *e*P **P** **09 10 05.2 -0.8**
comp=Z,67nm,1.2s
COLA College 82.21 22 *e*P **P** **09 10 05.8 -0.6**
COLA pmax pmax
comp=Z,109nm,0.9s
COLA College 82.21 22 *e*P **P** **09 10 05.8 -0.6**
comp=Z,109nm,0.9s
PAX Paxson 82.22 24 *e*P **P** **09 10 06.9 +0.3**
PAX pmax pmax
comp=Z,37nm,1.2s
PAX Paxson 82.22 24 *e*P **P** **09 10 06.9 +0.3**
comp=Z,37nm,1.2s
CRQM Cirque 82.22 27 *e*P **P** **09 10 07.8 +1.0**
comp=Z,82nm,1.1s
NVS Novosibirsk 82.49 327 *e*P **P** **09 10 07.6 -0.5**
NVS pmax pmax
comp=Z,38nm,1.5s
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,19nm,1.5s
IL1 Eielson Array 82.52 22 *e*P **P** **09 10 06.8 -1.3**
ILAR Eielson Array 82.52 22 P **P** **09 10 06.9 -1.2**
comp=E,40nm,0.9s,baz=254,slow=4.9,SNR=233
ILAR LR LR 09 42 56.7
comp=E,427nm,20.6s,baz=246,slow=33
ILB Eielson Array 82.52 22 *e*P **P** **09 10 06.9 -1.2**
COLD Coldfoot 82.61 19 *e*P **P** **09 10 09.5 +1.0**
comp=E,85nm,1.3s
KSH Kashi 83.00 311 P **P** **09 10 13.8 +2.5**
KSH pP sP 09 10 31.0 -0.2
KSH sP pP 09 10 37.7 +12
KSH S **S** **09 20 26.2 -0.9**
KSH sS sS 09 20 55.2 +3.9
KSH SS **SS** **09 25 55.2 +3.5**
KSH pmax pmax
comp=E,48nm,1.2s
KSH pmax pmax
comp=E,140nm,5.9s
KSH LR LR
comp=E,130nm,4.7s
KSH LR LR
comp=E,120nm,5.7s
KSH LR LR
comp=E,99nm,6.0s
DOT Dot Lake 83.09 24 *e*P **P** **09 10 11.3 +0.2**
comp=E,260nm,1.0s
TOLK Toolik Lake Re 83.57 18 P **P** **09 10 14.1 +0.6**
baz=238
KURK Kurchatov 83.90 322*c i*P **P** **09 10 15.2 -0.3**
KURK pmax pmax
comp=Z,171nm,1.2s
KURK Kurchatov 83.90 322 *e*P **P** **09 10 15.3 -0.1**
comp=Z,39nm,1.1s
FYU Fort Yukon 83.98 21 *e*P **P** **09 10 16.2 +0.7**
comp=Z,90nm,1.2s
FRU Bishkek 84.70 314⇓*e*P **P** **09 10 22.0 +2.2**
FRU pmax pmax
comp=Z,160nm,1.8s
EGAK Eagle 84.72 23 *e*P **P** **09 10 19.8 +0.5**
comp=Z,50nm,1.0s
AAK Ala-Archa 84.75 314 LR LR 09 50 47.7
comp=Z,268nm,18.1s,baz=80,slow=38
AAK Ala-Archa 84.75 314 *e*P **P** **09 10 20.9 +0.7**
AAK pmax pmax
comp=Z,57nm,1.0s
AAK Ala-Archa 84.75 314 *e*P **P** **09 10 20.9 +0.7**
comp=Z,57nm,1.0s
QSPA South Pole Qui 84.84 180 *e*P **P** **09 10 20.1 0.0**
comp=Z,17nm,0.9s
H02S1 DAWSON INLET T 85.11 36 T T 10 43 47.0
SNR=10
DAWY Dawson 85.15 24 *e*P **P** **09 10 22.3 +0.7**
comp=Z,67nm,1.3s
MAW Mawson 85.21 203 P **P** **09 10 21.6 0.0**
comp=Z,12nm,1.0s,baz=86,slow=6.0,SNR=23
MAW LR LR 09 44 59.8
comp=Z,536nm,21.6s,baz=63,slow=33
MAW Mawson 85.21 203 P **P** **09 10 21.7 0.0**
baz=85,SNR=13
MAW Mawson 85.21 203 *e*P **P** **09 10 21.8 0.0**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 85.21 203 *e*P **P** **09 10 21.8 0.0**
comp=Z,2.6nm,0.9s
BESE Bessie Mountai 85.34 30 *e*P **P** **09 10 23.5 +0.8**
comp=Z,71nm,1.4s
WHY Whitehorse 85.96 28 *e*P **P** **09 10 26.4 +0.6**
comp=Z,42nm,1.3s
MNAS Manas 86.16 313 P **P** **09 10 27.8 +0.6**
MNAS pmax pmax
comp=Z,133nm,1.1s
NRIK Noril'sk 86.20 341 P **P** **09 10 25.8 -0.8**
comp=Z,16nm,0.7s,baz=117,slow=2.7,SNR=9.9
NRIK LR LR 09 48 41.5
comp=Z,197nm,20.1s,baz=100,slow=36
KBL Kabul 87.59 305 *e*P **P** **09 10 33.8 -0.6**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 87.59 305 *e*P **P** **09 10 33.8 -0.6**
comp=Z,14nm,1.0s
KK31 Karatay Array 87.71 313 *i*P **P** **09 10 34.8 +0.2**
KK31 pmax pmax
comp=Z,15nm,1.0s
DLBC Dease Lake 87.75 31 *e*P **P** **09 10 35.4 +0.9**
comp=Z,61nm,1.3s
INK Inuvik 88.82 21 P **P** **09 10 39.2 0.0**
comp=Z,40nm,1.0s,baz=247,slow=4.6,SNR=44
INK Inuvik 88.82 21 *e*P **P** **09 10 39.1 0.0**
INK pmax pmax
comp=Z,89nm,1.3s
INK Inuvik 88.82 21 *e*P **P** **09 10 39.1 0.0**
comp=Z,89nm,1.3s
BVA0 Borovoye Array 89.38 323 *i*P **P** **09 10 41.0 -1.2**
BVA0 pmax pmax
comp=Z,38nm,1.5s
BVAR Borovoye Array 89.38 323 LR LR 09 54 04.1
comp=Z,210nm,18.1s,baz=78,slow=38
BRVK Borovoye 89.45 323*c i*P **P** **09 10 41.6 -0.9**
BRVK pmax pmax
comp=Z,89nm,1.7s
BRVK Borovoye 89.45 323 *e*P **P** **09 10 41.7 -0.9**
comp=Z,32nm,1.3s
B05A Bryant 90.64 42 P **P** **09 10 49.0 +0.8**
baz=263
J05D Fort Rock, OR 90.67 47 P **P** **09 10 49.2 +0.6**
baz=264
I05D Terrebonne, OR 90.71 46 P **P** **09 10 49.1 +0.4**
baz=264
PKM Mcpherson Peak 90.90 55 P **P** **09 10 50.5 +0.6**
baz=264
BEKR Beckworth 90.96 50 *e*P **P** **09 10 50.8 +0.7**
comp=Z,11nm,1.6s
SNCC San Nicolas Is 90.98 57 P **P** **09 10 49.2 -1.0**
baz=264
MOD Modoc Plateau 91.21 48 *e*P **P** **09 10 52.0 +0.8**
comp=Z,7.7nm,1.1s
VES Vestal, Richgr 91.58 54 P **P** **09 10 52.5 -0.3**
baz=265
DECC Green Verdugo 92.06 56 P **P** **09 10 55.6 +0.4**
baz=265
MWC Mount Wilson 92.29 56 *e*P **P** **09 10 57.1 +0.7**
MWC pmax pmax
comp=Z,16nm,1.0s
MWC Mount Wilson 92.29 56 *e*P **P** **09 10 57.1 +0.7**
comp=Z,16nm,1.0s
EDW2 Edwards Air Fo 92.39 55 P **P** **09 10 56.6 -0.1**
baz=265
CWC Cottonwood Cre 92.44 54 P **P** **09 10 56.9 -0.2**
baz=265
B08A Colville Reser 92.49 42 *e*P **P** **09 10 56.5 -0.3**
comp=Z,34nm,1.9s
WVOR Wild Horse Val 92.49 48 *e*P **P** **09 10 56.8 -0.2**
WVOR pmax pmax
comp=Z,14nm,1.4s
WVOR Wild Horse Val 92.49 48 *e*P **P** **09 10 56.8 -0.2**
comp=Z,14nm,1.4s
BFSC Mount Baldy Ra 92.62 56 P **P** **09 10 57.5 -0.4**
baz=266
LRMC Laurel Mtn Rad 92.69 55 P **P** **09 10 58.5 +0.3**
baz=266
MPMC Manual Prospec 92.89 54 P **P** **09 10 59.2 +0.1**
baz=266
E09A Wood Farm, Sta 93.15 44 *e*P **P** **09 11 00.1 +0.2**
comp=Z,21nm,1.5s
BBRC Big Bear Solar 93.23 56 P **P** **09 11 01.4 +0.6**
baz=266
SYO Syowa Base 93.31 199⇑*e*P **P** **09 10 58.2 -1.9**
SYO Syowa Base 93.31 199⇑*e*X 09 11 09.2
GSC Goldstone, Bar 93.39 55 P **P** **09 11 02.0 +0.6**
baz=266
GSC Goldstone, Bar 93.39 55 *e*P **P** **09 11 02.5 +1.2**
GSC pmax pmax
comp=Z,13nm,1.3s
GSC Goldstone, Bar 93.39 55 *e*P **P** **09 11 02.5 +1.2**
comp=Z,13nm,1.3s
FURC Furnace Creek, 93.42 54 P **P** **09 11 01.7 +0.4**
baz=266
MONP2 Monument Peak 93.55 57 P **P** **09 11 02.7 +0.4**
baz=266
PFO Pinyon Flats O 93.57 57 P **P** **09 11 03.0 +0.8**
baz=266
PFO Pinyon Flats O 93.57 57 *e*P **P** **09 11 03.2 +1.0**
PFO pmax pmax
comp=Z,14nm,0.3s
PFO Pinyon Flats O 93.57 57 *e*P **P** **09 11 03.2 +1.0**

comp=Z,14nm,0.3s
XPFO Pièon Flat 93.57 57 *e*P **P 09 11 03.1 +0.8**
comp=Z,21nm,0.2s
BMO Blue Mountains 93.63 45 *e*P **P 09 11 02.2 0.0**
BMO pmax pmax
comp=Z,12nm,1.3s
BMO Blue Mountains 93.63 45 *e*P **P 09 11 02.2 0.0**
comp=Z,12nm,1.3s
HEC Hector,Ludlow 93.75 56 P **P 09 11 03.2 +0.2**
baz=266
F10A Beach Ranch, E 93.75 44 *e*P **P 09 11 02.7 0.0**
comp=Z,16nm,1.5s
IKP In-Ko-Pah, Jac 93.80 58 P **P 09 11 01.3 -2.0**
baz=266
SHOC Shoshone, Teco 93.86 54 P **P 09 11 03.3 -0.1**
baz=266
TPNV Topopah Spring 93.95 53 P **P 09 11 04.1 +0.1**
baz=267
TPNV Topopah Spring 93.95 53 *e*P **P 09 11 04.6 +0.6**
TPNV pmax pmax
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 93.95 53 *e*P **P 09 11 04.5 +0.6**
comp=Z,9.2nm,1.1s
NEW Newport 93.95 42 P **P 09 11 04.3 +0.7**
baz=267
NEW Newport 93.95 42 *e*P **P 09 11 03.5 -0.1**
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 93.95 42 *e*P **P 09 11 03.5 -0.1**
comp=Z,11nm,1.1s
BELC Belle Mtn. Jos 93.98 56 P **P 09 11 03.5 -0.6**
baz=266
TUQ Turquoise Moun 94.12 55 P **P 09 11 05.4 +0.7**
baz=267
GMRC Granite Mounta 94.30 56 P **P 09 11 05.7 +0.1**
baz=267
BC3 Big Chuckawall 94.41 57 P **P 09 11 06.6 +0.5**
baz=267
R11A Troy Canyon, C 94.55 52 P **P 09 11 07.0 +0.3**
baz=267
R11A Troy Canyon, C 94.55 52 *e*P **P 09 11 07.1 +0.4**
comp=Z,6.8nm,1.4s
MFID Camas Ranch 94.61 47 *e*P **P 09 11 07.5 +0.7**
comp=Z,17nm,1.8s
IRM Iron Mountain 94.69 56 P **P 09 11 08.2 +0.9**
baz=267
LDFC Landfair 94.77 55 *e*P **P 09 11 07.8 +0.1**
comp=Z,21nm,1.2s
SHPR Sheep Range 94.80 54 *e*P **P 09 11 08.6 +0.7**
comp=Z,7.2nm,1.2s
PDMCI Parker Dam,Lak 95.53 56 P **P 09 11 10.7 -0.3**
baz=268
HLID Hailey 95.64 47 P **P 09 11 11.5 -0.1**
baz=268
YKA Yellowknife Ar 95.79 28 P **P 09 11 11.9 +0.4**
comp=Z,9.0nm,1.0s,baz=269,slow=4.6,SNR=10
YKA LR LR 09 48 36.7
comp=Z,78nm,21.8s,baz=0.0,slow=32
YKB5 Yellowknife Ar 95.79 28 *e*P **P 09 11 11.9 +0.4**
WALA Waterton Lakes 96.11 41 *e*P **P 09 11 14.2 +0.7**
comp=Z,29nm,1.6s
CCUT Cedar City 96.28 53 *e*P **P 09 11 15.6 +1.0**
comp=Z,3.4nm,1.0s
LCMT Little Creek M 96.35 53 *e*P **P 09 11 15.5 +0.6**
comp=Z,6.3nm,1.3s
ARU Arti 96.48 326*c i*P **P 09 11 13.0 -1.8**
ARU 09 15 06.9
ARU S **SKSac 09 21 45.0 -2.3**
ARU PS **PS 09 23 52.1 -5.8**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,487nm,20.0s
ARU Arti 96.48 326 *e*P **P 09 11 13.2 -1.6**
comp=Z,22nm,1.2s
EDM Edmonton 96.48 37 *e*P **P 09 11 14.9 -0.1**
EDM pmax pmax
comp=Z,35nm,1.4s
EDM Edmonton 96.48 37 *e*P **P 09 11 14.8 -0.1**
comp=Z,36nm,1.4s
214A Organ Pipe Nat 96.56 59 P **P 09 11 16.0 +0.2**
baz=268
GEYT Alibeck 96.66 307 P **P 09 11 15.5 -0.7**
comp=Z,4.7nm,0.8s,baz=207,slow=1.7,SNR=7.5
GEYT LR LR 09 55 15.5
comp=Z,201nm,21.0s,baz=110,slow=36
KNB Kanab 96.69 53 *e*P **P 09 11 17.6 +1.1**
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB Kanab 96.69 53 *e*P **P 09 11 17.6 +1.1**
comp=Z,8.5nm,1.1s
U15A North Rim 97.11 54 *e*P **P 09 11 17.2 -1.3**
comp=Z,3.0nm,0.9s
PKCU Pink Cliffs 97.11 53 *e*P **P 09 11 18.4 -0.2**
comp=Z,30nm,2.0s
WUAZ Wupatki 97.83 55 P Pdif 09 11 22.2 +0.4
baz=269
WUAZ Wupatki 97.83 55 *e*P Pdif 09 11 22.2 +0.5
comp=Z,3.3nm,1.0s
TMUT Trail Mountain 97.99 51 *e*P Pdif 09 11 23.2 +0.6
comp=Z,13nm,1.5s
TUC Tucson 98.28 58 P Pdif 09 11 24.3 +0.6
baz=269
W18A Petrified Fore 99.17 55 P **Pdif 09 11 29.7 +1.9**
baz=270
PDAR Pinedale Array 99.20 48 P **Pdif 09 11 26.7 -1.1**
comp=Z,1.1nm,0.9s,baz=209,slow=1.5,SNR=6.6
PDAR PP **PP 09 15 30.7 -0.2**
comp=Z,0.3nm,0.7s,baz=246,slow=8.5,SNR=3.3
PDAR LR LR 09 52 40.3
comp=Z,876nm,18.7s,baz=263,slow=33
PDAR Pinedale Array 99.20 48 *e*P **Pdif 09 11 26.9 -0.8**
S22A 4UR Ranch, Cre 101.46 53 P **Pdif 09 11 38.3 +0.4**
baz=272
LTX Lajitas 104.44 61 *e*PKiKP **PKiKP 09 16 05.9 -1.4**
LTX *e*PKKPdf **PKKPdf 09 27 48.9 +1.3**
TXAR Lajitas Array 104.44 61 PKiKP **PKiKP 09 16 05.9 -1.4**
comp=Z,0.3nm,0.9s,baz=235,slow=3.2,SNR=3.1
TXAR PKKPbc **PKKPbc 09 27 38.2 +0.3**
comp=Z,0.6nm,0.9s,baz=92,slow=4.1,SNR=4.9
TXAR PKKP **PKKPdf 09 27 48.9 +1.3**
comp=Z,0.5nm,0.9s,baz=93,slow=1.9,SNR=3.1
KLMR Klimovskoe 105.58 332 *e*P **Pdif 09 11 52.4 -2.9**
KLMR pmax pmax
comp=Z,20nm,1.3s
ULM Lac du Bonnet 107.60 39 PKiKP **PKiKP 09 16 12.8 +0.4**
comp=Z,1.2nm,0.4s,baz=291,slow=14,SNR=4.8
FIA0 FINESS Array S 111.26 336 *e*P **Pdif 09 12 17.7 -2.9**
FIA0 *i* 09 16 19.6
FIA0 FINESS Array S 111.26 336 Pdiff **Pdif 09 12 17.7 -2.9**
FIA0 *e*PKiKP **PKiKP 09 16 19.6 +0.6**
FINES FINESS Array B 111.26 336 PKiKP **PKiKP 09 16 19.6 +0.6**
comp=Z,1.5nm,0.7s,baz=60,slow=3.4,SNR=7.0
FINES PKiKP **PKiKP 09 16 19.6 +0.6**
comp=Z,2.3nm,0.7s,baz=145,slow=5.1,SNR=5.3
ANN Anapa 111.34 316 *e*P **Pdif 09 12 18.8 -2.5**
ANN *e* 09 16 56.5
ANN *e*SS SS 09 32 24.8 -5.4
ANN *e*SSS SSS 09 36 37.1
ANN pmax pmax
comp=Z,64nm,1.4s
ANN pmax pmax
comp=Z,35nm,1.0s
AKASG Malin Array Be 114.64 324 PKP PKPdf 09 16 25.6 -0.2
comp=Z,1.2nm,0.4s,baz=61,slow=2.3,SNR=10
AKASG PP **PP 09 17 23.8 +0.4**
comp=Z,0.4nm,0.4s,baz=62,slow=6.9,SNR=4.1
AKASG PKKPbc **PKKPbc 09 27 00.2 -5.4**
comp=Z,0.4nm,0.4s,baz=270,slow=1.9,SNR=4.6
KIEV Kiev 114.66 324⇑*i*PKIKP PKPdf 09 16 25.2 -0.6
BR101 Keskin Array S 115.38 312 *e*PKPdf **PKPdf 09 16 28.5 +0.8**
BRTR Keskin Array B 115.38 312 PKP **PKPdf 09 16 28.5 +0.8**
comp=Z,1.7nm,0.9s,baz=64,slow=2.9,SNR=4.8
BRTR PP **PP 09 17 29.1 -0.2**
comp=Z,2.4nm,1.1s,baz=39,slow=8.0,SNR=3.8
BR231 Keskin MP Arra 115.98 312 *e*PKPdf **PKPdf 09 16 28.8 0.0**
NB2 NORSAR Subarra117.15 340 PKPdf **PKPdf 09 16 29.9 -0.5**
comp=Z,8.3nm,1.0s,baz=46,slow=2.0
NB2 NORSAR Subarra117.15 340 PKPdf **PKPdf 09 16 29.9 -0.5**
baz=46,slow=2.0
NB200 NORSAR Array S 117.15 340 *e*PKPdf **PKPdf 09 16 29.5 -0.9**
NOA NORSAR Array B 117.15 340 PKP **PKPdf 09 16 29.5 -0.9**
comp=Z,3.4nm,0.9s,baz=48,slow=1.8,SNR=7.0
NBO02 NORSAR Array S 117.26 340 *e*PKPdf **PKPdf 09 16 30.9 +0.3**
BURAR Bucovina Array 118.33 322⇓*i*P **PKPdf 09 16 34.4 +1.3**
BURAR Bucovina Array 118.33 322⇓PKIKP **PKPdf 09 16 34.4 +1.3**
MLR Muntele Rosu 118.78 320⇑*i*P **PKPdf 09 16 34.5 +0.4**
MLR Muntele Rosu 118.78 320⇑PKIKP **PKPdf 09 16 34.5 +0.4**
KWP Kalwaria Pacla 118.87 325 *e*PKP **PKPdf 09 16 34.6 +0.6**
KWP Kalwaria Pacla 118.87 325 *e*PKIKP **PKPdf 09 16 34.6 +0.6**
UZH Uzhgorod 119.60 324 *e*PKIKP **PKPdf 09 16 42.8 +7.4**
UZH *e* 09 16 51.2
PLCA Paso Flores 119.64 143 PKP **PKPdf 09 16 35.8 -0.1**
comp=Z,1.7nm,0.8s,baz=236,slow=1.8,SNR=3.5
OJC Ojcow 120.18 327 *e*PKP **PKPdf 09 16 37.1 +0.6**
OJC Ojcow 120.18 327 *e*PKIKP **PKPdf 09 16 37.1 +0.6**
DRGR 120.23 322⇓*i*P **PKPdf 09 16 36.9 +0.1**
DRGR 120.23 322⇓PKIKP **PKPdf 09 16 36.9 +0.1**
NIE Niedzica 120.33 326 *e*PKP **PKPdf 09 16 37.9 +1.1**
NIE Niedzica 120.33 326 *e*PKIKP **PKPdf 09 16 37.9 +1.1**
LANS Liptovska Anna 120.94 326 *e*PKIKP **PKPdf 09 16 38.7 +0.7**
LANS Liptovska Anna 120.94 326 *e*PKP **PKPdf 09 16 38.7 +0.7**
OKC Ostrava-Krasne 121.28 327 *e*PKPdf **PKPdf 09 16 38.9 +0.3**
OKC AMS AMS 10 08 40.0
comp=Z,300nm,19.5s
OKC Ostrava-Krasne 121.28 327 *e*PKIKP **PKPdf 09 16 38.9 +0.3**
OKC MLR MLR
comp=Z,300nm,19.5s
BZS Buzias 121.45 322⇓*i*P **PKPdf 09 16 39.4 +0.4**
BZS Buzias 121.45 322⇓PKIKP **PKPdf 09 16 39.4 +0.4**
KARP Karpathos 121.50 309 *e*PKPdf **PKPdf 09 16 36.9 -2.6**
VYHS Vyhne 121.64 326 *e*PKIKP **PKPdf 09 16 39.5 +0.1**
VYHS Vyhne 121.64 326 *e*PKP **PKPdf 09 16 39.5 +0.1**
MORC Moravsky Berou 121.64 327⇑*i*P **PKPdf 09 16 40.1 +0.7**
MORC Moravsky Berou 121.64 327⇑PKIKP **PKPdf 09 16 40.1 +0.7**
MORC Moravsky Berou 121.64 327 *e*PKPdf **PKPdf 09 16 39.8 +0.5**
KSP Ksiaz 121.68 329 *e*PKP **PKPdf 09 16 40.2 +0.9**
KSP Ksiaz 121.68 329 *e*PKIKP **PKPdf 09 16 40.2 +0.9**
MDVR Moldovita 121.78 321⇓*i*P **PKPdf 09 16 40.2 +0.4**
VTS Vitosha 121.78 318⇑*i*P **PKPdf 09 16 40.6 +0.6**
VTS Vitosha 121.78 318⇑PKIKP **PKPdf 09 16 40.6 +0.6**
VTS Vitosha 121.78 318 *e*PKPdf **PKPdf 09 16 40.1 +0.1**
DPC Dobruska-Polom 121.96 329 *e*PKPdf **PKPdf 09 16 40.5 +0.5**
DPC Dobruska-Polom 121.96 329 *e*PKIKP **PKPdf 09 16 40.5 +0.5**
UPC Upice 122.03 329 *e*PKPdf **PKPdf 09 16 40.7 +0.7**
UPC AMS AMS 10 12 50.0
comp=Z,300nm,18.6s
UPC Upice 122.03 329 *e*PKIKP **PKPdf 09 16 40.7 +0.7**
UPC MLR MLR
comp=Z,300nm,18.6s
BLA Blacksburg 122.11 49 *e*PKIKP **PKPdf 09 16 41.4 +0.8**
BLA Blacksburg 122.11 49 *e*PKPdf **PKPdf 09 16 41.4 +0.8**
JSC Jenkinsville 122.41 52 *e*PKIKP **PKPdf 09 16 42.9 +1.7**
JSC Jenkinsville 122.41 52 *e*PKPdf **PKPdf 09 16 42.9 +1.7**
PVCC Panska Ves 122.75 330 *e*PKPdf **PKPdf 09 16 42.1 +0.7**
PVCC Panska Ves 122.75 330 *e*PKIKP **PKPdf 09 16 42.1 +0.7**
BRG Berggiesshubel 122.85 330 *i* PKP **PKPdf 09 16 42.1 +0.5**
comp=Z,15nm,1.0s
comp=Z,368nm,17.9s
comp=N,253nm,16.5s
comp=E,200nm,16.5s
BRG Berggiesshubel 122.85 330 *i* PKIKP **PKPdf 09 16 42.1 +0.5**
BRG pmax pmax
comp=Z,13nm,1.0s
BRG MLR MLR
comp=Z,15μm,17.9s
BRG MLR MLR
comp=N,368nm,16.5s
BRG MLR MLR
comp=E,253nm,16.5s
GOPC GO Pecny, Ondr 123.01 329 AMS AMS 10 13 10.0
comp=E,300nm,15.2s
TREC Trest 123.02 328 *e*PKPdf **PKPdf 09 16 42.5 +0.5**
TREC AMS AMS 10 10 50.0
comp=E,400nm,16.4s
TREC Trest 123.02 328 *e*PKIKP **PKPdf 09 16 42.5 +0.5**
TREC MLR MLR
comp=Z,400nm,16.4s
CLL Collm 123.04 331⇑*i*PKIKP **PKPdf 09 16 42.1 +0.2**
CLL *e* 09 16 52.0
CLL pmax pmax
comp=Z,17nm,1.0s
CLL MLR MLR
comp=Z,200nm,18.5s
CLL Collm 123.04 331⇑*i*PKPdf **PKPdf 09 16 42.1 +0.2**
comp=Z,17nm,1.0s
CLL *e* 09 16 52.0
CLL *e*PP **PP 09 18 22.0 +0.9**
CLL *e*PS **PS 09 28 13.0 -5.1**
CLL *e*PPS PPS 09 29 34.0
CLL *e*SS SS 09 35 00.0 -1.4
CLL *e*SSS SSS 09 39 42.0
CLL LmV 10 15 00.0
comp=Z,200nm,18.5s
CLL Collm 123.04 331 *e*PKPdf **PKPdf 09 16 42.1 +0.2**
PRU Pruhonice 123.09 329 *e*PKPdf **PKPdf 09 16 42.3 +0.2**
PRU AMS AMS 10 13 20.0
comp=Z,300nm,16.1s
PRU Pruhonice 123.09 329 *e*PKIKP **PKPdf 09 16 42.3 +0.2**
PRU MLR MLR
comp=Z,300nm,16.1s
SKO Skopje 123.23 318 *i* P **PKPdf 09 16 43.3 +0.7**
CONA Conrad Observa 123.61 326 *e*PKiKP **PKiKP 09 16 43.7 +0.2**
comp=Z,8.9nm,1.1s
KRUS Krusevo 123.63 317 *i* P **PKPdf 09 16 43.6 +0.1**
IP06 Yanceyville 123.66 47 *e*PKPdf **PKPdf 09 16 44.0 +0.5**
BIA Bitola 123.73 317 *i* P **PKPdf 09 16 44.2 +0.6**
JSRW J. Sargeant Re 123.82 47 *e*PKPdf **PKPdf 09 16 44.6 +0.8**
NKC Novy Kostel 124.00 330 *e*PKPdf **PKPdf 09 16 44.6 +0.8**
NKC AMS AMS 10 13 20.0
NKC Novy Kostel 124.00 330 *e*PKIKP **PKPdf 09 16 44.6 +0.8**
OHR Ohrid 124.05 317 *i* P **PKPdf 09 16 45.2 +1.0**
KHC Kasperske Hory 124.11 329 *e*PKPdf **PKPdf 09 16 44.5 +0.4**
KHC AMS AMS 10 14 50.0
KHC Kasperske Hory 124.11 329 *e*PKIKP **PKPdf 09 16 44.5 +0.4**
KHC Kasperske Hory 124.11 329 *e*PKPdf **PKPdf 09 16 44.6 +0.5**
GEC2 GERESS Array S 124.23 328 *e*PKIKP **PKPdf 09 16 44.9 +0.5**
GEC2 GERESS Array S 124.23 328 *e*PKPdf **PKPdf 09 16 44.9 +0.5**
GERES GERESS Array B 124.23 328 PKP **PKPdf 09 16 44.9 +0.5**
comp=Z,3.7nm,0.5s,baz=90,slow=1.3,SNR=47
GEA0 GERESS Array S 124.23 328 *e*PKPdf **PKPdf 09 16 44.4 0.0**
PDG Podgorica 124.46 319⇑*i*P **PKPdf 09 16 45.3 +0.4**
PSUB Penn St. - Bra 124.64 44 *e*PKPdf **PKPdf 09 16 46.3 +0.9**
PERS Pernice 124.77 325 *i* PKiKP **PKPdf 09 16 45.2 -0.3**
SOKA Soboth 124.79 326 *e*PKiKP **PKPdf 09 16 45.6 +0.1**
comp=Z,10nm,0.9s,SNR=5.9
OBKA Obir 125.16 326 *e*PKiKP **PKiKP 09 16 46.6 0.0**
comp=Z,8.5nm,1.2s
BOJS Bojanci 125.33 324 *e*PKiKP **PKiKP 09 16 46.9 0.0**
LJU Ljubljana 125.44 325 *e*PKiKP **PKiKP 09 16 47.0 -0.1**
KBA Koelnbreinsper 125.49 327 *e*PKiKP **PKPdf 09 16 47.0 0.0**
comp=Z,15nm,1.4s
MYKA Terra Mystica 125.59 326 *e*PKiKP **PKPdf 09 16 46.9 -0.2**
comp=Z,5.1nm,1.0s
ABTA Abfaltersbach 126.14 327 *e*PKiKP **PKPdf 09 16 47.8 -0.3**
comp=Z,16nm,1.0s
WATA Walderalm 126.28 328 *i* PKiKP **PKPdf 09 16 48.7 +0.2**
comp=Z,16nm,1.1s
WTTA Wattenberg 126.29 328 *e*PKiKP **PKPdf 09 16 48.6 0.0**
comp=Z,9.3nm,0.6s
MOTA Moosalm 126.52 328 *e*PKiKP **PKiKP 09 16 49.2 -0.2**
comp=Z,26nm,1.1s,SNR=7.1
STU Stuttgart 126.56 331 *e*PKIKP **PKPdf 09 16 50.0 +1.2**
STU Stuttgart 126.56 331 *e*PKPdf **PKPdf 09 16 50.0 +1.2**
RETA Reutte 126.61 329 *i* PKiKP **PKiKP 09 16 49.3 -0.2**
comp=Z,12nm,1.3s
MEM Membach 126.74 334 PKP **PKPdf 09 16 49.9 +0.9**
FETA Feichten 126.93 328 *e*PKiKP **PKiKP 09 16 50.4 +0.1**
comp=Z,23nm,1.0s,SNR=12
BCLA Clavier 127.18 334 PKP **PKPdf 09 16 49.8 -0.1**
DAVA Damuels 127.20 329 *e*PKiKP **PKiKP 09 16 51.2 +0.4**
comp=Z,19nm,1.0s
BFO Black Forest 127.28 331 *e*PKIKP **PKPdf 09 16 50.4 +0.2**
BFO Black Forest 127.28 331 *e*PKPdf **PKPdf 09 16 50.4 +0.2**
FUORN Ofenpass-Fuorn 127.43 328 *e*PKPdf **PKPdf 09 16 51.6 +0.8**
SNF Seneffe 127.55 335 PKP **PKPdf 09 16 52.1 +1.6**
DOU Dourbes 127.73 334 PKP **PKPdf 09 16 52.0 +1.1**
ECH Echery 127.92 331 PKP **PKPdf 09 16 52.0 +0.6**
TUE Stuetta 128.01 328 *e*PKPdf **PKPdf 09 16 52.4 +0.5**
MOF Molkenrain 128.19 331 PKP **PKPdf 09 16 52.4 +0.4**
LOMF Lomont 128.69 331 PKP **PKPdf 09 16 53.6 +0.6**
BNI Bardonecchia 130.34 329 *e*PKIKP **PKPdf 09 16 57.1 +0.8**
BNI Bardonecchia 130.34 329 *e*PKPdf **PKPdf 09 16 57.1 +0.8**
LVC Limon Verde 130.94 126 SKPbc **SKPab 09 20 24.6 +5.7**
comp=Z,7.5nm,0.3s,baz=200,slow=5.2,SNR=5.0
LVC Limon Verde 130.94 126 *e*PKPdf **PKPdf 09 16 59.7 +1.4**
PLDF La Plantade 131.22 331 PKP **PKPdf 09 16 59.1 +1.3**
AGO Saint Agoulin 131.39 332 PKP **PKPdf 09 16 59.7 +1.6**
LBL Lubilhac 131.94 331 PKP **PKPdf 09 17 01.3 +2.1**
MOTC Monteria, Cord 131.96 83 *e*P **PKPdf 09 16 57.4 -2.6**
MNMC Minye Minye 131.96 121 *e*PKPdf **PKPdf 09 17 01.7 +1.4**
HELC Santa Helena 132.09 86 *e*P **PKPdf 09 16 60.0 -0.7**
HELC Santa Helena 132.09 86 *e*PKPdf **PKPdf 09 17 01.7 +1.0**
VSL Villasalto 132.34 321 *e*PKPdf **PKPdf 09 16 59.9 -0.2**
PRAC Prado 132.63 90 *e*P **PKPdf 09 17 01.5 +0.2**
PRAC Prado 132.63 90 *e*PKPdf **PKPdf 09 17 02.2 +0.8**
ZARC Zaragoza, Cauc 132.77 85 *e*P **PKPdf 09 16 59.5 -2.1**
ROSC El Rosal 133.25 88 PKP **PKPdf 09 17 02.4 -0.6**
comp=Z,4.4nm,0.5s,baz=223,slow=23,SNR=4.1
ROSC El Rosal 133.25 88 *e*PKPdf **PKPdf 09 17 01.9 -1.1**
CHIC Chingaza 133.82 88 *e*P **PKPdf 09 17 01.5 -2.5**
BRRC Barranca, Sant 133.91 85 *e*P **PKPdf 09 16 56.9 -6.8**
LPAZ La Paz 134.43 119 PKP **PKPdf 09 17 05.8 +0.4**
comp=Z,5.7nm,0.8s,baz=15,slow=2.9,SNR=14
LPAZ SKPbc **SKPab 09 20 35.9 +1.5**
comp=Z,3.9nm,1.1s,baz=297,slow=2.0,SNR=6.6
KEST Kesra 134.51 317 PKP **PKPdf 09 17 05.2 +0.8**
comp=Z,13nm,1.0s,baz=261,slow=3.3,SNR=7.7
RUSC La Rusia 134.51 87 *e*P **PKPdf 09 17 01.0 -4.4**
RUSC La Rusia 134.51 87 *e*PKPdf **PKPdf 09 17 04.3 -1.1**
SDV Santo Domingo 136.93 83 *e*PKPdf **PKPdf 09 17 10.0 +0.4**
CPUP Villa Florida 137.35 139 PKP **PKPdf 09 17 10.7 +0.9**
comp=Z,3.7nm,0.9s,baz=264,slow=0.7,SNR=7.7
CPUP Villa Florida 137.35 139 *e*PKIKP **PKPdf 09 17 11.0 +1.2**
CPUP Villa Florida 137.35 139 *e*PKPdf **PKPdf 09 17 11.0 +1.2**
PBRG Braganca 139.09 336 *e*PKPdf **PKPdf 09 17 13.1 +0.5**
PGAV Gavieira, Arco 139.54 338 *e*PKPdf **PKPdf 09 17 11.9 -1.6**
PGAV Gavieira, Arco 139.54 338 *e*LR LR 10 09 27.2
ESDC Sonseca Array 139.62 332 PKhKP PKPpre 09 17 06.9
comp=Z,0.2nm,0.4s,baz=358,slow=2.7,SNR=4.3
ESDC PP **PP 09 20 07.1 -1.0**
comp=Z,0.2nm,0.3s,baz=37,slow=6.6,SNR=4.3
ESDC SKPab **SKPab 09 20 59.5 +3.6**
comp=Z,0.5nm,0.3s,baz=322,slow=9.4,SNR=7.0
PCAB Cabril 139.67 337 *e*PKPdf **PKPdf 09 17 14.6 +1.0**
MVO Moncorvo 139.74 336 *e*PKPdf **PKPdf 09 17 15.2 +1.4**
MVO Moncorvo 139.74 336 *e*LR LR 10 08 35.9
comp=Z,225nm,18.0s
POLO Lamas de Olo 139.87 337 *e*PKPdf **PKPdf 09 17 15.4 +1.3**
POLO Lamas de Olo 139.87 337 *e*LR LR 10 08 09.1
HUMP Col San Antoni 140.27 68 *e*PKPdf **PKPdf 09 17 16.3 +1.0**
MTE Manteigas 140.60 336 *e*PKPdf **PKPdf 09 17 15.1 -0.3**
MTE Manteigas 140.60 336 *e*LR LR 10 07 46.3
comp=Z,170nm,20.0s
MTE Manteigas 140.60 336 *e*PKPdf **PKPdf 09 17 15.8 +0.4**
PCBR Castelo Branco 141.04 335 *e*PKPdf **PKPdf 09 17 17.2 +1.1**
PMRV Marv??o 141.35 335 *e*PKPdf **PKPdf 09 17 19.3 +2.6**
SAML Samuel 141.67 111 *e*PKPdf **PKPdf 09 17 16.9 -1.0**
PESTR Estremoz 141.91 335 *e*LR LR 10 08 54.5
comp=Z,226nm,18.0s
PBAR Barrancos 142.24 333 *e*PKPdf **PKPdf 09 17 19.0 +0.7**
PBAR Barrancos 142.24 333 *e*LR LR 10 10 06.5
comp=Z,365nm,20.0s
PMAFR Mafra 142.53 337 *e*LR LR 10 09 46.8
comp=Z,225nm,20.0s
PBEJ Beja 142.73 334 *e*PKPdf **PKPdf 09 17 17.3 -1.9**
PNCL Nicolau / Gran 142.94 335 *e*PKPdf **PKPdf 09 17 16.4 -3.1**
PNCL Nicolau / Gran 142.94 335 *e*LR LR 10 10 14.5
comp=Z,220nm,20.0s
PCVE Castro Verde 143.13 334 *e*PKPdf **PKPdf 09 17 19.1 -0.8**
PCVE Castro Verde 143.13 334 *e*LR LR 10 12 28.9
PVAQ Vaqueiros 143.18 333 *e*LR LR 10 09 58.6
comp=Z,217nm,20.0s
PBDV Barranco-do-Ve 143.41 334 *e*PKPdf **PKPdf 09 17 19.4 -1.1**
PBDV Barranco-do-Ve 143.41 334 *e*LR LR 10 09 42.8
PTEO Sao Teotonio 143.50 335 *e*PKPdf **PKPdf 09 17 19.5 -1.1**
TBG Guadaloupe-3 144.72 70 *e*P **PKPdf 09 17 22.9 -0.4**
BBL Barber's Block 144.96 70 *e* **PKPab 09 17 22.6 -0.4**
SPB Sao Paulo 145.40 146 *e*PKPdf **PKPab 09 17 25.1 +0.8**
GRW Mount Saint Ca 145.43 76 *e* **PKPdf 09 17 23.8 -0.8**
GRGR Grenville 145.44 76 *e*PKPdf **PKPdf 09 17 23.0 -1.5**
FDF Fort de France 145.44 71 *e* **PKPab 09 17 25.5 +0.7**
FDF Fort de France 145.44 71 *e*PKIKP **PKPab 09 17 25.3 +0.5**
FDF Fort de France 145.44 71 *e*PKPdf **PKPab 09 17 25.3 +0.5**
GRSS Sisters 145.45 76 *e* **PKPdf 09 17 23.7 -0.8**
RTC Rabat Centre 145.52 329 *e*PKPdf **PKPab 09 17 25.9 +1.4**
BIM Bigot 145.56 72 *e*P **PKPab 09 17 27.1 +1.8**
SVB Belmont 145.64 74 *e*P **PKPab 09 17 25.4 -0.1**
SVB Belmont 145.64 74 *e*PKPdf **PKPdf 09 17 24.6 -0.3**
TPP Pointe-a-Pierr 145.87 79 *e*P **PKPab 09 17 27.7 +1.3**
TRN Trinidad (W) 145.88 79 *e*P **PKPbc 09 17 26.1 +0.1**
TBH Brigand Hill 146.22 79 *e*P **PKPdf 09 17 21.9 -4.0**
TBH Brigand Hill 146.22 79 *e* **PKPdf 09 17 25.6 -0.3**
TPR Prospect 146.42 78 *e*P **PKPbc 09 17 27.3 -0.3**
BOT Bacolet 146.48 78 *e* **PKPab 09 17 29.0 +0.2**
TOSP Speyside 146.64 77 *e*P **PKPab 09 17 29.0 -0.4**
PTGA Pitinga 146.94 99 *e*PKPbc **PKPbc 09 17 29.4 +0.3**
BBGH Gun Hill 147.28 74 *e* **PKPdf 09 17 26.9 -0.7**
BBSP Saint Philip 147.38 74 *e* **PKPdf 09 17 25.1 -2.7**
TOA0 Torodi Ar. Sit 150.23 288 *e*PKPdf **PKPdf 09 17 31.2 -1.3**
TOA0 *e*PKPdf **PKPbc 09 17 31.4 -6.2**
TOA0 *e*PKPbc **PKiKP 09 17 37.1 -1.2**
TOA0 *e*PKPbc **PKiKP 09 17 37.1 -1.2**
TOA0 *e*PKPab **PKPab 09 17 41.7 -2.1**
TORD Torodi Ar. Bea 150.23 288 PKP **PKPdf 09 17 32.1 -0.3**
comp=Z,7.7nm,1.2s,baz=14,slow=0.8,SNR=7.0
TORD PKPbc **PKPbc 09 17 37.5 -0.1**
comp=Z,26nm,0.9s,baz=63,slow=2.2,SNR=64
TORD PP **PP 09 21 12.2 -0.8**
comp=Z,1.4nm,1.0s,baz=64,slow=6.8,SNR=3.8
TOA1 Torodi Ar. Sit 150.23 288 *e*PKPdf **PKPdf 09 17 32.1 -0.3**
TOA1 *e*PKPbc **PKPbc 09 17 37.5 -0.1**
PMPS Porto Santo 150.35 341 *e*PKPbc **PKPbc 09 17 38.5 +1.1**
KIC Kosan Boka 157.44 274 *e*PKP2 **PKPab 09 18 13.8 -0.6**
comp=Z,64nm,0.8s
DBIC Dimbokro 157.54 275 PKPab **PKPab 09 18 14.9 +0.1**
comp=Z,20nm,0.8s,baz=71,slow=5.9,SNR=20
DBIC Dimbokro 157.54 275 *e*PKP2 **PKPab 09 18 14.6 -0.2**
DBIC Dimbokro 157.54 275 *e*PKPab **PKPab 09 18 14.6 -0.2**
TIC Toumodi 157.70 275 *e*PKP2 **PKPab 09 18 14.8 -0.8**
LIC Lamto 157.73 274 *e*PKP2 **PKPab 09 18 14.9 -0.8**
comp=Z,68nm,1.0s

CSEM ***03*** *09:14:06.5,39°.68N×29°.37E, h7km, MD2.4, Suspected Mining explosion.*

DDA 03 09:14:06.5,39°.68N×29°.37E, h7km, Md2.4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.59**	**171**	*i* P	Pg	09 14 18.3	+0.3
GDZ				*i* S	Sb	09 14 27.1	-0.8
GDZ	**Gediz**	**0.59**	**171**	P	Pg	09 14 18.3	+0.3
GDZ				S	Sb	09 14 27.1	-0.9
BORA	**Eskisehir**	**0.86**	**76**	*i* P	Pg	09 14 20.8	-2.3
BORA				*i* S	Sb	09 14 35.2	-0.4
BORA	**Eskisehir**	**0.86**	**76**	P	Pg	09 14 20.8	-2.2
BORA				S	Sb	09 14 35.2	-0.4
GEYV	**SAKARYA_Geyve**	**1.07**	**41**	*i* P	Pg	09 14 26.0	-1.1
GEYV				*i* S	Sn	09 14 43.4	+0.3
GEYV	**SAKARYA_Geyve**	**1.07**	**41**	P	Pg	09 14 26.0	-1.1
GEYV				S	Sn	09 14 43.4	+0.3
ESKT	**Eskisehir**	**1.16**	**97**	*i* P	Pg	09 14 28.6	-0.1
ESKT				*i* S	Sg	09 14 43.0	-0.7
SEYT	**Eskypehyr**	**1.16**	**97**	P	Pg	09 14 28.6	-0.1
SEYT				S	Sg	09 14 43.0	-0.7

IDC ***03*** *09:22:14.2±0.7, 28°.00S×72°.47W, h0km, mb4.2/6, mb1 4.4/9, mb1mx4.2/22, mbtmp4.3/9, ML4.8/3, MS3.6/7, Ms1 3.6/7, ms1mx3.4/25, Error ellipse: s-maj=27.3km s-min=20.8km az=87.0*

ISCJB ***03*** *09:22:17.8±0.6, 27°.78S±0°.03×72°.35W±0°.06, h33km, mb4.3/8, MS3.5/3, Error ellipse: s-maj=7.0km s-min=3.7km az=175.5*

NEIC ***03*** *09:22:18.0±0.0, 27°.94S×72°.20W, h40km, mb4.4/1, After GUC.*

GUC ***03*** *09:22:18.8±0.6, 27°.94S×72°.20W, h40km±27km, ML4.5*

SJA ***03*** *09:22:21.6±0.9, 28°.04S×72°.13W, h46km±18km, ML4.5, MW4.3*

ISC 03 09:22:17.8±1.0**, 27°.87S**±0°.04×**72°.41W**±0°.08**, h27**km±6km**, n60,** σ2**.15/77, mb4.6/8, MS3.3/3, 4D, Off coast of northern Chile**

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CDCH	**Caldera**	**1.62**	**61**	*e*P	**Pn**	**09 22 44.2**	**-0.5**
CDCH				*i* S	**Sn**	**09 23 03.4**	**-1.3**
CDCH				IAML		09 23 04.0	
	comp=E,7μm,0.3s						
LCO	**Las Campanas**	**1.89**	**127**	⇓*i*P	**Pn**	**09 22 48.0**	**-0.6**
LCO				*i* S	**Sn**	**09 23 09.5**	**-2.1**
LCO				IAML		09 23 10.6	
	comp=E,5μm,0.2s						
LCO	**Las Campanas**	**1.89**	**127**	*e*P	**Pn**	**09 22 48.4**	**-0.2**
LCO				*e*S	**Sn**	**09 23 09.3**	**-2.3**
LCO	**Las Campanas**	**1.89**	**127**	*e*Pn	**Pn**	**09 22 47.3**	**-1.2**
LCO				*e*Sn	**Sn**	**09 23 09.6**	**-2.0**
CPCH	**Copiapo**	**1.90**	**75**	⇓*i*P	**Pn**	**09 22 47.1**	**-1.3**
CPCH				*i* S	**Sn**	**09 23 09.4**	**-2.1**
CPCH				IAML		09 23 13.0	
	comp=N,20μm,0.1s						
TLL	**Tololo Astrono**	**2.69**	**149**	⇓*i*P	**Pn**	**09 22 59.0**	**-0.5**
TLL				*i* S	**Sn**	**09 23 27.7**	**-3.7**
PB14	**IPOC Station P**	**3.70**	**30**	*e*P	**Pn**	**09 23 11.8**	**-1.7**
PB14				*e*S	**Sn**	**09 23 53.0**	**-3.5**
AGUA	**GUANDACOL**	**3.80**	**116**	*e*P	**Pn**	**09 23 18.9**	**+4.2**
VCA	**Vinchina**	**3.81**	**104**	*e*P	**Pn**	**09 23 18.9**	**+4.0**
AMOG	**MOGNA**	**4.59**	**133**	*e*P	**Pn**	**09 23 28.2**	**+2.7**
PB10	**IPOC Station P**	**4.65**	**22**	*e*P	**Pn**	**09 23 24.3**	**-2.1**
PB10				*e*S	**Sn**	**09 24 14.2**	**-5.3**
RTLL	**Cerro Villicun**	**4.86**	**136**	*e*P	**Pn**	**09 23 31.3**	**+2.0**
ACLC	**CERRO LA CRUZ**	**5.04**	**109**	*e*P	**Pn**	**09 23 33.9**	**+2.0**
AUSP	**Uspallata**	**5.07**	**150**	*e*P	**Pn**	**09 23 34.6**	**+2.3**
AVFE	**Valle Fertil**	**5.14**	**124**	*e*P	**Pn**	**09 23 35.1**	**+1.9**
AVFE				IAML		09 23 36.0	
	comp=Z,258nm,0.6s						
RTCV	**Cerro Valdivia**	**5.21**	**141**	*e*P	**Pn**	**09 23 36.1**	**+2.0**
ROC1	**El Roble**	**5.23**	**167**	*e*P	**Pn**	**09 23 33.1**	**-1.4**
ROC1				*e*P	**Pn**	**09 23 33.1**	**-1.4**
ROC1				*e*S	**Sn**	**09 24 27.6**	**-6.4**
ASAL	**Salagasta**	**5.63**	**148**	*e*P	**Pn**	**09 23 42.0**	**+2.1**
APLL	**PUNTA DE LOS L**	**5.73**	**117**	*e*P	**Pn**	**09 23 42.7**	**+1.5**
ARCO	**CERRO ARCO**	**5.79**	**150**	*e*P	**Pn**	**09 23 44.3**	**+2.1**
ARCO				IAML		09 25 16.3	
	comp=Z,160nm,0.6s						
CYA	**Choya**	**5.86**	**97**	*e*P	**Pn**	**09 23 44.5**	**+1.5**
CYA				*e*P	**Pn**	**09 23 44.6**	**+1.5**
CYA				IAML		09 23 46.6	
	comp=Z,395nm,0.4s						
ACHE	**Chepes**	**5.99**	**125**	*e*P	**Pn**	**09 23 46.2**	**+1.4**
FSA	**Cafayete**	**6.00**	**74**	*e*P	**Pn**	**09 23 48.6**	**+3.5**
AAGR	**Agrelo**	**6.05**	**150**	*e*P	**Pn**	**09 23 48.9**	**+3.2**
LVC	**Limon Verde**	**6.12**	**32**	Pn	**Pn**	**09 23 47.3**	**+0.4**
	comp=Z,877nm,0.3s,baz=225,slow=11,SNR=184						
LVC				Sn	**Sn**	**09 24 53.2**	**-3.0**
	comp=Z,1μm,0.3s,baz=78,slow=20,SNR=12						
LVC				LR	LR	09 26 27.6	
	comp=Z,1μm,20.9s,baz=254,slow=40						
LVC	**Limon Verde**	**6.12**	**32**	*e*P	**Pn**	**09 23 46.8**	**-0.1**
LVC				*e*S	**Sn**	**09 24 53.3**	**-3.0**
LVC	**Limon Verde**	**6.12**	**32**	*e*Pn	**Pn**	**09 23 47.0**	**+0.1**
	comp=Z,86nm,0.5s						
LVC				Pn	**Pn**	**09 23 47.3**	**+0.4**
LVC				Sn	**Sn**	**09 24 53.2**	**-3.0**
LVC				*e*Sn	**Sn**	**09 24 54.2**	**-2.0**
ACAN	**Cantantal**	**6.30**	**135**	*e*P	**Pn**	**09 23 50.5**	**+1.4**
AHML	**Horco Molle**	**6.39**	**82**	*e*P	**Pn**	**09 23 52.6**	**+2.4**
MRA	**San Martin**	**7.36**	**130**	*e*P	**Pn**	**09 24 04.0**	**+0.4**
TCA	**Tanti**	**7.63**	**119**	*e*P	**Pn**	**09 24 07.2**	**-0.2**
HJA	**Humahuaca**	**7.84**	**55**	*e*P	**Pn**	**09 24 13.5**	**+2.9**
LPAZ	**La Paz**	**12.19**	**20**	Pn	**Pn**	**09 25 10.6**	**+0.2**
	comp=Z,5.1nm,0.3s,baz=211,slow=6.3,SNR=159						
LPAZ				Sn	**Sn**	**09 27 25.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=54,slow=17,SNR=5.1						
PLCA	**Paso Flores**	**12.92**	**174**	Pn	**Pn**	**09 25 18.1**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=1.7,slow=10,SNR=37						
PLCA				LR	LR	09 30 01.3	
	comp=Z,197nm,19.8s,baz=16,slow=36						
TRQA	**Tornquist**	**13.40**	**142**	*e*Pn	**Pn**	**09 25 24.3**	**-2.0**
	comp=Z,16nm,0.8s						
CPUP	**Villa Florida**	**13.52**	**87**	Pn	**Pn**	**09 25 26.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=253,slow=12,SNR=5.6						
CPUP				LR	LR	09 31 05.9	
	comp=Z,178nm,21.6s,baz=276,slow=39						
SIV	**San Ignacio**	**15.81**	**44**	Pn	**Pn**	**09 25 53.5**	**-5.2**
	comp=Z,1.3nm,0.3s,baz=254,slow=12,SNR=10						
SIV				Sn	Sn	09 28 40.3	-13
	comp=Z,0.2nm,0.3s,baz=328,slow=19,SNR=2.8						
NNA	**Nana**	**16.34**	**344**	LR	LR	09 30 57.4	
	comp=Z,114nm,18.4s,baz=173,slow=32						
SAML	**Samuel**	**20.74**	**27**	*e*P	**P**	**09 26 57.6**	**+1.1**
	comp=Z,27nm,1.3s						
ATAH	**Atahualpa**	**21.39**	**344**	LR	LR	09 34 30.6	
	comp=Z,71nm,19.4s,baz=182,slow=34						
USHA	**Ushuaia**	**27.09**	**175**	LR	LR	09 38 04.7	
	comp=Z,491nm,21.7s,baz=104,slow=35						
PTGA	**Pitinga**	**29.50**	**26**	LR	LR	09 41 46.0	
	comp=Z,80nm,20.6s,baz=113,slow=40						
TXAR	**Lajitas Array**	**64.27**	**330**	P	**P**	**09 32 52.3**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=156,slow=8.0,SNR=5.3						
LIC	**Lamto**	**73.24**	**73**	*e*P	**P**	**09 33 47.5**	**+0.5**
	comp=Z,54nm,1.7s						
TIC	**Toumodi**	**73.46**	**73**	*e*P	**P**	**09 33 48.2**	**-0.2**
KIC	**Kosan Boka**	**73.55**	**73**	*e*P	**P**	**09 33 49.4**	**+0.5**
	comp=Z,31nm,1.2s						
DBIC	**Dimbokro**	**73.61**	**73**	P	**P**	**09 33 50.0**	**+0.7**
	comp=Z,4.5nm,0.6s,baz=222,slow=5.4,SNR=12						
PDAR	**Pinedale Array**	**78.17**	**333**	P	**P**	**09 34 15.6**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=183,slow=4.5,SNR=2.2						
MAW	**Mawson**	**79.14**	**164**	P	**P**	**09 34 20.0**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=202,slow=6.5,SNR=15						
TORD	**Torodi Ar. Bea**	**82.47**	**71**	P	**P**	**09 34 39.0**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=261,slow=4.7,SNR=16						
BOSA	**Boshof**	**83.24**	**119**	P	**P**	**09 34 43.1**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=259,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**122.82**	**209**	PKP	**PKPdf**	**09 41 11.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=128,slow=1.6,SNR=10						
WRA	**Warramunga Arr**	**125.88**	**212**	PKP	**PKPdf**	**09 41 17.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=152,slow=1.7,SNR=28						
AKTO	**Aktyubinsk**	**136.44**	**45**	PKP	**PKPdf**	**09 41 36.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=7.1,slow=8.1,SNR=2.3						
KURK	**Kurchatov**	**148.36**	**36**	PKPbc	**PKPbc**	**09 42 02.5**	**+1.1**
KURBB	**Kurchatov Arra**	**148.37**	**36**	PKPbc	**PKPbc**	**09 42 02.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=299,slow=3.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**149.05**	**26**	PKPbc	**PKPbc**	**09 42 04.0**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=326,slow=3.0,SNR=7.3						
ZALV				PKPab	**pPKPdf**	**09 42 08.7**	**+0.8**
	comp=Z,7.9nm,0.8s,baz=296,slow=3.8,SNR=17						
AAK	**Ala-Archa**	**149.44**	**52**	PKPbc	**PKPbc**	**09 42 06.8**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=188,slow=7.1,SNR=2.3						
AAK				PKPab	**PKPab**	**09 42 11.5**	**+2.0**
	comp=Z,4.4nm,0.9s,baz=221,slow=3.9,SNR=6.4						
MKAR	**Makanchi Array**	**152.60**	**40**	PKPbc	**PKPbc**	**09 42 11.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=333,slow=1.4,SNR=4.3						
MKAR				PKPab	**sPKPbc**	**09 42 24.2**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=313,slow=2.2,SNR=9.4						

*ISCJB **03** 09:30:39.0±0.9, 42°.04N±0°.03×49°.18E±0°.06, h4km±5km, Error ellipse: s-maj=7.5km s-min=4.8km az=157.6*
*MOS **03** 09:30:38.0±0.9, 41°.99N×49°.29E, h12km, mb4.0/1, Error ellipse: s-maj=19.0km s-min=9.4km az=10.1*
*CSEM **03** 09:30:39.6±0.5, 42°.02N×49°.17E, h5km, mb4.0, Error ellipse: s-maj=9.4km s-min=4.7km az=71.0*
*AZER **03** 09:30:39.6±0.5, 41°.89N×49°.22E, h30km, Error ellipse: s-maj=1.4km s-min=0.8km az=252.0*

ISC 03 09:30:40.3±1.5, 42°.01N±0°.04×49°.16E±0°.06, h14km±9km, n52, σ0°95/85, 15C-15D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.61**	**272**	⇓*i*PG	**Pg**	**09 30 52.2**	**-0.2**
DRN				*e*		09 31 02.2	
DRN				pmax	pmax		
	comp=Z,1μm,0.3s						
DRN				smax	smax		
	comp=E,3μm,0.3s						
DRN				smax	smax		
	comp=N,4μm,0.7s						
DRN				smax	smax		
	comp=N,5μm,0.5s						
DRN	**Derbent**	**0.61**	**272**	*i* Pg	**Pg**	**09 30 52.2**	**-0.2**
	comp=N,1μm,0.3s						
DRN				*e*Sg	**Sb**	**09 31 02.2**	**+0.9**
	comp=N,5μm,0.5s						
QUBA	**Quba, Azerbaij**	**0.82**	**217**	⇑P	**Pg**	**09 30 55.8**	**-0.4**
	SNR=23						
QUBA				⇓S	**Sb**	**09 31 08.1**	**+0.9**
QUBA	**Quba, Azerbaij**	**0.82**	**217**	P	**Pg**	**09 30 55.8**	**-0.4**
	SNR=23						
QUBA				S	**Sb**	**09 31 08.1**	**+0.9**
QSAR	**Qusar**	**0.83**	**234**	⇓P	**Pg**	**09 30 55.9**	**-0.6**
	SNR=122						
QSAR				⇓S	**Sb**	**09 31 08.4**	**+0.8**
QSAR	**Qusar**	**0.83**	**234**	P	**Pg**	**09 30 55.8**	**-0.6**
	SNR=122						
QSAR				S	**Sb**	**09 31 08.4**	**+0.8**
SIZA	**Siyzn**	**0.95**	**192**	⇑P	**Pg**	**09 30 58.8**	**+0.1**
	SNR=5.3						
SIZA				⇑S	**Sg**	**09 31 11.2**	**+0.1**
SIZA	**Siyzn**	**0.95**	**192**	P	**Pg**	**09 30 58.8**	**+0.1**
	SNR=5.3						
SIZA				S	**Sg**	**09 31 11.2**	**+0.1**
XNQ	**Khinaliq**	**1.13**	**223**	⇓P	**Pb**	**09 31 00.9**	**-0.9**
	SNR=17						
XNQ				⇑S	**Sn**	**09 31 17.5**	**+0.2**
XNQ	**Khinaliq**	**1.13**	**223**	P	**Pb**	**09 31 00.9**	**-0.9**
	SNR=17						
XNQ				S	**Sn**	**09 31 17.5**	**+0.2**
URKR	**Urkarakh**	**1.14**	**278**	*e*PG	**Pb**	**09 31 00.0**	**-1.9**
URKR				*i* S	**Sb**	**09 31 16.2**	**-0.5**
URKR				pmax	pmax		
	comp=Z,278nm,0.1s						
URKR	**Urkarakh**	**1.14**	**278**	*e*Pg	**Pb**	**09 31 00.0**	**-1.9**
	comp=Z,278nm,0.1s						
URKR				*i* Sg	**Sb**	**09 31 16.2**	**-0.5**
ATGJ	**Altiaghaj**	**1.16**	**188**	⇑P	**Pb**	**09 31 01.1**	**-1.0**
	SNR=5.7						
ATGJ				⇓S	**Sn**	**09 31 17.6**	**-0.2**
ATGJ	**Altiaghaj**	**1.16**	**188**	P	**Pb**	**09 31 01.1**	**-1.0**
	SNR=5.7						
ATGJ				S	**Sn**	**09 31 17.6**	**-0.2**
AKT	**Akhty**	**1.19**	**244**	*e*PG	**Pn**	**09 31 01.6**	**-1.0**
AKT				*e*		09 31 18.9	
AKT				pmax	pmax		
	comp=Z,168nm,0.3s						
AKT				smax	smax		
	comp=E,1μm,0.3s						
AKT				smax	smax		
	comp=E,1μm,0.3s						
AKT				smax	smax		
	comp=N,719nm,0.3s						
AKT	**Akhty**	**1.19**	**244**	*e*Pg	**Pn**	**09 31 01.6**	**-1.0**
	comp=N,168nm,0.3s						
AKT				*e*Sg	**Sg**	**09 31 18.9**	**+0.1**
	comp=N,719nm,0.3s						
SGKR	**Sergokala**	**1.20**	**293**	*e*PG	**Pn**	**09 31 01.0**	**-1.7**
SGKR				*i* S	**Sb**	**09 31 18.0**	**-0.2**
SGKR	**Sergokala**	**1.20**	**293**	*e*Pg	**Pn**	**09 31 01.0**	**-1.7**
SGKR				*i* Sg	**Sb**	**09 31 18.0**	**-0.2**
PQL	**Pirkuli**	**1.29**	**199**	⇓P	**Pn**	**09 31 03.1**	**-0.9**
	SNR=3.5						
PQL				⇓S	**Sg**	**09 31 22.4**	**+0.4**
PQL	**Pirkuli**	**1.29**	**199**	P	**Pn**	**09 31 03.1**	**-0.9**
	SNR=3.5						
PQL				S	**Sg**	**09 31 22.4**	**+0.4**
IML	**Ismayilli**	**1.42**	**211**	⇑P	**Pn**	**09 31 05.7**	**0.0**
	SNR=5.8						
IML				⇑S	**Sg**	**09 31 25.4**	**-0.6**
IML	**Ismayilli**	**1.42**	**211**	P	**Pn**	**09 31 05.7**	**0.0**
	SNR=5.8						
IML				S	**Sg**	**09 31 25.4**	**-0.6**
QBL	**Gabala**	**1.45**	**223**	⇓P	**Pb**	**09 31 07.3**	**+0.2**
	SNR=4.0						
QBL				⇑S	**Sb**	**09 31 25.6**	**+0.1**
QBL	**Gabala**	**1.45**	**223**	P	**Pb**	**09 31 07.3**	**+0.2**
	SNR=4.0						
QBL				S	**Sb**	**09 31 25.6**	**+0.1**
GBS	**Qobustan**	**1.48**	**186**	⇓P	**Pg**	**09 31 09.0**	**+0.2**
	SNR=3.8						
GBS				⇑S	**Sg**	**09 31 31.9**	**+3.9**
GBS	**Qobustan**	**1.48**	**186**	P	**Pg**	**09 31 09.0**	**+0.2**
	SNR=3.8						
MAK	**Makhachkala**	**1.55**	**309**	*e*PN	**Pn**	**09 31 07.0**	**-0.4**
MAK				*e*		09 31 11.7	
MAK				*e*		09 31 32.8	
MAK				pmax	pmax		
	comp=Z,76nm,0.4s						
MAK	**Makhachkala**	**1.55**	**309**	*e*Pn	**Pn**	**09 31 07.0**	**-0.4**
	comp=Z,76nm,0.4s						
MAK	**Makhachkala**	**1.55**	**309**	*e*Pg	**Pg**	**09 31 11.7**	**+1.6**
SEKA	**Sheki**	**1.67**	**242**	⇓Pn	**Pn**	**09 31 09.9**	**+0.6**
	SNR=21						
SEKA				⇑Sn	**Sb**	**09 31 32.0**	**+0.2**
SEKA	**Sheki**	**1.67**	**242**	PN	**Pn**	**09 31 09.8**	**+0.6**
SEKA	**Sheki**	**1.67**	**242**	Pn	**Pn**	**09 31 09.8**	**+0.6**
SEKA				Sn	**Sb**	**09 31 32.0**	**+0.2**
GNBR	**Gunib**	**1.67**	**284**	*e*PN	**Pn**	**09 31 09.3**	**+0.1**
GNBR				pmax	pmax		
	comp=Z,36nm,0.1s						
GNBR	**Gunib**	**1.67**	**284**	*e*Pn	**Pn**	**09 31 09.3**	**+0.1**
	comp=Z,36nm,0.1s						
ARKR	**Arakani**	**1.71**	**291**	PN	**Pn**	**09 31 10.5**	**+0.8**
ARKR	**Arakani**	**1.71**	**291**	Pn	**Pn**	**09 31 10.5**	**+0.8**
KRNR	**Karanay**	**1.85**	**297**	*e*PN	**Pn**	**09 31 12.0**	**+0.2**
KRNR				pmax	pmax		
	comp=Z,52nm,0.2s						
KRNR	**Karanay**	**1.85**	**297**	*e*Pn	**Pn**	**09 31 12.0**	**+0.2**
	comp=Z,52nm,0.2s						
XNZR	**Khunzakh**	**1.90**	**287**	*e*PN	**Pb**	**09 31 14.3**	**-0.5**
XNZR	**Khunzakh**	**1.90**	**287**	*e*Pn	**Pb**	**09 31 14.3**	**-0.5**
ZKTA	**Zakatala**	**1.93**	**260**	⇓Pn	**Pn**	**09 31 14.1**	**+1.3**
	SNR=8.9						
ZKTA	**Zakatala**	**1.93**	**260**	PN	**Pn**	**09 31 14.0**	**+1.3**
ZKTA	**Zakatala**	**1.93**	**260**	Pn	**Pn**	**09 31 14.0**	**+1.3**
GANJ	**Ganja**	**2.53**	**238**	⇑Pn	**Pn**	**09 31 20.5**	**-0.5**
	SNR=4.0						
GANJ				⇓Sn	**Sn**	**09 31 51.5**	**-0.1**
GANJ	**Ganja**	**2.53**	**238**	PN	**Pn**	**09 31 20.4**	**-0.5**
GANJ	**Ganja**	**2.53**	**238**	Pn	**Pn**	**09 31 20.5**	**-0.5**
	SNR=4.0						
GANJ				Sn	**Sn**	**09 31 51.5**	**-0.1**
GDB	**GEDABAY**	**2.86**	**244**	⇑Pn	**Pn**	**09 31 25.4**	**-0.3**
	SNR=4.0						
GDB				⇑Sn	**Sn**	**09 31 59.6**	**-0.5**
GDB	**GEDABAY**	**2.86**	**244**	Pn	**Pn**	**09 31 25.4**	**-0.3**
	SNR=4.0						
GDB				Sn	**Sn**	**09 31 59.6**	**-0.5**
QZX	**Qazax, Azerbai**	**2.99**	**253**	⇑Pn	**Pn**	**09 31 27.5**	**+0.2**
QZX				⇓Sn	**Sn**	**09 32 05.7**	**+2.6**
QZX	**Qazax, Azerbai**	**2.99**	**253**	Pn	**Pn**	**09 31 27.5**	**+0.2**
QZX				Sn	**Sn**	**09 32 05.7**	**+2.6**
LRK	**Lerik**	**3.42**	**191**	⇓Pn	**Pn**	**09 31 33.9**	**+0.6**
LRK				⇑Sn	**Sn**	**09 32 12.6**	**-1.1**
LRK	**Lerik**	**3.42**	**191**	Pn	**Pn**	**09 31 33.9**	**+0.6**
LRK				Sn	**Sn**	**09 32 12.6**	**-1.1**

GUC 03 09:46:15.9±0.5, 24°.31S×68°.82W, h156km±6km, ML3.6, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.48**	**257**	*e*P	Pn	09 46 43.5	-2.6
PB14				*i* S	Sn	09 47 05.4	-3.8
ANCH	**Antofagasta**	**1.58**	**293**	*e*P	Pn	09 46 48.2	+1.4
ANCH				*e*S	Sn	09 47 11.4	+0.9
LVC	**Limon Verde**	**1.70**	**357**	*e*P	Pn	09 46 49.2	+0.7
LVC				*i* S	Sn	09 47 14.6	+1.2
PB06	**IPOC Station P**	**1.74**	**336**	⇑*i*P	Pn	09 46 49.9	+1.1
PB06				*e*S	Sn	09 47 15.6	+1.7
PB06				IAML		09 47 17.0	
	comp=N,519nm,0.3s						
PB10	**IPOC Station P**	**1.77**	**296**	*e*P	Pn	09 46 49.4	+0.5
PB10				*e*S	Sn	09 47 14.5	+0.3
PB10				IAML		09 47 17.2	
	comp=E,616nm,0.3s						
PB04	**IPOC Station P**	**2.32**	**328**	⇑*i*P	Pn	09 46 56.6	+1.3
PB04				*i* S	Sn	09 47 27.1	+1.4
PB04				IAML		09 47 34.1	
	comp=N,222nm,0.4s						
PB09	**IPOC Station P**	**2.53**	**351**	⇑*i*P	Pn	09 47 00.3	+2.3
PB09				*e*S	Sn	09 47 33.2	+2.7
PB07	**IPOC Station P**	**2.75**	**339**	*e*P	Pn	09 47 02.2	+1.5
PB07				*i* S	Sn	09 47 34.7	-0.6
PB07				IAML		09 47 43.5	
	comp=E,102nm,0.2s						
PB01	**IPOC Station P**	**3.31**	**349**	⇓*i*P	Pn	09 47 09.3	+1.7
PB01				*e*S	Sn	09 47 49.8	+2.1
PB01				IAML		09 47 59.3	
	comp=N,81nm,0.3s						

IDC 03 09:46:31.1±2.3, 5°.98S×130°.12E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=95.9km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.81**	**200**	Pn	Pn	09 49 33.2	-1.5
	baz=17,slow=11						
FITZ				Sn	Sn	09 51 34.4	-24
	baz=254,slow=20,SNR=0.5						
WRA	**Warramunga Arr**	**14.47**	**164**	Pn	Pn	09 49 58.2	+0.8
	0.1nm,0.3s,baz=349,slow=14,SNR=3.1						
WRA				Sn	Sn	09 52 23.9	-15
	0.3nm,0.3s,baz=331,slow=23,SNR=8.1						
ASAR	**Alice Springs**	**17.96**	**169**	P	P	09 50 42.9	-0.2
	0.0nm,0.3s,baz=343,slow=11,SNR=2.8						
ASAR				S	Sn	09 53 49.9	-14
	0.1nm,0.3s,baz=346,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	09 57 28.8	+0.1
	0.5nm,0.4s,baz=145,slow=7.5,SNR=6.6						

DJA 03 09:47:22.1±0.8, 9°S±4°×11°1E±°, h31km±8km, M4.2/10, mb4.4/1, MLv4.2/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.74**	**1**	P	Pn	09 47 35.7	-0.7
PCJI				S	Sb	09 47 44.9	-1.5
PWJI	**Pagerwojo**	**1.11**	**35**	P	Pn	09 47 40.3	-1.3
PWJI				S	Sn	09 47 53.0	-2.8
UGM	**Wanagama**	**1.20**	**328**	P	Pn	09 47 43.4	+0.6
UGM				S	Sb	09 47 58.9	-0.6
NGJI	**Ngawi**	**1.59**	**11**	P	Pb	09 47 50.5	-0.4
NGJI				S	Sb	09 48 15.6	+5.0
GMJI	**Gumukmas**	**2.35**	**74**	P	Pn	09 47 59.0	+0.4
GMJI				S	Sn	09 48 27.3	+0.8
CMJI	**Cimerak**	**2.92**	**293**	P	Pn	09 48 07.6	+1.2
CMJI				S	Sn	09 48 39.6	-0.9
JAGI	**Jajag, Banyuwa**	**3.00**	**81**	P	Pn	09 48 06.3	-1.2
JAGI				S	Sn	09 48 40.5	-1.9
ABJI	**Asem Bagus**	**3.25**	**70**	P	Pn	09 48 12.2	+1.3
CISI	**Cisompet, Garu**	**3.58**	**292**	P	Pn	09 48 16.7	+1.1
CISI				S	Sn	09 48 55.7	-1.3
CNJI	**Cibinong**	**4.31**	**292**	P	Pn	09 48 25.9	+0.4
CNJI				S	Sn	09 49 12.5	-2.2
PLAI	**Plampang**	**6.54**	**90**	P	Pn	09 48 56.3	+0.1

IDC 03 09:48:35.8±435.0, 52°.28N×113°.23E, h0km, Error ellipse: s-maj=191.5km s-min=123.4km az=32.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.27**	**227**	*i*		10 30 10.0	
	baz=40,slow=326,SNR=0.3						
I45RU	**USSURIYSK INFR**	**14.85**	**116**	*i*		11 21 50.0	
	baz=307,slow=324,SNR=1.5						
I30JP	**ISUMI INFRASON**	**25.66**	**121**	*i*		12 24 10.0	
	baz=318,slow=326,SNR=0.5						

*KRNET **03** 09:56:04.3±0.1, 41°.29N×71°.94E, h18km, mb2.6*
*SOME **03** 09:56:06.4, 41°.18N×71°.93E, h30km*
*NNC **03** 09:56:06.2±2.6, 41°.32N×71°.98E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=37.1km s-min=15.4km az=125.0*

ISC 03 09:56:04.8±1.7, 41°.29N±0°.05×72°.00E±0°.03, h1km±16km, n19, σ1°32/34, 19C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.51**	**357**	⇓*i*P	**Pg**	**09 56 14.0**	**-0.7**
	baz=4.0						
ARK				⇓*i*S	**Sg**	**09 56 21.7**	**+0.3**
	baz=4.0						
ARSB	**Arslanbob**	**0.74**	**87**	⇑*i*P	**Pg**	**09 56 19.1**	**0.0**
	baz=87						
ARSB				⇑*i*S	**Sb**	**09 56 31.3**	**-0.2**
	baz=87						
MNAS	**Manas**	**1.26**	**17**	⇓*e*P	**Pb**	**09 56 28.9**	**-0.6**
	baz=20						
MNAS				⇓*e*S	**Sg**	**09 56 45.9**	**+0.6**
	baz=20						
MNAS	**Manas**	**1.26**	**17**	⇑P	**Pg**	**09 56 31.0**	**+2.0**
	1.2nm,0.2s						
MNAS				⇓S	**Sg**	**09 56 46.0**	**+0.6**
	5.3nm,0.3s						
BTK	**Batken**	**1.52**	**217**	⇑*e*P	**Pn**	**09 56 32.6**	**-0.7**
	baz=215						
BTK				⇑*e*S	**Sb**	**09 56 54.2**	**+0.5**
	baz=215						
AML	**Almayashu**	**1.53**	**56**	⇑*e*P	**Pb**	**09 56 34.1**	**-0.1**
	baz=57						
AML				⇑*i*S	**Sg**	**09 56 56.5**	**+2.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**339**	*i* P	Pg	10 19 56.0	-0.5
PNIG				*e*S	Sg	10 19 58.9	+0.1
TLIG	**Tlapa**	**1.41**	**340**	*e*P	Pn	10 20 16.4	-3.3
TLIG				*e*S	Sg	10 20 33.9	-4.6
VHO	**Vista Hermosa**	**1.52**	**57**	*e*P	Pn	10 20 17.4	-4.0
VHO				*e*S	Sn	10 20 37.1	-4.7

*ISCJB **03** 10:50:02.4±1.6, 27°.3S±0°.1×178°.4W±0°.2, h350km, mb3.2/3, Error ellipse: s-maj=27.4km s-min=13.9km az=160.9*
*IDC **03** 10:50:03.8±1.4, 27°.43S×178°.39W, h352km±18km, mb3.2/3, mb1 3.4/4, mb1mx3.0/25, mbtmp4.1/4, Error ellipse: s-maj=41.5km s-min=29.6km az=148.0*

ISC 03 10:50:04.1±1.4, **27°.5S**±0°.1×**178°.5W**±0°.2, **h350**km, **n7, σ0°71/9, mb3.2/3, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**165**	P	**Pn**	**10 50 54.4**	**+0.1**
	223nm,0.3s,baz=40,slow=1.8,SNR=11						
RAO				S	**S**	**10 51 35.1**	**+0.5**
	110nm,0.3s,baz=107,slow=19,SNR=1.9						
URZ	**Urewera**	**11.40**	**198**	P	**Pn**	**10 52 38.1**	**-0.4**
	0.4nm,0.3s,baz=294,slow=20,SNR=1.1						
URZ				S	**S**	**10 54 45.8**	**0.0**
	0.7nm,0.3s,baz=148,slow=19,SNR=3.4						
CTA	**Charters Tower**	**33.03**	**275**	P	**P**	**10 56 08.9**	**+0.9**
	2.0nm,0.4s,baz=71,slow=8.4,SNR=1.8						
ASAR	**Alice Springs**	**42.94**	**264**	P	**P**	**10 57 30.1**	**+0.1**
	0.4nm,0.5s,baz=94,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**43.66**	**269**	P	**P**	**10 57 34.9**	**-0.8**
	1.0nm,0.7s,baz=108,slow=7.5,SNR=11						
HFS	**Hagfors**	**146.29**	**349**	PKPbc	**PKPdf**	**11 09 02.0**	**+0.5**
	0.7nm,0.3s,baz=90,slow=3.6,SNR=1.7						
AKASG	**Malin Array Be**	**148.69**	**325**	PKPbc	**PKPbc**	**11 09 09.0**	**-1.0**
	0.3nm,0.3s,baz=50,slow=4.3,SNR=4.0						

*ISK **03** 10:51:19.5, 35°.71N×29°.33E, h13km, MD3.7*
*ISCJB **03** 10:51:21.6±0.6, 35°.73N±0°.03×29°.31E±0°.02, h26km±5km, Error ellipse: s-maj=5.0km s-min=3.2km az=178.6*
*ATH **03** 10:51:22.6, 35°.93N×29°.24E, h40km±2km, ML2.7/8, Error ellipse: s-maj=3.8km s-min=0.7km az=25.0*
*DDA **03** 10:51:22.7, 35°.86N×29°.27E, h40km, Md3.2*
*CSEM **03** 10:51:22.7±0.3, 35°.79N×29°.32E, h25km±2km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.4km az=2.0*
*NIC **03** 10:51:24.1±0.1, 36°.18N×29°.56E, h50km, ML3.3*

ISC 03 10:51:22.5±1.1, **35°.80N**±0°.03×**29°.32E**±0°.02, **h27**km±11km, **n105, σ0°88/136, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.41**	**31**	P	**Pn**	**10 51 32.1**	**-0.5**
KSL				S	**Sb**	**10 51 37.9**	**+0.7**
KSL				AML	AML	10 51 39.4	
	comp=N,2597μm,0.3s						
KSL				AML	AML	10 51 40.0	
	comp=E,5231μm,0.4s						
AKAS	**Kas**	**0.49**	**28**	*e*PG	**Pb**	**10 51 32.0**	**-0.7**
AKAS				*e*SG	**Sb**	**10 51 39.5**	**-0.1**
AKAS	**Kas**	**0.49**	**28**	*i* P	**Pn**	**10 51 33.3**	**-0.6**
AKAS				*i* S	**Sn**	**10 51 41.9**	**+0.3**
AKAS	**Kas**	**0.49**	**28**	*e*Pg	**Pb**	**10 51 32.0**	**-0.7**
AKAS	**Kas**	**0.49**	**28**	P	**Pn**	**10 51 33.3**	**-0.6**
AKAS				*e*Sg	**Sb**	**10 51 39.5**	**-0.1**
AKAS				S	**Sn**	**10 51 41.9**	**+0.3**
FETY	**Fethiye**	**0.85**	**347**	*e*PG	**Pb**	**10 51 38.1**	**-0.7**
FETY	**Fethiye**	**0.85**	**347**	P	**Pb**	**10 51 38.1**	**-0.7**
FETY				S	**Sn**	**10 51 49.8**	**-0.7**
ARG	**Arkhangelos**	**1.05**	**293**	P	**Pn**	**10 51 41.1**	**-0.4**
ARG				S	**Sn**	**10 51 54.4**	**-1.0**
ARG				AML	AML	10 52 00.7	
	comp=E,790μm,0.8s						
ARG				AML	AML	10 52 06.6	
	comp=N,400μm,0.5s						
ARG	**Arkhangelos**	**1.05**	**293**	P	**Pn**	**10 51 41.1**	**-0.4**
ARG				S	**Sn**	**10 51 54.4**	**-1.0**
ELL	**Elmali**	**1.06**	**26**	*e*PN	**Pn**	**10 51 41.6**	**-0.1**
ELL	**Elmali**	**1.06**	**26**	*e*Pn	**Pn**	**10 51 41.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.15**	**332**	*e*PN	**Pb**	**10 51 43.1**	**-0.6**
DALY	**Dalyan (Mu¨la**	**1.15**	**332**	*i* P	**Pn**	**10 51 42.5**	**-0.3**
DALY				*i* S	**Sb**	**10 51 59.1**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.15**	**332**	P	**Pn**	**10 51 42.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.15**	**332**	*e*Pn	**Pb**	**10 51 43.1**	**-0.6**
DALY				S	**Sb**	**10 51 59.1**	**+0.9**
TURN	**Turunc**	**1.22**	**332**	*i* P	**Pb**	**10 51 47.0**	**+2.1**
TURN	**Turunc**	**1.22**	**332**	P	**Pb**	**10 51 47.0**	**+2.1**
MRSB	**Marmaris-Mugla**	**1.29**	**315**	*e*PN	**Pn**	**10 51 44.9**	**+0.1**
MRSB	**Marmaris-Mugla**	**1.29**	**315**	*e*Pn	**Pn**	**10 51 44.9**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.36**	**6**	*e*PN	**Pn**	**10 51 46.1**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.36**	**6**	*e*Pn	**Pn**	**10 51 46.1**	**+0.2**
GOLH	**Golhisar**	**1.44**	**8**	*i* P	**Pb**	**10 51 48.2**	**-0.6**
GOLH				*i* S	**Sb**	**10 52 06.9**	**+0.1**
GOLH	**Golhisar**	**1.44**	**8**	P	**Pb**	**10 51 48.2**	**-0.6**
GOLH				S	**Sb**	**10 52 06.9**	**+0.1**
KORT	**Korkueli**	**1.46**	**34**	*e*PN	**Pn**	**10 51 47.2**	**0.0**
KORT	**Korkueli**	**1.46**	**34**	*i* P	**Pb**	**10 51 48.7**	**-0.3**
KORT				*i* S	**Sb**	**10 52 08.7**	**+1.5**
KORT	**Korkueli**	**1.46**	**34**	*e*Pn	**Pn**	**10 51 47.2**	**0.0**
KORT	**Korkueli**	**1.46**	**34**	P	**Pb**	**10 51 48.7**	**-0.3**
KORT				S	**Sb**	**10 52 08.7**	**+1.5**
ANTB	**Antalya**	**1.53**	**44**	*e*PN	**Pn**	**10 51 48.2**	**+0.1**
ANTB	**Antalya**	**1.53**	**44**	*e*Pn	**Pn**	**10 51 48.2**	**+0.1**
DATC	**Datca-Mugla**	**1.65**	**306**	*e*PN	**Pn**	**10 51 49.8**	**+0.1**
DATC	**Datca-Mugla**	**1.65**	**306**	*e*Pn	**Pn**	**10 51 49.8**	**+0.1**
DAT	**Datca**	**1.69**	**304**	*e*PN	**Pn**	**10 51 50.4**	**0.0**
DAT	**Datca**	**1.69**	**304**	*i* P	**Pn**	**10 51 50.7**	**+0.3**
DAT				*i* S	**Sn**	**10 52 10.7**	**-0.4**
DAT	**Datca**	**1.69**	**304**	*e*Pn	**Pn**	**10 51 50.4**	**0.0**
DAT	**Datca**	**1.69**	**304**	P	**Pn**	**10 51 50.7**	**+0.3**
DAT				S	**Sn**	**10 52 10.7**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.69**	**349**	*i* P	**Pn**	**10 51 51.2**	**+0.7**
TAVA				*i* S	**Sn**	**10 52 12.1**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.69**	**349**	P	**Pn**	**10 51 51.2**	**+0.7**
TAVA				S	**Sn**	**10 52 12.1**	**+0.8**
KARP	**Karpathos**	**1.78**	**262**	*e*PN	**Pn**	**10 51 50.7**	**-0.8**
KARP	**Karpathos**	**1.78**	**262**	P	**Pb**	**10 51 53.0**	**-1.4**
KARP				S	**Sn**	**10 52 12.9**	**-0.4**
KARP				AML	AML	10 52 15.8	
	comp=E,282μm,0.3s						
KARP				AML	AML	10 52 19.2	
	comp=N,237μm,0.3s						
KARP	**Karpathos**	**1.78**	**262**	*e*Pn	**Pn**	**10 51 50.7**	**-0.8**
KARP	**Karpathos**	**1.78**	**262**	P	**Pb**	**10 51 53.0**	**-1.4**
KARP				S	**Sn**	**10 52 12.9**	**-0.4**
DNZL	**Cakiroluk**	**1.90**	**353**	*i* P	**Pb**	**10 51 54.6**	**-2.0**
DNZL	**Cakiroluk**	**1.90**	**353**	P	**Pb**	**10 51 54.6**	**-2.0**
MLSB	**Milas**	**1.94**	**321**	*e*PN	**Pn**	**10 51 54.3**	**+0.5**
MLSB	**Milas**	**1.94**	**321**	*e*Pn	**Pn**	**10 51 54.3**	**+0.5**
BCK	**Bucak**	**1.94**	**31**	*e*PN	**Pn**	**10 51 54.2**	**+0.3**
BCK	**Bucak**	**1.94**	**31**	*e*Pn	**Pn**	**10 51 54.2**	**+0.3**
BDRM	**Kayabasi**	**1.97**	**310**	*i* P	**Pb**	**10 51 58.7**	**+1.0**
BDRM	**Kayabasi**	**1.97**	**310**	P	**Pb**	**10 51 58.7**	**+1.0**
BRDR	**BURDUR-Merkez**	**1.98**	**17**	*i* P	**Pb**	**10 51 56.0**	**-1.9**
BRDR	**BURDUR-Merkez**	**1.98**	**17**	P	**Pb**	**10 51 56.0**	**-1.9**
BODT	**Bodrum**	**2.05**	**308**	*e*PN	**Pn**	**10 51 55.3**	**0.0**
BODT	**Bodrum**	**2.05**	**308**	*e*Pn	**Pn**	**10 51 55.3**	**0.0**
SUTC	**Sutluce-Ispart**	**2.15**	**38**	*e*PN	**Pn**	**10 51 57.1**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.15**	**38**	*e*Pn	**Pn**	**10 51 57.1**	**+0.4**
AYDN	**Tasoluk**	**2.19**	**328**	*i* P	**Pn**	**10 51 57.3**	**+0.1**
AYDN	**Tasoluk**	**2.19**	**328**	P	**Pn**	**10 51 57.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**332**	*e*PN	**Pn**	**10 52 01.2**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**332**	*e*Pn	**Pn**	**10 52 01.3**	**+0.7**
AKMC	**Akamas**	**2.58**	**107**	P	**Pn**	**10 52 02.9**	**+0.4**
AKMC	**Akamas**	**2.58**	**107**	P	**Pn**	**10 52 02.9**	**+0.4**
	baz=297						
ZKR	**Zakros**	**2.63**	**256**	P	**Pn**	**10 52 04.2**	**+1.0**
ZKR				S	**Sn**	**10 52 33.9**	**-0.3**
ZKR				AML	AML	10 52 35.9	
	comp=E,203μm,0.4s						
ZKR				AML	AML	10 52 37.5	
	comp=N,70μm,0.4s						
ZKR	**Zakros**	**2.63**	**256**	P	**Pn**	**10 52 04.2**	**+1.0**
ZKR				S	**Sn**	**10 52 33.9**	**-0.3**
PPCY	**Paphos**	**2.63**	**109**	P	**Pn**	**10 52 04.4**	**+1.1**
PPCY	**Paphos**	**2.63**	**109**	P	**Pn**	**10 52 04.4**	**+1.1**
	baz=300						
ALFC	**Alefka**	**2.75**	**103**	P	**Pn**	**10 52 05.3**	**+0.4**
ALFC				S	**Sn**	**10 52 37.3**	**0.0**
ALFC	**Alefka**	**2.75**	**103**	P	**Pn**	**10 52 05.3**	**+0.4**
	baz=293						
ALFC				S	**Sn**	**10 52 37.3**	**0.0**
SMG	**Samos**	**2.76**	**314**	P	**Pn**	**10 52 05.6**	**+0.6**
SMG				S	**Sn**	**10 52 34.7**	**-2.7**
SMG				AML	AML	10 52 36.5	
	comp=N,188μm,0.3s						
SMG				AML	AML	10 52 36.9	
	comp=E,197μm,0.3s						
SMG	**Samos**	**2.76**	**314**	P	**Pn**	**10 52 05.6**	**+0.6**
KULA	**Kula-Manisa**	**2.76**	**349**	*e*PN	**Pn**	**10 52 05.5**	**+0.4**
KULA	**Kula-Manisa**	**2.76**	**349**	*e*Pn	**Pn**	**10 52 05.5**	**+0.4**
BOZY	**Bozyazi-Mersin**	**2.98**	**83**	*e*PN	**Pn**	**10 52 08.0**	**0.0**
BOZY	**Bozyazi-Mersin**	**2.98**	**83**	*e*Pn	**Pn**	**10 52 08.0**	**0.0**
LEF	**Lefka**	**2.99**	**102**	*e*PN	**Pn**	**10 52 07.1**	**-1.1**
LEF	**Lefka**	**2.99**	**102**	*e*Pn	**Pn**	**10 52 07.1**	**-1.1**
NPS	**Neapolis**	**3.07**	**261**	P	**Pn**	**10 52 10.3**	**+0.9**
NPS				S	**Sn**	**10 52 44.6**	**-0.6**
NPS				AML	AML	10 52 46.1	
	comp=E,177μm,0.2s						
NPS				AML	AML	10 52 49.2	
	comp=N,134μm,0.4s						
NPS	**Neapolis**	**3.07**	**261**	P	**Pn**	**10 52 10.3**	**+0.9**
NPS				S	**Sn**	**10 52 44.6**	**-0.6**
SZAC	**Souni**	**3.09**	**109**	P	**Pn**	**10 52 10.8**	**+1.2**
SZAC	**Souni**	**3.09**	**109**	P	**Pn**	**10 52 10.8**	**+1.2**
	baz=298						
TEKE	**Tekeli-Mersin**	**3.09**	**83**	*e*PN	**Pn**	**10 52 09.2**	**-0.4**
TEKE	**Tekeli-Mersin**	**3.09**	**83**	*e*Pn	**Pn**	**10 52 09.2**	**-0.4**
LAST	**Lasithi**	**3.20**	**260**	P	**Pn**	**10 52 12.6**	**+1.4**
LAST				S	**Sn**	**10 52 47.6**	**-0.9**
LAST				AML	AML	10 52 48.6	
	comp=N,46μm,0.4s						
LAST				AML	AML	10 52 50.5	
	comp=E,65μm,0.6s						
LAST	**Lasithi**	**3.20**	**260**	P	**Pn**	**10 52 12.6**	**+1.4**
LAST				S	**Sn**	**10 52 47.6**	**-0.9**
BERE	**Bereket-Mersin**	**3.21**	**79**	*e*PN	**Pn**	**10 52 11.2**	**-0.1**
BERE	**Bereket-Mersin**	**3.21**	**79**	*e*Pn	**Pn**	**10 52 11.2**	**-0.1**
KONT	**Konya--Tatoy**	**3.24**	**48**	*e*PN	**Pn**	**10 52 12.5**	**+0.8**
KONT	**Konya--Tatoy**	**3.24**	**48**	*e*Pn	**Pn**	**10 52 12.5**	**+0.8**
TEVE	**Tevekalti-Mers**	**3.40**	**78**	*e*PN	**Pn**	**10 52 14.1**	**+0.3**
TEVE	**Tevekalti-Mers**	**3.40**	**78**	*e*Pn	**Pn**	**10 52 14.1**	**+0.3**
AKKU	**Akkuyu-Mersin**	**3.45**	**83**	*e*PN	**Pn**	**10 52 14.7**	**+0.3**
AKKU	**Akkuyu-Mersin**	**3.45**	**83**	*e*Pn	**Pn**	**10 52 14.7**	**+0.3**
IKL	**Isikli**	**3.56**	**82**	*e*PN	**Pn**	**10 52 16.3**	**+0.2**
IKL	**Isikli**	**3.56**	**82**	*e*Pn	**Pn**	**10 52 16.3**	**+0.2**
KEBE	**Keben-Mersin**	**3.61**	**78**	*e*PN	**Pn**	**10 52 17.2**	**+0.4**
KEBE	**Keben-Mersin**	**3.61**	**78**	*e*Pn	**Pn**	**10 52 17.2**	**+0.4**
TVSB	**Tavsanli**	**3.64**	**2**	*e*PN	**Pn**	**10 52 18.7**	**+1.4**
TVSB	**Tavsanli**	**3.64**	**2**	*e*Pn	**Pn**	**10 52 18.7**	**+1.4**
IDI	**Anoyia**	**3.65**	**263**	P	**Pn**	**10 52 17.4**	**+0.1**
IDI				S	**Sn**	**10 52 58.5**	**-1.0**
IDI				AML	AML	10 53 01.4	
	comp=E,60μm,0.5s						
IDI				AML	AML	10 53 02.6	
	comp=N,57μm,0.3s						
IDI	**Anoyia**	**3.65**	**263**	P	**Pn**	**10 52 17.4**	**+0.1**
IDI				S	**Sn**	**10 52 58.5**	**-1.0**
CHOS	**Chios island**	**3.67**	**316**	P	**Pn**	**10 52 16.8**	**-0.8**
CHOS	**Chios island**	**3.67**	**316**	P	**Pn**	**10 52 16.8**	**-0.8**
IMMV	**Iera Moni Meta**	**4.36**	**267**	P	**Pn**	**10 52 29.3**	**+2.2**
IMMV	**Iera Moni Meta**	**4.36**	**267**	P	**Pn**	**10 52 29.3**	**+2.2**
GVD	**Gavdhos**	**4.39**	**259**	P	**Pn**	**10 52 28.5**	**+1.1**
GVD	**Gavdhos**	**4.39**	**259**	P	**Pn**	**10 52 28.5**	**+1.1**

*ISCJB **03** 11:00:28.7±0.7, 39°.59N±0°.04×29°.82E±0°.07, h0km, Error ellipse: s-maj=8.2km s-min=4.4km az=32.0*
*CSEM **03** 11:00:28.6±0.2, 39°.59N×29°.82E, h2km, ML2.2, Error ellipse: s-maj=7.4km s-min=3.8km az=128.0, Suspected Mining explosion.*
*ISK **03** 11:00:28.8, 39°.46N×29°.77E, h20km, ML2.2*
*DDA **03** 11:00:28.6, 39°.57N×29°.88E, h7km, Md2.6, Suspected Mining explosion.*

ISC 03 11:00:28.4±0.9, **39°.55N**±0°.03×**29°.86E**±0°.04, **h0**km, **n15, σ0°39/23, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.32**	**252**	*e*PG	**Pg**	**11 00 34.8**	**+0.2**
TVSB				*e*SG	**Sg**	**11 00 39.2**	**+0.4**
TVSB	**Tavsanli**	**0.32**	**252**	*e*Pg	**Pg**	**11 00 34.8**	**+0.2**
TVSB				*e*Sg	**Sg**	**11 00 39.2**	**+0.4**
GDZ	**Gediz**	**0.55**	**212**	*i* P	**Pg**	**11 00 39.0**	**+0.1**
GDZ				*i* S	**Sb**	**11 00 48.6**	**-0.9**
GDZ	**Gediz**	**0.55**	**212**	P	**Pg**	**11 00 39.0**	**+0.1**
GDZ				S	**Sb**	**11 00 48.6**	**-0.9**
BORA	**Eskisehir**	**0.56**	**54**	*i* P	**Pg**	**11 00 39.1**	**-0.1**
BORA	**Eskisehir**	**0.56**	**54**	P	**Pg**	**11 00 39.1**	**-0.1**
IGD	**Bursa**	**0.87**	**325**	*i* P	**Pb**	**11 00 46.1**	**-0.4**
GULT	**Gulveren**	**1.01**	**30**	*e*PN	**Pn**	**11 00 50.2**	**+0.2**
GULT				*e*SN	**Sn**	**11 01 05.5**	**+0.5**
GULT	**Gulveren**	**1.01**	**30**	*e*Pn	**Pn**	**11 00 50.2**	**+0.2**
GULT				*e*Sn	**Sn**	**11 01 05.5**	**+0.5**
DEMI	**Demirci**	**1.02**	**240**	*i* P	**Pg**	**11 00 47.8**	**-0.2**
DEMI	**Demirci**	**1.02**	**240**	P	**Pg**	**11 00 47.8**	**-0.2**
KHAL	**Karahalli**	**1.22**	**194**	*i* P	**Pn**	**11 00 53.0**	**+0.2**
KHAL	**Karahalli**	**1.22**	**194**	P	**Pn**	**11 00 53.0**	**+0.2**
ARMT	**Armutlu**	**1.27**	**323**	*e*PN	**Pg**	**11 00 52.4**	**-0.3**
ARMT				*e*SN	**Sb**	**11 01 09.9**	**-0.1**
ARMT	**Armutlu**	**1.27**	**323**	*e*Pn	**Pg**	**11 00 52.4**	**-0.3**
ARMT				*e*Sn	**Sb**	**11 01 10.0**	**-0.1**

*DDA **03** 11:03:17.9, 41°.38N×33°.68E, h4km, Md2.8*
*ISCJB **03** 11:03:18.5±0.6, 41°.41N±0°.03×33°.78E±0°.04, h1km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=42.1*
*ISK **03** 11:03:18.3, 41°.39N×33°.89E, h2km, MD3.3, ML3.0*
*CSEM **03** 11:03:19.0±0.3, 41°.40N×33°.81E, h5km, MD2.8, Error ellipse: s-maj=7.3km s-min=5.0km az=144.0*

ISC 03 11:03:18.6±0.9, **41°.40N**±0°.02×**33°.73E**±0°.02, **h10**km±7km, **n46, σ0°99/60, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAST	**KASTAMONU**	**0.17**	**57**	*i* P	**Pg**	**11 03 22.1**	**-0.3**
KAST				*i* S	**Sg**	**11 03 26.5**	**+1.5**
KAST	**KASTAMONU**	**0.17**	**57**	P	**Pg**	**11 03 22.1**	**-0.3**
KAST				S	**Sg**	**11 03 26.5**	**+1.5**
ILGA	**Ilgaz**	**0.34**	**182**	*i* P	**Pg**	**11 03 24.6**	**-0.9**
ILGA				*i* S	**Sg**	**11 03 29.3**	**-0.7**
ILGA	**Ilgaz**	**0.34**	**182**	P	**Pg**	**11 03 24.6**	**-0.9**
ILGA				S	**Sg**	**11 03 29.3**	**-0.7**
BZK	**Bozkurt**	**0.60**	**20**	*e*PG	**Pg**	**11 03 30.3**	**+0.1**
BZK				*e*SG	**Sb**	**11 03 39.3**	**-0.4**
BZK	**Bozkurt**	**0.60**	**20**	*e*Pg	**Pg**	**11 03 30.3**	**+0.1**
BZK				*e*Sg	**Sb**	**11 03 39.3**	**-0.4**
CANT	**Cankiri**	**0.79**	**186**	*e*PG	**Pb**	**11 03 34.6**	**+0.1**
CANT				*e*SG	**Sb**	**11 03 46.5**	**+1.1**
BOYT	**Boyabat**	**0.88**	**88**	*i* P	**Pb**	**11 03 35.2**	**-0.8**
BOYT	**Boyabat**	**0.88**	**88**	P	**Pb**	**11 03 35.2**	**-0.8**
CTAK	**Corum_Osmancik**	**1.09**	**133**	*i* P	**Pb**	**11 03 39.1**	**-0.6**
CTAK				*i* S	**Sn**	**11 03 55.8**	**+0.3**
CTAK	**Corum_Osmancik**	**1.09**	**133**	P	**Pb**	**11 03 39.1**	**-0.6**
BTIN	**Bart¨–n**	**1.14**	**283**	*i* P	**Pg**	**11 03 39.3**	**-1.2**
BTIN				*i* S	**Sn**	**11 03 58.4**	**+2.1**
DIKM	**Dikmen**	**1.17**	**77**	*e*PG	**Pg**	**11 03 39.5**	**-1.6**
DIKM				*e*SG	**Sb**	**11 03 55.1**	**-1.1**
DIKM	**Dikmen**	**1.17**	**77**	*e*Pg	**Pg**	**11 03 39.5**	**-1.6**
DIKM				*e*Sg	**Sb**	**11 03 55.1**	**-1.1**
SNOP	**Sinop**	**1.27**	**60**	*e*PN	**Pg**	**11 03 41.6**	**-1.3**
SNOP				*e*SN	**Sb**	**11 03 58.6**	**-0.3**
SNOP	**Sinop**	**1.27**	**60**	*e*Pn	**Pg**	**11 03 41.6**	**-1.3**
SNOP				*e*Sn	**Sb**	**11 03 58.6**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.31**	**227**	*i* P	**Pn**	**11 03 42.2**	**-0.9**
CMDR	**Camlidere-ANKA**	**1.31**	**227**	P	**Pn**	**11 03 42.2**	**-0.9**
BCAM	**Yenicaga**	**1.39**	**246**	*i* P	**Pn**	**11 03 43.5**	**-0.6**
BCAM	**Yenicaga**	**1.39**	**246**	P	**Pn**	**11 03 43.5**	**-0.6**
CORM	**Corum**	**1.39**	**150**	*e*PN	**Pb**	**11 03 44.5**	**-0.3**
CORM	**Corum**	**1.39**	**150**	*e*Pn	**Pb**	**11 03 44.5**	**-0.3**
COAL	**Corum-Alaca**	**1.48**	**140**	*i* P	**Pg**	**11 03 46.7**	**-0.4**
COAL				*i* S	**Sn**	**11 04 07.2**	**+2.2**
COAL	**Corum-Alaca**	**1.48**	**140**	P	**Pg**	**11 03 46.7**	**-0.4**
HAVZ	**Havza**	**1.53**	**101**	*i* P	**Pg**	**11 03 47.5**	**-0.4**
HAVZ	**Havza**	**1.53**	**101**	P	**Pg**	**11 03 47.5**	**-0.4**
LOD	**Lodumlu**	**1.68**	**206**	*e*PN	**Pb**	**11 03 49.5**	**0.0**
LOD	**Lodumlu**	**1.68**	**206**	*e*Pn	**Pb**	**11 03 49.5**	**0.0**
KVT	**Kavak**	**1.77**	**99**	*e*PN	**Pn**	**11 03 49.2**	**-0.2**
KVT	**Kavak**	**1.77**	**99**	*e*Pn	**Pn**	**11 03 49.2**	**-0.2**
CDAG	**Cicekdag**	**1.84**	**164**	*i* P	**Pn**	**11 03 51.1**	**+0.8**
CDAG	**Cicekdag**	**1.84**	**164**	P	**Pn**	**11 03 51.1**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**2.01**	**195**	*e*PN	**Pb**	**11 03 54.6**	**-0.7**
AFSR	**Af¨ar-Bala (A**	**2.01**	**195**	*e*Pn	**Pb**	**11 03 54.6**	**-0.7**
MDUB	**Mudurnu**	**2.13**	**245**	*e*PN	**Pb**	**11 03 57.5**	**+0.2**
MDUB	**Mudurnu**	**2.13**	**245**	*e*Pn	**Pb**	**11 03 57.5**	**+0.2**
SAHE	**Sakarya_HENDEK**	**2.24**	**257**	*i* P	**Pn**	**11 03 56.8**	**+1.0**
SAHE	**Sakarya_HENDEK**	**2.24**	**257**	P	**Pn**	**11 03 56.8**	**+1.0**
KKUL	**Konya-Kulu**	**2.31**	**196**	*i* P	**Pb**	**11 03 59.7**	**-0.6**
KKUL	**Konya-Kulu**	**2.31**	**196**	P	**Pb**	**11 03 59.7**	**-0.6**
SERE	**Serefilokochisa**	**2.45**	**183**	*e*PN	**Pn**	**11 04 00.7**	**+1.9**
SERE	**Serefilokochisa**	**2.45**	**183**	*e*Pn	**Pn**	**11 04 00.7**	**+1.9**
SVRH	**Sivrihisar-ESK**	**2.58**	**222**	*e*PN	**Pb**	**11 04 03.7**	**-1.2**
SVRH	**Sivrihisar-ESK**	**2.58**	**222**	*e*Pn	**Pb**	**11 04 03.7**	**-1.2**
GULT	**Gulveren**	**2.62**	**250**	*e*PN	**Pb**	**11 04 04.6**	**-1.1**
GULT	**Gulveren**	**2.62**	**250**	*e*Pn	**Pb**	**11 04 04.6**	**-1.1**

*IDC **03** 11:46:00.9±0.7, 9°.08N×125°.95E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/44, mbtmp4.1/11, MS3.3/2, Ms1 3.3/2, ms1mx2.7/34, Error ellipse: s-maj=48.0km s-min=14.3km az=81.0*
*ISCJB **03** 11:46:07.1±0.8, 9°.15N±0°.03×126°.49E±0°.07, h58km±8km, mb4.0/11, MS3.7/1, Error ellipse: s-maj=11.2km s-min=5.4km az=168.1*
*MAN **03** 11:46:07, 9°.19N×126°.37E, h20km, mb4.7, ML3.6, MS3.5*

ISC 03 11:46:08.2±1.3, **9°.17N**±0°.04×**126°.47E**±0°.08, **h51**km±13km, **n34, σ1°44/33, mb3.9/11, 5C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.98**	**186**	⇑*i* P	**Pn**	**11 46 24.4**	**-1.2**
BIPH				*i* S	**Sn**	**11 46 36.5**	**-2.0**
SCPH	**Surigao**	**1.14**	**302**	⇓*e*P	**Pn**	**11 46 26.4**	**-1.4**
SCPH				*e*S	**Sn**	**11 46 40.6**	**-1.8**
MATI	**Mati**	**2.22**	**185**	*e*P	**Pn**	**11 46 44.6**	**+2.0**
MATI				*e*S	**Sn**	**11 47 12.2**	**+3.5**
KCP	**Kidapawan**	**2.54**	**213**	⇑*e*P	**Pn**	**11 46 47.3**	**+0.3**
KCP				*i* S	**Sn**	**11 47 18.1**	**+1.3**
OCLP	**Ormoc**	**2.62**	**316**	*e*P	**Pn**	**11 46 49.6**	**+1.6**
TBP	**Tagbilaran**	**2.62**	**282**	⇑*e*P	**Pn**	**11 46 48.4**	**+0.3**
BESP	**Borongan**	**2.62**	**337**	*e*P	**Pn**	**11 46 48.5**	**+0.4**
BESP				*e*S	**Sn**	**11 47 20.0**	**+1.4**
LLP	**Lapu-Lapu**	**2.72**	**295**	⇑*i* P	**Pn**	**11 46 50.4**	**+1.0**
LLP				*i* S	**Sn**	**11 47 21.9**	**+0.9**
DCPH	**Dipolog City**	**3.13**	**260**	⇑*e*P	**Pn**	**11 46 54.9**	**-0.1**
SNPH	**Sibulan**	**3.19**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.62**	**346**	*eP*	Pg	12 15 22.0	-2.0
VHO				*eS*	Sg	12 15 30.1	-2.2
PNIG	**Pinotepa**	**1.49**	**267**	*eP*	Pn	12 15 34.4	-3.4

*IDC **03** 12:32:31.6±0.9, 22°.95S×171°.86E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.2/24, mbtmp4.2/11, ML4.1/2, MS3.7/11, Ms1 3.7/11, ms1mx3.4/27, Error ellipse: s-maj=29.6km s-min=22.0km az=2.0*
*ISCJB **03** 12:32:36.3±0.6, 22°.99S±0°.10×171°.80E±0°.07, h47km, mb4.3/11, MS3.7/9, Error ellipse: s-maj=13.9km s-min=8.6km az=7.3*
*NEIC **03** 12:32:37.5±1.2, 23°.00S×171°.82E, h41km±12km, mb4.4/1, Error ellipse: s-maj=13.6km s-min=10.8km az=174.0*

ISC 03 12:32:38.1±0.7, 23°.05±0°.1×171°.82E±0°.07, h47km, n28, σ0§99/21, mb4.3/11, MS3.8/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.05**	**279**	Pn	**Pn**	**12 33 51.2**	**-0.2**
	7.0nm,0.3s,baz=103,slow=18,SNR=72						
DZM				Sn	**Sn**	**12 34 49.0**	**+0.5**
	1.4nm,0.3s,baz=180,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**5.05**	**279**	*e*Pn	**Pn**	**12 33 50.4**	**-1.0**
	44nm,0.4s						
DZM				Pn	Pn	12 33 51.2	-0.2
DZM				*e*Sn	**Sn**	**12 34 47.7**	**-0.8**
DZM				Sn	Sn	12 34 49.0	+0.5
MSVF	**Nonsavu**	**7.84**	**49**	*e*Pn	**Pn**	**12 34 29.2**	**-0.4**
	77nm,1.3s						
URZ	**Urewera**	**15.88**	**165**	Pn	**Pn**	**12 36 18.3**	**-0.1**
	0.6nm,0.3s,baz=10.0,slow=17,SNR=3.9						
URZ				LR	LR	12 41 29.2	
	comp=Z,225nm,19.6s,baz=342,slow=34						
AFI	**Afiamalu**	**17.98**	**63**	LR	LR	12 41 43.0	
	comp=Z,136nm,18.9s,baz=226,slow=31						
RPZ	**Rata Peaks**	**20.68**	**182**	LR	LR	12 44 20.5	
	comp=Z,212nm,20.3s,baz=346,slow=34						
CTA	**Charters Tower**	**23.95**	**272**	P	**P**	**12 37 49.2**	**+1.1**
	3.1nm,0.6s,baz=90,slow=7.6,SNR=3.2						
CTAO	**Charters Tower**	**23.95**	**272**	*e*P	**P**	**12 37 49.5**	**+1.4**
	188nm,1.7s						
STKA	**Stephens Creek**	**28.18**	**245**	P	**P**	**12 38 26.6**	**+0.4**
	2.3nm,0.9s,baz=124,slow=11,SNR=2.4						
STKA				LR	LR	12 48 23.2	
	comp=Z,86nm,20.5s,baz=39,slow=34						
ASAR	**Alice Springs**	**34.76**	**261**	P	**P**	**12 39 23.9**	**-0.2**
	8.3nm,0.9s,baz=91,slow=8.8,SNR=64						
ASAR				LR	LR	12 52 04.9	
	comp=Z,44nm,19.4s,baz=96,slow=34						
WRAB	**Tennant Creek**	**34.94**	**268**	*e*P	**P**	**12 39 24.8**	**-1.0**
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**34.95**	**268**	P	**P**	**12 39 24.6**	**-1.3**
	1.6nm,0.4s,baz=96,slow=8.5,SNR=42						
WRA				PcP	**PcP**	**12 41 57.8**	**+0.1**
	0.8nm,1.0s,baz=104,slow=2.5,SNR=3.8						
WRA				LR	LR	12 54 08.4	
	comp=Z,103nm,18.0s,baz=95,slow=37						
H11S2	**WAKE ISLAND Hy 41.52**	**353**		T	T	13 24 43.6	
	baz=171						
H11S3	**WAKE ISLAND Hy 41.53**	**353**		T	T	13 24 42.2	
	baz=171						
H11S1	**WAKE ISLAND Hy 41.54**	**353**		T	T	13 24 38.6	
	baz=171						
H11N1	**WAKE ISLAND Hy 42.71**	**353**		T	T	13 26 08.2	
	baz=172,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy 42.71**	**353**		T	T	13 26 08.8	
	baz=172,slow=76,SNR=3.5						
H11N2	**WAKE ISLAND Hy 42.73**	**353**		T	T	13 26 09.3	
	baz=172,slow=76,SNR=4.4						
VNDA	**Vanda**	**54.80**	**183**	P	**P**	**12 42 02.2**	**-0.5**
	0.3nm,0.6s,baz=8.7,slow=7.8,SNR=3.1						
VNDA				LR	LR	13 01 52.0	
	comp=Z,80nm,20.2s,baz=13,slow=32						
QSPA	**South Pole Qui**	**67.09**	**180**	*e*P	**P**	**12 43 25.2**	**-1.3**
	46nm,1.2s						
MAW	**Mawson**	**75.88**	**202**	P	**P**	**12 44 21.2**	**+2.0**
	1.6nm,1.0s,baz=97,slow=11,SNR=3.1						
MAW				LR	LR	13 15 08.2	
	comp=Z,40nm,18.2s,baz=62,slow=34						
PETK	**Petropavlovsk-**	**76.76**	**351**	LR	LR	13 15 35.1	
	comp=Z,67nm,18.4s,baz=134,slow=34						
CMAR	**Chiang Mai Arr**	**82.22**	**294**	P	**P**	**12 44 54.9**	**+0.2**
	1.2nm,0.4s,baz=126,slow=4.6,SNR=6.4						
ILAR	**Eielson Array**	**93.10**	**16**	P	**P**	**12 45 47.1**	**+0.8**
	1.2nm,1.0s,baz=231,slow=5.3,SNR=6.4						
ILAR				LR	LR	13 29 03.2	
	comp=Z,44nm,18.1s,baz=241,slow=36						
TXAR	**Lajitas Array**	**96.45**	**61**	P	**P**	**12 46 02.9**	**+0.3**
	0.8nm,1.1s,baz=204,slow=5.3,SNR=4.3						
PDAR	**Pinedale Array**	**97.40**	**47**	LR	LR	13 28 00.6	
	comp=Z,47nm,18.4s,baz=18,slow=34						
GERES	**GERESS Array B**	**148.92**	**332**	PKPbc	**PKPbc**	**12 52 21.1**	**+0.4**
	0.4nm,0.6s,baz=56,slow=5.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**166.45**	**225**	PKP	**PKPdf**	**12 52 37.5**	**-1.5**
	2.0nm,1.2s,baz=111,slow=3.2,SNR=5.3						

IDC 03 12:48:22.5±2.4, 4°.22S×127°.50E, h317km±28km, mb2.9/3, mb1 3.0/6, mb1mx2.8/50, mbtmp3.7/6, Error ellipse: s-maj=38.5km s-min=16.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.02**	**49**	P	Pn	12 49 41.8	+0.7
	8.5nm,0.3s,baz=270,slow=11,SNR=18						
SIJI				S	S	12 50 44.2	-0.1
	15nm,0.3s,baz=143,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**13.92**	**187**	P	P	12 51 25.2	-1.7
	0.2nm,0.3s,baz=17,slow=12,SNR=7.7						
WRA	**Warramunga Arr**	**16.99**	**157**	P	P	12 52 00.7	+0.1
	0.2nm,0.3s,baz=336,slow=11,SNR=16						
WRA				S	S	12 55 05.3	+3.8
	0.1nm,0.3s,baz=337,slow=17,SNR=5.3						
ASAR	**Alice Springs**	**20.30**	**163**	P	P	12 52 35.4	-0.2
	0.4nm,0.3s,baz=345,slow=11,SNR=15						
ASAR				S	S	12 56 04.0	+0.4
	0.5nm,0.6s,baz=351,slow=23,SNR=6.8						
STKA	**Stephens Creek**	**30.53**	**156**	P	P	12 54 08.0	+0.6
	0.7nm,0.5s,baz=327,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**64.55**	**327**	P	P	12 58 26.4	0.0
	0.2nm,0.4s,baz=116,slow=7.1,SNR=4.2						

MAN 03 12:51:24, 13°.50N×120°.57E, h37km, mb3.8, ML2.5, MS2.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.38**	**89⇓**	*e*P	Pn	12 51 35.3	+2.5
PGP				*e*S	Sn	12 51 43.2	+3.7
LUBP	**Lubang**	**0.39**	**307**	*e*P	Pn	12 51 35.2	+2.3
LUBP				*e*S	Sn	12 51 43.2	+3.5
SJMP	**San Jose**	**1.16**	**152**	*e*P	Pn	12 51 46.6	+2.9
SJMP				*e*S	Sn	12 52 03.0	+4.7
BUSP	**Coron**	**1.52**	**194**	*e*P	Pn	12 51 50.4	+1.6
BUSP				*e*S	Sn	12 52 09.8	+2.5
ENPP	**El Nido**	**2.53**	**206**	*e*P	Pn	12 52 03.9	+1.3
ENPP				*e*S	Sn	12 52 33.2	+1.0

*NIED **03** 13:11:00, 37°.30N×141°.80E, h29km, Mw3.8 Best double couple: M0:4.94000×10¹⁴ NP1:φs114.00000°, δ38.00000°, λ-77.00000°. NP2:φs278.00000°, δ53.00000°, λ-100.00000°.*
*JMA **03** 13:11:06.8±0.2, 37°.28N×141°.81E, h41km±3km, M3.8*
*NEIC **03** 13:11:08.6±0.7, 37°.28N×141°.91E, h45km±6km, mb4.0/1, Error ellipse: s-maj=9.5km s-min=6.0km az=106.0*
*IDC **03** 13:11:09.5±2.5, 37°.28N×142°.01E, h53km±22km, mb3.4/10, mb1 3.6/13, mb1mx3.5/37, mbtmp3.7/13, ML3.8/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/44, Error ellipse: s-maj=17.5km s-min=14.7km az=82.0*

ISC 03 13:11:04.9±1.8, 37°.28N±0°.04×141°.91E±0°.06, h17km±11km, n39, σ1§23/42, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.83**	**277**	P	**Pg**	**13 11 21.1**	**+0.1**
JFK				S	**Sb**	**13 11 30.8**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.90**	**259**	P	**Pg**	**13 11 22.2**	**-0.2**
ONAJ				S	**Sb**	**13 11 32.4**	**-1.4**
JMM	**Marumori**	**1.06**	**304**	P	**Pb**	**13 11 24.7**	**-0.1**
JMM				S	**Sb**	**13 11 37.2**	**-1.2**
JIO	**Ouri**	**1.26**	**340**	P	**Pn**	**13 11 27.6**	**0.0**
JIO				S	**Sb**	**13 11 41.8**	**-2.2**
JHO	**Hitachi**	**1.26**	**239**	P	**Pn**	**13 11 27.0**	**-0.7**
JFT	**Otama**	**1.27**	**281**	P	**Pb**	**13 11 28.4**	**0.0**
JFT				S	**Sb**	**13 11 43.3**	**-1.2**
JOU	**Okura**	**1.47**	**318**	P	**Pb**	**13 11 31.2**	**-0.5**
JOU				*e*S	**Sn**	**13 11 48.6**	**-0.8**
JYS	**Shiratake**	**1.74**	**303**	P	**Pb**	**13 11 35.4**	**-0.9**
JYS				*e*S	**Sn**	**13 11 56.2**	**+0.1**
JFY	**Yanaizu**	**1.76**	**275**	P	**Pn**	**13 11 35.2**	**+0.6**
JFY				*e*S	**Sn**	**13 11 56.6**	**0.0**
JMK	**Ichinoseki**	**1.76**	**342**	P	**Pn**	**13 11 35.2**	**+0.7**
JMK				S	**Sn**	**13 11 56.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.05**	**257**	P	**Pn**	**13 11 54.9**	**+2.5**
	3.8nm,0.3s,baz=78,slow=15,SNR=16						
MJAR				S	**Sb**	**13 12 33.6**	**-2.1**
	8.6nm,0.3s,baz=84,slow=25,SNR=6.9						
MJAR				LR	LR	13 13 25.2	
	comp=Z,126nm,18.4s,baz=100,slow=44						
MAJO	**Matsushiro**	**3.05**	**257**	*e*P	**Pn**	**13 11 54.2**	**+1.9**
MAT	**Matsushiro**	**3.05**	**257**	P	**Pn**	**13 11 54.2**	**+1.8**
MAT				*e*S	**Sn**	**13 12 29.1**	**+0.6**
JHJ2	**Mitsune**	**4.49**	**203**	*e*Pn	**Pn**	**13 12 14.3**	**+2.1**
JHJ	**Hachijo jima 2**	**4.50**	**203**	P	**Pn**	**13 12 14.4**	**+2.2**
	24nm,0.3s,baz=330,slow=20,SNR=12						
JHJ				S	**Sn**	**13 13 01.5**	**-2.6**
	22nm,0.3s,baz=107,slow=19,SNR=4.5						
JHJ				LR	LR	13 14 13.7	
	comp=Z,119nm,19.3s,baz=296,slow=41						
ERM	**Erimo**	**4.83**	**11**	*e*Pn	**Pn**	**13 12 18.5**	**+1.8**
ASAJ	**Asahikawa**	**6.85**	**4**	P	**Pn**	**13 12 46.1**	**+1.6**
	1.8nm,0.3s,baz=226,slow=15,SNR=16						
JNU	**Nakatsue**	**9.93**	**249**	LR	LR	13 17 56.6	
	comp=Z,52nm,18.4s,baz=120,slow=41						
USRK	**Ussuriysk Ar.**	**10.21**	**316**	P	Pn	13 13 38.5	+7.9
	0.1nm,0.3s,baz=129,slow=43,SNR=2.9						
H11N2	**WAKE ISLAND Hy 27.94**	**122**		T	T	13 46 29.6	
	baz=315,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy 27.95**	**122**		T	T	13 46 28.6	
	baz=315,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy 27.96**	**122**		T	T	13 46 26.1	
	baz=315,slow=75,SNR=34						
SONM	**Songino Array**	**27.98**	**303**	P	**P**	**13 16 55.4**	**+0.7**
	0.6nm,0.6s,baz=103,slow=10,SNR=2.8						
H11S1	**WAKE ISLAND Hy 28.66**	**124**		T	T	13 47 19.6	
	baz=316,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy 28.67**	**124**		T	T	13 47 14.9	
	baz=316,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy 28.68**	**124**		T	T	13 47 31.9	
	baz=316,slow=76,SNR=28						
ZALV	**Zalesovo Beam**	**42.04**	**312**	P	**P**	**13 18 55.5**	**+0.2**
	0.6nm,0.4s,baz=88,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**13 19 14.0**	**+0.1**
	0.9nm,0.7s,baz=92,slow=8.5,SNR=6.3						
ILAR	**Eielson Array**	**49.08**	**32**	P	**P**	**13 19 52.3**	**+1.5**
	0.5nm,0.7s,baz=265,slow=6.8,SNR=6.4						
WRAB	**Tennant Creek**	**57.34**	**188**	*e*P	**P**	**13 20 52.0**	**0.0**
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**13 20 51.6**	**-0.6**
	0.6nm,0.5s,baz=5.1,slow=7.4,SNR=10.0						
ABKAR	**Akbulak array**	**58.08**	**310**	*e*P	**P**	**13 20 56.6**	**-0.4**
	0.8nm,0.7s						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**13 21 18.2**	**+0.3**
	0.6nm,0.9s,baz=17,slow=5.5,SNR=4.6						
AFI	**Afiamalu**	**66.99**	**130**	P	**P**	**13 21 57.1**	**+0.2**
	15nm,0.7s,baz=196,slow=22,SNR=2.3						
STKA	**Stephens Creek**	**68.80**	**180**	P	**P**	**13 22 08.1**	**+0.1**
	1.3nm,0.8s,baz=71,slow=5.0,SNR=2.6						
AKASG	**Malin Array Be**	**74.34**	**322**	P	**P**	**13 22 41.5**	**+0.1**
	0.3nm,0.3s,baz=43,slow=6.1,SNR=2.9						
BRTR	**Keskin Array B**	**78.98**	**312**	LR	LR	14 00 17.3	
	comp=Z,8.1nm,18.5s,baz=92,slow=37						
GERES	**GERESS Array B**	**82.71**	**328**	P	**P**	**13 23 27.8**	**+0.1**
	0.3nm,0.4s,baz=1.1,slow=5.2,SNR=3.6						
TXAR	**Lajitas Array**	**89.66**	**53**	P	**P**	**13 24 01.3**	**-1.0**
	0.1nm,0.7s,baz=135,slow=0.7,SNR=3.0						

*ISCJB **03** 13:25:38.7±0.5, 33°.78N±0°.03×35°.78E±0°.07, h11km±6km, Error ellipse: s-maj=9.4km s-min=4.7km az=168.5*
*GRAL **03** 13:25:39.7±0.3, 33°.78N×35°.76E, h3km±5km, MD3.0*
*CSEM **03** 13:25:39.7, 33°.78N×35°.76E, h3km, ML3.0*
*NSSC **03** 13:25:40.5±1.1, 33°.74N×35°.89E, h23km±9km, ML1.9*

ISC 03 13:25:38.9±1.0, 33°.78N±0°.03×35°.79E±0°.03, h9km±10km, n15, σ1§06/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.17**	**316**	*e*P	**Pg**	**13 25 42.5**	**-0.1**
BHL				*e*S	**Sg**	**13 25 44.6**	**-0.5**
BHL	**Bhannes**	**0.17**	**316**	*e*P	**Pg**	**13 25 42.5**	**-0.1**
BHL				*e*S	**Sg**	**13 25 44.6**	**-0.5**
DQRL	**Deir Qamar**	**0.20**	**247**	*e*P	**Pg**	**13 25 43.0**	**-0.2**
DQRL				*e*S	**Sg**	**13 25 45.5**	**-0.5**
DQRL	**Deir Qamar**	**0.20**	**247**	*e*P	**Pg**	**13 25 43.0**	**-0.2**
DQRL				*e*S	**Sg**	**13 25 45.5**	**-0.5**
BEYL	**Beirut**	**0.27**	**289**	*e*P	**Pg**	**13 25 44.1**	**-0.1**
BEYL	**Beirut**	**0.27**	**289**	*e*P	**Pg**	**13 25 44.1**	**-0.1**
RCY	**Rachaya**	**0.29**	**173**	*e*P	**Pg**	**13 25 45.0**	**+0.3**
RCY				*e*S	**Sg**	**13 25 48.9**	**+0.3**
RCY	**Rachaya**	**0.29**	**173**	*e*P	**Pg**	**13 25 45.0**	**+0.3**
RCY				*e*S	**Sg**	**13 25 48.9**	**+0.3**
BRBR	**Barbar**	**0.39**	**161**	*i* P	**Pg**	**13 25 47.3**	**+0.6**
BRBR				*e*S	**Sg**	**13 25 53.5**	**+1.6**
BRBR				AML	AML	13 25 58.2	
	comp=E,87nm,0.3s						
BRBR				AML	AML	13 26 00.1	
	comp=N,159nm,0.4s						
HWQ	**Hawqa**	**0.51**	**14**	*e*P	**Pg**	**13 25 49.1**	**+0.3**
HWQ	**Hawqa**	**0.51**	**14**	*e*P	**Pg**	**13 25 49.1**	**+0.3**
MARH	**Ras Al Marh**	**0.62**	**67**	*i* P	**Pg**	**13 25 52.1**	**+1.1**
MARH				*e*S	**Sg**	**13 25 59.6**	**+0.4**
MARH				AML	AML	13 26 06.8	
	comp=N,102nm,0.4s						
MARH				AML	AML	13 26 09.7	
	comp=E,145nm,0.3s						
ROOS	**tl_alroos**	**1.30**	**72**	*i* P	**Pg**	**13 26 03.1**	**-0.8**
ROOS				*e*S	**Sg**	**13 26 19.0**	**-1.8**
ROOS				AML	AML	13 26 30.4	
	comp=E,43nm,0.4s						
ROOS				AML	AML	13 26 36.4	
	comp=N,42nm,0.6s						
SALA	**Sala**	**1.33**	**143**	*i* P	**Pg**	**13 26 03.5**	**-0.9**
SALA				*e*S	**Sg**	**13 26 18.2**	**-3.4**
SALA				AML	AML	13 26 31.0	
	comp=E,3.3nm,0.4s						
SALA				AML	AML	13 26 31.1	
	comp=N,32nm,0.4s						
ARNB	**Al Arnab**	**2.08**	**4**	*i* P	**Pn**	**13 26 15.3**	**+1.3**
ARNB				*e*S	**Sn**	**13 26 39.2**	**-0.9**
ARNB				AML	AML	13 26 48.9	
	comp=E,21nm,0.3s						
ARNB				AML	AML	13 26 49.0	
	comp=N,26nm,0.3s						

*ISCJB **03** 13:28:23.2±1.0, 4°.7N±0°.2×127°.2E±0°.3, h81km, mb3.6/6, Error ellipse: s-maj=42.6km s-min=10.6km az=147.7*
*IDC **03** 13:28:24.6±5.0, 4°.64N×127°.09E, h76km±54km, mb3.5/6, mb1 3.6/6, mb1mx3.3/46, mbtmp3.8/6, ML5.0/1, Error ellipse: s-maj=71.0km s-min=17.7km az=73.0*

ISC 03 13:28:25.1±1.1, 4°.7N±0°.2×127°.1E±0°.3, h81km, n7, σ0§47/8, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.88**	**143**	P	**Pn**	**13 30 02.9**	**-0.4**
	26nm,0.3s,baz=337,slow=15,SNR=9.4						
SIJI				S	**Sn**	**13 31 20.6**	**+0.4**
	4.4nm,0.3s,baz=356,slow=18,SNR=2.7						
FITZ	**Fitzroy Crossi**	**22.65**	**184**	P	**P**	**13 33 19.9**	**+0.2**
	2.2nm,0.7s,baz=10,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**25.45**	**164**	P	**P**	**13 33 45.7**	**+0.1**
	1.8nm,0.6s,baz=344,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.91**	**167**	P	**P**	**13 34 15.9**	**-0.7**
	0.3nm,0.5s,baz=352,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**38.85**	**160**	P	**P**	**13 35 43.0**	**+0.5**
	1.7nm,0.7s,baz=358,slow=8.7,SNR=4.3						
SONM	**Songino Array**	**46.56**	**341**	P	**P**	**13 36 44.9**	**+0.1**
	0.3nm,0.4s,baz=154,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**57.02**	**325**	P	**P**	**13 38 02.6**	**0.0**
	0.7nm,0.4s,baz=117,slow=7.5,SNR=9.6						

MEX 03 13:30:19.4±0.4, 17°.13N×99°.30W, h15km±5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.59**	**244**	*e*P	Pg	13 30 29.8	-1.3
ACX				*e*S	Sg	13 30 37.8	-1.1
ACP2	**Acapulco**	**0.61**	**246**	*e*P	Pg	13 30 29.6	-1.9
ACP2				*e*S	Sg	13 30 37.6	-2.0
TLIG	**Tlapa**	**0.83**	**58**	*e*P	Pg	13 30 32.9	-2.6
TLIG				*i* S	Sg	13 30 42.6	-3.8
MEIG	**Mezcala**	**0.85**	**339**	*e*P	Pb	13 30 32.8	-3.1
MEIG				*e*S	Sg	13 30 44.0	-3.2
CAIG	**El Cayaco**	**0.93**	**265**	*e*P	Pb	13 30 33.8	-3.3
CAIG				*e*S	Sb	13 30 45.9	-3.4
PLIG	**Platanillo**	**1.27**	**351**	*e*P	Pn	13 30 39.5	-3.2
PLIG				*i* S	Sb	13 30 54.1	-5.3
PNIG	**Pinotepa**	**1.34**	**123**	*e*P	Pn	13 30 40.3	-3.3
PNIG				*i* S	Sn	13 30 56.4	-4.8
ARIG	**Puente Sto Nin**	**1.52**	**319**	*e*P	Pn	13 30 43.0	-3.0
ARIG				*i* S	Sn	13 31 00.9	-4.7

*ISCJB **03** 13:30:43.8±0.7, 50°.22N±0°.05×19°.22E±0°.03, h0km, Error ellipse: s-maj=6.7km s-min=3.0km az=9.0*
*CSEM **03** 13:30:44.7±0.3, 50°.24N×19°.27E, h2km, ML2.6/4, Error ellipse: s-maj=7.6km s-min=3.1km az=6.0*
*PRU **03** 13:30:45.8, 50°.21N×19°.26E, h0km*

ISC 03 13:30:45.3±0.8, 50°.15N±0°.05×19°.26E±0°.02, h0km, n24, σ0§63/39, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**78**	*e*Pg	**Pg**	**13 30 51.5**	**-0.5**
OJC				*e*Sg	**Sg**	**13 30 55.8**	**-0.7**
OJC	**Ojcow**	**0.35**	**78**	*e*Pg	**Pg**	**13 30 51.5**	**-0.5**
OJC				*e*Sg	**Sg**	**13 30 55.8**	**-0.7**
OKC	**Ostrava-Krasne**	**0.79**	**247**	*e*PG	**Pb**	**13 31 01.8**	**0.0**
OKC				*e*SG	**Sb**	**13 31 13.4**	**+0.4**
	comp=Z,10nm,0.3s						
OKC	**Ostrava-Krasne**	**0.79**	**247**	Pg	**Pb**	**13 31 01.8**	**0.0**
OKC				Sg	**Sb**	**13 31 13.4**	**+0.4**
	10nm,0.3s						
LANS	**Liptovska Anna**	**1.01**	**172**	*e*Pg	**Pb**	**13 31 05.5**	**-0.1**
LANS				*e*Sg	**Sb**	**13 31 19.6**	**+0.2**
LANS	**Liptovska Anna**	**1.01**	**172**	*e*PG	**Pb**	**13 31 05.5**	**-0.1**
LANS				*e*SG	**Sb**	**13 31 19.6**	**+0.2**
MORC	**Moravsky Berou**	**1.17**	**252**	*e*Pg	**Pb**	**13 31 08.6**	**+0.2**
MORC				*e*Sg	**Sb**	**13 31 24.6**	**+0.4**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*Pg	**Pb**	**13 31 13.8**	**+0.2**
STHS				*e*Sn	**Sn**	**13 31 34.7**	**+1.5**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*PG	**Pb**	**13 31 13.8**	**+0.2**
STHS				*e*SN	**Sn**	**13 31 34.7**	**+1.5**
STHS				*e*LG	Lg	13 31 36.1	
KRLC	**Kraliky**	**1.60**	**268**	*e*PG	**Pn**	**13 31 14.8**	**-0.1**
KRLC				*e*SG	**Sg**	**13 31 36.7**	**0.0**
KRLC	**Kraliky**	**1.60**	**268**	Pg	**Pn**	**13 31 14.8**	**-0.1**
KRLC				Sg	**Sg**	**13 31 36.7**	**0.0**
VYHS	**Vyhne**	**1.68**	**190**	*e*Pg	**Pn**	**13 31 15.7**	**-0.2**
VYHS				*e*Sn	**Sb**	**13 31 38.7**	**0.0**
VYHS	**Vyhne**	**1.68**	**190**	*e*PG	**Pn**	**13 31 15.7**	**-0.2**
VYHS				*e*SN	**Sb**	**13 31 38.7**	**0.0**
VYHS				*e*LG	Lg	13 31 39.2	
DPC	**Dobruska-Polom**	**1.90**	**277**	*e*PG	**Pb**	**13 31 20.5**	**-0.3**
DPC				*e*SG	**Sb**	**13 31 45.6**	**+0.5**
	comp=Z,9.2nm,0.4s						
DPC	**Dobruska-Polom**	**1.90**	**277**	Pg	**Pb**	**13 31 20.5**	**-0.3**
DPC				Sg	**Sb**	**13 31 45.6**	**+0.5**
	9.2nm,0.4s						
VRAC	**Vranov**	**1.93**	**245**	*e*Sg	**Sg**	**13 31 47.0**	**-0.1**
UPC	**Upice**	**2.12**	**281**	*e*SG	**Sg**	**13 31 53.9**	**+0.7**
UPC	**Upice**	**2.12**	**281**	Sg	**Sg**	**13 31 53.9**	**+0.7**
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	*e*SG	**Sg**	**13 32 17.1**	**-1.2**
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	Sg	**Sg**	**13 32 17.1**	**-1.2**
PRU	**Pruhonice**	**3.05**	**269**	*e*SG	**Sg**	**13 32 22.6**	**-0.5**
	comp=Z,3.4nm,0.4s						
PRU	**Pruhonice**	**3.05**	**269**	Sg	**Sg**	**13 32 22.6**	**-0.5**
	3.4nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	*e*SG	**Sg**	**13 32 47.3**	**-1.1**
	comp=Z,2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	Sg	**Sg**	**13 32 47.3**	**-1.1**
	2.3nm,0.4s						

*ISCJB **03** 14:02:06.7±0.7, 2°.31S±0°.08×140°.29E±0°.10, h24km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=14.5km s-min=11.8km az=18.2*
*IDC **03** 14:02:09.3±0.9, 2°.35S×140°.57E, h35km±11km, mb3.4/7, mb1 3.8/8, mb1mx3.5/32, mbtmp3.7/8, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=37.7km s-min=18.9km az=92.0*

**ISC 03 14:02:07.8±0.9, 2°.5S±0°.1×140°.4E±0°.1, h

JMK	Ichinoseki	2.22 343	P	Pn	14 17 10.0 +1.4
MAT	Matsushiro	3.12 266	P	Pn	14 17 22.4 +1.5
MAT			eS	Sn	14 18 01.1 +2.3

*ISCJB **03** 14:18:54.7±0.2, 10°.64S±0°.03×164°.92E±0°.03, h46km, mb5.0/84, MS3.8/21, Error ellipse: s-maj=4.3km s-min=4.1km az=136.5*
*BJI **03** 14:18:56.8, 10°.70S×164°.90E, h71km, mb4.8/35, mB5.2/24, Ms5.2/10, Ms7 4.9/14*
*NEIC **03** 14:18:60.0±0.9, 10°.73S×164°.91E, h81km±8km, mb5.2/45, Error ellipse: s-maj=5.8km s-min=5.1km az=49.0*
*IDC **03** 14:18:59.6±2.7, 10°.65S×164°.90E, h75km±23km, mb4.2/25, mb1 4.4/26, mb1mx4.3/42, mbtmp4.6/26, MS3.9/21, Ms1 3.9/21, ms1mx3.8/35, Error ellipse: s-maj=16.9km s-min=11.1km az=70.0*
*GCMT **03** 14:19:00.0±0.2, 10°.46S×164°.93E, h61km±2km, MW5.1/58, Moment Tensor Solution. s58,c80; s58,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.18; $M_{\theta\theta}$2.98±.18; $M_{\phi\phi}$-2.67±.17; $M_{r\theta}$-2.06±.22; $M_{\theta\phi}$4.45±.15; $M_{\phi r}$-2.92±.17; Best double couple: $M_0$6.28500×10^{16} NP1:ϕ_s197.00000°, δ87.00000°, λ148.00000°. NP2: ϕ_s289.00000°, δ58.00000°, λ4.00000°. Principal axes: T 6.9000, Plg25.0000°, Azm148.0000°; N -1.2240, Plg58.0000°, Azm11.0000°; P -5.6690, Plg19.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 14:18:56.4±0.4, 10°.64S±0°.05×164°.96E±0°.05, h46km, n198, σ1s29/195, mb5.1/84, MS3.9/22, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.08	283	P	Pn	14 20 13.2	+3.2
	358nm,0.3s,baz=143,slow=5.2,SNR=204						
HNR				S	Sn	14 21 10.4	+3.0
	105nm,0.3s,baz=162,slow=19,SNR=3.3						
HNR				LR	LR	14 22 15.2	
	comp=Z,4μm,21.5s,baz=117,slow=39						
DZM	Mont Dzumac	11.46	173	P	Pn	14 21 39.9	+2.4
	38nm,0.3s,baz=297,slow=14,SNR=432						
DZM				S	Sn	14 23 42.7	-1.5
	15nm,0.3s,baz=150,slow=22,SNR=8.1						
DZM				LR	LR	14 25 44.4	
	comp=Z,1μm,18.8s,baz=2.0,slow=35						
DZM	Mont Dzumac	11.46	173	ePn	Pn	14 21 38.9	+1.4
	893nm,1.4s						
DZM				eSn	Sn	14 23 37.2	-7.0
	479nm,1.1s						
DZM				eLR	LR	14 24 22.5	
	820nm,22.2s						
DZM	Mont Dzumac	11.46	173	ePn	Pn	14 21 38.5	+1.0
DZM				S	Sn	14 23 42.7	-1.5
RABL	Rabaul	14.21	296	ePn	P	14 22 19.6	-1.8
TARA	Tarawa	14.31	34	ePn	Pn	14 22 15.6	-0.8
MSVF	Nonsavu	14.52	121	ePn	Pn	14 22 20.7	+1.5
PMG	Port Moresby	17.57	272	P	P	14 23 00.8	+2.2
	2.3nm,0.3s,baz=76,slow=7.3,SNR=22						
PMG				LR	LR	14 29 16.3	
	comp=Z,1μm,20.9s,baz=118,slow=35						
PMG	Port Moresby	17.57	272	ePn	Pn	14 22 56.9	-1.2
	88nm,0.9s						
PATS	Pohnpei	18.58	339	P	P	14 23 09.6	-0.1
	baz=19,SNR=13						
PATS	Pohnpei	18.58	339	eP	Pn	14 23 10.4	0.0
	150nm,0.7s						
MANU	Manus Island	19.44	295	eP	Pn	14 23 21.7	+0.9
	460nm,0.8s						
KWAJ	Kwajalein Atol	19.50	8	eP	Pn	14 23 23.6	+2.2
	273nm,0.8s						
EIDS	Eidsvold	19.69	220	P	Pn	14 23 24.9	+1.3
	baz=20,SNR=67						
EIDS	Eidsvold	19.69	220	eP	Pn	14 23 24.7	+1.1
	231nm,0.9s						
CTA	Charters Tower	20.31	240	P	Pn	14 23 30.1	-1.0
	44nm,0.8s,baz=67,slow=12,SNR=41						
CTAO	Charters Tower	20.31	240	eP	P	14 23 29.8	+1.0
	100nm,1.2s						
MTSU	Mount Surprise	21.32	247	P	P	14 23 40.3	+0.7
	baz=21,SNR=46						
COEN	Coen	21.53	259	P	P	14 23 42.5	+0.6
	baz=21,SNR=76						
COEN	Coen	21.53	259	eP	P	14 23 42.4	+0.5
	84nm,0.8s						
RMQ	Roma	21.96	222	P	P	14 23 48.3	+1.9
	baz=22,SNR=44						
AFI	Afiamalu	22.96	101	LR	LR	14 30 50.6	
	comp=Z,380nm,21.7s,baz=278,slow=31						
ARMA	Armidale	23.26	210	P	P	14 24 01.5	+1.5
	baz=23,SNR=22						
ARMA	Armidale	23.26	210	eP	P	14 24 00.9	+0.8
	181nm,1.6s						
QLP	Quilpie	25.18	228	P	P	14 24 18.7	+1.0
	baz=25,SNR=70						
JAY	Jayapura	25.39	287	P	P	14 24 18.9	-0.9
	1.3nm,0.6s,baz=127,slow=23,SNR=9.8						
JAY				LR	LR	14 34 25.4	
	comp=Z,9.2nm,20.9s,baz=70,slow=36						
OUZ	Omahuta	25.70	164	eP	P	14 24 24.3	+2.0
	244nm,1.8s						
GENI	Genyem	25.87	286	P	P	14 24 23.8	-0.3
	133nm,0.9s						
QIS	Mount Isa	26.30	245	P	P	14 24 27.4	-0.5
	baz=26,SNR=7.4						
CMSA	Cobar Meteorol	27.39	218	P	P	14 24 38.4	+0.8
	baz=27,SNR=48						
SMPI	Sarmi	27.44	286	P	P	14 24 38.4	+0.2
	309nm,1.1s,3μm						
CNB	Canberra Magne	28.37	208	P	P	14 24 48.1	+1.8
	baz=28,SNR=4.4						
H11S2	WAKE ISLAND Hy	29.00	3	T	T	14 55 05.0	
	baz=183,slow=76,SNR=62						
H11S3	WAKE ISLAND Hy	29.00	3	T	T	14 55 03.6	
	baz=183,slow=76,SNR=76						
H11S1	WAKE ISLAND Hy	29.02	3	T	T	14 55 06.1	
	baz=183,slow=76,SNR=71						
OPRZ	Ohinepanea	29.02	161	PN	P	14 24 55.2	+3.1
HIZ	Hauiti	29.14	164	ePN	P	14 24 54.7	+1.6
HAZ	Te Kaha	29.36	159	ePN	P	14 24 56.2	+1.2
MXZ	Matakaoa Point	29.37	158	PN	P	14 24 55.9	+0.8
PKGZ	Pakihiroa	29.58	159	ePN	P	14 24 57.5	+0.4
URZ	Urewera	29.58	160	P	P	14 24 57.6	+0.6
	45nm,0.8s,baz=295,slow=3.5,SNR=8.1						
URZ	Urewera	29.58	160	eP	P	14 24 57.8	+0.8
	62nm,0.9s						
WMGZ	Waiomatatini S	29.64	158	ePN	P	14 24 58.1	+0.6
MWZ	Matawai	29.79	160	ePN	P	14 24 59.7	+0.8
TWGZ	Tauwhareparae	29.80	159	PN	P	14 25 00.1	+1.1
SNGZ	Shannon Statio	30.13	160	ePN	P	14 25 01.9	0.0
RIGZ	Rimuhau	30.20	160	PN	P	14 25 03.4	+0.8
STKA	Stephens Creek	30.21	222	P	P	14 25 03.7	+1.0
	19nm,0.7s,baz=56,slow=11,SNR=62						
STKA				LR	LR	14 35 54.7	
	comp=Z,398nm,21.2s,baz=40,slow=34						
STKA	Stephens Creek	30.21	222	P	P	14 25 03.8	+1.0
	baz=30,SNR=27						
STKA	Stephens Creek	30.21	222	eP	P	14 25 03.1	+0.5
	6.3nm,0.9s						
BKZ	Black Stump Fm	30.21	162	eP	P	14 25 02.4	-0.3
	89nm,0.6s						
BKZ	Black Stump Fm	30.21	162	ePN	P	14 25 02.9	+0.2
H11N1	WAKE ISLAND Hy	30.22	4	T	T	14 56 35.8	
	baz=182,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	30.23	4	T	T	14 56 36.3	
	baz=182,slow=76,SNR=38						
H11N2	WAKE ISLAND Hy	30.24	4	T	T	14 56 36.5	
	baz=182,slow=76,SNR=38						
KNZ	Kokohu	30.46	160	ePN	P	14 25 04.0	-0.7
WRAB	Tennant Creek	30.89	249	eP	P	14 25 07.0	-1.9
	11nm,0.8s						
WB2	Warramunga Arr	30.89	249	eP	P	14 25 07.5	-1.3
WRA	Warramunga Arr	30.90	249	P	P	14 25 07.7	-1.3
	6.6nm,0.5s,baz=77,slow=9.4,SNR=61						
WRA				PcP	PcP	14 28 04.6	-0.3
	0.7nm,0.5s,baz=76,slow=3.4,SNR=3.2						
WRA				LR	LR	14 37 08.9	
	comp=Z,535nm,20.1s,baz=95,slow=35						
MRZ	Mangatainoka R	31.34	164	ePN	P	14 25 12.1	-0.4
NNZ	Nelson	31.35	168	PN	P	14 25 14.0	+1.4
BFZ	Birch Farm	31.54	163	eP	P	14 25 13.0	-1.3
	60nm,0.8s						
BFZ	Birch Farm	31.54	163	PN	P	14 25 13.6	-0.7
KDU	Kakadu	31.87	263	P	P	14 25 16.4	-1.1
	baz=32,SNR=15						
TOO	Toolangi	32.02	210	P	P	14 25 20.3	+1.6
	baz=32,SNR=22						
AS01	Alice Springs	32.24	242	eP	P	14 25 18.6	-2.2
AS31	Alice Springs	32.28	242	eP	P	14 25 19.5	-1.6
	3.8nm,0.6s						
ASAR	Alice Springs	32.29	242	P	P	14 25 19.4	-1.7
	11nm,0.6s,baz=65,slow=10,SNR=215						
ASAR				PcP	PcP	14 28 08.2	-0.4
	1.4nm,0.8s,baz=71,slow=2.6,SNR=3.3						
ASAR				LR	LR	14 37 32.0	
	comp=Z,116nm,19.8s,baz=72,slow=34						
KHZ	Kahutara	32.53	168	eP	P	14 25 22.0	-0.9
	46nm,0.5s						
KHZ	Kahutara	32.53	168	ePN	P	14 25 21.6	-1.3
LTZ	Lake Taylor	32.65	170	eP	P	14 25 23.5	-0.5
	47nm,0.8s						
HTT	Hallett	32.94	222	P	P	14 25 27.4	+0.6
	baz=33,SNR=39						
MTN	Manton Dam	33.17	263	P	P	14 25 27.7	-1.2
	baz=33,SNR=15						
MTN	Manton Dam	33.17	263	eP	P	14 25 27.5	-1.4
	28nm,0.9s						
ARPS	Mount Arapiles	33.35	215	P	P	14 25 32.6	+2.4
	baz=33,SNR=8.2						
RPZ	Rata Peaks	33.37	172	P	P	14 25 29.9	-0.4
	30nm,0.8s,baz=111,slow=1.4,SNR=7.3						
RPZ	Rata Peaks	33.37	172	eP	P	14 25 28.8	-1.5
	40nm,0.9s						
BBOO	Buckleboo	34.54	226	P	P	14 25 41.2	+0.5
	baz=35,SNR=27						
BBOO	Buckleboo	34.54	226	eP	P	14 25 40.8	+0.1
	25nm,0.7s						
SIJI	Sorong	34.85	284	P	P	14 25 43.0	-0.5
	183nm,0.6s,baz=130,slow=7.4,SNR=26						
BNDI	Bandanaira	35.25	277	P	P	14 25 46.1	-0.8
	149nm,0.9s,2μm						
RAR	Rarotonga	35.43	112	LR	LR	14 39 37.3	
	comp=Z,88nm,18.1s,baz=276,slow=35						
KNRA	Kununurra	35.56	258	P	P	14 25 48.6	-1.0
	baz=36,SNR=19						
MSAI	Masohi	36.46	279	P	P	14 25 59.5	+2.2
	9.1nm,0.8s						
AAI	Ambon	37.09	278	P	P	14 26 01.9	-0.8
	28nm,0.6s						
WRKA	Warakurna	37.58	243	P	P	14 26 05.6	-1.2
	baz=38,SNR=22						
NLAI	Namlea	38.26	278	P	P	14 26 13.3	+0.7
	76nm,0.6s,796nm						
LBMI	Labuha	38.52	282	P	P	14 26 15.9	+1.1
	204nm,0.9s,2μm						
FITZ	Fitzroy Crossi	38.74	254	P	P	14 26 15.4	-1.2
	13nm,0.7s,baz=66,slow=8.4,SNR=36						
SANI	Sanana	39.62	280	P	P	14 26 22.8	-1.1
	45nm,1.3s,507nm						
MRSI	Marisa	44.17	282	P	P	14 26 59.8	-1.4
	26nm,0.6s,3μm						
PPT	Papeete	44.55	104	LR	LR	14 43 34.0	
	comp=Z,95nm,20.3s,baz=292,slow=33						
PPT2	Papeete2	44.55	104	eLQ	LQ	14 37 30.2	
	927nm,30.5s						
PPT2				eLR	LR	14 39 37.0	
	287nm,23.8s						
MBWA	Male Bar	44.59	251	eP	P	14 27 03.7	-0.7
	20nm,0.5s						
KMBL	Kambalda	44.83	236	P	P	14 27 06.2	0.0
	baz=45,SNR=4.7						
KAPI	Kappang	45.09	274	eP	P	14 27 08.2	-0.3
	67nm,1.1s						
TBI	Tubuai	45.20	112	eLQ	LQ	14 38 06.4	
	1μm,31.2s						
TBI				eLR	LR	14 39 58.6	
	512nm,29.2s						
SPSI	Sidrap Palu	45.27	275	P	P	14 27 08.7	-1.2
	30nm,0.8s						
TTSI	Tana Toraja	45.40	276	P	P	14 27 11.9	+1.0
	22nm,0.7s						
PCI	Palu	45.86	279	P	P	14 27 15.1	+0.5
KLBR	Kellerberrin	48.27	237	P	P	14 27 32.4	-0.8
	baz=48,SNR=7.3						
MYLDM	Lahad Datu	48.85	287	eP	P	14 27 38.9	+1.1
	140nm,1.3s						
BLDU	Baliidu	48.91	239	P	P	14 27 37.6	-0.4
	baz=49,SNR=7.8						
NWAO	Narrogin (SRO)	49.05	235	P	P	14 27 39.6	+0.4
	baz=49,SNR=3.9						
NWAO				P	P	14 27 39.6	+0.4
	baz=49,SNR=3.9						
MORW	Morawa	49.14	241	P	P	14 27 39.5	-0.3
	baz=49,SNR=5.3						
HPAH	Hawaii Prepara	49.28	52	eP	P	14 27 41.0	-0.1
	116nm,1.1s						
KKM	Kota Kinabalu	51.28	287	eP	P	14 27 56.2	-0.2
	101nm,1.3s						
PCJI	Pacitan	53.06	268	P	P	14 28 09.3	-0.2
MJAR	Matsushiro Arr	53.26	333	P	P	14 28 10.1	-0.5
	1.1nm,0.7s,baz=163,slow=6.9,SNR=3.9						
MJAR				LR	LR	14 47 45.5	
	comp=Z,46nm,21.1s,baz=200,slow=32						
SBUM	Sibu	54.06	281	eP	P	14 28 17.2	+0.3
	24nm,1.1s						
STKI	Sintang	54.21	278	P	P	14 28 18.9	+0.9
JNU	Nakatsue	54.30	325	P	P	14 28 18.1	-0.2
	13nm,1.1s,baz=63,slow=10.0,SNR=3.9						
JNU	Nakatsue	54.30	325	eP	P	14 28 18.5	+0.2
	42nm,1.0s						
KSM	Kuching	55.67	279	eP	P	14 28 28.1	-0.4
	42nm,1.0s						
CISI	Cisompet, Garu	56.44	268	P	P	14 28 33.0	-1.1
CISI	Cisompet, Garu	56.44	268	eP	P	14 28 32.9	-1.2
	71nm,0.7s						
DBJI	Dramaga	57.63	269	P	P	14 28 42.7	+0.2
	74nm,1.1s						
RKT	Rikitea	58.45	111	eLR	LR	14 46 04.2	
	259nm,33.0s						
CGJI	Cibinong	58.66	269	P	P	14 28 48.3	-1.3
PPBI	Pangkal Pinang	58.97	274	P	P	14 28 51.7	-0.1
KSRS	Korea Array	59.11	326	P	P	14 28 52.4	+0.2
	0.7nm,0.7s,baz=132,slow=6.4,SNR=4.2						
KSRS				LR	LR	14 51 47.9	
	comp=Z,38nm,21.9s,baz=140,slow=33						
KSAR	Wonju Array Be	59.12	326	P	P	14 28 52.4	+0.1
MDSI	Maura Dua	60.48	271	P	P	14 29 01.8	-0.4
NJ2	Nanjing	61.19	316	eP	P	14 29 05.6	-1.0
NJ2				pmax	pmax		
	comp=Z,17nm,1.0s						
QIZ	Qiongzhong	61.81	298	P	P	14 29 09.8	-1.3
QIZ				S	S	14 37 31.4	-0.1
QIZ				LR	LR		
	comp=Z,220nm,26.9s						
MYKOM	Kota Tinggi	62.03	278	eP	P	14 29 11.2	-1.5
	33nm,1.3s						
USRK	Ussuriysk Ar.	62.24	334	P	P	14 29 13.1	-0.4
	14nm,0.6s,baz=108,slow=9.3,SNR=3.5						
USRK				LR	LR	14 52 60.0	
	comp=Z,66nm,21.6s,baz=137,slow=33						
MDJ	Mudanjiang	63.63	333	P	P	14 29 22.3	-0.4
MDJ				S	S	14 37 55.7	+2.2
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.5s						
PETK	Petropavlovsk-	63.80	355	P	P	14 29 24.1	+0.4
	3.4nm,0.8s,baz=161,slow=6.1,SNR=3.6						
PETK				LR	LR	14 51 55.6	
	comp=Z,94nm,20.9s,baz=163,slow=31						
CN2	Changchun	65.00	329	eP	P	14 29 35.2	+3.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
IPM	Ipoh	65.39	280	eP	P	14 29 34.8	-0.1
	63nm,0.8s						
KULM	Kulim	65.94	281	eP	P	14 29 37.3	-1.1
	15nm,0.8s						
KLR	Kul'dur	66.38	337	P	P	14 29 40.9	+0.4
	0.1nm,0.4s,baz=128,slow=5.2,SNR=3.3						
VNDA	Vanda	66.88	181	P	P	14 29 44.2	+0.9
	3.5nm,0.8s,baz=345,slow=7.0,SNR=9.9						
VNDA				LR	LR	14 55 49.7	
	comp=Z,99nm,18.3s,baz=18,slow=33						
VNDA	Vanda	66.88	181	eP	P	14 29 43.8	+0.5
	22nm,1.6s						
ENH	Enshi	67.04	309	eP	P	14 29 44.6	-0.5
	79nm,1.8s						
SBA	Scott Base	67.21	180	eP	P	14 29 46.1	+0.8
	10nm,0.9s						
GYA	Guiyang	67.55	304	eP	P	14 29 50.0	+1.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	Beijing	67.68	321	P	P	14 29 49.8	+0.9
BJI				S	S	14 38 43.4	+0.4
BJI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BJI				LR	LR		
	comp=Z,220nm,25.3s						
KMI	Kunming	70.25	302	P	P	14 30 06.6	+1.1
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
LAMP	Lampang	70.64	294	P	P	14 30 08.9	+1.2
	6.0nm,0.8s						
HHC	Hu-ho-hao-te	71.03	320	eP	P	14 30 11.4	+1.7
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,8.6s						
CM01	Chiang Mai Arr	71.22	294	eP	P	14 30 11.8	+0.6
CMAR	Chiang Mai Arr	71.24	294	P	P	14 30 11.9	+0.6
	5.6nm,0.7s,baz=124,slow=4.7,SNR=40						
CMAR				LR	LR	14 59 37.7	
	comp=Z,29nm,21.1s,baz=146,slow=34						
CHTO	Chiang Mai	71.35	294	P	P	14 30 13.0	+1.0
	50nm,1.6s						
CHTO	Chiang Mai	71.35	294	eP	P	14 30 12.4	+0.4
	6.9nm,0.8s						
CD2	Chengdu	71.74	308	eP	P	14 30 13.8	-0.4
LZH	Lanzhou	73.91	312	eP	P	14 30 26.2	-0.9
LZH				pP	PcP	14 30 42.6	+0.2
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.4s						
YAK	Yakutsk	77.49	344	P	P	14 30 46.9	+0.1
	3.5nm,0.4s,baz=113,slow=2.3,SNR=4.1						
ULN	Ulaanbaatar	77.52	324	eP	P	14 30 48.2	+0.8
	13nm,1.2s						
SONM	Songino Array	77.89	324	P	P	14 30 49.7	+0.3
	2.1nm,0.8s,baz=143,slow=8.3,SNR=12						
SONM				LR	LR	15 03 07.7	
	comp=Z,70nm,21.8s,baz=132,slow=34						
SONA1	Songino Array	77.89	324	eP	P	14 30 49.6	+0.1
GTA	Gaotai	78.22	314	eP	P	14 30 52.6	+1.1
GTA				pP	sP	14 31 09.0	-1.2
GTA				sP	pP	14 31 16.2	+11
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY	Talaya	81.36	326	P	P	14 31 08.0	-0.1
	2.2nm,0.5s,baz=234,slow=4.4,SNR=3.3						
HDA	Harding Lake	83.11	19	eP	P	14 31 17.0	0.0
	18nm,1.2s						
IL1	Eielson Array	83.38	19	eP	P	14 31 17.9	-0.5
ILAR	Eielson Array	83.38	19	P	P	14 31 18.1	-0.3
	3.1nm,0.7s,baz=234,slow=5.5,SNR=30						
ILB	Eielson Array	83.38	19	eP	P	14 31 18.6	+0.3
AFDM	Forest Hills D	84.52	49	eP	P	14 31 23.9	-0.9
	5.2nm,1.0s						
MAW	Mawson	84.80	202	P	P	14 31 26.2	+0.6
	1.9nm,0.7s,baz=98,slow=4.7,SNR=4.8						
MAW				LR	LR	15 04 11.0	
	comp=Z,50nm,18.6s,baz=62,slow=32						
MAW	Mawson	84.80	202	eP	P	14 31 25.7	+0.1
	2.1nm,1.1s						
EGAK	Eagle	85.27	20	eP	P	14 31 28.8	+0.9
	19nm,1.0s						
DAWY	Dawson	85.46	21	eP	P	14 31 28.7	-0.2
	22nm,1.5s						
EDW2	Edwards Air Fo	85.60	53	P	P	14 31 30.2	-0.2
	baz=254						
BFSC	Mount Baldy Ra	85.69	54	P	P	14 31 30.1	-0.8
	baz=254						
J05D	Fort Rock, OR	85.71	45	P	P	14 31 31.1	+0.3
	baz=251						
CWC	Cottonwood Cre	85.97	52	P	P	14 31 31.5	-0.8
	baz=254						
MPMC	Manual Prospec	86.32	52	P	P	14 31 33.7	-0.4
	baz=254						
MONP2	Monument Peak	86.33	56	P	P	14 31 33.8	-0.3
	baz=255						
HEC	Hector,Ludlow	86.90	54	P	P	14 31 36.0	-0.8
	baz=255						
BELC	Belle Mtn. Jos	86.96	55	P	P	14 31 36.1	-1.1
	baz=255						
BC3	Big Chuckawall	87.31	55	P	P	14 31 37.4	-1.4
	baz=255						
TUQ	Turquoise Moun	87.39	53	P	P	14 31 38.0	-1.2
	baz=255						
IRM	Iron Mountain	87.68	55	P	P	14 31 40.2	-0.3
	baz=256						
WMQ	Urumqi	88.26	315	P	P	14 31 43.3	+0.2
WMQ				pP	sP	14 32 05.6	+3.7
WMQ				sP	pP	14 32 12.5	+16
WMQ				S	S	14 42 14.8	-10
WMQ				SS	SS	14 48 07.9	-7.0
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.1s						
WMQ				LR	LR		
	comp=N,55nm,20.7s						
WMQ				LR	LR		
	comp=E,76nm,26.5s						
WMQ				LR	LR		
	comp=Z,96nm,29.9s						
R11A	Troy Canyon, C	88.39	51	P	P	14 31 42.6	-1.4
	baz=255						
PDMCI	Parker Dam,Lak	88.52	55	P	P	14 31 44.3	-0.1
	baz=256						
214A	Organ Pipe Nat	89.06	57	P	P	14 31 46.3	-0.8
	baz=257						
LCMT	Little Creek M	89.87	52	eP	P	14 31 51.0	+0.1
CCUT	Cedar City	89.90	52	eP	P	14 31 50.6	-0.5
	10nm,1.4s						
U15A	North Rim	90.48	53	eP	P	14 31 53.6	-0.3
	9.9nm,1.2s						
WUAZ	Wupatki	91.01	54	P	P	14 31 56.2	-0.1
	baz=258						
MSU	Marysvale	91.03	51	eP	P	14 31 56.7	+0.3
HVU	Hansel Valley	91.31	48	eP	P	14 31 56.9	-0.7
	21nm,0.6s						
DLMT	Dillon	92.24	44	eP	P	14 32 01.5	-0.2
	94nm,0.4s						
MK01	Makanchi Array	92.69	317	eP	P	14 32 03.0	-0.6
MK31	Makanchi Array	92.70	317	eP	P	14 32 03.1	-0.5
MKAR	Makanchi Array	92.70	317	P	P	14 32 03.2	-0.5
	3.7nm,0.7s,baz=94,slow=6.4,SNR=28						
MKAR	Makanchi Array	92.70	317	eP	P	14 32 03.4	-0.3
	21nm,0.7s						
ZALV	Zalesovo Beam	92.78	324	P	P	14 32 02.9	-0.8
	1.4nm,0.7s,baz=103,slow=5.8,SNR=6.1						
ZALV				LR	LR	15 16 04.6	
	comp=Z,41nm,18.2s,baz=70,slow=37						
PDAR	Pinedale Array	93.85	47	P	P	14 32 08.8	-0.5
	1.2nm,0.9s,baz=207,slow=1.0,SNR=4.8						
PDAR				LR	LR	15 08 45.1	
	comp=Z,37nm,19.4s,baz=273,slow=32						
NRIK	Noril'sk	95.47	340	LR	LR	15 12 05.5	
	comp=Z,76nm,21.9s,baz=105,slow=33						
KURK	Kurchatov	95.84	320	P	P	14 32 16.8	-1.1
KURBB	Kurchatov Arra	95.88	320	P	P	14 32 16.8	-1.3
	0.6nm,0.9s,baz=96,slow=3.4,SNR

n126,σ2°32/125, mb4.2/4, 6C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.46**	**276**	P*	**Pg**	**14 19 39.0**	**+1.3**
CNGZ	**Carnagh Statio**	**0.46**	**276**	⇓PN	**Pg**	**14 19 39.0**	**+1.3**
CNGZ				AML	AML	14 19 56.6	
CNGZ				AML	AML	14 20 02.2	
PUZ	**Puketiti**	**0.62**	**318**	P*	**Pg**	**14 19 40.5**	**-0.3**
PUZ	**Puketiti**	**0.62**	**318**	⇓PN	**Pg**	**14 19 40.8**	**0.0**
PUZ				AML	AML	14 20 03.9	
PUZ				AML	AML	14 20 13.0	
TWGZ	**Tauwhareparae**	**0.73**	**299**	P*	**Pg**	**14 19 43.0**	**+0.2**
TWGZ	**Tauwhareparae**	**0.73**	**299**	PN	**Pg**	**14 19 43.0**	**+0.2**
TWGZ				SN	**Sg**	**14 19 53.5**	**+1.2**
TWGZ				AML	AML	14 19 59.5	
TKGZ	**Te Karaka**	**0.74**	**277**	P*	**Pg**	**14 19 43.4**	**+0.3**
TKGZ				S*	**Sb**	**14 19 54.8**	**+0.5**
TKGZ	**Te Karaka**	**0.74**	**277**	⇑PN	**Pg**	**14 19 43.4**	**+0.3**
TKGZ				SN	**Sb**	**14 19 54.8**	**+0.5**
TKGZ				AML	AML	14 19 54.9	
WMGZ	**Waiomatatini S**	**0.77**	**338**	P*	**Pb**	**14 19 44.2**	**-0.3**
WMGZ				S*	**Sn**	**14 19 56.3**	**-1.5**
WMGZ	**Waiomatatini S**	**0.77**	**338**	⇑PN	**Pb**	**14 19 44.2**	**-0.3**
WMGZ				AML	AML	14 19 56.6	
WMGZ				AML	AML	14 19 56.7	
PRGZ	**Paritu Road**	**0.81**	**241**	P*	**Pg**	**14 19 45.5**	**+1.1**
PRGZ	**Paritu Road**	**0.81**	**241**	⇑PN	**Pg**	**14 19 45.5**	**+1.1**
PRGZ				AML	AML	14 20 07.3	
PRGZ				AML	AML	14 20 10.7	
RIGZ	**Rimuhau**	**0.82**	**258**	⇑PN	**Pb**	**14 19 45.0**	**-0.3**
RIGZ				AML	AML	14 20 12.8	
RIGZ				AML	AML	14 20 18.2	
PKGZ	**Pakihiroa**	**0.85**	**319**	⇑PN	**Pb**	**14 19 44.9**	**-1.1**
PKGZ				SN	**Sb**	**14 19 57.3**	**-0.3**
PKGZ				AML	AML	14 19 58.2	
MHGZ	**Mahia Peninsul**	**0.93**	**228**	PN	**Pb**	**14 19 47.2**	**+0.1**
MHGZ	**Mahia Peninsul**	**0.93**	**228**	⇑PN	**Pb**	**14 19 47.2**	**+0.1**
MHGZ				AML	AML	14 20 27.8	
MHGZ				AML	AML	14 20 28.2	
KNZ	**Kokohu**	**1.00**	**240**	Pn	**Pb**	**14 19 47.6**	**-0.7**
KNZ	**Kokohu**	**1.00**	**240**	⇓PN	**Pb**	**14 19 47.6**	**-0.7**
KNZ				AML	AML	14 20 26.5	
KNZ				AML	AML	14 20 33.3	
MWZ	**Matawai**	**1.01**	**281**	Pn	**Pb**	**14 19 47.1**	**-1.4**
MWZ	**Matawai**	**1.01**	**281**	PN	**Pb**	**14 19 47.1**	**-1.4**
MWZ				AML	AML	14 20 01.3	
MWZ				AML	AML	14 20 01.4	
MXZ	**Matakaoa Point**	**1.04**	**338**	Pn	**Pb**	**14 19 48.1**	**-1.0**
MXZ				Sn	**Sg**	**14 20 03.0**	**+0.7**
MXZ	**Matakaoa Point**	**1.04**	**338**	PN	**Pb**	**14 19 48.1**	**-1.0**
MXZ				AML	AML	14 20 03.8	
MXZ				AML	AML	14 20 03.8	
RUGZ	**Raukumara Rang**	**1.04**	**303**	PN	**Pb**	**14 19 47.5**	**-1.7**
HAZ	**Te Kaha**	**1.11**	**314**	PN	**Pn**	**14 19 48.1**	**-2.5**
HAZ				AML	AML	14 20 06.3	
HAZ				AML	AML	14 20 06.3	
HAZ				AML	AML	14 20 06.6	
HAZ				AML	AML	14 20 06.6	
SNGZ	**Shannon Statio**	**1.16**	**257**	Pn	**Pn**	**14 19 49.5**	**-1.9**
SNGZ	**Shannon Statio**	**1.16**	**257**	PN	**Pn**	**14 19 49.5**	**-1.9**
SNGZ				AML	AML	14 20 19.5	
SNGZ				AML	AML	14 20 22.0	
WHHZ	**Waihua**	**1.33**	**245**	PN	**Pn**	**14 19 52.6**	**-1.1**
WHHZ				AML	AML	14 20 24.1	
WHHZ				AML	AML	14 20 26.2	
URZ	**Urewera**	**1.34**	**281**	P	**Pn**	**14 19 52.0**	**-1.9**
	63nm,0.3s,baz=111,slow=5.4,SNR=88						
URZ				S	**Sn**	**14 20 11.4**	**-0.5**
	199nm,0.3s,baz=59,slow=5.9,SNR=9.3						
URZ	**Urewera**	**1.34**	**281**	PN	**Pn**	**14 19 51.9**	**-2.0**
URZ				AML	AML	14 20 19.5	
URZ				AML	AML	14 20 30.7	
ARHZ	**Aropaoanui**	**1.58**	**242**	Pn	**Pn**	**14 19 56.6**	**-0.5**
ARHZ	**Aropaoanui**	**1.58**	**242**	PN	**Pn**	**14 19 56.6**	**-0.5**
ARHZ				AML	AML	14 20 41.2	
ARHZ				AML	AML	14 20 59.1	
NMHZ	**Naumai**	**1.65**	**249**	Pn	**Pn**	**14 19 57.0**	**-1.2**
NMHZ	**Naumai**	**1.65**	**249**	PN	**Pn**	**14 19 56.9**	**-1.2**
NMHZ				AML	AML	14 20 55.1	
NMHZ				AML	AML	14 20 55.8	
CKHZ	**Cape Kidnapper**	**1.74**	**229**	Pn	**Pn**	**14 19 58.3**	**-1.1**
CKHZ	**Cape Kidnapper**	**1.74**	**229**	PN	**Pn**	**14 19 58.3**	**-1.1**
CKHZ				AML	AML	14 21 21.7	
CKHZ				AML	AML	14 21 28.2	
MCHZ	**McNeill Hill**	**1.87**	**240**	Pn	**Pn**	**14 20 00.3**	**-0.8**
MCHZ	**McNeill Hill**	**1.87**	**240**	PN	**Pn**	**14 20 00.3**	**-0.8**
MCHZ				AML	AML	14 21 00.8	
MCHZ				AML	AML	14 21 10.5	
MRHZ	**Matea Rd**	**1.88**	**260**	PN	**Pn**	**14 20 00.2**	**-1.1**
MRHZ				AML	AML	14 20 39.8	
MRHZ				AML	AML	14 20 40.9	
PRRZ	**Plateau Road**	**1.88**	**270**	Pn	**Pn**	**14 20 00.1**	**-1.2**
PRRZ	**Plateau Road**	**1.88**	**270**	PN	**Pn**	**14 20 00.0**	**-1.2**
PRRZ				AML	AML	14 20 40.1	
PRRZ				AML	AML	14 20 44.3	
OPRZ	**Ohinepanea**	**1.89**	**291**	Pn	**Pn**	**14 19 59.1**	**-2.2**
OPRZ	**Ohinepanea**	**1.89**	**291**	PN	**Pn**	**14 19 59.1**	**-2.2**
OPRZ				AML	AML	14 20 38.2	
OPRZ				AML	AML	14 20 54.8	
BKZ	**Black Stump Fm**	**1.90**	**250**	Pn	**Pn**	**14 20 00.4**	**-1.2**
BKZ	**Black Stump Fm**	**1.90**	**250**	PN	**Pn**	**14 20 00.4**	**-1.2**
BKZ				AML	AML	14 20 37.5	
BKZ				AML	AML	14 20 50.2	
HLRZ	**Highlands Stat**	**1.93**	**278**	PN	**Pn**	**14 20 03.1**	**+1.0**
HLRZ				AML	AML	14 20 34.4	
HLRZ				AML	AML	14 20 38.9	
KAHZ	**Kahuranaki**	**1.95**	**229**	Pn	**Pn**	**14 20 01.0**	**-1.2**
KAHZ	**Kahuranaki**	**1.95**	**229**	PN	**Pn**	**14 20 01.0**	**-1.2**
KAHZ				AML	AML	14 21 15.1	
KAHZ				AML	AML	14 21 23.2	
KWHZ	**Kaweka Forest**	**2.05**	**243**	PN	**Pn**	**14 20 02.2**	**-1.4**
KWHZ				AML	AML	14 20 31.7	
KWHZ				AML	AML	14 20 60.0	
WPRZ	**Whakapapatarin**	**2.06**	**270**	Pn	**Pg**	**14 20 10.6**	**+2.3**
WPRZ	**Whakapapatarin**	**2.06**	**270**	AML	AML	14 20 37.8	
WPRZ				AML	AML	14 20 50.7	
PXZ	**Pawanui**	**2.11**	**224**	Pn	**Pn**	**14 20 02.4**	**-2.1**
PXZ	**Pawanui**	**2.11**	**224**	PN	**Pn**	**14 20 02.4**	**-2.1**
PXZ				AML	AML	14 20 30.8	
PXZ				AML	AML	14 20 34.6	
PXZ				AML	AML	14 20 34.6	
PXZ				AML	AML	14 20 37.0	
KRHZ	**Kereru**	**2.18**	**239**	PN	**Pn**	**14 20 04.0**	**-1.5**
KRHZ				AML	AML	14 21 05.6	
KRHZ				AML	AML	14 21 19.5	
BHHZ	**Black Hill Sta**	**2.33**	**245**	Pn	**Pn**	**14 20 05.8**	**-1.7**
BHHZ	**Black Hill Sta**	**2.33**	**245**	PN	**Pn**	**14 20 05.8**	**-1.7**
BHHZ				AML	AML	14 20 48.0	
BHHZ				AML	AML	14 21 05.1	
WPHZ	**Waipukurau**	**2.38**	**229**	Pn	**Pn**	**14 20 06.3**	**-1.8**
WPHZ	**Waipukurau**	**2.38**	**229**	PN	**Pn**	**14 20 06.3**	**-1.8**
WPHZ				AML	AML	14 20 55.3	
WPHZ				AML	AML	14 21 10.9	
PRHZ	**Porangahau**	**2.40**	**223**	Pn	**Pn**	**14 20 06.2**	**-2.3**
PRHZ	**Porangahau**	**2.40**	**223**	PN	**Pn**	**14 20 06.2**	**-2.3**
PRHZ				AML	AML	14 20 42.0	
PRHZ				AML	AML	14 20 52.3	
PNHZ	**Pukenui**	**2.44**	**235**	Pn	**Pn**	**14 20 07.2**	**-1.8**
PNHZ	**Pukenui**	**2.44**	**235**	PN	**Pn**	**14 20 07.2**	**-1.8**
PNHZ				AML	AML	14 21 23.1	
PNHZ				AML	AML	14 21 23.1	
MOVZ	**Moawhango**	**2.52**	**249**	Pn	**Pn**	**14 20 09.6**	**-0.5**
MOVZ	**Moawhango**	**2.52**	**249**	PN	**Pn**	**14 20 09.6**	**-0.5**
MOVZ				AML	AML	14 21 08.9	
MOVZ				AML	AML	14 21 12.5	
WNVZ	**Wahianoa**	**2.61**	**251**	Pn	**Pn**	**14 20 10.6**	**-0.9**
WNVZ	**Wahianoa**	**2.61**	**251**	PN	**Pn**	**14 20 10.6**	**-0.9**
TSZ	**Takapari Road**	**2.67**	**234**	Pn	**Pn**	**14 20 09.9**	**-2.3**
TSZ	**Takapari Road**	**2.67**	**234**	PN	**Pn**	**14 20 09.9**	**-2.3**
TSZ				AML	AML	14 21 26.7	
TSZ				AML	AML	14 21 27.7	
MTVZ	**Mangateitei**	**2.72**	**251**	AML	AML	14 20 50.7	
MTVZ				AML	AML	14 20 58.1	
BFZ	**Birch Farm**	**2.91**	**222**	Pn	**Pn**	**14 20 12.3**	**-3.1**
BFZ	**Birch Farm**	**2.91**	**222**	PN	**Pn**	**14 20 12.3**	**-3.1**
BFZ				AML	AML	14 20 53.4	
BFZ				AML	AML	14 21 01.6	
BFZ				AML	AML	14 21 06.6	
BFZ				AML	AML	14 21 06.6	
PRWZ	**Pori Road**	**2.97**	**226**	Pn	**Pn**	**14 20 14.2**	**-2.1**
PRWZ	**Pori Road**	**2.97**	**226**	PN	**Pn**	**14 20 14.2**	**-2.1**
PRWZ				AML	AML	14 21 09.2	
PRWZ				AML	AML	14 21 52.8	
POWZ	**Post Office Ro**	**2.98**	**231**	Pn	**Pn**	**14 20 14.7**	**-1.7**
POWZ	**Post Office Ro**	**2.98**	**231**	PN	**Pn**	**14 20 14.7**	**-1.7**
POWZ				AML	AML	14 21 02.2	
POWZ				AML	AML	14 21 12.5	
KUZ	**Kuaotunu**	**3.02**	**305**	Pn	**Pn**	**14 20 14.6**	**-2.3**
KUZ	**Kuaotunu**	**3.02**	**305**	PN	**Pn**	**14 20 14.6**	**-2.3**
KUZ				AML	AML	14 20 51.3	
KUZ				AML	AML	14 21 20.5	
HIZ	**Hauiti**	**3.08**	**269**	Pn	**Pn**	**14 20 18.0**	**+0.2**
HIZ	**Hauiti**	**3.08**	**269**	PN	**Pn**	**14 20 18.0**	**+0.2**
HIZ				AML	AML	14 21 03.9	
HIZ				AML	AML	14 21 23.1	
CPWZ	**Castlepoint**	**3.10**	**219**	AML	AML	14 20 57.7	
CPWZ				AML	AML	14 21 00.6	
TIWZ	**Tintock**	**3.17**	**224**	Pn	**Pn**	**14 20 16.2**	**-2.9**
TIWZ	**Tintock**	**3.17**	**224**	PN	**Pn**	**14 20 16.2**	**-2.9**
TIWZ				AML	AML	14 20 59.0	
TIWZ				AML	AML	14 21 17.0	
WAZ	**Wanganui**	**3.20**	**246**	Pn	**Pn**	**14 20 19.0**	**-0.4**
WAZ	**Wanganui**	**3.20**	**246**	PN	**Pn**	**14 20 19.0**	**-0.4**
WAZ				AML	AML	14 21 05.7	
WAZ				AML	AML	14 21 23.4	
MRZ	**Mangatainoka R**	**3.27**	**228**	Pn	**Pn**	**14 20 17.5**	**-2.8**
MRZ	**Mangatainoka R**	**3.27**	**228**	PN	**Pn**	**14 20 17.5**	**-2.8**
MRZ				AML	AML	14 20 57.0	
MRZ				AML	AML	14 20 57.4	
TMWZ	**Te Maipa**	**3.40**	**220**	Pn	**Pn**	**14 20 18.6**	**-3.7**
TMWZ	**Te Maipa**	**3.40**	**220**	PN	**Pn**	**14 20 18.6**	**-3.7**
TMWZ				AML	AML	14 21 00.9	
TMWZ				AML	AML	14 21 03.5	
HOWZ	**Holdsworth Sta**	**3.46**	**226**	Pn	**Pn**	**14 20 19.8**	**-3.1**
HOWZ	**Holdsworth Sta**	**3.46**	**226**	PN	**Pn**	**14 20 19.8**	**-3.1**
HOWZ				AML	AML	14 21 02.8	
HOWZ				AML	AML	14 21 10.3	
OGWZ	**Otaki Gorge**	**3.60**	**230**	Pn	**Pn**	**14 20 22.0**	**-3.0**
OGWZ	**Otaki Gorge**	**3.60**	**230**	PN	**Pn**	**14 20 22.0**	**-3.0**
OGWZ				AML	AML	14 21 07.1	
OGWZ				AML	AML	14 21 11.5	
MTW	**Mount Morrison**	**3.64**	**223**	Pn	**Pn**	**14 20 21.8**	**-3.7**
MTW	**Mount Morrison**	**3.64**	**223**	PN	**Pn**	**14 20 21.8**	**-3.7**
MTW				AML	AML	14 21 06.9	
MTW				AML	AML	14 21 17.7	
TRWZ	**Traveller**	**3.72**	**219**	Pn	**Pn**	**14 20 22.4**	**-4.2**
TRWZ	**Traveller**	**3.72**	**219**	PN	**Pn**	**14 20 22.4**	**-4.2**
TRWZ				AML	AML	14 21 11.8	
KIW	**Kapiti Island**	**3.79**	**231**	Pn	**Pn**	**14 20 24.7**	**-2.8**
KIW	**Kapiti Island**	**3.79**	**231**	PN	**Pn**	**14 20 24.7**	**-2.8**
KIW				AML	AML	14 21 09.1	
KIW				AML	AML	14 21 21.7	
PAWZ	**Paruwai Farm**	**3.84**	**221**	Pn	**Pn**	**14 20 24.4**	**-3.9**
PAWZ	**Paruwai Farm**	**3.84**	**221**	PN	**Pn**	**14 20 24.4**	**-3.9**
PAWZ				AML	AML	14 21 24.3	
PAWZ				AML	AML	14 21 24.7	
CAW	**Cannon Point**	**3.85**	**227**	Pn	**Pn**	**14 20 25.0**	**-3.4**
CAW	**Cannon Point**	**3.85**	**227**	PN	**Pn**	**14 20 25.0**	**-3.4**
CAW				AML	AML	14 21 15.4	
CAW				AML	AML	14 21 23.2	
MSWZ	**Moikau Station**	**3.96**	**222**	AML	AML	14 21 15.6	
MSWZ				AML	AML	14 21 17.4	
PLWZ	**Palliser**	**4.07**	**221**	Pn	**Pn**	**14 20 27.1**	**-4.3**
PLWZ	**Palliser**	**4.07**	**221**	PN	**Pn**	**14 20 27.1**	**-4.3**
PLWZ				AML	AML	14 21 24.7	
PLWZ				AML	AML	14 21 29.7	
TCW	**Tory Channel**	**4.38**	**231**	Pn	**Pn**	**14 20 32.8**	**-2.8**
TCW	**Tory Channel**	**4.38**	**231**	PN	**Pn**	**14 20 32.8**	**-2.8**
TCW				AML	AML	14 21 28.7	
TCW				AML	AML	14 21 36.8	
DUWZ	**D'Urville Isla**	**4.38**	**237**	Pn	**Pn**	**14 20 32.8**	**-2.9**
DUWZ	**D'Urville Isla**	**4.38**	**237**	PN	**Pn**	**14 20 32.8**	**-2.9**
DUWZ				AML	AML	14 21 43.2	
DUWZ				AML	AML	14 23 27.2	
TUWZ	**Tuamarina**	**4.71**	**231**	Pn	**Pn**	**14 20 36.2**	**-4.0**
TUWZ	**Tuamarina**	**4.71**	**231**	PN	**Pn**	**14 20 36.2**	**-4.0**
TUWZ				AML	AML	14 21 33.3	
NNZ	**Nelson**	**4.95**	**235**	Pn	**Pn**	**14 20 40.2**	**-3.3**
NNZ	**Nelson**	**4.95**	**235**	PN	**Pn**	**14 20 40.2**	**-3.3**
NNZ				AML	AML	14 23 53.2	
CTZ	**Chatham Island**	**6.25**	**148**	Pn	**Pn**	**14 21 02.5**	**+1.2**
MQZ	**McQueen's Vall**	**6.94**	**220**	Pn	Pn	14 21 05.5	-5.3
MQZ	**McQueen's Vall**	**6.94**	**220**	PN	Pn	14 21 05.5	-5.3
RPZ	**Rata Peaks**	**7.80**	**226**	P	**Pn**	**14 21 18.1**	**-4.5**
	0.5nm,0.3s,baz=26,slow=14,SNR=3.2						
RPZ				S	Sn	14 22 39.3	-12
	3.3nm,0.3s,baz=351,slow=18,SNR=11						
ODZ	**Otahua Downs**	**8.90**	**220**	Pn	**Pn**	**14 21 33.3**	**-4.4**
ODZ	**Otahua Downs**	**8.90**	**220**	PN	**Pn**	**14 21 33.3**	**-4.4**
ODZ				AML	AML	14 24 03.5	
ASAR	**Alice Springs**	**40.79**	**278**	P	**P**	**14 27 08.2**	**-2.6**
	1.8nm,0.7s,baz=107,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**42.52**	**283**	P	**P**	**14 27 22.6**	**-2.3**
	1.9nm,0.8s,baz=118,slow=7.4,SNR=3.8						
QSPA	**South Pole Qui**	**51.59**	**180**	*e*P	P	14 28 43.3	+7.9
	18nm,0.8s						
MAW	**Mawson**	**63.79**	**203**	P	P	14 30 08.0	+7.1
	2.9nm,0.9s,baz=113,slow=8.4,SNR=6.4						
KURK	**Kurchatov**	**124.53**	**311**	PKP	**PKPdf**	**14 38 31.8**	**+3.8**
KURBB	**Kurchatov Arra**	**124.56**	**310**	PKP	**PKPdf**	**14 38 31.8**	**+3.7**
	0.4nm,0.7s,baz=107,slow=2.2,SNR=3.4						
ARCES	**ARCESS Array B**	**145.81**	**344**	PKPbc	**PKPab**	**14 39 11.6**	**+3.7**
	9.3nm,1.1s,baz=38,slow=4.7,SNR=4.9						
FINES	**FINESS Array B**	**151.52**	**332**	PKPbc	**PKPbc**	**14 39 25.4**	**+2.9**
	4.0nm,0.9s,baz=72,slow=4.5,SNR=4.6						

CSEM ***03*** *14:30:37.2±0.33°.89N×35°.84E, h8km, ML2.7*
GRAL ***03*** *14:30:37.2±0.3,33°.89N×35°.84E, h9km±.5km, MD2.7*
NSSC ***03*** *14:30:38.4±0.9,33°.86N×36°.03E, h1km±.3km, ML1.6*

ISC 03 14:30:36.8±1.1, 33°.88N±0°.03×35°.87E±0°.03, h3km±11km, n14, σ0°78/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.18**	**278**	*e*P	**Pg**	**14 30 40.3**	**0.0**
BHL				*e*S	**Sg**	**14 30 42.6**	**0.0**
BHL	**Bhannes**	**0.18**	**278**	*e*P	**Pg**	**14 30 40.3**	**0.0**
BHL				*e*S	**Sg**	**14 30 42.7**	**0.0**
DQRL	**Deir Qamar**	**0.30**	**235**	*e*P	**Pg**	**14 30 42.6**	**0.0**
DQRL				*e*S	**Sg**	**14 30 46.6**	**0.0**
DQRL	**Deir Qamar**	**0.30**	**235**	*e*P	**Pg**	**14 30 42.6**	**0.0**
DQRL				*e*S	**Sg**	**14 30 46.6**	**0.0**
RCY	**Rachaya**	**0.38**	**184**	*e*P	**Pg**	**14 30 44.4**	**+0.3**
RCY				*e*S	**Sg**	**14 30 49.8**	**+0.6**
HWQ	**Hawqa**	**0.40**	**9**	*e*P	**Pg**	**14 30 44.5**	**-0.1**
HWQ	**Hawqa**	**0.40**	**9**	*e*P	**Pg**	**14 30 44.5**	**-0.1**
BRBR	**Barbar**	**0.47**	**172**	*i*P	**Pg**	**14 30 46.8**	**+0.9**
BRBR				*e*S	**Sb**	**14 30 54.3**	**-0.9**
BRBR				AML	AML	14 30 55.1	
	comp=N,71nm,0.4s						
BRBR				AML	AML	14 30 56.4	
	comp=E,34nm,0.4s						
MARH	**Ras Al Marh**	**0.53**	**74**	*i*P	**Pg**	**14 30 47.6**	**+0.6**
MARH				*e*S	**Sg**	**14 30 53.0**	**-0.9**
MARH				AML	AML	14 31 01.4	
	comp=N,54nm,0.3s						
MARH				AML	AML	14 31 02.8	
	comp=E,94nm,0.3s						
HAWK	**Haweek**	**0.78**	**35**	*i*P	**Pg**	**14 30 52.4**	**+0.6**
HAWK				*e*S	**Sg**	**14 31 03.0**	**+1.0**
HAWK				AML	AML	14 31 07.9	
	comp=N,17nm,0.3s						
HAWK				AML	AML	14 31 16.0	
	comp=E,21nm,0.4s						
BIDA	**Albida**	**1.19**	**18**	*i*P	**Pn**	**14 31 01.5**	**+1.1**
BIDA				*e*S	**Sn**	**14 31 18.0**	**+0.9**
BIDA				AML	AML	14 31 20.2	
	comp=N,22nm,0.4s						
BIDA				AML	AML	14 31 25.8	
	comp=E,35nm,0.5s						
ROOS	**tl_alroos**	**1.22**	**76**	*i*P	**Pn**	**14 30 59.7**	**-1.0**
ROOS				*e*S	**Sb**	**14 31 14.2**	**-2.4**
ROOS				AML	AML	14 31 28.7	
	comp=N,18nm,0.4s						
ROOS				AML	AML	14 31 35.6	
	comp=E,14nm,0.5s						
SALA	**Sala**	**1.37**	**148**	*i*P	**Pn**	**14 31 03.3**	**+0.3**
SALA				*e*S	**Sb**	**14 31 20.8**	**-0.3**
SALA				AML	AML	14 31 27.5	
	comp=E,1.9nm,0.6s						
SALA				AML	AML	14 31 29.4	
	comp=N,9.5nm,0.4s						
ARNB	**Al Arnab**	**1.98**	**2**	*i*P	**Pb**	**14 31 13.2**	**-0.3**
ARNB				*e*S	**Sb**	**14 31 38.8**	**+0.2**
ARNB				AML	AML	14 31 43.9	
	comp=N,14nm,0.3s						
ARNB				AML	AML	14 31 44.6	
	comp=E,8.8nm,0.3s						

IDC ***03*** *14:37:08.0±1.0, 14°.40N×144°.28E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/45, mbtmp3.5/7, MS3.5/3, Ms1 3.5/3, ms1mx3.0/32, Error ellipse: s-maj=36.5km s-min=13.2km az=63.0*
ISCJB ***03*** *14:37:10.6±0.7, 14°.4N±0°.1×144°.2E±0°.1, h27km, mb3.5/7, MS3.5/3, Error ellipse: s-maj=25.0km s-min=8.2km az=143.7*

ISC 03 14:37:11.9±1.0, 14°.4N±0°.2×144°.3E±0°.2, h27km, n17, σ0°56/9, mb3.5/7, MS3.7/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.98**	**145**	Pn	**Pn**	**14 37 29.7**	**-0.3**
	46nm,0.3s,baz=287,slow=11,SNR=37						
GUMO				Sn	**Sn**	**14 37 43.3**	**+0.3**
	59nm,0.3s,baz=90,slow=18,SNR=20						
GUMO				T	T	14 38 46.7	
	83nm,0.3s,baz=325,slow=17,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**21.86**	**76**	T	T	15 05 01.2	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**21.88**	**76**	T	T	15 05 02.6	
	baz=262,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**21.88**	**76**	T	T	15 05 00.3	
	baz=262,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**22.24**	**73**	T	T	15 05 30.4	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**22.25**	**73**	T	T	15 05 32.5	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**22.26**	**73**	T	T	15 05 32.6	
	baz=254						
MJAR	**Matsushiro Arr**	**22.71**	**347**	P	**P**	**14 42 12.1**	**+0.4**
	1.5nm,0.9s,baz=169,slow=9.7,SNR=3.6						
KSRS	**Korea Array**	**27.19**	**331**	P	**P**	**14 42 52.6**	**-0.7**
	0.6nm,0.7s,baz=148,slow=10,SNR=3.6						
HNR	**Honiara**	**28.32**	**146**	LR	LR	14 53 17.3	
	comp=Z,33nm,18.7s,baz=312,slow=34						
WRA	**Warramunga Arr**	**35.50**	**196**	P	**P**	**14 44 07.0**	**+0.4**
	2.0nm,0.9s,baz=16,slow=9.6,SNR=9.8						
ASAR	**Alice Springs**	**39.17**	**195**	P	**P**	**14 44 37.5**	**-0.2**
	0.3nm,0.9s,baz=29,slow=6.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**43.60**	**282**	P	**P**	**14 45 14.4**	**+0.1**
	0.3nm,0.4s,baz=64,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**45.75**	**325**	P	**P**	**14 45 31.8**	**+0.7**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.0						
KURBB	**Kurchatov Arra**	**63.65**	**320**	P	**P**	**14 47 40.0**	**-0.7**
	0.3nm,0.6s,baz=101,slow=7.3,SNR=4.6						
GEYT	**Alibeck**	**78.32**	**306**	LR	LR	15 26 18.5	
	comp=Z,35nm,21.1s,baz=205,slow=38						
AKASG	**Malin Array Be**	**94.03**	**325**	LR	LR	15 35 09.5	
	comp=Z,56nm,20.4s,baz=295,slow=37						

IDC ***03*** *14:58:16.0±1.4, 0°.66N×126°.27E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.6/47, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=103.1km s-min=21.0km az=67.0*
ISCJB ***03*** *14:58:21.1±1.0, 0°.51N±0°.09×126°.02E±0°.09, h44km, mb4.0/4, Error ellipse: s-maj=14.6km s-min=10.2km az=138.0*
DJA ***03*** *14:58:22.8±1.8, 0°N±5°×12°6E±°, h25km±19km, M3.7/7, mB5.3/1, MLv3.7/7, Mw(mB)4.7/1*

ISC 03 14:58:23.1±1.1, 0°.48N±0°.10×126°.04E±0°.08, h44km, n10, σ1°31/13, mb4.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.83**	**127**	P	**Pn**	**14 58 51.9**	**-0.3**
LBMI				S	**Sn**	**14 59 17.5**	**+3.3**
SANI	**Sanana**	**2.51**	**181**	P	**Pn**	**14 59 01.5**	**+0.1**
SANI				S	**Sn**	**14 59 30.1**	**-0.7**
NLAI	**Namlea**	**3.84**	**164**	P	**Pn**	**14 59 20.5**	**+0.8**
MRSI	**Marisa**	**4.10**	**270**	P	**Pn**	**14 59 24.5**	**+1.3**
SPSI	**Sidrap Palu**	**7.66**	**235**	P	**Pn**	**15 00 13.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.47**	**181**	P	**P**	**15 02 35.3**	**-0.1**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=4.5						

TKM2	Tokmak 2	3.18	58	⇑Pn		Pb	14 59 44.3	+1.9
	1.5nm,0.6s							
TKM2				⇓Lg		Lg	15 00 26.2	
	5.1nm,0.6s							
BOOM	Boomskoye usch	3.23	67	⇑*e*P		Pn	14 59 39.2	+2.5
	baz=67							
BOOM				⇑*e*S		Sb	15 00 19.6	-3.2
	baz=67							
KST	Kastek	3.47	59	*e*P		Pg	14 59 50.8	-1.3
	1.1nm,0.3s							
KST				⇑*i*S		Sg	15 00 36.5	-0.6
	5.0nm,0.5s							

BJI ***03*** *15:23:58.9,24.'20S×179.'12E,h557km,mb4.7/12, mB5.1/10*
ISCJB ***03*** *15:23:59.3±0.2,24.'12S±0.'02×178.'75E±0.'04,h550km, mb4.6/67,Error ellipse: s-maj=5.4km s-min=3.2km az=7.7*
MOS ***03*** *15:23:59.8±1.9,23.'84S×178.'73E,h543km,mb4.5/11, Error ellipse: s-maj=11.7km s-min=10.1km az=48.8*
IDC ***03*** *15:24:00.6±0.9,23.'96S×178.'73E,h550km±8km,mb3.9/20, mb1 4.1/22,mb1mx3.9/36,mbtmp4.8/22,Error ellipse: s-maj=10.4km s-min=9.1km az=169.0*
NEIC ***03*** *15:24:01.4±0.4,23.'90S×178.'71E,h561km±4km,mb4.8/51, Error ellipse: s-maj=6.0km s-min=4.2km az=159.0*
ISC 03 15:23:59.8±0.3,24.'11S±0.'05×178.'93E±0.'05,h550km, n302,σ1§68/345,mb4.6/67,41C-14D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.85	152	P		P		15 25 40.6	+3.7
	68nm,0.3s,baz=60,slow=20,SNR=3.1								
RAO				S		S		15 26 55.9	-0.6
	30nm,0.3s,baz=73,slow=19,SNR=2.5								
MSVF	Nonsavu	6.39	352	*e*P		P		15 25 40.3	-2.0
MSVF	Nonsavu	6.39	352	*e*P		P		15 25 40.3	-2.0
DZM	Mont Dzumac	11.67	278	P		P		15 26 35.3	+0.2
	2.7nm,0.3s,baz=79,slow=18,SNR=27								
DZM				S		S		15 28 43.5	+0.7
	0.2nm,0.3s,baz=126,slow=19,SNR=2.4								
DZM	Mont Dzumac	11.67	278	*e*P		P		15 26 34.8	-0.3
DZM				S		S		15 28 43.5	+0.7
OUZ	Omahuta	12.00	201	*e*P		P		15 26 41.7	+3.6
OUZ	Omahuta	12.00	201	*e*PN		P		15 26 41.6	+3.4
KUZ	Kuaotunu	12.90	192	PN		P		15 26 49.3	+1.9
MKAZ	Moumakai	13.35	193	PN		P		15 26 54.7	+2.6
AFI	Afiamalu	13.41	43	P		P		15 26 48.9	-4.3
	6.1nm,0.3s,baz=132,slow=21,SNR=13								
AFI				S		S		15 29 05.8	-10
	1.0nm,0.3s,baz=143,slow=20,SNR=3.1								
MXZ	Matakaoa Point	13.42	182	*e*P		P		15 26 51.7	-1.1
AWAZ	Awhitu Peninsu	13.43	195	PN		P		15 26 55.5	+2.6
HAZ	Te Kaha	13.64	184	PN		P		15 26 53.6	-1.5
HAZ				*e*SN		S		15 29 14.9	-4.5
WMGZ	Waiomatatini S	13.68	182	*e*PN		P		15 26 54.2	-1.2
TOZ	Raukumara Rang	13.86	184	PN		P		15 26 56.1	-1.3
TOZ	Tahuroa Road	13.89	191	PN		P		15 26 59.8	+2.1
PUZ	Puketiti	13.93	182	*e*PN		P		15 26 56.5	-1.7
PUZ				SN		S		15 29 17.2	-7.8
URZ	Urewera	14.19	186	P		P		15 26 59.1	-1.6
	28nm,0.3s,baz=280,slow=3.1,SNR=44								
URZ				S		S		15 29 23.5	-6.3
	3.5nm,0.3s,baz=195,slow=20,SNR=16								
URZ	Urewera	14.19	186	*e*P		P		15 26 59.0	-1.8
URZ				*e*Sn		S		15 29 27.6	-2.2
URZ	Urewera	14.19	186	*e*PN		P		15 26 59.2	-1.6
URZ				*e*SN		S		15 29 23.6	-6.2
MWZ	Matawai	14.23	184	*e*PN		P		15 26 58.7	-2.5
CNGZ	Carnagh Statio	14.35	182	*e*PN		P		15 27 01.2	-1.1
RIGZ	Rimuhau	14.59	184	*e*SN		S		15 29 31.1	-6.3
HIZ	Hauiti	14.77	193	*e*P		P		15 27 09.8	+3.0
HIZ	Hauiti	14.77	193	PN		P		15 27 09.3	+2.6
KNZ	Kokohu	14.91	184	PN		P		15 27 05.9	-2.1
BKZ	Black Stump Fm	15.15	187	*e*Pn		P		15 27 08.6	-2.1
BKZ				*e*Sn		S		15 29 45.6	-2.2
BKZ	Black Stump Fm	15.15	187	*e*PN		P		15 27 06.9	-3.8
BKZ				*e*SN		S		15 29 41.6	-6.2
ARHZ	Aropaoanui	15.20	186	*e*PN		P		15 27 08.8	-2.3
MCHZ	McNeill Hill	15.41	187	PN		P		15 27 10.8	-2.5
KWHZ	Kaweka Forest	15.42	187	*e*PN		P		15 27 10.6	-2.9
KWHZ				*e*SN		S		15 29 48.2	-4.2
BHHZ	Black Hill Sta	15.53	188	PN		P		15 27 11.8	-2.7
WAZ	Wanganui	15.95	191	*e*PN		P		15 27 16.8	-1.9
PXZ	Pawanui	15.97	186	*e*PN		P		15 27 16.0	-2.8
TSZ	Takapari Road	16.10	188	PN		P		15 27 18.3	-1.9
BFZ	Birch Farm	16.68	187	*e*Pn		P		15 27 24.1	-1.3
	254nm,1.7s								
BFZ	Birch Farm	16.68	187	PN		P		15 27 23.3	-2.2
BFZ				*e*SN		S		15 30 08.5	-4.6
MRZ	Mangatainoka R	16.75	189	*e*PN		P		15 27 23.8	-2.2
OGWZ	Otaki Gorge	16.96	190	PN		P		15 27 26.2	-1.7
KIW	Kapiti Island	17.04	190	PN		P		15 27 27.5	-1.2
DUWZ	D'Urville Isla	17.17	193	PN		P		15 27 30.1	+0.2
MTW	Mount Morrison	17.24	189	PN		P		15 27 28.8	-1.7
CAW	Cannon Point	17.26	190	*e*PN		P		15 27 30.3	-0.4
TCW	Tory Channel	17.50	192	*e*PN		P		15 27 33.1	+0.3
QRZ	Quartz Range	17.51	196	PN		P		15 27 34.6	+1.6
SNZO	South Karori	17.52	191	*e*P		P		15 27 33.4	+0.4
	260nm,0.5s								
NNZ	Nelson	17.68	194	PN		P		15 27 34.9	+0.4
TUWZ	Tuamarina	17.77	192	*e*PN		P		15 27 35.1	-0.3
THZ	Tophouse	18.31	194	*e*Pn		P		15 27 40.7	+0.4
	62nm,0.6s								
THZ				*e*Sn		S		15 30 38.9	-0.9
THZ	Tophouse	18.31	194	*e*PN		P		15 27 41.1	+0.7
DSZ	Denniston Nort	18.57	197	PN		P		15 27 44.3	+1.7
KHZ	Kahutara	18.80	192	*e*Pn		P		15 27 44.6	-0.1
	87nm,0.8s								
KHZ	Kahutara	18.80	192	PN		P		15 27 44.5	-0.2
LTZ	Lake Taylor	19.42	195	*e*P		P		15 27 50.3	-0.2
	103nm,0.8s								
LTZ	Lake Taylor	19.42	195	PN		P		15 27 50.3	-0.2
OXZ	Oxford	19.99	195	*e*P		P		15 27 54.5	-1.1
	131nm,0.4s								
OXZ	Oxford	19.99	195	PN		P		15 27 55.1	-0.5
MQZ	McQueen's Vall	20.22	193	PN		P		15 27 57.4	-0.2
RPZ	Rata Peaks	20.60	196	P		P		15 28 01.2	+0.1
	27nm,0.4s,baz=15,slow=2.4,SNR=24								
RPZ				S		S		15 31 10.3	-6.1
	5.6nm,0.6s,baz=11,slow=16,SNR=2.1								
RPZ	Rata Peaks	20.60	196	*e*P		P		15 28 01.1	+0.1
	225nm,1.8s								
RPZ				S		S		15 31 10.3	-6.1
FOZ	Fox Glacier	20.78	199	*e*P		P		15 28 02.6	-0.1
	62nm,0.7s								
FOZ	Fox Glacier	20.78	199	*e*PN		P		15 28 02.5	-0.1
WKZ	Wanaka	22.19	199	*e*P		P		15 28 15.3	-0.1
	204nm,1.6s								
MLZ	Mavora Lakes	22.95	200	*e*P		P		15 28 23.2	+1.0
	97nm,0.8s								
DCZ	Deep Cove	23.35	201	*e*P		P		15 28 26.5	+0.9
	103nm,1.4s								
WHZ	Wether Hill Ro	23.48	200	*e*P		P		15 28 27.3	+0.5
	103nm,0.5s								
WHZ	Wether Hill Ro	23.48	200	PN		P		15 28 27.3	+0.5
ARMA	Armidale	25.03	249	*e*P		P		15 28 42.2	+1.3
	33nm,0.9s								
EIDS	Eidsvold	25.30	261	*e*P		P		15 28 43.0	-0.3
	23nm,1.1s								
CAN	Canberra	28.19	240	*e*P		P		15 29 09.9	+1.3
CAN				pmax		pmax			
	comp=Z,50nm,0.7s								
CAN	Canberra	28.19	240	*e*P		P		15 29 09.9	+1.3
	comp=Z,50nm,0.7s								
CTA	Charters Tower	30.50	271	P		P		15 29 28.9	+0.3
	comp=Z,50nm,0.4s,baz=93,slow=11,SNR=196								
CTA				ScP		ScP		15 35 03.3	+2.1
	comp=Z,7.7nm,0.7s,baz=40,slow=3.7,SNR=7.7								
CTA	Charters Tower	30.50	271	P		P		15 29 29.0	+0.3
CTAO	Charters Tower	30.50	271	*e*P		P		15 29 28.5	-0.2
CTAO				pmax		pmax			
	comp=Z,57nm,0.4s								
CTAO	Charters Tower	30.50	271	*e*P		P		15 29 28.5	-0.2
	comp=Z,57nm,0.4s								
TAU	Tasmania Unive	32.08	226	*e*P		P		15 29 43.2	+1.4
TAU				pmax		pmax			
	comp=Z,59nm,0.6s								
TAU	Tasmania Unive	32.08	226	*e*P		P		15 29 43.2	+1.4
	comp=Z,59nm,0.6s								
PMG	Port Moresby	33.64	290	P		P		15 29 54.5	-0.9
	comp=Z,13nm,0.6s,baz=91,slow=7.0,SNR=6.9								
PMG	Port Moresby	33.64	290	⇑*e*P		P		15 29 51.9	-3.5
PMG				pmax		pmax			
	comp=Z,61nm,0.7s								
STKA	Stephens Creek	33.73	248	P		P		15 29 56.7	+0.6
	comp=Z,44nm,0.5s,baz=96,slow=11,SNR=285								
STKA				S		S		15 34 39.4	-1.5
	comp=Z,1.4nm,0.6s,baz=299,slow=19,SNR=2.4								
STKA				ScP		ScP		15 35 13.8	+1.5
	comp=Z,5.7nm,1.1s,baz=18,slow=7.4,SNR=4.4								
STKA	Stephens Creek	33.73	248	*e*P		P		15 29 56.8	+0.7
STKA				S		S		15 34 39.4	-1.5
STKA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
STKA	Stephens Creek	33.73	248	*e*P		P		15 29 56.8	+0.7
	comp=Z,10nm,0.6s								
STKA				S		S		15 34 39.4	-1.5
STKA				ScP		ScP		15 35 13.8	+1.5
COEN	Coen	35.18	280	*e*P		P		15 30 08.2	-0.1
	comp=Z,25nm,1.3s								
BBOO	Buckleboo	38.46	247	*e*P		P		15 30 34.8	-0.3
	comp=Z,81nm,0.8s								
AS01	Alice Springs	40.99	261	*e*P		P		15 30 55.0	-0.5
AS31	Alice Springs	41.03	261	*e*P		P		15 30 55.4	-0.4
	comp=Z,22nm,1.0s								
ASAR	Alice Springs	41.03	261	P		P		15 30 55.6	-0.2
	comp=Z,52nm,0.8s,baz=93,slow=7.5,SNR=819								
ASAR				ScP		ScP		15 35 41.6	+1.5
	comp=Z,6.8nm,0.7s,baz=108,slow=3.9,SNR=20								
ASAR				S		S		15 36 27.3	-1.8
	comp=Z,2.2nm,0.7s,baz=95,slow=16,SNR=5.9								
WB2	Warramunga Arr	41.40	267	*e*P		P		15 30 57.8	-1.0
WRAB	Tennant Creek	41.41	267	*c i*P		P		15 30 57.8	-1.0
WRAB	Tennant Creek	41.41	267	*e*P		P		15 30 57.7	-1.0
	comp=Z,64nm,0.8s								
WRA	Warramunga Arr	41.41	267	P		P		15 30 57.9	-0.9
	comp=Z,61nm,0.6s,baz=103,slow=8.3,SNR=471								
WRA				ScP		ScP		15 35 43.5	+1.8
	comp=Z,7.4nm,0.8s,baz=98,slow=4.0,SNR=19								
WRA				S		S		15 36 30.4	-4.3
	comp=Z,2.2nm,0.9s,baz=102,slow=19,SNR=6.6								
JAY	Jayapura	42.70	294	P		P		15 31 08.2	-0.9
	comp=Z,1.0nm,0.9s,baz=159,slow=23,SNR=5.8								
FORT	Forest Hill	45.32	250	*e*P		P		15 31 28.1	-0.9
	comp=Z,1μm,0.6s								
MTN	Manton Dam	46.49	275	*e*P		P		15 31 36.5	-1.7
	comp=Z,8.5nm,0.6s								
FAKI	Fak Fak	49.70	288	P		P		15 31 59.8	-2.3
FITZ	Fitzroy Crossi	49.83	266	P		P		15 32 02.8	-0.2
	comp=Z,7.9nm,0.4s,baz=114,slow=5.5								
SIJI	Sorong	51.57	289	P		P		15 32 14.8	-0.9
	comp=Z,127nm,0.6s,baz=86,slow=5.1,SNR=18								
SOEI	Soe	53.88	276	*e*P		P		15 32 31.8	-0.5
	comp=Z,46nm,1.2s								
VNDA	Vanda	54.09	185	P		P		15 32 34.8	+2.1
	comp=Z,1.1nm,0.5s,baz=6.1,slow=7.9,SNR=16								
VNDA				PcP		PcP		15 33 30.2	+1.5
	comp=Z,2.5nm,0.7s,baz=4.8,slow=5.7,SNR=7.9								
SBA	Scott Base	54.12	183	*e*P		P		15 32 35.8	+3.0
SBA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
SBA	Scott Base	54.12	183	*e*P		P		15 32 35.8	+3.0
	comp=Z,9.3nm,0.9s								
MBWA	Marble Bar	54.37	261	*e*P		P		15 32 34.2	-1.3
MJAR	Matsushiro Arr	71.52	326	P		P		15 34 24.6	-0.7
	comp=Z,3.8nm,0.8s,baz=152,slow=5.1,SNR=5.0								
MAT	Matsushiro	71.52	326	P		P		15 34 24.4	-1.0
MAW	Mawson	77.21	201	P		P		15 34 58.2	+1.3
	comp=Z,2.7nm,0.7s,baz=124,slow=6.7,SNR=8.5								
MAW	Mawson	77.21	201	*e*P		P		15 34 58.2	+1.3
MAW				pmax		pmax			
	comp=Z,1.0nm,0.8s								
MAW	Mawson	77.21	201	*e*P		P		15 34 58.2	+1.3
	comp=Z,0.9nm,0.8s								
KSRS	Korea Array	77.78	321	P		P		15 35 00.3	-0.2
	comp=Z,2.1nm,0.9s,baz=136,slow=5.0,SNR=6.1								
KSAR	Wonju Array Be	77.79	321	P		P		15 35 00.3	-0.2
KSAR	Wonju Array Be	77.79	321	P		P		15 35 00.3	-0.2
PETK	Petropavlovsk-	79.08	347	P		P		15 35 07.1	0.0
	comp=Z,3.6nm,0.6s,baz=109,slow=5.6,SNR=11								
NJ2	Nanjing	80.06	312	*e*P		P		15 35 11.9	-0.8
USRK	Ussuriysk Ar.	80.41	328	P		P		15 35 14.9	+0.7
	comp=Z,3.4nm,0.6s,baz=98,slow=3.7,SNR=6.1								
GO10	Punta Arenas	82.20	145	*e*P		P		15 35 25.2	+1.7
	comp=Z,33nm,0.9s								
SYO	Syowa Base	82.58	194	⇑*e*P		P		15 35 24.9	-0.1
CMB	Columbia Colle	84.03	44	*e*P		P		15 35 33.3	+0.5
CMB				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CMB	Columbia Colle	84.03	44	*e*P		P		15 35 33.2	+0.5
	comp=Z,7.7nm,1.0s								
PFO	Pinyon Flats O	84.08	49	P		P		15 35 34.5	+1.3
	comp=Z,2.6nm,0.7s,baz=108,slow=20,SNR=3.1								
AFDM	Forest Hills D	84.21	43	*e*P		P		15 35 34.7	+1.1
	comp=Z,6.6nm,0.9s								
ORV	Oroville	84.25	42	*e*P		P		15 35 34.6	+0.8
ORV				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ORV	Oroville	84.25	42	*e*P		P		15 35 34.6	+0.8
	comp=Z,6.0nm,0.9s								
SNAA	Sanae	84.47	179	P		P		15 35 34.8	+0.4
SNAA	Sanae	84.47	179	*c e*P		P		15 35 34.9	+0.4
SNAA	Sanae	84.47	179	*e*P		P		15 35 34.6	+0.2
	comp=Z,20nm,1.4s								
VNA3	Neumayer Olymp	84.72	177	P		P		15 35 36.2	+0.6
GSC	Goldstone, Bar	84.79	48	*e*P		P		15 35 36.2	-0.4
GSC				pmax		pmax			
	comp=Z,8.0nm,1.1s								
GSC	Goldstone, Bar	84.79	48	*e*P		P		15 35 36.2	-0.4
	comp=Z,7.6nm,1.1s								
WAKR	Walker	84.91	44	*e*P		P		15 35 37.7	+0.5
	comp=Z,11nm,1.3s								
NVL	N'lazarevskaya	84.95	184	*e*P		P		15 35 41.2	+4.5
VNA2	Neumayer--Watz	85.13	178	P		P		15 35 38.1	+0.5
	baz=188,slow=4.3								
PNTR	Pine Nut	85.15	43	*e*P		P		15 35 39.3	+0.8
	comp=Z,11nm,0.9s								
VNA1	Neumayer--Stat	85.37	178	P		P		15 35 39.4	+0.7
LDFC	Landfair	85.82	49	*e*P		P		15 35 42.5	+0.9
	comp=Z,13nm,0.8s								
GYA	Guiyang	86.01	301	*e*P		P		15 35 43.2	+0.5
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TPNV	Topopah Spring	86.08	47	*e*P		P		15 35 43.7	+0.8
TPNV				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TPNV	Topopah Spring	86.08	47	*e*P		P		15 35 43.7	+0.8
	comp=Z,5.6nm,0.9s								
MOD	Modoc Plateau	86.40	41	*e*P		P		15 35 45.2	+0.9
	comp=Z,6.0nm,0.9s								
TUC	Tucson	87.42	53	*e*P		P		15 35 50.0	+0.8
TUC				pmax		pmax			
	comp=Z,13nm,1.3s								
TUC	Tucson	87.42	53	*e*P		P		15 35 50.0	+0.8
	comp=Z,13nm,1.3s								
X16A	Lo Mia Camp, P	88.03	51	*e*P		P		15 35 53.5	+1.4
	comp=Z,5.2nm,0.9s								
319A	Douglas	88.06	54	*e*P		P		15 35 54.2	+1.9
	comp=Z,22nm,1.0s								
LCMT	Little Creek M	88.13	48	*e*P		P		15 35 53.7	+1.2
	comp=Z,6.1nm,1.1s								
U15A	North Rim	88.48	49	*e*P		P		15 35 55.4	+1.1
	comp=Z,11nm,0.8s								
SZCU	Shurtz Canyon	88.55	47	*e*P		P		15 35 56.0	+1.5
	comp=Z,10nm,1.4s								
CMAR	Chiang Mai Arr	88.68	291	PKKPbc		PKKPbc		15 53 33.4	+1.3
	comp=Z,1.0nm,0.5s,baz=270,slow=4.3,SNR=7.1								
HPIG				88.71	60	*e*P	P	15 35 56.5	+1.0
	comp=Z,8.4nm,0.7s								
PLCA	Paso Flores	88.82	135	P		P		15 35 57.6	+1.9
	comp=Z,4.2nm,0.7s,baz=238,slow=5.7,SNR=8.4								
PLCA	Paso Flores	88.82	135	*e*P		P		15 35 57.7	+1.9
PLCA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
PLCA	Paso Flores	88.82	135	*e*P		P		15 35 57.7	+1.9
	comp=Z,6.2nm,0.8s								
SEY	Seymchan	89.27	348	P		P		15 35 57.0	+0.1
	comp=Z,4.1nm,0.7s,baz=141,slow=6.5,SNR=8.7								
SEY	Seymchan	89.27	348	⇓*i*P		P		15 35 56.8	-0.1
MSU	Marysvale	89.64	47	*e*P		P		15 36 01.1	+1.5
MSU	Marysvale	89.64	47	*e*P		P		15 36 01.1	+1.5
HHC	Hu-ho-hao-te	89.87	316	*e*P		P		15 36 02.3	+1.9
HHC				pmax		pmax			
	comp=Z,15nm,0.7s								
HHC				pmax		pmax			
	comp=Z,130nm,8.6s								
NLU	North Lily Min	90.46	46	*e*P		P		15 36 04.3	+1.0
	comp=Z,4.9nm,1.0s								
F10A	Beach Ranch, E	90.58	39	*e*P		P		15 36 03.6	0.0
	comp=Z,11nm,1.4s								
TMUT	Trail Mountain	90.69	47	*e*P		P		15 36 05.7	+1.1
	comp=Z,16nm,0.7s								
HVU	Hansel Valley	90.97	44	*e*P		P		15 36 06.6	+1.0
HVU				pmax		pmax			
	comp=Z,6.0nm,0.7s								
HVU	Hansel Valley	90.97	44	*e*P		P		15 36 06.6	+1.0
	comp=Z,6.1nm,0.7s								
SRU	San Rafael Swe	91.06	47	*e*P		P		15 36 06.8	+0.7
SRU				pmax		pmax			
	comp=Z,12nm,0.8s								
SRU	San Rafael Swe	91.06	47	*e*P		P		15 36 06.8	+0.7
	comp=Z,12nm,0.8s								
P17A	Butcher Ranch,	91.10	47	*e*P		P		15 36 07.3	+1.1
	comp=Z,10nm,1.2s								
MNTX	Cornudas Mount	91.14	56	*e*P		P		15 36 07.4	+1.0
	comp=Z,13nm,1.4s								
TX31	Lajitas Ar. Si	91.38	58	*e*P		P		15 36 08.9	+1.3
TXAR	Lajitas Array	91.38	58	P		P		15 36 09.1	+1.5
	comp=Z,3.6nm,0.8s,baz=212,slow=7.0,SNR=28								
ANMO	Albuquerque	91.86	52	⇓*i*P		P		15 36 09.9	0.0
ANMO				pmax		pmax			
	comp=Z,3.0nm,0.9s								
COLA	College	92.34	14	⇑*e*P		P		15 36 10.5	-0.6
COLA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILAR	Eielson Array	92.46	14	P		P		15 36 10.2	-1.4
	comp=Z,0.6nm,0.6s,baz=218,slow=5.2,SNR=13								
S22A	4UR Ranch, Cre	92.92	50	*e*P		P		15 36 15.6	+0.8
	comp=Z,5.5nm,1.2s								
YPP	Pitchstone Pla	93.49	43	*e*P		P		15 36 17.0	-0.3
	comp=Z,9.3nm,0.8s								
PDAR	Pinedale Array	93.52	44	P		P		15 36 17.9	+0.5
	comp=Z,0.8nm,0.6s,baz=204,slow=3.3,SNR=5.1								
SONM	Songino Array	96.62	320	P		P		15 36 30.8	-0.3
	comp=Z,0.4nm,0.3s,baz=131,slow=4.0,SNR=3.1								
WMQ	Urumqi	107.12	311	*e*P		Pdif		15 37 16.1	-1.8
WMQ				LR		LR			
	comp=Z,90nm,15.7s								
ZALV	Zalesovo Beam	111.49	321	PKiKP		PKiKP		15 41 29.9	-1.5
	comp=Z,1.2nm,0.5s,baz=133,slow=1.0,SNR=4.7								
MKAR	Makanchi Array	111.57	313	PKiKP		PKiKP		15 41 30.4	-1.5
	comp=Z,0.9nm,0.5s,baz=145,slow=0.5,SNR=11								
MKAR				PKKPbc		PKKPbc		15 52 28.6	+0.2
	comp=Z,0.4nm,0.5s,baz=258,slow=3.8,SNR=2.9								
MKAR				PKKPab		PKKPab		15 52 39.6	+1.9
	comp=Z,1.7nm,0.6s,baz=276,slow=4.5,SNR=9.8								
KSH	Kashi	114.57	304	*e*PKP		PKPdf		15 41 39.4	+1.4
KSH				*e*PP		PP		15 42 52.3	+6.5
KSH				sPKP				15 44 38.0	
KSH				PKS		PKSdf		15 45 14.4	-0.3
KSH				SKS		SKSdf		15 48 01.6	+3.4
KSH				SKKS		SKKSac		15 48 49.2	-0.5
KSH				SS		SS		15 58 03.7	+5.5
KSH				AMB		AMB			
	comp=Z,37nm,4.0s								
KURK	Kurchatov	114.67	317	*d i*PKIKP		PKPdf		15 41 36.5	-1.1
KURK	Kurchatov	114.67	317	*e*PKPdf		PKPdf		15 41 36.4	-1.2
KURBB	Kurchatov Arra	114.72	316	PKP		PKPdf		15 41 36.7	-1.0
	comp=Z,2.5nm,0.8s,baz=106,slow=1.8,SNR=15								
AAK	Ala-Archa	116.24	307	PKP		PKPdf		15 41 40.7	-0.4
	comp=Z,1.3nm,0.5s,baz=162,slow=3.2,SNR=4.0								
AAK	Ala-Archa	116.24	307	⇓*i*PKIKP		PKPdf		15 41 40.4	-0.7
KBL	Kabul	119.06	297	*e*PKIKP		PKPdf		15 41 46.9	0.0
KBL	Kabul	119.06	297	*e*PKPdf		PKPdf		15 41 46.9	0.0
KKAR	Karatay Array	119.20	307	*e*PKIKP		PKPdf		15 41 46.0	-0.6
KKAR	Karatay Array	119.20	307	*e*PKPdf		PKPdf		15 41 46.0	-0.6
BRVK	Borovoye	120.01	319	⇓*i*PKIKP		PKPdf		15 41 47.0	-0.8
BOSA	Boshof	121.78	207	PKP		PKPdf		15 41 52.7	+0.5

MORC	**Moravsky Berou**	**150.53 335**	⇑*i*P		**PKPbc**	**15 42 49.5**	**-0.1**
MORC	**Moravsky Berou**	**150.53 335**	⇑PKIKP		**PKPbc**	**15 42 49.5**	**-0.1**
MORC	**Moravsky Berou**	**150.53 335**	*e*PKPbc		**PKPbc**	**15 42 49.4**	**-0.1**
KRLC	**Kraliky**	**150.58 336**	⇑*e*PKP		**PKPbc**	**15 42 50.0**	**+0.4**
KRLC	**Kraliky**	**150.58 336**	*e*PKIKP		**PKPbc**	**15 42 50.0**	**+0.4**
CLL	**Collm**	**150.75 342**	⇓*e*PKIKP		**PKPdf**	**15 42 44.0**	**+0.3**
CLL			*i*			15 42 50.1	
CLL			*i*			15 42 59.2	
CLL			pmax	pmax			
	comp=Z,41nm,0.7s						
CLL			pmax	pmax			
	comp=Z,10.0nm,0.7s						
CLL	**Collm**	**150.75 342**	*e*PKPdf		**PKPdf**	**15 42 44.0**	**+0.3**
CLL			⇓*i*PKPbc		**PKPbc**	**15 42 50.1**	**+0.2**
	comp=Z,41nm,0.7s						
CLL			*i* PKPab		**PKPab**	**15 42 59.2**	**-0.3**
	comp=Z,10.0nm,0.7s						
CLL			*i* pPKPab		**pPKPab**	**15 45 01.9**	**-0.4**
CLL	**Collm**	**150.75 342**	*e*PKPbc		**PKPbc**	**15 42 49.6**	**-0.3**
BRG	**Berggiesshubel**	**150.86 340**	⇓*i*PKP		**PKPbc**	**15 42 50.5**	**+0.3**
	comp=Z,30nm,0.5s						
BRG			*e*			15 42 57.4	
	comp=Z,5.8nm,0.9s						
BRG			pPKP		**pPKPab**	**15 45 02.6**	**-0.2**
	comp=Z,9.3nm,1.1s						
BRG	**Berggiesshubel**	**150.86 340**	⇓*i*PKIKP		**PKPbc**	**15 42 50.5**	**+0.3**
BRG			*e*			15 42 57.4	
BRG			pmax	pmax			
	comp=Z,4.0nm,0.5s						
BRG			pmax	pmax			
	comp=Z,30nm,0.9s						
BRG			pmax	pmax			
	comp=Z,6.0nm,1.1s						
PVCC	**Panska Ves**	**150.96 339**	⇑*e*PKP		**PKPbc**	**15 42 51.0**	**+0.6**
PVCC	**Panska Ves**	**150.96 339**	*e*PKIKP		**PKPbc**	**15 42 51.0**	**+0.6**
AKAS	**Kas**	**150.98 302**	*e*PKPbc		**PKPbc**	**15 42 50.5**	**-0.7**
PSZ	**Piszkesteto**	**150.99 330**	⇑*i*P		**PKPbc**	**15 42 51.0**	**+0.4**
PSZ	**Piszkesteto**	**150.99 330**	⇑PKIKP		**PKPbc**	**15 42 51.1**	**+0.4**
VYHS	**Vyhne**	**151.02 332**	*e*PKIKP		**PKPbc**	**15 42 50.7**	**+0.1**
VYHS	**Vyhne**	**151.02 332**	*e*PKP		**PKPbc**	**15 42 50.7**	**+0.1**
GZR	**Gura Zlata**	**151.29 324**	⇑*i*P		**PKPbc**	**15 42 51.1**	**-0.3**
GZR	**Gura Zlata**	**151.29 324**	⇑PKIKP		**PKPbc**	**15 42 51.1**	**-0.3**
SIRR	**Siria**	**151.31 326**	⇑*i*P		**PKPbc**	**15 42 51.5**	**+0.1**
GOPC	**GO Pecny, Ondr**	**151.42 338**	⇑*e*PKP		**PKPbc**	**15 42 52.0**	**+0.5**
GOPC	**GO Pecny, Ondr**	**151.42 338**	*e*PKIKP		**PKPbc**	**15 42 52.0**	**+0.5**
PRU	**Pruhonice**	**151.44 339**	⇑*e*PKP		**PKPbc**	**15 42 51.7**	**+0.2**
PRU	**Pruhonice**	**151.44 339**	*e*PKIKP		**PKPbc**	**15 42 51.7**	**+0.2**
TREC	**Trest**	**151.70 337**	⇑*e*PKP		**PKPbc**	**15 42 52.4**	**+0.2**
TREC	**Trest**	**151.70 337**	*e*PKIKP		**PKPbc**	**15 42 52.4**	**+0.2**
BZS	**Buzias**	**151.77 325**	⇓*i*P		**PKPbc**	**15 42 52.5**	**+0.1**
BZS	**Buzias**	**151.77 325**	⇓PKIKP		**PKPbc**	**15 42 52.5**	**+0.1**
NKC	**Novy Kostel**	**151.87 341**	⇑*e*PKP		**PKPbc**	**15 42 53.0**	**+0.5**
NKC	**Novy Kostel**	**151.87 341**	*e*PKIKP		**PKPbc**	**15 42 53.0**	**+0.5**
MDVR	**Moldovita**	**152.26 324**	⇑*i*P		**PKPbc**	**15 42 53.7**	**+0.1**
KHC	**Kasperske Hory**	**152.49 339**	⇑*e*PKP		**PKPbc**	**15 42 54.2**	**+0.3**
KHC			*e*PKPAB		**PKPab**	**15 43 07.5**	**+0.5**
KHC			*e*pPKP		**pPKPab**	**15 45 06.6**	**-3.0**
KHC	**Kasperske Hory**	**152.49 339**	*e*PKIKP		**PKPbc**	**15 42 54.2**	**+0.3**
KHC			*e*			15 43 07.5	
KHC	**Kasperske Hory**	**152.49 339**	*e*PKPbc		**PKPbc**	**15 42 53.9**	**-0.1**
CONA	**Conrad Observa**	**152.68 335**	*i* PKiKP		**PKPbc**	**15 42 54.5**	**+0.1**
	comp=Z,4.7nm,0.6s						
GEC2	**GERESS Array S**	**152.70 338**	*e*PKIKP		**PKPbc**	**15 42 54.2**	**-0.3**
GEC2	**GERESS Array S**	**152.70 338**	*e*PKPbc		**PKPbc**	**15 42 54.2**	**-0.3**
GERES	**GERESS Array B**	**152.70 338**	PKP		**PKPdf**	**15 42 46.3**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=132,slow=2.0,SNR=4.6						
GERES			PKPbc		**PKPbc**	**15 42 54.5**	**0.0**
	comp=Z,2.7nm,0.7s,baz=46,slow=1.7,SNR=19						
GERES			PKPab		**PKPab**	**15 43 05.3**	**-2.7**
	comp=Z,0.9nm,0.6s,baz=41,slow=4.3,SNR=3.8						
GEA0	**GERESS Array S**	**152.71 338**	*e*PKPdf		**PKPdf**	**15 42 46.0**	**-0.9**
GEA0			*e*PKPbc		**PKPbc**	**15 42 54.0**	**-0.5**
VTS	**Vitosha**	**152.74 318**	⇑*i*P		**PKPbc**	**15 42 54.5**	**-0.3**
VTS	**Vitosha**	**152.74 318**	⇑PKIKP		**PKPbc**	**15 42 54.6**	**-0.3**
MOA	**Molln**	**153.35 337**	*i* PKPbc		**PKPbc**	**15 42 55.5**	**-0.3**
	comp=Z,1.8nm,0.6s						
SOKA	**Soboth**	**154.03 334**	*i* PKiKP		**PKPbc**	**15 42 57.3**	**0.0**
	comp=Z,6.7nm,1.4s						
LIC	**Lamto**	**161.82 167**	*e*PKP1		**PKPab**	**15 43 49.3**	**+1.2**
	comp=Z,30nm,0.9s						
KIC	**Kosan Boka**	**162.01 168**	*e*PKP1		**PKPab**	**15 43 50.1**	**+1.1**
	comp=Z,9.1nm,0.7s						
TIC	**Toumodi**	**162.23 167**	*e*PKP1		**PKPab**	**15 43 49.8**	**-0.2**
DBIC	**Dimbokro**	**162.29 168**	PKP		**PKPdf**	**15 42 59.5**	**0.0**
	comp=Z,3.2nm,0.8s,baz=238,slow=0.5,SNR=3.5						
DBIC			PKPab		**PKPab**	**15 43 51.0**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=205,slow=7.2,SNR=4.0						
ES19	**SONSECA Array**	**164.27 8**	*e*PKPab		**PKPab**	**15 43 58.5**	**+0.1**
ESDC	**Sonseca Array**	**164.29 8**	PKPab		**PKPab**	**15 43 58.0**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=352,slow=4.3,SNR=4.9						
TOA0	**Torodi Ar. Sit**	**168.79 194**	*e*PKPdf		**PKPdf**	**15 43 03.5**	**-1.1**
TOA0			*e*PKPab		**PKPab**	**15 44 19.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**168.79 194**	PKP		**PKPdf**	**15 43 03.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=132,slow=2.1,SNR=9.3						
TORD			PKPab		**PKPab**	**15 44 19.6**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=169,slow=3.4,SNR=17						
TORD			PP		**PP**	**15 48 11.0**	**+3.1**
	comp=Z,1.2nm,0.9s,baz=186,slow=4.8,SNR=5.5						

*THE **03** 15:26:12.2, 37°.93N×21°.10E, h14km, ML3.0/14, Error ellipse: s-maj=0.8km s-min=0.5km az=8.0*
*ATH **03** 15:26:12.6, 37°.92N×21°.13E, h10km±1km, ML2.8/21, Error ellipse: s-maj=1.2km s-min=0.6km az=162.0*
*CSEM **03** 15:26:13.0±0.2, 37°.92N×21°.13E, h2km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.1km az=43.0*
ISC 03 15:26:12.6±0.8, 37°.92N±0°.02×21°.11E±0°.02, h15km±5km, n103, σ0°70/164, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.06**	**92**	P	**Pg**	**15 26 15.4**	**-0.1**
VTN	**Vitineika**	**0.06**	**92**	P	**Pg**	**15 26 15.4**	**-0.1**
RLS	**Riolos of Patr**	**0.32**	**64**	P	**Pg**	**15 26 18.2**	**-0.9**
RLS				S	**Sg**	**15 26 23.2**	**-0.4**
RLS	**Riolos of Patr**	**0.32**	**64**	P	**Pg**	**15 26 17.9**	**-1.3**
RLS				S	**Sg**	**15 26 23.7**	**0.0**
RLS				AML	AML	15 26 24.9	
	comp=E,6338μm,0.3s						
RLS				AML	AML	15 26 25.4	
	comp=N,8632μm,0.4s						
RLS	**Riolos of Patr**	**0.32**	**64**	P	**Pg**	**15 26 18.2**	**-0.9**
RLS				S	**Sg**	**15 26 23.2**	**-0.4**
KFL	**Anninata**	**0.32**	**307**	P	**Pg**	**15 26 18.7**	**-0.5**
KFL				S	**Sg**	**15 26 23.4**	**-0.3**
KFL	**Anninata**	**0.32**	**307**	P	**Pg**	**15 26 18.9**	**-0.3**
KFL				S	**Sg**	**15 26 24.3**	**+0.6**
KFL	**Anninata**	**0.32**	**307**	P	**Pg**	**15 26 18.7**	**-0.5**
KFL				S	**Sg**	**15 26 23.4**	**-0.3**
AXS	**Araxos**	**0.35**	**37**	P	**Pg**	**15 26 18.8**	**-0.9**
AXS				S	**Sg**	**15 26 24.2**	**-0.4**
AXS	**Araxos**	**0.35**	**37**	P	**Pg**	**15 26 19.6**	**-0.1**
AXS				S	**Sg**	**15 26 24.8**	**+0.2**
AXS	**Araxos**	**0.35**	**37**	P	**Pg**	**15 26 19.6**	**-0.1**
AXS				S	**Sg**	**15 26 24.2**	**-0.4**
DRO	**Drossia**	**0.48**	**86**	P	**Pg**	**15 26 21.1**	**-1.0**
DRO				S	**Sb**	**15 26 29.3**	**-0.2**
DRO	**Drossia**	**0.48**	**86**	P	**Pg**	**15 26 20.8**	**-1.2**
DRO				S	**Sg**	**15 26 28.6**	**+0.2**
DRO				AML	AML	15 26 31.9	
	comp=E,12206μm,0.4s						
DRO				AML	AML	15 26 32.0	
	comp=N,5094μm,0.5s						
DRO	**Drossia**	**0.48**	**86**	P	**Pg**	**15 26 21.1**	**-1.0**
DRO				S	**Sg**	**15 26 28.7**	**+0.2**
VLS	**Valsamata**	**0.48**	**302**	P	**Pg**	**15 26 21.3**	**-0.9**
VLS				S	**Sg**	**15 26 28.9**	**+0.2**
VLS	**Valsamata**	**0.48**	**302**	P	**Pg**	**15 26 21.4**	**-0.8**
VLS				AML	AML	15 26 29.8	
	comp=E,2263μm,0.1s						
VLS				S	**Sb**	**15 26 29.9**	**+0.2**
VLS				AML	AML	15 26 30.5	
	comp=N,1930μm,0.1s						
VLS	**Valsamata**	**0.48**	**302**	P	**Pg**	**15 26 21.4**	**-0.8**
VLS				S	**Sg**	**15 26 28.9**	**+0.2**
AMT	**Artemida-Makis**	**0.61**	**129**	P	**Pg**	**15 26 24.4**	**-0.2**
AMT				S	**Sb**	**15 26 33.4**	**0.0**
AMT	**Artemida-Makis**	**0.61**	**129**	P	**Pg**	**15 26 24.6**	**0.0**
AMT				S	**Sg**	**15 26 32.8**	**0.0**
AMT				AML	AML	15 26 42.1	
	comp=N,2889μm,0.5s						
AMT				AML	AML	15 26 42.3	
	comp=E,2597μm,0.7s						
AMT	**Artemida-Makis**	**0.61**	**129**	P	**Pg**	**15 26 24.4**	**-0.2**
AMT				S	**Sg**	**15 26 32.8**	**0.0**
UPR	**University Cam**	**0.65**	**56**	P	**Pb**	**15 26 25.9**	**+0.3**
UPR	**University Cam**	**0.65**	**56**	P	**Pb**	**15 26 25.9**	**+0.3**
LAKA	**Lakka**	**0.76**	**65**	P	**Pg**	**15 26 26.0**	**-1.3**
LAKA				S	**Sb**	**15 26 37.8**	**+0.2**
LAKA	**Lakka**	**0.76**	**65**	P	**Pg**	**15 26 26.1**	**-1.2**
LAKA				S	**Sg**	**15 26 37.0**	**-0.4**
LAKA				AML	AML	15 26 39.0	
	comp=E,942μm,0.9s						
LAKA				AML	AML	15 26 41.1	
	comp=N,523μm,0.6s						
LAKA	**Lakka**	**0.76**	**65**	P	**Pg**	**15 26 26.1**	**-1.2**
LAKA				S	**Sg**	**15 26 37.0**	**-0.4**
PVO	**Paravola**	**0.77**	**25**	P	**Pg**	**15 26 26.6**	**-1.0**
PVO				S	**Sb**	**15 26 38.9**	**+0.9**
PVO	**Paravola**	**0.77**	**25**	P	**Pg**	**15 26 26.8**	**-0.8**
PVO				S	**Sg**	**15 26 37.8**	**+0.1**
PVO				AML	AML	15 26 42.6	
	comp=N,1520μm,0.4s						
PVO				AML	AML	15 26 42.6	
	comp=E,1238μm,0.4s						
PVO	**Paravola**	**0.77**	**25**	P	**Pg**	**15 26 26.8**	**-0.8**
PVO				S	**Sg**	**15 26 37.8**	**+0.1**
EFP	**Efpalio**	**0.81**	**51**	P	**Pg**	**15 26 27.4**	**-0.9**
EFP				S	**Sb**	**15 26 39.6**	**+0.6**
EFP	**Efpalio**	**0.81**	**51**	P	**Pb**	**15 26 28.4**	**+0.1**
EFP				S	**Sg**	**15 26 38.5**	**-0.4**
EFP				AML	AML	15 26 49.5	
	comp=N,1750μm,0.5s						
EFP				AML	AML	15 26 50.1	
	comp=E,1355μm,0.8s						
EFP	**Efpalio**	**0.81**	**51**	P	**Pb**	**15 26 28.4**	**+0.1**
EFP				S	**Sg**	**15 26 38.5**	**-0.4**
KLV	**Kalavryta, Ach**	**0.83**	**81**	P	**Pg**	**15 26 27.0**	**-1.8**
KLV				S	**Sb**	**15 26 40.5**	**+0.7**
KLV	**Kalavryta, Ach**	**0.83**	**81**	P	**Pg**	**15 26 28.7**	**-0.1**
KLV				S	**Sb**	**15 26 40.0**	**+0.2**
KLV				AML	AML	15 26 45.4	
	comp=E,1375μm,0.7s						
KLV				AML	AML	15 26 45.7	
	comp=N,935μm,0.4s						
KLV	**Kalavryta, Ach**	**0.83**	**81**	P	**Pg**	**15 26 28.7**	**-0.1**
KLV				S	**Sb**	**15 26 40.0**	**+0.2**
TRIZ	**Trizonia**	**0.88**	**59**	P	**Pg**	**15 26 28.1**	**-1.6**
TRIZ	**Trizonia**	**0.88**	**59**	P	**Pg**	**15 26 28.1**	**-1.6**
TRAZ	**Trapeza**	**0.91**	**74**	P	**Pb**	**15 26 30.0**	**0.0**
TRAZ				S	**Sg**	**15 26 41.6**	**-0.5**
TRAZ				AML	AML	15 26 45.0	
	comp=N,2442μm,0.5s						
TRAZ				AML	AML	15 26 46.1	
	comp=E,1457μm,0.4s						
TRAZ	**Trapeza**	**0.91**	**74**	P	**Pb**	**15 26 30.0**	**0.0**
TRAZ				S	**Sg**	**15 26 41.6**	**-0.5**
ANX	**Ano Chora**	**0.93**	**43**	P	**Pg**	**15 26 29.0**	**-1.6**
ANX				S	**Sb**	**15 26 43.1**	**+0.5**
ANX	**Ano Chora**	**0.93**	**43**	P	**Pg**	**15 26 29.0**	**-1.6**
ANX				S	**Sb**	**15 26 43.1**	**+0.5**
LKD2	**Lefkada island**	**0.94**	**338**	P	**Pg**	**15 26 29.2**	**-1.6**
LKD2				S	**Sg**	**15 26 42.9**	**-0.2**
LKD2	**Lefkada island**	**0.94**	**338**	P	**Pg**	**15 26 29.7**	**-1.0**
LKD2				S	**Sb**	**15 26 43.6**	**+0.8**
LKD2				AML	AML	15 26 50.1	
	comp=N,1740μm,0.3s						
LKD2				AML	AML	15 26 51.8	
	comp=E,2261μm,0.7s						
LKD2	**Lefkada island**	**0.94**	**338**	P	**Pg**	**15 26 29.7**	**-1.0**
LKD2				S	**Sg**	**15 26 42.9**	**-0.2**
KALE	**Kalithea**	**0.94**	**60**	P	**Pg**	**15 26 29.9**	**-0.9**
KALE				S	**Sb**	**15 26 43.6**	**+0.7**
KALE	**Kalithea**	**0.94**	**60**	P	**Pg**	**15 26 29.9**	**-0.9**
KALE	**Kalithea**	**0.94**	**60**	P	**Pg**	**15 26 29.9**	**-0.9**
KALE				S	**Sb**	**15 26 43.6**	**+0.7**
GUR	**Goura**	**0.98**	**89**	P	**Pg**	**15 26 30.0**	**-1.5**
GUR				S	**Sb**	**15 26 45.2**	**+1.2**
GUR	**Goura**	**0.98**	**89**	P	**Pg**	**15 26 31.2**	**-0.3**
GUR				S	**Sg**	**15 26 43.2**	**-1.1**
GUR				AML	AML	15 26 51.0	
	comp=N,1170μm,0.5s						
GUR				AML	AML	15 26 53.8	
	comp=E,1307μm,0.6s						
GUR	**Goura**	**0.98**	**89**	P	**Pg**	**15 26 31.2**	**-0.3**
GUR				S	**Sg**	**15 26 43.2**	**-1.1**
ITM	**Ithomi**	**0.98**	**138**	P	**Pg**	**15 26 30.9**	**-0.7**
ITM				S	**Sn**	**15 26 45.6**	**+0.1**
ITM	**Ithomi**	**0.98**	**138**	P	**Pg**	**15 26 31.2**	**-0.4**
ITM				S	**Sg**	**15 26 44.3**	**-0.2**
ITM				AML	AML	15 26 53.6	
	comp=E,474μm,0.4s						
ITM				AML	AML	15 26 54.5	
	comp=N,688μm,0.5s						
ITM	**Ithomi**	**0.98**	**138**	P	**Pg**	**15 26 31.2**	**-0.4**
ITM				S	**Sg**	**15 26 44.3**	**-0.2**
TRIP	**Tripoli**	**1.00**	**113**	P	**Pb**	**15 26 31.9**	**+0.3**
TRIP				S	**Sb**	**15 26 45.0**	**+0.3**
TRIP				AML	AML	15 26 51.4	
	comp=N,1256μm,0.6s						
TRIP				AML	AML	15 26 51.5	
	comp=E,1269μm,0.6s						
TRIP	**Tripoli**	**1.00**	**113**	P	**Pb**	**15 26 32.0**	**+0.3**
TRIP				S	**Sb**	**15 26 45.0**	**+0.3**
EVR	**Evrytania**	**1.14**	**29**	P	**Pb**	**15 26 34.0**	**0.0**
EVR				AML	AML	15 27 00.1	
	comp=N,374μm,0.9s						
EVR				AML	AML	15 27 00.2	
	comp=E,536μm,0.9s						
EVR	**Evrytania**	**1.14**	**29**	P	**Pb**	**15 26 34.0**	**0.0**
PYL	**PYLOS**	**1.14**	**154**	P	**Pb**	**15 26 33.0**	**-1.0**
PYL				S	**Sg**	**15 26 49.0**	**-0.4**
PYL	**PYLOS**	**1.14**	**154**	P	**Pb**	**15 26 33.5**	**-0.5**
PYL				S	**Sg**	**15 26 48.5**	**-0.9**
PYL				AML	AML	15 26 55.9	
	comp=E,628μm,0.6s						
PYL				AML	AML	15 26 58.1	
	comp=N,416μm,0.7s						
PYL	**PYLOS**	**1.14**	**154**	P	**Pb**	**15 26 33.5**	**-0.5**
PYL				S	**Sg**	**15 26 49.0**	**-0.4**
VLX	**Vlachokerasia**	**1.15**	**118**	P	**Pb**	**15 26 33.8**	**-0.4**
VLX				S	**Sg**	**15 26 48.8**	**-0.9**
VLX				AML	AML	15 26 58.6	
	comp=E,825μm,0.5s						
VLX				AML	AML	15 27 01.0	
	comp=N,1257μm,0.7s						
VLX	**Vlachokerasia**	**1.15**	**118**	P	**Pb**	**15 26 33.8**	**-0.4**
VLX				S	**Sg**	**15 26 48.8**	**-0.9**
DSL	**Palaion Diasel**	**1.21**	**360**	P	**Pb**	**15 26 33.8**	**-1.5**
DSL				S	**Sb**	**15 26 50.5**	**-0.3**
DSL	**Palaion Diasel**	**1.21**	**360**	P	**Pb**	**15 26 34.6**	**-0.7**
DSL				S	**Sn**	**15 26 52.2**	**+1.0**
DSL				AML	AML	15 27 03.6	
	comp=N,859μm,0.8s						
DSL				AML	AML	15 27 04.3	
	comp=E,824μm,1.0s						
DSL	**Palaion Diasel**	**1.21**	**360**	P	**Pb**	**15 26 34.6**	**-0.7**
DSL				S	**Sn**	**15 26 52.2**	**+1.0**
DSF	**Desfina**	**1.22**	**66**	P	**Pb**	**15 26 34.4**	**-1.0**
DSF	**Desfina**	**1.22**	**66**	P	**Pg**	**15 26 36.1**	**0.0**
DSF				S	**Sb**	**15 26 51.2**	**+0.2**
DSF				AML	AML	15 26 58.8	
	comp=E,358μm,0.3s						
DSF				AML	AML	15 26 59.1	
	comp=N,316μm,0.6s						
DSF	**Desfina**	**1.22**	**66**	P	**Pg**	**15 26 36.2**	**0.0**
DSF				S	**Sb**	**15 26 51.2**	**+0.2**
THAL	**Thalero**	**1.23**	**84**	P	**Pn**	**15 26 34.8**	**-0.5**
THAL				S	**Sn**	**15 26 53.2**	**+1.5**
PROD	**Prodromos**	**1.45**	**76**	P	**Pn**	**15 26 38.7**	**+0.4**
PROD	**Prodromos**	**1.45**	**76**	P	**Pn**	**15 26 38.7**	**+0.4**
AGG	**Agios Georgios**	**1.46**	**41**	P	**Pb**	**15 26 39.8**	**+0.3**
AGG	**Agios Georgios**	**1.46**	**41**	P	**Pb**	**15 26 39.8**	**+0.3**
LTK	**Loutraki**	**1.47**	**85**	P	**Pb**	**15 26 40.0**	**+0.3**
LTK				AML	AML	15 27 09.2	
	comp=E,479μm,0.5s						
LTK				AML	AML	15 27 10.9	
	comp=N,476μm,0.7s						
LTK	**Loutraki**	**1.47**	**85**	P	**Pb**	**15 26 40.0**	**+0.3**
LOUT	**Loutraki**	**1.48**	**87**	P	**Pg**	**15 26 41.0**	**0.0**
LOUT	**Loutraki**	**1.48**	**87**	P	**Pg**	**15 26 41.0**	**0.0**
LKR	**Lokris**	**1.66**	**63**	P	**Pg**	**15 26 44.4**	**-0.1**
LKR	**Lokris**	**1.66**	**63**	P	**Pg**	**15 26 44.3**	**-0.1**
VIL2	**Platees**	**1.73**	**80**	P	**Pg**	**15 26 45.4**	**-0.4**
JAN	**Janina**	**1.75**	**353**	P	**Pg**	**15 26 45.5**	**-0.6**
JAN	**Janina**	**1.75**	**353**	P	**Pg**	**15 26 45.5**	**-0.6**
VILL	**Villia**	**1.76**	**81**	P	**Pg**	**15 26 45.4**	**-0.9**
THL	**Klokotos Trika**	**1.79**	**23**	P	**Pb**	**15 26 45.5**	**+0.5**
THL				S	**Sg**	**15 27 10.0**	**-0.2**
THL				AML	AML	15 27 16.9	
	comp=E,198μm,0.6s						
THL				AML	AML	15 27 17.4	
	comp=N,173μm,0.6s						
THL	**Klokotos Trika**	**1.79**	**23**	P	**Pb**	**15 26 45.5**	**+0.5**
THL				S	**Sg**	**15 27 10.0**	**-0.2**
VLI	**Veliai**	**1.89**	**129**	P	**Pb**	**15 26 46.9**	**+0.1**
VLI	**Veliai**	**1.89**	**129**	P	**Pb**	**15 26 46.8**	**+0.1**
KPRO	**Kipourio**	**2.04**	**6**	P	**Pb**	**15 26 50.2**	**+0.8**
KPRO	**Kipourio**	**2.04**	**6**	P	**Pb**	**15 26 50.2**	**+0.8**
KEK	**Kerkira**	**2.06**	**331**	P	**Pb**	**15 26 50.2**	**+0.5**
KEK	**Kerkira**	**2.06**	**331**	P	**Pb**	**15 26 50.2**	**+0.5**
ATHU	**Athens Univers**	**2.12**	**88**	P	**Pb**	**15 26 51.0**	**+0.4**
ATHU	**Athens Univers**	**2.12**	**88**	P	**Pb**	**15 26 51.0**	**+0.4**
VLY	**Voula,Athens**	**2.13**	**91**	P	**Pb**	**15 26 51.0**	**+0.2**
VLY	**Voula,Athens**	**2.13**	**91**	P	**Pb**	**15 26 51.0**	**+0.2**
NEO	**Neokhori**	**2.16**	**49**	P	**Pb**	**15 26 51.7**	**+0.3**
NEO	**Neokhori**	**2.16**	**49**	P	**Pb**	**15 26 51.7**	**+0.3**
XOR	**Xorichti**	**2.18**	**48**	P	**Pb**	**15 26 50.6**	**-1.1**
XOR	**Xorichti**	**2.18**	**48**	P	**Pb**	**15 26 50.6**	**-1.1**
PTL	**Penteli**	**2.18**	**86**	P	**Pb**	**15 26 52.0**	**+0.2**
PTL	**Penteli**	**2.18**	**86**	P	**Pb**	**15 26 52.0**	**+0.2**
PENT	**Pentalofos**	**2.27**	**1**	P	**Pb**	**15 26 52.2**	**-1.2**
PENT	**Pentalofos**	**2.27**	**1**	P	**Pb**	**15 26 52.2**	**-1.2**

*MAN **03** 15:30:50, 18°.05N×120°.57E, h75km, mb5.1, ML4.1, MS4.3*
MAN INTENSITY III - PAOAY ILOCOS NORTE; INTENSITY II - PASUQUIN ILOCOS NORTE.
*ISCJB **03** 15:30:51.4±0.3, 17°.90N±0°.03×120°.85E±0°.04, h95km±3km, mb4.3/35, Error ellipse: s-maj=6.3km s-min=4.1km az=11.4*
*NEIC **03** 15:30:51.7±0.5, 17°.84N×120°.94E, h86km±5km, mb4.6/12, Error ellipse: s-maj=8.3km s-min=4.6km az=109.0*
NEIC Felt [III PIVS] at Paoay and [II PIVS] at Pasuquin.
*BJI **03** 15:30:52.6, 18°.09N×120°.79E, h82km, mb4.4/20, mB4.9/13, Ms4.6/4, Ms7 4.4/3*
*IDC **03** 15:30:54.0±1.5, 17°.79N×120°.97E, h107km±14km, mb3.9/22, mb1 4.1/24, mb1mx3.9/53, mbtmp4.3/24, MS3.0/6, Ms1 3.1/6, ms1mx2.8/43, Error ellipse: s-maj=14.4km s-min=8.0km az=83.0*
ISC 03 15:30:52.8±0.6, 17°.86N±0°.04×120°.77E±0°.04, h92km±5km, n89, σ1°95/105, mb4.4/36, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.21**	**195**	*e*P	**Pn**	**15 31 04.3**	**-1.8**
ABRA				*e*S	**Sn**	**15 31 14.7**	**-1.2**
SZP	**Santa**	**0.42**	**225**	*e*Pn	**Pn**	**15 31 06.0**	**-1.2**
SGCP	**Mt. Cagua**	**1.27**	**72**	*e*P	**Pn**	**15 31 15.0**	**-0.8**
SGCP				*e*S	**Sn**	**15 31 34.3**	**+1.0**
CAUP	**Cauayan**	**1.35**	**132**	*e*P	**Pn**	**15 31 18.7**	**+1.9**
CAUP				*e*S	**Sn**	**15 31 39.7**	**+4.8**
BOLP	**Bolinao**	**1.68**	**209**	*e*P	**Pn**	**15 31 20.8**	**-0.1**
BOLP				*e*S	**Sn**	**15 31 42.0**	**-0.3**
SCZP	**Santa Cruz**	**2.23**	**202**	*e*P	**Pn**	**15 31 28.3**	**+0.3**
SCZP				*e*S	**Sn**	**15 31 55.9**	**+0.9**
PCPH	**Palayan**	**2.30**	**172**	⇑*e*P	**Pn**	**15 31 29.8**	**+0.7**
PCPH				*e*S	**Sn**	**15 32 00.4**	**+3.7**
TGY	**Tagaytay City**	**3.73**	**178**	P	**Pn**	**15 31 49.4**	**+1.1**
	80nm,0.3s,baz=295,slow=3.0,SNR=12						
TGY				S	**Sn**	**15 32 32.5**	**+1.1**
	146nm,0.3s,baz=149,slow=6.3,SNR=3.4						
TGY				LR	LR	15 33 34.0	
	comp=Z,260nm,21.2s,baz=252,slow=44						
TGY	**Tagaytay City**	**3.73**	**178**	⇑*i*P	**Pn**	**15 31 49.8**	**+1.4**
TGY				*i* S	Sn	15 32 01.9	-29
LUBP	**Lubang**	**4.13**	**187**	*e*P	**Pn**	**15 31 54.3

MDJ pmax pmax
comp=Z,160nm,4.3s
USRK Ussuriysk Ar. 27.91 17 P P 15 36 34.3 +0.2
comp=Z,2.5nm,0.7s,baz=189,slow=7.3,SNR=4.9
ODAN Odare 32.07 292 *eP* **P 15 37 12.0 +0.7**
comp=Z,17nm,0.5s
SONM Songino Array 32.13 342 P **P 15 37 11.9 +0.4**
comp=Z,0.6nm,0.6s,baz=164,slow=11,SNR=3.3
KLR Kul'dur 32.54 13 P **P 15 37 14.9 0.0**
comp=Z,1.0nm,0.9s,baz=231,slow=6.8,SNR=24
RAMN Ramite 32.78 292 *eP* **P 15 37 18.3 +0.7**
comp=Z,35nm,0.6s
JIRN Jiri 33.25 293 *eP* **P 15 37 22.6 +0.8**
comp=Z,14nm,0.6s
GUN Gumba 33.56 294 *eP* **P 15 37 25.2 +0.7**
comp=Z,17nm,0.5s
PKIN Phulchoki 33.93 293 *eP* **P 15 37 28.1 +0.5**
comp=Z,9.4nm,0.6s
KKN Kakani 34.07 293 *eP* **P 15 37 29.0 +0.2**
DMN Daman 34.19 293 *eP* **P 15 37 29.8 -0.1**
comp=Z,10nm,0.5s
DANN Dangsing 35.48 294 *eP* **P 15 37 41.3 +0.3**
KOLN Koldanda 35.54 293 *eP* **P 15 37 41.5 +0.1**
comp=Z,6.7nm,0.5s
FITZ Fitzroy Crossi 36.05 172 P **P 15 37 43.0 -2.5**
comp=Z,1.9nm,0.6s,baz=357,slow=12,SNR=5.9
PYUN Piuthan 36.12 293 *eP* **P 15 37 46.6 +0.2**
comp=Z,11nm,0.5s
WMQ Urumqi 38.01 320 P **P 15 38 02.0 0.0**
WMQ pP pP 15 38 24.4 +1.0
WMQ pmax pmax
comp=Z,8.0nm,0.8s
WMQ pmax pmax
comp=Z,130nm,6.5s
WRA Warramunga Arr 39.85 160 P **P 15 38 15.2 -2.4**
comp=Z,2.1nm,0.6s,baz=341,slow=9.0,SNR=10
WRA PcP **PcP 15 40 22.2 +0.4**
comp=Z,0.5nm,0.5s,baz=346,slow=3.7,SNR=6.1
WRA S **S 15 44 09.0 -6.5**
comp=Z,0.7nm,0.8s,baz=343,slow=14,SNR=3.3
PALK Pallekele 40.41 260 P **P 15 38 23.2 +0.9**
comp=Z,9.0nm,0.8s,baz=111,slow=7.5,SNR=3.5
MK01 Makanchi Array 42.78 321 *eP* **P 15 38 42.0 +0.7**
MKAR Makanchi Array 42.80 321 P **P 15 38 42.6 +1.2**
comp=Z,2.0nm,0.7s,baz=114,slow=9.2,SNR=13
MKAR PcP **PcP 15 40 31.6 +0.4**
comp=Z,1.2nm,0.8s,baz=101,slow=6.3,SNR=3.7
AS31 Alice Springs 43.21 162 *eP* **P 15 38 43.2 -1.7**
comp=Z,1.8nm,0.4s
ASAR Alice Springs 43.22 162 P **P 15 38 43.5 -1.5**
comp=Z,2.6nm,0.4s,baz=338,slow=6.9,SNR=45
ASAR S **S 15 45 02.0 -3.2**
comp=Z,0.4nm,0.7s,baz=358,slow=20,SNR=4.2
KSH Kashi 44.28 309 *eP* **P 15 38 56.7 +3.2**
KSH pP pP 15 39 15.5 +0.1
KSH sP sP 15 39 25.2 -0.7
KSH PcP **PP 15 40 41.1 +2.7**
KSH PP PcP 15 40 45.2 +8.8
KSH PcS **PcS 15 44 30.1 +0.2**
KSH S **S 15 45 25.2 +4.5**
KSH sS sS 15 45 57.6 -0.7
KSH SS **ScS 15 48 37.8 -5.1**
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH pmax pmax
comp=Z,79nm,4.9s
KSH LR LR
comp=Z,92nm,5.8s
YAK Yakutsk 44.57 6 *eP* **P 15 38 54.5 -0.8**
comp=Z,18nm,0.9s
PEA0 Petropavlovsk- 45.40 31 *eP* **P 15 39 00.6 -1.5**
PETK Petropavlovsk- 45.40 31 P **P 15 39 01.5 -0.6**
comp=Z,11nm,0.8s,baz=203,slow=3.7,SNR=9.5
KURK Kurchatov 46.83 324 *eP* **P 15 39 13.7 +0.4**
comp=Z,4.4nm,0.8s
KURBB Kurchatov Arra 46.84 324 P **P 15 39 14.1 +0.8**
comp=Z,2.9nm,0.6s,baz=121,slow=8.1,SNR=32
SEY Seymchan 50.06 18 P **P 15 39 38.4 +0.5**
comp=Z,4.4nm,0.8s,baz=254,slow=4.3,SNR=9.6
STKA Stephens Creek 53.33 158 P **P 15 40 01.5 -1.1**
comp=Z,1.7nm,0.7s,baz=339,slow=9.4,SNR=4.3
NRIK Noril'sk 55.41 346 P **P 15 40 17.1 -0.1**
comp=Z,5.8nm,0.7s,baz=140,slow=9.8,SNR=6.7
ABKAR Akbulak array 57.70 317 *eP* **P 15 40 33.8 0.0**
comp=Z,18nm,0.6s
GEYT Alibeck 57.82 304 P **P 15 40 36.2 +1.3**
comp=Z,2.7nm,0.7s,baz=126,slow=7.3,SNR=6.1
COLD Coldfoot 73.32 24 *eP* **P 15 42 15.0 +0.9**
comp=Z,7.5nm,1.2s
MCK McKinley 74.29 28 *eP* **P 15 42 20.0 +0.1**
comp=Z,40nm,1.8s
ILAR Eielson Array 75.01 26 P **P 15 42 22.8 -1.2**
comp=Z,1.7nm,0.8s,baz=262,slow=4.8,SNR=17
INK Inuvik 79.22 21 P **P 15 42 47.4 0.0**
comp=Z,7.3nm,1.0s,baz=299,slow=7.6,SNR=6.2
NB2 NORSAR Subarra 83.62 333 P **P 15 43 09.7 -1.2**
comp=Z,1.2nm,0.7s,baz=64,slow=4.8
NOA NORSAR Array B 83.62 333 P **P 15 43 10.1 -0.8**
comp=Z,1.1nm,0.7s,baz=65,slow=4.8,SNR=4.9
CLL Collm 86.86 323 *i* pP pP 15 43 52.3 +0.8
comp=Z,4.0nm,1.0s
GERES GERESS Array B 87.47 321 P **P 15 43 30.5 +0.2**
comp=Z,0.5nm,0.6s,baz=58,slow=6.1,SNR=2.4

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*DJA **03** 15:40:51.7±1.0,2°N±10°×12°9E±°, h29km±13km, M4.3/5, mB5.1/2, mb4.7/3, MLv4.1/5, Mw(mB)4.5/2*
*ISCJB **03** 15:40:52.1±0.4, 1°90N±0°04×128°46E±°05, h92km, mb4.0/15, Error ellipse: s-maj=8.0km s-min=5.5km az=160.2*
*IDC **03** 15:40:52.6±4.1, 1°96N×128°50E, h75km±40km, mb3.8/11, mb1 3.9/11, mb1mx3.6/35, mbtmp4.1/11, ML5.0/1, Error ellipse: s-maj=42.6km s-min=14.3km az=80.0*
*NEIC **03** 15:40:53.3±1.1, 1°98N×128°49E, h82km±12km, mb4.0/4, Error ellipse: s-maj=11.9km s-min=7.5km az=66.0*
ISC 03 15:40:53.9±0.6,**1°88N**±0°07×**128°46E**±0°08,**h92**km,**n25,**
σ0°**89**/29,**mb4.1**/15,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.68**	**201**	P	**Pn**	**15 41 33.9**	**-1.3**
LBMI				S	**Sn**	**15 42 06.3**	**-0.6**
SIJI	**Sorong**	**3.92**	**134**	P	**Pn**	**15 41 51.9**	**0.0**
108nm,0.3s,baz=160,slow=21,SNR=74							
SIJI				S	**Sn**	**15 42 35.9**	**-0.9**
36nm,0.3s,baz=124,slow=19,SNR=11							
SANI	**Sanana**	**4.62**	**212**	P	**Pn**	**15 41 59.9**	**-1.5**
FAKI	**Fak Fak**	**6.09**	**141**	P	**Pn**	**15 42 21.0**	**-0.5**
FAKI				S	**Sn**	**15 43 28.0**	**-1.8**
FAKI	**Fak Fak**	**6.09**	**141**	*e*Pn	**Pn**	**15 42 21.5**	**0.0**
22nm,0.4s							
MRSI	**Marisa**	**6.66**	**258**	P	**Pn**	**15 42 28.6**	**-0.6**
53nm,0.8s,5μm							
TTSI	**Tana Toraja**	**9.92**	**240**	P	**Pn**	**15 43 12.4**	**-1.3**
KAPI	**Kappang**	**11.07**	**232**	*e*Pn	**Pn**	**15 43 30.1**	**+0.8**
WRAB	**Tennant Creek**	**22.43**	**165**	*e*P	**P**	**15 45 46.5**	**+1.1**
1.4nm,0.4s							
WRA	**Warramunga Arr**	**22.44**	**165**	P	**P**	**15 45 46.1**	**+0.7**
1.2nm,0.6s,baz=343,slow=10,SNR=19							
ASAR	**Alice Springs**	**25.94**	**169**	P	**P**	**15 46 18.9**	**+1.0**
0.6nm,0.5s,baz=346,slow=7.3,SNR=19							
ASAR				PcP	**PcP**	**15 49 44.4**	**-0.1**
0.3nm,0.6s,baz=347,slow=2.1,SNR=4.0							
KSAR	**Wonju Array Be**	**35.39**	**359**	P	**P**	**15 47 40.2**	**-0.7**
KSRS	**Korea Array**	**35.41**	**359**	P	**P**	**15 47 40.2**	**-0.7**
1.1nm,0.6s,baz=175,slow=10,SNR=6.6							
MJAR	**Matsushiro Arr**	**35.65**	**14**	P	**P**	**15 47 42.0**	**-1.2**
1.3nm,0.5s,baz=182,slow=9.5,SNR=6.3							
STKA	**Stephens Creek**	**35.81**	**161**	P	**P**	**15 47 46.2**	**+1.7**
1.0nm,0.4s,baz=333,slow=11,SNR=5.2							
SONM	**Songino Array**	**49.60**	**341**	P	**P**	**15 49 35.9**	**-0.1**
0.8nm,0.6s,baz=151,slow=8.1,SNR=4.2							
PETK	**Petropavlovsk-**	**56.51**	**21**	P	**P**	**15 50 27.3**	**+0.8**
6.1nm,1.0s,baz=195,slow=6.0,SNR=3.5							
MKAR	**Makanchi Array**	**60.05**	**325**	P	**P**	**15 50 51.9**	**+0.6**
3.2nm,0.5s,baz=114,slow=8.0,SNR=47							
ZALV	**Zalesovo Beam**	**63.01**	**333**	P	**P**	**15 51 10.5**	**-0.5**
0.8nm,0.6s,baz=108,slow=4.8,SNR=3.5							
KURK	**Kurchatov**	**64.22**	**327**	*e*P	**P**	**15 51 19.2**	**+0.2**
KKAR	**Karatay Array**	**65.75**	**317**	*e*P	**P**	**15 51 29.5**	**+0.3**
1.4nm,0.5s							
BRVK	**Borovoye**	**69.87**	**327**	*e*P	**P**	**15 51 55.0**	**+0.2**
11nm,0.9s							
ABKAR	**Akbulak array**	**74.67**	**321**	*e*P	**P**	**15 52 23.4**	**0.0**
0.8nm,0.4s							
ARCES	**ARCESS Array B**	**92.77**	**340**	P	**P**	**15 53 55.6**	**-0.1**
2.6nm,0.9s,baz=96,slow=5.5,SNR=2.9							
FINES	**FINESS Array B**	**94.27**	**332**	P	**P**	**15 54 02.4**	**-0.3**
0.7nm,0.5s,baz=74,slow=8.1,SNR=3.4							

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*NIED **03** 15:49:00,32°40N×141°20E, h32km, Mw3.7 Best double couple: M₀3.84000×10¹⁴ NP1:φ₀221.00000°, δ18.00000°, λ152.00000°. NP2:φ₀338.00000°, δ82.00000°, λ74.00000°.*
*JMA **03** 15:49:21.4±0.2,32°36N×141°19E, h20km, M3.9*
*ISCJB **03** 15:49:22.4±0.8, 32°18N±0°08×141°0E±0°1, h57km, mb3.8/6, MS3.1/4, Error ellipse: s-maj=18.5km s-min=7.4km az=147.9*
*IDC **03** 15:49:23.3±2.9, 32°12N×141°02E, h50km±28km, mb3.6/6, mb1 3.8/7, mb1mx3.4/43, mbtmp3.8/7, ML3.7/1, MS3.1/5, Ms1 3.2/5, ms1mx2.7/41, Error ellipse: s-maj=34.0km s-min=21.0km az=89.0*
ISC 03 15:49:23.9±1.0,**32°2N**±0°1×**141°0E**±0°1,**h57**km,**n20,**
σ1°**41**/19,**mb3.8**/6,**MS3.2**/4,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.32**	**311**	P	**Pn**	**15 49 45.6**	**-0.4**
JHJ2	**Mitsune**	**1.33**	**313**	P	**Pn**	**15 49 45.9**	**-0.3**
JHJ2				*e*S	**Sn**	**15 50 03.7**	**+0.8**
JHJ	**Hachijo jima 2**	**1.36**	**312**	P	**Pn**	**15 49 46.0**	**-0.6**
550nm,0.3s,baz=112,slow=22,SNR=232							
JHJ				S	**Sn**	**15 50 02.1**	**-1.5**
199nm,0.3s,baz=129,slow=23,SNR=7.4							
JIM2	**Oshima 3**	**2.82**	**333**	P	**Pn**	**15 50 05.8**	**-0.7**
JOD2	**Odawara 2**	**3.43**	**333**	P	**Pn**	**15 50 14.9**	**0.0**
JYN	**Shimob**	**3.86**	**329**	P	**Pn**	**15 50 22.1**	**+1.3**
MJAR	**Matsushiro Arr**	**4.89**	**333**	P	**Pn**	**15 50 36.5**	**+1.5**
3.2nm,0.3s,baz=164,slow=14,SNR=24							
MJAR				S	**Sn**	**15 51 29.5**	**-0.7**
baz=124,slow=15,SNR=2.5							
MAT	**Matsushiro**	**4.89**	**333**	P	**Pn**	**15 50 36.6**	**+1.7**
MAT				*e*S	**Sn**	**15 51 31.0**	**+0.7**
JNU	**Nakatsue**	**8.56**	**279**	LR	LR	15 54 38.1	
comp=Z,54nm,19.0s,baz=115,slow=36							
ASAJ	**Asahikawa**	**11.96**	**6**	P	**Pn**	**15 52 07.3**	**-4.2**
0.3nm,0.3s,baz=216,slow=19,SNR=3.6							
TGY	**Tagaytay City**	**25.69**	**230**	LR	LR	16 03 44.6	
comp=Z,28nm,20.6s,baz=229,slow=34							
CMAR	**Chiang Mai Arr**	**40.13**	**260**	LR	LR	16 15 04.7	
comp=Z,44nm,18.2s,baz=186,slow=38							
HNR	**Honiara**	**45.20**	**153**	LR	LR	16 16 48.4	
comp=Z,37nm,19.5s,baz=126,slow=36							
MKAR	**Makanchi Array**	**46.52**	**306**	P	**P**	**15 57 46.4**	**+0.8**
1.3nm,0.5s,baz=85,slow=9.4,SNR=14							
KURBB	**Kurchatov Arra**	**48.80**	**311**	P	**P**	**15 58 03.7**	**+0.6**
0.4nm,0.3s,baz=90,slow=8.3,SNR=6.7							
WRA	**Warramunga Arr**	**52.24**	**188**	P	**P**	**15 58 28.6**	**-0.7**
0.5nm,0.5s,baz=5.8,slow=7.7,SNR=12							
ILAR	**Eielson Array**	**53.80**	**30**	P	**P**	**15 58 40.3**	**0.0**
0.4nm,0.6s,baz=267,slow=6.8,SNR=6.4							
ASAR	**Alice Springs**	**55.97**	**188**	P	**P**	**15 58 56.2**	**-0.2**
0.2nm,0.5s,baz=1.2,slow=6.8,SNR=8.9							
AKTO	**Aktyubinsk**	**61.69**	**314**	LR	LR	16 29 07.8	
comp=Z,16nm,19.6s,baz=69,slow=39							
TXAR	**Lajitas Array**	**93.35**	**52**	P	**P**	**16 02 34.1**	**+0.9**
0.4nm,0.6s,baz=301,slow=3.1,SNR=6.1							

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*IDC **03** 15:58:49.6±1.1, 11°24S×161°57E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.6/45, mbtmp3.7/10, ML3.6/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/28, Error ellipse: s-maj=28.3km s-min=20.0km az=76.0*
*ISCJB **03** 15:58:52.5±0.9, 11°34S±0°09×161°6E±0°1, h33km, mb3.6/7, MS3.5/3, Error ellipse: s-maj=19.7km s-min=9.2km az=152.1*
ISC 03 15:58:54.5±1.0,**11°3S**±0°1×**161°6E**±0°2,**h35**km,**n12,**
σ1°**13**/11,**mb3.6**/7,**MS3.5**/3,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.45**	**319**	Pn	**Pn**	**15 59 31.3**	**-0.8**
35nm,0.3s,baz=206,slow=8.9,SNR=9.4							
HNR				Sn	**Sn**	**16 00 00.8**	**0.0**
58nm,0.3s,baz=130,slow=17,SNR=3.7							
DZM	**Mont Dzumac**	**11.69**	**157**	Pn	**Pn**	**16 01 37.6**	**-1.3**
0.1nm,0.3s,baz=16,slow=8.1,SNR=7.5							
PMG	**Port Moresby**	**14.32**	**276**	LR	LR	16 07 59.1	
comp=Z,247nm,19.1s,baz=109,slow=38							
CTA	**Charters Tower**	**17.15**	**237**	P	**Pn**	**16 02 51.6**	**0.0**
baz=66,slow=15,SNR=1.4							
STKA	**Stephens Creek**	**27.57**	**219**	LR	LR	16 15 21.7	
comp=Z,137nm,18.6s,baz=26,slow=36							
WRA	**Warramunga Arr**	**27.58**	**248**	P	**P**	**16 04 37.9**	**-0.8**
0.7nm,0.9s,baz=77,slow=10.0,SNR=3.4							
WRA				LR	LR	16 15 20.6	
comp=Z,137nm,20.4s,baz=85,slow=36							
ASAR	**Alice Springs**	**29.07**	**241**	P	**P**	**16 04 52.3**	**+0.4**
1.4nm,0.9s,baz=72,slow=10,SNR=11							
ASAR				LR	LR	16 15 47.1	
comp=Z,88nm,20.1s,baz=36,slow=35							
VNDA	**Vanda**	**66.22**	**180**	P	**P**	**16 09 39.9**	**+1.4**
0.2nm,0.6s,baz=333,slow=9.0,SNR=3.7							
CMAR	**Chiang Mai Arr**	**68.49**	**295**	P	**P**	**16 09 55.1**	**+1.3**
0.5nm,0.8s,baz=101,slow=4.7,SNR=3.3							
SONM	**Songino Array**	**76.50**	**325**	P	**P**	**16 10 41.1**	**+0.1**
0.5nm,0.4s,baz=134,slow=6.2,SNR=2.9							
ILAR	**Eielson Array**	**85.08**	**20**	P	**P**	**16 11 27.3**	**+0.9**
0.4nm,0.5s,baz=223,slow=5.8,SNR=10							
MKAR	**Makanchi Array**	**90.93**	**318**	P	**P**	**16 11 53.3**	**-1.6**
0.1nm,0.4s,baz=118,slow=3.1,SNR=3.4							

IDC 03 16:01:16.0±4.9,**39°37N**×**110°24E**,**h0**km,**mb3.4**/4,
mb1 3.6/5,**mb1mx3.3**/47,**mbtmp3.5**/5,**ML2.7**/1,**Error ellipse: s-maj=107.7km s-min=24.2km az=85.0,Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.91**	**343**	Pn	Pn	16 03 24.3	-1.8
0.1nm,0.3s,baz=159,slow=13,SNR=9.8							
SONM				Lg	Lg	16 05 59.3	
0.2nm,0.3s,baz=165,slow=28,SNR=2.8							
MKAR	**Makanchi Array**	**21.64**	**299**	P	P	16 06 07.3	-0.5
1.2nm,0.8s,baz=97,slow=12,SNR=7.7							
CMAR	**Chiang Mai Arr**	**23.02**	**208**	P	P	16 06 22.0	-0.7
1.2nm,0.7s,baz=15,slow=9.5,SNR=9.0							
KURBB	**Kurchatov Arra**	**24.89**	**307**	P	P	16 06 39.9	-0.4
0.7nm,0.9s,baz=99,slow=10,SNR=5.0							
BRTR	**Keskin Array B**	**57.27**	**297**	P	P	16 11 06.8	+1.3
0.5nm,0.7s,baz=69,slow=7.9,SNR=2.4							

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*SJA **03** 16:02:45.8±0.3, 39°23S×74°13W, h50km, ML5.3, MW4.3*
*IDC **03** 16:03:13.7±0.6, 36°87S×73°51W, h0km, mb4.3/11, mb1 4.5/14, mb1mx4.4/29, mbtmp4.4/14, ML5.2/3, MS4.1/18, Ms1 4.1/18, ms1mx4.0/26, Error ellipse: s-maj=26.8km s-min=13.2km az=82.0*
*ISCJB **03** 16:03:15.7±1.0, 36°86S±0°03×73°54W±0°08, h23km±6km, mb4.5/23, MS4.1/14, Error ellipse: s-maj=10.3km s-min=5.5km az=8.7*
*GUC **03** 16:03:16.7±0.6, 36°95S×73°55W, h9km±3km, ML4.6*
*NEIC **03** 16:03:18.6±0.5, 36°83S×73°47W, h32km±3km, mb4.7/16, ML4.4(GUC), Error ellipse: s-maj=8.7km s-min=4.6km az=94.0*
NEIC Felt [V] at Chiguayante, Concepcion, Hualpen, Penco and Talcahuano; [IV] at Arauco, La Laja and San Pedro de la Paz; [III] at Angol and Cobquecura; [II] at Carahue, Padre Las Casas, Rancagua, Renaico, Talca, Temuco and Tolten.
ISC 03 16:03:16.6±1.6,**36°87S**±0°05×**73°51W**±0°07,**h17**km±9km,
n100,σ1°**38**/90,**mb4.5**/23,**MS4.1**/14,**2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.32**	**86**	*e*P	**Pg**	**16 03 23.5**	**0.0**
CCSP				*i* S	**Sb**	**16 03 28.6**	**-0.1**
CCSP				IAML		16 03 29.5	
comp=N,112μm,0.8s							
COCH	**Cobquecura**	**0.94**	**38**	*e*P	**Pb**	**16 03 34.5**	**+0.2**
COCH				*i* S	**Sn**	**16 03 47.7**	**-0.2**
COCH				IAML		16 03 49.9	
comp=E,15μm,1.1s							
CCHI	**Chillan**	**1.18**	**77**	*e*P	**Pn**	**16 03 38.2**	**0.0**
CCHI				*i* S	**Sn**	**16 03 54.2**	**+0.3**
CCHI				IAML		16 04 06.7	
comp=N,25μm,0.8s							
GO05	**HualaæØ**	**2.25**	**35**	*e*P	**Pn**	**16 03 52.7**	**-0.4**
GO05				*i* S	**Sb**	**16 04 25.1**	**+0.7**
GO05	**HualaæØ**	**2.25**	**35**	*e*Pn	**Pn**	**16 03 53.2**	**+0.2**
CHPI	**Pichilemu**	**2.76**	**27**	*e*P	**Pn**	**16 04 00.9**	**+1.0**
CHPI				*e*S	**Sn**	**16 04 32.0**	**-0.8**
ROC1	**El Roble**	**4.39**	**29**	*e*Pn	**Pn**	**16 04 22.4**	**-0.2**
PLCA	**Paso Flores**	**4.50**	**150**	Pn	**Pn**	**16 04 25.1**	**+1.1**
comp=N,8.4nm,0.3s,baz=326,slow=16,SNR=96							
PLCA				Lg	Lg	16 05 33.9	
comp=N,30nm,0.3s,baz=261,slow=19,SNR=5.1							
PLCA				LR	LR	16 06 23.1	
comp=N,3μm,18.1s,baz=334,slow=42							
PLCA	**Paso Flores**	**4.50**	**150**	*e*Pn	**Pn**	**16 04 24.7**	**+0.8**
PLCA				Lg	Lg	16 05 33.9	
RTLL	**Cerro Villicun**	**6.92**	**39**	*i* P	**Pn**	**16 04 57.2**	**0.0**
RTLL				IAML		16 04 58.3	
comp=Z,129nm,0.5s							
RTLL				*e*S	**Sn**	**16 06 23.9**	**+8.3**
ACAN	**Cantantal**	**6.94**	**51**	*e*P	**Pn**	**16 04 57.9**	**+0.4**
AMOG	**MOGNA**	**7.24**	**37**	*i* P	**Pn**	**16 05 01.4**	**-0.2**
AVFE	**Valle Fertil**	**7.98**	**41**	*e*P	**Pn**	**16 05 10.2**	**-1.7**
AVFE				*e*S	Sb	16 06 57.6	-12
AVFE				IAML		16 07 03.2	
comp=Z,88nm,0.8s							
LCO	**Las Campanas**	**8.18**	**18**	*e*Pn	**Pn**	**16 05 14.3**	**-0.4**
AGUA	**GUANDACOL**	**8.48**	**31**	*e*P	**Pn**	**16 05 18.6**	**0.0**
AGUA				*e*S	Sb	16 07 16.3	-7.2
APLL	**PUNTA DE LOS L**	**8.69**	**44**	*e*P	**Pn**	**16 05 19.1**	**-2.4**
APLL				*e*S	Sn	16 07 12.7	+14
ACLC	**CERRO LA CRUZ**	**9.23**	**38**	*e*P	**Pn**	**16 05 26.5**	**-2.5**
TRQA	**Tornquist**	**9.24**	**101**	*e*Pn	**Pn**	**16 05 30.2**	**+1.2**
CHRN	**Cochrane**	**10.40**	**177**	*e*Pn	**Pn**	**16 05 45.3**	**+0.5**
LVC	**Limon Verde**	**14.76**	**17**	Pn	**Pn**	**16 06 45.2**	**+0.4**
comp=Z,50nm,0.3s,baz=173,slow=13,SNR=44							
LVC				LR	LR	16 13 00.5	
comp=Z,2μm,19.0s,baz=199,slow=40							
LVC	**Limon Verde**	**14.76**	**17**	*e*Pn	**Pn**	**16 06 45.0**	**+0.2**
PB04	**IPOC Station P**	**14.78**	**12**	*e*Pn	**Pn**	**16 06 46.1**	**+1.2**
PB01	**IPOC Station P**	**16.15**	**14**	*e*Pn	**Pn**	**16 07 01.9**	**-0.9**
comp=Z,28nm,1.1s							
CPUP	**Villa Florida**	**17.31**	**57**	P	**Pn**	**16 07 13.6**	**-3.7**
comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=2.5							
CPUP				LR	LR	16 14 33.7	
comp=Z,809nm,21.6s,baz=234,slow=39							
CPUP	**Villa Florida**	**17.31**	**57**	*e*P	**Pn**	**16 07 17.3**	**0.0**
PB11	**IPOC Station P**	**17.38**	**12**	*e*P	**P**	**16 07 19.9**	**+0.3**
comp=Z,40nm,1.1s							
USHA	**Ushuaia**	**18.30**	**171**	P	**P**	**16 07 29.5**	**+0.1**
comp=Z,20nm,0.3s,baz=315,slow=14,SNR=7.1							
USHA				LR	LR	16 15 24.9	
comp=Z,2μm,19.2s,baz=334,slow=40							
LPAZ	**La Paz**	**21.05**	**15**	P	**P**	**16 08 01.3**	**+1.0**
comp=Z,5.6nm,0.8s,baz=186,slow=9.4,SNR=17							
LPAZ	**La Paz**	**21.05**	**15**	*e*P	**P**	**16 08 01.2**	**+1.0**
comp=Z,11nm,0.8s							
SIV	**San Ignacio**	**23.54**	**31**	P	**P**	**16 08 25.7**	**-0.3**
comp=Z,7.3nm,0.7s,baz=203,slow=7.1,SNR=14							
SIV				LR	LR	16 19 25.1	
comp=Z,544nm,18.2s,baz=200,slow=41							
NNA	**Nana**	**24.95**	**352**	LR	LR	16 16 18.2	
comp=Z,173nm,20.0s,baz=176,slow=31							
SPB	**Sao Paulo**	**26.03**	**67**	*e*P	**P**	**16 08 48.1**	**-0.7**
comp=Z,174nm,1.9s							
SAML	**Samuel**	**29.33**	**21**	*e*P	**P**	**16 09 18.1**	**-0.3**
comp=Z,3.4nm,0.9s							
RPN	**Rapa Nui**	**31.74**	**277**	LR	LR	16 18 40.6	
comp=Z,394nm,21.3s,baz=118,slow=29							
PTGA	**Pitinga**	**38.08**	**22**	*e*P	**P**	**16 10 33.3**	**-1.1**
comp=Z,13nm,1.3s							
RUSC	**La Rusia**	**42.54**	**1**	*e*P	**P**	**16 11 12.2**	**+0.4**
comp=Z,3.4nm,0.7s							
HELC	**Santa Helena**	**42.88**	**357**	*e*P	**P**	**16 11 15.2**	**+0.8**
comp=Z,36nm,0.9s							
SDV	**Santo Domingo**	**45.59**	**4**	P	**P**	**16 11 35.8**	**-0.1**
comp=Z,2.4nm,0.4s,baz=237,slow=6.3,SNR=3.5							
VNA3	**Neumayer Olymp**	**47.18**	**157**	P	**P**	**16 11 48.6**	**+0.9**
VNA1	**Neumayer--Stat**	**47.53**	**156**	P	**P**	**16 11 51.5**	**+1.1**
VNA2	**Neumayer--Watz**	**47.86**	**156**	P	**P**	**16 11 55.5**	**+2.5**
baz=272,slow=8.3							
SNAA	**Sanae**	**49.41**	**157**	P	**P**	**16 12 05.5**	**+0.5**
SNAA	**Sanae**	**49.41**	**157**	P	**P**	**16 12 05.2**	**+0.3**
comp=Z,5.4nm,0.6s,baz=252,slow=7.3,SNR=13							
SNAA	**Sanae**	**49.41**	**157**	*e*P	**P**	**16 12 05.2**	**+0.3**
comp=Z,31nm,1.2s							
RKT	**Rikitea**	**54.13**	**266**	*e*T	T	17 10 48.7	
comp=Z,2.2nm,0.2s							
VNDA	**Vanda**	**61.06**	**192**	P	**P**	**16 13 30.6**	**+1.8**
comp=Z,0.5nm,0.9s,baz=147,slow=4.2,SNR=3.6							
SYO	**Syowa Base**	**63.65**	**158**	‖*e*P	**P**	**16 13 44.4**	**-1.8**
SYO	**Syowa Base**	**63.65**	**158**	‖*e*X	**P**	**16 13 50.2**	**+4.0**
TBI	**Tubuai**	**65.52**	**258**	*e*LR	LR	16 33 52.0	
comp=Z,249nm,26.2s							
PPT2	**Papeete2**	**68.68**	**264**	*e*LR	LR	16 35 15.5	
comp=Z,316nm,24.2s							
PPT	**Papeete**	**68.69**	**264**	LR	LR	16 37 32.0	
comp=Z,205nm,18.5s,baz=158,slow=30							
MAW	**Mawson**	**70.77**	**164**	P	**P**	**16 14 31.4**	**+0.1**
comp=Z,5.1nm,0.9s,baz=211,slow=7.0,SNR=14							
MAW	**Mawson**	**70.77**	**164**	*e*P	**P**	**16 14 31.6**	**+0.3**
comp=Z,1.4nm,1.0s							
TXAR	**Lajitas Array**	**71.68**	**332**	P	**P**	**16 14 38.2**	**+0.8**
comp=Z,0.8nm,0.6s,baz=144,slow=7.8,SNR=6.7							
TXAR				LR	LR	16 41 45.2	
comp=Z,133nm,18.2s,baz=0.0,slow=32							
SWET	**Sewanee**	**72

```
H11N3 WAKE ISLAND Hyl 24.98 269   T          T          18 39 34.0
      baz=122
AKASG Malin Array Be  124.99  49  PKP        PKPdf      16 22 13.9 -1.2
      comp=Z,0.5nm,0.4s,baz=277,slow=1.1,SNR=3.7
H11N1 WAKE ISLAND Hyl 25.00 269   T          T          18 39 41.3
      baz=122
H11N2 WAKE ISLAND Hyl 25.00 269   T          T          18 39 32.3
      baz=122
AKTO  Aktyubinsk      143.06  53  PKhKP      PKPpre     16 22 43.5
      comp=Z,1.3nm,0.8s,baz=186,slow=4.0,SNR=3.2
ABKAR Abkulak array   144.36  55  ePKPdf     PKPab      16 22 49.4 +0.1
SBUM  Sibu            145.34 190  ePKPbc     PKPdf      16 22 55.1 +1.1
HYB   Hyderabad       148.66 121  i PKP      PKPbc      16 23 03.0 -0.2
YAK   Yakutsk         150.97 338  PKPbc      PKPbc      16 23 05.8 -1.6
      comp=Z,9.0nm,0.6s,baz=321,slow=1.4,SNR=10
YAK   Yakutsk         150.97 338  ePKPbc     PKPbc      16 23 07.2 -0.2
AAK   Ala-Archa       154.83  67  PKPbc      PKPbc      16 23 17.0 +0.2
      comp=Z,1.5nm,0.5s,baz=202,slow=5.8,SNR=6.5
AAK                               PKPab      PKPab      16 23 32.2 +0.1
      comp=Z,4.8nm,0.9s,baz=224,slow=6.8,SNR=3.5
KURBB Kurchatov Arra  155.74  47  PKP        PKPdf      16 23 08.9 +0.1
      comp=Z,0.4nm,0.8s,baz=323,slow=1.7,SNR=3.7
KURBB                             PKPbc      PKPbc      16 23 18.1
      comp=Z,0.7nm,0.6s,baz=298,slow=2.6,SNR=6.8
KURBB                             PKPab      PKPab      16 23 34.9 -0.6
      comp=Z,2.0nm,1.0s,baz=295,slow=4.0,SNR=7.6
KURK  Kurchatov       155.76  46  PKP        PKPdf      16 23 08.9  0.0
KURK                              PKPbc      PKPbc      16 23 18.1
KURK                              PKPab      PKPab      16 23 34.9 -0.6
ZALV  Zalesovo Beam   157.28  34  PKP        PKPdf      16 23 10.4 -0.4
      comp=Z,1.1nm,0.7s,baz=260,slow=0.9,SNR=7.6
ZALV                              PKPab      PKPab      16 23 42.1 +0.2
      comp=Z,2.0nm,0.6s,baz=301,slow=5.3,SNR=5.5
MKAR  Makanchi Array  159.49  54  PKP        PKPdf      16 23 13.3 -0.5
      comp=Z,0.9nm,0.8s,baz=204,slow=3.2,SNR=4.8
MKAR                              PKPab      PKPab      16 23 51.8 -0.1
      comp=Z,2.9nm,0.9s,baz=278,slow=3.9,SNR=7.5
MK01  Makanchi Array  159.51  54  ePKPdf     PKPdf      16 23 13.3 -0.4
TLY   Talaya          165.05   7  PKP        PKPdf      16 23 17.2 -2.0
      comp=Z,1.9nm,0.6s,baz=225,slow=1.4,SNR=3.4
SONM  Songino Array   169.04   0  PKP        PKPdf      16 23 21.6 -0.8
      comp=Z,0.2nm,0.4s,baz=151,slow=3.3,SNR=3.5
SONM                              PKPab      PKPab      16 24 34.0 +0.2
      comp=Z,0.9nm,0.8s,baz=336,slow=3.2,SNR=5.1
```

*ISCJB **03** 16:07:57.1±0.9, 51°.45N±0°.04×16°.12E±0°.04, h0km, Error ellipse: s-maj=6.1km s-min=3.1km az=19.6*
*CSEM **03** 16:07:58.9±0.5, 51°.45N×16°.10E, h2km, ML2.9/9, Error ellipse: s-maj=6.9km s-min=3.7km az=16.0*
*WAR **03** 16:07:59.2, 51°.48N×16°.11E, h1km, Mw2.3*
*PRU **03** 16:07:59.8, 51°.44N×16°.09E, h0km*

ISC 03 16:07:59.0±1.3, 51°.46N±0°.06×16°.09E±0°.03, h0km, n31, σ0s57/54, Poland

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
KSP   Ksiaz             0.64 168  ePg       Pg            16 08 11.4 +0.3
KSP                               i Sg      Sg            16 08 20.1 +0.8
KSP   Ksiaz             0.64 168  ePg       Pg            16 08 11.4 +0.3
KSP                               i Sg      Sg            16 08 20.1 +0.8
KSP   Ksiaz             0.64 168  ePg       Pg            16 08 11.4 +0.3
KSP                               i Sg      Sg            16 08 20.1 +0.8
UPC   Upice             0.96 183  ePG       Pg            16 08 17.6 +0.3
UPC                               eSG       Sg            16 08 30.5 +0.8
      comp=Z,37nm,0.4s
UPC   Upice             0.96 183  Pg        Pg            16 08 17.6 +0.3
UPC                               Sg        Sg            16 08 30.5 +0.8
      37nm,0.4s
DPC   Dobruska-Polom    1.12 172  ePG       Pg            16 08 20.4 -0.1
DPC                               eSG       Sg            16 08 34.8 -0.2
      comp=Z,12nm,0.5s
DPC   Dobruska-Polom    1.12 172  Pg        Pg            16 08 20.4 -0.1
DPC                               Sg        Sg            16 08 34.8 -0.2
      12nm,0.5s
PVCC  Panska Ves        1.34 226  ePG       Pb            16 08 25.1 +0.1
PVCC                              eSG       Sn            16 08 43.4 -0.1
      comp=Z,50nm,0.2s
PVCC  Panska Ves        1.34 226  Pg        Pb            16 08 25.1 +0.1
PVCC                              Sg        Sn            16 08 43.4 -0.1
      50nm,0.2s
KRLC  Kraliky           1.46 162  ePG       Pn            16 08 26.6  0.0
KRLC                              eSG       Sg            16 08 44.5 -1.2
KRLC  Kraliky           1.46 162  Pg        Pn            16 08 26.6  0.0
KRLC                              Sg        Sg            16 08 44.5 -1.2
BRG   Berggiesshubel    1.48 247  PG        Pg            16 08 27.1 -0.1
BRG                               SG        Sn            16 08 47.2 +0.5
      19nm,0.3s
GOPC  GO Pecny, Ondr    1.76 209  ePG       Pb            16 08 31.9 -0.2
GOPC                              eSG       Sg            16 08 55.1 -0.4
      comp=Z,5.5nm,0.3s
GOPC  GO Pecny, Ondr    1.76 209  Pg        Pb            16 08 31.9 -0.2
GOPC                              Sg        Sg            16 08 55.1 -0.4
      5.5nm,0.3s
PRU   Pruhonice         1.78 214  ePG       Pb            16 08 32.4  0.0
PRU                               eSG       Sg            16 08 55.9 -0.1
      comp=Z,8.4nm,0.3s
PRU   Pruhonice         1.78 214  Pg        Pb            16 08 32.4  0.0
PRU                               Sg        Sg            16 08 55.9 -0.1
      8.4nm,0.3s
MORC  Moravsky Berou    1.93 151  ePn       Pn            16 08 32.0 -1.0
MORC                              eSg       Sn            16 08 56.6 -1.3
CLL   Collm             1.94 267  ePg       Pb            16 08 35.0 -0.2
CLL                               e                       16 08 56.0
CLL                               eSg       Sg            16 09 01.0 -0.3
      comp=Z,6.0nm,0.5s
OKC   Ostrava-Krasne    2.09 140  eSG       Sb            16 09 04.4 +0.2
      comp=Z,7.4nm,0.4s
OKC   Ostrava-Krasne    2.09 140  Sg        Sb            16 09 04.4 +0.2
      comp=Z,7.4nm,0.4s
VRAC  Vranov            2.18 171  eSg       Sb            16 09 07.4 +0.5
TREC  Trest             2.21 190  eSG       Sg            16 09 09.4 -0.4
      comp=Z,6.4nm,0.2s
TREC  Trest             2.21 190  Sg        Sg            16 09 09.4 -0.4
      comp=Z,6.4nm,0.2s
NKC   Novy Kostel       2.62 243  ePN       Pn            16 08 42.8 +0.3
NKC                               ePG       Pg            16 08 48.9 -0.2
NKC                               eSG       Sg            16 09 23.0  0.0
      comp=Z,10nm,0.3s
NKC   Novy Kostel       2.62 243  Pn        Pn            16 08 42.8 +0.3
KHC   Kasperske Hory    2.84 216  ePN       Pn            16 08 45.7 +0.2
KHC                               ePG       Pb            16 08 51.5 +1.0
KHC                               eSN       Sn            16 09 19.8 -0.6
KHC                               eSG       Sg            16 09 29.0 -1.1
      comp=Z,3.6nm,0.3s
KHC   Kasperske Hory    2.84 216  Pn        Pn            16 08 45.7 +0.2
LANS  Liptovska Anna    3.17 136  eSg       Sg            16 09 40.0 -0.7
LANS  Liptovska Anna    3.17 136  eSG       Sg            16 09 40.0 -0.7
STHS  Stebnicka Huta    3.88 120  eSg       Sg            16 10 04.4 +0.9
STHS  Stebnicka Huta    3.88 120  eSG       Sg            16 10 04.4 +0.9
```

MAN 03 16:09:31, 14°.18N×122°.18E, h7km, mb4.2, ML3.0, MS2.8, 1D, Luzon

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
GQP   Guinayangan       0.37 136  ⇓iP       Pg            16 09 38.1 -0.2
GQP                               i S       Sg            16 09 42.1 -1.1
BOAC  Boac              0.78 204  eP        Pb            16 09 46.7 -0.3
BOAC                              eS        Sn            16 09 59.1 -1.3
AUQP  San Andres        0.97 150  eP        Pb            16 09 50.7 +0.4
OTRP  Odiongan          1.81 185  eP        Pn            16 10 03.1 +0.5
OTRP                              eS        Sb            16 10 26.9 -0.4
PVCP  Virac             2.00 106  eP        Pn            16 10 05.7 +0.4
```

*SJA **03** 17:03:00.9±1.1, 23°.40S×68°.99W, h77km±22km, ML3.0*
*GUC **03** 17:03:03.9±0.6, 23°.00S×68°.77W, h96km±4km, ML3.6*
*ISCJB **03** 17:03:04.1±0.9, 23°.04S±0°.05×68°.78W±0°.07, h101km±11km, Error ellipse: s-maj=10.4km s-min=7.6km az=23.4*

ISC 03 17:03:04.0±1.5, 23°.09S±0°.05×68°.78W±0°.06, h97km±12km, n12, σ0s99/21, 4C-2D, Northern Chile

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
LVC   Limon Verde       0.49 345  ⇑iP       Pn            17 03 19.4 -0.4
LVC                               i S       Sn            17 03 31.0 -0.6
LVC   Limon Verde       0.49 345  eP        Pn            17 03 19.5 -0.3
LVC                               eS        Sn            17 03 31.3 -0.2
PB06  IPOC Station P    0.82 297  ⇑iP       Pn            17 03 22.8 +0.3
PB06                              i S       Sn            17 03 37.0 +0.7
PB06                              IAML                    17 03 38.2
      comp=E,2μm,0.2s
PB04  IPOC Station P    1.47 300  ⇑iP       Pn            17 03 29.8 -0.1
PB04                              i S       Sn            17 03 49.7 +0.2
PB04                              IAML                    17 03 53.1
      comp=N,815nm,0.7s
PB10  IPOC Station P    1.69 255  eP        Pn            17 03 33.2 +0.8
PB10                              eS        Sn            17 03 54.8 +0.8
PB07  IPOC Station P    1.70 323  ⇓iP       Pn            17 03 32.8  0.0
PB07                              i S       Sn            17 03 54.1 -0.4
PB02  IPOC Station P    2.04 329  ⇓iP       Pn            17 03 36.9 -0.2
PB02                              i S       Sn            17 04 02.2 -0.1
PB02                              IAML                    17 04 08.3
      comp=E,644nm,0.3s
PB01  IPOC Station P    2.14 342  ⇑iP       Pn            17 03 38.0 -0.3
PB01                              i S       Sn            17 04 04.2 -0.3
PB14  IPOC Station P    2.14 224  eP        Pn            17 03 39.6 +1.0
PB14                              eS        Sn            17 04 05.8 +0.9
HJA   Humahuaca         3.10  93  eP        Pn            17 03 52.8 +1.4
HJA                               IAML                    17 03 53.8
      comp=Z,44nm,0.6s
YJA   Yavi              3.15  74  eP        Pn            17 03 52.9 +0.9
YJA                               IAML                    17 03 54.5
      comp=Z,21nm,0.6s
AGUA  GUANDACOL         6.38 178  eP        Pn            17 04 32.5 -3.0
```

IDC 03 17:08:25.8±9.5, 6°.43S×155°.06E, h89km±67km, mb3.2/4, mb1 3.5/5, mb1mx3.1/39, mbtmp3.7/5, ML2.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/14, Error ellipse: s-maj=75.7km s-min=39.0km az=98.0, Bougainville-Solomon Islands region

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
PMG   Port Moresby      8.37 249  P         Pn            17 10 24.2 -0.1
      1.5nm,0.3s,baz=77,slow=5.8,SNR=6.8
PMG                               S         Sn            17 11 58.8 +1.6
      0.4nm,0.3s,baz=17,slow=18,SNR=2.1
PMG                               LR        LR            17 13 15.3
      comp=Z,54nm,18.9s,baz=326,slow=35
DZM   Mont Dzumac       19.05 146 LR        LR            17 18 46.8
      comp=Z,66nm,18.2s,baz=30,slow=33
WRA   Warramunga Arr    24.20 234 P         P             17 13 34.1 -0.1
      0.8nm,0.5s,baz=58,slow=9.6,SNR=12
ASAR  Alice Springs     26.60 228 P         P             17 13 55.6 -0.5
      0.4nm,0.7s,baz=54,slow=9.6,SNR=4.7
H11S3 WAKE ISLAND Hy 27.29  25    T         T             17 42 17.5
      baz=204
H11S2 WAKE ISLAND Hy 27.29  25    T         T             17 42 19.0
      baz=204
H11S1 WAKE ISLAND Hy 27.31  25    T         T             17 42 19.5
      baz=204
CMAR  Chiang Mai Arr    60.60 295 P         P             17 18 27.9 +0.2
      0.7nm,0.7s,baz=108,slow=5.8,SNR=5.1
MKAR  Makanchi Array    83.02 319 P         P             17 20 41.6 +0.1
      0.3nm,0.7s,baz=107,slow=4.8,SNR=2.4
```

*IDC **03** 17:35:19.4±3.0, 34°.99S×179°.05W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/35, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=74.4km s-min=44.0km az=135.0*

ISC 03 17:35:17.8±2.0, 35°.55S±0°.2×178°.4W±0°.2, h10km, n19, σ1s64/24, mb3.7/3, East of North Island

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
WMGZ  Waiomatatini S    3.44 227  ePN       Pn            17 36 14.2 +2.7
PUZ   Puketiti          3.70 226  PN        Pn            17 36 16.6 +1.5
PUZ                               eSN       Sn            17 36 58.4 -0.5
HAZ   Te Kaha           3.80 233  PN        Pn            17 36 18.7 +2.3
HAZ                               eSN       Sn            17 37 02.3 +1.1
RUGZ  Raukumara Rang    3.99 231  ePN       Pn            17 36 21.1 +1.9
MWZ   Matawai           4.31 228  ePN       Pn            17 36 24.7 +1.2
RIGZ  Rimuhau           4.42 223  ePN       Pn            17 36 26.8 +1.8
URZ   Urewera           4.52 232  Pn        Pn            17 36 27.4 +1.1
      6.8nm,0.3s,baz=25,slow=0.7,SNR=28
URZ                               Sn        Sn            17 37 17.6 -1.4
      1.7nm,0.3s,baz=90,slow=20,SNR=5.3
URZ   Urewera           4.52 232  ePN       Pn            17 36 27.7 +1.4
URZ                               eSN       Sn            17 37 18.2 -0.8
MHGZ  Mahia Peninsul    4.67 218  ePN       Pn            17 36 30.2 +1.8
NMHZ  Naumai            5.23 226  ePN       Pn            17 36 37.7 +1.5
KWHZ  Kaweka Forest     5.67 225  ePN       Pn            17 36 43.8 +1.6
PXZ   Pawanui           5.86 219  ePN       Pn            17 36 46.2 +1.5
PXZ                               eSN       Sn            17 37 50.0 -2.0
BHHZ  Black Hill Sta    5.93 226  ePN       Pn            17 36 47.2 +1.6
BFZ   Birch Farm        6.66 218  ePN       Pn            17 36 55.9 +0.2
MRZ   Mangatainoka R    6.99 221  ePN       Pn            17 36 59.8 -0.5
ASAR  Alice Springs     42.77 273 P         P             17 43 14.1 -1.6
      0.7nm,0.5s,baz=113,slow=7.7,SNR=26
WRA   Warramunga Arr    44.21 278 P         P             17 43 25.0 -2.3
      0.4nm,0.3s,baz=117,slow=7.7,SNR=11
FITZ  Fitzroy Crossi    52.21 274 P         P             17 44 28.8 -0.3
      2.7nm,1.1s,baz=108,slow=6.4,SNR=3.0
FINES FINESS Array B    149.78 337 PKPbc    PKPbc         17 55 08.0 +0.9
      1.5nm,0.8s,baz=69,slow=3.3,SNR=3.3
```

*ISCJB **03** 17:35:52.0±0.2, 20°.10S±0°.02×69°.06W±0°.04, h105km±2km, mb4.9/145, Error ellipse: s-maj=5.8km s-min=3.2km az=163.0*
*IDC **03** 17:35:53.9±0.6, 20°.06S×69°.02W, h105km±4km, mb4.6/23, mb1 4.7/26, mb1mx4.6/39, mbtmp5.0/26, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=13.0km s-min=9.1km az=76.0*
*GUC **03** 17:35:54.2±0.5, 20°.20S×69°.25W, h102km±2km, ML5.1*
*GCMT **03** 17:35:54.4±0.3, 20°.20S×69°.40W, h127km±2km, MW5.0/86, Moment Tensor Solution. s39,c45; s86,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.37±.12; $M_{\theta\theta}$-0.32±.13; $M_{\phi\phi}$2.68±.18; $M_{r\theta}$1.16±.08; $M_{\theta\phi}$-1.39±.15; $M_{\phi r}$-3.34±.12; Best double couple: M_0=4.50900×10^{16} NP1:ϕ_s341.00000°, δ71.00000°, λ-88.00000°. NP2: ϕ_s155.00000°, δ19.00000°, λ-95.00000°. Principal axes: T 4.9350, Plg26.0000°, Azm69.0000°; N -0.8590, Plg2.0000°, Azm160.0000°; P -4.0840, Plg64.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 17:35:54.4±0.2, 20°.07S×68°.92W, mb4.9/128 Error ellipse: s-maj=7.7km s-min=5.1km az=72.0*
NEIC Felt [III] at Iquique. Also felt at Antofagasta.
*SCB **03** 17:35:56.0±0.4, 19°.95S×68°.76W, h100km, Ml4.6/2, Error ellipse: s-maj=12.6km s-min=3.5km az=63.0*
*MOS **03** 17:35:57.8±1.4, 19°.82S×69°.09W, h138km, mb4.9/31, Error ellipse: s-maj=17.8km s-min=7.8km az=113.3*

ISC 03 17:35:53.5±0.4, 20°.15S±0°.03×69°.21W±0°.04, h104km±3km, h104km:pP-P, n663, σ1s47/686, mb4.9/145, 22C-17D, Northern Chile

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op        ISC           h m s     ISC
PB08  IPOC Station P    0.05  77  ⇓iP       Pn            17 36 09.5 +1.1
PB08                              i S       Sn            17 36 20.9 +1.4
PB08                              IAML                    17 36 22.3
      comp=N,233μm,0.4s
PB11  IPOC Station P    0.57 313  i P       Pn            17 36 11.3 +0.8
PB11                              i S       Sn            17 36 24.3 +1.1
PB11  IPOC Station P    0.57 313  ePn       Pn            17 36 10.5  0.0
HMBC  Humberstone       0.65 259  ⇑iP       Pn            17 36 11.4 +0.3
HMBC                              i S       Sn            17 36 24.3 +0.1
PB01  IPOC Station P    0.92 196  ⇑iP       Pn            17 36 13.9 +0.4
PB01                              i S       Sn            17 36 28.8 +0.1
PB01                              IAML                    17 36 30.8
      comp=N,92μm,0.4s
PB01  IPOC Station P    0.92 196  ePn       Pn            17 36 13.2 -0.4
PSGC  Pisagua           1.02 303  ⇑iP       Pn            17 36 15.0 +0.4
PSGC                              i S       Sn            17 36 31.2 +0.7
PSGC                              IAML                    17 36 31.7
      comp=N,37μm,0.7s
MNMC  Minye Minye       1.08 340  ⇑iP       Pn            17 36 16.9 +1.4
MNMC                              i S       Sn            17 36 33.8 +1.9
PB02  IPOC Station P    1.33 209  ⇑iP       Pn            17 36 18.2 +0.2
PB02                              i S       Sn            17 36 36.3 -0.3
PB02                              IAML                    17 36 37.8
      comp=N,29μm,0.4s
PB09  IPOC Station P    1.64 181  ⇑iP       Pn            17 36 22.4 +0.6
PB09                              i S       Sn            17 36 43.9 +0.6
PB09                              IAML                    17 36 47.6
      comp=E,49μm,0.6s
PB07  IPOC Station P    1.69 202  ⇑iP       Pn            17 36 22.4 -0.1
PB07                              i S       Sn            17 36 43.9 -0.6
PB07                              IAML                    17 36 50.5
      comp=E,20μm,0.5s
PB13  IPOC Station P    1.83 351  eP        Pn            17 36 26.9 +2.2
PB13                              i S       Sn            17 36 51.5 +3.2
PB12  IPOC Station P    1.86 325  ⇑iP       Pn            17 36 24.9 +0.3
PB12                              eS        Sn            17 36 48.0 -0.3
PB12                              IAML                    17 36 54.9
      comp=N,54μm,0.5s
PB04  IPOC Station P    2.34 202  ⇑iP       Pn            17 36 30.2 -0.6
PB04                              i S       Sn            17 36 57.2 -2.2
PB04                              IAML                    17 37 24.6
      comp=E,7μm,0.6s
PB04  IPOC Station P    2.34 202  ePn       Pn            17 36 30.2 -0.6
LVC   Limon Verde       2.46 174  P         Pn            17 36 33.4 +0.9
      comp=E,11μm,0.3s,baz=30,slow=9.1,SNR=237
LVC                               S         Sn            17 37 02.0 -0.5
      comp=E,37μm,0.3s,baz=360,slow=12,SNR=28
LVC   Limon Verde       2.46 174  ⇓eP       Pn            17 36 34.2 +1.7
LVC                               eS        Sn            17 37 01.1 -1.4
LVC   Limon Verde       2.46 174  ePn       Pn            17 36 34.1 +1.6
LVC                               S         Sn            17 37 02.0 -0.5
PB06  IPOC Station P    2.56 188  ⇑iP       Pn            17 36 33.4 -0.3
PB06                              i S       Sn            17 37 02.7 -1.9
PB06                              IAML                    17 37 11.2
      comp=N,4μm,0.3s
BBOJ  La Paz, Jacaqu    3.31  17  ⇑iPn      Pn            17 36 47.4 +3.5
MOCB  Mochara           3.52 109  ePn       Pn            17 36 49.1 +2.5
BBOE  La Paz, Chanca    3.52  19  ⇑iPn      Pn            17 36 50.5 +3.7
BBOD  La Paz, Gloria    3.54   9  ⇑iPn      Pn            17 36 50.5 +3.3
BBOD                              ⇑i Sn     Sn            17 37 29.2 +0.7
      comp=N,859nm,0.8s
PB10  IPOC Station P    3.57 200  ⇓eP       Pn            17 36 45.4 -1.6
PB10                              ⇓eS       Sn            17 37 14.0  -14
PB10  IPOC Station P    3.57 200  ePn       Pn            17 36 45.1 -1.9
LPAZ  La Paz            3.98  15  P         Pn            17 36 56.2 +3.2
      comp=N,24nm,0.3s,baz=187,slow=4.5,SNR=334
LPAZ                              S         Sn            17 37 36.0 -3.1
      comp=N,20nm,0.3s,baz=182,slow=13,SNR=4.4
LPAZ                              LR        LR            17 38 30.2
      comp=N,792nm,19.7s,baz=199,slow=41
LPAZ  La Paz            3.98  15  eP        Pn            17 36 56.5 +3.4
LPAZ  La Paz            3.98  15  ⇑iPn      Pn            17 36 56.3 +3.2
LPAZ                              eSn       Sn            17 37 39.6 +0.5
YJA   Yavi              3.99 121  eP        Pn            17 36 55.8 +2.8
YJA                               IAML                    17 36 56.6
      comp=Z,216nm,0.7s
BBOB  La Paz, Bander    4.12  15  ⇓iPn      Pn            17 36 57.7 +2.8
BBOB                              ⇑i Sn     Sn            17 37 42.4 +0.1
      comp=Z,926nm,0.8s
PB14  IPOC Station P    4.59 194  ⇓eP       Pn            17 36 58.9 -2.1
HJA   Humahuaca         4.66 131  eP        Pn            17 37 03.8 +1.7
SLA   San Lorenzo       5.69 144  eP        Pn            17 37 16.9 +1.2
ASTB  Santa Barbara     5.80 131  ⇓eP       Pn            17 37 17.3 -0.1
FSA   Cafayete          6.63 154  ⇓eP       Pn            17 37 28.5 -0.1
AHML  Horco Molle       7.50 152  ⇓eP       Pn            17 37 39.7 -0.5
VCA   Vinchina          8.59 174  eP        Pn            17 37 53.7 -1.5
VCA                               IAML                    17 38 52.2
      comp=Z,47nm,0.5s
SIV   San Ignacio       8.77  63  P         Pn            17 37 55.7 -1.9
      comp=Z,34nm,0.3s,baz=262,slow=11,SNR=270
SIV                               S         Sn            17 39 27.6 -7.2
      baz=221,slow=20,SNR=4.7
SIV   San Ignacio       8.77  63  eP        Pn            17 37 55.4 -2.2
CYA   Choya             8.82 160  ⇓eP       Pn            17 37 57.5 -0.6
CYA                               IAML                    17 38 08.2
      comp=Z,8.7nm,0.5s
LCO   Las Campanas      8.92 188  eP        Pn            17 38 06.9 +7.1
      comp=Z,62nm,0.5s
AGUA  GUANDACOL         9.32 176  eP        Pn            17 38 04.1 -0.8
ACLC  CERRO LA CRUZ     9.46 168  eP        Pn            17 38 04.1 -2.8
APLL  PUNTA DE LOS L    10.48 167 ⇓eP       Pn            17 38 09.1  -12
AVFE  Valle Fertil      10.58 172 ⇓eP       Pn            17 38 18.0 -4.1
AVFE                              IAML                    17 39 11.5
      comp=Z,13nm,0.5s
NNA   Nana              10.94 317 P         Pn            17 38 25.2 -1.8
      comp=Z,1.9nm,0.3s,baz=156,slow=7.8,SNR=8.1
NNA                               S         Sn            17 40 21.4 -6.1
      comp=Z,3.8nm,0.3s,baz=218,slow=18,SNR=2.3
NNA   Nana              10.94 317 eP        Pn            17 38 26.2 -0.9
NNA                               S         Sn            17 40 21.4 -6.1
NNA   Nana              10.94 317 ePn       Pn            17 38 26.2 -0.9
NNA                               S         Sn            17 40 21.4 -6.1
CPUP  Villa Florida     12.53 122 P         Pn            17 38 45.8 -2.3
      comp=Z,4.3nm,0.3s,baz=304,slow=12,SNR=56
CPUP  Villa Florida     12.53 122 ePn       Pn            17 38 35.5  -13
SAML  Samuel            12.57  28 ePn       Pn            17 38 46.0 -2.6
ROC1  El Roble          12.87 187 ePn       Pn            17 38 51.4 -1.4
GO05  HualaæØ           14.99 189 ePn       Pn            17 39 20.0  0.0
TRQA  Tornquist         18.91 162 eP        P             17 39 59.8 -6.2
      comp=Z,50nm,0.9s
SPB   Sao Paulo         20.49 104 eP        P             17 40 14.7 -8.6
      comp=Z,234nm,1.6s
PLCA  Paso Flores       20.55 183 P         P             17 40 24.2 +0.5
      comp=Z,59nm,0.8s,baz=30,slow=12,SNR=86
PLCA  Paso Flores       20.55 183 eP        P             17 40 20.6 -3.2
      comp=Z,132nm,1.1s
PTGA  Pitinga           21.32  26 P         P             17 40 30.1 -2.0
      comp=Z,38nm,0.3s,baz=197,slow=20,SNR=68
PTGA  Pitinga           21.32  26 eP        P             17 40 27.4 -4.7
      comp=Z,56nm,0.9s
OTAV  Otavalo           22.20 335 eP        P             17 40 43.8 +1.8
      comp=Z,33nm,1.0s
ROSC  El Rosal          25.34 348 LR        LR            17 52 16.4
      comp=Z,130nm,20.0s,baz=272,slow=39
RUSC  La Rusia          26.16 351 eP        P             17 41 19.3 +0.4
      comp=Z,23nm,0.9s
HELC  Santa Helena      26.91 346 eP        P             17 41 24.8 -0.6
      comp=Z,40nm,0.6s
CHRN  Cochrane          27.17 185 eP        P             17 41 26.5 -0.5
      comp=Z,18nm,0.9s
SDV   Santo Domingo     28.89 357 P         P             17 41 42.6 -0.2
      comp=Z,3.9nm,0.3s,baz=277,slow=8.2,SNR=4.1
SDV   Santo Domingo     28.89 357 eP        P             17 41 42.9  0.0
      comp=Z,11nm,0.8s
USHA  Ushuaia           34.63 179 P         P             17 42 33.0 +0.6
      comp=Z,77nm,0.8s,baz=7.7,slow=5.2,SNR=8.9
RCBR  Riachuelo         35.34  71 P         P             17 42 38.5 -0.6
      comp=Z,65nm,0.6s,baz=237,slow=6.7,SNR=79
RCBR  Riachuelo         35.34  71 eP        P             17 42 37.2 -2.0
      comp=Z,73nm,0.6s
CELP  Cerrillos         38.08   4 eP        P             17 43 00.7 -1.5
SJG   San Juan          38.15   5 P         P             17 43 01.0 -1.7
      comp=Z,37nm,0.7s,baz=148,slow=5.7,SNR=11
SJG   San Juan          38.15   5 eP        P             17 43 00.3 -2.4
SJG                               pmax      pmax
      comp=Z,36nm,0.7s
SJG   San Juan          38.15   5 eP        P             17 43 00.3 -2.4
      comp=Z,36nm,0.7s
CBYP  Canovanas         38.33   5 eP        P             17 43 01.7 -2.7
      comp=Z,39nm,0.8s
CMIG  Matias Romero     44.78 324 P         P             17 43 57.8 +0.8
      comp=Z,13nm,0.9s,baz=100,slow=5.2,SNR=5.7
LNIG  Linares           53.59 325 eP        P             17 45 03.6 -0.4
      comp=Z,17nm,1.0s
ZAIG  Zacatecas         53.67 321 eP        P             17 45 07.0 +2.0
      comp=Z,30nm,1.0s
347A  Saraland          54.52 340 P         P             17 45 10.9 +0.2
      baz=157
034A  Hebbronville      54.95 328 P         P             17 45 15.0 +1.2
      baz=145
247A  Quitman           55.14 340 P         P             17 45 14.8 -0.3
      baz=157
344A  Westbrook Farm    55.31 338 P         P             17 45 16.6 +0.2
      baz=155
LRAL  Lakeview Retre    55.55 342 eP        P             17 45 17.6 -0.5
      comp=Z,9.7nm,0.8s
933A  Laredo            55.70 327 P         P             17 45 20.3 +1.1
      baz=145
736A  Circle Diamond    55.74 330 P         P             17 45 20.6 +1.1
      baz=148
637A  Eagle Lake        55.81 331 P         P             17 45 21.3 +1.3
      baz=149
146A  Union             55.82 340 P         P             17 45 20.4 +0.4
      baz=157
342A  Flagon Creek P    55.83 336 P         P             17 45 20.6 +0.5
      baz=153
Z48A  Northport         56.04 341 P         P             17 45 21.0 -0.5
      baz=159,SNR=5.3
636A  Smothers Creek    56.18 331 P         P             17 45 23.3 +0.7
      baz=148
KMSC  Kings Mountain    56.18 348 P         P             17 45 22.5  0.0
      baz=166
KMSC  Kings Mountain    56.18 348 eP        P             17 45 23.3 +0.7
      comp=Z,18nm,1.0s
439A  Center Grove,     56.30 333 P         P             17 45 24.5 +1.1
      baz=151
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833A Chaparral WMA, 56.34 328 P P 17 45 24.6 +0.8
baz=145
734A La Parita Cree 56.36 329 P P 17 45 24.6 +0.7
baz=146
635A Leesville 56.43 330 P P 17 45 25.3 +0.9
baz=147
832A Faith Ranch, C 56.60 327 P P 17 45 26.5 +0.8
baz=145
733A Divot King Ran 56.61 328 P P 17 45 26.4 +0.7
baz=146
Y47A UCPARC, Winfie 56.62 341 P P 17 45 25.0 -0.6
baz=159,SNR=6.1
535A Dale 56.88 331 P P 17 45 27.9 +0.3
baz=148
Y46A Houston 56.91 340 P P 17 45 27.2 -0.4
baz=158
240A Hunter Patters 56.98 335 P P 17 45 28.7 +0.4
baz=152
338A Crockett 57.02 333 P P 17 45 29.4 +0.9
baz=150
Y45A Yeager Farm, C 57.11 340 P P 17 45 28.9 -0.2
baz=157
141A Papa Simpson, 57.15 336 P P 17 45 29.9 +0.5
baz=153
436A Wall Ranch, Ga 57.16 332 P P 17 45 30.3 +0.8
baz=149
633A Saathoff Ranch 57.16 329 P P 17 45 30.1 +0.4
baz=146,SNR=5.4
TKL Tuckaleechee C 57.20 346 P P 17 45 29.1 -0.6
comp=Z,8.8nm,0.9s,baz=149,slow=9.3,SNR=8.3
TKL pP pP 17 45 55.3 +0.2
comp=Z,8.1nm,0.9s,baz=153,slow=9.3,SNR=4.1
TKL Tuckaleechee C 57.20 346 eP P 17 45 29.0 -0.8
comp=Z,14nm,1.0s
TKL pP pP 17 45 55.3 +0.2
239A Gary 57.24 334 P P 17 45 30.8 +0.7
baz=151
534A Blanco 57.30 330 P P 17 45 30.9 +0.3
baz=147
SWET Sewanee 57.31 344 eP P 17 45 28.7 -1.9
comp=Z,5.2nm,0.7s
238A Jacksonville 57.50 334 P P 17 45 32.1 +0.3
baz=151
533A Kerrville 57.60 329 P P 17 45 33.4 +0.7
baz=146
OXF Oxford 57.66 340 eP P 17 45 30.9 -2.1
OXF pmax pmax
comp=Z,29nm,0.8s
OXF Oxford 57.66 340 eP P 17 45 30.9 -2.1
comp=Z,29nm,0.8s
336A Riesel 57.70 332 P P 17 45 33.9 +0.6
baz=149
434A Burnet 57.86 330 P P 17 45 34.8 +0.3
baz=147
335A Moody 57.87 331 P P 17 45 34.9 +0.4
baz=148
Z40A Long Farm, Mag 57.92 336 P P 17 45 35.6 +0.8
baz=153
236A Katherine and 58.09 333 P P 17 45 36.8 +0.8
baz=149
W45A Hickory Valley 58.19 341 P P 17 45 36.4 -0.2
baz=158
WLAR White Oak Lake 58.19 337 eP P 17 45 37.4 +0.7
comp=Z,59nm,0.9s
137A Heron Place, G 58.28 334 P P 17 45 38.5 +1.2
baz=150
JCT Junction City 58.31 329 P P 17 45 38.3 +0.6
baz=146
JCT Junction City 58.31 329 eP P 17 45 37.2 -0.5
JCT pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 58.31 329 eP P 17 45 37.2 -0.5
comp=Z,11nm,0.9s
WHTX Lake Whitney, 58.49 332 P P 17 45 39.2 +0.4
baz=148
Y40A Okolona 58.54 337 P P 17 45 39.2 +0.1
baz=153
HPIG 58.65 322 eP P 17 45 39.4 -0.9
comp=Z,14nm,1.0s
WVT Waverly 58.69 342 eP P 17 45 39.2 -0.9
WVT pmax pmax
comp=Z,25nm,0.8s
WVT Waverly 58.69 342 eP P 17 45 39.2 -0.9
comp=Z,25nm,0.8s
Y39A Lockesburg 58.79 336 P P 17 45 41.2 +0.4
baz=152
MIAR Mount Ida 59.13 337 P P 17 45 43.4 +0.2
baz=153,SNR=12
MIAR Mount Ida 59.13 337 eP P 17 45 42.7 -0.5
MIAR pmax pmax
comp=Z,17nm,0.9s
MIAR Mount Ida 59.13 337 eP P 17 45 42.7 -0.5
comp=Z,17nm,0.9s
Z36A Blue Ridge 59.14 333 P P 17 45 43.9 +0.6
baz=150
U45A Rockin P Farm, 59.16 342 P P 17 45 43.0 -0.4
baz=158
W41B Gary Mavity, V 59.21 338 P P 17 45 43.6 -0.1
baz=154
X39A Fountain Ranch 59.30 336 P P 17 45 45.0 +0.6
baz=152,SNR=12
X301 Greenbrier Sit 59.32 338 eP P 17 45 44.7 +0.2
comp=Z,11nm,0.8s
U44B Burton Farm, H 59.33 341 P P 17 45 44.5 -0.1
baz=158
WHAR Wooly Hollow 59.33 338 eP P 17 45 44.6 0.0
comp=Z,10nm,0.9s
TXAR Lajitas Array 59.37 325 P P 17 45 45.1 0.0
comp=Z,2.6nm,0.8s,baz=148,slow=8.0,SNR=23
TXAR pP pP 17 46 11.2 +0.5
comp=Z,1.5nm,0.9s,baz=142,slow=11,SNR=4.1
TX31 Lajitas Ar. Si 59.37 325 eP P 17 45 43.3 -1.8
Y37A Hugo 59.42 335 P P 17 45 46.4 +1.2
baz=151,SNR=7.4
W40A Ferguson Farm, 59.52 337 P P 17 45 46.3 +0.4
baz=154
X38A Whitesboro 59.72 336 P P 17 45 48.0 +0.8
baz=152,SNR=12
V41A Mountainview 59.73 338 P P 17 45 46.8 -0.5
baz=155,SNR=9.1
W39A Magazine 59.79 337 P P 17 45 48.2 +0.5
baz=153,SNR=11
X37A Clayton 59.86 335 P P 17 45 48.9 +0.7
baz=151,SNR=13
U42A Revenden 59.94 340 P P 17 45 48.1 -0.6
baz=156,SNR=7.7
Y35A Marietta 59.95 333 P P 17 45 49.4 +0.6
baz=149
W38A Poteau 59.95 336 P P 17 45 49.6 +0.8
baz=152,SNR=10
V40A Witts Springs 59.98 338 P P 17 45 48.8 -0.3
baz=154,SNR=5.7
ABTX Abilene, Hawle 60.01 330 P P 17 45 49.7 +0.3
baz=146,SNR=5.5
ABTX Abilene, Hawle 60.01 330 eP P 17 45 50.0 +0.7
comp=Z,24nm,1.1s
PBMO Poplar Bluff 60.07 340 eP P 17 45 47.5 -2.1
comp=Z,23nm,0.7s
T44A Benton 60.09 341 P P 17 45 49.2 -0.5
baz=158
U41A Viola 60.16 339 P P 17 45 49.6 -0.6
baz=155,SNR=8.0
X36A Centrahoma 60.23 334 P P 17 45 50.6 -0.1
baz=150
T43A Greenville 60.30 341 P P 17 45 50.7 -0.4
baz=157,SNR=11
V39A Pettigrew 60.31 337 P P 17 45 51.3 0.0
baz=153,SNR=15
MCWV Mont Chateau 60.32 351 eP P 17 45 50.2 -1.1
comp=Z,14nm,0.9s
X35A Drake 60.34 334 P P 17 45 51.5 0.0
baz=150
S45A Carrier Mills 60.34 342 P P 17 45 51.0 -0.5
baz=159,SNR=6.3
W37B Quinton 60.36 335 P P 17 45 52.1 +0.4
baz=151,SNR=9.3
U40A Yellville 60.49 338 P P 17 45 52.2 -0.3
baz=154,SNR=10
S44A Carbondale 60.55 342 P P 17 45 52.2 -0.6
baz=158
V38A Canehill 60.61 337 P P 17 45 53.3 -0.1
baz=152,SNR=13
W36A Wetumka 60.68 335 P P 17 45 53.6 -0.2
baz=150
S43A Fulton Ridge, 60.69 341 P P 17 45 53.2 -0.6
baz=157,SNR=7.2
U39A Green Forest 60.73 338 P P 17 45 53.9 -0.3
baz=154,SNR=9.6

T41A Mountain View 60.74 339 P P 17 45 53.6 -0.6
baz=155
HHAR Hobbs 60.81 337 eP P 17 45 54.9 +0.2
comp=Z,19nm,1.0s
V37A Hulbert 60.90 336 P P 17 45 55.5 +0.2
baz=152,SNR=7.7
W35A Tecumseh 60.95 334 P P 17 45 55.5 -0.1
baz=150
R44A Waltonville 61.02 342 P P 17 45 55.3 -0.7
baz=158
T40A Mansfield 61.09 339 P P 17 45 56.2 -0.4
baz=155,SNR=7.9
S42A Caledonia 61.09 341 P P 17 45 55.9 -0.7
baz=156
U38A Gravette 61.11 337 P P 17 45 56.5 -0.2
baz=153
V36A Jenks 61.13 335 P P 17 45 56.9 +0.1
baz=151,SNR=6.8
TUL1 Leonard 61.18 336 P P 17 45 56.9 -0.2
baz=151
TUL1 Leonard 61.18 336 eP P 17 45 57.0 -0.2
comp=Z,20nm,0.9s
S41A Jillco Farms, 61.23 340 P P 17 45 57.0 -0.5
baz=156,SNR=12
T39A Clever 61.27 338 P P 17 45 57.4 -0.4
baz=154,SNR=6.2
R43A Red Bud 61.29 341 P P 17 45 57.3 -0.5
baz=158
U37A Salina 61.36 336 P P 17 45 58.6 +0.3
baz=152,SNR=10
ACSO Alum Creek Sta 61.43 348 eP P 17 45 56.9 -1.9
comp=Z,30nm,0.9s
S40A Lebanon 61.49 339 P P 17 45 59.0 -0.3
baz=155,SNR=9.4
R42A Luebbering 61.56 341 P P 17 45 59.4 -0.3
baz=157,SNR=7.0
U36A Oologah 61.58 336 P P 17 45 59.4 -0.5
baz=151
T38A Diamond 61.61 337 P P 17 46 00.1 +0.1
baz=153,SNR=16
Q44A Meyer Farm, Va 61.61 343 P P 17 45 59.0 -1.0
baz=158,SNR=6.0
N54A Moraine State 61.62 351 P P 17 46 00.2 +0.2
baz=168
R41A Rosebud 61.76 340 P P 17 46 00.7 -0.4
baz=156,SNR=15
Q43A New Douglas 61.84 342 P P 17 46 01.0 -0.5
baz=158
S39A Bolivar 61.85 338 P P 17 46 01.5 -0.2
baz=154,SNR=19
T37A Cheneyville 18 61.91 337 P P 17 46 02.2 +0.1
baz=152,SNR=17
U35A Pawnee 61.95 335 P P 17 46 02.6 +0.2
baz=150,SNR=6.1
S38A Stockton 62.00 338 P P 17 46 02.3 -0.3
baz=153,SNR=7.6
R40A Maddies Statio 62.04 340 P P 17 46 02.5 -0.4
baz=155,SNR=8.5
Q42A Golden Eagle 62.06 341 P P 17 46 02.6 -0.4
baz=157,SNR=6.6
M54A Oil Creek Stat 62.11 351 P P 17 46 03.2 -0.1
baz=169
MNTX Cornudas Mount 62.14 325 P P 17 46 03.7 -0.1
baz=141,SNR=14
MNTX Cornudas Mount 62.14 325 eP P 17 46 03.5 -0.2
comp=Z,11nm,1.0s
T36A Boggs Farm, Ca 62.22 336 P P 17 46 04.3 +0.2
baz=151,SNR=7.2
Q41A Truxton 62.31 341 P P 17 46 04.3 -0.4
baz=156,SNR=11
R39A Chumby, Stover 62.32 339 P P 17 46 04.4 -0.3
baz=154,SNR=8.9
T35A Soner Cattle 62.34 335 P P 17 46 04.6 -0.3
baz=151
P43A Skaggs, Pawnee 62.44 342 P P 17 46 04.7 -0.8
baz=158,SNR=5.3
S37A Fort Scott 62.45 337 P P 17 46 05.7 +0.1
baz=152,SNR=11
SFIN Lafayette 62.48 345 P P 17 46 04.7 -1.1
baz=161,SNR=6.2
SFIN Lafayette 62.48 345 eP P 17 46 04.8 -1.1
comp=Z,22nm,0.7s
R38A Fenwick Farm, 62.50 338 P P 17 46 05.8 -0.2
baz=154,SNR=8.3
MSTX Muleshoe 62.60 329 P P 17 46 07.1 +0.2
baz=144,SNR=9.8
MSTX Muleshoe 62.60 329 eP P 17 46 07.3 +0.3
comp=Z,30nm,1.0s
Q40A Laux Farm, Aux 62.62 340 P P 17 46 06.2 -0.5
baz=156
P42A Winchester 62.62 342 P P 17 46 06.0 -0.7
baz=157,SNR=7.7
S36A Lake Cedric, C 62.70 337 P P 17 46 07.4 +0.2
baz=152,SNR=7.0
T34A McClaskey Farm 62.70 335 P P 17 46 07.4 +0.1
baz=150
AMTX Amarillo 62.83 330 P P 17 46 08.8 +0.5
baz=145
P41A Barry, Barry 62.92 341 P P 17 46 08.1 -0.7
baz=157,SNR=7.5
S35A Otter Creek Ra 62.93 336 P P 17 46 08.9 +0.1
baz=151,SNR=6.3
R37A Teagarden Farm 62.94 338 P P 17 46 08.8 -0.1
baz=153,SNR=8.3
Q39A Willow Grove F 62.96 339 P P 17 46 08.8 -0.1
baz=155,SNR=12
P40A Paris 63.09 340 P P 17 46 09.6 -0.3
baz=156,SNR=10
Q38A Cooks Store, C 63.09 339 P P 17 46 10.0 +0.1
baz=154,SNR=19
O42A Bath 63.11 342 P P 17 46 09.4 -0.5
baz=158
R36A Gordon, Harris 63.19 337 P P 17 46 10.5 -0.1
baz=152,SNR=5.1
HDIL Hopedale 63.23 343 P P 17 46 09.9 -0.8
baz=159
O41A Passleys Farm, 63.27 342 P P 17 46 10.3 -0.7
baz=157
P39B Salsbury 63.28 340 P P 17 46 10.8 -0.3
baz=155,SNR=7.5
HSIG 63.34 319 eP P 17 46 13.5 +1.7
comp=Z,11nm,0.7s
FFD Franklin Falls 63.35 358 eP P 17 46 10.7 -0.8
comp=Z,504nm,0.3s
O40A La Belle 63.58 341 P P 17 46 12.5 -0.6
baz=156,SNR=8.8
SNAA Sanae 63.64 161 P P 17 46 13.9 +0.7
SNAA Sanae 63.64 161 P P 17 46 13.7 +0.5
comp=Z,20nm,1.0s,baz=283,slow=6.0,SNR=37
SNAA Sanae 63.64 161 deP P 17 46 13.8 +0.6
SNAA Sanae 63.64 161 eP P 17 46 13.0 -0.2
comp=Z,17nm,0.8s
P38A Dawn 63.66 339 P P 17 46 13.4 -0.2
baz=154,SNR=8.7
N42A Yates City 63.69 342 P P 17 46 13.0 -0.8
baz=158
Q36A Arnold C. Orve 63.74 337 P P 17 46 14.0 -0.1
baz=152
N41A Harden Midland 63.81 342 P P 17 46 14.2 -0.3
baz=157
R34A Isabella, Hill 63.83 336 P P 17 46 14.9 +0.1
baz=150
Q35A Mercer Eighty, 63.86 337 P P 17 46 14.9 -0.1
baz=152
P37A Lathrop 63.91 339 P P 17 46 14.8 -0.4
baz=153,SNR=5.8
O39A Kirksville 63.91 340 P P 17 46 14.9 -0.4
baz=155
319A Douglas 64.06 322 eP P 17 46 18.2 +1.6
comp=Z,30nm,0.8s
121A Cookes Peak, D 64.08 324 P P 17 46 18.4 +1.6
baz=139,SNR=6.4
121A Cookes Peak, D 64.08 324 eP P 17 46 18.0 +1.3
comp=Z,24nm,1.4s
O38A Galt 64.09 339 P P 17 46 16.2 -0.2
baz=154,SNR=6.2
N40A Mertquake, Sal 64.19 341 P P 17 46 16.6 -0.4
baz=156
M41A Milan 64.34 342 P P 17 46 17.4 -0.6
baz=158
O37A Wolven Farm, M 64.36 339 P P 17 46 18.0 -0.1
baz=154,SNR=5.2
P35A Duane Minner, 64.44 337 P P 17 46 18.6 -0.1
baz=152
N39A Derby Farms, D 64.47 341 P P 17 46 18.4 -0.5
baz=155,SNR=5.5
L43A Garden Prairie 64.60 344 P P 17 46 19.3 -0.4
baz=159,SNR=6.1

N38A Joes South For 64.62 340 P P 17 46 19.7 -0.2
baz=155
M40A Post Highland 64.65 342 P P 17 46 19.6 -0.5
baz=156
P34A Walnut Farm, R 64.76 337 P P 17 46 20.8 0.0
baz=151
N37A Lee Faris, Mou 64.91 339 P P 17 46 21.4 -0.3
baz=154,SNR=12
M39A Webster 64.91 341 P P 17 46 21.2 -0.6
baz=156
L41A Preston 64.97 343 P P 17 46 21.6 -0.5
baz=158
LAZ Ladron 65.16 326 eP P 17 46 20.5 -3.3
L40A Anamosa 65.17 342 P P 17 46 22.7 -0.7
baz=157,SNR=5.4
M38A Pleasantville 65.17 340 P P 17 46 22.9 -0.5
baz=155,SNR=9.8
N36A Muff Farm, Cla 65.21 339 P P 17 46 23.9 +0.2
baz=153
ANMO Albuquerque 65.22 327 P P 17 46 24.7 +0.6
comp=Z,4.1nm,0.9s,baz=132,slow=8.4,SNR=9.5
ANMO Albuquerque 65.22 327 P P 17 46 25.1 +1.0
baz=141
ANMO Albuquerque 65.22 327|| eP P 17 46 25.2 +1.0
ANMO pmax pmax
comp=Z,22nm,2.3s
ANMO Albuquerque 65.22 327 eP P 17 46 25.1 +1.0
comp=Z,7.1nm,1.0s
SADO Sadowa 65.24 352 P P 17 46 23.2 -0.5
comp=Z,10nm,0.9s,baz=120,slow=4.8,SNR=3.3
CBKS Cedar Bluff 65.27 334 P P 17 46 24.7 +0.6
baz=148
CBKS Cedar Bluff 65.27 334 eP P 17 46 23.3 -0.8
CBKS pmax pmax
comp=Z,25nm,0.8s
CBKS Cedar Bluff 65.27 334 eP P 17 46 23.3 -0.8
comp=Z,24nm,0.8s
O34A Beatrice 65.27 337 P P 17 46 24.0 0.0
baz=151
K41A Shullsburg 65.41 343 P P 17 46 24.4 -0.5
baz=158
M37A Trindle Farm, 65.44 340 P P 17 46 25.2 0.0
baz=154,SNR=5.3
L39A Vinton 65.45 342 P P 17 46 24.6 -0.6
baz=156,SNR=6.8
O33A Hebron 65.50 336 P P 17 46 25.6 0.0
baz=150
TUC Tucson 65.61 322 P P 17 46 28.2 +1.6
baz=137
TUC Tucson 65.61 322 eP P 17 46 28.2 +1.6
TUC pmax pmax
comp=Z,25nm,1.5s
TUC Tucson 65.61 322 eP P 17 46 28.2 +1.6
comp=Z,25nm,1.5s
JFWS Jewell Farm 65.68 343 eP P 17 46 24.9 -1.8
JFWS pmax pmax
comp=Z,20nm,0.9s
JFWS Jewell Farm 65.68 343 eP P 17 46 24.9 -1.8
comp=Z,20nm,0.9s
K40A Colesburg 65.73 342 P P 17 46 26.5 -0.4
baz=157
M36A Felix, Anita 65.73 339 P P 17 46 27.1 0.0
baz=153,SNR=6.0
L38A Oak Wood Farm, 65.76 341 P P 17 46 26.8 -0.4
baz=155,SNR=7.2
N34A Lincoln 65.77 338 P P 17 46 27.2 -0.1
baz=152
T25A Trinidad 65.95 330 P P 17 46 29.7 +0.9
baz=143
T25A Trinidad 65.95 330 eP P 17 46 30.2 +1.4
comp=Z,6.0nm,0.8s
K39A Oelwein 65.95 342 P P 17 46 27.7 -0.7
baz=156,SNR=12
L37A Phoenix Point, 65.99 340 P P 17 46 28.7 0.0
baz=154
J41A Loganville 66.04 344 P P 17 46 28.6 -0.3
baz=158,SNR=7.1
K38A Parkersburg 66.16 341 P P 17 46 29.6 -0.2
baz=156
I42A Draeger Farm, 66.24 345 P P 17 46 30.1 -0.2
baz=160
J40A Soldiers Grove 66.26 343 P P 17 46 30.2 -0.2
baz=158
L36A Harm Buss Farm 66.27 340 P P 17 46 30.5 +0.1
baz=154
J39A Decorah 66.48 342 P P 17 46 31.4 -0.4
baz=157,SNR=9.1
K37A Belmond 66.53 341 P P 17 46 31.7 -0.5
baz=155,SNR=5.4
214A Organ Pipe Nat 66.55 320 P P 17 46 34.5 +1.9
baz=135,SNR=14
214A Organ Pipe Nat 66.55 320 eP P 17 46 34.2 +1.7
comp=Z,148nm,1.3s
L35A Bielow Farm, R 66.57 339 P P 17 46 32.3 -0.1
baz=153
KSCO Kaye Shedlock' 66.66 332 P P 17 46 34.1 +0.9
baz=146
J38A Wedel Dairy, R 66.69 342 P P 17 46 32.5 -0.6
baz=156,SNR=6.4
I40A Norwalk 66.69 343 P P 17 46 32.7 -0.4
baz=158
L34A Svendsen Farm, 66.72 338 P P 17 46 33.5 +0.1
baz=152
BGNE Belgrade 66.87 337 P P 17 46 34.6 +0.2
baz=150
BGNE Belgrade 66.87 337 eP P 17 46 34.7 +0.3
comp=Z,102nm,0.9s
I39A Houston 66.90 343 P P 17 46 34.0 -0.4
baz=157,SNR=6.1
SDCO Great Sand Dun 66.95 329 P P 17 46 36.4 +1.1
baz=143,SNR=26
SDCO Great Sand Dun 66.95 329 eP P 17 46 36.4 +1.1
comp=Z,19nm,1.2s
J37A Redenius Farm, 67.00 341 P P 17 46 34.7 -0.4
baz=155,SNR=7.0
K35A Storm Lake 67.01 339 P P 17 46 35.2 +0.1
baz=153
W18A Petrified Fore 67.09 325 P P 17 46 37.5 +1.4
baz=138,SNR=5.8
W18A Petrified Fore 67.09 325 eP P 17 46 37.9 +1.8
comp=Z,26nm,1.3s
H41A Junction City 67.11 344 P P 17 46 35.4 -0.4
baz=159
G43A Wallace 67.24 346 P P 17 46 36.2 -0.3
baz=161
J36A Seneca 1, Swea 67.26 340 P P 17 46 36.9 +0.1
baz=154
I38A Scanlan Farm, 67.30 342 P P 17 46 36.9 -0.1
baz=156,SNR=9.6
H40A Chili 67.31 344 P P 17 46 36.7 -0.3
baz=158,SNR=11
K33A Hardington 67.50 338 P P 17 46 38.5 +0.2
baz=152
X16A Lo Mia Camp, P 67.52 323 eP P 17 46 40.6 +1.8
I37A Lemond, Waseca 67.59 341 P P 17 46 38.9 +0.1
baz=155
H39A Augusta 67.60 343 P P 17 46 38.8 -0.1
baz=157
S22A 4UR Ranch, Cre 67.60 328 P P 17 46 40.4 +1.1
baz=142,SNR=5.5
S22A 4UR Ranch, Cre 67.60 328 eP P 17 46 40.7 +1.3
comp=Z,6.0nm,1.1s
F44A Big Bay de Noc 67.64 347 P P 17 46 38.8 -0.3
baz=162
F43A Flat Rock, Esc 67.67 347 P P 17 46 38.8 -0.4
baz=162
Q24A Divide 67.76 330 P P 17 46 41.3 +0.9
baz=143,SNR=7.3
G40A Rib Lake 67.86 344 P P 17 46 40.1 -0.3
baz=158
H38A Maiden Rock 67.87 342 P P 17 46 40.6 0.0
baz=156
I35A Creekview Farm 67.94 340 P P 17 46 41.2 +0.2
baz=154
OGNE Ogallala 68.01 334 P P 17 46 42.0 +0.4
baz=146
MVCO Mesa Verde 68.02 327 P P 17 46 43.1 +1.1
baz=140
MVCO Mesa Verde 68.02 327 eP P 17 46 43.1 +1.1
comp=Z,9.2nm,0.8s
F41A Three Lakes 68.02 345 P P 17 46 41.6 +0.1
baz=160
Y14A Wickenburg 68.07 322 eP P 17 46 43.6 +1.4
G39A Holcombe 68.13 343 P P 17 46 41.6 -0.5
baz=158,SNR=7.5
E43A Lone Tree Farm 68.15 347 P P 17 46 41.8 -0.4
baz=162
K31A O'Neill 68.15 337 P P 17 46 42.4 0.0

baz=150
NVL N'lazarevskaya 68.18 159 eP P 17 46 47.9 +5.7
G38A Ridgeland 68.21 343 P P 17 46 42.3 -0.3
baz=157
H36A Jessenland, He 68.26 341 P P 17 46 43.1 +0.1
baz=155
WUAZ Wupatki 68.28 324 P P 17 46 45.3 +1.8
baz=137,SNR=16
WUAZ Wupatki 68.28 324 eP P 17 46 45.1 +1.5
comp=Z,24nm,0.9s
LIC Lamto 68.29 74 eP P 17 46 42.5 -1.3
comp=Z,27nm,0.3s
ECSD EROS Data Cent 68.37 339 P P 17 46 43.5 -0.2
baz=152,SNR=6.0
ECSD EROS Data Cent 68.37 339 eP P 17 46 44.0 +0.3
comp=Z,11nm,1.1s
COWI Conover 68.37 345 eP P 17 46 43.7 0.0
comp=Z,9.5nm,0.9s
E42A Champion 68.40 346 P P 17 46 43.5 -0.3
baz=161
F40A Park Falls 68.44 344 P P 17 46 44.2 0.0
baz=159,SNR=15
TIC Toumodi 68.47 74 eP P 17 46 43.7 -1.3
SPMN Marine on St. 68.52 342 P P 17 46 44.5 -0.1
baz=156
SPMN Marine on St. 68.52 342 eP P 17 46 44.5 -0.1
comp=Z,27nm,1.2s
GLA Glamis 68.53 320 P P 17 46 46.9 +1.9
baz=134
GLA Glamis 68.53 320 eP P 17 46 47.2 +2.2
GLA pmax pmax
comp=Z,7.0nm,0.8s
GLA Glamis 68.53 320 eP P 17 46 47.2 +2.2
comp=Z,7.1nm,0.8s
KIC Kosan Boka 68.60 74 eP P 17 46 44.7 -1.1
comp=Z,45nm,0.5s
DBIC Dimbokro 68.63 74 P P 17 46 44.8 -1.1
comp=Z,15nm,0.3s,baz=223,slow=6.3,SNR=60
DBIC LR LR 18 14 58.0
comp=Z,60nm,20.7s,baz=243,slow=34
DBIC Dimbokro 68.63 74 eP P 17 46 45.1 -0.8
DBIC pmax pmax
comp=Z,46nm,1.0s
DBIC Dimbokro 68.63 74 eP P 17 46 45.1 -0.8
comp=Z,46nm,1.0s
ISCO Idaho Springs 68.64 331 P P 17 46 46.8 +0.9
baz=143,SNR=6.1
ISCO Idaho Springs 68.64 331 eP P 17 46 47.3 +1.4
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 68.64 331 eP P 17 46 47.2 +1.4
comp=Z,7.3nm,1.0s
F39A Loretta 68.64 344 P P 17 46 45.0 -0.4
baz=158,SNR=5.4
H35A Sunnyside Ranc 68.65 341 P P 17 46 45.3 -0.2
baz=154
E41A Kenton 68.67 345 P P 17 46 45.2 -0.3
baz=160
PV01 Paradox Valley 68.77 328 eP P 17 46 48.5 +1.9
Y12C Blythe 68.83 321 P P 17 46 48.7 +1.9
baz=134
Y12C Blythe 68.83 321 eP P 17 46 48.9 +2.1
comp=Z,14nm,0.9s
E40A Wakefield 68.88 345 P P 17 46 47.0 +0.2
baz=159,SNR=14
H34A Spellman Lake, 68.92 340 P P 17 46 47.2 +0.2
baz=153
F37A Hinrichs Farm, 68.93 343 P P 17 46 47.6 +0.5
baz=156
F38A Pierce - Schro 68.94 343 P P 17 46 47.0 -0.1
baz=157
E39A Mellen 68.98 344 P P 17 46 47.4 0.0
baz=158,SNR=8.8
PDMCI Parker Dam,Lak 69.00 321 P P 17 46 49.5 +1.8
baz=135
G35A Watkins 69.01 341 P P 17 46 47.5 -0.1
baz=154
IKP In-Ko-Pah, Jac 69.05 319 P P 17 46 50.3 +2.0
baz=133,SNR=5.5
H33A Prehn Over Nor 69.25 339 P P 17 46 49.2 0.0
baz=152
F36A Milaca 69.31 342 P P 17 46 49.1 -0.4
baz=155,SNR=8.0
H32A Carlson Farm, 69.33 339 P P 17 46 49.7 0.0
baz=151
BC3 Big Chuckawall 69.33 320 P P 17 46 51.9 +1.9
baz=133,SNR=15
MONP2 Monument Peak 69.40 319 P P 17 46 52.7 +2.1
baz=132
W13A Hualapai Mount 69.41 322 eP P 17 46 52.7 +2.1
BAR Barrett 69.42 318 eP P 17 46 52.6 +2.2
comp=Z,22nm,0.9s
U15A North Rim 69.46 324 eP P 17 46 53.1 +2.2
IRM Iron Mountain 69.49 320 P P 17 46 52.8 +1.9
baz=134,SNR=18
G33A Ortonville 69.61 340 P P 17 46 51.4 +0.1
baz=152
F35A Swanville 69.62 341 P P 17 46 51.3 -0.1
baz=154
N23A Red Feather La 69.67 331 P P 17 46 53.2 +1.0
baz=143,SNR=6.4
N23A Red Feather La 69.67 331 eP P 17 46 53.6 +1.5
comp=Z,8.8nm,0.9s
PHWY Pilot Hill 69.78 332 eP P 17 46 53.9 +1.0
comp=Z,14nm,1.3s
109C Camp Elliot, M 69.83 318 P P 17 46 55.4 +2.4
baz=132
E36A McGregor 69.83 343 P P 17 46 52.7 0.0
baz=156
BELC Belle Mtn. Jos 69.89 320 P P 17 46 55.5 +1.9
baz=133,SNR=6.0
PFO Pinyon Flats O 69.91 319 P P 17 46 55.0 +1.4
comp=Z,13nm,1.0s,baz=116,slow=4.1,SNR=11
PFO Pinyon Flats O 69.91 319 P P 17 46 55.6 +2.0
baz=133,SNR=8.5
PFO Pinyon Flats O 69.91 319 eP P 17 46 55.7 +2.0
PFO pmax pmax
comp=Z,20nm,1.1s
PFO Pinyon Flats O 69.91 319 eP P 17 46 55.7 +2.0
comp=Z,20nm,1.1s
QSPA South Pole Qui 70.03 180 eP P 17 46 54.9 +1.0
comp=Z,128nm,1.0s
LDFC Landfair 70.11 321 eP P 17 46 57.6 +2.9
comp=Z,40nm,0.4s
F33A 5 Mile Ranch, 70.13 340 P P 17 46 54.5 0.0
baz=153
O20A White River Ci 70.15 329 P P 17 46 56.3 +1.2
baz=141
O20A White River Ci 70.15 329 eP P 17 46 56.8 +1.7
comp=Z,17nm,1.1s
KNB Kanab 70.18 324 eP P 17 46 57.6 +2.4
KNB pmax pmax
comp=Z,47nm,1.0s
KNB Kanab 70.18 324 eP P 17 46 57.6 +2.4
comp=Z,46nm,1.0s
E35A Pequot Lakes 70.20 342 P P 17 46 54.8 -0.1
baz=155
C39A Grand Marais 70.22 345 P P 17 46 54.5 -0.4
baz=159,SNR=6.9
G31A Conde 70.22 339 P P 17 46 55.5 +0.5
baz=151
GMRC Granite Mounta 70.23 321 P P 17 46 57.5 +2.0
baz=134,SNR=18
MURC Murrieta 70.36 319 P P 17 46 58.4 +2.1
baz=132
E34A Wadena 70.39 341 P P 17 46 56.1 0.0
baz=154
C38A Sawbill Land. 70.41 344 P P 17 46 56.0 -0.2
baz=158
LCMT Little Creek M 70.41 324 eP P 17 46 58.7 +2.1
comp=Z,15nm,1.0s
SRU San Rafael Swe 70.50 327 eP P 17 46 58.5 +1.3
SRU pmax pmax
comp=Z,16nm,0.8s
SRU San Rafael Swe 70.50 327 eP P 17 46 58.5 +1.3
comp=Z,16nm,0.8s
C37A Embarrass 70.65 344 P P 17 46 57.7 0.0
baz=157
HEC Hector,Ludlow 70.66 320 P P 17 47 00.3 +2.2
baz=133,SNR=6.8
EYMN Ely 70.68 344 P P 17 46 57.7 -0.1
baz=158
EYMN Ely 70.68 344 eP P 17 46 57.6 -0.2
comp=Z,12nm,0.9s
F31A Hecla 70.79 339 P P 17 46 58.7 +0.2
baz=151
TUQ Turquoise Moun 70.83 321 P P 17 47 01.2 +2.0
baz=134,SNR=8.9

C36A Pine Crest Far 70.85 343 P P 17 46 58.6 -0.2
baz=156,SNR=5.5
CCUT Cedar City 70.86 324 eP P 17 47 02.0 +2.6
comp=Z,31nm,0.9s
RWWY Rawlins 70.88 331 eP P 17 47 01.0 +1.5
comp=Z,8.3nm,0.9s
P17A Butcher Ranch, 70.88 327 eP P 17 47 01.3 +1.8
comp=Z,22nm,1.0s
MSU Marysvale 70.92 326 eP P 17 47 01.7 +1.9
MSU Marysvale 70.92 326 eP P 17 47 01.7 +1.9
TMUT Trail Mountain 70.99 327 eP P 17 47 02.0 +1.8
comp=Z,6.6nm,0.9s
BFSC Mount Baldy Ra 71.07 319 P P 17 47 02.4 +1.8
baz=132,SNR=5.4
C35A Jirik Farms, M 71.11 343 P P 17 47 00.2 -0.3
baz=155,SNR=8.7
FMP Fort Macarthur 71.11 318 P P 17 47 03.5 +2.8
baz=131
SHPR Sheep Range 71.13 322 eP P 17 47 03.1 +2.1
comp=Z,14nm,0.9s
GSC Goldstone, Bar 71.27 320 P P 17 47 03.7 +1.9
baz=133
GSC Goldstone, Bar 71.27 320 eP P 17 47 04.0 +2.2
GSC pmax pmax
comp=Z,37nm,1.5s
GSC Goldstone, Bar 71.27 320 eP P 17 47 04.0 +2.2
comp=Z,37nm,1.5s
E31A Nome 71.28 340 P P 17 47 01.6 +0.1
baz=151
MWC Mount Wilson 71.31 319 eP P 17 47 04.4 +2.2
MWC pmax pmax
comp=Z,30nm,1.3s
MWC Mount Wilson 71.31 319 eP P 17 47 04.4 +2.2
comp=Z,30nm,1.3s
K22A Casper 71.33 332 P P 17 47 03.0 +0.9
baz=143
C34A RKJ Ranch, Bem 71.33 342 P P 17 47 01.8 0.0
baz=154
RSSD Black Hills 71.47 334 P P 17 47 03.7 +0.8
baz=145
B35A Bob, Littlefor 71.65 343 P P 17 47 03.3 -0.4
baz=156,SNR=8.0
EDW2 Edwards Air Fo 71.70 319 P P 17 47 05.9 +1.5
baz=132,SNR=7.1
LRMC Laurel Mtn Rad 71.91 320 P P 17 47 07.6 +1.9
baz=132
NLU North Lily Min 71.93 327 eP P 17 47 07.8 +2.0
comp=Z,13nm,1.1s
OSI Osito Audit: C 71.98 319 P P 17 47 07.7 +1.7
baz=131
B34A Aery, Baudette 72.02 343 P P 17 47 05.5 -0.3
baz=155
TPNV Topopah Spring 72.07 322 P P 17 47 08.9 +2.3
baz=134,SNR=12
TPNV Topopah Spring 72.07 322 eP P 17 47 09.0 +2.4
TPNV pmax pmax
comp=Z,18nm,0.9s
TPNV Topopah Spring 72.07 322 eP P 17 47 09.0 +2.4
comp=Z,18nm,0.9s
JLU Jordanelle 72.09 327 eP P 17 47 08.7 +1.9
comp=Z,17nm,1.0s
B33A Robert and Kas 72.09 342 P P 17 47 06.0 -0.3
baz=154
FURC Furnace Creek, 72.09 321 P P 17 47 08.7 +2.2
baz=133,SNR=12
MPMC Manual Prospec 72.19 321 P P 17 47 08.9 +1.5
baz=132,SNR=9.4
AGMN Agassiz Nation 72.20 342 P P 17 47 06.8 -0.1
baz=154
AGMN Agassiz Nation 72.20 342 eP P 17 47 06.9 -0.1
comp=Z,13nm,0.8s
C31A Landman Farms, 72.32 340 P P 17 47 07.9 +0.2
baz=152
B32A Ashes, Strandq 72.49 341 P P 17 47 08.8 +0.2
baz=153
DUG Dugway, Tooele 72.49 326 P P 17 47 10.6 +1.6
baz=137,SNR=13
DUG Dugway, Tooele 72.49 326 eP P 17 47 10.8 +1.8
DUG pmax pmax
comp=Z,18nm,1.1s
DUG Dugway, Tooele 72.49 326 eP P 17 47 10.8 +1.8
comp=Z,18nm,1.1s
ISA Isabella, Lake 72.52 320 P P 17 47 11.1 +1.9
baz=132
ISA Isabella, Lake 72.52 320 eP P 17 47 11.4 +2.2
ISA pmax pmax
comp=Z,17nm,0.9s
ISA Isabella, Lake 72.52 320 eP P 17 47 11.4 +2.2
comp=Z,17nm,0.9s
A33A Warroad 72.64 342 P P 17 47 09.5 0.0
baz=154,SNR=7.0
R11A Troy Canyon, C 72.66 323 P P 17 47 12.3 +2.1
baz=134,SNR=15
R11A Troy Canyon, C 72.66 323 eP P 17 47 12.3 +2.1
comp=Z,7.4nm,0.8s
GRAC Grapevine Rang 72.75 321 P P 17 47 12.8 +2.3
baz=133
CWC Cottonwood Cre 72.80 321 P P 17 47 13.0 +2.0
baz=132
BW06 Boulder Array 72.81 330 P P 17 47 11.5 +0.5
baz=140
BW06 Boulder Array 72.81 330 eP P 17 47 10.4 -0.6
PD31 Pinedale Array 72.81 330 eP P 17 47 11.8 +0.8
PDAR Pinedale Array 72.81 330 P P 17 47 11.4 +0.4
comp=Z,1.8nm,0.9s,baz=172,slow=4.5,SNR=10
PKM Mcpherson Peak 72.83 318 P P 17 47 13.1 +1.9
baz=130,SNR=11
HWUT Hardware Ranch 72.90 328 eP P 17 47 12.4 +1.0
comp=Z,11nm,0.8s
MDND Maddock 72.98 339 P P 17 47 12.0 +0.4
baz=150
VES Vestal, Richgr 73.01 319 P P 17 47 14.0 +2.0
baz=131,SNR=5.4
BGU Big Grassy Mou 73.13 327 eP P 17 47 14.4 +1.6
comp=Z,11nm,1.0s
SMMC Simmler 73.22 319 P P 17 47 15.7 +2.3
baz=130,SNR=9.7
TIN Tinemaha, Big 73.30 321 P P 17 47 15.6 +1.7
baz=132
RCTC Rector, Farmer 73.41 320 P P 17 47 16.2 +1.9
baz=131
HVU Hansel Valley 73.63 328 eP P 17 47 16.6 +0.8
HVU pmax pmax
comp=Z,15nm,1.1s
HVU Hansel Valley 73.63 328 eP P 17 47 16.6 +0.8
comp=Z,15nm,1.1s
PAGB Antelope Grade 73.65 319 eP P 17 47 18.3 +2.4
comp=Z,24nm,1.1s
TBI Tubuai 73.67 251 eLR LR 18 09 59.6
comp=Z,150nm,33.2s
REDW Red Top Meadow 73.88 330 eP P 17 47 18.7 +1.5
comp=Z,3.2nm,0.6s
LOHW Long Hollow 73.95 330 eP P 17 47 18.8 +1.1
comp=Z,5.8nm,0.9s
ULM Lac du Bonnet 73.95 343 P P 17 47 16.4 -0.8
comp=Z,9.7nm,0.7s,baz=161,slow=7.2,SNR=15
ULM Lac du Bonnet 73.95 343 eP P 17 47 17.0 -0.2
ULM pmax pmax
comp=Z,16nm,0.9s
ULM Lac du Bonnet 73.95 343 eP P 17 47 17.0 -0.2
comp=Z,16nm,0.9s
TPAW Teton Pass 74.02 330 eP P 17 47 19.7 +1.6
comp=Z,11nm,1.0s
MLAC Mammoth, Mammo 74.04 321 P P 17 47 20.3 +1.9
baz=132
MOOW Moose Ponds 74.12 330 eP P 17 47 19.7 +1.1
comp=Z,5.3nm,1.0s
FXWY Fox Creek 74.17 330 eP P 17 47 20.1 +1.2
comp=Z,10nm,1.2s
PMPB Monarch Peak 74.31 319 eP P 17 47 22.7 +3.0
comp=Z,25nm,0.9s
IMW Indian Meadow 74.32 330 eP P 17 47 21.3 +1.4
comp=Z,18nm,1.1s
LAO LASA Array 74.45 335 P P 17 47 21.1 +0.8
baz=144
RLMT Red Lodge 74.50 332 P P 17 47 22.1 +1.2
baz=141,SNR=6.4
RLMT Red Lodge 74.50 332 eP P 17 47 22.4 +1.6
comp=Z,16nm,1.2s
H17A Grant Village 74.53 331 P P 17 47 23.0 +1.9
baz=140
LKWY Lake 74.58 331 eP P 17 47 24.2 +2.9
LKWY pmax pmax
comp=Z,16nm,1.0s
LKWY Lake 74.58 331 eP P 17 47 24.2 +2.9
comp=Z,16nm,1.0s
SCHQ Schefferville 74.71 1 LR LR 18 23 21.5
comp=Z,35nm,18.8s,baz=262,slow=38

YNR Norris Junctio 74.83 331 eP P 17 47 25.5 +2.8
comp=Z,9.2nm,1.1s
YMR Madison River 74.92 331 eP P 17 47 25.6 +2.3
comp=Z,32nm,1.2s
YHH Holmes Hill 74.96 331 eP P 17 47 25.5 +1.9
comp=Z,23nm,1.1s
WAKR Walker 74.98 321 eP P 17 47 26.3 +2.6
YHB Horse Butte 75.09 330 eP P 17 47 26.5 +2.3
comp=Z,20nm,1.0s
DGMT Dagmar 75.13 337 P P 17 47 25.3 +1.1
baz=146
DGMT Dagmar 75.13 337 eP P 17 47 25.8 +1.7
comp=Z,33nm,1.1s
YERR Yerington 75.18 322 eP P 17 47 27.2 +2.4
comp=Z,20nm,1.2s
GCMT Greycliff 75.20 332 eP P 17 47 26.2 +1.5
CMB Columbia Colle 75.23 320 eP P 17 47 28.9 +3.9
CMB pmax pmax
comp=Z,12nm,1.4s
CMB Columbia Colle 75.23 320 eP P 17 47 28.9 +3.9
comp=Z,12nm,1.4s
PPT2 Papeete2 75.36 256 eLR LR 18 10 50.2
comp=Z,146nm,28.8s
PPT Papeete 75.36 256 LR LR 18 12 49.0
comp=Z,72nm,21.6s,baz=33,slow=29
PNTR Pine Nut 75.46 322 eP P 17 47 28.9 +2.5
comp=Z,13nm,0.9s
PAHR Pah Rah Range 75.75 322 eP P 17 47 30.1 +2.1
comp=Z,28nm,0.8s
HLID Hailey 75.76 328 P P 17 47 29.9 +1.9
baz=136,SNR=18
HLID Hailey 75.76 328 eP P 17 47 29.8 +1.8
HLID comp=Z,17nm,1.0s
HLID epP pP 17 47 56.7 +2.1
MCMT McKenzie Canyo 75.93 330 eP P 17 47 30.9 +1.9
BOZ Bozeman (W) 75.93 331 P P 17 47 30.1 +1.3
baz=139,SNR=8.9
BOZ Bozeman (W) 75.93 331 eP P 17 47 30.2 +1.3
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 75.93 331 eP P 17 47 30.2 +1.3
comp=Z,11nm,1.0s
AFDM Forest Hills D 76.17 321 eP P 17 47 32.0 +1.7
comp=Z,12nm,1.1s
DLMT Dillon 76.20 330 eP P 17 47 32.5 +2.0
comp=Z,13nm,1.2s
MFID Camas Ranch 76.37 327 eP P 17 47 33.3 +1.8
comp=Z,18nm,1.2s
LRM Limekiln Ridge 76.48 330 eP P 17 47 33.8 +1.7
ORV Oroville 76.88 321 eP P 17 47 36.4 +2.2
ORV pmax pmax
comp=Z,29nm,1.1s
ORV Oroville 76.88 321 eP P 17 47 36.4 +2.2
comp=Z,29nm,1.1s
EGMT Eagleton 76.97 333 P P 17 47 35.6 +0.9
baz=141
EGMT Eagleton 76.97 333 eP P 17 47 35.8 +1.2
comp=Z,18nm,1.0s
SBA Scott Base 77.09 190 eP P 17 47 37.1 +2.2
SBA pmax pmax
comp=Z,19nm,1.2s
SBA Scott Base 77.09 190 eP P 17 47 37.1 +2.2
comp=Z,19nm,1.2s
TORD Torodi Ar. Bea 77.17 71 P P 17 47 35.1 -1.2
comp=Z,19nm,0.5s,baz=254,slow=5.2,SNR=153
TORD pP pP 17 48 03.6 +0.6
comp=Z,9.4nm,0.6s,baz=254,slow=5.5,SNR=3.2
TORD S S 17 57 13.4 -4.3
comp=Z,1.5nm,0.9s,baz=239,slow=8.9,SNR=7.5
TORD LR LR 18 21 23.7
comp=Z,37nm,18.1s,baz=310,slow=36
O03D Paynes Creek 77.53 322 P P 17 47 39.0 +1.1
baz=130
CHMT Chamberlain Mo 77.67 331 eP P 17 47 40.5 +1.7
MOD Modoc Plateau 77.73 324 eP P 17 47 41.1 +2.0
comp=Z,47nm,1.8s
SYO Syowa Base 77.85 160 eP P 17 47 38.6 -0.6
MSO Missoula 77.92 330 P P 17 47 41.1 +1.0
baz=137
MSO Missoula 77.92 330 eP P 17 47 42.1 +2.1
comp=Z,27nm,1.5s
VNDA Vanda 78.12 190 P P 17 47 42.3 +1.7
comp=Z,4.1nm,0.9s,baz=123,slow=4.6,SNR=19
VNDA Vanda 78.12 190 eP P 17 47 42.6 +2.0
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 78.12 190 eP P 17 47 42.6 +2.0
comp=Z,6.0nm,1.0s
BMO Blue Mountains 78.14 327 eP P 17 47 42.4 +1.2
BMO pmax pmax
comp=Z,12nm,0.9s
BMO Blue Mountains 78.14 327 eP P 17 47 42.4 +1.2
comp=Z,12nm,0.9s
SWMT Swartz Lake 78.45 331 eP P 17 47 44.8 +1.9
N02D Trinity Center 78.50 322 P P 17 47 44.3 +1.0
baz=129
M04C Macdoel 78.52 323 P P 17 47 44.5 +1.1
baz=130
K05A Summer Lake 78.60 324 eP P 17 47 46.2 +2.2
comp=Z,27nm,1.1s
M02C Callahan 78.85 322 P P 17 47 46.4 +1.2
baz=129
F10A Beach Ranch, E 78.88 328 eP P 17 47 46.7 +1.4
comp=Z,8.4nm,1.0s
BSMT Bassoo Peak 79.06 331 eP P 17 47 48.1 +1.8
J05D Fort Rock, OR 79.16 324 P P 17 47 47.5 +0.6
baz=131
WALA Waterton Lakes 79.56 332 eP P 17 47 50.0 +1.1
J04D Umpqua Nationa 79.61 324 P P 17 47 50.4 +1.0
baz=130
E09A Wood Farm, Sta 79.72 328 eP P 17 47 50.9 +1.2
comp=Z,23nm,1.4s
L02D Cave Junction, 79.77 322 P P 17 47 51.6 +1.5
baz=129
I05D Terrebonne, OR 79.91 325 P P 17 47 52.7 +1.9
baz=131,SNR=6.2
I04A Tendick Farm, 80.14 324 P P 17 47 53.3 +1.2
baz=130
HAWA Hanford 80.33 327 eP P 17 47 54.8 +1.8
comp=Z,15nm,0.9s
NEW Newport 80.45 330 P P 17 47 55.0 +1.4
baz=135
D08A Wollman Farm, 80.48 328 eP P 17 47 55.7 +1.9
comp=Z,12nm,1.1s
G05D Wamic, OR 80.49 326 P P 17 47 55.4 +1.5
baz=131
I03D Drain, OR 80.60 323 P P 17 47 56.2 +1.8
baz=129
TSUM Tsumeb 80.69 107 eP P 17 47 56.1 +0.3
comp=Z,15nm,0.7s
MORF Marmelete 80.70 45 ePcP PcP 17 48 00.9 -0.8
PTEO Sao Teotonio 80.79 44 ePcP PcP 17 48 01.3 -0.7
PBDV Barranco-do-Ve 81.14 45 eP P 17 47 58.8 +1.2
PNCL Nicolau / Gran 81.23 44 eP P 17 47 58.8 +0.8
comp=Z,16nm,1.6s
PNCL Nicolau / Gran 81.23 44 ePcP PcP 17 48 03.9 0.0
PCVE Castro Verde 81.29 45 eP P 17 47 59.2 +0.9
comp=Z,21nm,1.5s
PVAQ Vaqueiros 81.38 45 eP P 17 47 59.8 +1.0
B08A Colville Reser 81.57 329 eP P 17 48 00.6 +1.0
comp=Z,12nm,1.2s
PBAR Barrancos 82.25 45 eP P 17 48 03.8 +0.5
comp=Z,24nm,2.7s
PESTR Estremoz 82.26 44 eP P 17 48 03.8 +0.4
comp=Z,22nm,1.3s
EDM Edmonton 82.43 335 eP P 17 48 03.9 -0.1
EDM Edmonton 82.43 335 eP P 17 48 03.9 -0.1
PMRV Marv??o 82.70 43 eP P 17 48 04.7 -1.0
PMRV i P PcP 17 48 14.6 +4.2
B05A Bryant 82.88 328 P P 17 48 07.1 +0.8
baz=131
MTE Manteigas 83.14 43 eP P 17 48 08.1 +0.1
comp=Z,21nm,1.0s
MTE Manteigas 83.14 43 eP P 17 48 10.2 +2.2
comp=Z,15nm,0.9s
POLO Lamas de Olo 83.52 42 eP P 17 48 09.8 -0.2
comp=Z,7.2nm,1.3s
PCAB Cabril 83.56 41 i P P 17 48 19.6 +9.5
MVO Moncorvo 83.89 42 eP P 17 48 12.4 +0.6
comp=Z,23nm,0.9s
LLLB Lillooet 84.32 329 eP P 17 48 14.5 +0.8
BOSA Boshof 84.32 118 P P 17 48 14.2 -0.3
comp=Z,15nm,1.0s,baz=263,slow=6.0,SNR=12
BOSA LR LR 18 26 34.1
comp=Z,32nm,18.0s,baz=216,slow=36
BOSA Boshof 84.32 118 eP P 17 48 15.1 +0.5
BOSA Boshof 84.32 118 eP P 17 48 15.1 +0.5

PBRG Braganca 84.42 42 *eP* **P 17 48 14.8 +0.3**
comp=Z,16nm,1.2s
TAM Tamanrasset 84.47 63 *eP* **P 17 48 15.5 +0.3**
TAM Tamanrasset 84.47 63 *eP* **P 17 48 15.5 +0.3**
PAB San Pablo 84.75 45 *eP* **P 17 48 16.3 +0.1**
PAB pmax pmax
comp=Z,18nm,0.9s
PAB San Pablo 84.75 45 *eP* **P 17 48 16.3 +0.1**
comp=Z,18nm,0.9s
ESDC Sonseca Array 85.08 45 P **P 17 48 17.4 -0.4**
comp=Z,3.6nm,0.9s,baz=247,slow=5.2,SNR=15
ESDC pP **pP 17 48 44.9 -0.1**
comp=Z,4.1nm,1.0s,baz=247,slow=5.0,SNR=2.3
ESLA Sonseca Array 85.08 45 *eP* **P 17 48 18.3 +0.5**
ES19 SONSECA Array 85.13 45 *eP* **P 17 48 18.3 +0.2**
MAW Mawson 85.69 163 P **P 17 48 20.5 +0.1**
comp=Z,5.1nm,1.0s,baz=197,slow=6.0,SNR=11
MAW Mawson 85.69 163 *eP* **P 17 48 21.3 +0.9**
MAW Mawson 85.69 163 *eP* **P 17 48 21.3 +0.9**
LBTB Lobatse 85.83 115 *eP* **P 17 48 22.6 +0.5**
LBTB Lobatse 85.83 115 *eP* **P 17 48 22.6 +0.5**
YKA Yellowknife Ar 89.83 341 P **P 17 48 40.0 0.0**
comp=Z,16nm,0.8s,baz=134,slow=4.5,SNR=22
KEST Kesra 92.72 53 P **P 17 48 54.0 -0.1**
comp=Z,3.4nm,0.9s,baz=293,slow=7.2,SNR=3.2
URZ Urewera 94.93 226 LR LR 18 22 16.5
comp=Z,54nm,20.2s,baz=107,slow=29
RPZ Rata Peaks 95.86 219 LR LR 18 23 27.8
comp=Z,44nm,19.6s,baz=93,slow=30
GERES GERESS Array B 100.40 42 P **Pdif 17 49 27.4 -1.3**
comp=Z,0.1nm,0.3s,baz=309,slow=3.1,SNR=2.6
CLL Collm 100.76 39 *eP* **Pdif 17 49 41.0 +11**
ILAR Eielson Array 102.92 335 PP PP 17 53 56.2 +1.2
comp=Z,0.6nm,1.0s,baz=100,slow=6.1,SNR=4.3
AKASG Malin Array Be 110.61 42 PP PP 17 54 52.1 +0.3
comp=Z,0.5nm,0.4s,baz=254,slow=7.6,SNR=5.4
BRTR Keskin Array B 112.28 54 PP PP 17 55 02.2 -2.1
comp=Z,1.4nm,1.1s,baz=212,slow=8.7,SNR=4.3
STKA Stephens Creek 120.44 210 PKP **PKPdf 17 54 33.4 +0.2**
comp=Z,4.4nm,1.1s,baz=200,slow=5.6,SNR=3.5
ARU Arti 127.19 33 PKIKP **PKPdf 17 54 46.1 +0.8**
H11S2 WAKE ISLAND Hyl 27.42 278 T T 20 14 37.6
baz=101,slow=74,SNR=376
H11S1 WAKE ISLAND Hyl 27.43 278 T T 20 14 41.5
baz=101,slow=74,SNR=444
H11S3 WAKE ISLAND Hyl 27.44 278 T T 20 14 41.4
baz=101,slow=74,SNR=331
H11N3 WAKE ISLAND Hyl 27.47 280 T T 20 14 44.4
baz=101,slow=74,SNR=114
H11N2 WAKE ISLAND Hyl 27.48 280 T T 20 14 39.6
baz=101,slow=74,SNR=116
H11N1 WAKE ISLAND Hyl 27.48 280 T T 20 14 43.8
baz=101,slow=74,SNR=90
SEY Seymchan 128.76 337 PKP **PKPdf 17 54 48.9 +0.8**
comp=Z,4.7nm,0.8s,baz=97,slow=6.0,SNR=8.5
ASAR Alice Springs 130.96 208 PKP **PKPdf 17 54 53.5 -0.2**
comp=Z,5.0nm,1.0s,baz=122,slow=1.8,SNR=16
ASAR pPKP **pPKPdf 17 55 22.4 +0.2**
comp=Z,1.0nm,0.8s,baz=161,slow=2.6,SNR=2.9
ASAR SKPbc **SKPbc 17 58 08.7 -0.1**
comp=Z,1.6nm,0.9s,baz=152,slow=3.4,SNR=6.5
MA2 Magadan 131.40 334 ‖ *e*PKIKP **PKPdf 17 54 54.4 +1.2**
WRA Warramunga Arr 133.96 211 PKhKP PKPpre 17 54 46.5
comp=Z,0.5nm,0.9s,baz=130,slow=3.1,SNR=5.6
WRA PKP **PKPdf 17 54 59.4 0.0**
comp=Z,2.4nm,0.7s,baz=158,slow=1.8,SNR=26
WRA pPKP pPKPdf 17 55 28.1 +0.2
comp=Z,1.3nm,0.8s,baz=159,slow=1.8,SNR=2.3
WRA SKPbc **SKPbc 17 58 19.0 -0.2**
comp=Z,1.8nm,0.8s,baz=145,slow=2.7,SNR=6.5
WRAB Tennant Creek 133.96 211 ‖ *i*PKIKP **PKPdf 17 54 59.4 0.0**
YAK Yakutsk 136.15 347 ‖ *e*PKIKP **PKPdf 17 55 01.5 -0.5**
NVS Novosibirsk 139.57 24 *e*PKIKP **PKPdf 17 55 09.6 +1.0**
NVS pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 140.35 32 ‖ *e*PKIKP **PKPdf 17 55 11.1 +1.0**
ZALV Zalesovo Beam 140.85 24 PKP **PKPdf 17 55 08.3 -2.6**
comp=Z,6.3nm,0.8s,baz=332,slow=3.7,SNR=18
ZALV SKPbc **SKPbc 17 58 37.4 -0.8**
comp=Z,3.3nm,0.8s,baz=298,slow=3.2,SNR=6.9
AAK Ala-Archa 142.18 45 ‖ *e*PKIKP **PKPdf 17 55 15.2 +1.3**
BOD Bodaibo 142.31 357 *e*PKHKP PKPpre 17 55 08.2
BOD pmax pmax
comp=Z,5.0nm,1.4s
ASAJ Asahikawa 144.36 319 PKP **PKPdf 17 55 17.1 -0.3**
comp=Z,19nm,0.8s,baz=84,slow=2.2,SNR=8.2
KSH Kashi 144.46 49 *e*PKP **PKPdf 17 55 17.8 -0.2**
KSH pPKP pPKPdf 17 55 46.5 0.0
KSH sPKP 17 55 57.7
KSH PP **PP 17 58 40.3 +5.5**
KSH PKS **PKSdf 17 58 51.7 -1.9**
KSH SKS **SKSdf 18 02 15.7 -2.4**
KSH SKKS **SKKSac 18 05 17.2 -0.5**
KSH SS **SS 18 17 14.6 +1.1**
KSH AMB AMB
comp=Z,91nm,5.9s
KSH LR LR
comp=Z,100nm,4.0s
KSH LR LR
comp=Z,51nm,4.9s
KSH LR LR
comp=Z,170nm,5.8s
MKAR Makanchi Array 144.70 35 PKP PKPbc 17 55 17.4 +0.2
comp=Z,3.2nm,0.7s,baz=337,slow=2.7,SNR=28
MKAR SKPbc **SKPbc 17 58 47.4 -0.5**
comp=Z,1.3nm,0.8s,baz=308,slow=3.2,SNR=4.7
DGZ Jazzator, Alta 145.13 27 *i*PKIKP **PKPdf 17 55 19.0 +0.1**
HABR Khabarovsk 145.66 331 *e*PKIKP **PKPdf 17 55 18.4 -1.1**
HABR *e* 17 55 19.8
HABR *e* 17 58 44.3
HABR *e*PPP PPP 18 01 56.1
HABR *e* 18 02 19.2
HABR *e* 18 11 25.4
HABR pmax pmax
comp=E,4.0nm,0.8s
HABR pmax pmax
comp=Z,34nm,1.7s
HABR pmax pmax
comp=N,8.0nm,0.9s
KLR Kul'dur 146.49 335 ‖ *e*PKP2 **PKPbc 17 55 21.9 -0.6**
GUMO Guam 146.79 264 PKPbc **PKPbc 17 55 24.5 +0.2**
comp=N,174nm,1.0s,baz=123,slow=5.7,SNR=6.6
MOY Mondy 147.62 11 *e*PKP2 **PKPbc 17 55 26.9 +1.1**
MOY pmax pmax
comp=Z,18nm,1.9s
TLY Talaya 148.04 8 *e*PKIKP **PKPdf 17 55 24.9 +1.4**
TLY *e* 17 55 28.0
TLY Talaya 148.04 8 *e*PKPdf **PKPdf 17 55 24.9 +1.4**
TLY *e*PKPbc **PKiKP 17 55 28.0 -0.5**
FAKI Fak Fak 148.87 225 *e*PKPbc **PKPbc 17 55 30.3 +0.3**
ZAK Zakamensk 149.25 9 *e*PKP2 **PKPbc 17 55 30.0 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
HYB Hyderabad 149.38 90 *i*PKPab **PKPbc 17 55 33.0 +1.8**
WMQ Urumqi 149.53 34 *e*PKPbc **PKPdf 17 55 25.8 -0.4**
WMQ LR LR
comp=Z,92nm,25.3s
USRK Ussuriysk Ar. 150.22 328 PKPbc **PKPbc 17 55 33.0 +0.5**
comp=Z,13nm,0.8s,baz=46,slow=1.8,SNR=17
MJAR Matsushiro Arr 151.01 310 PKPbc **PKPbc 17 55 35.0 +0.4**
comp=Z,9.4nm,0.8s,baz=81,slow=1.5,SNR=27
MJAR PKPab **PKPab 17 55 42.2 -0.2**
comp=Z,1.8nm,0.6s,baz=90,slow=1.2,SNR=4.6
MAJO Matsushiro 151.01 310 *c i*PKIKP **PKPbc 17 55 35.1 +0.5**
MAJO Matsushiro 151.01 310 *e*PKPbc **PKPbc 17 55 35.0 +0.5**
SIJI Sorong 151.03 226 PKPbc **PKPbc 17 55 35.8 +0.5**
comp=Z,223nm,0.8s,baz=78,slow=9.3,SNR=43
SONM Songino Array 152.16 6 PKP **PKPdf 17 55 31.2 +1.0**
comp=Z,1.5nm,0.8s,baz=350,slow=1.7,SNR=9.2
SONM PKPbc **PKiKP 17 55 37.5 +0.3**
comp=Z,2.5nm,0.5s,baz=308,slow=1.3,SNR=24
ULN Ulaanbaatar 152.19 5 ‖ *e*PKIKP **PKPdf 17 55 31.6 +1.3**
ULN Ulaanbaatar 152.19 5 *e*PKPbc **PKPbc 17 55 37.5 +0.4**
KSRS Korea Array 157.21 323 PKP **PKPdf 17 55 38.1 +0.8**
comp=Z,2.1nm,0.9s,baz=61,slow=0.6,SNR=8.8
KSAR Wonju Array Be 157.24 323 PKIKP **PKPdf 17 55 38.1 +0.7**
KSAR Wonju Array Be 157.24 323 PKP **PKPdf 17 55 38.1 +0.7**
GTA Gaotai 158.61 24 *e*PKP **PKPdf 17 55 40.2 +1.0**
HHC Hu-ho-hao-te 159.36 358 *e*PKP **PKPdf 17 55 38.6 -1.4**
NJ2 Nanjing 166.12 330 *e*PKP **PKPdf 17 55 47.4 +0.7**
CD2 Chengdu 167.55 29 PKP **PKPdf 17 55 47.0 -0.9**
CMAR Chiang Mai Arr 168.68 97 PKP **PKPdf 17 55 49.1 +0.2**
comp=Z,0.9nm,0.9s,baz=316,slow=2.5,SNR=5.4
CMAR PKPab **PKPab 17 56 58.5 -1.1**
comp=Z,0.9nm,0.7s,baz=254,slow=5.7,SNR=5.2
GYA Guiyang 172.67 30 *e*PKP **PKPdf 17 55 50.4 -0.6**
GYA sPKP 17 56 25.6
GYA PKPab **PKPab 17 57 18.0 +1.1**
GYA AMB AMB
comp=Z,120nm,8.4s

PGC 03 17:56:26.9±0.0, 55°.35N×117°.73W, h1km, ML3.5/9, 106km Ssw of Peace R., Alberta Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAPA	**Wapiti River**	**0.89**	**260**	P	Pg	17 56 43.0	-0.8
WAPA				S	Sg	17 56 54.3	-1.0
RDEA	**Red Earth Cree**	**1.82**	**47**	Pn	Pn	17 56 59.5	+0.3
RDEA				Sn	Sn	17 57 23.4	+0.5
MNB	**Mounoet Dainar**	**3.18**	**187**	Pn	Pn	17 57 17.6	-0.7
MNB				Pg	Pb	17 57 24.2	-0.1
MNB				Sn	Sn	17 57 55.2	-1.7
HILA	**High Level**	**3.24**	**7**	Pn	Pn	17 57 17.4	-1.5
HILA				Pg	Pb	17 57 24.8	-0.4
HILA				Sn	Sn	17 57 55.9	-2.2
EDM	**Edmonton**	**3.33**	**128**	Pn	Pn	17 57 20.9	+0.7
BLBC	**Blue River**	**3.43**	**196**	Pn	Pn	17 57 21.1	-0.6
BLBC				Pg	Pb	17 57 29.0	+0.5
BLBC				Sn	Sn	17 58 03.0	-0.1
DOWB	**Downie Slide**	**3.86**	**187**	Pn	Pn	17 57 27.2	-0.3
DOWB				Pg	Pb	17 57 36.3	+0.4
DOWB				Sg	Sb	17 58 23.9	+0.9
FNBB	**Fort Nelson**	**4.57**	**323**	Pn	Pn	17 57 36.6	-0.6
FNBB				Sn	Sn	17 58 27.0	-3.9
PRDA	**Priddis**	**4.94**	**154**	Pn	Pn	17 57 41.7	-0.6
PRDA				Sn	Sn	17 58 35.8	-4.3
PRDA				Sg	Sg	17 58 59.8	-5.7
LLLB	**Lillooet**	**5.37**	**210**	Sg	Sg	17 59 13.9	-5.3
PNT	**Pentiction**	**6.15**	**192**	Sg	Sg	17 59 37.2	-7.0
HOPB	**Hope**	**6.38**	**202**	Sg	Sb	17 59 42.0	+6.7
WALA	**Waterton Lakes**	**6.72**	**158**	Pn	Pn	17 58 06.3	-0.5
WALA				Sn	Sn	17 59 18.9	-5.0
WALA				Sg	Sb	17 59 53.0	+7.7
B08A	**Colville Reser**	**7.07**	**189**	Sg	Sg	18 00 05.7	-8.1
YKB3	**Yellowknife Ar**	**7.30**	**11**	Sn	Sn	17 59 31.1	-7.0
YKR1	**Yellowknife Ar**	**7.31**	**10**	Sn	Sn	17 59 30.9	-7.3
YKR6	**Yellowknife Ar**	**7.34**	**11**	Sn	Sn	17 59 30.9	-7.9
YKR9	**Yellowknife Ar**	**7.35**	**12**	Sn	Sn	17 59 31.6	-7.7
YKB6	**Yellowknife Ar**	**7.37**	**11**	Sn	Sn	17 59 32.2	-7.5
YKW3	**Yellowknife Ar**	**7.41**	**11**	Pn	Pn	17 58 13.9	-2.2
YKW3				Sn	Sn	17 59 34.3	-6.4
YKB8	**Yellowknife Ar**	**7.42**	**11**	Sn	Sn	17 59 34.4	-6.3

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*IDC **03** 17:58:22.4±1.4, 28°.73S×178°.28W, h221km±10km, mb3.3/4, mb1 3.4/4, mb1mx3.1/34, mbtmp3.8/4, Error ellipse: s-maj=61.0km s-min=26.7km az=7.0*

ISC 03 17:58:20.2±2.2, 28°.2S±0°.3×178°.3W±0°.3, h200km, n8, σ1§81/9, mb3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**164**	P	**Pn**	**17 58 52.5**	**+2.0**
RAO	183nm,0.3s,baz=270,slow=20,SNR=9.2			S	**Sn**	**17 59 13.7**	**-0.6**
STKA	**Stephens Creek**	**34.80**	**254**	P	**P**	**18 04 50.9**	**-1.0**
ASAR	**Alice Springs**	**43.03**	**265**	P	**P**	**18 05 59.5**	**-0.9**
ASAR	0.2nm,0.4s,baz=104,slow=6.9,SNR=23			PcP	**PP**	**18 07 46.5**	**+2.0**
WRA	**Warramunga Arr**	**43.82**	**270**	P	**P**	**18 06 06.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.16**	**268**	P	**P**	**18 07 11.1**	**+0.6**
MKAR	**Makanchi Array**	**116.17**	**311**	PKP	**PKPdf**	**18 16 39.6**	**+0.2**
FINES	**FINESS Array B**	**143.00**	**341**	PKP	PKPab	18 17 28.6	+3.5
TORD	**Torodi Ar. Bea**	**165.02**	**180**	PKPab	**PKPab**	**18 18 55.5**	**-3.0**

IDC 03 18:10:44.9±39.0, 17°.60S×178°.99W, h546km±352km, mb2.5/2, mb1 2.7/2, mb1mx2.4/38, mbtmp3.4/2, Error ellipse: s-maj=362.0km s-min=93.6km az=119.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.14**	**259**	P	P	18 18 05.5	-0.1
ASAR	**Alice Springs**	**44.34**	**254**	P	P	18 18 06.8	-0.3
ASAR	0.7nm,0.5s,baz=90,slow=8.1,SNR=25			PcP	PcP	18 19 39.0	-0.3
TXAR	**Lajitas Array**	**86.32**	**57**	P	P	18 30 51.1	-0.1

IDC 03 18:19:04.7±12.0, 18°.86S×178°.18W, h527km±131km, mb3.0/4, mb1 3.2/4, mb1mx2.7/36, mbtmp3.9/4, Error ellipse: s-maj=234.7km s-min=39.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.52**	**262**	P	P	18 25 00.8	+0.1
WRA	**Warramunga Arr**	**44.68**	**260**	P	P	18 26 30.2	-0.6
ASAR	**Alice Springs**	**44.75**	**255**	P	P	18 26 31.4	0.0
ASAR	0.2nm,0.6s,baz=98,slow=5.7,SNR=2.9			PcP	PcP	18 28 02.1	-0.2
TXAR	**Lajitas Array**	**86.32**	**57**	P	P	18 30 51.1	-0.1

MAN 03 19:11:05, 11°.44N×125°.91E, h5km, mb4.7, ML3.6, MS3.5, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.49**	**289**	*e*P	Pb	19 11 16.2	0.0
BESP				*e*S	Sb	19 11 23.1	-0.6
PLP	**Palo**	**0.96**	**253**	‖ *e*P	Pg	19 11 22.6	-0.8
PLP				*e*S	Sg	19 11 32.2	-3.7
OCLP	**Ormoc**	**1.34**	**253**	*e*P	Pn	19 11 29.6	-0.7
SCPH	**Surigao**	**1.70**	**194**	‖ *e*P	Pn	19 11 35.2	-0.1
SCPH				*e*S	Sb	19 11 58.5	0.0
PVCP	**Virac**	**2.75**	**321**	*e*P	Pn	19 11 50.1	+0.4
GUIM	**Jordan**	**3.36**	**256**	*e*P	Pn	19 11 59.6	+1.4

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*ISCJB **03** 19:11:39.3±0.6, 12°.24S±0°.10×167°.1E±0°.1, h220km, mb3.9/17, Error ellipse: s-maj=17.8km s-min=12.5km az=22.6*

*IDC **03** 19:11:42.9±1.0, 12°.29S×167°.02E, h239km±7km, mb3.7/17, mb1 3.8/18, mb1mx3.6/44, mbtmp4.2/18, Error ellipse: s-maj=16.4km s-min=11.5km az=105.0*

ISC 03 19:11:40.9±0.6, 12°.19S±0°.09×167°.1E±0°.1, h220km, n26, σ1§53/32, mb3.8/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.85**	**183**	P	**Pn**	**19 13 59.6**	**+1.6**
DZM	1.3nm,0.3s,baz=47,slow=19,SNR=14			S	S	19 15 35.0	-14
CTA	**Charters Tower**	**21.45**	**246**	P	**P**	**19 16 12.4**	**+0.2**
STKA	**Stephens Creek**	**30.53**	**226**	P	**P**	**19 17 34.0**	**+0.1**
RPZ	**Rata Peaks**	**31.60**	**174**	P	**P**	**19 17 43.3**	**+0.2**
WRA	**Warramunga Arr**	**32.32**	**252**	P	**P**	**19 17 48.5**	**-1.2**
WRA	0.4nm,0.5s,baz=84,slow=9.6,SNR=2.2			pP	**pP**	**19 18 37.9**	**+3.6**
WRA	0.9nm,0.7s,baz=81,slow=8.2,SNR=3.8			sP	**PP**	**19 19 04.6**	**-2.9**
ASAR	**Alice Springs**	**33.45**	**245**	P	**P**	**19 17 58.2**	**-1.3**
ASAR	0.5nm,0.4s,baz=68,slow=10.0,SNR=21			pP	**pP**	**19 18 47.1**	**+2.8**
ASAR	1.2nm,0.8s,baz=74,slow=9.6,SNR=4.9			sP	**PP**	**19 19 15.5**	**-4.5**
FITZ	**Fitzroy Crossi**	**40.34**	**256**	P	**P**	**19 18 57.4**	**0.0**
MJAR	**Matsushiro Arr**	**55.57**	**332**	P	**P**	**19 20 53.6**	**-0.1**
ASAJ	**Asahikawa**	**60.29**	**340**	P	**P**	**19 21 27.8**	**+1.5**
VNDA	**Vanda**	**65.38**	**181**	P	**P**	**19 21 58.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**73.73**	**293**	P	**P**	**19 22 52.9**	**+1.4**
SEY	**Seymchan**	**75.75**	**353**	P	**P**	**19 23 02.5**	**+0.6**
SONM	**Songino Array**	**80.34**	**323**	P	**P**	**19 23 27.9**	**+0.1**
MAW	**Mawson**	**84.14**	**202**	P	**P**	**19 23 45.8**	**-1.1**
ILAR	**Eielson Array**	**84.19**	**18**	P	**P**	**19 23 46.7**	**-0.5**
PDAR	**Pinedale Array**	**93.39**	**47**	P	**P**	**19 24 30.7**	**-0.9**
MKAR	**Makanchi Array**	**95.22**	**317**	P	**P**	**19 24 39.5**	**-0.1**
TXAR	**Lajitas Array**	**95.26**	**61**	P	**P**	**19 24 40.0**	**-0.3**
ARCES	**ARCESS Array B**	**117.75**	**346**	PKP	**PKPdf**	**19 29 59.7**	**-0.7**
FINES	**FINESS Array B**	**123.29**	**339**	PKP	**PKPdf**	**19 30 10.6**	**-0.6**
NOA	**NORSAR Array B**	**128.13**	**345**	PKP	**PKPdf**	**19 30 20.3**	**-0.2**
BRTR	**Keskin Array B**	**130.67**	**312**	PKP	**PKPdf**	**19 30 25.6**	**-0.6**
GERES	**GERESS Array B**	**137.29**	**334**	PKP	**PKPdf**	**19 30 38.7**	**+0.4**
KEST	**Kesra**	**149.09**	**323**	PKPbc	**PKPbc**	**19 31 04.0**	**+0.4**
ESDC	**Sonseca Array**	**151.49**	**345**	PKP	**PKPdf**	**19 31 04.2**	**+1.3**
ESDC	0.5nm,0.5s,baz=18,slow=2.3,SNR=3.1			PKPbc	**PKPbc**	**19 31 09.1**	**-0.1**
ESDC	2.0nm,0.8s,baz=16,slow=2.6,SNR=14			PKPab	**PKPab**	**19 31 18.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.67**	**275**	PKPab	**PKPab**	**19 32 19.6**	**-1.0**
	0.7nm,0.8s,baz=84,slow=4.8,SNR=4.4						

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*ATH **03** 19:13:13.0, 40°.55N×25°.72E, h18km±1km, ML2.1/12, Error ellipse: s-maj=1.4km s-min=0.9km az=92.0*

*THE **03** 19:13:13.6, 40°.57N×25°.67E, h13km±1km, ML2.3/4, Error ellipse: s-maj=1.4km s-min=0.4km az=125.0*

*DDA **03** 19:13:13.7, 40°.55N×25°.76E, h7km, Md2.5*

*ISK **03** 19:13:13.8, 40°.56N×25°.76E, h18km, ML2.4*

*ISCJB **03** 19:13:13.8±0.3, 40°.56N±0°.02×25°.73E±0°.02, h10km±3km, Error ellipse: s-maj=3.4km s-min=2.8km az=136.7*

*CSEM **03** 19:13:14.0±0.1, 40°.56N×25°.74E, h10km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.6km az=25.0*

ISC 03 19:13:13.5±0.8, 40°.56N±0°.02×25°.73E±0°.02, h11km±6km, n70, σ0§43/118, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.18**	**240**	P	**Pg**	**19 13 17.4**	**+0.1**
SMTH				S	**Sg**	**19 13 20.0**	**-0.1**
SMTH	**Samothraki Isl**	**0.18**	**240**	P	**Pg**	**19 13 17.5**	**+0.1**
SMTH				S	**Sg**	**19 13 19.6**	**-0.5**
SMTH	comp=N,6439μm,0.2s			AML	AML	19 13 20.5	
SMTH	comp=E,5194μm,0.1s			AML	AML	19 13 20.6	
SMTH	**Samothraki Isl**	**0.18**	**240**	P	**Pg**	**19 13 17.5**	**+0.1**
SMTH				S	**Sg**	**19 13 20.0**	**-0.1**
ENEZ	**Enez**	**0.37**	**61**	*e*PG	**Pb**	**19 13 21.8**	**-0.3**
ENEZ				*e*SG	**Sb**	**19 13 27.3**	**-0.4**
ENEZ	**Enez**	**0.37**	**61**	P	**Pb**	**19 13 21.7**	**-0.3**
ENEZ				S	**Sb**	**19 13 27.6**	**-0.1**
ENEZ	**Enez**	**0.37**	**61**	P	**Pb**	**19 13 21.7**	**-0.3**
ENEZ				*e*Sg	**Sb**	**19 13 27.3**	**-0.4**
GOKC	**Gokceada-Canak**	**0.39**	**158**	*e*PG	**Pb**	**19 13 22.1**	**-0.2**
GOKC				*e*SG	**Sb**	**19 13 28.0**	**-0.3**
GOKC	**Gokceada-Canak**	**0.39**	**158**	*e*Pg	**Pb**	**19 13 22.1**	**-0.2**
GOKC				*e*Sg	**Sb**	**19 13 28.0**	**-0.3**
GADA	**Gvkgeada**	**0.39**	**161**	*e*PG	**Pb**	**19 13 22.3**	**0.0**
GADA				*e*SG	**Sb**	**19 13 28.2**	**-0.2**
GADA	**Gvkgeada**	**0.39**	**161**	P	**Pb**	**19 13 22.1**	**-0.3**
GADA				S	**Sb**	**19 13 28.0**	**-0.3**
GADA	**Gvkgeada**	**0.39**	**161**	P	**Pb**	**19 13 22.1**	**-0.3**
GADA				S	**Sb**	**19 13 28.0**	**-0.3**
ALN	**Alexandroupoli**	**0.41**	**35**	*e*PG	**Pg**	**19 13 22.0**	**+0.3**
ALN	**Alexandroupoli**	**0.41**	**35**	P	**Pg**	**19 13 22.2**	**+0.5**
ALN				S	**Sg**	**19 13 27.9**	**+0.7**
ALN	**Alexandroupoli**	**0.41**	**35**	P	**Pb**	**19 13 22.7**	**-0.1**
ALN	comp=N,124μm,0.3s			AML	AML	19 13 28.3	
ALN				S	**Sb**	**19 13 28.5**	**-0.6**
ALN	comp=E,107μm,0.4s			AML	AML	19 13 34.4	
ALN	**Alexandroupoli**	**0.41**	**35**	P	**Pg**	**19 13 22.2**	**+0.5**
ALN				S	**Sg**	**19 13 27.9**	**+0.7**
RDO	**Rodhopi**	**0.60**	**346**	P	**Pg**	**19 13 25.0**	**-0.2**
RDO				S	**Sg**	**19 13 33.2**	**-0.1**
RDO	**Rodhopi**	**0.60**	**346**	P	**Pg**	**19 13 25.1**	**-0.2**
RDO				S	**Sg**	**19 13 32.9**	**-0.4**
RDO	comp=E,184μm,0.6s			AML	AML	19 13 33.0	
RDO	comp=N,199μm,0.2s			AML	AML	19 13 37.7	
RDO	**Rodhopi**	**0.60**	**346**	P	**Pg**	**19 13 25.1**	**-0.2**
RDO				S	**Sg**	**19 13 33.2**	**-0.1**
ERIK	**Erikli-Kesan**	**0.61**	**79**	*e*PG	**Pb**	**19 13 25.9**	**-0.1**
ERIK				*e*SG	**Sb**	**19 13 34.5**	**-0.1**
ERIK	**Erikli-Kesan**	**0.61**	**79**	*e*Pg	**Pb**	**19 13 26.0**	**-0.1**
ERIK				*e*Sg	**Sb**	**19 13 34.5**	**-0.1**
BOZC	**Bozcaada**	**0.76**	**161**	*e*PG	**Pb**	**19 13 28.6**	**0.0**
BOZC	**Bozcaada**	**0.76**	**161**	*i* P	**Pg**	**19 13 28.0**	**-0.1**
BOZC				*i* S	**Sb**	**19 13 39.1**	**+0.1**
BOZC	**Bozcaada**	**0.76**	**161**	*e*Pg	**Pb**	**19 13 28.6**	**0.0**
LIA	**Limnos Island**	**0.78**	**213**	P	**Pg**	**19 13 28.2**	**-0.4**
LIA				S	**Sg**	**19 13 39.2**	**+0.4**
LIA	**Limnos Island**	**0.78**	**213**	P	**Pb**	**19 13 29.1**	**0.0**
LIA	comp=N,459μm,0.5s			AML	AML	19 13 40.0	
LIA				S	**Sb**	**19 13 40.1**	**+0.4**
LIA	comp=E,799μm,0.3s			AML	AML	19 13 40.2	
LIA	**Limnos Island**	**0.78**	**213**	P	**Pb**	**19 13 29.1**	**0.0**
LIA				S	**Sg**	**19 13 39.2**	**+0.4**
LPK	**Lapseki**	**0.81**	**103**	*e*PG	**Pb**	**19 13 29.4**	**-0.1**
LPK	**Lapseki**	**0.81**	**103**	*e*Pg	**Pb**	**19 13 29.4**	**-0.1**
EZN	**Ezine**	**0.86**	**148**	*e*PG	**Pb**	**19 13 30.7**	**+0.3**
EZN	**Ezine**	**0.86**	**148**	*e*Pg	**Pb**	**19 13 30.7**	**+0.3**
KAVA	**Kavala**	**1.02**	**296**	P	**Pb**	**19 13 32.1**	**-1.1**
KAVA				S	**Sb**	**19 13 45.6**	**-1.0**
KAVA	**Kavala**	**1.02**	**296**	P	**Pb**	**19 13 32.3**	**-0.9**
KAVA				S	**Sb**	**19 13 45.9**	**-0.7**
KAVA	comp=E,90μm,0.2s			AML	AML	19 13 48.5	
KAVA	comp=N,89μm,0.2s			AML	AML	19 13 48.9	
KAVA	**Kavala**	**1.02**	**296**	P	**Pb**	**19 13 32.3**	**-0.9**
KAVA				S	**Sb**	**19 13 45.9**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.03**	**142**	*i* P	**Pn**	**19 13 33.9**	**0.0**
BAYC				*i* S	**Sg**	**19 13 47.2**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**1.03**	**142**	P	**Pn**	**19 13 33.9**	**0.0**
BAYC				S	**Sg**	**19 13 47.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.21**	**97**	*e*PN	**Pn**	**19 13 35.9**	**-0.4**
KRBG	**Karabiga-Canak**	**1.21**	**97**	*e*Pn	**Pn**	**19 13 35.9**	**-0.4**
SIGR	**SIGRI**	**1.35**	**176**	*e*PN	**Pn**	**19 13 38.4**	**+0.2**
SIGR	**SIGRI**	**1.35**	**176**	P	**Pn**	**19 13 38.2**	**0.0**
SIGR				S	**Sb**	**19 13 56.0**	**0.0**
SIGR	comp=N,286μm,0.5s			AML	AML	19 13 58.1	
SIGR	comp=E,158μm,0.6s			AML	AML	19 13 58.9	
SIGR	**SIGRI**	**1.35**	**176**	*e*Pn	**Pn**	**19 13 38.4**	**+0.2**
SIGR				S	**Sb**	**19 13 56.0**	**0.0**
OUR	**Ouranopolis**	**1.35**	**261**	*e*PN	**Pb**	**19 13 39.2**	**+0.4**
OUR	**Ouranopolis**	**1.

OUR AML AML 19 13 57.6
comp=E,252μm,0.3s
OUR AML AML 19 14 00.5
comp=N,160μm,0.2s
OUR Ouranopolis 1.35 261 P **Pn 19 13 38.5 +0.2**
OUR Ouranopolis 1.35 261 *e*Pn **Pb 19 13 39.2 +0.4**
OUR S **Sb 19 13 56.6 +0.5**
PRK Paraskevi 1.38 162 P **Pn 19 13 37.5 -1.1**
PRK S **Sn 19 13 56.6 -0.1**
PRK AML AML 19 13 59.3
comp=N,345μm,1.0s
PRK AML AML 19 13 59.6
comp=E,352μm,1.1s
PRK Paraskevi 1.38 162 P **Pn 19 13 37.5 -1.1**
PRK S **Sn 19 13 56.7 -0.1**
MRMT Marmara Adasi 1.42 88 *e*PN **Pn 19 13 39.1 -0.2**
MRMT Marmara Adasi 1.42 88 *e*Pn **Pn 19 13 39.1 -0.2**
AYVA Ayvalik 1.45 149 *i* P **Pb 19 13 40.9 +0.4**
AYVA Ayvalik 1.45 149 P **Pb 19 13 40.8 +0.4**
EDRB Edirne 1.50 30 *e*PN **Pn 19 13 40.4 +0.1**
EDRB Edirne 1.50 30 *e*Pn **Pn 19 13 40.4 +0.1**
NVR Nevrokopi 1.62 300 P **Pb 19 13 43.5 0.0**
NVR S **Sb 19 14 04.4 +0.5**
NVR AML AML 19 14 05.9
comp=E,29μm,0.5s
NVR AML AML 19 14 07.3
comp=N,41μm,0.3s
NVR Nevrokopi 1.62 300 P **Pb 19 13 43.5 0.0**
NVR S **Sb 19 14 04.4 +0.5**
EDC Edincik 1.64 97 *e*PN **Pn 19 13 42.3 0.0**
EDC Edincik 1.64 97 *e*Pn **Pn 19 13 42.3 0.0**
BALY Balya 1.66 119 *i* P **Pb 19 13 44.0 -0.1**
BALY *i* S **Sg 19 14 07.0 0.0**
BALY Balya 1.66 119 P **Pb 19 13 44.0 -0.1**
BALY S **Sg 19 14 06.9 0.0**
SRS Serrai 1.72 290 P **Pb 19 13 44.7 -0.3**
SRS S **Sn 19 14 05.5 +0.3**
SRS AML AML 19 14 10.7
comp=N,37μm,0.4s
SRS AML AML 19 14 13.8
comp=E,48μm,0.5s
SRS Serrai 1.72 290 P **Pb 19 13 44.7 -0.3**
SRS S **Sn 19 14 05.5 +0.3**
PLG Polygyros 1.75 265 P **Pb 19 13 46.0 +0.3**
PLG S **Sg 19 14 09.3 -0.6**
PLG AML AML 19 14 10.6
comp=E,76μm,0.6s
PLG AML AML 19 14 11.1
comp=N,66μm,0.4s
PLG Polygyros 1.75 265 P **Pb 19 13 46.0 +0.3**
PLG S **Sg 19 14 09.3 -0.6**
SLVT Silivri 2.00 70 *e*PN **Pn 19 13 47.1 0.0**
SLVT Silivri 2.00 70 *e*Pn **Pn 19 13 47.1 0.0**
HORT Hortiatis 2.00 272 P **Pb 19 13 49.9 -0.1**
HORT S **Sn 19 14 13.6 +1.1**
HORT Hortiatis 2.00 272 P **Pb 19 13 49.9 -0.1**
HORT S **Sn 19 14 13.6 +1.1**
CHOS Chios island 2.18 173 P **Pn 19 13 49.4 -0.4**
CHOS S **Sn 19 14 16.1 -0.7**
CHOS Chios island 2.18 173 P **Pn 19 13 49.4 -0.4**
CHOS S **Sn 19 14 16.1 -0.7**
KNT Kendrikon 2.23 287 P **Pn 19 13 50.6 +0.2**
KNT S **Sn 19 14 18.6 +0.6**
KNT AML AML 19 14 25.1
comp=E,27μm,0.4s
KNT AML AML 19 14 27.2
comp=N,23μm,0.3s
KNT Kendrikon 2.23 287 P **Pn 19 13 50.6 +0.2**
KNT S **Sn 19 14 18.6 +0.6**

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*ISCJB **03** 19:14:14.2±0.5, 44°.00N±0°.05×105°.13W±0°.07, h0km, Error ellipse: s-maj=7.6km s-min=6.5km az=9.9*
*NEIC **03** 19:14:15.5±0.5, 43°.98N×105°.13W, h0km, ML3.2, Error ellipse: s-maj=7.9km s-min=6.8km az=99.0, Suspected Mining explosion.*
NEIC 46 km [28 miles] SE of Gillette.
*IDC **03** 19:14:16.4±1.2, 44°.28N×105°.70W, h0km, mb1 3.6/3, mb1mx3.3/47, mbtmp3.3/3, ML4.3/2, Error ellipse: s-maj=25.4km s-min=9.7km az=147.0*
ISC 03 19:14:14.8±1.1, 44°.00N±0°.06×105°.14W±0°.06, h0km, n26, σ1§62/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.81**	**81**	*e*Pn	**Pn**	**19 14 32.9**	**-0.8**
K22A	**Casper**	**1.68**	**217**	*e*Pn	**Pn**	**19 14 44.4**	**-1.2**
PHWY	**Pilot Hill**	**2.71**	**185**	*e*Pn	**Pn**	**19 15 00.3**	**+0.5**
RWWY	**Rawlins**	**2.77**	**214**	*e*Pn	**Pn**	**19 15 01.2**	**+0.6**
LAO	**LASA Array**	**2.79**	**345**	*e*Pn	**Pn**	**19 15 01.8**	**+1.0**
RLMT	**Red Lodge**	**3.15**	**292**	*e*Pn	**Pn**	**19 15 05.8**	**-0.1**
PDAR	**Pinedale Array**	**3.45**	**251**	Pn	**Pn**	**19 15 10.1**	**+0.2**
	3.7nm,0.3s,baz=67,slow=17,SNR=34						
PDAR				Lg	Lg	19 15 57.1	
	12nm,0.3s,baz=66,slow=31,SNR=22						
BW06	**Boulder Array**	**3.45**	**251**	*e*Pn	**Pn**	**19 15 10.7**	**+0.8**
LKWY	**Lake**	**3.82**	**280**	*e*Pn	**Pn**	**19 15 13.9**	**-1.2**
OGNE	**Ogallala**	**3.82**	**142**	*e*Pn	**Pn**	**19 15 13.3**	**-1.6**
H17A	**Grant Village**	**3.93**	**278**	*e*Pn	**Pn**	**19 15 18.7**	**+2.2**
LOHW	**Long Hollow**	**3.97**	**266**	*e*Pn	**Pb**	**19 15 22.7**	**-3.1**
MOOW	**Moose Ponds**	**4.06**	**268**	*e*Pn	**Pb**	**19 15 25.3**	**-2.0**
IMW	**Indian Meadow**	**4.19**	**271**	*e*Pg	**Pb**	**19 15 29.0**	**-0.5**
REDW	**Red Top Meadow**	**4.19**	**263**	*e*Pg	**Pb**	**19 15 27.6**	**-1.9**
ISCO	**Idaho Springs**	**4.21**	**185**	*e*Pn	**Pb**	**19 15 22.8**	**+2.2**
TPAW	**Teton Pass**	**4.24**	**265**	*e*Pg	**Pb**	**19 15 27.6**	**-2.8**
O20A	**White River Ci**	**4.50**	**212**	*e*Pn	**Pn**	**19 15 25.4**	**+1.0**
DGMT	**Dagmar**	**4.52**	**8**	*e*Pn	**Pn**	**19 15 27.0**	**+2.5**
EGMT	**Eagleton**	**5.15**	**323**	*e*Pn	**Pn**	**19 15 34.1**	**+1.0**
	19nm,0.8s						
HWUT	**Hardware Ranch**	**5.29**	**245**	*e*Pn	**Pn**	**19 15 35.5**	**+0.3**
	7.6nm,0.6s						
KSCO	**Kaye Shedlock'**	**5.33**	**158**	*e*Pn	**Pn**	**19 15 37.0**	**+1.3**
	28nm,0.5s						
PV04	**Paradox Valley**	**6.28**	**208**	*e*Pn	**Pn**	**19 15 50.1**	**+1.3**
I10CA	**LAC DU BONNET**	**8.78**	**42**	*i*		20 05 00.0	
	baz=224,slow=316,SNR=1.9						
ULM	**Lac du Bonnet**	**8.88**	**42**	Pn	**Pn**	**19 16 25.4**	**+1.1**
	0.5nm,0.3s,baz=230,slow=14,SNR=3.4						
ULM				Lg	Lg	19 18 54.0	
	0.3nm,0.3s,baz=307,slow=20,SNR=2.1						
TXAR	**Lajitas Array**	**14.69**	**175**	Pn	**P**	**19 17 51.6**	**+1.3**
	0.3nm,0.3s,baz=347,slow=12,SNR=3.6						
TXAR				Lg	Lg	19 22 00.8	
	0.1nm,0.3s,baz=352,slow=31,SNR=4.5						

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*ISCJB **03** 19:16:04.7±0.3, 47°.06N±0°.02×10°.57E±0°.02, h3km±3km, Error ellipse: s-maj=2.7km s-min=2.2km az=150.0*
*VIE **03** 19:16:05.1±0.1, 47°.02N×10°.61E, h9km±2km, mb1.5/11, ML2.3/14, Error ellipse: s-maj=1.1km s-min=0.9km az=159.0*
*CSEM **03** 19:16:05.5±0.1, 47°.04N×10°.59E, h2km, ML2.5/15, Error ellipse: s-maj=3.5km s-min=2.7km az=156.0*
*ZUR **03** 19:16:05.3, 47°.02N×10°.59E, h14km±5km, ML2.2/6*
*ROM **03** 19:16:05.7±0.1, 46°.99N×10°.59E, h12km±3km, Md2.3/11, Ml2.0/5, Error ellipse: s-maj=1.9km s-min=1.0km az=157.0*
*LDG **03** 19:16:05.9±0.1, 46°.98N×10°.64E, h20km, Ml2.5/5, Error ellipse: s-maj=3.5km s-min=2.0km az=21.0*
*PRU **03** 19:16:07.0, 47°.07N×10°.60E, h2km*
*BGR **03** 19:16:07.6±0.5, 47°.04N×10°.51E, h10km, ML2.2/10, Error ellipse: s-maj=7.8km s-min=4.4km az=5.0*
BGR Felt in Serfaus and Landeck.
ISC 03 19:16:05.8±0.9, 47°.03N±0°.02×10°.58E±0°.01, h8km±7km, n94, σ1§26/143, 4C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.10**	**94**	Pg	**Pg**	**19 16 08.0**	**-0.3**
	SNR=1000						
FETA				Sg	**Sg**	**19 16 09.4**	**-0.8**
	SNR=1000						
SCUC	**Scuol-Clozza**	**0.30**	**220**	*e*Pg	**Pg**	**19 16 11.6**	**-0.1**
	27μm,0.1s						
SCUC				*e*Sg	**Sg**	**19 16 15.6**	**-0.1**
	27μm,0.1s						
SCUC	**Scuol-Clozza**	**0.30**	**220**	*e*Pg	**Pg**	**19 16 11.6**	**-0.1**
	27μm,0.1s						
SCUC				*e*Sg	**Sg**	**19 16 15.6**	**-0.1**
	27μm,0.1s						
MOSI	**Grossmontoni**	**0.41**	**183**	Pg	**Pg**	**19 16 13.6**	**-0.3**
MOSI				Sg	**Sg**	**19 16 19.1**	**-0.2**
	249nm,0.4s						
MOSI	**Grossmontoni**	**0.41**	**183**	*e*Pg	**Pg**	**19 16 13.5**	**-0.3**
	960nm,0.5s						
MOSI	**Grossmontoni**	**0.41**	**183**	Pg	**Pg**	**19 16 13.6**	**-0.3**
MOSI				Sg	**Sg**	**19 16 19.1**	**-0.2**
	249nm,0.4s						
OBER	**Oberstdorf**	**0.43**	**333**	*e*Pg	**Pg**	**19 16 14.1**	**0.0**
OBER				*e*Sg	**Sg**	**19 16 20.8**	**+1.1**
OBER	**Oberstdorf**	**0.43**	**333**	Pg	**Pg**	**19 16 14.1**	**0.0**
OBER				Sg	**Sg**	**19 16 20.8**	**+1.1**
FUORN	**Ofenpass-Fuorn**	**0.46**	**208**	Pg	**Pg**	**19 16 14.7**	**-0.1**
FUORN				Sg	**Sg**	**19 16 20.9**	**0.0**
	82nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**0.46**	**208**	⇑*i*Pg	**Pg**	**19 16 14.7**	**-0.1**
	259nm,0.2s						
FUORN				*e*Sg	**Sg**	**19 16 21.1**	**+0.2**
	259nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.46**	**208**	⇑*i*Pg	**Pg**	**19 16 14.7**	**-0.1**
	259nm,0.2s						
FUORN				Sg	**Sg**	**19 16 20.9**	**0.0**
	82nm,0.4s						
RETA	**Reutte**	**0.47**	**15**	Pg	**Pg**	**19 16 14.5**	**-0.5**
	5.9nm,0.1s,SNR=24						
RETA				Sg	**Sg**	**19 16 21.1**	**-0.2**
	16nm,0.1s						
MOTA	**Moosalm**	**0.48**	**48**	Pg	**Pg**	**19 16 14.6**	**-0.5**
	31nm,0.2s,SNR=88						
MOTA				Sg	**Sg**	**19 16 20.9**	**-0.4**
	18nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.54**	**243**	Pg	**Pg**	**19 16 16.2**	**-0.1**
DAVOX				Sg	**Sg**	**19 16 23.8**	**+0.4**
	34nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.54**	**243**	⇑*i*Pg	**Pg**	**19 16 16.1**	**-0.2**
	103nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.54**	**243**	Pg	**Pg**	**19 16 16.2**	**-0.1**
DAVOX				Sg	**Sg**	**19 16 23.8**	**+0.4**
	34nm,0.1s						
DAVA	**Damuels**	**0.54**	**299**	*e*Pg	**Pg**	**19 16 16.1**	**-0.2**
	143nm,0.3s						
DAVA	**Damuels**	**0.54**	**299**	*e*Pg	**Pg**	**19 16 16.1**	**-0.2**
DAVA				*e*Sg	**Sg**	**19 16 24.5**	**+1.0**
DAVA	**Damuels**	**0.54**	**299**	*e*Pg	**Pg**	**19 16 16.1**	**-0.2**
	143nm,0.3s						
DAVA				Sg	**Sg**	**19 16 23.9**	**+0.4**
	18nm,0.2s						
BRMO	**Bormio**	**0.57**	**195**	Pg	**Pg**	**19 16 16.2**	**-0.6**
BRMO				Sg	**Sg**	**19 16 23.9**	**-0.4**
BRMO	**Bormio**	**0.57**	**195**	Pg	**Pg**	**19 16 16.2**	**-0.6**
BRMO				Sg	**Sg**	**19 16 23.9**	**-0.4**
ROSI	**Rosskopf**	**0.58**	**100**	Pg	**Pg**	**19 16 16.6**	**-0.4**
ROSI	**Rosskopf**	**0.58**	**100**	Pg	**Pg**	**19 16 16.6**	**-0.4**
ABSI	**Aberstueckl**	**0.59**	**120**	Pg	**Pg**	**19 16 17.0**	**-0.2**
ABSI				Sg	**Sg**	**19 16 24.7**	**-0.2**
	88nm,0.3s						
ABSI	**Aberstueckl**	**0.59**	**120**	Pg	**Pg**	**19 16 17.0**	**-0.2**
ABSI				Sg	**Sg**	**19 16 24.7**	**-0.2**
	88nm,0.3s						
APPI	**Appiano**	**0.71**	**141**	Pg	**Pg**	**19 16 19.0**	**-0.4**
APPI	**Appiano**	**0.71**	**141**	Pg	**Pg**	**19 16 19.0**	**-0.4**
BERNI	**Berninapass**	**0.73**	**212**	Pg	**Pg**	**19 16 19.1**	**-0.7**
BERNI				Sg	**Sg**	**19 16 28.8**	**-0.4**
BERNI	**Berninapass**	**0.73**	**212**	⇑*i*Pg	**Pg**	**19 16 16.5**	**-3.3**
	103nm,0.2s						
BERNI	**Berninapass**	**0.73**	**212**	Pg	**Pg**	**19 16 19.1**	**-0.7**
BERNI				Sg	**Sg**	**19 16 28.8**	**-0.4**
WATA	**Walderalm**	**0.74**	**65**	Pg	**Pg**	**19 16 19.4**	**-0.7**
	3.5nm,0.1s,SNR=6.0						
WTTA	**Wattenberg**	**0.76**	**72**	Pg	**Pg**	**19 16 19.7**	**-0.7**
WTTA				Sg	**Sb**	**19 16 31.1**	**-0.7**
WTTA	**Wattenberg**	**0.76**	**72**	*e*PG	**Pg**	**19 16 19.6**	**-0.8**
WTTA				*e*SG	**Sg**	**19 16 29.9**	**-0.4**
WTTA	**Wattenberg**	**0.76**	**72**	Pg	**Pg**	**19 16 19.7**	**-0.7**
	1.4nm,0.1s,SNR=18						
WTTA				Sg	**Sg**	**19 16 29.8**	**-0.5**
	1.5nm,0.1s						
KOSI	**Kohlern**	**0.79**	**136**	Pg	**Pg**	**19 16 20.6**	**-0.3**
KOSI	**Kohlern**	**0.79**	**136**	Pg	**Pg**	**19 16 20.6**	**-0.3**
RISI	**Rein**	**1.03**	**94**	Pg	**Pg**	**19 16 25.0**	**-0.5**
	33nm,0.3s						
RISI	**Rein**	**1.03**	**94**	Pg	**Pg**	**19 16 25.0**	**-0.5**
	33nm,0.3s						
FUR	**Furstenfeldbru**	**1.23**	**22**	*e*Pn	**Pg**	**19 16 29.8**	**+0.4**
FUR				*e*Pg	**Pb**	**19 16 30.8**	**+1.5**
FUR				*e*Sg	**Sn**	**19 16 47.5**	**+1.4**
FUR	**Furstenfeldbru**	**1.23**	**22**	Pn	**Pg**	**19 16 29.8**	**+0.4**
ABTA	**Abfaltersbach**	**1.35**	**101**	Pg	**Pb**	**19 16 31.1**	**-0.3**
	1.5nm,0.2s,SNR=6.1						
ABTA				Sg	**Sg**	**19 16 49.2**	**-0.1**
	1.5nm,0.1s						
RJOB	**Jochberg**	**1.66**	**64**	*e*Pn	**Pg**	**19 16 37.6**	**0.0**
RJOB				*e*Sg	**Sg**	**19 17 01.3**	**+2.1**
RJOB	**Jochberg**	**1.66**	**64**	Pn	**Pg**	**19 16 37.6**	**0.0**
RJOB				Sg	**Sg**	**19 17 01.3**	**+2.1**
KBA	**Koelnbreinsper**	**1.89**	**87**	*e*Pn	**Pb**	**19 16 40.7**	**+0.1**
KBA	**Koelnbreinsper**	**1.89**	**87**	Pg	**Pb**	**19 16 40.2**	**-0.4**
	3.3nm,0.3s						
KBA	**Koelnbreinsper**	**1.89**	**87**	Pn	**Pb**	**19 16 40.7**	**+0.1**
KBA				Sn	**Sn**	**19 17 01.9**	**-0.6**
	4.8nm,0.3s						
BFO	**Black Forest**	**2.00**	**311**	*e*Pn	**Pn**	**19 16 40.6**	**+0.7**
BFO				*e*Sn	**Sn**	**19 17 04.2**	**-0.9**
WET	**Wettzell**	**2.62**	**35**	*e*Pn	**Pn**	**19 16 48.3**	**0.0**
WET				*e*Sn	**Sn**	**19 17 20.2**	**-0.1**
WET	**Wettzell**	**2.62**	**35**	Pn	**Pn**	**19 16 48.3**	**0.0**
WET				Sn	**Sn**	**19 17 20.2**	**-0.1**
CDF	**Champ du Feu**	**2.63**	**303**	*e*Pn	**Pn**	**19 16 46.5**	**-2.0**
CDF	**Champ du Feu**	**2.63**	**303**	*e*Pg	**Pg**	**19 16 55.9**	**-0.2**
CDF				*e*Sg	**Sg**	**19 17 30.2**	**+0.1**
	4.4nm,0.3s						
CDF	**Champ du Feu**	**2.63**	**303**	*e*Pn	**Pn**	**19 16 46.5**	**-2.0**
CDF	**Champ du Feu**	**2.63**	**303**	*e*Pg	**Pg**	**19 16 55.9**	**-0.2**
CDF				*e*Sg	**Sg**	**19 17 30.2**	**+0.1**
	2.2nm,0.3s						
MOA	**Molln**	**2.63**	**70**	*e*Pg	**Pb**	**19 16 53.9**	**+0.8**
MOA	**Molln**	**2.63**	**70**	Pg	**Pb**	**19 16 54.4**	**+1.3**
	0.6nm,0.1s						
HINF	**Hinteralfeld**	**2.65**	**289**	*e*Pn	**Pn**	**19 16 46.9**	**-1.9**
HINF	**Hinteralfeld**	**2.65**	**289**	*e*Pg	**Pg**	**19 16 56.7**	**+0.2**
HINF				*e*Sn	**Sn**	**19 17 16.7**	**-4.4**
HINF				*e*Sg	**Sg**	**19 17 31.2**	**+0.3**
	2.9nm,0.3s						
HINF	**Hinteralfeld**	**2.65**	**289**	*e*Pn	**Pn**	**19 16 46.9**	**-1.9**
HINF	**Hinteralfeld**	**2.65**	**289**	*e*Pg	**Pg**	**19 16 56.7**	**+0.2**
HINF				*e*Sg	**Sg**	**19 17 31.2**	**+0.3**
	1.5nm,0.3s						
GEC2	**GERESS Array S**	**2.78**	**48**	*e*Sn	**Sn**	**19 17 25.3**	**+1.0**
GEC2	**GERESS Array S**	**2.78**	**48**	Sn	**Sn**	**19 17 25.3**	**+1.0**
KHC	**Kasperske Hory**	**2.91**	**43**	*e*PG	**Pg**	**19 16 59.7**	**-1.8**
KHC				*e*SN	**Sn**	**19 17 28.3**	**+0.8**
KHC				*e*SG	**Sg**	**19 17 37.2**	**-2.0**
	comp=Z,2.4nm,0.2s						
KHC	**Kasperske Hory**	**2.91**	**43**	Pg	**Pg**	**19 16 59.7**	**-1.8**
KHC				Sn	**Sn**	**19 17 28.3**	**+0.8**
KHC				Sg	**Sg**	**19 17 37.2**	**-2.0**
	2.4nm,0.2s						
ROTZ	**Rotzenmuhle**	**2.95**	**21**	*e*Pn	**Pn**	**19 16 52.5**	**-0.3**
ROTZ				*e*Sn	**Sn**	**19 17 26.3**	**-2.0**
ROTZ	**Rotzenmuhle**	**2.95**	**21**	Pn	**Pn**	**19 16 52.5**	**-0.3**
ROTZ				Sn	**Sn**	**19 17 26.3**	**-2.0**
HAU	**Haudompre**	**3.03**	**290**	*e*P	**Pn**	**19 16 54.6**	**+0.6**
HAU	**Haudompre**	**3.03**	**290**	*e*Pg	**Pg**	**19 17 03.4**	**-0.4**
HAU				*e*Sg	**Sg**	**19 17 43.0**	**-0.1**
	8.3nm,0.4s						
HAU	**Haudompre**	**3.03**	**290**	*e*P	**Pn**	**19 16 54.6**	**+0.6**
HAU	**Haudompre**	**3.03**	**290**	*e*Pg	**Pg**	**19 17 03.4**	**-0.4**
HAU				*e*Sg	**Sg**	**19 17 43.0**	**-0.1**
	4.2nm,0.4s						
CABF	**La Chapelle**	**3.11**	**264**	*e*Pg	**Pg**	**19 17 04.5**	**-0.9**
CABF				*e*Sg	**Sg**	**19 17 44.7**	**-1.0**
	2.0nm,0.3s						
CABF	**La Chapelle**	**3.11**	**264**	*e*Pg	**Pg**	**19 17 04.5**	**-0.9**
CABF				*e*Sg	**Sg**	**19 17 44.7**	**-1.0**
	1.0nm,0.3s						
NKC	**Novy Kostel**	**3.44**	**20**	*e*SG	**Sg**	**19 17 55.6**	**-0.5**
NKC	**Novy Kostel**	**3.44**	**20**	Sg	**Sg**	**19 17 55.6**	**-0.5**
MBDF	**Montbardon**	**3.52**	**231**	*e*P	**Pn**	**19 17 02.9**	**+2.1**
MBDF	**Montbardon**	**3.52**	**231**	*e*P	**Pn**	**19 17 02.9**	**+2.1**
MOX	**Moxa**	**3.68**	**10**	*e*Sg	**Sg**	**19 18 04.1**	**+0.1**
MOX	**Moxa**	**3.68**	**10**	Sg	**Sg**	**19 18 04.1**	**+0.1**
ORIF	**Oris-en-Rattie**	**3.90**	**239**	*e*P	**Pn**	**19 17 09.3**	**+3.3**
ORIF	**Oris-en-Rattie**	**3.90**	**239**	*e*Pg	**Pg**	**19 17 17.8**	**-2.6**
ORIF	**Oris-en-Rattie**	**3.90**	**239**	*e*P	**Pn**	**19 17 09.3**	**+3.3**
ORIF	**Oris-en-Rattie**	**3.90**	**239**	*e*Pg	**Pg**	**19 17 17.8**	**-2.6**
FRF	**La Foret Royal**	**4.44**	**220**	*e*P	**Pn**	**19 17 16.1**	**+2.7**
FRF	**La Foret Royal**	**4.44**	**220**	*e*P	**Pn**	**19 17 16.1**	**+2.7**
CLL	**Collm**	**4.57**	**19**	*e*Sg	**Sg**	**19 18 34.0**	**+1.7**
SMRF	**Simiane la Rot**	**4.66**	**231**	*e*P	**Pn**	**19 17 19.4**	**+3.0**
SMRF	**Simiane la Rot**	**4.66**	**231**	*e*P	**Pn**	**19 17 19.4**	**+3.0**
VIVF	**Saint-Julien-l**	**4.66**	**244**	*e*P	**Pn**	**19 17 17.9**	**+1.5**
VIVF	**Saint-Julien-l**	**4.66**	**244**	*e*P	**Pn**	**19 17 17.9**	**+1.5**
LMR	**La Mourre**	**4.68**	**219**	*e*P	**Pn**	**19 17 19.6**	**+2.9**
LMR	**La Mourre**	**4.68**	**219**	*e*P	**Pn**	**19 17 19.6**	**+2.9**
AVF	**Avril sur Loir**	**4.96**	**270**	*e*P	**Pn**	**19 17 22.1**	**+1.7**
AVF	**Avril sur Loir**	**4.96**	**270**	*e*P	**Pn**	**19 17 22.1**	**+1.7**
CAF	**Calviac**	**6.30**	**254**	*e*P	**Pn**	**19 17 40.3**	**+1.4**
CAF	**Calviac**	**6.30**	**254**	*e*P	**Pn**	**19 17 40.3**	**+1.4**

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*NIED **03** 19:41:00, 38°.30N×142°.00E, h53km, Mw3.7 Best double couple: M0:3.61000×10^14 NP1:φ=263.00000°, δ=11.00000°, λ=-17.00000°. NP2:φ=9.00000°, δ=87.00000°, λ=-101.00000°.*
*ISCJB **03** 19:41:41.2±0.8, 38°.34N±0°.04×142°.07E±0°.08, h52km±7km, mb3.6/8, Error ellipse: s-maj=11.3km s-min=5.2km az=18.7*
*JMA **03** 19:41:42.2±0.1, 38°.35N×142°.01E, h48km±1km, M4.1*
JMA Felt I J1.
*IDC **03** 19:41:43.2±2.4, 38°.32N×142°.03E, h55km±23km, mb3.3/8, mb1 3.6/12, mb1mx3.4/46, mbtmp3.7/12, ML3.3/3, MS2.5/2, Ms1 2.5/2, ms1mx2.2/25, Error ellipse: s-maj=23.2km s-min=15.8km az=96.0*
ISC 03 19:41:42.0±1.8, 38°.34N±0°.05×142°.1E±0°.1, h40km±18km, n30, σ1§11/38, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.58**	**281**	P	**Pn**	**19 41 53.8**	**+0.1**
JIO				S	**Sn**	**19 42 01.7**	**-0.4**
OFUJ	**Ofunato**	**0.80**	**337**	P	**Pn**	**19 41 57.0**	**+0.2**
OFUJ				S	**Sn**	**19 42 07.4**	**-0.1**
JMK	**Ichinoseki**	**0.90**	**313**	P	**Pn**	**19 41 58.3**	**+0.1**
JMK				*e*S	**Sn**	**19 42 09.4**	**-0.6**
JOU	**Okura**	**1.10**	**272**	P	**Pn**	**19 42 01.1**	**+0.1**
JOU				S	**Sn**	**19 42 14.8**	**-0.2**
JMM	**Marumori**	**1.11**	**245**	P	**Pn**	**19 42 00.6**	**-0.5**
JMM				*e*S	**Sn**	**19 42 14.2**	**-1.0**
JOM	**Ohasama**	**1.28**	**332**	P	**Pn**	**19 42 03.8**	**+0.4**
JOM				*e*S	**Sn**	**19 42 19.8**	**+0.5**
JFK	**Kawauchi**	**1.36**	**225**	P	**Pn**	**19 42 04.2**	**-0.3**
JFK				S	**Sn**	**19 42 20.5**	**-0.8**
JYK	**Kaneyama**	**1.46**	**294**	P	**Pn**	**19 42 06.1**	**+0.3**
JYK				S	**Sn**	**19 42 23.8**	**+0.1**
JRG	**Rokugo**	**1.54**	**314**	P	**Pn**	**19 42 07.2**	**+0.3**
JYS	**Shiratake**	**1.58**	**266**	P	**Pn**	**19 42 07.7**	**+0.2**
JYS				S	**Sn**	**19 42 26.6**	**-0.2**
JFT	**Otama**	**1.60**	**240**	P	**Pn**	**19 42 08.1**	**+0.4**
JFT				S	**Sn**	**19 42 27.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.56**	**241**	P	**Pn**	**19 42 36.7**	**+2.0**
	2.3nm,0.3s,baz=52,slow=9.5,SNR=18						
MJAR				S	**Sn**	**19 43 19.6**	**+4.1**
	1.5nm,0.3s,baz=39,slow=24,SNR=4.6						
MJAR				LR	LR	19 44 23.6	
	comp=Z,48nm,18.3s,baz=115,slow=46						
MAT	**Matsushiro**	**3.56**	**241**	P	**Pn**	**19 42 36.6**	**+1.9**
MAT				S	**Sn**	**19 43 16.5**	**+0.9**
JHJ	**Hachijo jima 2**	**5.53**	**200**	P	**Pn**	**19 43 02.1**	**+0.3**
	7.0nm,0.3s,baz=99,slow=19,SNR=3.9						
JHJ				S	**Sn**	**19 44 01.6**	**-2.6**
	16nm,0.3s,baz=45,slow=19,SNR=4.7						
ASAJ	**Asahikawa**	**5.78**	**4**	P	**Pn**	**19 43 05.6**	**+0.4**
	0.4nm,0.3s,baz=183,slow=17,SNR=3.3						
ASAJ				S	**Sn**	**19 44 09.0**	**-1.2**
	0.4nm,0.3s,baz=225,slow=20,SNR=2.4						
USRK	**Ussurisk Arr.**	**9.58**	**311**	P	**Pn**	**19 43 58.5**	**+1.3**
	0.1nm,0.3s,baz=108,slow=12,SNR=2.9						
USRK				LR	LR	19 47 08.4	
	comp=Z,45nm,21.4s,baz=165,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	20 17 50.8	
	baz=316,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	20 18 03.3	
	baz=316,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	20 17 52.8	
	baz=316,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	20 18 47.9	
	baz=318,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	20 18 47.9	
	baz=318,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	20 18 48.4	
	baz=318,slow=76,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.43**	**311**	P	**P**	**19 49 24.0**	**-0.3**
	0.5nm,0.4s,baz=89,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**19 49 44.3**	**0.0**
	0.3nm,0.5s,baz=89,slow=9.6,SNR=3.8						
**KUR

```
ESTN                                   eS      Sn      19 57 32.2 +0.1
ESTN                                   AML     AML     19 57 52.4
      comp=N,70nm,0.8s
BOAB  BOACO BROADBAN 8.58 100          eP      Pn      19 57 08.1 -1.2
```

IDC 03 20:07:16.1±2.4, 27°00.0S×176°24.W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, ML4.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=45.3km s-min=37.3km az=73.0, South of Fiji Islands

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
RAO   Raoul Island        2.69  213   Pn    Pn                20 08 01.6 +1.0
      128nm,0.3s,baz=76,slow=18,SNR=12
RAO                                   Sn    Sn                20 08 33.7 -0.3
      102nm,0.3s,baz=73,slow=19,SNR=4.2
DZM   Mont Dzumac         16.50 284   LR    LR                20 15 39.0
      comp=Z,55nm,20.1s,baz=164,slow=30
CTA   Charters Tower      34.97 273   P     P                 20 14 12.1 +1.9
      1.9nm,0.4s,baz=88,slow=10,SNR=6.4
ASAR  Alice Springs       44.95 263   P     P                 20 15 32.2 -1.0
      0.2nm,0.4s,baz=106,slow=7.7,SNR=8.1
WRA   Warramunga Arr      45.64 268   P     P                 20 15 37.4 -1.3
      0.6nm,0.7s,baz=107,slow=7.0,SNR=3.7
TORD  Torodi Ar. Bea      166.09 172  PKPab PKPab             20 28 23.7 -0.3
      0.4nm,1.0s,baz=188,slow=3.5,SNR=3.5
```

*IDC **03** 20:16:43.0±1.2, 36°.35N×141°.04E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/42, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=28.3km s-min=22.3km az=54.0*
*ISCJB **03** 20:16:45.2±0.8, 36°.36N±0°.05×141°.09E±0°.07, h32km, mb3.4/5, Error ellipse: s-maj=8.4km s-min=6.7km az=155.0*
*JMA **03** 20:16:45.1, 36°.36N×141°.05E, h19km±1km, M3.2*
ISC 03 20:16:46.7±0.9, 36°38N±0°.05×140°99E±0°.07, h32km, n18, σ1°48/16, mb3.5/5, Near east coast of eastern Honshu

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
JHO   Hitachi             0.41  305   P     Pb                20 16 54.1 -1.8
JHO                                   eS    Sb                20 17 01.5 -0.6
JYT   Yasato              0.66  257   S     Sn                20 17 08.4 -0.6
CHOJ  Chosi               0.68  189   P     Pb                20 16 58.2 -2.0
CHOJ                                  S     Sb                20 17 07.6 -1.7
ONAJ  Iwakimizuishiy      0.74  348   P     Pn                20 16 59.1 -1.9
JSB   Shiboa              1.04  305   P     Pn                20 17 05.4 +0.3
MJAR  Matsushiro Arr      2.25  275   Pn    Pn                20 17 22.8 +1.2
      2.7nm,0.3s,baz=91,slow=11,SNR=23
MJAR                                  Sn    Sb                20 17 51.7 -2.3
      5.7nm,0.3s,baz=81,slow=24,SNR=8.5
MAT   Matsushiro          2.25  275   P     Pn                20 17 22.9 +1.2
MAT                                   S     Sb                20 17 53.5 -0.5
SONM  Songino Array       27.87 305   P     P                 20 22 34.0 +0.5
      0.2nm,0.5s,baz=96,slow=8.8,SNR=2.0
H11N2 WAKE ISLAND Hy 28.12 119        T     T                 20 51 57.3
      baz=312,slow=75,SNR=72
H11N1 WAKE ISLAND Hy 28.13 119        T     T                 20 51 56.9
      baz=312,slow=75,SNR=62
H11N3 WAKE ISLAND Hy 28.14 119        T     T                 20 51 58.2
      baz=312,slow=75,SNR=67
H11S1 WAKE ISLAND Hy 28.80 121        T     T                 20 52 47.5
      baz=314,slow=75,SNR=360
H11S3 WAKE ISLAND Hy 28.80 121        T     T                 20 52 45.9
      baz=314,slow=75,SNR=280
H11S2 WAKE ISLAND Hy 28.82 121        T     T                 20 52 45.9
      baz=314,slow=75,SNR=246
ZALV  Zalesovo Beam       42.11 313   P     P                 20 24 36.5 +1.0
      1.1nm,0.5s,baz=99,slow=6.9,SNR=5.1
ILAR  Eielson Array       50.23  32   P     P                 20 25 40.9 +1.5
      0.3nm,0.6s,baz=267,slow=6.2,SNR=4.5
WRA   Warramunga Arr      56.37 188   P     P                 20 26 25.2 +0.4
      0.4nm,0.9s,baz=5.2,slow=7.5,SNR=4.1
ASAR  Alice Springs       60.09 187   P     P                 20 26 52.2 +1.3
      0.3nm,0.8s,baz=8.9,slow=6.6,SNR=2.8
```

IDC 03 20:27:07.2±1.5, 34°37N×80°93E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/40, mbtmp3.4/4, ML3.0/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/33, Error ellipse: s-maj=51.3km s-min=27.7km az=49.0, Xizang

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
MKAR  Makanchi Array      12.45   4   Pn    Pn                20 30 03.9 -1.8
      0.1nm,0.3s,baz=187,slow=12,SNR=4.4
CMAR  Chiang Mai Arr      22.56 130   P     P                 20 32 09.3 +0.2
      0.3nm,0.4s,baz=325,slow=11,SNR=3.5
YAK   Yakutsk             41.17  33   LR    LR                20 51 53.9
      comp=Z,29nm,18.5s,baz=270,slow=36
FINES FINESS Array B      43.81 325   P     P                 20 35 16.1 +1.6
      1.7nm,0.8s,baz=126,slow=9.7,SNR=4.2
ASAJ  Asahikawa           47.73  59   LR    LR                20 58 47.2
      comp=Z,31nm,19.3s,baz=192,slow=40
TORD  Torodi Ar. Bea      73.89 275   P     P                 20 38 43.5 -0.9
      0.1nm,0.4s,baz=48,slow=4.5,SNR=4.6
TORD                                  LR    LR                21 14 19.8
      comp=Z,22nm,19.5s,baz=150,slow=38
```

*ISCJB **03** 20:34:18.5±0.8, 6°.79N±0°.04×73°.10W±0°.05, h148km±7km, Error ellipse: s-maj=7.9km s-min=5.3km az=25.2*
*IDC **03** 20:34:18.1±3.2, 6°.82N×73°.03W, h167km±41km, mb1 3.4/2, mb1mx2.9/33, mbtmp3.9/2, Error ellipse: s-maj=342.8km s-min=8.6km az=132.0*
*RSNC **03** 20:34:19.7±0.9, 6°.77N×73°.11W, h145km±5km, ML3.1*
ISC 03 20:34:18.3±1.1, 6°80N±0°.04×73°09W±0°.05, h151km±7km, n18, σ0°97/32, 1C, Northern Colombia

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
BARC  Barichara           0.23 204    eP    Pn                20 34 39.3 +0.2
BARC                                  eS    Sn                20 34 54.0 -1.0
BARC                                  i                       20 34 57.5
      comp=Z,324nm,0.5s
PAMC  Pamplona, Colo      0.66  36    eP    Pn                20 34 42.1 +0.9
PAMC                                  eS    Sn                20 34 58.6 -0.1
BRRC  Barranca, Sant      0.69 296⇑   iP    Pn                20 34 41.2 +0.4
BRRC                                  i                       20 34 41.5
      comp=Z,322nm,0.1s
BRRC                                  eS    Sn                20 34 58.4 +0.3
RUSC  La Rusia            0.90 180    eP    Pn                20 34 43.2 +0.2
RUSC                                  eS    Sn                20 35 00.7 -1.2
RUSC                                  i                       20 35 03.3
      comp=Z,144nm,0.3s
OCAC  Ocana               1.45 351    eP    Pn                20 34 47.7 +0.1
OCAC                                  eS    Sn                20 35 10.7 +0.6
OCAC                                  i                       20 35 15.8
      comp=Z,155nm,0.2s
YOPC  Yopal, Colombi      1.58 155    eP    Pn                20 34 49.6 +0.6
YOPC                                  eS    Sn                20 35 11.8 -0.7
ZARC  Zaragoza, Cauc      1.88 291    eP    Pn                20 34 51.9 -0.3
ZARC                                  eS    Sn                20 35 17.6 -0.5
ZARC                                  i                       20 35 24.0
      comp=Z,136nm,0.5s
NORC  Norcasia            2.15 235    eP    Pn                20 34 55.3 -0.1
NORC                                  eS    Sn                20 35 23.3 -0.6
CHIC  Chingaza            2.25 197    eP    Pn                20 34 56.9 0.0
CHIC                                  eS    Sn                20 35 26.3 -0.3
CHIC                                  i                       20 35 34.5
      comp=Z,71nm,0.5s
ROSC  El Rosal            2.30 212    P     Pn                20 34 59.1 +1.7
      comp=Z,16nm,0.3s,baz=72,slow=20,SNR=22
ROSC                                  S     Sn                20 35 30.2 +2.6
      comp=Z,18nm,0.3s,baz=4.4,slow=22,SNR=4.4
HELC  Santa Helena        2.50 256    eP    Pn                20 34 59.6 -0.2
HELC                                  i                       20 35 38.0
      comp=Z,70nm,0.2s
VILC  Villavicencio,      2.74 193    eP    Pn                20 35 02.7 +0.1
VILC                                  eS    Sn                20 35 36.2 -0.6
VILC                                  i                       20 35 47.8
      comp=Z,48nm,0.6s
GUYC  Guyana, Colomb      2.77 236    eP    Pn                20 35 04.3 +1.0
GUYC                                  eS    Sn                20 35 38.0 0.0
GUYC                                  i                       20 35 49.7
      comp=Z,138nm,0.5s
TOLC  Tolima              3.13 225    eP    Pn                20 35 08.4 +0.8
SDV   Santo Domingo       3.20  49    P     Pn                20 35 08.8 +0.4
      comp=Z,12nm,0.3s,baz=240,slow=13,SNR=16
SDV                                   S     Sn                20 35 47.0 -0.2
      comp=Z,6.6nm,0.3s,baz=245,slow=23,SNR=14
PRAC  Prado               3.55 210    eP    Pn                20 35 12.6 -0.2
PRAC                                  eS    Sn                20 35 54.9 -0.3
ASAR  Alice Springs       149.12 234  PKPbc PKPdf             20 53 47.1 +1.8
      comp=Z,0.3nm,0.7s,baz=116,slow=2.6,SNR=4.4
WRA   Warramunga Arr      150.35 241  PKPbc PKPbc             20 53 50.3 -2.4
      comp=Z,0.2nm,0.5s,baz=108,slow=2.5,SNR=4.6
```

IDC 03 20:35:48.6±4.2, 5°92S×151°52E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.1/36, mbtmp3.2/2, Error ellipse: s-maj=178.8km s-min=52.3km az=120.0, New Britain region

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
WRA   Warramunga Arr      21.75 229   P     P                 20 40 42.1 +0.1
      0.6nm,0.9s,baz=53,slow=9.9,SNR=3.1
ASAR  Alice Springs       24.47 222   P     P                 20 41 09.6 -0.1
      0.6nm,0.8s,baz=56,slow=8.9,SNR=7.0
TORD  Torodi Ar. Bea      149.41 286  PKPbc PKPbc             20 55 40.3 -0.5
      0.2nm,0.6s,baz=92,slow=2.3,SNR=4.3
```

IDC 03 20:43:58.2±8.5, 23°77N×144°54E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/54, mbtmp3.4/3, Error ellipse: s-maj=310.2km s-min=30.7km az=74.0, Volcano Islands region

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
WRA   Warramunga Arr      44.57 194   P     P                 20 52 11.6 -0.5
      0.6nm,0.5s,baz=15,slow=8.5,SNR=13
ASAR  Alice Springs       48.27 193   P     P                 20 52 41.5 +0.4
      0.3nm,0.9s,baz=18,slow=13,SNR=5.7
MKAR  Makanchi Array      54.25 311   P     P                 20 53 25.8 -0.1
      0.3nm,0.7s,baz=98,slow=9.0,SNR=3.3
```

*MDD **03** 20:46:18.6±0.9, 36°.20N×9°.56W, h32km±15km, mb3.0/1, mbLg2.7/27, Error ellipse: s-maj=10.3km s-min=6.9km az=73.0, PRXIMO*
*CNRM **03** 20:46:19.9, 35°.86N×9°.70W, h30km, MD3.5*
*INMG **03** 20:46:20.2±1.0, 36°.36N×9°.39W, h10km±4km, ML2.4, Error ellipse: s-maj=4.3km s-min=3.0km az=57.0*
*CSEM **03** 20:46:20.7±0.3, 36°.44N×9°.31W, h20km, ML2.4, Error ellipse: s-maj=6.4km s-min=4.3km az=42.0*
*IGIL **03** 20:46:20.5, 36°.35N×9°.38W, h11km, ML2.4*
ISC 03 20:46:16.4±2.0, 36°25N±0°.06×9°52W±0°.07, h29km±13km, n113, σ1°82/218, 6C-2D, West of Gibraltar

```
Code  Station Name        Δ°    AZ°   Phase ID                Time     Res
                                      Op    ISC               h m s    ISC
PFVI  Vila Bisbo          1.04  32    eP    Pn                20 46 36.7 +1.7
PFVI                                  eS    Sb                20 46 48.4 -0.7
PFVI                                  A     A                 20 46 51.8
      54nm,0.2s
PFVI  Vila Bisbo          1.04  32    P     Pn                20 46 36.8 +1.7
      7.5nm,0.4s,SNR=7.0
PFVI                                  S     Sn                20 46 49.6 +1.0
      62nm,0.1s,SNR=15
PFVI  Vila Bisbo          1.04  32    P     Pn                20 46 36.8 +1.7
      7.5nm,0.4s,SNR=7.0
PFVI                                  S     Sn                20 46 49.6 +1.0
      62nm,0.1s,SNR=15
MORF  Marmelete           1.26  33    eP    Pb                20 46 40.1 +0.5
MORF                                  eS    Sn                20 46 54.4 +0.2
MORF                                  AML   AML               20 46 56.1
      comp=N,69nm,0.2s
MORF  Marmelete           1.26  33    eP    Pb                20 46 40.1 +0.5
MORF                                  eS    Sb                20 46 55.2 -0.3
MORF                                  A     A                 20 46 56.5
      comp=N,88nm,0.1s
MORF  Marmelete           1.26  33    P     Pb                20 46 40.1 +0.5
MORF                                  S     Sn                20 46 54.4 +0.2
      comp=N,69nm,0.2s
MORF  Marmelete           1.26  33    eP    Pb                20 46 40.1 +0.5
MORF                                  eS    Sb                20 46 55.2 -0.3
      comp=N,88nm,0.1s
PTEO  Sao Teotonio        1.44  26    eP    Pb                20 46 42.6 0.0
PTEO                                  eS    Sb                20 46 59.8 -0.7
PTEO                                  A     A                 20 47 01.1
      comp=N,28nm,0.5s
PTEO  Sao Teotonio        1.44  26    P     Pb                20 46 42.6 0.0
PTEO                                  S     Sb                20 46 59.8 -0.7
      comp=N,14nm,0.5s
PTEO  Sao Teotonio        1.44  26    eP    Pb                20 46 42.6 0.0
PTEO                                  S     Sb                20 46 59.8 -0.7
      comp=N,14nm,0.5s
PBDV  Barranco-do-Ve      1.61  52⇑   eP    Pb                20 46 45.1 -0.5
PBDV                                  eS    Sn                20 47 03.5 +0.7
PBDV                                  A     A                 20 47 19.1
      comp=N,10nm,0.7s
PBDV  Barranco-do-Ve      1.61  52    P     Pb                20 46 45.1 -0.5
PBDV                                  S     Sn                20 47 03.5 +0.7
      comp=N,10nm,0.7s
PBDV  Barranco-do-Ve      1.61  52⇑   eP    Pb                20 46 45.1 -0.5
PBDV                                  S     Sn                20 47 03.5 +0.7
      comp=N,10nm,0.7s
PCVE  Castro Verde        1.82  40    eP    Pb                20 46 48.0 -1.0
PCVE                                  eS    Sn                20 47 08.9 +1.1
PCVE                                  A     A                 20 47 11.3
      comp=N,12nm,0.1s
PCVE  Castro Verde        1.82  40    P     Pb                20 46 48.0 -1.0
PCVE                                  S     Sn                20 47 08.9 +1.1
      comp=N,12nm,0.1s
PCVE  Castro Verde        1.82  40    eP    Pb                20 46 48.0 -1.0
PCVE                                  S     Sn                20 47 08.9 +1.1
      comp=N,12nm,0.1s
PVAQ  Vaqueiros           1.85  51⇑   eP    Pn                20 46 48.2 +2.1
PVAQ                                  eS    Sn                20 47 09.1 +0.6
PVAQ                                  A     A                 20 47 10.3
      comp=N,24nm,0.1s
PVAQ  Vaqueiros           1.85  51    P     Pn                20 46 48.2 +2.1
PVAQ                                  S     Sn                20 47 09.1 +0.6
      comp=N,24nm,0.1s
PVAQ  Vaqueiros           1.85  51⇑   eP    Pn                20 46 48.2 +2.1
PVAQ                                  S     Sn                20 47 09.1 +0.6
      comp=N,24nm,0.1s
PNCL  Nicolau / Gran      2.02  23    eP    Pn                20 46 50.4 +1.9
PNCL                                  eS    Sn                20 47 13.7 +1.0
PNCL                                  A     A                 20 47 16.2
      comp=N,20nm,0.1s
PNCL  Nicolau / Gran      2.02  23    eP    Pn                20 46 50.4 +1.9
PNCL                                  eS    Sn                20 47 13.7 +1.0
      comp=N,20nm,0.1s
EGRO  El Granado          2.07  51    P     Pn                20 46 51.3 +2.0
      comp=N,2.8nm,0.7s,SNR=16
EGRO                                  S     Sn                20 47 14.9 +0.8
      comp=N,12nm,0.1s,SNR=5.1
EGRO  El Granado          2.07  51    P     Pn                20 46 51.3 +2.0
      comp=N,2.8nm,0.7s,SNR=16
EGRO                                  S     Sn                20 47 14.9 +0.8
      comp=N,12nm,0.1s,SNR=5.1
PBEJ  Beja                2.21  36    eP    Pb                20 46 54.1 -1.6
PBEJ                                  eS    Sn                20 47 18.0 +0.5
PBEJ                                  A     A                 20 47 20.1
      comp=N,10nm,0.5s
PBEJ  Beja                2.21  36    P     Pb                20 46 54.1 -1.6
PBEJ                                  S     Sn                20 47 18.0 +0.5
      comp=N,5.2nm,0.5s
PBEJ  Beja                2.21  36    eP    Pb                20 46 54.1 -1.6
PBEJ                                  S     Sn                20 47 18.0 +0.5
      comp=N,5.2nm,0.5s
EVO   Evora               2.57  27    eP    Pn                20 46 58.1 +2.0
EVO                                   eS    Sn                20 47 27.0 +0.6
EVO                                   A     A                 20 47 28.0
      comp=N,27nm,0.1s
EVO   Evora               2.57  27    P     Pn                20 46 58.1 +2.0
EVO                                   S     Sn                20 47 27.0 +0.6
      comp=N,27nm,0.1s
EVO   Evora               2.57  27    eP    Pn                20 46 58.1 +2.0
EVO                                   S     Sn                20 47 27.0 +0.6
      comp=N,27nm,0.1s
PMAFR Mafra               2.71   4⇓   eP    Pn                20 47 00.1 +2.1
PMAFR                                 eS    Sn                20 47 30.1 +0.4
PMAFR                                 A     A                 20 47 34.0
      comp=N,22nm,0.2s
PMAFR Mafra               2.71   4 ⇓  P     Pn                20 47 00.1 +2.1
      comp=N,30nm,0.7s,SNR=18
PMAFR                                 S     Sn                20 47 29.9 +0.2
      comp=N,29nm,0.2s,SNR=10.0
PMAFR Mafra               2.71   4    P     Pn                20 47 00.1 +2.1
      comp=N,30nm,0.7s,SNR=18
PMAFR                                 eS    Sn                20 47 30.1 +0.4
      comp=N,22nm,0.2s
EMIN  Mina Concepcio      2.73  56    P     Pn                20 47 00.3 +2.0
      comp=N,0.9nm,0.4s,SNR=10
EMIN                                  S     Sn                20 47 30.6 +0.2
      comp=N,1.9nm,0.1s,SNR=12
EMIN  Mina Concepcio      2.73  56    P     Pn                20 47 00.3 +2.0
      comp=N,0.9nm,0.4s,SNR=10
EMIN                                  S     Sn                20 47 30.6 +0.2
      comp=N,1.9nm,0.1s,SNR=12
PBAR  Barrancos           2.76  45    eP    Pn                20 47 00.3 +1.7
PBAR                                  eS    Sn                20 47 31.1 +0.1
PBAR                                  A     A                 20 47 34.3
      comp=N,17nm,0.2s
PBAR  Barrancos           2.76  45    P     Pn                20 47 00.3 +1.7
PBAR                                  S     Sn                20 47 31.1 +0.1
      comp=N,17nm,0.2s
PBAR  Barrancos           2.76  45    eP    Pn                20 47 00.3 +1.7
PBAR                                  S     Sn                20 47 31.1 +0.1
      comp=N,17nm,0.2s
ESPR  Espera              3.01  77 ⇑P        Pn                20 47 04.2 +2.1
      comp=N,17nm,0.3s,SNR=18
ESPR                                  S     Sn                20 47 37.4 +0.1
      comp=N,14nm,0.2s
ESPR  Espera              3.01  77    P     Pn                20 47 04.2 +2.1
      comp=N,17nm,0.3s,SNR=18
ESPR                                  S     Sn                20 47 37.4 +0.1
      comp=N,14nm,0.2s
PESTR Estremoz            3.03  30    eP    Pn                20 47 03.9 +1.5
PESTR                                 eS    Sn                20 47 37.5 -0.2
PESTR                                 A     A                 20 47 41.1
      comp=N,4.5nm,0.5s
PESTR Estremoz            3.03  30    eP    Pn                20 47 03.9 +1.5
PESTR                                 eS    Sn                20 47 37.5 -0.2
      comp=N,4.5nm,0.5s
EBAD  Badajoz             3.20  38    P     Pn                20 47 06.3 +1.7
      comp=N,0.6nm,0.3s,SNR=17
EBAD                                  S     Sn                20 47 42.2 +0.4
      comp=N,2.0nm,0.0s,SNR=8.8
EBAD  Badajoz             3.20  38    P     Pn                20 47 06.3 +1.7
      comp=N,0.6nm,0.3s,SNR=17
EBAD                                  S     Sn                20 47 42.2 +0.4
      comp=N,2.0nm,0.0s,SNR=8.8
PTOM  Tomar               3.47  14    eP    Pn                20 47 10.5 +2.0
PTOM                                  eS    Sn                20 47 46.7 -1.9
PTOM                                  A     A                 20 47 51.7
      comp=N,12nm,0.1s
PTOM  Tomar               3.47  14    P     Pn                20 47 10.5 +2.0
PTOM                                  S     Sn                20 47 46.7 -1.9
      comp=N,6.2nm,0.1s
PTOM  Tomar               3.47  14    eP    Pn                20 47 10.5 +2.0
PTOM                                  S     Sn                20 47 46.7 -1.9
      comp=N,6.2nm,0.1s
PMRV  Marv??o             3.59  27    eP    Pn                20 47 11.9 +1.8
PMRV                                  eS    Sn                20 47 50.6 -1.0
PMRV                                  A     A                 20 47 53.1
      comp=N,12nm,0.6s
PMRV  Marv??o             3.59  27    P     Pn                20 47 11.9 +1.8
PMRV                                  S     Sn                20 47 50.6 -1.0
      comp=N,12nm,0.6s
PMRV  Marv??o             3.59  27    eP    Pn                20 47 11.9 +1.8
PMRV                                  S     Sn                20 47 50.6 -1.0
      comp=N,12nm,0.6s
ECAB  El Cabril           3.75  60    P     Pn                20 47 14.3 +2.0
      comp=N,0.9nm,0.3s,SNR=31
ECAB                                  S     Sn                20 47 54.5 -0.9
      comp=N,0.4nm,0.1s
ECAB  El Cabril           3.75  60    P     Pn                20 47 14.3 +2.0
      comp=N,0.9nm,0.3s,SNR=31
ECAB                                  S     Sn                20 47 54.5 -0.9
      comp=N,0.4nm,0.1s
EMIJ  Mijas               3.84  84    P     Pn                20 47 15.0 +1.4
      comp=N,1.2nm,0.3s,SNR=7.5
EMIJ                                  S     Sn                20 47 58.5 +0.7
      comp=N,1.3nm,0.3s,SNR=7.9
EMIJ  Mijas               3.84  84    P     Pn                20 47 15.0 +1.4
      comp=N,1.2nm,0.3s,SNR=7.5
EMIJ                                  S     Sn                20 47 58.5 +0.7
      comp=N,1.3nm,0.3s,SNR=7.9
PCAS  Casmilo, Conde      3.88  12    eP    Pn                20 47 16.0 +1.9
PCAS                                  eS    Sn                20 47 57.5 -1.2
PCAS                                  A     A                 20 48 02.8
      comp=N,3.4nm,0.2s
PCAS  Casmilo, Conde      3.88  12    eP    Pn                20 47 16.0 +1.9
PCAS                                  eS    Sn                20 47 57.5 -1.2
      comp=N,3.4nm,0.2s
PCBR  Castelo Branco      3.93  24    eP    Pn                20 47 16.9 +2.2
PCBR                                  eS    Sn                20 47 58.8 -1.0
PCBR                                  A     A                 20 48 01.1
      comp=N,8.1nm,0.3s
PCBR  Castelo Branco      3.93  24    P     Pn                20 47 16.9 +2.2
PCBR                                  S     Sn                20 47 58.8 -1.0
      comp=N,4.1nm,0.3s
PCBR  Castelo Branco      3.93  24    eP    Pn                20 47 16.9 +2.2
PCBR                                  S     Sn                20 47 58.8 -1.0
      comp=N,4.1nm,0.3s
EADA  Adamuz              4.38  63 ⇑P        Pn                20 47 23.1 +2.1
      comp=N,5.7nm,0.2s,SNR=18
EADA                                  S     Sn                20 48 09.3 -1.8
      comp=N,5.3nm,0.1s,SNR=7.9
EADA  Adamuz              4.38  63    P     Pn                20 47 23.1 +2.1
      comp=N,5.7nm,0.2s,SNR=18
EADA                                  S     Sn                20 48 09.3 -1.8
      comp=N,5.3nm,0.1s,SNR=7.9
MTE   Manteigas           4.42  20    eP    Pn                20 47 24.3 +2.7
MTE                                   eS    Sn                20 48 11.5 -0.6
MTE                                   A     A                 20 48 13.6
      comp=N,7.6nm,0.3s
MTE   Manteigas           4.42  20    P     Pn                20 47 24.3 +2.7
MTE                                   S     Sn                20 48 11.5 -0.6
      comp=N,3.8nm,0.3s
MTE   Manteigas           4.42  20    eP    Pn                20 47 24.3 +2.7
MTE                                   S     Sn                20 48 11.5 -0.6
      comp=N,3.8nm,0.3s
EGOR  Sierra Gorda,       4.43  77    P     Pn                20 47 25.0 +3.2
      SNR=7.9
EGOR                                  S     Sn                20 48 12.1 -0.4
      comp=N,0.6nm,0.1s,SNR=7.9
EGOR  Sierra Gorda,       4.43  77    P     Pn                20 47 25.0 +3.2
      SNR=7.9
EGOR                                  S     Sn                20 48 12.1 -0.4
      comp=N,0.6nm,0.1s,SNR=7.9
PVIS  Viseu               4.64  15    eP    Pn                20 47 27.0 +2.5
PVIS                                  eS    Sn                20 48 16.3 -1.1
PVIS  Viseu               4.64  15    P     Pn                20 47 27.0 +2.5
PVIS                                  S     Sn                20 48 16.3 -1.1
PVIS  Viseu               4.64  15    eP    Pn                20 47 27.0 +2.5
PVIS                                  eS    Sn                20 48 16.3 -1.1
KIB   El Ksiba            4.66 141    P     Pn                20 47 25.0 +0.1
KIB                                   S     Sn                20 48 12.0 -6.0
KIB   El Ksiba            4.66 141    iP    Pn                20 47 25.0 +0.1
EPLA  Plasencia           4.67  34    P     Pn                20 47 27.7 +2.7
      comp=N,0.6nm,0.3s,SNR=6.8
EPLA                                  S     Sn                20 48 17.1 -1.1
      comp=N,2.4nm,0.1s,SNR=75
EPLA  Plasencia           4.67  34    P     Pn                20 47 27.7 +2.7
      comp=N,0.6nm,0.3s,SNR=6.8
EPLA                                  S     Sn                20 48 17.1 -1.1
      comp=N,2.4nm,0.1s,SNR=75
CIA   Chichaoua           4.72 172    P     Pn                20 47 22.0 -3.6
CIA                                   S     Sn                20 48 10.0 -9.4
TZC   Tazercounte         4.80 148    P     Pn                20 47 26.0 -0.9
TZC                                   S     Sn                20 48 16.0 -5.7
PVRL  Vila Real           5.21  15    eP    Pn                20 47 34.9 +2.5
PVRL                                  eS    Sn                20 48 30.8 -0.7
PVRL                                  A     A                 20 48 33.2
      comp=N,7.6nm,0.1s
PVRL  Vila Real           5.21  15    P     Pn                20 47 34.9 +2.5
PVRL                                  S     Sn                20 48 30.8 -0.7
      comp=N,3.8nm,0.1s
PVRL  Vila Real           5.21  15    eP    Pn                20 47 34.9 +2.5
PVRL                                  S     Sn                20 48 30.8 -0.7
      comp=N,3.8nm,0.1s
OUK   Oukaimeden          5.21 164    P     Pn                20 47 32.0 -0.7
OUK                                   S     Sn                20 48 23.0 -9.0
MVO   Moncorvo            5.28  21    eP    Pn                20 47 35.3 +2.0
MVO                                   eS    Sn                20 48 31.5 -1.7
MVO                                   A     A                 20 48 34.2
      comp=N,2.8nm,0.3s
MVO   Moncorvo            5.28  21    P     Pn                20 47 35.6 +2.2
      comp=N,1.5nm,0.2s,SNR=11
MVO                                   S     Sn                20 48 31.3 -2.0
      comp=N,1.7nm,0.1s,SNR=7.9
MVO   Moncorvo            5.28  21    eP    Pn                20 47 35.3 +2.0
MVO                                   eS    Sn                20 48 31.5 -1.7
      comp=N,2.8nm,0.3s
POLO  Lamas de Olo        5.29  14    eP    Pn                20 47 35.4 +1.9
POLO                                  eS    Sn                20 48 30.9 -2.6
POLO                                  A     A                 20 48 34.8
      comp=N,1.4nm,0.3s
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POLO Lamas de Olo 5.29 14 *eP* **Pn 20 47 35.4 +1.9**
POLO *eS* **Sn 20 48 30.9 -2.6**
comp=N,1.4nm,0.3s
EQES Quesada 5.39 71 P **Pn 20 47 36.4 +1.5**
comp=N,0.5nm,0.1s,SNR=7.9
EQES S **Sn 20 48 35.3 -0.6**
comp=N,0.1nm,0.1s,SNR=7.9
EQES Quesada 5.39 71 P **Pn 20 47 36.4 +1.5**
comp=N,0.5nm,0.1s,SNR=7.9
EQES S **Sn 20 48 35.3 -0.6**
comp=N,0.1nm,0.1s,SNR=7.9
ESDC Sonseca Array 5.56 50 P **Pn 20 47 39.1 +1.9**
comp=N,0.2nm,0.2s,baz=238,slow=13,SNR=13
ESDC S **Sn 20 48 39.0 -1.2**
comp=N,0.8nm,0.2s,baz=238,slow=24,SNR=22
ESDC Sonseca Array 5.56 50 P **Pn 20 47 39.1 +1.9**
comp=N,0.2nm,0.2s,SNR=13
ESDC S **Sn 20 48 39.0 -1.2**
comp=N,0.8nm,0.2s,SNR=22
PCAB Cabril 5.57 12 *eP* **Pn 20 47 39.4 +2.0**
PCAB *eS* **Sn 20 48 38.3 -2.1**
PCAB A A 20 48 42.5
comp=N,3.7nm,0.1s
PCAB Cabril 5.57 12 P **Pn 20 47 39.4 +2.0**
PCAB S **Sn 20 48 38.3 -2.1**
comp=N,1.9nm,0.1s
PCAB Cabril 5.57 12 *eP* **Pn 20 47 39.4 +2.0**
PCAB S **Sn 20 48 38.3 -2.1**
comp=N,1.9nm,0.1s
ELOB Lobios 5.72 11 P **Pn 20 47 40.8 +1.3**
comp=N,1.1nm,0.2s,SNR=14
ELOB S **Sn 20 48 41.2 -3.0**
comp=N,1.5nm,0.1s,SNR=6.2
ELOB Lobios 5.72 11 P **Pn 20 47 40.8 +1.3**
comp=N,1.1nm,0.2s,SNR=14
ELOB S **Sn 20 48 41.2 -3.0**
comp=N,1.5nm,0.1s,SNR=6.2
PGAV Gavieira, Arco 5.79 9 *eP* **Pn 20 47 42.1 +1.7**
PGAV *eS* **Sn 20 48 43.0 -2.8**
PGAV A A 20 48 47.0
comp=N,4.4nm,0.8s
PGAV Gavieira, Arco 5.79 9 *eP* **Pn 20 47 42.1 +1.7**
PGAV *eS* **Sn 20 48 43.0 -2.8**
comp=N,4.4nm,0.8s
SESP Santiago Espad 5.87 69 P **Pn 20 47 43.1 +1.5**
comp=N,0.3nm,0.0s,SNR=7.9
SESP S **Sn 20 48 45.7 -2.3**
comp=N,2.7nm,0.1s,SNR=7.9
SESP Santiago Espad 5.87 69 P **Pn 20 47 43.1 +1.5**
comp=N,0.3nm,0.0s,SNR=7.9
SESP S **Sn 20 48 45.7 -2.3**
comp=N,2.7nm,0.1s,SNR=7.9
PBRG Braganca 5.95 20 *eP* **Pn 20 47 44.7 +2.1**
PBRG *eS* **Sn 20 48 47.3 -2.5**
PBRG A A 20 48 50.4
comp=N,2.1nm,0.3s
PBRG Braganca 5.95 20 P **Pn 20 47 44.7 +2.1**
PBRG S **Sn 20 48 47.3 -2.5**
comp=N,1.1nm,0.3s
PBRG Braganca 5.95 20 *eP* **Pn 20 47 44.7 +2.1**
PBRG S **Sn 20 48 47.3 -2.5**
comp=N,1.1nm,0.3s
GUD Guadarrama 6.08 42 P **Pn 20 47 46.8 +2.4**
comp=N,0.2nm,0.3s,SNR=7.9
GUD S **Sn 20 48 51.0 -2.0**
comp=N,0.4nm,0.2s,SNR=7.9
GUD Guadarrama 6.08 42 P **Pn 20 47 46.8 +2.4**
comp=N,0.2nm,0.3s,SNR=7.9
GUD S **Sn 20 48 51.0 -2.0**
comp=N,0.4nm,0.2s,SNR=7.9
ECAL Calabor 6.08 20 P **Pn 20 47 47.1 +2.8**
comp=N,2.9nm,0.3s,SNR=12
ECAL S **Sn 20 48 50.0 -3.0**
comp=N,0.4nm,0.1s
ECAL Calabor 6.08 20 P **Pn 20 47 47.1 +2.8**
comp=N,2.9nm,0.3s,SNR=12
ECAL S **Sn 20 48 50.0 -3.0**
comp=N,0.4nm,0.1s
EAGO Agolada(Pontev 6.63 9 P **Pn 20 47 53.6 +1.7**
comp=N,1.0nm,0.2s,SNR=7.9
EAGO S **Sn 20 49 03.4 -3.1**
comp=N,0.9nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.63 9 P **Pn 20 47 53.6 +1.7**
comp=N,1.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.70 3 P **Pn 20 47 54.0 +1.1**
comp=N,0.6nm,0.1s,SNR=7.9
EMAZ S **Sn 20 49 05.1 -3.1**
comp=N,1.5nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.70 3 P **Pn 20 47 54.0 +1.1**
comp=N,0.6nm,0.1s,SNR=7.9
ETOB Tobarra 6.78 67 P **Pn 20 47 55.1 +1.2**
comp=N,1.5nm,0.6s,SNR=14
ETOB S **Sn 20 49 07.5 -2.6**
comp=N,0.8nm,0.1s,SNR=7.9
ETOB Tobarra 6.78 67 P **Pn 20 47 55.1 +1.2**
comp=N,1.5nm,0.6s,SNR=14
ETOB S **Sn 20 49 07.5 -2.6**
comp=N,0.8nm,0.1s,SNR=7.9
EPON Pontenova 7.30 14 P **Pn 20 48 03.3 +2.3**
comp=N,0.1nm,0.2s,SNR=4.0
EPON Pontenova 7.30 14 P **Pn 20 48 03.3 +2.3**
comp=N,0.1nm,0.2s,SNR=4.0
EMOS Mosqueruela 8.21 57 P **Pn 20 48 17.0 +3.3**
comp=N,0.1nm,0.2s,SNR=7.9
EMOS S **Sn 20 49 42.9 -2.6**
comp=N,0.3nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.21 57 P **Pn 20 48 17.0 +3.3**
comp=N,0.1nm,0.2s,SNR=7.9
EMOS S **Sn 20 49 42.9 -2.6**
comp=N,0.3nm,0.2s,SNR=7.9

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*ISCJB **03** 20:53:43.3±0.7,22°.00S±0°.04×68°.53W±0°.10, h128km±8km, mb3.8/2, Error ellipse: s-maj=14.6km s-min=6.6km az=3.9*
*GUC **03** 20:53:44.5±0.5,22°.00S×68°.56W, h112km±3km, ML3.6*
*IDC **03** 20:53:52.1±10.0,21°.43S×67°.92W, h162km±78km, mb3.6/2, mb1 3.5/4, mb1mx3.2/27, mbtmp4.0/4, Error ellipse: s-maj=129.2km s-min=37.2km az=3.0*

ISC 03 20:53:43.3±0.9,21°.97S±0°.05×68°.38W±0°.08, h114km±9km, n16, σ1ˢ69/28, 5C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.80**	**218**	⇓*iP*	**Pn**	**20 54 03.7**	**+0.4**
LVC				*i* S	**Sn**	**20 54 18.3**	**-0.2**
PB09	**IPOC Station P**	**0.82**	**282**	*eP*	**Pn**	**20 54 04.0**	**+0.8**
PB09				*i* S	**Sn**	**20 54 17.9**	**-0.5**
PB09				IAML		20 54 22.4	
comp=N,3μm,0.9s							
PB06	**IPOC Station P**	**1.32**	**236**	⇑*iP*	**Pn**	**20 54 08.6**	**+0.1**
PB06				*eS*	**Sn**	**20 54 26.9**	**-0.6**
PB06				IAML		20 54 27.8	
comp=N,1μm,0.5s							
PB01	**IPOC Station P**	**1.39**	**312**	⇑*iP*	**Pn**	**20 54 09.6**	**+0.5**
PB01				*i* S	**Sn**	**20 54 28.9**	**+0.2**
PB01				IAML		20 54 30.9	
comp=E,1μm,0.1s							
PB07	**IPOC Station P**	**1.42**	**280**	⇑*iP*	**Pn**	**20 54 09.7**	**+0.1**
PB07				*i* S	**Sn**	**20 54 28.5**	**-1.1**
PB07				IAML		20 54 33.0	
comp=N,800nm,0.3s							
PB02	**IPOC Station P**	**1.55**	**294**	⇑*iP*	**Pn**	**20 54 11.1**	**0.0**
PB02				*i* S	**Sn**	**20 54 31.2**	**-1.0**
PB02				IAML		20 54 32.6	
comp=E,1μm,0.4s							
PB04	**IPOC Station P**	**1.68**	**257**	⇑*iP*	**Pn**	**20 54 12.2**	**-0.4**
PB04				*i* S	**Sn**	**20 54 33.8**	**-1.2**
PB04				IAML		20 54 44.6	
comp=N,528nm,0.3s							
PB08	**IPOC Station P**	**1.96**	**338**	⇓*iP*	**Pn**	**20 54 18.4**	**+2.1**
PB08				*i* S	**Sn**	**20 54 43.8**	**+2.2**
PB08				IAML		20 54 44.8	
comp=E,345nm,0.6s							
HMBC	**Humberstone**	**2.20**	**320**	⇓*iP*	**Pn**	**20 54 19.0**	**-0.1**
HMBC				*i* S	**Sn**	**20 54 45.7**	**-0.8**
HMBC				IAML		20 54 48.2	
comp=E,531nm,0.3s							
PB11	**IPOC Station P**	**2.50**	**331**	⇓*iP*	**Pn**	**20 54 23.5**	**+0.4**
PB11				*i* S	**Sn**	**20 54 53.8**	**+0.2**
PB10	**IPOC Station P**	**2.53**	**232**	*iP*	**Pn**	**20 54 23.5**	**+0.3**
PB10				*i* S	**Sn**	**20 54 52.8**	**-1.1**
PB10				IAML		20 55 01.5	
comp=E,542nm,0.3s							
LPAZ	**La Paz**	**5.66**	**2**	P	**Pn**	**20 55 08.3**	**+2.6**
comp=E,1.2nm,0.3s,baz=189,slow=4.8,SNR=12							
SIV	**San Ignacio**	**9.12**	**51**	P	**Pn**	**20 55 50.7**	**-1.3**
comp=E,1.8nm,0.3s,baz=250,slow=12,SNR=11							
SIV				S	**Sn**	**20 57 26.4**	**-6.5**
comp=E,0.2nm,0.3s,baz=273,slow=17,SNR=4.6							
DBIC	**Dimbokro**	**68.40**	**73**	P	**P**	**21 04 33.6**	**+0.5**
comp=E,1.0nm,0.4s,baz=223,slow=6.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**21 05 24.5**	**+0.2**
comp=E,0.8nm,0.5s,baz=252,slow=5.5,SNR=20							
MKAR	**Makanchi Array**	**145.72**	**37**	PKPbc	**PKPdf**	**21 13 08.7**	**+0.4**
comp=E,0.4nm,0.7s,baz=322,slow=3.6,SNR=2.7							

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*IDC **03** 20:57:33.5±1.0, 15°.44S×173°.50W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/31, mbtmp4.1/7, ML4.3/1, MS3.0/6, Ms1 3.0/6, ms1mx2.8/29, Error ellipse: s-maj=37.2km s-min=20.3km az=130.0*
*ISCJB **03** 20:57:36.7±0.7, 15°.3S±0°.2×173°.4W±0°.1, h42km, mb4.1/6, MS3.1/4, Error ellipse: s-maj=28.5km s-min=8.2km az=137.2*

ISC 03 20:57:38.5±0.8, 15°.4S±0°.2×173°.3W±0°.2, h42km, n17, σ1ˢ33/10, mb4.1/6, MS3.1/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**46**	Pn	**Pn**	**20 58 11.4**	**+0.4**
85nm,0.3s,baz=150,slow=1.8,SNR=30							
AFI				Sn	**Sn**	**20 58 33.5**	**-2.1**
428nm,0.3s,baz=36,slow=22,SNR=36							
AFI				LR	LR	20 58 44.7	
comp=Z,109nm,21.9s,baz=197,slow=32							
RAR	**Rarotonga**	**14.11**	**116**	LR	LR	21 05 15.2	
comp=Z,48nm,18.3s,baz=294,slow=32							
DZM	**Mont Dzumac**	**20.29**	**248**	LR	LR	21 08 07.4	
comp=Z,48nm,21.9s,baz=36,slow=32							
PPT	**Papeete**	**22.87**	**99**	LR	LR	21 08 32.8	
comp=Z,58nm,20.7s,baz=162,slow=29							
URZ	**Urewera**	**24.32**	**199**	P	**P**	**21 02 51.8**	**-0.4**
12nm,0.8s,baz=311,slow=19,SNR=4.4							
URZ				S	**S**	**21 07 08.9**	**+0.3**
9.6nm,0.9s,baz=142,slow=19,SNR=1.9							
H11S2	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	21 45 56.1	
baz=146							
H11S3	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	21 45 58.1	
baz=146,slow=74							
H11S1	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	21 46 00.2	
baz=146,slow=74							
H11N3	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	21 47 59.6	
baz=150,slow=76,SNR=6.5							
H11N1	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	21 47 59.7	
baz=150,slow=76,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	21 48 03.0	
baz=150,slow=76,SNR=8.8							
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**21 05 42.2**	**-0.9**
3.1nm,0.5s,baz=84,slow=9.0,SNR=10							
STKA				LR	LR	21 22 53.6	
comp=Z,23nm,18.2s,baz=205,slow=35							
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**21 06 27.6**	**-1.0**
0.4nm,0.3s,baz=96,slow=7.6,SNR=23							
ASAR	**Alice Springs**	**50.20**	**252**	P	**P**	**21 06 29.8**	**-0.8**
7.1nm,0.6s,baz=86,slow=7.9,SNR=161							
ASAR				LR	LR	21 26 36.2	
comp=Z,50nm,18.6s,baz=80,slow=35							
VNDA	**Vanda**	**63.42**	**186**	P	**P**	**21 08 03.9**	**+0.5**
0.5nm,0.6s,baz=10,slow=7.6,SNR=3.1							
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**21 09 57.7**	**+2.0**
0.2nm,0.5s,baz=224,slow=6.3,SNR=2.0							
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	**PKPab**	**21 17 16.4**	**+0.8**
1.9nm,0.8s,baz=64,slow=2.0,SNR=8.1							

MEX 03 21:14:03.7±0.5, 15°.65N×95°.82W, h32km±7km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.31**	**293**	*i* P	Pb	21 14 09.8	-1.6
HUIG				*i* S	Sb	21 14 15.0	-1.8
PANG	**Puerto Angel**	**0.63**	**272**	*i* P	Pb	21 14 14.8	-1.7
PANG				*eS*	Sb	21 14 22.5	-2.6
VHO	**Vista Hermosa**	**1.67**	**328**	*eP*	Pn	21 14 29.0	-1.9
VHO				*eS*	Sn	21 14 48.7	-2.6
PNIG	**Pinotepa**	**2.34**	**289**	*eP*	Pn	21 14 37.8	-2.2
PNIG				*i* S	Sn	21 15 04.7	-3.0

IDC 03 21:28:09.0±2.1, 3°.01S×151°.27E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.6/4, Error ellipse: s-maj=119.2km s-min=29.7km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**223**	P	P	21 33 22.4	+0.7
0.7nm,0.4s,baz=47,slow=9.1,SNR=26							
ASAR	**Alice Springs**	**26.53**	**218**	P	P	21 33 48.1	-0.5
0.4nm,0.6s,baz=59,slow=8.4,SNR=7.1							
FITZ	**Fitzroy Crossi**	**29.25**	**237**	P	P	21 34 12.8	-0.3
2.2nm,0.9s,baz=52,slow=9.5,SNR=6.7							
ILAR	**Eielson Array**	**81.09**	**22**	P	P	21 40 26.0	+0.1
0.3nm,0.8s,baz=247,slow=4.7,SNR=2.8							

IDC 03 21:32:17.0±2.2, 1°.34N×126°.88E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=175.9km s-min=28.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.38**	**161**	P	P	21 37 16.1	-1.0
0.5nm,0.4s,baz=340,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**25.78**	**165**	P	P	21 37 50.7	+0.9
0.3nm,0.5s,baz=344,slow=11,SNR=3.5							
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	21 42 22.7	-0.1
0.3nm,0.5s,baz=116,slow=7.7,SNR=3.8							

MEX 03 21:34:06.9±0.3, 16°.42N×98°.16W, h50km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.04**	**130**	*eP*	Pn	21 34 13.2	-1.3
PNIG				*eS*	Sn	21 34 18.2	-1.8
HUIG	**Huatulco**	**2.07**	**108**	*eP*	Pn	21 34 37.8	-1.5

WEL 03 21:35:45.5±0.1, 43°.58S×172°.69E, h7km, ML3.5/15, 4C, Error ellipse: s-maj=0.5km s-min=0.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.05**	**274**	⇑PG	Pg	21 35 47.0	-0.1
CRLZ				SG	Sg	21 35 48.1	0.0
CRLZ				AML	AML	21 35 48.2	
CRLZ				AML	AML	21 35 48.4	
CRLZ				AML	AML	21 35 48.4	
MQZ	**McQueen's Vall**	**0.13**	**191**	⇑PG	Pg	21 35 48.5	+0.2
MQZ				SG	Sg	21 35 50.6	+0.4
MQZ				AML	AML	21 35 50.8	
OXZ	**Oxford**	**0.54**	**298**	P*	Pg	21 35 55.8	-0.1
OXZ				AML	AML	21 35 58.0	
OXZ				SG	Sg	21 36 03.6	+0.7
OXZ				AML	AML	21 36 04.4	
OXZ				AML	AML	21 36 04.7	
LTZ	**Lake Taylor**	**0.85**	**339**	⇑P*	Pg	21 36 01.8	-0.2
LTZ				S*	Sg	21 36 13.6	+0.6
RPZ	**Rata Peaks**	**1.19**	**263**	P*	Pg	21 36 07.2	-1.2
RPZ				AML	AML	21 36 25.9	
RPZ				AML	AML	21 36 32.7	
INZ	**Inchbonnie**	**1.25**	**313**	P*	Pn	21 36 08.7	-0.7
KHZ	**Kahutara**	**1.32**	**29**	⇑P*	Pn	21 36 08.5	-1.9
KHZ				AML	AML	21 36 42.9	
WVZ	**Waitaha Valley**	**1.51**	**289**	PN	Pn	21 36 12.1	-0.9
WVZ				AML	AML	21 36 38.9	
THZ	**Tophouse**	**1.82**	**5**	PN	Pn	21 36 16.0	-1.4
THZ				AML	AML	21 36 51.1	
THZ				AML	AML	21 36 51.1	
DSZ	**Denniston Nort**	**1.94**	**340**	*e*Pn	Pn	21 36 17.4	-1.7
DSZ				AML	AML	21 36 45.5	
DSZ				AML	AML	21 36 45.9	
DSZ				AML	AML	21 36 45.9	
DSZ				AML	AML	21 36 46.2	
LBZ	**Lake Benmore**	**1.98**	**245**	PN	Pn	21 36 18.9	-0.6
LBZ				AML	AML	21 36 53.2	
LBZ				AML	AML	21 36 55.0	
BSWZ	**Blackbirch Sta**	**2.06**	**26**	PN	Pn	21 36 19.0	-1.5
ODZ	**Otahua Downs**	**2.07**	**224**	PN	Pn	21 36 19.4	-1.4
ODZ				AML	AML	21 36 52.2	
ODZ				AML	AML	21 36 52.2	
ODZ				AML	AML	21 36 54.3	
ODZ				AML	AML	21 36 54.4	
FOZ	**Fox Glacier**	**2.09**	**270**	PN	Pn	21 36 21.1	+0.1
FOZ				AML	AML	21 36 59.8	
FOZ				AML	AML	21 37 22.3	
EAZ	**Earnscleugh**	**2.93**	**235**	PN	Pn	21 36 31.5	-1.1
EAZ				AML	AML	21 37 22.6	
CAW	**Cannon Point**	**3.03**	**36**	PN	Pn	21 36 31.6	-2.4
TUZ	**Tuapeka**	**3.22**	**221**	PN	Pn	21 36 35.2	-1.4
TUZ				AML	AML	21 37 32.3	
TUZ				AML	AML	21 37 36.0	
MRZ	**Mangatainoka R**	**3.62**	**37**	PN	Pn	21 36 39.5	-2.6
MRZ				AML	AML	21 37 40.6	

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*IDC **03** 21:51:59.1±2.3, 24°.61S×179°.79E, h529km±18km, mb3.5/7, mb1 3.7/9, mb1mx3.3/29, mbtmp4.5/9, Error ellipse: s-maj=37.5km s-min=14.7km az=34.0*

ISC 03 21:51:58.1±1.9, 24°.65±0°.2×179°.9E±0°.2, h517km, n10, σ1ˢ34/14, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.57**	**279**	P	**P**	**21 54 44.6**	**+1.9**
1.4nm,0.3s,baz=84,slow=17,SNR=19							
URZ	**Urewera**	**13.83**	**189**	P	**P**	**21 54 57.1**	**+1.5**
2.0nm,0.3s,baz=315,slow=4.3,SNR=6.5							
URZ				S	**S**	**21 57 21.6**	**-0.4**
1.0nm,0.3s,baz=41,slow=22,SNR=14							
RPZ	**Rata Peaks**	**20.40**	**199**	P	**P**	**21 55 59.2**	**-0.1**
5.0nm,0.5s,baz=0.0,slow=5.1,SNR=7.9							
CTA	**Charters Tower**	**31.35**	**271**	P	**P**	**21 57 36.4**	**+0.2**
14nm,0.4s,baz=94,slow=11,SNR=26							
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**21 58 01.9**	**+0.4**
2.5nm,0.4s,baz=86,slow=8.7,SNR=9.4							
ASAR	**Alice Springs**	**41.79**	**261**	P	**P**	**21 59 01.8**	**-0.6**
3.8nm,0.7s,baz=93,slow=7.3,SNR=34							
ASAR				S	**S**	**22 04 42.3**	**-0.1**
0.5nm,0.9s,baz=97,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**42.23**	**267**	P	**P**	**21 59 04.6**	**-1.2**
7.7nm,0.5s,baz=100,slow=8.3,SNR=80							
WRA				ScP	**ScP**	**22 03 50.2**	**+0.9**
2.6nm,1.1s,baz=96,slow=4.0,SNR=8.3							
WRA				S	**S**	**22 04 46.1**	**-2.6**
0.6nm,0.8s,baz=102,slow=13,SNR=3.8							
VNDA	**Vanda**	**53.69**	**185**	P	**P**	**22 00 30.6**	**0.0**
1.0nm,0.8s,baz=10,slow=8.3,SNR=8.7							
MAW	**Mawson**	**77.06**	**201**	P	**P**	**22 02 57.0**	**-0.3**
1.1nm,0.5s,baz=147,slow=6.0,SNR=8.9							
TORD	**Torodi Ar. Bea**	**168.49**	**189**	PKPab	**PKPab**	**22 12 16.8**	**-2.1**
0.7nm,0.7s,baz=175,slow=3.4,SNR=5.2							

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*IDC **03** 22:03:01.4±1.1, 43°.80S×82°.59W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.1/24, mbtmp4.2/7, ML3.7/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/22, Error ellipse: s-maj=33.7km s-min=25.5km az=106.0*
*ISCJB **03** 22:03:02.3±0.9, 43°.8S±0°.1×82°.3W±0°.2, h10km, mb4.2/6, MS4.3/12, Error ellipse: s-maj=21.9km s-min=16.8km az=154.5*
*NEIC **03** 22:03:02.8±0.7, 43°.80S×82°.63W, h10km, Error ellipse: s-maj=19.5km s-min=15.4km az=136.0*
*GCMT **03** 22:03:04.0±0.3, 43°.64S×82°.52W, h19km, MW5.0/80, Moment Tensor Solution. s26,c28; s80,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.15±.24; $M_{\theta\theta}$0.81±.13; $M_{\phi\phi}$3.34±.15; $M_{r\theta}$0.71±.32; $M_{\phi\theta}$-0.01±.08; $M_{\phi r}$-0.84±.27; Best double couple: $M_0$3.88800×10^{16} NP1:ϕ_s351.00000°, δ52.00000°, λ-100.00000°. NP2: ϕ_s186.00000°, δ39.00000°, λ-78.00000°. Principal axes: T 3.4370, Plg7.0000°, Azm88.0000°; N 0.8980, Plg7.0000°, Azm357.0000°; P -4.3390, Plg80.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 22:03:03.5±0.9, 43°.85±0°.2×82°.5W±0°.1, h10km, n24, σ1ˢ29/9, mb4.3/6, MS4.2/12, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.35**	**75**	Pn	**Pn**	**22 05 19.2**	**+0.9**
0.2nm,0.3s,baz=281,slow=10,SNR=3.4							
PLCA				LR	LR	22 08 23.3	
comp=Z,3μm,18.9s,baz=308,slow=34							
USHA	**Ushuaia**	**14.29**	**145**	LR	LR	22 11 26.9	
comp=Z,3μm,18.5s,baz=282,slow=35							
LVC	**Limon Verde**	**23.93**	**32**	P	**P**	**22 08 17.5**	**-0.6**
11nm,0.6s,baz=212,slow=10,SNR=4.5							
LVC				LR	LR	22 15 32.0	
comp=Z,820nm,19.5s,baz=214,slow=31							
CPUP	**Villa Florida**	**26.80**	**58**	P	**P**	**22 08 44.5**	**+0.7**
3.5nm,1.0s,baz=199,slow=13,SNR=2.8							
CPUP				LR	LR	22 19 15.5	
comp=Z,1μm,19.1s,baz=222,slow=36							
RPN	**Rapa Nui**	**27.33**	**299**	LR	LR	22 16 41.4	
comp=Z,979nm,19.1s,baz=152,slow=30							
LPAZ	**La Paz**	**30.01**	**28**	P	**P**	**22 09 12.5**	**-0.6**
6.7nm,1.2s,baz=160,slow=8.3,SNR=11							
RKT	**Rikitea**	**47.55**	**278**	*e*LR	LR	22 25 07.8	
656nm,29.2s,baz=133							
ROSC	**El Rosal**	**48.98**	**11**	LR	LR	22 30 53.1	
comp=Z,142nm,18.4s,baz=212,slow=34							
VNDA	**Vanda**	**52.77**	**194**	LR	LR	22 30 50.9	
comp=Z,127nm,19.9s,baz=123,slow=32							
RCBR	**Riachuelo**	**55.61**	**61**	LR	LR	22 36 52.2	
comp=Z,935nm,18.5s,baz=174,slow=36							
TAOE	**Nuku Hiva Isla**	**60.80**	**287**	*e*LR	LR	22 31 22.5	
326nm,24.0s							
PPT2	**Papeete2**	**61.60**	**273**	*eS*	**S**	**22 21 45.7**	**+2.1**
129nm,27.5s							
PPT2				*e*LR	LR	22 31 29.5	
383nm,26.0s,baz=137							
PPT	**Papeete**	**61.61**	**273**	LR	LR	22 32 42.1	
comp=Z,154nm,18.8s,baz=174,slow=29							
MAW	**Mawson**	**65.85**	**166**	P	**P**	**22 13 48.7**	**+0.1**
2.1nm,1.0s,baz=243,slow=11,SNR=4.4							
MAW				LR	LR	22 42 22.3	
comp=Z,144nm,18.5s,baz=239,slow=36							
TXAR	**Lajitas Array**	**75.34**	**341**	P	**P**	**22 14 46.8**	**-0.2**
2.1nm,1.0s,baz=153,slow=5.0,SNR=11							
BOSA	**Boshof**	**82.24**	**122**	P	**P**	**22 15 24.8**	**-0.4**
2.9nm,0.8s,baz=239,slow=5.9,SNR=3.3							
BOSA				LR	LR	22 48 26.1	
comp=Z,111nm,18.3s,baz=222,slow=33							
DBIC	**Dimbokro**	**85.71**	**77**	LR	LR	22 48 59.1	
comp=Z,110nm,21.2s,baz=228,slow=32							
DZM	**Mont Dzumac**	**89.08**	**240**	*e*LR	LR	22 44 08.0	
424nm,23.6s							
STKA	**Stephens Creek**	**94.59**	**216**	LR	LR	22 49 43.6	
comp=Z,101nm,21.3s,baz=199,slow=30							
SCHQ	**Schefferville**	**99.17**	**9**	LR	LR	22 57 23.6	
comp=Z,48nm,20.5s,baz=358,slow=33							
H11S2	**WAKE ISLAND Hy**	**117.51**	**270**	T	T	00 30 11.1	
baz=135							
H11S1	**WAKE ISLAND Hy**	**117.52**	**270**	T	T	00 30 13.2	
baz=135							
H11S3	**WAKE ISLAND Hy**	**117.53**	**270**	T	T	00 30 07.0	
baz=135							
MJAR	**Matsushiro Arr**	**148.34**	**271**	PKPbc	**PKPbc**	**22 22 48.0**	**-1.8**
2.0nm,0.7s,baz=189,slow=4.6,SNR=4.

MLG	**Mont-d'or**	**1.46 199**	⇑*i*P	Pg	22 03 34.8 +0.7
DOG	**Dongo Capester**	**1.46 196**	⇑*i*P	Pg	22 03 35.0 +0.9
ECG	**Echelle**	**1.46 197**	*e*P	Pg	22 03 35.0 +0.9
SCG	**Saint Claude**	**1.48 198**	*e*P	Pg	22 03 35.6 +1.1
SCG			*e*S	Sg	22 03 57.1 +3.4
PHG	**Guadaloupe-2**	**1.48 196**	*e*P	Pg	22 03 35.3 +0.7
MGG	**Marie-Galante**	**1.52 184**	*e*P	Pg	22 03 35.6 +0.3
HMG	**Houelmont**	**1.53 198**	*e*P	Pg	22 03 36.4 +1.0
TBG	**Guadaloupe-3**	**1.64 195**	⇑*i*P	Pb	22 03 37.0 +0.4
SEUS	**St. Eustatius**	**1.69 272**	*e*P	Pg	22 03 38.7 +0.1
SEUS			*e*S	Sg	22 04 02.1 +1.6
DWS	**Wesley**	**1.87 183**	*e*P	Pb	22 03 41.1 +0.5
DWS			*e*S	Sg	22 04 06.2 0.0
SMRT	**St. Maarten**	**1.88 289**	*e*P	Pb	22 03 40.4 -0.3
SMRT			*e*S	Sb	22 04 05.2 +0.9
BBL	**Barber's Block**	**1.92 187**	*e*P	Pb	22 03 41.1 -0.4
SABA	**Saba**	**1.95 275**	*e*P	Pb	22 03 41.8 -0.1
SABA			*e*S	Sg	22 04 08.1 -0.6
PCM	**Pelee Case Pet**	**2.61 180**	*e*P	Pb	22 03 51.7 -1.6
GBMF	**Grand Be**	**2.63 179**	*e*P	Pn	22 03 50.3 +1.2
PML	**Morne Lenard**	**2.65 179**	*e*P	Pb	22 03 51.7 -2.2
FDF	**Fort de France**	**2.70 179**	*e*P	Pn	22 03 51.5 +1.5
TRMF	**Trois Ilets**	**2.90 177**	*e*P	Pn	22 03 53.6 +1.0

MOS ***03*** *22:08:01.4±1.1, 9°.07S×120°.36E, h47km, mb5.3/22, Error ellipse: s-maj=12.9km s-min=6.8km az=120.0*
BJI ***03*** *22:08:04.1, 9°.30S×120°.20E, h77km, mb4.9/43, mB5.2/32, Ms5.0/14, Ms7 4.7/9*
ISCJB ***03*** *22:08:06.8±0.2, 9°.34S±0°.02×120°.20E±0°.02, h100km, mb4.8/67, Error ellipse: s-maj=3.4km s-min=2.7km az=30.6*
NEIC ***03*** *22:08:06.8±0.7, 9°.23S×120°.25E, h85km±6km, mb5.0/19, Error ellipse: s-maj=7.5km s-min=4.8km az=46.0*
IDC ***03*** *22:08:07.7±1.8, 9°.06S×120°.35E, h89km±15km, mb4.4/21, mb1 4.5/22, mb1mx4.4/32, mbtmp4.7/22, MS3.4/9, Ms1 3.4/9, ms1mx3.0/42, Error ellipse: s-maj=16.5km s-min=9.9km az=66.0*
DJA ***03*** *22:08:07.6±0.1, 9°.5±2'×12°0E±°, h82km±2km, M5.0/29, mb5.0/29, mB5.4/8, MLv5.1/14, Mw(mB)4.8/8*
KLM ***03*** *22:08:09.8, 9°.53S×120°.67E, h149km, mb5.0*
ISC 03 22:08:08.3±0.3, 9°31S±0°.04×120°.27E±0°.03, h100km, n219, σ**2S26**/231**, mb4.9**/66**, 9C-13D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.35**	**175**	P	**Pn**	**22 08 20.9**	**-2.3**
WSI				S	**Sn**	**22 08 30.3**	**-4.0**
BASI	**Baing, Sumba**	**0.95**	**161**	P	**Pn**	**22 08 26.6**	**-1.6**
MMRI	**Maumere**	**2.06**	**71**	P	**Pn**	**22 08 42.0**	**+0.3**
MMRI				S	**Sn**	**22 09 06.9**	**-0.3**
MMRI	**Maumere**	**2.06**	**71**	*e*Pn	**Pn**	**22 08 41.7**	**0.0**
PLAI	**Plampang**	**2.50**	**281**	P	**Pn**	**22 08 47.8**	**+0.3**
PLAI				S	**Sn**	**22 09 16.3**	**-1.3**
BSSI	**Bau Bau, Buton**	**3.16**	**4**	P	**Pn**	**22 08 55.8**	**-0.4**
BSSI				S	**Sn**	**22 09 33.7**	**+0.5**
TWSI	**Taliwang, Sumb**	**3.39**	**279**	P	**Pn**	**22 09 00.0**	**+0.7**
TWSI				S	**Sn**	**22 09 38.1**	**-0.6**
SOEI	**Soe**	**3.97**	**97**	P	**Pn**	**22 09 09.3**	**+2.1**
SOEI				S	**Sn**	**22 09 52.5**	**-0.4**
SOEI	**Soe**	**3.97**	**97**	*e*Pn	**Pn**	**22 09 08.0**	**+0.8**
SOEI				*e*S	**Sn**	**22 09 50.7**	**-2.2**
BBSI	**Bau Bau**	**4.44**	**31**	P	Pn	22 09 14.7	+1.3
DNP	**Denpasar**	**5.03**	**277**	P	Pn	22 09 28.4	+6.9
IGBI	**Denpasar**	**5.08**	**275**	P	**Pn**	**22 09 21.9**	**-0.2**
	285nm,0.8s,9μm2.5nm						
IGBI				S	**Sn**	**22 10 16.8**	**-2.8**
	285nm,0.8s,9μm2.5nm						
SPSI	**Sidrap Palu**	**5.34**	**355**	P	Pn	22 09 27.2	+1.6
	205nm,0.6s,3μm0.9nm						
KDI	**Kendari**	**5.81**	**24**	P	Pn	22 09 33.5	+1.4
	166nm,1.0s,1μm0.5nm						
JAGI	**Jajag, Banyuwa**	**6.10**	**277**	P	**Pn**	**22 09 33.9**	**-2.1**
	159nm,0.5s,3μm1.5nm						
JAGI				S	**Sn**	**22 10 39.9**	**-4.5**
	159nm,0.5s,3μm1.5nm						
JAGI	**Jajag, Banyuwa**	**6.10**	**277**	*e*Pn	**Pn**	**22 09 33.8**	**-2.1**
JAGI				*e*S	**Sn**	**22 10 40.4**	**-4.0**
TTSI	**Tana Toraja**	**6.24**	**356**	P	Pn	22 09 40.2	+2.2
	368nm,0.8s,3μm1.0nm						
GMJI	**Gumukmas**	**6.82**	**278**	P	**Pn**	**22 09 43.8**	**-2.0**
	75nm,0.9s,0.7nm						
GMJI				S	**Sn**	**22 10 58.4**	**-3.6**
	75nm,0.9s,0.7nm						
PCI	**Palu**	**8.36**	**357**	P	Pn	22 10 09.4	+2.6
	228nm,1.1s,3μm						
PWJI	**Pagerwojo**	**8.46**	**278**	P	**Pn**	**22 10 06.8**	**-1.4**
PCJI	**Pacitan**	**9.05**	**276**	P	**Pn**	**22 10 14.9**	**-1.3**
NLAI	**Namlea**	**9.09**	**49**	P	Pn	22 10 21.9	+5.3
SANI	**Sanana**	**9.19**	**39**	P	Pn	22 10 19.8	+1.7
	72nm,1.1s,912nm						
MRSI	**Marisa**	**9.87**	**10**	P	**Pn**	**22 10 27.8**	**+0.5**
KNRA	**Kununurra**	**10.43**	**128**	P	**Pn**	**22 10 31.6**	**-3.3**
	baz=10,SNR=140						
MTN	**Manton Dam**	**11.23**	**109**	P	**Pn**	**22 10 41.5**	**-4.3**
	baz=11,SNR=87						
MTN	**Manton Dam**	**11.23**	**109**	*e*Pn	**Pn**	**22 10 42.2**	**-3.5**
LBMI	**Labuha**	**11.23**	**40**	P	Pn	22 10 49.2	+3.4
	60nm,1.1s						
MBWA	**Marble Bar**	**11.79**	**182**	*e*Pn	Pn	22 10 48.8	-4.4
MBWA				*e*S	Sn	22 12 49.7	-13
CISI	**Cisompet, Garu**	**12.44**	**277**	*e*Pn	**Pn**	**22 10 58.7**	**-3.2**
CISI				*e*S	Sn	22 13 10.2	-8.7
KDU	**Kakadu**	**12.44**	**107**	P	**Pn**	**22 10 59.6**	**-2.3**
	baz=12,SNR=22						
STKI	**Sintang**	**12.78**	**316**	P	P	22 11 16.5	+3.0
FAKI	**Fak Fak**	**13.50**	**63**	P	**Pn**	**22 11 15.0**	**-0.8**
	29nm,0.6s						
FAKI	**Fak Fak**	**13.50**	**63**	*e*Pn	**Pn**	**22 11 15.0**	**-0.8**
FAKI				*e*Sn	**Sn**	**22 13 47.1**	**+2.6**
DBJI	**Dramaga**	**13.66**	**281**	P	P	22 11 28.1	+4.8
SIJI	**Sorong**	**13.79**	**53**	P	P	22 11 19.8	-5.0
	15nm,0.3s,baz=236,slow=11,SNR=12						
SIJI				S	**Sn**	**22 13 53.2**	**+1.6**
	5.0nm,0.3s,baz=232,slow=22,SNR=1.4						
GIRL	**Giralia**	**14.46**	**203**	P	**Pn**	**22 11 26.3**	**-1.9**
	baz=14,SNR=43						
MYLDM	**Lahad Datu**	**14.51**	**353**	⇑P	**P**	**22 11 33.5**	**+0.9**
KSM	**Kuching**	**14.60**	**317**	⇓P	**P**	**22 11 35.3**	**+1.6**
CGJI	**Cibinong**	**14.68**	**279**	P	**P**	**22 11 35.7**	**+1.1**
KKM	**Kota Kinabalu**	**15.78**	**345**	⇑P	**P**	**22 11 46.5**	**-0.5**
KASI	**Kota Agung**	**16.08**	**282**	P	**P**	**22 11 53.0**	**+2.8**
WRA	**Warramunga Arr**	**17.22**	**129**	P	**P**	**22 11 59.6**	**-3.1**
	6.6nm,0.3s,baz=306,slow=14,SNR=136						
WRA				S	Sn	22 14 58.2	-16
	6.4nm,0.3s,baz=307,slow=24,SNR=9.6						
WRA	**Warramunga Arr**	**17.22**	**129**	*i* P	**P**	**22 12 00.7**	**-2.1**
WRA				pmax	pmax		
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**17.22**	**129**	*de*P	**P**	**22 12 01.6**	**-1.2**
WB2	**Warramunga Arr**	**17.23**	**129**	*e*Pn	**P**	**22 12 01.1**	**-1.8**
WB2				*e*Sn	Sn	22 14 59.6	-15
WRKA	**Warakurna**	**17.41**	**155**	P	**P**	**22 12 03.5**	**-1.3**
	baz=18,SNR=137						
AS31	**Alice Springs**	**19.33**	**139**	*e*P	**P**	**22 12 26.7**	**+0.8**
	comp=Z,26nm,0.4s						
AS31				*e*S	**S**	**22 15 53.5**	**-5.9**
ASAR	**Alice Springs**	**19.33**	**139**	P	**P**	**22 12 26.6**	**+0.8**
	comp=Z,3.7nm,0.3s,baz=314,slow=10,SNR=139						
ASAR				S	**S**	**22 15 51.1**	**-8.3**
	comp=Z,2.8nm,0.3s,baz=307,slow=22,SNR=7.9						
AS01	**Alice Springs**	**19.36**	**139**	*e*P	**P**	**22 12 26.6**	**+0.4**
MORW	**Morawa**	**20.05**	**191**	P	**P**	**22 12 34.0**	**+0.5**
	baz=20,SNR=5.0						
JAY	**Jayapura**	**21.41**	**73**	P	**P**	**22 12 47.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=128,slow=19,SNR=3.7						
BLDU	**Ballidu**	**21.45**	**188**	P	**P**	**22 12 48.4**	**-0.2**
	baz=22,SNR=42						
QIS	**Mount Isa**	**21.75**	**123**	P	**P**	**22 12 52.5**	**+0.6**
	baz=22,SNR=96						
KMBL	**Kambalda**	**22.00**	**176**	P	**P**	**22 12 54.0**	**-0.4**
	baz=22,SNR=13						
KLBR	**Kellerberrin**	**22.29**	**186**	P	**P**	**22 12 57.2**	**-0.3**
	baz=22,SNR=8.5						
KTGM	**Kuala Trenggan**	**22.43**	**310**	⇑P	**P**	**22 13 01.4**	**+2.4**
FORT	**Forrest**	**22.56**	**162**	P	**P**	**22 13 00.1**	**-0.2**
	baz=23,SNR=22						
FORT	**Forrest**	**22.56**	**162**	*e*P	**P**	**22 13 00.5**	**+0.2**
	comp=Z,484nm,0.8s						
COEN	**Coen**	**22.90**	**104**	P	**P**	**22 13 04.0**	**+0.1**
	baz=23,SNR=26						
COEN	**Coen**	**22.90**	**104**	*e*P	**P**	**22 13 04.0**	**+0.1**
	comp=Z,24nm,0.6s						
TGY	**Tagaytay City**	**23.27**	**2**	P	**P**	**22 13 07.0**	**-0.3**
	comp=Z,320nm,0.4s,baz=203,slow=1.3,SNR=7.0						
TGY				LR	LR	22 22 55.9	
	comp=Z,77nm,20.5s,baz=324,slow=39						
IPM	**Ipoh**	**23.57**	**305**	⇓P	**P**	**22 13 10.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**23.67**	**186**	LR	LR	22 22 30.9	
	comp=Z,100nm,19.6s,baz=165,slow=36						
NWAO	**Narrogin (SRO)**	**23.67**	**186**	P	**P**	**22 13 11.2**	**+0.4**
	baz=24,SNR=22						
NWAO				P	**P**	**22 13 11.2**	**+0.4**
	baz=24,SNR=22						
NWAO	**Narrogin (SRO)**	**23.67**	**186**	*e*P	**P**	**22 13 10.7**	**0.0**
NWAO				*e*S	**S**	**22 17 25.1**	**+6.9**
NWAO				pmax	pmax		
	comp=Z,135nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.67**	**186**	*e*P	**P**	**22 13 10.7**	**0.0**
	comp=Z,135nm,0.8s						
NWAO				*e*S	**S**	**22 17 25.1**	**+6.9**
KULM	**Kulim**	**24.34**	**306**	⇓P	**P**	**22 13 17.2**	**+0.2**
PSI	**Prapat**	**24.44**	**299**	P	**P**	**22 13 17.2**	**-0.9**
	comp=Z,7.9nm,0.5s,baz=138,slow=12,SNR=5.2						
MTSU	**Mount Surprise**	**24.93**	**113**	P	**P**	**22 13 23.6**	**+1.1**
	baz=25,SNR=174						
RKGY	**Rocky Gully**	**25.36**	**186**	P	**P**	**22 13 27.7**	**+1.6**
	baz=25,SNR=10						
PMG	**Port Moresby**	**26.53**	**92**	LR	LR	22 25 46.1	
	comp=Z,48nm,18.0s,baz=292,slow=40						
CTA	**Charters Tower**	**27.28**	**116**	P	**P**	**22 13 45.0**	**+1.4**
	comp=Z,14nm,0.7s,baz=281,slow=12,SNR=14						
CTA	**Charters Tower**	**27.28**	**116**	P	**P**	**22 13 45.1**	**+1.5**
	baz=27						
CTA	**Charters Tower**	**27.28**	**116**	P	**P**	**22 13 45.0**	**+1.4**
CTAO	**Charters Tower**	**27.28**	**116**	*e*P	**P**	**22 13 44.7**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,94nm,0.8s						
CTAO	**Charters Tower**	**27.28**	**116**	*e*P	**P**	**22 13 44.7**	**+1.1**
	comp=Z,94nm,0.8s						
BBOO	**Buckleboo**	**27.56**	**150**	P	**P**	**22 13 46.6**	**+0.6**
	baz=28,SNR=6.8						
BBOO	**Buckleboo**	**27.56**	**150**	*e*P	**P**	**22 13 46.3**	**+0.3**
	comp=Z,53nm,0.6s						
QLP	**Quilpie**	**28.46**	**130**	P	**P**	**22 13 55.6**	**+1.7**
	baz=29,SNR=11						
HTT	**Hallett**	**29.52**	**147**	P	**P**	**22 14 04.5**	**+1.1**
	baz=30,SNR=8.7						
STKA	**Stephens Creek**	**29.93**	**142**	P	**P**	**22 14 08.1**	**+1.2**
	comp=Z,14nm,0.4s,baz=325,slow=8.2,SNR=43						
STKA				LR	LR	22 27 45.5	
	comp=Z,76nm,19.4s,baz=216,slow=39						
STKA	**Stephens Creek**	**29.93**	**142**	P	**P**	**22 14 08.1**	**+1.2**
	baz=30,SNR=38						
STKA	**Stephens Creek**	**29.93**	**142**	*e*P	**P**	**22 14 08.2**	**+1.2**
STKA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
STKA	**Stephens Creek**	**29.93**	**142**	*e*P	**P**	**22 14 08.2**	**+1.2**
	comp=Z,8.2nm,1.1s						
QIZ	**Qiongzhong**	**29.98**	**340**	*e*P	**P**	**22 14 07.2**	**-0.3**
	comp=Z,103nm,1.3s						
RMQ	**Roma**	**31.92**	**126**	P	**P**	**22 14 26.6**	**+2.0**
	baz=32,SNR=4.4						
UTHA	**Uthaitani**	**32.19**	**320**	P	**P**	**22 14 27.5**	**+0.5**
	comp=Z,17nm,0.6s,comp=Z,152nm						
CMSA	**Cobar Meteorol**	**32.35**	**137**	P	**P**	**22 14 29.7**	**+1.5**
	baz=32,SNR=28						
UMPA	**Umpang Tak**	**33.04**	**320**	P	**P**	**22 14 34.2**	**-0.3**
	comp=Z,10.0nm,0.5s,comp=Z,111nm						
UTTA	**Uttaradit**	**33.20**	**324**	P	**P**	**22 14 36.7**	**+1.0**
	comp=Z,4.7nm,0.9s						
ARPS	**Mount Arapiles**	**33.61**	**148**	P	**P**	**22 14 40.8**	**+1.6**
	baz=34,SNR=41						
LAMP	**Lampang**	**34.34**	**324**	P	**P**	**22 14 46.8**	**+1.1**
	comp=Z,6.4nm,0.7s,comp=Z,66nm						
CM01	**Chiang Mai Arr**	**34.66**	**323**	*e*P	**P**	**22 14 48.0**	**-0.4**
CM31	**Chiang Mai Arr**	**34.70**	**323**	*e*P	**P**	**22 14 49.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**34.70**	**323**	P	**P**	**22 14 49.2**	**+0.4**
	comp=Z,4.5nm,0.5s,baz=153,slow=7.1,SNR=32						
CMAR				PcP	**PcP**	**22 17 21.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=181,slow=2.6,SNR=5.8						
CMAR				ScP	**ScP**	**22 20 58.5**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=176,slow=2.9,SNR=6.1						
CMAR				LR	LR	22 29 08.7	
	comp=Z,47nm,20.0s,baz=190,slow=36						
CHTO	**Chiang Mai**	**34.98**	**323**	P	**P**	**22 14 51.7**	**+0.5**
	comp=Z,144nm,1.5s						
CHTO	**Chiang Mai**	**34.98**	**323**	*e*P	**P**	**22 14 51.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CHTO	**Chiang Mai**	**34.98**	**323**	*e*P	**P**	**22 14 51.2**	**0.0**
	comp=Z,9.7nm,0.6s						
ARMA	**Armidale**	**36.00**	**130**	P	**P**	**22 15 02.9**	**+2.9**
	baz=36						
TOO	**Toolangi**	**36.19**	**145**	P	**P**	**22 15 04.2**	**+2.7**
	baz=36,SNR=7.4						
MGCD	**Mangrove Creek**	**37.05**	**134**	P	**P**	**22 15 11.8**	**+3.0**
	baz=37,SNR=6.4						
GYA	**Guiyang**	**37.93**	**340**	⇑*i*P	**P**	**22 15 16.2**	**-0.1**
GYA				pP	pP	22 15 36.2	-3.1
GYA				PP	**PnPn**	**22 16 50.4**	**+2.9**
GYA				S	**S**	**22 21 05.8**	**+4.8**
GYA				sS	sS	22 21 36.0	-4.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
KMI	**Kunming**	**38.25**	**334**	P	**P**	**22 15 21.1**	**+1.9**
KMI				pmax	pmax		
	comp=Z,15nm,1.3s						
MOO	**Moorlands**	**40.58**	**149**	P	**P**	**22 15 40.8**	**+2.8**
	baz=41,SNR=4.4						
ENH	**Enshi**	**40.70**	**346**	*e*P	**P**	**22 15 38.6**	**-0.6**
	comp=Z,16nm,0.7s						
NJ2	**Nanjing**	**41.15**	**358**	*e*P	**P**	**22 15 43.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
CD2	**Chengdu**	**43.02**	**339**	*e*P	**P**	**22 15 59.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
KSAR	**Wonju Array Be**	**47.05**	**8**	P	**P**	**22 16 26.4**	**-3.5**
KSAR						22 18 00.3	
KSAR	**Wonju Array Be**	**47.05**	**8**	P	**P**	**22 16 26.4**	**-3.5**
KSAR				PcP	**PcP**	**22 18 00.2**	**-0.2**
KSRS	**Korea Array**	**47.07**	**8**	P	**P**	**22 16 26.4**	**-3.6**
	comp=Z,1.3nm,0.7s,baz=187,slow=8.6,SNR=3.5						
KSRS				PcP	**PcP**	**22 18 00.2**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=186,slow=3.0,SNR=9.6						
KSRS				LR	LR	22 37 44.5	
	comp=Z,27nm,19.4s,baz=208,slow=38						
H08S2	**Diego Garcia H**	**47.25**	**268**	T	T	23 07 14.1	
	baz=96,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**47.26**	**268**	T	T	23 07 15.0	
	baz=96,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**47.27**	**268**	T	T	23 07 15.8	
	baz=96,slow=76,SNR=5.0						
LZH	**Lanzhou**	**47.73**	**342**	*e*P	**P**	**22 16 36.3**	**+0.9**
LZH				pP	pP	22 16 51.6	-7.6
LZH				sP	sP	22 17 00.3	-10
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,350nm,6.8s						
LSA	**Lhasa**	**47.86**	**325**	*e*P	**P**	**22 16 36.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,15nm,0.4s						
LSA	**Lhasa**	**47.86**	**325**	*e*P	**P**	**22 16 36.7**	**-0.1**
	comp=Z,15nm,0.4s						
ODAN	**Odare**	**48.07**	**319**	*e*P	**P**	**22 16 37.7**	**-0.5**
	comp=Z,10nm,0.4s						
TAPN	**Taplejung**	**48.20**	**320**	*e*P	**P**	**22 16 39.0**	**-0.3**
	comp=Z,24nm,0.5s						
MJAR	**Matsushiro Arr**	**48.63**	**19**	P	**P**	**22 16 39.1**	**-3.0**
	comp=Z,2.4nm,0.9s,baz=194,slow=8.7,SNR=4.6						
RAMN	**Ramite**	**48.64**	**319**	*e*P	**P**	**22 16 42.3**	**-0.3**
	comp=Z,21nm,0.4s						
BJT	**Baijiatuau**	**49.23**	**356**	*e*P	**P**	**22 16 46.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BJT	**Baijiatuau**	**49.23**	**356**	*e*P	**P**	**22 16 46.5**	**0.0**
	comp=Z,7.4nm,0.4s						
BJI	**Beijing**	**49.25**	**356**	P	**P**	**22 16 46.1**	**-0.6**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**49.39**	**319**	*e*P	**P**	**22 16 47.9**	**-0.6**
	comp=Z,28nm,0.5s						
GUN	**Gumba**	**49.76**	**319**	*e*P	**P**	**22 16 50.3**	**-1.0**
	comp=Z,40nm,0.6s						
PKI	**Pulchoki**	**49.84**	**318**	*e*P	**P**	**22 16 51.2**	**-0.7**
PKIN	**Phulchoki**	**49.85**	**318**	*e*P	**P**	**22 16 51.5**	**-0.4**
	comp=Z,26nm,0.4s						
DMN	**Daman**	**50.06**	**318**	*e*P	**P**	**22 16 52.6**	**-0.9**
	comp=Z,15nm,0.4s						
KKN	**Kakani**	**50.07**	**319**	*e*P	**P**	**22 16 52.5**	**-1.0**
	comp=Z,8.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**50.55**	**351**	*e*P	**P**	**22 16 59.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,9.9s						
GKN	**Gorkha**	**50.63**	**318**	*e*P	**P**	**22 16 56.9**	**-0.8**
	comp=Z,30nm,0.4s						
KOLN	**Koldanda**	**51.17**	**317**	*e*P	**P**	**22 17 00.8**	**-0.9**
	comp=Z,15nm,0.4s						
DANN	**Dangsing**	**51.44**	**318**	*e*P	**P**	**22 17 03.3**	**-0.6**
	comp=Z,2.6nm,0.5s						
PYUN	**Piuthan**	**51.79**	**317**	*e*P	**P**	**22 17 05.8**	**-0.6**
	comp=Z,37nm,0.5s						
GTA	**Gaotai**	**52.06**	**340**	P	**P**	**22 17 08.8**	**+0.7**
GTA				pP	pP	22 17 23.9	-8.3
GTA				pmax	pmax		
	comp=Z,23nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.31**	**10**	P	**P**	**22 17 22.9**	**-1.4**
	comp=Z,2.9nm,0.5s,baz=201,slow=7.2,SNR=5.9						
RPZ	**Rata Peaks**	**55.73**	**137**	P	**P**	**22 17 36.0**	**+1.4**
	comp=Z,67nm,1.2s,baz=231,slow=4.2,SNR=9.5						
ULN	**Ulaanbaatar**	**58.12**	**350**	⇓*i*P	**P**	**22 17 51.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
ULN	**Ulaanbaatar**	**58.12**	**350**	*e*P	**P**	**22 17 51.3**	**-0.2**
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**58.21**	**349**	P	**P**	**22 17 51.3**	**-0.9**
	comp=Z,9.0nm,1.0s,baz=164,slow=8.2,SNR=44						
SONM				ScP	**ScP**	**22 22 32.7**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=164,slow=3.8,SNR=4.5						
SONA1	**Songino Array**	**58.22**	**349**	*e*P	**P**	**22 17 51.3**	**-0.9**
WMQ	**Urumqi**	**60.59**	**333**	P	**P**	**22 18 09.4**	**+0.9**
WMQ				pP	pP	22 18 29.8	-3.4
WMQ				sP	sP	22 18 33.9	-10
WMQ				S	**S**	**22 26 15.7**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.9s						
WMQ				LR	LR		
	comp=Z,310nm,26.3s						
WMQ				LR	LR		
	comp=Z,200nm,23.1s						
ZAK	**Zakamensk**	**61.26**	**348**	*e*P	**P**	**22 18 11.2**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TLY	**Talaya**	**62.42**	**348**	*e*P	**P**	**22 18 20.6**	**0.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TLY	**Talaya**	**62.42**	**348**	*e*P	**P**	**22 18 20.6**	**0.0**
	comp=Z,5.5nm,0.4s						
KSH	**Kashi**	**63.60**	**323**	P	**P**	**22 18 27.9**	**-0.9**
KSH				pP	pP	22 18 47.4	-6.4
KSH				sP	sP	22 18 56.1	-8.6
KSH				PcP	**PcP**	**22 19 04.4**	**0.0**
KSH				PP	**PP**	**22 20 50.3**	**+0.3**
KSH				S	**S**	**22 26 50.1**	**-5.0**
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH				pmax	pmax		
	comp=Z,74nm,3.5s						
KSH				LR	LR		
	comp=Z,98nm,5.9s						
KSH				LR	LR		
	comp=Z,150nm,5.4s						
KBL	**Kabul**	**65.19**	**315**	*e*P	**P**	**22 18 38.5**	**-0.9**
KBL	**Kabul**	**65.19**	**315**	*e*P	**P**	**22 18 38.5**	**-0.9**
MK01	**Makanchi Array**	**65.29**	**332**	*e*P	**P**	**22 18 38.3**	**-1.3**
MK31	**Makanchi Array**	**65.31**	**332**	*e*P	**P**	**22 18 38.8**	**-0.9**
MK31	**Makanchi Array**	**65.31**	**332**	*e*P	**P**	**22 18 38.8**	**-0.9**
MKAR	**Makanchi Array**	**65.31**	**332**	P	**P**	**22 18 39.6**	**-0.1**
	comp=Z,16nm,0.5s,baz=148,slow=6.1,SNR=185						
MKAR	**Makanchi Array**	**65.31**	**332**	*ce*P	**P**	**22 18 38.7**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,17nm,0.5s						
DGZ	**Jazzator, Alta**	**65.41**	**337**	*e*P	**P**	**22 18 39.9**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,14nm,0.6s						
MAKZ	**Makanchi**	**65.46**	**332**	*e*P	**P**	**22 18 41.1**	**+0.4**
MAKZ	**Makanchi**	**65.46**	**332**	*e*P	**P**	**22 18 41.1**	**+0.4**
AAK	**Ala-Archa**

LSZ	Lusaka	89.57	255	eP	P	22 20 56.4	+0.9
LSZ				pmax	pmax		
comp=Z,2.0nm,0.5s							
LSZ	Lusaka	89.57	255	eP	P	22 20 56.4	+0.9
comp=Z,2.0nm,0.5s							
BOSA	Boshof	89.95	241	P	P	22 20 58.6	+1.5
comp=Z,1.5nm,0.5s,baz=59,slow=2.4,SNR=6.3							
SNAA	Sanae	91.03	195	P	P	22 21 03.4	+2.3
SNAA	Sanae	91.03	195	eP	P	22 21 03.0	+1.9
SNAA	Sanae	91.03	195	eP	P	22 21 03.0	+1.9
comp=Z,616nm,0.8s							
VSR	Storozhevoye	91.66	322	eP	P	22 21 06.4	+2.2
VSR				pmax	pmax		
comp=Z,7.0nm,0.5s							
VNA2	Neumayer--Watz	92.66	195	P	P	22 21 06.7	-1.9
baz=282,slow=2.5							
BRTR	Keskin Array B	93.30	310	P	P	22 21 11.3	-1.0
comp=Z,1.3nm,0.9s,baz=131,slow=5.5,SNR=5.4							
BRTR	Keskin Array B	93.30	310	i P	P	22 21 14.5	+2.2
BRTR				pmax	pmax		
comp=Z,1.0nm,0.9s							
OBN	Obninsk	93.98	325‖	eP	P	22 21 17.3	+2.5
OBN				*PP	pP	22 21 33.0	-8.2
OBN				e*SP	sP	22 21 37.2	-15
OBN				pmax	pmax		
comp=Z,19nm,1.7s							
AKASG	Malin Array Be	97.79	320	P	P	22 21 30.2	-2.1
comp=Z,1.9nm,0.7s,baz=81,slow=4.7,SNR=5.4							
AKASG	Malin Array Be	97.79	320	i P	Pdif	22 21 33.4	+1.1
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
KIEV	Kiev	97.80	320‖	eP	Pdif	22 21 35.7	+3.4
KIEV				pmax	pmax		
comp=Z,16nm,3.1s							
ILAR	Eielson Array	99.57	26	P	Pdif	22 21 38.0	-2.0
comp=Z,0.3nm,0.5s,baz=241,slow=4.8,SNR=5.2							
FINES	FINESS Array B	100.12	331	i P	Pdif	22 21 43.4	+1.0
FINES				pmax	pmax		
comp=Z,1.0nm,0.8s							
VYHS	Vyhne	104.49	318	eP	Pdif	22 22 15.0	+13
VYHS	Vyhne	104.49	318	ePDIFF	Pdif	22 22 15.0	+13
CLL	Collm	108.00	321	e(PKiKP)	PKiKP	22 26 21.0	-3.3
comp=Z,27nm,2.1s							
TORD	Torodi Ar. Bea	119.75	280	PKP	PKPdf	22 26 48.4	+0.6
comp=Z,1.0nm,0.6s,baz=56,slow=1.9,SNR=9.9							
TORD				SKP		22 30 15.6	
comp=Z,0.6nm,0.6s,baz=72,slow=1.4,SNR=4.2							
ESDC	Sonseca Array	122.05	311	PKP	PKPdf	22 26 51.9	+0.3
comp=Z,0.1nm,0.4s,baz=55,slow=3.1,SNR=4.1							
PDAR	Pinedale Array	125.29	44	PKP	PKPdf	22 26 58.0	0.0
comp=Z,0.2nm,0.4s,baz=250,slow=2.7,SNR=3.4							
DBIC	Dimbokro	125.63	272	PKP	PKPdf	22 27 00.3	+1.2
comp=Z,1.6nm,0.6s,baz=87,slow=6.6,SNR=4.2							
TXAR	Lajitas Array	134.35	58	PKP	PKPdf	22 27 16.6	+1.2
comp=Z,0.2nm,0.4s,baz=300,slow=1.8,SNR=3.1							
CPUP	Villa Florida	144.49	184	PKP	PKPdf	22 27 34.0	+0.2
comp=Z,14nm,0.6s,baz=184,slow=1.8,SNR=40							
CMIG	Matias Romero	144.96	74	PKP	PKPab	22 27 32.5	-1.8
comp=Z,4.0nm,0.9s,baz=248,slow=5.4,SNR=3.3							
LRAL	Lakeview Retre	145.51	43	ePKPdf	PKPab	22 27 35.5	-0.4
TKL	Tuckaleechee C	145.83	36	PKPbc	PKPab	22 27 37.3	+0.3
comp=Z,6.9nm,0.6s,baz=149,slow=6.1,SNR=4.4							
KMSC	Kings Mountain	147.59	34	ePKPbc	PKPab	22 27 41.9	-1.9
RCBR	Riachuelo	151.88	239	PKPbc	PKPbc	22 27 54.8	+2.0
comp=Z,4.8nm,0.6s,baz=99,slow=2.8,SNR=3.7							
LPAZ	La Paz	153.24	162	PKPbc	PKPbc	22 27 58.0	+1.7
comp=Z,1.2nm,0.5s,baz=187,slow=4.1,SNR=4.2							
LPAZ				PKPab	PKPab	22 28 10.8	+2.6
comp=Z,7.5nm,0.7s,baz=212,slow=4.7,SNR=17							

*ISCJB **03** 22:18:05.0±0.3, 31°.22N±0°.03×65°.13W±0°.05, h10km, mb4.3/37, MS3.7/5, Error ellipse: s-maj=5.7km s-min=3.8km az=166.2*

*NEIC **03** 22:18:05.7±0.4, 31°.13N×65°.08W, h10km, mb4.4/31, Error ellipse: s-maj=7.9km s-min=4.2km az=73.0*

*IDC **03** 22:18:05.1±0.6, 31°.26N×65°.06W, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.0/70, mbtmp4.3/17, ML4.4/2, MS3.4/8, Ms1 3.4/8, ms1mx3.0/44, Error ellipse: s-maj=17.0km s-min=15.1km az=64.0*

ISC 03 22:18:05.9±0.5, 31°.24N±0°.05×65°.28W±0°.06, h10km, n288, σ2s44/291, mb4.4/37, MS3.5/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSR	BB Station	1.23	24	ePn	Pn	22 18 26.2	-3.0
GRTK	Grand Turk	11.01	210	ePn	Pn	22 20 41.5	-2.1
GRTK				eS	Sn	22 22 31.5	-15
CNNC	Cliffs of the	11.29	294	ePn	Pn	22 20 48.2	+0.9
CNNC				eS	Sn	22 22 44.6	-8.9
BRYW	Bryant College	11.78	337	ePn	Pn	22 20 55.2	+1.1
BRYW				eSn	Sn	22 22 54.5	-11
YLE	Yale	11.80	331	ePn	Pn	22 20 54.5	+0.3
YLE				eSn	Sn	22 22 58.0	-7.9
URVA	University of	11.93	305	ePn	Pn	22 20 58.4	+2.4
URVA				eSn	Sn	22 23 01.1	-8.1
PSUB	Penn St. - Bra	11.98	319	ePn	Pn	22 20 58.7	+2.0
JSRW	J. Sargeant Re	12.22	305	ePn	Pn	22 21 01.2	+1.1
HRV	Adam Dziewonsk	12.31	338	ePn	Pn	22 21 01.6	+0.4
HRV				eS	Sn	22 23 03.7	-15
QUA2	Belchertown	12.39	335	ePn	Pn	22 21 04.0	+1.7
QUA2				eSn	Sn	22 23 12.7	-7.6
NHSC	New Hope	12.76	282	ePn	Pn	22 21 08.6	+1.1
NHSC				eS	Sn	22 23 17.2	-12
STVI	Saint Thomas	12.84	179	ePn	Pn	22 21 06.2	-2.3
STVI				eSn	Sn	22 23 14.2	-17
N59A	State Game Lan	12.85	322	P	Pn	22 21 10.2	+1.6
baz=135,SNR=16							
N59A				S	Sn	22 23 28.5	-3.2
baz=135							
AGP	Aguadilla	12.89	188	ePn	Pn	22 21 07.3	-2.0
AGP				eSn	Sn	22 23 35.8	+3.0
CBYP	Canovanas	12.92	182	ePn	Pn	22 21 06.4	-3.4
CBYP				eSn	Sn	22 23 14.1	-20
IDE	Isla Desecheo	12.95	189	ePn	Pn	22 21 08.7	-1.4
HUMP	Col San Antoni	13.05	182	ePn	Pn	22 21 08.3	-3.1
HUMP				eSn	Sn	22 23 17.5	-19
MTP	Monte Pirata	13.09	181	ePn	Pn	22 21 08.5	-3.5
MTP				eSn	Sn	22 23 19.6	-18
SJG	San Juan	13.09	184	Pn	Pn	22 21 09.8	-2.2
13nm,0.3s,baz=22,slow=7.5,SNR=14							
SJG				Sn	Sn	22 23 19.0	-19
5.8nm,0.3s,baz=264,slow=23,SNR=3.1							
SJG				LR	LR	22 26 13.7	
comp=Z,19nm,18.9s,baz=44,slow=37							
SJG	San Juan	13.09	184	ePn	Pn	22 21 09.7	-2.3
SJG				eS	Sn	22 23 18.8	-19
CELP	Cerrillos	13.16	185	ePn	Pn	22 21 09.6	-3.3
CELP				eSn	Sn	22 23 23.8	-16
TRY	Troy	13.28	332	ePn	Pn	22 21 15.8	+1.3
SMRT	St. Maarten	13.28	171	ePn	Pn	22 21 11.7	-2.9
SDDR	Presa de Saban	13.36	205	ePn	Pn	22 21 14.2	-1.5
SDDR				eS	Sn	22 23 31.0	-13
CDVI	St. Croix	13.44	178	ePn	Pn	22 21 15.8	-1.0
CDVI				eSn	Sn	22 23 37.6	-8.6
VWCC	Virginia Weste	13.55	300	ePn	Pn	22 21 20.3	+2.1
JSC	Jenkinsville	13.79	287	ePn	Pn	22 21 22.0	+0.6
ACCN	Adirondack Com	13.83	334	ePn	Pn	22 21 23.3	+1.3
ACCN				eSn	Sn	22 23 47.2	-8.4
SSPA	Standing Stone	13.85	316	ePn	Pn	22 21 25.3	+3.0
SSPA				eS	Sn	22 23 42.3	-14
BLA	Blacksburg	13.87	300	ePn	Pn	22 21 22.1	-0.5
BLA				eS	Sn	22 23 47.5	-9.1
BINY	Binghamton	13.89	325	ePn	Pn	22 21 24.4	+1.5
19nm,0.4s							
GGN	Saint George	13.91	355	ePn	Pn	22 21 22.4	-0.6
GGN				eSn	Sn	22 23 47.5	-10
KMSC	Kings Mountain	14.00	290	P	Pn	22 21 25.0	+0.7
baz=102							
KMSC	Kings Mountain	14.00	290	ePn	Pn	22 21 24.7	+0.4
KMSC				eS	Sn	22 23 45.3	-14
LBNH	Lisbon	14.00	340	ePn	Pn	22 21 24.6	+0.3
LBNH				eSn	Sn	22 23 52.3	-7.4
O56A	Blue Knob Stat	14.04	314	P	Pn	22 21 25.9	+0.9
baz=126							
O56A				S	Sn	22 23 57.4	-3.5
baz=126							
LGNH	LØogne	14.30	209	ePn	Pn	22 21 29.1	+0.5
GTBY	Guantanamo Bay	14.33	220	ePn	Pn	22 21 26.3	-2.6
GTBY				eS	Sn	22 23 54.4	-13
PKME	Peaks-Kenny Pk	14.35	348	ePn	Pn	22 21 31.0	+1.9
PKME				eS	Sn	22 23 52.6	-16
DWPF	Disney Wildern	14.39	262	ePn	Pn	22 21 27.9	-1.8
DWPF				eS	Sn	22 23 54.2	-15
MCWV	Mont Chateau	14.53	309	ePn	Pn	22 21 34.8	+3.1
LONY	Lake Ozonia	15.23	334	ePn	Pn	22 21 43.4	+2.4
45nm,1.6s							
LONY				eS	Sn	22 24 25.3	-4.4
MMNY	Mt. Morris Dam	15.26	322	ePn	Pn	22 21 42.6	+1.2
MMNY				eSn	Sn	22 24 25.8	-4.6
N54A	Moraine State	15.33	313	P	Pn	22 21 43.5	+1.2
baz=125,SNR=9.8							
N54A				S	Sn	22 24 27.3	-4.9
baz=125							
LZG	Guadaloupe-1	15.37	167	eP	Pn	22 21 37.7	-5.2
SSG	Sans Toucher	15.44	167	eP	Pn	22 21 39.5	-4.5
M54A	Oil Creek Stat	15.45	316	P	Pn	22 21 44.8	+0.9
baz=127,SNR=12							
M54A				S	Sn	22 24 29.9	-5.2
baz=127							
GOGA	Godfrey	15.53	283	ePn	Pn	22 21 45.3	+0.3
19nm,0.6s							
GOGA				eS	Sn	22 24 19.9	-17
TIGA	Tifton	15.65	275	P	Pn	22 21 47.9	+1.3
baz=86							
TIGA				S	Sn	22 24 34.3	-5.8
baz=86							
TIGA	Tifton	15.65	275	ePn	Pn	22 21 48.4	+1.8
60nm,0.8s							
TIGA				eS	Sn	22 24 24.7	-15
TBG	Guadaloupe-3	15.67	167	eP	Pn	22 21 41.7	-5.2
ALLY	Alegheny Colle	15.82	315	ePn	P	22 21 51.8	-0.8
175nm,1.6s							
TKL	Tuckaleechee C	16.05	291	Pn	Pn	22 21 53.5	+1.7
2.9nm,0.3s,baz=97,slow=12,SNR=25							
TKL				Sn	Sn	22 24 35.9	-14
0.8nm,0.3s,baz=1.6,slow=21,SNR=2.4							
TKL				LR	LR	22 28 05.6	
comp=Z,135nm,18.7s,baz=121,slow=37							
PLVO	Plevna	16.59	329	ePn	Pn	22 21 59.4	+0.9
34nm,1.5s							
PLVO				eSn	Sn	22 24 57.1	-5.6
FDF	Fort de France	16.86	166	ePn	Pn	22 21 58.0	-4.1
SADO	Sadowa	17.34	325	P	P	22 22 10.1	+0.7
0.8nm,0.3s,baz=140,slow=14,SNR=5.2							
SADO				S	Sn	22 25 03.6	-17
0.3nm,0.3s,baz=252,slow=19,SNR=1.4							
SADO				LR	LR	22 28 44.1	
comp=Z,60nm,18.3s,baz=166,slow=37							
LRAL	Lakeview Retre	18.48	281	ePn	Pn	22 22 23.0	+0.8
30nm,1.6s							
LRAL				eS	Sn	22 25 32.7	-16
WCI	Wyandotte Cave	18.61	298	ePn	Pn	22 22 26.4	+2.7
12nm,0.7s							
WCI				eS	Sn	22 25 47.2	-4.6
Z48A	Northport	18.95	282	P	P	22 22 26.0	-1.2
baz=91							
248A	Dixon Mills	19.14	278	P	Pn	22 22 30.9	+0.8
baz=87							
Y47A	UCPARC, Winfie	19.20	284	P	P	22 22 29.6	-0.4
baz=92							
348A	Jackson	19.33	276	P	Pn	22 22 32.6	+0.2
baz=85							
WVT	Waverly	19.38	291	eP	Pn	22 22 35.8	+2.8
23nm,1.3s							
Z47A	Carrollton	19.38	282	P	Pn	22 22 33.1	+0.1
baz=90							
Y46A	Houston	20.04	284	P	P	22 22 40.0	+0.9
baz=91							
S45A	Carrier Mills	20.23	295	P	P	22 22 42.1	+0.9
baz=102							
OXF	Oxford	20.52	286	eP	Pn	22 22 46.8	+0.3
42nm,1.1s							
OXF				eS	S	22 26 22.7	-11
Y45A	Yeager Farm, C	20.61	284	P	Pn	22 22 46.8	-0.8
baz=91							
S44A	Carbondale	20.76	295	P	P	22 22 47.6	+0.6
baz=101							
PCRV	Puerto La Cruz	20.97	178	P	Pn	22 22 54.3	+2.5
14nm,0.7s,baz=168,slow=2.2,SNR=7.4							
Z44A	Pea Ridge, Bel	21.36	282	P	P	22 22 54.8	+1.4
baz=89							
Q43A	New Douglas	21.37	298	P	P	22 22 55.2	+1.8
baz=104							
144A	Alexander Plac	21.38	280	P	P	22 22 55.0	+1.4
baz=87							
S43A	Fulton Ridge,	21.38	294	P	P	22 22 55.2	+1.6
baz=100							
R43A	Red Bud	21.40	296	P	P	22 22 56.1	+2.3
baz=102							
P43A	Skaggs, Pawnee	21.41	300	P	P	22 22 55.3	+1.4
baz=106							
PBMO	Poplar Bluff	21.54	292	eP	P	22 22 58.5	+3.2
10nm,0.8s							
E45A	Wooded Hills,	21.55	320	P	P	22 22 56.6	+1.2
baz=127							
S42A	Caledonia	21.98	294	P	P	22 23 01.7	+1.7
baz=100,SNR=8.7							
Q42A	Golden Eagle	22.00	297	P	P	22 23 02.1	+1.9
baz=103							
P42A	Winchester	22.01	299	P	P	22 23 01.9	+1.5
baz=105,SNR=7.0							
F44A	Big Bay de Noc	22.03	318	P	P	22 23 02.0	+1.5
baz=124							
R42A	Luebbering	22.07	296	P	P	22 23 03.2	+2.2
baz=101							
N42A	Yates City	22.13	302	P	P	22 23 03.9	+2.3
baz=108							
U42A	Revenden	22.14	290	P	P	22 23 04.2	+2.5
baz=96,SNR=14							
V42A	Cord	22.21	289	P	P	22 23 04.9	+2.3
baz=94,SNR=12							
I42A	Draeger Farm,	22.50	311	P	P	22 23 07.8	+2.1
baz=116							
R41A	Rosebud	22.52	295	P	P	22 23 07.9	+2.0
baz=100							
Q41A	Truxton	22.54	297	P	P	22 23 08.0	+2.0
baz=102							
O41A	Passleys Farm,	22.55	300	P	P	22 23 08.1	+1.9
baz=105							
P41A	Barry, Barry	22.57	299	P	P	22 23 08.2	+1.9
baz=104							
Z42A	Norrel Spur, H	22.63	282	P	P	22 23 09.0	+2.0
baz=88							
T41A	Mountain View	22.64	292	P	P	22 23 09.2	+2.1
baz=97							
M41A	Milan	22.66	304	P	P	22 23 08.3	+1.0
baz=108							
U41A	Viola	22.69	290	P	P	22 23 08.5	+0.9
baz=95							
N41A	Harden Midland	22.69	302	P	P	22 23 08.9	+1.3
baz=107							
S41A	Jillco Farms,	22.70	293	P	P	22 23 08.5	+0.8
baz=98							
SDV	Santo Domingo	22.79	194	P	P	22 23 11.3	+2.3
24nm,0.8s,baz=26,slow=6.0,SNR=13							
SDV	Santo Domingo	22.79	194	eP	P	22 23 10.2	+1.2
25nm,0.8s							
V41A	Mountainview	22.83	289	P	P	22 23 10.5	+1.3
baz=94,SNR=16							
L41A	Preston	22.86	305	P	P	22 23 10.8	+1.4
baz=110							
W41B	Gary Mavity, V	22.88	287	P	P	22 23 11.0	+1.4
baz=92							
K41A	Shullsburg	22.92	307	P	P	22 23 10.7	+0.7
baz=112							
UALR	University of	22.94	286	eP	P	22 23 14.2	+3.9
21nm,0.9s							
JFWS	Jewell Farm	22.99	307	eP	P	22 23 14.3	+3.6
13nm,0.8s							
J41A	Loganville	23.01	309	P	P	22 23 12.3	+1.4
baz=114,SNR=5.1							
Y41A	Eaglette Beard	23.16	284	P	P	22 23 13.4	+0.8
baz=89							
Q40A	Laux Farm, Aux	23.19	297	P	P	22 23 14.5	+1.7
baz=101							
I41A	Arkdale	23.20	310	P	P	22 23 13.3	+0.5
baz=115							
R40A	Maddies Statio	23.21	295	P	P	22 23 13.5	+0.4
baz=100							
T40A	Mansfield	23.25	292	P	P	22 23 13.4	-0.1
baz=97							
N40A	Mertquake, Sal	23.27	302	P	P	22 23 14.0	+0.4
baz=106							
P40A	Paris	23.28	298	P	P	22 23 14.5	+0.8
baz=103							
O40A	La Belle	23.28	300	P	P	22 23 14.7	+0.9
baz=104							
S40A	Lebanon	23.29	293	P	P	22 23 15.8	+1.9
baz=98							
Z41A	Richland Creek	23.34	282	P	P	22 23 15.5	+1.1
baz=88							
X40A	Basin Creek Fa	23.34	285	P	P	22 23 15.3	+0.8
baz=90,SNR=8.1							
L40A	Anamosa	23.36	305	P	P	22 23 16.0	+1.4
baz=109							
M40A	Post Highland	23.37	303	P	P	22 23 15.1	+0.6
baz=107							
V40A	Witts Springs	23.38	289	P	P	22 23 16.2	+1.4
baz=94							
U40A	Yellville	23.44	290	P	P	22 23 16.9	+1.6
baz=95							
141A	Papa Simpson,	23.47	281	P	P	22 23 18.4	+2.7
baz=86							
K40A	Colesburg	23.52	306	P	P	22 23 18.2	+2.1
baz=111							
W40A	Ferguson Farm,	23.55	287	P	P	22 23 18.4	+2.0
baz=92							
Y40A	Okolona	23.72	284	P	P	22 23 20.3	+2.2
baz=89							
E41A	Kenton	23.78	316	P	P	22 23 20.8	+2.2
baz=121							
H40A	Chili	23.78	311	P	P	22 23 20.5	+1.9
baz=116							
P39B	Salisbury	23.80	298	P	P	22 23 20.8	+1.8
baz=102							
R39A	Chumby, Stover	23.81	295	P	P	22 23 20.8	+1.7
baz=99,SNR=11							
341A	Kurthwood	23.81	278	P	P	22 23 21.3	+2.2
baz=83							
O39A	Kirksville	23.81	300	P	P	22 23 20.8	+1.8
baz=104							
Q39A	Willow Grove F	23.89	297	P	P	22 23 21.2	+1.5
baz=101							
T39A	Clever	23.92	292	P	P	22 23 21.5	+1.4
baz=96							
N39A	Derby Farms, D	23.94	301	P	P	22 23 21.2	+1.0
baz=105							
U39A	Green Forest	23.95	290	P	P	22 23 22.1	+1.8
baz=94							
MIAR	Mount Ida	23.96	285	P	P	22 23 22.1	+1.7
baz=90							
V39A	Pettigrew	24.05	289	P	P	22 23 22.6	+1.2
baz=93,SNR=5.3							
W39A	Magazine	24.14	287	P	P	22 23 24.1	+2.1
baz=91							
J39A	Decorah	24.14	307	P	P	22 23 23.4	+1.3
baz=111							
MOTC	Monteria, Cord	24.35	206	eP	P	22 23 26.1	+1.9
Q38A	Cooks Store, C	24.37	296	P	P	22 23 25.7	+1.5
baz=100							
H39A	Augusta	24.38	311	P	P	22 23 26.2	+1.9
baz=114							
Y39A	Lockesburg	24.39	284	P	P	22 23 26.6	+2.1
baz=88							
X39A	Fountain Ranch	24.40	285	P	P	22 23 26.6	+2.0
baz=90							
S38A	Stockton	24.40	293	P	P	22 23 25.5	+1.0
baz=97							
R38A	Fenwick Farm,	24.47	294	P	P	22 23 26.4	+1.3
baz=98,SNR=7.0							
G39A	Holcombe	24.57	312	P	P	22 23 27.7	+1.8
baz=116							
T38A	Diamond	24.65	291	P	P	22 23 28.3	+1.6
baz=95							
J38A	Wedel Dairy, R	24.66	307	P	P	22 23 29.1	+2.3
baz=110							
V38A	Canehill	24.67	289	P	P	22 23 28.6	+1.6
baz=92							
U38A	Gravette	24.68	290	P	P	22 23 29.1	+2.1
baz=94							
F39A	Loretta	24.69	314	P	P	22 23 29.3	+2.2
baz=118							
W38A	Poteau	24.74	287	P	P	22 23 29.4	+1.8
baz=91							
I38A	Scanlan Farm,	24.82	309	P	P	22 23 30.7	+2.4
baz=112,SNR=6.1							
Y38A	Idabel	24.93	284	P	P	22 23 31.7	+2.4
baz=88							
X38A	Whitesboro	24.99	286	P	P	22 23 31.8	+2.0
baz=90,SNR=6.5							
P37A	Lathrop	25.03	297	P	P	22 23 32.2	+2.0
baz=100							
S37A	Fort Scott	25.14	293	P	P	22 23 33.0	+1.8
baz=96							
T37A	Cheneyville 18	25.15	292	P	P	22 23 32.9	+1.6
baz=95							
N37A	Lee Faris, Mou	25.17	300	P	P	22 23 32.9	+1.5
baz=103							
M37A	Trindle Farm,	25.21	302	P	P	22 23 33.7	+1.9
baz=104							
R37A	Teagarden Farm	25.21	294	P	P	22 23 33.7	+1.9
baz=97							
V37A	Hulbert	25.26	289	P	P	22 23 32.9	+0.6
baz=92							
U37A	Salina	25.26	290	P	P	22 23 33.5	+1.2
baz=93,SNR=5.6							
ZARC	Zaragoza, Cauc	25.27	203	eP	P	22 23 32.3	-0.1
K37A	Belmond	25.29	305	P	P	22 23 35.1	+2.6
baz=108							
F38A	Pierce - Schro	25.31	313	P	P	22 23 34.9	+2.3
baz=116							
J37A	Redenius Farm,	25.40	306	P	P	22 23 35.4	+1.9
baz=109							
E38A	The Farm, Brul	25.40	315	P	P	22 23 35.4	+1.9
baz=118							
H37A	Dierke Farm, C	25.41	309	P	P	22 23 35.9	+2.3
baz=112,SNR=6.8							
X37A	Clayton	25.44	286	P	P	22 23 36.3	+2.4
baz=89							
W37B	Quinton	25.48	287	P	P	22 23 35.7	+1.4
baz=90							
I37A	Lemond, Waseca	25.53	308	P	P	22 23 36.8	+2.2
baz=110							
SPMN	Marine on St.	25.59	311	P	P	22 23 37.9	+2.7
baz=114							
SPMN	Marine on St.	25.59	311	eP	P	22 23 38.3	+3.1
21nm,0.8s							
F37A	Hinrichs Farm,	25.68	312	P	P	22 23 38.1	+2.1
baz=115							
P36A	Good Intent, A	25.69	297	P	P	22 23 39.0	+2.8
baz=100							
R36A	Gordon, Harris	25.74	294	P	P	22 23 39.8	+3.2
baz=97							
S36A	Lake Cedric, C	25.74	293	P	P	22 23 38.5	+1.8
baz=96							
U36A	Oologah	25.76	290	P	P	22 23 38.6	+1.8
baz=93							
M36A	Felix, Anita	25.76	302	P	P	22 23 38.8	+2.0
baz=104							
C38A	Sawbill Land.	25.77	317	P	P	22 23 39.2	+2.4
baz=120							
Q36A	Arnold C. Orve	25.79	296	P	P	22 23 39.4	+2.4
baz=98							
TUL1	Leonard	25.79	289	P	P	22 23 39.8	+2.7
baz=92							
137A	Heron Place, G	25.87	281	P	P	22 23 40.2	+2.4
baz=85							
T36A	Boggs Farm, Ca	25.91	291	P	P	22 23 40.6	+2.3
baz=94							
EYMN	Ely	26.02	317	eP	P	22 23 43.2	+4.2
7.4nm,0.9s							
W36A	Wetumka	26.14	287	P	P	22 23 42.1	+1.8
baz=90							
G36A	St. Michael	26.21	310	P	P	22 23 41.4	+0.6
baz=112			

537A	Green Hill Far	26.68	276	P	P	22 23 47.7 +2.5
	baz=80					
HELC	Santa Helena	26.71	203	eP	P	22 23 47.3 +1.4
HELC	Santa Helena	26.71	203	eP	P	22 23 48.6 +2.7
	34nm,1.2s					
X35A	Drake	26.77	285	P	P	22 23 47.7 +1.7
	baz=88					
637A	Eagle Lake	26.82	274	P	P	22 23 50.5 +4.1
	baz=78					
Q34A	Chapman	26.92	295	P	P	22 23 49.2 +1.9
	baz=97					
T34A	McClaskey Farm	26.96	291	P	P	22 23 49.1 +1.4
	baz=93					
NORC	Norcasia	27.08	201	eP	P	22 23 48.9 -0.1
R34A	Isabella, Hill	27.10	294	P	P	22 23 51.1 +2.2
	baz=96					
GUYC	Guyana, Colomb	27.57	202	eP	P	22 23 56.1 +2.3
ROSC	El Rosal	27.60	200	P	P	22 23 56.6 +2.7
	9.2nm,0.5s,baz=39,slow=17,SNR=3.6					
435B	Jarrell	27.64	278	P	P	22 23 56.9 +3.1
	baz=81					
G33A	Ortonville	27.97	309	P	P	22 23 59.0 +2.3
	baz=109					
F33A	5 Mile Ranch,	28.09	310	P	P	22 24 00.1 +2.4
	baz=110					
WMOK	Wichita Mounta	28.24	286	P	P	22 24 00.5 +1.2
	baz=88					
WMOK	Wichita Mounta	28.24	286	eP	P	22 24 01.9 +2.6
	8.8nm,1.4s					
534A	Blanco	28.53	276	P	P	22 24 02.4 +0.5
	baz=79					
A33A	Warroad	28.77	317	P	P	22 24 06.3 +2.5
	baz=117					
533A	Kerrville	29.00	277	P	P	22 24 08.8 +2.8
	baz=79					
633A	Saathoff Ranch	29.24	275	P	P	22 24 10.7 +2.6
	baz=78					
E31A	Nome	29.38	311	P	P	22 24 10.8 +1.6
	baz=110					
JCT	Junction City	29.58	278	P	P	22 24 12.9 +1.8
	baz=80					
ULM	Lac du Bonnet	29.66	319	P	P	22 24 13.7 +2.1
	5.1nm,0.7s,baz=102,slow=8.1,SNR=5.5					
ULM				LR	LR	22 35 57.9
	comp=Z,111nm,18.3s,baz=132,slow=36					
833A	Chaparral WMA,	29.69	273	P	P	22 24 14.1 +2.0
	baz=76					
T25A	Trinidad	32.73	291	P	P	22 24 41.2 +2.1
	baz=89					
T25A	Trinidad	32.73	291	eP	P	22 24 42.9 +3.7
	6.3nm,1.0s					
TXAR	Lajitas Array	33.10	277	P	P	22 24 44.5 +2.2
	3.8nm,0.9s,baz=97,slow=7.5,SNR=26					
TXAR				PcP	PcP	22 27 26.7 +1.2
	1.0nm,0.8s,baz=134,slow=3.3,SNR=5.2					
TX31	Lajitas Ar. Si	33.10	277	eP	P	22 24 44.0 +1.8
ISCO	Idaho Springs	33.69	296	P	P	22 24 48.6 +1.1
	baz=92					
ISCO	Idaho Springs	33.69	296	eP	P	22 24 52.6 +5.0
	2.8nm,0.8s					
N23A	Red Feather La	33.99	298	P	P	22 24 51.6 +1.5
	baz=93					
MNTX	Cornudas Mount	34.08	281	P	P	22 24 52.9 +2.3
	baz=80					
MNTX	Cornudas Mount	34.08	281	eP	P	22 24 53.1 +2.5
	2.7nm,0.9s					
S22A	4UR Ranch, Cre	34.64	292	P	P	22 24 56.7 +0.9
	baz=88					
S22A	4UR Ranch, Cre	34.64	292	eP	P	22 24 59.8 +4.0
	3.6nm,0.9s					
BW06	Boulder Array	36.80	301	P	P	22 25 16.0 +1.7
	baz=93					
BW06	Boulder Array	36.80	301	eP	P	22 25 16.1 +1.9
PD31	Pinedale Array	36.80	301	eP	P	22 25 16.5 +2.3
PDAR	Pinedale Array	36.80	301	P	P	22 25 16.1 +1.9
	1.2nm,0.8s,baz=82,slow=11,SNR=7.5					
PDAR				LR	LR	22 40 15.3
	comp=Z,49nm,21.4s,baz=110,slow=36					
W18A	Petrified Fore	37.18	288	P	P	22 25 18.5 +1.0
	baz=83					
EGMT	Eagleton	37.55	309	P	P	22 25 20.2 -0.2
	baz=100					
LOHW	Long Hollow	37.62	302	eP	P	22 25 23.5 +2.4
	4.7nm,0.9s					
TPAW	Teton Pass	37.86	302	eP	P	22 25 27.9 +4.7
	6.1nm,1.1s					
IMW	Indian Meadow	37.88	303	eP	P	22 25 27.2 +3.8
	4.1nm,1.1s					
WUAZ	Wupatki	38.46	289	P	P	22 25 29.5 +1.2
	baz=83					
TUC	Tucson	38.48	284	P	P	22 25 31.0 +2.6
	baz=79					
TUC	Tucson	38.48	284	eP	P	22 25 31.7 +3.3
	3.3nm,0.8s					
BOZ	Bozeman (W)	38.50	305	eP	P	22 25 28.4 -0.1
	12nm,1.2s					
U15A	North Rim	39.09	291	eP	P	22 25 37.4 +3.7
	4.1nm,1.1s					
DUG	Dugway, Tooele	39.22	297	P	P	22 25 36.9 +2.3
	baz=88					
SAML	Samuel	40.01	177	eP	P	22 25 41.1 0.0
	12nm,0.8s					
MSO	Missoula	40.22	307	P	P	22 25 44.3 +1.6
	baz=95					
214A	Organ Pipe Nat	40.23	284	P	P	22 25 45.4 +2.4
	baz=78					
YBMT	Yellow Bay	40.36	309	eP	P	22 25 47.1 +3.1
HLID	Hailey	40.38	302	P	P	22 25 45.9 +1.7
	baz=91					
HLID	Hailey	40.38	302	eP	P	22 25 47.9 +3.6
	3.2nm,0.9s					
JTMT	Jette	40.53	308	eP	P	22 25 48.6 +3.2
GMRC	Granite Mounta	42.04	289	P	P	22 26 01.0 +3.1
	baz=80					
BC3	Big Chuckawall	42.08	287	P	P	22 25 59.7 +1.5
	baz=79					
BELC	Belle Mtn. Jos	42.46	288	P	P	22 26 03.5 +2.2
	baz=79					
NEW	Newport	42.48	309	P	P	22 26 03.6 +2.4
	9.4nm,0.8s,baz=104,slow=9.5,SNR=9.7					
NEW	Newport	42.48	309	P	P	22 26 02.8 +1.6
	baz=94					
PFO	Pinyon Flats O	42.91	287	P	P	22 26 05.7 +0.7
	baz=79					
SUMG	Summit	43.75	11	eP	P	22 26 12.2 +0.6
	1.9nm,0.8s					
BEKR	Beckworth	45.02	297	eP	P	22 26 25.5 +3.5
	77nm,0.7s					
RES	Resolute Bay	45.94	349	LR	LR	22 45 12.3
	comp=Z,49nm,18.2s,baz=90,slow=35					
LPAZ	La Paz	47.33	184	P	P	22 26 40.5 -0.2
	2.6nm,0.9s,baz=4.9,slow=9.6,SNR=8.1					
ESDC	Sonseca Array	49.80	62	P	P	22 26 58.6 -0.4
	0.5nm,0.6s,baz=286,slow=7.9,SNR=6.4					
IL1	Eielson Array	58.68	330	eP	P	22 28 03.3 +0.1
ILAR	Eielson Array	58.68	330	P	P	22 28 03.7 +0.5
	1.4nm,0.7s,baz=86,slow=6.4,SNR=16					
ARCES	ARCESS Array B	61.38	24	P	P	22 28 21.1 -0.6
	3.9nm,0.8s,baz=290,slow=7.5,SNR=5.7					
H10N3	ASCENSION HYDR	62.18	120	T	T	23 36 29.2
	baz=314,slow=74,SNR=3.7					
H10N2	ASCENSION HYDR	62.18	120	T	T	23 36 29.8
	baz=314					
H10N1	ASCENSION HYDR	62.20	120	T	T	23 36 17.1
	baz=314,slow=74,SNR=3.4					
H10S3	ASCENSION HYDR	62.79	121	T	T	23 37 17.7
	baz=313,slow=75,SNR=4.9					
H10S1	ASCENSION HYDR	62.80	121	T	T	23 37 21.7
	baz=313,slow=75,SNR=2.8					
H10S2	ASCENSION HYDR	62.81	121	T	T	23 37 14.4
	baz=313,slow=75,SNR=2.8					
TOA0	Torodi Ar. Sit	63.70	90	eP	P	22 28 38.0 0.0
	5.7nm,0.9s					
TORD	Torodi Ar. Bea	63.70	90	P	P	22 28 38.0 -0.1
	2.6nm,0.7s,baz=300,slow=7.5,SNR=17					
PLCA	Paso Flores	71.78	184	P	P	22 29 28.6 +0.2
	4.0nm,0.7s,baz=14,slow=6.9,SNR=8.3					
BRTR	Keskin Array B	76.93	51	P	P	22 29 59.5 +0.7
	1.2nm,0.9s,baz=284,slow=5.0,SNR=5.2					
SEY	Seymchan	81.45	344	P	P	22 30 24.1 +1.2
	4.3nm,0.9s,baz=8.0,slow=2.8,SNR=6.7					
BVAR	Borovoye Array	87.64	25	LR	LR	23 06 42.8
	comp=Z,80nm,21.4s,baz=254,slow=33					
PETK	Petropavlovsk-	88.06	336	LR	LR	23 12 52.5
	comp=Z,50nm,20.5s,baz=114,slow=37					
KURK	Kurchatov	92.39	22	P	P	22 31 17.2 +0.5
KURBB	Kurchatov Arra	92.44	22	P	P	22 31 17.2 +0.3
	0.4nm,0.6s,baz=329,slow=5.1,SNR=5.5					
ASAR	Alice Springs	161.40	289	PKPab	PKPab	22 38 53.0 +1.4
	0.9nm,0.8s,baz=64,slow=4.6,SNR=7.2					

KRNET ***03*** *22:18:54.9±0.1, 39°.67N×75°.50E, mb3.3*
ISCJB ***03*** *22:18:58.8±0.9, 39°.68N±0°.05×75°.37E±0°.06, h10km, Error ellipse: s-maj=8.3km s-min=5.4km az=35.2*
NNC ***03*** *22:19:00.8±10.0, 39°.67N×74°.78E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=77.7km s-min=53.8km az=165.0*

ISC 03 22:18:56.5±1.1, 39°.80N±0°.05×75°.45E±0°.04, h10km, n19, σ2ˢ66/35, 26C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.49	124	Pg	Pn	22 19 09.9	+0.1
KSH				Sg	Sb	22 19 18.7	+4.0
KSH				smax	smax		
	comp=N,810nm,0.8s						
KSH				smax	smax		
	comp=E,580nm,0.3s						
ARLS	Aral	2.23	338	⇑eP	Pb	22 19 36.8	-0.3
	baz=338						
ARLS				⇑iS	Sb	22 20 08.6	+3.8
	baz=338						
KZA	Kyzart	2.28	356	⇑eP	Pb	22 19 37.4	-0.7
	baz=356						
KZA				⇑iS	Sb	22 20 10.1	+3.5
	baz=356						
ARSB	Arslanbob	2.42	310	⇑eP	Pb	22 19 40.4	+0.1
	baz=312						
ARSB				⇑iS	Sb	22 20 13.6	+3.4
	baz=312						
ULHL	Ulahol	2.52	14	⇑iP	Pb	22 19 40.9	-1.1
	baz=12						
ULHL				⇑iS	Sb	22 20 15.4	+2.3
	baz=12						
KDJ	Kajisay	2.67	29	⇑iP	Pb	22 19 43.6	-1.0
	baz=27						
KDJ				⇑iS	Sb	22 20 19.5	+1.9
	baz=27						
AML	Almayashu	2.68	331	⇑iP	Pn	22 19 42.8	+2.6
	baz=331						
AML				⇑iS	Sb	22 20 18.3	+0.3
	baz=331						
BOOM	Boomskoye usch	2.72	8	⇑iP	Pb	22 19 43.3	-2.0
	baz=7.0						
BOOM				⇑eS	Sb	22 20 18.8	0.0
	baz=7.0						
KBK	Karagaybulak	2.88	353	⇑iP	Pb	22 19 46.6	-1.6
	baz=352						
KBK				⇑iS	Sb	22 20 24.1	+0.6
	baz=352						
AAK	Ala-Archa	2.93	346	⇑eP	Pn	22 19 46.1	+2.8
	baz=346						
AAK				⇑iS	Sb	22 20 24.3	-0.5
	baz=346						
AAK	Ala-Archa	2.93	346	Pn	Pb	22 19 47.2	-1.7
	comp=E,8.4nm,0.5s						
AAK				Sn	Sb	22 20 24.6	-0.3
	comp=E,12nm,0.6s						
TKM2	Tokmak 2	3.12	2	⇑iP	Pb	22 19 49.6	-2.7
	baz=1.0						
TKM2				⇑iS	Sb	22 20 30.1	-0.4
	baz=1.0						
TKM2	Tokmak 2	3.12	2	⇑Pn	Pb	22 19 49.8	-2.5
	comp=E,5.2nm,0.4s						
TKM2				⇓Sn	Sb	22 20 35.3	+4.8
	comp=E,33nm,0.6s						
EKS2	Erkin-Say	3.13	337	⇓iP	Pn	22 19 48.9	+2.9
	baz=337						
EKS2				⇓eS	Sn	22 20 28.5	+5.0
	baz=337						
ARK	Arkit	3.31	308	⇑iP	Pb	22 19 52.1	-3.4
	baz=309						
ARK				⇑iS	Sb	22 20 34.4	-1.5
	baz=309						
MNAS	Manas	3.49	321	⇑eP	Pb	22 19 55.1	-3.4
	baz=322						
MNAS				⇑iS	Sb	22 20 38.8	-2.1
	baz=322						
MNAS	Manas	3.49	321	⇓Pn	Pb	22 20 00.5	+2.1
	comp=E,2.0nm,0.6s						
MNAS				⇓Lg	Lg	22 20 46.1	
	comp=E,4.2nm,0.6s						
PDGK	Podgornoye	4.65	39	⇓Sn	Sg	22 21 21.2	-4.7
	comp=E,5.3nm,0.7s						
KK31	Karatay Array	4.97	313	⇑Pg	Pg	22 20 28.6	-3.0
	comp=E,0.3nm,0.3s,baz=136,slow=16,SNR=4.9						
KK31				⇓Lg	Lg	22 21 34.3	
	comp=E,1.3nm,0.6s,baz=143,slow=30						

CSEM ***03*** *22:19:42.1, 42°.03N×13°.50E, h9km, MD2.0/9*

ROM 03 22:19:42.1±0.1, 42°.03N×13°.50E, h9km±1km, Md2.0/9, Ml1.1/5, Error ellipse: s-maj=1.4km s-min=1.4km az=112.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTQR	Pietraquaria	0.08	262	Pg	Pg	22 19 44.5	+0.1
PTQR				Sg	Sg	22 19 46.1	+0.1
PTQR	Pietraquaria	0.08	262	Pg	Pg	22 19 44.5	+0.1
PTQR				Sg	Sg	22 19 46.1	+0.1
VVLD	Villa Vallelon	0.18	151	Pg	Pg	22 19 46.4	+0.4
VVLD				Sg	Sg	22 19 50.8	+2.1
	35nm,0.4s						
VVLD	Villa Vallelon	0.18	151	Pg	Pg	22 19 46.4	+0.4
VVLD				Sg	Sg	22 19 50.8	+2.1
	35nm,0.4s						
FAGN	Fagnano	0.24	14	Pg	Pg	22 19 47.9	+0.9
FAGN				Sg	Sg	22 19 51.9	+1.6
FAGN	Fagnano	0.24	14	Pg	Pg	22 19 47.9	+0.9
FAGN				Sg	Sg	22 19 51.9	+1.6
GUAR	Guarcino	0.28	211	Pg	Pg	22 19 48.4	+0.7
GUAR				Sg	Sb	22 19 53.6	-0.5
	35nm,0.4s						
GUAR	Guarcino	0.28	211	Pg	Pg	22 19 48.4	+0.7
GUAR				Sg	Sb	22 19 53.6	-0.5
	35nm,0.4s						
INTR	Introdacqua	0.30	94	Pg	Pg	22 19 48.8	+0.7
INTR				Sg	Sb	22 19 53.8	-1.0
	32nm,0.7s						
INTR	Introdacqua	0.30	94	Pg	Pg	22 19 48.8	+0.7
INTR				Sg	Sb	22 19 53.8	-1.0
	32nm,0.7s						
POFI	Posta Fibreno	0.35	154	Pg	Pb	22 19 50.1	-0.5
POFI				Sg	Sg	22 19 54.9	+1.2
POFI	Posta Fibreno	0.35	154	Pg	Pb	22 19 50.1	-0.5
POFI				Sg	Sg	22 19 54.9	+1.2
FIAM	Fiamignano	0.37	309	Pg	Pg	22 19 49.8	+0.4
FIAM				Sg	Sb	22 19 56.6	-0.3
	18nm,0.8s						
FIAM	Fiamignano	0.37	309	Pg	Pg	22 19 49.8	+0.4
FIAM				Sg	Sb	22 19 56.6	-0.3
	18nm,0.8s						
CERT	Cerreto	0.40	258	Pg	Pb	22 19 50.8	-0.5
CERT				Sg	Sb	22 19 56.9	-0.7
	16nm,0.5s						
CERT	Cerreto	0.40	258	Pg	Pb	22 19 50.8	-0.5
CERT				Sg	Sb	22 19 56.9	-0.7
	16nm,0.5s						
VCEL	Villa Celiera	0.44	35	Pg	Pb	22 19 52.1	0.0
VCEL	Villa Celiera	0.44	35	Pg	Pb	22 19 52.1	0.0

IDC ***03*** *22:29:16.2±2.8, 36°.25N×70°.91E, h148km±24km, mb3.4/10, mb1 3.4/16, mb1mx3.2/69, mbtmp3.8/16, Error ellipse: s-maj=20.6km s-min=13.9km az=2.0*
ISCJB ***03*** *22:29:19.6±0.3, 36°.57N±0°.03×70°.90E±0°.05, h188km, mb3.5/9, Error ellipse: s-maj=6.3km s-min=3.9km az=159.5*
NNC ***03*** *22:29:25.7±2.9, 36°.97N×70°.87E, h195km±46km, mb2.7, mpv3.6, Error ellipse: s-maj=28.6km s-min=19.9km az=15.0*

ISC 03 22:29:20.6±0.6, 36°.55N±0°.05×70°.92E±0°.07, h188km, n39, σ1ˢ93/46, mb3.6/9, 7C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.84	163	P	Pn	22 30 09.1	+1.2
CEP				S	Sn	22 30 44.0	-0.8
CHCP	Chirah Chowk	3.47	146	P	Pn	22 30 16.7	+1.3
THW	Thamme Wali	3.81	170	P	Pn	22 30 20.4	+0.7
SARP	Sargodha	4.84	162	P	Pn	22 30 32.6	-0.1
THN	Thein Dam	5.71	135	eP	Pn	22 30 41.0	-2.9
THN				eS	Sn	22 31 44.0	-5.5
MNAS	Manas	6.05	11	⇑P	Pn	22 30 49.3	+0.8
	3.6nm,0.5s						
MNAS				⇑S	Sn	22 31 54.6	-3.2
	19nm,0.5s						
KK31	Karatay Array	6.55	357	⇑P	Pn	22 30 54.8	0.0
	2.9nm,0.3s,baz=172,slow=11,SNR=40						
KK31				⇑S	Sn	22 32 04.5	-4.8
	9.2nm,0.5s,baz=185,slow=19,SNR=14						
AAK	Ala-Archa	6.67	23	P	Pn	22 30 57.5	+1.0
	0.9nm,0.3s,baz=199,slow=7.4,SNR=8.3						
AAK				S	Sn	22 32 10.4	-2.0
	0.9nm,0.3s,baz=137,slow=22,SNR=8.9						
AAK	Ala-Archa	6.67	23	⇓P	Pn	22 30 56.8	+0.2
	1.5nm,0.5s						
AAK				S	Sn	22 32 10.0	-2.4
	7.7nm,0.6s						
TKM2	Tokmak 2	7.31	28	⇑P	Pn	22 31 04.4	-0.5
	3.9nm,0.7s						
TKM2				⇑S	Sn	22 32 25.2	-2.4
	2.1nm,0.6s						
GEYT	Alibeck	10.30	282	P	Pn	22 31 42.1	-1.8
	1.1nm,0.3s,baz=108,slow=12,SNR=10						
GEYT				S	Sn	22 33 34.5	-4.2
	0.8nm,0.3s,baz=60,slow=8.8,SNR=3.7						
PYUN	Piuthan	13.23	126	eP	Pn	22 32 19.5	-2.1
PYUN				eS	Sn	22 34 34.5	-14
MKAR	Makanchi Array	13.29	36	P	Pn	22 32 23.1	+1.1
	0.2nm,0.3s,baz=218,slow=7.6,SNR=11						
KOLN	Koldanda	13.85	126	eP	Pn	22 32 27.5	-1.8
	6.8nm,0.2s						
GKN	Gorkha	14.38	122	eP	Pn	22 32 34.5	-1.4
	21nm,0.4s						
DMN	Daman	14.96	123	eP	Pn	22 32 42.8	-0.3
	15nm,0.4s						
KKN	Kakani	14.96	122	eP	Pn	22 32 42.8	-0.3
	17nm,0.5s						
AB31	Akbulak array	15.01	331	⇑P	Pn	22 32 42.2	-1.0
	0.7nm,0.5s,baz=154,slow=13,SNR=8.8						
KURBB	Kurchatov Arra	15.09	19	P	Pn	22 32 46.0	+1.7
	0.1nm,0.3s,baz=210,slow=10,SNR=7.3						
PKIN	Phulchoki	15.17	122	eP	Pn	22 32 45.3	-0.4
	11nm,0.3s						
PKI	Pulchoki	15.19	122	eP	Pn	22 32 45.4	-0.6
	13nm,0.3s						
GUN	Gumba	15.30	120	eP	Pn	22 32 47.9	+0.6
	15nm,0.4s						
JIRN	Jiri	15.67	120	eP	Pn	22 32 52.3	+0.4
	35nm,0.3s						
RAMN	Ramite	16.40	121	eP	P	22 33 01.9	+1.9
	15nm,0.5s						
BVAR	Borovoye Array	16.48	359	P	P	22 33 01.6	+1.3
	0.3nm,0.3s,baz=157,slow=12,SNR=4.3						
AKTO	Aktyubinsk	16.70	330	P	P	22 33 04.4	+1.6
	0.4nm,0.3s,baz=135,slow=9.4,SNR=7.3						
AKTO	Aktyubinsk	16.70	330	⇓P	P	22 33 04.4	+1.6
	2.3nm,0.6s						
TAPN	Taplejung	16.93	118	eP	Pn	22 33 08.4	+1.5
	8.2nm,0.3s						
ODAN	Odare	17.00	120	eP	Pn	22 33 09.4	+1.6
	10nm,0.5s						
ZALV	Zalesovo Beam	19.89	25	P	P	22 33 38.3	+0.9
	3.6nm,0.5s,baz=222,slow=12,SNR=16						
SONM	Songino Array	28.36	55	P	P	22 34 58.7	+1.6
	0.3nm,0.5s,baz=267,slow=11,SNR=2.5						
FINES	FINESS Array B	37.40	326	P	P	22 36 16.7	+1.6
	1.2nm,0.7s,baz=121,slow=7.4,SNR=6.2						
ARCES	ARCESS Array B	41.07	338	P	P	22 36 47.0	+1.7
	1.4nm,0.6s,baz=116,slow=7.9,SNR=11						
HFS	Hagfors	42.99	322	P	P	22 37 02.4	+1.5
	0.9nm,0.4s,baz=100,slow=12,SNR=6.8						
NOA	NORSAR Array B	44.30	323	P	P	22 37 12.7	+1.3
	0.5nm,0.5s,baz=97,slow=7.7,SNR=2.9						
TORD	Torodi Ar. Bea	65.66	269	P	P	22 39 44.0	-1.0
	0.1nm,0.3s,baz=54,slow=5.5,SNR=8.2						
YKA	Yellowknife Ar	81.20	3	P	P	22 41 16.5	+1.6
	0.5nm,0.3s,baz=348,slow=5.4,SNR=3.1						
WRA	Warramunga Arr	82.07	122	P	P	22 41 19.3	-0.8
	0.6nm,0.5s,baz=324,slow=5.0,SNR=9.5						
ASAR	Alice Springs	84.34	125	P	P	22 41 30.7	-1.0
	0.9nm,0.6s,baz=312,slow=4.9,SNR=14						

IDC ***03*** *22:29:29.0±1.4, 35°.69N×141°.96E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/59, mbtmp3.5/6, ML3.2/2, MS3.1/5, Ms1 3.1/5, ms1mx2.6/39, Error ellipse: s-maj=34.8km s-min=26.6km az=93.0*
ISCJB ***03*** *22:29:30.3±0.8, 35°.84N±0°.04×141°.68E±0°.07, h23km, mb3.6/4, MS3.2/3, Error ellipse: s-maj=8.1km s-min=6.2km az=168.8*
JMA ***03*** *22:29:32.6±0.1, 35°.88N×141°.51E, h41km±2km, M3.2*

ISC 03 22:29:31.5±1.4, 35°.89N±0°.04×141°.54E±0°.09, h23km, n18, σ1ˢ70/18, mb3.6/4, MS3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.58	252	P	Pn	22 29 44.0	-0.3
CHOJ				S	Sb	22 29 52.3	+1.5
JHO	Hitachi	1.06	313	P	Pb	22 29 51.4	+0.2
JHO				eS	Sn	22 30 05.3	+0.2
JYT	Yasato	1.14	288	P	Pn	22 29 51.9	-0.1
BSO1	Boso 1	1.31	201	P	Pb	22 29 54.5	-0.6
BSO1				eS	Sb	22 30 13.4	+2.1
BSO4	Boso 4	1.32	228	S	Sn	22 30 10.4	-0.9
BSO3	Boso 3	1.37	218	P	Pb	22 29 55.8	-0.4
JFK	Kawauchi	1.57	340	P	Pb	22 29 58.8	-1.1
MJAR	Matsushiro Arr	2.77	285	Pn	Pb	22 30 17.5	-2.8
	1.9nm,0.3s,baz=118,slow=7.2,SNR=8.0						
MJAR				Sn	Sb	22 30 54.8	+1.0
	2.7nm,0.3s,baz=187,slow=27,SNR=7.4						
MAT	Matsushiro	2.77	285	P	Pb	22 30 17.4	-2.9
MAT				S	Sn	22 30 50.9	+3.7
JHJ	Hachijo jima 2	3.12	208	Pn	Pn	22 30 19.4	+0.2
	12nm,0.3s,baz=131,slow=11,SNR=1.9						
JHJ				Sn	Sn	22 30 54.0	-1.7
	35nm,0.3s,baz=76,slow=21,SNR=1.8						
JHJ				LR	LR	22 31 46.1	
	comp=Z,107nm,20.3s,baz=73,slow=44						
JNU	Nakatsue	9.22	256	LR	LR	22 35 44.2	
	comp=Z,111nm,18.6s,baz=114,slow=40						
CMAR	Chiang Mai Arr	41.31	257	LR	LR	22 56 00.2	
	comp=Z,32nm,18.6s,baz=195,slow=38						
MKAR	Makanchi Array	44.82	303	P	P	22 37 49.2	+5.6
	0.8nm,0.8s,baz=88,slow=7.6,SNR=3.6						
ILAR	Eielson Array	50.41	32	P	P	22 38 26.9	+0.2
	0.5nm,0.8s,baz=244,slow=6.3,SNR=3.5						
WRA	Warramunga Arr	55.94	188	P	P	22 39 07.9	+0.1
	0.9nm,0.9s,baz=5.2,slow=7.4,SNR=4.1						
ARU	Arti	57.29	319	LR	LR	23 04 31.2	
	comp=Z,13nm,19.6s,baz=292,slow=36						
ASAR	Alice Springs	59.67	188	P	P	22 39 34.1	+0.1
	0.3nm,0.7s,baz=13,slow=8.6,SNR=2.1						
SPITS	Spitsbergen Ar	61.67	349	LR	LR	23 08 58.8	
	comp=Z,23nm,19.2s,baz=330,slow=38						

ISCJB ***03*** *22:36:31.8±0.3, 31°.27N±0°.02×65°.13W±0°.04, h10km, mb4.4/49, MS3.4/4, Error ellipse

URVA	University of	11.93 305	ePn	Pn	22 39 25.2	+2.4
URVA			eSn	Sn	22 41 25.9	-10
PAL	Palisades	11.97 327	ePn	Pn	22 39 24.8	+1.5
PAL			eSn	Sn	22 41 26.9	-10
PSUB	Penn St. - Bra	11.98 319	ePn	Pn	22 39 25.5	+2.1
PSUB			eSn	Sn	22 41 25.2	-12
BCX	Boston College	12.02 338	ePn	Pn	22 39 25.5	+1.5
BCX			eSn	Sn	22 41 25.2	-13
BRNJ	Basking Ridge	12.05 324	ePn	Pn	22 39 26.9	+2.5
BRNJ			eSn	Sn	22 41 28.2	-10
WES	Weston	12.12 338	ePn	Pn	22 39 26.9	+1.7
WES			eSn	Sn	22 41 26.9	-13
CBN	Corbin Frederi	12.13 308	ePn	Pn	22 39 27.9	+2.4
CBN			eS	Sn	22 41 32.8	-8.1
JSRW	J. Sargeant Re	12.23 305	ePn	Pn	22 39 27.1	+0.2
HRV	Adam Dziewonsk	12.30 338	ePn	Pn	22 39 27.0	-0.8
HRV			eS	Sn	22 41 31.5	-13
ODNJ	Ogdensburg	12.37 325	ePn	Pn	22 39 30.6	+1.8
QUA2	Belchertown	12.38 335	ePn	Pn	22 39 30.5	+1.6
QUA2			eSn	Sn	22 41 36.4	-10
LUPA	Lehigh Univers	12.40 321	ePn	Pn	22 39 30.5	+1.3
SDMD	Soldier's Deli	12.47 314	ePn	Pn	22 39 30.7	+0.6
MVL	Millersville	12.54 317	ePn	Pn	22 39 33.2	+2.1
NHSC	New Hope	12.78 282	ePn	Pn	22 39 35.2	+0.9
NHSC			eS	Sn	22 41 46.5	-10
RGRS	Roger Stewart	12.78 281	ePn	Pn	22 39 32.5	-1.8
N59A	State Game Lan	12.84 322	P	Pn	22 39 35.7	+0.4
	baz=135,SNR=21					
STVI	Saint Thomas	12.86 179	ePn	Pn	22 39 31.5	-4.0
CBYP	Canovanas	12.94 183	ePn	Pn	22 39 33.0	-3.8
CBYP			eSn	Sn	22 41 43.4	-18
HUMP	Col San Antoni	13.07 183	ePn	Pn	22 39 35.2	-3.2
MTP	Monte Pirata	13.11 181	ePn	Pn	22 39 34.0	-5.0
MTP			eSn	Sn	22 41 46.4	-19
SJG	San Juan	13.12 184	Pn	Pn	22 39 35.9	-3.2
	10nm,0.3s,baz=349,slow=8.3,SNR=13					
SJG			Sn	Sn	22 41 44.9	-20
	2.4nm,0.3s,baz=244,slow=12,SNR=3.3					
SJG	San Juan	13.12 184	ePn	Pn	22 39 36.1	-3.0
SJG			eS	Sn	22 41 46.1	-19
CELP	Cerrillos	13.18 186	ePn	Pn	22 39 36.1	-3.9
FFD	Franklin Falls	13.20 339	ePn	Pn	22 39 42.9	+2.8
TRY	Troy	13.27 332	ePn	Pn	22 39 42.4	+1.3
TRY			eSn	Sn	22 41 55.9	-13
SMRT	St. Maarten	13.30 171	ePn	Pn	22 39 36.0	-5.6
KSPA	Keystone Colle	13.30 323	ePn	Pn	22 39 43.6	+2.1
SDDR	Presa de Saban	13.39 205	ePn	Pn	22 39 40.7	-2.1
SDDR			eS	Sn	22 41 58.9	-13
EMMW	East Machias	13.54 353	ePn	Pn	22 39 45.2	+0.5
EMMW			eSn	Sn	22 42 01.0	-14
VWCC	Virginia Weste	13.56 300	ePn	Pn	22 39 46.6	+1.6
HNH	Hanover	13.61 338	ePn	Pn	22 39 47.0	+1.3
HNH			eSn	Sn	22 42 03.5	-13
WVL	Waterville	13.73 347	ePn	Pn	22 39 47.4	+0.1
WVL			eSn	Sn	22 42 08.5	-11
JSC	Jenkinsville	13.80 287	ePn	Pn	22 39 48.6	+0.3
ACCN	Adirondack Com	13.82 333	ePn	Pn	22 39 49.3	+0.7
ACCN			eSn	Sn	22 42 04.5	-18
SSPA	Standing Stone	13.85 316	ePn	Pn	22 39 51.3	+2.3
SSPA			eS	Sn	22 42 10.1	-13
BLA	Blacksburg	13.87 299	ePn	Pn	22 39 49.3	-0.1
BLA			eS	Sn	22 42 09.3	-14
BINY	Binghamton	13.89 325	ePn	Pn	22 39 51.3	+1.8
GGN	Saint George	13.89 355	ePn	Pn	22 39 48.9	-0.6
GGN			eSn	Sn	22 42 11.2	-13
LBNH	Lisbon	13.98 340	ePn	Pn	22 39 53.2	+2.4
LBNH			eSn	Sn	22 42 17.3	-8.8
KMSC	Kings Mountain	14.01 290	P	Pn	22 39 49.5	-1.7
	baz=102,SNR=21					
KMSC	Kings Mountain	14.01 290	ePn	Pn	22 39 50.3	-0.9
KMSC			eS	Sn	22 42 09.3	-17
O56A	Blue Knob Stat	14.04 313	P	Pn	22 39 52.9	+1.2
	baz=126,SNR=38					
MDV	Middlebury	14.17 336	ePn	Pn	22 39 54.7	+1.3
MDV			eSn	Sn	22 42 17.3	-13
GTBY	Guantanamo Bay	14.36 221	ePn	Pn	22 39 52.6	-3.4
GTBY			eS	Sn	22 42 16.1	-19
DWPF	Disney Wildern	14.41 262	ePn	Pn	22 39 54.0	-2.8
DWPF			eS	Sn	22 42 21.9	-15
NCB	Newcomb	14.53 333	ePn	Pn	22 40 00.2	+1.8
NCB			eSn	Sn	22 42 28.3	-11
MCWV	Mont Chateau	14.53 309	ePn	Pn	22 40 01.1	+2.7
LMN	Caledonia Moun	14.57 1	ePn	Pn	22 39 58.1	-0.8
LMN			eSn	Sn	22 42 28.1	-12
FRNY	Flat Rock	15.05 337	ePn	P	22 40 08.9	-1.7
	19nm,1.3s					
FRNY			eSn	Sn	22 42 41.5	-10
LONY	Lake Ozonia	15.22 334	ePn	Pn	22 40 09.6	+2.0
	76nm,1.9s					
LONY			eS	Sn	22 42 54.6	-1.5
MMNY	Mt. Morris Dam	15.25 322	ePn	Pn	22 40 09.1	+1.1
MMNY			eSn	Sn	22 42 50.9	-6.1
N54A	Moraine State	15.33 313	P	Pn	22 40 10.1	+1.0
	baz=124,SNR=18					
LZG	Guadaloupe-1	15.38 167	eP	Pn	22 40 04.4	-5.5
M54A	Oil Creek Stat	15.45 315	P	Pn	22 40 11.7	+1.0
	baz=127,SNR=25					
SSG	Sans Toucher	15.45 167	eP	Pn	22 40 05.8	-5.1
MLG	Mont-d'or	15.47 167	eP	Pn	22 40 06.3	-4.8
PQI	Presque Isle	15.54 353	ePn	Pn	22 40 11.6	-0.1
	151nm,1.9s					
PQI			eSn	Sn	22 42 57.1	-6.7
GOGA	Godfrey	15.55 283	ePn	Pn	22 40 11.7	-0.3
	26nm,0.6s					
GOGA			eS	Sn	22 42 47.0	-17
TIGA	Tifton	15.67 275	P	Pn	22 40 14.2	+0.6
	baz=86,SNR=15					
TIGA	Tifton	15.67 275	ePn	Pn	22 40 14.2	+0.6
	93nm,0.8s					
ALLY	Alegheny Colle	15.82 315	ePn	P	22 40 18.4	-1.0
	62nm,0.5s					
ERPA	Erie	16.01 317	ePn	P	22 40 20.9	-0.5
	51nm,0.8s					
TKL	Tuckaleechee C	16.06 291	Pn	Pn	22 40 19.1	+0.4
	3.7nm,0.3s,baz=96,slow=12,SNR=42					
TKL			Sn	Sn	22 43 00.8	-16
	2.1nm,0.3s,baz=299,slow=8.2,SNR=2.5					
TKL			LR	LR	22 46 32.4	
	comp=Z,121nm,18.6s,baz=134,slow=37					
TKL	Tuckaleechee C	16.06 291	ePn	Pn	22 40 19.9	+1.2
TKL			Sn	Sn	22 43 00.8	-16
PLVO	Plevna	16.58 329	ePn	Pn	22 40 26.2	+1.0
	9.9nm,0.7s					
PLVO			eSn	Sn	22 43 16.3	-13
FDF	Fort de France	16.88 166	ePn	Pn	22 40 24.4	-4.7
SADO	Sadowa	17.33 325	Pn	P	22 40 36.3	+0.3
	1.7nm,0.3s,baz=146,slow=14,SNR=7.9					
SADO			Sn	Sn	22 43 31.5	-16
	1.2nm,0.3s,baz=259,slow=22,SNR=2.1					
SADO			LR	LR	22 46 33.9	
	comp=Z,71nm,19.1s,baz=184,slow=34					
AAM	Ann Arbor	18.36 312	ePn	Pn	22 40 53.3	+5.9
	42nm,0.4s					
LRAL	Lakeview Retre	18.50 281	ePn	Pn	22 40 51.8	+2.8
	9.5nm,0.8s					
LRAL			eS	Sn	22 44 07.3	-8.5
WCI	Wyandotte Cave	18.61 298	eP	Pn	22 40 53.2	+2.7
	24nm,0.8s					
WCI			eS	Sn	22 44 13.6	-5.1
Z48A	Northport	18.96 282	P	P	22 40 54.0	-0.1
	baz=90					
WVT	Waverly	19.39 291	eP	Pn	22 41 05.1	+5.3
	70nm,1.8s					
147A	Livingston	19.58 280	P	P	22 41 02.0	+1.3
	baz=88					
SFIN	Lafayette	19.87 303	P	P	22 41 04.6	+0.7
	baz=110					
SFIN	Lafayette	19.87 303	eP	Pn	22 41 06.7	+1.2
	14nm,0.6s					
347A	Saraland	19.89 276	P	P	22 41 05.5	+1.3
	baz=84					
247A	Quitman	19.89 278	P	P	22 41 05.2	+1.0
	baz=86					
447A	Lucedale	20.06 275	P	P	22 41 07.7	+1.6
	baz=83					
Y46A	Houston	20.06 284	P	P	22 41 06.9	+0.9
	baz=91					
146A	Union	20.24 280	P	P	22 41 08.3	+0.2
	baz=88					
S45A	Carrier Mills	20.24 295	P	P	22 41 09.0	+1.0
	baz=102					
X45A	UM Field Stati	20.52 285	P	P	22 41 11.4	+0.4
	baz=92					
OXF	Oxford	20.53 286	eP	Pn	22 41 13.2	-0.1
	58nm,1.1s					
OXF			eS	S	22 44 52.8	-8.1
Y45A	Yeager Farm, C	20.63 284	P	P	22 41 14.0	+1.7
	baz=91					
U44B	Burton Farm, H	20.64 291	P	Pn	22 41 14.5	-0.1
	baz=97					
446A	Poplarville	20.66 275	P	P	22 41 13.6	+1.0
	baz=83					
346A	Big Creek Wild	20.68 277	P	P	22 41 13.4	+0.6
	baz=84					
P44A	Sand Creek, Wi	20.70 300	P	P	22 41 14.0	+1.0
	baz=106					
R44A	Waltonville	20.75 296	P	P	22 41 15.2	+1.7
	baz=103					
Z45A	Winona	20.75 282	P	P	22 41 15.2	+1.6
	baz=89					
S44A	Carbondale	20.77 295	P	P	22 41 14.6	+0.8
	baz=101					
Q44A	Meyer Farm, Va	20.85 298	P	P	22 41 15.7	+1.1
	baz=104					
145A	Houston Renfro	20.98 280	P	P	22 41 16.6	+0.5
	baz=87					
245A	Little AP, Sta	20.99 279	P	P	22 41 16.6	+0.5
	baz=86					
PCRV	Puerto La Cruz	20.99 178	P	Pn	22 41 18.2	-0.6
	21nm,0.8s,baz=212,slow=4.4,SNR=6.9					
F45A	CMU Biological	21.34 318	P	P	22 41 20.7	+0.9
	baz=125					
Z44A	Pea Ridge, Bel	21.37 282	P	P	22 41 20.7	+0.4
	baz=89					
Q43A	New Douglas	21.38 298	P	P	22 41 20.5	+0.2
	baz=104,SNR=5.8					
S43A	Fulton Ridge,	21.39 294	P	P	22 41 21.0	+0.5
	baz=100					
R43A	Red Bud	21.41 296	P	P	22 41 21.1	+0.4
	baz=102,SNR=5.8					
P43A	Skaggs, Pawnee	21.42 300	P	P	22 41 22.2	+1.5
	baz=106					
O43A	Sugar Creek Fa	21.45 301	P	P	22 41 22.3	+1.3
	baz=107					
T43A	Greenville	21.48 292	P	P	22 41 23.0	+1.5
	baz=98					
VBMS	Vicksburg	21.50 279	P	P	22 41 22.8	+1.1
	baz=86					
HDIL	Hopedale	21.51 302	P	P	22 41 22.6	+0.8
	baz=108					
PBMO	Poplar Bluff	21.55 292	eP	P	22 41 24.1	+1.9
	16nm,0.8s					
L43A	Garden Prairie	21.69 307	P	P	22 41 24.6	+1.1
	baz=113,SNR=5.3					
X43A	Marvell	21.75 285	P	P	22 41 25.7	+1.5
	baz=92					
344A	Westbrook Farm	21.75 277	P	P	22 41 25.3	+1.0
	baz=84					
S42A	Caledonia	21.99 294	P	P	22 41 27.6	+0.7
	baz=100,SNR=10					
Q42A	Golden Eagle	22.00 297	P	P	22 41 27.0	0.0
	baz=103					
P42A	Winchester	22.02 299	P	P	22 41 28.2	+1.0
	baz=104,SNR=7.4					
F44A	Big Bay de Noc	22.03 318	P	P	22 41 27.3	+0.1
	baz=124					
T42A	Van Buren	22.11 292	P	P	22 41 27.9	-0.3
	baz=98					
N42A	Yates City	22.13 302	P	P	22 41 28.8	+0.4
	baz=108					
M42A	Sheffield	22.14 304	P	P	22 41 30.5	+2.1
	baz=110					
U42A	Revenden	22.15 290	P	P	22 41 30.2	+1.6
	baz=96,SNR=10					
V42A	Cord	22.23 289	P	P	22 41 31.4	+1.9
	baz=94,SNR=17					
W42A	Bald Knob	22.30 287	P	P	22 41 32.4	+2.2
	baz=93					
F43A	Flat Rock, Esc	22.38 317	P	P	22 41 33.0	+2.0
	baz=123					
G43A	Wallace	22.39 315	P	P	22 41 33.2	+2.1
	baz=121					
Y42A	Garnett, Star	22.49 284	P	P	22 41 34.0	+1.7
	baz=89					
I42A	Draeger Farm,	22.51 311	P	P	22 41 33.9	+1.6
	baz=116,SNR=6.4					
R41A	Rosebud	22.53 295	P	P	22 41 34.1	+1.4
	baz=100					
H42A	Shiocton	22.54 312	P	P	22 41 34.4	+1.7
	baz=118					
Q41A	Truxton	22.55 297	P	P	22 41 34.6	+1.8
	baz=102					
O41A	Passleys Farm,	22.55 300	P	P	22 41 34.6	+1.7
	baz=105					
P41A	Barry, Barry	22.58 299	P	P	22 41 35.0	+1.8
	baz=104					
E43A	Lone Tree Farm	22.58 318	P	P	22 41 34.9	+1.7
	baz=124					
Z42A	Norrel Spur, H	22.64 282	P	P	22 41 35.3	+1.4
	baz=88					
T41A	Mountain View	22.65 292	P	P	22 41 35.7	+1.7
	baz=97,SNR=6.4					
M41A	Milan	22.67 303	P	P	22 41 35.3	+1.2
	baz=108					
N41A	Harden Midland	22.69 302	P	P	22 41 36.2	+1.8
	baz=106					
U41A	Viola	22.70 290	P	P	22 41 36.4	+1.9
	baz=95					
S41A	Jillco Farms,	22.70 293	P	P	22 41 36.4	+1.9
	baz=98					
SDV	Santo Domingo	22.82 194	P	P	22 41 38.1	+2.0
	17nm,0.8s,baz=16,slow=6.7,SNR=11					
SDV	Santo Domingo	22.82 194	eP	P	22 41 35.8	-0.3
SDV	Santo Domingo	22.82 194	eP	P	22 41 36.6	+0.6
	22nm,0.8s					
G42A	Mountain	22.83 314	P	P	22 41 37.7	+1.9
	baz=120					
V41A	Mountainview	22.85 289	P	P	22 41 38.1	+2.1
	baz=94,SNR=17					
L41A	Preston	22.87 305	P	P	22 41 37.5	+1.3
	baz=110					
F42A	Maple Grove Fa	22.92 316	P	P	22 41 37.4	+0.7
	baz=121					
K41A	Shullsburg	22.92 307	P	P	22 41 38.1	+1.3
	baz=111					
UALR	University of	22.96 286	eP	P	22 41 40.7	+3.5
	18nm,0.8s					
JFWS	Jewell Farm	23.00 307	eP	P	22 41 40.3	+2.7
	38nm,1.3s					
J41A	Loganville	23.01 309	P	P	22 41 39.1	+1.4
	baz=114					
X41A	Kaden, Bauxite	23.09 285	P	P	22 41 40.0	+1.4
	baz=90					
342A	Flagon Creek P	23.11 277	P	P	22 41 39.7	+0.9
	baz=83					
SJCC	San Jacinto, C	23.17 206	eP	P	22 41 41.3	+1.7
Y41A	Eaglette Beard	23.18 284	P	P	22 41 40.8	+1.4
	baz=89					
Q40A	Laux Farm, Aux	23.20 297	P	P	22 41 40.6	+1.0
	baz=101					
I41A	Arkdale	23.20 310	P	P	22 41 41.0	+1.3
	baz=115					
R40A	Maddies Statio	23.22 295	P	P	22 41 40.8	+0.9
	baz=100					
T40A	Mansfield	23.26 292	P	P	22 41 42.0	+1.7
	baz=97					
N40A	Mertquake, Sal	23.27 302	P	P	22 41 41.7	+1.3
	baz=106					
P40A	Paris	23.29 298	P	P	22 41 41.8	+1.2
	baz=102					
O40A	La Belle	23.29 300	P	P	22 41 41.7	+1.1
	baz=104					
S40A	Lebanon	23.30 293	P	P	22 41 42.9	+2.2
	baz=98,SNR=6.5					
H41A	Junction City	23.30 312	P	P	22 41 41.9	+1.2
	baz=117					
X40A	Basin Creek Fa	23.36 285	P	P	22 41 43.3	+2.0
	baz=90,SNR=11					
Z41A	Richland Creek	23.36 282	P	P	22 41 43.1	+1.8
	baz=88					
L40A	Anamosa	23.37 305	P	P	22 41 43.2	+1.8
	baz=109					
M40A	Post Highland	23.37 303	P	P	22 41 42.9	+1.6
	baz=107					
V40A	Witts Springs	23.39 289	P	P	22 41 43.9	+2.3
	baz=93,SNR=7.3					
U40A	Yellville	23.45 290	P	P	22 41 44.3	+2.0
	baz=95,SNR=5.9					
141A	Papa Simpson,	23.48 281	P	P	22 41 44.0	+1.4
	baz=86					
F41A	Three Lakes	23.49 315	P	P	22 41 44.2	+1.6
	baz=120					
J40A	Soldiers Grove	23.51 308	P	P	22 41 44.1	+1.3
	baz=112					
K40A	Colesburg	23.53 306	P	P	22 41 44.0	+1.1
	baz=111					
W40A	Ferguson Farm,	23.56 287	P	P	22 41 44.3	+0.9
	baz=92					
I40A	Norwalk	23.62 309	P	P	22 41 44.6	+0.7
	baz=114					
COWI	Conover	23.69 315	eP	P	22 41 47.1	+2.6
	48nm,1.8s					
COWI			eS	S	22 46 04.5	+5.1
Y40A	Okolona	23.73 284	P	P	22 41 45.7	+0.7
	baz=89					
H40A	Chili	23.78 311	P	P	22 41 46.2	+0.9
	baz=116					
P39B	Salisbury	23.81 298	P	P	22 41 46.5	+0.7
	baz=102					
O39A	Kirksville	23.82 300	P	P	22 41 47.2	+1.4
	baz=104					
R39A	Chumby, Stover	23.82 295	P	P	22 41 47.7	+1.8
	baz=99,SNR=13					
341A	Kurthwood	23.83 277	P	P	22 41 46.5	+0.5
	baz=83					
D41A	Chassel	23.86 318	P	P	22 41 46.8	+0.7
	baz=123					
M39A	Webster	23.87 303	P	P	22 41 47.7	+1.5
	baz=107					
Q39A	Willow Grove F	23.90 297	P	P	22 41 48.7	+2.2
	baz=100					
T39A	Clever	23.93 292	P	P	22 41 48.1	+1.2
	baz=96					
L39A	Vinton	23.94 304	P	P	22 41 49.0	+2.1
	baz=108					
N39A	Derby Farms, D	23.94 301	P	P	22 41 48.9	+1.9
	baz=105,SNR=6.9					
G40A	Rib Lake	23.95 313	P	P	22 41 49.0	+2.0
	baz=117					
U39A	Green Forest	23.96 290	P	P	22 41 48.3	+1.1
	baz=94					
S39A	Bolivar	23.96 293	P	P	22 41 48.4	+1.3
	baz=97					
V39A	Pettigrew	24.06 289	P	P	22 41 50.0	+1.9
	baz=93,SNR=12					
J39A	Decorah	24.14 307	P	P	22 41 50.0	+1.2
	baz=111					
W39A	Magazine	24.15 287	P	P	22 41 51.1	+2.2
	baz=91,SNR=16					
H39A	Augusta	24.38 311	P	P	22 41 52.3	+1.3
	baz=114					
MOTC	Monteria, Cord	24.38 206	eP	P	22 41 51.2	+0.1
Y39A	Lockesburg	24.41 284	P	P	22 41 52.6	+1.2
	baz=88					
S38A	Stockton	24.41 293	P	P	22 41 51.5	+0.2
	baz=97					
X39A	Fountain Ranch	24.42 285	P	P	22 41 53.3	+1.9
	baz=90,SNR=8.8					
P38A	Dawn	24.43 298	P	P	22 41 52.1	+0.6
	baz=101					
N38A	Joes South For	24.46 301	P	P	22 41 52.5	+0.7
	baz=104					
R38A	Fenwick Farm,	24.48 294	P	P	22 41 53.6	+1.7
	baz=98,SNR=12					
G39A	Holcombe	24.57 312	P	P	22 41 55.0	+2.3
	baz=116					
K38A	Parkersburg	24.64 305	P	P	22 41 55.6	+2.2
	baz=108					
T38A	Diamond	24.66 291	P	P	22 41 55.8	+2.2
	baz=95					
J38A	Wedel Dairy, R	24.66 307	P	P	22 41 55.8	+2.2
	baz=110					
V38A	Canehill	24.68 289	P	P	22 41 56.3	+2.5
	baz=92					
E39A	Mellen	24.68 315	P	P	22 41 56.4	+2.7
	baz=119					
F39A	Loretta	24.69 314	P	P	22 41 56.2	+2.4
	baz=117					
W38A	Poteau	24.75 287	P	P	22 41 56.3	+1.9
	baz=91,SNR=6.9					
PAMC	Pamplona, Colo	24.80 198	eP	P	22 41 55.7	+0.3
I38A	Scanlan Farm,	24.82 309	P	P	22 41 57.0	+2.0
	baz=112,SNR=11					
Y38A	Idabel	24.94 284	P	P	22 41 58.5	+2.4
	baz=88					
G38A	Ridgeland	24.95 311	P	P	22 41 58.9	+2.7
	baz=115					
X38A	Whitesboro	25.00 286	P	P	22 41 58.6	+1.9
	baz=90,SNR=6.8					
H38A	Maiden Rock	25.03 310	P	P	22 41 59.1	+2.2
	baz=113					
P37A	Lathrop	25.04 297	P	P	22 41 59.4	+2.4
	baz=100					
S37A	Fort Scott	25.15 293	P	P	22 41 59.5	+1.5
	baz=96					
T37A	Cheneyville 18	25.16 292	P	P	22 42 00.3	+2.2
	baz=95,SNR=5.3					
N37A	Lee Faris, Mou	25.17 300	P	P	22 42 00.5	+2.4
	baz=103					
L37A	Phoenix Point,	25.18 303	P	P	22 42 00.8	+2.5
	baz=106					
M37A	Trindle Farm,	25.21 302	P	P	22 42 00.8	+2.2
	baz=104					
R37A	Teagarden Farm	25.22 294	P	P	22 42 01.7	+3.1
	baz=97					
V37A	Hulbert	25.27 289	P	P	22 42 00.9	+1.8
	baz=92,SNR=5.5					
U37A	Salina	25.28 290	P	P	22 42 01.7	+2.6
	baz=93					
K37A	Belmond	25.29 305	P	P	22 42 02.1	+2.9
	baz=108					
ZARC	Zaragoza, Cauc	25.29 203	eP	P	22 41 59.2	-0.2
F38A	Pierce - Schro	25.31 313	P	P	22 42 01.8	+2.5
	baz=116,SNR=5.3					
J37A	Redenius Farm,	25.40 306	P	P	22 42 03.0	+2.7
	baz=109					
E38A	The Farm, Brul	25.40 315	P	P	22 42 02.9	+2.7
	baz=118					
H37A	Dierke Farm, C	25.41 309	P	P	22 42 03.4	+3.1
	baz=112,SNR=7.6					
W37B	Quinton	25.50 287	P	P	22 42 03.5	+2.3
	baz=90					
I37A	Lemond, Waseca	25.53 308	P	P	22 42 03.9	+2.5
	baz=110					
SPMN	Marine on St.	25.59 311	P	P	22 42 04.4	+2.5
	baz=114,SNR=6.4					
SPMN	Marine on St.	25.59 311	eP	P	22 42 04.8	+2.9
	22nm,0.8s					
O36A	Bolckow	25.61 298	P	P	22 42 05.1	+3.0
	baz=101					
BARC	Barichara	25.64 198	eP	P	22 42 02.2	-0.6
338A	Crockett	25.65 278	P	P	22 42 05.2	+2.7
	baz=82					
F37A	Hinrichs Farm,	25.68 312	P	P	22 42 05.3	+2.6
	baz=115					
P36A	Good Intent, A	25.70 297	P	P	22 42 05.6	+2.6
	baz=100					
R36A	Gordon, Harris	25.75 294	P	P	22 42 06.2	+2.8
	baz=97					
S36A	Lake Cedric, C	25.75 293	P	P	22 42 05.9	+2.4
	baz=96					
M36A	Felix, Anita	25.77 301	P	P	22 42 05.7	+2.1
	baz=104					
U36A	Oologah	25.77 290	P	P	22 42 05.2	+1.5
	baz=93					
C38A	Sawbill Land.	25.77 317	P	P	22 42 05.7	+2.2
	baz=120					
Q36A	Arnold C. Orve	25.79 296	P	P	22 42 04.8	+1.0
	baz=98					
TUL1	Leonard	25.80 289	P	P	22 42 06.2	+2.3
	baz=92					
K36A	Gilmore City	25.82 304	P	P	22 42 06.0	+2.0
	baz=106					
L36A	Harm Buss Farm	25.83 303	P	P	22 42 06.6	+2.5
	baz=105					
BCIP	Isla Barro Col	25.84 215	eP	P	22 42 06.2	+1.9
438A	Sam Houston St	25.87 277	P	P	22 42 07.1	+2.5
	baz=81					
V36A	Jenks	25.92 288	P	P	22 42 06.9	+1.9
	baz=91					
T36A	Boggs Farm, Ca	25.93 291	P	P	22 42 06.5	+1.4
	baz=94					
J36A	Seneca 1, Swea	25.95 306	P	P	22 42 07.7	+2.5
	baz=108					
237A	Washetta, Mont	25.99 280	P	P	22 42 07.8	+2.2
	baz=84					
EYMN	Ely	26.02 317	P	P	22 42 07.4	+1.6
	baz=120					
EYMN	Ely	26.02 317	eP	P	22 42 08.8	+3.0

	17nm,1.0s					
H36A	Jessenland, He	26.09	309	P	P	22 42 08.5 +2.1
	baz=111					
W36A	Wetumka	26.15	287	P	P	22 42 08.5 +1.4
	baz=90					
D37A	Cotton	26.19	315	P	P	22 42 09.5 +2.2
	baz=118					
G36A	St. Michael	26.21	310	P	P	22 42 10.0 +2.4
	baz=112					
Q35A	Mercer Eighty,	26.23	295	P	P	22 42 10.2 +2.4
	baz=97					
Y36A	Durant	26.23	284	P	P	22 42 10.1 +2.2
	baz=87					
N35A	Tabor	26.26	300	P	P	22 42 10.0 +1.9
	baz=102					
X36A	Centrahoma	26.26	286	P	P	22 42 10.2 +2.1
	baz=89					
RUSC	La Rusia	26.28	198	eP	P	22 42 08.2 -0.8
R35A	Emporia Munici	26.29	294	P	P	22 42 10.5 +2.1
	baz=96					
P35A	Duane Minner,	26.30	297	P	P	22 42 10.5 +2.0
	baz=99					
F36A	Milaca	26.31	312	P	P	22 42 10.7 +2.3
	baz=114,SNR=9.0					
C37A	Embarrass	26.31	316	P	P	22 42 11.1 +2.6
	baz=119					
S35A	Otter Creek Ra	26.32	293	P	P	22 42 10.7 +2.0
	baz=95					
T35A	Sooner Cattle	26.42	291	P	P	22 42 11.2 +1.6
	baz=93,SNR=6.2					
U35A	Pawnee	26.58	290	P	P	22 42 13.4 +2.5
	baz=92					
D36A	Goodland	26.64	315	P	P	22 42 14.1 +2.6
	baz=117					
V35A	Meyer Ranch, C	26.65	288	P	P	22 42 14.2 +2.6
	baz=91					
W35A	Tecumseh	26.68	287	P	P	22 42 13.5 +1.6
	baz=90					
G35A	Watkins	26.69	310	P	P	22 42 13.5 +1.7
	baz=111					
C36A	Pine Crest Far	26.71	316	P	P	22 42 14.5 +2.4
	baz=118					
X35A	Drake	26.78	285	P	P	22 42 14.5 +1.7
	baz=88,SNR=6.1					
GUYC	Guyana, Colomb	27.60	202	eP	P	22 42 15.2 -5.6
ROSC	El Rosal	27.63	200	P	P	22 42 23.2 +2.2
	8.0nm,0.6s,baz=94,slow=17,SNR=5.1					
ROSC	El Rosal	27.63	200	eP	P	22 42 22.1 +1.2
ROSC	El Rosal	27.63	200	eP	P	22 42 23.8 +2.8
JTS	JuntasAbangare	27.74	225	LR	LR	22 54 12.5
	comp=Z,40nm,18.2s,baz=192,slow=38					
D34A	Park Rapids	27.86	313	P	P	22 42 22.7 +0.3
	baz=114					
F33A	5 Mile Ranch,	28.09	310	P	P	22 42 25.6 +1.1
	baz=110					
WMOK	Wichita Mounta	28.26	286	P	P	22 42 27.1 +1.0
	baz=88					
WMOK	Wichita Mounta	28.26	286	eP	P	22 42 28.1 +2.0
	4.4nm,0.7s					
534A	Blanco	28.55	276	P	P	22 42 29.0 +0.2
	baz=79					
A33A	Warroad	28.77	317	P	P	22 42 32.4 +1.9
	baz=117					
E31A	Nome	29.38	311	P	P	22 42 36.8 +0.9
	baz=110					
JCT	Junction City	29.60	278	P	P	22 42 36.9 -1.2
	baz=80					
ULM	Lac du Bonnet	29.66	319	P	P	22 42 40.2 +2.0
	5.8nm,0.7s,baz=111,slow=7.1,SNR=9.9					
PTGA	Pitinga	32.21	170	P	P	22 43 01.6 +0.5
	3.4nm,0.7s,baz=336,slow=7.0,SNR=7.7					
PTGA	Pitinga	32.21	170	eP	P	22 43 02.4 +1.3
	26nm,1.6s					
TXAR	Lajitas Array	33.11	277	P	P	22 43 11.4 +2.3
	4.0nm,0.7s,baz=93,slow=7.5,SNR=34					
TXAR				PcP	PcP	22 45 53.5 +1.3
	0.6nm,0.8s,baz=109,slow=4.0,SNR=4.0					
TX31	Lajitas Ar. Si	33.12	277	eP	P	22 43 11.1 +2.0
SDCO	Great Sand Dun	33.60	292	P	P	22 43 10.7 -2.8
	baz=89					
SDCO	Great Sand Dun	33.60	292	eP	P	22 43 09.9 -3.5
	15nm,2.0s					
ISCO	Idaho Springs	33.70	296	eP	P	22 43 17.0 +2.6
	3.6nm,0.9s					
MNTX	Cornudas Mount	34.09	281	eP	P	22 43 19.6 +2.1
	3.4nm,0.9s					
S22A	4UR Ranch, Cre	34.65	292	eP	P	22 43 26.2 +3.6
	3.9nm,1.1s					
RWWY	Rawlins	35.00	299	eP	P	22 43 29.2 +3.6
	6.8nm,1.0s					
PD31	Pinedale Array	36.81	301	eP	P	22 43 43.5 +2.5
PDAR	Pinedale Array	36.81	301	P	P	22 43 43.0 +2.0
	1.3nm,0.7s,baz=89,slow=7.4,SNR=11					
PDAR				LR	LR	22 58 20.4
	comp=Z,82nm,21.9s,baz=116,slow=35					
BW06	Boulder Array	36.81	301	eP	P	22 43 42.7 +1.7
W18A	Petrified Fore	37.19	288	P	P	22 43 45.5 +1.2
	baz=83					
W18A	Petrified Fore	37.19	288	eP	P	22 43 48.7 +4.4
	9.3nm,1.1s					
SRU	San Rafael Swe	37.51	295	eP	P	22 43 50.6 +3.7
	4.1nm,0.9s					
LOHW	Long Hollow	37.62	302	eP	P	22 43 50.0 +2.1
	2.1nm,0.5s					
MOOW	Moose Ponds	37.73	302	eP	P	22 43 51.0 +2.2
	3.7nm,1.1s					
TPAW	Teton Pass	37.87	302	eP	P	22 43 52.4 +2.3
	17nm,1.6s					
IMW	Indian Meadow	37.88	303	eP	P	22 43 54.6 +4.4
	11nm,1.4s					
YHH	Holmes Hill	37.89	304	eP	P	22 43 54.4 +4.1
	9.6nm,1.5s					
FXWY	Fox Creek	37.93	302	eP	P	22 43 54.9 +4.4
	2.3nm,0.9s					
QLMT	Earthquake Lak	38.30	304	eP	P	22 43 58.9 +5.3
WUAZ	Wupatki	38.47	289	eP	P	22 43 59.4 +4.2
	3.4nm,0.9s					
TUC	Tucson	38.49	284	eP	P	22 43 57.4 +2.2
	4.1nm,0.8s					
U15A	North Rim	39.10	291	eP	P	22 44 04.8 +4.3
	3.5nm,0.8s					
SAML	Samuel	40.03	177	eP	P	22 44 07.7 -0.3
	16nm,0.8s					
Y14A	Wickenburg	40.04	287	eP	P	22 44 12.2 +4.1
	15nm,0.9s					
214A	Organ Pipe Nat	40.25	284	P	P	22 44 09.6 -0.2
	baz=78					
214A	Organ Pipe Nat	40.25	284	eP	P	22 44 11.8 +2.0
	43nm,1.0s					
SWMT	Swartz Lake	40.32	308	eP	P	22 44 14.7 +4.4
YBMT	Yellow Bay	40.37	309	eP	P	22 44 14.1 +3.4
JTMT	Jette	40.54	308	eP	P	22 44 15.2 +3.1
GMRC	Granite Mounta	42.06	289	P	P	22 44 25.3 +0.6
	baz=80					
NEW	Newport	42.48	309	P	P	22 44 29.4 +1.4
	baz=94,SNR=7.8					
NEW	Newport	42.48	309	eP	P	22 44 30.1 +2.1
	15nm,0.8s					
SUMG	Summit	43.72	11	iP	P	22 44 39.6 +1.5
	12nm,1.0s					
SUMG	Summit	43.72	11	eP	P	22 44 39.5 +1.4
	3.0nm,0.6s					
SIV	San Ignacio	47.15	175	P	P	22 45 05.3 0.0
	4.6nm,1.0s,baz=12,slow=9.3,SNR=5.1					
LPAZ	La Paz	47.35	184	P	P	22 45 07.0 -0.6
	2.0nm,0.8s,baz=360,slow=8.0,SNR=7.6					
ESDC	Sonseca Array	49.77	62	P	P	22 45 25.2 -0.3
	1.0nm,0.8s,baz=286,slow=8.2,SNR=7.9					
NOA	NORSAR Array B	56.73	34	P	P	22 46 16.8 +0.5
	2.0nm,0.9s,baz=279,slow=6.8,SNR=3.7					
CPUP	Villa Florida	57.77	172	P	P	22 46 23.0 -0.9
	1.8nm,0.8s,baz=341,slow=6.8,SNR=2.8					
IL1	Eielson Array	58.67	330	eP	P	22 46 31.8 +1.9
ILAR	Eielson Array	58.67	330	P	P	22 46 30.1 +0.2
	2.5nm,0.8s,baz=82,slow=6.1,SNR=19					
ILB	Eielson Array	58.67	330	eP	P	22 46 30.7 +0.8
GERES	GERESS Array B	60.26	48	P	P	22 46 40.3 -1.0
	0.1nm,0.3s,baz=268,slow=11,SNR=3.6					
DBIC	Dimbokro	61.33	100	P	P	22 46 48.0 -0.9
	4.3nm,0.7s,baz=302,slow=10,SNR=7.5					
DBIC				LR	LR	23 07 47.5
	comp=Z,45nm,21.3s,baz=286,slow=31					
ARCES	ARCESS Array B	61.35	24	P	P	22 46 48.6 +0.4
	2.0nm,0.7s,baz=284,slow=4.9,SNR=8.4					
H10N3	ASCENSION HYDR	62.17	120	T	T	23 54 57.4
	baz=311					
H10N2	ASCENSION HYDR	62.17	120	T	T	23 54 58.0
	baz=311					
H10N1	ASCENSION HYDR	62.19	120	T	T	23 54 59.2
	baz=311					
H10S3	ASCENSION HYDR	62.79	121	T	T	23 55 41.7
	baz=310					
H10S1	ASCENSION HYDR	62.79	121	T	T	23 55 44.4
	baz=310					
H10S2	ASCENSION HYDR	62.80	121	T	T	23 55 49.4
	baz=310					
TORD	Torodi Ar. Bea	63.68	90	P	P	22 47 04.7 0.0
	6.4nm,0.8s,baz=299,slow=7.6,SNR=47					
TORD				LR	LR	23 10 34.2
	comp=Z,30nm,21.0s,baz=240,slow=32					
PLCA	Paso Flores	71.80	184	P	P	22 47 55.7 +0.4
	5.3nm,0.8s,baz=12,slow=4.7,SNR=11					
BRTR	Keskin Array B	76.90	51	P	P	22 48 26.1 +0.7
	1.5nm,0.8s,baz=293,slow=3.5,SNR=8.3					
SEY	Seymchan	81.43	344	P	P	22 48 50.9 +1.4
	3.9nm,0.6s,baz=87,slow=3.5,SNR=8.2					
BVAR	Borovoye Array	87.61	25	P	P	22 49 23.2 +2.2
	1.1nm,0.9s,baz=275,slow=5.2,SNR=4.1					
KURK	Kurchatov	92.36	22	P	P	22 49 44.2 +1.0
KURBB	Kurchatov Arra	92.41	22	P	P	22 49 44.2 +0.8
	0.6nm,0.4s,baz=328,slow=4.9,SNR=4.9					
KSH	Kashi	100.91	30	eP	Pdif	22 50 20.1 -2.3
KSH				ePP	pP	22 50 25.7 -0.2
KSH				PP	PP	22 54 30.9 +1.5
KSH	Kashi	100.91	30	sS	sS	23 02 01.1 -5.4
KSH	Kashi	100.91	30	SS	SS	23 08 53.1 -4.0
KSH				pmax	pmax	
	comp=Z,2.0nm,0.6s					
KSH				pmax	pmax	
	comp=Z,69nm,4.5s					
KSH				LR	LR	
	comp=N,78nm,4.6s					
KSH				LR	LR	
	comp=E,49nm,4.9s					
KSH				LR	LR	
	comp=Z,74nm,4.8s					
WRAB	Tennant Creek	159.06	298	ePKPdf	PKPdf	22 56 29.3 -2.3
WRA	Warramunga Arr	159.08	298	PKP	PKPdf	22 56 31.2 -0.4
	comp=Z,0.9nm,0.9s,baz=31,slow=1.5,SNR=4.4					
ASAR	Alice Springs	161.41	289	PKP	PKPdf	22 56 33.0 -1.2
	comp=Z,0.5nm,0.7s,baz=68,slow=1.8,SNR=4.9					
ASAR				PKPab	PKPab	22 57 19.4 +1.0
	comp=Z,1.0nm,0.8s,baz=57,slow=4.4,SNR=6.5					

TAP ***03*** *22:49:52.0,24.°67N×122.°45E,h99km, ML3.3, C*
JMA ***03*** *22:49:51.8±0.3,24.°59N×122.°43E, h98km±3km, M2.6*
ISCJB ***03*** *22:49:52.4±0.8,24.°61N±0.°05×122.°48E±0.°02, h89km±8km, Error ellipse: s-maj=8.6km s-min=3.2km az=170.2*

ISC 03 22:49:52.8±1.7,24.°60N±0.°07×122.°47E±0.°03, h89km±14km, n27, σ0.°77/52, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.57	272	P	Pn	22 50 07.8	-0.2
	baz=264						
TWC				eS	Sn	22 50 19.1	-0.2
	baz=264						
ENA	Nanau	0.69	256	eP	Pn	22 50 09.0	-0.1
	baz=249						
ENA				eS	Sn	22 50 21.8	+0.5
	baz=249						
TWE	Neicheng	0.74	280	iP	Pn	22 50 09.7	0.0
	baz=274						
TWE				S	Sn	22 50 22.4	+0.2
	baz=274						
ENTT	Nioudou	0.83	273	eP	Pn	22 50 10.8	+0.3
	baz=272						
ENTT				eS	Sn	22 50 24.3	+0.5
	baz=272						
TWD	Chiawan	0.95	237	P	Pn	22 50 12.2	+0.4
	baz=229						
TWD				eS	Sn	22 50 26.1	-0.1
	baz=229						
NNS	Nan Shan	1.01	261	eP	Pn	22 50 12.8	+0.1
	baz=251						
NNS				eS	Sn	22 50 27.7	+0.1
	baz=251						
NSK	Sanguang	1.02	275	↓iP	Pn	22 50 12.9	+0.2
	baz=264						
NSK				iS	Sn	22 50 27.7	0.0
	baz=264						
TWS1	Kuangyinshan	1.08	298	eP	Pn	22 50 12.2	-1.2
	baz=295						
TWS1				eS	Sn	22 50 28.0	-0.9
	baz=295						
IRIF	Iriomote-Funau	1.18	102	P	Pn	22 50 14.6	+0.1
IRIF				S	Sn	22 50 31.4	+0.6
WHF	Hehuan Shan	1.19	248	eP	Pn	22 50 15.0	-0.1
	baz=239						
WHF				eS	Sn	22 50 31.6	-0.2
	baz=239						
ESL	Shilin	1.23	231	eP	Pn	22 50 14.6	-0.6
	baz=236						
ESL				eS	Sn	22 50 31.3	-0.6
	baz=236						
TWT	Tachien	1.23	254	eP	Pn	22 50 15.8	+0.5
	baz=244						
TWT				eS	Sn	22 50 32.8	+0.5
	baz=244						
HATJ	Hateruma jima	1.33	114	S	Sn	22 50 35.8	+1.7
NSTT	Nanjuang	1.34	272	eP	Pn	22 50 16.5	0.0
	baz=268						
NSTT				eS	Sn	22 50 34.2	-0.1
	baz=268						
JKRS	Kuro-shima	1.45	104	P	Pn	22 50 18.3	+0.5
JKRS				S	Sn	22 50 37.3	+0.6
JIJ	Ishigaki jima	1.54	98	P	Pn	22 50 18.8	-0.2
JIJ				S	Sn	22 50 38.3	-0.6
SMLT	Sun Moon Lake	1.60	244	eP	Pn	22 50 20.4	+0.5
	baz=236						
SMLT				eS	Sn	22 50 41.4	+1.0
	baz=236						
TWF1	Yuli	1.64	221	eP	Pn	22 50 19.3	-1.1
	baz=226						
TWF1				eS	Sn	22 50 39.4	-1.8
	baz=226						
JISG	Ishigakijimahi	1.67	90	P	Pn	22 50 20.8	+0.1
JISG				S	Sn	22 50 41.4	-0.5
YUS	Yu-Shan	1.77	232	eP	Pn	22 50 21.5	-1.0
	baz=223						
YUS				eS	Sn	22 50 44.7	-0.3
	baz=223						
CHKT	Chengkung	1.80	214	eP	Pn	22 50 21.0	-1.4
	baz=207						
CHKT				eS	Sn	22 50 42.8	-2.0
	baz=207						
ALS	Alishan	1.87	235	eP	Pn	22 50 24.6	+1.0
	baz=227						
ALS				eS	Sn	22 50 47.4	+0.5
	baz=227						
CHN5	Tsauling	1.92	239	eP	Pn	22 50 24.8	+0.8
	baz=247						
CHN5				eS	Sn	22 50 48.6	+0.9
	baz=247						
JTJ	Tarama	2.03	88	P	Pn	22 50 25.6	+0.2
JTJ				eS	Sn	22 50 50.0	-0.2
CHN4	Tsaushan	2.12	235	eP	Pn	22 50 27.4	+0.8
	baz=233						
CHN4				eS	Sn	22 50 53.4	+1.1
	baz=233						
CHN1	Nanshi	2.27	232	eP	Pn	22 50 29.5	+1.0
	baz=230						
CHN1				eS	Sn	22 50 56.5	+0.6
	baz=230						
JIRB	Irabujima	2.47	84	eS	Sn	22 50 59.5	-1.1

MEX 03 23:04:39.5±0.8, 19.°30N×97.°09W, h68km±33km, MD3.5, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	Laguna Verde	0.76	56	eP	Pn	23 04 53.2	-1.7
LVIG				eS	Sn	23 05 04.7	-1.5
TPIG	Tehuac#an	0.92	197	iP	Pn	23 04 55.1	-2.0
PPM	Popocatepetl	1.48	261	iP	Pn	23 05 04.0	-0.5
YAIG	Yautepec	1.92	257	eP	Pn	23 05 08.6	-1.7
YAIG				iS	Sn	23 05 33.2	-0.4
VHO	Vista Hermosa	2.25	171	iP	Pn	23 05 15.5	+0.9
VHO				iS	Sn	23 05 39.6	-1.8

IDC ***03*** *23:22:09.2±0.5, 44.°48S×82.°07W, h0km, mb4.7/11, mb1 4.8/12, mb1mx4.7/19, mbtmp4.7/12, ML4.0/1, MS4.3/16, Ms1 4.3/16, ms1mx4.2/21, Error ellipse: s-maj=23.2km s-min=16.1km az=101.0*
ISCJB ***03*** *23:22:10.3±0.2, 44.°40S±0.°04×81.°70W±0.°06, h10km, mb5.2/148, MS4.3/16, Error ellipse: s-maj=7.4km s-min=5.5km az=137.9*
NEIC ***03*** *23:22:11.6±0.2, 44.°52S×81.°78W, h10km, mb5.3/140, Error ellipse: s-maj=7.5km s-min=6.0km az=65.0*
MOS ***03*** *23:22:11.6±1.0, 44.°42S×81.°60W, h17km, mb5.4/35, Error ellipse: s-maj=20.0km s-min=9.5km az=95.2*
GCMT ***03*** *23:22:11.6±0.3, 44.°67S×82.°03W, h12km, MW5.0/79, Moment Tensor Solution. s22,c27; s79,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.88±.07; Mθθ-0.27±.07; Mφφ-2.61±.07; Mrθ1.07±.30; Mrφ-0.17±.06; Mθφ1.75±.26; Best double couple: M0 3.41800×10^16 NP1:φs19.00000°, δ63.00000°, λ102.00000°. NP2: φs173.00000°, δ29.00000°, λ67.00000°. Principal axes: T 3.6380, Plg69.0000°, Azm314.0000°; N -0.4420, Plg11.0000°, Azm193.0000°; P -3.1980, Plg17.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 23:22:11.4±0.3, 44.°46S±0.°06×82.°00W±0.°06, h10km, n639, σ1.8 17/659, mb5.3/148, MS4.3/16, 9C-8D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	Cochrane	7.14	116	eP	Pn	23 23 55.6	-0.2
CHRN	Cochrane	7.14	116	ePn	Pn	23 23 57.2	+1.4
GO08	Villa O'Higgin	7.65	125	eP	Pn	23 24 03.4	+0.6
PLCA	Paso Flores	9.23	70	Pn	Pn	23 24 22.2	-2.3
	0.4nm,0.3s,baz=251,slow=14,SNR=8.7						
PLCA				LR	LR	23 27 27.1	
	comp=Z,4μm,18.9s,baz=272,slow=34						
PLCA	Paso Flores	9.23	70	eP	Pn	23 24 21.1	-3.5
PLCA	Paso Flores	9.23	70	eP	Pn	23 24 22.8	-1.8
PLCA	Paso Flores	9.23	70	ePn	Pn	23 24 22.8	-1.8
PLCA				eSn	Sn	23 26 11.5	+3.1
GO09	Cerro Castillo	9.40	140	eP	Pn	23 24 27.8	+0.9
GO09	Cerro Castillo	9.40	140	ePn	Pn	23 24 25.7	-1.2
USHA	Ushuaia	13.57	145	LR	LR	23 30 00.5	
	comp=Z,6μm,19.6s,baz=282,slow=35						
ROC1	El Roble	14.30	40	ePn	Pn	23 25 31.7	-2.4
TRQA	Tornquist	16.34	74	ePn	Pn	23 25 59.9	-0.9
	432nm,2.0s						
LCO	Las Campanas	17.85	34	ePn	Pn	23 26 20.2	+0.1
	56nm,1.4s						
PMSA	Palmer Station	22.69	160	eP	P	23 27 14.2	+1.5
	31nm,1.3s						
PB10	IPOC Station P	22.90	28	eP	P	23 27 16.8	+1.5
	96nm,1.3s						
PB04	IPOC Station P	24.13	28	eP	P	23 27 28.6	+1.0
	107nm,1.4s						
LVC	Limon Verde	24.31	31	P	P	23 27 30.3	+0.8
	137nm,0.9s,baz=203,slow=8.7,SNR=29						
LVC	Limon Verde	24.31	31	eP	P	23 27 30.4	+0.8
	47nm,1.0s						
PB01	IPOC Station P	25.55	28	eP	P	23 27 40.8	+0.3
	50nm,1.2s						
PB11	IPOC Station P	26.69	27	eP	P	23 27 51.1	+0.2
	46nm,1.2s						
CPUP	Villa Florida	26.89	56	P	P	23 27 52.8	+0.4
	9.4nm,1.0s,baz=222,slow=9.9,SNR=7.9						
CPUP				LR	LR	23 38 26.9	
	comp=Z,2μm,19.1s,baz=222,slow=36						
CPUP	Villa Florida	26.89	56	eP	P	23 27 51.6	-0.8
CPUP	Villa Florida	26.89	56	eP	P	23 27 51.6	-0.8
LPAZ	La Paz	30.43	27	P	P	23 28 25.9	+1.1
	13nm,1.0s,baz=185,slow=7.6,SNR=36						
LPAZ	La Paz	30.43	27	P	P	23 28 25.9	+1.1
LPAZ				e		23 31 23.5	
LPAZ	La Paz	30.43	27	P	P	23 28 25.9	+1.1
LPAZ				ePcP	PcP	23 31 23.5	-0.8
SPB	Sao Paulo	35.04	65	eP	P	23 29 04.0	-0.3
	34nm,1.3s						
SAML	Samuel	38.96	30	eP	P	23 29 36.9	-0.9
	23nm,1.3s						
PAYG	Puerto Ayora	44.22	348	eP	P	23 30 22.8	+2.0
	82nm,1.4s						
OTAV	Otavalo	44.62	5	eP	P	23 30 25.3	+0.8
	27nm,1.6s						
SNAA	Sanae	45.19	154	P	P	23 30 27.6	-0.4
	20nm,1.1s,baz=247,slow=7.2,SNR=19						
SNAA	Sanae	45.19	154	↓iP	P	23 30 28.2	+0.2
SNAA	Sanae	45.19	154	eP	P	23 30 27.3	-0.7
	40nm,1.3s						
QSPA	South Pole Qui	45.78	180	eP	P	23 30 32.8	-0.1
PTGA	Pitinga	47.73	30	eP	P	23 30 48.4	-0.1
	21nm,1.1s						
PTGA				ePcP	PcP	23 32 12.6	-5.1
RKT	Rikitea	47.97	278	eS	S	23 37 45.7	-2.4
RKT				eLR	LR	23 44 17.5	
	912nm,26.8s						
PRAC	Prado	48.38	10	eP	P	23 30 54.5	+0.9
	70nm,1.7s						
ROSC	El Rosal	49.56	10	LR	LR	23 49 21.5	
	comp=Z,300nm,21.4s,baz=206,slow=33						
ROSC	El Rosal	49.56	10	eP	P	23 31 00.7	-2.3
	12nm,1.1s						
GUYC	Guyana, Colomb	49.81	9	eP	P	23 31 04.0	-1.0
NVL	N'lazarevskaya	50.01	154	eP	P	23 31 09.8	+4.5
HELC	Santa Helena	50.76	8	eP	P	23 31 13.3	+1.3
	108nm,1.8s						
RUSC	La Rusia	50.76	11	eP	P	23 31 10.3	-1.9
RUSC	La Rusia	50.76	11	eP	P	23 31 12.5	+0.3
	10nm,1.2s						
SBA	Scott Base	51.16	195	eP	P	23 31 11.5	-2.4
SBA				pmax	pmax		
	comp=Z,24nm,1.5s						
SBA	Scott Base	51.16	195	eP	P	23 31 11.5	-2.4
	comp=Z,24nm,1.5s						
ZARC	Zaragoza, Cauc	52.11	9	eP	P	23 31 19.1	-2.7
VNDA	Vanda	52.22	194	P	P	23 31 22.7	+0.8
	comp=Z,6.5nm,1.0s,baz=128,slow=5.8,SNR=18						
VNDA				LR	LR	23 50 39.6	
	comp=Z,140nm,18.4s,baz=120,slow=33						
MOTC	Monteria, Cord	53.30	8	eP	P	23 31 27.4	-3.2
SDV	Santo Domingo	54.08	14	eP	P	23 31 36.4	-0.1
	comp=Z,41nm,1.6s						
HDC	Heredia	54.24	357	eP	P	23 31 39.5	+2.0
	comp=Z,79nm,0.4s						
TGUH	Tegucigalpa,Un	58.43	354	eP	P	23 32 08.8	+1.5
	comp=Z,39nm,0.9s						
SYO	Syowa Base	58.94	159	↑eP	P	23 32 08.6	-1.6
TAOE	Nuku Hiva Isla	61.30	287	eLR	LR	23 50 20.0	
	comp=Z,384nm,25.3s						
PPT2	Papeete2	61.95	273	eS	S	23 40 56.2	+0.2
	comp=Z,147nm,26.2s						
PPT2				eLR	LR	23 50 47.3	
	comp=Z,441nm,25.2s,baz=119						
PPT	Papeete	61.97	273	LR	LR	23 51 31.4	
	comp=Z,237nm,21.9s,baz=160,slow=28						
CELP	Cerrillos	63.81	16	eP	P	23 32 43.2	-0.5
GTBY	Guantanamo Bay	64.38	7	eP	P	23 32 48.1	+0.7
	comp=Z,90nm,1.3s						
MAW	Mawson	65.14	166	P	P	23 32 51.9	0.0
	comp=Z,5.3nm,0.9s,baz=205,slow=7.1,SNR=11						
MAW				LR	LR	00 00 26.2	
	comp=Z,157nm,20.8s,baz=241,slow=35						
MAW	Mawson	65.14	166	P	P	23 32 51.9	0.0
MAW				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	Mawson	65.14	166	P	P	23 32 51.9	0.0
	comp=Z,1.7nm,1.0s						
ZAIG	Zacatecas	69.50	340	eP	P	23 33 22.4	+2.1
	comp=Z,18nm,1.4s						
035Z	Hargill	72.09	345	P	P	23 33 37.2	+1.6
	baz=168						
SLBS	Sierra La Lagu	72.48	333	eP	P	23 33 40.2	+2.0
	comp=Z,77nm,1.9s						
035A	Encino	72.56	345	P	P	23 33 39.8	+1.3

833A	Chaparral WMA,	74.16 344	P	P	23 33 48.8	+0.9
	baz=167					
832A	Faith Ranch, C	74.24 344	P	P	23 33 49.0	+0.7
	baz=167					
HPIG		74.28 338	eP	P	23 33 50.4	+1.6
	comp=Z,23nm,0.9s					
736A	Circle Diamond	74.35 346	P	P	23 33 50.8	+1.8
	baz=169					
735A	Kenedy	74.38 346	P	P	23 33 50.6	+1.5
	baz=168					
734A	La Parita Cree	74.51 345	P	P	23 33 51.0	+1.1
	baz=168					
733A	Divot King Ran	74.52 344	P	P	23 33 51.3	+1.3
	baz=167					
637A	Eagle Lake	74.70 347	P	P	23 33 52.7	+1.7
	baz=169					
636A	Smothers Creek	74.86 346	P	P	23 33 53.1	+1.2
	baz=169					
635A	Leesville	74.89 346	P	P	23 33 52.4	+0.3
	baz=168					
634A	China Grove, S	74.99 345	P	P	23 33 53.1	+0.5
	baz=168					
539A	Cross D Ranch,	75.12 349	P	P	23 33 54.6	+1.2
	baz=170					
447A	Lucedale	75.14 354	P	P	23 33 54.7	+1.2
	baz=175					
446A	Poplarville	75.19 353	P	P	23 33 53.9	+0.1
	baz=174					
445A	Amite	75.22 353	P	P	23 33 54.0	+0.1
	baz=174					
633A	Saathoff Ranch	75.22 345	P	P	23 33 54.6	+0.5
	baz=167,SNR=8.3					
448A	Bay Minette	75.22 355	P	P	23 33 54.3	+0.3
	baz=176					
444A	Pine Grove	75.24 352	P	P	23 33 54.3	+0.2
	baz=173					
537A	Green Hill Far	75.33 347	P	P	23 33 55.2	+0.6
	baz=169					
538A	Harpers Horsep	75.34 348	P	P	23 33 54.9	+0.2
	baz=170					
BRAL	Brewton	75.41 356	eP	P	23 33 56.4	+1.4
	comp=Z,65nm,1.2s					
442A	Mamou	75.42 351	P	P	23 33 56.3	+1.2
	baz=172					
536A	Bastrop	75.44 347	P	P	23 33 55.7	+0.5
	baz=169					
535A	Dale	75.48 346	P	P	23 33 56.1	+0.6
	baz=168					
TIGA	Tifton	75.55 359	eP	P	23 33 55.6	-0.3
	comp=Z,66nm,1.7s					
440A	Kirbyville	75.64 349	P	P	23 33 57.6	+1.2
	baz=171					
534A	Blanco	75.64 345	P	P	23 33 57.5	+1.0
	baz=168					
348A	Jackson	75.70 355	P	P	23 33 57.4	+0.7
	baz=176					
347A	Saraland	75.73 354	P	P	23 33 58.0	+1.1
	baz=175					
533A	Kerrville	75.79 345	P	P	23 33 57.6	+0.3
	baz=167,SNR=6.6					
346A	Big Creek Wild	75.79 353	P	P	23 33 57.8	+0.6
	baz=174					
439A	Center Grove,	75.80 349	P	P	23 33 58.4	+1.1
	baz=170					
438A	Sam Houston St	75.86 348	P	P	23 33 58.4	+0.9
	baz=170					
344A	Westbrook Farm	75.97 352	P	P	23 33 59.1	+0.9
	baz=173					
437A	Phantom Ranch,	76.03 347	P	P	23 33 59.2	+0.6
	baz=170					
342A	Flagon Creek P	76.06 351	P	P	23 33 59.5	+0.7
	baz=172					
TXAR	Lajitas Array	76.06 341	P	P	23 33 59.0	0.0
	comp=Z,2.0nm,0.9s,baz=156,slow=6.6,SNR=24					
TXAR			LR	LR	00 02 12.9	
	comp=Z,199nm,18.2s,baz=0.0,slow=32					
TXAR	Lajitas Array	76.06 341	P	P	23 33 59.0	0.0
TX31	Lajitas Ar. Si	76.06 341	eP	P	23 33 59.8	+0.8
436A	Wall Ranch, Ga	76.08 347	P	P	23 33 59.9	+1.0
	baz=169					
341A	Kurthwood	76.12 350	P	P	23 33 59.8	+0.7
	baz=172					
435B	Jarrell	76.22 346	P	P	23 34 00.6	+0.8
	baz=168					
340A	Bronson	76.29 350	P	P	23 34 00.8	+0.7
	baz=171					
339A	Huntington	76.30 349	P	P	23 34 00.8	+0.7
	baz=171					
JCT	Junction City	76.33 344	P	P	23 34 00.8	+0.4
	baz=167					
JCT	Junction City	76.33 344	eP	P	23 34 02.0	+1.6
JCT			pmax	pmax		
	comp=Z,30nm,1.2s					
JCT	Junction City	76.33 344	eP	P	23 34 02.0	+1.6
	comp=Z,30nm,1.2s					
248A	Dixon Mills	76.37 355	P	P	23 34 01.2	+0.7
	baz=176					
247A	Quitman	76.39 354	P	P	23 34 01.3	+0.7
	baz=175					
338A	Crockett	76.43 348	P	P	23 34 01.7	+0.9
	baz=170					
245A	Little AP, Sta	76.47 353	P	P	23 34 01.9	+0.8
	baz=174					
337A	Centerville	76.47 348	P	P	23 34 02.1	+1.0
	baz=170					
244A	Avery, Jackson	76.55 352	P	P	23 34 02.2	+0.7
	baz=174					
335A	Moody	76.68 346	P	P	23 34 03.0	+0.7
	baz=169					
336A	Riesel	76.69 347	P	P	23 34 03.1	+0.7
	baz=169					
VBMS	Vicksburg	76.71 353	P	P	23 34 03.3	+0.9
	baz=174					
VBMS	Vicksburg	76.71 353	eP	P	23 34 03.5	+1.1
	comp=Z,174nm,0.3s					
242A	Grayson	76.72 351	P	P	23 34 03.3	+0.9
	baz=172					
NATX	Nacogdoches	76.73 349	P	P	23 34 03.3	+0.7
	baz=171					
NATX	Nacogdoches	76.73 349	eP	P	23 34 04.0	+1.5
	comp=Z,40nm,1.4s					
241A	Mo Tay, Goldon	76.77 350	P	P	23 34 03.7	+1.0
	baz=172					
240A	Hunter Patters	76.89 350	P	P	23 34 04.3	+0.9
	baz=171					
239A	Gary	76.96 349	P	P	23 34 04.1	+0.2
	baz=171					
147A	Livingston	76.98 355	P	P	23 34 04.1	+0.2
	baz=175					
146A	Union	77.00 354	P	P	23 34 04.8	+0.7
	baz=175					
238A	Jacksonville	77.03 349	P	P	23 34 05.5	+1.2
	baz=170					
145A	Houston Renfro	77.04 353	P	P	23 34 05.2	+1.0
	baz=174					
144A	Alexander Plac	77.11 353	P	P	23 34 05.5	+0.9
	baz=174					
237A	Washetta, Mont	77.13 348	P	P	23 34 05.8	+1.0
	baz=170					
142A	Monroe	77.18 351	P	P	23 34 05.7	+0.6
	baz=173					
236A	Katherine and	77.24 347	P	P	23 34 06.0	+0.6
	baz=169					
LRAL	Lakeview Retre	77.26 356	eP	P	23 34 05.8	+0.3
	comp=Z,14nm,1.0s					
143A	Socs Landing,	77.27 352	P	P	23 34 05.4	-0.1
	baz=173					
141A	Papa Simpson,	77.34 351	P	P	23 34 06.1	+0.1
	baz=172					
WHTX	Lake Whitney,	77.38 347	P	P	23 34 06.2	0.0
	baz=169,SNR=6.6					
WHTX	Lake Whitney,	77.38 347	eP	P	23 34 07.5	+1.2
	comp=Z,41nm,1.4s					
WHTX			ePP	PP	23 37 01.2	+0.1
Z47A	Carrollton	77.49 355	P	P	23 34 07.0	+0.2
	baz=175					
GOGA	Godfrey	77.52 359	eP	P	23 34 07.1	+0.2
GOGA			pmax	pmax		
	comp=Z,31nm,1.1s					
GOGA	Godfrey	77.52 359	eP	P	23 34 07.1	+0.2
	comp=Z,31nm,1.1s					
Z46A	Louisville	77.54 354	P	P	23 34 07.8	+0.7
	baz=175					
Z48A	Northport	77.63 355	P	P	23 34 07.5	0.0
	baz=176					
138A	Matatall Enter	77.68 349	P	P	23 34 08.2	+0.4
	baz=170					
136A	Ennis	77.71 347	P	P	23 34 08.4	+0.4
	baz=169					
137A	Heron Place, G	77.71 348	P	P	23 34 08.4	+0.4
	baz=170					
Z44A	Pea Ridge, Bel	77.75 353	P	P	23 34 08.5	+0.2
	baz=174					
HSIG		77.77 334	eP	P	23 34 10.3	+1.9
	comp=Z,16nm,1.4s					
Z42A	Norrel Spur, H	77.89 351	P	P	23 34 09.2	+0.1
	baz=173					
Z41A	Richland Creek	77.97 351	P	P	23 34 09.8	+0.4
	baz=172					
Z40A	Long Farm, Mag	78.05 350	P	P	23 34 10.2	+0.4
	baz=172					
Y47A	UCPARC, Winfie	78.17 355	P	P	23 34 10.3	-0.3
	baz=176					
Y46A	Houston	78.22 354	P	P	23 34 10.6	-0.3
	baz=175					
Z38A	Mt. Pleasant	78.24 349	P	P	23 34 10.9	-0.1
	baz=170					
Y45A	Yeager Farm, C	78.26 354	P	P	23 34 11.3	+0.2
	baz=174					
JSC	Jenkinsville	78.37 1	eP	P	23 34 11.1	-0.6
JSC			pmax	pmax		
	comp=Z,26nm,1.3s					
JSC	Jenkinsville	78.37 1	eP	P	23 34 11.1	-0.6
	comp=Z,26nm,1.3s					
ABTX	Abilene, Hawle	78.39 345	P	P	23 34 11.7	-0.1
	baz=167,SNR=5.6					
ABTX	Abilene, Hawle	78.39 345	eP	P	23 34 13.1	+1.2
	comp=Z,41nm,1.5s					
Y44A	Strider, Charl	78.41 353	P	P	23 34 11.7	-0.1
	baz=174					
Y43A	Makayla and Ka	78.42 352	P	P	23 34 12.2	+0.3
	baz=173					
WLAR	White Oak Lake	78.43 351	eP	P	23 34 11.9	-0.1
	comp=Z,24nm,1.0s					
Z36A	Blue Ridge	78.47 348	P	P	23 34 12.5	+0.2
	baz=169					
Y41A	Eaglette Beard	78.57 351	P	P	23 34 13.0	+0.3
	baz=172					
MNTX	Cornudas Mount	78.74 340	P	P	23 34 14.2	+0.4
	baz=163					
MNTX	Cornudas Mount	78.74 340	eP	P	23 34 14.7	+0.9
	comp=Z,13nm,1.6s					
X45A	UM Field Stati	78.80 354	P	P	23 34 13.5	-0.5
	baz=174					
Y39A	Lockesburg	78.80 350	P	P	23 34 14.0	0.0
	baz=171					
Y38A	Idabel	78.88 349	P	P	23 34 14.6	+0.1
	baz=171					
OXF	Oxford	78.89 354	eP	P	23 34 15.3	+0.8
OXF			pmax	pmax		
	comp=Z,80nm,1.6s					
OXF	Oxford	78.89 354	eP	P	23 34 15.3	+0.8
	comp=Z,80nm,1.6s					
X44A	Crenshaw	78.94 353	P	P	23 34 13.9	-0.9
	baz=174					
Y36A	Durant	79.07 348	P	P	23 34 15.4	-0.1
	baz=170					
X42A	Stuttgart	79.13 352	P	P	23 34 15.6	-0.2
	baz=173					
Y35A	Marietta	79.19 347	P	P	23 34 15.7	-0.5
	baz=169					
KMSC	Kings Mountain	79.23 1	P	P	23 34 15.8	-0.6
	baz=180					
KMSC	Kings Mountain	79.23 1	eP	P	23 34 15.8	-0.6
	comp=Z,31nm,0.5s					
MIAR	Mount Ida	79.34 350	P	P	23 34 17.0	0.0
	baz=172					
MIAR	Mount Ida	79.34 350	eP	P	23 34 16.5	-0.5
MIAR			pmax	pmax		
	comp=Z,9.0nm,1.1s					
MIAR	Mount Ida	79.34 350	eP	P	23 34 16.5	-0.5
	comp=Z,9.4nm,1.1s					
X39A	Fountain Ranch	79.37 350	P	P	23 34 17.2	0.0
	baz=171,SNR=9.9					
SWET	Sewanee	79.38 357	eP	P	23 34 17.5	+0.2
	comp=Z,8.9nm,1.0s					
319A	Douglas	79.47 336	eP	P	23 34 19.0	+1.1
	comp=Z,40nm,1.7s					
W45A	Hickory Valley	79.51 354	P	P	23 34 17.0	-0.9
	baz=175					
CPCT	Cooper Cave	79.57 358	eP	P	23 34 17.1	-1.2
	comp=Z,9.7nm,1.1s					
X38A	Whitesboro	79.62 349	P	P	23 34 18.4	-0.1
	baz=171					
X35A	Drake	79.66 347	P	P	23 34 18.4	-0.3
	baz=169,SNR=7.8					
X36A	Centrahoma	79.73 348	P	P	23 34 18.7	-0.5
	baz=170,SNR=8.4					
TKL	Tuckaleechee C	79.76 359	eP	P	23 34 18.4	-0.9
TKL			pmax	pmax		
	comp=Z,15nm,1.3s					
TKL	Tuckaleechee C	79.76 359	eP	P	23 34 18.4	-0.9
	comp=Z,15nm,1.3s					
W41B	Gary Mavity, V	79.81 351	P	P	23 34 19.3	-0.2
	baz=172,SNR=5.0					
W42A	Bald Knob	79.83 352	P	P	23 34 19.2	-0.4
	baz=173					
X301	Greenbrier Sit	79.89 351	eP	P	23 34 19.8	-0.1
	comp=Z,24nm,1.3s					
W40A	Ferguson Farm,	79.92 351	P	P	23 34 20.0	-0.1
	baz=172					
WHAR	Wooly Hollow	79.93 351	eP	P	23 34 20.9	+0.7
	comp=Z,44nm,1.5s					
W38A	Poteau	79.97 350	P	P	23 34 20.7	+0.3
	baz=171,SNR=6.5					
W39A	Magazine	80.00 350	P	P	23 34 20.5	-0.1
	baz=171,SNR=7.2					
121A	Cookes Peak, D	80.15 338	P	P	23 34 22.2	+0.6
	baz=162					
W36A	Wetumka	80.28 348	P	P	23 34 21.7	-0.4
	baz=170					
WMOK	Wichita Mounta	80.29 346	P	P	23 34 22.1	0.0
	baz=168,SNR=17					
WMOK	Wichita Mounta	80.29 346	eP	P	23 34 22.5	+0.3
WMOK			e		23 37 24.0	
WMOK			pmax	pmax		
	comp=Z,40nm,1.4s					
WMOK	Wichita Mounta	80.29 346	eP	P	23 34 22.5	+0.3
	comp=Z,40nm,1.4s					
WMOK			ePP	PP	23 37 24.0	-1.4
MSTX	Muleshoe	80.32 343	P	P	23 34 22.6	+0.2
	baz=165					
MSTX	Muleshoe	80.32 343	eP	P	23 34 23.0	+0.6
	comp=Z,52nm,1.6s					
V42A	Cord	80.35 352	P	P	23 34 22.3	-0.1
	baz=173					
W35A	Tecumseh	80.39 348	P	P	23 34 22.2	-0.4
	baz=169					
WVT	Waverly	80.39 355	eP	P	23 34 22.3	-0.3
WVT			pmax	pmax		
	comp=Z,49nm,1.8s					
WVT	Waverly	80.39 355	eP	P	23 34 22.3	-0.3
	comp=Z,49nm,1.8s					
V41A	Mountainview	80.40 352	P	P	23 34 22.2	-0.5
	baz=172,SNR=7.5					
V40A	Witts Springs	80.49 351	P	P	23 34 22.7	-0.6
	baz=172					
V39A	Pettigrew	80.62 350	P	P	23 34 23.7	-0.2
	baz=172					
U45A	Rockin P Farm,	80.67 354	P	P	23 34 24.1	0.0
	baz=175					
V38A	Canehill	80.74 350	P	P	23 34 23.9	-0.6
	baz=171,SNR=5.5					
TUC	Tucson	80.79 336	P	P	23 34 25.6	+0.6
	baz=160					
TUC	Tucson	80.79 336	eP	P	23 34 24.6	-0.4
TUC			pmax	pmax		
	comp=Z,12nm,1.4s					
TUC	Tucson	80.79 336	eP	P	23 34 24.6	-0.4
	comp=Z,12nm,1.4s					
U43A	Rector	80.81 353	P	P	23 34 25.4	+0.5
	baz=174					
V37A	Hulbert	80.85 349	P	P	23 34 25.0	-0.2
	baz=170,SNR=9.6					
V36A	Jenks	80.87 349	P	P	23 34 24.7	-0.5
	baz=170,SNR=8.4					
U42A	Reverden	80.87 352	P	P	23 34 25.1	-0.1
	baz=173					
U41A	Viola	80.93 352	P	P	23 34 24.9	-0.7
	baz=173					
TUL1	Leonard	80.97 349	P	P	23 34 25.3	-0.5
	baz=170,SNR=8.9					
TUL1	Leonard	80.97 349	eP	P	23 34 25.9	+0.1
	comp=Z,49nm,1.1s					
AMTX	Amarillo	80.97 344	P	P	23 34 25.9	0.0
	baz=166					
AMTX	Amarillo	80.97 344	eP	P	23 34 26.6	+0.7
	comp=Z,58nm,1.6s					
V35A	Meyer Ranch, C	80.98 348	P	P	23 34 25.7	-0.2
	baz=169					
U40A	Yellville	81.04 351	P	P	23 34 25.8	-0.4
	baz=172,SNR=11					
214A	Organ Pipe Nat	81.08 334	P	P	23 34 27.0	+0.6
	baz=158					
HHAR	Hobbs	81.09 350	eP	P	23 34 25.8	-0.6
	comp=Z,21nm,1.4s					
U39A	Green Forest	81.14 351	P	P	23 34 26.3	-0.4
	baz=172,SNR=7.6					
PBMO	Poplar Bluff	81.22 353	eP	P	23 34 26.1	-0.9
	comp=Z,20nm,1.3s					
U38A	Gravette	81.30 350	P	P	23 34 27.5	0.0
	baz=171					
U37A	Salina	81.37 349	P	P	23 34 27.8	0.0
	baz=170					
BNM	Barren Site	81.39 340	eP	P	23 34 29.3	+0.9
U36A	Oologah	81.44 349	P	P	23 34 28.1	-0.1
	baz=170					
T44A	Benton	81.46 354	P	P	23 34 27.7	-0.6
	baz=174					
T43A	Greenville	81.51 353	P	P	23 34 27.7	-0.9
	baz=174,SNR=5.2					
T42A	Van Buren	81.53 353	P	P	23 34 27.9	-0.8
	baz=173					
U35A	Pawnee	81.56 348	P	P	23 34 28.3	-0.5
	baz=169					
T41A	Mountain View	81.61 352	P	P	23 34 28.4	-0.8
	baz=173,SNR=6.4					
BOSA	Boshof	81.62 122	P	P	23 34 28.6	-1.3
	comp=Z,13nm,1.1s,baz=230,slow=3.3,SNR=6.7					
BOSA			LR	LR	00 06 54.9	
	comp=Z,136nm,18.9s,baz=194,slow=33					
BOSA	Boshof	81.62 122	P	P	23 34 28.6	-1.3
BOSA			pmax	pmax		
	comp=Z,22nm,1.1s					
BOSA	Boshof	81.62 122	P	P	23 34 28.6	-1.3
	comp=Z,22nm,1.1s					
LAZ	Ladron	81.75 339	eP	P	23 34 31.8	+1.6
URVA	University of	81.75 4	eP	P	23 34 29.3	-0.6
T39A	Clever	81.76 351	P	P	23 34 29.2	-0.8
	baz=172,SNR=9.8					
T40A	Mansfield	81.79 352	P	P	23 34 29.4	-0.7
	baz=172					
JSRW	J. Sargeant Re	81.86 3	eP	P	23 34 30.6	+0.2
T38A	Diamond	81.88 350	P	P	23 34 30.0	-0.6
	baz=171,SNR=5.2					
U32A	Winter Ranch,	81.93 346	P	P	23 34 31.2	+0.3
	baz=168					
S45A	Carrier Mills	81.98 355	P	P	23 34 30.1	-0.9
	baz=175					
S43A	Fulton Ridge,	81.98 354	P	P	23 34 30.0	-1.0
	baz=174					
S44A	Carbondale	82.04 354	P	P	23 34 30.8	-0.6
	baz=175,SNR=6.8					
T37A	Cheneyville 18	82.05 350	P	P	23 34 30.8	-0.6
	baz=171,SNR=7.0					
T35A	Sooner Cattle	82.06 348	P	P	23 34 31.5	0.0
	baz=170,SNR=11					
ANMO	Albuquerque	82.10 340	P	P	23 34 32.4	+0.4
	baz=162					
ANMO	Albuquerque	82.10 340	c iP	P	23 34 33.1	+1.1
ANMO			pmax	pmax		
	comp=Z,22nm,1.5s					
ANMO	Albuquerque	82.10 340	eP	P	23 34 33.6	+1.6
	comp=Z,26nm,1.4s					
T36A	Boggs Farm, Ca	82.11 349	P	P	23 34 31.7	-0.1
	baz=170,SNR=7.8					
113A	Mohawk Valley,	82.13 333	eP	P	23 34 34.0	+2.0
	comp=Z,13nm,1.4s					
S41A	Jillco Farms,	82.15 352	P	P	23 34 31.8	-0.2
	baz=173,SNR=9.8					
USIN	University of	82.21 355	eP	P	23 34 31.6	-0.7
	comp=Z,48nm,1.1s					
S40A	Lebanon	82.23 352	P	P	23 34 31.8	-0.6
	baz=172,SNR=11					
S42A	Caledonia	82.24 353	P	P	23 34 31.6	-0.8
	baz=174,SNR=8.0					
T34A	McClaskey Farm	82.27 348	P	P	23 34 32.7	+0.1
	baz=169,SNR=10					
CBN	Corbin Frederi	82.39 4	eP	P	23 34 32.6	-0.5
	comp=Z,20nm,0.4s					
S39A	Bolivar	82.41 351	P	P	23 34 32.7	-0.7
	baz=172,SNR=12					
S38A	Stockton	82.42 350	P	P	23 34 32.8	-0.6
	baz=171,SNR=9.9					
R44A	Waltonville	82.58 354	P	P	23 34 33.6	-0.5
	baz=175					
X18A	Snowflake	82.62 337	eP	P	23 34 37.1	+2.3
	comp=Z,15nm,1.2s					
S37A	Fort Scott	82.66 350	P	P	23 34 34.2	-0.4
	baz=171,SNR=6.9					
R43A	Red Bud	82.67 354	P	P	23 34 34.2	-0.4
	baz=174,SNR=6.1					
S36A	Lake Cedric, C	82.73 349	P	P	23 34 34.7	-0.3
	baz=170,SNR=5.2					
GLA	Glamis	82.73 333	P	P	23 34 36.3	+1.1
	baz=157					
GLA	Glamis	82.73 333	eP	P	23 34 37.5	+2.3
GLA			pmax	pmax		
	comp=Z,53nm,1.8s					
GLA	Glamis	82.73 333	eP	P	23 34 37.5	+2.3
	comp=Z,53nm,1.8s					
R42A	Luebbering	82.75 353	P	P	23 34 35.4	+0.3
	baz=174					
S35A	Otter Creek Ra	82.78 349	P	P	23 34 35.2	-0.1
	baz=170,SNR=7.3					
IKP	In-Ko-Pah, Jac	82.80 332	P	P	23 34 35.0	-0.5
	baz=156					
R41A	Rosebud	82.81 353	P	P	23 34 35.0	-0.4
	baz=173,SNR=10.0					
R40A	Maddies Statio	82.89 352	P	P	23 34 35.3	-0.5
	baz=172					
S34A	Willow Spring	82.92 348	P	P	23 34 35.9	-0.1
	baz=169					
X16A	Lo Mia Camp, P	82.95 336	eP	P	23 34 38.6	+2.2
	comp=Z,11nm,1.3s					
SWSC	Sam W. Stewart	82.96 332	P	P	23 34 36.9	+0.6
	baz=156					
R38A	Fenwick Farm,	82.97 351	P	P	23 34 35.3	-0.9
	baz=171,SNR=5.5					
Y14A	Wickenburg	82.97 334	eP	P	23 34 36.4	0.0
	comp=Z,124nm,1.8s					
R39A	Chumby, Stover	83.00 351	P	P	23 34 35.8	-0.6
	baz=172,SNR=8.3					
OLIL	Olney	83.00 355	eP	P	23 34 36.5	+0.2
	comp=Z,43nm,1.3s					
SLM	Saint Louis	83.05 354	eP	P	23 34 36.0	-0.6
SLM			pmax	pmax		
	comp=Z,24nm,0.9s					
SLM	Saint Louis	83.05 354	eP	P	23 34 36.0	-0.6
	comp=Z,24nm,0.9s					
R37A	Teagarden Farm	83.21 350	P	P	23 34 36.9	-0.5
	baz=171					
Q44A	Meyer Farm, Va	83.22 354	P	P	23 34 36.8	-0.7
	baz=175,SNR=6.0					
Y12C	Blythe	83.28 333	P	P	23 34 39.1	+1.2
	baz=157					
Y12C	Blythe	83.28 333	eP	P	23 34 39.6	+1.7
	comp=Z,22nm,1.1s					
R36A	Gordon, Harris	83.31 349	P	P	23 34 38.3	+0.3
	baz=170					
Q43A	New Douglas	83.31 354	P	P	23 34 37.7	-0.3
	baz=174					
Q42A	Golden Eagle	83.35 353	P	P	23 34 38.1	0.0
	baz=174					
BLO	Bloomington	83.35 356	eP	P	23 34 37.6	-0.6
BLO			pmax	pmax		
	comp=Z,56nm,1.3s					
BLO	Bloomington	83.35 356	eP	P	23 34 37.6	-0.6
	comp=Z,56nm,1.3s					
TSUM	Tsumeb	83.36 110	LR	LR	00 13 19.5	
	comp=Z,105nm,18.0s,baz=220,slow=37					
R35A	Emporia Munici	83.40 349	P	P	23 34 38.4	-0.1
	baz=170					
Q41A	Truxton	83.45 353	P	P	23 34 38.2	-0.4
	baz=173,SNR=8.4					
BC3	Big Chuckawall	83.50 332	P	P	23 34 40.2	+1.0
	baz=157					
R34A	Isabella, Hill	83.53 348	P	P	23 34 38.9	-0.2
	baz=169					
Q40A	Laux Farm, Aux	83.57 352	P	P	23 34 38.9	-0.4
	baz=173,SNR=10					
SDMD	Soldier's Deli	83.62 4	eP	P	23 34 39.3	-0.2
	comp=Z,18nm,1.3s					
PDMCI	Parker Dam,Lak	83.67 334	P	P	23 34 40.1	+0.2

baz=157
Q38A Cooks Store, C 83.70 351 P P 23 34 39.5 -0.4
baz=172
Q39A Willow Grove F 83.71 351 P P 23 34 39.7 -0.3
baz=172
Q37A Longview Farm, 83.72 350 P P 23 34 39.7 -0.3
baz=171
T25A Trinidad 83.72 342 P P 23 34 41.5 +1.1
baz=164
T25A Trinidad 83.72 342 eP P 23 34 41.4 +0.9
comp=Z,25nm,1.4s
FRD Ford Ranch, An 83.74 331 eP P 23 34 42.9 +2.5
P44A Sand Creek, Wi 83.76 355 P P 23 34 39.8 -0.4
baz=175
PFO Pinyon Flats O 83.79 332 P P 23 34 42.6 +1.9
baz=156
PFO Pinyon Flats O 83.79 332 eP P 23 34 41.6 +0.9
PFO pmax pmax
comp=Z,36nm,1.6s
PFO Pinyon Flats O 83.79 332 eP P 23 34 41.6 +0.9
comp=Z,36nm,1.6s
IRM Iron Mountain 83.85 333 P P 23 34 42.4 +1.5
baz=157
Q35A Mercer Eighty, 83.90 349 P P 23 34 41.3 +0.3
baz=170
Q36A Arnold C. Orve 83.93 349 P P 23 34 41.3 +0.2
baz=170
WUAZ Wupatki 83.95 336 P P 23 34 43.1 +1.5
baz=159
WUAZ Wupatki 83.95 336 eP P 23 34 42.0 +0.5
comp=Z,14nm,1.4s
BELC Belle Mtn. Jos 83.99 332 P P 23 34 43.6 +1.9
baz=156
P43A Skaggs, Pawnee 84.00 354 P P 23 34 42.6 +1.2
baz=174
P42A Winchester 84.00 354 P P 23 34 41.7 +0.2
baz=174
Q34A Chapman 84.09 348 P P 23 34 42.2 +0.2
baz=169
P40A Paris 84.10 352 P P 23 34 41.5 -0.4
baz=173,SNR=9.0
P39B Salisbury 84.13 352 P P 23 34 42.2 +0.1
baz=172
P41A Barry, Barry 84.15 353 P P 23 34 42.3 +0.1
baz=173
PSUB Penn St. - Bra 84.21 5 eP P 23 34 41.3 -1.2
comp=Z,89nm,1.7s
KSU1 Kansas State U 84.22 349 P P 23 34 42.7 +0.1
baz=169
KSU1 Kansas State U 84.22 349 eP P 23 34 42.5 -0.2
comp=Z,31nm,1.4s
MVL Millersville 84.23 4 eP P 23 34 42.1 -0.5
comp=Z,18nm,1.0s
ACSO Alum Creek Sta 84.31 359 eP P 23 34 42.3 -0.7
comp=Z,22nm,1.1s
W13A Hualapai Mount 84.32 334 eP P 23 34 43.3 -0.2
comp=Z,14nm,1.4s
P38A Dawn 84.35 351 P P 23 34 42.4 -0.9
baz=172,SNR=6.7
O56A Blue Knob Stat 84.40 3 P P 23 34 43.2 -0.4
baz=182
P37A Lathrop 84.41 350 P P 23 34 43.6 +0.1
baz=171
LBTB Lobatse 84.43 120 LR LR 00 09 22.2
comp=Z,110nm,18.6s,baz=224,slow=34
LBTB Lobatse 84.43 120 eP P 23 34 44.6 +0.2
LBTB pmax pmax
comp=Z,31nm,1.3s
LBTB Lobatse 84.43 120 eP P 23 34 44.6 +0.2
comp=Z,31nm,1.3s
CBKS Cedar Bluff 84.43 346 P P 23 34 44.1 +0.4
baz=167
CBKS Cedar Bluff 84.43 346 eP P 23 34 44.5 +0.8
CBKS pmax pmax
comp=Z,87nm,1.4s
CBKS Cedar Bluff 84.43 346 eP P 23 34 44.5 +0.8
comp=Z,87nm,1.4s
P36A Good Intent, A 84.54 350 P P 23 34 44.5 +0.3
baz=170
SDCO Great Sand Dun 84.55 341 eP P 23 34 45.5 +0.8
comp=Z,14nm,1.9s
P35A Duane Minner, 84.56 349 P P 23 34 44.0 -0.3
baz=170
O41A Passleys Farm, 84.57 353 P P 23 34 44.2 -0.2
baz=174
SFIN Lafayette 84.58 356 P P 23 34 44.2 -0.2
baz=176
O42A Bath 84.59 354 P P 23 34 44.4 -0.1
baz=174
GMRC Granite Mounta 84.60 333 P P 23 34 46.7 +1.9
baz=156
O43A Sugar Creek Fa 84.62 354 P P 23 34 44.3 -0.3
baz=175
O40A La Belle 84.67 352 P P 23 34 44.5 -0.4
baz=173,SNR=13
LDFC Landfair 84.69 333 eP P 23 34 46.8 +1.5
comp=Z,39nm,1.3s
P34A Walnut Farm, R 84.69 349 P P 23 34 45.4 +0.4
baz=169
MVCO Mesa Verde 84.76 339 P P 23 34 46.9 +1.2
baz=161
MVCO Mesa Verde 84.76 339 eP P 23 34 46.8 +1.1
comp=Z,40nm,1.7s
MVCO ePP PP 23 38 06.0 +3.6
BFSC Mount Baldy Ra 84.78 331 P P 23 34 46.7 +1.0
baz=155
O38A Galt 84.83 351 P P 23 34 46.1 +0.4
baz=172
S22A 4UR Ranch, Cre 84.86 340 P P 23 34 47.4 +1.1
baz=162
S22A 4UR Ranch, Cre 84.86 340 eP P 23 34 47.5 +1.3
comp=Z,18nm,1.5s
HEC Hector,Ludlow 84.86 332 P P 23 34 47.5 +1.4
baz=156
O39A Kirksville 84.87 352 P P 23 34 45.5 -0.3
baz=172
HDIL Hopedale 84.89 354 P P 23 34 45.6 -0.3
baz=175
HDIL Hopedale 84.89 354 eP P 23 34 46.3 +0.3
comp=Z,22nm,0.6s
O37A Wolven Farm, M 84.95 351 P P 23 34 46.5 +0.2
baz=171
O36A Bolckow 85.02 350 P P 23 34 46.3 -0.3
baz=171
U15A North Rim 85.07 336 eP P 23 34 49.4 +2.0
comp=Z,12nm,1.4s
LIC Lamto 85.11 76 eP P 23 34 47.0 -0.8
comp=Z,107nm,1.5s
KSCO Kaye Shedlock' 85.15 344 eP P 23 34 48.4 +0.9
comp=Z,46nm,1.4s
N41A Harden Midland 85.16 353 P P 23 34 47.7 +0.4
baz=174
N59A State Game Lan 85.18 5 P P 23 34 47.6 +0.2
baz=184,SNR=5.5
N42A Yates City 85.21 354 P P 23 34 47.9 +0.3
baz=174
O34A Beatrice 85.30 349 P P 23 34 48.4 +0.4
baz=169
N40A Mertquake, Sal 85.40 353 P P 23 34 48.8 +0.3
baz=173
KIC Kosan Boka 85.40 77 eP P 23 34 49.1 -0.1
comp=Z,92nm,1.6s
TIC Toumodi 85.41 76 eP P 23 34 48.9 -0.4
GSC Goldstone, Bar 85.45 332 P P 23 34 50.3 +1.2
baz=156
GSC Goldstone, Bar 85.45 332 eP P 23 34 50.2 +1.2
GSC pmax pmax
comp=Z,40nm,1.8s
GSC Goldstone, Bar 85.45 332 eP P 23 34 50.2 +1.2
comp=Z,40nm,1.8s
N38A Joes South For 85.47 351 P P 23 34 49.0 +0.2
baz=172
N39A Derby Farms, D 85.48 352 P P 23 34 48.4 -0.5
baz=172,SNR=6.9
DBIC Dimbokro 85.54 76 P P 23 34 49.7 -0.2
comp=Z,18nm,1.2s,baz=191,slow=7.6,SNR=7.4
DBIC LR LR 00 06 21.4
comp=Z,108nm,20.4s,baz=204,slow=31
DBIC Dimbokro 85.54 76 eP P 23 34 49.0 -0.9
DBIC pmax pmax
comp=Z,38nm,1.3s
DBIC Dimbokro 85.54 76 eP P 23 34 49.0 -0.9
comp=Z,38nm,1.3s
N37A Lee Faris, Mou 85.54 351 P P 23 34 49.5 +0.3
baz=171
Q24A Divide 85.63 342 P P 23 34 51.2 +1.1
baz=164
Q24A Divide 85.63 342 eP P 23 34 51.2 +1.1
comp=Z,29nm,1.4s
PV01 Paradox Valley 85.65 339 eP P 23 34 51.5 +1.3
PV05 Paradox Valley 85.73 339 eP P 23 34 52.1 +1.5
KNB Kanab 85.77 336 eP P 23 34 52.6 +1.9
KNB pmax pmax
comp=Z,28nm,1.5s
KNB Kanab 85.77 336 eP P 23 34 52.6 +1.9
comp=Z,28nm,1.5s
M41A Milan 85.80 354 P P 23 34 49.8 -0.7
baz=174
M42A Sheffield 85.82 354 P P 23 34 50.6 0.0
baz=174
N35A Tabor 85.82 350 P P 23 34 51.0 +0.4
baz=170
LCMT Little Creek M 85.89 335 eP P 23 34 51.5 +0.3
comp=Z,14nm,1.5s
LCMT ePP PP 23 38 07.9 -3.6
M40A Post Highland 85.91 353 P P 23 34 51.1 0.0
baz=173
N34A Lincoln 85.91 349 P P 23 34 51.4 +0.3
baz=170
PV10 Paradox Valley 86.00 339 eP P 23 34 53.5 +1.6
SHPR Sheep Range 86.01 334 eP P 23 34 53.4 +1.5
comp=Z,51nm,1.7s
M39A Webster 86.04 352 P P 23 34 51.0 -0.7
baz=173
M38A Pleasantville 86.08 352 P P 23 34 52.2 +0.3
baz=172
PKM Mcpherson Peak 86.12 330 P P 23 34 54.7 +2.2
baz=154
PV09 Paradox Valley 86.14 339 eP P 23 34 54.4 +1.8
M37A Trindle Farm, 86.16 351 P P 23 34 52.5 +0.2
baz=171
SMCO Snowmass 86.25 341 eP P 23 34 54.5 +1.2
comp=Z,34nm,1.5s
M36A Felix, Anita 86.30 350 P P 23 34 53.1 +0.1
baz=171
ISA Isabella, Lake 86.35 331 P P 23 34 55.1 +1.6
baz=155
ISA Isabella, Lake 86.35 331 eP P 23 34 54.7 +1.3
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 86.35 331 eP P 23 34 54.7 +1.3
comp=Z,5.0nm,0.8s
M35A Neola 86.42 350 P P 23 34 53.7 +0.2
baz=170
CCUT Cedar City 86.43 336 eP P 23 34 55.8 +1.8
comp=Z,20nm,1.4s
L43A Garden Prairie 86.47 355 P P 23 34 53.3 -0.5
baz=175
L41A Preston 86.49 354 P P 23 34 53.4 -0.5
baz=174
FURC Furnace Creek, 86.53 333 P P 23 34 56.0 +1.8
baz=156
ISCO Idaho Springs 86.54 342 P P 23 34 56.5 +2.0
baz=163
ISCO Idaho Springs 86.54 342 eP P 23 34 55.4 +0.8
ISCO e 23 38 17.8
ISCO pmax pmax
comp=Z,24nm,1.6s
ISCO Idaho Springs 86.54 342 eP P 23 34 55.4 +0.8
comp=Z,24nm,1.6s
ISCO ePP PP 23 38 17.8 +0.9
L40A Anamosa 86.54 353 P P 23 34 54.0 -0.1
baz=173
MTPU Mount Pierson 86.54 337 eP P 23 34 56.5 +1.8
comp=Z,30nm,1.6s
L39A Vinton 86.67 353 P P 23 34 55.0 +0.3
baz=173
TPNV Topopah Spring 86.77 333 P P 23 34 55.4 -0.2
baz=156,SNR=5.6
TPNV Topopah Spring 86.77 333 eP P 23 34 58.2 +2.6
TPNV pmax pmax
comp=Z,21nm,1.4s
TPNV Topopah Spring 86.77 333 eP P 23 34 58.2 +2.6
comp=Z,21nm,1.4s
L38A Oak Wood Farm, 86.78 352 P P 23 34 55.4 +0.2
baz=172
L37A Phoenix Point, 86.84 351 P P 23 34 56.3 +0.6
baz=172
MMNY Mt. Morris Dam 86.89 3 eP P 23 34 55.0 -0.7
OGNE Ogallala 86.91 345 P P 23 34 56.6 +0.5
baz=166
CWC Cottonwood Cre 86.91 332 P P 23 34 57.5 +1.1
baz=155
MSU Marysvale 86.97 337 eP P 23 34 58.8 +2.1
MSU Marysvale 86.97 337 eP P 23 34 58.8 +2.1
K41A Shullsburg 87.00 354 P P 23 34 57.0 +0.6
baz=174
L35A Bielow Farm, R 87.04 350 P P 23 34 56.6 0.0
baz=170
SRU San Rafael Swe 87.08 338 eP P 23 34 58.4 +1.3
SRU pmax pmax
comp=Z,30nm,1.7s
SRU San Rafael Swe 87.08 338 eP P 23 34 58.4 +1.3
comp=Z,30nm,1.7s
TCRU Three Creeks R 87.14 337 eP P 23 34 58.4 +0.9
comp=Z,34nm,1.5s
K40A Colesburg 87.16 353 P P 23 34 57.0 -0.1
baz=173
K39A Oelwein 87.23 353 P P 23 34 57.6 +0.1
baz=173
K38A Parkersburg 87.26 352 P P 23 34 57.5 -0.1
baz=172
JFWS Jewell Farm 87.30 354 eP P 23 34 57.9 +0.1
JFWS pmax pmax
comp=Z,51nm,1.0s
JFWS Jewell Farm 87.30 354 eP P 23 34 57.9 +0.1
comp=Z,51nm,1.0s
K36A Gilmore City 87.43 351 P P 23 34 58.8 +0.4
baz=171
TMUT Trail Mountain 87.44 338 eP P 23 35 00.6 +1.6
comp=Z,36nm,1.5s
O20A White River Ci 87.47 340 P P 23 35 00.8 +1.8
baz=162
O20A White River Ci 87.47 340 eP P 23 35 00.8 +1.8
comp=Z,25nm,1.5s
K37A Belmond 87.47 351 P P 23 34 59.1 +0.5
baz=172
P17A Butcher Ranch, 87.48 338 eP P 23 35 00.2 +1.3
comp=Z,49nm,1.6s
P18A Preston Nutter 87.49 339 eP P 23 35 00.3 +1.0
comp=Z,42nm,1.6s
N23A Red Feather La 87.66 342 P P 23 34 59.5 -0.5
baz=163,SNR=6.9
N23A Red Feather La 87.66 342 eP P 23 35 01.5 +1.5
comp=Z,21nm,1.2s
J41A Loganville 87.73 354 P P 23 34 59.4 -0.5
baz=174,SNR=8.4
ACCN Adirondack Com 87.78 6 eP P 23 35 01.0 +0.9
comp=Z,34nm,1.4s
J40A Soldiers Grove 87.82 354 P P 23 34 59.7 -0.6
baz=174,SNR=8.5
R11A Troy Canyon, C 87.84 334 P P 23 35 02.6 +1.9
baz=157
R11A Troy Canyon, C 87.84 334 eP P 23 35 02.9 +2.2
comp=Z,24nm,1.5s
J39A Decorah 87.84 353 P P 23 34 59.0 -1.4
baz=173,SNR=6.1
J38A Wedel Dairy, R 87.89 352 P P 23 35 00.6 0.0
baz=172
PHWY Pilot Hill 87.94 343 eP P 23 35 01.9 +0.6
comp=Z,17nm,1.3s
K31A O'Neill 87.99 348 P P 23 35 01.3 +0.2
baz=168
J37A Redenius Farm, 87.99 352 P P 23 35 00.9 -0.3
baz=172
J36A Seneca 1, Swea 88.10 351 P P 23 35 01.5 -0.2
baz=171
I42A Draeger Farm, 88.18 355 P P 23 35 01.4 -0.6
baz=175,SNR=7.5
MPU Maple Canyon 88.23 338 eP P 23 35 04.2 +1.6
comp=Z,47nm,1.5s
NLU North Lily Min 88.29 337 eP P 23 35 05.2 +2.3
comp=Z,49nm,1.4s
I40A Norwalk 88.30 354 P P 23 35 02.4 -0.2
baz=174
I39A Houston 88.34 353 P P 23 35 01.9 -0.9
baz=173,SNR=5.7
I41A Arkdale 88.41 354 P P 23 35 03.1 0.0
baz=174
MDV Middlebury 88.43 6 eP P 23 35 03.9 +0.7
I38A Scanlan Farm, 88.60 353 P P 23 35 03.6 -0.4
baz=172
I37A Lemond, Waseca 88.68 352 P P 23 35 05.2 +0.8
baz=172
RWWY Rawlins 88.70 341 eP P 23 35 05.8 +0.9
comp=Z,11nm,0.8s
DUG Dugway, Tooele 88.72 337 P P 23 35 06.3 +1.5
baz=158
DUG Dugway, Tooele 88.72 337 eP P 23 35 05.9 +1.1
DUG pmax pmax
comp=Z,36nm,1.4s
DUG Dugway, Tooele 88.72 337 eP P 23 35 05.9 +1.1
comp=Z,36nm,1.4s
JLU Jordanelle 88.72 338 eP P 23 35 06.4 +1.4
comp=Z,19nm,1.4s
ECSD EROS Data Cent 88.77 349 P P 23 35 03.9 -1.0
baz=170,SNR=5.4
ECSD EROS Data Cent 88.77 349 eP P 23 35 04.5 -0.3
comp=Z,20nm,1.4s
H42A Shiocton 88.78 355 P P 23 35 04.9 +0.1
baz=175
JTGM Trout Gulch Ro 88.78 329 eP P 23 35 02.9 -2.2
LONY Lake Ozonia 88.94 5 eP P 23 35 06.3 +0.7
comp=Z,42nm,1.4s
H41A Junction City 88.95 355 P P 23 35 05.5 -0.2
baz=174
H40A Chili 89.01 354 P P 23 35 05.7 -0.2
baz=174
H39A Augusta 89.14 353 P P 23 35 06.5 0.0
baz=173
CMB Columbia Colle 89.14 331 eP P 23 35 08.5 +1.7
CMB Columbia Colle 89.14 331 eP P 23 35 08.5 +1.7
comp=Z,40nm,0.3s
H37A Dierke Farm, C 89.19 352 P P 23 35 07.3 +0.6
baz=172
H38A Maiden Rock 89.22 353 P P 23 35 06.9 0.0
baz=172
PLVO Plevna 89.22 3 eP P 23 35 07.8 +0.9
comp=Z,66nm,1.5s
FRNY Flat Rock 89.22 6 eP P 23 35 07.6 +0.7
comp=Z,41nm,1.5s
BGU Big Grassy Mou 89.46 337 eP P 23 35 09.1 +0.8
comp=Z,34nm,1.8s
K22A Casper 89.46 342 P P 23 35 08.8 +0.6
baz=163,SNR=5.5
K22A Casper 89.46 342 eP P 23 35 10.2 +1.9
comp=Z,61nm,1.7s
G43A Wallace 89.48 356 P P 23 35 07.9 -0.1
baz=176
G42A Mountain 89.50 355 P P 23 35 08.6 +0.5
baz=175
H35A Sunnyside Ranc 89.51 351 P P 23 35 08.0 -0.3
baz=171
CMCM Mills College 89.56 329 eP P 23 35 09.2 +0.5
H34A Spellman Lake, 89.59 350 P P 23 35 08.6 0.0
baz=170
G40A Rib Lake 89.64 354 P P 23 35 08.3 -0.6
baz=174,SNR=6.6
SPUT South Promonto 89.66 338 eP P 23 35 10.4 +1.1
comp=Z,33nm,1.3s
G38A Ridgeland 89.67 353 P P 23 35 08.8 -0.2
baz=173
HWUT Hardware Ranch 89.69 338 eP P 23 35 10.5 +1.1
comp=Z,36nm,1.4s
G39A Holcombe 89.73 354 P P 23 35 08.2 -1.1
baz=173,SNR=5.1
F45A CMU Biological 89.81 358 P P 23 35 09.8 +0.2
baz=177
SPMN Marine on St. 89.81 352 P P 23 35 09.5 -0.1
baz=172
SPMN Marine on St. 89.81 352 eP P 23 35 08.8 -0.9
comp=Z,24nm,1.4s
G36A St. Michael 89.92 352 P P 23 35 10.2 +0.1
baz=172
G35A Watkins 89.98 351 P P 23 35 10.8 +0.4
baz=171
F42A Maple Grove Fa 90.00 356 P P 23 35 11.1 +0.6
baz=176
F43A Flat Rock, Esc 90.02 356 P P 23 35 10.9 +0.3
baz=176
F41A Three Lakes 90.04 355 P P 23 35 09.9 -0.8
baz=175,SNR=6.3
F44A Big Bay de Noc 90.14 357 P P 23 35 11.1 0.0
baz=177
AFDM Forest Hills D 90.17 331 eP P 23 35 13.4 +1.9
comp=Z,19nm,0.4s
HVU Hansel Valley 90.18 337 eP P 23 35 12.9 +1.2
HVU pmax pmax
comp=Z,14nm,1.2s
HVU Hansel Valley 90.18 337 eP P 23 35 12.9 +1.2
comp=Z,14nm,1.2s
BW06 Boulder Array 90.27 340 P P 23 35 10.6 -1.5
baz=161,SNR=5.3
BW06 Boulder Array 90.27 340 eP P 23 35 12.6 +0.4
PD31 Pinedale Array 90.27 340 eP P 23 35 12.9 +0.7
PDAR Pinedale Array 90.27 340 P P 23 35 12.8 +0.7
comp=Z,3.7nm,1.1s,baz=163,slow=5.6,SNR=15
PDAR LR LR 00 09 08.3
comp=Z,99nm,21.0s,baz=176,slow=31
F37A Hinrichs Farm, 90.29 353 P P 23 35 11.7 -0.1
baz=172
F39A Loretta 90.34 354 P P 23 35 11.2 -0.9
baz=174,SNR=8.8
RSSD Black Hills 90.36 344 P P 23 35 12.4 -0.1
baz=164
RSSD Black Hills 90.36 344 eP P 23 35 12.3 -0.2
RSSD pmax pmax
comp=Z,13nm,1.5s
RSSD Black Hills 90.36 344 eP P 23 35 12.2 -0.2
comp=Z,13nm,1.5s
COWI Conover 90.40 355 eP P 23 35 12.5 +0.1
comp=Z,30nm,1.4s
F38A Pierce - Schro 90.46 353 P P 23 35 13.1 +0.5
baz=173
E45A Wooded Hills, 90.48 358 P P 23 35 13.1 +0.4
baz=178
F36A Milaca 90.52 352 P P 23 35 13.0 +0.1
baz=172
F35A Swanville 90.62 351 P P 23 35 13.5 +0.1
baz=171
F34A Alexandria 90.64 351 P P 23 35 13.5 0.0
baz=170
E40A Wakefield 90.79 355 P P 23 35 13.5 -0.7
baz=174
F33A 5 Mile Ranch, 90.80 350 P P 23 35 13.2 -1.0
baz=170
ORV Oroville 90.89 331 eP P 23 35 17.0 +2.2
ORV pmax pmax
comp=Z,39nm,1.4s
ORV Oroville 90.89 331 eP P 23 35 17.0 +2.2
comp=Z,39nm,1.4s
F31A Hecla 91.08 349 P P 23 35 15.0 -0.5
baz=168
E36A McGregor 91.14 352 P P 23 35 15.2 -0.6
baz=172
REDW Red Top Meadow 91.16 339 eP P 23 35 16.4 +0.1
comp=Z,23nm,1.5s
TPAW Teton Pass 91.30 339 eP P 23 35 17.4 +0.4
comp=Z,19nm,1.6s
LOHW Long Hollow 91.33 340 eP P 23 35 17.5 +0.5
comp=Z,19nm,1.8s
FXWY Fox Creek 91.46 339 eP P 23 35 17.1 -0.5
comp=Z,12nm,1.4s
O03D Paynes Creek 91.66 331 P P 23 35 19.3 +0.8
baz=153
IMW Indian Meadow 91.68 340 eP P 23 35 20.5 +1.7
comp=Z,15nm,1.4s
D35A Remer 91.78 352 P P 23 35 18.8 +0.1
baz=171
D36A Goodland 91.78 352 P P 23 35 18.7 0.0
baz=172
D34A Park Rapids 91.90 351 P P 23 35 19.6 +0.2
baz=170
C38A Sawbill Land. 92.16 354 P P 23 35 20.3 -0.2
baz=173
WDC Whiskeytown Da 92.17 330 eP P 23 35 21.6 +0.9
WDC pmax pmax
comp=Z,33nm,1.4s
WDC Whiskeytown Da 92.17 330 eP P 23 35 21.6 +0.9
comp=Z,32nm,1.4s
YFT Old Faithful 92.17 340 eP P 23 35 24.0 +3.0
comp=Z,25nm,1.6s
C37A Embarrass 92.24 353 P P 23 35 20.7 -0.2
baz=173
HLID Hailey 92.29 337 eP P 23 35 21.7 +0.2
comp=Z,10nm,1.5s
C35A Jirik Farms, M 92.38 352 P P 23 35 21.6 +0.1
baz=171
YNR Norris Junctio 92.38 340 eP P 23 35 20.8 -1.2
comp=Z,7.2nm,1.2s
EYMN Ely 92.40 354 P P 23 35 21.7 +0.1
baz=173
YMR Madison River 92.41 340 eP P 23 35 24.1 +2.1
comp=Z,29nm,1.4s

YHH	Holmes Hill	92.49	340	eP	P	23 35 23.5 +1.0
	comp=Z,14nm,1.3s					
N02D	Trinity Center	92.58	330	P	P	23 35 24.9 +2.2
	baz=152					
M04C	Macdoel	92.99	331	P	P	23 35 26.3 +1.6
	baz=153					
B35A	Bob, Littlefor	93.01	352	P	P	23 35 26.2 +1.8
	baz=172					
MCMT	McKenzie Canyo	93.04	339	eP	P	23 35 26.4 +1.4
AGMN	Agassiz Nation	93.17	351	P	P	23 35 24.8 -0.4
	baz=170					
LAO	LASA Array	93.25	344	P	P	23 35 25.0 -0.6
	baz=163					
STKA	Stephens Creek	94.27	216	LR	LR	00 09 40.8
	comp=Z,155nm,20.1s,baz=200,slow=30					
TORD	Torodi Ar. Bea	94.65	76	P	P	23 35 32.5 -0.3
	comp=Z,1.1nm,0.9s,baz=217,slow=2.5,SNR=6.9					
TORD				LR	LR	00 12 31.3
	comp=Z,104nm,21.8s,baz=185,slow=32					
ULM	Lac du Bonnet	95.10	351	LR	LR	00 15 42.8
	comp=Z,108nm,18.8s,baz=122,slow=34					
IL1	Eielson Array	120.03	333	ePKPdf	PKPdf	23 40 59.8 -1.2
ILAR	Eielson Array	120.03	333	PKP	PKPdf	23 40 60.0 -1.0
	comp=Z,1.8nm,1.2s,baz=151,slow=1.8,SNR=6.0					
ILAR	Eielson Array	120.03	333	PKIKP	PKPdf	23 41 00.0 -1.0
GEA0	GERESS Array S	124.82	53	ePKPdf	PKPdf	23 41 09.2 -1.7
GEC2	GERESS Array S	124.82	53	ePKIKP	PKPdf	23 41 09.7 -1.2
GEC2	GERESS Array S	124.82	53	ePKPdf	PKPdf	23 41 09.7 -1.2
GERES	GERESS Array B	124.82	53	PKP	PKPdf	23 41 08.6 -2.2
	comp=Z,1.3nm,0.9s,baz=278,slow=3.9,SNR=11					
CLL	Collm	125.63	50	i PKIKP	PKPdf	23 41 12.9 +0.7
CLL				pmax	pmax	
	comp=Z,13nm,1.5s					
CLL	Collm	125.63	50	i PKPdf	PKPdf	23 41 12.9 +0.7
	comp=Z,13nm,1.5s					
DPC	Dobruska-Polom	127.04	53	ePKPdf	PKPdf	23 41 12.0 -3.0
DPC	Dobruska-Polom	127.04	53	ePKIKP	PKPdf	23 41 12.0 -3.0
VYHS	Vyhne	127.64	56	ePKIKP	PKPdf	23 41 15.3 -0.8
VYHS	Vyhne	127.64	56	ePKP	PKPdf	23 41 15.3 -0.8
MLR	Muntele Rosu	130.64	62	ePKIKP	PKPdf	23 41 21.7 -0.4
MLR	Muntele Rosu	130.64	62	ePKPdf	PKPdf	23 41 21.7 -0.4
BR231	Keskin MP Arra	132.57	72	ePKPdf	PKPdf	23 41 27.9 +1.9
BRTR	Keskin Array B	133.10	72	PKP	PKPdf	23 41 27.1 +0.1
	comp=Z,0.9nm,0.8s,baz=204,slow=2.7,SNR=5.1					
KIEV	Kiev	134.70	57⇑	ePKIKP	PKPdf	23 41 28.4 -1.0
VSU	Vasula	135.62	45⇑	ePKIKP	PKPdf	23 41 32.6 +1.8
BILL	Bilibino	138.29	328	i PKIKP	PKPdf	23 41 40.0 +4.5
BILL				e		23 44 28.4
BILL				pmax	pmax	
	comp=Z,24nm,2.9s					
OBN	Obninsk	140.18	52	i PKIKP	PKPdf	23 41 39.5 +0.2
OBN						23 44 33.0
OBN				pmax	pmax	
	comp=Z,9.0nm,0.9s					
OBN				MLR	MLR	
	comp=Z,120nm,19.0s					
PETK	Petropavlovsk-	140.78	305	PKP	PKPdf	23 41 41.3 +0.8
	comp=Z,2.0nm,0.5s,baz=46,slow=4.3,SNR=4.5					
VSR	Storozhevoye	140.87	59⇓	ePKIKP	PKPdf	23 41 43.5 +2.8
GNI	Garni	140.95	77⇑	iPKIKP	PKPdf	23 41 43.3 +1.8
KIV	Kislovodsk	141.00	71	i PKIKP	PKPdf	23 41 40.7 -0.7
KIV				pmax	pmax	
	comp=Z,11nm,1.1s					
KIV				MLR	MLR	
	comp=Z,65nm,23.0s					
NCK	Nalchik	141.45	72⇑	iPKIKP	PKPdf	23 41 45.8 +3.7
KLMR	Klimovskoe	142.37	43	ePKIKP	PKPdf	23 41 40.8 -2.3
KLMR				e		23 44 49.9
KLMR				pmax	pmax	
	comp=Z,17nm,1.2s					
SEY	Seymchan	144.24	320⇓	iPKIKP	PKPdf	23 41 47.0 +0.6
SEY				i		23 41 51.5
MA2	Magadan	145.22	315	dePKIKP	PKPdf	23 41 48.2 0.0
HYB	Hyderabad	148.46	143	i PKP	PKPbc	23 41 58.0 -0.5
MJAR	Matsushiro Arr	148.67	269	PKPbc	PKPdf	23 41 55.8 +1.1
	comp=Z,4.4nm,1.1s,baz=170,slow=2.7,SNR=10.0					
MAJO	Matsushiro	148.68	269	i PKP2	PKPbc	23 41 58.9 +0.4
MAT	Matsushiro	148.68	269	PKP	PKPbc	23 41 58.0 -0.5
TIXI	Tiksi	148.96	342	⇓iPKP2	PKPbc	23 41 57.0 -1.1
GEYT	Alibeck	149.52	88	PKPbc	PKPbc	23 41 59.7 -0.9
	comp=Z,7.4nm,1.0s,baz=273,slow=5.6,SNR=17					
ARU	Arti	152.58	50	i PKIKP	PKPbc	23 42 07.2 +0.1
ARU						23 45 47.5
ARU	Arti	152.58	50	ePKPbc	PKPbc	23 42 07.1 +0.1
ABKAR	Akbulak array	153.73	66	ePKPdf	PKPdf	23 42 02.3 +0.2
ABKAR				ePKPbc	PKPbc	23 42 09.3 -0.6
ABKAR				ePKPab	PKPab	23 42 23.1 +0.2
CM01	Chiang Mai Arr	154.02	182	ePKPdf	PKPdf	23 42 02.8 -0.6
CM01				ePKPbc	PKiKP	23 42 12.2 +0.6
CMAR	Chiang Mai Arr	154.06	182	PKP	PKPdf	23 42 03.1 -0.4
	comp=Z,1.0nm,0.9s,baz=222,slow=3.5,SNR=7.5					
CMAR				PKPbc	PKPbc	23 42 11.0 -0.6
	comp=Z,3.6nm,0.9s,baz=233,slow=3.3,SNR=14					
YAK	Yakutsk	154.54	325⇓	ePKIKP	PKPbc	23 42 11.6 +0.5
MDJ	Mudanjiang	157.55	282	PKP	PKPdf	23 42 05.0 -2.3
NJ2	Nanjing	159.53	240	ePKP	PKPdf	23 42 10.2 +0.1
GYA	Guiyang	160.72	204	ePKP	PKPdf	23 42 12.0 +0.2
GYA				PKPab	pPKPab	23 42 56.5 -0.5
GYA				PP	PP	23 46 39.6 +4.0
GYA				AMB	AMB	
	comp=Z,120nm,7.9s					
AAK	Ala-Archa	162.87	88⇑	ePKIKP	PKPdf	23 42 13.9 +0.4
KSH	Kashi	162.91	99	PKP	PKPdf	23 42 14.8 +1.2
KSH				PKS	PKSdf	23 45 47.6 +0.9
KSH				PP	PP	23 46 50.2 +1.8
KSH				SKS	SKSdf	23 49 20.2 +1.9
KSH				SKKS	SKKSac	23 53 37.0 +0.9
KSH				SS	SS	00 07 10.1 -2.7
KSH				AMB	AMB	
	comp=Z,160nm,4.3s					
KSH				LR	LR	
	comp=Z,120nm,5.0s					
KSH				LR	LR	
	comp=Z,90nm,8.1s					
KSH				LR	LR	
	comp=Z,140nm,5.8s					
BOD	Bodaibo	163.34	329	ePKP2	PKPab	23 43 00.1 -4.0
BOD				pmax	pmax	
	comp=Z,8.0nm,1.6s					
KURK	Kurchatov	165.52	58⇑	ePKIKP	PKPdf	23 42 15.1 -0.3
KURK	Kurchatov	165.52	58	ePKPdf	PKPdf	23 42 12.9 -2.5
KURK				ePKPab	PKPab	23 43 14.4 +0.4
CD2	Chengdu	165.73	200	PKP	PKPdf	23 42 16.5 +0.2
BJI	Beijing	165.84	258	PKP	PKPdf	23 42 15.5 -0.5
ZAA0	Zalesovo Array	167.20	37	ePKPdf	PKPdf	23 42 14.5 -2.1
ZAA0				ePKPab	PKPab	23 43 20.9 -0.4
ZALV	Zalesovo Beam	167.20	37	PKP	PKPdf	23 42 14.1 -2.5
	comp=Z,0.4nm,0.4s,baz=248,slow=2.7,SNR=6.1					
ZALV				PKPab	PKPab	23 43 20.1 -1.1
	comp=Z,3.5nm,1.0s,baz=298,slow=6.4,SNR=7.6					
MAKZ	Makanchi	168.54	73	ePKIKP	PKPdf	23 42 16.1 -1.7
MAKZ	Makanchi	168.54	73	ePKPdf	PKPdf	23 42 16.1 -1.7
MAKZ				ePKPab	PKPab	23 43 26.9 -0.7
MKAR	Makanchi Array	168.75	73	PKP	PKPdf	23 42 15.6 -2.3
	comp=Z,1.9nm,1.2s,baz=328,slow=4.3,SNR=5.3					
MKAR				PKPab	PKPab	23 43 26.9 -1.6
	comp=Z,2.7nm,1.1s,baz=285,slow=4.6,SNR=7.8					
MKAR				PP	PP	23 47 16.7 -1.7
	comp=Z,0.9nm,1.0s,baz=218,slow=5.7,SNR=4.7					
MK01	Makanchi Array	168.76	73	ePKPdf	PKPdf	23 42 16.9 -1.1
MK01				ePKPab	PKPab	23 43 27.4 -1.2
HHC	Hu-ho-hao-te	169.38	255	ePKP	PKPdf	23 42 20.9 +2.2
DGZ	Jazzator, Alta	171.09	50⇑	ePKIKP	PKPdf	23 42 23.8 +4.4
TLY	Talaya	171.85	334⇓	ePKIKP	PKPdf	23 42 23.8 +4.3
WMQ	Urumqi	172.56	91	ePKP	PKPdf	23 42 20.2 0.0
WMQ				pPKP	sPKPdf	23 42 27.8 +3.0
WMQ				LR	LR	
	comp=Z,250nm,35.5s					
ULN	Ulaanbaatar	172.85	302⇓	ePKIKP	PKPdf	23 42 19.4 -0.9
ZAK	Zakamensk	173.08	331	ePKP2	PKPab	23 43 48.0 +0.5
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.6s					
SONA1	Songino Array	173.25	303	ePKPdf	PKPdf	23 42 18.5 -1.9
SONA1				ePKPab	PKPab	23 43 46.5 -2.0
SONM	Songino Array	173.26	303	PKP	PKPdf	23 42 17.9 -2.5
	comp=Z,0.2nm,0.4s,baz=339,slow=7.9,SNR=5.4					
SONM				PKPab	PKPab	23 43 45.7 -2.9
	comp=Z,0.5nm,0.4s,baz=115,slow=2.1,SNR=4.9					
GTA	Gaotai	174.78	196	ePKP	PKPdf	23 42 20.5 -0.7
GTA				pPKP	pPKPdf	23 42 25.0 +0.4
GTA				sPKP		23 42 27.9

*IDC **03** 23:39:57.5±2.5, 43°.27N×105°.16W, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.4/38, mbtmp3.7/3, ML3.3/2, Error ellipse: s-maj=54.1km s-min=9.5km az=156.0*

*ISCJB **03** 23:40:00.3±0.6, 43°.76N±0°.04×105°.25W±0°.06, h0km, mb4.2/1, Error ellipse: s-maj=6.2km s-min=5.5km az=141.0*

*NEIC **03** 23:40:01.6±0.5, 43°.67N×105°.28W, h0km, MN2.4, Error ellipse: s-maj=7.2km s-min=6.4km az=9.0, Suspected Mining explosion.*

NEIC 71 km [44 miles] SSE of Gillette.

ISC 03 23:39:59.1±0.8, 43°.70N±0°.04×105°.29W±0°.04, h0km, n21, σ2°37/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.00	64	ePg	Pn	23 40 20.1	-0.5
RSSD				eS	Sn	23 40 37.2	+1.8
K22A	Casper	1.38	221	ePn	Pb	23 40 25.8	-0.1
K22A				eS	Sn	23 40 46.6	+1.7
PHWY	Pilot Hill	2.40	183	ePn	Pb	23 40 42.6	-0.7
PHWY				eS	Sg	23 41 15.2	-0.9
RWWY	Rawlins	2.46	216	ePn	Pb	23 40 43.8	-0.5
LAO	LASA Array	3.06	348	ePn	Pb	23 40 52.8	-1.8
RLMT	Red Lodge	3.19	298	ePn	Pn	23 40 52.5	+1.9
RLMT				eS	Sn	23 41 32.7	+3.2
PDAR	Pinedale Array	3.26	255	Pn	Pn	23 40 53.6	+2.0
	3.2nm,0.3s,baz=78,slow=17,SNR=36						
PDAR				Lg	Lg	23 41 39.0	
	8.1nm,0.3s,baz=82,slow=34,SNR=8.9						
BW06	Boulder Array	3.26	255	ePn	Pn	23 40 53.5	+1.9
OGNE	Ogallala	3.66	138	ePn	Pn	23 40 59.3	+2.2
LOHW	Long Hollow	3.86	271	ePn	Pn	23 41 03.6	+3.6
H17A	Grant Village	3.88	282	ePn	Pn	23 41 02.6	+2.4
ISCO	Idaho Springs	3.90	184	ePn	Pn	23 41 03.4	+2.8
MOOW	Moose Ponds	3.96	273	ePn	Pn	23 41 03.2	+1.9
MOOW				eS	Sb	23 41 54.1	-4.3
REDW	Red Top Meadow	4.06	267	ePn	Pn	23 41 05.6	+2.9
IMW	Indian Meadow	4.10	275	ePn	Pn	23 41 06.4	+3.2
TPAW	Teton Pass	4.12	269	ePn	Pn	23 41 05.5	+1.9
TPAW				eS	Sn	23 41 53.6	+1.0
O20A	White River Ci	4.19	213	ePn	Pn	23 41 06.4	+2.0
O20A				eS	Sb	23 42 00.9	-4.0
HWUT	Hardware Ranch	5.08	248	ePn	Pn	23 41 18.6	+1.9
	4.3nm,0.4s						
HWUT				eS	Sb	23 42 27.9	-2.7
I10CA	LAC DU BONNET	9.07	41	i		00 33 00.0	
	baz=221,slow=319,SNR=1.4						
ULM	Lac du Bonnet	9.18	41	Pn	Pn	23 42 12.6	-0.1
	0.6nm,0.3s,baz=228,slow=11,SNR=6.6						
ULM				Lg	Lg	23 44 48.4	
	0.3nm,0.3s,baz=137,slow=19,SNR=2.6						
ARCES	ARCESS Array B	61.46	18	P	P	23 50 17.3	+0.4
	1.8nm,0.8s,baz=329,slow=6.8,SNR=5.3						

TAP 03 23:41:22.5, 23°.37N×121°.46E, h46km, ML3.5, 7C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	Yuli	0.15	263	⇑iP	Pn	23 41 30.0	-0.1
	baz=274						
TWF1				i S	Sn	23 41 35.3	-0.1
	baz=274						
EHY	Hungye	0.18	318	⇑iP	Pn	23 41 30.2	-0.1
	baz=312						
EHY				i S	Sn	23 41 35.3	-0.5
	baz=312						
CHKT	Chengkung	0.28	197	P	Pn	23 41 30.9	-0.2
	baz=197						
CHKT				i S	Sn	23 41 37.7	+0.6
	baz=197						
TEGC	Jichi Village	0.35	13	eP	Pn	23 41 32.9	+1.2
	baz=4.0						
ELDTW	Lidau	0.44	246	⇑iP	Pn	23 41 32.7	-0.3
	baz=246						
ELDTW				eS	Sn	23 41 39.7	-0.6
	baz=246						
ESL	Shilin	0.44	357	P	Pn	23 41 32.3	-0.5
	baz=358						
ESL				eS	Sn	23 41 39.3	-0.8
	baz=358						
YUS	Yu-Shan	0.48	284	⇑iP	Pn	23 41 34.5	+0.8
	baz=285						
YUS				i S	Sn	23 41 42.7	+1.0
	baz=285						
ESF	Shoufeng Towns	0.50	5	eP	Pn	23 41 33.7	+0.1
	baz=359						
ALS	Alishan	0.61	283	⇑iP	Pn	23 41 36.3	+1.0
	baz=290						
ALS				S	Sn	23 41 45.6	+1.2
	baz=290						
HWA	Hwalien	0.62	13	eP	Pn	23 41 34.8	-0.3
	baz=2.0						
HWA				eS	Sn	23 41 44.4	+0.3
	baz=2.0						
TWG	Pinlang	0.65	213	⇓iP	Pn	23 41 34.4	-1.1
	baz=206						
TWG				eS	Sn	23 41 42.9	-1.9
	baz=206						
STYT	Tauyuan	0.68	252	eP	Pn	23 41 36.4	+0.5
	baz=248						
STYT				eS	Sn	23 41 46.5	+1.1
	baz=248						
TWD	Chiawan	0.72	10	i P	Pn	23 41 36.0	-0.3
	baz=2.0						
TWD				eS	Sn	23 41 45.0	-1.3
	baz=2.0						
SMLT	Sun Moon Lake	0.72	315	⇑iP	Pn	23 41 37.6	+1.1
	baz=320						
SMLT				S	Sn	23 41 48.1	+1.4
	baz=320						
CHN5	Tsauling	0.75	288	i P	Pn	23 41 38.0	+1.2
	baz=288						
CHN5				i S	Sn	23 41 49.2	+1.9
	baz=288						
WTP	Ta-pu	0.79	261	P	Pn	23 41 38.5	+1.2
	baz=261						
WTP				S	Sn	23 41 50.2	+2.2
	baz=261						
WHF	Hehuan Shan	0.79	347	P	Pn	23 41 37.7	-0.1
	baz=355						
WHF				S	Sn	23 41 48.3	-0.4
	baz=355						
CHN4	Tsaushan	0.79	269	⇑P	Pn	23 41 38.5	+1.1
	baz=269						
CHN4				S	Sn	23 41 50.5	+2.3
	baz=269						
SGST	Jiashian	0.85	251	eP	Pn	23 41 39.4	+1.2
	baz=250						
SGST				S	Sn	23 41 52.1	+2.5
	baz=250						
WNT	Mingjian	0.87	306	eP	Pn	23 41 39.5	+1.1
	baz=294						
WNT				eS	Sn	23 41 52.7	+2.6
	baz=294						
CHN1	Nanshi	0.87	258	P	Pn	23 41 39.8	+1.3
	baz=258						
CHN1				S	Sn	23 41 52.7	+2.6
	baz=258						
WGK	Gukeng	0.88	291	eP	Pn	23 41 39.7	+1.2
	baz=291						
WGK				eS	Sn	23 41 52.9	+2.6
	baz=291						
TWK	Hsinying	0.90	264	eP	Pn	23 41 39.9	+1.1
	baz=263						
TWK				eS	Sn	23 41 53.1	+2.4
	baz=263						
ECL	Taimali	0.90	211	eP	Pn	23 41 37.1	-1.7
	baz=207						
CHN2	Minshiung	0.92	280	eP	Pn	23 41 40.0	+1.0
	baz=281						
CHN2				eS	Sn	23 41 53.7	+2.6
	baz=281						
TWT	Tachien	0.92	344	eP	Pn	23 41 40.1	+0.8
	baz=346						
TWT				S	Sn	23 41 51.4	0.0
	baz=346						
CHY	Chiayi	0.96	278	eP	Pn	23 41 40.7	+1.1
	baz=278						
SSD	Sandimen	0.98	231	eP	Pn	23 41 40.9	+1.0
	baz=231						
SSD				eS	Sn	23 41 53.9	+1.2
	baz=231						
TCU	Taichung	1.05	317	eP	Pn	23 41 42.6	+1.7
	baz=306						
TCU				eS	Sn	23 41 57.4	+2.9
	baz=306						
NNS	Nan Shan	1.07	356	eP	Pn	23 41 41.5	+0.2
	baz=5.0						
NNS				eS	Sn	23 41 54.1	-0.9
	baz=5.0						
ENA	Nanau	1.08	14	eP	Pn	23 41 41.3	-0.1
	baz=6.0						
ENA				eS	Sn	23 41 54.1	-1.2
	baz=6.0						
TWM1	Shoushan	1.10	240	eP	Pn	23 41 43.2	+1.7
	baz=240						
EAST	Anshuo	1.13	210	eP	Pn	23 41 42.9	+0.8
	baz=204						
TWQ1	Liyutan	1.16	327	eP	Pn	23 41 44.3	+2.0
	baz=328						
TWQ1				eS	Sn	23 42 00.1	+3.1
	baz=328						
NSY	Sanyi	1.22	329	eP	Pn	23 41 45.3	+2.0
	baz=329						
NSY				eS	Sn	23 42 02.3	+3.7
	baz=329						
ENTT	Nioudou	1.27	4	eP	Pn	23 41 44.1	+0.3
	baz=14						
ENTT				S	Sn	23 41 59.8	0.0
	baz=14						
TWC	Suao	1.28	16	eP	Pn	23 41 45.4	+1.4
	baz=8.0						
TWC				eS	Sn	23 41 59.1	-1.0
	baz=8.0						
NSK	Sanguang	1.30	356	P	Pn	23 41 45.2	+0.9
	baz=7.0						
NSK				S	Sn	23 42 00.8	+0.1
	baz=7.0						
NSTT	Nanjuang	1.32	342	eP	Pn	23 41 45.8	+1.2
	baz=342						
NSTT				eS	Sn	23 42 01.6	+0.5
	baz=342						
LAY	Lan-yu	1.33	176	eP	Pn	23 41 43.5	-1.2
	baz=170						
LAY				eS	Sn	23 42 00.5	-0.7
	baz=170						
TWE	Neicheng	1.36	8	eP	Pn	23 41 45.4	+0.3
	baz=9.0						
TWE				eS	Sn	23 42 01.6	-0.3
	baz=9.0						
TWB1	Santiao Chiao	1.70	16	eP	Pn	23 41 51.7	+1.9
	baz=8.0						
NWF	Wu-fen Shan	1.72	10	eP	Pn	23 41 49.4	-0.7
	baz=11						

*ISCJB **03** 23:50:06.2±0.8, 44°.5S±0°.1×81°.8W±0°.2, h10km, mb4.0/8, MS3.4/2, Error ellipse: s-maj=22.5km s-min=15.5km az=25.6*

*IDC **03** 23:50:06.0±0.9, 44°.47S×81°.91W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/28, mbtmp4.0/9, ML3.5/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/18, Error ellipse: s-maj=33.4km s-min=20.2km az=95.0*

ISC 03 23:50:07.6±0.8, 44°.5S±0°.1×81°.9W±0°.2, h10km, n13, σ0°69/11, mb4.0/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	9.18	70	Pn	Pn	23 52 20.6	+0.5
	0.1nm,0.3s,baz=254,slow=15,SNR=2.9						
PLCA				LR	LR	23 55 22.5	
	comp=Z,181nm,18.2s,baz=322,slow=34						
USHA	Ushuaia	13.53	145	LR	LR	23 57 33.1	
	comp=Z,586nm,18.4s,baz=246,slow=33						
CPUP	Villa Florida	26.85	56	P	P	23 55 47.9	-0.4
	2.6nm,1.0s,baz=251,slow=14,SNR=3.3						
CPUP				LR	LR	00 06 31.5	
	comp=Z,105nm,18.2s,baz=210,slow=37						
RPN	Rapa Nui	27.99	299	LR	LR	00 03 02.6	
	comp=Z,86nm,20.1s,baz=260,slow=28						
LPAZ	La Paz	30.43	27	P	P	23 56 21.4	+0.6
	3.2nm,0.8s,baz=196,slow=7.2,SNR=12						
SNAA	Sanae	45.15	154	P	P	23 58 24.2	+0.3
	4.2nm,0.9s,baz=295,slow=5.2,SNR=11						
VNDA	Vanda	52.21	194	P	P	23 59 18.9	+0.8
	1.7nm,1.1s,baz=152,slow=3.7,SNR=4.1						
MAW	Mawson	65.11	166	P	P	00 00 47.8	-0.2
	1.9nm,0.9s,baz=237,slow=9.1,SNR=3.7						
TXAR	Lajitas Array	76.10	341	P	P	00 01 55.2	-0.1
	0.9nm,1.0s,baz=161,slow=8.0,SNR=5.9						
BOSA	Boshof	81.56	122	P	P	00 02 25.2	-0.5
	4.2nm,1.1s,baz=239,slow=12,SNR=2.7						
PDAR	Pinedale Array	90.31	340	P	P	00 03 08.9	+0.3
	0.3nm,0.6s,baz=156,slow=4.0,SNR=3.5						
GERES	GERESS Array B	124.79	53	PKP	PKPdf	00 09 05.9	-1.1
	0.2nm,0.3s,baz=222,slow=1.3,SNR=4.3						
GEYT	Alibeck	149.46	88	PKPbc	PKPbc	00 09 55.8	-0.9
	1.9nm,0.7s,baz=242,slow=3.2,SNR=4.5						

IDC 04 00:02:15.4±6.0, 39°.16N×111°.11E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/35, mbtmp3.4/4, ML3.0/1, MS3.5/1, Ms1 3.6/1, ms1mx2.6/26, Error ellipse: s-maj=127.6km s-min=24.7km az=84.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.32	340	Pn	Pn	00 04 32.3	+1.2
	0.1nm,0.3s,baz=157,slow=14,SNR=8.2						
SONM				Lg	Lg	00 07 11.0	
	0.1nm,0.3s,baz=153,slow=26,SNR=2.9						
MKAR	Makanchi Array	22.33	299	P	P	00 07 15.0	+0.4
	1.1nm,1.0s,baz=97,slow=12,SNR=5.1						
CMAR	Chiang Mai Arr	23.17	211	P	P	00 07 23.7	0.0
	1.2nm,0.4s,baz=14,slow=9.3,SNR=9.6						
KURBB	Kurchatov Arra	25.56	307	P	P	00 07 45.2	-0.6
	0.1nm,0.3s,baz=112,slow=11,SNR=3.6						
ARCES	ARCESS Array B	52.43	334	LR	LR	00 36 25.1	
	comp=Z,47nm,18.5s,baz=246,slow=39						

IDC 04 00:44:09.7±2.0, 0°.78S×133°.39E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=39.3km s-min=25.1km az=55.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.12	268	Pn	Pn	00 44 47.2	+0.7
	379nm,0.3s,baz=60,slow=11,SNR=87						
SIJI				Sn	Sn	00 45 13.2	-0.5
	618nm,0.3s,baz=317,slow=23,SNR=17						
WRA	Warramunga Arr	19.07	177	P	P	00 48 33.3	-0.5
	0.2nm,0.3s,baz=356,slow=12,SNR=5.7						
WRA				S	Sn	00 51 52.2	-17
	0.1nm,0.3s,baz=358,slow=23,SNR=3.7						
ASAR	Alice Springs	22.76	179	P	P	00 49 14.1	+0.3
	1.9nm,0.7s,baz=4.5,slow=11,SNR=21						
ASAR				S	S	00 53 05.6	-18
	0.4nm,0.9s,baz=348,slow=17,SNR=2.7						
ASAJ	Asahikawa	45.45	9	LR	LR	01 11 31.4	
	comp=Z,32nm,18.5s,baz=26,slow=36						
MKAR	Makanchi Array	65.06	324	P	P	00 54 51.9	-0.2
	0.3nm,0.6s,baz=123,slow=7.0,SNR=5.1						

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MKAR	Makanchi Array	59.88 317	P	P	01 06 52.9	+1.7
	0.3nm,0.5s,baz=89,slow=8.7,SNR=2.8					
ZALV	Zalesovo Beam	60.57 326	P	P	01 06 54.3	-1.4
	0.4nm,0.4s,baz=111,slow=6.3,SNR=2.3					
KURBB	Kurchatov Arra	63.25 321	P	P	01 07 13.5	-0.2
	0.5nm,0.6s,baz=104,slow=7.0,SNR=5.0					
ILAR	Eielson Array	71.46 25	P	P	01 08 06.2	+0.7
	0.8nm,0.6s,baz=244,slow=6.0,SNR=9.8					
FINES	FINESS Array B	90.78 334	P	P	01 09 47.4	-0.8
	0.7nm,0.5s,baz=64,slow=4.4,SNR=7.4					

NIED **04** *00:57:00,37°.30N×141°.90E,h29km,Mw3.6 Best double couple: M₀3.02000×10¹⁴ NP1:φ₀97.00000°,δ34.00000°, λ-64.00000°. NP2:φ₀247.00000°,δ60.00000°, λ-107.00000°.*
IDC **04** *00:57:52.5±2.0,37°.31N×142°.24E,h0km,mb3.7/3, mb1 3.7/5,mb1mx3.4/46,mbtmp3.6/5,ML3.3/2,Error ellipse: s-maj=48.2km s-min=28.4km az=81.0*
ISCJB **04** *00:57:55.4±1.6,37°.31N±0°.05×141°.99E±0°.08,h16km±9km, mb3.5/3,Error ellipse: s-maj=11.8km s-min=7.0km az=25.8*
JMA **04** *00:57:57.8±0.2,37°.29N×141°.87E,h38km±4km,M3.6*
ISC 04 00:57:55.2±2.2,37°.27N±0°.05×141°.89E±0°.08,h14km±12km, n21,σ1ˢ22/24,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.81	277	P	Pn	00 58 12.7	+0.4
JFK				S	Sn	00 58 22.9	-1.2
ONAJ	Iwakimizuishiy	0.89	259	P	Pn	00 58 13.6	+0.3
ONAJ				S	Sn	00 58 24.7	-1.2
JMM	Marumori	1.05	305	P	Pn	00 58 16.2	+0.7
JMM				S	Sn	00 58 29.2	-0.7
JHO	Hitachi	1.25	238	P	Pn	00 58 18.7	+0.5
JIO	Ouri	1.25	340	P	Pn	00 58 18.8	+0.5
JIO				S	Sb	00 58 33.1	-1.5
JFT	Otama	1.26	282	P	Pg	00 58 20.0	+0.5
JFT				S	Sg	00 58 35.5	-0.4
JOU	Okura	1.46	319	P	Pb	00 58 22.5	+0.4
JOU				eS	Sb	00 58 40.2	-0.3
JFY	Yanaizu	1.74	275	P	Pb	00 58 26.8	-0.2
JFY				S	Sb	00 58 48.7	-0.1
JMK	Ichinoseki	1.76	343	P	Pn	00 58 26.4	+1.2
JMK				S	Sn	00 58 47.6	+0.3
MJAR	Matsushiro Arr	3.04	257	Pn	Pn	00 58 45.5	+2.7
	1.5nm,0.3s,baz=84,slow=16,SNR=6.4						
MAT	Matsushiro	3.04	257	P	Pb	00 58 46.7	-2.4
MAT				S	Sb	00 59 24.7	-1.3
ASAJ	Asahikawa	6.86	4	Pn	Pn	00 59 33.5	-1.8
	0.7nm,0.3s,baz=197,slow=20,SNR=2.4						
H11N2	WAKE ISLAND Hy	27.95	122	T	T	01 33 09.2	
	baz=315,slow=75,SNR=31						
H11N1	WAKE ISLAND Hy	27.96	122	T	T	01 33 15.3	
	baz=315,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	27.97	122	T	T	01 33 23.1	
	baz=315,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy	28.68	124	T	T	01 34 07.6	
	baz=316,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	28.68	124	T	T	01 34 13.5	
	baz=316,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	28.69	124	T	T	01 34 08.3	
	baz=316,slow=76,SNR=28						
MKAR	Makanchi Array	44.31	302	P	P	01 06 05.5	+0.9
	0.4nm,0.6s,baz=86,slow=8.8,SNR=3.6						
KURBB	Kurchatov Arra	46.15	308	P	P	01 06 20.4	+1.4
	0.5nm,0.4s,baz=81,slow=8.0,SNR=5.1						
WRA	Warramunga Arr	57.35	188	P	P	01 07 43.0	+0.1
	0.4nm,0.9s,baz=6.7,slow=7.6,SNR=6.2						

NIED **04** *01:14:00,38°.30N×141°.90E,h50km,Mw3.9 Best double couple: M₀9.30000×10¹⁴ NP1:φ₀197.00000°,δ27.00000°, λ98.00000°. NP2:φ₀8.00000°,δ64.00000°,λ86.00000°.*
ISCJB **04** *01:14:56.0±0.7,38°.28N±0°.03×141°.99E±0°.08,h53km±5km, mb4.0/21,Error ellipse: s-maj=10.9km s-min=4.5km az=21.7*
NEIC **04** *01:14:57.6±1.4,38°.27N×141°.98E,h60km±13km,mb4.4/4, Error ellipse: s-maj=25.0km s-min=11.1km az=119.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
JMA **04** *01:14:57.3±0.1,38°.31N×141°.91E,h46km±1km,M3.9*
JMA Felt II J1.
IDC **04** *01:14:58.2±2.0,38°.30N×142°.05E,h58km±17km,mb3.7/17, mb1 3.8/22,mb1mx3.7/49,mbtmp4.0/22,MS2.7/4, Ms1 2.7/4,ms1mx2.6/50,Error ellipse: s-maj=18.4km s-min=10.7km az=110.0*
ISC 04 01:14:56.8±1.6,38°.28N±0°.05×142°.0E±0°.1,h44km±13km, n47,σ1ˢ34/54,mb4.1/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.56	288	P	Pn	01 15 08.0	-0.4
JIO				S	Sn	01 15 15.2	-1.4
OFUJ	Ofunato	0.84	341	P	Pn	01 15 12.2	-0.1
OFUJ				S	Sn	01 15 22.5	-1.1
JMK	Ichinoseki	0.92	317	P	Pn	01 15 13.2	-0.1
JMK				S	Sn	01 15 24.2	-1.1
JMM	Marumori	1.05	247	P	Pn	01 15 14.4	-0.7
JMM				S	Sn	01 15 27.4	-1.2
JOU	Okura	1.07	275	P	Pn	01 15 15.1	-0.3
JOU				S	Sn	01 15 28.0	-1.1
JFK	Kawauchi	1.29	225	P	Pn	01 15 17.9	-0.4
JFK				S	Sn	01 15 32.8	-1.6
JOM	Ohasama	1.32	335	P	Pn	01 15 19.0	+0.2
JOM				S	Sn	01 15 35.7	+0.5
JYK	Kaneyama	1.45	297	P	Pn	01 15 20.3	-0.2
JFT	Otama	1.53	241	P	Pn	01 15 21.8	+0.1
JYS	Shiratake	1.54	268	P	Pn	01 15 21.6	-0.2
JRG	Rokugo	1.55	316	P	Pn	01 15 22.1	+0.1
MJAR	Matsushiro Arr	3.50	241	P	Pn	01 15 49.6	+0.9
	3.7nm,0.3s,baz=65,slow=12,SNR=22						
MJAR				S	Sn	01 16 31.5	+2.8
	3.6nm,0.3s,baz=58,slow=12,SNR=4.2						
MJAR				LR	LR	01 17 32.1	
	comp=Z,121nm,18.5s,baz=55,slow=44						
MAJO	Matsushiro	3.50	241	ePn	Pn	01 15 49.0	+0.4
MAT	Matsushiro	3.50	241	P	Pn	01 15 50.2	+1.5
MAT				S	Sn	01 16 34.2	+5.4
ERM	Erimo	3.83	13	ePn	Pn	01 15 53.9	+0.7
ERM				eSn	Sn	01 16 39.4	+2.4
JHJ	Hachijo jima 2	5.46	200	P	Pn	01 16 16.6	+0.9
	15nm,0.3s,baz=108,slow=20,SNR=3.8						
JHJ				S	Sn	01 17 15.4	-1.8
	44nm,0.3s,baz=236,slow=22,SNR=3.3						
ASAJ	Asahikawa	5.85	4	P	Pn	01 16 21.9	+1.0
	3.1nm,0.3s,baz=260,slow=12,SNR=6.1						
ASAJ				S	Sn	01 17 28.0	+1.4
	1.0nm,0.3s,baz=227,slow=19,SNR=2.8						
ASAJ	Asahikawa	5.85	4	ePn	Pn	01 16 22.2	+1.3
USRK	Ussuriysk Ar.	9.59	311	P	Pn	01 17 13.0	+0.9
	1.0nm,0.3s,baz=126,slow=14,SNR=11						
JNU	Nakatsue	10.42	244	LR	LR	01 21 43.0	
	comp=Z,115nm,18.0s,baz=298,slow=39						
KSRS	Korea Array	11.18	270	P	Pn	01 17 37.8	+3.9
	0.3nm,0.3s,baz=76,slow=14,SNR=3.2						
KSRS				LR	LR	01 21 28.1	
	comp=Z,73nm,18.1s,baz=274,slow=35						
KLR	Kul'dur	13.21	329	LR	LR	01 22 51.3	
	comp=Z,6.4nm,19.3s,baz=2.0,slow=36						
SEY	Seymchan	25.48	11	P	P	01 20 20.7	+0.2
	1.0nm,0.5s,baz=217,slow=11,SNR=4.1						
ULN	Ulaanbaatar	27.08	302	P	P	01 20 34.0	-1.4
	1.4nm,0.4s						
SONM	Songino Array	27.51	302	P	P	01 20 38.6	-0.6
	0.4nm,0.4s,baz=103,slow=10,SNR=3.3						
ENH	Enshi	27.94	263	P	P	01 20 42.4	-0.7
	6.8nm,0.4s						
H11S1	WAKE ISLAND Hy	29.16	126	T	T	01 52 02.1	
	baz=318,slow=76,SNR=65						
H11S3	WAKE ISLAND Hy	29.16	126	T	T	01 52 02.1	
	baz=318,slow=76,SNR=358						
H11S2	WAKE ISLAND Hy	29.18	126	T	T	01 52 03.3	
	baz=318,slow=76,SNR=60						
ZALV	Zalesovo Beam	41.44	311	P	P	01 22 38.8	-0.1
	2.1nm,0.4s,baz=89,slow=8.2,SNR=7.9						
MKAR	Makanchi Array	43.88	301	P	P	01 22 58.8	0.0
	1.1nm,0.6s,baz=85,slow=10,SNR=9.2						
KURK	Kurchatov	45.55	307	eP	P	01 23 11.2	-0.8
	30nm,0.7s						
KURBB	Kurchatov Arra	45.62	307	P	P	01 23 12.3	-0.3
	5.2nm,0.7s,baz=83,slow=8.3,SNR=43						
ILAR	Eielson Array	48.19	33	P	P	01 23 31.9	-0.5
	0.5nm,0.7s,baz=262,slow=7.0,SNR=6.0						
WRAB	Tennant Creek	58.35	188	eP	P	01 24 46.5	-1.0
	0.8nm,0.5s						
WRA	Warramunga Arr	58.36	188	P	P	01 24 47.6	-0.1
	1.2nm,0.5s,baz=6.2,slow=7.0,SNR=17						
ASAR	Alice Springs	62.09	188	P	P	01 25 12.7	-0.4
	0.8nm,0.6s,baz=2.9,slow=5.0,SNR=8.3						
ARCES	ARCESS Array B	63.00	339	P	P	01 25 18.9	+0.2
	2.3nm,0.8s,baz=52,slow=7.9,SNR=7.5						
FINES	FINESS Array B	67.94	332	P	P	01 25 50.3	-0.4
	1.5nm,0.6s,baz=40,slow=9.9,SNR=8.9						
KBZ	Khabaz	70.46	311	P	P	01 26 07.1	+0.5
	2.0nm,0.9s,baz=52,slow=13,SNR=2.5						
HFS	Hagfors	73.15	336	P	P	01 26 22.1	-0.3
	1.6nm,0.5s,baz=46,slow=6.2,SNR=8.8						
NB2	NORSAR Subarra	73.22	337	P	P	01 26 23.0	+0.1
	comp=Z,2.3nm,0.8s,baz=39,slow=6.2						
NOA	NORSAR Array B	73.22	337	P	P	01 26 23.1	+0.1
	comp=Z,1.7nm,0.7s,baz=40,slow=6.0,SNR=4.9						
PDAR	Pinedale Array	76.45	46	P	P	01 26 42.0	-0.2
	comp=Z,0.3nm,0.6s,baz=197,slow=1.9,SNR=3.0						
BRTR	Keskin Array B	78.39	312	P	P	01 26 52.8	-0.1
	comp=Z,0.7nm,0.9s,baz=54,slow=7.2,SNR=3.9						
GERES	GERESS Array B	81.91	328	P	P	01 27 10.7	-1.0
	comp=Z,0.4nm,0.6s,baz=33,slow=5.6,SNR=3.9						
TXAR	Lajitas Array	88.98	53	P	P	01 27 48.3	+1.0
	comp=Z,0.2nm,0.6s,baz=245,slow=1.9,SNR=2.7						

ISCJB **04** *01:23:41.8±0.7,24°.54N±0°.06×122°.88E±0°.02,h97km±6km, Error ellipse: s-maj=9.5km s-min=3.3km az=174.9*
TAP **04** *01:23:41.5,24°.57N×122°.84E,h113km±1km,ML3.6,C*
JMA **04** *01:23:42.0±0.1,24°.69N×122°.93E,h99km±2km,M2.5*
ISC 04 01:23:41.8±1.7,24°.54N±0°.08×122°.88E±0°.03, h100km±11km,n29,σ0ˢ86/56,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.11	145	P	Pn	01 23 56.3	+0.5
JYNG				S	Sn	01 24 06.7	+0.4
YOJ	Yonaguni jima	0.15	123	P	Pn	01 23 56.2	+0.3
YOJ				S	Sn	01 24 06.8	+0.4
IRIF	Iriomote-Funau	0.81	105	P	Pn	01 24 00.3	+0.1
IRIF				eS	Sn	01 24 13.7	-0.4
TWC	Suao	0.94	274	P	Pn	01 24 01.6	0.0
	baz=272						
TWC				*i* S	Sn	01 24 15.9	-0.6
	baz=272						
HATJ	Hateruma jima	0.98	120	P	Pn	01 24 02.6	+0.6
HATJ				eS	Sn	01 24 17.9	+0.7
ENA	Nanau	1.04	264	eP	Pn	01 24 03.2	+0.5
	baz=257						
ENA				eS	Sn	01 24 18.4	-0.1
	baz=257						
JKRS	Kuro-shima	1.08	106	P	Pn	01 24 03.6	+0.5
JKRS				S	Sn	01 24 19.5	+0.4
TWE	Neicheng	1.11	279	eP	Pn	01 24 03.2	-0.3
	baz=275						
TWE				eS	Sn	01 24 19.3	-0.6
	baz=275						
JIJ	Ishigaki jima	1.17	99	P	Pn	01 24 04.1	0.0
JIJ				S	Sn	01 24 19.8	-1.2
ENTT	Nioudou	1.20	275	P	Pn	01 24 05.0	+0.5
	baz=270						
ENTT				eS	Sn	01 24 21.9	+0.3
	baz=270						
TWD	Chiawan	1.25	249	P	Pn	01 24 04.1	-1.0
	baz=247						
TWD				S	Sn	01 24 22.1	-0.6
	baz=247						
JISG	Ishigakijimahi	1.31	88	P	Pn	01 24 05.6	-0.1
JISG				S	Sn	01 24 22.8	-1.0
NNS	Nan Shan	1.37	266	eP	Pn	01 24 06.3	-0.3
	baz=259						
NNS				eS	Sn	01 24 25.2	-0.3
	baz=259						
NSK	Sanguang	1.39	276	eP	Pn	01 24 05.9	-0.9
	baz=269						
NSK				eS	Sn	01 24 25.7	0.0
	baz=269						
ESL	Shilin	1.50	241	eP	Pn	01 24 08.0	-0.2
	baz=244						
ESL				S	Sn	01 24 27.4	-0.8
	baz=244						
WHF	Hehuan Shan	1.52	255	P	Pn	01 24 09.2	+0.4
	baz=258						
WHF				S	Sn	01 24 28.6	-0.5
	baz=258						
JTJ	Tarama	1.67	86	P	Pn	01 24 10.4	+0.3
JTJ				eS	Sn	01 24 31.0	-0.7
NSTT	Nanjuang	1.71	273	eP	Pn	01 24 10.8	+0.1
	baz=272						
EHY	Hungye	1.76	234	eP	Pn	01 24 10.8	-0.5
	baz=240						
WDT	Danda	1.77	244	eP	Pn	01 24 12.0	+0.2
	baz=237						
WDT				eS	Sn	01 24 33.5	-1.1
	baz=237						
TWF1	Yuli	1.87	231	P	Pn	01 24 13.0	+0.3
	baz=237						
TWF1				eS	Sn	01 24 34.4	-1.9
	baz=237						
SMLT	Sun Moon Lake	1.92	250	eP	Pn	01 24 15.1	+1.6
	baz=245						
SMLT				eS	Sn	01 24 37.9	+0.3
	baz=245						
CHKT	Chengkung	2.00	224	eP	Pn	01 24 14.3	-0.1
	baz=221						
CHKT				eS	Sn	01 24 36.1	-3.0
	baz=221						
YUS	Yu-Shan	2.05	240	eP	Pn	01 24 16.2	+0.7
	baz=233						
YUS				S	Sn	01 24 40.6	-0.6
	baz=233						
ALS	Alishan	2.15	242	eP	Pn	01 24 17.9	+1.3
	baz=236						
ALS				eS	Sn	01 24 42.9	-0.4
	baz=236						
ELDTW	Lidau	2.17	232	eP	Pn	01 24 17.6	+0.9
	baz=231						
ELDTW				eS	Sn	01 24 42.6	-0.8
	baz=231						
CHN5	Tsauling	2.22	245	eP	Pn	01 24 18.7	+1.3
	baz=238						
CHN5				eS	Sn	01 24 45.6	+1.1
	baz=238						
STYT	Tauyuan	2.38	235	eP	Pn	01 24 20.5	+1.1
	baz=231						
STYT				eS	Sn	01 24 48.3	+0.1
	baz=231						
CHN4	Tsaushan	2.40	241	eP	Pn	01 24 21.1	+1.4
	baz=234						
CHN4				eS	Sn	01 24 49.9	+1.2
	baz=234						

NSSC **04** *01:26:49.7±1.2,33°.45N×34°.92E,h24km±61km,ML1.5*
ISCJB **04** *01:26:57.4±1.6,33°.42N±0°.08×35°.7E±0°.1,h26km±6km, Error ellipse: s-maj=19.0km s-min=9.7km az=150.4*
CSEM **04** *01:26:58.0,33°.38N×35°.61E,h16km,ML2.7*
GRAL **04** *01:26:58.0±0.3,33°.38N×35°.61E,h16km±4km,MD2.7*
ISC 04 01:26:58.2±1.6,33°.45N±0°.06×35°.63E±0°.08,h19km±4km, n11,σ1ˢ41/20,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	Rachaya	0.18	76	eP	Pg	01 27 02.8	-0.3
RCY				eS	Sg	01 27 06.4	-0.1
DQRL	Deir Qamar	0.26	349	eP	Pg	01 27 04.4	+0.1
DQRL				eS	Sg	01 27 09.2	+0.8
DQRL	Deir Qamar	0.26	349	eP	Pg	01 27 04.4	+0.1
DQRL				eS	Sg	01 27 09.2	+0.8
BHL	Bhannes	0.45	2	eP	Pg	01 27 07.6	+0.1
BHL				eS	Sg	01 27 14.7	+0.9
BHL	Bhannes	0.45	2	eP	Pg	01 27 07.6	+0.1
BHL				eS	Sg	01 27 14.7	+0.9
HWQ	Hawqa	0.86	18	eP	Pb	01 27 14.4	-0.2
HWQ	Hawqa	0.86	18	eP	Pb	01 27 14.4	-0.2
MARH	Ras Al Marh	0.91	51	eP	Pb	01 27 14.5	-1.0
MARH				eS	Sn	01 27 32.9	+3.9
SALA	Sala	1.18	128	*i* P	Pn	01 27 18.9	-0.9
SALA				eS	Sg	01 27 38.3	+1.6
SALA				AML	AML	01 27 45.7	
	comp=E,0.9nm,0.5s						
SALA				AML	AML	01 27 49.2	
	comp=N,10nm,0.4s						
HAWK	Haweek	1.25	31	eP	Pn	01 27 18.0	-2.6
HAWK				eS	Sb	01 27 36.8	+0.1
HAWK				AML	AML	01 27 44.5	
	comp=E,8.9nm,0.5s						
HAWK				AML	AML	01 27 46.4	
	comp=N,7.0nm,0.4s						
ROOS	tl_alroos	1.55	62	eP	Pn	01 27 23.3	-1.5
ROOS				eS	Sg	01 27 48.6	+0.1
ROOS				AML	AML	01 27 54.4	
	comp=N,15nm,0.4s						
ROOS				AML	AML	01 27 54.5	
	comp=E,19nm,0.5s						

SCB **04** *01:33:49.6±1.2,23°.13S×70°.51W,h28km,Ml3.7/1,Error ellipse: s-maj=132.6km s-min=25.4km az=102.0*
GUC **04** *01:34:14.5±0.5,21°.54S×69°.68W,h26km±1km,ML4.0*
ISC 04 01:34:15.5±0.9,21°.59S±0°.03×69°.69W±0°.04,h26km±9km, n19,σ2ˢ00/32,9C-10D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	IPOC Station P	0.23	234	⇑*i*P	Pb	01 34 21.8	0.0
PB07				*i* S	Sb	01 34 26.6	+0.6
PB09	IPOC Station P	0.46	116	⇑*i*P	Pb	01 34 24.8	-0.4
PB09				*i* S	Sn	01 34 32.0	-2.1
PB09				eS	Sb	01 34 32.2	+0.3
PB09				IAML		01 34 32.3	
	comp=E,39μm,0.2s						
PB01	IPOC Station P	0.57	19	⇓*i*P	Pb	01 34 25.1	-2.0
PB01				*i* S	Sb	01 34 32.3	-2.6
PB04	IPOC Station P	0.86	210	⇓*i*P	Pb	01 34 31.2	-0.6
PB04				*i* S	Sb	01 34 43.5	+0.5
PB04				IAML		01 34 43.8	
	comp=E,5μm,0.3s						
PB06	IPOC Station P	1.11	175	⇓*i*P	Pn	01 34 35.1	-0.6
PB06				*i* S	Sb	01 34 51.1	+0.7
PB06				IAML		01 34 51.8	
	comp=E,3μm,0.3s						
HMBC	Humberstone	1.32	352	⇓*i*P	Pn	01 34 36.9	-1.5
HMBC				eS	Sn	01 34 53.6	-1.6
HMBC				IAML		01 34 55.1	
	comp=N,3μm,0.7s						
PB08	IPOC Station P	1.53	19	⇓*i*P	Pn	01 34 40.7	-0.8
PB08				*i* S	Sn	01 35 00.3	-0.4
PB08				IAML		01 35 02.9	
	comp=N,2μm,0.1s						
PB11	IPOC Station P	1.82	1	⇓*i*P	Pn	01 34 44.7	-0.6
PB11				*i* S	Sn	01 35 07.9	+0.3
PSGC	Pisagua	2.02	348	⇓*i*P	Pn	01 34 47.4	-0.7
PSGC				eS	Sn	01 35 12.5	-0.1
PB10	IPOC Station P	2.08	203	⇑*i*P	Pn	01 34 49.7	+1.0
PB10				*i* S	Sb	01 35 16.1	-1.8
PB10				IAML		01 35 28.5	
	comp=E,2μm,0.3s						
ANCH	Antofagasta	2.19	198	⇓*i*P	Pb	01 34 53.5	-0.9
ANCH				eS	Sb	01 35 21.6	+0.6
MNMC	Minye Minye	2.45	2	⇓*i*P	Pn	01 34 54.3	+0.3
MNMC				eS	Sn	01 35 25.2	+1.9
MNMC				IAML		01 35 33.7	
	comp=E,2μm,0.6s						
PB12	IPOC Station P	3.02	348	⇓*i*P	Pn	01 35 01.5	-0.3
PB12				*i* S	Sn	01 35 36.9	-0.3
PB13	IPOC Station P	3.24	3	eP	Pn	01 35 07.0	+1.7
PB13				*i* S	Sb	01 35 48.7	-3.3
BBOJ	La Paz, Jacaqu	4.80	17	⇑*i*Pn	Pn	01 35 31.0	+4.3
BBOE	La Paz, Chanca	5.02	19	⇑*i*Pn	Pn	01 35 34.0	+4.3
BBOD	La Paz, Gloria	5.03	12	⇑*i*Pn	Pn	01 35 33.8	+3.9
BBOD				⇑*i*Sn	Sb	01 36 49.5	+6.0
	comp=E,22nm,0.7s						
LPAZ	La Paz	5.48	16	⇑*i*Pn	Pn	01 35 39.8	+3.8
BBOB	La Paz, Bander	5.62	15	⇑*i*Pn	Pn	01 35 42.4	+4.5

NIED **04** *01:37:00,26°.80N×140°.90E,h460km,Mw5.6 Best double couple: M₀2.85000×10¹⁷ NP1:φ₀295.00000°, δ24.00000°,λ-71.00000°. NP2:φ₀94.00000°,δ67.00000°, λ-98.00000°.*
BJI **04** *01:37:24.7,26°.65N×140°.70E,h438km,mb5.1/78, mB5.2/60*
JMA **04** *01:37:26.6±0.3,26°.79N×140°.87E,h456km±4km,M5.7*
JMA Felt II J1.
ISCJB **04** *01:37:27.7±0.2,26°.77N±0°.02×140°.50E±0°.02, h453km±2km,mb5.2/429,Error ellipse: s-maj=2.8km s-min=2.2km az=166.5*
MOS **04** *01:37:27.3±0.8,26°.75N×140°.44E,h449km,mb5.4/142, Error ellipse: s-maj=6.4km s-min=3.7km az=106.7*
NEIC **04** *01:37:27.0±0.0,26°.67N×140°.46E,h440km,Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁷Nm; Mrr-3.21; Mθθ1.91; Mφφ1.31; Mrθ-2.17; Mθφ-0.74; Mφr-0.58; Best double couple: M₀3.70000×10¹⁷ NP1:φ₀98.00000°, δ63.00000°,λ-105.00000°. NP2:φ₀310.00000°, δ31.00000°,λ-61.00000°. Principal axes: T 2.8700, Plg16.0000°, Azm199.0000°; N 1.2600, Plg14.0000°, Azm105.0000°; P -4.1300, Plg67.0000°, Azm337.0000°;*
IDC **04** *01:37:28.8±0.3,26°.72N×140°.53E,h456km±3km,mb4.8/50, mb1 4.9/57,mb1mx4.9/59,mbtmp5.6/57 Error ellipse: s-maj=7.4km s-min=4.9km az=89.0*
GCMT **04** *01:37:29.1±0.1,26°.73N×140°.35E,h440km,MW5.7/123, Moment Tensor Solution. s123,c227; s80,c85; Duration: 1ˢ6 Moment tensor: Scale 10¹⁷Nm; Mrr-3.14±.04; Mθθ1.84±.06; Mφφ1.29±.07; Mrθ-2.58±.06; Mθφ-1.05±.06; Mφr-0.35±.06; Best double couple: M₀3.81200×10¹⁷ NP1:φ₀102.00000°,δ66.00000°, λ-107.00000°. NP2:φ₀319.00000°,δ30.00000°, λ-57.00000°. Principal axes: T 3.2930, Plg19.0000°, Azm205.0000°; N 1.0300, Plg16.0000°, Azm109.0000°; P -4.3320, Plg65.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC **04** *01:37:29.1±0.4,26°.77N×140°.43E,h456km±4km, mb5.3/296,MW5.7,MW5.6 Error ellipse: s-maj=3.3km s-min=2.6km az=134.0,Moment Tensor Solution. s43 Moment tensor: Scale 10¹⁷Nm; Mrr-3.03; Mθθ0.19; Mφφ2.84; Mrθ-2.61; Mθφ-0.34; Mφr-0.45; Best double couple: M₀4.00000×10¹⁷ NP1:φ₀20.00000°,δ54.00000°, λ-52.00000°. NP2:φ₀148.00000°,δ50.00000°, λ-130.00000°. Principal axes: T 2.8900, Plg2.0000°, Azm85.0000°; N 1.6400, Plg29.0000°, Azm176.0000°; P -4.5300, Plg60.0000°, Azm351.0000°;*
NEIC Recorded [2 JMA] in Tokyo, Honshu.
ISC 04 01:37:28.4±0.2,26°.77N±0°.03×140°.54E±0°.03,h448km±2km, h448km:pP-P,n1417,σ1ˢ37/1642,mb5.3/456,63C-65D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.48	95	⇓P	P	01 38 24.6	-1.5
JHHJ				eS	S	01 39 10.1	-2.7
CBIJ	Chichi jima	1.50	77	⇓P	P	01 38 24.2	-1.9
CBIJ				eS	S	01 39 09.6	-3.5
CBIJ	Chichi jima	1.50	77	eP	P	01 38 04.3	-1.9
CBIJ				eS	S	01 39 09.0	-4.0
JHCJ	Hachijojimakas

JTO			*e*S		**S**	**01 41 21.3 +2.1**
INU	**Inuyama**	**9.06 341**	*e*P		**P**	**01 39 35.4 +0.3**
INU			*e*S		**S**	**01 41 16.2 -3.2**
JRY	**Ryogami san**	**9.32 352**	P		**P**	**01 39 38.1 +0.2**
JRY			*e*S		**S**	**01 41 22.2 -2.4**
JKIT	**Kitakata**	**9.81 309**	P		**P**	**01 39 46.5 +3.1**
MJAR	**Matsushiro Arr**	**9.94 349**	P		**P**	**01 39 43.9 -0.7**
	13nm,0.3s,baz=168,slow=9.7,SNR=67					
MJAR			S		**S**	**01 41 39.8 +2.9**
	10nm,0.3s,baz=240,slow=33,SNR=5.1					
MJAR			ScP		**ScP**	**01 47 58.4 -1.7**
	0.6nm,0.3s,baz=146,slow=2.2,SNR=6.1					
MAJO	**Matsushiro**	**9.94 349**	*de*P		**P**	**01 39 44.7 0.0**
MAJO	**Matsushiro**	**9.94 349**	*e*P		**P**	**01 39 44.6 0.0**
MAJO			*e*S		**S**	**01 41 36.3 -0.6**
MAT	**Matsushiro**	**9.94 349**	P		**P**	**01 39 43.9 -0.8**
MAT			S		**S**	**01 41 37.2 +0.2**
MJB9	**Matsu-Tunnel**	**9.94 349**	*e*P		**P**	**01 39 44.9 +0.2**
JZO	**Okuchi**	**10.18 304**	P		**P**	**01 39 49.8 +2.4**
JAMN	**Amaminishikomi**	**10.19 281**	P		**P**	**01 39 49.7 +2.1**
JAMN			*e*S		**S**	**01 41 44.7 +2.5**
JHS	**Saijyo**	**10.38 324**	P		**P**	**01 39 51.7 +2.2**
JNU	**Nakatsue**	**10.49 309**	P		**P**	**01 39 53.4 +2.6**
	14nm,0.3s,baz=103,slow=4.8,SNR=48					
JNU			S		**S**	**01 41 52.9 +4.7**
	baz=254,slow=23,SNR=11					
JNU			ScP		**ScP**	**01 47 60.0 -0.8**
	0.2nm,0.3s,baz=145,slow=2.8,SNR=3.9					
JFA	**Akaike**	**10.89 312**	P		**P**	**01 39 57.3 +2.2**
JOW	**Kunigami**	**10.96 273**	P		**P**	**01 39 57.8 +1.9**
	122nm,0.3s,baz=107,slow=14,SNR=84					
JOW	**Kunigami**	**10.96 273**	P		**P**	**01 39 57.4 +1.5**
JOW			*e*S		**S**	**01 42 00.9 +3.3**
JOW	**Kunigami**	**10.96 273**	*e*P		**P**	**01 39 56.7 +0.8**
SARN	**Sarigan**	**11.14 153**	*e*P		**P**	**01 39 57.8 -0.3**
JMK	**Ichinoseki**	**12.16 3**	P		**P**	**01 40 09.3 +0.5**
JTU	**Tsushima**	**12.31 312**	P		**P**	**01 40 12.8 +2.3**
JKE	**Kume jima 2**	**12.32 271**	P		**P**	**01 40 12.3 +1.6**
JKE			*e*S		**S**	**01 42 27.2 +2.5**
JOM	**Ohasama**	**12.68 3**	P		**P**	**01 40 15.3 +0.9**
GUMO	**Guam**	**13.73 162**	P		**P**	**01 40 25.3 -0.8**
	38nm,0.3s,baz=19,slow=3.9,SNR=16					
GUMO			S		**S**	**01 42 53.7 +0.7**
	7.4nm,0.3s,baz=345,slow=20,SNR=2.6					
JOT	**Ohata**	**14.58 2**	P		**P**	**01 40 35.6 +0.8**
KSRS	**Korea Array**	**15.07 318**	P		**P**	**01 40 39.9 -0.3**
	1.1nm,0.3s,baz=126,slow=9.9,SNR=37					
KSRS			S		**S**	**01 43 27.5 +8.9**
	baz=121,slow=11,SNR=2.1					
KSRS			PcP		**PcP**	**01 45 16.9 +0.1**
	0.1nm,0.3s,baz=174,slow=1.0,SNR=6.0					
KSRS			ScP		**ScP**	**01 48 07.3 -0.6**
	0.4nm,0.3s,baz=186,slow=1.1,SNR=21					
JKB	**Kayabe**	**15.08 1**	P		**P**	**01 40 41.3 +1.1**
KS15	**Wonju Array Si**	**15.09 318**	*e*P		**P**	**01 40 42.3 +2.0**
KS15			*e*S		**S**	**01 43 27.5 +8.6**
KS15			*e*ScP		**ScP**	**01 48 07.1 -0.9**
KSAR	**Wonju Array Be**	**15.09 318**	P		**P**	**01 40 39.9 -0.5**
KSAR	**Wonju Array Be**	**15.09 318**	P		**P**	**01 40 39.9 -0.5**
KS01	**Wonju Array Si**	**15.10 318**	*e*P		**P**	**01 40 39.2 -1.3**
JOSM	**Okushiri--Mats**	**15.30 357**	P		**P**	**01 40 43.0 +0.5**
ERM	**Erimo**	**15.36 7**	*d i*P		**P**	**01 40 45.7 +2.6**
ERM			pmax		pmax	
	comp=Z,244nm,1.7s					
ERM	**Erimo**	**15.36 7**	*e*P		**P**	**01 40 43.7 +0.6**
	comp=Z,159nm,0.9s					
IRIF	**Iriomote-Funau**	**15.36 265**	P		**P**	**01 40 43.1 -0.4**
INCN	**Inchon**	**15.88 316**	*e*P		**P**	**01 40 52.6 +3.8**
	comp=Z,128nm,0.6s					
JCH	**Churui**	**15.97 8**	P		**P**	**01 40 50.3 +0.7**
NACB	**Ninganchiao**	**17.30 266**	*e*P		**P**	**01 41 03.5 -0.5**
	comp=Z,64nm,0.9s					
NACB			*e*S		**S**	**01 44 03.7 +1.9**
ASAJ	**Asahikawa**	**17.38 5**	P		**P**	**01 41 05.2 +0.6**
	comp=Z,5.8nm,0.3s,baz=202,slow=12,SNR=37					
ASAJ	**Asahikawa**	**17.38 5**	*e*P		**P**	**01 41 05.4 +0.9**
	comp=Z,177nm,1.0s					
YHNB	**Yeheng**	**17.39 267**	*e*P		**P**	**01 41 03.7 -1.3**
	comp=Z,194nm,1.3s					
YHNB			*e*S		**S**	**01 44 06.8 +3.1**
SSE	**Sheshan**	**17.47 289**	P		**P**	**01 41 06.3 +0.6**
SSE			sP		**sP**	**01 42 56.5 -5.2**
SSE			S		**S**	**01 44 02.6 -2.2**
SSE			pmax		pmax	
	comp=Z,78nm,0.7s					
SSE			pmax		pmax	
	comp=Z,340nm,5.3s					
MSHR	**Mys Shultsa**	**17.53 336**	*de*P		**P**	**01 41 06.0 -0.2**
YULB	**Yu-li**	**17.75 263**	*e*P		**P**	**01 41 08.4 -0.3**
	comp=Z,190nm,1.2s					
YUK	**Yuzh-Kuril'sk**	**17.75 13**	P		**P**	**01 41 08.0 -0.4**
YUK			pmax		pmax	
	comp=Z,542nm,16.6s					
YUK			pmax		pmax	
	comp=N,51nm,0.3s					
YUK			pmax		pmax	
	comp=E,20nm,0.2s					
YUK			MLR		MLR	
	comp=Z,321nm,14.0s					
VLA	**Vladivostok**	**17.77 339**	⇓*i*P		**P**	**01 41 08.5 0.0**
VLA			*e*S		**S**	**01 44 05.1 -4.5**
SHO	**Shikotan**	**17.80 15**	*e*P		**P**	**01 41 10.8 +1.9**
SHO			pmax		pmax	
	comp=Z,144nm,0.6s					
SHO			pmax		pmax	
	comp=N,24nm,0.4s					
SHO			pmax		pmax	
	comp=E,66nm,0.6s					
SSLB	**Suanglung**	**17.96 265**	*e*P		**P**	**01 41 10.5 -0.4**
	comp=E,442nm,1.2s					
TWG	**Pinlang**	**18.10 262**	*e*P		**P**	**01 41 12.2 -0.1**
	comp=E,1μm,1.4s					
TPUB	**Ta-pu**	**18.37 263**	*e*P		**P**	**01 41 15.0 +0.1**
	comp=E,194nm,1.1s					
USRK	**Ussuriysk Ar.**	**18.71 341**	P		**P**	**01 41 19.0 +1.2**
	comp=E,3.8nm,0.3s,baz=158,slow=9.3,SNR=97					
USRK			ScP		**ScP**	**01 48 15.1 -0.1**
	comp=E,0.1nm,0.3s,baz=198,slow=2.9,SNR=9.6					
KUR	**Kuril'sk**	**19.34 16**	*e*P		**P**	**01 41 26.7 +3.1**
KUR			*i*S		**S**	**01 44 37.0 +1.5**
KUR			pmax		pmax	
	comp=Z,162nm,1.0s					
KUR			smax		smax	
	comp=N,3μm,16.0s					
NJ2	**Nanjing**	**19.60 291**	*e*P		**P**	**01 41 26.5 +0.3**
NJ2			S		**S**	**01 44 39.9 -0.2**
NJ2			pmax		pmax	
	comp=N,70nm,0.6s					
NJ2			pmax		pmax	
	comp=N,840nm,3.5s					
QZH	**Quanzhou**	**19.83 270**	⇑*i*P		**P**	**01 41 29.1 +0.7**
QZH			S		**S**	**01 44 45.0 +0.9**
QZH			pmax		pmax	
	comp=N,320nm,1.0s					
MDJ	**Mudanjiang**	**19.86 336**	P		**P**	**01 41 29.3 +0.9**
MDJ			sP		sP	01 43 25.5 -2.8
MDJ			S		**S**	**01 44 47.0 +2.8**
MDJ			PcP		**PcP**	**01 45 25.5 +0.9**
MDJ			ScP		**ScP**	**01 48 20.2 +2.3**
MDJ			PcS		**PcS**	**01 49 03.5 +1.3**
MDJ			ScS		**ScS**	**01 52 03.3 +2.7**
MDJ			pmax		pmax	
	comp=N,110nm,0.9s					
MDJ			pmax		pmax	
	comp=N,890nm,6.7s					
MDJ	**Mudanjiang**	**19.86 336**	*e*P		**P**	**01 41 29.6 +1.1**
	comp=N,104nm,0.6s					
DL2	**Dalian**	**19.92 312**	P		**P**	**01 41 28.4 -0.6**
DL2			sP		**sP**	**01 43 26.0 -2.9**
DL2			S		**S**	**01 44 44.4 -0.8**
DL2			ScP		**ScP**	**01 48 20.4 +2.3**
DL2			pmax		pmax	
	comp=N,110nm,1.1s					
DL2			pmax		pmax	
	comp=N,910nm,5.7s					
YSS	**Yuzh-Sakhalins**	**20.22 4**κ	*i*P		**P**	**01 41 34.2 +2.6**
YSS			*e*S		**S**	**01 44 50.0 +0.2**
YSS			pmax		pmax	
	comp=Z,600nm,7.0s					
YSS			pmax		pmax	
	comp=Z,180nm,0.9s					
YSS			smax		smax	
	comp=N,4μm,19.0s					
YSS			MLR		MLR	
	comp=E,500nm,12.0s					
YSS			MLR		MLR	
	comp=Z,600nm,12.0s					
YSS	**Yuzh-Sakhalins**	**20.22 4**	*e*P		**P**	**01 41 32.1 +0.5**
	comp=Z,180nm,0.9s					
SNY	**Shenyang**	**20.48 321**	⇑P		**P**	**01 41 33.9 -0.2**
SNY			sP		**sP**	**01 43 32.9 -2.1**
SNY			S		**S**	**01 44 54.0 -0.2**
SNY			pmax		pmax	
	comp=Z,55nm,1.0s					
SNY			pmax		pmax	
	comp=Z,930nm,7.4s					
SZP	**Santa**	**20.72 248**	*e*P		**P**	**01 41 37.5 +0.9**
	comp=Z,774nm,1.0s					
CN2	**Changchun**	**20.93 328**	*e*P		**P**	**01 41 38.0 -0.1**
CN2			sP		sP	01 43 36.1 -3.8
CN2			*e*S		**S**	**01 44 57.7 -3.6**
CN2			PcP		**PcP**	**01 45 26.4 -0.2**
CN2			ScP		**ScP**	**01 48 22.1 +1.6**
CN2			ScS		**ScS**	**01 52 06.7 +2.3**
CN2			pmax		pmax	
	comp=Z,20nm,1.0s					
CN2			pmax		pmax	
	comp=Z,600nm,8.0s					
PLP	**Palo**	**21.35 226**	⇓*e*P		**P**	**01 41 43.2 +0.9**
TIA	**Tai'an**	**22.02 301**	⇑P		**P**	**01 41 48.3 +0.1**
TIA			S		**S**	**01 45 19.1 +0.1**
TIA			sS		PcP	01 45 25.4 -3.6
TIA			pmax		pmax	
	comp=Z,50nm,0.7s					
HABR	**Khabarovsk**	**22.08 350**	*e*P		**P**	**01 41 48.0 -0.5**
HABR			*e*S		**S**	**01 45 18.6 -0.9**
HABR			*e*			01 45 27.1
HABR			*e*			01 52 04.9
HABR			pmax		pmax	
	comp=E,22nm,1.0s					
HABR			pmax		pmax	
	comp=N,22nm,1.0s					
HABR			pmax		pmax	
	comp=Z,90nm,1.0s					
HABR			MLR		MLR	
	comp=Z,117nm,13.0s					
TGY	**Tagaytay City**	**22.24 239**	P		**P**	**01 41 50.9 +0.5**
	comp=Z,671nm,0.7s,baz=73,slow=1.3,SNR=13					
UGL	**Uglegorsk**	**22.30 3**	*e*P		**P**	**01 41 52.2 +1.8**
UGL			*e*			01 43 58.0
UGL			S		**S**	**01 45 23.0 +0.1**
UGL			pmax		pmax	
	comp=Z,550nm,1.5s					
UGL			pmax		pmax	
	comp=Z,310nm,0.9s					
UGL			smax		smax	
	comp=N,2μm,10.0s					
UGL			smax		smax	
	comp=E,500nm,10.0s					
RCP	**Roxas**	**22.57 231**	⇓*e*P		**P**	**01 41 54.4 +1.0**
WHN	**Wuhan**	**23.27 285**	⇑P		**P**	**01 41 59.9 +0.5**
WHN			sP		**sP**	**01 44 08.2 +2.7**
WHN			S		**S**	**01 45 37.0 -1.7**
WHN			pmax		pmax	
	comp=E,140nm,0.5s					
KLR	**Kul'dur**	**23.43 345**	P		**P**	**01 42 01.2 +0.5**
	comp=E,1.9nm,0.4s,baz=167,slow=8.5,SNR=58					
KLR			ScP		**ScP**	**01 48 25.9 -0.9**
	comp=E,1.6nm,0.8s,baz=185,slow=1.1,SNR=12					
KLR	**Kul'dur**	**23.43 345**	*d i*P		**P**	**01 42 00.9 +0.2**
TYV	**Tymovskoe**	**24.11 3**	*e*P		**P**	**01 42 07.4 +0.7**
TYV			*e*S		**S**	**01 45 48.8 -2.7**
TYV			pmax		pmax	
	comp=Z,60nm,0.8s					
TYV			smax		smax	
	comp=N,2μm,12.9s					
TYV			smax		smax	
	comp=E,29nm,1.7s					
BJT	**Baijiatuau**	**24.16 309**	*e*P		**P**	**01 42 06.6 -0.8**
BJT			pmax		pmax	
	comp=Z,35nm,0.8s					
BJT	**Baijiatuau**	**24.16 309**	*e*P		**P**	**01 42 06.6 -0.8**
	comp=Z,35nm,0.8s					
BJI	**Beijing**	**24.17 309**	P		**P**	**01 42 06.5 -0.9**
BJI			sP		**sP**	**01 44 11.0 -4.2**
BJI			S		**S**	**01 45 52.1 -0.6**
BJI			ScP		**ScP**	**01 48 28.4 -0.7**
BJI			PcS		**PcS**	**01 49 12.4 -1.2**
BJI			ScS		**ScS**	**01 52 16.8 -0.2**
BJI			pmax		pmax	
	comp=Z,35nm,0.7s					
BJI			pmax		pmax	
	comp=Z,680nm,10.0s					
H11N2	**WAKE ISLAND Hy**	**25.18 101**	P		**P**	**01 42 18.2 +1.7**
	baz=265,slow=10.0,SNR=29					
H11N1	**WAKE ISLAND Hy**	**25.18 101**	P		**P**	**01 42 18.1 +1.7**
	baz=265,slow=10.0,SNR=28					
H11N3	**WAKE ISLAND Hy**	**25.20 101**	P		**P**	**01 42 18.2 +1.7**
	baz=265,slow=10.0,SNR=25					
TIY	**Taiyuan**	**26.06 302**	*e*P		**P**	**01 42 29.7 +5.4**
TIY			sP		**sP**	**01 44 31.0 -3.6**
TIY			pmax		pmax	
	comp=Z,450nm,4.0s					
PATS	**Pohnpei**	**26.06 136**	*e*P		**P**	**01 42 25.1 +0.6**
	comp=Z,106nm,0.9s					
NKL	**Nikolayevsk**	**26.34 0**	*e*P		**P**	**01 42 27.5 +1.0**
NKL			pmax		pmax	
	comp=N,86nm,1.4s					
NKL			pmax		pmax	
	comp=E,86nm,1.4s					
NKL			pmax		pmax	
	comp=Z,500nm,1.4s					
ENH	**Enshi**	**27.46 285**	*e*P		**P**	**01 42 36.6 -0.2**
	comp=Z,280nm,1.5s					
ENH			*e*S		**S**	**01 46 44.4 -0.3**
HIA	**Hailar**	**27.62 330**	*e*P		**P**	**01 42 38.5 +0.6**
HIA			pmax		pmax	
	comp=Z,69nm,0.7s					
HIA	**Hailar**	**27.62 330**	*e*P		**P**	**01 42 38.5 +0.6**
	comp=Z,69nm,0.7s					
HHC	**Hu-ho-hao-te**	**27.72 308**	*e*P		**P**	**01 42 37.9 -1.1**
HHC			sP		sP	01 44 50.0 +0.3
HHC			S		**S**	**01 46 45.4 -3.3**
HHC			pmax		pmax	
	comp=Z,34nm,1.0s					
HHC			pmax		pmax	
	comp=Z,430nm,9.2s					
XAN	**Xi'an**	**28.13 293**	P		**P**	**01 42 42.2 -0.5**
XAN			S		**S**	**01 46 54.8 -0.5**
XAN			pmax		pmax	
	comp=Z,80nm,1.0s					
XAN			pmax		pmax	
	comp=Z,650nm,5.3s					
SMPI	**Sarmi**	**28.65 184**	P		**P**	**01 42 46.4 -0.9**
	comp=Z,54nm,0.6s,comp=Z,3μm					
SIJI	**Sorong**	**28.90 199**	P		**P**	**01 42 48.2 -1.3**
	comp=Z,1μm,0.5s,baz=24,slow=12,SNR=26					
JAY	**Jayapura**	**29.12 180**	P		**P**	**01 42 51.1 -0.3**
	comp=Z,1.6nm,0.8s,baz=214,slow=23,SNR=13					
JAY	**Jayapura**	**29.12 180**	P		**P**	**01 42 51.2 -0.3**
	comp=Z,22nm,1.1s,comp=Z,297nm					
GENI	**Genyem**	**29.20 181**	P		**P**	**01 42 52.5 +0.4**
	comp=Z,90nm,0.8s,comp=Z,4μm					
QIZ	**Qiongzhong**	**29.25 261**	P		**P**	**01 42 52.3 -0.3**
QIZ			pP		**pP**	**01 44 08.5 -2.8**
QIZ			sP		**sP**	**01 44 59.3 -4.2**
QIZ			S		**S**	**01 47 13.6 +0.7**
QIZ			pmax		pmax	
	comp=Z,2μm,4.6s					
PEA0	**Petropavlovsk-**	**29.25 21**	*e*P		**P**	**01 42 53.1 +1.0**
PEA0			*e*PcP		**PcP**	**01 45 46.8 +1.3**
PEA0B	**Petropavlovsk-**	**29.25 21**	*e*P		**P**	**01 42 53.5 +1.4**
	comp=Z,72nm,1.0s					
PETK	**Petropavlovsk-**	**29.25 21**	P		**P**	**01 42 53.0 +0.9**
	comp=Z,25nm,0.7s,baz=204,slow=4.2,SNR=18					
PETK			PcP		**PcP**	**01 45 45.2 -0.3**
	comp=Z,18nm,0.9s,baz=181,slow=2.1,SNR=4.8					
PEA1	**Petropavlovsk-**	**29.26 21**	*e*P		**P**	**01 42 53.0 +0.9**
PEA1			*e*PcP		**PcP**	**01 45 45.2 -0.3**
MANU	**Manus Island**	**29.40 166**	*e*P		**P**	**01 42 52.1 -1.7**
	comp=Z,89nm,0.9s					
PET	**Petropavlovsk**	**29.50 22**	*e*P		**P**	**01 42 55.2 +1.0**
PET			*e*S		**S**	**01 47 11.3 -4.6**
PET			pmax		pmax	
	comp=Z,150nm,1.1s					
PET			MLR		MLR	
	comp=Z,400nm,16.0s					
PET	**Petropavlovsk**	**29.50 22**	*e*P		**P**	**01 42 55.4 +1.2**
	comp=Z,152nm,1.1s					
KDM	**Kudat**	**29.97 233**	⇓P		**P**	**01 42 59.4 +0.6**
LBMI	**Labuha**	**30.01 207**	P		**P**	**01 42 58.7 -0.5**
	comp=Z,224nm,0.8s,comp=Z,4μm					
MYLDM	**Lahad Datu**	**30.06 228**	*e*P		**P**	**01 43 02.9 +3.3**
	comp=Z,64nm,0.9s					
MYLDM	**Lahad Datu**	**30.06 228**	⇓P		**P**	**01 43 01.7 +2.1**
GYA	**Guiyang**	**30.24 277**	⇑*i*P		**P**	**01 43 01.3 +0.1**
GYA			pP		pP	01 44 20.2 -0.1
GYA			PP		**PP**	**01 44 25.0 +2.9**
GYA			sP		sP	01 45 10.8 -1.6
GYA			PcP		**PcP**	**01 45 50.5 +1.8**
GYA			S		**S**	**01 47 25.7 -2.6**
GYA			ScP		**ScP**	**01 48 50.6 +2.5**
GYA			PcS		**PcS**	**01 49 33.3 +0.1**
GYA			ScS		**ScS**	**01 52 45.0 -0.2**
GYA			pmax		pmax	
	comp=Z,90nm,0.5s					
GYA			pmax		pmax	
	comp=Z,180nm,5.2s					
FAKI	**Fak Fak**	**30.59 196**	P		**P**	**01 43 03.0 -1.2**
	comp=Z,176nm,0.6s,comp=Z,2μm					
FAKI	**Fak Fak**	**30.59 196**	*e*P		**P**	**01 43 02.3 -1.9**
	comp=Z,134nm,0.5s					
KKM	**Kota Kinabalu**	**31.01 233**	*e*P		**P**	**01 43 09.8 +1.8**
	comp=Z,119nm,1.3s					
KKM	**Kota Kinabalu**	**31.01 233**	⇑P		**P**	**01 43 09.5 +1.5**
TSM	**Tawau**	**31.13 228**	⇓P		**P**	**01 43 10.4 +1.5**
MRSI	**Marisa**	**31.68 217**	P		**P**	**01 43 13.6 0.0**
	comp=Z,272nm,0.9s,comp=Z,6μm					
SANI	**Sanana**	**31.91 208**	P		**P**	**01 43 13.4 -2.2**
	comp=Z,223nm,0.6s,comp=Z,5μm					
MSAI	**Masohi**	**31.98 202**	P		**P**	**01 43 16.3 +0.1**
	comp=Z,78nm,1.0s,comp=Z,1μm					
CLNS	**Chul'man**	**32.06 344**	*e*P		**P**	**01 43 17.3 +0.9**
CLNS			*e*			01 44 38.9
CLNS			*e*			01 45 52.0
CLNS			*e*S		**S**	**01 47 58.3 +2.9**
CLNS			pmax		pmax	
	comp=Z,76nm,1.0s					
CLNS			pmax		pmax	
	comp=N,43nm,1.0s					
CLNS			pmax		pmax	
	comp=E,20nm,1.0s					
CLNS			pmax		pmax	
	comp=Z,14nm,1.0s					
CLNS			smax		smax	
	comp=N,47nm,1.5s					
CLNS			smax		smax	
	comp=E,8.0nm,1.0s					
CIT	**Chita**	**32.37 328**	*e*P		**P**	**01 43 18.4 -0.8**
CIT			*e*			01 44 46.2
CIT			*e*			01 45 52.2
CIT			pmax		pmax	
	comp=Z,126nm,1.0s					
CD2	**Chengdu**	**32.38 286**	⇓P		**P**	**01 43 19.3 -0.3**
CD2			pP		pP	01 44 37.9 -1.6
CD2			sP		sP	01 45 28.9 -2.5
CD2			S		**S**	**01 48 01.2 +0.1**
CD2			sS		sS	01 50 26.9 -1.6
CD2			SS		**SS**	**01 50 45.7 0.0**
CD2			pmax		pmax	
	comp=Z,320nm,0.5s					
CD2			pmax		pmax	
	comp=Z,980nm,4.6s					
LZH	**Lanzhou**	**32.50 296**	*e*P		**P**	**01 43 21.0 +0.4**
LZH			pP		pP	01 44 43.0 +2.4
LZH			PP		**PP**	**01 44 53.2 +6.5**
LZH			sP		sP	01 45 29.3 -3.2
LZH			PcP		**PcP**	**01 45 57.1 +2.3**
LZH			*e*S		**S**	**01 48 04.0 +1.0**
LZH			sS		sS	01 50 25.0 -5.4
LZH			SS		**SS**	**01 50 48.1 +0.1**
LZH			pmax		pmax	
	comp=Z,240nm,1.5s					
LZH			pmax		pmax	
	comp=Z,670nm,4.0s					
DLV	**T Lat**	**33.52 250**	*e*P		**P**	**01 43 32.0 +2.4**
	comp=Z,71nm,1.2s					
MA2	**Magadan**	**33.55 9**	P		**P**	**01 43 29.4 +0.4**
	comp=Z,83nm,1.0s,baz=190,slow=8.4,SNR=14					
MA2			PcP		**PcP**	**01 45 57.6 +0.5**
	comp=Z,12nm,0.6s,baz=164,slow=5.4,SNR=4.3					
MA2	**Magadan**	**33.55 9**	*d i*P		**P**	**01 43 29.2 +0.2**
ULN	**Ulaanbaatar**	**33.56 318**	*d i*P		**P**	**01 43 29.6 +0.1**
ULN			pmax		pmax	
	comp=Z,84nm,1.4s					
ULN	**Ulaanbaatar**	**33.56 318**	*e*P		**P**	**01 43 28.8 -0.7**
	comp=Z,131nm,1.5s					
ULN	**Ulaanbaatar**	**33.56 318**	P		**P**	**01 43 29.0 -0.5**
	SNR=27					
ULN	**Ulaanbaatar**	**33.56 318**	P		**P**	**01 43 29.0 -0.5**
	SNR=27					
SLVN	**Son La**	**33.81 269**	*e*P		**P**	**01 43 32.6 +0.8**
	comp=Z,252nm,2.0s					
SONA0	**Songino Array**	**33.94 317**	*e*P		**P**	**01 43 33.0 +0.3**
	comp=Z,33nm,0.6s					
SONA0			*e*PcP		**PcP**	**01 45 57.9 -0.8**
SONA0			*e*ScP		**ScP**	**01 49 00.4 -0.1**
SONA1	**Songino Array**	**33.94 317**	*e*P		**P**	**01 43 32.7 0.0**
SONM	**Songino Array**	**33.94 317**	P		**P**	**01 43 33.0 +0.3**
	comp=Z,30nm,0.7s,baz=133,slow=8.7,SNR=66					
SONM			PcP		**PcP**	**01 45 57.9 -0.8**
	comp=Z,14nm,0.6s,baz=138,slow=3.4,SNR=6.9					
SONM			ScP		**ScP**	**01 49 00.4 -0.1**
	comp=Z,10nm,0.9s,baz=137,slow=3.5,SNR=12					
KMI	**Kunming**	**33.95 276**	P		**P**	**01 43 33.8 +0.6**
KMI			PP		**PP**	**01 45 02.0 -0.7**
KMI			S		**S**	**01 48 23.6 -1.8**
KMI			sS		sS	01 50 54.8 +1.3
KMI			pmax		pmax	
	comp=Z,77nm,1.1s					
PANO	**Nakornpanom**	**34.57 261**	P		**P**	**01 43 40.9 +2.7**
	comp=Z,210nm,1.3s					
BTM	**Bintulu**	**35.22 233**	⇓P		**P**	**01 43 45.4 +1.6**
YAK	**Yakutsk**	**35.99 351**	P		**P**	**01 43 49.2 -0.3**
	comp=Z,30nm,0.3s,baz=16,slow=1.4,SNR=14					
YAK	**Yakutsk**	**35.99 351**	*e*P		**P**	**01 43 48.7 -0.8**
YAK			*e*			01 45 15.9
YAK			*e*			01 46 04.8
YAK			*e*S		**S**	**01 48 56.0 +1.2**
YAK			*e*SS		**SS**	**01 51 54.8 -1.5**
YAK			*e*			01 53 11.3
YAK			pmax		pmax	
	comp=Z,158nm,1.1s					
YAK			pmax		pmax	
	comp=N,66nm,1.2s					
YAK			pmax		pmax	
	comp=N,22nm,1.1s					
YAK			pmax		pmax	
	comp=Z,51nm,0.9s					
YAK			smax		smax	
	comp=N,140nm,2.0s					
YAK	**Yakutsk**	**35.99 351**	*e*P		**P**	**01 43 49.1 -0.4**
	comp=N,130nm,0.9s					
SMY	**Shemya**	**36.03 35**	*e*P		**P**	**01 43 54.1 +4.2**
SMY			pmax		pmax	
	comp=Z,255nm,1.2s					
SMY	**Shemya**	**36.03 35**	*e*P		**P**	**01 43 54.1 +4.2**
	comp=Z,256nm,1.2s					
GTA	**Gaotai**	**36.08 301**	*e*P		**P**	**01 43 50.4 -0.4**
GTA			pP		pP	01 45 11.2 -0.9
GTA			sP		sP	01 46 03.6 -0.1
GTA			PcP		**PcP**	**01 46 06.5 +1.3**
GTA			S		**S**	**01 48 56.5 -0.6**
GTA			sS		sS	01 51 22.4 -3.9
GTA			SS		**SS**	**01 51 50.6 -8.4**
GTA			ScS		**ScS**	**01 53 15.3 -0.4**
GTA			pmax		pmax	
	comp=Z,23nm,1.1s					
GTA			pmax		pmax	
	comp=Z,290nm,7.1s					
BOD	**Bodaibo**	**36.24 336**	*e*P		**P**	**01 43 51.1 -0.6**
BOD			pmax		pmax	
	comp=Z,89nm,1.1s					
SBUM	**Sibu**	**36.36 233**	*e*P		**P**	**01 43 53.3 +0.1**
	comp=Z,58nm,1.3s		

ZAK Zakamensk 36.89 320 *e*P **P 01 43 57.4 +0.1**
ZAK *e* 01 45 22.9
ZAK pmax pmax
comp=Z,79nm,1.1s
ZAK pmax pmax
comp=Z,25nm,1.4s
SEY Seymchan 36.99 9 P **P 01 43 58.6 +0.8**
comp=Z,49nm,0.4s,baz=200,slow=5.5,SNR=64
SEY ScP **S 01 49 10.2 +0.3**
comp=Z,8.4nm,1.0s,baz=120,slow=16,SNR=3.7
TLY Talaya 37.27 322 P **P 01 44 01.3 +0.9**
comp=Z,21nm,0.4s,baz=159,slow=6.5,SNR=13
TLY PcP **PcP 01 46 10.0 +1.6**
comp=Z,13nm,0.7s,baz=293,slow=7.5,SNR=3.1
TLY ScP **ScP 01 49 12.4 -0.1**
comp=Z,10nm,1.0s,baz=131,slow=2.0,SNR=6.9
TLY Talaya 37.27 322 *e*P **P 01 44 01.4 +1.1**
TLY *e* 01 45 43.4
TLY *e*S **S 01 49 21.3 +6.9**
TLY pmax pmax
comp=Z,92nm,1.3s
TLY MLR MLR
comp=Z,527nm,14.0s
TLY Talaya 37.27 322 *e*P **P 01 44 02.9 +2.5**
comp=Z,137nm,1.4s
TLY *e*PcP **PcP 01 46 10.0 +1.6**
TLY *e*ScP **ScP 01 49 12.4 -0.1**
TLY Talaya 37.27 322 P **P 01 44 01.8 +1.4**
SNR=14
TLY Talaya 37.27 322 P **P 01 44 01.8 +1.4**
SNR=14
UTTA Uttaradit 37.95 265 P **P 01 44 06.6 +0.3**
comp=Z,28nm,0.7s,comp=Z,234nm
KSM Kuching 38.41 234 *e*P **P 01 44 11.3 +1.2**
comp=Z,19nm,0.8s
KSM Kuching 38.41 234 ⇓P **P 01 44 11.0 +0.9**
LAMP Lampang 38.50 266 P **P 01 44 11.4 +0.5**
comp=Z,19nm,0.8s
MOY Mondy 38.75 321 *e*P **P 01 44 13.1 +0.5**
MOY pmax pmax
comp=Z,76nm,1.5s
CMMT Chiang Mai 39.02 267 P **P 01 44 14.9 -0.2**
comp=Z,32nm,1.0s
CHTO Chiang Mai 39.02 267 P **P 01 44 15.2 +0.1**
comp=Z,306nm,1.1s
CHTO Chiang Mai 39.02 267 *e*P **P 01 44 15.3 +0.1**
CHTO pmax pmax
comp=Z,44nm,0.8s
CHTO Chiang Mai 39.02 267 *e*P **P 01 44 15.3 +0.2**
comp=Z,44nm,0.8s
CHTO Chiang Mai 39.02 267 P **P 01 44 15.7 +0.6**
SNR=13
CHTO Chiang Mai 39.02 267 P **P 01 44 15.7 +0.6**
SNR=13
CM01 Chiang Mai Arr 39.14 267 *e*P **P 01 44 15.8 -0.3**
CM01 *e*PcP **PcP 01 46 17.0 +2.1**
CM31 Chiang Mai Arr 39.14 267 *e*P **P 01 44 16.7 +0.6**
CM31 *e*PcP **PcP 01 46 15.6 +0.7**
CM31 *e*ScP **ScP 01 49 19.8 -0.4**
CMAR Chiang Mai Arr 39.14 267 P **P 01 44 16.5 +0.4**
comp=Z,16nm,0.6s,baz=54,slow=8.1,SNR=63
CMAR PcP **PcP 01 46 15.6 +0.7**
comp=Z,7.7nm,1.0s,baz=71,slow=2.1,SNR=6.3
CMAR ScP **ScP 01 49 19.8 -0.4**
comp=Z,8.7nm,0.8s,baz=144,slow=1.2,SNR=8.3
MMRI Maumere 39.42 209 *e*P **P 01 44 19.2 +0.9**
comp=Z,136nm,0.7s
SOEI Soe 39.60 206 *e*P **P 01 44 19.9 -0.1**
comp=Z,104nm,0.5s
PATY Pattaya 39.60 258 P **P 01 44 23.6 +3.7**
comp=Z,18nm,0.7s
UMPA Umpang Tak 40.02 263 P **P 01 44 26.0 +2.7**
comp=Z,18nm,1.3s,comp=Z,1μm
MTN Manton Dam 40.43 194 *e*P **P 01 44 24.5 -1.9**
comp=Z,202nm,0.4s
COEN Coen 40.57 176 *e*P **P 01 44 27.2 -0.4**
comp=Z,61nm,0.9s
ADK Adak 40.68 40 *e*P **P 01 44 30.4 +2.4**
ADK pmax pmax
comp=Z,149nm,0.9s
ADK Adak 40.68 40 *e*P **P 01 44 30.4 +2.4**
comp=Z,149nm,0.9s
PHET Kaeng Krachan 40.69 258 P **P 01 44 29.8 +1.2**
comp=Z,28nm,0.8s,comp=Z,267nm
KTGM Kuala Trenggan 41.54 246 ⇓P **P 01 44 36.2 +0.8**
ATKA Atka Island 42.23 41 *e*P **P 01 44 40.9 +0.5**
comp=Z,106nm,0.9s
SKLT Songkhla 42.61 250 P **P 01 44 46.5 +2.5**
comp=Z,59nm,1.1s
TRTT Trang 43.05 252 P **P 01 44 49.6 +2.2**
comp=Z,60nm,0.9s
MYKOM Kota Tinggi 43.08 241 *e*P **P 01 44 48.4 +0.8**
comp=Z,95nm,1.4s
MYKOM Kota Tinggi 43.08 241 ⇑P **P 01 44 48.9 +1.3**
SURT Suratani 43.25 254 P **P 01 44 52.1 +3.1**
comp=Z,28nm,0.9s
LSA Lhasa 43.35 286 P **P 01 44 51.0 +0.8**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 43.35 286 *e*P **P 01 44 51.6 +1.4**
LSA pmax pmax
comp=Z,83nm,1.4s
LSA Lhasa 43.35 286 *e*P **P 01 44 51.6 +1.4**
comp=Z,83nm,1.4s
KGM Kluang 43.35 242 ⇑P **P 01 44 51.1 +1.3**
JAGI Jajag, Banyuwa 43.39 220 *e*P **P 01 44 49.8 -0.3**
comp=Z,375nm,1.9s
SHL Shillong 43.47 280 *e*P **P 01 44 51.0 +0.2**
SHL *e*S **S 01 50 49.0 +3.0**
KULM Kulim 43.60 248 *e*P **P 01 44 52.3 +0.5**
comp=Z,40nm,0.8s
KULM Kulim 43.60 248 ⇓P **P 01 44 52.9 +1.1**
IPM Ipoh 43.75 247 *e*P **P 01 44 52.8 -0.1**
comp=Z,99nm,1.4s
IPM Ipoh 43.75 247 ⇑P **P 01 44 53.3 +0.4**
FRIM Kepong 43.97 245 ⇑P **P 01 44 55.4 +0.7**
BILL Bilibino 44.10 14*d i*P **P 01 44 55.1 +0.2**
BILL *e* 01 46 32.3
BILL *e* 01 47 13.5
BILL *i*S **S 01 50 58.5 +5.0**
BILL *e* 01 51 07.0
BILL *i* 01 54 23.7
BILL pmax pmax
comp=Z,385nm,1.2s
BILL MLR MLR
comp=Z,443nm,24.0s
TIXI Tiksi 45.39 355 P **P 01 45 04.5 -0.3**
comp=Z,30nm,0.4s,baz=142,slow=8.7,SNR=17
TIXI pP **PcP 01 46 33.4 -1.6**
comp=Z,6.9nm,0.3s,baz=70,slow=4.1,SNR=1.6
TIXI ScP **ScP 01 49 43.4 -1.0**
comp=Z,6.5nm,0.7s,baz=29,slow=2.5,SNR=3.8
TIXI Tiksi 45.39 355*de*P **P 01 45 04.2 -0.5**
TIXI pmax pmax
comp=Z,104nm,1.4s
TIXI Tiksi 45.39 355 *e*P **P 01 45 04.3 -0.5**
comp=Z,88nm,1.1s
TIXI *e*pP **PcP 01 46 33.4 -1.6**
TIXI *e*ScP **ScP 01 49 43.4 -1.0**
WMQ Urumqi 45.57 306 P **P 01 45 07.0 +0.2**
WMQ PcP **PcP 01 46 34.8 -1.5**
WMQ PP **PP 01 47 01.3 +0.8**
WMQ sP sP 01 47 17.8 -5.2
WMQ ScP **ScP 01 49 47.6 +1.7**
WMQ PcS **PcS 01 50 31.0 -0.2**
WMQ S **S 01 51 15.7 +0.5**
WMQ ScS **ScS 01 54 13.0 -0.3**
WMQ SS **SS 01 54 46.2 +0.1**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,750nm,3.7s
NIKH Nikolski High 45.58 41 *e*P **P 01 45 06.7 +0.2**
comp=Z,139nm,0.8s
DGZ Jazzator, Alta 46.43 314 *i*P **P 01 45 13.9 +0.6**
DGZ pmax pmax
comp=Z,119nm,0.9s
CISI Cisompet, Garu 46.59 228 *e*P **P 01 45 14.4 -0.5**
comp=Z,63nm,0.6s
CISI *e*S **S 01 51 32.3 +2.2**
TAPN Taplejung 46.75 283 *e*P **P 01 45 16.6 +0.3**
comp=Z,96nm,0.6s
TAPN Taplejung 46.75 283 *e*P **S 01 51 35.0 +2.4**
comp=Z,110nm,1.1s
WRAB Tennant Creek 46.82 188*de*P **P 01 45 14.7 -1.7**
WRAB pmax pmax
comp=Z,148nm,0.6s
WRAB Tennant Creek 46.82 188 *e*P **P 01 45 15.2 -1.2**
comp=Z,79nm,0.6s
WB2 Warramunga Arr 46.83 188 *e*P **P 01 45 14.9 -1.6**
WR1 Warramunga Arr 46.83 188 *e*P **P 01 45 14.6 -1.9**
WR1 *e*pP **pP 01 46 44.6 +1.5**
WR1 *e*ScP **ScP 01 49 49.1 -2.1**
WRA Warramunga Arr 46.83 188 P **P 01 45 14.6 -1.9**
comp=Z,90nm,0.5s,baz=4.7,slow=7.6,SNR=156
WRA pP **pP 01 46 44.6 +1.5**
comp=Z,76nm,0.9s,baz=7.9,slow=8.7,SNR=8.8
WRA ScP **ScP 01 49 49.1 -2.1**
comp=Z,38nm,0.8s,baz=3.2,slow=4.5,SNR=16
WRA S S 01 51 22.4 -11
comp=Z,7.7nm,1.1s,baz=2.4,slow=13,SNR=7.7
WRA PKiKP **PKiKP 01 53 30.8 -2.6**
comp=Z,0.5nm,0.3s,baz=327,slow=1.6,SNR=8.9
WRA PKPPKP **P'P'df 02 16 24.4 -1.3**
comp=Z,1.4nm,0.9s,baz=151,slow=2.1,SNR=4.9
WRA Warramunga Arr 46.83 188 P **P 01 45 14.6 -1.9**
WRA *PP **pP 01 46 44.6 +1.5**
WRA pmax pmax
comp=Z,86nm,0.5s
WRA pmax pmax
comp=Z,76nm,0.9s
WRA pmax pmax
comp=N,38nm,0.8s
CTAO Charters Tower 46.91 173 *e*P **P 01 45 16.4 -0.7**
CTAO *e*PP **pP 01 46 43.8 0.0**
CTAO pmax pmax
comp=Z,46nm,1.0s
CTAO Charters Tower 46.91 173 *e*P **P 01 45 16.4 -0.7**
comp=Z,46nm,1.0s
CTAO *e*pP **pP 01 46 43.8 0.0**
ODAN Odare 47.13 283 *e*P **P 01 45 19.4 +0.3**
comp=Z,258nm,0.7s
ODAN Odare 47.13 283 *e*P **S 01 51 39.4 +1.6**
comp=Z,112nm,1.1s
UNV Unalaska Valle 47.15 40 *e*P **P 01 45 20.6 +2.1**
comp=Z,160nm,1.3s
AKUT Akutan 47.64 40 *e*P **P 01 45 22.5 +0.3**
comp=Z,218nm,0.7s
RAMN Ramite 47.80 283 *e*P **P 01 45 24.3 +0.1**
comp=Z,289nm,0.7s
JIRN Jiri 48.00 284 *e*P **P 01 45 26.4 +0.5**
comp=Z,675nm,0.8s
JIRN Jiri 48.00 284 *e*P **S 01 51 49.4 -0.8**
GAMB Gambell 48.06 26 *e*P **P 01 45 27.8 +2.7**
comp=Z,99nm,1.1s
GUN Gumba 48.22 285 *e*P **P 01 45 27.9 +0.4**
comp=Z,351nm,0.6s
GUN Gumba 48.22 285 *e*P **S 01 51 53.9 +0.8**
comp=Z,106nm,1.0s
PKI Pulchoki 48.70 284 *e*P **P 01 45 31.3 +0.3**
comp=Z,83nm,0.5s
PKIN Phulchoki 48.71 284 *e*P **P 01 45 31.4 +0.4**
comp=Z,126nm,0.6s
PKIN Phulchoki 48.71 284 *e*P **S 01 51 58.8 -0.9**
comp=Z,96nm,0.9s
KKN Kakani 48.76 285 *e*P **P 01 45 31.4 0.0**
comp=Z,153nm,0.8s
KKN Kakani 48.76 285 *e*P **S 01 52 01.2 +0.8**
comp=Z,76nm,1.0s
ZAA0 Zalesovo Array 48.77 320 *e*P **P 01 45 30.2 -0.6**
ZALV Zalesovo Beam 48.77 320 P **P 01 45 30.5 -0.2**
comp=Z,41nm,0.4s,baz=103,slow=7.2,SNR=90
ZALV PcP **PcP 01 46 46.5 -1.0**
comp=Z,32nm,0.4s,baz=118,slow=3.7,SNR=12
ZALV ScP **ScP 01 49 57.4 -1.6**
comp=Z,12nm,0.6s,baz=114,slow=4.8,SNR=6.1
ZALV ScS **ScS 01 54 32.2 -1.9**
comp=Z,2.3nm,0.8s,baz=108,slow=9.4,SNR=3.9
ZAA1 Zalesovo Array 48.77 320 *e*P **P 01 45 30.5 -0.2**
ZAA1 *e*PcP **PcP 01 46 46.5 -1.0**
ZAA1 *e*ScP **ScP 01 49 57.4 -1.6**
DMN Daman 48.95 284 *e*P **P 01 45 32.9 +0.1**
comp=Z,172nm,0.7s
DMN Daman 48.95 284 *e*P **S 01 52 02.4 -0.7**
comp=Z,168nm,1.3s
GKN Gorkha 49.27 285 *e*P **P 01 45 35.1 0.0**
comp=Z,102nm,0.5s
MK01 Makanchi Array 49.54 310 *e*P **P 01 45 36.0 -0.6**
MK31 Makanchi Array 49.55 310 *e*P **P 01 45 36.7 0.0**
MK31 Makanchi Array 49.55 310 *e*P **P 01 45 36.7 0.0**
MK32 Makanchi Array 49.55 310 *e*P **P 01 45 36.6 -0.1**
MK32 *e*PcP **PcP 01 46 50.2 -0.4**
MK32 *e*ScP **ScP 01 50 01.7 -0.9**
MKAR Makanchi Array 49.55 310 P **P 01 45 36.6 0.0**
comp=Z,24nm,0.6s,baz=92,slow=10,SNR=88
MKAR PcP **PcP 01 46 50.2 -0.4**
comp=Z,28nm,0.7s,baz=72,slow=7.8,SNR=8.3
MKAR ScP **ScP 01 50 01.7 -0.9**
comp=Z,34nm,0.8s,baz=87,slow=5.0,SNR=14
MKAR ScS **ScS 01 54 37.9 -1.9**
comp=Z,2.0nm,0.8s,baz=81,slow=10,SNR=4.4
MKAR Makanchi Array 49.55 310 *e*P **P 01 45 36.7 0.0**
comp=Z,294nm,1.0s
MAKZ Makanchi 49.76 310 *e*P **P 01 45 38.3 0.0**
MAKZ pmax pmax
comp=Z,58nm,0.9s
MAKZ Makanchi 49.76 310 *e*P **P 01 45 38.3 0.0**
comp=Z,58nm,0.9s
NVS Novosibirsk 49.84 320 *e*P **P 01 45 39.0 +0.3**
NVS *e* 01 46 49.8
NVS *e*S **S 01 52 12.5 -1.4**
NVS *e* 01 54 41.9
NVS pmax pmax
comp=Z,57nm,0.6s
NVS pmax pmax
comp=N,15nm,0.5s
NVS pmax pmax
comp=E,53nm,0.5s
NVS smax smax
comp=E,91nm,2.4s
KOLN Koldanda 50.22 285 *e*P **P 01 45 42.2 0.0**
comp=E,110nm,0.7s
KOLN Koldanda 50.22 285 *e*P **S 01 52 21.9 +1.6**
comp=E,94nm,1.1s
AS01 Alice Springs 50.55 188 *e*P **P 01 45 42.5 -1.8**
AS31 Alice Springs 50.55 188 *e*P **P 01 45 43.0 -1.4**
comp=E,15nm,1.2s
AS31 *e*PcP **PcP 01 46 54.4 -0.1**
AS31 *e*ScP **ScP 01 50 05.3 -1.8**
ASAR Alice Springs 50.55 188 P **P 01 45 42.7 -1.6**
comp=E,20nm,0.7s,baz=5.0,slow=5.2,SNR=61
ASAR PcP **PcP 01 46 54.4 -0.1**
comp=E,12nm,0.8s,baz=16,slow=5.1,SNR=7.7
ASAR ScP **ScP 01 50 05.3 -1.8**
comp=E,10.0nm,0.7s,baz=7.6,slow=4.6,SNR=5.8
ASAR S **S 01 52 23.4 -0.9**
comp=E,4.7nm,0.8s,baz=17,slow=20,SNR=8.0
PYUN Piuthan 50.67 285 *e*P **P 01 45 45.7 +0.2**
comp=E,299nm,0.6s
PYUN Piuthan 50.67 285 *e*P **S 01 52 30.0 +3.5**
comp=E,140nm,0.9s
SDPT Sand Point 50.88 39 *e*P **P 01 45 45.1 -1.2**
comp=E,279nm,1.0s
PDGK Podgornoye 51.52 305 P **P 01 45 51.1 -0.3**
PDGK pmax pmax
comp=Z,108nm,0.8s
MBWA Marble Bar 51.74 205 *e*P **P 01 45 52.3 -0.7**
comp=Z,56nm,0.6s
KURK Kurchatov 52.16 315 P **P 01 45 55.7 0.0**
KURK 01 46 59.1
KURK S **S 01 52 45.4 0.0**
KURK 01 54 58.4
KURK pmax pmax
comp=Z,77nm,0.6s
KURK pmax pmax
comp=Z,12nm,0.5s
KURK smax smax
comp=N,4.0nm,0.9s
KURK pmax pmax
comp=N,1.0nm,0.7s
KURK Kurchatov 52.16 315 *e*P **P 01 45 55.4 -0.3**
comp=N,133nm,0.9s
KURK *e*PcP **PcP 01 46 59.1 -1.1**
KURK *e*S **S 01 52 46.2 +0.7**
KURK Kurchatov 52.16 315 P **P 01 45 55.6 -0.1**
SNR=69
KURK Kurchatov 52.16 315 P **P 01 45 55.6 -0.1**
SNR=69
CHGN Chignik 52.18 38 *e*P **P 01 45 54.9 -0.8**
comp=N,82nm,0.9s
KURBB Kurchatov Arra 52.22 315 P **P 01 45 55.7 -0.4**
comp=N,77nm,0.6s,baz=92,slow=7.9,SNR=421
KURBB PcP **PcP 01 46 59.1 -1.3**
comp=N,12nm,0.5s,baz=89,slow=4.2,SNR=4.5
KURBB S **S 01 52 45.4 -0.7**
comp=N,3.7nm,0.9s,baz=92,slow=14,SNR=6.9
KURBB ScS **ScS 01 54 58.4 +0.2**
comp=N,0.9nm,0.7s,baz=92,slow=5.9,SNR=2.6
NRIK Noril'sk 52.42 339 P **P 01 45 57.2 0.0**
comp=N,67nm,0.3s,baz=112,slow=8.7,SNR=55
NRIK ScP **ScP 01 50 13.7 -0.8**
comp=N,9.8nm,0.6s,baz=132,slow=6.9,SNR=6.1
NRIK S **S 01 52 47.5 -0.7**
comp=N,10nm,1.1s,baz=201,slow=24,SNR=13
EIDS Eidsvold 52.83 168 *e*P **P 01 45 59.8 -1.0**
comp=N,27nm,1.0s
SVW2 Sparrevohn 54.35 32 *e*P **P 01 46 12.0 +0.8**
comp=N,143nm,1.4s
TKM2 Tokmak 2 54.40 305 P **P 01 46 12.6 +0.5**
TKM2 pmax pmax
comp=Z,63nm,0.8s
TT01 Tatalina 54.45 30 *e*P **P 01 46 11.7 -0.2**
KSH Kashi 54.48 301 P **P 01 46 16.3 +3.6**
KSH PcP **PcP 01 47 11.0 +1.4**
KSH PP **sP 01 48 26.7 -5.0**
KSH sP PP 01 48 34.1 +13
KSH PcS **PcS 01 51 12.1 +2.1**
KSH S **S 01 53 19.1 +2.2**
KSH ScS **ScS 01 55 14.7 -0.3**
KSH sS sS 01 55 59.6 +1.4
KSH SS **SS 01 57 12.1 +5.0**
KSH pmax pmax
comp=Z,100nm,0.6s
KSH pmax pmax
comp=Z,510nm,8.2s
SII Sitkinak Islan 54.54 38 *e*P **P 01 46 12.9 +0.2**
comp=Z,224nm,1.1s
DZM Mont Dzumac 54.65 150 *e*P **P 01 46 13.7 -0.2**
comp=Z,100nm,1.1s
OHAK Old Harbor 55.08 37 *e*P **P 01 46 16.0 -0.3**
comp=Z,71nm,0.9s
FRU Bishkek 55.12 305⇓*e*P **P 01 46 18.0 +1.0**
FRU *i* 01 47 12.0
FRU *i*S **S 01 53 29.0 +4.0**
FRU pmax pmax
comp=Z,100nm,1.5s
FRU smax smax
comp=N,100nm,2.3s
AAK Ala-Archa 55.23 305*d i*P **P 01 46 18.0 0.0**
AAK pmax pmax
comp=Z,123nm,0.7s
AAK Ala-Archa 55.23 305 *e*P **P 01 46 18.2 +0.3**
comp=Z,51nm,0.7s
AAK Ala-Archa 55.23 305 P **P 01 46 18.6 +0.7**
SNR=20
AAK Ala-Archa 55.23 305 P **P 01 46 18.6 +0.7**
SNR=20
KDAK Kodiak Island 55.50 37 P **P 01 46 18.8 -0.5**
comp=Z,107nm,0.9s,baz=254,slow=2.3,SNR=59
KDAK S **S 01 53 30.8 +1.5**
comp=Z,17nm,1.1s,baz=59,slow=20,SNR=4.0
KDAK Kodiak Island 55.50 37 *e*P **P 01 46 19.3 0.0**
KDAK pmax pmax
comp=Z,196nm,1.1s
KDAK Kodiak Island 55.50 37 *e*P **P 01 46 19.3 0.0**
comp=Z,196nm,1.1s
RSO Redoubt South 55.64 33 *e*P **P 01 46 20.8 +0.3**
THN Thein Dam 55.89 292 *e*P **P 01 46 18.8 -3.7**
THN *e*S S 01 53 23.8 -11
NGP Nagpur 56.01 278 *e*P P 01 46 17.3 -6.2
NGP *e*S **P 01 46 23.1 -0.4**
SPU Mount Spurr 56.06 33 *e*P **P 01 46 24.3 +1.1**
PPLA Purkeypile 56.19 31 *e*P **P 01 46 25.3 +1.0**
comp=Z,162nm,1.4s
CAST Castle Rocks 56.30 30 *e*P **P 01 46 25.3 +0.4**
comp=Z,193nm,1.2s
CNPM China Poot 56.32 35 *e*P **P 01 46 24.6 -0.5**
comp=Z,187nm,1.2s
BRLK Bradley Lake 56.52 34 *e*P **P 01 46 25.9 -0.6**
comp=Z,218nm,1.6s
MNAS Manas 56.71 305 P **P 01 46 28.4 +0.2**
MNAS pmax pmax
comp=Z,27nm,0.5s
SUA Susitna One 56.71 32 *e*P **P 01 46 27.6 -0.3**
comp=Z,45nm,0.9s
KTH Kantishna Hill 56.83 30 *e*P **P 01 46 29.6 +1.0**
comp=Z,66nm,1.1s
TRF Thorofare Moun 57.10 30 *e*P **P 01 46 30.6 0.0**
comp=Z,121nm,1.0s
RC01 Rabbit Creek A 57.17 33 *e*P **P 01 46 30.7 -0.2**
comp=Z,157nm,1.3s
SEW Seward 57.26 34 *e*P **P 01 46 31.2 -0.3**
comp=Z,106nm,1.0s
BVA0 Borovoye Array 57.28 318 *i*P **P 01 46 31.6 -0.2**
BVA0 pmax pmax
comp=Z,175nm,0.7s
BVAR Borovoye Array 57.28 318 ScP **ScP 01 50 34.2 -2.1**
comp=Z,10.0nm,0.8s,baz=76,slow=6.1,SNR=3.8
BVAR S **S 01 53 53.7 +1.1**
comp=Z,2.2nm,0.5s,baz=98,slow=16,SNR=7.5
MSVF Nonsavu 57.30 136 *e*P **P 01 46 33.1 +0.6**
MSVF pmax pmax
comp=Z,29nm,0.8s
MSVF Nonsavu 57.30 136 *e*P **P 01 46 33.1 +0.6**
comp=Z,29nm,0.8s
BRVK Borovoye 57.35 318*d i*P **P 01 46 32.0 -0.2**
BRVK pmax pmax
comp=Z,431nm,0.7s
BRVK Borovoye 57.35 318 *e*P **P 01 46 32.2 0.0**
comp=Z,168nm,0.7s
BRVK Borovoye 57.35 318 P **P 01 46 32.4 +0.1**
SNR=68
BRVK Borovoye 57.35 318 P **P 01 46 32.4 +0.1**
SNR=68
PMR Palmer 57.49 32 *e*P **P 01 46 32.2 -0.9**
PMR pmax pmax
comp=Z,113nm,1.0s
PMR Palmer 57.49 32 *e*P **P 01 46 32.2 -0.9**
comp=Z,113nm,1.0s
COLD Coldfoot 57.59 26 *e*P **P 01 46 34.7 +1.0**
comp=Z,121nm,1.3s
HYB Hyderabad 57.71 274 *i*P **P 01 46 35.0 -0.3**
HYB *e*S **S 01 54 00.0 +0.8**
RND Reindeer 57.74 30 *e*P **P 01 46 34.6 -0.3**
RND pmax pmax
comp=Z,88nm,0.7s
RND Reindeer 57.74 30 *e*P **P 01 46 34.6 -0.3**
comp=Z,88nm,0.7s
SML Sawmill 57.88 32 *e*P **P 01 46 35.9 0.0**
SML pmax pmax
comp=Z,164nm,1.0s
SML Sawmill 57.88 32 *e*P **P 01 46 35.9 0.0**
comp=Z,164nm,1.0s
TOLK Toolik Lake Re 58.03 24 P **P 01 46 35.3 -1.4**
baz=262
KK31 Karatay Array 58.08 306 P **P 01 46 37.8 +0.3**
KK31 pmax pmax
comp=Z,143nm,0.8s
KKAR Karatay Array 58.08 306 *e*P **P 01 46 37.6 +0.1**
KKAR pmax pmax
comp=Z,1μm,0.7s
KKAR Karatay Array 58.08 306 *e*P **P 01 46 37.6 +0.1**
comp=Z,1μm,0.7s
MDM Murphy Dome 58.14 28 *e*P **P 01 46 37.3 -0.2**
comp=Z,178nm,1.6s
WRH Wood River Hil 58.16 29 *e*P **P 01 46 37.5 -0.1**
comp=Z,37nm,0.9s
COLA College 58.29 28⇑*i*P **P 01 46 39.1 +0.6**
COLA pmax pmax
comp=Z,64nm,1.5s
CCB Clear Creek Bu 58.30 29 *e*P **P 01 46 37.8 -0.7**
comp=Z,77nm,1.3s
STKA Stephens Creek 58.33 179 P **P 01 46 37.2 -2.0**
comp=Z,9.5nm,0.7s,baz=351,slow=7.7,SNR=17
STKA pP **pP 01 48 09.9 -0.9**
comp=Z,17nm,0.9s,baz=346,slow=6.7,SNR=5.1
STKA Stephens Creek 58.33 179 *e*P **P 01 46 39.7 +0.5**
STKA *e**PP **pP 01 48 09.9 -0.9**
STKA Stephens Creek 58.33 179 *e*P **P 01 46 39.7 +0.5**
STKA *e*pP **pP 01 48 09.9 -0.9**
SCM Sheep Creek Mo 58.36 32 *e*P **P 01 46 39.2 +0.1**
SCM pmax pmax
comp=Z,133nm,0.6s
SCM Sheep Creek Mo 58.36 32 *e*P **P 01 46 39.2 +0.1**
comp=Z,133nm,0.6s
DHY Denali Highway 58.39 31 *e*P **P 01 46 38.6 -0.8**
comp=Z,34nm,0.8s
GLI Glacier Island 58.45 33 *e*P **P 01 46 39.6 -0.1**

comp=Z,95nm,0.8s
FORT Forrest 58.46 193 *e*P **P 01 46 39.1 -1.0**
comp=Z,991nm,0.8s
POHA Pohakuloa 58.63 82 *e*P **P 01 46 44.6 +2.7**
comp=Z,220nm,1.3s
HDA Harding Lake 58.65 29 *e*P **P 01 46 39.8 -1.1**
comp=Z,122nm,1.1s
IL1 Eielson Array 58.70 29 *e*P **P 01 46 39.3 -1.9**
ILAR Eielson Array 58.70 29 P **P 01 46 39.9 -1.4**
comp=Z,54nm,0.9s,baz=257,slow=5.7,SNR=116
ILAR pP **pP 01 48 14.3 +1.4**
comp=Z,5.1nm,0.8s,baz=246,slow=5.6,SNR=2.1
ILAR S **S 01 54 11.0 +0.6**
comp=Z,3.1nm,1.2s,baz=258,slow=8.8,SNR=5.7
ILAR PKP2bc 02 16 00.4
comp=Z,1.4nm,0.9s,baz=100,slow=3.2,SNR=8.1
ILB Eielson Array 58.70 29 *e*P **P 01 46 40.1 -1.1**
ILB *e*S **S 01 54 11.0 +0.6**
FID Port Fidalgo 58.75 33 *e*P **P 01 46 41.6 0.0**
comp=Z,70nm,0.6s
KLU Klutina 59.03 32 *e*P **P 01 46 43.5 -0.1**
comp=Z,89nm,0.6s
DIV Divide 59.10 33 *e*P **P 01 46 44.7 +0.6**
comp=Z,78nm,1.2s
EYAK Cordova Ski Ar 59.11 34 *e*P **P 01 46 44.4 +0.3**
comp=Z,81nm,1.3s
PAX Paxson 59.26 31 *e*P **P 01 46 45.2 0.0**
PAX pmax pmax
comp=Z,149nm,1.2s
PAX Paxson 59.26 31 *e*P **P 01 46 45.2 0.0**
comp=Z,149nm,1.2s
HARP HAARP 59.40 31 *e*P **P 01 46 46.2 +0.2**
comp=Z,245nm,0.7s
FYU Fort Yukon 59.48 27 *e*P **P 01 46 47.8 +1.3**
comp=Z,246nm,1.2s
RAGM Ragged Mountai 59.64 34 *e*P **P 01 46 48.5 +0.7**
comp=Z,49nm,0.7s
BMRM Bremner River 59.67 33 *e*P **P 01 46 48.2 +0.3**
comp=Z,329nm,1.1s
PALK Pallekele 59.87 263 *i* P **P 01 46 50.1 +0.1**
SNR=8.4
PALK Pallekele 59.87 263 *i* P **P 01 46 50.1 +0.1**
SNR=8.4
PALK Pallekele 59.87 263 *i* P **P 01 46 50.5 +0.5**
PALK Pallekele 59.87 263 *e*P **P 01 46 50.1 +0.1**
comp=Z,37nm,0.8s
DOT Dot Lake 59.90 30 *e*P **P 01 46 49.1 -0.3**
comp=Z,261nm,0.7s
CRQM Cirque 60.39 33 *e*P **P 01 46 53.2 +0.3**
comp=Z,157nm,1.0s
KBL Kabul 60.85 296 *e*P **P 01 46 56.3 -0.2**
KBL pmax pmax
comp=Z,98nm,0.9s
KBL Kabul 60.85 296 *e*P **P 01 46 56.3 -0.2**
comp=Z,98nm,0.9s
EGAK Eagle 61.15 29 *e*P **P 01 46 57.2 -0.4**
comp=Z,30nm,0.6s
PCA Pinnacle 61.86 34 *e*P **P 01 47 03.2 +0.7**
comp=Z,195nm,1.2s
DAWY Dawson 61.95 29 *e*P **P 01 47 03.3 +0.3**
comp=Z,104nm,1.3s
CAN Canberra 62.28 172 *e*P **P 01 47 07.6 +2.2**
CAN pmax pmax
comp=Z,38nm,1.0s
CAN Canberra 62.28 172 *e*P **P 01 47 07.6 +2.2**
comp=Z,38nm,1.0s
SVE Sverdlovsk 62.58 322 *e*P **P 01 47 07.6 +0.4**
SVE pmax pmax
comp=Z,123nm,0.8s
DHAK Deception Hill 63.00 35 *e*P **P 01 47 11.3 +1.4**
comp=Z,157nm,1.2s
NWAO Narrogin (SRO) 63.38 202 *e*P **P 01 47 13.7 +1.1**
NWAO pmax pmax
comp=Z,116nm,1.8s
NWAO Narrogin (SRO) 63.38 202 *e*P **P 01 47 13.7 +1.1**
comp=Z,116nm,1.8s
ARU Arti 63.77 322 P **P 01 47 14.9 0.0**
comp=Z,223nm,0.5s,baz=86,slow=4.3
ARU Arti 63.77 322 *d i*P **P 01 47 14.4 -0.5**
ARU 01 47 45.5
ARU *PP **pP 01 48 50.3 +1.8**
ARU 01 49 37.2
ARU S **S 01 55 12.7 -1.0**
ARU 01 56 20.9
ARU SS **SS 01 59 26.8 -4.4**
ARU pmax pmax
comp=Z,187nm,0.6s
ARU Arti 63.77 322 *e*P **P 01 47 14.3 -0.5**
comp=Z,226nm,0.7s
INK Inuvik 63.93 24 P **P 01 47 15.3 -0.2**
comp=Z,23nm,0.4s,baz=295,slow=6.0,SNR=15
INK Inuvik 63.93 24 *e*P **P 01 47 15.4 -0.2**
comp=Z,105nm,1.4s
AB31 Akbulak array 64.26 314 *i* P **P 01 47 17.7 -0.5**
AB31 pmax pmax
comp=Z,113nm,0.6s
ABKAR Akbulak array 64.26 314 *e*P **P 01 47 17.7 -0.4**
comp=Z,2μm,0.6s
WHY Whitehorse 64.44 33 *e*P **P 01 47 19.6 +0.4**
comp=Z,98nm,1.1s
BESE Bessie Mountai 64.81 35 *e*P **P 01 47 22.5 +1.0**
comp=Z,141nm,1.2s
AKTO Aktyubinsk 65.23 316 P **P 01 47 23.9 -0.4**
comp=Z,150nm,0.7s,baz=93,slow=12
AKTO S **S 01 55 29.8 -1.8**
comp=Z,2.3nm,0.8s,baz=276,slow=17,SNR=3.3
CRAG Craig 66.37 38 *e*P **P 01 47 32.5 +1.2**
comp=Z,100nm,1.2s
WRAK Wrangell Islan 66.58 37 *e*P **P 01 47 33.6 +1.0**
comp=Z,59nm,1.1s
DIB Dawson Inlet, 67.28 41 *e*P **P 01 47 37.6 +0.6**
comp=Z,150nm,1.3s
DLBC Dease Lake 67.31 35 P **P 01 47 37.9 +0.7**
comp=Z,67nm,1.1s,baz=312,slow=7.1,SNR=28
DLBC Dease Lake 67.31 35 *e*P **P 01 47 38.5 +1.3**
comp=Z,103nm,1.2s
GEYT Alibeck 68.44 303 P **P 01 47 44.8 +0.4**
comp=Z,36nm,0.9s,baz=46,slow=4.3,SNR=40
TAU Tasmania Unive 69.62 175 *e*P **P 01 47 52.8 +1.6**
TAU pmax pmax
comp=Z,33nm,1.1s
TAU Tasmania Unive 69.62 175 *e*P **P 01 47 52.8 +1.6**
comp=Z,33nm,1.1s
SPA0 Spitsbergen Ar 70.43 350 *e*P **P 01 47 55.8 +0.1**
SPA0 Spitsbergen Ar 70.43 350 *e*P **P 01 47 56.4 +0.6**
SPITS Spitsbergen Ar 70.43 350 P **P 01 47 56.1 +0.3**
comp=Z,16nm,0.3s,baz=95,slow=8.5,SNR=48
KBS Kingsbay 70.62 351 *e*P **P 01 47 57.2 +0.4**
KBS Kingsbay 70.62 351 *e*P **P 01 47 57.6 +0.8**
KBS pmax pmax
comp=Z,115nm,1.3s
KBS Kingsbay 70.62 351 *e*P **P 01 47 57.6 +0.8**
comp=Z,115nm,1.3s
LVZ Lovozero 71.21 337 *d i*P **P 01 48 00.8 +0.3**
LVZ pmax pmax
comp=Z,118nm,1.2s
LVZ Lovozero 71.21 337 *e*P **P 01 48 00.9 +0.4**
comp=Z,102nm,1.1s
HSPB Hornsund (broa 71.31 349 *e*P **P 01 48 01.5 +0.5**
HSPB IAmb IAmb 01 48 03.9
comp=Z,133nm,1.0s
TMCR Tamitsa 71.46 333 *e*P **P 01 48 01.9 -0.1**
TMCR pmax pmax
comp=Z,185nm,0.6s
APA Apatity 71.78 337 ⇓ *i*P **P 01 48 02.8 -1.0**
APA *i* 01 48 22.0
APA *i* S **S 01 56 46.0 -1.0**
APA pmax pmax
comp=Z,65nm,0.8s
KLMR Klimovskoe 72.12 330 *e*P **P 01 48 04.7 -1.2**
KLMR *e* 01 48 20.6
KLMR *e* 01 50 53.6
KLMR pmax pmax
comp=Z,110nm,0.9s
RES Resolute Bay 72.71 13 P **P 01 48 09.0 -0.1**
comp=Z,51nm,0.8s,baz=342,slow=3.6,SNR=14
RES Resolute Bay 72.71 13 *e*P **P 01 48 09.4 +0.3**
RES pmax pmax
comp=Z,88nm,1.0s
RES Resolute Bay 72.71 13 *e*P **P 01 48 09.4 +0.3**
comp=Z,88nm,1.0s
KEV Kevo 72.79 340 *e*P **P 01 48 09.7 0.0**
KEV Kevo 72.79 340 *e*P **P 01 48 10.0 +0.3**
KEV pmax pmax
comp=Z,123nm,1.1s
KEV Kevo 72.79 340 *e*P **P 01 48 10.0 +0.3**
comp=Z,123nm,1.1s

YKW3 Yellowknife Ar 73.08 28 *e*P **P 01 48 10.8 -0.6**
comp=Z,72nm,1.1s
YKA Yellowknife Ar 73.12 28 P **P 01 48 11.0 -0.6**
comp=Z,62nm,0.8s,baz=293,slow=5.5,SNR=26
YKA pP **pP 01 49 51.5 +3.0**
comp=Z,3.0nm,0.5s,baz=296,slow=6.2,SNR=2.5
YKB5 Yellowknife Ar 73.12 28 *e*P **P 01 48 10.3 -1.3**
YKB5 *e*pP **pP 01 49 51.5 +3.0**
HAMF Hammerfest 73.28 342 *e*P **P 01 48 12.2 -0.3**
HAMF IAmb IAmb 01 48 14.6
comp=Z,118nm,1.0s
ARA0 ARCESS Array S 73.36 341 *e*P **P 01 48 12.7 -0.3**
ARCES ARCESS Array B 73.36 341 P **P 01 48 13.1 +0.1**
comp=Z,60nm,0.7s,baz=67,slow=7.5,SNR=209
ARE0 ARCESS Array S 73.36 341 *e*P **P 01 48 13.0 0.0**
ARE0 IAmb IAmb 01 48 15.7
comp=Z,108nm,1.0s
ARE0 ARCESS Array S 73.36 341 *e*P **P 01 48 13.4 +0.5**
comp=Z,183nm,1.3s
BIDO Bidbid 73.37 288 P **P 01 48 15.0 +1.1**
SNR=11
BIDO Bidbid 73.37 288 P **P 01 48 15.0 +1.1**
SNR=11
BKZ Black Stump Fm 73.70 152 *e*P **P 01 48 15.8 +0.5**
comp=Z,45nm,1.0s
BANOM Banah 74.00 291 *i* P **P 01 48 17.5 -0.1**
SNR=7.6
BANOM Banah 74.00 291 *i* P **P 01 48 17.5 -0.1**
SNR=7.6
PGC Sidney 74.14 43 *e*P **P 01 48 18.8 +1.0**
comp=Z,121nm,1.3s
KTK1 Kautokeino 74.32 341 *e*P **P 01 48 18.6 +0.1**
KTK1 IAmb IAmb 01 48 20.9
comp=Z,68nm,1.0s
LLLB Lillooet 74.32 41 *e*P **P 01 48 19.6 +0.7**
comp=Z,113nm,1.2s
NLWA Neilton Lookou 74.36 45 *e*P **P 01 48 20.6 +1.4**
comp=Z,141nm,1.3s
UOSS Minazif 74.45 290 *e*P **P 01 48 19.8 -0.2**
comp=Z,31nm,0.8s
HEF Hetta 74.53 340 *e*P **P 01 48 19.3 -0.4**
HATD Hatta, Dubai 74.56 290 *i* P **P 01 48 20.6 -0.1**
SNR=26
HATD Hatta, Dubai 74.56 290 *i* P **P 01 48 20.6 -0.1**
SNR=26
A04D Lummi Island 74.57 43 P **P 01 48 21.1 +0.9**
baz=293
ASHO Ashiyiah 74.67 290 *i* P **P 01 48 21.0 -0.3**
SNR=17
ASHO Ashiyiah 74.67 290 *i* P **P 01 48 21.0 -0.3**
SNR=17
ASHO Ashiyiah 74.67 290 P **P 01 48 23.8 +2.4**
SNR=7.9
ASHO Ashiyiah 74.67 290 P **P 01 48 23.8 +2.4**
SNR=7.9
E03A Lebam 74.88 45 *e*P **P 01 48 23.7 +1.7**
comp=Z,149nm,1.0s
NAZ Nazwa, Dubai 74.89 291 P **P 01 48 21.5 -1.0**
FAQ Al Faqa, Dubai 75.04 290 *i* P **P 01 48 22.9 -0.5**
SNR=12
FAQ Al Faqa, Dubai 75.04 290 *i* P **P 01 48 22.9 -0.5**
SNR=12
KIF Kilpisjarvi 75.04 341 *e*P **P 01 48 22.2 -0.3**
B05A Bryant 75.12 43 P **P 01 48 23.8 +0.4**
baz=294
MOS Moscow 75.14 325 *e*P **P 01 48 22.5 -0.8**
MOS *e*S **S 01 57 21.8 -2.7**
MOS *e* 01 57 46.9
MOS pmax pmax
comp=Z,218nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.2s
TRO Tromso 75.19 342 *e*P **P 01 48 26.2 +3.0**
TRO IAmb IAmb 01 48 29.0
comp=Z,93nm,0.9s
JCW Jim Creek 75.25 43 *e*P **P 01 48 24.7 +0.5**
B06A Marblemount 75.39 43 *e*P **P 01 48 25.6 +0.7**
comp=Z,110nm,1.3s
F04D Rainier, OR 75.42 46 P **P 01 48 25.9 +0.9**
baz=294
G03D McMinnville, O 75.60 47 P **P 01 48 27.3 +1.2**
baz=294
D05A Enumclaw 75.62 44 *e*P **P 01 48 27.7 +1.5**
comp=Z,158nm,1.4s
LPSR Galich'ya Gora 75.80 322 *e*P **P 01 48 26.6 -0.5**
LPSR *e*S **S 01 57 30.3 -1.5**
LPSR pmax pmax
comp=Z,100nm,0.7s
LPSR pmax pmax
comp=Z,140nm,0.8s
LPSR smax smax
comp=E,60nm,1.1s
KEBM Edson Butte 75.82 49 *e*P **P 01 48 31.1 +3.7**
comp=E,264nm,1.2s
F04A Amboy 75.85 46 *e*P **P 01 48 28.6 +1.1**
comp=E,139nm,1.1s
DAG Danmarks Havn 75.90 355 ⇓ *i*P **P 01 48 26.6 -0.6**
comp=E,29nm,0.8s
DAG Danmarks Havn 75.90 355 ⇓ *i*P **P 01 48 26.6 -0.6**
DAG pmax pmax
comp=Z,22nm,0.8s
LON Longmire 75.91 45 *e*P **P 01 48 28.4 +0.5**
LON pmax pmax
comp=Z,41nm,1.0s
LON Longmire 75.91 45 *e*P **P 01 48 28.4 +0.5**
comp=Z,41nm,1.0s
OBN Obninsk 75.95 325 P **P 01 48 27.5 -0.3**
comp=Z,93nm,0.7s,baz=89,slow=1.6,SNR=24
OBN Obninsk 75.95 325 *d i*P **P 01 48 27.4 -0.5**
OBN 01 48 39.0
OBN *e* 01 50 50.2
OBN *i* S **S 01 57 33.0 -0.3**
OBN *i* 01 57 55.1
OBN *e*SSS SSS 02 06 06.9
OBN pmax pmax
comp=Z,188nm,1.1s
OBN MLR MLR
comp=Z,570nm,16.0s
OBN Obninsk 75.95 325 *e*P **P 01 48 27.3 -0.5**
comp=Z,193nm,1.1s
C06D Leavenworth 76.00 43 P **P 01 48 29.3 +0.9**
baz=294
WRW Wenatchee Ridg 76.03 43 P **P 01 48 29.1 +0.5**
VORR Voronezh 76.04 321 P **P 01 48 26.0 -2.4**
VORR pmax pmax
comp=Z,480nm,1.6s
I03D Drain, OR 76.15 48 P **P 01 48 30.1 +0.9**
baz=294
VSR Storozhevoye 76.26 321 *e*P **P 01 48 29.4 -0.3**
VSR *e*S **S 01 57 35.0 -1.8**
VSR pmax pmax
comp=Z,110nm,0.5s
VSR pmax pmax
comp=Z,140nm,0.5s
VSR smax smax
comp=N,380nm,1.1s
TWW Teanaway 76.34 44 P **P 01 48 31.1 +0.7**
DGRG David-gareji 76.41 310 P **P 01 48 31.5 +0.7**
DGRG David-gareji 76.41 310 P **P 01 48 31.4 +0.7**
LTY Liberty 76.41 44 *e*P **P 01 48 30.8 +0.1**
comp=N,37nm,0.8s
ETW Entiat 76.47 43 *e*P **P 01 48 31.5 +0.4**
GOF Gofitskoye 76.50 314 ⇑ *e*P **P 01 48 31.0 -0.1**
GOF pmax pmax
comp=Z,79nm,1.0s
L02D Cave Junction, 76.60 49 P **P 01 48 32.3 +0.6**
baz=294
DUS Dusheti 76.61 310 P **P 01 48 35.0 +3.0**
DUS Dusheti 76.61 310 P **P 01 48 34.9 +3.0**
GUDG Gudauri 76.61 311 P **P 01 48 33.0 +0.9**
WTV Waterville 76.67 43 *e*P **P 01 48 32.0 -0.1**
PUL Pulkovo 76.70 331 ⇓ *e*P **P 01 48 32.2 +0.3**
PUL pmax pmax
comp=Z,195nm,1.0s
I04A Tendick Farm, 76.73 48 P **P 01 48 32.6 +0.1**
baz=294
TBLG Delisi 76.73 310 P **P 01 48 32.8 +0.2**
TBLG Delisi 76.73 310 P **P 01 48 32.7 +0.2**
B08A Colville Reser 76.76 42 *e*P **P 01 48 32.6 +0.1**
comp=Z,104nm,1.0s
NCK Nalchik 76.78 312 ⇑ *i*P **P 01 48 33.0 +0.2**
NCK pmax pmax
comp=Z,30nm,0.6s
G05D Wamic, OR 76.84 46 P **P 01 48 33.7 +0.7**
baz=295
HUMO Hull Mountain 76.85 49 *e*P **P 01 48 34.2 +1.1**

comp=Z,40nm,1.2s
ZEI Tsey 76.87 311 *e*P **P 01 48 32.2 -1.3**
ZEI pmax pmax
comp=Z,138nm,0.7s
SAW Saint Andrews 77.00 43 P **P 01 48 33.9 0.0**
KHMM Horse Mountain 77.03 51 *e*P **P 01 48 36.0 +1.7**
comp=Z,100nm,1.1s
KBZ Khabaz 77.14 313 P **P 01 48 34.9 +0.2**
comp=Z,121nm,0.6s,baz=89,slow=2.2,SNR=154
J04D Umpqua Nationa 77.16 48 P **P 01 48 34.8 -0.3**
baz=295
KVAR Kislovodsk Arr 77.18 313 P **P 01 48 35.2 +0.1**
comp=Z,66nm,0.6s,baz=181,slow=3.8,SNR=19
KIV Kislovodsk 77.19 313 *i* P **P 01 48 34.8 -0.3**
SNR=17
KIV Kislovodsk 77.19 313 *i* P **P 01 48 34.8 -0.3**
SNR=17
KIV Kislovodsk 77.19 313 *e*P **P 01 48 34.9 -0.2**
KIV *e* 01 51 36.8
KIV *e*PPP PPP 01 53 28.3
KIV *e*S **S 01 57 45.2 -2.1**
KIV pmax pmax
comp=Z,84nm,1.1s
KIV MLR MLR
comp=Z,231nm,18.0s
KIV Kislovodsk 77.19 313 *e*P **P 01 48 35.6 +0.6**
comp=Z,58nm,0.8s
KIV Kislovodsk 77.19 313 P **P 01 48 35.7 +0.6**
SNR=13
KIV Kislovodsk 77.19 313 P **P 01 48 35.7 +0.6**
SNR=13
I05D Terrebonne, OR 77.21 47 P **P 01 48 35.1 0.0**
baz=295
E07A Sunnyside 77.21 44 *e*P **P 01 48 36.1 +1.0**
comp=Z,114nm,1.2s
ONI Oni 77.25 311 P **P 01 48 36.6 +1.1**
ONI Oni 77.25 311 P **P 01 48 36.5 +1.1**
G06A Carlson Farm, 77.28 46 *e*P **P 01 48 36.2 +0.7**
comp=Z,69nm,1.1s
STEI Steigen 77.31 342 *e*P **P 01 48 34.8 -0.4**
STEI IAmb IAmb 01 48 37.2
comp=Z,152nm,1.3s
KMRM Mail Ridge 77.32 51 *e*P **P 01 48 38.8 +3.0**
comp=Z,87nm,1.2s
GNI Garni 77.38 309 P **P 01 48 36.3 0.0**
comp=Z,41nm,0.9s,baz=319,slow=1.8,SNR=14
GNI Garni 77.38 309 *i* P **P 01 48 34.5 -1.7**
SNR=19
GNI Garni 77.38 309 *i* P **P 01 48 34.5 -1.7**
SNR=19
GNI Garni 77.38 309 *d i*P **P 01 48 36.8 +0.5**
GNI pmax pmax
comp=Z,298nm,1.3s
GNI Garni 77.38 309 *e*P **P 01 48 37.2 +1.0**
comp=Z,80nm,0.9s
GNI Garni 77.38 309 P **P 01 48 37.7 +1.4**
SNR=9.3
GNI Garni 77.38 309 P **P 01 48 37.7 +1.4**
SNR=9.3
YBH Yreka Blue Hor 77.38 50 *e*P **P 01 48 37.3 +1.1**
YBH pmax pmax
comp=Z,54nm,1.1s
YBH Yreka Blue Hor 77.38 50 *e*P **P 01 48 37.3 +1.1**
comp=Z,54nm,1.1s
M02C Callahan 77.42 50 P **P 01 48 36.1 -0.3**
baz=295
NEY Neytrino 77.46 312 *c i*P **P 01 48 37.8 +1.1**
NEY pmax pmax
comp=Z,13nm,0.8s
HAWA Hanford 77.48 44 *e*P **P 01 48 37.0 +0.5**
comp=Z,112nm,1.4s
D08A Wollman Farm, 77.58 43 *e*P **P 01 48 37.3 +0.3**
comp=Z,97nm,1.1s
FIA1 FINESS Array S 77.58 333 *e*P **P 01 48 36.0 -0.7**
FIA0 FINESS Array S 77.58 333 *e*P **P 01 48 35.9 -0.8**
FIA0 FINESS Array S 77.58 333 *e*P **P 01 48 35.9 -0.8**
FINES FINESS Array B 77.58 333 P **P 01 48 35.9 -0.8**
comp=Z,125nm,0.3s,baz=68,slow=5.0,SNR=888
FINES S **S 01 57 49.5 -1.0**
comp=Z,2.1nm,0.8s,baz=36,slow=17,SNR=4.8
KCPM Cahto Peak 77.62 52 *e*P **P 01 48 38.6 +1.0**
comp=Z,227nm,1.3s
LOF Lofoten 77.65 342 *e*P **P 01 48 37.2 +0.3**
K04D Chiloquin, OR 77.65 48 P **P 01 48 37.0 -0.7**
baz=295
N02D Trinity Center 77.70 50 P **P 01 48 37.9 0.0**
baz=295
AKH Akhalkalaki 77.71 310 P **P 01 48 38.6 +0.5**
AKH Akhalkalaki 77.71 310 ⇑ *i*P **P 01 48 39.1 +1.0**
AKH Akhalkalaki 77.71 310 P **P 01 48 38.6 +0.5**
J05D Fort Rock, OR 77.72 48 P **P 01 48 38.3 +0.2**
baz=295
EDM Edmonton 77.95 36 *e*P **P 01 48 39.3 +0.3**
EDM pmax pmax
comp=Z,152nm,1.3s
EDM Edmonton 77.95 36 *e*P **P 01 48 39.3 +0.3**
comp=Z,152nm,1.3s
M04C Macdoel 77.95 49 P **P 01 48 39.0 -0.4**
baz=295
WDC Whiskeytown Da 77.98 51 *e*P **P 01 48 39.9 +0.6**
WDC pmax pmax
comp=Z,68nm,1.2s
WDC Whiskeytown Da 77.98 51 *e*P **P 01 48 39.9 +0.6**
comp=Z,68nm,1.2s
NEW Newport 78.13 42 P **P 01 48 40.2 +0.1**
comp=Z,75nm,0.8s,baz=296,slow=4.3,SNR=63
NEW Newport 78.13 42 P **P 01 48 40.2 +0.1**
baz=297
NEW Newport 78.13 42 *e*P **P 01 48 40.3 +0.3**
NEW pmax pmax
comp=Z,95nm,1.0s
NEW Newport 78.13 42 *e*P **P 01 48 40.3 +0.3**
comp=Z,95nm,1.0s
K05A Summer Lake 78.19 48 *e*P **P 01 48 41.6 +0.9**
comp=Z,144nm,1.0s
KULLO Kullorsuaq 78.23 5 *i* P **P 01 48 39.5 -0.5**
comp=Z,185nm,1.1s
KULLO Kullorsuaq 78.23 5 *i* P **P 01 48 39.5 -0.5**
KULLO pmax pmax
comp=Z,180nm,1.1s
E09A Wood Farm, Sta 78.29 44 *e*P **P 01 48 41.6 +0.7**
comp=Z,108nm,1.0s
GDXM Geysers 78.55 52 *e*P **P 01 48 44.0 +1.4**
comp=Z,61nm,1.3s
O03D Paynes Creek 78.61 51 P **P 01 48 42.0 -0.8**
baz=296
MOR8 Moi Rana 78.73 340 *e*P **P 01 48 41.4 -1.5**
MOR8 IAmb IAmb 01 48 44.8
comp=Z,165nm,0.9s
ARTV Artvin 78.88 310 *e*P **P 01 48 45.1 +0.7**
comp=Z,46nm,1.2s
KONS Konsvik 78.89 341 *e*P **P 01 48 43.8 +0.1**
MOD Modoc Plateau 78.94 49 *e*P **P 01 48 44.9 +0.2**
comp=Z,62nm,1.0s
VSU Vasula 78.96 331 *d i*P **P 01 48 43.5 -0.7**
VSU pmax pmax
comp=Z,430nm,1.0s
STOK Stokkvaagen 79.04 341 *e*P **P 01 48 43.9 -0.5**
STOK *e*P **P 01 48 44.5 +0.1**
F10A Beach Ranch, E 79.11 44 *e*P **P 01 48 45.9 +0.5**
comp=Z,30nm,0.9s
ORV Oroville 79.14 51 *e*P **P 01 48 45.5 -0.1**
ORV pmax pmax
comp=Z,105nm,1.4s
ORV Oroville 79.14 51 *e*P **P 01 48 45.5 -0.1**
comp=Z,105nm,1.4s
SOC Sochi 79.29 313 *e*P P 01 48 41.3 -5.0
SOC *e*SSS SSS 02 06 49.5
BMO Blue Mountains 79.57 45 *e*P **P 01 48 47.8 -0.1**
BMO pmax pmax
comp=Z,127nm,1.2s
BMO Blue Mountains 79.57 45 *e*P **P 01 48 47.8 -0.1**
comp=Z,127nm,1.2s
WALA Waterton Lakes 79.64 40 *e*P **P 01 48 48.4 +0.2**
comp=Z,123nm,1.2s
BSMT Bassoo Peak 79.71 41 P **P 01 48 49.5 +0.8**
AFDM Forest Hills D 79.77 52 *e*P **P 01 48 49.2 +0.2**
comp=Z,24nm,1.1s
BEKR Beckworth 79.79 51 *e*P **P 01 48 49.5 +0.2**
comp=Z,97nm,0.9s
WVOR Wild Horse Val 79.81 48 *e*P **P 01 48 49.9 +0.6**
WVOR pmax pmax
comp=Z,67nm,1.3s
WVOR Wild Horse Val 79.81 48 *e*P **P 01 48 49.9 +0.6**
comp=Z,67nm,1.3s
BLMT Blacktail Moun 79.88 41 *e*P **P 01 48 50.4 +0.8**

JTMT **Jette** 80.06 41 *e*P P 01 48 51.0 +0.6
YBMT **Yellow Bay** 80.16 41 *e*P P 01 48 51.6 +0.6
ANN **Anapa** 80.19 315 *e*P P 01 48 50.6 -0.4
ANN *e*S S 01 58 15.5 -2.8
ANN *e* 01 58 23.4
ANN pmax pmax
comp=Z,250nm,1.3s
SWMT **Swartz Lake** 80.34 42 *e*P P 01 48 52.1 +0.2
KOPT **Kop Dagi** 80.37 310 *e*P P 01 48 53.7 +1.3
comp=Z,65nm,0.9s
SAO **San Andreas Ge** 80.39 54 *e*P P 01 48 52.6 +0.3
SAO pmax pmax
comp=Z,44nm,1.2s
SAO **San Andreas Ge** 80.39 54 *e*P P 01 48 52.6 +0.3
comp=Z,44nm,1.2s
PAHR **Pah Rah Range** 80.54 50 *e*P P 01 48 54.8 +1.7
comp=Z,47nm,0.8s
CMB **Columbia Colle** 80.59 52 *e*P P 01 48 53.7 +0.4
CMB pmax pmax
comp=Z,57nm,1.1s
CMB **Columbia Colle** 80.59 52 *e*P P 01 48 53.7 +0.4
comp=Z,57nm,1.1s
MICGM **Minsk** 80.61 327⇑ *i*P P 01 48 52.0 -1.0
MICGM PM 01 48 53.0
comp=Z,0.2nm,1.2s
MICGM *e*pP pP 01 50 32.0 -0.1
MICGM *e*PP PP 01 52 03.0 -0.7
MICGM *e*S S 01 58 23.0 +0.7
MNK **Minsk** 80.61 327⇑ *i*P P 01 48 52.0 -1.0
MNK *e**PP pP 01 50 32.0 -0.1
MNK *e* 01 52 03.0
MNK *e*S S 01 58 23.0 +0.7
MNK pmax pmax
comp=Z,150nm,1.2s
PNTR **Pine Nut** 80.67 51 *e*P P 01 48 54.6 +0.7
comp=Z,61nm,0.8s
IZAR **Zarasai** 80.70 329 *e*P P 01 48 53.2 -0.2
IZAR IAmb IAmb 01 48 56.4
comp=Z,55nm,1.0s
MSO **Missoula** 80.71 42 P P 01 48 53.8 -0.1
baz=299
MSO **Missoula** 80.71 42 *e*P P 01 48 53.8 -0.1
comp=Z,34nm,1.0s
IDID **Didziasalis** 80.71 328 *e*P P 01 48 53.3 -0.2
IDID IAmb IAmb 01 48 56.4
comp=Z,48nm,1.0s
SLMT **Seeley Lake** 80.77 42 *e*P P 01 48 54.3 0.0
ISAL **Salakas** 80.86 328 *e*P P 01 48 54.0 -0.2
ISAL IAmb IAmb 01 48 57.2
comp=Z,63nm,1.1s
SUMG **Summit** 80.91 360 *i*P P 01 48 55.1 +0.3
comp=Z,62nm,1.1s
SUMG **Summit** 80.91 360 *i*P P 01 48 55.1 +0.3
SUMG pmax pmax
comp=Z,62nm,1.1s
SUMG **Summit** 80.91 360 *e*P P 01 48 55.1 +0.3
comp=Z,81nm,1.2s
NACGM **Naroch** 80.92 328 *e*P P 01 48 54.0 -0.6
NACGM PM 01 48 57.0
comp=Z,0.5nm,1.0s
IIGN **Ignalina** 80.94 328 *e*P P 01 48 54.5 -0.2
IIGN IAmb IAmb 01 48 56.5
comp=Z,16nm,0.5s
YERR **Yerington** 80.96 51 *e*P P 01 48 56.4 +0.9
comp=Z,50nm,0.7s
WAKR **Walker** 81.04 51 *e*P P 01 48 56.7 +0.8
comp=Z,34nm,0.9s
CHMT **Chamberlain Mo** 81.08 42 *e*P P 01 48 55.7 -0.2
PMPB **Monarch Peak** 81.10 54 *e*P P 01 48 58.6 +2.6
comp=Z,39nm,1.0s
MFID **Camas Ranch** 81.18 46 *e*P P 01 48 57.2 +0.8
comp=Z,115nm,1.1s
MARD **Mardin** 81.39 307 *e*P P 01 48 58.1 +0.5
comp=Z,101nm,0.7s
TVH3 **East Aurora ar** 81.54 51 *e*P P 01 48 59.7 +1.2
comp=Z,57nm,1.0s
TVH2 **Borealis Mine** 81.58 51 *e*P P 01 48 59.4 +0.7
comp=Z,34nm,0.9s
BMN **Battle Mountai** 81.68 49 *e*P P 01 48 59.8 +0.7
BMN pmax pmax
comp=Z,87nm,1.4s
BMN **Battle Mountai** 81.68 49 *e*P P 01 48 59.8 +0.7
comp=Z,87nm,1.4s
PAGB **Antelope Grade** 81.72 54 *e*P P 01 49 00.1 +0.8
comp=Z,54nm,0.9s
MLAC **Mammoth, Mammo** 81.86 52 P P 01 48 59.8 -0.4
baz=298
AKASG **Malin Array Be** 82.00 323 P P 01 48 59.2 -1.0
comp=Z,38nm,0.3s,baz=52,slow=5.3,SNR=235
AKBB **Malin Array Si** 82.00 323 *e*P P 01 48 59.3 -1.0
AKBB pmax pmax
comp=Z,176nm,0.8s
AKBB **Malin Array Si** 82.00 323 *e*P P 01 48 59.3 -1.0
comp=Z,176nm,0.8s
HLID **Hailey** 82.01 45 P P 01 49 00.8 0.0
baz=300
HLID **Hailey** 82.01 45 *e*P P 01 49 01.0 +0.2
comp=Z,61nm,1.3s
KIEV **Kiev** 82.01 323 *d i*P P 01 48 59.5 -0.8
KIEV pmax pmax
comp=Z,211nm,0.9s
KIEV **Kiev** 82.01 323 *e*P P 01 48 59.1 -1.2
comp=Z,167nm,0.8s
HRY **Holter Researc** 82.02 41 *e*P P 01 49 01.0 +0.3
AK11 **Malin Array Si** 82.04 323 *e*P P 01 48 59.2 -1.2
TBLU **Trondheim** 82.06 340 *e*P P 01 48 59.0 -1.4
KEMA **Kemaliye** 82.09 310 *i*P P 01 49 01.4 +0.3
SMMC **Simmler** 82.09 55 P P 01 49 01.2 +0.1
baz=297
LRM **Limekiln Ridge** 82.10 42 *e*P P 01 49 01.9 +0.6
RCTC **Rector, Farmer** 82.18 53 P P 01 49 01.4 -0.1
baz=298
SIM **Simferopol'** 82.18 317 *e*P P 01 49 01.0 -0.4
SIM *e*S S 01 58 43.0 +4.4
SIM pmax pmax
comp=Z,154nm,0.8s
SIM pmax pmax
comp=Z,180nm,11.7s
DLMT **Dillon** 82.25 43 *e*P P 01 49 01.5 -0.4
comp=Z,106nm,1.1s
MCMT **McKenzie Canyo** 82.36 43 *e*P P 01 49 03.0 +0.4
PKM **Mcpherson Peak** 82.42 55 P P 01 49 03.3 +0.3
baz=297
VES **Vestal, Richgr** 82.51 54 P P 01 49 02.3 -0.9
baz=298
EGMT **Eagleton** 82.55 40 P P 01 49 02.9 -0.4
baz=302
EGMT **Eagleton** 82.55 40 *e*P P 01 49 03.2 -0.1
comp=Z,118nm,1.0s
TIN **Tinemaha, Big** 82.56 52 P P 01 49 03.8 +0.2
baz=298
BGMT **Barton Gulch** 82.65 43 *e*P P 01 49 04.6 +0.5
SBC **Santa Barbara** 82.70 55 P P 01 49 04.7 +0.5
baz=298
BOZ **Bozeman (W)** 82.71 42 P P 01 49 04.4 +0.1
baz=301
BOZ **Bozeman (W)** 82.71 42 *e*P P 01 49 04.6 +0.4
BOZ pmax pmax
comp=Z,43nm,0.7s
BOZ **Bozeman (W)** 82.71 42 *e*P P 01 49 04.6 +0.4
comp=Z,43nm,0.7s
SCER **sogukcermik** 82.73 311 *i*P P 01 49 04.8 +0.3
CUKAN **kangal_SIVAS** 82.77 310 *i*P P 01 49 04.7 0.0
FFC **Flin Flon** 82.78 31 *e*P P 01 49 04.2 0.0
FFC pmax pmax
comp=Z,95nm,1.0s
FFC **Flin Flon** 82.78 31 *e*P P 01 49 04.2 0.0
comp=Z,95nm,1.0s
TOKA **Tokat** 82.95 312 *e*P P 01 49 06.0 +0.5
comp=Z,45nm,0.8s
CWC **Cottonwood Cre** 82.95 53 P P 01 49 05.4 -0.2
baz=298
SCZ2 **Santa Cruz Isl** 82.96 56 P P 01 49 05.6 +0.1
baz=298
ARVC **Arvin** 83.02 54 P P 01 49 05.5 -0.4
baz=298
ISA **Isabella, Lake** 83.03 54 P P 01 49 05.2 -0.7
baz=298
ISA **Isabella, Lake** 83.03 54 *e*P P 01 49 05.7 -0.3
ISA pmax pmax
comp=Z,61nm,1.5s
ISA **Isabella, Lake** 83.03 54 *e*P P 01 49 05.7 -0.3
comp=Z,61nm,1.5s
HAVZ **Havza** 83.08 313 *i*P P 01 49 05.5 -0.6
HFS **Hagfors** 83.13 336 P P 01 49 04.7 -1.2
comp=Z,62nm,0.4s,baz=90,slow=4.3,SNR=186
HFS PP PP 01 52 23.4 -0.5
comp=Z,15nm,0.9s,baz=72,slow=9.4,SNR=4.8
NC405 **NORSAR Array S** 83.13 338 *e*P P 01 49 04.5 -1.3
SUW **Suwalki** 83.15 328 *e*P P 01 49 04.9 -1.1
SUW **Suwalki** 83.15 328 *e*P P 01 49 04.9 -1.1
NC303 **NORSAR Array S** 83.17 338 *e*P P 01 49 04.9 -1.2
GRAC **Grapevine Rang** 83.19 52 P P 01 49 06.8 0.0
baz=298
QLMT **Earthquake Lak** 83.23 43 *e*P P 01 49 08.0 +1.1
CUALT **Altinyayla-SIV** 83.27 311 *i*P P 01 49 08.0 +0.9
NB201 **NORSAR Array S** 83.32 338 *e*P P 01 49 05.7 -1.2
BLG **Laguna Peak, P** 83.33 55 P P 01 49 06.5 -0.9
baz=298
DOMB **Dombas** 83.33 339 *e*P P 01 49 05.9 -1.0
DOMB IAmb IAmb 01 49 07.9
comp=Z,94nm,1.0s
KSRV **Kasrt alli** 83.33 307 *i*P P 01 49 06.7 -0.6
NC204 **NORSAR Array S** 83.34 338 *e*P P 01 49 05.6 -1.3
OSI **Osito Audit: C** 83.34 55 P P 01 49 06.8 -0.7
baz=298
OSI **Osito Audit: C** 83.34 55 *e*P P 01 49 08.5 +1.0
comp=Z,64nm,0.6s
NB2 **NORSAR Subarra** 83.36 338 P P 01 49 05.5 -1.5
comp=Z,49nm,0.4s,baz=44,slow=5.1
NB2 **NORSAR Subarra** 83.36 338 P P 01 49 05.5 -1.5
baz=44,slow=5.1
NB200 **NORSAR Array S** 83.36 338 *e*P P 01 49 05.8 -1.2
NB200 *e*pP pP 01 50 50.2 +3.3
NB200 *e*PP PP 01 52 19.6 -6.2
NOA **NORSAR Array B** 83.36 338 P P 01 49 05.8 -1.2
comp=Z,8.2nm,0.4s,baz=49,slow=4.1,SNR=155
NOA pP pP 01 50 50.2 +3.3
comp=Z,6.3nm,0.8s,baz=44,slow=5.4,SNR=4.2
NOA PP PP 01 52 19.6 -6.2
comp=Z,3.2nm,0.7s,baz=46,slow=8.8,SNR=2.3
SNCC **San Nicolas Is** 83.38 56 P P 01 49 06.9 -0.8
baz=298
MOL **Molde** 83.41 340 *e*P P 01 49 06.8 -0.3
MOL IAmb IAmb 01 49 10.3
comp=Z,137nm,1.1s
YHB **Horse Butte** 83.41 43 *e*P P 01 49 09.2 +1.3
comp=Z,138nm,1.0s
NC602 **NORSAR Array S** 83.46 337 *e*P P 01 49 06.0 -1.5
NC602 **NORSAR Array S** 83.46 337 *e*P P 01 49 06.2 -1.3
NBO02 **NORSAR Array S** 83.47 338 *e*P P 01 49 06.0 -1.6
NBO00 **NORSAR Array S** 83.51 338 *e*P P 01 49 06.8 -1.0
CUSAR **Sarkisla-SIVAS** 83.55 311 *i*P P 01 49 08.3 -0.3
YMR **Madison River** 83.60 43 *e*P P 01 49 10.3 +1.5
comp=Z,141nm,1.0s
YHH **Holmes Hill** 83.60 43 *e*P P 01 49 10.1 +1.1
comp=Z,108nm,1.4s
NAO01 **NORSAR Array S** 83.61 338 *e*P P 01 49 06.8 -1.4
GZT **Gaziantep** 83.64 309 *i*P P 01 49 09.2 +0.2
YPM **Purple Mountai** 83.66 43 *e*P P 01 49 10.9 +1.7
MCID **Moose Creek** 83.71 43 *e*P P 01 49 11.0 +1.6
YNR **Norris Junctio** 83.75 43 *e*P P 01 49 11.5 +1.9
comp=Z,138nm,1.2s
EDW2 **Edwards Air Fo** 83.75 54 P P 01 49 08.8 -0.7
baz=298
GCMT **Greycliff** 83.78 41 *e*P P 01 49 10.3 +0.7
R11A **Troy Canyon, C** 83.78 50 P P 01 49 09.8 0.0
baz=299,SNR=104
R11A **Troy Canyon, C** 83.78 50 *e*P P 01 49 09.7 -0.1
comp=Z,82nm,1.1s
YFT **Old Faithful** 83.79 43 *e*P P 01 49 12.4 +2.7
comp=Z,109nm,1.0s
DECC **Gren Verdugo** 83.79 55 P P 01 49 09.2 -0.6
baz=298
FURC **Furnace Creek,** 83.80 52 P P 01 49 09.6 -0.1
baz=299
JHLN **Al Jahlan** 83.82 307 *i*P P 01 49 09.4 -0.4
SORM **Soroca** 83.88 321⇑ *i*P P 01 49 08.9 -0.9
YPP **Pitchstone Pla** 83.90 43 *e*P P 01 49 12.3 +1.8
comp=Z,70nm,1.4s
CTAK **Corum_Osmancik** 83.91 313 *i*P P 01 49 09.5 -0.9
ILULI **Ilulissat** 83.92 4 *i*P P 01 49 09.0 -0.6
comp=Z,115nm,1.2s
ILULI **Ilulissat** 83.92 4 *i*P P 01 49 09.0 -0.6
comp=Z,120nm,1.2s
SLMH **Al Salmeh** 83.93 307 *i*P P 01 49 09.9 -0.5
PASC **Pasadena Art C** 83.94 55 *e*P P 01 49 10.3 -0.1
comp=Z,81nm,0.6s
HVU **Hansel Valley** 83.95 46 *e*P P 01 49 11.5 +1.0
HVU pmax pmax
comp=Z,42nm,0.8s
HVU **Hansel Valley** 83.95 46 *e*P P 01 49 11.5 +1.0
comp=Z,42nm,0.8s
COAL **Corum-Alaca** 83.97 312 *i*P P 01 49 09.0 -1.6
H17A **Grant Village** 83.98 43 P P 01 49 11.5 +0.7
baz=302
H17A **Grant Village** 83.98 43 *e*P P 01 49 12.8 +2.0
comp=Z,138nm,1.1s
LKWY **Lake** 83.99 43 *e*P P 01 49 13.5 +2.7
LKWY pmax pmax
comp=Z,95nm,0.8s
LKWY **Lake** 83.99 43 *e*P P 01 49 13.5 +2.7
comp=Z,95nm,0.8s
TPNV **Topopah Spring** 84.00 52 P P 01 49 10.7 -0.3
baz=299
TPNV **Topopah Spring** 84.00 52 *e*P P 01 49 10.9 0.0
TPNV pmax pmax
comp=Z,73nm,0.7s
TPNV **Topopah Spring** 84.00 52 *e*P P 01 49 10.9 0.0
comp=Z,73nm,0.7s
MWC **Mount Wilson** 84.01 55 *e*P P 01 49 11.2 +0.2
MWC pmax pmax
comp=Z,78nm,1.1s
MWC **Mount Wilson** 84.01 55 *e*P P 01 49 11.2 +0.2
comp=Z,78nm,1.1s
IMW **Indian Meadow** 84.02 44 *e*P P 01 49 12.0 +1.0
comp=Z,57nm,0.8s
FMP **Fort Macarthur** 84.08 55 P P 01 49 10.2 -0.9
baz=298
FXWY **Fox Creek** 84.10 44 *e*P P 01 49 11.8 +0.5
comp=Z,91nm,1.3s
HCB **Kahramanmara** 84.10 309 *i*P P 01 49 10.2 -1.0
CIS **Catalina Islan** 84.13 56 P P 01 49 11.1 -0.3
baz=298
KLNR **Kaliningrad** 84.16 330⇑ *e*P P 01 49 09.9 -1.1
KLNR pmax pmax
comp=Z,115nm,0.8s
MTUT **Morton Thiokol** 84.19 46 *e*P P 01 49 12.6 +0.8
MOOW **Moose Ponds** 84.21 44 *e*P P 01 49 12.3 +0.4
comp=Z,78nm,1.4s
BGU **Big Grassy Mou** 84.22 47 *e*P P 01 49 12.8 +0.9
comp=Z,21nm,0.8s
TPAW **Teton Pass** 84.22 44 *e*P P 01 49 12.8 +0.8
comp=Z,56nm,0.9s
SCI2 **San Clemente I** 84.23 56 P P 01 49 11.3 -0.6
baz=298
KIS **Kishinev** 84.25 320 *e*P P 01 49 10.0 -1.7
KIS *e*pP pP 01 50 40.0 -12
KIS LRM MLR 02 28 00.0
comp=Z,600nm,20.0s
KIS **Kishinev** 84.25 320 *e*P P 01 49 10.0 -1.7
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,400nm,22.0s
BFSC **Mount Baldy Ra** 84.29 55 P P 01 49 11.7 -0.7
baz=299
OSL **Oslo** 84.32 337 *e*P P 01 49 10.8 -1.0
OSL IAmb IAmb 01 49 13.1
comp=Z,63nm,0.8s
REDW **Red Top Meadow** 84.35 44 *e*P P 01 49 13.2 +0.7
comp=Z,50nm,1.0s
SNOW **Snow King Moun** 84.36 44 *e*P P 01 49 13.6 +0.9
comp=Z,47nm,1.1s
LOHW **Long Hollow** 84.37 44 *e*P P 01 49 13.5 +0.8
comp=Z,45nm,1.1s
ANDN **Andirin** 84.38 309 *i*P P 01 49 12.2 -0.5
RLMT **Red Lodge** 84.38 42 P P 01 49 12.3 -0.4
baz=303
RLMT **Red Lodge** 84.38 42 *e*P P 01 49 12.8 +0.1
comp=Z,62nm,0.5s
SPUT **South Promonto** 84.40 46 *e*P P 01 49 11.4 -1.4
comp=Z,34nm,1.0s
GSC **Goldstone, Bar** 84.40 53 P P 01 49 12.8 0.0
baz=299
GSC **Goldstone, Bar** 84.40 53 *e*P P 01 49 13.1 +0.3
GSC pmax pmax
comp=Z,124nm,1.0s
GSC **Goldstone, Bar** 84.40 53 *e*P P 01 49 13.1 +0.3
comp=Z,124nm,1.0s
ILGA **Ilgaz** 84.41 313 *i*P P 01 49 12.7 -0.2
ILGA **Ilgaz** 84.41 313 *e*P P 01 49 13.2 +0.3
comp=Z,30nm,1.0s
RRX **Edison Barstow** 84.47 54 P P 01 49 12.4 -0.7
baz=299
SHOC **Shoshone, Teco** 84.49 53 P P 01 49 12.6 -0.6
baz=299
FSU **Fish Springs** 84.59 48 *e*P P 01 49 14.2 +0.5
DRWC **Darouich** 84.62 308 *i*P P 01 49 12.8 -1.1
CDAG **Cicekdag** 84.70 312 *i*P P 01 49 12.1 -2.1
DUG **Dugway, Tooele** 84.73 47 P P 01 49 14.5 +0.1
baz=301
DUG **Dugway, Tooele** 84.73 47 *e*P P 01 49 14.7 +0.3
DUG pmax pmax
comp=Z,99nm,1.1s
DUG **Dugway, Tooele** 84.73 47 *e*P P 01 49 14.7 +0.3
comp=Z,99nm,1.1s
YAHY **KAYSERI_Yahyal** 84.80 310 *i*P P 01 49 13.3 -1.4
HWUT **Hardware Ranch** 84.81 46 *e*P P 01 49 15.4 +0.5
comp=Z,72nm,1.0s
BBRC **Big Bear Solar** 84.82 54 P P 01 49 14.2 -0.8
baz=299
BMUT **Black Mountain** 84.84 45 *e*P P 01 49 16.0 +0.9
LEOM **Leova** 84.87 320⇑ *i*P P 01 49 14.1 -0.6
PSUT **Pine Spring** 84.87 49 *e*P P 01 49 17.3 +2.1
comp=Z,30nm,0.7s
HYA **Hoyanger** 84.90 340 *e*P P 01 49 14.1 -0.4
HYA IAmb IAmb 01 49 17.4
comp=Z,127nm,1.0s
FOO **Floro** 84.91 340 *e*P P 01 49 14.1 -0.5
FOO IAmb IAmb 01 49 16.1
comp=Z,82nm,0.9s
MURC **Murrieta** 84.94 55 P P 01 49 14.7 -0.7
baz=299
TUQ **Turquoise Moun** 84.97 53 P P 01 49 15.1 -0.6
baz=299
HEC **Hector,Ludlow** 84.97 54 P P 01 49 15.7 +0.1
baz=299
SHPR **Sheep Range** 84.98 52 *e*P P 01 49 16.4 +0.7
comp=Z,66nm,1.2s
BTIN **Bart'–n** 85.05 314 *i*P P 01 49 13.7 -2.0
BTCH **Batrach** 85.06 308 *i*P P 01 49 14.6 -1.4
AKO **Adana** 85.06 310 *i*P P 01 49 15.3 -0.6
BR101 **Keskin Array S** 85.13 312 *e*P P 01 49 15.5 -0.9
BR101 *e*pP pP 01 50 58.2 +1.4
BRTR **Keskin Array B** 85.14 312 P P 01 49 15.5 -0.9
comp=Z,31nm,0.7s,baz=84,slow=3.4,SNR=33
BRTR pP pP 01 50 58.2 +1.4
comp=Z,16nm,0.9s,baz=88,slow=4.1,SNR=5.0
KFRA **Kufra** 85.22 307 *i*P P 01 49 15.3 -1.5
LVV **L'vov** 85.24 324 *e*P P 01 49 17.1 +0.6
TLCR 85.25 319⇑ *i*P P 01 49 16.1 -0.5
LAO **LASA Array** 85.29 39 P P 01 49 17.1 +0.2
baz=305
LAO **LASA Array** 85.29 39 *e*P P 01 49 17.4 +0.5
comp=Z,73nm,1.0s
CRY **Cary Ranch** 85.29 55 *e*P P 01 49 18.0 +0.8
YAYL **Yayladag** 85.31 308 *i*P P 01 49 13.1 -4.2
NLU **North Lily Min** 85.34 47 *e*P P 01 49 17.9 +0.4
comp=Z,39nm,1.1s
109C **Camp Elliot, M** 85.34 56 P P 01 49 17.2 -0.1
baz=299,SNR=7.8
ROOS **tl_alroos** 85.38 306 *i*P P 01 49 16.6 -1.0
DGMT **Dagmar** 85.38 37 P P 01 49 16.4 -0.9
baz=306
DGMT **Dagmar** 85.38 37 *e*P P 01 49 16.7 -0.6
comp=Z,95nm,1.1s
JLU **Jordanelle** 85.41 47 *e*P P 01 49 18.5 +0.6
comp=Z,47nm,1.1s
BW06 **Boulder Array** 85.47 44 P P 01 49 17.0 -1.1
baz=303
BW06 **Boulder Array** 85.47 44 *e*P P 01 49 18.0 -0.1
comp=Z,30nm,1.0s
PFO **Pinyon Flats O** 85.47 55 P P 01 49 17.8 -0.3
baz=299
PFO **Pinyon Flats O** 85.47 55 *e*P P 01 49 18.1 -0.1
PFO pmax pmax
comp=Z,111nm,1.1s
PFO **Pinyon Flats O** 85.47 55 *e*P P 01 49 18.1 -0.1
comp=Z,111nm,1.1s
PD31 **Pinedale Array** 85.47 44 *e*P P 01 49 18.1 -0.1
PDAR **Pinedale Array** 85.47 44 P P 01 49 18.0 -0.1
comp=Z,20nm,0.9s,baz=272,slow=3.7,SNR=49
XPFO **Piæon Flat** 85.47 55 *e*P P 01 49 18.1 -0.1
comp=Z,118nm,1.1s
GMRC **Granite Mounta** 85.47 53 P P 01 49 17.4 -0.7
baz=300
ARNB **Al Arnab** 85.49 308 *i*P P 01 49 16.9 -1.2
CMDR **Camlidere-ANKA** 85.50 313 *i*P P 01 49 16.2 -2.0
PRAR **RASCA** 85.50 322⇓ *i*P P 01 49 17.3 -0.6
BBAL **Bala** 85.57 312 *i*P P 01 49 17.3 -1.2
BCAM **Yenicaga** 85.60 314 *i*P P 01 49 17.7 -0.9
MPU **Maple Canyon** 85.60 47 *e*P P 01 49 19.2 +0.5
comp=Z,43nm,1.1s
BELC **Belle Mtn. Jos** 85.61 54 P P 01 49 18.1 -0.8
baz=300
BELC **Belle Mtn. Jos** 85.61 54 *e*P P 01 49 18.0 -0.8
ANTO **Ankara** 85.62 313 *e*P P 01 49 17.6 -1.1
ANTO pmax pmax
comp=Z,39nm,0.6s
ANTO **Ankara** 85.62 313 *e*P P 01 49 17.6 -1.1
comp=Z,38nm,0.6s
ANTO **Ankara** 85.62 313 P P 01 49 18.4 -0.2
SNR=6.3
ANTO **Ankara** 85.62 313 P P 01 49 18.4 -0.2
SNR=6.3
BEL **Belsk** 85.63 327 *e*P P 01 49 17.9 -0.4
BEL **Belsk** 85.63 327 *e*P P 01 49 17.9 -0.4
BR231 **Keskin MP Arra** 85.64 313 *e*P P 01 49 18.2 -0.6
BR231 *e*pP pP 01 50 59.0 -0.3
CFR **Carcaliu** 85.65 319⇑ *i*P P 01 49 17.9 -0.7
BIDA **Albida** 85.66 307 *i*P P 01 49 18.6 -0.3
CCUT **Cedar City** 85.70 50 *e*P P 01 49 20.2 +0.8
comp=Z,33nm,1.1s
ODD1 **Odda** 85.72 339 *e*P P 01 49 17.5 -1.1
ODD1 IAmb IAmb 01 49 20.9
comp=Z,94nm,1.2s
LDFC **Landfair** 85.72 53 *e*P P 01 49 19.5 +0.2
comp=Z,144nm,1.1s
TESR **Tescani** 85.75 321⇑ *i*P P 01 49 18.5 -0.6
BAR **Barrett** 85.76 56 *e*P P 01 49 19.6 +0.2
comp=Z,100nm,1.3s
BER **Bergen** 85.77 339 *e*P P 01 49 18.1 -0.7
HAWK **Haweek** 85.84 307 *i*P P 01 49 19.0 -0.9
MONP2 **Monument Peak** 85.84 55 P P 01 49 19.5 -0.6
baz=299
SZCU **Shurtz Canyon** 85.87 50 *e*P P 01 49 21.5 +1.4
comp=Z,28nm,1.1s
PETR **Petresti** 85.87 320⇑ *i*P P 01 49 20.4 +0.8
TIRR **Tirgusor** 85.89 318⇑ *i*P P 01 49 19.0 -0.8
TIRR **Tirgusor** 85.89 318 *e*P P 01 49 18.9 -0.8
TIRR pmax pmax
comp=Z,32nm,0.9s
TIRR **Tirgusor** 85.89 318 *e*P P 01 49 18.9 -0.8
comp=Z,32nm,0.9s
BUR08 **Bucovina Ar. S** 85.91 322 *e*P P 01 49 19.0 -0.9
BURAR **Bucovina Array** 85.91 322⇑ *i*P P 01 49 19.9 -0.1
ODBI **Odobesti** 85.95 320⇑ *i*P P 01 49 20.2 +0.2
KERG **Konya-Eregli** 85.99 310 *i*P P 01 49 18.7 -1.9
MSU **Marysvale** 86.02 49 *e*P P 01 49 22.2 +1.4
MSU **Marysvale** 86.02 49 *e*P P 01 49 22.2 +1.4
MARH **Ras Al Marh** 86.03 306 *i*P P 01 49 19.8 -1.3
KWP **Kalwaria Pacla** 86.04 325 *e*P P 01 49 19.9 -0.5
KWP **Kalwaria Pacla** 86.04 325 *e*P P 01 49 19.9 -0.5
TLB **Topalu** 86.04 319⇑ *i*P P 01 49 20.1 -0.4
HARR **Harsova** 86.05 319⇓ *i*P P 01 49 20.3 -0.2
LCMT **Little Creek M** 86.06 50 *e*P P 01 49 22.1 +1.1
comp=Z,48nm,1.0s
VRI **Vrincioaia** 86.08 320⇑ *i*P P 01 49 21.0 +0.3
BSD **Bornholm Skovb** 86.12 332 *i*P P 01 49 19.1 -1.5
comp=Z,45nm,0.9s
BSD **Bornholm Skovb** 86.12 332 *i*P P 01 49 19.1 -1.5
BSD pmax pmax
comp=Z,45nm,0.9s
PLOR **Plostina** 86.13 320⇓ *i*P P 01 49 20.8 -0.2
SFJD **Kangerlussuaq** 86.14 4 *i*P P 01 49 19.9 -0.6
comp=Z,58nm,0.8s
SFJD **Kangerlussuaq** 86.14 4 *e*P P 01 49 20.1 -0.4
SFJD pmax pmax
comp=Z,155nm,1.3s
SFJD **Kangerlussuaq** 86.14 4 *e*P P 01 49 20.1 -0.4
comp=Z,155nm,1.3s
BLS5 **Blasjo** 86.15 338 *e*P P 01 49 20.0 -0.7
IRM **Iron Mountain** 86.15 54 P P 01 49 21.1 -0.2
baz=300
BC3 **Big Chuckawall** 86.18 54 P P 01 49 21.6 0.0

baz=300
IKP In-Ko-Pah, Jac 86.19 55 P P 01 49 21.4 -0.2
baz=300
GRER 86.22 320⇓ *i*P P 01 49 18.9 -2.4
NEE2 Needles Airpor 86.23 53 P P 01 49 21.5 -0.1
baz=300
TMUT Trail Mountain 86.25 48 *e*P P 01 49 22.9 +0.9
comp=Z,23nm,1.4s
MTPU Mount Pierson 86.25 49 *e*P P 01 49 23.7 +1.5
comp=Z,43nm,1.1s
SWSC Sam W. Stewart 86.28 55 P P 01 49 22.9 +1.1
baz=300
HOMB Homborsund 86.33 337 *e*P P 01 49 21.3 -0.2
KNB Kanab 86.35 50 *e*P P 01 49 22.9 +0.6
KNB pmax pmax
comp=Z,88nm,1.0s
KNB Kanab 86.35 50 *e*P P 01 49 22.9 +0.6
comp=Z,88nm,1.0s
GKP Gorka Klasztor 86.36 330 *e*P P 01 49 20.7 -1.1
GKP Gorka Klasztor 86.36 330 *e*P P 01 49 20.7 -1.1
TOTH TOTAH 86.40 306 *i* P P 01 49 21.8 -0.7
AMRR Amara 86.44 319⇑ *i*P P 01 49 22.0 -0.4
KIZK Mersin 86.45 309 *i* P P 01 49 20.3 -2.3
PSN Preselentsi 86.46 318 *e*P P 01 49 21.9 -0.6
P17A Butcher Ranch, 86.47 47 *e*P P 01 49 23.3 +0.4
comp=Z,58nm,1.2s
PKCU Pink Cliffs 86.48 50 *e*P P 01 49 25.8 +2.6
comp=Z,23nm,1.2s
PGOR Pogoanele 86.48 319⇓ *i*P P 01 49 22.9 +0.4
SALA Sala 86.49 305 *i* P P 01 49 22.8 -0.3
W13A Hualapai Mount 86.58 52 *e*P P 01 49 24.1 +0.5
comp=Z,23nm,1.1s
ISR Istrita 86.61 320⇑ *i*P P 01 49 23.3 0.0
ASF Jabal al Asfar 86.64 304 P P 01 49 23.0 -0.7
comp=Z,19nm,0.9s,baz=25,slow=2.7,SNR=17
ARCR ARCALIA 86.70 322⇑ *i*P P 01 49 24.0 +0.4
P18A Preston Nutter 86.71 47 *e*P P 01 49 24.6 +0.4
comp=Z,15nm,0.9s
BRBR Barbar 86.72 306 *i* P P 01 49 22.5 -1.7
SNART Snartemo 86.73 337 *e*P P 01 49 22.6 -0.8
SNART IAmb IAmb 01 49 25.8
comp=Z,44nm,0.9s
COP Copenhagen 86.74 333 *i* P P 01 49 23.7 +0.2
comp=Z,63nm,1.0s
COP Copenhagen 86.74 333 *i* P P 01 49 23.7 +0.2
COP pmax pmax
comp=Z,63nm,1.0s
MLR Muntele Rosu 86.75 320 P P 01 49 23.2 -0.8
comp=Z,4.5nm,0.5s,baz=331,slow=8.7,SNR=17
MLR Muntele Rosu 86.75 320⇓ *i*P P 01 49 23.3 -0.8
MLR Muntele Rosu 86.75 320 *e*P P 01 49 23.2 -0.8
comp=Z,49nm,1.3s
KDHN Kadinhani 86.77 312 *i* P P 01 49 22.1 -2.1
MMU Miners Mountai 86.77 49 *e*P P 01 49 24.8 +0.4
STAV Stavanger 86.78 338 *e*P P 01 49 22.5 -1.1
STAV IAmb IAmb 01 49 25.6
comp=Z,105nm,1.1s
DOPR Dopca 86.78 321⇓ *i*P P 01 49 24.0 0.0
PDMCI Parker Dam,Lak 86.80 53 P P 01 49 24.5 +0.2
baz=300
SRU San Rafael Swe 86.80 47 *e*P P 01 49 24.6 +0.1
SRU pmax pmax
comp=Z,19nm,0.6s
SRU San Rafael Swe 86.80 47 *e*P P 01 49 24.6 +0.1
comp=Z,19nm,0.6s
Y12C Blythe 86.80 54 P P 01 49 24.5 +0.2
baz=300,SNR=20
Y12C Blythe 86.80 54 *e*P P 01 49 24.9 +0.6
comp=Z,79nm,1.3s
BMR Baia Mare 86.81 323⇑ *i*P P 01 49 24.2 +0.1
KONT Konya--Tatoy 86.91 311 *i* P P 01 49 22.3 -2.5
STHS Stebnicka Huta 86.92 325 *e*P P 01 49 24.4 -0.2
STHS pmax pmax
comp=Z,25nm,0.8s
STHS Stebnicka Huta 86.92 325 *e*P P 01 49 24.3 -0.3
GLA Glamis 86.93 54 P P 01 49 24.9 -0.1
baz=300
GLA Glamis 86.93 54 *e*P P 01 49 25.6 +0.6
GLA pmax pmax
comp=Z,43nm,0.8s
GLA Glamis 86.93 54 *e*P P 01 49 25.6 +0.6
comp=Z,43nm,0.8s
SECR 86.94 320⇓ *i*P P 01 49 24.7 -0.1
KMER Konya-Meram 87.00 311 *i* P P 01 49 23.0 -2.3
U15A North Rim 87.02 50 *e*P P 01 49 26.2 +0.5
comp=Z,20nm,0.8s
SULR 87.04 319⇑ *i*P P 01 49 24.9 -0.3
TRPA Tarpa 87.05 324⇓ *e*SKKPdf P 01 49 24.5 -0.7
TCHB Talchebab 87.07 305 *i* P P 01 49 25.3 -0.4
ESKT Eskisehir 87.08 313 *i* P P 01 49 24.2 -1.5
CRVS Cervenica-Dubn 87.13 325 *e*P P 01 49 25.6 0.0
CRVS Cervenica-Dubn 87.13 325 *e*P P 01 49 25.6 0.0
BORA Eskisehir 87.14 314 *i* P P 01 49 24.1 -1.8
OJC Ojcow 87.14 326 *e*P P 01 49 24.8 -0.7
OJC Ojcow 87.14 326 *e*P P 01 49 24.9 -0.7
OJC pmax pmax
comp=Z,49nm,0.9s
OJC Ojcow 87.14 326 *e*P P 01 49 24.9 -0.7
comp=Z,49nm,0.9s
PRD Provadia 87.21 318 *e*P P 01 49 25.3 -0.7
VOIR 87.29 320⇑ *i*P P 01 49 26.4 -0.1
CJR Cluj-Napoca 87.34 322⇑ *i*P P 01 49 26.1 -0.6
K22A Casper 87.40 43 P P 01 49 26.8 -0.3
baz=305
K22A Casper 87.40 43 *e*P P 01 49 27.3 +0.1
comp=Z,19nm,0.8s
NIE Niedzica 87.40 326 *e*P P 01 49 26.5 -0.4
NIE Niedzica 87.40 326 *e*P P 01 49 26.5 -0.4
MUD Monsted U'grnd 87.44 335 *i* P P 01 49 25.4 -1.4
comp=Z,102nm,1.3s
MUD Monsted U'grnd 87.44 335 *i* P P 01 49 25.4 -1.4
MUD pmax pmax
comp=Z,100nm,1.3s
BOLV Bolvadin 87.44 312 *i* P P 01 49 25.9 -1.5
BOLV Bolvadin 87.44 312 *e*P P 01 49 26.5 -0.9
comp=Z,57nm,0.7s
RWWY Rawlins 87.52 44 *e*P P 01 49 28.0 +0.1
comp=Z,166nm,2.0s
ARR Arges 87.56 321⇑ *i*P P 01 49 27.9 +0.1
O20A White River Ci 87.73 46 P P 01 49 28.3 -0.5
baz=304,SNR=13
O20A White River Ci 87.73 46 *e*P P 01 49 28.9 +0.1
comp=Z,37nm,1.1s
DRGR 87.78 323⇑ *i*P P 01 49 28.2 -0.5
Y14A Wickenburg 87.80 53 *e*P P 01 49 29.4 +0.3
comp=Z,169nm,0.7s
CSS Mathiatis 87.80 308 *e*P P 01 49 27.2 -1.8
comp=Z,6.6nm,0.8s
113A Mohawk Valley, 87.84 54 *e*P P 01 49 29.4 +0.1
comp=Z,38nm,1.0s
HUMR Humele 87.86 320⇑ *i*P P 01 49 28.1 -1.0
KECS Kecovo 87.90 325 *e*P P 01 49 28.9 -0.3
KECS pmax pmax
comp=Z,27nm,1.1s
KECS Kecovo 87.90 325 *e*P P 01 49 28.9 -0.3
KECS *e*PP PP 01 52 59.0 -3.4
BAGO Egridir - ISPA 87.94 312 *i* P P 01 49 26.7 -3.0
LANS Liptovska Anna 87.99 326 *e*P P 01 49 29.7 0.0
LANS Liptovska Anna 87.99 326 *e*P P 01 49 29.7 0.0
LOT Lotru 88.00 321⇑ *i*P P 01 49 29.4 -0.5
RSSD Black Hills 88.03 41 P P 01 49 29.1 -1.0
baz=306
RSSD Black Hills 88.03 41 *e*P P 01 49 30.1 -0.1
RSSD pmax pmax
comp=Z,31nm,0.8s
RSSD Black Hills 88.03 41 *e*P P 01 49 30.1 -0.1
comp=Z,31nm,0.8s
SZH Strazhica 88.04 318 *e*P P 01 49 28.8 -1.2
WUAZ Wupatki 88.13 51 P P 01 49 29.4 -1.3
baz=302
WUAZ Wupatki 88.13 51 *e*P P 01 49 31.9 +1.2
comp=Z,19nm,1.0s
ZIMR 88.15 319⇓ *i*P P 01 49 29.9 -0.5
PV10 Paradox Valley 88.18 47 *e*P P 01 49 31.4 +0.4
GDZ Gediz 88.20 313 *i* P P 01 49 29.2 -1.8
OKC Ostrava-Krasne 88.20 327⇓ *e*P P 01 49 29.9 -0.7
OKC AMS AMS 02 31 30.0
comp=Z,600nm,17.0s
OKC Ostrava-Krasne 88.20 327 *e*P P 01 49 29.9 -0.7
OKC MLR MLR
comp=Z,600nm,17.0s
MDND Maddock 88.20 36 P P 01 49 30.4 -0.3
baz=309
MDND Maddock 88.20 36 *e*P P 01 49 31.4 +0.8
comp=Z,348nm,1.8s

KZIL AFYON_Kizioren 88.22 312 *i* P P 01 49 28.7 -2.4
PV05 Paradox Valley 88.30 48 *e*P P 01 49 31.9 +0.3
KSP Ksiaz 88.42 328 *e*P P 01 49 30.8 -0.8
KSP Ksiaz 88.42 328 *e*P P 01 49 30.8 -0.8
ULM Lac du Bonnet 88.51 32 P P 01 49 31.3 -0.7
comp=Z,11nm,0.4s,baz=320,slow=5.2,SNR=17
ULM Lac du Bonnet 88.51 32 *e*P P 01 49 31.1 -0.8
comp=Z,24nm,0.9s
MORC Moravsky Berou 88.54 327⇑ *i*P P 01 49 31.8 -0.4
MORC Moravsky Berou 88.54 327 *e*P P 01 49 31.1 -1.1
MORC pmax pmax
comp=Z,113nm,0.8s
MORC Moravsky Berou 88.54 327 *e*P P 01 49 31.1 -1.1
comp=Z,113nm,0.8s
PSZ Piszkesteto 88.56 325⇑ *i*P P 01 49 32.2 -0.2
PSZ Piszkesteto 88.56 325 *e*P P 01 49 32.0 -0.4
PSZ pmax pmax
comp=Z,102nm,1.0s
PSZ Piszkesteto 88.56 325⇓ *e*SKKPdf P 01 49 31.6 -0.8
PSZ Piszkesteto 88.56 325⇓ *e*SKKPdf P 01 49 31.6 -0.8
PSZ Piszkesteto 88.56 325⇓ *e*SKKPdf P 01 49 31.6 -0.8
PSZ Piszkesteto 88.56 325 *e*P P 01 49 32.0 -0.4
comp=Z,102nm,1.0s
KHAL Karahalli 88.59 313 *i* P P 01 49 29.8 -3.0
GZR Gura Zlata 88.59 321⇑ *i*P P 01 49 31.7 -0.9
PV01 Paradox Valley 88.62 47 *e*P P 01 49 32.8 -0.3
X16A Lo Mia Camp, P 88.66 52 *e*P P 01 49 34.1 +0.8
comp=Z,25nm,1.2s
SIRR Siria 88.67 323⇑ *i*P P 01 49 32.4 -0.5
KRLC Kraliky 88.70 328⇓ *e*P P 01 49 31.8 -1.2
KRLC Kraliky 88.70 328 *e*P P 01 49 31.8 -1.2
DEMI Demirci 88.72 314 *i* P P 01 49 30.5 -2.8
VYHS Vyhne 88.74 326 *e*P P 01 49 32.8 -0.3
VYHS pmax pmax
comp=Z,59nm,1.1s
VYHS Vyhne 88.74 326 *e*P P 01 49 32.8 -0.3
DPC Dobruska-Polom 88.74 328⇓ *i*P P 01 49 32.4 -0.7
DPC Dobruska-Polom 88.74 328⇓ *i*P P 01 49 32.4 -0.7
N23A Red Feather La 88.75 44 P P 01 49 34.0 +0.3
baz=305,SNR=36
N23A Red Feather La 88.75 44 *e*P P 01 49 34.7 +1.0
comp=Z,62nm,1.0s
KORT Korkueli 88.77 311 *i* P P 01 49 31.3 -2.4
UPC Upice 88.78 328⇓ *e*P P 01 49 32.9 -0.4
UPC *e*PP PP 01 53 09.8 +0.6
UPC Upice 88.78 328 *e*P P 01 49 32.9 -0.4
UPC *e* 01 53 09.8
SRE Strehaia 88.80 321⇑ *i*P P 01 49 33.6 +0.1
PHWY Pilot Hill 88.82 44 *e*P P 01 49 34.4 +0.3
comp=Z,51nm,1.1s
B31A Greenbush Farm 88.84 34 P P 01 49 33.3 -0.3
baz=311,SNR=16
214A Organ Pipe Nat 88.95 55 P P 01 49 35.0 +0.5
baz=301,SNR=29
DIM Dimitrovgrad 88.99 318 *e*P P 01 49 33.8 -0.6
KESN Edirne-Kesan 89.00 316 *i* P P 01 49 31.6 -3.4
SMCO Snowmass 89.08 46 *e*P P 01 49 35.7 +0.3
comp=Z,54nm,1.3s
A32A Rocking H Ranc 89.09 34 P P 01 49 34.0 -0.7
baz=312,SNR=16
BZS Buzias 89.10 322⇑ *i*P P 01 49 33.6 -1.2
MANT Manisa 89.13 313 *i* P P 01 49 32.4 -3.0
GOLH Golhisar 89.17 312 *i* P P 01 49 30.3 -5.2
MVCO Mesa Verde 89.17 48 P P 01 49 34.0 -1.7
baz=304
MVCO Mesa Verde 89.17 48 *e*P P 01 49 35.9 +0.2
comp=Z,53nm,1.6s
STEP BALIKESIR_Sava 89.17 314 *i* P P 01 49 32.4 -2.9
C31A Landman Farms, 89.21 35 P P 01 49 34.8 -0.5
baz=311,SNR=8.8
DNZL Cakiduk 89.26 312 *i* P P 01 49 35.0 -1.0
MPEP Malo Peshtene 89.28 319 *e*P P 01 49 34.9 -0.9
BUD Budapest 89.30 325⇑ *e*SKKPdf P 01 49 35.2 -0.5
BUD Budapest 89.30 325⇑ *e*SKKPdf P 01 49 35.2 -0.5
BUD Budapest 89.30 325⇑ *e*SKKPdf P 01 49 35.2 -0.5
KDZ Kurdzhali 89.30 317 *e*P P 01 49 35.0 -0.9
VRAC Vranov 89.31 327 P P 01 49 35.2 -0.5
comp=Z,80nm,1.0s,baz=45,slow=3.8,SNR=44
AKHS Akhisar 89.39 314 *i* P P 01 49 34.2 -2.2
B32A Ashes, Strandq 89.42 34 P P 01 49 35.7 -0.6
baz=312,SNR=15
SMOL Smolenice 89.43 326 *e*P P 01 49 36.4 +0.1
SMOL Smolenice 89.43 326 *e*P P 01 49 36.4 +0.1
PVCC Panska Ves 89.44 329⇓ *e*P P 01 49 35.7 -0.6
PVCC Panska Ves 89.44 329 *e*P P 01 49 35.7 -0.6
PLD Plovdiv 89.46 318 *e*P P 01 49 35.5 -1.1
TAVA DENIZLI_Tavas 89.47 312 *i* P P 01 49 35.0 -1.8
W18A Petrified Fore 89.47 51 P P 01 49 36.2 -0.9
baz=303
W18A Petrified Fore 89.47 51 *e*P P 01 49 39.0 +2.0
comp=Z,39nm,1.4s
BRG Berggiesshubel 89.48 329⇑ *i*P P 01 49 35.1 -1.4
comp=Z,28nm,1.2s
BRG *i* 01 49 39.2
comp=Z,63nm,1.4s
BRG *i* 01 50 00.4
comp=Z,14nm,1.0s
BRG *e*PP PP 01 53 15.4 +0.6
comp=Z,19nm,1.4s
BRG Berggiesshubel 89.48 329⇑ *i*P P 01 49 35.1 -1.4
BRG *e* 01 53 15.4
BRG pmax pmax
comp=Z,28nm,1.2s
BRG pmax pmax
comp=Z,63nm,1.4s
BRG pmax pmax
comp=Z,14nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.4s
BANR Banloc 89.51 322⇑ *i*P P 01 49 36.4 -0.3
MDVR Moldovita 89.56 321⇑ *i*P P 01 49 36.1 -1.0
ISCO Idaho Springs 89.59 45 P P 01 49 37.2 -0.4
baz=305
ISCO Idaho Springs 89.59 45 *e*P P 01 49 38.2 +0.6
ISCO pmax pmax
comp=Z,32nm,0.7s
ISCO Idaho Springs 89.59 45 *e*P P 01 49 38.2 +0.6
comp=Z,32nm,0.7s
CLL Collm 89.60 330 *i* P P 01 49 35.8 -1.3
CLL *e* 01 53 16.0
CLL pmax pmax
comp=Z,62nm,1.0s
CLL pmax pmax
comp=Z,23nm,1.3s
CLL Collm 89.60 330 *i* P P 01 49 35.8 -1.3
comp=Z,62nm,1.0s
CLL *es*P **sP** 01 52 10.0 +5.5
CLL *e*PP PP 01 53 16.0 +0.4
comp=Z,23nm,1.3s
CLL *e* 02 00 58.0
CLL *es*S **sS** 02 02 47.0 -3.2
CLL *es*PS 02 03 54.0
CLL *e*SS **SS** 02 05 53.0 -3.7
CLL *e* 02 13 38.0
CLL LmV 02 33 00.0
comp=Z,400nm,18.0s
CLL Collm 89.60 330 *e*P P 01 49 35.8 -1.3
comp=Z,61nm,1.0s
A33A Warroad 89.62 33 P P 01 49 36.6 -0.6
baz=312,SNR=7.8
X18A Snowflake 89.64 51 *e*P P 01 49 38.5 +0.7
comp=Z,37nm,1.2s
AKAS Kas 89.69 311 *i* P P 01 49 34.1 -3.9
AKAS Kas 89.69 311 *e*P P 01 49 35.8 -2.2
comp=Z,23nm,0.9s
D31A Mcclaflin, Tow 89.69 36 P P 01 49 37.4 -0.2
baz=311
RZN Rozhen 89.70 318 *e*P P 01 49 36.6 -1.4
GOPC GO Pecny, Ondr 89.76 328⇓ *e*P P 01 49 37.3 -0.6
GOPC GO Pecny, Ondr 89.76 328 *e*P P 01 49 37.3 -0.6
CSKK Cs´‡kako 89.77 325⇑ *e*x P 01 49 37.5 -0.4
CSKK Cs´‡kako 89.77 325⇑ *e*SKKPbc P 01 49 37.5 -0.4
CSKK Cs´‡kako 89.77 325⇑ *e*x P 01 49 37.5 -0.4
C32A Crookston 89.80 34 P P 01 49 37.5 -0.6
baz=312
PRA Prague 89.82 329⇓ *e*P P 01 49 37.3 -0.8
PRA Prague 89.82 329 *e*P P 01 49 37.3 -0.8
AGMN Agassiz Nation 89.82 34 P P 01 49 37.1 -1.1
baz=312
AGMN Agassiz Nation 89.82 34 *e*P P 01 49 37.8 -0.4
comp=Z,45nm,1.2s
PRU Pruhonice 89.82 329⇓ *e*P P 01 49 37.1 -1.0
PRU *ex* x 01 50 11.0
PRU Pruhonice 89.82 329 *e*P P 01 49 37.1 -1.0

TREC Trest 89.85 328⇓ *e*P P 01 49 37.7 -0.6
TREC AMS AMS 02 32 50.0
comp=Z,600nm,18.3s
TREC Trest 89.85 328 *e*P P 01 49 37.7 -0.6
TREC MLR MLR
comp=Z,600nm,18.3s
E31A Nome 89.93 36 P P 01 49 38.1 -0.6
baz=311,SNR=21
B33A Robert and Kas 89.97 34 P P 01 49 38.2 -0.7
baz=312
S22A 4UR Ranch, Cre 89.98 47 P P 01 49 39.4 0.0
baz=305,SNR=56
S22A 4UR Ranch, Cre 89.98 47 *e*P P 01 49 40.2 +0.8
comp=Z,44nm,1.1s
D32A Dogwood Acres, 90.00 35 P P 01 49 38.3 -0.7
baz=311
TURN Turunc 90.00 312 *i* P P 01 49 39.5 +0.2
AYDN Tasoluk 90.04 313 *i* P P 01 49 37.5 -1.9
VTS Vitosha 90.06 319⇑ *i*P P 01 49 39.2 -0.3
VTS Vitosha 90.06 319 *e*P P 01 49 38.8 -0.8
VTS pmax pmax
comp=Z,39nm,0.9s
VTS Vitosha 90.06 319 *e*P P 01 49 38.6 -0.9
VTS Vitosha 90.06 319 *e*P P 01 49 38.8 -0.8
comp=Z,39nm,0.9s
F31A Hecla 90.19 37 P P 01 49 39.1 -0.8
baz=310
C33A Trail 90.22 34 P P 01 49 39.3 -0.7
baz=312
TUC Tucson 90.23 53 P P 01 49 40.3 -0.2
baz=302
TUC Tucson 90.23 53 *e*P P 01 49 41.1 +0.6
TUC pmax pmax
comp=Z,41nm,1.3s
TUC Tucson 90.23 53 *e*P P 01 49 41.1 +0.6
comp=Z,41nm,1.3s
B34A Aery, Baudette 90.29 33 P P 01 49 39.6 -0.7
baz=313,SNR=14
E32A Braaten, Kindr 90.33 36 P P 01 49 39.7 -0.8
baz=311
MMB Musomiste 90.35 318 *e*P P 01 49 39.3 -1.5
Q24A Divide 90.36 45 P P 01 49 41.2 0.0
baz=306,SNR=29
Q24A Divide 90.36 45 *e*P P 01 49 41.8 +0.5
comp=Z,34nm,1.0s
SOP Sopron 90.42 326 *e*SKKPdf P 01 49 30.1 -11
KKB Krupnik 90.57 318 *e*P P 01 49 40.4 -1.4
CONA Conrad Observa 90.60 326 *e*PcP P 01 49 41.4 -0.5
comp=Z,62nm,1.0s,SNR=36
CONA *e*PP PP 01 53 22.2 -1.5
comp=Z,14nm,1.3s
D33A AnnSam, Waubun 90.60 35 P P 01 49 40.8 -1.0
baz=312
NKC Novy Kostel 90.61 330⇓ *e*P P 01 49 41.1 -0.7
NKC *e*PP PP 01 53 26.4 +2.8
NKC Novy Kostel 90.61 330 *e*P P 01 49 41.1 -0.7
NKC *e* 01 53 26.4
G31A Conde 90.62 37 P P 01 49 40.8 -1.1
baz=310
BDRM Kayabasi 90.66 313 *i* P P 01 49 41.0 -1.3
C34A RKJ Ranch, Bem 90.73 34 P P 01 49 41.1 -1.2
baz=313
DAT Datca 90.77 312 *i* P P 01 49 39.4 -3.5
B35A Bob, Littlefor 90.82 33 P P 01 49 42.2 -0.6
baz=314,SNR=9.0
SDCO Great Sand Dun 90.84 46 *e*P P 01 49 44.0 +0.5
comp=Z,52nm,1.1s
KHC Kasperske Hory 90.87 328⇓ *e*P P 01 49 41.8 -1.2
KHC *e*PP PP 01 53 25.5 -0.2
KHC Kasperske Hory 90.87 328 *e*P P 01 49 41.8 -1.2
KHC *e* 01 53 25.5
KHC Kasperske Hory 90.87 328 *e*P P 01 49 41.9 -1.1
comp=Z,27nm,1.1s
E33A Westby DABS, E 90.94 35 P P 01 49 43.0 -0.4
baz=312,SNR=22
D34A Park Rapids 90.97 34 P P 01 49 43.0 -0.5
baz=312,SNR=40
G32A Webster 90.98 37 P P 01 49 43.0 -0.6
baz=311,SNR=6.2
GEC2 GERESS Array S 91.01 328 *e*P P 01 49 42.9 -0.9
GEC2 pmax pmax
comp=Z,54nm,1.0s
GEC2 GERESS Array S 91.01 328 *e*P P 01 49 42.9 -0.9
comp=Z,54nm,1.0s
GERES GERESS Array B 91.01 328 P P 01 49 42.6 -1.2
comp=Z,40nm,1.0s,baz=42,slow=4.2,SNR=88
GERES PP PP 01 53 27.3 +0.4
comp=Z,3.3nm,0.8s,baz=43,slow=8.0,SNR=4.4
GEA0 GERESS Array S 91.02 328 *e*P P 01 49 42.2 -1.6
OGNE Ogallala 91.11 42 *e*P P 01 49 46.2 +1.8
comp=Z,38nm,0.8s
BEHE Becsehely 91.12 325⇑ *e*x P 01 49 43.5 -0.7
BEHE Becsehely 91.12 325⇑ *e*SKKPbc P 01 49 43.5 -0.7
BEHE Becsehely 91.12 325⇑ *e*SKKPbc P 01 49 43.5 -0.7
C35A Jirik Farms, M 91.16 33 P P 01 49 43.5 -0.8
baz=313,SNR=18
VAY Valandovo 91.21 318 *i* P P 01 49 43.7 -1.0
ARSA Arzberg 91.23 326 *e*PcP P 01 49 44.1 -0.6
comp=Z,57nm,1.1s,SNR=35
F33A 5 Mile Ranch, 91.23 36 P P 01 49 44.2 -0.5
baz=312,SNR=28
E34A Wadena 91.36 35 P P 01 49 44.5 -0.8
baz=312,SNR=9.0
MOA Molln 91.44 327 *e*PcP P 01 49 45.1 -0.6
comp=Z,39nm,0.9s,SNR=25
MOA *e*PP PP 01 53 32.7 +2.6
comp=Z,14nm,1.2s
SKO Skopje 91.47 319 *i* P P 01 49 45.4 -0.5
KPL Plockton 91.51 342 *e*P P 01 49 45.0 -0.7
D35A Remer 91.54 34 P P 01 49 45.0 -1.2
baz=313,SNR=7.1
G33A Ortonville 91.58 36 P P 01 49 45.9 -0.5
baz=312,SNR=23
LAZ Ladron 91.65 50 *e*P P 01 49 47.8 +0.7
C36A Pine Crest Far 91.67 33 P P 01 49 46.0 -0.7
baz=314,SNR=6.5
KARP Karpathos 91.71 312 *e*P P 01 49 45.8 -1.4
comp=Z,14nm,0.7s
MHTCO State Highway 91.72 47 *e*P P 01 49 48.2 +0.7
comp=Z,40nm,0.6s
WTSB Winterswijk 91.74 333 *e*P P 01 49 47.0 +0.1
comp=Z,52nm,1.4s
H33A Prehn Over Nor 91.76 37 P P 01 49 46.6 -0.6
baz=311,SNR=8.9
F34A Alexandria 91.80 35 P P 01 49 46.8 -0.5
baz=312,SNR=5.6
ANMO Albuquerque 91.81 49*d* *i*P P 01 49 47.7 -0.2
ANMO pmax pmax
comp=Z,61nm,1.0s
ANMO Albuquerque 91.81 49 *e*P P 01 49 48.3 +0.5
comp=Z,56nm,1.0s
319A Douglas 91.81 53 *e*P P 01 49 48.4 +0.5
comp=Z,47nm,1.0s
PERS Pernice 91.85 326 *i* P P 01 49 46.2 -1.5
HSIG 91.86 56 *e*P P 01 49 48.9 +0.9
comp=Z,32nm,1.1s
SOKA Soboth 91.86 326 *e*PcP P 01 49 46.7 -1.1
comp=Z,74nm,1.1s,SNR=53
SOKA *e*PP PP 01 53 34.9 +1.4
comp=Z,15nm,1.6s
T25A Trinidad 91.90 46 *e*P P 01 49 49.0 +0.7
comp=Z,88nm,1.3s
D36A Goodland 91.92 33 P P 01 49 46.8 -1.0
baz=314,SNR=6.4
KSCO Kaye Shedlock' 91.92 44 *e*P P 01 49 49.5 +1.2
comp=Z,55nm,1.3s
KRUS Krusevo 91.96 319 *i* P P 01 49 47.1 -1.2
K31A O'Neill 91.99 39 P P 01 49 47.5 -0.8
baz=310,SNR=6.4
C37A Embarrass 92.01 33 P P 01 49 47.4 -0.9
baz=315,SNR=6.7
LPM Los Pinos Moun 92.05 50 *e*P P 01 49 48.0 -0.9
BLY Banja Luka 92.06 323 *e*P P 01 49 47.8 -0.7
comp=Z,28nm,0.9s
F35A Swanville 92.11 35 P P 01 49 48.4 -0.4
baz=313,SNR=7.8
BIA Bitola 92.13 319 *e*P P 01 49 48.1 -1.0
BNM Barren Site 92.14 50 *e*P P 01 49 49.9 +0.5
EYMN Ely 92.18 32 *e*P P 01 49 48.8 -0.3
comp=Z,44nm,1.3s
OBKA Obir 92.22 326 *e*PcP P 01 49 47.9 -1.5
comp=Z,15nm,0.6s,SNR=16
OBKA *e*PP PP 01 53 35.5 -0.8
comp=Z,11nm,0.8s
121A Cookes Peak, D 92.24 52 P P 01 49 50.1 +0.2
baz=304,SNR=26

E36A	McGregor	92.33	34	P	P	01 49 48.8	-0.9
	baz=314,SNR=9.4						
SANT	Santorini	92.36	313	eP	P	01 49 47.8	-2.4
	comp=Z,72nm,1.3s						
OZLJ	Ozalj	92.37	325	P	P	01 49 47.0	-2.9
OHR	Ohrid	92.38	319	i P	P	01 49 48.5	-1.7
KBA	Koelnbreinsper	92.42	327	ePcP	P	01 49 48.9	-1.5
	comp=Z,14nm,0.5s,SNR=14						
KBA				ePP	PP	01 53 37.0	-1.0
	comp=Z,15nm,1.0s						
PDG	Podgorica	92.43	321⇑	iP	P	01 49 49.1	-1.2
C38A	Sawbill Land.	92.45	32	P	P	01 49 49.4	-1.0
	baz=316,SNR=14						
ECSD	EROS Data Cent	92.46	38	P	P	01 49 49.3	-1.2
	baz=311						
ECSD	EROS Data Cent	92.46	38	eP	P	01 49 50.0	-0.4
	comp=Z,26nm,1.1s						
EKA	Eskdalemuir Ar	92.52	340	P	P	01 49 49.3	-1.1
	comp=Z,1.8nm,0.3s,baz=42,slow=4.5,SNR=16						
EKA				PP	PP	01 53 35.6	-2.6
	comp=Z,4.1nm,0.8s,baz=40,slow=10,SNR=3.7						
J33A	Davis	92.53	38	P	P	01 49 50.0	-0.8
	baz=311,SNR=6.1						
BOJS	Bojanci	92.56	325	i P	P	01 49 49.5	-1.3
VISS	Visnje	92.56	325	i P	P	01 49 49.2	-1.7
MYKA	Terra Mystica	92.59	327	eP	P	01 49 49.4	-1.7
	comp=Z,42nm,0.8s,SNR=22						
MYKA				ePP	PP	01 53 41.1	+1.9
	comp=Z,17nm,0.9s						
G35A	Watkins	92.59	35	P	P	01 49 50.8	-0.2
	baz=313,SNR=16						
F36A	Milaca	92.64	34	P	P	01 49 50.4	-0.8
	baz=314,SNR=9.5						
I34A	Hadley	92.66	37	P	P	01 49 50.9	-0.4
	baz=312						
AGG	Agios Georgios	92.76	317	eP	P	01 49 49.8	-2.2
AGG				pmax	pmax		
	comp=Z,37nm,0.9s						
AGG	Agios Georgios	92.76	317	eP	P	01 49 49.8	-2.2
	comp=Z,37nm,0.9s						
H35A	Sunnyside Ranc	92.77	36	P	P	01 49 51.1	-0.7
	baz=313						
TIR	Tirane	92.78	320	eP	P	01 49 52.3	+0.4
TIR				pmax	pmax		
	comp=Z,19nm,0.7s						
TIR	Tirane	92.78	320	eP	P	01 49 52.3	+0.4
	comp=Z,19nm,0.7s						
L32A	Elgin	92.81	40	P	P	01 49 51.8	-0.3
	baz=310						
JAVS	Javornik	92.89	326	i P	P	01 49 50.4	-2.1
C39A	Grand Marais	92.92	31	P	P	01 49 52.3	-0.2
	baz=316						
UDBI	Udbina	92.95	324	P	P	01 49 51.8	-1.0
G36A	St. Michael	92.96	35	P	P	01 49 51.9	-0.8
	baz=314,SNR=6.1						
K33A	Hardington	92.98	39	P	P	01 49 51.1	-1.8
	baz=311						
HGN	Heimansgroeve	93.01	333	eP	P	01 49 51.5	-1.3
	comp=Z,37nm,1.2s						
STON	Ston	93.02	322	P	P	01 49 51.0	-1.9
ABTA	Abfaltersbach	93.06	327	eP	P	01 49 51.3	-1.9
	comp=Z,34nm,0.7s,SNR=31						
WATA	Walderalm	93.09	328	ePcP	P	01 49 51.9	-1.5
	comp=Z,13nm,0.8s						
WATA				ePP	PP	01 53 48.9	+5.8
	comp=Z,40nm,1.8s						
BEBN	Eben Emael	93.09	333	P	P	01 49 53.3	+0.2
	comp=Z,8.7nm,1.3s						
MEM	Membach	93.10	333	P	P	01 49 53.1	-0.1
	comp=Z,12nm,1.2s						
E38A	The Farm, Brul	93.10	33	P	P	01 49 52.5	-0.8
	baz=315,SNR=15						
BGNE	Belgrade	93.11	40	P	P	01 49 52.6	-0.9
	baz=310						
J34A	George	93.11	38	P	P	01 49 52.9	-0.6
	baz=312						
WTTA	Wattenberg	93.11	328	ePcP	P	01 49 52.3	-1.3
	comp=Z,15nm,1.1s						
WTTA				ePP	PP	01 53 46.7	+3.4
	comp=Z,8.6nm,1.0s						
L33A	Hoskins	93.12	39	P	P	01 49 52.9	-0.6
	baz=311						
STU	Stuttgart	93.13	330	eP	P	01 49 52.5	-0.9
STU				pmax	pmax		
	comp=Z,52nm,1.0s						
STU	Stuttgart	93.13	330	eP	P	01 49 52.5	-0.9
	comp=Z,52nm,1.0s						
TRI	Trieste	93.17	326	eP	P	01 49 51.7	-1.9
TRI				pmax	pmax		
	comp=Z,33nm,1.0s						
TRI	Trieste	93.17	326	eP	P	01 49 51.7	-1.9
	comp=Z,33nm,1.0s						
F37A	Hinrichs Farm,	93.19	34	P	P	01 49 52.8	-0.9
	baz=314						
MOTA	Moosalm	93.31	328	ePcP	P	01 49 53.0	-1.4
	comp=Z,11nm,0.7s,SNR=20						
MOTA				ePP	PP	01 53 48.3	+3.6
	comp=Z,7.3nm,0.9s						
H36A	Jessenland, He	93.32	36	P	P	01 49 53.8	-0.6
	baz=313,SNR=5.5						
SQTA	Sankt Quirin	93.34	328	ePP	PP	01 53 44.8	-0.3
	comp=Z,0.1nm,0.9s						
RETA	Reutte	93.36	329	ePcP	P	01 49 53.6	-0.9
	comp=Z,21nm,1.1s,SNR=12						
IDI	Anoyia	93.38	312	P	P	01 49 52.7	-2.2
	comp=Z,12nm,0.4s,baz=47,slow=7.2,SNR=22						
IDI	Anoyia	93.38	312	eP	P	01 49 52.7	-2.2
	comp=Z,53nm,1.4s						
NVLJ	Novalja	93.40	324	P	P	01 49 52.1	-2.5
F38A	Pierce - Schro	93.40	34	P	P	01 49 54.3	-0.4
	baz=315,SNR=23						
K34A	Le Mars	93.43	38	P	P	01 49 54.6	-0.3
	baz=312						
SPMN	Marine on St.	93.45	35	P	P	01 49 54.3	-0.6
	baz=314,SNR=15						
SPMN	Marine on St.	93.45	35	eP	P	01 49 54.3	-0.6
	comp=Z,28nm,0.9s						
J35A	Milford	93.46	37	P	P	01 49 55.1	0.0
	baz=312						
BCLA	Clavier	93.53	333	P	P	01 49 55.3	+0.1
	comp=Z,9.8nm,1.1s						
LANF	Langenberg	93.59	331	eP	P	01 49 54.7	-0.8
I36A	Fitzsimmons Fa	93.66	36	P	P	01 49 55.6	-0.3
	baz=313						
FETA	Feichten	93.72	328	ePcP	P	01 49 55.1	-1.2
	comp=Z,30nm,1.0s,SNR=15						
FETA				ePP	PP	01 53 50.9	+3.0
	comp=Z,9.5nm,1.4s						
E39A	Mellen	93.75	33	P	P	01 49 55.6	-0.7
	baz=316,SNR=9.2						
L34A	Svendsen Farm,	93.75	39	P	P	01 49 55.5	-1.0
	baz=312						
WLF	Walferdange	93.77	332	P	P	01 49 55.6	-0.7
	comp=Z,28nm,1.3s						
WLF	Walferdange	93.77	332	eP	P	01 49 55.6	-0.7
WLF				pmax	pmax		
	comp=Z,45nm,1.1s						
WLF	Walferdange	93.77	332	eP	P	01 49 55.6	-0.7
	comp=Z,45nm,1.1s						
CBKS	Cedar Bluff	93.82	43	P	P	01 49 56.5	-0.4
	baz=309						
CBKS	Cedar Bluff	93.82	43	eP	P	01 49 58.2	+1.4
CBKS				pmax	pmax		
	comp=Z,30nm,0.9s						
CBKS	Cedar Bluff	93.82	43	eP	P	01 49 58.2	+1.4
	comp=Z,30nm,0.9s						
H37A	Dierke Farm, C	93.84	35	P	P	01 49 56.4	-0.4
	baz=314,SNR=6.2						
BFO	Black Forest	93.85	330	i P	P	01 49 55.5	-1.2
BFO	Black Forest	93.85	330	eP	P	01 49 55.2	-1.5
	comp=Z,54nm,1.2s						
SNF	Seneffe	93.87	334	P	P	01 49 57.2	+0.5
K35A	Storm Lake	93.88	38	P	P	01 49 56.5	-0.5
	baz=312						
F39A	Loretta	93.91	33	P	P	01 49 56.1	-1.0
	baz=316,SNR=6.3						
DAVA	Damuels	93.92	329	ePcP	P	01 49 56.1	-1.1
	comp=Z,52nm,1.1s,SNR=19						
DAVA				ePP	PP	01 53 50.1	+0.6
	comp=Z,7.7nm,0.9s						
M34A	Aspy Farms, Fr	93.94	39	P	P	01 49 56.6	-0.7
	baz=311						
J36A	Seneca 1, Swea	93.95	37	P	P	01 49 56.5	-0.8
	baz=313						
G38A	Ridgeland	93.97	34	P	P	01 49 56.3	-1.0
	baz=315,SNR=5.4						
I37A	Lemond, Waseca	93.98	36	P	P	01 49 57.1	-0.3
	baz=314,SNR=6.6						
E40A	Wakefield	94.02	32	P	P	01 49 57.2	-0.3
	baz=316,SNR=21						
DOU	Dourbes	94.07	333	P	P	01 49 57.2	-0.4
	comp=Z,8.0nm,1.6s						
H38A	Maiden Rock	94.10	35	P	P	01 49 57.4	-0.6
	baz=315,SNR=20						
CWF	Charnwood Fore	94.11	338	eP	P	01 49 56.8	-0.9
	comp=Z,94nm,1.7s						
L35A	Bielow Farm, R	94.12	38	P	P	01 49 57.6	-0.5
	baz=312						
D41A	Chassel	94.20	31	P	P	01 49 58.6	+0.3
	baz=318						
WLS	Welschbruch	94.21	331	eP	P	01 49 56.9	-1.5
FUORN	Ofenpass-Fuorn	94.23	328	eP	P	01 49 58.1	-0.7
	comp=Z,82nm,1.1s						
G39A	Holcombe	94.23	34	P	P	01 49 57.5	-1.0
	baz=316,SNR=8.6						
DAVOX	Davos/Dischmat	94.29	328	P	P	01 49 58.0	-1.0
	comp=Z,16nm,0.5s,baz=320,slow=2.0,SNR=33						
DAVOX				PP	PP	01 53 47.2	-5.2
	comp=Z,2.1nm,0.6s,baz=21,slow=8.6,SNR=2.1						
F40A	Park Falls	94.29	33	P	P	01 49 58.0	-0.8
	baz=316,SNR=7.5						
O33A	Hebron	94.30	41	P	P	01 49 58.5	-0.5
	baz=311						
K36A	Gilmore City	94.36	37	P	P	01 49 58.8	-0.4
	baz=313,SNR=5.4						
J37A	Redenius Farm,	94.39	36	P	P	01 49 58.4	-0.9
	baz=314						
MNTX	Cornudas Mount	94.39	51	P	P	01 49 59.3	-0.3
	baz=305						
MNTX	Cornudas Mount	94.39	51	eP	P	01 49 59.8	+0.2
	comp=Z,8.9nm,0.9s						
N34A	Lincoln	94.43	40	P	P	01 49 58.9	-0.6
	baz=311						
E41A	Kenton	94.45	32	P	P	01 49 59.4	-0.1
	baz=317						
ECH	Echery	94.45	331	eP	P	01 49 57.6	-1.9
M35A	Neola	94.47	39	P	P	01 49 58.7	-1.0
	baz=312						
I38A	Scanlan Farm,	94.52	35	P	P	01 49 59.2	-0.6
	baz=314,SNR=6.9						
H39A	Augusta	94.60	34	P	P	01 49 59.6	-0.6
	baz=315						
L36A	Harm Buss Farm	94.61	38	P	P	01 49 59.4	-0.9
	baz=313						
COWI	Conover	94.63	32	eP	P	01 49 59.6	-0.7
	comp=Z,13nm,1.0s						
K37A	Belmond	94.71	37	P	P	01 50 00.0	-0.7
	baz=314,SNR=15						
G40A	Rib Lake	94.72	33	P	P	01 50 00.1	-0.7
	baz=316,SNR=18						
MOF	Molkenrain	94.73	331	eP	P	01 49 59.2	-1.7
O34A	Beatrice	94.75	40	P	P	01 50 00.1	-0.9
	baz=311						
TUE	Stuetta	94.77	329	eP	P	01 49 59.5	-1.7
	comp=Z,18nm,1.0s						
MSTX	Muleshoe	94.85	48	P	P	01 50 00.9	-0.8
	baz=307						
MSTX	Muleshoe	94.85	48	eP	P	01 50 04.2	+2.5
	comp=Z,13nm,1.2s						
N35A	Tabor	94.90	39	P	P	01 50 01.3	-0.4
	baz=312						
F41A	Three Lakes	94.91	32	P	P	01 50 00.9	-0.7
	baz=317,SNR=7.9						
THEF	They Montfort	94.94	331	eP	P	01 50 00.1	-1.6
J38A	Wedel Dairy, R	94.95	36	P	P	01 50 00.4	-1.4
	baz=314						
E42A	Champion	94.96	31	P	P	01 50 00.3	-1.5
	baz=318						
M36A	Felix, Anita	94.97	38	P	P	01 50 01.8	-0.1
	baz=313						
AMTX	Amarillo	95.02	47	P	P	01 50 01.4	-1.1
	baz=308						
AMTX	Amarillo	95.02	47	eP	P	01 50 02.4	0.0
	comp=Z,22nm,1.1s						
AMTX				epP	pP	01 51 46.3	+2.0
I39A	Houston	95.06	35	P	P	01 50 01.2	-1.1
	baz=315,SNR=5.8						
P34A	Walnut Farm, R	95.08	41	P	P	01 50 01.9	-0.6
	baz=311						
H40A	Chili	95.09	34	P	P	01 50 01.7	-0.7
	baz=316,SNR=6.4						
L37A	Phoenix Point,	95.09	37	P	P	01 50 02.0	-0.5
	baz=313						
O35A	Humboldt	95.14	40	P	P	01 50 02.6	-0.1
	baz=312						
G41A	Antigo	95.26	33	P	P	01 50 02.5	-0.7
	baz=317						
K38A	Parkersburg	95.26	36	P	P	01 50 02.7	-0.5
	baz=314						
J39A	Decorah	95.34	35	P	P	01 50 02.3	-1.3
	baz=315,SNR=12						
F42A	Maple Grove Fa	95.36	32	P	P	01 50 02.6	-1.0
	baz=318						
SCHQ	Schefferville	95.39	15	P	P	01 50 02.9	-0.6
	comp=Z,9.6nm,0.9s,baz=244,slow=14,SNR=3.5						
SCHQ	Schefferville	95.39	15	eP	P	01 50 02.9	-0.6
	comp=Z,44nm,1.4s						
M37A	Trindle Farm,	95.42	38	P	P	01 50 03.1	-0.9
	baz=313						
Q34A	Chapman	95.43	41	P	P	01 50 02.8	-1.3
	baz=311						
E43A	Lone Tree Farm	95.43	31	P	P	01 50 02.6	-1.3
	baz=319						
H41A	Junction City	95.46	33	P	P	01 50 02.9	-1.2
	baz=317						
I40A	Norwalk	95.50	34	P	P	01 50 04.6	+0.3
	baz=316						
KSU1	Kansas State U	95.50	41	P	P	01 50 03.7	-0.8
	baz=311						
L38A	Oak Wood Farm,	95.51	37	P	P	01 50 04.0	-0.4
	baz=314						
P35A	Duane Minner,	95.57	40	P	P	01 50 04.3	-0.4
	baz=312						
G42A	Mountain	95.60	32	P	P	01 50 03.8	-0.9
	baz=318						
R34A	Isabella, Hill	95.65	42	P	P	01 50 04.7	-0.4
	baz=311						
K39A	Oelwein	95.69	36	P	P	01 50 03.8	-1.4
	baz=315,SNR=6.6						
AQU	L'Aquila	95.70	324	eP	P	01 50 04.9	-0.4
AQU				pmax	pmax		
	comp=Z,36nm,0.9s						
AQU	L'Aquila	95.70	324	eP	P	01 50 04.9	-0.4
	comp=Z,36nm,0.9s						
E44A	Grand Marais A	95.73	30	P	P	01 50 04.3	-0.9
	baz=320						
F43A	Flat Rock, Esc	95.75	31	P	P	01 50 04.9	-0.5
	baz=318,SNR=6.4						
I41A	Arkdale	95.75	34	P	P	01 50 05.1	-0.3
	baz=316						
N37A	Lee Faris, Mou	95.77	39	P	P	01 50 05.3	-0.3
	baz=313						
SENIN	Lac Senin/Sane	95.79	330	eP	P	01 50 04.8	-1.1
	comp=Z,8.6nm,0.8s						
J40A	Soldiers Grove	95.79	35	P	P	01 50 04.9	-0.7
	baz=316						
M38A	Pleasantville	95.88	38	P	P	01 50 05.2	-0.9
	baz=314,SNR=9.5						
G43A	Wallace	95.94	32	P	P	01 50 05.3	-0.9
	baz=318,SNR=8.3						
CUC	Castrocucco	95.99	321	eP	P	01 50 04.8	-1.9
	comp=Z,15nm,0.9s						
F44A	Big Bay de Noc	95.99	31	P	P	01 50 05.9	-0.6
	baz=319						
Q35A	Mercer Eighty,	96.00	41	P	P	01 50 05.8	-0.9
	baz=312,SNR=7.8						
L39A	Vinton	96.03	36	P	P	01 50 06.0	-0.7
	baz=315,SNR=12						
K40A	Colesburg	96.08	36	P	P	01 50 06.1	-0.9
	baz=315,SNR=5.9						
J41A	Loganville	96.18	35	P	P	01 50 06.4	-1.0
	baz=316,SNR=5.8						
E45A	Wooded Hills,	96.27	30	P	P	01 50 07.2	-0.4
	baz=320						
N38A	Joes South For	96.29	38	P	P	01 50 07.7	-0.2
	baz=314						
I42A	Draeger Farm,	96.35	34	P	P	01 50 07.4	-0.7
	baz=317,SNR=5.2						
JFWS	Jewell Farm	96.39	35	eP	P	01 50 09.9	+1.6
JFWS				pmax	pmax		
	comp=Z,26nm,1.4s						
JFWS	Jewell Farm	96.39	35	eP	P	01 50 09.9	+1.6
	comp=Z,26nm,1.4s						
M39A	Webster	96.39	37	P	P	01 50 07.9	-0.4
	baz=314						
P37A	Lathrop	96.49	40	P	P	01 50 08.5	-0.3
	baz=313						
L40A	Anamosa	96.49	36	P	P	01 50 07.5	-1.3
	baz=315,SNR=5.3						
T34A	McClaskey Farm	96.51	43	P	P	01 50 08.5	-0.6
	baz=311						
K41A	Shullsburg	96.58	35	P	P	01 50 08.2	-1.0
	baz=316						
S35A	Otter Creek Ra	96.61	42	P	P	01 50 08.6	-0.8
	baz=311						
F45A	CMU Biological	96.63	31	P	P	01 50 08.1	-1.2
	baz=320						
N39A	Derby Farms, D	96.63	38	P	P	01 50 09.5	0.0
	baz=314						
R36A	Gordon, Harris	96.67	41	P	P	01 50 10.2	+0.5
	baz=312						
M40A	Post Highland	96.80	37	P	P	01 50 10.5	+0.3
	baz=315						
L41A	Preston	96.86	36	P	P	01 50 09.7	-0.7
	baz=316						
HPIG		96.90	55	eP	P	01 50 15.6	+4.4
	comp=Z,10.0nm,1.3s						
P38A	Dawn	96.92	39	P	P	01 50 10.0	-0.8
	baz=313						
TX31	Lajitas Ar. Si	96.97	52	eP	P	01 50 11.9	+0.6
TX31				epP	pP	01 51 57.5	+4.2
LTX	Lajitas	96.97	52	eP	P	01 50 12.0	+0.7
LTX				ePP	pP	01 51 54.4	+1.1
LTX	Lajitas	96.97	52	eP	P	01 50 11.9	+0.7
LTX				epP	pP	01 51 54.4	+1.1
TXAR	Lajitas Array	96.97	52	P	P	01 50 11.9	+0.6
	comp=Z,9.9nm,0.8s,baz=302,slow=2.2,SNR=39						
TXAR				pP	pP	01 51 54.4	+1.1
	comp=Z,1.2nm,0.7s,baz=316,slow=2.5,SNR=3.2						
WMOK	Wichita Mounta	96.98	46	P	P	01 50 10.2	-1.0
	baz=309						
WMOK	Wichita Mounta	96.98	46	eP	P	01 50 11.4	+0.2
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WMOK	Wichita Mounta	96.98	46	eP	P	01 50 11.4	+0.2
	comp=Z,8.7nm,1.3s						
T35A	Sooner Cattle	96.99	43	P	P	01 50 10.0	-1.2
	baz=311						
S36A	Lake Cedric, C	97.01	42	P	P	01 50 10.3	-1.0
	baz=312						
BNI	Bardonecchia	97.07	329	eP	P	01 50 10.1	-1.4
BNI				pmax	pmax		
	comp=Z,12nm,1.0s						
BNI	Bardonecchia	97.07	329	eP	P	01 50 10.1	-1.4
	comp=Z,12nm,1.0s						
R37A	Teagarden Farm	97.07	41	P	P	01 50 10.4	-1.1
	baz=312						
CEL	Celeste	97.11	319	eP	P	01 50 10.5	-1.2
	comp=Z,96nm,0.9s						
N40A	Mertquake, Sal	97.12	37	Pdiff	P	01 50 11.2	-0.5
	baz=315						
U35A	Pawnee	97.21	43	Pdiff	P	01 50 11.8	-0.3
	baz=311						
T36A	Boggs Farm, Ca	97.28	42	Pdiff	P	01 50 12.0	-0.5
	baz=312						
Q38A	Cooks Store, C	97.33	40	Pdiff	P	01 50 12.1	-0.5
	baz=313						
M41A	Milan	97.33	36	Pdiff	P	01 50 11.7	-0.9
	baz=316						
S37A	Fort Scott	97.44	41	Pdiff	P	01 50 12.8	-0.3
	baz=312						
P39B	Salisbury	97.45	39	Pdiff	P	01 50 13.0	-0.1
	baz=314						
O40A	La Belle	97.50	38	Pdiff	P	01 50 12.7	-0.6
	baz=315						
LUCF	Luceram	97.63	328	eP	P	01 50 12.0	-2.0
L43A	Garden Prairie	97.68	35	Pdiff	P	01 50 12.7	-1.4
	baz=317						
M42A	Sheffield	97.69	36	Pdiff	P	01 50 13.0	-1.1
	baz=316						
R38A	Fenwick Farm,	97.69	40	Pdiff	P	01 50 13.6	-0.6
	baz=313						
PLDF	La Plantade	97.72	331	eP	P	01 50 13.3	-1.0
MVIF	Mont Vial	97.72	328	eP	P	01 50 12.6	-1.8
REVF	Revere	97.74	328	eP	P	01 50 12.5	-1.9
ABTX	Abilene, Hawle	97.74	48	Pdiff	P	01 50 14.2	-0.5
	baz=309						
ABTX	Abilene, Hawle	97.74	48	eP	Pdif	01 50 16.5	+1.9
	comp=Z,14nm,1.1s						
T37A	Cheneyville 18	97.81	42	Pdiff	P	01 50 13.7	-1.1
	baz=312						
P40A	Paris	97.82	38	Pdiff	P	01 50 14.5	-0.2
	baz=314						
SSB	Saint Sauveur	97.86	330	eP	P	01 50 13.7	-1.2
SSB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SSB	Saint Sauveur	97.86	330	eP	P	01 50 13.7	-1.2
	comp=Z,6.6nm,0.8s						
AGO	Saint Agoulin	97.86	332	eP	P	01 50 11.7	-3.2
W35A	Tecumseh	97.92	44	Pdiff	P	01 50 14.6	-0.7
	baz=311						
O41A	Passleys Farm,	98.05	37	Pdiff	P	01 50 15.1	-0.6
	baz=315						
S38A	Stockton	98.06	41	Pdiff	P	01 50 15.4	-0.5
	baz=313						
PYM	Petit Puy Mans	98.15	331	eP	P	01 50 15.0	-1.2
U37A	Salina	98.17	42	Pdiff	P	01 50 15.8	-0.6
	baz=312						
T38A	Diamond	98.24	41	Pdiff	P	01 50 16.0	-0.8
	baz=313						
P41A	Barry, Barry	98.26	38	Pdiff	P	01 50 15.8	-0.9
	baz=315						
W36A	Wetumka	98.33	44	Pdiff	P	01 50 16.2	-1.0
	baz=311						
X35A	Drake	98.34	45	Pdiff	P	01 50 16.1	-1.1
	baz=310						
S39A	Bolivar	98.36	40	Pdiff	P	01 50 17.0	-0.3
	baz=313						
VAE	Valguarnera	98.50	319	P	P	01 50 19.1	+1.2
	comp=Z,4.6nm,0.8s,baz=97,slow=17,SNR=2.1						
V37A	Hulbert	98.50	43	Pdiff	Pdif	01 50 17.2	-0.7
	baz=312						
R40A	Maddies Statio	98.56	39	Pdiff	Pdif	01 50 17.7	-0.4
	baz=314						
U38A	Gravette	98.59	42	Pdiff	Pdif	01 50 18.1	-0.2
	baz=312						
Q41A	Truxton	98.67	38	Pdiff	Pdif	01 50 18.2	-0.4
	baz=315						
P42A	Winchester	98.71	37	Pdiff	Pdif	01 50 18.1	-0.7
	baz=316						
T39A	Clever	98.79	41	Pdiff	Pdif	01 50 18.5	-0.7
	baz=313						
W37B	Quinton	98.82	43	Pdiff	Pdif	01 50 18.6	-0.8
	baz=312						
S40A	Lebanon	98.90	40	Pdiff	Pdif	01 50 19.2	-0.4
	baz=314						
V38A	Canehill	98.96	42	Pdiff	Pdif	01 50 18.9	-1.0
	baz=312						
JCT	Junction City	98.96	49	Pdiff	Pdif	01 50 19.9	-0.3
	baz=308						
U39A	Green Forest	99.16	41	Pdiff	**Pdif**	01 50 20.2	-0.7
	baz=313						
T40A	Mansfield	99.20	40	Pdiff	**Pdif**	01 50 19.7	-1.3
	baz=314						
X37A	Clayton	99.22	44	Pdiff	**Pdif**	01 50 20.7	-0.4
	baz=312						
R42A	Luebbering	99.39	39	Pdiff	**Pdif**	01 50 21.6	-0.2
	baz=315						
W38A	Poteau	99.42	43	Pdiff	**Pdif**	01 50 21.8	-0.3
	baz=312						
U40A	Yellville	99.55	41	Pdiff	**Pdif**	01 50 22.1	-0.4
	baz=314						
WHTX	Lake Whitney,	99.58	47	Pdiff	**Pdif**	01 50 23.2	+0.4
	baz=310						
WHTX	Lake Whitney,	99.58	47	ePdif	**Pdif**	01 50 24.7	+1.9
	comp=Z,17nm,1.1s						
T41A	Mountain View	99.71	40	Pdiff	**Pdif**	01 50 23.4	+0.2
	baz=314						
P44A	Sand Creek, Wi	99.72	36	Pdiff	**Pdif**

comp=Z,4.3nm,1.0s,baz=250,slow=0.3,SNR=7.3
ES19 SONSECA Array 106.02 332 *e*Pdif **Pdif 01 50 51.8 +0.4**
ESDC Sonseca Array 106.07 332 Pdif **Pdif 01 50 49.9 -1.7**
comp=Z,0.1nm,0.3s,baz=24,slow=3.9,SNR=4.5
ESDC PP **PP 01 55 13.8 -6.4**
comp=Z,3.1nm,0.8s,baz=25,slow=6.5,SNR=8.5
POLO Lamas de Olo 106.12 336 *e*PKiKP **PKiKP 01 55 02.9 +1.9**
MTE Manteigas 106.87 335 *e*PKiKP **PKiKP 01 55 02.6 +0.3**
PCBR Castelo Branco 107.33 335 *e*PKiKP **PKiKP 01 55 05.5 +2.4**
MAW Mawson 109.92 203 PKKPbc PKKPbc 02 06 10.1 -2.8
comp=Z,0.9nm,0.4s,baz=285,slow=9.4,SNR=4.1
MAW PKKP **PKKPab 02 06 24.2 +2.2**
comp=Z,2.3nm,0.7s,baz=295,slow=9.6,SNR=7.4
MDT Midelt 112.09 329 PKiKP **PKiKP 01 55 12.8 +0.3**
comp=Z,1.8nm,0.8s,baz=12,slow=3.2,SNR=4.8
MDT PP PP 01 55 49.1 -15
comp=Z,1.9nm,0.8s,baz=47,slow=7.1,SNR=4.1
LSZ Lusaka 116.45 266 PKP **PKPdf 01 55 20.9 -0.2**
comp=Z,4.8nm,0.5s,baz=68,slow=2.2,SNR=10
LSZ SKP 01 58 12.1
comp=Z,12nm,0.8s,baz=83,slow=1.9,SNR=18
LSZ Lusaka 116.45 266 *e*PKPdf **PKPdf 01 55 21.1 -0.1**
QSPA South Pole Qui 116.55 180 *e*PKPdf **PKPdf 01 55 18.6 -1.2**
BLWY Bulawayo 117.84 260 *i* P **PKPdf 01 55 22.9 -0.8**
MATP Matopo 118.04 260 *i* P **PKPdf 01 55 22.9 -1.2**
MATP Matopo 118.04 260 PKP **PKPdf 01 55 23.2 -0.9**
comp=Z,6.0nm,0.5s,baz=55,slow=2.1
MATP SKP 01 58 14.7
comp=Z,7.7nm,0.8s,baz=80,slow=1.4,SNR=8.5
MATP PKKPbc **PKKPbc 02 05 45.0 +0.5**
comp=Z,3.1nm,1.1s,baz=265,slow=11,SNR=2.3
SYO Syowa Base 118.63 204‖ *e*PKPdf **PKPdf 01 55 21.0 -2.6**
SYO Syowa Base 118.63 204‖ *e*PKiKP **PKiKP 01 55 24.2 +0.6**
LBTB Lobatse 122.03 256 *e*PKiKP **PKPdf 01 55 31.6 -0.1**
LBTB Lobatse 122.03 256 *e*PKPdf **PKPdf 01 55 31.6 -0.1**
BOSA Boshof 123.31 252 *i* P **PKPdf 01 55 33.9 -0.1**
BOSA Boshof 123.31 252 PKP **PKPdf 01 55 32.9 -1.1**
comp=Z,4.3nm,0.9s,baz=78,slow=2.8,SNR=5.8
BOSA SKP 01 58 24.8
comp=Z,2.7nm,0.8s,baz=115,slow=3.9,SNR=3.8
TOA1 Torodi Ar. Sit 123.67 310 *e*PKPdf **PKPdf 01 55 33.5 -1.5**
TOA1 *e*PP pPKPdf 01 57 08.8 -14
TOA0 Torodi Ar. Sit 123.67 310 *e*PKPdf **PKPdf 01 55 33.5 -1.5**
TORD Torodi Ar. Bea 123.67 310 PKP **PKPdf 01 55 33.5 -1.5**
comp=Z,8.9nm,0.4s,baz=30,slow=1.7,SNR=100
TORD PP pPKPdf 01 57 08.8 -14
comp=Z,9.1nm,1.1s,baz=25,slow=7.6,SNR=10.0
TORD SKP 01 58 27.4
comp=Z,6.4nm,1.0s,baz=34,slow=2.7,SNR=5.4
TORD PKKPbc **PKKPbc 02 05 21.9 -2.1**
comp=Z,1.4nm,0.6s,baz=218,slow=3.0,SNR=13
BCIP Isla Barro Col 126.98 53 *e*P PKPpre 01 55 37.2
BCIP Isla Barro Col 126.98 53 *e*PKPdf **PKPdf 01 55 42.0 +0.7**
TSUM Tsumeb 127.31 266 *e*PKPdf **PKPdf 01 55 42.5 +0.6**
NVL N'lazarevskaya 127.44 199 *e*PKIKP **PKPdf 01 55 44.0 +3.5**
HUMP Col San Antoni 128.53 33 *e*PKPdf **PKPdf 01 55 45.0 +0.9**
STVI Saint Thomas 128.77 32 *e*PKPdf **PKPdf 01 55 44.4 -0.2**
SJCC San Jacinto, C 129.69 48 *e*P **PKPdf 01 55 44.8 -1.8**
MOTC Monteria, Cord 130.18 50 *e*P **PKPdf 01 55 45.9 -1.5**
SNAA Sanae 130.70 194 PKP **PKPdf 01 55 46.0 -0.8**
SNAA Sanae 130.70 194 *e*PKIKP **PKPdf 01 55 45.9 -0.8**
SNAA Sanae 130.70 194 *e*PKPdf **PKPdf 01 55 45.9 -0.8**
ZARC Zaragoza, Cauc 131.65 50 *e*P **PKPdf 01 55 48.5 -1.8**
HELC Santa Helena 132.10 52 *e*P **PKPdf 01 55 51.1 -0.5**
HELC Santa Helena 132.10 52 *e*PKPdf **PKPdf 01 55 53.2 +1.7**
VNA2 Neumayer--Watz 132.24 194 PKP **PKPdf 01 55 48.6 -1.0**
baz=161,slow=0.8
VNA3 Neumayer Olymp 132.45 193 PKP **PKPdf 01 55 49.9 -0.1**
VNA1 Neumayer--Stat 132.64 194 PKP **PKPdf 01 55 47.2 -3.1**
BRRC Barranca, Sant 132.71 49 *e*P **PKPdf 01 55 51.1 -1.1**
DBIC Dimbokro 132.78 310 PKP **PKPdf 01 55 51.1 -1.3**
comp=Z,17nm,0.6s,baz=25,slow=1.7,SNR=18
DBIC SKPbc **SKPbc 01 58 37.6 +0.3**
comp=Z,40nm,0.9s,baz=22,slow=3.8,SNR=14
DBIC Dimbokro 132.78 310 *e*PKIKP **PKPdf 01 55 51.5 -0.8**
DBIC Dimbokro 132.78 310 *e*PKPdf **PKPdf 01 55 51.5 -0.8**
DBIC *e*SKPbc **SKPbc 01 58 38.1 +0.8**
GUYC Guyana, Colomb 132.88 53 *e*P **PKPdf 01 55 50.5 -2.6**
TIC Toumodi 132.91 310 *e*PKP1 PKPpre 01 55 38.8
TIC Toumodi 132.91 310 *e*P **PP 01 58 22.2 -1.3**
KIC Kosan Boka 132.92 309 *e*PKP1 PKPpre 01 55 38.3
comp=Z,42nm,0.8s
KIC Kosan Boka 132.92 309 *e*P **PP 01 58 23.7 +0.1**
comp=Z,114nm,0.9s
BBTS Babate 133.17 329 PKP **PKPdf 01 55 52.3 -0.7**
comp=Z,11nm,0.6s,baz=115,slow=5.3,SNR=3.1
BBTS PP **PP 01 58 23.2 -1.3**
comp=Z,14nm,0.8s,baz=26,slow=3.4,SNR=3.9
BBTS SKP 01 58 42.7
comp=Z,58nm,1.0s,baz=34,slow=1.6,SNR=7.7
LIC Lamto 133.22 310 *e*PKP1 PKPpre 01 55 37.4
comp=Z,83nm,1.0s
LIC Lamto 133.22 310 *e*P **PP 01 58 20.7 -4.7**
comp=Z,162nm,1.0s
SDV Santo Domingo 133.40 45 *e*PKPdf **PKPdf 01 55 53.4 -0.4**
BARC Barichara 133.44 49 *e*P **PKPdf 01 55 52.7 -1.1**
POPC Popayan, Colom 133.75 57 *e*P **PKPdf 01 55 52.4 -2.1**
OTAV Otavalo 133.87 61 *e*PKPdf **PKPdf 01 55 57.9 +2.9**
ROSC El Rosal 133.91 52 PKP **PKPdf 01 55 53.7 -1.2**
comp=Z,3.0nm,0.4s,baz=102,slow=19,SNR=3.8
CMBC Cumbal 133.91 59 *e*P **PKPdf 01 55 51.3 -3.7**
RUSC La Rusia 134.02 50 *e*P PKPpre 01 55 38.8
RUSC La Rusia 134.02 50 *e*PKPpre PKPpre 01 55 43.3
CHIC Chingaza 134.47 52 *e*P **PKPdf 01 55 55.7 -0.4**
NNA Nana 141.96 75 *e*PKPpre PKPpre 01 56 05.5
GO10 Punta Arenas 144.72 147 *e*PKPdf **PKPab 01 56 13.8 +0.4**
GO09 Cerro Castillo 145.11 143 *e*PKPdf **PKPbc 01 56 14.2 +0.1**
CHRN Cochrane 146.94 137 *e*PKPbc **PKPbc 01 56 19.6 +0.1**
PTGA Pitinga 147.46 41 *e*PKPdf **PKPdf 01 56 18.5 -0.1**
PLCA Paso Flores 150.81 126 PKP **PKPdf 01 56 22.8 -0.5**
comp=Z,5.4nm,0.9s,baz=290,slow=2.5,SNR=17
PLCA PKPbc **PKPbc 01 56 29.1 -0.2**
comp=Z,51nm,1.0s,baz=247,slow=4.7,SNR=32
PLCA pPKPbc **pPKPbc 01 58 17.8 +1.3**
comp=Z,30nm,1.0s,baz=241,slow=3.9,SNR=11
PLCA Paso Flores 150.81 126 PKIKP **PKPdf 01 56 22.8 -0.5**
PLCA pmax pmax
comp=Z,16nm,0.9s
PLCA pmax pmax
comp=Z,51nm,1.0s
PLCA pmax pmax
comp=Z,30nm,1.0s
PLCA Paso Flores 150.81 126 *e*PKPdf **PKPdf 01 56 24.2 +0.9**
PLCA *ep*PKPab **pPKPbc 01 58 18.9 +2.4**
GO05 HualaæØ 151.05 114 *e*PKPbc **PKPbc 01 56 29.1 -0.9**
MNMC Minye Minye 151.28 81 *e*PKPdf **PKPdf 01 56 26.7 +1.9**
SAML Samuel 151.39 56 *e*PKPdf **PKPdf 01 56 24.5 -0.3**
LPAZ La Paz 151.43 74 PKPbc **pPKPbc 01 56 32.3 +0.2**
comp=Z,18nm,0.6s,baz=1.9,slow=3.8,SNR=32
LPAZ pPKPbc **pPKPbc 01 58 21.0 +1.8**
comp=Z,17nm,0.8s,baz=203,slow=5.0,SNR=7.0
LPAZ La Paz 151.43 74 *e*PKIKP **PKPdf 01 56 26.2 +0.6**
LPAZ La Paz 151.43 74 *e*PKPdf **PKPdf 01 56 26.1 +0.6**
LPAZ *e*PKPbc **PKPbc 01 56 32.3 +0.2**
LPAZ *ep*PKPab **pPKPbc 01 58 21.0 +1.8**
PB04 IPOC Station P 151.78 88 *e*PKPbc **PKPbc 01 56 31.5 -0.7**
PB01 IPOC Station P 152.00 85 *e*PKPdf **PKPdf 01 56 27.3 +1.6**
LCO Las Campanas 152.34 102 *e*PKPbc **PKPbc 01 56 34.8 +1.4**
LVC Limon Verde 152.96 88 *e*PKPdf **PKPdf 01 56 29.3 +1.9**
LVC *e*PKPbc **PKiKP 01 56 35.3 +0.1**
TRQA Tornquist 157.97 126 *e*PKPab **PKPab 01 57 11.1 +1.9**
RCBR Riachuelo 158.89 350 PKPab **PKPab 01 57 12.7 -0.9**
comp=Z,14nm,0.9s,baz=358,slow=4.9,SNR=4.7
CPUP Villa Florida 164.00 92 PKP **PKPdf 01 56 38.6 -1.2**
comp=Z,12nm,1.0s,baz=266,slow=4.5,SNR=10
CPUP PKPab **PKPab 01 57 35.8 -0.2**
comp=Z,6.5nm,0.8s,baz=301,slow=5.9,SNR=5.1
CPUP Villa Florida 164.00 92 *e*PKPdf **PKPdf 01 56 39.2 -0.5**
CPUP *e*PKPab **PKPab 01 57 35.8 -0.2**
SPB Sao Paulo 172.12 68 *e*PKPdf **PKPdf 01 56 47.2 +2.0**

IDC 04 02:12:29.6±4.6, 48°.06N×151°.81E, h433km±48km, mb2.8/2, mb1 3.1/3, mb1mx2.5/58, mbtmp3.6/3, Error ellipse: s-maj=518.8km s-min=29.4km az=121.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.30**	**34**	P	P	02 14 06.2	+0.1
	1.4nm,0.3s,baz=214,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**36.09**	**40**	P	P	02 18 52.5	-0.1
	0.4nm,0.6s,baz=260,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**69.47**	**198**	P	P	02 22 53.0	0.0
	0.7nm,0.7s,baz=10,slow=4.9,SNR=6.9						

*IDC **04** 02:15:23.6±1.6, 3°.09S×127°.76E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/40, mbtmp3.8/3, ML4.2/2, Error ellipse: s-maj=44.8km s-min=26.8km az=75.0*
*ISCJB **04** 02:15:27.8±0.5, 3°.04S±0°.05×127°.92E±0°.04, h55km±9km, mb3.8/2, Error ellipse: s-maj=8.2km s-min=6.9km az=30.0*
*DJA **04** 02:15:27.1±0.6, 3°.5S±5°×12°.8E±°, h16km±8km, M3.8/6, MLv3.8/6*
ISC 04 02:15:29.0±1.1, 3°.06S±0°.05×127°.87E±0°.04, h45km±16km, n10, σ1°.52/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.71**	**153**	P	**Pn**	**02 15 41.9**	**-0.8**
AAI				S	**Sn**	**02 15 51.2**	**-1.4**
NLAI	**Namlea**	**0.79**	**257**	P	**Pn**	**02 15 44.1**	**+0.3**
NLAI				S	**Sn**	**02 15 56.6**	**+2.1**
MSAI	**Masohi**	**1.10**	**105**	P	**Pn**	**02 15 48.3**	**+0.3**
MSAI				S	**Sn**	**02 16 05.2**	**+3.2**
SANI	**Sanana**	**2.13**	**298**	P	**Pn**	**02 16 01.0**	**-1.1**
SANI				S	**Sn**	**02 16 25.3**	**-2.0**
LBMI	**Labuha**	**2.43**	**351**	P	**Pn**	**02 16 06.9**	**+0.6**
LBMI				S	**Sn**	**02 16 35.2**	**+0.4**
SIJI	**Sorong**	**4.03**	**57**	Pn	**Pn**	**02 16 27.8**	**-0.5**
	132nm,0.3s,baz=75,slow=21,SNR=63						
SIJI				Sn	**Sn**	**02 17 12.7**	**-1.6**
	56nm,0.3s,baz=67,slow=21,SNR=18						
FAKI	**Fak Fak**	**4.38**	**88**	P	**Pn**	**02 16 32.1**	**-0.9**
WRA	**Warramunga Arr**	**17.93**	**160**	P	**Pn**	**02 19 34.8**	**-0.4**
	0.3nm,0.3s,baz=340,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**21.31**	**165**	P	**P**	**02 20 12.1**	**0.0**
	3.7nm,0.8s,baz=346,slow=12,SNR=28						
MKAR	**Makanchi Array**	**63.78**	**327**	P	**P**	**02 25 57.3**	**+0.8**
	0.8nm,0.8s,baz=115,slow=8.1,SNR=4.8						

*IDC **04** 02:26:41.4±1.1, 59°.11N×145°.89W, h0km, mb3.7/6, mb1 4.1/9, mb1mx3.7/44, mbtmp3.9/9, ML4.6/3, MS3.1/3, Ms1 3.2/3, ms1mx2.6/47, Error ellipse: s-maj=26.1km s-min=15.8km az=27.0*
*ISCJB **04** 02:26:43.2±0.4, 58°.99N±0°.03×145°.92W±0°.04, h43km±7km, mb3.7/6, MS3.3/2, Error ellipse: s-maj=5.7km s-min=2.9km az=165.5*
*NEIC **04** 02:26:45.0±0.0, 59°.04N×145°.92W, h36km, ML3.7(AEIC), After AEIC.*
ISC 04 02:26:44.8±1.4, 59°.02N±0°.05×145°.94W±0°.04, h29km±10km, n113, σ0°.93/122, mb3.9/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.46**	**334**	P	**Pb**	**02 26 54.2**	**-0.3**
MID				S	**Sb**	**02 27 01.9**	**+0.8**
KAIM	**Kayak Island**	**1.20**	**40**	P	**Pn**	**02 27 04.7**	**-0.9**
KAIM				S	**Sn**	**02 27 20.2**	**-0.7**
HIN	**Hinchinbrook I**	**1.41**	**349**	P	**Pn**	**02 27 07.8**	**-0.7**
RAGM	**Ragged Mountai**	**1.52**	**24**	P	**Pn**	**02 27 09.2**	**-0.8**
RAGM				S	**Sn**	**02 27 27.3**	**-1.5**
SUCK	**Suckling Hills**	**1.53**	**45**	P	**Pn**	**02 27 09.4**	**-0.7**
SUCK				S	**Sn**	**02 27 27.0**	**-2.0**
SGAM	**Sherman Glacie**	**1.53**	**14**	P	**Pn**	**02 27 09.6**	**-0.6**
SGAM				S	**Sn**	**02 27 28.5**	**-0.7**
EYAK	**Cordova Ski Ar**	**1.54**	**3**	P	**Pn**	**02 27 09.4**	**-0.9**
EYAK				S	**Sn**	**02 27 28.1**	**-1.2**
HMT	**Hamilton**	**1.57**	**32**	P	**Pn**	**02 27 10.1**	**-0.7**
HMT				S	**Sn**	**02 27 29.3**	**-0.9**
NICHA	**Nichawak Mount**	**1.58**	**38**	P	**Pn**	**02 27 10.2**	**-0.7**
NICHA				S	**Sn**	**02 27 29.4**	**-1.0**
GOAT	**Goat Mountain**	**1.68**	**21**	P	**Pn**	**02 27 12.1**	**-0.3**
BGLC	**Bering Glacier**	**1.75**	**50**	P	**Pn**	**02 27 12.4**	**-0.7**
FID	**Port Fidalgo**	**1.76**	**351**	P	**Pn**	**02 27 12.3**	**-1.0**
BERG	**Berg Lake**	**1.79**	**38**	P	**Pn**	**02 27 12.8**	**-0.9**
BERG				S	**Sn**	**02 27 34.2**	**-1.2**
GRIN	**Grindle Hills**	**1.84**	**45**	P	**Pn**	**02 27 13.8**	**-0.6**
GRIN				S	**Sn**	**02 27 35.8**	**-0.9**
GLI	**Glacier Island**	**1.96**	**343**	P	**Pn**	**02 27 14.9**	**-1.1**
KHIT	**Khitrov Hills**	**1.98**	**42**	P	**Pn**	**02 27 15.4**	**-1.0**
KULT	**Kultieth River**	**2.05**	**52**	P	**Pn**	**02 27 16.5**	**-0.8**
BMRM	**Bremner River**	**2.07**	**18**	P	**Pn**	**02 27 16.9**	**-0.7**
JPK	**Jack Peak**	**2.07**	**351**	P	**Pn**	**02 27 16.6**	**-1.0**
VMT	**TAPS Tl Valdez**	**2.08**	**354**	P	**Pn**	**02 27 16.9**	**-0.8**
SEW	**Seward**	**2.09**	**303**	P	**Pn**	**02 27 17.1**	**-0.7**
DIV	**Divide**	**2.12**	**2**	P	**Pn**	**02 27 17.4**	**-0.9**
WAX	**Waxell Ridge**	**2.12**	**46**	P	**Pn**	**02 27 17.4**	**-0.9**
VLZ	**Valdez**	**2.13**	**355**	P	**Pn**	**02 27 17.6**	**-0.8**
PWL	**Port Wells**	**2.21**	**328**	P	**Pn**	**02 27 18.1**	**-1.4**
BARK	**Barkley Ridge**	**2.23**	**50**	P	**Pn**	**02 27 19.1**	**-0.7**
CRQM	**Cirque**	**2.24**	**38**	P	**Pn**	**02 27 19.5**	**-0.6**
MESA	**MESA**	**2.34**	**58**	P	**Pn**	**02 27 20.3**	**-1.1**
TGL	**Tana Glacier**	**2.34**	**41**	P	**Pn**	**02 27 20.7**	**-0.7**
ISLE	**Juniper Island**	**2.42**	**47**	P	**Pn**	**02 27 21.5**	**-0.9**
BAGL	**Bagley Icefiel**	**2.44**	**51**	P	**Pn**	**02 27 21.9**	**-0.7**
KLU	**Klutina**	**2.48**	**0**	P	**Pn**	**02 27 22.5**	**-0.9**
PS12	**TAPS Pump St12**	**2.50**	**9**	P	**Pn**	**02 27 22.7**	**-0.8**
SLKM	**Skilak Lake**	**2.63**	**306**	P	**Pn**	**02 27 24.5**	**-0.8**
BRLK	**Bradley Lake**	**2.64**	**289**	P	**Pn**	**02 27 24.9**	**-0.5**
RKAV	**Rock Avalanche**	**2.66**	**59**	P	**Pn**	**02 27 25.1**	**-0.7**
KNK	**Knik Glacier**	**2.71**	**333**	P	**Pn**	**02 27 25.9**	**-0.5**
GRNC	**Granite Creek**	**2.72**	**49**	P	**Pn**	**02 27 25.9**	**-0.9**
CNPM	**China Poot**	**2.77**	**283**	P	**Pn**	**02 27 27.3**	**+0.1**
MCARA	**McCarthy VSAT**	**2.79**	**30**	P	**Pn**	**02 27 26.5**	**-0.9**
PTPK	**Patty Peak**	**2.79**	**37**	P	**Pn**	**02 27 27.1**	**-0.5**
TABL	**Table Mountain**	**2.82**	**57**	P	**Pn**	**02 27 27.2**	**-0.8**
RC01	**Rabbit Creek A**	**2.82**	**319**	P	**Pn**	**02 27 27.5**	**-0.4**
SCM	**Sheep Creek Mo**	**2.91**	**347**	P	**Pn**	**02 27 28.9**	**-0.3**
FIB	**Fire Island**	**3.03**	**317**	P	**Pn**	**02 27 30.7**	**0.0**
CTGM	**Chitina Glacie**	**3.03**	**48**	P	**Pn**	**02 27 30.0**	**-0.8**
PMR	**Palmer**	**3.03**	**330**	P	**Pn**	**02 27 30.2**	**-0.6**
SML	**Sawmill**	**3.04**	**338**	P	**Pn**	**02 27 30.9**	**-0.1**
LOGN	**Logan Glacier**	**3.08**	**52**	P	**Pn**	**02 27 30.6**	**-0.9**
PS11	**TAPS Pump St11**	**3.08**	**4**	P	**Pn**	**02 27 31.8**	**+0.3**
PCA	**Pinnacle**	**3.09**	**67**	P	**Pn**	**02 27 30.6**	**-1.0**
GHO	**Glory Hole Cre**	**3.14**	**333**	P	**Pn**	**02 27 31.9**	**-0.4**
BCPM	**Bancas Point**	**3.35**	**71**	P	**Pn**	**02 27 33.9**	**-1.3**
PNL	**Peninsula**	**3.41**	**76**	P	**Pn**	**02 27 34.8**	**-1.2**
HARP	**HAARP**	**3.42**	**6**	P	**Pn**	**02 27 36.1**	**0.0**
SUA	**Susitna One**	**3.43**	**318**	P	**Pn**	**02 27 35.8**	**-0.6**
KDAK	**Kodiak Island**	**3.71**	**253**	Pn	**Pn**	**02 27 39.4**	**-0.6**
	20nm,0.3s,baz=70,slow=7.3,SNR=550						
KDAK				Sn	**Sn**	**02 28 18.9**	**-3.8**
	26nm,0.3s,baz=250,slow=20,SNR=27						
KDAK				LR	LR	02 29 22.3	
	comp=Z,80nm,20.7s,baz=102,slow=43						
RED	**Redoubt Volcan**	**3.74**	**295**	P	**Pn**	**02 27 40.2**	**-0.3**
DFR	**Drift River**	**3.76**	**298**	P	**Pn**	**02 27 40.7**	**-0.1**
RDWB	**Redoubt West**	**3.79**	**296**	P	**Pn**	**02 27 41.4**	**+0.1**
RDJH	**Redoubt Jeurge**	**3.81**	**297**	P	**Pn**	**02 27 41.6**	**0.0**
SPCP	**Crater Peak Br**	**3.84**	**309**	P	**Pn**	**02 27 42.0**	**0.0**
STLK	**Strandline Lak**	**3.85**	**313**	P	**Pn**	**02 27 41.9**	**-0.2**
AUI	**Augustine Isla**	**3.87**	**278**	P	**Pn**	**02 27 42.9**	**+0.6**
CKL	**Chakachamna La**	**3.88**	**307**	P	**Pn**	**02 27 41.9**	**-0.6**
FOPK	**Fourpeaked Vol**	**3.92**	**269**	P	**Pn**	**02 27 43.1**	**+0.1**
PAX	**Paxson**	**3.97**	**3**	P	**Pn**	**02 27 43.2**	**-0.6**
CDD	**Cape Douglas**	**3.99**	**272**	P	**Pn**	**02 27 44.7**	**+0.7**
DHAK	**Deception Hill**	**3.99**	**86**	P	**Pn**	**02 27 42.4**	**-1.5**
SPWE	**Spurr West**	**4.01**	**307**	P	**Pn**	**02 27 44.4**	**+0.1**
FOSS	**Fourpeaked Sta**	**4.03**	**270**	P	**Pn**	**02 27 44.6**	**+0.1**
SKT	**Skwentna**	**4.06**	**319**	P	**Pn**	**02 27 44.1**	**-0.8**
DHY	**Denali Highway**	**4.13**	**351**	P	**Pn**	**02 27 45.6**	**-0.4**
BVCY	**Beaver Creek**	**4.22**	**34**	P	**Pn**	**02 27 47.4**	**+0.2**
OHAK	**Old Harbor**	**4.29**	**248**	P	**Pn**	**02 27 46.4**	**-1.7**
PS10	**TAPS Pump St10**	**4.42**	**1**	P	**Pn**	**02 27 49.3**	**-0.6**
BCA3	**Beaver Creek A**	**4.54**	**25**	P	**Pn**	**02 27 50.9**	**-0.6**
RND	**Reindeer**	**4.62**	**344**	P	**Pn**	**02 27 52.8**	**0.0**
KAWH	**Katmai**	**4.67**	**266**	P	**Pn**	**02 27 53.0**	**-0.3**
KAHC	**Katmai Hardscr**	**4.73**	**269**	P	**Pn**	**02 27 54.4**	**+0.3**
DOT	**Dot Lake**	**4.74**	**10**	P	**Pn**	**02 27 54.1**	**-0.1**
KABR	**Katmai Barrier**	**4.81**	**263**	P	**Pn**	**02 27 55.7**	**+0.4**
KAKN	**Katmai Knife C**	**4.82**	**265**	P	**Pn**	**02 27 55.9**	**+0.4**
TRF	**Thorofare Moun**	**4.92**	**337**	P	**Pn**	**02 27 56.8**	**-0.1**
KVTA	**Katmai Vly 10**	**4.92**	**267**	P	**Pn**	**02 27 57.1**	**+0.4**
PLBC	**Pleasant Camp**	**4.94**	**81**	P	**Pn**	**02 27 55.9**	**-1.0**
PPLA	**Purkeypile**	**4.94**	**325**	P	**Pn**	**02 27 56.8**	**-0.4**
MCK	**McKinley**	**4.95**	**344**	P	**Pn**	**02 27 57.5**	**+0.4**
KELA	**Mount Kelaz**	**5.14**	**268**	P	**Pn**	**02 27 59.1**	**-0.7**
KTH	**Kantishna Hill**	**5.15**	**334**	P	**Pn**	**02 27 59.7**	**-0.1**
WRH	**Wood River Hil**	**5.57**	**350**	P	**Pn**	**02 28 04.7**	**-0.9**
BESE	**Bessie Mountai**	**5.78**	**90**	P	**Pn**	**02 28 06.8**	**-1.8**
ILAR	**Eielson Array**	**5.79**	**356**	Pn	**Pn**	**02 28 07.0**	**-1.6**
	2.7nm,0.3s,baz=179,slow=13,SNR=142						
ILB	**Eielson Array**	**5.79**	**356**	P	**Pn**	**02 28 07.2**	**-1.5**
WHY	**Whitehorse**	**5.81**	**69**	P	**Pn**	**02 28 08.3**	**-0.8**
COLA	**College**	**5.95**	**352**	P	**Pn**	**02 28 09.7**	**-1.1**
MDM	**Murphy Dome**	**6.06**	**351**	P	**Pn**	**02 28 11.2**	**-1.2**
JIS	**Juneau Island**	**6.08**	**92**	P	**Pn**	**02 28 11.4**	**-1.2**
TT01	**Tatalina**	**6.27**	**313**	P	**Pn**	**02 28 14.3**	**-0.8**
IM3	**Indian Mountai**	**7.86**	**336**	P	**Pn**	**02 28 36.1**	**-1.0**
DLBC	**Dease Lake**	**8.30**	**87**	Pn	**Pn**	**02 28 42.6**	**-0.5**
	12nm,0.3s,baz=282,slow=8.4,SNR=103						
DLBC	**Dease Lake**	**8.30**	**87**	P	**Pn**	**02 28 41.9**	**-1.3**
COLD	**Coldfoot**	**8.46**	**349**	P	**Pn**	**02 28 44.1**	**-1.1**
SDPT	**Sand Point**	**8.71**	**251**	P	**Pn**	**02 28 47.6**	**-1.0**
YKA	**Yellowknife Ar**	**15.61**	**64**	Pn	**Pn**	**02 30 23.3**	**+0.9**
	0.4nm,0.3s,baz=270,slow=10,SNR=5.9						
NEW	**Newport**	**20.02**	**110**	LR	LR	02 37 41.0	
	comp=Z,80nm,19.7s,baz=311,slow=33						
PDAR	**Pinedale Array**	**27.66**	**110**	P	**P**	**02 32 31.6**	**+1.5**
	0.4nm,0.6s,baz=318,slow=5.6,SNR=4.7						
TXAR	**Lajitas Array**	**41.29**	**117**	P	**P**	**02 34 29.6**	**+2.0**
	0.3nm,0.5s,baz=305,slow=4.4,SNR=4.4						
ARCES	**ARCESS Array B**	**51.60**	**4**	LR	LR	02 57 48.0	
	comp=Z,55nm,19.8s,baz=208,slow=36						
SONM	**Songino Array**	**58.22**	**311**	P	**P**	**02 36 37.4**	**+1.3**
	1.0nm,0.7s,baz=32,slow=8.5,SNR=5.1						
FINES	**FINESS Array B**	**59.71**	**4**	P	**P**	**02 36 45.5**	**-0.5**
	1.7nm,0.9s,baz=14,slow=8.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**60.21**	**328**	P	**P**	**02 36 49.5**	**-0.1**
	0.8nm,0.5s,baz=31,slow=3.5,SNR=4.1						
MKAR	**Makanchi Array**	**67.36**	**326**	P	**P**	**02 37 36.0**	**-0.8**
	0.4nm,0.4s,baz=33,slow=5.6,SNR=4.3						

*SJA **04** 02:30:21.2±1.0, 23°.62S×66°.55W, h244km±12km, ML3.1, MW3.3*
*ISCJB **04** 02:30:22.6±0.4, 23°.68S±0°.03×66°.85W±0°.04, h213km±5km, mb3.4/4, Error ellipse: s-maj=6.6km s-min=3.9km az=148.9*
*IDC **04** 02:30:23.1±1.3, 23°.58S×66°.61W, h193km±12km, mb3.3/4, mb1 3.4/7, mb1mx3.2/27, mbtmp3.8/7, Error ellipse: s-maj=23.7km s-min=16.4km az=12.0*
*GUC **04** 02:30:25.1±0.6, 23°.48S×67°.42W, h255km±16km, ML4.4*
ISC 04 02:30:23.3±0.7, 23°.69S±0°.05×66°.81W±0°.05, h203km±7km, n33, σ1°.33/53, mb3.4/4, 10C-15D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.37**	**70**‖	*e*P	**Pn**	**02 30 57.4**	**+0.7**
SLA	**San Lorenzo**	**1.58**	**131**	*e*P	**Pn**	**02 30 59.8**	**+1.6**
SLA				IAML		02 31 00.5	
	comp=Z,258nm,0.5s						
SLA				*e*S	**S**	**02 31 26.8**	**+1.9**
AZAP	**Zapla**	**1.69**	**109**‖	*e*P	**Pn**	**02 30 59.8**	**+0.6**
YJA	**Yavi**	**1.92**	**39**‖	*e*P	**Pn**	**02 31 01.9**	**+0.1**
YJA				IAML		02 31 03.5	
	comp=Z,41nm,0.3s						
LVC	**Limon Verde**	**2.21**	**299**	P	**Pn**	**02 31 05.6**	**+1.0**
	comp=Z,3μm,0.3s,baz=130,slow=7.1,SNR=530						
LVC				S	**S**	**02 31 37.5**	**+1.3**
	comp=Z,1μm,0.3s,baz=286,slow=21,SNR=21						
LVC	**Limon Verde**	**2.21**	**299**‖	*e*P	**Pn**	**02 31 05.7**	**+1.0**
LVC				‖*e*S	**S**	**02 31 37.7**	**+1.5**
FSA	**Cafayete**	**2.53**	**163**‖	*e*P	**Pn**	**02 31 08.7**	**+0.7**
FSA				IAML		02 31 12.9	
	comp=Z,17nm,0.4s						
FSA				‖*e*S	**S**	**02 31 42.8**	**+0.5**

EDW2				S		Sg	02 37 10.2	-0.5
	baz=216							
BFSC	**Mount Baldy Ra**	**0.67**	**98**	P		**Pg**	02 37 01.3	-0.8
	baz=279,SNR=22							
BFSC				S		**Sg**	02 37 10.9	0.0
	baz=279							
ARVC	**Arvin**	**0.85**	**339**	P		**Pg**	02 37 04.4	-1.0
	baz=159,SNR=6.2							
ARVC				S		**Sg**	02 37 16.3	-0.1
	baz=159							
CIS	**Catalina Islan**	**0.93**	**178**	P		**Pg**	02 37 06.3	-0.7
	baz=358							
CIS				S		**Sg**	02 37 19.6	+0.4
	baz=358							
SCZ2	**Santa Cruz Isl**	**1.03**	**251**	S		**Sg**	02 37 22.4	+0.1
	baz=70							
SBC	**Santa Barbara**	**1.04**	**276**	P		**Pg**	02 37 08.4	-0.6
	baz=95							
SBC				S		**Sb**	02 37 23.2	+0.5
	baz=95							
PKM	**Mcpherson Peak**	**1.25**	**297**	P		**Pg**	02 37 12.1	-0.9
	baz=116							
PKM				S		**Sb**	02 37 29.5	+0.7
	baz=116							
BBRC	**Big Bear Solar**	**1.28**	**93**	P		**Pg**	02 37 12.6	-1.0
	baz=274,SNR=20							
BBRC				S		**Sg**	02 37 30.3	+0.1
	baz=274							
MURC	**Murrieta**	**1.28**	**125**	P		**Pg**	02 37 12.3	-1.3
	baz=305							
MURC				S		**Sg**	02 37 29.3	-1.0
	baz=305							
RRX	**Edison Barstow**	**1.32**	**66**	P		**Pn**	02 37 13.1	-0.3
	baz=246							
RRX				S		**Sg**	02 37 31.7	+0.1
	baz=246							
ISA	**Isabella, Lake**	**1.32**	**359**	P		**Pn**	02 37 13.5	0.0
	baz=180							
ISA				S		**Sb**	02 37 31.9	+1.0
	baz=180							
SMMC	**Simmler**	**1.60**	**308**	Sb		**Sb**	02 37 39.6	+0.9
	baz=127							
GSC	**Goldstone, Bar**	**1.67**	**54**	Pb		**Pn**	02 37 19.4	+1.2
	baz=235							
GSC				S		**Sn**	02 37 39.9	+0.2
	baz=235							
PFO	**Pinyon Flats O**	**1.81**	**113**	P		**Pn**	02 37 20.1	-0.1
	baz=294							
PFO				S		**Sn**	02 37 44.2	+0.9
	baz=294							
PFO	**Pinyon Flats O**	**1.81**	**113**	*e*Pn		**Pn**	02 37 19.8	-0.5
PFO				*e*S		**Sn**	02 37 44.8	+1.6
HEC	**Hector,Ludlow**	**1.82**	**74**	P		**Pn**	02 37 19.6	-0.7
	baz=255,SNR=7.3							
HEC				S		**Sn**	02 37 43.9	+0.5
	baz=255							
109C	**Camp Elliot, M**	**1.83**	**142**	S		**Sn**	02 37 42.4	-1.2
	baz=322							
MONP2	**Monument Peak**	**2.23**	**130**	S		**Sn**	02 37 54.4	+0.7
	baz=311							
GMRC	**Granite Mounta**	**2.35**	**78**	P		**Pn**	02 37 27.7	0.0
	baz=260,SNR=7.1							

PDG ***04*** *02:40:46.7±0.5, 45°.55N×26°.51E, h150km±1km, ML4.8/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
BJI ***04*** *02:40:46.5, 45°.60N×26°.40E, h128km, mb4.8/36, mB5.2/24*
SIGU ***04*** *02:40:46.8, 45°.59N×26°.57E, h146km, mb4.5*
ISCJB ***04*** *02:40:47.4±0.1, 45°.550N±0°.008×26°.48E±0°.01, h135km±1km, mb4.6/139, Error ellipse: s-maj=1.4km s-min=1.2km az=39.6*
THE ***04*** *02:40:47.1, 45°.48N×26°.52E, h132km±13km, ML4.5/3, Error ellipse: s-maj=13.5km s-min=2.1km az=199.0*
MOS ***04*** *02:40:47.1±0.9, 45°.58N×26°.49E, h130km, mb4.6/47, Error ellipse: s-maj=3.9km s-min=2.9km az=101.8*
MOS Felt (III) at Kishinev.
NEIC ***04*** *02:40:48.4±0.0, 45°.54N×26°.46E, h134km, mb4.7/81, MD4.6(BUC), After BUC.*
NEIC Felt [II] at Bucharest. Also felt at Alexandria and Pantelimon. Felt at Dve Mogili and Silistra, Bulgaria and at Cahul, Moldova.
CSEM ***04*** *02:40:48.1±0.0, 45°.57N×26°.53E, h134km, mb4.6/92, ML4.1/4, Error ellipse: s-maj=1.6km s-min=1.4km az=33.0*
IDC ***04*** *02:40:48.4±0.2, 45°.61N×26°.31E, h132km±2km, mb4.2/29, mb1 4.2/38, mb1mx4.2/43, mbtmp4.6/38, MS3.4/8, Ms1 3.4/8, ms1mx2.9/50, Error ellipse: s-maj=9.5km s-min=6.4km az=151.0*
BUC ***04*** *02:40:48.1±0.5, 45°.55N×26°.51E, h142km±5km, MD5.2/6, Error ellipse: s-maj=3.9km s-min=3.4km az=28.0*
SOF ***04*** *02:40:50.6, 45°.38N×26°.42E, h100km, MD4.7*
BEO ***04*** *02:40:50.1±0.7, 45°.58N×26°.53E, h105km, M4.9/1*
PRU ***04*** *02:40:55.0, 45°.65N×25°.78E, h83km, M4.8*
TIR ***04*** *02:42:24.1, 43°.20N×23°.55E, h7km, ML4.5*
ISC 04 02:40:48.8±0.3, 45°.58N±0°.03×26°.46E±0°.02, h136km±2km, h136km; pP-P, n1406, σ1.9 35/1621, mb4.6/139, 75C-120D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.31**	**26**	P	**Pn**	**02 41 07.5**	**-0.3**
PLOR				S	**Sn**	**02 41 21.5**	**-0.6**
PLOR	**Plostina**	**0.31**	**26**	↑*i*P	**Pn**	**02 41 07.4**	**-0.3**
PLOR				*i* S	**Sn**	**02 41 21.3**	**-0.8**
PLOR	**Plostina**	**0.31**	**26**	↑*i*P	**Pn**	**02 41 07.4**	**-0.3**
PLOR	**Plostina**	**0.31**	**26**	P	**Pn**	**02 41 07.5**	**-0.3**
PLOR				S	**Sn**	**02 41 21.5**	**-0.6**
VRI	**Vrincioaia**	**0.35**	**33**	P	**Pn**	**02 41 07.8**	**0.0**
VRI				S	**Sn**	**02 41 21.4**	**-0.9**
VRI	**Vrincioaia**	**0.35**	**33**	↑*i*P	**Pn**	**02 41 07.8**	**0.0**
VRI				*i* S	**Sn**	**02 41 21.5**	**-0.9**
VRI	**Vrincioaia**	**0.35**	**33**	↑*i*P	**Pn**	**02 41 07.8**	**0.0**
VRI	**Vrincioaia**	**0.35**	**33**	P	**Pn**	**02 41 07.8**	**0.0**
VRI				S	**Sn**	**02 41 21.4**	**-0.9**
MLR	**Muntele Rosu**	**0.37**	**257**	P	**Pn**	**02 41 08.1**	**0.0**
MLR				S	**Sn**	**02 41 22.0**	**-0.6**
MLR	**Muntele Rosu**	**0.37**	**257**	P	**Pn**	**02 41 08.1**	**0.0**
	1μm,0.3s,baz=79,slow=1.0						
MLR				S	**Sn**	**02 41 22.1**	**-0.5**
	2μm,0.3s,baz=224,slow=22,SNR=28						
MLR	**Muntele Rosu**	**0.37**	**257**	↑*i*P	**Pn**	**02 41 08.0**	**0.0**
MLR				*i* S	**Sn**	**02 41 22.6**	**0.0**
MLR	**Muntele Rosu**	**0.37**	**257**	↑*i*P	**Pn**	**02 41 08.0**	**0.0**
GRER		**0.41**	**118**	↑*i*P	**Pn**	**02 41 08.7**	**+0.6**
GRER				*i* S	**Sn**	**02 41 23.7**	**+1.1**
GRER		**0.41**	**118**	↑*i*P	**Pn**	**02 41 08.7**	**+0.6**
ODBI	**Odobesti**	**0.46**	**66**	↑*i*P	**Pn**	**02 41 08.8**	**+0.5**
ODBI				*i* S	**Sn**	**02 41 24.0**	**+1.0**
ODBI	**Odobesti**	**0.46**	**66**	↑*i*P	**Pn**	**02 41 08.8**	**+0.5**
ISR	**Istrita**	**0.46**	**172**	↑*i*P	**Pn**	**02 41 08.3**	**-0.1**
ISR				*i* S	**Sn**	**02 41 23.9**	**+0.7**
ISR	**Istrita**	**0.46**	**172**	↑*i*P	**Pn**	**02 41 08.3**	**-0.1**
PETR	**Petresti**	**0.56**	**75**	P	**Pn**	**02 41 09.0**	**+0.1**
PETR				S	**Sn**	**02 41 24.0**	**0.0**
PETR	**Petresti**	**0.56**	**75**	⇓*i*P	**Pn**	**02 41 08.9**	**+0.1**
PETR				*i* S	**Sn**	**02 41 24.1**	**0.0**
PETR	**Petresti**	**0.56**	**75**	⇓*i*P	**Pn**	**02 41 08.9**	**+0.1**
PETR	**Petresti**	**0.56**	**75**	P	**Pn**	**02 41 09.0**	**+0.1**
PETR				S	**Sn**	**02 41 24.0**	**0.0**
SECR		**0.61**	**207**	↑*i*P	**Pn**	**02 41 09.4**	**+0.2**
SECR				*i* S	**Sn**	**02 41 24.8**	**+0.2**
SECR		**0.61**	**207**	↑*i*P	**Pn**	**02 41 09.4**	**+0.2**
PGOR	**Pogoanele**	**0.77**	**151**	↑*i*P	**Pn**	**02 41 10.0**	**-0.3**
PGOR				*i* S	**Sn**	**02 41 26.3**	**-0.2**
PGOR	**Pogoanele**	**0.77**	**151**	↑*i*P	**Pn**	**02 41 10.0**	**-0.3**
DOPR	**Dopca**	**0.84**	**298**	↑*i*P	**Pn**	**02 41 10.9**	**0.0**
DOPR				*i* S	**Sn**	**02 41 27.1**	**-0.6**
DOPR	**Dopca**	**0.84**	**298**	↑*i*P	**Pn**	**02 41 10.9**	**0.0**
SULR		**0.91**	**189**	↑*i*P	**Pn**	**02 41 11.3**	**-0.1**
SULR				*i* S	**Sn**	**02 41 28.6**	**+0.1**
SULR		**0.91**	**189**	↑*i*P	**Pn**	**02 41 11.3**	**-0.1**
TESR	**Tescani**	**0.94**	**8**	P	**Pn**	**02 41 11.4**	**-0.3**
TESR				S	**Sn**	**02 41 27.7**	**-1.5**
TESR	**Tescani**	**0.94**	**8**	*i* S	**Sn**	**02 41 27.6**	**-1.6**
TESR	**Tescani**	**0.94**	**8**	P	**Pn**	**02 41 11.4**	**-0.3**
TESR				S	**Sn**	**02 41 27.7**	**-1.5**
VOIR		**1.00**	**262**	⇓*i*P	**Pn**	**02 41 12.3**	**0.0**
VOIR				*i* S	**Sn**	**02 41 29.0**	**-1.2**
VOIR		**1.00**	**262**	⇓*i*P	**Pn**	**02 41 12.3**	**0.0**
MTUR	**Matau**	**1.04**	**251**	↑*i*P	**Pn**	**02 41 12.9**	**+0.2**
MTUR	**Matau**	**1.04**	**251**	↑*i*P	**Pn**	**02 41 12.9**	**+0.2**
AMRR	**Amara**	**1.15**	**147**	⇓*i*P	**Pn**	**02 41 13.0**	**-0.6**
AMRR				*i* S	**Sn**	**02 41 31.1**	**-1.3**
AMRR	**Amara**	**1.15**	**147**	⇓*i*P	**Pn**	**02 41 13.0**	**-0.6**
GIUM	**Giurgiulesti**	**1.23**	**94**	P	**Pn**	**02 41 13.9**	**-0.5**
GIUM				S	**Sn**	**02 41 32.3**	**-1.6**
GIUM	**Giurgiulesti**	**1.23**	**94**	P	**Pn**	**02 41 13.9**	**-0.5**
GIUM				S	**Sn**	**02 41 32.3**	**-1.6**
CFR	**Carcaliu**	**1.25**	**108**	⇓*i*P	**Pn**	**02 41 13.2**	**-1.4**
CFR				*i* S	**Sn**	**02 41 31.6**	**-2.6**
CFR	**Carcaliu**	**1.25**	**108**	⇓*i*P	**Pn**	**02 41 13.2**	**-1.4**
BUC1	**Bucharest**	**1.27**	**194**	P	**Pn**	**02 41 14.5**	**-0.4**
BUC1				S	**Sn**	**02 41 33.1**	**-1.4**
BUC1	**Bucharest**	**1.27**	**194**	↑*i*P	**Pn**	**02 41 14.4**	**-0.4**
BUC1				*i* S	**Sn**	**02 41 33.5**	**-1.0**
BUC1	**Bucharest**	**1.27**	**194**	↑*i*P	**Pn**	**02 41 14.4**	**-0.4**
BUC1	**Bucharest**	**1.27**	**194**	P	**Pn**	**02 41 14.5**	**-0.4**
BUC1				S	**Sn**	**02 41 33.1**	**-1.4**
ARR	**Arges**	**1.30**	**261**	⇓*i*P	**Pn**	**02 41 15.4**	**+0.2**
ARR	**Arges**	**1.30**	**261**	⇓*i*P	**Pn**	**02 41 15.4**	**+0.2**
JOSR	**Joseni**	**1.31**	**330**	↑*i*P	**Pn**	**02 41 15.2**	**-0.1**
JOSR				*i* S	**Sn**	**02 41 34.8**	**-0.7**
JOSR	**Joseni**	**1.31**	**330**	↑*i*P	**Pn**	**02 41 15.2**	**-0.1**
HUMR	**Humele**	**1.48**	**225**	↑*i*P	**Pn**	**02 41 16.7**	**-0.4**
HUMR				*i* S	**Sn**	**02 41 37.7**	**-0.9**
HUMR	**Humele**	**1.48**	**225**	↑*i*P	**Pn**	**02 41 16.7**	**-0.4**
TLB	**Topalu**	**1.50**	**131**	⇓*i*P	**Pn**	**02 41 16.3**	**-0.9**
TLB				*i* S	**Sn**	**02 41 36.5**	**-2.4**
TLB	**Topalu**	**1.50**	**131**	⇓*i*P	**Pn**	**02 41 16.3**	**-0.9**
LEOM	**Leova**	**1.54**	**54**	P	**Pn**	**02 41 17.2**	**-0.4**
LEOM				S	**Sn**	**02 41 38.2**	**-1.5**
LEOM	**Leova**	**1.54**	**54**	⇓*i*P	**Pn**	**02 41 17.2**	**-0.4**
LEOM				*i* S	**Sn**	**02 41 38.2**	**-1.5**
LEOM	**Leova**	**1.54**	**54**	⇓*i*P	**Pn**	**02 41 17.2**	**-0.4**
LEOM	**Leova**	**1.54**	**54**	P	**Pn**	**02 41 17.2**	**-0.4**
LEOM				S	**Sn**	**02 41 38.2**	**-1.5**
CVDA	**Cernavoda**	**1.67**	**137**	⇓*i*P	**Pn**	**02 41 18.3**	**-0.9**
CVDA				*i* S	**Sn**	**02 41 40.2**	**-2.2**
CVDA	**Cernavoda**	**1.67**	**137**	⇓*i*P	**Pn**	**02 41 18.3**	**-0.9**
TLCR		**1.71**	**102**	P	**Pn**	**02 41 18.4**	**-1.2**
TLCR				S	**Sn**	**02 41 40.2**	**-2.9**
TLCR		**1.71**	**102**	↑*i*P	**Pn**	**02 41 18.4**	**-1.2**
TLCR				*i* S	**Sn**	**02 41 41.9**	**-1.2**
TLCR		**1.71**	**102**	↑*i*P	**Pn**	**02 41 18.4**	**-1.2**
TLCR		**1.71**	**102**	P	**Pn**	**02 41 18.4**	**-1.2**
TLCR				S	**Sn**	**02 41 40.2**	**-2.9**
TIRR	**Tirgusor**	**1.78**	**128**	⇓*i*P	**Pn**	**02 41 19.4**	**-1.1**
TIRR				*i* S	**Sn**	**02 41 41.6**	**-3.1**
TIRR	**Tirgusor**	**1.78**	**128**	⇓*i*P	**Pn**	**02 41 19.4**	**-1.1**
TIRR	**Tirgusor**	**1.78**	**128**	*e*P	**Pn**	**02 41 18.4**	**-2.1**
TIRR				*e*		02 41 41.5	
TIRR	**Tirgusor**	**1.78**	**128**	*e*P	**Pn**	**02 41 18.4**	**-2.1**
TIRR				*e*S	**Sn**	**02 41 41.5**	**-3.1**
TIRR	**Tirgusor**	**1.78**	**128**	*e*Pn	**Sn**	**02 41 18.4**	**-2.1**
TIRR				*e*Sn	**Sn**	**02 41 41.5**	**-3.2**
IAS	**Iasi**	**1.79**	**25**	P	**Pn**	**02 41 20.2**	**-0.3**
IAS				S	**Sn**	**02 41 42.9**	**-2.0**
IAS	**Iasi**	**1.79**	**25**	↑*i*P	**Pn**	**02 41 20.2**	**-0.3**
IAS				*i* S	**Sn**	**02 41 43.2**	**-1.7**
IAS	**Iasi**	**1.79**	**25**	↑*i*P	**Pn**	**02 41 20.2**	**-0.3**
IAS	**Iasi**	**1.79**	**25**	P	**Pn**	**02 41 20.2**	**-0.3**
IAS				S	**Sn**	**02 41 42.9**	**-2.0**
PRAR	**RASCA**	**1.79**	**355**	↑*i*P	**Pn**	**02 41 21.3**	**+0.7**
PRAR	**RASCA**	**1.79**	**355**	↑*i*P	**Pn**	**02 41 21.3**	**+0.7**
LOT	**Lotru**	**1.90**	**267**	⇓*i*P	**Pn**	**02 41 21.6**	**-0.3**
LOT				*i* S	**Sn**	**02 41 46.8**	**-0.5**
LOT	**Lotru**	**1.90**	**267**	⇓*i*P	**Pn**	**02 41 21.6**	**-0.3**
ZIMR		**2.07**	**203**	↑*i*P	**Pn**	**02 41 23.3**	**-0.6**
ZIMR				*i* S	**Sn**	**02 41 48.8**	**-2.2**
ZIMR		**2.07**	**203**	↑*i*P	**Pn**	**02 41 23.3**	**-0.6**
ARCR	**ARCALIA**	**2.10**	**317**	P	**Pn**	**02 41 24.3**	**0.0**
ARCR				S	**Sn**	**02 41 50.8**	**-0.7**
ARCR	**ARCALIA**	**2.10**	**317**	↑*i*P	**Pn**	**02 41 24.3**	**0.0**
ARCR	**ARCALIA**	**2.10**	**317**	↑*i*P	**Pn**	**02 41 24.3**	**0.0**
ARCR	**ARCALIA**	**2.10**	**317**	P	**Pn**	**02 41 24.3**	**0.0**
ARCR				S	**Sn**	**02 41 50.8**	**-0.7**
MILM	**Milestii Mici**	**2.12**	**50**	P	**Pn**	**02 41 23.8**	**-0.6**
MILM				S	**Sn**	**02 41 49.0**	**-2.8**
MILM	**Milestii Mici**	**2.12**	**50**	↑*i*P	**Pn**	**02 41 23.9**	**-0.5**
MILM				*i* S	**Sn**	**02 41 49.5**	**-2.3**
MILM	**Milestii Mici**	**2.12**	**50**	↑*i*P	**Pn**	**02 41 23.9**	**-0.5**
MILM	**Milestii Mici**	**2.12**	**50**	P	**Pn**	**02 41 23.8**	**-0.6**
MILM				S	**Sn**	**02 41 49.0**	**-2.8**
EFOR	**EFORIE**	**2.15**	**133**	P	**Pn**	**02 41 23.9**	**-1.0**
EFOR				S	**Sn**	**02 41 49.2**	**-3.4**
EFOR	**EFORIE**	**2.15**	**133**	⇓*i*P	**Pn**	**02 41 24.0**	**-1.0**
EFOR				*i* S	**Sn**	**02 41 49.9**	**-2.7**
EFOR	**EFORIE**	**2.15**	**133**	⇓*i*P	**Pn**	**02 41 24.0**	**-1.0**
EFOR	**EFORIE**	**2.15**	**133**	P	**Pn**	**02 41 23.9**	**-1.0**
EFOR				S	**Sn**	**02 41 49.2**	**-3.4**
KIS	**Kishinev**	**2.17**	**48**	*i* P	**Pn**	**02 41 24.5**	**-0.6**
	2μm,0.5s						
KIS				*i* S	**Sn**	**02 41 50.0**	**-2.9**
	35μm,0.5s						
KIS	**Kishinev**	**2.17**	**48**	α *i* P	**Pn**	**02 41 24.5**	**-0.6**
KIS				*i* S	**Sn**	**02 41 50.0**	**-2.9**
KIS				pmax	pmax		
	comp=Z,2μm,0.5s						
KIS				pmax	pmax		
	comp=Z,2μm,0.5s						
KIS	**Kishinev**	**2.17**	**48**	↑*i*P	**Pn**	**02 41 24.5**	**-0.6**
KIS				Pm		02 41 25.0	
KIS				*i* S	**Sn**	**02 41 50.0**	**-2.9**
KIS				Sm		02 41 50.5	
KIS	**Kishinev**	**2.17**	**48**	*i* P	**Pn**	**02 41 24.5**	**-0.6**
	comp=Z,2μm,0.5s						
KIS				*i* S	**Sn**	**02 41 50.0**	**-2.9**
BUR01	**Bucovina Ar. S**	**2.21**	**338**	P	**Pn**	**02 41 27.2**	**+1.5**
BUR01				S	**Sn**	**02 41 55.0**	**+0.9**
BUR01	**Bucovina Ar. S**	**2.21**	**338**	P	**Pn**	**02 41 27.2**	**+1.5**
BUR01				S	**Sn**	**02 41 55.0**	**+0.9**
BUR08	**Bucovina Ar. S**	**2.24**	**338**	*e*Pn	**Pn**	**02 41 27.5**	**+1.4**
BUR08				*e*Sn	**Sn**	**02 41 52.8**	**-2.0**
BUR08	**Bucovina Ar. S**	**2.24**	**338**	*e*Pn	**Sn**	**02 41 27.5**	**+1.4**
BUR08				*e*Sn	**Sn**	**02 41 52.8**	**-2.0**
CRAR	**CRAIOVA**	**2.26**	**237**	⇓*i*P	**Pn**	**02 41 25.6**	**-0.7**
CRAR				*i* S	**Sn**	**02 41 53.1**	**-1.9**
CRAR	**CRAIOVA**	**2.26**	**237**	⇓*i*P	**Pn**	**02 41 25.6**	**-0.7**
CJR	**Cluj-Napoca**	**2.29**	**301**	⇓*i*P	**Pn**	**02 41 26.8**	**+0.1**
CJR	**Cluj-Napoca**	**2.29**	**301**	⇓*i*P	**Pn**	**02 41 26.8**	**+0.1**
MANR	**Mangalia**	**2.32**	**138**	⇓*i*P	**Pn**	**02 41 25.8**	**-1.2**
MANR	**Mangalia**	**2.32**	**138**	⇓*i*P	**Pn**	**02 41 25.8**	**-1.2**
SZH	**Strazhica**	**2.34**	**189**	*i* P	**Pn**	**02 41 26.5**	**-0.8**
PRD	**Provadia**	**2.47**	**164**	*i* P	**Pn**	**02 41 28.6**	**-0.3**
SRE	**Strehaia**	**2.48**	**250**	⇓*i*P	**Pn**	**02 41 28.5**	**-0.5**
SRE				*i* S	**Sn**	**02 41 58.1**	**-1.7**
SRE	**Strehaia**	**2.48**	**250**	⇓*i*P	**Pn**	**02 41 28.5**	**-0.5**
PVL	**Pavlikeni**	**2.49**	**199**	*i* P	**Pn**	**02 41 30.0**	**+0.8**
DEV	**Deva**	**2.51**	**278**	⇓*i*P	**Pn**	**02 41 29.9**	**+0.6**
DEV	**Deva**	**2.51**	**278**	⇓*i*P	**Pn**	**02 41 29.9**	**+0.6**
ROIA	**ROIAK**	**2.57**	**165**	*i* P	**Pn**	**02 41 29.7**	**-0.4**
CHRU	**Chernivtsi**	**2.75**	**353**	*i* P	**Pn**	**02 41 31.5**	**-0.8**
CHRU				Pm		02 41 35.0	
CHRU				*i* S	**Sn**	**02 42 05.6**	**-0.3**
CHRU				Sm		02 42 06.4	
SORM	**Soroca**	**2.87**	**26**	P	**Pn**	**02 41 33.8**	**-0.1**
SORM				S	**Sn**	**02 42 05.0**	**-3.7**
SORM	**Soroca**	**2.87**	**26**	↑*i*P	**Pn**	**02 41 33.0**	**-0.9**
SORM				*i* S	**Sn**	**02 42 05.3**	**-3.4**
SORM	**Soroca**	**2.87**	**26**	↑*i*P	**Pn**	**02 41 33.0**	**-0.9**
SORM	**Soroca**	**2.87**	**26**	P	**Pn**	**02 41 33.8**	**-0.1**
SORM				S	**Sn**	**02 42 05.0**	**-3.7**
DRGR		**2.87**	**296**	⇓*i*Pn	**Pn**	**02 41 33.8**	**-0.2**
DRGR		**2.87**	**296**	⇓*i*P	**Pn**	**02 41 33.8**	**-0.2**
DRGR				*i* S	**Sn**	**02 42 08.4**	**-0.5**
DRGR		**2.87**	**296**	⇓*i*P	**Pn**	**02 41 33.8**	**-0.2**
DRGR		**2.87**	**296**	⇓*i*Pn	**Pn**	**02 41 33.8**	**-0.2**
RAKU	**Rahkiv**	**2.91**	**328**	*i* P	**Pn**	**02 41 34.9**	**+0.4**
RAKU				Pm		02 41 36.9	
RAKU				*i* S	**Sn**	**02 42 10.3**	**+0.6**
RAKU				Sm		02 42 45.5	
BMR	**Baia Mare**	**2.93**	**317**	⇓*i*P	**Pn**	**02 41 34.9**	**+0.3**
BMR	**Baia Mare**	**2.93**	**317**	⇓*i*P	**Pn**	**02 41 34.9**	**+0.3**
DJES	**Djerdap**	**2.93**	**253**	*e*Sn	Sn	02 41 58.9	-11
MPEP	**Malo Peshtene**	**2.95**	**222**	*i* P	**Pn**	**02 41 34.4**	**-0.6**
NSLU	**Nyzhne Selyshc**	**2.96**	**333**	*i* P	Pn	02 41 39.9	+4.9
NSLU				Pm		02 41 43.6	
NSLU				*e*S	Sn	02 42 20.3	+10
NSLU				Sm		02 42 26.6	
KMPD	**K-Podol'skiy**	**2.99**	**0**	*i* P	**Pn**	**02 41 34.2**	**-1.2**
KMPD				*i* S	**Sn**	**02 42 10.6**	**-0.8**
NDNU	**Novodnistrovsk**	**3.08**	**11**	*i* P	**Pn**	**02 41 35.6**	**-1.0**
NDNU				Pm		02 41 36.4	
NDNU				*i* S	**Sn**	**02 42 12.7**	**-0.9**
NDNU				Sm		02 42 13.5	
BZS	**Buzias**	**3.40**	**272**	⇓*i*Pn	**Pn**	**02 41 39.9**	**-0.9**
BZS	**Buzias**	**3.40**	**272**	⇓*i*P	**Pn**	**02 41 40.1**	**-0.7**
BZS	**Buzias**	**3.40**	**272**	⇓*i*P	**Pn**	**02 41 40.1**	**-0.7**
BZS	**Buzias**	**3.40**	**272**	⇓*i*Pn	**Pn**	**02 41 39.9**	**-0.9**
STNU	**Starunia**	**3.41**	**338**	*i* P	**Pn**	**02 41 40.5**	**-0.4**
STNU				*i* S	**Sn**	**02 42 21.3**	**+0.1**
SIRR	**Siria**	**3.42**	**283**	⇓*i*P	**Pn**	**02 41 41.3**	**+0.3**
SIRR	**Siria**	**3.42**	**283**	⇓*i*P	**Pn**	**02 41 41.3**	**+0.3**
KORU	**Korolevo**	**3.44**	**320**	*i* P	**Pn**	**02 41 41.8**	**+0.5**
KORU				Pm		02 41 44.3	
KORU				*i* S	**Sn**	**02 42 23.1**	**+1.1**
KORU				Sm		02 42 42.5	
PGB	**Panagyurishte**	**3.45**	**209**	*i* P	**Pn**	**02 41 41.6**	**+0.1**
MDVR	**Moldovita**	**3.45**	**258**	⇓*i*P	**Pn**	**02 41 40.5**	**-1.0**
MDVR				*i* S	**Sn**	**02 42 19.9**	**-2.3**
MDVR	**Moldovita**	**3.45**	**258**	⇓*i*P	**Pn**	**02 41 40.5**	**-1.0**
TRSU	**Trosnyk**	**3.48**	**318**	*i* P	**Pn**	**02 41 41.8**	**0.0**
TRSU				Pm		02 41 43.8	
TRSU				*e*S	**Sn**	**02 42 23.4**	**+0.6**
TRSU				Sm		02 42 33.6	
MEZ	**Mezhgor'ye**	**3.56**	**327**	*i* P	**Pn**	**02 41 42.7**	**-0.2**
MEZ				*e*S	**Sn**	**02 42 25.2**	**+0.4**
ZAPS	**Zavoj**	**3.58**	**231**	⇓*i*Pn	**Pn**	**02 41 42.5**	**-0.7**
ZAPS				*e*Sn	Sn	02 42 14.4	-11
KUBS	**Kucevo**	**3.59**	**253**	*i* Pn	**Pn**	**02 41 40.7**	**-2.6**
KUBS				*e*Sn	Sn	02 42 14.4	-11
KUBS	**Kucevo**	**3.59**	**253**	*i* Pn	**Pn**	**02 41 40.7**	**-2.6**
BRIU	**Brid**	**3.63**	**321**	*i* P	**Pn**	**02 41 43.9**	**+0.2**
BRIU				Pm		02 41 45.8	
BRIU				*i* S	**Sn**	**02 42 26.9**	**+0.6**
BRIU				Sm		02 42 52.2	
HORU	**Horodok**	**3.64**	**360**	*i* P	**Pn**	**02 41 43.2**	**-0.7**
HORU				*i* S	**Sn**	**02 42 26.0**	**-0.6**
BOLS	**Boljevac**	**3.66**	**243**	⇓*i*Pn	**Pn**	**02 41 41.3**	**-2.8**
BOLS				*e*Sn	Sn	02 42 17.2	-10
BOLS	**Boljevac**	**3.66**	**243**	⇓*i*Pn	**Pn**	**02 41 41.3**	**-2.8**
TIM	**Timisoara**	**3.68**	**274**	↑*i*P	**Pn**	**02 41 44.7**	**+0.3**
TIM	**Timisoara**	**3.68**	**274**	↑*i*P	**Pn**	**02 41 44.7**	**+0.3**
PLD	**Plovdiv**	**3.69**	**201**	*e*Pn	**Pn**	**02 41 43.4**	**-1.3**
PLD	**Plovdiv**	**3.69**	**201**	*e*Pn	**Pn**	**02 41 43.4**	**-1.3**
TRPA	**Tarpa**	**3.71**	**315**	⇓*e*Pn	**Pn**	**02 41 44.9**	**+0.1**
TRPA	**Tarpa**	**3.71**	**315**	⇓*e*Pn	**Pn**	**02 41 44.9**	**+0.1**
TRPA				*e*Sb	Sn	02 42 39.5	+11
BERU	**Beregovo**	**3.73**	**317**	*i* P	**Pn**	**02 41 44.5**	**-0.5**
BERU				*i* S	**Sn**	**02 42 29.1**	**+0.5**
EDRB	**Edirne**	**3.73**	**177**	*e*P	**Pn**	**02 41 44.4**	**-0.8**
EDRB	**Edirne**	**3.73**	**177**	P	**Pn**	**02 41 43.5**	**-1.7**
EDRB	**Edirne**	**3.73

DIVS	Divibare	4.83	254	P	Pn	02 41 58.7	-1.1
ENEZ	Enez	4.84	183	eP	Pn	02 41 59.1	-0.8
ENEZ	Enez	4.84	183	P	Pn	02 41 59.0	-0.9
ENEZ	Enez	4.84	183	P	Pn	02 41 59.0	-0.9
ISK	Istanbul-Kandi	4.89	156	eP	Pn	02 41 59.2	-1.4
ISK	Istanbul-Kandi	4.89	156	P	Pn	02 41 59.1	-1.4
ISK	Istanbul-Kandi	4.89	156	eP	Pn	02 41 59.1	-1.4
ISK	Istanbul-Kandi	4.89	156	P	Pn	02 41 59.1	-1.4
ISK	Istanbul-Kandi	4.89	156	ePn	Pn	02 41 59.1	-1.4
KAVV	Kandilli-Istan	4.89	156	eP	Pn	02 41 59.3	-1.3
KAVV	Kandilli-Istan	4.89	156	eP	Pn	02 41 59.3	-1.3
ERIK	Erikli-Kesan	4.90	180	eP	Pn	02 41 59.6	-1.1
ERIK	Erikli-Kesan	4.90	180	eP	Pn	02 41 59.6	-1.1
SRS	Serrai	4.92	206	P	Pn	02 42 00.2	-0.8
SRS	Serrai	4.92	206	eP	Pn	02 42 00.2	-0.8
SRS	Serrai	4.92	206	P	Pn	02 42 00.2	-0.8
SRS	Serrai	4.92	206	ePn	Pn	02 42 00.2	-0.8
IVAS	Ivanjica	4.93	248	i Pn	Pn	02 41 59.6	-1.5
IVAS	Ivanjica	4.93	248	i Pn	Pn	02 41 59.6	-1.5
SBT2	Guzelce-Avcila	4.93	162	eP	Pn	02 41 59.8	-1.1
SBT2	Guzelce-Avcila	4.93	162	eP	Pn	02 41 59.8	-1.1
SILT	Sile	4.99	151	eP	Pn	02 42 00.5	-1.4
SILT	Sile	4.99	151	eP	Pn	02 42 00.5	-1.4
KECS	Kecovo	5.01	308	eP	Pn	02 42 02.4	+0.3
KECS	Kecovo	5.01	308	eP	Pn	02 42 02.4	+0.3
KECS	Kecovo	5.01	308	ePN	Pn	02 42 02.4	+0.3
KECS	Kecovo	5.01	308	ePN	Pn	02 42 02.9	+0.8
TEKS	Tekeris	5.01	261	i Pn	Pn	02 42 01.2	-1.0
TEKS	Tekeris	5.01	261	i Pn	Pn	02 42 01.2	-1.0
MRMT	Marmara Adasi	5.04	170	eP	Pn	02 42 00.5	-2.1
MRMT	Marmara Adasi	5.04	170	eP	Pn	02 42 00.5	-2.1
PSZ	Piszkesteto	5.08	300	‖ iP	Pn	02 42 02.2	-0.9
PSZ	Piszkesteto	5.08	300	‖ iP	Pn	02 42 02.2	-0.9
PSZ	Piszkesteto	5.08	300	eP	Pn	02 42 02.1	-1.0
PSZ				e		02 42 59.8	
PSZ	Piszkesteto	5.08	300	eP	Pn	02 42 02.1	-1.0
PSZ				eS	Sn	02 42 59.8	-1.2
PSZ	Piszkesteto	5.08	300	‖ ePn	Pn	02 42 02.4	-0.7
PSZ	Piszkesteto	5.08	300	‖ ePn	Pn	02 42 02.4	-0.7
PSZ	Piszkesteto	5.08	300	‖ ePn	Pn	02 42 02.4	-0.7
PSZ	Piszkesteto	5.08	300	ePn	Pn	02 42 02.1	-1.0
PSZ				eSn	Sn	02 42 59.8	-1.2
BUY	Buyukada	5.11	157	eP	Pn	02 42 02.3	-1.1
BUY	Buyukada	5.11	157	i P	Pn	02 42 02.1	-1.3
BUY	Buyukada	5.11	157	P	Pn	02 42 02.1	-1.3
VAY	Valandovo	5.11	215	P	Pn	02 42 02.9	-0.5
VAY	Valandovo	5.11	215	i Pn	Pn	02 42 03.1	-0.3
VAY	Valandovo	5.11	215	eP	Pn	02 42 02.9	-0.5
VAY	Valandovo	5.11	215	i Pn	Pn	02 42 03.1	-0.3
VAY	Valandovo	5.11	215	ePn	Pn	02 42 02.9	-0.5
SKO	Skopje	5.12	227	P	Pn	02 42 02.0	-1.5
SKO	Skopje	5.12	227	i Pn	Pn	02 42 03.5	-0.1
SKO	Skopje	5.12	227	eP	Pn	02 42 02.0	-1.5
SKO	Skopje	5.12	227	P	Pn	02 42 02.0	-1.5
SKO	Skopje	5.12	227	i Pn	Pn	02 42 03.4	-0.1
SKO	Skopje	5.12	227	ePn	Pn	02 42 02.0	-1.5
KNT	Kendrikon	5.12	212	eP	Pn	02 42 02.9	-0.6
KNT	Kendrikon	5.12	212	P	Pn	02 42 03.0	-0.6
KNT	Kendrikon	5.12	212	eP	Pn	02 42 03.0	-0.6
KNT	Kendrikon	5.12	212	P	Pn	02 42 03.0	-0.6
KNT	Kendrikon	5.12	212	ePn	Pn	02 42 03.0	-0.6
SMTH	Samothraki Isl	5.15	188	P	Pn	02 42 02.2	-1.8
SMTH	Samothraki Isl	5.15	188	P	Pn	02 42 02.2	-1.8
SMTH	Samothraki Isl	5.15	188	ePn	Pn	02 42 02.2	-1.8
TUZL	Tuzla-Istanbul	5.18	156	eP	Pn	02 42 03.2	-1.2
TUZL	Tuzla-Istanbul	5.18	156	eP	Pn	02 42 03.2	-1.2
SJES	Sjenica	5.19	246	‖ iPn	Pn	02 42 03.8	-0.8
LPK	Lapseki	5.21	177	eP	Pn	02 42 03.4	-1.3
LPK	Lapseki	5.21	177	eP	Pn	02 42 03.4	-1.3
SEV	Sevastopol'	5.21	99	eP	Pn	02 42 02.2	-2.5
SEV				eS	Sn	02 43 00.0	-3.9
SEV				pmax	pmax		
	comp=Z,560nm,0.5s						
SEV				smax	smax		
	comp=N,599nm,0.8s						
SEV				smax	smax		
	comp=E,265nm,0.6s						
SEV	Sevastopol'	5.21	99	eP	Pn	02 42 02.2	-2.5
SEV				Pm		02 42 03.2	
SEV				e		02 42 32.7	
SEV				eS	Sn	02 43 00.0	-3.9
SEV				Sm		02 43 02.8	
SEV	Sevastopol'	5.21	99	eP	Pn	02 42 02.2	-2.5
	comp=E,599nm,0.8s						
SEV				eS	Sn	02 43 00.0	-3.9
KRBG	Karabiga-Canak	5.22	173	eP	Pn	02 42 03.4	-1.4
KRBG	Karabiga-Canak	5.22	173	eP	Pn	02 42 03.4	-1.4
STHS	Stebnicka Huta	5.22	319	eP	Pn	02 42 05.5	+0.6
STHS	Stebnicka Huta	5.22	319	eP	Pn	02 42 05.5	+0.6
STHS	Stebnicka Huta	5.22	319	ePN	Pn	02 42 05.5	+0.6
STHS	Stebnicka Huta	5.22	319	ePN	Pn	02 42 05.8	+0.9
KAND	Kocaeli-Kandir	5.24	147	i P	Pn	02 42 03.6	-1.6
KAND	Kocaeli-Kandir	5.24	147	P	Pn	02 42 03.6	-1.6
SBT5	Esenkoy-Cinarc	5.25	159	eP	Pn	02 42 04.2	-1.1
SBT5	Esenkoy-Cinarc	5.25	159	eP	Pn	02 42 04.2	-1.1
HRT	Hereke	5.30	153	eP	Pn	02 42 04.8	-1.3
HRT	Hereke	5.30	153	eP	Pn	02 42 04.8	-1.3
ARMT	Armutlu	5.31	160	eP	Pn	02 42 04.6	-1.5
ARMT	Armutlu	5.31	160	eP	Pn	02 42 04.6	-1.5
BBLS	Lazići	5.31	254	‖ iPn	Pn	02 42 05.4	-0.7
BBLS	Lazići	5.31	254	‖ iPn	Pn	02 42 05.4	-0.7
EDC	Edincik	5.33	168	eP	Pn	02 42 05.1	-1.3
EDC	Edincik	5.33	168	eP	Pn	02 42 05.1	-1.3
PEJK	Peje	5.33	239	P	Pn	02 42 06.5	+0.1
KNL	Bal¯–kesir	5.36	171	i P	Pn	02 42 05.6	-1.2
GADA	Gvkgeada	5.40	185	eP	Pn	02 42 07.5	+0.2
GADA	Gvkgeada	5.40	185	eP	Pn	02 42 07.5	+0.2
AK11	Malin Array Si	5.42	19	ePn	Pn	02 42 05.4	-2.0
AK11	Malin Array Si	5.42	19	ePn	Pn	02 42 05.4	-2.0
BEY	Berane	5.44	243	⇑ iPn	Pn	02 42 07.8	-0.1
BEY	Berane	5.44	243	P	Pn	02 42 08.1	+0.2
IVA	Berane	5.44	243	⇑ iPn	Pn	02 42 07.8	-0.1
IVA				eSn	Sn	02 43 07.4	-2.1
KIEV	Kiev	5.44	19	⇑ eP	Pn	02 42 06.8	-1.0
KIEV	Kiev	5.44	19	eP	Pn	02 42 06.8	-1.0
KIEV	Kiev	5.44	19	ePn	Pn	02 42 06.8	-1.0
SIM	Simferopol'	5.44	94	i P	Pn	02 42 06.0	-1.8
SIM				eS	Sn	02 43 03.7	-5.8
SIM				eS	Sn	02 43 06.6	-2.9
SIM				pmax	pmax		
	comp=Z,237nm,0.8s						
SIM				smax	smax		
	comp=E,734nm,1.0s						
SIM				smax	smax		
	comp=N,837nm,0.9s						
SIM	Simferopol'	5.44	94	eP	Pn	02 42 06.1	-1.8
SIM				Pm		02 42 10.8	
SIM				eS	Sn	02 43 06.8	-2.7
SIM				Sm		02 43 08.2	
SIM	Simferopol'	5.44	94	i P	Pn	02 42 06.0	-1.8
	comp=N,237nm,0.8s						
SIM				eS	Sn	02 43 06.6	-2.9
	comp=N,837nm,0.9s						
AKASG	Malin Array Be	5.45	19	P	Pn	02 42 06.6	-1.3
	comp=N,7.4nm,0.3s,baz=199,slow=12,SNR=49						
AKBB	Malin Array Si	5.45	19	eP	Pn	02 42 06.8	-1.1
AKBB	Malin Array Si	5.45	19	eP	Pn	02 42 06.8	-1.1
AKBB	Malin Array Si	5.45	19	ePn	Pn	02 42 06.8	-1.1
BUD	Budapest	5.47	293	‖ ePn	Pn	02 42 07.9	-0.3
BUD				eSn	Sn	02 43 13.5	+3.3

KHAL Karahalli 7.55 162 *i* P Pn 02 42 35.1 -1.1
KHAL Karahalli 7.55 162 P Pn 02 42 35.1 -1.1
BOLV Bolvadin 7.62 152 *i* P Pn 02 42 37.0 -0.3
BOLV Bolvadin 7.62 152 P Pn 02 42 37.0 -0.3
BOLV Bolvadin 7.62 152 *e*Pn Pn 02 42 37.0 -0.3
KEK Kerkira 7.64 222 P Pn 02 42 37.9 +0.5
KEK Kerkira 7.64 222 P Pn 02 42 37.9 +0.5
KEK Kerkira 7.64 222 *e*Pn Pn 02 42 37.9 +0.5
UDBI Udbina 7.65 266 P Pn 02 42 38.7 +1.1
UDBI Udbina 7.65 266 *i* P Pn 02 42 38.6 +1.1
CONA Conrad Observa 7.65 292 *e*Pn Pn 02 42 37.8 +0.3
comp=N,22nm,0.6s,SNR=36
CONA *e*Sn Sn 02 44 04.8 +2.1
comp=N,47nm,0.9s
CONA Conrad Observa 7.65 292 Pn Pn 02 42 37.8 +0.3
comp=N,22nm,0.6s,SNR=36
CONA Sn Sn 02 44 04.8 +2.1
comp=N,47nm,0.9s
SHUT Suhut-Afyon 7.65 155 *e*P Pn 02 42 37.5 -0.1
VRAC Vranov 7.66 303 P Pn 02 42 37.8 +0.2
comp=N,3.0nm,0.3s,baz=110,slow=12,SNR=186
AYDB Zeytinkoy-Aydi 7.70 172 *e*P Pn 02 42 33.1 -5.2
CRES Cresnjev 7.71 276⇓ *i*Pn Pn 02 42 39.1 +0.9
OZLJ Ozalj 7.71 274 P Pn 02 42 39.6 +1.3
OZLJ Ozalj 7.71 274 *i* P Pn 02 42 39.5 +1.3
DSF Desfina 7.73 204 P Pn 02 42 39.1 +0.4
DSF Desfina 7.73 204 P Pn 02 42 39.1 +0.4
DSF Desfina 7.73 204 *e*Pn Pn 02 42 39.1 +0.4
ARSA Arzberg 7.74 286 *e*Pn Pn 02 42 39.5 +0.8
comp=N,49nm,0.7s,SNR=56
ARSA *e*Sn Sn 02 44 04.2 -0.7
comp=N,15nm,0.7s
ARSA Arzberg 7.74 286 Pn Pn 02 42 39.5 +0.8
comp=N,49nm,0.7s,SNR=56
ARSA Sn Sn 02 44 04.2 -0.7
comp=N,15nm,0.7s
ANX Ano Chora 7.75 207 P Pn 02 42 40.0 +1.0
ANX Ano Chora 7.75 207 P Pn 02 42 40.0 +1.0
VILL Villia 7.77 199 P Pn 02 42 39.4 +0.2
VILL Villia 7.77 199 P Pn 02 42 39.4 +0.2
BBAL Bala 7.78 138 *i* P Pn 02 42 38.5 -0.9
BBAL Bala 7.78 138 P Pn 02 42 38.5 -0.9
ANN Anapa 7.79 92 *e*P Pn 02 42 35.4 -4.0
ANN *e*S Sn 02 43 59.4 -6.6
ANN pmax pmax
comp=Z,116nm,0.9s
ANN Anapa 7.79 92 *e*P Pn 02 42 35.4 -4.0
comp=Z,116nm,0.9s
KZIL AFYON_Kizioren 7.81 158 *i* P Pn 02 42 39.4 -0.4
KZIL AFYON_Kizioren 7.81 158 P Pn 02 42 39.4 -0.4
CTAK Corum_Osmancik 7.84 126 *i* P Pn 02 42 38.4 -1.8
CTAK Corum_Osmancik 7.84 126 P Pn 02 42 38.4 -1.8
KALE Kalithea 7.87 206 P Pn 02 42 41.1 +0.6
KALE Kalithea 7.87 206 P Pn 02 42 41.1 +0.6
KALE Kalithea 7.87 206 *e*Pn Pn 02 42 41.1 +0.6
BOJS Bojanci 7.87 273 *i* P Pn 02 42 41.4 +1.0
SERG Sergoula 7.87 206 P Pn 02 42 41.2 +0.7
SERG Sergoula 7.87 206 P Pn 02 42 41.2 +0.7
BR101 Keskin Array S 7.88 135 *e*Pn Pn 02 42 39.0 -1.8
BR101 Keskin Array S 7.88 135 *e*Pn Pn 02 42 39.0 -1.8
BR131 Keskin Array S 7.88 135 *e*Pn Pn 02 42 39.0 -1.8
BR131 Keskin Array S 7.88 135 *e*Pn Pn 02 42 39.0 -1.8
BRTR Keskin Array B 7.88 135 P Pn 02 42 39.0 -1.8
comp=Z,6.8nm,0.3s,baz=322,slow=11,SNR=516
BRTR PcP PcP 02 49 05.0 -0.3
comp=Z,0.3nm,0.3s,baz=201,slow=1.1,SNR=6.3
EFP Efpalio 7.91 207 P Pn 02 42 41.4 +0.5
EFP Efpalio 7.91 207 P Pn 02 42 41.4 +0.5
KRLC Kraliky 7.91 308 *e*P Pn 02 42 40.1 -0.9
KRLC Kraliky 7.91 308 *e*P Pn 02 42 40.1 -0.9
KRLC Kraliky 7.91 308 P Pn 02 42 40.1 -0.9
PERS Pernice 7.95 282 *i* P Pn 02 42 42.4 +0.8
VLY Voula,Athens 7.97 195 P Pn 02 42 42.3 +0.5
VLY Voula,Athens 7.97 195 P Pn 02 42 42.3 +0.5
VLY Voula,Athens 7.97 195 *e*Pn Pn 02 42 42.3 +0.5
AYDN Tasoluk 7.98 172 *i* P Pn 02 42 39.5 -2.5
AYDN Tasoluk 7.98 172 P Pn 02 42 39.5 -2.5
LTK Loutraki 7.98 200 P Pn 02 42 42.7 +0.7
LTK Loutraki 7.98 200 P Pn 02 42 42.7 +0.7
LTK Loutraki 7.98 200 *e*Pn Pn 02 42 42.7 +0.7
KKUL Konya-Kulu 7.99 141 *i* P Pn 02 42 41.2 -0.9
KKUL Konya-Kulu 7.99 141 P Pn 02 42 41.2 -0.9
LOUT Loutraki 8.02 200 P Pn 02 42 42.4 -0.1
LOUT Loutraki 8.02 200 P Pn 02 42 42.4 -0.1
SOKA Soboth 8.02 282 *e*Pn Pn 02 42 43.4 +1.0
comp=Z,92nm,0.6s,SNR=139
SOKA *e*Sn Sn 02 44 11.3 -0.2
comp=Z,8.0nm,0.7s
SOKA Soboth 8.02 282 Pn Pn 02 42 43.4 +1.0
comp=Z,92nm,0.6s,SNR=139
SOKA Sn Sn 02 44 11.3 -0.2
comp=Z,8.0nm,0.7s
HAVZ Havza 8.11 120 *i* P Pn 02 42 41.6 -2.1
HAVZ Havza 8.11 120 P Pn 02 42 41.6 -2.1
VISS Visnje 8.14 276 *i* P Pn 02 42 45.0 +1.0
KDHN Kadinhani 8.21 147 *i* P Pn 02 42 43.9 -1.2
KDHN Kadinhani 8.21 147 P Pn 02 42 43.9 -1.2
COAL Corum-Alaca 8.21 127 *i* P Pn 02 42 43.7 -1.4
COAL Corum-Alaca 8.21 127 P Pn 02 42 43.7 -1.4
SAMS Samsun-Alacam 8.23 117 *i* P Pn 02 42 42.7 -2.6
SAMS Samsun-Alacam 8.23 117 P Pn 02 42 42.7 -2.6
BAGO Egridir - ISPA 8.24 155 *i* P Pn 02 42 45.6 +0.1
NVLJ Novalja 8.27 267 P Pn 02 42 47.8 +2.0
NVLJ Novalja 8.27 267 *i* P Pn 02 42 47.7 +2.0
DPC Dobruska-Polom 8.31 309 *e*P Pn 02 42 45.7 -0.6
DPC Dobruska-Polom 8.31 309 *e*P Pn 02 42 45.7 -0.6
DPC Dobruska-Polom 8.31 309 P Pn 02 42 45.7 -0.6
TAVA DENIZLI_Tavas 8.31 166 *i* P Pn 02 42 45.0 -1.5
TAVA DENIZLI_Tavas 8.31 166 P Pn 02 42 45.0 -1.5
TREC Trest 8.31 301 *e*P Pn 02 42 46.7 +0.3
TREC Trest 8.31 301 *e*P Pn 02 42 46.7 +0.3
TREC Trest 8.31 301 P Pn 02 42 46.7 +0.3
BRDR BURDUR-Merkez 8.32 160 *i* P Pn 02 42 46.5 -0.1
BRDR BURDUR-Merkez 8.32 160 P Pn 02 42 46.5 -0.1
CDAG Cicekdag 8.33 133 *i* P Pn 02 42 45.3 -1.5
CDAG Cicekdag 8.33 133 P Pn 02 42 45.3 -1.5
OBKA Obir 8.34 281 *e*Pn Pn 02 42 48.0 +1.2
comp=Z,29nm,0.8s,SNR=55
OBKA *i* Sn Sn 02 44 20.9 +1.5
comp=Z,20nm,0.8s
OBKA Obir 8.34 281 Pn Pn 02 42 48.0 +1.2
comp=Z,29nm,0.8s,SNR=55
OBKA Sn Sn 02 44 20.9 +1.5
comp=Z,20nm,0.8s
LJU Ljubljana 8.35 277⇓ *i*Pn Pn 02 42 48.0 +1.1
CEY Cerknica 8.43 275⇓ *i*Pn Pn 02 42 48.5 +0.5
APE Apeiranthos 8.53 185⇑ *e*P Pn 02 42 51.3 +1.9
UPC Upice 8.56 309 *e*P Pn 02 42 49.1 -0.5
UPC Upice 8.56 309 *e*P Pn 02 42 49.1 -0.5
UPC Upice 8.56 309 P Pn 02 42 49.1 -0.5
KSP Ksiaz 8.59 311 *e*Pn Pn 02 42 49.0 -1.0
KSP *e*Sn Sn 02 44 32.0 +6.8
KSP Ksiaz 8.59 311 *e*P Pn 02 42 49.0 -1.0
KSP *e* 02 44 32.0
KSP Ksiaz 8.59 311 *e*P Pn 02 42 49.0 -1.0
GOLH Golhisar 8.65 163 *i* P Pn 02 42 51.2 +0.1
GOLH Golhisar 8.65 163 P Pn 02 42 51.2 +0.1
JAVS Javornik 8.68 277 *i* P Pn 02 42 51.7 +0.3
MOA Molln 8.68 290 *e*Pn Pn 02 42 52.5 +1.2
comp=Z,31nm,1.1s,SNR=31
MOA Molln 8.68 290 Pn Pn 02 42 52.5 +1.2
comp=Z,31nm,1.1s,SNR=31
SUW Suwalki 8.71 347 *e*Pn Pn 02 42 49.5 -2.0
SUW *e*Sn Sn 02 44 23.9 -4.1
SUW Suwalki 8.71 347 *e*P Pn 02 42 49.5 -2.0
SUW *e* 02 44 23.9
SUW Suwalki 8.71 347 *e*P Pn 02 42 49.5 -2.0
VLX Vlachokerasia 8.75 202 P Pn 02 42 53.1 +0.7
VLX Vlachokerasia 8.75 202 P Pn 02 42 53.1 +0.7
VLX Vlachokerasia 8.75 202 *e*Pn Pn 02 42 53.1 +0.7
AKSY AKSARAY - Alti 8.79 139 *i* P Pn 02 42 52.5 -0.4
AKSY AKSARAY - Alti 8.79 139 P Pn 02 42 52.5 -0.4
KONT Konya--Tatoy 8.81 148 *i* P Pn 02 42 53.1 +0.1
TRI Trieste 8.90 275 *e*P Pn 02 42 55.5 +1.3
TRI Trieste 8.90 275 *e*P Pn 02 42 55.5 +1.3
TRI Trieste 8.90 275 *e*Pn Pn 02 42 55.5 +1.3
KMER Konya-Meram 8.96 148 *i* P Pn 02 42 55.6 +0.3
KMER Konya-Meram 8.96 148 P Pn 02 42 55.6 +0.3
MYKA Terra Mystica 8.97 281 *i* Pn Pn 02 42 56.6 +1.4
comp=Z,17nm,0.7s,SNR=21
MYKA Terra Mystica 8.97 281 Pn Pn 02 42 56.6 +1.4
comp=Z,17nm,0.7s,SNR=21

GOPC GO Pecny, Ondr 8.98 303 *e*P Pn 02 42 55.1 -0.2
GOPC GO Pecny, Ondr 8.98 303 *e*P Pn 02 42 55.1 -0.2
GOPC GO Pecny, Ondr 8.98 303 P Pn 02 42 55.1 -0.2
MICGM Minsk 8.98 5 *e*P Pn 02 42 57.0 +1.8
MICGM *e*S Sn 02 44 38.0 +3.4
MNK Minsk 8.98 5 *e*P Pn 02 42 57.0 +1.8
MNK *e*S Sn 02 44 38.0 +3.4
MNK Minsk 8.98 5 *e*P Pn 02 42 57.0 +1.8
TOKA Tokat 9.03 122 *i* P Pn 02 42 55.4 -0.6
TOKA Tokat 9.03 122 P Pn 02 42 55.4 -0.6
TOKA Tokat 9.03 122 *e*Pn Pn 02 42 57.0 +0.9
FETY Fethiye 9.15 167 P Pn 02 42 56.9 -0.8
FETY Fethiye 9.15 167 P Pn 02 42 56.9 -0.8
FETY Fethiye 9.15 167 *e*Pn Pn 02 42 56.9 -0.8
PRU Pruhonice 9.15 303 *e*P Pn 02 42 57.3 -0.3
PRU Pruhonice 9.15 303 *e*P Pn 02 42 57.3 -0.3
PRU Pruhonice 9.15 303 P Pn 02 42 57.3 -0.3
AVNS Nevsehir-Avano 9.19 134 *i* P Pn 02 42 57.7 -0.6
AVNS Nevsehir-Avano 9.19 134 P Pn 02 42 57.7 -0.6
KBA Koelnbreinsper 9.20 284 *e*Pn Pn 02 42 59.7 +1.3
comp=Z,56nm,0.8s,SNR=79
KBA Koelnbreinsper 9.20 284 Pn Pn 02 42 59.7 +1.3
comp=Z,56nm,0.8s,SNR=79
VLI Veliai 9.24 198 P Pn 02 43 00.1 +1.3
VLI Veliai 9.24 198 P Pn 02 43 00.1 +1.3
VLI Veliai 9.24 198 *e*Pn Pn 02 43 00.1 +1.3
PRA Prague 9.25 303 *e*P Pn 02 42 59.0 +0.1
PRA Prague 9.25 303 *e*P Pn 02 42 59.0 +0.1
PRA Prague 9.25 303 P Pn 02 42 59.0 +0.1
GEA0 GERESS Array S 9.28 295 *e*Pn Pn 02 42 59.1 -0.2
GEA0 GERESS Array S 9.28 295 *e*Pn Pn 02 42 59.1 -0.2
GEC2 GERESS Array S 9.28 295 *e*P Pn 02 43 00.1 +0.7
GEC2 GERESS Array S 9.28 295 *e*P Pn 02 43 00.1 +0.7
GEC2 GERESS Array S 9.28 295 *e*Pn Pn 02 43 00.1 +0.7
GERES GERESS Array B 9.28 295 P Pn 02 42 59.9 +0.5
comp=Z,2.8nm,0.3s,baz=109,slow=13,SNR=352
GERES PcP PcP 02 49 05.6 -0.6
comp=Z,0.2nm,0.3s,baz=98,slow=2.7,SNR=4.1
NACGM Naroch 9.34 1 *e*P Pn 02 42 59.0 -1.0
NACGM *e*S Sn 02 44 35.0 -8.3
PVCC Panska Ves 9.37 306 *e*P Pn 02 42 59.9 -0.6
PVCC Panska Ves 9.37 306 *e*P Pn 02 42 59.9 -0.6
PVCC Panska Ves 9.37 306 P Pn 02 42 59.9 -0.6
KHC Kasperske Hory 9.44 297 *e*P Pn 02 43 01.8 +0.4
KHC Kasperske Hory 9.44 297 *e*P Pn 02 43 01.8 +0.4
KHC Kasperske Hory 9.44 297 P Pn 02 43 01.8 +0.4
KHC Kasperske Hory 9.44 297 *e*Pn Pn 02 43 01.8 +0.4
CUSAR Sarkisla-SIVAS 9.49 127 *i* P Pn 02 43 01.2 -1.1
CUSAR Sarkisla-SIVAS 9.49 127 P Pn 02 43 01.2 -1.1
ORDU Ordu-Boztepe 9.49 115 *i* P Pn 02 42 58.7 -3.5
ORDU Ordu-Boztepe 9.49 115 P Pn 02 42 58.7 -3.5
CUC Castrocucco 9.61 238 *e*Pn Pn 02 43 02.7 -1.1
CUC Castrocucco 9.61 238 *e*Pn Pn 02 43 02.7 -1.1
SOC Sochi 9.67 97 *e*P Pn 02 43 11.0 +6.4
SOC pmax pmax
comp=N,85nm,0.8s
SOC pmax pmax
comp=E,262nm,0.9s
SCER sogukcermik 9.71 122 *i* P Pn 02 43 04.3 -0.9
SCER sogukcermik 9.71 122 P Pn 02 43 04.3 -0.9
ABTA Abfaltersbach 9.75 282 *e*Pn Pn 02 43 06.1 +0.4
comp=E,24nm,0.8s,SNR=27
ABTA Abfaltersbach 9.75 282 Pn Pn 02 43 06.1 +0.4
comp=E,24nm,0.8s,SNR=27
IDID Didziasalis 9.75 1 *e*P Pn 02 43 03.9 -1.6
GKP Gorka Klasztor 9.76 325 *e*Pn Pn 02 43 04.4 -1.2
GKP Gorka Klasztor 9.76 325 *e*P Pn 02 43 04.4 -1.2
GKP Gorka Klasztor 9.76 325 *e*P Pn 02 43 04.4 -1.2
IIGN Ignalina 9.79 359 *e*P Pn 02 43 03.2 -2.8
GRSN GIRESUNGRSN 9.79 114 *i* P Pn 02 43 02.6 -3.6
GRSN GIRESUNGRSN 9.79 114 P Pn 02 43 02.6 -3.6
CUALT Altinyayla-SIV 9.88 126 *i* P Pn 02 43 07.7 +0.2
CUALT Altinyayla-SIV 9.88 126 P Pn 02 43 07.7 +0.2
KLNR Kaliningrad 9.88 338⇑ *i* P Pn 02 43 08.1 +0.8
KLNR pmax pmax
comp=Z,133nm,0.8s
KLNR Kaliningrad 9.88 338 *i* P Pn 02 43 08.1 +0.8
comp=Z,133nm,0.8s
BRG Berggiesshubel 9.89 307 *e*P Pn 02 43 06.3 -1.1
comp=Z,65nm,1.8s
BRG Berggiesshubel 9.89 307 *e*P Pn 02 43 06.3 -1.1
BRG pmax pmax
comp=Z,65nm,1.8s
BRG Berggiesshubel 9.89 307 *e*P Pn 02 43 06.3 -1.1
comp=Z,65nm,1.8s
AQU L'Aquila 9.95 256 *e*P Pn 02 43 07.6 -0.7
AQU L'Aquila 9.95 256 *e*P Pn 02 43 07.6 -0.7
AQU L'Aquila 9.95 256 *e*Pn Pn 02 43 07.6 -0.7
ISAL Salakas 10.01 359 *e*P Pn 02 43 04.8 -4.1
CUZAR Zara_SIVAS 10.07 120 *i* P Pn 02 43 09.2 -1.0
CUZAR Zara_SIVAS 10.07 120 P Pn 02 43 09.2 -1.0
SUSE Susehri 10.15 118 *i* P Pn 02 43 09.8 -1.3
SUSE Susehri 10.15 118 P Pn 02 43 09.8 -1.3
VSR Storozhevoye 10.16 52 *e*P Pn 02 43 09.5 -1.5
VSR *e*S Sn 02 44 55.3 -7.7
VSR pmax pmax
comp=Z,60nm,0.5s
VSR smax smax
comp=N,940nm,1.0s
VSR Storozhevoye 10.16 52 *e*P Pn 02 43 09.5 -1.5
comp=N,60nm,0.5s
IZAR Zarasai 10.19 359 *e*P Pn 02 43 06.4 -5.0
CUKAN kangal_SIVAS 10.26 124 *i* P Pn 02 43 12.1 -0.5
CUKAN kangal_SIVAS 10.26 124 P Pn 02 43 12.1 -0.5
IDI Anoyia 10.35 187 *e*Pn Pn 02 43 12.4 -1.3
IDI Anoyia 10.35 187 *e*Pn Pn 02 43 12.4 -1.3
WTTA Wattenberg 10.38 285 *e*Pn Pn 02 43 15.7 +1.6
comp=N,16nm,0.6s,SNR=30
WTTA Wattenberg 10.38 285 Pn Pn 02 43 15.7 +1.6
comp=N,16nm,0.6s,SNR=30
VORR Voronezh 10.41 50 P Pn 02 43 12.0 -2.3
VORR pmax pmax
comp=Z,250nm,1.2s
VORR Voronezh 10.41 50 P Pn 02 43 12.0 -2.3
comp=Z,250nm,1.2s
WATA Walderalm 10.42 285 *e*Pn Pn 02 43 16.3 +1.6
comp=Z,16nm,0.6s,SNR=14
WATA Walderalm 10.42 285 Pn Pn 02 43 16.3 +1.6
comp=Z,16nm,0.6s,SNR=14
NKC Novy Kostel 10.49 301 *e*P Pn 02 43 16.1 +0.6
NKC Novy Kostel 10.49 301 *e*P Pn 02 43 16.1 +0.6
NKC Novy Kostel 10.49 301 P Pn 02 43 16.1 +0.6
CLL Collm 10.61 308⇓ *e*P Pn 02 43 15.0 -2.1
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 10.61 308 *e*P Pn 02 43 15.0 -2.1
comp=Z,11nm,0.9s
CLL Collm 10.61 308 *e*Pn Pn 02 43 16.0 -1.1
CLL Collm 10.61 308⇓ *i* P Pn 02 43 15.3 -1.8
comp=Z,11nm,0.9s
CLL *i* 02 43 23.5
CLL Collm 10.61 308 *e*Pn Pn 02 43 16.0 -1.1
CEL Celeste 10.73 231 *e*Pn Pn 02 43 18.0 -0.8
CEL Celeste 10.73 231 *e*Pn Pn 02 43 18.1 -0.8
MOTA Moosalm 10.74 285 *e*Pn Pn 02 43 18.7 -0.3
comp=Z,14nm,0.6s,SNR=33
MOTA Moosalm 10.74 285 Pn Pn 02 43 18.7 -0.3
comp=Z,14nm,0.6s,SNR=33
MACK Trabzon 10.75 111 *i* P Pn 02 43 16.0 -3.0
MACK Trabzon 10.75 111 P Pn 02 43 16.0 -3.0
LPSR Galich'ya Gora 10.77 45 *e*P Pn 02 43 16.1 -3.1
LPSR *e*S Sn 02 45 08.0 -10
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR smax smax
comp=E,260nm,0.8s
LPSR Galich'ya Gora 10.77 45 *e*P Pn 02 43 16.1 -3.1
comp=E,20nm,1.0s
KELT Kelkit 10.84 116 *i* P Pn 02 43 19.2 -1.2
KELT Kelkit 10.84 116 P Pn 02 43 19.2 -1.2
ANDN Andirin 10.89 134 *i* P Pn 02 43 22.8 +1.8
KEMA Kemaliye 10.90 121 *i* P Pn 02 43 20.8 -0.3
KEMA Kemaliye 10.90 121 P Pn 02 43 20.8 -0.3
FETA Feichten 10.98 283 *e*Pn Pn 02 43 22.3 +0.1
comp=E,28nm,0.8s,SNR=22
FETA Feichten 10.98 283 Pn Pn 02 43 22.3 +0.1
comp=E,28nm,0.8s,SNR=22
REFA Refahiye_ERZ 10.98 120 *i* P Pn 02 43 18.7 -3.5
REFA Refahiye_ERZ 10.98 120 P Pn 02 43 18.7 -3.5
RETA Reutte 10.98 286 *e*Pn Pn 02 43 21.7 -0.4
comp=E,18nm,0.8s,SNR=18
RETA Reutte 10.98 286 Pn Pn 02 43 21.7 -0.4
comp=E,18nm,0.8s,SNR=18

FUORN Ofenpass-Fuorn 11.30 281 *e*Pn Pn 02 43 27.4 +1.0
FUORN Ofenpass-Fuorn 11.30 281 *e*Pn Pn 02 43 27.4 +1.0
HCB Kahramanmara 11.35 133 *i* P Pn 02 43 27.9 +0.8
EUZM Uzumlu 11.37 116 *i* P Pn 02 43 28.3 +0.9
VLC Villacollemand 11.50 269 *e*Pn Pn 02 43 28.5 -0.4
VLC Villacollemand 11.50 269 *e*Pn Pn 02 43 28.5 -0.4
OBN Obninsk 11.51 30 P Pn 02 43 27.1 -1.8
comp=E,8.3nm,0.3s,baz=6.6,slow=7.4,SNR=3.6
OBN Obninsk 11.51 30⇓ *e*P Pn 02 43 27.8 -1.1
OBN *i* S Sn 02 45 24.5 -11
OBN Obninsk 11.51 30 *e*P Pn 02 43 27.8 -1.1
OBN Obninsk 11.51 30 *e*Pn Pn 02 43 24.9 -4.0
DAVOX Davos/Dischmat 11.56 282 P Pn 02 43 28.8 -1.1
comp=E,0.6nm,0.3s,baz=104,slow=8.7,SNR=8.3
DAVOX LR LR 02 49 24.6
comp=E,160nm,18.1s,baz=74,slow=45
DAVA Damuels 11.57 284 *e*Pn Pn 02 43 29.0 -0.9
comp=E,19nm,0.7s,SNR=16
DAVA Damuels 11.57 284 Pn Pn 02 43 29.0 -0.9
comp=E,19nm,0.7s,SNR=16
TNCL Tunceli-Merkez 11.63 119 *i* P Pn 02 43 30.6 -0.1
TNCL Tunceli-Merkez 11.63 119 P Pn 02 43 30.6 -0.1
KIV Kislovodsk 11.65 92 *i* P Pn 02 43 29.1 -1.9
SNR=7.2
KIV Kislovodsk 11.65 92 *e*P Pn 02 43 28.1 -2.9
KIV *e*S Sn 02 45 37.1 -2.4
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,36nm,11.0s
KIV Kislovodsk 11.65 92 *e*Pn Pn 02 43 27.7 -3.3
KIV Kislovodsk 11.65 92 P Pn 02 43 29.1 -1.9
SNR=7.2
KIV *e*S Sn 02 45 37.1 -2.4
comp=Z,36nm,11.0s
KIV Kislovodsk 11.65 92 *e*Pn Pn 02 43 27.7 -3.3
KVAR Kislovodsk Arr 11.66 92 P Pn 02 43 28.3 -2.8
baz=100,slow=6.0,SNR=12
KVAR LR LR 02 48 29.4
comp=Z,111nm,18.3s,baz=344,slow=39
ELZG Elazig 11.69 123 *i* P Pn 02 43 32.6 +1.1
GZT Gaziantep 11.69 131 *i* P Pn 02 43 33.1 +1.5
GOF Gofitskoye 11.69 87⇓ *i* P Pn 02 43 29.3 -2.1
GOF pmax pmax
comp=Z,208nm,1.0s
GOF Gofitskoye 11.69 87 *i* P Pn 02 43 29.3 -2.1
comp=Z,208nm,1.0s
KOPT Kop Dagi 11.71 113 *i* P Pn 02 43 31.9 0.0
KOPT Kop Dagi 11.71 113 *e*Pn Pn 02 43 30.1 -1.8
KOPT Kop Dagi 11.71 113 P Pn 02 43 31.9 0.0
KOPT Kop Dagi 11.71 113 *e*Pn Pn 02 43 30.1 -1.8
DRWC Darouich 11.79 136 *i* P Pn 02 43 33.1 +0.3
DRWC AML AML 02 44 20.3
comp=E,8.3nm,0.6s
DRWC AML AML 02 44 20.7
comp=N,11nm,0.7s
CSS Mathiatis 11.82 151 *e*Pn Pn 02 43 35.3 +2.1
DBOC Borcka 11.83 106 *i* P Pn 02 43 29.8 -3.5
KBZ Khabaz 11.86 93 P Pn 02 43 32.3 -1.2
comp=N,1.2nm,0.3s,baz=227,slow=3.2,SNR=21
KBZ LR LR 02 48 47.7
comp=N,129nm,19.7s,baz=324,slow=40
NEY Neytrino 11.86 96⇑ *i*P Pn 02 43 34.3 +0.5
NEY Neytrino 11.86 96 *i* P Pn 02 43 34.3 +0.5
KUZU Kuzuini 11.88 134 *i* P Pn 02 43 36.3 +2.3
TUE Stuetta 11.93 280 *e*Pn Pn 02 43 34.9 +0.2
TUE Stuetta 11.93 280 *e*Pn Pn 02 43 34.9 +0.2
YAYL Yayladag 12.00 139 *i* P Pn 02 43 34.5 -1.2
YAYL Yayladag 12.00 139 P Pn 02 43 34.5 -1.2
BSD Bornholm Skovb 12.05 327 *i* P Pn 02 43 32.5 -3.4
BSD *i* 02 43 41.1
BSD Bornholm Skovb 12.05 327 *e*P Pn 02 43 32.5 -3.4
ARTV Artvin 12.08 106 *i* P Pn 02 43 33.7 -3.0
ARTV Artvin 12.08 106 *e*Pn Pn 02 43 33.7 -3.0
ARTV Artvin 12.08 106 *e*Pn Pn 02 43 33.7 -3.0
ARNB Al Arnab 12.09 140 *i* P Pn 02 43 37.5 +0.8
ARNB AML AML 02 44 12.7
comp=E,18nm,0.7s
ARNB AML AML 02 44 28.9
comp=N,5.4nm,7.2s
DDEM Demirkent 12.09 107 *i* P Pn 02 43 34.4 -2.4
DDEM Demirkent 12.09 107 P Pn 02 43 34.4 -2.4
DAGI Agillar 12.12 106 *i* P Pn 02 43 34.2 -2.9
BTCH Batrach 12.16 138 *i* P Pn 02 43 36.5 -1.2
BTCH AML AML 02 44 23.8
comp=E,18nm,0.9s
BTCH AML AML 02 44 40.6
comp=N,14nm,0.6s
STU Stuttgart 12.17 291 *e*P Pn 02 43 38.0 +0.4
STU Stuttgart 12.17 291 *e*P Pn 02 43 38.0 +0.4
STU Stuttgart 12.17 291 *e*Pn Pn 02 43 38.0 +0.4
ERZM Erzurum 12.33 112 *i* P Pn 02 43 41.3 +1.2
ERZM Erzurum 12.33 112 P Pn 02 43 41.3 +1.2
MOS Moscow 12.38 31 *e*P Pn 02 43 35.1 -5.1
MOS *e*SS Sn 02 45 58.4 +1.8
NCK Nalchik 12.41 94⇑ *i*P Pn 02 43 42.2 +1.5
NCK Nalchik 12.41 94 *i* P Pn 02 43 42.2 +1.5
EPOS Posof 12.49 103 *i* P Pn 02 43 39.4 -2.5
EPOS Posof 12.49 103 P Pn 02 43 39.4 -2.5
ONI Oni 12.58 98 P Pn 02 43 42.6 -0.4
ONI Oni 12.58 98 P Pn 02 43 42.6 -0.4
ONI Oni 12.58 98 P Pn 02 43 42.6 -0.4
HOMI Horasan 12.61 111 *i* P Pn 02 43 44.9 +1.2
BFO Black Forest 12.69 289 *i* P Pn 02 43 43.9 -0.5
BFO Black Forest 12.69 289 *e*Pn Pn 02 43 43.3 -1.0
BFO Black Forest 12.69 289 *i* P Pn 02 43 43.9 -0.5
BFO Black Forest 12.69 289 *e*Pn Pn 02 43 43.3 -1.0
VRTB Varto-Mus 12.80 115 *i* P Pn 02 43 48.0 +2.0
VRTB Varto-Mus 12.80 115 P Pn 02 43 48.0 +2.0
ZEI Tsey 12.83 96 *e*P Pn 02 43 44.7 -1.7
ZEI pmax pmax
comp=Z,47nm,0.6s
ZEI Tsey 12.83 96 *e*P Pn 02 43 44.7 -1.7
comp=Z,47nm,0.6s
VSU Vasula 12.91 1⇑ *e*P Pn 02 43 44.7 -2.3
BIDA Albida 12.95 141 *i* P Pn 02 43 47.8 -0.1
BIDA AML AML 02 44 36.7
comp=N,11nm,0.7s
BIDA AML AML 02 44 41.0
comp=E,17nm,0.7s
AKH Akhalkalaki 13.05 103 P Pn 02 43 48.0 -1.3
AKH Akhalkalaki 13.05 103 P Pn 02 43 47.9 -1.3
EATA Eleskirt 13.09 110 *i* P Pn 02 43 51.6 +1.7
EATA Eleskirt 13.09 110 P Pn 02 43 51.6 +1.7
GUDG Gudauri 13.34 97 P P 02 43 55.5 -2.2
SENIN Lac Senin/Sane 13.35 280 *e*Pn Pn 02 43 52.1 -1.0
SENIN Lac Senin/Sane 13.35 280 *e*Pn Pn 02 43 52.1 -1.0
HAWK Haweek 13.40 142 *i* P Pn 02 43 54.2 +0.5
HAWK AML AML 02 44 31.4
comp=E,6.2nm,0.7s
HAWK AML AML 02 44 40.3
comp=N,4.9nm,0.6s
MARD Mardin 13.53 123 *e*Pn Pn 02 43 57.3 +1.9
TBLG Delisi 13.78 100 P P 02 44 05.1 +2.7
TBLG Delisi 13.78 100 P P 02 44 05.1 +2.7
MARH Ras Al Marh 13.86 143 *i* P Pn 02 44 00.7 +1.0
MARH AML AML 02 44 49.1
comp=N,6.1nm,0.5s
MARH AML AML 02 44 50.2
comp=E,5.9nm,0.6s
BNI Bardonecchia 13.93 275 *e*P Pn 02 43 57.9 -2.5
BNI Bardonecchia 13.93 275 *e*Pn Pn 02 43 57.9 -2.5
VSL Villasalto 13.97 250 *e*Pn Pn 02 44 01.4 +0.5
VSL Villasalto 13.97 250 *e*Pn Pn 02 44 01.4 +0.5
ROOS tl_alroos 14.09 140 *i* P Pn 02 44 00.0 -2.5
ROOS AML AML 02 44 47.3
comp=E,10nm,0.8s
ROOS AML AML 02 45 04.5
comp=N,7.1nm,0.7s
WLF Walferdange 14.28 294 P P 02 44 06.6 -1.3
WLF Walferdange 14.28 294 *e*P P 02 44 07.1 -0.8
WLF Walferdange 14.28 294 *e*P P 02 44 07.1 -0.8
WLF Walferdange 14.28 294 *e*P P 02 44 07.1 -0.8
GNI Garni 14.46 106 P P 02 44 08.9 -1.1
comp=N,0.8nm,0.3s,baz=316,slow=24,SNR=40
GNI Garni 14.46 106 *i* P Pn 02 44 08.4 +1.3
SNR=32
GNI Garni 14.46 106 *d* *i*P P 02 44 09.0 -1.1
GNI pmax pmax
comp=Z,882nm,1.7s
GNI Garni 14.46 106 *i* P P 02 44 09.0 -1.1
comp=Z,882nm,1.7s
GNI Garni 14.46 106 *e*Pn P 02 44 09.2 -0.8

MEM Membach 14.55 298 P **P** **02 44 13.4 +2.6**
comp=Z,16nm,1.1s
MEM Membach 14.55 298 P **P** **02 44 13.4 +2.6**
comp=Z,16nm,1.1s
BEBN Eben Emael 14.79 298 P **P** **02 44 13.1 -0.4**
BEBN Eben Emael 14.79 298 P **P** **02 44 13.1 -0.4**
BCLA Clavier 14.95 297 P **Pn** **02 44 13.7 +0.6**
comp=Z,19nm,1.5s
BCLA Clavier 14.95 297 P **Pn** **02 44 13.7 +0.6**
comp=Z,19nm,1.5s
DOU Dourbes 15.34 295 P **P** **02 44 19.5 -0.1**
DOU Dourbes 15.34 295 P **P** **02 44 19.5 -0.1**
SSB Saint Sauveur 15.39 277 *e*P **Pn** **02 44 15.8 -2.8**
SSB pmax pmax
comp=Z,42nm,1.5s
SSB Saint Sauveur 15.39 277 *e*Pn **Pn** **02 44 15.8 -2.8**
comp=Z,42nm,1.5s
ASF Jabal al Asfar 15.64 145 P **P** **02 44 23.3 +0.2**
comp=Z,0.3nm,0.3s,baz=263,slow=4.0,SNR=5.0
FIA0 FINESS Array S 15.90 359 *e*P **Pn** **02 44 22.0 -2.7**
FIA0 FINESS Array S 15.90 359 *e*Pn **Pn** **02 44 22.0 -2.7**
FIA0 FINESS Array S 15.90 359 *e*Pn **Pn** **02 44 22.0 -2.7**
FINES FINESS Array B 15.90 359 P **Pn** **02 44 22.0 -2.7**
comp=Z,0.7nm,0.3s,baz=171,slow=13,SNR=17
FINES LR LR 02 50 44.4
comp=Z,201nm,18.0s,baz=168,slow=38
FINES FINESS Array B 15.90 359 *i* P **Pn** **02 44 22.3 -2.4**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FIA1 FINESS Array S 15.90 359 *e*Pn **Pn** **02 44 22.1 -2.6**
FIA1 FINESS Array S 15.90 359 *e*Pn **Pn** **02 44 22.1 -2.6**
KEST Kesra 16.26 239 P **P** **02 44 30.0 +0.1**
comp=Z,0.6nm,0.3s,baz=20,slow=4.7,SNR=12
KEST Kesra 16.26 239 *e*Pn **Pn** **02 44 28.6 -0.8**
comp=Z,19nm,1.2s
KEST Kesra 16.26 239 *e*Pn **Pn** **02 44 28.6 -0.8**
comp=Z,19nm,1.2s
HFS Hagfors 16.44 337 P **Pn** **02 44 29.1 -2.3**
comp=Z,0.9nm,0.3s,baz=140,slow=11,SNR=22
HFS LR LR 02 51 26.4
comp=Z,164nm,18.9s,baz=148,slow=39
CMAH Djebel Manchou 16.88 245 P **Pn** **02 44 38.5 +1.6**
CMAH Djebel Manchou 16.88 245 P **Pn** **02 44 38.5 +1.6**
ABSA Djebel Ababsia 17.06 244 P **Pn** **02 44 41.1 +1.9**
KLMR Klimovskoe 17.13 22 *e*P **P** **02 44 38.6 -0.6**
KLMR 02 47 47.7
KLMR pmax pmax
comp=Z,44nm,0.8s
KLMR Klimovskoe 17.13 22 *e*P **P** **02 44 38.6 -0.6**
comp=Z,44nm,0.8s
KLMR S **S** **02 47 47.7 -2.9**
CKFL Kef-Lekhel 17.46 245 P **Pn** **02 44 44.5 +0.5**
CKFL Kef-Lekhel 17.46 245 P **Pn** **02 44 44.5 +0.5**
NC602 NORSAR Array S 17.55 335 *e*P **P** **02 44 43.3 -0.5**
NC602 NORSAR Array S 17.55 335 *e*P **P** **02 44 43.3 -0.5**
SNR=53
NC602 NORSAR Array S 17.55 335 *e*P **P** **02 44 43.4 -0.5**
CASM Ain Smara 17.69 245 P **Pn** **02 44 46.6 -0.1**
CASM Ain Smara 17.69 245 P **Pn** **02 44 46.6 -0.1**
NC405 NORSAR Array S 17.81 336 *e*P **P** **02 44 45.8 -0.9**
NC405 NORSAR Array S 17.81 336 *e*P **P** **02 44 45.8 -0.9**
NAO01 NORSAR Array S 17.83 335 *e*P **P** **02 44 45.0 -1.9**
NAO01 NORSAR Array S 17.83 335 *e*P **P** **02 44 45.0 -1.9**
CTEI Djebel Teioual 17.86 245 P **Pn** **02 44 48.8 -0.1**
CTEI Djebel Teioual 17.86 245 P **Pn** **02 44 48.8 -0.1**
NB201 NORSAR Array S 17.88 336 *e*P **P** **02 44 47.0 -0.5**
NB201 NORSAR Array S 17.88 336 *e*P **P** **02 44 47.0 -0.5**
NB2 NORSAR Subarra 17.89 335 P **P** **02 44 46.6 -1.0**
comp=Z,12nm,0.7s,baz=143,slow=11
NB2 NORSAR Subarra 17.89 335 P **P** **02 44 46.6 -1.0**
baz=143,slow=11
NB2 NORSAR Subarra 17.89 335 P **P** **02 44 46.6 -1.0**
comp=Z,12nm,0.7s,SNR=7.4
NB200 NORSAR Array S 17.89 335 *e*P **P** **02 44 45.3 -2.3**
NB200 NORSAR Array S 17.89 335 *e*P **P** **02 44 45.3 -2.3**
NOA NORSAR Array B 17.89 335 P **P** **02 44 45.3 -2.3**
comp=Z,1.6nm,0.3s,baz=139,slow=11,SNR=17
NOA LR LR 02 52 15.9
comp=Z,57nm,18.8s,baz=275,slow=39
NC303 NORSAR Array S 18.00 336 *e*P **P** **02 44 48.8 +0.1**
NC303 NORSAR Array S 18.00 336 *e*P **P** **02 44 48.8 +0.1**
NBO02 NORSAR Array S 18.00 335 *e*P **Pn** **02 44 49.9 -0.3**
NBO02 NORSAR Array S 18.00 335 *e*P **Pn** **02 44 49.9 -0.3**
NBO00 NORSAR Array S 18.01 335 *e*P **P** **02 44 48.6 -0.4**
NBO00 NORSAR Array S 18.01 335 *e*P **P** **02 44 48.6 -0.4**
NC204 NORSAR Array S 18.21 335 *e*P **P** **02 44 51.7 +0.5**
NC204 NORSAR Array S 18.21 335 *e*P **P** **02 44 51.7 +0.5**
BLS5 Blasjo 18.34 326 *e*P **Pn** **02 44 55.6 +1.3**
CKHR Kef el Ahmar 18.47 246 P **Pn** **02 44 55.7 -0.3**
CKHR Kef el Ahmar 18.47 246 P **Pn** **02 44 55.7 -0.3**
CWF Charnwood Fore 19.44 302 *e*P **P** **02 45 05.0 +0.5**
comp=Z,26nm,1.1s
CWF Charnwood Fore 19.44 302 *e*P **P** **02 45 05.0 +0.5**
comp=Z,26nm,1.1s
DYA Yadsworthy 20.82 294 *e*P **P** **02 45 19.8 +0.5**
comp=Z,73nm,1.5s
DYA Yadsworthy 20.82 294 *e*P **P** **02 45 19.8 +0.5**
comp=Z,73nm,1.5s
EKA Eskdalemuir Ar 21.08 308 P **P** **02 45 22.1 0.0**
comp=Z,12nm,0.9s,baz=111,slow=11,SNR=12
ESK Eskdalemuir 21.10 308 *e*P **P** **02 45 21.7 -0.6**
ESK pmax pmax
comp=Z,144nm,1.8s
ESK Eskdalemuir 21.10 308 *e*P **P** **02 45 21.7 -0.6**
comp=Z,144nm,1.8s
ESK Eskdalemuir 21.10 308 *e*P **P** **02 45 21.7 -0.6**
comp=Z,144nm,1.8s
AKTK Aktyubinsk 21.57 66 P **P** **02 45 27.9 +0.5**
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 21.57 66 P **P** **02 45 27.9 +0.5**
comp=Z,7.3nm,0.8s,baz=266,slow=9.6,SNR=23
APA Apatity 22.35 7 || *i*P **P** **02 45 34.8 -0.4**
APA *i* 02 46 04.0
APA *i* S **S** **02 49 26.0 -4.7**
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,900nm,13.0s
APA Apatity 22.35 7 *i* P **P** **02 45 34.8 -0.4**
comp=Z,10.0nm,1.1s
DSB Dublin 22.54 302 *e*P **P** **02 45 35.3 -1.9**
comp=Z,134nm,1.9s
DSB Dublin 22.54 302 *e*P **P** **02 45 35.3 -1.9**
comp=Z,134nm,1.9s
ODJA Bouhanifia 22.59 252 P **P** **02 45 40.0 +2.1**
ARU Arti 22.72 50 P **P** **02 45 38.4 -0.5**
comp=Z,8.9nm,0.5s,baz=261,slow=6.7,SNR=20
ARU Arti 22.72 50 *c i*P **P** **02 45 38.5 -0.4**
ARU 02 46 09.9
ARU S **S** **02 49 38.1 +1.2**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 22.72 50 *e*P **P** **02 45 38.2 -0.7**
comp=Z,48nm,0.8s
ARU Arti 22.72 50 *e*P **P** **02 45 38.2 -0.7**
comp=Z,48nm,0.8s
LVZ Lovozero 22.78 8 || *i*P **P** **02 45 39.3 -0.1**
LVZ pmax pmax
comp=Z,44nm,0.9s
LVZ Lovozero 22.78 8 *i* P **P** **02 45 39.3 -0.1**
comp=Z,44nm,0.9s
LVZ Lovozero 22.78 8 *e*P **P** **02 45 39.3 -0.1**
comp=Z,91nm,0.8s
AB31 Akbulak array 22.84 69 *i* P **P** **02 45 40.2 +0.1**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
AB31 Akbulak array 22.84 69 *i* P **P** **02 45 40.2 +0.1**
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 22.84 69 *e*P **P** **02 45 40.5 +0.4**
comp=Z,134nm,0.6s
ABKAR Akbulak array 22.84 69 *e*P **P** **02 45 40.5 +0.4**
comp=Z,134nm,0.6s
HEF Hetta 22.94 357 *e*P **P** **02 45 40.4 -0.4**
HEF Hetta 22.94 357 *e*P **P** **02 45 40.4 -0.4**
SNR=50
ES19 SONSECA Array 23.01 266 *e*P **P** **02 45 41.0 -0.9**
ES19 SONSECA Array 23.01 266 *e*P **P** **02 45 41.0 -0.9**
ESDC Sonseca Array 23.06 266 P **P** **02 45 40.9 -1.5**
comp=Z,1.9nm,0.4s,baz=64,slow=9.5,SNR=40
ESLA Sonseca Array 23.06 266 *e*P **P** **02 45 41.0 -1.4**
comp=Z,19nm,1.3s
ESLA Sonseca Array 23.06 266 *e*P **P** **02 45 41.0 -1.4**
comp=Z,19nm,1.3s
PAB San Pablo 23.39 266 *e*P **P** **02 45 44.2 -1.2**
PAB pmax pmax
comp=Z,27nm,1.6s
PAB San Pablo 23.39 266 *e*P **P** **02 45 44.2 -1.2**
comp=Z,27nm,1.6s
PAB San Pablo 23.39 266 *e*P **P** **02 45 44.2 -1.2**
comp=Z,27nm,1.6s
KTK1 Kautokeino 23.56 357 *e*P **P** **02 45 46.2 -0.3**
KTK1 *e*pP **pP** **02 46 12.2 -1.0**
KTK1 Kautokeino 23.56 357 *e*P **P** **02 45 46.2 -0.3**
SNR=42
KIF Kilpisjarvi 23.67 355 *e*P **P** **02 45 47.4 0.0**
KIF Kilpisjarvi 23.67 355 *e*P **P** **02 45 47.4 0.0**
SNR=42
ARA0 ARCESS Array S 24.03 359 *e*pP pP 02 46 15.9 -2.3
ARCES ARCESS Array B 24.03 359 P **P** **02 45 50.2 -0.6**
comp=Z,7.6nm,0.7s,baz=173,slow=8.9,SNR=50
ARE0 ARCESS Array S 24.03 359 *e*P **P** **02 45 50.5 -0.3**
ARE0 ARCESS Array S 24.03 359 *e*P **P** **02 45 50.5 -0.3**
SNR=42
ARE0 ARCESS Array S 24.03 359 *e*P **P** **02 45 50.4 -0.4**
comp=Z,100nm,1.8s
PBRG Braganca 24.20 273 *e*P **P** **02 45 52.4 -0.3**
comp=Z,12nm,1.3s
PBRG Braganca 24.20 273 *e*PcP **PcP** **02 49 29.6 +0.2**
PBRG Braganca 24.20 273 *e*P **P** **02 45 52.4 -0.3**
comp=Z,12nm,1.3s
PBRG Braganca 24.20 273 *e*PcP **PcP** **02 49 29.6 +0.2**
KEV Kevo 24.25 0 *e*P **P** **02 45 52.8 +0.1**
KEV Kevo 24.25 0 *e*P **P** **02 45 52.9 +0.2**
KEV pmax pmax
comp=Z,28nm,0.9s
KEV Kevo 24.25 0 *e*P **P** **02 45 52.8 +0.1**
SNR=42
KEV Kevo 24.25 0 *e*P **P** **02 45 52.9 +0.2**
comp=Z,28nm,0.9s
TRO Tromso 24.42 354 *e*P **P** **02 45 57.4 +3.1**
MVO Moncorvo 24.63 272 *e*P **P** **02 45 55.5 -1.1**
comp=Z,18nm,1.5s
MVO Moncorvo 24.63 272 *e*PcP **PcP** **02 49 30.5 +0.1**
MVO Moncorvo 24.63 272 *e*P **P** **02 45 55.5 -1.1**
comp=Z,18nm,1.5s
MVO Moncorvo 24.63 272 *e*PcP **PcP** **02 49 30.5 +0.1**
GEYT Alibeck 24.70 97 P **P** **02 45 59.2 +1.9**
comp=Z,12nm,0.7s,baz=298,slow=10.0,SNR=19
GEYT PcP **PcP** **02 49 30.6 0.0**
comp=Z,4.8nm,0.6s,baz=264,slow=5.5,SNR=4.4
PVRL Vila Real 25.07 272 *e*P **P** **02 46 00.4 -0.2**
comp=Z,18nm,1.6s
PVRL Vila Real 25.07 272 *e*PcP **PcP** **02 49 31.8 +0.5**
PVRL Vila Real 25.07 272 *e*P **P** **02 46 00.4 -0.2**
comp=Z,18nm,1.6s
PVRL Vila Real 25.07 272 *e*PcP **PcP** **02 49 31.8 +0.5**
POLO Lamas de Olo 25.09 273 *e*P **P** **02 46 01.4 +0.6**
comp=Z,5.5nm,1.4s
POLO *e*pP **pP** **02 46 28.2 -1.3**
POLO Lamas de Olo 25.09 273 *e*PcP **PcP** **02 49 31.6 +0.1**
POLO Lamas de Olo 25.09 273 *e*P **P** **02 46 01.4 +0.6**
comp=Z,5.5nm,1.4s
POLO *e*pP **pP** **02 46 28.2 -1.3**
POLO Lamas de Olo 25.09 273 *e*PcP **PcP** **02 49 31.6 +0.1**
PCAB Cabril 25.13 274 *e*P **P** **02 46 01.7 +0.6**
PCAB Cabril 25.13 274 *e*PcP **PcP** **02 49 32.2 +0.7**
PCAB Cabril 25.13 274 *e*P **P** **02 46 01.7 +0.6**
PCAB Cabril 25.13 274 *e*PcP **PcP** **02 49 32.2 +0.7**
PGAV Gavieira, Arco 25.22 274 *e*P **P** **02 46 01.3 -0.6**
comp=Z,16nm,1.1s
PGAV Gavieira, Arco 25.22 274 *e*P **P** **02 46 01.3 -0.6**
comp=Z,16nm,1.1s
MTE Manteigas 25.28 270 *e*P **P** **02 46 01.9 -0.6**
comp=Z,11nm,1.0s
MTE Manteigas 25.28 270 *e*PcP **PcP** **02 49 31.8 -0.1**
MTE Manteigas 25.28 270 *e*P **P** **02 46 01.6 -0.9**
comp=Z,8.6nm,0.7s
MTE Manteigas 25.28 270 *e*PcP **PcP** **02 49 31.8 -0.1**
MTE Manteigas 25.28 270 *e*P **P** **02 46 01.6 -0.9**
comp=Z,8.6nm,0.7s
PVIS Viseu 25.41 271 *e*P **P** **02 46 02.0 -1.6**
comp=Z,11nm,1.7s
PVIS Viseu 25.41 271 *e*P **P** **02 46 02.0 -1.6**
comp=Z,11nm,1.7s
PCBR Castelo Branco 25.46 269 *e*P **P** **02 46 02.9 -1.1**
PCBR Castelo Branco 25.46 269 *e*PcP **PcP** **02 49 32.3 +0.1**
PCBR Castelo Branco 25.46 269 *e*P **P** **02 46 02.9 -1.1**
PCBR Castelo Branco 25.46 269 *e*PcP **PcP** **02 49 32.3 +0.1**
PMRV Marv??o 25.57 268 *e*P **P** **02 46 04.0 -1.1**
comp=Z,14nm,1.7s
PMRV Marv??o 25.57 268 *e*PcP **PcP** **02 49 32.6 +0.1**
PMRV Marv??o 25.57 268 *e*P **P** **02 46 04.0 -1.1**
comp=Z,14nm,1.7s
PMRV Marv??o 25.57 268 *e*PcP **PcP** **02 49 32.6 +0.1**
PBAR Barrancos 25.88 265 *e*P **P** **02 46 06.3 -1.5**
comp=Z,33nm,1.8s
PBAR Barrancos 25.88 265 *e*PcP **PcP** **02 49 33.2 0.0**
PBAR Barrancos 25.88 265 *e*P **P** **02 46 06.3 -1.5**
comp=Z,33nm,1.8s
PBAR Barrancos 25.88 265 *e*PcP **PcP** **02 49 33.2 0.0**
PESTR Estremoz 25.95 267 *e*P **P** **02 46 07.2 -1.3**
PESTR Estremoz 25.95 267 *e*P **P** **02 46 07.2 -1.3**
COI Coimbra 25.97 271 *e*P **P** **02 46 08.7 +0.1**
PCAS Casmilo, Conde 26.09 270 *e*P **P** **02 46 10.1 +0.4**
PCAS Casmilo, Conde 26.09 270 *e*P **P** **02 46 10.1 +0.4**
PTOM Tomar 26.21 269 *e*P **P** **02 46 11.1 +0.3**
PTOM Tomar 26.21 269 *e*PcP **PcP** **02 49 34.9 +1.0**
PTOM Tomar 26.21 269 *e*P **P** **02 46 11.1 +0.3**
PTOM Tomar 26.21 269 *e*PcP **PcP** **02 49 34.9 +1.0**
PVAQ Vaqueiros 26.71 264 *e*P **P** **02 46 15.0 -0.3**
PVAQ Vaqueiros 26.71 264 *e*P **P** **02 46 15.0 -0.3**
RAYN Ar Rayn 26.89 139 *e*P **P** **02 46 17.7 +0.6**
comp=Z,6.8nm,0.8s
RAYN Ar Rayn 26.89 139 *e*P **P** **02 46 17.7 +0.6**
comp=Z,6.8nm,0.8s
PBDV Barranco-do-Ve 26.94 264 *e*P **P** **02 46 17.4 0.0**
PBDV Barranco-do-Ve 26.94 264 *e*P **P** **02 46 17.4 0.0**
MDT Midelt 27.06 253 P **P** **02 46 18.5 -0.2**
comp=Z,10nm,0.7s,baz=75,slow=12,SNR=29
ZFT Errachidia 27.37 251 *i* P **P** **02 46 22.0 +0.5**
KIB El Ksiba 28.17 254 *i* P **P** **02 46 29.0 +0.6**
TAM Tamanrasset 28.41 224 *e*P **P** **02 46 31.7 +0.9**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 28.41 224 *e*P **P** **02 46 31.7 +0.9**
comp=Z,4.0nm,0.8s
TAM Tamanrasset 28.41 224 *e*P **P** **02 46 31.7 +0.9**
comp=Z,4.3nm,0.8s
BRVK Borovoye 29.14 59 *c i*P **P** **02 46 37.6 +0.8**
BRVK pmax pmax
comp=Z,39nm,1.3s
BRVK Borovoye 29.14 59 *i* P **P** **02 46 37.6 +0.8**
comp=Z,39nm,1.3s
BRVK *e*pP **pP** **02 47 05.3 -0.5**
BRVK Borovoye 29.14 59 *e*P **P** **02 46 38.2 +1.4**
comp=Z,11nm,0.8s
BRVK *e*pP **pP** **02 47 05.3 -0.5**
BVA0 Borovoye Array 29.21 59 P **P** **02 46 38.0 +0.6**
BVA0 pmax pmax
comp=Z,9.0nm,1.1s
BVA0 Borovoye Array 29.21 59 P **P** **02 46 38.0 +0.6**
comp=Z,9.0nm,1.1s
BVAR Borovoye Array 29.21 59 P **P** **02 46 38.2 +0.8**
comp=Z,4.5nm,0.8s,baz=266,slow=8.9,SNR=17
BANOM Banah 30.89 119 P **P** **02 46 52.8 +0.3**
BANOM Banah 30.89 119 P **P** **02 46 52.8 +0.3**
KK31 Karatay Array 31.31 79 *i* P **P** **02 46 57.2 +1.2**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 31.31 79 *i* P **P** **02 46 57.2 +1.2**
comp=Z,6.0nm,0.6s
KKAR Karatay Array 31.31 79 *e*P **P** **02 46 57.5 +1.5**
KKAR pmax pmax
comp=Z,104nm,0.6s
KKAR Karatay Array 31.31 79 *e*P **P** **02 46 57.5 +1.5**
comp=Z,104nm,0.6s
KKAR Karatay Array 31.31 79 *e*P **P** **02 46 57.5 +1.5**
comp=Z,104nm,0.6s
UOSS Minazif 31.55 121 *e*P **P** **02 46 57.0 -1.3**
comp=Z,6.9nm,0.8s
UOSS Minazif 31.55 121 *e*P **P** **02 46 57.0 -1.3**
comp=Z,6.9nm,0.8s
ASHO Ashiyiah 31.66 121 P **P** **02 46 58.7 -0.6**
ASHO Ashiyiah 31.66 121 P **P** **02 46 58.7 -0.6**
MNAS Manas 32.90 79 P **P** **02 47 11.1 +1.0**
MNAS pmax pmax
comp=Z,8.0nm,0.9s
MNAS Manas 32.90 79 P **P** **02 47 11.1 +1.0**
comp=Z,8.0nm,0.9s
SPA0 Spitsbergen Ar 32.95 356 *e*P **P** **02 47 10.7 +0.7**
SPA0 Spitsbergen Ar 32.95 356 *e*P **P** **02 47 10.7 +0.7**
SPITS Spitsbergen Ar 32.95 356 P **P** **02 47 10.7 +0.7**
comp=Z,4.4nm,0.6s,baz=145,slow=13,SNR=6.0
KBS Kingsbay 33.92 355 *e*P **P** **02 47 17.9 -0.3**
KBS *e**PP **pP** **02 47 48.1 +0.5**
KBS Kingsbay 33.92 355 *e*P **P** **02 47 17.9 -0.3**
KBS *e*pP **pP** **02 47 48.1 +0.5**
KBS Kingsbay 33.92 355 *e*P **P** **02 47 17.9 -0.3**
KBS *e*pP **pP** **02 47 48.1 +0.5**
AAK Ala-Archa 34.21 77 P **P** **02 47 23.4 +2.0**
comp=Z,14nm,0.7s,baz=252,slow=3.7,SNR=41
AAK pP **pP** **02 47 50.8 0.0**
comp=Z,4.3nm,0.7s,baz=152,slow=0.1,SNR=2.6
AAK Ala-Archa 34.21 77 *c i*P **P** **02 47 23.3 +1.8**
AAK pmax pmax
comp=Z,42nm,0.8s
AAK Ala-Archa 34.21 77 P **P** **02 47 19.4 -2.1**
SNR=17
AAK *e*pP **pP** **02 47 50.8 0.0**
AAK Ala-Archa 34.21 77 *e*P **P** **02 47 23.4 +2.0**
comp=Z,16nm,0.8s
AAK *e*pP **pP** **02 47 50.8 0.0**
FRU Bishkek 34.22 77 *i* P **P** **02 47 23.5 +2.1**
FRU pmax pmax
comp=Z,27nm,1.2s
DAMY Dhamar 34.41 148 *e*P **P** **02 47 26.2 +2.6**
comp=Z,26nm,0.9s
KURBB Kurchatov Arra 34.54 62 P **P** **02 47 24.6 +0.6**
comp=Z,6.1nm,0.6s,baz=287,slow=9.0,SNR=25
KURBB PcP **PcP** **02 49 56.0 +0.4**
comp=Z,0.8nm,0.3s,baz=277,slow=3.3,SNR=4.2
KURK Kurchatov 34.58 62 *c i*P **P** **02 47 24.7 +0.4**
KURK pmax pmax
comp=Z,22nm,0.7s
KURK Kurchatov 34.58 62 *i* P **P** **02 47 24.7 +0.4**
comp=Z,22nm,0.7s
KURK Kurchatov 34.58 62 *e*P **P** **02 47 24.9 +0.6**
comp=Z,15nm,1.3s
TKM2 Tokmak 2 34.86 76 P **P** **02 47 28.3 +1.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 34.86 76 P **P** **02 47 28.3 +1.2**
comp=Z,8.0nm,0.9s
PMAR Madeira 35.58 264 *e*P **P** **02 47 35.0 +1.7**
PMAR Madeira 35.58 264 *e*P **P** **02 47 35.0 +1.7**
KSH Kashi 36.50 82 P **P** **02 47 41.5 +0.5**
KSH pP pP 02 48 09.5 -1.1
KSH sP sP 02 48 23.9 -2.2
KSH PP **PnPn** **02 49 08.1 0.0**
KSH PcP **PcP** **02 50 03.4 +1.7**
KSH S **S** **02 53 11.7 -1.3**
KSH PcS **PcS** **02 53 51.1 +1.3**
KSH sS sS 02 54 01.0 -3.7
KSH pmax pmax
comp=Z,23nm,1.3s
KSH pmax pmax
comp=Z,60nm,4.9s
KSH LR LR
comp=Z,120nm,5.1s
KSH LR LR
comp=Z,140nm,4.0s
KSH LR LR
comp=Z,160nm,4.8s
NVS Novosibirsk 36.56 54 *e*P **P** **02 47 42.5 +1.4**
NVS *e* 02 48 12.2
NVS pmax pmax
comp=Z,18nm,0.8s
NVS pmax pmax
comp=E,13nm,0.8s
NVS Novosibirsk 36.56 54 *e*P **P** **02 47 42.5 +1.4**
comp=E,18nm,0.8s
PDGK Podgornoye 37.35 74 P **P** **02 47 49.1 +0.9**
PDGK pmax pmax
comp=Z,22nm,0.8s
ZAA1 Zalesovo Array 37.63 55 *e*P **P** **02 47 50.8 +0.6**
ZAA1 *e*pP **pP** **02 48 19.8 -0.2**
ZAA1 Zalesovo Array 37.63 55 *e*P **P** **02 47 50.8 +0.6**
ZAA1 *e*pP **pP** **02 48 19.8 -0.2**
ZAA0 Zalesovo Array 37.63 56 *e*pP pP 02 48 19.8 -0.2
ZAA0 Zalesovo Array 37.63 56 *e*pP **pP** **02 48 19.8 -0.2**
ZAA0 *e*pP pP 02 48 19.9 0.0
ZALV Zalesovo Beam 37.63 56 P **P** **02 47 50.8 +0.6**
comp=Z,19nm,0.7s,baz=280,slow=9.2,SNR=64
ZALV pP **pP** **02 48 19.8 -0.2**
comp=Z,5.1nm,0.5s,baz=278,slow=9.6,SNR=5.6
MK31 Makanchi Array 37.98 67 *e*P **P** **02 47 54.3 +1.0**
MK31 *e**PP **pP** **02 48 22.5 -0.6**
MK31 Makanchi Array 37.98 67 *e*P **P** **02 47 54.3 +1.0**
MK31 *e*pP **pP** **02 48 22.5 -0.6**
MK31 Makanchi Array 37.98 67 *e*P **P** **02 47 54.3 +1.0**
MK31 *e*pP **pP** **02 48 22.5 -0.6**
MK32 Makanchi Array 37.98 67 *e*P **P** **02 47 54.0 +0.7**
MK32 *e*pP **pP** **02 48 22.1 -1.0**
MK32 Makanchi Array 37.98 67 *e*P **P** **02 47 54.0 +0.7**
MK32 *e*pP **pP** **02 48 22.1 -1.0**
MKAR Makanchi Array 37.98 67 P **P** **02 47 54.0 +0.7**
comp=Z,5.1nm,0.5s,baz=273,slow=8.4,SNR=43
MKAR pP **pP** **02 48 22.1 -1.0**
comp=Z,2.4nm,0.5s,baz=274,slow=8.1,SNR=6.0
MKAR PcP **PcP** **02 50 05.5 -0.5**
comp=Z,2.8nm,0.9s,baz=299,slow=5.0,SNR=4.0
MKAR Makanchi Array 37.98 67 *e*P **P** **02 47 54.3 +1.0**
comp=Z,47nm,0.6s
MKAR *e*pP **pP** **02 48 22.5 -0.6**
MKAR Makanchi Array 37.98 67 *e*P **P** **02 47 54.3 +1.0**
comp=Z,47nm,0.6s
MKAR *e*pP **pP** **02 48 22.5 -0.6**
MK01 Makanchi Array 37.99 68 *e*P **P** **02 47 53.9 +0.5**
MK01 *e*pP **pP** **02 48 22.2 -1.0**
MK01 Makanchi Array 37.99 68 *e*P **P** **02 47 53.9 +0.5**
MK01 *e*pP **pP** **02 48 22.2 -1.0**
NRIK Noril'sk 38.19 30 P **P** **02 47 55.8 +1.1**
comp=Z,7.5nm,0.9s,baz=300,slow=6.5,SNR=3.6
NRIK LR LR 03 06 14.5
comp=Z,64nm,18.6s,baz=325,slow=40
NRIK Noril'sk 38.19 30 P **P** **02 47 55.8 +1.1**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
NRIK MLR MLR
comp=Z,64nm,18.6s
TOA1 Torodi Ar. Sit 38.54 221 *e*P **P** **02 47 57.9 -0.3**
TOA1 Torodi Ar. Sit 38.54 221 *e*P **P** **02 47 57.9 -0.3**
TOA0 Torodi Ar. Sit 38.54 221 *e*P **P** **02 47 57.8 -0.4**
TOA0 Torodi Ar. Sit 38.54 221 *e*P **P** **02 47 57.8 -0.4**
TORD Torodi Ar. Bea 38.54 221 P **P** **02 47 57.9 -0.3**
comp=Z,26nm,0.5s,baz=26,slow=8.5,SNR=248
TORD PcP **PcP** **02 50 06.8 -1.3**
comp=Z,3.4nm,0.8s,baz=31,slow=2.4,SNR=3.5
DGZ Jazzator, Alta 40.30 61 *i* P **P** **02 48 14.1 +1.4**
DGZ pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 42.63 70 P **P** **02 48 33.4 +1.8**
WMQ pP pP 02 49 02.9 +1.0
WMQ sP sP 02 49 17.8 +0.6
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,83nm,4.1s
WMQ LR LR
comp=Z,64nm,20.3s
WMQ LR LR
comp=Z,35nm,13.7s
DBIC Dimbokro 47.30 225 P **P** **02 49 07.5 -1.2**
comp=Z,33nm,0.5s,baz=11,slow=9.0,SNR=115
DBIC pP **pP** **02 49 40.0 +0.4**
comp=Z,6.7nm,0.4s,baz=360,slow=13,SNR=2.6
DBIC Dimbokro 47.30 225 *e*P **P** **02 49 07.5 -1.2**
comp=Z,34nm,0.5s
DBIC Dimbokro 47.30 225 *e*P **P** **02 49 07.5 -1.2**
comp=Z,34nm,0.5s
TIC Toumodi 47.40 225 *e*P **P** **02 49 08.0 -1.5**
BBTS Babate 47.45 244 P **P** **02 49 10.5 +0.7**
comp=Z,86nm,0.8s,baz=28,slow=0.7,SNR=28
KMBO Kilima Mbogo 47.48 165 P **P** **02 49 11.4 +1.1**
comp=Z,0.7nm,0.3s,baz=336,slow=6.1,SNR=5.6
KMBO Kilima Mbogo 47.48 165 *e*P **P** **02 49 11.4 +1.1**
comp=Z,6.6nm,1.2s
KMBO Kilima Mbogo 47.48 165 *e*P **P** **02 49 11.4 +1.1**
comp=Z,6.6nm,1.2s
PYUN Piuthan 47.49 91 *e*P **P** **02 49 11.4 +1.0**
comp=Z,72nm,0.9s
KIC Kosan Boka 47.51 224 *e*P **P** **02 49 09.1 -1.2**
comp=Z,54nm,0.5s
LIC Lamto 47.77 225 *e*P **P** **02 49 11.0 -1.3**
comp=Z,103nm,0.5s

DANN	Dangsing	47.88	91	eP	P	02 49 14.8	+1.3
	comp=Z,5.1nm,1.0s						
KOLN	Koldanda	48.12	91	eP	P	02 49 15.9	+0.7
	comp=Z,34nm,0.8s						
GKN	Gorkha	48.71	90	eP	P	02 49 20.2	+0.6
	comp=Z,86nm,0.8s						
TLY	Talaya	49.16	53⇑	eP	P	02 49 24.3	+1.7
TLY				pmax	pmax		
	comp=Z,15nm,0.9s						
DMN	Daman	49.27	90	eP	P	02 49 24.9	+0.8
KKN	Kakani	49.29	90	eP	P	02 49 24.6	+0.5
	comp=Z,46nm,0.6s						
PKIN	Phulchoki	49.50	90	eP	P	02 49 26.5	+0.7
ZAK	Zakamensk	49.51	55	eP	P	02 49 25.9	+0.5
ZAK				e		02 49 56.2	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PKI	Pulchoki	49.51	90	eP	P	02 49 26.3	+0.3
GUN	Gumba	49.63	90	eP	P	02 49 27.4	+0.5
	comp=Z,66nm,1.0s						
JIRN	Jiri	50.01	90	eP	P	02 49 30.6	+0.8
	comp=Z,88nm,0.7s						
RAMN	Ramite	50.73	90	eP	P	02 49 35.4	+0.4
	comp=Z,77nm,0.8s						
TAPN	Taplejung	51.26	89	eP	P	02 49 39.8	+0.7
	comp=Z,48nm,1.0s						
ODAN	Odare	51.34	90	eP	P	02 49 40.2	+0.6
	comp=Z,74nm,1.1s						
SACV	Santiago Islan	51.80	251	eP	P	02 49 41.3	-1.5
	comp=Z,29nm,0.8s						
SACV	Santiago Islan	51.80	251	eP	P	02 49 41.3	-1.5
	comp=Z,29nm,0.8s						
BOD	Bodaibo	51.87	43	eP	P	02 49 37.9	-4.9
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LSA	Lhasa	52.26	84	eP	P	02 49 48.1	+1.4
LSA				pmax	pmax		
	comp=Z,21nm,0.8s						
LSA	Lhasa	52.26	84	eP	P	02 49 48.1	+1.4
	comp=Z,21nm,0.8s						
SONA1	Songino Array	52.50	57	eP	P	02 49 48.5	+0.7
SONA1	Songino Array	52.50	57	eP	P	02 49 48.5	+0.7
SONA0	Songino Array	52.51	57	eP	P	02 49 48.7	+0.9
	comp=Z,16nm,0.8s						
SONA0	Songino Array	52.51	57	eP	P	02 49 48.7	+0.9
	comp=Z,16nm,0.8s						
SONM	Songino Array	52.51	57	P	P	02 49 48.7	+0.9
	comp=Z,14nm,0.8s,baz=296,slow=8.5,SNR=66						
SONM				pP	pP	02 50 18.4	-0.9
	comp=Z,5.3nm,0.7s,baz=292,slow=8.6,SNR=6.6						
GTA	Gaotai	52.70	69	eP	P	02 49 50.3	+0.9
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	Ulaanbaatar	52.88	56⇑	eP	P	02 49 51.4	+0.8
ULN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ULN	Ulaanbaatar	52.88	56	eP	P	02 49 51.8	+1.2
	comp=Z,9.0nm,1.1s						
ULN	Ulaanbaatar	52.88	56	eP	P	02 49 51.8	+1.2
	comp=Z,9.0nm,1.1s						
DRLN	Deer Lake	54.12	306	eP	P	02 49 58.6	-0.8
	comp=Z,81nm,1.6s						
DRLN	Deer Lake	54.12	306	eP	P	02 49 58.6	-0.8
	comp=Z,81nm,1.6s						
LZH	Lanzhou	57.20	70	eP	P	02 50 23.3	+1.5
LZH				pP	pP	02 50 55.3	+1.5
LZH				sP	sP	02 51 07.9	-0.8
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,320nm,4.6s						
HHC	Hu-ho-hao-te	59.39	61	eP	P	02 50 38.2	+1.3
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,290nm,5.1s						
LMN	Caledonia Moun	60.11	306	eP	P	02 50 40.9	-0.7
	comp=Z,83nm,2.0s						
LMN	Caledonia Moun	60.11	306	eP	P	02 50 40.9	-0.7
	comp=Z,83nm,2.0s						
PALK	Pallekele	60.22	112	i P	P	02 50 43.8	+1.0
PALK	Pallekele	60.22	112	eP	P	02 50 42.8	0.0
	comp=Z,25nm,0.8s						
PALK	Pallekele	60.22	112	eP	P	02 50 42.8	0.0
	comp=Z,25nm,0.8s						
CD2	Chengdu	60.23	75	eP	P	02 50 42.0	-0.7
LSZ	Lusaka	60.58	178	eP	P	02 50 45.7	+0.6
LSZ				pmax	pmax		
	comp=Z,16nm,0.9s						
LSZ	Lusaka	60.58	178	eP	P	02 50 45.7	+0.6
	comp=Z,16nm,0.9s						
LSZ	Lusaka	60.58	178	eP	P	02 50 45.7	+0.6
	comp=Z,16nm,0.9s						
BJI	Beijing	62.69	60	P	P	02 50 59.6	+0.6
BJI				pmax	pmax		
	comp=Z,13nm,1.0s						
PKME	Peaks-Kenny Pk	62.98	308	eP	P	02 51 00.6	-0.2
	comp=Z,42nm,1.5s						
PKME	Peaks-Kenny Pk	62.98	308	eP	P	02 51 00.6	-0.2
	comp=Z,42nm,1.5s						
KMI	Kunming	63.16	81	P	P	02 51 03.4	+0.8
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
SEY	Seymchan	63.61	24⇓	i P	P	02 51 05.7	+1.0
ENH	Enshi	64.48	72	eP	P	02 51 11.7	+0.7
	comp=Z,24nm,0.8s						
ENH	Enshi	64.48	72	eP	P	02 51 11.7	+0.7
	comp=Z,24nm,0.8s						
CHTO	Chiang Mai	64.63	89	eP	P	02 51 12.1	+0.1
CHTO				e*PP	PcP	02 51 46.9	+2.1
CHTO				pmax	pmax		
	comp=Z,23nm,0.8s						
CHTO	Chiang Mai	64.63	89	eP	P	02 51 12.1	+0.1
	comp=Z,23nm,0.8s						
CHTO	Chiang Mai	64.63	89	eP	P	02 51 12.1	+0.1
	comp=Z,23nm,0.8s						
CHTO				epP	PcP	02 51 46.9	+2.1
CM31	Chiang Mai Arr	64.87	89	eP	P	02 51 14.5	+0.9
CM31	Chiang Mai Arr	64.87	89	eP	P	02 51 14.5	+0.9
CMAR	Chiang Mai Arr	64.87	89	P	P	02 51 13.7	+0.1
	comp=Z,16nm,0.8s,baz=304,slow=7.5,SNR=74						
CMAR				pP	pP	02 51 46.7	+0.4
	comp=Z,6.5nm,0.8s,baz=303,slow=7.7,SNR=4.7						
CMAR	Chiang Mai Arr	64.87	89	P	P	02 51 13.7	+0.1
CMAR				*PP	pP	02 51 46.7	+0.4
CMAR				pmax	pmax		
	comp=Z,19nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CM01	Chiang Mai Arr	64.91	89	eP	P	02 51 13.6	-0.2
CM01	Chiang Mai Arr	64.91	89	eP	P	02 51 13.6	-0.2
TSUM	Tsumeb	64.97	189	eP	P	02 51 13.3	-0.9
	comp=Z,38nm,1.8s						
TSUM	Tsumeb	64.97	189	eP	P	02 51 13.3	-0.9
	comp=Z,38nm,1.8s						
GYA	Guiyang	65.00	77	eP	P	02 51 16.2	+1.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	Kul'dur	65.41	44	ceP	P	02 51 16.9	+0.3
BLWY	Bulawayo	65.43	178	i P	P	02 51 16.8	-0.4
INK	Inuvik	65.45	352	P	P	02 51 16.2	-0.3
	comp=Z,4.1nm,0.6s,baz=360,slow=7.6,SNR=8.0						
INK				pP	PcP	02 51 47.4	+0.1
	comp=Z,4.4nm,0.7s,baz=34,slow=3.5,SNR=3.8						
INK				LR	LR	03 24 39.1	
	comp=Z,34nm,18.8s,baz=265,slow=40						
CN2	Changchun	65.70	52	eP	P	02 51 18.2	-0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MATP	Matopo	65.71	178	i P	P	02 51 19.1	+0.2
MA2	Magadan	65.72	27⇓	eP	P	02 51 19.4	+1.0
COLD	Coldfoot	67.50	359	eP	P	02 51 31.1	+1.5
	comp=Z,5.2nm,1.0s						
COLD	Coldfoot	67.50	359	eP	P	02 51 31.1	+1.5
	comp=Z,5.2nm,1.0s						
YKA	Yellowknife Ar	67.86	342	P	P	02 51 31.6	-0.3
	comp=Z,6.9nm,1.0s,baz=24,slow=6.9,SNR=4.4						
YKA				pP	pP	02 52 04.7	-0.1
	comp=Z,2.8nm,0.9s,baz=16,slow=6.5,SNR=2.6						
YKA	Yellowknife Ar	67.86	342	P	P	02 51 31.6	-0.3
YKA				*PP	pP	02 52 04.7	-0.1
YKA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKB5	Yellowknife Ar	67.86	342	eP	P	02 51 31.6	-0.3
YKB5	Yellowknife Ar	67.86	342	eP	P	02 51 31.6	-0.3
USRK	Ussuriysk Ar.	68.94	48	P	P	02 51 38.9	-0.1
	comp=Z,2.4nm,0.5s,baz=260,slow=9.3,SNR=6.1						
NJ2	Nanjing	69.45	65	eP	P	02 51 44.6	+2.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
EGAK	Eagle	69.56	354	eP	P	02 51 43.2	+0.8
	comp=Z,30nm,1.8s						
EGAK	Eagle	69.56	354	eP	P	02 51 43.1	+0.8
	comp=Z,30nm,1.8s						
MDM	Murphy Dome	69.73	358	eP	P	02 51 44.5	+1.0
	comp=Z,16nm,1.1s						
MDM	Murphy Dome	69.73	358	eP	P	02 51 44.5	+1.0
	comp=Z,16nm,1.1s						
COLA	College	69.80	357⇓	eP	P	02 51 44.9	+1.1
COLA				pmax	pmax		
	comp=Z,15nm,2.4s						
IL1	Eielson Array	69.87	357	eP	P	02 51 44.7	+0.4
IL1	Eielson Array	69.87	357	eP	P	02 51 44.7	+0.4
ILAR	Eielson Array	69.87	357	P	P	02 51 44.7	+0.4
	comp=Z,1.1nm,0.7s,baz=4.5,slow=4.9,SNR=12						
ILAR				pP	pP	02 52 18.8	+1.3
	comp=Z,0.6nm,0.8s,baz=11,slow=5.9,SNR=2.9						
ILB	Eielson Array	69.87	357	eP	P	02 51 44.7	+0.4
ILB	Eielson Array	69.87	357	eP	P	02 51 44.7	+0.4
DAWY	Dawson	70.13	353	eP	P	02 51 46.4	+0.4
	comp=Z,17nm,0.9s						
DAWY	Dawson	70.13	353	eP	P	02 51 46.4	+0.4
	comp=Z,17nm,0.9s						
WRH	Wood River Hil	70.21	357	eP	P	02 51 47.0	+0.6
	comp=Z,7.6nm,1.0s						
WRH	Wood River Hil	70.21	357	eP	P	02 51 47.0	+0.6
	comp=Z,7.6nm,1.0s						
HDA	Harding Lake	70.23	357	eP	P	02 51 46.9	+0.3
	comp=Z,7.7nm,0.8s						
HDA	Harding Lake	70.23	357	eP	P	02 51 46.9	+0.3
	comp=Z,7.7nm,0.8s						
LBTB	Lobatse	70.26	181	eP	P	02 51 47.6	+0.4
LBTB				pmax	pmax		
	comp=Z,17nm,0.7s						
LBTB	Lobatse	70.26	181	eP	P	02 51 47.6	+0.4
	comp=Z,17nm,0.7s						
LBTB	Lobatse	70.26	181	eP	P	02 51 47.6	+0.4
	comp=Z,17nm,0.7s						
DOT	Dot Lake	70.86	356	eP	P	02 51 51.3	+0.9
	comp=Z,42nm,1.0s						
DOT	Dot Lake	70.86	356	eP	P	02 51 51.3	+0.9
	comp=Z,42nm,1.0s						
MCK	McKinley	70.98	358	eP	P	02 51 51.5	+0.4
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MCK	McKinley	70.98	358	eP	P	02 51 51.5	+0.4
	comp=Z,7.2nm,0.9s						
MCK	McKinley	70.98	358	eP	P	02 51 51.5	+0.4
	comp=Z,7.2nm,0.9s						
KS01	Wonju Array Si	71.31	55	eP	P	02 51 53.4	-0.1
KS01	Wonju Array Si	71.31	55	eP	P	02 51 53.4	-0.1
KS15	Wonju Array Si	71.33	55	eP	P	02 51 53.4	-0.2
KS15	Wonju Array Si	71.33	55	eP	P	02 51 53.4	-0.2
KSAR	Wonju Array Be	71.33	55	P	P	02 51 53.4	-0.2
KSAR	Wonju Array Be	71.33	55	P	P	02 51 53.4	-0.2
KSAR	Wonju Array Be	71.33	55	P	P	02 51 53.4	-0.2
KSRS	Korea Array	71.34	55	P	P	02 51 53.4	-0.2
	comp=Z,6.6nm,0.8s,baz=314,slow=4.9,SNR=25						
KSRS				pP	pP	02 52 27.2	+0.3
	comp=Z,2.3nm,0.8s,baz=307,slow=4.6,SNR=3.6						
DHY	Denali Highway	71.58	357	eP	P	02 51 55.5	+0.6
	comp=Z,9.7nm,0.8s						
DHY	Denali Highway	71.58	357	eP	P	02 51 55.5	+0.6
	comp=Z,9.7nm,0.8s						
EYMN	Ely	72.20	321	eP	P	02 51 58.3	-0.4
	comp=Z,8.9nm,1.0s						
EYMN	Ely	72.20	321	eP	P	02 51 58.3	-0.4
	comp=Z,8.9nm,1.0s						
YSS	Yuzh-Sakhalins	72.22	40⇓	eP	P	02 51 59.5	+0.8
YSS				pmax	pmax		
	comp=Z,34nm,0.9s						
ULM	Lac du Bonnet	72.27	325	P	P	02 51 57.7	-1.3
	comp=Z,4.2nm,0.6s,baz=49,slow=7.4,SNR=8.8						
ULM				pP	pP	02 52 31.8	-0.5
	comp=Z,6.3nm,0.9s,baz=338,slow=6.8,SNR=4.4						
COWI	Conover	72.53	319	eP	P	02 52 00.2	-0.5
	comp=Z,6.2nm,0.8s						
COWI	Conover	72.53	319	eP	P	02 52 00.1	-0.5
	comp=Z,6.2nm,0.8s						
WHY	Whitehorse	73.03	351	eP	P	02 52 03.8	+0.3
	comp=Z,7.4nm,0.8s						
WHY	Whitehorse	73.03	351	eP	P	02 52 03.8	+0.3
	comp=Z,7.4nm,0.8s						
RC01	Rabbit Creek A	73.64	358	eP	P	02 52 07.7	+0.7
	comp=Z,11nm,0.6s						
RC01	Rabbit Creek A	73.64	358	eP	P	02 52 07.7	+0.7
	comp=Z,11nm,0.6s						
BOSA	Boshof	73.84	181	i P	P	02 52 08.3	-0.2
BOSA	Boshof	73.84	181	P	P	02 52 08.1	-0.4
	comp=Z,9.1nm,0.8s,baz=352,slow=5.6,SNR=17						
DLBC	Dease Lake	74.53	347	eP	P	02 52 13.6	+1.3
	comp=Z,8.8nm,1.0s						
DLBC	Dease Lake	74.53	347	eP	P	02 52 13.6	+1.3
	comp=Z,8.8nm,1.0s						
SPMN	Marine on St.	74.87	320	eP	P	02 52 13.6	-0.7
	comp=Z,8.8nm,1.0s						
SPMN	Marine on St.	74.87	320	eP	P	02 52 13.6	-0.7
	comp=Z,8.8nm,1.0s						
EDM	Edmonton	75.75	336	eP	P	02 52 19.0	-0.2
EDM				pmax	pmax		
	comp=Z,11nm,0.9s						
EDM	Edmonton	75.75	336	eP	P	02 52 19.0	-0.2
	comp=Z,11nm,0.9s						
EDM	Edmonton	75.75	336	eP	P	02 52 19.0	-0.2
	comp=Z,11nm,0.9s						
KDAK	Kodiak Island	77.00	359	i P	P	02 52 26.7	+0.6
ECSD	EROS Data Cent	77.73	322	eP	P	02 52 29.8	-0.7
	comp=Z,9.1nm,0.9s						
ECSD				epP	pP	02 53 04.9	+0.7
ECSD	EROS Data Cent	77.73	322	eP	P	02 52 29.8	-0.7
	comp=Z,9.1nm,0.9s						
ECSD				epP	pP	02 53 04.9	+0.7
MJAR	Matsushiro Arr	77.74	50	P	P	02 52 30.9	+0.3
	comp=Z,3.4nm,0.8s,baz=324,slow=3.7,SNR=8.8						
MJAR	Matsushiro Arr	77.74	50	P	P	02 52 31.0	+0.3
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	Matsushiro Arr	77.74	50	P	P	02 52 31.0	+0.3
CPCT	Cooper Cave	78.13	309	eP	P	02 52 32.5	-0.3
	comp=Z,18nm,1.7s						
CPCT	Cooper Cave	78.13	309	eP	P	02 52 32.5	-0.3
	comp=Z,18nm,1.7s						
LAO	LASA Array	79.13	329	eP	P	02 52 38.8	+0.6
	comp=Z,23nm,0.8s						
LAO	LASA Array	79.13	329	eP	P	02 52 38.8	+0.6
	comp=Z,23nm,0.8s						
EGMT	Eagleton	79.21	332	eP	P	02 52 38.5	-0.2
	comp=Z,20nm,0.8s						
EGMT	Eagleton	79.21	332	eP	P	02 52 38.5	-0.2
	comp=Z,20nm,0.8s						
PBMO	Poplar Bluff	80.25	313	eP	P	02 52 43.3	-1.0
	comp=Z,4.4nm,0.7s						
PBMO	Poplar Bluff	80.25	313	eP	P	02 52 43.3	-1.0
	comp=Z,4.4nm,0.7s						
JTMT	Jette	80.89	334	eP	P	02 52 48.0	+0.2
JTMT	Jette	80.89	334	eP	P	02 52 48.0	+0.2
SWMT	Swartz Lake	81.02	334	eP	P	02 52 48.5	+0.1
SWMT	Swartz Lake	81.02	334	eP	P	02 52 48.5	+0.1
GCMT	Greycliff	81.12	331	eP	P	02 52 49.3	+0.3
GCMT	Greycliff	81.12	331	eP	P	02 52 49.3	+0.3
LRAL	Lakeview Retre	81.29	309	eP	P	02 52 48.8	-1.1
	comp=Z,13nm,1.1s						
LRAL	Lakeview Retre	81.29	309	eP	P	02 52 48.8	-1.1
	comp=Z,13nm,1.1s						
X301	Greenbrier Sit	82.45	314	eP	P	02 52 55.3	-0.7
	comp=Z,33nm,2.0s						
X301	Greenbrier Sit	82.45	314	eP	P	02 52 55.3	-0.7
	comp=Z,33nm,2.0s						
E09A	Wood Farm, Sta	83.14	336	eP	P	02 52 59.2	-0.1
	comp=Z,18nm,1.1s						
E09A	Wood Farm, Sta	83.14	336	eP	P	02 52 59.2	-0.1
	comp=Z,18nm,1.1s						
IMW	Indian Meadow	83.22	330	eP	P	02 53 01.1	+1.0
	comp=Z,3.7nm,0.7s						
IMW	Indian Meadow	83.22	330	eP	P	02 53 01.1	+1.0
	comp=Z,3.7nm,0.7s						
MOOW	Moose Ponds	83.28	330	eP	P	02 53 01.0	+0.6
	comp=Z,40nm,2.0s						
MOOW	Moose Ponds	83.28	330	eP	P	02 53 01.0	+0.6
	comp=Z,40nm,2.0s						
LOHW	Long Hollow	83.35	330	eP	P	02 53 01.2	+0.5
	comp=Z,9.3nm,1.6s						
LOHW	Long Hollow	83.35	330	eP	P	02 53 01.2	+0.5
	comp=Z,9.3nm,1.6s						
F10A	Beach Ranch, E	83.37	335	eP	P	02 53 00.3	-0.3
	comp=Z,14nm,1.4s						
F10A	Beach Ranch, E	83.37	335	eP	P	02 53 00.3	-0.3
	comp=Z,14nm,1.4s						
PHWY	Pilot Hill	83.42	326	eP	P	02 53 00.8	-0.5
	comp=Z,7.9nm,0.8s						
PHWY	Pilot Hill	83.42	326	eP	P	02 53 00.8	-0.5
	comp=Z,7.9nm,0.8s						
FXWY	Fox Creek	83.47	330	eP	P	02 53 02.5	+1.1
	comp=Z,5.4nm,0.9s						
FXWY	Fox Creek	83.47	330	eP	P	02 53 02.5	+1.1
	comp=Z,5.4nm,0.9s						
TPAW	Teton Pass	83.58	330	eP	P	02 53 03.0	+1.0
	comp=Z,5.2nm,0.8s						
TPAW	Teton Pass	83.58	330	eP	P	02 53 03.0	+1.0
	comp=Z,5.2nm,0.8s						
MIAR	Mount Ida	83.59	314	eP	P	02 53 01.5	-0.3
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MIAR	Mount Ida	83.59	314	eP	P	02 53 01.5	-0.3
	comp=Z,5.5nm,0.8s						
MIAR	Mount Ida	83.59	314	eP	P	02 53 01.5	-0.3
	comp=Z,5.5nm,0.8s						
TUL1	Leonard	83.60	316	eP	P	02 53 01.1	-0.8
	comp=Z,14nm,0.7s						
TUL1				epP	pP	02 53 36.8	+0.7
TUL1	Leonard	83.60	316	eP	P	02 53 01.1	-0.8
	comp=Z,14nm,0.7s						
TUL1				epP	pP	02 53 36.8	+0.7
HAWA	Hanford	83.64	337	eP	P	02 53 02.7	+0.8
	comp=Z,12nm,1.1s						
HAWA	Hanford	83.64	337	eP	P	02 53 02.6	+0.8
	comp=Z,12nm,1.1s						
REDW	Red Top Meadow	83.66	330	eP	P	02 53 03.0	+0.7
	comp=Z,4.9nm,0.8s						
REDW	Red Top Meadow	83.66	330	eP	P	02 53 03.0	+0.7
	comp=Z,4.9nm,0.8s						
PD31	Pinedale Array	83.72	329	eP	P	02 53 02.0	-0.6
PD31	Pinedale Array	83.72	329	eP	P	02 53 02.0	-0.6
PDAR	Pinedale Array	83.72	329	P	P	02 53 01.6	-1.0
	comp=Z,2.4nm,0.7s,baz=57,slow=4.9,SNR=26						
PDAR				pP	pP	02 53 37.0	+0.2
	comp=Z,1.4nm,0.9s,baz=50,slow=2.3,SNR=3.6						
N23A	Red Feather La	83.96	326	eP	P	02 53 03.8	-0.2
	comp=Z,7.4nm,0.8s						
N23A	Red Feather La	83.96	326	eP	P	02 53 03.8	-0.2
	comp=Z,7.4nm,0.8s						
KSCO	Kaye Shedlock'	84.19	323	eP	P	02 53 05.6	+0.6
	comp=Z,52nm,1.4s						
KSCO	Kaye Shedlock'	84.19	323	eP	P	02 53 05.6	+0.6
	comp=Z,52nm,1.4s						
BMO	Blue Mountains	84.41	335	eP	P	02 53 05.0	-0.9
BMO				e*PP	pP	02 53 40.5	+0.3
BMO				pmax	pmax		
	comp=Z,11nm,0.8s						
BMO	Blue Mountains	84.41	335	eP	P	02 53 05.0	-0.9
	comp=Z,11nm,0.8s						
BMO				epP	pP	02 53 40.5	+0.3
BMO	Blue Mountains	84.41	335	eP	P	02 53 05.0	-0.9
	comp=Z,11nm,0.8s						
BMO				epP	pP	02 53 40.5	+0.3
HWUT	Hardware Ranch	85.45	330	eP	P	02 53 10.8	-0.5
	comp=Z,6.0nm,0.8s						
HWUT	Hardware Ranch	85.45	330	eP	P	02 53 10.8	-0.5
	comp=Z,6.0nm,0.8s						
MHTCO	State Highway	86.65	323	eP	P	02 53 17.0	-0.3
	comp=Z,4.1nm,0.8s						
MHTCO	State Highway	86.65	323	eP	P	02 53 17.0	-0.3
	comp=Z,4.1nm,0.8s						
DUG	Dugway, Tooele	87.14	330	eP	P	02 53 19.4	-0.2
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DUG	Dugway, Tooele	87.14	330	eP	P	02 53 19.4	-0.2
	comp=Z,3.6nm,0.9s						
DUG	Dugway, Tooele	87.14	330	eP	P	02 53 19.4	-0.2
	comp=Z,3.6nm,0.9s						
SRU	San Rafael Swe	87.27	328	eP	P	02 53 19.3	-1.0
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SRU	San Rafael Swe	87.27	328	eP	P	02 53 19.2	-1.0
	comp=Z,3.0nm,0.6s						
SRU	San Rafael Swe	87.27	328	eP	P	02 53 19.2	-1.0
	comp=Z,3.0nm,0.6s						
CNJI	Cibinong	88.68	102	P	P	02 53 37.3	+10
ANMO	Albuquerque	89.25	323⇑	eP	P	02 53 28.9	-0.8
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ANMO	Albuquerque	89.25	323	eP	P	02 53 29.3	-0.4
	comp=Z,5.7nm,1.5s						
ANMO	Albuquerque	89.25	323	eP	P	02 53 29.3	-0.4
	comp=Z,5.7nm,1.5s						
MNTX	Cornudas Mount	91.56	321	eP	P	02 53 39.0	-1.2
	comp=Z,3.7nm,0.8s						
MNTX	Cornudas Mount	91.56	321	eP	P	02 53 39.0	-1.2
	comp=Z,3.7nm,0.8s						
LTX	Lajitas	92.77	318	eP	P	02 53 44.8	-1.2
LTX	Lajitas	92.77	318	eP	P	02 53 44.8	-1.2
LTX	Lajitas	92.77	318	eP	P	02 53 44.8	-1.2
TXAR	Lajitas Array	92.77	318	P	P	02 53 44.8	-1.2
	comp=Z,0.9nm,0.9s,baz=76,slow=3.4,SNR=10						
TXAR				pP	pP	02 54 20.0	-0.6
	comp=Z,0.8nm,0.9s,baz=62,slow=3.0,SNR=4.2						
MAW	Mawson	116.16	165	PKP	PKPdf	02 59 13.7	-0.7
	comp=Z,1.4nm,0.6s,baz=234,slow=2.7,SNR=7.6						
WR1	Warramunga Arr	116.37	92	ePKIKP	PKPdf	02 59 15.1	-1.3
WR1	Warramunga Arr	116.37	92	ePKPdf	PKPdf	02 59 15.1	-1.3
WRA	Warramunga Arr	116.37	92	PKP	PKPdf	02 59 15.1	-1.3
	comp=Z,2.5nm,0.8s,baz=326,slow=2.1,SNR=18						
AS31	Alice Springs	118.50	96	ePKIKP	PKPdf	02 59 19.4	-1.1
AS31	Alice Springs	118.50	96	ePKPdf	PKPdf	02

JFT			S	Sg	03 19 52.3	0.0
JMM	Marumori	1.06 333	P	Pb	03 19 37.3	-2.0
JMM			S	Sg	03 19 51.6	-1.4
MJAR	Matsushiro Arr	2.59 263	Pn	Pn	03 20 00.4	-0.5
3.3nm,0.3s,baz=88,slow=16,SNR=19						
MJAR			Sn	Sb	03 20 36.0	-1.2
6.7nm,0.3s,baz=72,slow=16,SNR=8.1						
MAT	Matsushiro	2.59 263	P	Pn	03 20 01.3	+0.4
MAT			S	Sb	03 20 36.0	-1.3
JNU	Nakatsue	9.42 249	LR	LR	03 25 34.1	
comp=Z,45nm,19.1s,baz=111,slow=40						
KLR	Kul'dur	14.16 333	LR	LR	03 28 06.3	
comp=Z,8.6nm,18.9s,baz=167,slow=36						
H11N2	WAKE ISLAND Hy 28.10 121		T	T	03 54 29.4	
baz=314,slow=75,SNR=264						
H11N1	WAKE ISLAND Hy 28.11 121		T	T	03 54 32.0	
baz=314,slow=75,SNR=312						
H11N3	WAKE ISLAND Hy 28.12 121		T	T	03 54 32.7	
baz=314,slow=75,SNR=303						
H11S1	WAKE ISLAND Hy 28.81 123		T	T	03 55 25.2	
baz=315,slow=76,SNR=146						
H11S3	WAKE ISLAND Hy 28.81 123		T	T	03 55 25.2	
baz=315,slow=76,SNR=118						
H11S2	WAKE ISLAND Hy 28.83 123		T	T	03 55 27.0	
baz=315,slow=76,SNR=97						
ZALV	Zalesovo Beam	41.98 312	P	P	03 27 13.0	+3.1
0.7nm,0.3s,baz=91,slow=7.4,SNR=4.3						
MKAR	Makanchi Array	44.17 302	P	P	03 27 31.7	+4.0
0.5nm,0.5s,baz=79,slow=12,SNR=4.2						
ILAR	Eielson Array	49.60 32	P	P	03 28 13.7	+3.8
0.7nm,0.7s,baz=264,slow=6.4,SNR=7.9						
WRA	Warramunga Arr	56.95 188	P	P	03 29 02.8	-1.6
0.6nm,0.7s,baz=5.3,slow=7.3,SNR=7.7						
ASAR	Alice Springs	60.67 188	P	P	03 29 29.6	-0.7
0.6nm,0.9s,baz=0.0,slow=5.9,SNR=5.3						
TXAR	Lajitas Array	90.20 52	P	P	03 32 20.0	0.0
0.2nm,0.4s,baz=262,slow=2.6,SNR=3.2						

SJA ***04*** *03:44:29.6±0.7, 28°.66S×63°.19W, h614km±7km, ML4.3, MW4.2*
ISCJB ***04*** *03:44:33.9±0.2, 28°.52S±0°.03×63°.10W±0°.04, h585km±2km, mb4.6/185, Error ellipse: s-maj=5.6km s-min=4.1km az=161.7*
NEIC ***04*** *03:44:34.4±0.3, 28°.58S×63°.11W, h577km±3km, mb4.6/155, Error ellipse: s-maj=5.2km s-min=3.4km az=71.0*
BJI ***04*** *03:44:34.2, 28°.96S×63°.23W, h582km, mB4.9/7*
MOS ***04*** *03:44:34.6±1.1, 28°.61S×63°.24W, h588km, mb4.6/30, Error ellipse: s-maj=18.3km s-min=8.5km az=112.3*
IDC ***04*** *03:44:35.1±0.4, 28°.57S×63°.23W, h586km±4km, mb4.0/21, mb1 4.0/22, mb1mx3.9/34, mbtmp4.9/22, Error ellipse: s-maj=10.4km s-min=7.2km az=71.0*

ISC 04 03:44:35.1±0.3, 28°.57S±0°.04×63°.25W±0°.05, h589km±3km, h590km; pP-P, n778, σ1°.02/823, mb4.6/185, 8C-12D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CYA	Choya	2.25	273		i	P	P	03 45 49.2	-0.3
CYA						IAML		03 45 49.8	
comp=Z,163nm,0.2s									
CYA					i	S	S	03 46 47.6	-2.5
AHML	Horco Molle	2.56	313		i	P	P	03 45 51.6	+0.4
AHML						IAML		03 45 52.4	
comp=Z,180nm,0.4s									
AHML					i	S	S	03 46 51.0	-1.9
TCA	Tanti	3.00	203		i	P	P	03 45 52.6	-0.8
TCA						IAML		03 45 52.8	
comp=Z,446nm,0.7s									
PIL	Pilar	3.14	190		i	P	P	03 45 53.3	-0.8
PIL						IAML		03 45 55.3	
comp=Z,5μm,0.9s									
ACLC	CERRO LA CRUZ	3.36	254		i	P	P	03 45 55.5	-0.2
FSA	Cafayete	3.45	315		i	P	P	03 45 56.5	+0.2
FSA						IAML		03 45 58.0	
comp=Z,42nm,0.6s									
FSA					i	S	S	03 47 01.5	-0.9
AVFE	Valle Fertil	4.22	239			IAML		03 47 13.4	
comp=Z,878nm,0.4s									
SLA	San Lorenzo	4.33	332		i	P	P	03 46 03.2	+0.8
SLA						IAML		03 46 04.0	
comp=Z,254nm,0.5s									
VCA	Vinchina	4.36	267		i	P	P	03 46 03.5	+1.0
VCA					i	P	P	03 46 03.6	+1.0
VCA						IAML		03 47 18.6	
comp=Z,1μm,0.7s									
MRA	San Martin	4.39	208			IAML		03 46 03.1	
comp=Z,926nm,0.5s									
SUCO	SUCO	4.97	196		i	P	P	03 46 07.1	+0.1
SUCO						IAML		03 46 07.3	
comp=Z,2μm,0.6s									
RTLL	Cerro Villicun	5.31	237			IAML		03 46 10.8	
comp=Z,2μm,0.4s									
SJA	San Juan	5.47	236		i	P	P	03 46 11.8	+0.8
SJA						IAML		03 46 12.4	
comp=Z,1μm,0.4s									
HJA	Humahuaca	5.68	339			IAML		03 46 16.3	
comp=Z,243nm,0.5s									
CPUP	Villa Florida	5.71	68			P	P	03 46 13.8	+0.6
comp=Z,94nm,0.3s,baz=250,slow=8.8,SNR=2111									
CPUP						S	S	03 47 33.9	+0.5
comp=Z,5.3nm,0.3s,baz=304,slow=14,SNR=1.2									
RTLS	Leoncito	6.15	237			IAML		03 46 19.2	
comp=Z,1μm,0.5s									
ARCO	CERRO ARCO	6.49	228			IAML		03 46 21.1	
comp=Z,2μm,0.3s									
LCO	Las Campanas	6.56	264		eP		P	03 46 20.5	-0.3
LCO					eS		S	03 47 45.0	-2.4
YJA	Yavi	6.68	342			IAML		03 46 26.6	
comp=Z,238nm,0.5s									
YECH	El Yeso	7.76	227	‖	iP		P	03 46 33.4	+1.5
LVC	Limon Verde	7.83	318		P		P	03 46 33.7	+0.8
comp=Z,6μm,0.3s,baz=139,slow=2.8,SNR=828									
LVC						S	S	03 48 07.1	-2.1
comp=Z,3μm,0.3s,baz=153,slow=11,SNR=36									
LVC	Limon Verde	7.83	318		eP		P	03 46 33.8	+0.8
LVC					eS		S	03 48 03.7	-5.6
PEL	Peldehue	7.85	233	‖	iP		P	03 46 32.6	0.0
CLCH	Cerro Calan	7.89	231	‖	iP		P	03 46 33.6	+0.6
ROCH	El Roble	7.98	235	‖	iP		P	03 46 32.9	-0.3
ROC1	El Roble	8.00	235		eP		P	03 46 33.8	-0.4
ROC1					eS		S	03 48 08.4	-3.4
ANTU	Antumapu	8.06	230		eP		P	03 46 34.9	+0.4
PB10	IPOC Station P	8.27	306		eP		P	03 46 37.3	+0.6
PB10					eS		S	03 48 15.1	-1.4
PB04	IPOC Station P	8.79	313	‖	iP		P	03 46 46.2	+4.2
PB04	IPOC Station P	8.79	313		eP		P	03 46 41.7	-0.4
PB04					eS		S	03 48 24.2	-1.9
PB07	IPOC Station P	9.08	317	‖	iP		P	03 46 56.8	+12
PB01	IPOC Station P	9.39	322	‖	iP		P	03 46 59.3	+11
PB01	IPOC Station P	9.39	322		eP		P	03 46 48.2	+0.4
PB01					eS		S	03 48 36.6	0.0
PB02	IPOC Station P	9.40	319	⇑	iP		P	03 46 42.8	-5.1
TRQA	Tornquist	9.53	174		eP		P	03 46 46.9	-1.8
GO05	HualaæØ	9.79	227		eP		P	03 46 50.5	-0.9
LNCH	Linares	10.13	222	‖	iP		P	03 46 54.0	-0.8
PB11	IPOC Station P	10.53	325		eP		P	03 46 59.6	+0.4
PB11					eS		S	03 48 57.0	-0.7
MNMC	Minye Minye	11.04	327		eP		P	03 47 04.7	+0.2
MNMC					eS		S	03 49 06.7	-0.5
SIV	San Ignacio	12.68	10		P		P	03 47 20.0	-0.8
comp=Z,10nm,0.3s,baz=211,slow=10,SNR=283									
LPAZ	La Paz	13.02	339		P		P	03 47 24.7	-0.3
comp=Z,20nm,0.3s,baz=128,slow=6.4,SNR=654									
PLCA	Paso Flores	13.54	204		P		P	03 47 27.1	-2.2
comp=Z,34nm,0.3s,baz=49,slow=11,SNR=1092									
PLCA					ScP		ScP	03 54 45.2	-0.1
comp=Z,0.2nm,0.3s,baz=341,slow=1.9,SNR=3.9									
PLCA	Paso Flores	13.54	204		IAmb		IAmb	03 47 27.7	
comp=Z,438nm,0.8s									
PLCA					IVMs_BB		IVMs_BB	03 47 45.4	
comp=Z,5μm,6.7s									
SPB	Sao Paulo	15.05	74		eP		P	03 47 43.4	-0.6
comp=Z,65nm,1.1s									
SAML	Samuel	19.51	0		eP		P	03 48 25.0	0.0
comp=Z,123nm,0.7s									
CHRN	Cochrane	20.03	199		eP		P	03 48 28.4	-0.8
comp=Z,71nm,0.5s									
NNA	Nana	20.82	320		P		P	03 48 37.5	+0.6
comp=Z,9.0nm,0.5s,baz=168,slow=6.8,SNR=5.6									
NNA	Nana	20.82	320		i	P	P	03 48 39.1	+2.3
EFI	East Falkland	23.41	172		d	iP	P	03 48 58.2	-1.2
EFI						pmax	pmax		
comp=Z,106nm,1.4s									
EFI	East Falkland	23.41	172			eP	P	03 48 58.5	-0.8
comp=Z,72nm,0.8s									
GO09	Cerro Castillo	23.69	194			eP	P	03 49 01.3	-0.6
comp=Z,49nm,1.1s									
GO10	Punta Arenas	25.23	191			eP	P	03 49 16.3	+0.8
comp=Z,206nm,0.8s									
ATAH	Atahualpa	25.68	323			P	P	03 49 23.0	+2.7
comp=Z,5.7nm,0.6s,baz=88,slow=5.4,SNR=3.9									
USHA	Ushuaia	26.52	187			P	P	03 49 25.9	-0.8
comp=Z,358nm,0.6s,baz=351,slow=8.4,SNR=122									
PTGA	Pitinga	27.86	7			P	P	03 49 38.7	-0.3
comp=Z,70nm,0.3s,baz=192,slow=9.3,SNR=229									
PTGA	Pitinga	27.86	7			eP	P	03 49 38.7	-0.3
comp=Z,200nm,1.0s									
OTAV	Otavalo	32.13	330			eP	P	03 50 18.3	+2.1
comp=Z,18nm,1.1s									
HOPE	Hope Point	32.24	150			eP	P	03 50 16.8	+0.8
comp=Z,90nm,1.0s									
POPC	Popayan, Colom	33.51	335			eP	P	03 50 29.0	+1.5
PRAC	Prado	33.99	339			eP	P	03 50 30.5	-0.8
PRAC	Prado	33.99	339			eP	P	03 50 30.5	-0.8
comp=Z,20nm,0.5s									
VILC	Villavicencio,	34.01	341			eP	P	03 50 31.9	+0.3
RCBR	Riachuelo	34.38	54			P	P	03 50 34.7	0.0
comp=Z,23nm,0.6s,baz=216,slow=8.9,SNR=17									
CHIC	Chingaza	34.51	341			eP	P	03 50 35.5	-0.7
YOPC	Yopal, Colombi	34.86	344			eP	P	03 50 37.8	-0.9
ROSC	El Rosal	34.88	340			P	P	03 50 39.6	+0.5
comp=Z,12nm,0.7s,baz=158,slow=4.4,SNR=16									
ROSC	El Rosal	34.88	340			eP	P	03 50 39.5	+0.4
ROSC	El Rosal	34.88	340			eP	P	03 50 39.8	+0.6
comp=Z,11nm,0.8s									
TOLC	Tolima	34.95	339			eP	P	03 50 39.0	-0.7
RUSC	La Rusia	35.55	343			eP	P	03 50 43.3	-1.4
RUSC	La Rusia	35.55	343			eP	P	03 50 44.0	-0.8
comp=Z,20nm,1.0s									
RUSC						eS	S	03 55 37.5	-2.7
GUYC	Guyana, Colomb	35.57	339			eP	P	03 50 44.6	-0.4
NORC	Norcasia	35.73	340			eP	P	03 50 43.7	-2.1
PMSA	Palmer Station	36.23	181			eP	P	03 50 49.0	0.0
comp=Z,21nm,0.7s									
BARC	Barichara	36.24	343			eP	P	03 50 47.7	-2.6
HELC	Santa Helena	36.53	339			eP	P	03 50 50.5	-2.3
HELC	Santa Helena	36.53	339			eP	P	03 50 50.4	-2.3
comp=Z,49nm,0.7s									
PAMC	Pamplona, Colo	36.84	344			eP	P	03 50 53.0	-2.4
ZARC	Zaragoza, Cauc	37.56	341			eP	P	03 50 58.2	-2.5
OCAC	Ocana	37.86	344			eP	P	03 51 00.1	-3.2
SDV	Santo Domingo	37.91	348			P	P	03 51 02.4	-1.3
comp=Z,27nm,0.3s,baz=180,slow=6.4,SNR=18									
SDV	Santo Domingo	37.91	348			eP	P	03 51 02.4	-1.3
comp=Z,44nm,0.9s									
PCRV	Puerto La Cruz	38.54	358			P	P	03 51 08.7	+0.1
comp=Z,56nm,0.8s,baz=181,slow=4.4,SNR=19									
MOTC	Monteria, Cord	39.01	340			eP	P	03 51 10.2	-2.2
SJCC	San Jacinto, C	39.94	341			eP	P	03 51 17.9	-2.0
GRGR	Grenville	40.49	2			eP	P	03 51 24.2	0.0
comp=Z,275nm,0.8s									
BCIP	Isla Barro Col	40.79	334			eP	P	03 51 25.8	-0.8
comp=Z,32nm,1.0s									
SVB	Belmont	41.63	3			eP	P	03 51 32.5	-0.8
comp=Z,66nm,0.8s									
TRMF	Trois Ilets	42.90	3			eP	P	03 51 41.9	-1.2
MVM	Montagne Vaucl	42.93	3			eP	P	03 51 42.9	-0.4
ZAM	Aeronautique	42.94	3			eP	P	03 51 42.0	-1.3
FDF	Fort de France	43.09	3			eP	P	03 51 44.1	-0.6
FDF	Fort de France	43.09	3			eP	P	03 51 44.0	-0.6
FDF						pmax	pmax		
comp=Z,206nm,1.0s									
FDF	Fort de France	43.09	3			eP	P	03 51 44.0	-0.6
comp=Z,206nm,1.0s									
PML	Morne Lenard	43.14	3			eP	P	03 51 44.6	-0.4
GBMF	Grand Be	43.15	3			eP	P	03 51 44.4	-0.7
CXM	Morne La Croix	43.17	3			eP	P	03 51 44.7	-0.6
PCM	Pelee Case Pet	43.17	3			eP	P	03 51 44.6	-0.6
PCM	Pelee Case Pet	43.17	3			eP	P	03 51 44.7	-0.5
BAMF	Morne Balai	43.17	3			eP	P	03 51 44.9	-0.4
MGG	Marie-Galante	44.26	3			eP	P	03 51 53.3	-0.2
GDHS	Morne Mazeau,	44.60	2			eP	P	03 51 56.2	0.0
SEG	Port Louis	44.73	2			eP	P	03 51 56.2	-1.0
SABA	Saba	45.91	0			eP	P	03 52 03.8	-2.4
comp=Z,147nm,0.9s									
ANWB	Willy Bob	45.98	2			eP	P	03 52 05.4	-1.3
comp=Z,129nm,0.7s									
MTP	Monte Pirata	46.44	357			eP	P	03 52 08.1	-2.1
comp=Z,31nm,0.9s									
CELP	Cerrillos	46.48	356			eP	P	03 52 09.1	-1.4
SJG	San Juan	46.49	356			eP	P	03 52 09.2	-1.3
SJG						pmax	pmax		
comp=Z,42nm,0.9s									
SJG	San Juan	46.49	356			eP	P	03 52 09.2	-1.3
comp=Z,42nm,0.9s									
HUMP	Col San Antoni	46.50	357			eP	P	03 52 10.2	-0.4
comp=Z,29nm,0.9s									
MPR	Mayaguez	46.65	355			eP	P	03 52 10.8	-0.9
comp=Z,50nm,0.9s									
STVI	Saint Thomas	46.67	358			eP	P	03 52 10.0	-1.9
comp=Z,22nm,0.6s									
AGP	Aguadilla	46.85	355			eP	P	03 52 11.9	-1.3
comp=Z,255nm,1.5s									
SDDR	Presa de Saban	47.90	350			eP	P	03 52 21.3	+0.1
comp=Z,25nm,0.9s									
MTDJ	Mount Denham	48.52	342			eP	P	03 52 25.7	-0.1
comp=Z,48nm,0.9s									
GTBY	Guantanamo Bay	49.55	345			eP	P	03 52 33.4	+0.2
comp=Z,63nm,0.9s									
GRTK	Grand Turk	50.36	350			eP	P	03 52 39.3	+0.2
comp=Z,131nm,1.3s									
CCIG	Comitan	52.62	324			eP	P	03 52 55.0	-0.7
comp=Z,18nm,0.7s									
SNAA	Sanae	53.94	160			P	P	03 53 03.8	-0.3
comp=Z,14nm,0.9s,baz=280,slow=6.8,SNR=37									
SNAA						pP	pP	03 54 54.3	-0.3
comp=Z,20nm,1.0s,baz=282,slow=6.1,SNR=15									
SNAA	Sanae	53.94	160			eP	P	03 53 03.6	-0.5
comp=Z,18nm,0.9s									
SACV	Santiago Islan	57.82	47			eP	P	03 53 30.3	-1.3
comp=Z,37nm,0.9s									
BBSR	BB Station	60.62	359			eP	P	03 53 49.6	-0.2
comp=Z,115nm,1.5s									
QSPA	South Pole Qui	61.66	180			eP	P	03 53 56.9	+0.4
BBTS	Babate	62.35	53			P	P	03 54 02.0	+0.5
comp=Z,26nm,0.9s,baz=201,slow=2.7,SNR=7.1									
BBTS						pP	pP	03 55 59.3	+2.3
comp=Z,18nm,1.0s,baz=136,slow=4.1,SNR=3.4									
NHSC	New Hope	63.40	344			eP	P	03 54 09.0	+1.1
comp=Z,59nm,1.3s									
LNIG	Linares	63.56	323			eP	P	03 54 09.2	+0.1
comp=Z,21nm,0.8s									
ZAIG	Zacatecas	63.57	319			eP	P	03 54 11.4	+1.9
comp=Z,22nm,1.3s									
447A	Lucedale	63.81	336			P	P	03 54 10.6	+0.1
baz=155									
446A	Poplarville	64.06	335			P	P	03 54 12.1	0.0
baz=154									
347A	Saraland	64.32	336			P	P	03 54 13.8	+0.1
baz=155									
346A	Big Creek Wild	64.64	335			P	P	03 54 15.8	+0.1
baz=154									
248A	Dixon Mills	64.67	337			P	P	03 54 16.1	+0.3
baz=156									
345A	Thompson Farm,	64.78	335			P	P	03 54 16.8	+0.2
baz=154									
034A	Hebbronville	64.92	325			P	P	03 54 18.9	+1.3
baz=146,SNR=6.2									
541A	Lake Charles	64.93	331			P	P	03 54 19.0	+1.5
baz=151									
344A	Westbrook Farm	65.17	334			P	P	03 54 19.7	+0.7
baz=153									
LRAL	Lakeview Retre	65.28	338			eP	P	03 54 19.6	-0.1
comp=Z,8.3nm,0.4s									
441A	DeRidder	65.53	332			P	P	03 54 23.2	+1.9
baz=151									
KMSC	Kings Mountain	65.63	344			P	P	03 54 22.3	+0.5
baz=162									
933A	Laredo	65.67	325			P	P	03 54 22.9	+0.6
baz=145									
244A	Avery, Jackson	65.68	335			P	P	03 54 22.9	+0.7
baz=154,SNR=5.3									
736A	Circle Diamond	65.71	328			P	P	03 54 24.3	+1.8
baz=148									
342A	Flagon Creek P	65.73	333			P	P	03 54 23.9	+1.4
baz=152									
834A	Tilden	65.73	326			P	P	03 54 24.1	+1.5
baz=146,SNR=6.1									
Z48A	Northport	65.78	338			P	P	03 54 22.6	-0.2
baz=157,SNR=5.8									
637A	Eagle Lake	65.78	329			P	P	03 54 24.5	+1.7
baz=148									
Z47A	Carrollton	65.79	337			P	P	03 54 22.7	-0.1
baz=156									
LIC	Lamto	65.84	68			eP	P	03 54 22.9	-0.7
comp=Z,68nm,1.7s									
145A	Houston Renfro	65.90	335			P	P	03 54 24.3	+0.7
baz=154									
735A	Kenedy	65.98	327			P	P	03 54 25.4	+1.2
baz=147									
341A	Kurthwood	66.03	332			P	P	03 54 25.7	+1.3
baz=151,SNR=10.0									
TIC	Toumodi	66.08	67			eP	P	03 54 24.4	-0.8
636A	Smothers Creek	66.15	328			P	P	03 54 26.7	+1.5
baz=148,SNR=7.2									
KIC	Kosan Boka	66.15	68			eP	P	03 54 25.0	-0.6
comp=Z,74nm,1.0s									
DBIC	Dimbokro	66.23	68			P	P	03 54 25.6	-0.4
comp=Z,15nm,0.7s,baz=196,slow=3.9,SNR=88									
DBIC						pP	pP	03 56 23.2	-0.4
comp=Z,7.4nm,0.9s,baz=214,slow=6.6,SNR=5.5									
DBIC	Dimbokro	66.23	68			eP	P	03 54 25.8	-0.3
DBIC						e*PP	pP	03 56 23.6	-0.1
DBIC						pmax	pmax		
comp=Z,23nm,0.9s									
DBIC	Dimbokro	66.23	68			eP	P	03 54 25.8	-0.3
comp=Z,23nm,0.9s									
DBIC						epP	pP	03 56 23.6	-0.1
439A	Center Grove,	66.24	331			P	P	03 54 27.4	+1.7
baz=150,SNR=5.6									
242A	Grayson	66.26	333			P	P	03 54 27.0	+1.2
baz=152,SNR=6.1									
537A	Green Hill Far	66.31	329			P	P	03 54 27.5	+1.3
baz=148									
833A	Chaparral WMA,	66.32	325			P	P	03 54 27.2	+1.0
baz=146,SNR=22									
734A	La Parita Cree	66.33	326			P	P	03 54 27.1	+0.7
baz=146									
Y47A	UCPARC, Winfie	66.35	338			P	P	03 54 26.6	+0.3
baz=156,SNR=6.6									
340A	Bronson	66.40	332			P	P	03 54 28.0	+1.3
baz=151									
635A	Leesville	66.41	327			P	P	03 54 27.3	+0.5
baz=147									
438A	Sam Houston St	66.51	330			P	P	03 54 29.1	+1.7
baz=149									
241A	Mo Tay, Goldon	66.53	333			P	P	03 54 28.9	+1.4
baz=152,SNR=6.1									
143A	Socs Landing,	66.54	334			P	P	03 54 28.7	+1.2
baz=153									
832A	Faith Ranch, C	66.58	325			P	P	03 54 28.6	+0.8
baz=145,SNR=18									
733A	Divot King Ran	66.59	326			P	P	03 54 28.6	+0.7
baz=146									
142A	Monroe	66.61	334			P	P	03 54 28.8	+0.8
baz=153									
339A	Huntington	66.61	331			P	P	03 54 29.2	+1.2
baz=150									
536A	Bastrop	66.65	328			P	P	03 54 29.2	+0.9
baz=148									
Y46A	Houston	66.68	337			P	P	03 54 28.0	-0.3
baz=156									
634A	China Grove, S	66.68	327			P	P	03 54 28.8	+0.3
baz=147									
Z44A	Pea Ridge, Bel	66.69	335			P	P	03 54 29.0	+0.6
baz=154									
TKL	Tuckaleechee C	66.75	342			P	P	03 54 28.3	-0.5
comp=Z,2.4nm,0.5s,baz=168,slow=7.1,SNR=7.5									
TKL	Tuckaleechee C	66.75	342			eP	P	03 54 28.3	-0.5
TKL						pmax	pmax		
comp=Z,23nm,1.6s									
TKL	Tuckaleechee C	66.75	342			eP	P	03 54 28.3	-0.5
comp=Z,23nm,1.6s									
CPCT	Cooper Cave	66.76	341			eP	P	03 54 28.6	-0.2
comp=Z,5.4nm,0.6s									
535A	Dale	66.85	328			P	P	03 54 29.9	+0.4
baz=147									
Y45A	Yeager Farm, C	66.90	336			P	P	03 54 30.1	+0.4
baz=155,SNR=5.6									
SWET	Sewanee	66.96	340			eP	P	03 54 29.9	-0.2
comp=Z,13nm,0.4s									
338A	Crockett	66.96	330			P	P	03 54 31.7	+1.6
baz=150,SNR=5.8									
NATX	Nacogdoches	67.03	331			P	P	03 54 31.9	+1.3
baz=150									
141A	Papa Simpson,	67.04	333			P	P	03 54 31.9	+1.4
baz=152									
436A	Wall Ranch, Ga	67.12	329			P	P	03 54 32.4	+1.3
baz=148									
633A	Saathoff Ranch	67.14	326			P	P	03 54 32.0	+0.7
baz=146,SNR=7.3									
337A	Centerville	67.17	330			P	P	03 54 33.2	+1.7
baz=149									
Z42A	Norrel Spur, H	67.26	334			P	P	03 54 32.2	+0.4
baz=153									
534A	Blanco	67.28	327			P	P	03 54 32.2	+0.1
baz=147,SNR=6.8									
X45A	UM Field Stati	67.35	337			P	P	03 54 32.4	0.0
baz=155									
435B	Jarrell	67.49	328			P	P	03 54 34.2	+0.8
baz=148									
IP07	Quail	67.57	347			eP	P	03

comp=Z,15nm,0.8s
X40A Basin Creek Fa 68.67 334 P **P** 03 54 40.9 +0.5
baz=152
Y39A Lockesburg 68.68 333 P **P** 03 54 41.3 +0.8
baz=151
UALR University of 68.74 335 *e*P **P** 03 54 41.2 +0.4
comp=Z,10nm,0.7s
V43A Jonesboro 68.98 336 P **P** 03 54 42.8 +0.5
baz=154
MIAR Mount Ida 69.01 333 P **P** 03 54 42.8 +0.3
baz=152
MIAR Mount Ida 69.01 333 *e*P **P** 03 54 43.0 +0.5
MIAR pmax pmax
comp=Z,4.0nm,0.6s
MIAR Mount Ida 69.01 333 *e*P **P** 03 54 43.0 +0.5
comp=Z,4.1nm,0.6s
W41B Gary Mavity, V 69.06 335 P **P** 03 54 42.9 +0.1
baz=153
U44B Burton Farm, H 69.08 338 P **P** 03 54 43.4 +0.5
baz=156
Z36A Blue Ridge 69.08 331 P **P** 03 54 43.5 +0.6
baz=149,SNR=8.6
X301 Greenbrier Sit 69.17 335 *e*P **P** 03 54 44.0 +0.6
comp=Z,20nm,1.4s
X39A Fountain Ranch 69.19 333 P **P** 03 54 44.5 +0.9
baz=151,SNR=14
V42A Cord 69.30 336 P **P** 03 54 44.5 +0.3
baz=154
LTX Lajitas 69.33 323 *e*P **P** 03 54 45.2 +0.5
LTX Lajitas 69.33 323 *e*P **P** 03 54 45.1 +0.5
TXAR Lajitas Array 69.33 323 P **P** 03 54 45.1 +0.5
comp=Z,4.8nm,0.6s,baz=152,slow=7.5,SNR=76
TX31 Lajitas Ar. Si 69.34 323 *e*P **P** 03 54 45.3 +0.6
Y37A Hugo 69.35 332 P **P** 03 54 45.5 +1.0
baz=150,SNR=5.4
W40A Ferguson Farm, 69.38 334 P **P** 03 54 45.5 +0.8
baz=152
Y36A Durant 69.56 331 P **P** 03 54 47.2 +1.4
baz=149
V41A Mountainview 69.56 335 P **P** 03 54 45.9 +0.1
baz=153,SNR=26
X38A Whitesboro 69.62 333 P **P** 03 54 46.9 +0.8
baz=151,SNR=6.4
W39A Magazine 69.66 334 P **P** 03 54 47.4 +1.0
baz=152,SNR=9.6
U42A Revenden 69.74 336 P **P** 03 54 46.7 0.0
baz=154,SNR=5.0
X37A Clayton 69.77 332 P **P** 03 54 47.5 +0.5
baz=150,SNR=6.4
V40A Witts Springs 69.83 335 P **P** 03 54 47.4 0.0
baz=152,SNR=11
PBMO Poplar Bluff 69.84 337 *e*P **P** 03 54 47.1 -0.2
comp=Z,12nm,0.4s
W38A Poteau 69.84 333 P **P** 03 54 48.4 +1.0
baz=151,SNR=17
Y35A Marietta 69.89 330 P **P** 03 54 48.4 +0.6
baz=149
O56A Blue Knob Stat 69.95 348 P **P** 03 54 48.4 +0.4
baz=166
U41A Viola 69.98 336 P **P** 03 54 48.3 0.0
baz=153,SNR=8.6
ABTX Abilene, Hawle 69.98 328 P **P** 03 54 48.5 +0.1
baz=146
ABTX Abilene, Hawle 69.98 328 *e*P **P** 03 54 49.0 +0.7
comp=Z,7.4nm,0.8s
S45A Carrier Mills 70.04 339 P **P** 03 54 47.7 -0.8
baz=156
T43A Greenville 70.07 337 P **P** 03 54 48.2 -0.5
baz=155,SNR=7.9
N59A State Game Lan 70.10 350 P **P** 03 54 49.7 +0.8
baz=168
X36A Centrahoma 70.16 331 P **P** 03 54 49.3 0.0
baz=149,SNR=16
V39A Pettigrew 70.17 334 P **P** 03 54 49.9 +0.4
baz=152,SNR=15
W37B Quinton 70.27 332 P **P** 03 54 50.6 +0.6
baz=150,SNR=13
S44A Carbondale 70.28 338 P **P** 03 54 49.3 -0.7
baz=156,SNR=7.1
X35A Drake 70.28 331 P **P** 03 54 49.9 -0.2
baz=149,SNR=8.3
T42A Van Buren 70.30 337 P **P** 03 54 49.9 -0.1
baz=154
U40A Yellville 70.33 335 P **P** 03 54 50.7 +0.4
baz=152
S43A Fulton Ridge, 70.44 338 P **P** 03 54 50.1 -0.8
baz=155
V38A Canehill 70.49 334 P **P** 03 54 51.5 +0.2
baz=151,SNR=27
T41A Mountain View 70.54 336 P **P** 03 54 51.3 -0.2
baz=154
U39A Green Forest 70.59 334 P **P** 03 54 51.9 +0.1
baz=152,SNR=14
W36A Wetumka 70.60 332 P **P** 03 54 51.9 -0.1
baz=150,SNR=14
HHAR Hobbs 70.67 334 *e*P **P** 03 54 52.6 +0.3
comp=Z,7.8nm,1.0s
SUR Sutherland 70.70 117 P **P** 03 54 53.8 +0.8
comp=Z,0.5nm,0.5s,baz=221,slow=5.7,SNR=16
SUR Sutherland 70.70 117 *e*P **P** 03 54 53.8 +0.8
comp=Z,200nm,2.0s
R44A Waltonville 70.72 339 P **P** 03 54 51.6 -1.0
baz=156
VNDA Vanda 70.78 189 P **P** 03 54 53.5 +1.1
comp=Z,2.2nm,0.9s,baz=125,slow=6.0,SNR=12
VNDA pP **pP** 03 56 51.9 -0.2
comp=Z,1.4nm,0.9s,baz=147,slow=4.3,SNR=4.2
VNDA Vanda 70.78 189 *e*P **P** 03 54 54.0 +1.6
VNDA *e**PP **pP** 03 56 51.9 -0.2
VNDA Vanda 70.78 189 *e*P **P** 03 54 54.0 +1.6
VNDA *e*pP **pP** 03 56 51.9 -0.2
V37A Hulbert 70.80 333 P **P** 03 54 53.4 +0.4
baz=150,SNR=23
BLO Bloomington 70.80 341 *e*P **P** 03 54 52.8 -0.2
BLO pmax pmax
comp=Z,18nm,0.5s
BLO Bloomington 70.80 341 *e*P **P** 03 54 52.8 -0.2
comp=Z,18nm,0.5s
S42A Caledonia 70.86 337 P **P** 03 54 52.5 -0.9
baz=154,SNR=10
W35A Tecumseh 70.88 331 P **P** 03 54 53.3 -0.3
baz=149,SNR=6.8
N54A Moraine State 70.90 347 P **P** 03 54 54.4 +0.8
baz=164
T40A Mansfield 70.91 336 P **P** 03 54 53.7 0.0
baz=153
S41A Jillco Farms, 71.02 336 P **P** 03 54 54.4 0.0
baz=154,SNR=18
R43A Red Bud 71.03 338 P **P** 03 54 53.6 -0.8
baz=155
V36A Jenks 71.04 332 P **P** 03 54 54.5 0.0
baz=150
TUL1 Leonard 71.08 333 P **P** 03 54 54.0 -0.8
baz=150
TUL1 Leonard 71.08 333 *e*P **P** 03 54 54.1 -0.6
comp=Z,13nm,0.7s
T39A Clever 71.12 335 P **P** 03 54 55.0 +0.1
baz=152
U37A Salina 71.24 333 P **P** 03 54 56.1 +0.4
baz=151,SNR=21
Q44A Meyer Farm, Va 71.30 339 P **P** 03 54 55.1 -0.9
baz=156
S40A Lebanon 71.30 336 P **P** 03 54 56.2 +0.2
baz=153,SNR=12
R42A Luebbering 71.32 337 P **P** 03 54 55.7 -0.4
baz=155,SNR=9.7
WMOK Wichita Mounta 71.36 330 P **P** 03 54 56.3 -0.1
baz=147
WMOK Wichita Mounta 71.36 330 *e*P **P** 03 54 56.6 +0.2
WMOK pmax pmax
comp=Z,5.0nm,0.7s
WMOK Wichita Mounta 71.36 330 *e*P **P** 03 54 56.6 +0.2
comp=Z,5.2nm,0.7s
M54A Oil Creek Stat 71.36 347 P **P** 03 54 56.5 +0.2
baz=165
V35A Meyer Ranch, C 71.39 332 P **P** 03 54 56.8 +0.2
baz=149,SNR=7.8
T38A Diamond 71.47 334 P **P** 03 54 57.4 +0.4
baz=151,SNR=15
U36A Oologah 71.48 333 P **P** 03 54 57.2 +0.2
baz=150
R41A Rosebud 71.53 337 P **P** 03 54 56.9 -0.4
baz=154,SNR=6.2
Q43A New Douglas 71.56 339 P **P** 03 54 56.9 -0.5
baz=156,SNR=5.3
S39A Bolivar 71.69 335 P **P** 03 54 58.4 +0.2
baz=152,SNR=10
P44A Sand Creek, Wi 71.70 340 P **P** 03 54 58.1 -0.1
baz=157
T37A Cheneyville 18 71.79 334 P **P** 03 54 59.1 +0.2
baz=151,SNR=25
Q42A Golden Eagle 71.80 338 P **P** 03 54 58.3 -0.5
baz=155
R40A Maddies Statio 71.84 336 P **P** 03 54 58.8 -0.3
baz=153,SNR=9.1
S38A Stockton 71.85 335 P **P** 03 54 59.2 0.0
baz=152,SNR=16
U35A Pawnee 71.86 332 P **P** 03 54 59.8 +0.5
baz=149,SNR=7.0
Q41A Truxton 72.07 337 P **P** 03 55 00.1 -0.3
baz=154
SFIN Lafayette 72.08 341 P **P** 03 54 59.6 -0.8
baz=158,SNR=6.5
SFIN Lafayette 72.08 341 *e*P **P** 03 54 59.8 -0.7
comp=Z,12nm,0.5s
MNTX Cornudas Mount 72.10 323 P **P** 03 55 00.3 -0.5
baz=142,SNR=18
MNTX Cornudas Mount 72.10 323 *e*P **P** 03 55 00.4 -0.4
comp=Z,8.9nm,0.7s
T36A Boggs Farm, Ca 72.11 333 P **P** 03 55 00.9 +0.2
baz=150,SNR=14
R39A Chumby, Stover 72.13 336 P **P** 03 55 00.6 -0.2
baz=153,SNR=7.7
P43A Skaggs, Pawnee 72.14 339 P **P** 03 55 00.2 -0.5
baz=156
T35A Sooner Cattle 72.24 333 P **P** 03 55 01.7 +0.3
baz=150,SNR=6.3
S37A Fort Scott 72.31 334 P **P** 03 55 01.5 -0.3
baz=151,SNR=5.4
R38A Fenwick Farm, 72.34 335 P **P** 03 55 01.8 -0.2
baz=152,SNR=7.7
P42A Winchester 72.35 338 P **P** 03 55 01.3 -0.6
baz=155
Q40A Laux Farm, Aux 72.40 337 P **P** 03 55 02.2 -0.1
baz=154,SNR=8.4
S36A Lake Cedric, C 72.58 334 P **P** 03 55 03.6 +0.2
baz=150,SNR=5.5
MSTX Muleshoe 72.58 326 P **P** 03 55 03.8 +0.2
baz=144,SNR=18
MSTX Muleshoe 72.58 326 *e*P **P** 03 55 03.9 +0.2
comp=Z,28nm,1.0s
T34A McClaskey Farm 72.61 332 P **P** 03 55 03.6 +0.1
baz=149,SNR=6.1
O43A Sugar Creek Fa 72.66 339 P **P** 03 55 03.1 -0.6
baz=156
P41A Barry, Barry 72.67 338 P **P** 03 55 03.3 -0.5
baz=154
Q39A Willow Grove F 72.76 336 P **P** 03 55 04.1 -0.2
baz=153,SNR=5.2
R37A Teagarden Farm 72.80 334 P **P** 03 55 04.5 -0.1
baz=151
AMTX Amarillo 72.80 328 P **P** 03 55 05.0 +0.2
baz=145
AMTX Amarillo 72.80 328 *e*P **P** 03 55 05.5 +0.7
comp=Z,9.9nm,0.8s
S35A Otter Creek Ra 72.83 333 P **P** 03 55 05.1 +0.3
baz=150,SNR=6.8
U32A Winter Ranch, 72.83 330 P **P** 03 55 05.5 +0.6
baz=148
P40A Paris 72.87 337 P **P** 03 55 04.7 -0.2
baz=154,SNR=8.9
HDIL Hopedale 72.90 340 P **P** 03 55 04.7 -0.4
baz=156
R36A Gordon, Harris 73.06 334 P **P** 03 55 06.1 0.0
baz=151
P39B Salisbury 73.08 337 P **P** 03 55 05.9 -0.2
baz=153,SNR=15
Q37A Longview Farm, 73.15 335 P **P** 03 55 06.4 -0.2
baz=152
S34A Willow Spring 73.16 332 P **P** 03 55 07.1 +0.3
baz=149,SNR=5.8
HSIG 73.21 317 *e*P **P** 03 55 08.1 +0.9
comp=Z,25nm,0.9s
R35A Emporia Munici 73.33 333 P **P** 03 55 08.0 +0.4
baz=150
O40A La Belle 73.34 337 P **P** 03 55 07.3 -0.3
baz=154,SNR=6.0
N42A Yates City 73.38 339 P **P** 03 55 07.5 -0.4
baz=156
P38A Dawn 73.47 336 P **P** 03 55 08.2 -0.2
baz=152,SNR=5.3
R34A Isabella, Hill 73.73 333 P **P** 03 55 10.3 +0.4
baz=149
Q35A Mercer Eighty, 73.73 334 P **P** 03 55 10.0 +0.1
baz=150
P37A Lathrop 73.73 335 P **P** 03 55 09.9 0.0
baz=152
O38A Galt 73.89 336 P **P** 03 55 10.7 -0.1
baz=152
N40A Mertquake, Sal 73.93 338 P **P** 03 55 10.7 -0.3
baz=154,SNR=5.8
319A Douglas 73.99 320 *e*P **P** 03 55 13.2 +1.6
comp=Z,32nm,0.8s
M41A Milan 74.03 339 P **P** 03 55 11.0 -0.5
baz=155
121A Cookes Peak, D 74.04 322 P **P** 03 55 13.2 +1.2
baz=140
P36A Good Intent, A 74.08 335 P **P** 03 55 11.6 -0.2
baz=151
L43A Garden Prairie 74.22 341 P **P** 03 55 12.4 -0.1
baz=157
N39A Derby Farms, D 74.23 337 P **P** 03 55 12.2 -0.5
baz=153,SNR=13
P35A Duane Minner, 74.31 334 P **P** 03 55 12.8 -0.4
baz=150
M40A Post Highland 74.37 338 P **P** 03 55 12.9 -0.5
baz=154,SNR=7.8
N38A Joes South For 74.40 337 P **P** 03 55 13.2 -0.4
baz=153
O36A Bolckow 74.44 335 P **P** 03 55 13.3 -0.5
baz=151
P34A Walnut Farm, R 74.64 334 P **P** 03 55 15.5 +0.5
baz=150,SNR=7.8
L41A Preston 74.66 339 P **P** 03 55 14.6 -0.4
baz=155
BNM Barren Site 74.67 324 *e*P **P** 03 55 16.9 +1.3
N37A Lee Faris, Mou 74.72 336 P **P** 03 55 15.3 -0.1
baz=152
L40A Anamosa 74.87 339 P **P** 03 55 16.1 -0.2
baz=155,SNR=8.3
O35A Humboldt 74.91 335 P **P** 03 55 16.2 -0.2
baz=150
M38A Pleasantville 74.95 337 P **P** 03 55 16.3 -0.3
baz=153,SNR=6.0
K41A Shullsburg 75.08 340 P **P** 03 55 17.3 -0.1
baz=156,SNR=5.3
LAZ Ladron 75.13 324 *e*P **P** 03 55 19.6 +1.5
O34A Beatrice 75.13 334 P **P** 03 55 17.6 -0.2
baz=150,SNR=10
L39A Vinton 75.18 338 P **P** 03 55 17.8 -0.1
baz=154
CBKS Cedar Bluff 75.19 331 P **P** 03 55 19.2 +1.1
baz=147
CBKS Cedar Bluff 75.19 331 *e*P **P** 03 55 19.7 +1.5
CBKS pmax pmax
comp=Z,35nm,0.8s
CBKS Cedar Bluff 75.19 331 *e*P **P** 03 55 19.7 +1.5
comp=Z,35nm,0.8s
ANMO Albuquerque 75.20 324 P **P** 03 55 19.7 +1.2
baz=142
ANMO Albuquerque 75.20 324 *c i*P **P** 03 55 19.7 +1.2
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 75.20 324 *e*P **P** 03 55 19.5 +1.0
comp=Z,12nm,1.0s
TOA0 Torodi Ar. Sit 75.20 66 *e*P **P** 03 55 18.3 -0.4
TOA0 *e*pP **pP** 03 57 20.0 -0.6
TORD Torodi Ar. Bea 75.20 66 P **P** 03 55 18.1 -0.5
comp=Z,18nm,0.8s,baz=278,slow=7.1,SNR=122
TORD pP **pP** 03 57 19.9 -0.7
comp=Z,15nm,0.7s,baz=241,slow=5.3,SNR=32
TORD S **S** 04 04 07.6 -3.5
comp=Z,0.9nm,0.9s,baz=236,slow=13,SNR=4.4
TOA1 Torodi Ar. Sit 75.20 66 *e*P **P** 03 55 18.1 -0.5
TOA1 *e*pP **pP** 03 57 19.9 -0.7
M37A Trindle Farm, 75.23 337 P **P** 03 55 18.4 +0.2
baz=152,SNR=12
N35A Tabor 75.33 335 P **P** 03 55 18.6 -0.1
baz=151,SNR=6.7
JFWS Jewell Farm 75.34 340 *e*P **P** 03 55 19.1 +0.3
JFWS pmax pmax
comp=Z,18nm,0.6s
JFWS Jewell Farm 75.34 340 *e*P **P** 03 55 19.1 +0.3
comp=Z,18nm,0.6s
K40A Colesburg 75.42 339 P **P** 03 55 19.3 0.0
baz=155
L38A Oak Wood Farm, 75.51 338 P **P** 03 55 19.4 -0.4
baz=153
TUC Tucson 75.53 320 P **P** 03 55 21.0 +0.8
baz=138
TUC Tucson 75.53 320 *e*P **P** 03 55 21.5 +1.3
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 75.53 320 *e*P **P** 03 55 21.5 +1.3
comp=Z,13nm,1.1s
M36A Felix, Anita 75.54 336 P **P** 03 55 19.7 -0.2
baz=152
N34A Lincoln 75.63 335 P **P** 03 55 20.2 -0.2
baz=150,SNR=5.4
K39A Oelwein 75.66 339 P **P** 03 55 20.1 -0.5
baz=154,SNR=6.9
J41A Loganville 75.68 340 P **P** 03 55 20.3 -0.4
baz=156
BOSA Boshof 75.71 115 P **P** 03 55 21.5 0.0
comp=Z,6.0nm,0.9s,baz=250,slow=3.1,SNR=16
BOSA pP **pP** 03 57 22.8 -0.7
comp=Z,6.2nm,0.8s,baz=267,slow=4.1,SNR=6.3
L37A Phoenix Point, 75.77 337 P **P** 03 55 20.7 -0.4
baz=152
I42A Draeger Farm, 75.84 341 P **P** 03 55 21.6 +0.1
baz=157,SNR=6.8
K38A Parkersburg 75.90 338 P **P** 03 55 21.1 -0.8
baz=153
T25A Trinidad 75.92 327 P **P** 03 55 24.1 +1.6
baz=143
T25A Trinidad 75.92 327 *e*P **P** 03 55 23.9 +1.5
comp=Z,20nm,0.8s
J40A Soldiers Grove 75.93 340 P **P** 03 55 21.8 -0.3
baz=155
MHTCO State Highway 76.05 327 *e*P **P** 03 55 24.9 +1.7
comp=Z,26nm,0.8s
L36A Harm Buss Farm 76.06 336 P **P** 03 55 22.6 -0.2
baz=152
MAW Mawson 76.07 161 P **P** 03 55 22.5 0.0
comp=Z,1.6nm,0.7s,baz=222,slow=6.5,SNR=6.2
MAW pP **pP** 03 57 24.2 -0.6
comp=Z,4.8nm,0.9s,baz=238,slow=8.4,SNR=9.1
MAW Mawson 76.07 161 *e*P **P** 03 55 22.5 0.0
MAW *e**PP **pP** 03 57 24.5 -0.2
MAW Mawson 76.07 161 *e*P **P** 03 55 22.5 0.0
MAW *e*pP **pP** 03 57 24.5 -0.2
J39A Decorah 76.17 339 P **P** 03 55 23.3 -0.1
baz=154,SNR=9.8
I41A Arkdale 76.27 341 P **P** 03 55 23.9 0.0
baz=156
K37A Belmond 76.30 337 P **P** 03 55 23.9 -0.2
baz=153
H42A Shiocton 76.31 342 P **P** 03 55 24.0 -0.1
baz=157
I40A Norwalk 76.34 340 P **P** 03 55 24.4 +0.1
baz=155
L35A Bielow Farm, R 76.38 336 P **P** 03 55 24.6 0.0
baz=151,SNR=8.5
J38A Wedel Dairy, R 76.41 338 P **P** 03 55 24.1 -0.5
baz=154
214A Organ Pipe Nat 76.44 318 P **P** 03 55 26.4 +1.2
baz=136,SNR=12
K36A Gilmore City 76.46 337 P **P** 03 55 25.0 0.0
baz=152,SNR=5.8
L34A Svendsen Farm, 76.56 335 P **P** 03 55 25.4 -0.1
baz=150
I39A Houston 76.58 339 P **P** 03 55 25.4 -0.2
baz=155
KSCO Kaye Shedlock' 76.61 329 P **P** 03 55 27.1 +1.0
baz=145
KSCO Kaye Shedlock' 76.61 329 *e*P **P** 03 55 22.8 -3.3
F45A CMU Biological 76.62 344 P **P** 03 55 26.0 +0.2
baz=160,SNR=13
H41A Junction City 76.72 341 P **P** 03 55 25.9 -0.5
baz=156
X18A Snowflake 76.72 322 *e*P **P** 03 55 28.4 +1.5
comp=Z,12nm,0.8s
BGNE Belgrade 76.75 334 P **P** 03 55 26.9 +0.2
baz=149,SNR=7.1
BGNE Belgrade 76.75 334 *e*P **P** 03 55 27.1 +0.4
comp=Z,37nm,0.6s
J37A Redenius Farm, 76.75 338 P **P** 03 55 25.9 -0.7
baz=153
G43A Wallace 76.77 343 P **P** 03 55 26.7 +0.1
baz=158
SDCO Great Sand Dun 76.93 327 P **P** 03 55 29.3 +1.3
baz=143,SNR=16
SDCO Great Sand Dun 76.93 327 *e*P **P** 03 55 29.4 +1.3
comp=Z,19nm,1.4s
H40A Chili 76.94 340 P **P** 03 55 27.8 +0.2
baz=156
G42A Mountain 76.95 342 P **P** 03 55 28.3 +0.7
baz=157
I38A Scanlan Farm, 77.01 339 P **P** 03 55 28.0 +0.1
baz=154
J36A Seneca 1, Swea 77.03 337 P **P** 03 55 28.4 +0.3
baz=152
W18A Petrified Fore 77.05 322 P **P** 03 55 29.8 +1.2
baz=139,SNR=9.1
W18A Petrified Fore 77.05 322 *e*P **P** 03 55 30.0 +1.4
comp=Z,26nm,1.1s
F44A Big Bay de Noc 77.11 344 P **P** 03 55 28.7 +0.3
baz=159,SNR=9.5
F43A Flat Rock, Esc 77.17 343 P **P** 03 55 29.0 +0.3
baz=158,SNR=10
E45A Wooded Hills, 77.17 345 P **P** 03 55 29.3 +0.6
baz=160
H39A Augusta 77.26 340 P **P** 03 55 30.1 +0.9
baz=155
I37A Lemond, Waseca 77.33 338 P **P** 03 55 29.8 +0.1
baz=153,SNR=5.9
K33A Hardington 77.34 335 P **P** 03 55 30.1 +0.3
baz=150
X16A Lo Mia Camp, P 77.46 321 *e*P **P** 03 55 32.4 +1.5
comp=Z,26nm,1.1s
G40A Rib Lake 77.47 341 P **P** 03 55 31.3 +0.9
baz=156
LBTB Lobatse 77.52 112 P **P** 03 55 31.4 0.0
comp=Z,12nm,0.6s,baz=248,slow=6.8,SNR=22
LBTB Lobatse 77.52 112 *e*P **P** 03 55 31.4 0.0
LBTB *e**PP **pP** 03 57 34.5 +0.2
LBTB pmax pmax
comp=Z,83nm,2.0s
LBTB Lobatse 77.52 112 *e*P **P** 03 55 31.4 0.0
comp=Z,83nm,2.0s
LBTB *e*pP **pP** 03 57 34.5 +0.2
J34A George 77.56 336 P **P** 03 55 31.3 +0.4
baz=151
H38A Maiden Rock 77.56 339 P **P** 03 55 31.3 +0.3
baz=154
S22A 4UR Ranch, Cre 77.58 326 P **P** 03 55 32.8 +1.2
baz=142,SNR=17
S22A 4UR Ranch, Cre 77.58 326 *e*P **P** 03 55 32.8 +1.2
comp=Z,7.8nm,0.8s
E44A Grand Marais A 77.60 344 P **P** 03 55 31.6 +0.6
baz=160
F41A Three Lakes 77.60 342 P **P** 03 55 31.8 +0.7
baz=157
E43A Lone Tree Farm 77.63 343 P **P** 03 55 31.8 +0.6
baz=159,SNR=14
Q24A Divide 77.73 328 P **P** 03 55 33.4 +1.1
baz=143,SNR=7.0
Q24A Divide 77.73 328 *e*P **P** 03 55 34.1 +1.7
comp=Z,19nm,0.9s
K32A Verdigre 77.75 335 P **P** 03 55 32.5 +0.5
baz=149
G38A Ridgeland 77.88 340 P **P** 03 55 32.6 0.0
baz=154
E42A Champion 77.92 343 P **P** 03 55 33.4 +0.6
baz=158,SNR=13
OGNE Ogallala 77.94 331 P **P** 03 55 33.9 +0.7
baz=146,SNR=6.4
OGNE Ogallala 77.94 331 *e*P **P** 03 55 34.5 +1.4
comp=Z,16nm,0.8s
J33A Davis 77.95 336 P **P** 03 55 33.0 0.0
baz=150,SNR=6.7
Y14A Wickenburg 77.99 320 *e*P **P** 03 55 34.8 +1.2
comp=Z,59nm,0.8s
MVCO Mesa Verde 78.00 325 P **P** 03 55 34.9 +1.2
baz=140,SNR=12
MVCO Mesa Verde 78.00 325 *e*P **P** 03 55 35.0 +1.2
comp=Z,15nm,0.8s
H36A Jessenland, He 78.00 338 P **P** 03 55 33.6 +0.3
baz=153,SNR=6.6
K31A O'Neill 78.02 334 P **P** 03 55 33.7 +0.2
baz=148,SNR=5.1
F40A Park Falls 78.05 341 P **P** 03 55 34.1 +0.6
baz=156,SNR=5.6
ECSD EROS Data Cent 78.18 336 P **P** 03 55 34.4 +0.2

baz=150,SNR=8.8
ECSD EROS Data Cent 78.18 336 eP P 03 55 34.5 +0.2
comp=Z,7.3nm,0.7s
SPMN Marine on St. 78.22 339 P P 03 55 34.4 0.0
baz=154
E41A Kenton 78.23 342 P P 03 55 34.8 +0.3
baz=157
WUAZ Wupatki 78.24 322 P P 03 55 36.5 +1.5
baz=138,SNR=14
WUAZ Wupatki 78.24 322 eP P 03 55 36.5 +1.5
comp=Z,17nm,0.8s
F39A Loretta 78.27 341 P P 03 55 35.7 +1.0
baz=155
GLA Glamis 78.41 318 P P 03 55 36.6 +0.7
baz=135
E40A Wakefield 78.46 342 P P 03 55 36.5 +0.8
baz=156,SNR=11
G36A St. Michael 78.53 339 P P 03 55 36.3 +0.2
baz=153
J31A Geddes 78.58 334 P P 03 55 36.5 +0.1
baz=149
E39A Mellen 78.59 341 P P 03 55 36.9 +0.5
baz=156,SNR=10
F38A Pierce - Schro 78.59 340 P P 03 55 37.1 +0.7
baz=154
F37A Hinrichs Farm, 78.61 339 P P 03 55 36.9 +0.4
baz=154
ISCO Idaho Springs 78.61 328 P P 03 55 38.3 +1.2
baz=143
ISCO Idaho Springs 78.61 328 eP P 03 55 38.4 +1.3
ISCO pmax pmax
comp=Z,10.0nm,0.8s
ISCO Idaho Springs 78.61 328 eP P 03 55 38.4 +1.3
comp=Z,9.7nm,0.8s
D41A Chassel 78.67 343 P P 03 55 37.5 +0.8
baz=157,SNR=5.9
Y12C Blythe 78.73 318 P P 03 55 38.7 +1.3
baz=136
Y12C Blythe 78.73 318 eP P 03 55 39.0 +1.6
comp=Z,15nm,0.8s
PV01 Paradox Valley 78.74 325 eP P 03 55 39.5 +1.8
G35A Watkins 78.75 338 P P 03 55 37.8 +0.6
baz=152
SMCO Snowmass 78.77 327 eP P 03 55 39.2 +1.2
comp=Z,17nm,0.8s
IKP In-Ko-Pah, Jac 78.89 317 P P 03 55 38.3 -0.2
baz=134
PDMCI Parker Dam,Lak 78.90 319 P P 03 55 39.4 +1.1
baz=136
SWSC Sam W. Stewart 78.92 317 P P 03 55 39.3 +0.9
baz=135
PV05 Paradox Valley 78.97 325 eP P 03 55 40.2 +1.3
F36A Milaca 79.01 339 P P 03 55 38.7 0.0
baz=153,SNR=7.3
H33A Prehn Over Nor 79.05 336 P P 03 55 38.8 -0.1
baz=150
E38A The Farm, Brul 79.08 341 P P 03 55 39.1 +0.1
baz=155
H32A Carlson Farm, 79.14 336 P P 03 55 39.1 -0.3
baz=150
PV10 Paradox Valley 79.17 325 eP P 03 55 41.0 +1.0
BC3 Big Chuckawall 79.21 318 P P 03 55 41.1 +1.0
baz=135,SNR=7.9
MONP2 Monument Peak 79.25 317 P P 03 55 41.3 +0.8
baz=134
PV09 Paradox Valley 79.31 325 eP P 03 55 42.5 +1.7
W13A Hualapai Mount 79.33 320 eP P 03 55 42.2 +1.4
comp=Z,8.8nm,0.9s
F35A Swanville 79.35 338 P P 03 55 40.7 +0.3
baz=152
IRM Iron Mountain 79.38 318 P P 03 55 42.0 +1.0
baz=135,SNR=12
G33A Ortonville 79.39 337 P P 03 55 41.1 +0.5
baz=151
U15A North Rim 79.41 322 eP P 03 55 42.9 +1.5
comp=Z,15nm,0.8s
H31A Wolsey 79.50 335 P P 03 55 41.5 +0.2
baz=149
E36A McGregor 79.52 339 P P 03 55 41.6 +0.4
baz=153,SNR=11
N23A Red Feather La 79.64 328 P P 03 55 43.7 +1.3
baz=143,SNR=8.2
N23A Red Feather La 79.64 328 eP P 03 55 43.7 +1.3
comp=Z,10nm,0.7s
SUSD Miller 79.65 335 P P 03 55 42.1 +0.1
baz=148
HWB Hans Werner Br 79.67 317 eP P 03 55 40.5 -1.9
PHWY Pilot Hill 79.74 329 eP P 03 55 44.3 +1.4
comp=Z,14nm,0.8s
XPFO Piæon Flat 79.77 317 eP P 03 55 44.6 +1.6
comp=Z,16nm,1.0s
BELC Belle Mtn. Jos 79.77 318 P P 03 55 44.2 +1.1
baz=135,SNR=7.3
PFO Pinyon Flats O 79.78 317 P P 03 55 44.1 +1.0
baz=134
PFO Pinyon Flats O 79.78 317 eP P 03 55 44.6 +1.5
PFO pmax pmax
comp=Z,14nm,0.9s
PFO Pinyon Flats O 79.78 317 eP P 03 55 44.6 +1.5
comp=Z,14nm,0.9s
C39A Grand Marais 79.78 342 P P 03 55 42.5 -0.1
baz=156
D37A Cotton 79.84 340 P P 03 55 43.4 +0.5
baz=154
F33A 5 Mile Ranch, 79.90 337 P P 03 55 43.6 +0.3
baz=151
C38A Sawbill Land. 80.01 341 P P 03 55 44.0 +0.2
baz=155
LDFC Landfair 80.02 319 eP P 03 55 46.3 +2.0
comp=Z,15nm,0.9s
G31A Conde 80.04 336 P P 03 55 43.9 -0.1
baz=149
D36A Goodland 80.08 340 P P 03 55 44.6 +0.4
baz=154,SNR=6.1
E34A Wadena 80.12 338 P P 03 55 44.8 +0.4
baz=152
GMRC Granite Mounta 80.13 319 P P 03 55 46.1 +1.2
baz=135,SNR=15
GMRC Granite Mounta 80.13 319 eP P 03 55 42.0 -2.9
O20A White River Ci 80.13 327 P P 03 55 46.4 +1.6
baz=141
O20A White River Ci 80.13 327 eP P 03 55 46.4 +1.6
comp=Z,19nm,1.0s
KNB Kanab 80.13 322 eP P 03 55 46.5 +1.6
KNB pmax pmax
comp=Z,40nm,0.8s
KNB Kanab 80.13 322 eP P 03 55 46.5 +1.6
comp=Z,40nm,0.8s
PKCU Pink Cliffs 80.17 322 eP P 03 55 46.9 +1.6
comp=Z,6.9nm,0.7s
MURC Murrieta 80.21 317 P P 03 55 46.4 +1.1
baz=134
D35A Remer 80.27 339 P P 03 55 45.8 +0.6
baz=153,SNR=11
EYMN Ely 80.28 341 P P 03 55 45.1 -0.2
baz=155
C37A Embarrass 80.28 341 P P 03 55 45.4 +0.1
baz=154
LCMT Little Creek M 80.36 322 eP P 03 55 47.5 +1.4
comp=Z,7.4nm,0.8s
E33A Westby DABS, E 80.39 338 P P 03 55 45.8 0.0
baz=151
SRU San Rafael Swe 80.48 325 eP P 03 55 47.7 +1.0
SRU pmax pmax
comp=Z,22nm,0.8s
SRU San Rafael Swe 80.48 325 eP P 03 55 47.7 +1.0
comp=Z,22nm,0.8s
C36A Pine Crest Far 80.50 340 P P 03 55 46.6 +0.2
baz=154
BBRC Big Bear Solar 80.50 317 P P 03 55 48.3 +1.3
baz=134
MTPU Mount Pierson 80.54 323 eP P 03 55 48.8 +1.5
comp=Z,15nm,0.9s
HEC Hector,Ludlow 80.55 318 P P 03 55 48.4 +1.3
baz=135
F31A Hecla 80.61 336 P P 03 55 47.3 +0.3
baz=149
D34A Park Rapids 80.63 339 P P 03 55 47.5 +0.4
baz=152
P18A Preston Nutter 80.73 325 eP P 03 55 49.5 +1.4
comp=Z,17nm,0.7s
TUQ Turquoise Moun 80.74 319 P P 03 55 49.2 +1.1
baz=135
C35A Jirik Farms, M 80.80 340 P P 03 55 48.3 +0.4
baz=153
CCUT Cedar City 80.81 322 eP P 03 55 50.3 +1.8
comp=Z,23nm,0.8s
RWWY Rawlins 80.85 328 eP P 03 55 49.9 +1.3
comp=Z,27nm,0.9s
P17A Butcher Ranch, 80.86 325 eP P 03 55 50.0 +1.3
comp=Z,16nm,0.9s
MSU Marysvale 80.89 323 eP P 03 55 50.3 +1.4
MSU Marysvale 80.89 323 eP P 03 55 50.3 +1.4
D33A AnnSam, Waubun 80.89 338 P P 03 55 49.2 +0.8
baz=151
BFSC Mount Baldy Ra 80.93 317 P P 03 55 50.3 +1.2
baz=134
TMUT Trail Mountain 80.97 324 eP P 03 55 50.8 +1.5
comp=Z,11nm,0.8s
DWU Dry Willow Pea 81.02 322 eP P 03 55 50.6 +1.0
C34A RKJ Ranch, Bem 81.04 339 P P 03 55 50.1 +0.9
baz=152
SHPR Sheep Range 81.06 320 eP P 03 55 51.0 +1.2
comp=Z,8.3nm,1.0s
E31A Nome 81.08 337 P P 03 55 49.8 +0.4
baz=150,SNR=5.6
GSC Goldstone, Bar 81.16 318 P P 03 55 51.1 +0.9
baz=134
GSC Goldstone, Bar 81.16 318 eP P 03 55 51.6 +1.4
GSC pmax pmax
comp=Z,16nm,1.3s
GSC Goldstone, Bar 81.16 318 eP P 03 55 51.6 +1.4
comp=Z,16nm,1.3s
K22A Casper 81.30 329 P P 03 55 51.4 +0.6
baz=142
K22A Casper 81.30 329 eP P 03 55 51.8 +1.0
comp=Z,8.4nm,0.9s
B35A Bob, Littlefor 81.31 340 P P 03 55 51.0 +0.6
baz=153
SNCC San Nicolas Is 81.39 315 P P 03 55 52.2 +0.8
baz=132
RSSD Black Hills 81.39 332 P P 03 55 52.0 +0.7
baz=144
RSSD Black Hills 81.39 332 eP P 03 55 52.0 +0.7
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 81.39 332 eP P 03 55 52.0 +0.7
comp=Z,7.2nm,1.1s
C33A Trail 81.41 338 P P 03 55 52.1 +1.0
baz=151
EDW2 Edwards Air Fo 81.57 317 P P 03 55 52.2 0.0
baz=134,SNR=5.5
BLG Laguna Peak, P 81.69 316 P P 03 55 53.3 +0.4
baz=133
B34A Aery, Baudette 81.70 339 P P 03 55 53.1 +0.7
baz=152
MPU Maple Canyon 81.72 325 eP P 03 55 54.4 +1.3
comp=Z,8.8nm,0.8s
AGMN Agassiz Nation 81.91 339 P P 03 55 54.0 +0.4
baz=151,SNR=5.0
AGMN Agassiz Nation 81.91 339 eP P 03 55 54.1 +0.4
comp=Z,7.7nm,0.6s
MATP Matopo 81.96 109 P P 03 55 55.2 +0.4
comp=Z,7.7nm,0.7s,baz=244,slow=4.3,SNR=23
TPNV Topopah Spring 81.99 320 P P 03 55 55.9 +1.4
baz=135
TPNV Topopah Spring 81.99 320 eP P 03 55 55.9 +1.4
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 81.99 320 eP P 03 55 55.9 +1.4
comp=Z,11nm,0.9s
FURC Furnace Creek, 82.00 319 P P 03 55 55.6 +1.3
baz=134
JLU Joranelle 82.07 325 eP P 03 55 56.3 +1.4
comp=Z,27nm,1.4s
C31A Landman Farms, 82.09 337 P P 03 55 54.9 +0.4
baz=150
B32A Ashes, Strandq 82.22 338 P P 03 55 55.4 +0.3
baz=151,SNR=13
A33A Warroad 82.33 339 P P 03 55 56.1 +0.4
baz=152
ISA Isabella, Lake 82.39 318 P P 03 55 57.4 +1.0
baz=133
ISA Isabella, Lake 82.39 318 eP P 03 55 58.1 +1.7
ISA pmax pmax
comp=Z,11nm,0.8s
ISA Isabella, Lake 82.39 318 eP P 03 55 58.1 +1.7
comp=Z,11nm,0.8s
DUG Dugway, Tooele 82.46 324 P P 03 55 57.7 +1.0
baz=138,SNR=9.3
DUG Dugway, Tooele 82.46 324 eP P 03 55 58.1 +1.4
DUG pmax pmax
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 82.46 324 eP P 03 55 58.1 +1.4
comp=Z,7.1nm,0.8s
MDT Midelt 82.59 46 P P 03 55 58.2 +0.7
comp=Z,2.4nm,0.8s,baz=241,slow=5.7,SNR=7.6
R11A Troy Canyon, C 82.61 321 P P 03 55 58.7 +1.2
baz=135,SNR=23
R11A Troy Canyon, C 82.61 321 eP P 03 55 58.9 +1.3
comp=Z,14nm,1.0s
B31A Greenbush Farm 82.61 338 P P 03 55 57.8 +0.7
baz=150
A32A Rocking H Ranc 82.66 339 P P 03 55 57.7 +0.4
baz=151
GRAC Grapevine Rang 82.66 319 P P 03 55 59.0 +1.4
baz=134
PKM Mcpherson Peak 82.67 316 P P 03 55 59.0 +1.0
baz=132,SNR=13
CWC Cottonwood Cre 82.69 318 P P 03 55 59.1 +1.1
baz=134
BW06 Boulder Array 82.78 328 P P 03 55 58.8 +0.4
baz=140
BW06 Boulder Array 82.78 328 eP P 03 55 58.8 +0.4
PD31 Pinedale Array 82.78 328 eP P 03 55 58.9 +0.5
PDAR Pinedale Array 82.78 328 P P 03 55 58.8 +0.4
comp=Z,6.4nm,0.7s,baz=128,slow=7.6,SNR=63
MDND Maddock 82.79 336 P P 03 55 58.9 +1.0
baz=148,SNR=7.5
MDND Maddock 82.79 336 eP P 03 55 59.0 +1.0
comp=Z,35nm,0.8s
VES Vestal, Richgr 82.88 317 P P 03 55 59.6 +0.8
baz=133,SNR=12
HWUT Hardware Ranch 82.88 326 eP P 03 55 59.5 +0.7
comp=Z,23nm,1.0s
SMMC Simmler 83.07 316 P P 03 56 00.8 +1.0
baz=132
BGU Big Grassy Mou 83.11 324 eP P 03 55 59.9 -0.1
comp=Z,12nm,1.1s
PTEO Sao Teotonio 83.28 41 eP P 03 56 01.4 +0.8
comp=Z,48nm,2.1s
RCTC Rector, Farmer 83.28 318 P P 03 56 01.4 +0.6
baz=133
PAGB Antelope Grade 83.50 317 eP P 03 56 03.5 +1.6
comp=Z,27nm,0.8s
PBDV Barranco-do-Ve 83.52 41 eP P 03 56 02.9 +0.9
comp=Z,45nm,1.4s
HVU Hansel Valley 83.61 325 eP P 03 56 03.4 +1.0
HVU pmax pmax
comp=Z,15nm,0.8s
HVU Hansel Valley 83.61 325 eP P 03 56 03.4 +1.0
comp=Z,15nm,0.8s
ULM Lac du Bonnet 83.64 340 P P 03 56 02.4 +0.3
comp=Z,7.0nm,0.7s,baz=135,slow=6.1,SNR=11
ULM PKKPbc **PKKPbc** 04 14 17.1 +0.4
comp=Z,3.5nm,1.0s,baz=45,slow=2.9,SNR=3.2
TAM Tamanrasset 83.64 60 eP P 03 56 02.9 -0.2
TAM e*PP pP 03 58 09.3 +0.8
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 83.64 60 eP P 03 56 02.9 -0.2
comp=Z,8.6nm,1.1s
TAM epP pP 03 58 09.3 +0.8
PCVE Castro Verde 83.73 41 eP P 03 56 03.6 +0.7
comp=Z,32nm,1.6s
PVAQ Vaqueiros 83.76 41 eP P 03 56 03.5 +0.4
comp=Z,21nm,1.2s
PNCL Nicolau / Gran 83.78 40 eP P 03 56 03.5 +0.4
REDW Red Top Meadow 83.85 327 eP P 03 56 04.4 +0.7
comp=Z,12nm,1.0s
SNOW Snow King Moun 83.88 327 eP P 03 56 05.0 +1.1
comp=Z,12nm,1.1s
LOHW Long Hollow 83.92 328 eP P 03 56 04.6 +0.6
comp=Z,9.3nm,0.9s
TPAW Teton Pass 84.00 327 eP P 03 56 05.5 +1.0
comp=Z,10nm,1.0s
LSZ Lusaka 84.07 104 eP P 03 56 07.2 +1.9
LSZ e*PP pP 03 58 12.4 +1.5
LSZ pmax pmax
comp=Z,8.0nm,0.8s
LSZ Lusaka 84.07 104 eP P 03 56 07.2 +1.9
comp=Z,8.0nm,0.8s
LSZ epP pP 03 58 12.4 +1.5
MOOW Moose Ponds 84.09 328 eP P 03 56 05.4 +0.5
comp=Z,11nm,1.0s
FXWY Fox Creek 84.14 327 eP P 03 56 05.8 +0.7
comp=Z,5.8nm,0.8s
IMW Indian Meadow 84.30 328 eP P 03 56 06.8 +0.8
comp=Z,29nm,0.8s
EVO Evora 84.36 40 eP P 03 56 06.1 +0.1
LAO LASA Array 84.38 332 P P 03 56 06.3 +0.4
baz=143
LAO LASA Array 84.38 332 eP P 03 56 06.7 +0.8
comp=Z,13nm,1.0s
TVH3 East Aurora ar 84.43 319 eP P 03 56 08.3 +1.6
comp=Z,9.7nm,1.2s
RLMT Red Lodge 84.46 329 P P 03 56 07.2 +0.5
baz=140,SNR=6.7
RLMT Red Lodge 84.46 329 eP P 03 56 07.6 +0.9
comp=Z,7.6nm,0.7s
H17A Grant Village 84.50 328 P P 03 56 08.6 +1.7
baz=140
H17A Grant Village 84.50 328 eP P 03 56 08.7 +1.7
comp=Z,4.8nm,0.8s
YPP Pitchstone Pla 84.52 328 eP P 03 56 08.8 +1.7
comp=Z,11nm,1.5s
YFT Old Faithful 84.67 328 eP P 03 56 10.0 +2.3
comp=Z,12nm,0.9s
PBAR Barrancos 84.68 41 eP P 03 56 07.8 +0.3
comp=Z,40nm,1.6s
PBAR epP pP 03 58 14.9 +1.4
PESTR Estremoz 84.83 40 eP P 03 56 08.6 +0.3
comp=Z,19nm,1.4s
PTOM Tomar 84.89 39 eP P 03 56 09.3 +0.8
comp=Z,32nm,1.4s
WAKR Walker 84.89 319 eP P 03 56 10.4 +1.6
comp=Z,20nm,0.8s
YMR Madison River 84.89 328 eP P 03 56 10.2 +1.4
comp=Z,25nm,0.8s
YHH Holmes Hill 84.93 328 eP P 03 56 10.2 +1.2
comp=Z,21nm,0.8s
SLD San Luis Dam 84.98 317 eP P 03 56 08.1 -0.9
DGMT Dagmar 85.00 334 P P 03 56 09.9 +1.1
baz=145,SNR=5.3
DGMT Dagmar 85.00 334 eP P 03 56 10.0 +1.1
comp=Z,17nm,0.8s
YHB Horse Butte 85.06 328 eP P 03 56 11.1 +1.5
comp=Z,12nm,1.1s
CMB Columbia Colle 85.12 318 eP P 03 56 10.4 +0.6
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 85.12 318 eP P 03 56 10.4 +0.6
comp=Z,7.0nm,1.0s
PCAS Casmilo, Conde 85.14 39 eP P 03 56 10.7 +1.0
comp=Z,25nm,1.4s
GCMT Greycliff 85.16 329 eP P 03 56 10.7 +0.8
QLMT Earthquake Lak 85.23 328 eP P 03 56 12.1 +1.7
PMRV Marv??o 85.33 40 eP P 03 56 10.8 +0.1
comp=Z,12nm,1.7s
PNTR Pine Nut 85.38 319 eP P 03 56 13.0 +1.8
comp=Z,42nm,0.7s
PCBR Castelo Branco 85.56 40 eP P 03 56 12.1 +0.4
comp=Z,17nm,1.2s
PAHR Pah Rah Range 85.67 320 eP P 03 56 14.1 +1.6
comp=Z,22nm,1.0s
HLID Hailey 85.74 325 P P 03 56 14.1 +1.4
baz=137,SNR=38
HLID Hailey 85.74 325 eP P 03 56 14.2 +1.4
comp=Z,22nm,0.8s
MCMT McKenzie Canyo 85.90 327 eP P 03 56 15.2 +1.6
BOZ Bozeman (W) 85.90 328 P P 03 56 14.2 +0.7
baz=139
BOZ Bozeman (W) 85.90 328 eP P 03 56 13.9 +0.5
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 85.90 328 eP P 03 56 13.9 +0.5
comp=Z,7.7nm,1.0s
MTE Manteigas 85.91 39 eP P 03 56 13.9 +0.4
comp=Z,18nm,1.4s
MTE Manteigas 85.91 39 eP P 03 56 14.2 +0.7
comp=Z,15nm,1.2s
AFDM Forest Hills D 86.07 319 eP P 03 56 14.8 +0.5
comp=Z,9.1nm,0.9s
DLMT Dillon 86.18 328 eP P 03 56 15.8 +1.0
comp=Z,17nm,0.8s
BEKR Beckworth 86.34 320 eP P 03 56 16.7 +1.0
comp=Z,13nm,0.9s
MFID Camas Ranch 86.35 325 eP P 03 56 16.8 +1.3
comp=Z,12nm,1.1s
PVRL Vila Real 86.41 39 eP P 03 56 16.1 +0.3
POLO Lamas de Olo 86.44 38 eP P 03 56 16.8 +0.8
LRM Limekiln Ridge 86.45 328 eP P 03 56 17.5 +1.3
MVO Moncorvo 86.71 39 eP P 03 56 17.6 +0.3
comp=Z,14nm,2.0s
ORV Oroville 86.78 319 eP P 03 56 18.9 +1.3
ORV pmax pmax
comp=Z,23nm,1.3s
ORV Oroville 86.78 319 eP P 03 56 18.9 +1.3
comp=Z,23nm,1.3s
EGMT Eagleton 86.91 331 P P 03 56 18.4 +0.4
baz=140
EGMT Eagleton 86.91 331 eP P 03 56 18.6 +0.5
comp=Z,8.5nm,0.8s
GDXM Geysers 87.05 318 eP P 03 56 20.1 +1.2
comp=Z,34nm,1.3s
PBRG Braganca 87.31 39 eP P 03 56 20.8 +0.8
O03D Paynes Creek 87.45 319 P P 03 56 20.6 -0.1
baz=131
ESDC Sonseca Array 87.46 42 P P 03 56 20.9 +0.1
comp=Z,1.3nm,0.7s,baz=242,slow=4.4,SNR=10.0
ESDC pP pP 03 58 27.7 -0.1
comp=Z,0.9nm,0.7s,baz=227,slow=4.6,SNR=5.6
ES19 SONSECA Array 87.52 42 eP P 03 56 21.3 +0.2
ES19 epP pP 03 58 28.2 +0.1
MOD Modoc Plateau 87.67 321 eP P 03 56 23.0 +1.2
comp=Z,8.3nm,0.9s
MSO Missoula 87.89 328 P P 03 56 23.4 +0.7
baz=137
SLMT Seeley Lake 87.99 328 eP P 03 56 23.8 +0.5
WDC Whiskeytown Da 88.06 319 eP P 03 56 23.1 -0.4
WDC pmax pmax
comp=Z,9.0nm,0.6s
WDC Whiskeytown Da 88.06 319 eP P 03 56 23.1 -0.4
comp=Z,9.4nm,0.6s
BMO Blue Mountains 88.12 325 eP P 03 56 24.1 +0.3
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 88.12 325 eP P 03 56 24.1 +0.3
comp=Z,3.0nm,0.8s
N02D Trinity Center 88.41 319 P P 03 56 25.5 +0.2
baz=131
SWMT Swartz Lake 88.42 328 eP P 03 56 26.0 +0.8
M04C Macdoel 88.45 320 P P 03 56 26.3 +0.8
baz=131
K05A Summer Lake 88.55 321 eP P 03 56 27.6 +1.6
comp=Z,19nm,0.8s
YBMT Yellow Bay 88.68 329 eP P 03 56 26.6 +0.2
JTMT Jette 88.72 328 eP P 03 56 27.5 +0.9
M02C Callahan 88.77 320 P P 03 56 27.1 +0.2
baz=131
F10A Beach Ranch, E 88.86 326 eP P 03 56 27.8 +0.5
comp=Z,28nm,1.9s
BLMT Blacktail Moun 88.95 328 eP P 03 56 28.6 +0.8
K04D Chiloquin, OR 88.96 321 P P 03 56 28.5 +0.7
baz=131
BSMT Bassoo Peak 89.03 328 eP P 03 56 28.8 +0.7
J05D Fort Rock, OR 89.11 322 P P 03 56 29.0 +0.5
baz=132
WALA Waterton Lakes 89.51 329 eP P 03 56 30.7 +0.5
comp=Z,23nm,1.5s
J04D Umpqua Nationa 89.56 321 P P 03 56 31.4 +0.7
baz=131
L02D Cave Junction, 89.69 320 P P 03 56 32.0 +1.0
baz=130
I05D Terrebonne, OR 89.87 322 P P 03 56 32.9 +1.0
baz=132
G05D Wamic, OR 90.46 323 P P 03 56 35.7 +1.2
baz=132
ILAR Eielson Array 112.83 332 PKiKP **PKiKP** 04 02 04.8 -0.2
comp=Z,0.8nm,1.0s,baz=270,slow=0.5,SNR=4.4
ILAR SKKP 04 15 53.8
comp=Z,0.4nm,0.9s,baz=7.8,slow=3.2,SNR=4.1
ILB Eielson Array 112.83 332 ePKiKP **PKiKP** 04 02 04.8 -0.2
FIA0 FINESS Array S 114.34 32 ePKKPbc PKKPbc 04 12 48.6 -1.9
FIA0 ePKKPab **PKKPab** 04 12 56.5 +0.2
FINES FINESS Array B 114.34 32 PKKPbc PKKPbc 04 12 48.6 -1.9
comp=Z,1.6nm,0.8s,baz=45,slow=8.9,SNR=2.7
FINES PKKPab **PKKPab** 04 12 56.5 +0.2
comp=Z,4.1nm,1.1s,baz=82,slow=2.7,SNR=4.7
ARCES ARCESS Array B 116.01 23 PKKPbc PKKPbc 04 12 43.6 -1.5
comp=Z,1.6nm,0.5s,baz=83,slow=4.1,SNR=19
ARCES PKKPab **PKKPab** 04 12 49.7 +1.0

comp=Z,3.0nm,0.7s,baz=63,slow=5.6,SNR=6.5
VSR Storozhevoye 119.26 45⇓ *e*PKIKP **PKPdf 04 02 17.2 -0.4**
KLMR Klimovskoe 120.66 34 *e*PKIKP **PKPdf 04 02 19.5 -0.5**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
AS01 Alice Springs 125.49 199 *e*PKPdf **PKPdf 04 02 29.5 -1.2**
ASAR Alice Springs 125.50 199 PKP PKPdf 04 02 29.8 -0.9
comp=Z,7.4nm,0.6s,baz=140,slow=1.7,SNR=79
ASAR pPKP **pPKPdf 04 04 45.9 -1.1**
comp=Z,0.5nm,0.8s,baz=114,slow=2.1,SNR=2.8
AS31 Alice Springs 125.50 199 *e*PKPdf **PKPdf 04 02 30.0 -0.7**
GSTR Great Sitkin T 125.79 315 *e*PKPpre PKPpre 04 02 21.2
WR1 Warramunga Arr 128.87 201 *e*PKPdf **PKPdf 04 02 36.5 -0.7**
WRA Warramunga Arr 128.87 201 PKP PKPdf 04 02 36.5 -0.7
comp=Z,9.3nm,0.7s,baz=162,slow=1.7,SNR=56
WRA pPKP **pPKPdf 04 04 52.7 -0.8**
comp=Z,0.9nm,0.7s,baz=169,slow=1.7,SNR=5.0
WRAB Tennant Creek 128.87 201⇑ *i*PKIKP **PKPdf 04 02 36.5 -0.7**
ARU Arti 130.78 39 *i*PKIKP **PKPdf 04 02 40.3 +0.8**
ARU 04 05 03.6
GEYT Alibeck 130.78 63 SKPbc **SKPbc 04 05 10.2 +0.1**
comp=Z,4.9nm,0.7s,baz=260,slow=5.9,SNR=9.7
ABKAR Akbulak array 132.44 48 *e*PKPdf **PKPdf 04 02 43.4 +0.5**
BRVK Borovoye 138.15 41⇓ *i*PKIKP **PKPdf 04 02 54.4 +1.0**
BRVK Borovoye 138.15 41 *e*PKPdf **PKPdf 04 02 54.6 +1.2**
SEY Seymchan 138.59 336 PKP **PKPdf 04 02 55.4 +1.5**
comp=Z,5.3nm,0.7s,baz=133,slow=1.8,SNR=11
SEY SKPbc **SKPbc 04 05 34.0 +0.3**
comp=Z,1.2nm,0.4s,baz=103,slow=6.5,SNR=3.8
AAK Ala-Archa 143.27 56 *de*PKIKP PKPbc 04 03 01.9 +0.2
AAK Ala-Archa 143.27 56 *e*PKPdf PKPbc 04 03 02.4 +0.7
FRU Bishkek 143.33 56 *e*PKIKP **PKPdf 04 03 03.0 -0.1**
FRU pmax pmax
comp=Z,38nm,1.8s
KURK Kurchatov 143.81 42 *c i*PKIKP **PKPdf 04 03 03.5 0.0**
KURK Kurchatov 143.81 42 *e*PKPbc **PKPdf 04 03 03.4 -0.2**
NVS Novosibirsk 144.31 33 *e*PKIKP **PKPab 04 03 04.6 -0.2**
NVS pmax pmax
comp=Z,7.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.7s
KSH Kashi 144.76 61 PKP PKPbc 04 03 06.1 -0.2
KSH pPKP pPKPdf 04 05 20.0 -2.5
KSH PP **PP 04 06 29.8 -1.3**
KSH PKS **PKSdf 04 06 37.8 -3.5**
KSH SKS **SKSdf 04 09 14.5 -5.3**
KSH SKKS **SKKSac 04 12 20.0 -4.1**
KSH SS **SS 04 24 31.9 -1.9**
KSH AMB AMB
comp=E,130nm,5.6s
FAKI Fak Fak 145.33 208 *e*PKPdf **PKPbc 04 03 08.3 -0.3**
YAK Yakutsk 145.46 349 PKPbc **PKPbc 04 03 07.6 +0.2**
comp=E,40nm,0.5s,baz=72,slow=1.0,SNR=7.9
YAK Yakutsk 145.46 349 *e*PKIKP **PKPbc 04 03 06.9 -0.5**
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.5s
ZAA1 Zalesovo Array 145.58 34 *e*PKPdf **PKPdf 04 03 07.2 +0.7**
ZAA1 *ep*PKPdf pPKPbc 04 05 22.7 +0.5
ZAA0 Zalesovo Array 145.58 34 *e*PKPdf **PKPdf 04 03 07.0 +0.5**
ZAA0 *e*PKPdf **PKPbc 04 03 07.3 -0.8**
ZALV Zalesovo Beam 145.58 34 PKPbc **PKPdf 04 03 07.2 +0.7**
comp=N,10nm,0.7s,baz=301,slow=3.9,SNR=21
ZALV pPKPbc pPKPbc 04 05 22.7 +0.5
comp=N,2.7nm,0.3s,baz=290,slow=4.4,SNR=2.8
MK31 Makanchi Array 147.56 46 *e*PKIKP **PKPdf 04 03 11.7 +1.6**
MK31 Makanchi Array 147.56 46 *e*PKPdf **PKPdf 04 03 11.7 +1.6**
MK32 Makanchi Array 147.56 46 *e*PKPdf **PKPdf 04 03 10.3 +0.3**
MK32 *e*PKPbc **PKPbc 04 03 13.9 +0.2**
MK32 *ep*PKPdf **pPKPbc 04 05 28.0 -0.4**
MKAR Makanchi Array 147.56 46 PKP **PKPdf 04 03 10.3 +0.3**
comp=N,6.4nm,0.7s,baz=268,slow=1.1,SNR=18
MKAR PKPbc **PKPbc 04 03 13.9 +0.2**
comp=N,6.6nm,0.7s,baz=293,slow=2.7,SNR=32
MKAR pPKPbc **pPKPbc 04 05 28.0 -0.4**
comp=N,4.6nm,0.6s,baz=289,slow=2.4,SNR=12
MKAR Makanchi Array 147.56 46 *e*PKIKP **PKPdf 04 03 11.7 +1.6**
MKAR Makanchi Array 147.56 46 *e*PKPdf **PKPdf 04 03 11.7 +1.6**
MK01 Makanchi Array 147.57 46 *e*PKPdf **PKPdf 04 03 10.6 +0.4**
DGZ Jazzator, Alta 149.29 39⇑ *i*PKHKP PKPpre 04 03 18.4
NKL Nikolayevsk 149.77 331 *e*PKIKP PKPpre 04 03 20.0
BOD Bodaibo 150.69 3 *e*PKIKP **PKPbc 04 03 18.7 -2.1**
BOD pmax pmax
comp=Z,8.0nm,1.2s
IPM Ipoh 151.77 145 *e*PKPbc **PKPbc 04 03 24.4 -0.2**
WMQ Ürumqi 152.22 49 PKPbc **PKPdf 04 03 16.9 -0.6**
KLR Kul'dur 156.38 335 PKP **PKPdf 04 03 22.7 -0.2**
comp=Z,0.2nm,0.7s,baz=284,slow=2.6,SNR=5.1
SONA1 Songino Array 159.14 20 *e*PKPdf **PKPdf 04 03 26.9 +0.4**
SONA1 *e*PKPab **PKPab 04 04 08.8 +1.3**
SONA0 Songino Array 159.15 20 *e*PKPdf **PKPdf 04 03 27.2 +0.7**
SONA0 *e*PKPab **PKPab 04 04 07.9 +0.5**
SONM Songino Array 159.15 20 PKP **PKPdf 04 03 27.2 +0.7**
comp=Z,2.2nm,0.8s,baz=299,slow=1.4,SNR=9.6
SONM PKPab **PKPab 04 04 07.9 +0.5**
comp=Z,1.3nm,1.0s,baz=341,slow=7.8,SNR=5.1
ULN Ulaanbaatar 159.31 19⇑ *e*PKIKP **PKPdf 04 03 27.2 +0.5**
MJAR Matsushiro Arr 160.27 299 PKPab **PKPab 04 04 12.6 -0.1**
comp=Z,4.2nm,0.8s,baz=101,slow=3.0,SNR=10.0
CM31 Chiang Mai Arr 160.84 118 *e*PKPdf **PKPdf 04 03 29.7 +0.7**
CM31 *e*PKPab **PKPab 04 04 15.8 +0.2**
CMAR Chiang Mai Arr 160.84 118 PKP **PKPdf 04 03 29.7 +0.7**
comp=Z,0.4nm,0.3s,baz=249,slow=2.9,SNR=4.1
CMAR PKPab **PKPab 04 04 15.8 +0.2**
comp=Z,0.6nm,0.3s,baz=226,slow=5.6,SNR=4.1
GTA Gaotai 162.30 48 *e*PKP **PKPdf 04 03 31.1 +1.0**
HHC Hu-ho-hao-te 167.03 18 *e*PKP **PKPdf 04 03 37.0 +2.9**
KSRS Korea Array 167.11 316 PKP **PKPdf 04 03 34.4 +0.4**
comp=Z,2.2nm,0.9s,baz=45,slow=0.3,SNR=7.2
KSRS PKPab **PKPab 04 04 43.5 +0.8**
comp=Z,2.0nm,0.8s,baz=52,slow=4.9,SNR=7.0
KS01 Wonju Array Si 167.11 316 *e*PKPdf **PKPdf 04 03 34.4 +0.3**
KS15 Wonju Array Si 167.14 316 *e*PKPdf **PKPdf 04 03 34.4 +0.3**
KS15 *e*PKPab **PKPab 04 04 43.5 +0.6**
KSAR Wonju Array Be 167.14 316 PKIKP **PKPdf 04 03 34.4 +0.3**
KSAR Wonju Array Be 167.14 316 PKP **PKPdf 04 03 34.4 +0.3**
CD2 Chengdu 168.47 75 PKP **PKPdf 04 03 34.5 -0.8**
GYA Guiyang 170.80 101 *e*PKP **PKPdf 04 03 36.3 -0.6**
GYA PKPab **PKPab 04 05 00.8 +1.1**
GYA pPKP pPKPdf 04 05 52.0 -2.8
GYA sPKP 04 06 47.7
GYA PKS **pPKPab 04 07 07.8 -0.7**
GYA PP **PP 04 08 53.2 +1.4**
GYA AMB AMB
comp=Z,120nm,8.4s
NJ2 Nanjing 176.08 333 *e*PKP **PKPdf 04 03 40.6 +2.2**

GUC 04 03:53:52.2±0.7, 20°.70S×69°.17W, h106km±3km, ML3.8, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.45**	**221⇑**	*i*P	Pn	03 54 09.0	+0.5
PB01				*i*S	Sn	03 54 21.3	+0.7
PB01				IAML		03 54 21.7	
comp=N,11μm,0.2s							
PB08	**IPOC Station P**	**0.56**	**2⇓**	*i*P	Pn	03 54 10.1	+0.5
PB08				*i*S	Sn	03 54 23.4	+0.9
PB08				IAML		03 54 24.0	
comp=E,3μm,0.3s							
HMBC	**Humberstone**	**0.79**	**302⇑**	*i*P	Pn	03 54 11.6	+0.4
HMBC				*e*S	Sn	03 54 26.2	+0.8
HMBC				IAML		03 54 27.6	
comp=E,2μm,0.5s							
PB02	**IPOC Station P**	**0.91**	**228⇑**	*i*P	Pn	03 54 13.0	+0.7
PB02				*i*S	Sn	03 54 28.3	+0.8
PB02				IAML		03 54 29.4	
comp=E,2μm,0.4s							
PB11	**IPOC Station P**	**1.04**	**334⇑**	*i*P	Pn	03 54 14.2	+0.4
PB11				*e*S	Sn	03 54 30.8	+0.9
PB09	**IPOC Station P**	**1.09**	**183⇑**	*i*P	Pn	03 54 15.1	+0.8
PB09				*i*S	Sn	03 54 32.0	+1.2
PB09				IAML		03 54 32.9	
comp=N,4μm,0.3s							
PB07	**IPOC Station P**	**1.22**	**213⇑**	*i*P	Pn	03 54 16.2	+0.5
PB07				*i*S	Sn	03 54 33.7	+0.3
PB07				IAML		03 54 33.9	
comp=N,815nm,0.2s							
PSGC	**Pisagua**	**1.42**	**321⇑**	*i*P	Pn	03 54 17.9	0.0
PSGC				*e*S	Sn	03 54 37.4	0.0
MNMC	**Minye Minye**	**1.61**	**346⇑**	*i*P	Pn	03 54 21.2	+0.7
MNMC				*e*S	Sn	03 54 43.3	+1.3
MNMC				IAML		03 54 44.9	
comp=N,3μm,0.4s							
PB04	**IPOC Station P**	**1.86**	**209**	*e*P	Pn	03 54 23.9	+0.5
PB06	**IPOC Station P**	**2.03**	**190⇓**	*i*P	Pn	03 54 25.9	+0.3
PB06				*i*S	Sn	03 54 50.7	-0.3

IDC 04 03:57:31.1±6.2, 30°.50S×178°.79W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/26, mbtmp4.1/2, Error ellipse: s-maj=245.0km s-min=57.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.43**	**267**	P	P	04 05 27.5	-0.4
0.8nm,0.4s,baz=106,slow=7.3,SNR=9.7							
WRA	**Warramunga Arr**	**43.42**	**273**	P	P	04 05 36.0	0.0
1.5nm,0.3s,baz=112,slow=7.9,SNR=11							
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	04 17 07.9	-1.0
2.4nm,0.8s,baz=56,slow=5.2,SNR=5.8							

MEX 04 04:12:14.1±0.3, 15°.35N×94°.69W, h20km±50km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.46**	**76**	*e*P	Pn	04 12 36.2	-3.2
PCIG				*e*S	Sn	04 12 53.8	-4.1
TGIG		**2.07**	**46**	*e*P	Pn	04 12 45.1	-2.7
TGIG				*i*S	Sn	04 13 09.0	-4.1
CCIG	**Comitan**	**2.62**	**69**	*e*P	Pn	04 12 53.5	-2.0
CCIG				*e*S	Sn	04 13 23.1	-3.8

NIED ***04*** *04:15:00.22°.90N×143°.70E, h5km, Mw4.9 Best double couple: M₀2.42000×10¹⁶ NP1:φs18.00000°, δ65.00000°, λ-27.00000°. NP2:φs120.00000°, δ65.00000°, λ-153.00000°.*
JMA ***04*** *04:15:02.2±0.2, 22°.87N×143°.74E, h84km, M5.1*
IDC ***04*** *04:15:04.7±0.5, 23°.11N×142°.63E, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.3/42, mbtmp4.3/27, ML4.2/3, MS3.9/31, Ms1 3.9/31, ms1mx3.8/44, Error ellipse: s-maj=18.0km s-min=13.0km az=79.0*
GCMT ***04*** *04:15:08.8±0.4, 22°.93N×142°.61E, h26km±1km, MW4.9/69, Moment Tensor Solution. s17,c17; s69,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_rr0.03±.18; M_θθ-2.68±.14; M_φφ2.65±.13; M_rθ0.35±.22; M_θφ-0.47±.10; M_φr-0.90±.26; Best double couple: M₀2.86400×10¹⁶ NP1:φs129.00000°, δ82.00000°, λ163.00000°. NP2: φs221.00000°, δ73.00000°, λ8.00000°. Principal axes: T 2.9800, Plg17.0000°, Azm84.0000°; N -0.2360, Plg72.0000°, Azm284.0000°; P -2.7490, Plg6.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *04:15:08.8±1.6, 23°.07N×142°.50E, h23km±11km, mb4.8/56 Error ellipse: s-maj=6.6km s-min=4.8km az=76.0*
MOS ***04*** *04:15:09.1±1.0, 23°.09N×142°.45E, h38km, mb5.0/30, Error ellipse: s-maj=12.1km s-min=5.9km az=104.8*
ISCJB ***04*** *04:15:09.0±0.2, 23°.16N±0°.03×142°.41E±0°.04, h33km, mb4.7/95, MS4.0/30, Error ellipse: s-maj=5.7km s-min=4.2km az=163.2*
ISC 04 04:15:10.0±0.4, 23°.11N±0°.05×142°.66E±0°.07, h35km, n243, σ1§62/232, mb4.8/95, MS3.9/30, 9C-17D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.53**	**353**	P	**Pn**	**04 16 02.3**	**-0.1**
JHHJ				S	**Sn**	**04 16 48.9**	**+6.0**
CBIJ	**Chichi jima**	**3.99**	**354**	P	**Pn**	**04 16 08.7**	**0.0**
CBIJ				S	**Sn**	**04 16 59.1**	**+4.8**
CBIJ	**Chichi jima**	**3.99**	**354**	*e*Pn	**Pn**	**04 16 11.0**	**+2.3**
CBIJ				*e*Sn	**Sn**	**04 16 52.7**	**-1.6**
SARN	**Sarigan**	**7.02**	**155**	*e*Pn	**Pn**	**04 16 50.0**	**-0.3**
ANA2	**Anatahan**	**7.32**	**156**	*e*Pn	**Pn**	**04 16 53.2**	**-1.2**
GUMO	**Guam**	**9.70**	**167**	*e*P	**Pn**	**04 17 28.6**	**+1.5**
GUMO	**Guam**	**9.70**	**167**	*e*Pn	**Pn**	**04 17 28.6**	**+1.5**
JHJ2	**Mitsune**	**10.28**	**346**	*e*Pn	**Pn**	**04 17 31.2**	**-3.7**
JHJ	**Hachijo jima 2**	**10.29**	**346**	LR	LR	04 21 32.9	
comp=Z,1μm,18.3s,baz=108,slow=38							
BSO1	**Boso 1**	**11.60**	**353**	P	**Pn**	**04 17 51.5**	**-1.0**
BSO3	**Boso 3**	**11.80**	**351**	P	**Pn**	**04 17 54.1**	**-1.5**
BSO4	**Boso 4**	**12.01**	**351**	P	**Pn**	**04 17 58.5**	**-0.1**
JWZ	**Kozaga**	**12.05**	**331**	P	**Pn**	**04 18 01.2**	**+2.0**
JKN2	**Miekihoku**	**12.42**	**335**	P	**Pn**	**04 18 07.1**	**+2.8**
JOD2	**Odawara 2**	**12.51**	**346**	P	**Pn**	**04 18 04.2**	**-1.3**
JNY	**Yasuuk**	**12.90**	**342**	P	**Pn**	**04 18 10.4**	**-0.5**
JAO	**Obara**	**13.00**	**340**	P	**Pn**	**04 18 12.9**	**+0.7**
JHU	**Hanno**	**13.03**	**348**	P	**Pn**	**04 18 10.3**	**-2.4**
INU	**Inuyama**	**13.15**	**339**	*e*Pn	**Pn**	**04 18 14.7**	**+0.4**
JRY	**Ryogami san**	**13.27**	**347**	P	**Pn**	**04 18 13.5**	**-2.4**
JRY				*e*S	**Sn**	**04 20 38.8**	**-3.4**
JAG	**Ashikaga**	**13.56**	**349**	P	**Pn**	**04 18 16.3**	**-3.5**
JOW	**Kunigami**	**13.57**	**289**	LR	LR	04 22 40.3	
comp=Z,990nm,20.6s,baz=128,slow=34							
MJAR	**Matsushiro Arr**	**13.93**	**345**	Pn	**Pn**	**04 18 23.0**	**-1.9**
2.6nm,0.3s,baz=123,slow=12,SNR=25							
MJAR				LR	LR	04 23 25.2	
comp=Z,1μm,20.0s,baz=175,slow=36							
MJAR	**Matsushiro Arr**	**13.93**	**345**	P	**Pn**	**04 18 23.0**	**-1.9**
MAJO	**Matsushiro**	**13.93**	**345**	*d i*P	**Pn**	**04 18 23.5**	**-1.4**
MAJO	**Matsushiro**	**13.93**	**345**	*e*Pn	**Pn**	**04 18 23.2**	**-1.7**
MAT	**Matsushiro**	**13.93**	**345**	P	**Pn**	**04 18 22.6**	**-2.3**
MAT				*e*S	**Sn**	**04 20 59.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**13.94**	**345**	*e*Pn	**Pn**	**04 18 23.5**	**-1.5**
JNU	**Nakatsue**	**14.40**	**316**	Pn	**Pn**	**04 18 29.9**	**-1.5**
0.6nm,0.3s,baz=180,slow=6.1,SNR=1.9							
JNU				LR	LR	04 23 10.6	
comp=Z,385nm,19.8s,baz=116,slow=34							
ERM	**Erimo**	**18.86**	**1**	*ce*P	**Pn**	**04 19 28.7**	**+0.9**
ERM	**Erimo**	**18.86**	**1**	*e*P	**Pn**	**04 19 29.6**	**+1.8**
32nm,0.8s							
KSRS	**Korea Array**	**19.11**	**322**	P	**P**	**04 19 29.2**	**-0.6**
0.8nm,0.3s,baz=132,slow=11,SNR=33							
KSRS				LR	LR	04 26 05.9	
comp=Z,414nm,19.1s,baz=137,slow=35							
KS15	**Wonju Array Si**	**19.12**	**322**	*e*P	**Pn**	**04 19 31.5**	**+0.5**
KSAR	**Wonju Array Be**	**19.12**	**322**	P	**P**	**04 19 29.2**	**-0.7**
KSAR	**Wonju Array Be**	**19.12**	**322**	P	**P**	**04 19 29.2**	**-0.7**
KS01	**Wonju Array Si**	**19.14**	**322**	*e*P	**Pn**	**04 19 32.7**	**+1.5**
SSLB	**Suanglung**	**19.93**	**276**	*e*P	**P**	**04 19 36.6**	**-2.3**
58nm,0.9s							
ASAJ	**Asahikawa**	**20.95**	**360**	P	Pn	04 19 51.9	-0.7
16nm,0.7s,baz=191,slow=9.9,SNR=9.2							
ASAJ				LR	LR	04 28 00.8	
comp=Z,164nm,22.0s,baz=144,slow=37							
ASAJ	**Asahikawa**	**20.95**	**360**	*e*P	Pn	04 19 53.1	+0.6
57nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**21.04**	**6**	P	P	04 20 04.3	+14
YUK				S	Sn	04 23 58.2	+8.0
YUK				MLR	MLR		
comp=Z,247nm,12.0s							
MSHR	**Mys Shultsa**	**21.65**	**336**	*i*P	**P**	**04 19 59.2**	**+1.9**
VLA	**Vladivostok**	**21.87**	**338**	*α i*P	**P**	**04 19 56.6**	**-3.0**
VLA				*i*		04 20 18.5	
VLA				pmax	pmax		
comp=Z,32nm,0.9s							
TGY	**Tagaytay City**	**22.43**	**250**	LR	LR	04 28 02.5	
comp=Z,268nm,18.0s,baz=21,slow=35							
USRK	**Ussuriysk Ar.**	**22.80**	**340**	P	**P**	**04 20 07.3**	**-2.2**
comp=Z,15nm,0.7s,baz=164,slow=11,SNR=22							
H11N1	**WAKE ISLAND Hy 22.80**	**94**		T	T	04 43 45.4	
baz=282,slow=75,SNR=1593							
H11N2	**WAKE ISLAND Hy 22.80**	**94**		T	T	04 43 45.5	
baz=282,slow=75,SNR=1573							
H11N3	**WAKE ISLAND Hy 22.82**	**94**		T	T	04 43 45.7	
baz=282,slow=75,SNR=1104							
H11S3	**WAKE ISLAND Hy 22.91**	**97**		T	T	04 43 40.6	
baz=285,slow=75,SNR=698							
H11S1	**WAKE ISLAND Hy 22.92**	**97**		T	T	04 43 48.7	
baz=285,slow=75,SNR=185							
H11S2	**WAKE ISLAND Hy 22.93**	**97**		T	T	04 43 49.9	
baz=285,slow=75,SNR=168							
YSS	**Yuzh-Sakhalins**	**23.79**	**0**	*e*P	**P**	**04 20 19.9**	**+0.6**
YSS				*e*		04 20 34.7	
YSS				MLR	MLR		
comp=Z,500nm,14.0s							
KLR	**Kul'dur**	**27.46**	**344**	P	**P**	**04 20 52.5**	**-0.1**
comp=Z,0.6nm,0.5s,baz=175,slow=6.3,SNR=15							
KLR	**Kul'dur**	**27.46**	**344⇓**	*i*P	**P**	**04 20 53.2**	**+0.6**
NKL	**Nikolayevsk**	**30.03**	**358**	*e*P	**P**	**04 21 17.0**	**+1.6**
PETK	**Petropavlovsk-**	**32.07**	**17**	LR	LR	04 32 45.6	
comp=Z,127nm,21.0s,baz=191,slow=33							
HNR	**Honiara**	**36.50**	**150**	LR	LR	04 34 08.9	
comp=Z,151nm,21.7s,baz=33,slow=31							
MA2	**Magadan**	**36.89**	**7**	P	**P**	**04 22 14.0**	**-1.0**
comp=Z,3.6nm,0.4s,baz=178,slow=8.8,SNR=3.8							
MA2	**Magadan**	**36.89**	**7⇓**	*e*P	**P**	**04 22 16.2**	**+1.2**
MTN	**Manton Dam**	**37.47**	**199**	*e*P	**P**	**04 22 21.7**	**+1.3**
comp=Z,23nm,1.3s							
ULN	**Ulaanbaatar**	**37.58**	**320⇓**	*e*P	**P**	**04 22 21.4**	**+0.2**
ULN				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONA0	**Songino Array**	**37.95**	**320**	*e*P	**P**	**04 22 23.5**	**-0.9**
comp=Z,8.4nm,1.6s							
SONM	**Songino Array**	**37.95**	**320**	P	**P**	**04 22 23.5**	**-0.9**
comp=Z,0.8nm,0.5s,baz=143,slow=8.0,SNR=4.4							
SONM				LR	LR	04 38 18.6	
comp=Z,248nm,19.6s,baz=121,slow=37							
SONA1	**Songino Array**	**37.95**	**320**	*e*P	**P**	**04 22 23.2**	**-1.1**
YAK	**Yakutsk**	**39.90**	**350**	*e*P	**P**	**04 22 40.1**	**-0.1**
YAK				pmax	pmax		
comp=Z,30nm,1.3s							
YAK				pmax	pmax		
comp=N,5.0nm,1.5s							
SEY	**Seymchan**	**40.34**	**7**	P	**P**	**04 22 46.1**	**+2.2**
comp=N,10nm,0.8s,baz=190,slow=6.6,SNR=24							
SEY	**Seymchan**	**40.34**	**7⇓**	*e*P	**P**	**04 22 45.8**	**+1.9**
ZAK	**Zakamensk**	**40.94**	**322**	*e*P	**P**	**04 22 46.9**	**-2.3**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.4s							
CM31	**Chiang Mai Arr**	**41.02**	**272**	*e*P	**P**	**04 22 51.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**41.02**	**272**	P	**P**	**04 22 51.0**	**+0.8**
comp=Z,0.7nm,0.5s,baz=66,slow=9.0,SNR=3.7							
CMAR				LR	LR	04 39 21.5	
comp=Z,106nm,19.4s,baz=116,slow=36							
ADK	**Adak**	**42.34**	**37**	*e*P	**P**	**04 22 59.3**	**-1.1**
ADK				pmax	pmax		
comp=Z,109nm,1.4s							
ADK	**Adak**	**42.34**	**37**	*e*P	**P**	**04 22 59.3**	**-1.1**
comp=Z,109nm,1.4s							
WRAB	**Tennant Creek**	**43.54**	**191⇓**	*e*P	**P**	**04 23 09.7**	**-0.8**
WRAB	**Tennant Creek**	**43.54**	**191**	*e*P	**P**	**04 23 09.9**	**-0.6**
comp=Z,21nm,0.8s							
WB2	**Warramunga Arr**	**43.55**	**191**	*e*P	**P**	**04 23 10.3**	**-0.2**
WR1	**Warramunga Arr**	**43.55**	**191**	*e*P	**P**	**04 23 09.7**	**-0.9**
comp=Z,22nm,0.8s							
WRA	**Warramunga Arr**	**43.55**	**191**	P	**P**	**04 23 09.7**	**-0.9**
comp=Z,6.4nm,0.8s,baz=12,slow=8.4,SNR=26							
WRA				LR	LR	04 40 04.6	
comp=Z,83nm,21.0s,baz=210,slow=34							
BILL	**Bilibino**	**47.24**	**12⇑**	*i*P	**P**	**04 23 41.0**	**+1.7**
BILL				*i* *SP	**sP**	**04 23 52.4**	**-1.4**
BILL						04 25 12.0	
BILL				*e*PPP	PPP	04 26 18.4	
BILL				*e*S	**S**	**04 30 22.2**	**-7.5**
BILL				pmax	pmax		
comp=Z,24nm,1.6s							
AS01	**Alice Springs**	**47.26**	**191**	*e*P	**P**	**04 23 38.0**	**-1.9**
AS31	**Alice Springs**	**47.27**	**191**	*e*P	**P**	**04 23 42.3**	**+2.3**
comp=Z,2.5nm,0.6s							
ASAR	**Alice Springs**	**47.27**	**191**	P	**P**	**04 23 41.4**	**+1.4**
comp=Z,2.0nm,0.6s,baz=19,slow=9.4,SNR=15							
ASAR				LR	LR	04 43 12.0	
comp=Z,83nm,20.9s,baz=5.5,slow=36							
TIXI	**Tiksi**	**49.20**	**354⇑**	*i*P	**P**	**04 23 54.1**	**-0.2**
TIXI				pmax	pmax		
comp=Z,16nm,1.6s							
TIXI	**Tiksi**	**49.20**	**354**	*e*P	**P**	**04 23 54.7**	**+0.3**
comp=Z,44nm,1.7s							
TAPN	**Taplejung**	**49.56**	**287**	*e*P	**P**	**04 24 01.3**	**+3.1**
DGZ	**Jazzator, Alta**	**50.38**	**316⇓**	*e*P	**P**	**04 24 03.3**	**-0.5**
DGZ				pmax	pmax		
comp=Z,3.0nm,0.7s							
DZM	**Mont Dzumac**	**50.53**	**151**	LR	LR	04 42 49.5	
comp=Z,185nm,20.2s,baz=32,slow=33							
RAMN	**Ramite**	**50.60**	**287**	*e*P	**P**	**04 24 06.6**	**+0.6**
comp=Z,19nm,0.7s							
JIRN	**Jiri**	**50.85**	**288**	*e*P	**P**	**04 24 08.7**	**+0.7**
comp=Z,44nm,0.7s							
GKN	**Gorkha**	**52.17**	**288**	*e*P	**P**	**04 24 18.4**	**+0.8**
comp=Z,18nm,0.7s							
ZAA0	**Zalesovo Array**	**52.81**	**321**	*e*P	**P**	**04 24 21.4**	**-0.4**
ZALV	**Zalesovo Beam**	**52.81**	**321**	P	**P**	**04 24 21.6**	**-0.1**
comp=Z,4.0nm,0.6s,baz=105,slow=6.4,SNR=9.6							
ZALV				PcP	**PcP**	**04 25 30.9**	**+0.1**
comp=Z,1.2nm,0.4s,baz=101,slow=6.2,SNR=2.3							
ZALV				LR	LR	04 47 04.0	
comp=Z,121nm,19.2s,baz=70,slow=36							
ZAA1	**Zalesovo Array**	**52.81**	**321**	*e*P	**P**	**04 24 21.6**	**-0.1**
ZAA1				*e*PcP	**PcP**	**04 25 30.9**	**+0.1**
KOLN	**Koldanda**	**53.11**	**288**	*e*P	**P**	**04 24 23.4**	**-1.2**
comp=Z,16nm,0.8s							
MK01	**Makanchi Array**	**53.39**	**312**	*e*P	**P**	**04 24 25.8**	**-0.4**
MK31	**Makanchi Array**	**53.40**	**312**	*e*P	**P**	**04 24 26.1**	**-0.1**
MK31	**Makanchi Array**	**53.40**	**312**	*e*P	**P**	**04 24 26.1**	**-0.1**
MK32	**Makanchi Array**	**53.40**	**312**	*e*P	**P**	**04 24 25.8**	**-0.4**
MKAR	**Makanchi Array**	**53.40**	**312**	P	**P**	**04 24 25.8**	**-0.4**
comp=Z,1.9nm,0.5s,baz=88,slow=9.2,SNR=8.1							
MKAR				LR	LR	04 48 32.4	
comp=Z,112nm,21.1s,baz=86,slow=38							
MKAR	**Makanchi Array**	**53.40**	**312**	*ce*

KKAR Karatay Array 61.81 308 *eP* **P 04 25 26.2 +0.7**
comp=Z,58nm,0.6s
DOT Dot Lake 62.13 29 *eP* **P 04 25 28.4 +1.2**
comp=Z,25nm,1.2s
KBL Kabul 64.24 298 *eP* **P 04 25 42.5 +0.5**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 64.24 298 *eP* **P 04 25 42.5 +0.5**
comp=Z,14nm,0.8s
INK Inuvik 66.47 24 P **P 04 25 56.6 +1.1**
comp=Z,1.8nm,0.5s,baz=256,slow=4.7,SNR=6.5
INK Inuvik 66.47 24 *eP* **P 04 25 56.6 +1.1**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 66.47 24 *eP* **P 04 25 56.6 +1.1**
comp=Z,9.3nm,1.1s
ARU Arti 67.85 323 *d iP* **P 04 26 04.3 -0.2**
ARU 04 26 29.3
ARU 04 28 29.2
ARU S **S 04 35 01.1 +0.8**
ARU SS **SS 04 39 18.9 -2.8**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU Arti 67.85 323 *eP* **P 04 26 04.2 -0.2**
comp=Z,17nm,0.6s
ABKAR Akbulak array 68.21 316 *eP* **P 04 26 06.4 -0.5**
comp=Z,213nm,0.6s
URZ Urewera 69.08 152 LR LR 04 51 55.4
comp=Z,46nm,21.0s,baz=351,slow=32
RPZ Rata Peaks 71.42 159 LR LR 04 57 12.4
comp=Z,46nm,18.1s,baz=340,slow=35
GEYT Alibeck 72.06 304 P **P 04 26 31.7 +0.9**
comp=Z,1.8nm,0.4s,baz=72,slow=4.8,SNR=4.4
YKA Yellowknife Ar 75.44 28 P **P 04 26 50.7 +0.6**
comp=Z,1.8nm,0.5s,baz=290,slow=5.9,SNR=5.3
YKA Yellowknife Ar 75.44 28 *ceP* **P 04 26 51.0 +1.0**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKB5 Yellowknife Ar 75.44 28 *eP* **P 04 26 50.7 +0.6**
KLMR Klimovskoe 76.24 331 *eP* **P 04 26 53.4 -1.3**
KLMR pmax pmax
comp=Z,18nm,1.4s
ARA0 ARCESS Array S 77.44 341 *eP* **P 04 27 01.8 +0.5**
ARCES ARCESS Array B 77.44 341 P **P 04 27 01.8 +0.5**
comp=Z,5.9nm,0.6s,baz=78,slow=7.8,SNR=32
ARCES LR LR 05 05 33.4
comp=Z,155nm,20.9s,baz=74,slow=39
PPT Papeete 77.56 115 LR LR 04 55 51.8
comp=Z,60nm,20.4s,baz=326,slow=32
PPT2 Papeete2 77.58 115 *eLR* LR 04 50 48.6
comp=Z,408nm,34.2s
PMOR Pomariorio Ree 77.76 112 *eT* T 05 51 55.2
comp=Z,8.3nm,0.2s
B08A Colville Reser 78.16 42 *eP* **P 04 27 07.3 +1.5**
comp=Z,4.5nm,0.8s
MAK Makhachkala 78.22 312 *eP* P 04 27 12.2 +6.1
MAK *e*S S 04 37 10.5 +12
NEW Newport 79.56 42 *eP* **P 04 27 15.4 +2.0**
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 79.56 42 *eP* **P 04 27 15.4 +2.0**
comp=Z,15nm,1.4s
LPSR Galich'ya Gora 79.87 323 *eP* **P 04 27 14.1 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.2s
OBN Obninsk 80.05 326 ⇓ *iP* **P 04 27 16.6 +0.8**
OBN *e* 04 27 22.1
OBN *e* 04 27 27.2
OBN SS SS 04 42 24.0 -3.2
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,159nm,17.0s
VSR Storozhevoye 80.31 322 *eP* **P 04 27 15.9 -1.5**
VSR pmax pmax
comp=Z,20nm,1.4s
BEKR Beckworth 80.61 51 *eP* **P 04 27 20.8 +1.3**
comp=Z,5.2nm,0.8s
ZEI Tsey 80.74 313 *eP* **P 04 27 19.7 -0.4**
ZEI pmax pmax
comp=Z,37nm,1.5s
KBZ Khabaz 81.05 314 P **P 04 27 22.1 +0.6**
comp=Z,18nm,0.8s,baz=99,slow=4.7,SNR=30
KBZ LR LR 05 05 15.9
comp=Z,94nm,20.0s,baz=64,slow=37
KIV Kislovodsk 81.10 314 *eP* **P 04 27 23.8 +1.9**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,133nm,19.0s
WALA Waterton Lakes 81.18 40 *eP* **P 04 27 24.7 +2.4**
comp=Z,5.5nm,0.8s
CMB Columbia Colle 81.29 52 *eP* **P 04 27 24.4 +1.4**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 81.29 52 *eP* **P 04 27 24.4 +1.4**
comp=Z,7.0nm,1.0s
NEY Neytrino 81.36 313 ⇓ *eP* **P 04 27 25.5 +2.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
FIA0 FINESS Array S 81.71 334 *eP* **P 04 27 23.8 -0.8**
FIA0 FINESS Array S 81.71 334 *eP* **P 04 27 23.8 -0.8**
FINES FINESS Array B 81.71 334 P **P 04 27 23.8 -0.8**
comp=Z,3.4nm,0.6s,baz=70,slow=4.6,SNR=20
FINES LR LR 05 04 57.2
comp=Z,74nm,18.1s,baz=52,slow=37
MFID Camas Ranch 82.33 46 *eP* **P 04 27 29.7 +1.3**
comp=Z,6.0nm,0.8s
CARC Carrizo Plain 82.74 55 *eP* **P 04 27 29.5 -1.2**
VSU Vasula 83.08 332 ⇓ *eP* **P 04 27 31.7 -0.1**
VSU pmax pmax
comp=Z,36nm,0.9s
HLID Hailey 83.21 46 *eP* **P 04 27 35.0 +1.9**
comp=Z,2.1nm,0.9s
LCCM Lewis and Clar 83.83 43 *eP* **P 04 27 37.2 +1.0**
BOZ Bozeman (W) 84.09 43 *eP* **P 04 27 38.4 +0.9**
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ Bozeman (W) 84.09 43 *eP* **P 04 27 38.4 +0.9**
comp=Z,5.5nm,1.1s
QLMT Earthquake Lak 84.57 43 *eP* **P 04 27 42.5 +2.4**
R11A Troy Canyon, C 84.62 51 *eP* **P 04 27 41.4 +1.0**
comp=Z,7.0nm,1.4s
TPNV Topopah Spring 84.74 52 *eP* **P 04 27 41.9 +0.9**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 84.74 52 *eP* **P 04 27 41.9 +0.9**
comp=Z,4.1nm,0.8s
YHB Horse Butte 84.75 43 *eP* **P 04 27 42.8 +1.8**
comp=Z,6.3nm,0.9s
FFC Flin Flon 84.89 32 *eP* **P 04 27 42.6 +1.5**
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 84.89 32 *eP* **P 04 27 42.6 +1.5**
comp=Z,10nm,0.9s
YMR Madison River 84.94 43 *eP* **P 04 27 44.3 +2.4**
comp=Z,13nm,1.0s
YHH Holmes Hill 84.95 43 *eP* **P 04 27 43.8 +1.8**
comp=Z,3.6nm,1.1s
YFT Old Faithful 85.12 44 *eP* **P 04 27 46.8 +3.9**
comp=Z,6.3nm,0.8s
H17A Grant Village 85.31 44 *eP* **P 04 27 47.4 +3.5**
comp=Z,5.7nm,1.0s
IMW Indian Meadow 85.31 44 *eP* **P 04 27 46.0 +2.2**
comp=Z,3.7nm,0.7s
FXWY Fox Creek 85.38 44 *eP* **P 04 27 46.0 +1.9**
comp=Z,9.3nm,1.6s
MOOW Moose Ponds 85.50 44 *eP* **P 04 27 46.5 +1.7**
comp=Z,14nm,1.8s
SHPR Sheep Range 85.72 52 *eP* **P 04 27 47.2 +1.3**
comp=Z,3.8nm,1.0s
DUG Dugway, Tooele 85.75 48 *eP* **P 04 27 47.1 +1.1**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 85.75 48 *eP* **P 04 27 47.1 +1.1**
comp=Z,6.1nm,1.0s
RLMT Red Lodge 85.79 42 *eP* **P 04 27 48.0 +1.8**
comp=Z,10nm,1.0s
CRY Cary Ranch 85.79 55 *eP* **P 04 27 46.1 -0.2**
HWUT Hardware Ranch 85.96 46 *eP* **P 04 27 48.0 +1.0**
comp=Z,4.5nm,0.8s
AKASG Malin Array Be 86.08 324 P **P 04 27 45.9 -1.3**
comp=Z,1.9nm,0.6s,baz=52,slow=5.2,SNR=11
AKASG LR LR 05 08 36.0
comp=Z,179nm,18.6s,baz=45,slow=37
AKASG Malin Array Be 86.08 324 *ceP* **P 04 27 47.2 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 86.08 324 *eP* **P 04 27 45.9 -1.3**
AKBB pmax pmax
comp=Z,25nm,1.8s
AKBB Malin Array Si 86.08 324 *eP* **P 04 27 45.9 -1.3**
comp=Z,25nm,1.8s
KIEV Kiev 86.10 324 ⇓ *eP* **P 04 27 47.6 +0.4**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
AK11 Malin Array Si 86.13 324 *eP* **P 04 27 47.7 +0.3**
CTCC Cactus City 86.32 55 *eP* **P 04 27 51.8 +3.1**
NLU North Lily Min 86.37 48 *eP* **P 04 27 50.3 +1.2**
comp=Z,4.0nm,1.0s
JLU Jordanelle 86.50 47 *eP* **P 04 27 51.1 +1.4**
comp=Z,15nm,1.6s
CCUT Cedar City 86.55 51 *eP* **P 04 27 51.7 +1.6**
comp=Z,5.8nm,1.3s
BW06 Boulder Array 86.73 45 *eP* **P 04 27 51.3 +0.5**
PD31 Pinedale Array 86.73 45 *eP* **P 04 27 51.2 +0.4**
PDAR Pinedale Array 86.73 45 P **P 04 27 51.2 +0.4**
comp=Z,0.7nm,0.8s,baz=257,slow=4.0,SNR=7.4
PDAR LR LR 05 01 44.9
comp=Z,101nm,20.0s,baz=310,slow=32
LCMT Little Creek M 86.88 51 *eP* **P 04 27 53.1 +1.5**
comp=Z,5.9nm,1.1s
KNB Kanab 87.18 51 *eP* **P 04 27 54.7 +1.6**
KNB pmax pmax
comp=Z,12nm,1.0s
KNB Kanab 87.18 51 *eP* **P 04 27 54.7 +1.6**
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 87.46 339 P **P 04 27 50.9 -2.9**
comp=Z,4.1nm,1.0s,baz=50,slow=5.3
NB200 NORSAR Array S 87.46 339 *eP* **P 04 27 54.2 +0.5**
NOA NORSAR Array B 87.46 339 P **P 04 27 54.2 +0.5**
comp=Z,0.9nm,0.7s,baz=49,slow=4.8,SNR=3.3
NOA LR LR 05 11 21.7
comp=Z,89nm,18.0s,baz=285,slow=39
U15A North Rim 87.82 51 *eP* **P 04 27 57.5 +1.1**
comp=Z,6.0nm,1.1s
Y14A Wickenburg 88.43 54 *eP* **P 04 28 00.1 +1.2**
comp=Z,47nm,0.3s
WUAZ Wupatki 88.90 52 *eP* **P 04 28 04.0 +2.7**
BR101 Keskin Array S 89.03 313 *eP* **P 04 28 01.5 -0.3**
BRTR Keskin Array B 89.03 313 P **P 04 28 01.5 -0.3**
comp=Z,1.5nm,0.9s,baz=101,slow=5.2,SNR=5.6
BRTR LR LR 05 11 15.2
comp=Z,32nm,18.4s,baz=30,slow=38
BR231 Keskin MP Arra 89.55 314 *eP* **P 04 28 01.4 -2.8**
BUR08 Bucovina Ar. S 89.98 323 *eP* **P 04 28 07.3 +1.3**
SMCO Snowmass 90.20 47 *eP* **P 04 28 09.0 +1.4**
comp=Z,5.6nm,1.1s
SDCO Great Sand Dun 91.92 47 *eP* **P 04 28 16.4 +0.9**
comp=Z,5.4nm,1.4s
ANMO Albuquerque 92.70 50 ⇓ *eP* **P 04 28 21.2 +2.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 92.70 50 *eP* **P 04 28 21.0 +2.0**
DPC Dobruska-Polom 92.86 329 *eP* **P 04 28 18.8 -0.4**
DPC *ep*P **pP 04 28 26.2 -4.2**
DPC Dobruska-Polom 92.86 329 *eP* **P 04 28 18.8 -0.4**
DPC *e* 04 28 26.2
KHC Kasperske Hory 94.99 329 *eP* **P 04 28 27.7 -1.3**
KHC Kasperske Hory 94.99 329 *eP* **P 04 28 27.7 -1.3**
GEC2 GERESS Array S 95.13 329 *eP* **P 04 28 29.4 -0.4**
GEC2 pmax pmax
comp=Z,14nm,1.9s
GEC2 GERESS Array S 95.13 329 *eP* **P 04 28 29.4 -0.4**
comp=Z,14nm,1.9s
GERES GERESS Array B 95.13 329 P **P 04 28 29.4 -0.4**
comp=Z,0.2nm,0.3s,baz=1.8,slow=6.2,SNR=2.9
GERES LR LR 05 14 27.0
comp=Z,94nm,19.4s,baz=36,slow=38
H06E1 SOCORRO T-PHAS 96.98 66 T T 06 16 42.1
SNR=15
LTX Lajitas 97.62 54 *eP* **P 04 28 41.0 -0.4**
LTX Lajitas 97.62 54 *eP* **P 04 28 41.0 -0.4**
TXAR Lajitas Array 97.62 54 P **P 04 28 41.0 -0.4**
comp=Z,0.5nm,0.9s,baz=270,slow=3.1,SNR=4.3
TXAR LR LR 05 05 04.9
comp=Z,45nm,21.8s,baz=0.0,slow=31
SCHQ Schefferville 98.36 17 LR LR 05 15 20.1
comp=Z,25nm,21.0s,baz=40,slow=37
TOA1 Torodi Ar. Sit 127.48 309 *e*PKPdf **PKPdf 04 34 12.8 +0.7**
TORD Torodi Ar. Bea 127.48 309 PKP **PKPdf 04 34 12.8 +0.7**
comp=Z,0.3nm,0.5s,baz=39,slow=1.0,SNR=5.9
PLCA Paso Flores 147.04 130 PKPbc **PKPbc 04 34 49.0 -0.3**
comp=Z,0.9nm,0.5s,baz=269,slow=6.5,SNR=2.8
PLCA Paso Flores 147.04 130 *e*PKP2 **PKPbc 04 34 49.0 -0.3**
LPAZ La Paz 150.27 82 PKPbc **PKPbc 04 34 58.0 -1.0**
comp=Z,1.4nm,0.5s,baz=41,slow=2.6,SNR=16
LPAZ La Paz 150.27 82 *e*PKIKP **PKPbc 04 34 59.4 +0.4**
LPAZ La Paz 150.27 82 *e*PKPbc **PKPbc 04 34 59.4 +0.4**
SAML Samuel 151.52 65 *e*PKPbc **PKPbc 04 35 00.7 -0.5**
CPUP Villa Florida 161.56 104 PKPab **PKPab 04 35 53.4 +0.8**
comp=Z,0.9nm,0.7s,baz=214,slow=3.6,SNR=2.3

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*ATH **04** 04:29:56.8, 40°.54N×21°.40E, h21km, ML2.5/13, Error ellipse: s-maj=1.2km s-min=0.7km az=319.0*
*ISCJB **04** 04:29:57.2±0.4, 40°.55N±0°.02×21°.37E±0°.03, h10km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=0.6*
*THE **04** 04:29:57.6, 40°.53N×21°.40E, h4km±1km, ML2.6/12, Error ellipse: s-maj=1.0km s-min=0.5km az=352.0*
*CSEM **04** 04:29:57.4±0.1, 40°.54N×21°.39E, h10km, ML2.5, Error ellipse: s-maj=2.9km s-min=1.9km az=83.0*
*SKO **04** 04:29:57.6, 40°.50N×21°.36E, h3km, M2.2, ML2.5*
ISC 04 04:29:57.4±0.8, 40°.55N±0°.01×21°.38E±0°.02, h13km±6km, n89, σ0.72/141, 7C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.24**	**359**	P	**Pg**	**04 30 02.6**	**0.0**
FNA				S	**Sg**	**04 30 05.7**	**-0.4**
FNA	**Florina**	**0.24**	**359**	P	**Pg**	**04 30 02.8**	**+0.2**
FNA				S	**Sg**	**04 30 06.0**	**-0.1**
FNA				AML	AML	04 30 07.0	
	comp=N,10200μm,0.3s						
FNA				AML	AML	04 30 07.2	
	comp=E,7553μm,0.2s						
FNA	**Florina**	**0.24**	**359**	P	**Pg**	**04 30 02.8**	**+0.2**
FNA				S	**Sg**	**04 30 06.0**	**-0.1**
KZN	**Kozani**	**0.38**	**129**	P	**Pg**	**04 30 04.8**	**-0.3**
KZN				S	**Sg**	**04 30 10.3**	**+0.1**
KZN	**Kozani**	**0.38**	**129**	P	**Pg**	**04 30 05.3**	**+0.2**
KZN				S	**Sb**	**04 30 11.1**	**-0.8**
KZN				AML	AML	04 30 12.6	
	comp=N,3842μm,0.3s						
KZN				AML	AML	04 30 12.8	
	comp=E,2493μm,0.2s						
KZN	**Kozani**	**0.38**	**129**	P	**Pg**	**04 30 04.8**	**-0.3**
KZN				S	**Sg**	**04 30 10.3**	**+0.1**
PENT	**Pentalofos**	**0.40**	**208**	P	**Pg**	**04 30 04.9**	**-0.5**
PENT				S	**Sg**	**04 30 10.9**	**+0.2**
PENT	**Pentalofos**	**0.40**	**208**	P	**Pg**	**04 30 04.6**	**-0.8**
PENT				S	**Sg**	**04 30 11.8**	**+1.1**
PENT				AML	AML	04 30 13.8	
	comp=N,1627μm,0.2s						
PENT				AML	AML	04 30 14.6	
	comp=E,1464μm,0.2s						
PENT	**Pentalofos**	**0.40**	**208**	P	**Pg**	**04 30 04.9**	**-0.5**
PENT				S	**Sg**	**04 30 10.9**	**+0.2**
BIA	**Bitola**	**0.48**	**355**	P	**Pg**	**04 30 06.8**	**-0.1**
BIA				S	**Sb**	**04 30 14.8**	**+0.1**
BIA	**Bitola**	**0.48**	**355**	⇓ *iP*g	**Pg**	**04 30 07.1**	**+0.3**
BIA				*i* Sg	**Sb**	**04 30 14.9**	**+0.1**
BIA				*e*Lg	Lg	04 30 15.3	
	comp=E,361nm,0.3s						
BIA				*e*Lg	Lg	04 30 15.4	
	comp=N,362nm,0.2s						
BIA	**Bitola**	**0.48**	**355**	P	**Pg**	**04 30 06.8**	**-0.1**
BIA	**Bitola**	**0.48**	**355**	⇓ *iP*g	**Pg**	**04 30 07.1**	**+0.3**
BIA				S	**Sb**	**04 30 14.8**	**+0.1**
BIA				*e*Lg	Lg	04 30 15.3	
	comp=N,361nm,0.3s						
KTI	**Kastanea**	**0.58**	**105**	P	**Pg**	**04 30 08.6**	**-0.2**
KTI	**Kastanea**	**0.58**	**105**	P	**Pg**	**04 30 08.6**	**-0.2**
KPRO	**Kipourio**	**0.59**	**181**	P	**Pg**	**04 30 07.9**	**-1.1**
KPRO				S	**Sg**	**04 30 17.5**	**+0.7**
KPRO	**Kipourio**	**0.59**	**181**	P	**Pg**	**04 30 08.2**	**-0.7**
KPRO				S	**Sg**	**04 30 17.0**	**+0.2**
KPRO				AML	AML	04 30 22.2	
	comp=N,1455μm,0.4s						
KPRO				AML	AML	04 30 24.4	
	comp=E,1671μm,0.4s						
KPRO	**Kipourio**	**0.59**	**181**	P	**Pg**	**04 30 08.2**	**-0.7**
KPRO				S	**Sg**	**04 30 17.0**	**+0.2**
OHR	**Ohrid**	**0.72**	**322**	⇑ *iP*g	**Pg**	**04 30 10.2**	**-1.2**
OHR				*i* Sg	**Sb**	**04 30 22.1**	**+0.5**
OHR				*e*Lg	Lg	04 30 22.8	
	comp=N,182nm,0.5s						
OHR				*e*Lg	Lg	04 30 23.0	
	comp=E,327nm,0.4s						
OHR	**Ohrid**	**0.72**	**322**	⇑ *iP*g	**Pg**	**04 30 10.2**	**-1.2**
OHR				*i* Sg	**Sb**	**04 30 22.1**	**+0.5**
OHR				*e*Lg	Lg	04 30 22.7	
	comp=E,182nm,0.5s						
KRUS	**Krusevo**	**0.83**	**353**	⇑ *iP*g	**Pg**	**04 30 12.5**	**-1.1**
KRUS				*i* Sg	**Sb**	**04 30 25.4**	**+0.4**
KRUS				*e*Lg	Lg	04 30 26.5	
	comp=E,63nm,0.3s						
KRUS				*e*Lg	Lg	04 30 26.8	
	comp=N,79nm,0.3s						
KRUS	**Krusevo**	**0.83**	**353**	⇑ *iP*g	**Pg**	**04 30 12.4**	**-1.1**
KRUS				*i* Sg	**Sb**	**04 30 25.3**	**+0.4**
KRUS				*e*Lg	Lg	04 30 26.5	
	comp=N,63nm,0.3s						
GRG	**Griva**	**0.88**	**62**	P	**Pg**	**04 30 13.8**	**-0.6**
GRG				S	**Sb**	**04 30 27.1**	**+0.9**
GRG	**Griva**	**0.88**	**62**	P	**Pb**	**04 30 14.6**	**+0.1**
GRG				S	**Sb**	**04 30 26.7**	**+0.5**
JAN	**Janina**	**0.98**	**205**	P	**Pg**	**04 30 16.2**	**0.0**
JAN				S	**Sg**	**04 30 28.8**	**-0.2**
JAN				AML	AML	04 30 33.2	
	comp=E,377μm,0.3s						
JAN				AML	AML	04 30 36.8	
	comp=N,316μm,0.7s						
JAN	**Janina**	**0.98**	**205**	P	**Pg**	**04 30 16.2**	**0.0**
JAN				S	**Sg**	**04 30 28.8**	**-0.2**
THL	**Klokotos Trika**	**1.09**	**153**	P	**Pb**	**04 30 16.8**	**-1.4**
THL				S	**Sn**	**04 30 33.7**	**+0.3**
THL	**Klokotos Trika**	**1.09**	**153**	P	**Pb**	**04 30 16.0**	**-2.2**
THL				S	**Sb**	**04 30 32.7**	**+0.4**
THL				AML	AML	04 30 36.0	
	comp=E,200μm,0.3s						
THL				AML	AML	04 30 40.1	
	comp=N,320μm,0.4s						
THL	**Klokotos Trika**	**1.09**	**153**	P	**Pb**	**04 30 16.8**	**-1.4**
THL				S	**Sb**	**04 30 32.7**	**+0.4**
VAY	**Valandovo**	**1.19**	**49**	⇑ *iP*g	**Pb**	**04 30 20.0**	**+0.1**
VAY				*i* Sg	**Sn**	**04 30 36.3**	**+0.5**
VAY				*e*Lg	Lg	04 30 39.8	
	comp=N,42nm,0.7s						
VAY				*e*Lg	Lg	04 30 41.3	
	comp=E,60nm,0.8s						
VAY	**Valandovo**	**1.19**	**49**	⇑ *iP*g	**Pb**	**04 30 19.9**	**+0.1**
VAY				*i* Sg	**Sn**	**04 30 36.3**	**+0.5**
VAY				*e*Lg	Lg	04 30 39.7	
	comp=E,42nm,0.7s						
KNT	**Kendrikon**	**1.30**	**61**	P	**Pn**	**04 30 21.3**	**-0.1**
KNT				S	**Sg**	**04 30 40.4**	**+0.9**
KNT	**Kendrikon**	**1.30**	**61**	P	**Pn**	**04 30 20.8**	**-0.6**
KNT				S	**Sg**	**04 30 39.5**	**0.0**
KNT				AML	AML	04 30 44.0	
	comp=N,97μm,0.3s						
KNT				AML	AML	04 30 45.6	
	comp=E,53μm,0.5s						
KNT	**Kendrikon**	**1.30**	**61**	P	**Pn**	**04 30 21.3**	**-0.1**
KNT				S	**Sg**	**04 30 39.5**	**0.0**
HORT	**Hortiatis**	**1.31**	**87**	P	**Pn**	**04 30 21.3**	**-0.2**
HORT				S	**Sg**	**04 30 39.5**	**-0.2**
HORT				AML	AML	04 30 43.3	
	comp=N,246μm,0.6s						
HORT				AML	AML	04 30 43.7	
	comp=E,153μm,0.6s						
HORT	**Hortiatis**	**1.31**	**87**	P	**Pn**	**04 30 21.3**	**-0.2**
HORT				S	**Sg**	**04 30 39.5**	**-0.2**
DSL	**Palaion Diasel**	**1.43**	**189**	P	**Pn**	**04 30 23.5**	**+0.4**
DSL				S	**Sg**	**04 30 43.2**	**-0.1**
DSL	**Palaion Diasel**	**1.43**	**189**	P	**Pn**	**04 30 23.7**	**+0.7**
DSL				S	**Sg**	**04 30 43.3**	**-0.1**
DSL				AML	AML	04 30 50.5	
	comp=E,235μm,0.4s						
DSL				AML	AML	04 30 52.5	
	comp=N,302μm,0.5s						
DSL	**Palaion Diasel**	**1.43**	**189**	P	**Pn**	**04 30 23.5**	**+0.4**
DSL				S	**Sg**	**04 30 43.2**	**-0.1**
KEK	**Kerkira**	**1.47**	**236**	P	**Pn**	**04 30 24.5**	**+0.9**
KEK				S	**Sg**	**04 30 45.0**	**+0.2**
KEK	**Kerkira**	**1.47**	**236**	P	**Pb**	**04 30 25.1**	**+0.5**
KEK	**Kerkira**	**1.47**	**236**	P	**Pn**	**04 30 24.5**	**+0.9**
KEK				S	**Sg**	**04 30 45.0**	**+0.2**
FYTO	**Fytoko, Volos**	**1.65**	**133**	P	**Pb**	**04 30 27.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.65**	**133**	P	**Pb**	**04 30 27.5**	**-0.1**
EVR	**Evrytania**	**1.66**	**168**	P	**Pn**	**04 30 26.6**	**+0.3**
EVR				S	**Sb**	**04 30 48.7**	**0.0**
EVR	**Evrytania**	**1.66**	**168**	P	**Pn**	**04 30 27.3**	**+1.0**
EVR				S	**Sb**	**04 30 49.3**	**+0.5**
EVR				AML	AML	04 30 55.7	
	comp=E,115μm,0.3s						
EVR				AML	AML	04 30 58.1	
	comp=N,142μm,0.2s						
EVR	**Evrytania**	**1.66**	**168**	P	**Pn**	**04 30 26.6**	**+0.3**
EVR				S	**Sb**	**04 30 48.7**	**0.0**
AGG	**Agios Georgios**	**1.69**	**154**	P	**Pn**	**04 30 26.2**	**-0.4**
AGG				S	**Sb**	**04 30 50.4**	**+0.9**
AGG	**Agios Georgios**	**1.69**	**154**	P	**Pn**	**04 30 26.3**	**-0.4**
AGG				S	**Sn**	**04 30 48.2**	**+0.1**
AGG				AML	AML	04 30 59.6	
	comp=E,249μm,0.5s						
AGG				AML	AML	04 31 00.7	
	comp=N,364μm,0.6s						
AGG	**Agios Georgios**	**1.69**	**154**	P	**Pn**	**04 30 26.3**	**-0.4**
AGG				S	**Sn**	**04 30 48.2**	**+0.1**
XOR	**Xorichti**	**1.82**	**130**	P	**Pn**	**04 30 28.2**	**-0.3**
XOR				S	**Sn**	**04 30 52.7**	**+1.2**
XOR	**Xorichti**	**1.82**	**130**	P	**Pn**	**04 30 27.9**	**-0.6**
XOR	**Xorichti**	**1.82**	**130**	P	**Pn**	**04 30 28.2**	**-0.3**
XOR				S	**Sn**	**04 30 52.7**	**+1.2**
LKD2	**Lefkada island**	**1.84**	**198**	P	**Pb**	**04 30 30.6**	**-0.4**
LKD2	**Lefkada island**	**1.84**	**198**	P	**Pb**	**04 30 30.6**	**-0.4**
ANX	**Ano Chora**	**1.99**	**168**	P	**Pn**	**04 30 31.5**	**+0.6**
ANX				S	**Sn**	**04 30 56.8**	**+1.0**
ANX	**Ano Chora**	**1.99**	**168**	P	**Pn**	**04 30 32.1**	**+1.2**
ANX				S	**Sb**	**04 30 57.9**	**-0.5**
ANX				AML	AML	04 31 06.6	
	comp=E,188μm,0.5s						
ANX				AML	AML	04 31 08.2	
	comp=N,184μm,0.8s						
ANX	**Ano Chora**	**1.99**	**168**	P	**Pn**	**04 30 31.5**	**+0.6**
ANX				S	**Sn**	**04 30 56.8**	**+1.0**
SKIA	**Skiathos**	**2.11**	**130**	P	**Pn**	**04 30 32.1**	**-0.4**
SKIA	**Skiathos**	**2.11**	**130**	P	**Pn**	**04 30 32.1**	**-0.4**
KALE	**Kalithea**	**2.23**	**164**	P	**Pn**	**04 30 34.4**	**+0.3**
KALE	**Kalithea**	**2.23**	**164**	P	**Pn**	**04 30 34.4**	**+0.3**
SCTE	**Santa Cesarea**	**2.28**	**259**	P	**Pn**	**04 30 35.4**	**+0.7**
SCTE	**Santa Cesarea**	**2.28**	**259**	P	**Pn**	**04 30 35.4**	**+0.7**
BARS	**Barje**	**2.29**	**8**	⇑ *iP*n	**Pn**	**04 30 35.3**	**+0.3**
DSF	**Desfina**	**2.31**	**157**	P	**Pn**	**04 30 34.8**	**-0.4**
DSF	**Desfina**	**2.31**	**157**	P	**Pn**	**04 30 34.8**	**-0.4**
AXS	**Araxos**	**2.34**	**180**	P	**Pn**	**04 30 37.4**	**+1.8**
AXS	**Araxos**	**2.34**	**180**	P	**Pn**	**04 30 37.4**	**+1.8**
LAKA	**Lakka**	**2.35**	**168**	P	**Pn**	**04 30 35.2**	**-0.5**
LAKA	**Lakka**	**2.35**	**168**	P	**Pn**	**04 30 35.2**	**-0.5**
KLV	**Kalavryta, Ach**	**2.57**	**166**	P	**Pn**	**04 30 39.7**	**+0.9**
KLV	**Kalavryta, Ach**	**2.57**	**166**	P	**Pn**	**04 30 39.7**	**+0.9**
DRO	**Drossia**	**2.60**	**174**	P	**Pn**	**04 30 39.0**	**-0.2**
DRO	**Drossia**	**2.60**	**174**	P	**Pn**	**04 30 39.0**	**-0.2**
GUR	**Goura**	**2.71**	**164**	P	**Pn**	**04 30 42.1**	**+1.3**
GUR	**Goura**	**2.71**	**164**	P	**Pn**	**04 30 42.1**	**+1.3**
BOVS	**Bovan**	**3.10**	**4**	*e*Pn	**Pn**	**04 30 46.3**	**+0.3**
IVAS	**Ivanjica**	**3.17**	**344**	*e*Pn	**Pn**	**04 30 49.3**	**+2.3**
NOCI	**Noci**	**3.29**	**276**	P	**Pn**	**04 30 48.1**	**-0.6**
NOCI	**Noci**	**3.29**	**276**	P	**Pn**	**04 30 48.1**	**-0.6**
GRUS	**Gruza**	**3.38**	**352**	*e*Pn	**Pn**	**04 30 47.2**	**-2.7**
STON	**Ston**	**3.61**	**311**	Sn	**Sn**	**04 31 35.2**	**-0.1**
STON	**Ston**	**3.61**	**311**	Sn	**Sn**	**04 31 35.2**	**-0.1**
DIVS	**Divibare**	**3.70**	**344**	*e*Pn	**Pn**	**04 30 55.2**	**+0.9**
TRUS	**Trudelj**	**3.75**	**349**	*e*Pn	**Pn**	**04 30 55.8**	**+0.9**
NVLJ	**Novalja**	**6.26**	**312**	*e*Pn	**Pn**	**04 31 29.5**	**0.0**

NVLJ				Sn	Sn	04 32 39.7	-1.1
NVLJ	Novalja	6.26	312	ePn	Pn	04 31 29.4	0.0
NVLJ				Sn	Sn	04 32 39.7	-1.1

IDC 04 04:40:14.8±3.1, 27°.80S×178°.41W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/25, mbtmp4.0/4, Error ellipse: s-maj=230.7km s-min=34.2km az=168.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.11	276	P	P	04 46 53.4	+0.6
	3.1nm,0.3s,baz=89,slow=8.7,SNR=5.9						
ASAR	Alice Springs	42.95	264	P	P	04 48 13.9	-1.9
	0.4nm,0.5s,baz=107,slow=7.7,SNR=9.4						
WRA	Warramunga Arr	43.70	270	P	P	04 48 22.9	+1.0
	1.3nm,0.4s,baz=104,slow=8.2,SNR=23						
TXAR	Lajitas Array	91.29	57	P	P	04 53 22.6	0.0
	0.3nm,0.7s,baz=211,slow=5.3,SNR=4.3						

IDC 04 04:49:30.9±2.9, 8°.05S×119°.07E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/38, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=278.1km s-min=26.8km az=52.0
ISCJB 04 04:49:51.1±1.2, 8°.0S±0°.1×119°.90E±0°.07, h200km, mb3.0/1, Error ellipse: s-maj=17.2km s-min=9.1km az=16.8
DJA 04 04:49:54.4±1.1, 8°.5±9°.×12°.0E±°, h187km±7km, M3.3/5, MLv3.3/5

ISC 04 04:49:52.5±1.4, 8°.0S±0°.2×119°.89E±0°.10, h200km, n6, σ1§20/9, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.23	249	P	Pn	04 50 34.0	+0.5
PLAI				S	Sn	04 51 04.4	-1.0
BASI	Baing, Sumba	2.28	163	P	Pn	04 50 33.5	-0.5
BASI				S	Sn	04 51 05.7	-0.8
TWSI	Taliwang, Sumb	3.06	256	P	Pn	04 50 43.3	+0.5
TWSI				S	Sn	04 51 21.5	-0.6
WRA	Warramunga Arr	18.34	132	P	P	04 53 52.3	+0.2
	0.1nm,0.3s,baz=304,slow=12,SNR=7.0						
ASAR	Alice Springs	20.55	141	P	P	04 54 18.2	+2.3
	0.3nm,0.6s,baz=308,slow=9.2,SNR=4.1						
MKAR	Makanchi Array	64.00	332	P	P	05 00 03.9	-0.8
	0.2nm,0.5s,baz=127,slow=8.3,SNR=3.0						

TEH 04 04:57:02.2, 26°.78N×55°.76E, h7km, ML2.6
OMAN 04 04:57:03.5±4.4, 26°.82N×56°.02E, h8km±20km, Error ellipse: s-maj=88.1km s-min=24.5km az=72.0
CSEM 04 04:57:03.8±0.2, 26°.76N×55°.82E, h2km, ML2.9, Error ellipse: s-maj=5.1km s-min=3.3km az=91.0
ISCJB 04 04:57:04.0±0.8, 26°.78N±0°.04×55°.86E±0°.07, h14km, Error ellipse: s-maj=9.6km s-min=5.2km az=5.6
DSN 04 04:57:04.5±0.7, 26°.76N×55°.95E, h10km, ML2.9/6, Error ellipse: s-maj=18.4km s-min=3.3km az=66.0

ISC 04 04:57:04.7±1.1, 26°.77N±0°.03×55°.91E±0°.07, h14km, n20, σ0§50/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.88	40	ePg	Pb	04 57 21.1	-0.7
IBND				eSg	Sn	04 57 35.6	+0.3
IBND				eAMB	AMB	04 57 45.2	
	comp=Z,5μm,0.1s						
IBND	Bandar-abas	0.88	40	ePg	Pb	04 57 21.1	-0.7
IBND				eSg	Sn	04 57 35.6	+0.3
BANOM	Banah	0.91	157	eP	Pb	04 57 21.6	-0.7
	SNR=151						
BANOM				S	Sb	04 57 34.5	+0.1
BANOM	Banah	0.91	157	Pg	Pb	04 57 21.7	-0.7
	SNR=151						
BANOM				S	Sb	04 57 34.4	0.0
BANOM	Banah	0.91	157	Pg	Pb	04 57 21.7	-0.7
	SNR=151						
BANOM	Banah	0.91	157	P	Pb	04 57 21.7	-0.7
	SNR=151						
BANOM				S	Sb	04 57 34.4	0.0
KHSK	Kohestak	1.03	90	ePg	Pn	04 57 25.0	+0.3
KHSK	Kohestak	1.03	90	ePg	Pn	04 57 25.0	+0.3
NIAN	Nian	1.14	46	ePg	Pg	04 57 26.9	+0.1
NIAN	Nian	1.14	46	ePg	Pg	04 57 26.9	+0.1
HATD	Hatta, Dubai	1.95	174	eP	Pn	04 57 38.0	+0.6
	SNR=8.5						
HATD	Hatta, Dubai	1.95	174	P	Pn	04 57 38.0	+0.6
	SNR=8.5						
ASHO	Ashiyiah	2.08	176	eP	Pn	04 57 39.7	+0.4
	SNR=11						
ASHO	Ashiyiah	2.08	176	P	Pn	04 57 39.7	+0.4
	SNR=11						
ASHO	Ashiyiah	2.08	176	Pn	Pn	04 57 39.7	+0.4
	SNR=11						
ASHO	Ashiyiah	2.08	176	P	Pn	04 57 39.7	+0.4
	SNR=11						
IPAR	Pars	3.96	321	ePn	Pn	04 58 05.5	+0.1
IPAR				eAMB	AMB	04 59 03.1	
	comp=Z,48nm,0.2s						
IPAR	Pars	3.96	321	ePn	Pn	04 58 05.5	+0.1
IMEH	Mehriz	4.74	347	ePn	Pn	04 58 16.6	+0.6
IMEH				eAMB	AMB	04 58 33.5	
	comp=Z,54nm,0.2s						
IMEH	Mehriz	4.74	347	ePn	Pn	04 58 16.6	+0.6

DJA 04 04:59:14.2±0.9, 3°.5S±6°.×10°.0E±°, h30km±7km, M3.7/6, MLv3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.43	345	P	Pn	04 59 24.4	+0.1
PPSI				S	Sn	04 59 32.9	+1.7
SISI	Saibi	2.11	331	P	Pb	04 59 49.8	-2.0
SISI				S	Sn	05 00 13.1	+0.4
MASI	Maura Aman, Be	2.12	89	P	Pn	04 59 47.3	-0.3
MASI				S	Sn	05 00 13.5	+0.5
PDSI	Padang	2.28	9	P	Pn	04 59 49.8	0.0
PDSI				S	Sn	05 00 17.1	+0.2
SDSI	Sungai Dareh	2.59	30	P	Pn	04 59 54.4	+0.3
SDSI				S	Sn	05 00 25.6	+1.1

ATH 04 04:59:15.3, 35°.27N×27°.60E, h27km±2km, ML2.7/4, Error ellipse: s-maj=4.3km s-min=1.1km az=339.0
CSEM 04 04:59:15.4±0.2, 35°.22N×27°.63E, h10km, ML2.7, Error ellipse: s-maj=5.5km s-min=2.6km az=159.0
ISK 04 04:59:15.2, 35°.24N×27°.65E, h14km, MD3.2
ISCJB 04 04:59:16.0±1.3, 35°.22N±0°.07×27°.61E±0°.05, h21km±9km, Error ellipse: s-maj=13.3km s-min=4.7km az=155.4

ISC 04 04:59:15.2±1.6, 35°.24N±0°.06×27°.62E±0°.04, h11km±12km, n57, σ0§61/67, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.48	310	ePG	Pb	04 59 25.6	-0.2
KARP				eSG	Sb	04 59 33.1	+0.1
KARP	Karpathos	0.48	310	P	Pg	04 59 24.6	-0.2
KARP				S	Sb	04 59 32.7	-0.3
KARP				AML	AML	04 59 34.5	
	comp=N,3003μm,0.4s						
KARP				AML	AML	04 59 34.9	
	comp=E,2595μm,0.3s						
KARP	Karpathos	0.48	310	P	Pg	04 59 24.6	-0.2
KARP	Karpathos	0.48	310	ePg	Pb	04 59 25.6	-0.2
KARP				S	Sb	04 59 32.7	-0.3
KARP				eSg	Sb	04 59 33.1	+0.1
ARG	Arkhangelos	1.06	23	P	Pg	04 59 35.2	-0.5
ARG				S	Sg	04 59 50.1	+0.5
ARG				AML	AML	04 59 56.0	
	comp=E,893μm,0.5s						
ARG				AML	AML	04 59 58.7	
	comp=N,1038μm,0.8s						
ARG	Arkhangelos	1.06	23	P	Pg	04 59 35.2	-0.5
ARG				S	Sg	04 59 50.1	+0.5
ZKR	Zakros	1.15	264	P	Pn	04 59 37.9	+0.6
ZKR				S	Sb	04 59 51.8	-0.3
ZKR				AML	AML	05 00 02.0	
	comp=N,466μm,0.8s						
ZKR				AML	AML	05 00 05.0	
	comp=E,1276μm,1.0s						
ZKR	Zakros	1.15	264	P	Pn	04 59 37.9	+0.6
ZKR				S	Sb	04 59 51.8	-0.3
NIS1	Nisyros Isl.	1.41	346	ePN	Pn	04 59 41.3	+0.4
NIS1	Nisyros Isl.	1.41	346	P	Pn	04 59 40.9	-0.1
NIS1	Nisyros Isl.	1.41	346	P	Pn	04 59 40.8	-0.1
NIS1	Nisyros Isl.	1.41	346	ePn	Pn	04 59 41.3	+0.4
DAT	Datca	1.49	359	ePN	Pn	04 59 42.3	+0.2
DAT	Datca	1.49	359	ePn	Pn	04 59 42.3	+0.2
DATC	Datca-Mugla	1.52	1	ePN	Pn	04 59 42.8	+0.4
DATC	Datca-Mugla	1.52	1	ePn	Pn	04 59 42.8	+0.4
MRSB	Marmaris-Mugla	1.55	18	ePN	Pn	04 59 43.3	+0.5
MRSB	Marmaris-Mugla	1.55	18	ePn	Pn	04 59 43.3	+0.5
LAST	Lasithi	1.75	268	P	Pn	04 59 46.4	+0.8
LAST	Lasithi	1.75	268	P	Pn	04 59 46.4	+0.8
DALY	Dalyan (Mu¨la	1.79	28	ePN	Pn	04 59 46.5	+0.5
DALY	Dalyan (Mu¨la	1.79	28	ePn	Pn	04 59 46.6	+0.5
FETY	Fethiye	1.84	40	ePN	Pn	04 59 47.2	+0.4
FETY	Fethiye	1.84	40	ePn	Pn	04 59 47.2	+0.4
BODT	Bodrum	1.84	352	ePN	Pn	04 59 47.4	+0.6
BODT	Bodrum	1.84	352	ePn	Pn	04 59 47.4	+0.6
KSL	Kastellorizon	1.84	60	P	Pn	04 59 47.1	+0.3
AKAS	Kas	1.90	58	ePN	Pn	04 59 47.9	+0.1
AKAS	Kas	1.90	58	ePn	Pn	04 59 47.9	+0.1
MLSB	Milas	2.06	4	ePN	Pn	04 59 50.5	+0.7
MLSB	Milas	2.06	4	ePn	Pn	04 59 50.6	+0.7
IDI	Anoyia	2.23	272	P	Pn	04 59 52.8	+0.6
IDI				S	Sn	05 00 19.6	-0.2
IDI				AML	AML	05 00 30.9	
	comp=N,131μm,0.5s						
IDI				AML	AML	05 00 33.7	
	comp=E,85μm,0.3s						
IDI	Anoyia	2.23	272	P	Pn	04 59 52.8	+0.6
IDI				S	Sn	05 00 19.6	-0.2
SIVA	Sivas	2.31	265	P	Pn	04 59 52.0	-1.2
SIVA	Sivas	2.31	265	P	Pn	04 59 52.0	-1.2
ELL	Elmali	2.40	50	ePN	Pn	04 59 55.0	+0.5
ELL	Elmali	2.40	50	ePn	Pn	04 59 55.0	+0.5
GLHS	Glhisar (BURDU	2.45	38	ePN	Pn	04 59 55.7	+0.5
GLHS	Glhisar (BURDU	2.45	38	ePn	Pn	04 59 55.7	+0.5
APE	Apeiranthos	2.49	318	ePN	Pn	04 59 56.6	+0.9
APE	Apeiranthos	2.49	318	ePn	Pn	04 59 56.7	+0.9
SMG	Samos	2.55	346	P	Pn	04 59 56.6	+0.1
SMG	Samos	2.55	346	P	Pn	04 59 56.6	+0.1
AYDB	Zeytinkoy-Aydi	2.72	5	ePN	Pn	04 59 59.3	+0.3
AYDB	Zeytinkoy-Aydi	2.72	5	ePn	Pn	04 59 59.3	+0.3
KORT	Korkueli	2.83	51	ePN	Pn	05 00 00.9	+0.4
KORT	Korkueli	2.83	51	ePn	Pn	05 00 00.9	+0.4
GVD	Gavdhos	2.92	263	P	Pn	05 00 03.5	+1.8
GVD	Gavdhos	2.92	263	P	Pn	05 00 03.5	+1.8
IMMV	Iera Moni Meta	2.98	275	P	Pn	05 00 02.9	+0.5
IMMV	Iera Moni Meta	2.98	275	P	Pn	05 00 02.9	+0.5
URLA	Izmir	3.23	346	ePN	Pn	05 00 06.6	+0.7
URLA	Izmir	3.23	346	ePn	Pn	05 00 06.6	+0.7
KULA	Kula-Manisa	3.38	14	ePN	Pn	05 00 08.4	+0.4
KULA	Kula-Manisa	3.38	14	ePn	Pn	05 00 08.4	+0.4
VLI	Veliai	4.07	293	P	Pn	05 00 17.0	-0.5
VLI	Veliai	4.07	293	P	Pn	05 00 17.0	-0.5

NNC 04 05:06:36.2±2.9, 42°.93N×79°.03E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=33.0km s-min=5.9km az=154.0
KRNET 04 05:06:36.4±0.1, 42°.94N×79°.02E, h14km, mb2.9
SOME 04 05:06:37.2, 42°.92N×79°.10E, h10km

ISC 04 05:06:37.8±1.2, 42°.95N±0°.03×79°.03E±0°.03, h4km±9km, n35, σ1§25/67, 16C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	0.20	359	eP	Pg	05 06 42.1	+0.4
	158nm,0.1s						
UZB				eS	Sg	05 06 45.7	+1.4
	774nm,0.1s						
SHLS	Shalkode	0.38	57	eP	Pn	05 06 49.2	-0.9
	163nm,0.2s						
SHLS				eS	Sb	05 06 57.1	+3.6
	45nm,0.2s						
SATY	Saty	0.47	284	eP	Pg	05 06 46.8	0.0
	65nm,0.1s						
SATY				eS	Sg	05 06 53.5	+0.6
	1μm,0.1s						
ZHN	Zhinishke	0.48	297	eP	Pg	05 06 47.0	-0.1
	40nm,0.1s						
ZHN				eS	Sg	05 06 53.5	+0.1
	470nm,0.2s						
PDGK	Podgornoye	0.51	42	⇓iP	Pg	05 06 46.6	-1.0
	baz=41						
PDGK				⇓iS	Sg	05 06 53.8	-0.4
	baz=41						
PDGK	Podgornoye	0.51	42	⇓P	Pg	05 06 46.6	-1.0
	12nm,0.4s						
PDGK				⇑S	Sg	05 06 53.7	-0.4
	85nm,0.3s						
KPKS	Kokpek	0.57	334	eP	Pg	05 06 48.8	0.0
	540nm,0.1s						
KPKS				eS	Sg	05 06 56.7	+0.5
	152nm,0.2s						
PRZ	Przheval'sk	0.66	225	⇓iP	Pg	05 06 49.3	-1.1
	baz=224						
PRZ				⇓iS	Sg	05 06 58.6	-0.3
	baz=224						
KURS	Kuram	0.82	311	eP	Pg	05 06 53.6	0.0
	2.7nm,0.1s						
KURS				eS	Sg	05 07 04.4	+0.1
	20nm,0.2s						
ANVS	Anan'yevo	1.01	261	⇑iP	Pg	05 06 56.1	-1.1
	baz=261						
ANVS				⇑iS	Sg	05 07 10.1	-0.3
	baz=261						
MNBS	Baschi	1.22	338	eP	Pn	05 06 59.2	-2.5
	136nm,0.2s						
MNBS				eS	Sb	05 07 14.4	-3.1
	80nm,0.2s						
KOTS	Kotyrbulak	1.43	282	eP	Pb	05 07 04.7	-0.3
KOTS				eS	Sn	05 07 23.5	-0.4
MDOK	Medeo	1.47	279	P	Pn	05 07 03.8	-1.3
MDOK				S	Sn	05 07 23.2	-1.6
MDOK	Medeo	1.47	279	eP	Pn	05 07 04.1	-1.0
	25nm,0.2s						
MDOK				eS	Sn	05 07 23.3	-1.5
	51nm,0.2s						
DJR	Jarkent	1.49	22	eP	Pb	05 07 05.1	-0.9
	15nm,0.1s						
DJR				eS	Sn	05 07 24.1	-1.2
	248nm,0.3s						
TNSS	Tian-Shan	1.53	274	eP	Pb	05 07 06.4	-0.4
	12nm,0.1s						
TNSS				eS	Sn	05 07 26.5	-0.1
	70nm,0.3s						
ARXS	Arharly	1.53	326	eP	Pb	05 07 06.4	-0.4
	70nm,0.2s						
ARXS				eS	Sn	05 07 26.5	+0.1
	67nm,0.2s						
KDJ	Kajisay	1.59	240	⇑iP	Pn	05 07 05.9	-1.0
	baz=240						
KDJ				⇑iS	Sn	05 07 27.5	-0.4
	baz=240						
CHKK	Chushkaly	1.74	302	eP	Pb	05 07 10.1	-0.2
	11nm,0.2s						
CHKK				eS	Sb	05 07 32.8	+0.4
	274nm,0.3s						
IZV	Izvestkoviy	1.77	274	eP	Pb	05 07 11.1	+0.2
	38nm,0.1s						
IZV				eS	Sb	05 07 34.5	+1.0
	104nm,0.3s						
KTBS	Karatobe	1.87	295	eP	Pb	05 07 12.3	-0.2
KTBS				eS	Sb	05 07 36.6	+0.3
MTBS	Maitube	1.91	276	eP	Pb	05 07 12.6	-0.7
	13nm,0.2s						
MTBS				eS	Sb	05 07 37.6	+0.1
	77nm,0.3s						
KUU	Kurty	2.17	297	eP	Pb	05 07 16.9	-0.7
	4.2nm,0.1s						
KUU				eS	Sb	05 07 45.2	+0.3
	107nm,0.2s						
ULHL	Ulahol	2.17	252	⇑iP	Pn	05 07 15.1	+0.2
	baz=252						
ULHL				⇑iS	Sb	05 07 44.3	-0.8
	baz=252						
KST	Kastek	2.25	273	eP	Pb	05 07 18.9	-0.1
	6.9nm,0.3s						
KST				eS	Sb	05 07 48.8	+1.6
	29nm,0.4s						
BOOM	Boomskoye usch	2.32	260	⇓iP	Pn	05 07 17.3	+0.4
	baz=260						
BOOM				⇓iS	Sn	05 07 47.1	+1.2
	baz=260						
KAPS	Kapalarasan	2.35	6	eP	Pb	05 07 20.4	-0.2
	5.0nm,0.2s						
KAPS				eS	Sb	05 07 50.8	+0.9
	41nm,0.2s						
DGS	Degeres	2.40	278	eP	Pb	05 07 21.8	+0.2
	7.2nm,0.2s						
DGS				eS	Sb	05 07 52.8	+1.2
	91nm,0.4s						
TKM2	Tokmak 2	2.52	270	⇑eP	Pn	05 07 20.7	+1.1
	baz=271						
TKM2				⇑eS	Sb	05 07 53.3	-1.7
	baz=271						
TKM2	Tokmak 2	2.52	270	⇑Pg	Pb	05 07 21.7	-1.9
	4.5nm,0.4s						
TKM2				⇓Lg	Lg	05 07 56.9	
	25nm,0.6s						
KZA	Kyzart	2.92	254	⇑eP	Pn	05 07 26.1	+0.7
	baz=254						
KZA				⇑iS	Sn	05 08 01.6	+0.5
	baz=254						
KBK	Karagaybulak	3.02	266	⇑eP	Pn	05 07 27.0	+0.6
	baz=266						
KBK				⇑iS	Sn	05 08 03.8	+0.7
	baz=266						
AAK	Ala-Archa	3.35	266	⇑Pn	Pn	05 07 30.6	-0.4
	0.6nm,0.3s						
AAK				⇑Lg	Lg	05 08 20.4	
	7.0nm,0.6s						
MRKS	Merke	4.27	269	eP	Pb	05 07 55.5	+2.0
	5.8nm,0.5s						
MRKS				eS	Sb	05 08 49.8	+4.5
	6.2nm,0.5s						
MK31	Makanchi Array	4.49	30	⇓Pn	Pn	05 07 49.0	+2.5
	0.3nm,0.5s,baz=194,slow=13,SNR=4.5						
MK31				⇓Lg	Lg	05 08 57.8	
	0.6nm,0.3s,baz=204,slow=30,SNR=4.9						

IDC 04 05:08:41.2±0.7, 47°.23N×155°.79E, h0km, mb4.0/19, mb1 4.1/22, mb1mx4.0/40, mbtmp4.0/22, ML3.5/4, MS3.1/6, Ms1 3.1/6, ms1mx2.7/49, Error ellipse: s-maj=20.1km s-min=13.5km az=152.0
ISCJB 04 05:08:42.1±0.6, 47°.26N±0°.09×155°.8E±0°.1, h18km, mb4.1/24, MS3.5/3, Error ellipse: s-maj=15.0km s-min=9.0km az=146.4
NEIC 04 05:08:46.3±0.7, 47°.21N×155°.73E, h35km, mb4.6/1, Error ellipse: s-maj=17.1km s-min=10.0km az=146.0

ISC 04 05:08:44.1±0.8, 47°.2N±0°.1×155°.7E±0°.1, h18km, n36, σ1§20/31, mb4.1/24, MS3.8/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.01	11	Pn	Pn	05 10 10.9	-1.2
	2.8nm,0.3s,baz=165,slow=11,SNR=14						
PETK				LR	LR	05 13 29.3	
	comp=Z,51nm,19.1s,baz=205,slow=48						
ASAJ	Asahikawa	9.70	256	Pn	Pn	05 11 01.6	-1.0
	0.8nm,0.3s,baz=122,slow=21,SNR=5.0						
MA2	Magadan	12.71	348	LR	LR	05 16 19.0	
	comp=Z,52nm,19.0s,baz=176,slow=36						
KLR	Kul'dur	16.08	286	Pn	P	05 12 31.1	-1.2
	0.0nm,0.3s,baz=90,slow=13,SNR=6.5						
MJAR	Matsushiro Arr	16.82	237	Pn	Pn	05 12 36.2	-2.3
	0.5nm,0.3s,baz=30,slow=13,SNR=4.4						
MJAR				LR	LR	05 20 58.5	
	comp=Z,16nm,19.5s,baz=265,slow=44						
KSRS	Korea Array	22.65	255	P	P	05 13 45.7	+1.7
	0.8nm,0.4s,baz=54,slow=12,SNR=3.1						
KSAR	Wonju Array Be	22.68	255	P	P	05 13 45.7	+1.3
H11S1	WAKE ISLAND Hy	30.04	159	T	T	05 46 14.8	
	baz=345,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	30.05	159	T	T	05 46 07.4	
	baz=345,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	30.05	159	T	T	05 46 08.7	
	baz=345,slow=76,SNR=6.3						
SONM	Songino Array	32.85	290	P	P	05 15 15.6	-1.0
	0.9nm,0.8s,baz=69,slow=7.9,SNR=4.2						
ILAR	Eielson Array	35.05	39	P	P	05 15 34.8	-0.7
	0.4nm,0.5s,baz=250,slow=7.8,SNR=8.2						
NRIK	Noril'sk	39.27	329	LR	LR	05 33 36.0	
	comp=Z,19nm,20.2s,baz=88,slow=38						
INK	Inuvik	40.28	33	P	P	05 16 19.1	-0.4
	2.5nm,0.7s,baz=315,slow=4.6,SNR=5.8						
ZALV	Zalesovo Beam	43.77	306	P	P	05 16 47.1	-1.1
	2.2nm,0.6s,baz=74,slow=7.1,SNR=7.4						
DLBC	Dease Lake	43.97	47	P	P	05 16 50.3	+0.5
	2.0nm,0.8s,baz=276,slow=10,SNR=3.8						
MKAR	Makanchi Array	48.30	298	P	P	05 17 24.2	+0.2
	2.7nm,0.7s,baz=67,slow=7.6,SNR=18						
KURK	Kurchatov	48.57	304	eP	P	05 17 25.7	-0.3
	16nm,0.5s						
KURK				P	P	05 17 26.9	+0.9
KURBB	Kurchatov Arra	48.67	304	P	P	05 17 26.9	+0.2
	7.7nm,0.5s,baz=69,slow=9.0,SNR=22						
BVAR	Borovoye Array	51.92	310	P	P	05 17 51.5	+0.1
	4.3nm,0.5s,baz=58,slow=8.5,SNR=16						
BRVK	Borovoye	51.96	310	eP	P	05 17 50.8	-0.8
	10nm,0.6s						
CMAR	Chiang Mai Arr	54.22	258	P	P	05 18 08.1	-0.6
	0.9nm,0.8s,baz=41,slow=7.5,SNR=2.9						
AAK	Ala-Archa	55.20	297	P	P	05 18 17.1	+1.3
	2.0nm,0.6s,baz=87,slow=4.2,SNR=5.6						
ARU	Arti	55.85	318	P	P	05 18 21.3	+1.3
	18nm,1.3s						
KKAR	Karatay Array	57.32	300	P	P	05 18 30.9	+0.3
ARCES	ARCESS Array B	57.97	342	P	P	05 18 34.3	-0.5
	1.7nm,0.8s,baz=39,slow=8.3,SNR=4.4						
ARCES				LR	LR	05 47 11.4	
	comp=Z,68nm,18.0s,baz=247,slow=40						
ABKAR	Akbulak array	59.47	311	eP	P	05 18 44.9	-0.7
	2.5nm,0.5s						
PDAR	Pinedale Array	63.01	55	P	P	05 19 09.1	-0.9
	0.3nm,0.6s,baz=238,slow=2.8,SNR=5.6						
FINES	FINESS Array B	64.34	336	P	P	05 19 17.7	-0.4
	3.3nm,0.8s,baz=31,slow=7.6,SNR=8.0						
NOA	NORSAR Array B	68.33	342	P	P	05 19 45.8	+2.1
	0.7nm,0.5s,baz=28,slow=6.4,SNR=3.8						
WRA	Warramunga Arr	69.59	201	P	P	05 19 51.6	-0.3
	0.8nm,0.9s,baz=21,slow=6.4,SNR=3.8						
AKASG	Malin Array Be	72.11	328	P	P	05 20 08.3	+1.3
	1.5nm,0.7s,baz=33,slow=6.5,SNR=4.1						
ASAR	Alice Springs	73.27	201	P	P	05 20 15.6	+1.5
	0.1nm,0.3s,baz=27,slow=6.9,SNR=4.4						
PALK	Pallekele	74.53	264	LR	LR	05 59 33.9	
	comp=Z,40nm,18.0s,baz=116,slow=41						
TXAR	Lajitas Array	75.69	62	P	P	05 20 27.8	-0.7
	0.6nm,0.6s,baz=300,slow=4.0,SNR=9.3						
GERES	GERESS Array B	78.78	336	P	P	05 20 48.1	+2.7
	0.9nm,0.6s,baz=21,slow=4.6,SNR=5.8						

WEL 04 05:10:08.4±0.2, 44°.60S×167°.71E, h12km, ML3.6/18, 3D, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.18	116	⇓P*	Pg	05 10 12.3	0.0
MSZ				SG	Sg	05 10 15.0	-0.1
MSZ				SG		05 10 15.2	
MSZ				AML	AML	05 10 15.5	
MSZ				AML	AML	05 10 15.5	

WHZ				AML	AML	05 10 55.4	
PYZ	**Puysegur Point**	**1.73**	**204**	*e*PN	Pn	05 10 37.9	-0.3
PYZ				AML	AML	05 11 08.4	
PYZ				AML	AML	05 11 08.8	
PYZ				AML	AML	05 11 10.2	
PYZ				AML	AML	05 11 10.2	
LBZ	**Lake Benmore**	**1.79**	**84**	*e*PN	Pn	05 10 39.7	+0.6
LBZ				AML	AML	05 11 04.8	
LBZ				AML	AML	05 11 06.4	
LBZ				AML	AML	05 11 07.3	
LBZ				AML	AML	05 11 07.3	
FOZ	**Fox Glacier**	**1.86**	**56**	PN	Pn	05 10 38.1	-1.9
FOZ				AML	AML	05 11 07.5	
FOZ				AML	AML	05 11 07.5	
FOZ				AML	AML	05 11 12.2	
FOZ				AML	AML	05 11 12.2	
TUZ	**Tuapeka**	**1.92**	**136**	PN	Pn	05 10 41.6	+0.7
TUZ				SN	Sn	05 11 06.0	+1.1
TUZ				AML	AML	05 11 09.6	
TUZ				AML	AML	05 11 09.8	
TUZ				AML	AML	05 11 09.8	
ODZ	**Otahua Downs**	**2.14**	**103**	PN	Pn	05 10 44.2	+0.3
ODZ				AML	AML	05 11 14.7	
ODZ				AML	AML	05 11 14.7	
ODZ				AML	AML	05 11 18.0	
ODZ				AML	AML	05 11 21.2	
SYZ	**Scrubby Hill**	**2.19**	**153**	PN	Pn	05 10 45.3	+0.8
SYZ				AML	AML	05 11 15.1	
SYZ				AML	AML	05 11 17.5	
SYZ				AML	AML	05 11 18.2	
SYZ				AML	AML	05 11 36.2	
APZ	**The Paps**	**2.25**	**175**	PN	Pn	05 10 46.6	+1.2
HHSZ	**Highcliff Hill**	**2.42**	**123**	PN	Pn	05 10 48.8	+1.1
HHSZ				AML	AML	05 11 30.2	
RPZ	**Rata Peaks**	**2.57**	**71**	PN	Pn	05 10 49.7	0.0
RPZ				AML	AML	05 11 26.0	
RPZ				AML	AML	05 11 31.7	
WVZ	**Waitaha Valley**	**2.67**	**56**	PN	Pn	05 10 49.8	-1.3
WVZ				AML	AML	05 11 34.8	
INZ	**Inchbonnie**	**3.30**	**57**	PN	Pn	05 10 58.7	-1.0
DSZ	**Denniston Nort**	**4.14**	**48**	PN	Pn	05 11 10.1	-1.3
DSZ				AML	AML	05 11 14.8	
DSZ				AML	AML	05 12 26.0	
QRZ	**Quartz Range**	**5.18**	**45**	PN	Pn	05 11 24.4	-1.3
QRZ				AML	AML	05 11 41.6	
QRZ				AML	AML	05 12 53.1	

IDC 04 05:24:37.9±8.6, 21°.14S×148°.68E, h0km, mb1 3.4/2, mb1mx3.2/16, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=101.4km s-min=65.6km az=174.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.49**	**273**	Pn	Pn	05 27 50.1	-0.6
	0.1nm,0.3s,baz=91,slow=11,SNR=3.1						
WRA				Lg	Lg	05 31 46.2	
	0.1nm,0.3s,baz=103,slow=27,SNR=4.1						
ASAR	**Alice Springs**	**13.90**	**257**	Pn	Pn	05 27 56.6	+0.4
	0.1nm,0.3s,baz=82,slow=13,SNR=4.0						
ASAR				Sn	Sn	05 30 38.6	+7.3
	0.0nm,0.3s,baz=75,slow=26,SNR=4.5						
ASAR				Lg	Lg	05 32 00.3	
	0.1nm,0.3s,baz=77,slow=31,SNR=5.3						
I22FR	**PORTLAGUERRE I16.92**		**97**	*i*		07 09 20.0	
	baz=274,slow=297,SNR=0.9						

*ISCJB **04** 05:36:39.4±0.3, 37°.51N±0°.03×72°.43E±0°.05, h176km, mb3.8/10, Error ellipse: s-maj=6.3km s-min=3.5km az=146.7*
*IDC **04** 05:36:42.6±2.2, 37°.52N×72°.48E, h198km±19km, mb3.6/8, mb1 3.7/14, mb1mx3.4/49, mbtmp4.2/14, MS3.6/1, Ms1 3.6/1, ms1mx2.5/47, Error ellipse: s-maj=22.5km s-min=13.1km az=151.0*
*NNC **04** 05:36:45.6±3.2, 37°.95N×72°.38E, h172km±30km, mb3.3, mpv4.4, Error ellipse: s-maj=31.1km s-min=13.9km az=143.0*
ISC 04 05:36:39.8±0.5, 37°.57N±0°.04×72°.53E±0°.05, h176km, n43, σ2°.78/55, mb4.0/10, 7C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.17**	**294**	⇑P	**Pn**	**05 37 32.9**	**+2.5**
	40nm,0.5s						
DZET				⇓S	**Sn**	**05 38 09.6**	**-0.3**
	283nm,0.3s						
CEP	**Cherat**	**3.77**	**188**	P	**Pn**	**05 37 41.7**	**+3.6**
CEP				S	**Sn**	**05 38 27.0**	**+3.4**
THW	**Thamme Wali**	**4.81**	**188**	P	**Pn**	**05 37 54.4**	**+3.1**
MNAS	**Manas**	**4.91**	**360**	⇑P	**Pn**	**05 37 55.0**	**+2.4**
	70nm,0.4s						
MNAS				⇓S	**Sn**	**05 38 48.7**	**-1.1**
	94nm,0.5s						
AAK	**Ala-Archa**	**5.28**	**16**	P	**Pn**	**05 38 00.2**	**+2.8**
	26nm,0.3s,baz=173,slow=5.3,SNR=194						
AAK				S	**Sn**	**05 38 59.2**	**+0.8**
	7.7nm,0.3s,baz=7.0,slow=22,SNR=15						
KK31	**Karatay Array**	**5.74**	**345**	P	**Pn**	**05 38 05.2**	**+2.0**
	10.0nm,0.3s,baz=155,slow=11,SNR=239						
KK31				⇑S	**Sn**	**05 39 06.6**	**-2.3**
	18nm,0.3s,baz=157,slow=21,SNR=11						
THN	**Thein Dam**	**5.75**	**152**	*e*P	**Pn**	**05 38 03.0**	**-0.5**
THN				*e*S	**Sn**	**05 39 07.0**	**-2.3**
TKM2	**Tokmak 2**	**5.83**	**23**	⇑P	**Pn**	**05 38 06.9**	**+2.2**
	39nm,0.5s						
TKM2				⇓S	**Sn**	**05 39 07.5**	**-4.0**
	12nm,0.8s						
SDNR	**Sundarnagar**	**7.08**	**148**	*e*P	**Pn**	**05 38 20.0**	**-1.0**
SDNR				*e*S	**Sn**	**05 39 37.0**	**-3.8**
JOSI	**Joshimath**	**9.10**	**138**	*e*P	**Pn**	**05 38 48.5**	**+0.6**
JOSI				*e*S	**Sn**	**05 40 24.5**	**-5.1**
JOSI				AML	AML	05 40 31.1	
	comp=E,214nm,0.3s						
JOSI				AML	AML	05 40 33.3	
	comp=N,129nm,0.5s						
BHGR	**Bahadurgarh**	**9.60**	**156**	*e*S	**Sn**	**05 40 32.9**	**-8.1**
KHET	**Khetri**	**9.86**	**163**	*e*P	**Pn**	**05 38 56.1**	**-1.6**
KHET				*e*S	**Sn**	**05 40 40.1**	**-7.4**
KHET				AML	AML	05 40 44.9	
	comp=N,16nm,0.5s						
KHET				AML	AML	05 40 45.5	
	comp=E,18nm,0.3s						
JASL	**Jaisalmer**	**10.71**	**188**	*ex*	Pn	05 39 03.3	-5.4
GEYT	**Alibeck**	**11.42**	**276**	P	**Pn**	**05 39 20.8**	**+2.9**
	comp=E,1.3nm,0.3s,baz=101,slow=11,SNR=5.4						
GEYT				S	**Sn**	**05 41 20.9**	**-3.8**
	comp=E,1.3nm,0.3s,baz=135,slow=18,SNR=5.0						
MKAR	**Makanchi Array**	**11.71**	**35**	P	**Pn**	**05 39 23.8**	**+2.3**
	comp=E,0.2nm,0.3s,baz=218,slow=14,SNR=6.1						
PYUN	**Piuthan**	**12.89**	**134**	*e*P	**Pn**	**05 39 36.5**	**-0.5**
	comp=E,14nm,0.3s						
KOLN	**Koldanda**	**13.49**	**133**	*e*P	**Pn**	**05 39 44.7**	**+0.1**
	comp=E,13nm,0.2s						
KURBB	**Kurchatov Arra**	**13.73**	**16**	P	**P**	**05 39 51.2**	**+1.2**
	comp=E,0.5nm,0.3s,baz=206,slow=10,SNR=56						
GKN	**Gorkha**	**13.94**	**130**	*e*P	**Pn**	**05 39 50.7**	**+0.6**
	comp=E,12nm,0.3s						
KKN	**Kakani**	**14.49**	**129**	*e*P	**Pn**	**05 39 57.9**	**+0.9**
	comp=E,6.3nm,0.3s						
PKIN	**Phulchoki**	**14.71**	**129**	*e*P	**Pn**	**05 40 00.6**	**+0.8**
	comp=E,7.2nm,0.3s						
PKI	**Pulchoki**	**14.72**	**129**	*e*P	**P**	**05 40 01.1**	**-0.5**
AB31	**Akbulak array**	**14.81**	**326**	⇑P	**P**	**05 40 01.5**	**-0.4**
	comp=E,0.8nm,0.4s,baz=137,slow=13,SNR=39						
AB31				⇓S	**Sn**	**05 42 39.0**	**-6.6**
	comp=E,1.5nm,0.4s,baz=145,slow=23,SNR=8.2						
JIRN	**Jiri**	**15.15**	**127**	*e*P	**P**	**05 40 07.4**	**+1.0**
	comp=E,17nm,0.3s						
BVAR	**Borovoye Array**	**15.53**	**355**	P	**P**	**05 40 11.5**	**+1.7**
	comp=E,1.6nm,0.3s,baz=156,slow=9.6,SNR=19						
TAPN	**Taplejung**	**16.35**	**124**	*e*P	**Pn**	**05 40 22.7**	**+2.9**
	comp=E,8.3nm,0.6s						
ODAN	**Odare**	**16.47**	**126**	*e*P	**Pn**	**05 40 23.5**	**+2.2**
	comp=E,8.7nm,0.5s						
AKTO	**Aktyubinsk**	**16.52**	**326**	P	**Pn**	**05 40 23.0**	**+1.6**
	comp=E,0.9nm,0.3s,baz=114,slow=9.5,SNR=16						
AKTO				S	**S**	**05 43 18.6**	**-5.2**
	comp=E,0.1nm,0.3s,baz=137,slow=19,SNR=3.2						
AKTO	**Aktyubinsk**	**16.52**	**326**	⇑P	**Pn**	**05 40 22.4**	**+1.0**
	comp=E,3.1nm,0.7s						
AKTO				⇑S	**S**	**05 43 21.0**	**-2.8**
	comp=E,4.8nm,0.9s						

ZALV	**Zalesovo Beam**	**18.44**	**23**	P	**Pn**	**05 40 43.1**	**-0.9**
	comp=E,3.6nm,0.3s,baz=225,slow=10,SNR=39						
WSAR	**Wadi Sarin**	**18.62**	**224**	P	**P**	**05 40 44.9**	**+0.9**
	comp=E,0.7nm,0.3s,baz=58,slow=4.6,SNR=8.0						
ARU	**Arti**	**21.06**	**338**	P	**P**	**05 41 11.3**	**+1.5**
	comp=E,1.7nm,0.3s,baz=137,slow=5.3,SNR=4.3						
SONM	**Songino Array**	**26.72**	**57**	P	**P**	**05 42 05.2**	**+2.3**
	comp=E,0.8nm,0.9s,baz=255,slow=10.0,SNR=3.8						
FINES	**FINESS Array B**	**37.30**	**325**	P	**P**	**05 43 35.5**	**+1.0**
	comp=E,1.9nm,0.6s,baz=124,slow=7.6,SNR=8.1						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**05 44 03.4**	**+1.3**
	comp=E,1.6nm,0.4s,baz=111,slow=8.2,SNR=24						
KLR	**Kul'dur**	**43.52**	**55**	P	**P**	**05 44 27.1**	**+1.4**
	comp=E,0.1nm,0.6s,baz=286,slow=15,SNR=3.0						
NB2	**NORSAR Subarra**	**44.27**	**322**	P	**P**	**05 44 31.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**44.27**	**322**	P	**P**	**05 44 32.1**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.9,SNR=4.1						
MA2	**Magadan**	**52.76**	**39**	LR	LR	06 11 35.1	
	comp=Z,61nm,18.9s,baz=252,slow=40						
TORD	**Torodi Ar. Bea**	**66.97**	**269**	P	**P**	**05 47 13.4**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=48,slow=5.9,SNR=52						
INK	**Inuvik**	**72.65**	**10**	P	**P**	**05 47 48.6**	**+1.1**
	comp=Z,28nm,1.4s,baz=330,slow=5.8,SNR=9.8						
ILAR	**Eielson Array**	**73.41**	**16**	P	**P**	**05 47 52.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=314,slow=4.8,SNR=8.0						
YKA	**Yellowknife Ar**	**80.11**	**3**	P	**P**	**05 48 30.2**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=351,slow=5.4,SNR=7.1						

JMA 04 05:45:32.7, 37°.02N×139°.85E, h6km±1km, M1.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.08**	**133**	P	Pg	05 45 34.4	-0.1
JSB				S	Sg	05 45 35.9	+0.1
JFY	**Yanaizu**	**0.40**	**343**	P	Pg	05 45 40.5	0.0
JFY				S	Sg	05 45 46.2	+0.4

*ISCJB **04** 05:45:47.5±2.1, 15°.3S±0°.1×167°.4E±0°.2, h129km, mb4.0/4, Error ellipse: s-maj=35.6km s-min=15.5km az=161.4*
*IDC **04** 05:45:47.0±7.5, 15°.24S×167°.46E, h115km±60km, mb3.8/4, mb1 3.9/5, mb1mx3.4/44, mbtmp4.2/5, Error ellipse: s-maj=54.5km s-min=28.9km az=21.0*
ISC 04 05:45:48.7±1.9, 15°.3S±0°.1×167°.5E±0°.3, h129km, n6, σ0°.88/7, mb4.1/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.79**	**188**	P	**Pn**	**05 47 25.9**	**0.0**
	10nm,0.3s,baz=354,slow=13,SNR=55						
DZM				S	**Sn**	**05 48 41.3**	**-0.6**
	5.2nm,0.3s,baz=307,slow=20,SNR=3.9						
URZ	**Urewera**	**24.39**	**161**	P	**P**	**05 50 55.1**	**+0.1**
	5.7nm,0.5s,baz=219,slow=4.3,SNR=6.0						
STKA	**Stephens Creek**	**28.76**	**230**	P	**P**	**05 51 35.6**	**+1.3**
	1.4nm,0.3s,baz=64,slow=9.0,SNR=6.9						
WRA	**Warramunga Arr**	**31.87**	**257**	P	**P**	**05 52 01.1**	**-0.8**
	0.4nm,0.5s,baz=86,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**32.65**	**250**	P	**P**	**05 52 08.2**	**-0.5**
	1.8nm,0.5s,baz=80,slow=8.9,SNR=24						
ARCES	**ARCESS Array B**	**120.87**	**345**	PKP	**PKPdf**	**06 04 24.8**	**-0.4**
	0.7nm,0.5s,baz=56,slow=3.1,SNR=5.0						

KRSC 04 05:49:50.9±0.7, 55°.15N×161°.48E, h83km±24km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.93**	**311**	*e*P	Pn	05 50 10.2	+0.8
KMNR				*e*S	Sn	05 50 24.5	+1.3
ZLN	**Zelenaya**	**0.95**	**336**	*e*P	Pn	05 50 10.5	+0.9
ZLN				*e*S	Sn	05 50 25.7	+2.1
KIRR	**Kirishev**	**1.03**	**322**	*e*P	Pn	05 50 11.4	+0.8
KIRR				*e*S	Sn	05 50 27.2	+1.9
LGNR	**Loginova**	**1.04**	**335**	*e*P	Pn	05 50 12.1	+1.3
LGNR				*e*S	Sn	05 50 27.8	+2.1
KPT	**Kopyto**	**1.09**	**319**	*e*P	Pn	05 50 11.8	+0.6
KPT				*e*S	Sn	05 50 27.7	+1.3
KRSR	**Krestovskiy**	**1.19**	**335**	*e*P	Pn	05 50 13.1	+0.7
KRSR				*e*S	Sn	05 50 29.1	+0.5
KLY	**Klyuchi**	**1.26**	**338**	*e*P	Pn	05 50 13.9	+0.8
KLY				*e*S	Sn	05 50 30.8	+0.9
KOZ	**Kozyrevsk**	**1.29**	**316**	*e*P	Pn	05 50 14.8	+1.2
KOZ				*e*S	Sn	05 50 32.4	+1.7
KBG	**Krutoberegovo**	**1.31**	**32**	*e*P	Pn	05 50 15.6	+1.9
KBG				*e*S	Sn	05 50 32.9	+1.9
SMKR	**Semkarok**	**1.44**	**360**	*e*P	Pn	05 50 16.9	+1.4
SMKR				*e*S	Sn	05 50 36.3	+2.2
SRKR	**Sorokina**	**1.52**	**353**	*e*P	Pn	05 50 17.8	+1.3
NLC	**Nalytchevo**	**2.35**	**213**	*e*P	Pn	05 50 28.8	+1.4
NLC				*e*S	Sn	05 50 56.6	+1.3
SDLR	**Sedlovina**	**2.42**	**220**	*e*P	Pn	05 50 30.1	+1.6
SDLR				*e*S	Sn	05 50 59.2	+1.9
KRX	**Arik**	**2.44**	**224**	*e*P	Pn	05 50 31.4	+2.5
KRX				*e*S	Sn	05 51 01.7	+3.7
KRER	**Koryakskii**	**2.45**	**222**	*e*P	Pn	05 50 31.1	+2.1
AVH	**Avacha**	**2.48**	**222**	*e*P	Pn	05 50 31.3	+2.0
AVH				*e*S	Sn	05 51 01.5	+2.7
UGLR	**Uglovaya**	**2.49**	**220**	*e*P	Pn	05 50 31.2	+1.7
UGLR				*e*S	Sn	05 51 01.0	+1.9
KOK	**Koryaka**	**2.50**	**223**	*e*P	Pn	05 50 33.4	+3.8
GNL	**Ganaly**	**2.53**	**236**	*e*P	Pn	05 50 31.3	+1.3
DALK	**Dalny**	**2.66**	**218**	*e*P	Pn	05 50 33.0	+1.4
DALK				*e*S	Sn	05 51 04.3	+1.4
PET	**Petropavlovsk**	**2.70**	**219**	*e*P	Pn	05 50 35.2	+3.0
PET				*e*S	Sn	05 51 07.8	+3.9
KRMR	**Karymshinskiy**	**3.05**	**222**	*e*P	Pn	05 50 38.8	+1.9
KRMR				*e*S	Sn	05 51 14.6	+2.2
RUS	**Russkaya**	**3.24**	**214**	*e*P	Pn	05 50 41.5	+2.1
RUS				*e*S	Sn	05 51 19.3	+2.4
ASAK	**Asacha**	**3.49**	**219**	*e*P	Pn	05 50 45.2	+2.3

*IDC **04** 05:51:49.1±0.6, 36°.43N×68°.69E, h0km, mb4.3/23, mb1 4.5/29, mb1mx4.3/65, mbtmp4.4/29, ML4.2/5, MS3.1/3, Ms1 3.1/3, ms1mx2.8/50, Error ellipse: s-maj=11.9km s-min=10.9km az=4.0*
*BJI **04** 05:51:50.6, 36°.60N×68°.50E, h25km, mb4.6/30, mB5.0/21, Ms4.4/11, MS7 4.1/11*
*ISCJB **04** 05:51:51.3±0.2, 36°.54N±0°.03×68°.76E±0°.03, h24km, mb4.5/52, MS3.4/5, Error ellipse: s-maj=4.1km s-min=3.1km az=40.9*
*NEIC **04** 05:51:51.9±2.9, 36°.61N×68°.65E, h14km±18km, mb4.6/20, Error ellipse: s-maj=7.8km s-min=5.8km az=193.0*
*MOS **04** 05:51:52.9±1.3, 36°.65N×68°.77E, h31km, mb4.6/34, Error ellipse: s-maj=7.3km s-min=4.7km az=86.9*
*NNC **04** 05:51:56.8±4.8, 36°.76N×68°.44E, h77km±72km, mb4.4, mpv4.6, Error ellipse: s-maj=45.6km s-min=24.8km az=170.0*
ISC 04 05:51:52.8±0.3, 36°.57N±0°.04×68°.61E±0°.04, h24km, n180, σ2°.24/195, mb4.5/50, MS3.0/5, 15C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.05**	**170**	*e*PN	**Pb**	**05 52 29.1**	**-0.5**
KBL				*e*		05 52 57.0	
KBL	**Kabul**	**2.05**	**170**	*e*Pn	**Pb**	**05 52 29.1**	**-0.5**
KBL				*e*Sn	**Sb**	**05 52 57.0**	**+2.3**
DZET	**Dzherino**	**2.24**	**4**	⇓Pn	**Pn**	**05 52 29.6**	**+1.0**
	165nm,0.4s						
DZET				⇓Lg	Lg	05 53 02.3	
	2μm,0.4s						
DZET	**Dzherino**	**2.24**	**4**	PN	**Pn**	**05 52 29.6**	**+1.0**
DZET						05 53 02.2	
DZET				pmax	pmax		
	comp=Z,165nm,0.4s						
DZET				pmax	pmax		
	comp=N,2μm,0.4s						
CEP	**Cherat**	**3.85**	**134**	P	**Pn**	**05 52 54.7**	**+4.0**
THW	**Thamme Wali**	**4.56**	**145**	P	**Pn**	**05 53 03.2**	**+2.7**
CHCP	**Chirah Chowk**	**4.79**	**126**	P	**Pn**	**05 53 07.5**	**+3.9**
KSH	**Kashi**	**6.52**	**61**	Pn	**Pn**	**05 53 24.2**	**-3.1**
KSH				Sn	Sn	05 54 30.4	-11
KSH				smax	smax		
	comp=N,350nm,0.6s						
KSH				smax	smax		
	comp=E,240nm,0.7s						

MNAS	**Manas**	**6.63**	**26**	⇓Pn	**Pn**	**05 53 30.2**	**+1.2**
	comp=E,17nm,0.4s						
MNAS				⇑Sn	**Sn**	**05 54 41.1**	**-2.7**
	comp=E,49nm,0.6s						
MNAS				⇑Lg	Lg	05 55 24.0	
	comp=E,75nm,0.8s						
MNAS	**Manas**	**6.63**	**26**	PN	**Pn**	**05 53 30.1**	**+1.2**
MNAS				pmax	pmax		
	comp=Z,17nm,0.4s						
MNAS				pmax	pmax		
	comp=N,75nm,0.8s						
KK31	**Karatay Array**	**6.69**	**12**	⇑Pn	**Pn**	**05 53 30.3**	**+0.7**
	comp=N,5.4nm,0.3s,baz=198,slow=13,SNR=71						
KK31				⇓Sn	**Sn**	**05 54 45.5**	**+0.4**
	comp=N,24nm,0.5s,baz=196,slow=22,SNR=2.9						
KK31				Lg	Lg	05 55 23.5	
	comp=N,96nm,0.5s,baz=190,slow=25,SNR=8.6						
KK31	**Karatay Array**	**6.69**	**12**	PN	**Pn**	**05 53 30.3**	**+0.7**
KK31						05 54 45.4	
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KK31				smax	smax		
	comp=N,25nm,0.5s						
KK31				pmax	pmax		
	comp=N,96nm,0.5s						
KKAR	**Karatay Array**	**6.69**	**12**	*e*PN	**Pn**	**05 53 30.6**	**+1.0**
KKAR	**Karatay Array**	**6.69**	**12**	*e*Pn	**Pn**	**05 53 30.6**	**+1.0**
THN	**Thein Dam**	**7.17**	**123**	*e*P	**Pn**	**05 53 36.0**	**-0.2**
THN				*ex*	**Sn**	**05 55 01.6**	**+4.7**
AAK	**Ala-Archa**	**7.58**	**35**	Pn	**Pn**	**05 53 43.4**	**+1.5**
	comp=N,13nm,0.3s,baz=204,slow=9.5,SNR=249						
AAK				Sn	**Sn**	**05 55 10.9**	**+3.8**
	comp=N,5.4nm,0.3s,baz=144,slow=22,SNR=4.2						
AAK				LR	LR	05 57 04.1	
	comp=N,295nm,19.9s,baz=208,slow=41						
AAK	**Ala-Archa**	**7.58**	**35**	Pn	**Pn**	**05 53 45.0**	**+3.1**
	comp=N,109nm,0.6s						
AAK				⇓Sn	**Sn**	**05 55 10.9**	**+3.8**
	comp=N,82nm,0.9s						
AAK				Lg	Lg	05 55 53.7	
	comp=N,103nm,1.0s						
AAK	**Ala-Archa**	**7.58**	**35**	*c i*P	**Pn**	**05 53 43.1**	**+1.2**
FRU	**Bishkek**	**7.78**	**35**	⇑*i*P	**Pn**	**05 53 47.0**	**+2.4**
FRU				*e*S	**Sn**	**05 55 15.0**	**+3.0**
FRU				pmax	pmax		
	comp=N,190nm,0.9s						
FRU				pmax	pmax		
	comp=E,550nm,1.8s						
FRU				MLR	MLR		
	comp=E,2μm,11.0s						
BHK	**Bhakra**	**8.27**	**126**	*e*S	**Sn**	**05 55 23.0**	**-1.0**
TKM2	**Tokmak 2**	**8.32**	**38**	⇑Pn	**Pn**	**05 53 52.3**	**+0.2**
	comp=E,19nm,0.4s						
TKM2				⇑Sn	**Sn**	**05 55 27.0**	**+1.6**
	comp=E,24nm,0.6s						
TKM2	**Tokmak 2**	**8.32**	**38**	P	**Pn**	**05 53 52.3**	**+0.2**
GEYT	**Alibeck**	**8.48**	**282**	Pn	**Pn**	**05 53 51.6**	**-2.5**
	comp=E,4.7nm,0.3s,baz=111,slow=11,SNR=16						
GEYT				Sn	**Sn**	**05 55 26.1**	**-2.9**
	comp=E,5.7nm,0.3s,baz=120,slow=10,SNR=3.6						
KKR	**Kurukshetra**	**9.52**	**131**	*ex*	**Sn**	**05 55 56.3**	**+1.6**
JASL	**Jaisalmer**	**9.81**	**168**	*e*S	**Sn**	**05 55 58.2**	**-3.6**
KHET	**Khetri**	**10.43**	**142**	*e*P	**Pn**	**05 54 19.9**	**-1.0**
KHET				*e*S	**Sn**	**05 56 12.0**	**-5.0**
BHGR	**Bahadurgarh**	**10.53**	**136**	*e*S	**Sn**	**05 56 13.4**	**-6.2**
NDI	**New Delhi**	**10.70**	**135**	*e*P	**Pn**	**05 54 25.0**	**+0.5**
NDI				*e*S	**Sn**	**05 56 17.0**	**-6.5**
JOSI	**Joshimath**	**10.92**	**120**	*e*P	**Pn**	**05 54 28.2**	**+0.4**
JOSI				*ex*	**Sn**	**05 56 33.2**	**+3.8**
JOSI				AML	AML	05 57 01.2	
	comp=N,162nm,0.7s						
JOSI				AML	AML	05 57 01.7	
	comp=E,114nm,0.9s						
AB31	**Akbulak array**	**14.17**	**336**	Pn	**Pn**	**05 55 09.5**	**-2.4**
	comp=E,8.3nm,0.6s,baz=158,slow=11,SNR=174						
AB31				⇑Sn	**Sn**	**05 57 41.6**	**-6.6**
	comp=E,7.4nm,0.7s,baz=150,slow=25,SNR=7.1						
AB31	**Akbulak array**	**14.17**	**336**	*e*P	**Pn**	**05 55 09.4**	**-2.4**
AB31						05 57 41.5	
AB31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AB31				smax	smax		
	comp=N,7.0nm,0.7s						
ABKAR	**Akbulak array**	**14.17**	**336**	*e*Pn	**Pn**	**05 55 09.1**	**-2.8**
MAKZ	**Makanchi**	**14.28**	**40**	*e*P	**Pn**	**05 55 11.7**	**-1.8**
MAKZ	**Makanchi**	**14.28**	**40**	*e*Pn	**Pn**	**05 55 11.7**	**-1.8**
MK01	**Makanchi Array**	**14.42**	**41**	*e*Pn	**Pn**	**05 55 13.7**	**-1.7**
MK31	**Makanchi Array**	**14.43**	**41**	*i* P	**Pn**	**05 55 13.7**	**-1.9**
MK31				pmax	pmax		
	comp=Z,18nm,0.8s						
MK31	**Makanchi Array**	**14.43**	**41**	*e*Pn	**Pn**	**05 55 14.8**	**-0.8**
MK32	**Makanchi Array**	**14.43**	**41**	*e*Pn	**Pn**	**05 55 14.4**	**-1.1**
MKAR	**Makanchi Array**	**14.43**	**41**	Pn	**Pn**	**05 55 14.4**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=231,slow=14,SNR=89						
MKAR	**Makanchi Array**	**14.43**	**41**	*e*Pn	**Pn**	**05 55 14.8**	**-0.8**
PYUN	**Piuthan**	**14.79**	**121**	*e*P	**Pn**	**05 55 18.2**	**-2.5**
	comp=Z,200nm,0.7s						
KOLN	**Koldanda**	**15.42**	**120**	*e*P	**Pn**	**05 55 26.3**	**-2.7**
	comp=Z,76nm,0.5s						
KURBB	**Kurchatov Arra**	**15.76**	**24**	Pn	**Pn**	**05 55 29.7**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=214,slow=12

GNI Garni 19.04 288 P **Pn** **05 56 14.7 +0.5**
baz=258,slow=20,SNR=2.6
GNI Garni 19.04 288 *i* P **Pn** **05 56 16.8 +2.6**
GNI pmax pmax
comp=Z,87nm,1.0s
ZEI Tsey 19.97 296 *e*P **Pn** **05 56 27.5 +2.2**
ZEI pmax pmax
comp=Z,13nm,0.7s
LSA Lhasa 20.06 103 *e*P Pn 05 56 27.0 +0.3
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 20.06 103 *e*P Pn 05 56 27.0 +0.3
comp=Z,17nm,0.8s
NCK Nalchik 20.32 298 *e*P Pn 05 56 30.5 +1.3
NCK pmax pmax
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 20.70 28 *e*P **P** **05 56 30.4 -0.7**
ZAA0 *e*P **P** **05 56 30.6 -0.5**
ZALV Zalesovo Beam 20.70 28 P **P** **05 56 30.8 -0.4**
comp=Z,47nm,0.7s,baz=219,slow=10,SNR=83
ZAA1 Zalesovo Array 20.71 28 *e*P **P** **05 56 30.8 -0.4**
NVS Novosibirsk 20.86 24 *e*P **P** **05 56 32.8 0.0**
NVS *e*S **S** **06 00 23.5 -0.6**
NVS pmax pmax
comp=Z,17nm,0.7s
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS smax smax
comp=E,37nm,2.0s
KBZ Khabaz 20.86 298 P Pn 05 56 35.0 -0.4
comp=E,6.7nm,0.7s,baz=131,slow=8.8,SNR=11
NEY Neytrino 20.90 297 *e*P Pn 05 56 37.5 +1.3
NEY pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 20.99 344 P Pn 05 56 35.8 -1.2
comp=Z,5.0nm,0.4s,baz=139,slow=5.1,SNR=12
ARU Arti 20.99 344 *d i*P Pn 05 56 35.8 -1.1
ARU 05 56 53.6
ARU S Sn 06 00 31.1 -2.2
ARU SS **SnSn** **06 00 54.0 +5.7**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 20.99 344 *e*P **P** **05 56 35.1 +0.8**
comp=Z,15nm,1.0s
HYB Hyderabad 21.01 153 *i* P **P** **05 56 36.0 +1.3**
KVAR Kislovodsk Arr 21.05 299 P **P** **05 56 35.2 +0.1**
comp=Z,13nm,0.7s,baz=0.0,slow=10,SNR=7.0
KIV Kislovodsk 21.06 299 *e*P **P** **05 56 36.9 +1.7**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,47nm,14.0s
KIV Kislovodsk 21.06 299 *e*P **P** **05 56 35.6 +0.5**
comp=Z,19nm,0.7s
GOF Gofitskoye 21.06 302⇑*e*P **P** **05 56 36.9 +1.8**
SHL Shillong 22.70 112 *e*P **P** **05 56 52.5 -0.5**
SHL *e*S Sn 06 01 08.5 -6.4
VSR Storozhevoye 25.56 314 *e*P **P** **05 57 20.3 +0.6**
VSR pmax pmax
comp=Z,4.0nm,0.8s
LPSR Galich'ya Gora 26.27 317 *e*P **P** **05 57 27.8 +1.7**
LPSR pmax pmax
comp=Z,5.0nm,1.0s
MMAI Mount Meron Ar 27.42 272 LR LR 06 10 32.3
comp=Z,26nm,18.9s,baz=140,slow=41
BR101 Keskin Array S 27.58 287 *e*P **P** **05 57 40.0 +1.8**
BRTR Keskin Array B 27.58 287 P **P** **05 57 40.0 +1.8**
comp=Z,2.2nm,0.8s,baz=103,slow=9.6,SNR=9.1
BRTR Keskin Array B 27.58 287 P **P** **05 57 40.0 +1.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR231 Keskin MP Arra 28.23 288 *e*P **P** **05 57 40.8 -3.2**
LZH Lanzhou 28.30 80 *e*P P 05 57 49.8 +5.1
LZH pP sP 05 57 56.4 +1.6
LZH sP pP 05 57 58.9 +7.0
LZH pmax pmax
comp=Z,17nm,1.0s
OBN Obninsk 28.65 321⇓*e*P **P** **05 57 50.0 +2.7**
OBN *e**PP **sP** **05 58 00.0 +2.6**
OBN *SP pP 05 58 05.0 +11
OBN *e* 05 58 41.8
OBN *e*S **S** **06 02 37.0 +2.6**
OBN *e*SS **SnSn** **06 04 02.7 +7.5**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,103nm,14.0s
CD2 Chengdu 29.66 91 *e*P **P** **05 57 57.0 +0.3**
SONA0 Songino Array 29.89 56 *e*P **P** **05 58 00.2 +1.6**
comp=Z,5.7nm,0.8s
SONM Songino Array 29.89 56 P **P** **05 58 00.2 +1.6**
comp=Z,5.3nm,0.8s,baz=253,slow=9.1,SNR=24
SONA1 Songino Array 29.89 56 *e*P **P** **05 58 00.2 +1.5**
ULN Ulaanbaatar 30.33 56 *c i*P **P** **05 57 58.9 -3.7**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 30.33 56 *e*P **P** **05 58 04.0 +1.5**
comp=Z,6.9nm,0.8s
AKASG Malin Array Be 31.41 309 P **P** **05 58 11.1 -0.7**
comp=Z,2.1nm,0.6s,baz=87,slow=7.5,SNR=11
AKASG Malin Array Be 31.41 309 *ce*P **P** **05 58 13.6 +1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 31.41 309 *e*P **P** **05 58 11.1 -0.7**
AKBB pmax pmax
comp=Z,11nm,1.5s
AKBB Malin Array Si 31.41 309 *e*P **P** **05 58 11.1 -0.7**
comp=Z,11nm,1.5s
CM31 Chiang Mai Arr 32.20 116 *e*P **P** **05 58 19.4 +0.3**
CMAR Chiang Mai Arr 32.20 116 P **P** **05 58 19.4 +0.4**
comp=Z,2.7nm,0.6s,baz=298,slow=8.3,SNR=17
CMAR Chiang Mai Arr 32.20 116 P **P** **05 58 19.5 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CM01 Chiang Mai Arr 32.23 116 *e*P **P** **05 58 20.0 +0.6**
MLR Muntele Rosu 33.06 299 LR LR 06 14 34.5
comp=Z,22nm,18.2s,baz=49,slow=41
MLR Muntele Rosu 33.06 299⇑*i*P **P** **05 58 29.0 +2.4**
MLR Muntele Rosu 33.06 299 *e*P **P** **05 58 26.6 0.0**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 33.06 299 *e*P **P** **05 58 26.6 0.0**
comp=Z,7.2nm,1.0s
HHC Hu-ho-hao-te 33.54 69 *e*P **P** **05 58 32.7 +1.9**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.4s
BURAR Bucovina Array 33.63 303⇓*i*P **P** **05 58 33.0 +1.5**
BUR08 Bucovina Ar. S 33.64 303 *e*P **P** **05 58 33.0 +1.4**
VOIR 33.69 299⇑*i*P **P** **05 58 34.3 +2.3**
GYA Guiyang 33.78 96 P **P** **05 58 33.6 +0.5**
GYA pmax pmax
comp=Z,20nm,0.8s
VSU Vasula 34.94 322 *e*P **P** **05 58 45.6 +3.1**
VSU pmax pmax
comp=Z,25nm,0.9s
DRGR 35.32 301⇓*i*P **P** **05 58 47.8 +1.7**
FIA0 FINESS Array S 36.36 327 *e*P **P** **05 58 56.7 +2.0**
FIA0 FINESS Array S 36.36 327 *e*P **P** **05 58 56.7 +2.0**
FINES FINESS Array B 36.36 327 P **P** **05 58 56.7 +2.0**
comp=Z,3.4nm,0.8s,baz=150,slow=8.8,SNR=6.4
BOD Bodaibo 36.52 40 *e*P **P** **05 58 56.8 +0.7**
BOD pmax pmax
comp=Z,12nm,1.1s
LVZ Lovozero 36.70 339 *e*P **P** **05 58 59.8 +2.2**
LVZ pmax pmax
comp=Z,22nm,1.4s
APA Apatity 36.85 338⇓*i*P **P** **05 58 55.7 -3.1**
APA MLR MLR
comp=Z,1μm,16.0s
DPC Dobruska-Polom 39.56 307 *e*P **P** **05 59 25.7 +3.8**
DPC Dobruska-Polom 39.56 307 *e*P **P** **05 59 25.7 +3.8**
ARA0 ARCESS Array S 40.36 338 *e*P **P** **05 59 28.4 +0.1**
ARCES ARCESS Array B 40.36 338 P **P** **05 59 28.4 +0.1**
comp=Z,2.6nm,0.7s,baz=119,slow=7.3,SNR=7.2
GEC2 GERESS Array S 41.31 305 *e*P **P** **05 59 37.3 +0.8**
GEC2 pmax pmax
comp=Z,14nm,1.9s
GEC2 GERESS Array S 41.31 305 *e*P **P** **05 59 37.3 +0.8**
comp=Z,14nm,1.9s
GERES GERESS Array B 41.31 305 P **P** **05 59 37.3 +0.8**
comp=Z,0.5nm,0.5s,baz=67,slow=4.5,SNR=3.6

NJ2 Nanjing 41.37 81 *e*P **P** **05 59 39.0 +2.0**
NJ2 pmax pmax
comp=Z,35nm,1.2s
NB2 NORSAR Subarra 43.17 323 P **P** **05 59 51.7 +0.4**
comp=Z,3.1nm,0.8s,baz=97,slow=8.6
NB200 NORSAR Array S 43.17 323 *e*P **P** **05 59 51.8 +0.4**
NOA NORSAR Array B 43.17 323 P **P** **05 59 51.8 +0.4**
comp=Z,4.2nm,0.8s,baz=99,slow=8.2,SNR=11
PSI Prapat 43.70 133 P **P** **05 59 55.5 -0.7**
comp=Z,8.5nm,0.7s,baz=298,slow=5.0,SNR=7.4
PSI Prapat 43.70 133 P **P** **05 59 55.5 -0.7**
PSI pmax pmax
comp=Z,8.0nm,0.7s
YAK Yakutsk 45.03 36 *e*P **P** **06 00 04.5 -1.7**
YAK pmax pmax
comp=Z,18nm,0.9s
KS15 Wonju Array Si 46.65 70 *e*P **P** **06 00 19.9 +0.6**
KSAR Wonju Array Be 46.65 70 P **P** **06 00 19.9 +0.6**
KSAR Wonju Array Be 46.65 70 P **P** **06 00 19.9 +0.6**
KLR Kul'dur 46.66 54 P **P** **06 00 18.6 -0.6**
comp=Z,0.3nm,0.6s,baz=301,slow=8.2,SNR=5.5
KLR Kul'dur 46.66 54 *e*P **P** **06 00 19.6 +0.4**
KSRS Korea Array 46.67 70 P **P** **06 00 19.9 +0.4**
comp=Z,1.1nm,0.8s,baz=272,slow=6.4,SNR=4.7
VLA Vladivostok 48.01 62 *e*P **P** **06 00 29.4 -0.4**
VLA pmax pmax
comp=Z,31nm,0.8s
YSS Yuzh-Sakhalins 54.35 54 *e*P **P** **06 01 15.9 -1.5**
YSS pmax pmax
comp=Z,17nm,1.0s
SEY Seymchan 55.43 34 *i*P **P** **06 01 26.1 +1.2**
MA2 Magadan 55.49 38 *e*P **P** **06 01 25.7 +0.2**
ESDC Sonseca Array 55.72 297 P **P** **06 01 28.2 +0.7**
comp=Z,0.2nm,0.3s,baz=78,slow=7.6,SNR=5.5
TOA1 Torodi Ar. Sit 63.79 267 *e*P **P** **06 02 23.4 +0.2**
TOA0 Torodi Ar. Sit 63.79 267 *e*P **P** **06 02 23.1 -0.2**
TORD Torodi Ar. Bea 63.79 267 P **P** **06 02 23.4 +0.2**
comp=Z,2.5nm,0.8s,baz=45,slow=5.8,SNR=17
COLD Coldfoot 72.41 15 *e*P **P** **06 03 17.7 +1.1**
comp=Z,10.0nm,1.2s
INK Inuvik 74.13 8 P **P** **06 03 26.2 -0.4**
comp=Z,5.5nm,0.8s,baz=15,slow=8.7,SNR=7.5
INK Inuvik 74.13 8 *e*P **P** **06 03 28.2 +1.5**
comp=Z,7.2nm,0.9s
MDM Murphy Dome 74.78 15 *e*P **P** **06 03 30.8 +0.2**
comp=Z,4.6nm,0.8s
COLA College 74.93 15 *e*P **P** **06 03 31.7 +0.3**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 74.93 15 *e*P **P** **06 03 31.6 +0.3**
comp=Z,6.3nm,0.8s
CAST Castle Rocks 75.22 18 *e*P **P** **06 03 34.4 +1.3**
comp=Z,22nm,1.4s
IL1 Eielson Array 75.22 15 *e*P **P** **06 03 33.3 +0.2**
ILAR Eielson Array 75.22 15 P **P** **06 03 33.2 +0.1**
comp=Z,2.8nm,1.0s,baz=327,slow=4.8,SNR=17
ILB Eielson Array 75.22 15 *e*P **P** **06 03 33.8 +0.7**
BOSA Boshof 76.58 218 P **P** **06 03 42.9 +1.6**
comp=Z,3.9nm,0.9s,baz=62,slow=8.8,SNR=4.4
DHY Denali Highway 76.61 16 *e*P **P** **06 03 41.9 +0.7**
comp=Z,3.8nm,0.7s
DOT Dot Lake 76.80 14 *e*P **P** **06 03 43.5 +1.4**
comp=Z,44nm,1.7s
PAX Paxson 77.11 15 *e*P **P** **06 03 44.9 +0.9**
PAX pmax pmax
comp=Z,15nm,1.5s
PAX Paxson 77.11 15 *e*P **P** **06 03 44.9 +0.9**
comp=Z,15nm,1.5s
DAWY Dawson 77.28 12 *e*P **P** **06 03 46.4 +1.6**
comp=Z,5.8nm,1.0s
KDAK Kodiak Island 79.84 21 P **P** **06 03 59.8 +0.9**
comp=Z,4.0nm,0.7s,baz=321,slow=14,SNR=5.2
KDAK Kodiak Island 79.84 21 *i*P **P** **06 04 00.3 +1.3**
KDAK Kodiak Island 79.84 21 *e*P **P** **06 03 59.8 +0.9**
comp=Z,132nm,1.8s
YKA Yellowknife Ar 81.25 2 P **P** **06 04 07.7 +1.3**
comp=Z,1.8nm,0.5s,baz=353,slow=5.4,SNR=5.8
YKB5 Yellowknife Ar 81.25 2 *e*P **P** **06 04 06.8 +0.4**
WRA Warramunga Arr 83.67 120 P **P** **06 04 17.7 -2.1**
comp=Z,1.3nm,0.8s,baz=324,slow=5.2,SNR=5.7
WR1 Warramunga Arr 83.68 120 *e*P **P** **06 04 17.7 -2.1**
comp=Z,11nm,0.8s
WRAB Tennant Creek 83.68 120 *e*P **P** **06 04 17.7 -2.0**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
AS31 Alice Springs 85.89 123 *e*P **P** **06 04 29.2 -1.6**
comp=Z,1.4nm,0.7s
ASAR Alice Springs 85.89 123 P **P** **06 04 29.2 -1.6**
comp=Z,1.0nm,0.5s,baz=310,slow=4.8,SNR=4.8

NIED ***04*** *05:55:00,37°.50N×142°.50E,h23km,Mw4.1 Best double couple: M₀1.62000×10¹⁵ NP1:φ₀=27.00000°,δ22.00000°, λ-113.00000°. NP2:φ₀=231.00000°,δ70.00000°, λ-81.00000°.*
IDC ***04*** *05:55:51.7±0.6,37°.46N×142°.64E,h0km,mb4.2/19, mb1 4.3/22,mb1mx4.1/66,mbtmp4.2/22,ML4.2/3,MS3.1/7, Ms1 3.1/7,ms1mx2.8/40,Error ellipse: s-maj=17.1km s-min=13.3km az=104.0*
ISCJB ***04*** *05:55:53.1±0.4,37°.51N±0°.04×142°.63E±0°.05,h21km, mb4.3/22,MS3.6/2,Error ellipse: s-maj=5.9km s-min=5.0km az=141.1*
JMA ***04*** *05:55:54.0±0.3,37°.55N×142°.52E,h25km±5km,M4.2*
NEIC ***04*** *05:55:57.0±1.1,37°.49N×142°.67E,h36km±9km,mb4.3/1, Error ellipse: s-maj=11.3km s-min=6.9km az=124.0*
ISC 04 05:55:55.1±0.6,37°.53N±0°.04×142°.44E±0°.06,h21km,n57, σ1ᵗ36/54,mb4.2/22,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.26**	**263**	P	**Pn**	**05 56 17.1**	**-0.4**
JIO	**Ouri**	**1.27**	**317**	P	**Pn**	**05 56 17.0**	**-0.6**
JIO				*e*S	**Sb**	**05 56 33.7**	**-0.4**
JMM	**Marumori**	**1.35**	**285**	P	**Pn**	**05 56 18.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.38**	**253**	P	**Pn**	**05 56 18.7**	**-0.4**
ONAJ				*e*S	**Sb**	**05 56 36.9**	**-0.4**
JOU	**Okura**	**1.64**	**301**	P	**Pb**	**05 56 23.1**	**-1.5**
JFT	**Otama**	**1.67**	**270**	P	**Pb**	**05 56 24.0**	**-1.2**
JMK	**Ichinoseki**	**1.72**	**326**	P	**Pn**	**05 56 23.5**	**-0.3**
JYS	**Shiratake**	**2.00**	**291**	P	**Pn**	**05 56 28.5**	**+0.8**
JYS				*e*S	**Sb**	**05 56 53.4**	**-2.0**
JOM	**Ohasama**	**2.14**	**335**	P	**Pn**	**05 56 29.6**	**0.0**
JYK	**Kaneyama**	**2.15**	**311**	P	**Pn**	**05 56 30.4**	**+0.7**
JFY	**Yanaizu**	**2.18**	**268**	P	**Pn**	**05 56 31.2**	**+1.0**
JNS	**Sasagawa**	**2.50**	**278**	P	**Pn**	**05 56 35.7**	**+1.2**
JAG	**Ashikaga**	**2.63**	**246**	P	**Pn**	**05 56 37.4**	**+1.1**
JAW	**Awa shima**	**2.69**	**291**	P	**Pb**	**05 56 39.5**	**-3.0**
JANG	**Nango**	**2.94**	**346**	P	**Pn**	**05 56 39.7**	**-0.8**
JANG				*e*S	**Sn**	**05 57 14.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.53**	**255**	Pn	**Pn**	**05 56 50.6**	**+1.9**
	6.2nm,0.3s,baz=80,slow=14,SNR=24						
MJAR				LR	LR	05 57 43.6	
	comp=Z,56nm,20.5s,baz=60,slow=31						
MAJO	**Matsushiro**	**3.53**	**255**	*e*Pn	**Pn**	**05 56 51.8**	**+3.1**
MAT	**Matsushiro**	**3.53**	**255**	P	**Pn**	**05 56 51.8**	**+3.1**
MAT				S	**Sb**	**05 57 36.3**	**-2.9**
ERM	**Erimo**	**4.52**	**7**	*e*Pn	**Pn**	**05 57 02.4**	**+0.1**
JHJ	**Hachijo jima 2**	**4.90**	**207**	Pn	**Pn**	**05 57 07.0**	**-0.5**
	66nm,0.3s,baz=239,slow=23,SNR=6.2						
JHJ				Sn	**Sn**	**05 58 01.0**	**-2.6**
	41nm,0.3s,baz=253,slow=19,SNR=3.1						
JHJ				LR	LR	05 58 49.7	
	comp=Z,94nm,18.2s,baz=47,slow=36						
ASAJ	**Asahikawa**	**6.59**	**1**	Pn	**Pn**	**05 57 30.6**	**0.0**
	4.4nm,0.3s,baz=252,slow=9.6,SNR=6.5						
USRK	**Ussuriysk Ar.**	**10.35**	**313**	Pn	Pn	05 58 26.7	+4.6
	1.0nm,0.3s,baz=128,slow=15,SNR=16						
USRK				LR	LR	06 02 11.8	
	comp=Z,272nm,18.7s,baz=153,slow=36						
KSRS	**Korea Array**	**11.54**	**274**	Pn	Pn	05 58 44.2	+5.7
	0.3nm,0.3s,baz=86,slow=14,SNR=11						
KSRS				LR	LR	06 02 51.4	
	comp=Z,124nm,19.4s,baz=108,slow=36						
KSAR	**Wonju Array Be**	**11.57**	**274**	Pn	Pn	05 58 44.2	+5.2
KLR	**Kul'dur**	**14.03**	**330**	Pn	**Pn**	**05 59 15.2**	**+2.7**
	0.0nm,0.3s,baz=184,slow=9.1,SNR=3.8						
KLR				LR	LR	06 04 39.0	
	comp=Z,23nm,18.6s,baz=142,slow=37						
MA2	**Magadan**	**22.71**	**11**	P	**Pn**	**06 00 57.1**	**+1.9**
	4.5nm,0.4s,baz=142,slow=17,SNR=2.4						
SEY	**Seymchan**	**26.16**	**10**	P	**P**	**06 01 28.6**	**+1.0**
	3.6nm,0.8s,baz=259,slow=5.2,SNR=3.6						
H11N2	**WAKE ISLAND Hy 27.71 123**			T	T	06 30 27.7	
	baz=315,slow=75,SNR=256						
H11N1	**WAKE ISLAND Hy 27.72 123**			T	T	06 30 28.2	
	baz=315,slow=75,SNR=176						
H11N3	**WAKE ISLAND Hy 27.73 123**			T	T	06 30 28.9	
	baz=315,slow=75,SNR=213						
SONM	**Songino Array**	**28.20**	**303**	P	**P**	**06 01 48.1**	**+1.8**
	2.1nm,0.6s,baz=102,slow=8.8,SNR=10.0						
H11S1	**WAKE ISLAND Hy 28.45 125**			T	T	06 31 33.9	
	baz=317,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy 28.45 125**			T	T	06 31 32.7	
	baz=317,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy 28.47 125**			T	T	06 31 32.0	
	baz=317,slow=76,SNR=71						
TLY	**Talaya**	**30.64**	**310**	LR	LR	06 15 05.8	
	comp=Z,105nm,20.0s,baz=110,slow=38						
ZALV	**Zalesovo Beam**	**42.19**	**312**	P	**P**	**06 03 45.9**	**-0.2**
	1.5nm,0.7s,baz=57,slow=11,SNR=4.6						
ZALV				PcP	**PcP**	**06 05 40.6**	**+0.6**
	2.1nm,0.6s,baz=64,slow=3.1,SNR=4.2						
NRIK	**Noril'sk**	**43.17**	**335**	LR	LR	06 22 23.3	
	comp=Z,78nm,18.9s,baz=262,slow=37						
MKAR	**Makanchi Array**	**44.55**	**302**	P	**P**	**06 04 06.6**	**+1.3**
	0.8nm,0.5s,baz=86,slow=8.9,SNR=4.7						
KDAK	**Kodiak Island**	**46.19**	**42**	P	**P**	**06 04 17.2**	**-0.8**
	3.9nm,0.7s,baz=269,slow=7.3,SNR=4.8						
KURK	**Kurchatov**	**46.28**	**308**	*e*P	**P**	**06 04 19.8**	**+0.9**
KURK				P	**P**	**06 04 20.0**	**+1.2**
KURBB	**Kurchatov Arra**	**46.35**	**308**	P	**P**	**06 04 20.0**	**+0.6**
	3.1nm,0.6s,baz=81,slow=8.0,SNR=9.3						
ILAR	**Eielson Array**	**48.64**	**33**	P	**P**	**06 04 36.6**	**-0.4**
	1.8nm,0.7s,baz=261,slow=6.3,SNR=13						
DIV	**Divide**	**49.39**	**37**	*e*P	**P**	**06 04 42.1**	**-0.8**
	34nm,0.7s						
AAK	**Ala-Archa**	**50.98**	**298**	P	**P**	**06 04 57.7**	**+2.4**
	0.9nm,0.3s,baz=148,slow=13,SNR=2.6						
ARU	**Arti**	**56.54**	**319**	P	**P**	**06 05 35.9**	**+0.3**
	1.7nm,0.3s,baz=348,slow=3.6,SNR=2.6						
FITZ	**Fitzroy Crossi**	**57.55**	**199**	P	**P**	**06 05 43.1**	**0.0**
	1.8nm,0.5s,baz=270,slow=20						
WRAB	**Tennant Creek**	**57.66**	**189**	*e*P	**P**	**06 05 43.3**	**-0.5**
	15nm,0.9s						
WRA	**Warramunga Arr**	**57.67**	**189**	P	**P**	**06 05 43.2**	**-0.7**
	10nm,0.7s,baz=8.1,slow=7.3,SNR=51						
ABKAR	**Akbulak array**	**58.25**	**310**	*e*P	**P**	**06 05 48.0**	**+0.2**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**61.39**	**189**	P	**P**	**06 06 09.2**	**-0.4**
	4.2nm,0.8s,baz=11,slow=6.6,SNR=25						
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**06 06 56.8**	**-0.3**
	4.8nm,1.0s,baz=38,slow=9.6,SNR=5.2						
NOA	**NORSAR Array B**	**74.05**	**338**	P	**P**	**06 07 29.8**	**+0.7**
	0.9nm,0.8s,baz=39,slow=5.6,SNR=3.4						
AKASG	**Malin Array Be**	**74.41**	**323**	P	**P**	**06 07 31.2**	**0.0**
	0.6nm,0.4s,baz=45,slow=5.8,SNR=4.7						
PDAR	**Pinedale Array**	**76.74**	**46**	P	**P**	**06 07 44.9**	**-0.2**
	0.6nm,0.6s,baz=257,slow=1.5,SNR=8.5						
ULM	**Lac du Bonnet**	**78.64**	**34**	P	**P**	**06 07 53.5**	**-1.7**
	2.8nm,1.0s,baz=0.9,slow=5.6,SNR=3.0						
TXAR	**Lajitas Array**	**89.17**	**53**	P	**P**	**06 08 49.4**	**-0.1**
	0.7nm,0.5s,baz=300,slow=2.9,SNR=14						
LPAZ	**La Paz**	**145.74**	**60**	PKPbc	**PKPbc**	**06 15 33.2**	**-0.4**
	1.4nm,0.5s,baz=1.8,slow=2.7,SNR=18						

IDC ***04*** *05:56:22.0±1.0,2°.15N×126°.33E,h0km,mb4.3/9, mb1 4.4/9,mb1mx3.9/54,mbtmp4.3/9,MS3.9/1,Ms1 3.9/1, ms1mx2.6/35,Error ellipse: s-maj=99.4km s-min=15.5km az=69.0*
ISCJB ***04*** *05:56:22.6±0.5,1°.98N±0°.05×126°.0E±0°.1,h10km, mb4.5/12,Error ellipse: s-maj=15.1km s-min=6.3km az=163.5*
NEIC ***04*** *05:56:27.8±0.4,1°.92N×125°.94E,h35km,mb4.8/1,Error ellipse: s-maj=14.7km s-min=7.7km az=68.0*
DJA ***04*** *05:56:30.0±0.7,2°.N±5°.×12°.6E±°.,h10km,M4.6/7,mb4.9/3, mB5.0/3,MLv4.4/7,Mw(mB)4.3/3*
ISC 04 05:56:24.2±0.6,2°.02N±0°.07×125°.98E±0°.07,h10km,n35, σ1ᵗ73/31,mb4.6/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**3.05**	**150**	P	**Pb**	**05 57 16.3**	**-2.3**
LBMI	**Labuha**	**3.05**	**150**	P	**Pn**	**05 57 14.3**	**+1.8**
LBMI				S	**Sn**	**05 57 46.4**	**-2.8**
SANI	**Sanana**	**4.05**	**180**	P	**Pn**	**05 57 28.9**	**+2.7**
SANI	**Sanana**	**4.05**	**180**	P	**Pn**	**05 57 28.8**	**+2.6**
SANI				S	**Sn**	**05 58 13.4**	**-0.3**
MRSI	**Marisa**	**4.32**	**249**	P	**Pb**	**05 57 39.2**	**-1.1**
MRSI	**Marisa**	**4.32**	**249**	P	**Pb**	**05 57 38.6**	**-1.7**
NLAI	**Namlea**	**5.35**	**168**	P	**Pn**	**05 57 46.2**	**+2.1**
SIJI	**Sorong**	**6.02**	**118**	LR	LR	06 00 13.0	
	comp=Z,1μm,20.6s,baz=275,slow=40						
AAI	**Ambon**	**6.09**	**159**	P	**Pb**	**05 58 11.8**	**+1.3**
MSAI	**Masohi**	**6.09**	**151**	P	**Pn**	**05 57 58.3**	**+3.9**
MSAI	**Masohi**	**6.09**	**151**	P	**Pn**	**05 57 57.8**	**+3.4**
BNDI	**Bandanaira**	**7.59**	**149**	P	Pn	05 58 09.7	-5.3
BNDI	**Bandanaira**	**7.59**	**149**	P	Pn	05 58 09.6	-5.4
FAKI	**Fak Fak**	**7.96**	**128**	P	**Pn**	**05 58 20.7**	**+0.6**
FAKI	**Fak Fak**	**7.96**	**128**	P	**Pn**	**05 58 20.8**	**+0.6**
FAKI	**Fak Fak**	**7.96**	**128**	*e*Pn	**Pn**	**05 58 20.5**	**+0.4**
	39nm,0.6s						
KAPI	**Kappang**	**9.36**	**222**	Pn	**Pn**	**05 58 38.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.00**	**181**	P	**P**	**06 00 57.8**	**+0.6**
	1.2nm,0.4s,baz=90,slow=20						
WRAB	**Tennant Creek**	**23.32**	**160**	*e*P	**P**	**06 01 31.7**	**-0.9**
	11nm,0.3s						
WRA	**Warramunga Arr**	**23.32**	**160**	P	**P**	**06 01 31.3**	**-1.4**
	12nm,0.4s,baz=340,slow=11,SNR=82						
ASAR	**Alice Springs**	**26.68**	**164**	P	**P**	**06 02 03.1**	**-0.5**
	3.1nm,0.3s,baz=346,slow=7.3,SNR=50						
CTAO	**Charters Tower**	**29.64**	**139**	*e*P	**P**	**06 02 29.4**	**-0.7**
	175nm,1.8s						
KSAR	**Wonju Array Be**	**35.29**	**3**	P	**P**	**06 03 21.5**	**+2.1**
KSRS	**Korea Array**	**35.30**	**3**	P	**P**	**06 03 21.5**	**+2.0**
	1.4nm,0.6s,baz=180,slow=9.9,SNR=6.3						
STKA	**Stephens Creek**	**36.83**	**158**	P	**P**	**06 03 32.0**	**-0.6**
	6.1nm,0.4s,baz=331,slow=8.5,SNR=24						
H11S3	**WAKE ISLAND Hy 43.12**		**65**	T	T	06 51 38.3	
	baz=252,slow=75,SNR=3.3						
H11S2	**WAKE ISLAND Hy 43.13**		**65**	T	T	06 51 38.3	
	baz=252,slow=75,SNR=4.4						
H11S1	**WAKE ISLAND Hy 43.13**		**65**	T	T	06 51 30.4	
	baz=252,slow=75,SNR=3.3						
SONM	**Songino Array**	**48.68**	**342**	P	**P**	**06 05 07.6**	**-1.2**
	1.3nm,1.1s,baz=138,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.53**	**326**	P	**P**	**06 06 21.4**	**+0.4**
	3.1nm,0.4s,baz=121,slow=7.8,SNR=33						
KURK	**Kurchatov**	**62.78**	**328**	*e*P	**P**	**06 06 50.1**	**+0.3**
	40nm,0.5s						
VNDA	**Vanda**	**81.84**	**173**	P	**P**	**06 08 43.5**	**+0.4**
	0.5nm,0.4s,baz=295,slow=5.6,SNR=10						
BRTR	**Keskin Array B**	**90.52**	**310**	P	**P**	**06 09 26.8**	**-0.1**
	0.3nm,0.3s,baz=60,slow=3.5,SNR=2.6						
FINES	**FINESS Array B**	**92.97**	**332**	P	**P**	**06 09 37.6**	**0.0**
	1.0nm,0.8s,baz=50,slow=7.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.71**	**287**	PKP	**PKPdf**	**06 15 20.9**	**-0.6**
	0.3nm,0.6s,baz=72,slow=4.7,SNR=2.7						

JMA 04 06:01:59.6,36°.34N×138°.00E,h4km±1km,M0.8,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.10**	**50**	P	Pg	06 02 01.8	0.0
JNG				S	Sg	06 02 03.6	+0.3
MAT	**Matsushiro**

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AAK                                     Sn      Sn      06 09 27.8 +0.6
      1.4nm,0.5s
KK31  Karatay Array      5.29 349 ⇓Pn           Pn      06 08 30.9 +1.7
      1.6nm,0.5s,baz=163,slow=12,SNR=16
KK31                             ⇓Sn           Sn      06 09 32.0 +1.1
      1.0nm,0.3s,baz=172,slow=17,SNR=10
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IDC **04** *06:12:11.7±1.2, 37°.33N×23°.29E, h95km±14km, mb3.6/11, mb1 3.6/17, mb1mx3.5/48, mbtmp3.8/17, Error ellipse: s-maj=15.2km s-min=11.2km az=48.0*
ISCJB **04** *06:12:12.0±0.2, 37°.36N±0°.02×23°.22E±0°.02, h116km±2km, mb3.8/12, Error ellipse: s-maj=3.3km s-min=2.1km az=39.9*
PDG **04** *06:12:11.7±0.4, 37°.46N×22°.81E, h16km±6km, ML4.3/10, Error ellipse: s-maj=6.8km s-min=3.2km az=90.0*
THE **04** *06:12:13.4, 37°.33N×23°.31E, h98km±1km, ML4.0/32, Error ellipse: s-maj=1.5km s-min=0.5km az=317.0*
ATH **04** *06:12:13.1, 37°.33N×23°.28E, h96km±1km, ML3.8/22, Error ellipse: s-maj=1.8km s-min=0.6km az=348.0*
CSEM **04** *06:12:13.0±0.1, 37°.34N×23°.22E, h109km±1km, ML4.0, Error ellipse: s-maj=3.4km s-min=1.9km az=40.0*
TIR **04** *06:12:43.0, 39°.37N×20°.65E, h7km, ML4.1*
HLW **04** *06:13:20.4, 32°.17N×26°.71E, h11km±9km, Md3.8*
ISC 04 06:12:12.0±0.6, 37°.34N±0°.03×23°.26E±0°.02, h102km±5km, n387, σ2°02/510, mb3.9/12, 18C-21D, Southern Greece

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Code  Station Name       Δ°   AZ°   Phase ID        Time      Res
                                    Op    ISC       h m s     ISC
VLY   Voula,Athens       0.66  40   P     Pn        06 12 30.6 +1.3
VLY                                 S     Sn        06 12 42.5 +0.3
VLY   Voula,Athens       0.66  40   P     Pn        06 12 30.9 +1.6
VLY                                 S     Sn        06 12 41.6 -0.6
VLY                                 AML   AML       06 12 42.9
      comp=N,4776µm,0.5s
VLY                                 AML   AML       06 12 43.3
      comp=E,6567µm,0.7s
VLY   Voula,Athens       0.66  40   P     Pn        06 12 30.9 +1.6
VLY                                 S     Sn        06 12 42.5 +0.3
VLI   Veliai             0.68 203   P     Pn        06 12 30.3 +0.8
VLI                                 S     Sn        06 12 42.1 -0.4
VLI   Veliai             0.68 203   P     Pn        06 12 30.2 +0.8
VLI                                 S     Sn        06 12 41.6 -0.9
VLI                                 AML   AML       06 12 42.7
      comp=N,11642µm,0.2s
VLI                                 AML   AML       06 12 44.2
      comp=E,6214µm,0.3s
VLI   Veliai             0.68 203   P     Pn        06 12 30.3 +0.8
VLI                                 S     Sn        06 12 42.1 -0.4
LOUT  Loutraki           0.68 340   P     Pn        06 12 30.7 +1.2
LOUT                                S     Sn        06 12 43.5 +0.9
LOUT  Loutraki           0.68 340   P     Pn        06 12 31.0 +1.5
LOUT                                S     Sn        06 12 43.2 +0.6
LOUT                                AML   AML       06 12 44.4
      comp=N,10255µm,0.6s
LOUT                                AML   AML       06 12 48.4
      comp=E,13398µm,0.5s
LOUT  Loutraki           0.68 340   P     Pn        06 12 31.0 +1.5
LOUT                                S     Sn        06 12 43.5 +0.9
VLX   Vlachokerasia      0.70 272   P     Pn        06 12 31.3 +1.5
VLX   Vlachokerasia      0.70 272   P     Pn        06 12 31.9 +2.1
VLX   Vlachokerasia      0.70 272   P     Pn        06 12 31.3 +1.5
LTK   Loutraki           0.72 341   P     Pn        06 12 31.2 +1.4
LTK                                 S     Sn        06 12 44.1 +1.0
LTK   Loutraki           0.72 341   P     Pn        06 12 31.4 +1.6
LTK                                 S     Sn        06 12 43.7 +0.5
LTK   Loutraki           0.72 341   P     Pn        06 12 31.4 +1.6
LTK                                 S     Sn        06 12 44.1 +1.0
ATH   Athens Observa     0.72  30   P     Pn        06 12 30.9 +1.1
ATH                                 S     Sn        06 12 44.1 +0.9
ATH   Athens Observa     0.72  30   P     Pn        06 12 31.9 +2.0
ATH                                 S     Sn        06 12 43.8 +0.7
ATH                                 AML   AML       06 12 44.4
      comp=N,6065µm,0.7s
ATH                                 AML   AML       06 12 44.7
      comp=E,3192µm,0.6s
ATH   Athens Observa     0.72  30   P     Pn        06 12 30.9 +1.1
ATH                                 S     Sn        06 12 44.1 +0.9
ATHU  Athens Univers     0.75  33   P     Pn        06 12 30.6 +0.5
ATHU                                S     Sn        06 12 43.5 -0.1
ATHU  Athens Univers     0.75  33   P     Pn        06 12 30.2 +0.2
ATHU  Athens Univers     0.75  33   P     Pn        06 12 30.6 +0.5
TRIP  Tripoli            0.81 283   P     Pn        06 12 32.9 +2.2
TRIP                                S     Sn        06 12 45.9 +1.1
TRIP  Tripoli            0.81 283   P     Pn        06 12 32.9 +2.2
TRIP                                S     Sn        06 12 45.9 +1.1
VILL  Villia             0.82   3   P     Pn        06 12 32.2 +1.4
VILL                                S     Sn        06 12 45.5 +0.6
VILL  Villia             0.82   3   P     Pn        06 12 32.2 +1.4
VILL                                S     Sn        06 12 46.0 +1.1
THAL  Thalero            0.84 326   P     Pn        06 12 32.4 +1.5
THAL                                S     Sn        06 12 46.1 +1.0
THAL  Thalero            0.84 326   P     Pn        06 12 32.2 +1.3
THAL                                S     Sn        06 12 45.2  0.0
THAL                                AML   AML       06 12 46.3
      comp=N,36524µm,0.6s
THAL                                AML   AML       06 12 55.0
      comp=E,31503µm,0.5s
THAL  Thalero            0.84 326   P     Pn        06 12 32.4 +1.5
THAL                                S     Sn        06 12 46.1 +1.0
PTL   Penteli            0.85  34   P     Pn        06 12 32.8 +1.7
PTL                                 S     Sn        06 12 46.3 +0.9
PTL   Penteli            0.85  34   P     Pn        06 12 33.5 +2.4
PTL                                 S     Sn        06 12 45.7 +0.3
PTL                                 AML   AML       06 12 46.8
      comp=E,7735µm,0.5s
PTL                                 AML   AML       06 12 46.9
      comp=N,6211µm,0.6s
PTL   Penteli            0.85  34   P     Pn        06 12 32.8 +1.7
PTL                                 S     Sn        06 12 46.3 +0.9
VIL2  Platees            0.87   0   P     Pn        06 12 32.5 +1.3
VIL2                                S     Sn        06 12 46.0 +0.3
VIL2                                AML   AML       06 12 50.5
      comp=N,5924µm,0.5s
VIL2                                AML   AML       06 12 51.9
      comp=E,4369µm,0.6s
GUR   Goura              0.94 309   P     Pn        06 12 33.7 +1.6
GUR                                 S     Sn        06 12 47.9 +0.7
GUR   Goura              0.94 309   P     Pn        06 12 33.9 +1.8
GUR                                 S     Sn        06 12 47.2  0.0
GUR                                 AML   AML       06 12 49.1
      comp=E,11896µm,0.5s
GUR                                 AML   AML       06 12 49.4
      comp=N,16083µm,0.4s
GUR   Goura              0.94 309   P     Pn        06 12 33.7 +1.6
GUR                                 S     Sn        06 12 47.9 +0.7
PROD  Prodromos          0.96 343   P     Pn        06 12 33.2 +1.1
PROD                                S     Sn        06 12 48.3 +1.0
PROD                                AML   AML       06 12 48.9
      comp=E,7066µm,0.5s
PROD                                AML   AML       06 12 49.4
      comp=N,8770µm,0.3s
PROD  Prodromos          0.96 343   P     Pn        06 12 33.2 +1.1
PROD                                S     Sn        06 12 48.3 +1.0
ITM   Ithomi             1.08 262   P     Pn        06 12 35.6 +2.1
ITM                                 S     Sn        06 12 51.5 +1.9
ITM   Ithomi             1.08 262   P     Pn        06 12 36.4 +2.9
ITM                                 AML   AML       06 12 52.6
      comp=N,4339µm,0.4s
ITM                                 S     Sn        06 12 53.0 +3.4
ITM                                 AML   AML       06 12 53.9
      comp=E,3866µm,0.4s
ITM   Ithomi             1.08 262   P     Pn        06 12 35.6 +2.1
ITM                                 S     Sn        06 12 51.5 +1.9
KYTH  Kithira            1.09 189   P     Pn        06 12 34.7 +1.1
KYTH  Kithira            1.09 189   P     Pn        06 12 35.2 +1.5
KYTH                                S     Sn        06 12 48.6 -1.2
KYTH                                AML   AML       06 12 50.8
      comp=N,11049µm,0.5s
KYTH                                AML   AML       06 12 55.5
      comp=E,7811µm,0.3s
MHLA  Plaka, Milos I     1.10 122   P     Pn        06 12 35.7 +2.0
MHLA  Plaka, Milos I     1.10 122   P     Pn        06 12 35.7 +2.0
MHLO  Agia Marina, M     1.12 125   P     Pn        06 12 35.2 +1.3
MHLO                                S     Sn        06 12 51.0 +0.6
MHLO  Agia Marina, M     1.12 125   P     Pn        06 12 35.6 +1.7
MHLO                                S     Sn        06 12 50.9 +0.5
MHLO                                AML   AML       06 12 53.1
      comp=E,15993µm,0.3s
MHLO                                AML   AML       06 12 54.0
      comp=N,13705µm,0.6s
MHLO  Agia Marina, M     1.12 125   P     Pn        06 12 35.6 +1.7
MHLO                                S     Sn        06 12 51.0 +0.6
KLV   Kalavryta, Ach     1.13 309   P     Pn        06 12 35.7 +1.7
KLV                                 S     Sn        06 12 52.0 +1.4
KLV   Kalavryta, Ach     1.13 309   P     Pn        06 12 35.9 +1.9
KLV                                 S     Sn        06 12 51.3 +0.6
KLV                                 AML   AML       06 12 53.1
      comp=N,7581µm,0.6s
KLV                                 AML   AML       06 12 57.2
      comp=E,7020µm,0.6s
KLV   Kalavryta, Ach     1.13 309   P     Pn        06 12 35.7 +1.7
KLV                                 S     Sn        06 12 52.0 +1.4
KARY  Karystos           1.16  53   P     Pn        06 12 35.9 +1.6
KARY  Karystos           1.16  53   P     Pn        06 12 36.6 +2.3
KARY  Karystos           1.16  53   P     Pn        06 12 35.9 +1.6
EREA  Eretria            1.20  26   P     Pn        06 12 36.6 +1.8
EREA                                S     Sn        06 12 53.3 +1.3
EREA  Eretria            1.20  26   P     Pn        06 12 37.0 +2.2
EREA                                S     Sn        06 12 53.1 +1.1
EREA                                AML   AML       06 12 53.8
      comp=N,4624µm,0.4s
EREA                                AML   AML       06 12 54.9
      comp=E,2270µm,0.7s
EREA  Eretria            1.20  26   P     Pn        06 12 36.6 +1.8
EREA                                S     Sn        06 12 53.3 +1.3
DSF   Desfina            1.21 332   P     Pn        06 12 36.4 +1.3
DSF                                 S     Sn        06 12 54.1 +1.7
DSF   Desfina            1.21 332   P     Pn        06 12 36.3 +1.3
DSF   Desfina            1.21 332   P     Pn        06 12 36.4 +1.3
DSF                                 S     Sn        06 12 54.1 +1.7
AMT   Artemida-Makis     1.25 279   P     Pn        06 12 37.7 +2.3
AMT                                 S     Sn        06 12 56.0 +2.9
AMT   Artemida-Makis     1.25 279   P     Pn        06 12 38.6 +3.1
AMT                                 S     Sn        06 12 56.9 +3.7
AMT   Artemida-Makis     1.25 279   P     Pn        06 12 37.7 +2.3
AMT                                 S     Sn        06 12 56.0 +2.9
PYL   PYLOS              1.30 250   P     Pn        06 12 37.0 +1.1
PYL                                 S     Sn        06 12 55.9 +1.9
PYL   PYLOS              1.30 250   P     Pn        06 12 36.6 +0.7
PYL                                 S     Sn        06 12 54.9 +0.9
PYL                                 AML   AML       06 12 55.8
      comp=N,3573µm,0.4s
PYL                                 AML   AML       06 12 56.4
      comp=E,2857µm,0.4s
PYL   PYLOS              1.30 250   P     Pn        06 12 37.0 +1.1
PYL                                 S     Sn        06 12 55.9 +1.9
LKR   Lokris             1.32 351   P     Pn        06 12 37.7 +1.5
LKR                                 S     Sn        06 12 56.3 +1.8
LKR   Lokris             1.32 351   P     Pn        06 12 37.6 +1.4
LKR                                 S     Sn        06 12 54.9 +0.3
LKR                                 AML   AML       06 12 58.6
      comp=N,3838µm,0.6s
LKR                                 AML   AML       06 12 58.8
      comp=E,5111µm,0.4s
LKR   Lokris             1.32 351   P     Pn        06 12 37.7 +1.5
LKR                                 S     Sn        06 12 56.3 +1.8
LAKA  Lakka              1.35 312   P     Pn        06 12 38.4 +1.7
LAKA                                S     Sn        06 12 56.8 +1.5
LAKA  Lakka              1.35 312   P     Pn        06 12 38.7 +2.0
LAKA                                S     Sn        06 12 55.7 +0.4
LAKA                                AML   AML       06 12 57.3
      comp=E,6255µm,0.4s
LAKA                                AML   AML       06 13 01.8
      comp=Z,3052µm,0.7s
LAKA  Lakka              1.35 312   P     Pn        06 12 38.4 +1.7
LAKA                                S     Sn        06 12 56.8 +1.5
KALE  Kalithea           1.37 320   P     Pn        06 12 38.4 +1.6
KALE                                S     Sn        06 12 57.9 +2.2
KALE  Kalithea           1.37 320   P     Pn        06 12 38.5 +1.6
KALE                                S     Sn        06 12 56.1 +0.3
KALE                                AML   AML       06 12 58.2
      comp=E,7265µm,0.6s
KALE                                AML   AML       06 13 00.8
      comp=N,5692µm,0.3s
KALE  Kalithea           1.37 320   P     Pn        06 12 38.5 +1.6
KALE                                S     Sn        06 12 57.9 +2.2
DRO   Drossia            1.37 297   P     Pn        06 12 39.1 +2.2
DRO                                 S     Sn        06 12 58.1 +2.4
DRO   Drossia            1.37 297   P     Pn        06 12 39.4 +2.5
DRO   Drossia            1.37 297   P     Pn        06 12 39.1 +2.2
DRO                                 S     Sn        06 12 58.1 +2.4
TRIZ  Trizonia           1.39 318   P     Pn        06 12 38.5 +1.5
TRIZ  Trizonia           1.39 318   P     Pn        06 12 38.5 +1.5
SERG  Sergoula           1.43 319   P     Pn        06 12 39.2 +1.6
SERG                                S     Sn        06 12 58.8 +1.9
SERG  Sergoula           1.43 319   P     Pn        06 12 39.2 +1.6
SERG                                S     Sn        06 12 58.8 +1.9
ANKY  Antikythira Is     1.47 179   P     Pn        06 12 39.0 +0.9
ANKY                                S     Sn        06 12 58.8 +1.0
ANKY  Antikythira Is     1.47 179   P     Pn        06 12 38.3 +0.2
ANKY                                S     Sn        06 12 58.9 +1.1
ANKY                                AML   AML       06 13 05.3
      comp=N,3077µm,0.5s
ANKY                                AML   AML       06 13 09.2
      comp=E,3694µm,0.5s
ANKY  Antikythira Is     1.47 179   P     Pn        06 12 39.0 +0.9
ANKY                                S     Sn        06 12 58.9 +1.1
UPR   University Cam     1.50 309   P     Pn        06 12 40.8 +2.5
UPR                                 S     Sn        06 13 00.8 +2.5
UPR   University Cam     1.50 309   P     Pn        06 12 42.3 +3.9
UPR   University Cam     1.50 309   P     Pn        06 12 40.8 +2.5
UPR                                 S     Sn        06 13 00.8 +2.5
EFP   Efpalio            1.52 316   P     Pn        06 12 40.7 +2.1
EFP                                 S     Sn        06 13 01.4 +2.5
EFP   Efpalio            1.52 316   P     Pn        06 12 40.8 +2.1
EFP   Efpalio            1.52 316   P     Pn        06 12 40.7 +2.1
EFP                                 S     Sn        06 13 01.4 +2.5
SMIA  Simia              1.53 358   P     Pn        06 12 40.7 +1.9
SMIA  Simia              1.53 358   P     Pn        06 12 41.4 +2.6
SMIA  Simia              1.53 358   P     Pn        06 12 40.7 +1.9
RLS   Riolos of Patr     1.59 297   P     Pn        06 12 42.5 +3.0
RLS                                 S     Sn        06 13 03.1 +2.7
RLS   Riolos of Patr     1.59 297   P     Pn        06 12 43.3 +3.8
RLS                                 S     Sn        06 13 04.2 +3.8
RLS                                 AML   AML       06 13 05.3
      comp=E,2560µm,1.2s
RLS                                 AML   AML       06 13 05.9
      comp=N,4853µm,0.4s
RLS   Riolos of Patr     1.59 297   P     Pn        06 12 42.5 +3.0
RLS                                 S     Sn        06 13 03.1 +2.7
ANX   Ano Chora          1.64 320   P     Pn        06 12 41.2 +1.0
ANX                                 S     Sn        06 13 03.9 +2.4
ANX   Ano Chora          1.64 320   P     Pn        06 12 41.2 +1.0
ANX                                 S     Sn        06 13 03.9 +2.4
AXS   Araxos             1.72 300   P     Pn        06 12 43.6 +2.5
AXS                                 S     Sn        06 13 06.5 +3.3
AXS   Araxos             1.72 300   P     Pn        06 12 45.2 +4.1
AXS   Araxos             1.72 300   P     Pn        06 12 43.6 +2.5
AXS                                 S     Sn        06 13 06.5 +3.3
SKIA  Skiathos           1.83   5   P     Pn        06 12 44.3 +1.8
SKIA  Skiathos           1.83   5   P     Pn        06 12 44.3 +1.8
SKIA  Skiathos           1.83   5   P     Pn        06 12 44.3 +1.8
AGG   Agios Georgios     1.83 337   P     Pn        06 12 43.5 +1.0
AGG                                 S     Sn        06 13 08.7 +2.9
AGG   Agios Georgios     1.83 337   P     Pn        06 12 44.4 +1.9
AGG                                 S     Sn        06 13 06.6 +0.8
AGG                                 AML   AML       06 13 09.6
      comp=N,5089µm,0.7s
AGG                                 AML   AML       06 13 09.6
      comp=E,7992µm,0.9s
AGG   Agios Georgios     1.83 337   P     Pn        06 12 44.4 +1.9
AGG                                 S     Sn        06 13 06.6 +0.8
APE   Apeiranthos        1.83  98   ePN   Pn        06 12 44.5 +2.0
APE   Apeiranthos        1.83  98   P     Pn        06 12 44.1 +1.5
APE                                 S     Sn        06 13 06.3 +0.5
APE   Apeiranthos        1.83  98 ⇓iP     Pn        06 12 44.0 +1.5
APE                                 S     Sn        06 13 06.5 +0.7
APE   Apeiranthos        1.83  98   P     Pn        06 12 43.8 +1.2
APE   Apeiranthos        1.83  98   P     Pn        06 12 44.1 +1.5
APE   Apeiranthos        1.83  98   ePn   Pn        06 12 44.5 +2.0
APE                                 S     Sn        06 13 06.3 +0.5
SKY   Skiros Island      1.84  33   P     Pn        06 12 44.1 +1.5
SKY   Skiros Island      1.84  33   P     Pn        06 12 44.1 +1.5
PVO   Paravola           1.87 313   P     Pn        06 12 45.6 +2.6
PVO                                 S     Sn        06 13 09.7 +3.1
PVO   Paravola           1.87 313   P     Pn        06 12 45.6 +2.6
PVO                                 S     Sn        06 13 09.7 +3.1
THR5  Thira Island,      1.91 118   P     Pn        06 12 45.1 +1.6
THR5  Thira Island,      1.91 118   P     Pn        06 12 45.5 +2.0
THR5  Thira Island,      1.91 118   P     Pn        06 12 45.1 +1.6
CMBO  Columbo, Santo     1.93 116   P     Pn        06 12 46.2 +2.5
CMBO                                P     Pn        06 12 46.4 +2.7
CMBO  Columbo, Santo     1.93 116   P     Pn        06 12 46.2 +2.5
EVR   Evrytania          1.94 324   P     Pn        06 12 46.1 +2.0
EVR                                 S     Sn        06 13 10.6 +2.1
EVR   Evrytania          1.94 324   P     Pn        06 12 46.4 +2.4
EVR                                 S     Sn        06 13 10.6 +2.1
EVR                                 AML   AML       06 13 16.8
      comp=E,1815µm,0.5s
EVR                                 AML   AML       06 13 18.2
      comp=N,2368µm,0.9s
EVR   Evrytania          1.94 324   P     Pn        06 12 46.1 +2.0
EVR                                 S     Sn        06 13 10.6 +2.1
THR3  Thira Island,      1.95 118   P     Pn        06 12 47.6 +3.6
THR3  Thira Island,      1.95 118   P     Pn        06 12 47.6 +3.6
THR2  Thira island,      1.96 117   P     Pn        06 12 46.3 +2.2
THR2  Thira island,      1.96 117   P     Pn        06 12 46.3 +2.2
NEO   Neokhori           1.96 359   P     Pn        06 12 45.8 +1.6
NEO   Neokhori           1.96 359   P     Pn        06 12 45.6 +1.5
NEO   Neokhori           1.96 359   P     Pn        06 12 45.8 +1.6
THR7  Fira-Santorini     1.96 117   P     Pn        06 12 48.0 +3.8
THR7  Fira-Santorini     1.96 117   P     Pn        06 12 48.0 +3.8
IMMV  Iera Moni Meta     1.97 163   P     Pn        06 12 44.7 +0.4
IMMV  Iera Moni Meta     1.97 163   P     Pn        06 12 44.4 +0.1
IMMV  Iera Moni Meta     1.97 163   P     Pn        06 12 44.7 +0.4
SAP1  Santorini-Akro     1.97 119   P     Pn        06 12 45.0 +0.7
THR6  Thira Island,      1.98 119   P     Pn        06 12 46.2 +1.9
THR6  Thira Island,      1.98 119   P     Pn        06 12 46.5 +2.1
THR6  Thira Island,      1.98 119   P     Pn        06 12 46.2 +1.9
THT1  Athinios (Pele     1.98 118   P     Pn        06 12 46.4 +1.9
THT1  Athinios (Pele     1.98 118   P     Pn        06 12 46.3 +1.9
SANT  Santorini          2.01 118   P     Pn        06 12 46.7 +1.9
SANT  Santorini          2.01 118   P     Pn        06 12 46.7 +1.9
SANT  Santorini          2.01 118   P     Pn        06 12 46.7 +1.9
XOR   Xorichti           2.02 358   P     Pn        06 12 46.5 +1.5
XOR   Xorichti           2.02 358   P     Pn        06 12 46.0 +1.1
XOR   Xorichti           2.02 358   P     Pn        06 12 46.5 +1.5
VAM   Vamos              2.08 158   P     Pn        06 12 46.3 +0.6
VAM   Vamos              2.08 158   P     Pn        06 12 45.1 -0.6
VAM   Vamos              2.08 158   P     Pn        06 12 46.3 +0.6
FYTO  Fytoko, Volos      2.08 353   P     Pn        06 12 47.3 +1.6
FYTO  Fytoko, Volos      2.08 353   P     Pn        06 12 47.3 +1.6
KFL   Anninata           2.11 292   P     Pn        06 12 47.9 +1.9
KFL                                 S     Sn        06 13 14.1 +2.1
KFL   Anninata           2.11 292   P     Pn        06 12 47.6 +1.5
KFL   Anninata           2.11 292   P     Pn        06 12 47.9 +1.9
KFL                                 S     Sn        06 13 14.1 +2.1
VLS   Valsamata          2.28 292   P     Pn        06 12 49.1 +0.8
VLS   Valsamata          2.28 292   P     Pn        06 12 47.9 -0.4
VLS   Valsamata          2.28 292   P     Pn        06 12 49.1 +0.8
THL   Klokotos Trika     2.42 337   P     Pn        06 12 51.8 +1.6
THL   Klokotos Trika     2.42 337   P     Pn        06 12 50.7 +0.5
THL   Klokotos Trika     2.42 337   P     Pn        06 12 51.8 +1.6
IDI   Anoyia             2.44 147   P     Pn        06 12 50.4  0.0
      comp=N,9.8nm,0.3s,baz=211,slow=6.1,SNR=94
IDI                                 S     Sn        06 13 18.9 -1.0
      comp=N,50nm,0.3s,baz=158,slow=15,SNR=11
IDI   Anoyia             2.44 147   P     Pn        06 12 50.4  0.0
IDI                                 S     Sn        06 13 20.2 +0.3
IDI   Anoyia             2.44 147   P     Pn        06 12 48.5 -2.0
IDI   Anoyia             2.44 147   P     Pn        06 12 50.4  0.0
IDI                                 S     Sn        06 13 20.2 +0.3
CHOS  Chios island       2.44  64   ePN   Pn        06 12 52.5 +2.0
CHOS  Chios island       2.44  64   P     Pn        06 12 52.3 +1.8
CHOS                                S     Sn        06 13 20.6 +0.6
CHOS  Chios island       2.44  64   P     Pn        06 12 52.4 +1.8
CHOS  Chios island       2.44  64   P     Pn        06 12 52.3 +1.8
CHOS                                S     Sn        06 13 20.6 +0.6
DSL   Palaion Diasel     2.47 317   P     Pn        06 12 53.1 +2.3
DSL   Palaion Diasel     2.47 317   P     Pn        06 12 53.5 +2.7
DSL   Palaion Diasel     2.47 317   P     Pn        06 12 53.1 +2.3
LKD2  Lefkada island     2.51 306   P     Pn        06 12 53.5 +2.1
LKD2  Lefkada island     2.51 306   P     Pn        06 12 53.4 +2.1
LKD2  Lefkada island     2.51 306   P     Pn        06 12 53.4 +2.1
GVD   Gavdhos            2.59 165   P     Pn        06 12 53.2 +0.8
GVD                                 S     Sn        06 13 24.6 +1.3
GVD   Gavdhos            2.59 165   P     Pn        06 12 51.9 -0.5
GVD   Gavdhos            2.59 165   P     Pn        06 12 53.2 +0.8
GVD                                 S     Sn        06 13 24.6 +1.3
SIVA  Sivas              2.64 151   P     Pn        06 12 54.5 +1.5
SIVA  Sivas              2.64 151   P     Pn        06 12 55.5 +2.5
SIVA  Sivas              2.64 151   P     Pn        06 12 54.5 +1.5
ZEY   ¨zmir              2.72  70   iP    Pn        06 12 56.1 +2.1
SIGR  SIGRI              2.76  47   ePN   Pn        06 12 56.6 +2.0
SIGR  SIGRI              2.76  47   P     Pn        06 12 54.9 +0.2
SIGR  SIGRI              2.76  47   P     Pn        06 12 54.9 +0.2
SIGR  SIGRI              2.76  47   ePn   Pn        06 12 56.6 +2.0
NPS   Neapolis           2.81 137   P     Pn        06 12 55.7 +0.3
NPS   Neapolis           2.81 137   P     Pn        06 12 55.1 -0.2
NPS   Neapolis           2.81 137   P     Pn        06 12 55.7 +0.3
LAST  Lasithi            2.82 140   P     Pn        06 12 56.2 +0.7
LAST  Lasithi            2.82 140   P     Pn        06 12 55.4 -0.1
LAST  Lasithi            2.82 140   P     Pn        06 12 56.2 +0.7
URLA  Izmir              2.83  68   ePN   Pn        06 12 57.1 +1.6
URLA  Izmir              2.83  68   iP    Pn        06 12 57.7 +2.2
URLA  Izmir              2.83  68   ePn   Pn        06 12 57.1 +1.6
URLA  Izmir              2.83  68   P     Pn        06 12 57.7 +2.2
DGB   ¨zmir              2.96  75   iP    Pn        06 12 58.6 +1.4
LIA   Limnos Island      2.96  30   P     Pn        06 12 58.6 +1.4
LIA   Limnos Island      2.96  30   P     Pn        06 12 58.6 +1.4
JAN   Janina             2.99 321   P     Pn        06 12 59.9 +2.2
JAN                                 S     Sn        06 13 35.3 +2.5
JAN   Janina             2.99 321   P     Pn        06 12 59.9 +2.2
JAN   Janina             2.99 321   P     Pn        06 12 59.9 +2.2
JAN                                 S     Sn        06 13 35.3 +2.5
KPRO  Kipourio           3.00 331   P     Pn        06 12 59.6 +1.7
KPRO  Kipourio           3.00 331   P     Pn        06 12 59.5 +1.7
KPRO  Kipourio           3.00 331   P     Pn        06 12 59.6 +1.7
PLG   Polygyros          3.03   3   P     Pn        06 12 59.8 +1.6
PLG   Polygyros          3.03   3   P     Pn        06 12 58.7 +0.5
PLG   Polygyros          3.03   3   P     Pn        06 12 59.8 +1.6
OUR   Ouranopolis        3.04  10   P     Pn        06 12 59.8 +1.5
OUR   Ouranopolis        3.04  10   P     Pn        06 12 59.1 +0.8
OUR   Ouranopolis        3.04  10   P     Pn        06 12 59.8 +1.5
GCAM  G?zelcaml?         3.18  82   iP    Pn        06 13 02.5 +2.4
GCAM  G?zelcaml?         3.18  82   P     Pn        06 13 02.5 +2.4
KZN   Kozani             3.18 339   P     Pn        06 13 02.1 +1.8
KZN   Kozani             3.18 339   P     Pn        06 13 01.9 +1.6
KZN   Kozani             3.18 339   P     Pn        06 13 02.1 +1.8
BODT  Bodrum             3.24  94   ePN   Pn        06 13 03.1 +2.1
BODT  Bodrum             3.24  94   P     Pn        06 13 03.2 +2.1
BODT  Bodrum             3.24  94   ePn   Pn        06 13 03.1 +2.1
HORT  Hortiatis          3.25 358   P     Pn        06 13 02.7 +1.5
HORT  Hortiatis          3.25 358   P     Pn        06 13 02.2 +0.9
HORT  Hortiatis          3.25 358   P     Pn        06 13 02.7 +1.5
ZKR   Zakros             3.26 132   P     Pn        06 13 02.2 +0.8
ZKR   Zakros             3.26 132   P     Pn        06 13 01.7 +0.3
ZKR   Zakros             3.26 132   P     Pn        06 13 02.2 +0.8
PENT  Pentalofos         3.30 330   P     Pn        06 13 03.7 +1.8
PENT  Pentalofos         3.30 330   P     Pn        06 13 02.8 +0.9
PENT  Pentalofos         3.30 330   P     Pn        06 13 03.7 +1.8
DAT   Datca              3.51  99   ePN   Pn        06 13 07.0 +2.3
DAT   Datca              3.51  99   iP    Pn        06 13 06.6 +1.9
DAT   Datca              3.51  99   P     Pn        06 13 06.6 +1.9
DAT   Datca              3.51  99   ePn   Pn        06 13 07.0 +2.3
BAYC  CANAKKALE_Bayr     3.52  46   iP    Pn        06 13 06.0 +1.3
BAYC  CANAKKALE_Bayr     3.52  46   P     Pn        06 13 06.0 +1.3
KEK   Kerkira            3.60 312   P     Pn        06 13 06.7 +0.8
KEK   Kerkira            3.60 312   P     Pn        06 13 05.3 -0.5
KEK   Kerkira            3.60 312   P     Pn        06 13 06.7 +0.8
KARP  Karpathos          3.62 119   ePN   Pn        06 13 09.0 +2.9
KARP  Karpathos          3.62 119   P     Pn        06 13 07.4 +1.3
KARP  Karpathos          3.62 119   P     Pn        06 13 07.4 +1.3
KARP  Karpathos          3.62 119   ePn   Pn        06 13 09.0 +2.9
GRG   Griva              3.67 350   P     Pn        06 13 07.7 +0.9
GRG   Griva              3.67 350   P     Pn        06 13 06.6 -0.2
GRG   Griva              3.67 350   P     Pn        06 13 07.7 +0.9
AYDN  Tasoluk            3.68  84   iP    Pn        06 13 09.5 +2.5
AYDN  Tasoluk            3.68  84   P     Pn        06 13 09.5 +2.5
FNA   Florina            3.74 337   P     Pn        06 13 08.8 +1.1
FNA   Florina            3.74 337   P     Pn        06 13 07.4 -0.3
FNA   Florina            3.74 337   P     Pn        06 13 08.8 +1.1
KAVA  Kavala             3.77  15   P     Pn        06 13 09.4 +1.2
KAVA  Kavala             3.77  15   P     Pn        06 13 08.4 +0.3
KAVA  Kavala             3.77  15   P     Pn        06 13 09.4 +1.2
SRS   Serrai             3.78   4   P     Pn        06 13 09.2 +1.0
SRS   Serrai             3.78   4   P     Pn        06 13 09.2 +1.0
SRS   Serrai             3.78   4   P     Pn        06 13 09.2 +1.0
KNT   Kendrikon          3.82 356   P     Pn        06 13 10.2 +1.4
KNT   Kendrikon          3.82 356   P     Pn        06 13 09.6 +0.8
KNT   Kendrikon          3.82 356   P     Pn        06 13 10.2 +1.4
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BIA	Bitola	3.97	338	*i* Pn	Pn	06 13 12.6 +1.8
BIA	Bitola	3.97	338	*i* Pn	Pn	06 13 12.6 +1.8
VAY	Valandovo	4.01	353	*i* Pn	Pn	06 13 14.0 +2.6
VAY	Valandovo	4.01	353	*i* Pn	Pn	06 13 13.9 +2.6
NVR	Nevrokopi	4.03	6	P	Pn	06 13 13.4 +1.8
NVR	Nevrokopi	4.03	6	P	Pn	06 13 11.8 +0.2
NVR	Nevrokopi	4.03	6	P	Pn	06 13 13.4 +1.8
OHR	Ohrid	4.22	334	*i* Pn	Pn	06 13 15.1 +0.9
OHR	Ohrid	4.22	334	*i* Pn	Pn	06 13 15.1 +0.9
MMB	Musomiste	4.25	5	*e*P	Pn	06 13 16.0 +1.3
BALB	Balikesir	4.29	56	*e*PN	Pn	06 13 17.6 +2.6
BALB	Balikesir	4.29	56	*e*Pn	Pn	06 13 17.6 +2.6
KRUS	Krusevo	4.31	339	*i* Pn	Pn	06 13 16.2 +0.7
KRUS	Krusevo	4.31	339	*i* Pn	Pn	06 13 16.2 +0.7
DALY	Dalyan (Mu¨la	4.34	95	*e*PN	Pn	06 13 19.2 +3.4
DALY	Dalyan (Mu¨la	4.34	95	*e*Pn	Pn	06 13 19.2 +3.4
KULA	Kula-Manisa	4.42	73	*e*PN	Pn	06 13 20.0 +3.0
KULA	Kula-Manisa	4.42	73	*e*Pn	Pn	06 13 20.0 +3.0
RZN	Rozhen	4.48	14	*e*P	Pn	06 13 20.0 +2.1
KKB	Krupnik	4.52	358	*e*P	Pn	06 13 19.7 +1.5
KDZ	Kurdzhali	4.61	21	*e*P	Pn	06 13 20.5 +1.0
FETY	Fethiye	4.71	97	*e*PN	Pn	06 13 24.2 +3.3
FETY	Fethiye	4.71	97	*e*Pn	Pn	06 13 24.2 +3.3
TIR	Tirane	4.79	328	*i* PN	Pn	06 13 22.8 +0.9
TIR	Tirane	4.79	328	⇑*i*P	Pn	06 13 20.9 -0.9
TIR	Tirane	4.79	328	S	Sn	06 14 17.4 +1.3
TIR	Tirane	4.79	328	*i* Pn	Pn	06 13 22.8 +0.9
SKO	Skopje	4.83	344	*i* Pn	Pn	06 13 22.7 +0.2
SKO	Skopje	4.83	344	*i* Pn	Pn	06 13 22.6 +0.2
PLD	Plovdiv	4.88	13	*e*P	Pn	06 13 26.0 +2.9
AKAS	Kas	5.21	100	*e*PN	Pn	06 13 31.0 +3.3
AKAS	Kas	5.21	100	*e*Pn	Pn	06 13 31.0 +3.3
VTS	Vitosha	5.24	360	⇓*i*P	Pn	06 13 31.0 +2.8
VTS	Vitosha	5.24	360	S	Sn	06 14 35.2 +7.9
VTS	Vitosha	5.24	360	*e*P	Pn	06 13 30.9 +2.8
TVSB	Tavsanli	5.30	65	*e*PN	Pn	06 13 32.0 +3.1
TVSB	Tavsanli	5.30	65	*e*Pn	Pn	06 13 32.1 +3.1
ULC	Ulcinj	5.56	327	⇓*i*Pn	Pn	06 13 31.8 -0.5
ULC				*e*Sn	Sn	06 14 31.2 -3.7
ULC	Ulcinj	5.56	327	⇓*i*Pn	Pn	06 13 31.8 -0.5
BARS	Barje	5.58	349	⇓*i*Pn	Pn	06 13 33.0 +0.5
TAR1	Taranto	5.64	306	*e*Pn	Pn	06 13 33.2 -0.2
FASA	Fasano	5.76	309	*e*Pn	Pn	06 13 35.0 0.0
DRME	Dracevica, Mon	5.77	328	⇓*i*Pn	Pn	06 13 34.4 -0.7
DRME				*e*Sn	Sn	06 14 37.5 -2.4
DRME	Dracevica, Mon	5.77	328	⇓*i*Pn	Pn	06 13 34.4 -0.7
MASS	Massafra	5.79	306	*e*Pn	Pn	06 13 35.3 -0.1
PVY	Plav	5.83	335	⇑*i*Pn	Pn	06 13 36.0 0.0
PVY				*e*Sn	Sn	06 14 39.4 -2.1
PVY	Plav	5.83	335	⇑*i*Pn	Pn	06 13 36.0 0.0
PDG	Podgorica	5.94	330	⇓*i*P	Pn	06 13 36.9 -0.5
PDG	Podgorica	5.94	330	S	Sn	06 14 40.4 -3.7
PDG	Podgorica	5.94	330	⇓*i*Pn	Pn	06 13 38.0 +0.6
TTG	Podgorica	5.94	330	⇓*i*Pn	Pn	06 13 38.0 +0.6
TTG				*e*Sn	Sn	06 14 42.0 -2.1
BUM	Brajici-Budva	5.98	327	⇑*i*Pn	Pn	06 13 37.2 -0.9
BUM				*e*Sn	Sn	06 14 41.5 -3.8
MPEP	Malo Peshtene	6.02	3	*e*P	Pn	06 13 39.8 +1.3
BEY	Berane	6.09	336	⇓*i*Pn	Pn	06 13 40.1 +0.5
IVA	Berane	6.09	336	⇓*i*Pn	Pn	06 13 40.1 +0.5
IVA				*e*Sn	Sn	06 14 45.7 -2.3
CEME	Cevo	6.18	329	⇑*i*Pn	Pn	06 13 39.8 -0.9
CEME				*e*Sn	Sn	06 14 47.2 -2.7
SG1	Sgolgore (BA)	6.20	306	*i* Pn	Pn	06 13 41.0 0.0
KOME	Kolasin	6.20	334	⇓*i*Pn	Pn	06 13 41.5 +0.4
KOME				*e*Sn	Sn	06 14 48.6 -2.1
KOME	Kolasin	6.20	334	⇓*i*Pn	Pn	06 13 41.5 +0.4
BAI	Bari	6.22	309	*i* Pn	Pn	06 13 41.1 -0.1
HCY	Herceg Novi	6.28	326	⇑*i*Pn	Pn	06 13 40.9 -1.1
HCY				*e*Sn	Sn	06 14 48.6 -3.7
NKME	Niksic	6.34	330	⇑*i*Pn	Pn	06 13 41.9 -1.1
NKME				*e*Sn	Sn	06 14 50.8 -3.2
NKY	Niksic	6.37	330	⇑*i*Pn	Pn	06 13 43.0 -0.4
NKY				*e*Sn	Sn	06 14 51.2 -3.4
NKY	Niksic	6.37	330	⇑*i*Pn	Pn	06 13 43.0 -0.4
CDT	Castel del Mon	6.59	307	*i* Pn	Pn	06 13 46.2 -0.1
BRY	Bratogost	6.63	328	⇓*i*Pn	Pn	06 13 46.2 -0.7
BRY				*e*Sn	Sn	06 14 57.4 -3.6
BRY	Bratogost	6.63	328	⇓*i*Pn	Pn	06 13 46.2 -0.7
PLE	Pljevlja	6.67	335	⇑*i*Pn	Pn	06 13 46.9 -0.6
PLE				*e*Sn	Sn	06 14 58.4 -3.6
PLE	Pljevlja	6.67	335	⇑*i*Pn	Pn	06 13 46.9 -0.6
UPM	Unac-Piva	6.73	332	⇓*i*Pn	Pn	06 13 48.2 -0.2
UPM				*e*Sn	Sn	06 15 00.6 -3.1
UPM	Unac-Piva	6.73	332	⇓*i*Pn	Pn	06 13 48.2 -0.2
GRUS	Gruza	6.82	344	*i* Pn	Pn	06 13 48.9 -0.5
STON	Ston	6.97	324	*e*Pn	Pn	06 13 49.3 -2.2
STON				Sn	Sn	06 15 01.4 -7.7
VAE	Valguarnera	7.05	274	S	Sn	06 15 07.2 -3.9
	comp=N,9.1nm,0.3s,baz=16,slow=2.3,SNR=5.4					
MS1	Monte Sant'Ang	7.14	310	*e*Pn	Pn	06 13 53.4 -0.4
MDVR	Moldovita	7.52	352	⇓*i*P	Pn	06 13 59.5 +0.5
LOT	Lotru	8.11	3	⇑*i*P	Pn	06 14 08.7 +1.7
VOIR		8.20	9	⇑*i*P	Pn	06 14 09.9 +1.7
SWA2		8.28	167	P	Pn	06 14 07.6 -1.8
	baz=201					
BZS	Buzias	8.36	352	⇓*i*P	Pn	06 14 11.7 +1.4
MLR	Muntele Rosu	8.38	13	P	Pn	06 14 12.6 +1.8
	comp=N,0.1nm,0.3s,baz=183,slow=9.3,SNR=3.9					
MLR	Muntele Rosu	8.38	13	⇑*i*P	Pn	06 14 12.5 +1.8
BRTR	Keskin Array B	8.47	71	P	Pn	06 14 16.0 +4.0
	comp=N,0.5nm,0.3s,baz=257,slow=14,SNR=20					
PLOR	Plostina	8.87	16	⇑*i*P	Pn	06 14 20.8 +3.5
VRI	Vrincioaia	8.90	16	⇑*i*P	Pn	06 14 20.6 +2.9
UDBI	Udbina	9.14	324	*e*Pn	Pn	06 14 18.3 -2.7
UDBI				Sn	Sn	06 15 57.1 -5.0
DRGR		9.45	358	⇑*i*P	Pn	06 14 26.4 +1.2
TESR	Tescani	9.50	14	⇓*i*P	Pn	06 14 28.7 +2.9
NVLJ	Novalja	9.60	321	*e*Pn	Pn	06 14 25.3 -1.8
NVLJ				Sn	Sn	06 16 05.0 -8.1
OZLJ	Ozalj	10.12	327	*i* Pn	Pn	06 14 32.2 -2.0
KOT	Kottamia	10.28	134	P	Pn	06 14 32.9 -3.6
	baz=115					
CRES	Cresnjev	10.29	328	*i* Pn	Pn	06 14 34.2 -2.3
CRES				*i* Sn	Sn	06 16 23.8 -6.1
BURAR	Bucovina Array	10.37	7	⇑*i*P	Pn	06 14 40.2 +2.6
GLL	Jalalah	10.47	135	P	Pn	06 14 33.8 -5.3
	baz=119					
VISS	Visnje	10.54	326	*i* Pn	Pn	06 14 38.1 -1.8
VISS				*i* Sn	Sn	06 16 30.1 -5.9
MMAI	Mount Meron Ar	10.83	110	S	Sn	06 16 34.7 -8.6
	comp=N,4.3nm,0.3s,baz=311,slow=27,SNR=7.4					
JAVS	Javornik	10.96	324	*i* Pn	Pn	06 14 43.5 -2.3
JAVS				*i* Sn	Sn	06 16 38.8 -7.6
SOKA	Soboth	11.15	329	*i* Pn	Pn	06 14 46.1 -2.2
	comp=N,3.8nm,0.3s					
OBKA	Obir	11.22	327	*e*Pn	Pn	06 14 47.6 -1.6
	comp=N,3.9nm,0.4s					
OBKA				*e*Sn	Sn	06 16 48.5 -4.0
	comp=N,3.6nm,0.3s					
KEST	Kesra	11.31	266	P	Pn	06 14 49.5 -1.1
	comp=N,0.1nm,0.3s,baz=143,slow=20,SNR=1.8					
ARSA	Arzberg	11.43	332	*i* Pn	Pn	06 14 50.3 -1.6
	comp=N,3.5nm,0.4s					
EIL	Elat	12.39	125	S	Sn	06 17 09.7 -11
	comp=N,1.9nm,0.3s,baz=142,slow=23,SNR=7.8					
WTTA	Wattenberg	13.11	323	*e*Pn	Pn	06 15 14.7 +0.4
	comp=N,6.4nm,0.4s					
WTTA				*e*Sn	Sn	06 17 35.7 -2.9
	comp=N,12nm,0.6s					
WATA	Walderalm	13.19	323	*e*Pn	Pn	06 15 16.3 +0.9
	comp=N,4.3nm,0.3s					
FETA	Feichten	13.39	320	*e*Pn	Pn	06 15 18.9 +0.8
	comp=N,1.7nm,0.3s					
MOTA	Moosalm	13.43	322	*e*Pn	Pn	06 15 17.7 -0.7
	comp=N,2.6nm,0.2s					
GERES	GERESS Array B	13.44	332	P	Pn	06 15 18.4 -0.1
	comp=N,0.5nm,0.3s,baz=155,slow=14,SNR=7.2					
DAVOX	Davos/Dischmat	13.69	318	S	Sn	06 17 48.9 -3.6
	comp=N,0.5nm,0.3s,baz=200,slow=11,SNR=4.3					
KHC	Kasperske Hory	13.72	332	*e*P	Pn	06 15 23.6 +1.5
KHC				*ex*	x	06 15 29.0
AKASG	Malin Array Be	14.02	16	P	Pn	06 15 25.1 -0.8
	comp=N,0.3nm,0.3s,baz=204,slow=9.9,SNR=3.3					
BRG	Berggiesshubel	15.07	337	*e*P	P	06 15 43.7 +1.4
	comp=N,5.1nm,0.8s					
CLL	Collm	15.75	336	*i* (PKP)	P	06 15 51.4 +1.7
KBZ	Khabaz	16.21	61	P	P	06 15 55.6 +0.7
	comp=N,0.1nm,0.3s,baz=262,slow=7.9,SNR=5.7					
ESDC	Sonseca Array	21.41	285	P	P	06 16 51.1 -0.5
	comp=N,0.4nm,0.5s,baz=77,slow=11,SNR=4.5					
FINES	FINESS Array B	24.19	3	P	P	06 17 19.2 +0.6
	comp=N,1.5nm,0.8s,baz=160,slow=13,SNR=3.1					
NOA	NORSAR Array B	24.91	346	P	P	06 17 25.2 0.0
	comp=N,1.4nm,0.8s,baz=138,slow=7.1,SNR=3.0					
EKA	Eskdalemuir Ar	25.38	324	P	P	06 17 29.8 +0.3
	comp=N,1.2nm,0.5s,baz=130,slow=8.5,SNR=4.7					
GEYT	Alibeck	27.51	78	P	P	06 17 49.4 +0.5
	comp=N,2.0nm,0.5s,baz=257,slow=13,SNR=2.6					
TORD	Torodi Ar. Bea	30.85	224	P	P	06 18 20.4 +1.8
	comp=N,0.2nm,0.5s,baz=35,slow=9.6,SNR=3.2					
ARCES	ARCESS Array B	32.27	1	P	P	06 18 31.8 +1.2
	comp=N,1.3nm,0.8s,baz=224,slow=3.3,SNR=3.7					
MKAR	Makanchi Array	43.89	58	P	P	06 20 08.3 0.0
	comp=N,2.3nm,0.5s,baz=274,slow=7.0,SNR=16					
ZALV	Zalesovo Beam	44.64	48	P	P	06 20 14.2 +0.2
	comp=N,8.1nm,0.3s,baz=281,slow=9.5,SNR=11					
SONM	Songino Array	59.30	51	P	P	06 22 03.1 0.0
	comp=N,1.4nm,0.6s,baz=281,slow=8.2,SNR=7.8					
CMAR	Chiang Mai Arr	67.84	83	P	P	06 23 00.1 +0.5
	comp=N,1.7nm,0.7s,baz=303,slow=7.2,SNR=8.1					
KSRS	Korea Array	78.16	52	P	P	06 23 59.9 -0.2
	comp=N,2.1nm,0.6s,baz=321,slow=4.9,SNR=7.1					
WRA	Warramunga Arr	118.32	94	PKP	PKPdf	06 30 47.5 -0.3
	comp=N,0.3nm,0.4s,baz=308,slow=2.0,SNR=6.0					
ASAR	Alice Springs	119.91	98	PKP	PKPdf	06 30 51.1 +0.3
	comp=N,0.4nm,0.3s,baz=348,slow=1.7,SNR=5.7					

*NEIC **04** 06:18:01.6±0.0, 17°.17N×62°.25W, h17km, MD4.0(TRN), After TRN.*

TRN 04 06:18:01.5, 17°.18N×62°.25W, h17km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.39	109	*e*P	Pn	06 18 11.7	-0.8
BPA	Boggy Peak	0.39	109	*e*P	Pn	06 18 11.7	-0.8
MLYT	Lee's Yard	0.45	173	*e*P	Pb	06 18 11.7	+0.6
ANWB	Willy Bob	0.66	42	*e*P	Pn	06 18 16.7	+0.6
ANWB	Willy Bob	0.66	42	*e*P	Pn	06 18 16.7	+0.6
SEUS	St. Eustatius	0.77	294	*e*P	Pn	06 18 18.9	+1.2
SEUS				*e*S	Sn	06 18 31.6	+2.8
SEUS	St. Eustatius	0.77	294	*e*P	Pn	06 18 18.9	+1.2
SEUS				*e*S	Sn	06 18 31.6	+2.8
GDHS	Morne Mazeau,	1.01	153	*e*P	Pg	06 18 21.2	0.0
GDHS				*e*S	Sn	06 18 37.3	+2.5
SABA	Saba	1.05	295	*e*S	Sn	06 18 38.2	+2.4
SMRT	St. Maarten	1.18	318	*e*P	Pg	06 18 25.8	+1.5
SMRT				*e*S	Sg	06 18 42.0	+2.2
SMRT	St. Maarten	1.18	318	*e*P	Pg	06 18 25.8	+1.5
SMRT				*e*S	Sg	06 18 42.0	+2.2
TBG	Guadaloupe-3	1.44	156	*e*P	Pg	06 18 29.0	-0.2
MGG	Marie-Galante	1.54	144	*e*P	Pb	06 18 29.9	+0.4
MGG	Marie-Galante	1.54	144	*e*P	Pb	06 18 29.9	+0.4
BBL	Barber's Block	1.80	155	*e*P	Pb	06 18 34.0	-0.1
BBL	Barber's Block	1.80	155	*e*P	Pb	06 18 34.0	-0.1
DWS	Wesley	1.83	151	*e*P	Pb	06 18 34.8	+0.2
DWS	Wesley	1.83	151	*e*P	Pb	06 18 34.8	+0.2
SJG	San Juan	3.84	285	Pn	Pn	06 19 00.5	+0.6

*NEIC **04** 06:18:39.1±0.0, 17°.19N×62°.22W, h14km, MD4.1(TRN), After TRN.*
*TRN **04** 06:18:39.1, 17°.19N×62°.22W, h15km, MD4.2*
*ISCJB **04** 06:18:41.3±0.7, 17°.13N±0°.03×62°.24W±0°.03, h11km±4km, mb3.3/4, MS2.9/2, Error ellipse: s-maj=6.0km s-min=3.3km az=139.8*
*IDC **04** 06:18:41.9±1.0, 16°.97N×62°.40W, h0km, mb3.3/4, mb1 3.8/7, mb1mx3.6/36, mbtmp3.6/7, ML3.9/2, MS2.7/4, Ms1 2.8/4, ms1mx2.5/22, Error ellipse: s-maj=27.7km s-min=17.6km az=54.0*

ISC 04 06:18:41.8±1.1, 17°.13N±0°.03×62°.21W±0°.03, h13km±9km, n54, σ1§09/69, mb3.4/4, 6C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.35	103	*e*P	Pg	06 18 49.4	+0.6
BPA				*e*S	Sb	06 18 55.4	0.0
BPA	Boggy Peak	0.35	103	*e*P	Pb	06 18 49.8	-0.1
BPA				*e*S	Sb	06 18 55.4	0.0
MLYT	Lee's Yard	0.40	177	*e*P	Pg	06 18 49.5	-0.3
MLYT				*e*S	Sb	06 18 58.0	+1.0
ANWB	Willy Bob	0.68	37	*e*P	Pb	06 18 54.4	-1.0
ANWB				*e*S	Sg	06 19 04.2	+0.3
ANWB	Willy Bob	0.68	37	*e*P	Pb	06 18 54.4	-1.0
SEUS	St. Eustatius	0.82	296	*e*P	Pb	06 18 56.5	-1.4
SEUS				*e*S	Sn	06 19 10.7	-0.4
SEUS	St. Eustatius	0.82	296	*e*P	Pb	06 18 56.5	-1.4
GDHS	Morne Mazeau,	0.95	153	*e*P	Pb	06 18 58.8	-1.4
SEG	Port Louis	0.99	137	⇑*i*P	Pb	06 18 59.7	-1.0
LZG	Guadaloupe-1	1.07	157	⇑*i*P	Pb	06 19 01.1	-1.0
SABA	Saba	1.10	297	*e*P	Pn	06 19 01.3	-1.7
SABA	Saba	1.10	297	*e*P	Pn	06 19 01.8	-1.1
SSG	Sans Toucher	1.15	154	⇑*i*P	Pn	06 19 02.5	-1.3
LKG	Breislack	1.20	154	⇑*i*P	Pn	06 19 03.3	-1.1
PHG	Guadalaupe-2	1.23	154	⇑*i*P	Pn	06 19 03.9	-0.9
SMRT	St. Maarten	1.23	318	*e*P	Pn	06 19 03.3	-1.5
SMRT				*e*S	Sb	06 19 19.6	-1.2
SMRT	St. Maarten	1.23	318	*e*P	Pn	06 19 03.3	-1.5
SFG	Saint Francois	1.30	132	*e*P	Pn	06 19 04.9	-0.8
DEG	La Desirade	1.37	126	*e*P	Pn	06 19 05.5	-1.2
DEG				*e*S	Sg	06 19 25.9	0.0
DEG	La Desirade	1.37	126	*e*P	Pn	06 19 05.5	-1.2
DEG				*e*S	Sn	06 19 24.0	-0.8
H05N1	Guadeloupe/Mar	1.37	126	Pn	Pn	06 19 05.1	-1.5
H05N1				Sn	Sn	06 19 23.3	-1.3
TBG	Guadaloupe-3	1.38	157	*e*P	Pn	06 19 06.0	-0.8
TBG				*e*S	Sg	06 19 27.3	+1.1
MGG	Marie-Galante	1.48	144	⇑*i*P	Pn	06 19 08.1	0.0
MGG				*e*S	Sb	06 19 28.8	+1.0
MGG	Marie-Galante	1.48	144	*i* P	Pn	06 19 08.1	0.0
BBL	Barber's Block	1.74	156	*e*P	Pn	06 19 11.6	-0.2
BBL				*e*S	Sb	06 19 35.8	+0.3
BBL	Barber's Block	1.74	156	*e*P	Pn	06 19 11.6	-0.2
BBL				*e*S	Sb	06 19 35.8	+0.3
DWS	Wesley	1.77	151	*e*P	Pn	06 19 12.8	+0.6
DWS				*e*S	Sb	06 19 36.4	0.0
DWS	Wesley	1.77	151	*e*P	Pn	06 19 12.8	+0.6
DWS				*e*S	Sb	06 19 36.4	0.0
DPMT	Pointe Michel	2.02	157	*e*P	Pn	06 19 15.2	-0.4
DPMT				*e*S	Sb	06 19 42.8	-0.7
DPMT	Pointe Michel	2.02	157	*e*P	Pb	06 19 17.9	-0.5
PCM	Pelee Case Pet	2.49	157	*e*P	Pn	06 19 21.6	-0.5
PCM	Pelee Case Pet	2.49	157	*e*P	Pb	06 19 25.1	-1.4
CXM	Morne La Croix	2.51	156	*e*P	Pn	06 19 22.9	+0.4
BAMF	Morne Balai	2.52	156	*e*P	Pn	06 19 22.5	0.0
GBMF	Grand Be	2.53	156	*e*P	Pn	06 19 25.1	+2.5
PML	Morne Lenard	2.53	157	*e*P	Pn	06 19 24.3	+1.6
FDF	Fort de France	2.59	157	*e*P	Pn	06 19 23.6	+0.2
FDF	Fort de France	2.59	157	*e*P	Pn	06 19 23.6	+0.2
ZAM	Aeronautique	2.78	156	*e*P	Pn	06 19 26.6	+0.6
TRMF	Trois Ilets	2.81	156	*e*P	Pn	06 19 26.6	+0.2
MVM	Montagne Vaucl	2.85	153	*e*P	Pn	06 19 27.0	-0.1
H05S1	Guadeloupe/Mar	3.00	154	Pn	Pn	06 19 29.7	+0.7
H05S1				Sn	Sn	06 20 05.1	+0.3
SJG	San Juan	3.88	285	Pn	Pn	06 19 41.1	-0.1
	11nm,0.3s,baz=109,slow=16,SNR=15						
SJG				Sn	Sn	06 20 29.6	+2.9
	5.8nm,0.3s,baz=130,slow=17,SNR=3.9						
SJG				LR	LR	06 21 11.9	
	comp=Z,44nm,20.5s,baz=128,slow=40						
SJG	San Juan	3.88	285	*e*Pn	Pn	06 19 40.9	-0.3
SVB	Belmont	3.94	166	*e*P	Pn	06 19 41.4	-0.7
PCRV	Puerto La Cruz	7.30	199	Pn	Pn	06 20 28.8	+0.6
	1.4nm,0.3s,baz=12,slow=1.4,SNR=13						
PCRV				Sn	Sn	06 21 47.5	-3.6
	0.6nm,0.3s,baz=289,slow=18,SNR=2.1						
SDDR	Presa de Saban	8.83	283	Pn	Pn	06 20 50.9	+1.7
PTGA	Pitinga	17.88	173	P	P	06 22 50.9	-0.1
	baz=311,slow=19,SNR=3.5						
PTGA				LR	LR	06 31 11.3	
	comp=Z,16nm,19.4s,baz=268,slow=42						
SADO	Sadowa	31.02	336	LR	LR	06 35 25.6	
	comp=Z,26nm,21.8s,baz=92,slow=32						
LPAZ	La Paz	33.71	190	LR	LR	06 39 23.3	
	comp=Z,29nm,19.2s,baz=285,slow=37						
TXAR	Lajitas Array	39.79	295	P	P	06 26 16.0	+1.1
	0.2nm,0.7s,baz=125,slow=7.8,SNR=2.7						
PDAR	Pinedale Array	47.54	313	P	P	06 27 18.3	+1.0
	0.3nm,0.6s,baz=121,slow=7.6,SNR=3.5						
TORD	Torodi Ar. Bea	61.59	84	P	P	06 29 03.0	+3.5
	0.3nm,0.6s,baz=286,slow=5.8,SNR=3.0						
ILAR	Eielson Array	72.39	333	P	P	06 30 10.4	+3.0
	0.2nm,0.7s,baz=80,slow=5.7,SNR=3.8						

IDC 04 07:07:44.9±10.0, 13°.69S×66°.07E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.3/55, mbtmp3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=791.4km s-min=53.0km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	8.70	47	T	T	07 17 53.6	
	baz=226,slow=75,SNR=258						
H08S2	Diego Carcia H	8.71	47	T	T	07 17 54.6	
	baz=226,slow=75,SNR=210						
H08S3	Diego Carcia H	8.72	47	T	T	07 17 55.1	
	baz=226,slow=75,SNR=213						
H08N3	Diego Carcia H	8.76	34	T	T	07 18 29.8	
	baz=211,slow=75,SNR=793						
H08N1	Diego Carcia H	8.78	34	T	T	07 18 31.7	
	baz=211,slow=75,SNR=864						
H08N2	Diego Carcia H	8.78	34	T	T	07 18 28.1	
	baz=211,slow=75,SNR=803						
PALK	Pallekele	25.39	36	LR	LR	07 21 28.5	
	comp=Z,54nm,18.5s,baz=298,slow=32						
ASAR	Alice Springs	64.53	110	P	P	07 18 23.9	-0.3
	0.6nm,0.8s,baz=264,slow=6.8,SNR=5.6						
WRA	Warramunga Arr	65.27	106	P	P	07 18 29.4	+0.3
	1.6nm,1.1s,baz=274,slow=5.8,SNR=4.9						
PDAR	Pinedale Array	150.78	353	PKPbc	PKPbc	07 27 39.5	-0.3
	0.6nm,0.7s,baz=51,slow=0.6,SNR=4.9						

IDC 04 07:10:46.1±2.1, 4°.48S×152°.41E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/30, mbtmp3.9/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=88.0km s-min=28.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.15	226	Sn	Sn	07 13 46.4	-7.8
	5.6nm,0.3s,baz=145,slow=22,SNR=7.2						
HNR	Honiara	8.96	124	LR	LR	07 16 08.6	
	comp=Z,53nm,18.2s,baz=167,slow=36						
WRA	Warramunga Arr	23.37	227	P	P	07 15 56.9	+0.2
	0.7nm,0.3s,baz=52,slow=9.9,SNR=5.6						
FITZ	Fitzroy Crossi	29.48	241	P	P	07 16 52.1	-0.1
	0.8nm,0.5s,baz=50,slow=8.2,SNR=1.7						
MKAR	Makanchi Array	79.83	319	P	P	07 22 57.4	+0.8
	0.3nm,0.4s,baz=92,slow=5.8,SNR=3.0						
ILAR	Eielson Array	82.01	22	P	P	07 23 07.7	-0.1
	0.7nm,0.6s,baz=241,slow=5.9,SNR=8.7						
BVAR	Borovoye Array	88.75	323	P	P	07 23 41.2	-0.6
	1.2nm,0.7s,baz=122,slow=7.0,SNR=5.6						
TORD	Torodi Ar. Bea	149.84	289	PKPbc	PKPbc	07 30 38.9	-0.5
	0.9nm,0.6s,baz=86,slow=2.1,SNR=8.4						

DJA 04 07:11:01.3±1.5, 3°.S±16°.×14°.0E±°., h38km±10km, M3.5/3, MLv3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.61	63	P	Pn	07 11 14.2	+0.6
GENI				S	Sn	07 11 24.8	+2.5
JAY	Jayapura	1.14	72	P	Pn	07 11 20.9

KORT	Korkueli	1.50	95	*i* P	Pb	08 34 16.1	+1.1
KORT	Korkueli	1.50	95	P	Pb	08 34 16.1	+1.1
URLA	Izmir	1.94	310	*i* P	Pb	08 34 22.8	+0.4
URLA	Izmir	1.94	310	P	Pb	08 34 22.8	+0.4

BJI 04 08:40:07.1, 36°.59N×105°.36E, h7km, ML3.5/12, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	Lanzhou	1.32	248	Pg	Pn	08 40 30.3	-1.9
LZH				Sg	Sb	08 40 48.3	-1.3
LZH				Sn	Sn	08 40 51.7	+1.6
LZH				smax	smax		
	comp=N,1μm,0.6s						
LZH				smax	smax		
	comp=E,1μm,0.9s						
XAN	Xi'an	3.87	130	Pg	Pb	08 41 12.1	-3.6
XAN				Sn	Sn	08 41 55.8	+3.1
XAN				Sg	Sb	08 42 04.3	+1.6
XAN				smax	smax		
	comp=N,63nm,0.7s						
XAN				smax	smax		
	comp=E,76nm,0.6s						
GTA	Gaotai	5.21	304	Pg	Pb	08 41 42.0	+3.5
GTA				Sn	Sn	08 42 24.1	-1.8
GTA				Sg	Sb	08 42 47.4	+6.1
GTA				smax	smax		
	comp=N,91nm,0.8s						
GTA				smax	smax		
	comp=E,93nm,0.9s						
WMQ	Urumqi	15.29	304	*e*P	Pn	08 43 43.2	-0.2

IDC 04 08:42:26.4±1.1, 29°.44S×179°.06W, h332km±16km, mb3.0/2, mb1 3.3/3, mb1mx2.9/29, mbtmp3.8/3, Error ellipse: s-maj=47.7km s-min=25.2km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.01	79	P	Pn	08 43 12.2	+1.9
	191nm,0.3s,baz=93,slow=9.0,SNR=17						
RAO				S	S	08 43 44.8	-0.5
	43nm,0.3s,baz=253,slow=19,SNR=2.2						
URZ	Urewera	9.35	199	P	P	08 44 38.4	-0.9
	1.5nm,0.3s,baz=70,slow=18,SNR=12						
URZ				S	S	08 46 20.0	-2.8
	1.2nm,0.3s,baz=275,slow=22,SNR=8.5						
ASAR	Alice Springs	42.25	266	P	P	08 49 48.3	-0.1
	0.6nm,0.5s,baz=100,slow=6.6,SNR=17						
WRA	Warramunga Arr	43.15	272	P	P	08 49 55.3	-0.3
	0.5nm,0.5s,baz=110,slow=8.0,SNR=10						
FINES	FINESS Array B	143.93	340	PKP	PKPbc	09 01 20.5	-0.2
	1.7nm,0.4s,baz=46,slow=3.5,SNR=13						

*ISCJB **04** 08:54:56.5±0.6, 37°.75N±0°.03×29°.16E±0°.04, h5km±5km, Error ellipse: s-maj=6.2km s-min=3.8km az=150.8*
*CSEM **04** 08:54:56.4±0.2, 37°.74N×29°.16E, h5km, MD2.6, Error ellipse: s-maj=4.9km s-min=2.8km az=56.0*
*DDA **04** 08:54:56.3, 37°.73N×29°.13E, h9km, Md2.6*
*ISK **04** 08:54:56.4, 37°.73N×29°.13E, h5km, MD2.5*
ISC 04 08:54:56.6±1.0, 37°.74N±0°.02×29°.15E±0°.03, h7km±7km, n35, σ0°.49/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.10	239	*i* P	Pg	08 54 59.0	0.0
DNZL				*i* S	Sg	08 55 00.9	+0.2
DNZL	Cakiroluk	0.10	239	P	Pg	08 54 59.0	0.0
DNZL				S	Sg	08 55 00.9	+0.2
TAVA	DENIZLI_Tavas	0.33	215	*i* P	Pg	08 55 02.5	-0.7
TAVA	DENIZLI_Tavas	0.33	215	P	Pg	08 55 02.5	-0.7
GOLH	Golhisar	0.60	147	*i* P	Pg	08 55 07.8	-0.4
GOLH				*i* S	Sb	08 55 18.3	+0.2
GOLH	Golhisar	0.60	147	P	Pg	08 55 07.8	-0.4
GOLH				S	Sb	08 55 18.3	+0.2
GLHS	Glhisar (BURDU	0.65	155	*e*PG	Pg	08 55 09.3	+0.2
GLHS				*e*SG	Sb	08 55 18.7	-0.7
GLHS	Glhisar (BURDU	0.65	155	*e*Pg	Pg	08 55 09.3	+0.2
GLHS				*e*Sg	Sb	08 55 18.7	-0.7
KULA	Kula-Manisa	0.86	333	*e*PG	Pb	08 55 13.5	-0.5
KULA				*e*SG	Sb	08 55 25.9	+0.1
KULA	Kula-Manisa	0.86	333	*e*Pg	Pb	08 55 13.5	-0.5
KULA				*e*Sg	Sb	08 55 25.9	+0.1
MANT	Manisa	0.88	328	*i* P	Pg	08 55 13.4	-0.2
MANT				*i* S	Sb	08 55 26.4	-0.1
MANT	Manisa	0.88	328	P	Pg	08 55 13.4	-0.2
MANT				S	Sb	08 55 26.4	-0.1
TURN	Turunc	0.97	207	*i* P	Pn	08 55 18.4	+1.8
DALY	Dalyan (Mu¨la	1.00	204	*e*PG	Pb	08 55 15.7	-0.6
DALY				*e*SG	Sb	08 55 30.0	+0.4
DALY	Dalyan (Mu¨la	1.00	204	*i* P	Pg	08 55 15.4	-0.4
DALY				*i* S	Sb	08 55 29.6	-0.1
DALY	Dalyan (Mu¨la	1.00	204	P	Pg	08 55 15.4	-0.4
DALY	Dalyan (Mu¨la	1.00	204	*e*Pg	Pb	08 55 15.7	-0.6
DALY				S	Sb	08 55 29.5	-0.1
DALY				*e*Sg	Sb	08 55 30.0	+0.4
AYDN	Tasoluk	1.01	266	*i* P	Pg	08 55 15.7	-0.4
AYDN	Tasoluk	1.01	266	P	Pg	08 55 15.7	-0.4
AYDB	Zeytinkoy-Aydi	1.02	282	*e*PG	Pb	08 55 16.2	-0.4
AYDB				*e*SG	Sb	08 55 30.4	+0.1
AYDB	Zeytinkoy-Aydi	1.02	282	*e*Pg	Pb	08 55 16.2	-0.4
AYDB				*e*Sg	Sb	08 55 30.4	+0.1
FETY	Fethiye	1.10	183	*e*PN	Pg	08 55 17.4	-0.4
FETY	Fethiye	1.10	183	*e*Pn	Pg	08 55 17.4	-0.4
ELL	Elmali	1.16	148	*e*PN	Pb	08 55 19.0	0.0
ELL	Elmali	1.16	148	*e*Pn	Pb	08 55 19.0	0.0
KORT	Korkueli	1.21	127	*e*PN	Pn	08 55 20.1	+0.1
KORT	Korkueli	1.21	127	*e*Pn	Pn	08 55 20.1	+0.1
AKAS	Kas	1.55	166	*e*PN	Pb	08 55 25.2	-0.5
AKAS	Kas	1.55	166	*e*Pn	Pb	08 55 25.2	-0.5
DAT	Datca	1.61	232	*e*PN	Pb	08 55 26.1	-0.6
DAT	Datca	1.61	232	*i* P	Pb	08 55 26.4	-0.3
DAT				*i* S	Sg	08 55 48.8	+0.4
DAT	Datca	1.61	232	*e*Pn	Pb	08 55 26.1	-0.6
DAT	Datca	1.61	232	P	Pb	08 55 26.4	-0.3
DAT				S	Sg	08 55 48.8	+0.4
BODT	Bodrum	1.62	246	*e*PN	Pb	08 55 25.9	-0.8
BODT	Bodrum	1.62	246	*e*Pn	Pb	08 55 25.9	-0.8

*NEIC **04** 08:57:52.0±0.0, 20°.89S×70°.89W, h38km, mb4.7/21, After GUC.*
NEIC Felt [II] at Alto Hospicio and Iquique.
*GUC **04** 08:57:52.0±0.6, 20°.89S×70°.89W, h38km±2km, ML4.8*
*SCB **04** 08:57:53.7±0.4, 20°.82S×70°.76W, h45km, Ml4.3/1, Error ellipse: s-maj=10.2km s-min=3.1km az=58.0*
*ISCJB **04** 08:57:54.2±0.7, 20°.92S±0°.02×70°.88W±0°.05, h36km±7km, mb4.7/28, MS3.7/1, Error ellipse: s-maj=8.0km s-min=4.0km az=179.0*
*IDC **04** 08:57:59.4±1.6, 20°.82S×70°.52W, h62km±15km, mb4.2/10, mb1 4.1/14, mb1mx4.0/31, mbtmp4.4/14, MS3.4/6, Ms1 3.4/6, ms1mx3.2/22, Error ellipse: s-maj=19.0km s-min=10.6km az=68.0*
ISC 04 08:57:54.8±1.0, 20°.86S±0°.03×70°.72W±0°.04, h16km±6km, n105, σ1°.87/82, mb4.8/28, 14C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	Humberstone	0.97	53	||*i*P	Pg	08 58 12.1	-1.6
HMBC				*i* S	Sg	08 58 27.0	+0.5
HMBC				IAML		08 58 30.5	
	comp=E,32μm,0.4s						
PB07	IPOC Station P	1.16	138	*e*P	Pb	08 58 14.6	-2.0
PB07				*i* S	Sg	08 58 31.0	-1.4
PB01	IPOC Station P	1.17	99	*e*P	Pb	08 58 15.4	-1.2
PB01				*i* S	Sb	08 58 32.5	+1.0
PB01				IAML		08 58 34.8	
	comp=N,60μm,0.4s						
PB01	IPOC Station P	1.17	99	*e*Pn	Pb	08 58 16.0	-0.6
PB01				*e*Sn	Sb	08 58 33.1	+1.5
PSGC	Pisagua	1.38	24	||*i*P	Pn	08 58 16.9	-2.5
PSGC				*i* S	Sn	08 58 36.7	-0.7
PB04	IPOC Station P	1.56	160	||*i*P	Pn	08 58 19.4	-2.5
PB04				IAML		08 58 46.5	
	comp=E,11μm,0.8s						
PB04	IPOC Station P	1.56	160	*e*Pn	Pn	08 58 19.6	-2.4
PB04				*e*Sn	Sn	08 58 43.6	+1.7
PB08	IPOC Station P	1.64	64	||*i*P	Pn	08 58 22.6	-0.7
PB08				*i* S	Sn	08 58 46.3	+2.1
PB08				IAML		08 58 51.0	
	comp=E,12μm,0.5s						
PB09	IPOC Station P	1.66	124	||*i*P	Pn	08 58 23.4	0.0
PB09				*e*S	Sn	08 58 46.4	+1.9
PB09				IAML		08 58 50.6	
	comp=E,25μm,0.8s						
MNMC	Minye Minye	2.02	32	||*i*P	Pn	08 58 26.8	-1.7
MNMC				*i* S	Sn	08 58 54.3	+0.8
PB06	IPOC Station P	2.12	150	||*i*P	Pn	08 58 27.6	-2.1
PB06				*e*S	Sn	08 58 55.3	-0.6
PB06				IAML		08 59 06.9	
	comp=N,5μm,0.6s						
LVC	Limon Verde	2.42	136	P	Pn	08 58 34.0	0.0
	comp=N,2μm,0.3s,baz=313,slow=10,SNR=308						
LVC				S	Sn	08 59 04.2	+0.7
	comp=N,7μm,0.3s,baz=12,slow=6.5,SNR=7.8						
LVC				LR	LR	08 59 16.3	
	comp=N,749nm,21.3s,baz=308,slow=33						
PB10	IPOC Station P	2.64	177	||*i*P	Pn	08 58 32.9	-3.9
PB10	IPOC Station P	2.64	177	||*e*S	Sg	08 59 22.9	+3.2
PB10	IPOC Station P	2.64	177	*e*Pn	Pn	08 58 33.1	-3.6
BBOJ	La Paz, Jacaqu	4.55	32	||*i*Pn	Pn	08 59 05.8	+2.3
BBOD	La Paz, Gloria	4.66	26	||*i*Pn	Pn	08 59 07.5	+2.5
BBOD				||*i*Sn	Sn	09 00 00.9	+1.8
	comp=N,236nm,0.8s						
MOCB	Mochara	4.76	96	*e*Pn	Pn	08 59 09.6	+3.3
MOCB				*e*Sn	Sn	09 00 04.6	+3.1
BBOE	La Paz, Chanca	4.79	33	||*i*Pn	Pn	08 59 09.6	+2.8
YJA	Yavi	5.02	106	*e*P	Pn	08 59 12.9	+3.1
YJA				IAML		08 59 21.7	
	comp=Z,34nm,0.7s						
YJA				*e*S	Sb	09 00 23.6	+0.8
LPAZ	La Paz	5.17	29	P	Pn	08 59 14.1	+2.0
	comp=Z,2.0nm,0.3s,baz=207,slow=18,SNR=54						
LPAZ	La Paz	5.17	29	||*i*Pn	Pn	08 59 14.4	+2.3
LPAZ	La Paz	5.17	29	*e*Pn	Pn	08 59 13.7	+1.6
BBOB	La Paz, Bander	5.30	28	||*i*Pn	Pn	08 59 16.3	+2.5
FSA	Cafayete	6.80	141	IAML		08 59 44.8	
	comp=Z,6.6nm,0.6s						
AHML	Horco Molle	7.68	141	*e*P	Pn	08 59 46.7	+0.6
AHML				IAML		08 59 56.8	
	comp=Z,20nm,0.5s						
VCA	Vinchina	8.16	164	*e*P	Pn	09 00 00.1	+7.3
VCA				*e*S	Sb	09 01 52.9	-0.1
VCA				IAML		09 01 59.1	
	comp=Z,38nm,0.6s						
AGUA	GUANDACOL	8.82	167	*e*P	Pn	09 00 00.0	-1.7
ACLC	CERRO LA CRUZ	9.18	159	*e*P	Pn	09 00 03.3	-3.5
AVFE	Valle Fertil	10.19	164	*e*P	Pn	09 00 17.3	-3.2
AVFE				IAML		09 00 32.8	
	comp=Z,12nm,0.6s						
APLL	PUNTA DE LOS L	10.21	159	*e*P	Pn	09 00 14.7	-6.1
AMOG	MOGNA	10.23	169	*e*P	Pn	09 00 16.9	-4.1
SIV	San Ignacio	10.36	64	P	Pn	09 00 23.2	+0.4
	comp=Z,6.7nm,0.3s,baz=263,slow=14,SNR=84						
SIV				S	Sn	09 02 18.6	0.0
	comp=Z,0.5nm,0.3s,baz=225,slow=20,SNR=1.5						
SIV	San Ignacio	10.36	64	*e*P	Pn	09 00 22.9	+0.1
NNA	Nana	10.60	325	P	Pn	09 00 29.9	+3.8
	comp=Z,1.3nm,0.3s,baz=142,slow=18,SNR=2.8						
NNA				LR	LR	09 04 29.4	
	comp=Z,113nm,19.5s,baz=164,slow=36						
AUSP	Uspallata	11.38	174	*e*P	Pn	09 00 33.8	-3.1
ASAL	Salagasta	11.80	172	*e*P	Pn	09 00 47.5	+4.9
ROC1	El Roble	12.07	181	*e*Pn	Pn	09 00 45.2	-1.1
CPUP	Villa Florida	13.43	116	P	Pn	09 01 05.3	+0.6
	comp=Z,0.1nm,0.3s,baz=294,slow=12,SNR=3.4						
CPUP				LR	LR	09 06 48.2	
	comp=Z,193nm,20.5s,baz=295,slow=40						
CPUP	Villa Florida	13.43	116	*e*Pn	Pn	09 01 06.0	+1.3
SAML	Samuel	13.90	33	*e*Pn	Pn	09 01 07.7	-3.6
ATAH	Atahualpa	15.54	330	LR	LR	09 06 59.1	
	comp=Z,90nm,18.1s,baz=175,slow=35						
TRQA	Tornquist	18.73	158	*e*P	P	09 02 11.3	-1.5
	comp=Z,15nm,0.9s						
PLCA	Paso Flores	19.81	180	P	P	09 02 23.8	-0.8
	comp=Z,0.1nm,0.3s,baz=42,slow=13,SNR=5.1						
PLCA				LR	LR	09 09 26.7	
	comp=Z,100nm,20.2s,baz=347,slow=35						
PLCA	Paso Flores	19.81	180	*e*P	P	09 02 23.6	-1.0
	comp=Z,18nm,1.3s						
PTGA	Pitinga	22.60	29	P	P	09 02 51.8	-3.1
	comp=Z,6.3nm,0.4s,baz=202,slow=11,SNR=15						
PTGA	Pitinga	22.60	29	*e*P	P	09 02 52.1	-2.7
	comp=Z,16nm,0.8s						
ROSC	El Rosal	25.79	352	P	P	09 03 24.8	-0.8
	comp=Z,3.3nm,0.4s,baz=282,slow=22,SNR=3.7						
ROSC	El Rosal	25.79	352	*e*P	P	09 03 25.9	+0.4
	comp=Z,12nm,1.4s						
RUSC	La Rusia	26.69	355	*e*P	P	09 03 32.6	-1.3
	comp=Z,9.9nm,1.0s						
HELC	Santa Helena	27.30	350	*e*P	P	09 03 38.6	-0.6
	comp=Z,16nm,0.5s						
SDV	Santo Domingo	29.56	0	P	P	09 03 57.9	-1.3
	comp=Z,2.5nm,0.3s,baz=207,slow=2.3,SNR=2.6						
JTS	JuntasAbangare	33.98	334	P	P	09 04 38.3	+0.5
	comp=Z,1.7nm,0.2s,baz=137,slow=20,SNR=2.4						
RPN	Rapa Nui	35.72	252	*e*P	P	09 04 52.6	-0.2
	comp=Z,547nm,1.9s						
FDF	Fort de France	36.60	16	*e*P	P	09 04 59.6	-0.8
	comp=Z,92nm,1.2s						
RCBR	Riachuelo	36.91	71	P	P	09 05 00.8	-2.4
	comp=Z,12nm,0.7s,baz=243,slow=15,SNR=6.5						
RCBR	Riachuelo	36.91	71	*e*P	P	09 05 01.4	-1.7
	comp=Z,27nm,1.1s						
CELP	Cerrillos	38.91	6	*e*P	P	09 05 18.5	-1.4
CBYP	Canovanas	39.19	7	*e*P	P	09 05 19.8	-2.4
	comp=Z,82nm,1.8s						
TKL	Tuckaleechee C	57.56	347	*e*P	P	09 07 41.8	-1.9
	comp=Z,22nm,1.6s						
TXAR	Lajitas Array	59.16	326	P	P	09 07 55.8	+0.7
	comp=Z,0.2nm,0.7s,baz=141,slow=10,SNR=2.7						
MIAR	Mount Ida	59.24	338	*e*P	P	09 07 53.4	-1.9
	comp=Z,17nm,1.7s						
PAL	Palisades	61.62	357	*e*P	P	09 08 11.0	-0.5
	comp=Z,94nm,1.7s						
SNAA	Sanae	63.43	161	LR	LR	09 33 48.8	
	comp=Z,46nm,18.9s,baz=179,slow=34						
SNAA	Sanae	63.43	161	*e*P	P	09 08 21.9	-1.5
	comp=Z,5.8nm,1.2s						
SDCO	Great Sand Dun	66.85	331	*e*P	P	09 08 44.4	-1.9
	comp=Z,1.8nm,0.9s						
QSPA	South Pole Qui	69.32	180	*e*P	P	09 09 00.7	-0.6
	comp=Z,16nm,1.7s						
PHWY	Pilot Hill	69.74	333	*e*P	P	09 09 03.0	-1.3
	comp=Z,15nm,1.9s						
DBIC	Dimbokro	70.18	74	P	P	09 09 04.7	-2.6
	comp=Z,3.7nm,0.7s,baz=203,slow=6.0,SNR=5.0						
DBIC	Dimbokro	70.18	74	*e*P	P	09 09 04.8	-2.5
	comp=Z,8.8nm,0.8s						
MSU	Marysvale	70.71	327	*e*P	P	09 09 09.3	-1.0
PDAR	Pinedale Array	72.73	331	P	P	09 09 20.7	-1.6
	comp=Z,0.2nm,0.6s,baz=153,slow=6.1,SNR=2.9						
ULM	Lac du Bonnet	74.22	344	P	P	09 09 29.6	-1.0
	comp=Z,1.6nm,0.6s,baz=166,slow=4.2,SNR=2.4						
SCHQ	Schefferville	75.46	2	P	P	09 09 36.6	-1.2
	comp=Z,2.1nm,0.8s,baz=181,slow=9.0,SNR=2.0						
DLMT	Dillon	76.12	331	*e*P	P	09 09 40.9	-1.0
	comp=Z,9.2nm,0.8s						
SYO	Syowa Base	77.68	160	||*e*pP	pP	09 09 56.2	+0.6
TOA0	Torodi Ar. Sit	78.74	71	*e*P	P	09 09 54.5	-2.6
	comp=Z,11nm,0.9s						
TORD	Torodi Ar. Bea	78.74	71	P	P	09 09 54.5	-2.5
	comp=Z,5.5nm,0.6s,baz=250,slow=5.3,SNR=62						
EDM	Edmonton	82.48	336	*e*P	P	09 10 14.0	-2.3
	comp=Z,5.7nm,0.8s						
MAW	Mawson	85.42	164	P	P	09 10 30.3	-0.8
	comp=Z,1.0nm,0.6s,baz=153,slow=2.3,SNR=7.3						
MAW	Mawson	85.42	164	*e*P	P	09 10 30.0	-1.2
	comp=Z,3.0nm,1.9s						
JCUZ	Jacuzzi	91.74	290	*e*P	P	09 11 01.2	-1.0
	comp=Z,179nm,0.7s						
H11S2	WAKE ISLAND Hy	26.12	278	T	T	11 36 10.4	
	baz=106						
H11S1	WAKE ISLAND Hy	26.13	278	T	T	11 36 10.4	
	baz=106						
H11S3	WAKE ISLAND Hy	26.14	278	T	T	11 36 10.4	
	baz=106						
H11N3	WAKE ISLAND Hy	26.19	280	T	T	11 36 14.4	
	baz=106						
H11N2	WAKE ISLAND Hy	26.20	280	T	T	11 36 16.9	
	baz=106						
H11N1	WAKE ISLAND Hy	26.20	280	T	T	11 36 16.9	
	baz=106						
AS01	Alice Springs	129.63	210	*e*PKPdf	PKPdf	09 17 02.5	-1.4
KURK	Kurchatov	141.70	32	PKPpre	PKPpre	09 17 19.7	
KURK				PKP	PKPdf	09 17 24.4	-0.9
KURBB	Kurchatov Arra	141.71	32	PKhKP	PKPpre	09 17 19.7	
	comp=Z,0.2nm,0.6s,baz=316,slow=6.6,SNR=2.8						
KURBB				PKP	PKPdf	09 17 24.4	-0.9
	comp=Z,0.2nm,0.5s,baz=328,slow=1.2,SNR=3.3						
ZALV	Zalesovo Beam	142.07	23	PKP	PKPdf	09 17 24.9	-1.0
	comp=Z,0.9nm,0.4s,baz=322,slow=2.7,SNR=4.5						
ASAJ	Asahikawa	143.95	318	*e*PKPdf	PKPab	09 17 27.8	+1.0
MAKZ	Makanchi	145.91	34	*e*PKPdf	PKPdf	09 17 32.4	-0.5
KSH	Kashi	146.00	49	*e*PKPbc	PKPdf	09 17 33.8	+0.4
KSH				pPKP	sPKPab	09 17 42.7	+0.6
KSH				sPKP		09 17 46.1	
KSH				PP	PP	09 20 53.9	-1.9
KSH				PKS	PKSdf	09 21 00.9	-8.0
KSH				SKS	SKSdf	09 24 30.4	-12
MK31	Makanchi Array	146.08	34	*e*PKPdf	PKPdf	09 17 32.4	-0.8
MKAR	Makanchi Array	146.08	34	PKPbc	PKPdf	09 17 31.9	-1.3
	comp=Z,3.6nm,0.6s,baz=319,slow=3.6,SNR=25						
MKAR	Makanchi Array	146.08	34	*e*PKPdf	PKPdf	09 17 32.4	-0.8
MK01	Makanchi Array	146.10	34	*e*PKPdf	PKPdf	09 17 31.7	-1.5
KLR	Kul'dur	146.50	333	PKPbc	PKPdf	09 17 33.3	-0.4
	comp=Z,0.0nm,0.3s,baz=175,slow=18,SNR=2.1						
USRK	Ussuriysk Ar.	150.05	326	PKPbc	PKPdf	09 17 43.2	+3.5
	comp=Z,1.7nm,0.8s,baz=98,slow=2.9,SNR=3.3						
MJAR	Matsushiro Arr	150.35	308	PKPbc	PKPdf	09 17 43.6	+3.1
	comp=Z,0.5nm,0.4s,baz=310,slow=14,SNR=3.7						
SONA1	Songino Array	152.98	4	*e*PKPbc	PKPdf	09 17 50.0	+5.7
SONM	Songino Array	152.99	4	PKPbc	PKPdf	09 17 50.0	+5.8
	comp=Z,0.6nm,0.6s,baz=308,slow=4.9,SNR=2.9						
SONM				PKPab	pPKPbc	09 17 58.8	+1.7
	comp=Z,0.8nm,0.5s,baz=341,slow=3.1,SNR=4.1						
YHNB	Yeheng	168.22	291	*e*PKPdf	PKPdf	09 18 01.4	0.0

*JMA **04** 08:58:29.0±0.1, 38°.18N×141°.70E, h51km±1km, M3.3*
JMA Felt I J1.
*IDC **04** 08:58:31.9±2.5, 36°.71N×142°.00E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/56, mbtmp3.7/4, ML2.6/1, Error ellipse: s-maj=67.1km s-min=29.7km az=64.0*
ISC 04 08:58:25.1±1.8, 38°.10N±0°.04×141°.82E±0°.08, h14km±10km, n24, σ1°.09/25, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.51	314	P	Pn	08 58 39.2	+1.2
JIO				S	Sn	08 58 46.1	-0.5
JMM	Marumori	0.84	254	P	Pn	08 58 43.5	+0.9
JMM				S	Sb	08 58 54.3	+1.5
JOU	Okura	0.95	287	P	Pn	08 58 44.8	+0.8
JOU				S	Sg	08 58 56.1	+0.3
JMK	Ichinoseki	0.97	331	P	Pn	08 58 45.1	+0.8
JMK				S	Sg	08 58 56.3	-0.3
OFUJ	Ofunato	0.98	353	P	Pn	08 58 45.3	+0.8
OFUJ				S	Sg	08 58 56.7	-0.3
JFK	Kawauchi	1.05	226	P	Pn	08 58 47.2	+1.8
JFK				*e*S	Sn	08 59 00.9	+1.0
JFT	Otama	1.31	244	P	Pg	08 58 50.7	+0.4
JFT				S	Sb	08 59 06.7	+0.5
JYS	Shirataka	1.39	276	P	Pb	08 58 51.0	+0.2
JYS				S	Sn	08 59 07.4	-0.9
JYK	Kaneyama	1.41	306	P	Pn	08 58 50.8	+0.5
JOM	Ohasama	1.43	343	P	Pb	08 58 51.6	0.0
JOM				S	Sn	08 59 08.0	-1.3
JRG	Rokugo	1.59	325	P	Pn	08 58 53.9	+1.0
JYA	Atsumi	1.73	287	P	Pn	08 58 55.5	+0.8
JFY	Yanaizu	1.81	248	P	Pb	08 58 57.8	-0.3
MJAR	Matsushiro Arr	3.27	243	Pn	Pb	08 59 20.9	-2.0
	0.7nm,0.3s,baz=81,slow=13,SNR=6.3						
MJAR				Sn	Sg	09 00 08.1	-2.1
	0.4nm,0.3s,baz=78,slow=19,SNR=3.2						
H11N2	WAKE ISLAND Hy	28.44	123	T	T	09 34 35.4	
	baz=316,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	28.45	123	T	T	09 34 36.0	
	baz=316,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	28.45	123	T	T	09 34 36.1	
	baz=316,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	29.19	125	T	T	09 35 30.6	
	baz=318,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	29.19	125	T	T	09 35 30.2	
	baz=318,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	29.20	125	T	T	09 35 34.0	
	baz=318,slow=76,SNR=20						
ZALV	Zalesovo Beam	41.44	311	P	P	09 06 28.0	+17
	1.0nm,0.4s,baz=77,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	43.84	301	P	P	09 06 47.1	+16
	0.2nm,0.3s,baz=83,slow=9.9,SNR=4.1						
KURBB	Kurchatov Arra	45.61	307	P	P	09 07 01.1	+16
	0.4nm,0.5s,baz=81,slow=8.2,SNR=6.0						
WRA	Warramunga Arr	58.16	188	P	P	09 08 17.8	-0.7
	0.2nm,0.5s,baz=5.0,slow=7.3,SNR=6.2						

**IDC 04 09:09:46.3±2.7, 19°.98S×169°.44E, h319km±24km, mb3.3/4, mb1 3.6/4, mb1mx3.0/24, mbtmp3.9/

GAZ	**Gaziantep**	**1.06**	**262**	*e*PG	**Pg**	**09 12 59.2**	**-0.9**
GAZ	**Gaziantep**	**1.06**	**262**	*e*Pg	**Pg**	**09 12 59.2**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.22**	**31**	*e*PN	**Pb**	**09 13 02.4**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.22**	**31**	*e*Pn	**Pb**	**09 13 02.4**	**-0.7**
ELZG	**Elazig**	**1.22**	**17**	*i* P	**Pb**	**09 13 02.9**	**-0.2**
ELZG				*i* S	**Sn**	**09 13 20.7**	**+0.8**
ELZG	**Elazig**	**1.22**	**17**	P	**Pb**	**09 13 02.9**	**-0.2**
ELZG				S	**Sn**	**09 13 20.7**	**+0.8**
DARE	**Darende-Malaty**	**1.48**	**327**	*e*PN	**Pn**	**09 13 06.3**	**-0.4**
DARE	**Darende-Malaty**	**1.48**	**327**	*e*Pn	**Pn**	**09 13 06.3**	**-0.4**
MAZI	**Mazidag**	**1.54**	**85**	*e*PN	**Pn**	**09 13 07.8**	**+0.2**
MAZI	**Mazidag**	**1.54**	**85**	*e*Pn	**Pn**	**09 13 07.8**	**+0.2**
PTK	**Pertek**	**1.70**	**24**	*e*PN	**Pn**	**09 13 09.6**	**-0.3**
PTK	**Pertek**	**1.70**	**24**	*e*Pn	**Pn**	**09 13 09.6**	**-0.3**
KEMA	**Kemaliye**	**1.93**	**359**	*i* P	**Pb**	**09 13 14.6**	**-0.7**
KEMA	**Kemaliye**	**1.93**	**359**	P	**Pb**	**09 13 14.6**	**-0.7**

*ISK **04** 09:24:33.5, 39°.54N×29°.69E, h20km, MD2.6*
*ISCJB **04** 09:24:34.9±0.3, 39°.66N±0°.02×29°.44E±0°.04, h0km, Error ellipse: s-maj=4.6km s-min=2.6km az=13.9*
*CSEM **04** 09:24:34.9±0.2, 39°.66N×29°.45E, h1km, MD2.6, Error ellipse: s-maj=5.7km s-min=3.3km az=104.0, Suspected Mining explosion.*
*DDA **04** 09:24:34.8, 39°.64N×29°.44E, h6km, Md2.7, Suspected Mining explosion.*

ISC 04 09:24:34.8±0.8, 39°.66N±0°.02×29°.45E±0°.03, h0km, n54, σ0§85/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.21**	**178**	*e*PG	**Pg**	**09 24 39.1**	**+0.4**
TVSB				*e*SG	**Sg**	**09 24 43.0**	**+1.7**
TVSB	**Tavsanli**	**0.21**	**178**	*e*Pg	**Pg**	**09 24 39.1**	**+0.4**
TVSB				*e*Sg	**Sg**	**09 24 43.0**	**+1.7**
GDZ	**Gediz**	**0.57**	**178**	*i* P	**Pg**	**09 24 45.9**	**+0.3**
GDZ				*i* S	**Sb**	**09 24 54.4**	**-1.9**
GDZ	**Gediz**	**0.57**	**178**	P	**Pg**	**09 24 45.9**	**+0.3**
GDZ				S	**Sb**	**09 24 54.4**	**-1.9**
CAVI	**Cavuskoy**	**0.62**	**29**	*e*PG	**Pg**	**09 24 47.2**	**+0.5**
CAVI				*e*SG	**Sb**	**09 24 57.2**	**-0.7**
CAVI	**Cavuskoy**	**0.62**	**29**	*e*Pg	**Pg**	**09 24 47.2**	**+0.5**
CAVI				*e*Sg	**Sb**	**09 24 57.2**	**-0.7**
IGD	**Bursa**	**0.64**	**343**	*i* P	**Pg**	**09 24 46.9**	**-0.1**
SIMA	**Simav-Kutahya**	**0.68**	**213**	*e*PG	**Pg**	**09 24 48.1**	**+0.4**
SIMA	**Simav-Kutahya**	**0.68**	**213**	*e*Pg	**Pg**	**09 24 48.1**	**+0.4**
BORA	**Eskisehir**	**0.81**	**74**	*i* P	**Pg**	**09 24 50.7**	**+0.5**
BORA	**Eskisehir**	**0.81**	**74**	P	**Pg**	**09 24 50.7**	**+0.5**
ADVT	**Abdulvahap**	**0.81**	**16**	*e*PG	**Pb**	**09 24 51.4**	**-0.3**
ADVT	**Abdulvahap**	**0.81**	**16**	*e*Pg	**Pb**	**09 24 51.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.83**	**329**	*e*PG	**Pn**	**09 24 53.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.83**	**329**	*e*Pg	**Pn**	**09 24 53.4**	**-0.4**
DEMI	**Demirci**	**0.84**	**223**	*i* P	**Pg**	**09 24 50.9**	**+0.1**
DEMI	**Demirci**	**0.84**	**223**	P	**Pg**	**09 24 50.9**	**+0.1**
ARMT	**Armutlu**	**1.01**	**334**	*e*PN	**Pb**	**09 24 55.5**	**+0.2**
ARMT	**Armutlu**	**1.01**	**334**	*e*Pn	**Pb**	**09 24 55.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.04**	**306**	*e*PN	**Pb**	**09 24 55.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.04**	**306**	*e*Pn	**Pb**	**09 24 55.9**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**1.07**	**336**	*e*PN	**Pb**	**09 24 56.6**	**+0.6**
SBT5	**Esenkoy-Cinarc**	**1.07**	**336**	*e*Pn	**Pb**	**09 24 56.7**	**+0.6**
GULT	**Gulveren**	**1.13**	**46**	*e*PN	**Pg**	**09 24 54.3**	**-2.1**
GULT	**Gulveren**	**1.13**	**46**	*e*Pn	**Pg**	**09 24 54.3**	**-2.1**
HRT	**Hereke**	**1.18**	**8**	*e*PN	**Pg**	**09 24 56.6**	**-0.7**
HRT	**Hereke**	**1.18**	**8**	*e*Pn	**Pg**	**09 24 56.6**	**-0.7**
BALB	**Balikesir**	**1.21**	**270**	*e*PN	**Pn**	**09 24 58.9**	**-0.1**
BALB	**Balikesir**	**1.21**	**270**	*e*Pn	**Pn**	**09 24 58.9**	**-0.1**
BUY	**Buyukada**	**1.22**	**348**	*e*PN	**Pg**	**09 24 58.3**	**+0.1**
BUY	**Buyukada**	**1.22**	**348**	*i* P	**Pg**	**09 24 58.6**	**+0.4**
BUY				*i* S	**Sn**	**09 25 17.5**	**+1.1**
BUY	**Buyukada**	**1.22**	**348**	*e*Pn	**Pg**	**09 24 58.3**	**+0.1**
BUY	**Buyukada**	**1.22**	**348**	P	**Pg**	**09 24 58.6**	**+0.4**
KHAL	**Karahalli**	**1.28**	**179**	*i* P	**Pg**	**09 24 59.1**	**-0.3**
KHAL				*i* S	**Sn**	**09 25 18.8**	**+0.8**
KHAL	**Karahalli**	**1.28**	**179**	P	**Pg**	**09 24 59.1**	**-0.3**
KHAL				S	**Sn**	**09 25 18.8**	**+0.8**
MANT	**Manisa**	**1.35**	**211**	*i* P	**Pg**	**09 25 00.1**	**-0.6**
MANT				*i* S	**Sg**	**09 25 18.2**	**-0.1**
MANT	**Manisa**	**1.35**	**211**	P	**Pg**	**09 25 00.1**	**-0.6**
MANT				S	**Sg**	**09 25 18.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.37**	**259**	*i* P	**Pg**	**09 25 00.6**	**-0.4**
STEP				*i* S	**Sn**	**09 25 19.7**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.37**	**259**	P	**Pg**	**09 25 00.6**	**-0.4**
STEP				S	**Sn**	**09 25 19.7**	**-0.3**
BALY	**Balya**	**1.42**	**274**	*i* P	**Pn**	**09 25 01.5**	**-0.3**
BALY				*i* S	**Sn**	**09 25 22.2**	**+1.0**
BALY	**Balya**	**1.42**	**274**	P	**Pn**	**09 25 01.5**	**-0.3**
BALY				S	**Sn**	**09 25 22.2**	**+1.0**
KAVV	**Kandilli-Istan**	**1.44**	**348**	*e*PN	**Pn**	**09 25 01.4**	**-0.7**
KAVV	**Kandilli-Istan**	**1.44**	**348**	*e*Pn	**Pn**	**09 25 01.4**	**-0.7**
ISK	**Istanbul-Kandi**	**1.44**	**348**	*e*PN	**Pn**	**09 25 01.4**	**-0.7**
ISK	**Istanbul-Kandi**	**1.44**	**348**	*e*Pn	**Pn**	**09 25 01.4**	**-0.7**
SILT	**Sile**	**1.50**	**6**	*e*PN	**Pn**	**09 25 01.7**	**-1.3**
SILT	**Sile**	**1.50**	**6**	*e*Pn	**Pn**	**09 25 01.7**	**-1.3**
KAND	**Kocaeli-Kandir**	**1.54**	**21**	*i* P	**Pg**	**09 25 04.7**	**+0.3**
KAND				*i* S	**Sg**	**09 25 25.2**	**+0.8**
KAND	**Kocaeli-Kandir**	**1.54**	**21**	P	**Pg**	**09 25 04.7**	**+0.3**
KAND				S	**Sg**	**09 25 25.2**	**+0.8**
SAHE	**Sakarya_HENDEK**	**1.61**	**41**	*i* P	**Pn**	**09 25 04.2**	**-0.3**
SAHE				*i* S	**Sg**	**09 25 29.2**	**+2.8**
SAHE	**Sakarya_HENDEK**	**1.61**	**41**	P	**Pn**	**09 25 04.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.62**	**97**	*e*PN	Pn	09 24 58.8	-5.8
KLYT	**Kilyos**	**1.63**	**349**	*e*PN	**Pn**	**09 25 03.9**	**-0.8**
KLYT	**Kilyos**	**1.63**	**349**	*e*Pn	**Pn**	**09 25 03.9**	**-0.8**

*CSEM **04** 09:25:36.7, 39°.65N×29°.46E, h15km, MD2.7, Suspected Mining explosion.*

DDA 04 09:25:36.6, 39°.65N×29°.46E, h15km, Md2.7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.56**	**179**	*i* P	Pb	09 25 48.0	-0.1
GDZ	**Gediz**	**0.56**	**179**	P	Pb	09 25 48.0	-0.2
IGD	**Bursa**	**0.65**	**342**	*i* P	Pg	09 25 48.4	-1.0
BORA	**Eskisehir**	**0.80**	**73**	*i* P	Pg	09 25 51.7	-0.5
BORA	**Eskisehir**	**0.80**	**73**	P	Pg	09 25 51.7	-0.5
DEMI	**Demirci**	**0.84**	**224**	*i* P	Pn	09 25 53.5	-0.5
DEMI	**Demirci**	**0.84**	**224**	P	Pn	09 25 53.5	-0.4
BUY	**Buyukada**	**1.23**	**348**	*i* P	Pg	09 26 01.1	+0.7
BUY				*i* S	Sg	09 26 19.1	+2.6
BUY	**Buyukada**	**1.23**	**348**	P	Pg	09 26 01.1	+0.7
BUY				S	Sg	09 26 19.1	+2.6
KHAL	**Karahalli**	**1.27**	**179**	*i* P	Pg	09 26 01.3	+0.1
KHAL	**Karahalli**	**1.27**	**179**	P	Pg	09 26 01.3	+0.1
MANT	**Manisa**	**1.35**	**212**	*i* P	Pg	09 26 02.4	-0.4
MANT				*i* S	Sb	09 26 19.6	+0.7
MANT	**Manisa**	**1.35**	**212**	P	Pg	09 26 02.3	-0.4
MANT				S	Sb	09 26 19.6	+0.6
STEP	**BALIKESIR_Sava**	**1.38**	**259**	*i* P	Pg	09 26 03.1	-0.1
STEP	**BALIKESIR_Sava**	**1.38**	**259**	P	Pg	09 26 03.1	-0.1
BALY	**Balya**	**1.43**	**274**	*i* P	Pb	09 26 03.1	+0.2
BALY	**Balya**	**1.43**	**274**	P	Pb	09 26 03.2	+0.2
KZIL	**AFYON_Kizioren**	**1.48**	**159**	*i* P	Pn	09 26 03.4	+0.5
KZIL	**AFYON_Kizioren**	**1.48**	**159**	P	Pn	09 26 03.4	+0.5
KAND	**Kocaeli-Kandir**	**1.55**	**21**	*i* P	Pb	09 26 04.7	-0.3
KAND				*i* S	Sg	09 26 27.9	+1.3
KAND	**Kocaeli-Kandir**	**1.55**	**21**	P	Pb	09 26 04.7	-0.3
KAND				S	Sg	09 26 27.9	+1.3
SAHE	**Sakarya_HENDEK**	**1.61**	**41**	*i* P	Pg	09 26 07.0	-0.5
SAHE	**Sakarya_HENDEK**	**1.61**	**41**	P	Pg	09 26 07.0	-0.6

*IDC **04** 09:25:49.8±1.4, 22°.07S×65°.92W, h263km±16km, mb3.0/3, mb1 3.1/6, mb1mx3.0/30, mbtmp3.6/6, Error ellipse: s-maj=27.0km s-min=18.2km az=122.0*
*ISCJB **04** 09:25:51.5±0.7, 22°.02S±0°.06×66°.07W±0°.05, h262km, mb3.7/2, Error ellipse: s-maj=9.0km s-min=6.7km az=162.1*
*SJA **04** 09:25:51.5±0.4, 22°.04S×65°.85W, h265km±5km, ML3.4, MW3.0*
*GUC **04** 09:25:52.4±0.5, 22°.02S×66°.36W, h270km, ML4.4*

ISC 04 09:25:50.3±0.9, 22°.02S±0°.07×66°.00W±0°.06, h262km, n17, σ1§35/28, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.47**	**109**	*e*P	**Pn**	**09 26 26.8**	**+1.8**
YJA				*e*P	**Pn**	**09 26 26.9**	**+1.9**
YJA				IAML		09 26 27.1	
	comp=Z,471nm,0.2s						
YJA				*e*S	**S**	**09 26 52.8**	**+0.5**
YJA				*e*S	S	09 26 53.3	+0.9
HJA	**Humahuaca**	**1.30**	**155**	*e*P	**Pn**	**09 26 30.5**	**+1.7**
HJA				IAML		09 26 31.1	
	comp=Z,78nm,0.3s						
LVC	**Limon Verde**	**2.76**	**257**	P	**Pn**	**09 26 42.3**	**+0.9**
	comp=Z,294nm,0.3s,baz=72,slow=7.0,SNR=31						
LVC				S	**S**	**09 27 22.4**	**+0.5**
	comp=Z,151nm,0.3s,baz=205,slow=19,SNR=9.4						
LVC	**Limon Verde**	**2.76**	**257**	*e*P	**Pn**	**09 26 42.3**	**+0.9**
LVC				*e*S	**S**	**09 27 23.7**	**+1.8**
PB06	**IPOC Station P**	**3.38**	**258**	⇑*i*P	**Pn**	**09 26 49.7**	**+1.9**
PB06				*i* S	**S**	**09 27 33.2**	**-0.2**
PB06				IAML		09 27 34.6	
	comp=E,115nm,0.1s						
PB01	**IPOC Station P**	**3.39**	**286**	⇑*i*P	**Pn**	**09 26 49.5**	**+1.6**
PB01				*i* S	**S**	**09 27 33.3**	**-0.3**
PB01				IAML		09 27 34.2	
	comp=N,412nm,0.3s						
PB07	**IPOC Station P**	**3.62**	**274**	⇓*i*P	**Pn**	**09 26 51.9**	**+1.3**
PB07				*e*S	**S**	**09 27 37.3**	**-1.2**
PB07				IAML		09 27 38.4	
	comp=N,279nm,0.2s						
PB04	**IPOC Station P**	**3.86**	**265**	⇑*i*P	**Pn**	**09 26 54.1**	**+0.9**
PB04				*i* S	**S**	**09 27 41.3**	**-2.0**
PB04				IAML		09 27 43.4	
	comp=N,206nm,0.3s						
HMBC	**Humberstone**	**4.02**	**295**	*e*P	**Pn**	**09 26 55.6**	**+0.5**
HMBC				*e*S	**S**	**09 27 45.1**	**-1.5**
ANCH	**Antofagasta**	**4.39**	**247**	⇑*i*P	**Pn**	**09 27 01.0**	**+1.8**
ANCH				*e*S	**S**	**09 27 52.7**	**-1.5**
PB10	**IPOC Station P**	**4.46**	**250**	*e*S	**Pn**	**09 27 00.5**	**+0.5**
LPAZ	**La Paz**	**6.05**	**340**	P	**Pn**	**09 27 22.2**	**+2.2**
	comp=N,0.2nm,0.3s,baz=151,slow=9.5,SNR=4.9						
LPAZ				S	**S**	**09 28 31.8**	**0.0**
	baz=232,slow=20,SNR=3.4						
SIV	**San Ignacio**	**7.59**	**39**	P	**Pn**	**09 27 38.7**	**0.0**
	comp=N,0.5nm,0.3s,baz=248,slow=12,SNR=9.8						
TXAR	**Lajitas Array**	**62.64**	**323**	P	**P**	**09 35 47.6**	**+0.2**
	comp=N,0.0nm,0.3s,baz=137,slow=5.7,SNR=2.4						
DBIC	**Dimbokro**	**66.31**	**72**	P	**P**	**09 36 09.9**	**-1.4**
	comp=N,2.7nm,0.7s,baz=234,slow=9.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.00**	**69**	P	**P**	**09 37 02.4**	**-1.2**
	comp=N,0.3nm,0.4s,baz=255,slow=5.5,SNR=8.0						
WRA	**Warramunga Arr**	**133.80**	**207**	PKP	**PKPdf**	**09 44 37.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=153,slow=1.8,SNR=4.3						

*ISCJB **04** 09:26:28.6±0.3, 39°.190N±0°.009×21°.59E±0°.01, h13km±2km, mb4.7/80, MS3.7/12, Error ellipse: s-maj=1.8km s-min=1.3km az=135.5*
*THE **04** 09:26:28.2, 39°.16N×21°.58E, h0km±1km, ML4.4/16, Error ellipse: s-maj=1.5km s-min=0.4km az=22.0*
*NEIC **04** 09:26:28.3±0.0, 39°.18N×21°.60E, h20km, mb4.8/42, ML4.3(ATH), ML4.4(THE), After ATH.*
*CSEM **04** 09:26:28.8±0.1, 39°.17N×21°.62E, h2km, mb4.7/22, Error ellipse: s-maj=2.1km s-min=1.5km az=47.0*
*ATH **04** 09:26:28.4, 39°.18N×21°.60E, h20km±1km, ML4.3/12, Error ellipse: s-maj=1.2km s-min=0.6km az=252.0*
*PDG **04** 09:26:28.4±0.6, 39°.19N×21°.63E, h7km±1km, ML4.3/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*MOS **04** 09:26:29.5±0.9, 39°.21N×21°.62E, h23km, mb4.9/35, Error ellipse: s-maj=6.3km s-min=3.5km az=92.2*
*TIR **04** 09:26:30.2, 39°.16N×20°.45E, h39km, ML4.6*
*IDC **04** 09:26:31.4±2.6, 39°.19N×21°.66E, h24km±17km, mb4.3/26, mb1 4.4/40, mb1mx4.3/52, mbtmp4.4/40, ML4.1/13, MS3.7/19, Ms1 3.7/19, ms1mx3.4/54, Error ellipse: s-maj=9.9km s-min=9.4km az=160.0*
*HLW **04** 09:26:40.5, 38°.59N×23°.04E, h9km±11km, Md5.0*

ISC 04 09:26:29.2±0.8, 39°.17N±0°.01×21°.60E±0°.01, h9km±5km, n841, σ1§39/990, mb4.7/80, MS3.7/12, 34C-29D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.30**	**147**	P	**Pg**	**09 26 34.5**	**-0.7**
EVR				S	**Sg**	**09 26 39.3**	**0.0**
EVR	**Evrytania**	**0.30**	**147**	P	**Pg**	**09 26 34.0**	**-1.2**
EVR				S	**Sg**	**09 26 39.3**	**0.0**
EVR				AML	AML	09 26 40.7	
EVR				AML	AML	09 26 46.5	
	comp=E,98558μm,0.4s						
EVR	**Evrytania**	**0.30**	**147**	P	**Pg**	**09 26 34.0**	**-1.2**
EVR				S	**Sg**	**09 26 39.3**	**0.0**
EVR	**Evrytania**	**0.30**	**147**	P	**Pg**	**09 26 34.5**	**-0.7**
EVR				S	**Sg**	**09 26 39.3**	**0.0**
DSL	**Palaion Diasel**	**0.39**	**265**	P	**Pg**	**09 26 35.7**	**-1.2**
DSL				S	**Sg**	**09 26 41.7**	**-0.4**
DSL	**Palaion Diasel**	**0.39**	**265**	P	**Pg**	**09 26 34.8**	**-2.2**
DSL				S	**Sg**	**09 26 41.7**	**-0.4**
DSL				AML	AML	09 26 43.0	
DSL				AML	AML	09 26 45.3	
DSL	**Palaion Diasel**	**0.39**	**265**	P	**Pg**	**09 26 35.7**	**-1.2**
DSL				S	**Sg**	**09 26 41.7**	**-0.4**
DSL	**Palaion Diasel**	**0.39**	**265**	*e*Pg	**Pg**	**09 26 35.7**	**-1.2**
DSL				*e*Sg	**Sg**	**09 26 41.7**	**-0.4**
THL	**Klokotos Trika**	**0.51**	**39**	P	**Pg**	**09 26 39.0**	**-0.1**
THL				S	**Sg**	**09 26 45.6**	**-0.2**
THL	**Klokotos Trika**	**0.51**	**39**	P	**Pg**	**09 26 39.3**	**+0.2**
THL				S	**Sg**	**09 26 45.5**	**-0.2**
THL				AML	AML	09 26 48.5	
	comp=E,34715μm,0.3s						
THL				AML	AML	09 26 51.1	
	comp=N,29736μm,0.6s						
THL	**Klokotos Trika**	**0.51**	**39**	P	**Pg**	**09 26 39.3**	**+0.2**
THL				S	**Sb**	**09 26 47.2**	**-0.6**
PVO	**Paravola**	**0.56**	**186**	P	**Pg**	**09 26 38.5**	**-1.5**
PVO				S	**Sg**	**09 26 46.7**	**-0.5**
PVO	**Paravola**	**0.56**	**186**	P	**Pg**	**09 26 38.0**	**-2.0**
PVO				S	**Sg**	**09 26 48.0**	**+0.7**
PVO	**Paravola**	**0.56**	**186**	P	**Pg**	**09 26 38.5**	**-1.5**
PVO				S	**Sg**	**09 26 46.7**	**-0.5**
AGG	**Agios Georgios**	**0.59**	**104**	*e*PG	**Pg**	**09 26 40.4**	**-0.2**
AGG	**Agios Georgios**	**0.59**	**104**	P	**Pg**	**09 26 40.1**	**-0.5**
AGG				S	**Sb**	**09 26 49.6**	**-0.4**
AGG	**Agios Georgios**	**0.59**	**104**	*e*P	**Pg**	**09 26 40.1**	**-0.5**
AGG				*e*		09 26 48.3	
AGG	**Agios Georgios**	**0.59**	**104**	P	**Pg**	**09 26 40.4**	**-0.2**
AGG				S	**Sb**	**09 26 49.8**	**-0.2**
AGG				AML	AML	09 26 56.7	
AGG				AML	AML	09 26 59.5	
AGG	**Agios Georgios**	**0.59**	**104**	P	**Pg**	**09 26 40.1**	**-0.5**
AGG				*e*S	**Sg**	**09 26 48.3**	**0.0**
AGG	**Agios Georgios**	**0.59**	**104**	*e*Pg	**Pg**	**09 26 40.1**	**-0.5**
AGG				*e*Pg	**Pb**	**09 26 40.3**	**-1.4**
AGG				*e*Sg	**Sg**	**09 26 48.3**	**0.0**
AGG				*e*Sg	**Sb**	**09 26 49.6**	**-0.4**
ANX	**Ano Chora**	**0.63**	**156**	P	**Pg**	**09 26 40.0**	**-1.4**
ANX				S	**Sg**	**09 26 49.6**	**0.0**
ANX	**Ano Chora**	**0.63**	**156**	P	**Pg**	**09 26 40.2**	**-1.2**
ANX				S	**Sg**	**09 26 49.6**	**0.0**
JAN	**Janina**	**0.76**	**310**	P	**Pg**	**09 26 42.4**	**-1.4**
JAN				S	**Sg**	**09 26 53.3**	**-0.4**
JAN	**Janina**	**0.76**	**310**	P	**Pg**	**09 26 42.4**	**-1.4**
JAN	**Janina**	**0.76**	**310**	P	**Pb**	**09 26 44.3**	**-0.2**
JAN				S	**Sg**	**09 26 53.1**	**-0.6**
JAN				AML	AML	09 26 57.1	
	comp=E,55118μm,0.4s						
JAN				AML	AML	09 26 59.4	
	comp=N,36067μm,0.2s						
JAN	**Janina**	**0.76**	**310**	P	**Pb**	**09 26 44.3**	**-0.2**
JAN				S	**Sg**	**09 26 53.3**	**-0.4**
JAN	**Janina**	**0.76**	**310**	P	**Pg**	**09 26 42.4**	**-1.4**
EFP	**Efpalio**	**0.78**	**162**	P	**Pg**	**09 26 42.6**	**-1.6**
EFP				S	**Sg**	**09 26 54.7**	**+0.4**
EFP	**Efpalio**	**0.78**	**162**	P	**Pg**	**09 26 43.7**	**-0.5**
EFP				S	**Sb**	**09 26 55.7**	**+0.2**
EFP	**Efpalio**	**0.78**	**162**	P	**Pg**	**09 26 42.7**	**-1.5**
EFP				S	**Sg**	**09 26 54.7**	**+0.4**
LRSO	**Larissa Observ**	**0.79**	**51**	P	**Pg**	**09 26 44.0**	**-0.4**
LRSO				S	**Sb**	**09 26 56.1**	**+0.2**
LRSO	**Larissa Observ**	**0.79**	**51**	P	**Pg**	**09 26 44.0**	**-0.4**
LRSO				S	**Sb**	**09 26 56.1**	**+0.2**
KPRO	**Kipourio**	**0.81**	**347**	P	**Pg**	**09 26 43.5**	**-1.2**
KPRO				S	**Sb**	**09 26 56.5**	**+0.1**
KPRO	**Kipourio**	**0.81**	**347**	P	**Pg**	**09 26 44.0**	**-0.7**
KPRO				S	**Sg**	**09 26 54.4**	**-0.8**
KPRO				AML	AML	09 27 00.4	
	comp=E,64991μm,0.3s						
KPRO				AML	AML	09 27 02.5	
	comp=N,59859μm,0.5s						
KPRO	**Kipourio**	**0.81**	**347**	P	**Pg**	**09 26 44.0**	**-0.7**
KPRO				S	**Sb**	**09 26 56.5**	**+0.1**
LKD2	**Lefkada island**	**0.83**	**243**	P	**Pg**	**09 26 43.7**	**-1.4**
LKD2				S	**Sg**	**09 26 56.1**	**+0.2**
LKD2	**Lefkada island**	**0.83**	**243**	P	**Pg**	**09 26 44.4**	**-0.7**
LKD2				S	**Sb**	**09 26 56.6**	**-0.3**
LKD2	**Lefkada island**	**0.83**	**243**	P	**Pg**	**09 26 44.4**	**-0.7**
LKD2				S	**Sg**	**09 26 56.0**	**+0.2**
LKD2	**Lefkada island**	**0.83**	**243**	P	**Pg**	**09 26 43.7**	**-1.4**
SERG	**Sergoula**	**0.83**	**155**	P	**Pg**	**09 26 43.4**	**-1.9**
SERG	**Sergoula**	**0.83**	**155**	P	**Pg**	**09 26 43.0**	**-2.2**
SERG				AML	AML	09 26 58.5	
	comp=N,44471μm,0.4s						
SERG				AML	AML	09 26 59.5	
	comp=E,49306μm,0.5s						
SERG	**Sergoula**	**0.83**	**155**	P	**Pg**	**09 26 43.6**	**-1.7**
TRIZ	**Trizonia**	**0.88**	**155**	P	**Pg**	**09 26 44.1**	**-2.1**
TRIZ				S	**Sn**	**09 26 60.0**	**-0.7**
TRIZ	**Trizonia**	**0.88**	**155**	P	**Pg**	**09 26 44.1**	**-2.1**
TRIZ				S	**Sn**	**09 27 00.0**	**-0.7**
KALE	**Kalithea**	**0.89**	**151**	P	**Pg**	**09 26 44.2**	**-2.0**
KALE				S	**Sg**	**09 26 57.2**	**-0.5**
KALE	**Kalithea**	**0.89**	**151**	P	**Pg**	**09 26 44.2**	**-2.0**
KALE				S	**Sb**	**09 26 58.7**	**+0.1**
KALE				AML	AML	09 27 03.2	
	comp=E,30597μm,0.5s						
KALE				AML	AML	09 27 05.0	
	comp=N,29542μm,0.8s						
KALE	**Kalithea**	**0.89**	**151**	P	**Pg**	**09 26 44.2**	**-2.0**
KALE				S	**Sg**	**09 26 57.2**	**-0.5**
KALE	**Kalithea**	**0.89**	**151**	*e*Pg	**Pg**	**09 26 44.2**	**-2.0**
KALE				*e*Sg	**Sg**	**09 26 57.2**	**-0.5**
UPR	**University Cam**	**0.90**	**171**	P	**Pn**	**09 26 48.0**	**+0.1**
UPR	**University Cam**	**0.90**	**171**	P	**Pn**	**09 26 48.0**	**+0.1**
LAKA	**Lakka**	**0.97**	**162**	P	**Pg**	**09 26 46.4**	**-1.5**
LAKA	**Lakka**	**0.97**	**162**	P	**Pb**	**09 26 48.1**	**-0.1**
LAKA	**Lakka**	**0.97**	**162**	P	**Pg**	**09 26 46.4**	**-1.5**
LAKA	**Lakka**	**0.97**	**162**	*e*Pg	**Pg**	**09 26 46.4**	**-1.5**
AXS	**Araxos**	**0.99**	**190**	P	**Pg**	**09 26 46.7**	**-1.4**
AXS	**Araxos**	**0.99**	**190**	P	**Pg**	**09 26 46.8**	**-1.4**
AXS				S	**Sn**	**09 27 03.0**	**-0.2**
AXS	**Araxos**	**0.99**	**190**	P	**Pg**	**09 26 46.8**	**-1.4**
AXS				S	**Sn**	**09 27 03.0**	**-0.2**
DSF	**Desfina**	**1.05**	**136**	P	**Pg**	**09 26 47.2**	**-2.1**
DSF				S	**Sg**	**09 27 02.9**	**-0.1**
DSF	**Desfina**	**1.05**	**136**	P	**Pg**	**09 26 47.1**	**-2.3**
DSF	**Desfina**	**1.05**	**136**	P	**Pg**	**09 26 47.2**	**-2.1**
DSF	**Desfina**	**1.05**	**136**	*e*Pg	**Pg**	**09 26 47.2**	**-2.1**
FYTO	**Fytoko, Volos**	**1.07**	**77**	P	**Pg**	**09 26 48.5**	**-1.2**
FYTO	**Fytoko, Volos**	**1.07**	**77**	P	**Pg**	**09 26 48.5**	**-1.2**
FYTO	**Fytoko, Volos**	**1.07**	**77**	*e*Pg	**Pg**	**09 26 48.5**	**-1.2**
PENT	**Pentalofos**	**1.08**	**341**	P	**Pg**	**09 26 48.3**	**-1.8**
PENT	**Pentalofos**	**1.08**	**341**	P	**Pg**	**09 26 49.0**	**-1.1**
PENT				S	**Sn**	**09 27 05.4**	**-0.4**
PENT	**Pentalofos**	**1.08**	**341**	P	**Pg**	**09 26 49.0**	**-1.1**
PENT				S	**Sn**	**09 27 05.4**	**-0.4**
RLS	**Riolos of Patr**	**1.11**	**185**	P	**Pb**	**09 26 49.0**	**-1.6**
RLS	**Riolos of Patr**	**1.11**	**185**	P	**Pb**	**09 26 49.7**	**-0.9**
RLS				S	**Sb**	**09 27 05.7**	**+0.5**
RLS				A

BIA	Bitola	1.86 354	*i* Pn	Pb	09 27 03.0 -0.3
BIA			*i* Sn	Sg	09 27 29.6 +0.6
PLG	Polygyros	1.86 49	P	Pn	09 26 59.5 -1.8
PLG	Polygyros	1.86 49	P	Pn	09 26 59.5 -1.8
GRG	Griva	1.89 19	*e*PN	Pn	09 27 01.8 +0.2
GRG	Griva	1.89 19	P	Pn	09 27 01.4 -0.2
GRG	Griva	1.89 19	P	Pn	09 27 01.4 -0.2
GRG	Griva	1.89 19	*e*Pn	Pn	09 27 01.8 +0.2
VLX	Vlachokerasia	1.90 161	P	Pn	09 27 01.4 -0.4
VLX	Vlachokerasia	1.90 161	P	Pn	09 27 01.4 -0.4
EREA	Eretria	1.97 112	P	Pn	09 27 03.6 +0.9
EREA	Eretria	1.97 112	P	Pn	09 27 03.6 +0.9
ITM	Ithomi	2.00 173	P	Pg	09 27 06.8 -0.8
ITM	Ithomi	2.00 173	P	Pg	09 27 06.8 -0.8
OHR	Ohrid	2.03 343	*i* Pn	Pb	09 27 05.0 -1.3
OHR			*i* Sn	Sg	09 27 34.3 -0.2
OHR	Ohrid	2.03 343	*i* Pn	Pb	09 27 05.0 -1.3
ATH	Athens Observa	2.04 125	P	Pn	09 27 04.3 +0.6
ATH	Athens Observa	2.04 125	P	Pn	09 27 04.3 +0.6
ATHU	Athens Univers	2.09 124	P	Pn	09 27 03.7 -0.7
ATHU	Athens Univers	2.09 124	P	Pn	09 27 03.7 -0.7
PTL	Penteli	2.10 122	P	Pn	09 27 03.6 -0.9
PTL	Penteli	2.10 122	P	Pn	09 27 03.6 -0.9
VLY	Voula,Athens	2.17 127	P	Pn	09 27 05.8 +0.4
VLY	Voula,Athens	2.17 127	P	Pn	09 27 05.8 +0.4
OUR	Ouranopolis	2.17 57	*e*PN	Pn	09 27 05.0 -0.5
OUR	Ouranopolis	2.17 57	P	Pn	09 27 04.4 -1.0
OUR	Ouranopolis	2.17 57	P	Pn	09 27 04.4 -1.0
OUR	Ouranopolis	2.17 57	*e*Pn	Pn	09 27 05.0 -0.5
KRUS	Krusevo	2.21 353	*i* Pn	Pn	09 27 07.0 +0.9
KRUS			*i* Sn	Sg	09 27 40.5 +0.2
KRUS	Krusevo	2.21 353	*i* Pn	Pn	09 27 07.0 +0.9
KNT	Kendrikon	2.22 26	*e*PN	Pn	09 27 05.7 -0.5
KNT	Kendrikon	2.22 26	P	Pn	09 27 06.8 +0.6
KNT	Kendrikon	2.22 26	*e*Pn	Pn	09 27 05.7 -0.5
KNT	Kendrikon	2.22 26	P	Pn	09 27 06.8 +0.6
PYL	PYLOS	2.27 177	P	Pb	09 27 10.1 -0.2
PYL	PYLOS	2.27 177	P	Pb	09 27 10.1 -0.2
VAY	Valandovo	2.27 19	*i* Pn	Pn	09 27 07.0 +0.2
VAY			*i* Sn	Sg	09 27 41.0 -1.3
VAY	Valandovo	2.27 19	*i* Pn	Pn	09 27 07.0 +0.2
VAY			*i* Sn	Sg	09 27 40.9 -1.3
SKY	Skiros Island	2.32 96	P	Pn	09 27 07.2 -0.3
SKY	Skiros Island	2.32 96	P	Pn	09 27 07.2 -0.3
SRS	Serrai	2.47 37	P	Pn	09 27 09.3 -0.3
SRS	Serrai	2.47 37	P	Pn	09 27 09.3 -0.3
KARY	Karystos	2.50 116	P	Pn	09 27 10.6 +0.7
KARY	Karystos	2.50 116	P	Pn	09 27 10.6 +0.7
TIR	Tirane	2.55 329	*i* PN	Pb	09 27 14.0 -1.1
TIR			*i* SN	Sn	09 27 42.9 +1.1
TIR	Tirane	2.55 329	⇑*i*P	Pb	09 27 14.0 -1.1
TIR	Tirane	2.55 329	*e*P	Pb	09 27 13.8 -1.3
TIR	Tirane	2.55 329	*e*P	Pb	09 27 13.8 -1.3
TIR			*i* Sn	Sn	09 27 42.9 +1.1
TIR	Tirane	2.55 329	*e*Pn	Pb	09 27 13.8 -1.3
TIR			*e*Sn	Sg	09 27 51.5 +0.5
VLI	Veliai	2.67 156	P	Pn	09 27 12.9 +0.6
VLI			S	Sn	09 27 46.1 +1.4
VLI	Veliai	2.67 156	P	Pn	09 27 14.5 +2.2
VLI	Veliai	2.67 156	P	Pn	09 27 12.9 +0.6
VLI			S	Sn	09 27 46.1 +1.4
VLI	Veliai	2.67 156	*e*Pn	Pn	09 27 12.9 +0.6
VLI			*e*Sn	Sn	09 27 46.1 +1.4
NVR	Nevrokopi	2.78 38	P	Pn	09 27 13.8 -0.1
NVR	Nevrokopi	2.78 38	P	Pn	09 27 13.8 -0.1
SKO	Skopje	2.80 358	*i* Pn	Pn	09 27 15.1 +1.0
SKO	Skopje	2.80 358	*i* Pn	Pn	09 27 15.1 +1.0
LIA	Limnos Island	2.86 74	P	Pn	09 27 13.5 -1.5
LIA	Limnos Island	2.86 74	P	Pn	09 27 13.5 -1.5
KAVA	Kavala	2.88 50	P	Pn	09 27 13.3 -1.9
KAVA	Kavala	2.88 50	P	Pn	09 27 13.4 -1.9
MMB	Musomiste	2.91 33	*i* P	Pn	09 27 15.4 -0.3
KKB	Krupnik	2.92 22	*i* P	Pn	09 27 15.8 0.0
SERI	Serifos	3.03 131	P	Pn	09 27 17.0 -0.3
SERI	Serifos	3.03 131	P	Pn	09 27 17.0 -0.3
KYTH	Kithira	3.12 158	P	Pn	09 27 20.7 +2.2
SIGR	SIGRI	3.31 88	*e*PN	Pn	09 27 21.4 +0.4
SIGR	SIGRI	3.31 88	P	Pn	09 27 19.5 -1.5
SIGR	SIGRI	3.31 88	P	Pn	09 27 19.5 -1.5
SIGR	SIGRI	3.31 88	*e*Pn	Pn	09 27 21.4 +0.4
ULC	Ulcinj	3.32 328	⇑*i*Pn	Pn	09 27 22.1 +0.8
ULC			*e*Sn	Sn	09 28 02.6 +1.8
ULC	Ulcinj	3.32 328	⇑*i*Pn	Pn	09 27 22.1 +0.8
MHLO	Agia Marina, M	3.32 137	P	Pn	09 27 20.4 -0.9
MHLO	Agia Marina, M	3.32 137	P	Pn	09 27 20.4 -0.9
RZN	Rozhen	3.46 42	*i* P	Pn	09 27 26.5 -6.8
GADA	Gvkgeada	3.47 72	*e*PN	Pn	09 27 23.3 0.0
GADA	Gvkgeada	3.47 72	*e*Pn	Pn	09 27 23.3 0.0
BOZC	Bozcaada	3.51 78	*e*PN	Pn	09 27 24.1 +0.2
BOZC	Bozcaada	3.51 78	*i* P	Pn	09 27 23.1 -0.7
BOZC	Bozcaada	3.51 78	*e*Pn	Pn	09 27 24.1 +0.2
GPNR	Gulpinar-Canak	3.53 84	*e*PN	Pn	09 27 24.4 +0.3
GPNR	Gulpinar-Canak	3.53 84	*e*Pn	Pn	09 27 24.4 +0.3
DRME	Dracevica, Mon	3.53 329	⇑*i*Pn	Pn	09 27 25.1 +1.0
DRME			*e*Sn	Sn	09 28 07.9 +1.9
DRME	Dracevica, Mon	3.53 329	⇑*i*Pn	Pn	09 27 25.1 +1.0
ANKY	Antikythira Is	3.56 157	P	Pn	09 27 27.1 +2.5
ANKY	Antikythira Is	3.56 157	P	Pn	09 27 27.1 +2.5
CHOS	Chios island	3.57 101	*e*PN	Pn	09 27 25.7 +0.9
CHOS	Chios island	3.57 101	P	Pn	09 27 25.5 +0.7
CHOS	Chios island	3.57 101	P	Pn	09 27 25.5 +0.7
TAR1	Taranto	3.59 294	*e*Pn	Pn	09 27 25.7 +0.8
RDO	Rodhopi	3.60 56	P	Pn	09 27 23.4 -1.8
RDO	Rodhopi	3.60 56	P	Pn	09 27 23.4 -1.8
VTS	Vitosha	3.63 19	⇑*i*P	Pn	09 27 26.8 +1.2
VTS	Vitosha	3.63 19	*e*P	Pn	09 27 26.2 +0.6
VTS			*e*		09 28 09.8
VTS	Vitosha	3.63 19	*i* P	Pn	09 27 26.4 +0.8
VTS	Vitosha	3.63 19	*e*P	Pn	09 27 26.2 +0.6
VTS			*e*S	Sn	09 28 09.8 +1.1
VTS	Vitosha	3.63 19	*e*Pn	Pn	09 27 26.2 +0.6
VTS			*e*Sn	Sn	09 28 09.8 +1.1
PVY	Plav	3.64 341	*e*Pn	Pn	09 27 27.1 +1.3
PVY			*e*Sn	Sn	09 28 10.9 +2.0
PVY	Plav	3.64 341	*e*Pn	Pn	09 27 27.1 +1.3
PVY			*e*Sn	Sn	09 28 10.9 +2.0
BARS	Barje	3.65 2	⇓*i*Pn	Pn	09 27 26.2 +0.4
FASA	Fasano	3.65 298	*e*Pn	Pn	09 27 26.6 +0.8
PDG	Podgorica	3.71 332	⇓*i*P	Pn	09 27 28.7 +2.1
PDG	Podgorica	3.71 332	S	Sn	09 28 14.3 +3.9
PDG	Podgorica	3.71 332	⇓*i*Pn	Pn	09 27 27.9 +1.3
PDG			*e*Sn	Sn	09 28 12.2 +1.8
TTG	Podgorica	3.71 332	⇓*i*Pn	Pn	09 27 27.9 +1.3
TTG			*e*Sn	Sn	09 28 12.2 +1.8
EZN	Ezine	3.71 78	*e*PN	Pn	09 27 26.7 +0.1
EZN	Ezine	3.71 78	*e*Pn	Pn	09 27 26.7 +0.1
MASS	Massafra	3.73 295	*e*Pn	Pn	09 27 27.5 +0.7
APE	Apeiranthos	3.74 123	*e*PN	Pn	09 27 29.4 +2.3
APE	Apeiranthos	3.74 123	⇑*i*P	Pn	09 27 28.6 +1.5
APE	Apeiranthos	3.74 123	S	Sn	09 28 12.0 +0.7
APE	Apeiranthos	3.74 123	*d i*P	Pn	09 27 27.9 +0.8
APE	Apeiranthos	3.74 123	P	Pn	09 27 27.6 +0.5
APE	Apeiranthos	3.74 123	P	Pn	09 27 27.6 +0.5
APE	Apeiranthos	3.74 123	*e*Pn	Pn	09 27 29.4 +2.3
BUM	Brajici-Budva	3.74 328	⇑*i*Pn	Pn	09 27 28.5 +1.4
BUM			*e*Sn	Sn	09 28 13.1 +1.8
BUM	Brajici-Budva	3.74 328	⇑*i*Pn	Pn	09 27 28.5 +1.4
ALN	Alexandroupoli	3.82 62	*e*PN	Pn	09 27 28.5 +0.3
ALN	Alexandroupoli	3.82 62	*e*Pn	Pn	09 27 28.5 +0.3
KDZ	Kurdzhali	3.82 48	*i* P	Pn	09 27 27.0 -1.2
ENEZ	Enez	3.83 64	*e*PN	Pn	09 27 28.5 +0.2
ENEZ	Enez	3.83 64	*e*Pn	Pn	09 27 28.5 +0.2
BAYC	CANAKKALE_Bayr	3.87 80	*i* P	Pn	09 27 28.8 0.0
BAYC	CANAKKALE_Bayr	3.87 80	P	Pn	09 27 28.8 0.0
PGB	Panagyurishte	3.90 29	*i* P	Pn	09 27 29.4 +0.2
BEY	Berane	3.92 341	⇓*i*Pn	Pn	09 27 31.0 +1.5
BEY			*e*Sn	Sn	09 28 17.2 +1.5
IVA	Berane	3.92 341	⇓*i*Pn	Pn	09 27 31.0 +1.5
IVA			*e*Sn	Sn	09 28 17.2 +1.5
CEME	Cevo	3.94 330	⇓*i*Pn	Pn	09 27 31.1 +1.3
CEME			*e*Sn	Sn	09 28 17.9 +1.7
CEME	Cevo	3.94 330	⇓*i*Pn	Pn	09 27 31.1 +1.3
CEME			*e*Sn	Sn	09 28 17.9 +1.7
ZEY	˜zmir	3.95 102	*i* P	Pn	09 27 30.4 +0.5
AYVA	Ayvalik	3.96 86	*i* P	Pn	09 27 29.7 -0.2
AYVA	Ayvalik	3.96 86	P	Pn	09 27 29.7 -0.2
URLA	Izmir	3.99 100	*e*PN	Pn	09 27 31.1 +0.7
URLA	Izmir	3.99 100	*i* P	Pn	09 27 30.8 +0.3
URLA	Izmir	3.99 100	P	Pn	09 27 30.8 +0.3
URLA	Izmir	3.99 100	*e*Pn	Pn	09 27 31.1 +0.7
FOCM	Fo˜§a	4.03 95	*e*PN	Pn	09 27 32.2 +1.3
FOCM	Fo˜§a	4.03 95	*e*Pn	Pn	09 27 32.2 +1.3
HCY	Herceg Novi	4.03 325	⇓*i*Pn	Pn	09 27 31.9 +0.8
HCY			*e*Sn	Sn	09 28 20.1 +1.7
HCY	Herceg Novi	4.03 325	⇓*i*Pn	Pn	09 27 31.9 +0.8
THR5	Thira Island,	4.04 132	P	Pn	09 27 31.1 -0.1
THR5	Thira Island,	4.04 132	P	Pn	09 27 31.1 -0.1
ERIK	Erikli-Kesan	4.06 67	*e*PN	Pn	09 27 30.9 -0.6
ERIK	Erikli-Kesan	4.06 67	*e*Pn	Pn	09 27 30.9 -0.6
BAI	Bari	4.10 300	*e*Pn	Pn	09 27 33.2 +1.2
NKME	Niksic	4.11 332	⇓*i*Pn	Pn	09 27 33.6 +1.4
NKME			*e*Sn	Sn	09 28 21.9 +1.4
NKME	Niksic	4.11 332	⇓*i*Pn	Pn	09 27 33.6 +1.4
NKME			*e*Sn	Sn	09 28 21.9 +1.4
DKL	Dikili	4.13 90	*e*PN	Pn	09 27 33.5 +1.2
DKL	Dikili	4.13 90	*e*Pn	Pn	09 27 33.6 +1.2
SG1	Sgolgore (BA)	4.13 295	*e*Pn	Pn	09 27 33.2 +0.8
NKY	Niksic	4.14 332	⇓*i*Pn	Pn	09 27 33.8 +1.2
NKY			*e*Sn	Sn	09 28 22.4 +1.2
NKY	Niksic	4.14 332	⇓*i*Pn	Pn	09 27 33.8 +1.2
NKY			*e*Sn	Sn	09 28 22.4 +1.2
SANT	Santorini	4.14 131	*e*Pn	Pn	09 27 34.0 +1.4
SANT	Santorini	4.14 131	*e*Pn	Pn	09 27 34.0 +1.4
DIM	Dimitrovgrad	4.15 45	*i* P	Pn	09 27 32.8 +0.1
LPK	Lapseki	4.15 72	*e*PN	Pn	09 27 32.6 -0.1
LPK	Lapseki	4.15 72	*e*Pn	Pn	09 27 32.6 -0.1
KESN	Edirne-Kesan	4.24 65	*i* P	Pn	09 27 33.1 -1.1
KESN	Edirne-Kesan	4.24 65	P	Pn	09 27 33.1 -1.1
TREB	Trebinje	4.31 326	*e*Pn	Pn	09 27 35.6 +0.7
SMG	Samos	4.36 108	P	Pn	09 27 36.4 +0.7
SMG	Samos	4.36 108	P	Pn	09 27 36.3 +0.7
BRY	Bratogost	4.39 329	⇓*i*Pn	Pn	09 27 36.9 +0.8
BRY			*e*Sn	Sn	09 28 28.4 +1.1
BRY	Bratogost	4.39 329	⇓*i*Pn	Pn	09 27 36.9 +0.8
BRY			*e*Sn	Sn	09 28 28.4 +1.1
PLE	Pljevlja	4.48 339	⇑*i*Pn	Pn	09 27 38.2 +0.9
PLE			*e*Sn	Sn	09 28 30.5 +1.0
PLE	Pljevlja	4.48 339	⇑*i*Pn	Pn	09 27 38.2 +0.9
PLE			*e*Sn	Sn	09 28 30.5 +1.0
MPEP	Malo Peshtene	4.48 20	*i* P	Pn	09 27 38.8 +1.6
CDT	Castel del Mon	4.51 297	*e*Pn	Pn	09 27 38.5 +0.9
UPM	Unac-Piva	4.51 334	⇓*i*Pn	Pn	09 27 39.2 +1.4
UPM			*e*Sn	Sn	09 28 31.8 +1.3
UPM	Unac-Piva	4.51 334	⇓*i*Pn	Pn	09 27 39.2 +1.4
UPM			*e*Sn	Sn	09 28 31.8 +1.3
IVAS	Ivanjica	4.54 347	*i* Pn	Pn	09 27 39.8 +1.8
CUC	Castrocucco	4.54 282	*e*Pn	Pn	09 27 39.8 +1.6
CUC	Castrocucco	4.54 282	*e*Pn	Pn	09 27 39.8 +1.6
CEL	Celeste	4.55 260	*e*Pn	Pn	09 27 38.5 +0.2
CEL			*e*Sn	Sn	09 28 30.0 -1.3
CEL	Celeste	4.55 260	*e*Pn	Pn	09 27 38.5 +0.2
CEL			*e*Sn	Sn	09 28 30.0 -1.3
KRBG	Karabiga-Canak	4.56 73	*e*PN	Pn	09 27 38.2 0.0
KRBG	Karabiga-Canak	4.56 73	*e*Pn	Pn	09 27 38.2 0.0
GCAM	G?zelcaml?	4.66 107	*i* P	Pn	09 27 40.2 +0.6
GCAM	G?zelcaml?	4.66 107	P	Pn	09 27 40.2 +0.6
BOLS	Boljevac	4.66 3	*i* Pn	Pn	09 27 38.5 -1.2
IDI	Anoyia	4.68 145	Pn	Pn	09 27 41.3 +1.3
	comp=E,4.4nm,0.3s,baz=316,slow=17,SNR=19				
IDI			Sn	Sn	09 28 39.0 +4.5
	comp=E,5.3nm,0.3s,baz=240,slow=20,SNR=3.2				
IDI	Anoyia	4.68 145	*e*Pn	Pn	09 27 42.1 +2.1
IDI			*e*Sn	Sn	09 28 37.3 +2.8
IDI	Anoyia	4.68 145	*e*Pn	Pn	09 27 42.1 +2.1
IDI			*e*Sn	Sn	09 28 37.3 +2.8
BALY	Balya	4.69 81	*i* P	Pn	09 27 41.2 +1.0
BALY	Balya	4.69 81	P	Pn	09 27 41.2 +1.0
STON	Ston	4.73 323	*i* Pn	Pn	09 27 41.0 +0.4
STON			Sn	Sn	09 28 34.4 -1.2
STON	Ston	4.73 323	*i* Pn	Pn	09 27 41.0 +0.4
STON			Sn	Sn	09 28 34.3 -1.2
STEP	BALIKESIR_Sava	4.75 86	*i* P	Pn	09 27 42.3 +1.3
STEP	BALIKESIR_Sava	4.75 86	P	Pn	09 27 42.3 +1.3
GRUS	Gruza	4.76 352	⇓*i*Pn	Pn	09 27 41.6 +0.5
MRMT	Marmara Adasi	4.83 71	*e*PN	Pn	09 27 43.2 +1.1
MRMT	Marmara Adasi	4.83 71	*e*Pn	Pn	09 27 43.2 +1.1
BALB	Balikesir	4.89 83	*e*PN	Pn	09 27 44.2 +1.4
BALB	Balikesir	4.89 83	*e*Pn	Pn	09 27 44.2 +1.4
EDC	Edincik	4.97 74	*e*PN	Pn	09 27 45.0 +1.1
EDC	Edincik	4.97 74	*e*Pn	Pn	09 27 45.0 +1.1
BODT	Bodrum	4.97 113	*e*PN	Pn	09 27 45.9 +2.0
BODT	Bodrum	4.97 113	*e*Pn	Pn	09 27 45.9 +2.0
BBLS	Lazići	4.97 341	⇓*i*Pn	Pn	09 27 45.8 +1.8
MS1	Monte Sant'Ang	5.00 302	*e*Pn	Pn	09 27 45.6 +1.1
BDRM	Kayabasi	5.06 113	*i* P	Pn	09 27 46.1 +0.9
BDRM	Kayabasi	5.06 113	P	Pn	09 27 46.1 +0.9
DIVS	Divibare	5.07 347	*e*Pn	Pn	09 27 46.2 +0.8
AYDB	Zeytinkoy-Aydi	5.08 102	*e*PN	Pn	09 27 47.2 +1.6
AYDB	Zeytinkoy-Aydi	5.08 102	*e*Pn	Pn	09 27 47.2 +1.6
NIS1	Nisyros Isl.	5.10 118	*e*PN	Pn	09 27 49.3 +3.5
NIS1	Nisyros Isl.	5.10 118	*e*Pn	Pn	09 27 49.3 +3.5
AYDN	Tasoluk	5.16 105	*i* P	Pn	09 27 47.7 +1.2
AYDN	Tasoluk	5.16 105	P	Pn	09 27 47.7 +1.2
SBT3	Marmara-Eregli	5.18 69	*e*PN	Pn	09 27 48.2 +1.5
SBT3	Marmara-Eregli	5.18 69	*e*Pn	Pn	09 27 48.2 +1.5
MLSB	Milas	5.21 109	*e*PN	Pn	09 27 49.3 +2.0
MLSB	Milas	5.21 109	*e*Pn	Pn	09 27 49.3 +2.0
SZH	Strazhica	5.24 37	*i* P	Pn	09 27 47.7 +0.1
DAT	Datca	5.32 115	*e*PN	Pn	09 27 51.5 +2.7
DAT	Datca	5.32 115	*i* P	Pn	09 27 50.3 +1.5
DAT	Datca	5.32 115	P	Pn	09 27 50.3 +1.5
DAT	Datca	5.32 115	*e*Pn	Pn	09 27 51.5 +2.7
KCTX	Karacabey (Bur	5.32 76	*e*PN	Pn	09 27 49.3 +0.5
KCTX	Karacabey (Bur	5.32 76	*e*Pn	Pn	09 27 49.3 +0.5
SLVT	Silivri	5.46 66	*e*PN	Pn	09 27 51.8 +1.1
KULA	Kula-Manisa	5.55 95	*e*PN	Pn	09 27 54.3 +2.3
SBT2	Guzelce-Avcila	5.58 70	*e*PN	Pn	09 27 53.7 +1.6
TEKS	Tekeris	5.59 345	*e*Pn	Pn	09 27 53.3 +0.8
MDVR	Moldovita	5.61 1	⇑*i*P	Pn	09 27 53.2 +0.5
SRE	Strehaia	5.62 12	⇓*i*P	Pn	09 27 47.9 -4.9
CTKS	Kestanelik-??a	5.68 66	*e*PN	Pn	09 27 54.9 +1.3
KARP	Karpathos	5.72 128	*e*PN	Pn	09 27 57.9 +3.6
KARP	Karpathos	5.72 128	*e*Pn	Pn	09 27 54.0 -0.3
KARP	Karpathos	5.72 128	*e*Pn	Pn	09 27 54.0 -0.3
SIMA	Simav-Kutahya	5.74 89	*e*PN	Pn	09 27 56.5 +1.9
ARMT	Armutlu	5.76 74	*e*PN	Pn	09 27 56.7 +1.9
SBT5	Esenkoy-Cinarc	5.79 73	*e*PN	Pn	09 27 56.9 +1.8
VAE	Valguarnera	5.90 256	Pn	Pn	09 27 59.5 +2.8
	comp=E,6.5nm,0.3s,baz=75,slow=14,SNR=7.1				
VAE			Sn	Sn	09 29 08.3 +3.9
	comp=E,9.5nm,0.3s,baz=120,slow=18,SNR=8.0				
PRD	Provadia	5.95 46	*i* P	Pn	09 27 56.7 -0.6
IGD	Bursa	5.96 77	*i* P	Pn	09 27 57.6 0.0
TURN	Turunc	5.99 110	*i* P	Pn	09 27 57.4 -0.5
TURN	Turunc	5.99 110	P	Pn	09 27 57.3 -0.5
TAVA	DENIZLI_Tavas	6.00 104	*i* P	Pn	09 28 00.5 +2.3
TAVA	DENIZLI_Tavas	6.00 104	P	Pn	09 28 00.4 +2.3
BUY	Buyukada	6.01 71	*e*PN	Pn	09 28 00.5 +2.2
ISK	Istanbul-Kandi	6.02 69	*e*PN	Pn	09 27 59.7 +1.4
KAVV	Kandilli-Istan	6.02 69	*e*PN	Pn	09 27 59.5 +1.2
DNZL	Cakiroluk	6.03 102	*i* P	Pn	09 28 01.2 +2.5
DALY	Dalyan (Mu˜la	6.04 111	*e*PN	Pn	09 28 01.9 +3.2
DALY	Dalyan (Mu˜la	6.04 111	*i* P	Pn	09 28 02.2 +3.5
KLYT	Kilyos	6.06 68	*e*PN	Pn	09 28 00.5 +1.6
TVSB	Tavsanli	6.10 85	*e*PN	Pn	09 28 00.5 +0.8
GDZ	Gediz	6.13 88	*i* P	Pn	09 28 01.5 +1.5
GDZ	Gediz	6.13 88	P	Pn	09 28 01.5 +1.5
KHAL	Karahalli	6.22 95	*i* P	Pn	09 28 03.0 +1.8
KHAL	Karahalli	6.22 95	P	Pn	09 28 03.0 +1.8
FETY	Fethiye	6.43 111	*e*PN	Pn	09 28 07.1 +3.0
CAVI	Cavuskoy	6.44 78	*e*PN	Pn	09 28 06.1 +1.9
BZS	Buzias	6.44 0	⇑*i*P	Pn	09 28 06.7 +2.6
SILT	Sile	6.47 70	*e*PN	Pn	09 28 06.2 +1.7
BLY	Banja Luka	6.47 331	*e*Pn	Pn	09 28 05.8 +1.2
BLY			*e*Sn	Sn	09 29 19.5 +1.0
BLY	Banja Luka	6.47 331	*e*Pn	Pn	09 28 05.8 +1.2
BLY			*e*Sn	Sn	09 29 19.5 +1.0
LOT	Lotru	6.48 14	⇑*i*P	Pn	09 28 05.5 +0.8
WDD	Wied Dalam	6.53 242	*e*Pn	Pn	09 28 04.5 -0.9
WDD			*e*Sn	Sn	09 29 20.8 +0.8
WDD	Wied Dalam	6.53 242	*e*Pn	Pn	09 28 04.5 -0.9
WDD			*e*Sn	Sn	09 29 20.8 +0.8
GOLH	Golhisar	6.56 105	*i* P	Pn	09 28 09.4 +3.5
MTUR	Matau	6.58 22	⇓*i*P	Pn	09 28 07.6 +1.6
VOIR		6.76 21	⇑*i*P	Pn	09 28 09.6 +1.0
CLTB	Caltabellotta	6.78 259	*e*Sn	Sn	09 29 28.1 +2.0
CLTB	Caltabellotta	6.78 259	*e*Sn	Sn	09 29 28.1 +2.0
BORA	Eskisehir	6.88 81	*i* P	Pn	09 28 11.6 +1.3
BORA	Eskisehir	6.88 81	P	Pn	09 28 11.6 +1.3
UDBI	Udbina	6.90 323	*e*Pn	Pn	09 28 12.3 +1.8
UDBI			Sn	Sn	09 29 28.8 -0.3
UDBI	Udbina	6.90 323	*e*Pn	Pn	09 28 12.3 +1.8
UDBI			Sn	Sn	09 29 28.8 -0.3
ISR	Istrita	6.99 30	⇑*i*P	Pn	09 28 13.6 +1.9
AQU	L'Aquila	6.99 300	*e*P	Pn	09 28 11.0 -0.7
AQU	L'Aquila	6.99 300	*e*P	Pn	09 28 11.0 -0.7
AQU	L'Aquila	6.99 300	*e*Pn	Pn	09 28 11.0 -0.7
AKAS	Kas	6.99 112	*e*PN	Pn	09 28 14.3 +2.5
AKAS	Kas	6.99 112	*i* P	Pn	09 28 17.5 +5.7
AKAS	Kas	6.99 112	*e*Sn	Sn	09 29 33.1 +1.6
AKAS	Kas	6.99 112	*e*Pn	Pn	09 28 14.2 +2.5
AKAS			*e*Sn	Sn	09 29 33.1 +1.6
ELL	Elmali	7.00 108	*e*PN	Pn	09 28 15.0 +3.1
MLR	Muntele Rosu	7.09 26	Pn	Pn	09 28 14.2 +1.0
	comp=E,0.5nm,0.3s,baz=208,slow=6.0,SNR=24				
MLR			Sn	Sn	09 29 34.0 +0.1
	baz=286,slow=20,SNR=1.7				
MLR			Lg	Lg	09 30 24.6
	baz=128,slow=19,SNR=3.1				
MLR			LR	LR	09 31 35.6
	comp=E,207nm,21.9s,baz=170,slow=43				
MLR	Muntele Rosu	7.09 26	⇓*i*P	Pn	09 28 15.2 +2.1
SIRR	Siria	7.09 0	⇑*i*P	Pn	09 28 15.0 +1.9
ESKT	Eskisehir	7.18 84	*i* P	Pn	09 28 16.4 +2.0
SEYT	Eskypehyr	7.18 84	P	Pn	09 28 16.4 +2.0
KORT	Korkueli	7.23 105	*e*PN	Pn	09 28 18.0 +2.9
KORT	Korkueli	7.23 105	*i* P	Pn	09 28 19.6 +4.5
TLB	Topalu	7.24 40	⇑*i*P	Pn	09 28 16.9 +1.9
BAGO	Egridir - ISPA	7.29 96	*i* P	Pn	09 28 13.2 -2.8
BOLV	Bolvadin	7.30 91	*i* P	Pn	09 28 16.7 +0.6
BOLV	Bolvadin	7.30 91	*e*Pn	Pn	09 28 15.6 -0.5
BOLV	Bolvadin	7.30 91	P	Pn	09 28 16.7 +0.6
BOLV	Bolvadin	7.30 91	*e*Pn	Pn	09 28 15.6 -0.5
TIRR	Tirgusor	7.33 42	⇑*i*P	Pn	09 28 17.0 +0.7
TIRR	Tirgusor	7.33 42	*e*P	Pn	09 28 16.7 +0.3
TIRR	Tirgusor	7.33 42	*e*P	Pn	09 28 16.7 +0.3
TIRR	Tirgusor	7.33 42	*e*Pn	Pn	09 28 16.6 +0.3
NVLJ	Novalja	7.36 319	*e*Pn	Pn	09 28 17.1 +0.3
NVLJ			Sn	Sn	09 29 37.7 -2.6
NVLJ	Novalja	7.36 319	*e*Pn	Pn	09 28 17.0 +0.3
PLOR	Plostina	7.65 28	⇑*i*P	Pn	09 28 22.6 +1.9
DRGR		7.66 6	⇑*i*P	Pn	09 28 23.0 +2.1
VRI	Vrincioaia	7.69 28	⇑*i*P	Pn	09 28 23.2 +2.0
OZLJ	Ozalj	7.88 327	*i* Pn	Pn	09 28 24.0 +0.2
OZLJ			Sn	Sn	09 29 49.2 -3.8
OZLJ	Ozalj	7

VLC Villacollemand 9.76 304 *e*Pn **Pn 09 28 50.4 +0.8**
SMOL Smolenice 9.81 344 *e*P **Pn 09 28 53.2 +2.8**
SMOL Smolenice 9.81 344 *e*P **Pn 09 28 53.2 +2.8**
SMOL Smolenice 9.81 344 *e*PN **Pn 09 28 53.2 +2.8**
KBA Koelnbreinsper 9.94 325 *e*Pn **Pn 09 28 52.8 +0.6**
comp=Z,6.0nm,0.3s
KBA *e*Sn **Sn 09 30 40.4 -3.5**
comp=Z,22nm,0.7s
KBA Koelnbreinsper 9.94 325 Pn **Pn 09 28 52.8 +0.6**
comp=Z,6.0nm,0.3s
ABTA Abfaltersbach 10.08 322 *e*Pn **Pn 09 28 54.8 +0.7**
comp=Z,5.6nm,0.2s
ABTA *e*Sn **Sn 09 30 45.1 -2.1**
comp=Z,45nm,0.7s
ABTA Abfaltersbach 10.08 322 Pn **Pn 09 28 54.8 +0.7**
comp=Z,5.6nm,0.2s
LANS Liptovska Anna 10.10 352 *e*P **Pn 09 28 55.9 +1.6**
LANS Liptovska Anna 10.10 352 *e*P **Pn 09 28 55.9 +1.6**
LANS Liptovska Anna 10.10 352 *e*PN **Pn 09 28 55.9 +1.6**
STHS Stebnicka Huta 10.25 359 *e*P Pn 09 29 09.4 +13
STHS Stebnicka Huta 10.25 359 *e* Pn 09 29 09.4 +13
NIE Niedzica 10.29 355 *e*P **Pn 09 29 00.9 +4.1**
NIE Niedzica 10.29 355 *e*P **Pn 09 29 01.0 +4.1**
KEST Kesra 10.33 254 Pn **Pn 09 28 59.3 +1.7**
comp=Z,0.8nm,0.3s,baz=57,slow=6.0,SNR=19
KEST Sn **Sn 09 30 52.3 -1.2**
comp=Z,0.2nm,0.3s,baz=72,slow=15,SNR=2.2
KEST LR LR 09 34 27.4
comp=Z,368nm,18.5s,baz=359,slow=46
KEST Kesra 10.33 254 *e*Pn **Pn 09 28 59.6 +2.1**
KEST Kesra 10.33 254 *e*Pn **Pn 09 28 59.6 +2.1**
SWA2 10.40 161 P **Pn 09 28 56.4 -2.1**
baz=167
SWA2 S Sn 09 30 42.8 -12
baz=167
SWA2 10.40 161 P **Pn 09 28 56.4 -2.1**
VRAC Vranov 10.75 342 Pn **Pn 09 29 04.3 +1.1**
comp=Z,0.9nm,0.3s,baz=172,slow=14,SNR=14
VRAC LR LR 09 34 05.8
comp=Z,417nm,21.0s,baz=186,slow=42
VRAC Vranov 10.75 342 *e*Pn **Pn 09 29 04.1 +0.9**
WTTA Wattenberg 10.87 321 *e*Pn **Pn 09 29 06.1 +1.1**
comp=Z,4.9nm,0.2s
WTTA *e*Sn **Sn 09 31 05.2 -1.6**
comp=Z,73nm,0.6s
WTTA Wattenberg 10.87 321 Pn **Pn 09 29 06.1 +1.1**
comp=Z,4.9nm,0.2s
WATA Walderalm 10.95 321 *i* Pn **Pn 09 29 07.5 +1.5**
comp=Z,5.8nm,0.2s
WATA Walderalm 10.95 321 Pn **Pn 09 29 07.5 +1.5**
comp=Z,5.8nm,0.2s
MORC Moravsky Berou 10.99 346⇑ *i*P **Pn 09 29 08.4 +1.9**
MORC Moravsky Berou 10.99 346 *e*P **Pn 09 29 10.0 +3.5**
MORC Moravsky Berou 10.99 346 *e*P **Pn 09 29 10.0 +3.5**
MORC Moravsky Berou 10.99 346 *e*Pn **Pn 09 29 10.0 +3.5**
TREC Trest 11.03 339 *e*P **Pn 09 29 07.7 +0.7**
TREC AMS AMS 09 33 50.0
comp=Z,2µm,9.6s
TREC Trest 11.03 339 *e*P **Pn 09 29 07.7 +0.7**
TREC MLR MLR
comp=Z,2µm,9.6s
TREC Trest 11.03 339 P **Pn 09 29 07.7 +0.7**
FUORN Ofenpass-Fuorn 11.15 316 *e*Pn **Pn 09 29 12.0 +3.0**
FUORN *e*Sn **Sn 09 31 13.3 -0.5**
FUORN Ofenpass-Fuorn 11.15 316 *e*Pn **Pn 09 29 12.0 +3.0**
FUORN *e*Sn **Sn 09 31 13.3 -0.5**
FETA Feichten 11.16 318 *e*Pn **Pn 09 29 10.2 +1.2**
comp=Z,8.3nm,0.5s
FETA *e*Sn **Sn 09 31 11.3 -2.6**
comp=Z,19nm,0.7s
FETA Feichten 11.16 318 Pn **Pn 09 29 10.2 +1.2**
comp=Z,8.3nm,0.5s
MOTA Moosalm 11.19 320 *e*Pn **Pn 09 29 10.2 +0.9**
comp=Z,7.1nm,0.3s
MOTA Moosalm 11.19 320 Pn **Pn 09 29 10.2 +0.9**
comp=Z,7.1nm,0.3s
GEA0 GERESS Array S 11.21 332 *e*Pn **Pn 09 29 10.9 +1.4**
GEA0 *e*Sn **Sn 09 31 15.4 +0.5**
GEA0 GERESS Array S 11.21 332 *e*Pn **Pn 09 29 10.9 +1.4**
GEA0 *e*Sn **Sn 09 31 15.4 +0.5**
GEC2 GERESS Array S 11.21 332 *e*P **Pn 09 29 11.1 +1.5**
GEC2 *e* 09 31 15.6
GEC2 GERESS Array S 11.21 332 *e*P **Pn 09 29 11.1 +1.5**
GEC2 *e*S **Sn 09 31 15.6 +0.5**
GEC2 GERESS Array S 11.21 332 *e*Pn **Pn 09 29 11.1 +1.5**
GEC2 *e*Sn **Sn 09 31 15.6 +0.5**
GERES GERESS Array B 11.21 332 Pn **Pn 09 29 11.3 +1.7**
comp=Z,0.9nm,0.3s,baz=153,slow=15,SNR=20
GERES Sn **Sn 09 31 15.1 0.0**
comp=Z,1.4nm,0.3s,baz=153,slow=22,SNR=6.2
GERES LR LR 09 34 13.8
comp=Z,651nm,18.4s,baz=136,slow=41
RETA Reutte 11.45 320 *e*Pn **Pn 09 29 16.0 +3.1**
comp=Z,1.3nm,0.1s
RETA *e*Sn **Sn 09 31 17.1 -3.8**
comp=Z,46nm,0.6s
RETA Reutte 11.45 320 Pn **Pn 09 29 16.0 +3.1**
comp=Z,1.3nm,0.1s
DAVOX Davos/Dischmat 11.46 315 Pn **Pn 09 29 15.5 +2.4**
comp=Z,2.3nm,0.3s,baz=130,slow=16,SNR=7.8
DAVOX Sn **Sn 09 31 20.8 -0.5**
comp=Z,2.6nm,0.3s,baz=98,slow=21,SNR=5.9
DAVOX LR LR 09 34 16.9
comp=Z,81nm,21.9s,baz=94,slow=41
KHC Kasperske Hory 11.50 333 *e*P **Pn 09 29 14.1 +0.7**
KHC *e*S **Sn 09 31 20.4 -1.5**
KHC AMS AMS 09 34 00.0
comp=Z,1µm,13.1s
KHC Kasperske Hory 11.50 333 *e*P **Pn 09 29 14.2 +0.8**
KHC Kasperske Hory 11.50 333 *e*P **Pn 09 29 14.2 +0.8**
KHC Kasperske Hory 11.50 333 *e*Pn **Pn 09 29 14.2 +0.8**
TUE Stuetta 11.58 313 *e*Pn **Pn 09 29 15.8 +1.1**
TUE Stuetta 11.58 313 *e*Pn **Pn 09 29 15.8 +1.1**
TUE *e*Sn **Sn 09 31 19.4 -4.7**
DAVA Damuels 11.78 317 *e*Pn **Pn 09 29 20.2 +2.8**
comp=Z,4.2nm,0.3s
DAVA *e*Sn **Sn 09 31 25.1 -3.8**
comp=Z,32nm,0.7s
DAVA Damuels 11.78 317 Pn **Pn 09 29 20.2 +2.8**
comp=Z,4.2nm,0.3s
GOPC GO Pecny, Ondr 11.78 338 *e*P **Pn 09 29 17.5 +0.2**
GOPC AMS AMS 09 34 20.0
comp=Z,2µm,9.5s
GOPC GO Pecny, Ondr 11.78 338 *e*P **Pn 09 29 17.5 +0.2**
GOPC MLR MLR
comp=Z,2µm,9.5s
GOPC GO Pecny, Ondr 11.78 338 P **Pn 09 29 17.5 +0.2**
DPC Dobruska-Polom 11.79 343 *e*P **Pn 09 29 18.5 +1.1**
DPC Dobruska-Polom 11.79 343 *e*P **Pn 09 29 18.5 +1.1**
DPC Dobruska-Polom 11.79 343 P **Pn 09 29 18.5 +1.1**
PRU Pruhonice 11.92 337 *e*P **Pn 09 29 19.5 +0.3**
PRU AMS AMS 09 34 20.0
comp=Z,2µm,8.9s
PRU Pruhonice 11.92 337 *e*P **Pn 09 29 19.5 +0.3**
PRU MLR MLR
comp=Z,2µm,8.9s
PRU Pruhonice 11.92 337 P **Pn 09 29 19.5 +0.3**
PRA Prague 12.03 337 AMS AMS 09 34 30.0
comp=Z,2µm,8.7s
PVCC Panska Ves 12.40 339 AMS AMS 09 34 40.0
comp=Z,2µm,8.6s
BNI Bardonecchia 12.54 303 *e*P **Pn 09 29 29.7 +1.9**
BNI *e* 09 31 42.2
BNI Bardonecchia 12.54 303 *e*P **Pn 09 29 29.7 +1.9**
BNI Bardonecchia 12.54 303 *e*Pn **Pn 09 29 29.7 +1.9**
BNI *e*Sn **Sn 09 31 42.2 -5.3**
GLL Jalalah 12.69 136 P **Pn 09 29 24.3 -5.5**
baz=138
KIEV Kiev 12.71 22⇑ *i*P **Pn 09 29 30.7 +0.7**
KIEV Kiev 12.71 22 *i* P **Pn 09 29 30.7 +0.7**
SENIN Lac Senin/Sane 12.72 309 *e*Pn **Pn 09 29 32.7 +2.4**
SENIN Lac Senin/Sane 12.72 309 *e*Pn **Pn 09 29 32.7 +2.4**
SENIN *e*Sn **Sn 09 31 44.4 -7.8**
AKASG Malin Array Be 12.72 23 Pn **Pn 09 29 30.4 +0.2**
comp=Z,0.7nm,0.3s,baz=206,slow=12,SNR=5.7
AKASG LR LR 09 34 48.8
comp=Z,294nm,20.5s,baz=200,slow=39
MMAI Mount Meron Ar 12.73 115 Pn **Pn 09 29 31.0 +0.5**
comp=Z,1.5nm,0.3s,baz=301,slow=8.6,SNR=5.6
MMAI Mount Meron Ar 12.73 115 Pn **Pn 09 29 31.0 +0.5**
NKC Novy Kostel 12.82 333 AMS AMS 09 35 00.0
comp=Z,2µm,8.5s
RSL Roselend 12.83 305 *e*P **Pn 09 29 34.3 +2.5**
RSL Roselend 12.83 305 *e*P **Pn 09 29 34.3 +2.5**
BRG Berggiesshubel 12.88 338 *e*P **Pn 09 29 32.7 +0.4**
comp=Z,7.9nm,1.0s
BRG Berggiesshubel 12.88 338 *e*P **Pn 09 29 32.7 +0.4**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 12.88 338 *e*P **Pn 09 29 32.7 +0.4**
comp=Z,8.0nm,1.0s
FELD Feldberg im Sc 13.14 316 *e*P **Pn 09 29 36.8 +0.8**
BBS Basel-Blauen 13.18 314 *e*P **Pn 09 29 38.4 +2.0**
HFRF Wahat Farafira 13.23 153 P **Pn 09 29 34.1 -3.1**
baz=157
BFO Black Forest 13.24 318 *i* P **Pn 09 29 37.7 +0.4**
BFO Black Forest 13.24 318 *e*Pn **Pn 09 29 36.8 -0.5**
BFO Black Forest 13.24 318 *i* P **Pn 09 29 37.7 +0.4**
BFO Black Forest 13.24 318 *e*Pn **Pn 09 29 36.8 -0.5**
CLL Collm 13.55 336 *e*P **Pn 09 29 46.0 +4.6**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 13.55 336 *e*Pn **Pn 09 29 44.6 +3.2**
CLL Collm 13.55 336 *e*sP **Pn 09 29 46.0 +4.6**
comp=Z,8.0nm,0.9s
CLL *i* 09 29 52.1
comp=Z,31nm,0.9s
CLL *i* sPP 09 29 55.0
CLL Collm 13.55 336 *e*Pn **Pn 09 29 44.6 +3.2**
MOF Molkenrain 13.60 314 *e*P **Pn 09 29 42.9 +0.6**
MOF Molkenrain 13.60 314 *e*P **Pn 09 29 42.9 +0.6**
ECH Echery 13.80 316 *e*P **Pn 09 29 48.1 +3.2**
ECH Echery 13.80 316 *e*P **Pn 09 29 48.1 +3.2**
LANF Langenberg 13.93 319 *e*P **Pn 09 29 45.6 -1.0**
LANF Langenberg 13.93 319 *e*P **Pn 09 29 45.6 -1.0**
ASF Jabal al Asfar 14.25 115 Pn **Pn 09 29 52.0 +0.8**
comp=Z,0.2nm,0.3s,baz=336,slow=12,SNR=1.6
ASF Jabal al Asfar 14.25 115 P **Pn 09 29 52.0 +0.8**
THEF They Montfort 14.45 314 *e*P **P 09 30 02.7 +2.0**
THEF They Montfort 14.45 314 *e*P **P 09 30 02.7 +2.0**
EIL Elat 14.52 127 Pn **Pn 09 29 55.5 +0.7**
comp=Z,0.5nm,0.3s,baz=23,slow=17,SNR=2.7
LBL Lubilhac 14.88 300 *e*P **P 09 30 10.2 +4.7**
SUW Suwalki 14.89 4 *e*P **P 09 30 04.6 -0.8**
SUW Suwalki 14.89 4 *e*P **P 09 30 04.6 -0.8**
SUW Suwalki 14.89 4 *e*P **P 09 30 04.6 -0.8**
PYM Petit Puy Mans 15.20 302 *e*P **P 09 30 10.6 +1.5**
PYM Petit Puy Mans 15.20 302 *e*P **P 09 30 10.6 +1.5**
AGO Saint Agoulin 15.22 303 *e*P **P 09 30 11.0 +1.8**
AGO Saint Agoulin 15.22 303 *e*P **P 09 30 11.0 +1.8**
ARTV Artvin 15.67 76 *e*Pn **Pn 09 30 11.4 +1.1**
comp=Z,16nm,1.0s
ARTV Artvin 15.67 76 *e*Pn **Pn 09 30 11.3 +1.1**
comp=Z,16nm,1.0s
KIV Kislovodsk 16.48 66 *e*P **Pn 09 30 19.1 -1.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,47nm,13.0s
KBZ Khabaz 16.59 67 Pn **Pn 09 30 22.1 +0.2**
comp=Z,0.0nm,0.3s,baz=322,slow=12,SNR=2.3
ZEI Tsey 17.21 71 *e*P **P 09 30 33.2 +1.7**
ZEI pmax pmax
comp=Z,30nm,0.8s
ZEI Tsey 17.21 71 *e*P **P 09 30 33.2 +1.7**
comp=Z,30nm,0.8s
VSR Storozhevoye 17.22 40 *e*P **Pn 09 30 28.8 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 17.84 79 LR LR 09 38 41.1
comp=Z,147nm,18.2s,baz=278,slow=41
LPSR Galich'ya Gora 17.99 36 *e*P **Pn 09 30 36.4 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 18.86 27⇓ *e*P **Pn 09 30 50.6 +0.8**
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,355nm,15.0s
OBN Obninsk 18.86 27 *e*P **Pn 09 30 50.6 +0.8**
comp=Z,355nm,15.0s
VSU Vasula 19.59 8 *c e*P **Pn 09 30 58.0 -0.6**
VSU pmax pmax
comp=Z,56nm,0.9s
VSU Vasula 19.59 8 *e*P **Pn 09 30 58.0 -0.6**
comp=Z,56nm,0.9s
ES19 SONSECA Array 19.69 280 *e*P **Pn 09 30 59.9 -0.1**
ES19 SONSECA Array 19.69 280 *e*P **Pn 09 30 59.9 -0.1**
MOS Moscow 19.72 28 *e*P **P 09 30 58.6 -0.1**
MOS Moscow 19.72 28 *e*P **P 09 30 58.6 -0.1**
ESDC Sonseca Array 19.74 280 P **Pn 09 31 00.1 -0.6**
comp=Z,0.9nm,0.3s,baz=73,slow=11,SNR=44
ESLA Sonseca Array 19.74 280 *e*P **Pn 09 31 00.5 -0.2**
comp=Z,10nm,0.8s
ESLA Sonseca Array 19.74 280 *e*P **Pn 09 31 00.5 -0.2**
comp=Z,10nm,0.8s
PAB San Pablo 20.05 279 *e*P Pn 09 31 03.5 -0.9
PAB pmax pmax
comp=Z,16nm,0.8s
PAB San Pablo 20.05 279 *e*P Pn 09 31 03.5 -0.9
comp=Z,16nm,0.8s
PAB San Pablo 20.05 279 *e*P Pn 09 31 03.5 -0.9
comp=Z,16nm,0.8s
TAM Tamanrasset 21.31 225 *e*P **P 09 31 17.4 +1.0**
TAM pmax pmax
comp=Z,19nm,1.0s
TAM Tamanrasset 21.31 225 *e*P **P 09 31 17.4 +1.0**
comp=Z,19nm,1.0s
TAM Tamanrasset 21.31 225 *e*P **P 09 31 17.4 +1.0**
comp=Z,19nm,1.0s
PUL Pulkovo 21.34 12⇓ *e*P **P 09 31 17.7 +1.4**
PUL pmax pmax
comp=Z,122nm,0.4s
PUL Pulkovo 21.34 12 *e*P **P 09 31 17.7 +1.4**
comp=Z,122nm,0.4s
HFS Hagfors 21.57 349 P **P 09 31 18.0 -0.7**
comp=Z,11nm,0.5s,baz=156,slow=11,SNR=22
HFS LR LR 09 41 28.5
comp=Z,304nm,18.6s,baz=181,slow=42
HFS Hagfors 21.57 349 P **P 09 31 18.0 -0.7**
HFS pmax pmax
comp=Z,11nm,0.5s
HFS MLR MLR
comp=Z,304nm,18.6s
HFS Hagfors 21.57 349 P **P 09 31 18.0 -0.7**
comp=Z,304nm,18.6s
PBRG Braganca 21.68 286 *e*P **P 09 31 21.4 +1.3**
comp=Z,24nm,1.2s
MVO Moncorvo 21.93 284 *e*P **P 09 31 23.9 +1.0**
comp=Z,24nm,1.0s
MDT Midelt 22.09 261 P **P 09 31 24.4 -0.3**
comp=Z,9.2nm,0.9s,baz=70,slow=10,SNR=15
PBAR Barrancos 22.35 277 *e*P **P 09 31 26.6 -0.7**
comp=Z,49nm,1.4s
MTE Manteigas 22.39 282 *e*P **P 09 31 29.2 +1.4**
comp=Z,16nm,1.4s
MTE Manteigas 22.39 282 *e*P **P 09 31 28.9 +1.1**
comp=Z,11nm,1.0s
MTE Manteigas 22.39 282 *e*P **P 09 31 28.9 +1.1**
comp=Z,11nm,1.0s
PMRV Marv??o 22.40 280 *e*P **P 09 31 27.7 -0.2**
comp=Z,16nm,1.5s
FIA0 FINESS Array S 22.47 6 *e*P **P 09 31 27.6 -0.8**
FIA0 *e* 09 35 22.4
FIA0 FINESS Array S 22.47 6 *e*P **P 09 31 27.6 -0.8**
FIA0 FINESS Array S 22.47 6 *e*P **P 09 31 27.6 -0.8**
FIA0 *e*PcP **PcP 09 35 22.4 +0.1**
FINES FINESS Array B 22.47 6 P **P 09 31 27.6 -0.8**
comp=Z,5.9nm,0.8s,baz=179,slow=10,SNR=11
FINES PcP **PcP 09 35 22.4 +0.1**
comp=Z,1.0nm,0.4s,baz=157,slow=3.9,SNR=4.2
FINES LR LR 09 40 51.5
comp=Z,306nm,19.6s,baz=228,slow=38
NAO01 NORSAR Array S 22.70 346 *e*P **P 09 31 30.6 -0.3**
NAO01 NORSAR Array S 22.70 346 *e*P **P 09 31 30.6 -0.3**
NC405 NORSAR Array S 22.81 348 *e*P **P 09 31 31.5 -0.5**
NC405 NORSAR Array S 22.81 348 *e*P **P 09 31 31.5 -0.5**
NB201 NORSAR Array S 22.82 347 *e*P **P 09 31 31.5 -0.7**
NB201 NORSAR Array S 22.82 347 *e*P **P 09 31 31.4 -0.7**
NB2 NORSAR Subarra 22.83 347 P **P 09 31 31.1 -1.1**
comp=Z,6.6nm,0.6s,baz=158,slow=11
NB2 NORSAR Subarra 22.83 347 P **P 09 31 31.1 -1.1**
comp=Z,6.6nm,0.6s,SNR=6.9
NB200 NORSAR Array S 22.83 347 *e*P **P 09 31 30.8 -1.4**
NB200 NORSAR Array S 22.83 347 *e*P **P 09 31 30.8 -1.4**
NOA NORSAR Array B 22.83 347 P **P 09 31 30.8 -1.4**
comp=Z,3.0nm,0.5s,baz=154,slow=9.7,SNR=15
NOA LR LR 09 42 08.9
comp=Z,100nm,18.1s,baz=280,slow=41
NBO00 NORSAR Array S 22.90 346 *e*P **P 09 31 33.1 +0.2**
NBO00 NORSAR Array S 22.90 346 *e*P **P 09 31 33.1 +0.2**
NC303 NORSAR Array S 22.98 347 *e*P **P 09 31 33.9 +0.2**
NC303 NORSAR Array S 22.98 347 *e*P **P 09 31 33.9 +0.2**
PBEJ Beja 23.02 277 *e*P **P 09 31 33.3 -1.1**
comp=Z,22nm,1.1s
PVAQ Vaqueiros 23.04 275 *e*P **P 09 31 33.3 -1.3**
comp=Z,24nm,1.4s
NC204 NORSAR Array S 23.13 347 *e*P **P 09 31 36.1 +0.7**
NC204 NORSAR Array S 23.13 347 *e*P **P 09 31 36.1 +0.7**
EKA Eskdalemuir Ar 23.13 322 P **P 09 31 34.7 -0.7**
comp=Z,22nm,0.7s,baz=119,slow=11,SNR=25
EKA Eskdalemuir Ar 23.13 322 P **P 09 31 34.7 -0.7**
EKA pmax pmax
comp=Z,23nm,0.7s
EKA Eskdalemuir Ar 23.13 322 P **P 09 31 34.7 -0.7**
comp=Z,23nm,0.7s
ESK Eskdalemuir 23.14 322 *e*P **P 09 31 35.2 -0.3**
ESK pmax pmax
comp=Z,33nm,0.8s
ESK Eskdalemuir 23.14 322 *e*P **P 09 31 35.2 -0.3**
comp=Z,33nm,0.8s
ESK Eskdalemuir 23.14 322 *e*P **P 09 31 35.2 -0.3**
comp=Z,33nm,0.8s
PCVE Castro Verde 23.24 276 *e*P **P 09 31 35.4 -1.2**
comp=Z,19nm,2.1s
PBDV Barranco-do-Ve 23.24 275 *e*P **P 09 31 35.8 -0.9**
comp=Z,44nm,0.9s
PNCL Nicolau / Gran 23.51 277 *e*P **P 09 31 38.9 -0.4**
comp=Z,24nm,1.7s
PTEO Sao Teotonio 23.79 276 *e*P **P 09 31 41.0 -1.0**
comp=Z,28nm,1.4s
KLMR Klimovskoe 24.41 21 *e*P **P 09 31 45.5 -2.1**
KLMR *e*PPP PPP 09 32 23.3
KLMR pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 27.91 54 LR LR 09 45 17.6
comp=Z,124nm,19.6s,baz=289,slow=40
GEYT Alibeck 28.47 81 P **P 09 32 23.9 -0.5**
comp=Z,1.4nm,0.4s,baz=301,slow=11,SNR=4.7
ABKAR Akbulak array 28.99 57 *e*PcP **PcP 09 35 37.1 -0.2**
ARU Arti 29.76 42 P **P 09 32 35.6 -0.1**
comp=Z,5.3nm,0.2s,baz=280,slow=11,SNR=3.2
ARU LR LR 09 46 03.0
comp=Z,178nm,18.7s,baz=282,slow=39
ARU Arti 29.76 42 *d i*P **P 09 32 34.9 -0.8**
ARU 09 33 26.8
ARU S **S 09 37 31.3 -0.5**
ARU pmax pmax
comp=Z,19nm,2.5s
ARCES ARCESS Array B 30.50 3 P **P 09 32 41.5 -0.6**
comp=Z,4.0nm,0.9s,baz=191,slow=10,SNR=13
ARCES LR LR 09 46 10.4
comp=Z,204nm,19.2s,baz=234,slow=39
TOA1 Torodi Ar. Sit 31.33 220 *e*P **P 09 32 49.6 -0.3**
TOA1 Torodi Ar. Sit 31.33 220 *e*P **P 09 32 49.6 -0.3**
TOA1 *e*PcP **PcP 09 35 44.2 +0.3**
TOA0 Torodi Ar. Sit 31.33 220 *e*P **P 09 32 49.5 -0.4**
TOA0 Torodi Ar. Sit 31.33 220 *e*P **P 09 32 49.5 -0.4**
TORD Torodi Ar. Bea 31.33 220 P **P 09 32 49.6 -0.3**
comp=Z,10nm,0.5s,baz=32,slow=9.3,SNR=168
TORD PcP **PcP 09 35 44.2 +0.3**
comp=Z,1.2nm,0.8s,baz=336,slow=1.4,SNR=5.5
BRVK Borovoye 35.77 51⇑ *i*P **P 09 33 28.9 +0.6**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 35.77 51 *e*P **P 09 33 28.9 +0.6**
comp=Z,9.4nm,1.0s
BRVK Borovoye 35.77 51 *e*P **P 09 33 28.9 +0.6**
comp=Z,9.4nm,1.0s
BRVK *e*S **S 09 39 05.1 -0.2**
KKAR Karatay Array 36.63 68 *e*P **P 09 33 36.1 +0.3**
KKAR pmax pmax
comp=Z,68nm,0.6s
KKAR Karatay Array 36.63 68 *e*P **P 09 33 36.1 +0.3**
comp=Z,68nm,0.6s
KKAR Karatay Array 36.63 68 *e*P **P 09 33 36.1 +0.3**
comp=Z,68nm,0.6s
AAK Ala-Archa 39.59 67 LR LR 09 55 53.9
comp=Z,45nm,18.9s,baz=234,slow=45
AAK Ala-Archa 39.59 67 *c i*P **P 09 34 01.9 +1.0**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 39.59 67 *e*P **P 09 34 01.8 +0.9**
comp=Z,23nm,1.6s
AAK Ala-Archa 39.59 67 *e*P **P 09 34 01.8 +0.9**
comp=Z,23nm,1.6s
FRU Bishkek 39.63 67 *e*P **P 09 34 02.0 +0.9**
FRU pmax pmax
comp=Z,42nm,1.6s
FRU Bishkek 39.63 67 *e*P **P 09 34 02.0 +0.9**
comp=Z,42nm,1.6s
DBIC Dimbokro 40.19 223 P **P 09 34 05.3 -0.6**
comp=Z,9.4nm,0.6s,baz=13,slow=9.9,SNR=18
DBIC LR LR 09 51 58.0
comp=Z,141nm,18.5s,baz=15,slow=38
DBIC Dimbokro 40.19 223 *e*P **P 09 34 05.6 -0.3**
DBIC pmax pmax
comp=Z,14nm,0.8s
DBIC Dimbokro 40.19 223 *e*P **P 09 34 05.6 -0.3**
comp=Z,14nm,0.8s
DBIC Dimbokro 40.19 223 *e*P **P 09 34 05.6 -0.3**
comp=Z,14nm,0.8s
TIC Toumodi 40.30 223 *e*P **P 09 34 06.3 -0.6**
KIC Kosan Boka 40.39 223 *e*P **P 09 34 06.9 -0.7**
comp=Z,23nm,0.6s
LIC Lamto 40.66 223 *e*P **P 09 34 09.0 -0.8**
comp=Z,85nm,1.0s
KURK Kurchatov 41.01 54⇑ *i*P **P 09 34 12.1 -0.2**
KURK pmax pmax
comp=Z,40nm,1.2s
KURK Kurchatov 41.01 54 *e*P **P 09 34 12.1 -0.2**
comp=Z,8.2nm,1.0s
KURK Kurchatov 41.01 54 *e*P **P 09 34 12.1 -0.2**
comp=Z,8.2nm,1.0s
DAG Danmarks Havn 41.52 347 *e*P **P 09 34 16.0 -0.1**
DAG pmax pmax
comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 42.60 157 P **P 09 34 27.2 +1.2**
comp=Z,0.6nm,0.3s,baz=349,slow=7.2,SNR=2.7
KMBO Kilima Mbogo 42.60 157 *e*P **P 09 34 25.5 -0.5**
KMBO pmax pmax
comp=Z,10.0nm,1.7s
KMBO Kilima Mbogo 42.60 157 *e*P **P 09 34 25.5 -0.5**
comp=Z,10nm,1.7s
KMBO Kilima Mbogo 42.60 157 *e*P **P 09 34 25.4 -0.5**
comp=Z,10nm,1.7s
NVS Novosibirsk 43.38 48 *e*P **P 09 34 32.6 +1.0**
NVS *e* 09 34 45.7
NVS pmax pmax
comp=Z,36nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS Novosibirsk 43.38 48 *e*P **P 09 34 32.6 +1.0**
comp=E,36nm,1.3s
MAKZ Makanchi 43.85 60 *e*P **P 09 34 35.3 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 43.85 60 *e*P **P 09 34 35.3 -0.3**
comp=Z,5.7nm,0.8s
MAKZ Makanchi 43.85 60 *e*P **P 09 34 35.3 -0.3**
comp=Z,5.7nm,0.8s
MK31 Makanchi Array 44.07 59 *e*P **P 09 34 37.1 -0.2**
MK31 Makanchi Array 44.07 59 *e*P **P 09 34 37.1 -0.2**
MK31 Makanchi Array 44.07 59 *e*P **P 09 34 37.1 -0.2**
MK32 Makanchi Array 44.07 59 *e*P **P 09 34 37.0 -0.3**
MK32 Makanchi Array 44.07 59 *e*P **P 09 34 37.0 -0.3**
MK32 *e*PP **PcP 09 36 22.1 -0.4**
MK32 *e*ScP **ScP 09 40 12.3 -2.1**
MKAR Makanchi Array 44.07 59 P **P 09 34 37.0 -0.3**
comp=Z,8.1nm,0.6s,baz=278,slow=7.0,SNR=34
MKAR PP **PcP 09 36 22.1 -0.4**
comp=Z,1.2nm,0.8s,baz=284,slow=5.8,SNR=2.8
MKAR ScP **ScP 09 40 12.3 -2.1**
comp=Z,1.6nm,0.7s,baz=293,slow=3.1,SNR=6.6
MKAR Makanchi Array 44.07 59 *e*P **P 09 34 37.0 -0.3**
comp=Z,55nm,0.6s
MKAR Makanchi Array 44.07 59 *e*P **P 09 34 37.0 -0.3**
comp=Z,55nm,0.6s
MK01 Makanchi Array 44.08 60 *e*P **P 09 34 36.7 -0.7**
MK01 Makanchi Array 44.08 60 *e*P **P 09 34 36.7 -0.7**
SUMG Summit 44.21 338 *i* P **P 09 34 39.2 +0.6**
SUMG pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 44.21 338 *e*P **P 09 34 39.5 +0.9**
comp=Z,31nm,1.2s
SUMG Summit 44.21 338 *e*P **P 09 34 39.5 +0.9**

comp=Z,31nm,1.2s
ZAA1 Zalesovo Array 44.40 49 *e*P **P 09 34 39.5 -0.3**
ZAA1 Zalesovo Array 44.40 49 *e*P **P 09 34 39.5 -0.3**
ZAA0 Zalesovo Array 44.40 49 *e*P **P 09 34 39.6 -0.2**
ZAA0 Zalesovo Array 44.40 49 *e*P **P 09 34 39.6 -0.2**
ZALV Zalesovo Beam 44.40 49 P **P 09 34 39.5 -0.3**
comp=Z,18nm,0.5s,baz=275,slow=8.9,SNR=50
ZALV Zalesovo Beam 44.40 49 *e*P **P 09 34 39.0 -0.8**
NRIK Noril'sk 45.53 27 LR LR 09 54 57.1
comp=Z,119nm,20.1s,baz=290,slow=38
DGZ Jazzator, Alta 46.76 54⇑P **P 09 34 59.1 +0.3**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
PYUN Piuthan 51.42 83 *e*P **P 09 35 33.7 -1.1**
comp=Z,31nm,0.7s
KOLN Koldanda 52.05 83 *e*P **P 09 35 38.1 -1.4**
comp=Z,16nm,0.7s
GKN Gorkha 52.74 82 *e*P **P 09 35 43.0 -1.6**
DMN Daman 53.29 82 *e*P **P 09 35 47.4 -1.4**
comp=Z,20nm,0.6s
KKN Kakani 53.34 82 *e*P **P 09 35 47.5 -1.6**
comp=Z,16nm,0.6s
PKI Pulchoki 53.54 82 *e*P **P 09 35 48.9 -1.8**
GUN Gumba 53.74 81 *e*P **P 09 35 50.4 -1.8**
comp=Z,20nm,0.7s
JIRN Jiri 54.10 82 *e*P **P 09 35 53.5 -1.4**
LSZ Lusaka 54.51 172 *e*P **P 09 35 58.2 +0.8**
LSZ pmax pmax
comp=Z,7.0nm,0.9s
LSZ Lusaka 54.51 172 *e*P **P 09 35 58.2 +0.8**
comp=Z,7.4nm,0.9s
RAMN Ramite 54.77 82 *e*P **P 09 35 57.9 -1.7**
comp=Z,30nm,0.7s
TAPN Taplejung 55.42 81 *e*P **P 09 36 02.7 -1.7**
TLY Talaya 55.99 48⇑P **P 09 36 08.9 +1.1**
ZAK Zakamensk 56.27 50 *e*P **P 09 36 08.2 -1.7**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
SCHQ Schefferville 58.31 317 P **P 09 36 24.3 +0.2**
comp=Z,5.4nm,0.6s,baz=55,slow=5.1,SNR=7.0
SCHQ Schefferville 58.31 317 *e*P **P 09 36 24.2 +0.2**
comp=Z,96nm,1.9s
SONA0 Songino Array 59.18 51 *e*P **P 09 36 30.0 -0.4**
comp=Z,9.1nm,1.2s
SONA1 Songino Array 59.18 51 *e*P **P 09 36 29.7 -0.7**
SONM Songino Array 59.18 51 P **P 09 36 30.0 -0.4**
comp=Z,5.6nm,1.0s,baz=282,slow=9.0,SNR=17
SONM Songino Array 59.18 51 P **P 09 36 30.0 -0.4**
SONM pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 59.56 51⇑*e*P **P 09 36 33.2 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 59.56 51 *e*P **P 09 36 33.3 +0.1**
comp=Z,5.3nm,0.6s
BOSA Boshof 67.52 177 P **P 09 37 25.8 +0.1**
comp=Z,5.8nm,0.8s,baz=1.7,slow=6.0,SNR=8.7
BOSA LR LR 10 09 22.1
comp=Z,122nm,19.5s,baz=22,slow=38
CM31 Chiang Mai Arr 68.92 83 *e*P **P 09 37 32.6 -2.1**
CMAR Chiang Mai Arr 68.92 83 P **P 09 37 32.6 -2.1**
comp=Z,0.9nm,0.3s,baz=302,slow=8.2,SNR=6.1
CMAR LR LR 10 15 36.5
comp=Z,31nm,18.6s,baz=265,slow=43
YKA Yellowknife Ar 72.74 340 P **P 09 37 57.1 -0.1**
comp=Z,1.2nm,0.6s,baz=29,slow=5.0,SNR=2.5
YKB5 Yellowknife Ar 72.75 340 *e*P **P 09 37 57.1 -0.1**
COLD Coldfoot 73.74 357 *e*P **P 09 38 03.9 +0.8**
comp=Z,9.2nm,1.2s
COWI Conover 74.91 318 *e*P **P 09 38 11.2 +1.0**
comp=Z,7.4nm,0.9s
IMAR Indian Mountai 75.12 358 *e*P **P 09 38 11.9 +0.8**
IMAR Indian Mountai 75.12 358 *e*P **P 09 38 12.3 +1.2**
ULM Lac du Bonnet 75.40 324 P **P 09 38 13.0 0.0**
comp=Z,3.8nm,0.5s,baz=46,slow=5.7,SNR=10
ULM Lac du Bonnet 75.40 324 *e*P **P 09 38 13.1 +0.1**
ULM pmax pmax
comp=Z,19nm,1.4s
ULM Lac du Bonnet 75.40 324 *e*P **P 09 38 13.1 +0.1**
comp=Z,19nm,1.4s
MDM Murphy Dome 75.90 356 *e*P **P 09 38 16.2 +0.6**
comp=Z,9.9nm,1.2s
COLA College 75.96 355 *e*P **P 09 38 16.6 +0.7**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 75.96 355 *e*P **P 09 38 16.6 +0.7**
comp=Z,9.9nm,0.8s
USRK Ussuriysk Ar. 75.98 44 P **P 09 38 15.4 -1.0**
comp=Z,2.1nm,0.7s,baz=299,slow=3.9,SNR=5.8
IL1 Eielson Array 76.00 355 *e*P **P 09 38 16.3 +0.2**
ILAR Eielson Array 76.00 355 P **P 09 38 15.6 -0.5**
comp=Z,1.4nm,0.8s,baz=346,slow=3.0,SNR=11
ILB Eielson Array 76.00 355 *e*P **P 09 38 17.2 +1.0**
DAWY Dawson 76.01 352 *e*P **P 09 38 17.1 +0.8**
comp=Z,10nm,1.0s
CCB Clear Creek Bu 76.18 355 *e*P **P 09 38 18.6 +1.4**
comp=Z,6.3nm,0.8s
HDA Harding Lake 76.36 355 *e*P **P 09 38 19.1 +0.8**
comp=Z,5.8nm,0.8s
WRH Wood River Hil 76.38 355 *e*P **P 09 38 18.7 +0.4**
comp=Z,10nm,1.0s
WRH Wood River Hil 76.38 355 *e*P **P 09 38 18.6 +0.3**
comp=Z,11nm,1.0s
DOT Dot Lake 76.89 353 *e*P **P 09 38 22.5 +1.2**
comp=Z,33nm,1.0s
DOT Dot Lake 76.89 353 *e*P **P 09 38 22.4 +1.1**
comp=Z,34nm,1.0s
DHY Denali Highway 77.72 355 *e*P **P 09 38 26.5 +0.4**
comp=Z,11nm,0.8s
KS15 Wonju Array Si 78.03 51 *e*P **P 09 38 28.1 0.0**
KSAR Wonju Array Be 78.03 51 P **P 09 38 27.4 -0.7**
KSAR Wonju Array Be 78.03 51 P **P 09 38 27.4 -0.7**
KSRS Korea Array 78.05 51 P **P 09 38 27.4 -0.8**
comp=Z,2.0nm,0.7s,baz=307,slow=4.2,SNR=7.2
PPLA Purkeypile 78.16 357 *e*P **P 09 38 29.6 +1.1**
comp=Z,55nm,1.8s
SPU Mount Spurr 79.86 357 *e*P **P 09 38 37.5 -0.3**
ECSD EROS Data Cent 80.39 320 *e*P **P 09 38 41.0 +0.1**
comp=Z,3.5nm,0.8s
KDAK Kodiak Island 83.29 357 P **P 09 38 56.7 +0.9**
comp=Z,10nm,0.8s,baz=38,slow=4.3,SNR=8.0
KDAK Kodiak Island 83.29 357 *e*P **P 09 38 56.7 +0.9**
comp=Z,41nm,1.4s
MJAR Matsushiro Arr 84.69 46 P **P 09 39 03.0 -0.4**
comp=Z,2.7nm,0.7s,baz=307,slow=4.1,SNR=5.3
JTMT Jette 84.98 332 *e*P **P 09 39 06.2 +1.3**
RLMT Red Lodge 85.17 328 *e*P **P 09 39 07.5 +1.6**
comp=Z,25nm,1.9s
MIAR Mount Ida 85.29 311 *e*P **P 09 39 08.0 +1.5**
MIAR pmax pmax
comp=Z,7.0nm,1.0s
MIAR Mount Ida 85.29 311 *e*P **P 09 39 08.0 +1.5**
comp=Z,7.2nm,1.0s
NEW Newport 85.55 334 *e*P **P 09 39 07.1 -0.5**
NEW pmax pmax
comp=Z,34nm,1.9s
NEW Newport 85.55 334 *e*P **P 09 39 07.1 -0.5**
comp=Z,34nm,1.9s
TUL1 Leonard 85.58 314 *e*P **P 09 39 09.0 +1.1**
comp=Z,10nm,0.6s
PD31 Pinedale Array 87.20 326 *e*P **P 09 39 16.4 +0.4**
PDAR Pinedale Array 87.20 326 P **P 09 39 16.2 +0.2**
comp=Z,0.7nm,0.7s,baz=38,slow=5.8,SNR=6.8
PDAR Pinedale Array 87.20 326 *e*P **P 09 39 16.0 0.0**
F10A Beach Ranch, E 87.55 333 *e*P **P 09 39 17.5 0.0**
comp=Z,6.3nm,0.9s
F10A Beach Ranch, E 87.55 333 *e*P **P 09 39 17.5 0.0**
comp=Z,6.3nm,0.9s
WMOK Wichita Mounta 88.11 315 *e*P **P 09 39 21.4 +1.1**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 88.11 315 *e*P **P 09 39 21.4 +1.1**
comp=Z,3.0nm,0.8s
HWUT Hardware Ranch 89.01 327 *e*P **P 09 39 24.7 +0.1**
comp=Z,4.7nm,0.6s
JLU Jordanelle 89.78 326 *e*P **P 09 39 29.1 +0.8**
comp=Z,3.2nm,0.7s
PV09 Paradox Valley 90.46 324 *e*P **P 09 39 32.7 +1.0**
PV01 Paradox Valley 90.49 323 *e*P **P 09 39 32.6 +0.9**
comp=Z,225nm,1.0s
SRU San Rafael Swe 90.60 325 *e*P **P 09 39 32.2 +0.1**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 90.60 325 *e*P **P 09 39 32.2 +0.1**
comp=Z,3.6nm,0.8s
PRAC Prado 92.70 277 *e*P **P 09 39 43.8 +1.8**
comp=Z,52nm,0.2s
LTX Lajitas 94.89 314 *e*P **P 09 39 52.0 0.0**
LTX Lajitas 94.89 314 *e*P **P 09 39 52.0 0.0**
TX31 Lajitas Ar. Si 94.89 314 *e*P **P 09 39 52.3 +0.3**
TX31 *e*P **P 09 39 52.7 +0.7**
TXAR Lajitas Array 94.89 314 P **P 09 39 52.0 0.0**
comp=Z,1.2nm,0.8s,baz=72,slow=4.4,SNR=14
TXAR Lajitas Array 94.89 314 P **P 09 39 52.0 0.0**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
CRY Cary Ranch 97.97 326 *e*P **P 09 40 05.4 -0.5**
CPUP Villa Florida 98.25 243 LR LR 10 26 38.9
comp=Z,87nm,18.4s,baz=80,slow=37
WRA Warramunga Arr 119.73 92 PKP **PKPdf 09 45 18.5 -1.5**
comp=Z,0.7nm,0.8s,baz=303,slow=2.2,SNR=6.0
WRA Warramunga Arr 119.73 92*c i*PKIKP **PKPdf 09 45 22.7 +2.8**
WR1 Warramunga Arr 119.73 92 *e*PKPdf **PKPdf 09 45 18.5 -1.5**
ASAR Alice Springs 121.44 96 PKP **PKPdf 09 45 22.1 -1.1**
comp=Z,1.2nm,0.8s,baz=304,slow=1.5,SNR=11

ISCJB ***04*** *09:26:53.4±0.5,3.˙90S±0.˙03×153.˙97E±0.˙04,h410km±5km, mb4.5/64,Error ellipse: s-maj=6.8km s-min=4.7km az=152.3*
NEIC ***04*** *09:26:54.5±0.4,3.˙88S×154.˙00E,h411km±5km,mb4.7/49, Error ellipse: s-maj=5.5km s-min=4.0km az=83.0*
IDC ***04*** *09:26:55.0±0.7,3.˙91S×154.˙01E,h416km±7km,mb4.0/23, mb1 4.1/27,mb1mx4.1/39,mbtmp4.9/27,Error ellipse: s-maj=11.3km s-min=6.8km az=77.0*
DJA ***04*** *09:26:55.3±0.7,4.˚S±5.˚×15.˚4E±.˚,h433km±10km,M4.5/16, mb4.7/16,mB5.0/4,Mw(mB)4.3/4*
BJI ***04*** *09:26:56.4,3.˙22S×153.˙96E,h409km,mb4.3/21,mB4.9/15*
ISC 04 09:26:54.6±0.4,3.˙90S±0.˙05×154.˙00E±0.˙05,h411km±4km, h412km:pP-P,n158,σ1°19/192,mb4.5/64,1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.85**	**261**	*e*P	**P**	**09 27 49.3**	**-1.5**
RABL				*e*S	**S**	**09 28 33.7**	**-2.4**
MANU	**Manus Island**	**6.87**	**285**	*e*P	**P**	**09 28 37.5**	**-0.1**
HNR	**Honiara**	**8.07**	**133**	P	**P**	**09 28 51.0**	**+0.4**
15nm,0.3s,baz=211,slow=1.8,SNR=19							
HNR				S	**S**	**09 30 25.5**	**0.0**
4.9nm,0.3s,baz=344,slow=17,SNR=14							
HNR	**Honiara**	**8.07**	**133**	*e*P	**P**	**09 28 50.0**	**-0.7**
HNR	**Honiara**	**8.07**	**133**	*e*P	**P**	**09 28 50.9**	**+0.3**
HNR				*e*S	**S**	**09 30 26.7**	**+1.2**
PMG	**Port Moresby**	**8.72**	**231**	P	**P**	**09 28 59.4**	**+1.5**
7.2nm,0.3s,baz=46,slow=7.1,SNR=39							
PMG				S	**S**	**09 30 42.8**	**+3.6**
0.4nm,0.3s,baz=15,slow=15,SNR=2.7							
PATS	**Pohnpei**	**11.50**	**22**	*e*P	**P**	**09 29 28.4**	**-0.2**
JAY	**Jayapura**	**13.34**	**276**	P	**P**	**09 29 48.9**	**0.0**
0.1nm,0.3s,baz=177,slow=23,SNR=3.8							
COEN	**Coen**	**14.63**	**226**	*e*P	**P**	**09 30 04.3**	**+1.5**
SMPI	**Sarmi**	**15.38**	**277**	P	**P**	**09 30 11.4**	**+0.4**
143nm,1.5s,2μm							
CTA	**Charters Tower**	**17.78**	**205**	P	**P**	**09 30 36.9**	**+0.5**
5.4nm,0.3s,baz=27,slow=12,SNR=39							
CTAO	**Charters Tower**	**17.78**	**205**	*e*P	**P**	**09 30 36.8**	**+0.4**
62nm,0.9s							
CTAO				*e*S	**S**	**09 33 42.4**	**+2.5**
GUMO	**Guam**	**19.59**	**333**	P	**P**	**09 30 54.4**	**-0.4**
3.0nm,0.3s,baz=165,slow=19,SNR=5.2							
EIDS	**Eidsvold**	**21.53**	**187**	*e*P	**P**	**09 31 12.5**	**+0.2**
17nm,0.9s							
EIDS				*e*S	**S**	**09 34 42.6**	**+0.5**
DZM	**Mont Dzumac**	**21.73**	**147**	P	**P**	**09 31 14.3**	**0.0**
179nm,0.8s,baz=327,slow=6.6,SNR=146							
DZM	**Mont Dzumac**	**21.73**	**147**	*e*P	**P**	**09 31 13.0**	**-1.2**
194nm,0.9s							
FAKI	**Fak Fak**	**21.73**	**272**	P	**P**	**09 31 14.1**	**-0.2**
62nm,1.0s,571nm							
FAKI	**Fak Fak**	**21.73**	**272**	*e*P	**P**	**09 31 13.8**	**-0.5**
38nm,0.8s							
SIJI	**Sorong**	**22.91**	**277**	P	**P**	**09 31 24.7**	**-0.3**
145nm,0.7s,baz=77,slow=11,SNR=11							
WRAB	**Tennant Creek**	**24.92**	**229**	*e*P	**P**	**09 31 42.0**	**-0.9**
14nm,0.7s							
WB2	**Warramunga Arr**	**24.93**	**229**	*e*P	**P**	**09 31 42.5**	**-0.5**
WB2				*e*PcP	**PcP**	**09 35 06.1**	**+0.3**
WR1	**Warramunga Arr**	**24.93**	**229**	*e*P	**P**	**09 31 42.3**	**-0.8**
15nm,0.8s							
WR1				*e*PcP	**PcP**	**09 35 06.1**	**+0.3**
WR1				*e*S	**S**	**09 35 32.5**	**-3.6**
WRA	**Warramunga Arr**	**24.93**	**229**	P	**P**	**09 31 42.3**	**-0.8**
13nm,0.7s,baz=52,slow=9.5,SNR=136							
WRA				PcP	**PcP**	**09 35 06.1**	**+0.3**
9.9nm,0.9s,baz=50,slow=2.3,SNR=14							
WRA				S	**S**	**09 35 32.5**	**-3.6**
4.7nm,0.8s,baz=48,slow=16,SNR=6.9							
WRA				ScP	**ScP**	**09 38 06.4**	**+1.1**
4.8nm,0.9s,baz=48,slow=3.1,SNR=10							
AAI	**Ambon**	**25.75**	**270**	P	**P**	**09 31 50.2**	**-0.2**
ARMA	**Armidale**	**26.48**	**185**	*e*P	**P**	**09 31 57.4**	**+0.7**
32nm,0.9s							
LBMI	**Labuha**	**26.67**	**276**	P	**P**	**09 32 00.4**	**+1.8**
MSVF	**Nonsavu**	**27.28**	**122**	*e*P	**P**	**09 32 04.2**	**+0.3**
30nm,1.2s							
AS01	**Alice Springs**	**27.59**	**223**	*e*P	**P**	**09 32 05.8**	**-0.8**
AS31	**Alice Springs**	**27.62**	**223**	*e*P	**P**	**09 32 05.8**	**-1.0**
6.0nm,0.3s							
AS31				*e*PcP	**PcP**	**09 35 12.5**	**+0.3**
ASAR	**Alice Springs**	**27.62**	**223**	P	**P**	**09 32 05.7**	**-1.2**
6.5nm,0.4s,baz=55,slow=9.0,SNR=264							
ASAR				PcP	**PcP**	**09 35 12.3**	**+0.2**
3.9nm,0.6s,baz=51,slow=3.0,SNR=12							
ASAR				S	**S**	**09 36 15.4**	**-2.9**
3.5nm,0.7s,baz=51,slow=14,SNR=8.7							
ASAR				ScP	**ScP**	**09 38 14.5**	**+1.2**
0.9nm,0.7s,baz=49,slow=2.2,SNR=4.4							
SANI	**Sanana**	**28.03**	**273**	P	**P**	**09 32 10.1**	**-0.5**
STKA	**Stephens Creek**	**30.18**	**201**	P	**P**	**09 32 28.5**	**-0.6**
3.8nm,0.7s,baz=355,slow=10,SNR=7.5							
STKA				PcP	**PcP**	**09 35 18.6**	**+0.1**
8.8nm,1.0s,baz=38,slow=3.4,SNR=6.2							
STKA	**Stephens Creek**	**30.18**	**201**	*e*P	**P**	**09 32 28.6**	**-0.6**
6.7nm,1.6s							
CAN	**Canberra**	**31.61**	**188**	*e*P	**P**	**09 32 41.4**	**-0.2**
22nm,0.8s							
URZ	**Urewera**	**40.18**	**151**	P	**P**	**09 33 52.9**	**-0.3**
13nm,0.4s,baz=260,slow=4.0,SNR=15							
URZ				PcP	**PcP**	**09 35 46.1**	**-1.9**
8.2nm,0.7s,baz=329,slow=5.9,SNR=3.3							
URZ	**Urewera**	**40.18**	**151**	*e*P	**P**	**09 33 52.9**	**-0.3**
159nm,1.8s							
URZ				*e*PcP	**PcP**	**09 35 46.1**	**-1.9**
NGZ	**Ngauruhoe**	**40.23**	**154**	*e*PN	**P**	**09 33 55.2**	**+1.5**
FWVZ	**Far West T-bar**	**40.27**	**154**	PN	**P**	**09 33 55.7**	**+1.5**
MRHZ	**Matea Rd**	**40.31**	**153**	*e*PN	**P**	**09 33 55.0**	**+0.6**
WNVZ	**Wahianoa**	**40.35**	**154**	*e*PN	**P**	**09 33 56.6**	**+1.9**
BKZ	**Black Stump Fm**	**40.62**	**153**	*e*P	**P**	**09 33 57.0**	**+0.2**
124nm,1.9s							
BKZ	**Black Stump Fm**	**40.62**	**153**	*e*PN	**P**	**09 33 56.7**	**-0.1**
NMHZ	**Naumai**	**40.71**	**152**	PN	**P**	**09 33 58.6**	**+1.1**
KWHZ	**Kaweka Forest**	**40.80**	**153**	PN	**P**	**09 33 58.9**	**+0.7**
MCHZ	**McNeill Hill**	**40.94**	**153**	*e*PN	**P**	**09 34 00.1**	**+0.8**
KRHZ	**Kereru**	**40.95**	**153**	*e*PN	**P**	**09 33 59.5**	**+0.1**
TSZ	**Takapari Road**	**41.11**	**154**	PN	**P**	**09 34 01.0**	**+0.3**
THZ	**Tophouse**	**41.33**	**158**	*e*P	**P**	**09 34 02.6**	**+0.2**
54nm,0.8s							
ANWZ	**Angora Road**	**41.66**	**154**	*e*PN	**P**	**09 34 05.1**	**0.0**
LTZ	**Lake Taylor**	**42.00**	**160**	*e*P	**P**	**09 34 08.1**	**+0.3**
76nm,1.0s							
KHZ	**Kahutara**	**42.13**	**158**	PN	**P**	**09 34 08.1**	**-0.6**
KHZ				PcP	**pP**	**09 35 28.1**	**+0.2**
SBUM	**Sibu**	**42.23**	**278**	*e*P	**P**	**09 34 10.3**	**+0.3**
6.0nm,0.8s							
OXZ	**Oxford**	**42.40**	**160**	*e*P	**P**	**09 34 10.4**	**-0.5**
268nm,2.0s							
RPZ	**Rata Peaks**	**42.43**	**162**	P	**P**	**09 34 10.8**	**-0.3**
42nm,0.8s,baz=213,slow=3.7,SNR=18							
LBZ	**Lake Benmore**	**42.77**	**163**	*e*P	**P**	**09 34 14.0**	**+0.1**
39nm,0.9s							
JNU	**Nakatsue**	**42.84**	**331**	P	**P**	**09 34 14.6**	**0.0**
20nm,0.7s,baz=150,slow=1.3,SNR=18							
MJAR	**Matsushiro Arr**	**42.85**	**341**	P	**P**	**09 34 13.4**	**-1.2**
3.5nm,0.7s,baz=165,slow=8.4,SNR=12							
MJAR				PcP	**PcP**	**09 35 57.0**	**+0.1**
1.3nm,0.8s,baz=123,slow=3.3,SNR=4.1							
MAT	**Matsushiro**	**42.85**	**341**	P	**P**	**09 34 13.6**	**-1.0**
DCZ	**Deep Cove**	**42.97**	**166**	*e*P	**P**	**09 34 15.5**	**+0.1**
41nm,0.9s							
MLZ	**Mavora Lakes**	**43.12**	**165**	*e*P	**P**	**09 34 16.9**	**+0.3**
78nm,0.9s							
WHZ	**Wether Hill Ro**	**43.57**	**166**	*e*P	**P**	**09 34 19.6**	**-0.5**
160nm,2.0s							
KSM	**Kuching**	**43.99**	**276**	*e*P	**P**	**09 34 24.3**	**+0.4**
16nm,0.7s							
CISI	**Cisompet, Garu**	**46.08**	**263**	P	**P**	**09 34 38.4**	**-1.8**
CISI	**Cisompet, Garu**	**46.08**	**263**	*e*P	**P**	**09 34 39.0**	**-1.2**
105nm,0.6s							
KSRS	**Korea Array**	**47.76**	**332**	P	**P**	**09 34 52.8**	**+0.3**
4.3nm,0.6s,baz=146,slow=7.1,SNR=21							
KS15	**Wonju Array Si**	**47.76**	**332**	*e*P	**P**	**09 34 52.1**	**-0.5**
ASAJ	**Asahikawa**	**48.88**	**349**	P	**P**	**09 35 01.6**	**+0.7**
6.8nm,0.6s,baz=217,slow=10,SNR=7.0							
ASAJ	**Asahikawa**	**48.88**	**349**	*e*P	**P**	**09 35 01.5**	**+0.7**
79nm,1.6s							
NJ2	**Nanjing**	**48.92**	**320**	*e*P	**P**	**09 35 02.1**	**+0.8**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.7s							
QIZ	**Qiongzhong**	**49.06**	**299**	P	**P**	**09 35 03.6**	**+1.0**
QIZ				pP	**pP**	**09 36 23.6**	**-1.1**
QIZ				sP	**sP**	**09 37 07.8**	**-2.7**
QIZ				S	**S**	**09 41 38.0**	**+2.1**
QIZ				sS	**sS**	**09 44 02.4**	**-1.0**
QIZ				pmax	pmax		
comp=Z,1μm,4.7s							
USRK	**Ussuriysk Ar.**	**51.80**	**340**	P	**P**	**09 35 22.8**	**+0.4**
4.6nm,0.7s,baz=204,slow=8.1,SNR=13							
PETK	**Petropavlovsk-**	**56.88**	**3**	P	**P**	**09 35 58.5**	**+0.2**
5.1nm,0.7s,baz=157,slow=6.5,SNR=6.9							
PEA1	**Petropavlovsk-**	**56.88**	**3**	*e*P	**P**	**09 35 58.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**58.59**	**294**	P	**P**	**09 36 11.6**	**+0.9**
3.6nm,0.6s,baz=115,slow=5.2,SNR=11							
CMAR				PKP2bc		10 05 52.7	
0.9nm,0.9s,baz=278,slow=4.6,SNR=4.6							
HHC	**Hu-ho-hao-te**	**59.03**	**323**	*e*P	**P**	**09 36 14.6**	**+1.2**
HHC				pmax	pmax		
comp=Z,18nm,1.1s							
HHC				pmax	pmax		
comp=Z,120nm,6.6s							
CD2	**Chengdu**	**59.07**	**310**	*e*P	**P**	**09 36 13.6**	**-0.3**
LZH	**Lanzhou**	**61.43**	**315**	*e*P	**P**	**09 36 32.4**	**+2.7**
LZH				pP	pP	09 38 02.1	+5.7
LZH				pmax	pmax		
comp=Z,23nm,1.0s							
LZH				pmax	pmax		
comp=Z,89nm,4.3s							
SONA0	**Songino Array**	**66.21**	**327**	*e*P	**P**	**09 37 00.8**	**+0.6**
9.1nm,1.2s							
SONM	**Songino Array**	**66.21**	**327**	P	**P**	**09 37 00.8**	**+0.6**
2.5nm,0.4s,baz=144,slow=5.3,SNR=11							
SONM				PKP2bc		10 05 33.0	
0.3nm,0.4s,baz=318,slow=4.2,SNR=4.7							
TAPN	**Taplejung**	**70.97**	**301**	*e*P	**P**	**09 37 30.5**	**+0.6**
30nm,0.8s							
ODAN	**Odare**	**71.12**	**300**	*e*P	**P**	**09 37 31.4**	**+0.7**
44nm,0.7s							
RAMN	**Ramite**	**71.83**	**300**	*e*P	**P**	**09 37 35.2**	**+0.3**
13nm,0.6s							
JIRN	**Jiri**	**72.36**	**300**	*e*P	**P**	**09 37 38.7**	**+0.6**
31nm,0.7s							
GUN	**Gumba**	**72.68**	**301**	*e*P	**P**	**09 37 40.5**	**+0.5**
40nm,0.7s							
PKI	**Pulchoki**	**73.01**	**300**	*e*P	**P**	**09 37 42.0**	**+0.2**
16nm,0.7s							
PKIN	**Phulchoki**	**73.02**	**300**	*e*P	**P**	**09 37 42.2**	**+0.4**
12nm,0.6s							
KKN	**Kakani**	**73.17**	**300**	*e*P	**P**	**09 37 43.1**	**+0.5**
23nm,0.5s							
DMN	**Daman**	**73.28**	**300**	*e*P	**P**	**09 37 43.9**	**+0.6**
34nm,0.7s							
VNDA	**Vanda**	**73.69**	**178**	P	**P**	**09 37 44.9**	**+0.6**
19nm,0.9s,baz=329,slow=6.3,SNR=88							
VNDA	**Vanda**	**73.69**	**178**	*e*P	**P**	**09 37 44.5**	**+0.2**
19nm,0.9s							
GKN	**Gorkha**	**73.77**	**300**	*e*P	**P**	**09 37 46.4**	**+0.4**
33nm,0.8s							
SBA	**Scott Base**	**74.21**	**177**	*e*P	**P**	**09 37 48.9**	**+1.6**
20nm,1.0s							
KOLN	**Koldanda**	**74.61**	**300**	*e*P	**P**	**09 37 51.1**	**+0.2**
24nm,0.7s							
KDAK	**Kodiak Island**	**74.84**	**26**	P	**P**	**09 37 51.3**	**+0.1**
11nm,1.1s,baz=299,slow=10,SNR=4.4							
KDAK	**Kodiak Island**	**74.84**	**26**	*e*P	**P**	**09 37 51.7**	**+0.5**
41nm,1.4s							
PYUN	**Piuthan**	**75.21**	**300**	*e*P	**P**	**09 37 54.2**	**-0.1**
42nm,0.8s							
WMQ	**Urumqi**	**75.90**	**317**	P	**P**	**09 37 58.2**	**+0.6**
WMQ				pP	pP	09 39 29.9	+1.2
WMQ				sP	sP	09 40 11.9	-0.2
WMQ				pmax	pmax		
comp=Z,12nm,0.6s							
WMQ				pmax	pmax		
comp=Z,190nm,5.1s							
CAST	**Castle Rocks**	**78.23**	**22**	*e*P	**P**	**09 38 10.1**	**+0.2**
7.4nm,0.8s							
SML	**Sawmill**	**78.81**	**24**	*e*P	**P**	**09 38 13.5**	**+0.4**
25nm,1.0s							
RND	**Reindeer**	**79.44**	**23**	*e*P	**P**	**09 38 16.1**	**-0.3**
8.2nm,0.8s							
MCK	**McKinley**	**79.58**	**22**	*e*P	**P**	**09 38 16.9**	**-0.3**
24nm,1.0s							
KLU	**Klutina**	**79.66**	**25**	*e*P	**P**	**09 38 18.8**	**+1.1**
14nm,1.0s							
DHY	**Denali Highway**	**79.84**	**23**	*e*P	**P**	**09 38 19.1**	**+0.4**
11nm,0.8s							
BMRM	**Bremner River**	**79.98**	**26**	*e*P	**P**	**09 38 19.7**	**+0.4**
21nm,1.2s							
MK01	**Makanchi Array**	**80.42**	**319**	*e*P	**P**	**09 38 21.8**	**-0.2**
MK31	**Makanchi Array**	**80.44**	**319**	*e*P	**P**	**09 38 22.4**	**+0.3**
MK32	**Makanchi Array**	**80.44**	**319**	*e*P	**P**	**09 38 21.1**	**-1.0**
MK32				*ep*P	**pP**	**09 39 56.7**	**+2.3**
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**09 38 21.1**	**-1.0**
2.3nm,0.6s,baz=93,slow=6.7,SNR=14							
MKAR				pP	**pP**	**09 39 56.7**	**+2.3**
0.9nm,0.7s,baz=94,slow=4.6,SNR=2.7							
MKAR	**Makanchi Array**	**80.44**	**319**	*e*P	**P**	**09 38 22.4**	**+0.3**
21nm,0.7s							
MAKZ	**Makanchi**	**80.65**	**319**	*e*P	**P**	**09 38 23.3**	**+0.1**
6.3nm,1.0s							
ILAR	**Eielson Array**	**80.88**	**22**	P	**P**	**09 38 22.8**	**-1.2**
4.8nm,0.9s,baz=243,slow=5.7,SNR=33							
ILAR				p

PDAR	**Pinedale Array**	**97.36**	**48**	P	**P**	**09 39 41.8**	**-1.1**
	1.7nm,1.1s,baz=316,slow=2.5,SNR=5.4						
PDAR	**Pinedale Array**	**97.36**	**48**	*e*P	**P**	**09 39 41.7**	**-1.2**
AKASG	**Malin Array Be**	**114.45**	**325**	PKP	PKPdf	09 44 45.8	-0.8
	1.1nm,0.5s,baz=80,slow=1.7,SNR=5.2						
BR101	**Keskin Array S**	**115.59**	**312**	*e*PKPdf	**PKPdf**	**09 44 48.5**	**-0.8**
BRTR	**Keskin Array B**	**115.59**	**312**	PKP	**PKPdf**	**09 44 48.5**	**-0.8**
	0.8nm,0.6s,baz=155,slow=2.4,SNR=4.1						
PLCA	**Paso Flores**	**119.77**	**142**	PKP	**PKPdf**	**09 44 57.5**	**+0.2**
	2.6nm,0.6s,baz=276,slow=3.1,SNR=9.9						
BOSA	**Boshof**	**121.12**	**233**	PKP	**PKPdf**	**09 45 00.3**	**0.0**
	2.9nm,0.6s,baz=82,slow=2.2,SNR=8.1						
GEC2	**GERESS Array S**	**123.90**	**329**	*e*PKPdf	**PKPdf**	**09 45 05.3**	**+0.3**
GERES	**GERESS Array B**	**123.90**	**329**	PKP	**PKPdf**	**09 45 05.0**	**+0.1**
	1.6nm,0.6s,baz=34,slow=0.5,SNR=7.4						
GEA0	**GERESS Array S**	**123.91**	**329**	*e*PKPdf	**PKPdf**	**09 45 04.8**	**-0.1**
HELC	**Santa Helena**	**130.63**	**85**	*e*PKPdf	**PKPdf**	**09 45 18.3**	**-0.8**
PB11	**IPOC Station P**	**131.09**	**120**	*e*PKPdf	**PKPdf**	**09 45 19.9**	**+0.3**
MNMC	**Minye Minye**	**131.39**	**120**	*e*PKPdf	**PKPdf**	**09 45 20.9**	**+0.6**
LPAZ	**La Paz**	**133.77**	**117**	PKP	**PKPdf**	**09 45 26.0**	**+0.7**
	3.1nm,0.6s,baz=246,slow=3.2,SNR=17						
LPAZ				SKPbc	**SKPab**	**09 48 17.9**	**-0.2**
	2.2nm,0.6s,baz=293,slow=3.8,SNR=10						
SDV	**Santo Domingo**	**135.40**	**81**	*e*PKPdf	**PKPdf**	**09 45 27.5**	**-0.3**
CPUP	**Villa Florida**	**137.31**	**137**	PKP	**PKPdf**	**09 45 31.3**	**+0.5**
	7.8nm,1.1s,baz=285,slow=1.4,SNR=8.2						
CPUP	**Villa Florida**	**137.31**	**137**	*e*PKPdf	**PKPdf**	**09 45 31.1**	**+0.2**
BAMF	**Morne Balai**	**143.73**	**70**	*e*P	PKPab	09 45 41.1	+0.1
TRMF	**Trois Ilets**	**143.88**	**71**	*e*P	PKPbc	09 45 42.2	+0.6
ZAM	**Aeronautique**	**143.90**	**71**	*e*P	PKPbc	09 45 42.0	+0.4
MVM	**Montagne Vaucl**	**144.03**	**71**	*e*P	PKPbc	09 45 42.1	0.0
TAM	**Tamanrasset**	**144.18**	**304**	*e*PKPbc	**PKPdf**	**09 45 43.5**	**+0.1**
PTGA	**Pitinga**	**145.75**	**97**	*e*PKPdf	**PKPbc**	**09 45 47.2**	**-0.3**
TOA0	**Torodi Ar. Sit**	**151.14**	**290**	*e*PKPdf	**PKPdf**	**09 45 54.0**	**-0.9**
TOA0				*e*PKPbc	**PKPbc**	**09 46 00.6**	**-0.5**
TOA0				*e*PKPbc	**PKPbc**	**09 46 00.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**151.14**	**290**	PKP	**PKPdf**	**09 45 53.7**	**-1.1**
	2.3nm,1.1s,baz=23,slow=1.8,SNR=4.0						
TORD				PKPbc	**PKPbc**	**09 46 00.5**	**-0.6**
	8.5nm,0.4s,baz=67,slow=1.6,SNR=110						
TORD				PKPab	**PKPab**	**09 46 09.6**	**-1.1**
	1.5nm,0.8s,baz=59,slow=3.3,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**151.14**	**290**	*e*PKPdf	**PKPdf**	**09 45 53.7**	**-1.1**
TOA1				*e*PKPbc	**PKPbc**	**09 46 00.5**	**-0.7**
TOA1				*e*PKPab	**PKPab**	**09 46 09.6**	**-1.1**
DBIC	**Dimbokro**	**158.77**	**278**	PKPab	**PKPab**	**09 46 43.3**	**-0.2**
	3.6nm,0.6s,baz=60,slow=4.9,SNR=5.4						

*CSEM **04** 09:29:45.7±0.7, 51°.49N×16°.18E, h1km, ML2.9/5, Error ellipse: s-maj=9.7km s-min=5.1km az=12.0*
*WAR **04** 09:29:46.1, 51°.50N×16°.13E, h1km, Mw2.2*
*PRU **04** 09:29:46.5, 51°.47N×16°.19E, h0km*

ISC 04 09:29:45.8±2.5, 51°.5N±0°.1×16°.18E±0°.06, h0km, n18, σ0§62/30, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**09 29 58.6**	**+0.3**
KSP				*e*Sg	**Sg**	**09 30 07.7**	**+1.0**
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**09 29 58.6**	**+0.3**
KSP				*e*Sg	**Sg**	**09 30 07.7**	**+1.0**
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**09 29 58.6**	**+0.3**
KSP				*e*Sg	**Sg**	**09 30 07.7**	**+1.0**
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pg**	**09 30 05.3**	**+0.5**
UPC				*e*SG	**Sg**	**09 30 17.7**	**+0.1**
	comp=Z,14nm,0.3s						
UPC	**Upice**	**0.99**	**186**	Pg	**Pg**	**09 30 05.3**	**+0.5**
UPC				Sg	**Sg**	**09 30 17.7**	**+0.1**
	14nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*PG	**Pg**	**09 30 07.5**	**-0.2**
DPC				*e*SG	**Sg**	**09 30 22.4**	**-0.2**
	comp=Z,6.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**175**	Pg	**Pg**	**09 30 07.5**	**-0.2**
DPC				Sg	**Sg**	**09 30 22.4**	**-0.2**
	6.8nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pn**	**09 30 12.3**	**-0.3**
PVCC				*e*SG	**Sg**	**09 30 30.7**	**-0.1**
	comp=Z,20nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**227**	Pg	**Pn**	**09 30 12.3**	**-0.3**
PVCC				Sg	**Sg**	**09 30 30.7**	**-0.1**
	20nm,0.2s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pn**	**09 30 13.4**	**-0.2**
KRLC				*e*SG	**Sg**	**09 30 32.4**	**-0.5**
KRLC	**Kraliky**	**1.47**	**165**	Pg	**Pn**	**09 30 13.4**	**-0.2**
KRLC				Sg	**Sg**	**09 30 32.4**	**-0.5**
BRG	**Berggiesshubel**	**1.54**	**247**	PG	**Pn**	**09 30 14.1**	**-0.4**
BRG				SG	**Sn**	**09 30 34.6**	**-0.6**
	12nm,0.6s						
PRU	**Pruhonice**	**1.83**	**215**	*e*SG	**Sb**	**09 30 43.9**	**+0.3**
	comp=Z,9.5nm,0.4s						
PRU	**Pruhonice**	**1.83**	**215**	Sg	**Sb**	**09 30 43.9**	**+0.3**
	9.5nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**243**	*e*SG	**Sg**	**09 31 12.9**	**+1.1**
	comp=Z,16nm,0.9s						
NKC	**Novy Kostel**	**2.68**	**243**	Sg	**Sg**	**09 31 12.9**	**+1.1**
	16nm,0.9s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*SG	**Sg**	**09 31 17.5**	**-1.2**
KHC	**Kasperske Hory**	**2.89**	**216**	Sg	**Sg**	**09 31 17.5**	**-1.2**

*TEH **04** 09:44:21.8, 31°.49N×56°.70E, h10km, ML4.2*
*NEIC **04** 09:44:22.6±0.0, 31°.47N×56°.74E, h15km, ML4.2(THR), MN4.2(TEH), After THR.*
*THR **04** 09:44:22.6±0.7, 31°.47N×56°.74E, h15km, ML4.1*
*ISCJB **04** 09:44:22.4±0.2, 31°.48N±0°.02×56°.69E±0°.03, h10km, mb3.6/6, Error ellipse: s-maj=3.9km s-min=3.1km az=9.1*
*CSEM **04** 09:44:23.8±0.1, 31°.46N×56°.71E, h10km, ML4.2, Error ellipse: s-maj=4.0km s-min=3.6km az=110.0*
*DSN **04** 09:44:23.8±0.0, 31°.45N×56°.74E, h5km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **04** 09:44:25.8±5.7, 31°.42N×56°.65E, h29km±43km, mb3.6/7, mb1 3.8/14, mb1mx3.6/51, mbtmp3.9/14, ML3.8/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/43, Error ellipse: s-maj=25.6km s-min=16.2km az=146.0*

ISC 04 09:44:22.9±0.6, 31°.51N±0°.03×56°.67E±0°.03, h10km, n111, σ1§92/111, mb3.6/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.94**	**275**	*e*Pg	**Pb**	**09 44 40.7**	**-0.7**
IBAF				*e*AMB	AMB	09 45 03.0	
	comp=Z,47μm,0.1s						
IBAF	**Bafgh**	**0.94**	**275**	*e*Pg	**Pb**	**09 44 40.7**	**-0.7**
KHGB	**Koh Gabri**	**1.14**	**188**	*e*Pg	**Pb**	**09 44 43.5**	**-1.3**
KHGB	**Koh Gabri**	**1.14**	**188**	*e*Pg	**Pb**	**09 44 43.5**	**-1.3**
TVBK	**TV Kerman**	**1.52**	**177**	*e*Pn	**Pg**	**09 44 51.5**	**-0.6**
TVBK	**TV Kerman**	**1.52**	**177**	*e*Pn	**Pg**	**09 44 51.5**	**-0.6**
IMEH	**Mehriz**	**1.76**	**267**	*e*Pn	**Pg**	**09 44 55.5**	**-1.2**
IMEH				*e*Sg	**Sg**	**09 45 20.1**	**+0.6**
IMEH				*e*AMB	AMB	09 45 21.2	
	comp=Z,54μm,0.2s						
IMEH	**Mehriz**	**1.76**	**267**	*e*Pn	**Pg**	**09 44 55.5**	**-1.2**
IMEH				*e*Sg	**Sg**	**09 45 20.1**	**+0.6**
CHMN	**Cheshme madani**	**1.81**	**155**	*e*Pn	**Pb**	**09 44 55.0**	**-1.3**
CHMN	**Cheshme madani**	**1.81**	**155**	*e*Pn	**Pb**	**09 44 55.0**	**-1.3**
NGRK	**Negar Kerman**	**1.86**	**178**	*e*Pn	**Pb**	**09 44 56.2**	**-1.0**
NGRK	**Negar Kerman**	**1.86**	**178**	*e*Pn	**Pb**	**09 44 56.2**	**-1.0**
ICHK	**Chekchek**	**2.06**	**292**	*e*Pn	**Pb**	**09 44 59.8**	**-0.7**
ICHK				*e*AMB	AMB	09 45 04.2	
	comp=Z,32μm,0.2s						
ICHK	**Chekchek**	**2.06**	**292**	*e*Pn	**Pb**	**09 44 59.8**	**-0.7**
TABS	**Tabas**	**2.17**	**10**	*e*Pn	**Pb**	**09 45 00.7**	**-1.6**
TABS	**Tabas**	**2.17**	**10**	*e*Pn	**Pb**	**09 45 00.8**	**-1.6**
ITEG	**Tejag**	**2.24**	**51**	*e*Pn	**Pb**	**09 45 00.8**	**-2.8**
ITEG				*e*AMB	AMB	09 45 39.0	
	comp=Z,33μm,0.1s						
ITEG	**Tejag**	**2.24**	**51**	*e*Pn	**Pb**	**09 45 00.8**	**-2.8**
IDAH	**Dahanechah**	**2.98**	**65**	*e*Pn	**Pn**	**09 45 11.7**	**+1.2**
IDAH				*e*AMB	AMB	09 46 02.8	
	comp=Z,11μm,0.3s						
IDAH	**Dahanechah**	**2.98**	**65**	*e*Pn	**Pn**	**09 45 11.7**	**+1.2**
NASN	**Na'in**	**3.52**	**292**	*e*Pn	**Pn**	**09 45 19.8**	**+1.8**
NASN				AML	AML	09 46 21.9	
	comp=E,264nm,0.4s						
NASN	**Na'in**	**3.52**	**292**	*e*Pn	**Pn**	**09 45 19.8**	**+1.8**
IPAR	**Pars**	**3.53**	**243**	*e*Pn	**Pn**	**09 45 20.4**	**+2.3**
IPAR				*e*AMB	AMB	09 46 29.4	
	comp=Z,6μm,0.4s						
IPAR	**Pars**	**3.53**	**243**	*e*Pn	**Pn**	**09 45 20.4**	**+2.3**
ISRV	**Sarvestan**	**3.73**	**236**	*e*Pn	**Pn**	**09 45 23.5**	**+2.7**
ISRV				*e*AMB	AMB	09 46 41.3	
	comp=Z,5μm,0.4s						
ISRV	**Sarvestan**	**3.73**	**236**	*e*Pn	**Pn**	**09 45 23.5**	**+2.7**
SHRT	**Shahrakht**	**3.73**	**54**	*e*Pn	**Pn**	**09 45 21.6**	**+1.0**
SHRT	**Shahrakht**	**3.73**	**54**	*e*Pn	**Pn**	**09 45 21.6**	**+1.0**
IZEF	**Zefreh**	**3.93**	**292**	*e*Pn	**Pn**	**09 45 25.6**	**+2.1**
IZEF				*e*AMB	AMB	09 46 39.2	
	comp=Z,2μm,0.4s						
IZEF	**Zefreh**	**3.93**	**292**	*e*Pn	**Pn**	**09 45 25.6**	**+2.1**
ZHSF	**Zahedan**	**4.01**	**117**	*e*Pn	**Pn**	**09 45 24.6**	**-0.1**
ZHSF				AML	AML	09 46 33.9	
	comp=N,182nm,0.5s						
ZHSF	**Zahedan**	**4.01**	**117**	*e*Pn	**Pn**	**09 45 24.6**	**-0.1**
IGAR	**Gharneh**	**4.03**	**284**	*e*Pn	**Pb**	**09 45 30.3**	**-3.9**
IGAR				*e*AMB	AMB	09 45 41.0	
	comp=Z,3μm,0.3s						
IBND	**Bandar-abas**	**4.05**	**182**	*e*Pn	**Pn**	**09 45 26.2**	**+1.3**
IBND				*e*AMB	AMB	09 47 06.5	
	comp=Z,4μm,0.3s						
IBND	**Bandar-abas**	**4.05**	**182**	*e*Pn	**Pn**	**09 45 26.2**	**+1.3**
BNDS	**Bandar-Abbas**	**4.12**	**186**	*e*Pn	**Pn**	**09 45 26.7**	**+0.7**
BNDS	**Bandar-Abbas**	**4.12**	**186**	*e*Pn	**Pn**	**09 45 26.7**	**+0.7**
SHRO	**Shahrood**	**4.50**	**353**	*e*Pn	**Pn**	**09 45 33.3**	**+2.0**
SHRO				AML	AML	09 46 49.9	
	comp=E,367nm,0.5s						
SHRO				AML	AML	09 46 55.3	
	comp=N,234nm,0.6s						
SHRO	**Shahrood**	**4.50**	**353**	*e*Pn	**Pn**	**09 45 33.3**	**+2.0**
GHIR	**Ghir-Karzin**	**4.53**	**226**	*e*Pn	**Pn**	**09 45 33.7**	**+2.0**
GHIR	**Ghir-Karzin**	**4.53**	**226**	*e*Pn	**Pn**	**09 45 33.7**	**+2.0**
IANJ	**Anjilo**	**4.57**	**331**	*e*Pn	**Pn**	**09 45 33.7**	**+1.4**
IANJ				*e*AMB	AMB	09 47 13.1	
	comp=Z,3μm,0.4s						
IANJ	**Anjilo**	**4.57**	**331**	*e*Pn	**Pn**	**09 45 33.7**	**+1.4**
IKLH	**Kolahrood**	**4.67**	**294**	*e*Pn	**Pn**	**09 45 36.0**	**+2.3**
IKLH				*e*AMB	AMB	09 45 53.1	
	comp=Z,2μm,0.2s						
IKLH	**Kolahrood**	**4.67**	**294**	*e*Pn	**Pn**	**09 45 36.0**	**+2.3**
QAM	**Ghamsar**	**4.95**	**298**	*e*Pn	**Pn**	**09 45 39.8**	**+2.3**
QAM				*e*AMB	AMB	09 47 20.2	
	comp=Z,2μm,0.2s						
ILAS	**Lasjerd**	**4.95**	**322**	*e*Pn	**Pn**	**09 45 39.8**	**+2.2**
ILAS				*e*AMB	AMB	09 47 17.1	
	comp=E,3μm,0.3s						
ILAS	**Lasjerd**	**4.95**	**322**	*e*Pn	**Pn**	**09 45 39.8**	**+2.2**
IPIR	**Pirpir**	**5.04**	**285**	*e*Pn	**Pn**	**09 45 41.5**	**+2.7**
IPIR				*e*AMB	AMB	09 46 04.0	
	comp=Z,1μm,0.3s						
IPIR	**Pirpir**	**5.04**	**285**	*e*Pn	**Pn**	**09 45 41.5**	**+2.7**
IMOG	**Moghan**	**5.10**	**25**	*e*Pn	**Pn**	**09 45 41.2**	**+1.6**
IMOG				*e*AMB	AMB	09 46 06.3	
	comp=Z,1μm,0.3s						
IMOG	**Moghan**	**5.10**	**25**	*e*Pn	**Pn**	**09 45 41.2**	**+1.6**
ISHM	**Shahmirzad**	**5.13**	**328**	*e*Pn	**Pn**	**09 45 41.6**	**+1.6**
ISHM				*e*AMB	AMB	09 47 25.6	
	comp=Z,3μm,0.2s						
IFIR	**Firoozkooh**	**5.26**	**323**	*e*Pn	**Pn**	**09 45 43.4**	**+1.6**
IFIR				*e*AMB	AMB	09 46 48.7	
	comp=Z,1μm,0.2s						
IFIR	**Firoozkooh**	**5.26**	**323**	*e*Pn	**Pn**	**09 45 43.4**	**+1.6**
IPAY	**Payeh**	**5.30**	**21**	*e*Pn	**Pn**	**09 45 44.5**	**+2.2**
IPAY				*e*AMB	AMB	09 45 46.2	
	comp=Z,2μm,0.1s						
IPAY	**Payeh**	**5.30**	**21**	*e*Pn	**Pn**	**09 45 44.5**	**+2.2**
IAKL	**Akhelmad**	**5.37**	**18**	*e*Pn	**Pn**	**09 45 44.8**	**+1.4**
IAKL				*e*AMB	AMB	09 45 46.7	
	comp=Z,2μm,0.1s						
IVRN	**Varamin**	**5.41**	**311**	*e*Pn	**Pn**	**09 45 46.1**	**+2.4**
IVRN				*e*AMB	AMB	09 47 43.3	
	comp=Z,1μm,0.3s						
IVRN	**Varamin**	**5.41**	**311**	*e*Pn	**Pn**	**09 45 46.1**	**+2.4**
IKRD	**Kardeh**	**5.47**	**16**	*e*Pn	Pn	09 45 50.5	+5.7
IKRD				*e*AMB	AMB	09 46 15.9	
	comp=Z,1μm,0.3s						
IGLO	**Ghaloghah**	**5.51**	**335**	*e*Pn	**Pn**	**09 45 47.1**	**+1.9**
IGLO				*e*AMB	AMB	09 47 44.2	
	comp=Z,5μm,0.5s						
BANOM	**Banah**	**5.57**	**183**	P	**Pn**	**09 45 47.3**	**+1.4**
IALA	**Alasht**	**5.58**	**326**	*e*Pn	**Pn**	**09 45 48.5**	**+2.2**
IALA				*e*AMB	AMB	09 47 42.6	
	comp=Z,2μm,0.3s						
IALA	**Alasht**	**5.58**	**326**	*e*Pn	**Pn**	**09 45 48.5**	**+2.2**
IMYA	**Miami**	**5.60**	**30**	*e*Pn	**Pn**	**09 45 48.3**	**+1.8**
IMYA				*e*AMB	AMB	09 46 15.2	
	comp=Z,926nm,0.2s						
IMYA	**Miami**	**5.60**	**30**	*e*Pn	**Pn**	**09 45 48.3**	**+1.8**
ISFR	**Sfrayin**	**5.64**	**11**	*e*Pn	**Pn**	**09 45 48.9**	**+1.8**
ISFR				*e*AMB	AMB	09 45 49.9	
	comp=Z,4μm,0.2s						
ISFR	**Sfrayin**	**5.64**	**11**	*e*Pn	**Pn**	**09 45 48.9**	**+1.8**
IPRN	**Peran**	**5.94**	**324**	*e*Pn	**Pn**	**09 45 53.3**	**+2.3**
IPRN				*e*AMB	AMB	09 47 45.0	
	comp=Z,2μm,0.3s						
IAFJ	**Afjeh**	**5.99**	**318**	*e*Pn	**Pn**	**09 45 53.9**	**+2.0**
IAFJ				*e*AMB	AMB	09 45 55.6	
	comp=Z,2μm,0.1s						
IAFJ	**Afjeh**	**5.99**	**318**	*e*Pn	**Pn**	**09 45 53.9**	**+2.0**
ASAO	**Ashtian**	**6.35**	**300**	*e*Pn	**Pn**	**09 45 59.1**	**+2.3**
ASAO	**Ashtian**	**6.35**	**300**	*e*Pn	**Pn**	**09 45 59.1**	**+2.3**
GEYT	**Alibeck**	**6.52**	**10**	Pn	**Pn**	**09 46 01.0**	**+2.1**
	comp=Z,7.9nm,0.3s,baz=192,slow=14,SNR=45						
GEYT				Sn	**Sn**	**09 47 14.8**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=262,slow=40,SNR=2.1						
GEYT				Lg	Lg	09 47 57.8	
	baz=206,slow=23,SNR=3.7						
UOSS	**Minazif**	**6.55**	**184**	*e*Pn	**Pn**	**09 45 58.5**	**-0.9**
UOSS	**Minazif**	**6.55**	**184**	*e*Pn	**Pn**	**09 45 58.5**	**-0.9**
NAZ	**Nazwa, Dubai**	**6.55**	**188**	P	**Pn**	**09 46 00.4**	**+1.0**
HATD	**Hatta, Dubai**	**6.67**	**184**	P	**Pn**	**09 46 01.6**	**+0.5**
FAQ	**Al Faqa, Dubai**	**6.80**	**188**	P	**Pn**	**09 46 04.2**	**+1.4**
ASHO	**Ashiyiah**	**6.82**	**185**	P	**Pn**	**09 46 03.8**	**+0.7**
ASHO				S	**Sn**	**09 47 23.7**	**+2.9**
IRAZ	**Razeghan**	**6.84**	**306**	*e*AMB	AMB	09 46 40.6	
	comp=Z,466nm,0.2s						
IRAZ				*e*Pn	**Pn**	**09 46 05.1**	**+1.6**
WSAR	**Wadi Sarin**	**8.42**	**168**	Pn	**Pn**	**09 46 24.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=347,slow=7.8,SNR=6.6						
RAYN	**Ar Rayn**	**12.70**	**234**	*e*Pn	**Pn**	**09 47 24.2**	**+0.5**
RAYN	**Ar Rayn**	**12.70**	**234**	*e*Pn	**Pn**	**09 47 24.2**	**+0.5**
RAYN				*e*Sn	**Sn**	**09 49 36.5**	**-8.7**
GNI	**Garni**	**12.95**	**315**	Pn	**Pn**	**09 47 29.7**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=148,slow=19,SNR=2.1						
GNI				LR	LR	09 52 29.7	
	comp=Z,59nm,21.3s,baz=72,slow=37						
ASF	**Jabal al Asfar**	**16.82**	**277**	Pn	**P**	**09 48 19.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=68,slow=5.4,SNR=2.3						
AAK	**Ala-Archa**	**18.01**	**47**	P	**P**	**09 48 35.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=2.9						
MMAI	**Mount Meron Ar**	**18.05**	**280**	LR	LR	09 57 12.5	
	comp=Z,35nm,19.0s,baz=25,slow=42						
EIL	**Elat**	**18.79**	**270**	P	**P**	**09 48 41.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=11,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**18.94**	**3**	P	**P**	**09 48 45.9**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=13,SNR=4.9						
BR101	**Keskin Array S**	**20.40**	**300**	*e*P	Pn	09 49 00.7	-1.5
BR101	**Keskin Array S**	**20.40**	**300**	*e*P	Pn	09 49 00.7	-1.5
BRTR	**Keskin Array B**	**20.40**	**300**	P	Pn	09 49 00.7	-1.5
	comp=Z,2.3nm,0.8s,baz=122,slow=14,SNR=12						
BR231	**Keskin MP Arra**	**21.07**	**300**	*e*P	**P**	**09 49 02.1**	**-5.2**
BVAR	**Borovoye Array**	**23.70**	**21**	P	**P**	**09 49 36.4**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=207,slow=6.1,SNR=2.8						
MK32	**Makanchi Array**	**24.91**	**45**	*e*P	**P**	**09 49 46.7**	**+0.7**
MK32	**Makanchi Array**	**24.91**	**45**	*e*P	**P**	**09 49 46.7**	**+0.7**
MKAR	**Makanchi Array**	**24.91**	**45**	P	**P**	**09 49 46.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=233,slow=12,SNR=4.9						
KURBB	**Kurchatov Arra**	**25.06**	**34**	P	**P**	**09 49 47.6**	**+0.2**
	comp=Z,0.4nm,0.2s,baz=232,slow=9.4,SNR=5.9						
KURK	**Kurchatov**	**25.17**	**34**	*e*P	**P**	**09 49 47.5**	**-0.7**
KURK	**Kurchatov**	**25.17**	**34**	*e*P	**P**	**09 49 47.5**	**-0.7**
IDI	**Anoyia**	**26.74**	**287**	P	**P**	**09 50 03.1**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=247,slow=12,SNR=2.1						
IDI	**Anoyia**	**26.74**	**287**	*e*P	**P**	**09 50 02.1**	**-0.6**
	comp=Z,17nm,1.1s						
IDI	**Anoyia**	**26.74**	**287**	*e*P	**P**	**09 50 02.1**	**-0.6**
	comp=Z,17nm,1.1s						
ZALV	**Zalesovo Beam**	**30.16**	**34**	P	**P**	**09 50 33.4**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=232,slow=8.1,SNR=2.8						
ZAA1	**Zalesovo Array**	**30.16**	**34**	*e*P	**P**	**09 50 33.4**	**+0.5**
ZAA1	**Zalesovo Array**	**30.16**	**34**	*e*P	**P**	**09 50 33.4**	**+0.5**
TOA1	**Torodi Ar. Sit**	**53.48**	**263**	*e*P	**P**	**09 53 44.6**	**+0.9**
TOA1	**Torodi Ar. Sit**	**53.48**	**263**	*e*P	**P**	**09 53 44.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**53.48**	**263**	P	**P**	**09 53 44.6**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=46,slow=8.4,SNR=3.4						

*CSEM **04** 09:47:01.2, 38°.91N×29°.13W, h5km, ML1.7*

PDA 04 09:47:01.2±1.2, 38°.91N×29°.13W, h5km, MD3.5, ML1.7, Error ellipse: s-maj=17.2km s-min=9.3km az=68.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.44**	**130**	*e*P	Pg	09 47 08.3	-1.4
PCED				*e*S	Sg	09 47 14.8	-0.6
PCED				A	A	09 47 18.2	
	48nm,0.3s						
PCED	**Cedros**	**0.44**	**130**	*e*P	Pg	09 47 08.3	-1.4
PCED				*e*S	Sg	09 47 14.8	-0.6
CALA	**Caldeira**	**0.47**	**134**	*e*S	Sg	09 47 15.4	-1.0
CALA	**Caldeira**	**0.47**	**134**	*e*S	Sg	09 47 15.4	-1.0
PICO	**Pico**	**0.69**	**126**	*e*P	Pg	09 47 13.2	-1.2
PICO				*e*S	Sg	09 47 21.9	-1.5
PICO				A	A	09 47 22.9	
	45nm,0.2s						
PICO	**Pico**	**0.69**	**126**	*e*P	Pg	09 47 13.2	-1.2
PICO				*e*S	Sg	09 47 21.9	-1.5
ROSA	**Rosais**	**0.72**	**105**	*e*P	Pg	09 47 13.1	-2.0
ROSA				*e*S	Sg	09 47 21.8	-2.7
ROSA				A	A	09 47 23.3	
	14nm,0.2s						
ROSA	**Rosais**	**0.72**	**105**	*e*P	Pg	09 47 13.1	-2.0
ROSA				*e*S	Sg	09 47 21.8	-2.7

NNC 04 10:12:30.0±3.0, 36°.73N×70°.04E, h0km, mb3.7, mpv3.3, 4C-1D, Error ellipse: s-maj=23.4km s-min=15.2km az=13.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.28**	**335**	⇑Pn	Pn	10 13 08.6	-0.5
	8.6nm,0.4s						
DZET				⇑Sn	Sn	10 13 39.3	+1.3
	23nm,0.4s						
MNAS	**Manas**	**6.05**	**18**	⇑Pn	Pn	10 14 01.6	+0.7
	2.7nm,0.9s						
MNAS				⇓Sn	Sn	10 15 12.3	+1.3
	5.1nm,0.5s						
KK31	**Karatay Array**	**6.38**	**3**	Pn	Pn	10 14 05.4	+0.2
	1.1nm,0.4s,baz=201,slow=16,SNR=22						
KK31				⇑Sn	Sn	10 15 18.3	-0.4
	1.8nm,0.4s,baz=191,slow=22,SNR=7.5						
AAK	**Ala-Archa**	**6.82**	**29**	Pn	Pn	10 14 12.4	+0.8
	1.3nm,0.5s						
AAK				Sn	Sn	10 15 31.1	+1.1
	2.3nm,0.5s						

*NIED **04** 10:19:00, 34°.00N×134°.10E, h47km, Mw4.5 Best double couple: M0=5.87000×10^15 NP1:φ0=30.00

comp=Z,53nm,12.0s
KLR Kul'dur 15.27 354 P **Pn 10 23 05.0 +2.0**
comp=Z,0.0nm,0.3s,baz=169,slow=12,SNR=18
KLR LR LR 10 28 35.6
comp=Z,14nm,21.4s,baz=157,slow=36
KLR Kul'dur 15.27 354 ⇓*i*P **Pn 10 23 04.1 +1.2**
GUMO Guam 22.60 152 LR LR 10 31 37.2
comp=Z,46nm,20.7s,baz=344,slow=32
ULN Ulaanbaatar 24.48 312 *i*P **P 10 24 46.5 +0.9**
ULN pmax pmax
comp=Z,12nm,2.5s
SONA1 Songino Array 24.87 312 *e*P **P 10 24 49.0 -0.1**
SONA0 Songino Array 24.87 312 *e*P **P 10 24 49.9 +0.7**
comp=Z,3.3nm,0.9s
SONM Songino Array 24.87 312 P **P 10 24 49.9 +0.7**
comp=Z,2.6nm,0.7s,baz=121,slow=10,SNR=12
PETK Petropavlovsk- 25.42 34 P **P 10 24 54.7 +0.8**
comp=Z,9.3nm,0.9s,baz=236,slow=4.8,SNR=6.4
PETK LR LR 10 34 45.1
comp=Z,93nm,20.4s,baz=227,slow=36
PETK Petropavlovsk- 25.42 34 *e*P **P 10 24 54.8 +1.0**
PEA1 Petropavlovsk- 25.42 34 *e*P **P 10 24 54.7 +0.8**
MA2 Magadan 27.82 18 P **P 10 25 15.4 0.0**
comp=Z,2.2nm,0.4s,baz=200,slow=6.8,SNR=5.2
MA2 LR LR 10 35 51.6
comp=Z,38nm,20.9s,baz=218,slow=35
MA2 Magadan 27.82 18 *i*P **P 10 25 14.9 -0.5**
YAK Yakutsk 28.15 356 LR LR 10 36 11.9
comp=Z,148nm,20.9s,baz=88,slow=36
SEY Seymchan 31.12 16 P **P 10 25 45.0 +0.5**
comp=Z,2.0nm,0.8s,baz=197,slow=19,SNR=4.8
SEY Seymchan 31.12 16 *e*P **P 10 25 43.8 -0.7**
CMAR Chiang Mai Arr 34.91 253 P **P 10 26 19.6 +1.5**
comp=Z,0.8nm,0.3s,baz=44,slow=9.2,SNR=8.5
CMAR LR LR 10 41 58.5
comp=Z,65nm,18.8s,baz=215,slow=39
FAKI Fak Fak 36.80 183 *e*P **P 10 26 34.5 +0.2**
comp=Z,18nm,0.8s
BILL Bilibino 38.69 19⇑*i*P **P 10 26 50.9 +1.2**
BILL *SP **pP 10 27 02.0 +0.7**
BILL SS SS 10 35 30.0 -4.2
BILL pmax pmax
comp=Z,16nm,1.0s
ZALV Zalesovo Beam 39.66 315 PcP **PcP 10 29 04.0 -0.1**
comp=Z,1.3nm,0.5s,baz=90,slow=4.4,SNR=5.7
MK32 Makanchi Array 40.72 304 *e*P **P 10 27 07.6 +0.6**
MK32 *e*PcP **PcP 10 29 07.3 -0.5**
MKAR Makanchi Array 40.72 304 P **P 10 27 07.6 +0.6**
comp=Z,0.5nm,0.5s,baz=95,slow=10,SNR=4.9
MKAR PcP **PcP 10 29 07.3 -0.5**
comp=Z,0.3nm,0.4s,baz=111,slow=2.7,SNR=3.5
NRIK Noril'sk 43.63 338 LR LR 10 45 36.4
comp=Z,115nm,19.7s,baz=294,slow=36
MTN Manton Dam 46.71 184 *e*P **P 10 27 53.1 -2.1**
comp=Z,20nm,0.3s
BVAR Borovoye Array 48.20 313 P **P 10 28 06.7 +0.2**
comp=Z,4.9nm,0.8s,baz=90,slow=13,SNR=4.6
BVAR PcP **PcP 10 29 32.1 -1.1**
comp=Z,2.5nm,0.7s,baz=120,slow=2.1,SNR=4.4
HNR Honiara 49.73 146 LR LR 10 47 37.4
comp=Z,30nm,19.3s,baz=356,slow=34
IMAR Indian Mountai 52.24 30 *e*P **P 10 28 38.1 +1.2**
KDAK Kodiak Island 53.28 40 *i*P **P 10 28 45.1 +0.5**
KTH Kantishna Hill 53.53 33 *e*P **P 10 28 47.7 +1.2**
comp=Z,9.4nm,1.0s
WR1 Warramunga Arr 53.68 180 *e*P **P 10 28 47.5 -0.5**
comp=Z,18nm,1.6s
WR1 *e*pP **pP 10 28 58.8 -1.2**
WRA Warramunga Arr 53.68 180 P **P 10 28 47.5 -0.5**
comp=Z,2.3nm,0.6s,baz=357,slow=8.1,SNR=32
WRA pP **pP 10 28 58.8 -1.2**
comp=Z,4.5nm,0.9s,baz=355,slow=7.7,SNR=14
SUA Susitna One 53.80 35 *e*P **P 10 28 50.2 +1.7**
comp=Z,9.8nm,0.9s
RND Reindeer 54.47 33 *e*P **P 10 28 54.2 +0.8**
RND pmax pmax
comp=Z,14nm,1.1s
RND Reindeer 54.47 33 *e*P **P 10 28 54.2 +0.8**
comp=Z,14nm,1.1s
MDM Murphy Dome 54.59 31 *e*P **P 10 28 55.6 +1.5**
comp=Z,24nm,1.0s
ARU Arti 54.63 319*c i*P **P 10 28 53.4 -1.2**
ARU 10 29 53.6
ARU 10 30 56.2
ARU S **S 10 36 29.2 -2.0**
ARU SS **SS 10 40 11.4 -2.5**
ARU pmax pmax
comp=Z,7.0nm,1.0s
WRH Wood River Hil 54.69 31 *e*P **P 10 28 55.8 +0.9**
comp=Z,8.2nm,0.9s
COLA College 54.75 31 *e*P **P 10 28 57.6 +2.3**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 54.75 31 *e*P **P 10 28 57.6 +2.3**
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 54.80 31 *e*P **P 10 28 57.2 +1.6**
comp=Z,7.6nm,1.1s
DHY Denali Highway 55.17 33 *e*P **P 10 28 59.4 +0.9**
comp=Z,6.0nm,1.0s
IL1 Eielson Array 55.18 31 *e*P **P 10 28 58.3 -0.1**
ILAR Eielson Array 55.18 31 P **P 10 28 58.4 0.0**
comp=Z,3.3nm,0.8s,baz=284,slow=6.9,SNR=33
ILAR pP **pP 10 29 10.8 +0.4**
comp=Z,1.1nm,0.8s,baz=276,slow=6.5,SNR=3.8
ILB Eielson Array 55.18 31 *e*P **P 10 28 58.6 +0.3**
HDA Harding Lake 55.19 31 *e*P **P 10 28 59.0 +0.5**
comp=Z,12nm,0.9s
ABKAR Akbulak array 55.26 310 *e*P **P 10 28 59.2 0.0**
comp=Z,431nm,0.6s
AKTO Aktyubinsk 56.19 312 P **P 10 29 06.0 +0.1**
comp=Z,1.7nm,0.7s,baz=76,slow=16,SNR=8.4
AKTO Aktyubinsk 56.19 312 P **P 10 29 06.0 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
DOT Dot Lake 56.56 32 *e*P **P 10 29 08.8 +0.4**
comp=Z,13nm,0.9s
BMRM Bremner River 56.81 35 *e*P **P 10 29 11.2 +1.0**
comp=Z,16nm,1.1s
AS01 Alice Springs 57.39 180 *e*P **P 10 29 15.0 +0.4**
AS31 Alice Springs 57.39 180 *e*P **P 10 29 13.1 -1.5**
comp=Z,6.5nm,0.1s
ASAR Alice Springs 57.39 180 P **P 10 29 14.0 -0.6**
comp=Z,0.7nm,0.6s,baz=10,slow=13,SNR=11
ASAR pP **pP 10 29 26.5 -0.2**
comp=Z,1.2nm,0.8s,baz=355,slow=7.6,SNR=7.4
INK Inuvik 59.72 25 P **P 10 29 30.9 +0.7**
comp=Z,5.2nm,0.8s,baz=299,slow=5.9,SNR=11
INK Inuvik 59.72 25 *e*P **P 10 29 30.5 +0.2**
comp=Z,4.9nm,0.7s
GEYT Alibeck 59.97 298 P **P 10 29 33.4 +0.9**
comp=Z,9.3nm,0.7s,baz=67,slow=11,SNR=3.6
KLMR Klimovskoe 63.02 327 *e*P **P 10 29 49.8 -2.9**
KLMR pmax pmax
comp=Z,14nm,1.1s
ARA0 ARCESS Array S 64.62 338 *e*P **P 10 30 02.5 -0.5**
ARCES ARCESS Array B 64.62 338 P **P 10 30 02.5 -0.5**
comp=Z,4.0nm,0.9s,baz=52,slow=9.9,SNR=6.4
KBZ Khabaz 68.19 309 P **P 10 30 26.5 +0.2**
comp=Z,3.8nm,0.8s,baz=142,slow=3.2,SNR=7.0
KIV Kislovodsk 68.22 309 *e*P **P 10 30 27.6 +0.9**
KIV pmax pmax
comp=Z,8.0nm,0.9s
FIA0 FINESS Array S 68.56 331 *e*P **P 10 30 27.4 -1.0**
FIA0 *e**PP **pP 10 30 40.5 -0.2**
FIA0 FINESS Array S 68.56 331 *e*P **P 10 30 27.4 -1.0**
FIA0 *e*pP **pP 10 30 40.5 -0.2**
FINES FINESS Array B 68.56 331 P **P 10 30 27.4 -1.0**
comp=Z,3.6nm,0.7s,baz=67,slow=4.5,SNR=12
FINES pP **pP 10 30 40.5 -0.2**
comp=Z,3.0nm,0.9s,baz=70,slow=6.3,SNR=1.9
AKASG Malin Array Be 72.85 320 P **P 10 30 54.0 -0.6**
comp=Z,2.3nm,0.6s,baz=53,slow=6.3,SNR=8.0
AKBB Malin Array Si 72.85 320 *e*P **P 10 30 54.3 -0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 72.85 320 *e*P **P 10 30 54.3 -0.4**
comp=Z,5.8nm,0.9s
KIEV Kiev 72.87 320 *e*P **P 10 30 53.7 -1.0**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 74.48 335 P **P 10 31 03.5 -0.6**
comp=Z,2.6nm,0.8s,baz=46,slow=5.6
NB200 NORSAR Array S 74.48 335 *e*P **P 10 31 03.5 -0.6**
NOA NORSAR Array B 74.48 335 P **P 10 31 03.5 -0.6**
comp=Z,2.9nm,0.8s,baz=47,slow=5.5,SNR=4.1
BR101 Keskin Array S 76.18 309 *e*P **P 10 31 14.8 +0.4**
BRTR Keskin Array B 76.18 309 P **P 10 31 14.8 +0.4**
comp=Z,1.1nm,0.6s,baz=98,slow=4.4,SNR=6.5
BRTR LR LR 11 06 48.7
comp=Z,43nm,18.7s,baz=72,slow=37
GERES GERESS Array B 81.89 325 LR LR 11 09 58.7
comp=Z,120nm,18.3s,baz=42,slow=37
PD31 Pinedale Array 83.95 42 *e*P **P 10 31 56.8 +0.4**
PDAR Pinedale Array 83.95 42 P **P 10 31 56.8 +0.4**
comp=Z,0.9nm,0.8s,baz=338,slow=1.6,SNR=7.2
LTX Lajitas 96.63 48 *e*P **P 10 32 56.4 0.0**
LTX Lajitas 96.63 48 *e*P **P 10 32 56.4 0.0**
TXAR Lajitas Array 96.63 48 P **P 10 32 56.4 0.0**
comp=Z,0.2nm,0.6s,baz=309,slow=2.8,SNR=3.9

NIED ***04*** *10:25:00,37.°10N×140.°80E,h5km,Mw3.9 Best double couple: M0 7.80000×10^14 NP1:*ϕ_s*38.00000°,*δ*31.00000°,*λ*-103.00000°. NP2:*ϕ_s*233.00000°,*δ*60.00000°,*λ*-83.00000°*
ISCJB ***04*** *10:25:10.9±0.9,37.°08N±0.°03×140.°96E±0.°05,h1km±4km, mb3.9/10, Error ellipse: s-maj=7.1km s-min=4.0km az=32.1*
IDC ***04*** *10:25:11.7±0.8,36.°97N×140.°98E,h0km,mb3.8/7, mb1 4.0/11,mb1mx3.8/66,mbtmp3.8/11,ML3.4/3,Error ellipse: s-maj=21.2km s-min=18.1km az=135.0*
JMA ***04*** *10:25:12.8,37.°12N×140.°80E,h4km±1km,M3.9 Broadband fault plane solution: P waves. NP1:*ϕ_s*213.00000°,*δ*70.00000°,*λ*-105.00000°. NP2:*ϕ_s*72.00000°,*δ*25.00000°,*λ*-54.00000°. Principal axes: T Plg23.0000°, Azm315.0000°; N Plg14.0000°, Azm219.0000°; P Plg62.0000°, Azm100.0000°;*
JMA Felt III J1.
NEIC ***04*** *10:25:17.3±1.4,37.°06N×140.°82E,h40km±12km,mb4.4/4 Error ellipse: s-maj=18.0km s-min=9.7km az=132.0*
NEIC Recorded [3 JMA] in Fukushima.

ISC 04 10:25:12.5±1.2,37.°09N±0.°04×140.°86E±0.°05,h4km±7km, n34,σ1^{2}42/41,mb3.8/10,4C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.05**	**283**	⇓P	**Pg**	**10 25 13.5**	**-0.3**
ONAJ				S	**Sg**	**10 25 14.2**	**-0.5**
JFK	**Kawauchi**	**0.28**	**2**	⇑P	**Pg**	**10 25 17.9**	**0.0**
JFK				S	**Sg**	**10 25 21.8**	**+0.3**
JHO	**Hitachi**	**0.53**	**206**	P	**Pg**	**10 25 23.0**	**+0.3**
JHO				S	**Sg**	**10 25 30.6**	**+1.0**
JFT	**Otama**	**0.60**	**316**	⇑P	**Pg**	**10 25 23.6**	**-0.4**
JFT				S	**Sg**	**10 25 31.3**	**-0.5**
JSB	**Shiboa**	**0.76**	**261**	⇑P	**Pg**	**10 25 27.4**	**+0.2**
JSB				S	**Sg**	**10 25 37.6**	**+0.5**
JMM	**Marumori**	**0.78**	**356**	⇑P	**Pg**	**10 25 26.8**	**-0.6**
JMM				S	**Sg**	**10 25 37.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.20**	**256**	Pn	**Pn**	**10 25 50.8**	**+0.9**
	15nm,0.3s,baz=68,slow=15,SNR=60						
MJAR				Sn	**Sb**	**10 26 19.3**	**-1.1**
	37nm,0.3s,baz=198,slow=28,SNR=17						
MAJO	**Matsushiro**	**2.20**	**256**	*e*Pn	**Pn**	**10 25 50.7**	**+0.9**
MAJO				*e*Sn	**Sb**	**10 26 20.1**	**-0.3**
MAT	**Matsushiro**	**2.20**	**256**	P	**Pn**	**10 25 50.4**	**+0.6**
MAT				S	**Sb**	**10 26 20.6**	**+0.2**
ERM	**Erimo**	**5.23**	**19**	*e*Pn	**Pn**	**10 26 34.3**	**+2.9**
ERM				*e*Sn	**Sn**	**10 27 34.7**	**+2.6**
ASAJ	**Asahikawa**	**7.14**	**10**	Pn	**Pn**	**10 26 57.1**	**-0.5**
	0.6nm,0.3s,baz=211,slow=12,SNR=4.3						
ASAJ	**Asahikawa**	**7.14**	**10**	*e*Pn	**Pn**	**10 26 57.3**	**-0.4**
ASAJ				*e*Sn	**Sn**	**10 28 21.6**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.79**	**319**	Pn	**Pn**	**10 27 37.1**	**+3.1**
	0.1nm,0.3s,baz=113,slow=14,SNR=4.2						
KSRS	**Korea Array**	**10.32**	**276**	Pn	**Pn**	**10 27 44.7**	**+3.4**
	0.2nm,0.3s,baz=89,slow=13,SNR=5.8						
KSAR	**Wonju Array Be**	**10.35**	**276**	Pn	**Pn**	**10 27 44.7**	**+3.0**
SONM	**Songino Array**	**27.39**	**304**	P	**P**	**10 30 59.2**	**+0.2**
	0.9nm,0.7s,baz=119,slow=8.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	11 00 54.3	
	baz=313,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	11 00 54.9	
	baz=313,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	11 00 56.9	
	baz=313,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	11 01 48.9	
	baz=314,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	11 01 46.8	
	baz=314,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.28**	**122**	T	T	11 01 50.7	
	baz=314,slow=75,SNR=22						
KURK	**Kurchatov**	**45.55**	**308**	*e*P	**P**	**10 33 31.8**	**-1.4**
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**10 34 05.2**	**0.0**
	0.7nm,0.7s,baz=267,slow=6.3,SNR=8.9						
WRAB	**Tennant Creek**	**57.05**	**187**	*e*P	**P**	**10 34 58.3**	**-1.3**
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**57.06**	**187**	P	**P**	**10 34 58.5**	**-1.3**
	1.9nm,0.7s,baz=4.5,slow=7.3,SNR=37						
ABKAR	**Akbulak array**	**57.57**	**310**	*e*P	**P**	**10 35 00.6**	**-2.5**
	4.1nm,0.7s						
ASAR	**Alice Springs**	**60.78**	**187**	P	**P**	**10 35 24.3**	**-1.3**
	0.5nm,0.7s,baz=8.1,slow=6.7,SNR=5.9						
NOA	**NORSAR Array B**	**73.96**	**337**	P	**P**	**10 36 49.0**	**+0.3**
	1.7nm,0.8s,baz=49,slow=10.0,SNR=3.3						
HLID	**Hailey**	**74.66**	**47**	*e*P	**P**	**10 36 53.6**	**+0.4**
	1.4nm,1.1s						
PDAR	**Pinedale Array**	**77.94**	**45**	P	**P**	**10 37 12.2**	**+0.2**
	0.3nm,0.6s,baz=273,slow=2.7,SNR=4.2						
TXAR	**Lajitas Array**	**90.44**	**52**	P	**P**	**10 38 16.0**	**+0.4**
	0.3nm,0.6s,baz=290,slow=1.8,SNR=7.4						
LPAZ	**La Paz**	**147.04**	**59**	PKPbc	**PKPbc**	**10 44 57.9**	**+0.1**
	1.0nm,0.6s,baz=351,slow=4.5,SNR=6.3						
LVC	**Limon Verde**	**150.57**	**69**	*e*PKPdf	**PKPdf**	**10 45 00.6**	**-0.4**
LVC				*e*PKPbc	**PKPbc**	**10 45 04.6**	**-1.7**
LVC				*e*PKPab	**PKPab**	**10 45 12.6**	**-0.5**

IDC 04 10:25:55.4±1.1,51.°66N×75.°44E,h0km,mb1 2.9/4, mb1mx2.8/61,mbtmp2.9/4,ML2.5/4,Error ellipse: s-maj=38.2km s-min=9.6km az=28.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**117**	Pn	Pn	10 26 33.8	+0.6
	1.0nm,0.3s,baz=304,slow=18,SNR=23						
KURBB				Lg	Lg	10 27 03.3	
	1.2nm,0.3s,baz=307,slow=30,SNR=16						
BVAR	**Borovoye Array**	**3.38**	**296**	Pn	Pn	10 26 49.5	0.0
	0.5nm,0.3s,baz=114,slow=13,SNR=5.0						
BVAR				Lg	Lg	10 27 40.2	
	1.3nm,0.3s,baz=109,slow=25,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**6.13**	**64**	*i*		11 03 00.0	
	baz=251,slow=318,SNR=2.1						
ZALV	**Zalesovo Beam**	**6.13**	**64**	Pn	Pn	10 27 26.9	-0.3
	0.4nm,0.3s,baz=246,slow=17,SNR=3.7						
MKAR	**Makanchi Array**	**6.62**	**135**	Pn	Pn	10 27 32.6	-1.3
	0.1nm,0.3s,baz=325,slow=11,SNR=4.4						

NNC ***04*** *10:26:15.6±3.0,37.°32N×70.°18E,h122km±33km,mb4.3, mpv5.0, Error ellipse: s-maj=29.2km s-min=17.3km az=160.0*
IDC ***04*** *10:26:21.9±0.7,38.°42N×70.°54E,h0km,mb4.2/21, mb1 4.4/29,mb1mx4.2/65,mbtmp4.3/29,ML3.8/8,MS3.5/22, Ms1 3.5/22,ms1mx3.4/52,Error ellipse: s-maj=15.5km s-min=10.1km az=166.0*
BJI ***04*** *10:26:23.0,38.°84N×70.°39E,h8km,mb4.6/24,mB4.8/18, ML4.6/3,Ms4.1/11,Ms7 3.9/11*
ISCJB ***04*** *10:26:24.6±0.2,38.°57N±0.°03×70.°49E±0.°03,h23km, mb4.3/49,MS3.5/17,Error ellipse: s-maj=4.0km s-min=3.3km az=36.6*
MOS ***04*** *10:26:26.1±1.3,38.°73N×70.°39E,h27km,mb4.5/25,Error ellipse: s-maj=8.1km s-min=5.1km az=88.5*
NEIC ***04*** *10:26:27.5±2.4,38.°71N×70.°42E,h24km±17km,mb4.7/14, Error ellipse: s-maj=11.6km s-min=8.1km az=152.0*

ISC 04 10:26:26.8±0.3,38.°64N±0.°03×70.°52E±0.°03,h23km,n168, σ2^{2}82/185,mb4.4/51,MS3.4/17,15C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.33**	**278**	⇓P	**Pn**	**10 26 48.9**	**-1.2**
	1μm,0.4s						
DZET				⇑S	**Sb**	**10 27 11.0**	**+3.2**
	6μm,0.7s						
MNAS	**Manas**	**4.13**	**21**	⇓Pn	**Pn**	**10 27 31.8**	**+3.2**
	74nm,0.5s						
MNAS				⇑Sn	Sb	10 28 37.2	+8.9
	546nm,1.0s						
KBL	**Kabul**	**4.26**	**197**	*e*PN	**Pn**	**10 27 33.7**	**+3.2**
KBL	**Kabul**	**4.26**	**197**	*e*Pn	**Pn**	**10 27 33.7**	**+3.2**
KSH	**Kashi**	**4.34**	**77**	Pn	**Pn**	**10 27 28.3**	**-3.1**
KSH				Sn	**Sn**	**10 28 13.9**	**-7.4**
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,1μm,1.2s						
KSH				LR	LR		
	comp=Z,160nm,8.3s						
KK31	**Karatay Array**	**4.46**	**360**	⇑Pn	**Pn**	**10 27 34.8**	**+1.8**
	41nm,0.3s,baz=181,slow=12,SNR=856						
KK31				⇑Sn	**Sb**	**10 28 45.4**	**+7.8**
	245nm,0.7s,baz=183,slow=30,SNR=5.6						
KK31	**Karatay Array**	**4.46**	**360**	*e*PN	**Pn**	**10 27 34.7**	**+1.8**
KK31						10 28 44.0	
KK31				pmax	pmax		
	comp=Z,41nm,0.4s						
KK31				pmax	pmax		
	comp=N,245nm,0.7s						
KKAR	**Karatay Array**	**4.46**	**360**	*e*PN	**Pn**	**10 27 35.0**	**+2.0**
KKAR	**Karatay Array**	**4.46**	**360**	*e*Pn	**Pn**	**10 27 35.0**	**+2.0**
KKAR				*e*Sn	**Sn**	**10 28 21.2**	**-2.9**
CEP	**Cherat**	**4.94**	**166**	P	**Pn**	**10 27 42.2**	**+2.5**
CEP				S	**Sn**	**10 28 43.0**	**+6.8**
AAK	**Ala-Archa**	**5.01**	**36**	Pn	**Pn**	**10 27 43.1**	**+2.4**
	comp=N,15nm,0.3s,baz=182,slow=5.9,SNR=93						
AAK				LR	LR	10 29 55.0	
	comp=N,356nm,21.1s,baz=212,slow=41						
AAK	**Ala-Archa**	**5.01**	**36**	⇓Pn	**Pn**	**10 27 43.5**	**+2.8**
	comp=N,72nm,0.6s						
AAK				⇑Sn	**Sb**	**10 28 58.9**	**+5.3**
	comp=N,620nm,1.2s						
AAK	**Ala-Archa**	**5.01**	**36**	PN	**Pn**	**10 27 43.4**	**+2.8**
AAK						10 28 57.5	
AAK				pmax	pmax		
	comp=Z,72nm,0.6s						
AAK				pmax	pmax		
	comp=N,620nm,1.3s						
AAK	**Ala-Archa**	**5.01**	**36**	*e*Pn	**Pn**	**10 27 43.1**	**+2.4**
AAK				*e*Sn	**Sn**	**10 28 38.1**	**+0.2**
FRU	**Bishkek**	**5.22**	**35**	*e*PN	**Pn**	**10 27 47.0**	**+3.6**
FRU				*i*		10 28 02.0	
FRU				*e*S	**Sb**	**10 28 51.0**	**-8.5**
FRU				pmax	pmax		
	comp=Z,315nm,1.2s						
FRU				pmax	pmax		
	comp=N,4μm,1.6s						
FRU				MLR	MLR		
	comp=E,2μm,7.0s						
CHCP	**Chirah Chowk**	**5.45**	**155**	P	**Pn**	**10 27 50.0**	**+3.4**
TKM2	**Tokmak 2**	**5.76**	**40**	⇑Pn	**Pn**	**10 27 55.1**	**+4.1**
	comp=E,106nm,0.7s						
TKM2				⇓Sn	**Sb**	**10 29 14.2**	**-1.0**
	comp=E,137nm,0.8s						
AAA	**Alma-Ata**	**6.65**	**45**	*e*PN	Pn	10 28 10.4	+7.2
AAA				*e*S	**Sn**	**10 29 26.8**	**+8.5**
AAA				pmax	pmax		
	comp=Z,100nm,0.4s						
AAA				smax	smax		
	comp=E,400nm,0.7s						
AAA				MLR	MLR		
	comp=Z,1μm,8.0s						
KNDC	**Almaty**	**6.69**	**45**	⇑Pn	**Pn**	**10 28 04.2**	**+0.5**
	comp=Z,70nm,0.7s						
KNDC				⇓Sn	**Sb**	**10 29 35.6**	**-6.2**
	comp=Z,551nm,1.4s						
MDOK	**Medeo**	**6.70**	**46**	⇓Pn	**Pn**	**10 28 06.5**	**+2.7**
MDOK				⇑Sn	**Sb**	**10 29 36.6**	**-5.6**
THN	**Thein Dam**	**7.50**	**144**	*e*P	**Pn**	**10 28 15.0**	**+0.2**
THN				*e*S	**Sn**	**10 29 37.0**	**-2.2**
DHRM	**DHARAMSHALA**	**7.93**	**142**	*e*P	**Pn**	**10 28 22.1**	**+1.3**
DHRM				*e*S	**Sn**	**10 29 45.6**	**-4.5**
PDGK	**Podgornoye**	**8.24**	**53**	⇑Pn	**Pn**	**10 28 25.8**	**+0.8**
	comp=Z,8.9nm,0.6s						
PDGK				⇑Sn	Sn	10 30 11.3	+14
	comp=Z,111nm,1.1s						
BHK	**Bhakra**	**8.68**	**144**	*e*S	**Sn**	**10 30 03.0**	**-5.1**
SDNR	**Sundarnagar**	**8.87**	**141**	*e*P	**Pn**	**10 28 35.0**	**+1.4**
SDNR				*e*S	**Sn**	**10 30 10.0**	**-2.9**
SMLA	**Simla**	**9.27**	**142**	*e*P	**Pn**	**10 28 39.6**	**+0.5**
SMLA				*e*S	**Sn**	**10 30 17.6**	**-5.0**
GEYT	**Alibeck**	**9.78**	**270**	Pn	**Pn**	**10 28 45.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=102,slow=13,SNR=4.7						
GEYT				Sn	**Sn**	**10 30 31.2**	**-3.8**
	comp=Z,2.3nm,0.3s,baz=72,slow=17,SNR=7.2						
GEYT				LR	LR	10 33 11.0	
	comp=Z,236nm,20.8s,baz=20,slow=42						
DDI	**Dehra Dun**	**10.37**	**141**	*e*S	**Sn**	**10 30 42.3**	**-7.3**
DDI				IAML		10 30 52.7	
	comp=E,190nm,0.2s						
DDI				IAML		10 30 52.8	
	comp=N,217nm,0.2s						
MAKZ	**Makanchi**	**11.72**	**42**	*e*P	**Pn**	**10 29 14.1**	**+1.5**
MAKZ	**Makanchi**	**11.72**	**42**	*e*Pn	**Pn**	**10 29 14.1**	**+1.5**
MK01	**Makanchi Array**	**11.87**	**43**	*e*Pn	**Pn**	**10 29 15.4**	**+0.8**
MK31	**Makanchi Array**	**11.88**	**43**	*i*P	**Pn**	**10 29 15.0**	**+0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	**Makanchi Array**	**11.88**	**43**	*e*Pn	**Pn**	**10 29 15.9**	**+1.2**
MK32	**Makanchi Array**	**11.88**	**43**	*e*Pn	**Pn**	**10 29 15.4**	**+0.7**
MKAR	**Makanchi Array**	**11.88**	**43**	Pn	**Pn**	**10 29 15.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=234,slow=14,SNR=32						
MKAR				LR	LR	10 33 20.9	
	comp=Z,111nm,18.7s,baz=232,slow=35						
MKAR	**Makanchi Array**	**11.88**	**43**	*e*P	**Pn**	**10 29 14.7**	**0.0**
MKAR	**Makanchi Array**	**11.88**	**43**	*e*Pn	**Pn**	**10 29 14.7**	**0.0**
AB31	**Akbulak array**	**13.05**	**328**	⇑Pn	**Pn**	**10 29 28.4**	**-2.3**
	comp=Z,32nm,0.6s,baz=147,slow=12,SNR=153						
AB31				⇓Sn	Sn	10 32 05.7	+11
	comp=Z,29nm,0.8s,baz=32,slow=26,SNR=4.3						
AB31	**Akbulak array**	**13.05**	**328**	*e*P	**Pn**	**10 29 28.3**	**-2.3**
AB31						10 31 49.5	
AB31				pmax	pmax		
	comp=Z,32nm,0.6s						
AB31				pmax	pmax		
	comp=N,2.0nm,0.2s						
ABKAR	**Akbulak array**	**13.05**	**328**	*e*Pn	**Pn**	**10 29 28.0**	**-2.6**
ABKAR				*e*Sn	**Sn**	**10 31 54.4**	**-0.5**
KURBB	**Kurchatov Arra**	**13.26**	**23**	Pn	**Pn**	**10 29 32.2**	**-1.3**
	comp=N,0.3nm,0.3s,baz=215,slow=12,SNR=5.7						
KURK	**Kurchatov**	**13.37**	**23**	*i*P	**Pn**	**10 29 32.4**	**-2.5**
KURK	**Kurchatov**	**13.37**	**23**	*e*Pn	**Pn**	**10 29 32.2**	**-2.7**
WMQ	**Urumqi**	**13.92**	**63**	P	**Pn**	**10 29 42.4**	**-0.2**
WMQ				pP	P	10 29 47.3	-3.3
WMQ				sP		10 29 50.9	
WMQ				PP	**PnPn**	**10 29 56.5**	**+6.1**
WMQ				S	**Sn**	**10 32 22.7**	**+6.3**
WMQ				pmax	pmax		
	comp=N,15nm,0.9s						
WMQ				pmax	pmax		
	comp=N,130nm,5.5s						
WMQ				LR	LR		
	comp=N,530nm,7.1s						
WMQ				LR	LR		
	comp=N,510nm,8.5s	

comp=Z,75nm,0.5s
DGZ Jazzator, Alta 16.37 42 *e*P **P 10 30 16.5 -1.4**
KKN Kakani 16.40 127 *e*P **Pn 10 30 10.9 -4.8**
comp=Z,27nm,0.6s
DMN Daman 16.42 128 *e*P **Pn 10 30 11.3 -4.7**
comp=Z,36nm,0.7s
BHPL Bhopal 16.45 157 *e*P **P 10 30 18.2 -0.5**
BHPL IAmb IAmb 10 30 21.6
comp=Z,12nm,0.7s
PKIN Phulchoki 16.62 127 *e*P **Pn 10 30 13.6 -5.0**
comp=Z,27nm,0.5s
GUN Gumba 16.70 125 *e*P **Pn 10 30 15.1 -4.5**
comp=Z,30nm,0.4s
JIRN Jiri 17.07 125 *e*P **Pn 10 30 19.6 -4.7**
comp=Z,98nm,0.5s
RAMN Ramite 17.82 126 *e*P **Pn 10 30 29.4 -4.2**
comp=Z,62nm,0.7s
MAK Makhachkala 17.93 291 *e*P **Pn 10 30 33.8 -0.7**
MAK *e*S **Sn 10 33 53.3 -0.4**
MAK pmax pmax
comp=Z,243nm,1.3s
MAK MLR MLR
comp=Z,429nm,11.0s
ZAA0 Zalesovo Array 18.16 28 *e*Pn **P 10 30 37.3 -0.1**
ZALV Zalesovo Beam 18.16 28 P **Pn 10 30 37.2 -0.1**
comp=Z,1.5nm,0.3s,baz=226,slow=11,SNR=19
ZALV Zalesovo Beam 18.16 28 *e*Pn **Pn 10 30 36.7 -0.6**
ZAA1 Zalesovo Array 18.17 28 *e*Pn **Pn 10 30 37.2 -0.1**
TAPN Taplejung 18.27 123 *e*P **Pn 10 30 35.4 -3.6**
comp=Z,25nm,0.5s
NVS Novosibirsk 18.35 24 *e*P **Pn 10 30 39.5 0.0**
NVS pmax pmax
comp=Z,18nm,1.4s
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
ODAN Odare 18.39 125 *e*P **P 10 30 37.3 -3.1**
comp=E,44nm,0.6s
WSAR Wadi Sarin 18.40 217 LR LR 10 39 32.8
comp=E,120nm,18.4s,baz=62,slow=43
NGP Nagpur 18.92 155 *e*P **Pn 10 30 47.3 +0.6**
NGP IAmb IAmb 10 30 54.4
comp=Z,7.6nm,0.8s
SVE Sverdlovsk 19.33 343 *e*P **P 10 30 49.9 -0.4**
SVE *e*S **Sn 10 34 22.6 -4.8**
SVE pmax pmax
comp=Z,19nm,0.8s
ARU Arti 19.49 340 P **P 10 30 50.9 -1.0**
comp=Z,0.0nm,0.3s,baz=155,slow=6.0,SNR=23
ARU LR LR 10 39 12.7
comp=Z,273nm,20.7s,baz=144,slow=39
ARU Arti 19.49 340 *c i*P **Pn 10 30 53.2 -0.1**
ARU S **Sn 10 34 33.6 +2.5**
ARU pmax pmax
comp=Z,29nm,0.8s
ARU Arti 19.49 340 *e*P **Pn 10 30 53.0 -0.3**
comp=Z,28nm,0.8s
BOK Bokaro 19.75 134 *e*P **P 10 30 54.9 -0.2**
BOK IAmb IAmb 10 30 58.7
comp=Z,17nm,0.8s
GNI Garni 19.96 282 LR LR 10 40 21.6
comp=Z,86nm,19.2s,baz=72,slow=42
GNI Garni 19.96 282 *e*P **P 10 30 57.7 +0.3**
POO Poona 20.25 171 *e*P **P 10 30 59.4 -1.2**
POO IAmb IAmb 10 31 02.4
comp=Z,10nm,0.3s
ZEI Tsey 20.56 290 *e*P Pn 10 31 07.2 +0.9
ZEI pmax pmax
comp=Z,20nm,0.6s
NCK Nalchik 20.83 292 *e*P **P 10 31 06.9 +0.2**
KBZ Khabaz 21.35 293 P **P 10 31 09.9 -2.2**
comp=Z,4.4nm,0.7s,baz=146,slow=9.2,SNR=4.2
KBZ LR LR 10 40 35.2
comp=Z,115nm,19.0s,baz=104,slow=40
KBZ Khabaz 21.35 293 P **P 10 31 10.0 -2.2**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
KBZ MLR MLR
comp=Z,115nm,19.0s
NEY Neytrino 21.45 291 *e*P **P 10 31 13.9 +0.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KVAR Kislovodsk Arr 21.51 293 P **P 10 31 12.2 -1.9**
comp=Z,7.2nm,0.4s,baz=168,slow=20,SNR=2.8
KVAR LR LR 10 41 54.5
comp=Z,94nm,18.8s,baz=90,slow=43
KIV Kislovodsk 21.52 293 *e*P **P 10 31 11.7 -2.5**
KIV *e*S **S 10 35 07.7 -4.0**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,75nm,14.0s
KIV Kislovodsk 21.52 293 *e*P **P 10 31 12.5 -1.6**
comp=Z,16nm,0.9s
SHL Shillong 22.24 120 *e*P **P 10 31 23.0 +0.9**
HYB Hyderabad 22.28 159 *i* P **P 10 31 26.0 +3.5**
BWNR Bhubaneshwar 22.56 140 *e*P **P 10 31 26.1 +0.8**
GTA Gaotai 22.73 79 *e*P **P 10 31 28.6 +1.3**
GTA pP pP 10 31 32.7 -1.0
GTA sP sP 10 31 36.0 -0.7
GTA S **S 10 35 32.6 -2.1**
GTA sS pS 10 35 40.5 -1.7
GTA SS **SnSn 10 36 15.9 +11**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=Z,250nm,12.4s
GTA LR LR
comp=Z,200nm,12.8s
GTA LR LR
comp=Z,280nm,14.5s
VIS Vishakhapatnam 23.66 148 *e*P **P 10 31 36.5 0.0**
VSR Storozhevoye 25.30 310 *e*P **P 10 31 50.5 -0.8**
VSR pmax pmax
comp=Z,12nm,1.0s
ZAK Zakamensk 25.93 52 *e*P **P 10 31 56.7 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
RAYN Ar Rayn 26.08 242 *e*P **P 10 31 59.3 +0.5**
comp=Z,7.5nm,1.3s
LZH Lanzhou 26.53 85 *e*P **P 10 32 03.9 +1.0**
LZH pP pP 10 32 07.9 -1.9
LZH sP sP 10 32 10.8 -1.8
LZH pmax pmax
comp=Z,14nm,1.0s
MDRS Chennai 26.90 159 *ex* **P 10 32 09.0 +2.9**
MDRS IAmb IAmb 10 32 20.3
comp=Z,22nm,1.1s
SONA0 Songino Array 27.49 59 *e*P **P 10 32 11.6 +0.2**
comp=Z,5.7nm,1.1s
SONM Songino Array 27.49 59 P **P 10 32 11.6 +0.2**
comp=Z,0.9nm,0.6s,baz=254,slow=8.5,SNR=4.4
SONM LR LR 10 43 32.9
comp=Z,86nm,18.7s,baz=262,slow=37
ULN Ulaanbaatar 27.94 59 *e*P **P 10 32 16.4 +1.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 28.09 317 LR LR 10 45 56.8
comp=Z,90nm,18.4s,baz=92,slow=42
OBN Obninsk 28.09 317 ‖ *e*P **P 10 32 16.5 +0.1**
OBN *e**PP **pP 10 32 23.1 -0.2**
OBN *SP **sP 10 32 32.0 +5.9**
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,153nm,15.0s
CD2 Chengdu 28.26 96 P **P 10 32 19.6 +1.3**
BR101 Keskin Array S 28.48 284 *e*P **P 10 32 20.6 +0.3**
BRTR Keskin Array B 28.48 284 P **P 10 32 20.6 +0.3**
comp=Z,0.8nm,0.6s,baz=96,slow=8.8,SNR=4.0
MMAI Mount Meron Ar 28.90 270 LR LR 10 45 41.0
comp=Z,44nm,19.3s,baz=125,slow=40
KLMR Klimovskoe 29.44 329 P **P 10 32 28.7 +0.3**
KLMR pmax pmax
comp=Z,13nm,1.3s
EIL Elat 30.61 264 LR LR 10 47 27.0
comp=Z,82nm,18.5s,baz=59,slow=41
AKASG Malin Array Be 31.34 306 P **P 10 32 44.1 -1.1**
comp=Z,1.5nm,0.6s,baz=108,slow=8.9,SNR=5.4
AKASG LR LR 10 47 55.3
comp=Z,60nm,19.2s,baz=280,slow=41
KIEV Kiev 31.35 306 *e*P **P 10 32 44.1 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 31.44 73 *e*P **P 10 32 48.8 +2.4**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.2s
DGPR DIGLIPUR 32.22 136 *e*P **P 10 32 55.1 +1.7**
DGPR IAmb IAmb 10 32 56.1
comp=Z,23nm,1.0s
GYA Guiyang 32.60 101 *e*P **P 10 33 00.2 +3.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 33.44 296 P **P 10 33 05.5 +1.6**
comp=Z,0.9nm,0.7s,baz=58,slow=9.7,SNR=5.4
BOD Bodaibo 33.96 41 *e*P **P 10 33 07.7 -0.5**
BOD pmax pmax
comp=Z,6.0nm,0.9s
BJI Beijing 35.05 73 P **P 10 33 18.7 +1.0**
BJI pmax pmax
comp=Z,8.0nm,0.8s
FIA0 FINESS Array S 35.51 325 *e*P **P 10 33 21.1 -0.3**
FIA0 FINESS Array S 35.51 325 *e*P **P 10 33 21.1 -0.3**
FINES FINESS Array B 35.51 325 P **P 10 33 21.1 -0.3**
comp=Z,3.9nm,0.6s,baz=108,slow=10.0,SNR=12
FINES LR LR 10 50 41.6
comp=Z,192nm,18.1s,baz=152,slow=41
ARCES ARCESS Array B 39.02 337 P **P 10 33 51.0 -0.2**
comp=Z,3.8nm,0.7s,baz=111,slow=8.3,SNR=5.8
ARCES LR LR 10 50 59.8
comp=Z,283nm,18.9s,baz=88,slow=38
ARCES ARCESS Array B 39.02 337 P **P 10 33 51.0 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,283nm,18.9s
QIZ Qiongzhong 39.23 109 P **P 10 33 55.8 +2.3**
QIZ S **S 10 39 57.9 +5.2**
NJ2 Nanjing 39.60 84 *e*P **P 10 33 56.5 0.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 41.02 306 *e*P P 10 34 16.1 +8.1
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 41.02 306 *e*P P 10 34 16.1 +8.1
BRG pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 41.16 320 P **P 10 34 07.9 -1.1**
comp=Z,8.2nm,0.5s,baz=93,slow=8.7,SNR=18
GERES GERESS Array B 41.41 303 P **P 10 34 12.3 +1.0**
comp=Z,0.6nm,0.4s,baz=64,slow=9.1,SNR=4.1
NC303 NORSAR Array S 42.39 322 *e*P **P 10 34 19.4 +0.3**
NB2 NORSAR Subarra 42.45 322 P **P 10 34 18.8 -0.8**
comp=Z,2.8nm,0.6s,baz=94,slow=8.6
NB200 NORSAR Array S 42.45 322 *e*P **P 10 34 18.9 -0.8**
NOA NORSAR Array B 42.45 322 P **P 10 34 18.9 -0.8**
comp=Z,3.1nm,0.6s,baz=94,slow=8.1,SNR=10
NOA LR LR 10 54 59.3
comp=Z,146nm,19.8s,baz=40,slow=40
YAK Yakutsk 42.47 37 P **P 10 34 19.3 -0.3**
comp=Z,17nm,0.6s,baz=46,slow=1.2,SNR=5.3
YAK Yakutsk 42.47 37 *e*P **P 10 34 20.0 +0.4**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 42.47 37 *e*P **P 10 34 19.5 -0.1**
comp=Z,22nm,0.7s
KLR Kul'dur 44.22 55 P **P 10 34 34.0 +0.1**
comp=Z,0.1nm,0.5s,baz=284,slow=10.0,SNR=6.2
KLR LR LR 10 54 20.6
comp=Z,6.4nm,19.8s,baz=262,slow=38
DAVOX Davos/Dischmat 44.30 301 P **P 10 34 35.0 +0.1**
comp=Z,2.0nm,0.5s,baz=181,slow=18,SNR=3.7
KSRS Korea Array 44.58 73 LR LR 10 55 12.0
comp=Z,93nm,18.2s,baz=280,slow=39
SENIN Lac Senin/Sane 46.13 301 *e*P **P 10 34 50.2 +0.8**
comp=Z,25nm,1.8s
JNU Nakatsue 48.46 77 LR LR 10 58 01.8
comp=Z,54nm,18.0s,baz=284,slow=39
MJAR Matsushiro Arr 52.55 70 P **P 10 35 38.7 +0.3**
comp=Z,2.3nm,0.7s,baz=294,slow=10.0,SNR=6.9
MJAR LR LR 10 58 58.8
comp=Z,34nm,20.1s,baz=305,slow=37
SEY Seymchan 52.87 35 P **P 10 35 41.5 +1.2**
comp=Z,1.0nm,0.5s,baz=282,slow=20,SNR=5.1
ESDC Sonseca Array 56.14 296 P **P 10 36 05.5 +1.0**
comp=Z,0.9nm,0.5s,baz=46,slow=6.3,SNR=7.0
SUMG Summit 58.91 341 *i* P **P 10 36 24.3 +0.3**
comp=Z,9.5nm,0.9s
SUMG Summit 58.91 341 *e*P **P 10 36 24.2 +0.3**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 58.91 341 *e*P **P 10 36 24.2 +0.2**
comp=Z,9.6nm,0.8s
SUMG Summit 58.91 341 *e*P **P 10 36 24.6 +0.6**
comp=Z,83nm,2.0s
TOA1 Torodi Ar. Sit 65.41 267 *e*P **P 10 37 06.2 -1.7**
TOA0 Torodi Ar. Sit 65.41 267 *e*P **P 10 37 07.5 -0.4**
TORD Torodi Ar. Bea 65.41 267 P **P 10 37 06.2 -1.7**
comp=Z,1.3nm,0.5s,baz=51,slow=5.6,SNR=19
INK Inuvik 71.86 9 P **P 10 37 46.9 -0.3**
comp=Z,1.3nm,0.4s,baz=306,slow=7.5,SNR=12
INK Inuvik 71.86 9 *e*P **P 10 37 47.3 +0.1**
comp=Z,26nm,1.6s
COLA College 72.53 16 *e*P **P 10 37 52.4 +1.1**
COLA pmax pmax
comp=Z,5.0nm,0.9s
IL1 Eielson Array 72.83 16 *e*P **P 10 37 54.1 +0.9**
ILAR Eielson Array 72.83 16 P **P 10 37 53.0 -0.1**
comp=Z,1.5nm,0.9s,baz=318,slow=3.6,SNR=9.8
ILAR Eielson Array 72.83 16 P **P 10 37 53.1 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILB Eielson Array 72.83 16 *e*P **P 10 37 54.6 +1.4**
DHY Denali Highway 74.19 17 *e*P **P 10 38 03.4 +2.0**
comp=Z,5.7nm,1.0s
PAX Paxson 74.71 16 *e*P **P 10 38 05.7 +1.4**
PAX pmax pmax
comp=Z,4.0nm,0.9s
PAX Paxson 74.71 16 *e*P **P 10 38 05.7 +1.4**
comp=Z,4.4nm,0.9s
HARP HAARP 75.28 16 *e*P **P 10 38 08.8 +1.3**
comp=Z,61nm,1.6s
BOSA Boshof 79.14 219 LR LR 11 14 49.3
comp=Z,61nm,18.5s,baz=186,slow=37
WR1 Warramunga Arr 83.45 122 *e*P **P 10 38 51.0 -1.6**
comp=Z,11nm,1.4s
WRA Warramunga Arr 83.45 122 P **P 10 38 51.0 -1.6**
comp=Z,1.7nm,0.8s,baz=324,slow=4.9,SNR=13
AS31 Alice Springs 85.79 125 *e*P **P 10 39 03.4 -1.0**
comp=Z,1.0nm,1.1s
ASAR Alice Springs 85.79 125 P **P 10 39 01.6 -2.8**
comp=Z,1.1nm,0.8s,baz=312,slow=5.0,SNR=11
EDM Edmonton 88.45 2 *e*P **P 10 39 17.5 +0.6**
EDM pmax pmax
comp=Z,6.0nm,0.7s
EDM Edmonton 88.45 2 *e*P **P 10 39 17.5 +0.6**
comp=Z,5.8nm,0.7s

IDC 04 10:27:58.0±594.0, 47°.53N×49°.74E, h0km, Error ellipse: s-maj=228.2km s-min=127.6km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.18**	**59**	*i*			11 09 20.0	
baz=246,slow=309,SNR=0.4								
I43RU	**DUBNA INFRASONI**	**1.98**	**325**	*i*			11 45 50.0	
baz=136,slow=320,SNR=1.6								
I46RU	**ZALESOVO INFRA**	**22.94**	**61**	*i*			12 46 00.0	
baz=269,slow=316,SNR=3.3								

*THE **04** 10:28:49.8, 37°.20N×22°.02E, h3km±1km, ML2.5/11, Error ellipse: s-maj=1.1km s-min=0.4km az=251.0*
*ATH **04** 10:28:49.5, 37°.16N×22°.04E, h0km±3km, ML2.3/10, Error ellipse: s-maj=3.1km s-min=0.8km az=245.0*
*CSEM **04** 10:28:49.4±0.2, 37°.18N×21°.99E, h5km, ML2.5, Error ellipse: s-maj=4.5km s-min=3.4km az=78.0*

ISC 04 10:28:49.8±0.8, 37°.19N±0°.02×22°.01E±0°.02, h8km±5km, n62, σ0=77/104, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.07**	**262**	P		**Pg**	**10 28 51.3**	**-0.4**
ITM				S		**Sg**	**10 28 53.0**	**0.0**
ITM	**Ithomi**	**0.07**	**262**	P		**Pg**	**10 28 51.2**	**-0.4**
ITM				S		**Sg**	**10 28 53.7**	**+0.7**
ITM				AML		AML	10 28 53.7	
comp=N,13883μm,0.2s								
ITM				AML		AML	10 28 53.9	
comp=E,11893μm,0.3s								
ITM	**Ithomi**	**0.07**	**262**	P		**Pg**	**10 28 51.3**	**-0.4**
ITM				S		**Sg**	**10 28 53.0**	**0.0**
VLX	**Vlachokerasia**	**0.35**	**59**	P		**Pg**	**10 28 56.1**	**-0.6**
VLX				S		**Sg**	**10 29 01.3**	**0.0**
VLX	**Vlachokerasia**	**0.35**	**59**	P		**Pg**	**10 28 55.9**	**-0.8**
VLX				S		**Sg**	**10 29 01.7**	**+0.4**
VLX				AML		AML	10 29 06.5	
comp=N,1525μm,0.5s								
VLX				AML		AML	10 29 07.5	
comp=E,2852μm,0.4s								
VLX	**Vlachokerasia**	**0.35**	**59**	P		**Pg**	**10 28 56.1**	**-0.6**
VLX				S		**Sg**	**10 29 01.3**	**0.0**
PYL	**PYLOS**	**0.36**	**216**	P		**Pg**	**10 28 56.2**	**-0.7**
PYL				S		**Sb**	**10 29 03.1**	**-1.3**
PYL	**PYLOS**	**0.36**	**216**	P		**Pg**	**10 28 56.2**	**-0.7**
PYL				S		**Sg**	**10 29 02.2**	**+0.5**
PYL				AML		AML	10 29 07.9	
comp=E,1246μm,0.8s								
PYL				AML		AML	10 29 10.6	
comp=N,1313μm,0.8s								
PYL	**PYLOS**	**0.36**	**216**	P		**Pg**	**10 28 56.2**	**-0.7**
PYL				S		**Sg**	**10 29 02.6**	**+0.9**
TRIP	**Tripoli**	**0.40**	**32**	P		**Pg**	**10 28 57.0**	**-0.6**
TRIP	**Tripoli**	**0.40**	**32**	P		**Pg**	**10 28 57.0**	**-0.6**
AMT	**Artemida-Makis**	**0.42**	**325**	P		**Pg**	**10 28 57.7**	**-0.3**
AMT				S		**Sg**	**10 29 04.0**	**+0.5**
AMT	**Artemida-Makis**	**0.42**	**325**	P		**Pb**	**10 28 59.0**	**-0.5**
AMT				S		**Sb**	**10 29 06.4**	**+0.4**
AMT				AML		AML	10 29 07.7	
comp=N,3181μm,0.3s								
AMT				AML		AML	10 29 08.2	
comp=E,2590μm,0.4s								
AMT	**Artemida-Makis**	**0.42**	**325**	P		**Pg**	**10 28 57.7**	**-0.3**
AMT				S		**Sg**	**10 29 04.0**	**+0.5**
GUR	**Goura**	**0.79**	**20**	P		**Pg**	**10 29 04.1**	**-1.0**
GUR				S		**Sg**	**10 29 15.5**	**+0.1**
GUR	**Goura**	**0.79**	**20**	P		**Pg**	**10 29 03.1**	**-2.0**
GUR				S		**Sb**	**10 29 17.0**	**+0.1**
GUR				AML		AML	10 29 25.5	
comp=N,184μm,0.4s								
GUR				AML		AML	10 29 29.9	
comp=E,266μm,0.5s								
GUR	**Goura**	**0.79**	**20**	P		**Pg**	**10 29 04.1**	**-1.0**
GUR				S		**Sg**	**10 29 15.5**	**+0.1**
DRO	**Drossia**	**0.80**	**343**	P		**Pg**	**10 29 04.8**	**-0.4**
DRO				S		**Sg**	**10 29 15.7**	**+0.1**
DRO	**Drossia**	**0.80**	**343**	P		**Pg**	**10 29 05.5**	**+0.3**
DRO				S		**Sb**	**10 29 17.9**	**+0.8**
DRO				AML		AML	10 29 26.7	
comp=E,940μm,0.8s								
DRO				AML		AML	10 29 29.3	
comp=N,946μm,0.6s								
DRO	**Drossia**	**0.80**	**343**	P		**Pg**	**10 29 04.8**	**-0.4**
DRO				S		**Sg**	**10 29 15.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.86**	**8**	P		**Pg**	**10 29 05.4**	**-1.0**
KLV				S		**Sg**	**10 29 18.0**	**+0.4**
KLV	**Kalavryta, Ach**	**0.86**	**8**	P		**Pg**	**10 29 04.3**	**-2.1**
KLV				S		**Sb**	**10 29 19.1**	**+0.2**
KLV				AML		AML	10 29 22.7	
comp=E,333μm,0.8s								
KLV				AML		AML	10 29 25.0	
comp=N,343μm,0.8s								
KLV	**Kalavryta, Ach**	**0.86**	**8**	P		**Pg**	**10 29 05.4**	**-1.0**
KLV				S		**Sg**	**10 29 18.0**	**+0.4**
VLI	**Veliai**	**0.88**	**122**	P		**Pg**	**10 29 06.0**	**-0.8**
VLI				S		**Sb**	**10 29 19.3**	**0.0**
VLI	**Veliai**	**0.88**	**122**	P		**Pg**	**10 29 05.9**	**-0.8**
VLI				S		**Sb**	**10 29 19.6**	**+0.2**
VLI				AML		AML	10 29 26.5	
comp=N,336μm,0.7s								
VLI				AML		AML	10 29 28.1	
comp=E,418μm,0.6s								
VLI	**Veliai**	**0.88**	**122**	P		**Pg**	**10 29 06.0**	**-0.8**
VLI				S		**Sb**	**10 29 19.3**	**0.0**
RLS	**Riolos of Patr**	**0.97**	**334**	P		**Pg**	**10 29 07.6**	**-0.8**
RLS	**Riolos of Patr**	**0.97**	**334**	P		**Pb**	**10 29 09.2**	**+0.3**
RLS	**Riolos of Patr**	**0.97**	**334**	P		**Pg**	**10 29 07.6**	**-0.8**
LAKA	**Lakka**	**1.05**	**359**	P		**Pg**	**10 29 08.9**	**-1.1**
LAKA				S		**Sb**	**10 29 24.1**	**-0.2**
LAKA	**Lakka**	**1.05**	**359**	P		**Pg**	**10 29 08.6**	**-1.4**
LAKA				S		**Sn**	**10 29 26.3**	**+0.4**
LAKA	**Lakka**	**1.05**	**359**	P		**Pg**	**10 29 08.9**	**-1.1**
LAKA				S		**Sb**	**10 29 24.1**	**-0.2**
LOUT	**Loutraki**	**1.11**	**44**	P		**Pn**	**10 29 12.6**	**+0.9**
LOUT	**Loutraki**	**1.11**	**44**	P		**Pn**	**10 29 12.6**	**+0.9**
AXS	**Araxos**	**1.12**	**334**	P		**Pn**	**10 29 12.7**	**+0.8**
AXS	**Araxos**	**1.12**	**334**	P		**Pn**	**10 29 12.7**	**+0.8**
LTK	**Loutraki**	**1.13**	**42**	P		**Pg**	**10 29 10.3**	**-1.2**
LTK				S		**Sn**	**10 29 27.6**	**-0.2**
LTK				AML		AML	10 29 37.2	
comp=E,225μm,0.7s								
LTK				AML		AML	10 29 41.7	
comp=N,224μm,0.6s								
LTK	**Loutraki**	**1.13**	**42**	P		**Pg**	**10 29 10.3**	**-1.2**
LTK				S		**Sn**	**10 29 27.8**	**0.0**
TRIZ	**Trizonia**	**1.18**	**2**	P		**Pn**	**10 29 12.8**	**+0.2**
TRIZ				S		**Sb**	**10 29 28.5**	**+0.7**
TRIZ	**Trizonia**	**1.18**	**2**	P		**Pn**	**10 29 12.9**	**+0.2**
TRIZ				S		**Sb**	**10 29 28.7**	**+0.9**
KALE	**Kalithea**	**1.20**	**5**	P		**Pg**	**10 29 11.8**	**-1.2**
KALE				S		**Sn**	**10 29 29.9**	**+0.2**
KALE	**Kalithea**	**1.20**	**5**	P		**Pg**	**10 29 11.8**	**-1.2**
KALE				S		**Sn**	**10 29 29.9**	**+0.2**
SERG	**Sergoula**	**1.22**	**2**	P		**Pg**	**10 29 12.5**	**-0.8**
SERG				S		**Sn**	**10 29 30.3**	**+0.2**
SERG	**Sergoula**	**1.22**	**2**	P		**Pg**	**10 29 11.9**	**-1.4**
SERG	**Sergoula**	**1.22**	**2**	P		**Pg**	**10 29 12.5**	**-0.8**
SERG				S		**Sn**	**10 29 30.3**	**+0.2**
EFP	**Efpalio**	**1.24**	**356**	P		**Pg**	**10 29 12.7**	**-0.9**
EFP				S		**Sn**	**10 29 30.7**	**+0.3**
EFP	**Efpalio**	**1.24**	**356**	P		**Pg**	**10 29 12.5**	**-1.1**
EFP	**Efpalio**	**1.24**	**356**	P		**Pg**	**10 29 12.7**	**-0.9**
EFP				S		**Sn**	**10 29 30.7**	**+0.3**
DSF	**Desfina**	**1.29**	**18**	P		**Pg**	**10 29 13.7**	**-0.8**
DSF				S		**Sn**	**10 29 32.0**	**+0.3**
DSF	**Desfina**	**1.29**	**18**	P		**Pg**	**10 29 13.5**	**-1.0**
DSF				S		**Sn**	**10 29 33.8**	**+2.1**
DSF				AML		AML	10 29 41.9	
comp=E,165μm,0.6s								
DSF				AML		AML	10 29 42.1	
comp=N,95μm,0.5s								
DSF	**Desfina**	**1.29**	**18**	P		**Pg**	**10 29 13.7**	**-0.8**
DSF				S		**Sn**	**10 29 32.0**	**+0.3**
KFL	**Anninata**	**1.33**	**314**	P		**Pn**	**10 29 14.0**	**-0.8**
KFL	**Anninata**	**1.33**	**314**	P		**Pn**	**10 29 14.8**	**-0.1**
KFL	**Anninata**	**1.33**	**314**	P		**Pn**	**10 29 14.0**	**-0.8**
ANX	**Ano Chora**	**1.40**	**357**	P		**Pn**	**10 29 14.6**	**-1.3**
ANX				S		**Sg**	**10 29 34.9**	**-0.1**
ANX	**Ano Chora**	**1.40**	**357**	P		**Pn**	**10 29 14.6**	**-1.3**
ANX				S		**Sg**	**10 29 34.9**	**-0.1**
VILL	**Villia**	**1.42**	**46**	P		**Pg**	**10 29 17.2**	**+0.1**
VIL2	**Platees**	**1.43**	**44**	P		**Pg**	**10 29 17.3**	**0.0**
ANKY	**Antikythira Is**	**1.68**	**141**	P		**Pn**	**10 29 20.1**	**+0.5**
ANKY	**Antikythira Is**	**1.68**	**141**	P		**Pn**	**10 29 20.1**	**+0.5**
AGG	**Agios Georgios**	**1.85**	**8**	P		**Pg**	**10 29 25.4**	**+0.1**
AGG	**Agios Georgios**	**1.85**	**8**	P		**Pg**	**10 29 25.6**	**+0.3**

*ISCJB **04** 10:39:39.8±0.9, 48°.2N±0°.1×146°.9E±0°.2, h500km, mb3.4/7, Error ellipse: s-maj=23.4km s-min=10.9km az=140.8*
*IDC **04** 10:39:39.8±1.5, 48°.25N×147°.00E, h484km±20km, mb3.0/7, mb1 3.1/12, mb1mx2.9/45, mbtmp3.8/12, Error ellipse: s-maj=29.3km s-min=15.2km az=153.0*

ISC 04 10:39:40.4±1.1, 48°.2N±0°.2×147°.0E±0°.1, h500km, n13, σ0=89/13, mb3.5/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.07**	**218**	P		**P**	**10 41 06.7**	**-1.4**
1.2nm,0.3s,baz=277,slow=3.2,SNR=6.8								
KLR	**Kul'dur**	**10.12**	**282**	P		**P**	**10 41 59.5**	**+0.6**
0.0nm,0.3s,baz=67,slow=7.8,SNR=6.6								
USRK	**Ussuriysk Ar.**	**11.12**	**255**	P		**P**	**10 42 08.9**	**-0.6**
0.4nm,0.3s,baz=72,slow=14,SNR=3.7								
MA2	**Magadan**	**11.64**	**10**	P		**P**	**10 42 13.8**	**-0.9**
0.5nm,0.3s,baz=168,slow=20,SNR=3.0								
SEY	**Seymchan**	**15.10**	**10**	P		**P**	**10 42 50.7**	**-0.5**
0.2nm,0.3s,baz=195,slow=20,SNR=5.1								

KSRS	Korea Array	17.56 239	P	P	10 43 17.6	+1.0
	0.1nm,0.3s,baz=46,slow=9.8,SNR=4.7					
ILAR	Eielson Array	38.07 39	P	P	10 46 14.5	-0.6
	1.1nm,0.7s,baz=267,slow=7.9,SNR=14					
MKAR	Makanchi Array	42.57 293	P	P	10 46 51.6	+0.2
	0.2nm,0.4s,baz=72,slow=12,SNR=3.4					
INK	Inuvik	42.70 33	P	P	10 46 51.5	-0.5
	1.1nm,0.3s,baz=306,slow=11,SNR=14					
FINES	FINESS Array B	60.90 332	P	P	10 49 03.0	-0.5
	2.4nm,0.9s,baz=61,slow=11,SNR=3.4					
PDAR	Pinedale Array	67.18 51	P	P	10 49 44.9	+0.6
	0.4nm,0.5s,baz=318,slow=2.0,SNR=5.2					
TXAR	Lajitas Array	80.31 57	P	P	10 51 00.1	+1.1
	0.2nm,0.4s,baz=289,slow=4.3,SNR=6.4					
ESDC	Sonseca Array	88.81 338	P	P	10 51 41.3	+0.8
	0.4nm,0.3s,baz=331,slow=4.8,SNR=6.9					

IDC 04 10:42:36.6±2.4, 1°.34N×127°.73E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.2/3, Error ellipse: s-maj=204.6km s-min=25.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.12	163	P	P	10 47 33.6	-0.3
	0.1nm,0.3s,baz=343,slow=11,SNR=10						
ASAR	Alice Springs	25.57	167	P	P	10 48 07.8	+0.2
	0.1nm,0.3s,baz=346,slow=11,SNR=4.8						
MKAR	Makanchi Array	60.08	326	P	P	10 52 45.6	-0.1
	0.4nm,0.6s,baz=105,slow=5.6,SNR=3.6						

*ISCJB **04** 10:45:41.7±0.3, 59°.86N±0°.02×24°.39E±0°.04, h0km, Error ellipse: s-maj=3.4km s-min=2.9km az=171.1*
*CSEM **04** 10:45:42.9±0.1, 59°.86N×24°.42E, h2km, ML1.9, Error ellipse: s-maj=3.2km s-min=2.7km az=165.0, Mining explosion.*
*UPP **04** 10:45:43.0±2.3, 59°.91N×24°.43E, h0km, ML1.9*
*HEL **04** 10:45:43.3±0.1, 59°.88N×24°.35E, h0km, ML1.9, ML1.9(UPP), Explosion*
*IDC **04** 10:45:43.1±2.5, 59°.89N×24°.50E, h0km, mb1 3.1/3, mb1mx2.8/43, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=35.3km s-min=11.0km az=150.0*

ISC 04 10:45:42.4±0.7, 59°.87N±0°.02×24°.40E±0°.03, h0km, n53, σ0°69/86, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.35	360	eP	Pg	10 45 49.0	-0.1
MEF				eS	Sg	10 45 53.8	+0.2
MEF	Metsahovi	0.35	360	P	Pg	10 45 48.9	-0.1
MEF				S	Sg	10 45 53.7	+0.2
ARBE	Arbavere	0.92	118	P	Pg	10 45 59.9	0.0
ARBE				S	Sg	10 46 12.1	+0.3
PVF	Pernaja	0.99	47	eP	Pg	10 46 00.9	-0.6
PVF				eS	Sg	10 46 14.1	-0.2
PVF	Pernaja	0.99	47	P	Pg	10 46 00.8	-0.6
PVF				S	Sg	10 46 14.1	-0.2
MTSE	Matsula	1.20	195	eP	Pg	10 46 04.6	-0.8
MTSE				eS	Sg	10 46 20.5	-0.5
MTSE	Matsula	1.20	195	P	Pg	10 46 04.6	-0.8
MTSE				S	Sg	10 46 20.4	-0.5
VJF	Virojoki	1.71	66	eP	Pn	10 46 13.8	+0.3
VJF				eS	Sb	10 46 36.5	-0.3
VJF				eSN	Sg	10 46 37.7	+0.3
VJF	Virojoki	1.71	66	P	Pn	10 46 13.7	+0.3
VJF				S	Sb	10 46 36.4	-0.3
VJF				Sn	Sg	10 46 37.7	+0.3
RAF	Rauma	1.74	313	eP	Pn	10 46 13.8	-0.1
RAF				eSN	Sn	10 46 37.5	+0.6
RAF	Rauma	1.74	313	P	Pn	10 46 13.8	-0.1
RAF				Sn	Sn	10 46 37.4	+0.6
FIA0	FINESS Array S	1.78	27	eP	Pn	10 46 14.6	+0.2
FIA0				eS	Sn	10 46 38.0	+0.2
FIA0	FINESS Array S	1.78	27	P	Pn	10 46 14.6	+0.2
FIA0				S	Sn	10 46 37.9	+0.2
FINES	FINESS Array B	1.78	27	Pn	Pn	10 46 15.1	+0.6
	1.0nm,0.3s,baz=212,slow=15,SNR=42						
FINES				Sn	Sg	10 46 40.6	+1.0
	1.4nm,0.3s,baz=212,slow=24,SNR=14						
VSU	Vasula	1.86	139	eP	Pb	10 46 16.6	-0.6
VSU				eSG	Sb	10 46 41.4	+0.5
VSU	Vasula	1.86	139	P	Pb	10 46 16.6	-0.6
VSU				Sg	Sb	10 46 41.4	+0.5
KEF	Keuruu	2.31	5	ePB	Pb	10 46 23.8	-1.2
KEF				eSG	Sb	10 46 54.0	-0.1
KAF	Kangasniemi	2.43	22	eP	Pn	10 46 23.5	+0.1
KAF				eSG	Sb	10 46 57.6	+0.1
KAF				MSG		10 46 58.8	
	comp=Z,7.2nm,0.4s						
KAF	Kangasniemi	2.43	22	P	Pn	10 46 23.4	+0.1
NRTU	Norrtaelje	2.92	269	P	Pn	10 46 30.4	+0.2
NRTU				S	Sn	10 47 06.2	+0.3
NRTU	Norrtaelje	2.92	269	eP	Pn	10 46 30.4	+0.2
NRTU				eS	Sn	10 47 06.2	+0.3
NRTU	Norrtaelje	2.92	269	P	Pn	10 46 30.3	+0.2
NRTU				S	Sn	10 47 06.2	+0.3
SUF	Sumiainen	2.98	16	eP	Pn	10 46 32.5	+1.5
SUF				eS	Sn	10 47 07.4	+0.1
SUF	Sumiainen	2.98	16	P	Pn	10 46 32.4	+1.5
SUF				S	Sn	10 47 07.3	+0.1
FLYU	Flymyra	3.28	277	P	Pn	10 46 35.2	+0.2
FLYU				S	Sn	10 47 16.2	+1.5
FLYU	Flymyra	3.28	277	eP	Pn	10 46 35.2	+0.2
FLYU				eS	Sn	10 47 16.2	+1.5
FLYU	Flymyra	3.28	277	P	Pn	10 46 35.2	+0.2
FLYU				S	Sn	10 47 16.2	+1.5
VAF	Ylistaro	3.29	346	eP	Pn	10 46 36.5	+1.3
VAF				eS	Sn	10 47 14.6	-0.2
VAF				MSG		10 47 30.4	
	comp=Z,1.5nm,0.3s						
VAF	Ylistaro	3.29	346	P	Pn	10 46 36.4	+1.3
VAF				S	Sn	10 47 14.6	-0.2
NYNU	Nynaeshamn	3.38	258	P	Pn	10 46 37.5	+1.1
NYNU	Nynaeshamn	3.38	258	eP	Pn	10 46 37.5	+1.1
NYNU	Nynaeshamn	3.38	258	P	Pn	10 46 37.4	+1.1
FIBU	Brunna	3.55	274	P	Pn	10 46 39.9	+1.2
IGGU	Iggoen	3.66	289	P	Pn	10 46 40.5	+0.3
IGGU				S	Sn	10 47 24.7	+0.7
IGGU	Iggoen	3.66	289	eP	Pn	10 46 40.5	+0.3
IGGU				eS	Sn	10 47 24.7	+0.7
IGGU	Iggoen	3.66	289	P	Pn	10 46 40.5	+0.3
IGGU				S	Sn	10 47 24.7	+0.7
OSTU	Oestervaala	3.66	279	P	Pn	10 46 41.1	+0.8
OSTU	Oestervaala	3.66	279	eP	Pn	10 46 41.1	+0.8
OSTU	Oestervaala	3.66	279	P	Pn	10 46 41.0	+0.8
ARNU	Arnoeviken	3.90	301	P	Pn	10 46 43.8	+0.3
ARNU	Arnoeviken	3.90	301	eP	Pn	10 46 43.8	+0.3
ARNU	Arnoeviken	3.90	301	P	Pn	10 46 43.8	+0.3
HUDU	Hudiksvall	4.03	301	P	Pn	10 46 45.4	+0.1
HUDU	Hudiksvall	4.03	301	eP	Pn	10 46 45.4	+0.1
HUDU	Hudiksvall	4.03	301	P	Pn	10 46 45.4	+0.1
ESKU	Eskilstuna	4.13	265	P	Pn	10 46 47.0	+0.4
ESKU	Eskilstuna	4.13	265	eP	Pn	10 46 47.0	+0.4
ESKU	Eskilstuna	4.13	265	P	Pn	10 46 47.0	+0.4
JOF	Joensuu	4.51	44	eP	Pn	10 46 53.4	+1.4
JOF	Joensuu	4.51	44	P	Pn	10 46 53.3	+1.4
HFS	Hagfors	5.38	277	Pn	Pn	10 47 04.0	+0.2
	comp=Z,0.2nm,0.3s,baz=100,slow=14,SNR=4.6						
NOA	NORSAR Array B	6.63	286	Pn	Pn	10 47 19.5	-1.5
	comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=2.7						
ARCES	ARCESS Array B	9.71	2	Pn	Pn	10 48 02.3	-0.9
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=5.9						

WEL 04 10:50:07.3±0.1, 43°.61S×172°.65E, h9km, ML3.6/15, 1C-6D, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.04	329	⇓PG	Pg	10 50 08.9	-0.2
CRLZ				SG	Sg	10 50 09.8	-0.5
CRLZ				AML	AML	10 50 10.0	
CRLZ				AML	AML	10 50 10.0	
CRLZ				AML	AML	10 50 10.1	
MQZ	McQueen's Vall	0.10	179	⇓PG	Pg	10 50 09.8	+0.1
MQZ				SG	Sg	10 50 11.8	+0.4
MQZ				AML	AML	10 50 12.0	
OXZ	Oxford	0.53	302	P*	Pg	10 50 17.4	-0.2
OXZ				S*	Sg	10 50 24.7	+0.2
OXZ				AML	AML	10 50 25.7	
OXZ				AML	AML	10 50 25.7	
OXZ				AML	AML	10 50 25.7	
LTZ	Lake Taylor	0.87	341	P*	Pg	10 50 24.0	-0.1
LTZ				AML	AML	10 50 40.2	
RPZ	Rata Peaks	1.17	264	⇓P*	Pb	10 50 28.4	-1.2
RPZ				AML	AML	10 50 50.8	
RPZ				AML	AML	10 50 50.9	
INZ	Inchbonnie	1.25	315	P*	Pn	10 50 30.7	-0.3
KHZ	Kahutara	1.36	29	⇓PN	Pn	10 50 30.7	-1.7
KHZ				AML	AML	10 50 52.9	
KHZ				AML	AML	10 50 52.9	
KHZ				AML	AML	10 50 57.1	
KHZ				AML	AML	10 50 57.1	
WVZ	Waitaha Valley	1.50	290	PN	Pn	10 50 33.4	-0.9
WVZ				AML	AML	10 51 02.8	
THZ	Tophouse	1.85	6	PN	Pn	10 50 37.6	-1.7
THZ				AML	AML	10 50 46.3	
THZ				AML	AML	10 51 14.6	
LBZ	Lake Benmore	1.94	246	PN	Pn	10 50 39.8	-0.7
LBZ				AML	AML	10 51 16.6	
LBZ				AML	AML	10 51 16.8	
DSZ	Denniston Nort	1.96	341	PN	Pn	10 50 40.4	-0.4
DSZ				AML	AML	10 51 07.9	
DSZ				AML	AML	10 51 07.9	
DSZ				AML	AML	10 51 08.1	
DSZ				AML	AML	10 51 08.1	
ODZ	Otahua Downs	2.03	224	⇑PN	Pn	10 50 40.4	-1.3
ODZ				AML	AML	10 51 12.2	
ODZ				AML	AML	10 51 12.2	
ODZ				AML	AML	10 51 14.2	
ODZ				AML	AML	10 51 14.2	
FOZ	Fox Glacier	2.06	271	PN	Pn	10 50 42.4	+0.3
FOZ				AML	AML	10 51 35.9	
FOZ				AML	AML	10 52 42.8	
QRZ	Quartz Range	2.78	358	PN	Pn	10 50 52.0	-0.1
QRZ				AML	AML	10 51 59.3	
QRZ				AML	AML	10 52 31.7	
EAZ	Earnscleugh	2.89	235	⇓PN	Pn	10 50 52.4	-1.1
EAZ				AML	AML	10 51 44.2	
EAZ				AML	AML	10 51 50.0	
CAW	Cannon Point	3.08	36	ePN	Pn	10 50 53.9	-2.1
TUZ	Tuapeka	3.18	221	⇓PN	Pn	10 50 56.3	-1.2
TUZ				AML	AML	10 51 57.9	
TUZ				AML	AML	10 52 03.4	

*IDC **04** 10:56:06.6±1.7, 38°.23N×144°.84E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.5/41, mbtmp3.7/5, ML3.1/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/57, Error ellipse: s-maj=43.8km s-min=25.6km az=94.0*
*ISCJB **04** 10:56:08.9±1.0, 38°.51N±0°.05×144°.73E±0°.07, h29km, mb3.7/2, Error ellipse: s-maj=9.0km s-min=5.5km az=34.8*
*JMA **04** 10:56:10.9±0.2, 38°.39N×144°.60E, h44km, M3.7*

ISC 04 10:56:10.2±1.4, 38°.44N±0°.07×144°.75E±0°.09, h29km, n21, σ1°66/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.49	286	P	Pn	10 56 49.1	+0.3
MIYJ	Miyakonagasawa	2.55	297	P	Pn	10 56 49.9	+0.3
MIYJ				eS	Sn	10 57 18.5	-1.2
JIO	Ouri	2.67	271	P	Pn	10 56 51.1	-0.2
JIO				eS	Sn	10 57 20.8	-1.9
JMK	Ichinoseki	2.81	282	P	Pn	10 56 53.6	+0.4
JOM	Ohasama	2.89	292	P	Pn	10 56 54.9	+0.6
JOM				eS	Sn	10 57 28.0	0.0
JANG	Nango	3.17	309	P	Pn	10 56 58.1	0.0
JYK	Kaneyama	3.47	279	P	Pn	10 57 03.2	+0.9
JYK				eS	Sn	10 57 42.2	-0.2
JFT	Otama	3.61	257	P	Pn	10 57 05.0	+0.8
JFT				S	Sn	10 57 44.4	-1.4
JOT	Ohata	4.09	317	eS	Sn	10 57 56.4	-1.3
JCH	Churui	4.30	346	P	Pn	10 57 13.6	-0.1
JCH				S	Sn	10 58 01.5	-1.4
JKB	Kayabe	4.47	322	P	Pn	10 57 18.3	+2.3
NEM2	Nemuro 2	4.98	8	P	Pn	10 57 22.3	-0.7
NEM2				eS	Sn	10 58 15.7	-3.8
JRY	Ryogami san	5.26	244	P	Pn	10 57 26.4	-0.5
JRY				S	Sn	10 58 22.6	-3.9
JOSM	Okushiri--Mats	5.43	314	P	Pn	10 57 30.7	+1.5
MJAR	Matsushiro Arr	5.54	252	Pn	Pn	10 57 30.9	+0.2
	0.4nm,0.3s,baz=76,slow=15,SNR=9.2						
JTKR	Abashiri--Toko	5.56	354	P	Pn	10 57 31.4	+0.4
JTKR				eS	Sn	10 58 31.5	-2.4
ASAJ	Asahikawa	5.90	345	Pn	Pn	10 57 36.1	+0.5
	1.0nm,0.3s,baz=200,slow=12,SNR=9.3						
ASAJ				Sn	Sn	10 58 41.4	-0.9
	0.3nm,0.3s,baz=35,slow=19,SNR=4.0						
JHJ	Hachijo jima 2	6.67	219	LR	LR	11 00 31.1	
	comp=Z,28nm,20.7s,baz=302,slow=40						
USRK	Ussuriysk Ar.	11.19	305	Pn	Pn	10 58 50.2	+2.1
	0.3nm,0.3s,baz=116,slow=16,SNR=4.1						
SEY	Seymchan	24.96	8	P	P	11 01 34.1	+3.3
	1.7nm,0.8s,baz=177,slow=19,SNR=3.6						
WRA	Warramunga Arr	58.89	191	P	P	11 06 05.6	-0.8
	0.7nm,0.7s,baz=12,slow=7.1,SNR=6.9						

MEX 04 10:58:34.0±0.8, 18°.58N×101°.49W, h66km±14km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.96	179	eP	Pn	10 58 50.1	-1.8
ZIIG				eS	Sn	10 59 03.7	-1.3
URUA	Uruapan	1.01	327	eP	Pn	10 58 51.2	-1.4
URUA				eS	Sn	10 59 04.9	-1.5
ARIG	Puente Sto Nin	1.12	105	eP	Pn	10 58 52.4	-1.5
ARIG				eS	Sn	10 59 06.6	-2.2
MOIG	Morelia	1.13	15	eP	Pn	10 58 52.6	-1.7
MOIG				eS	Sn	10 59 06.6	-2.7
MMIG	Aquila	1.78	261	eP	Pn	10 59 00.6	-2.0
TOVM	TOLUCA	1.85	67	eP	Pn	10 59 03.2	-0.7
TOVM				eP	Pn	10 59 03.4	-0.5
TOVM				i S	Sn	10 59 20.3	-6.3
MEIG	Mezcala	1.89	110	eP	Pn	10 59 03.0	-1.2
PLIG	Platanillo	1.90	95	eP	Pn	10 59 03.4	-0.9
CAIG	El Cayaco	1.92	142	eP	Pn	10 59 02.7	-1.7
MAVM	Malinalco, Edo	1.93	78	eP	Pn	10 59 04.0	-0.8
MAVM				i S	Sn	10 59 26.8	-1.5
EZ5V		2.19	295	eP	Pn	10 59 08.6	+0.2
MZVM		2.23	74	eP	Pn	10 59 09.3	+0.7
MZVM				i S	Sn	10 59 33.8	-1.3
ACX	Acapulco	2.30	137	eP	Pn	10 58 58.4	-11
YAIG	Yautepec	2.31	83	eP	Pn	10 59 09.4	-0.6
R15V		2.43	284	eP	Pn	10 59 11.1	-0.4
PPM	Popocatepetl	2.76	79	eP	Pn	10 59 16.3	0.0
DEIG	Demacu	2.88	53	i P	Pn	10 59 16.8	-1.1
DEIG				i S	Sn	10 59 38.5	-13

*NIED **04** 11:23:00, 37°.20N×143°.70E, h5km, Mw3.7 Best double couple: M0=4.27000×10^14 NP1:φs=20.00000°, δ=15.00000°, λ=-120.00000°. NP2:φs=231.00000°, δ=77.00000°, λ=-82.00000°.*
*IDC **04** 11:23:52.3±1.0, 37°.07N×143°.84E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/46, mbtmp3.7/10, ML3.4/3, MS2.5/2, Ms1 2.5/2, ms1mx2.2/51, Error ellipse: s-maj=23.7km s-min=18.3km az=91.0*
*ISCJB **04** 11:23:54.3±0.7, 37°.20N±0°.05×143°.86E±0°.05, h33km, mb3.7/7, Error ellipse: s-maj=8.0km s-min=5.5km az=154.8*
*JMA **04** 11:23:56.9±0.3, 37°.24N×143°.73E, h52km, M3.8*

ISC 04 11:23:57.4±1.0, 37°.30N±0°.07×143°.85E±0°.08, h35km, n24, σ1°98/31, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.29	301	P	Pn	11 24 32.6	0.0
JIO				eS	Sn	11 24 58.9	-0.7
JFK	Kawauchi	2.37	272	eS	Sn	11 24 59.8	-1.9
ONAJ	Iwakimizuishiy	2.44	266	eS	Sn	11 25 01.7	-1.8
JMM	Marumori	2.49	284	eS	Sn	11 25 04.1	-0.5
JFT	Otama	2.80	275	eS	Sn	11 25 12.2	-0.1
JOM	Ohasama	2.96	318	P	Pn	11 24 42.1	+0.3
JOM				eS	Sn	11 25 16.4	+0.4
JYK	Kaneyama	3.19	301	P	Pn	11 24 45.6	+0.6
JRY	Ryogami san	4.18	254	P	Pn	11 24 57.9	-0.8
JRY				eS	Sn	11 25 42.6	-3.7
JOD2	Odawara 2	4.35	244	eS	Sn	11 25 46.5	-4.0
MJAR	Matsushiro Arr	4.58	262	Pn	Pn	11 25 03.0	-1.2
	1.6nm,0.3s,baz=85,slow=16,SNR=12						
MJAR				Sn	Sn	11 25 56.1	-0.1
	0.3nm,0.3s,baz=91,slow=29,SNR=6.3						
MJAR				LR	LR	11 26 58.2	
	comp=Z,33nm,18.1s,baz=40,slow=41						
JOT	Ohata	4.62	333	P	Pn	11 25 05.6	+1.0
JCH	Churui	5.32	356	P	Pn	11 25 13.4	-0.9
JCH				eS	Sn	11 26 11.5	-2.8
NEM2	Nemuro 2	6.23	13	P	Pn	11 25 24.9	-1.8
NEM2				eS	Sn	11 26 31.7	-4.9
JTKR	Abashiri--Toko	6.66	0	P	Pn	11 25 32.0	-0.7
JTKR				eS	Sn	11 26 44.6	-2.7
ASAJ	Asahikawa	6.87	352	Pn	Pn	11 25 35.8	+0.2
	1.1nm,0.3s,baz=203,slow=11,SNR=14						
KSRS	Korea Array	12.67	276	Pn	Pn	11 26 55.4	+0.3
	0.1nm,0.3s,baz=88,slow=14,SNR=6.9						
KSRS				LR	LR	11 32 22.8	
	comp=Z,29nm,18.6s,baz=215,slow=40						
KLR	Kul'dur	14.80	327	Pn	Pn	11 27 23.8	-0.2
	0.0nm,0.3s,baz=138,slow=15,SNR=2.9						
SEY	Seymchan	26.19	9	P	P	11 29 30.6	+2.3
	3.6nm,1.0s,baz=167,slow=6.5,SNR=4.9						
SONM	Songino Array	29.26	303	P	P	11 29 58.7	+2.5
	0.9nm,0.8s,baz=103,slow=10,SNR=4.6						
MKAR	Makanchi Array	45.62	302	P	P	11 32 13.5	-0.7
	0.2nm,0.3s,baz=94,slow=7.5,SNR=3.0						
KURBB	Kurchatov Arra	47.37	308	P	P	11 32 29.2	+1.4
	0.4nm,0.6s,baz=84,slow=8.1,SNR=4.9						
ILAR	Eielson Array	48.23	33	P	P	11 32 36.4	+2.1
	0.3nm,0.9s,baz=272,slow=8.8,SNR=2.3						
WRA	Warramunga Arr	57.64	191	P	P	11 33 42.0	-2.0
	1.3nm,0.7s,baz=12,slow=7.3,SNR=12						
ASAR	Alice Springs	61.36	190	P	P	11 34 08.4	-1.3
	0.9nm,0.8s,baz=13,slow=8.8,SNR=12						

IDC 04 11:34:01.7±2.1, 12°.15N×92°.89E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.3/4, ML3.9/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/30, Error ellipse: s-maj=64.7km s-min=25.8km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.56	42	Pn	Pn	11 36 07.1	+0.1
	0.4nm,0.3s,baz=233,slow=15,SNR=10						
MKAR	Makanchi Array	35.67	347	P	P	11 41 01.1	-0.5
	0.2nm,0.3s,baz=152,slow=6.5,SNR=2.5						
MJAR	Matsushiro Arr	47.33	51	LR	LR	12 01 13.5	
	comp=Z,244nm,21.7s,baz=115,slow=34						
WRA	Warramunga Arr	51.78	128	P	P	11 43 11.8	+0.2
	0.2nm,0.7s,baz=302,slow=9.5,SNR=2.9						
ASAR	Alice Springs	53.62	132	P	P	11 43 25.2	0.0
	0.2nm,0.4s,baz=308,slow=6.8,SNR=6.2						

*ISCJB **04** 11:45:06.9±0.8, 1°.94N±0°.09×124°.2E±0°.1, h300km, mb3.4/6, Error ellipse: s-maj=21.3km s-min=8.5km az=153.1*
*IDC **04** 11:45:11.9±1.9, 1°.99N×124°.37E, h340km±20km, mb3.1/6, mb1 3.4/8, mb1mx3.0/51, mbtmp4.0/8, Error ellipse: s-maj=34.2km s-min=9.5km az=72.0*
*DJA **04** 11:45:14.7±1.4, 2°.1E±18°.×12°.4E±2°.9, h20km±40km, M4.5/5, mB4.8/1, mb4.4/2, MLv4.6/5, Mw(mB)4.1/1*

ISC 04 11:45:07.9±0.8, 1°.84N±0°.09×124°.2E±0°.1, h300km, n11, σ2°11/18, mb3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	4.13	126	P	Pn	11 46 16.2	+0.6
LBMI				S	S	11 47 07.3	-2.6
SANI	Sanana	4.26	155	P	Pn	11 46 16.5	-0.6
SANI				S	S	11 47 07.6	-4.9
NLAI	Namlea	5.83	150	P	Pn	11 46 37.2	+2.0
NLAI				S	S	11 47 43.3	-2.2
SIJI	Sorong	7.58	111	P	Pn	11 46 58.5	+2.0
	12nm,0.3s,baz=273,slow=10,SNR=6.6						
FITZ	Fitzroy Crossi	19.86	176	P	P	11 49 20.1	+2.6
	baz=357,slow=10						
WRA	Warramunga Arr	23.83	156	P	P	11 49 55.8	+1.1
	1.1nm,0.4s,baz=338,slow=10,SNR=15						
WRA				S	S	11 53 46.3	-1.8
	0.4nm,0.7s,baz=337,slow=17,SNR=5.1						
ASAR	Alice Springs	27.06	160	P	P	11 50 25.0	+1.4
	0.4nm,0.5s,baz=336,slow=7.4,SNR=22						
ASAR				PcP	PcP	11 53 37.0	+0.7
	0.4nm,0.6s,baz=347,slow=2.8,SNR=5.5						
ASAR				S	S	11 54 38.7	-0.3
	0.4nm,0.8s,baz=347,slow=20,SNR=3.9						
MJAR	Matsushiro Arr	36.89	19	P	P	11 51 47.4	-1.1
	1.3nm,0.7s,baz=195,slow=8.8,SNR=3.8						
STKA	Stephens Creek	37.38	155	P	P	11 51 54.8	+2.1
	1.1nm,0.3s,baz=330,slow=9.5,SNR=13						
SONM	Songino Array	48.34	344	P	P	11 53 19.8	-0.2
	0.6nm,0.4s,baz=154,slow=7.3,SNR=3.2						
MKAR	Makanchi Array	57.70	327	P	P	11 54 26.5	-1.2
	0.4nm,0.3s,baz=130,slow=7.1,SNR=5.1						
MKAR				PcP	PcP	11 55 16.4	-0.6
	0.3nm,0.5s,baz=123,slow=4.5,SNR=2.4						

IDC 04 11:49:33.0±559.0, 47°.61N×49°.63E, h0km, Error ellipse: s-maj=215.6km s-min=124.9km az=50.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.20	60	i		12 29 40.0	
	baz=246,slow=312,SNR=0.8						
I43RU	DUBNA INFRASONI	1.87	325	i		13 04 40.0	
	baz=135,slow=324,SNR=1.4						
I46RU	ZALESOVO INFRA	22.96	61	i		14 08 00.0	
	baz=270,slow=316,SNR=1.5						
I34MN	SONGINO INFRAS	37.47	68	i		15 40 40.0	
	baz=292,slow=323,SNR=0.4						

*CSEM **04** 11:54:28.6, 36°.40N×25°.41E, h0km, ML1.5/5*

THE 04 11:54:28.6, 36°.40N×25°.41E, h0km±1km, ML1.5/5, Error ellipse: s-maj=1.0km s-min=0.2km az=193.0, Dodecanese Islands

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

THR5	**Thira Island,**	**0.05 293**	P	Pg	11 54 35.4	0.0
SANT	**Santorini**	**0.06 121**	P	Pg	11 54 35.7	+0.1
SANT			S	Sg	11 54 36.9	+0.5
SANT	**Santorini**	**0.06 121**	P	Pg	11 54 35.7	+0.1
SANT			S	Sg	11 54 36.9	+0.5
CMBO	**Columbo, Santo**	**0.07 4**	P	Pg	11 54 36.4	+0.5
CMBO			S	Sg	11 54 37.5	+0.6
CMBO	**Columbo, Santo**	**0.07 4**	P	Pg	11 54 36.4	+0.5
CMBO			S	Sg	11 54 37.5	+0.6

NIED ***04*** *11:58:00,35˚.50N×141˚.10E,h17km,Mw4.4 Best double couple: M₀3.97000×10¹⁵ NP1:φ₀247.00000°,δ34.00000°, λ-149.00000°. NP2:φ₀131.00000°,δ73.00000°, λ-60.00000°.*

ISCJB ***04*** *11:58:35.5±0.5,35˚.44N±0˚.02×140˚.91E±0˚.03,h27km±3km, mb4.6/93,MS3.9/14,Error ellipse: s-maj=4.6km s-min=4.0km az=21.2*

JMA ***04*** *11:58:35.3±0.1,35˚.49N×140˚.97E,h24km±1km,M4.5*

JMA Felt II J1.

BJI ***04*** *11:58:35.5,35˚.43N×140˚.95E,h27km,mb4.6/42,mB4.9/30, Ms4.4/27,Ms7 4.2/25*

IDC ***04*** *11:58:38.0±2.3,35˚.44N×140˚.95E,h38km±19km,mb4.2/30, mb1 4.3/36,mb1mx4.2/50,mbtmp4.4/36,ML3.9/5,MS3.6/14, Ms1 3.6/14,ms1mx3.4/54,Error ellipse: s-maj=13.9km s-min=11.3km az=110.0*

NEIC ***04*** *11:58:38.1±0.2,35˚.37N×140˚.85E,h35km,mb4.8/50,Error ellipse: s-maj=5.0km s-min=4.1km az=158.0*

NEIC Felt at Kashiwa, Mobara and Yokosuka. Recorded [2 JMA] in Chiba and Ibaraki.

MOS ***04*** *11:58:38.1±0.8,35˚.83N×140˚.78E,h33km,mb4.7/40,Error ellipse: s-maj=10.0km s-min=5.9km az=106.5*

ISC 04 11:58:34.9±0.7,35˚.44N±0˚.03×141˚.05E±0˚.04,h16km±4km, n222,σ1$79/244,mb4.7/93,MS3.8/15,14C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.31**	**329**	⇑P	**Pg**	**11 58 41.1**	**-0.4**
CHOJ				*e*S	**Sg**	**11 58 45.4**	**-0.6**
I30JP	**ISUMI INFRASON**	**0.62**	**258**	Pg	**Pg**	**11 58 46.6**	**-0.5**
	baz=84,slow=26,SNR=1.4						
KTR	**Katsuura**	**0.67**	**245**	⇑P	**Pg**	**11 58 47.4**	**-0.6**
JCN	**Nagara**	**0.70**	**269**	⇑P	**Pg**	**11 58 48.1**	**-0.4**
JCN				*e*S	**Sb**	**11 58 58.0**	**+0.1**
BSO4	**Boso 4**	**0.74**	**233**	⇑P	**Pg**	**11 58 49.5**	**+0.3**
BSO3	**Boso 3**	**0.78**	**215**	⇑P	**Pg**	**11 58 50.2**	**+0.3**
BSO1	**Boso 1**	**0.78**	**185**	⇑P	**Pg**	**11 58 50.1**	**+0.1**
JYT	**Yasato**	**1.05**	**319**	P	**Pb**	**11 58 52.7**	**-2.0**
JYT				S	**Sb**	**11 59 05.9**	**-2.3**
JHO	**Hitachi**	**1.24**	**342**	⇑P	**Pn**	**11 58 55.6**	**-1.9**
JIM2	**Oshima 3**	**1.51**	**242**	⇑P	**Pn**	**11 58 59.2**	**-2.1**
JHJ2	**Mitsune**	**2.54**	**204**	*e*Pn	**Pn**	**11 59 13.9**	**-1.4**
JHJ2				*e*Sn	**Sn**	**11 59 38.9**	**-6.9**
JHJ	**Hachijo jima 2**	**2.54**	**205**	Pn	**Pn**	**11 59 14.2**	**-1.2**
	182nm,0.3s,baz=344,slow=22,SNR=44						
JHJ				Sn	**Sn**	**11 59 42.8**	**-3.1**
	236nm,0.3s,baz=73,slow=19,SNR=7.3						
JHJ				LR	LR	12 00 25.0	
	comp=Z,980nm,18.5s,baz=94,slow=43						
MJAR	**Matsushiro Arr**	**2.56**	**296**	Pn	**Pn**	**11 59 16.8**	**+1.1**
	22nm,0.3s,baz=99,slow=14,SNR=95						
MAJO	**Matsushiro**	**2.56**	**296**	*e*P	**Pn**	**11 59 17.0**	**+1.4**
MAJO				*e*		11 59 41.6	
MAJO	**Matsushiro**	**2.56**	**296**	*e*Pn	**Pn**	**11 59 17.0**	**+1.4**
MAJO				*e*Sn	**Sn**	**11 59 41.6**	**-4.9**
MAT	**Matsushiro**	**2.56**	**296**	P	**Pn**	**11 59 16.4**	**+0.7**
MAT				*e*S	**Sb**	**11 59 50.1**	**-1.5**
MJB9	**Matsu-Tunnel**	**2.56**	**296**	*e*Pn	**Pn**	**11 59 17.5**	**+1.7**
MJB9				*e*Sn	**Sn**	**11 59 41.6**	**-5.0**
INU	**Inuyama**	**3.30**	**270**	*e*Pn	**Pn**	**11 59 26.4**	**+0.6**
ERM	**Erimo**	**6.77 13**		*e*P	**Pn**	**12 00 12.4**	**-1.1**
ERM				*e*		12 01 27.7	
ERM	**Erimo**	**6.77 13**		*e*Pn	**Pn**	**12 00 12.3**	**-1.1**
ERM				*e*Sn	**Sn**	**12 01 27.7**	**-2.5**
CBIJ	**Chichi jima**	**8.37**	**173**	*e*Pn	**Pn**	**12 00 35.2**	**-0.3**
CBIJ				*e*Sn	**Sn**	**12 02 02.2**	**-7.5**
JNU	**Nakatsue**	**8.73**	**258**	Pn	**Pn**	**12 00 42.0**	**+1.5**
	0.5nm,0.3s,baz=22,slow=19,SNR=6.1						
JNU				LR	LR	12 04 26.7	
	comp=Z,830nm,20.6s,baz=86,slow=40						
JNU	**Nakatsue**	**8.73**	**258**	*e*Pn	**Pn**	**12 00 39.6**	**-0.9**
ASAJ	**Asahikawa**	**8.75 7**		Pn	**Pn**	**12 00 39.9**	**-0.7**
	3.3nm,0.3s,baz=224,slow=9.4,SNR=30						
ASAJ				Sn	**Sn**	**12 02 19.2**	**+0.3**
	1.4nm,0.3s,baz=106,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**8.75 7**		*e*Pn	**Pn**	**12 00 39.4**	**-1.3**
ASAJ				*e*Sn	**Sn**	**12 02 19.2**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**9.35 22**		*e*P	**Pn**	**12 00 46.1**	**-2.7**
YUK				*e*S	**Sn**	**12 02 28.8**	**-4.8**
YUK				pmax	pmax		
	comp=Z,101nm,0.6s						
YUK				pmax	pmax		
	comp=N,112nm,0.8s						
YUK				pmax	pmax		
	comp=E,13nm,0.6s						
YUK				smax	smax		
	comp=E,68nm,0.4s						
YUK				smax	smax		
	comp=N,248nm,0.5s						
SHO	**Shikotan**	**9.52 26**		*e*P	**Pn**	**12 00 48.4**	**-2.8**
SHO				*e*S	**Sn**	**12 02 30.0**	**-7.9**
SHO				pmax	pmax		
	comp=N,19nm,0.7s						
SHO				pmax	pmax		
	comp=E,20nm,0.7s						
SHO				pmax	pmax		
	comp=Z,26nm,0.7s						
SHO				smax	smax		
	comp=N,176nm,0.7s						
SHO				smax	smax		
	comp=E,45nm,0.4s						
VLA	**Vladivostok**	**10.45**	**320**	*e*P	**Pn**	**12 01 03.0**	**-0.9**
KSRS	**Korea Array**	**10.77**	**285**	Pn	**Pn**	**12 01 10.7**	**+2.4**
	comp=E,0.4nm,0.3s,baz=100,slow=14,SNR=12						
KSRS				LR	LR	12 05 22.0	
	comp=E,506nm,19.4s,baz=94,slow=38						
KS15	**Wonju Array Si**	**10.80**	**285**	*e*Pn	**Pn**	**12 01 06.1**	**-2.6**
USRK	**Ussuriysk Ar.**	**11.18**	**324**	Pn	**Pn**	**12 01 15.9**	**+1.9**
	comp=E,0.3nm,0.3s,baz=91,slow=13,SNR=4.0						
USRK				LR	LR	12 05 17.8	
	comp=E,215nm,19.5s,baz=147,slow=36						
YSS	**Yuzh-Sakhalins**	**11.58 6**	‖	*e*P	**Pn**	**12 01 17.7**	**-1.6**
YSS				*e*S	**Sn**	**12 03 20.9**	**-7.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS				MLR	MLR		
	comp=N,500nm,12.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**11.58 6**		*e*Pn	**Pn**	**12 01 17.5**	**-1.8**
MDJ	**Mudanjiang**	**12.69**	**320**	P	**Pn**	**12 01 38.0**	**+3.5**
MDJ				S	**Sn**	**12 03 58.6**	**+3.3**
MDJ				PcP	**PcP**	**12 07 13.3**	**+2.1**
MDJ				ScP	**ScP**	**12 10 45.5**	**+1.9**
MDJ				PcS	**PcS**	**12 10 47.7**	**+2.3**
MDJ				ScS	**ScS**	**12 14 20.3**	**+0.5**
MDJ				pmax	pmax		
	comp=E,3.0nm,0.8s						
MDJ				pmax	pmax		
	comp=E,81nm,5.2s						
MDJ				LR	LR		
	comp=E,220nm,12.7s						
MDJ				LR	LR		
	comp=E,240nm,11.5s						
HABR	**Khabarovsk**	**13.76**	**343**	*e*P	**Pn**	**12 01 46.8**	**-2.4**
HABR				*e*S	**Sn**	**12 04 18.0**	**-3.6**
HABR				pmax	pmax		
	comp=Z,21nm,2.5s						
HABR				pmax	pmax		
	comp=Z,11nm,1.9s						
HABR				pmax	pmax		
	comp=E,33nm,2.0s						
HABR				MLR	MLR		
	comp=Z,139nm,15.0s						
KLR	**Kul'dur**	**15.39**	**336**	Pn	**Pn**	**12 02 11.3**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=151,slow=13,SNR=8.3						
KLR				LR	LR	12 08 01.6	
	comp=Z,27nm,18.9s,baz=150,slow=37						
KLR	**Kul'dur**	**15.39**	**336**	*e*P	**Pn**	**12 02 09.6**	**-1.6**
NJ2	**Nanjing**	**18.76**	**266**	*e*P	**Pn**	**12 02 55.1**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI	**Beijing**	**20.18**	**291**	P	**P**	**12 03 08.3**	**-0.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,94nm,3.6s						
BJI				LR	LR		
	comp=Z,250nm,22.2s						
BJI				LR	LR		
	comp=Z,290nm,13.3s						
PETK	**Petropavlovsk-**	**21.22 28**		P	**P**	**12 03 20.3**	**+0.6**
	comp=Z,12nm,0.9s,baz=216,slow=9.2,SNR=7.2						
PETK				LR	LR	12 12 51.0	
	comp=Z,103nm,18.5s,baz=224,slow=40						
PETK	**Petropavlovsk-**	**21.22 28**		*e*P	**P**	**12 03 18.0**	**-1.7**
PEA1	**Petropavlovsk-**	**21.22 28**		*e*P	**P**	**12 03 20.3**	**+0.5**
PET	**Petropavlovsk**	**21.54 30**		*i* P	**P**	**12 03 24.0**	**+0.9**
PET				pmax	pmax		
	comp=Z,43nm,1.7s						
HHC	**Hu-ho-hao-te**	**23.75**	**292**	*e*P	**P**	**12 03 45.6**	**-0.9**
HHC				sP	sP	12 04 01.8	+8.3
HHC				PP	**PnPn**	**12 04 16.5**	**+2.4**
HHC				S	**S**	**12 07 58.4**	**-2.8**
HHC				sS	sS	12 08 11.8	+2.4
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=Z,260nm,12.7s						
HHC				LR	LR		
	comp=Z,170nm,14.9s						
HHC				LR	LR		
	comp=Z,200nm,12.9s						
MA2	**Magadan**	**24.97 12**		P	**P**	**12 03 57.2**	**-0.2**
	comp=Z,38nm,0.8s,baz=195,slow=7.9,SNR=40						
MA2				LR	LR	12 15 49.4	
	comp=Z,154nm,18.2s,baz=198,slow=41						
MA2	**Magadan**	**24.97 12**		‖ *i* P	**P**	**12 03 58.3**	**+0.9**
XAN	**Xi'an**	**26.38**	**276**	P	**P**	**12 04 08.9**	**-1.6**
XAN				pP	sP	12 04 18.2	+0.6
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
XAN				pmax	pmax		
	comp=Z,45nm,5.2s						
ENH	**Enshi**	**26.95**	**268**	*e*P	**P**	**12 04 14.4**	**-1.2**
	comp=Z,32nm,0.7s						
YAK	**Yakutsk**	**27.57**	**348**	P	**P**	**12 04 20.1**	**-0.7**
	comp=Z,17nm,0.5s,baz=16,slow=0.8,SNR=7.2						
YAK				LR	LR	12 15 12.5	
	comp=Z,153nm,21.2s,baz=267,slow=36						
YAK	**Yakutsk**	**27.57**	**348**	*e*P	**P**	**12 04 19.8**	**-0.9**
YAK				*e*		12 05 05.6	
YAK				*e*S	**S**	**12 09 03.8**	**+2.7**
YAK				*e*		12 15 03.4	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,34nm,2.1s						
YAK				pmax	pmax		
	comp=N,14nm,1.5s						
YAK				smax	smax		
	comp=N,123nm,4.2s						
YAK				MLR	MLR		
	comp=Z,185nm,17.0s						
YAK	**Yakutsk**	**27.57**	**348**	*e*P	**P**	**12 04 21.8**	**+1.1**
	comp=Z,24nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**27.62**	**118**	T	T	12 33 29.6	
	baz=310,slow=75,SNR=1752						
H11N1	**WAKE ISLAND Hy**	**27.63**	**118**	T	T	12 33 20.9	
	baz=310,slow=75,SNR=2397						
H11N3	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	12 33 27.1	
	baz=310,slow=75,SNR=1626						
ULN	**Ulaanbaatar**	**28.04**	**307**	*e*P	**P**	**12 04 24.2**	**-1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	12 34 09.4	
	baz=312,slow=76,SNR=3942						
H11S3	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	12 34 10.8	
	baz=312,slow=76,SNR=3223						
H11S2	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	12 34 17.3	
	baz=312,slow=76,SNR=2843						
SEY	**Seymchan**	**28.41 11**		P	**P**	**12 04 29.4**	**+1.2**
	comp=Z,5.7nm,0.7s,baz=201,slow=7.5,SNR=26						
SONA1	**Songino Array**	**28.46**	**307**	*e*P	**P**	**12 04 29.4**	**+0.2**
SONA0	**Songino Array**	**28.47**	**307**	*e*P	**P**	**12 04 28.3**	**-0.8**
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**28.47**	**307**	P	**P**	**12 04 28.3**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=100,slow=9.6,SNR=6.4						
SONM				LR	LR	12 15 49.0	
	comp=Z,91nm,21.5s,baz=82,slow=36						
SONM	**Songino Array**	**28.47**	**307**	P	**P**	**12 04 28.3**	**-0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,91nm,21.5s						
BOD	**Bodaibo**	**28.74**	**330**	*e*P	**P**	**12 04 30.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,17nm,1.4s						
GYA	**Guiyang**	**30.70**	**263**	*e*P	**P**	**12 04 51.0**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.42**	**272**	P	**P**	**12 04 54.7**	**-0.6**
CD2				S	**S**	**12 10 00.3**	**-2.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,720nm,4.5s						
CD2				LR	LR		
	comp=Z,580nm,8.4s						
CD2				LR	LR		
	comp=Z,680nm,9.0s						
CD2				LR	LR		
	comp=Z,920nm,7.3s						
QIZ	**Qiongzhong**	**32.03**	**248**	P	**P**	**12 05 02.0**	**+1.3**
QIZ				S	**S**	**12 10 12.7**	**+0.7**
GTA	**Gaotai**	**32.79**	**289**	*e*P	**P**	**12 05 11.0**	**+3.6**
GTA				pP	sP	12 05 20.4	+5.9
GTA				sP	pP	12 05 24.8	+12
GTA				S	**S**	**12 10 26.1**	**+2.3**
GTA				sS	sS	12 10 39.9	+7.8
GTA				SS	**SnSn**	**12 12 24.4**	**+4.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,74nm,6.4s						
GTA				LR	LR		
	comp=Z,190nm,10.5s						
GTA				LR	LR		
	comp=Z,190nm,15.4s						
GTA				LR	LR		
	comp=Z,160nm,15.9s						
KMI	**Kunming**	**34.46**	**263**	P	**P**	**12 05 22.9**	**+0.7**
KMI				pP	sP	12 05 31.7	+2.4
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=Z,410nm,12.5s						
KMI				LR	LR		
	comp=Z,380nm,11.9s						
KMI				LR	LR		
	comp=Z,380nm,11.9s						
BILL	**Bilibino**	**35.64 16**	⇑	*e*P	**P**	**12 05 32.3**	**+0.7**
BILL				*e**PP	**sP**	**12 05 39.8**	**+1.1**
BILL				*e*		12 06 50.7	
BILL				PPP	PPP	12 07 04.0	
BILL				*e*		12 07 58.7	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FAKI	**Fak Fak**	**39.04**	**194**	*e*P	**P**	**12 06 01.2**	**+0.3**
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**40.64**	**257**	*e*P	**P**	**12 06 13.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**40.64**	**257**	*e*P	**P**	**12 06 13.8**	**-0.5**
	comp=Z,4.9nm,0.9s						
CM31	**Chiang Mai Arr**	**40.83**	**257**	*e*P	**P**	**12 06 16.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.83**	**257**	P	**P**	**12 06 16.2**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=47,slow=6.8,SNR=12						
CMAR				LR	LR	12 25 06.6	
	comp=Z,147nm,18.3s,baz=55,slow=39						
DGZ	**Jazzator, Alta**	**41.11**	**307**	*i* P	**P**	**12 06 18.6**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ	**Urumqi**	**41.32**	**298**	P	**P**	**12 06 21.5**	**+1.8**
WMQ				pP	sP	12 06 28.7	+1.8
WMQ				sP	pP	12 06 33.8	+8.9
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,240nm,5.1s						
WMQ				LR	LR		
	comp=Z,61nm,15.5s						
WMQ				LR	LR		
	comp=Z,58nm,18.1s						
ZAA0	**Zalesovo Array**	**42.79**	**314**	*e*P	**P**	**12 06 31.1**	**-0.3**
ZAA1	**Zalesovo Array**	**42.79**	**314**	*e*P	**P**	**12 06 31.1**	**-0.4**
ZALV	**Zalesovo Beam**	**42.79**	**314**	P	**P**	**12 06 31.1**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=78,slow=6.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**42.79**	**314**	*e*P	**P**	**12 06 31.0**	**-0.5**
NVS	**Novosibirsk**	**43.74**	**315**	*e*P	**P**	**12 06 39.3**	**+0.1**
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NRIK	**Noril'sk**	**44.60**	**336**	LR	LR	12 28 28.2	
	comp=Z,98nm,18.1s,baz=74,slow=40						
MK01	**Makanchi Array**	**44.73**	**303**	*e*P	**P**	**12 06 46.5**	**-0.7**
MK31	**Makanchi Array**	**44.74**	**303**	*e*P	**P**	**12 06 47.0**	**-0.3**
MK31	**Makanchi Array**	**44.74**	**303**	*e*P	**P**	**12 06 47.0**	**-0.3**
MK32	**Makanchi Array**	**44.74**	**303**	*e*P	**P**	**12 06 46.8**	**-0.5**
MKAR	**Makanchi Array**	**44.74**	**303**	P	**P**	**12 06 46.8**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=87,slow=9.2,SNR=9.6						
MKAR				LR	LR	12 25 53.3	
	comp=Z,93nm,18.2s,baz=60,slow=37						
MKAR	**Makanchi Array**	**44.74**	**303**	*c*e*P	**P**	**12 06 47.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**44.74**	**303**	*e*P	**P**	**12 06 46.9**	**-0.4**
	comp=Z,28nm,0.8s						
MAKZ	**Makanchi**	**44.95**	**303**	*e*P	**P**	**12 06 48.4**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,27nm,1.9s						
MAKZ	**Makanchi**	**44.95**	**303**	*e*P	**P**	**12 06 48.4**	**-0.6**
	comp=Z,27nm,1.9s						
TAPN	**Taplejung**	**45.78**	**275**	*e*P	**P**	**12 06 55.5**	**-0.6**
	comp=Z,12nm,0.8s						
ODAN	**Odare**	**46.24**	**275**	*e*P	**P**	**12 06 58.9**	**-0.8**
	comp=Z,10nm,0.6s						
KURK	**Kurchatov**	**46.70**	**309**	*c i* P	**P**	**12 07 02.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,48nm,1.2s						
KURK	**Kurchatov**	**46.70**	**309**	*e*P	**P**	**12 07 02.4**	**-0.2**
	comp=Z,15nm,0.8s						
KURBB	**Kurchatov Arra**	**46.77**	**309**	P	**P**	**12 07 02.5**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=84,slow=7.4,SNR=27						
RAMN	**Ramite**	**46.84**	**275**	*e*P	**P**	**12 07 03.6**	**-0.9**
	comp=Z,45nm,0.7s						
JIRN	**Jiri**	**46.89**	**276**	*e*P	**P**	**12 07 04.7**	**-0.2**
	comp=Z,38nm,0.6s						
GKN	**Gorkha**	**48.01**	**278**	*e*P	**P**	**12 07 14.3**	**+0.9**
	comp=Z,53nm,0.9s						
RSO	**Redoubt South**	**48.34 37**		*e*P	**P**	**12 07 17.4**	**+1.9**
KDAK	**Kodiak Island**	**48.49 41**		P	**P**	**12 07 17.0**	**+0.6**
	comp=Z,5.4nm,0.6s,baz=271,slow=5.5,SNR=13						
KDAK	**Kodiak Island**	**48.49 41**		*e*P	**P**	**12 07 17.8**	**+1.4**
KDAK				pmax	pmax		
	comp=Z,95nm,1.7s						
KDAK	**Kodiak Island**	**48.49 41**		*e*P	**P**	**12 07 17.8**	**+1.4**
	comp=Z,95nm,1.7s						
MTN	**Manton Dam**	**48.93**	**193**	*e*P	**P**	**12 07 20.4**	**+0.1**
	comp=Z,20nm,1.2s						
KOLN	**Koldanda**	**48.94**	**278**	*e*P	**P**	**12 07 21.6**	**+0.9**
	comp=Z,15nm,0.7s						
KTH	**Kantishna Hill**	**49.24 33**		*e*P	**P**	**12 07 24.8**	**+2.6**
	comp=Z,29nm,1.8s						
PYUN	**Piuthan**	**49.30**	**279**	*e*P	**P**	**12 07 24.3**	**+0.9**
	comp=Z,37nm,0.7s						
MDM	**Murphy Dome**	**50.42 31**		*e*P	**P**	**12 07 33.4**	**+2.2**
	comp=Z,14nm,0.7s						
WRH	**Wood River Hil**	**50.49 32**		*e*P	**P**	**12 07 33.3**	**+1.7**
	comp=Z,4.4nm,0.6s						
CCB	**Clear Creek Bu**	**50.61 32**		*e*P	**P**	**12 07 34.4**	**+1.9**
	comp=Z,11nm,1.7s						
FRU	**Bishkek**	**50.87**	**300**	*e*P	**P**	**12 07 35.0**	**+0.1**
HDA	**Harding Lake**	**50.98 32**		*e*P	**P**	**12 07 36.7**	**+1.3**
	comp=Z,14nm,1.3s						
IL1	**Eielson Array**	**51.00 32**		*e*P	**P**	**12 07 36.5**	**+1.0**
ILAR	**Eielson Array**	**51.00 32**		P	**P**	**12 07 36.5**	**+0.9**
	comp=Z,5.1nm,0.6s,baz=264,slow=5.9,SNR=93						
ILB	**Eielson Array**	**51.00 32**		*e*P	**P**	**12 07 36.7**	**+1.2**
AAK	**Ala-Archa**	**51.00 299**		P	**P**	**12 07 35.8**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=129,slow=6.5,SNR=3.0						
AAK	**Ala-Archa**	**51.00 299**		*e*P	**P**	**12 07 35.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BVAR	**Borovoye Array**	**51.44**	**313**	P	**P**	**12 07 39.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=90,slow=7.4,SNR=8.2						
BRVK	**Borovoye**	**51.50**	**313**	*i* P	**P**	**12 07 38.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,14nm,1.2s						
KLU	**Klutina**	**51.62 36**		*e*P	**P**	**12 07 42.1**	**+1.8**
	comp=Z,28nm,1.7s						
HARP	**HAARP**	**51.91 35**		*e*P	**P**	**12 07 44.7**	**+2.4**
	comp=Z,20nm,1.2s						
DOT	**Dot Lake**	**52.30 33**		*e*P	**P**	**12 07 46.3**	**+1.1**
	comp=Z,10nm,0.6s						
EGAK	**Eagle**	**53.45 31**		*e*P	**P**	**12 07 55.0**	**+1.4**
	comp=Z,30nm,1.9s						
KKAR	**Karatay Array**	**53.68**	**301**	*e*P	**P**	**12 07 56.4**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,28nm,0.7s						
KKAR	**Karatay Array**	**53.68**	**301**	*e*P	**P**	**12 07 56.4**	**+0.6**
	comp=Z,28nm,0.7s						
WRAB	**Tennant Creek**	**55.43**	**188**	*e*P	**P**	**12 08 08.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,38nm,1.0s						
WRAB	**Tennant Creek**	**55.43**	**188**	*e*P	**P**	**12 08 08.1**	**-0.5**
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**55.44**	**188**	*e*P	**P**	**12 08 08.2**	**-0.4**
WR1	**Warramunga Arr**	**55.44**	**188**	*e*P	**P**	**12 08 08.2**	**-0.4**
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**55.44**	**188**	P	**P**	**12 08 08.2**	**-0.4**
	comp=Z,6.2nm,0.5s,baz=2.9,slow=7.4,SNR=56						
INK	**Inuvik**	**55.94 27**		P	**P**	**12 08 12.2**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=288,slow=6.3,SNR=17						
INK	**Inuvik**	**55.94 27**		*e*P	**P**	**12 08 12.4**	**+0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inu

ARCES pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 66.96 179 P **P 12 09 26.7 +0.2**
comp=Z,3.1nm,1.0s,baz=326,slow=23,SNR=3.5
STKA Stephens Creek 66.96 179 *eP* **P 12 09 26.5 0.0**
comp=Z,9.5nm,2.0s
VSR Storozhevoye 69.94 319 *i* P **P 12 09 44.3 -0.8**
VSR pmax pmax
comp=Z,8.0nm,1.3s
FIA0 FINESS Array S 70.09 332 *eP* **P 12 09 44.9 -0.9**
FIA0 FINESS Array S 70.09 332 *eP* **P 12 09 44.9 -0.9**
FINES FINESS Array B 70.09 332 P **P 12 09 44.9 -0.9**
comp=Z,2.5nm,0.6s,baz=65,slow=4.8,SNR=12
FINES FINESS Array B 70.09 332 *i* P **P 12 09 45.7 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
ZEI Tsey 71.59 310 *eP* P 12 09 48.1 -7.5
ZEI pmax pmax
comp=Z,22nm,1.3s
KBZ Khabaz 71.72 311 P **P 12 09 55.8 -0.2**
comp=Z,3.4nm,0.8s,baz=68,slow=3.1,SNR=6.0
KIV Kislovodsk 71.73 311 *eP* **P 12 09 55.4 -0.9**
KIV pmax pmax
comp=Z,13nm,1.1s
K05A Summer Lake 72.19 50 *eP* **P 12 10 01.6 +2.5**
comp=Z,56nm,1.8s
GNI Garni 72.43 307 *eP* **P 12 10 00.8 +0.2**
GNI pmax pmax
comp=Z,27nm,0.9s
BEKR Beckworth 74.06 52 *eP* **P 12 10 11.8 +1.6**
comp=Z,5.2nm,0.9s
SLMT Seeley Lake 74.08 43 *eP* **P 12 10 11.4 +1.1**
CMB Columbia Colle 75.04 54 *eP* **P 12 10 17.6 +1.8**
CMB pmax pmax
comp=Z,12nm,1.6s
CMB Columbia Colle 75.04 54 *eP* **P 12 10 17.6 +1.8**
comp=Z,12nm,1.6s
AKASG Malin Array Be 75.38 322 P **P 12 10 16.6 -0.9**
comp=Z,0.9nm,0.4s,baz=48,slow=6.1,SNR=8.5
AKASG Malin Array Be 75.38 322 P **P 12 10 16.6 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 75.38 322 *eP* **P 12 10 17.1 -0.3**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 75.38 322 *eP* **P 12 10 17.1 -0.3**
comp=Z,4.1nm,0.8s
KIEV Kiev 75.39 322 *eP* **P 12 10 15.7 -1.8**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
NC204 NORSAR Array S 75.50 338 *eP* **P 12 10 18.2 +0.2**
NB2 NORSAR Subarra 75.54 337 P **P 12 10 18.0 -0.3**
comp=Z,6.5nm,0.8s,baz=40,slow=6.2
NB200 NORSAR Array S 75.54 337 *eP* **P 12 10 18.4 +0.2**
NOA NORSAR Array B 75.54 337 P **P 12 10 18.4 +0.2**
comp=Z,5.0nm,0.7s,baz=39,slow=5.7,SNR=13
DLMT Dillon 75.68 44 *eP* **P 12 10 21.4 +1.9**
comp=Z,6.6nm,1.0s
BMN Battle Mountai 75.75 50 *eP* **P 12 10 22.1 +2.2**
BMN pmax pmax
comp=Z,5.0nm,1.0s
BMN Battle Mountai 75.75 50 *eP* **P 12 10 22.1 +2.2**
comp=Z,4.6nm,1.0s
TVH2 Borealis Mine 75.92 53 *eP* **P 12 10 22.8 +1.8**
comp=Z,14nm,1.7s
H17A Grant Village 77.41 44 *eP* **P 12 10 29.8 +0.3**
comp=Z,11nm,1.3s
IMW Indian Meadow 77.51 45 *eP* **P 12 10 31.3 +1.2**
comp=Z,14nm,1.8s
R11A Troy Canyon, C 77.98 51 *eP* **P 12 10 34.5 +1.9**
comp=Z,1.9nm,0.8s
CCAC Calif City Air 78.23 55 *eP* **P 12 10 33.6 -0.3**
HWUT Hardware Ranch 78.53 47 *eP* **P 12 10 37.7 +2.1**
comp=Z,3.4nm,0.9s
PD31 Pinedale Array 79.00 45 *eP* **P 12 10 39.4 +1.2**
PDAR Pinedale Array 79.00 45 P **P 12 10 39.5 +1.3**
comp=Z,1.3nm,0.5s,baz=276,slow=1.6,SNR=20
PDAR Pinedale Array 79.00 45 *eP* **P 12 10 38.8 +0.6**
BR101 Keskin Array S 79.69 312 *eP* **P 12 10 42.3 +0.4**
BRTR Keskin Array B 79.69 312 P **P 12 10 42.3 +0.3**
comp=Z,1.8nm,0.9s,baz=113,slow=3.2,SNR=6.7
BRTR Keskin Array B 79.69 312 *ceP* **P 12 10 42.2 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
DGR Domenigoni Val 79.78 56 *eP* **P 12 10 45.2 +2.8**
SZCU Shurtz Canyon 80.01 51 *eP* **P 12 10 43.3 -0.6**
comp=Z,14nm,1.5s
BR231 Keskin MP Arra 80.14 312 *eP* **P 12 10 43.1 -1.3**
P17A Butcher Ranch, 80.33 48 *eP* **P 12 10 47.7 +2.3**
comp=Z,4.9nm,1.0s
SRU San Rafael Swe 80.68 48 *eP* **P 12 10 49.2 +1.8**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 80.68 48 *eP* **P 12 10 49.1 +1.8**
comp=Z,3.3nm,0.7s
RAYN Ar Rayn 80.99 292 *eP* **P 12 10 51.1 +2.0**
comp=Z,22nm,1.8s
PV10 Paradox Valley 82.05 48 *eP* **P 12 10 57.0 +2.3**
PV05 Paradox Valley 82.20 49 *eP* **P 12 10 57.3 +1.8**
CLL Collm 82.33 330 ⇑ *iP* **P 12 10 55.8 +0.2**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 82.33 330 ⇑ *iP* **P 12 10 55.8 +0.2**
comp=Z,10.0nm,1.0s
PV01 Paradox Valley 82.49 48 *eP* **P 12 10 59.5 +2.6**
S22A 4UR Ranch, Cre 83.79 48 *eP* **P 12 11 06.3 +2.5**
comp=Z,4.8nm,1.1s
GERES GERESS Array B 83.91 328 P **P 12 11 02.8 -1.1**
comp=Z,0.5nm,0.4s,baz=1.1,slow=6.7,SNR=4.0
SDCO Great Sand Dun 84.59 47 *eP* **P 12 11 10.2 +2.4**
comp=Z,5.2nm,1.1s
MHTCO State Highway 85.48 47 *eP* **P 12 11 14.4 +2.2**
comp=Z,13nm,1.4s
T25A Trinidad 85.64 47 *eP* **P 12 11 15.3 +2.2**
comp=Z,10.0nm,1.2s
ANMO Albuquerque 85.84 50 *eP* **P 12 11 16.1 +2.1**
ANMO pmax pmax
comp=Z,9.0nm,1.6s
ANMO Albuquerque 85.84 50 *eP* **P 12 11 16.1 +2.1**
comp=Z,8.6nm,1.6s
SCHQ Schefferville 86.95 16 P **P 12 11 17.9 -1.0**
comp=Z,9.0nm,0.7s,baz=274,slow=12,SNR=3.6
SCHQ LR LR 12 54 53.0
comp=Z,51nm,18.1s,baz=71,slow=39
SCHQ Schefferville 86.95 16 *eP* **P 12 11 17.9 -1.0**
comp=Z,83nm,1.8s
WMOK Wichita Mounta 90.60 45 *eP* **P 12 11 37.9 +1.3**
WMOK pmax pmax
comp=Z,10.0nm,1.6s
WMOK Wichita Mounta 90.60 45 *eP* **P 12 11 37.9 +1.3**
comp=Z,9.6nm,1.6s
LTX Lajitas 91.33 52 *eP* **P 12 11 41.8 +1.7**
LTX Lajitas 91.33 52 *eP* **P 12 11 41.8 +1.7**
TX31 Lajitas Ar. Si 91.33 52 *eP* **P 12 11 41.4 +1.2**
TXAR Lajitas Array 91.33 52 P **P 12 11 41.8 +1.7**
comp=Z,0.8nm,0.7s,baz=293,slow=3.4,SNR=13
MIAR Mount Ida 93.69 42 *eP* **P 12 11 53.0 +2.2**
MIAR pmax pmax
comp=Z,21nm,1.8s
MIAR Mount Ida 93.69 42 *eP* **P 12 11 53.0 +2.2**
comp=Z,21nm,1.8s
TOA1 Torodi Ar. Sit 118.24 314 *e*PKPdf **PKPdf 12 17 20.7 -1.2**
TORD Torodi Ar. Bea 118.24 314 PKP **PKPdf 12 17 20.7 -1.2**
comp=Z,0.5nm,0.5s,baz=4.3,slow=2.0,SNR=6.8
SAML Samuel 145.57 46 *e*PKPdf **PKPab 12 18 13.5 +0.2**
LPAZ La Paz 147.73 61 PKPbc **PKPbc 12 18 19.4 -0.6**
comp=Z,3.3nm,0.7s,baz=349,slow=4.3,SNR=16

IDC 04 12:04:16.8±429.0, 52°.06N×112°.44E, h0km, Error ellipse: s-maj=190.5km s-min=118.3km az=31.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.77**	**225**	*i*		12 42 40.0	
baz=39,slow=318,SNR=1.6							
I45RU	**USSURIYSK INFR**	**15.20**	**113**	*i*		13 42 10.0	
baz=306,slow=321,SNR=1.1							
I30JP	**ISUMI INFRASON**	**25.97**	**119**	*i*		14 41 00.0	
baz=317,slow=331,SNR=0.5							

IDC 04 12:10:06.0±2.4, 52°.18N×173°.23E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/62, mbtmp3.6/6, ML2.5/1, Error ellipse: s-maj=78.1km s-min=21.1km az=179.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**9.49**	**282**	Pn	Pn	12 12 24.9	+1.0
0.2nm,0.3s,baz=90,slow=17,SNR=11							
KDAK	**Kodiak Island**	**20.25**	**60**	P	P	12 14 41.9	-0.6
2.6nm,0.8s,baz=279,slow=13,SNR=11							
ILAR	**Eielson Array**	**23.88**	**43**	P	P	12 15 21.0	+0.2
0.3nm,0.4s,baz=251,slow=8.6,SNR=8.7							
KURBB	**Kurchatov Arra**	**54.88**	**309**	P	P	12 19 38.0	+0.2
0.3nm,0.5s,baz=53,slow=6.7,SNR=3.6							
MKAR	**Makanchi Array**	**55.56**	**304**	P	P	12 19 42.2	-0.7
0.2nm,0.4s,baz=68,slow=5.4,SNR=2.4							
TXAR	**Lajitas Array**	**63.34**	**76**	P	P	12 20 37.1	+0.2
0.7nm,0.7s,baz=296,slow=3.7,SNR=9.5							

NIED ***04*** *12:11:00.38°.50N×144°.60E, h5km, Mw3.5 Best double couple: M0=2.18000×10^14 NP1:φs=5.00000°, δ33.00000°, λ-94.00000°. NP2:φs=190.00000°, δ57.00000°, λ-87.00000°.*
IDC ***04*** *12:11:27.2±2.1, 38°.53N×144°.85E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.4/58, mbtmp3.8/5, ML3.4/3, MS2.2/1, Ms1 2.2/1, ms1mx2.1/48, Error ellipse: s-maj=40.0km s-min=32.7km az=93.0*
ISCJB ***04*** *12:11:29.0±0.8, 38°.55N±0°.04×144°.80E±0°.07, h29km, mb3.6/2, Error ellipse: s-maj=7.9km s-min=5.7km az=32.0*
JMA ***04*** *12:11:31.6±0.2, 38°.54N×144°.64E, h41km, M3.6*
ISC 04 12:11:30.9±1.4, 38°.56N±0°.05×144°.7E±0°.1, h29km, n22, σ2°.11/35, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.44**	**283**	P	**Pn**	**12 12 09.6**	**+0.8**
MIYJ	**Miyakonagasawa**	**2.48**	**295**	P	**Pn**	**12 12 09.8**	**+0.5**
JTH	**Tanohata**	**2.61**	**303**	P	**Pn**	**12 12 11.8**	**+0.6**
JTH				*e*S	**Sn**	12 12 42.6	+0.7
JMK	**Ichinoseki**	**2.77**	**279**	P	**Pn**	**12 12 14.3**	**+1.0**
JOM	**Ohasama**	**2.82**	**290**	P	**Pn**	**12 12 15.3**	**+1.2**
JOM				*e*S	**Sn**	12 12 47.5	+0.4
JANG	**Nango**	**3.07**	**307**	P	**Pn**	**12 12 18.1**	**+0.6**
JYK	**Kaneyama**	**3.43**	**277**	P	**Pn**	**12 12 24.0**	**+1.6**
JYK				*e*S	**Sn**	12 13 03.6	+1.5
JFT	**Otama**	**3.62**	**255**	P	**Pn**	**12 12 26.3**	**+1.3**
JFT				*e*S	**Sn**	12 13 06.8	0.0
JOT	**Ohata**	**3.99**	**316**	P	**Pn**	**12 12 32.8**	**+2.7**
JCH	**Churui**	**4.18**	**346**	P	**Pn**	**12 12 32.6**	**-0.1**
JCH				*e*S	**Sn**	12 13 18.0	-2.5
JKB	**Kayabe**	**4.36**	**321**	P	**Pn**	**12 12 37.2**	**+2.0**
NEM2	**Nemuro 2**	**4.86**	**9**	P	**Pn**	**12 12 40.5**	**-1.5**
NEM2				*e*S	**Sn**	12 13 32.2	-5.0
JRY	**Ryogami san**	**5.29**	**243**	P	**Pn**	**12 12 48.6**	**+0.5**
JRY				*e*S	**Sn**	12 13 46.2	-1.9
JTKR	**Abashiri--Toko**	**5.44**	**354**	P	**Pn**	**12 12 50.0**	**0.0**
JTKR				*e*S	**Sn**	12 13 48.2	-3.3
MJAR	**Matsushiro Arr**	**5.56**	**251**	Pn	**Pn**	**12 12 53.4**	**+1.7**
1.6nm,0.3s,baz=55,slow=9.6,SNR=15							
MJAR				Sn	**Sn**	**12 13 56.1**	**+1.6**
0.5nm,0.3s,baz=79,slow=24,SNR=2.7							
MJAR				LR	LR	12 15 21.7	
comp=Z,24nm,19.0s,baz=245,slow=42							
MAT	**Matsushiro**	**5.56**	**251**	P	**Pn**	**12 12 53.8**	**+2.1**
MAT				*e*S	**Sn**	12 13 55.5	+0.9
JOD2	**Odawara 2**	**5.59**	**236**	P	**Pn**	**12 12 52.7**	**+0.6**
JOD2				*e*S	**Sn**	12 13 51.7	-3.7
ASAJ	**Asahikawa**	**5.77**	**345**	Pn	**Pn**	**12 12 54.6**	**0.0**
0.8nm,0.3s,baz=160,slow=17,SNR=8.2							
ASAJ				Sn	**Sn**	**12 13 58.6**	**-1.2**
0.7nm,0.3s,baz=311,slow=20,SNR=3.1							
JHJ2	**Mitsune**	**6.74**	**218**	*e*S	**Sn**	**12 14 19.7**	**-4.0**
JHJ	**Hachijo jima 2**	**6.75**	**218**	Pn	**Pn**	**12 13 07.3**	**-0.8**
2.2nm,0.3s,baz=66,slow=20,SNR=3.5							
JHJ				Sn	**Sn**	**12 14 18.8**	**-5.2**
11nm,0.3s,baz=78,slow=20,SNR=3.9							
WRA	**Warramunga Arr**	**59.01**	**191**	P	**P**	**12 21 28.1**	**+0.1**
0.7nm,0.7s,baz=13,slow=7.3,SNR=5.1							
ASAR	**Alice Springs**	**62.73**	**191**	P	**P**	**12 21 54.5**	**+1.2**
0.3nm,0.8s,baz=9.9,slow=7.4,SNR=4.9							

IDC 04 12:16:48.8±77.0, 14°.34S×167°.65E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, Error ellipse: s-maj=1302.0km s-min=123.2km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.52**	**229**	P	P	12 22 55.4	+0.4
2.7nm,1.1s,baz=54,slow=12,SNR=4.2							
WRA	**Warramunga Arr**	**32.27**	**255**	P	P	12 23 19.3	-0.2
0.2nm,0.6s,baz=89,slow=8.5,SNR=3.1							
ASAR	**Alice Springs**	**33.15**	**249**	P	P	12 23 27.1	-0.1
0.3nm,0.4s,baz=78,slow=9.1,SNR=13							

IDC ***04*** *12:21:47.6±0.6, 51°.24N×160°.84E, h0km, mb4.3/24, mb1 4.5/27, mb1mx4.3/61, mbtmp4.3/27, ML3.5/4, MS3.3/13, Ms1 3.3/13, ms1mx3.2/40, Error ellipse: s-maj=16.5km s-min=11.1km az=155.0*
KRSC ***04*** *12:21:47.4±2.5, 51°.12N×160°.88E, h81km±43km, ML4.8*
ISCJB ***04*** *12:21:48.7±0.9, 51°.18N±0°.02×160°.83E±0°.03, h22km±6km, mb4.6/120, MS3.6/12, Error ellipse: s-maj=3.3km s-min=2.8km az=19.4*
NEIC ***04*** *12:21:52.7±0.2, 51°.28N×160°.75E, h35km, mb4.7/84, Error ellipse: s-maj=5.8km s-min=3.1km az=168.0*
BJI ***04*** *12:21:53.0, 51°.76N×160°.20E, h33km, mb4.6/27, mB5.0/23, Ms4.4/11, Ms7 4.2/12*
MOS ***04*** *12:21:54.8±0.9, 51°.50N×160°.63E, h67km, mb4.8/37, Error ellipse: s-maj=8.8km s-min=3.6km az=100.1*
ISC 04 12:21:51.4±1.4, 51°.18N±0°.04×160°.84E±0°.03, h28km±9km, n297, σ1$58/366, mb4.6/120, MS3.6/12, 3C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.92**	**312**	PN	**Pn**	**12 22 20.1**	**-1.9**
RUS				S	**Sn**	12 22 43.1	-2.0
RUS	**Russkaya**	**1.92**	**312**	*e*P	**Pn**	**12 22 20.1**	**-1.9**
RUS				*e*S	**Sn**	12 22 43.1	-2.0
SPN	**Mys Shipunski**	**1.99**	**346**	PN	**Pn**	**12 22 21.3**	**-1.7**
SPN	**Mys Shipunski**	**1.99**	**346**	*e*P	**Pn**	**12 22 21.3**	**-1.7**
MTVR	**Mutnovka**	**2.10**	**309**	PN	**Pn**	**12 22 23.4**	**-1.4**
MTVR				S	**Sn**	12 22 49.0	-1.0
MTVR	**Mutnovka**	**2.10**	**309**	*e*P	**Pn**	**12 22 23.4**	**-1.4**
MTVR				*e*S	**Sn**	12 22 49.0	-1.0
ASAK	**Asacha**	**2.19**	**305**	PN	**Pn**	**12 22 25.0**	**-0.9**
ASAK				S	**Sn**	12 22 52.6	+0.5
ASAK	**Asacha**	**2.19**	**305**	*e*P	**Pn**	**12 22 25.0**	**-0.9**
ASAK				*e*S	**Sn**	12 22 52.6	+0.5
NLC	**Nalytchevo**	**2.20**	**336**	PN	**Pn**	**12 22 25.1**	**-0.8**
NLC				S	**Sn**	12 22 51.9	-0.2
NLC	**Nalytchevo**	**2.20**	**336**	*e*P	**Pn**	**12 22 25.1**	**-0.8**
NLC				*e*S	**Sn**	12 22 51.9	-0.2
GRL	**Gorelyy**	**2.20**	**310**	PN	**Pn**	**12 22 25.5**	**-0.6**
GRL				S	**Sn**	12 22 53.0	+0.6
GRL	**Gorelyy**	**2.20**	**310**	*e*P	**Pn**	**12 22 25.5**	**-0.6**
GRL				*e*S	**Sn**	12 22 53.0	+0.6
DALK	**Dalny**	**2.26**	**326**	PN	**Pn**	**12 22 25.5**	**-1.2**
DALK				S	**Sn**	12 22 52.5	-1.1
DALK	**Dalny**	**2.26**	**326**	*e*P	**Pn**	**12 22 25.5**	**-1.2**
DALK				*e*S	**Sn**	12 22 52.5	-1.1
PET	**Petropavlovsk**	**2.29**	**325**	*e*PN	**Pn**	**12 22 26.0**	**-1.1**
PET				*e*S	**Sn**	**12 22 52.5**	**-1.8**
PET				smax	smax		
comp=N,860nm,0.4s							
PET				smax	smax		
comp=E,592nm,0.8s							
PET	**Petropavlovsk**	**2.29**	**325**	*e*P	**Pn**	**12 22 25.7**	**-1.4**
PET				*e*S	**Sn**	**12 22 53.2**	**-1.1**
PET	**Petropavlovsk**	**2.29**	**325**	*e*Pn	**Pn**	**12 22 25.7**	**-1.4**
PET				*e*Sn	**Sn**	**12 22 53.4**	**-0.9**
KRMR	**Karymshinskiy**	**2.35**	**316**	PN	**Pn**	**12 22 26.7**	**-1.4**
KRMR				S	**Sn**	**12 22 55.8**	**-0.2**
KRMR	**Karymshinskiy**	**2.35**	**316**	*e*P	**Pn**	**12 22 26.7**	**-1.4**
KRMR				*e*S	**Sn**	**12 22 55.8**	**-0.2**
UGLR	**Uglovaya**	**2.38**	**329**	PN	**Pn**	**12 22 28.3**	**-0.3**
UGLR	**Uglovaya**	**2.38**	**329**	*e*P	**Pn**	**12 22 28.3**	**-0.3**
UGLR				*e*S	**Sb**	**12 22 58.4**	**-4.2**
SDLR	**Sedlovina**	**2.42**	**331**	PN	**Pn**	**12 22 28.2**	**-0.9**
SDLR	**Sedlovina**	**2.42**	**331**	*e*P	**Pn**	**12 22 28.2**	**-0.9**
SDLR				*e*S	**Sn**	**12 22 58.9**	**+1.0**
AVH	**Avacha**	**2.46**	**329**	PN	**Pn**	**12 22 29.1**	**-0.5**
AVH	**Avacha**	**2.46**	**329**	*e*P	**Pn**	**12 22 29.1**	**-0.5**
AVH				*e*S	**Sn**	**12 22 59.7**	**+1.0**
KRER	**Koryakskii**	**2.49**	**330**	PN	**Pn**	**12 22 30.1**	**0.0**
KRER	**Koryakskii**	**2.49**	**330**	*e*P	**Pn**	**12 22 30.1**	**0.0**
KRER				*e*S	**Sn**	**12 22 59.5**	**-0.1**
KOK	**Koryaka**	**2.51**	**328**	PN	**Pn**	**12 22 30.2**	**-0.2**
KOK	**Koryaka**	**2.51**	**328**	*e*P	**Pn**	**12 22 30.2**	**-0.2**
PAU	**Pauzhetka**	**2.54**	**278**	PN	**Pn**	**12 22 27.5**	**-3.2**
PAU				S	**Sn**	**12 22 57.5**	**-3.2**
PAU	**Pauzhetka**	**2.54**	**278**	*e*P	**Pn**	**12 22 27.5**	**-3.2**
PAU				*e*S	**Sn**	**12 22 57.5**	**-3.2**
KRX	**Arik**	**2.57**	**329**	PN	**Pn**	**12 22 30.4**	**-0.7**
KRX	**Arik**	**2.57**	**329**	*e*P	**Pn**	**12 22 30.4**	**-0.7**
PEA0	**Petropavlovsk-**	**2.73**	**316**	*e*Pn	**Pn**	**12 22 32.7**	**-0.6**
PEA0B	**Petropavlovsk-**	**2.73**	**316**	*e*Pn	**Pn**	**12 22 32.7**	**-0.6**
PEA0B				*e*Sn	**Sn**	**12 23 05.7**	**+0.3**
PETK	**Petropavlovsk-**	**2.73**	**316**	Pn	**Pn**	**12 22 32.6**	**-0.7**
comp=E,26nm,0.3s,baz=116,slow=18,SNR=120							
PETK				Sn	**Sn**	**12 23 04.0**	**-1.4**
comp=E,67nm,0.3s,baz=94,slow=20,SNR=6.7							
PETK				LR	LR	12 23 15.3	
comp=E,252nm,20.2s,baz=126,slow=33							
PETK	**Petropavlovsk-**	**2.73**	**316**	*e*Pn	**Pn**	**12 22 32.5**	**-0.9**
PETK				*e*Sn	**Sn**	**12 23 06.2**	**+0.8**
PEA1	**Petropavlovsk-**	**2.74**	**316**	*e*Pn	**Pn**	**12 22 32.6**	**-0.8**
PEA1				*e*Sn	**Sn**	**12 23 04.0**	**-1.5**
APC	**Apacha**	**2.87**	**309**	PN	**Pn**	**12 22 35.2**	**+0.1**
APC	**Apacha**	**2.87**	**309**	*e*P	**Pn**	**12 22 35.2**	**+0.1**
KII	**Karymskiy**	**2.98**	**344**	PN	**Pn**	**12 22 36.3**	**-0.5**
KII				S	**Sn**	**12 23 11.6**	**-0.1**
KII	**Karymskiy**	**2.98**	**344**	*e*P	**Pn**	**12 22 36.3**	**-0.5**
KII				*e*S	**Sn**	**12 23 11.6**	**-0.1**
SKR	**Severo-Kuril's**	**3.03**	**262**	*e*PN	**Pn**	**12 22 35.2**	**-2.1**
SKR				pmax	pmax		
comp=Z,398nm,0.6s							
SKR				pmax	pmax		
comp=Z,500nm,1.1s							
SKR	**Severo-Kuril's**	**3.03**	**262**	*e*P	**Pn**	**12 22 35.3**	**-2.1**
SKR				*e*S	**Sn**	**12 23 08.6**	**-4.0**
GNL	**Ganaly**	**3.08**	**326**	PN	**Pn**	**12 22 38.1**	**-0.1**
GNL				S	**Sn**	**12 23 14.3**	**+0.2**
GNL	**Ganaly**	**3.08**	**326**	*e*P	**Pn**	**12 22 38.1**	**-0.1**
GNL				*e*S	**Sn**	**12 23 14.3**	**+0.2**
KZV	**Kizimen**	**3.96**	**355**	PN	**Pn**	**12 22 50.0**	**-0.2**
KZV				S	**Sn**	**12 23 33.8**	**-1.9**
KZV	**Kizimen**	**3.96**	**355**	*e*P	**Pn**	**12 22 50.0**	**-0.2**
KZV				*e*S	**Sn**	**12 23 33.8**	**-1.9**
TUMD	**Tumrok D**	**4.04**	**356**	*e*P	**Pn**	**12 22 50.8**	**-0.5**
TUMD				*e*S	**Sn**	**12 23 35.4**	**-2.2**
TUMR	**Tumrok**	**4.13**	**354**	PN	**Pn**	**12 22 50.8**	**-1.8**
TUMR				S	**Sn**	**12 23 35.4**	**-4.6**
TUMR	**Tumrok**	**4.13**	**354**	*e*P	**Pn**	**12 22 52.8**	**+0.2**
TUMR				*e*S	**Sn**	**12 23 39.3**	**-0.7**
KMNR	**Kamenistaya**	**4.60**	**356**	PN	**Pn**	**12 22 59.6**	**+0.6**
KMNR				S	**Sn**	**12 23 52.2**	**+0.7**
KMNR	**Kamenistaya**	**4.60**	**356**	*e*P	**Pn**	**12 22 59.6**	**+0.6**
KMNR				*e*S	**Sn**	**12 23 52.2**	**+0.7**
BZMR	**Bezymyannaya**	**4.77**	**358**	PN	**Pn**	**12 23 02.3**	**+0.9**
BZMR	**Bezymyannaya**	**4.77**	**358**	*e*P	**Pn**	**12 23 02.3**	**+0.9**
KIRR	**Kirishev**	**4.79**	**357**	PN	**Pn**	**12 23 02.6**	**+0.9**
KIRR	**Kirishev**	**4.79**	**357**	*e*P	**Pn**	**12 23 02.6**	**+0.9**
BZWR	**Bezymyannyi-We**	**4.80**	**358**	PN	**Pn**	**12 23 03.3**	**+1.5**
BZWR				S	**Sn**	**12 23 57.3**	**+0.8**
BZWR	**Bezymyannyi-We**	**4.80**	**358**	*e*P	**Pn**	**12 23 03.3**	**+1.5**
BZWR				*e*S	**Sn**	**12 23 57.3**	**+0.8**
KPT	**Kopyto**	**4.81**	**356**	PN	**Pn**	**12 23 02.6**	**+0.7**
KPT	**Kopyto**	**4.81**	**356**	*e*P	**Pn**	**12 23 02.6**	**+0.7**
ZLN	**Zelenaya**	**4.85**	**360**	PN	**Pn**	**12 23 02.5**	**+0.1**
ZLN				S	**Sn**	**12 23 58.0**	**+0.4**
ZLN	**Zelenaya**	**4.85**	**360**	*e*P	**Pn**	**12 23 02.5**	**+0.1**
ZLN				*e*S	**Sn**	**12 23 58.0**	**+0.4**
LGNR	**Loginova**	**4.91**	**359**	PN	**Pn**	**12 23 04.2**	**+0.7**
LGNR				S	**Sn**	**12 23 59.2**	**-0.3**
LGNR	**Loginova**	**4.91**	**359**	*e*P	**Pn**	**12 23 04.2**	**+0.7**
LGNR				*e*S	**Sn**	**12 23 59.2**	**-0.3**
KOZ	**Kozyrevsk**	**4.92**	**354**	PN	**Pn**	**12 23 03.9**	**+0.5**
KOZ	**Kozyrevsk**	**4.92**	**354**	*e*P	**Pn**	**12 23 03.9**	**+0.5**
CIRR	**Tsirk**	**4.95**	**359**	PN	**Pn**	**12 23 04.6**	**+0.8**
CIRR				S	**Sn**	**12 24 00.1**	**0.0**
CIRR	**Tsirk**	**4.95**	**359**	*e*P	**Pn**	**12 23 04.6**	**+0.8**
CIRR				*e*S	**Sn**	**12 24 00.1**	**0.0**
KRSR	**Krestovskiy**	**5.05**	**358**	PN	**Pn**	**12 23 05.4**	**+0.2**
KRSR				S	**Sn**	**12 24 02.4**	**-0.2**
KRSR	**Krestovskiy**	**5.05**	**358**	*e*P	**Pn**	**12 23 05.4**	**+0.2**
KRSR				*e*S	**Sn**	**12 24 02.4**	**-0.2**
BKI	**Bering**	**5.08**	**35**	PN	**Pn**	**12 23 01.9**	**-3.5**
BKI	**Bering**	**5.08**	**35**	*e*P	**Pn**	**12 23 01.9**	**-3.5**
BKI				S	**Sn**	**12 23 54.7**	**-8.3**
KLY	**Klyuchi**	**5.15**	**359**	PN	**Pn**	**12 23 05.8**	**-0.6**
KLY				S	**Sn**	**12 24 03.1**	**-1.6**
KLY	**Klyuchi**	**5.15**	**359**	*e*P	**Pn**	**12 23 05.8**	**-0.6**
KLY				*e*S	**Sn**	**12 24 03.1**	**-1.6**
KBTR	**Krutoberegovo**	**5.17**	**12**	PN	**Pn**	**12 23 05.9**	**-0.9**
KBTR				S	**Sn**	**12 24 01.5**	**-4.0**
KBTR	**Krutoberegovo**	**5.17**	**12**	*e*P	**Pn**	**12 23 05.9**	**-0.9**
KBTR				*e*S	**Sn**	**12 24 01.5**	**-4.0**
KBG	**Krutoberegovo**	**5.21**	**12**	PN	**Pn**	**12 23 05.1**	**-2.1**
KBG				S	**Sn**	**12 24 01.9**	**-4.3**
KBG	**Krutoberegovo**	**5.21**	**12**	*e*P	**Pn**	**12 23 05.1**	**-2.1**
KBG				*e*S	**Sn**	**12 24 01.9**	**-4.3**
SMKR	**Semkarok**	**5.43**	**4**	PN	**Pn**	**12 23 10.3**	**0.0**
SMKR				S	**Sn**	**12 24 09.4**	**-2.4**
SMKR	**Semkarok**	**5.43**	**4**	*e*P	**Pn**	**12 23 10.3**	**0.0**
SMKR				*e*S	**Sn**	**12 24 09.4**	**-2.4**
SRKR	**Sorokina**	**5.49**	**2**	PN	**Pn**	**12 23 11.3**	**+0.1**
**SRKR

YAK pmax pmax
comp=N,7.0nm,1.3s
YAK smax smax
comp=N,92nm,3.8s
YAK MLR MLR
comp=Z,75nm,17.0s
YAK Yakutsk 20.08 315 *e*P **P 12 26 19.3 -2.9**
comp=Z,29nm,0.8s
USRK Ussuriysk Ar. 20.55 261 P Pn 12 26 28.4 -1.3
comp=Z,2.2nm,0.8s,baz=55,slow=15,SNR=3.6
USRK LR LR 12 34 24.8
comp=Z,112nm,20.7s,baz=34,slow=37
MJAR Matsushiro Arr 21.79 237 P **P 12 26 40.1 -0.8**
comp=Z,3.2nm,0.8s,baz=31,slow=9.7,SNR=8.0
MJB9 Matsu-Tunnel 21.79 237 *e*P **P 12 26 40.8 -0.1**
comp=Z,3.5nm,0.9s
MAJO Matsushiro 21.79 237*c i*P **P 12 26 40.8 -0.1**
MAJO pmax pmax
comp=Z,57nm,1.1s
MAJO Matsushiro 21.79 237 *e*P **P 12 26 40.8 -0.1**
comp=Z,13nm,0.8s
MAT Matsushiro 21.79 237 P **P 12 26 39.8 -1.1**
MDJ Mudanjiang 21.84 265 P **P 12 26 39.5 -1.8**
MDJ pP pP 12 26 47.2 -1.9
MDJ sP sP 12 26 51.1 -1.6
MDJ PcP **PcP 12 30 40.4 +0.3**
MDJ ScP **ScP 12 34 15.4 +0.3**
MDJ PcS **PcS 12 34 19.6 +1.1**
MDJ ScS **ScS 12 37 58.9 -0.6**
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,56nm,4.8s
MDJ LR LR
comp=Z,200nm,12.4s
MDJ LR LR
comp=Z,240nm,10.3s
TT01 Tatalina 25.70 46 *e*P **P 12 27 19.1 +0.5**
SVW2 Sparrevohn 25.75 50 *e*P **P 12 27 19.1 0.0**
comp=Z,12nm,1.0s
KSRS Korea Array 27.00 252 P **P 12 27 31.8 +1.2**
comp=Z,2.3nm,0.8s,baz=45,slow=8.2,SNR=8.0
KSRS LR LR 12 38 01.2
comp=Z,49nm,20.8s,baz=20,slow=36
KSRS Korea Array 27.00 252 P **P 12 27 31.8 +1.2**
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS MLR MLR
comp=Z,49nm,20.8s
KS15 Wonju Array Si 27.03 252 *e*P **P 12 27 30.9 0.0**
KSAR Wonju Array Be 27.03 252 P **P 12 27 31.8 +0.9**
KSAR Wonju Array Be 27.03 252 P **P 12 27 31.8 +0.9**
OHAK Old Harbor 27.07 59 *e*P **P 12 27 29.2 -1.9**
comp=Z,81nm,1.8s
IMAR Indian Mountai 27.15 40 *e*P **P 12 27 30.9 -0.8**
KDAK Kodiak Island 27.39 58 P **P 12 27 32.3 -1.5**
comp=Z,7.0nm,0.8s,baz=270,slow=6.3,SNR=5.5
KDAK Kodiak Island 27.39 58 P **P 12 27 32.3 -1.5**
KDAK pmax pmax
comp=Z,5.0nm,0.7s
KDAK Kodiak Island 27.39 58 *e*P **P 12 27 32.9 -1.0**
comp=Z,60nm,1.8s
BOD Bodaibo 27.52 302 *e*P **P 12 27 32.3 -2.8**
BOD pmax pmax
comp=Z,12nm,1.4s
CNPM China Poot 27.93 54 *e*P **P 12 27 38.4 -0.4**
comp=Z,50nm,1.6s
BRLK Bradley Lake 28.09 53 *e*P **P 12 27 39.3 -0.9**
comp=Z,56nm,1.6s
SUA Susitna One 28.09 50 *e*P **P 12 27 39.8 -0.5**
comp=Z,44nm,2.0s
TRF Thorofare Moun 28.33 45 *e*P **P 12 27 43.2 +0.7**
comp=Z,31nm,1.8s
SEW Seward 28.79 53 *e*P **P 12 27 44.3 -2.0**
comp=Z,23nm,1.4s
SML Sawmill 29.23 49 *e*P **P 12 27 50.6 +0.2**
SML pmax pmax
comp=Z,21nm,0.7s
SML Sawmill 29.23 49 *e*P **P 12 27 50.6 +0.2**
comp=Z,21nm,0.7s
MDM Murphy Dome 29.31 42 *e*P **P 12 27 51.0 0.0**
comp=Z,6.6nm,1.4s
WRH Wood River Hil 29.34 43 *e*P **P 12 27 51.7 +0.5**
comp=Z,19nm,1.7s
COLA College 29.46 43 *e*P **P 12 27 51.9 -0.4**
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 29.47 43 *e*P **P 12 27 51.9 -0.5**
comp=Z,17nm,1.9s
DHY Denali Highway 29.64 46 *e*P **P 12 27 53.7 -0.4**
comp=Z,15nm,1.5s
SCM Sheep Creek Mo 29.71 49 *e*P **P 12 27 54.1 -0.5**
SCM pmax pmax
comp=Z,49nm,1.7s
SCM Sheep Creek Mo 29.71 49 *e*P **P 12 27 54.1 -0.5**
comp=Z,49nm,1.7s
HDA Harding Lake 29.84 44 *e*P **P 12 27 55.7 0.0**
comp=Z,3.3nm,0.8s
ILAR Eielson Array 29.87 43 P **P 12 27 55.3 -0.7**
comp=Z,0.8nm,0.6s,baz=242,slow=7.4,SNR=14
ILAR PcP **PcP 12 30 56.6 -1.6**
comp=Z,0.4nm,0.6s,baz=292,slow=4.0,SNR=4.1
ILB Eielson Array 29.87 43 *e*P **P 12 27 55.3 -0.7**
IL1 Eielson Array 29.87 43 *e*P **P 12 27 55.3 -0.7**
GLI Glacier Island 29.89 51 *e*P **P 12 27 55.6 -0.5**
comp=Z,20nm,1.4s
KLU Klutina 30.40 49 *e*P **P 12 28 00.5 -0.2**
comp=Z,19nm,1.4s
DOT Dot Lake 31.12 45 *e*P **P 12 28 06.0 -1.0**
comp=Z,49nm,2.0s
WAKE Wake Island 32.16 170 *e*P **P 12 28 17.3 +0.8**
comp=Z,261nm,1.4s
EGAK Eagle 32.33 43 *e*P **P 12 28 16.8 -0.7**
comp=Z,8.1nm,0.8s
SONA0 Songino Array 34.84 286 *e*P **P 12 28 38.7 -1.1**
comp=Z,15nm,2.0s
SONM Songino Array 34.84 286 P **P 12 28 38.7 -1.1**
comp=Z,0.5nm,0.6s,baz=85,slow=6.2,SNR=3.5
SONM LR LR 12 43 23.8
comp=Z,94nm,19.0s,baz=62,slow=37
TLY Talaya 34.88 294 *e*P **P 12 28 38.8 -1.1**
TLY pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 35.13 36 P **P 12 28 41.4 -0.4**
comp=Z,4.7nm,0.8s,baz=282,slow=4.5,SNR=9.1
INK Inuvik 35.13 36 *e*P **P 12 28 42.0 +0.2**
comp=Z,5.2nm,0.8s
HHC Hu-ho-hao-te 35.13 273 *e*P **P 12 28 42.4 +0.1**
HHC sP sP 12 28 58.9 +4.7
HHC S **S 12 34 05.8 -7.6**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.5s
HHC LR LR
comp=Z,160nm,16.9s
HHC LR LR
comp=Z,220nm,14.3s
HHC LR LR
comp=Z,140nm,15.1s
ZAK Zakamensk 35.60 292 *e*P **P 12 28 45.6 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
NJ2 Nanjing 36.13 254 *e*P **P 12 28 52.5 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,1.0s
NRIK Noril'sk 37.75 326 LR LR 12 45 33.4
comp=Z,61nm,19.4s,baz=127,slow=38
DLBC Dease Lake 38.85 52 P **P 12 29 14.4 +0.7**
comp=Z,3.2nm,0.8s,baz=291,slow=8.8,SNR=6.4
DLBC Dease Lake 38.85 52 *e*P **P 12 29 14.7 +1.1**
comp=Z,37nm,1.9s
LZH Lanzhou 42.83 272 *e*P **P 12 29 48.2 +1.4**
LZH pP pP 12 29 55.0 -0.3
LZH sP sP 12 30 00.5 +1.7
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.1s
ZAA1 Zalesovo Array 44.22 305 *e*P **P 12 29 56.0 -1.6**
ZALV Zalesovo Beam 44.22 305 P **P 12 29 56.0 -1.6**
comp=Z,1.9nm,0.8s,baz=56,slow=6.5,SNR=8.3
ZALV LR LR 12 49 34.4
comp=Z,63nm,18.2s,baz=70,slow=38
ZALV Zalesovo Beam 44.22 305 P **P 12 29 56.0 -1.6**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,63nm,18.2s
YKA Yellowknife Ar 44.28 41 P **P 12 29 57.9 0.0**
comp=Z,4.0nm,0.8s,baz=300,slow=8.4,SNR=3.6
NVS Novosibirsk 44.60 306 *e*P **P 12 29 59.8 -0.8**
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,8.0nm,0.8s
DGZ Jazzator, Alta 44.95 298 *e*P **P 12 30 02.4 -1.3**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
CD2 Chengdu 46.28 267 *e*P **P 12 30 13.0 -1.2**
WMQ Urumqi 48.07 291 P **P 12 30 28.9 +0.8**
WMQ pP sP 12 30 38.8 -1.3
WMQ sP pP 12 30 42.7 +6.0
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ pmax pmax
comp=Z,160nm,5.5s
WMQ LR LR
comp=Z,38nm,15.5s
WMQ LR LR
comp=Z,130nm,19.7s
WMQ LR LR
comp=Z,75nm,16.3s
SPITS Spitsbergen Ar 49.10 351 P **P 12 30 37.4 +1.8**
comp=Z,3.0nm,0.4s,baz=54,slow=8.5,SNR=17
KURK Kurchatov 49.16 304*c i*P **P 12 30 35.2 -1.1**
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 49.16 304 *e*P **P 12 30 35.6 -0.6**
comp=Z,7.8nm,0.9s
B08A Colville Reser 49.22 60 *e*P **P 12 30 36.0 -0.8**
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 49.42 298 *e*P **P 12 30 37.5 -0.9**
MK31 Makanchi Array 49.42 298 *e*P **P 12 30 37.5 -0.9**
MK32 Makanchi Array 49.42 298 *e*P **P 12 30 37.5 -0.9**
MKAR Makanchi Array 49.42 298 P **P 12 30 37.5 -0.9**
comp=Z,0.8nm,0.7s,baz=53,slow=7.5,SNR=7.5
MKAR LR LR 12 53 32.5
comp=Z,57nm,19.6s,baz=52,slow=39
MKAR Makanchi Array 49.42 298 *e*P **P 12 30 36.9 -1.5**
MKAR pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 49.42 298 *e*P **P 12 30 36.9 -1.5**
comp=Z,10nm,0.9s
MK01 Makanchi Array 49.43 298 *e*P **P 12 30 37.1 -1.4**
EDM Edmonton 49.57 52 *e*P **P 12 30 39.4 -0.1**
EDM pmax pmax
comp=Z,15nm,0.8s
EDM Edmonton 49.57 52 *e*P **P 12 30 39.4 -0.1**
comp=Z,14nm,0.8s
BVAR Borovoye Array 51.96 310 P **P 12 30 56.7 -0.7**
comp=Z,2.3nm,0.6s,baz=57,slow=8.9,SNR=11
BSMT Bassoo Peak 51.98 58 *e*P **P 12 30 58.1 +0.3**
BRVK Borovoye 51.99 310 *e*P **P 12 30 57.3 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Bovoye 51.99 310 *e*P **P 12 30 57.2 -0.3**
comp=Z,3.1nm,0.8s
MOD Modoc Plateau 52.57 67 *e*P **P 12 31 03.1 +0.9**
comp=Z,9.5nm,1.4s
BEKR Beckworth 53.83 69 *e*P **P 12 31 11.9 +0.3**
comp=Z,4.6nm,1.0s
PAHR Pah Rah Range 54.50 69 *e*P **P 12 31 16.9 +0.5**
comp=Z,6.3nm,1.1s
PNTR Pine Nut 54.78 70 *e*P **P 12 31 19.4 +0.8**
comp=Z,9.8nm,0.8s
CMB Columbia Colle 55.00 71 *e*P **P 12 31 21.1 +1.1**
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB Columbia Colle 55.00 71 *e*P **P 12 31 21.1 +1.1**
comp=Z,6.3nm,1.1s
YERR Yerington 55.06 69 *e*P **P 12 31 21.3 +0.7**
comp=Z,6.5nm,0.9s
BOZ Bozeman (W) 55.08 59 *e*P **P 12 31 21.1 +0.5**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 55.08 59 *e*P **P 12 31 21.1 +0.5**
comp=Z,4.6nm,0.9s
ARU Arti 55.13 319*c i*P **P 12 31 20.1 -0.4**
ARU 12 33 22.3
ARU S **S 12 39 02.7 +1.5**
ARU SS **SS 12 42 42.6 -2.0**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARCES ARCESS Array B 55.25 342 P **P 12 31 23.2 +1.9**
comp=Z,3.3nm,0.8s,baz=42,slow=8.4,SNR=7.8
WAKR Walker 55.26 70 *e*P **P 12 31 23.0 +1.0**
comp=Z,6.9nm,0.8s
BMN Battle Mountai 55.29 67 *e*P **P 12 31 22.9 +0.7**
BMN pmax pmax
comp=Z,6.0nm,0.8s
BMN Battle Mountai 55.29 67 *e*P **P 12 31 22.9 +0.7**
comp=Z,6.1nm,0.8s
QLMT Earthquake Lak 55.69 59 *e*P **P 12 31 25.8 +0.7**
TVH3 East Aurora ar 55.72 70 *e*P **P 12 31 25.5 +0.1**
comp=Z,3.6nm,0.9s
SUMG Summit 55.81 7 *i* P **P 12 31 25.9 +0.2**
comp=Z,9.1nm,0.9s
SUMG Summit 55.81 7 *i* P **P 12 31 25.9 +0.2**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
YHB Horse Butte 55.87 59 *e*P **P 12 31 27.0 +0.7**
comp=Z,7.4nm,1.0s
YHH Holmes Hill 56.03 59 *e*P **P 12 31 28.3 +0.7**
comp=Z,4.6nm,0.9s
YFT Old Faithful 56.26 59 *e*P **P 12 31 31.3 +2.2**
comp=Z,6.7nm,0.9s
AAK Ala-Archa 56.36 298 *e*P **P 12 31 29.5 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
H17A Grant Village 56.43 59 *e*P **P 12 31 32.5 +2.0**
comp=Z,10nm,1.2s
IMW Indian Meadow 56.56 60 *e*P **P 12 31 32.8 +1.4**
comp=Z,5.0nm,0.9s
RLMT Red Lodge 56.66 58 *e*P **P 12 31 33.1 +1.1**
comp=Z,14nm,1.1s
FXWY Fox Creek 56.69 60 *e*P **P 12 31 33.3 +1.1**
comp=Z,2.7nm,1.0s
MOOW Moose Ponds 56.77 60 *e*P **P 12 31 33.8 +1.1**
comp=Z,12nm,1.8s
TPAW Teton Pass 56.82 60 *e*P **P 12 31 34.5 +1.3**
comp=Z,4.1nm,0.8s
LOHW Long Hollow 56.93 60 *e*P **P 12 31 35.1 +1.1**
comp=Z,8.4nm,1.4s
REDW Red Top Meadow 56.96 60 *e*P **P 12 31 35.6 +1.4**
comp=Z,16nm,1.4s
LAO LASA Array 57.22 55 *e*P **P 12 31 36.4 +0.6**
comp=Z,10nm,0.9s
KSH Kashi 57.59 294 P **P 12 31 41.5 +3.0**
KSH sP sP 12 31 55.4 +4.8
KSH PcP **PcP 12 32 35.9 +4.3**
KSH PP **PP 12 33 50.7 +4.7**
KSH PcS **PcS 12 36 32.4 -0.4**
KSH S **S 12 39 33.9 -0.7**
KSH sS sS 12 39 51.4 +2.4
KSH ScS **ScS 12 41 23.2 -2.6**
KSH SS **SS 12 43 25.6 +1.4**
KSH pmax pmax
comp=Z,20nm,1.8s
KSH pmax pmax
comp=Z,190nm,6.1s
KSH LR LR
comp=Z,54nm,5.2s
KSH LR LR
comp=Z,100nm,5.8s
KSH LR LR
comp=Z,150nm,7.4s
R11A Troy Canyon, C 57.62 68 *e*P **P 12 31 38.9 +0.1**
comp=Z,3.2nm,0.9s
HWUT Hardware Ranch 57.73 62 *e*P **P 12 31 40.7 +1.1**
comp=Z,11nm,1.4s
DUG Dugway, Tooele 57.98 64 *e*P **P 12 31 42.2 +1.0**
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway, Tooele 57.98 64 *e*P **P 12 31 42.2 +1.0**
comp=Z,5.4nm,1.1s
CHTO Chiang Mai 58.00 260 *e*P **P 12 31 43.0 +1.6**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 58.00 260 *e*P **P 12 31 43.0 +1.6**
comp=Z,5.5nm,0.9s
BW06 Boulder Array 58.07 60 *e*P **P 12 31 42.8 +0.8**
comp=Z,6.0nm,0.8s
PD31 Pinedale Array 58.07 60 *e*P **P 12 31 42.7 +0.7**
PDAR Pinedale Array 58.07 60 P **P 12 31 42.4 +0.5**
comp=Z,4.6nm,0.7s,baz=292,slow=3.2,SNR=50
PDAR Pinedale Array 58.07 60 *e*P **P 12 31 42.2 +0.2**
TPNV Topopah Spring 58.17 69 *e*P **P 12 31 43.3 +0.6**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 58.17 69 *e*P **P 12 31 43.2 +0.6**
comp=Z,6.0nm,0.9s
CM31 Chiang Mai Arr 58.27 260 *e*P **P 12 31 44.9 +1.6**
CMAR Chiang Mai Arr 58.27 260 P **P 12 31 44.9 +1.6**
comp=Z,3.1nm,0.8s,baz=29,slow=7.0,SNR=17
CM01 Chiang Mai Arr 58.28 260 *e*P **P 12 31 46.0 +2.6**
NLU North Lily Min 58.56 64 *e*P **P 12 31 45.7 +0.3**
comp=Z,3.4nm,0.9s
MPU Maple Canyon 58.77 64 *e*P **P 12 31 47.5 +0.7**
comp=Z,4.3nm,0.8s
TAPN Taplejung 58.83 276 *e*P **P 12 31 48.6 +1.1**
comp=Z,20nm,0.8s
KLMR Klimovskoe 58.84 331 *e*P **P 12 31 46.3 -0.4**
KLMR *e* 12 33 55.8
KLMR pmax pmax
comp=Z,10.0nm,1.1s
ODAN Odare 59.38 276 *e*P **P 12 31 51.6 +0.3**
ABKAR Akbulak array 59.40 312 *e*P **P 12 31 50.8 0.0**
comp=Z,20nm,0.8s
CCUT Cedar City 59.45 67 *e*P **P 12 31 52.3 +0.7**
comp=Z,12nm,1.6s
MSU Marysvale 59.48 65 *e*P **P 12 31 52.5 +0.7**
MSU Marysvale 59.48 65 *e*P **P 12 31 52.5 +0.7**
TMUT Trail Mountain 59.49 64 *e*P **P 12 31 52.7 +0.7**
comp=Z,4.4nm,0.9s
JIRN Jiri 59.56 277 *e*P **P 12 31 53.2 +0.5**
GUN Gumba 59.58 278 *e*P **P 12 31 53.2 +0.4**
SFJD Kangerlussuaq 59.77 14 LR LR 12 59 11.5
comp=Z,61nm,19.9s,baz=120,slow=38
RAMN Ramite 59.81 276 *e*P **P 12 31 54.5 +0.3**
comp=Z,34nm,0.7s
LCMT Little Creek M 59.89 67 *e*P **P 12 31 55.5 +1.0**
comp=Z,6.3nm,0.9s
SRU San Rafael Swe 60.01 64 *e*P **P 12 31 56.0 +0.6**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 60.01 64 *e*P **P 12 31 56.0 +0.6**
comp=Z,8.3nm,0.8s
KKN Kakani 60.04 278 *e*P **P 12 31 56.4 +0.6**
comp=Z,10nm,0.6s
RWWY Rawlins 60.08 60 *e*P **P 12 31 56.5 +0.6**
comp=Z,7.7nm,0.8s
RSSD Black Hills 60.09 56 *e*P **P 12 31 56.3 +0.3**
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD Black Hills 60.09 56 *e*P **P 12 31 56.2 +0.3**
comp=Z,16nm,0.9s
PKIN Phulchoki 60.12 278 *e*P **P 12 31 57.0 +0.6**
comp=Z,17nm,0.7s
LDFC Landfair 60.13 70 *e*P **P 12 31 56.4 +0.3**
comp=Z,10nm,0.8s
DMN Daman 60.27 278 *e*P **P 12 31 58.5 +1.1**
comp=Z,26nm,0.8s
GKN Gorkha 60.29 279 *e*P **P 12 31 58.3 +0.9**
comp=Z,31nm,0.9s
KOLN Koldanda 61.10 279 *e*P **P 12 32 03.8 +0.8**
comp=Z,11nm,0.8s
PYUN Piuthan 61.24 280 *e*P **P 12 32 04.4 +0.4**
comp=Z,39nm,0.9s
N23A Red Feather La 61.31 60 *e*P **P 12 32 05.2 +0.9**
comp=Z,6.0nm,0.9s
SMCO Snowmass 61.95 62 *e*P **P 12 32 09.4 +0.6**
comp=Z,5.5nm,0.9s
FIA0 FINESS Array S 62.06 337 *e*P **P 12 32 09.9 +1.2**
FIA0 FINESS Array S 62.06 337 *e*P **P 12 32 09.9 +1.2**
FINES FINESS Array B 62.06 337 P **P 12 32 09.9 +1.2**
comp=Z,3.1nm,0.9s,baz=34,slow=7.1,SNR=3.9
ISCO Idaho Springs 62.26 60 *e*P **P 12 32 11.8 +1.0**
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 62.26 60 *e*P **P 12 32 11.8 +1.0**
comp=Z,5.2nm,0.8s
S22A 4UR Ranch, Cre 63.04 63 *e*P **P 12 32 17.3 +1.3**
comp=Z,5.7nm,0.9s
SDCO Great Sand Dun 63.78 62 *e*P **P 12 32 21.6 +0.7**
comp=Z,2.0nm,1.0s
MHTCO State Highway 64.67 62 *e*P **P 12 32 28.0 +1.3**
comp=Z,11nm,1.1s
ANMO Albuquerque 65.25 65 ||*i*P **P 12 32 30.5 +0.1**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 65.25 65 *e*P **P 12 32 30.8 +0.4**
comp=Z,3.7nm,1.0s
NB2 NORSAR Subarra 65.51 344 P **P 12 32 35.1 +3.6**
comp=Z,1.9nm,0.6s,baz=22,slow=6.5
NB200 NORSAR Array S 65.51 344 *e*P **P 12 32 33.1 +1.6**
NOA NORSAR Array B 65.51 344 P **P 12 32 33.1 +1.6**
comp=Z,0.9nm,0.6s,baz=21,slow=6.6,SNR=2.6
VSR Storozhevoye 66.66 324 *e*P **P 12 32 39.5 +0.6**
VSR pmax pmax
comp=Z,7.0nm,0.8s
MSTX Muleshoe 68.04 63 *e*P **P 12 32 48.6 +0.5**
comp=Z,6.8nm,1.0s
MNTX Cornudas Mount 68.22 66 *e*P **P 12 32 49.8 +0.6**
comp=Z,6.1nm,1.0s
MYKOM Kota Tinggi 68.48 244 *e*P **P 12 32 54.8 +3.9**
comp=Z,36nm,1.4s
GEYT Alibeck 68.53 304 P **P 12 32 51.0 -0.1**
comp=Z,3.8nm,0.7s,baz=10,slow=1.7,SNR=7.0
WMOK Wichita Mounta 69.67 60 *e*P **P 12 32 58.5 +0.3**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK Wichita Mounta 69.67 60 *e*P **P 12 32 58.5 +0.3**
comp=Z,4.8nm,1.0s
HDIL Hopedale 70.11 50 *e*P **P 12 33 00.5 -0.2**
comp=Z,22nm,0.5s
AKASG Malin Array Be 70.50 330 P **P 12 33 02.6 -0.3**
comp=Z,0.5nm,0.3s,baz=30,slow=6.5,SNR=2.5
AKBB Malin Array Si 70.50 330 *e*P **P 12 33 03.2 +0.3**
AKBB pmax pmax
comp=Z,28nm,2.0s
AKBB Malin Array Si 70.50 330 *e*P **P 12 33 03.2 +0.3**
comp=Z,28nm,2.0s
TX31 Lajitas Ar. Si 70.97 67 *e*P **P 12 33 06.2 0.0**
LTX Lajitas 70.97 67 *e*P **P 12 33 06.1 -0.1**
LTX Lajitas 70.97 67 *e*P **P 12 33 06.1 -0.1**
TXAR Lajitas Array 70.97 67 P **P 12 33 06.1 -0.1**
comp=Z,5.0nm,0.7s,baz=300,slow=4.5,SNR=50
KBZ Khabaz 71.25 317 P **P 12 33 08.6 +1.0**
comp=Z,3.7nm,0.8s,baz=168,slow=6.8,SNR=6.5
GNI Garni 73.33 314 *e*P **P 12 33 20.2 -0.1**
GNI pmax pmax
comp=Z,12nm,0.9s
WR1 Warramunga Arr 74.55 206 *e*P **P 12 33 28.7 +1.4**
comp=Z,142nm,1.1s
WRA Warramunga Arr 74.55 206 P **P 12 33 28.7 +1.4**
comp=Z,8.5nm,0.7s,baz=22,slow=8.3,SNR=4.3
WRA Warramunga Arr 74.55 206 P **P 12 33 28.7 +1.4**
KHC Kasperske Hory 76.22 339 *e*pP pP 12 33 46.8 +1.0
STU Stuttgart 77.51 341 *e*P **P 12 33 42.2 -1.8**
STU pmax pmax
comp=Z,44nm,0.7s
STU Stuttgart 77.51 341 *e*P **P 12 33 42.2 -1.8**
comp=Z,44nm,0.7s
AS31 Alice Springs 78.21 205 *e*P **P 12 33 47.9 -0.1**
comp=Z,13nm,0.8s
ASAR Alice Springs 78.21 205 P **P 12 33 50.5 +2.6**
comp=Z,2.6nm,0.6s,baz=23,slow=5.6,SNR=5.7
PPT Papeete 81.01 133 LR LR 13 04 09.1
comp=Z,42nm,19.6s,baz=266,slow=31

MEX 04 12:26:11.2±0.5, 28°.14N×112°.38W, h8km±10km, MD3.9,
Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.82**	**171**	*i* P	Pg	12 26 24.8	-2.3
SRIG				*i* S	Sg	12 26 36.3	-1.5

IDC ***04*** *12:27:52.4±0.7, 9°.93S×123°.03E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/36, mbtmp4.2/13, ML4.7/2, MS3.8/7, Ms1 3.8/7, ms1mx3.3/40, Error ellipse: s-maj=32.5km s-min=14.4km az=80.0*
ISCJB ***04*** *12:27:54.5±0.3, 10°.26S±0°.03×123°.07E±0°.03, h33km,*

mb4.5/24, MS3.8/6, Error ellipse: s-maj=5.4km s-min=3.3km az=137.3
*BJI **04** 12:27:55.4, 10°.28S×123°.52E, h56km, mb4.8/26, mB5.1/19, Ms4.9/12, Ms7 4.6/11*
*DJA **04** 12:27:58.2±0.3, 10°S±4°×12°3E±°, h10km, M5.0/13, mb5.1/12, mB5.4/10, MLv5.1/13, Mw(mB)4.8/10*
*NEIC **04** 12:27:58.6±0.6, 10°.18S×123°.02E, h55km±7km, mb4.6/14, Error ellipse: s-maj=8.7km s-min=5.5km az=224.0*
ISC 04 12:27:57.1±0.4, **10°.24S**±0°.04×**123°.00E**±0°.04, **h35**km, **n91**, σ3$**03**/102, **mb4.5**/24, **MS3.9**/6, **1C, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.33**	**69**	P	**Pn**	**12 28 23.8**	**+4.4**
SOEI				S	**Sn**	**12 28 43.3**	**+7.3**
SOEI	**Soe**	**1.33**	**69**	*e*Pn	**Pn**	**12 28 23.8**	**+4.4**
SOEI				*e*Sn	**Sn**	**12 28 43.5**	**+7.5**
MMRI	**Maumere**	**1.77**	**335**	P	**Pn**	**12 28 25.8**	**+0.6**
MMRI	**Maumere**	**1.77**	**335**	*e*Pn	**Pn**	**12 28 26.0**	**+0.8**
MMRI				*e*Sn	**Sn**	**12 28 44.6**	**-1.8**
BASI	**Baing, Sumba**	**2.39**	**270**	P	**Pn**	**12 28 37.7**	**+3.9**
WSI	**Waingapu**	**2.73**	**282**	P	Pn	12 28 44.3	+5.9
BBSI	**Bau Bau**	**4.74**	**355**	P	**Pn**	**12 29 09.5**	**+3.3**
BSSI	**Bau Bau, Buton**	**4.77**	**328**	P	**Pn**	**12 29 10.7**	**+4.1**
PLAI	**Plampang**	**5.34**	**285**	P	**Pn**	**12 29 17.9**	**+3.5**
KAPI	**Kappang**	**6.11**	**328**	*e*Pn	**Pn**	**12 29 26.2**	**+1.3**
KAPI				*e*Sn	**Sn**	**12 30 36.2**	**+2.5**
TWSI	**Taliwang, Sumb**	**6.22**	**283**	P	**Pn**	**12 29 30.0**	**+3.5**
KDI	**Kendari**	**6.25**	**356**	P	**Pn**	**12 29 30.2**	**+3.2**
SPSI	**Sidrap Palu**	**7.01**	**333**	P	Pn	12 29 42.6	+5.2
	47nm,1.1s,5μm0.2nm						
TTSI	**Tana Toraja**	**7.82**	**336**	P	**Pn**	**12 29 52.8**	**+4.4**
	101nm,1.1s,1μm0.3nm						
IGBI	**Denpasar**	**7.88**	**280**	P	**Pn**	**12 29 50.3**	**+1.0**
	132nm,0.4s,4μm0.9nm						
NLAI	**Namlea**	**8.06**	**31**	P	Pn	12 29 58.7	+7.0
	76nm,1.0s,792nm						
FITZ	**Fitzroy Crossi**	**8.22**	**162**	Pn	**Pn**	**12 29 57.4**	**+3.4**
	5.3nm,0.3s,baz=3.9,slow=10,SNR=92						
FITZ				Sn	**Sn**	**12 31 24.7**	**-1.0**
	7.3nm,0.3s,baz=91,slow=9.9,SNR=3.1						
FITZ				LR	LR	12 34 11.2	
	comp=Z,386nm,19.9s,baz=0.0,slow=44						
AAI	**Ambon**	**8.30**	**39**	P	Pn	12 30 02.7	+7.6
	50nm,0.5s						
MTN	**Manton Dam**	**8.38**	**109**	*e*Pn	**Pn**	**12 29 57.4**	**+1.3**
MTN				*e*Sn	**Sn**	**12 31 28.1**	**-1.4**
SAUI	**Saumlaki**	**8.49**	**75**	*e*Pn	**Pn**	**12 30 00.5**	**+2.8**
SAUI				*e*Sn	**Sn**	**12 31 33.0**	**+0.6**
SANI	**Sanana**	**8.66**	**20**	P	**Pn**	**12 30 03.9**	**+3.9**
	43nm,1.1s,612nm						
JAGI	**Jajag, Banyuwa**	**8.91**	**281**	P	**Pn**	**12 30 03.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**8.91**	**281**	*e*Pn	**Pn**	**12 30 03.4**	**0.0**
JAGI				*e*Sn	**Sn**	**12 31 40.5**	**-2.2**
MSAI	**Masohi**	**9.03**	**41**	P	Pn	12 30 14.0	+8.9
GMJI	**Gumukmas**	**9.64**	**281**	P	**Pn**	**12 30 15.7**	**+2.3**
	65nm,1.1s						
PCI	**Palu**	**9.79**	**341**	P	**Pn**	**12 30 18.2**	**+2.6**
MBWA	**Marble Bar**	**11.30**	**196**	*e*Pn	**Pn**	**12 30 38.7**	**+2.5**
MBWA				*e*Sn	**Sn**	**12 32 39.8**	**-1.5**
FAKI	**Fak Fak**	**11.71**	**52**	*e*Pn	**Pn**	**12 30 42.2**	**+0.3**
FAKI				*e*Sn	**Sn**	**12 32 48.7**	**-2.7**
SIJI	**Sorong**	**12.42**	**42**	LR	LR	12 35 22.6	
	comp=Z,2μm,19.5s,baz=246,slow=37						
UGM	**Wanagama**	**12.54**	**280**	*e*Pn	**Pn**	**12 30 54.3**	**+1.1**
UGM				*e*Sn	**Sn**	**12 33 10.0**	**-1.7**
SMRI	**Semarang**	**12.82**	**283**	*e*Pn	**Pn**	**12 31 00.1**	**+3.2**
WRA	**Warramunga Arr**	**14.58**	**133**	Pn	**Pn**	**12 31 19.1**	**-1.9**
	2.6nm,0.3s,baz=302,slow=13,SNR=72						
WRA				Sn	**Sn**	**12 33 54.2**	**-7.3**
	8.6nm,0.3s,baz=304,slow=24,SNR=12						
WRA	**Warramunga Arr**	**14.58**	**133**	Sn	**Sn**	**12 33 54.2**	**-7.3**
WR1	**Warramunga Arr**	**14.58**	**133**	*e*Pn	**Pn**	**12 31 19.1**	**-1.9**
WR1				*e*Sn	**Sn**	**12 33 54.2**	**-7.3**
WRAB	**Tennant Creek**	**14.58**	**133**	*e*Pn	**Pn**	**12 31 19.4**	**-1.7**
WRAB				*e*Sn	**Sn**	**12 33 54.8**	**-6.8**
WB2	**Warramunga Arr**	**14.59**	**133**	*e*Pn	**Pn**	**12 31 19.4**	**-1.7**
WB2				*e*Sn	**Sn**	**12 33 54.3**	**-7.4**
CISI	**Cisompet, Garu**	**15.24**	**279**	*e*Pn	**Pn**	**12 31 29.5**	**-0.4**
	65nm,0.6s						
CNJI	**Cibinong**	**15.96**	**279**	P	**P**	**12 31 45.6**	**+3.3**
AS31	**Alice Springs**	**16.92**	**143**	*e*Pn	**P**	**12 31 53.1**	**0.0**
	8.4nm,0.8s						
AS31				*e*Sn	**Sn**	**12 34 51.4**	**-7.1**
ASAR	**Alice Springs**	**16.93**	**143**	P	**Pn**	**12 31 51.9**	**+0.5**
	3.6nm,0.3s,baz=319,slow=13,SNR=195						
ASAR				S	**Sn**	**12 34 51.4**	**-7.1**
	2.9nm,0.3s,baz=320,slow=23,SNR=10						
ASAR				LR	LR	12 38 45.3	
	comp=Z,281nm,18.6s,baz=324,slow=38						
AS01	**Alice Springs**	**16.95**	**143**	*e*Pn	**Pn**	**12 31 51.1**	**-0.6**
AS01				*e*Sn	**Sn**	**12 35 02.5**	**+3.4**
KSM	**Kuching**	**17.18**	**312**	*e*Pn	**Pn**	**12 31 55.0**	**+0.5**
	33nm,1.1s						
KKM	**Kota Kinabalu**	**17.53**	**337**	*e*Pn	**Pn**	**12 31 57.6**	**-1.4**
	29nm,1.0s						
COEN	**Coen**	**20.06**	**103**	*e*P	Pn	12 32 28.8	-0.7
	20nm,1.0s						
FORT	**Forrest**	**20.97**	**168**	*e*P	Pn	12 32 39.1	-0.9
	381nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.20**	**192**	P	**P**	**12 33 03.1**	**+2.2**
	3.1nm,0.6s,baz=339,slow=12,SNR=4.5						
NWAO				S	**S**	**12 37 15.4**	**+5.1**
	39nm,0.7s,baz=30,slow=2.2,SNR=7.7						
PMG	**Port Moresby**	**23.82**	**90**	LR	LR	12 45 19.1	
	comp=Z,204nm,19.8s,baz=238,slow=44						
BKNI	**Bangkinang**	**24.24**	**294**	*e*P	**P**	**12 33 10.3**	**-0.7**
	37nm,0.7s						
TGY	**Tagaytay City**	**24.27**	**355**	LR	LR	12 43 29.2	
	comp=Z,73nm,18.5s,baz=194,slow=39						
BBOO	**Buckleboo**	**25.48**	**154**	*e*P	**P**	**12 33 23.3**	**+1.2**
	112nm,1.8s						
STKA	**Stephens Creek**	**27.56**	**144**	P	**P**	**12 33 44.0**	**+3.1**
	2.6nm,0.8s,baz=316,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**27.56**	**144**	*e*P	**P**	**12 33 43.0**	**+2.1**
	10nm,1.8s						
CMAR	**Chiang Mai Arr**	**37.11**	**320**	P	**P**	**12 35 04.2**	**-0.3**
	0.5nm,0.3s,baz=148,slow=7.4,SNR=5.6						
NJ2	**Nanjing**	**42.24**	**355**	*e*P	**P**	**12 35 46.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
CD2	**Chengdu**	**44.89**	**336**	*e*P	**P**	**12 36 08.2**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**48.68**	**16**	P	**P**	**12 36 36.0**	**-2.0**
	1.6nm,0.5s,baz=189,slow=8.9,SNR=6.3						
MAT	**Matsushiro**	**48.69**	**16**	P	**P**	**12 36 35.5**	**-2.5**
LZH	**Lanzhou**	**49.49**	**340**	*e*P	P	12 36 50.0	+5.6
LZH				pP	sP	12 37 07.9	+8.9
LZH				sP	pP	12 37 16.4	+22
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
BJI	**Beijing**	**50.42**	**353**	P	**P**	**12 36 48.7**	**-2.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.92**	**349**	*e*P	**P**	**12 37 04.3**	**+1.7**
HHC				sP	sP	12 37 24.5	+7.3
HHC				PP	**PP**	**12 39 01.7**	**+0.8**
HHC				S	**S**	**12 44 21.4**	**-1.8**
HHC				sS	sS	12 44 44.8	+4.3
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,82nm,6.8s						
HHC				LR	LR		
	comp=Z,240nm,13.3s						
HHC				LR	LR		
	comp=Z,150nm,16.7s						
HHC				LR	LR		
	comp=Z,130nm,15.8s						
GTA	**Gaotai**	**53.90**	**338**	*e*P	**P**	**12 37 16.6**	**-0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**54.79**	**8**	P	**P**	**12 37 21.9**	**-1.6**
	comp=Z,2.5nm,0.5s,baz=201,slow=7.6,SNR=5.8						
MDJ	**Mudanjiang**	**54.92**	**6**	*e*P	**P**	**12 37 23.5**	**-0.8**
	comp=Z,18nm,1.1s						
SONA0	**Songino Array**	**59.67**	**347**	*e*P	**P**	**12 37 57.1**	**-1.0**
	comp=Z,3.7nm,0.9s						
SONM	**Songino Array**	**59.67**	**347**	P	**P**	**12 37 57.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=172,slow=8.1,SNR=7.8						
SONA1	**Songino Array**	**59.68**	**347**	*e*P	**P**	**12 37 57.2**	**-0.9**
WMQ	**Urumqi**	**62.64**	**332**	P	**P**	**12 38 18.4**	**+0.2**
WMQ				pP	sP	12 38 33.6	+0.6
WMQ				sP	pP	12 38 40.0	+11
WMQ				pmax	pmax		
	comp=Z,18nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,210nm,5.9s						
WMQ				LR	LR		
	comp=Z,74nm,15.7s						
WMQ				LR	LR		
	comp=Z,89nm,17.7s						
WMQ				LR	LR		
	comp=Z,51nm,16.7s						
KSH	**Kashi**	**65.98**	**322**	P	**P**	**12 38 39.2**	**-1.0**
KSH				pP	sP	12 38 56.9	+1.8
KSH				PcP	**PcP**	**12 39 10.1**	**-0.6**
KSH				PP	**PP**	**12 41 08.2**	**+2.3**
KSH				PcS		12 43 07.7	
KSH				S	S	12 47 16.2	-10
KSH				pmax	pmax		
	comp=Z,150nm,5.5s						
KSH				LR	LR		
	comp=Z,170nm,9.0s						
KSH				LR	LR		
	comp=Z,240nm,7.2s						
MK01	**Makanchi Array**	**67.38**	**331**	*e*P	**P**	**12 38 47.7**	**-1.2**
MK31	**Makanchi Array**	**67.40**	**331**	*e*P	**P**	**12 38 48.2**	**-0.8**
MK32	**Makanchi Array**	**67.40**	**331**	*e*P	**P**	**12 38 48.1**	**-0.9**
MKAR	**Makanchi Array**	**67.40**	**331**	P	**P**	**12 38 48.1**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=142,slow=7.2,SNR=8.0						
MKAR	**Makanchi Array**	**67.40**	**331**	*e*P	**P**	**12 38 48.1**	**-0.9**
	comp=Z,42nm,1.1s						
AAK	**Ala-Archa**	**68.78**	**324**	P	**P**	**12 38 56.2**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=157,slow=9.3,SNR=4.2						
AAK	**Ala-Archa**	**68.78**	**324**	*e*P	**P**	**12 38 57.4**	**-0.5**
MAW	**Mawson**	**69.45**	**201**	P	**P**	**12 39 04.1**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=53,slow=12,SNR=12						
MAW				LR	LR	13 06 05.6	
	comp=Z,73nm,19.5s,baz=63,slow=33						
MAW	**Mawson**	**69.45**	**201**	*e*P	**P**	**12 39 05.5**	**+4.0**
	comp=Z,3.4nm,1.8s						
PETK	**Petropavlovsk-**	**69.70**	**21**	P	**P**	**12 39 01.7**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=152,slow=9.4,SNR=3.3						
PEA1	**Petropavlovsk-**	**69.70**	**21**	*e*P	**P**	**12 39 01.7**	**-1.5**
VNDA	**Vanda**	**70.17**	**172**	LR	LR	13 08 25.9	
	comp=Z,83nm,20.0s,baz=306,slow=34						
ZAA0	**Zalesovo Array**	**71.65**	**337**	*e*P	**P**	**12 39 13.0**	**-2.0**
ZALV	**Zalesovo Beam**	**71.65**	**337**	P	**P**	**12 39 13.0**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=147,slow=3.5,SNR=7.0						
ZAA1	**Zalesovo Array**	**71.65**	**337**	*e*P	**P**	**12 39 13.0**	**-2.0**
SYO	**Syowa Base**	**78.14**	**201**	⇑*e*P	**P**	**12 39 55.0**	**+2.6**
QSPA	**South Pole Qui**	**79.76**	**180**	P	**P**	**12 39 57.1**	**-4.4**
	comp=Z,13nm,0.8s						
RAYN	**Ar Rayn**	**82.79**	**295**	*e*P	**P**	**12 40 17.5**	**-0.8**
	comp=Z,4.6nm,1.0s						
KOPT	**Kop Dagi**	**90.83**	**310**	*e*P	**P**	**12 40 56.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**122.56**	**279**	PKP	**PKPdf**	**12 46 50.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.1,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**122.56**	**279**	*e*PKPdf	**PKPdf**	**12 46 50.7**	**+0.7**
KMSC	**Kings Mountain**	**146.74**	**38**	*e*PKPbc	**PKPdf**	**12 47 34.6**	**+0.4**
LPAZ	**La Paz**	**151.43**	**157**	PKPbc	**PKPbc**	**12 47 51.5**	**+2.4**
	comp=Z,1.7nm,0.7s,baz=157,slow=5.5,SNR=7.2						

*SOME **04** 12:36:32.3, 43°.95N×82°.17E, h5km*
*NNC **04** 12:36:32.8±1.5, 44°.61N×82°.12E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=21.2km s-min=4.3km az=116.0*
ISC 04 12:36:32.6±3.2, **44°.62N**±0°.10×**82°.5E**±0°.1, **h12**km±15km, **n7**, σ0$**78**/13, **4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.95**	**262**	*e*P	**Pn**	**12 37 05.7**	**+0.1**
	8.2nm,0.2s						
DJR				*e*S	**Sn**	**12 37 29.4**	**-0.7**
	4.3nm,0.2s						
MK31	**Makanchi Array**	**2.17**	**356**	⇓Pn	**Pb**	**12 37 11.0**	**-0.9**
	5.5nm,0.3s,baz=185,slow=13,SNR=80						
MK31				⇑Sn	**Sb**	**12 37 39.4**	**+0.5**
	3.9nm,0.3s,baz=184,slow=27,SNR=18						
MAKZ	**Makanchi**	**2.21**	**351**	⇑Pn	**Pn**	**12 37 10.1**	**+1.0**
	3.1nm,0.5s						
MAKZ				⇓Sn	**Sb**	**12 37 39.6**	**-0.3**
	7.8nm,0.5s						
KAPS	**Kapalarasan**	**2.32**	**288**	*e*P	**Pg**	**12 37 16.5**	**-0.5**
	1.2nm,0.2s						
KAPS				*e*S	**Sg**	**12 37 48.1**	**+1.1**
	3.3nm,0.5s						
PDGK	**Podgornoye**	**2.52**	**240**	⇑Pg	**Pn**	**12 37 14.3**	**+0.8**
	1.1nm,0.5s						
PDGK				⇑Lg	Lg	12 37 46.4	
	3.1nm,0.5s						
KPKS	**Kokpek**	**2.98**	**248**	*e*P	**Pn**	**12 37 20.4**	**+0.7**
	5.8nm,0.2s						
KPKS				*e*S	**Sn**	**12 37 55.1**	**-0.2**
	12nm,0.4s						
MNBS	**Baschi**	**2.98**	**261**	*e*P	**Pn**	**12 37 20.3**	**+0.5**
	1.4nm,0.2s						
MNBS				*e*S	**Sn**	**12 37 55.2**	**-0.2**
	14nm,0.3s						

MEX 04 12:50:37.0±0.4, **17°.09N**×**95°.53W, h143**km±12km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.16**	**269**	*e*P	Pn	12 51 01.7	-1.0
VHO				*e*S	Sn	12 51 20.1	-2.2
HUIG	**Huatulco**	**1.43**	**203**	*e*P	Pn	12 51 03.8	-1.5
HUIG				*e*S	Sn	12 51 25.2	-1.8
PNIG	**Pinotepa**	**2.59**	**255**	*e*P	Pn	12 51 17.6	-1.3
PNIG				*i* S	Sn	12 51 49.0	-2.2

*IDC **04** 12:52:55.8±3.2, 25°.83N×90°.35E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.2/51, mbtmp3.4/5, Error ellipse: s-maj=247.4km s-min=21.0km az=60.0*
ISC 04 12:52:57.1±1.6, **25°.8N**±0°.4×**90°.2E**±0°.4, **h10**km, **n6**, σ0$**40**/7, **mb3.5**/5, **India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.09**	**318**	*e*P	**Pg**	**12 53 37.5**	**+0.2**
GTK				*e*S	**Sg**	**12 54 04.0**	**-0.4**
GTK				AML	AML	12 54 06.4	
	comp=E,155nm,0.2s						
GTK				AML	AML	12 54 06.4	
	comp=N,123nm,0.2s						
MKAR	**Makanchi Array**	**21.90**	**345**	P	**P**	**12 57 50.0**	**-0.3**
	comp=N,0.5nm,0.6s,baz=168,slow=14,SNR=6.1						
KURBB	**Kurchatov Arra**	**26.38**	**343**	P	**P**	**12 58 33.9**	**+0.4**
	comp=N,0.1nm,0.4s,baz=163,slow=9.7,SNR=2.9						
ARCES	**ARCESS Array B**	**57.28**	**338**	P	**P**	**13 02 44.7**	**+0.1**
	comp=N,2.6nm,0.9s,baz=91,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**62.49**	**132**	P	**P**	**13 03 20.7**	**-0.3**
	comp=N,0.2nm,0.3s,baz=323,slow=7.1,SNR=5.9						
ASAR	**Alice Springs**	**64.86**	**136**	P	**P**	**13 03 36.7**	**0.0**
	comp=N,0.2nm,0.5s,baz=309,slow=8.2,SNR=4.5						

MEX 04 12:53:12.4±0.2, **32°.29N**×**115°.15W, h26**km±6km, **MD3.5, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.26**	**192**	*e*P	Pn	12 53 31.9	-2.8
SPIG				*i* S	Sn	12 53 47.6	-3.4
CBX	**Cerro Bola**	**1.28**	**272**	*e*P	Pn	12 53 32.1	-2.6
CBX				*e*S	Sn	12 53 47.4	-3.7
TJIG	**Tijuana**	**1.29**	**277**	*e*P	Pn	12 53 32.3	-2.5
TJIG				*i* S	Sn	12 53 48.7	-2.6

*NIED **04** 13:00:00, 37°.30N×141°.50E, h14km, Mw4.4 Best double couple: M0:4.67000×10^15 NP1:φs:82.00000°, δ:33.00000°, λ:-89.00000°. NP2:φs:261.00000°, δ:57.00000°, λ:-90.00000°.*
*BJI **04** 13:00:01.5, 37°.15N×141°.23E, h15km, mb4.6/33, mB5.0/25, Ms4.5/23, Ms7 4.2/14*
*ISCJB **04** 13:00:04.1±0.6, 37°.30N±0°.02×141°.35E±0°.04, h32km±4km, mb4.5/84, MS3.7/18, Error ellipse: s-maj=5.2km s-min=3.8km az=25.8*
*MOS **04** 13:00:04.4±1.1, 37°.38N×141°.39E, h34km, mb4.7/38, Error ellipse: s-maj=8.3km s-min=5.9km az=96.6*
*JMA **04** 13:00:04.0±0.1, 37°.31N×141°.39E, h31km±1km, M4.4*
JMA Felt II J1.
*IDC **04** 13:00:06.0±3.2, 37°.30N×141°.29E, h35km±25km, mb4.1/26, mb1 4.2/30, mb1mx4.2/42, mbtmp4.3/30, ML4.5/3, MS3.5/23, Ms1 3.5/23, ms1mx3.4/46, Error ellipse: s-maj=15.2km s-min=11.2km az=98.0*
*NEIC **04** 13:00:07.5±0.5, 37°.30N×141°.21E, h48km±4km, mb4.7/41, Error ellipse: s-maj=4.6km s-min=3.4km az=117.0*
NEIC Felt at Chiba. Recorded [2 JMA] in Fukushima, Ibaraki and Miyagi.
ISC 04 13:00:03.4±0.7, **37°.32N**±0°.03×**141°.50E**±0°.04, **h18**km±3km, **n184**, σ1$**64**/201, **mb4.7**/84, **MS3.6**/18, **8C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**276**	P	**Pg**	**13 00 13.0**	**-0.5**
JFK				S	**Sg**	**13 00 19.0**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.60**	**249**	P	**Pg**	**13 00 14.4**	**-1.0**
ONAJ				S	**Sg**	**13 00 21.5**	**-1.9**
JMM	**Marumori**	**0.78**	**315**	P	**Pg**	**13 00 17.6**	**-1.2**
JMM				S	**Sg**	**13 00 27.3**	**-1.9**
JFT	**Otama**	**0.95**	**283**	P	**Pb**	**13 00 20.5**	**-0.8**
JFT				S	**Sb**	**13 00 32.0**	**-1.5**
JHO	**Hitachi**	**1.03**	**227**	P	**Pb**	**13 00 20.3**	**-2.4**
JHO				S	**Sb**	**13 00 32.9**	**-2.9**
JIO	**Ouri**	**1.14**	**354**	P	**Pn**	**13 00 23.2**	**-1.3**
JIO				*e*S	**Sb**	**13 00 38.1**	**-1.0**
JOU	**Okura**	**1.24**	**328**	P	**Pn**	**13 00 25.5**	**-0.4**
JOU				S	**Sb**	**13 00 41.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.75**	**255**	Pn	**Pn**	**13 00 46.6**	**0.0**
	23nm,0.3s,baz=64,slow=14,SNR=185						
MJAR				LR	LR	13 01 17.9	
	comp=Z,213nm,21.2s,baz=60,slow=28						
MJAR				Sn	**Sn**	**13 01 21.9**	**+2.5**
	46nm,0.3s,baz=64,slow=25,SNR=6.4						
MAJO	**Matsushiro**	**2.75**	**255**	*c i*P	**Pn**	**13 00 47.2**	**+0.6**
MAJO	**Matsushiro**	**2.75**	**255**	*e*Pn	**Pn**	**13 00 46.9**	**+0.3**
MAT	**Matsushiro**	**2.75**	**255**	P	**Pn**	**13 00 47.1**	**+0.5**
MAT				S	**Sn**	**13 01 19.5**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.75**	**255**	*e*Pn	**Pn**	**13 00 46.9**	**+0.3**
INU	**Inuyama**	**4.12**	**243**	*e*Pn	**Pn**	**13 01 06.1**	**+0.7**
JHJ2	**Mitsune**	**4.42**	**199**	*e*Pn	**Pn**	**13 01 09.9**	**+0.3**
JHJ	**Hachijo jima 2**	**4.42**	**199**	Pn	**Pn**	**13 01 09.7**	**+0.2**
	109nm,0.3s,baz=112,slow=22,SNR=29						
JHJ				Sn	**Sn**	**13 01 58.5**	**-2.0**
	111nm,0.3s,baz=68,slow=23,SNR=7.8						
JHJ				LR	LR	13 03 08.1	
	comp=Z,436nm,20.3s,baz=303,slow=42						
ERM	**Erimo**	**4.86**	**15**	*i* P	**Pn**	**13 01 15.4**	**-0.3**
ERM				pmax	pmax		
	comp=Z,55nm,0.8s						
ERM	**Erimo**	**4.86**	**15**	*e*Pn	**Pn**	**13 01 15.3**	**-0.4**
ASAJ	**Asahikawa**	**6.84**	**7**	Pn	**Pn**	**13 01 42.7**	**-0.1**
	comp=Z,12nm,0.3s,baz=216,slow=9.1,SNR=48						
ASAJ	**Asahikawa**	**6.84**	**7**	*e*Pn	**Pn**	**13 01 42.2**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**7.48**	**25**	*d i*P	**Pn**	**13 01 49.8**	**-1.8**
YUK				*e*S	**Sn**	**13 03 11.0**	**-5.0**
YUK				pmax	pmax		
	comp=Z,152nm,0.3s						
YUK				pmax	pmax		
	comp=E,28nm,0.1s						
YUK				pmax	pmax		
	comp=N,191nm,0.5s						
YUK				MLR	MLR		
	comp=Z,843nm,16.0s						
SHO	**Shikotan**	**7.70**	**30**	*e*P	**Pn**	**13 01 52.1**	**-2.5**
SHO				*i* S	**Sn**	**13 03 15.0**	**-6.3**
SHO				pmax	pmax		
	comp=Z,17nm,0.3s						
KUR	**Kuril'sk**	**9.24**	**29**	⇓*i*P	**Pn**	**13 02 16.7**	**+0.9**
KUR				*i* S	**Sn**	**13 03 55.3**	**-4.0**
KUR				pmax	pmax		
	comp=Z,61nm,0.6s						
KUR				pmax	pmax		
	comp=N,17nm,0.5s						
KUR				pmax	pmax		
	comp=E,7.0nm,0.5s						
KUR				smax	smax		
	comp=E,70nm,0.5s						
KUR				smax	smax		
	comp=N,43nm,0.4s						
VLA	**Vladivostok**	**9.36**	**311**	⇑*i*P	**Pn**	**13 02 19.5**	**+2.2**
VLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JNU	**Nakatsue**	**9.64**	**247**	Pn	**Pn**	**13 02 25.7**	**+4.4**
	comp=Z,0.2nm,0.3s,baz=75,slow=10,SNR=3.2						
JNU				LR	LR	13 06 18.0	
	comp=Z,273nm,20.1s,baz=107,slow=39						
YSS	**Yuzh-Sakhalins**	**9.68**	**5**	⇓*e*P	**Pn**	**13 02 22.5**	**+0.8**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.68**	**5**	*e*Pn	**Pn**	**13 02 22.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.96**	**317**	Pn	**Pn**	**13 02 29.9**	**+4.3**
	comp=E,0.1nm,0.3s,baz=124,slow=12,SNR=2.8						
USRK				LR	LR	13 06 04.8	
	comp=E,565nm,18.6s,baz=139,slow=36						
CBIJ	**Chichi jima**	**10.21**

YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=Z,96nm,3.2s
YAK pmax pmax
comp=N,64nm,4.0s
YAK smax smax
comp=N,103nm,3.2s
YAK MLR MLR
comp=Z,474nm,16.0s
YAK MLR MLR
comp=N,489nm,20.0s
SEY Seymchan 26.50 11 P **P 13 05 40.8 +1.3**
comp=N,2.7nm,0.7s,baz=193,slow=9.1,SNR=9.6
SEY Seymchan 26.50 11 i P **P 13 05 41.0 +1.5**
ULN Ulaanbaatar 27.25 304 i P **P 13 05 45.4 -1.2**
ULN pmax pmax
comp=Z,4.0nm,1.7s
SONA1 Songino Array 27.68 304 eP **P 13 05 48.9 -1.6**
SONM Songino Array 27.68 303 P **P 13 05 49.4 -1.1**
comp=Z,2.8nm,0.7s,baz=107,slow=9.4,SNR=15
SONM LR LR 13 17 07.1
comp=Z,92nm,20.2s,baz=108,slow=37
H11N2 WAKE ISLAND Hy 28.23 121 T T 13 35 31.4
baz=314,slow=75,SNR=1121
H11N1 WAKE ISLAND Hy 28.24 121 T T 13 35 32.1
baz=314,slow=75,SNR=734
H11N3 WAKE ISLAND Hy 28.25 121 T T 13 35 32.8
baz=314,slow=75,SNR=1014
H11S1 WAKE ISLAND Hy 28.96 123 T T 13 36 26.4
baz=316,slow=76,SNR=629
H11S3 WAKE ISLAND Hy 28.96 123 T T 13 36 26.5
baz=316,slow=76,SNR=676
H11S2 WAKE ISLAND Hy 28.97 123 T T 13 36 27.6
baz=316,slow=76,SNR=663
TGY Tagaytay City 29.50 224 LR LR 13 18 50.0
comp=Z,36nm,18.9s,baz=276,slow=38
LZH Lanzhou 30.09 279 eP **P 13 06 14.7 +2.7**
LZH pP sP 13 06 21.5 +1.8
LZH sP pP 13 06 24.7 +7.2
LZH pmax pmax
comp=Z,16nm,1.0s
GYA Guiyang 31.34 260 eP **P 13 06 22.8 -0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 31.74 270 eP **P 13 06 24.0 -2.5**
GTA Gaotai 32.55 287 eP **P 13 06 32.7 -0.9**
GTA pP pP 13 06 37.8 -1.3
GTA sP sP 13 06 41.0 -0.3
GTA pmax pmax
comp=Z,4.0nm,0.5s
KMI Kunming 35.07 261 P **P 13 06 55.3 -0.5**
KMI pmax pmax
comp=Z,9.0nm,1.0s
MYLDM Lahad Datu 38.27 219 eP **P 13 07 21.9 -0.9**
comp=Z,17nm,1.0s
DGZ Jazzator, Alta 40.28 306 eP **P 13 07 39.7 +0.2**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 40.77 297 P **P 13 07 43.9 +0.4**
WMQ pP pP 13 07 49.5 +0.4
WMQ sP sP 13 07 52.5 +1.2
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.1s
WMQ LR LR
comp=Z,160nm,15.9s
WMQ LR LR
comp=Z,100nm,20.5s
FAKI Fak Fak 40.95 194 eP **P 13 07 45.1 +0.1**
comp=Z,9.6nm,0.7s
CMAR Chiang Mai Arr 41.63 255 P **P 13 07 50.0 -0.8**
comp=Z,0.7nm,0.6s,baz=46,slow=7.6,SNR=6.4
CMAR LR LR 13 25 52.9
comp=Z,42nm,19.1s,baz=185,slow=37
CMAR Chiang Mai Arr 41.63 255 ceP **P 13 07 51.7 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 41.77 312 eP **P 13 07 50.1 -1.4**
ZALV Zalesovo Beam 41.77 312 P **P 13 07 50.9 -0.6**
comp=Z,5.8nm,0.7s,baz=85,slow=6.6,SNR=20
ZALV PcP **PcP 13 09 47.1 -0.4**
comp=Z,0.8nm,0.7s,baz=113,slow=3.3,SNR=2.8
ZALV LR LR 13 26 39.9
comp=Z,67nm,18.5s,baz=70,slow=38
NVS Novosibirsk 42.69 313 eP **P 13 07 58.6 -0.4**
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,9.0nm,1.2s
MK01 Makanchi Array 44.02 302 eP **P 13 08 07.9 -2.0**
MK31 Makanchi Array 44.03 302 eP **P 13 08 09.2 -0.7**
MK31 Makanchi Array 44.03 302 eP **P 13 08 09.2 -0.7**
MKAR Makanchi Array 44.03 302 P **P 13 08 09.4 -0.5**
comp=Z,3.1nm,0.7s,baz=82,slow=9.6,SNR=38
MKAR LR LR 13 27 05.8
comp=Z,72nm,18.7s,baz=88,slow=37
MKAR Makanchi Array 44.03 302 ceP **P 13 08 09.6 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.03 302 eP **P 13 08 09.2 -0.8**
comp=Z,41nm,0.6s
MAKZ Makanchi 44.24 302 eP **P 13 08 10.6 -1.0**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 44.24 302 eP **P 13 08 10.6 -1.0**
comp=Z,5.4nm,0.6s
KURK Kurchatov 45.81 308 d i P **P 13 08 23.2 -0.8**
KURK pmax pmax
comp=Z,72nm,1.2s
KURK Kurchatov 45.81 308 eP **P 13 08 23.0 -1.0**
comp=Z,13nm,0.6s
KURK PcP **PcP 13 10 00.7 -0.5**
KURBB Kurchatov Arra 45.88 308 P **P 13 08 23.8 -0.8**
comp=Z,4.1nm,0.4s,baz=84,slow=8.2,SNR=4.5
KURBB PcP **PcP 13 10 00.7 -0.7**
comp=Z,0.5nm,0.4s,baz=82,slow=7.8,SNR=2.1
ODAN Odare 46.46 273 eP **P 13 08 28.6 -1.2**
comp=Z,9.8nm,0.6s
RAMN Ramite 47.05 274 eP **P 13 08 33.6 -0.8**
comp=Z,22nm,0.6s
KKN Kakani 47.73 276 eP **P 13 08 39.0 -0.6**
PKIN Phulchoki 47.73 275 eP **P 13 08 39.8 +0.2**
GKN Gorkha 48.14 276 eP **P 13 08 42.1 -0.6**
comp=Z,12nm,0.5s
PMR Palmer 48.36 37 eP **P 13 08 45.7 +2.0**
PMR pmax pmax
comp=Z,27nm,1.6s
PMR Palmer 48.36 37 eP **P 13 08 45.6 +2.0**
comp=Z,27nm,1.6s
MDM Murphy Dome 48.64 32 eP **P 13 08 47.8 +1.9**
comp=Z,16nm,1.1s
COLA College 48.80 32 eP **P 13 08 49.3 +2.2**
COLA pmax pmax
comp=Z,3.0nm,1.1s
KOLN Koldanda 49.07 276 eP **P 13 08 49.3 -0.6**
comp=Z,2.7nm,0.4s
IL1 Eielson Array 49.22 32 eP **P 13 08 51.1 +0.8**
ILAR Eielson Array 49.22 32 P **P 13 08 51.5 +1.2**
comp=Z,1.5nm,0.8s,baz=266,slow=5.8,SNR=13
ILB Eielson Array 49.22 32 eP **P 13 08 51.1 +0.8**
PYUN Piuthan 49.40 277 eP **P 13 08 51.9 -0.6**
comp=Z,12nm,0.5s
SOEI Soe 49.53 203 P **P 13 08 51.5 -1.8**
KSH Kashi 50.35 294 P **P 13 09 03.3 +3.8**
KSH pP sP 13 09 09.9 +2.5
KSH sP pP 13 09 12.3 +7.1
KSH PcP **PcP 13 10 21.7 +3.8**
KSH PP **PP 13 11 00.3 +5.5**
KSH PcS **PcS 13 14 17.2 +2.0**
KSH S **S 13 16 14.7 +3.0**
KSH ScS **ScS 13 18 50.1 +0.2**
KSH pmax pmax
comp=Z,16nm,1.8s
KSH pmax pmax
comp=Z,180nm,6.3s
KSH LR LR
comp=Z,72nm,9.1s
KSH LR LR
comp=Z,130nm,7.8s
KSH LR LR
comp=Z,82nm,5.3s
AAK Ala-Archa 50.41 298 eP **P 13 08 59.0 -0.9**
AAK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 50.43 312 P **P 13 08 59.1 -0.6**
comp=Z,0.9nm,0.6s,baz=78,slow=9.3,SNR=4.0
BVAR PcP **PcP 13 10 17.2 -0.6**
comp=Z,1.0nm,0.6s,baz=72,slow=4.7,SNR=2.5
BRVK Borovoye 50.49 312 i P **P 13 08 57.6 -2.5**
BRVK pmax pmax
comp=Z,12nm,1.7s
DOT Dot Lake 50.53 34 eP **P 13 09 03.4 +3.1**
comp=Z,13nm,0.9s
MTN Manton Dam 50.84 193 eP **P 13 09 02.5 -0.5**
comp=Z,19nm,1.4s
INK Inuvik 54.10 27 P **P 13 09 28.0 +1.3**
comp=Z,1.9nm,0.8s,baz=294,slow=4.5,SNR=5.4
ARU Arti 56.19 318 P **P 13 09 41.4 -0.6**
comp=Z,3.6nm,0.4s,baz=87,slow=7.2,SNR=6.1
ARU Arti 56.19 318 c i P P 13 09 35.3 -6.7
ARU S S 13 17 19.4 -11
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 56.19 318 eP **P 13 09 41.2 -0.8**
comp=Z,14nm,1.2s
WRAB Tennant Creek 57.34 188 eP **P 13 09 50.3 -0.1**
WRAB Tennant Creek 57.34 188 eP **P 13 09 50.0 -0.4**
comp=Z,5.3nm,0.8s
WB2 Warramunga Arr 57.35 188 eP **P 13 09 49.2 -1.3**
WRA Warramunga Arr 57.35 188 P **P 13 09 49.6 -0.9**
comp=Z,2.5nm,0.5s,baz=5.9,slow=7.4,SNR=22
ABKAR Akbulak array 57.81 310 eP **P 13 09 52.1 -1.4**
comp=Z,26nm,0.7s
AKTO Aktyubinsk 58.54 312 P **P 13 09 57.6 -1.0**
comp=Z,1.6nm,0.4s,baz=54,slow=7.3,SNR=8.8
AKTO LR LR 13 38 43.4
comp=Z,66nm,18.1s,baz=69,slow=40
AS01 Alice Springs 61.07 188 eP **P 13 10 15.7 -0.6**
AS31 Alice Springs 61.08 188 eP **P 13 10 15.6 -0.7**
comp=Z,1.0nm,0.6s
ASAR Alice Springs 61.08 188 P **P 13 10 16.1 -0.2**
comp=Z,3.2nm,0.9s,baz=10,slow=5.6,SNR=20
ASAR LR LR 13 36 58.1
comp=Z,39nm,18.1s,baz=184,slow=36
MBWA Marble Bar 61.67 203 eP **P 13 10 20.3 -0.1**
comp=Z,16nm,0.6s
KLMR Klimovskoe 63.55 328 eP **P 13 10 30.2 -2.3**
KLMR pmax pmax
comp=Z,18nm,1.4s
ARCES ARCESS Array B 63.76 339 P **P 13 10 33.7 0.0**
comp=Z,2.3nm,0.7s,baz=55,slow=7.8,SNR=13
ARCES LR LR 13 40 21.6
comp=Z,33nm,18.6s,baz=241,slow=38
GEYT Alibeck 63.76 299 P **P 13 10 33.9 -0.4**
comp=Z,5.0nm,0.8s,baz=58,slow=3.7,SNR=8.0
OBN Obninsk 67.91 323 LR LR 13 45 52.6
comp=Z,83nm,18.4s,baz=278,slow=40
OBN Obninsk 67.91 323 i eP **P 13 10 59.6 -1.0**
OBN pmax pmax
comp=Z,38nm,2.5s
OBN MLR MLR
comp=Z,159nm,15.0s
FINES FINESS Array B 68.60 332 P **P 13 11 04.4 -0.5**
comp=Z,2.0nm,0.4s,baz=44,slow=8.3,SNR=14
FINES FINESS Array B 68.60 332 i P **P 13 11 05.0 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
VSR Storozhevoye 68.76 319 eP **P 13 11 05.1 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 68.84 180 P **P 13 11 06.8 +0.2**
comp=Z,5.1nm,0.8s,baz=325,slow=7.3,SNR=9.3
K05A Summer Lake 70.71 51 eP **P 13 11 20.1 +1.6**
comp=Z,19nm,1.0s
KVAR Kislovodsk Arr 70.77 311 LR LR 13 45 01.3
comp=Z,28nm,18.6s,slow=38
KBZ Khabaz 70.77 311 P **P 13 11 18.2 -0.4**
comp=Z,5.2nm,0.8s,baz=89,slow=6.6,SNR=9.5
KIV Kislovodsk 70.77 311 eP **P 13 11 19.2 +0.5**
KIV pmax pmax
comp=Z,18nm,1.0s
NEY Neytrino 71.14 310 eP **P 13 11 21.4 +0.3**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 71.59 307 LR LR 13 43 04.1
comp=Z,25nm,18.0s,baz=94,slow=36
BMO Blue Mountains 71.69 47 eP **P 13 11 25.5 +1.2**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 71.69 47 eP **P 13 11 25.5 +1.2**
comp=Z,6.3nm,1.0s
BEKR Beckworth 72.63 53 eP **P 13 11 31.6 +1.5**
comp=Z,7.4nm,0.9s
PAHR Pah Rah Range 73.34 53 eP **P 13 11 36.1 +1.8**
comp=Z,16nm,1.4s
MFID Camas Ranch 73.38 48 eP **P 13 11 36.0 +1.6**
comp=Z,9.3nm,1.1s
CMB Columbia Colle 73.65 55 eP **P 13 11 37.1 +1.1**
CMB pmax pmax
comp=Z,16nm,1.4s
CMB Columbia Colle 73.65 55 eP **P 13 11 37.1 +1.1**
comp=Z,16nm,1.4s
YERR Yerington 73.84 53 eP **P 13 11 38.6 +1.3**
comp=Z,14nm,1.3s
LRM Limekiln Ridge 73.90 44 eP **P 13 11 38.7 +1.1**
NB2 NORSAR Subarra 73.95 337 P **P 13 11 37.0 -0.3**
comp=Z,5.5nm,0.9s,baz=40,slow=6.2
NOA NORSAR Array B 73.95 337 P **P 13 11 37.4 +0.1**
comp=Z,2.9nm,0.9s,baz=39,slow=5.8,SNR=3.9
NOA LR LR 13 48 47.1
comp=Z,49nm,18.7s,baz=15,slow=40
DLMT Dillon 74.09 45 eP **P 13 11 40.3 +1.7**
comp=Z,7.8nm,0.8s
AKASG Malin Array Be 74.11 322 P **P 13 11 37.9 -0.5**
comp=Z,3.5nm,0.7s,baz=46,slow=5.9,SNR=8.9
KIEV Kiev 74.13 322 i P **P 13 11 37.5 -0.9**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 74.13 322 eP **P 13 11 37.2 -1.2**
comp=Z,5.8nm,0.8s
AK11 Malin Array Si 74.16 322 eP **P 13 11 37.5 -1.1**
BMN Battle Mountai 74.28 51 eP **P 13 11 41.5 +1.7**
BMN pmax pmax
comp=Z,10.0nm,1.3s
BMN Battle Mountai 74.28 51 eP **P 13 11 41.5 +1.7**
comp=Z,10nm,1.3s
TVH3 East Aurora ar 74.48 54 eP **P 13 11 42.9 +1.9**
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 74.49 44 eP **P 13 11 42.2 +1.3**
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 74.49 44 eP **P 13 11 42.2 +1.3**
comp=Z,6.7nm,0.8s
YHB Horse Butte 75.25 45 eP **P 13 11 46.2 +0.8**
comp=Z,4.8nm,0.8s
YHH Holmes Hill 75.42 45 eP **P 13 11 47.7 +1.3**
comp=Z,3.6nm,0.9s
IMW Indian Meadow 75.93 45 eP **P 13 11 51.5 +2.1**
comp=Z,7.1nm,0.8s
FXWY Fox Creek 76.04 46 eP **P 13 11 51.9 +1.9**
comp=Z,7.4nm,1.0s
MOOW Moose Ponds 76.13 45 eP **P 13 11 52.6 +2.1**
comp=Z,5.3nm,1.1s
TPAW Teton Pass 76.17 46 eP **P 13 11 52.6 +1.9**
comp=Z,4.1nm,1.9s
R11A Troy Canyon, C 76.53 52 eP **P 13 11 54.4 +1.6**
comp=Z,9.1nm,1.3s
TPNV Topopah Spring 76.95 53 eP **P 13 11 56.6 +1.5**
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 76.95 53 eP **P 13 11 56.6 +1.5**
comp=Z,11nm,1.1s
HWUT Hardware Ranch 76.99 47 eP **P 13 11 57.0 +1.7**
comp=Z,9.4nm,1.2s
BW06 Boulder Array 77.42 46 eP **P 13 11 58.0 +0.2**
comp=Z,2.6nm,0.9s
PDAR Pinedale Array 77.42 46 P **P 13 11 59.0 +1.2**
comp=Z,0.6nm,0.7s,baz=298,slow=3.2,SNR=6.8
SHPR Sheep Range 77.92 53 eP **P 13 12 01.8 +1.2**
comp=Z,7.9nm,1.2s
BRTR Keskin Array B 78.72 312 P **P 13 12 04.4 -0.5**
comp=Z,0.9nm,0.7s,baz=130,slow=3.9,SNR=7.5
STHS Stebnicka Huta 78.77 325 eP **P 13 12 05.8 +1.0**
STHS Stebnicka Huta 78.77 325 eP **P 13 12 05.8 +1.0**
LCMT Little Creek M 78.82 52 eP **P 13 12 06.6 +1.1**
comp=Z,9.8nm,1.2s
BR231 Keskin MP Arra 79.15 312 eP **P 13 12 05.2 -2.0**
SRU San Rafael Swe 79.17 49 eP **P 13 12 08.6 +1.1**
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael Swe 79.17 49 eP **P 13 12 08.6 +1.1**
comp=Z,5.3nm,0.7s
VYHS Vyhne 80.53 325 eP **P 13 12 15.0 +0.6**
VYHS Vyhne 80.53 325 eP **P 13 12 15.0 +0.6**
PV10 Paradox Valley 80.54 49 eP **P 13 12 16.3 +1.4**
CLL Collm 80.89 330 eP **P 13 12 16.0 -0.2**
CLL e 13 12 24.0
CLL pmax pmax
comp=Z,4.0nm,0.5s
CLL Collm 80.89 330 eP **P 13 12 16.0 -0.2**
comp=Z,4.0nm,0.5s
CLL ePcP **sP** 13 12 24.0 -0.3
CLL esP PcP 13 12 37.0 +14
KHC Kasperske Hory 82.34 328 eP **P 13 12 24.5 +0.5**
KHC ex x 13 12 32.8
KHC Kasperske Hory 82.34 328 eP **P 13 12 24.5 +0.5**
KHC e 13 12 32.8
GERES GERESS Array B 82.51 328 P **P 13 12 23.9 -1.1**
comp=Z,0.6nm,0.2s,baz=58,slow=5.2,SNR=3.4
GERES LR LR 13 53 16.5
comp=Z,77nm,18.1s,baz=336,slow=39
SDCO Great Sand Dun 83.05 47 eP **P 13 12 29.7 +1.4**
comp=Z,3.6nm,1.0s
ANMO Albuquerque 84.35 50 i P **P 13 12 35.9 +1.0**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 84.35 50 eP **P 13 12 35.9 +1.0**
comp=Z,5.8nm,1.0s
TX31 Lajitas Ar. Si 89.89 52 eP **P 13 13 02.6 +0.9**
TXAR Lajitas Array 89.89 52 P **P 13 13 02.6 +0.9**
comp=Z,0.7nm,0.6s,baz=309,slow=3.3,SNR=11
KEST Kesra 94.84 323 LR LR 13 58 43.7
comp=Z,48nm,18.4s,baz=300,slow=37
LPAZ La Paz 146.49 59 PKPbc **PKPbc 13 19 45.1 +0.3**
comp=Z,2.2nm,0.5s,baz=311,slow=3.2,SNR=15

IDC 04 14:08:18.6±999.0, 48°40N×5°06W, h0km, Error ellipse: s-maj=470.5km s-min=199.0km az=91.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	12.43	81	i		15 21 40.0	
baz=277,slow=316,SNR=0.7							
I48TN	KESRA INFRASON	16.47	135	i		15 48 40.0	
baz=324,slow=316,SNR=0.5							
I43RU	DUBNA INFRASON	26.63	56	i		16 53 37.5	
baz=270,slow=308,SNR=0.4							

*ISCJB **04** 14:08:20.4±0.2, 44°42N±0°01×6°82E±0°02, h11km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=156.7*
*CSEM **04** 14:08:20.9±0.1, 44°44N×6°84E, h15km, ML2.7/24, Error ellipse: s-maj=2.2km s-min=1.7km az=54.0*
*GEN **04** 14:08:21.4, 44°42N×6°85E, h6km, ML2.2*
*LDG **04** 14:08:21.5±0.0, 44°43N×6°87E, h3km, Md2.8/5, Ml2.8/20, Error ellipse: s-maj=1.0km s-min=0.7km az=57.0*
*STR **04** 14:08:21.6±0.1, 44°42N×6°88E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **04** 14:08:21.7±0.1, 44°44N×6°91E, h11km, Md2.5/12, Ml2.2/11, Error ellipse: s-maj=1.0km s-min=0.8km az=107.0*

ISC 04 14:08:21.1±0.9, 44°45N±0°01×6°87E±0°02, h18km±5km, n93, σ1.9/09/156, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	San Damiano	0.28	78	Pg	Pg	14 08 27.3	0.0
DOI				Sg	Sg	14 08 31.4	-0.1
604nm,0.2s							
DOI	San Damiano	0.28	78	Pg	Pg	14 08 27.3	0.0
DOI				Sg	Sg	14 08 31.4	-0.1
604nm,0.2s							
MBDF	Montbardon	0.29	346	ePg	Pg	14 08 27.5	0.0
SNR=1.0							
MBDF				eSg	Sg	14 08 31.0	-0.8
243nm,0.3s							
MBDF	Montbardon	0.29	346	ePg	Pg	14 08 27.5	0.0
SNR=1.0							
MBDF				eSg	Sg	14 08 31.0	-0.8
122nm,0.3s							
OG22	Abries	0.38	9	Pg	Pb	14 08 29.6	+0.2
OG22				Sg	Sb	14 08 35.1	+0.1
OG22	Abries	0.38	9	Pg	Pb	14 08 29.6	+0.2
OG22				Sg	Sb	14 08 35.1	+0.1
ENR	Entracque	0.46	119	Pg	Pg	14 08 30.2	-0.1
ENR				Sg	Sg	14 08 36.1	-0.5
179nm,0.1s							
ENR	Entracque	0.46	119	Pg	Pg	14 08 30.2	-0.1
ENR				S	Sg	14 08 36.1	-0.5
RRL	Rocca Remolon	0.47	354	Pg	Pb	14 08 31.2	+0.1
RRL				Sg	Sb	14 08 38.4	+0.5
153nm,0.4s							
RRL	Rocca Remolon	0.47	354	P	Pb	14 08 31.2	+0.1
RRL				S	Sb	14 08 38.3	+0.4
BHB	Bricherasio	0.48	36	Pg	Pb	14 08 31.1	0.0
BHB				Sg	Sb	14 08 38.1	+0.2
160nm,0.2s							
BHB	Bricherasio	0.48	36	P	Pb	14 08 31.1	0.0
BHB				S	Sg	14 08 37.6	+0.1
BHB				Sg	Sb	14 08 38.1	+0.2
160nm,0.2s							
MVIF	Mont Vial	0.59	159	Pg	Pg	14 08 32.3	-0.5
MVIF				Sg	Sg	14 08 40.3	-0.4
BNI	Bardonecchia	0.62	348	Pg	Pb	14 08 34.0	+0.6
BNI				Sg	Sb	14 08 42.6	+0.8
34nm,0.7s							
BNI	Bardonecchia	0.62	348	Pg	Pb	14 08 34.0	+0.6
BNI				Sg	Sb	14 08 42.6	+0.8
34nm,0.7s							
LUCF	Luceram	0.66	148	Pg	Pg	14 08 33.7	-0.3
LUCF				Sg	Sg	14 08 41.9	-0.8
SBF	Sospel	0.71	145	ePg	Pg	14 08 34.7	-0.4
SNR=1.0							
SBF				eSg	Sg	14 08 44.2	-0.4
94nm,0.2s,SNR=1.0							
SBF	Sospel	0.71	145	ePg	Pg	14 08 34.7	-0.4
SNR=1.0							
SBF				eSg	Sg	14 08 44.2	-0.4
47nm,0.2s,SNR=1.0							
RSP	Reno Superiore	0.76	22	Pg	Pb	14 08 36.8	+1.0
RSP				Sg	Sb	14 08 46.8	+1.0
90nm,0.2s							
RSP	Reno Superiore	0.76	22	Pg	Pb	14 08 36.8	+1.0
RSP				S	Sb	14 08 46.4	+0.6
RSP				Sg	Sb	14 08 46.8	+1.0
90nm,0.2s							
REVF	Revere	0.80	153	Pg	Pg	14 08 36.4	-0.2
REVF				Sg	Sg	14 08 46.8	-0.3
REVF	Revere	0.80	153	Pg	Pg	14 08 36.4	-0.2
REVF				Sg	Sg	14 08 46.8	-0.3
ORIF	Oris-en-Rattie	0.84	304	ePg	Pg	14 08 37.3	-0.3
SNR=1.0							
ORIF				eSg	Sg	14 08 48.7	-0.1
25nm,0.2s,SNR=1.0							
ORIF	Oris-en-Rattie	0.84	304	ePg	Pg	14 08 37.3	-0.3
SNR=1.0							
ORIF				eSg	Sg	14 08 48.7	-0.1
12nm,0.2s,SNR=1.0							
NEGI	Seborga	0.85	135	Pg	Pg	14 08 37.5	-0.2
NEGI				Sg	Sg	14 08 47.9	-1.0
130nm,0.2s							
NEGI	Seborga	0.85	135	P	Pg	14 08 37.3	-0.4
NEGI				Sg	Sg	14 08 47.9	-1.0
130nm,0.2s							
FRF	La Foret Royal	0.90	190	ePg	Pg	14 08 37.9	-0.7
SNR=1.0							
FRF	La Foret Royal	0.90	190	ePn	Pn	14 08 39.3	+0.4
FRF				eSg	Sg	14 08 49.4	-1.1
46nm,0.2s,SNR=1.0							
FRF				eS	Sn	14 08 53.8	+2.4
IMI	Imperia	0.92	126	Pg	Pg	14 08 38.4	-0.5
101nm,0.3s							
IMI	Imperia	0.92	126	P	Pg	14 08 38.4	-0.5
IMI				S	Sg	14 08 50.1	-0.8
GDM	Grand'Maison	0.92	325	Pg	Pb	14 08 39.2	+0.5
GDM	Grand'Maison	0.92	325	Pg	Pb	14 08 39.2	+0.5
RORO	Rocca Rossa	0.93	111	Pg	Pg	14 08 38.7	-0.3
63nm,0.3s							
RORO	Rocca Rossa	0.93	111	P	Pg	14 08 38.6	-0.4

RORO S **Sg** **14 08 50.6 -0.6**
LSD Lago del Serru 1.03 11 Pg **Pn** **14 08 41.3 +0.4**
LSD Lago del Serru 1.03 11 Pg **Pn** **14 08 41.3 +0.4**
LSD S **Sg** **14 08 54.4 -0.2**
SMRF Simiane la Rot 1.04 243 *e*Pg **Pn** **14 08 41.5 +0.7**
SNR=1.0
SMRF *e*Sg **Sb** **14 08 54.1 +0.2**
82nm,0.3s
SMRF Simiane la Rot 1.04 243 *e*Pg **Pn** **14 08 41.5 +0.7**
SNR=1.0
SMRF *e*Sg **Sb** **14 08 54.1 +0.2**
41nm,0.3s
LPG La Plagne 1.05 356 *e*Pg **Pn** **14 08 41.9 +0.7**
SNR=1.0
LPG *e*Sg **Sg** **14 08 55.0 -0.4**
16nm,0.2s,SNR=1.0
QLNO Quiliano 1.07 96 Pg **Pb** **14 08 41.4 +0.4**
36nm,0.2s
QLNO Quiliano 1.07 96 Pg **Pb** **14 08 41.4 +0.4**
36nm,0.2s
LPL La Plagne 1.07 355 *e*Pg **Pn** **14 08 42.3 +0.9**
SNR=1.0
LPL *e*Sg **Sn** **14 08 56.5 +0.5**
21nm,0.3s,SNR=1.0
GRN Grenoble 1.12 315 Pn **Pg** **14 08 43.0 +0.2**
GRN Grenoble 1.12 315 Pn **Pg** **14 08 43.0 +0.2**
LMR La Mourre 1.14 193 *e*Pn **Pb** **14 08 42.3 0.0**
SNR=1.0
LMR La Mourre 1.14 193 *e*Pg **Pn** **14 08 42.9 +0.7**
SNR=1.0
LMR La Mourre 1.14 193 *e*P **Pg** **14 08 44.4 +1.2**
LMR *e*Sg **Sb** **14 08 57.4 +0.6**
41nm,0.2s,SNR=1.0
LMR La Mourre 1.14 193 *e*Pn **Pb** **14 08 42.3 0.0**
SNR=1.0
LMR La Mourre 1.14 193 *e*Pg **Pn** **14 08 42.9 +0.7**
SNR=1.0
LMR La Mourre 1.14 193 *e*P **Pg** **14 08 44.4 +1.2**
LMR *e*Sg **Sb** **14 08 57.4 +0.6**
20nm,0.2s,SNR=1.0
PCP Piancastagn 1.21 85 Pg **Pb** **14 08 43.8 +0.4**
46nm,0.4s
PCP Piancastagn 1.21 85 P **Pn** **14 08 43.6 +0.5**
PCP S **Sb** **14 08 59.3 +0.6**
LEPF PUYLOUBIER 1.25 223 Pg **Pg** **14 08 45.1 -0.1**
LEPF Sg **Sg** **14 09 01.9 +0.4**
VIVF Saint-Julien-l 1.62 285 *e*Pn **Pn** **14 08 50.2 +1.5**
SNR=1.0
VIVF Saint-Julien-l 1.62 285 *e*Pg **Pg** **14 08 52.4 +0.2**
VIVF *e*Sg **Sg** **14 09 13.1 -0.1**
14nm,0.3s
VIVF Saint-Julien-l 1.62 285 *e*Pn **Pn** **14 08 50.2 +1.5**
SNR=1.0
VIVF Saint-Julien-l 1.62 285 *e*Pg **Pg** **14 08 52.4 +0.2**
VIVF *e*Sg **Sg** **14 09 13.1 -0.1**
7.0nm,0.3s
SSB Saint Sauveur 1.85 297 Pn **Pn** **14 08 53.5 +1.6**
SSB Saint Sauveur 1.85 297 Pg **Pg** **14 08 56.9 +0.3**
SSB Saint Sauveur 1.85 297 Pn **Pn** **14 08 53.5 +1.6**
SSB Saint Sauveur 1.85 297 Pg **Pg** **14 08 56.9 +0.3**
LASF Ste Croix 2.19 261 *e*Pn **Pn** **14 08 57.1 +0.5**
SNR=1.0
LASF Ste Croix 2.19 261 *e*Pg **Pg** **14 09 03.2 +0.1**
LASF *e*Sn **Sn** **14 09 23.3 -0.1**
2.5nm,0.2s,SNR=1.0
LASF Ste Croix 2.19 261 *e*Pn **Pn** **14 08 57.1 +0.5**
SNR=1.0
LASF *e*Sn **Sn** **14 09 23.3 -0.1**
1.2nm,0.2s,SNR=1.0
CABF La Chapelle 2.23 346 *e*Pn **Pn** **14 08 57.2 0.0**
SNR=1.0
CABF *e*Sg **Sg** **14 09 32.7 -0.1**
11nm,0.5s,SNR=1.0
CABF La Chapelle 2.23 346 *e*Pn **Pn** **14 08 57.2 0.0**
SNR=1.0
CABF *e*Sg **Sg** **14 09 32.7 -0.1**
5.3nm,0.5s,SNR=1.0
PGF Pioggiola 2.45 140 *e*Pn **Pn** **14 09 00.6 +0.3**
SNR=1.0
PGF *e*Sn **Sn** **14 09 28.5 -1.4**
6.7nm,0.2s,SNR=1.0
PGF Pioggiola 2.45 140 *e*Pn **Pn** **14 09 00.6 +0.3**
SNR=1.0
PGF *e*Sn **Sn** **14 09 28.5 -1.4**
3.3nm,0.2s,SNR=1.0
SMF Signal de Mont 3.06 317 *e*Pg **Pg** **14 09 18.6 -1.0**
SMF *e*Sg **Sg** **14 09 57.4 -1.8**
5.3nm,0.3s
SMF Signal de Mont 3.06 317 *e*Pg **Pg** **14 09 18.6 -1.0**
SMF *e*Sg **Sg** **14 09 57.4 -1.8**
2.7nm,0.3s
AVF Avril sur Loir 3.40 315 *e*P **Pn** **14 09 16.6 +3.4**
AVF Avril sur Loir 3.40 315 *e*Pg **Pg** **14 09 25.2 -1.0**
AVF *e*Sg **Sg** **14 10 08.6 -1.6**
6.0nm,0.5s
AVF Avril sur Loir 3.40 315 *e*P **Pn** **14 09 16.6 +3.4**
AVF Avril sur Loir 3.40 315 *e*Pg **Pg** **14 09 25.2 -1.0**
AVF *e*Sg **Sg** **14 10 08.6 -1.6**
3.0nm,0.5s
CAF Calviac 3.46 280 *e*Pn **Pn** **14 09 15.8 +1.8**
SNR=1.0
SSF Saint Saulge 3.52 319 *e*Pn **Pn** **14 09 15.3 +0.5**
SSF Saint Saulge 3.52 319 *e*P **Pn** **14 09 18.3 +3.5**
SSF Saint Saulge 3.52 319 *e*Pg **Pg** **14 09 26.7 -1.7**
SSF *e*Sg **Sg** **14 10 12.7 -1.2**
4.2nm,0.3s
SSF Saint Saulge 3.52 319 *e*Pn **Pn** **14 09 15.3 +0.5**
SSF Saint Saulge 3.52 319 *e*P **Pn** **14 09 18.3 +3.5**
SSF Saint Saulge 3.52 319 *e*Pg **Pg** **14 09 26.7 -1.7**
SSF *e*Sg **Sg** **14 10 12.7 -1.2**
2.1nm,0.3s
LOR Lormes 3.52 324 *e*Pg **Pg** **14 09 27.3 -1.1**
baz=139
LOR *e*Sn **Sn** **14 09 55.7 -0.3**
3.2nm,0.3s,SNR=1.0
LOR *e*Sg **Sg** **14 10 12.1 -1.8**
3.5nm,0.3s,baz=155
LOR Lormes 3.52 324 *e*Pg **Pg** **14 09 27.3 -1.1**
LOR *e*Sn **Sn** **14 09 55.7 -0.3**
1.6nm,0.3s,SNR=1.0
LOR *e*Sg **Sg** **14 10 12.1 -1.8**
1.8nm,0.3s
MTLF Montolieu 3.54 253 *e*Pg **Pg** **14 09 27.4 -1.4**
MTLF *e*Sn **Sn** **14 09 55.8 -0.7**
2.0nm,0.2s
MTLF *e*Sg **Sg** **14 10 12.6 -2.0**
1.4nm,0.3s
MTLF Montolieu 3.54 253 *e*Pg **Pg** **14 09 27.4 -1.4**
MTLF *e*Sn **Sn** **14 09 55.8 -0.7**
1.0nm,0.2s
MTLF *e*Sg **Sg** **14 10 12.6 -2.0**
0.7nm,0.3s
HAU Haudompre 3.58 354 *e*Sg **Sg** **14 10 14.3 -1.5**
7.6nm,0.2s
HAU Haudompre 3.58 354 *e*Sg **Sg** **14 10 14.3 -1.5**
3.8nm,0.2s
TCF Toulx Ste Croi 3.76 301 *e*Pn **Pn** **14 09 19.1 +0.9**
SNR=1.0
HYF Humbligny 4.08 315 *e*Pg **Pg** **14 09 36.9 -2.3**
HYF Humbligny 4.08 315 *e*Pg **Pg** **14 09 36.9 -2.3**
ETSF Etsaut 5.60 257 *e*Pn **Pn** **14 09 42.8 -0.8**
ETSF Etsaut 5.60 257 *e*P **Pn** **14 09 47.9 +4.3**
ETSF Etsaut 5.60 257 *e*Pn **Pn** **14 09 42.8 -0.8**

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*IDC **04** 14:10:02.1±3.2, 12°.26N×141°.62E, h68km±31km, mb3.8/10, mb1 3.9/12, mb1mx3.7/37, mbtmp4.0/12, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/43, Error ellipse: s-maj=25.4km s-min=16.0km az=96.0*
*NEIC **04** 14:10:02.0±1.3, 12°.26N×141°.63E, h68km±14km, mb4.0/2, Error ellipse: s-maj=14.9km s-min=7.3km az=101.0*
ISC 04 14:09:58.2±0.7, 12°.35N±0°.10×141°.74E±0°.08, h33km, n18, σ1§30/17, mb4.2/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.29**	**68**	P	**Pb**	**14 10 53.1**	**-2.8**
	22nm,0.3s,baz=148,slow=7.3,SNR=21						
GUMO				S	**Sb**	**14 11 38.2**	**+2.6**
	2.1nm,0.3s,baz=343,slow=19,SNR=2.2						
JAY	**Jayapura**	**14.80**	**184**	P	**Pn**	**14 13 26.8**	**+1.4**
	0.1nm,0.3s,baz=343,slow=20,SNR=4.2						
JNU	**Nakatsue**	**22.94**	**336**	LR	LR	14 23 09.7	
	comp=Z,21nm,18.2s,baz=308,slow=34						
KSRS	**Korea Array**	**27.89**	**336**	LR	LR	14 24 41.2	
	comp=Z,49nm,21.2s,baz=233,slow=32						
WRAB	**Tennant Creek**	**32.90**	**193**	*e*Pn	**P**	**14 16 28.5**	**-1.0**
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**32.91**	**193**	P	**P**	**14 16 28.8**	**-0.8**
	1.6nm,0.6s,baz=14,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**36.61**	**192**	P	**P**	**14 17 00.9**	**-0.6**
	0.3nm,0.3s,baz=25,slow=10,SNR=8.7						
CMAR	**Chiang Mai Arr**	**41.63**	**284**	P	**P**	**14 17 43.2**	**-0.4**
	0.8nm,0.7s,baz=88,slow=6.5,SNR=5.0						
SONM	**Songino Array**	**46.05**	**327**	P	**P**	**14 18 19.9**	**+1.0**
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.0						
MA2	**Magadan**	**47.62**	**6**	P	**P**	**14 18 32.1**	**+1.3**
	2.8nm,0.6s,baz=156,slow=10.0,SNR=3.4						
MKAR	**Makanchi Array**	**60.28**	**317**	P	**P**	**14 20 03.5**	**-0.2**
	3.6nm,0.9s,baz=96,slow=8.6,SNR=28						
ZALV	**Zalesovo Beam**	**60.88**	**325**	P	**P**	**14 20 07.2**	**-0.2**
	1.9nm,0.6s,baz=109,slow=6.8,SNR=7.8						
KURK	**Kurchatov**	**63.58**	**321**	*e*P	**P**	**14 20 25.5**	**-0.1**
	73nm,0.8s						
ILAR	**Eielson Array**	**70.99**	**25**	P	**P**	**14 21 12.6**	**+0.3**
	1.1nm,0.7s,baz=250,slow=5.7,SNR=16						
ABKAR	**Akbulak array**	**75.41**	**318**	*e*P	**P**	**14 21 38.4**	**-0.3**
	0.9nm,0.5s						
ARCES	**ARCESS Array B**	**87.30**	**342**	P	**P**	**14 22 41.4**	**0.0**
	4.4nm,1.0s,baz=57,slow=4.6,SNR=6.4						
FINES	**FINESS Array B**	**90.97**	**334**	P	**P**	**14 22 57.5**	**-1.3**
	3.1nm,0.8s,baz=67,slow=6.4,SNR=4.5						
LPAZ	**La Paz**	**150.81**	**101**	PKPbc	**PKPbc**	**14 29 49.4**	**+0.4**
	1.2nm,0.6s,baz=303,slow=3.5,SNR=6.5						

MAN 04 14:13:19, 15°.17N×122°.23E, h14km, mb4.1, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.28**	**170**	⇓*e*P	Pn	14 13 41.7	-0.8
GQP				*e*S	Sb	14 13 59.0	-0.2
BOAC	**Boac**	**1.74**	**192**	*e*P	Pb	14 13 50.4	-0.5
BOAC				*e*S	Sb	14 14 12.2	-0.4
CAUP	**Cauayan**	**1.80**	**348**	*e*P	Pn	14 13 49.0	-0.7
CAUP				*e*S	Sn	14 14 13.1	+0.7
PVCP	**Virac**	**2.44**	**130**	*e*P	Pb	14 14 00.6	-2.0
PVCP				*e*S	Sg	14 14 36.1	-1.3

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*IDC **04** 14:25:53.5±2.1, 9°.49S×119°.88E, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.1/42, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=188.7km s-min=24.8km az=54.0*
*ISCJB **04** 14:25:56.2±0.6, 9°.72S±0°.08×119°.68E±0°.04, h33km, mb3.1/1, Error ellipse: s-maj=11.7km s-min=5.3km az=13.9*
*DJA **04** 14:25:56.7±0.6, 10°.5±4°.×12°.0E±°, h27km±5km, M3.7/7, MLv3.7/7*
ISC 04 14:25:57.3±0.9, 9°.77S±0°.08×119°.70E±0°.05, h35km, n9, σ1§57/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.60**	**80**	P	**Pn**	**14 26 08.8**	**-0.5**
WSI				S	**Sn**	**14 26 18.0**	**+0.2**
BASI	**Baing, Sumba**	**0.97**	**117**	P	**Pn**	**14 26 14.8**	**+0.3**
BASI				S	**Sn**	**14 26 28.2**	**+1.1**
PLAI	**Plampang**	**2.12**	**296**	P	**Pn**	**14 26 29.6**	**-0.6**
MMRI	**Maumere**	**2.75**	**66**	P	**Pn**	**14 26 39.2**	**+0.3**
MMRI				S	**Sn**	**14 27 10.0**	**-0.9**
TWSI	**Taliwang, Sumb**	**2.96**	**290**	P	**Pn**	**14 26 42.3**	**+0.4**
TWSI				S	**Sn**	**14 27 15.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.09**	**146**	Pn	**Pn**	**14 28 21.6**	**+1.8**
	0.1nm,0.3s,baz=327,slow=13,SNR=4.8						
FITZ				Sn	**Sn**	**14 30 07.5**	**-4.3**
	0.2nm,0.3s,baz=11,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**17.38**	**127**	P	**P**	**14 29 57.3**	**-0.9**
	0.1nm,0.3s,baz=303,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**19.36**	**137**	P	**Pn**	**14 30 22.4**	**+1.0**
	0.0nm,0.3s,baz=313,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**65.45**	**333**	P	**P**	**14 36 37.2**	**+0.4**
	0.1nm,0.5s,baz=123,slow=7.1,SNR=2.6						

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*ISCJB **04** 14:35:42.4±0.4, 23°.59N±0°.02×122°.02E±0°.02, h15km±4km, Error ellipse: s-maj=3.5km s-min=2.1km az=142.4*
*JMA **04** 14:35:42.8±0.2, 23°.61N×121°.95E, h26km±4km, M3.1*
*TAP **04** 14:35:43.5, 23°.62N×121°.94E, h20km, ML3.4, C*
ISC 04 14:35:43.0±1.1, 23°.60N±0°.02×121°.97E±0°.03, h24km±12km, n61, σ0§97/114, 12C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.41**	**286**	*e*P	**Pb**	**14 35 52.3**	**+0.7**
	baz=284						
ESF	**Shoufeng Towns**	**0.50**	**303**	*e*P	**Pb**	**14 35 53.3**	**+0.1**
	baz=302						
HWA	**Hwalien**	**0.51**	**319**	P	**Pb**	**14 35 53.0**	**-0.2**
	baz=319						
HWA				S	**Sb**	**14 36 00.5**	**+0.3**
	baz=319						
ESL	**Shilin**	**0.54**	**294**	⇑*i*P	**Pb**	**14 35 53.2**	**-0.6**
	baz=282						
ESL				S	**Sb**	**14 35 59.9**	**-1.2**
	baz=282						
TWD	**Chiawan**	**0.59**	**325**	⇓*i*P	**Pb**	**14 35 54.1**	**-0.6**
	baz=326						
TWD				*i* S	**Sb**	**14 36 01.8**	**-0.9**
	baz=326						
EHY	**Hungye**	**0.60**	**262**	P	**Pb**	**14 35 54.9**	**0.0**
	baz=270						
EHY				S	**Sb**	**14 36 03.4**	**+0.5**
	baz=270						
TWF1	**Yuli**	**0.66**	**249**	P	**Pb**	**14 35 56.0**	**+0.1**
	baz=235						
TWF1				*e*S	**Sb**	**14 36 05.3**	**+0.6**
	baz=235						
CHKT	**Chengkung**	**0.74**	**228**	⇑P	**Pb**	**14 35 56.4**	**-0.9**
	baz=214						
CHKT				*i* S	**Sb**	**14 36 05.7**	**-1.3**
	baz=214						
WHF	**Hehuan Shan**	**0.84**	**310**	*e*P	**Pb**	**14 35 58.6**	**-0.7**
	baz=310						
WHF				*e*S	**Sb**	**14 36 09.1**	**-1.3**
	baz=310						
ENA	**Nanau**	**0.85**	**346**	P	**Pb**	**14 35 58.7**	**-0.5**
	baz=347						
ENA				*e*S	**Sb**	**14 36 09.8**	**-0.5**
	baz=347						
YUS	**Yu-Shan**	**0.94**	**264**	⇑*i*P	**Pb**	**14 36 00.9**	**0.0**
	baz=262						
YUS				S	**Sb**	**14 36 12.7**	**-0.5**
	baz=262						
ELDTW	**Ildau**	**0.96**	**245**	⇑*i*P	**Pb**	**14 36 00.3**	**-0.8**
	baz=243						
ELDTW				S	**Sb**	**14 36 12.4**	**-1.1**
	baz=243						
TWT	**Tachien**	**0.98**	**312**	*e*P	**Pb**	**14 36 01.0**	**-0.4**
	baz=311						
TWT				*e*S	**Sb**	**14 36 13.3**	**-0.6**
	baz=311						
NNS	**Nan Shan**	**1.00**	**327**	⇓P	**Pb**	**14 36 01.2**	**-0.6**
	baz=327						
NNS				*e*S	**Sb**	**14 36 13.4**	**-1.2**
	baz=327						
TWC	**Suao**	**1.01**	**354**	*i* P	**Pb**	**14 36 01.7**	**-0.2**
	baz=355						
TWC				S	**Sb**	**14 36 14.4**	**-0.4**
	baz=355						
SMLT	**Sun Moon Lake**	**1.02**	**286**	⇑P	**Pb**	**14 36 01.6**	**-0.5**
	baz=285						
SMLT				*e*S	**Sb**	**14 36 14.6**	**-0.6**
	baz=285						
TYC	**Yuchr**	**1.06**	**287**	P	**Pn**	**14 36 02.3**	**-0.1**
	baz=286						
TYC				S	**Sn**	**14 36 16.3**	**-0.2**
	baz=286						
ALS	**Alishan**	**1.07**	**266**	⇑P	**Pb**	**14 36 03.1**	**+0.1**
	baz=264						
ALS				*e*S	**Sb**	**14 36 16.5**	**-0.2**
	baz=264						
ENTT	**Nioudou**	**1.10**	**341**	⇓*i*P	**Pn**	**14 36 02.9**	**-0.1**
	baz=341						
ENTT				S	**Sn**	**14 36 17.0**	**-0.5**
	baz=341						
TTN	**Taitung**	**1.13**	**222**	*e*P	**Pb**	**14 36 04.0**	**+0.2**
	baz=208						
TWG	**Pinlang**	**1.13**	**227**	P	**Pn**	**14 36 02.4**	**-1.0**
	baz=217						
TWG				*e*S	**Sb**	**14 36 16.2**	**-1.9**
	baz=217						
TWE	**Neicheng**	**1.15**	**346**	⇓P	**Pb**	**14 36 03.8**	**-0.5**
	baz=347						
TWE				*e*S	**Sb**	**14 36 18.3**	**-0.5**
	baz=347						
CHN5	**Tsauling**	**1.18**	**270**	⇑*i*P	**Pb**	**14 36 05.2**	**+0.3**
	baz=269						
CHN5				*e*S	**Sb**	**14 36 21.9**	**+2.2**
	baz=269						
STYT	**Tauyuan**	**1.19**	**249**	⇑P	**Pn**	**14 36 04.6**	**+0.3**
	baz=235						
STYT				S	**Sn**	**14 36 19.3**	**-0.5**
	baz=235						
WNT	**Mingjian**	**1.21**	**284**	P	**Pb**	**14 36 05.8**	**+0.6**
	baz=283						
WNT				*e*S	**Sb**	**14 36 21.9**	**+1.4**
	baz=283						
NSK	**Sanguang**	**1.21**	**333**	P	**Pn**	**14 36 04.5**	**0.0**
	baz=333						
NSK				S	**Sn**	**14 36 19.3**	**-1.0**
	baz=333						
JYNG	**Yonagunijimaku**	**1.23**	**46**	P	**Pn**	**14 36 05.3**	**+0.5**
JYNG				S	**Sn**	**14 36 20.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.28**	**48**	P	**Pn**	**14 36 05.9**	**+0.4**
YOJ				*e*S	**Sn**	**14 36 22.3**	**+0.3**
CHN4	**Tsaushan**	**1.29**	**259**	⇑*i*P	**Pb**	**14 36 07.0**	**+0.5**
	baz=250						
CHN4				S	**Sb**	**14 36 24.6**	**+2.0**
	baz=250						
WTP	**Ta-pu**	**1.29**	**255**	⇑*i*P	**Pb**	**14 36 06.7**	**0.0**
	baz=253						
WTP				S	**Sb**	**14 36 23.6**	**+0.8**
	baz=253						
WGK	**Gukeng**	**1.29**	**274**	*e*P	**Pb**	**14 36 06.7**	**+0.1**
	baz=273						
WGK				S	**Sb**	**14 36 24.0**	**+1.1**
	baz=273						
TCU	**Taichung**	**1.30**	**295**	*e*P	**Pb**	**14 36 07.7**	**+0.8**
	baz=294						
TCU				*e*S	**Sb**	**14 36 25.1**	**+1.9**
	baz=294						
TWQ1	**Liyutan**	**1.33**	**305**	P	**Pb**	**14 36 07.6**	**+0.4**
	baz=304						
TWQ1				S	**Sb**	**14 36 24.5**	**+0.7**
	baz=304						
NSTT	**Nanjuang**	**1.36**	**320**	*e*P	**Pb**	**14 36 07.7**	**0.0**
	baz=319						
NSTT				*e*S	**Sb**	**14 36 24.7**	**-0.1**
	baz=319						
ECL	**Taimali**	**1.36**	**223**	P	**Pn**	**14 36 05.2**	**-1.4**
	baz=216						
ECL				*e*S	**Sn**	**14 36 21.2**	**-2.7**
	baz=216						
CHN2	**Minshiung**	**1.37**	**268**	*e*P	**Pb**	**14 36 08.1**	**+0.1**
	baz=267						
CHN2				*e*S	**Sb**	**14 36 26.9**	**+1.8**
	baz=267						
SGST	**Jiashian**	**1.37**	**248**	⇑P	**Pb**	**14 36 08.0**	**0.0**
	baz=235						
SGST				S	**Sb**	**14 36 25.9**	**+0.8**
	baz=235						
NSY	**Sanyi**	**1.37**	**307**	*e*P	**Pb**	**14 36 07.8**	**-0.3**
	baz=306						
NSY				*e*S	**Sb**	**14 36 26.2**	**+1.0**
	baz=306						
CHN1	**Nanshi**	**1.39**	**253**	⇑P	**Pb**	**14 36 08.5**	**+0.3**
	baz=252						
CHN1				S	**Sb**	**14 36 27.2**	**+1.6**
	baz=252						
TWK	**Hsinying**	**1.40**	**257**	P	**Pb**	**14 36 08.4**	**-0.1**
	baz=255						
TWK				*e*S	**Sb**	**14 36 26.7**	**+0.7**
	baz=255						
TWB1	**Santiao Chiao**	**1.41**	**1**	*e*P	**Pn**	**14 36 06.7**	**-0.5**
CHY	**Chiayi**	**1.42**	**266**	*e*P	**Pb**	**14 36 09.4**	**+0.6**
	baz=265						
CHY				*e*S	**Sb**	**14 36 27.6**	**+1.1**
	baz=265						
TWA	**Mucha**	**1.42**	**346**	*e*P	**Pn**	**14 36 06.8**	**-0.6**
	baz=334						
NWF	**Wu-fen Shan**	**1.48**	**353**	P	**Pb**	**14 36 09.8**	**-0.1**
	baz=8.0						
NWF				*e*S	**Sb**	**14 36 28.2**	**-0.1**
	baz=8.0						
SSD	**Sandimen**	**1.49**	**236**	*e*P	**Pn**	**14 36 08.5**	**+0.1**
	baz=229						
SSD				*e*S	**Sn**	**14 36 27.3**	**+0.1**
	baz=229						
CHN3	**Shinhua**	**1.56**	**251**	*e*P	**Pb**	**14 36 11.5**	**+0.3**
	baz=250						
CHN3				*e*S	**Sb**	**14 36 33.2**	**+2.7**
	baz=250						
WTCT	**Ta-ch'eng**	**1.57**	**280**	*e*P	**Pb**	**14 36 11.0**	**-0.4**
	baz=279						
WTCT				*e*S	**Sb**	**14 36 31.7**	**+0.9**
	baz=279						
TWS1	**Kuangyinshan**	**1.58**	**342**	*e*P	**Pn**	**14 36 10.3**	**+0.7**
	baz=341						
TWS1				*e*S	**Sb**	**14 36 30.3**	**-0.8**
	baz=341						
EAST	**Anshuo**	**1.59**	**221**	*e*P	**Pn**	**14 36 09.3**	**-0.4**
	baz=220						
LAY	**Lan-yu**	**1.60**	**194**	P	**Pn**	**14 36 08.3**	**-1.5**
	baz=193						
LAY				*e*S	**Sn**	**14 36 27.1**	**-2.6**
	baz=193						
WSF	**Szhu**	**1.60**	**272**	*e*P	**Pn**	**14 36 10.2**	**+0.4**
	baz=271						
WSF				*e*S	**Sb**	**14 36 32.1**	**+0.4**
	baz=271						
SGLT	**Jiouru**	**1.61**	**238**	*e*P	**Pb**	**14 36 12.5**	**+0.4**
	baz=237						
SGLT				*e*S	**Sb**	**14 36 34.0**	**+1.9**
	baz=237						
TWM1	**Shoushan**	**1.62**	**242**	P	**Pb**	**14 36 12.5**	**+0.3**
	baz=241						
TWM1				*e*S	**Sb**	**14 36 35.9**	**+3.7**
	baz=241						
HATJ	**Hateruma jima**	**1.74**	**74**	*e*S	**Sn**	**14 36 33.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.77**	**65**	P	**Pn**	**14 36 12.8**	**+0.6**
IRIF				*e*S	**Sn**	**14 36 35.0**	**+1.0**
JKRS	**Kuro-shima**	**1.97**	**71**	P	**Pn**	**14 36 16.4**	**+1.4**
JKRS				*e*S	**Sn**	**14 36 39.7**	**+0.7**
JIJ	**Ishigaki jima**	**2.13**	**69**	P	**Pn**	**14 36 17.5**	**+0.4**
JIJ				S	**Sn**	**14 36 42.5**	**-0.4**
PNG	**Penghu**	**2.21**	**270**	*e*P	**Pn**	**14 36 19.2**	**+0.9**
	baz=269						
PNG				*e*S	**Sn**	**14 36 45.8**	**+0.9**
	baz=269						
JISG	**Ishigakijimahi**	**2.36**	**65**	P	**Pn**	**14 36 20.3**	**+0.1**
JISG				S	**Sn**	**14 36 48.1**	**-0.3**
JTJ	**Tarama**	**2.71**	**67**	P	**Pn**	**14 36 25.5**	**+0.5**
JTJ				*e*S	**Sn**	**14 36 57.6**	**+0.6**
JIRB	**Irabujima**	**3.17**	**67**	P	**Pn**	**14 36 32.1**	**+0.6**

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*ISK **04** 14:55:07.4, 39°.73N×35°.04E, h28km, MD2.4*
*ISCJB **04** 14:55:09.2±0.8, 39°.66N±0°.04×34°.75E±0°.05, h0km±8km, Error ellipse: s-maj=8.1km s-min=5.2km az=43.4*
*CSEM **04** 14:55:09.5±0.2, 39°.68N×34°.71E, h8km, MD2.9, Error ellipse: s-maj=6.0km s-min=4.2km az=110.0*
*DDA **04** 14:55:09.2, 39°.68N×34°.72E, h7km, Md2.9*
ISC 04 14:55:09.7±1.0, 39°.70N±0°.02×34°.68E±0°.03, h12km±8km, n24, σ1§40/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.25**	**252**	*i* P	**Pg**	**14 55 14.4**	**-0.7**
CDAG				*i* S	**Sg**	**14 55 19.1**	**+0.5**
CDAG	**Cicekdag**	**0.25**	**252**	P	**Pg**	**14 55 14.4**	**-0.7**
CDAG				S	**Sg**	**14 55 19.1**	**+0.5**
CORM	**Corum**	**0.48**	**355**	*e*PG	**Pg**	**14 55 19.4**	**+0.2**
CORM				*e*SG	**Sb**	**14 55 28.0**	**+0.8**
CORM	**Corum**	**0.48**	**355**	*e*Pg	**Pg**	**14 55 19.4**	**+0.2**
CORM				*e*Sg	**Sb**	**14 55 28.0**	**+0.8**
COAL	**Corum-Alaca**	**0.60**	**23**	*i* P	**Pg**	**14 55 21.0**	**-0.5**
COAL				*i* S	**Sg**	**14 55 29.8**	**+0.3**
COAL	**Corum-Alaca**	**0.60**	**23**	P	**Pg**	**14 55 21.0**	**-0.5**
COAL				S	**Sg**	**14 55 29.8**	**+0.3**
AVNS	**Nevsehir-Avano**	**0.90**	**172**	*i* P	**Pg**	**14 55 26.0**	**-1.2**
AVNS				*i* S	**Sb**	**14 55 38.7**	**-0.7**
AVNS	**Nevsehir-Avano**	**0.90**	**172**	P	**Pg**	**14 55 26.0**	**-1.2**
AVNS				S	**Sb**	**14 55 38.7**	**-0.7**
CTAK	**Corum_Osmancik**	**0.95**	**

SERE	**Sereflikochisa**	**1.15 229**	*e*Pn	**Pg**	**14 55 31.4**	**-0.4**
BNN	**Bunyan**	**1.24 133**	*e*PG	Pg	14 55 26.9	-6.7
CUSAR	**Sarkisla-SIVAS**	**1.24 103**	*i* P	**Pn**	**14 55 32.5**	**-0.5**
CUSAR			*i* S	**Sn**	**14 55 51.2**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.24 103**	P	**Pn**	**14 55 32.5**	**-0.5**
CUSAR			S	**Sn**	**14 55 51.2**	**+1.4**
AFSR	**Af̄ar-Bala (A**	**1.27 259**	*e*PN	**Pn**	**14 55 33.8**	**+0.4**
AFSR	**Af̄ar-Bala (A**	**1.27 259**	*e*Pn	**Pn**	**14 55 33.8**	**+0.4**
AKSY	**AKSARAY - Alti**	**1.27 215**	*i* P	**Pg**	**14 55 33.7**	**-0.5**
AKSY			*i* S	**Sn**	**14 55 52.0**	**+1.6**
AKSY	**AKSARAY - Alti**	**1.27 215**	P	**Pg**	**14 55 33.7**	**-0.5**
AKSY			S	**Sn**	**14 55 52.0**	**+1.6**
KKUL	**Konya-Kulu**	**1.46 249**	*i* P	**Pg**	**14 55 37.9**	**0.0**
KKUL			*i* S	**Sg**	**14 55 58.9**	**+2.0**
KKUL	**Konya-Kulu**	**1.46 249**	P	**Pg**	**14 55 37.9**	**0.0**
LOD	**Lodumlu**	**1.49 278**	*e*PN	**Pn**	**14 55 36.8**	**+0.5**
LOD	**Lodumlu**	**1.49 278**	*e*Pn	**Pn**	**14 55 36.8**	**+0.5**
BCAM	**Yenicaga**	**2.29 300**	*i* P	**Pg**	**14 55 53.0**	**-0.7**
BCAM			*i* S	**Sn**	**14 56 09.2**	**-6.4**

*NIED **04** 15:13:00, 37.°20N×143.°80E, h5km, Mw4.3 Best double couple: M₀3.64000×10^15 NP1:φ₀=17.00000°, δ16.00000°, λ-121.00000°. NP2:φ₀=229.00000°, δ77.00000°, λ-82.00000°.*
*IDC **04** 15:13:41.3±0.7, 37.°09N×144.°03E, h0km, mb4.3/20, mb1 4.4/26, mb1mx4.2/60, mbtmp4.3/26, ML3.7/6, MS3.5/11, Ms1 3.6/11, ms1mx3.1/46, Error ellipse: s-maj=18.5km s-min=14.6km az=100.0*
*NEIC **04** 15:13:42.6±0.4, 37.°10N×144.°05E, h10km, mb4.5/8, Error ellipse: s-maj=7.8km s-min=5.3km az=106.0*
*JMA **04** 15:13:45.2±0.2, 37.°18N×143.°77E, h57km, M4.3*
*MOS **04** 15:13:46.9±1.1, 37.°45N×143.°66E, h29km, mb4.7/31, Error ellipse: s-maj=10.3km s-min=6.2km az=119.5*
*ISCJB **04** 15:13:46.1±0.4, 37.°25N±0.°04×143.°73E±0.°05, h33km, mb4.4/43, MS3.6/8, Error ellipse: s-maj=6.7km s-min=5.1km az=148.2*

ISC 04 15:13:46.9±0.5, 37.°18N±0.°05×143.°92E±0.°06, h35km, n116, σ2°23/121, mb4.4/43, MS3.7/8, 5C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.40**	**303**	P	**Pn**	**15 14 21.8**	**-1.9**
JIO				S	**Sn**	**15 14 48.0**	**-3.8**
ONAJ	**Iwakimizuishiy**	**2.49**	**269**	P	**Pn**	**15 14 22.5**	**-2.6**
JMM	**Marumori**	**2.58**	**286**	P	**Pn**	**15 14 24.0**	**-2.1**
JHO	**Hitachi**	**2.75**	**259**	P	**Pn**	**15 14 26.0**	**-2.4**
JMK	**Ichinoseki**	**2.77**	**311**	P	**Pn**	**15 14 26.9**	**-1.8**
JOM	**Ohasama**	**3.08**	**319**	P	**Pn**	**15 14 31.3**	**-1.8**
JOM				S	**Sn**	**15 15 05.8**	**-2.9**
JYK	**Kaneyama**	**3.30**	**303**	P	**Pn**	**15 14 34.8**	**-1.3**
BSO1	**Boso 1**	**3.47**	**224**	P	**Pn**	**15 14 35.8**	**-2.2**
JANG	**Nango**	**3.70**	**330**	P	**Pn**	**15 14 39.8**	**-1.8**
MJAR	**Matsushiro Arr**	**4.62**	**264**	Pn	**Pn**	**15 14 53.5**	**-0.8**
	12nm,0.3s,baz=70,slow=11,SNR=160						
MJAR				Sn	**Sn**	**15 15 43.6**	**-3.2**
	3.7nm,0.3s,baz=88,slow=27,SNR=9.3						
MJAR				LR	LR	15 17 39.3	
	comp=Z,241nm,18.2s,baz=115,slow=51						
MAJO	**Matsushiro**	**4.62**	**264**	*c i* P	**Pn**	**15 14 54.1**	**-0.2**
MAJO	**Matsushiro**	**4.62**	**264**	*e* Pn	**Pn**	**15 14 54.0**	**-0.3**
MAT	**Matsushiro**	**4.62**	**264**	P	**Pn**	**15 14 53.9**	**-0.4**
MAT				S	**Sn**	**15 15 44.6**	**-2.2**
JOT	**Ohata**	**4.75**	**333**	P	**Pn**	**15 14 54.7**	**-1.3**
ERM	**Erimo**	**4.86**	**353**	*d i* P	**Pn**	**15 14 54.5**	**-3.0**
ERM				pmax	pmax		
	comp=Z,143nm,1.0s						
ERM	**Erimo**	**4.86**	**353**	*e* Pn	**Pn**	**15 14 54.9**	**-2.6**
JHJ2	**Mitsune**	**5.27**	**221**	*e* PN	**Pn**	**15 15 00.2**	**-2.9**
JHJ	**Hachijo jima 2**	**5.28**	**221**	Pn	**Pn**	**15 15 00.2**	**-3.1**
	comp=Z,17nm,0.3s,baz=264,slow=19,SNR=13						
JHJ				Sn	**Sn**	**15 15 56.6**	**-6.4**
	comp=Z,68nm,0.3s,baz=82,slow=22,SNR=6.4						
ASAJ	**Asahikawa**	**7.00**	**352**	Pn	**Pn**	**15 15 24.8**	**-2.1**
	comp=Z,3.6nm,0.3s,baz=187,slow=5.7,SNR=33						
ASAJ				Sn	**Sn**	**15 16 41.3**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=109,slow=27,SNR=2.5						
YUK	**Yuzh-Kuril'sk**	**7.00**	**12**	*e* P	**Pn**	**15 15 22.3**	**-4.6**
YUK				*i* S	**Sn**	**15 16 38.0**	**-7.3**
YUK				pmax	pmax		
	comp=Z,109nm,0.3s						
YUK				pmax	pmax		
	comp=N,48nm,0.2s						
YUK				pmax	pmax		
	comp=E,7.0nm,0.1s						
YUK				MLR	MLR		
	comp=Z,254nm,9.0s						
YUK				MLR	MLR		
	comp=N,197nm,8.0s						
SHO	**Shikotan**	**7.04**	**17**	*e* P	Pn	15 15 22.5	-4.9
SHO				*e* S	Sn	15 16 36.9	-9.2
SHO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KUR	**Kuril'sk**	**8.57**	**19**	*c i* P	Pn	15 15 43.0	-5.5
KUR				*e* S	Sn	15 17 14.3	-10
KUR				pmax	pmax		
	comp=N,11nm,0.3s						
KUR				pmax	pmax		
	comp=Z,15nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.80**	**355**	*i* P	**Pn**	**15 16 05.5**	**+0.2**
YSS				*e* S	**Sn**	**15 17 46.2**	**-7.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**9.80**	**355**	*e* Pn	**Pn**	**15 16 05.1**	**-0.2**
	comp=Z,20nm,0.6s						
CBIJ	**Chichi jima**	**10.16**	**189**	*e* Pn	**Pn**	**15 16 06.2**	**-4.1**
VLA	**Vladivostok**	**10.95**	**307**	*e* P	**Pn**	**15 16 20.3**	**-0.7**
VLA				*e* S	**Sn**	**15 18 16.2**	**-6.0**
VLA				pmax	pmax		
	comp=Z,22nm,1.0s						
JNU	**Nakatsue**	**11.41**	**253**	Pn	**Pn**	**15 16 25.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=48,slow=8.9,SNR=7.9						
JNU	**Nakatsue**	**11.41**	**253**	*e* Pn	**Pn**	**15 16 26.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**11.45**	**311**	Pn	**Pn**	**15 16 28.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=114,slow=15,SNR=19						
USRK				LR	LR	15 20 39.2	
	comp=Z,117nm,19.7s,baz=132,slow=36						
KSRS	**Korea Array**	**12.74**	**276**	Pn	**Pn**	**15 16 46.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=32						
KSRS				LR	LR	15 22 37.8	
	comp=Z,143nm,18.1s,baz=84,slow=42						
KSAR	**Wonju Array Be**	**12.77**	**276**	P	**Pn**	**15 16 46.5**	**+0.6**
KSAR	**Wonju Array Be**	**12.77**	**276**	Pn	**Pn**	**15 16 46.5**	**+0.6**
HABR	**Khabarovsk**	**13.02**	**333**	*e* P	Pn	15 16 42.8	-6.4
HABR				*e* S	Sn	15 18 59.4	-13
HABR				pmax	pmax		
	comp=N,15nm,2.0s						
HABR				pmax	pmax		
	comp=E,10.0nm,2.0s						
HABR				pmax	pmax		
	comp=Z,18nm,2.0s						
HABR				MLR	MLR		
	comp=Z,82nm,14.0s						
MDJ	**Mudanjiang**	**13.13**	**309**	*e* Pn	**Pn**	**15 16 50.3**	**-0.5**
TYV	**Tymovskoe**	**13.71**	**357**	*e* P	**Pn**	**15 16 54.5**	**-4.1**
TYV				pmax	pmax		
	comp=Z,21nm,2.5s						
KLR	**Kul'dur**	**14.93**	**328**	Pn	**Pn**	**15 17 11.1**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=135,slow=13,SNR=8.5						
KLR				LR	LR	15 22 51.6	
	comp=Z,17nm,21.7s,baz=147,slow=36						
KLR	**Kul'dur**	**14.93**	**328**	*e* P	**Pn**	**15 17 11.5**	**-3.8**
TIA	**Tai'an**	**21.49**	**276**	*e* P	P	15 18 22.2	-10
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2	**Magadan**	**22.84**	**9**	*i* P	**P**	**15 18 48.0**	**+1.2**
CLNS	**Chul'man**	**23.41**	**333**	*e* P	**P**	**15 18 50.9**	**-1.6**
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,17nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s						
CIT	**Chita**	**25.98**	**315**	*e* P	**P**	**15 19 16.9**	**+0.7**
CIT				*e*		15 19 27.1	
CIT				*e*		15 20 10.4	
CIT				pmax	pmax		
	comp=Z,67nm,1.1s						
SEY	**Seymchan**	**26.30**	**9**	P	**P**	**15 19 19.8**	**+1.0**
	comp=Z,15nm,1.0s,baz=188,slow=7.2,SNR=19						
SEY	**Seymchan**	**26.30**	**9**	*i* P	**P**	**15 19 20.6**	**+1.7**
YAK	**Yakutsk**	**26.41**	**345**	P	**P**	**15 19 19.6**	**-0.2**
	comp=Z,8.2nm,0.6s,baz=209,slow=6.1,SNR=9.8						
YAK	**Yakutsk**	**26.41**	**345**	*e* P	**P**	**15 19 19.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,24nm,1.1s						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
YAK	**Yakutsk**	**26.41**	**345**	*e* P	**P**	**15 19 19.7**	**-0.2**
	comp=N,20nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.54**	**125**	T	T	15 47 00.7	
	baz=316,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**26.55**	**125**	T	T	15 47 02.8	
	baz=316,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**26.56**	**125**	T	T	15 47 04.3	
	baz=316,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.30**	**127**	T	T	15 48 00.6	
	baz=318,slow=76,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**27.30**	**127**	T	T	15 48 02.8	
	baz=318,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**27.32**	**127**	T	T	15 47 58.2	
	baz=318,slow=76,SNR=5.3						
ULN	**Ulaanbaatar**	**28.94**	**303**	*e* P	**P**	**15 19 42.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.94**	**303**	*e* P	**P**	**15 19 42.1**	**-0.8**
	comp=Z,5.4nm,0.8s						
ENH	**Enshi**	**29.34**	**267**	*e* P	**P**	**15 19 47.6**	**+1.2**
	comp=Z,10nm,0.6s						
SONM	**Songino Array**	**29.37**	**303**	P	**P**	**15 19 48.1**	**+1.4**
	comp=Z,8.0nm,1.0s,baz=92,slow=9.7,SNR=28						
SONM				LR	LR	15 33 08.9	
	comp=Z,58nm,18.5s,baz=114,slow=40						
ZAK	**Zakamensk**	**31.76**	**308**	*e* P	**P**	**15 20 08.1**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL	**Bilibino**	**33.34**	**15**	*i* P	**P**	**15 20 21.6**	**+0.4**
BILL				*e* *PP	**pP**	**15 20 31.3**	**0.0**
BILL				*e*PPP	PPP	15 21 45.1	
BILL						15 23 04.0	
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA	**Gaotai**	**34.43**	**288**	*e* P	**P**	**15 20 33.1**	**+1.9**
GTA				pP	pP	15 20 41.8	+0.5
GTA				sP	sP	15 20 46.8	+1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DGZ	**Jazzator, Alta**	**41.93**	**306**	*i* P	**P**	**15 21 33.3**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**43.27**	**258**	*e* P	**P**	**15 21 45.6**	**+0.4**
CHTO	**Chiang Mai**	**43.27**	**258**	*e* P	**P**	**15 21 45.6**	**+0.4**
ZALV	**Zalesovo Beam**	**43.30**	**312**	P	**P**	**15 21 44.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=77,slow=6.7,SNR=8.5						
ZALV				PcP	**PcP**	**15 23 34.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=96,slow=2.9,SNR=3.2						
ZALV				LR	LR	15 40 27.9	
	comp=Z,46nm,18.9s,baz=68,slow=37						
CMAR	**Chiang Mai Arr**	**43.48**	**257**	P	**P**	**15 21 47.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=40,slow=6.6,SNR=6.0						
CMAR				LR	LR	15 41 10.3	
	comp=Z,95nm,18.0s,baz=206,slow=38						
NRIK	**Noril'sk**	**43.98**	**335**	LR	LR	15 41 02.5	
	comp=Z,128nm,18.1s,baz=124,slow=37						
NVS	**Novosibirsk**	**44.19**	**314**	*e* P	**P**	**15 21 52.8**	**+0.7**
MKAR	**Makanchi Array**	**45.73**	**302**	P	**P**	**15 22 05.4**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=82,slow=8.7,SNR=24						
KURK	**Kurchatov**	**47.41**	**308**	*i* P	**P**	**15 22 17.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,29nm,1.0s						
KURK	**Kurchatov**	**47.41**	**308**	*e* P	**P**	**15 22 17.3**	**-0.3**
	comp=Z,60nm,0.7s						
KURBB	**Kurchatov Arra**	**47.49**	**308**	P	**P**	**15 22 18.5**	**+0.2**
	comp=Z,5.4nm,1.0s,baz=83,slow=8.2,SNR=26						
ILAR	**Eielson Array**	**48.30**	**32**	P	**P**	**15 22 24.5**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=263,slow=6.2,SNR=13						
BVAR	**Borovoye Array**	**51.95**	**313**	P	**P**	**15 22 52.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=87,slow=6.4,SNR=6.9						
BRVK	**Borovoye**	**52.00**	**313**	*i* P	**P**	**15 22 53.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH	**Kashi**	**52.17**	**295**	P	P	15 22 59.0	+4.8
KSH				pP	pP	15 23 04.3	-0.4
KSH				sP	sP	15 23 05.9	-2.9
KSH				PcP	**PcP**	**15 24 10.3**	**+4.7**
KSH				PP	**PP**	**15 24 59.2**	**+6.7**
KSH				PcS	**PcS**	**15 28 04.5**	**+0.6**
KSH				S	**S**	**15 30 19.0**	**+2.7**
KSH				sS	pS	15 30 26.7	-2.1
KSH				ScS	**ScS**	**15 32 43.9**	**+2.4**
KSH	**Kashi**	**52.17**	**295**	SS	**SS**	**15 33 55.4**	**+1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,170nm,7.6s						
KSH				LR	LR		
	comp=N,160nm,6.9s						
KSH				LR	LR		
	comp=E,120nm,6.6s						
KSH				LR	LR		
	comp=Z,150nm,5.9s						
AAK	**Ala-Archa**	**52.17**	**299**	*e* P	**P**	**15 22 55.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AAK	**Ala-Archa**	**52.17**	**299**	*e* P	**P**	**15 22 55.0**	**+0.8**
	comp=Z,5.0nm,1.3s						
KKAR	**Karatay Array**	**54.78**	**301**	*e* P	**P**	**15 23 13.4**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**54.78**	**301**	*e* P	**P**	**15 23 13.4**	**+0.3**
	comp=Z,1.6nm,0.6s						
SVE	**Sverdlovsk**	**56.35**	**319**	*e* P	**P**	**15 23 25.6**	**+1.4**
SVE				pmax	pmax		
	comp=Z,12nm,1.2s						
WRAB	**Tennant Creek**	**57.52**	**191**	*e* P	**P**	**15 23 31.3**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRAB	**Tennant Creek**	**57.52**	**191**	*e* P	**P**	**15 23 31.3**	**-1.5**
	comp=Z,9.8nm,0.7s						
WRA	**Warramunga Arr**	**57.53**	**191**	P	**P**	**15 23 31.6**	**-1.2**
	comp=Z,9.8nm,0.7s,baz=12,slow=7.4,SNR=88						
ARU	**Arti**	**57.57**	**319**	*c i* P	**P**	**15 23 33.3**	**+0.5**
ARU				S	**S**	**15 31 26.8**	**-1.2**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**57.57**	**319**	*e* P	**P**	**15 23 33.1**	**+0.3**
	comp=Z,8.0nm,1.0s						
ABKAR	**Akbulak array**	**59.37**	**311**	*e* P	**P**	**15 23 45.3**	**-0.2**
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**60.06**	**313**	P	**P**	**15 23 50.8**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=65,slow=8.2						
ASAR	**Alice Springs**	**61.25**	**190**	P	**P**	**15 23 57.9**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=18,slow=10.0,SNR=63						
ASAR				LR	LR	15 53 10.9	
	comp=Z,30nm,18.1s,baz=282,slow=39						
MBWA	**Marble Bar**	**62.35**	**206**	*e* P	**P**	**15 24 05.3**	**-0.6**
KLMR	**Klimovskoe**	**64.69**	**328**	*e* P	**P**	**15 24 21.5**	**+0.6**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s						
GEYT	**Alibeck**	**65.51**	**300**	P	**P**	**15 24 28.0**	**+1.2**
	comp=Z,4.1nm,1.2s,baz=69,slow=4.9,SNR=4.1						
FINES	**FINESS Array B**	**69.60**	**333**	P	**P**	**15 24 52.6**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=79,slow=7.5,SNR=3.8						
FINES				LR	LR	15 58 14.1	
	comp=Z,78nm,19.1s,baz=316,slow=38						
FINES	**FINESS Array B**	**69.60**	**333**	P	**P**	**15 24 52.6**	**+0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,79nm,19.1s						
KIV	**Kislovodsk**	**72.31**	**312**	*e* P	**P**	**15 25 10.9**	**+1.9**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KBZ	**Khabaz**	**72.31**	**312**	P	**P**	**15 25 10.3**	**+1.5**
	comp=Z,4.8nm,1.0s,baz=202,slow=7.8,SNR=6.0						
NOA	**NORSAR Array B**	**74.81**	**338**	P	**P**	**15 25 24.6**	**+1.3**
	comp=Z,3.4nm,1.0s,baz=68,slow=5.8,SNR=3.0						
NOA				LR	LR	16 02 43.2	
	comp=Z,37nm,18.4s,baz=5.0,slow=39						
NOA	**NORSAR Array B**	**74.81**	**338**	P	**P**	**15 25 24.6**	**+1.3**
NOA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NOA				MLR	MLR		
	comp=Z,37nm,18.4s						
AKASG	**Malin Array Be**	**75.39**	**323**	P	**P**	**15 25 26.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=45,slow=5.9,SNR=7.7						
KIEV	**Kiev**	**75.40**	**323**	*i* P	**P**	**15 25 26.4**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STHS	**Stebnicka Huta**	**79.97**	**326**	*e* P	**P**	**15 25 52.4**	**0.0**
STHS	**Stebnicka Huta**	**79.97**	**326**	*e* P	**P**	**15 25 52.4**	**0.0**
BRTR	**Keskin Array B**	**80.24**	**313**	P	**P**	**15 25 53.8**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=97,slow=4.1,SNR=4.6						
BRTR				LR	LR	16 05 47.9	
	comp=Z,34nm,18.2s,baz=342,slow=39						
BRTR	**Keskin Array B**	**80.24**	**313**	*c e* P	**P**	**15 25 54.7**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
DPC	**Dobruska-Polom**	**81.38**	**329**	*e* P	**P**	**15 26 02.0**	**+2.1**
DPC	**Dobruska-Polom**	**81.38**	**329**	*e* P	**P**	**15 26 02.0**	**+2.1**
BRG	**Berggiesshubel**	**81.92**	**331**	*e* P	**P**	**15 26 04.5**	**+1.8**
	comp=Z,5.4nm,1.1s						
BRG	**Berggiesshubel**	**81.92**	**331**	*e* P	**P**	**15 26 04.5**	**+1.8**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	**Collm**	**81.95**	**331**	*e* P	**P**	**15 26 04.0**	**+1.2**
CLL				*e*		15 26 14.0	
CLL				pmax	pmax		
	comp=Z,14nm,1.4s						
CLL	**Collm**	**81.95**	**331**	*e* P	**P**	**15 26 04.0**	**+1.2**
	comp=Z,14nm,1.4s						
CLL				*e*		15 26 14.0	
CLL				*e*		15 26 23.0	
ANMO	**Albuquerque**	**82.95**	**51**	*i* P	**P**	**15 26 12.4**	**+3.8**
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KHC	**Kasperske Hory**	**83.44**	**330**	*e* P	**P**	**15 26 12.3**	**+1.6**
KHC				*ex*	x	15 26 18.4	
KHC	**Kasperske Hory**	**83.44**	**330**	*e* P	**P**	**15 26 12.3**	**+1.6**
KHC				*e*		15 26 18.4	
GERES	**GERESS Array B**	**83.62**	**329**	P	**P**	**15 26 11.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=64,slow=6.1,SNR=5.2						
BFO	**Black Forest**	**86.13**	**332**	*i* P	**P**	**15 26 26.5**	**+2.3**
TXAR	**Lajitas Array**	**88.43**	**54**	P	**P**	**15 26 35.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=289,slow=3.8,SNR=6.1						
LPAZ	**La Paz**	**144.87**	**62**	PKP	**PKPdf**	**15 33 21.1**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=356,slow=2.4,SNR=6.5						

WEL 04 15:21:47.3±0.5, 37.°54S×176.°81E, h163km±3km, ML3.6/30, 11C-1D, Error ellipse: s-maj=3.5km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.46**	**193**	⇑PN	Pn	15 22 10.6	+0.6
URZ	**Urewera**	**0.76**	**162**	⇑PN	Pn	15 22 11.4	-0.2
HAZ	**Te Kaha**	**0.81**	**106**	PN	Pn	15 22 11.4	-0.4
HAZ				SN	Sn	15 22 29.9	-0.8
HAZ				AML	AML	15 22 31.7	
HAZ				AML	AML	15 22 31.9	
RUGZ	**Raukumara Rang**	**0.81**	**122**	⇑PN	Pn	15 22 11.2	-0.9
MUGZ	**Murupara**	**0.94**	**182**	⇑PN	Pn	15 22 12.9	0.0
MUGZ				SN	Sn	15 22 32.6	-0.1
MWZ	**Matawai**	**0.98**	**145**	⇑PN	Pn	15 22 12.9	-0.3
MWZ				AML	AML	15 22 28.8	
PKGZ	**Pakihiroa**	**1.07**	**110**	PN	Pn	15 22 14.0	+0.1
PKGZ				AML	AML	15 22 14.7	
PKGZ				AML	AML	15 22 36.9	
RAGZ	**Rawiri**	**1.07**	**154**	PN	Pn	15 22 14.0	0.0
RAGZ				AML	AML	15 22 41.6	
RAGZ				AML	AML	15 22 42.1	
RTZ	**Ruatahuna**	**1.09**	**173**	⇑PN	Pn	15 22 14.0	-0.1
RTZ				SN	Sn	15 22 35.1	+0.3
TWGZ	**Tauwhareparae**	**1.13**	**125**	PN	Pn	15 22 14.8	+0.4
TWGZ				AML	AML	15 22 39.0	
TWGZ				AML	AML	15 22 39.5	
MXZ	**Matakaoa Point**	**1.19**	**92**	⇑PN	Pn	15 22 15.0	0.0
TKGZ	**Te Karaka**	**1.22**	**138**	PN	Pn	15 22 15.1	-0.1
TKGZ				AML	AML	15 22 39.1	
TKGZ				AML	AML	15 22 40.7	
PUZ	**Puketiti**	**1.27**	**115**	⇑PN	Pn	15 22 15.4	-0.2
PUZ				AML	AML	15 22 37.7	
PUZ				AML	AML	15 22 39.0	
WMGZ	**Waiomatatini S**	**1.31**	**103**	PN	Pn	15 22 16.0	+0.1
WMGZ				AML	AML	15 22 39.8	
WMGZ				AML	AML	15 22 39.9	
SNGZ	**Shannon Statio**	**1.31**	**162**	PN	Pn	15 22 16.1	0.0
SNGZ				AML	AML	15 22 40.5	
SNGZ				AML	AML	15 22 41.1	
MRHZ	**Matea Rd**	**1.33**	**193**	PN	Pn	15 22 16.2	-0.1
RIGZ	**Rimuhau**	**1.39**	**147**	PN	Pn	15 22 17.1	+0.3
RIGZ				AML	AML	15 22 41.5	
RIGZ				AML	AML	15 22 41.9	
CNGZ	**Carnagh Statio**	**1.46**	**131**	PN	Pn	15 22 17.9	+0.5
CNGZ				AML	AML	15 22 20.2	
CNGZ				AML	AML	15 22 44.2	
NMHZ	**Naumai**	**1.56**	**180**	PN	Pn	15 22 18.7	+0.2
NMHZ				AML	AML	15 22 46.2	
WHHZ	**Waihua**	**1.58**	**168**	PN	Pn	15 22 18.8	+0.2
WHHZ				AML	AML	15 22 45.1	
WHHZ				AML	AML	15 22 46.3	
PRGZ	**Paritu Road**	**1.62**	**149**	PN	Pn	15 22 19.1	-0.1
KNZ	**Kokohu**	**1.63**	**156**	⇑PN	Pn	15 22 19.0	-0.2
KNZ				AML	AML	15 23

*PRU **04** 15:32:11.8, 51.52N×16.13E, h0km*
ISC 04 15:32:11.1±2.4, 51.6N±0.1×16.13E±0.06, h0km, n20, σ0.52/37, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**15 32 24.9**	**+0.2**
KSP				*e*Sg	**Sg**	**15 32 34.4**	**+0.4**
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**15 32 24.9**	**+0.2**
KSP				*e*Sg	**Sg**	**15 32 34.4**	**+0.4**
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**15 32 24.9**	**+0.2**
KSP				*e*Sg	**Sg**	**15 32 34.4**	**+0.4**
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**15 32 31.1**	**0.0**
UPC				*e*SG	**Sg**	**15 32 44.9**	**+0.3**
	comp=Z,9.4nm,0.3s						
UPC	**Upice**	**1.04**	**184**	Pg	**Pg**	**15 32 31.1**	**0.0**
UPC				Sg	**Sg**	**15 32 44.9**	**+0.3**
	9.4nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**15 32 33.9**	**-0.3**
DPC				*e*SG	**Sg**	**15 32 48.5**	**-1.3**
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pg**	**15 32 33.9**	**-0.3**
DPC				Sg	**Sg**	**15 32 48.5**	**-1.3**
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pn**	**15 32 38.2**	**+0.1**
PVCC				*e*SG	**Sn**	**15 32 57.4**	**-0.1**
	comp=Z,22nm,0.5s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	**Pn**	**15 32 38.2**	**+0.1**
KRLC	**Kraliky**	**1.53**	**164**	*e*PG	**Pn**	**15 32 39.4**	**-0.3**
KRLC				*e*SG	**Sg**	**15 33 00.0**	**-0.2**
KRLC	**Kraliky**	**1.53**	**164**	Pg	**Pn**	**15 32 39.4**	**-0.3**
KRLC				Sg	**Sg**	**15 33 00.0**	**-0.2**
BRG	**Berggiesshubel**	**1.53**	**245**	PG	**Pn**	**15 32 40.0**	**+0.3**
BRG				SG	**Sb**	**15 33 00.3**	**0.0**
	13nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*PG	**Pb**	**15 32 45.3**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pg	**Pb**	**15 32 45.3**	**-0.4**
PRU	**Pruhonice**	**1.86**	**213**	*e*PG	**Pn**	**15 32 45.2**	**+1.0**
PRU				*e*SG	**Sb**	**15 33 09.8**	**+0.1**
	comp=Z,4.9nm,0.3s						
PRU	**Pruhonice**	**1.86**	**213**	Pg	**Pn**	**15 32 45.2**	**+1.0**
PRU				Sg	**Sb**	**15 33 09.8**	**+0.1**
	4.9nm,0.3s						
NKC	**Novy Kostel**	**2.68**	**242**	*e*PG	**Pg**	**15 33 02.1**	**-0.3**
NKC				*e*SG	**Sg**	**15 33 36.8**	**-0.3**
	comp=Z,6.0nm,0.3s						
NKC	**Novy Kostel**	**2.68**	**242**	Pg	**Pg**	**15 33 02.1**	**-0.3**
NKC				Sg	**Sg**	**15 33 36.8**	**-0.3**
	6.0nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PG	**Pb**	**15 33 04.6**	**+0.6**
KHC				*e*SG	**Sg**	**15 33 44.1**	**-0.7**
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	**Pb**	**15 33 04.6**	**+0.6**
KHC				Sg	**Sg**	**15 33 44.1**	**-0.7**

*ISCJB **04** 15:35:22.8±0.5, 45.76N±0.04×149.25E±0.06, h141km, mb3.9/11, Error ellipse: s-maj=7.0km s-min=4.1km az=38.3*
*MOS **04** 15:35:22.6±0.9, 45.77N×149.37E, h141km, mb4.0/10, Error ellipse: s-maj=20.0km s-min=10.6km az=63.7*
*SKHL **04** 15:35:23.5±0.8, 45.79N×149.39E, h124km±2km, mb5.1/3, msh5.0/5*
*IDC **04** 15:35:25.6±2.2, 45.84N×149.34E, h150km±20km, mb3.7/11, mb1 3.8/18, mb1mx3.6/37, mbtmp4.1/18, Error ellipse: s-maj=19.3km s-min=11.1km az=123.0*
*JMA **04** 15:35:26.1±0.4, 45.01N×149.50E, h130km, M3.8*
ISC 04 15:35:23.6±0.6, 45.69N±0.05×149.38E±0.07, h141km, n56, σ19.84/65, mb4.0/11, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.16**	**248**	*c i*PN	**Pn**	**15 35 48.8**	**-0.1**
KUR				*i* S	**Sn**	**15 36 07.7**	**-0.4**
KUR				pmax	pmax		
	comp=N,46nm,0.1s						
KUR				pmax	pmax		
	comp=Z,190nm,0.1s						
KUR				smax	smax		
	comp=E,1μm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
KUR	**Kuril'sk**	**1.16**	**248**	*i* P	**Pn**	**15 35 48.6**	**-0.3**
KUR				AMB	AMB	15 35 49.2	
	comp=N,320nm,0.2s						
KUR				*i* S	**Sn**	**15 36 06.6**	**-1.5**
KUR				A	A	15 36 08.5	
	comp=N,3μm,2.0s						
KUR				A	A	15 36 11.3	
	comp=N,2μm,0.3s						
KUR				A	A	15 36 11.3	
	comp=N,870nm,0.3s						
SHO	**Shikotan**	**2.57**	**226**	*c i*PN	**Pn**	**15 36 03.6**	**-1.5**
SHO				*i* S	**Sn**	**15 36 33.2**	**-3.8**
SHO				pmax	pmax		
	comp=E,38nm,0.3s						
SHO				pmax	pmax		
	comp=Z,67nm,0.3s						
SHO				smax	smax		
	comp=E,564nm,0.4s						
SHO				smax	smax		
	comp=N,369nm,0.3s						
SHO	**Shikotan**	**2.57**	**226**	*e*P	**Pn**	**15 36 03.9**	**-1.2**
SHO				AMB	AMB	15 36 04.3	
	comp=N,105nm,0.5s						
SHO				AMB	AMB	15 36 04.9	
	comp=N,280nm,2.0s						
SHO				*i* S	**Sn**	**15 36 33.2**	**-3.8**
SHO				A	A	15 36 38.9	
	comp=N,410nm,0.3s						
SHO				A	A	15 36 38.9	
	comp=N,391nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**238**	*c i*PN	**Pn**	**15 36 10.9**	**+0.5**
YUK				*i* S	**Sn**	**15 36 46.1**	**-0.6**
YUK				pmax	pmax		
	comp=Z,128nm,0.1s						
YUK				smax	smax		
	comp=N,369nm,0.3s						
YUK				smax	smax		
	comp=E,379nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**238**	*e*P	**Pn**	**15 36 11.0**	**+0.5**
YUK				AMB	AMB	15 36 12.1	
	comp=E,300nm,0.3s						
YUK				*i* S	**Sn**	**15 36 46.3**	**-0.4**
YUK				A	A	15 36 49.7	
	comp=E,2μm,2.0s						
YUK				A	A	15 36 51.0	
	comp=E,770nm,0.4s						
YUK				A	A	15 36 51.0	
	comp=E,340nm,0.4s						
NEM2	**Nemuro 2**	**3.49**	**230**	P	**Pn**	**15 36 15.4**	**-1.4**
NEM2				*e*S	**Sn**	**15 36 53.3**	**-4.7**
JRA	**Rausu**	**3.50**	**242**	P	**Pn**	**15 36 17.6**	**+0.7**
JNK	**Nakash**	**3.93**	**239**	P	**Pn**	**15 36 23.1**	**+0.4**
JTKR	**Abashiri--Toko**	**4.25**	**248**	P	**Pn**	**15 36 28.5**	**+1.6**
JAK	**Akkeshi**	**4.30**	**233**	P	**Pn**	**15 36 26.2**	**-1.3**
JAK				*e*S	**Sn**	**15 37 12.8**	**-4.4**
JAR	**Ashorobuto**	**4.67**	**241**	P	**Pn**	**15 36 33.4**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.76**	**288**	*e*P	**Pn**	**15 36 33.3**	**-0.3**
YSS				AMB	AMB	15 36 35.8	
	comp=E,77nm,2.1s						
YSS				AMB	AMB	15 36 36.5	
	comp=E,25nm,0.8s						
YSS				*e*S	**Sn**	**15 37 26.0**	**-2.1**
YSS				A	A	15 37 28.0	
	comp=E,150nm,3.0s						
YSS				A	A	15 37 28.0	
	comp=E,156nm,3.0s						
YSS				A	A	15 37 31.3	
	comp=E,19nm,1.0s						
JOB	**Onbets**	**4.86**	**237**	P	**Pn**	**15 36 34.6**	**-0.2**
JOB				*e*S	**Sn**	**15 37 27.8**	**-2.5**
JKK2	**Kamakawa 2**	**5.06**	**251**	P	**Pn**	**15 36 39.4**	**+1.8**
ASAJ	**Asahikawa**	**5.07**	**254**	P	**Pn**	**15 36 40.1**	**+2.4**
	comp=E,1.3nm,0.3s,baz=20,slow=5.9,SNR=17						
ASAJ	**Asahikawa**	**5.07**	**254**	P	**Pn**	**15 36 40.0**	**+2.4**
JCH	**Churui**	**5.31**	**237**	P	**Pn**	**15 36 40.2**	**-0.7**
JCH				*e*S	**Sn**	**15 37 37.7**	**-3.4**
JFR	**Furan**	**5.48**	**245**	P	**Pn**	**15 36 44.7**	**+1.6**
JEM	**Erimo**	**5.80**	**233**	P	**Pn**	**15 36 47.6**	**+0.1**
JEM				*e*S	**Sn**	**15 37 49.9**	**-3.1**
JBT2	**Biratori 2**	**5.82**	**243**	P	**Pn**	**15 36 47.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**5.87**	**237**	P	**Pn**	**15 36 46.6**	**-1.8**
UGL	**Uglegorsk**	**6.01**	**307**	*e*P	**Pn**	**15 36 50.3**	**+0.1**
UGL				AMB	AMB	15 36 53.8	
	comp=E,440nm,3.1s						
UGL				*e*S	**Sn**	**15 37 55.2**	**-2.8**
UGL				A	A	15 38 10.5	
	comp=E,320nm,2.6s						
UGL				A	A	15 38 10.5	
	comp=E,530nm,2.6s						
SKR	**Severo-Kuril's**	**6.73**	**40**	*e*P	**Pn**	**15 36 59.0**	**-0.8**
SKR				AMB	AMB	15 37 01.5	
	comp=E,570nm,2.5s						
SKR				*e*S	**Sn**	**15 38 10.3**	**-4.8**
SKR				A	A	15 38 15.0	
	comp=E,950nm,3.5s						
SKR				A	A	15 38 15.0	
	comp=E,640nm,3.5s						
SKR				A	A	15 38 25.0	
	comp=E,91nm,0.7s						
SKR				A	A	15 38 25.0	
	comp=E,88nm,0.7s						
JNB	**Noboribetsu**	**6.81**	**245**	P	**Pn**	**15 37 00.2**	**-0.8**
JNB				*e*S	**Sn**	**15 38 15.5**	**-1.8**
TYV	**Tymovskoe**	**6.85**	**322**	*e*P	**Pn**	**15 37 01.0**	**-0.4**
TYV				*e*S	**Sn**	**15 38 14.1**	**-4.0**
TYV				A	A	15 38 22.7	
	comp=E,250nm,2.7s						
JKB	**Kayabe**	**7.13**	**241**	P	**Pn**	**15 37 04.1**	**-1.2**
JSH	**Shimam**	**7.37**	**249**	P	**Pn**	**15 37 09.0**	**+0.6**
JYM2	**Yakumo 2**	**7.42**	**244**	P	**Pn**	**15 37 08.4**	**-0.7**
JTM	**Tenmabayashi**	**7.80**	**234**	*e*S	Sn	15 38 32.0	-9.0
JTH	**Tanohata**	**7.97**	**227**	*e*S	Sn	15 38 35.6	-10
PETK	**Petropavlovsk-**	**9.19**	**33**	P	**Pn**	**15 37 32.4**	**-0.4**
	comp=E,1.4nm,0.3s,baz=205,slow=11,SNR=36						
USRK	**Ussuriysk Ar.**	**12.42**	**269**	P	**Pn**	**15 38 15.9**	**+0.5**
	comp=E,0.2nm,0.3s,baz=85,slow=18,SNR=4.3						
SEY	**Seymchan**	**17.37**	**5**	P	**P**	**15 39 15.7**	**-0.5**
	comp=E,0.6nm,0.3s,baz=187,slow=13,SNR=28						
KSRS	**Korea Array**	**18.00**	**250**	P	**Pn**	**15 39 24.9**	**+0.1**
	comp=E,0.2nm,0.3s,baz=57,slow=12,SNR=7.6						
JNU	**Nakatsue**	**18.97**	**235**	P	**Pn**	**15 39 37.0**	**+0.8**
	comp=E,0.5nm,0.3s,baz=79,slow=5.2,SNR=6.5						
YAK	**Yakutsk**	**19.93**	**332**	P	**P**	**15 39 44.5**	**+0.5**
	comp=E,0.0nm,0.3s,baz=65,slow=3.9,SNR=16						
H11N2	**WAKE ISLAND Hy**	**29.65**	**145**	T	T	16 12 25.3	
	baz=335,slow=75,SNR=273						
H11N1	**WAKE ISLAND Hy**	**29.66**	**145**	T	T	16 12 24.1	
	baz=335,slow=75,SNR=203						
H11N3	**WAKE ISLAND Hy**	**29.67**	**145**	T	T	16 12 23.1	
	baz=335,slow=75,SNR=260						
H11S1	**WAKE ISLAND Hy**	**30.68**	**146**	T	T	16 13 41.2	
	baz=336,slow=76,SNR=247						
H11S3	**WAKE ISLAND Hy**	**30.68**	**146**	T	T	16 13 42.2	
	baz=336,slow=76,SNR=228						
H11S2	**WAKE ISLAND Hy**	**30.70**	**146**	T	T	16 13 43.1	
	baz=336,slow=76,SNR=212						
ILAR	**Eielson Array**	**38.98**	**38**	P	**P**	**15 42 36.2**	**+0.6**
	comp=E,1.9nm,0.8s,baz=279,slow=9.0,SNR=23						
ZALV	**Zalesovo Beam**	**41.13**	**306**	PcP	**PcP**	**15 44 50.3**	**+0.3**
	comp=E,1.3nm,0.6s,baz=63,slow=2.3,SNR=6.1						
INK	**Inuvik**	**43.93**	**31**	P	**P**	**15 43 16.8**	**+1.0**
	comp=E,2.3nm,0.4s,baz=285,slow=6.3,SNR=6.9						
MKAR	**Makanchi Array**	**45.12**	**297**	P	**P**	**15 43 25.9**	**+0.4**
	comp=E,0.5nm,0.6s,baz=75,slow=7.5,SNR=7.3						
MKAR				PcP	**PcP**	**15 45 04.2**	**+0.6**
	comp=E,0.6nm,0.6s,baz=66,slow=4.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**49.59**	**254**	P	**P**	**15 44 02.8**	**+2.3**
	comp=E,1.2nm,0.6s,baz=40,slow=7.2,SNR=9.6						
YKA	**Yellowknife Ar**	**53.31**	**35**	P	**P**	**15 44 28.2**	**+0.7**
	comp=E,1.5nm,0.7s,baz=301,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	**63.86**	**333**	P	**P**	**15 45 39.7**	**-0.8**
	comp=E,3.0nm,0.7s,baz=38,slow=7.0,SNR=6.0						
WRA	**Warramunga Arr**	**66.73**	**195**	P	**P**	**15 46 00.5**	**+1.0**
	comp=E,2.2nm,0.7s,baz=9.4,slow=6.6,SNR=14						
NOA	**NORSAR Array B**	**68.36**	**340**	P	**P**	**15 46 08.2**	**-1.1**
	comp=E,3.0nm,1.1s,baz=32,slow=6.6,SNR=5.5						
NOA	**NORSAR Array B**	**68.36**	**340**	P	**P**	**15 46 08.2**	**-1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**70.44**	**195**	P	**P**	**15 46 24.5**	**+2.1**
	comp=Z,2.8nm,0.7s,baz=6.2,slow=5.3,SNR=28						
AKASG	**Malin Array Be**	**70.95**	**324**	P	**P**	**15 46 25.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=39,slow=6.5,SNR=4.1						
GERES	**GERESS Array B**	**78.22**	**332**	P	**P**	**15 47 07.4**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=38,slow=6.8,SNR=4.3						

PGC 04 16:50:09.3±2.1, 59.02N×138.02W, h5km, ML2.5/6, 89km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.96**	**62**	P	Pg	16 50 26.2	-1.4
PLBC				S	Sg	16 50 38.6	-1.4
PNL	**Peninsula**	**0.96**	**313**	P	Pg	16 50 26.4	-1.3
PNL				S	Sg	16 50 39.1	-1.1
PCA	**Pinnacle**	**1.57**	**314**	Pn	Pn	16 50 35.8	-2.1
PCA				Sg	Sn	16 50 57.1	-1.5
BESE	**Bessie Mountai**	**1.70**	**104**	Pn	Pn	16 50 39.3	-0.4
BESE				Sg	Sn	16 51 02.3	+0.4
WHY	**Whitehorse**	**2.28**	**43**	Pn	Pn	16 50 47.1	-0.6
WHY				Sn	Sn	16 51 16.5	+0.3
CTGM	**Chitina Glacie**	**2.57**	**321**	Pn	Pn	16 50 50.3	-1.3
CTGM				Sn	Sn	16 51 22.7	-0.6
YUK3	**Moose Creek**	**3.02**	**337**	Pn	Pn	16 50 57.2	-0.7
YUK2	**White River**	**3.11**	**334**	Pn	Pn	16 50 58.5	-0.6
YUK1	**Sand Pete Hill**	**3.38**	**340**	Pg	Pb	16 51 09.6	-0.1
DLBC	**Dease Lake**	**4.21**	**95**	Sn	Sn	16 52 03.5	-0.1
DLBC				Sg	Sb	16 52 19.0	+4.2

IDC 04 17:18:11.7±2.0, 28.07S×177.50W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/27, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=44.5km s-min=22.8km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**197**	Pn	Pb	17 18 35.8	-0.1
	49nm,0.3s,baz=75,slow=20,SNR=5.0						
RAO				Sn	Sn	17 18 55.2	+1.6
	478nm,0.3s,baz=3.4,slow=23,SNR=14						
DZM	**Mont Dzumac**	**15.72**	**289**	Pn	Pn	17 21 53.8	-0.9
	0.2nm,0.3s,baz=151,slow=19,SNR=5.6						
ASAR	**Alice Springs**	**43.73**	**264**	P	P	17 26 18.9	0.0
	0.2nm,0.5s,baz=103,slow=7.4,SNR=7.5						
WRA	**Warramunga Arr**	**44.50**	**270**	P	P	17 26 25.3	0.0
	0.3nm,0.9s,baz=109,slow=7.8,SNR=3.0						
ILAR	**Eielson Array**	**95.57**	**13**	P	P	17 31 38.1	-0.1
	0.4nm,0.9s,baz=200,slow=5.7,SNR=2.5						

*ISCJB **04** 17:23:33.9±0.9, 23.3S±0.2×180.0E±0.2, h532km, mb3.8/9, Error ellipse: s-maj=23.4km s-min=17.7km az=139.8*
*IDC **04** 17:23:36.5±4.0, 23.43S×179.96W, h552km±45km, mb3.2/8, mb1 3.4/10, mb1mx3.1/30, mbtmp4.2/10, Error ellipse: s-maj=37.0km s-min=24.8km az=162.0*
ISC 04 17:23:34.3±0.9, 23.45±0.2×179.8W±0.1, h532km, n14, σ19.03/14, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.76**	**273**	P	**P**	**17 26 23.0**	**+2.1**
	0.5nm,0.3s,baz=101,slow=17,SNR=5.4						
URZ	**Urewera**	**15.01**	**189**	P	**P**	**17 26 43.9**	**-0.1**
	1.0nm,0.3s,baz=88,slow=1.1,SNR=5.3						
CTA	**Charters Tower**	**31.65**	**269**	P	**P**	**17 29 14.6**	**+0.5**
	4.9nm,0.3s,baz=93,slow=10,SNR=15						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**17 29 42.3**	**-0.4**
	0.7nm,0.4s,baz=90,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**42.28**	**260**	P	**P**	**17 30 41.0**	**-0.5**
	1.1nm,0.4s,baz=95,slow=7.4,SNR=106						
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**17 30 43.2**	**-0.8**
	1.5nm,0.3s,baz=90,slow=5.9,SNR=167						
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**17 31 46.9**	**-0.8**
	0.7nm,0.4s,baz=100,slow=6.1,SNR=5.6						
SIJI	**Sorong**	**52.45**	**288**	P	**P**	**17 31 56.8**	**-1.1**
	21nm,0.4s,baz=151,slow=19,SNR=4.8						
PETK	**Petropavlovsk-**	**78.69**	**346**	P	**P**	**17 34 40.9**	**-0.2**
	2.4nm,0.8s,baz=120,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**17 35 39.3**	**+1.6**
	0.5nm,0.6s,baz=206,slow=7.0,SNR=6.1						
ILAR	**Eielson Array**	**91.55**	**13**	P	**P**	**17 35 42.7**	**-0.9**
	0.3nm,0.8s,baz=199,slow=5.3,SNR=3.1						
AKASG	**Malin Array Be**	**144.68**	**328**	PKP	**PKPdf**	**17 42 09.6**	**-0.6**
	1.8nm,0.5s,baz=46,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**147.44**	**308**	PKPbc	**PKPbc**	**17 42 18.6**	**-0.2**
	0.7nm,0.6s,baz=134,slow=7.2,SNR=3.7						
GERES	**GERESS Array B**	**152.48**	**340**	PKPbc	**PKPbc**	**17 42 30.6**	**+0.3**
	0.4nm,0.7s,baz=35,slow=5.4,SNR=3.5						

*ISCJB **04** 17:27:19.4±0.8, 0.6N±0.2×123.1E±0.2, h150km, mb3.7/7, Error ellipse: s-maj=35.6km s-min=13.7km az=147.9*
*IDC **04** 17:27:20.9±8.7, 0.60N×123.03E, h148km±84km, mb3.5/7, mb1 3.5/8, mb1mx3.3/36, mbtmp3.9/8, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=50.0km s-min=15.4km az=54.0*
ISC 04 17:27:21.0±0.9, 0.6N±0.2×123.0E±0.3, h150km, n9, σ0.84/9, mb3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.75**	**172**	P	**P**	**17 31 27.5**	**-1.1**
	0.1nm,0.3s,baz=2.7,slow=9.1,SNR=7.3						
WRA	**Warramunga Arr**	**23.23**	**152**	P	**P**	**17 32 15.1**	**0.0**
	0.7nm,0.6s,baz=329,slow=10,SNR=12						
PSI	**Prapat**	**24.17**	**276**	P	**P**	**17 32 24.4**	**+0.5**
	5.7nm,0.3s,baz=190,slow=6.1,SNR=5.2						
ASAR	**Alice Springs**	**26.33**	**157**	P	**P**	**17 32 43.5**	**+0.4**
	0.4nm,0.6s,baz=337,slow=10.0,SNR=10.0						
ASAR				PcP	**PcP**	**17 36 04.3**	**-1.1**
	0.1nm,0.3s,baz=342,slow=2.0,SNR=4.3						
STKA	**Stephens Creek**	**36.77**	**153**	P	**P**	**17 34 15.4**	**+1.2**
	0.9nm,0.4s,baz=342,slow=9.8,SNR=3.8						
SONM	**Songino Array**	**49.23**	**345**	P	**P**	**17 35 54.4**	**+0.1**
	0.7nm,0.6s,baz=154,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**58.12**	**328**	P	**P**	**17 36 58.7**	**-0.2**
	0.2nm,0.3s,baz=128,slow=8.6,SNR=8.5						
PETK	**Petropavlovsk-**	**59.75**	**23**	LR	LR	18 03 35.1	
	comp=Z,18nm,20.4s,baz=143,slow=36						
RPZ	**Rata Peaks**	**61.46**	**142**	P	**P**	**17 37 21.6**	**-0.2**
	6.6nm,0.8s,baz=279,slow=7.8,SNR=3.2						

*ISCJB **04** 17:29:40.0±1.1, 5.89S±0.08×146.6E±0.1, h52km, mb3.5/5, Error ellipse: s-maj=22.2km s-min=9.5km az=161.6*
*IDC **04** 17:29:42.6±4.4, 5.94S×146.62E, h65km±45km, mb3.2/5, mb1 3.5/7, mb1mx3.3/27, mbtmp3.6/7, ML2.9/2, MS2.5/1, Ms1 2.5/1, ms1mx2.4/14, Error ellipse: s-maj=31.3km s-min=29.7km az=72.0*
ISC 04 17:29:41.6±1.2, 5.89S±0.10×146.6E±0.2, h52km, n9, σ19.04/9, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**171**	P	**Pn**	**17 30 34.4**	**+0.3**
	12nm,0.3s,baz=14,slow=6.4,SNR=43						
PMG				S	**Sn**	**17 31 15.1**	**+0.3**
	10nm,0.3s,baz=29,slow=19,SNR=3.9						
PMG				LR	LR	17 31 51.9	
	comp=Z,77nm,20.6s,baz=300,slow=37						
SIJI	**Sorong**	**16.09**	**287**	P	**Pn**	**17 33 24.4**	**-0.1**
	5.0nm,0.3s,baz=69,slow=3.7,SNR=4.8						
WRA	**Warramunga Arr**	**18.36**	**219**	P	**P**	**17 33 50.5**	**-1.6**
	0.1nm,0.3s,baz=42,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**21.49**	**213**	P	**P**	**17 34 26.9**	**+0.8**
	0.2nm,0.4s,baz=46,slow=9.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.78**	**237**	P	**P**	**17 34 48.8**	**-0.9**
	1.6nm,0.5s,baz=37,slow=6.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**52.84**	**298**	P	**P**	**17 38 53.0**	**+0.6**
	0.3nm,0.5s,baz=126,slow=4.7,SNR=3.3						
SONM	**Songino Array**	**64.11**	**331**	P	**P**	**17 40 11.4**	**+0.9**
	0.4nm,0.7s,baz=148,slow=8.5,SNR=3.1						
ILAR	**Eielson Array**	**85.54**	**23**	P	**P**	**17 42 12.8**	**-1.0**
	0.6nm,0.7s,baz=254,slow=5.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**144.67**	**284**	PKP	PKPbc	17 49 12.6	+0.1
	0.2nm,0.5s,baz=75,slow=3.3,SNR=3.1						

*MOS **04** 17:44:50.4±1.4, 46.82N×150.95E, h154km, mb4.4/18, Error ellipse: s-maj=12.9km s-min=6.5km az=66.1*
*ISCJB **04** 17:44:51.4±0.2, 46.74N±0.05×150.75E±0.06, h166km, mb4.4/58, Error ellipse: s-maj=8.6km s-min=2.4km az=141.0*
*SKHL **04** 17:44:52.4±1.1, 46.15N×151.38E, h80km±27km, mb5.0/3*
*NEIC **04** 17:44:52.8±0.7, 46.91N×150.88E, h154km±6km, mb4.6/43, Error ellipse: s-maj=7.5km s-min=4.1km az=146.0*
*IDC **04** 17:44:53.2±1.7, 46.92N×150.95E, h160km±15km, mb3.8/18, mb1 3.9/26, mb1mx3.7/51, mbtmp4.3/26, MS2.3/1, Ms1 2.3/1, ms1mx2.1/43, Error ellipse: s-maj=14.4km s-min=9.3km az=128.0*
*JMA **04** 17:44:54.0±0.6, 45.78N×151.26E, h149km, M3.8*
ISC 04 17:44:53.2±0.5, 46.72N±0.07×150.86E±0.07, h166km, n166, σ19.57/159, mb4.5/58, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**236**	*d i*PN	**Pn**	**17 45 34.8**	**-1.1**
KUR				*e*S	**Sn**	**17 46 07.6**	**-1.3**
KUR				pmax	pmax		
	comp=Z,84nm,0.3s						
KUR				pmax	pmax		
	comp=E,32nm,0.2s						
KUR				pmax	pmax		
	comp=N,34nm,0.3s						
KUR				smax	smax		
	comp=N,191nm,0.2s						
KUR				smax	smax		
	comp=E,363nm,0.5s						
KUR	**Kuril'sk**	**2.57**	**236**	*i* P	**Pn**	**17 45 34.8**	**-1.1**
KUR				AMB	AMB	17 45 45.1	
	comp=E,84nm,0.3s						
KUR				AMB	AMB	17 46 02.1	
	comp=E,559nm,2.4s						
KUR				*i* S	**Sn**	**17 46 06.4**	**-2.5**
KU

SKR pmax pmax
comp=Z,700nm,2.9s
SKR smax smax
comp=E,155nm,1.3s
SKR smax smax
comp=N,208nm,1.2s
SKR Severo-Kuril's 5.27 39 *e*P **Pn 17 46 11.7 +1.4**
SKR AMB AMB 17 46 14.5
comp=N,750nm,2.5s
SKR *e*S **Sn 17 47 11.7 +0.9**
SKR A A 17 47 16.0
comp=N,1μm,3.6s
JNK Nakash 5.36 236 P **Pn 17 46 10.4 -1.2**
YSS Yuzh-Sakhalins 5.57 275 *e*PN **Pn 17 46 17.7 +3.4**
YSS Yuzh-Sakhalins 5.57 275 *e*P Pn 17 46 21.8 +7.5
YSS *e*S Sn 17 47 29.1 +11
YSS Yuzh-Sakhalins 5.57 275 *e*Pn **Pn 17 46 17.7 +3.4**
JTKR Abashiri--Toko 5.62 243 P **Pn 17 46 15.0 0.0**
JTKR *e*S **Sn 17 47 18.2 -0.9**
JAK Akkeshi 5.75 232 P Pn 17 46 13.7 -3.0
JAK *e*S **Sn 17 47 16.6 -5.6**
JMP Maruseppu 5.94 246 P **Pn 17 46 19.8 +0.5**
JAR Ashorobuto 6.08 238 P **Pn 17 46 20.1 -1.0**
JOB Onbets 6.29 235 P **Pn 17 46 22.0 -1.9**
JOB *e*S **Sn 17 47 30.2 -4.8**
ASAJ Asahikawa 6.37 249 P **Pn 17 46 26.8 +1.9**
comp=N,6.9nm,0.3s,baz=70,slow=13,SNR=81
ASAJ Asahikawa 6.37 249 P **Pn 17 46 26.7 +1.7**
ASAJ Asahikawa 6.37 249 *e*Pn **Pn 17 46 26.6 +1.6**
JKK2 Kamakawa 2 6.39 246 P **Pn 17 46 26.2 +1.0**
JCH Churui 6.74 235 P Pn 17 46 27.1 -2.7
JCH *e*S Sn 17 47 39.9 -5.9
TYV Tymovskoe 6.82 310 *e*P Pn 17 46 43.1 +12
TYV *e*S Sn 17 48 04.6 +17
TYV A A 17 48 10.7
comp=N,310nm,3.1s
JFR Furan 6.86 242 P **Pn 17 46 31.3 -0.1**
JAB Ashibetsu 6.91 245 P **Pn 17 46 33.1 +1.1**
JBT2 Biratori 2 7.22 240 P **Pn 17 46 34.8 -1.4**
JBT2 *e*S **Sn 17 47 53.7 -3.5**
ERM Erimo 7.25 232 *e*PN Pn 17 46 33.6 -3.0
ERM Erimo 7.25 232 *e*Pn Pn 17 46 33.6 -3.0
ERM *e*Sn Sn 17 47 47.4 -11
JEM Erimo 7.25 232 P **Pn 17 46 34.4 -2.2**
JEM *e*S Sn 17 47 51.2 -6.8
JNBK Urakawa-nobuka 7.30 235 P Pn 17 46 33.7 -3.6
JNBK *e*S Sn 17 47 51.8 -7.4
PETK Petropavlovsk- 7.76 32 P **Pn 17 46 40.2 -3.1**
comp=N,2.5nm,0.3s,baz=205,slow=11,SNR=83
PETK LR LR 17 49 52.6
comp=N,27nm,22.0s,baz=291,slow=40
PEA1 Petropavlovsk- 7.77 32 *e*Pn **Pn 17 46 40.2 -3.2**
PEA1 *e* 17 49 52.6
PET Petropavlovsk 8.06 36 *e*PN **Pn 17 46 42.9 -4.3**
PET Petropavlovsk 8.06 36 *e*Pn **Pn 17 46 42.9 -4.3**
JNB Noboribetsu 8.20 242 P **Pn 17 46 46.7 -2.4**
JNB *e*S **Sn 17 48 17.0 -3.6**
JKB Kayabe 8.54 239 P Pn 17 46 50.5 -3.2
JKB *e*S Sn 17 48 21.0 -7.9
JSH Shimam 8.72 246 P **Pn 17 46 55.4 -0.6**
JYM2 Yakumo 2 8.81 242 *e*S **Sn 17 48 32.0 -3.2**
JSR Shiriuchi 9.13 239 P Pn 17 46 58.6 -2.8
JSR *e*S Sn 17 48 35.2 -7.7
JTM Tenmabayashi 9.24 234 P Pn 17 46 58.8 -4.1
JTM *e*S Sn 17 48 34.3 -11
JANG Nango 9.29 230 *e*S Sn 17 48 35.8 -11
JOSM Okushiri--Mats 9.38 244 P **Pn 17 47 02.6 -2.1**
JTH Tanohata 9.43 227 *e*S Sn 17 48 38.8 -11
OFUJ Ofunato 10.18 225 *e*S Sn 17 48 57.5 -11
JRG Rokugo 10.46 229 *e*S Sn 17 49 04.8 -10
JIO Ouri 10.83 224 *e*S Sn 17 49 11.8 -12
JYA Atsumi 11.54 229 *e*S Sn 17 49 33.2 -7.7
MA2 Magadan 12.88 360 P **Pn 17 47 47.2 -2.7**
comp=N,0.2nm,0.3s,baz=331,slow=19,SNR=3.7
KLR Kul'dur 13.05 288 P **Pn 17 47 53.1 +0.8**
comp=N,0.0nm,0.3s,baz=71,slow=18,SNR=3.5
USRK Ussuriysk Ar. 13.49 266 P **Pn 17 47 58.7 +0.9**
comp=N,0.4nm,0.3s,baz=75,slow=14,SNR=4.7
MAJO Matsushiro 13.88 227 *e*P **Pn 17 48 00.7 -2.2**
MAJO Matsushiro 13.88 227 *e*Pn **Pn 17 48 00.7 -2.2**
MJAR Matsushiro Arr 13.88 227 P **P 17 48 07.0 +1.2**
comp=N,0.5nm,0.3s,baz=40,slow=10,SNR=7.8
INU Inuyama 15.41 227 *e*Pn **Pn 17 48 19.6 -2.3**
comp=N,63nm,2.0s
SEY Seymchan 16.27 2 P **Pn 17 48 31.1 -1.0**
comp=N,0.3nm,0.3s,baz=161,slow=12,SNR=8.3
KSRS Korea Array 19.32 250 P **Pn 17 49 09.4 +0.9**
comp=N,0.1nm,0.3s,baz=54,slow=11,SNR=11
KSAR Wonju Array Be 19.36 250 P **Pn 17 49 09.4 +0.5**
KSAR Wonju Array Be 19.36 250 P **Pn 17 49 09.4 +0.5**
YAK Yakutsk 19.53 329 P **P 17 49 07.4 -0.2**
comp=N,0.0nm,0.3s,baz=34,slow=3.9,SNR=13
YAK Yakutsk 19.53 329 *e*P **P 17 49 07.4 -0.2**
comp=N,68nm,0.9s
CBIJ Chichi jima 20.76 202 *e*P **P 17 49 22.5 +1.5**
comp=N,124nm,1.0s
H11N2 WAKE ISLAND Hy 29.96 149 T T 18 22 16.9
baz=338,slow=75,SNR=135
H11N1 WAKE ISLAND Hy 29.97 149 T T 18 22 19.3
baz=338,slow=75,SNR=102
H11N3 WAKE ISLAND Hy 29.97 149 T T 18 22 17.3
baz=338,slow=75,SNR=131
H11S1 WAKE ISLAND Hy 31.02 150 T T 18 23 35.2
baz=339,slow=76,SNR=103
H11S3 WAKE ISLAND Hy 31.02 150 T T 18 23 35.8
baz=339,slow=76,SNR=63
H11S2 WAKE ISLAND Hy 31.04 150 T T 18 23 36.6
baz=339,slow=76,SNR=83
KDAK Kodiak Island 35.32 51 P **P 17 51 30.5 -1.6**
comp=N,4.8nm,0.7s,baz=270,slow=6.1,SNR=8.0
KDAK Kodiak Island 35.32 51 *e*P **P 17 51 30.1 -2.0**
KTH Kantishna Hill 35.79 41 *e*P **P 17 51 36.5 +0.3**
comp=N,20nm,1.7s
CNPM China Poot 35.83 48 *e*P **P 17 51 35.7 -0.7**
comp=N,64nm,1.7s
SUA Susitna One 35.93 44 *e*P **P 17 51 36.9 -0.5**
comp=N,17nm,0.7s
BRLK Bradley Lake 35.99 47 *e*P **P 17 51 36.8 -1.0**
comp=N,62nm,1.7s
TRF Thorofare Moun 36.07 41 *e*P **P 17 51 38.9 +0.2**
comp=N,21nm,1.6s
COLD Coldfoot 36.23 34 *e*P **P 17 51 39.5 -0.2**
comp=N,22nm,1.8s
RC01 Rabbit Creek A 36.44 45 *e*P **P 17 51 40.6 -1.0**
comp=N,5.4nm,0.9s
RND Reindeer 36.72 41 *e*P **P 17 51 42.6 -1.4**
RND pmax pmax
comp=Z,6.0nm,1.0s
RND Reindeer 36.72 41 *e*P **P 17 51 42.6 -1.4**
comp=Z,6.2nm,1.0s
MDM Murphy Dome 36.95 38 *e*P **P 17 51 45.8 -0.1**
comp=Z,18nm,1.9s
WRH Wood River Hil 37.02 39 *e*P **P 17 51 46.1 -0.4**
comp=Z,16nm,1.8s
SML Sawmill 37.05 43 *e*P **P 17 51 46.7 -0.1**
SML pmax pmax
comp=Z,13nm,0.8s
SML Sawmill 37.05 43 *e*P **P 17 51 46.7 -0.1**
comp=Z,13nm,0.8s
CCB Clear Creek Bu 37.14 39 *e*P **P 17 51 47.5 +0.1**
comp=Z,14nm,1.9s
DHY Denali Highway 37.41 41 *e*P **P 17 51 49.1 -0.8**
comp=Z,16nm,1.8s
HDA Harding Lake 37.52 39 *e*P **P 17 51 50.2 -0.5**
comp=Z,16nm,1.7s
SCM Sheep Creek Mo 37.53 43 *e*P **P 17 51 50.7 -0.1**
SCM pmax pmax
comp=Z,61nm,1.9s
SCM Sheep Creek Mo 37.53 43 *e*P **P 17 51 50.7 -0.1**
comp=Z,61nm,1.9s
ILAR Eielson Array 37.53 39 P **P 17 51 50.0 -0.8**
comp=Z,0.7nm,0.4s,baz=266,slow=6.7,SNR=18
ILAR Eielson Array 37.53 39 P **P 17 51 50.0 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.4s
GLI Glacier Island 37.74 45 *e*P **P 17 51 52.3 -0.3**
comp=Z,16nm,1.0s
KLU Klutina 38.23 44 *e*P **P 17 51 55.3 -1.5**
comp=Z,13nm,1.4s
HARP HAARP 38.48 42 *e*P **P 17 51 59.0 +0.2**
comp=Z,36nm,1.7s
DOT Dot Lake 38.84 40 *e*P **P 17 52 00.7 -1.1**
comp=Z,46nm,1.9s
BMRM Bremner River 38.94 44 *e*P **P 17 52 02.2 -0.3**
comp=Z,33nm,1.7s

RAGM Ragged Mountai 38.99 45 *e*P **P 17 52 03.1 +0.1**
comp=Z,101nm,1.8s
CRQM Cirque 39.68 45 *e*P **P 17 52 09.5 +0.7**
comp=Z,11nm,0.9s
EGAK Eagle 39.98 38 *e*P **P 17 52 10.5 -0.6**
comp=Z,23nm,1.9s
ZAA1 Zalesovo Array 41.36 305 *e*PcP **PcP 17 54 18.4 +1.1**
ZALV Zalesovo Beam 41.37 305 PcP **PcP 17 54 18.4 +1.1**
comp=Z,0.3nm,0.3s,baz=119,slow=5.2,SNR=3.6
MK31 Makanchi Array 45.57 296 *e*P **P 17 52 56.1 -0.2**
MK31 Makanchi Array 45.57 296 *e*P **P 17 52 56.1 -0.2**
MK32 Makanchi Array 45.57 296 *e*P **P 17 52 56.4 0.0**
MK32 *e*PcP **PcP 17 54 33.1 +1.2**
MK32 *e*ScP **ScP 17 58 11.1 +2.2**
MKAR Makanchi Array 45.57 296 P **P 17 52 56.4 0.0**
comp=Z,0.6nm,0.5s,baz=60,slow=6.2,SNR=8.1
MKAR PcP **PcP 17 54 33.1 +1.2**
comp=Z,0.5nm,0.6s,baz=68,slow=4.0,SNR=5.3
MKAR ScP **ScP 17 58 11.1 +2.2**
comp=Z,0.2nm,0.6s,baz=59,slow=3.1,SNR=3.5
MKAR Makanchi Array 45.57 296 *e*P **P 17 52 56.2 -0.1**
MKAR 17 54 33.1
MKAR pmax pmax
comp=Z,16nm,1.5s
MKAR Makanchi Array 45.57 296 *e*P **P 17 52 56.2 -0.1**
comp=Z,16nm,1.5s
MKAR PcP **PcP 17 54 33.1 +1.2**
MKAR ScP **ScP 17 58 11.1 +2.2**
MK01 Makanchi Array 45.58 296 *e*P **P 17 52 56.5 +0.2**
KURK Kurchatov 46.08 303 *e*P **P 17 52 59.4 -0.8**
KURK pmax pmax
comp=Z,10.0nm,1.9s
KURK Kurchatov 46.08 303 *e*P **P 17 52 59.4 -0.8**
comp=Z,9.9nm,1.9s
DLBC Dease Lake 46.72 45 P **P 17 53 06.8 +1.7**
comp=Z,1.0nm,0.4s,baz=295,slow=14,SNR=3.4
DLBC Dease Lake 46.72 45 *e*P **P 17 53 06.3 +1.1**
comp=Z,29nm,1.9s
DIB Dawson Inlet, 47.53 53 *e*P **P 17 53 12.4 +1.0**
comp=Z,215nm,1.9s
SIJI Sorong 50.42 206 P **P 17 53 35.2 +1.4**
comp=Z,21nm,0.7s,baz=13,slow=16,SNR=3.2
YKA Yellowknife Ar 51.86 36 P **P 17 53 42.5 -1.4**
comp=Z,2.7nm,0.4s,baz=300,slow=6.7,SNR=9.2
YKB5 Yellowknife Ar 51.86 36 *e*P **P 17 53 42.5 -1.4**
HNR Honiara 56.49 169 LR LR 18 16 24.8
comp=Z,698nm,21.6s,baz=109,slow=33
ARCES ARCESS Array B 57.36 340 P **P 17 54 23.1 -0.3**
comp=Z,2.5nm,0.8s,baz=31,slow=6.5,SNR=7.2
ARCES PcP **PcP 17 55 16.0 +0.5**
comp=Z,5.3nm,1.0s,baz=69,slow=5.1,SNR=4.3
NEW Newport 58.41 52 P **P 17 54 28.7 -2.4**
comp=Z,1.2nm,0.4s,baz=225,slow=11,SNR=2.4
WALA Waterton Lakes 59.64 49 *e*P **P 17 54 40.0 +0.4**
comp=Z,9.9nm,1.3s
BSMT Bassoo Peak 59.91 51 *e*P **P 17 54 43.1 +1.5**
BLMT Blacktail Moun 60.04 51 *e*P **P 17 54 44.0 +1.4**
SUMG Summit 60.82 3 *e*P **P 17 54 48.0 +0.4**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 60.82 3 *e*P **P 17 54 48.0 +0.4**
comp=Z,9.8nm,1.0s
SLMT Seeley Lake 60.98 51 *e*P **P 17 54 49.7 +0.8**
CHMT Chamberlain Mo 61.31 51 *e*P **P 17 54 51.7 +0.5**
FFC Flin Flon 61.74 39 *e*P **P 17 54 54.0 +0.4**
FFC pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 61.74 39 *e*P **P 17 54 54.0 +0.4**
comp=Z,12nm,1.3s
FCC Fort Churchill 62.12 32 *e*P **P 17 54 56.1 +0.1**
FCC pmax pmax
comp=Z,22nm,1.1s
FCC Fort Churchill 62.12 32 *e*P **P 17 54 56.1 +0.1**
comp=Z,22nm,1.1s
PAHR Pah Rah Range 62.35 61 *e*P **P 17 54 58.5 +0.4**
comp=Z,14nm,1.7s
EGMT Eagleton 62.44 48 *e*P **P 17 54 59.2 +0.7**
comp=Z,15nm,1.3s
BOZ Bozeman (W) 63.02 51 *e*P **P 17 55 03.0 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 63.02 51 *e*P **P 17 55 03.0 +0.5**
comp=Z,6.1nm,0.6s
FIA0 FINESS Array S 63.39 334 *e*P **P 17 55 03.1 -1.3**
FIA0 *e* 17 55 40.1
FIA0 FINESS Array S 63.39 334 *e*P **P 17 55 03.1 -1.3**
FIA0 *e*PcP **PcP 17 55 40.1 +0.4**
FINES FINESS Array B 63.39 334 P **P 17 55 03.1 -1.3**
comp=Z,11nm,1.1s,baz=32,slow=7.0,SNR=16
FINES PcP **PcP 17 55 40.1 +0.4**
comp=Z,2.7nm,0.9s,baz=56,slow=4.8,SNR=4.2
SFJD Kangerlussuaq 65.43 9 P **P 17 55 16.8 -0.7**
comp=Z,4.0nm,0.4s,baz=267,slow=9.4,SNR=4.5
R11A Troy Canyon, C 65.49 60 *e*P **P 17 55 18.9 +0.3**
comp=Z,1.3nm,0.9s
BW06 Boulder Array 66.00 53 *e*P **P 17 55 22.5 +0.6**
comp=Z,3.5nm,1.1s
PD31 Pinedale Array 66.00 53 *e*P **P 17 55 22.6 +0.7**
PDAR Pinedale Array 66.00 53 P **P 17 55 22.6 +0.7**
comp=Z,0.9nm,0.5s,baz=266,slow=1.9,SNR=8.8
TPNV Topopah Spring 66.01 61 *e*P **P 17 55 23.1 +1.1**
TPNV pmax pmax
comp=Z,9.0nm,1.6s
TPNV Topopah Spring 66.01 61 *e*P **P 17 55 23.1 +1.1**
comp=Z,9.1nm,1.6s
ULM Lac du Bonnet 67.54 40 P **P 17 55 31.1 -0.2**
comp=Z,1.4nm,0.4s,baz=324,slow=8.7,SNR=3.1
NB200 NORSAR Array S 67.74 340 *e*P **P 17 55 31.2 -1.1**
NOA NORSAR Array B 67.74 340 P **P 17 55 31.2 -1.1**
comp=Z,1.3nm,0.8s,baz=30,slow=6.6,SNR=4.8
WRAB Tennant Creek 68.00 197 *e*P **P 17 55 35.3 +0.9**
WRAB pmax pmax
comp=Z,22nm,1.8s
WRAB Tennant Creek 68.00 197 *e*P **P 17 55 35.3 +0.9**
comp=Z,22nm,1.8s
WR1 Warramunga Arr 68.01 197 *e*P **P 17 55 35.4 +1.0**
WRA Warramunga Arr 68.01 197 P **P 17 55 35.4 +1.0**
comp=Z,2.4nm,0.8s,baz=18,slow=6.9,SNR=12
FITZ Fitzroy Crossi 68.42 206 P **P 17 55 38.4 +1.4**
comp=Z,1.6nm,0.7s,baz=4.1,slow=5.9,SNR=6.8
AKASG Malin Array Be 70.69 325 P **P 17 55 49.5 -1.0**
comp=Z,0.6nm,0.4s,baz=37,slow=6.2,SNR=4.6
EYMN Ely 71.17 39 *e*P **P 17 55 53.1 -0.5**
AS31 Alice Springs 71.72 196 *e*P **P 17 55 58.9 +1.9**
comp=Z,1.0nm,0.8s
ASAR Alice Springs 71.72 196 P **P 17 55 59.0 +2.0**
comp=Z,2.8nm,0.7s,baz=12,slow=5.9,SNR=61
ECSD EROS Data Cent 72.00 45 *e*P **P 17 55 59.1 +0.5**
comp=Z,5.8nm,0.8s
MBWA Marble Bar 73.19 210 *e*P **P 17 56 06.8 +1.1**
comp=Z,41nm,1.6s
LVV L'vov 73.39 327 *e*P P 17 56 00.0 -6.7
COWI Conover 73.63 39 *e*P **P 17 56 07.3 -0.8**
BUR08 Bucovina Ar. S 74.72 325 *e*P **P 17 56 14.7 +0.2**
CLL Collm 75.83 334 *e*P **P 17 56 21.0 +0.3**
GERES GERESS Array B 77.78 333 P **P 17 56 30.5 -1.3**
comp=Z,0.2nm,0.3s,baz=27,slow=6.6,SNR=3.9
LTX Lajitas 78.84 59 *e*P **P 17 56 38.8 +0.8**
LTX Lajitas 78.84 59 *e*P **P 17 56 38.8 +0.8**
TXAR Lajitas Array 78.84 59 P **P 17 56 38.8 +0.8**
comp=Z,0.9nm,0.5s,baz=298,slow=4.3,SNR=16

GUC ***04*** *17:59:04.0±0.5, 30°.29S×69°.31W, h117km±23km, ML3.6*
ISCJB ***04*** *17:59:05.1±0.8, 30°.29S±0°.03×69°.38W±0°.05, h125km±8km, Error ellipse: s-maj=6.6km s-min=4.8km az=167.9*
SJA ***04*** *17:59:05.9±1.1, 30°.32S×69°.37W, h113km±6km, ML3.6, MW3.6*
ISC 04 17:59:05.7±1.5, 30°.28S±0°.04×69°.39W±0°.05, h123km±12km, n15, σ0°73/28, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACCO	**Cerro Coronel**	**0.42**	**138**	*i* P	**Pn**	**17 59 24.1**	**+0.1**
ACCO				*i* S	**Sn**	**17 59 37.2**	**-0.5**
ACCO				IAML		17 59 37.6	
comp=Z,1μm,0.3s							
AMOG	**MOGNA**	**1.02**	**131**	*i* P	**Pn**	**17 59 28.1**	**-0.1**
AMOG				*i* S	**Sn**	**17 59 44.3**	**-1.0**
AGUA	**GUANDACOL**	**1.11**	**45**	*i* P	**Pn**	**17 59 29.9**	**+0.7**
AGUA				*i* S	**Sn**	**17 59 46.6**	**-0.3**
TLL	**Tololo Astrono**	**1.23**	**275**	⇓*i* P	**Pn**	**17 59 30.7**	**+0.2**
TLL				*i* S	**Sn**	**17 59 50.1**	**+0.8**
TLL				IAML		17 59 53.0	
comp=N,914nm,0.6s							
RTLL	**Cerro Villicun**	**1.31**	**143**	*i* P	**Pn**	**17 59 31.2**	**0.0**
RTLL				*i* S	**Sn**	**17 59 49.7**	**-0.9**
AVFE	**Valle Fertil**	**1.71**	**103**	*i* P	**Pn**	**17 59 35.7**	**-0.2**
AVFE				*i* S	**Sn**	**17 59 58.3**	**-0.6**
AVFE				IAML		17 59 59.8	
comp=Z,478nm,0.5s							
RTCV	**Cerro Valdivia**	**1.74**	**155**	*i* P	**Pn**	**17 59 37.0**	**+0.8**
RTCV				*i* S	**Sn**	**17 59 58.7**	**-0.7**
VCA	**Vinchina**	**1.85**	**34**	*i* P	**Pn**	**17 59 38.5**	**+0.8**
VCA				*i* S	**Sn**	**18 00 03.8**	**+1.8**
VCA				IAML		18 00 04.9	
comp=Z,738nm,0.3s							
AUSP	**Uspallata**	**1.94**	**180**	*i* P	**Pn**	**17 59 40.0**	**+1.2**
AUSP				*i* S	**Sn**	**18 00 04.3**	**+0.2**
VACH	**Vallenar**	**2.07**	**325**	*i* P	**Pn**	**17 59 39.8**	**-0.5**
VACH				*i* S	**Sn**	**18 00 06.9**	**+0.2**
ACAN	**Cantantal**	**2.74**	**137**	*i* P	**Pn**	**17 59 49.2**	**+0.5**
ACAN				*i* S	**Sn**	**18 00 21.3**	**-0.5**
ROCH	**El Roble**	**3.02**	**207**	⇑*i* P	**Pn**	**17 59 52.5**	**0.0**
ROCH				*i* S	**Sn**	**18 00 28.9**	**+0.3**
ROC1	**El Roble**	**3.02**	**207**	*i* P	**Pn**	**17 59 52.5**	**0.0**
ROC1				*i* S	**Sn**	**18 00 28.5**	**-0.3**
CPCH	**Copiapo**	**3.03**	**344**	*i* P	**Pn**	**17 59 51.5**	**-1.0**
CPCH				*i* S	**Sn**	**18 00 27.7**	**-0.8**
CDCH	**Caldera**	**3.44**	**338**	IAML		18 00 43.9	
comp=E,110nm,1.1s							

IDC 04 18:01:48.5±2.3, 18°.27N×145°.99E, h160km±19km, mb3.3/5, mb1 3.7/6, mb1mx3.2/39, mbtmp3.9/6, Error ellipse: s-maj=33.8km s-min=16.5km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.78**	**193**	P	Pn	18 02 59.1	-0.2
13nm,0.3s,baz=350,slow=18,SNR=8.2							
GUMO				S	Sn	18 03 54.8	+0.3
22nm,0.3s,baz=15,slow=20,SNR=5.6							
WRA	**Warramunga Arr**	**39.66**	**197**	P	P	18 09 05.1	0.0
2.2nm,0.4s,baz=18,slow=8.7,SNR=39							
WRA				PcP	PcP	18 11 08.6	-0.2
0.2nm,0.7s,baz=15,slow=3.5,SNR=2.4							
WRA				ScP	ScP	18 14 41.7	-0.9
0.4nm,0.8s,baz=25,slow=4.1,SNR=4.4							
ASAR	**Alice Springs**	**43.32**	**196**	P	P	18 09 34.4	-0.4
1.8nm,0.6s,baz=13,slow=6.5,SNR=65							
CMAR	**Chiang Mai Arr**	**44.55**	**278**	P	P	18 09 46.1	+1.3
0.3nm,0.4s,baz=60,slow=7.4,SNR=4.1							
MKAR	**Makanchi Array**	**58.96**	**314**	P	P	18 11 30.2	-1.0
0.2nm,0.6s,baz=84,slow=7.9,SNR=3.3							
ILAR	**Eielson Array**	**63.91**	**26**	P	P	18 12 04.3	+0.3
0.7nm,0.8s,baz=260,slow=5.5,SNR=6.1							

SOME ***04*** *18:18:58.7, 40°.60N×81°.90E, h0km*
NNC ***04*** *18:19:11.4±4.0, 42°.57N×83°.28E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=34.4km s-min=20.0km az=133.0*
ISC 04 18:19:08.7±3.9, 42°.4N±0°.2×83°.4E±0°.1, h10km, n6, σ2°25/12, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.03**	**286**	*e*P	**Pn**	**18 19 53.8**	**-3.0**
6.2nm,0.6s							
SHLS				*e*S	**Sn**	**18 20 33.4**	**+0.3**
49nm,0.4s							
PDGK	**Podgornoye**	**3.05**	**289**	⇑Pn	**Pn**	**18 19 59.4**	**+2.3**
1.7nm,0.4s							
PDGK				⇓Lg	Lg	18 20 40.8	
21nm,0.5s							
KPKS	**Kokpek**	**3.65**	**289**	*e*P	**Pn**	**18 20 07.4**	**+2.1**
3.0nm,0.2s							
KPKS				*e*S	**Sb**	**18 20 57.0**	**-0.7**
29nm,0.5s							
SATY	**Saty**	**3.77**	**282**	*e*P	**Pn**	**18 20 05.5**	**-1.4**
2.7nm,0.2s							
SATY				*e*S	**Sn**	**18 20 53.3**	**+2.0**
10.0nm,0.2s							
MK31	**Makanchi Array**	**4.49**	**350**	Pn	**Pn**	**18 20 18.8**	**+2.1**
0.2nm,0.4s,baz=175,slow=12,SNR=12							
MK31				Pg	**Pg**	**18 20 31.6**	**-3.0**
3.2nm,0.6s,baz=164,slow=15,SNR=14							
MK31				⇑Lg	Lg	18 21 30.4	
9.3nm,0.6s,baz=170,slow=26,SNR=5.9							
MAKZ	**Makanchi**	**4.54**	**347**	⇑Pn	**Pn**	**18 20 16.0**	**-1.5**
0.5nm,0.5s							
MAKZ				⇑Pg	**Pb**	**18 20 30.8**	**+2.3**
1.0nm,0.3s							
MAKZ				⇑Sn	**Sn**	**18 21 10.8**	**+0.4**
2.2nm,0.6s							
MAKZ				⇓Lg	Lg	18 21 29.6	
4.3nm,0.6s							

IDC 04 18:49:41.9±32.0, 16°.38S×175°.56W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, Error ellipse: s-maj=622.4km s-min=166.1km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.75**	**240**	P	P	18 57 33.6	+0.5
1.2nm,0.8s,baz=86,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**47.60**	**258**	P	P	18 58 19.7	-0.4
0.3nm,0.4s,baz=93,slow=8.1,SNR=7.4							
ASAR	**Alice Springs**	**47.83**	**253**	P	P	18 58 21.4	-0.5
2.6nm,0.6s,baz=89,slow=8.2,SNR=42							
FITZ	**Fitzroy Crossi**	**55.98**	**259**	P	P	18 59 22.8	+0.2
0.9nm,0.8s,baz=108,slow=6.4,SNR=2.5							

NIED ***04*** *18:52:00, 35°.80N×141°.00E, h5km, Mw3.5 Best double couple: M0 2.36000×10^14 NP1:φs=23.00000°, δ34.00000°, λ-56.00000°. NP2:φs163.00000°, δ62.00000°, λ-111.00000°.*
ISCJB ***04*** *18:52:46.7±1.2, 35°.78N±0°.05×140°.9E±0°.1, h11km±7km, Error ellipse: s-maj=16.2km s-min=8.1km az=165.5*
JMA ***04*** *18:52:46.9±0.1, 35°.77N×140°.90E, h9km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs343.00000°, δ61.00000°, λ-102.00000°. NP2: φs188.00000°, δ31.00000°, λ-69.00000°. Principal axes: T Plg15.0000°, Azm82.0000°; N Plg11.0000°, Azm349.0000°; P Plg71.0000°, Azm225.0000°;*
JMA Felt II J1.
ISC 04 18:52:46.2±2.0, 35°.78N±0°.05×140°.9E±0°.1, h11km±8km, n6, σ0°38/10, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.10**	**222**	⇑P	**Pg**	**18 52 49.0**	**+0.1**
CHOJ				S	**Sg**	**18 52 50.5**	**-0.4**
JCN	**Nagara**	**0.70**	**239**	⇑P	**Pb**	**18 53 00.8**	**+0.3**
JYT	**Yasato**	**0.75**	**307**	⇑P	**Pg**	**18 53 00.9**	**+0.1**
JYT				S	**Sg**	**18 53 10.9**	**+0.2**
JHO	**Hitachi**	**0.88**	**340**	⇓P	**Pg**	**18 53 03.1**	**-0.2**
JHO				S	**Sg**	**18 53 15.2**	**+0.4**
BSO4	**Boso 4**	**0.93**	**212**	P	**Pb**	**18 53 04.7**	**+0.4**
MAT	**Matsushiro**	**2.34**	**290**	P	**Pn**	**18 53 24.4**	**-0.3**
MAT				S	**Sn**	**18 53 53.1**	**-0.4**

JMA ***04*** *18:58:43.9±0.1, 38°.70N×142°.28E, h38km±2km, M3.3*
IDC ***04*** *18:58:44.3±2.1, 39°.33N×141°.78E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/35, mbtmp3.4/4, ML2.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/37, Error ellipse: s-maj=42.0km s-min=25.5km az=107.0*
ISC 04 18:58:43.6±2.0, 38°.76N±0°.06×142°.3E±0°.1, h27km, n20, σ1°32/15, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.58**	**304**	P	**Pn**	**18 58 56.2**	**+0.1**
JIO	**Ouri**	**0.79**	**248**	P	**Pb**	**18 58 58.2**	**-0.6**
JIO				*e*S	**Sb**	**18 59 07.9**	**-1.2**
JMK	**Ichinoseki**	**0.85**	**284**	P	**Pb**	**18 58 59.9**	**+0.1**
JOM	**Ohasama**	**1.05**	**313**	P	**Pb**	**18 59 03.3**	**+0.1**
JOM				*e*S	**Sb**	**18 59 17.4**	**+0.8**
JTH	**Tanohata**	**1.23**	**345**	P	**Pb**	**18 59 05.7**	**-0.4**
JOU	**Okura**	**1.33**	**254**	P	**Pn**	**18 59 06.4**	**0.0**
JOU				*e*S	**Sn**	**18 59 22.9**	**-0.3**
JRG	**Rokugo**	**1.44**	**297**	P	**Pn**	**18 59 08.6**	**+0.8**
JMM	**Marumori**	**1.47**	**233**	P	**Pn**	**18 59 07.5**	**-0.8**
JYK	**Kaneyama**	**1.51**	**277**	P	**Pn**	**18 59 09.3**	**+0.4**

MJAR Matsushiro Arr 3.92 237 Pn Pn 18 59 46.0 +4.0
0.5nm,0.3s,baz=39,slow=12,SNR=6.7
MJAR Lg Lg 19 00 50.1
0.2nm,0.3s,baz=54,slow=19,SNR=3.7
USRK Ussuriysk Ar. 9.45 308 LR LR 19 04 21.3
comp=Z,37nm,18.3s,baz=195,slow=38
H11N2 WAKE ISLAND Hy 28.50 125 T T 19 35 03.5
baz=316
H11N1 WAKE ISLAND Hy 28.51 125 T T 19 35 06.5
baz=316
H11N3 WAKE ISLAND Hy 28.52 125 T T 19 35 03.7
baz=316
H11S1 WAKE ISLAND Hy 29.27 127 T T 19 36 00.3
baz=322
H11S3 WAKE ISLAND Hy 29.27 127 T T 19 35 55.3
baz=322
H11S2 WAKE ISLAND Hy 29.29 127 T T 19 36 02.9
baz=322
ZALV Zalesovo Beam 41.29 311 P **P 19 06 25.5 -0.9**
0.4nm,0.3s,baz=68,slow=8.0,SNR=2.8
MKAR Makanchi Array 43.81 301 P **P 19 06 46.7 -0.4**
0.2nm,0.4s,baz=81,slow=8.9,SNR=3.2
WRA Warramunga Arr 58.86 189 P P 19 08 48.3 +8.4
0.5nm,0.8s,baz=5.8,slow=7.0,SNR=4.8

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*MDD **04** 19:09:40.7±2.6, 36.°62N×12.°12W, h0km, mb3.5/6, Error ellipse: s-maj=23.3km s-min=20.1km az=115.0, PRXIMO*
*INMG **04** 19:09:43.2±0.7, 36.°52N×12.°46W, h10km, ML1.8, Error ellipse: s-maj=13.3km s-min=7.3km az=149.0*
*CSEM **04** 19:09:43.8±0.7, 36.°76N×11.°89W, h10km, mb3.5, Error ellipse: s-maj=12.9km s-min=10.7km az=116.0*

ISC 04 19:09:40.8±4.0, 36.°7N±0.°1×12.°1W±0.°2, h10km, n42, σ1§36/71, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNCL	**Nicolau / Gran**	**3.15**	**62**	*e*Pn	**Pn**	**19 10 31.7**	**+1.2**
PNCL				*e*Sn	**Sn**	**19 11 08.2**	**+0.1**
PNCL				A	A	19 11 12.2	
2.7nm,0.1s							
PNCL	**Nicolau / Gran**	**3.15**	**62**	*e*Pn	**Pn**	**19 10 31.7**	**+1.2**
PNCL				*e*Sn	**Sn**	**19 11 08.2**	**+0.1**
2.7nm,0.1s							
PMAFR	**Mafra**	**3.16**	**43**	*e*Sn	**Sn**	**19 11 09.9**	**+1.6**
PMAFR	**Mafra**	**3.16**	**43**	S	**Sn**	**19 11 09.7**	**+1.4**
14nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.16**	**43**	S	**Sn**	**19 11 09.7**	**+1.4**
14nm,0.1s,SNR=7.9							
PCVE	**Castro Verde**	**3.35**	**73**	*e*Pn	**Pn**	**19 10 34.2**	**+1.0**
PCVE				*e*Sn	**Sn**	**19 11 13.3**	**+0.3**
PCVE	**Castro Verde**	**3.35**	**73**	P	**Pn**	**19 10 34.2**	**+1.0**
PCVE				S	**Sn**	**19 11 13.3**	**+0.3**
PCVE	**Castro Verde**	**3.35**	**73**	P	**Pn**	**19 10 34.2**	**+1.0**
PCVE				S	**Sn**	**19 11 13.3**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.35**	**79**	*e*Pn	**Pn**	**19 10 34.3**	**+1.0**
PBDV				*e*Sn	**Sn**	**19 11 14.1**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.35**	**79**	P	**Pn**	**19 10 34.3**	**+1.0**
PBDV				S	**Sn**	**19 11 14.1**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.35**	**79**	P	**Pn**	**19 10 34.3**	**+1.0**
PBDV				S	**Sn**	**19 11 14.1**	**+0.9**
PVAQ	**Vaqueiros**	**3.55**	**77**	*e*Pn	**Pn**	**19 10 37.1**	**+1.2**
PVAQ				*e*Sn	**Sn**	**19 11 17.5**	**-0.5**
PVAQ	**Vaqueiros**	**3.55**	**77**	P	**Pn**	**19 10 37.1**	**+1.2**
PVAQ				S	**Sn**	**19 11 17.5**	**-0.5**
PVAQ	**Vaqueiros**	**3.55**	**77**	P	**Pn**	**19 10 37.1**	**+1.2**
PVAQ				S	**Sn**	**19 11 17.5**	**-0.5**
EGRO	**El Granado**	**3.76**	**76**	P	**Pn**	**19 10 38.8**	**0.0**
0.4nm,0.2s,SNR=7.9							
EGRO				S	**Sn**	**19 11 23.3**	**+0.2**
0.7nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.76**	**76**	P	**Pn**	**19 10 38.8**	**0.0**
0.4nm,0.2s,SNR=7.9							
EGRO				S	**Sn**	**19 11 23.3**	**+0.2**
0.7nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.16**	**57**	*e*Pn	**Pn**	**19 10 46.6**	**+2.3**
PESTR				*e*Sn	**Sn**	**19 11 32.1**	**-0.9**
PESTR	**Estremoz**	**4.16**	**57**	*e*Pn	**Pn**	**19 10 46.6**	**+2.3**
PESTR				*e*Sn	**Sn**	**19 11 32.1**	**-0.9**
PBAR	**Barrancos**	**4.26**	**68**	*e*Pn	**Pn**	**19 10 47.4**	**+1.6**
PBAR				*e*Sn	**Sn**	**19 11 36.1**	**+0.5**
PBAR				A	A	19 11 37.9	
1.1nm,0.2s							
PBAR	**Barrancos**	**4.26**	**68**	P	**Pn**	**19 10 47.4**	**+1.6**
PBAR				S	**Sn**	**19 11 36.1**	**+0.5**
1.1nm,0.2s							
PBAR	**Barrancos**	**4.26**	**68**	P	**Pn**	**19 10 47.4**	**+1.6**
PBAR				S	**Sn**	**19 11 36.1**	**+0.5**
1.1nm,0.2s							
EMIN	**Mina Concepcio**	**4.43**	**74**	P	**Pn**	**19 10 48.4**	**+0.3**
0.1nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**19 11 39.0**	**-0.8**
0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.43**	**74**	P	**Pn**	**19 10 48.4**	**+0.3**
0.1nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**19 11 39.0**	**-0.8**
0.2nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.50**	**61**	P	**Pn**	**19 10 50.0**	**+0.9**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**19 11 40.0**	**-1.5**
0.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.50**	**61**	P	**Pn**	**19 10 50.0**	**+0.9**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**19 11 40.0**	**-1.5**
0.8nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**4.59**	**52**	*e*Pn	**Pn**	**19 10 51.8**	**+1.5**
PMRV				*e*Sn	**Sn**	**19 11 42.4**	**-1.2**
PMRV				A	A	19 11 44.9	
1.4nm,0.7s							
PMRV	**Marv??o**	**4.59**	**52**	P	**Pn**	**19 10 51.8**	**+1.5**
PMRV				S	**Sn**	**19 11 42.4**	**-1.2**
1.4nm,0.7s							
PMRV	**Marv??o**	**4.59**	**52**	P	**Pn**	**19 10 51.8**	**+1.5**
PMRV				S	**Sn**	**19 11 42.4**	**-1.2**
1.4nm,0.7s							
ESPR	**Espera**	**4.99**	**86**	P	**Pn**	**19 10 55.2**	**-0.5**
1.2nm,0.2s,SNR=7.9							
ESPR				S	**Sn**	**19 11 50.9**	**-2.5**
1.4nm,0.2s,SNR=7.9							
ESPR	**Espera**	**4.99**	**86**	P	**Pn**	**19 10 55.2**	**-0.5**
1.2nm,0.2s,SNR=7.9							
ESPR				S	**Sn**	**19 11 50.9**	**-2.5**
1.4nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.47**	**73**	P	**Pn**	**19 11 03.0**	**+0.6**
0.2nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.47**	**73**	P	**Pn**	**19 11 03.0**	**+0.6**
0.2nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.78**	**53**	P	**Pn**	**19 11 07.5**	**+0.8**
0.6nm,0.2s,SNR=7.9							
EPLA				S	**Sn**	**19 12 11.2**	**-1.9**
0.6nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.78**	**53**	P	**Pn**	**19 11 07.5**	**+0.8**
0.6nm,0.2s,SNR=7.9							
EPLA				S	**Sn**	**19 12 11.2**	**-1.9**
0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.95**	**40**	S	**Sn**	**19 12 15.2**	**-1.9**
0.7nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.95**	**40**	S	**Sn**	**19 12 15.2**	**-1.9**
0.7nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.03**	**30**	S	**Sn**	**19 12 16.3**	**-2.9**
0.1nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**6.03**	**30**	S	**Sn**	**19 12 16.3**	**-2.9**
0.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.14**	**74**	S	**Sn**	**19 12 19.8**	**-2.0**
0.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.14**	**74**	S	**Sn**	**19 12 19.8**	**-2.0**
0.3nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.67**	**37**	S	**Sn**	**19 12 33.1**	**-1.9**
0.7nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.67**	**37**	S	**Sn**	**19 12 33.1**	**-1.9**
0.7nm,0.2s,SNR=7.9							

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*IDC **04** 19:29:04.7±2.2, 43.°53N×105.°30W, h0km, mb4.6/1, mb1 4.3/3, mb1mx3.4/51, mbtmp4. 1/3, ML3.5/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/49, Error ellipse: s-maj=54.7km s-min=9.1km az=153.0*
*ISCJB **04** 19:29:05.4±0.6, 43.°80N±0.°05×105.°21W±0.°07, h0km, mb4.8/1, Error ellipse: s-maj=8.1km s-min=6.4km az=41.5*
*NEIC **04** 19:29:06.7±0.5, 43.°78N×105.°22W, h0km, ML3.2, Error ellipse: s-maj=8.2km s-min=6.2km az=134.0, Suspected Mining explosion.*
NEIC 62 km [38 miles] SSE of Gillette.

ISC 04 19:29:06.8±1.0, 43.°80N±0.°06×105.°24W±0.°07, h0km, n26, σ1§21/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**70**	*e*Pg	**Pg**	**19 29 24.5**	**0.0**
K22A	**Casper**	**1.49**	**220**	*e*Pn	**Pn**	**19 29 32.5**	**-2.4**
PHWY	**Pilot Hill**	**2.51**	**184**	*e*Pn	**Pn**	**19 29 48.8**	**-0.3**
RWWY	**Rawlins**	**2.56**	**215**	*e*Pn	**Pn**	**19 29 49.9**	**0.0**
LAO	**LASA Array**	**2.97**	**347**	*e*Pn	**Pn**	**19 29 56.6**	**+1.3**
RLMT	**Red Lodge**	**3.17**	**296**	*e*Pn	**Pn**	**19 29 57.5**	**-0.7**
BW06	**Boulder Array**	**3.32**	**253**	*e*Pn	**Pn**	**19 29 59.6**	**-0.6**
PDAR	**Pinedale Array**	**3.32**	**253**	Pn	**Pn**	**19 29 59.6**	**-0.6**
4.6nm,0.3s,baz=76,slow=15,SNR=28							
PDAR				Lg	Lg	19 30 45.2	
17nm,0.3s,baz=75,slow=35,SNR=12							
OGNE	**Ogallala**	**3.71**	**139**	*e*Pn	**Pb**	**19 30 14.5**	**+1.2**
H17A	**Grant Village**	**3.89**	**281**	*e*Pn	**Pn**	**19 30 06.2**	**-1.9**
LOHW	**Long Hollow**	**3.89**	**269**	*e*Pn	**Pn**	**19 30 08.9**	**+0.8**
MOOW	**Moose Ponds**	**3.99**	**271**	*e*Pn	**Pn**	**19 30 10.8**	**+1.4**
ISCO	**Idaho Springs**	**4.01**	**184**	*e*Pn	**Pn**	**19 30 08.9**	**-0.9**
REDW	**Red Top Meadow**	**4.10**	**266**	*e*Pn	**Pn**	**19 30 12.3**	**+1.3**
IMW	**Indian Meadow**	**4.12**	**273**	*e*Pn	**Pn**	**19 30 10.9**	**-0.4**
TPAW	**Teton Pass**	**4.16**	**268**	*e*Pn	**Pn**	**19 30 12.4**	**+0.6**
DGMT	**Dagmar**	**4.72**	**8**	*e*Pn	**Pn**	**19 30 20.9**	**+1.6**
BOZ	**Bozeman (W)**	**4.89**	**294**	*e*Pn	**Pn**	**19 30 22.4**	**+0.6**
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**19 30 26.1**	**+0.8**
7.1nm,0.4s							
EGMT	**Eagleton**	**5.27**	**325**	*e*Pn	**Pn**	**19 30 25.4**	**-1.4**
13nm,0.5s							
PV04	**Paradox Valley**	**6.07**	**208**	*e*Pn	**Pn**	**19 30 38.6**	**+0.6**
ANMO	**Albuquerque**	**8.90**	**186**	LR	LR	19 34 05.3	
comp=Z,19nm,18.8s,baz=196,slow=35							
I10CA	**LAC DU BONNET**	**8.97**	**41**	*i*		20 23 40.0	
baz=224,slow=319,SNR=2.8							
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**19 31 18.8**	**-0.3**
0.9nm,0.3s,baz=229,slow=12,SNR=6.9							
ULM				Lg	Lg	19 33 51.4	
0.8nm,0.3s,baz=321,slow=21,SNR=3.5							
NEW	**Newport**	**9.39**	**303**	LR	LR	19 35 23.8	
comp=Z,79nm,21.9s,baz=144,slow=40							
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**19 39 22.0**	**-1.9**
8.3nm,1.2s,baz=331,slow=7.2,SNR=4.3							

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*ISK **04** 19:32:05.4, 39.°02N×35.°91E, h8km, MD2.5*
*CSEM **04** 19:32:05.6±0.1, 39.°03N×35.°89E, h5km, MD2.5, Error ellipse: s-maj=3.6km s-min=3.2km az=22.0*
*DDA **04** 19:32:05.2, 39.°04N×35.°90E, h7km, Md2.5*

ISC 04 19:32:05.6±1.0, 39.°05N±0.°02×35.°90E±0.°03, h6km±10km, n25, σ0§62/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.20**	**192**	PG	**Pg**	**19 32 09.5**	**0.0**
BNN				*e*SG	**Sg**	**19 32 12.5**	**+0.4**
BNN	**Bunyan**	**0.20**	**192**	*i* Pg	**Pg**	**19 32 09.5**	**0.0**
BNN				*e*Sg	**Sg**	**19 32 12.5**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.46**	**36**	*i* P	**Pg**	**19 32 14.1**	**-0.4**
CUSAR				*i* S	**Sg**	**19 32 20.7**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**0.46**	**36**	P	**Pg**	**19 32 14.1**	**-0.4**
CUSAR				S	**Sg**	**19 32 20.7**	**+0.2**
SARI	**SarD1z-Kayseri**	**0.76**	**147**	*e*PG	**Pg**	**19 32 19.9**	**-0.2**
SARI				*e*SG	**Sg**	**19 32 30.5**	**+0.7**
AVNS	**Nevsehir-Avano**	**0.85**	**254**	*i* P	**Pg**	**19 32 21.5**	**-0.5**
AVNS				*i* S	**Sg**	**19 32 33.5**	**+0.4**
AVNS	**Nevsehir-Avano**	**0.85**	**254**	P	**Pg**	**19 32 21.5**	**-0.5**
AVNS				S	**Sg**	**19 32 33.5**	**+0.4**
SVSK	**Karacayir**	**1.22**	**44**	*e*PN	**Pn**	**19 32 29.3**	**+0.2**
SVSK	**Karacayir**	**1.22**	**44**	*e*Pn	**Pn**	**19 32 29.3**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.25**	**77**	*i* P	**Pn**	**19 32 29.7**	**-0.1**
CUKAN				*i* S	**Sn**	**19 32 47.2**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.25**	**77**	P	**Pn**	**19 32 29.7**	**-0.1**
CUKAN				S	**Sn**	**19 32 47.2**	**+0.2**
CDAG	**Cicekdag**	**1.32**	**296**	*i* P	**Pn**	**19 32 30.1**	**-0.6**
CDAG				*i* S	**Sn**	**19 32 49.5**	**+0.9**
CDAG	**Cicekdag**	**1.32**	**296**	P	**Pn**	**19 32 30.1**	**-0.6**
CDAG				S	**Sn**	**19 32 49.5**	**+0.9**
DARE	**Darende-Malaty**	**1.32**	**110**	*e*PN	**Pn**	**19 32 30.5**	**-0.2**
DARE	**Darende-Malaty**	**1.32**	**110**	*e*Pn	**Pn**	**19 32 30.5**	**-0.2**
COAL	**Corum-Alaca**	**1.40**	**330**	*i* P	**Pn**	**19 32 31.1**	**-0.8**
COAL				*i* S	**Sg**	**19 32 52.3**	**+1.8**
COAL	**Corum-Alaca**	**1.40**	**330**	P	**Pn**	**19 32 31.0**	**-0.8**
COAL				S	**Sg**	**19 32 52.3**	**+1.8**
CORM	**Corum**	**1.50**	**320**	*e*PN	**Pb**	**19 32 33.7**	**-0.2**
CORM	**Corum**	**1.50**	**320**	*e*Pn	**Pb**	**19 32 33.7**	**-0.2**
KOZT	**Kozan**	**1.56**	**182**	*e*PN	**Pn**	**19 32 33.8**	**-0.1**
KOZT	**Kozan**	**1.56**	**182**	*e*Pn	**Pn**	**19 32 33.8**	**-0.1**
KMRS	**Kahramanmaras**	**1.73**	**153**	*e*PN	**Pn**	**19 32 36.0**	**-0.2**
KMRS	**Kahramanmaras**	**1.73**	**153**	*e*Pn	**Pn**	**19 32 36.0**	**-0.2**
CTAK	**Corum_Osmancik**	**1.81**	**332**	*i* P	**Pb**	**19 32 38.6**	**-0.7**
CTAK	**Corum_Osmancik**	**1.81**	**332**	P	**Pb**	**19 32 38.6**	**-0.7**

IDC 04 19:41:14.8±6.2, 8.°79S×156.°56E, h147km±84km, mb3.3/4, mb1 3.4/5, mb1mx3.1/34, mbtmp3.7/5, MS3.0/5, Ms1 3.0/5, ms1mx2.9/16, Error ellipse: s-maj=87.2km s-min=23.6km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.41**	**101**	P	Pn	**19 42 08.7**	**+1.4**
7.3nm,0.3s,baz=311,slow=5.3,SNR=6.9							
HNR				S	Sn	19 42 47.8	-0.2
9.3nm,0.3s,baz=170,slow=17,SNR=3.7							
HNR				LR	LR	19 43 20.7	
comp=Z,200nm,18.7s,baz=162,slow=37							
HNR	**Honiara**	**3.41**	**101**	P	Pn	19 42 04.0	-3.3
PMG	**Port Moresby**	**9.30**	**265**	LR	LR	19 46 36.4	
comp=Z,147nm,18.4s,baz=116,slow=34							
WRA	**Warramunga Arr**	**24.18**	**240**	P		19 46 17.8	0.0
1.3nm,0.6s,baz=65,slow=9.4,SNR=12							
GUMO	**Guam**	**25.08**	**332**	LR	LR	19 55 09.5	
comp=Z,7.0nm,20.2s,baz=113,slow=33							
ASAR	**Alice Springs**	**26.24**	**233**	P	P	19 46 36.2	-0.3
0.3nm,0.9s,baz=64,slow=10,SNR=3.9							
ASAR				LR	LR	19 55 39.8	
comp=Z,71nm,19.2s,baz=336,slow=33							
RPZ	**Rata Peaks**	**37.02**	**162**	LR	LR	20 01 49.6	
comp=Z,40nm,19.0s,baz=313,slow=33							
SONM	**Songino Array**	**71.67**	**327**	P	P	19 52 20.4	-0.3
0.7nm,0.6s,baz=108,slow=6.7,SNR=6.8							
MKAR	**Makanchi Array**	**85.77**	**318**	P	P	19 53 38.1	+0.5
0.9nm,0.8s,baz=98,slow=6.0,SNR=8.5							

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*ISCJB **04** 19:52:39.2±0.9, 52.°61N±0.°04×4.°07E±0.°06, h6km±6km, Error ellipse: s-maj=8.3km s-min=5.1km az=141.4*
*CSEM **04** 19:52:40.5±0.3, 52.°66N×4.°14E, h2km, ML2.9/6, Error ellipse: s-maj=7.0km s-min=2.9km az=156.0*
*LDG **04** 19:52:41.9±0.2, 52.°72N×4.°29E, h3km, Md2.9/2, Ml2.9/9, Error ellipse: s-maj=4.9km s-min=2.1km az=162.0*

ISC 04 19:52:40.8±1.2, 52.°66N±0.°06×4.°18E±0.°04, h12km±11km, n49, σ1§09/78, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPB4	**Philisteinsche**	**0.30**	**91**	*e*Pg	**Pg**	**19 52 46.5**	**-0.4**
baz=304							
PPB4				*e*Sg	**Sg**	**19 52 51.8**	**+0.9**
PPB4	**Philisteinsche**	**0.30**	**91**	*e*Pg	**Pg**	**19 52 46.5**	**-0.4**
PPB4				*e*Sg	**Sg**	**19 52 51.8**	**+0.9**
WMH4	**Warmenhuizen**	**0.35**	**82**	*e*Pg	**Pg**	**19 52 46.9**	**-0.9**
baz=293							
WMH4				*e*Sg	**Sg**	**19 52 52.3**	**-0.2**
WMH4	**Warmenhuizen**	**0.35**	**82**	*e*Pg	**Pg**	**19 52 46.9**	**-0.9**
WMH4				*e*Sg	**Sg**	**19 52 52.3**	**-0.2**
OTL4	**Oterleek**	**0.39**	**94**	*e*Pg	**Pg**	**19 52 48.2**	**-0.4**
baz=300							
OTL4				*e*Sg	**Sg**	**19 52 54.7**	**+0.9**
OTL4	**Oterleek**	**0.39**	**94**	*e*Pg	**Pg**	**19 52 48.2**	**-0.4**
OTL4				*e*Sg	**Sg**	**19 52 54.7**	**+0.9**
GIVF	**Givet**	**2.59**	**171**	*e*Pn	**Pn**	**19 53 23.6**	**+1.1**
GIVF				*e*Sn	**Sn**	**19 53 54.7**	**+0.8**
GIVF				*e*Sg	**Sg**	**19 54 04.6**	**+0.6**
12nm,0.3s							
GIVF	**Givet**	**2.59**	**171**	*e*Pn	**Pn**	**19 53 23.6**	**+1.1**
GIVF				*e*Sn	**Sn**	**19 53 54.7**	**+0.8**
GIVF				*e*Sg	**Sg**	**19 54 04.6**	**+0.6**
6.1nm,0.3s							
BAIF	**Baives**	**2.60**	**180**	*e*Pn	**Pn**	**19 53 23.9**	**+1.2**
BAIF	**Baives**	**2.60**	**180**	*e*P	**Pb**	**19 53 26.0**	**-1.3**
BAIF				*e*Sn	**Sn**	**19 53 53.7**	**-0.5**
BAIF				*e*Sg	**Sg**	**19 54 04.5**	**+0.1**
6.4nm,0.3s							
BAIF	**Baives**	**2.60**	**180**	*e*Pn	**Pn**	**19 53 23.9**	**+1.2**
BAIF				*e*Sn	**Sn**	**19 53 53.7**	**-0.5**
BAIF				*e*Sg	**Sg**	**19 54 04.5**	**+0.1**
3.2nm,0.3s							
FLN	**La Foliniere**	**4.90**	**219**	*e*Pn	**Pn**	**19 53 55.5**	**+1.3**
baz=38							
FLN				*e*Sn	**Sn**	**19 54 51.4**	**+0.7**
3.0nm,0.3s,baz=26							
FLN	**La Foliniere**	**4.90**	**219**	*e*Pn	**Pn**	**19 53 55.5**	**+1.3**
baz=38							
FLN				*e*Sn	**Sn**	**19 54 51.4**	**+0.7**
1.5nm,0.3s,baz=26							
LDF	**La Druitiere**	**4.91**	**216**	*e*Pn	**Pn**	**19 53 55.2**	**+0.9**
LDF				*e*Sn	**Sn**	**19 54 51.3**	**+0.4**
1.5nm,0.3s							
LDF				*e*Sg	**Sg**	**19 55 19.1**	**+1.0**
2.6nm,0.4s							
LDF	**La Druitiere**	**4.91**	**216**	*e*Pn	**Pn**	**19 53 55.2**	**+0.9**
LDF				*e*Sn	**Sn**	**19 54 51.3**	**+0.4**
0.8nm,0.3s							
LDF				*e*Sg	**Sg**	**19 55 19.1**	**+1.0**
1.3nm,0.4s							
GRR	**Gorron**	**5.35**	**219**	*e*Pn	**Pn**	**19 54 01.0**	**+0.7**
GRR				*e*Sn	**Sn**	**19 55 01.5**	**-0.3**
5.6nm,0.3s							
GRR	**Gorron**	**5.35**	**219**	*e*Pn	**Pn**	**19 54 01.0**	**+0.7**
GRR				*e*Sn	**Sn**	**19 55 01.5**	**-0.3**
2.8nm,0.3s							
LOR	**Lormes**	**5.40**	**182**	*e*Pn	**Pn**	**19 54 02.2**	**+1.1**
baz=0.9							
LOR				*e*Sn	**Sn**	**19 55 01.2**	**-2.0**
3.6nm,0.4s,baz=1.0							
LOR	**Lormes**	**5.40**	**182**	*e*Pn	**Pn**	**19 54 02.2**	**+1.1**
baz=0.9							
SSF	**Saint Saulge**	**5.62**	**185**	*e*Pn	**Pn**	**19 54 04.7**	**+0.6**
SSF				*e*Sn	**Sn**	**19 55 06.3**	**-2.3**
1.0nm,0.2s							
SSF	**Saint Saulge**	**5.62**	**185**	*e*Pn	**Pn**	**19 54 04.7**	**+0.6**
AVF	**Avril sur Loir**	**5.90**	**186**	*e*Pn	**Pn**	**19 54 08.7**	**+0.8**
AVF	**Avril sur Loir**	**5.90**	**186**	*e*Pn	**Pn**	**19 54 08.7**	**+0.8**
SMF	**Signal de Mont**	**6.03**	**182**	*e*Pn	**Pn**	**19 54 10.2**	**+0.5**
SMF	**Signal de Mont**	**6.03**	**182**	*e*Pn	**Pn**	**19 54 10.2**	**+0.5**
SGMF	**Saint Gilles**	**6.16**	**227**	*e*Pn	**Pn**	**19 54 13.0**	**+1.5**
SGMF	**Saint Gilles**	**6.16**	**227**	*e*Pn	**Pn**	**19 54 13.0**	**+1.5**
BGF	**Bois d'Agland**	**6.17**	**189**	*e*Pn	**Pn**	**19 54 12.4**	**+0.8**
BGF	**Bois d'Agland**	**6.17**	**189**	*e*Pn	**Pn**	**19 54 12.4**	**+0.8**
ROSF	**Rostrenen**	**6.43**	**231**	*e*Pn	**Pn**	**19 54 16.5**	**+1.3**
ROSF				*e*Sn	**Sn**	**19 55 27.8**	**-0.6**
ROSF	**Rostrenen**	**6.43**	**231**	*e*Pn	**Pn**	**19 54 16.5**	**+1.3**
ROSF				*e*Sn	**Sn**	**19 55 27.8**	**-0.6**
TCF	**Toulx Ste Croi**	**6.51**	**192**	*e*Pn	**Pn**	**19 54 17.1**	**+0.8**
TCF	**Toulx Ste Croi**	**6.51**	**192**	*e*Pn	**Pn**	**19 54 17.1**	**+0.8**
MFF	**Saint Martin d**	**6.68**	**207**	*e*Pn	**Pn**	**19 54 19.0**	**+0.3**
MFF				*e*Sn	**Sn**	**19 55 32.6**	**-2.1**
1.9nm,0.3s							
MFF	**Saint Martin d**	**6.68**	**207**	*e*Pn	**Pn**	**19 54 19.0**	**+0.3**
QUIF	**Quistinic**	**6.68**	**228**	*e*Pn	**Pn**	**19 54 19.7**	**+1.1**
QUIF				*e*Sn	**Sn**	**19 55 33.5**	**-1.2**
QUIF	**Quistinic**	**6.68**	**228**	*e*Pn	**Pn**	**19 54 19.7**	**+1.1**
QUIF				*e*Sn	**Sn**	**19 55 33.5**	**-1.2**
LPL	**La Plagne**	**7.34**	**166**	*e*Pn	**Pn**	**19 54 30.4**	**+2.4**
LPL	**La Plagne**	**7.34**	**166**	*e*Pn	**Pn**	**19 54 30.4**	**+2.4**
LPG	**La Plagne**	**7.37**	**166**	*e*Pn	**Pn**	**19 54 30.7**	**+2.4**
LPG	**La Plagne**	**7.37**	**166**	*e*Pn	**Pn**	**19 54 30.7**	**+2.4**
RJF	**Les Rejaudoux**	**7.57**	**194**	*e*Pn	**Pn**	**19 54 31.3**	**+0.5**
RJF	**Les Rejaudoux**	**7.57**	**194**	*e*Pn	**Pn**	**19 54 31.3**	**+0.5**
ORIF	**Oris-en-Rattie**	**7.83**	**171**	*e*Pn	**Pn**	**19 54 35.3**	**+0.8**
ORIF	**Oris-en-Rattie**	**7.83**	**171**	*e*Pn	**Pn**	**19 54 35.3**	**+0.8**
CAF	**Calviac**	**7.87**	**191**	*e*Pn	**Pn**	**19 54 35.2**	**+0.3**
CAF	**Calviac**	**7.87**	**191**	*e*Pn	**Pn**	**19 54 35.2**	**+0.3**
LFF	**La Frestale**	**8.05**	**198**	*e*Pn	**Pn**	**19 54 38.8**	**+1.3**
LFF	**La Frestale**	**8.05**	**198**	*e*Pn

0.9nm,0.9s,baz=308,slow=5.9,SNR=7.0
SEY Seymchan 73.99 14 P **P 20 28 40.9 +0.4**
3.4nm,0.5s,baz=220,slow=4.9,SNR=9.7
BRTR Keskin Array B 92.55 310 P **P 20 30 12.1 -2.3**
0.3nm,0.5s,baz=90,slow=0.3,SNR=3.0
TORD Torodi Ar. Bea 120.08 281 PKP **PKPdf 20 35 49.7 -0.9**
0.4nm,0.7s,baz=53,slow=1.9,SNR=3.6

IDC 04 20:23:33.4±8.0, 17°.94S×173°.67W, h170km±162km, mb3.4/4, mb1 3.5/5, mb1mx3.1/49, mbtmp3.9/5, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/17, Error ellipse: s-maj=201.0km s-min=87.1km az=97.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.40**	**25**	P	Pn	20 24 40.5	+1.0
	4.5nm,0.3s,baz=250,slow=12,SNR=2.6						
AFI				S	Sn	20 25 31.1	-0.1
	4.6nm,0.3s,baz=73,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**19.13**	**254**	LR	LR	20 33 33.1	
	comp=Z,65nm,21.3s,baz=30,slow=31						
CTA	**Charters Tower**	**37.88**	**260**	P	P	20 30 34.6	+0.3
	1.6nm,0.4s,baz=84,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**42.59**	**242**	P	P	20 31 11.8	-1.0
	1.0nm,0.6s,baz=90,slow=3.1,SNR=3.2						
WRA	**Warramunga Arr**	**49.05**	**259**	P	P	20 32 03.6	-0.1
	0.3nm,0.3s,baz=97,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**49.12**	**254**	P	P	20 32 04.2	0.0
	0.7nm,0.5s,baz=90,slow=8.0,SNR=16						

NIED ***04*** *20:28:00.38°.00N×144°.60E, h5km, Mw3.9 Best double couple: M0=7.61000×10^14 NP1:φ=33.00000°, δ=26.00000°, λ=-83.00000°. NP2:φ=205.00000°, δ=64.00000°, λ=-94.00000°.*
IDC ***04*** *20:28:17.3±0.8, 37°.84N×144°.76E, h0km, mb3.8/11, mb1 3.9/16, mb1mx3.8/52, mbtmp3.8/16, ML3.9/4, MS2.6/3, Ms1 2.6/3, ms1mx2.3/52, Error ellipse: s-maj=19.7km s-min=15.8km az=93.0*
NEIC ***04*** *20:28:19.7±3.0, 37°.88N×144°.77E, h16km±18km, mb4.6/5, Error ellipse: s-maj=9.5km s-min=6.0km az=105.0*
ISCJB ***04*** *20:28:20.7±0.4, 37°.94N±0°.04×144°.62E±0°.04, h33km, mb4.1/17, Error ellipse: s-maj=6.1km s-min=4.6km az=175.2*
JMA ***04*** *20:28:21.2±0.2, 38°.00N×144°.57E, h40km, M4.3*
ISC 04 20:28:23.0±0.6, 37°.96N±0°.05×144°.61E±0°.07, h35km, n52, σ1°65/62, mb4.0/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.56**	**297**	P	**Pn**	**20 29 01.1**	**-0.9**
JIO	**Ouri**	**2.62**	**282**	P	**Pn**	**20 29 01.8**	**-0.9**
JIO				*e*S	**Sn**	**20 29 31.7**	**-1.5**
MIYJ	**Miyakonagasawa**	**2.71**	**307**	P	**Pn**	**20 29 03.0**	**-1.1**
MIYJ				*e*S	**Sn**	**20 29 34.5**	**-1.1**
JMK	**Ichinoseki**	**2.84**	**291**	P	**Pn**	**20 29 05.3**	**-0.5**
JMK				*e*S	**Sn**	**20 29 37.9**	**-0.8**
JOM	**Ohasama**	**3.00**	**301**	P	**Pn**	**20 29 07.6**	**-0.4**
JOM				*e*S	**Sn**	**20 29 41.7**	**-1.1**
JANG	**Nango**	**3.40**	**316**	P	**Pn**	**20 29 12.4**	**-1.2**
JANG				*e*S	**Sn**	**20 29 50.3**	**-2.4**
JFT	**Otama**	**3.42**	**264**	P	**Pn**	**20 29 13.8**	**0.0**
JFT				*e*S	**Sn**	**20 29 52.2**	**-0.8**
JYK	**Kaneyama**	**3.47**	**287**	P	**Pn**	**20 29 14.6**	**+0.1**
JYK				*e*S	**Sn**	**20 29 54.8**	**+0.4**
ERM	**Erimo**	**4.20**	**345**	*e*Pn	**Pn**	**20 29 23.9**	**-0.6**
ERM				*e*Sn	**Sn**	**20 30 07.2**	**-5.0**
MJAR	**Matsushiro Arr**	**5.30**	**256**	Pn	**Pn**	**20 29 40.0**	**+0.4**
	4.8nm,0.3s,baz=81,slow=15,SNR=48						
MJAR				Sn	**Sn**	**20 30 41.2**	**+1.7**
	2.7nm,0.3s,baz=91,slow=28,SNR=4.9						
MJAR				LR	LR	20 31 08.8	
	comp=Z,20nm,21.9s,baz=155,slow=32						
MAJO	**Matsushiro**	**5.30**	**256**	*e*Pn	**Pn**	**20 29 40.3**	**+0.7**
MAT	**Matsushiro**	**5.30**	**256**	P	**Pn**	**20 29 40.3**	**+0.6**
MAT				S	**Sn**	**20 30 40.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.30**	**256**	*e*Pn	**Pn**	**20 29 40.6**	**+0.9**
JHJ2	**Mitsune**	**6.22**	**220**	*e*Pn	**Pn**	**20 29 50.0**	**-2.2**
JHJ	**Hachijo jima 2**	**6.23**	**221**	Pn	**Pn**	**20 29 48.4**	**-4.0**
	23nm,0.3s,baz=225,slow=12,SNR=4.5						
JHJ				Sn	**Sn**	**20 30 55.6**	**-6.9**
	54nm,0.3s,baz=238,slow=22,SNR=8.1						
ASAJ	**Asahikawa**	**6.33**	**347**	Pn	**Pn**	**20 29 53.5**	**-0.3**
	1.7nm,0.3s,baz=191,slow=12,SNR=6.4						
ASAJ				Sn	**Sn**	**20 31 01.2**	**-3.7**
	1.5nm,0.3s,baz=266,slow=22,SNR=3.5						
INU	**Inuyama**	**6.64**	**249**	*e*Pn	**Pn**	**20 29 57.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.38**	**307**	Pn	**Pn**	**20 31 04.2**	**+1.3**
	0.2nm,0.3s,baz=100,slow=13,SNR=3.5						
JNU	**Nakatsue**	**12.18**	**251**	LR	LR	20 35 39.2	
	comp=Z,45nm,18.4s,baz=139,slow=36						
KSRS	**Korea Array**	**13.23**	**273**	Pn	**Pn**	**20 31 29.6**	**+1.3**
	0.4nm,0.3s,baz=84,slow=14,SNR=4.3						
KSRS				LR	LR	20 36 28.2	
	comp=Z,41nm,18.1s,baz=122,slow=37						
KS01	**Wonju Array Si**	**13.25**	**273**	*e*Pn	**Pn**	**20 31 28.6**	**+0.1**
KSAR	**Wonju Array Be**	**13.26**	**273**	Pn	**Pn**	**20 31 29.6**	**+0.9**
KLR	**Kul'dur**	**14.59**	**325**	Pn	**Pn**	**20 31 48.0**	**+1.3**
	0.0nm,0.3s,baz=142,slow=8.1,SNR=2.7						
SEY	**Seymchan**	**25.45**	**8**	P	**P**	**20 33 47.3**	**+0.1**
	1.5nm,0.6s,baz=250,slow=2.6,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**26.55**	**127**	T	T	21 01 20.9	
	baz=318,slow=74,SNR=17						
H11N1	**WAKE ISLAND Hy**	**26.56**	**127**	T	T	21 01 16.7	
	baz=318,slow=74,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**26.57**	**127**	T	T	21 01 19.3	
	baz=318,slow=74,SNR=6.7						
SONA1	**Songino Array**	**29.41**	**302**	*e*P	**P**	**20 34 21.4**	**-1.7**
SONA0	**Songino Array**	**29.41**	**302**	*e*P	**P**	**20 34 23.8**	**+0.7**
	9.4nm,2.0s						
SONM	**Songino Array**	**29.41**	**302**	P	**P**	**20 34 23.8**	**+0.7**
	0.2nm,0.4s,baz=87,slow=7.6,SNR=3.6						
GSTR	**Great Sitkin T**	**30.76**	**50**	*e*S	**S**	**20 39 35.0**	**-0.6**
ZAA1	**Zalesovo Array**	**43.18**	**312**	*e*P	**P**	**20 36 20.6**	**+0.5**
ZAA1				*e*PP	**PcP**	**20 38 09.4**	**+0.3**
ZALV	**Zalesovo Beam**	**43.18**	**312**	P	**P**	**20 36 20.6**	**+0.5**
	0.7nm,0.4s,baz=72,slow=4.8,SNR=5.2						
ZALV				PcP	**PcP**	**20 38 09.4**	**+0.3**
	1.5nm,0.5s,baz=106,slow=3.3,SNR=6.7						
SPU	**Mount Spurr**	**44.95**	**38**	*e*P	**P**	**20 36 33.0**	**-1.2**
MK01	**Makanchi Array**	**45.78**	**302**	*e*P	**P**	**20 36 41.7**	**0.6**
MK31	**Makanchi Array**	**45.78**	**302**	*e*P	**P**	**20 36 42.0**	**+0.9**
MK32	**Makanchi Array**	**45.78**	**302**	*e*P	**P**	**20 36 42.2**	**+1.1**
MKAR	**Makanchi Array**	**45.78**	**302**	P	**P**	**20 36 42.2**	**+1.1**
	0.9nm,0.7s,baz=82,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**45.78**	**302**	*e*P	**P**	**20 36 41.8**	**+0.7**
	8.1nm,0.6s						
ILAR	**Eielson Array**	**47.34**	**33**	P	**P**	**20 36 52.1**	**-0.9**
	0.4nm,0.6s,baz=259,slow=5.4,SNR=4.4						
KURK	**Kurchatov**	**47.37**	**308**	*e*P	**P**	**20 36 53.8**	**+0.4**
	3.1nm,0.7s						
HNR	**Honiara**	**49.28**	**160**	P	**P**	**20 37 08.6**	**+0.2**
	30nm,0.5s,baz=350,slow=6.1,SNR=2.9						
WR1	**Warramunga Arr**	**58.40**	**191**	*e*P	**P**	**20 38 13.3**	**-1.7**
	6.3nm,1.2s						
WRA	**Warramunga Arr**	**58.40**	**191**	P	**P**	**20 38 13.3**	**-1.7**
	0.9nm,0.6s,baz=13,slow=7.3,SNR=8.7						
ABKAR	**Akbulak array**	**59.27**	**311**	*e*P	**P**	**20 38 21.7**	**+0.8**
	8.1nm,0.6s						
RES	**Resolute Bay**	**61.05**	**15**	P	**P**	**20 38 33.7**	**+1.1**
	19nm,0.9s,baz=263,slow=8.1,SNR=3.0						
ASAR	**Alice Springs**	**62.12**	**191**	P	**P**	**20 38 39.0**	**-1.5**
	0.4nm,0.8s,baz=11,slow=9.9,SNR=5.4						
FIA0	**FINESS Array S**	**69.16**	**333**	*e*P	**P**	**20 39 25.4**	**0.0**
FINES	**FINESS Array B**	**69.16**	**333**	P	**P**	**20 39 25.4**	**0.0**
	1.5nm,0.7s,baz=108,slow=4.2,SNR=3.6						
KBZ	**Khabaz**	**72.20**	**312**	P	**P**	**20 39 45.9**	**+1.7**
	1.5nm,0.9s,baz=68,slow=2.6,SNR=2.9						
AKASG	**Malin Array Be**	**75.09**	**324**	P	**P**	**20 40 01.6**	**+0.5**
	0.3nm,0.2s,baz=43,slow=6.3,SNR=3.6						
PDAR	**Pinedale Array**	**75.19**	**47**	P	**P**	**20 40 02.0**	**-0.2**
	0.3nm,0.6s,baz=270,slow=2.7,SNR=2.6						

IDC 04 20:29:31.0±4.3, 35°.52N×141°.71E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/51, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=119.8km s-min=30.7km az=57.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.01**	**291**	Pn	Pn	20 30 19.7	-0.3
	0.8nm,0.3s,baz=106,slow=9.1,SNR=2.2						
USRK	**Ussuriysk Ar.**	**11.43**	**322**	Pn	Pn	20 32 15.6	+0.1
	baz=100,slow=16,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**27.19**	**119**	T	T	21 03 39.7	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.20**	**119**	T	T	21 03 34.4	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.21**	**119**	T	T	21 03 37.1	
	baz=313,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.86**	**121**	T	T	21 04 27.6	
	baz=314,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**27.86**	**121**	T	T	21 04 30.9	
	baz=314,slow=76,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**27.88**	**121**	T	T	21 04 27.7	
	baz=314,slow=76,SNR=4.7						
WRA	**Warramunga Arr**	**55.60**	**188**	P	P	20 39 08.3	-0.2
	0.7nm,0.7s,baz=5.5,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**59.32**	**188**	P	P	20 39 34.8	0.0
	0.3nm,0.7s,baz=2.3,slow=6.3,SNR=4.1						

WEL 04 20:38:08.5±0.1, 40°.01S×176°.95E, h46km±2km, ML3.5/46, 23C-3D, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.07**	**250**	⇑P	Pn	20 38 15.7	0.0
PXZ				SN	Sn	20 38 21.1	+0.4
PXZ				AML	AML	20 38 21.8	
PXZ				AML	AML	20 38 22.1	
PXZ				AML	AML	20 38 22.1	
KAHZ	**Kahuranaki**	**0.22**	**346**	⇓P	Pn	20 38 16.1	-0.4
KAHZ				SN	Sn	20 38 21.7	-0.5
KAHZ				AML	AML	20 38 23.0	
PRHZ	**Porangahau**	**0.35**	**222**	⇑P	Pn	20 38 18.2	+0.5
PRHZ				AML	AML	20 38 26.1	
PRHZ				AML	AML	20 38 28.4	
CKHZ	**Cape Kidnapper**	**0.36**	**16**	PN	Pn	20 38 17.7	-0.1
CKHZ				AML	AML	20 38 25.6	
CKHZ				AML	AML	20 38 30.7	
WPHZ	**Waipukurau**	**0.39**	**261**	⇓P	Pn	20 38 17.8	-0.4
WPHZ				SN	Sn	20 38 24.7	-0.4
WPHZ				AML	AML	20 38 24.9	
KRHZ	**Kereru**	**0.57**	**309**	⇑P	Pn	20 38 19.1	-1.3
KRHZ				AML	AML	20 38 27.1	
KRHZ				AML	AML	20 38 27.1	
ANWZ	**Angora Road**	**0.58**	**218**	⇑P	Pn	20 38 20.8	+0.4
ANWZ				AML	AML	20 38 31.3	
ANWZ				AML	AML	20 38 33.1	
PNHZ	**Pukenui**	**0.58**	**279**	⇑P	Pn	20 38 19.5	-1.0
PNHZ				AML	AML	20 38 27.8	
PNHZ				AML	AML	20 38 27.8	
MCHZ	**McNeill Hill**	**0.59**	**341**	⇑P	Pn	20 38 20.2	-0.4
MCHZ				AML	AML	20 38 29.5	
MCHZ				AML	AML	20 38 29.8	
DVHZ	**Dannevirke**	**0.66**	**244**	⇑P	Pn	20 38 21.3	-0.3
DVHZ				AML	AML	20 38 31.0	
DVHZ				AML	AML	20 38 31.0	
KWHZ	**Kaweka Forest**	**0.71**	**325**	⇑P	Pn	20 38 21.1	-1.1
KWHZ				AML	AML	20 38 32.2	
KWHZ				AML	AML	20 38 33.6	
ARHZ	**Aropaoanui**	**0.74**	**3**	PN	Pn	20 38 20.7	-0.1
ARHZ				AML	AML	20 38 33.9	
ARHZ				AML	AML	20 38 35.1	
TSZ	**Takapari Road**	**0.76**	**266**	⇑PN	Pn	20 38 22.0	-0.8
TSZ				AML	AML	20 38 32.0	
TSZ				AML	AML	20 38 32.7	
BHHZ	**Black Hill Sta**	**0.85**	**307**	⇑PN	Pn	20 38 23.0	-1.2
BHHZ				AML	AML	20 38 33.5	
BHHZ				AML	AML	20 38 33.9	
BFZ	**Birch Farm**	**0.86**	**218**	⇑PN	Pn	20 38 24.2	0.0
BFZ				AML	AML	20 38 37.0	
BFZ				AML	AML	20 38 37.0	
BFZ				AML	AML	20 38 37.9	
BFZ				AML	AML	20 38 38.3	
BKZ	**Black Stump Fm**	**0.91**	**337**	PN	Pn	20 38 23.7	-1.2
BKZ				AML	AML	20 38 35.8	
BKZ				AML	AML	20 38 35.9	
NMHZ	**Naumai**	**0.92**	**353**	⇑PN	Pn	20 38 24.7	-0.3
NMHZ				AML	AML	20 38 38.0	
NMHZ				AML	AML	20 38 38.2	
PRWZ	**Pori Road**	**0.92**	**233**	PN	Pn	20 38 25.1	0.0
PRWZ				AML	AML	20 38 39.3	
PRWZ				AML	AML	20 38 40.8	
WHHZ	**Waihua**	**0.96**	**14**	AML	AML	20 38 44.3	
WHHZ				AML	AML	20 38 47.8	
POWZ	**Post Office Ro**	**0.98**	**247**	PN	Pn	20 38 25.5	-0.3
POWZ				AML	AML	20 38 38.9	
POWZ				AML	AML	20 38 42.8	
CPWZ	**Castlepoint**	**1.06**	**212**	PN	Pn	20 38 27.3	+0.3
CPWZ				AML	AML	20 38 43.0	
CPWZ				AML	AML	20 38 43.0	
MOVZ	**Moawhango**	**1.10**	**303**	⇑PN	Pn	20 38 26.9	-0.6
TIWZ	**Tintock**	**1.12**	**226**	PN	Pn	20 38 27.2	-0.5
TIWZ				AML	AML	20 38 44.0	
TIWZ				AML	AML	20 38 44.3	
MHGZ	**Mahia Peninsul**	**1.13**	**41**	PN	Pn	20 38 28.2	+0.3
KNZ	**Kokohu**	**1.13**	**30**	⇑PN	Pn	20 38 27.5	-0.3
KNZ				AML	AML	20 39 22.9	
MRZ	**Mangatainoka R**	**1.23**	**238**	⇑PN	Pn	20 38 28.7	-0.6
MRZ				*e*SN	Sn	20 38 42.8	-1.9
MRZ				AML	AML	20 38 44.5	
MRHZ	**Matea Rd**	**1.24**	**341**	PN	Pn	20 38 29.1	-0.4
MRHZ				AML	AML	20 38 45.6	
MRHZ				AML	AML	20 38 48.2	
TUVZ	**Tukino**	**1.24**	**306**	PN	Pn	20 38 29.4	-0.1
WNVZ	**Wahianoa**	**1.24**	**303**	⇑PN	Pn	20 38 29.5	-0.1
SNGZ	**Shannon Statio**	**1.26**	**14**	PN	Pn	20 38 29.5	-0.2
SNGZ				AML	AML	20 38 47.3	
SNGZ				AML	AML	20 38 47.4	
OHWZ	**Ohakea**	**1.27**	**260**	PN	Pn	20 38 30.2	+0.5
WHVZ	**Whangaehu Hut**	**1.27**	**304**	⇑PN	Pn	20 38 30.0	0.0
DRZ	**Dome Shelter**	**1.29**	**304**	PN	Pn	20 38 30.4	0.0
MTVZ	**Mangateitei**	**1.30**	**298**	PN	Pn	20 38 30.4	+0.2
OTVZ	**Oturere**	**1.30**	**310**	PN	Pn	20 38 30.0	-0.4
PRGZ	**Paritu Road**	**1.30**	**34**	PN	Pn	20 38 30.0	-0.2
PRGZ				AML	AML	20 39 16.3	
FWVZ	**Far West T-bar**	**1.31**	**304**	PN	Pn	20 38 30.6	+0.1
RITZ	**Rihia Road**	**1.33**	**320**	⇑PN	Pn	20 38 30.6	0.0
NGZ	**Ngauruhoe**	**1.33**	**308**	PN	Pn	20 38 30.4	-0.3
KRVZ	**Karewarewa**	**1.36**	**312**	PN	Pn	20 38 30.8	-0.3
TMWZ	**Te Maipa**	**1.36**	**216**	PN	Pn	20 38 30.4	-0.6
TMWZ				AML	AML	20 38 48.3	
TMWZ				AML	AML	20 38 48.7	
WTVZ	**West Tongariro**	**1.38**	**310**	PN	Pn	20 38 31.2	-0.1
RTZ	**Ruatahuna**	**1.39**	**1**	⇑PN	Pn	20 38 30.9	-0.6
HOWZ	**Holdsworth Sta**	**1.41**	**230**	PN	Pn	20 38 30.8	-0.9
HOWZ				AML	AML	20 38 48.7	
HOWZ				AML	AML	20 38 48.9	
PKVZ	**Pokaka**	**1.43**	**300**	PN	Pn	20 38 32.0	+0.1
RIGZ	**Rimuhau**	**1.45**	**26**	PN	Pn	20 38 32.1	-0.1
RIGZ				AML	AML	20 38 51.7	
RIGZ				AML	AML	20 38 53.7	
RATZ	**Rangitukua**	**1.46**	**321**	PN	Pn	20 38 31.9	-0.4
TWVZ	**Taurewa**	**1.49**	**308**	PN	Pn	20 38 32.3	-0.6
ALRZ	**Allen Road**	**1.52**	**342**	⇓PN	Pn	20 38 32.7	-0.5
WAZ	**Wanganui**	**1.53**	**279**	PN	Pn	20 38 34.0	+0.7
MUGZ	**Murupara**	**1.53**	**355**	PN	Pn	20 38 32.8	-0.6
RAGZ	**Rawiri**	**1.55**	**14**	⇑PN	Pn	20 38 33.1	-0.7
RAGZ				AML	AML	20 38 53.3	
RAGZ				AML	AML	20 38 54.8	
OGWZ	**Otaki Gorge**	**1.58**	**239**	PN	Pn	20 38 33.2	-0.8
OGWZ				AML	AML	20 38 52.7	
OGWZ				AML	AML	20 38 52.7	
MTW	**Mount Morrison**	**1.59**	**223**	PN	Pn	20 38 32.9	-1.3
MTW				AML	AML	20 38 54.0	
MTW				AML	AML	20 38 54.2	
TRWZ	**Traveller**	**1.69**	**214**	AML	AML	20 38 33.2	
TRWZ				PN	Pn	20 38 34.1	-1.3
RRRZ	**Republican Roa**	**1.70**	**349**	PN	Pn	20 38 35.0	-0.7
MWZ	**Matawai**	**1.73**	**15**	⇑PN	Pn	20 38 35.1	-1.0
MWZ				AML	AML	20 39 00.8	
MWZ				AML	AML	20 39 19.5	
KUTZ	**Kaahu Road**	**1.75**	**330**	PN	Pn	20 38 35.7	-0.7
URZ	**Urewera**	**1.75**	**4**	⇑PN	Pn	20 38 35.3	-1.0
URZ				AML	AML	20 38 56.8	
URZ				AML	AML	20 38 56.9	
KIW	**Kapiti Island**	**1.77**	**241**	PN	Pn	20 38 35.9	-0.8
KIW				AML	AML	20 39 14.2	
PAWZ	**Paruwai Farm**	**1.79**	**220**	PN	Pn	20 38 35.5	-1.5
PAWZ				AML	AML	20 39 10.4	
TARZ	**Mount Tarawera**	**1.80**	**349**	⇑PN	Pn	20 38 36.7	-0.4
CAW	**Cannon Point**	**1.80**	**232**	PN	Pn	20 38 35.8	-1.3
CAW				AML	AML	20 38 58.7	
CAW				AML	AML	20 39 01.9	
CNGZ	**Carnagh Statio**	**1.81**	**33**	PN	Pn	20 38 36.7	-0.4
VRZ	**Vera Road**	**1.91**	**297**	PN	Pn	20 38 38.2	-0.3
MSWZ	**Moikau Station**	**1.91**	**222**	PN	Pn	20 38 36.7	-1.8
MSWZ				AML	AML	20 38 37.2	
TWGZ	**Tauwhareparae**	**2.00**	**24**	PN	Pn	20 38 39.7	-0.1
TWGZ				AML	AML	20 39 05.2	
TWGZ				AML	AML	20 39 07.4	
PLWZ	**Palliser**	**2.02**	**219**	PN	Pn	20 38 38.2	-1.9
PLWZ				AML	AML	20 39 03.2	
PLWZ				AML	AML	20 39 08.4	
RUGZ	**Raukumara Rang**	**2.12**	**16**	PN	Pn	20 38 40.0	-0.9
HIZ	**Hauiti**	**2.20**	**312**	PN	Pn	20 38 42.8	+0.3
PREZ	**Palmer Road**	**2.25**	**286**	PN	Pn	20 38 44.4	+1.1
NEZ	**North Egmont**	**2.32**	**288**	PN	Pn	20 38 45.6	+1.4
HAZ	**Te Kaha**	**2.34**	**16**	PN	Pn	20 38 43.4	-1.0
HAZ				AML	AML	20 39 12.7	
HAZ				AML	AML	20 39 13.1	
TCW	**Tory Channel**	**2.36**	**239**	PN	Pn	20 38 43.1	-1.6
TCW				AML	AML	20 39 11.9	
TCW				AML	AML	20 39 24.5	
KHEZ	**Kahui Hut**	**2.37**	**287**	*e*Pn	Pn	20 38 46.7	+1.8
DUWZ	**D'Urville Isla**	**2.44**	**250**	PN	Pn	20 38 44.5	-1.3
WMGZ	**Waiomatatini S**	**2.47**	**28**	PN	Pn	20 38 44.9	-1.2
WMGZ				AML	AML	20 39 15.1	
WMGZ				AML	AML	20 39 15.2	
TUWZ	**Tuamarina**	**2.69**	**237**	PN	Pn	20 38 47.3	-1.8
TUWZ				AML	AML	20 39 20.7	
BSWZ	**Blackbirch Sta**	**2.89**	**233**	PN	Pn	20 38 49.9	-2.0
NNZ	**Nelson**	**2.97**	**245**	PN	Pn	20 38 51.6	-1.4
QRZ	**Quartz Range**	**3.47**	**255**	PN	Pn	20 38 58.0	-1.9
LTZ	**Lake Taylor**	**4.48**	**230**	PN	Pn	20 39 10.8	-3.0
MQZ	**McQueen's Vall**	**4.89**	**220**	PN	Pn	20 39 16.7	-2.7
OXZ	**Oxford**	**4.95**	**226**	PN	Pn	20 39 17.9	-2.4

IASPEI ***04*** *20:39:52.6±1.0, 39°.41N±0°.02×33°.12E±0°.03, h5km±9km, Error ellipse: s-maj=4.9km s-min=3.3km az=84.7, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DDA ***04*** *20:39:52.7, 39°.38N×33°.13E, h7km, Ml2.5*
ISK ***04*** *20:39:52.8, 39°.42N×33°.11E, h4km, MD2.9*
CSEM ***04*** *20:39:53.1±0.1, 39°.40N×33°.11E, h2km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.5km az=81.0*
ISC 04 20:39:52.7±1.0, 39°.41N±0°.02×33°.12E±0°.03, h4km±9km, n37, σ0°52/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af˙ar-Bala (A**	**0.05**	**316**	PG	**Pg**	**20 39 54.2**	**+0.2**
AFSR	**Af˙ar-Bala (A**	**0.05**	**316**	*i* Pg	**Pg**	**20 39 54.2**	**+0.2**
BBAL	**Bala**	**0.14**	**1**	*i* P	**Pg**	**20 39 55.2**	**-0.2**
BBAL	**Bala**	**0.14**	**1**	P	**Pg**	**20 39 55.2**	**-0.2**
KKUL	**Konya-Kulu**	**0.28**	**214**	*i* P	**Pg**	**20 39 57.8**	**-0.4**
KKUL				*i* S	**Sg**	**20 40 01.7**	**-0.2**
KKUL	**Konya-Kulu**	**0.28**	**214**	P	**Pg**	**20 39 57.8**	**-0.4**
KKUL				S	**Sg**	**20 40 01.7**	**-0.2**
LOD	**Lodumlu**	**0.55**	**330**	*e*PG	**Pg**	**20 40 03.6**	**+0.3**
LOD				*e*SG	**Sb**	**20 40 12.1**	**-1.2**
LOD	**Lodumlu**	**0.55**	**330**	*e*Pg	**Pg**	**20 40 03.6**	**+0.3**
LOD				*e*Sg	**Sb**	**20 40 12.1**	**-1.2**
SERE	**Sereflikochisa**	**0.58**	**143**	*e*PG	**Pb**	**20 40 04.8**	**-0.6**
SERE				*e*SG	**Sb**	**20 40 13.7**	**-0.3**
SERE	**Sereflikochisa**	**0.58**	**143**	*e*Pg	**Pb**	**20 40 04.8**	**-0.6**
SERE				*e*Sg	**Sb**	**20 40 13.7**	**-0.3**
CHBY	**Cihanbeyli**	**0.84**	**192**	*e*PG	**Pg**	**20 40 09.1**	**+0.3**
CHBY	**Cihanbeyli**	**0.84**	**192**	*e*Pg	**Pg**	**20 40 09.1**	**+0.3**
CDAG	**Cicekdag**	**0.99**	**77**	*i* P	**Pg**	**20 40 11.6**	**-0.1**
CDAG	**Cicekdag**	**0.99**	**77**	P	**Pg**	**20 40 11.6**	**-0.1**
KDHN	**Kadinhani**	**1.18**	**222**	*i* P	**Pb**	**20 40 15.5**	**-0.2**
KDHN	**Kadinhani**	**1.18**	**222**	P	**Pb**	**20 40 15.5**	**-0.2**
CMDR	**Camlidere-ANKA**	**1.19**	**336**	*i* P	**

H11S3	WAKE ISLAND Hy 29.06 126	T	T	21 18 11.8		
	baz=318,slow=76,SNR=42					
H11S2	WAKE ISLAND Hy 29.07 126	T	T	21 18 17.4		
	baz=318,slow=76,SNR=13					
ZALV	Zalesovo Beam 41.55 311	P	P	20 48 48.8	-1.1	
	0.6nm,0.6s,baz=69,slow=8.2,SNR=3.0					
MKAR	Makanchi Array 43.98 301	P	P	20 49 06.7	-3.0	
	0.5nm,0.7s,baz=88,slow=9.7,SNR=5.4					
WRA	Warramunga Arr 58.27 189	P	P	20 50 56.5	-0.6	
	0.6nm,1.0s,baz=6.0,slow=7.1,SNR=4.0					
ASAR	Alice Springs 61.99 189	P	P	20 51 22.3	-0.3	
	0.1nm,0.5s,baz=12,slow=4.8,SNR=3.0					
TXAR	Lajitas Array 89.00 53	P	P	20 53 57.0	-0.7	
	0.2nm,0.7s,baz=265,slow=2.3,SNR=3.3					

WEL 04 20:43:39.7±0.8,35°.75S×178°.51E,h216km±7km,ML4.0/18, 1D, Error ellipse: s-maj=14.6km s-min=10.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.82	185	PN	Pn	20 44 17.7	+0.2
MXZ				SN	S	20 44 46.4	-0.6
WMGZ	Waiomatatini S	2.07	182	PN	Pn	20 44 20.4	+0.4
WMGZ				SN	S	20 44 52.7	+1.4
WMGZ				AML	AML	20 44 58.0	
HAZ	Te Kaha	2.09	196	PN	Pn	20 44 20.5	+0.4
HAZ				AML	AML	20 44 56.8	
HAZ				AML	AML	20 44 57.2	
PKGZ	Pakihiroa	2.16	189	PN	Pn	20 44 21.6	+0.6
PKGZ				AML	AML	20 44 57.5	
PKGZ				AML	AML	20 44 58.8	
RUGZ	Raukumara Rang	2.31	197	PN	Pn	20 44 22.8	+0.3
PUZ	Puketiti	2.33	185	PN	Pn	20 44 22.4	-0.3
PUZ				AML	AML	20 45 00.0	
PUZ				AML	AML	20 45 08.7	
TWGZ	Tauwhareparae	2.46	190	PN	Pn	20 44 25.1	+1.0
TWGZ				AML	AML	20 45 05.2	
TWGZ				AML	AML	20 45 06.2	
MWZ	Matawai	2.70	197	PN	Pn	20 44 27.6	+0.9
MWZ				AML	AML	20 45 07.3	
MWZ				AML	AML	20 45 14.6	
CNGZ	Carnagh Statio	2.74	185	AML	AML	20 44 22.3	
CNGZ				PN	Pn	20 44 27.9	+0.8
CNGZ				AML	AML	20 46 08.9	
URZ	Urewera	2.74	204	PN	Pn	20 44 27.7	+0.6
URZ				AML	AML	20 45 13.7	
URZ				AML	AML	20 45 14.9	
RAGZ	Rawiri	2.88	197	PN	Pn	20 44 29.4	+0.6
RAGZ				AML	AML	20 45 16.7	
RAGZ				AML	AML	20 45 25.8	
RIGZ	Rimuhau	3.01	191	PN	Pn	20 44 30.2	0.0
RIGZ				AML	AML	20 45 15.5	
RIGZ				AML	AML	20 45 19.8	
MUGZ	Murupara	3.06	207	PN	Pn	20 44 31.0	+0.3
RTZ	Ruatahuna	3.11	203	PN	Pn	20 44 31.4	-0.1
KNZ	Kokohu	3.33	191	PN	Pn	20 44 34.4	+0.5
KNZ				AML	AML	20 46 17.9	
KNZ				AML	AML	20 46 17.9	
MHGZ	Mahia Peninsul	3.43	188	PN	Pn	20 44 34.9	-0.1
NMHZ	Naumai	3.60	202	PN	Pn	20 44 38.0	+0.8
NMHZ				AML	AML	20 45 28.6	
NMHZ				AML	AML	20 45 42.4	
ARHZ	Aropaoanui	3.71	198	PN	Pn	20 44 38.9	+0.5
ARHZ				AML	AML	20 45 31.6	
BKZ	Black Stump Fm	3.77	205	PN	Pn	20 44 39.9	+0.7
BKZ				AML	AML	20 45 36.0	
BKZ				AML	AML	20 45 44.2	
MCHZ	McNeill Hill	3.96	201	PN	Pn	20 44 42.5	+1.0
KWHZ	Kaweka Forest	4.02	204	PN	Pn	20 44 42.7	+0.4
KWHZ				AML	AML	20 45 51.9	
KWHZ				AML	AML	20 45 54.3	
BHHZ	Black Hill Sta	4.21	207	PN	Pn	20 44 44.8	+0.2
KAHZ	Kahuranaki	4.24	197	PN	Pn	20 44 44.7	-0.2
KRHZ	Kereru	4.24	203	PN	Pn	20 44 44.5	-0.4
KRHZ				AML	AML	20 45 41.1	
WNVZ	Wahianoa	4.25	212	PN	Pn	20 44 45.8	+0.6
MOVZ	Moawhango	4.26	210	PN	Pn	20 44 45.0	-0.2
PXZ	Pawanui	4.47	196	PN	Pn	20 44 47.6	-0.1
PNHZ	Pukenui	4.54	203	PN	Pn	20 44 48.0	-0.6
PRHZ	Porangahau	4.75	198	PN	Pn	20 44 50.6	-0.6
DVHZ	Dannevirke	4.90	201	PN	Pn	20 44 52.5	-0.7
PRWZ	Pori Road	5.20	202	PN	Pn	20 44 56.0	-0.8
BFZ	Birch Farm	5.24	199	PN	Pn	20 44 56.9	-0.4
MRZ	Mangatainoka R	5.42	204	PN	Pn	20 44 58.4	-1.2
MRZ				AML	AML	20 45 34.1	
MRZ				AML	AML	20 46 08.5	
HOWZ	Holdsworth Sta	5.65	204	PN	Pn	20 45 01.0	-1.7
KIW	Kapiti Island	5.83	208	PN	Pn	20 45 03.3	-1.7
MTW	Mount Morrison	5.89	203	PN	Pn	20 45 04.0	-1.7
CAW	Cannon Point	5.99	206	PN	Pn	20 45 05.2	-1.7
TCW	Tory Channel	6.38	210	PN	Pn	20 45 10.1	-1.8
QRZ	Quartz Range	6.91	221	PN	Pn	20 45 17.0	-1.8
KHZ	Kahutara	7.70	209	PN	Pn	20 45 26.8	-2.0

*ISK **04** 20:50:14.7,34°.59N×28°.15E,h10km,MD3.7*
*CSEM **04** 20:50:23.8±0.5,35°.12N×27°.94E,h20km,ML2.5,Error ellipse: s-maj=13.0km s-min=4.9km az=152.0*
*ISCJB **04** 20:50:24.0±1.8,35°.14N±0°.09×27°.91E±0°.06,h27km±12km, Error ellipse: s-maj=15.8km s-min=5.0km az=153.8*
*THE **04** 20:50:26.1,35°.21N×27°.89E,h21km±4km,ML2.5/4,Error ellipse: s-maj=5.4km s-min=1.1km az=141.0*
*ATH **04** 20:50:26.7,35°.34N×27°.70E,h50km±8km,ML2.5/3,Error ellipse: s-maj=9.9km s-min=1.8km az=320.0*
*DDA **04** 20:50:36.2,36°.15N×28°.22E,h7km,Ml2.7*

ISC 04 20:50:22.8±1.8,35°.09N±0°.07×27°.93E±0°.04,h11km±11km, n66,σ1§48/80,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.78	306	*e*PN	Pb	20 50 38.8	+0.3
KARP				*e*SN	Sn	20 50 56.4	+4.8
KARP	Karpathos	0.78	306	P	Pb	20 50 39.0	+0.5
KARP				S	Sg	20 50 48.6	+0.5
KARP	Karpathos	0.78	306	P	Pg	20 50 38.5	+0.6
KARP				S	Sg	20 50 46.3	-1.8
KARP				AML	AML	20 51 01.7	
	comp=E,1140μm,0.4s						
KARP				AML	AML	20 51 02.3	
	comp=N,1316μm,0.4s						
KARP	Karpathos	0.78	306	P	Pg	20 50 38.5	+0.6
KARP				S	Sg	20 50 46.3	-1.8
ARG	Arkhangelos	1.14	8	P	Pb	20 50 44.1	-0.4
ARG				S	Sg	20 50 57.2	-2.3
ARG	Arkhangelos	1.14	8	P	Pn	20 50 45.0	+0.3
ARG				S	Sg	20 50 57.0	-2.5
ARG				AML	AML	20 51 15.0	
	comp=N,618μm,0.9s						
ARG				AML	AML	20 51 19.5	
	comp=E,493μm,0.7s						
ARG	Arkhangelos	1.14	8	P	Pn	20 50 45.0	+0.3
ARG				S	Sg	20 50 57.0	-2.5
ZKR	Zakros	1.41	272	P	Pn	20 50 48.4	0.0
ZKR				S	Sn	20 51 06.3	-0.7
ZKR	Zakros	1.41	272	P	Pn	20 50 48.2	-0.3
ZKR	Zakros	1.41	272	P	Pn	20 50 48.4	0.0
ZKR				S	Sn	20 51 06.3	-0.7
NIS1	Nisyros Isl.	1.63	338	*e*PN	Pn	20 50 51.7	+0.2
NIS1	Nisyros Isl.	1.63	338	P	Pn	20 50 49.2	-2.3
NIS1	Nisyros Isl.	1.63	338	P	Pn	20 50 49.2	-2.3
NIS1	Nisyros Isl.	1.63	338	*e*Pn	Pn	20 50 51.7	+0.2
DAT	Datca	1.66	350	*e*PN	Pn	20 50 51.5	-0.5
DAT	Datca	1.66	350	*i* P	Pn	20 50 51.8	-0.3
DAT				*i* S	Sg	20 51 21.3	+4.9
DAT	Datca	1.66	350	*e*Pn	Pn	20 50 51.5	-0.5
DAT	Datca	1.66	350	P	Pn	20 50 51.8	-0.3
AKAS	Kas	1.78	49	*i* P	Pn	20 50 52.7	-0.9
AKAS				*i* S	Sg	20 51 25.2	+5.2
AKAS	Kas	1.78	49	P	Pn	20 50 52.7	-0.9
FETY	Fethiye	1.81	31	*e*PN	Pn	20 50 52.0	-1.9
FETY	Fethiye	1.81	31	P	Pn	20 50 52.9	-1.0
FETY	Fethiye	1.81	31	*e*Pn	Pn	20 50 52.0	-1.9
FETY	Fethiye	1.81	31	P	Pn	20 50 53.2	-0.7
DALY	Dalyan (Mu¯la	1.82	18	*e*PN	Pn	20 50 53.2	-0.9
DALY	Dalyan (Mu¯la	1.82	18	*e*Pn	Pn	20 50 53.2	-0.9
NPS	Neapolis	1.91	276	P	Pn	20 50 56.0	+0.7
NPS	Neapolis	1.91	276	P	Pn	20 50 56.2	+0.9
NPS				S	Sn	20 51 17.8	-1.5
NPS				AML	AML	20 51 38.2	
	comp=E,161μm,0.7s						
NPS				AML	AML	20 51 47.4	
	comp=N,174μm,1.1s						
NPS	Neapolis	1.91	276	P	Pn	20 50 56.3	+0.9
NPS				S	Sn	20 51 17.9	-1.5
BDRM	Kayabasi	2.01	349	*i* P	Pn	20 50 48.9	-7.9
LAST	Lasithi	2.01	273	P	Pn	20 50 56.3	-0.5
LAST				S	Sn	20 51 21.1	-1.0
LAST	Lasithi	2.01	273	P	Pn	20 50 55.8	-1.1
LAST	Lasithi	2.01	273	P	Pn	20 50 55.8	-1.1
LAST				S	Sn	20 51 21.1	-1.0
BODT	Bodrum	2.04	346	*e*PN	Pn	20 50 58.0	+0.9
BODT	Bodrum	2.04	346	P	Pn	20 50 56.1	-1.0
BODT	Bodrum	2.04	346	P	Pn	20 50 56.1	-1.0
BODT	Bodrum	2.04	346	*e*Pn	Pn	20 50 58.0	+0.9
MLSB	Milas	2.21	357	*e*PN	Pn	20 50 59.6	+0.1
MLSB	Milas	2.21	357	*e*Pn	Pn	20 50 59.6	+0.1
GLHS	Gihisar (BURDU	2.42	31	*e*PN	Pn	20 51 00.5	-2.0
GLHS	Gihisar (BURDU	2.42	31	*e*Pn	Pn	20 51 00.5	-2.0
IDI	Anoyia	2.50	275	P	Pn	20 51 04.3	+0.8
IDI	Anoyia	2.50	275	P	Pn	20 51 04.3	+0.8
TAVA	DENIZLI_Tavas	2.50	18	*i* P	Pn	20 51 03.5	-0.1
TAVA	DENIZLI_Tavas	2.50	18	P	Pn	20 51 03.5	-0.1
GOLH	Golhisar	2.52	31	*i* P	Pn	20 51 04.4	+0.6
GOLH				*i* S	Sg	20 51 42.0	-1.7
GOLH	Golhisar	2.52	31	P	Pn	20 51 04.4	+0.6
SIVA	Sivas	2.56	269	P	Pn	20 51 04.8	+0.5
SIVA	Sivas	2.56	269	P	Pn	20 51 04.8	+0.5
AYDN	Tasoluk	2.57	359	*i* P	Pn	20 51 04.1	-0.4
AYDN	Tasoluk	2.57	359	P	Pn	20 51 04.1	-0.4
DNZL	Cakiroluk	2.75	19	*i* P	Pn	20 50 55.3	-12
APE	Apeiranthos	2.77	316	*e*PN	Pn	20 51 07.4	+0.1
APE	Apeiranthos	2.77	316	P	Pn	20 51 06.8	-0.5
APE	Apeiranthos	2.77	316	P	Pn	20 51 06.8	-0.5
APE	Apeiranthos	2.77	316	*e*Pn	Pn	20 51 07.4	+0.1
AYDB	Zeytinkoy-Aydi	2.85	359	*e*PN	Pn	20 51 08.9	+0.5
AYDB	Zeytinkoy-Aydi	2.85	359	*e*Pn	Pn	20 51 08.9	+0.5
VAM	Vamos	3.07	277	P	Pn	20 51 09.9	-1.4
VAM	Vamos	3.07	277	P	Pn	20 51 09.9	-1.4
IMMV	Iera Moni Meta	3.25	278	P	Pn	20 51 14.6	+0.8
IMMV	Iera Moni Meta	3.25	278	P	Pn	20 51 15.2	+1.4
IMMV	Iera Moni Meta	3.25	278	P	Pn	20 51 15.2	+1.4
VLI	Veliai	4.37	293	P	Pn	20 51 28.4	-0.8
VLI	Veliai	4.37	293	P	Pn	20 51 27.7	-1.4
VLI	Veliai	4.37	293	P	Pn	20 51 28.4	-0.8

*ISN **04** 20:55:21.6±0.6,38°.41N×39°.71E,h0km±66km,ML3.4*
*NSSC **04** 20:55:30.7±1.8,38°.74N×39°.97E,h17km±54km,ML2.9*
*DDA **04** 20:55:32.0,38°.61N×39°.68E,h14km,Ml3.4*
*ISK **04** 20:55:31.1,38°.62N×39°.74E,h5km,MD3.4*
*ISCJB **04** 20:55:32.2±0.5,38°.58N±0°.02×39°.73E±0°.03,h5km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=140.8*
*CSEM **04** 20:55:32.6±0.2,38°.62N×39°.76E,h2km,MD3.4,Error ellipse: s-maj=4.5km s-min=4.1km az=23.0*

ISC 04 20:55:32.4±1.1,38°.60N±0°.02×39°.75E±0°.02,h7km±9km, n87,σ1§15/111,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.40	317	*e*PG	Pg	20 55 39.5	-0.8
PTK				*e*SG	Sg	20 55 46.0	+0.4
PTK	Pertek	0.40	317	*e*Pg	Pg	20 55 39.5	-0.8
PTK				*e*Sg	Sg	20 55 46.0	+0.4
SVRC	Sivrice-ELAZID	0.41	237	*e*PG	Pg	20 55 40.1	-0.3
SVRC				*e*SG	Sg	20 55 47.3	+1.5
SVRC	Sivrice-ELAZID	0.41	237	*e*Pg	Pg	20 55 40.2	-0.3
SVRC				*e*Sg	Sg	20 55 47.3	+1.5
TNCL	Tunceli-Merkez	0.54	343	*i* P	Pg	20 55 42.0	-0.8
TNCL				*i* S	Sg	20 55 50.6	+0.7
TNCL	Tunceli-Merkez	0.54	343	P	Pg	20 55 42.0	-0.8
TNCL				S	Sg	20 55 50.6	+0.7
ELZG	Elazig	0.60	260	*i* P	Pg	20 55 42.8	-1.3
ELZG				*i* S	Sb	20 55 55.5	+1.2
ELZG	Elazig	0.60	260	P	Pg	20 55 42.8	-1.3
ELZG				S	Sb	20 55 55.5	+1.2
DIYA	Diyarbakir	0.74	156	*i* P	Pb	20 55 47.6	0.0
DIYA	Diyarbakir	0.74	156	P	Pb	20 55 47.6	0.0
BNGB	Bing¯¶l	0.83	62	*e*PG	Pb	20 55 47.7	-1.5
BNGB				*e*SG	Sb	20 56 00.6	+0.1
ERZN	Erzincan	0.98	359	*e*PG	Pg	20 55 50.3	-1.1
ERZN				*e*SG	Sb	20 56 05.4	+0.2
YEDI	Yedisu-Bingol	1.04	36	*e*PG	Pg	20 55 51.4	-1.0
YEDI	Yedisu-Bingol	1.04	36	*e*Pg	Pg	20 55 51.4	-1.0
REFA	Refahiye_ERZ¯	1.10	316	*i* P	Pn	20 55 59.4	+5.0
EUZM	Uzumlu	1.10	358	*i* P	Pg	20 55 52.6	-1.0
EUZM				*i* S	Sn	20 56 09.7	-0.3
EUZM	Uzumlu	1.10	358	P	Pg	20 55 52.6	-1.0
EUZM				S	Sn	20 56 09.7	-0.3
BNGL	BINGOL	1.15	72	*i* P	Pn	20 55 54.7	-0.4
KEMA	Kemaliye	1.18	305	*i* P	Pg	20 55 52.7	-2.4
KEMA	Kemaliye	1.18	305	P	Pg	20 55 52.7	-2.4
SVAN	Silvan-Diyarba	1.23	111	*e*PN	Pn	20 55 55.9	-0.2
SVAN	Silvan-Diyarba	1.23	111	*i* P	Pn	20 55 55.8	-0.2
SVAN				*i* S	Sn	20 56 14.6	+1.7
SVAN	Silvan-Diyarba	1.23	111	P	Pn	20 55 55.8	-0.2
SVAN				S	Sn	20 56 14.6	+1.7
MAZI	Mazidag	1.27	154	*e*PN	Pn	20 55 56.4	-0.2
MAZI	Mazidag	1.27	154	*e*Pn	Pn	20 55 56.4	-0.2
URFA	Urfa	1.37	212	*e*PN	Pg	20 55 58.5	-0.2
URFA	Urfa	1.37	212	*e*Pn	Pg	20 55 58.5	-0.2
BTMN	Batman	1.39	120	*i* P	Pg	20 55 59.2	0.0
BTMN	Batman	1.39	120	P	Pg	20 55 59.2	0.0
VRTB	Varto-Mus	1.45	67	*e*PN	Pg	20 55 59.6	-0.6
VRTB	Varto-Mus	1.45	67	*e*Pn	Pg	20 55 59.6	-0.6
MARD	Mardin	1.52	147	*i* P	Pg	20 56 00.7	-0.9
KOPT	Kop Dagi	1.53	22	*i* P	Pg	20 56 01.4	-0.4
KOPT	Kop Dagi	1.53	22	P	Pg	20 56 01.4	-0.4
KELT	Kelkit	1.59	346	*i* P	Pn	20 56 01.1	-0.1
KELT	Kelkit	1.59	346	P	Pn	20 56 01.1	-0.1
DARE	Darende-Malaty	1.77	270	*e*PN	Pn	20 56 03.9	+0.3
DARE	Darende-Malaty	1.77	270	*e*Pn	Pn	20 56 03.9	+0.3
CUKAN	kangal_SIVAS	1.92	293	*i* P	Pb	20 56 07.1	-0.6
CUKAN	kangal_SIVAS	1.92	293	P	Pb	20 56 07.1	-0.6
SURC	SANLIURFA_SURC	1.94	208	*i* P	Pb	20 56 07.1	-1.0
SURC	SANLIURFA_SURC	1.94	208	P	Pb	20 56 07.1	-1.0
SUSE	Susehri	2.00	324	*i* P	Pb	20 56 08.9	-0.3
SUSE	Susehri	2.00	324	P	Pb	20 56 08.9	-0.3
SFNV	Sufian	2.20	172	*e*P	Pn	20 56 10.2	+0.8
SFNV				*e*S	Sn	20 56 35.4	-1.5
SFNV				AML	AML	20 56 53.0	
	comp=Z,499nm,0.5s						
SFNV	Sufian	2.20	172	*e*P	Pn	20 56 10.0	+0.6
SFNV				*e*S	Sb	20 56 37.8	-2.2
SFNV				AML	AML	20 56 52.3	
	comp=Z,499nm,0.5s						
KTUT	Trabzon	2.38	0	*e*PN	Pn	20 56 13.0	+1.1
KTUT	Trabzon	2.38	0	*e*Pn	Pn	20 56 13.0	+1.1
GAZ	Gaziantep	2.46	235	*e*PN	Pn	20 56 14.0	+1.0
GAZ	Gaziantep	2.46	235	*e*Pn	Pn	20 56 14.0	+1.0
KMRS	Kahramanmaras	2.50	245	*e*PN	Pn	20 56 14.8	+1.3
KMRS	Kahramanmaras	2.50	245	*e*Pn	Pn	20 56 14.8	+1.3
SVSK	Karacayir	2.50	302	*e*PN	Pn	20 56 15.1	+1.6
SVSK	Karacayir	2.50	302	*e*Pn	Pn	20 56 15.1	+1.6
RSDY	Resadiye-TOKAT	2.59	315	*e*PN	Pn	20 56 16.3	+1.5
RSDY	Resadiye-TOKAT	2.59	315	*e*Pn	Pn	20 56 16.3	+1.5
SARI	SarD1z-Kayseri	2.62	267	*e*PN	Pn	20 56 15.6	+0.3
AGRB	Hanur-Agry	2.71	68	*e*PN	Pn	20 56 17.8	+1.3
AGRB	Hanur-Agry	2.71	68	*e*Pn	Pn	20 56 17.8	+1.3
SLMH	Al Salmeh	2.79	212	*e*P	Pn	20 56 17.4	-0.1
SLMH				*e*S	Sn	20 56 51.1	-0.2
SLMH				AML	AML	20 57 23.8	
	comp=Z,86nm,0.5s						
SLMH	Al Salmeh	2.79	212	*e*P	Pn	20 56 18.1	+0.6
SLMH				*e*S	Sn	20 56 51.2	-0.2
SLMH				AML	AML	20 57 23.8	
	comp=Z,86nm,0.5s						
SENK	Senkaya-Erzuru	2.81	45	*e*PN	Pn	20 56 18.9	+1.0
SENK	Senkaya-Erzuru	2.81	45	*e*Pn	Pn	20 56 18.9	+1.0
VANB	Van	2.85	89	*e*PN	Pn	20 56 19.8	+1.3
VANB	Van	2.85	89	*e*Pn	Pn	20 56 19.8	+1.3
MZRK	Al-Mazaregh	2.86	165	*e*P	Pn	20 56 17.3	-1.2
MZRK				*e*S	Sn	20 56 50.5	-2.7
MZRK	Al-Mazaregh	2.86	165	*e*P	Pn	20 56 18.8	+0.3
MZRK				*e*S	Sn	20 56 52.9	-0.3
MZRK				AML	AML	20 57 07.0	
	comp=Z,227nm,0.5s						
BNN	Bunyan	3.06	276	*e*PN	Pn	20 56 22.4	+1.1
BNN	Bunyan	3.06	276	*e*Pn	Pn	20 56 22.4	+1.1
DRWC	Darouich	3.14	232	*e*P	Pn	20 56 22.2	-0.3
DRWC				*e*S	Sn	20 57 01.7	+1.5
DRWC				AML	AML	20 57 18.6	
	comp=N,41nm,0.6s						
DRWC				AML	AML	20 57 30.4	
	comp=E,69nm,0.6s						
DRWC	Darouich	3.14	232	*e*P	Pn	20 56 22.1	-0.4
DRWC				*e*S	Sn	20 56 56.9	-3.3
DRWC				AML	AML	20 57 18.6	
	comp=N,41nm,0.6s						
DRWC				AML	AML	20 57 30.4	
	comp=E,69nm,0.6s						
KOZT	Kozan	3.29	251	*e*PN	Pn	20 56 26.0	+1.6
KOZT	Kozan	3.29	251	*e*Pn	Pn	20 56 26.0	+1.6
CUKT	Cukurca	3.34	113	*e*PN	Pn	20 56 26.8	+1.6
CUKT	Cukurca	3.34	113	*e*Pn	Pn	20 56 26.8	+1.6
TAHT	Tahtakopru-Hat	3.60	233	*e*PN	Pn	20 56 30.4	+1.8
TAHT	Tahtakopru-Hat	3.60	233	*e*Pn	Pn	20 56 30.4	+1.8
BTCH	Batrach	3.66	227	*e*P	Pn	20 56 30.3	+0.7
BTCH				*e*S	Sn	20 57 13.4	+0.4
BTCH				AML	AML	20 57 38.4	
	comp=N,63nm,0.5s						
BTCH				AML	AML	20 57 40.9	
	comp=E,129nm,0.7s						
BTCH	Batrach	3.66	227	*e*P	Pn	20 56 30.1	+0.5
BTCH				AML	AML	20 57 30.7	
	comp=N,28nm,0.3s						
BTCH				AML	AML	20 57 32.9	
	comp=E,75nm,0.4s						
YAYL	Yayladag	3.87	230	*e*PN	Pn	20 56 34.1	+1.7
YAYL	Yayladag	3.87	230	*e*Pn	Pn	20 56 34.1	+1.7
ARNB	Al Arnab	4.07	229	*e*P	Pn	20 56 35.0	-0.1
ARNB				*e*S	Sn	20 57 23.0	-0.1
ARNB				AML	AML	20 57 48.8	
	comp=E,33nm,0.7s						
ARNB				AML	AML	20 57 59.3	
	comp=N,38nm,0.7s						
ARNB	Al Arnab	4.07	229	*e*P	Pn	20 56 33.8	-1.3
ARNB				AML	AML	20 57 03.2	
	comp=E,14nm,0.4s						
ARNB				AML	AML	20 57 10.2	
	comp=N,13nm,0.6s						
CORM	Corum	4.26	293	*e*PN	Pn	20 56 39.6	+1.7
CORM	Corum	4.26	293	*e*Pn	Pn	20 56 39.6	+1.7
MARH	Ras Al Marh	5.27	211	*e*P	Pn	20 56 53.8	+1.9
MARH				*e*S	Sn	20 57 52.1	-0.9
MARH				AML	AML	20 58 30.2	
	comp=N,21nm,0.6s						
MARH				AML	AML	20 58 51.3	
	comp=E,12nm,0.6s						
RTB	Rutbah	5.58	175	*e*Sn	Sn	20 58 00.0	-0.2
	SNR=2.0						

*ISCJB **04** 21:00:22.6±0.3,21°.45S±0°.04×170°.07E±0°.04,h36km, mb4.8/47,MS3.9/18,Error ellipse: s-maj=5.8km s-min=5.3km az=31.1*
*IDC **04** 21:00:26.6±1.9,21°.53S×170°.06E,h64km±14km,mb4.2/17, mb1 4.3/19,mb1mx4.2/43,mbtmp4.5/19,MS3.7/18, Ms1 3.7/18,ms1mx3.6/22,Error ellipse: s-maj=14.6km s-min=12.6km az=57.0*
*BJI **04** 21:00:27.3,21°.06S×170°.15E,h68km,mb4.8/28,mB5.1/20, Ms5.0/6,Ms7 4.6/8*
*NEIC **04** 21:00:29.1±0.8,21°.51S×170°.02E,h84km±7km,mb4.9/29, Error ellipse: s-maj=6.7km s-min=5.6km az=52.0*

ISC 04 21:00:23.7±0.4,21°.46S±0°.06×170°.12E±0°.05,h36km,n179, σ1§60/181,mb4.8/46,MS3.8/18,8C-5D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.47	259	P	Pn	21 01 18.1	+2.8
	259nm,0.3s,baz=85,slow=9.3,SNR=1430						
DZM				S	Sn	21 01 55.8	+0.6
	48nm,0.3s,baz=110,slow=13,SNR=3.8						
DZM				LR	LR	21 02 29.5	
	comp=Z,855nm,21.4s,baz=206,slow=36						
DZM	Mont Dzumac	3.47	259	*e*Pn	Pn	21 01 17.0	+1.7
	402nm,0.2s						
DZM				*e*Sn	Sn	21 01 54.4	-0.8
	3μm,0.3s						
DZM	Mont Dzumac	3.47	259	*e*Pn	Pn	21 01 16.8	+1.5
DZM				*e*Sn	Sn	21 01 54.5	-0.7
NFK	Norfolk Island	7.81	194	P	Pn	21 02 16.6	+1.8
	baz=7.8,SNR=7.1						
MSVF	Nonsavu	8.34	65	*e*Pn	Pn	21 02 29.9	+7.8
RAO	Raoul Island	13.30	128	LR	LR	21 07 38.1	
	comp=Z,435nm,21.2s,baz=324,slow=32						
OUZ	Omahuta	14.05	168	*e*Pn	Pn	21 03 44.4	+4.3
OUZ				*e*Sn	Sn	21 06 09.6	-5.1
HNR	Honiara	15.45	319	P	P	21 04 02.4	-0.7
	12nm,0.3s,baz=245,slow=5.0,SNR=11						

baz=28,SNR=3.1
QIS Mount Isa 28.48 266 P **P 21 06 15.6 -0.1**
baz=28,SNR=3.4
HTT Hallett 30.03 240 P **P 21 06 30.3 +0.9**
baz=30,SNR=4.6
AS01 Alice Springs 33.42 259 *eP* **P 21 06 58.8 -0.5**
WB2 Warramunga Arr 33.45 266 *eP* **P 21 06 58.8 -0.7**
WRAB Tennant Creek 33.46 266 *eP* **P 21 06 58.8 -0.7**
16nm,1.1s
AS31 Alice Springs 33.46 259 *eP* **P 21 06 58.7 -0.9**
3.1nm,0.8s
WRA Warramunga Arr 33.46 266 P **P 21 06 58.8 -0.8**
6.4nm,0.5s,baz=98,slow=8.4,SNR=47
WRA LR LR 21 20 36.1
comp=Z,246nm,19.9s,baz=90,slow=36
ASAR Alice Springs 33.47 259 P **P 21 06 59.3 -0.3**
5.8nm,0.7s,baz=76,slow=8.7,SNR=80
ASAR PcP **PcP 21 09 39.5 -0.9**
0.7nm,0.7s,baz=87,slow=4.8,SNR=3.3
ASAR LR LR 21 21 29.6
comp=Z,122nm,18.1s,baz=120,slow=38
JAY Jayapura 34.26 299 P **P 21 07 06.9 +0.4**
3.5nm,0.8s,baz=131,slow=244,SNR=25
KDU Kakadu 36.95 277 P **P 21 07 30.0 +0.4**
baz=37,SNR=3.4
PPT2 Papeete2 38.11 91 *e*LR LR 21 18 11.0
436nm,29.2s
MTN Manton Dam 38.14 276 P **P 21 07 39.5 -0.3**
baz=38,SNR=12
MTN Manton Dam 38.14 276 *eP* **P 21 07 39.4 -0.3**
46nm,0.6s
WRKA Warakurna 38.49 256 P **P 21 07 42.5 -0.2**
baz=38,SNR=9.2
KNRA Kununurra 39.54 271 P **P 21 07 51.3 -0.2**
baz=40,SNR=13
FAKI Fak Fak 41.17 291 *eP* **P 21 08 04.8 -0.2**
GUMO Guam 42.75 322 LR LR 21 22 57.0
comp=Z,90nm,20.2s,baz=139,slow=32
SIJI Sorong 43.05 293 P **P 21 08 20.2 0.0**
167nm,0.7s,baz=105,slow=8.1,SNR=17
SIJI LR LR 21 26 05.0
comp=Z,1μm,21.3s,baz=60,slow=36
MBWA Marble Bar 46.78 261 *eP* **P 21 08 50.2 +0.3**
14nm,0.8s
KLBR Kellerberrin 47.55 246 P **P 21 08 55.3 -0.5**
baz=48,SNR=6.6
NWAO Narrogin (SRO) 47.98 245 P **P 21 08 58.4 -0.7**
6.6nm,0.6s,baz=326,slow=8.2,SNR=7.5
TAOE Nuku Hiva Isla 49.41 83 *e*LR LR 21 23 24.8
318nm,27.6s
RKT Rikitea 50.58 103 *e*LR LR 21 23 55.7
190nm,27.0s
VNDA Vanda 56.26 182 P **P 21 09 59.4 -0.6**
2.0nm,0.6s,baz=356,slow=7.7,SNR=20
VNDA LR LR 21 29 52.2
comp=Z,112nm,21.6s,baz=6.5,slow=31
VNDA Vanda 56.26 182 *eP* **P 21 09 59.5 -0.5**
SBA Scott Base 56.47 181 *eP* **P 21 10 02.1 +0.6**
20nm,0.9s
MYLDM Lahad Datu 57.09 292 *eP* **P 21 10 07.0 +0.2**
9.3nm,0.8s
KKM Kota Kinabalu 59.49 291 *eP* **P 21 10 24.1 +0.4**
14nm,0.7s
MJAR Matsushiro Arr 65.09 332 P **P 21 10 59.0 -1.6**
1.8nm,0.5s,baz=168,slow=7.7,SNR=7.1
MAT Matsushiro 65.09 332 P **P 21 10 59.7 -0.9**
QSPA South Pole Qui 68.61 180 *eP* **P 21 11 21.6 -1.3**
42nm,1.2s
KSRS Korea Array 70.79 326 P **P 21 11 36.6 +0.2**
1.9nm,0.8s,baz=130,slow=5.4,SNR=2.9
KSAR Wonju Array Be 70.81 325 P **P 21 11 36.6 +0.1**
NJ2 Nanjing 72.37 316 *eP* **P 21 11 48.1 +2.0**
NJ2 pmax pmax
comp=Z,21nm,1.0s
USRK Ussuriysk Ar. 74.08 332 P **P 21 11 55.9 0.0**
2.6nm,0.6s,baz=197,slow=2.0,SNR=6.5
USRK LR LR 21 42 22.6
comp=Z,30nm,20.6s,baz=134,slow=34
PETK Petropavlovsk- 75.03 352 LR LR 21 39 08.8
comp=Z,72nm,20.5s,baz=151,slow=31
MAW Mawson 76.70 202 P **P 21 12 10.0 -0.6**
5.1nm,0.8s,baz=104,slow=4.7,SNR=12
MAW LR LR 21 41 55.9
comp=Z,30nm,19.3s,baz=58,slow=32
MAW Mawson 76.70 202 P **P 21 12 10.7 +0.1**
baz=76,SNR=6.8
ENH Enshi 77.72 310 *eP* **P 21 12 16.5 -0.5**
8.2nm,0.8s
GYA Guiyang 77.76 305 *eP* **P 21 12 20.0 +2.5**
GYA pP sP 21 12 38.6 +5.8
GYA PP **PP 21 15 17.0 +3.5**
GYA S **S 21 22 06.4 -1.3**
GYA SKS **SKSac 21 22 21.8 -7.0**
GYA sS ScS 21 22 38.2 +4.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.9s
KLR Kul'dur 78.22 335 P **P 21 12 19.6 +0.3**
0.2nm,0.5s,baz=182,slow=3.7,SNR=9.4
CM01 Chiang Mai Arr 80.14 294 *eP* **P 21 12 31.2 +0.7**
KMI Kunming 80.14 302 P **P 21 12 32.1 +1.4**
KMI pP sP 21 12 50.5 +4.4
KMI pmax pmax
comp=Z,17nm,1.0s
CM31 Chiang Mai Arr 80.17 294 *eP* **P 21 12 31.6 +0.9**
CMAR Chiang Mai Arr 80.17 294 P **P 21 12 31.6 +0.9**
4.6nm,0.9s,baz=133,slow=4.1,SNR=32
CMAR LR LR 21 50 29.7
comp=Z,56nm,18.0s,baz=191,slow=38
XAN Xi'an 80.21 312 P **P 21 12 29.7 -0.9**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,120nm,5.0s
CHTO Chiang Mai 80.32 295 *eP* **P 21 12 32.8 +1.3**
10nm,1.0s
CD2 Chengdu 82.23 307 *eP* **P 21 12 42.8 +1.3**
HHC Hu-ho-hao-te 82.43 319 *eP* **P 21 12 45.7 +3.3**
HHC S **S 21 22 56.8 +0.5**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.1s
HHC LR LR
comp=N,170nm,12.2s
HHC LR LR
comp=E,180nm,16.5s
HHC LR LR
comp=Z,110nm,12.8s
SYO Syowa Base 83.04 196 ‖ *eP* **P 21 12 42.4 -2.6**
LZH Lanzhou 84.82 312 *eP* **P 21 12 55.6 +0.8**
LZH pP sP 21 13 11.8 +1.6
LZH sP pP 21 13 21.4 +15
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.4s
LZH LR LR
comp=N,280nm,16.0s
LZH LR LR
comp=E,650nm,18.4s
LZH LR LR
comp=Z,220nm,19.8s
SNAA Sanae 86.99 182 P **P 21 13 03.2 -1.7**
SNAA Sanae 86.99 182 P **P 21 13 03.3 -1.6**
5.0nm,0.8s,baz=195,slow=4.4,SNR=18
SNAA Sanae 86.99 182 *eP* **P 21 13 02.6 -2.2**
430nm,1.0s
VNA3 Neumayer Olymp 87.55 180 P **P 21 13 05.6 -1.9**
VNA2 Neumayer--Watz 87.85 181 P **P 21 13 07.5 -1.5**
baz=177,slow=4.5
VNA1 Neumayer--Stat 88.14 181 P **P 21 13 08.7 -1.6**
ULN Ulaanbaatar 89.13 323 *eP* **P 21 13 14.9 -0.5**
1.5nm,0.7s
GTA Gaotai 89.24 313 *eP* **P 21 13 16.3 +0.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 89.48 323 P **P 21 13 16.4 -0.6**
1.8nm,0.8s,baz=148,slow=5.0,SNR=12
SONM LR LR 21 52 13.5
comp=Z,23nm,19.3s,baz=130,slow=35
SONA1 Songino Array 89.48 323 *eP* **P 21 13 16.4 -0.7**
CAST Castle Rocks 89.64 16 *eP* **P 21 13 18.6 +1.4**
23nm,1.9s
ILAR Eielson Array 92.09 17 P **P 21 13 30.0 +1.4**
0.4nm,0.6s,baz=236,slow=6.7,SNR=6.2

FYU Fort Yukon 93.91 16 *eP* **P 21 13 36.8 -0.2**
15nm,0.9s
PLCA Paso Flores 96.33 138 LR LR 21 47 07.3
comp=Z,36nm,20.9s,baz=212,slow=29
TPAW Teton Pass 96.84 46 *eP* **P 21 13 54.0 +2.7**
14nm,1.4s
BOZ Bozeman (W) 97.22 44 *eP* Pdif 21 13 54.6 +1.8
6.5nm,0.9s
WMQ Urumqi 99.33 313 P **Pdif 21 14 03.7 +1.6**
WMQ pP sP 21 14 22.8 +5.1
WMQ sP pP 21 14 30.3 +17
WMQ pmax pmax
comp=Z,210nm,6.5s
WMQ LR LR
comp=N,64nm,18.9s
WMQ LR LR
comp=E,90nm,20.3s
WMQ LR LR
comp=Z,53nm,18.9s
MKAR Makanchi Array 103.89 315 PP PP 21 18 38.8 -1.2
0.8nm,1.0s,baz=102,slow=7.1,SNR=3.7
MKAR PKKPbc PKKPbc 21 30 10.4 -3.5
0.2nm,0.4s,baz=265,slow=2.4,SNR=8.7
ARU Arti 119.51 324 PKP **PKPdf 21 19 08.3 -0.8**
1.1nm,0.4s,baz=90,slow=5.9,SNR=4.4
PTGA Pitinga 126.37 108 PKP **PKPdf 21 19 21.5 -2.1**
0.8nm,0.3s,baz=343,slow=20,SNR=4.4
ARCES ARCESS Array B 127.41 345 PKP **PKPdf 21 19 22.9 -1.0**
1.0nm,0.4s,baz=55,slow=2.4,SNR=21
KBZ Khabaz 131.22 310 SKPbc **SKPbc 21 22 49.9 -4.1**
2.5nm,0.9s,baz=0.0,slow=0.0,SNR=2.8
FINES FINESS Array B 132.94 337 PKP **PKPdf 21 19 34.2 -0.4**
2.3nm,0.8s,baz=40,slow=3.1,SNR=9.0
FINES SKPbc **SKPbc 21 22 56.2 -3.3**
4.3nm,0.7s,baz=75,slow=5.9,SNR=6.6
AKASG Malin Array Be 137.76 323 PKP **PKPdf 21 19 43.4 -0.6**
0.4nm,0.5s,baz=69,slow=1.3,SNR=3.2
AKASG SKPbc **SKPbc 21 23 10.8 -4.2**
1.4nm,0.7s,baz=48,slow=3.4,SNR=6.1
HFS Hagfors 137.92 343 PKP **PKPdf 21 19 42.7 -1.2**
5.1nm,1.0s,baz=112,slow=6.4,SNR=2.5
ARR Arges 143.04 318 ⇑ *i*P **PKPdf 21 19 50.3 -3.5**
DRGR 143.47 322 ‖ *i*P PKPab 21 19 51.2 +0.5
KECS Kecovo 143.73 325 *e*PKP PKPbc 21 19 52.1 -0.3
SIRR Siria 144.36 321 ⇑ *i*P **PKPab 21 19 54.0 -0.1**
PSZ Piszkesteto 144.39 325 ⇑ *i*P **PKPab 21 19 54.3 +0.1**
DPC Dobruska-Polom 144.56 331 *e*PKP **PKPab 21 19 54.3 -0.4**
DPC *ex* x 21 20 04.4
UPC Upice 144.59 331 *e*PKP **PKPab 21 19 54.2 -0.6**
VYHS Vyhne 144.59 327 *e*PKP **PKPab 21 19 54.5 -0.4**
BZS Buzias 144.74 321 ⇑ *i*P **PKPab 21 19 54.6 -0.9**
MDVR Moldovita 145.12 319 ⇑ *i*P **PKPab 21 19 57.1 +0.1**
VRAC Vranov 145.16 329 PKPbc **PKPbc 21 19 56.1 -0.8**
2.4nm,0.4s,baz=82,slow=6.3,SNR=6.5
PVCC Panska Ves 145.21 332 *e*PKP **PKPbc 21 19 56.4 -0.5**
PVCC *ep*PKP **sPKPdf 21 20 17.8 +4.7**
BRG Berggiesshubel 145.21 333 *i* P **PKPbc 21 19 56.1 -0.8**
13nm,0.6s
BRG *i* 21 20 17.6
10nm,0.9s
VTS Vitosha 145.24 315 ⇑ *i*P **PKPbc 21 19 57.5 0.0**
VTS Vitosha 145.24 315 *e*PKPbc **PKPbc 21 19 56.9 -0.7**
CLL Collm 145.27 335 *i* PKPbc **PKPbc 21 19 55.7 -1.4**
comp=Z,13nm,0.6s
CLL *ep*PKPbc **sPKPdf 21 20 16.0 +2.9**
GOPC GO Pecny, Ondr 145.56 332 *e*PKP **PKPdf 21 19 57.6 -0.3**
CSKK Cs^tkako 145.60 325 ‖ *e*PKPdf **PKPdf 21 19 57.7 -0.4**
CSKK Cs^tkako 145.60 325 ‖ *e*PKPdf **PKPdf 21 19 57.7 -0.4**
CSKK Cs^tkako 145.60 325 ‖ *e*PKPdf **PKPdf 21 19 57.7 -0.4**
PRU Pruhonice 145.61 332 *e*PKP **PKPdf 21 19 57.4 -0.6**
PRU *ep*PKP sPKPab 21 20 19.1 +4.9
TREC Trest 145.69 330 *e*PKP **PKPdf 21 19 57.7 -0.5**
EKA Eskdalemuir Ar 145.80 353 PKPbc **PKPdf 21 19 57.1 -1.0**
comp=Z,7.1nm,0.5s,baz=355,slow=3.1,SNR=35
NKC Novy Kostel 146.32 334 *e*PKP **PKPdf 21 19 59.9 +0.7**
CONA Conrad Observa 146.46 328 *i* PKPab **PKPbc 21 20 00.9 -0.1**
comp=Z,10nm,0.7s,SNR=8.4
IDI Anoyia 146.63 302 PKPbc **PKPdf 21 20 00.5 +0.2**
comp=Z,9.0nm,0.7s,baz=39,slow=3.6,SNR=4.7
KHC Kasperske Hory 146.67 332 *e*PKP **PKPbc 21 20 00.8 -0.7**
KHC *ex* x 21 20 11.9
KHC *ex* x 21 20 16.4
KHC *ep*PKP sPKPab 21 20 24.7 +6.4
KHC Kasperske Hory 146.67 332 *e*PKPdf **PKPdf 21 19 59.9 0.0**
KHC *e*PKPbc **PKPbc 21 20 00.8 -0.7**
SKO Skopje 146.69 315 *i* PKP **PKPdf 21 20 01.0 +0.9**
GERES GERESS Array B 146.82 331 PKPbc **PKPdf 21 20 01.1 +0.9**
comp=Z,9.2nm,0.7s,baz=31,slow=2.8,SNR=84
ARSA Arzberg 147.08 327 *i* PKPbc **PKPbc 21 20 02.1 -0.6**
comp=Z,3.0nm,0.7s
KRUS Krusevo 147.10 314 *e*PKP **PKPdf 21 19 59.9 -1.0**
MOA Molln 147.28 329 *i* PKPbc **PKPbc 21 20 02.2 -1.1**
comp=Z,3.6nm,0.5s
AGG Agios Georgios 147.35 310 *e*PKPdf **PKPdf 21 20 02.3 +0.9**
PERS Pernice 147.71 327 *i* PKPdf **PKPdf 21 20 03.1 +1.4**
SOKA Soboth 147.72 327 *i* PKPbc **PKPdf 21 20 03.2 +1.5**
comp=Z,5.2nm,0.7s
PDG Podgorica 147.87 317 ⇑ *i*P **PKPbc 21 20 03.9 -1.1**
TIR Tirane 148.03 315 ⇑ *i*P **PKPbc 21 20 05.1 -0.4**
OBKA Obir 148.08 327 *i* PKPdf **PKPdf 21 20 01.7 -0.6**
comp=Z,2.3nm,0.5s
KBA Koelnbreinsper 148.27 329 *i* PKPbc **PKPdf 21 20 04.5 +1.7**
comp=Z,5.8nm,0.5s
MEM Membach 148.34 341 PKPbc **PKPbc 21 20 05.8 -0.1**
BOJS Bojanci 148.39 325 *i* PKPdf **PKPbc 21 20 05.5 -0.8**
VISS Visnje 148.41 326 *i* PKPdf **PKPbc 21 20 05.2 -1.1**
MYKA Terra Mystica 148.45 328 *i* PKPbc **PKPbc 21 20 04.9 -1.6**
comp=Z,7.0nm,0.6s
STON Ston 148.60 319 P **PKPbc 21 20 05.5 -1.4**
UDBI Udbina 148.74 323 P **PKPbc 21 20 05.6 -1.7**
JAVS Javornik 148.75 327 *i* PKPdf **PKPbc 21 20 05.8 -1.5**
WATA Walderalm 148.90 331 *i* PKPbc **PKPbc 21 20 06.5 -1.2**
comp=Z,3.8nm,0.5s
ABTA Abfaltersbach 148.91 330 *i* PKPbc **PKPbc 21 20 06.0 -1.7**
comp=Z,5.8nm,0.6s
WTTA Wattenberg 148.93 331 *i* PKPbc **PKPbc 21 20 06.4 -1.5**
comp=Z,5.3nm,0.7s
MOTA Moosalm 149.10 332 *i* PKPbc **PKPbc 21 20 06.7 -1.6**
comp=Z,6.2nm,0.6s,SNR=9.6
WLF Walferdange 149.11 340 PKPbc **PKPbc 21 20 07.8 -0.1**
RETA Reutte 149.15 332 *i* PKPbc **PKPbc 21 20 06.8 -1.4**
comp=Z,1.9nm,0.4s
DOU Dourbes 149.22 342 PKPbc **PKPbc 21 20 07.3 -0.9**
BFO Black Forest 149.47 336 *e*PKPbc **PKPbc 21 20 08.0 -1.0**
FETA Feichten 149.52 332 *i* PKPbc **PKPbc 21 20 08.2 -1.1**
comp=Z,5.1nm,0.7s
DAVA Damuels 149.68 333 *i* PKiKP **PKiKP 21 20 10.7 0.0**
comp=Z,4.4nm,0.5s
DAVOX Davos/Dischmat 150.07 332 PKPbc **PKPbc 21 20 09.8 -1.0**
comp=Z,7.2nm,0.5s,baz=190,slow=0.3,SNR=16
TUE Stuetta 150.54 332 *e*PKPbc **PKPbc 21 20 10.8 -1.1**
TUE *e*PKPab **pPKPdf 21 20 17.9 -0.4**
AQU L'Aquila 151.45 322 *e*PKPbc **PKPbc 21 20 14.2 +0.3**
BNI Bardonecchia 152.80 334 *e*PKPbc **PKPbc 21 20 16.3 -0.7**
DBIC Dimbokro 164.52 199 PKPab **PKPab 21 21 17.2 -1.9**
comp=Z,4.7nm,0.7s,baz=156,slow=2.0,SNR=5.4
TORD Torodi Ar. Bea 166.21 235 PKPab **PKPab 21 21 25.4 -1.4**
comp=Z,0.4nm,0.8s,baz=124,slow=3.2,SNR=4.5

NIED ***04*** *21:09:00,30.°80N×132.°90E,h5km,Mw3.8 Best double couple: M₀4.79000×10¹⁴ NP1:φ₀176.00000°,δ42.00000°, λ-94.00000°. NP2:φ₀2.00000°,δ48.00000°,λ-87.00000°.*
IDC ***04*** *21:09:39.7±1.1,30.°77N×132.°86E,h0km,mb3.6/5, mb1 3.7/7,mb1mx3.5/66,mbtmp3.6/7,ML3.3/2,MS2.8/1, Ms1 2.8/1,ms1mx2.1/28,Error ellipse: s-maj=36.9km s-min=19.7km az=77.0*
JMA ***04*** *21:09:41.9±0.2,30.°77N×132.°94E,h65km,M3.6*
ISC 04 21:09:40.3±3.4,30.°82N±0.°05×132.°91E±0.°05,h12km±21km, n19,σ2°14/30,mb3.5/5,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**1.57**	**297**	P	**Pb**	**21 10 08.9**	**-0.5**
JNAR				S	**Sb**	**21 10 29.0**	**-0.3**
JTN	**Tanegashima 3**	**1.67**	**265**	P	**Pb**	**21 10 09.7**	**-1.4**
JTN				S	**Sn**	**21 10 29.5**	**-1.4**
JTSR	**Tashiro 2**	**1.74**	**282**	P	**Pb**	**21 10 10.9**	**-1.4**
JTSR				S	**Sn**	**21 10 31.8**	**-0.9**
JTSN	**Tsuno**	**1.86**	**320**	P	**Pn**	**21 10 12.6**	**+0.5**
JTSN				S	**Sn**	**21 10 34.4**	**-1.2**
JTZ	**Takazaki**	**1.90**	**305**	P	**Pn**	**21 10 13.1**	**+0.5**
JTZ				S	**Sb**	**21 10 37.5**	**-1.1**
JTO	**Tosashimizu**	**2.04**	**357**	P	**Pn**	**21 10 14.4**	**-0.1**
JTO				S	**Sn**	**21 10 35.8**	**-4.2**
JNA	**Nagahama**	**2.76**	**352**	P	**Pn**	**21 10 25.2**	**+0.8**
JNA				*e*S	**Sn**	**21 10 54.5**	**-3.2**
JNN	**Nakanoshima**	**2.80**	**250**	P	**Pn**	**21 10 25.4**	**+0.4**
JNN				S	**Sn**	**21 10 57.4**	**-1.3**
JSJ	**Shimokoshiki**	**2.87**	**288**	P	**Pn**	**21 10 26.0**	**+0.1**
JSJ				*e*S	**Sn**	**21 10 58.0**	**-2.4**
JNU	**Nakatsue**	**2.88**	**324**	Pn	**Pn**	**21 10 27.9**	**+1.9**
	5.6nm,0.3s,baz=171,slow=7.3,SNR=64						
JNU				Sn	**Sn**	**21 11 01.7**	**+1.1**
	21nm,0.3s,baz=348,slow=16,SNR=4.9						
JMN	**Monobe**	**3.02**	**16**	P	**Pn**	**21 10 29.2**	**+1.2**
JMN				*e*S	**Sn**	**21 11 00.6**	**-3.6**
JAI	**Aioi**	**3.24**	**23**	*e*S	**Sn**	**21 11 05.2**	**-4.4**
JOW	**Kunigami**	**5.68**	**227**	Pn	**Pn**	**21 11 04.9**	**+0.3**
	2.5nm,0.3s,baz=105,slow=25,SNR=7.7						
JOW				Sn	**Sn**	**21 12 04.7**	**-5.1**
	2.6nm,0.3s,baz=112,slow=26,SNR=7.1						
ASAJ	**Asahikawa**	**15.33**	**27**	LR	LR	21 18 17.6	
	comp=Z,32nm,19.4s,baz=220,slow=34						
MKAR	**Makanchi Array**	**41.81**	**307**	P	**P**	**21 17 31.4**	**+1.5**
	0.2nm,0.6s,baz=96,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**50.48**	**178**	P	**P**	**21 18 38.9**	**+0.6**
	1.0nm,1.0s,baz=358,slow=8.3,SNR=5.0						
ASAR	**Alice Springs**	**54.18**	**179**	P	**P**	**21 19 06.6**	**+0.8**
	0.3nm,0.6s,baz=16,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**58.45**	**30**	P	**P**	**21 19 37.8**	**+2.1**
	0.4nm,0.8s,baz=272,slow=6.2,SNR=3.9						
FINES	**FINESS Array B**	**70.89**	**331**	P	**P**	**21 20 57.6**	**+0.6**
	0.9nm,0.5s,baz=50,slow=7.4,SNR=4.8						

ISCJB ***04*** *21:11:06.7±0.5,38.°71N±0.°05×31.°22E±0.°04,h10km,Error ellipse: s-maj=6.9km s-min=4.7km az=3.8*
DDA ***04*** *21:11:06.2,38.°72N×31.°21E,h7km,Ml2.5*
CSEM ***04*** *21:11:06.3±0.1,38.°70N×31.°24E,h2km,ML2.5,Error ellipse: s-maj=4.1km s-min=3.2km az=7.0*
ISK ***04*** *21:11:06.5,38.°71N×31.°24E,h6km,MD2.6*
ISC 04 21:11:06.5±0.9,38.°71N±0.°03×31.°22E±0.°02,h10km,n28, σ0°47/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.21**	**272**	*i* P	**Pg**	**21 11 10.5**	**-0.5**
BOLV	**Bolvadin**	**0.21**	**272**	P	**Pg**	**21 11 10.5**	**-0.5**
SHUT	**Suhut-Afyon**	**0.55**	**254**	*e*PG	**Pg**	**21 11 17.6**	**+0.5**
SHUT				*e*SG	**Sb**	**21 11 26.3**	**+0.1**
SHUT	**Suhut-Afyon**	**0.55**	**254**	*e*Pg	**Pg**	**21 11 17.6**	**+0.5**
SHUT				*e*Sg	**Sb**	**21 11 26.3**	**+0.1**
KDHN	**Kadinhani**	**0.73**	**105**	*i* P	**Pg**	**21 11 20.1**	**-0.4**
KDHN				*i* S	**Sn**	**21 11 33.8**	**-0.3**
KDHN	**Kadinhani**	**0.73**	**105**	P	**Pg**	**21 11 20.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**0.77**	**18**	*e*PG	**Pg**	**21 11 21.7**	**+0.3**
SVRH	**Sivrihisar-ESK**	**0.77**	**18**	*e*Pg	**Pg**	**21 11 21.7**	**+0.3**
BAGO	**Egridir - ISPA**	**0.80**	**205**	*i* P	**Pg**	**21 11 20.3**	**-1.5**
ESKT	**Eskisehir**	**0.86**	**341**	*i* P	**Pg**	**21 11 22.6**	**-0.4**
SEYT	**Eskypehyr**	**0.86**	**341**	P	**Pg**	**21 11 22.6**	**-0.4**
KZIL	**AFYON_Kizioren**	**0.96**	**242**	*i* P	**Pg**	**21 11 24.7**	**-0.2**
KZIL	**AFYON_Kizioren**	**0.96**	**242**	P	**Pg**	**21 11 24.7**	**-0.2**
LADK	**Ladik-KONYA**	**1.03**	**119**	*e*PG	**Pb**	**21 11 26.5**	**0.0**
LADK	**Ladik-KONYA**	**1.03**	**119**	*e*Pg	**Pb**	**21 11 26.5**	**0.0**
KONT	**Konya--Tatoy**	**1.18**	**130**	*e*PN	**Pn**	**21 11 29.1**	**+0.1**
KONT	**Konya--Tatoy**	**1.18**	**130**	*i* P	**Pn**	**21 11 29.1**	**+0.1**
KONT	**Konya--Tatoy**	**1.18**	**130**	*e*Pn	**Pn**	**21 11 29.1**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.24**	**188**	*e*PN	**Pg**	**21 11 30.8**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.24**	**188**	*e*Pn	**Pg**	**21 11 30.8**	**+0.4**
CHBY	**Cihanbeyli**	**1.31**	**95**	*e*PN	**Pg**	**21 11 32.0**	**+0.3**
CHBY	**Cihanbeyli**	**1.31**	**95**	*e*Pn	**Pg**	**21 11 32.0**	**+0.3**
KHAL	**Karahalli**	**1.40**	**256**	*i* P	**Pn**	**21 11 32.8**	**+0.7**
KHAL	**Karahalli**	**1.40**	**256**	P	**Pn**	**21 11 32.8**	**+0.7**
TVSB	**Tavsanli**	**1.56**	**299**	*e*PN	**Pb**	**21 11 35.3**	**-0.1**
TVSB	**Tavsanli**	**1.56**	**299**	*e*Pn	**Pb**	**21 11 35.3**	**-0.1**
GULT	**Gulveren**	**1.80**	**343**	*e*PN	**Pb**	**21 11 39.2**	**-0.4**
GULT	**Gulveren**	**1.80**	**343**	*e*Pn	**Pb**	**21 11 39.2**	**-0.4**

NIED ***04*** *21:13:00,37.°30N×143.°70E,h47km,Mw3.8 Best double couple: M₀5.49000×10¹⁴ NP1:φ₀61.00000°,δ24.00000°, λ-39.00000°. NP2:φ₀187.00000°,δ75.00000°, λ-109.00000°.*
IDC ***04*** *21:13:12.9±1.1,37.°07N×144.°01E,h0km,mb3.7/6, mb1 3.9/11,mb1mx3.7/63,mbtmp3.9/11,ML3.7/4,MS2.7/2, Ms1 2.7/2,ms1mx2.4/31,Error ellipse: s-maj=24.1km s-min=18.8km az=82.0*
ISCJB ***04*** *21:13:15.5±0.7,37.°21N±0.°04×143.°83E±0.°05,h33km, mb3.8/6,Error ellipse: s-maj=6.7km s-min=5.0km az=43.0*
JMA ***04*** *21:13:17.7±0.2,37.°27N×143.°69E,h56km,M3.6*
ISC 04 21:13:17.8±1.0,37.°25N±0.°06×143.°86E±0.°08,h35km,n32, σ2°28/45,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.33**	**302**	P	**Pn**	**21 13 52.9**	**-0.6**
JFK	**Kawauchi**	**2.39**	**274**	P	**Pn**	**21 13 53.4**	**-1.0**
JFK				*e*S	**Sn**	**21 14 20.2**	**-2.3**
ONAJ	**Iwakimizuishiy**	**2.45**	**267**	P	**Pn**	**21 13 54.2**	**-1.1**
ONAJ				S	**Sn**	**21 14 21.8**	**-2.3**
JMM	**Marumori**	**2.52**	**285**	P	**Pn**	**21 13 55.3**	**-0.8**
JMM				*e*S	**Sn**	**21 14 23.5**	**-2.1**
JMK	**Ichinoseki**	**2.69**	**310**	P	**Pn**	**21 13 57.9**	**-0.6**
JFT	**Otama**	**2.82**	**276**	P	**Pn**	**21 14 00.3**	**-0.1**
JFT				*e*S	**Sn**	**21 14 31.5**	**-1.7**
JOM	**Ohasama**	**3.00**	**318**	P	**Pn**	**21 14 02.5**	**-0.3**
JOM				*e*S	**Sn**	**21 14 36.3**	**-1.2**
JYK	**Kaneyama**	**3.23**	**302**	P	**Pn**	**21 14 06.1**	**+0.2**
BSO1	**Boso 1**	**3.49**	**223**	P	**Pn**	**21 14 07.8**	**-1.3**
BSO1				S	**Sn**	**21 14 48.2**	**-0.7**
JAG	**Ashikaga**	**3.63**	**258**	P	**Pn**	**21 14 10.8**	**-0.7**
JAG				S	**Sn**	**21 14 50.3**	**-2.9**
JRY	**Ryogami san**	**4.18**	**254**	P	**Pn**	**21 14 18.0**	**-1.0**
JRY				*e*S	**Sn**	**21 15 03.0**	**-3.6**
JOD2	**Odawara 2**	**4.34**	**244**	P	**Pn**	**21 14 20.4**	**-0.9**
JOD2				*e*S	**Sn**	**21 15 05.8**	**-4.8**
MJAR	**Matsushiro Arr**	**4.59**	**263**	Pn	**Pn**	**21 14 24.5**	**-0.1**
	5.1nm,0.3s,baz=64,slow=13,SNR=44						
MJAR				Sn	**Sn**	**21 15 17.5**	**+0.8**
	baz=30,slow=15,SNR=4.4						
MJAR				LR	LR	21 17 11.3	
	comp=Z,61nm,18.6s,baz=100,slow=51						
MAT	**Matsushiro**	**4.59**	**263**	P	**Pn**	**21 14 25.6**	**+0.9**
MAT				S	**Sn**	**21 15 16.4**	**-0.4**
JOT	**Ohata**	**4.67**	**333**	P	**Pn**	**21 14 25.9**	**+0.2**
JKB	**Kayabe**	**5.12**	**336**	P	**Pn**	**21 14 32.2**	**+0.3**
JKB				*e*S	**Sn**	**21 15 26.8**	**-2.9**
JHJ	**Hachijo jima 2**	**5.31**	**220**	Pn	**Pn**	**21 14 31.5**	**-3.0**
	5.5nm,0.3s,baz=75,slow=20,SNR=2.8						
JHJ				Sn	**Sn**	**21 15 28.0**	**-6.4**
	26nm,0.3s,baz=72,slow=19,SNR=4.3						
JCH	**Churui**	**5.37**	**356**	P	**Pn**	**21 14 33.7**	**-1.6**
JCH				*e*S	**Sn**	**21 15 31.4**	**-4.5**
JTKR	**Abashiri--Toko**	**6.71**	**0**	P	**Pn**	**21 14 52.2**	**-1.6**
JTKR				*e*S	**Sn**	**21 16 03.7**	**-5.2**
ASAJ	**Asahikawa**	**6.92**	**352**	Pn	**Pn**	**21 14 56.6**	**-0.1**
	1.5nm,0.3s,baz=236,slow=15,SNR=9.0						
ASAJ				Sn	**Sn**	**21 16 11.2**	**-3.0**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.9						
USRK	**Ussuriysk Ar.**	**11.37**	**311**	Pn	**Pn**	**21 15 58.7**	**+1.1**
	0.3nm,0.3s,baz=119,slow=13,SNR=5.4						
KSRS	**Korea Array**	**12.69**	**276**	Pn	**Pn**	**21 16 17.0**	**+1.4**
	0.2nm,0.3s,baz=88,slow=14,SNR=9.1						
KSRS				LR	LR	21 22 17.4	
	comp=Z,43nm,18.1s,ba

*IDC **04** 21:28:08.4±1.3, 34°.47S×73°.59W, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/19, mbtmp3.8/4, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=56.9km s-min=30.1km az=75.0*
*SJA **04** 21:28:09.0±1.0, 34°.72S×73°.50W, h50km, ML3.6, MW3.3*
*ISCJB **04** 21:28:11.8±1.8, 34°.42S±0°.05×73°.49W±0°.07, h31km±17km, mb3.7/2, Error ellipse: s-maj=9.5km s-min=7.7km az=1.7*
*GUC **04** 21:28:12.0±0.5, 34°.33S×73°.43W, h46km±4km, ML3.8*
ISC 04 21:28:10.2±3.7, 34°.53S±0°.05×73°.49W±0°.08, h13km±23km, n21, σ1§77/31, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**1.24**	**84**	*eP*	**Pn**	**21 28 32.6**	**-0.6**
CHPI				*i* S	**Sb**	**21 28 48.6**	**-0.7**
NICH	**Los Niches**	**1.92**	**105**	⇓*iP*	**Pn**	**21 28 43.9**	**+1.2**
NICH				*i* S	**Sn**	**21 29 07.7**	**+1.0**
LNCH	**Linares**	**2.03**	**131**	⇑*iP*	**Pb**	**21 28 46.2**	**-0.7**
LNCH				*i* S	**Sb**	**21 29 11.7**	**-0.6**
ANTU	**Antumapu**	**2.56**	**69**	*i* S	**Sn**	**21 29 20.1**	**-2.4**
ANTU				IAML		21 29 21.9	
	comp=N,900nm,0.6s						
ROC1	**El Roble**	**2.58**	**54**	*eP*	**Pn**	**21 28 50.8**	**-1.1**
ROCH	**El Roble**	**2.58**	**54**	*eP*	**Pn**	**21 28 50.8**	**-1.2**
ROCH				*i* S	**Sn**	**21 29 21.1**	**-2.3**
ROCH				IAML		21 29 24.8	
	comp=N,292nm,0.5s						
CLCH	**Cerro Calan**	**2.70**	**66**	*eP*	**Pn**	**21 28 52.8**	**-0.6**
CLCH				*i* S	**Sn**	**21 29 24.0**	**-2.1**
CLCH				IAML		21 29 29.9	
	comp=E,318nm,0.7s						
FCH	**Farellones**	**2.92**	**67**	*eP*	**Pn**	**21 28 56.5**	**-0.1**
FCH				*i* S	**Sn**	**21 29 29.9**	**-1.9**
FCH				IAML		21 29 31.5	
	comp=E,396nm,0.2s						
AUSP	**Uspallata**	**4.13**	**57**	*eP*	**Pn**	**21 29 14.9**	**+1.7**
AUSP				*eS*	**Sn**	**21 30 03.9**	**+2.2**
AAGR	**Agrelo**	**4.14**	**71**	*eP*	**Pn**	**21 29 13.7**	**+0.4**
ASAL	**Salagasta**	**4.34**	**65**	*eP*	**Pn**	**21 29 19.7**	**+3.7**
ASAL				*eS*	**Sn**	**21 30 11.4**	**+4.9**
ACCO	**Cerro Coronel**	**5.42**	**45**	*eP*	**Pn**	**21 29 32.2**	**+1.2**
ACCO				*eS*	**Sn**	**21 30 34.0**	**+0.5**
ACCO				IAML		21 30 40.6	
	comp=Z,24nm,0.6s						
AROD	**Rodeo**	**5.52**	**39**	*eP*	**Pn**	**21 29 33.5**	**+1.1**
AMOG	**MOGNA**	**5.53**	**51**	*eP*	**Pn**	**21 29 32.6**	**+0.4**
ACAN	**Cantantal**	**5.73**	**69**	*eP*	**Pn**	**21 29 36.5**	**+1.4**
AGUA	**GUANDACOL**	**6.58**	**42**	*eP*	**Pn**	**21 29 47.6**	**+0.8**
PLCA	**Paso Flores**	**6.62**	**160**	Pn	**Pn**	**21 29 49.6**	**+2.3**
	comp=Z,1.9nm,0.3s,baz=349,slow=14,SNR=32						
PLCA				Sn	**Sn**	**21 31 01.3**	**-1.3**
	baz=265,slow=12,SNR=1.2						
PLCA				LR	LR	21 32 40.7	
	comp=Z,92nm,18.2s,baz=340,slow=41						
LPAZ	**La Paz**	**16.79**	**16**	P	**Pn**	**21 32 30.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=190,slow=6.1,SNR=3.9						
TXAR	**Lajitas Array**	**69.62**	**332**	P	**P**	**21 39 19.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=150,slow=9.3,SNR=10						
TORD	**Torodi Ar. Bea**	**85.52**	**71**	P	**P**	**21 40 48.3**	**0.0**
	comp=Z,0.6nm,0.9s,baz=250,slow=3.8,SNR=4.0						
WRA	**Warramunga Arr**	**119.71**	**210**	PKP	**PKPdf**	**21 47 00.2**	**-0.4**
	comp=Z,0.3nm,1.0s,baz=158,slow=1.8,SNR=2.6						

*IDC **04** 21:30:06.4±9.1, 11°.59S×162°.18E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, MS3.4/3, Ms1 3.3/3, ms1mx3.1/16, Error ellipse: s-maj=264.9km s-min=37.2km az=122.0*
ISC 04 21:30:08.4±1.8, 11°.5S±0°.2×162°.1E±0°.3, h10km, n7, σ1§33/6, mb3.4/4, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.91**	**314**	*eP*	**Pn**	**21 30 53.0**	**-1.7**
HNR				*eS*	**Sb**	**21 31 37.0**	**+1.1**
STKA	**Stephens Creek**	**27.72**	**220**	LR	LR	21 47 12.3	
	comp=Z,104nm,18.7s,baz=25,slow=37						
WRA	**Warramunga Arr**	**27.95**	**249**	P	**P**	**21 35 59.9**	**+0.7**
	0.3nm,0.8s,baz=76,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**29.38**	**242**	P	**P**	**21 36 11.6**	**-0.5**
	0.6nm,0.9s,baz=75,slow=9.8,SNR=5.2						
ASAR				LR	LR	21 47 13.6	
	comp=Z,63nm,18.8s,baz=106,slow=35						
PPT	**Papeete**	**47.11**	**103**	LR	LR	21 54 27.9	
	comp=Z,28nm,21.7s,baz=9.5,slow=31						
SONM	**Songino Array**	**76.91**	**325**	P	**P**	**21 42 01.8**	**+0.7**
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**91.38**	**317**	P	**P**	**21 43 14.9**	**+0.2**
	0.1nm,0.6s,baz=92,slow=6.4,SNR=2.8						

*JMA **04** 21:36:44.1±0.1, 23°.76N×122°.93E, h54km±5km, M2.7*
*TAP **04** 21:36:45.4, 23°.75N×122°.89E, h40km±3km, ML3.3, C*
ISC 04 21:36:41.2±1.2, 23°.72N±0°.03×122°.94E±0°.02, h14km±10km, n43, σ0§80/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.73**	**1**	P	**Pn**	**21 36 57.9**	**+0.8**
JYNG				S	**Sn**	**21 37 07.3**	**-0.7**
YOJ	**Yonaguni jima**	**0.74**	**5**	P	**Pn**	**21 36 58.1**	**+0.9**
YOJ				S	**Sn**	**21 37 08.4**	**+0.1**
HATJ	**Hateruma jima**	**0.86**	**67**	P	**Pn**	**21 37 00.1**	**+1.2**
HATJ				S	**Sn**	**21 37 11.5**	**+0.2**
IRIF	**Iriomote-Funau**	**0.95**	**50**	P	**Pn**	**21 37 01.1**	**+1.0**
IRIF				S	**Sn**	**21 37 13.9**	**+0.4**
JKRS	**Kuro-shima**	**1.11**	**62**	P	**Pg**	**21 37 03.7**	**+1.1**
JKRS				S	**Sn**	**21 37 17.9**	**+0.5**
JIJ	**Ishigaki jima**	**1.28**	**60**	P	**Pg**	**21 37 05.5**	**-0.3**
JIJ				*eS*	**Sn**	**21 37 20.7**	**-0.8**
TWD	**Chiawan**	**1.28**	**287**	P	**Pg**	**21 37 05.8**	**0.0**
	baz=286						
TWD				S	**Sb**	**21 37 21.1**	**-0.2**
	baz=286						
ENA	**Nanau**	**1.30**	**303**	*eP*	**Pg**	**21 37 07.2**	**+1.0**
	baz=302						
ENA				*eS*	**Sg**	**21 37 22.8**	**-0.3**
	baz=302						
TWC	**Suao**	**1.33**	**312**	*eP*	**Pg**	**21 37 07.2**	**+0.4**
	baz=301						
TWC				*eS*	**Sg**	**21 37 24.3**	**+0.2**
	baz=301						
ESL	**Shilin**	**1.38**	**274**	*eP*	**Pb**	**21 37 06.7**	**-0.1**
	baz=263						
ESL				*eS*	**Sn**	**21 37 22.6**	**-1.5**
	baz=263						
EHY	**Hungye**	**1.50**	**262**	P	**Pg**	**21 37 09.4**	**-0.6**
	baz=260						
EHY				S	**Sn**	**21 37 26.2**	**-0.8**
	baz=260						
JISG	**Ishigakijimahi**	**1.52**	**55**	P	**Pb**	**21 37 08.7**	**-0.5**
JISG				S	**Sn**	**21 37 26.8**	**-0.8**
TWE	**Neicheng**	**1.53**	**311**	*eP*	**Pg**	**21 37 10.6**	**0.0**
	baz=311						
TWF1	**Yuli**	**1.55**	**257**	*eP*	**Pb**	**21 37 09.6**	**0.0**
	baz=255						
TWF1				*eS*	**Sn**	**21 37 28.4**	**+0.2**
	baz=255						
ENTT	**Nioudou**	**1.55**	**306**	*eP*	**Pg**	**21 37 10.8**	**-0.2**
	baz=294						
ENTT				*eS*	**Sb**	**21 37 28.7**	**-0.5**
	baz=294						
CHKT	**Chengkung**	**1.57**	**247**	*eP*	**Pb**	**21 37 09.5**	**-0.4**
	baz=236						
CHKT				*eS*	**Sn**	**21 37 27.5**	**-1.2**
	baz=236						
WHF	**Hehuan Shan**	**1.59**	**286**	*eP*	**Pg**	**21 37 10.9**	**-0.8**
	baz=285						
WHF				*eS*	**Sn**	**21 37 29.8**	**0.0**
	baz=285						
NNS	**Nan Shan**	**1.60**	**297**	*eP*	**Pg**	**21 37 11.2**	**-0.7**
	baz=287						
NNS				*eS*	**Sn**	**21 37 29.6**	**-0.1**
	baz=287						
TWT	**Tachien**	**1.69**	**289**	*eP*	**Pb**	**21 37 12.1**	**-0.1**
	baz=279						
NWF	**Wu-fen Shan**	**1.71**	**322**	*eP*	**Pg**	**21 37 13.1**	**-0.9**
	baz=321						
NWF				*eS*	**Sn**	**21 37 32.1**	**-0.2**
	baz=321						
NSK	**Sanguang**	**1.73**	**304**	*eP*	**Pb**	**21 37 12.8**	**+0.1**
	baz=291						
NSK				*eS*	**Sn**	**21 37 32.9**	**+0.2**
	baz=291						
YUS	**Yu-Shan**	**1.83**	**263**	*eP*	**Pb**	**21 37 15.1**	**+0.3**
	baz=262						
YUS				*eS*	**Sn**	**21 37 35.7**	**-0.3**
	baz=262						
ELDTW	**Lidau**	**1.84**	**254**	*eP*	**Pb**	**21 37 13.8**	**-0.9**
	baz=252						
ELDTW				*eS*	**Sn**	**21 37 34.4**	**-1.2**
	baz=252						
JTJ	**Tarama**	**1.86**	**60**	P	**Pb**	**21 37 13.8**	**-1.1**
JTJ				S	**Sn**	**21 37 35.2**	**-0.6**
SMLT	**Sun Moon Lake**	**1.87**	**275**	*eP*	**Pb**	**21 37 15.1**	**-0.1**
	baz=274						
SMLT				*eS*	**Sn**	**21 37 37.0**	**+0.6**
	baz=274						
TTN	**Taitung**	**1.91**	**240**	*eP*	**Pb**	**21 37 15.5**	**-0.2**
	baz=238						
TTN				*eS*	**Sn**	**21 37 37.2**	**+0.1**
	baz=238						
TYC	**Yuchr**	**1.91**	**276**	*eP*	**Pb**	**21 37 15.7**	**-0.2**
	baz=275						
TYC				*eS*	**Sn**	**21 37 37.6**	**+0.4**
	baz=275						
TWG	**Pinlang**	**1.93**	**243**	*eP*	**Pb**	**21 37 15.4**	**-0.8**
	baz=233						
TWG				*eS*	**Sn**	**21 37 37.3**	**-0.5**
	baz=233						
ALS	**Alishan**	**1.96**	**264**	*eP*	**Pb**	**21 37 16.9**	**0.0**
	baz=263						
ALS				*eS*	**Sn**	**21 37 39.4**	**+0.4**
	baz=263						
NSTT	**Nanjuang**	**1.99**	**298**	*eP*	**Pb**	**21 37 15.9**	**-1.2**
	baz=297						
CHN5	**Tsauling**	**2.07**	**267**	*eP*	**Pb**	**21 37 18.6**	**-0.1**
	baz=266						
CHN5				*eS*	**Sb**	**21 37 43.3**	**-1.0**
	baz=266						
TWQ1	**Liyutan**	**2.07**	**288**	*eP*	**Pb**	**21 37 18.1**	**-0.5**
	baz=287						
STYT	**Tauyuan**	**2.08**	**255**	*eP*	**Pb**	**21 37 17.6**	**-1.1**
	baz=247						
STYT				*eS*	**Sn**	**21 37 41.9**	**+0.5**
	baz=247						
LAY	**Lan-yu**	**2.10**	**218**	*eP*	**Pn**	**21 37 17.1**	**+1.1**
	baz=226						
LAY				*eS*	**Sn**	**21 37 40.5**	**-1.6**
	baz=226						
ECL	**Taimali**	**2.14**	**239**	P	**Pn**	**21 37 17.9**	**+1.5**
	baz=248						
ECL				*eS*	**Sn**	**21 37 42.1**	**-0.7**
	baz=248						
CHN4	**Tsaushan**	**2.18**	**261**	*eP*	**Pb**	**21 37 19.7**	**-0.7**
	baz=253						
CHN4				*eS*	**Sb**	**21 37 46.6**	**-0.7**
	baz=253						
WTP	**Ta-pu**	**2.18**	**258**	*eP*	**Pb**	**21 37 20.7**	**+0.2**
	baz=256						
WTP				*eS*	**Sb**	**21 37 46.6**	**-0.9**
	baz=256						
SGST	**Jiashian**	**2.25**	**254**	*eP*	**Pb**	**21 37 21.3**	**-0.4**
	baz=252						
SGST				*eS*	**Sn**	**21 37 47.6**	**+2.0**
	baz=252						
CHN1	**Nanshi**	**2.27**	**257**	*eP*	**Pb**	**21 37 22.6**	**+0.6**
	baz=255						
CHN1				*eS*	**Sb**	**21 37 50.1**	**0.0**
	baz=255						
TWK	**Hsinying**	**2.29**	**259**	*eP*	**Pb**	**21 37 22.0**	**-0.4**
	baz=257						
TWK				*eS*	**Sn**	**21 37 48.8**	**+2.1**
	baz=257						
JIRB	**Irabujima**	**2.32**	**61**	S	**Sn**	**21 37 46.5**	**-0.8**
SSD	**Sandimen**	**2.33**	**246**	*eP*	**Pb**	**21 37 21.9**	**-1.0**
	baz=239						
EAST	**Anshuo**	**2.34**	**236**	*eP*	**Pn**	**21 37 21.1**	**+1.9**
	baz=243						
EAST				*eS*	**Sn**	**21 37 47.4**	**-0.5**
	baz=243						

*NIED **04** 21:57:00, 37°.20N×143°.80E, h11km, Mw4.0 Best double couple: M0=1.24000×10^15 NP1:φs=10.00000°, δ=22.00000°, λ=-122.00000°. NP2:φs=224.00000°, δ=71.00000°, λ=-78.00000°.*
*IDC **04** 21:57:02.7±0.7, 37°.06N×143°.95E, h0km, mb4.1/21, mb1 4.2/27, mb1mx4.1/55, mbtmp4.1/27, ML3.8/6, MS3.2/10, Ms1 3.2/10, ms1mx3.0/44, Error ellipse: s-maj=17.6km s-min=12.7km az=87.0*
*NEIC **04** 21:57:04.1±0.4, 37°.09N×143°.99E, h10km, mb4.5/4, Error ellipse: s-maj=8.9km s-min=6.1km az=99.0*
*JMA **04** 21:57:06.8±0.2, 37°.24N×143°.76E, h51km, M4.1*
*MOS **04** 21:57:06.1±0.9, 37°.05N×143°.85E, h34km, mb4.6/22, Error ellipse: s-maj=10.9km s-min=7.4km az=125.0*
ISC 04 21:57:06.2±1.1, 37°.14N±0°.04×143°.95E±0°.06, h24km±8km, n108, σ2§58/128, mb4.2/36, MS3.2/6, 2C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.44**	**303**	P	**Pn**	**21 57 43.0**	**-1.5**
JIO				S	**Sn**	**21 58 09.1**	**-4.5**
JFK	**Kawauchi**	**2.46**	**276**	P	**Pn**	**21 57 43.2**	**-1.7**
JFK				*eS*	**Sn**	**21 58 10.6**	**-3.6**
ONAJ	**Iwakimizuishiy**	**2.52**	**270**	P	**Pn**	**21 57 43.9**	**-1.7**
ONAJ				S	**Sn**	**21 58 11.9**	**-3.7**
JMM	**Marumori**	**2.61**	**287**	P	**Pn**	**21 57 45.2**	**-1.7**
JMM				S	**Sn**	**21 58 14.2**	**-3.6**
JMK	**Ichinoseki**	**2.81**	**311**	P	**Pn**	**21 57 48.1**	**-1.5**
JFT	**Otama**	**2.90**	**279**	P	**Pn**	**21 57 50.7**	**-0.2**
JFT				S	**Sn**	**21 58 22.0**	**-3.1**
JOM	**Ohasama**	**3.13**	**319**	P	**Pn**	**21 57 52.6**	**-1.4**
JOM				S	**Sn**	**21 58 26.6**	**-4.0**
JYK	**Kaneyama**	**3.34**	**303**	P	**Pn**	**21 57 56.0**	**-1.0**
JAG	**Ashikaga**	**3.68**	**260**	P	**Pn**	**21 58 00.9**	**-0.6**
JAG				S	**Sn**	**21 58 41.1**	**-3.0**
JRY	**Ryogami san**	**4.21**	**256**	P	**Pn**	**21 58 08.0**	**-0.9**
JRY				S	**Sn**	**21 58 52.6**	**-4.8**
JOD2	**Odawara 2**	**4.35**	**246**	P	**Pn**	**21 58 09.8**	**-1.0**
JOD2				S	**Sn**	**21 58 56.2**	**-4.6**
MJAR	**Matsushiro Arr**	**4.64**	**264**	Pn	**Pn**	**21 58 15.0**	**+0.2**
	8.6nm,0.3s,baz=70,slow=11,SNR=69						
MJAR				Sn	**Sn**	**21 59 06.8**	**-1.1**
	2.2nm,0.3s,baz=87,slow=28,SNR=7.2						
MJAR				LR	LR	22 01 01.2	
	comp=Z,149nm,18.4s,baz=80,slow=52						
MAJO	**Matsushiro**	**4.64**	**264**	*eP*	**Pn**	**21 58 15.0**	**+0.2**
MAJO				*eS*	**Sn**	**21 59 03.8**	**-4.2**
MAJO	**Matsushiro**	**4.64**	**264**	*ePn*	**Pn**	**21 58 15.0**	**+0.2**
MAJO				*eS*	**Sn**	**21 59 03.8**	**-4.2**
MAT	**Matsushiro**	**4.64**	**264**	P	**Pn**	**21 58 15.2**	**+0.4**
MAT				S	**Sn**	**21 59 04.3**	**-3.7**
JOT	**Ohata**	**4.80**	**333**	P	**Pn**	**21 58 14.5**	**-2.4**
ERM	**Erimo**	**4.91**	**353**	*eP*	**Pn**	**21 58 16.0**	**-2.4**
ERM				*eS*	**Sn**	**21 59 09.5**	**-4.9**
ERM	**Erimo**	**4.91**	**353**	*ePn*	**Pn**	**21 58 16.0**	**-2.4**
ERM				*eS*	**Sn**	**21 59 09.5**	**-4.9**
JKB	**Kayabe**	**5.25**	**335**	P	**Pn**	**21 58 22.0**	**-1.1**
JKB				S	**Sn**	**21 59 18.1**	**-4.7**
JHJ	**Hachijo jima 2**	**5.26**	**222**	Pn	**Pn**	**21 58 21.0**	**-2.3**
	33nm,0.3s,baz=338,slow=23,SNR=13						
JHJ				Sn	**Sn**	**21 59 17.1**	**-6.2**
	25nm,0.3s,baz=55,slow=18,SNR=2.5						
JCH	**Churui**	**5.49**	**355**	P	**Pn**	**21 58 23.9**	**-2.5**
JCH				*eS*	**Sn**	**21 59 21.9**	**-6.8**
NEM2	**Nemuro 2**	**6.37**	**12**	P	**Pn**	**21 58 34.3**	**-4.2**
NEM2				S	**Sn**	**21 59 40.9**	**-9.5**
JHR	**Hokuryu**	**6.81**	**346**	P	**Pn**	**21 58 43.8**	**-0.8**
JTKR	**Abashiri--Toko**	**6.83**	**360**	P	**Pn**	**21 58 42.3**	**-2.4**
JTKR				S	**Sn**	**21 59 54.1**	**-7.5**
YUK	**Yuzh-Kuril'sk**	**7.04**	**11**	P	**Pn**	**21 58 44.2**	**-3.5**
YUK				pmax	pmax		
	comp=Z,172nm,0.3s						
YUK				pmax	pmax		
	comp=N,40nm,0.2s						
YUK				pmax	pmax		
	comp=E,30nm,0.2s						
YUK				MLR	MLR		
	comp=Z,180nm,10.0s						
ASAJ	**Asahikawa**	**7.05**	**352**	Pn	**Pn**	**21 58 46.2**	**-1.6**
	comp=Z,6.7nm,0.3s,baz=205,slow=13,SNR=33						
ASAJ				Sn	**Sn**	**22 00 01.9**	**-5.1**
	baz=99,slow=18,SNR=1.5						
SHO	**Shikotan**	**7.07**	**17**	*eP*	**Pn**	**21 58 43.8**	**-4.3**
KUR	**Kuril'sk**	**8.61**	**19**	*eP*	**Pn**	**21 59 07.3**	**-1.9**
KUR				pmax	pmax		
	comp=Z,46nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.85**	**355**	*eP*	**Pn**	**21 59 26.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**9.85**	**355**	Pn	**Pn**	**21 59 26.4**	**+0.3**
CBIJ	**Chichi jima**	**10.12**	**189**	*ePn*	**Pn**	**21 59 28.9**	**-1.2**
CBIJ				*eS*	**Sn**	**22 01 15.6**	**-7.2**
VLA	**Vladivostok**	**10.99**	**307**	⇑*iP*	**Pn**	**21 59 42.3**	**+0.4**
VLA				pmax	pmax		
	comp=Z,40nm,1.4s						
JNU	**Nakatsue**	**11.43**	**253**	Pn	**Pn**	**21 59 45.3**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=252,slow=9.6,SNR=3.2						
JNU				LR	LR	22 05 03.8	
	comp=Z,57nm,19.1s,baz=98,slow=42						
USRK	**Ussuriysk Ar.**	**11.49**	**312**	Pn	**Pn**	**21 59 49.2**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=115,slow=14,SNR=13						
USRK				LR	LR	22 04 10.6	
	comp=Z,86nm,19.1s,baz=95,slow=37						
KSRS	**Korea Array**	**12.77**	**276**	Pn	**Pn**	**22 00 07.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=24						
KSRS				LR	LR	22 04 42.7	
	comp=Z,82nm,19.0s,baz=94,slow=36						
KSAR	**Wonju Array Be**	**12.80**	**276**	P	**Pn**	**22 00 07.5**	**+0.9**
KSAR	**Wonju Array Be**	**12.80**	**276**	Pn	**Pn**	**22 00 07.5**	**+0.9**
KLR	**Kul'dur**	**14.98**	**328**	*i P*	**Pn**	**22 00 34.0**	**-2.3**
SKR	**Severo-Kuril's**	**16.10**	**29**	*i P*	**P**	**22 00 53.8**	**-0.1**
CLNS	**Chul'man**	**23.46**	**333**	*eP*	**P**	**22 02 12.6**	**-1.0**
CLNS				pmax	pmax		
	comp=N,11nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.5s						
GUMO	**Guam**	**23.47**	**178**	LR	LR	22 10 16.4	
	comp=Z,46nm,18.8s,baz=60,slow=34						
SEY	**Seymchan**	**26.34**	**9**	P	**P**	**22 02 41.1**	**+1.2**
	comp=Z,4.7nm,0.6s,baz=195,slow=6.9,SNR=13						
SEY	**Seymchan**	**26.34**	**9**	*i P*	**P**	**22 02 40.1**	**+0.2**
YAK	**Yakutsk**	**26.45**	**345**	P	**P**	**22 02 41.2**	**+0.3**
	comp=Z,13nm,0.5s,baz=290,slow=1.3,SNR=4.5						
YAK	**Yakutsk**	**26.45**	**345**	*eP*	**P**	**22 02 40.9**	**0.0**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**26.50**	**125**	T	T	22 30 18.8	
	baz=316,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**26.51**	**125**	T	T	22 30 20.2	
	baz=316,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**26.52**	**125**	T	T	22 29 50.9	
	baz=316,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**27.25**	**127**	T	T	22 31 20.9	
	baz=318,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.25**	**127**	T	T	22 31 19.7	
	baz=318,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.27**	**127**	T	T	22 30 53.5	
	baz=318,slow=75,SNR=9.3						
BOD	**Bodaibo**	**28.55**	**326**	*eP*	**P**	**22 02 59.9**	**+0.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**28.98**	**303**	*i P*	**P**	**22 03 03.2**	**-0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**28.98**	**303**	*eP*	**P**	**22 03 06.0**	**+2.0**
	comp=Z,6.3nm,0.9s						
SONM	**Songino Array**	**29.42**	**303**	P	**P**	**22 03 08.8**	**+1.0**
	comp=Z,7.2nm,1.1s,baz=111,slow=8.6,SNR=23						
SONM				LR	LR	22 16 49.2	
	comp=Z,51nm,18.4s,baz=108,slow=40						
ZAK	**Zakamensk**	**31.80**	**308**	*eP*	**P**	**22 03 29.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TLY	**Talaya**	**31.80**	**310**	LR	LR	22 17 27.7	
	comp=Z,56nm,18.0s,baz=170,slow=38						
BILL	**Bilibino**	**33.38**	**15**	⇑*eP*	**P**	**22 03 43.2**	**+1.0**
BILL				*PP	**pP**	**22 03 51.0**	**+1.5**
BILL						22 04 51.0	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA	**Gaotai**	**34.47**	**288**	*eP*	**P**	**22 03 53.5**	**+1.3**
GTA				pP	pP	22 03 58.2	-1.3
GTA				sP	sP	22 04 00.7	-1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JAY	**Jayapura**	**39.57**	**185**	P	**P**	**22 04 34.4**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=90,slow=20,SNR=2.7						
DGZ	**Jazzator, Alta**	**41.97**	**306**	*i P*	**P**	**22 04 56.3**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.34**	**312**	P	**P**	**22 05 06.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=91,slow=8.9,SNR=5.8						
ZALV				PcP	**PcP**	**22 06 55.3**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=66,slow=3.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**43.49**	**257**	P	**P**	**22 05 07.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=54,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**45.78**	**302**	P	**P**	**22 05 26.2**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=86,slow=8.9,SNR=11						
MKAR				LR	LR	22 23 30.6	
	comp=Z,25nm,18.7s,baz=68,slow=35						
KURK	**Kurchatov**	**47.46**	**308**	*i P*	**P**	**22 05 39.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,30nm,1.7s						
KURK	**Kurchatov**	**47.46**	**308**	P	**P**	**22 05 39.4**	**+0.7**
KURBB	**Kurchatov Arra**	**47.53**	**308**	P	**P**	**22 05 39.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=83,slow=8.1,SNR=8.6						
ILAR	**Eielson Array**	**48.32**	**32**	P	**P**	**22 05 46.0**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=256,slow=6.0,SNR=5.8						
ILAR	**Eielson Array**	**48.32**	**32**	P	**P**	**22 05 46.0**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**52.00**	**313**	P	**P**	**22 06 14.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=75,slow=6.3,SNR=4.4

STKA	Stephens Creek	68.69	182	P	P	22 08 07.7 +0.2
	comp=Z,1.2nm,0.6s,baz=338,slow=8.3,SNR=3.7					
FINES	FINESS Array B	69.65	333	P	P	22 08 14.2 +1.0
	comp=Z,2.8nm,0.7s,baz=36,slow=5.9,SNR=4.1					
KIV	Kislovodsk	72.36	312	eP	P	22 08 30.6 +0.5
KIV				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KBZ	Khabaz	72.36	312	P	P	22 08 31.4 +1.4
	comp=Z,1.9nm,0.8s,baz=192,slow=9.3,SNR=3.5					
HFS	Hagfors	74.81	337	P	P	22 08 44.9 +0.8
	comp=Z,2.1nm,0.8s,baz=16,slow=17,SNR=3.0					
AKASG	Malin Array Be	75.44	323	P	P	22 08 48.4 +0.6
	comp=Z,0.4nm,0.4s,baz=47,slow=4.1,SNR=3.8					
STHS	Stebnicka Huta	80.02	326	eP	P	22 09 15.6 +2.1
STHS	Stebnicka Huta	80.02	326	eP	P	22 09 15.6 +2.1
DPC	Dobruska-Polom	81.43	329	eP	P	22 09 24.5 +3.5
DPC	Dobruska-Polom	81.43	329	eP	P	22 09 24.5 +3.5
VYHS	Vyhne	81.77	327	eP	P	22 09 26.2 +3.4
VYHS	Vyhne	81.77	327	eP	P	22 09 26.2 +3.4
BRG	Berggiesshubel	81.97	331	e(P)	P	22 09 25.5 +1.7
	comp=Z,3.7nm,0.9s					
BRG	Berggiesshubel	81.97	331	eP	P	22 09 25.5 +1.7
BRG				pmax	pmax	
	comp=Z,4.0nm,0.9s					
CLL	Collm	82.00	331	eP	P	22 09 25.0 +1.1
CLL				i		22 09 34.9
CLL	Collm	82.00	331	eP	P	22 09 25.0 +1.1
CLL				i		22 09 34.9
VRAC	Vranov	82.12	328	LR	LR	22 47 31.5
	comp=Z,25nm,21.5s,baz=350,slow=37					
KHC	Kasperske Hory	83.50	330	eP	P	22 09 35.1 +3.3
KHC				ex	x	22 09 43.7
KHC	Kasperske Hory	83.50	330	eP	P	22 09 35.1 +3.3
KHC				e		22 09 43.7
GERES	GERESS Array B	83.67	330	P	P	22 09 33.8 +1.0
	comp=Z,0.7nm,0.9s,baz=26,slow=4.7,SNR=4.0					
TXAR	Lajitas Array	88.44	54	P	P	22 09 57.4 +0.8
	comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=3.0					

MAN 04 22:04:48, 13°.78N×120°.48E, h81km, mb4.1, ML2.9, MS2.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.23	258	eP	Pn	22 05 02.1	+2.1
LUBP				eS	Sn	22 05 12.4	+3.5
PGP	Puerto Galera	0.54	121	⇓eP	Pn	22 05 04.6	+2.4
PGP				i S	Sn	22 05 16.2	+3.4
SJMP	San Jose	1.46	154	eP	Pn	22 05 14.8	+2.0
SJMP				eS	Sn	22 05 34.3	+2.8
BUSP	Coron	1.79	189	eP	Pn	22 05 17.6	+0.5
BUSP				eS	Sn	22 05 40.4	+1.0
ENPP	El Nido	2.76	202	eP	Pn	22 05 31.8	+1.6
ENPP				eS	Sn	22 06 04.4	+1.9

*ISCJB **04** 22:07:46.1±0.2, 61°.32N±0°.02×150°.87W±0°.04, h74km±3km, mb3.5/3, Error ellipse: s-maj=3.4km s-min=2.5km az=139.7*
*IDC **04** 22:07:46.3±1.3, 61°.29N×151°.07W, h47km±17km, mb3.2/3, mb1 3.7/6, mb1mx3.3/43, mbtmp3.6/6, ML3.6/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/22, Error ellipse: s-maj=24.5km s-min=9.5km az=109.0*
*NEIC **04** 22:07:47.8±0.0, 61°.32N×150°.89W, h56km, ML3.6(AEIC), After AEIC.*
NEIC Felt [II] at Anchorage. Also felt at Wasilla.

ISC 04 22:07:47.6±0.9, 61°.31N±0°.03×150°.90W±0°.03, h62km±6km, n100, σ0°96/122, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.17	27	P	Pn	22 07 56.5	-0.8
SUA				S	Sn	22 08 04.0	-0.3
FIB	Fire Island	0.38	112	P	Pn	22 07 58.6	+0.1
FIB				S	Sn	22 08 08.2	+1.7
VOGL	Vogel Lake	0.39	144	P	Pn	22 07 59.1	+0.5
STLK	Strandline Lak	0.49	293	P	Pn	22 07 59.0	-0.7
SPCG	Spurr Capps Gl	0.54	268	P	Pn	22 07 59.5	-0.8
SPCG				S	Sn	22 08 09.1	-0.4
NKA	Nikishka	0.59	196	P	Pn	22 08 02.0	+1.3
RC01	Rabbit Creek A	0.61	111	ePg	Pn	22 08 00.1	-0.7
RC01				eS	Sn	22 08 10.9	+0.3
SPCP	Crater Peak Br	0.61	266	P	Pn	22 08 00.2	-0.8
CKL	Chakachamna La	0.70	261	P	Pn	22 08 01.2	-0.9
SKT	Skwentna	0.73	336	P	Pn	22 08 01.2	-1.1
SKT				S	Sn	22 08 12.7	-0.6
SPWE	Spurr West	0.80	268	P	Pn	22 08 02.6	-0.6
SLKM	Skilak Lake	0.87	157	P	Pn	22 08 03.5	-0.6
PMR	Palmer	0.90	71	ePg	Pn	22 08 03.5	-0.8
PMR				eS	Sn	22 08 17.0	+0.4
BGRM	Barrier Glacie	0.93	234	P	Pn	22 08 03.9	-0.9
GHO	Glory Hole Cre	1.05	63	P	Pn	22 08 05.9	-0.5
GHO				S	Sn	22 08 20.9	+0.5
DFR	Drift River	1.13	231	P	Pn	22 08 06.9	-0.5
CUT	Chulitna	1.14	15	P	Pn	22 08 06.8	-0.6
RDJH	Redoubt Jeurge	1.18	233	P	Pn	22 08 07.6	-0.5
KNK	Knik Glacier	1.18	84	P	Pn	22 08 07.6	-0.4
KNK				S	Sn	22 08 24.5	+1.1
REF	Redoubt East F	1.21	228	P	Pn	22 08 08.0	-0.6
REF				S	Sn	22 08 24.2	0.0
RDWB	Redoubt West	1.26	230	P	Pn	22 08 08.8	-0.4
RDWB				S	Sn	22 08 25.6	+0.3
RED	Redoubt Volcan	1.28	226	P	Pn	22 08 09.0	-0.4
SML	Sawmill	1.33	67	ePn	Pn	22 08 09.2	-0.8
SML				eS	Sn	22 08 26.6	-0.2
PWL	Port Wells	1.33	109	P	Pn	22 08 09.3	-0.6
PWL				S	Sn	22 08 27.1	+0.3
SEW	Seward	1.41	149	P	Pn	22 08 10.1	-0.9
SEW				S	Sn	22 08 29.3	+0.7
ILIM	Iliamna	1.60	220	P	Pn	22 08 13.6	0.0
INE	Iliamna NE	1.65	221	P	Pn	22 08 14.9	+0.6
IVE	Iliamna Volcan	1.67	220	P	Pn	22 08 14.5	-0.1
HOM	Homer	1.70	193	P	Pn	22 08 15.6	+0.7
PPLA	Purkeypile	1.70	340	P	Pn	22 08 14.6	-0.5
ILS	Iliamna Low So	1.73	219	P	Pn	22 08 15.6	+0.1
SCM	Sheep Creek Mo	1.79	71	P	Pn	22 08 15.5	-0.7
CNPM	China Poot	1.80	185	P	Pn	22 08 16.1	-0.2
GLI	Glacier Island	1.90	102	P	Pn	22 08 16.0	-1.7
GLI				S	Sn	22 08 39.8	-0.7
JPK	Jack Peak	2.10	95	P	Pn	22 08 19.1	-1.3
TRF	Thorofare Moun	2.17	7	P	Pn	22 08 21.6	+0.2
CAST	Castle Rocks	2.19	346	P	Pn	22 08 21.3	-0.3
VLZ	Valdez	2.22	93	P	Pn	22 08 20.7	-1.2
FID	Port Fidalgo	2.23	103	P	Pn	22 08 19.8	-2.2
KTH	Kantishna Hill	2.25	360	ePn	Pn	22 08 22.7	+0.2
KTH				eS	Sn	22 08 45.9	-3.2
SVW2	Sparrevohn	2.28	267	P	Pn	22 08 21.8	-0.9
RND	Reindeer	2.31	24	P	Pn	22 08 23.1	-0.2
AUE	Augustine Isla	2.31	213	P	Pn	22 08 23.3	+0.1
AUNW	Augustine NWes	2.33	215	P	Pn	22 08 24.0	+0.6
AUJK	Augustine Jueg	2.33	213	P	Pn	22 08 23.6	+0.1
HIN	Hinchinbrook I	2.34	111	P	Pn	22 08 22.2	-1.4
KLU	Klutina	2.40	84	P	Pn	22 08 23.4	-1.1
DHY	Denali Highway	2.42	42	P	Pn	22 08 24.5	-0.4
DIV	Divide	2.49	92	ePn	Pn	22 08 24.1	-1.6
DIV				eS	Sn	22 08 53.6	-1.3
MCK	McKinley	2.59	20	P	Pn	22 08 27.7	+0.6
CHUM	Lake Minchumin	2.66	346	P	Pn	22 08 27.9	-0.1
PS11	TAPS Pump St11	2.70	71	P	Pn	22 08 28.5	0.0
CDD	Cape Douglas	2.76	211	P	Pn	22 08 29.7	+0.4
FOPK	Fourpeaked Vol	2.87	208	P	Pn	22 08 31.3	+0.5
FOSS	Fourpeaked Sta	2.88	210	P	Pn	22 08 31.2	+0.2
TT01	Tatalina	2.89	306	P	Pn	22 08 30.4	-0.6
HARP	HAARP	2.94	66	P	Pn	22 08 31.7	-0.1
MID	Middleton Isla	2.95	128	P	Pn	22 08 31.1	-0.8
PAX	Paxson	3.04	55	P	Pn	22 08 33.5	+0.2
BMRM	Bremner River	3.07	94	P	Pn	22 08 32.7	-0.9
GOAT	Goat Mountain	3.10	101	P	Pn	22 08 32.3	-1.8
KAHC	Katmai Hardscr	3.38	219	P	Pn	22 08 37.7	-0.2
WRH	Wood River Hil	3.42	21	P	Pn	22 08 39.0	+0.7
KAWH	Katmai	3.54	216	P	Pn	22 08 40.0	0.0
HDA	Harding Lake	3.60	29	P	Pn	22 08 41.5	+0.8
CCB	Clear Creek Bu	3.63	22	P	Pn	22 08 41.5	+0.3
KDAK	Kodiak Island	3.64	194	P	Pn	22 08 40.1	-1.3
	2.0nm,0.3s,baz=52,slow=7.7,SNR=64					
KDAK				S	Sn	22 09 21.1	-2.0
	10.0nm,0.3s,baz=21,slow=20,SNR=3.5					
KDAK				LR	LR	22 10 09.8	
	comp=Z,63nm,19.8s,baz=105,slow=40					
KDAK	Kodiak Island	3.64	194	ePn	Pn	22 08 41.0	-0.3
KDAK				eS	Sn	22 09 20.4	-2.6
KVTA	Katmai Vly 10	3.68	219	P	Pn	22 08 42.0	0.0
KAKN	Katmai Knife C	3.68	217	P	Pn	22 08 42.1	+0.1
PS08	TAPS Pump Stn8	3.74	28	P	Pn	22 08 43.7	+1.0
KELA	Mount Kelaz	3.78	222	P	Pn	22 08 43.5	+0.2
KABR	Katmai Barrier	3.80	215	P	Pn	22 08 44.1	+0.5
COLA	College	3.83	20	ePn	Pn	22 08 44.8	+0.8
COLA				eS	Sn	22 09 26.8	-0.9
KHIT	Khitrov Hills	3.84	100	P	Pn	22 08 42.6	-1.6
MDM	Murphy Dome	3.85	17	P	Pn	22 08 44.5	+0.2
ILAR	Eielson Array	3.92	26	P	Pn	22 08 45.4	+0.2
	4.0nm,0.3s,baz=211,slow=13,SNR=115					
ILAR				S	Sn	22 09 30.5	+0.6
	22nm,0.3s,baz=216,slow=22,SNR=18					
ILAR				LR	LR	22 10 32.8	
	comp=Z,88nm,20.4s,baz=306,slow=42					
ILB	Eielson Array	3.92	26	P	Pn	22 08 45.2	0.0
DOT	Dot Lake	3.94	51	P	Pn	22 08 45.2	-0.3
TGL	Tana Glacier	3.97	95	P	Pn	22 08 45.5	-0.4
PTPK	Patty Peak	4.08	88	P	Pn	22 08 46.5	-1.0
BARK	Barkley Ridge	4.21	99	P	Pn	22 08 47.7	-1.6
ISLE	Juniper Island	4.24	96	P	Pn	22 08 48.6	-1.0
OHAK	Old Harbor	4.28	198	P	Pn	22 08 49.8	-0.3
BAGL	Bagley Icefiel	4.38	97	P	Pn	22 08 50.6	-0.9
GRNC	Granite Creek	4.49	93	P	Pn	22 08 52.5	-0.7
MESA	MESA	4.54	101	P	Pn	22 08 53.8	0.0
BCA3	Beaver Creek A	4.62	64	P	Pn	22 08 54.1	-0.6
CTGM	Chitina Glacie	4.65	90	P	Pn	22 08 54.8	-0.5
LOGN	Logan Glacier	4.83	91	P	Pn	22 08 56.6	-1.2
IM3	Indian Mountai	4.86	346	P	Pn	22 08 57.5	-0.5
EGAK	Eagle	5.63	48	ePn	Pn	22 09 07.7	-0.8
EGAK				eS	Sn	22 10 14.3	+2.6
COLD	Coldfoot	5.95	3	ePn	Pn	22 09 13.5	+0.7
COLD				eS	Sn	22 10 19.0	-0.5
DAWY	Dawson	5.97	57	ePn	Pn	22 09 12.6	-0.7
	12nm,0.6s						
DAWY				eS	Sn	22 10 31.8	+12
BM3	Burnt Mountain	6.71	21	P	Pn	22 09 23.1	-0.2
INK	Inuvik	10.16	39	P	Pn	22 10 08.2	-2.2
	0.5nm,0.3s,baz=261,slow=13,SNR=5.5						
INK				S	Sn	22 12 05.7	+3.1
	0.3nm,0.3s,baz=333,slow=18,SNR=1.7						
DLBC	Dease Lake	10.87	96	LR	LR	22 14 58.5	
	comp=Z,59nm,20.2s,baz=228,slow=40						
TXAR	Lajitas Array	44.52	114	P	P	22 15 53.0	+0.2
	0.5nm,0.6s,baz=326,slow=5.8,SNR=7.9						
SONM	Songino Array	54.85	306	P	P	22 17 10.7	-0.4
	0.7nm,0.7s,baz=47,slow=6.0,SNR=6.5						
MKAR	Makanchi Array	64.04	322	P	P	22 18 15.1	+0.8
	0.2nm,0.6s,baz=31,slow=8.6,SNR=2.0						

MAN 04 22:09:58, 12°.42N×120°.76E, h33km, mb3.9, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.36	84	eP	Pn	22 10 08.0	+1.2
SJMP				eS	Sn	22 10 15.0	+2.4
BUSP	Coron	0.69	233	eP	Pb	22 10 12.0	+0.4
BUSP				eS	Sn	22 10 22.3	+1.3
PGP	Puerto Galera	1.09	10	⇓eP	Pn	22 10 17.5	+0.5
PGP				i S	Sn	22 10 31.0	0.0

TAP 04 22:54:13.6, 24°.66N×121°.19E, h6km, ML3.7, 8C-13D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSK	Sanguang	0.16	83	⇓iP	Pg	22 54 17.7	+0.9
NSK				i S	Sg	22 54 20.1	+1.1
NSTT	Nanjuang	0.17	261	⇓iP	Pg	22 54 17.9	+0.9
NSTT				i S	Sg	22 54 20.7	+1.4
HSN	Hsinchu	0.24	306	⇑iP	Pg	22 54 19.8	+1.5
HSN				S	Sg	22 54 24.1	+2.5
NNS	Nan Shan	0.28	142	⇑iP	Pb	22 54 20.2	-0.7
NNS				i S	Sb	22 54 24.3	-1.6
NCU	National Centr	0.31	0	⇑iP	Pb	22 54 21.4	-0.2
NCU				S	Sb	22 54 27.2	+0.3
ENTT	Nioudou	0.35	93	⇓iP	Pb	22 54 21.4	-0.8
ENTT				S	Sg	22 54 26.1	+1.2
TWT	Tachien	0.40	181	⇑iP	Pg	22 54 22.2	+0.8
TWT				S	Sg	22 54 27.4	+0.7
TWE	Neicheng	0.44	82	⇓iP	Pb	22 54 23.2	-0.5
TWE				i S	Sg	22 54 29.0	+1.1
NSY	Sanyi	0.46	238	⇓iP	Pb	22 54 24.2	+0.3
NSY				S	Sb	22 54 31.3	+0.3
TAP	Taipei	0.48	37	P	Pb	22 54 24.2	-0.1
TAP				S	Sb	22 54 32.3	+0.6
TWA	Mucha	0.48	48	⇓iP	Pb	22 54 24.3	-0.2
TWA				i S	Sb	22 54 31.3	-0.6
TWQ1	Liyutan	0.48	231	⇓iP	Pb	22 54 24.5	0.0
TWQ1				S	Sb	22 54 31.5	-0.4
TAP1	Taipei	0.49	39	eP	Pb	22 54 24.0	-0.5
TAP1				S	Sb	22 54 31.8	-0.1
TWS1	Kuangyinshan	0.49	26	⇓iP	Pb	22 54 25.2	+0.6
TWS1				S	Sb	22 54 32.8	+0.8
WHF	Hehuan Shan	0.52	172	⇑iP	Pb	22 54 25.0	-0.2
WHF				S	Sb	22 54 32.0	-1.1
ILA	Ilan	0.52	78	P	Pg	22 54 24.3	+0.7
ILA				eS	Sb	22 54 32.1	-0.9
ENA	Nanau	0.56	114	eP	Pb	22 54 25.6	0.0
ENA				eS	Sg	22 54 32.1	+0.6
TWC	Suao	0.61	94	P	Pg	22 54 25.8	+0.6
TWC				S	Sg	22 54 33.8	+0.7
NWF	Wu-fen Shan	0.68	53	⇓iP	Pb	22 54 27.9	0.0
NWF				S	Sb	22 54 37.5	-0.1
TWD	Chiawan	0.69	147	⇑iP	Pb	22 54 27.8	-0.1
TWD				S	Sg	22 54 36.5	+0.8
TCU	Taichung	0.69	223	eP	Pn	22 54 28.9	-0.9
TCU				eS	Sb	22 54 39.1	+1.5
TWY	Chenhua	0.72	31	eP	Pb	22 54 29.2	+0.7
TWY				eS	Sn	22 54 40.8	-0.8
HWA	Hwalien	0.78	150	eP	Pb	22 54 29.8	+0.3
TYC	Yuchr	0.81	202	⇑P	Pb	22 54 29.7	-0.3
TWB1	Santiao Chiao	0.81	64	⇓P	Pb	22 54 29.6	-0.4
TWB1				eS	Sb	22 54 40.8	-0.4
SMLT	Sun Moon Lake	0.81	199	eP	Pb	22 54 29.8	-0.4
SMLT				eS	Sb	22 54 42.3	+0.9
ESL	Shilin	0.87	165	P	Pb	22 54 30.9	-0.1
ESL				eS	Sb	22 54 42.2	-0.6
WNT	Mingjian	0.90	211	eP	Pn	22 54 32.8	+0.1
WGK	Gukeng	1.12	211	eP	Pn	22 54 36.6	+0.8
WTCT	Ta-ch'eng	1.14	226	eP	Pn	22 54 35.9	-0.1
WTCT				eS	Sn	22 54 52.3	+0.3
CHN5	Tsauling	1.15	204	⇓P	Pn	22 54 36.6	+0.3
CHN5				S	Sn	22 54 52.5	+0.2
EHY	Hungye	1.15	174	eP	Pg	22 54 35.5	-0.1
EHY				eS	Sg	22 54 50.7	+0.1
YUS	Yu-Shan	1.18	190	eP	Pg	22 54 36.3	0.0
ALS	Alishan	1.19	197	eP	Pn	22 54 37.2	+0.2
ALS				eS	Sn	22 54 55.2	+1.6
CHN2	Minshiung	1.29	210	eP	Pn	22 54 37.8	-0.3
CHN2				eS	Sn	22 54 56.9	+1.2
TWF1	Yuli	1.30	175	eP	Pn	22 54 38.1	-0.2
TWF1				S	Sg	22 54 55.7	+0.2
WSF	Szhu	1.34	221	eP	Pn	22 54 38.9	+0.1
WSF				eS	Sn	22 54 57.6	+0.7
CHN4	Tsaushan	1.41	203	⇓P	Pg	22 54 40.6	0.0
CHN4				S	Sg	22 55 00.1	+1.3
ELDTW	Lidau	1.47	186	eP	Pb	22 54 41.2	-0.1
ELDTW				eS	Sg	22 55 02.2	+1.3
WTP	Ta-pu	1.50	201	eP	Pn	22 54 41.2	+0.2
WTP				eS	Sg	22 55 02.5	+0.7
TWK	Hsinying	1.52	205	eP	Pb	22 54 41.8	-0.4
TWK				eS	Sg	22 55 03.2	+0.7
STYT	Tauyuan	1.54	195	eP	Pb	22 54 42.7	+0.2
STYT				eS	Sg	22 55 04.5	+1.5
CHKT	Chengkung	1.56	174	eP	Pn	22 54 42.1	+0.3
CHN8	Yiju	1.58	215	eP	Pn	22 54 42.4	+0.3
CHN8				eS	Sg	22 55 04.5	+0.1
CHN1	Nanshi	1.58	202	⇑eP	Pb	22 54 42.9	-0.3
CHN1				eS	Sg	22 55 05.0	+0.5
SGST	Jiashian	1.66	199	⇓eP	Pb	22 54 44.5	-0.1
SGST				eS	Sg	22 55 07.9	+0.9
YOJ	Yonaguni jima	1.67	96	eP	Pn	22 54 43.7	+0.4
TWG	Pinlang	1.83	183	eP	Pb	22 54 47.9	+0.5
TWG				eS	Sg	22 55 12.8	+0.4
PNG	Penghu	1.84	234	eP	Pn	22 54 44.9	-0.8
SSD	Sandimen	1.97	195	eP	Pg	22 54 50.6	-0.7
WDGT	Dungji	1.97	225	eP	Pb	22 54 49.6	-0.2
WDGT				eS	Sb	22 55 14.6	+0.1
ECL	Taimali	2.06	186	eP	Pb	22 54 52.1	+0.7
EAST	Anshuo	2.29	188	eP	Pb	22 54 55.2	0.0

IDC 04 23:25:57.2±4.2, 40°.86S×76°.34W, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.7/24, mbtmp3.8/4, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/16, Error ellipse: s-maj=85.3km s-min=32.2km az=13.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.40	90	Pn	Pn	23 27 05.1	-0.2
	1.0nm,0.3s,baz=302,slow=13,SNR=22						
PLCA				Sn	Sn	23 28 00.3	+3.0
	1.5nm,0.3s,baz=304,slow=13,SNR=2.3						
USHA	Ushuaia	14.94	162	LR	LR	23 34 56.4	
	comp=Z,465nm,18.2s,baz=272,slow=36						
LVC	Limon Verde	19.25	21	P	P	23 30 23.7	+0.3
	9.4nm,0.3s,baz=211,slow=8.6,SNR=3.9						
CPUP	Villa Florida	21.40	53	P	P	23 30 45.8	-0.7
	2.2nm,0.8s,baz=215,slow=8.4,SNR=5.3						
CPUP				LR	LR	23 39 41.4	
	comp=Z,51nm,19.3s,baz=240,slow=38						
TXAR	Lajitas Array	74.29	335	P	P	23 37 36.4	+0.2
	0.3nm,0.8s,baz=150,slow=7.3,SNR=3.0						

WEL 04 23:26:51.1±0.1, 39°.80S×177°.13E, h22km±1km, ML3.6/48, 9C-5D, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	0.15	344	P*	Pb	23 26 55.1	-0.8
CKHZ				S*	Sb	23 26 59.0	-0.2
CKHZ				S*		23 26 59.0	
KAHZ	Kahuranaki	0.20	273	⇓P*	Pb	23 26 55.7	-0.8
KAHZ				S*	Sb	23 27 00.9	+0.7
KAHZ				AML	AML	23 27 07.7	
PXZ	Pawanui	0.31	222	⇓P*	Pb	23 26 58.6	+0.5
PXZ				AML	AML	23 27 06.7	
PXZ				AML	AML	23 27 06.7	
PXZ				AML	AML	23 27 06.7	
PXZ				AML	AML	23 27 06.8	
MCHZ	McNeill Hill	0.49	317	⇓P*	Pb	23 27 00.8	-0.3
MCHZ				AML	AML	23 27 10.1	
MCHZ				AML	AML	23 27 10.9	
ARHZ	Aropaoanui	0.55	349	⇑P*	Pb	23 27 02.5	+0.4
ARHZ				AML	AML	23 27 12.8	
ARHZ				AML	AML	23 27 12.8	
WPHZ	Waipukurau	0.59	244	⇑P*	Pb	23 27 02.8	0.0
WPHZ				AML	AML	23 27 17.7	
WPHZ				AML	AML	23 27 21.1	
PRHZ	Porangahau	0.60	219	P*	Pb	23 27 03.0	0.0
PRHZ				AML	AML	23 27 18.1	
PRHZ				AML	AML	23 27 19.5	
KRHZ	Kereru	0.61	285	P*	Pb	23 27 02.6	-0.6
KRHZ				AML	AML	23 27 12.4	
KRHZ				AML	AML	23 27 12.7	
KWHZ	Kaweka Forest	0.67	304	P*	Pb	23 27 03.6	-0.6
KWHZ				AML	AML	23 27 15.4	
KWHZ				AML	AML	23 27 18.9	
PNHZ	Pukenui	0.73	261	⇑P*	Pb	23 27 04.5	-0.6
PNHZ				AML	AML	23 27 16.4	
PNHZ				AML	AML	23 27 16.9	
WHHZ	Waihua	0.73	6	P*	Pb	23 27 05.4	+0.2
WHHZ				AML	AML	23 27 19.2	
WHHZ				AML	AML	23 27 19.3	
NMHZ	Naumai	0.75	340	⇑P*	Pb	23 27 05.5	0.0
NMHZ				AML	AML	23 27 18.3	
NMHZ				AML	AML	23 27 18.8	
BKZ	Black Stump Fm	0.81	322	⇑P*	Pb	23 27 05.9	-0.6
BKZ				AML	AML	23 27 18.6	
BKZ				AML	AML	23 27 20.3	
ANWZ	Angora Road	0.83	217	P*	Pb	23 27 06.5	-0.3

ANWZ			AML	AML	23 27 26.7	
ANWZ			AML	AML	23 27 29.5	
BHHZ	**Black Hill Sta**	**0.88 290**	⇑P*	Pb	23 27 06.7	-1.1
BHHZ			AML	AML	23 27 19.5	
BHHZ			AML	AML	23 27 19.6	
MHGZ	**Mahia Peninsul**	**0.88 43**	P*	Pb	23 27 07.5	-0.3
MHGZ			AML	AML	23 27 58.6	
MHGZ			AML	AML	23 27 59.5	
KNZ	**Kokohu**	**0.89 28**	P*	Pb	23 27 07.4	-0.4
KNZ			AML	AML	23 27 29.0	
KNZ			AML	AML	23 27 43.5	
DVHZ	**Dannevirke**	**0.89 236**	⇑P*	Pb	23 27 06.8	-1.1
DVHZ			AML	AML	23 27 24.9	
DVHZ			AML	AML	23 27 25.1	
TSZ	**Takapari Road**	**0.94 254**	P*	Pb	23 27 07.4	-1.3
TSZ			AML	AML	23 27 23.8	
TSZ			AML	AML	23 27 24.1	
PRGZ	**Paritu Road**	**1.05 34**	PN	Pn	23 27 09.6	-0.9
PRGZ			AML	AML	23 27 39.7	
PRGZ			AML	AML	23 27 47.6	
BFZ	**Birch Farm**	**1.11 217**	PN	Pn	23 27 09.4	-1.9
BFZ			AML	AML	23 27 36.8	
BFZ			AML	AML	23 27 43.7	
MRHZ	**Matea Rd**	**1.12 330**	PN	Pn	23 27 11.0	-0.4
MRHZ			AML	AML	23 27 29.2	
MRHZ			AML	AML	23 27 31.2	
MOVZ	**Moawhango**	**1.14 290**	PN	Pn	23 27 10.7	-1.0
MOVZ			AML	AML	23 27 27.1	
MOVZ			AML	AML	23 27 27.5	
PRWZ	**Pori Road**	**1.16 229**	PN	Pn	23 27 10.8	-1.2
PRWZ			AML	AML	23 27 35.4	
PRWZ			AML	AML	23 27 41.2	
RTZ	**Ruatahuna**	**1.19 354**	⇑PN	Pn	23 27 11.4	-1.1
POWZ	**Post Office Ro**	**1.20 240**	PN	Pn	23 27 11.2	-1.4
POWZ			AML	AML	23 27 39.8	
POWZ			AML	AML	23 27 39.9	
RIGZ	**Rimuhau**	**1.20 24**	*e*PN	Pn	23 27 12.0	-0.6
RIGZ			AML	AML	23 27 41.8	
RIGZ			AML	AML	23 27 52.4	
TUVZ	**Tukino**	**1.26 295**	PN	Pn	23 27 13.4	-0.2
TUVZ			AML	AML	23 27 32.6	
TUVZ			AML	AML	23 27 36.5	
WNVZ	**Wahianoa**	**1.28 291**	⇓PN	Pn	23 27 13.5	-0.3
RITZ	**Rihia Road**	**1.29 309**	PN	Pb	23 27 14.3	-0.3
RITZ			AML	AML	23 27 37.3	
RITZ			AML	AML	23 27 41.5	
WHVZ	**Whangaehu Hut**	**1.30 293**	PN	Pn	23 27 14.0	-0.1
WHVZ			AML	AML	23 27 33.2	
WHVZ			AML	AML	23 27 34.7	
OTVZ	**Oturere**	**1.30 299**	PN	Pn	23 27 13.8	-0.3
OTVZ			AML	AML	23 27 34.0	
OTVZ			AML	AML	23 27 42.4	
DRZ	**Dome Shelter**	**1.32 293**	PN	Pn	23 27 14.6	+0.1
DRZ			AML	AML	23 27 35.2	
DRZ			AML	AML	23 27 36.7	
RAGZ	**Rawiri**	**1.32 10**	PN	Pn	23 27 13.6	-0.7
RAGZ			AML	AML	23 27 43.5	
RAGZ			AML	AML	23 27 48.5	
FWVZ	**Far West T-bar**	**1.34 294**	PN	Pn	23 27 14.3	-0.4
FWVZ			AML	AML	23 27 34.0	
FWVZ			AML	AML	23 27 39.2	
NGZ	**Ngauruhoe**	**1.34 297**	PN	Pn	23 27 14.3	-0.3
NGZ			AML	AML	23 27 37.1	
NGZ			AML	AML	23 27 40.4	
MTVZ	**Mangateitei**	**1.35 288**	PN	Pn	23 27 14.9	+0.2
MTVZ			AML	AML	23 27 39.8	
MTVZ			AML	AML	23 27 39.9	
MUGZ	**Murupara**	**1.35 348**	PN	Pn	23 27 13.8	-0.9
KRVZ	**Karewarewa**	**1.35 301**	PN	Pn	23 27 14.7	-0.1
KRVZ			AML	AML	23 27 44.2	
KRVZ			AML	AML	23 27 45.3	
WTVZ	**West Tongariro**	**1.38 299**	PN	Pn	23 27 15.2	+0.1
WTVZ			AML	AML	23 27 38.1	
WTVZ			AML	AML	23 27 38.2	
ALRZ	**Allen Road**	**1.38 333**	PN	Pn	23 27 15.0	-0.1
ALRZ			AML	AML	23 27 39.2	
ALRZ			AML	AML	23 27 50.0	
RATZ	**Rangitukua**	**1.41 311**	PN	Pb	23 27 16.4	-0.4
RATZ			AML	AML	23 27 45.9	
RATZ			AML	AML	23 27 51.2	
PRRZ	**Plateau Road**	**1.42 336**	AML	AML	23 27 41.1	
PRRZ			AML	AML	23 27 41.4	
WHTZ	**Whakaora**	**1.46 321**	PN	Pb	23 27 17.6	0.0
MRZ	**Mangatainoka R**	**1.47 234**	PN	Pn	23 27 14.3	-1.9
MRZ			AML	AML	23 27 41.2	
MRZ			AML	AML	23 27 44.5	
PKVZ	**Pokaka**	**1.47 290**	PN	Pn	23 27 16.7	+0.3
PKVZ			AML	AML	23 27 46.6	
MWZ	**Matawai**	**1.50 12**	PN	Pn	23 27 15.1	-1.5
MWZ			AML	AML	23 27 50.2	
MWZ			AML	AML	23 27 58.1	
TWVZ	**Taurewa**	**1.50 299**	PN	Pn	23 27 17.4	+0.6
TWVZ			AML	AML	23 27 44.3	
TWVZ			AML	AML	23 27 44.5	
URZ	**Urewera**	**1.54 359**	⇓PN	Pn	23 27 16.1	-1.1
URZ			AML	AML	23 27 53.0	
URZ			AML	AML	23 27 53.5	
TARZ	**Mount Tarawera**	**1.64 342**	PN	Pn	23 27 18.1	-0.6
TARZ			AML	AML	23 27 47.7	
TARZ			AML	AML	23 27 58.2	
HOWZ	**Holdsworth Sta**	**1.65 228**	PN	Pn	23 27 16.5	-2.3
HOWZ			AML	AML	23 27 54.4	
HOWZ			AML	AML	23 27 58.1	
WAZ	**Wanganui**	**1.66 271**	⇑PN	Pn	23 27 19.2	+0.4
WAZ			AML	AML	23 27 48.1	
WAZ			AML	AML	23 27 50.0	

*NIED **04** 23:37:00, 45.10N×149.90E, h53km, Mw4.0 Best double couple: M0 1.0000×10^15 NP1:φ=303.00000°, δ=29.00000°, λ=-20.00000°. NP2:φ=51.00000°, δ=80.00000°, λ=-118.00000°.*
*ISCJB **04** 23:37:43.8±0.6, 44.82N±0.07×149.99E±0.07, h51km, mb3.8/13, MS3.9/2, Error ellipse: s-maj=11.5km s-min=4.0km az=150.6*
*JMA **04** 23:37:45.1±0.4, 45.09N×149.91E, h30km, M4.5*
*MOS **04** 23:37:45.6±1.1, 45.07N×149.87E, h69km, mb4.3/6, Error ellipse: s-maj=15.7km s-min=11.7km az=140.0*
*SKHL **04** 23:37:47.3±1.6, 44.84N×149.90E, h42km±4km, mb5.1/3*
*IDC **04** 23:37:48.5±2.7, 45.14N×149.85E, h75km±23km, mb3.6/13, mb1 3.8/16, mb1mx3.6/47, mbtmp3.9/16, MS3.3/4, Ms1 3.2/4, ms1mx2.7/42, Error ellipse: s-maj=24.7km s-min=14.5km az=158.0*

ISC 04 23:37:44.7±0.7, 44.75N±0.07×150.00E±0.07, h51km, n57, σ2S14/59, mb3.8/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.59**	**288**	*e*PN	**Pn**	**23 38 11.3**	**+0.9**
KUR				*i* S	**Sn**	**23 38 28.3**	**-1.5**
KUR	comp=N,106nm,0.1s			pmax	pmax		
KUR	comp=E,137nm,0.1s			pmax	pmax		
KUR	comp=Z,532nm,0.1s			pmax	pmax		
KUR	comp=Z,869nm,1.0s			pmax	pmax		
KUR	comp=N,1μm,0.2s			smax	smax		
KUR	comp=E,260nm,0.1s			smax	smax		
KUR	**Kuril'sk**	**1.59**	**288**	*e*P	**Pn**	**23 38 11.3**	**+0.9**
KUR				AMB	AMB	23 38 11.7	
KUR	comp=E,530nm,0.1s			*i* S	**Sn**	**23 38 28.3**	**-1.5**
KUR				A	A	23 38 32.0	
KUR	comp=E,1μm,0.2s			A	A	23 38 32.0	
KUR	comp=E,260nm,0.2s						
SHO	**Shikotan**	**2.44**	**250**	*e*PN	**Pn**	**23 38 22.7**	**+0.7**
SHO				*e*S	**Sn**	**23 38 50.6**	**-0.1**
SHO	comp=E,51nm,0.3s			pmax	pmax		
SHO	comp=Z,73nm,0.3s			pmax	pmax		
SHO	comp=N,12nm,0.2s			pmax	pmax		
SHO	comp=E,560nm,0.4s			smax	smax		
SHO	comp=N,103nm,0.2s			smax	smax		
SHO	**Shikotan**	**2.44**	**250**	*e*P	**Pn**	**23 38 22.7**	**+0.7**
SHO				AMB	AMB	23 38 28.5	
SHO	comp=N,75nm,0.3s			*e*S	**Sn**	**23 38 50.6**	**-0.1**
SHO				A	A	23 38 58.8	
SHO	comp=N,560nm,0.4s			A	A	23 38 58.8	
SHO	comp=N,630nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.05**	**258**	*e*PN	**Pn**	**23 38 33.3**	**+2.9**
YUK				*e*S	**Sn**	**23 39 08.6**	**+2.9**
YUK	comp=Z,217nm,0.3s			pmax	pmax		
YUK	comp=E,27nm,0.1s			pmax	pmax		
YUK	comp=N,79nm,0.2s			pmax	pmax		
YUK	comp=N,505nm,0.5s			smax	smax		
YUK	comp=E,280nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**3.05**	**258**	*e*P	**Pn**	**23 38 32.6**	**+2.2**
YUK				AMB	AMB	23 38 34.4	
YUK	comp=E,220nm,0.3s			*e*S	**Sn**	**23 39 06.3**	**+0.6**
YUK				A	A	23 39 18.0	
YUK	comp=E,530nm,0.6s			A	A	23 39 18.0	
YUK	comp=E,629nm,0.6s						
NEM2	**Nemuro 2**	**3.37**	**247**	P	**Pn**	**23 38 35.9**	**+1.2**
NEM2				*e*S	**Sn**	**23 39 13.7**	**+0.3**
JRA	**Rausu**	**3.59**	**259**	P	**Pn**	**23 38 40.9**	**+3.1**
JNK	**Nakash**	**3.98**	**255**	P	**Pn**	**23 38 45.5**	**+2.4**
JNK				*e*S	**Sn**	**23 39 29.7**	**+1.3**
JAK	**Akkeshi**	**4.22**	**247**	*e*S	**Sn**	**23 39 33.9**	**-0.4**
JTKR	**Abashiri--Toko**	**4.44**	**262**	P	**Pn**	**23 38 52.3**	**+2.9**
JAR	**Ashorobuto**	**4.72**	**254**	P	**Pn**	**23 38 55.8**	**+2.5**
JAR				*e*S	**Sn**	**23 39 47.5**	**+0.7**
JOB	**Onbets**	**4.83**	**250**	P	**Pn**	**23 38 56.7**	**+1.9**
JOB				*e*S	**Sn**	**23 39 50.1**	**+0.7**
JCH	**Churui**	**5.27**	**248**	P	**Pn**	**23 39 02.2**	**+1.4**
JCH				*e*S	**Sn**	**23 39 59.9**	**-0.6**
JKK2	**Kamakawa 2**	**5.28**	**263**	P	**Pn**	**23 39 04.2**	**+3.2**
ASAJ	**Asahikawa**	**5.34**	**266**	P	**Pn**	**23 39 05.0**	**+3.2**
	comp=E,3.6nm,0.3s,baz=66,slow=14,SNR=8.8						
ASAJ	**Asahikawa**	**5.34**	**266**	P	**Pn**	**23 39 05.1**	**+3.3**
ASAJ	**Asahikawa**	**5.34**	**266**	PN	**Pn**	**23 39 05.0**	**+3.2**
ASAJ	comp=Z,4.0nm,0.3s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**5.52**	**296**	*e*PN	**Pn**	**23 39 03.7**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.52**	**296**	*e*P	**Pn**	**23 39 07.0**	**+2.7**
ERM	**Erimo**	**5.69**	**244**	*e*PN	**Pn**	**23 39 10.0**	**+3.5**
JNBK	**Urakawa-nobuka**	**5.82**	**247**	P	**Pn**	**23 39 09.3**	**+0.9**
JNBK				*e*S	**Sn**	**23 40 11.6**	**-2.2**
JBT2	**Biratori 2**	**5.87**	**253**	*e*S	**Sn**	**23 40 12.3**	**-2.7**
JNB	**Noboribetsu**	**6.89**	**254**	P	**Pn**	**23 39 25.1**	**+2.0**
JKB	**Kayabe**	**7.14**	**250**	P	**Pn**	**23 39 27.7**	**+1.3**
JKB				*e*S	**Sn**	**23 40 43.2**	**-2.9**
SKR	**Severo-Kuril's**	**7.23**	**33**	*e*P	**Pn**	**23 39 31.2**	**+3.6**
JANG	**Nango**	**7.64**	**238**	*e*S	**Sn**	**23 40 53.0**	**-5.4**
JTM	**Tenmabayashi**	**7.67**	**242**	*e*S	**Sn**	**23 40 54.5**	**-4.8**
JTH	**Tanohata**	**7.71**	**234**	*e*S	Sn	23 40 53.4	-6.8
TYV	**Tymovskoe**	**7.86**	**324**	*e*P	**Pn**	**23 39 39.0**	**+2.7**
JIO	**Ouri**	**9.03**	**229**	*e*S	Sn	23 41 25.4	-7.1
PETK	**Petropavlovsk-**	**9.77**	**28**	P	**Pn**	**23 40 02.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=218,slow=13,SNR=3.2						
MJAR	**Matsushiro Arr**	**12.13**	**232**	LR	LR	23 45 38.8	
	comp=Z,40nm,19.1s,baz=285,slow=38						
USRK	**Ussuriysk Ar.**	**12.88**	**274**	P	**Pn**	**23 40 45.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=88,slow=16,SNR=3.4						
KSRS	**Korea Array**	**18.13**	**254**	LR	LR	23 48 11.6	
	comp=Z,24nm,20.0s,baz=35,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.63**	**145**	T	T	00 14 30.6	
	baz=334,slow=76,SNR=672						
H11N1	**WAKE ISLAND Hy**	**28.64**	**145**	T	T	00 14 31.6	
	baz=334,slow=76,SNR=867						
H11N3	**WAKE ISLAND Hy**	**28.65**	**145**	T	T	00 14 31.9	
	baz=334,slow=76,SNR=787						
H11S1	**WAKE ISLAND Hy**	**29.65**	**147**	T	T	00 15 47.8	
	baz=336,slow=76,SNR=800						
H11S3	**WAKE ISLAND Hy**	**29.66**	**147**	T	T	00 15 48.4	
	baz=336,slow=76,SNR=555						
H11S2	**WAKE ISLAND Hy**	**29.67**	**147**	T	T	00 15 49.4	
	baz=336,slow=76,SNR=416						
SONM	**Songino Array**	**29.99**	**292**	P	**P**	**23 43 48.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=69,slow=9.1,SNR=3.7						
KDAK	**Kodiak Island**	**37.06**	**49**	P	**P**	**23 44 48.6**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=280,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**39.46**	**37**	P	**P**	**23 45 09.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=264,slow=7.8,SNR=13						
ZALV	**Zalesovo Beam**	**42.04**	**307**	PcP	**PcP**	**23 47 25.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=85,slow=3.3,SNR=3.3						
INK	**Inuvik**	**44.50**	**31**	P	**P**	**23 45 50.5**	**0.0**
	comp=Z,2.4nm,0.9s,baz=274,slow=7.0,SNR=9.0						
MKAR	**Makanchi Array**	**45.94**	**298**	P	**P**	**23 46 02.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=60,slow=8.5,SNR=4.1						
MKAR				PcP	**PcP**	**23 47 39.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=158,slow=1.0,SNR=5.6						
FINES	**FINESS Array B**	**64.90**	**334**	P	**P**	**23 48 15.8**	**-2.4**
	comp=Z,1.7nm,0.8s,baz=32,slow=7.0,SNR=3.3						
GEYT	**Alibeck**	**65.74**	**300**	P	**P**	**23 48 22.7**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=40,slow=7.9,SNR=2.3						
PDAR	**Pinedale Array**	**67.69**	**52**	P	**P**	**23 48 36.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=240,slow=1.4,SNR=8.0						
NOA	**NORSAR Array B**	**69.39**	**340**	P	**P**	**23 48 44.9**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=33,slow=7.3,SNR=3.7						
ULM	**Lac du Bonnet**	**69.45**	**39**	LR	LR	00 20 35.8	
	comp=Z,38nm,18.8s,baz=83,slow=37						
ASAR	**Alice Springs**	**69.66**	**196**	P	**P**	**23 48 51.8**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=15,slow=7.7,SNR=2.4						
AKASG	**Malin Array Be**	**71.97**	**325**	P	**P**	**23 49 01.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=38,slow=5.0,SNR=3.5						
GERES	**GERESS Array B**	**79.26**	**332**	P	**P**	**23 49 43.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=52,slow=6.4,SNR=3.5						
RAR	**Rarotonga**	**80.04**	**133**	LR	LR	00 22 38.8	
	comp=Z,79nm,19.2s,baz=78,slow=34						
TXAR	**Lajitas Array**	**80.39**	**58**	P	**P**	**23 49 51.4**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=301,slow=4.3,SNR=32						

IDC 04 23:43:40.4±5.2, 6.95S×129.34E, h114km±64km, mb3.5/1, mb1 3.9/4, mb1mx3.3/39, mbtmp4.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=107.5km s-min=24.3km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.34**	**18**	P	Pn	23 45 12.2	+0.8
	28nm,0.3s,baz=220,slow=14,SNR=18						
SIJI				S	Sn	23 46 18.5	-4.0
	23nm,0.3s,baz=91,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**13.80**	**160**	P	Pn	23 46 50.3	-1.0
	1.2nm,0.3s,baz=340,slow=13,SNR=32						
WRA				S	Sn	23 49 18.2	-5.4
	1.0nm,0.3s,baz=327,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**17.19**	**166**	P	Pn	23 47 34.9	+1.1
	0.6nm,0.3s,baz=351,slow=11,SNR=30						
ASAR				S	Sn	23 50 42.9	-2.4
	0.3nm,0.3s,baz=351,slow=24,SNR=6.4						
TGY	**Tagaytay City**	**22.51**	**338**	LR	LR	23 58 39.9	
	comp=Z,4.3nm,20.8s,baz=330,slow=40						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	23 54 26.0	-0.2
	0.4nm,0.3s,baz=120,slow=8.0,SNR=13						

*HEL **04** 23:51:06.3, 67.80N×19.90E, h0km, ML1.4, Explosion*
*CSEM **04** 23:51:07.3±0.4, 67.78N×20.35E, h2km, ML0.6, Error ellipse: s-maj=8.5km s-min=7.1km az=38.0, Mining explosion.*

UPP 04 23:51:07.9, 67.81N×20.21E, h0km, ML0.6, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**275**	P	Pg	23 51 12.6	+0.2
RATU				S	Sg	23 51 15.9	+0.5
NIKU	**Nikkaluokta**	**0.45**	**278**	*i* P	Pg	23 51 16.5	0.0
NIKU	**Nikkaluokta**	**0.45**	**278**	P	Pg	23 51 16.5	0.0
LANU	**Lannavaara**	**0.72**	**69**	*e*P	Pg	23 51 21.5	-0.1
LANU	**Lannavaara**	**0.72**	**69**	P	Pg	23 51 21.4	-0.2
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB	Pg	23 51 31.5	+0.1
KIF				*e*S	Sg	23 51 47.1	-0.1
KIF	**Kilpisjarvi**	**1.22**	**10**	Pb	Pg	23 51 31.4	+0.1
KIF				S	Sg	23 51 47.1	-0.1
PAJU	**Pajala**	**1.37**	**124**	*e*P	Pg	23 51 33.3	-0.9
PAJU	**Pajala**	**1.37**	**124**	P	Pg	23 51 33.3	-0.8
HEF	**Hetta**	**1.43**	**63**	*e*PG	Pn	23 51 34.2	-0.9
HEF				MSG		23 51 52.7	
	comp=Z,3.0nm,0.2s						
HEF				*e*SN	Sn	23 51 58.4	+3.9
HEF	**Hetta**	**1.43**	**63**	Sn	Sn	23 51 58.4	+3.9
HEF	**Hetta**	**1.43**	**63**	Pg	Pn	23 51 34.1	-1.0
ERTU	**Ertsjaerv**	**1.48**	**147**	*e*P	Pn	23 51 35.0	-0.6
ERTU	**Ertsjaerv**	**1.48**	**147**	P	Pn	23 51 35.0	-0.7
HARU	**Harads**	**1.68**	**169**	*e*P	Pn	23 51 38.8	+0.4
HARU	**Harads**	**1.68**	**169**	P	Pn	23 51 38.8	+0.4
KALU	**Kalix**	**2.32**	**146**	*e*PB	Pn	23 51 48.5	+1.3
KALU				*e*SG	Sb	23 52 20.4	+0.8
KALU	**Kalix**	**2.32**	**146**	Pb	Pn	23 51 48.5	+1.3
KALU				Sg	Sb	23 52 20.4	+0.8
TOF	**Tornio**	**2.37**	**135**	*e*PB	Pn	23 51 49.6	+1.6
TOF	**Tornio**	**2.37**	**135**	Pb	Pn	23 51 49.6	+1.6
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	23 51 52.0	-0.7
SGF				*e*SG	Sb	23 52 24.4	+1.1
SGF	**Sodankyl**	**2.45**	**96**	Pg	Pb	23 51 51.9	-0.8
SGF				Sg	Sb	23 52 24.4	+1.1
RNF	**Rovaniemi**	**2.56**	**115**	*e*PG	Pb	23 51 54.1	-0.5
RNF				*e*SG	Sg	23 52 29.0	-1.1
RNF	**Rovaniemi**	**2.56**	**115**	Pg	Pb	23 51 54.1	-0.5
ARE0	**ARCESS Array S**	**2.60**	**46**	*e*P	Pn	23 51 52.0	+0.8
ARE0				*e*SB	Sb	23 52 26.3	-1.5
ARE0	**ARCESS Array S**	**2.60**	**46**	P	Pn	23 51 52.0	+0.8
ARE0				Sb	Sb	23 52 26.3	-1.5
OUL	**Oulu**	**3.56**	**137**	*e*P	Pn	23 52 03.9	-0.4
OUL	**Oulu**	**3.56**	**137**	P	Pn	23 52 03.8	-0.5
MSF	**Maaselka**	**3.97**	**114**	*e*PB	Pn	23 52 13.8	+3.8
MSF	**Maaselka**	**3.97**	**114**	Pb	Pn	23 52 13.8	+3.8

*CSEM **04** 23:51:13.4±0.3, 67.81N×20.23E, h1km, ML0.7, Error ellipse: s-maj=16.8km s-min=7.0km az=179.0, Mining explosion.*

UPP 04 23:51:13.6, 67.78N×20.17E, h0km, ML0.7, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.22**	**281**	P	Pg	23 51 18.1	+0.2
RATU				S	Sg	23 51 21.4	+0.6
LANU	**Lannavaara**	**0.74**	**68**	P	Pg	23 51 27.5	-0.2
PAJU	**Pajala**	**1.37**	**122**	P	Pg	23 51 39.0	-0.8

IDC 04 23:57:57.8±19.0, 17.32N×122.02W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.8/21, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/17, Error ellipse: s-maj=363.3km s-min=55.9km az=2.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.63**	**51**	P	P	00 02 39.5	+0.4
	1.0nm,0.9s,baz=225,slow=11,SNR=9.6						
TXAR				LR	LR	00 09 33.7	
	comp=Z,23nm,19.7s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**27.50**	**20**	P	P	00 03 46.2	0.0
	0.2nm,0.4s,baz=211,slow=6.2,SNR=3.7						
ULM	**Lac du Bonnet**	**38.98**	**27**	P	P	00 05 24.9	-0.8
	1.3nm,0.5s,baz=219,slow=9.9,SNR=2.9						
ILAR	**Eielson Array**	**50.30**	**346**	P	P	00 06 56.0	+0.1
	0.5nm,0.8s,baz=163,slow=6.4,SNR=5.4						

*ISCJB **05** 00:11:45.5±0.6, 36.49N±0.05×71.29E±0.08, h10km, mb3.8/4, MS3.5/1, Error ellipse: s-maj=10.7km s-min=5.5km az=148.2*
*IDC **05** 00:11:52.9±5.0, 36.32N×71.20E, h69km±32km, mb3.5/5, mb1 3.6/10, mb1mx3.3/55, mbtmp3.8/10, ML3.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/37, Error ellipse: s-maj=65.6km s-min=26.2km az=148.0*

ISC 05 00:11:47.9±1.0, 36.38N±0.09×71.15E±0.08, h10km, n24, σ2S27/23, mb4.0/4, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.19**	**9**	⇑Pg	**Pn**	**00 13 22.9**	**+3.4**
	2.4nm,0.4s						
MNAS				⇑Lg	Lg	00 14 28.2	
	3.9nm,0.3s						
KK31	**Karatay Array**	**6.74**	**356**	⇑Pn	**Pn**	**00 13 29.7**	**+2.9**
	1.7nm,0.3s,baz=178,slow=13,SNR=24						
KK31				⇑Pg	Pb	00 13 36.0	-9.0
	0.7nm,0.2s,baz=322,slow=15,SNR=5.1						
KK31				⇓Sn	**Sn**	**00 14 42.6**	**-1.0**
	1.8nm,0.3s,baz=182,slow=24,SNR=4.9						
KK31				⇓Lg	Lg	00 15 12.8	
	11nm,0.8s,baz=176,slow=28,SNR=6.0						
AAK	**Ala-Archa**	**6.77**	**21**	P	**Pn**	**00 13 30.4**	**+3.0**
	3.1nm,0.3s,baz=172,slow=6.0,SNR=32						
AAK				S	**Sn**	**00 14 41.0**	**-3.6**
	0.4nm,0.3s,baz=287,slow=10.0,SNR=3.8						
GEYT	**Alibeck**	**10.52**	**282**	P	**Pn**	**00 14 21.3**	**+2.6**
	1.1nm,0.3s,baz=119,slow=10,SNR=19						
GEYT				S	**Sn**	**00 16 13.1**	**-3.5**
	0.8nm,0.3s,baz=110,slow=12,SNR=6.2						
PYUN	**Piuthan**	**12.97**	**126**	*e*P	**Pn**	**00 14 52.8**	**+0.3**
	7.6nm,0.3s						
MKAR	**Makanchi Array**	**13.32**	**35**	P	**Pn**	**00 15 00.7**	**+3.7**
	0.0nm,0.3s,baz=224,slow=13,SNR=2.2						
KOLN	**Koldanda**	**13.59**	**126**	*e*P	**Pn**	**00 15 01.0**	**+0.1**
	5.0nm,0.3s						
GKN	**Gorkha**	**14.13**	**122**	*e*P	**Pn**	**00 15 07.3**	**-1.0**
	10nm,0.4s						
DMN	**Daman**	**14.71**	**123**	*e*P	**Pn**	**00 15 15.3**	**-0.9**
	3.1nm,0.2s						
KKN	**Kakani**	**14.71**	**122**	*e*P	**Pn**	**00 15 14.6**	**-1.6**
	2.5nm,0.2s						
PKIN	**Phulchoki**	**14.92**	**122**	*e*P	**Pn**	**00 15 18.4**	**-0.8**
	7.4nm,0.5s						
KURBB	**Kurchatov Arra**	**15.20**	**18**	P	**Pn**	**00 15 24.8**	**+2.3**
	0.1nm,0.3s,baz=205,slow=11,SNR=4.3						
JIRN	**Jiri**	**15.42**	**120**	*e*P	**Pn**	**00 15 23.7**	**-2.2**
	12nm,0.3s						
RAMN	**Ramite**	**16.15**	**121**	*e*P	**Pn**	**00

PPT2	Papeete2	27.06	70	eLR	LR	00 31 06.8	
114nm,26.0s							
PPT	Papeete	27.07	70	LR	LR	00 31 49.9	
comp=Z,54nm,20.6s,baz=174,slow=29							
STKA	Stephens Creek	36.23	256	P	P	00 25 59.1	+0.8
2.9nm,0.6s,baz=112,slow=11,SNR=11							
STKA				LR	LR	00 40 11.8	
comp=Z,90nm,18.1s,baz=207,slow=35							
TAOE	Nuku Hiva Isla	39.53	66	eLR	LR	00 37 03.8	
192nm,31.0s							
ASAR	Alice Springs	44.78	265	P	P	00 27 09.1	0.0
1.1nm,0.5s,baz=100,slow=7.5,SNR=22							
ASAR				LR	LR	00 46 25.2	
comp=Z,91nm,18.3s,baz=128,slow=37							
WRAB	Tennant Creek	45.70	270	eP	P	00 27 16.8	+0.3
2.0nm,0.6s							
WRA	Warramunga Arr	45.70	270	P	P	00 27 16.0	-0.5
3.0nm,0.7s,baz=109,slow=7.9,SNR=18							
MAW	Mawson	73.55	200	P	P	00 30 29.2	+1.6
1.7nm,0.9s,baz=141,slow=7.2,SNR=4.3							
SNAA	Sanae	78.83	178	P	P	00 30 59.8	+2.1
VNA3	Neumayer Olymp	78.91	176	P	P	00 30 59.8	+1.7
VNA2	Neumayer--Watz	79.37	176	P	P	00 30 56.9	-3.6
baz=173,slow=3.8							
VNA1	Neumayer--Stat	79.59	176	P	P	00 31 03.0	+1.4
TXAR	Lajitas Array	90.63	56	P	P	00 31 57.1	-0.7
0.4nm,0.8s,baz=188,slow=7.6,SNR=4.7							
HLID	Hailey	92.20	40	eP	P	00 32 03.9	-1.0
1.4nm,0.9s							
ILAR	Eielson Array	96.86	12	P	P	00 32 24.7	-0.7
0.2nm,0.6s,baz=223,slow=5.0,SNR=5.0							
ARCES	ARCESS Array B	138.21	349	PKP	PKPdf	00 38 19.6	+0.4
2.2nm,0.9s,baz=2.3,slow=3.0,SNR=3.7							
FINES	FINESS Array B	145.00	342	PKP	PKPab	00 38 29.6	-1.3
2.9nm,0.8s,baz=70,slow=1.6,SNR=9.4							
OBN	Obninsk	145.48	327	ePKPbc	PKPbc	00 38 32.3	-0.3
KBZ	Khabaz	146.04	305	PKPbc	PKPdf	00 38 34.7	+0.8
1.2nm,0.8s,baz=230,slow=3.1,SNR=4.1							
AKASG	Malin Array Be	151.67	325	PKPbc	PKPbc	00 38 48.3	-0.7
2.9nm,0.6s,baz=43,slow=2.9,SNR=10.0							
KIEV	Kiev	151.68	325	ePKPbc	PKPbc	00 38 48.5	-0.6
TORD	Torodi Ar. Bea	163.43	173	PKPab	PKPab	00 39 49.5	+0.3
1.0nm,0.8s,baz=191,slow=4.9,SNR=6.6							

*IDC **05** 00:20:22.4±3.1, 40.°40N×78.°60E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.2/48, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=55.1km s-min=23.7km az=135.0*
*SOME **05** 00:20:26.4, 40.°90N×77.°97E, h10km*
*NNC **05** 00:20:26.5±2.6, 40.°92N×78.°03E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=21.7km s-min=7.7km az=165.0*
*KRNET **05** 00:20:29.2±0.1, 41.°06N×77.°98E, h18km, mb3.3*

ISC 05 00:20:28.7±2.0, 40.°97N±0.°07×78.°10E±0.°04, h3km±11km, n45, σ1°60/83, 27C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	1.35	329	⇑eP	Pn	00 20 52.7	-2.0
baz=331							
KDJ				⇑eS	Sg	00 21 10.7	-1.4
baz=331							
PRZ	Przheval'sk	1.53	8	⇑eP	Pb	00 20 57.3	-0.5
baz=12							
PRZ				⇑eS	Sg	00 21 18.1	+0.3
baz=12							
ANVS	Anan'yevo	1.84	350	⇑eP	Pb	00 21 02.2	-1.0
baz=352							
ANVS				⇑iS	Sb	00 21 26.3	-0.4
baz=352							
ULHL	Ulahol	1.89	313	⇑iP	Pn	00 21 02.2	+0.1
baz=312							
ULHL				⇑iS	Sn	00 21 26.7	+0.1
baz=312							
SATY	Saty	2.10	6	eP	Pb	00 21 07.5	-0.1
69nm,0.4s							
SATY				eS	Sg	00 21 36.9	+0.7
121nm,0.2s							
ZHN	Zhinishke	2.21	6	eP	Pb	00 21 09.2	-0.2
35nm,0.4s							
ZHN				eS	Sg	00 21 39.8	+0.1
186nm,0.3s							
BOOM	Boomskoye usch	2.22	314	⇑eP	Pn	00 21 07.4	+0.8
baz=314							
BOOM				⇑eS	Sn	00 21 35.0	+0.3
baz=314							
TNSS	Tian-Shan	2.24	338	eP	Pb	00 21 08.9	-1.1
81nm,0.3s							
TNSS				eS	Sg	00 21 40.1	-0.5
264nm,0.4s							
MDOK	Medeo	2.33	341	eP	Pb	00 21 10.2	-1.2
33nm,0.4s							
MDOK				eS	Sb	00 21 41.5	+0.8
226nm,0.6s							
IZV	Izvestkoviy	2.34	332	eP	Pb	00 21 10.0	-1.7
58nm,0.3s							
IZV				eS	Sb	00 21 41.8	+0.6
349nm,0.3s							
KOTS	Kotyrbulak	2.38	342	eP	Pb	00 21 11.4	-1.0
67nm,0.3s							
KOTS				eS	Sg	00 21 44.0	-1.1
176nm,0.5s							
AAA	Alma-Ata	2.41	339	eP	Pb	00 21 12.2	-0.5
111nm,0.2s							
AAA				eS	Sg	00 21 44.8	-1.2
512nm,0.5s							
SHLS	Shalkode	2.41	24	eP	Pg	00 21 15.7	+0.9
41nm,0.4s							
SHLS				eS	Sg	00 21 51.0	+5.0
141nm,0.5s							
KZA	Kyzart	2.41	298	⇓iP	Pb	00 21 11.0	-2.0
baz=297							
KZA				⇓iS	Sb	00 21 41.2	-2.1
baz=297							
MTBS	Maitube	2.49	331	eP	Pb	00 21 13.3	-0.9
13nm,0.2s							
MTBS				eS	Sg	00 21 46.8	-1.9
101nm,0.3s							
KURS	Kuram	2.52	1	eP	Pb	00 21 13.1	-1.5
24nm,0.6s							
KURS				eS	Sb	00 21 47.2	+1.2
74nm,0.6s							
KPKS	Kokpek	2.53	10	eP	Pb	00 21 14.7	-0.2
86nm,0.3s							
KPKS				eS	Sg	00 21 49.1	-0.9
259nm,0.6s							
PDGK	Podgornoye	2.57	23	⇓eP	Pb	00 21 13.5	-2.1
baz=26							
PDGK				⇓eS	Sb	00 21 46.7	-1.0
baz=26							
PDGK	Podgornoye	2.57	23	⇓Pg	Pb	00 21 13.3	-2.3
21nm,0.4s							
PDGK				⇓Lg	Lg	00 21 50.3	
76nm,0.4s							
TKM2	Tokmak 2	2.70	317	⇓iP	Pn	00 21 14.9	+1.6
baz=317							
TKM2				⇓iS	Sn	00 21 47.8	+1.2
baz=317							
TKM2	Tokmak 2	2.70	317	⇑Pg	Pn	00 21 15.1	+1.8
12nm,0.4s							
TKM2				⇓Lg	Lg	00 21 53.2	
36nm,0.6s							
DGS	Degeres	2.86	323	eP	Pb	00 21 19.2	-1.2
44nm,0.6s							
DGS				eS	Sb	00 21 57.3	+1.4
98nm,0.4s							
KBK	Karagaybulak	2.90	307	⇑iP	Pn	00 21 17.7	+1.7
baz=306							
KBK				⇑iS	Sn	00 21 52.7	+1.3
baz=306							
KTBS	Karatobe	2.94	339	eP	Pb	00 21 20.8	-0.9
11nm,0.6s							
KTBS				eS	Sb	00 21 59.9	+1.8
75nm,0.8s							
ARLS	Aral	2.98	289	⇑eP	Pn	00 21 17.7	+0.6
baz=288							
ARLS				⇑iS	Sn	00 21 53.8	+0.4
baz=288							
CHKK	Chushkaly	3.00	344	eP	Pb	00 21 22.0	-0.7
45nm,0.5s							
CHKK				eS	Sb	00 22 02.0	+2.2
374nm,0.3s							
MNBS	Baschi	3.12	4	eP	Pb	00 21 22.9	-1.9
24nm,0.3s							
MNBS				eS	Sb	00 22 03.5	+0.3
130nm,0.2s							
AAK	Ala-Archa	3.17	303	Pn	Pb	00 21 25.0	-0.8
8.2nm,0.3s,baz=130,slow=15,SNR=71							
AAK				Sn	Sb	00 22 06.4	+1.5
2.7nm,0.3s,baz=90,slow=20,SNR=11							
AAK	Ala-Archa	3.17	303	⇑iP	Pn	00 21 21.4	+1.7
baz=302							
AAK				⇑iS	Sn	00 21 59.3	+1.2
baz=302							
AAK	Ala-Archa	3.17	303	Pg	Pb	00 21 25.0	-0.8
12nm,0.5s							
AAK				⇓Lg	Lg	00 22 06.6	
34nm,0.7s							
KUU	Kurty	3.20	337	eP	Pb	00 21 24.6	-1.6
7.5nm,0.3s							
KUU				eS	Sb	00 22 06.1	+0.5
64nm,0.4s							
CHMS	Chumysh	3.22	310	⇑iP	Pn	00 21 21.7	+1.5
baz=310							
CHMS				⇑iS	Sn	00 22 00.0	+0.9
baz=310							
ARXS	Arharly	3.25	356	eP	Pb	00 21 25.5	-1.6
13nm,0.4s							
ARXS				eS	Sb	00 22 08.2	+1.1
103nm,0.4s							
AML	Almayashu	3.51	291	⇑iP	Pn	00 21 26.6	+2.1
baz=290							
AML				⇑iS	Sn	00 22 08.0	+1.3
baz=290							
USP	Ospenovka	3.53	312	⇑iP	Pn	00 21 26.1	+1.6
baz=312							
USP				⇑iS	Sn	00 22 07.3	+0.5
baz=312							
DJR	Jarkent	3.58	20	eP	Pb	00 21 33.3	+0.5
8.2nm,0.3s							
DJR				eS	Sg	00 22 21.5	-2.3
65nm,0.8s							
EKS2	Erkin-Say	3.65	299	⇓iP	Pn	00 21 28.0	+1.8
baz=299							
EKS2				⇓iS	Sn	00 22 10.6	+0.7
baz=299							
TDK	Taldyqorghan	4.04	3	eP	Pb	00 21 41.7	+1.2
6.4nm,0.1s							
TDK				eS	Sg	00 22 35.5	-2.8
29nm,0.5s							
MRKS	Merke	4.05	298	eP	Pb	00 21 40.8	0.0
19nm,0.3s							
MRKS				eS	Sb	00 22 33.9	+3.7
10.0nm,0.6s							
MNAS	Manas	4.46	292	⇑Pg	Pb	00 21 47.3	-0.3
6.9nm,0.9s							
MNAS				⇓Lg	Lg	00 22 44.5	
18nm,1.3s							
KK31	Karatay Array	6.04	293	⇑Pg	Pb	00 22 17.3	+2.7
0.8nm,0.3s,baz=106,slow=15,SNR=18							
KK31				⇑Lg	Lg	00 23 36.6	
1.5nm,0.5s,baz=105,slow=30,SNR=4.2							
MK31	Makanchi Array	6.56	26	⇑Pn	Pn	00 22 06.0	-0.1
0.3nm,0.3s							
MK31				⇓Sn	Sn	00 23 24.8	+3.3
0.9nm,0.5s,baz=192,slow=28,SNR=4.1							
MK31				⇓Lg	Lg	00 23 57.7	
2.4nm,0.6s,baz=204,slow=27,SNR=3.5							
MKAR	Makanchi Array	6.56	26	Pn	Pn	00 22 07.0	+0.9
0.5nm,0.3s,baz=201,slow=16,SNR=24							
MKAR				Sn	Sn	00 23 24.0	+2.6
0.2nm,0.3s,baz=208,slow=24,SNR=3.4							
MKAR				Lg	Lg	00 23 53.8	
0.4nm,0.3s,baz=213,slow=24,SNR=4.3							
ZALV	Zalesovo Beam	13.75	17	Pn	Pn	00 23 42.8	-1.6
0.1nm,0.3s,baz=198,slow=8.9,SNR=2.2							
TORD	Torodi Ar. Bea	71.28	271	P	P	00 31 46.2	-3.6
0.2nm,0.6s,baz=46,slow=5.4,SNR=4.7							

*IDC **05** 00:40:32.5±7.7, 3.°65S×138.°97E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.7/30, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=346.0km s-min=29.3km az=88.0*
*NEIC **05** 00:40:39.0±0.8, 3.°71S×138.°43E, h35km, mb4.0/1, Error ellipse: s-maj=33.1km s-min=9.9km az=80.0*

ISC 05 00:40:40.0±1.3, 3.°9S±0.°1×138.°2E±0.°3, h35km, n8, σ2°51/9, mb3.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	Coen	11.16	154	ePn	Pn	00 43 16.8	-0.3
WRAB	Tennant Creek	16.37	193	ePn	Pn	00 44 29.2	+2.0
8.8nm,0.7s							
WRA	Warramunga Arr	16.38	193	Pn	Pn	00 44 29.4	+2.0
1.6nm,0.3s,baz=14,slow=12,SNR=37							
WRA				Sn	Sn	00 47 21.1	-7.0
0.3nm,0.3s,baz=11,slow=23,SNR=5.5							
ASAR	Alice Springs	20.08	191	P	P	00 45 12.2	+1.6
3.5nm,0.4s,baz=22,slow=9.5,SNR=87							
ASAR				S	S	00 48 50.0	-4.5
1.1nm,0.7s,baz=14,slow=24,SNR=6.7							
MKAR	Makanchi Array	70.39	323	P	P	00 51 50.4	-0.2
0.2nm,0.5s,baz=106,slow=7.7,SNR=2.5							
KURK	Kurchatov	74.37	325	eP	P	00 52 11.8	-2.3
BVAR	Borovoye Array	79.96	325	P	P	00 52 45.0	-0.5
0.7nm,0.6s,baz=111,slow=6.3,SNR=5.3							
BRVK	Borovoye	80.04	325	eP	P	00 52 44.9	-1.0
3.5nm,0.7s							

MAN 05 01:03:30, 13.°68N×120.°60E, h91km, mb3.6, ML2.4, MS1.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.35	279	eP	Pn	01 03 46.2	+2.4
LUBP				eS	Sn	01 03 57.9	+3.7
PGP	Puerto Galera	0.38	117	⇑iP	Pn	01 03 46.2	+2.1
PGP				iS	Sn	01 03 58.0	+3.5
SJMP	San Jose	1.31	157	eP	Pn	01 03 55.0	+1.5
SJMP				eS	Sn	01 04 13.4	+2.4
BUSP	Coron	1.71	193	eP	Pn	01 03 59.6	+1.1
BUSP				eS	Sn	01 04 21.3	+1.2

*KRNET **05** 01:07:29.0±0.1, 40.°05N×71.°62E, h18km, mb2.6*
*NNC **05** 01:07:32.2±2.6, 40.°22N×71.°53E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=19.5km s-min=10.3km az=11.0*
*SOME **05** 01:07:33.8, 40.°22N×71.°63E, h10km*

ISC 05 01:07:30.0±1.2, 40.°10N±0.°06×71.°67E±0.°03, h10km, n23, σ1°94/46, 25C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.65	266	⇑eP	Pg	01 07 41.0	-1.6
baz=271							
BTK				⇑eS	Sg	01 07 49.7	-1.5
baz=271							
ARSB	Arslanbob	1.58	39	⇓eP	Pb	01 07 59.3	-0.1
baz=39							
ARSB				⇓iS	Sg	01 08 21.5	+0.7
baz=39							
ARK	Arkit	1.71	7	⇑iP	Pb	01 08 01.1	-0.5
baz=9.0							
ARK				⇑iS	Sb	01 08 24.5	+1.3
baz=9.0							
IUG	Iuzhnay	2.39	329	eP	Pg	01 08 14.2	-1.5
35nm,0.1s							
IUG				eS	Sb	01 08 43.7	+1.0
126nm,0.3s							
MNAS	Manas	2.46	15	⇑eP	Pb	01 08 12.7	-1.8
baz=15							
MNAS				⇑iS	Sb	01 08 44.6	-0.4
baz=15							
MNAS	Manas	2.46	15	⇑Pg	Pg	01 08 16.3	-1.0
6.4nm,0.4s							
MNAS				⇑Lg	Lg	01 08 48.2	
12nm,0.3s							
AML	Almayashu	2.54	36	⇑iP	Pn	01 08 13.5	+1.8
baz=36							
AML				⇑iS	Sn	01 08 45.3	+2.4
baz=36							
ARLS	Aral	2.67	48	⇑iP	Pb	01 08 15.8	-2.2
baz=48							
ARLS				⇑iS	Sb	01 08 49.9	-1.0
baz=48							
CHM	Chimkent	2.71	326	eP	Pg	01 08 21.6	-0.2
108nm,0.1s							
CHM				eS	Sg	01 08 56.1	-0.8
228nm,0.2s							
DZA	Taraz	2.80	355	eP	Pg	01 08 22.7	-1.0
76nm,0.1s							
DZA				eS	Sg	01 08 57.8	-2.1
338nm,0.2s							
MRKS	Merke	2.89	23	eP	Pg	01 08 24.4	-1.0
9.9nm,0.3s							
MRKS				eS	Sg	01 09 01.0	-1.8
42nm,0.4s							
EKS2	Erkin-Say	3.01	31	⇑eP	Pn	01 08 20.2	+2.3
baz=31							
EKS2				⇑iS	Sn	01 08 57.0	+2.9
baz=31							
KK31	Karatay Array	3.12	344	Pn	Pn	01 08 21.3	+2.0
0.3nm,0.2s,baz=170,slow=12,SNR=62							
KK31				⇑Pg	Pb	01 08 26.0	+0.4
3.1nm,0.3s,baz=167,slow=17,SNR=26							
KK31				⇑Sn	Sn	01 08 57.7	+1.0
2.9nm,0.3s,baz=256,slow=46,SNR=6.6							
KK31				⇓Lg	Lg	01 09 07.8	
7.0nm,0.3s,baz=158,slow=30,SNR=5.3							
BRLS	Borolday	3.23	335	eP	Pb	01 08 26.6	-0.9
1.2nm,0.2s							
BRLS				eS	Sb	01 09 04.3	-2.6
26nm,0.2s							
AAK	Ala-Archa	3.31	39	⇑iP	Pn	01 08 24.3	+2.3
baz=39							
AAK				⇑iS	Sn	01 09 03.6	+2.1
baz=39							
AAK	Ala-Archa	3.31	39	⇑Pn	Pn	01 08 24.6	+2.6
2.2nm,0.4s							
AAK				⇓Sn	Sb	01 09 07.6	-1.6
4.7nm,0.5s							
AAK				⇓Lg	Lg	01 09 15.1	
7.4nm,0.4s							
KZA	Kyzart	3.35	53	⇑eP	Pn	01 08 24.9	+2.1
baz=52							
KZA				⇑iS	Sn	01 09 05.2	+2.3
baz=52							
TKM2	Tokmak 2	4.08	45	⇑iP	Pn	01 08 35.5	+2.9
baz=45							
TKM2				⇑iS	Sn	01 09 22.0	+1.5
baz=45							
TKM2	Tokmak 2	4.08	45	⇑Pn	Pn	01 08 35.7	+3.1
4.6nm,0.3s							
TKM2				⇑Sn	Sn	01 09 23.6	+3.1
3.2nm,0.6s							
TKM2				⇓Lg	Lg	01 09 40.0	
8.0nm,0.7s							
TNSS	Tian-Shan	4.93	52	eP	Pg	01 09 01.7	-2.7
2.4nm,0.6s							
TNSS				eS	Sg	01 10 05.2	-3.0
6.8nm,0.7s							
MDOK	Medeo	5.06	51	eP	Pg	01 09 06.3	-0.7
1.4nm,0.4s							
MDOK				eS	Sg	01 10 12.4	0.0
4.3nm,0.8s							
KUU	Kurty	5.14	41	eP	Pg	01 09 06.4	-2.1
2.5nm,0.1s							
KUU				eS	Sg	01 10 12.8	-2.3
8.0nm,0.5s							
BTLS	Baital	5.24	19	eP	Pg	01 09 08.4	-1.9
3.0nm,0.6s							
BTLS				eS	Sg	01 10 16.0	-2.2
4.6nm,0.5s							

*IDC **05** 01:25:10.4±0.8, 2.°86N×125.°42E, h0km, mb4.3/11, mb1 4.3/11, mb1mx4.0/39, mbtmp4.3/11, MS3.9/1, Ms1 3.9/1, ms1mx2.6/46, Error ellipse: s-maj=62.9km s-min=15.1km az=73.0*
*ISCJB **05** 01:25:18.0±0.3, 3.°01N±0.°05×126.°0E±0.°1, h72km, mb4.5/21, Error ellipse: s-maj=18.9km s-min=5.0km az=165.6*
*DJA **05** 01:25:25.1±2.0, 3.°N±11.°×12.°0E±.°, h27km±26km, M4.5/5, mB5.8/1, mb4.3/1, MLv4.7/5, Mw(mB)5.3/1*
*NEIC **05** 01:25:28.7±1.5, 2.°88N×125.°92E, h163km±15km, mb4.7/11, Error ellipse: s-maj=18.2km s-min=5.9km az=68.0*

ISC 05 01:25:19.8±0.5, 2.°95N±0.°06×126.°0E±0.°1, h72km, n46, σ1°53/42, mb4.5/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	3.87	157	P	Pn	01 26 18.9	+1.9
LBMI				S	Sn	01 27 02.7	+1.4
MRSI	Marisa	4.73	239	P	Pn	01 26 35.9	+7.2
SANI	Sanana	4.97	180	P	Pn	01 26 32.6	+0.7
SANI				S	Sn	01 27 24.7	-3.3
LUWI	Luwuk	5.10	219	ePn	Pn	01 26 43.0	+9.2
NLAI	Namlea	6.25	170	P	Pn	01 26 50.5	+1.1
NLAI				S	Sn	01 27 56.6	-2.8
MSAI	Masohi	6.91	155	P	Pn	01 27 01.5	+3.0
KDI	Kendari	7.64	206	P	Pn	01 27 12.6	+4.1
MYLDM	Lahad Datu	7.79	287	ePn	Pn	01 27 18.7	+8.2
MYLDM				eSn	Sn	01 28 49.0	+12
MMRI	Maumere	12.10	198	ePn	P	01 28 21.4	+1.9
MTN	Manton Dam	16.50	162	eP	Pn	01 29 04.7	-2.1
17nm,0.4s							
WRAB	Tennant Creek	24.18	160	eP	P	01 30 29.4	-0.1
14nm,0.7s							
WR1	Warramunga Arr	24.18	161	eP	P	01 30 29.2	-0.4
18nm,0.8s							
WRA	Warramunga Arr	24.18	161	P	P	01 30 29.2	-0.4
9.0nm,0.6s,baz=339,slow=10,SNR=65							
WB2	Warramunga Arr	24.19	160	eP	P	01 30 29.5	-0.2
PSI	Prapat	27.03	270	LR	LR	01 41 47.7	
comp=Z,222nm,18.1s,baz=212,slow=38							
AS31	Alice Springs	27.56	164	eP	P	01 31 00.5	+0.4
2.0nm,0.5s							
ASAR	Alice Springs	27.56	164	P	P	01 31 00.2	+0.1
2.1nm,0.6s,baz=348,slow=7.5,SNR=37							
AS01	Alice Springs	27.57	164	eP	P	01 30 60.0	-0.3
JHJ2	Mitsune	32.68	22	eP	P	01 31 46.2	+0.9
1μm,1.5s							
KS15	Wonju Array Si	34.37	3	eP	P	01 32 00.7	+0.8
KSAR	Wonju Array Be	34.37	3	P	P	01 32 00.7	+0.8
KSRS	Korea Array	34.38	3	P	P	01 32 00.7	+0.7
0.6nm,0.4s,baz=178,slow=11,SNR=4.7							
STKA	Stephens Creek	37.68	158	P	P	01 32 28.8	+0.6
6.0nm,0.8s,baz=328,slow=9.6,SNR=13							
STKA	Stephens Creek	37.68	158	eP	P	01 32 28.8	+0.6
1.2nm,0.8s							
H11S3	WAKE ISLAND Hy	42.73	66	T	T	02 19 51.9	
baz=252							
H11S2	WAKE ISLAND Hy	42.74	66	T	T	02 19 55.3	
baz=252							
H11S1	WAKE ISLAND Hy	42.74	66	T	T	02 19 55.8	
baz=252							
ASAJ	Asahikawa	43.55	17	P	P	01 33 18.0	+1.5
2.6nm,0.3s,baz=225,slow=19,SNR=2.8							
ASAJ	Asahikawa	43.55	17	eP	P	01 33 18.0	+1.5
95nm,1.7s							
ULN	Ulaanbaatar	47.63	343	eP	P	01 33 48.6	-0.2
6.0nm,0.3s							
SONA0	Songino Array	47.80	342	eP	P	01 33 49.0	-1.1
12nm,1.8s							
SONM	Songino Array	47.80	342	P	P	01 33 49.0	-1.1
0.7nm,0.6s,baz=162,slow=6.9,SNR=3.2							
MK01	Makanchi Array	57.76	326	eP	P	01 35 02.9	-0.5
MK32	Makanchi Array	57.77	326	eP	P	01 35 02.8	-0.7
MKAR	Makanchi Array	57.77	326	P	P	01 35 02.8	-0.7
0.6nm,0.4s,baz=130,slow=7.8,SNR=7.9							
ZALV	Zalesovo Beam	60.95	334	P	P	01 35 22.7	-2.5
0.5nm,0.4s,baz=119,slow=9.0,SNR=2.8							
ZAA1	Zalesovo Array	60.95	334	eP	P	01 35 22.7	-2.6
KURK	Kurchatov	62.00	328	eP	P	01 35 31.6	-0.8
8.9nm,1.5s							
ODZ	Otahua Downs	62.12	146	eP	P	01 35 31.8	-1.5
119nm,1.9s							
NRIK	Noril'sk	71.01	347	P	P	01 36 29.3	-0.2
3.3nm,0.5s,baz=134,slow=8.2,SNR=4.7							
ABKAR	Akbulak array	72.28	321	eP	P	01 36 36.8	-0.8
14nm,0.3s							
KTH	Kantishna Hill	84.29	27	eP	P	01 37 43.2	-0.4
8.3nm,0.4s							
ARA0	ARCESS Array S	90.92	340	eP	P	01 38 15.5	+0.2
ARCES	ARCESS Array B	90.92	340	P	P	01 38 15.5	+0.2
3.4nm,0.9s,baz=76,slow=5.1,SNR=5.2							
FIA0	FIN

ellipse: s-maj=2.2km s-min=1.7km az=84.0
*ISK **05** 01:46:34.6, 40.36N×25.98E, h7km, MD2.6*
*DDA **05** 01:46:35.7, 40.33N×26.06E, h8km, Md2.7*

ISC 05 01:46:34.6±0.8, 40°36N±0.02×25°87E±0.02, h14km±6km, n83, σ0°58/121, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.17**	**168**	*e*PG	**Pg**	**01 46 38.5**	**-0.1**
GOKC	**Gokceada-Canak**	**0.17**	**168**	*e*Pg	**Pg**	**01 46 38.5**	**-0.1**
GADA	**Gvkgeada**	**0.17**	**174**	*e*PG	**Pg**	**01 46 38.8**	**+0.2**
GADA	**Gvkgeada**	**0.17**	**174**	P	**Pg**	**01 46 38.9**	**+0.2**
GADA				S	**Sg**	**01 46 41.5**	**0.0**
GADA	**Gvkgeada**	**0.17**	**174**	P	**Pg**	**01 46 38.9**	**+0.2**
GADA				S	**Sg**	**01 46 41.5**	**0.0**
SMTH	**Samothraki Isl**	**0.28**	**292**	P	**Pg**	**01 46 40.4**	**-0.1**
SMTH				S	**Sg**	**01 46 44.4**	**-0.2**
SMTH	**Samothraki Isl**	**0.28**	**292**	P	**Pg**	**01 46 40.3**	**-0.3**
SMTH				S	**Sg**	**01 46 44.0**	**-0.5**
SMTH				AML	AML	01 46 45.3	
	comp=N,384μm,0.2s						
SMTH				AML	AML	01 46 45.4	
	comp=E,275μm,0.2s						
SMTH	**Samothraki Isl**	**0.28**	**292**	P	**Pg**	**01 46 40.4**	**-0.1**
SMTH				S	**Sg**	**01 46 44.4**	**-0.2**
ENEZ	**Enez**	**0.43**	**30**	*e*PG	**Pg**	**01 46 43.0**	**-0.1**
ENEZ				*e*SG	**Sg**	**01 46 49.2**	**+0.3**
ENEZ	**Enez**	**0.43**	**30**	P	**Pg**	**01 46 42.9**	**-0.2**
ENEZ				S	**Sg**	**01 46 49.6**	**+0.7**
ENEZ	**Enez**	**0.43**	**30**	P	**Pg**	**01 46 42.9**	**-0.2**
ENEZ				*e*Sg	**Sg**	**01 46 49.2**	**+0.3**
BOZC	**Bozcaada**	**0.54**	**165**	*e*PG	**Pg**	**01 46 45.2**	**0.0**
BOZC				*e*SG	**Sg**	**01 46 52.6**	**+0.2**
BOZC	**Bozcaada**	**0.54**	**165**	*i* P	**Pg**	**01 46 45.5**	**+0.3**
BOZC				*i* S	**Sg**	**01 46 52.2**	**-0.2**
BOZC	**Bozcaada**	**0.54**	**165**	*e*Pg	**Pg**	**01 46 45.2**	**0.0**
BOZC				*e*Sg	**Sg**	**01 46 52.6**	**+0.2**
ALN	**Alexandroupoli**	**0.55**	**14**	*e*PG	**Pg**	**01 46 45.6**	**+0.2**
ALN	**Alexandroupoli**	**0.55**	**14**	P	**Pg**	**01 46 45.0**	**-0.3**
ALN				S	**Sg**	**01 46 52.9**	**+0.2**
ALN	**Alexandroupoli**	**0.55**	**14**	P	**Pg**	**01 46 45.1**	**-0.3**
ALN				S	**Sg**	**01 46 52.9**	**+0.2**
ALN				AML	AML	01 46 53.2	
	comp=N,126μm,0.5s						
ALN				AML	AML	01 46 54.9	
	comp=E,94μm,0.3s						
ALN	**Alexandroupoli**	**0.55**	**14**	P	**Pg**	**01 46 45.1**	**-0.3**
ALN	**Alexandroupoli**	**0.55**	**14**	*e*Pg	**Pg**	**01 46 45.6**	**+0.2**
ALN				S	**Sg**	**01 46 52.8**	**+0.2**
ERIK	**Erikli-Kesan**	**0.58**	**58**	*e*PG	**Pg**	**01 46 45.1**	**-0.8**
ERIK	**Erikli-Kesan**	**0.58**	**58**	*e*Pg	**Pg**	**01 46 45.1**	**-0.8**
EZN	**Ezine**	**0.64**	**147**	*e*PG	**Pg**	**01 46 46.6**	**-0.5**
EZN	**Ezine**	**0.64**	**147**	*e*Pg	**Pg**	**01 46 46.6**	**-0.5**
LPK	**Lapseki**	**0.68**	**89**	*e*PG	**Pg**	**01 46 46.7**	**-1.1**
LPK	**Lapseki**	**0.68**	**89**	*e*Pg	**Pg**	**01 46 46.7**	**-1.1**
LIA	**Limnos Island**	**0.70**	**229**	P	**Pg**	**01 46 48.1**	**-0.2**
LIA				S	**Sg**	**01 46 57.7**	**+0.1**
LIA	**Limnos Island**	**0.70**	**229**	P	**Pg**	**01 46 48.2**	**-0.1**
LIA				S	**Sb**	**01 46 59.0**	**+0.9**
LIA				AML	AML	01 46 59.0	
	comp=E,122μm,0.4s						
LIA				AML	AML	01 47 00.5	
	comp=N,127μm,0.5s						
LIA	**Limnos Island**	**0.70**	**229**	P	**Pg**	**01 46 48.1**	**-0.2**
LIA				S	**Sg**	**01 46 57.7**	**+0.1**
KESN	**Edirne-Kesan**	**0.77**	**53**	*i* P	**Pg**	**01 46 48.8**	**-0.8**
KESN				*i* S	**Sg**	**01 46 59.4**	**-0.3**
KESN	**Edirne-Kesan**	**0.77**	**53**	P	**Pg**	**01 46 48.8**	**-0.8**
KESN				S	**Sg**	**01 46 59.4**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.81**	**140**	*i* P	**Pg**	**01 46 49.7**	**-0.6**
BAYC				*i* S	**Sg**	**01 46 60.0**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.81**	**140**	P	**Pg**	**01 46 49.7**	**-0.6**
BAYC				S	**Sg**	**01 47 00.0**	**-0.9**
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**01 46 50.1**	**-0.4**
RDO				S	**Sg**	**01 47 01.1**	**-0.2**
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**01 46 50.6**	**+0.1**
RDO				S	**Sg**	**01 47 00.5**	**-0.9**
RDO				AML	AML	01 47 03.5	
	comp=E,181μm,0.3s						
RDO				AML	AML	01 47 05.1	
	comp=N,163μm,0.2s						
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**01 46 50.1**	**-0.4**
RDO				S	**Sg**	**01 47 01.1**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.93**	**168**	*e*PG	**Pb**	**01 46 52.6**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.93**	**168**	*e*Pg	**Pb**	**01 46 52.6**	**+0.2**
KRBG	**Karabiga-Canak**	**1.09**	**88**	*e*PG	**Pb**	**01 46 54.2**	**-1.0**
KRBG	**Karabiga-Canak**	**1.09**	**88**	*e*Pg	**Pb**	**01 46 54.2**	**-1.0**
SIGR	**SIGRI**	**1.15**	**181**	*e*PN	**Pn**	**01 46 57.0**	**+0.8**
SIGR	**SIGRI**	**1.15**	**181**	P	**Pb**	**01 46 55.5**	**-0.7**
SIGR				S	**Sb**	**01 47 11.4**	**+0.4**
SIGR	**SIGRI**	**1.15**	**181**	P	**Pb**	**01 46 55.2**	**-1.0**
SIGR				S	**Sb**	**01 47 11.2**	**+0.2**
SIGR				AML	AML	01 47 12.7	
	comp=N,466μm,0.6s						
SIGR				AML	AML	01 47 13.1	
	comp=E,146μm,0.4s						
SIGR	**SIGRI**	**1.15**	**181**	P	**Pb**	**01 46 55.5**	**-0.7**
SIGR	**SIGRI**	**1.15**	**181**	*e*Pn	**Pn**	**01 46 57.0**	**+0.8**
SIGR				S	**Sb**	**01 47 11.2**	**+0.2**
PRK	**Paraskevi**	**1.16**	**165**	P	**Pb**	**01 46 56.2**	**-0.1**
PRK				S	**Sg**	**01 47 11.9**	**-0.1**
PRK	**Paraskevi**	**1.16**	**165**	P	**Pb**	**01 46 56.6**	**+0.3**
PRK				S	**Sb**	**01 47 11.5**	**+0.3**
PRK				AML	AML	01 47 12.5	
	comp=N,212μm,0.7s						
PRK				AML	AML	01 47 12.8	
	comp=E,230μm,0.5s						
PRK	**Paraskevi**	**1.16**	**165**	P	**Pb**	**01 46 56.6**	**+0.3**
PRK				S	**Sb**	**01 47 11.5**	**+0.3**
KAVA	**Kavala**	**1.21**	**302**	P	**Pn**	**01 46 57.2**	**+0.1**
KAVA	**Kavala**	**1.21**	**302**	P	**Pn**	**01 46 57.2**	**+0.1**
AYVA	**Ayvalik**	**1.23**	**149**	*i* P	**Pn**	**01 46 57.1**	**-0.2**
AYVA				*i* S	**Sb**	**01 47 12.6**	**-0.6**
AYVA	**Ayvalik**	**1.23**	**149**	P	**Pn**	**01 46 57.1**	**-0.2**
AYVA				S	**Sb**	**01 47 12.6**	**-0.6**
KNL	**Bal¨–kesir**	**1.27**	**94**	*i* P	**Pn**	**01 46 57.7**	**-0.2**
KNL				*i* S	**Sb**	**01 47 15.0**	**+0.7**
MRMT	**Marmara Adasi**	**1.33**	**79**	*e*PN	**Pn**	**01 46 59.0**	**+0.1**
MRMT	**Marmara Adasi**	**1.33**	**79**	*e*Pn	**Pn**	**01 46 59.0**	**+0.1**
TKR	**Tekirdag**	**1.41**	**63**	*e*PN	**Pn**	**01 47 00.2**	**+0.4**
TKR	**Tekirdag**	**1.41**	**63**	*e*Pn	**Pn**	**01 47 00.2**	**+0.4**
OUR	**Ouranopolis**	**1.45**	**269**	P	**Pn**	**01 46 58.8**	**-1.5**
OUR	**Ouranopolis**	**1.45**	**269**	P	**Pn**	**01 46 58.8**	**-1.5**
BALY	**Balya**	**1.48**	**114**	*i* P	**Pn**	**01 47 01.3**	**+0.5**
BALY				*i* S	**Sb**	**01 47 21.2**	**+0.7**
BALY	**Balya**	**1.48**	**114**	P	**Pn**	**01 47 01.3**	**+0.5**
BALY				S	**Sb**	**01 47 21.2**	**+0.7**
DKL	**Dikili**	**1.52**	**148**	*e*PN	**Pn**	**01 47 01.2**	**-0.1**
DKL	**Dikili**	**1.52**	**148**	*e*Pn	**Pn**	**01 47 01.2**	**-0.1**
EDC	**Edincik**	**1.52**	**90**	*e*PN	**Pn**	**01 47 01.6**	**+0.3**
EDC	**Edincik**	**1.52**	**90**	*e*Pn	**Pn**	**01 47 01.6**	**+0.3**
EDRB	**Edirne**	**1.62**	**24**	*e*PN	**Pn**	**01 47 03.8**	**+1.1**
EDRB	**Edirne**	**1.62**	**24**	P	**Pn**	**01 47 02.9**	**+0.2**
EDRB	**Edirne**	**1.62**	**24**	P	**Pn**	**01 47 02.9**	**+0.2**
EDRB	**Edirne**	**1.62**	**24**	*e*Pn	**Pn**	**01 47 03.8**	**+1.1**
SBT3	**Marmara-Eregli**	**1.68**	**71**	*e*PN	**Pn**	**01 47 04.2**	**+0.8**
SBT3	**Marmara-Eregli**	**1.68**	**71**	*e*Pn	**Pn**	**01 47 04.2**	**+0.8**
BALB	**Balikesir**	**1.70**	**114**	*e*PN	**Pn**	**01 47 04.4**	**+0.6**
BALB	**Balikesir**	**1.70**	**114**	*e*Pn	**Pn**	**01 47 04.4**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.73**	**124**	*i* P	**Pn**	**01 47 04.6**	**+0.4**
STEP				*i* S	**Sn**	**01 47 27.0**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.73**	**124**	P	**Pn**	**01 47 04.6**	**+0.4**
STEP				S	**Sn**	**01 47 27.0**	**+0.9**
NVR	**Nevrokopi**	**1.82**	**303**	P	**Pn**	**01 47 05.4**	**-0.1**
NVR	**Nevrokopi**	**1.82**	**303**	P	**Pn**	**01 47 05.4**	**-0.1**
SRS	**Serrai**	**1.89**	**294**	P	**Pn**	**01 47 07.4**	**+1.0**
SRS	**Serrai**	**1.89**	**294**	P	**Pn**	**01 47 07.4**	**+1.0**
SOH	**Sokhos**	**1.97**	**284**	P	**Pn**	**01 47 06.7**	**-0.9**
SOH	**Sokhos**	**1.97**	**284**	P	**Pn**	**01 47 06.7**	**-0.9**
CHOS	**Chios island**	**1.98**	**176**	P	**Pn**	**01 47 07.3**	**-0.4**
CHOS	**Chios island**	**1.98**	**176**	P	**Pn**	**01 47 07.3**	**-0.4**
ZEY	**¯zmir**	**2.18**	**167**	*i* P	**Pn**	**01 47 08.7**	**-1.7**
ZEY				*i* S	**Sn**	**01 47 38.2**	**+1.1**

IDC 05 01:58:49.2±5.3, 18°46S×176°90W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=192.3km s-min=61.3km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.63**	**242**	P	P	02 06 23.3	+0.5
	1.2nm,1.0s,baz=71,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**45.94**	**260**	P	P	02 07 13.9	-0.3
	0.4nm,0.5s,baz=97,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**46.02**	**255**	P	P	02 07 14.6	-0.3
	5.2nm,0.6s,baz=92,slow=8.4,SNR=67						
BRTR	**Keskin Array B**	**146.18**	**315**	PKPbc	PKPdf	02 18 31.1	+0.2
	0.4nm,0.6s,baz=70,slow=4.7,SNR=3.9						

MEX 05 02:01:24.5±0.7, 16°19N×98°52W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**62**	*e*P	Pg	02 01 32.1	-0.6
PNIG				*e*S	Sg	02 01 38.8	+0.4
VHO	**Vista Hermosa**	**1.92**	**63**	*i* P	Pn	02 01 56.7	-1.4
VHO				*e*S	Sn	02 02 22.6	-0.2
HUIG	**Huatulco**	**2.36**	**100**	*e*P	Pn	02 02 01.2	-2.7
HUIG				*e*S	Sn	02 02 26.1	-7.1

JMA 05 02:14:07.1±0.2, 36°36N×141°81E, h48km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.01**	**230**	P	Pn	02 14 25.4	+0.5
JHO	**Hitachi**	**1.03**	**284**	P	Pn	02 14 25.4	+0.2
BSO1	**Boso 1**	**1.83**	**202**	*e*S	Sn	02 14 59.1	+1.7
BSO3	**Boso 3**	**1.88**	**215**	P	Pn	02 14 37.5	+0.9
MAT	**Matsushiro**	**2.91**	**275**	P	Pn	02 14 53.0	+2.1
MAT				*e*S	Sn	02 15 29.4	+4.7

*ISCJB **05** 02:21:20.9±1.4, 35°47N±0°05×28°22E±0°05, h1km±10km,*
Error ellipse: s-maj=9.4km s-min=5.4km az=150.7
*ISK **05** 02:21:21.1, 35°44N×28°14E, h7km, MD3.1*
*ATH **05** 02:21:22.8, 35°56N×28°26E, h38km±4km, ML2.0/2, Error ellipse: s-maj=5.4km s-min=1.4km az=322.0*
*CSEM **05** 02:21:24.7, 35°58N×28°25E, h15km, ML2.0/2*
*DDA **05** 02:21:34.8, 36°51N×28°27E, h7km, Md3.1*

ISC 05 02:21:19.7±1.5, 35°41N±0°04×28°20E±0°03, h0km±12km, n63, σ1°15/76, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.81**	**356**	P	**Pg**	**02 21 34.9**	**-0.2**
ARG				S	**Sg**	**02 21 45.6**	**0.0**
ARG				AML	AML	02 21 56.3	
	comp=E,259μm,0.8s						
ARG				AML	AML	02 21 58.8	
	comp=N,175μm,0.7s						
ARG	**Arkhangelos**	**0.81**	**356**	P	**Pb**	**02 21 37.4**	**+0.9**
ARG				S	**Sg**	**02 21 46.0**	**+0.4**
ARG				AML	AML	02 21 56.3	
	comp=E,259μm,0.8s						
ARG				AML	AML	02 21 58.9	
	comp=N,214μm,1.0s						
ARG	**Arkhangelos**	**0.81**	**356**	P	**Pb**	**02 21 36.8**	**+0.3**
ARG				S	**Sg**	**02 21 45.9**	**+0.4**
ARG	**Arkhangelos**	**0.81**	**356**	P	**Pg**	**02 21 34.9**	**-0.2**
ARG				S	**Sg**	**02 21 45.6**	**0.0**
KARP	**Karpathos**	**0.86**	**279**	*e*PG	**Pb**	**02 21 37.0**	**-0.5**
KARP				*e*SG	**Sb**	**02 21 48.6**	**-0.8**
KARP	**Karpathos**	**0.86**	**279**	P	**Pg**	**02 21 35.7**	**-0.5**
KARP				S	**Sg**	**02 21 46.1**	**-1.1**
KARP	**Karpathos**	**0.86**	**279**	P	**Pn**	**02 21 41.4**	**+2.4**
KARP				S	**Sn**	**02 21 52.0**	**-0.2**
KARP	**Karpathos**	**0.86**	**279**	P	**Pn**	**02 21 40.8**	**+1.8**
KARP				S	**Sn**	**02 21 52.1**	**-0.2**
KARP	**Karpathos**	**0.86**	**279**	P	**Pg**	**02 21 35.7**	**-0.5**
KARP	**Karpathos**	**0.86**	**279**	*e*Pg	**Pb**	**02 21 37.0**	**-0.5**
KARP				S	**Sg**	**02 21 46.2**	**-1.1**
KARP				*e*Sg	**Sb**	**02 21 48.7**	**-0.8**
KSL	**Kastellorizon**	**1.34**	**56**	P	**Pn**	**02 21 44.0**	**-1.7**
KSL	**Kastellorizon**	**1.34**	**56**	P	**Pn**	**02 21 44.8**	**-0.8**
KSL				S	**Sb**	**02 22 01.2**	**-2.2**
KSL				AML	AML	02 22 15.1	
	comp=N,116μm,1.9s						
KSL				AML	AML	02 22 26.2	
	comp=E,115μm,1.3s						
AKAS	**Kas**	**1.41**	**54**	*e*PN	**Pb**	**02 21 48.0**	**+1.2**
AKAS	**Kas**	**1.41**	**54**	*e*Pn	**Pb**	**02 21 48.0**	**+1.2**
DAT	**Datca**	**1.41**	**339**	*e*PN	**Pb**	**02 21 47.0**	**+0.1**
DAT	**Datca**	**1.41**	**339**	*i* P	**Pn**	**02 21 46.4**	**-0.2**
DAT	**Datca**	**1.41**	**339**	P	**Pn**	**02 21 46.4**	**-0.2**
DAT	**Datca**	**1.41**	**339**	*e*Pn	**Pb**	**02 21 47.0**	**+0.1**
FETY	**Fethiye**	**1.42**	**30**	*e*PN	**Pb**	**02 21 47.9**	**+1.0**
FETY	**Fethiye**	**1.42**	**30**	*e*Pn	**Pb**	**02 21 47.9**	**+1.0**
NIS1	**Nisyros Isl.**	**1.45**	**325**	*e*PN	**Pb**	**02 21 47.7**	**+0.2**
NIS1	**Nisyros Isl.**	**1.45**	**325**	P	**Pg**	**02 21 48.2**	**+0.8**
NIS1	**Nisyros Isl.**	**1.45**	**325**	P	**Pg**	**02 21 48.3**	**+0.8**
NIS1	**Nisyros Isl.**	**1.45**	**325**	*e*Pn	**Pb**	**02 21 47.7**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.45**	**15**	*e*PN	**Pn**	**02 21 47.8**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.45**	**15**	*i* P	**Pn**	**02 21 47.7**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.45**	**15**	P	**Pn**	**02 21 47.7**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.45**	**15**	*e*Pn	**Pn**	**02 21 47.8**	**+0.7**
TURN	**Turunc**	**1.49**	**12**	*i* P	**Pn**	**02 21 46.3**	**-1.4**
TURN	**Turunc**	**1.49**	**12**	P	**Pn**	**02 21 46.3**	**-1.4**
ZKR	**Zakros**	**1.65**	**260**	P	**Pb**	**02 21 51.1**	**+0.2**
ZKR	**Zakros**	**1.65**	**260**	P	**Pg**	**02 21 51.8**	**+0.5**
ZKR	**Zakros**	**1.65**	**260**	P	**Pg**	**02 21 51.8**	**+0.5**
ZKR	**Zakros**	**1.65**	**260**	P	**Pb**	**02 21 51.1**	**+0.2**
BDRM	**Kayabasi**	**1.76**	**340**	*i* P	**Pn**	**02 21 51.8**	**+0.4**
BDRM				*i* S	**Sb**	**02 22 14.3**	**-1.1**
BDRM	**Kayabasi**	**1.76**	**340**	P	**Pn**	**02 21 51.8**	**+0.4**
BDRM				S	**Sb**	**02 22 14.3**	**-1.1**
BODT	**Bodrum**	**1.80**	**337**	*e*PN	**Pn**	**02 21 52.6**	**+0.7**
BODT	**Bodrum**	**1.80**	**337**	*e*Pn	**Pn**	**02 21 52.6**	**+0.7**
MLSB	**Milas**	**1.91**	**350**	*e*PN	**Pn**	**02 21 54.6**	**+1.1**
MLSB	**Milas**	**1.91**	**350**	*e*Pn	**Pn**	**02 21 54.6**	**+1.1**
ELL	**Elmali**	**1.92**	**46**	*e*PN	**Pn**	**02 21 55.5**	**+1.8**
ELL	**Elmali**	**1.92**	**46**	*e*Pn	**Pn**	**02 21 55.5**	**+1.8**
NPS	**Neapolis**	**2.12**	**267**	P	**Pb**	**02 21 58.0**	**-1.0**
NPS	**Neapolis**	**2.12**	**267**	P	**Pb**	**02 21 58.1**	**-0.9**
GOLH	**Golhisar**	**2.13**	**31**	*i* P	**Pb**	**02 21 58.9**	**-0.2**
TAVA	**DENIZLI_Tavas**	**2.13**	**15**	*i* P	**Pn**	**02 21 56.1**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.13**	**15**	P	**Pn**	**02 21 56.1**	**-0.5**
LAST	**Lasithi**	**2.24**	**264**	P	**Pn**	**02 21 59.3**	**+1.2**
LAST	**Lasithi**	**2.24**	**264**	P	**Pb**	**02 22 00.2**	**-0.8**
LAST	**Lasithi**	**2.24**	**264**	P	**Pb**	**02 22 00.4**	**-0.7**
LAST	**Lasithi**	**2.24**	**264**	P	**Pn**	**02 21 59.3**	**+1.2**
AYDN	**Tasoluk**	**2.26**	**354**	*i* P	**Pn**	**02 22 00.1**	**+1.8**
AYDN	**Tasoluk**	**2.26**	**354**	P	**Pn**	**02 22 00.1**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**2.54**	**354**	*e*PN	**Pn**	**02 22 03.5**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.54**	**354**	*e*Pn	**Pn**	**02 22 03.5**	**+1.3**
IDI	**Anoyia**	**2.71**	**268**	P	**Pn**	**02 22 05.8**	**+1.3**
IDI	**Anoyia**	**2.71**	**268**	P	**Pn**	**02 22 06.7**	**+2.2**
IDI	**Anoyia**	**2.71**	**268**	P	**Pb**	**02 22 06.9**	**-2.1**
IDI	**Anoyia**	**2.71**	**268**	P	**Pn**	**02 22 05.8**	**+1.3**
APE	**Apeiranthos**	**2.72**	**308**	P	**Pn**	**02 22 05.0**	**+0.4**
APE	**Apeiranthos**	**2.72**	**308**	P	**Pn**	**02 22 05.4**	**+0.8**
IMMV	**Iera Moni Meta**	**3.45**	**272**	P	**Pn**	**02 22 17.2**	**+2.7**
IMMV	**Iera Moni Meta**	**3.45**	**272**	P	**Pn**	**02 22 17.7**	**+3.1**

IDC 05 02:25:11.9±15.0, 17°23S×178°76W, h510km±188km, mb2.8/6, mb1 3.1/6, mb1mx3.0/23, mbtmp3.7/6, Error ellipse: s-maj=102.1km s-min=48.6km az=168.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**240**	P	P	02 31 50.9	-0.6
	1.0nm,0.6s,baz=56,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**44.43**	**259**	P	P	02 32 37.1	-0.2
	0.2nm,0.2s,baz=91,slow=8.1,SNR=18						
ASAR	**Alice Springs**	**44.66**	**254**	P	P	02 32 39.5	+0.3
	1.2nm,0.6s,baz=86,slow=8.9,SNR=19						
ILAR	**Eielson Array**	**85.31**	**13**	P	P	02 36 53.9	-0.4
	0.2nm,0.4s,baz=221,slow=5.4,SNR=4.6						
TXAR	**Lajitas Array**	**85.92**	**58**	P	P	02 36 58.4	+0.2
	0.3nm,0.6s,baz=215,slow=5.8,SNR=3.7						
PDAR	**Pinedale Array**	**87.09**	**44**	P	P	02 37 03.6	+0.1
	0.3nm,0.7s,baz=249,slow=4.7,SNR=2.7						
GERES	**GERESS Array B**	**146.88**	**345**	PKPbc	PKPbc	02 43 56.1	-0.8
	0.2nm,0.4s,baz=5.7,slow=3.9,SNR=3.9						

MEX 05 02:40:05.8±0.5, 17°33N×93°95W, h192km±6km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.96**	**124**	*i* P	Pn	02 40 33.2	-1.3
TGIG				*e*S	Sn	02 40 54.5	-2.2
PCIG		**1.76**	**156**	*e*P	Pn	02 40 40.2	-1.1
PCIG				*e*S	Sn	02 41 06.5	-2.3
CCIG	**Comitan**	**2.03**	**121**	*e*P	Pn	02 40 43.0	-1.2
CCIG				*i* S	Sn	02 41 11.6	-2.3
HUIG	**Huatulco**	**2.58**	**233**	*e*P	Pn	02 40 46.1	-4.0
HUIG				*i* S	Sn	02 41 21.5	-3.2
VHO	**Vista Hermosa**	**2.67**	**265**	*e*P	Pn	02 40 49.5	-1.8
VHO				*e*S	Sn	02 41 25.1	-1.7

*ISCJB **05** 02:40:07.5±0.7, 18°45S±0°2×178°1W±0°1, h557km, mb3.7/9,*
Error ellipse: s-maj=23.4km s-min=11.3km az=145.7
*IDC **05** 02:40:08.4±1.7, 18°36S×178°14W, h549km±20km,*
mb3.3/10, mb1 3.5/12, mb1mx3.3/31, mbtmp4.2/12, Error ellipse: s-maj=28.4km s-min=12.2km az=145.0

ISC 05 02:40:08.4±0.7, 18°45S±0°2×178°1W±0°1, h557km, n48, σ0°87/50, mb3.9/9, 5C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**55**	P	**P**	**02 42 00.6**	**-1.4**
	3.8nm,0.3s,baz=297,slow=2.3,SNR=3.5						
DZM	**Mont Dzumac**	**14.95**	**253**	P	**P**	**02 43 16.1**	**-1.3**
	1.1nm,0.3s,baz=240,slow=17,SNR=8.0						
URZ	**Urewera**	**20.22**	**191**	P	**P**	**02 44 04.7**	**-1.2**
	3.0nm,0.4s,baz=308,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**38.65**	**242**	P	**P**	**02 46 45.8**	**+1.1**
	2.4nm,0.5s,baz=101,slow=11,SNR=9.4						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**02 47 34.0**	**+0.4**
	0.3nm,0.3s,baz=92,slow=7.5,SNR=18						
WRA				PcP	**PcP**	**02 49 04.0**	**+0.5**
	0.3nm,0.4s,baz=91,slow=3.8,SNR=6.6						
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**02 47 35.8**	**+1.3**
	4.2nm,0.6s,baz=89,slow=8.4,SNR=61						
ASAR				PcP	**PcP**	**02 49 04.6**	**+0.7**
	1.4nm,0.8s,baz=86,slow=5.1,SNR=5.4						
ASAR				S	**S**	**02 53 31.1**	**-1.5**
	0.7nm,0.7s,baz=87,slow=15,SNR=8.4						
MJAR	**Matsushiro Arr**	**68.47**	**323**	P	**P**	**02 50 14.5**	**-0.9**
	1.9nm,0.5s,baz=156,slow=5.6,SNR=5.8						
PETK	**Petropavlovsk-**	**74.23**	**345**	P	**P**	**02 50 48.7**	**+0.1**
	6.1nm,0.8s,baz=125,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**02 51 52.3**	**+1.6**
	0.6nm,0.6s,baz=243,slow=4.0,SNR=3.3						
ILAR	**Eielson Array**	**86.30**	**13**	P	**P**	**02 51 50.4**	**-0.8**
	0.9nm,0.4s,baz=220,slow=4.8,SNR=24						
PDAR	**Pinedale Array**	**87.51**	**43**	P	**P**	**02 51 58.4**	**+0.8**
	0.5nm,0.6s,baz=180,slow=1.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**02 52 08.3**	**+2.0**
	0.5nm,0.4s,baz=118,slow=3.6,SNR=4.8						
ARCES	**ARCESS Array B**	**126.85**	**350**	PKP	**PKPdf**	**02 58 08.6**	**0.0**
	2.0nm,0.8s,baz=325,slow=1.5,SNR=7.1						
AKASG	**Malin Array Be**	**141.13**	**332**	PKhKP	PKPpre	02 58 29.9	
	0.6nm,0.4s,baz=33,slow=2.3,SNR=5.2						
AKASG				PKP	**PKiKP**	**02 58 37.6**	**-1.0**
	0.9nm,0.4s,baz=38,slow=2.3,SNR=4.9						
SORM	**Soroca**	**143.36

EBNR	**Beni Rached**	0.85	54	P	Pg	03 00 22.4	+0.6
ENIJ	**Nijar**	2.61	298	P	Pn	03 00 47.4	+0.3
	1.2nm,0.2s,SNR=7.9						
ENIJ				S	Sn	03 01 15.6	-3.0
	0.5nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	2.61	298	P	Pn	03 00 47.4	+0.3
	1.2nm,0.2s,SNR=7.9						
EBER	**Berja**	3.09	292	P	Pn	03 00 53.1	-0.7
	3.6nm,0.2s,SNR=19						
EBER				S	Sn	03 01 30.0	-0.6
	0.5nm,0.2s,SNR=7.9						
EBER	**Berja**	3.09	292	P	Pn	03 00 53.1	-0.7
	3.6nm,0.2s,SNR=19						
EBER				S	Sn	03 01 30.0	-0.6
	0.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	3.27	9	P	Pn	03 00 56.5	+0.3
	0.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	03 01 33.5	-1.4
	0.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	3.27	9	P	Pn	03 00 56.5	+0.3
	0.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	03 01 33.5	-1.4
	0.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	3.36	329	P	Pn	03 00 58.6	+1.3
	0.4nm,0.1s,SNR=53						
ETOB				S	Sn	03 01 36.4	-0.7
	1.3nm,0.4s,SNR=13						
ETOB	**Tobarra**	3.36	329	P	Pn	03 00 58.7	+1.3
	0.4nm,0.1s,SNR=53						
ETOB				S	Sn	03 01 36.4	-0.7
	1.3nm,0.4s,SNR=13						
SESP	**Santiago Espad**	3.48	313	P	Pn	03 01 00.7	+1.6
	1.3nm,0.1s,SNR=7.9						
SESP				S	Sn	03 01 39.9	-0.2
	2.2nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	3.48	313	P	Pn	03 01 00.7	+1.6
	1.3nm,0.1s,SNR=7.9						
SESP				S	Sn	03 01 39.9	-0.2
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	3.62	305	P	Pn	03 01 02.8	+1.8
	2.1nm,0.2s,SNR=26						
EQES				S	Sn	03 01 43.7	+0.1
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	3.62	305	P	Pn	03 01 02.8	+1.8
	2.1nm,0.2s,SNR=26						
EQES				S	Sn	03 01 43.7	+0.1
	0.6nm,0.2s,SNR=7.9						

*IDC **05** 03:00:05.2±1.8, 18.°05S×178.°25W, h541km±21km, mb3.2/11, mb1 3.4/13, mb1mx3.2/29, mbtmp4.1/13, Error ellipse: s-maj=24.0km s-min=12.9km az=142.0*
*ISCJB **05** 03:00:07.1±0.8, 18.°1S±0.°2×178.°4W±0.°1, h579km, mb3.6/10, Error ellipse: s-maj=23.8km s-min=13.5km az=141.0*

ISC 05 03:00:08.2±0.8, 18.°1S±0.°2×178.°4W±0.°1, h579km, n21, σ0°85/22, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.62	57	P	P	03 01 57.2	-6.1
	2.5nm,0.3s,baz=307,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	14.78	252	P	**P**	03 03 14.3	-0.7
	0.7nm,0.3s,baz=68,slow=19,SNR=3.1						
URZ	**Urewera**	20.43	190	P	**P**	03 04 06.5	-0.1
	5.6nm,0.9s,baz=304,slow=18,SNR=2.5						
CTA	**Charters Tower**	33.43	261	P	**P**	03 06 00.7	+0.2
	2.7nm,0.7s,baz=99,slow=13,SNR=3.0						
STKA	**Stephens Creek**	38.54	241	P	**P**	03 06 42.6	+0.3
	2.3nm,0.6s,baz=89,slow=9.3,SNR=9.7						
WRA	**Warramunga Arr**	44.62	260	P	**P**	03 07 30.4	0.0
	0.3nm,0.4s,baz=97,slow=6.9,SNR=15						
WRA				PcP	**PcP**	03 09 00.1	-0.4
	0.2nm,0.4s,baz=95,slow=3.4,SNR=2.7						
ASAR	**Alice Springs**	44.75	254	P	**P**	03 07 32.1	+0.8
	5.1nm,0.6s,baz=88,slow=8.6,SNR=80						
ASAR				PcP	**PcP**	03 09 01.1	+0.1
	0.4nm,0.5s,baz=101,slow=3.9,SNR=3.9						
ASAR				S	**S**	03 13 25.2	-1.9
	0.9nm,1.0s,baz=81,slow=17,SNR=5.4						
MJAR	**Matsushiro Arr**	68.11	323	P	**P**	03 10 11.0	-0.2
	1.3nm,0.5s,baz=147,slow=6.0,SNR=4.6						
PETK	**Petropavlovsk-**	73.91	345	P	**P**	03 10 45.0	+0.3
	2.0nm,0.8s,baz=160,slow=17,SNR=3.6						
TXAR	**Lajitas Array**	86.10	58	P	**P**	03 11 49.2	+0.3
	0.3nm,0.6s,baz=182,slow=2.4,SNR=2.9						
ILAR	**Eielson Array**	86.10	13	P	**P**	03 11 46.7	-1.3
	0.4nm,0.4s,baz=218,slow=5.0,SNR=9.4						
PDAR	**Pinedale Array**	87.50	43	P	**P**	03 11 54.9	-0.6
	0.3nm,0.7s,baz=199,slow=3.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	88.98	290	P	**P**	03 12 04.8	+2.3
	0.5nm,0.3s,baz=106,slow=3.5,SNR=4.3						
BRTR	**Keskin Array B**	144.96	315	PKP	PKPbc	03 18 41.1	-0.2
	1.0nm,0.7s,baz=143,slow=3.7,SNR=7.3						
CLL	**Collm**	145.69	347	*i* (P)	**PKPbc**	03 18 43.0	+0.2
DPC	**Dobruska-Polom**	145.77	343	*e*P	**PKPbc**	03 18 43.9	+0.7
MLR	**Muntele Rosu**	146.04	329	PKPbc	**PKPbc**	03 18 43.6	-0.6
	0.3nm,0.6s,baz=340,slow=7.0,SNR=4.9						
MMAI	**Mount Meron Ar**	146.29	303	PKPbc	**PKPbc**	03 18 45.8	+0.6
	0.9nm,0.4s,baz=70,slow=4.8,SNR=3.7						
KHC	**Kasperske Hory**	147.60	345	*e*P	**PKPbc**	03 18 48.3	+0.2
GERES	**GERESS Array B**	147.84	345	PKPbc	**PKPbc**	03 18 49.0	+0.1
	0.9nm,0.6s,baz=20,slow=4.3,SNR=11						
ESDC	**Sonseca Array**	158.00	12	PKPab	**PKPab**	03 19 36.3	-0.5
	0.1nm,0.3s,baz=347,slow=5.3,SNR=2.5						

RSNC 05 03:05:52.7±0.7, 6.79N×73.°13W, h146km±7km, ML1.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	0.21	195	*e*P	Pn	03 06 12.3	-0.6
BARC				*e*S	Sn	03 06 27.2	-1.0
BARC				*i*		03 06 28.9	
	comp=Z,4.8nm,0.4s						
BARC	**Barichara**	0.21	195	*e*P	Pn	03 06 12.3	-0.6
BARC				*e*S	Sn	03 06 27.0	-1.2
BARC				*i*		03 06 28.3	
	comp=Z,4.9nm,0.2s						
GIRC	**Giron, Santand**	0.29	347	*e*P	Pn	03 06 12.6	-0.4
GIRC				*e*S	Sn	03 06 28.5	0.0
GIRC	**Giron, Santand**	0.29	347	*e*P	Pn	03 06 12.6	-0.4
GIRC				*e*S	Sn	03 06 28.5	+0.1
BRRC	**Barranca, Sant**	0.66	298	*e*P	Pn	03 06 13.8	-0.7
BRRC				*i*		03 06 14.2	
	comp=Z,6.4nm,0.2s						
BRRC				*e*S	Sn	03 06 30.9	-0.3
BRRC	**Barranca, Sant**	0.66	298	*e*P	Pn	03 06 13.9	-0.6
BRRC				*i*		03 06 14.2	
	comp=Z,6.4nm,0.2s						
BRRC				*e*S	Sn	03 06 31.0	-0.2
PAMC	**Pamplona, Colo**	0.69	38	*e*P	Pn	03 06 15.2	-0.1
PAMC				*e*S	Sn	03 06 32.1	-0.4
PAMC	**Pamplona, Colo**	0.69	38	*e*P	Pn	03 06 15.2	-0.1
PAMC				*e*S	Sn	03 06 32.1	-0.4
PAMC				*i*		03 06 34.5	
	comp=Z,1.6nm,0.5s						
RUSC	**La Rusia**	0.90	177	*e*P	Pn	03 06 16.4	-0.5
RUSC				*e*S	Sn	03 06 35.6	+0.4
RUSC				*i*		03 06 36.4	
	comp=Z,2.5nm,0.3s						
RUSC	**La Rusia**	0.90	177	*e*P	Pn	03 06 16.3	-0.5
RUSC				*e*S	Sn	03 06 34.5	-0.8
RUSC				*i*		03 06 36.4	
	comp=Z,2.5nm,0.2s						
NORC	**Norcasia**	2.12	235	*e*S	Sn	03 06 56.8	-0.2

IDC 05 03:12:15.6±2.1, 4.°59S×152.°08E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/22, mbtmp3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/18, Error ellipse: s-maj=145.7km s-min=28.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	9.17	122	LR	LR	03 18 08.6	
	comp=Z,40nm,18.8s,baz=353,slow=38						
WRA	**Warramunga Arr**	23.06	227	P	P	03 17 22.4	-0.6
	0.2nm,0.4s,baz=52,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	25.83	221	P	P	03 17 49.9	+0.9
	0.2nm,0.3s,baz=59,slow=9.0,SNR=4.3						
ILAR	**Eielson Array**	82.23	22	P	P	03 24 38.8	+0.3
	0.5nm,0.7s,baz=246,slow=5.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	149.56	288	PKPbc	PKPbc	03 32 07.2	-1.1
	0.1nm,0.3s,baz=83,slow=2.5,SNR=3.8						

MEX 05 03:14:21.0±0.6, 18.°08N×100.°16W, h58km±4km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	0.27	319	*i* P	Pn	03 14 29.3	-1.5
ARIG				*e*S	Sn	03 14 36.1	-1.6
MEIG	**Mezcala**	0.54	106	*i* P	Pn	03 14 31.6	-1.6
MEIG				*i* S	Sn	03 14 40.3	-1.9
PLIG	**Platanillo**	0.70	63	*i* P	Pn	03 14 33.8	-1.4
PLIG				*e*S	Sn	03 14 43.6	-1.9
CAIG	**El Cayaco**	1.03	186	*i* P	Pn	03 14 37.5	-1.9
CAIG				*e*S	Sn	03 14 51.1	-1.8
ACP2	**Acapulco**	1.22	168	*e*P	Pn	03 14 40.8	-1.2
ACP2				*e*S	Sn	03 14 55.8	-1.7
ACX	**Acapulco**	1.23	167	*e*P	Pn	03 14 37.5	-4.6
YAIG	**Yautepec**	1.30	53	*i* P	Pn	03 14 41.6	-1.5
YAIG				*e*S	Sn	03 14 57.2	-2.4
ZIIG	**Zihuatanejo**	1.33	250	*e*P	Pn	03 14 41.7	-1.7
ZIIG				*e*S	Sn	03 14 57.8	-2.3
PPM	**Popocatepetl**	1.75	56	*e*P	Pn	03 14 48.7	-0.9
PPM				*e*S	Sn	03 15 09.0	-2.1

*NIED **05** 03:32:00, 37.°20N×141.°90E, h29km, Mw3.6 Best double couple: M0=2.95000×10^14 NP1:φ=290.00000°, δ=59.00000°, λ=174.00000°. NP2:φ=23.00000°, δ=85.00000°, λ=32.00000°.*
*JMA **05** 03:32:27.2±0.2, 37.°17N×141.°95E, h37km±5km, M3.6*
*IDC **05** 03:32:31.2±2.5, 37.°82N×141.°24E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/41, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=59.9km s-min=29.1km az=68.0*

ISC 05 03:32:24.7±3.0, 37.°04N±0.°10×141.°9E±0.°1, h9km±14km, n22, σ1°02/21, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	0.86	292	P	**Pn**	03 32 43.4	+0.3
JFK				*e*S	**Sn**	03 32 54.3	-1.5
ONAJ	**Iwakimizuishiy**	0.86	274	P	**Pn**	03 32 44.0	+0.9
JMM	**Marumori**	1.19	314	P	**Pb**	03 32 47.4	0.0
JFT	**Otama**	1.31	292	P	**Pg**	03 32 50.8	+0.9
JFT				*e*S	**Sg**	03 33 07.0	+0.1
JIO	**Ouri**	1.47	344	P	**Pn**	03 32 50.1	-1.3
JOU	**Okura**	1.63	324	P	**Pn**	03 32 53.7	0.0
JFY	**Yanaizu**	1.77	283	P	**Pb**	03 32 57.6	+0.3
JFY				*e*S	**Sg**	03 33 20.1	-1.4
JMK	**Ichinoseki**	1.97	345	P	**Pn**	03 32 57.7	-0.7
JAG	**Ashikaga**	2.04	253	P	**Pb**	03 33 01.5	-0.4
JAG				S	**Sb**	03 33 26.9	-0.5
JYK	**Kaneyama**	2.22	328	P	**Pn**	03 33 02.2	+0.4
MJAR	**Matsushiro Arr**	2.98	261	Pn	**Pb**	03 33 16.1	-1.9
	4.1nm,0.3s,baz=86,slow=15,SNR=18						
MJAR				Sn	**Sb**	03 33 55.1	+0.5
	3.8nm,0.3s,baz=92,slow=28,SNR=4.1						
MAT	**Matsushiro**	2.98	261	P	**Pb**	03 33 16.3	-1.8
MAT				*e*S	**Sb**	03 33 55.1	+0.5
H11N2	**WAKE ISLAND Hy**	27.84	121	T	T	04 07 28.5	
	baz=314,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	27.85	121	T	T	04 07 29.2	
	baz=314,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	27.86	121	T	T	04 07 28.1	
	baz=314,slow=75,SNR=22						
SONM	**Songino Array**	28.08	304	P	**P**	03 38 17.2	+0.4
	0.4nm,0.5s,baz=106,slow=9.6,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	28.56	124	T	T	04 08 21.1	
	baz=316,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	28.56	124	T	T	04 08 20.5	
	baz=316,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	28.57	124	T	T	04 08 21.1	
	baz=316,slow=76,SNR=19						
MKAR	**Makanchi Array**	44.42	302	P	**P**	03 40 36.8	+0.9
	0.4nm,0.5s,baz=81,slow=8.9,SNR=2.6						
KURBB	**Kurchatov Arra**	46.28	308	P	**P**	03 40 51.2	+0.8
	0.8nm,0.6s,baz=86,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	57.12	188	P	P	03 42 24.4	+13
	0.5nm,0.9s,baz=7.5,slow=7.3,SNR=4.5						

*IDC **05** 03:32:55.9±1.5, 35.°18N×27.°92E, h0km, mb3.3/2, mb1 3.1/5, mb1mx3.0/44, mbtmp3.0/5, ML2.7/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/29, Error ellipse: s-maj=35.7km s-min=19.8km az=166.0*
*ATH **05** 03:32:56.7, 34.°93N×28.°06E, h15km±4km, ML2.6/3, Error ellipse: s-maj=6.2km s-min=1.6km az=331.0*
*CSEM **05** 03:32:58.7±0.4, 35.°02N×28.°04E, h10km, MD3.1, Error ellipse: s-maj=9.3km s-min=4.3km az=163.0*
*ISCJB **05** 03:32:59.3±0.6, 34.°98N±0.°05×28.°04E±0.°04, h28km, mb3.1/2, Error ellipse: s-maj=6.7km s-min=4.6km az=174.3*
*ISK **05** 03:33:01.2, 35.°27N×28.°07E, h10km, MD3.1*
*DDA **05** 03:33:11.9, 35.°97N×28.°19E, h43km, Ml2.9*

ISC 05 03:33:00.1±1.0, 35.°04N±0.°05×28.°01E±0.°03, h28km, n72, σ1°13/78, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.86	306	*e*PG	**Pb**	03 33 17.0	+0.6
KARP				*e*SG	**Sn**	03 33 28.6	+0.6
KARP	**Karpathos**	0.86	306	P	**Pn**	03 33 14.8	-1.6
KARP				S	**Sn**	03 33 28.3	+0.3
KARP				AML	AML	03 33 33.3	
	comp=E,630μm,0.4s						
KARP				AML	AML	03 33 38.9	
	comp=N,622μm,0.2s						
KARP	**Karpathos**	0.86	306	P	**Pn**	03 33 14.8	-1.6
KARP	**Karpathos**	0.86	306	*e*Pg	**Pb**	03 33 17.0	+0.6
KARP				S	**Sn**	03 33 28.3	+0.3
ARG	**Arkhangelos**	1.17	5	P	**Pn**	03 33 20.8	+0.1
ARG				S	**Sb**	03 33 38.5	+1.9
ARG				AML	AML	03 33 46.9	
	comp=E,418μm,0.6s						
ARG				AML	AML	03 33 51.6	
	comp=N,626μm,0.9s						
ARG	**Arkhangelos**	1.17	5	P	**Pn**	03 33 20.8	+0.1
ARG				S	**Sb**	03 33 38.5	+1.9
ZKR	**Zakros**	1.47	273	P	**Pn**	03 33 25.6	+0.8
ZKR				AML	AML	03 33 56.0	
	comp=N,125μm,1.1s						
ZKR				AML	AML	03 34 10.9	
	comp=E,354μm,0.9s						
ZKR	**Zakros**	1.47	273	P	**Pn**	03 33 25.6	+0.8
KSL	**Kastellorizon**	1.69	49	P	**Pn**	03 33 28.6	+0.8
NIS1	**Nisyros Isl.**	1.70	337	*e*PN	**Pn**	03 33 29.0	+1.1
NIS1	**Nisyros Isl.**	1.70	337	*e*Pn	**Pn**	03 33 29.0	+1.1
DAT	**Datca**	1.72	348	*e*PN	**Pn**	03 33 29.0	+0.7
DAT	**Datca**	1.72	348	*i* P	**Pn**	03 33 28.2	-0.1
DAT	**Datca**	1.72	348	P	**Pn**	03 33 28.2	-0.1
DAT	**Datca**	1.72	348	*e*Pn	**Pn**	03 33 29.0	+0.7
AKAS	**Kas**	1.76	47	*e*PN	**Pn**	03 33 29.8	+0.9
AKAS	**Kas**	1.76	47	*i* P	**Pn**	03 33 28.9	0.0
AKAS	**Kas**	1.76	47	P	**Pn**	03 33 28.9	0.0
AKAS	**Kas**	1.76	47	*e*Pn	**Pn**	03 33 29.8	+0.9
FETY	**Fethiye**	1.81	28	*e*PN	**Pn**	03 33 30.0	+0.5
FETY	**Fethiye**	1.81	28	P	**Pn**	03 33 29.6	+0.1
FETY	**Fethiye**	1.81	28	*e*Pn	**Pn**	03 33 30.0	+0.5
DALY	**Dalyan (Mu¨la**	1.85	16	*e*PN	**Pn**	03 33 30.4	+0.6
DALY	**Dalyan (Mu¨la**	1.85	16	*i* P	**Pn**	03 33 31.0	+1.1
DALY	**Dalyan (Mu¨la**	1.85	16	*e*Pn	**Pn**	03 33 30.5	+0.6
DALY	**Dalyan (Mu¨la**	1.85	16	P	**Pn**	03 33 31.0	+1.1
TURN	**Turunc**	1.89	15	*i* P	**Pn**	03 33 29.6	-0.9
TURN	**Turunc**	1.89	15	P	**Pn**	03 33 29.6	-0.9
BDRM	**Kayabasi**	2.07	347	*i* P	**Pb**	03 33 35.4	-1.6
BDRM	**Kayabasi**	2.07	347	P	**Pb**	03 33 35.4	-1.6
LAST	**Lasithi**	2.08	274	P	**Pn**	03 33 33.8	+0.6
LAST	**Lasithi**	2.08	274	P	**Pn**	03 33 33.8	+0.6
BODT	**Bodrum**	2.09	345	*e*PN	**Pn**	03 33 34.4	+1.0
BODT	**Bodrum**	2.09	345	*e*Pn	**Pn**	03 33 34.4	+1.0
MLSB	**Milas**	2.25	355	*e*PN	**Pn**	03 33 36.5	+0.9
MLSB	**Milas**	2.25	355	*e*Pn	**Pn**	03 33 36.5	+0.9
ELL	**Elmali**	2.30	42	*e*PN	**Pn**	03 33 37.3	+1.0
ELL	**Elmali**	2.30	42	*e*Pn	**Pn**	03 33 37.3	+1.0
GLHS	**Glhisar (BURDU**	2.43	29	*e*PN	**Pn**	03 33 39.0	+0.9
GLHS	**Glhisar (BURDU**	2.43	29	*e*Pn	**Pn**	03 33 39.0	+0.9
GOLH	**Golhisar**	2.52	29	*i* P	**Pn**	03 33 40.9	+1.5
GOLH	**Golhisar**	2.52	29	P	**Pn**	03 33 40.9	+1.5
TAVA	**DENIZLI_Tavas**	2.53	17	*i* P	**Pn**	03 33 39.8	+0.4
TAVA	**DENIZLI_Tavas**	2.53	17	P	**Pn**	03 33 39.8	+0.4
IDI	**Anoyia**	2.57	276	Pn	**Pn**	03 33 39.5	-0.4
	comp=E,1.5nm,0.3s,baz=73,slow=22,SNR=15						
IDI	**Anoyia**	2.57	276	P	**Pn**	03 33 41.4	+1.5
IDI	**Anoyia**	2.57	276	P	**Pn**	03 33 41.4	+1.5
AYDN	**Tasoluk**	2.61	358	*i* P	**Pn**	03 33 40.8	+0.2
AYDN	**Tasoluk**	2.61	358	P	**Pn**	03 33 40.8	+0.2
SIVA	**Sivas**	2.62	270	P	**Pn**	03 33 40.7	+0.1
SIVA	**Sivas**	2.62	270	P	**Pn**	03 33 40.7	+0.1
KORT	**Korkueli**	2.72	44	*e*PN	**Pn**	03 33 43.6	+1.4
KORT	**Korkueli**	2.72	44	*i* P	**Pb**	03 33 46.1	-2.1
KORT	**Korkueli**	2.72	44	*e*Pn	**Pn**	03 33 43.6	+1.4
KORT	**Korkueli**	2.72	44	P	**Pb**	03 33 46.1	-2.1
APE	**Apeiranthos**	2.85	316	*e*PN	**Pn**	03 33 46.3	+2.5
APE	**Apeiranthos**	2.85	316	*e*Pn	**Pn**	03 33 46.3	+2.5
AYDB	**Zeytinkoy-Aydi**	2.90	358	*e*PN	**Pn**	03 33 44.7	+0.2
AYDB	**Zeytinkoy-Aydi**	2.90	358	*e*Pn	**Pn**	03 33 44.7	+0.2
BRDR	**BURDUR-Merkez**	3.12	31	*i* P	**Pn**	03 33 49.5	+1.9
BRDR	**BURDUR-Merkez**	3.12	31	P	**Pn**	03 33 49.5	+1.9
GVD	**Gavdhos**	3.23	268	P	**Pn**	03 33 49.8	+0.9
GVD	**Gavdhos**	3.23	268	P	**Pn**	03 33 49.8	+0.9
MANT	**Manisa**	3.47	7	*i* P	**Pn**	03 33 52.9	+0.4
MANT	**Manisa**	3.47	7	P	**Pn**	03 33 52.9	+0.4
KHAL	**Karahalli**	3.53	19	*i* P	**Pn**	03 33 52.7	-0.5
KHAL	**Karahalli**	3.53	19	P	**Pn**	03 33 52.7	-0.5
MMAI	**Mount Meron Ar**	6.46	106	Pn	**Pn**	03 34 35.5	+2.0
	comp=E,0.6nm,0.3s,baz=305,slow=10,SNR=3.0						
MMAI				Sn	**Sn**	03 35 48.4	+2.0
	comp=E,1.0nm,0.3s,baz=297,slow=39,SNR=3.0						
BRTR	**Keskin Array B**	6.47	42	Pn	**Pn**	03 34 34.2	+0.5
	comp=E,0.1nm,0.3s,baz=218,slow=15,SNR=3.0						
BRTR				Sn	**Sn**	03 35 47.1	+0.4
	comp=E,0.1nm,0.3s,baz=210,slow=28,SNR=3.6						
MLR	**Muntele Rosu**	10.55	352	LR	LR	03 40 05.3	
	comp=E,21nm,19.6s,baz=50,slow=41						
ESDC	**Sonseca Array**	25.75	290	P	**P**	03 38 26.6	-1.8
	comp=E,0.1nm,0.4s,baz=75,slow=10.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	32.26	234	P	**P**	03 39 25.8	-0.6
	comp=E,0.5nm,0.7s,baz=36,slow=8.8,SNR=6.2						

*NIED **05** 03:46:00, 44.°70N×149.°60E, h44km, Mw4.1 Best double couple: M0=1.63000×10^15 NP1:φ=146.00000°, δ=30.00000°, λ=1.00000°. NP2:φ=55.00000°, δ=90.00000°, λ=120.00000°.*
*IDC **05** 03:46:38.7±0.8, 44.°69N×149.°41E, h0km, mb4.0/16, mb1 4.1/21, mb1mx4.0/37, mbtmp3.9/21, ML3.1/5, MS3.1/7, Ms1 3.1/7, ms1mx2.8/45, Error ellipse: s-maj=22.1km s-min=15.7km az=140.0*
*ISCJB **05** 03:46:42.4±0.8, 44.°59N±0.°05×149.°47E±0.°06, h40km±6km, mb4.3/37, MS3.1/2, Error ellipse: s-maj=9.5km s-min=5.1km az=139.5*
*JMA **05** 03:46:42.0±0.6, 44.°72N×149.°62E, h30km, M4.6*
*MOS **05** 03:46:43.1±1.2, 44.°79N×149.°37E, h42km, mb4.7/16, Error ellipse: s-maj=8.7km s-min=7.6km az=93.8*
*SKHL **05** 03:46:43.7±0.2, 44.°54N×149.°56E, h55km±6km, mb5.2/3*
*NEIC **05** 03:46:44.3±0.9, 44.°69N×149.°41E, h38km±8km, mb4.6/13, Error ellipse: s-maj=11.9km s-min=5.8km az=142.0*

ISC 05 03:46:42.0±3.4, 44.°45N±0.°06×149.°58E±0.°07, h30km±25km, n141, σ2°01/149, mb4.4/37, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	1.45	303	*d i* PN	**Pn**	03 47 05.3	-0.9
KUR				*e*S	**Sn**	03 47 19.7	-4.4
KUR				pmax	pmax		
	comp=Z,1μm,0.9s						
KUR				pmax	pmax		
	comp=Z,891nm,0.4s						
KUR				pmax	pmax		
	comp=N,401nm,0.2s						
KUR				pmax	pmax		
	comp=E,283nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR	**Kuril'sk**	1.45	303	*e*P	**Pn**	03 47 05.2	-0.9
KUR				AMB	AMB	03 47 07.8	
	comp=E,520nm,0.3s						
KUR				*e*S	**Sn**	03 47 21.1	-3.0
KUR				A	A	03 47 26.1	
	comp=E,530nm,0.3s						
KUR				A	A	03 47 26.1	
	comp=E,2μm,0.3s						
SHO	**Shikotan**	2.06	255	*d i* PN	**Pn**	03 47 15.2	+0.7
SHO				*e*S	**Sn**	03 47 39.0	-0.1
SHO				pmax	pmax		
	comp=Z,196nm,0.4s						
SHO				smax	smax		
	comp=N,597nm,0.5s						
SHO				smax	smax		
	comp=E,2.0nm,0.4s						
SHO	**Shikotan**	2.06	255	*e*P	**Pn**	03 47 15.0	+0.5
SHO				AMB	AMB	03 47 20.0	
	comp=E,193nm,0.3s						
SHO				*e*S	**Sn**	03 47 38.5	-0.6
SHO				A	A	03 47 46.6	
	comp=

OFUJ *e*S **Sn** **03 49 57.9 -7.1**
JRG Rokugo 8.36 236 P **Pn** **03 48 40.9 -0.1**
JRG *e*S **Sn** **03 50 10.3 -4.1**
JIO Ouri 8.60 229 *e*S **Sn** **03 50 13.0 -7.2**
PETK Petropavlovsk- 10.19 29 Pn **Pn** **03 49 05.2 -0.8**
comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=2.7
PEA1 Petropavlovsk- 10.19 29 *e*Pn **Pn** **03 49 05.2 -0.9**
HABR Khabarovsk 10.80 297 *e*PN **Pn** **03 49 12.4 -2.0**
HABR pmax pmax
comp=N,20nm,1.5s
HABR pmax pmax
comp=E,8.0nm,0.8s
HABR pmax pmax
comp=Z,22nm,1.5s
HABR MLR MLR
comp=Z,147nm,12.0s
MJAR Matsushiro Arr 11.71 231 Pn **Pn** **03 49 27.6 +0.7**
comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=4.2
USRK Ussuriysk Ar. 12.60 275 Pn **Pn** **03 49 37.2 -1.9**
comp=Z,0.2nm,0.3s,baz=83,slow=16,SNR=2.1
USRK LR LR 03 54 47.2
comp=Z,85nm,19.4s,baz=60,slow=39
VLA Vladivostok 12.86 270‖ *e*PN **Pn** **03 49 45.1 +2.5**
VLA pmax pmax
comp=Z,60nm,1.6s
MA2 Magadan 15.17 2 LR LR 03 55 12.7
comp=Z,41nm,18.7s,baz=228,slow=34
KSRS Korea Array 17.76 254 P **Pn** **03 50 47.4 +0.6**
comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=4.5
KSRS LR LR 03 57 43.2
comp=Z,51nm,18.2s,baz=55,slow=38
KS15 Wonju Array Si 17.79 254 *e*Pn **Pn** **03 50 47.4 +0.2**
KSAR Wonju Array Be 17.79 254 P **Pn** **03 50 47.4 +0.2**
KSAR Wonju Array Be 17.79 254 P **Pn** **03 50 47.4 +0.2**
JNU Nakatsue 18.40 238 LR LR 03 58 47.6
comp=Z,61nm,18.5s,baz=86,slow=40
SEY Seymchan 18.59 4 P **P** **03 50 55.4 -1.0**
comp=Z,0.2nm,0.3s,baz=169,slow=8.4,SNR=3.7
BILL Bilibino 25.23 15 *e*P **P** **03 52 01.6 -3.1**
BILL pmax pmax
comp=Z,2.0nm,0.9s
H11N2 WAKE ISLAND Hy 28.56 144 T T 04 23 24.1
baz=334,slow=76,SNR=213
H11N1 WAKE ISLAND Hy 28.57 144 T T 04 23 23.6
baz=334,slow=76,SNR=235
H11N3 WAKE ISLAND Hy 28.57 144 T T 04 23 25.3
baz=334,slow=76,SNR=186
H11S1 WAKE ISLAND Hy 29.57 146 T T 04 24 42.3
baz=334,slow=76,SNR=218
H11S3 WAKE ISLAND Hy 29.58 146 T T 04 24 42.3
baz=334,slow=76,SNR=204
H11S2 WAKE ISLAND Hy 29.59 146 T T 04 24 41.7
baz=334,slow=76,SNR=150
SONA0 Songino Array 29.83 292 *e*P **P** **03 52 44.4 -1.9**
comp=Z,5.3nm,1.4s
SONM Songino Array 29.83 292 P **P** **03 52 44.4 -1.9**
comp=Z,0.7nm,0.5s,baz=80,slow=9.4,SNR=3.1
TLY Talaya 31.11 300 LR LR 04 05 14.5
comp=Z,31nm,18.8s,baz=3.0,slow=36
KDAK Kodiak Island 37.49 48 P **P** **03 53 51.3 -1.2**
comp=Z,3.5nm,0.8s,baz=225,slow=4.3,SNR=4.1
KDAK Kodiak Island 37.49 48 *e*P **P** **03 53 51.3 -1.2**
comp=Z,51nm,1.5s
PPLA Purkeypile 37.53 40 *e*P **P** **03 53 55.8 +2.7**
comp=Z,34nm,1.8s
CAST Castle Rocks 37.59 39 *e*P **P** **03 53 55.6 +2.2**
comp=Z,15nm,1.9s
COLD Coldfoot 38.62 33 *e*P **P** **03 54 01.9 -0.1**
comp=Z,18nm,1.9s
MDM Murphy Dome 39.31 36 *e*P **P** **03 54 08.4 +0.5**
comp=Z,13nm,1.7s
SML Sawmill 39.34 41 *e*P **P** **03 54 07.2 -1.0**
SML pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 39.34 41 *e*P **P** **03 54 07.2 -1.0**
comp=Z,10nm,1.0s
COLA College 39.48 37 *e*P **P** **03 54 10.8 +1.6**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 39.48 37 *e*P **P** **03 54 10.7 +1.6**
CCB Clear Creek Bu 39.49 37 *e*P **P** **03 54 10.8 +1.5**
comp=Z,12nm,1.9s
DHY Denali Highway 39.73 39 *e*P **P** **03 54 12.2 +0.8**
comp=Z,14nm,1.8s
HDA Harding Lake 39.87 37 *e*P **P** **03 54 10.8 -1.6**
comp=Z,17nm,1.8s
ILAR Eielson Array 39.89 37 P **P** **03 54 13.2 +0.5**
comp=Z,0.6nm,0.7s,baz=268,slow=8.3,SNR=9.2
ILAR Eielson Array 39.89 37 *e*P **P** **03 54 13.7 +1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 39.89 37 *e*P **P** **03 54 13.7 +1.1**
ILB Eielson Array 39.89 37 *e*P **P** **03 54 13.2 +0.5**
ZALV Zalesovo Beam 41.98 307 LR LR 04 13 04.7
comp=Z,27nm,19.2s,baz=70,slow=38
INK Inuvik 44.91 31 P **P** **03 54 54.4 +1.0**
comp=Z,1.1nm,0.6s,baz=299,slow=7.9,SNR=4.9
INK Inuvik 44.91 31 *e*P **P** **03 54 54.3 +1.0**
INK pmax pmax
comp=Z,26nm,1.8s
INK Inuvik 44.91 31 *e*P **P** **03 54 54.3 +1.0**
comp=Z,26nm,1.8s
MK32 Makanchi Array 45.81 298 *e*P **P** **03 55 01.0 +0.1**
MKAR Makanchi Array 45.81 298 P **P** **03 55 01.0 +0.1**
comp=Z,2.6nm,0.7s,baz=75,slow=8.4,SNR=11
MKAR Makanchi Array 45.81 298 P **P** **03 55 01.0 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MK01 Makanchi Array 45.81 298 *e*P **P** **03 55 00.0 -0.9**
KURK Kurchatov 46.59 304 *e*P **P** **03 55 05.7 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 46.59 304 *e*P **P** **03 55 05.7 -1.1**
BRVK Borovoye 50.46 310 *e*P **P** **03 55 35.8 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 50.46 310 *e*P **P** **03 55 35.8 -0.8**
TAPN Taplejung 51.74 273 *e*P **P** **03 55 47.9 +1.0**
comp=Z,7.2nm,0.4s
JIRN Jiri 52.64 274 *e*P **P** **03 55 54.6 +0.9**
comp=Z,12nm,0.4s
GUN Gumba 52.71 274 *e*P **P** **03 55 55.3 +1.1**
comp=Z,14nm,0.3s
RAMN Ramite 52.77 273 *e*P **P** **03 55 55.2 +0.7**
comp=Z,28nm,0.4s
KKN Kakani 53.21 275 *e*P **P** **03 55 58.9 +1.1**
DMN Daman 53.45 275 *e*P **P** **03 56 00.4 +0.9**
GKN Gorkha 53.55 275 *e*P **P** **03 56 00.8 +0.7**
DANN Dangsing 53.97 276 *e*P **P** **03 56 05.1 +1.7**
YKA Yellowknife Ar 54.24 35 P **P** **03 56 05.1 +0.6**
comp=Z,0.3nm,0.5s,baz=302,slow=7.6,SNR=3.7
YKB5 Yellowknife Ar 54.24 35 *e*P **P** **03 56 05.1 +0.6**
KOLN Koldanda 54.42 276 *e*P **P** **03 56 07.5 +0.9**
comp=Z,3.2nm,0.3s
PYUN Piuthan 54.66 276 *e*P **P** **03 56 09.2 +0.9**
ABKAR Abkulak array 57.98 309 *e*P **P** **03 56 31.5 +0.1**
comp=Z,28nm,0.4s
ARCES ARCESS Array B 59.20 340 P **P** **03 56 37.9 -1.7**
comp=Z,1.8nm,0.8s,baz=46,slow=10,SNR=3.6
KLMR Klimovskoe 60.78 328 *e*P **P** **03 56 48.8 -1.7**
KLMR *e* 03 57 33.2
KLMR pmax pmax
comp=Z,13nm,1.5s
FIA0 FINESS Array S 65.04 334 *e*P **P** **03 57 17.6 -1.2**
FIA0 FINESS Array S 65.04 334 *e*P **P** **03 57 17.6 -1.2**
FINES FINESS Array B 65.04 334 P **P** **03 57 17.6 -1.2**
comp=Z,5.1nm,1.0s,baz=20,slow=7.8,SNR=11
WR1 Warramunga Arr 65.57 196 *e*P **P** **03 57 24.9 +2.2**
comp=Z,26nm,2.0s
WRA Warramunga Arr 65.57 196 P **P** **03 57 24.9 +2.2**
comp=Z,0.4nm,0.9s,baz=16,slow=6.8,SNR=3.7
AS31 Alice Springs 69.28 195 *e*P **P** **03 57 49.5 +3.3**
ASAR Alice Springs 69.28 195 P **P** **03 57 49.5 +3.3**
comp=Z,0.5nm,0.7s,baz=3.8,slow=5.6,SNR=4.8
NB2 NORSAR Subarra 69.57 340 P **P** **03 57 46.7 -0.8**
comp=Z,2.0nm,0.6s,baz=31,slow=6.5
NB200 NORSAR Array S 69.57 340 *e*P **P** **03 57 46.8 -0.8**
NOA NORSAR Array B 69.57 340 P **P** **03 57 46.8 -0.8**
comp=Z,1.3nm,0.6s,baz=32,slow=6.6,SNR=8.9
KIV Kislovodsk 70.59 313 *e*P **P** **03 57 54.8 +0.6**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 70.59 313 *e*P **P** **03 57 54.8 +0.6**
KBZ Khabaz 70.63 313 P **P** **03 57 55.3 +1.0**
comp=Z,5.3nm,0.8s,baz=68,slow=2.6,SNR=11
ZEI Tsey 70.74 311 *e*P **P** **03 57 53.2 -2.1**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 72.04 325 P **P** **03 58 02.5 -0.2**
comp=Z,2.9nm,0.6s,baz=35,slow=6.0,SNR=10
AKASG Malin Array Be 72.04 325 *e*P **P** **03 58 02.6 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 72.04 325 *e*P **P** **03 58 02.5 -0.2**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 72.04 325 *e*P **P** **03 58 02.5 -0.2**
comp=Z,3.8nm,0.7s
KIEV Kiev 72.05 325 *e*P **P** **03 58 02.3 -0.5**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 72.05 325 *e*P **P** **03 58 02.3 -0.5**
DPC Dobruska-Polom 77.21 331 *e*P **P** **03 58 31.8 -1.0**
DPC *e*x x 03 58 56.1
DPC Dobruska-Polom 77.21 331 *e*P **P** **03 58 31.8 -1.0**
CLL Collm 77.49 334 *i*P **P** **03 58 34.4 +0.2**
CLL pmax pmax
comp=Z,5.0nm,0.5s
CLL Collm 77.49 334 *i*P **P** **03 58 34.4 +0.2**
comp=Z,5.0nm,0.5s
PRU Pruhonice 78.12 332 *e*P **P** **03 58 38.8 +1.0**
PRU Pruhonice 78.12 332 *e*P **P** **03 58 38.8 +1.0**
BR101 Keskin Array S 78.31 315 *e*P **P** **03 58 40.0 +0.8**
BRTR Keskin Array B 78.31 315 P **P** **03 58 40.0 +0.8**
comp=Z,0.6nm,0.4s,baz=120,slow=2.9,SNR=5.7
KHC Kasperske Hory 79.18 332 *e*P **P** **03 58 45.1 +1.4**
KHC Kasperske Hory 79.18 332 *e*P **P** **03 58 45.1 +1.4**
GERES GERESS Array B 79.39 332 P **P** **03 58 45.4 +0.4**
comp=Z,0.9nm,0.4s,baz=36,slow=6.3,SNR=11
LTX Lajitas 80.80 58 *e*P **P** **03 58 54.6 +1.7**
LTX Lajitas 80.80 58 *e*P **P** **03 58 54.6 +1.7**
TXAR Lajitas Array 80.80 58 P **P** **03 58 54.6 +1.7**
comp=Z,0.5nm,0.6s,baz=292,slow=4.5,SNR=4.1
TOA1 Torodi Ar. Sit 115.67 325 *e*PKPdf **PKPdf** **04 05 21.9 +0.3**
TORD Torodi Ar. Bea 115.67 325 PKP **PKPdf** **04 05 21.9 +0.3**
comp=Z,0.3nm,0.8s,baz=82,slow=1.1,SNR=4.1

MEX 05 03:54:45.9±0.6, 16°.35N×97°.96W, h20km±77km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**284**	*i* P		Pb	03 54 50.0	-0.6
PNIG				*e*S		Sb	03 54 52.5	-1.4
VHO	**Vista Hermosa**	**1.38**	**58**	*i* P		Pn	03 55 06.9	-3.3
HUIG	**Huatulco**	**1.87**	**108**	*e*P		Pn	03 55 13.2	-3.6

NIED ***05*** *04:02:00, 39°.70N×143°.30E, h23km, Mw3.4 Best double couple: M0=1.58000×10^14 NP1:φs=198.00000°, δ=14.00000°, λ=82.00000°. NP2:φs=25.00000°, δ=76.00000°, λ=92.00000°.*

JMA 05 04:02:30.8±0.2, 39°.65N×143°.31E, h21km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.15**	**285**	P		Pn	04 02 51.6	-0.1
JTH				*e*S		Sb	04 03 06.6	+0.1
MIYJ	**Miyakonagasawa**	**1.15**	**267**	P		Pn	04 02 51.5	-0.2
MIYJ				*e*S		Sn	04 03 06.8	0.0
OFUJ	**Ofunato**	**1.39**	**246**	P		Pn	04 02 55.4	+0.4
OFUJ				S		Sn	04 03 12.1	-0.6
JANG	**Nango**	**1.56**	**298**	P		Pn	04 02 57.3	+0.1
JOM	**Ohasama**	**1.57**	**264**	P		Pb	04 02 58.3	-0.8
JOM				*e*S		Sb	04 03 18.0	-0.5
JMK	**Ichinoseki**	**1.77**	**247**	P		Pn	04 03 01.0	+0.9
JIO	**Ouri**	**1.94**	**233**	P		Pn	04 03 02.9	+0.4
JTM	**Tenmabayashi**	**2.06**	**304**	P		Pn	04 03 05.3	+1.2
JTM				S		Sn	04 03 30.0	+0.9
JRG	**Rokugo**	**2.08**	**264**	P		Pn	04 03 06.1	+1.6
JAH	**Hinai**	**2.13**	**286**	P		Pn	04 03 06.5	+1.4
JYK	**Kaneyama**	**2.40**	**253**	P		Pn	04 03 10.4	+1.5
JOU	**Okura**	**2.43**	**239**	P		Pn	04 03 10.5	+1.3
JOT	**Ohata**	**2.44**	**316**	P		Pb	04 03 11.8	-2.2

ISCJB ***05*** *04:11:52.1±0.7, 63°.5N±0°.1×19°.2W±0°.2, h10km, mb3.6/9, Error ellipse: s-maj=18.4km s-min=10.0km az=41.7*
IDC ***05*** *04:11:52.3±0.8, 63°.58N×19°.10W, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.8/42, mbtmp3.8/11, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/43, Error ellipse: s-maj=31.9km s-min=15.7km az=30.0*

ISC 05 04:11:53.9±0.8, 63°.5N±0°.1×19°.1W±0°.1, h10km, n18, σ0.84/17, mb3.7/9, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**8.56**	**24**	LR		LR	04 16 34.1	
comp=Z,623nm,19.9s,baz=274,slow=33								
EKA	**Eskdalemuir Ar**	**11.51**	**128**	Pn		**Pn**	**04 14 37.5**	**-0.5**
baz=323,slow=15,SNR=5.4								
DAG	**Danmarks Havn**	**13.35**	**0**	*i* P		**Pn**	**04 15 04.0**	**+0.9**
FINES	**FINESS Array B**	**20.67**	**75**	P		**P**	**04 16 32.4**	**-1.2**
16nm,1.2s,baz=188,slow=1.3,SNR=5.3								
NKC	**Novy Kostel**	**21.49**	**113**	*e*P		**P**	**04 16 43.3**	**+0.9**
GOPC	**GO Pecny, Ondr**	**22.70**	**111**	*e*P		**P**	**04 16 56.5**	**+1.0**
KHC	**Kasperske Hory**	**22.81**	**114**	*e*P		**P**	**04 16 56.3**	**-0.3**
DPC	**Dobruska-Polom**	**23.02**	**108**	*e*P		**P**	**04 16 57.7**	**-1.1**
GERES	**GERESS Array B**	**23.08**	**114**	P		**P**	**04 17 00.3**	**+0.8**
1.2nm,1.0s,baz=311,slow=8.6,SNR=3.9								
TREC	**Trest**	**23.47**	**111**	*e*P		**P**	**04 17 03.9**	**+0.6**
ESDC	**Sonseca Array**	**25.51**	**152**	P		**P**	**04 17 22.9**	**+0.6**
0.4nm,0.5s,baz=348,slow=9.6,SNR=4.8								
AKASG	**Malin Array Be**	**28.44**	**94**	P		**P**	**04 17 47.5**	**-1.0**
0.2nm,0.3s,baz=313,slow=11,SNR=4.0								
KEST	**Kesra**	**32.81**	**134**	P		**P**	**04 18 27.9**	**+0.6**
3.5nm,0.7s,baz=305,slow=9.3,SNR=4.8								
BRTR	**Keskin Array B**	**38.90**	**102**	P		**P**	**04 19 20.4**	**+0.8**
0.8nm,0.8s,baz=318,slow=7.1,SNR=4.9								
ILAR	**Eielson Array**	**46.39**	**332**	P		**P**	**04 20 19.1**	**-0.8**
0.6nm,0.7s,baz=26,slow=7.2,SNR=7.3								
TORD	**Torodi Ar. Bea**	**52.37**	**154**	P		**P**	**04 21 05.6**	**-0.4**
1.2nm,0.8s,baz=347,slow=9.4,SNR=6.7								
PDAR	**Pinedale Array**	**52.97**	**293**	P		**P**	**04 21 10.2**	**-0.2**
0.8nm,0.8s,baz=54,slow=7.7,SNR=6.9								
TXAR	**Lajitas Array**	**61.77**	**279**	P		**P**	**04 22 12.7**	**+0.1**
1.5nm,1.0s,baz=85,slow=2.9,SNR=6.9								

BJI ***05*** *04:13:32.7, 75°.70N×7°.60E, h6km, mb4.8/31, mB5.0/22, Ms4.7/14, MsT 4.5/14*
CSEM ***05*** *04:13:33.6±0.1, 75°.62N×8°.27E, h2km, mb4.7/56, Error ellipse: s-maj=6.2km s-min=4.4km az=63.0*
ISCJB ***05*** *04:13:33.7±0.2, 75°.63N±0°.02×8°.0E±0°.1, h10km, mb4.5/90, MS4.0/24, Error ellipse: s-maj=4.1km s-min=3.5km az=162.2*
MOS ***05*** *04:13:34.1±1.8, 75°.62N×8°.41E, h10km, mb4.6/38, Error ellipse: s-maj=27.8km s-min=4.8km az=93.7*
IDC ***05*** *04:13:34.3±0.5, 75°.55N×8°.01E, h0km, mb4.2/25, mb1 4.3/30, mb1mx4.2/42, mbtmp4.2/30, ML3.7/3, MS3.9/23, Ms1 3.9/23, ms1mx3.8/38, Error ellipse: s-maj=12.4km s-min=9.1km az=67.0*
NEIC ***05*** *04:13:35.4±0.2, 75°.59N×7°.80E, h10km, mb4.7/45, Error ellipse: s-maj=6.7km s-min=4.5km az=59.0*
GCMT ***05*** *04:13:35.4±0.3, 75°.71N×7°.61E, h14km±1km, MW4.9/73, Moment Tensor Solution. s15,c16; s73,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.97±.14; Mθθ-0.58±.10; Mφφ1.55±.10; Mrθ0.78±.28; Mθφ1.04±.06; Mφr-1.60±.30; Best double couple: M=2.46800×10^16 NP1:φs346.00000°, δ75.00000°, λ-126.00000°. NP2: φs238.00000°, δ39.00000°, λ-24.00000°. Principal axes: T 2.4570, Plg22.0000°, Azm103.0000°; N 0.0230, Plg35.0000°, Azm357.0000°; P -2.4800, Plg47.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***05*** *04:13:36.0±1.7, 75°.66N×9°.67E, ML4.6*
BER ***05*** *04:13:36.6±4.0, 75°.70N×8°.49E, h15km±40km, ML3.1, ML4.6(NAO)*

ISC 05 04:13:35.3±0.3, 75°.69N±0°.04×8°.10E±0°.04, h10km, n359, σ2.19/381, mb4.6/90, MS4.0/24, 6C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.20**	**50**	*e*P		**Pn**	**04 14 10.0**	**-1.8**
HSPB				*e*S		**Sn**	**04 14 32.4**	**-6.7**
HSPB				IAML			04 14 39.1	
comp=Z,224nm,0.3s								
HSPB	**Hornsund (broa**	**2.20**	**50**	*e*P		**Pn**	**04 14 10.0**	**-1.8**
HSPB				*e*			04 14 34.4	
HSPB	**Hornsund (broa**	**2.20**	**50**	*e*P		**Pn**	**04 14 10.0**	**-1.8**
SNR=55								
HSPB	**Hornsund (broa**	**2.20**	**50**	Pn		**Pn**	**04 14 10.6**	**-1.2**
HSPB				*e*S		**Sn**	**04 14 34.4**	**-4.7**
HSP	**Hornsund**	**2.21**	**50**	Pn		**Pn**	**04 14 10.6**	**-1.4**
HSP				Sn		**Sn**	**04 14 34.2**	**-5.1**
BRBA	**Barentsburg A**	**2.76**	**27**	Pn		**Pn**	**04 14 17.8**	**-1.7**
BRBA				Sn		**Sn**	**04 14 47.3**	**-5.5**
SNR=55								
BJO1	**Bjornoya**	**3.06**	**108**	Pn		**Pn**	**04 14 21.4**	**-2.2**
BJO	**Bjornoya**	**3.10**	**107**	*e*P		**Pn**	**04 14 21.6**	**-2.6**
BJO	**Bjornoya**	**3.10**	**107**	Pn		**Pn**	**04 14 21.4**	**-2.7**
SPA0	**Spitsbergen Ar**	**3.13**	**33**	Pn		**Pn**	**04 14 23.8**	**-0.8**
baz=216,slow=14								
SPA0				Sn		**Sn**	**04 14 58.6**	**-3.3**
baz=207,slow=22								
SPA0	**Spitsbergen Ar**	**3.13**	**33**	Pn		**Pn**	**04 14 23.8**	**-0.8**
baz=216,slow=14								
SPA0				Sn		**Sn**	**04 14 58.6**	**-3.3**
baz=207,slow=22								
SPA0	**Spitsbergen Ar**	**3.13**	**33**	Pn		**Pn**	**04 14 23.8**	**-0.8**
SNR=597								
SPA0	**Spitsbergen Ar**	**3.13**	**33**	*e*Pn		**Pn**	**04 14 24.0**	**-0.5**
SPA0				*e*Sn		**Sn**	**04 14 59.2**	**-2.7**
SPITS	**Spitsbergen Ar**	**3.13**	**33**	Pn		**Pn**	**04 14 23.9**	**-0.7**
baz=204,slow=14,SNR=990								
SPITS				Sn		**Sn**	**04 14 58.4**	**-3.5**
baz=176,slow=12,SNR=5.3								
SPITS				LR		LR	04 15 39.7	
comp=Z,1μm,19.5s,baz=200,slow=38								
KBS	**Kingsbay**	**3.37**	**13**	Pn		**Pn**	**04 14 25.6**	**-2.2**
KBS				Sn		**Sn**	**04 15 02.2**	**-5.5**
KBS	**Kingsbay**	**3.37**	**13**	*e*P		**Pn**	**04 14 25.4**	**-2.4**
KBS				Sn		**Sn**	**04 15 02.2**	**-5.5**
KBS				IAML			04 15 06.3	
comp=Z,128nm,0.1s								
KBS	**Kingsbay**	**3.37**	**13**	*e*P		**Pn**	**04 14 25.6**	**-2.2**
KBS				*e*			04 15 05.8	
KBS	**Kingsbay**	**3.37**	**13**	*e*P		**Pn**	**04 14 25.4**	**-2.4**
SNR=55								
KBS	**Kingsbay**	**3.37**	**13**	*e*Pn		**Pn**	**04 14 25.6**	**-2.2**
KBS				*e*Sn		**Sn**	**04 15 05.8**	**-1.9**
HOPEN	**Hopen**	**4.16**	**70**	Pn		**Pn**	**04 14 37.6**	**-1.0**
HOPEN				Sn		**Sn**	**04 15 22.2**	**-5.0**
HOPEN	**Hopen**	**4.16**	**70**	*e*P		**Pn**	**04 14 37.4**	**-1.2**
HOPEN				*e*S		**Sn**	**04 15 22.6**	**-4.6**
HOPEN				IAML			04 15 24.9	
comp=Z,413nm,0.4s								
HOPEN	**Hopen**	**4.16**	**70**	*e*P		**Pn**	**04 14 37.4**	**-1.2**
SNR=53								
HOPEN				Sn		**Sn**	**04 15 22.2**	**-5.0**
HAMF	**Hammerfest**	**6.77**	**131**	*e*P		**Pn**	**04 15 10.9**	**-3.5**
HAMF				IAML			04 16 24.4	
comp=Z,15nm,0.4s								
HAMF	**Hammerfest**	**6.77**	**131**	*e*P		**Pn**	**04 15 10.9**	**-3.5**
SNR=51								
KIF	**Kilpisjarvi**	**7.72**	**144**	*e*P		**Pn**	**04 15 26.1**	**-1.4**
KIF	**Kilpisjarvi**	**7.72**	**144**	*e*P		**Pn**	**04 15 26.1**	**-1.4**
SNR=51								
ARA0	**ARCESS Array S**	**8.04**	**131**	Pn		**Pn**	**04 15 27.9**	**-4.0**
baz=333,slow=12								
ARA0				Sn		Sn	04 16 52.5	-10
baz=330,slow=22								
ARA0	**ARCESS Array S**	**8.04**	**131**	Pn		**Pn**	**04 15 27.9**	**-4.0**
baz=333,slow=12								
ARA0				Sn		Sn	04 16 52.5	-10
baz=330,slow=22								
ARA0	**ARCESS Array S**	**8.04**	**131**	*e*Pn		**Pn**	**04 15 29.2**	**-2.7**
ARA0	**ARCESS Array S**	**8.04**	**131**	*e*Pn		**Pn**	**04 15 29.2**	**-2.7**
ARA0				*e*Sn		Sn	04 16 53.5	-9.3
ARCES	**ARCESS Array B**	**8.04**	**131**	Pn		**Pn**	**04 15 28.9**	**-3.1**
comp=Z,3.6nm,0.3s,baz=327,slow=12,SNR=86								
ARCES				Sn		Sn	04 16 53.5	-9.3
comp=Z,6.1nm,0.3s,baz=324,slow=17,SNR=7.8								
ARCES				LR		LR	04 18 53.8	
comp=Z,587nm,18.7s,baz=335,slow=40								
ARE0	**ARCESS Array S**	**8.04**	**131**	*e*P		**Pn**	**04 15 28.8**	**-3.1**
ARE0				*e*S		Sn	04 16 52.8	-10
ARE0				IAML			04 16 56.0	
comp=Z,14nm,0.3s								
ARE0	**ARCESS Array S**	**8.04**	**131**	*e*Pn		**Pn**	**04 15 29.0**	**-2.9**
ARE0	**ARCESS Array S**	**8.04**	**131**	*e*Pn		**Pn**	**04 15 29.0**	**-2.9**
ARE0				*e*Sn		Sn	04 16 51.8	-11
KTK1	**Kautokeino**	**8.10**	**138**	*e*P		**Pn**	**04 15 32.1**	**-0.6**
KTK1				IAML			04 17 00.9	
comp=Z,8.5nm,0.3s								
KTK1	**Kautokeino**	**8.10**	**138**	*e*P		**Pn**	**04 15 32.1**	**-0.6**
SNR=51								
KEV	**Kevo**	**8.14**	**127**	*e*P		**Pn**	**04 15 30.1**	**-3.2**
KEV	**Kevo**	**8.14**	**127**	*e*Pn		**Pn**	**04 15 30.1**	**-3.2**
KEV	**Kevo**	**8.14**	**127**	*e*Pn		**Pn**	**04 15 30.1**	**-3.2**
KEV				*e*Sn		Sn	04 16 53.5	-12
HEF	**Hetta**	**8.71**	**139**	*e*P		**Pn**	**04 15 39.0**	**-2.1**
HEF	**Hetta**	**8.71**	**139**	*e*P		**Pn**	**04 15 39.0**	**-2.1**
SNR=51								
APA0	**Apatity Array**	**11.16**	**124**	Pn		**Pn**	**04 16 10.6**	**-3.9**
baz=337,slow=18								
APA0	**Apatity Array**	**11.16**	**124**	Pn		**Pn**	**04 16 10.6**	**-3.9**
baz=337,slow=18								
APA0	**Apatity Array**	**11.16**	**124**	Pn		**Pn**	**04 16 10.6**	**-3.9**
SNR=6.1								
LVZ	**Lovozero**	**11.26**	**120**	*e*P		**Pn**	**04 16 12.2**	**-3.8**
LVZ	**Lovozero**	**11.26**	**120**	*e*Pn		**Pn**	**04 16 12.2**	**-3.8**
LVZ	**Lovozero**	**11.26**	**120**	*e*Pn		**Pn**	**04 16 12.2**	**-3.8**
APA	**Apatity**	**11.27**	**123**‖	*i*P		**Pn**	**04 16 11.8**	**-4.3**
APA				*i*			04 18 16.0	
APA				pmax		pmax		
comp=Z,10.0nm,0.6s								
APA				MLR		MLR		
comp=Z,2μm,11.0s								
APA	**Apatity**	**11.27**	**123**	*i*P		**Pn**	**04 16 11.8**	**-4.3**
comp=Z,10.0nm,0.6s								
SUMG	**Summit**	**12.81**	**279**	*i*P		**Pn**	**04 16 32.8**	**-4.7**
comp=Z,26nm,1.1s								
SUMG	**Summit**	**12.81**	**279**	*i*P		**Pn**	**04 16 34.4**	**-3.1**
SUMG				*i*S		Sn	04 18 44.5	-16
SUMG	**Summit**	**12.81**	**279**	*e*P		**Pn**	**04 16 34.4**	**-3.1**
SUMG	**Summit**	**12.81**	**279**	*e*Pn		**Pn**	**04 16 32.9**	**-4.5**
NB2	**NORSAR Subarra**	**14.76**	**174**	Pn		**Pn**	**04 17 03.1**	**-0.7**
NB2	**NORSAR Subarra**	**14.76**	**174**	Pn		**Pn**	**04 17 03.1**	**-0.7**
NB2	**NORSAR Subarra**	**14.76**	**174**	Pn		**Pn**	**04 17 03.1**	**-0.7**
NB200	**NORSAR Array S**	**14.76**	**174**	*e*Pn		**Pn**	**04 17 02.6**	**-1.2**
NB200	**NORSAR Array S**	**14.76**	**174**	*e*Pn		**Pn**	**04 17 02.6**	**-1.2**
NOA	**NORSAR Array B**	**14.76**	**174**	Pn		**Pn**	**04 17 02.6**	**-1.2**
comp=Z,0.1nm,0.3s,ba

comp=Z,11nm,0.9s,baz=358,slow=9.3,SNR=7.6
NACGM **Naroch** 22.06 150 *e* P 04 18 29.0 -0.7
SUW **Suwalki** 22.53 156 *eP* P 04 18 36.4 +1.6
SUW **Suwalki** 22.53 156 *eP* P 04 18 36.4 +1.6
NRIK **Noril'sk** 22.83 64 P P 04 18 37.6 -0.3
comp=Z,13nm,0.7s,baz=295,slow=6.8,SNR=6.4
NRIK LR LR 04 30 03.5
comp=Z,195nm,19.2s,baz=326,slow=43
NRIK **Noril'sk** 22.83 64 P P 04 18 37.6 -0.3
NRIK pmax pmax
comp=Z,6.0nm,0.5s
NRIK MLR MLR
comp=Z,195nm,19.2s
OBN **Obninsk** 23.31 136 P P 04 18 46.5 +3.6
comp=Z,10nm,0.3s,baz=323,slow=9.0,SNR=7.4
OBN **Obninsk** 23.31 136 *eP* P 04 18 42.2 -0.6
OBN pmax pmax
comp=Z,83nm,1.7s
OBN **Obninsk** 23.31 136 *eP* P 04 18 42.2 -0.6
comp=Z,83nm,1.7s
OBN **Obninsk** 23.31 136 *eP* P 04 18 46.5 +3.6
comp=Z,50nm,1.1s
SOKR **Solikamsk** 23.45 106 *eP* P 04 18 42.3 -1.9
SOKR pmax pmax
comp=Z,17nm,0.8s
CLL **Collm** 24.55 173 *eP* P 04 18 54.0 -0.7
CLL *e* 04 19 16.0
BRG **Berggiesshubel** 25.02 171 SG P 04 18 59.2 +0.3
comp=Z,13nm,1.4s
UPC **Upice** 25.48 168 AMS AMS 04 29 00.0
comp=Z,500nm,15.1s
NKC **Novy Kostel** 25.61 174 *eP* P 04 19 04.5 +0.2
NKC *ep*P **sP** 04 19 10.5 +1.9
NKC AMS AMS 04 27 00.0
comp=Z,500nm,12.4s
NKC **Novy Kostel** 25.61 174 *eP* P 04 19 04.5 +0.2
NKC *e* 04 19 10.5
NKC MLR MLR
comp=Z,500nm,12.4s
NKC **Novy Kostel** 25.61 174 *eP* P 04 19 04.5 +0.2
comp=Z,500nm,12.4s
PRU **Pruhonice** 25.93 170 *eP* P 04 19 07.2 0.0
PRU *ep*P **sP** 04 19 13.5 +2.0
PRU **Pruhonice** 25.93 170 *eP* P 04 19 07.2 0.0
PRU *e* 04 19 13.5
PRU **Pruhonice** 25.93 170 *eP* P 04 19 07.2 0.0
OJC **Ojcow** 26.00 163 *eP* P 04 19 10.2 +2.4
OJC **Ojcow** 26.00 163 *eP* P 04 19 09.8 +1.9
OJC pmax pmax
comp=Z,22nm,1.1s
OJC **Ojcow** 26.00 163 *eP* P 04 19 09.8 +1.9
comp=Z,22nm,1.1s
OJC **Ojcow** 26.00 163 *eP* P 04 19 09.8 +1.9
comp=Z,22nm,1.1s
GOPC **GO Pecny, Ondr** 26.01 170 *eP* P 04 19 09.1 +1.1
GOPC **GO Pecny, Ondr** 26.01 170 *eP* P 04 19 09.1 +1.1
GOPC **GO Pecny, Ondr** 26.01 170 *eP* P 04 19 09.1 +1.1
LPSR **Galich'ya Gora** 26.12 135 *eP* P 04 19 07.3 -1.6
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR **Galich'ya Gora** 26.12 135 *eP* P 04 19 07.3 -1.6
comp=Z,10.0nm,1.0s
AKASG **Malin Array Be** 26.48 149 P P 04 19 10.8 -1.3
comp=Z,3.3nm,0.7s,baz=346,slow=10,SNR=8.4
AKASG **Malin Array Be** 26.48 149 *ceP* P 04 19 13.6 +1.4
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB **Malin Array Si** 26.48 149 *eP* P 04 19 13.7 +1.5
AKBB pmax pmax
comp=Z,19nm,1.1s
AKBB **Malin Array Si** 26.48 149 *eP* P 04 19 13.6 +1.5
comp=Z,19nm,1.1s
AKBB **Malin Array Si** 26.48 149 *eP* P 04 19 13.7 +1.5
comp=Z,19nm,1.1s
KIEV **Kiev** 26.49 149 *eP* P 04 19 11.9 -0.3
KIEV pmax pmax
comp=Z,20nm,1.2s
KIEV **Kiev** 26.49 149 *eP* P 04 19 11.9 -0.3
comp=Z,20nm,1.2s
KIEV **Kiev** 26.49 149 *eP* P 04 19 11.9 -0.3
comp=Z,20nm,1.2s
AK11 **Malin Array Si** 26.50 149 *eP* P 04 19 08.9 -3.4
AK11 **Malin Array Si** 26.50 149 *eP* P 04 19 08.9 -3.4
VRAC **Vranov** 26.71 168 P P 04 19 13.6 -0.6
comp=Z,1.1nm,0.3s,baz=142,slow=19,SNR=3.2
FRB **Frobisher Bay** 26.74 286 LR LR 04 29 15.3
comp=Z,476nm,21.9s,baz=30,slow=35
KHC **Kasperske Hory** 26.75 172 *eP* P 04 19 15.2 +0.5
KHC *ep*P **sP** 04 19 21.6 +2.6
KHC AMS AMS 04 27 50.0
comp=Z,700nm,11.9s
KHC **Kasperske Hory** 26.75 172 *eP* P 04 19 15.2 +0.5
KHC *e* 04 19 21.6
KHC MLR MLR
comp=Z,700nm,11.9s
KHC **Kasperske Hory** 26.75 172 P P 04 19 15.2 +0.5
NIE **Niedzica** 26.84 162 *eP* P 04 19 17.6 +2.2
NIE **Niedzica** 26.84 162 *eP* P 04 19 17.7 +2.2
STHS **Stebnicka Huta** 26.91 161 *eP* P 04 19 16.8 +0.7
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS **Stebnicka Huta** 26.91 161 *eP* P 04 19 16.8 +0.7
comp=Z,5.2nm,0.9s
STHS **Stebnicka Huta** 26.91 161 *eP* P 04 19 16.8 +0.7
GEC2 **GERESS Array S** 27.04 172 *eP* P 04 19 18.9 +1.6
GEC2 pmax pmax
comp=Z,7.0nm,1.1s
GEC2 **GERESS Array S** 27.04 172 *eP* P 04 19 18.9 +1.6
comp=Z,7.2nm,1.1s
GEC2 **GERESS Array S** 27.04 172 *eP* P 04 19 18.9 +1.6
comp=Z,7.2nm,1.1s
GERES **GERESS Array B** 27.04 172 P P 04 19 18.2 +0.9
comp=Z,1.2nm,0.9s,baz=9.7,slow=9.5,SNR=6.1
GERES LR LR 04 29 27.6
comp=Z,104nm,19.5s,baz=346,slow=35
LANS **Liptovska Anna** 27.04 163 *eP* P 04 19 20.9 +3.6
LANS **Liptovska Anna** 27.04 163 *eP* P 04 19 20.9 +3.6
GEA0 **GERESS Array S** 27.05 172 *eP* P 04 19 17.6 +0.2
GEA0 **GERESS Array S** 27.05 172 *eP* P 04 19 17.6 +0.2
CRVS **Cervenica-Dubn** 27.44 161 *eP* P 04 19 23.0 +2.1
CRVS **Cervenica-Dubn** 27.44 161 *eP* P 04 19 23.0 +2.1
BFO **Black Forest** 27.46 180 *eP* P 04 19 18.3 -2.7
BFO pmax pmax
comp=Z,18nm,1.3s
BFO **Black Forest** 27.46 180 *eP* P 04 19 18.3 -2.7
comp=Z,18nm,1.3s
BFO **Black Forest** 27.46 180 *eP* P 04 19 18.3 -2.7
comp=Z,18nm,1.3s
VSR **Storozhevoye** 27.50 135 *eP* P 04 19 20.8 -0.5
VSR pmax pmax
comp=Z,10.0nm,1.8s
VYHS **Vyhne** 27.65 165 *eP* P 04 19 26.5 +3.8
VYHS **Vyhne** 27.65 165 *eP* P 04 19 26.5 +3.8
UZH **Uzhgorod** 27.78 160 *eP* P 04 19 23.6 -0.2
UZH *e* 04 19 30.4
SSB **Saint Sauveur** 30.55 185 *eP* P 04 19 47.6 -0.9
SSB pmax pmax
comp=Z,4.0nm,0.9s
SSB **Saint Sauveur** 30.55 185 *eP* P 04 19 47.6 -0.9
comp=Z,4.4nm,0.9s
SSB **Saint Sauveur** 30.55 185 *eP* P 04 19 47.6 -0.9
comp=Z,4.4nm,0.9s
AKTO **Aktyubinsk** 32.11 113 LR LR 04 33 39.9
comp=Z,309nm,19.4s,slow=38
BRVK **Borovoye** 32.62 98 *ceP* P 04 20 07.9 +1.3
BRVK pmax pmax
comp=Z,27nm,2.5s
BRVK **Borovoye** 32.62 98 *eP* P 04 20 08.1 +1.6
comp=Z,3.7nm,0.7s
BRVK **Borovoye** 32.62 98 *eP* P 04 20 08.1 +1.6
comp=Z,3.7nm,0.7s
BVAR **Borovoye Array** 32.67 98 P P 04 20 08.1 +1.0
comp=Z,3.3nm,0.6s,baz=333,slow=8.7,SNR=21
ABKAR **Akbulak array** 33.65 112 *eP* P 04 20 16.4 +0.8
comp=Z,48nm,0.8s
ABKAR **Akbulak array** 33.65 112 *eP* P 04 20 16.4 +0.8
comp=Z,48nm,0.8s
SCHQ **Schefferville** 34.17 276 LR LR 04 33 00.2
comp=Z,192nm,18.9s,baz=17,slow=34
NVS **Novosibirsk** 34.21 84 *eP* P 04 20 19.0 -1.4
INK **Inuvik** 34.24 336 P P 04 20 23.3 +2.8
comp=Z,5.5nm,0.9s,baz=46,slow=9.5,SNR=3.5
INK **Inuvik** 34.24 336 *eP* P 04 20 19.6 -0.9
comp=Z,15nm,1.3s
INK **Inuvik** 34.24 336 *eP* P 04 20 19.6 -0.9
comp=Z,15nm,1.3s
PBRG **Braganca** 34.61 200 *eP* P 04 20 24.1 0.0
comp=Z,18nm,1.9s
PBRG **Braganca** 34.61 200 *eP* P 04 20 24.1 0.0
comp=Z,18nm,1.9s
POLO **Lamas de Olo** 35.13 201 *eP* P 04 20 28.3 -0.3
comp=Z,6.0nm,1.1s
POLO **Lamas de Olo** 35.13 201 *eP* P 04 20 28.3 -0.3
comp=Z,6.0nm,1.1s
MVO **Moncorvo** 35.27 200 *eP* P 04 20 29.8 0.0
comp=Z,15nm,1.5s
MVO **Moncorvo** 35.27 200 *eP* P 04 20 29.8 0.0
comp=Z,15nm,1.5s
KBZ **Khabaz** 35.39 134 P P 04 20 32.1 +1.5
comp=Z,2.2nm,0.8s,baz=339,slow=7.6,SNR=4.8
KBZ PP **PnPn** 04 21 44.6 -4.2
comp=Z,4.2nm,0.7s,baz=353,slow=11,SNR=4.5
ZAA1 **Zalesovo Array** 35.41 83 *eP* P 04 20 31.8 +1.0
ZAA1 **Zalesovo Array** 35.41 83 *eP* P 04 20 31.8 +1.0
ZAA0 **Zalesovo Array** 35.41 83 *eP* P 04 20 31.7 +0.9
ZAA0 **Zalesovo Array** 35.41 83 *eP* P 04 20 31.7 +0.9
ZALV **Zalesovo Beam** 35.41 83 P P 04 20 31.8 +1.0
comp=Z,3.0nm,0.8s,baz=332,slow=8.8,SNR=6.6
ZALV LR LR 04 38 42.7
comp=Z,323nm,18.6s,baz=250,slow=42
BILL **Bilibino** 35.85 14 *eP* P 04 20 34.8 +0.4
BILL pmax pmax
comp=Z,3.0nm,1.1s
MTE **Manteigas** 36.08 200 *eP* P 04 20 36.4 -0.3
MTE **Manteigas** 36.08 200 *eP* P 04 20 36.4 -0.3
ZEI **Tsey** 36.48 134 *eP* P 04 20 38.8 -1.5
ZEI pmax pmax
comp=Z,19nm,1.5s
ESDC **Sonseca Array** 36.52 196 P P 04 20 39.9 -0.6
comp=Z,1.8nm,0.9s,baz=3.1,slow=9.3,SNR=11
PCBR **Castelo Branco** 36.62 200 *eP* P 04 20 41.1 -0.2
comp=Z,18nm,1.9s
PCBR **Castelo Branco** 36.62 200 *eP* P 04 20 41.1 -0.2
comp=Z,18nm,1.9s
COLD **Coldfoot** 36.66 346 *eP* P 04 20 40.9 -0.4
comp=Z,5.9nm,1.0s
COLD **Coldfoot** 36.66 346 *eP* P 04 20 40.9 -0.4
comp=Z,5.9nm,1.0s
PAB **San Pablo** 36.67 196 *eP* P 04 20 41.6 -0.2
PAB pmax pmax
comp=Z,11nm,1.1s
PAB **San Pablo** 36.67 196 *eP* P 04 20 41.6 -0.2
comp=Z,11nm,1.1s
PAB **San Pablo** 36.67 196 *eP* P 04 20 41.6 -0.2
comp=Z,11nm,1.1s
KURK **Kurchatov** 36.83 91 P P 04 20 44.6 +1.6
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK **Kurchatov** 36.83 91 *eP* P 04 20 43.9 +1.0
comp=Z,7.6nm,0.9s
KURK **Kurchatov** 36.83 91 *eP* P 04 20 43.9 +1.0
comp=Z,7.6nm,0.9s
KURK *e*PP **PnPn** 04 21 58.0 -8.5
KURBB **Kurchatov Arra** 36.90 91 P P 04 20 44.5 +1.1
comp=Z,6.2nm,0.8s,baz=334,slow=7.5,SNR=36
KURBB PP **PP** 04 21 58.0 -9.3
comp=Z,0.7nm,0.5s,baz=336,slow=12,SNR=5.0
PTOM **Tomar** 36.93 201 *eP* P 04 20 43.8 -0.1
comp=Z,26nm,1.1s
PTOM **Tomar** 36.93 201 *eP* P 04 20 43.8 -0.1
comp=Z,26nm,1.1s
PMRV **Marv??o** 37.03 200 *eP* P 04 20 44.4 -0.3
comp=Z,25nm,1.3s
PMRV **Marv??o** 37.03 200 *eP* P 04 20 44.4 -0.3
comp=Z,25nm,1.3s
YKA **Yellowknife Ar** 37.30 320 P P 04 20 49.7 +2.9
comp=Z,2.7nm,0.9s,baz=12,slow=8.5,SNR=6.3
YKA PcP **PcP** 04 23 05.3 -0.3
comp=Z,0.8nm,0.6s,baz=23,slow=3.2,SNR=4.1
YKB5 **Yellowknife Ar** 37.30 320 *eP* P 04 20 49.7 +2.9
YKB5 **Yellowknife Ar** 37.30 320 *e*PcP **PcP** 04 23 05.3 -0.4
YKB5 **Yellowknife Ar** 37.30 320 *eP* P 04 20 49.7 +2.9
YKB5 *e*PcP **PcP** 04 23 05.3 -0.4
PESTR **Estremoz** 37.60 200 *eP* P 04 20 49.0 -0.6
comp=Z,16nm,1.1s
PESTR **Estremoz** 37.60 200 *eP* P 04 20 49.0 -0.6
comp=Z,16nm,1.1s
BR231 **Keskin MP Arra** 37.62 148 *eP* P 04 20 52.7 +2.9
BR101 **Keskin Array S** 37.85 147 *eP* P 04 20 52.5 +0.7
BR101 **Keskin Array S** 37.85 147 *e*PP PP 04 22 14.9 -3.1
BR101 **Keskin Array S** 37.85 147 *eP* P 04 20 52.5 +0.7
BR101 *e*PP **PP** 04 22 14.9 -3.1
BRTR **Keskin Array B** 37.85 147 P P 04 20 52.5 +0.7
comp=Z,0.5nm,0.6s,baz=352,slow=7.5,SNR=3.6
BRTR PP **PP** 04 22 14.9 -3.1
comp=Z,1.1nm,0.9s,baz=341,slow=7.1,SNR=3.7
BRTR LR LR 04 37 57.2
comp=Z,85nm,20.2s,baz=4.5,slow=39
BRTR **Keskin Array B** 37.85 147 *ceP* P 04 20 54.2 +2.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s
PBAR **Barrancos** 38.24 199 *eP* P 04 20 54.7 -0.3
comp=Z,42nm,1.7s
PBAR **Barrancos** 38.24 199 *eP* P 04 20 54.7 -0.3
comp=Z,42nm,1.7s
EGAK **Eagle** 38.41 339 *eP* P 04 20 59.4 +3.2
comp=Z,10nm,1.0s
EGAK **Eagle** 38.41 339 *eP* P 04 20 59.4 +3.2
comp=Z,10nm,1.0s
PBEJ **Beja** 38.46 200 *eP* P 04 20 56.6 -0.2
comp=Z,20nm,1.5s
PBEJ **Beja** 38.46 200 *eP* P 04 20 56.6 -0.2
comp=Z,20nm,1.5s
PCVE **Castro Verde** 38.87 201 *eP* P 04 20 59.5 -0.7
comp=Z,25nm,2.0s
PCVE **Castro Verde** 38.87 201 *eP* P 04 20 59.5 -0.7
comp=Z,25nm,2.0s
IL1 **Eielson Array** 38.88 343 *eP* P 04 21 01.3 +1.2
IL1 **Eielson Array** 38.88 343 *eP* P 04 21 01.3 +1.2
ILAR **Eielson Array** 38.88 343 P P 04 21 03.2 +3.1
comp=Z,1.2nm,0.8s,baz=2.6,slow=7.1,SNR=10
ILB **Eielson Array** 38.88 343 *eP* P 04 20 59.3 -0.8
ILB **Eielson Array** 38.88 343 *eP* P 04 20 59.3 -0.8
MORF **Marmelete** 39.24 201 *eP* P 04 21 03.1 -0.4
MORF **Marmelete** 39.24 201 *eP* P 04 21 03.1 -0.4
WRH **Wood River Hil** 39.26 344 *eP* P 04 21 04.8 +1.5
comp=Z,7.2nm,1.0s
WRH **Wood River Hil** 39.26 344 *eP* P 04 21 04.8 +1.5
comp=Z,7.2nm,1.0s
DOT **Dot Lake** 39.77 341 *eP* P 04 21 10.2 +2.6
comp=Z,28nm,0.9s
DOT **Dot Lake** 39.77 341 *eP* P 04 21 10.2 +2.6
comp=Z,28nm,0.9s
KEST **Kesra** 40.05 178 *eP* P 04 21 10.0 -0.2
comp=Z,7.8nm,1.1s
KEST **Kesra** 40.05 178 *eP* P 04 21 10.0 -0.2
comp=Z,7.8nm,1.1s
CAST **Castle Rocks** 40.56 346 *eP* P 04 21 17.2 +3.1
comp=Z,20nm,1.2s
CAST **Castle Rocks** 40.56 346 *eP* P 04 21 17.2 +3.1
comp=Z,20nm,1.2s
DHY **Denali Highway** 40.59 343 *eP* P 04 21 16.7 +2.1
comp=Z,14nm,1.0s
DHY **Denali Highway** 40.59 343 *eP* P 04 21 16.7 +2.1
comp=Z,14nm,1.0s
MK31 **Makanchi Array** 41.38 90 *eP* P 04 21 22.5 +1.4
MK31 **Makanchi Array** 41.38 90 *eP* P 04 21 22.5 +1.4
MK31 **Makanchi Array** 41.38 90 *eP* P 04 21 22.5 +1.4
MK32 **Makanchi Array** 41.38 90 *eP* P 04 21 22.4 +1.3
MK32 **Makanchi Array** 41.38 90 *eP* P 04 21 22.4 +1.3
MK32 *e*PP **PP** 04 22 51.5 -4.9
MKAR **Makanchi Array** 41.38 90 P P 04 21 22.4 +1.4
comp=Z,2.4nm,0.6s,baz=346,slow=6.7,SNR=14
MKAR PP **PP** 04 22 51.5 -4.9
comp=Z,2.8nm,0.8s,baz=338,slow=8.3,SNR=4.6
MKAR LR LR 04 42 42.7
comp=Z,413nm,18.4s,baz=337,slow=42
MKAR **Makanchi Array** 41.38 90 *ceP* P 04 21 22.3 +1.2
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** 41.38 90 *eP* P 04 21 22.5 +1.4
comp=Z,32nm,0.9s
MKAR **Makanchi Array** 41.38 90 *eP* P 04 21 22.5 +1.4
comp=Z,32nm,0.9s
MK01 **Makanchi Array** 41.41 90 *eP* P 04 21 22.0 +0.7
MK01 **Makanchi Array** 41.41 90 *eP* P 04 21 22.1 +0.7
SCM **Sheep Creek Mo** 41.82 343 *eP* P 04 21 29.1 +4.5
SCM pmax pmax
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 41.82 343 *eP* P 04 21 29.1 +4.5
comp=Z,12nm,0.8s
TLY **Talaya** 42.02 68 LR LR 04 43 27.6
comp=Z,119nm,18.1s,baz=340,slow=43
SUA **Susitna One** 42.42 345 *eP* P 04 21 31.7 +2.2
comp=Z,22nm,0.9s
SUA **Susitna One** 42.42 345 *eP* P 04 21 31.7 +2.2
comp=Z,22nm,0.9s
AAK **Ala-Archa** 43.35 100 LR LR 04 43 14.1
comp=Z,162nm,18.6s,baz=327,slow=41
GEYT **Alibeck** 44.01 119 P P 04 21 43.6 +1.2
comp=Z,4.1nm,0.4s,baz=332,slow=9.2,SNR=8.0
ULM **Lac du Bonnet** 45.25 299 P P 04 21 52.5 +0.3
comp=Z,9.5nm,1.3s,baz=22,slow=14,SNR=2.9
ULM LR LR 04 40 50.3
comp=Z,278nm,18.4s,baz=53,slow=36
ULM **Lac du Bonnet** 45.25 299 P P 04 21 52.5 +0.3
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM MLR MLR
comp=Z,278nm,18.4s
WMQ **Urumqi** 45.51 86 P P 04 21 56.9 +2.5
WMQ pP sP 04 22 01.4 +2.6
WMQ sP pP 04 22 03.9 +6.3
WMQ pmax pmax
comp=Z,16nm,0.6s
WMQ pmax pmax
comp=Z,190nm,5.3s
WMQ LR LR
comp=Z,190nm,22.3s
WMQ LR LR
comp=Z,320nm,18.7s
WMQ LR LR
comp=Z,240nm,17.5s
EDM **Edmonton** 45.90 314 *eP* P 04 21 57.3 -0.1
EDM pmax pmax
comp=Z,13nm,1.1s
EDM **Edmonton** 45.90 314 *eP* P 04 21 57.3 -0.1
comp=Z,13nm,1.1s
EDM **Edmonton** 45.90 314 *eP* P 04 21 57.3 -0.1
comp=Z,13nm,1.1s
KDAK **Kodiak Island** 46.20 346 P P 04 22 01.6 +2.0
comp=Z,15nm,0.8s,baz=35,slow=8.3,SNR=8.2
KDAK **Kodiak Island** 46.20 346 *eP* P 04 22 01.6 +2.0
comp=Z,136nm,2.0s
KDAK **Kodiak Island** 46.20 346 *eP* P 04 22 01.6 +2.0
comp=Z,136nm,2.0s
SONA1 **Songino Array** 46.24 67 *eP* P 04 22 01.5 +1.3
SONA1 **Songino Array** 46.24 67 *eP* P 04 22 01.5 +1.3
SONA0 **Songino Array** 46.25 67 *eP* P 04 22 01.4 +1.1
comp=Z,3.9nm,1.1s
SONA0 **Songino Array** 46.25 67 *eP* P 04 22 01.4 +1.1
comp=Z,3.9nm,1.1s
SONA0 *e*PP **PP** 04 23 51.8 +3.4
SONM **Songino Array** 46.25 67 P P 04 22 01.4 +1.1
comp=Z,1.9nm,0.8s,baz=333,slow=7.0,SNR=7.9
SONM PP **PP** 04 23 51.8 +3.4
comp=Z,1.2nm,0.9s,baz=336,slow=11,SNR=4.0
SONM LR LR 04 44 59.9
comp=Z,112nm,18.2s,baz=64,slow=41
ULN **Ulaanbaatar** 46.37 67 *ceP* P 04 22 01.5 +0.2
ULN pmax pmax
comp=Z,11nm,1.7s
ULN **Ulaanbaatar** 46.37 67 *eP* P 04 22 03.3 +2.0
comp=Z,5.4nm,0.9s
ULN **Ulaanbaatar** 46.37 67 *eP* P 04 22 03.3 +2.0
comp=Z,5.4nm,0.9s
KSH **Kashi** 46.66 100 *eP* P 04 22 09.1 +5.5
KSH sP sP 04 22 15.6 +7.6
KSH PcP **PcP** 04 23 41.1 +4.0
KSH PP **PP** 04 23 58.6 +5.6
KSH PcS **PcS** 04 27 36.4 +4.4
KSH S **S** 04 28 59.0 +6.4
KSH sS sS 04 29 05.8 +8.0
KSH ScS **ScS** 04 32 01.9 +3.8
KSH SS **SS** 04 32 17.9 -0.4
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,280nm,5.1s
KSH LR LR
comp=Z,130nm,6.8s
KSH LR LR
comp=Z,170nm,6.3s
KSH LR LR
comp=Z,270nm,6.8s
EIL **Elat** 47.92 148 LR LR 04 44 00.9
comp=Z,52nm,19.8s,baz=30,slow=38
PEA1 **Petropavlovsk-** 49.95 23 *eP* P 04 22 30.7 +2.0
PEA1 **Petropavlovsk-** 49.95 23 *eP* P 04 22 30.7 +2.0
PETK **Petropavlovsk-** 49.96 23 P P 04 22 30.7 +2.0
comp=Z,1.3nm,0.4s,baz=9.9,slow=9.2,SNR=2.5
PETK LR LR 04 43 49.8
comp=Z,53nm,18.9s,baz=334,slow=36
ECSD **EROS Data Cent** 51.58 297 *eP* P 04 22 40.6 -0.5
comp=Z,5.6nm,0.8s
ECSD **EROS Data Cent** 51.58 297 *eP* P 04 22 40.6 -0.5
comp=Z,5.6nm,0.8s
MSO **Missoula** 52.15 313 *eP* P 04 22 45.4 0.0
comp=Z,12nm,1.1s
MSO **Missoula** 52.15 313 *eP* P 04 22 45.4 0.0
comp=Z,12nm,1.1s
GTA **Gaotai** 52.65 77 *eP* P 04 22 50.9 +1.7
GTA pP sP 04 22 55.4 +1.8
GTA sP pP 04 22 57.9 +5.5
GTA S **S** 04 30 18.5 +2.1
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=Z,250nm,16.6s
GTA LR LR
comp=Z,170nm,15.7s
GTA LR LR
comp=Z,170nm,15.2s
TAM **Tamanrasset** 52.96 183 *eP* P 04 22 52.7 +1.0
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM **Tamanrasset** 52.96 183 *eP* P 04 22 52.7 +1.0
comp=Z,5.8nm,1.2s
TAM **Tamanrasset** 52.96 183 *eP* P 04 22 52.7 +1.0
comp=Z,5.8nm,1.2s
HHC **Hu-ho-hao-te** 54.05 66 *eP* P 04 23 01.0 +1.6
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,160nm,7.1s
CN2 **Changchun** 54.18 52 *eP* P 04 23 01.2 +1.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
IMW **Indian Meadow** 54.41 309 *eP* P 04 23 03.2 +0.9
comp=Z,5.1nm,0.8s
IMW **Indian Meadow** 54.41 309 *eP* P 04 23 03.1 +0.9
comp=Z,5.1nm,0.8s
BMO **Blue Mountains** 54.67 315 *eP* P 04 23 07.5 +3.5
BMO pmax pmax
comp=Z,19nm,1.8s
BMO **Blue Mountains** 54.67 315 *eP* P 04 23 07.4 +3.5
comp=Z,19nm,1.8s
BMO **Blue Mountains** 54.67 315 *eP* P 04 23 07.5 +3.5
comp=Z,19nm,1.8s
K22A **Casper** 54.73 305 *eP* P 04 23 02.0 -2.5
comp=Z,7.7nm,0.9s
BW06 **Boulder Array** 55.23 307 *eP* P 04 23 07.3 -0.9
BW06 **Boulder Array** 55.23 307 *eP* P 04 23 07.3 -0.9
PD31 **Pinedale Array** 55.23 307 *eP* P 04 23 07.8 -0.3
PD31 **Pinedale Array** 55.23 307 *eP* P 04 23 07.8 -0.3
PDAR **Pinedale Array** 55.23 307 P P 04 23 07.8 -0.3
comp=Z,0.7nm,0.9s,baz=19,slow=9.4,SNR=4.0
PDAR LR LR 04 46 49.5
comp=Z,281nm,18.6s,baz=26,slow=36
HLID **Hailey** 55.39 312 *eP* P 04 23 09.2 -0.1
comp=Z,3.3nm,1.0s
HLID **Hailey** 55.39 312 *eP* P 04 23 09.2 -0.1
comp=Z,3.3nm,1.0s
LZH **Lanzhou** 56.78 74 *eP* P 04 23 19.0 -0.3
LZH pP sP 04 23 24.3 +0.6
LZH sP pP 04 23 27.2 +4.7
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.1s
O20A **White River Ci** 57.50 305 *eP* P 04 23 24.4 0.0
comp=Z,9.3nm,0.8s
O20A **White River Ci** 57.50 305 *eP* P 04 23 24.4 0.0

comp=Z,9.3nm,0.8s
SMCO Snowmass 58.17 304 *e*P **P 04 23 29.4 +0.1**
comp=Z,5.1nm,1.1s
SMCO Snowmass 58.17 304 *e*P **P 04 23 29.4 +0.1**
comp=Z,5.1nm,1.1s
TMUT Trail Mountain 58.90 308 *e*P **P 04 23 36.5 +2.2**
comp=Z,9.2nm,0.6s
TMUT Trail Mountain 58.90 308 *e*P **P 04 23 36.5 +2.2**
comp=Z,9.2nm,0.6s
DANN Dangsing 59.21 96 *e*P **P 04 23 37.7 +1.2**
SDCO Great Sand Dun 59.24 302 *e*P **P 04 23 36.4 -0.2**
comp=Z,3.0nm,0.9s
SDCO Great Sand Dun 59.24 302 *e*P **P 04 23 36.4 -0.2**
comp=Z,3.0nm,0.9s
PYUN Piuthan 59.26 97 *e*P **P 04 23 37.5 +0.7**
comp=Z,70nm,0.9s
PV10 Paradox Valley 59.36 306 *e*P **P 04 23 35.7 -1.7**
PV10 Paradox Valley 59.36 306 *e*P **P 04 23 35.6 -1.7**
PV01 Paradox Valley 59.50 305 *e*P **P 04 23 38.7 +0.3**
PV01 Paradox Valley 59.50 305 *e*P **P 04 23 38.6 +0.3**
S22A 4UR Ranch, Cre 59.52 303 *e*P **P 04 23 38.4 -0.1**
comp=Z,4.3nm,0.8s
S22A 4UR Ranch, Cre 59.52 303 *e*P **P 04 23 38.4 -0.1**
comp=Z,4.3nm,0.8s
KOLN Koldanda 59.73 97 *e*P **P 04 23 40.5 +0.5**
comp=Z,13nm,0.8s
GKN Gorkha 59.76 96 *e*P **P 04 23 40.6 +0.4**
comp=Z,17nm,0.7s
BEKR Beckworth 60.05 316 *e*P **P 04 23 40.3 -1.7**
comp=Z,12nm,0.9s
BEKR Beckworth 60.05 316 *e*P **P 04 23 40.3 -1.7**
comp=Z,12nm,0.9s
KKN Kakani 60.13 95 *e*P **P 04 23 43.4 +0.7**
comp=Z,25nm,0.7s
GUN Gumba 60.16 94 *e*P **P 04 23 43.9 +0.8**
DMN Daman 60.26 95 *e*P **P 04 23 44.5 +0.8**
PKIN Phulchoki 60.36 95 *e*P **P 04 23 45.4 +1.0**
comp=Z,7.7nm,0.7s
JIRN Jiri 60.48 94 *e*P **P 04 23 46.3 +1.0**
comp=Z,37nm,0.7s
WMOK Wichita Mounta 60.66 295 *e*P **P 04 23 45.4 -0.7**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 60.66 295 *e*P **P 04 23 45.4 -0.7**
comp=Z,3.7nm,0.8s
WMOK Wichita Mounta 60.66 295 *e*P **P 04 23 45.4 -0.7**
comp=Z,3.7nm,0.8s
KSRS Korea Array 60.79 52 LR LR 04 52 16.7
comp=Z,109nm,19.4s,baz=351,slow=38
RAMN Ramite 61.26 94 *e*P **P 04 23 51.0 +0.5**
comp=Z,18nm,0.6s
MSTX Muleshoe 62.29 299 *e*P **P 04 23 56.6 -0.6**
comp=Z,6.2nm,0.7s
MSTX Muleshoe 62.29 299 *e*P **P 04 23 56.6 -0.6**
comp=Z,6.2nm,0.7s
TOA1 Torodi Ar. Sit 62.62 187 *e*P **P 04 23 58.9 -0.6**
TOA1 Torodi Ar. Sit 62.62 187 *e*P **P 04 23 58.9 -0.6**
TOA0 Torodi Ar. Sit 62.63 187 *e*P **P 04 23 59.0 -0.5**
TOA0 Torodi Ar. Sit 62.63 187 *e*P **P 04 23 59.0 -0.5**
TORD Torodi Ar. Bea 62.63 187 P **P 04 23 58.9 -0.6**
comp=Z,6.9nm,1.1s,baz=354,slow=7.0,SNR=23
MJAR Matsushiro Arr 63.57 43 LR LR 04 54 40.3
comp=Z,33nm,18.4s,baz=275,slow=39
NJ2 Nanjing 64.11 62 *e*P **P 04 24 10.4 +1.3**
NJ2 pmax pmax
comp=Z,14nm,0.6s
JCT Junction City 64.99 295 *e*P **P 04 24 14.3 -0.7**
JCT pmax pmax
comp=Z,38nm,2.0s
JCT Junction City 64.99 295 *e*P **P 04 24 14.2 -0.7**
comp=Z,38nm,2.0s
JCT Junction City 64.99 295 *e*P **P 04 24 14.2 -0.7**
comp=Z,38nm,2.0s
DNR Dunn Ranch,Anz 65.50 311 *e*P **P 04 24 18.4 0.0**
DNR Dunn Ranch,Anz 65.50 311 *e*P **P 04 24 18.4 0.0**
GYA Guiyang 66.67 75 *e*P **P 04 24 28.0 +2.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
LTX Lajitas 66.95 298 *e*P **P 04 24 26.8 -0.9**
LTX Lajitas 66.95 298 *e*P **P 04 24 26.8 -0.9**
LTX Lajitas 66.95 298 *e*P **P 04 24 26.8 -0.9**
TX31 Lajitas Ar. Si 66.95 298 *e*P **P 04 24 26.6 -1.1**
TX31 Lajitas Ar. Si 66.95 298 *e*P **P 04 24 26.6 -1.1**
TXAR Lajitas Array 66.95 298 P **P 04 24 26.8 -0.9**
comp=Z,1.3nm,0.8s,baz=54,slow=5.2,SNR=7.7
TXAR LR LR 04 55 01.9
comp=Z,284nm,18.7s,baz=0.0,slow=37
KMI Kunming 67.00 79 P **P 04 24 31.0 +2.8**
KMI pmax pmax
comp=Z,8.0nm,0.6s
DBIC Dimbokro 69.36 194 P **P 04 24 41.7 -1.0**
comp=Z,8.2nm,1.1s,baz=336,slow=7.5,SNR=3.4
DBIC Dimbokro 69.36 194 P **P 04 24 41.7 -1.0**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC Dimbokro 69.36 194 *e*P **P 04 24 41.7 -1.0**
comp=Z,14nm,1.3s
DBIC Dimbokro 69.36 194 *e*P **P 04 24 41.7 -1.0**
comp=Z,14nm,1.3s
TIC Toumodi 69.39 194 *e*P **P 04 24 41.4 -1.6**
KIC Kosan Boka 69.66 194 *e*P **P 04 24 43.2 -1.4**
comp=Z,28nm,1.0s
LIC Lamto 69.81 194 *e*P P 04 24 39.7 -5.8
comp=Z,33nm,0.9s
CM31 Chiang Mai Arr 72.46 84 *e*P **P 04 25 01.8 +0.2**
CM31 Chiang Mai Arr 72.46 84 *e*P **P 04 25 01.8 +0.2**
CMAR Chiang Mai Arr 72.46 84 P **P 04 25 01.8 +0.2**
comp=Z,1.0nm,0.5s,baz=331,slow=6.1,SNR=6.4
CMAR LR LR 05 02 45.0
comp=Z,122nm,18.1s,baz=328,slow=41
CMAR Chiang Mai Arr 72.46 84 *ce*P **P 04 25 02.2 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
RUSC La Rusia 82.14 263 *e*P **P 04 25 55.3 -1.2**
comp=Z,5.8nm,1.3s
AS31 Alice Springs 121.33 61 *e*PKIKP **PKPdf 04 32 27.1 -0.8**
AS31 Alice Springs 121.33 61 *e*PKPdf **PKPdf 04 32 27.1 -0.8**
ASAR Alice Springs 121.34 61 PKP **PKPdf 04 32 27.1 -0.8**
comp=Z,0.2nm,0.6s,baz=338,slow=2.0,SNR=4.5
MAW Mawson 147.10 145 PKPbc **PKPab 04 33 17.3 -0.6**
comp=Z,2.1nm,0.8s,baz=318,slow=8.5,SNR=6.8
MAW Mawson 147.10 145 *e*PKPbc **PKPab 04 33 17.8 -0.2**
MAW Mawson 147.10 145 *e*PKPbc **PKPab 04 33 17.8 -0.2**

MEX 05 04:30:06.3±0.5, 15°.42N×93°.13W, h96km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.30**	**344**	*e*P	Pn	04 30 19.0	-1.4
PCIG				*e*S	Sn	04 30 29.3	-1.5
CCIG	**Comitan**	**1.29**	**48**	*e*P	Pn	04 30 26.9	-3.1
TGIG		**1.35**	**0**	*i* P	Pn	04 30 29.7	-1.0
TGIG				*e*S	Sn	04 30 47.1	-1.9

MEX 05 04:53:32.1±1.2, 16°.65N×99°.73W, h9km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**330**	*e*P	Pg	04 53 34.0	-3.2
ACP2	**Acapulco**	**0.27**	**326**	*e*P	Pg	04 53 37.3	-0.2
ACP2				*e*S	Sg	04 53 40.8	-0.4
CAIG	**El Cayaco**	**0.65**	**307**	*e*P	Pg	04 53 43.5	-1.2
CAIG				*i* S	Sg	04 53 51.6	-1.6
MEIG	**Mezcala**	**1.27**	**5**	*e*P	Pn	04 53 51.8	-4.4
MEIG				*e*S	Sb	04 54 06.6	-6.2
TLIG	**Tlapa**	**1.43**	**51**	*e*P	Pn	04 53 55.0	-3.4
TLIG				*e*S	Sn	04 54 12.2	-5.2
ARIG	**Puente Sto Nin**	**1.73**	**340**	*e*P	Pn	04 53 59.5	-2.8
ARIG				*e*S	Sn	04 54 20.2	-4.3
PLIG	**Platanillo**	**1.75**	**7**	*e*P	Pn	04 53 59.6	-3.1
PLIG				*e*S	Sn	04 54 20.7	-4.4
ZIIG	**Zihuatanejo**	**1.91**	**300**	*e*P	Pn	04 54 04.7	-0.2
ZIIG				*e*S	Sn	04 54 26.5	-2.6
YAIG	**Yautepec**	**2.29**	**16**	*e*P	Pn	04 54 06.2	-4.0
YAIG				*e*S	Sn	04 54 34.5	-4.1

IDC 05 05:07:33.3±0.9, 3°.58N×126°.20E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/41, mbtmp3.7/7, Error ellipse: s-maj=69.1km s-min=16.9km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70**	**161**	P	P	05 12 54.9	-1.5
	1.9nm,0.6s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.10**	**165**	P	P	05 13 28.6	+1.5
	0.2nm,0.4s,baz=344,slow=11,SNR=3.5						
KSRS	**Korea Array**	**33.75**	**2**	P	P	05 14 15.5	-1.2
	1.5nm,0.7s,baz=179,slow=10,SNR=2.1						
STKA	**Stephens Creek**	**38.18**	**159**	P	P	05 14 54.4	-0.3
	1.0nm,0.4s,baz=354,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**47.27**	**342**	P	P	05 16 08.9	+0.3
	0.5nm,0.6s,baz=153,slow=9.7,SNR=2.4						
MKAR	**Makanchi Array**	**57.38**	**326**	P	P	05 17 23.4	-0.2
	0.9nm,0.4s,baz=116,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**85.46**	**25**	P	P	05 20 13.6	+0.8
	0.1nm,0.4s,baz=262,slow=5.4,SNR=3.7						

NIED ***05*** *05:16:00, 40°.20N×142°.00E, h5km, Mw4.3 Best double couple: M₀2.81000×10¹⁵ NP1:φs134.00000°, δ41.00000°, λ-22.00000°. NP2:φs241.00000°, δ76.00000°, λ-129.00000°.*
IDC ***05*** *05:16:22.8±0.7, 39°.96N×141°.90E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/53, mbtmp4.2/26, ML4.4/1, Error ellipse: s-maj=17.1km s-min=15.5km az=164.0*
JMA ***05*** *05:16:23.0, 40°.19N×142°.02E, h13km±1km, M4.4*
JMA Felt III J1.
ISCJB ***05*** *05:16:24.0±0.7, 40°.17N±0°.03×141°.95E±0°.05, h11km±4km, mb4.4/35, Error ellipse: s-maj=6.1km s-min=4.5km az=13.3*
NEIC ***05*** *05:16:29.1±0.9, 40°.11N×142°.02E, h41km±8km, mb4.9/2, Error ellipse: s-maj=13.1km s-min=7.5km az=125.0*
ISC 05 05:16:24.6±1.3, 40°.15N±0°.03×141°.92E±0°.05, h7km±8km, n62, σ1°.37/62, mb4.5/37, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.22**	**191**	P	**Pg**	**05 16 28.8**	**-0.2**
JTH				*e*S	**Sg**	**05 16 32.9**	**+1.0**
JANG	**Nango**	**0.38**	**306**	P	**Pg**	**05 16 31.4**	**-0.6**
JANG				S	**Sg**	**05 16 37.3**	**+0.3**
JKZ	**Kuzumaki**	**0.48**	**250**	P	**Pg**	**05 16 33.9**	**0.0**
JKZ				S	**Sb**	**05 16 41.7**	**-1.0**
JOM	**Ohasama**	**0.83**	**215**	P	**Pg**	**05 16 39.6**	**-1.0**
JOM				*e*S	**Sg**	**05 16 51.9**	**+0.5**
JTM	**Tenmabayashi**	**0.91**	**315**	P	**Pg**	**05 16 40.8**	**-1.2**
JTM				*e*S	**Sg**	**05 16 53.5**	**-0.3**
JAH	**Hinai**	**0.98**	**273**	P	**Pg**	**05 16 42.7**	**-0.8**
JAH				*e*S	**Sb**	**05 16 56.6**	**-0.5**
OFUJ	**Ofunato**	**1.09**	**190**	P	**Pg**	**05 16 43.1**	**-2.4**
ERM	**Erimo**	**2.08**	**26**	*e*Pn	**Pn**	**05 16 59.6**	**-0.3**
ASAJ	**Asahikawa**	**3.99**	**7**	Pn	**Pn**	**05 17 27.1**	**+0.9**
	18nm,0.3s,baz=215,slow=14,SNR=25						
ASAJ				Sn	**Sn**	**05 18 12.7**	**-0.5**
	6.7nm,0.3s,baz=34,slow=7.7,SNR=4.6						
MAJO	**Matsushiro**	**4.63**	**220**	*e*Pn	**Pn**	**05 17 37.0**	**+1.9**
MAT	**Matsushiro**	**4.63**	**220**	P	**Pn**	**05 17 36.8**	**+1.7**
MAT				*e*S	**Sn**	**05 18 30.4**	**+1.3**
MJAR	**Matsushiro Arr**	**4.63**	**220**	Pn	**Pn**	**05 17 37.6**	**+2.6**
	1.8nm,0.3s,baz=48,slow=13,SNR=12						
YSS	**Yuzh-Sakhalins**	**6.83**	**5**	*e*Pn	**Pn**	**05 18 07.2**	**+2.1**
USRK	**Ussuriysk Ar.**	**8.41**	**302**	Pn	**Pn**	**05 18 28.8**	**+2.0**
	1.0nm,0.3s,baz=110,slow=15,SNR=17						
KSRS	**Korea Array**	**11.25**	**261**	Pn	Pn	05 19 11.3	+5.6
	0.4nm,0.3s,baz=62,slow=14,SNR=7.6						
KSAR	**Wonju Array Be**	**11.28**	**261**	Pn	Pn	05 19 11.3	+5.1
SEY	**Seymchan**	**23.66**	**12**	P	**P**	**05 21 35.5**	**-0.8**
	3.5nm,0.6s,baz=206,slow=6.4,SNR=16						
SONM	**Songino Array**	**26.50**	**299**	P	**P**	**05 22 02.4**	**-0.2**
	1.0nm,0.5s,baz=87,slow=7.2,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**29.54**	**126**	T	T	05 54 35.1	
	baz=319,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	05 54 28.6	
	baz=319,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.56**	**126**	T	T	05 54 26.9	
	baz=319,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.35**	**128**	T	T	05 55 32.4	
	baz=321,slow=76,SNR=5085						
H11S3	**WAKE ISLAND Hy**	**30.35**	**128**	T	T	05 55 34.8	
	baz=321,slow=76,SNR=2306						
H11S2	**WAKE ISLAND Hy**	**30.36**	**128**	T	T	05 55 32.4	
	baz=321,slow=76,SNR=3320						
ZALV	**Zalesovo Beam**	**40.17**	**310**	P	**P**	**05 24 01.2**	**+0.1**
	15nm,0.5s,baz=93,slow=7.8,SNR=42						
MKAR	**Makanchi Array**	**42.87**	**299**	P	**P**	**05 24 23.4**	**0.0**
	2.4nm,0.6s,baz=85,slow=9.9,SNR=21						
KURK	**Kurchatov**	**44.38**	**306**	*e*P	**P**	**05 24 32.1**	**-3.3**
	222nm,0.6s						
KURK				P	**P**	**05 24 36.5**	**+1.1**
KURBB	**Kurchatov Arra**	**44.45**	**306**	P	**P**	**05 24 36.5**	**+0.5**
	35nm,0.5s,baz=79,slow=8.6,SNR=111						
KDAK	**Kodiak Island**	**44.55**	**44**	P	**P**	**05 24 37.9**	**+1.2**
	2.6nm,0.7s,baz=292,slow=8.2,SNR=6.7						
ILAR	**Eielson Array**	**46.67**	**34**	P	**P**	**05 24 54.2**	**+0.8**
	0.8nm,0.7s,baz=274,slow=6.2,SNR=7.1						
BVAR	**Borovoye Array**	**48.81**	**310**	P	**P**	**05 25 10.4**	**+0.2**
	11nm,0.4s,baz=70,slow=8.3,SNR=63						
BRVK	**Borovoye**	**48.86**	**310**	*e*P	**P**	**05 25 10.7**	**+0.1**
	18nm,0.4s						
AAK	**Ala-Archa**	**49.41**	**296**	P	**P**	**05 25 14.7**	**-0.5**
	2.0nm,0.4s,baz=120,slow=4.7,SNR=6.1						
INK	**Inuvik**	**51.45**	**28**	P	**P**	**05 25 30.8**	**+0.9**
	1.5nm,0.4s,baz=305,slow=8.7,SNR=14						
KKAR	**Karatay Array**	**51.95**	**298**	*e*P	**P**	**05 25 34.1**	**0.0**
	6.2nm,0.6s						
ABKAR	**Akbulak array**	**56.27**	**309**	*e*P	**P**	**05 26 05.4**	**0.0**
	7.8nm,0.5s						
WRA	**Warramunga Arr**	**60.20**	**188**	P	**P**	**05 26 30.4**	**-2.8**
	2.2nm,0.6s,baz=5.9,slow=7.0,SNR=12						
YKA	**Yellowknife Ar**	**60.93**	**31**	P	**P**	**05 26 37.6**	**-0.1**
	0.4nm,0.7s,baz=300,slow=6.4,SNR=4.4						
ARCES	**ARCESS Array B**	**61.23**	**339**	P	**P**	**05 26 39.7**	**0.0**
	2.6nm,0.8s,baz=46,slow=8.7,SNR=8.7						
GEYT	**Alibeck**	**62.70**	**298**	P	**P**	**05 26 50.8**	**+0.7**
	3.4nm,0.7s,baz=45,slow=2.3,SNR=6.0						
DAG	**Danmarks Havn**	**62.71**	**355**	*i* P	**P**	**05 26 48.6**	**-0.9**
	3.3nm,0.8s						
ASAR	**Alice Springs**	**63.93**	**188**	P	**P**	**05 26 56.2**	**-2.0**
	0.5nm,0.5s,baz=18,slow=14,SNR=6.6						
FINES	**FINESS Array B**	**66.25**	**332**	P	**P**	**05 27 12.9**	**0.0**
	5.1nm,0.5s,baz=31,slow=9.8,SNR=23						
SUMG	**Summit**	**67.57**	**0**	*i* P	**P**	**05 27 22.3**	**+0.6**
	11nm,1.0s						
KBZ	**Khabaz**	**69.19**	**310**	P	**P**	**05 27 32.1**	**+0.4**
	2.9nm,0.7s,baz=43,slow=5.1,SNR=7.0						
HFS	**Hagfors**	**71.42**	**335**	P	**P**	**05 27 45.7**	**+0.6**
	2.7nm,0.4s,baz=72,slow=4.7,SNR=13						
NB2	**NORSAR Subarra**	**71.47**	**337**	P	**P**	**05 27 45.5**	**0.0**
	comp=Z,1.7nm,0.4s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**71.47**	**337**	P	**P**	**05 27 45.8**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=39,slow=6.2,SNR=8.0						
AKASG	**Malin Array Be**	**72.08**	**322**	P	**P**	**05 27 49.3**	**0.0**
	comp=Z,4.5nm,0.6s,baz=45,slow=6.1,SNR=14						
PDAR	**Pinedale Array**	**75.21**	**46**	P	**P**	**05 28 08.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=230,slow=0.9,SNR=6.3						
BRTR	**Keskin Array B**	**77.09**	**311**	P	**P**	**05 28 19.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=72,slow=3.1,SNR=5.6						
CLL	**Collm**	**78.59**	**330**	*e*P	**P**	**05 28 27.4**	**+0.7**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**80.27**	**328**	P	**P**	**05 28 36.6**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=36,slow=5.4,SNR=6.9						
EKA	**Eskdalemuir Ar**	**80.33**	**341**	P	**P**	**05 28 36.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=37,slow=5.3,SNR=3.6						
SOKA	**Soboth**	**81.43**	**326**	*e*P	**P**	**05 28 43.3**	**+1.0**
	comp=Z,4.0nm,0.6s						
KBA	**Koelnbreinsper**	**81.82**	**327**	*e*PcP	**P**	**05 28 46.1**	**+1.7**
	comp=Z,4.4nm,0.8s						
MYKA	**Terra Mystica**	**82.05**	**327**	*e*P	**P**	**05 28 45.7**	**+0.1**
	comp=Z,1.6nm,0.4s						
RETA	**Reutte**	**82.54**	**329**	*i* PcP	**P**	**05 28 49.0**	**+1.0**
	comp=Z,3.8nm,0.7s						
FETA	**Feichten**	**82.93**	**329**	*e*P	**P**	**05 28 50.0**	**-0.2**
	comp=Z,3.0nm,1.0s						
TXAR	**Lajitas Array**	**87.91**	**53**	P	**P**	**05 29 16.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=303,slow=3.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**115.38**	**316**	PP	**PP**	**05 36 01.8**	**-5.9**
	comp=Z,1.2nm,1.1s,baz=26,slow=8.0,SNR=4.6						
SNAA	**Sanae**	**143.84**	**198**	*e*PKPdf	PKPbc	05 35 57.0	-0.1

NIED ***05*** *05:17:00, 40°.20N×142°.00E, h5km, Mw4.7 Best double couple: M₀1.42000×10¹⁶ NP1:φs243.00000°, δ54.00000°, λ-168.00000°. NP2:φs146.00000°, δ80.00000°, λ-37.00000°.*
IDC ***05*** *05:17:35.8±0.5, 40°.13N×141°.85E, h0km, mb4.5/33, mb1 4.6/34, mb1mx4.4/58, mbtmp4.5/34, ML4.3/1, MS4.0/11, Ms1 4.0/11, ms1mx3.9/19, Error ellipse: s-maj=14.5km s-min=13.0km az=113.0*
ISCJB ***05*** *05:17:36.4±0.6, 40°.18N±0°.02×142°.00E±0°.04, h12km±4km, mb4.6/58, MS3.8/5, Error ellipse: s-maj=4.9km s-min=3.7km az=30.2*
JMA ***05*** *05:17:36.3, 40°.18N×142°.02E, h12km±1km, M5.0*
JMA Felt IV J1.
MOS ***05*** *05:17:39.0±1.6, 40°.21N×141°.95E, h32km, mb4.9/33, Error ellipse: s-maj=10.1km s-min=5.4km az=90.0*
NEIC ***05*** *05:17:42.1±1.2, 40°.17N×141°.87E, h46km±11km, mb4.7/9, Error ellipse: s-maj=10.6km s-min=8.0km az=129.0*
NEIC Recorded [4 JMA] in Iwate.
ISC 05 05:17:38.1±0.8, 40°.17N±0°.03×142°.00E±0°.04, h14km±4km, n174, σ1°.85/173, mb4.8/63, MS3.9/5, 12C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.25**	**205**	⇑P	**Pg**	**05 17 42.1**	**-1.4**
JTH				S	**Sg**	**05 17 46.2**	**-0.9**
JANG	**Nango**	**0.42**	**299**	⇓P	**Pg**	**05 17 44.8**	**-1.8**
JANG				S	**Sg**	**05 17 50.6**	**-1.7**
JKZ	**Kuzumaki**	**0.55**	**251**	P	**Pg**	**05 17 47.2**	**-1.6**
JKZ				S	**Sg**	**05 17 54.8**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.61**	**193**	⇑P	**Pg**	**05 17 48.3**	**-1.6**
JOM	**Ohasama**	**0.88**	**218**	P	**Pg**	**05 17 53.2**	**-2.0**
JTM	**Tenmabayashi**	**0.94**	**311**	⇓P	**Pg**	**05 17 54.1**	**-2.2**
JTM				S	**Sg**	**05 18 06.7**	**-2.0**
JAH	**Hinai**	**1.05**	**272**	P	**Pb**	**05 17 56.1**	**-1.9**
JAH				S	**Sg**	**05 18 10.0**	**-1.9**
OFUJ	**Ofunato**	**1.12**	**193**	P	**Pb**	**05 17 56.8**	**-2.4**
OFUJ				S	**Sb**	**05 18 12.0**	**-1.6**
ASAJ	**Asahikawa**	**3.97**	**6**	Pn	**Pn**	**05 18 38.4**	**-0.2**
	16nm,0.3s,baz=228,slow=7.5,SNR=3.5						
ASAJ				LR	LR	05 20 41.0	
	comp=Z,4μm,19.7s,baz=189,slow=46						
MAJO	**Matsushiro**	**4.69**	**221**	*e*P	**Pn**	**05 18 49.8**	**+1.3**
MAT	**Matsushiro**	**4.69**	**221**	P	**Pn**	**05 18 50.1**	**+1.6**
MAT				*e*S	**Sn**	**05 19 43.5**	**+0.8**
MJAR	**Matsushiro Arr**	**4.69**	**221**	Pn	**Pn**	**05 18 50.9**	**+2.4**
	5.4nm,0.3s,baz=40,slow=12,SNR=8.0						
MJAR				LR	LR	05 20 50.3	
	comp=Z,4μm,18.7s,baz=40,slow=42						
YUK	**Yuzh-Kuril'sk**	**4.81**	**35**	*e*P	**Pn**	**05 18 49.9**	**-0.2**
YUK				*e*S	**Sn**	**05 19 43.7**	**-2.0**
YUK				pmax	pmax		
	comp=Z,106nm,0.5s						
YUK				pmax	pmax		
	comp=N,329nm,0.6s						
YUK				pmax	pmax		
	comp=E,397nm,0.5s						
YUK				smax	smax		
	comp=N,251nm,0.3s						
YUK				smax	smax		
	comp=E,436nm,0.6s						
YUK				MLR	MLR		
	comp=Z,4μm,15.0s						
SHO	**Shikotan**	**5.16**	**43**	P	**Pn**	**05 18 52.2**	**-2.7**
SHO				*e*S	**Sn**	**05 19 47.7**	**-6.5**
SHO				pmax	pmax		
	comp=E,58nm,0.3s						
SHO				pmax	pmax		
	comp=Z,75nm,0.3s						
SHO				smax	smax		
	comp=N,575nm,0.5s						
SHO				smax	smax		
	comp=E,685nm,0.5s						
KUR	**Kuril'sk**	**6.65**	**39**	P	**Pn**	**05 19 15.2**	**-0.2**
KUR				*e*S	**Sn**	**05 20 29.5**	**-1.5**
KUR				pmax	pmax		
	comp=Z,134nm,0.5s						
KUR				smax	smax		
	comp=N,176nm,0.6s						
KUR				smax	smax		
	comp=E,90nm,0.5s						
KUR				MLR	MLR		
	comp=Z,3μm,14.0s						
KUR				MLR	MLR		
	comp=E,2μm,14.0s						
KUR				MLR	MLR		
	comp=N,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**6.81**	**4**	*e*P	**Pn**	**05 19 18.7**	**+1.2**
YSS				*e*S	**Sn**	**05 20 38.2**	**+3.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				pmax	pmax		
	comp=Z,300nm,3.4s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
JHJ	**Hachijo jima 2**	**7.26**	**195**	LR	LR	05 22 14.7	
	comp=Z,838nm,20.9s,baz=86,slow=39						
USRK	**Ussuriysk Ar.**	**8.45**	**302**	Pn	**Pn**	**05 19 42.9**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=104,slow=15,SNR=11						
USRK				LR	LR	05 22 47.3	
	comp=Z,1μm,18.8s,baz=109,slow=37						
HABR	**Khabarovsk**	**9.68**	**331**	*e*P	Pn	05 20 03.4	+6.5
HABR				*e*S	**Sn**	**05 21 43.4**	**-1.9**
HABR				pmax	pmax		
	comp=Z,21nm,1.1s						
HABR				pmax	pmax		
	comp=E,25nm,1.1s						
HABR				pmax	pmax		
	comp=N,9.0nm,1.1s						
HABR				MLR	MLR		
	comp=Z,1μm,14.0s						
MDJ	**Mudanjiang**	**10.20**	**300**	*e*Pn	**Pn**	**05 20 06.7**	**+2.7**
	comp=Z,40nm,1.2s						
TYV	**Tymovskoe**	**10.71**	**2**	*e*P	**Pn**	**05 20 13.4**	**+2.5**
TYV				*e*		05 22 02.8	
KSRS	**Korea Array**	**11.31**	**261**	Pn	Pn	05 20 26.8	+7.5
	comp=Z,1.3nm,0.3s,baz=61,slow=14,SNR=6.2						
KSRS				LR	LR	05 24 21.7	
	comp=Z,919nm,18.6s,baz=67,slow=36						
KSAR	**Wonju Array Be**	**11.35**	**261**	P	Pn	05 20 26.8	+7.0
KSAR	**Wonju Array Be**	**11.35**	**261**	Pn	Pn	05 20 26.8	+7.0
JNU	**Nakatsue**	**11.36**	**235**	LR	LR	05 24 35.2	
	comp=Z,715nm,21.8s,baz=33,slow=37						
CN2	**Changchun**	**12.84**	**292**	*e*P	**Pn**	**05 20 44.4**	**+4.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,300nm,6.0s						
C

TIA				LR	LR		
	comp=Z,1μm,16.0s						
MA2	**Magadan**	**20.20**	**13**	P	Pn	05 22 13.5	-0.7
	comp=Z,8.3nm,0.7s,baz=191,slow=11,SNR=5.7						
MA2	**Magadan**	**20.20**	**13**	*e*P	**P**	**05 22 12.8**	**+0.6**
YAK	**Yakutsk**	**23.14**	**345**	P	**P**	**05 22 43.2**	**-0.5**
	comp=Z,23nm,0.4s,baz=87,slow=0.7,SNR=7.4						
YAK	**Yakutsk**	**23.14**	**345**	*e*P	**P**	**05 22 43.0**	**-0.6**
YAK				*e*PP	**sP**	**05 22 51.1**	**+1.8**
YAK				*e*S	**S**	**05 26 47.2**	**-7.2**
YAK				*e*SSS	SSS	05 27 35.1	
YAK				pmax	pmax		
	comp=N,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,39nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YAK				smax	smax		
	comp=N,118nm,2.5s						
YAK				MLR	MLR		
	comp=N,2μm,22.0s						
YAK				MLR	MLR		
	comp=Z,844nm,18.0s						
SEY	**Seymchan**	**23.63**	**12**	P	**P**	**05 22 49.1**	**+0.6**
	comp=Z,13nm,0.9s,baz=191,slow=11,SNR=9.7						
SEY	**Seymchan**	**23.63**	**12**	*e*P	**P**	**05 22 47.4**	**-1.2**
BOD	**Bodaibo**	**25.20**	**324**	*e*P	**P**	**05 23 00.7**	**-2.3**
BOD				pmax	pmax		
	comp=Z,23nm,0.8s						
ULN	**Ulaanbaatar**	**26.11**	**299**	*e*P	**P**	**05 23 11.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**26.55**	**299**	P	**P**	**05 23 16.1**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=106,slow=7.9,SNR=6.5						
ENH	**Enshi**	**28.20**	**260**	P	**P**	**05 23 29.5**	**-1.0**
ZAK	**Zakamensk**	**28.80**	**304**	*e*P	**P**	**05 23 32.9**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	05 58 04.9	
	baz=324,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	05 58 04.8	
	baz=324,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	05 58 06.8	
	baz=324,slow=76,SNR=22						
BILL	**Bilibino**	**30.90**	**18**	*e*P	**P**	**05 23 55.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**32.24**	**352**	LR	LR	05 37 28.2	
	comp=Z,135nm,21.7s,baz=236,slow=37						
DGZ	**Jazzator, Alta**	**39.01**	**303**	*i* P	**P**	**05 25 03.5**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZALV	**Zalesovo Beam**	**40.21**	**310**	P	**P**	**05 25 12.2**	**-1.7**
	comp=Z,12nm,0.5s,baz=99,slow=7.7,SNR=18						
ZALV				PcP	**PcP**	**05 27 17.8**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=109,slow=1.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**42.81**	**252**	P	**P**	**05 25 35.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=40,slow=6.4,SNR=5.6						
MKAR	**Makanchi Array**	**42.91**	**299**	P	**P**	**05 25 35.0**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=83,slow=9.8,SNR=11						
MKAR				PcP	**PcP**	**05 27 27.9**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=78,slow=4.1,SNR=2.7						
KURK	**Kurchatov**	**44.42**	**306**	P	**P**	**05 25 47.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,38nm,0.7s						
KURK	**Kurchatov**	**44.42**	**306**	*e*P	**P**	**05 25 46.6**	**-1.7**
	comp=Z,261nm,0.6s						
KURK				P	**P**	**05 25 47.3**	**-0.9**
KDAK	**Kodiak Island**	**44.49**	**44**	P	**P**	**05 25 48.3**	**-0.4**
	comp=Z,9.0nm,0.9s,baz=305,slow=10,SNR=7.7						
KURBB	**Kurchatov Arra**	**44.50**	**306**	P	**P**	**05 25 47.3**	**-1.6**
	comp=Z,38nm,0.7s,baz=80,slow=8.6,SNR=30						
KTH	**Kantishna Hill**	**44.92**	**36**	*e*P	**P**	**05 25 53.6**	**+1.4**
	comp=Z,6.0nm,0.9s						
TAPN	**Taplejung**	**46.26**	**271**	*e*P	**P**	**05 26 04.2**	**+0.7**
ILAR	**Eielson Array**	**46.62**	**34**	P	**P**	**05 26 05.2**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=266,slow=5.9,SNR=7.7						
ILAR	**Eielson Array**	**46.62**	**34**	P	**P**	**05 26 05.3**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ODAN	**Odare**	**46.75**	**271**	*e*P	**P**	**05 26 07.3**	**0.0**
JIRN	**Jiri**	**47.26**	**273**	*e*P	**P**	**05 26 11.9**	**+0.4**
RAMN	**Ramite**	**47.31**	**272**	*e*P	**P**	**05 26 12.1**	**+0.4**
	comp=Z,23nm,0.7s						
GUN	**Gumba**	**47.38**	**273**	*e*P	**P**	**05 26 12.0**	**-0.3**
KKN	**Kakani**	**47.90**	**273**	*e*P	**P**	**05 26 16.0**	**-0.2**
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**47.91**	**273**	*e*P	**P**	**05 26 16.7**	**+0.3**
	comp=Z,4.0nm,0.3s						
PKIN	**Phulchoki**	**47.91**	**273**	*e*P	**P**	**05 26 16.6**	**+0.2**
	comp=Z,7.4nm,0.5s						
GKN	**Gorkha**	**48.28**	**274**	*e*P	**P**	**05 26 19.2**	**+0.1**
DANN	**Dangsing**	**48.78**	**275**	*e*P	**P**	**05 26 23.6**	**+0.5**
BVAR	**Borovoye Array**	**48.85**	**310**	P	**P**	**05 26 21.7**	**-1.3**
	comp=Z,8.7nm,0.5s,baz=81,slow=8.2,SNR=20						
BVAR				PcP	**PcP**	**05 27 48.5**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=64,slow=3.4,SNR=4.1						
BRVK	**Borovoye**	**48.90**	**310**	*c*e*P*	**P**	**05 26 24.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**48.90**	**310**	*e*P	**P**	**05 26 22.1**	**-1.2**
	comp=Z,25nm,0.7s						
EGAK	**Eagle**	**49.06**	**34**	*e*P	**P**	**05 26 24.5**	**+0.1**
KOLN	**Kolsanda**	**49.19**	**274**	*e*P	**P**	**05 26 26.6**	**+0.5**
	comp=Z,8.5nm,0.6s						
AAK	**Ala-Archa**	**49.46**	**296**	P	**P**	**05 26 27.6**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=129,slow=4.9,SNR=7.5						
AAK	**Ala-Archa**	**49.46**	**296**	*e*P	**P**	**05 26 25.9**	**-2.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**49.46**	**296**	*e*P	**P**	**05 26 25.9**	**-2.1**
	comp=Z,2.9nm,0.6s						
AAK				P	**P**	**05 26 27.6**	**-0.4**
PYUN	**Piuthan**	**49.49**	**275**	*e*P	**P**	**05 26 28.4**	**0.0**
KSH	**Kashi**	**49.61**	**292**	P	**P**	**05 26 32.9**	**+3.8**
KSH				pP	sP	05 27 02.1	+27
KSH				sP	PcP	05 27 16.7	-34
KSH				PP	**PP**	**05 28 31.0**	**+7.7**
KSH				PcS	**PcS**	**05 31 48.9**	**+1.6**
KSH				S	S	05 33 25.9	-11
KSH				sS	sS	05 34 17.9	+34
KSH				ScS	ScS	05 36 07.0	-14
KSH	**Kashi**	**49.61**	**292**	SS	SS	05 36 54.1	-15
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,150nm,5.1s						
KSH				LR	LR		
	comp=N,230nm,7.3s						
KSH				LR	LR		
	comp=E,250nm,7.3s						
KSH				LR	LR		
	comp=Z,230nm,6.8s						
INK	**Inuvik**	**51.40**	**28**	P	**P**	**05 26 42.1**	**0.0**
	comp=Z,8.8nm,0.8s,baz=284,slow=6.1,SNR=9.8						
INK	**Inuvik**	**51.40**	**28**	P	**P**	**05 26 42.1**	**0.0**
INK				*e*P	**P**	**05 26 42.2**	**+0.1**
KKAR	**Karatay Array**	**52.00**	**298**	*e*P	**P**	**05 26 45.0**	**-2.0**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KKAR	**Karatay Array**	**52.00**	**298**	*e*P	**P**	**05 26 45.0**	**-2.0**
	comp=Z,9.6nm,0.7s						
ARU	**Arti**	**54.35**	**317**	*c i*P	**P**	**05 27 04.8**	**+0.8**
ARU						05 29 01.5	
ARU				S	**S**	**05 34 42.8**	**+1.4**
ARU				SS	**SS**	**05 38 19.4**	**-3.5**
ARU				pmax	pmax		
	comp=Z,18nm,0.7s						
ABKAR	**Akbulak array**	**56.31**	**309**	*e*P	**P**	**05 27 16.8**	**-1.5**
	comp=Z,5.6nm,0.6s						
WRAB	**Tennant Creek**	**60.21**	**188**	*e*P	**P**	**05 27 42.8**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	**Tennant Creek**	**60.21**	**188**	*e*P	**P**	**05 27 42.8**	**-2.9**
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**60.22**	**188**	P	**P**	**05 27 43.7**	**-2.1**
	comp=Z,5.4nm,0.5s,baz=9.3,slow=7.5,SNR=19						
YKA	**Yellowknife Ar**	**60.88**	**31**	P	**P**	**05 27 49.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=303,slow=6.5,SNR=5.1						
YKA				LR	LR	05 56 25.5	
	comp=Z,6.8nm,18.5s,baz=0.0,slow=38						
ARCES	**ARCESS Array B**	**61.24**	**339**	P	**P**	**05 27 51.6**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=54,slow=9.1,SNR=5.0						
KLMR	**Klimovskoe**	**61.37**	**327**	*e*P	**P**	**05 27 51.3**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,22nm,1.4s						
DAG	**Danmarks Havn**	**62.70**	**355**	*i* P	**P**	**05 28 02.6**	**+0.7**
	comp=Z,6.9nm,0.6s						
DAG	**Danmarks Havn**	**62.70**	**355**	*i* P	**P**	**05 28 02.6**	**+0.7**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GEYT	**Alibeck**	**62.75**	**298**	P	**P**	**05 28 03.3**	**+0.3**
	comp=Z,8.3nm,1.0s,baz=29,slow=3.4,SNR=6.2						
ASAR	**Alice Springs**	**63.95**	**188**	P	**P**	**05 28 09.2**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=2.5,slow=7.1,SNR=13						
ASAR				LR	LR	05 55 38.6	
	comp=Z,89nm,21.8s,baz=1.0,slow=36						
MBWA	**Marble Bar**	**64.45**	**203**	P	P	05 28 08.7	-5.4
	comp=Z,362nm,1.6s						
OBN	**Obninsk**	**65.88**	**323**	*e*P	**P**	**05 28 23.7**	**+0.7**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPSR	**Galich'ya Gora**	**66.21**	**320**	*e*P	**P**	**05 28 25.2**	**0.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FINES	**FINESS Array B**	**66.27**	**332**	P	**P**	**05 28 23.9**	**-1.6**
	comp=Z,8.1nm,0.7s,baz=38,slow=7.5,SNR=12						
VSR	**Storozhevoye**	**66.89**	**318**	*e*P	**P**	**05 28 28.0**	**-1.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SUMG	**Summit**	**67.56**	**0**	*i* P	**P**	**05 28 36.1**	**+2.1**
	comp=Z,7.5nm,0.7s						
SUMG	**Summit**	**67.56**	**0**	*i* P	**P**	**05 28 36.1**	**+2.1**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NEW	**Newport**	**67.58**	**45**	P	**P**	**05 28 36.2**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=324,slow=2.8,SNR=6.8						
ZEI	**Tsey**	**69.18**	**309**	*e*P	**P**	**05 28 41.0**	**-3.4**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV	**Kislovodsk**	**69.22**	**310**	*e*P	**P**	**05 28 45.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KBZ	**Khabaz**	**69.23**	**310**	P	**P**	**05 28 43.9**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=341,slow=3.6,SNR=4.6						
HFS	**Hagfors**	**71.43**	**336**	P	**P**	**05 28 56.5**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=37,slow=5.1,SNR=7.7						
NB2	**NORSAR Subarra**	**71.48**	**337**	P	**P**	**05 28 56.8**	**-1.2**
	comp=Z,6.9nm,0.8s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**71.48**	**337**	P	**P**	**05 28 57.0**	**-1.0**
	comp=Z,4.7nm,0.6s,baz=38,slow=6.1,SNR=10						
STKA	**Stephens Creek**	**71.68**	**180**	P	**P**	**05 29 00.2**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=342,slow=6.4,SNR=3.5						
DLMT	**Dillon**	**71.81**	**46**	*e*P	**P**	**05 29 01.6**	**+1.2**
	comp=Z,8.6nm,1.0s						
AKASG	**Malin Array Be**	**72.11**	**322**	P	**P**	**05 29 00.1**	**-1.8**
	comp=Z,5.9nm,0.6s,baz=45,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**72.11**	**322**	P	**P**	**05 29 00.1**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIEV	**Kiev**	**72.12**	**322**	*e*P	**P**	**05 29 02.3**	**+0.4**
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BOZ	**Bozeman (W)**	**72.19**	**45**	*e*P	**P**	**05 29 03.1**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**72.19**	**45**	*e*P	**P**	**05 29 03.1**	**+0.5**
	comp=Z,5.3nm,0.8s						
SORM	**Soroca**	**74.27**	**320⇑**	*i* P	**P**	**05 29 15.4**	**+0.8**
HWUT	**Hardware Ranch**	**74.78**	**48**	*e*P	**P**	**05 29 16.7**	**-1.3**
	comp=Z,1.4nm,0.4s						
PDAR	**Pinedale Array**	**75.16**	**46**	P	**P**	**05 29 21.4**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=230,slow=1.1,SNR=9.9						
BURAR	**Buovina Array**	**76.14**	**322⇑**	*i* P	**P**	**05 29 27.0**	**+1.4**
TESR	**Tescani**	**76.23**	**320⇑**	*i* P	**P**	**05 29 27.0**	**+1.0**
STHS	**Stebnicka Huta**	**76.67**	**325**	*e*P	**P**	**05 29 30.5**	**+2.1**
STHS	**Stebnicka Huta**	**76.67**	**325**	*e*P	**P**	**05 29 30.5**	**+2.1**
BRTR	**Keskin Array B**	**77.13**	**311**	P	**P**	**05 29 31.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=88,slow=5.3,SNR=5.5						
MLR	**Muntele Rosu**	**77.30**	**320⇑**	*i* P	**P**	**05 29 34.7**	**+2.5**
KECS	**Kecovo**	**77.69**	**325**	*e*P	**P**	**05 29 37.7**	**+3.5**
KECS	**Kecovo**	**77.69**	**325**	*e*P	**P**	**05 29 37.6**	**+3.4**
VOIR		**77.78**	**320⇑**	*i* P	**P**	**05 29 36.1**	**+1.3**
ARR	**Arges**	**78.03**	**320⇑**	*i* P	**P**	**05 29 38.0**	**+1.8**
DPC	**Dobruska-Polom**	**78.05**	**328**	*e*P	**P**	**05 29 38.0**	**+1.8**
DPC				*e*pP	**PcP**	**05 29 50.7**	**+4.8**
DPC	**Dobruska-Polom**	**78.05**	**328**	*e*P	**P**	**05 29 38.0**	**+1.8**
DPC				*e*		05 29 50.7	
UPC	**Upice**	**78.06**	**328**	*e*P	**P**	**05 29 38.0**	**+1.8**
UPC	**Upice**	**78.06**	**328**	*e*P	**P**	**05 29 38.0**	**+1.8**
CLL	**Collm**	**78.61**	**330**	*e*P	**P**	**05 29 39.0**	**-0.2**
CLL	**Collm**	**78.61**	**330**	*e*P	**P**	**05 29 39.0**	**-0.2**
VRAC	**Vranov**	**78.75**	**327**	P	**P**	**05 29 40.1**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=52,slow=4.9,SNR=3.3						
GOPC	**GO Pecny, Ondr**	**79.01**	**328**	*e*P	**P**	**05 29 43.1**	**+1.6**
GOPC	**GO Pecny, Ondr**	**79.01**	**328**	*e*P	**P**	**05 29 43.1**	**+1.6**
PRU	**Pruhonice**	**79.05**	**329**	*e*P	**P**	**05 29 43.4**	**+1.7**
PRU	**Pruhonice**	**79.05**	**329**	*e*P	**P**	**05 29 43.4**	**+1.7**
MDVR	**Moldovita**	**79.88**	**321⇑**	*i* P	**P**	**05 29 47.2**	**+0.9**
KHC	**Kasperske Hory**	**80.12**	**329**	*e*P	**P**	**05 29 49.1**	**+1.6**
KHC				*e*pP	PcP	05 30 03.2	+8.3
KHC	**Kasperske Hory**	**80.12**	**329**	*e*P	**P**	**05 29 49.1**	**+1.6**
KHC				*e*		05 30 03.2	
GERES	**GERESS Array B**	**80.29**	**328**	P	**P**	**05 29 48.7**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=53,slow=6.9,SNR=10						
EKA	**Eskdalemuir Ar**	**80.33**	**341**	P	**P**	**05 29 49.3**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=20,slow=4.5,SNR=4.6						
EKA	**Eskdalemuir Ar**	**80.33**	**341**	P	**P**	**05 29 49.3**	**+0.8**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VTS	**Vitosha**	**80.75**	**319⇑**	*i* P	**P**	**05 29 52.0**	**+0.8**
SOKA	**Soboth**	**81.45**	**326**	*e*pP	**P**	**05 29 56.4**	**+1.6**
	comp=Z,7.2nm,0.8s						
KBA	**Koelnbreinsper**	**81.84**	**327**	*e*pP	**P**	**05 29 57.7**	**+0.7**
	comp=Z,8.1nm,0.8s						
MYKA	**Terra Mystica**	**82.08**	**327**	*e*pP	**P**	**05 29 59.3**	**+1.2**
	comp=Z,2.1nm,0.4s						
ANMO	**Albuquerque**	**82.23**	**50**	*e*P	**P**	**05 30 00.6**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MOTA	**Moosalm**	**82.54**	**329**	*e*pP	**P**	**05 30 02.2**	**+1.6**
	comp=Z,7.7nm,0.9s						
RETA	**Reutte**	**82.56**	**329**	*e*pP	**P**	**05 30 02.2**	**+1.6**
	comp=Z,7.8nm,0.9s						
PDG	**Podgorica**	**82.82**	**321⇓**	*i* P	**P**	**05 30 03.1**	**+1.2**
PMOR	**Pomariorio Ree**	**85.03**	**114**	*e*T	T	07 03 40.7	
	comp=Z,86nm,0.3s						
IDI	**Anoyia**	**85.19**	**313**	P	**P**	**05 30 14.6**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=333,slow=2.3						
PPT	**Papeete**	**85.64**	**117**	LR	LR	05 59 09.6	
	comp=Z,119nm,21.5s,baz=304,slow=29						
PPT2	**Papeete2**	**85.65**	**117**	*e*LR	LR	05 57 38.0	
	comp=Z,213nm,22.2s						
PPT2	**Papeete2**	**85.65**	**117**	*e*T	T	07 04 24.8	
	comp=Z,60nm,0.3s						
PAE	**Paea**	**85.70**	**117**	*e*T	T	07 04 27.7	
	comp=Z,6.7nm,0.3s						
TIAR	**Tiarei**	**85.79**	**117**	*e*T	T	07 04 34.5	
	comp=Z,15nm,0.4s						
TVO	**Taravao**	**86.01**	**117**	*e*T	T	07 04 50.8	
	comp=Z,4.2nm,0.4s						
TAOE	**Nuku Hiva Isla**	**86.50**	**105**	*e*LR	LR	05 57 44.0	
	comp=Z,178nm,21.1s						
TAOE	**Nuku Hiva Isla**	**86.50**	**105**	*e*T	T	07 05 42.0	
	comp=Z,95nm,0.3s						
TXAR	**Lajitas Array**	**87.85**	**53**	P	**P**	**05 30 27.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=289,slow=3.8,SNR=6.8						
ESDC	**Sonseca Array**	**94.68**	**334**	P	**P**	**05 30 59.8**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=15,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**115.42**	**316**	PKP	**PKPdf**	**05 36 20.6**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=15,slow=1.6,SNR=2.7						
SNAA	**Sanae**	**143.87**	**198**	P	PKPab	05 37 08.6	-0.4
SNAA	**Sanae**	**143.87**	**198**	*e*PKIKP	PKPab	05 37 07.7	-1.3
SNAA	**Sanae**	**143.87**	**198**	*e*PKPdf	PKPab	05 37 07.7	-1.3
LPAZ	**La Paz**	**144.64**	**56**	PKP	**PKPdf**	**05 37 15.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=90,slow=1.0,SNR=4.6						
VNA2	**Neumayer--Watz**	**145.45**	**197**	P	**PKPdf**	**05 37 14.3**	**-0.2**
	baz=98,slow=2.2						
VNA3	**Neumayer Olymp**	**145.71**	**196**	P	**PKPdf**	**05 37 14.3**	**-0.6**
VNA1	**Neumayer--Stat**	**145.85**	**197**	P	**PKPab**	**05 37 16.9**	**+0.7**

IDC 05 05:20:54.1±2.8, 15°.08N×145°.36E, h125km±33km, mb3.6/4, mb1 3.8/4, mb1mx3.3/53, mbtmp4.0/4, Error ellipse: s-maj=45.2km s-min=29.5km az=13.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.56**	**198**	P	Pn	05 21 24.0	+1.5
	65nm,0.3s,baz=150,slow=3.9,SNR=21						
GUMO				S	Sn	05 21 43.9	-0.2
	73nm,0.3s,baz=352,slow=23,SNR=15						
CMAR	**Chiang Mai Arr**	**44.48**	**281**	P	P	05 28 53.6	+0.2
	1.4nm,0.5s,baz=82,slow=6.4,SNR=8.9						
MKAR	**Makanchi Array**	**60.76**	**315**	P	P	05 30 52.3	-0.6
	0.3nm,0.3s,baz=94,slow=6.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**63.81**	**319**	P	P	05 31 13.1	+0.1
	0.7nm,0.4s,baz=103,slow=6.9,SNR=7.9						
ILAR	**Eielson Array**	**67.03**	**26**	P	P	05 31 32.9	-0.6
	0.3nm,0.8s,baz=237,slow=7.1,SNR=4.1						
LPAZ	**La Paz**	**147.75**	**97**	PKPbc	PKPbc	05 40 25.6	-0.4
	0.5nm,0.7s,baz=331,slow=6.0,SNR=4.0						

NAO ***05*** *05:30:19.7±1.7, 59°.95N×15°.09E, ML2.1*
IDC ***05*** *05:30:20.7±1.8, 60°.02N×15°.04E, h0km, mb1 3.3/3, mb1mx3.0/41, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=31.7km s-min=5.5km az=177.0*
CSEM ***05*** *05:30:20.9±0.1, 59°.94N×14°.93E, h10km, ML2.1, Error ellipse: s-maj=2.1km s-min=1.6km az=162.0*
UPP ***05*** *05:30:21.4±0.1, 59°.94N×14°.91E, h19km±1km, ML2.1*
BER ***05*** *05:30:21.7±4.8, 59°.90N×15°.05E, h15km±20km, ML2.1(NAO)*

ISC 05 05:30:21.0±1.0, 59°.93N±0°.02×14°.93E±0°.02, h25km±10km, n57, σ0°88/94, 4C-5D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRAU	**Nora**	**0.36**	**171**	P	**Pb**	**05 30 29.0**	**0.0**
NRAU				S	**Sb**	**05 30 34.1**	**-0.3**
NRAU	**Nora**	**0.36**	**171**	⇑P	**Pb**	**05 30 29.0**	**0.0**
NRAU				S	**Sb**	**05 30 34.1**	**-0.3**
HFS	**Hagfors**	**0.66**	**289**	Pg	**Pb**	**05 30 33.6**	**-0.2**
	baz=112,slow=18						
HFS				Lg	Lg	05 30 42.1	
	baz=112,slow=37						
HFS	**Hagfors**	**0.66**	**289**	Pg	**Pb**	**05 30 33.6**	**-0.2**
	11nm,0.3s,baz=108,slow=18,SNR=499						
HFS				Lg	Lg	05 30 42.3	
	18nm,0.3s,baz=108,slow=30,SNR=62						
HFS	**Hagfors**	**0.66**	**289**	Pg	**Pb**	**05 30 33.6**	**-0.2**
	baz=112,slow=18						
HFS				Lg	Lg	05 30 42.1	
	baz=112,slow=37						
UDD	**Uddeholm**	**0.69**	**284**	P	**Pb**	**05 30 34.0**	**-0.3**
UDD				S	**Sb**	**05 30 42.9**	**-0.5**
UDD	**Uddeholm**	**0.69**	**284**	⇓P	**Pb**	**05 30 34.0**	**-0.3**
UDD				S	**Sb**	**05 30 42.9**	**-0.5**
FALU	**Falun**	**0.72**	**38**	P	**Pb**	**05 30 35.0**	**0.0**
FALU				S	**Sb**	**05 30 44.3**	**-0.1**
FALU	**Falun**	**0.72**	**38**	⇑P	**Pb**	**05 30 35.0**	**0.0**
FALU				S	**Sb**	**05 30 44.3**	**-0.1**
ESKU	**Eskilstuna**	**1.02**	**133**	P	**Pb**	**05 30 40.1**	**+0.1**
ESKU				S	**Sb**	**05 30 53.1**	**+0.1**
ESKU	**Eskilstuna**	**1.02**	**133**	⇓P	**Pb**	**05 30 40.1**	**+0.1**
ESKU				S	**Sb**	**05 30 53.1**	**+0.1**
ASKU	**Askersund**	**1.04**	**183**	P	**Pn**	**05 30 40.4**	**+0.4**
ASKU	**Askersund**	**1.04**	**183**	⇑P	**Pn**	**05 30 40.4**	**+0.4**
BACU	**Backbrunna**	**1.10**	**93**	P	**Pb**	**05 30 41.3**	**0.0**
BACU				S	**Sn**	**05 30 55.6**	**+0.5**
BACU	**Backbrunna**	**1.10**	**93**	⇓P	**Pb**	**05 30 41.3**	**0.0**
BACU				S	**Sn**	**05 30 55.6**	**+0.5**
OSTU	**Oestervaala**	**1.14**	**74**	P	**Pb**	**05 30 42.2**	**+0.1**
OSTU				S	**Sb**	**05 30 56.7**	**+0.2**
OSTU	**Oestervaala**	**1.14**	**74**	⇓P	**Pb**	**05 30 42.2**	**+0.1**
OSTU				S	**Sb**	**05 30 56.7**	**+0.2**
FIBU	**Brunna**	**1.22**	**90**	⇓P	**Pb**	**05 30 43.3**	**0.0**
NASU	**Vaermlandsnaes**	**1.34**	**222**	P	**Pn**	**05 30 45.0**	**+0.9**
NASU				S	**Sb**	**05 31 02.7**	**+0.4**
NASU	**Vaermlandsnaes**	**1.34**	**222**	P	**Pn**	**05 30 45.0**	**+0.9**
NASU				S	**Sb**	**05 31 02.7**	**+0.4**
FINU	**Finntorp**	**1.35**	**248**	P	**Pn**	**05 30 45.2**	**+0.9**
FINU				S	**Sb**	**05 31 02.5**	**0.0**
FINU	**Finntorp**	**1.

APA0	Apatity Array	11.05	38	Pn	Pn	05 32 56.3	-0.9
	baz=252,slow=16						
APA0	Apatity Array	11.05	38	Pn	Pn	05 32 56.3	-0.9
	baz=252,slow=16						

IDC 05 05:56:48.0±399.0, 51°.20N×116°.44E, h0km, Error ellipse: s-maj=152.0km s-min=137.4km az=93.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	7.36	246	*i*		06 44 20.0	
	baz=58,slow=330,SNR=0.3						
I45RU	USSURIYSK INFR	12.58	118	*i*		07 14 30.0	
	baz=307,slow=330,SNR=1.4						
I44RU	PETROPAVLOVSK	25.15	69	*i*		08 30 20.0	
	baz=284,slow=326,SNR=0.5						

*NEIC **05** 06:58:30.8±0.7, 31°.90S×178°.69W, h10km, mb5.0/1, Error ellipse: s-maj=19.0km s-min=13.1km az=97.0*
*ISCJB **05** 06:58:33.2±0.7, 32°.07S±0°.05×178°.6W±0°.1, h45km, mb4.9/11, MS3.8/17, Error ellipse: s-maj=15.5km s-min=6.6km az=13.8*
*IDC **05** 06:58:36.2±3.3, 31°.74S×178°.56W, h50km±29km, mb4.4/6, mb1 4.6/7, mb1mx4.1/31, mbtmp4.7/7, ML4.6/1, MS3.8/20, Ms1 3.8/20, ms1mx3.7/30, Error ellipse: s-maj=22.3km s-min=21.8km az=34.0*

ISC 05 06:58:34.3±0.5, 31°.99S±0°.06×178°.58W±0°.08, h45km, n92, σ2°.51/69, mb4.8/10, MS3.8/17, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.79	12	P	Pn	06 59 14.7	-1.8
	128nm,0.3s,baz=133,slow=18,SNR=6.2						
RAO				S	Sn	06 59 41.8	-7.0
	495nm,0.3s,baz=106,slow=23,SNR=7.8						
RAO				LR	LR	07 00 13.8	
	comp=Z,1μm,21.4s,baz=202,slow=38						
RAO	Raoul Island	2.79	12	P	Pn	06 59 14.7	-1.8
RAO				*e*Pn	Pn	06 59 15.1	-1.4
RAO				S	Sn	06 59 41.9	-7.0
MXZ	Matakaoa Point	6.12	204	PN	Pn	07 00 03.1	+0.9
MXZ				*e*SN	Sn	07 01 14.1	+3.2
WMGZ	Waiomatatini S	6.32	202	PN	Pn	07 00 06.4	+1.6
HAZ	Te Kaha	6.48	206	PN	Pn	07 00 08.0	+0.9
PKGZ	Pakihiroa	6.49	204	*e*PN	Pn	07 00 07.7	+0.3
PUZ	Puketiti	6.60	202	*e*PN	Pn	07 00 08.4	-0.3
PUZ				*e*SN	Sn	07 01 23.3	+0.6
RUGZ	Raukumara Rang	6.71	206	PN	Pn	07 00 10.8	+0.5
CNGZ	Carnagh Statio	6.99	201	PN	Pn	07 00 13.9	-0.3
TKGZ	Te Karaka	7.07	203	PN	Pn	07 00 16.3	+1.2
MWZ	Matawai	7.09	206	PN	Pn	07 00 15.1	-0.4
MWZ				*e*SN	Sn	07 01 37.1	+2.4
MARZ	Manawahe	7.14	212	PN	Pn	07 00 18.9	+2.7
URZ	Urewera	7.18	208	P	Pn	07 00 16.8	+0.1
	7.1nm,0.3s,baz=278,slow=4.8,SNR=26						
URZ				S	Sn	07 01 37.4	+0.5
	17nm,0.3s,baz=43,slow=20,SNR=9.0						
URZ	Urewera	7.18	208	PN	Pn	07 00 16.7	+0.1
URZ				*e*SN	Sn	07 01 40.4	+3.4
OUZ	Omahuta	7.28	242	PN	Pn	07 00 24.9	+6.8
RIGZ	Rimuhau	7.34	203	*e*PN	Pn	07 00 18.7	-0.2
PRGZ	Paritu Road	7.49	202	PN	Pn	07 00 20.8	-0.2
SNGZ	Shannon Statio	7.55	205	PN	Pn	07 00 23.0	+1.2
KNZ	Kokohu	7.65	202	PN	Pn	07 00 22.5	-0.7
MHGZ	Mahia Peninsul	7.70	201	*e*PN	Pn	07 00 22.9	-0.9
MRHZ	Matea Rd	7.95	209	*e*PN	Pn	07 00 26.9	-0.5
ARHZ	Aropaoanui	8.10	205	*e*PN	Pn	07 00 28.3	-1.1
BKZ	Black Stump Fm	8.21	208	*e*PN	Pn	07 00 29.0	-1.9
MCHZ	McNeill Hill	8.37	206	*e*PN	Pn	07 00 31.3	-1.7
HIZ	Hauiti	8.43	218	*e*PN	Pn	07 00 38.5	+4.6
BHHZ	Black Hill Sta	8.65	209	*e*PN	Pn	07 00 35.8	-1.2
KRHZ	Kereru	8.67	207	*e*PN	Pn	07 00 35.3	-1.8
WNVZ	Wahianoa	8.72	211	*e*PN	Pn	07 00 38.8	+0.8
PXZ	Pawanui	8.83	203	*e*PN	Pn	07 00 36.4	-2.9
PNHZ	Pukenui	8.96	207	*e*PN	Pn	07 00 38.2	-3.1
TSZ	Takapari Road	9.18	207	*e*PN	Pn	07 00 39.9	-4.3
BFZ	Birch Farm	9.62	204	*e*SN	Sn	07 02 31.5	-5.4
MRZ	Mangatainoka R	9.85	207	*e*PN	Pn	07 00 48.6	-4.7
MRZ				*e*SN	Sn	07 02 37.5	-5.0
NNZ	Nelson	11.24	213	*e*SN	Sn	07 03 12.2	-4.3
CTZ	Chatham Island	11.83	173	Pn	Pn	07 01 20.3	0.0
CTZ	Chatham Island	11.83	173	*e*PN	Pn	07 01 20.0	-0.3
CTZ				*e*SN	Sn	07 03 22.7	-8.1
KHZ	Kahutara	12.15	209	*e*PN	Pn	07 01 20.7	-4.0
MQZ	McQueen's Vall	13.58	208	*e*PN	Pn	07 01 37.0	-7.2
MQZ				SN	Sn	07 04 02.7	-11
RPZ	Rata Peaks	14.27	212	P	Pn	07 01 50.1	-3.5
	0.7nm,0.3s,baz=0.0,slow=20,SNR=3.3						
RPZ				S	Sn	07 04 19.7	-11
	1.8nm,0.3s,baz=58,slow=15,SNR=4.7						
JCZ	Jackson Bay	15.62	216	*e*PN	Pn	07 02 06.2	-5.2
DZM	Mont Dzumac	16.59	303	LR	LR	07 07 41.3	
	comp=Z,725nm,18.3s,baz=182,slow=33						
DZM	Mont Dzumac	16.59	303	*e*LR	LR	07 06 08.6	
	2μm,25.2s						
AFI	Afiamalu	19.05	21	LR	LR	07 08 29.4	
	comp=Z,213nm,21.0s,baz=178,slow=32						
PAE	Paea	29.82	68	*e*T	T	07 35 26.8	
	15nm,0.3s						
PPT2	Papeete2	29.86	68	*e*S	S	07 09 27.3	-4.6
	77nm,29.0s						
PPT2				*e*LR	LR	07 12 08.6	
	503nm,29.0s						
PPT2	Papeete2	29.86	68	*e*T	T	07 35 34.6	
	13nm,0.3s						
PPT	Papeete	29.88	68	LR	LR	07 16 20.9	
	comp=Z,57nm,18.3s,baz=210,slow=36						
HNR	Honiara	30.00	314	LR	LR	07 15 45.3	
	comp=Z,107nm,18.1s,baz=170,slow=34						
TVO	Taravao	30.01	69	*e*T	T	07 35 27.8	
	1.6nm,0.3s						
TIAR	Tiarei	30.06	68	*e*T	T	07 35 53.0	
	1.9nm,0.2s						
PMOR	Pomariorio Ree	32.67	66	*e*T	T	07 39 07.2	
	4.5nm,0.3s						
VAH	Vaihoa	32.74	67	*e*T	T	07 39 03.0	
	29nm,0.2s						
CTA	Charters Tower	33.60	282	P	P	07 05 13.1	+2.6
	8.9nm,0.5s,baz=100,slow=10,SNR=13						
CTAO	Charters Tower	33.60	282	*e*P	P	07 05 08.4	-2.1
	116nm,1.0s						
STKA	Stephens Creek	33.67	259	P	P	07 05 13.6	+2.6
	3.0nm,0.6s,baz=109,slow=11,SNR=7.8						
STKA				LR	LR	07 16 58.2	
	comp=Z,248nm,20.7s,baz=39,slow=33						
RKT	Rikitea	39.44	88	*e*LR	LR	07 16 44.6	
	347nm,26.2s						
RKT	Rikitea	39.44	88	*e*T	T	07 48 03.2	
	4.3nm,0.4s						
TAOE	Nuku Hiva Isla	42.40	66	*e*S	S	07 12 37.8	-5.6
	70nm,29.1s						
TAOE				*e*LR	LR	07 18 10.7	
	242nm,27.4s						
ASAR	Alice Springs	42.56	269	P	P	07 06 26.7	+0.8
	10nm,0.6s,baz=103,slow=7.5,SNR=118						
ASAR				LR	LR	07 22 30.9	
	comp=Z,144nm,18.9s,baz=132,slow=34						
WRAB	Tennant Creek	43.68	274	*e*P	P	07 06 35.4	+0.3
	12nm,0.4s						
WRA	Warramunga Arr	43.69	274	P	P	07 06 35.5	+0.4
	20nm,0.6s,baz=115,slow=7.6,SNR=137						
WRA				LR	LR	07 24 02.7	
	comp=Z,197nm,18.9s,baz=95,slow=35						
VNDA	Vanda	46.47	186	P	P	07 07 00.6	+4.2
	0.5nm,0.6s,baz=3.6,slow=7.0,SNR=6.3						
NWAO	Narrogin (SRO)	53.39	251	LR	LR	07 28 45.7	
	comp=Z,98nm,20.2s,slow=34						
QSPA	South Pole Qui	58.12	180	*e*P	P	07 08 26.5	+3.4
	60nm,0.8s						
MAW	Mawson	70.65	201	P	P	07 09 46.5	+1.8
	1.3nm,0.4s,baz=125,slow=7.2,SNR=13						
MAW				LR	LR	07 39 33.4	
	comp=Z,117nm,19.4s,baz=62,slow=35						
SYO	Syowa Base	75.46	193	⇑*e*P	P	07 10 13.0	-0.1
SYO	Syowa Base	75.46	193	⇓*e*pP	P	07 10 14.8	+1.7
SNAA	Sanae	76.58	179	P	P	07 10 22.2	+2.5
SNAA	Sanae	76.58	179	*e*P	P	07 10 20.8	+1.1
	442nm,0.9s						
VNA3	Neumayer Olymp	76.75	176	P	P	07 10 22.2	+1.6
VNA2	Neumayer--Watz	77.18	177	P	P	07 10 24.9	+2.0
	baz=174,slow=4.0						
VNA1	Neumayer--Stat	77.42	177	P	P	07 10 31.2	+7.0
MJAR	Matsushiro Arr	79.27	326	LR	LR	07 39 38.6	
	comp=Z,22nm,21.2s,baz=145,slow=31						
JNU	Nakatsue	80.42	319	LR	LR	07 41 35.4	
	comp=Z,43nm,20.4s,baz=138,slow=32						
PLCA	Paso Flores	81.79	133	P	P	07 10 51.3	+2.7
	3.2nm,1.0s,baz=191,slow=4.7,SNR=4.2						
PLCA				LR	LR	07 38 41.8	
	comp=Z,37nm,20.9s,baz=300,slow=29						
PSI	Prapat	85.11	276	LR	LR	07 49 33.9	
	comp=Z,135nm,19.5s,baz=103,slow=36						
KSRS	Korea Array	85.24	320	LR	LR	07 48 31.6	
	comp=Z,35nm,18.6s,baz=166,slow=35						
PETK	Petropavlovsk-	87.23	346	LR	LR	07 44 19.4	
	comp=Z,40nm,21.3s,baz=136,slow=32						
TXAR	Lajitas Array	93.66	58	LR	LR	07 46 43.4	
	comp=Z,40nm,21.4s,baz=0.0,slow=31						
PDAR	Pinedale Array	97.62	44	LR	LR	07 47 56.0	
	comp=Z,40nm,21.5s,baz=225,slow=30						
RWWY	Rawlins	98.40	46	*e*P	Pdif	07 12 10.8	+3.1
	11nm,0.8s						
CPUP	Villa Florida	99.38	129	LR	LR	07 48 16.9	
	comp=Z,33nm,20.9s,baz=278,slow=30						
ILAR	Eielson Array	99.58	13	LR	LR	07 53 16.5	
	comp=Z,18nm,18.7s,baz=198,slow=33						
MKAR	Makanchi Array	118.41	310	PKP	PKPdf	07 17 18.2	+1.6
	0.3nm,0.5s,baz=95,slow=3.0,SNR=4.0						
ARCES	ARCESS Array B	140.03	347	PKhKP	PKPpre	07 17 48.8	
	3.5nm,0.9s,baz=48,slow=1.8,SNR=6.5						
KBZ	Khabaz	145.56	302	PKPbc	PKPab	07 18 08.1	+0.2
	0.8nm,0.4s,baz=0.0,slow=3.0,SNR=2.7						
FINES	FINESS Array B	146.45	339	PKPbc	PKPdf	07 18 08.4	+0.1
	4.3nm,0.4s,baz=46,slow=4.5,SNR=21						
NB2	NORSAR Subarra	150.24	350	PKP	PKPbc	07 18 18.9	-0.9
	comp=Z,22nm,1.7s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.24	350	PKPbc	PKPbc	07 18 19.2	-0.6
	comp=Z,1.4nm,0.6s,baz=15,slow=4.1,SNR=4.4						
AKASG	Malin Array Be	152.24	320	PKP	PKPdf	07 18 20.5	+2.7
	comp=Z,0.4nm,0.3s,baz=64,slow=2.2,SNR=4.9						
AKASG				PKPbc	PKiKP	07 18 26.6	+1.7
	comp=Z,1.1nm,0.6s,baz=52,slow=2.5,SNR=6.1						
BRTR	Keskin Array B	152.88	296	PKPbc	PKPbc	07 18 26.2	-0.4
	comp=Z,1.3nm,0.5s,baz=149,slow=2.6,SNR=4.4						
BRTR				PKPab	PKPab	07 18 37.5	-0.5
	comp=Z,1.4nm,0.8s,baz=134,slow=3.6,SNR=4.7						
TORD	Torodi Ar. Bea	161.24	181	PKP	PKPdf	07 18 31.9	+1.3
	comp=Z,0.9nm,1.0s,baz=183,slow=5.3,SNR=4.5						
TORD				PKPab	PKPab	07 19 15.4	+1.4
	comp=Z,2.2nm,0.8s,baz=177,slow=3.5,SNR=12						

NNC 05 07:04:58.8±2.7, 37°.01N×71°.00E, h0km, mb4.4, mpv4.0, 8C-3D, Error ellipse: s-maj=21.2km s-min=11.9km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.48	317	⇑Pg	Pb	07 05 43.5	-0.8
	25nm,0.3s						
DZET				⇑Lg	Lg	07 06 17.6	
	104nm,0.4s						
MNAS	Manas	5.59	12	⇑Pn	Pn	07 06 24.3	+1.0
	10nm,0.6s						
MNAS				⇓Sn	Sn	07 07 29.9	+1.5
	9.6nm,0.4s						
KK31	Karatay Array	6.10	357	⇓Pn	Pn	07 06 31.8	+1.6
	7.0nm,0.3s,baz=180,slow=12,SNR=308						
KK31				⇑Sn	Sn	07 07 42.6	+2.0
	3.6nm,0.3s,baz=184,slow=26,SNR=8.2						
AAK	Ala-Archa	6.23	25	⇑Pn	Pn	07 06 32.1	0.0
	4.9nm,0.4s						
AAK				⇓Sn	Sn	07 07 43.7	-0.4
	6.6nm,0.6s						
TKM2	Tokmak 2	6.88	29	⇑Pn	Pn	07 06 40.2	-0.9
	8.2nm,0.9s						
TKM2				⇑Sn	Sn	07 07 54.3	-5.9
	3.4nm,0.8s						
MAKZ	Makanchi	12.74	36	⇑Lg	Lg	07 21 44.1	
	6.8nm,0.5s						

*ISCJB **05** 07:09:58.2±1.0, 50°.03N±0°.09×78°.6E±0°.1, h8km, Error ellipse: s-maj=16.8km s-min=8.3km az=138.6*
*IDC **05** 07:09:58.7±1.2, 50°.04N×78°.72E, h0km, mb1 3.1/2, mb1mx3.0/42, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=6.5km az=68.0*

ISC 05 07:09:59.5±1.1, 50°.01N±0°.07×78°.7E±0°.1, h8km, n7, σ1°.95/10, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.63	348	Pg	Pg	07 10 09.8	-1.8
	3.2nm,0.3s,baz=167,slow=18,SNR=165						
KURBB				Lg	Lg	07 10 19.2	
	3.9nm,0.3s,baz=178,slow=32,SNR=36						
MAKZ	Makanchi	3.86	145	⇓Pg	Pb	07 11 09.2	+1.3
	1.7nm,0.5s						
MAKZ				⇑Sn	Sb	07 11 57.0	+2.3
	5.0nm,0.6s						
MK31	Makanchi Array	4.00	142	⇑Pn	Pn	07 11 01.5	+0.5
	0.3nm,0.3s,baz=326,slow=10.0,SNR=21						
MK31				Pg	Pg	07 11 14.8	-1.1
	1.4nm,0.5s,baz=322,slow=14,SNR=6.7						
MK31				⇑Sn	Sg	07 12 04.6	-3.1
	4.9nm,0.5s,baz=326,slow=26,SNR=6.4						
MKAR	Makanchi Array	4.00	142	Pn	Pn	07 11 02.2	+1.2
	0.5nm,0.3s,baz=329,slow=11,SNR=19						
MKAR				Pg	Pb	07 11 09.2	-0.9
	0.7nm,0.3s,baz=323,slow=16,SNR=14						
MKAR				Lg	Lg	07 12 03.3	
	1.9nm,0.3s,baz=336,slow=24,SNR=6.8						
ZALV	Zalesovo Beam	5.45	41	Pn	Pn	07 11 22.5	+1.6
	1.4nm,0.3s,baz=228,slow=15,SNR=6.0						
I46RU	ZALESOVO INFRA	5.45	41	*i*		07 38 40.0	
	baz=224,slow=325,SNR=1.1						
BVAR	Borovoye Array	6.02	303	Sn	Sn	07 12 38.5	+0.6
	1.1nm,0.3s,baz=111,slow=26,SNR=12						

*NEIC **05** 07:14:18.5±0.0, 39°.89S×176°.67E, h27km, ML3.9(WEL), After WEL.*
NEIC Felt in Hawke's Bay.

WEL 05 07:14:18.4±0.1, 39°.89S×176°.67E, h31km±1km, ML3.7/75, 17C-15D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	Kahuranaki	0.19	58	P*	Pb	07 14 24.2	-0.5
KAHZ				S*	Sn	07 14 29.6	+0.3
KAHZ	Kahuranaki	0.19	58	⇓P*	Pb	07 14 24.2	-0.5
KAHZ				S*	Sn	07 14 29.6	+0.3
KAHZ				AML	AML	07 14 32.6	
PXZ	Pawanui	0.20	133	P*	Pb	07 14 24.4	-0.4
PXZ	Pawanui	0.20	133	P*	Pb	07 14 24.7	-0.1
PXZ				*e*S*	Sn	07 14 29.8	+0.2
PXZ				AML	AML	07 14 31.6	
PXZ				AML	AML	07 14 31.7	
PXZ				AML	AML	07 14 31.9	
WPHZ	Waipukurau	0.25	226	P*	Pb	07 14 24.9	-0.4
WPHZ				S*	Sn	07 14 30.6	-0.1
WPHZ	Waipukurau	0.25	226	⇓P*	Pb	07 14 24.9	-0.4
WPHZ				S*	Sn	07 14 30.6	-0.1
WPHZ				AML	AML	07 14 39.8	
KRHZ	Kereru	0.34	317	⇑P*	Pb	07 14 25.3	-1.2
KRHZ				AML	AML	07 14 31.3	
KRHZ				AML	AML	07 14 31.3	
PNHZ	Pukenui	0.36	267	P*	Pb	07 14 26.1	-0.8
PNHZ				S*	Sb	07 14 32.5	-0.1
PNHZ	Pukenui	0.36	267	⇓P*	Pb	07 14 26.1	-0.8
PNHZ				S*	Sb	07 14 32.5	-0.1
PNHZ				AML	AML	07 14 32.7	
PRHZ	Porangahau	0.37	184	P*	Pn	07 14 27.5	-0.2
PRHZ	Porangahau	0.37	184	⇑P*	Pn	07 14 27.5	-0.2
PRHZ				AML	AML	07 14 38.2	
PRHZ				AML	AML	07 14 39.3	
CKHZ	Cape Kidnapper	0.39	53	P*	Pb	07 14 27.5	+0.3
CKHZ	Cape Kidnapper	0.39	53	⇓P*	Pb	07 14 27.5	+0.3
CKHZ				AML	AML	07 14 36.3	
CKHZ				AML	AML	07 14 36.4	
MCHZ	McNeill Hill	0.45	2	P*	Pb	07 14 27.8	-0.3
MCHZ	McNeill Hill	0.45	2	⇑P*	Pb	07 14 27.8	-0.3
MCHZ				AML	AML	07 14 37.2	
MCHZ				AML	AML	07 14 37.5	
KWHZ	Kaweka Forest	0.51	338	⇑P*	Pb	07 14 28.1	-0.9
KWHZ				AML	AML	07 14 38.5	
KWHZ				AML	AML	07 14 40.3	
DVHZ	Dannevirke	0.56	224	P*	Pb	07 14 29.8	-0.1
DVHZ	Dannevirke	0.56	224	⇑P*	Pb	07 14 29.8	-0.1
DVHZ				AML	AML	07 14 40.0	
DVHZ				AML	AML	07 14 40.9	
TSZ	Takapari Road	0.57	253	P*	Pb	07 14 29.3	-0.7
TSZ	Takapari Road	0.57	253	PN	Pb	07 14 29.3	-0.7
TSZ				S*	Sb	07 14 37.8	-0.2
TSZ				AML	AML	07 14 38.7	
ANWZ	Angora Road	0.58	195	PN	Pn	07 14 30.7	+0.1
ANWZ				AML	AML	07 14 44.6	
ANWZ				AML	AML	07 14 44.9	
BHHZ	Black Hill Sta	0.62	311	P*	Pb	07 14 29.8	-1.0
BHHZ	Black Hill Sta	0.62	311	⇑PN	Pb	07 14 29.8	-1.0
BHHZ				AML	AML	07 14 38.7	
BHHZ				AML	AML	07 14 39.0	
ARHZ	Aropaoanui	0.68	22	P*	Pb	07 14 31.8	0.0
ARHZ	Aropaoanui	0.68	22	⇓PN	Pb	07 14 31.8	0.0
ARHZ				AML	AML	07 14 44.0	
ARHZ				AML	AML	07 14 45.0	
BKZ	Black Stump Fm	0.74	349	P*	Pn	07 14 32.0	-0.7
BKZ	Black Stump Fm	0.74	349	⇑PN	Pn	07 14 32.0	-0.7
BKZ				AML	AML	07 14 43.5	
BKZ				AML	AML	07 14 44.4	
NMHZ	Naumai	0.80	8	Pn	Pn	07 14 33.6	0.0
NMHZ	Naumai	0.80	8	⇓PN	Pn	07 14 33.6	0.0
NMHZ				AML	AML	07 14 46.5	
NMHZ				AML	AML	07 14 47.8	
PRWZ	Pori Road	0.85	219	Pn	Pn	07 14 34.3	+0.1
PRWZ	Pori Road	0.85	219	⇓PN	Pn	07 14 34.3	+0.1
PRWZ				AML	AML	07 14 50.7	
PRWZ				AML	AML	07 14 53.6	
BFZ	Birch Farm	0.85	202	Pn	Pn	07 14 33.8	-0.5
BFZ	Birch Farm	0.85	202	PN	Pn	07 14 33.8	-0.5
BFZ				AML	AML	07 14 48.4	
BFZ				AML	AML	07 14 48.4	
BFZ				AML	AML	07 14 55.7	
BFZ				AML	AML	07 14 55.7	
POWZ	Post Office Ro	0.85	234	Pn	Pn	07 14 34.2	0.0
POWZ	Post Office Ro	0.85	234	⇑PN	Pn	07 14 34.2	0.0
POWZ				AML	AML	07 14 49.4	
POWZ				AML	AML	07 14 53.0	
MOVZ	Moawhango	0.86	304	Pn	Pn	07 14 34.0	-0.4
MOVZ	Moawhango	0.86	304	⇑PN	Pn	07 14 34.0	-0.4
MOVZ				AML	AML	07 14 47.0	
MOVZ				AML	AML	07 14 47.5	
WHHZ	Waihua	0.93	28	⇓PN	Pn	07 14 35.0	-0.3
WHHZ				AML	AML	07 14 53.4	
WHHZ				AML	AML	07 14 55.9	
WNVZ	Wahianoa	1.00	304	Pn	Pn	07 14 36.8	+0.3
WNVZ	Wahianoa	1.00	304	⇑PN	Pn	07 14 36.8	+0.3
TUVZ	Tukino	1.00	308	Pn	Pn	07 14 36.9	+0.4
TUVZ	Tukino	1.00	308	⇑PN	Pn	07 14 36.9	+0.4
TUVZ				AML	AML	07 14 53.1	
TUVZ				AML	AML	07 14 54.0	
WHVZ	Whangaehu Hut	1.04	306	Pn	Pn	07 14 37.4	+0.4
WHVZ	Whangaehu Hut	1.04	306	PN	Pn	07 14 37.4	+0.4
WHVZ				AML	AML	07 14 51.9	
WHVZ				AML	AML	07 14 52.1	
TRVZ	Turoa	1.05	304	Pn	Pn	07 14 37.6	+0.4
TRVZ	Turoa	1.05	304	PN	Pn	07 14 37.6	+0.4
TRVZ				AML	AML	07 14 53.4	
TRVZ				AML	AML	07 14 54.3	
DRZ	Dome Shelter	1.06	305	Pn	Pb	07 14 37.9	-0.5
DRZ	Dome Shelter	1.06	305	⇓PN	Pb	07 14 37.8	-0.5
DRZ				AML	AML	07 14 54.6	
DRZ				AML	AML	07 14 57.0	
MTVZ	Mangateitei	1.06	298	Pn	Pb	07 14 37.9	-0.3
MTVZ	Mangateitei	1.06	298	⇑PN	Pb	07 14 37.8	-0.4
MTVZ				AML	AML	07 14 56.4	
MTVZ				AML	AML	07 14 58.4	
TIWZ	Tintock	1.07	214	Pn	Pn	07 14 36.9	-0.3
TIWZ	Tintock	1.07	214	PN	Pn	07 14 36.9	-0.3
TIWZ				AML	AML	07 15 01.0	
TIWZ				AML	AML	07 15 06.4	
OTVZ	Oturere	1.07	313	Pn	Pn	07 14 37.9	+0.5
OTVZ	Oturere	1.07	313	⇑PN	Pn	07 14 37.9	+0.5
OTVZ				AML	AML	07 14 53.7	
OTVZ				AML	AML	07 15 02.5	
FWVZ	Far West T-bar	1.07	306	Pn	Pn	07 14 37.7	+0.2
FWVZ	Far West T-bar	1.07	306	PN	Pn	07 14 37.7	+0.2
FWVZ				AML	AML	07 14 53.5	
FWVZ				AML	AML	07 14 55.7	
CPWZ	Castlepoint	1.08	199	Pn	Pn	07 14 37.4	+0.1
CPWZ	Castlepoint	1.08	199	PN	Pn	07 14 37.4	+0.1
CPWZ				AML	AML	07 14 53.9	
CPWZ				AML	AML	07 14 56.5	
MRHZ	Matea Rd	1.08	349	⇑PN	Pn	07 14 37.4	0.0
MRHZ				AML	AML	07 14 52.6	
MRHZ				AML	AML	07 14 54.9	
OHWZ	Ohakea	1.09	253	PN	Pb	07 14 38.8	+0.1
NGZ	Ngauruhoe	1.09	311	Pn	Pb	07 14 38.4	-0.5
NGZ	Ngauruhoe	1.09	311	PN	Pb	07 14 38.4	-0.5
NGZ				AML	AML	07 14 56.4	
NGZ				AML	AML	07 14 58.2	
HATZ	Hinemaiaia	1.10	336	Pn	Pn	07 14 37.9	+0.2
HATZ	Hinemaiaia	1.10	336	PN	Pn	07 14 37.9	+0.2
HATZ				AML	AML	07 14 53.5	
HATZ				AML	AML	07 14 53.8	
RITZ	Rihia Road	1.11	325	Pn	Pb	07 14 38.6	-0.4
RITZ	Rihia Road	1.11	325

TMWZ				AML	AML	07 14 58.7	
TMWZ				AML	AML	07 14 59.0	
ALRZ	**Allen Road**	**1.35**	**349**	Pn	Pn	07 14 41.4	+0.2
ALRZ	**Allen Road**	**1.35**	**349**	PN	Pn	07 14 41.3	+0.2
ALRZ				AML	AML	07 15 02.7	
ALRZ				AML	AML	07 15 02.9	
PRRZ	**Plateau Road**	**1.41**	**351**	Pn	Pn	07 14 41.8	-0.1
PRRZ	**Plateau Road**	**1.41**	**351**	PN	Pn	07 14 41.8	-0.1
PRRZ				AML	AML	07 15 07.2	
PRRZ				AML	AML	07 15 09.5	
MUGZ	**Murupara**	**1.42**	**3**	PN	Pn	07 14 41.5	-0.5
RIGZ	**Rimuhau**	**1.46**	**36**	PN	Pn	07 14 41.6	-1.0
RIGZ				AML	AML	07 15 01.7	
RIGZ				AML	AML	07 15 22.2	
RAGZ	**Rawiri**	**1.51**	**23**	Pn	Pn	07 14 42.5	-0.9
RAGZ	**Rawiri**	**1.51**	**23**	PN	Pn	07 14 42.5	-0.9
RAGZ				AML	AML	07 15 10.3	
RAGZ				AML	AML	07 15 10.4	
HRRZ	**Handcock Road**	**1.53**	**349**	Pn	Pn	07 14 44.0	+0.4
HRRZ	**Handcock Road**	**1.53**	**349**	AML	AML	07 15 12.1	
HRRZ				AML	AML	07 15 13.7	
MTW	**Mount Morrison**	**1.55**	**215**	Pn	Pn	07 14 42.3	-1.5
MTW	**Mount Morrison**	**1.55**	**215**	PN	Pn	07 14 42.3	-1.5
MTW				AML	AML	07 15 02.8	
MTW				AML	AML	07 15 03.6	
KUTZ	**Kaahu Road**	**1.55**	**335**	Pn	Pn	07 14 44.0	+0.1
KUTZ	**Kaahu Road**	**1.55**	**335**	*e*PN	Pn	07 14 44.0	+0.1
RRRZ	**Republican Roa**	**1.56**	**355**	Pn	Pn	07 14 43.8	-0.2
RRRZ	**Republican Roa**	**1.56**	**355**	PN	Pn	07 14 43.5	-0.4
RRRZ				AML	AML	07 15 15.4	
RRRZ				AML	AML	07 15 18.4	
KIW	**Kapiti Island**	**1.66**	**234**	Pn	Pn	07 14 44.9	-0.5
KIW	**Kapiti Island**	**1.66**	**234**	PN	Pn	07 14 44.9	-0.5
KIW				AML	AML	07 15 06.0	
KIW				AML	AML	07 15 06.5	
TARZ	**Mount Tarawera**	**1.66**	**355**	Pn	Pn	07 14 45.3	-0.2
TARZ	**Mount Tarawera**	**1.66**	**355**	PN	Pn	07 14 45.3	-0.2
TARZ				AML	AML	07 15 10.3	
TARZ				AML	AML	07 15 17.6	
URZ	**Urewera**	**1.67**	**12**	Pn	Pn	07 14 44.4	-1.0
URZ	**Urewera**	**1.67**	**12**	⇓PN	Pn	07 14 44.4	-1.1
URZ				AML	AML	07 15 06.7	
URZ				AML	AML	07 15 14.9	
VRZ	**Vera Road**	**1.67**	**297**	Pn	Pn	07 14 46.1	+0.6
VRZ	**Vera Road**	**1.67**	**297**	PN	Pn	07 14 46.1	+0.6
VRZ				AML	AML	07 15 14.6	
VRZ				AML	AML	07 15 15.4	
TRWZ	**Traveller**	**1.68**	**206**	Pn	Pn	07 14 44.2	-1.4
TRWZ	**Traveller**	**1.68**	**206**	PN	Pn	07 14 44.2	-1.4
TRWZ				AML	AML	07 15 06.8	
TRWZ				AML	AML	07 15 21.9	
MWZ	**Matawai**	**1.69**	**23**	Pn	Pn	07 14 44.6	-1.2
MWZ	**Matawai**	**1.69**	**23**	⇓PN	Pn	07 14 44.6	-1.2
MWZ				AML	AML	07 15 26.2	
MWZ				AML	AML	07 15 27.9	
CAW	**Cannon Point**	**1.72**	**225**	Pn	Pn	07 14 44.9	-1.4
CAW	**Cannon Point**	**1.72**	**225**	PN	Pn	07 14 44.8	-1.4
CAW				AML	AML	07 15 24.6	
CAW				AML	AML	07 15 26.8	
PAWZ	**Paruwai Farm**	**1.76**	**212**	Pn	Pn	07 14 45.2	-1.6
PAWZ	**Paruwai Farm**	**1.76**	**212**	PN	Pn	07 14 45.2	-1.6
PAWZ				AML	AML	07 15 23.0	
PAWZ				AML	AML	07 15 34.5	
TLZ	**Tolley Road**	**1.79**	**330**	Pn	Pn	07 14 47.2	0.0
TLZ	**Tolley Road**	**1.79**	**330**	PN	Pn	07 14 47.2	0.0
TLZ				AML	AML	07 14 58.9	
TLZ				AML	AML	07 15 07.9	
LREZ	**Lake Rotokare**	**1.80**	**283**	PN	Pn	07 14 49.4	-1.3
LREZ				AML	AML	07 15 18.8	
LREZ				AML	AML	07 15 25.0	
CNGZ	**Carnagh Statio**	**1.85**	**41**	Pn	Pn	07 14 46.8	-1.2
CNGZ	**Carnagh Statio**	**1.85**	**41**	PN	Pn	07 14 46.7	-1.2
MSWZ	**Moikau Station**	**1.87**	**215**	Pn	Pn	07 14 46.2	-2.0
MSWZ	**Moikau Station**	**1.87**	**215**	PN	Pn	07 14 46.2	-2.0
MSWZ				AML	AML	07 15 09.9	
MSWZ				AML	AML	07 15 27.1	
HIZ	**Hauiti**	**1.97**	**314**	Pn	Pn	07 14 51.0	+1.3
HIZ	**Hauiti**	**1.97**	**314**	⇑PN	Pn	07 14 51.0	+1.3
HIZ				AML	AML	07 15 32.4	
HIZ				AML	AML	07 16 38.0	
PLWZ	**Palliser**	**1.99**	**212**	Pn	Pn	07 14 48.1	-1.8
PLWZ	**Palliser**	**1.99**	**212**	PN	Pn	07 14 48.1	-1.8
PLWZ				AML	AML	07 15 13.6	
MHEZ	**Mangahewa**	**1.99**	**293**	Pn	Pb	07 14 53.0	-1.0
TWGZ	**Tauwhareparae**	**2.00**	**31**	PN	Pn	07 14 48.9	-1.1
TWGZ				AML	AML	07 15 16.1	
TWGZ				AML	AML	07 15 16.2	
PREZ	**Palmer Road**	**2.02**	**285**	Pn	Pb	07 14 52.5	-1.9
PREZ	**Palmer Road**	**2.02**	**285**	PN	Pb	07 14 52.5	-1.9
PREZ				AML	AML	07 15 25.2	
PREZ				AML	AML	07 15 27.0	
DREZ	**Durham Road**	**2.04**	**289**	Pn	Pn	07 14 52.4	+1.8
DREZ	**Durham Road**	**2.04**	**289**	PN	Pn	07 14 52.4	+1.8
RUGZ	**Raukumara Rang**	**2.08**	**22**	PN	Pn	07 14 50.1	-1.2
NEZ	**North Egmont**	**2.09**	**287**	Pn	Pb	07 14 54.1	-1.5
NEZ	**North Egmont**	**2.09**	**287**	PN	Pb	07 14 54.1	-1.5
KHEZ	**Kahui Hut**	**2.14**	**285**	*e*Pn	Pb	07 14 54.9	-1.6
KHEZ	**Kahui Hut**	**2.14**	**285**	*e*PN	Pb	07 14 54.9	-1.6
PUZ	**Puketiti**	**2.20**	**35**	Pn	Pn	07 14 50.9	-1.9
PUZ	**Puketiti**	**2.20**	**35**	PN	Pn	07 14 50.9	-1.9
PKGZ	**Pakihiroa**	**2.28**	**29**	AML	AML	07 15 22.3	
PKGZ				AML	AML	07 15 23.1	
DUWZ	**D'Urville Isla**	**2.29**	**246**	Pn	Pn	07 14 54.7	+0.6
DUWZ	**D'Urville Isla**	**2.29**	**246**	AML	AML	07 15 40.5	
DUWZ				AML	AML	07 16 06.4	
HAZ	**Te Kaha**	**2.30**	**22**	PN	Pn	07 14 52.4	-1.8
HAZ				AML	AML	07 15 28.5	
HAZ				AML	AML	07 15 47.9	
TOZ	**Tahuroa Road**	**2.34**	**337**	Pn	Pn	07 14 54.5	-0.2
TOZ	**Tahuroa Road**	**2.34**	**337**	PN	Pn	07 14 54.5	-0.2
WMGZ	**Waiomatatini S**	**2.48**	**34**	Pn	Pn	07 14 54.7	-1.9
WMGZ	**Waiomatatini S**	**2.48**	**34**	PN	Pn	07 14 54.7	-1.9
WMGZ				AML	AML	07 15 25.8	
WMGZ				AML	AML	07 15 26.1	
TUWZ	**Tuamarina**	**2.58**	**233**	Pn	Pn	07 14 57.3	-0.7
QRZ	**Quartz Range**	**3.30**	**252**	Pn	Pn	07 15 06.4	-1.5
QRZ	**Quartz Range**	**3.30**	**252**	PN	Pn	07 15 06.4	-1.5
QRZ				AML	AML	07 16 01.1	
QRZ				AML	AML	07 16 05.1	
THZ	**Tophouse**	**3.41**	**236**	AML	AML	07 15 44.1	
THZ				AML	AML	07 16 4.6	
MQZ	**McQueen's Vall**	**4.85**	**217**	Pn	Pn	07 15 26.6	-2.6
MQZ	**McQueen's Vall**	**4.85**	**217**	PN	Pn	07 15 26.6	-2.6

*CSEM **05** 07:23:02.6±0.2, 42°.19N×26°.23E, h2km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.4km az=13.0*
*THE **05** 07:23:04.5, 42°.07N×26°.29E, h0km±2km, ML2.6/4, Error ellipse: s-maj=2.9km s-min=1.2km az=40.0*
*ISK **05** 07:23:08.3, 41°.79N×26°.54E, h9km, MD2.8, ML2.5*
ISC 05 07:23:06.9±1.3,**41°.88N**±0°.04×**26°.37E**±0°.03,**h2km**±11km,
n65,σ1§**14**/74,**5C-2D**,**Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRB	**Edirne**	**0.28**	**97**	*e*PG	**Pg**	**07 23 12.3**	**+0.1**
EDRB	**Edirne**	**0.28**	**97**	P	**Pg**	**07 23 12.3**	**+0.1**
EDRB	**Edirne**	**0.28**	**97**	*e*Pg	**Pg**	**07 23 12.4**	**+0.1**
PHSR	**Pinarhisar**	**0.90**	**106**	*e*PG	**Pg**	**07 23 23.2**	**-0.9**
PHSR				*e*SG	**Sg**	**07 23 34.3**	**-1.5**
PHSR	**Pinarhisar**	**0.90**	**106**	*e*Pg	**Pg**	**07 23 23.2**	**-0.9**
PHSR				*e*Sg	**Sg**	**07 23 34.3**	**-1.5**
RDO	**Rodhopi**	**0.97**	**221**	P	**Pg**	**07 23 24.9**	**-0.5**
RDO				S	**Sn**	**07 23 40.5**	**-1.2**
RDO	**Rodhopi**	**0.97**	**221**	P	**Pg**	**07 23 24.9**	**-0.5**
RDO				S	**Sn**	**07 23 40.5**	**-1.2**
ALN	**Alexandroupoli**	**1.02**	**194**	*e*PG	**Pb**	**07 23 27.1**	**-0.1**
ALN	**Alexandroupoli**	**1.02**	**194**	P	**Pb**	**07 23 27.0**	**-0.1**
ALN				S	**Sn**	**07 23 44.5**	**+1.6**
ALN	**Alexandroupoli**	**1.02**	**194**	*e*Pg	**Pb**	**07 23 27.1**	**-0.1**
ALN				S	**Sn**	**07 23 44.5**	**+1.6**
KESN	**Edirne-Kesan**	**1.08**	**167**	*i* P	**Pn**	**07 23 29.4**	**+0.1**
KESN				*i* S	**Sn**	**07 23 47.2**	**+2.1**
KESN	**Edirne-Kesan**	**1.08**	**167**	P	**Pn**	**07 23 29.5**	**+0.1**
KESN				S	**Sn**	**07 23 47.2**	**+2.1**
ENEZ	**Enez**	**1.16**	**188**	*e*PN	**Pg**	**07 23 29.5**	**+0.4**
ENEZ	**Enez**	**1.16**	**188**	*e*Pn	**Pg**	**07 23 29.5**	**+0.4**
ERIK	**Erikli-Kesan**	**1.22**	**175**	*e*PN	**Pb**	**07 23 30.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.22**	**175**	*e*Pn	**Pb**	**07 23 30.2**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.49**	**105**	*e*PN	**Pn**	**07 23 33.1**	**-1.6**
CTYL	**Yalikoy Yolu**	**1.49**	**105**	*e*Pn	**Pn**	**07 23 33.1**	**-1.6**
SLVT	**Silivri**	**1.53**	**115**	*e*PN	**Pn**	**07 23 34.3**	**-0.9**
SLVT	**Silivri**	**1.53**	**115**	*e*Pn	**Pn**	**07 23 34.3**	**-0.9**
LPK	**Lapseki**	**1.54**	**169**	*e*PN	**Pn**	**07 23 35.0**	**-0.3**
LPK	**Lapseki**	**1.54**	**169**	*e*Pn	**Pn**	**07 23 35.0**	**-0.3**
SMTH	**Samothraki Isl**	**1.55**	**204**	P	**Pn**	**07 23 35.1**	**-0.4**
SMTH				S	**Sg**	**07 23 58.3**	**+1.7**
SMTH	**Samothraki Isl**	**1.55**	**204**	P	**Pn**	**07 23 35.1**	**-0.4**
SMTH				S	**Sg**	**07 23 58.3**	**+1.7**
SBT3	**Marmara-Eregli**	**1.57**	**129**	*e*PN	**Pn**	**07 23 35.1**	**-0.4**
SBT3	**Marmara-Eregli**	**1.57**	**129**	*e*Pn	**Pn**	**07 23 35.1**	**-0.4**
MRMT	**Marmara Adasi**	**1.58**	**144**	*e*PN	**Pn**	**07 23 34.8**	**-1.1**
MRMT	**Marmara Adasi**	**1.58**	**144**	*e*Pn	**Pn**	**07 23 34.8**	**-1.1**
KRBG	**Karabiga-Canak**	**1.65**	**155**	*e*PN	**Pn**	**07 23 36.2**	**-0.5**
KRBG	**Karabiga-Canak**	**1.65**	**155**	*e*Pn	**Pn**	**07 23 36.3**	**-0.5**
KAVA	**Kavala**	**1.65**	**238**	P	**Pn**	**07 23 34.2**	**-2.7**
KAVA				S	**Sn**	**07 23 58.3**	**-0.4**
KAVA	**Kavala**	**1.65**	**238**	P	**Pn**	**07 23 34.2**	**-2.7**
KAVA				S	**Sn**	**07 23 58.3**	**-0.4**
ELBA	**Catalca**	**1.71**	**115**	*i* P	**Pn**	**07 23 36.4**	**-1.3**
ELBA				*i* S	**Sg**	**07 24 03.9**	**+2.0**
ELBA	**Catalca**	**1.71**	**115**	P	**Pn**	**07 23 36.4**	**-1.3**
ELBA				S	**Sg**	**07 24 03.9**	**+2.0**
CTKS	**Kestanelik-??a**	**1.73**	**111**	*e*PN	**Pn**	**07 23 37.0**	**-0.9**
CTKS	**Kestanelik-??a**	**1.73**	**111**	*e*Pn	**Pn**	**07 23 37.0**	**-0.9**
GADA	**Gvkgeada**	**1.73**	**192**	*e*PN	**Pb**	**07 23 38.5**	**-0.8**
GADA	**Gvkgeada**	**1.73**	**192**	*e*Pn	**Pb**	**07 23 38.5**	**-0.8**
SBT2	**Guzelce-Avcila**	**1.90**	**121**	*e*PN	**Pn**	**07 23 39.6**	**-0.6**
SBT2	**Guzelce-Avcila**	**1.90**	**121**	*e*Pn	**Pn**	**07 23 39.6**	**-0.6**
KLYT	**Kilyos**	**2.10**	**107**	*e*PN	**Pn**	**07 23 42.6**	**-0.4**
KLYT	**Kilyos**	**2.10**	**107**	*e*Pn	**Pn**	**07 23 42.7**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**2.15**	**176**	*i* P	**Pn**	**07 23 43.0**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**2.15**	**176**	P	**Pn**	**07 23 43.0**	**-0.6**
ISK	**Istanbul-Kandi**	**2.18**	**111**	*e*PN	**Pn**	**07 23 43.6**	**-0.5**
ISK	**Istanbul-Kandi**	**2.18**	**111**	*e*Pn	**Pn**	**07 23 43.6**	**-0.5**
KAVV	**Kandilli-Istan**	**2.18**	**111**	*e*PN	**Pn**	**07 23 43.5**	**-0.6**
KAVV	**Kandilli-Istan**	**2.18**	**111**	*e*Pn	**Pn**	**07 23 43.5**	**-0.6**
SBT5	**Esenkoy-Cinarc**	**2.27**	**123**	*e*PN	**Pn**	**07 23 44.7**	**-0.6**
SBT5	**Esenkoy-Cinarc**	**2.27**	**123**	*e*Pn	**Pn**	**07 23 44.7**	**-0.6**
ARMT	**Armutlu**	**2.29**	**124**	*e*PN	**Pn**	**07 23 44.8**	**-0.9**
ARMT	**Armutlu**	**2.29**	**124**	*e*Pn	**Pn**	**07 23 44.8**	**-0.9**
BUY	**Buyukada**	**2.31**	**116**	*e*PN	**Pn**	**07 23 45.7**	**-0.2**
BUY	**Buyukada**	**2.31**	**116**	*i* P	Pn	07 23 36.7	-9.2
BUY	**Buyukada**	**2.31**	**116**	*e*Pn	**Pn**	**07 23 45.7**	**-0.2**
VTS	**Vitosha**	**2.45**	**288**	⇑*i*P	Pn	07 23 41.1	-6.9
TLB	**Topalu**	**2.96**	**24**	⇑*i*P	**Pn**	**07 23 52.8**	**-2.1**
TIRR	**Tirgusor**	**2.98**	**29**	⇑*i*P	**Pn**	**07 23 53.9**	**-1.2**
BARS	**Barje**	**3.50**	**287**	*e*Pn	Pn	07 23 55.2	-7.1
MLR	**Muntele Rosu**	**3.62**	**355**	⇑*i*P	**Pn**	**07 24 06.3**	**+2.2**
VOIR	**Voir**	**3.68**	**345**	⇑*i*P	**Pn**	**07 24 05.9**	**+1.1**
ARR	**Arges**	**3.70**	**341**	⇓*i*P	**Pn**	**07 24 05.8**	**+0.6**
BOVS	**Bovan**	**3.85**	**299**	*e*Pn	Pn	07 23 59.4	-7.8
VRI	**Vrincioaia**	**3.99**	**4**	⇓*i*P	**Pn**	**07 24 10.9**	**+1.9**
GRUS	**Gruza**	**4.61**	**298**	*e*Pn	Pn	07 24 09.6	-8.0

*ISCJB **05** 07:34:46.5±0.3, 5°.41N±0°.02×126°.75E±0°.04, h101km±3km, mb4.5/49, Error ellipse: s-maj=6.5km s-min=3.1km az=163.4*
*IDC **05** 07:34:46.7±1.8, 5°.44N×126°.65E, h90km±15km, mb4.1/25, mb1 4.2/25, mb1mx4.0/49, mbtmp4.4/25, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=21.0km s-min=8.3km az=71.0*
*MAN **05** 07:34:46, 5°.45N×126°.78E, h88km, mb5.3, ML4.2, MS4.5*
*BJI **05** 07:34:47.9, 5°.37N×126°.80E, h112km, mb4.5/22, mB5.0/13*
*NEIC **05** 07:34:49.5±0.7, 5°.42N×126°.70E, h117km±6km, mb4.8/22, Error ellipse: s-maj=8.2km s-min=3.9km az=70.0*
*DJA **05** 07:34:50.6±0.5, 5°N±3°×12°7E±°, h95km±4km, M5.0/21, mb5.0/21, mB5.4/12, MLv5.3/4, Mw(mB)4.8/12*
ISC 05 07:34:48.3±0.7,**5°.38N**±0°.04×**126°.71E**±0°.05,**h102**km±6km,
n144,σ1§**91**/166,**mb4.5**/49,**3C-2D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.62**	**344**	*e*P	**Pn**	**07 35 13.6**	**-2.6**
MATI				*e*S	**Sn**	**07 35 34.4**	**-2.9**
GSPH	**General Santos**	**1.89**	**292**	⇓*i*P	**Pn**	**07 35 16.0**	**-3.6**
GSPH				*i* S	**Sn**	**07 35 39.7**	**-3.8**
DAV	**Davao City (W)**	**2.02**	**326**	*e*Pn	**Pn**	**07 35 22.4**	**+1.2**
DAV				*e*Sn	**Sn**	**07 35 46.5**	**+0.2**
SGSI	**Sangihe**	**2.05**	**215**	P	**Pn**	**07 35 21.3**	**-0.4**
KCP	**Kidapawan**	**2.28**	**315**	⇑*i*P	**Pn**	**07 35 22.6**	**-2.0**
KCP				*i* S	**Sn**	**07 35 49.9**	**-2.7**
BIPH	**Bislig**	**2.81**	**353**	⇓*i*P	**Pn**	**07 35 29.5**	**-2.0**
BIPH				*i* S	**Sn**	**07 36 02.6**	**-2.2**
BUKP	**Musuan**	**2.97**	**327**	*e*P	**Pn**	**07 35 33.3**	**-0.5**
BUKP				*e*S	**Sn**	**07 36 08.7**	**-0.1**
CTBH	**Cotabato--PC H**	**3.06**	**307**	⇑*e*P	**Pn**	**07 35 33.2**	**-1.6**
CTBH				*i* S	**Sn**	**07 36 05.2**	**-5.5**
PAGZ	**Pagadian**	**4.12**	**307**	*e*P	**Pn**	**07 35 47.0**	**-2.1**
PAGZ				*e*S	Sn	07 36 48.7	+13
SCPH	**Surigao**	**4.54**	**345**	⇑*e*P	**Pn**	**07 35 55.6**	**+0.8**
OCLP	**Ormoc**	**6.00**	**340**	*e*P	**Pn**	**07 36 14.8**	**+0.1**
LBMI	**Labuha**	**6.03**	**172**	P	**Pn**	**07 36 15.2**	**+0.2**
LBMI	370nm,0.7s,5μm1.7nm			S	**Sn**	**07 37 22.4**	**-0.3**
	370nm,0.7s,5μm1.7nm						
BESP	**Borongan**	**6.31**	**349**	*e*P	**Pn**	**07 36 19.2**	**+0.5**
BESP				*e*S	Sn	07 37 40.7	+11
MRSI	**Marisa**	**6.81**	**224**	P	**Pn**	**07 36 26.1**	**+0.5**
SANI	**Sanana**	**7.42**	**186**	P	**Pn**	**07 36 30.1**	**-3.8**
SANI	118nm,0.6s,5μm0.9nm			S	Sn	07 37 46.3	-10
	118nm,0.6s,5μm0.9nm						
SIJI	**Sorong**	**7.70**	**144**	P	**Pn**	**07 36 37.9**	**+0.2**
SIJI	162nm,0.3s,baz=336,slow=14,SNR=14			S	**Sn**	**07 38 02.8**	**-0.6**
	61nm,0.3s,baz=182,slow=22,SNR=6.7						
APSI	**Ampana**	**8.04**	**219**	P	**Pn**	**07 36 45.8**	**+3.5**
MYLDM	**Lahad Datu**	**8.18**	**269**	*e*Pn	**Pn**	**07 36 45.2**	**+1.0**
MYLDM				*e*Sn	**Sn**	**07 38 15.8**	**+0.8**
MPSI	**Mapaga**	**8.45**	**234**	P	Pn	07 36 52.7	+4.8
NLAI	**Namlea**	**8.57**	**177**	P	**Pn**	**07 36 48.0**	**-1.6**
NLAI				S	**Sn**	**07 38 17.3**	**-7.3**
MSAI	**Masohi**	**8.95**	**166**	P	Pn	07 36 58.1	+3.4
MSAI				S	**Sn**	**07 38 32.8**	**-1.0**
AAI	**Ambon**	**9.13**	**171**	P	Pn	07 37 07.3	+10
AAI				S	**Sn**	**07 38 30.5**	**-7.7**
FAKI	**Fak Fak**	**9.93**	**146**	P	**Pn**	**07 37 09.9**	**+1.8**
FAKI	**Fak Fak**	**9.93**	**146**	*e*Pn	**Pn**	**07 37 08.7**	**+0.6**
KDI	**Kendari**	**10.14**	**204**	P	**Pn**	**07 37 09.3**	**-1.6**
	77nm,0.4s,1μm						
TTSI	**Tana Toraja**	**10.84**	**220**	P	**Pn**	**07 37 21.6**	**+1.2**
	113nm,1.4s,4μm						
SPSI	**Sidrap Palu**	**11.59**	**217**	P	**Pn**	**07 37 31.6**	**+1.1**
	56nm,0.6s						
BSSI	**Bau Bau, Buton**	**13.02**	**209**	P	**P**	**07 37 59.3**	**+3.3**
SBUM	**Sibu**	**14.74**	**259**	*e*Pn	**Pn**	**07 38 12.5**	**+0.7**
BBKI	**Banjar Baru**	**14.76**	**234**	P	**P**	**07 38 17.6**	**+2.4**
	49nm,0.6s						
SOEI	**Soe**	**15.23**	**189**	P	**P**	**07 38 24.9**	**+4.3**
SOEI	**Soe**	**15.23**	**189**	*e*Pn	**P**	**07 38 19.9**	**-0.8**
	74nm,0.7s						
STKI	**Sintang**	**16.10**	**251**	P	**P**	**07 38 32.1**	**+1.9**
PLAI	**Plampang**	**16.69**	**212**	P	**P**	**07 38 39.5**	**+2.8**
	167nm,1.0s,2μm						
KSM	**Kuching**	**16.82**	**257**	*e*Pn	**P**	**07 38 39.0**	**+0.9**
	46nm,0.6s						
TWSI	**Taliwang, Sumb**	**17.11**	**215**	P	**P**	**07 38 42.7**	**+1.4**
	74nm,0.9s,2μm						
JAGI	**Jajag, Banyuwa**	**18.60**	**222**	*e*P	**Pn**	**07 38 58.4**	**-0.9**
	35nm,0.6s						
MTN	**Manton Dam**	**18.63**	**166**	P	**P**	**07 38 57.4**	**-0.6**
	baz=18,SNR=27						
MTN	**Manton Dam**	**18.63**	**166**	*e*P	**P**	**07 38 57.8**	**-0.2**
	35nm,0.7s						
KDU	**Kakadu**	**18.84**	**162**	P	**Pn**	**07 39 02.1**	**+0.1**
	baz=19,SNR=9.7						
GUMO	**Guam**	**19.67**	**64**	LR	LR	07 45 12.7	
	comp=Z,35nm,20.1s,baz=248,slow=32						
NGJI	**Ngawi**	**19.80**	**230**	P	**Pn**	**07 39 18.2**	**+5.0**
KNRA	**Kununurra**	**21.02**	**174**	P	**P**	**07 39 24.4**	**+0.6**
	baz=21,SNR=19						
QIZ	**Qiongzhong**	**21.32**	**311**	P	**P**	**07 39 27.9**	**+0.8**
QIZ				S	**S**	**07 43 19.9**	**+1.7**
QIZ				LR	LR		
	comp=N,1μm,3.4s						
QIZ				LR	LR		
	comp=E,810nm,2.8s						
FITZ	**Fitzroy Crossi**	**23.36**	**183**	P	**P**	**07 39 48.3**	**+0.5**
	9.6nm,0.5s,baz=11,slow=8.2,SNR=86						
PMG	**Port Moresby**	**25.12**	**126**	LR	LR	07 49 30.1	
	comp=Z,52nm,19.6s,baz=152,slow=35						
COEN	**Coen**	**25.22**	**140**	P	**P**	**07 40 04.8**	**0.0**
	baz=25,SNR=14						
WRAB	**Tennant Creek**	**26.25**	**164**	*e*P	**P**	**07 40 15.7**	**+1.6**
	52nm,1.2s						
WR1	**Warramunga Arr**	**26.26**	**164**	*e*P	**P**	**07 40 13.9**	**-0.2**
	31nm,0.8s						
WR1				*e*PcP	**PcP**	**07 43 40.1**	**+1.8**
WRA	**Warramunga Arr**	**26.26**	**164**	P	**P**	**07 40 13.9**	**-0.2**
	12nm,0.5s,baz=345,slow=10,SNR=43						
WRA				PcP	**PcP**	**07 43 40.1**	**+1.8**
	1.6nm,0.7s,baz=344,slow=2.7,SNR=3.9						
WRA				ScP	**ScP**	**07 47 10.2**	**+1.2**
	2.6nm,0.8s,baz=340,slow=3.5,SNR=4.8						
WB2	**Warramunga Arr**	**26.26**	**164**	*e*P	**P**	**07 40 14.0**	**-0.2**
	34nm,0.9s						
WB2				*e*P	**P**	**07 40 14.2**	**0.0**
MBWA	**Marble Bar**	**27.25**	**194**	*e*P	**P**	**07 40 22.7**	**-0.2**
	25nm,0.6s						
NJ2	**Nanjing**	**27.53**	**345**	*e*P	**P**	**07 40 26.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,22nm,1.1s						
GYA	**Guiyang**	**28.39**	**320**	*e*P	**P**	**07 40 35.0**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
QIS	**Mount Isa**	**28.72**	**154**	P	**P**	**07 40 36.6**	**+0.5**
	baz=29,SNR=42						
MTSU	**Mount Surprise**	**29.12**	**144**	P	**P**	**07 40 40.6**	**+1.0**
	baz=29,SNR=6.3						
AS31	**Alice Springs**	**29.71**	**167**	*e*P	**P**	**07 40 44.9**	**0.0**
	3.2nm,0.5s						
ASAR	**Alice Springs**	**29.71**	**167**	P	**P**	**07 40 44.9**	**0.0**
	7.6nm,0.7s,baz=343,slow=6.6,SNR=120						
ASAR				PcP	**PcP**	**07 43 47.0**	**+0.3**
	2.5nm,0.5s,baz=353,slow=2.6,SNR=7.0						
ASAR				ScP	**ScP**	**07 47 20.6**	**+0.9**
	1.4nm,0.8s,baz=342,slow=3.4,SNR=6.6						
AS01	**Alice Springs**	**29.72**	**167**	*e*P	**P**	**07 40 44.7**	**-0.2**
CMMT	**Chiang Mai**	**30.18**	**299**	P	**P**	**07 40 53.3**	**+4.2**
	14nm,0.8s						
KMI	**Kunming**	**30.23**	**313**	P	**P**	**07 40 52.7**	**+3.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
WRKA	**Warakurna**	**30.27**	**177**	P	**P**	**07 40 50.1**	**+0.3**
	baz=30,SNR=11						
GIRL	**Giralia**	**30.41**	**203**	P	**P**	**07 40 51.2**	**+0.2**
	baz=30,SNR=3.6						
CTA	**Charters Tower**	**31.78**	**143**	P	**P**	**07 41 03.0**	**-0.1**
	7.9nm,0.8s,baz=312,slow=8.2,SNR=7.2						
KS15	**Wonju Array Si**	**31.93**	**2**	*e*P	**P**	**07 41 04.6**	**+0.4**
KSAR	**Wonju Array Be**	**31.93**	**2**	P	**P**	**07 41 04.6**	**+0.4**
KSRS	**Korea Array**	**31.94**	**2**	P	**P**	**07 41 04.6**	**+0.3**

KSH				pmax	pmax		
	comp=Z,110nm,5.0s						
KSH				LR	LR		
	comp=N,180nm,7.4s						
KSH				LR	LR		
	comp=E,150nm,5.0s						
KSH				LR	LR		
	comp=Z,140nm,6.5s						
ZAA0	**Zalesovo Array**	**59.12**	**333**	*e*P	**P**	**07 44 37.0**	**-0.9**
ZALV	**Zalesovo Beam**	**59.12**	**333**	P	**P**	**07 44 36.5**	**-1.4**
	0.9nm,0.3s,baz=165,slow=6.9,SNR=3.2						
ZAA1	**Zalesovo Array**	**59.12**	**333**	*e*P	**P**	**07 44 36.5**	**-1.4**
KURK	**Kurchatov**	**60.35**	**327**	*e*P	**P**	**07 44 45.6**	**-0.8**
	4.3nm,0.7s						
KKAR	**Karatay Array**	**62.02**	**316**	*e*P	**P**	**07 44 58.0**	**0.0**
	21nm,0.5s						
RPZ	**Rata Peaks**	**63.12**	**145**	P	**P**	**07 45 06.0**	**+0.8**
	15nm,0.9s,baz=124,slow=5.6,SNR=4.8						
RPZ	**Rata Peaks**	**63.12**	**145**	*e*P	**P**	**07 45 06.0**	**+0.8**
BVAR	**Borovoye Array**	**65.94**	**327**	P	**P**	**07 45 23.9**	**+0.5**
	3.8nm,0.7s,baz=108,slow=9.5,SNR=15						
BRVK	**Borovoye**	**66.01**	**327**	*e*P	**P**	**07 45 23.8**	**0.0**
	7.1nm,1.0s						
GEYT	**Alibeck**	**69.86**	**308**	P	**P**	**07 45 47.5**	**-0.8**
	1.2nm,0.4s,baz=208,slow=2.8,SNR=2.7						
ABKAR	**Akbulak array**	**70.87**	**320**	*e*P	**P**	**07 45 52.6**	**-1.6**
	21nm,0.9s						
AKTO	**Aktyubinsk**	**72.36**	**321**	P	**P**	**07 46 01.9**	**-1.2**
	1.3nm,0.4s,baz=115,slow=12,SNR=5.8						
ARU	**Arti**	**73.54**	**327**	P	**P**	**07 46 07.4**	**-2.5**
ARU	**Arti**	**73.54**	**327**	*e*P	**P**	**07 46 08.6**	**-1.4**
	23nm,1.7s						
ILAR	**Eielson Array**	**83.63**	**25**	P	**P**	**07 47 04.0**	**-1.2**
	0.6nm,0.5s,baz=249,slow=5.3,SNR=12						
ILB	**Eielson Array**	**83.63**	**25**	*e*P	**P**	**07 47 04.0**	**-1.2**
VNDA	**Vanda**	**85.06**	**173**	P	**P**	**07 47 11.8**	**-0.2**
	2.9nm,0.9s,baz=312,slow=5.9,SNR=12						
MAW	**Mawson**	**85.29**	**200**	P	**P**	**07 47 13.5**	**+0.2**
	1.7nm,0.6s,baz=2.3,slow=8.4,SNR=3.6						
MAW	**Mawson**	**85.29**	**200**	*e*P	**P**	**07 47 13.5**	**+0.2**
	2.9nm,1.8s						
INK	**Inuvik**	**88.64**	**21**	P	**P**	**07 47 28.6**	**-1.0**
	0.8nm,0.6s,baz=243,slow=5.0,SNR=3.6						
INK	**Inuvik**	**88.64**	**21**	*e*P	**P**	**07 47 29.1**	**-0.5**
	29nm,1.9s						
ARA0	**ARCESS Array S**	**88.90**	**340**	*e*P	**P**	**07 47 29.8**	**-1.1**
ARCES	**ARCESS Array B**	**88.90**	**340**	P	**P**	**07 47 29.8**	**-1.1**
	2.2nm,0.6s,baz=84,slow=6.0,SNR=26						
BR101	**Keskin Array S**	**88.96**	**310**	*e*P	**P**	**07 47 29.6**	**-2.4**
BRTR	**Keskin Array B**	**88.96**	**310**	P	**P**	**07 47 29.6**	**-2.4**
	1.2nm,0.9s,baz=119,slow=4.6,SNR=4.5						
FIA0	**FINESS Array S**	**90.38**	**332**	*e*P	**P**	**07 47 36.8**	**-1.1**
FINES	**FINESS Array B**	**90.38**	**332**	P	**P**	**07 47 36.8**	**-1.1**
	1.7nm,0.6s,baz=62,slow=8.9,SNR=6.2						
QSPA	**South Pole Qui**	**95.28**	**180**	*e*P	**P**	**07 48 01.1**	**+0.6**
YKA	**Yellowknife Ar**	**98.01**	**24**	P	**P**	**07 48 10.5**	**-2.3**
	0.4nm,0.7s,baz=298,slow=4.6,SNR=4.8						
YKA				PKKPbc	**PKKPbc**	**08 04 43.6**	**-4.8**
	0.2nm,0.6s,baz=125,slow=3.4,SNR=4.2						
YKB5	**Yellowknife Ar**	**98.01**	**24**	*e*P	**P**	**07 48 10.6**	**-2.3**
LTX	**Lajitas**	**120.60**	**51**	*e*PKPdf	**PKPdf**	**07 53 28.8**	**-0.1**
TXAR	**Lajitas Array**	**120.60**	**51**	PKP	**PKPdf**	**07 53 28.8**	**-0.1**
	0.2nm,0.6s,baz=232,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.37**	**289**	PKP	**PKPdf**	**07 53 31.7**	**-0.8**
	0.9nm,0.7s,baz=54,slow=1.9,SNR=6.2						
TOA1	**Torodi Ar. Sit**	**122.38**	**289**	*e*PKPdf	**PKPdf**	**07 53 31.7**	**-0.8**
PLCA	**Paso Flores**	**141.54**	**159**	PKP	**PKPdf**	**07 54 06.6**	**-1.4**
	1.3nm,0.8s,baz=270,slow=2.0,SNR=3.3						
CPUP	**Villa Florida**	**158.81**	**170**	PKPab	**PKPab**	**07 55 12.6**	**+1.7**
	2.6nm,1.0s,baz=177,slow=7.4,SNR=4.5						
LPAZ	**La Paz**	**161.85**	**128**	PKPab	**PKPab**	**07 55 25.3**	**0.0**
	0.9nm,0.8s,baz=222,slow=3.0,SNR=2.7						

*CSEM **05** 08:29:43.8±0.2, 38°.20N×24°.89E, h10km, ML2.6, Error ellipse: s-maj=6.5km s-min=3.8km az=163.0*
*ISCJB **05** 08:29:44.1±0.8, 38°.23N±0°.03×24°.86E±0°.03, h11km±6km, Error ellipse: s-maj=5.9km s-min=3.2km az=169.9*
*THE **05** 08:29:44.7, 38°.18N×24°.84E, h18km±2km, ML2.7/9, Error ellipse: s-maj=2.3km s-min=1.0km az=178.0*
*ATH **05** 08:29:45.6, 38°.18N×24°.77E, h18km±3km, ML2.6/6, Error ellipse: s-maj=4.0km s-min=1.4km az=256.0*

ISC 05 08:29:43.5±1.1, 38°.28N±0°.03×24°.86E±0°.02, h20km±4km, n50, σ0s77/81, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARY	**Karystos**	**0.41**	**234**	P	**Pg**	**08 29 51.9**	**-0.2**
KARY				S	**Sg**	**08 29 57.3**	**-0.5**
KARY	**Karystos**	**0.41**	**234**	P	**Pg**	**08 29 51.7**	**-0.4**
KARY				S	**Sg**	**08 29 57.4**	**-0.5**
KARY				AML	AML	08 29 58.4	
	comp=N,1849μm,0.2s						
KARY				AML	AML	08 29 58.4	
	comp=E,2381μm,0.1s						
KARY	**Karystos**	**0.41**	**234**	P	**Pg**	**08 29 51.7**	**-0.4**
KARY				S	**Sg**	**08 29 57.3**	**-0.5**
SKY	**Skiros Island**	**0.65**	**338**	P	**Pn**	**08 29 58.5**	**+0.9**
SKY	**Skiros Island**	**0.65**	**338**	P	**Pn**	**08 29 58.5**	**+0.9**
EREA	**Eretria**	**0.74**	**281**	P	**Pn**	**08 29 59.6**	**+0.7**
EREA				S	**Sn**	**08 30 09.1**	**-0.5**
EREA	**Eretria**	**0.74**	**281**	P	**Pn**	**08 30 00.1**	**+1.2**
EREA	**Eretria**	**0.74**	**281**	P	**Pn**	**08 29 59.6**	**+0.7**
EREA				S	**Sn**	**08 30 09.1**	**-0.5**
PTL	**Penteli**	**0.81**	**254**	P	**Pb**	**08 29 59.1**	**+0.1**
PTL				S	**Sb**	**08 30 09.2**	**-0.4**
PTL				AML	AML	08 30 12.4	
	comp=N,1286μm,0.6s						
PTL				AML	AML	08 30 13.2	
	comp=E,883μm,0.4s						
PTL	**Penteli**	**0.81**	**254**	P	**Pb**	**08 29 59.1**	**+0.1**
PTL				S	**Sb**	**08 30 09.2**	**-0.4**
ATHU	**Athens Univers**	**0.90**	**250**	P	**Pb**	**08 29 59.8**	**-0.7**
ATHU				S	**Sb**	**08 30 12.0**	**0.0**
ATHU	**Athens Univers**	**0.90**	**250**	P	**Pb**	**08 30 00.6**	**+0.1**
ATHU				S	**Sb**	**08 30 11.5**	**-0.6**
ATHU				AML	AML	08 30 13.8	
	comp=N,510μm,0.4s						
ATHU				AML	AML	08 30 16.7	
	comp=E,168μm,0.4s						
ATHU	**Athens Univers**	**0.90**	**250**	P	**Pb**	**08 30 00.6**	**+0.1**
ATHU				S	**Sb**	**08 30 12.0**	**0.0**
VLY	**Voula,Athens**	**0.94**	**244**	P	**Pb**	**08 30 01.4**	**+0.3**
VLY				S	**Sb**	**08 30 12.9**	**-0.3**
VLY	**Voula,Athens**	**0.94**	**244**	P	**Pg**	**08 30 02.1**	**+0.3**
VLY				S	**Sb**	**08 30 12.8**	**-0.4**
VLY				AML	AML	08 30 16.6	
	comp=E,1561μm,0.4s						
VLY				AML	AML	08 30 17.3	
	comp=N,873μm,0.5s						
VLY	**Voula,Athens**	**0.94**	**244**	P	**Pb**	**08 30 01.4**	**+0.3**
VLY				S	**Sb**	**08 30 12.9**	**-0.3**
CHOS	**Chios island**	**0.95**	**83**	P	**Pg**	**08 30 02.0**	**0.0**
CHOS				S	**Sn**	**08 30 15.3**	**+0.5**
CHOS	**Chios island**	**0.95**	**83**	P	**Pg**	**08 30 02.0**	**0.0**
CHOS				S	**Sn**	**08 30 15.3**	**+0.5**
ATH	**Athens Observa**	**0.95**	**252**	P	**Pg**	**08 30 01.9**	**0.0**
ATH				S	**Sb**	**08 30 14.0**	**+0.6**
ATH	**Athens Observa**	**0.95**	**252**	P	**Pg**	**08 30 02.0**	**0.0**
ATH				S	**Sb**	**08 30 13.9**	**+0.6**
ATH				AML	AML	08 30 16.1	
	comp=E,1290μm,0.3s						
ATH				AML	AML	08 30 16.3	
	comp=N,1703μm,0.4s						
ATH	**Athens Observa**	**0.95**	**252**	P	**Pg**	**08 30 02.0**	**0.0**
ATH				S	**Sb**	**08 30 14.0**	**+0.6**
SERI	**Serifos**	**1.15**	**195**	P	**Pn**	**08 30 04.4**	**-0.1**
SERI				S	**Sg**	**08 30 20.5**	**-0.4**
SERI	**Serifos**	**1.15**	**195**	P	**Pn**	**08 30 04.4**	**-0.1**
SIGR	**SIGRI**	**1.22**	**40**	P	**Pn**	**08 30 05.1**	**-0.3**
SIGR	**SIGRI**	**1.22**	**40**	P	**Pn**	**08 30 05.1**	**-0.3**
VILL	**Villia**	**1.22**	**265**	P	**Pb**	**08 30 06.1**	**+0.1**
VILL				S	**Sb**	**08 30 21.2**	**-0.1**
VILL	**Villia**	**1.22**	**265**	P	**Pg**	**08 30 07.8**	**+0.6**
VILL				S	**Sg**	**08 30 24.0**	**+0.8**
VIL2	**Platees**	**1.25**	**268**	P	**Pg**	**08 30 07.8**	**0.0**
VIL2				S	**Sg**	**08 30 24.0**	**-0.2**
VIL2				AML	AML	08 30 25.2	
	comp=E,414μm,0.4s						
VIL2				AML	AML	08 30 28.4	
	comp=N,503μm,0.6s						
ZEY	**Izmir**	**1.30**	**91**	*i* P	**Pg**	**08 30 11.6**	**+3.0**
ZEY				*i* S	**Sb**	**08 30 24.1**	**+0.7**
APE	**Apeiranthos**	**1.32**	**156**	P	**Pn**	**08 30 06.6**	**-0.2**
APE				S	**Sn**	**08 30 22.2**	**-1.7**
APE	**Apeiranthos**	**1.32**	**156**	⇑*i* P	**Pn**	**08 30 07.1**	**+0.3**
APE				S	**Sg**	**08 30 26.3**	**+0.1**
APE	**Apeiranthos**	**1.32**	**156**	P	**Pg**	**08 30 09.2**	**+0.2**
APE	**Apeiranthos**	**1.32**	**156**	P	**Pn**	**08 30 06.6**	**-0.2**
APE				S	**Sn**	**08 30 22.2**	**-1.7**
URLA	**Izmir**	**1.37**	**86**	*i* P	**Pn**	**08 30 08.1**	**+0.6**
URLA	**Izmir**	**1.37**	**86**	P	**Pn**	**08 30 08.1**	**+0.6**
PRK	**Paraskevi**	**1.47**	**48**	P	**Pg**	**08 30 11.8**	**-0.1**
PRK	**Paraskevi**	**1.47**	**48**	P	**Pg**	**08 30 11.8**	**-0.1**
DID	**Didima**	**1.50**	**240**	P	**Pn**	**08 30 09.9**	**+0.6**
DID				S	**Sn**	**08 30 27.8**	**-0.4**
DID	**Didima**	**1.50**	**240**	P	**Pg**	**08 30 11.6**	**-0.8**
DID	**Didima**	**1.50**	**240**	P	**Pg**	**08 30 11.6**	**-0.8**
DID				S	**Sn**	**08 30 27.8**	**-0.4**
LTK	**Loutraki**	**1.51**	**261**	P	**Pn**	**08 30 10.0**	**+0.5**
LTK				S	**Sb**	**08 30 30.3**	**+0.7**
LTK	**Loutraki**	**1.51**	**261**	P	**Pg**	**08 30 14.1**	**+1.4**
LTK	**Loutraki**	**1.51**	**261**	P	**Pn**	**08 30 10.0**	**+0.5**
LTK				S	**Sb**	**08 30 30.3**	**+0.7**
LOUT	**Loutraki**	**1.51**	**260**	P	**Pg**	**08 30 13.5**	**+0.8**
LOUT	**Loutraki**	**1.51**	**260**	P	**Pg**	**08 30 13.5**	**+0.8**
MHLA	**Plaka, Milos I**	**1.57**	**193**	P	**Pg**	**08 30 15.1**	**+1.4**
MHLO	**Agia Marina, M**	**1.62**	**193**	P	**Pb**	**08 30 13.3**	**+0.5**
MHLO	**Agia Marina, M**	**1.62**	**193**	P	**Pb**	**08 30 13.3**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**1.97**	**41**	*i* P	**Pb**	**08 30 17.9**	**-0.8**
BAYC				*i* S	**Sn**	**08 30 36.9**	**-3.0**
BAYC	**CANAKKALE_Bayr**	**1.97**	**41**	P	**Pb**	**08 30 17.9**	**-0.8**

*ISCJB **05** 08:37:15.6±0.7, 36°.27N±0°.06×71°.1E±0°.1, h200km, mb3.5/9, Error ellipse: s-maj=12.0km s-min=8.8km az=8.4*
*IDC **05** 08:37:17.7±3.8, 36°.20N×71°.12E, h211km±32km, mb3.3/10, mb1 3.4/14, mb1mx3.2/56, mbtmp3.9/14, Error ellipse: s-maj=27.5km s-min=17.2km az=28.0*
*NNC **05** 08:37:21.3±35.0, 36°.67N×71°.32E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=265.4km s-min=120.7km az=172.0*

ISC 05 08:37:17.2±1.0, 36°.32N±0°.10×71°.2E±0°.1, h200km, n18, σ1s66/22, mb3.4/9, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.13**	**323**	⇑Pg	**Pn**	**08 38 12.1**	**+3.6**
	26nm,0.2s						
DZET				⇑Sn	**Sn**	**08 38 48.1**	**-0.6**
	352nm,0.5s						
MNAS	**Manas**	**6.23**	**9**	⇓Pn	**Pn**	**08 38 49.7**	**+2.2**
	22nm,0.5s						
MNAS				⇓Sn	**Sn**	**08 39 58.0**	**-1.2**
	12nm,0.7s						
AAK	**Ala-Archa**	**6.79**	**21**	P	**Pn**	**08 38 57.4**	**+2.6**
	8.5nm,0.3s,baz=173,slow=6.3,SNR=60						
AAK				S	**Sn**	**08 40 12.1**	**-0.2**
	0.8nm,0.3s,baz=128,slow=23,SNR=6.5						
KK31	**Karatay Array**	**6.79**	**356**	⇓Pn	**Pn**	**08 38 56.3**	**+1.6**
	3.8nm,0.4s,baz=192,slow=16,SNR=90						
KK31				⇓Sn	**Sn**	**08 40 08.6**	**-3.5**
	3.8nm,0.3s,baz=198,slow=23,SNR=6.9						
MKAR	**Makanchi Array**	**13.33**	**35**	P	**Pn**	**08 40 18.9**	**+0.2**
	0.1nm,0.3s,baz=218,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**15.23**	**18**	P	**Pn**	**08 40 40.4**	**-1.7**
	0.1nm,0.3s,baz=208,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**16.71**	**358**	P	**P**	**08 40 59.0**	**+0.2**
	0.4nm,0.3s,baz=176,slow=13,SNR=4.2						
AKTO	**Aktyubinsk**	**17.03**	**330**	P	**P**	**08 41 03.5**	**+1.2**
	1.2nm,0.3s,baz=136,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**20.00**	**24**	P	**P**	**08 41 36.0**	**+1.7**
	1.5nm,0.3s,baz=212,slow=8.0,SNR=3.2						
FINES	**FINESS Array B**	**37.73**	**326**	P	**P**	**08 44 13.3**	**0.0**
	7.5nm,1.1s,baz=116,slow=13,SNR=6.3						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**08 44 43.5**	**+0.2**
	0.8nm,0.4s,baz=115,slow=7.9,SNR=11						
HFS	**Hagfors**	**43.32**	**322**	P	**P**	**08 44 59.0**	**-0.1**
	4.5nm,1.0s,baz=102,slow=9.3,SNR=2.8						
NOA	**NORSAR Array B**	**44.63**	**323**	P	**P**	**08 45 09.2**	**-0.4**
	1.2nm,0.8s,baz=100,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	**P**	**08 47 40.1**	**-1.8**
	0.5nm,0.7s,baz=48,slow=6.6,SNR=5.5						
INK	**Inuvik**	**74.05**	**9**	P	**P**	**08 48 30.4**	**-0.1**
	0.9nm,0.7s,baz=288,slow=3.2,SNR=3.5						
YKA	**Yellowknife Ar**	**81.41**	**3**	P	**P**	**08 49 11.2**	**-0.1**
	0.4nm,0.8s,baz=350,slow=5.3,SNR=6.6						
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**08 49 13.4**	**-0.3**
	0.2nm,0.3s,baz=324,slow=4.7,SNR=2.6						
ASAR	**Alice Springs**	**84.00**	**125**	P	**P**	**08 49 24.8**	**-0.5**
	0.4nm,0.8s,baz=327,slow=5.0,SNR=4.5						

MEX 05 08:39:56.8±0.6, 21°.32N×99°.60W, h16km±31km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**1.14**	**153**	*e*P	Pb	08 40 14.4	-4.0
DEIG				*i* S	Sb	08 40 28.6	-4.4
ZUVM	**ZUMPANGO**	**1.57**	**162**	*e*P	Pn	08 40 21.4	-2.9
ZUVM				*e*S	Sn	08 40 39.5	-4.8
IGIG	**Irapuato, Guan**	**1.71**	**251**	*e*P	Pn	08 40 23.1	-3.1
IGIG				*e*S	Sn	08 40 43.0	-4.9
AZVM	**Cuida Lopez Ma**	**1.75**	**170**	*e*P	Pn	08 40 24.5	-2.3
AZVM				*e*S	Sn	08 40 44.2	-4.8
PTVM	**Pico Tres Padr**	**1.78**	**165**	*e*P	Pn	08 40 25.2	-2.0
PTVM				*e*S	Sn	08 40 45.1	-4.4
PPM	**Popocatepetl**	**2.42**	**158**	*e*P	Pn	08 40 38.1	+1.9
ZAIG	**Zacatecas**	**3.11**	**298**	*e*P	Pn	08 40 45.4	-0.1
LNIG	**Linares**	**3.56**	**2**	*e*P	Pb	08 40 57.4	-2.0

MAN 05 08:42:54.9°.76N×122°.11E, h29km, mb4.1, ML2.9, MS2.6, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.98**	**29**	*e*P	Pn	08 43 11.6	-0.3
GUIM				*e*S	Sn	08 43 24.6	-0.1
SNPH	**Sibulan**	**1.19**	**110**	⇑*i* P	Pn	08 43 14.2	-0.6
SNPH				*i* S	Sn	08 43 30.5	+0.5
RCP	**Roxas**	**1.89**	**19**	⇑*e*P	Pn	08 43 25.8	+1.4
RCP				*e*S	Sb	08 43 50.4	-0.7
BUSP	**Coron**	**2.91**	**320**	*e*P	Pn	08 43 35.7	-2.7
ENPP	**El Nido**	**3.00**	**299**	*e*P	Pn	08 43 41.1	+1.5
ENPP				*e*S	Sn	08 44 13.7	-0.9

DJA 05 08:42:56.3±1.3, 9°S±6°, 111°9E±°, h27km±13km, M4.0/7, mb4.3/2, MLv3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.91**	**304**	P	Pn	08 43 12.5	-0.8
PLAI				S	Sb	08 43 24.9	-0.3
TWSI	**Taliwang, Sumb**	**1.74**	**290**	P	Pn	08 43 24.6	-0.2
TWSI				S	Sn	08 43 45.9	-0.3
BASI	**Baing, Sumba**	**2.19**	**114**	P	Pn	08 43 29.7	-1.3
IGBI	**Denpasar**	**3.39**	**279**	P	Pn	08 43 47.9	+0.4
SRBI	**Singaraja**	**3.52**	**291**	P	Pn	08 43 49.3	+0.1
GMJI	**Gumukmas**	**5.15**	**281**	P	Pn	08 44 11.8	+0.2
	43nm,1.2s						
SOEI	**Soe**	**5.66**	**95**	P	Pn	08 44 19.8	+0.9

*ISCJB **05** 08:46:32.5±1.0, 12°.1N±0°.1×143°.7E±0°.2, h26km, mb4.1/7, MS3.6/2, Error ellipse: s-maj=29.7km s-min=10.6km az=39.3*
*IDC **05** 08:46:37.1±3.1, 12°.07N×143°.92E, h52km±27km, mb3.8/7, mb1 4.1/7, mb1mx3.6/44, mbtmp4.1/7, MS3.5/2, Ms1 3.5/2, ms1mx2.8/34, Error ellipse: s-maj=37.4km s-min=19.7km az=113.0*

ISC 05 08:46:34.2±1.1, 12°.1N±0°.2×143°.8E±0°.2, h26km, n16, σ1s04/9, mb4.1/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.83**	**34**	P	**Pn**	**08 47 03.9**	**-0.1**
	123nm,0.3s,baz=276,slow=2.2,SNR=58						
GUMO				S	**Sn**	**08 47 27.3**	**+1.0**
	108nm,0.3s,baz=127,slow=20,SNR=15						
GUMO				LR	LR	08 47 58.2	
	comp=Z,306nm,20.9s,baz=160,slow=46						
H11S3	**WAKE ISLAND Hy**	**22.96**	**71**	T	T	09 15 37.8	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**22.98**	**71**	T	T	09 15 42.2	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.98**	**71**	T	T	09 15 38.4	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**23.45**	**68**	T	T	09 16 18.1	
	baz=253						
H11N2	**WAKE ISLAND Hy**	**23.45**	**68**	T	T	09 16 18.3	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**23.46**	**68**	T	T	09 16 21.1	
	baz=253						
WRA	**Warramunga Arr**	**33.15**	**196**	P	**P**	**08 53 09.3**	**+0.6**
	1.0nm,0.7s,baz=18,slow=9.6,SNR=3.5						
PETK	**Petropavlovsk-**	**42.42**	**12**	LR	LR	09 13 08.7	
	comp=Z,21nm,19.0s,baz=116,slow=38						
SONM	**Songino Array**	**47.39**	**326**	P	**P**	**08 55 06.7**	**+0.4**
	0.4nm,0.5s,baz=114,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**61.87**	**317**	P	**P**	**08 56 52.1**	**+0.8**
	0.6nm,0.7s,baz=104,slow=8.1,SNR=3.1						
ILAR	**Eielson Array**	**70.37**	**25**	P	**P**	**08 57 44.0**	**-1.5**
	0.8nm,0.5s,baz=250,slow=6.0,SNR=25						
YKA	**Yellowknife Ar**	**84.67**	**27**	P	**P**	**08 59 06.0**	**+0.5**
	1.2nm,0.5s,baz=286,slow=5.1,SNR=24						
ARCES	**ARCESS Array B**	**88.20**	**342**	P	**P**	**08 59 22.1**	**-0.5**
	2.8nm,0.8s,baz=74,slow=7.6,SNR=5.6						
FINES	**FINESS Array B**	**92.09**	**335**	P	**P**	**08 59 39.7**	**-1.2**
	4.8nm,0.9s,baz=85,slow=4.5,SNR=4.0						
JMIC	**Jan Mayen**	**95.02**	**351**	LR	LR	09 42 32.6	
	comp=Z,74nm,20.8s,baz=74,slow=35						

*MEX **05** 08:47:12.4±0.7, 32°.51N×115°.39W, h8km±81km, MD3.7*
ECX 05 08:47:13.1±0.6, 32°.39N×115°.50W, h5km, MD2.3, ML2.5, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.17**	**80**	⇑*e*P	Pg	08 47 16.1	-0.3
CPBX				*e*S	Sg	08 47 18.9	+0.2
CPBX				IAML		08 47 21.9	
	comp=E,5μm,0.2s						
CPBX				⇓*e*		08 47 21.9	
ERPC	**Ernies Place**	**0.38**	**339**	⇓*i* P	Pg	08 47 20.0	-0.4
DREC	**Desert Rsrch C**	**0.42**	**6**	*e*P	Pg	08 47 20.6	-0.5
WESC	**Westside Schoo**	**0.42**	**332**	⇓*i* P	Pg	08 47 20.5	-0.6
YUH	**Yuha Desert**	**0.44**	**306**	⇑*i* P	Pg	08 47 20.4	-1.2
COK	**Cook Ranch**	**0.50**	**337**	*e*P	Pg	08 47 22.1	-0.6
RMX	**La Rumorosa**	**0.53**	**294**	*e*P	Pg	08 47 21.8	-1.6
RMX				*e*S	Sg	08 47 28.9	-1.4
EMSC	**East Mesa**	**0.56**	**51**	⇑*i* P	Pg	08 47 23.3	-0.5
COA	**Coachella**	**0.57**	**34**	⇑*i* P	Pg	08 47 23.4	-0.7
IKP	**In-Ko-Pah, Jac**	**0.58**	**297**	*e*P	Pg	08 47 22.9	-1.3
CRR	**Carrizo Plain**	**0.63**	**322**	*e*P	Pg	08 47 24.1	-1.2
CBX	**Cerro Bola**	**0.99**	**266**	*e*P	Pg	08 47 30.4	-1.7
CBX				*e*S	Sg	08 47 43.5	-1.4
CBX	**Cerro Bola**	**0.99**	**266**	*e*P	Pg	08 47 30.6	-1.4
CBX				*e*S	Sg	08 47 43.5	-1.4
CBX				IAML		08 47 46.2	
	comp=N,117nm,0.2s						
CBX				⇑*e*		08 47 46.2	
ECBX	**El Chinero**	**0.99**	**157**	*e*P	Pg	08 47 30.3	-1.8
ECBX				*e*S	Sg	08 47 44.0	-0.9
TJIG	**Tijuana**	**0.99**	**273**	*e*P	Pg	08 47 30.3	-1.8
TJIG				*e*S	Sg	08 47 43.0	-2.1
SPIG	**San Pedro Mart**	**1.34**	**179**	*e*P	Pn	08 47 36.0	-2.8
SPIG				*e*S	Sg	08 47 53.7	-2.5
SPIG	**San Pedro Mart**	**1.34**	**179**	*e*P	Pn	08 47 35.8	-3.0
SPIG				*e*S	Sg	08 47 53.7	-2.5
SPX	**San Pedro Mart**	**1.34**	**179**	*e*P	Pn	08 47 35.0	-3.8
SPX				*e*S	Sg	08 47 54.7	-1.5

*ISCJB **05** 08:48:17.0±0.4, 37°.25N±0°.03×28°.23E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=3.2km az=15.2*
*ISK **05** 08:48:16.8, 37°.27N×28°.21E, h7km, ML2.3*
*DDA **05** 08:48:17.2, 37°.23N×28°.21E, h16km, Md2.7, Suspected Mining explosion.*
*CSEM **05** 08:48:17.3±0.2, 37°.25N×28°.22E, h2km, ML2.3, Error ellipse: s-maj=4.2km s-min=3.1km az=18.0, Suspected Mining explosion.*

ISC 05 08:48:15.9±0.8, 37°.27N±0°.03×28°.18E±0°.02, h0km, n31, σ1s00/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.32**	**275**	*e*PG	**Pb**	**08 48 24.0**	**-0.5**
MLSB				*e*SG	**Sb**	**08 48 29.3**	**-0.9**
MLSB	**Milas**	**0.32**	**275**	*e*Pg	**Pb**	**08

AYDB	**Zeytinkoy-Aydi**	**1.27**	**188**	*e*PN	**Pg**	**08 50 43.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**188**	*e*Pn	**Pg**	**08 50 43.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**22**	*e*PN	**Pb**	**08 50 45.5**	**+0.2**
ARMT				*e*SN	**Sg**	**08 51 05.8**	**+0.1**
ARMT	**Armutlu**	**1.47**	**22**	*e*Pn	**Pb**	**08 50 45.5**	**+0.2**
ARMT				*e*Sn	**Sg**	**08 51 05.8**	**+0.1**
SBT3	**Marmara-Eregli**	**1.68**	**356**	*e*PN	**Pb**	**08 50 48.9**	**+0.2**
SBT3	**Marmara-Eregli**	**1.68**	**356**	*e*Pn	**Pb**	**08 50 48.9**	**+0.2**
BAGO	**Egridir - ISPA**	**2.41**	**119**	*i* P	**Sn**	**08 51 24.4**	**-2.1**

*SJA **05** 08:52:51.8±1.0,24°.18S×69°.67W,h46km±21km,ML2.5*
*ISCJB **05** 08:52:52.5±0.7,24°.10S±0°.04×69°.61W±0°.08,*
h121km±11km,Error ellipse: s-maj=12.7km s-min=5.6km
az=11.3
*GUC **05** 08:52:53.7±0.8,24°.08S×69°.57W,h97km±12km,ML3.8*
ISC 05 08:52:52.7±1.7,24°.08S±0°.05×69°.67W±0°.09,
h124km±18km,n23,σ1§17/33,9C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.78**	**300**	⇑*i*P	**Pn**	**08 53 15.0**	**+1.9**
ANCH				*i* S	**Sn**	**08 53 30.0**	**+1.4**
PB14	**IPOC Station P**	**0.86**	**231**	⇑*i*P	**Pn**	**08 53 14.5**	**+0.3**
PB14				*i* S	**Sn**	**08 53 29.5**	**-1.0**
PB14	**IPOC Station P**	**0.86**	**231**	*e*P	**Pn**	**08 53 14.5**	**+0.3**
PB14				*e*S	**Sn**	**08 53 29.4**	**-1.0**
PB10	**IPOC Station P**	**0.98**	**305**	⇑*i*P	**Pn**	**08 53 16.0**	**+1.1**
PB10				*i* S	**Sn**	**08 53 32.1**	**+0.3**
PB10				IAML		08 53 36.4	
	comp=E,4μm,0.3s						
PB10	**IPOC Station P**	**0.98**	**305**	*e*P	**Pn**	**08 53 16.1**	**+1.1**
PB10				*e*S	**Sn**	**08 53 32.3**	**+0.4**
PB06	**IPOC Station P**	**1.37**	**4**	⇑*i*P	**Pn**	**08 53 19.2**	**0.0**
PB06				*i* S	**Sn**	**08 53 37.9**	**-1.4**
PB06				IAML		08 53 39.3	
	comp=N,2μm,0.2s						
LVC	**Limon Verde**	**1.62**	**26**	*e*P	**Pn**	**08 53 21.7**	**-0.5**
LVC				*e*S	**Sn**	**08 53 42.5**	**-2.3**
PB04	**IPOC Station P**	**1.79**	**346**	⇑*i*P	**Pn**	**08 53 24.6**	**+0.5**
PB04				*e*S	**Sn**	**08 53 48.3**	**+0.3**
PB04				IAML		08 53 55.0	
	comp=N,620nm,0.2s						
PB09	**IPOC Station P**	**2.31**	**10**	⇑*i*P	**Pn**	**08 53 31.3**	**+0.8**
PB09				*i* S	**Sn**	**08 53 59.6**	**+0.3**
PB09				IAML		08 54 05.6	
	comp=E,1μm,0.6s						
PB07	**IPOC Station P**	**2.35**	**355**	⇑*i*P	**Pn**	**08 53 31.6**	**+0.5**
PB07				*i* S	**Sn**	**08 54 00.1**	**-0.2**
PB07				IAML		08 54 21.7	
	comp=E,402nm,1.1s						
PB01	**IPOC Station P**	**3.03**	**3**	⇑*i*P	**Pn**	**08 53 40.0**	**+0.4**
CPCH	**Copiapo**	**3.32**	**190**	⇑*i*P	**Pn**	**08 53 42.0**	**-1.4**
FSA	**Cafayete**	**3.91**	**122**	*e*P	**Pn**	**08 53 52.0**	**+0.7**
FSA				IAML		08 53 57.2	
	comp=Z,5.6nm,0.5s						
PB08	**IPOC Station P**	**3.95**	**7**	*e*P	**Pn**	**08 53 52.2**	**+0.1**
HJA	**Humahuaca**	**4.00**	**78**	*e*P	**Pn**	**08 53 54.2**	**+1.4**
HJA				IAML		08 53 59.9	
	comp=Z,12nm,0.5s						
YJA	**Yavi**	**4.27**	**64**	*e*P	**Pn**	**08 53 59.5**	**+3.1**
YJA				IAML		08 54 27.4	
	comp=Z,2.4nm,0.6s						
AHML	**Horco Molle**	**4.76**	**125**	*e*P	**Pn**	**08 54 02.9**	**+0.4**
VCA	**Vinchina**	**4.82**	**164**	*e*P	**Pn**	**08 54 05.1**	**+1.7**
AGUA	**GUANDACOL**	**5.49**	**169**	*e*P	**Pn**	**08 54 13.2**	**+0.8**
ACLC	**CERRO LA CRUZ**	**5.85**	**156**	*e*P	**Pn**	**08 54 17.1**	**-0.2**
APLL	**PUNTA DE LOS L**	**6.88**	**157**	*e*P	**Pn**	**08 54 29.8**	**-1.4**
ACHE	**Chepes**	**7.54**	**160**	*e*P	**Pn**	**08 54 39.4**	**-0.7**
ACAN	**Cantantal**	**8.45**	**166**	⇓*e*P	**Pn**	**08 54 51.3**	**-1.0**

*IDC **05** 08:56:00.6±3.1,23°.63S×179°.96E,h517km±32km,mb3.2/5,*
mb1 3.4/6,mb1mx3.1/22,mbtmp4.2/6,Error ellipse:
s-maj=51.0km s-min=24.3km az=169.0
*ISCJB **05** 08:56:01.6±1.3,23°.7S±0°.2×179°.9E±0°.2,h535km,mb3.7/5,*
Error ellipse: s-maj=28.7km s-min=24.0km az=177.4
ISC 05 08:56:02.0±1.2,23°.8S±0°.2×180°.0E±0°.2,h535km,n8,
σ1§20/9,mb3.8/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.66**	**189**	P	**P**	**08 59 07.8**	**-0.2**
	0.5nm,0.3s,baz=353,slow=8.1,SNR=4.1						
CTA	**Charters Tower**	**31.44**	**270**	P	**P**	**09 01 40.3**	**+0.4**
	6.1nm,0.3s,baz=97,slow=11,SNR=11						
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**09 02 07.8**	**+0.2**
	0.6nm,0.4s,baz=81,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**42.02**	**260**	P	**P**	**09 03 06.8**	**0.0**
	2.2nm,0.8s,baz=101,slow=7.0,SNR=22						
ASAR				ScP	**ScP**	**09 07 51.4**	**+2.3**
	0.5nm,0.7s,baz=112,slow=4.1,SNR=7.8						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**09 03 08.9**	**-0.8**
	1.2nm,0.3s,baz=103,slow=8.3,SNR=45						
TXAR	**Lajitas Array**	**90.39**	**58**	P	**P**	**09 08 07.2**	**+0.5**
	0.2nm,0.7s,baz=198,slow=5.4,SNR=2.5						
AKASG	**Malin Array Be**	**144.83**	**327**	PKP	**PKPdf**	**09 14 36.9**	**-0.9**
	0.4nm,0.4s,baz=46,slow=4.1,SNR=4.5						
BRTR	**Keskin Array B**	**147.46**	**307**	PKPbc	**PKPbc**	**09 14 45.1**	**-1.2**
	0.5nm,0.8s,baz=54,slow=4.7,SNR=2.5						

JMA 05 08:59:34.0±0.2,37°.87N×143°.79E,h43km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.01**	**288**	P	Pn	09 00 06.6	+1.2
JIO				S	Sn	09 00 30.3	+1.0
OFUJ	**Ofunato**	**2.06**	**307**	P	Pn	09 00 07.2	+1.1
OFUJ				*e*S	Sn	09 00 31.8	+1.3
JMK	**Ichinoseki**	**2.29**	**299**	P	Pn	09 00 10.7	+1.5
JMK				*e*S	Sn	09 00 37.6	+1.4
JOU	**Okura**	**2.52**	**282**	P	Pn	09 00 14.3	+1.9
JOU				*e*S	Sn	09 00 43.6	+1.8
JOM	**Ohasama**	**2.53**	**310**	P	Pn	09 00 14.2	+1.7
JFT	**Otama**	**2.76**	**264**	P	Pn	09 00 17.2	+1.4
JFT				*e*S	Sn	09 00 49.4	+1.5
JYK	**Kaneyama**	**2.89**	**292**	P	Pn	09 00 19.6	+2.1
JYK				*e*S	Sn	09 00 53.2	+2.1
JRG	**Rokugo**	**2.90**	**303**	P	Pn	09 00 19.7	+2.0
JRG				*e*S	Sn	09 00 53.4	+2.0
JANG	**Nango**	**3.06**	**325**	P	Pn	09 00 21.1	+1.2
JTM	**Tenmabayashi**	**3.60**	**325**	*e*S	Sn	09 01 08.9	+0.5
JOT	**Ohata**	**4.10**	**330**	P	Pn	09 00 36.0	+1.9
JOT				*e*S	Sn	09 01 20.7	0.0
JRY	**Ryogami san**	**4.33**	**246**	P	Pn	09 00 38.2	+0.9
JRY				*e*S	Sn	09 01 24.8	-1.8
JKB	**Kayabe**	**4.54**	**333**	P	Pn	09 00 42.2	+2.1
JCH	**Churui**	**4.75**	**356**	P	Pn	09 00 43.4	+0.4
JCH				*e*S	Sn	09 01 34.6	-2.2
NEM2	**Nemuro 2**	**5.69**	**15**	P	Pn	09 00 53.8	-2.1
NEM2				*e*S	Sn	09 01 54.0	-5.8

*ISCJB **05** 09:03:26.5±1.0,62°.2S±0°.1×155°.3W±0°.3,h10km,mb4.1/5,*
MS3.8/10,Error ellipse: s-maj=20.9km s-min=18.8km
az=7.7
*IDC **05** 09:03:26.9±0.9,62°.00S×155°.37W,h0km,mb3.8/5,*
mb1 4.0/5,mb1mx3.9/22,mbtmp3.8/5,MS3.8/10,
Ms1 3.8/10,ms1mx3.7/15,Error ellipse: s-maj=46.2km
s-min=23.3km az=6.0
*NEIC **05** 09:03:28.4±0.5,62°.04S×155°.36W,h10km,mb4.7/2,Error*
ellipse: s-maj=16.2km s-min=14.4km az=139.0
ISC 05 09:03:28.5±0.9,62°.3S±0°.2×155°.4W±0°.2,h10km,n28,
σ1§16/13,mb3.9/5,MS3.8/10,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**19.60**	**203**	*e*P	**Pn**	**09 07 58.7**	**+1.1**
	45nm,1.8s						
VNDA	**Vanda**	**20.37**	**205**	P	Pn	09 08 07.7	+0.8
	1.8nm,1.0s,baz=68,slow=14,SNR=6.0						
VNDA				LR	LR	09 13 55.2	
	comp=Z,178nm,21.2s,baz=71,slow=30						
QSPA	**South Pole Qui**	**27.84**	**180**	*e*P	**P**	**09 09 19.3**	**+1.5**
	45nm,2.0s						
VNA3	**Neumayer Olymp**	**44.65**	**165**	P	**P**	**09 11 39.5**	**-1.1**
PPT2	**Papeete2**	**44.83**	**8**	*e*LR	LR	09 24 05.2	
	312nm,25.0s						
PPT	**Papeete**	**44.85**	**8**	LR	LR	09 25 10.1	
	comp=Z,102nm,20.5s,baz=182,slow=29						
SNAA	**Sanae**	**44.99**	**168**	P	**P**	**09 11 41.0**	**-2.3**
VNA2	**Neumayer--Watz**	**45.21**	**166**	P	**P**	**09 11 43.3**	**-1.7**
	baz=191,slow=8.1						
VNA1	**Neumayer--Stat**	**45.37**	**165**	P	P	09 11 38.9	-7.3
VAH	**Vaihoa**	**47.30**	**10**	*e*T	T	10 02 38.5	
	11nm,0.3s						
MAW	**Mawson**	**47.49**	**199**	LR	LR	09 30 11.5	
	comp=Z,98nm,18.7s,baz=234,slow=34						
DZM	**Mont Dzumac**	**47.84**	**309**	*e*LR	LR	09 26 00.6	
	408nm,22.9s						
STKA	**Stephens Creek**	**49.84**	**277**	LR	LR	09 29 57.8	
	comp=Z,120nm,18.5s,baz=202,slow=32						
PLCA	**Paso Flores**	**52.65**	**108**	P	**P**	**09 12 43.2**	**+0.7**
	2.2nm,0.7s,baz=235,slow=10,SNR=7.4						
PLCA				LR	LR	09 30 07.1	
	comp=Z,91nm,19.6s,baz=262,slow=30						
TAOE	**Nuku Hiva Isla**	**54.48**	**19**	*e*LR	LR	09 28 27.7	
	137nm,25.0s						
H01W1	**Cape Leeuwin H**	**59.99**	**252**	T	T	10 19 12.9	
	baz=147						
H01W2	**Cape Leeuwin H**	**59.99**	**252**	T	T	10 19 13.5	
	baz=147						
H01W3	**Cape Leeuwin H**	**60.00**	**252**	T	T	10 19 14.1	
	baz=147						
NWAO	**Narrogin (SRO)**	**60.26**	**255**	LR	LR	09 32 42.8	
	comp=Z,113nm,21.9s,baz=248,slow=29						
ASAR	**Alice Springs**	**60.37**	**275**	P	**P**	**09 13 37.7**	**+0.1**
	1.1nm,1.0s,baz=145,slow=6.7,SNR=6.0						
ASAR				LR	LR	09 35 21.6	
	comp=Z,97nm,21.4s,baz=148,slow=32						
WRA	**Warramunga Arr**	**63.38**	**278**	P	**P**	**09 13 57.6**	**-0.3**
	0.3nm,0.3s,baz=153,slow=5.5,SNR=4.2						
CPUP	**Villa Florida**	**70.66**	**110**	LR	LR	09 43 15.7	
	comp=Z,60nm,18.2s,baz=208,slow=34						
LPAZ	**La Paz**	**74.46**	**95**	P	**P**	**09 15 07.9**	**+0.4**
	1.1nm,0.9s,baz=198,slow=6.7,SNR=4.7						
LPAZ				LR	LR	09 38 55.0	
	comp=Z,45nm,21.9s,baz=166,slow=29						
BOSA	**Boshof**	**89.42**	**181**	LR	LR	09 53 56.7	
	comp=Z,32nm,19.9s,baz=202,slow=34						
ILAR	**Eielson Array**	**126.90**	**5**	PKP	**PKPdf**	**09 22 30.6**	**-0.2**
	0.5nm,0.9s,baz=204,slow=2.2,SNR=5.0						
MKAR	**Makanchi Array**	**144.50**	**271**	PKP	**PKPab**	**09 23 02.3**	**0.0**
	0.8nm,0.7s,baz=146,slow=2.4,SNR=4.0						
AAK	**Ala-Archa**	**144.98**	**259**	*e*PKPbc	**PKPdf**	**09 23 05.2**	**+0.1**
ESDC	**Sonseca Array**	**151.52**	**129**	PKPbc	**PKPbc**	**09 23 21.9**	**0.0**
	0.2nm,0.3s,baz=200,slow=1.3,SNR=7.1						

*ISCJB **05** 09:16:07.6±0.9,14°.65S±0°.07×75°.73W±0°.09,h29km,*
mb3.5/3,Error ellipse: s-maj=13.4km s-min=7.4km
az=149.3
*NEIC **05** 09:16:07.0±0.0,14°.62S×76°.20W,h33km,ML4.4(ARE),*
After ARE.
*IDC **05** 09:16:13.5±5.6,14°.67S×76°.17W,h60km±48km,mb3.2/3,*
mb1 3.5/4,mb1mx3.3/22,mbtmp3.6/4,ML3.8/1,Error
ellipse: s-maj=55.3km s-min=28.3km az=57.0
ISC 05 09:16:08.1±0.9,14°.46S±0°.09×75°.8W±0°.1,h29km,n14,
σ2§47/10,mb3.8/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.67**	**337**	Pn	**Pn**	**09 16 47.8**	**-1.4**
NNA				Sn	**Sb**	**09 17 26.1**	**-1.5**
LPAZ	**La Paz**	**7.61**	**105**	P	Pn	09 18 06.8	+9.2
	0.7nm,0.3s,baz=272,slow=9.4,SNR=33						
LVC	**Limon Verde**	**10.40**	**142**	*e*Pn	**Pn**	**09 18 34.1**	**-1.7**
LVC				*e*Sn	**Sn**	**09 20 30.2**	**-1.4**
SAML	**Samuel**	**13.50**	**67**	*e*Pn	**P**	**09 19 23.3**	**-3.4**
SAML				*e*Sn	**Sn**	**09 21 49.5**	**+2.4**
TXAR	**Lajitas Array**	**51.19**	**328**	P	**P**	**09 25 10.5**	**+1.4**
	0.1nm,0.4s,baz=143,slow=9.1,SNR=2.6						
SNAA	**Sanae**	**71.02**	**161**	P	**P**	**09 27 24.2**	**+1.2**
	0.5nm,0.6s,baz=263,slow=10,SNR=7.6						
TORD	**Torodi Ar. Bea**	**81.47**	**74**	P	**P**	**09 28 26.7**	**+3.5**
	1.3nm,0.8s,baz=266,slow=4.9,SNR=7.6						
H11N3	**WAKE ISLAND Hyl**	**20.12**	**285**	T	T	11 45 52.7	
	baz=97						
H11N2	**WAKE ISLAND Hyl**	**20.13**	**285**	T	T	11 45 53.9	
	baz=97						
H11N1	**WAKE ISLAND Hyl**	**20.14**	**285**	T	T	11 45 53.6	
	baz=97						
H11S2	**WAKE ISLAND Hyl**	**20.19**	**283**	T	T	11 45 57.7	
	baz=103						
H11S1	**WAKE ISLAND Hyl**	**20.19**	**283**	T	T	11 45 57.7	
	baz=103						
H11S3	**WAKE ISLAND Hyl**	**20.20**	**283**	T	T	11 45 59.0	
	baz=103						
SONM	**Songino Array**	**146.68**	**357**	PKPbc	**PKPab**	**09 35 49.5**	**+1.0**
	0.3nm,0.4s,baz=346,slow=1.8,SNR=2.8						

*KRNET **05** 09:17:38.1±0.1,40°.27N×71°.96E,h16km,mb2.7*
*SOME **05** 09:17:39.5,40°.27N×72°.17E,h10km*
*NNC **05** 09:17:43.3±8.8,40°.43N×72°.27E,h0km,mb2.9,mpv2.5,*
Error ellipse: s-maj=63.6km s-min=42.6km az=5.0
ISC 05 09:17:38.4±1.8,40°.16N±0°.07×71°.99E±0°.05,h13km±14km,
n15,σ0§87/23,20C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.91**	**264**	⇓*i*P	**Pg**	**09 17 55.8**	**-0.1**
	baz=257						
BTK				⇓*i*S	**Sb**	**09 18 08.9**	**+0.8**
	baz=257						
ARSB	**Arslanbob**	**1.38**	**33**	⇑*i*P	**Pn**	**09 18 03.4**	**-0.2**
	baz=36						
ARSB				⇑*i*S	**Sb**	**09 18 22.0**	**+0.2**
	baz=36						
ARK	**Arkit**	**1.63**	**359**	⇑*e*P	**Pn**	**09 18 07.1**	**+0.1**
	baz=1.0						
ARK				⇑*i*S	**Sn**	**09 18 28.2**	**+0.2**
	baz=1.0						
TOKL	**Toktogul**	**1.89**	**20**	⇑*e*P	**Pb**	**09 18 12.1**	**-0.8**
	baz=22						
TOKL				⇑*i*S	**Sb**	**09 18 36.5**	**0.0**
	baz=22						
AML	**Almayashu**	**2.35**	**33**	⇑*i*P	**Pn**	**09 18 18.4**	**+1.3**
	baz=34						
AML				⇑*i*S	**Sb**	**09 18 49.2**	**-0.7**
	baz=34						
MNAS	**Manas**	**2.35**	**9**	⇑*e*P	**Pb**	**09 18 19.5**	**-1.3**
	baz=10.0						
MNAS				⇑*i*S	**Sb**	**09 18 48.7**	**-1.1**
	baz=10.0						
MNAS	**Manas**	**2.35**	**9**	⇑Pg	**Pb**	**09 18 19.7**	**-1.1**
	2.7nm,0.4s						
MNAS				⇓Lg	Lg	09 18 51.1	
	2.5nm,0.3s						
ARLS	**Aral**	**2.45**	**45**	⇑*e*P	**Pb**	**09 18 21.4**	**-1.0**
	baz=48						
ARLS				⇑*e*S	**Sb**	**09 18 52.3**	**-0.2**
	baz=48						
IUG	**Iuzhnay**	**2.47**	**324**	*e*P	**Pg**	**09 18 25.2**	**-0.6**
	5.9nm,0.3s						
IUG				*e*S	**Sg**	**09 18 57.9**	**0.0**
	9.7nm,0.5s						
MRKS	**Merke**	**2.74**	**19**	*e*P	**Pb**	**09 18 26.7**	**-0.6**
	6.9nm,0.4s						
MRKS				*e*S	**Sb**	**09 19 00.9**	**0.0**
	6.9nm,0.4s						
AAK	**Ala-Archa**	**3.11**	**36**	⇑Pg	**Pb**	**09 18 33.6**	**0.0**
	1.9nm,0.8s						
AAK				⇑Lg	Lg	09 19 13.0	
	5.1nm,0.9s						
KK31	**Karatay Array**	**3.14**	**340**	Pg	**Pg**	**09 18 40.7**	**+2.1**
	0.7nm,0.5s,baz=159,slow=15,SNR=5.3						
KK31				⇑Lg	Lg	09 19 13.3	
	1.4nm,0.4s,baz=155,slow=30,SNR=8.2						
BRLS	**Borolday**	**3.29**	**331**	*e*P	**Pb**	**09 18 35.9**	**-0.7**
	0.8nm,0.7s						
BRLS				*e*S	**Sb**	**09 19 16.6**	**0.0**
	2.4nm,0.4s						
KURBB	**Kurchatov Arra**	**11.42**	**21**	⇑Pg	Pn	09 20 27.8	+6.7
	1.1nm,0.4s,baz=302,slow=16						
KURBB				⇑Lg	Lg	09 20 59.4	
	4.3nm,0.4s,baz=309,slow=29						
KURK	**Kurchatov**	**11.53**	**22**	⇑Pg	Pn	09 20 28.9	+6.3
	5.0nm,1.3s						
KURK				⇑Lg	Lg	09 20 57.9	
	6.3nm,0.7s						

*ISK **05** 09:19:42.8,37°.97N×38°.08E,h5km,MD2.7*
*ISCJB **05** 09:19:44.0±0.6,38°.05N±0°.03×38°.16E±0°.04,h6km±8km,*
Error ellipse: s-maj=5.6km s-min=4.7km az=144.0
*CSEM **05** 09:19:43.9±0.2,38°.06N×38°.16E,h5km,MD2.7,Error*
ellipse: s-maj=5.6km s-min=5.4km az=99.0
*DDA **05** 09:19:43.7,38°.09N×38°.12E,h7km,Md2.7*
ISC 05 09:19:43.6±1.2,38°.07N±0°.03×38°.13E±0°.03,h5km±11km,
n22,σ0§54/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.71**	**315**	*e*PG	**Pb**	**09 19 58.1**	**-0.6**
DARE				*e*SG	**Sb**	**09 20 09.1**	**+0.2**
DARE	**Darende-Malaty**	**0.71**	**315**	*e*Pg	**Pb**	**09 19 58.1**	**-0.6**
DARE				*e*Sg	**Sb**	**09 20 09.1**	**+0.2**
ELZG	**Elazig**	**0.80**	**57**	*i* P	**Pg**	**09 19 59.4**	**+0.4**
ELZG				*i* S	**Sg**	**09 20 10.2**	**+0.8**
ELZG	**Elazig**	**0.80**	**57**	P	**Pg**	**09 19 59.4**	**+0.4**
ELZG				S	**Sg**	**09 20 10.2**	**+0.8**
URFA	**Urfa**	**0.83**	**138**	*e*PG	**Pg**	**09 19 58.5**	**-1.1**
URFA				*e*SG	**Sg**	**09 20 10.0**	**-0.4**
URFA	**Urfa**	**0.83**	**138**	*e*Pg	**Pg**	**09 19 58.5**	**-1.1**
URFA				*e*Sg	**Sg**	**09 20 10.0**	**-0.4**
GZT	**Gaziantep**	**0.84**	**212**	*i* P	**Pg**	**09 19 59.9**	**+0.2**
GZT				*i* S	**Sb**	**09 20 13.4**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.98**	**71**	*e*PG	**Pb**	**09 20 03.4**	**+0.2**
SVRC				*e*SG	**Sn**	**09 20 18.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.98**	**71**	*e*Pg	**Pb**	**09 20 03.4**	**+0.2**
HCB	**Kahramanmara¯**	**1.21**	**234**	*i* P	**Pn**	**09 20 07.1**	**-0.1**
HCB				*i* S	**Sg**	**09 20 22.5**	**+0.1**
KEMA	**Kemaliye**	**1.23**	**13**	*i* P	**Pg**	**09 20 06.6**	**-0.7**
KEMA	**Kemaliye**	**1.23**	**13**	P	**Pg**	**09 20 06.6**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.25**	**162**	*i* P	**Pn**	**09 20 07.8**	**0.0**
SURC	**SANLIURFA_SURC**	**1.25**	**162**	P	**Pn**	**09 20 07.8**	**0.0**
PTK	**Pertek**	**1.29**	**50**	*e*PN	**Pb**	**09 20 08.9**	**+0.4**
PTK	**Pertek**	**1.29**	**50**	*e*Pn	**Pb**	**09 20 08.9**	**+0.4**
ANDN	**Andirin**	**1.49**	**252**	*i* P	**Pn**	**09 20 11.1**	**-0.2**
ANDN	**Andirin**	**1.49**	**252**	P	**Pn**	**09 20 11.1**	**-0.2**
KUZU	**Kuzuini**	**1.54**	**213**	*i* P	**Pg**	**09 20 13.7**	**+0.6**
KUZU				*i* S	**Sn**	**09 20 32.1**	**-0.1**
KUZU	**Kuzuini**	**1.54**	**213**	P	**Pg**	**09 20 13.7**	**+0.6**
KUZU				S	**Sn**	**09 20 32.1**	**-0.1**
MAZI	**Mazidag**	**1.94**	**108**	*e*PN	**Pn**	**09 20 17.1**	**-0.2**
MAZI	**Mazidag**	**1.94**	**108**	*e*Pn	**Pn**	**09 20 17.1**	**-0.2**

WEL 05 09:32:55.3±0.5,35°.46S×178°.68E,h213km±6km,ML3.7/8,
1C-2D,Error ellipse: s-maj=9.9km s-min=5.8km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.12**	**188**	PN	Pn	09 33 35.6	-0.3
MXZ				SN	S	09 34 07.2	-0.2
WMGZ	**Waiomatatini S**	**2.36**	**185**	PN	Pn	09 33 38.8	+0.4
WMGZ				AML	AML	09 34 17.6	
WMGZ				AML	AML	09 34 31.1	
HAZ	**Te Kaha**	**2.40**	**197**	⇓PN	Pn	09 33 39.0	+0.2
HAZ				SN	S	09 34 13.1	+0.5
HAZ				AML	AML	09 34 29.0	
PKGZ	**Pakihiroa**	**2.47**	**191**	PN	Pn	09 33 39.9	+0.2
PKGZ				AML	AML	09 33 42.0	
PKGZ				AML	AML	09 34 34.0	
RUGZ	**Raukumara Rang**	**2.62**	**198**	PN	Pn	09 33 41.6	+0.2
PUZ	**Puketiti**	**2.63**	**187**	⇑PN	Pn	09 33 41.3	-0.1
PUZ				SN	S	09 34 16.5	-0.6
TWGZ	**Tauwhareparae**	**2.77**	**191**	PN	Pn	09 33 43.4	+0.4
TWGZ				AML	AML	09 34 26.7	
TWGZ				AML	AML	09 34 37.7	
MWZ	**Matawai**	**3.01**	**197**	PN	Pn	09 33 46.1	+0.4
CNGZ	**Carnagh Statio**	**3.04**	**187**	PN	Pn	09 33 46.4	+0.4
TKGZ	**Te Karaka**	**3.04**	**192**	*e*PN	Pn	09 33 46.2	+0.1
TKGZ				AML	AML	09 34 30.2	
TKGZ				AML	AML	09 34 31.2	
URZ	**Urewera**	**3.06**	**204**	PN	Pn	09 33 46.5	+0.3
RAGZ	**Rawiri**	**3.19**	**198**	PN	Pn	09 33 48.5	+0.6
RIGZ	**Rimuhau**	**3.32**	**192**	PN	Pn	09 33 49.3	0.0
MUGZ	**Murupara**	**3.38**	**206**	PN	Pn	09 33 50.2	+0.2
RTZ	**Ruatahuna**	**3.43**	**203**	⇓PN	Pn	09 33 50.7	0.0
SNGZ	**Shannon Statio**	**3.48**	**197**	PN	Pn	09 33 51.6	+0.4
KNZ	**Kokohu**	**3.64**	**192**	PN	Pn	09 33 52.6	-0.5
MHGZ	**Mahia Peninsul**	**3.73**	**189**	PN	Pn	09 33 54.3	+0.1
NMHZ	**Naumai**	**3.92**	**202**	PN	Pn	09 33 57.2	+0.6
ARHZ	**Aropaoanui**	**4.02**	**199**	PN	Pn	09 33 57.8	+0.1
BKZ	**Black Stump Fm**	**4.09**	**205**	PN	Pn	09 33 58.8	+0.2
BKZ				AML	AML	09 35 29.0	
MCHZ	**McNeill Hill**	**4.28**	**201**	PN	Pn	09 34 01.0	+0.1
KWHZ	**Kaweka Forest**	**4.34**	**204**	*e*PN	Pn	09 34 01.4	-0.4
KWHZ				AML	AML	09 35 16.3	
BHHZ	**Black Hill Sta**	**4.53**	**207**	PN	Pn	09 34 04.0	0.0
KAHZ	**Kahuranaki**	**4.55**	**198**	PN	Pn	09 34 04.2	-0.2

R15V			eS	Sg	09 37 06.9	-4.6
EZ5V		**1.28 89**	i P	Pn	09 37 01.2	-3.1
EZ5V			eS	Sb	09 37 16.0	-5.1
MMIG	**Aquila**	**1.93 127**	eP	Pn	09 37 10.3	-2.7
MMIG			eS	Sn	09 37 35.1	-2.2
ARIG	**Puente Sto Nin**	**4.52 104**	eP	Pn	09 37 49.4	+0.6
ARIG			eS	Sb	09 38 55.2	+0.9

IASPEI ***05*** *09:38:29.6±0.9, 35°.37N±0°.02×92°.29W±0°.02, h11km±6km, Error ellipse: s-maj=3.5km s-min=2.8km az=143.0, GT5 selection from ISC bulletin GT5 identified by Bond˜¡r and McLaughlin (2009) selection criteria Bond˜¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISCJB ***05*** *09:38:29.7±0.3, 35°.38N±0°.01×92°.28W±0°.01, h6km±2km, Error ellipse: s-maj=1.8km s-min=1.7km az=34.4*

NEIC ***05*** *09:38:30.0±0.0, 35°.37N×92°.27W, h5km, MN3.4(CERI), MW3.3(SLM), After CERI.*

NEIC Felt [III] at Quitman. Also felt at Cabot, Damascus, Greenbrier and Searcy.

ISC 05 09:38:29.7±0.8, 35°.37N±0°.02×92°.29W±0°.02, h15km±5km, n197, σ2°00/245, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.08**	**181**	ePg	**Pg**	**09 38 32.1**	**-0.8**
WHAR				eSg	**Sg**	**09 38 33.4**	**-1.6**
X301	**Greenbrier Sit**	**0.16**	**215**	ePg	**Pg**	**09 38 33.4**	**-0.5**
X301				eSg	**Sg**	**09 38 35.8**	**-0.8**
W41B	**Gary Mavity, V**	**0.20**	**171**	P	**Pg**	**09 38 34.0**	**-0.4**
	baz=354,SNR=1000						
W41B				S	**Sg**	**09 38 36.7**	**-0.8**
	baz=354						
V41A	**Mountainview**	**0.43**	**14**	P	**Pg**	**09 38 38.6**	**+0.2**
	baz=193						
V41A				S	**Sg**	**09 38 44.4**	**+0.2**
	baz=193						
UALR	**University of**	**0.60**	**184**	ePg	**Pg**	**09 38 41.8**	**+0.3**
V40A	**Witts Springs**	**0.61**	**315**	P	**Pg**	**09 38 42.2**	**+0.3**
	baz=134						
V40A				S	**Sg**	**09 38 50.5**	**+0.5**
	baz=134						
W42A	**Bald Knob**	**0.63**	**99**	P	**Pg**	**09 38 42.3**	**+0.1**
	baz=279,SNR=92						
W42A				S	**Sg**	**09 38 50.6**	**0.0**
	baz=279						
W40A	**Ferguson Farm,**	**0.67**	**255**	P	**Pg**	**09 38 43.0**	**+0.2**
	baz=75,SNR=305						
W40A				S	**Sb**	**09 38 52.6**	**+0.5**
	baz=75						
V42A	**Cord**	**0.85**	**59**	P	**Pg**	**09 38 45.8**	**-0.4**
	baz=239						
V42A				S	**Sg**	**09 38 57.3**	**-0.2**
	baz=239						
X41A	**Kaden, Bauxite**	**0.89**	**192**	P	**Pg**	**09 38 47.0**	**-0.1**
	baz=13,SNR=197						
X41A				S	**Sg**	**09 38 59.1**	**+0.3**
	baz=13						
X42A	**Stuttgart**	**0.98**	**146**	P	**Pb**	**09 38 48.6**	**+0.2**
	baz=327,SNR=274						
X40A	**Basin Creek Fa**	**0.99**	**207**	P	**Pb**	**09 38 48.9**	**+0.3**
	baz=27,SNR=135						
X40A				S	**Sg**	**09 39 02.5**	**+0.6**
	baz=27						
U41A	**Viola**	**1.01**	**17**	P	**Pb**	**09 38 49.2**	**+0.2**
	baz=196						
U41A				S	**Sb**	**09 39 02.9**	**+0.8**
	baz=196						
U40A	**Yellville**	**1.09**	**335**	P	**Pb**	**09 38 50.6**	**+0.4**
	baz=154						
V39A	**Pettigrew**	**1.20**	**293**	P	**Pn**	**09 38 52.8**	**+0.8**
	baz=112						
V39A				S	**Sb**	**09 39 08.6**	**+1.1**
	baz=112						
W39A	**Magazine**	**1.24**	**262**	P	**Pb**	**09 38 53.5**	**+0.8**
	baz=82,SNR=187						
W39A				S	**Sg**	**09 39 10.3**	**+0.5**
	baz=82						
U42A	**Revenden**	**1.30**	**41**	P	**Pn**	**09 38 54.0**	**+0.7**
	baz=221						
U42A				S	**Sn**	**09 39 11.2**	**+0.9**
	baz=221						
W43A	**Forest City**	**1.32**	**102**	P	**Pn**	**09 38 54.5**	**+0.9**
	baz=283,SNR=24						
W43A				S	**Sg**	**09 39 12.9**	**+0.4**
	baz=283						
HBAR	**Harrisburg**	**1.34**	**82**	ePn	**Pn**	**09 38 54.9**	**+1.1**
HBAR				eSn	**Sb**	**09 39 12.7**	**+1.2**
MIAR	**Mount Ida**	**1.34**	**233**	P	**Pb**	**09 38 55.1**	**+0.5**
	baz=52,SNR=537						
MIAR				S	**Sg**	**09 39 13.4**	**+0.3**
	baz=52						
MIAR	**Mount Ida**	**1.34**	**233**	ePn	**Pb**	**09 38 55.1**	**+0.5**
MIAR				eSn	**Sn**	**09 39 12.9**	**+1.5**
U39A	**Green Forest**	**1.40**	**316**	P	**Pb**	**09 38 56.1**	**+0.5**
	baz=136						
U39A				S	**Sb**	**09 39 14.7**	**+1.4**
	baz=136						
X43A	**Marvell**	**1.43**	**126**	P	**Pn**	**09 38 56.4**	**+1.3**
	baz=307,SNR=197						
X43A				S	**Sg**	**09 39 16.3**	**+0.3**
	baz=307						
V43A	**Jonesboro**	**1.48**	**73**	P	**Pn**	**09 38 57.0**	**+1.3**
	baz=254,SNR=19						
V43A				S	**Sg**	**09 39 17.4**	**-0.1**
	baz=254						
CCAR	**Cane Creek**	**1.51**	**164**	ePn	**Pb**	**09 38 58.1**	**+0.7**
CCAR				eSn	**Sg**	**09 39 19.0**	**+0.5**
Y41A	**Eaglette Beard**	**1.51**	**190**	P	**Pb**	**09 38 58.0**	**+0.5**
	baz=10,SNR=41						
Y41A				S	**Sg**	**09 39 19.0**	**+0.5**
	baz=10						
Y40A	**Okolona**	**1.58**	**211**	P	**Pb**	**09 38 59.0**	**+0.4**
	baz=31,SNR=187						
Y40A				S	**Sg**	**09 39 20.8**	**0.0**
	baz=31						
Y42A	**Garnett, Star**	**1.58**	**165**	P	**Pb**	**09 38 59.0**	**+0.3**
	baz=346,SNR=112						
Y42A				S	**Sg**	**09 39 21.0**	**+0.1**
	baz=346						
HHAR	**Hobbs**	**1.62**	**305**	ePn	**Pb**	**09 38 60.0**	**+0.6**
HHAR				eSn	**Sg**	**09 39 21.6**	**-0.4**
T41A	**Mountain View**	**1.72**	**14**	P	**Pb**	**09 39 01.3**	**+0.2**
	baz=194,SNR=216						
T41A				S	**Sb**	**09 39 24.5**	**+2.0**
	baz=194						
X39A	**Fountain Ranch**	**1.73**	**241**	P	**Pb**	**09 39 01.5**	**+0.3**
	baz=60,SNR=665						
X39A				S	**Sg**	**09 39 24.9**	**-0.6**
	baz=60						
T40A	**Mansfield**	**1.79**	**354**	P	**Pb**	**09 39 02.3**	**+0.2**
	baz=174,SNR=88						
V38A	**Canehill**	**1.80**	**286**	P	**Pb**	**09 39 02.5**	**+0.1**
	baz=105,SNR=181						
V38A				S	**Sb**	**09 39 26.6**	**+2.0**
	baz=105						
WLAR	**White Oak Lake**	**1.81**	**202**	ePn	**Pb**	**09 39 02.5**	**0.0**
WLAR				eSn	**Sb**	**09 39 25.9**	**+0.9**
U43A	**Rector**	**1.82**	**56**	P	**Pb**	**09 39 02.6**	**-0.2**
	baz=237,SNR=76						
Y43A	**Makayla and Ka**	**1.84**	**142**	P	**Pn**	**09 39 02.5**	**+1.8**
	baz=323,SNR=67						
W38A	**Poteau**	**1.85**	**261**	P	**Pb**	**09 39 03.5**	**+0.2**
	baz=80,SNR=271						
T39A	**Clever**	**1.87**	**332**	P	**Pb**	**09 39 03.5**	**-0.1**
	baz=151,SNR=158						
T42A	**Van Buren**	**1.92**	**30**	P	**Pb**	**09 39 03.9**	**-0.5**
	baz=210						
MET	**Memphis--Engin**	**1.94**	**97**	ePn	**Pn**	**09 39 04.0**	**+1.9**
MET				eSn	**Sb**	**09 39 29.1**	**+0.4**
X44A	**Crenshaw**	**1.96**	**116**	P	**Pn**	**09 39 04.3**	**+2.0**
	baz=297,SNR=32						
V44A	**Blytheville**	**2.00**	**76**	P	**Pn**	**09 39 04.9**	**+2.0**
	baz=257,SNR=11						
U38A	**Gravette**	**2.01**	**303**	P	**Pb**	**09 39 05.6**	**-0.4**
	baz=121,SNR=63						
W44A	**Shelby Farms P**	**2.04**	**96**	P	**Pn**	**09 39 05.1**	**+1.7**
	baz=277						
PBMO	**Poplar Bluff**	**2.06**	**46**	ePn	**Pb**	**09 39 06.2**	**-0.6**
PBMO				eSn	**Sb**	**09 39 34.0**	**+1.8**
Y39A	**Lockesburg**	**2.06**	**227**	P	**Pn**	**09 39 05.7**	**+1.9**
	baz=46						
Y39A				S	**Sb**	**09 39 33.1**	**+0.8**
	baz=46						
Z42A	**Norrel Spur, H**	**2.11**	**172**	P	**Pn**	**09 39 06.3**	**+1.9**
	baz=353						
Z41A	**Richland Creek**	**2.15**	**192**	P	**Pn**	**09 39 06.8**	**+1.8**
	baz=12,SNR=24						
X38A	**Whitesboro**	**2.20**	**252**	P	**Pb**	**09 39 08.6**	**-0.6**
	baz=71						
Y44A	**Strider, Charl**	**2.21**	**129**	P	**Pn**	**09 39 07.5**	**+1.7**
	baz=310,SNR=40						
S40A	**Lebanon**	**2.23**	**356**	P	**Pn**	**09 39 08.4**	**+2.3**
	baz=175,SNR=176						
S41A	**Jillco Farms,**	**2.25**	**11**	P	**Pn**	**09 39 08.6**	**+2.2**
	baz=191,SNR=90						
T38A	**Diamond**	**2.32**	**316**	P	**Pn**	**09 39 09.9**	**+2.5**
	baz=135,SNR=57						
Z43A	**Armstrong Fami**	**2.32**	**158**	P	**Pn**	**09 39 08.9**	**+1.6**
	baz=339						
T43A	**Greenville**	**2.35**	**43**	P	**Pb**	**09 39 10.6**	**-1.2**
	baz=224,SNR=109						
V37A	**Hulbert**	**2.38**	**283**	P	**Pn**	**09 39 10.7**	**+2.5**
	baz=102,SNR=66						
U44A	**Portageville**	**2.39**	**61**	P	**Pn**	**09 39 10.2**	**+1.9**
	baz=242						
PARMO	**Parma**	**2.43**	**57**	ePn	**Pn**	**09 39 11.0**	**+2.2**
HALT	**Halls**	**2.46**	**77**	ePn	**Pn**	**09 39 11.1**	**+1.8**
S39A	**Bolivar**	**2.46**	**340**	P	**Pn**	**09 39 11.7**	**+2.4**
	baz=160,SNR=58						
Y38A	**Idabel**	**2.48**	**235**	P	**Pn**	**09 39 12.0**	**+2.5**
	baz=54,SNR=42						
OXF	**Oxford**	**2.51**	**109**	ePn	**Pn**	**09 39 11.9**	**+1.9**
U37A	**Salina**	**2.52**	**295**	P	**Pn**	**09 39 12.5**	**+2.4**
	baz=113						
W45A	**Hickory Valley**	**2.55**	**94**	P	**Pn**	**09 39 11.8**	**+1.3**
	baz=276,SNR=14						
X45A	**UM Field Stati**	**2.56**	**111**	P	**Pn**	**09 39 12.1**	**+1.5**
	baz=293,SNR=12						
U44B	**Burton Farm, H**	**2.57**	**67**	P	**Pn**	**09 39 12.4**	**+1.6**
	baz=249,SNR=17						
W37B	**Quinton**	**2.58**	**266**	P	**Pn**	**09 39 13.1**	**+2.1**
	baz=84,SNR=20						
Z44A	**Pea Ridge, Bel**	**2.59**	**143**	P	**Pn**	**09 39 12.7**	**+1.7**
	baz=324,SNR=7.5						
S38A	**Stockton**	**2.61**	**330**	P	**Pn**	**09 39 13.3**	**+2.0**
	baz=149,SNR=53						
S42A	**Caledonia**	**2.68**	**26**	P	**Pn**	**09 39 14.4**	**+2.1**
	baz=207,SNR=19						
Y45A	**Yeager Farm, C**	**2.71**	**123**	P	**Pn**	**09 39 14.2**	**+1.4**
	baz=304						
V45A	**Humboldt**	**2.74**	**81**	P	**Pn**	**09 39 14.5**	**+1.4**
	baz=263,SNR=18						
T37A	**Cheneyville 18**	**2.75**	**310**	P	**Pn**	**09 39 15.4**	**+2.1**
	baz=129,SNR=52						
143A	**Socs Landing,**	**2.76**	**164**	P	**Pn**	**09 39 15.2**	**+1.8**
	baz=345,SNR=11						
T44A	**Benton**	**2.77**	**51**	P	**Pn**	**09 39 15.6**	**+2.1**
	baz=232						
141A	**Papa Simpson,**	**2.81**	**191**	P	**Pn**	**09 39 16.1**	**+2.1**
	baz=11						
S43A	**Fulton Ridge,**	**2.83**	**38**	P	**Pn**	**09 39 16.4**	**+2.1**
	baz=219						
142A	**Monroe**	**2.83**	**174**	P	**Pn**	**09 39 16.5**	**+2.2**
	baz=355						
TUL1	**Leonard**	**2.91**	**282**	P	**Pn**	**09 39 17.6**	**+2.2**
	baz=100,SNR=15						
TUL1	**Leonard**	**2.91**	**282**	ePn	**Pn**	**09 39 17.8**	**+2.4**
140A	**Cam and Jess,**	**2.93**	**202**	P	**Pn**	**09 39 17.5**	**+1.8**
	baz=21						
Z45A	**Winona**	**2.93**	**132**	P	**Pn**	**09 39 17.3**	**+1.6**
	baz=314,SNR=15						
U36A	**Oologah**	**2.98**	**291**	P	**Pn**	**09 39 18.5**	**+2.1**
	baz=109,SNR=9.6						
R39A	**Chumby, Stover**	**3.00**	**349**	P	**Pn**	**09 39 19.0**	**+2.3**
	baz=168,SNR=37						
V36A	**Jenks**	**3.01**	**279**	P	**Pn**	**09 39 19.2**	**+2.4**
	baz=97,SNR=17						
R41A	**Rosebud**	**3.01**	**14**	P	**Pn**	**09 39 18.7**	**+1.8**
	baz=194,SNR=18						
U45A	**Rockin P Farm,**	**3.02**	**70**	P	**Pn**	**09 39 18.7**	**+1.7**
	baz=252						
Z38A	**Mt. Pleasant**	**3.08**	**227**	P	**Pn**	**09 39 19.4**	**+1.6**
	baz=46						
R38A	**Fenwick Farm,**	**3.10**	**336**	P	**Pn**	**09 39 20.2**	**+2.2**
	baz=155,SNR=13						
144A	**Alexander Plac**	**3.14**	**150**	P	**Pn**	**09 39 20.5**	**+1.8**
	baz=331						
R42A	**Luebbering**	**3.14**	**22**	P	**Pn**	**09 39 20.7**	**+2.0**
	baz=203,SNR=51						
S37A	**Fort Scott**	**3.14**	**320**	P	**Pn**	**09 39 20.9**	**+2.3**
	baz=139,SNR=18						
Y46A	**Houston**	**3.19**	**117**	P	**Pn**	**09 39 20.7**	**+1.4**
	baz=299,SNR=5.6						
139A	**Bunkhouse Ranc**	**3.20**	**214**	P	**Pn**	**09 39 21.4**	**+1.9**
	baz=33						
W36A	**Wetumka**	**3.23**	**267**	P	**Pn**	**09 39 22.1**	**+2.2**
	baz=85,SNR=16						
T36A	**Boggs Farm, Ca**	**3.36**	**301**	P	**Pn**	**09 39 23.9**	**+2.2**
	baz=119,SNR=9.3						
S44A	**Carbondale**	**3.37**	**46**	P	**Pn**	**09 39 24.1**	**+2.4**
	baz=227						
241A	**Mo Tay, Goldon**	**3.38**	**189**	P	**Pn**	**09 39 23.9**	**+2.0**
	baz=8.9						
145A	**Houston Renfro**	**3.38**	**144**	P	**Pn**	**09 39 23.9**	**+2.0**
	baz=326						
X36A	**Centrahoma**	**3.43**	**258**	P	**Pn**	**09 39 24.9**	**+2.3**
	baz=75						
Z46A	**Louisville**	**3.52**	**127**	P	**Pn**	**09 39 25.8**	**+2.0**
	baz=309						
S36A	**Lake Cedric, C**	**3.55**	**312**	P	**Pn**	**09 39 26.3**	**+2.0**
	baz=130,SNR=9.7						
138A	**Matatall Enter**	**3.57**	**222**	P	**Pn**	**09 39 26.4**	**+1.9**
	baz=40						
R37A	**Teagarden Farm**	**3.58**	**326**	P	**Pn**	**09 39 27.3**	**+2.7**
	baz=144						
244A	**Avery, Jackson**	**3.58**	**158**	P	**Pn**	**09 39 26.2**	**+1.5**
	baz=339						
Y36A	**Durant**	**3.61**	**247**	P	**Pn**	**09 39 27.8**	**+2.7**
	baz=65						
Q40A	**Laux Farm, Aux**	**3.62**	**3**	P	**Pn**	**09 39 27.8**	**+2.5**
	baz=183						
Q41A	**Truxton**	**3.67**	**13**	P	**Pn**	**09 39 28.5**	**+2.6**
	baz=193,SNR=23						
WVT	**Waverly**	**3.70**	**77**	ePn	**Pn**	**09 39 27.8**	**+1.4**
V35A	**Meyer Ranch, C**	**3.73**	**277**	P	**Pn**	**09 39 28.9**	**+2.1**
	baz=95						
Q38A	**Cooks Store, C**	**3.74**	**344**	P	**Pn**	**09 39 28.7**	**+1.9**
	baz=163						
U35A	**Pawnee**	**3.75**	**287**	P	**Pn**	**09 39 29.3**	**+2.4**
	baz=104						
T35A	**Sooner Cattle**	**3.75**	**295**	P	**Pn**	**09 39 29.2**	**+2.1**
	baz=113,SNR=7.6						
W35A	**Tecumseh**	**3.76**	**268**	P	**Pn**	**09 39 29.2**	**+2.0**
	baz=85,SNR=20						
S45A	**Carrier Mills**	**3.77**	**51**	Pb	**Pb**	**09 39 37.0**	**+1.1**
	baz=233						
239A	**Gary**	**3.81**	**209**	P	**Pn**	**09 39 30.1**	**+2.4**
	baz=28,SNR=5.6						
146A	**Union**	**3.83**	**135**	P	**Pn**	**09 39 30.0**	**+2.0**
	baz=317						
R44A	**Waltonville**	**3.85**	**41**	P	**Pn**	**09 39 30.8**	**+2.3**
	baz=223,SNR=7.5						
245A	**Little AP, Sta**	**3.88**	**148**	P	**Pn**	**09 39 30.5**	**+1.7**
	baz=330						
Q37A	**Longview Farm,**	**3.90**	**334**	Pb	**Pb**	**09 39 40.1**	**+1.9**
	baz=153						
R36A	**Gordon, Harris**	**3.92**	**320**	P	**Pn**	**09 39 31.5**	**+2.2**
	baz=138,SNR=9.5						
X35A	**Drake**	**3.97**	**257**	Pb	**Pb**	**09 39 41.3**	**+1.9**
	baz=75						
S35A	**Otter Creek Ra**	**3.98**	**307**	P	**Pn**	**09 39 32.7**	**+2.5**
	baz=124,SNR=6.0						
Z36A	**Blue Ridge**	**4.02**	**240**	P	**Pn**	**09 39 33.1**	**+2.4**
	baz=57,SNR=5.1						
341A	**Kurthwood**	**4.09**	**191**	P	**Pn**	**09 39 33.9**	**+2.2**
	baz=10						
Q43A	**New Douglas**	**4.12**	**29**	P	**Pn**	**09 39 34.9**	**+2.8**
	baz=211,SNR=15						
P39B	**Salisbury**	**4.13**	**355**	P	**Pn**	**09 39 34.1**	**+2.0**
	baz=175,SNR=21						
P40A	**Paris**	**4.16**	**3**	P	**Pn**	**09 39 34.6**	**+2.1**
	baz=182,SNR=14						
P38A	**Dawn**	**4.36**	**347**	P	**Pn**	**09 39 37.7**	**+2.3**
	baz=166,SNR=17						
Q44A	**Meyer Farm, Va**	**4.39**	**36**	P	**Pn**	**09 39 37.6**	**+1.9**
	baz=217						
Q36A	**Arnold C. Orve**	**4.39**	**326**	P	**Pn**	**09 39 38.1**	**+2.3**
	baz=144						
Z48A	**Northport**	**4.39**	**116**	P	**Pn**	**09 39 37.5**	**+1.7**
	baz=298,SNR=9.9						
P41A	**Barry, Barry**	**4.41**	**12**	P	**Pn**	**09 39 38.1**	**+2.1**
	baz=193,SNR=12						
237A	**Washetta, Mont**	**4.46**	**222**	P	**Pn**	**09 39 39.0**	**+2.2**
	baz=40,SNR=9.7						
345A	**Thompson Farm,**	**4.47**	**154**	P	**Pn**	**09 39 38.6**	**+1.7**
	baz=336						
P42A	**Winchester**	**4.48**	**20**	P	**Pn**	**09 39 39.5**	**+2.5**
	baz=200						
P37A	**Lathrop**	**4.52**	**339**	P	**Pn**	**09 39 39.8**	**+2.3**
	baz=158,SNR=5.1						
136A	**Ennis**	**4.56**	**232**	P	**Pn**	**09 39 39.7**	**+1.6**
	baz=50						
Q35A	**Mercer Eighty,**	**4.59**	**320**	P	**Pn**	**09 39 41.1**	**+2.5**
	baz=138,SNR=34						
346A	**Big Creek Wild**	**4.62**	**148**	P	**Pn**	**09 39 41.0**	**+2.1**
	baz=330						
338A	**Crockett**	**4.74**	**213**	P	**Pn**	**09 39 43.1**	**+2.5**
	baz=32						
OLIL	**Olney**	**4.74**	**44**	ePb	**Pb**	**09 39 53.9**	**+1.4**
O40A	**La Belle**	**4.75**	**4**	P	**Pn**	**09 39 42.9**	**+2.1**
	baz=184,SNR=9.3						
P43A	**Skaggs, Pawnee**	**4.79**	**26**	P	**Pn**	**09 39 44.0**	**+2.6**
	baz=208,SNR=6.9						
O38A	**Galt**	**4.83**	**349**	P	**Pn**	**09 39 44.0**	**+2.1**
	baz=168,SNR=5.8						
O41A	**Passleys Farm,**	**4.87**	**13**	P	**Pn**	**09 39 44.5**	**+2.2**
	baz=194						
O39A	**Kirksville**	**4.88**	**358**	P	**Pn**	**09 39 44.7**	**+2.1**
	baz=177,SNR=29						
236A	**Katherine and**	**4.88**	**228**	P	**Pn**	**09 39 44.8**	**+2.2**
	baz=45						
R34A	**Isabella, Hill**	**4.94**	**308**	P	**Pn**	**09 39 45.2**	**+1.9**
	baz=125,SNR=9.5						
LRAL	**Lakeview Retre**	**4.96**	**116**	ePn	**Pn**	**09 39 45.0**	**+1.3**
LRAL				eSn	**Sn**	**09 40 40.5**	**-0.3**
P44A	**Sand Creek, Wi**	**5.02**	**34**	P	**Pn**	**09 39 46.6**	**+2.2**
	baz=216						
KSU1	**Kansas State U**	**5.08**	**318**	ePg	**Pg**	**09 40 04.6**	**-2.3**
	62nm,0.4s						
KSU1				eSn	**Sn**	**09 40 44.1**	**+0.6**
P35A	**Duane Minner,**	**5.10**	**326**	P	**Pn**	**09 39 48.1**	**+2.5**
	baz=143						
Q34A	**Chapman**	**5.14**	**315**	P	**Pn**	**09 39 47.7**	**+1.6**
	baz=132,SNR=8.3						
SWET	**Sewanee**	**5.20**	**90**	ePn	**Pn**	**09 39 48.3**	**+1.4**
O36A	**Bolckow**	**5.20**	**337**	P	**Pn**	**09 39 49.3**	**+2.3**
	baz=155						
WMOK	**Wichita Mounta**	**5.37**	**265**	P	**Pn**	**09 39 50.9**	**+1.7**
	baz=81,SNR=7.5						
WMOK	**Wichita Mounta**	**5.37**	**265**	ePn	**Pn**	**09 39 50.7**	**+1.5**
WMOK				eSn	**Sn**	**09 40 53.0**	**+2.3**
O43A	**Sugar Creek Fa**	**5.44**	**25**	P	**Pn**	**09 39 52.2**	**+2.0**
	baz=206						
N38A	**Joes South For**	**5.46**	**352**	P	**Pn**	**09 39 52.2**	**+1.6**
	baz=172						
WHTX	**Lake Whitney,**	**5.47**	**233**	P	**Pn**	**09 39 52.5**	**+1.9**
	baz=50,SNR=14						
WHTX	**Lake Whitney,**	**5.47**	**233**	ePn	**Pn**	**09 39 52.5**	**+1.9**
WHTX				eSn	**Sn**	**09 40 56.1**	**+2.8**
N39A	**Derby Farms, D**	**5.50**	**358**	P	**Pn**	**09 39 52.8**	**+1.7**
	baz=178,SNR=7.0						
336A	**Riesel**	**5.51**	**225**	P	**Pn**	**09 39 52.7**	**+1.5**
	baz=43						
P34A	**Walnut Farm, R**	**5.51**	**320**	P	**Pn**	**09 39 53.0**	**+1.7**
	baz=138,SNR=9.5						
N40A	**Mertquake, Sal**	**5.53**	**6**	P	**Pn**	**09 39 53.0**	**+1.5**
	baz=186,SNR=9.7						
WCI	**Wyandotte Cave**	**5.59**	**58**	ePn	**Pn**	**09 39 52.5**	**+0.2**
WCI				eSg	**Sg**	**09 41 22.6**	**-6.6**
O35A	**Humboldt**	**5.67**	**331**	P	**Pn**	**09 39 55.4**	**+2.0**
	baz=148						
HDIL	**Hopedale**	**5.69**	**24**	ePn	**Pn**	**09 39 53.5**	**-0.2**
HDIL				eSn	**Sn**	**09 40 59.8**	**+1.2**
O34A	**Beatrice**	**5.94**	**325**	P	**Pn**	**09 39 58.7**	**+1.6**
	baz=143,SNR=11						
BLO	**Bloomington**	**5.96**	**49**	ePb	**Pb**	**09 40 15.9**	**+2.6**
BLO				eSb	**Sb**	**09 41 32.9**	**+8.5**
M40A	**Post Highland**	**6.06**	**6**	P	**Pn**	**09 40 00.3**	**+1.6**
	baz=186						
M39A	**Webster**	**6.10**	**1**	P	**Pn**	**09 40 00.8**	**+1.5**
	baz=181						
O33A	**Hebron**	**6.30**	**320**	P	**Pn**	**09 40 04.1**	**+2.0**
	baz=137						
CPCT	**Cooper Cave**	**6.34**	**87**	ePn	**Pn**	**09 40 05.0**	**+2.4**
435B	**Jarrell**	**6.38**	**226**	P	**Pn**	**09 40 05.3**	**+2.1**
	baz=43						
N34A	**Lincoln**	**6.39**	**330**	P	**Pn**	**09 40 05.6**	**+2.3**
	baz=147						
SFIN	**Lafayette**	**6.47**	**38**	Pn	**Pn**	**09 40 06.2**	**+1.9**
SFIN				eSg	**Sb**	**09 41 47.5**	**+8.5**
ABTX	**Abilene, Hawle**	**6.70**	**248**	P	**Pn**	**09 40 08.7**	**+1.2**
	baz=64						
ABTX	**Abilene, Hawle**	**6.70**	**248**	ePb	**Pb**	**09 40 30.4**	**+4.6**
L40A	**Anamosa**	**6.73**	**7**	P	**Pn**	**09 40 08.9**	**+0.9**
	baz=187						
CBKS	**Cedar Bluff**	**6.88**	**302**	P	**Pn**	**09 40 11.7**	**+1.7**
	baz=118						
CBKS	**Cedar Bluff**	**6.88**	**302**	ePn	**Pn**	**09 40 11.3**	**+1.3**
CBKS				eSn	**Sn**	**09 41 29.9**	**+2.0**
TKL	**Tuckaleechee C**	**6.95**	**85**	ePb	**Pb**	**09 40 30.9**	**+0.8**
TKL				eSb	Sb	09 42 02.5	+10
534A	**Blanco**	**7.45**	**226**	P	**Pn**	**09 40 18.4**	**+0.4**
	baz=43						
GOGA	**Godfrey**	**7.55**	**102**	ePn	**Pn**	**09 40 16.9**	**-2.3**
GOGA				eSn	**Sn**	**09 41 43.8**	**-0.7**
635A	**Leesville**	**7.56**	**219**	P	**Pn**	**09 40 20.2**	**+0.9**
	baz=36						
BGNE	**Belgrade**	**7.58**	**324**	P	**Pn**	**09 40 21.4**	**+1.7**
	baz=141						
JFWS	**Jewell Farm**	**7.70**	**11**	ePn	**Pn**	**09 40 22.1**	**+0.9**
JFWS				eSn	**Sn**	**09 41 43.7**	**-4.4**
JCT	**Junction City**	**7.98**	**234**	P	**Pn**	**09 40 26.0**	**+0.8**
	baz=50						
JCT	**Junction City**	**7.98**	**234**	ePn	**Pn**	**09 40 24.5**	**-0.7**
JCT				eSn	**Sn**	**09 41 54.0**	**-1.2**
MSTX	**Muleshoe**	**8.75**	**264**	ePn	**Pn**	**09 40 35.4**	**-0.4**
	15nm,1.5s						
MSTX				eSn	**Sn**	**09 42 11.7**	**-2.5**
ECSD	**EROS Data Cent**

DEMI	**Demirci**	**0.94**	**94**	P	**Pn**	**09 45 32.8**	**+0.2**
DEMI				S	**Sn**	**09 45 45.8**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.98**	**310**	*i* P	**Pn**	**09 45 33.6**	**+0.4**
BAYC				*i* S	**Sn**	**09 45 47.0**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.98**	**310**	P	**Pn**	**09 45 33.6**	**+0.4**
BAYC				S	**Sn**	**09 45 47.0**	**-0.8**
URLA	**Izmir**	**1.04**	**224**	*e*PG	**Pg**	**09 45 31.4**	**-0.6**
URLA	**Izmir**	**1.04**	**224**	*e*Pg	**Pg**	**09 45 31.4**	**-0.6**
KULA	**Kula-Manisa**	**1.07**	**123**	*e*PN	**Pb**	**09 45 33.6**	**0.0**
KULA				*e*SN	**Sb**	**09 45 49.0**	**+0.8**
KULA	**Kula-Manisa**	**1.07**	**123**	*e*Pn	**Pb**	**09 45 33.6**	**0.0**
KULA				*e*Sn	**Sb**	**09 45 49.0**	**+0.8**
DGB	**¯zmir**	**1.16**	**205**	*i* P	**Pn**	**09 45 36.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**166**	*e*PN	**Pg**	**09 45 35.0**	**0.0**
AYDB				*e*SN	**Sb**	**09 45 51.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**166**	*e*Pn	**Pg**	**09 45 35.0**	**0.0**
AYDB				*e*Sn	**Sb**	**09 45 51.9**	**+0.1**
SIGR	**SIGRI**	**1.29**	**275**	*e*PN	**Pg**	**09 45 36.6**	**-0.3**
SIGR	**SIGRI**	**1.29**	**275**	*e*Pn	**Pg**	**09 45 36.6**	**-0.3**
AYDN	**Tasoluk**	**1.47**	**169**	*i* P	**Pb**	**09 45 41.0**	**+0.6**
AYDN				*i* S	**Sn**	**09 46 00.4**	**+0.4**
AYDN	**Tasoluk**	**1.47**	**169**	P	**Pb**	**09 45 41.0**	**+0.6**
AYDN				S	**Sn**	**09 46 00.4**	**+0.4**
TVSB	**Tavsanli**	**1.55**	**77**	*e*PN	**Pb**	**09 45 41.6**	**-0.2**
TVSB	**Tavsanli**	**1.55**	**77**	*e*Pn	**Pb**	**09 45 41.6**	**-0.2**
APE	**Apeiranthos**	**2.57**	**218**	*e*PN	**Pn**	**09 45 54.6**	**-0.3**
APE	**Apeiranthos**	**2.57**	**218**	*e*Pn	**Pn**	**09 45 54.7**	**-0.3**

ISCJB ***05*** *09:57:42.4±0.2, 37°.66S±0°.03×176°.12E±0°.05, h320km±2km, mb4.4/26, Error ellipse: s-maj=6.5km s-min=3.9km az=18.3*

NEIC ***05*** *09:57:43.0±0.0, 37°.51S×176°.32E, h312km, mb4.6/14, After WEL.*

NEIC Felt in the central part of the North Island.

IDC ***05*** *09:57:42.8±0.9, 37°.53S×176°.35E, h314km±9km, mb4.2/7, mb1 4.2/8, mb1mx4.0/26, mbtmp5.0/8, Error ellipse: s-maj=22.9km s-min=13.1km az=53.0*

WEL ***05*** *09:57:44.2±0.5, 37°.56S×176°.30E, h303km±3km, ML5.7/57, Mw4.6, Error ellipse: s-maj=2.9km s-min=2.4km az=90.0, maximum reported intensity MM 4.*

WEL Felt from Auckland to Wellington, and from Marlborough to Gisborne.

ISC 05 09:57:42.6±0.5, 37°.65S±0°.04×176°.18E±0°.05, h310km±4km, n212, σ1§52/234, mb4.6/26, 77C-12D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TGRZ	**Tauranga**	**0.10**	**141**	⇑PN	**Pn**	**09 59 22.5**	**+0.8**
TGRZ				*e*SN	**S**	**09 59 53.5**	**+0.6**
OPRZ	**Ohinepanea**	**0.35**	**123**	PN	**Pn**	**09 58 22.4**	**+0.4**
OPRZ				SN	**S**	**09 58 53.4**	**0.0**
KARZ	**Kaharoa**	**0.37**	**173**	⇑PN	**Pn**	**09 58 23.0**	**+0.9**
OMRZ	**Omania**	**0.47**	**162**	⇑PN	**Pn**	**09 58 23.3**	**+1.0**
MARZ	**Manawahe**	**0.51**	**131**	⇑PN	**Pn**	**09 58 23.1**	**+0.7**
MKRZ	**Makatiti**	**0.53**	**155**	PN	**Pn**	**09 58 23.9**	**+1.4**
TOZ	**Tahuroa Road**	**0.55**	**262**	PN	**Pn**	**09 58 23.7**	**+1.2**
HLRZ	**Highlands Stat**	**0.61**	**168**	PN	**Pn**	**09 58 23.7**	**+1.1**
EDRZ	**Edgecumbe**	**0.63**	**136**	⇓PN	**Pn**	**09 58 23.5**	**+0.8**
TARZ	**Mount Tarawera**	**0.63**	**156**	⇑PN	**Pn**	**09 58 23.9**	**+1.1**
HSRZ	**Hossack Road**	**0.66**	**176**	PN	**Pn**	**09 58 24.0**	**+1.2**
WHRZ	**Whale Island**	**0.66**	**108**	*e*PN	**Pn**	**09 58 24.0**	**+1.2**
GRRZ	**Galatos Road**	**0.70**	**185**	⇑PN	**Pn**	**09 58 24.3**	**+1.4**
RRRZ	**Republican Roa**	**0.73**	**159**	⇑PN	**Pn**	**09 58 23.9**	**+0.9**
HRRZ	**Handcock Road**	**0.74**	**174**	⇑PN	**Pn**	**09 58 24.2**	**+1.2**
TLZ	**Tolley Road**	**0.85**	**217**	PN	**Pn**	**09 58 24.8**	**+1.4**
PRRZ	**Plateau Road**	**0.86**	**169**	⇑PN	**Pn**	**09 58 24.4**	**+1.0**
WPRZ	**Whakapapatarin**	**0.86**	**181**	⇑PN	**Pn**	**09 58 24.8**	**+1.3**
KUTZ	**Kaahu Road**	**0.88**	**199**	⇑PN	**Pn**	**09 58 25.1**	**+1.5**
ALRZ	**Allen Road**	**0.92**	**172**	⇑PN	**Pn**	**09 58 24.8**	**+1.2**
MUGZ	**Murupara**	**0.94**	**151**	⇑PN	**Pn**	**09 58 24.4**	**+0.6**
URZ	**Urewera**	**0.95**	**130**	P	**Pn**	**09 58 24.1**	**+0.3**
	baz=271,slow=2.9						
URZ				S	**S**	**09 58 54.9**	**-1.7**
	1μm,0.3s,baz=96,slow=19,SNR=61						
URZ	**Urewera**	**0.95**	**130**	*e*Pn	**Pn**	**09 58 24.1**	**+0.3**
URZ				*e*S	**S**	**09 58 53.6**	**-3.0**
URZ	**Urewera**	**0.95**	**130**	PN	**Pn**	**09 58 23.9**	**+0.2**
URZ				SN	**S**	**09 58 55.0**	**-1.7**
URZ				AML	AML	09 58 56.9	
KUZ	**Kuaotunu**	**0.98**	**338**	PN	**Pn**	**09 58 23.6**	**-0.4**
MKAZ	**Moumakai**	**0.98**	**304**	PN	**Pn**	**09 58 24.5**	**+0.5**
WHTZ	**Whakaora**	**1.03**	**190**	⇑PN	**Pn**	**09 58 25.9**	**+1.7**
WATZ	**Wairara**	**1.11**	**199**	⇑PN	**Pn**	**09 58 26.2**	**+1.7**
RTZ	**Ruatahuna**	**1.15**	**147**	⇑PN	**Pn**	**09 58 25.8**	**+1.0**
KBAZ	**Karaka Road Bo**	**1.17**	**298**	⇓PN	**Pn**	**09 58 26.0**	**+1.0**
MRHZ	**Matea Rd**	**1.19**	**171**	⇑PN	**Pn**	**09 58 26.1**	**+1.1**
MRHZ				AML	AML	09 59 01.1	
MRHZ				AML	AML	09 59 01.6	
WIAZ	**Waiheke Island**	**1.20**	**315**	⇑PN	**Pn**	**09 58 25.6**	**+0.5**
ETAZ	**East Tamaki Re**	**1.22**	**305**	⇑PN	**Pn**	**09 58 25.9**	**+0.7**
RUGZ	**Raukumara Rang**	**1.22**	**105**	⇑PN	**Pn**	**09 58 24.7**	**-0.6**
HATZ	**Hinemaiaia**	**1.24**	**183**	PN	**Pn**	**09 58 26.4**	**+1.2**
RATZ	**Rangitukua**	**1.25**	**195**	⇑PN	**Pn**	**09 58 26.8**	**+1.5**
MWZ	**Matawai**	**1.26**	**123**	⇑PN	**Pn**	**09 58 25.8**	**+0.5**
MWZ				AML	AML	09 58 59.9	
MWZ				AML	AML	09 59 02.1	
HAZ	**Te Kaha**	**1.27**	**95**	⇑PN	**Pn**	**09 58 25.0**	**-0.3**
HAZ				AML	AML	09 58 59.4	
HAZ				AML	AML	09 58 59.5	
HAZ				AML	AML	09 59 01.4	
HAZ				AML	AML	09 59 01.4	
RAGZ	**Rawiri**	**1.28**	**131**	⇑PN	**Pn**	**09 58 26.8**	**+1.2**
RAGZ				AML	AML	09 59 03.8	
RAGZ				AML	AML	09 59 04.0	
RITZ	**Rihia Road**	**1.35**	**191**	⇑PN	**Pn**	**09 58 27.5**	**+1.7**
HIZ	**Hauiti**	**1.35**	**230**	*e*Pn	**Pn**	**09 58 27.8**	**+2.0**
HIZ	**Hauiti**	**1.35**	**230**	PN	**Pn**	**09 58 28.4**	**+2.5**
AWAZ	**Awhitu Peninsu**	**1.36**	**295**	⇑PN	**Pn**	**09 58 27.0**	**+1.0**
KATZ	**Kakaramea**	**1.37**	**196**	PN	**Pn**	**09 58 27.6**	**+1.5**
SNGZ	**Shannon Statio**	**1.45**	**141**	⇑PN	**Pn**	**09 58 27.9**	**+1.5**
SNGZ				AML	AML	09 59 04.0	
SNGZ				AML	AML	09 59 09.8	
KRVZ	**Karewarewa**	**1.50**	**196**	⇑PN	**Pn**	**09 58 28.2**	**+1.4**
TWGZ	**Tauwhareparae**	**1.51**	**111**	⇑PN	**Pn**	**09 58 28.0**	**+1.2**
TWGZ				AML	AML	09 59 04.5	
TWGZ				AML	AML	09 59 04.6	
GRZ	**Great Barrier**	**1.52**	**337**	PN	**Pn**	**09 58 26.9**	**0.0**
PKGZ	**Pakihiroa**	**1.52**	**99**	⇑PN	**Pn**	**09 58 27.5**	**+0.6**
PKGZ				AML	AML	09 59 02.6	
PKGZ				AML	AML	09 59 03.3	
NMHZ	**Naumai**	**1.52**	**161**	⇑PN	**Pn**	**09 58 29.0**	**+2.1**
NMHZ				AML	AML	09 59 06.9	
NMHZ				AML	AML	09 59 06.9	
BKZ	**Black Stump Fm**	**1.53**	**171**	*e*Pn	**Pn**	**09 58 28.4**	**+1.5**
BKZ				*e*S	**S**	**09 58 56.8**	**-5.5**
BKZ	**Black Stump Fm**	**1.53**	**171**	⇑PN	**Pn**	**09 58 28.1**	**+1.2**
BKZ				AML	AML	09 59 04.5	
BKZ				AML	AML	09 59 04.7	
TKGZ	**Te Karaka**	**1.53**	**121**	PN	**Pn**	**09 58 28.0**	**+1.1**
TKGZ				AML	AML	09 59 05.6	
TKGZ				AML	AML	09 59 05.9	
TWVZ	**Taurewa**	**1.53**	**202**	⇑PN	**Pn**	**09 58 28.5**	**+1.5**
WTVZ	**West Tongariro**	**1.53**	**198**	⇑PN	**Pn**	**09 58 28.1**	**+1.4**
RVAZ	**Riverhead Bore**	**1.56**	**304**	⇑PN	**Pn**	**09 58 27.8**	**+0.6**
OTVZ	**Oturere**	**1.56**	**195**	PN	**Pn**	**09 58 28.7**	**+1.4**
NGZ	**Ngauruhoe**	**1.59**	**197**	PN	**Pn**	**09 58 28.8**	**+1.4**
RIGZ	**Rimuhau**	**1.63**	**131**	⇑PN	**Pn**	**09 58 29.0**	**+1.4**
RIGZ				AML	AML	09 59 05.8	
RIGZ				AML	AML	09 59 06.0	
WHHZ	**Waihua**	**1.64**	**150**	PN	**Pn**	**09 58 29.3**	**+1.7**
WHHZ				AML	AML	09 59 07.2	
WHHZ				AML	AML	09 59 08.8	
TUVZ	**Tukino**	**1.66**	**194**	PN	**Pn**	**09 58 29.4**	**+1.4**
FWVZ	**Far West T-bar**	**1.67**	**197**	⇑PN	**Pn**	**09 58 29.3**	**+1.2**
MXZ	**Matakaoa Point**	**1.69**	**88**	*e*Pn	**Pn**	**09 58 28.3**	**+0.3**
MXZ				*e*S	**S**	**09 58 57.7**	**-6.4**
MXZ	**Matakaoa Point**	**1.69**	**88**	⇑PN	**Pn**	**09 58 28.1**	**+0.1**
MXZ				AML	AML	09 59 06.0	
MXZ				AML	AML	09 59 06.2	
DRZ	**Dome Shelter**	**1.69**	**197**	⇑PN	**Pn**	**09 58 30.0**	**+1.6**
WHVZ	**Whangaehu Hut**	**1.69**	**196**	⇑PN	**Pn**	**09 58 29.5**	**+1.3**
PUZ	**Puketiti**	**1.69**	**105**	PN	**Pn**	**09 58 28.2**	**+0.2**
PUZ				AML	AML	09 59 04.5	
PUZ				AML	AML	09 59 06.7	
TRVZ	**Turoa**	**1.72**	**197**	PN	**Pn**	**09 58 29.8**	**+1.4**
ARHZ	**Aropaoanui**	**1.73**	**159**	⇑PN	**Pn**	**09 58 30.0**	**+1.8**
ARHZ				AML	AML	09 59 07.6	
ARHZ				AML	AML	09 59 09.0	
WNVZ	**Wahianoa**	**1.73**	**195**	⇑PN	**Pn**	**09 58 29.9**	**+1.5**
PKVZ	**Pokaka**	**1.76**	**202**	⇑PN	**Pn**	**09 58 30.0**	**+1.5**
WMGZ	**Waiomatatini S**	**1.78**	**96**	⇓PN	**Pn**	**09 58 29.2**	**+0.6**
WMGZ				AML	AML	09 59 05.8	
WMGZ				AML	AML	09 59 05.9	
KWHZ	**Kaweka Forest**	**1.78**	**174**	⇑PN	**Pn**	**09 58 30.3**	**+1.7**
KWHZ				AML	AML	09 59 09.4	
KWHZ				AML	AML	09 59 09.9	
MOVZ	**Moawhango**	**1.78**	**191**	⇑PN	**Pn**	**09 58 29.9**	**+1.2**
CNGZ	**Carnagh Statio**	**1.80**	**118**	⇓PN	**Pn**	**09 58 30.2**	**+1.5**
CNGZ				AML	AML	09 59 08.7	
CNGZ				AML	AML	09 59 10.2	
KNZ	**Kokohu**	**1.80**	**140**	⇑PN	**Pn**	**09 58 29.9**	**+1.2**
KNZ				AML	AML	09 59 09.2	
KNZ				AML	AML	09 59 17.6	
MTVZ	**Mangateitei**	**1.82**	**198**	⇑PN	**Pn**	**09 58 30.5**	**+1.5**
MCHZ	**McNeill Hill**	**1.83**	**167**	⇑PN	**Pn**	**09 58 30.9**	**+2.0**
MCHZ				AML	AML	09 59 11.5	
MCHZ				AML	AML	09 59 11.7	
BHHZ	**Black Hill Sta**	**1.83**	**183**	⇑PN	**Pn**	**09 58 30.5**	**+1.4**
BHHZ				AML	AML	09 59 08.2	
BHHZ				AML	AML	09 59 09.1	
PRGZ	**Paritu Road**	**1.84**	**134**	PN	**Pn**	**09 58 30.2**	**+1.1**
PRGZ				AML	AML	09 59 11.3	
PRGZ				AML	AML	09 59 21.1	
VRZ	**Vera Road**	**1.85**	**217**	PN	**Pn**	**09 58 30.8**	**+1.7**
KRHZ	**Kereru**	**1.99**	**176**	⇑PN	**Pn**	**09 58 31.6**	**+1.5**
KRHZ				AML	AML	09 59 11.3	
KRHZ				AML	AML	09 59 14.1	
MHGZ	**Mahia Peninsul**	**2.02**	**138**	PN	**Pn**	**09 58 31.9**	**+1.6**
MHGZ				AML	AML	09 59 12.0	
MHGZ				AML	AML	09 59 13.3	
MHEZ	**Mangahewa**	**2.04**	**225**	⇑PN	**Pn**	**09 58 33.2**	**+2.7**
CKHZ	**Cape Kidnapper**	**2.12**	**161**	PN	**Pn**	**09 58 32.9**	**+1.8**
CKHZ				AML	AML	09 59 13.0	
CKHZ				AML	AML	09 59 13.7	
DREZ	**Durham Road**	**2.19**	**225**	PN	**Pn**	**09 58 34.0**	**+2.4**
KAHZ	**Kahuranaki**	**2.21**	**166**	⇑PN	**Pn**	**09 58 33.7**	**+1.8**
KAHZ				AML	AML	09 59 14.6	
KAHZ				AML	AML	09 59 16.0	
PNHZ	**Pukenui**	**2.26**	**180**	⇑PN	**Pn**	**09 58 33.6**	**+1.3**
PNHZ				AML	AML	09 59 17.0	
PNHZ				AML	AML	09 59 19.4	
WCZ	**Waipu Caves**	**2.26**	**319**	⇓PN	**Pn**	**09 58 32.7**	**+0.3**
LREZ	**Lake Rotokare**	**2.28**	**217**	⇑PN	**Pn**	**09 58 34.5**	**+2.0**
WAZ	**Wanganui**	**2.30**	**204**	PN	**Pn**	**09 58 34.2**	**+1.6**
NEZ	**North Egmont**	**2.30**	**225**	⇓PN	**Pn**	**09 58 35.2**	**+2.4**
PREZ	**Palmer Road**	**2.32**	**223**	PN	**Pn**	**09 58 35.1**	**+2.2**
KHEZ	**Kahui Hut**	**2.36**	**225**	PN	**Pn**	**09 58 35.6**	**+2.3**
TSZ	**Takapari Road**	**2.41**	**184**	PN	**Pn**	**09 58 34.7**	**+1.2**
TSZ				AML	AML	09 59 17.1	
TSZ				AML	AML	09 59 18.0	
WPHZ	**Waipukurau**	**2.42**	**175**	⇓PN	**Pn**	**09 58 35.2**	**+1.6**
WPHZ				AML	AML	09 59 19.1	
WPHZ				AML	AML	09 59 22.4	
PXZ	**Pawanui**	**2.43**	**168**	PN	**Pn**	**09 58 35.3**	**+1.6**
PXZ				AML	AML	09 59 18.1	
PXZ				AML	AML	09 59 18.2	
PXZ				AML	AML	09 59 18.3	
PXZ				AML	AML	09 59 18.3	
NWEZ	**Newall Road**	**2.43**	**228**	PN	**Pn**	**09 58 36.5**	**+2.7**
NMEZ	**Namu Road**	**2.52**	**225**	PN	**Pn**	**09 58 36.9**	**+2.4**
PRHZ	**Porangahau**	**2.63**	**172**	⇑PN	**Pn**	**09 58 37.2**	**+1.6**
PRHZ				AML	AML	09 59 20.0	
PRHZ				AML	AML	09 59 20.5	
OHWZ	**Ohakea**	**2.64**	**195**	⇑PN	**Pn**	**09 58 37.5**	**+2.0**
DVHZ	**Dannevirke**	**2.64**	**180**	⇑PN	**Pn**	**09 58 38.0**	**+1.1**
DVHZ				AML	AML	09 59 19.6	
DVHZ				AML	AML	09 59 20.3	
POWZ	**Post Office Ro**	**2.75**	**187**	⇑PN	**Pn**	**09 58 37.8**	**+1.2**
POWZ				AML	AML	09 59 21.8	
POWZ				AML	AML	09 59 24.3	
ANWZ	**Angora Road**	**2.81**	**175**	⇑PN	**Pn**	**09 58 38.9**	**+1.8**
ANWZ				AML	AML	09 59 23.9	
ANWZ				AML	AML	09 59 24.6	
PRWZ	**Pori Road**	**2.90**	**183**	PN	**Pn**	**09 58 39.4**	**+1.4**
PRWZ				AML	AML	09 59 25.3	
PRWZ				AML	AML	09 59 25.6	
BFZ	**Birch Farm**	**3.02**	**179**	*e*Pn	**Pn**	**09 58 40.9**	**+1.7**
BFZ				*e*S	**S**	**09 59 24.1**	**-0.3**
BFZ	**Birch Farm**	**3.02**	**179**	PN	**Pn**	**09 58 40.6**	**+1.4**
BFZ				AML	AML	09 59 27.1	
BFZ				AML	AML	09 59 27.1	
BFZ				AML	AML	09 59 27.8	
BFZ				AML	AML	09 59 27.9	
MRZ	**Mangatainoka R**	**3.04**	**189**	⇓PN	**Pn**	**09 58 40.3**	**+0.9**
MRZ				SN	**S**	**09 59 24.3**	**-0.5**
MRZ				AML	AML	09 59 26.7	
TIWZ	**Tintock**	**3.13**	**184**	⇑PN	**Pn**	**09 58 41.4**	**+1.1**
TIWZ				AML	AML	09 59 28.0	
TIWZ				AML	AML	09 59 28.6	
OUZ	**Omahuta**	**3.20**	**319**	*e*Pn	**Pn**	**09 58 40.3**	**-0.8**
CPWZ	**Castlepoint**	**3.25**	**180**	⇑PN	**Pn**	**09 58 43.3**	**+1.9**
CPWZ				AML	AML	09 59 33.9	
CPWZ				AML	AML	09 59 34.6	
OGWZ	**Otaki Gorge**	**3.25**	**194**	⇑PN	**Pn**	**09 58 42.5**	**+1.0**
OGWZ				AML	AML	09 59 30.1	
OGWZ				AML	AML	09 59 31.1	
HOWZ	**Holdsworth Sta**	**3.28**	**189**	⇑PN	**Pn**	**09 58 42.5**	**+0.7**
HOWZ				AML	AML	09 59 30.4	
HOWZ				AML	AML	09 59 31.5	
KIWZ	**Kapiti Island**	**3.35**	**197**	⇑PN	**Pn**	**09 58 43.3**	**+0.8**
KIWZ				AML	AML	09 59 32.8	
KIWZ				AML	AML	09 59 33.0	
TMWZ	**Te Maipa**	**3.46**	**184**	⇑PN	**Pn**	**09 58 44.6**	**+1.1**
TMWZ				AML	AML	09 59 35.1	
TMWZ				AML	AML	09 59 35.3	
MTWZ	**Mount Morrison**	**3.54**	**188**	⇑PN	**Pn**	**09 58 45.0**	**+0.6**
MTWZ				AML	AML	09 59 35.6	
MTWZ				AML	AML	09 59 35.6	
CAWZ	**Cannon Point**	**3.56**	**194**	⇑PN	**Pn**	**09 58 45.3**	**+0.8**
CAWZ				AML	AML	09 59 35.7	
CAWZ				AML	AML	09 59 36.6	
DUWZ	**D'Urville Isla**	**3.60**	**208**	⇓PN	**Pn**	**09 58 45.5**	**+0.4**
TRWZ	**Traveller**	**3.76**	**186**	⇑PN	**Pn**	**09 58 47.7**	**+1.0**
TRWZ				AML	AML	09 59 39.6	
TRWZ				AML	AML	09 59 42.2	
PAWZ	**Paruwai Farm**	**3.77**	**189**	PN	**Pn**	**09 58 47.4**	**+0.6**
PAWZ				AML	AML	09 59 39.5	
PAWZ				AML	AML	09 59 40.5	
WEL	**Wellington**	**3.79**	**196**	PN	**Pn**	**09 58 47.9**	**+1.0**
WEL				AML	AML	09 59 40.4	
WEL				AML	AML	09 59 40.4	
WEL				AML	AML	09 59 40.8	
WEL				AML	AML	09 59 40.8	
MSWZ	**Moikau Station**	**3.83**	**191**	⇑PN	**Pn**	**09 58 48.0**	**+0.6**
MSWZ				AML	AML	09 59 40.0	
MSWZ				AML	AML	09 59 40.4	
SNZO	**South Karori**	**3.83**	**197**	*e*Pn	**Pn**	**09 58 48.4**	**+1.0**
SNZO				*e*S	**S**	**09 59 39.7**	**+0.4**
TCW	**Tory Channel**	**3.85**	**202**	PN	**Pn**	**09 58 48.4**	**+0.8**
TCW				AML	AML	09 59 40.4	
TCW				AML	AML	09 59 40.7	
BHW	**Baring Head**	**3.88**	**195**	PN	**Pn**	**09 58 48.5**	**+0.6**
BHW				AML	AML	09 59 40.7	
BHW				AML	AML	09 59 40.9	
PLWZ	**Palliser**	**3.98**	**190**	⇑PN	**Pn**	**09 58 49.6**	**+0.6**
PLWZ				AML	AML	09 59 44.2	
PLWZ				AML	AML	09 59 44.7	
TUWZ	**Tuamarina**	**4.15**	**204**	⇑PN	**Pn**	**09 58 51.4**	**+0.5**
TUWZ				AML	AML	09 59 46.2	
TUWZ				AML	AML	09 59 46.6	
NNZ	**Nelson**	**4.17**	**211**	⇑PN	**Pn**	**09 58 51.1**	**0.0**
QRZ	**Quartz Range**	**4.25**	**221**	⇑PN	**Pn**	**09 58 51.5**	**-0.5**
CMWZ	**Cape Campbell**	**4.36**	**200**	PN	**Pn**	**09 58 54.4**	**+1.2**
CMWZ				AML	AML	09 59 54.5	
CMWZ				AML	AML	10 00 02.1	
BSWZ	**Blackbirch Sta**	**4.43**	**203**	PN	**Pn**	**09 58 54.8**	**+0.8**
BSWZ				AML	AML	09 59 53.7	
BSWZ				AML	AML	09 59 56.0	
THZ	**Tophouse**	**4.82**	**211**	*e*Pn	**Pn**	**09 58 58.7**	**+0.2**
THZ				*e*S	**S**	**09 59 58.1**	**-1.3**
THZ	**Tophouse**	**4.82**	**211**	⇑PN	**Pn**	**09 58 58.1**	**-0.3**
KHZ	**Kahutara**	**5.17**	**202**	*e*Pn	**Pn**	**09 59 02.8**	**+0.5**
KHZ				*e*S	**S**	**10 00 01.4**	**-5.1**
KHZ	**Kahutara**	**5.17**	**202**	PN	**Pn**	**09 59 02.8**	**+0.5**
KHZ				AML	AML	10 00 07.4	
KHZ				AML	AML	10 00 08.7	
DSZ	**Denniston Nort**	**5.30**	**218**	⇑PN	**Pn**	**09 59 03.2**	**-0.7**
LTZ	**Lake Taylor**	**5.93**	**209**	*e*Pn	**Pn**	**09 59 10.9**	**-0.4**
LTZ	**Lake Taylor**	**5.93**	**209**	PN	**Pn**	**09 59 10.9**	**-0.4**
INZ	**Inchbonnie**	**6.23**	**214**	PN	**Pn**	**09 59 13.9**	**-0.9**
OXZ	**Oxford**	**6.49**	**208**	*e*Pn	**Pn**	**09 59 16.8**	**-1.0**
OXZ				*e*S	**S**	**10 00 31.4**	**-3.4**
OXZ	**Oxford**	**6.49**	**208**	PN	**Pn**	**09 59 16.8**	**-1.0**
CRLZ	**Canterbury Las**	**6.50**	**203**	*e*Pn	**Pn**	**09 59 17.6**	**-0.4**
CRLZ				*e*S	**S**	**10 00 34.0**	**-1.2**
CRLZ	**Canterbury Las**	**6.50**	**203**	⇓PN	**Pn**	**09 59 17.4**	**-0.6**
MQZ	**McQueen's Vall**	**6.61**	**203**	*e*Pn	**Pn**	**09 59 18.8**	**-0.6**
MQZ				*e*S	**S**	**10 00 34.5**	**-3.1**
MQZ	**McQueen's Vall**	**6.61**	**203**	PN	**Pn**	**09 59 18.4**	**-0.9**
WVZ	**Waitaha Valley**	**6.83**	**216**	⇓PN	**Pn**	**09 59 20.4**	**-1.5**
RPZ	**Rata Peaks**	**7.20**	**211**	P	**Pn**	**09 59 25.5**	**-0.9**
	65nm,0.3s,baz=26,slow=3.6,SNR=336						
RPZ				S	**S**	**10 00 46.3**	**-4.2**
	26nm,0.3s,baz=338,slow=19,SNR=13						
RPZ	**Rata Peaks**	**7.20**	**211**	PN	**Pn**	**09 59 25.3**	**-1.1**
FOZ	**Fox Glacier**	**7.61**	**218**	*e*Pn	**Pn**	**09 59 30.9**	**-0.5**
FOZ	**Fox Glacier**	**7.61**	**218**	⇓PN	**Pn**	**09 59 29.8**	**-1.6**
LBZ	**Lake Benmore**	**8.11**	**212**	*e*Pn	**Pn**	**09 59 37.2**	**-0.2**
LBZ	**Lake Benmore**	**8.11**	**212**	PN	**Pn**	**09 59 36.7**	**-0.8**
ODZ	**Otahua Downs**	**8.47**	**208**	*e*Pn	**Pn**	**09 59 42.4**	**+0.4**
ODZ	**Otahua Downs**	**8.47**	**208**	PN	**Pn**	**09 59 42.3**	**+0.4**
JCZ	**Jackson Bay**	**8.51**	**219**	PN	**Pn**	**09 59 40.8**	**-1.7**
WKZ	**Wanaka**	**8.97**	**215**	*e*Pn	**Pn**	**09 59 47.2**	**-0.8**
WKZ	**Wanaka**	**8.97**	**215**	PN	**Pn**	**09 59 45.9**	**-2.0**
EAZ	**Earnscleugh**	**9.16**	**212**	⇑PN	**Pn**	**09 59 48.3**	**-1.9**
MSZ	**Milford Sound**	**9.37**	**219**	PN	**Pn**	**09 59 51.6**	**-1.3**
TUZ	**Tuapeka**	**9.62**	**208**	PN	**Pn**	**09 59 56.0**	**+0.1**
RAO	**Raoul Island**	**9.72**	**32**	*e*Pn	**Pn**	**09 59 55.1**	**-2.2**
MLZ	**Mavora Lakes**	**9.79**	**216**	*e*Pn	**Pn**	**09 59 57.5**	**-0.5**
MLZ	**Mavora Lakes**	**9.79**	**216**	PN	**Pn**	**09 59 56.9**	**-1.1**
WHZ	**Wether Hill Ro**	**10.27**	**214**	*e*Pn	**Pn**	**10 00 03.9**	**+0.1**
WHZ	**Wether Hill Ro**	**10.27**	**214**	⇑PN	**Pn**	**10 00 02.6**	**-1.3**
SYZ	**Scrubby Hill**	**10.30**	**208**	PN	**Pn**	**10 00 05.1**	**+1.0**
DCZ	**Deep Cove**	**10.32**	**218**	*e*Pn	**P**	**10 00 06.3**	**-0.9**
DCZ	**Deep Cove**	**10.32**	**218**	PN	**Pn**	**10 00 03.5**	**-0.9**
PYZ	**Puysegur Point**	**11.06**	**217**	*e*PN	**Pn**	**10 00 13.7**	**+0.3**
DZM	**Mont Dzumac**	**17.66**	**329**	P	**P**	**10 01 28.3**	**+0.1**
	8.8nm,0.3s,baz=176,slow=9.4,SNR=85						
DZM	**Mont Dzumac**	**17.66**	**329**	*e*P	**P**	**10 01 26.4**	**-1.8**
	36nm,0.5s						
MSVF	**Nonsavu**	**19.91**	**5**	*e*P	**P**	**10 01 50.3**	**-1.9**
	53nm,1.0s						
ARMA	**Armidale**	**21.55**	**282**	*e*P	**P**	**10 02 07.9**	**0.0**
	21nm,1.2s				

$M_{\theta\theta}$-1.00±.01; $M_{\phi\phi}$0.13±.05; Best double couple: $M_0$1.08200×10^{17} NP1:$\phi_{\theta\theta}$279.00000°, δ85.00000°, λ168.00000°. NP2:ϕ_{θ}10.00000°, δ78.00000°, λ5.00000°. Principal axes: T 1.1000, Plg12.0000°, Azm234.0000°; N -0.0340, Plg77.0000°, Azm77.0000°; P -1.0650, Plg5.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **05** 10:00:01.3±1.3, 36.˚48N×137.˚65E, h24^{km}, mb5.1/65, MS5.3/21 Error ellipse: s-maj=6.5km s-min=4.4km az=94.7*

*NEIC **05** 10:00:01.4±0.2, 36.˚48N×137.˚59E, h10^{km}, mb4.9/126, Error ellipse: s-maj=5.3km s-min=3.6km az=159.0*

NEIC Felt at Tonami. Recorded [3 JMA] in Nagano and Yoyama.

ISC 05 10:00:01.2±0.5, 36.˚51N±0.˚02×137.˚65E±0.˚02, h9^{km}±3^{km}, n697, σ1$46/732, mb4.9/190, MS5.2/55, 45C-27D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.27**	**290**	⇓P	**Pg**	**10 00 04.5**	**-2.2**
JTT				S	**Sg**	**10 00 08.7**	**-1.7**
JNG	**Nsakai**	**0.38**	**106**	⇓P	**Pg**	**10 00 06.7**	**-1.9**
JNG				S	**Sg**	**10 00 12.1**	**-1.4**
JGN	**Niukaw**	**0.40**	**224**	⇑P	**Pg**	**10 00 06.9**	**-2.1**
JGN				S	**Sg**	**10 00 12.5**	**-1.7**
MJB9	**Matsu-Tunnel**	**0.45**	**85**	*e*Pg	**Pg**	**10 00 07.6**	**-2.3**
MJB9				*e*		10 00 07.7	
MJB9				*e*Sg	**Sg**	**10 00 14.0**	**-1.8**
MAJO	**Matsushiro**	**0.45**	**86**	*d* P	**Pg**	**10 00 07.7**	**-2.2**
MAJO	**Matsushiro**	**0.45**	**86**	*e*Pg	**Pg**	**10 00 07.7**	**-2.2**
MAJO				*e*		10 00 07.9	
MAJO				*e*Sg	**Sg**	**10 00 13.7**	**-2.1**
MAT	**Matsushiro**	**0.45**	**86**	P	**Pg**	**10 00 07.7**	**-2.2**
MAT				S	**Sg**	**10 00 13.9**	**-1.9**
MAT	**Matsushiro**	**0.45**	**86**	P	**Pg**	**10 00 07.6**	**-2.3**
MAT				S	**Sg**	**10 00 13.9**	**-1.9**
MJAR	**Matsushiro Arr**	**0.45**	**86**	Pg	**Pg**	**10 00 08.4**	**-1.5**
	860nm,0.3s,baz=273,slow=18,SNR=2525						
MJAR				Lg	Lg	10 00 14.0	
	3μm,0.3s,baz=268,slow=32,SNR=75						
MJAR				LR	LR	10 00 18.1	
	comp=Z,3μm,19.7s,baz=270,slow=39						
JJN	**Nakama**	**0.72**	**35**	⇑P	**Pg**	**10 00 13.0**	**-2.0**
JNT	**Takato**	**0.75**	**148**	⇓P	**Pg**	**10 00 13.6**	**-2.0**
JGK	**Kuni**	**0.80**	**86**	⇓P	**Pg**	**10 00 14.4**	**-2.1**
JJH	**Hakui**	**0.81**	**301**	⇓P	**Pg**	**10 00 14.3**	**-2.5**
JGF	**Kuroka**	**0.94**	**195**	⇑P	**Pg**	**10 00 17.3**	**-2.0**
JSZ	**Suzu**	**0.96**	**346**	⇓P	**Pg**	**10 00 16.7**	**-3.0**
JKG	**Kaga**	**1.09**	**258**	⇑P	**Pg**	**10 00 19.8**	**-2.3**
JRY	**Ryogami san**	**1.12**	**116**	⇓P	**Pg**	**10 00 19.6**	**-3.2**
JNY	**Yasuok**	**1.16**	**172**	⇓P	**Pg**	**10 00 21.4**	**-2.1**
JYN	**Shimob**	**1.24**	**144**	⇓P	**Pn**	**10 00 22.8**	**-2.1**
INU	**Inuyama**	**1.27**	**204**	*e*Pn	**Pn**	**10 00 23.3**	**-1.9**
INU				*e*Sn	**Sn**	**10 00 43.6**	**+1.3**
JAO	**Obara**	**1.28**	**195**	⇑P	**Pn**	**10 00 23.8**	**-1.6**
JKT	**Katashina**	**1.31**	**78**	P	**Pn**	**10 00 23.4**	**-2.4**
JHK	**Hiroka**	**1.32**	**56**	⇑P	**Pn**	**10 00 22.9**	**-2.9**
JIZZ	**Izumozaki**	**1.32**	**39**	⇑P	**Pn**	**10 00 24.2**	**-1.7**
JAG	**Ashikaga**	**1.45**	**93**	P	**Pn**	**10 00 25.3**	**-2.4**
JHG	**Hegura jima**	**1.46**	**337**	P	**Pn**	**10 00 24.7**	**-3.0**
SHZ3	**Shizuoka 3**	**1.51**	**162**	⇓P	**Pn**	**10 00 27.1**	**-1.4**
JSD	**Sado**	**1.60**	**17**	⇓P	**Pn**	**10 00 27.1**	**-2.6**
HMMJ	**Hamamatsu 2**	**1.65**	**178**	⇓P	**Pn**	**10 00 29.2**	**-1.2**
JFM	**Mihama**	**1.67**	**235**	⇑P	**Pn**	**10 00 29.5**	**-1.2**
JOD2	**Odawara 2**	**1.71**	**136**	⇓P	**Pn**	**10 00 30.6**	**-0.6**
AJI	**Ajiro2**	**1.87**	**141**	⇓P	**Pn**	**10 00 33.4**	**0.0**
JIZS	**Izushimoda**	**2.05**	**150**	P	**Pn**	**10 00 36.0**	**+0.1**
JHJ	**Hachijo jima 2**	**3.81**	**152**	Pn	**Pn**	**10 01 01.9**	**+1.9**
	13nm,0.3s,baz=270,slow=20,SNR=2.5						
JHJ				Sn	**Sn**	**10 01 48.1**	**+3.0**
	9.4nm,0.3s,baz=306,slow=19,SNR=1.9						
JHJ2	**Mitsune**	**3.83**	**152**	Pn	**Pn**	**10 01 04.0**	**+3.7**
JNU	**Nakatsue**	**6.52**	**241**	Pn	**Pn**	**10 01 38.9**	**+1.5**
	2.2nm,0.3s,baz=43,slow=9.8,SNR=20						
JNU				Lg	Lg	10 03 23.7	
	0.3nm,0.3s,baz=162,slow=20,SNR=4.0						
JNU				LR	LR	10 04 37.1	
	comp=Z,5μm,18.2s,baz=56,slow=43						
JNU	**Nakatsue**	**6.52**	**241**	*e*Pn	**Pn**	**10 01 40.9**	**+3.5**
JNU				Lg	Lg	10 03 23.7	
ERM	**Erimo**	**6.96**	**36**	⇑*e*P	**Pn**	**10 01 40.6**	**-2.7**
ERM	**Erimo**	**6.96**	**36**	*e*Pn	**Pn**	**10 01 44.6**	**+1.3**
KSRS	**Korea Array**	**7.84**	**280**	Pn	**Pn**	**10 01 55.6**	**+0.1**
	1.4nm,0.3s,baz=94,slow=14,SNR=22						
KSRS				Sn	**Sn**	**10 03 23.9**	**-0.5**
	0.5nm,0.3s,baz=91,slow=25,SNR=4.5						
MSHR	**Mys Shultsa**	**7.87**	**322**	⇑*e*P	**Pn**	**10 01 57.0**	**+1.2**
KS01	**Wonju Array Si**	**7.87**	**280**	*e*Pn	**Pn**	**10 01 58.2**	**+2.4**
KS15	**Wonju Array Si**	**7.87**	**280**	*e*Pn	**Pn**	**10 01 58.4**	**+2.5**
KSAR	**Wonju Array Be**	**7.87**	**280**	P	**Pn**	**10 01 55.6**	**-0.3**
KSAR						10 03 23.9	
KSAR	**Wonju Array Be**	**7.87**	**280**	Pn	**Pn**	**10 01 55.6**	**-0.3**
KSAR				Sn	**Sn**	**10 03 23.9**	**-1.3**
VLA	**Vladivostok**	**7.95**	**328**	⇑*i*P	**Pn**	**10 01 58.4**	**+1.5**
VLA				*e*S	**Sn**	**10 03 32.0**	**+5.0**
VLA				pmax	pmax		
	comp=Z,21nm,0.7s						
ASAJ	**Asahikawa**	**8.48**	**25**	Pn	**Pn**	**10 02 06.1**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=175,slow=6.8,SNR=18						
ASAJ				Sn	**Sn**	**10 03 47.2**	**+7.1**
	baz=225,slow=20,SNR=1.9						
USRK	**Ussuriysk Ar.**	**8.81**	**332**	Pn	**Pn**	**10 02 08.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=154,slow=12,SNR=3.1						
INCN	**Inchon**	**8.87**	**280**	*e*Pn	Pn	10 02 14.9	+5.3
YUK	**Yuzh-Kuril'sk**	**9.78**	**37**	*e*P	**Pn**	**10 02 22.7**	**+0.7**
YUK				*e*S	**Sn**	**10 04 14.9**	**+2.9**
YUK				pmax	pmax		
	comp=Z,1μm,2.3s						
YUK				pmax	pmax		
	comp=Z,113nm,1.0s						
YUK				pmax	pmax		
	comp=N,99nm,0.6s						
YUK				pmax	pmax		
	comp=E,9.0nm,0.6s						
YUK				MLR	MLR		
	comp=N,5μm,16.0s						
YUK				MLR	MLR		
	comp=E,77nm,16.0s						
YUK				MLR	MLR		
	comp=Z,4μm,16.0s						
MDJ	**Mudanjiang**	**10.15**	**325**	P	**Pn**	**10 02 29.6**	**+2.5**
MDJ				sP		10 02 35.2	
MDJ				S	Sn	10 04 30.8	+10
MDJ				sS		10 04 40.5	
MDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,600nm,6.5s						
MDJ				LR	LR		
	comp=Z,12μm,14.8s						
MDJ				LR	LR		
	comp=Z,10μm,12.3s						
MDJ				LR	LR		
	comp=Z,17μm,15.5s						
MDJ	**Mudanjiang**	**10.15**	**325**	*e*Pn	**Pn**	**10 02 25.7**	**-1.4**
	comp=Z,50nm,1.4s						
MDJ				*e*Sn	**Sn**	**10 04 22.3**	**+1.3**
SHO	**Shikotan**	**10.16**	**41**	*e*P	**Pn**	**10 02 28.2**	**+1.0**
SHO				*e*S	**Sn**	**10 04 26.2**	**+5.0**
SHO				pmax	pmax		
	comp=N,36nm,1.2s						
SHO				pmax	pmax		
	comp=Z,56nm,1.2s						
SHO				pmax	pmax		
	comp=E,21nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.11**	**18**	⇓*e*P	**Pn**	**10 02 41.2**	**+1.1**
YSS				*e*S	**Sn**	**10 04 41.6**	**-2.8**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,700nm,2.2s						
YSS				pmax	pmax		
	comp=N,900nm,2.8s						
YSS				pmax	pmax		
	comp=E,200nm,2.5s						
YSS				MLR	MLR		
	comp=N,7μm,14.0s						
YSS				MLR	MLR		
	comp=E,5μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**11.11**	**18**	*e*Pn	**Pn**	**10 02 41.3**	**+1.1**
KUR	**Kuril'sk**	**11.64**	**38**	*e*P	**Pn**	**10 02 48.2**	**+0.8**
KUR				*e*S	**Sn**	**10 04 58.3**	**+0.8**
KUR				pmax	pmax		
	comp=Z,75nm,0.8s						
KUR				pmax	pmax		
	comp=Z,899nm,2.5s						
CN2	**Changchun**	**11.83**	**312**	*e*P	**Pn**	**10 02 53.4**	**+3.3**
CN2				*e*pP		10 02 56.8	
CN2				*e*S	**Sn**	**10 05 06.1**	**+3.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,600nm,6.0s						
CN2				LR	LR		
	comp=Z,4μm,14.0s						
CN2				LR	LR		
	comp=Z,7μm,14.0s						
CN2				LR	LR		
	comp=Z,6μm,16.0s						
HABR	**Khabarovsk**	**12.11**	**352**	*e*P	**Pn**	**10 02 51.5**	**-2.3**
HABR				*e*S	**Sn**	**10 05 07.7**	**-1.2**
HABR				pmax	pmax		
	comp=Z,21nm,1.6s						
HABR				MLR	MLR		
	comp=Z,4μm,14.0s						
SNY	**Shenyang**	**12.14**	**300**	⇓P	**Pn**	**10 02 54.6**	**+0.3**
SNY				pmax	pmax		
	comp=Z,31nm,1.4s						
SNY				pmax	pmax		
	comp=Z,670nm,6.1s						
SNY				LR	LR		
	comp=Z,13μm,12.2s						
SNY				LR	LR		
	comp=Z,7μm,17.3s						
SNY				LR	LR		
	comp=Z,15μm,16.1s						
DL2	**Dalian**	**12.91**	**285**	P	**Pn**	**10 03 01.3**	**-3.6**
DL2				S	**Sn**	**10 05 21.9**	**-6.8**
DL2				pmax	pmax		
	comp=Z,390nm,7.7s						
DL2				LR	LR		
	comp=N,17μm,15.5s						
DL2				LR	LR		
	comp=Z,15μm,14.5s						
UGL	**Uglegorsk**	**12.97**	**13**	*e*P	**Pn**	**10 03 08.0**	**+2.5**
UGL				S	**Sn**	**10 05 31.0**	**+1.1**
UGL				pmax	pmax		
	comp=Z,200nm,1.2s						
UGL				smax	smax		
	comp=N,500nm,10.0s						
UGL				smax	smax		
	comp=E,2μm,10.0s						
UGL				MLR	MLR		
	comp=Z,4μm,14.0s						
UGL				MLR	MLR		
	comp=N,2μm,15.0s						
UGL				MLR	MLR		
	comp=E,4μm,16.0s						
SSE	**Sheshan**	**14.71**	**253**	P	**Pn**	**10 03 28.1**	**-1.4**
SSE				S	**Sn**	**10 06 10.8**	**-1.9**
SSE				pmax	pmax		
	comp=E,50nm,1.0s						
SSE				pmax	pmax		
	comp=E,460nm,12.0s						
SSE				LR	LR		
	comp=E,9μm,19.6s						
SSE				LR	LR		
	comp=E,5μm,19.6s						
SSE				LR	LR		
	comp=E,6μm,13.7s						
TYV	**Tymovskoe**	**14.79**	**13**	*e*P	**Pn**	**10 03 31.4**	**+1.0**
TYV				*e*S	**Sn**	**10 06 14.6**	**+0.2**
TYV				pmax	pmax		
	comp=Z,500nm,2.5s						
TYV				smax	smax		
	comp=N,3μm,27.1s						
NJ2	**Nanjing**	**16.16**	**259**	*e*P	**P**	**10 03 54.5**	**+2.7**
NJ2				S	**S**	**10 06 58.9**	**-2.3**
NJ2				pmax	pmax		
	comp=N,52nm,1.4s						
NJ2				LR	LR		
	comp=N,15μm,18.4s						
NJ2				LR	LR		
	comp=N,5μm,15.7s						
NJ2				LR	LR		
	comp=N,5μm,17.4s						
TIA	**Tai'an**	**16.54**	**275**	*e*P	**P**	**10 03 55.8**	**-0.2**
TIA				S	**S**	**10 07 04.3**	**-4.8**
TIA				pmax	pmax		
	comp=N,60nm,1.1s						
TIA				pmax	pmax		
	comp=N,1μm,8.0s						
TIA				LR	LR		
	comp=N,5μm,13.0s						
TIA				LR	LR		
	comp=N,11μm,13.0s						
TIA				LR	LR		
	comp=N,13μm,13.0s						
NKL	**Nikolayevsk**	**16.77**	**6**	*e*P	**Pn**	**10 03 56.0**	**-0.2**
NKL				*e*		10 07 08.0	
BJI	**Beijing**	**17.22**	**288**	P	**P**	**10 04 05.2**	**+1.7**
BJI				S	**Sn**	**10 07 17.4**	**+3.8**
BJI				pmax	pmax		
	comp=N,32nm,1.1s						
BJI				pmax	pmax		
	comp=N,1μm,6.8s						
BJI				LR	LR		
	comp=N,6μm,13.9s						
BJI				LR	LR		
	comp=N,5μm,12.4s						
BJI				LR	LR		
	comp=N,4μm,23.4s						
BJT	**Baijiatuan**	**17.23**	**288**	*e*P	**P**	**10 04 04.8**	**+1.2**
BJT				pmax	pmax		
	comp=Z,99nm,1.3s						
BJT	**Baijiatuan**	**17.23**	**288**	*e*P	**P**	**10 04 04.8**	**+1.2**
	comp=Z,99nm,1.3s						
TWG	**Pinlang**	**19.80**	**231**	*e*P	**P**	**10 04 30.9**	**-1.1**
	comp=Z,394nm,1.5s						
QZH	**Quanzhou**	**20.00**	**240**	⇓*i*P	**Pn**	**10 04 38.1**	**+2.3**
QZH				S	**S**	**10 08 16.8**	**-2.3**
QZH				LR	LR		
	comp=Z,7μm,18.9s						
QZH				LR	LR		
	comp=Z,9μm,15.5s						
QZH				LR	LR		
	comp=Z,7μm,14.7s						
TIY	**Taiyuan**	**20.14**	**281**	*e*P	Pn	10 04 38.6	+1.1
TIY				S	**S**	**10 08 20.2**	**-1.7**
TIY				pmax	pmax		
	comp=Z,22nm,0.8s						
TIY				pmax	pmax		
	comp=Z,430nm,4.2s						
TIY				LR	LR		
	comp=Z,730nm,11.7s						
TIY				LR	LR		
	comp=Z,6μm,13.5s						
TIY				LR	LR		
	comp=Z,6μm,16.5s						
WHN	**Wuhan**	**20.30**	**260**	⇑P	Pn	10 04 40.1	+0.8
WHN				S	Sn	10 08 28.0	0.0
WHN				pmax	pmax		
	comp=Z,270nm,1.4s						
WHN				LR	LR		
	comp=Z,12μm,12.4s						
WHN				LR	LR		
	comp=Z,21μm,14.4s						
WHN				LR	LR		
	comp=Z,18μm,16.7s						
HHC	**Hu-ho-hao-te**	**20.79**	**290**	*e*P	Pn	10 04 44.7	-0.5
HHC				sP	sP	10 04 50.4	+4.0
HHC				S	**S**	**10 08 32.2**	**-2.7**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,390nm,8.4s						
HHC				LR	LR		
	comp=Z,3μm,12.3s						
HHC				LR	LR		
	comp=Z,5μm,13.6s						
HHC				LR	LR		
	comp=Z,4μm,13.6s						
PEA0	**Petropavlovsk-**	**21.73**	**34**	*e*P	**P**	**10 04 53.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**21.73**	**34**	*e*P	**P**	**10 04 53.5**	**+0.8**
	comp=Z,72nm,1.4s						
PETK	**Petropavlovsk-**	**21.73**	**34**	P	**P**	**10 04 52.9**	**+0.2**
	comp=Z,17nm,0.9s,baz=224,slow=4.1,SNR=13						
PETK				LR	LR	10 15 01.7	
	comp=Z,2μm,19.0s,baz=219,slow=41						
CLNS	**Chul'man**	**22.07**	**341**	*e*P	**P**	**10 04 57.4**	**+1.1**
CLNS				*e**PP	**sP**	**10 05 05.3**	**+5.4**
CLNS				*e*		10 05 18.0	
CLNS				*e*S	S	10 08 47.5	-12
CLNS				*e*SS	SnSn	10 09 47.0	+21
CLNS				pmax	pmax		
	comp=N,6.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,12nm,1.2s						
CLNS				smax	smax		
	comp=N,808nm,10.8s						
CLNS				smax	smax		
	comp=E,280nm,10.8s						
CLNS				MLR	MLR		
	comp=Z,5μm,14.0s						
CLNS				MLR	MLR		
	comp=N,4μm,14.0s						
CLNS				MLR	MLR		
	comp=E,1μm,9.0s						
XAN	**Xi'an**	**23.55**	**273**	P	**P**	**10 05 13.0**	**+1.0**
XAN				pP	sP	10 05 23.4	+7.8
XAN				S	**S**	**10 09 20.8**	**-5.4**
XAN				pmax	pmax		
	comp=E,20nm,1.7s						
XAN				pmax	pmax		
	comp=E,260nm,3.7s						
XAN				LR	LR		
	comp=E,7μm,14.8s						
XAN				LR	LR		
	comp=E,4μm,20.7s						
XAN				LR	LR		
	comp=E,6μm,18.1s						
SZP	**Santa**	**24.25**	**223**	*e*P	**P**	**10 05 19.9**	**+1.3**
	comp=E,143nm,1.3s						
MA2	**Magadan**	**24.59**	**16**	P	**P**	**10 05 20.3**	**-1.2**
	comp=E,11nm,0.7s,baz=196,slow=10.0,SNR=16						
MA2				LR	LR	10 15 28.2	
	comp=E,1μm,18.2s,baz=202,slow=38						
MA2	**Magadan**	**24.59**	**16**	*c e*P	**P**	**10 05 21.1**	**-0.4**
GZH	**Guangzhou**	**24.89**	**244**	*e*P	**P**	**10 05 22.0**	**-2.5**
GZH				S	**S**	**10 09 43.6**	**-4.2**
GZH				LR	LR		
	comp=E,19μm,13.3s						
ULN	**Ulaanbaatar**	**25.19**	**306**	*d i*P	**P**	**10 05 27.1**	**0.0**
ULN				pmax	pmax		
	comp=Z,15nm,1.2s						
ULN	**Ulaanbaatar**	**25.19**	**306**	*e*P	**P**	**10 05 26.6**	**-0.6**
	comp=Z,16nm,1.2s						
SONA1	**Songino Array**	**25.61**	**306**	*e*P	**P**	**10 05 30.6**	**-0.3**
SONM	**Songino Array**	**25.61**	**306**	P	**P**	**10 05 29.9**	**-1.0**
	comp=Z,6.0nm,0.9s,baz=114,slow=9.4,SNR=29						
SONM				LR	LR	10 15 53.8	
	comp=Z,8μm,19.4s,baz=108,slow=37						
YAK	**Yakutsk**	**26.03**	**351**	P	**P**	**10 05 33.7**	**-0.7**
	comp=Z,15nm,0.4s,baz=190,slow=2.4,SNR=7.1						
YAK				LR	LR	10 15 49.8	
	comp=Z,6μm,18.5s,baz=180,slow=36						
YAK	**Yakutsk**	**26.03**	**351**	*e*P	**P**	**10 05 33.4**	**-1.0**
YAK				*e**PP	**sP**	**10 05 41.7**	**+3.6**
YAK				*e*		10 06 13.4	
YAK				*e*S	**S**	**10 10 02.6**	**-2.5**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK				smax	smax		
	comp=N,1μm,7.6s						
YAK				MLR	MLR		
	comp=N,13μm,23.0s						
YAK				MLR	MLR		
	comp=Z,6μm,19.0s						
YAK	**Yakutsk**	**26.03**	**351**	*e*P	**P**	**10 05 33.3**	**-1.1**
	comp=Z,36nm,0.7s						
BOD	**Bodaibo**	**26.44**	**331**	*e*P	**P**	**10 05 34.3**	**-3.9**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.2s						
LZH	**Lanzhou**	**27.17**	**279**	*e*P	**P**	**10 05 47.1**	**+1.9**
LZH				pP	sP	10 05 52.2	+3.2
LZH				sP	pP	10 05 54.7	+6.8
LZH				PP	**PnPn**	**10 06 36.0**	**+7.8**
LZH				*e*S	**S**	**10 10 24.1**	**0.0**
LZH				sS	sS	10 10 33.4	+4.9
LZH				pmax	pmax		
	comp=Z,47nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,4.2s						
LZH				LR	LR		
	comp=Z,3μm,12.9s						
LZH				LR	LR		
	comp=Z,5μm,14.1s						
LZH				LR	LR		
	comp=Z,6μm,13.6s						
SEY	**Seymchan**	**27.97**	**14**	P	**P**	**10 05 51.8**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=192,slow=2.6,SNR=8.6						
SEY	**Seymchan**	**27.97**	**14**	⇑*e*P	**P**	**10 05 51.9**	**+0.1**
GYA	**Guiyang**	**28.16**	**258**	*e*P	**P**	**10 05 56.2**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZAK	**Zakamensk**	**28.26**	**310**	*e*P	**P**	**10 05 52.8**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TLY	**Talaya**	**28.43**	**313**	LR	LR	10 17 20.8	
	comp=Z,4μm,19.2s,baz=112,slow=37						
TLY	**Talaya**	**28.43**	**313**	*e*P	**P**	**10 05 55.7**	**-0.5**
TLY				pmax	pmax		
	comp=Z,12nm,0.9s						
TLY	**Talaya**	**28.43**	**313**	*e*P	**P**	**10 05 55.7**	**-0.5**
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**28.65**	**269**	*e*P	**P**	**10 05 59.4**	**+1.1**
CD2				sP	sP	10 06 03.7	+1.7
CD2				S	**S**	**10 10 48.5**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,4.5s						
CD2				LR	LR		
	comp=Z,11μm,16.3s						
CD2				LR	LR		
	comp=Z,10μm,17.3s						
CD2				LR	LR		
	comp=Z,9μm,18.2s						
GTA	**Gaotai**	**29.83**	**287**	*e*P	**P**	**10 06 09.0**	**+0.2**
GTA				pP	sP	10 06 13.8	+1.2
GTA				sP	pP	10 06 16.2	+4.7
GTA				S	**S**	**10 11 04.4**	**-1.4**
GTA				SS	**SnSn**	**10 12 42.0**	**+6.3**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,130nm,5.4s						
GTA				LR	LR		
	comp=Z,4μm,17.1s						
GTA				LR	LR		
	comp=Z,3μm,17.1s						
GTA				LR	LR		
	comp=Z,3μm,19.5s						
QIZ	**Qiongzhong**	**29.99**	**242**	P	**P**	**10 06 12.6**	**+2.4**
QIZ				S	**S**	**10 11 12.5**	**+4.2**
QIZ				LR	LR		
	comp=Z,4μm,15.6s						
QIZ				LR	LR		
	comp=Z,3μm,16.6s						
QIZ				LR	LR		
	comp=Z,2μm,14.6s						
KMI	**Kunming**	**31.90**	**259**	P	**P**	**10 06 29.7**	**+2.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				LR	LR		
	comp=Z,4μm,14.4s						
KMI				LR	LR		
	comp=Z,3μm,15.2s						

KMI LR LR
comp=Z,1µm,15.5s
BILL Bilibino 35.42 18 *e*P **P 10 06 55.0 -2.2**
BILL pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 35.50 355 P **P 10 06 56.3 -1.6**
comp=Z,17nm,0.9s,baz=168,slow=5.0,SNR=6.5
TIXI LR LR 10 21 47.8
comp=Z,1µm,18.4s,baz=176,slow=37
TIXI Tiksi 35.50 355⇑ *e*P **P 10 06 56.2 -1.6**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 35.50 355 *e*P **P 10 06 56.6 -1.2**
comp=Z,20nm,1.0s
MYLDM Lahad Datu 35.80 214 *e*P **P 10 07 03.4 +2.4**
comp=Z,16nm,1.1s
DGZ Jazzator, Alta 38.26 306 *e*P **P 10 07 21.9 +0.1**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 38.38 297 P **P 10 07 23.4 +0.6**
WMQ pP sP 10 07 27.9 +1.4
WMQ sP pP 10 07 30.4 +4.9
WMQ pmax pmax
comp=Z,20nm,0.6s
WMQ pmax pmax
comp=Z,190nm,6.1s
WMQ LR LR
comp=Z,6µm,17.5s
WMQ LR LR
comp=Z,2µm,13.1s
WMQ LR LR
comp=Z,2µm,17.5s
CMAR Chiang Mai Arr 38.45 253 P **P 10 07 25.1 +1.5**
comp=Z,2.8nm,1.0s,baz=50,slow=5.2,SNR=12
CMAR PcP **PcP 10 09 36.6 -0.2**
comp=Z,3.3nm,1.1s,baz=22,slow=2.6,SNR=8.2
CMAR LR LR 10 25 34.3
comp=Z,1µm,18.1s,baz=52,slow=40
CM01 Chiang Mai Arr 38.46 253 *e*P **P 10 07 24.7 +1.1**
CM01 *e*PcP **PcP 10 09 37.2 +0.4**
ZAA0 Zalesovo Array 40.05 313 *e*P **P 10 07 35.9 -0.6**
ZALV Zalesovo Beam 40.05 313 P **P 10 07 34.3 -2.1**
comp=Z,4.5nm,0.9s,baz=94,slow=6.7,SNR=9.0
ZALV PcP **PcP 10 09 39.9 -1.3**
comp=Z,4.2nm,0.8s,baz=111,slow=3.2,SNR=8.2
ZALV LR LR 10 24 33.0
comp=Z,2µm,18.8s,baz=71,slow=37
SHL Shillong 40.37 268 *e*P **P 10 07 40.0 +0.2**
SHL *e*S **S 10 13 48.0 -0.2**
SBUM Sibu 41.23 221 *e*P **P 10 07 46.7 0.0**
comp=Z,20nm,1.3s
MK01 Makanchi Array 41.83 302 *e*P **P 10 07 49.7 -1.7**
MKAR Makanchi Array 41.84 302 P **P 10 07 49.9 -1.5**
comp=Z,4.7nm,1.0s,baz=87,slow=11,SNR=10
MKAR PcP **PcP 10 09 47.1 -0.1**
comp=Z,1.5nm,0.9s,baz=90,slow=4.7,SNR=3.5
MKAR LR LR 10 25 46.4
comp=Z,5µm,18.5s,baz=86,slow=37
NRIK Noril'sk 42.50 336 PcP **PcP 10 09 49.3 +0.4**
comp=Z,5.3nm,0.7s,baz=87,slow=3.6,SNR=4.9
NRIK LR LR 10 26 28.2
comp=Z,7µm,19.5s,baz=114,slow=37
TAPN Taplejung 42.95 272 *e*P **P 10 08 00.5 -0.5**
comp=Z,22nm,0.9s
KSM Kuching 43.07 222 *e*P **P 10 08 01.3 -0.4**
comp=Z,43nm,1.3s
ODAN Odare 43.42 272 *e*P **P 10 08 04.1 -0.6**
comp=Z,32nm,1.0s
KURK Kurchatov 43.88 308⇑ *e*P **P 10 08 06.5 -1.3**
KURK pmax pmax
comp=Z,84nm,1.2s
KURK Kurchatov 43.88 308 *e*P **P 10 08 06.5 -1.3**
comp=Z,26nm,1.2s
KURK PcP **PcP 10 09 53.2 -0.7**
KURBB Kurchatov Arra 43.94 308 P **P 10 08 05.8 -2.5**
comp=Z,12nm,1.0s,baz=86,slow=8.4,SNR=43
KURBB PcP **PcP 10 09 53.2 -0.9**
comp=Z,1.6nm,0.9s,baz=85,slow=4.1,SNR=6.4
RAMN Ramite 44.02 273 *e*P **P 10 08 08.9 -0.7**
comp=Z,69nm,1.0s
JIRN Jiri 44.05 274 *e*P **P 10 08 09.6 -0.3**
comp=Z,454nm,1.2s
GUN Gumba 44.19 274 *e*P **P 10 08 11.6 +0.5**
comp=Z,33nm,1.0s
KAPI Kappang 44.58 206 *e*P **P 10 08 13.2 -0.5**
comp=Z,74nm,1.5s
PKIN Phulchoki 44.72 274 *e*P **P 10 08 15.4 +0.2**
KKN Kakani 44.72 274 *e*P **P 10 08 15.5 +0.3**
DMN Daman 44.94 274 *e*P **P 10 08 16.1 -0.8**
GKN Gorkha 45.15 275 *e*P **P 10 08 17.9 -0.6**
comp=Z,67nm,1.2s
DANN Dangsing 45.71 276 *e*P **P 10 08 23.8 +0.7**
KOLN Koldanda 46.08 275 *e*P **P 10 08 25.3 -0.6**
comp=Z,27nm,1.2s
IPM Ipoh 46.33 235 *e*P **P 10 08 27.4 -0.2**
comp=Z,19nm,1.0s
PYUN Piuthan 46.43 276 *e*P **P 10 08 28.2 -0.5**
comp=Z,85nm,1.2s
TTA Tatalina 47.57 35 *e*P **P 10 08 36.4 -0.5**
TTA pmax pmax
comp=Z,12nm,1.5s
TTA Tatalina 47.57 35 *e*P **P 10 08 36.4 -0.5**
comp=Z,12nm,1.5s
SVW2 Sparrevohn 47.76 37 *e*P **P 10 08 39.8 +1.4**
comp=Z,11nm,1.0s
AAK Ala-Archa 48.07 298 P **P 10 08 39.9 -1.3**
comp=Z,3.2nm,0.6s,baz=81,slow=4.4,SNR=9.6
AAK Ala-Archa 48.07 298*ce*P **P 10 08 41.1 -0.1**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 48.07 298 *e*P **P 10 08 40.1 -1.1**
comp=Z,7.5nm,1.0s
BVAR Borovoye Array 48.69 312 P **P 10 08 44.2 -1.4**
comp=Z,2.5nm,0.8s,baz=77,slow=6.7,SNR=12
BVAR PcP **PcP 10 10 09.5 -1.3**
comp=Z,1.7nm,0.8s,baz=90,slow=1.5,SNR=4.0
BRVK Borovoye 48.74 312*ce*P **P 10 08 45.4 -0.6**
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 48.74 312 *e*P **P 10 08 45.5 -0.6**
comp=Z,7.3nm,1.0s
RSO Redoubt South 49.17 38 *e*P **P 10 08 50.6 +1.1**
CAST Castle Rocks 49.35 34 *e*P **P 10 08 55.1 +4.5**
comp=Z,24nm,1.8s
SPU Mount Spurr 49.47 37 *e*P **P 10 08 52.6 +1.1**
MTN Manton Dam 49.47 188 *e*P **P 10 08 50.0 -1.9**
comp=Z,25nm,1.2s
KDAK Kodiak Island 49.49 41 P **P 10 08 51.7 +0.1**
comp=Z,20nm,1.0s,baz=254,slow=6.1,SNR=13
KDAK Kodiak Island 49.49 41 *e*P **P 10 08 51.0 -0.7**
KDAK pmax pmax
comp=Z,93nm,1.8s
KDAK Kodiak Island 49.49 41 *e*P **P 10 08 51.0 -0.7**
comp=Z,93nm,1.8s
KTH Kantishna Hill 49.86 34 *e*P **P 10 08 56.1 +1.5**
comp=Z,16nm,1.1s
COLD Coldfoot 50.07 29 *e*P **P 10 08 57.0 +1.0**
comp=Z,9.3nm,1.0s
SUA Susitna One 50.08 36 *e*P **P 10 08 57.2 +1.0**
comp=Z,26nm,1.1s
BRLK Bradley Lake 50.16 39 *e*P **P 10 08 58.6 +1.7**
comp=Z,27nm,1.3s
TOLK Toolik Lake Re 50.31 27 P **P 10 08 57.9 +0.1**
baz=270
RC01 Rabbit Creek A 50.60 37 *e*P **P 10 09 01.2 +1.1**
comp=Z,21nm,1.2s
MCK McKinley 50.74 33 *e*P **P 10 09 01.1 0.0**
MCK pmax pmax
comp=Z,57nm,2.0s
MCK McKinley 50.74 33 *e*P **P 10 09 01.1 0.0**
comp=Z,57nm,2.0s
KKAR Karatay Array 50.76 299 *e*P **P 10 09 00.8 -0.8**
KKAR pmax pmax
comp=Z,101nm,1.0s
KKAR Karatay Array 50.76 299 *e*P **P 10 09 00.8 -0.8**
comp=Z,101nm,1.0s
RND Reindeer 50.80 34 *e*P **P 10 09 02.3 +0.6**
RND pmax pmax
comp=Z,12nm,1.2s
RND Reindeer 50.80 34 *e*P **P 10 09 02.3 +0.6**
comp=Z,12nm,1.2s
PMR Palmer 50.84 36 *e*P **P 10 09 01.1 -0.7**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 50.84 36 *e*P **P 10 09 01.1 -0.7**
comp=Z,14nm,1.0s
SEW Seward 50.85 38 *e*P **P 10 09 02.2 +0.3**
comp=Z,28nm,1.2s
MDM Murphy Dome 50.96 32 *e*P **P 10 09 03.3 +0.5**
comp=Z,11nm,1.0s
WRH Wood River Hil 51.05 32 *e*P **P 10 09 04.6 +1.2**
WRH *e*PcP **PcP 10 10 19.5 +0.3**
COLA College 51.12 32 *e*P **P 10 09 04.4 +0.5**
COLA pmax pmax
comp=Z,11nm,1.5s
COLA College 51.12 32 *e*P **P 10 09 04.8 +0.9**
comp=Z,8.6nm,1.0s
CCB Clear Creek Bu 51.16 32 *e*P **P 10 09 06.1 +1.8**
comp=Z,7.5nm,1.3s
SML Sawmill 51.19 36 *e*P **P 10 09 05.5 +0.9**
SML pmax pmax
comp=Z,22nm,1.0s
SML Sawmill 51.19 36 *e*P **P 10 09 05.5 +0.9**
comp=Z,22nm,1.0s
DHY Denali Highway 51.50 34 *e*P **P 10 09 07.1 +0.1**
comp=Z,8.8nm,1.1s
ILAR Eielson Array 51.54 32 P **P 10 09 06.5 -0.7**
comp=Z,1.6nm0.8s,baz=268,slow=5.8,SNR=14
ILB Eielson Array 51.54 32 *e*P **P 10 09 07.0 -0.2**
IL1 Eielson Array 51.54 32 *e*P **P 10 09 05.8 -1.3**
HDA Harding Lake 51.55 32 *e*P **P 10 09 07.0 -0.2**
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 51.66 36 *e*P **P 10 09 09.2 +1.1**
SCM pmax pmax
comp=Z,25nm,1.2s
SCM Sheep Creek Mo 51.66 36 *e*P **P 10 09 09.2 +1.1**
comp=Z,25nm,1.2s
FYU Fort Yukon 52.06 30 *e*P **P 10 09 12.6 +1.7**
comp=Z,71nm,1.7s
KLU Klutina 52.38 36 *e*P **P 10 09 14.1 +0.7**
comp=Z,18nm,1.2s
DIV Divide 52.50 37 *e*P **P 10 09 15.7 +1.3**
comp=Z,24nm,1.1s
HARP HAARP 52.60 35 *e*P **P 10 09 16.3 +1.3**
comp=Z,28nm,1.2s
EYAK Cordova Ski Ar 52.61 37 *e*P **P 10 09 17.1 +2.0**
comp=Z,20nm,1.0s
DOT Dot Lake 52.91 33 *e*P **P 10 09 16.5 -0.8**
comp=Z,37nm,1.6s
BMRM Bremner River 53.09 37 *e*P **P 10 09 19.3 +0.6**
comp=Z,22nm,1.0s
SVE Sverdlovsk 53.53 318 *e*P **P 10 09 21.6 -0.4**
SVE pmax pmax
comp=Z,30nm,1.2s
SVE MLR MLR
comp=Z,2µm,17.0s
CRQM Cirque 53.83 37 *e*P **P 10 09 25.9 +1.6**
comp=Z,21nm,1.0s
EGAK Eagle 53.98 32 *e*P **P 10 09 27.1 +2.0**
comp=Z,6.7nm,0.9s
ARU Arti 54.74 318*c i*P **P 10 09 30.1 -0.7**
ARU 10 10 28.1
ARU S **S 10 17 13.5 +2.3**
ARU SS **SS 10 20 54.1 +0.5**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 54.74 318 *e*P **P 10 09 30.1 -0.7**
comp=Z,15nm,0.8s
DAWY Dawson 54.87 32 *e*P **P 10 09 32.8 +1.1**
comp=Z,6.1nm,1.1s
SOKR Solikamsk 54.89 322 *e*P **P 10 09 30.7 -1.0**
SOKR pmax pmax
comp=Z,20nm,1.7s
SOKR MLR MLR
comp=Z,4µm,20.0s
HYB Hyderabad 55.16 266 *i*P **P 10 09 34.0 -0.4**
ABKAR Akbulak array 55.95 309 *e*P **P 10 09 37.8 -1.8**
comp=Z,111nm,0.8s
INK Inuvik 56.22 27 P **P 10 09 40.7 -0.5**
comp=Z,15nm,0.9s,baz=281,slow=8.4,SNR=21
INK Inuvik 56.22 27 *e*P **P 10 09 41.8 +0.6**
INK pmax pmax
comp=Z,16nm,0.9s
INK Inuvik 56.22 27 *e*P **P 10 09 41.8 +0.6**
comp=Z,16nm,0.9s
WRAB Tennant Creek 56.23 184*c i*P **P 10 09 40.0 -1.8**
WRAB pmax pmax
comp=Z,33nm,1.1s
WRAB Tennant Creek 56.23 184 *e*P **P 10 09 39.8 -1.9**
comp=Z,27nm,1.3s
WB2 Warramunga Arr 56.23 184 *e*P **P 10 09 39.9 -1.9**
WRA Warramunga Arr 56.23 184 P **P 10 09 39.4 -2.5**
comp=Z,10nm,0.9s,baz=1.2,slow=7.6,SNR=43
AKTO Aktyubinsk 56.76 311 P **P 10 09 44.0 -1.4**
comp=Z,6.7nm,0.8s,baz=74,slow=13,SNR=16
WHY Whitehorse 57.78 36 *e*P **P 10 09 54.3 +1.7**
comp=Z,25nm,1.8s
SKAG Skagway 57.95 37 *e*P **P 10 09 56.2 +2.6**
comp=Z,18nm,1.4s
MBWA Marble Bar 59.81 199 *e*P **P 10 10 05.9 -1.0**
comp=Z,19nm,1.0s
AS01 Alice Springs 59.95 184 *e*S **P 10 10 04.5 -3.3**
AS31 Alice Springs 59.96 184 *e*P **P 10 10 06.7 -1.2**
comp=Z,2.0nm,0.7s
AS31 Alice Springs 59.96 184 *e*S **P 10 10 06.7 -1.2**
ASAR Alice Springs 59.96 184 P **P 10 10 05.9 -2.0**
comp=Z,6.0nm,0.9s,baz=6.9,slow=5.6,SNR=37
GEYT Alibeck 61.42 298 P **P 10 10 17.5 -0.5**
comp=Z,4.3nm,0.7s,baz=343,slow=1.5,SNR=7.9
GEYT LR LR 10 38 36.9
comp=Z,2µm,19.8s,baz=60,slow=38
KLMR Klimovskoe 62.56 327 *e*P **P 10 10 22.4 -2.8**
KLMR pmax pmax
comp=Z,38nm,1.4s
ARCES ARCESS Array B 63.40 339 P **P 10 10 30.9 +0.3**
comp=Z,9.6nm,1.1s,baz=56,slow=10,SNR=4.4
ARCES LR LR 10 41 59.2
comp=Z,3µm,18.7s,baz=72,slow=40
DZM Mont Dzumac 64.30 150 *e*S **S 10 19 22.6 +7.2**
comp=Z,434nm,28.9s
DZM Mont Dzumac 64.30 150 *e*LR LR 10 30 02.4
comp=Z,1µm,24.0s
YKA Yellowknife Ar 65.75 29 P **P 10 10 45.2 -0.8**
comp=Z,5.6nm,1.0s,baz=297,slow=6.5,SNR=18
YKA Yellowknife Ar 65.75 29*ce*P **P 10 10 45.5 -0.6**
YKA pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 66.01 354 *i*P **P 10 10 47.1 -0.4**
comp=Z,13nm,1.1s
DAG Danmarks Havn 66.01 354 *i*P **P 10 10 47.1 -0.4**
DAG pmax pmax
comp=Z,16nm,1.1s
OBN Obninsk 66.68 322⇑ *e*P **P 10 10 51.7 -0.4**
OBN pmax pmax
comp=Z,14nm,0.4s
LPSR Galich'ya Gora 66.74 319 *e*P **P 10 10 51.9 -0.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 67.31 318 *e*P **P 10 10 54.5 -1.7**
VSR pmax pmax
comp=Z,20nm,1.3s
FINES FINESS Array B 67.84 331 P **P 10 10 57.4 -2.0**
comp=Z,15nm,1.0s,baz=92,slow=6.5,SNR=9.2
FINES LR LR 10 42 35.0
comp=Z,2µm,18.7s,baz=39,slow=38
STKA Stephens Creek 68.13 176 P **P 10 10 59.8 -1.6**
comp=Z,3.9nm,1.0s,baz=19,slow=6.8,SNR=5.4
STKA LR LR 10 38 35.5
comp=Z,299nm,21.5s,baz=349,slow=34
LLLB Lillooet 68.69 42 *e*P **P 10 11 05.8 +0.8**
comp=Z,23nm,0.9s
ZEI Tsey 68.77 308 *e*P **P 10 11 03.5 -2.3**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 68.92 309 P **P 10 11 06.3 -0.1**
comp=Z,4.4nm,0.9s,baz=2.3,slow=5.3,SNR=6.9
KBZ LR LR 10 45 02.5
comp=Z,1µm,18.6s,baz=58,slow=39
KVAR Kislovodsk Arr 68.93 310 P **P 10 11 07.5 +0.8**
comp=Z,3.0nm,0.3s,baz=90,slow=18,SNR=6.5
KIV Kislovodsk 68.94 310 *e*P **P 10 11 07.9 +1.2**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,1µm,17.0s
AFI Afiamalu 69.18 127 LR LR 10 36 25.4
comp=Z,253nm,21.6s,baz=320,slow=32
A04D Lummi Island 69.23 44 P **P 10 11 09.0 +0.7**
baz=302
B05A Bryant 69.82 44 P **P 10 11 12.6 +0.7**
baz=302
B06A Marblemount 70.03 44 *e*P **P 10 11 13.8 +0.5**
comp=Z,19nm,0.9s
C06D Leavenworth 70.68 44 P **P 10 11 18.0 +0.7**
baz=303
F04A Amboy 70.89 47 *e*P **P 10 11 20.1 +1.6**
comp=Z,17nm,0.8s
SUMG Summit 71.17 359 *i*P **P 10 11 20.7 +0.4**
comp=Z,27nm,0.9s
SUMG Summit 71.17 359 *e*P **P 10 11 20.2 -0.1**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 71.17 359 *e*P **P 10 11 20.2 -0.1**
comp=Z,32nm,1.0s
LTY Liberty 71.18 45 *e*P **P 10 11 21.4 +1.1**
comp=Z,27nm,1.6s
B08A Colville Reser 71.31 43 *e*P **P 10 11 20.8 -0.3**
comp=Z,18nm,1.1s
I03D Drain, OR 71.55 49 P **P 10 11 23.2 +0.6**
baz=303
EDM Edmonton 71.60 37 *e*P **P 10 11 22.6 -0.2**
EDM pmax pmax
comp=Z,36nm,1.4s
EDM Edmonton 71.60 37 *e*P **P 10 11 22.6 -0.2**
comp=Z,36nm,1.4s
G05D Wamic, OR 71.92 47 P **P 10 11 25.3 +0.5**
baz=304
E07A Sunnyside 72.03 45 *e*P **P 10 11 26.6 +1.1**
comp=Z,14nm,1.0s
I04A Tendick Farm, 72.07 49 P **P 10 11 26.1 +0.3**
baz=304
D08A Wollman Farm, 72.28 44 *e*P **P 10 11 27.6 +0.7**
comp=Z,9.9nm,1.0s
HAWA Hanford 72.31 45 *e*P **P 10 11 28.0 +0.9**
comp=Z,11nm,1.1s
VTHM Trough 72.40 47 P **P 10 11 28.9 +1.2**
I05D Terrebonne, OR 72.41 48 P **P 10 11 27.9 +0.1**
baz=304
NEW Newport 72.58 43 P **P 10 11 28.7 -0.1**
baz=306
NEW Newport 72.58 43 *e*P **P 10 11 28.9 +0.2**
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 72.58 43 *e*P **P 10 11 28.9 +0.2**
comp=Z,13nm,1.0s
AKASG Malin Array Be 72.83 321 P **P 10 11 28.4 -1.7**
comp=Z,10nm,0.9s,baz=49,slow=6.6,SNR=29
AKASG LR LR 10 46 09.1
comp=Z,4µm,18.1s,baz=45,slow=38
AKASG Malin Array Be 72.83 321 P **P 10 11 28.4 -1.7**
AKASG pmax pmax
comp=Z,11nm,0.9s
AKASG MLR MLR
comp=Z,4µm,18.2s
AKBB Malin Array Si 72.83 321 *e*P **P 10 11 29.0 -1.1**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 72.83 321 *e*P **P 10 11 28.9 -1.1**
comp=Z,12nm,0.8s
KIEV Kiev 72.84 321⇓ *e*P **P 10 11 28.8 -1.4**
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 72.84 321 *e*P **P 10 11 28.6 -1.6**
comp=Z,12nm,0.8s
AK11 Malin Array Si 72.87 321 *e*P **P 10 11 29.5 -0.8**
E09A Wood Farm, Sta 73.03 44 *e*P **P 10 11 32.0 +0.6**
J05D Fort Rock, OR 73.06 49 P **P 10 11 32.0 +0.2**
baz=304
NC204 NORSAR Array S 73.44 336 *e*P **P 10 11 33.6 0.0**
N02D Trinity Center 73.45 51 P **P 10 11 34.3 +0.2**
baz=304
NB2 NORSAR Subarra 73.46 336 P **P 10 11 32.8 -0.9**
comp=Z,25nm,1.1s,baz=42,slow=6.2
NB2 NORSAR Subarra 73.46 336 P **P 10 11 32.8 -0.9**
baz=42,slow=6.2
NOA NORSAR Array B 73.46 336 P **P 10 11 32.9 -0.8**
comp=Z,13nm,0.9s,baz=42,slow=5.9,SNR=14
NOA LR LR 10 47 08.8
comp=Z,1µm,20.1s,baz=50,slow=38
M04C Macdoel 73.54 50 P **P 10 11 34.8 +0.1**
baz=304
K05A Summer Lake 73.58 49 *e*P **P 10 11 37.0 +2.0**
comp=Z,35nm,1.4s
F10A Beach Ranch, E 73.86 44 *e*P **P 10 11 37.8 +1.4**
comp=Z,10nm,1.0s
BSMT Bassoo Peak 74.09 42 P **P 10 11 38.9 +1.1**
O03D Paynes Creek 74.40 51 P **P 10 11 40.0 +0.3**
baz=305
JTMT Jette 74.42 42 *e*P **P 10 11 40.3 +0.6**
BMO Blue Mountains 74.47 45 *e*P **P 10 11 40.0 0.0**
BMO pmax pmax
comp=Z,9.0nm,0.9s
BMO Blue Mountains 74.47 45 *e*P **P 10 11 40.0 0.0**
comp=Z,9.2nm,0.9s
SWMT Swartz Lake 74.72 42 *e*P **P 10 11 41.9 +0.5**
SORM Soroca 74.84 319⇑ *i*P **P 10 11 41.1 -0.8**
SORM Soroca 74.84 319⇑ P **P 10 11 41.1 -0.8**
WVOR Wild Horse Val 75.11 48 *e*P **P 10 11 44.8 +1.0**
WVOR pmax pmax
comp=Z,15nm,1.4s
WVOR Wild Horse Val 75.11 48 *e*P **P 10 11 44.8 +1.0**
comp=Z,15nm,1.4s
SLMT Seeley Lake 75.15 42 *e*P **P 10 11 44.0 0.0**
MSO Missoula 75.17 42 P **P 10 11 43.8 -0.2**
baz=308
MSO Missoula 75.17 42 *e*P **P 10 11 43.8 -0.2**
comp=Z,11nm,1.1s
CHMT Chamberlain Mo 75.49 42 *e*P **P 10 11 46.2 +0.2**
BEKR Beckworth 75.56 51 *e*P **P 10 11 47.3 +0.8**
comp=Z,12nm,0.7s
FFC Flin Flon 75.74 31 *e*P **P 10 11 48.3 +1.3**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 75.74 31 *e*P **P 10 11 48.3 +1.3**
comp=Z,12nm,1.0s
ILGA Ilgaz 76.06 311 *e*P **P 10 11 48.4 -1.0**
comp=Z,35nm,1.0s
MFID Camas Ranch 76.19 46 *e*P **P 10 11 50.5 +0.6**
comp=Z,36nm,1.9s
PAHR Pah Rah Range 76.26 51 *e*P **P 10 11 51.3 +0.8**
comp=Z,9.2nm,1.0s
HRY Holter Researc 76.38 42 *e*P **P 10 11 51.9 +1.0**
LRM Limekiln Ridge 76.60 43 *e*P **P 10 11 52.9 +0.5**
CMB Columbia Colle 76.61 53 *e*P **P 10 11 53.3 +1.0**
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 76.61 53 *e*P **P 10 11 53.3 +1.0**
comp=Z,13nm,1.1s
EGMT Eagleton 76.63 40 P **P 10 11 52.0 -0.3**
baz=310
EGMT Eagleton 76.63 40 *e*P **P 10 11 52.4 +0.1**
comp=Z,30nm,0.9s
KWP Kalwaria Pacla 76.75 323 *e*P **P 10 11 54.2 +1.3**
KWP Kalwaria Pacla 76.75 323 *e*P **P 10 11 54.2 +1.3**
TESR Tescani 76.76 319⇑ *i*P **P 10 11 53.7 +0.7**
BUR08 Bucovina Ar. S 76.80 320 *e*P **P 10 11 52.8 -0.5**
BURAR Bucovina Array 76.81 320⇑ *i*P **P 10 11 53.1 -0.3**
BURAR Bucovina Array 76.81 320⇑ P **P 10 11 53.1 -0.3**
DLMT Dillon 76.81 43 *e*P **P 10 11 53.8 +0.4**
comp=Z,16nm,0.8s
BR131 Keskin Array S 76.90 310 *e*P **P 10 11 54.3 +0.2**
BRTR Keskin Array B 76.90 310 P **P 10 11 53.2 -0.8**
comp=Z,12nm,0.9s,baz=95,slow=4.0,SNR=44
BRTR LR LR 10 49 05.9
comp=Z,550nm,18.9s,baz=59,slow=38
HLID Hailey 76.91 45 P **P 10 11 54.5 +0.4**
baz=308
HLID Hailey 76.91 45 *e*P **P 10 11 54.6 +0.5**
comp=Z,12nm,1.3s
VRI Vrincioaia 77.13 318⇑ *i*P **P 10 11 55.5 +0.4**
VRI Vrincioaia 77.13 318⇑ P **P 10 11 55.5 +0.4**
BMN Battle Mountai 77.16 49 *e*P **P 10 11 56.9 +1.4**
BMN pmax pmax
comp=Z,10.0nm,1.2s
BMN Battle Mountai 77.16 49 *e*P **P 10 11 56.9 +1.4**
comp=Z,10nm,1.2s
PLOR Plostina 77.18 318⇑ *i*P **P 10 11 56.0 +0.6**
PLOR Plostina 77.18 318⇑ P **P 10 11 56.0 +0.6**
BOZ Bozeman (W) 77.19 42 P **P 10 11 55.6 -0.1**
baz=310
BOZ Bozeman (W) 77.19 42 *e*P **P 10 11 55.5 -0.1**
BOZ pmax pmax
comp=Z,13nm,1.1s
BOZ Bozeman (W) 77.19 42 *e*P **P 10 11 55.5 -0.2**
comp=Z,13nm,1.1s
TLB Topalu 77.22 316⇑ *i*P **P 10 11 56.1 +0.6**
TLB Topalu 77.22 316⇑ P **P 10 11 56.1 +0.6**
ANTO Ankara 77.34 310 *e*P **P 10 11 55.8 -0.6**

ANTO pmax pmax
comp=Z,22nm,0.9s
ANTO Ankara 77.34 310 eP P 10 11 55.8 -0.6
comp=Z,22nm,0.9s
STHS Stebnicka Huta 77.61 323 eP P 10 11 58.1 +0.4
STHS pmax pmax
comp=Z,9.0nm,1.2s
STHS Stebnicka Huta 77.61 323 eP P 10 11 58.1 +0.4
OJC Ojcow 77.75 324 eP P 10 11 58.1 -0.3
OJC Ojcow 77.75 324 eP P 10 11 58.0 -0.5
OJC pmax pmax
comp=Z,31nm,1.0s
OJC Ojcow 77.75 324 eP P 10 11 58.0 -0.5
comp=Z,31nm,1.0s
DOPR Dopca 77.78 319⇑ iP P 10 11 59.4 +0.7
QLMT Earthquake Lak 77.78 43 eP P 10 12 02.2 +3.1
MLR Muntele Rosu 77.79 318⇓ iP P 10 11 59.7 +0.8
MLR Muntele Rosu 77.79 318 ⇓P P 10 11 59.7 +0.8
CRVS Cervenica-Dubn 77.85 323 eP P 10 11 59.5 +0.5
CRVS Cervenica-Dubn 77.85 323 eP P 10 11 59.5 +0.5
YHB Horse Butte 77.97 43 eP P 10 12 01.8 +1.7
comp=Z,9.9nm,1.0s
RAYN Ar Rayn 78.03 290 eP P 10 12 00.5 0.0
comp=Z,8.6nm,1.0s
NIE Niedzica 78.06 324 eP P 10 12 00.3 +0.1
NIE Niedzica 78.06 324 eP P 10 12 00.3 +0.1
GCMT Greycliff 78.12 41 eP P 10 12 01.8 +1.0
YHH Holmes Hill 78.13 43 eP P 10 12 02.2 +1.1
comp=Z,32nm,2.0s
YMR Madison River 78.14 43 eP P 10 12 03.2 +2.2
comp=Z,15nm,1.3s
VOIR 78.31 318⇑ iP P 10 12 02.4 +0.7
VOIR 78.31 318 ⇑P P 10 12 02.4 +0.7
YFT Old Faithful 78.35 43 eP P 10 12 05.5 +3.2
comp=Z,20nm,1.4s
H17A Grant Village 78.53 43 eP P 10 12 05.6 +2.3
comp=Z,11nm,0.8s
ARR Arges 78.58 319⇑ iP P 10 12 03.8 +0.6
DRGR 78.64 321⇑ iP P 10 12 02.7 -0.8
DRGR 78.64 321 ⇑P P 10 12 02.7 -0.8
LANS Liptovska Anna 78.64 324 eP P 10 12 04.4 +0.9
LANS Liptovska Anna 78.64 324 eP P 10 12 04.4 +0.9
IMW Indian Meadow 78.65 43 eP P 10 12 05.7 +1.7
comp=Z,6.7nm,0.9s
VES Vestal, Richgr 78.75 54 P P 10 12 03.7 -0.5
baz=307
RLMT Red Lodge 78.77 42 P P 10 12 04.8 +0.3
baz=311
RLMT Red Lodge 78.77 42 eP P 10 12 05.6 +1.1
comp=Z,19nm,1.4s
FXWY Fox Creek 78.77 44 eP P 10 12 05.9 +1.4
comp=Z,9.0nm,1.2s
OKC Ostrava-Krasne 78.78 325 AMS AMS 10 49 30.0
comp=Z,2µm,18.2s
MOOW Moose Ponds 78.86 43 eP P 10 12 05.8 +0.8
comp=Z,9.4nm,1.3s
TPAW Teton Pass 78.91 44 eP P 10 12 07.2 +1.9
comp=Z,20nm,1.6s
LOHW Long Hollow 79.02 43 eP P 10 12 07.1 +1.1
comp=Z,9.7nm,1.5s
SNOW Snow King Moun 79.04 44 eP P 10 12 07.5 +1.4
comp=Z,9.1nm,1.1s
REDW Red Top Meadow 79.05 44 eP P 10 12 07.2 +1.2
comp=Z,8.8nm,1.1s
DGMT Dagmar 79.09 37 P P 10 12 05.9 -0.1
baz=314
DGMT Dagmar 79.09 37 eP P 10 12 05.9 -0.1
comp=Z,22nm,1.1s
MORC Moravsky Berou 79.10 325⇓ iP P 10 12 06.2 +0.2
MORC Moravsky Berou 79.10 325 ⇓P P 10 12 06.2 +0.2
MORC Moravsky Berou 79.10 325 eP P 10 12 05.2 -0.8
comp=Z,73nm,1.1s
DPC Dobruska-Polom 79.25 326 eP P 10 12 07.3 +0.5
DPC AMS AMS 10 51 00.0
comp=Z,3µm,15.4s
DPC Dobruska-Polom 79.25 326 eP P 10 12 07.3 +0.5
DPC MLR MLR
comp=Z,3µm,15.4s
UPC Upice 79.28 326 eP P 10 12 07.3 +0.4
UPC AMS AMS 10 51 00.0
comp=Z,3µm,15.0s
UPC Upice 79.28 326 eP P 10 12 07.3 +0.4
UPC MLR MLR
comp=Z,3µm,15.0s
PSZ Piszkesteto 79.28 323⇑ iP P 10 12 07.6 +0.5
PSZ Piszkesteto 79.28 323 ⇑P P 10 12 07.6 +0.5
PSZ Piszkesteto 79.28 323 eP P 10 12 07.3 +0.3
comp=Z,12nm,0.9s
LAO LASA Array 79.31 39 P P 10 12 07.3 +0.1
baz=313
LAO LASA Array 79.31 39 eP P 10 12 07.6 +0.4
comp=Z,23nm,1.3s
VYHS Vyhne 79.40 324 eP P 10 12 08.2 +0.6
VYHS Vyhne 79.40 324 eP P 10 12 08.2 +0.6
R11A Troy Canyon, C 79.44 50 P P 10 12 08.3 0.0
baz=308
R11A Troy Canyon, C 79.44 50 eP P 10 12 08.5 +0.3
MPMC Manual Prospec 79.64 53 P P 10 12 09.3 -0.1
baz=308
HWUT Hardware Ranch 79.78 45 eP P 10 12 10.7 +0.7
comp=Z,29nm,1.7s
FURC Furnace Creek, 79.79 52 P P 10 12 10.1 +0.2
baz=308
TPNV Topopah Spring 79.89 51 P P 10 12 10.4 -0.3
baz=308
PVCC Panska Ves 79.90 327 AMS AMS 10 50 30.0
comp=Z,2µm,18.1s
BRG Berggiesshubel 79.92 328 eP P 10 12 09.8 -0.6
comp=Z,15nm,1.3s
comp=N,1µm,13.4s
comp=E,2µm,13.6s
comp=Z,2µm,13.1s
BRG Berggiesshubel 79.92 328 eP P 10 12 09.8 -0.6
BRG pmax pmax
comp=Z,15nm,1.3s
BRG MLR MLR
comp=N,1µm,13.4s
BRG MLR MLR
comp=E,2µm,13.6s
BRG MLR MLR
comp=Z,2µm,13.1s
DUG Dugway, Tooele 79.95 47 P P 10 12 10.9 -0.1
baz=310
DUG Dugway, Tooele 79.95 47 eP P 10 12 12.0 +1.0
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 79.95 47 eP P 10 12 12.0 +1.0
comp=Z,6.2nm,0.8s
BZS Buzias 79.99 320⇓ iP P 10 12 10.4 -0.4
BZS Buzias 79.99 320 ⇓P P 10 12 10.4 -0.4
CLL Collm 80.00 328 i P P 10 12 10.1 -0.7
CLL eS S 10 22 19.0 +4.2
CLL pmax pmax
comp=Z,27nm,1.1s
CLL Collm 80.00 328 i P P 10 12 10.1 -0.7
comp=Z,27nm,1.1s
CLL eS S 10 22 19.0 +4.2
CLL ePS PnS 10 23 00.0 +1.7
CLL eSS SS 10 27 24.0 +0.7
CLL e(SSS) 10 31 30.0
CLL Collm 80.00 328 eP P 10 12 10.3 -0.5
EDW2 Edwards Air Fo 80.03 54 P P 10 12 10.9 -0.5
baz=308
BW06 Boulder Array 80.15 44 P P 10 12 11.4 -0.7
baz=311
BW06 Boulder Array 80.15 44 eP P 10 12 11.8 -0.3
comp=Z,10nm,1.4s
PD31 Pinedale Array 80.15 44 eP P 10 12 11.8 -0.3
PDAR Pinedale Array 80.15 44 P P 10 12 11.7 -0.5
comp=Z,3.3nm,0.7s,baz=278,slow=2.1,SNR=33
GOPC GO Pecny, Ondr 80.25 327 eP P 10 12 12.3 +0.1
GOPC AMS AMS 10 51 40.0
comp=Z,3µm,13.8s
GOPC GO Pecny, Ondr 80.25 327 eP P 10 12 12.3 +0.1
GOPC MLR MLR
comp=Z,3µm,13.8s
PRA Prague 80.29 327 AMS AMS 10 51 30.0
comp=Z,2µm,16.6s
PRU Pruhonice 80.31 327 eP P 10 12 12.7 +0.2
PRU AMS AMS 10 51 40.0
comp=Z,3µm,14.4s
PRU Pruhonice 80.31 327 eP P 10 12 12.7 +0.2
PRU MLR MLR
comp=Z,3µm,14.4s
TREC Trest 80.39 326 AMS AMS 10 51 30.0
comp=Z,3µm,15.6s

MDVR Moldovita 80.51 320⇑ iP P 10 12 12.6 -1.1
NLU North Lily Min 80.54 47 eP P 10 12 14.7 +0.5
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 80.55 53 eP P 10 12 15.3 +1.2
GSC pmax pmax
comp=Z,12nm,1.3s
GSC Goldstone, Bar 80.55 53 eP P 10 12 15.3 +1.2
comp=Z,12nm,1.3s
BFSC Mount Baldy Ra 80.64 54 P P 10 12 14.6 -0.2
baz=309
SHPR Sheep Range 80.85 51 eP P 10 12 16.9 +1.1
comp=Z,8.8nm,1.2s
NKC Novy Kostel 81.03 328 eP P 10 12 16.6 +0.2
NKC AMS AMS 10 54 00.0
comp=Z,2µm,15.2s
NKC Novy Kostel 81.03 328 eP P 10 12 16.6 +0.2
NKC MLR MLR
comp=Z,2µm,15.2s
HEC Hector,Ludlow 81.14 53 P P 10 12 17.2 -0.2
baz=308
VTS Vitosha 81.18 317⇑ iP P 10 12 17.8 +0.3
VTS Vitosha 81.18 317 ⇑P P 10 12 17.8 +0.3
VTS Vitosha 81.18 317 eP P 10 12 17.6 0.0
comp=Z,7.0nm,0.9s
CONA Conrad Observa 81.20 325 i pP P 10 12 18.3 +0.9
comp=Z,16nm,1.2s,SNR=5.6
CCUT Cedar City 81.30 49 eP P 10 12 19.5 +1.1
comp=Z,9.8nm,1.4s
KHC Kasperske Hory 81.36 327 eP P 10 12 18.1 -0.1
KHC epP sP 10 12 21.6 -0.5
KHC AMS AMS 10 52 10.0
comp=Z,4µm,16.0s
KHC Kasperske Hory 81.36 327 eP P 10 12 18.1 -0.1
KHC e 10 12 21.6
KHC MLR MLR
comp=Z,4µm,16.0s
KHC Kasperske Hory 81.36 327 eP P 10 12 17.6 -0.6
comp=Z,6.6nm,1.1s
MSU Marysvale 81.41 48 eP P 10 12 20.5 +1.7
MSU Marysvale 81.41 48 eP P 10 12 20.5 +1.7
TMUT Trail Mountain 81.47 47 eP P 10 12 20.3 +1.0
comp=Z,21nm,1.8s
GEC2 GERESS Array S 81.52 326 eP P 10 12 19.5 +0.4
GEC2 GERESS Array S 81.52 326 eP P 10 12 19.5 +0.4
GERES GERESS Array B 81.52 326 P P 10 12 18.4 -0.7
comp=Z,5.0nm,0.9s,baz=23,slow=4.4,SNR=15
GERES LR LR 10 51 17.9
comp=Z,925nm,18.9s,baz=40,slow=38
GEA0 GERESS Array S 81.52 326 eP P 10 12 18.6 -0.6
ULM Lac du Bonnet 81.56 31 P P 10 12 18.5 -0.6
comp=Z,8.5nm,1.0s,baz=302,slow=8.1,SNR=5.8
ULM Lac du Bonnet 81.56 31 P P 10 12 18.5 -0.6
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 81.56 31 eP P 10 12 19.3 +0.2
GMRC Granite Mounta 81.60 53 P P 10 12 19.6 -0.2
baz=309
P17A Butcher Ranch, 81.64 47 eP P 10 12 20.5 +0.5
comp=Z,10nm,0.8s
MDND Maddock 81.70 35 P P 10 12 19.6 -0.4
baz=317
LCMT Little Creek M 81.72 50 eP P 10 12 21.1 +0.7
comp=Z,8.0nm,1.1s
LDFC Landfair 81.77 52 eP P 10 12 21.4 +0.7
comp=Z,14nm,1.1s
PFO Pinyon Flats O 81.82 54 eP P 10 12 21.8 +0.8
PFO pmax pmax
comp=Z,7.0nm,1.0s
PFO Pinyon Flats O 81.82 54 eP P 10 12 21.8 +0.8
comp=Z,6.5nm,1.0s
ARSA Arzberg 81.85 324 i pP P 10 12 21.0 +0.3
comp=Z,8.9nm,1.1s
BELC Belle Mtn. Jos 81.87 54 P P 10 12 20.7 -0.6
baz=309
K22A Casper 81.89 42 P P 10 12 20.8 -0.5
baz=313
K22A Casper 81.89 42 eP P 10 12 21.9 +0.6
comp=Z,20nm,1.4s
GRFO Grafenberg 81.97 328 eP P 10 12 20.8 -0.5
GRFO pmax pmax
comp=Z,22nm,1.1s
GRFO Grafenberg 81.97 328 eP P 10 12 20.8 -0.5
comp=Z,22nm,1.1s
KNB Kanab 81.97 50 eP P 10 12 23.3 +1.4
KNB pmax pmax
comp=Z,13nm,1.2s
KNB Kanab 81.97 50 eP P 10 12 23.3 +1.4
comp=Z,13nm,1.2s
MOA Molln 82.00 325 i pP P 10 12 22.1 +0.5
comp=Z,7.5nm,1.2s
SRU San Rafael Swe 82.00 47 eP P 10 12 22.1 +0.2
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 82.00 47 eP P 10 12 22.1 +0.2
comp=Z,7.4nm,0.8s
B31A Greenbush Farm 82.16 34 P P 10 12 21.7 -0.6
baz=318
RSSD Black Hills 82.19 40 P P 10 12 22.0 -0.9
baz=314
A32A Rocking H Ranc 82.30 33 P P 10 12 22.7 -0.4
baz=319
IRM Iron Mountain 82.33 53 P P 10 12 23.4 -0.1
baz=309
RAR Rarotonga 82.35 123 LR LR 10 44 13.5
comp=Z,157nm,19.1s,baz=298,slow=32
BC3 Big Chuckawall 82.44 54 P P 10 12 23.6 -0.7
baz=309
PERS Pernice 82.49 324 eP P 10 12 24.3 +0.1
SOKA Soboth 82.50 324 i P P 10 12 23.9 -0.4
comp=Z,21nm,1.1s,SNR=13
O20A White River Ci 82.64 45 P P 10 12 25.2 -0.1
baz=312
O20A White River Ci 82.64 45 eP P 10 12 26.1 +0.8
IKP In-Ko-Pah, Jac 82.64 55 P P 10 12 24.8 -0.5
baz=309
B32A Ashes, Strandq 82.68 33 P P 10 12 24.4 -0.6
baz=319
U15A North Rim 82.68 50 eP P 10 12 26.4 +0.7
A33A Warroad 82.76 32 P P 10 12 24.8 -0.6
baz=320
OBKA Obir 82.85 324 i pP P 10 12 28.5 +2.4
comp=Z,4.6nm,0.9s
URZ Urewera 82.86 150 LR LR 10 44 46.5
comp=Z,197nm,21.9s,baz=358,slow=32
PDMCI Parker Dam,Lak 82.88 52 P P 10 12 26.3 -0.1
baz=310
LEGS Legarje 82.89 324 i P P 10 12 26.2 -0.1
PDKS Podkum 82.96 324 i P P 10 12 26.6 0.0
Y12C Blythe 82.98 53 P P 10 12 27.2 +0.3
baz=310
Y12C Blythe 82.98 53 eP P 10 12 28.3 +1.4
KBA Koelnbreinsper 82.99 325 i pP P 10 12 28.3 +1.4
comp=Z,14nm,1.2s,SNR=6.6
MYKA Terra Mystica 83.18 325 i P P 10 12 27.5 -0.3
comp=Z,10nm,1.4s
PV09 Paradox Valley 83.22 47 eP P 10 12 30.1 +1.6
GLA Glamis 83.23 54 P P 10 12 27.9 -0.4
baz=309
PHWY Pilot Hill 83.40 43 eP P 10 12 29.8 +0.5
N23A Red Feather La 83.41 43 P P 10 12 29.2 -0.2
baz=314
N23A Red Feather La 83.41 43 eP P 10 12 30.4 +1.0
PDG Podgorica 83.42 319⇓ iP P 10 12 29.1 +0.1
B34A Aery, Baudette 83.42 32 P P 10 12 28.3 -0.7
baz=320
E31A Nome 83.44 35 P P 10 12 28.9 -0.2
baz=318
PV05 Paradox Valley 83.52 47 eP P 10 12 30.0 +0.1
WATA Walderalm 83.59 326 i pP P 10 12 30.1 +0.1
comp=Z,10nm,1.1s
ABTA Abfaltersbach 83.61 326 i P P 10 12 29.0 -1.1
comp=Z,11nm,1.0s,SNR=5.1
WTTA Wattenberg 83.62 326 i P P 10 12 30.1 -0.1
comp=Z,9.7nm,1.2s
F31A Hecla 83.79 36 P P 10 12 30.3 -0.5
baz=318
PV01 Paradox Valley 83.79 47 eP P 10 12 31.6 +0.3
MOTA Moosalm 83.80 327 i P P 10 12 30.9 -0.1
comp=Z,10.0nm,1.1s
WUAZ Wupatki 83.84 50 P P 10 12 31.4 -0.1
baz=311
WUAZ Wupatki 83.84 50 eP P 10 12 32.0 +0.5
comp=Z,13nm,1.0s
RETA Reutte 83.84 327 i P P 10 12 31.1 -0.1
comp=Z,22nm,1.1s,SNR=7.4
B35A Bob, Littlefor 83.91 32 P P 10 12 30.8 -0.7
baz=321

D33A AnnSam, Waubun 83.93 33 P P 10 12 31.4 -0.2
baz=320
C34A RKJ Ranch, Bem 83.95 33 P P 10 12 30.9 -0.8
baz=320
SMCO Snowmass 84.01 45 eP P 10 12 33.5 +0.9
comp=Z,6.2nm,0.9s
AGG Agios Georgios 84.08 315 eP P 10 12 32.0 -0.5
AGG Agios Georgios 84.08 315 eP P 10 12 32.0 -0.5
FETA Feichten 84.21 327 i P P 10 12 32.7 -0.5
comp=Z,9.9nm,1.0s
BFO Black Forest 84.23 329 eP P 10 12 32.6 -0.5
BFO Black Forest 84.23 329 eP P 10 12 32.6 -0.5
D34A Park Rapids 84.26 33 P P 10 12 32.8 -0.4
baz=320
G31A Conde 84.28 36 P P 10 12 32.9 -0.5
baz=318
C35A Jirik Farms, M 84.32 32 P P 10 12 32.6 -0.9
baz=321
E33A Westby DABS, E 84.34 34 P P 10 12 33.4 -0.3
baz=319
ISCO Idaho Springs 84.35 44 P P 10 12 33.2 -1.0
baz=314
ISCO Idaho Springs 84.35 44 eP P 10 12 35.7 +1.5
ISCO pmax pmax
comp=Z,16nm,1.8s
ISCO Idaho Springs 84.35 44 eP P 10 12 35.7 +1.5
comp=Z,16nm,1.8s
DAVA Damuels 84.38 327 i P P 10 12 33.5 -0.5
comp=Z,21nm,1.1s,SNR=5.1
MVCO Mesa Verde 84.45 47 P P 10 12 34.7 0.0
baz=312
MVCO Mesa Verde 84.45 47 eP P 10 12 35.5 +0.8
comp=Z,16nm,1.3s
SUSD Miller 84.50 37 P P 10 12 34.8 +0.2
baz=318
X16A Lo Mia Camp, P 84.51 51 eP P 10 12 36.0 +1.0
G32A Webster 84.59 36 P P 10 12 34.9 -0.1
baz=318
F33A 5 Mile Ranch, 84.71 35 P P 10 12 35.6 +0.1
baz=319
FUORN Ofenpass-Fuorn 84.72 327 eP P 10 12 35.2 -0.7
C36A Pine Crest Far 84.76 32 P P 10 12 34.8 -0.9
baz=322
D35A Remer 84.76 33 P P 10 12 35.1 -0.7
baz=321
C37A Embarrass 85.05 31 P P 10 12 36.4 -0.8
baz=322
S22A 4UR Ranch, Cre 85.07 46 P P 10 12 37.8 -0.1
baz=313
S22A 4UR Ranch, Cre 85.07 46 eP P 10 12 38.5 +0.6
W18A Petrified Fore 85.11 49 P P 10 12 37.8 -0.1
baz=312
G33A Ortonville 85.14 35 P P 10 12 37.6 0.0
baz=319
EYMN Ely 85.17 31 P P 10 12 37.5 -0.3
baz=322
EYMN Ely 85.17 31 eP P 10 12 37.5 -0.3
H32A Carlson Farm, 85.19 36 P P 10 12 38.1 +0.1
baz=319
TUE Stuetta 85.24 327 eP P 10 12 38.8 +0.4
H33A Prehn Over Nor 85.38 36 P P 10 12 38.9 -0.1
baz=319
RPZ Rata Peaks 85.43 156 LR LR 10 45 56.1
comp=Z,468nm,20.6s,baz=325,slow=32
C38A Sawbill Land. 85.44 31 P P 10 12 37.9 -1.3
baz=323,SNR=5.9
J31A Geddes 85.46 38 P P 10 12 39.7 +0.3
baz=318
G34A Benson 85.47 35 P P 10 12 38.9 -0.4
baz=320
F35A Swanville 85.48 34 P P 10 12 39.6 +0.2
baz=320
E36A McGregor 85.55 33 P P 10 12 38.7 -1.1
baz=321
SDCO Great Sand Dun 85.83 45 P P 10 12 42.0 +0.3
baz=314
SDCO Great Sand Dun 85.83 45 eP P 10 12 42.4 +0.7
I33A Coleman 85.83 36 P P 10 12 41.3 +0.1
baz=319
J32A Parkston 85.83 37 P P 10 12 40.8 -0.4
baz=318
H34A Spellman Lake, 85.84 35 P P 10 12 41.0 -0.2
baz=320
K31A O'Neill 85.95 38 P P 10 12 41.8 -0.1
baz=318
G35A Watkins 86.01 34 P P 10 12 41.7 -0.3
baz=320
ECSD EROS Data Cent 86.16 36 P P 10 12 42.5 -0.3
baz=319
ECSD EROS Data Cent 86.16 36 eP P 10 12 42.1 -0.7
E38A The Farm, Brul 86.20 32 P P 10 12 42.4 -0.6
baz=322
H35A Sunnyside Ranc 86.25 35 P P 10 12 42.9 -0.3
baz=320
F37A Hinrichs Farm, 86.44 33 P P 10 12 43.7 -0.4
baz=322
KSCO Kaye Shedlock' 86.55 43 P P 10 12 44.5 -0.5
baz=316
F38A Pierce - Schro 86.58 32 P P 10 12 43.9 -0.9
baz=322,SNR=8.0
SCHQ Schefferville 86.62 14 LR LR 10 56 21.1
comp=Z,354nm,18.2s,baz=346,slow=39
SPMN Marine on St. 86.75 33 P P 10 12 45.3 -0.4
baz=322
SPMN Marine on St. 86.75 33 eP P 10 12 45.5 -0.1
E39A Mellen 86.80 31 P P 10 12 45.3 -0.6
baz=323
T25A Trinidad 86.88 45 P P 10 12 46.4 -0.4
baz=315
F39A Loretta 87.02 32 P P 10 12 46.9 -0.1
baz=323
E40A Wakefield 87.02 31 P P 10 12 45.4 -1.6
baz=324,SNR=8.1
PPT Papeete 87.14 114 LR LR 10 53 56.1
comp=Z,169nm,18.8s,baz=357,slow=37
BGNE Belgrade 87.15 39 P P 10 12 46.9 -0.8
baz=318
I36A Fitzsimmons Fa 87.15 35 P P 10 12 47.2 -0.4
baz=321
PPT2 Papeete2 87.15 114 eS S 10 23 34.3 +6.4
comp=Z,75nm,23.5s
PPT2 Papeete2 87.15 114 eLR LR 10 40 40.4
comp=Z,1µm,25.0s
ANMO Albuquerque 87.20 48 P P 10 12 48.2 -0.2
baz=314
ANMO Albuquerque 87.20 48⇑ eP P 10 12 49.2 +0.9
ANMO pmax pmax
comp=Z,11nm,2.5s
H37A Dierke Farm, C 87.21 34 P P 10 12 47.6 -0.3
baz=322
G38A Ridgeland 87.21 33 P P 10 12 47.0 -0.9
baz=322
F40A Park Falls 87.35 31 P P 10 12 48.3 -0.3
baz=323
E41A Kenton 87.39 30 P P 10 12 48.6 -0.1
baz=324
G39A Holcombe 87.41 32 P P 10 12 48.5 -0.4
baz=323
H38A Maiden Rock 87.41 33 P P 10 12 48.5 -0.4
baz=322
I37A Lemond, Waseca 87.43 34 P P 10 12 48.8 -0.2
baz=321
J36A Seneca 1, Swea 87.53 35 P P 10 12 49.3 -0.2
baz=321
L34A Svendsen Farm, 87.61 37 P P 10 12 49.7 -0.2
baz=319
G40A Rib Lake 87.84 32 P P 10 12 50.4 -0.6
baz=323
H39A Augusta 87.85 33 P P 10 12 50.8 -0.2
baz=323
I38A Scanlan Farm, 87.89 34 P P 10 12 50.4 -0.8
baz=322
J37A Redenius Farm, 87.91 35 P P 10 12 50.8 -0.6
baz=321
F41A Three Lakes 87.92 31 P P 10 12 50.8 -0.5
baz=324,SNR=6.1
K36A Gilmore City 88.01 36 P P 10 12 51.3 -0.5
baz=321
E43A Lone Tree Farm 88.25 29 P P 10 12 52.4 -0.5
baz=326
H40A Chili 88.28 32 P P 10 12 52.5 -0.6
baz=323
K37A Belmond 88.29 35 P P 10 12 52.7 -0.4
baz=321
G41A Antigo 88.31 31 P P 10 12 52.6 -0.6
baz=324
M35A Neola 88.32 37 P P 10 12 52.8 -0.5
baz=320

J38A	Wedel Dairy, R	88.39	34	P	P	10 12 52.8	-0.8
	baz=322						
I39A	Houston	88.40	33	P	P	10 12 52.9	-0.7
	baz=322						
N34A	Lincoln	88.40	38	P	P	10 12 53.0	-0.7
	baz=319						
H41A	Junction City	88.59	32	P	P	10 12 54.2	-0.3
	baz=324						
G42A	Mountain	88.60	31	P	P	10 12 53.8	-0.7
	baz=325						
F43A	Flat Rock, Esc	88.62	30	P	P	10 12 54.4	-0.2
	baz=326						
J39A	Decorah	88.73	34	P	P	10 12 54.5	-0.7
	baz=322						
M36A	Felix, Anita	88.76	37	P	P	10 12 55.0	-0.4
	baz=320						
I40A	Norwalk	88.76	33	P	P	10 12 54.9	-0.5
	baz=323						
O34A	Beatrice	88.80	39	P	P	10 12 55.1	-0.5
	baz=319						
F44A	Big Bay de Noc	88.80	29	P	P	10 12 55.1	-0.3
	baz=326						
I41A	Arkdale	88.95	32	P	P	10 12 56.0	-0.2
	baz=324						
E45A	Wooded Hills,	88.96	28	P	P	10 12 55.6	-0.6
	baz=327						
TAOE	Nuku Hiva Isla	89.00	102	eLR	LR	10 41 31.5	
	comp=Z,670nm,24.2s						
J40A	Soldiers Grove	89.11	33	P	P	10 12 56.1	-0.8
	baz=323						
O35A	Humboldt	89.13	38	P	P	10 12 56.3	-0.8
	baz=320						
K39A	Oelwein	89.14	34	P	P	10 12 56.2	-0.9
	baz=322						
M37A	Trindle Farm,	89.15	36	P	P	10 12 57.2	-0.1
	baz=321						
J41A	Loganville	89.45	33	P	P	10 12 57.7	-0.8
	baz=324						
K40A	Colesburg	89.48	34	P	P	10 12 58.4	-0.3
	baz=323						
L39A	Vinton	89.55	35	P	P	10 12 58.6	-0.4
	baz=322						
M38A	Pleasantville	89.55	36	P	P	10 12 59.0	-0.1
	baz=322						
N37A	Lee Faris, Mou	89.58	37	P	P	10 12 59.2	-0.1
	baz=321						
O36A	Bolckow	89.69	38	P	P	10 12 59.5	-0.3
	baz=320						
K41A	Shullsburg	89.93	33	P	P	10 13 00.2	-0.6
	baz=323						
R34A	Isabella, Hill	89.93	40	P	P	10 13 00.5	-0.4
	baz=319						
L40A	Anamosa	89.95	34	P	P	10 13 00.4	-0.6
	baz=323						
P36A	Good Intent, A	89.97	38	P	P	10 13 00.7	-0.4
	baz=320						
M39A	Webster	89.98	35	P	P	10 13 00.5	-0.6
	baz=322,SNR=6.1						
N38A	Joes South For	90.02	36	P	P	10 13 01.0	-0.3
	baz=321						
AMTX	Amarillo	90.03	45	P	P	10 13 01.4	-0.2
	baz=316						
O37A	Wolven Farm, M	90.07	37	P	P	10 13 01.5	-0.1
	baz=321						
MNTX	Cornudas Mount	90.09	49	P	P	10 13 01.3	-0.6
	baz=314						
VLDQ	Val d'Or	90.11	23	eP	P	10 13 00.2	-1.3
Q35A	Mercer Eighty,	90.13	39	P	P	10 13 01.4	-0.4
	baz=320						
L41A	Preston	90.27	34	P	P	10 13 01.6	-0.8
	baz=323						
N39A	Derby Farms, D	90.30	36	P	P	10 13 01.9	-0.7
	baz=322						
M40A	Post Highland	90.34	35	P	P	10 13 02.3	-0.4
	baz=323						
S34A	Willow Spring	90.45	40	P	P	10 13 02.6	-0.8
	baz=319						
N40A	Mertquake, Sal	90.72	35	P	P	10 13 03.6	-0.9
	baz=322						
O39A	Kirksville	90.77	36	P	P	10 13 04.5	-0.3
	baz=322						
P38A	Dawn	90.79	37	P	P	10 13 04.8	-0.1
	baz=321						
M41A	Milan	90.81	34	P	P	10 13 04.2	-0.7
	baz=323						
R36A	Gordon, Harris	90.81	39	P	P	10 13 04.4	-0.7
	baz=320						
O40A	La Belle	91.19	36	P	P	10 13 06.4	-0.3
	baz=322,SNR=5.7						
N41A	Harden Midland	91.20	35	P	P	10 13 06.3	-0.5
	baz=323						
Q38A	Cooks Store, C	91.26	37	P	P	10 13 06.4	-0.7
	baz=321						
P39B	Salisbury	91.27	37	P	P	10 13 06.6	-0.6
	baz=322						
T35A	Sooner Cattle	91.36	41	P	P	10 13 07.1	-0.6
	baz=319						
Q39A	Willow Grove F	91.51	37	P	P	10 13 07.7	-0.6
	baz=322,SNR=5.2						
P40A	Paris	91.57	36	P	P	10 13 07.7	-0.9
	baz=322,SNR=5.4						
S37A	Fort Scott	91.58	39	P	P	10 13 08.4	-0.2
	baz=320						
O41A	Passleys Farm,	91.66	35	P	P	10 13 08.4	-0.5
	baz=323						
R38A	Fenwick Farm,	91.72	38	P	P	10 13 07.8	-1.4
	baz=321						
WMOK	Wichita Mounta	91.77	43	P	P	10 13 09.3	-0.3
	baz=318						
WMOK	Wichita Mounta	91.77	43	eP	P	10 13 10.2	+0.7
WMOK	Wichita Mounta	91.77	43	eP	P	10 13 10.2	+0.7
P41A	Barry, Barry	91.92	35	P	P	10 13 09.8	-0.3
	baz=323						
Q40A	Laux Farm, Aux	91.98	37	P	P	10 13 10.0	-0.5
	baz=322						
T37A	Cheneyville 18	92.03	39	P	P	10 13 10.3	-0.4
	baz=320						
R39A	Chumby, Stover	92.05	38	P	P	10 13 10.7	-0.1
	baz=322						
V35A	Meyer Ranch, C	92.06	41	P	P	10 13 10.9	+0.1
	baz=319						
S38A	Stockton	92.15	38	P	P	10 13 10.8	-0.4
	baz=321						
U36A	Oologah	92.16	40	P	P	10 13 11.0	-0.3
	baz=320						
P42A	Winchester	92.33	35	P	P	10 13 11.9	-0.1
	baz=323						
S39A	Bolivar	92.39	38	P	P	10 13 12.2	-0.2
	baz=321						
T38A	Diamond	92.41	39	P	P	10 13 12.4	-0.1
	baz=321						
Q41A	Truxton	92.42	36	P	P	10 13 12.2	-0.2
	baz=323						
R40A	Maddies Statio	92.44	37	P	P	10 13 12.4	-0.2
	baz=322						
U37A	Salina	92.47	40	P	P	10 13 12.6	-0.2
	baz=320						
W35A	Tecumseh	92.50	42	P	P	10 13 12.1	-0.8
	baz=319						
Q42A	Golden Eagle	92.78	36	P	P	10 13 13.1	-1.0
	baz=323						
TX31	Lajitas Ar. Si	92.80	50	eP	P	10 13 15.3	+0.8
TXAR	Lajitas Array	92.80	50	P	P	10 13 13.8	-0.7
	comp=Z,1.6nm,0.7s,baz=300,slow=3.0,SNR=23						
TXAR				PP	PP	10 17 01.9	+5.8
	comp=Z,0.9nm,1.1s,baz=309,slow=6.0,SNR=4.0						
U38A	Gravette	92.83	40	P	P	10 13 13.8	-0.6
	baz=321						
ABTX	Abilene, Hawle	92.83	45	P	P	10 13 14.4	-0.2
	baz=317						
W36A	Wetumka	92.85	42	P	P	10 13 13.6	-0.9
	baz=320						
V37A	Hulbert	92.86	40	P	P	10 13 14.1	-0.4
	baz=320						
R41A	Rosebud	92.86	37	P	P	10 13 13.7	-0.8
	baz=323						
S40A	Lebanon	92.87	38	P	P	10 13 13.4	-1.2
	baz=322						
T39A	Clever	92.88	39	P	P	10 13 14.3	-0.4
	baz=321						
X35A	Drake	93.01	42	P	P	10 13 15.0	-0.3
	baz=319						
P44A	Sand Creek, Wi	93.21	34	P	P	10 13 15.0	-1.1
	baz=324						
T40A	Mansfield	93.21	38	P	P	10 13 15.4	-0.7
	baz=322						
X36A	Centrahoma	93.22	42	P	P	10 13 16.3	+0.1
	baz=319						
V38A	Canehill	93.26	40	P	P	10 13 16.2	-0.2
	baz=321						
W37B	Quinton	93.28	41	P	P	10 13 16.4	-0.1
	baz=320						
U39A	Green Forest	93.33	39	P	P	10 13 15.8	-0.9
	baz=321,SNR=6.0						
KEST	Kesra	93.55	320	LR	LR	11 00 10.5	
	comp=Z,2μm,18.3s,baz=346,slow=39						
S42A	Caledonia	93.56	36	P	P	10 13 17.6	-0.1
	baz=323						
R43A	Red Bud	93.57	36	P	P	10 13 17.3	-0.5
	baz=324						
U40A	Yellville	93.67	39	P	P	10 13 17.2	-1.1
	baz=322,SNR=7.7						
V39A	Pettigrew	93.67	39	P	P	10 13 17.4	-0.9
	baz=321						
T42A	Van Buren	94.01	37	P	P	10 13 19.7	-0.1
	baz=323						
U41A	Viola	94.14	38	P	P	10 13 19.5	-1.0
	baz=322						
X39A	Fountain Ranch	94.45	41	P	P	10 13 20.9	-1.0
	baz=321						
V41A	Mountainview	94.47	39	P	P	10 13 21.3	-0.7
	baz=322						
U42A	Revenden	94.47	38	P	P	10 13 21.0	-1.0
	baz=323						
MIAR	Mount Ida	94.71	40	P	P	10 13 22.2	-0.9
	baz=321						
MIAR	Mount Ida	94.71	40	eP	P	10 13 23.7	+0.6
MIAR	Mount Ida	94.71	40	eP	P	10 13 23.7	+0.6
W41B	Gary Mavity, V	94.90	39	P	P	10 13 23.4	-0.5
	baz=322						
X40A	Basin Creek Fa	95.14	40	P	P	10 13 24.5	-0.5
	baz=322						
M54A	Oil Creek Stat	95.17	27	P	P	10 13 24.5	-0.5
	baz=331						
534A	Blanco	95.42	46	P	P	10 13 26.2	-0.2
	baz=318						
ESDC	Sonseca Array	96.36	331	LR	LR	11 01 57.0	
	comp=Z,761nm,20.0s,baz=70,slow=39						
KMBO	Kilima Mbogo	99.03	275	LR	LR	11 01 13.5	
	comp=Z,290nm,19.6s,baz=84,slow=37						
RKT	Rikitea	101.38	110	eLR	LR	10 47 31.3	
	comp=Z,794nm,27.8s						
TORD	Torodi Ar. Bea	115.48	311	PKP	PKPdf	10 18 41.4	-2.8
	comp=Z,0.7nm,0.9s,baz=103,slow=3.1,SNR=3.4						
QSPA	South Pole Qui	126.26	180	ePKPdf	PKPdf	10 19 01.6	-1.7
SNAA	Sanae	139.34	198	P	PKPdf	10 19 37.1	+9.4
VNA2	Neumayer--Watz	140.95	197	P	PKPdf	10 19 28.5	-2.2
	baz=89,slow=2.1						
VNA3	Neumayer Olymp	141.25	196	P	PKPdf	10 19 24.6	-6.6
VNA1	Neumayer--Stat	141.35	197	P	PKPdf	10 19 24.8	-6.5
SAML	Samuel	146.66	40	ePKPdf	PKPdf	10 19 42.0	-0.3
LPAZ	La Paz	149.52	55	PKPbc	PKPbc	10 19 51.3	-0.9
	comp=Z,2.3nm,1.0s,baz=1.1,slow=5.5,SNR=6.2						

NIED ***05*** *10:06:00, 36.°50N×137.°70E, h8km, Mw5.2 Best double couple: M0=6.26000×10^16 NP1:φs=177.00000°, δ67.00000°, λ-7.00000°. NP2:φs=269.00000°, δ84.00000°, λ-157.00000°.*

BJI ***05*** *10:06:06.8, 36.°38N×138.°16E, h11km, mb4.6/48, mB5.1/27, Ms5.4/39, Ms7 5.1/40*

ISCJB ***05*** *10:06:11.0±0.7, 36.°49N±0.°03×137.°43E±0.°03, h4km±4km, mb4.7/182, MS5.3/10, Error ellipse: s-maj=4.5km s-min=3.3km az=165.5*

JMA ***05*** *10:06:10.1, 36.°55N×137.°65E, h0km, M5.2 Broadband fault plane solution: P waves. NP1:φs=276.00000°, δ62.00000°, λ148.00000°. NP2:φs22.00000°, δ62.00000°, λ32.00000°. Principal axes: T Plg41.0000°, Azm239.0000°; N Plg49.0000°, Azm59.0000°; P Plg0.0000°, Azm329.0000°;*

JMA Felt IV J1.

IDC ***05*** *10:06:10.7±0.4, 36.°51N×137.°62E, h0km, mb4.5/27, mb1 4.6/29, mb1mx4.5/47, mbtmp4.4/29, ML3.2/2, MS4.7/2, Ms1 4.7/2, ms1mx4.0/36 Error ellipse: s-maj=12.3km s-min=6.7km az=6.0*

MOS ***05*** *10:06:12.9±1.2, 36.°53N×137.°57E, h20km, mb5.0/53, Error ellipse: s-maj=6.8km s-min=5.0km az=97.5*

NEIC ***05*** *10:06:13.8±1.1, 36.°49N×137.°38E, h13km±7km, mb4.9/137, Error ellipse: s-maj=4.1km s-min=3.3km az=147.0*

NEIC Felt at Kanazawa. Recorded [4 JMA] in Nagano.

GCMT ***05*** *10:06:13.8±0.1, 36.°59N×137.°59E, h18km, MW5.2/117, Moment Tensor Solution. s51,c68; s117,c192; Duration: 1*0 Moment tensor: Scale 10^16Nm; Mrr=0.72±.19; Mθθ=0.76±.16; Mφφ1.49±.17; Mrθ=0.64±.35; Mθφ=-8.46±.17; Mφr=-1.20±.38; Best double couple: M0=8.65300×10^16 NP1:φs=3.00000°, δ85.00000°, λ-9.00000°. NP2:φs=94.00000°, δ81.00000°, λ-175.00000°. Principal axes: T 8.9220, Plg3.0000°, Azm49.0000°; N -0.5340, Plg80.0000°, Azm156.0000°; P -8.3840, Plg9.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 10:06:11.7±1.0, 36.°48N±0.°03×137.°61E±0.°02, h3km±6km, n383, σ1*42/410, mb4.8/191, MS5.2/10, 27C-19D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.25	299	⇓P	Pg	10 06 16.0	-0.6
JTT				S	Sg	10 06 20.0	+0.1
JGN	Niukaw	0.35	222	⇑P	Pg	10 06 18.5	0.0
JGN				S	Sg	10 06 24.4	+1.4
JNG	Nsakai	0.41	101	⇓P	Pg	10 06 18.2	-1.3
JNG				S	Sg	10 06 24.2	-0.6
MJB9	Matsu-Tunnel	0.48	82	eP	Pg	10 06 19.3	-1.7
MAJO	Matsushiro	0.49	83	d iP	Pg	10 06 19.1	-2.0
MAT	Matsushiro	0.49	83	P	Pg	10 06 19.2	-1.9
MAT				S	Sg	10 06 25.6	-1.8
MAT	Matsushiro	0.49	83	P	Pg	10 06 19.1	-2.0
MAT				S	Sg	10 06 25.3	-2.1
MJAR	Matsushiro Arr	0.49	83	Pg	Pg	10 06 19.9	-1.2
	1μm,0.3s,baz=275,slow=18,SNR=401						
MJAR				Lg	Lg	10 06 26.4	
	5μm,0.3s,baz=284,slow=26,SNR=96						
INU	Inuyama	1.23	203	ePg	Pg	10 06 35.2	0.0
JHJ	Hachijo jima 2	3.80	151	Pn	Pn	10 07 13.8	+2.6
	14nm,0.3s,baz=62,slow=17,SNR=2.2						
JHJ				LR	LR	10 08 49.6	
	comp=Z,15μm,18.8s,baz=70,slow=42						
JHJ2	Mitsune	3.82	151	ePn	Pb	10 07 16.3	-3.5
JNU	Nakatsue	6.47	241	Pn	Pn	10 07 50.8	+2.9
	1.6nm,0.3s,baz=16,slow=0.8,SNR=15						
JNU				Lg	Lg	10 09 36.1	
	0.6nm,0.3s,baz=99,slow=19,SNR=3.5						
JNU	Nakatsue	6.47	241	ePn	Pn	10 07 46.7	-1.2
JNU				Lg	Lg	10 09 36.1	
ERM	Erimo	7.00	36	‖eP	Pn	10 07 56.4	+1.2
ERM	Erimo	7.00	36	ePn	Pn	10 07 57.3	+2.1
KSRS	Korea Array	7.81	280	Pn	Pn	10 08 07.8	+1.5
	1.0nm,0.3s,baz=91,slow=14,SNR=16						
KSRS				Sn	Sn	10 09 34.2	-1.0
	0.2nm,0.3s,baz=91,slow=25,SNR=2.6						
KS01	Wonju Array Si	7.84	280	ePn	Pn	10 08 05.6	-1.0
KS15	Wonju Array Si	7.84	280	ePn	Pn	10 08 06.4	-0.3
KSAR	Wonju Array Be	7.84	280	P	Pn	10 08 07.8	+1.1
KSAR						10 09 34.3	
KSAR	Wonju Array Be	7.84	280	Pn	Pn	10 08 07.8	+1.1
KSAR				Sn	Sn	10 09 34.2	-1.7
VLA	Vladivostok	7.96	328	⇑iP	Pn	10 08 10.5	+2.3
VLA				eS	Sn	10 09 43.4	+4.7
VLA				pmax	pmax		
	comp=Z,18nm,0.8s						
ASAJ	Asahikawa	8.52	25	Pn	Pn	10 08 17.8	+1.8
	comp=Z,1.9nm,0.3s,baz=204,slow=11,SNR=20						
ASAJ	Asahikawa	8.52	25	ePn	Pn	10 08 17.4	+1.4
USRK	Ussuriysk Ar.	8.82	333	Pn	Pn	10 08 20.4	+0.3
	comp=Z,0.9nm,0.3s,baz=153,slow=13,SNR=9.3						
INCN	Inchon	8.84	280	ePn	Pn	10 08 19.6	-0.8
YUK	Yuzh-Kuril'sk	9.83	37	P	Pn	10 08 35.8	+1.9
YUK				eS	Sn	10 10 32.4	+7.7
YUK				pmax	pmax		
	comp=Z,109nm,1.0s						
YUK				pmax	pmax		
	comp=N,79nm,0.5s						
YUK				pmax	pmax		
	comp=E,15nm,0.5s						
YUK				MLR	MLR		
	comp=E,5μm,12.0s						
YUK				MLR	MLR		
	comp=N,5μm,13.0s						
MDJ	Mudanjiang	10.15	326	P	Pn	10 08 39.4	+1.0
MDJ				pP		10 08 42.5	
MDJ				sP		10 08 45.9	
MDJ				S	Sn	10 10 33.8	+1.1
MDJ				pmax	pmax		
	comp=N,9.0nm,0.7s						
MDJ				pmax	pmax		
	comp=N,2μm,10.0s						
MDJ				LR	LR		
	comp=N,8μm,12.9s						
MDJ				LR	LR		
	comp=N,5μm,12.4s						
MDJ				LR	LR		
	comp=N,11μm,12.4s						
YSS	Yuzh-Sakhalins	11.14	19	⇑iP	Pn	10 08 53.3	+1.4
YSS				pmax	pmax		
	comp=Z,120nm,0.9s						
YSS				pmax	pmax		
	comp=N,110nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,6μm,14.0s						
YSS				MLR	MLR		
	comp=E,4μm,14.0s						
YSS	Yuzh-Sakhalins	11.14	19	ePn	Pn	10 08 53.2	+1.3
KUR	Kuril'sk	11.69	38	P	Pn	10 08 58.2	-1.1
KUR				MLR	MLR		
	comp=Z,3μm,11.0s						
CN2	Changchun	11.82	312	eP	Pn	10 09 02.9	+1.7
CN2				epP		10 09 06.3	
CN2				esP		10 09 09.3	
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,6μm,14.0s						
CN2				LR	LR		
	comp=Z,5μm,13.0s						
SNY	Shenyang	12.12	300	⇑P	Pn	10 09 08.1	+2.8
SNY				pmax	pmax		
	comp=Z,15nm,1.6s						
SNY				LR	LR		
	comp=Z,7μm,14.5s						
SNY				LR	LR		
	comp=Z,4μm,18.6s						
SNY				LR	LR		
	comp=Z,10μm,16.1s						
HABR	Khabarovsk	12.13	352	eP	Pn	10 09 03.6	-1.8
HABR				eS	Sn	10 11 19.5	-1.6
HABR				pmax	pmax		
	comp=Z,23nm,2.8s						
HABR				pmax	pmax		
	comp=Z,18nm,1.6s						
HABR				MLR	MLR		
	comp=Z,2μm,11.0s						
JOW	Kunigami	12.47	222	ePn	Pn	10 09 10.2	0.0
TYV	Tymovskoe	14.83	13	eP	Pn	10 09 41.9	-0.3
TYV				pmax	pmax		
	comp=Z,38nm,1.5s						
NJ2	Nanjing	16.12	260	eP	P	10 10 01.0	-1.7
NJ2				S	Sn	10 12 58.7	+0.2
NJ2				pmax	pmax		
	comp=Z,16nm,1.1s						
NJ2				LR	LR		
	comp=Z,12μm,17.3s						
NJ2				LR	LR		
	comp=Z,5μm,16.3s						
NJ2				LR	LR		
	comp=Z,6μm,13.6s						
TIA	Tai'an	16.51	275	eP	P	10 10 06.3	-0.7
TIA				pmax	pmax		
	comp=Z,60nm,1.0s						
BJT	Baijiatuau	17.20	288	eP	Pn	10 10 13.7	+0.7
BJT				pmax	pmax		
	comp=Z,98nm,1.4s						
BJT	Baijiatuau	17.20	288	eP	Pn	10 10 13.7	+0.7
	comp=Z,98nm,1.4s						
YHNB	Yeheng	18.24	234	eP	Pn	10 10 25.5	-0.6
	comp=Z,87nm,1.4s						
SSLB	Suanglung	19.13	233	eP	P	10 10 36.3	+0.2
	comp=Z,82nm,1.8s						
TWG	Pinlang	19.75	231	eP	P	10 10 42.1	-0.7
	comp=Z,378nm,1.8s						
WHN	Wuhan	20.25	260	⇑P	Pn	10 10 52.3	+2.2
WHN				pmax	pmax		
	comp=Z,82nm,1.0s						
WHN				LR	LR		
	comp=Z,11μm,11.6s						
WHN				LR	LR		
	comp=Z,26μm,20.0s						
WHN				LR	LR		
	comp=Z,14μm,14.4s						
HHC	Hu-ho-hao-te	20.77	290	eP	P	10 10 53.1	-0.8
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,420nm,8.6s						
SARN	Sarigan	21.00	158	eP	P	10 10 57.0	+0.7
PEA0	Petropavlovsk-	21.78	34	eP	P	10 11 03.7	-0.8
PETK	Petropavlovsk-	21.78	34	P	P	10 11 03.9	-0.6
	comp=Z,13nm,1.0s,baz=212,slow=4.5,SNR=7.0						
CLNS	Chul'man	22.08	341	eP	P	10 11 09.1	+1.3
CLNS				e*PP	sP	10 11 41.8	+33
CLNS				eS	S	10 14 55.8	-16
CLNS				e		10 15 00.7	
CLNS				e*SS	Sn	10 15 55.6	+33
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,15nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				smax	smax		
	comp=N,1μm,11.7s						
CLNS				smax	smax		
	comp=E,1μm,11.7s						
XAN	Xi'an	23.52	273	P	P	10 11 23.9	+0.9
XAN				pP	sP	10 11 33.2	+8.9
XAN				sP	pP	10 11 37.0	+13
XAN				pmax	pmax		
	comp=Z,17nm,2.7s						
XAN				pmax	pmax		
	comp=Z,590nm,12.0s						
XAN	Xi'an	23.52	273	P	P	10 11 23.7	+0.7
XAN				pP	sP	10 11 33.2	+8.9
ENH	Enshi	24.24	263	eP	P	10 11 28.2	-1.7
	comp=Z,11nm,0.9s						
MA2	Magadan	24.63	16	P	P	10 11 31.7	-1.5
	comp=Z,9.1nm,0.8s,baz=198,slow=9.3,SNR=13						
MA2	Magadan	24.63	16	deP	P	10 11 31.4	-1.8
GZH	Guangzhou	24.85	244	eP	P	10 11 32.4	-3.0
GZH				S	S	10 15 54.0	-5.0
GZH				LR	LR		
	comp=Z,11μm,12.8s						
ULN	Ulaanbaatar	25.18	306	ceP	P	10 11 37.2	-1.2
ULN				pmax	pmax		
	comp=Z,14nm,1.7s						
ULN	Ulaanbaatar	25.18	306	eP	P	10 11 38.0	-0.5
	comp=Z,13nm,1.2s						
SONA1	Songino Array	25.59	306	eP	P	10 11 40.9	-1.3
SONM	Songino Array	25.60	306	P	P	10 11 39.9	-2.3
	comp=Z,2.6nm,0.9s,baz=96,slow=4.5,SNR=12						
SONM	Songino Array	25.60	306	P	P	10 11 39.9	-2.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YAK	Yakutsk	26.05	351	P	P	10 11 45.2	-0.8
	comp=Z,33nm,0.7s,baz=154,slow=2.6,SNR=8.9						
YAK	Yakutsk	26.05	351	eP	P	10 11 43.8	-2.2
YAK				pmax	pmax		
	comp=Z,47nm,1.1s						
YAK				pmax	pmax		
	comp=N,39nm,1.4s						
YAK	Yakutsk	26.05	351	eP	P	10 11 43.9	-2.1
	comp=N,44nm,0.8s						
LZH	Lanzhou	27.14	279	eP	P	10 11 56.9	+0.6
LZH				pP	sP	10 12 01.1	+3.4
LZH				sP	pP	10 12 03.4	+6.1
LZH				ePP	PnPn	10 12 38.7	-0.3
LZH				pmax	pmax		
	comp=N,31nm,1.0s						
LZH				pmax	pmax		
	comp=N,160nm,4.0s						
LZH				LR	LR		

comp=N,3μm,11.2s
LZH LR LR
comp=N,3μm,12.4s
LZH LR LR
comp=N,5μm,14.8s
SEY Seymchan 28.00 14 P **P 10 12 04.5 +0.9**
comp=N,6.5nm,0.9s,baz=202,slow=7.0,SNR=15
SEY Seymchan 28.00 14⇓ *eP* **P 10 12 04.8 +1.2**
GYA Guiyang 28.11 258 *eP* **P 10 12 04.8 -0.3**
GYA pmax pmax
comp=N,10.0nm,0.8s
ZAK Zakamensk 28.25 310 *eP* **P 10 12 03.8 -2.3**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
CD2 Chengdu 28.61 269 P **P 10 12 08.0 -1.4**
CD2 S **S 10 16 55.9 -2.7**
CD2 pmax pmax
comp=Z,200nm,5.0s
CD2 LR LR
comp=Z,7μm,12.8s
CD2 LR LR
comp=Z,7μm,16.1s
CD2 LR LR
comp=Z,8μm,13.7s
GTA Gaotai 29.80 287 *eP* **P 10 12 19.6 -0.4**
GTA pP sP 10 12 23.9 +2.6
GTA sP pP 10 12 26.5 +5.6
GTA S **S 10 17 14.9 -2.4**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,140nm,5.3s
GTA LR LR
comp=Z,2μm,12.8s
GTA LR LR
comp=Z,2μm,11.9s
GTA LR LR
comp=Z,3μm,11.9s
KMI Kunming 31.86 259 P **P 10 12 38.7 +0.4**
KMI pmax pmax
comp=Z,14nm,0.5s
KMI LR LR
comp=Z,3μm,13.4s
KMI LR LR
comp=Z,3μm,14.4s
KMI LR LR
comp=Z,4μm,17.1s
BILL Bilibino 35.46 18 *eP* **P 10 13 09.7 +0.7**
BILL pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 35.53 355 P **P 10 13 08.9 -0.6**
comp=Z,15nm,0.9s,baz=144,slow=10,SNR=6.6
TIXI Tiksi 35.53 355 *ceP* **P 10 13 09.1 -0.4**
TIXI pmax pmax
comp=Z,21nm,0.8s
TIXI Tiksi 35.53 355 *eP* **P 10 13 09.1 -0.4**
comp=Z,27nm,1.1s
MYLDM Lahad Datu 35.75 214 *eP* **P 10 13 14.9 +2.9**
comp=Z,14nm,1.0s
DGZ Jazzator, Alta 38.24 306 *eP* **P 10 13 32.5 -0.6**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 38.36 297 P **P 10 13 34.6 +0.6**
WMQ pP sP 10 13 39.1 +3.7
WMQ sP pP 10 13 41.6 +6.6
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,310nm,8.5s
WMQ LR LR
comp=Z,4μm,16.5s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,21.9s
CMAR Chiang Mai Arr 38.41 253 P **P 10 13 36.8 +2.2**
comp=Z,0.7nm,0.5s,baz=28,slow=7.3,SNR=4.6
CMAR PcP **PcP 10 15 49.0 +0.9**
comp=Z,0.4nm,0.3s,baz=21,slow=2.2,SNR=5.2
ZALV Zalesovo Beam 40.04 313 P **P 10 13 47.2 -0.7**
comp=Z,2.6nm,0.8s,baz=92,slow=7.4,SNR=6.1
ZALV PcP **PcP 10 15 51.8 -0.8**
comp=Z,5.3nm,0.9s,baz=90,slow=3.0,SNR=8.1
MKAR Makanchi Array 41.82 302 P **P 10 14 00.9 -1.8**
comp=Z,1.4nm,0.7s,baz=86,slow=9.4,SNR=6.0
MKAR PcP **PcP 10 15 58.5 -0.1**
comp=Z,1.8nm,0.9s,baz=103,slow=3.1,SNR=3.7
MKAR Makanchi Array 41.82 302 *ceP* **P 10 14 02.5 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KSM Kuching 43.02 222 *eP* **P 10 14 14.0 +1.3**
comp=Z,17nm,1.0s
KURK Kurchatov 43.87 308 *c iP* **P 10 14 16.9 -2.3**
KURK pmax pmax
comp=Z,59nm,1.2s
KURK Kurchatov 43.87 308 *eP* **P 10 14 17.0 -2.1**
comp=Z,11nm,0.8s
KURK PcP **PcP 10 16 05.5 +0.2**
KURBB Kurchatov Arra 43.93 308 P **P 10 14 17.3 -2.3**
comp=Z,1.1nm,0.3s,baz=87,slow=8.8,SNR=20
KURBB PcP **PcP 10 16 05.5 0.0**
comp=Z,0.8nm,0.2s,baz=93,slow=3.2,SNR=5.0
KAPI Kappang 44.53 206 *eP* **P 10 14 24.4 -0.4**
comp=Z,58nm,1.4s
KSH Kashi 47.83 293 *eP* **P 10 14 53.7 +2.9**
KSH sP sP 10 15 00.3 +8.2
KSH PcP **PcP 10 16 22.6 +3.0**
KSH PP **PP 10 16 44.8 +2.4**
KSH PcS **PcS 10 20 17.9 +2.6**
KSH S **S 10 21 50.0 +1.6**
KSH ScS **ScS 10 24 45.7 +0.3**
KSH pmax pmax
comp=Z,12nm,1.5s
KSH pmax pmax
comp=Z,140nm,5.2s
KSH LR LR
comp=Z,1μm,12.9s
KSH LR LR
comp=Z,1μm,12.8s
KSH LR LR
comp=Z,2μm,13.6s
AAK Ala-Archa 48.05 298 P **P 10 14 50.0 -2.5**
comp=Z,2.9nm,0.9s,baz=113,slow=6.0,SNR=4.7
AAK Ala-Archa 48.05 298⇑ *eP* **P 10 14 51.2 -1.3**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 48.05 298 *eP* **P 10 14 50.4 -2.1**
comp=Z,7.4nm,1.3s
BVAR Borovoye Array 48.68 312 P **P 10 14 56.9 -0.1**
comp=Z,2.4nm,0.7s,baz=65,slow=10,SNR=10
BVAR PcP **PcP 10 16 22.2 -0.1**
comp=Z,2.5nm,0.9s,baz=90,slow=1.4,SNR=5.1
BRVK Borovoye 48.74 312⇑ *eP* **P 10 14 55.8 -1.6**
BRVK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 48.74 312 *eP* **P 10 14 55.9 -1.5**
comp=Z,7.6nm,1.2s
MTN Manton Dam 49.44 188 *eP* **P 10 15 02.3 -0.8**
comp=Z,21nm,1.0s
SPU Mount Spurr 49.52 37 *eP* **P 10 15 04.9 +1.5**
KDAK Kodiak Island 49.54 41 P **P 10 15 02.8 -0.6**
comp=Z,14nm,1.0s,baz=257,slow=6.2,SNR=11
KDAK Kodiak Island 49.54 41 *i P* **P 10 15 04.0 +0.5**
KDAK Kodiak Island 49.54 41 *eP* **P 10 15 05.2 +1.7**
comp=Z,29nm,1.3s
KTH Kantishna Hill 49.91 34 *eP* **P 10 15 07.7 +1.3**
comp=Z,17nm,1.2s
COLD Coldfoot 50.12 29 *eP* **P 10 15 09.8 +2.1**
comp=Z,7.8nm,1.3s
SUA Susitna One 50.13 36 *eP* **P 10 15 10.3 +2.2**
comp=Z,12nm,0.9s
BRLK Bradley Lake 50.21 39 *eP* **P 10 15 09.8 +1.2**
comp=Z,14nm,1.0s
RC01 Rabbit Creek A 50.64 37 *eP* **P 10 15 12.9 +1.0**
comp=Z,23nm,1.2s
KKAR Karatay Array 50.74 299 *eP* **P 10 15 11.2 -1.7**
KKAR pmax pmax
comp=Z,59nm,1.1s
KKAR Karatay Array 50.74 299 *eP* **P 10 15 11.2 -1.7**
comp=Z,59nm,1.1s
RND Reindeer 50.84 34 *eP* **P 10 15 14.4 +0.9**
RND pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 50.84 34 *eP* **P 10 15 14.4 +0.9**
comp=Z,15nm,1.2s
PMR Palmer 50.88 36 *eP* **P 10 15 14.5 +0.9**
PMR pmax pmax
comp=Z,11nm,1.0s
PMR Palmer 50.88 36 *eP* **P 10 15 14.5 +0.9**
comp=Z,11nm,1.0s
SEW Seward 50.89 38 *eP* **P 10 15 14.5 +0.8**
comp=Z,12nm,1.0s
MDM Murphy Dome 51.00 32 *eP* **P 10 15 15.9 +1.3**
comp=Z,19nm,1.4s
COLA College 51.17 32⇓ *eP* **P 10 15 16.9 +1.2**
COLA pmax pmax
comp=Z,3.0nm,1.4s
SML Sawmill 51.24 36 *eP* **P 10 15 17.6 +1.2**
SML pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 51.24 36 *eP* **P 10 15 17.6 +1.2**
comp=Z,9.4nm,0.8s
DHY Denali Highway 51.54 34 *eP* **P 10 15 20.0 +1.2**
comp=Z,41nm,1.9s
ILAR Eielson Array 51.59 32 P **P 10 15 17.7 -1.2**
comp=Z,1.5nm,0.8s,baz=262,slow=4.7,SNR=12
ILB Eielson Array 51.59 32 *eP* **P 10 15 19.9 +1.0**
IL1 Eielson Array 51.59 32 *eP* **P 10 15 19.8 +0.9**
HDA Harding Lake 51.60 32 *eP* **P 10 15 20.5 +1.6**
comp=Z,23nm,1.7s
SCM Sheep Creek Mo 51.71 36 *eP* **P 10 15 21.6 +1.7**
SCM pmax pmax
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 51.71 36 *eP* **P 10 15 21.6 +1.7**
comp=Z,13nm,0.9s
KLU Klutina 52.42 36 *eP* **P 10 15 27.1 +1.9**
comp=Z,19nm,1.3s
DIV Divide 52.55 36 *eP* **P 10 15 28.2 +2.0**
comp=Z,13nm,0.9s
DOT Dot Lake 52.95 33 *eP* P 10 15 34.1 +5.1
comp=Z,18nm,1.2s
BMRM Bremner River 53.14 37 *eP* **P 10 15 32.5 +2.0**
comp=Z,13nm,0.9s
SVE Sverdlovsk 53.53 318 *eP* **P 10 15 32.1 -1.3**
SVE pmax pmax
comp=Z,22nm,1.1s
CRQM Cirque 53.88 37 *eP* **P 10 15 37.5 +1.3**
comp=Z,13nm,1.0s
EGAK Eagle 54.02 32 *eP* **P 10 15 38.6 +1.7**
comp=Z,4.8nm,0.9s
ARU Arti 54.74 318 P **P 10 15 40.6 -1.6**
ARU Arti 54.74 318 *d iP* **P 10 15 41.1 -1.1**
ARU 10 16 41.8
ARU 10 17 45.0
ARU S **S 10 23 23.5 +0.4**
ARU SS **SS 10 26 58.8 -6.7**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 54.74 318 *eP* **P 10 15 41.1 -1.1**
comp=Z,20nm,1.1s
ABKAR Akbulak array 55.94 309 *eP* **P 10 15 49.4 -1.6**
comp=Z,45nm,0.8s
WRAB Tennant Creek 56.19 184 *d iP* **P 10 15 52.7 -0.3**
WRAB pmax pmax
comp=Z,44nm,1.0s
WRAB Tennant Creek 56.19 184 *eP* **P 10 15 51.9 -1.1**
comp=Z,13nm,0.7s
WB2 Warramunga Arr 56.20 184 *eP* **P 10 15 52.3 -0.8**
WRA Warramunga Arr 56.20 184 P **P 10 15 51.4 -1.7**
comp=Z,18nm,1.0s,baz=1.1,slow=7.5,SNR=58
WRA PcP **PcP 10 16 51.4 +0.5**
comp=Z,2.0nm,0.6s,baz=357,slow=4.5,SNR=6.3
INK Inuvik 56.26 27 P **P 10 15 53.0 0.0**
comp=Z,5.5nm,0.6s,baz=319,slow=5.3,SNR=20
INK Inuvik 56.26 27 *eP* **P 10 15 53.2 +0.3**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 56.26 27 *eP* **P 10 15 53.2 +0.3**
comp=Z,7.7nm,0.8s
AKTO Aktyubinsk 56.75 311 P **P 10 15 56.1 -0.7**
comp=Z,4.2nm,0.8s,baz=77,slow=13,SNR=13
PALK Pallekele 59.27 255 *i P* **P 10 16 10.7 -4.2**
MBWA Marble Bar 59.77 199 *eP* **P 10 16 17.5 -0.6**
comp=Z,9.2nm,0.8s
AS01 Alice Springs 59.92 184 *eP* **P 10 16 18.8 -0.3**
AS31 Alice Springs 59.92 184 *eP* **P 10 16 18.6 -0.6**
comp=Z,2.9nm,0.6s
ASAR Alice Springs 59.92 184 P **P 10 16 18.4 -0.8**
comp=Z,7.8nm,0.9s,baz=5.9,slow=5.1,SNR=46
ASAR Alice Springs 59.92 184 P **P 10 16 18.4 -0.8**
ASAR pmax pmax
comp=Z,7.0nm,0.9s
GEYT Alibeck 61.41 298 P **P 10 16 28.3 -1.0**
comp=Z,1.3nm,0.5s,baz=42,slow=5.5,SNR=4.1
APA Apatity 61.91 335⇓ *iP* P
APA MLR MLR 10 16 43.7 +12
comp=Z,4μm,15.0s
KLMR Klimovskoe 62.57 327 *eP* **P 10 16 33.6 -3.0**
KLMR *e* 10 17 11.3
KLMR pmax pmax
comp=Z,12nm,0.9s
EIDS Eidsvold 62.82 166 *eP* **P 10 16 39.5 +0.8**
comp=Z,7.7nm,0.9s
DZM Mont Dzumac 64.30 150 *eP* **P 10 16 49.3 +0.7**
comp=Z,28nm,1.2s
YKA Yellowknife Ar 65.80 29 P **P 10 16 57.2 -0.6**
comp=Z,1.8nm,0.9s,baz=303,slow=6.5,SNR=8.6
YKA Yellowknife Ar 65.80 29 *ceP* **P 10 16 58.5 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 66.04 354 *i P* **P 10 16 57.9 -1.2**
comp=Z,36nm,1.4s
DAG Danmarks Havn 66.04 354 *i P* **P 10 16 58.4 -0.7**
comp=Z,29nm,1.3s
DAG Danmarks Havn 66.04 354 *i P* **P 10 16 58.4 -0.7**
DAG pmax pmax
comp=Z,56nm,1.3s
MSVF Nonsavu 66.09 137 *eP* **P 10 17 01.1 +0.8**
MSVF pmax pmax
comp=Z,63nm,1.5s
MSVF Nonsavu 66.09 137 *eP* **P 10 17 01.1 +0.8**
comp=Z,63nm,1.5s
OBN Obninsk 66.68 322⇑ *eP* **P 10 17 03.4 -0.2**
OBN pmax pmax
comp=Z,11nm,1.1s
STKA Stephens Creek 68.11 176 P **P 10 17 13.0 +0.3**
comp=Z,1.9nm,0.5s,baz=353,slow=6.3,SNR=9.9
LLLB Lilooet 68.74 42 *eP* **P 10 17 18.8 +2.0**
comp=Z,19nm,1.1s
ZEI Tsey 68.76 308 *eP* **P 10 17 17.5 +0.3**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 68.91 309 P **P 10 17 18.3 +0.4**
comp=Z,4.6nm,0.8s,baz=16,slow=5.8,SNR=9.1
KIV Kislovodsk 68.93 310 *eP* **P 10 17 18.2 +0.1**
KIV pmax pmax
comp=Z,19nm,1.1s
NEY Neytrino 69.27 309⇑ *eP* **P 10 17 20.7 +0.3**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 69.55 305⇓ *eP* **P 10 17 22.8 +0.6**
GNI pmax pmax
comp=Z,19nm,1.1s
B06A Marblemount 70.08 44 *eP* **P 10 17 26.6 +1.6**
comp=Z,21nm,1.1s
D05A Enumclaw 70.51 45 *eP* **P 10 17 29.2 +1.5**
comp=Z,90nm,1.8s
F04A Amboy 70.94 47 *eP* **P 10 17 32.0 +1.6**
comp=Z,21nm,1.0s
SUMG Summit 71.20 359 *i P* **P 10 17 31.9 0.0**
comp=Z,41nm,0.9s
SUMG Summit 71.20 359 *i P* **P 10 17 32.0 0.0**
comp=Z,45nm,1.0s
SUMG Summit 71.20 359 *i P* **P 10 17 31.9 0.0**
SUMG pmax pmax
comp=Z,41nm,0.9s
SUMG Summit 71.20 359 *eP* **P 10 17 32.2 +0.2**
comp=Z,46nm,1.0s
B08A Colville Reser 71.36 43 *eP* **P 10 17 34.3 +1.4**
comp=Z,15nm,1.1s
EDM Edmonton 71.65 37 *eP* **P 10 17 35.8 +1.3**
EDM pmax pmax
comp=Z,11nm,1.0s
EDM Edmonton 71.65 37 *eP* **P 10 17 35.8 +1.3**
comp=Z,11nm,1.0s
E07A Sunnyside 72.08 45 *eP* **P 10 17 38.8 +1.6**
comp=Z,17nm,1.1s
D08A Wollman Farm, 72.33 44 *eP* **P 10 17 38.8 +0.1**
comp=Z,12nm,1.0s
HAWA Hanford 72.36 45 *eP* **P 10 17 39.8 +0.9**
comp=Z,10nm,1.0s
G06A Carlson Farm, 72.37 47 *eP* **P 10 17 40.6 +1.6**
comp=Z,38nm,1.4s
NEW Newport 72.63 42 *eP* **P 10 17 42.0 +1.5**
NEW pmax pmax
comp=Z,16nm,1.3s
NEW Newport 72.63 42 *eP* **P 10 17 42.0 +1.5**
comp=Z,16nm,1.3s
AKASG Malin Array Be 72.83 321 P **P 10 17 39.9 -1.7**
comp=Z,5.6nm,0.8s,baz=49,slow=6.5,SNR=18
AKBB Malin Array Si 72.83 321 *eP* **P 10 17 41.6 0.0**
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 72.83 321 *eP* **P 10 17 41.6 0.0**
comp=Z,13nm,0.9s
KIEV Kiev 72.84 321 *c iP* **P 10 17 41.6 0.0**
KIEV pmax pmax
comp=Z,11nm,1.0s
KIEV Kiev 72.84 321 *eP* **P 10 17 41.4 -0.3**
comp=Z,11nm,0.9s
AK11 Malin Array Si 72.87 321 *eP* **P 10 17 40.4 -1.4**
E09A Wood Farm, Sta 73.07 44 *eP* **P 10 17 42.7 -0.4**
comp=Z,17nm,1.1s
NC405 NORSAR Array S 73.26 336 *eP* **P 10 17 45.4 +1.5**
NB201 NORSAR Array S 73.44 336 *eP* **P 10 17 43.1 -2.0**
NC204 NORSAR Array S 73.45 336 *eP* **P 10 17 45.8 +0.6**
NB2 NORSAR Subarra 73.48 336 P **P 10 17 45.1 -0.2**
comp=Z,17nm,1.1s,baz=42,slow=6.2
NOA NORSAR Array B 73.48 336 P **P 10 17 44.4 -0.9**
comp=Z,12nm,1.0s,baz=41,slow=5.9,SNR=8.0
K05A Summer Lake 73.63 49 *eP* **P 10 17 48.9 +2.1**
comp=Z,36nm,1.2s
WDC Whiskeytown Da 73.83 51 *eP* **P 10 17 49.9 +2.2**
WDC pmax pmax
comp=Z,19nm,1.3s
WDC Whiskeytown Da 73.83 51 *eP* **P 10 17 49.9 +2.2**
comp=Z,19nm,1.3s
WALA Waterton Lakes 73.87 40 *eP* **P 10 17 49.3 +1.3**
comp=Z,54nm,2.0s
F10A Beach Ranch, E 73.91 44 *eP* **P 10 17 49.8 +1.6**
comp=Z,7.9nm,0.9s
BSMT Bassoo Peak 74.14 42 *eP* **P 10 17 51.5 +1.9**
JTMT Jette 74.47 42 *eP* **P 10 17 53.3 +1.8**
BMO Blue Mountains 74.52 45 *eP* **P 10 17 52.8 +1.0**
BMO pmax pmax
comp=Z,13nm,1.2s
BMO Blue Mountains 74.52 45 *eP* **P 10 17 52.8 +1.0**
comp=Z,12nm,1.2s
KLNR Kaliningrad 74.59 328⇑ *eP* **P 10 17 51.3 -0.5**
SWMT Swartz Lake 74.77 42 *eP* **P 10 17 54.4 +1.2**
WVOR Wild Horse Val 75.16 48 *eP* **P 10 17 56.4 +0.8**
WVOR pmax pmax
comp=Z,24nm,1.8s
WVOR Wild Horse Val 75.16 48 *eP* **P 10 17 56.4 +0.8**
comp=Z,24nm,1.8s
SLMT Seeley Lake 75.20 42 *eP* **P 10 17 56.2 +0.4**
MSO Missoula 75.21 42 *eP* **P 10 17 56.5 +0.8**
comp=Z,15nm,1.4s
BEKR Beckworth 75.60 51 *eP* **P 10 17 59.0 +0.8**
comp=Z,12nm,0.8s
FFC Flin Flon 75.79 31 *eP* **P 10 18 00.3 +1.5**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 75.79 31 *eP* **P 10 18 00.3 +1.5**
comp=Z,9.4nm,1.0s
LVV L'vov 75.98 322 *eP* **P 10 18 01.3 +1.3**
ILGA Ilgaz 76.06 311 *eP* **P 10 18 00.9 +0.1**
comp=Z,18nm,0.9s
MFID Camas Ranch 76.23 46 *eP* **P 10 18 03.1 +1.5**
comp=Z,10nm,1.1s
PAHR Pah Rah Range 76.31 51 *eP* **P 10 18 03.1 +0.9**
comp=Z,11nm,1.0s
HRY Holter Researc 76.42 42 *eP* **P 10 18 04.3 +1.6**
LRM Limekiln Ridge 76.65 43 *eP* **P 10 18 05.4 +1.3**
CMB Columbia Colle 76.65 53 *eP* **P 10 18 03.2 -0.9**
CMB pmax pmax
comp=Z,18nm,1.3s
CMB Columbia Colle 76.65 53 *eP* **P 10 18 03.2 -0.9**
comp=Z,18nm,1.3s
EGMT Eagleton 76.67 40 *eP* **P 10 18 04.8 +0.8**
comp=Z,25nm,1.0s
BUR08 Bucovina Ar. S 76.80 320 *eP* **P 10 18 06.0 +1.2**
BURAR Bucovina Array 76.81 320 *i P* **P 10 18 05.6 +0.8**
BURAR Bucovina Array 76.81 320 ⇓*P* **P 10 18 05.6 +0.8**
DLMT Dillon 76.86 43 *eP* **P 10 18 06.1 +0.9**
comp=Z,17nm,1.0s
BR131 Keskin Array S 76.89 310 *eP* **P 10 18 05.4 -0.1**
BRTR Keskin Array B 76.89 310 P **P 10 18 04.5 -1.0**
comp=Z,8.0nm,0.9s,baz=88,slow=3.1,SNR=27
BRTR Keskin Array B 76.89 310 *ceP* **P 10 18 05.5 -0.1**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
HLID Hailey 76.96 45 *eP* **P 10 18 07.7 +1.8**
comp=Z,7.3nm,1.1s
WAKR Walker 76.98 52 *eP* **P 10 18 08.6 +2.4**
comp=Z,11nm,1.1s
BMN Battle Mountai 77.21 49 *eP* **P 10 18 09.3 +2.0**
BMN pmax pmax
comp=Z,10.0nm,1.0s
BMN Battle Mountai 77.21 49 *eP* **P 10 18 09.3 +2.0**
comp=Z,10nm,1.0s
BOZ Bozeman (W) 77.24 42 *eP* **P 10 18 08.6 +1.2**
BOZ pmax pmax
comp=Z,9.0nm,1.1s
BOZ Bozeman (W) 77.24 42 *eP* **P 10 18 08.6 +1.2**
comp=Z,9.3nm,1.1s
BR231 Keskin MP Arra 77.35 310 *eP* **P 10 18 05.5 -2.5**
STHS Stebnicka Huta 77.61 323 *eP* **P 10 18 08.7 -0.5**
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 77.61 323 *eP* **P 10 18 08.7 -0.5**
OJC Ojcow 77.75 324 *eP* **P 10 18 09.4 -0.5**
OJC Ojcow 77.75 324 *eP* **P 10 18 09.4 -0.5**
OJC Ojcow 77.75 324 *eP* **P 10 18 09.4 -0.5**
comp=Z,22nm,0.9s
DOPR Dopca 77.78 319 ⇓*iP* **P 10 18 12.3 +2.1**
MLR Muntele Rosu 77.79 318 ⇑*iP* **P 10 18 11.7 +1.3**
MLR Muntele Rosu 77.79 318 ⇑*P* **P 10 18 11.7 +1.3**
RAYN Ar Rayn 78.01 290 *eP* **P 10 18 12.5 +0.6**
comp=Z,5.6nm,1.1s
YHB Horse Butte 78.01 43 *eP* **P 10 18 13.8 +2.0**
comp=Z,8.0nm,0.9s
NIE Niedzica 78.06 324 *eP* **P 10 18 12.0 +0.3**
NIE Niedzica 78.06 324 *eP* **P 10 18 12.0 +0.3**
GCMT Greycliff 78.17 41 *eP* **P 10 18 12.8 +0.3**
YHH Holmes Hill 78.18 43 *eP* **P 10 18 14.6 +1.8**
comp=Z,12nm,1.5s
ARR Arges 78.57 319 ⇑*iP* **P 10 18 14.9 +0.2**
H17A Grant Village 78.58 43 *eP* **P 10 18 16.5 +1.5**
comp=Z,14nm,1.0s
DRGR 78.64 321 ⇑*iP* **P 10 18 15.0 0.0**
DRGR 78.64 321 ⇑*P* **P 10 18 15.0 0.0**
IMW Indian Meadow 78.70 43 *eP* **P 10 18 16.9 +1.2**
comp=Z,8.7nm,1.0s
OKC Ostrava-Krasne 78.78 325 *eP* **P 10 18 16.8 +1.1**
OKC Ostrava-Krasne 78.78 325 *eP* **P 10 18 16.8 +1.1**
RLMT Red Lodge 78.81 42 *eP* **P 10 18 17.6 +1.4**
comp=Z,32nm,1.9s
FXWY Fox Creek 78.82 44 *eP* **P 10 18 18.4 +2.1**
comp=Z,14nm,1.6s
MOOW Moose Ponds 78.90 43 *eP* **P 10 18 18.5 +1.8**
comp=Z,8.0nm,1.3s
TPAW Teton Pass 78.96 44 *eP* **P 10 18 19.0 +1.9**
comp=Z,6.4nm,0.9s
LOHW Long Hollow 79.07 43 *eP* **P 10 18 18.9 +1.3**
comp=Z,11nm,1.6s
SNOW Snow King Moun 79.08 44 *eP* **P 10 18 18.9 +1.1**
comp=Z,7.3nm,1.0s
REDW Red Top Meadow 79.09 44 *eP* **P 10 18 19.2 +1.4**
comp=Z,9.1nm,1.1s
MORC Moravsky Berou 79.11 325 ⇓*iP* **P 10 18 18.6 +1.1**
MORC Moravsky Berou 79.11 325 ⇓*P* **P 10 18 18.6 +1.1**
MORC Moravsky Berou 79.11 325 *eP* **P 10 18 17.9 +0.4**
comp=Z,64nm,1.1s
DGMT Dagmar 79.14 37 *eP* **P 10 18 19.1 +1.4**
comp=Z,23nm,1.1s
DPC Dobruska-Polom 79.25 326 *eP* **P 10 18 18.4 +0.1**
DPC Dobruska-Polom 79.25 326 *eP* **P 10 18 18.4 +0.1**
PSZ Piszkesteto 79.28 323 ⇓*iP* **P 10 18 19.9 +1.4**
PSZ Piszkesteto 79.28 323 ⇓*P* **P 10 18 19.9 +1.4**
PSZ Piszkesteto 79.28 323 *eP* **P 10 18 18.6 0.0**
comp=Z,12nm,0.9s
LAO LASA Array 79.36 39 *eP* **P 10 18 20.1 +1.1**
comp=Z,22nm,1.3s
VYHS Vyhne 79.40 324 *eP* **P 10 18 20.0 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 79.40 324 *eP* **P 10 18 20.0 +0.9**
R11A Troy Canyon, C 79.48 50 *eP* **P 10 18 21.2 +1.2**
comp=Z,8.5nm,1.1s

HWUT	Hardware Ranch	79.82	45	eP	P	10 18 23.4	+1.6
	comp=Z,16nm,1.4s						
PVCC	Panska Ves	79.91	327	eP	P	10 18 22.0	+0.2
PVCC	Panska Ves	79.91	327	eP	P	10 18 22.0	+0.2
BRG	Berggiesshubel	79.92	328	eP	P	10 18 21.1	-0.8
	comp=Z,8.0nm,0.9s						
BRG	Berggiesshubel	79.92	328	eP	P	10 18 21.1	-0.8
BRG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BZS	Buzias	79.99	320	⇑iP	P	10 18 22.8	+0.5
BZS	Buzias	79.99	320	⇑iP	P	10 18 22.8	+0.5
DUG	Dugway, Tooele	80.00	47	eP	P	10 18 24.1	+1.4
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DUG	Dugway, Tooele	80.00	47	eP	P	10 18 24.1	+1.4
	comp=Z,8.3nm,1.0s						
CLL	Collm	80.01	328	iP	P	10 18 22.0	-0.3
CLL				pmax	pmax		
	comp=Z,18nm,0.9s						
CLL	Collm	80.01	328	iP	P	10 18 22.0	-0.3
	comp=Z,18nm,0.9s						
CLL	Collm	80.01	328	eP	P	10 18 22.0	-0.3
	comp=Z,20nm,1.0s						
BW06	Boulder Array	80.20	44	eP	P	10 18 24.4	+0.6
	comp=Z,4.4nm,0.9s						
PD31	Pinedale Array	80.20	44	eP	P	10 18 24.3	+0.4
PDAR	Pinedale Array	80.20	44	P	P	10 18 23.9	+0.1
	comp=Z,3.7nm,0.9s,baz=289,slow=2.4,SNR=23						
PRU	Pruhonice	80.31	327	eP	P	10 18 24.0	0.0
PRU	Pruhonice	80.31	327	eP	P	10 18 24.0	0.0
TREC	Trest	80.39	326	eP	P	10 18 24.1	-0.3
TREC	Trest	80.39	326	eP	P	10 18 24.1	-0.3
MDVR	Moldovita	80.51	319	⇑iP	P	10 18 25.6	+0.4
JLU	Jordanelle	80.54	46	eP	P	10 18 28.3	+2.6
	comp=Z,5.4nm,0.9s						
NLU	North Lily Min	80.59	47	eP	P	10 18 27.4	+1.5
	comp=Z,6.4nm,0.9s						
GSC	Goldstone, Bar	80.59	53	eP	P	10 18 26.1	+0.2
GSC				pmax	pmax		
	comp=Z,11nm,1.1s						
GSC	Goldstone, Bar	80.59	53	eP	P	10 18 26.1	+0.2
	comp=Z,11nm,1.1s						
SHPR	Sheep Range	80.89	51	eP	P	10 18 28.9	+1.3
	comp=Z,8.3nm,1.1s						
NKC	Novy Kostel	81.04	328	eP	P	10 18 27.7	-0.2
NKC	Novy Kostel	81.04	328	eP	P	10 18 27.7	-0.2
VTS	Vitosha	81.18	317	⇑iP	P	10 18 28.4	-0.6
VTS	Vitosha	81.18	317	⇑P	P	10 18 28.4	-0.6
VTS	Vitosha	81.18	317	eP	P	10 18 29.4	+0.4
	comp=Z,7.2nm,0.7s						
CONA	Conrad Observa	81.20	325	iP	P	10 18 30.3	+1.4
	comp=Z,18nm,1.2s,SNR=6.3						
CCUT	Cedar City	81.35	49	eP	P	10 18 30.4	+0.3
	comp=Z,4.1nm,1.0s						
KHC	Kasperske Hory	81.37	327	eP	P	10 18 29.5	-0.1
KHC	Kasperske Hory	81.37	327	eP	P	10 18 29.6	-0.1
KHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KHC	Kasperske Hory	81.37	327	eP	P	10 18 29.6	-0.1
	comp=Z,4.3nm,0.9s						
MSU	Marysvale	81.45	48	eP	P	10 18 31.6	+1.0
MSU	Marysvale	81.45	48	eP	P	10 18 31.6	+1.0
GEC2	GERESS Array S	81.52	326	eP	P	10 18 29.2	-1.4
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GEC2	GERESS Array S	81.52	326	eP	P	10 18 29.2	-1.4
	comp=Z,8.6nm,1.1s						
GERES	GERESS Array B	81.52	326	P	P	10 18 30.0	-0.6
	comp=Z,3.5nm,0.8s,baz=46,slow=3.9,SNR=15						
GERES	GERESS Array B	81.52	326	P	P	10 18 30.0	-0.6
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TMUT	Trail Mountain	81.52	47	eP	P	10 18 32.8	+1.7
	comp=Z,5.0nm,1.0s						
GEA0	GERESS Array S	81.53	326	eP	P	10 18 29.1	-1.6
P17A	Butcher Ranch,	81.68	47	eP	P	10 18 33.0	+1.3
	comp=Z,12nm,1.0s						
LCMT	Little Creek M	81.77	50	eP	P	10 18 34.1	+2.0
	comp=Z,7.7nm,1.0s						
LDFC	Landfair	81.82	52	eP	P	10 18 33.1	+0.7
	comp=Z,14nm,1.0s						
ARSA	Arzberg	81.85	324	iP	P	10 18 33.3	+1.0
	comp=Z,8.4nm,1.0s						
PFO	Pinyon Flats O	81.86	54	eP	P	10 18 33.9	+1.2
PFO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PFO	Pinyon Flats O	81.86	54	eP	P	10 18 33.9	+1.2
	comp=Z,7.6nm,0.9s						
K22A	Casper	81.94	42	eP	P	10 18 33.6	+0.6
	comp=Z,9.3nm,1.1s						
MOA	Molln	82.00	325	iP	P	10 18 33.7	+0.6
	comp=Z,8.7nm,1.2s						
KNB	Kanab	82.02	50	eP	P	10 18 33.9	+0.3
KNB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KNB	Kanab	82.02	50	eP	P	10 18 33.9	+0.3
	comp=Z,10.0nm,1.0s						
SRU	San Rafael Swe	82.05	47	eP	P	10 18 34.9	+1.2
SRU				pmax	pmax		
	comp=Z,11nm,0.6s						
SRU	San Rafael Swe	82.05	47	eP	P	10 18 34.9	+1.2
	comp=Z,11nm,0.6s						
PERS	Pernice	82.49	324	iP	P	10 18 36.1	+0.4
SOKA	Soboth	82.50	324	iP	P	10 18 35.4	-0.3
	comp=Z,21nm,1.0s,SNR=15						
W13A	Hualapai Mount	82.58	52	eP	P	10 18 37.9	+1.3
	comp=Z,4.4nm,0.9s						
O20A	White River Ci	82.69	45	eP	P	10 18 37.6	+0.5
	comp=Z,8.1nm,1.1s						
U15A	North Rim	82.73	50	eP	P	10 18 38.1	+0.7
	comp=Z,20nm,1.5s						
OBKA	Obir	82.85	324	iP	P	10 18 38.2	+0.6
	comp=Z,5.3nm,0.9s						
LEGS	Legarje	82.89	324	iP	P	10 18 37.8	+0.1
KBA	Koelnbreinsper	82.99	325	iP	P	10 18 38.0	-0.4
	comp=Z,7.9nm,1.1s						
Y12C	Blythe	83.03	53	eP	P	10 18 40.2	+1.5
	comp=Z,9.3nm,1.0s						
MYKA	Terra Mystica	83.19	325	iP	P	10 18 39.3	0.0
	comp=Z,3.7nm,0.6s						
PV09	Paradox Valley	83.27	47	eP	P	10 18 42.1	+1.9
GLA	Glamis	83.28	54	eP	P	10 18 41.6	+1.6
GLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GLA	Glamis	83.28	54	eP	P	10 18 41.6	+1.6
	comp=Z,6.6nm,0.9s						
PV10	Paradox Valley	83.40	47	eP	P	10 18 42.8	+1.9
PDG	Podgorica	83.42	319	⇓iP	P	10 18 40.3	-0.2
N23A	Red Feather La	83.46	43	eP	P	10 18 41.8	+0.7
	comp=Z,7.1nm,1.1s						
PV05	Paradox Valley	83.57	47	eP	P	10 18 43.2	+1.6
WATA	Walderalm	83.60	326	iPcP	P	10 18 42.4	+0.9
	comp=Z,4.2nm,0.8s						
ABTA	Abfaltersbach	83.62	326	iP	P	10 18 41.2	-0.3
	comp=Z,6.6nm,0.9s						
WTTA	Wattenberg	83.62	326	iPcP	P	10 18 42.2	+0.5
	comp=Z,8.1nm,1.1s						
MOTA	Moosalm	83.80	327	iPcP	P	10 18 43.4	+0.9
	comp=Z,4.8nm,0.7s						
PV01	Paradox Valley	83.84	47	eP	P	10 18 44.6	+1.6
RETA	Reutte	83.84	327	iPcP	P	10 18 43.4	+0.7
	comp=Z,21nm,1.1s,SNR=9.8						
WUAZ	Wupatki	83.88	50	eP	P	10 18 44.3	+1.1
	comp=Z,14nm,1.0s						
Y14A	Wickenburg	83.88	52	eP	P	10 18 44.1	+1.0
	comp=Z,36nm,1.0s						
SMCO	Snowmass	84.06	45	eP	P	10 18 45.0	+0.7
	comp=Z,3.7nm,0.6s						
AGG	Agios Georgios	84.08	315	eP	P	10 18 43.7	-0.3
AGG				pmax	pmax		
	comp=Z,17nm,0.9s						
AGG	Agios Georgios	84.08	315	eP	P	10 18 43.7	-0.3
	comp=Z,17nm,0.9s						
FETA	Feichten	84.21	327	iP	P	10 18 44.5	-0.2
	comp=Z,10nm,1.0s						
BFO	Black Forest	84.24	329	iP	P	10 18 45.0	+0.4
BFO	Black Forest	84.24	329	eP	P	10 18 44.5	-0.1
	comp=Z,20nm,1.1s						
DAVA	Damuels	84.38	327	iPcP	P	10 18 46.0	+0.4
	comp=Z,22nm,1.1s,SNR=6.6						
ISCO	Idaho Springs	84.39	44	eP	P	10 18 47.8	+1.8
ISCO				pmax	pmax		
	comp=Z,12nm,1.6s						
ISCO	Idaho Springs	84.39	44	eP	P	10 18 47.8	+1.8
	comp=Z,12nm,1.6s						
MVCO	Mesa Verde	84.50	47	eP	P	10 18 47.7	+1.3
	comp=Z,11nm,1.0s						
X16A	Lo Mia Camp, P	84.56	51	eP	P	10 18 47.5	+0.8
	comp=Z,8.8nm,0.9s						
FUORN	Ofenpass-Fuorn	84.72	327	eP	P	10 18 47.4	0.0
	comp=Z,21nm,1.0s						
S22A	4UR Ranch, Cre	85.11	46	eP	P	10 18 51.3	+1.7
	comp=Z,7.1nm,0.9s						
TUE	Stuetta	85.24	327	eP	P	10 18 49.7	-0.2
	comp=Z,12nm,1.2s						
SDCO	Great Sand Dun	85.88	45	eP	P	10 18 54.6	+1.2
	comp=Z,8.7nm,1.4s						
ECSD	EROS Data Cent	86.20	36	eP	P	10 18 54.8	+0.3
	comp=Z,4.8nm,1.0s						
ANMO	Albuquerque	87.25	48	eP	P	10 19 00.8	+0.7
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ANMO	Albuquerque	87.25	48	eP	P	10 19 00.8	+0.7
	comp=Z,4.6nm,1.3s						
TX31	Lajitas Ar. Si	92.85	50	eP	P	10 19 26.7	+0.5
TXAR	Lajitas Array	92.85	50	P	P	10 19 26.2	0.0
	comp=Z,2.6nm,0.9s,baz=292,slow=2.7,SNR=24						
TXAR				PP	PP	10 23 08.6	+0.7
	comp=Z,0.3nm,1.0s,baz=303,slow=5.0,SNR=2.6						
TXAR				LR	LR	10 59 05.1	
	comp=Z,240nm,20.6s,baz=0.0,slow=34						
VNDA	Vanda	114.70	174	PKP	PKPdf	10 24 51.9	-0.3
	comp=Z,0.5nm,0.7s,baz=286,slow=0.7,SNR=4.1						
TORD	Torodi Ar. Bea	115.47	311	PKP	PKPdf	10 24 53.9	-1.8
	comp=Z,1.0nm,1.1s,baz=45,slow=2.6,SNR=3.5						
MAW	Mawson	117.74	205	PKP	PKPdf	10 24 59.1	+0.8
	comp=Z,1.7nm,0.8s,baz=45,slow=2.9,SNR=7.0						
SAML	Samuel	146.71	40	ePKPdf	PKPbc	10 25 55.8	+0.2
LPAZ	La Paz	149.57	55	PKPbc	PKPbc	10 26 03.6	-0.2
	comp=Z,1.6nm,0.8s,baz=358,slow=5.5,SNR=8.0						
LPAZ	La Paz	149.57	55	ePKPbc	PKPbc	10 26 06.0	+2.1
PLCA	Paso Flores	157.63	110	PKPab	PKPab	10 26 42.1	+0.4
	comp=Z,3.0nm,1.0s,baz=264,slow=11,SNR=3.5						

*JMA **05** 10:10:35.1±0.1, 35°.50N×141°.46E, h18km±1km, M3.1*
*IDC **05** 10:10:35.2±1.4, 35°.16N×140°.76E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/42, mbtmp3.7/4, MS4.1/1, Ms1 4.1/1, ms1mx3.3/41, Error ellipse: s-maj=38.8km s-min=31.4km az=82.0*
*ISCJB **05** 10:10:38.1±1.0, 35°.34N±0°.08×141°.1E±0°.2, h33km, mb3.8/4, MS4.2/1, Error ellipse: s-maj=26.6km s-min=8.1km az=159.6*

ISC 05 10:10:38.1±2.3, 35°.4N±0°.2×141°.2E±0°.3, h33km, n14, σ1º04/8, mb3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.38	315	P	Pb	10 10 45.4	-1.5
CHOJ				S	Sn	10 10 53.0	-0.3
BSO1	Boso 1	0.80	192	P	Pn	10 10 52.6	+0.1
JYT	Yasato	1.13	315	P	Pn	10 10 57.8	+0.2
JYT				eS	Sb	10 11 14.0	+0.6
H11N2	WAKE ISLAND Hy 27.53	118		T	T	10 45 20.4	
	baz=311,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy 27.54	118		T	T	10 45 23.5	
	baz=311,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy 27.55	118		T	T	10 45 16.9	
	baz=311,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy 28.18	120		T	T	10 45 58.8	
	baz=312,slow=75,SNR=63						
H11S3	WAKE ISLAND Hy 28.18	120		T	T	10 45 56.4	
	baz=312,slow=75,SNR=68						
H11S2	WAKE ISLAND Hy 28.20	120		T	T	10 45 57.7	
	baz=312,slow=75,SNR=46						
MKAR	Makanchi Array	44.83	303	P	P	10 18 50.5	+1.6
	0.7nm,0.5s,baz=90,slow=8.8,SNR=3.9						
KURBB	Kurchatov Arra	46.85	309	P	P	10 19 05.2	+0.5
	1.0nm,0.2s,baz=86,slow=8.5,SNR=2.1						
HNR	Honiara	48.02	155	LR	LR	10 34 54.5	
	comp=Z,250nm,21.8s,baz=320,slow=30						
ILAR	Eielson Array	50.94	32	P	P	10 19 40.9	+5.0
	0.3nm,0.8s,baz=273,slow=7.0,SNR=3.4						
WRA	Warramunga Arr	55.46	188	P	P	10 20 09.3	-0.3
	0.3nm,0.3s,baz=3.2,slow=7.6,SNR=5.2						

PRU 05 10:11:16.8, 49°.88N×18°.43E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.19	257	ePG	Pg	10 11 20.1	-0.3
OKC				eSG	Sg	10 11 23.4	+0.6
DPC	Dobruska-Polom	1.44	290	ePG	Pn	10 11 43.4	-0.7
DPC				eSG	Sg	10 12 02.8	-0.1

*NIED **05** 10:13:00, 36°.50N×137°.70E, h14km, Mw4.3 Best double couple: M0=3.19000×10^15 NP1:φs=275.00000°, δ81.00000°, λ-172.00000°. NP2:φs=184.00000°, δ82.00000°, λ-9.00000°.*
*ISCJB **05** 10:13:07.5±0.5, 36°.52N±0°.04×137°.65E±0°.04, h11km, mb3.8/8, Error ellipse: s-maj=6.3km s-min=4.9km az=167.6*
*IDC **05** 10:13:07.3±0.8, 36°.45N×137°.64E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/40, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=21.1km s-min=8.3km az=174.0*
*JMA **05** 10:13:07.4±0.1, 36°.56N×137°.65E, h2km±2km, M3.6*
JMA Felt II J1.

ISC 05 10:13:09.0±0.7, 36°.55N±0°.04×137°.65E±0°.03, h11km, n15, σ1º34/18, mb3.9/8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.26	283	P	Pg	10 13 13.0	-1.4
JNG	Nsakai	0.39	111	P	Pg	10 13 15.3	-1.4
JGN	Niukaw	0.42	220	P	Pg	10 13 15.9	-1.4
JGN				S	Sg	10 13 21.6	-1.2
MAT	Matsushiro	0.45	90	P	Pg	10 13 16.3	-1.5
MAT				S	Sg	10 13 22.4	-1.4
MJAR	Matsushiro Arr	0.45	90	Pg	Pg	10 13 16.9	-1.0
	163nm,0.3s,baz=276,slow=18,SNR=78						
MJAR				Lg	Lg	10 13 23.4	
	691nm,0.3s,baz=265,slow=33,SNR=72						
JSZ	Suzu	0.93	346	P	Pg	10 13 25.1	-1.8
JSZ				eS	Sg	10 13 37.7	-1.4
KSRS	Korea Array	7.84	280	Pn	Pn	10 15 04.2	+1.3
	0.3nm,0.3s,baz=91,slow=14,SNR=3.4						
MA2	Magadan	24.56	16	P	P	10 18 28.8	+0.2
	2.2nm,0.4s,baz=213,slow=13,SNR=3.8						
SONM	Songino Array	25.59	306	P	P	10 18 38.7	+0.5
	0.4nm,0.5s,baz=106,slow=11,SNR=3.4						
KURBB	Kurchatov Arra	43.92	308	P	P	10 21 15.2	-0.4
	0.5nm,0.2s,baz=90,slow=8.9,SNR=4.3						
WRA	Warramunga Arr	56.27	184	P	P	10 22 48.4	-1.1
	1.0nm,0.6s,baz=358,slow=7.5,SNR=8.6						
ASAR	Alice Springs	59.99	184	P	P	10 23 15.0	-0.5
	0.4nm,0.7s,baz=15,slow=13,SNR=11						
BRTR	Keskin Array B	76.88	310	P	P	10 25 01.2	-0.1
	1.6nm,1.1s,baz=58,slow=5.8,SNR=4.0						
PDAR	Pinedale Array	80.13	44	P	P	10 25 21.1	+1.7
	0.7nm,0.7s,baz=292,slow=3.2,SNR=6.1						
TXAR	Lajitas Array	92.78	50	P	P	10 26 23.6	+1.7
	0.4nm,0.7s,baz=301,slow=4.7,SNR=6.5						

IDC 05 10:13:57.9±19.0, 8°.28N×93°.59E, h95km±72km, mb3.1/2, mb1 3.4/4, mb1mx3.0/44, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=345.5km s-min=36.2km az=82.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.60	135	P	Pn	10 15 47.1	+1.0
	0.9nm,0.3s,baz=328,slow=16,SNR=5.4						
CMAR	Chiang Mai Arr	11.38	27	P	Pn	10 16 37.5	+0.1
	0.3nm,0.3s,baz=221,slow=11,SNR=3.2						
WRA	Warramunga Arr	48.94	125	P	P	10 22 34.7	-0.1
	0.5nm,0.6s,baz=305,slow=8.4,SNR=5.6						
ASAR	Alice Springs	50.59	130	P	P	10 22 47.3	-0.1
	0.2nm,0.3s,baz=305,slow=7.9,SNR=8.8						

MEX 05 10:16:21.9±0.6, 14°.74N×92°.95W, h31km±17km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.99	345	eP	Pn	10 16 37.7	-2.1
PCIG				eS	Sn	10 16 49.5	-3.2
CCIG	Comitan	1.72	27	eP	Pn	10 16 48.5	-1.5
CCIG				iS	Sn	10 17 02.7	-8.4
TGIG		2.03	355	eP	Pn	10 16 51.1	-3.0
TGIG				eS	Sn	10 17 12.9	-5.7

*ISCJB **05** 10:17:23.7±0.6, 36°.52N±0°.05×137°.64E±0°.04, h17km±9km, mb3.7/2, Error ellipse: s-maj=7.9km s-min=5.5km az=5.9*
*IDC **05** 10:17:23.2±1.6, 36°.56N×137°.62E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.3/38, mbtmp3.7/2, Error ellipse: s-maj=12.6km s-min=9.9km az=128.0*
*JMA **05** 10:17:23.6±0.1, 36°.56N×137°.65E, h2km±2km, M3.0*
JMA Felt I J1.

ISC 05 10:17:24.0±1.1, 36°.56N±0°.05×137°.65E±0°.03, h8km±10km, n9, σ0º38/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.25	280	P	Pg	10 17 29.2	+0.1
JTT				S	Sg	10 17 33.2	+0.7
JNG	Nsakai	0.40	113	P	Pg	10 17 31.7	-0.1
JNG				S	Sg	10 17 37.3	+0.2
JGN	Niukaw	0.43	218	P	Pg	10 17 32.0	-0.4
JGN				S	Sg	10 17 37.8	-0.3
MAT	Matsushiro	0.45	92	P	Pg	10 17 32.6	-0.3
MAT				S	Sg	10 17 38.8	0.0
MAT	Matsushiro	0.45	92	P	Pg	10 17 32.6	-0.3
MAT				S	Sg	10 17 38.8	0.0
MJAR	Matsushiro Arr	0.46	92	Pg	Pg	10 17 33.2	+0.4
	51nm,0.3s,baz=274,slow=19,SNR=17						
MJAR				Lg	Lg	10 17 39.6	
	176nm,0.3s,baz=274,slow=31,SNR=54						
JSZ	Suzu	0.91	346	P	Pg	10 17 41.1	-0.5
JSZ				S	Sb	10 17 54.2	-0.2
WRA	Warramunga Arr	56.28	184	P	P	10 27 05.0	-0.1
	0.7nm,0.7s,baz=357,slow=7.3,SNR=5.9						
ASAR	Alice Springs	60.01	184	P	P	10 27 31.8	+0.6
	0.8nm,1.0s,baz=1.9,slow=7.6,SNR=5.8						

DJA 05 10:18:08.7±1.5, 8°S±27°×10°7E±°, h41km±26km, M3.5/3, MLv3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.56	49	P	Pn	10 18 21.2	+0.8
CISI				S	Sn	10 18 31.0	+2.4
CNJI	Cibinong	0.67	337	P	Pn	10 18 22.6	+0.8
CNJI				S	Sn	10 18 33.2	+2.1
CMJI	Cimerak	1.06	82	P	Pn	10 18 27.1	0.0
CMJI				S	Sn	10 18 40.9	+0.3
SKJI	Sukabumi	1.24	318	P	Pn	10 18 29.4	-0.1

JMA 05 10:33:46.9±0.1, 36°.53N×137°.66E, h2km±2km, M1.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.27	286	P	Pg	10 33 52.7	+0.5
JTT				S	Sg	10 33 57.1	+1.4
JNG	Nsakai	0.38	109	P	Pg	10 33 54.6	+0.5
JNG				S	Sg	10 33 59.7	+0.7
JGN	Niukaw	0.41	222	P	Pg	10 33 55.0	+0.2
JGN				S	Sg	10 34 00.5	+0.3
MAT	Matsushiro	0.44	88	P	Pg	10 33 55.5	+0.1
MAT				S	Sg	10 34 01.5	+0.4

*ISCJB **05** 10:34:07.4±0.9, 21°.0S±0°.2×178°.4W±0°.2, h579km, mb3.1/4, Error ellipse: s-maj=34.0km s-min=16.7km az=44.7*
*IDC **05** 10:34:07.9±2.3, 21°.00S×178°.36W, h573km±30km, mb2.6/4, mb1 3.1/6, mb1mx2.8/31, mbtmp3.8/6, Error ellipse: s-maj=38.4km s-min=19.0km az=141.0*

ISC 05 10:34:08.2±1.1, 21°.0S±0°.2×178°.3W±0°.2, h579km, n7, σ1º08/6, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.43	43	P	P	10 36 20.3	-0.8
	1.4nm,0.3s,baz=259,slow=19,SNR=8.5						
URZ	Urewera	17.65	192	P	P	10 37 40.9	-0.4
	0.5nm,0.3s,baz=27,slow=2.3,SNR=4.6						
ASAR	Alice Springs	44.09	257	P	P	10 41 26.4	+0.1
	0.3nm,0.4s,baz=100,slow=7.9,SNR=5.5						
WRA	Warramunga Arr	44.22	263	P	P	10 41 27.1	-0.1
	0.1nm,0.3s,baz=96,slow=7.5,SNR=3.6						
ILAR	Eielson Array	88.87	13	P	P	10 46 00.5	-0.5
	0.3nm,0.6s,baz=214,slow=5.3,SNR=6.2						
PDAR	Pinedale Array	89.54	43	P	P	10 46 06.4	+1.6
	0.3nm,0.6s,baz=224,slow=2.5,SNR=4.1						
AKASG	Malin Array Be	143.29	331	PKP	PKPab	10 52 34.5	-0.8
	0.9nm,0.5s,baz=39,slow=3.8,SNR=6.5						

JMA 05 10:35:46.5±0.3, 25°.30N×122°.79E, h197km±4km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.86	170	P	Pn	10 36 15.3	+0.2
JYNG				eS	Sn	10 36 38.0	+0.8
YOJ	Yonaguni jima	0.86	166	P	Pn	10 36 15.4	+0.3
YOJ				S	Sn	10 36 37.3	+0.1
IRIF	Iriomote-Funau	1.29	138	P	Pn	10 36 18.2	+0.1
IRIF				S	Sn	10 36 42.5	-0.1
JKRS	Kuro-shima	1.53	133	P	Pn	10 36 20.8	+0.6
JKRS				S	Sn	10 36 46.4	0.0
JIJ	Ishigaki jima	1.54	127	P	Pn	10 36 20.4	+0.1
JIJ				S	Sn	10 36 45.6	-0.9
HATJ	Hateruma jima	1.54	143	P	Pn	10 36 21.0	+0.6
HATJ				eS	Sn	10 36 46.3	-0.3
JISG	Ishigakijimahi	1.55	117	P	Pn	10 36 19.8	-0.6
JISG				S	Sn	10 36 46.1	-0.6
JTJ	Tarama	1.85	110	P	Pn	10 36 24.2	+0.9
JTJ				eS	Sn	10 36 51.4	-0.4
JMJ	Miyako jima 2	2.32	101	P	Pn	10 36 27.8	-0.4
JMJ				eS	Sn	10 37 00.0	-0.6
JOGS	Gusukube	2.43	102	P	Pn	10 36 30.3	+0.8
JOGS				eS	Sn	10 37 02.7	-0.2
JKE	Kume jima 2	3.74	73	P	Pn	10 36 44.1	-0.9

*IASPEI **05** 10:37:34.5±0.9, 35°.38N±0°.02×92°.28W±0°.02, h8km±7km, Error ellipse: s-maj=3.3km s-min=2.9km az=127.1, GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **05** 10:37:34.3±0.3

baz=279
W40A **Ferguson Farm,** 0.68 255 P Pg 10 37 47.3 -0.4
baz=75,SNR=126
W40A S Sg 10 37 57.1 +0.6
baz=75
V42A **Cord** 0.84 59 P Pg 10 37 50.4 -0.3
baz=239,SNR=173
V42A S Sg 10 38 01.6 0.0
baz=239
X41A **Kaden, Bauxite** 0.90 193 P Pg 10 37 51.6 -0.4
baz=13,SNR=17
X41A S Sg 10 38 03.9 +0.3
baz=13
X42A **Stuttgart** 0.98 147 P Pg 10 37 53.1 -0.3
baz=328,SNR=113
X42A S Sb 10 38 06.8 -0.2
baz=328
X40A **Basin Creek Fa** 1.00 208 P Pg 10 37 53.4 -0.4
baz=28,SNR=59
X40A S Sg 10 38 07.0 +0.2
baz=28
U41A **Viola** 1.01 16 P Pg 10 37 53.6 -0.4
baz=196,SNR=117
U41A S Sg 10 38 07.2 +0.1
baz=196
U40A **Yellville** 1.09 334 P Pg 10 37 55.1 -0.4
baz=154,SNR=271
U40A S Sg 10 38 09.5 -0.2
baz=154
V39A **Pettigrew** 1.21 293 P Pg 10 37 57.2 -0.6
baz=112,SNR=90
V39A S Sg 10 38 13.2 -0.4
baz=112
W39A **Magazine** 1.25 262 P Pg 10 37 58.0 -0.6
baz=82,SNR=72
W39A S Sb 10 38 14.9 +0.1
baz=82
U42A **Revenden** 1.28 40 P Pg 10 37 58.4 -0.9
baz=220,SNR=127
U42A S Sg 10 38 15.3 -0.7
baz=220
W43A **Forest City** 1.31 102 P Pg 10 37 59.0 -0.8
baz=283
W43A S Sb 10 38 17.3 +0.6
baz=283
HBAR **Harrisburg** 1.33 82 *e*Pn Pg 10 37 59.4 -0.7
HBAR *e*Sn Sg 10 38 16.7 -0.7
MIAR **Mount Ida** 1.35 233 P Pn 10 37 59.6 -0.3
baz=52,SNR=184
MIAR S Sg 10 38 17.5 -0.7
baz=52
MIAR **Mount Ida** 1.35 233 *e*Pn Pn 10 37 59.5 -0.5
MIAR *e*Sn Sg 10 38 17.5 -0.7
U39A **Green Forest** 1.40 316 P Pn 10 38 00.6 -0.1
baz=135,SNR=176
U39A S Sg 10 38 19.1 -0.7
baz=135
X43A **Marvell** 1.43 126 P Pn 10 38 00.8 -0.1
baz=307,SNR=24
X43A S Sn 10 38 20.7 +0.8
baz=307
V43A **Jonesboro** 1.47 73 P Pn 10 38 01.5 0.0
baz=254,SNR=12
V43A S Sn 10 38 21.8 +0.9
baz=254
CCAR **Cane Creek** 1.51 164 *e*Pn Pn 10 38 02.5 +0.4
Y41A **Eaglette Beard** 1.52 191 P Pn 10 38 02.7 +0.6
baz=11,SNR=14
Y41A S Sg 10 38 23.2 -0.2
baz=11
Y42A **Garnett, Star** 1.59 165 P Pn 10 38 03.6 +0.4
baz=346,SNR=75
Y40A **Okolona** 1.59 212 P Pn 10 38 03.7 +0.4
baz=31,SNR=38
Y40A S Sb 10 38 25.0 +0.3
baz=31
HHAR **Hobbs** 1.63 304 *e*Pn Pn 10 38 04.4 +0.6
HHAR *e*Sn Sb 10 38 26.0 +0.2
T41A **Mountain View** 1.71 14 P Pn 10 38 05.7 +0.8
baz=194,SNR=118
T41A S Sb 10 38 28.8 +0.5
baz=194
X39A **Fountain Ranch** 1.74 241 P Pn 10 38 06.1 +0.8
baz=60,SNR=162
X39A S Sb 10 38 29.2 +0.2
baz=60
T40A **Mansfield** 1.78 354 P Pn 10 38 06.6 +0.8
baz=173,SNR=139
T40A S Sb 10 38 30.8 +0.6
baz=173
V38A **Canehill** 1.81 286 P Pn 10 38 07.0 +0.8
baz=105,SNR=72
U43A **Rector** 1.81 56 P Pn 10 38 07.2 +0.9
baz=237,SNR=42
WLAR **White Oak Lake** 1.82 203 *e*Pn Pn 10 38 06.9 +0.5
Y43A **Makayla and Ka** 1.83 142 P Pn 10 38 07.1 +0.6
baz=323,SNR=33
W38A **Poteau** 1.86 261 P Pn 10 38 08.1 +1.2
baz=80,SNR=132
T39A **Clever** 1.87 332 P Pb 10 38 08.4 -0.8
baz=151
T42A **Van Buren** 1.91 30 P Pn 10 38 08.8 +1.2
baz=210
X44A **Crenshaw** 1.95 116 P Pn 10 38 09.0 +0.8
baz=297,SNR=12
V44A **Blytheville** 1.99 76 P Pn 10 38 09.6 +0.9
baz=257
U38A **Gravette** 2.02 302 P Pn 10 38 10.3 +1.2
baz=121,SNR=42
PBMO **Poplar Bluff** 2.05 46 *e*Pn Pn 10 38 09.7 +0.2
Y39A **Lockesburg** 2.08 227 Pb Pb 10 38 12.9 +0.3
baz=46
Z41A **Richland Creek** 2.16 192 P Pn 10 38 11.6 +0.6
baz=12,SNR=6.2
Z41A S Sn 10 38 39.2 +1.2
baz=12
Y44A **Strider, Charl** 2.21 129 Sb Sb 10 38 44.1 +1.7
baz=310
X38A **Whitesboro** 2.21 252 P Pn 10 38 13.2 +1.4
baz=71
S40A **Lebanon** 2.23 355 P Pn 10 38 13.6 +1.7
baz=175
S41A **Jillco Farms,** 2.25 11 P Pn 10 38 13.8 +1.6
baz=191
T38A **Diamond** 2.33 316 P Pn 10 38 14.5 +1.2
baz=135
V37A **Hulbert** 2.39 283 P Pn 10 38 15.1 +0.9
baz=102,SNR=20
PARMO **Parma** 2.41 57 *e*Pn Pn 10 38 15.0 +0.5
HALT **Halls** 2.45 77 *e*Pn Pn 10 38 15.4 +0.4
S39A **Bolivar** 2.46 340 P Pn 10 38 16.4 +1.2
baz=160
OXF **Oxford** 2.50 109 *e*Pn Pn 10 38 16.0 +0.2
U37A **Salina** 2.53 295 P Pn 10 38 17.0 +0.9
baz=113,SNR=22
W45A **Hickory Valley** 2.53 94 P Pn 10 38 16.7 +0.5
baz=276
U44B **Burton Farm, H** 2.56 67 P Pn 10 38 17.1 +0.6
baz=248
GLAT **Glass** 2.58 69 *e*Pn Pn 10 38 17.6 +0.8
T37A **Cheneyville 18** 2.76 310 P Pn 10 38 20.4 +1.1
baz=126
TUL1 **Leonard** 2.92 282 *e*Pn Pn 10 38 22.7 +1.3
U36A **Oologah** 2.99 291 P Pn 10 38 23.3 +0.9
baz=109
R39A **Chumby, Stover** 3.00 348 P Pn 10 38 23.6 +1.1
baz=168,SNR=8.2
V36A **Jenks** 3.02 279 P Pn 10 38 23.4 +0.5
baz=97
W36A **Wetumka** 3.25 267 P Pn 10 38 26.8 +0.8
baz=85,SNR=5.4
WVT **Waverly** 3.69 77 *e*Pn Pn 10 38 32.0 -0.1
WVT *e*Pb Pb 10 38 39.9 -0.2
W35A **Tecumseh** 3.77 268 P Pn 10 38 33.8 +0.6
baz=85,SNR=7.7
LRAL **Lakeview Retre** 4.95 117 *e*Pn Pn 10 38 48.2 -1.2
LRAL *e*Sn Sn 10 39 44.4 -2.6
WMOK **Wichita Mounta** 5.38 265 *e*Pn Pn 10 38 55.2 -0.1
WMOK *e*Sn Sn 10 39 56.7 -0.8
JCT **Junction City** 7.99 234 *e*Pn Pn 10 39 30.9 -0.4
MSTX **Muleshoe** 8.76 264 *e*Pn Pn 10 39 42.2 +0.4
ECSD **EROS Data Cent** 8.99 339 *e*Pn Pn 10 39 45.1 +0.2

*IDC **05** 10:41:55.8±1.0,25°.68N×127°.77E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.6/34,mbtmp3.8/6,ML3.1/1,MS3.4/1,*

Ms1 3.4/1,ms1mx2.7/38,Error ellipse: s-maj=36.7km s-min=18.0km az=86.0
*ISCJB **05** 10:41:57.7±1.1,25°.61N±0°.04×128°.04E±0°.05,h31km±7km, mb3.6/5,Error ellipse: s-maj=7.3km s-min=7.0km az=12.6*
*JMA **05** 10:41:57.1±0.1,25°.55N×127°.99E,h38km±1km,M3.4*
ISC 05 10:41:58.2±1.9,25°.61N±0°.07×128°.00E±0°.05,h23km±13km, n18,σ1°11/28,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.58**	**337**	P		**Pb**		**10 42 09.5**	**-0.2**
JJT2				S		**Sb**		**10 42 18.3**	**+0.8**
JAGN	**Aguni-jima**	**1.19**	**325**	P		**Pn**		**10 42 18.9**	**-0.5**
JAGN				*e*S		**Sn**		**10 42 34.4**	**-0.4**
JOW	**Kunigami**	**1.24**	**12**	Pn		**Pn**		**10 42 19.7**	**-0.5**
	62nm,0.3s,baz=176,slow=14,SNR=234								
JOW				Sn		**Sn**		**10 42 34.4**	**-1.9**
	86nm,0.3s,baz=141,slow=18,SNR=13								
JOW	**Kunigami**	**1.24**	**12**	P		**Pn**		**10 42 19.6**	**-0.6**
JOW				*e*S		**Sn**		**10 42 35.9**	**-0.4**
JKE	**Kume jima 2**	**1.30**	**303**	P		**Pn**		**10 42 19.9**	**-1.1**
JKE				*e*S		**Sn**		**10 42 36.3**	**-1.4**
JIH	**Iheya**	**1.42**	**359**	P		**Pn**		**10 42 21.6**	**-1.0**
JIH				S		**Sn**		**10 42 40.0**	**-0.6**
JOKE	**Okinoerabujima**	**1.82**	**16**	P		**Pn**		**10 42 27.5**	**-0.6**
JOKE				*e*S		**Sn**		**10 42 50.6**	**+0.1**
JTK	**Tokunoshima**	**2.33**	**21**	P		**Pn**		**10 42 34.6**	**-0.6**
JTK				*e*S		**Sn**		**10 43 02.5**	**-0.6**
JAMN	**Amaminishikomi**	**2.83**	**22**	P		**Pn**		**10 42 41.9**	**-0.1**
JAMN				*e*S		**Sn**		**10 43 15.3**	**0.0**
JMZ	**Minamidaito 2**	**2.92**	**85**	P		**Pn**		**10 42 42.2**	**-1.0**
JMZ				*e*S		**Sn**		**10 43 15.3**	**-2.2**
JAM	**Amami Oshima**	**3.14**	**27**	P		**Pn**		**10 42 45.7**	**-0.6**
JAM				*e*S		**Sn**		**10 43 22.5**	**-0.5**
JNU	**Nakatsue**	**7.90**	**18**	Pn		**Pn**		**10 43 52.9**	**+1.2**
	0.3nm,0.3s,baz=186,slow=14,SNR=7.1								
MJAR	**Matsushiro Arr**	**13.96**	**36**	LR				10 51 09.8	
	comp=Z,145nm,19.0s,baz=235,slow=40								
SONM	**Songino Array**	**27.96**	**328**	P		**P**		**10 47 48.1**	**+1.0**
	0.5nm,0.5s,baz=133,slow=10,SNR=3.3								
MKAR	**Makanchi Array**	**41.79**	**312**	P		**P**		**10 49 44.2**	**-1.7**
	0.4nm,0.4s,baz=90,slow=8.5,SNR=2.8								
WRA	**Warramunga Arr**	**45.70**	**172**	P		**P**		**10 50 19.2**	**+1.6**
	0.7nm,0.7s,baz=352,slow=8.4,SNR=3.4								
ASAR	**Alice Springs**	**49.32**	**173**	P		**P**		**10 50 47.5**	**+1.9**
	0.2nm,0.4s,baz=351,slow=7.5,SNR=6.2								
FINES	**FINESS Array B**	**73.30**	**331**	P		**P**		**10 53 27.9**	**+0.3**
	0.8nm,0.5s,baz=80,slow=7.8,SNR=4.9								

IDC 05 10:45:15.2±16.0,1°.66S×77°.80W,h324km±150km, mb2.9/6,mb1 3.2/6,mb1mx3.1/21,mbtmp3.6/6,Error ellipse: s-maj=152.8km s-min=27.6km az=28.0,Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**39.52**	**323**	P		P		10 52 16.3	+0.5
	0.4nm,0.8s,baz=140,slow=8.8,SNR=5.4								
PDAR	**Pinedale Array**	**52.67**	**331**	P		P		10 53 56.5	-0.9
	0.1nm,0.4s,baz=125,slow=7.8,SNR=2.7								
YKA	**Yellowknife Ar**	**69.75**	**343**	P		P		10 55 50.8	+0.3
	0.3nm,0.8s,baz=140,slow=6.0,SNR=4.4								
DBIC	**Dimbokro**	**73.27**	**83**	P		P		10 56 12.2	-0.1
	2.3nm,0.7s,baz=260,slow=6.1,SNR=2.8								
TORD	**Torodi Ar. Bea**	**80.16**	**76**	P		P		10 56 50.9	+0.2
	0.3nm,0.5s,baz=283,slow=6.1,SNR=5.7								
ILAR	**Eielson Array**	**82.71**	**336**	P		P		10 57 03.0	+0.2
	0.3nm,0.9s,baz=115,slow=4.8,SNR=5.0								
WRA	**Warramunga Arr**	**141.86**	**234**	PKP		PKPdf		11 04 08.5	-1.1
	0.4nm,0.5s,baz=120,slow=2.5,SNR=5.2								

JMA 05 10:50:09.4±0.1,36°.55N×137°.65E,h0km±1km,M1.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.26**	**282**	P			Pg	10 50 15.2	+0.8
JTT				S			Sg	10 50 19.5	+1.7
JNG	**Nsakai**	**0.39**	**111**	P			Pg	10 50 17.5	+0.6
JNG				S			Sg	10 50 23.0	+1.1
JGN	**Niukaw**	**0.42**	**220**	P			Pg	10 50 17.8	+0.3
JGN				S			Sg	10 50 23.7	+0.7
MAT	**Matsushiro**	**0.45**	**91**	P			Pg	10 50 18.4	+0.4
MAT				S			Sg	10 50 24.7	+0.9
MAT	**Matsushiro**	**0.45**	**91**	P			Pg	10 50 18.5	+0.5
MAT				S			Sg	10 50 24.7	+0.9

JMA 05 10:55:05.9,36°.54N×137°.64E,h0km,M2.6,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.26**	**285**	P			Pg	10 55 11.7	+0.9
JTT				S			Sg	10 55 16.1	+2.0
MAT	**Matsushiro**	**0.46**	**89**	P			Pg	10 55 14.9	+0.2
MAT				S			Sg	10 55 21.2	+0.6
JJN	**Nakama**	**0.70**	**37**	P			Pg	10 55 20.0	+0.6
JJN				*e*S			Sg	10 55 28.7	+0.2

WEL 05 11:03:15.3±0.1,43°.59S×172°.50E,h5km,ML3.5/14,1C-5D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**78**	⇓P	G			11 03 17.2	-0.1
CRLZ					S	G		11 03 18.9	+0.3
CRLZ					A	ML	AML	11 03 19.0	
CRLZ					A	ML	AML	11 03 19.1	
CRLZ					A	ML	AML	11 03 19.1	
MQZ	**McQueen's Vall**	**0.16**	**135**	⇓P	G			11 03 18.7	+0.2
MQZ					S	G		11 03 21.4	+0.8
MQZ					A	ML	AML	11 03 21.5	
OXZ	**Oxford**	**0.43**	**308**	⇓P	G			11 03 23.3	-0.3
OXZ					A	ML	AML	11 03 30.7	
OXZ					A	ML	AML	11 03 30.8	
OXZ					A	ML	AML	11 03 31.1	
OXZ					A	ML	AML	11 03 31.1	
LTZ	**Lake Taylor**	**0.83**	**348**	⇑P*			Pg	11 03 31.3	+0.1
LTZ				S*			Sg	11 03 42.6	+0.6
RPZ	**Rata Peaks**	**1.06**	**263**	⇓P*			Pg	11 03 35.2	-0.4
RPZ				S*			Sb	11 03 50.5	+0.2
RPZ					A	ML	AML	11 03 58.5	
INZ	**Inchbonnie**	**1.16**	**318**	P*			Pg	11 03 37.3	-0.3
WVZ	**Waitaha Valley**	**1.39**	**291**	*e*P	N		Pn	11 03 40.0	-1.3
WVZ					A	ML	AML	11 04 16.6	
KHZ	**Kahutara**	**1.40**	**33**	⇓P	N		Pn	11 03 39.6	-1.9
LBZ	**Lake Benmore**	**1.85**	**244**	P	N		Pn	11 03 46.7	-1.0
LBZ					A	ML	AML	11 04 16.7	
LBZ					A	ML	AML	11 04 25.5	
THZ	**Tophouse**	**1.85**	**9**	P	N		Pn	11 03 46.2	-1.6
THZ					A	ML	AML	11 04 19.8	
THZ					A	ML	AML	11 04 25.8	
DSZ	**Denniston Nort**	**1.92**	**344**	P	N		Pn	11 03 47.8	-0.9
DSZ					A	ML	AML	11 04 13.4	
FOZ	**Fox Glacier**	**1.95**	**271**	P	N		Pn	11 03 49.2	+0.1
ODZ	**Otahua Downs**	**1.97**	**222**	P	N		Pn	11 03 48.0	-1.4
ODZ					A	ML	AML	11 04 26.9	
ODZ					A	ML	AML	11 04 26.9	
ODZ					A	ML	AML	11 04 27.2	
ODZ					A	ML	AML	11 04 27.3	
NNZ	**Nelson**	**2.46**	**16**	P	N		Pn	11 03 54.8	-1.3
NNZ					A	ML	AML	11 06 26.2	
JCZ	**Jackson Bay**	**2.73**	**259**	P	N		Pn	11 03 59.6	-0.3
QRZ	**Quartz Range**	**2.77**	**0**	P	N		Pn	11 03 58.4	-1.9
QRZ					A	ML	AML	11 04 51.8	
QRZ					A	ML	AML	11 04 58.5	
EAZ	**Earnscleugh**	**2.81**	**233**	P	N		Pn	11 03 59.5	-1.5
EAZ					A	ML	AML	11 04 48.2	
TUZ	**Tuapeka**	**3.12**	**220**	P	N		Pn	11 04 04.0	-1.2
TUZ					A	ML	AML	11 05 01.5	
TUZ					A	ML	AML	11 05 08.4	
CAW	**Cannon Point**	**3.13**	**38**	P	N		Pn	11 04 02.7	-2.6
MRZ	**Mangatainoka R**	**3.72**	**39**	P	N		Pn	11 04 10.5	-2.9

*ISK **05** 11:03:59.5,40°.57N×37°.36E,h4km,MD2.6*
*ISCJB **05** 11:04:01.1±0.7,40°.55N±0°.03×37°.23E±0°.04,h5km±6km, Error ellipse: s-maj=5.4km s-min=5.0km az=138.3*

*CSEM **05** 11:04:01.4±0.2,40°.52N×37°.25E,h10km,MD2.6,Error ellipse: s-maj=4.1km s-min=4.1km az=52.0*
*DDA **05** 11:04:01.6,40°.51N×37°.25E,h7km,Md2.8*
ISC 05 11:04:01.3±1.1,40°.53N±0°.03×37°.25E±0°.03,h5km±9km, n29,σ0°66/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.15**	**157**	*e*P	G		**Pg**	**11 04 03.7**	**-0.6**
RSDY				*e*S	G		**Sg**	**11 04 06.7**	**+0.5**
RSDY	**Resadiye-TOKAT**	**0.15**	**157**	*e*P	g		**Pg**	**11 04 03.7**	**-0.6**
RSDY				*e*S	g		**Sg**	**11 04 06.7**	**+0.5**
SVSK	**Karacayir**	**0.64**	**198**	*e*P	G		**Pg**	**11 04 13.4**	**-0.3**
SVSK				*e*S	G		**Sb**	**11 04 24.2**	**0.0**
SVSK	**Karacayir**	**0.64**	**198**	*e*P	g		**Pg**	**11 04 13.4**	**-0.3**
SVSK				*e*S	g		**Sb**	**11 04 24.2**	**0.0**
ORDU	**Ordu-Boztepe**	**0.65**	**45**	*i* P			**Pb**	**11 04 14.7**	**-0.5**
ORDU				*i* S			**Sb**	**11 04 25.2**	**+0.7**
ORDU	**Ordu-Boztepe**	**0.65**	**45**	P			**Pb**	**11 04 14.7**	**-0.5**
ORDU				S			**Sb**	**11 04 25.2**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.76**	**148**	*i* P			**Pg**	**11 04 15.5**	**-0.3**
CUZAR				*i* S			**Sb**	**11 04 27.0**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.76**	**148**	P			**Pg**	**11 04 15.5**	**-0.3**
CUZAR				S			**Sb**	**11 04 27.0**	**-0.6**
SUSE	**Susehri**	**0.79**	**114**	*i* P			**Pg**	**11 04 16.2**	**-0.4**
SUSE				*i* S			**Sb**	**11 04 28.4**	**-0.4**
SUSE	**Susehri**	**0.79**	**114**	P			**Pg**	**11 04 16.2**	**-0.4**
SUSE				S			**Sb**	**11 04 28.4**	**-0.4**
GRSN	**GIRESUNGRSN**	**0.87**	**63**	*i* P			**Pg**	**11 04 18.2**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.87**	**63**	P			**Pg**	**11 04 18.2**	**+0.3**
KVT	**Kavak**	**1.07**	**301**	*e*PN			**Pg**	**11 04 21.4**	**-0.4**
KVT				*e*SN			**Sn**	**11 04 37.5**	**-0.7**
KVT	**Kavak**	**1.07**	**301**	*e*Pn			**Pg**	**11 04 21.4**	**-0.4**
KVT				*e*Sn			**Sn**	**11 04 37.5**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.23**	**172**	*i* P			**Pg**	**11 04 24.4**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.23**	**172**	P			**Pg**	**11 04 24.4**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.35**	**215**	*i* P			**Pn**	**11 04 26.6**	**-0.4**
CUSAR				*i* S			**Sn**	**11 04 46.8**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.35**	**215**	P			**Pn**	**11 04 26.6**	**-0.4**
CUSAR				S			**Sn**	**11 04 46.8**	**+1.4**
KELT	**Kelkit**	**1.58**	**103**	*i* P			**Pn**	**11 04 29.6**	**-0.5**
KELT				*i* S			**Sn**	**11 04 50.7**	**-0.3**
KELT	**Kelkit**	**1.58**	**103**	P			**Pn**	**11 04 29.6**	**-0.5**
KELT				S			**Sn**	**11 04 50.7**	**-0.3**
KEMA	**Kemaliye**	**1.58**	**142**	*i* P			**Pn**	**11 04 29.9**	**-0.1**
KEMA				*i* S			**Sg**	**11 04 54.0**	**+1.9**
KEMA	**Kemaliye**	**1.58**	**142**	P			**Pn**	**11 04 30.0**	**-0.1**
KEMA				S			**Sg**	**11 04 54.0**	**+1.9**
DARE	**Darende-Malaty**	**1.97**	**175**	*e*PN			**Pn**	**11 04 35.0**	**-0.3**
DARE	**Darende-Malaty**	**1.97**	**175**	*e*Pn			**Pn**	**11 04 35.0**	**-0.3**
CORM	**Corum**	**2.03**	**261**	*e*PN			**Pn**	**11 04 36.7**	**+0.4**
CORM	**Corum**	**2.03**	**261**	*e*Pn			**Pn**	**11 04 36.7**	**+0.4**
SNOP	**Sinop**	**2.14**	**315**	*e*PN			**Pn**	**11 04 37.4**	**-0.3**
SNOP	**Sinop**	**2.14**	**315**	*e*Pn			**Pn**	**11 04 37.4**	**-0.3**
SARI	**SarD1z-Kayseri**	**2.22**	**197**	*e*PN			**Pn**	**11 04 38.9**	**0.0**

*IDC **05** 11:42:00.9±1.1,52°.04N×172°.21W,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.8/43,mbtmp3.7/10,ML3.4/2,MS3.1/7, Ms1 3.1/7,ms1mx2.9/42,Error ellipse: s-maj=32.9km s-min=20.3km az=168.0*
*ISCJB **05** 11:42:03.6±0.6,52°.1N±0°.1×172°.33W±0°.05,h32km, mb4.0/12,MS3.1/6,Error ellipse: s-maj=15.4km s-min=3.4km az=170.2*
*NEIC **05** 11:42:03.4±0.0,52°.05N×172°.33W,h33km,mb4.2/6, ML3.8(AEIC),After AEIC.*
ISC 05 11:42:04.9±0.8,52°.1N±0°.1×172°.35W±0°.04,h32km,n46, σ1°30/39,mb4.1/12,MS3.1/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.08**	**285**	P			**Pn**	**11 42 22.9**	**-1.0**
KOSE				S			**Sn**	**11 42 36.8**	**-0.9**
KOFP	**Korovin Flat P**	**1.09**	**281**	P			**Pn**	**11 42 23.0**	**-1.1**
KONE	**Korovin Northe**	**1.13**	**287**	P			**Pn**	**11 42 23.9**	**-0.7**
ATKA	**Atka Island**	**1.15**	**277**	P			**Pn**	**11 42 22.8**	**-1.8**
ATKA				S			**Sn**	**11 42 37.6**	**-1.7**
KOKL	**Mount Kliuchef**	**1.17**	**283**	P			**Pn**	**11 42 24.1**	**-1.0**
NIKH	**Nikolski High**	**2.31**	**66**	P			**Pn**	**11 42 39.3**	**-1.5**
NIKH				S			**Sn**	**11 43 06.8**	**-1.3**
GSTD	**Great Sitkin T**	**2.34**	**271**	P			**Pn**	**11 42 40.9**	**-0.4**
GSTD				S			**Sn**	**11 43 09.7**	**+0.7**
GSCK	**Great Sitkin C**	**2.36**	**270**	P			**Pn**	**11 42 41.6**	**+0.3**
ETKA	**Kagalaska Isla**	**2.52**	**267**	P			**Pn**	**11 42 42.1**	**-1.5**
ADAG	**Mount Adagdak**	**2.63**	**269**	P			**Pn**	**11 42 45.2**	**+0.1**
ADK	**Adak**	**2.69**	**267**	P			**Pn**	**11 42 45.7**	**-0.2**
OKSP	**Okmok Steeple**	**2.73**	**63**	P			**Pn**	**11 42 46.3**	**-0.3**
OKCE	**Okmok Cone E**	**2.88**	**60**	P			**Pn**	**11 42 49.6**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**2.92**	**62**	P			**Pn**	**11 42 49.6**	**+0.5**
TASE	**Tanaga Southea**	**3.53**	**268**	P			**Pn**	**11 42 57.7**	**+0.2**
MSW	**Makushin Switc**	**3.83**	**59**	P			**Pn**	**11 43 02.3**	**+0.7**
UNV	**Unalaska Valle**	**3.95**	**61**	P			**Pn**	**11 43 03.3**	**+0.1**
SPIA	**Saint Paul Isl**	**5.25**	**13**	P			**Pn**	**11 43 21.3**	**+0.3**
KDAK	**Kodiak Island**	**12.69**	**56**	Pn			**Pn**	**11 45 01.7**	**-1.3**
	0.2nm,0.3s,baz=230,slow=11,SNR=4.1								
KDAK				LR			LR	11 49 48.1	
	comp=Z,124nm,21.7s,baz=249,slow=37								
PETK	**Petropavlovsk-**	**18.17**	**285**	P			**Pn**	**11 46 17.1**	**+2.6**
	0.1nm,0.3s,baz=82,slow=13,SNR=4.2								
ILAR	**Eielson Array**	**18.24**	**36**	P			**Pn**	**11 46 15.2**	**-0.1**
	0.2nm,0.3s,baz=219,slow=8.3,SNR=14								
EGAK	**Eagle**	**20.42**	**40**	*e*P			**P**	**11 46 36.9**	**-2.1**
	2.9nm,0.6s								
SEY	**Seymchan**	**21.54**	**314**	P			**P**	**11 46 53.0**	**+2.1**
	1.5nm,0.7s,baz=138,slow=14,SNR=5.1								
DLBC	**Dease Lake**	**24.60**	**58**	P			**P**	**11 47 23.5**	**+1.6**
	3.8nm,0.8s,baz=267,slow=5.1,SNR=11								
DLBC	**Dease Lake**	**24.60**	**58**	*e*P			**P**	**11 47 24.4**	**+2.5**
	4.4nm,0.8s								
INK	**Inuvik**	**24.60**	**34**	P			**P**	**11 47 20.3**	**-1.5**
	1.0nm,0.4s,baz=236,slow=4.4,SNR=11								
YKA	**Yellowknife Ar**	**31.80**	**48**	P			**P**	**11 48 26.5**	**+0.5**
	0.3nm,0.6s,baz=275,slow=8.1,SNR=5.8								
YKA				LR			LR	12 01 30.2	
	comp=Z,7.2nm,18.3s,baz=0.0,slow=37								
EDM	**Edmonton**	**34.93**	**64**	*e*P			**P**	**11 48 53.9**	**+0.4**
	6.9nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**36.13**	**214**	T			T	12 27 21.7	
	baz=20,slow=76,SNR=184								
H11N3	**WAKE ISLAND Hy**	**36.14**	**214**	T			T	12 27 20.9	
	baz=20,slow=76,SNR=168								
H11N1	**WAKE ISLAND Hy**	**36.15**	**214**	T			T	12 27 23.3	
	baz=20,slow=76,SNR=136								
H11S1	**WAKE ISLAND Hy**	**37.33**	**214**	T			T	12 28 50.1	
	baz=20,slow=76,SNR=106								
H11S2	**WAKE ISLAND Hy**	**37.34**	**214**	T			T	12 28 46.5	
	baz=20,slow=76,SNR=115								
H11S3	**WAKE ISLAND Hy**	**37.35**	**214**	T			T	12 28 52.6	
	baz=20,slow=76,SNR=83								
MJAR	**Matsushiro Arr**	**37.85**	**266**	LR			LR	12 03 07.1	
	comp=Z,31nm,21.7s,baz=335,slow=33								
BOZ	**Bozeman (W)**	**39.44**	**75**	*e*P			**P**	**11 49 28.7**	**-3.3**
	8.3nm,1.4s								
BW06	**Boulder Array**	**42.26**	**77**	*e*P			**P**	**11 49 55.4**	**+0.1**
	1.3nm,0.5s								
PDAR	**Pinedale Array**	**42.26**	**77**	P			**P**	**11 49 56.1**	**+0.9**
	1.9nm,0.5s,baz=297,slow=3.1,SNR=26								
KSRS	**Korea Array**	**43.61**	**275**

ellipse: s-maj=4.2km s-min=1.7km az=9.5
*IPEC **05** 11:46:12.9±0.2,50°.31N×18°.79E,h1km,2km,ML2.5/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*WAR **05** 11:46:13.7,50°.27N×18°.83E,h1km,Mw3.0*
*PRU **05** 11:46:14.0,50°.22N×18°.74E,h0km*

ISC 05 11:46:10.6±0.8,50°.38N±0°.03×18°.90E±0°.02,h0km,n70, σ1§64/121,3C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**105**	*e*Pg	**Pn**	**11 46 25.5**	**-0.9**
OJC				*e*Sg	**Sn**	**11 46 35.6**	**-1.2**
OJC	**Ojcow**	**0.60**	**105**	*e*Pg	**Pn**	**11 46 25.5**	**-0.9**
OJC				*e*Sg	**Sn**	**11 46 35.6**	**-1.2**
OJC	**Ojcow**	**0.60**	**105**	*e*Pg	**Pn**	**11 46 25.5**	**-0.9**
OJC				*e*Sg	**Sn**	**11 46 35.6**	**-1.2**
OKC	**Ostrava-Krasne**	**0.73**	**222**	‖*e*PG	**Pb**	**11 46 25.5**	**-0.7**
OKC				*e*SG	**Sg**	**11 46 34.2**	**+0.2**
	comp=Z,86nm,0.5s						
OKC	**Ostrava-Krasne**	**0.73**	**222**	Pg	**Pb**	**11 46 25.5**	**-0.7**
MORC	**Moravsky Berou**	**1.06**	**236**	‖*i*P	**Pg**	**11 46 31.2**	**+0.3**
MORC				S	**Sg**	**11 46 44.3**	**-0.4**
MORC	**Moravsky Berou**	**1.06**	**236**	*e*Pg	**Pg**	**11 46 31.3**	**+0.3**
	baz=56						
MORC				*e*Sg	**Sg**	**11 46 43.1**	**-1.6**
	70nm,0.2s,baz=56						
LANS	**Liptovska Anna**	**1.28**	**163**	*e*Pg	**Pn**	**11 46 36.4**	**+0.6**
LANS				*e*Sg	**Sb**	**11 46 53.2**	**+0.5**
LANS	**Liptovska Anna**	**1.28**	**163**	*e*PG	**Pn**	**11 46 36.4**	**+0.6**
LANS				*e*SG	**Sb**	**11 46 53.2**	**+0.5**
NIE	**Niedzica**	**1.32**	**136**	*e*Pg	**Pn**	**11 46 37.6**	**+1.3**
NIE				*e*Sg	**Sn**	**11 46 56.5**	**+1.9**
NIE	**Niedzica**	**1.32**	**136**	*e*Pg	**Pn**	**11 46 37.6**	**+1.3**
NIE				*e*Sg	**Sn**	**11 46 56.5**	**+1.9**
NIE	**Niedzica**	**1.32**	**136**	*e*Pg	**Pn**	**11 46 37.6**	**+1.3**
NIE				*e*Sg	**Sn**	**11 46 56.5**	**+1.9**
KRLC	**Kraliky**	**1.40**	**258**	*e*PG	**Pb**	**11 46 37.7**	**+0.1**
KRLC				*e*SG	**Sg**	**11 46 54.2**	**-1.2**
KRLC	**Kraliky**	**1.40**	**258**	Pg	**Pb**	**11 46 37.7**	**+0.1**
KRLC				Sg	**Sg**	**11 46 54.2**	**-1.2**
DPC	**Dobruska-Polom**	**1.65**	**270**	*e*PG	**Pb**	**11 46 42.2**	**+0.2**
DPC				*e*SG	**Sn**	**11 47 03.2**	**+0.3**
	comp=Z,43nm,0.4s						
DPC	**Dobruska-Polom**	**1.65**	**270**	Pg	**Pb**	**11 46 42.2**	**+0.2**
DPC				Sg	**Sn**	**11 47 03.2**	**+0.3**
	43nm,0.4s						
KSP	**Ksiaz**	**1.73**	**287**	*e*Pg	**Pg**	**11 46 45.4**	**+1.7**
KSP				*e*Sg	**Sg**	**11 47 08.0**	**+1.9**
KSP	**Ksiaz**	**1.73**	**287**	*e*Pg	**Pg**	**11 46 45.4**	**+1.7**
KSP				*e*Sg	**Sg**	**11 47 08.1**	**+2.0**
KSP	**Ksiaz**	**1.73**	**287**	*e*Pg	**Pg**	**11 46 45.4**	**+1.7**
KSP				*e*Sg	**Sg**	**11 47 08.1**	**+2.0**
STHS	**Stebnicka Huta**	**1.79**	**122**	*e*Pg	**Pg**	**11 46 47.0**	**+2.0**
STHS				*e*Sg	**Sg**	**11 47 12.5**	**+4.3**
STHS	**Stebnicka Huta**	**1.79**	**122**	*e*PG	**Pg**	**11 46 47.0**	**+2.0**
STHS				*e*SG	**Sg**	**11 47 12.4**	**+4.3**
STHS	**Stebnicka Huta**	**1.79**	**122**	*e*SG	**Sg**	**11 47 12.5**	**+4.3**
STHS				*e*LG	Lg	11 47 16.1	
VRAC	**Vranov**	**1.84**	**235**	*e*Pn	**Pn**	**11 46 44.3**	**+0.8**
	baz=54						
VRAC				*e*Sg	**Sn**	**11 47 07.4**	**0.0**
	58nm,0.2s,baz=54						
UPC	**Upice**	**1.85**	**275**	‖*e*PG	**Pg**	**11 46 45.9**	**-0.2**
UPC				*e*SG	**Sg**	**11 47 10.7**	**+0.6**
	comp=Z,17nm,0.3s						
UPC	**Upice**	**1.85**	**275**	Pg	**Pg**	**11 46 45.9**	**-0.2**
UPC				Sg	**Sg**	**11 47 10.7**	**+0.6**
	17nm,0.3s						
VYHS	**Vyhne**	**1.89**	**181**	*e*Pg	**Pn**	**11 46 44.4**	**+0.3**
VYHS				*e*Sg	**Sn**	**11 47 07.2**	**-1.4**
VYHS	**Vyhne**	**1.89**	**181**	*e*SN	**Sn**	**11 47 06.8**	**-1.8**
VYHS				*e*LG	Lg	11 47 12.3	
VYHS	**Vyhne**	**1.89**	**181**	*e*PG	**Pn**	**11 46 44.4**	**+0.3**
VYHS				*e*SG	**Sn**	**11 47 07.2**	**-1.4**
VYHS				*e*LG	Lg	11 47 11.7	
KRUC	**Moravsky**	**2.09**	**232**	*e*Pn	**Pn**	**11 46 47.7**	**+0.8**
	baz=50						
KRUC				*e*Sg	**Sb**	**11 47 15.3**	**-0.7**
	31nm,0.4s,baz=50						
KECS	**Kecovo**	**2.16**	**151**	*e*Pn	**Pn**	**11 46 48.2**	**+0.4**
KECS				*e*Sn	**Sn**	**11 47 13.8**	**-1.5**
KECS	**Kecovo**	**2.16**	**151**	*e*PN	**Pn**	**11 46 48.2**	**+0.4**
KECS				*e*SN	**Sn**	**11 47 13.8**	**-1.5**
KECS				*e*LG	Lg	11 47 23.7	
KECS	**Kecovo**	**2.16**	**151**	*e*Pn	**Pn**	**11 46 48.2**	**+0.4**
KECS				*e*SN	**Sn**	**11 47 13.8**	**-1.5**
KECS				*e*LG	Lg	11 47 23.6	
CRVS	**Cervenica-Dubn**	**2.22**	**131**	*e*Pg	**Pg**	**11 46 54.4**	**+1.2**
CRVS	**Cervenica-Dubn**	**2.22**	**131**	*e*PG	**Pg**	**11 46 54.4**	**+1.2**
CRVS	**Cervenica-Dubn**	**2.22**	**131**	*e*PG	**Pg**	**11 46 54.4**	**+1.2**
TREC	**Trest**	**2.46**	**245**	‖*e*SG	**Sb**	**11 47 26.0**	**-0.6**
	comp=Z,20nm,0.2s						
TREC	**Trest**	**2.46**	**245**	Sg	**Sb**	**11 47 26.0**	**-0.6**
	20nm,0.2s						
PSZ	**Piszkesteto**	**2.55**	**165**	⇑*i*P	**Pn**	**11 46 52.3**	**-0.9**
GOPC	**GO Pecny, Ondr**	**2.69**	**262**	*e*PG	**Pg**	**11 47 02.0**	**-0.1**
GOPC				*e*SN	**Sn**	**11 47 27.3**	**-1.1**
GOPC				*e*SG	**Sb**	**11 47 33.6**	**+0.5**
	comp=Z,14nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.69**	**262**	Pg	**Pg**	**11 47 02.0**	**-0.1**
GOPC				Sn	**Sn**	**11 47 27.3**	**-1.1**
GOPC				Sg	**Sb**	**11 47 33.6**	**+0.5**
	14nm,0.3s						
PVCC	**Panska Ves**	**2.77**	**275**	‖*e*SG	**Sg**	**11 47 39.1**	**-0.6**
	comp=Z,26nm,0.3s						
PVCC	**Panska Ves**	**2.77**	**275**	Sg	**Sg**	**11 47 39.1**	**-0.6**
	26nm,0.3s						
ONO	**Onokovtsy**	**2.82**	**126**	*e*Pn	**Pb**	**11 47 01.2**	**-0.6**
ONO				*e*Sn	**Sb**	**11 47 36.9**	**+0.1**
UZH	**Uzhgorod**	**2.82**	**127**	*e*Pn	**Pb**	**11 47 01.2**	**-0.6**
UZH				Pnm		11 47 03.6	
UZH				*e*Sn	**Sb**	**11 47 36.8**	**0.0**
UZH				Snm		11 47 40.4	
PRU	**Pruhonice**	**2.83**	**264**	‖*e*PG	**Pg**	**11 47 05.1**	**+0.3**
PRU				*e*SN	**Sn**	**11 47 31.0**	**-0.8**
PRU				*e*SG	**Sb**	**11 47 38.5**	**+1.3**
	comp=Z,10nm,0.3s						
PRU	**Pruhonice**	**2.83**	**264**	Pg	**Pg**	**11 47 05.1**	**+0.3**
PRU				Sn	**Sn**	**11 47 31.0**	**-0.8**
PRU				Sg	**Sb**	**11 47 38.5**	**+1.3**
	10nm,0.3s						
MUKU	**Mukachevo**	**3.13**	**126**	*e*Pn	**Pb**	**11 47 05.8**	**-1.3**
MUKU				Pnm		11 47 15.4	
MUKU				*e*Sn	**Sb**	**11 47 45.4**	**-0.4**
MUKU				Snm		11 47 53.4	
MUKU				Snm		11 47 53.4	
CONA	**Conrad Observa**	**3.16**	**220**	*i* Pn	**Pn**	**11 47 03.4**	**+1.7**
	0.3nm,0.1s						
CONA				Sg	**Sg**	**11 47 54.3**	**+2.2**
	7.0nm,0.3s						
CONA	**Conrad Observa**	**3.16**	**220**	Pn	**Pn**	**11 47 03.4**	**+1.7**
	0.3nm,0.1s						
BRG	**Berggiesshubel**	**3.20**	**281**	PG	**Pg**	**11 47 11.8**	**-0.1**
BRG				SG	**Sg**	**11 47 51.8**	**-1.5**
	13nm,0.3s						
BERU	**Beregovo**	**3.26**	**130**	*e*Pn	**Pb**	**11 47 07.6**	**-1.6**
BERU				*e*Sn	**Sb**	**11 47 48.8**	**-0.6**
LVV	**L'vov**	**3.35**	**98**	*e*Pn	**Pb**	**11 47 10.5**	**-0.3**
LVV				Pnm		11 47 13.3	
LVV				*e*Sn	**Sb**	**11 47 52.5**	**+0.4**
LVV				Snm		11 47 58.1	
BRIU	**Brid**	**3.38**	**126**	*e*Pn	**Pb**	**11 47 09.6**	**-1.7**
BRIU				Pnm		11 47 09.8	
BRIU				*e*Sn	**Sb**	**11 47 51.6**	**-1.3**
BRIU				Snm		11 47 55.8	
MORS	**Morshin**	**3.47**	**109**	*e*Pn	**Pb**	**11 47 12.3**	**-0.6**
MORS				*i* Sn	**Sb**	**11 47 56.1**	**+0.6**
KORU	**Korolevo**	**3.55**	**127**	*e*Pn	**Pb**	**11 47 12.7**	**-1.6**
KORU				Pnm		11 47 14.5	
KORU				*e*Sn	**Sb**	**11 47 56.7**	**-1.2**
KORU				Snm		11 47 57.7	
KHC	**Kasperske Hory**	**3.67**	**252**	*e*PG	**Pg**	**11 47 19.6**	**-1.4**
KHC				*ex*	x	11 48 01.6	
KHC				*e*SG	**Sb**	**11 48 04.4**	**+3.0**
	comp=Z,19nm,0.4s						
KHC	**Kasperske Hory**	**3.67**	**252**	Pg	**Pg**	**11 47 19.6**	**-1.4**
KHC				Sg	**Sb**	**11 48 04.4**	**+3.0**
	19nm,0.4s						
ARSA	**Arzberg**	**3.84**	**217**	*e*Sg	**Sg**	**11 48 14.9**	**+0.8**
	0.3nm,0.1s						
ARSA	**Arzberg**	**3.84**	**217**	Sg	**Sg**	**11 48 14.9**	**+0.8**
	0.3nm,0.1s						
CLL	**Collm**	**3.85**	**286**	*e*Sg	**Sg**	**11 48 19.0**	**+4.6**
	comp=Z,72nm,2.1s						
NKC	**Novy Kostel**	**4.14**	**270**	*e*SG	**Sg**	**11 48 21.8**	**-1.8**
	comp=Z,11nm,0.4s						
NKC	**Novy Kostel**	**4.14**	**270**	Sg	**Sg**	**11 48 21.8**	**-1.8**
	comp=Z,11nm,0.4s						
NSLU	**Nyzhne Selyshc**	**4.24**	**119**	*e*Pn	**Pn**	**11 47 14.4**	**-2.0**
NSLU				Pnm		11 47 15.8	
NSLU				*e*Sn	**Sn**	**11 48 00.6**	**-6.0**
NSLU				Snm		11 48 09.6	
DRGR		**4.39**	**143**	⇑*i*P	**Pn**	**11 47 20.2**	**+1.6**
DRGR		**4.39**	**143**	S	**Sn**	**11 48 09.2**	**-1.2**
KBA	**Koelnbreinsper**	**4.94**	**230**	*e*Sg	**Sg**	**11 48 50.2**	**+0.9**
	comp=Z,1.0nm,0.2s						
KBA	**Koelnbreinsper**	**4.94**	**230**	Sg	**Sg**	**11 48 50.2**	**+0.9**
	comp=Z,1.0nm,0.2s						
BURAR	**Bucovina Array**	**4.99**	**121**	⇑*i*P	**Pn**	**11 47 29.1**	**+2.2**
HORU	**Horodok**	**5.01**	**101**	*e*Pn	**Pb**	**11 47 34.8**	**-4.3**
HORU				*e*Sn	**Sb**	**11 48 37.4**	**-2.5**
NDNU	**Novodnistrovsk**	**5.80**	**105**	*e*Pn	Pb	11 47 46.5	-6.0
NDNU				Pnm		11 47 52.9	
NDNU				*e*Sn	**Sb**	**11 48 58.1**	**-4.4**
NDNU				Snm		11 49 01.7	

IDC 05 11:56:44.2±8.7,17°.39S×174°.29W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/40,mbtmp3.7/3,Error ellipse: s-maj=386.1km s-min=37.0km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.59**	**259**	P	P	12 05 28.7	-1.2
	0.3nm,0.6s,baz=96,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**48.71**	**254**	P	P	12 05 31.5	+0.6
	1.3nm,0.5s,baz=87,slow=8.0,SNR=42						
ILAR	**Eielson Array**	**84.55**	**11**	P	P	12 09 19.0	+0.1
	0.3nm,0.6s,baz=211,slow=5.2,SNR=6.9						

IDC 05 12:02:46.8±2.6,2°.88N×66°.80E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.5/49,mbtmp3.8/3,MS3.4/4,Ms1 3.4/4, ms1mx3.0/38,Error ellipse: s-maj=103.4km s-min=34.9km az=59.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**10.06**	**155**	T	T	12 15 53.3	
	baz=333,slow=76,SNR=146						
H08N3	**Diego Garcia H**	**10.08**	**155**	T	T	12 15 50.1	
	baz=333,slow=76,SNR=159						
H08N1	**Diego Carcia H**	**10.08**	**155**	T	T	12 15 51.9	
	baz=333,slow=76,SNR=169						
PALK	**Pallekele**	**14.52**	**72**	LR	LR	12 10 53.8	
	comp=Z,120nm,18.7s,baz=296,slow=34						
PSI	**Prapat**	**32.09**	**89**	LR	LR	12 21 47.5	
	comp=Z,97nm,19.1s,baz=270,slow=36						
CMAR	**Chiang Mai Arr**	**35.07**	**62**	LR	LR	12 22 01.3	
	comp=Z,48nm,19.8s,baz=233,slow=33						
BOSA	**Boshof**	**50.70**	**229**	LR	LR	12 30 53.8	
	comp=Z,42nm,18.4s,baz=337,slow=33						
ZALV	**Zalesovo Beam**	**53.01**	**13**	P	P	12 12 05.2	-0.1
	1.0nm,0.6s,baz=211,slow=8.2,SNR=3.4						
H01W3	**Cape Leeuwin H**	**58.13**	**135**	T	T	13 15 39.1	
	baz=300,slow=75,SNR=5.8						
H01W2	**Cape Leeuwin H**	**58.13**	**135**	T	T	13 15 40.1	
	baz=300,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**58.15**	**135**	T	T	13 15 41.8	
	baz=300,slow=75,SNR=6.5						
WRA	**Warramunga Arr**	**70.00**	**112**	P	P	12 14 01.0	+0.1
	0.4nm,0.8s,baz=288,slow=5.9,SNR=4.7						
ASAR	**Alice Springs**	**70.35**	**116**	P	P	12 14 03.0	0.0
	0.7nm,1.0s,baz=288,slow=5.9,SNR=5.7						
TXAR	**Lajitas Array**	**146.69**	**345**	PKPbc	PKPdf	12 22 30.6	+0.7
	2.0nm,0.8s,baz=58,slow=3.0,SNR=27						

*NIED **05** 12:03:00,47°.80N×146°.20E,h560km,Mw4.4 Best double couple: M0=4.14000×10^15 NP1:φs=218.00000°, δ35.00000°,λ-46.00000°. NP2:φs=349.00000°,δ66.00000°, λ-116.00000°.*
*JMA **05** 12:03:54.7±0.4,47°.75N×146°.20E,h536km,M4.3*
*MOS **05** 12:03:55.3±1.1,48°.16N×145°.96E,h487km,mb4.2/24, Error ellipse: s-maj=11.3km s-min=6.4km az=96.8*
*ISCJB **05** 12:03:55.3±0.3,48°.03N±0°.03×146°.03E±0°.06, h491km±3km,mb4.0/43,Error ellipse: s-maj=6.6km s-min=4.6km az=11.5*
*SKHL **05** 12:03:55.9±1.2,48°.04N×146°.41E,h509km±5km,mb4.9/8, msh4.7/1*
*IDC **05** 12:03:56.3±0.8,48°.18N×145°.91E,h482km±9km,mb3.4/22, mb1 3.5/29,mb1mx3.4/54,mbtmp4.3/29,Error ellipse: s-maj=11.5km s-min=8.4km az=133.0*

ISC 05 12:03:55.7±0.5,48°.02N±0°.05×145°.97E±0°.06,h485km±5km, n136,σ1§68/177,mb4.1/43,11C-11D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.43**	**245**	⇑*i*PN	**P**	**12 05 04.7**	**+3.0**
YSS				*e*		12 05 54.0	
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS				smax	smax		
	comp=N,390nm,1.0s						
YSS				smax	smax		
	comp=E,290nm,1.0s						
YSS	**Yuzh-Sakhalins**	**2.43**	**245**	*e*P	**P**	**12 05 04.2**	**+2.5**
YSS				AMB	AMB	12 05 06.3	
	comp=E,64nm,0.3s						
YSS				*e*S	**S**	**12 05 57.6**	**+2.1**
YSS				A	A	12 05 58.6	
	comp=E,250nm,0.6s						
YSS				A	A	12 05 58.6	
	comp=E,290nm,0.6s						
UGL	**Uglegorsk**	**2.80**	**294**	α*i*PN	**P**	**12 05 06.2**	**+2.3**
UGL				*e*S	**S**	**12 06 01.3**	**+1.6**
UGL				pmax	pmax		
	comp=Z,250nm,0.7s						
UGL				pmax	pmax		
	comp=Z,500nm,0.8s						
UGL				smax	smax		
	comp=E,190nm,0.7s						
UGL				smax	smax		
	comp=N,670nm,1.0s						
UGL				smax	smax		
	comp=N,1μm,1.2s						
UGL				smax	smax		
	comp=E,2μm,2.4s						
UGL	**Uglegorsk**	**2.80**	**294**	*e*P	**P**	**12 05 06.2**	**+2.3**
UGL				AMB	AMB	12 05 06.9	
	comp=E,270nm,0.5s						
UGL				*e*S	**S**	**12 06 00.9**	**+1.2**
UGL				A	A	12 06 02.6	
	comp=E,600nm,0.9s						
KUR	**Kuril'sk**	**3.08**	**154**	*d*PN	**P**	**12 05 07.4**	**+1.3**
KUR				S	**S**	**12 06 01.9**	**-1.4**
KUR				pmax	pmax		
	comp=Z,178nm,0.5s						
KUR				pmax	pmax		
	comp=N,29nm,0.4s						
KUR				pmax	pmax		
	comp=E,22nm,0.4s						
KUR				smax	smax		
	comp=N,51nm,0.5s						
KUR				smax	smax		
	comp=E,44nm,0.4s						
KUR	**Kuril'sk**	**3.08**	**154**	*e*P	**P**	**12 05 06.2**	**+0.1**
KUR				AMB	AMB	12 05 07.9	
	comp=E,200nm,0.5s						
KUR				*e*S	**S**	**12 05 59.6**	**-3.7**
KUR				A	A	12 06 00.5	
	comp=E,460nm,3.0s						
KUR				A	A	12 06 00.5	
	comp=E,530nm,3.0s						
KUR				A	A	12 06 14.4	
	comp=E,98nm,1.0s						
KUR				A	A	12 06 14.4	
	comp=E,520nm,1.0s						
TYV	**Tymovskoe**	**3.57**	**324**	*e*P	**P**	**12 05 11.0**	**+1.6**
TYV				AMB	AMB	12 05 11.8	
	comp=E,90nm,0.5s						
TYV				*e*S	**S**	**12 06 10.7**	**+0.9**
JSE	**Soyaes**	**3.86**	**219**	P	**P**	**12 05 14.1**	**+2.2**
JWK2	**Keihoku**	**3.90**	**227**	P	**P**	**12 05 15.2**	**+2.9**
JWK2				*e*S	**S**	**12 06 17.5**	**+2.9**
YUK	**Yuzh-Kuril'sk**	**3.99**	**181**	*d*PN	**P**	**12 05 13.7**	**+0.7**
YUK				*i* S	**S**	**12 06 16.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,227nm,0.4s						
YUK				pmax	pmax		
	comp=E,6.0nm,0.1s						
YUK				pmax	pmax		
	comp=N,39nm,0.5s						
YUK				smax	smax		
	comp=E,279nm,0.4s						
YUK				smax	smax		
	comp=N,424nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**181**	*e*P	**P**	**12 05 13.8**	**+0.7**
YUK				AMB	AMB	12 05 14.3	
	comp=N,200nm,0.5s						
YUK				*e*S	**S**	**12 06 15.7**	**-0.3**
YUK				A	A	12 06 21.3	
	comp=N,1μm,0.7s						
JRA	**Rausu**	**4.13**	**189**	P	**P**	**12 05 15.2**	**+1.0**
JRA				*e*S	**S**	**12 06 19.4**	**+1.3**
SHO	**Shikotan**	**4.20**	**171**	*d*PN	**P**	**12 05 13.5**	**-1.3**
SHO				*i* S	**S**	**12 06 16.1**	**-3.1**
SHO				pmax	pmax		
	comp=N,124nm,0.3s						
SHO				pmax	pmax		
	comp=Z,363nm,0.3s						
SHO				pmax	pmax		
	comp=E,83nm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.5s						
SHO				smax	smax		
	comp=N,421nm,0.4s						
SHO	**Shikotan**	**4.20**	**171**	*e*P	**P**	**12 05 13.5**	**-1.3**
SHO				AMB	AMB	12 05 14.1	
	comp=N,100nm,0.2s						
SHO				*e*S	**S**	**12 06 16.2**	**-3.0**
SHO				A	A	12 06 18.2	
	comp=N,700nm,0.8s						
JTKR	**Abashiri--Toko**	**4.30**	**200**	P	**P**	**12 05 17.0**	**+1.3**
JTKR				*e*S	**S**	**12 06 21.9**	**+1.1**
ASAJ	**Asahikawa**	**4.56**	**212**	P	**P**	**12 05 20.2**	**+2.3**
	comp=N,2.8nm,0.3s,baz=321,slow=5.2,SNR=29						
ASAJ				S	**S**	**12 06 25.9**	**+1.0**
	comp=N,1.0nm,0.3s,baz=241,slow=19,SNR=2.8						
NEM2	**Nemuro 2**	**4.66**	**182**	P	**P**	**12 05 17.6**	**-1.2**
NEM2				*e*S	**S**	**12 06 23.0**	**-3.6**
JAR	**Ashorobuto**	**4.97**	**199**	P	**P**	**12 05 22.5**	**+0.8**
JAR				*e*S	**S**	**12 06 31.5**	**-0.3**
JAK	**Akkeshi**	**5.11**	**191**	P	**P**	**12 05 22.3**	**-0.6**
JAK				*e*S	**S**	**12 06 30.9**	**-3.1**
JHR	**Hokuryu**	**5.21**	**216**	P	**P**	**12 05 26.1**	**+2.3**
JFR	**Furan**	**5.41**	**207**	P	**P**	**12 05 27.5**	**+1.8**
JCH	**Churui**	**5.71**	**200**	P	**P**	**12 05 28.1**	**-0.5**
JCH				*e*S	**S**	**12 06 39.9**	**-4.6**
JEW	**Eniwo**	**6.08**	**213**	*e*S	**S**	**12 06 50.8**	**-0.3**
NKL	**Nikolayevsk**	**6.14**	**329**	*e*PN	**P**	**12 05 34.0**	**+1.6**
NKL				pmax	pmax		
	comp=E,60nm,0.8s						
NKL				pmax	pmax		
	comp=Z,100nm,0.8s						
JNBK	**Urakawa-nobuka**	**6.18**	**203**	P	**P**	**12 05 32.8**	**-0.4**
JNBK				*e*S	**S**	**12 06 48.9**	**-3.9**
ERM	**Erimo**	**6.33**	**199**	*ce*PN	**P**	**12 05 35.9**	**+1.2**
ERM	**Erimo**	**6.33**	**199**	*e*P	**P**	**12 05 35.9**	**+1.2**
JKB	**Kayabe**	**7.06**	**212**	P	**P**	**12 05 41.8**	**-0.2**
JKB				*e*S	**S**	**12 07 05.4**	**-3.7**
HABR	**Khabarovsk**	**7.31**	**278**	*e*PN	**P**	**12 05 43.3**	**-1.0**
HABR				*e*S	**S**	**12 07 11.9**	**-1.6**
HABR				pmax	pmax		
	comp=E,49nm,1.1s						
HABR				pmax	pmax		
	comp=Z,93nm,1.1s						
HABR				pmax	pmax		
	comp=N,8.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,13nm,11.0s						
JOT	**Ohata**	**7.51**	**210**	P	**P**	**12 05 46.7**	**+0.1**
JOT				*e*S	**S**	**12 07 14.5**	**-3.1**
JOSM	**Okushiri--Mats**	**7.51**	**220**	P	**P**	**12 05 46.9**	**+0.3**
JANG	**Nango**	**8.29**	**204**	P	**P**	**12 05 55.1**	**+0.3**
JANG				*e*S	**S**	**12 07 29.1**	**-3.5**
PETK	**Petropavlovsk-**	**9.03**	**51**	P	**P**	**12 06 03.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=240,slow=8.3,SNR=30						
JOM	**Ohasama**	**9.19**	**203**	P	**P**	**12 06 06.6**	**+2.3**
JOM				*e*S	**S**	**12 07 49.4**	**-0.6**
JMK	**Ichinoseki**	**9.70**	**203**	*e*S	**S**	**12 08 01.8**	**+1.8**
JYK	**Kaneyama**	**9.97**	**206**	P	**P**	**12 06 14.7**	**+2.1**
JYK				*e*S	**S**	**12 08 06.6**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.43**	**254**	P	**P**	**12 06 18.1**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=64,slow=11,SNR=37						
VLA	**Vladivostok**	**11.02**	**249**	*d*PN	**P**	**12 06 24.7**	**+1.0**
VLA				*i* S	**S**	**12 08 22.6**	**-3.1**
VLA				pmax	pmax		
	comp=Z,23nm,0.6s						
MSHR	**Mys Shultsa**	**11.76**	**248**	⇑*e*PN	**P**	**12 06 33.4**	**+1.8**
MDJ	**Mudanjiang**	**11.82**	**259**	P	**P**	**12 06 31.9**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,43nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,53nm,4.1s						
MA2	**Magadan**	**11.91**	**12**	P	**P**	**12 06 33.5**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=194,slow=9.0,SNR=31						
MAJO	**Matsushiro**	**12.82**	**209**	⇑*e*PN	**P**	**12 06 45.4**	**+2.3**
MAJO	**Matsushiro**	**12.82**	**209**	*e*P	**P**	**12 06 45.4**	**+2.3**
MAT	**Matsushiro**	**12.82**	**209**	P	**P**	**12 06 44.2**	**+1.1**
MAT				*e*S	**S**	**12 08 52.4**	**-8.8**
MJAR	**Matsushiro Arr**	**12.82**	**209**	P	**P**	**12 06 45.6**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=15,slow=12,SNR=11						
CN2	**Changchun**	**14.89**	**261**	*e*P	**P**	**12 07 03.8**	**-1.0**
CN2				pmax	pmax		
	comp=Z,30nm,0.5s						
SEY	**Seymchan**	**15.37**	**11**	P	**P**	**12 07 10.0**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=184,slow=8.9,SNR=101						
YAK	**Yakutsk**	**16.78**	**333**	*e*P	**P**	**12 07 20.9**	**-3.5**
YAK				*

AAK Ala-Archa 48.88 292 P **P 12 11 56.6 +0.4**
comp=Z,3.3nm,0.7s,baz=81,slow=6.1,SNR=9.1
AAK Ala-Archa 48.88 292*d* iP **P 12 11 56.8 +0.5**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 48.88 292 *e*P **P 12 11 56.8 +0.5**
TAPN Taplejung 49.24 267 *e*P **P 12 12 00.8 +1.5**
comp=Z,4.1nm,0.3s
SVE Sverdlovsk 49.52 314 *i* P **P 12 12 00.7 +0.2**
SVE pmax pmax
comp=Z,18nm,0.7s
KSH Kashi 49.66 288 P **P 12 12 01.6 -0.4**
KSH pmax pmax
comp=Z,5.0nm,0.4s
KSH pmax pmax
comp=Z,240nm,6.7s
ODAN Odare 49.78 267 *e*P **P 12 12 04.4 +1.2**
comp=Z,8.2nm,0.6s
JIRN Jiri 50.06 268 *e*P **P 12 12 06.7 +1.3**
comp=Z,119nm,0.4s
GUN Gumba 50.11 269 *e*P **P 12 12 06.8 +1.1**
comp=Z,13nm,0.4s
RAMN Ramite 50.25 267 *e*P **P 12 12 07.6 +0.9**
comp=Z,25nm,0.5s
KKN Kakani 50.59 269 *e*P **P 12 12 10.3 +1.2**
comp=Z,9.7nm,0.5s
PKIN Phulchoki 50.65 269 *e*P **P 12 12 10.8 +1.2**
comp=Z,7.0nm,0.5s
ARU Arti 50.72 314*d* iP **P 12 12 08.9 -0.4**
ARU *PP **pP** 12 13 39.3 -3.8
ARU 12 14 09.7
ARU S **S 12 18 47.7 +0.2**
ARU SS **SS 12 22 26.9 -2.3**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU Arti 50.72 314 *e*P **P 12 12 08.9 -0.4**
DMN Daman 50.82 269 *e*P **P 12 12 12.1 +1.2**
comp=Z,13nm,0.6s
GKN Gorkha 50.88 270 *e*P **P 12 12 12.2 +1.0**
comp=Z,23nm,0.5s
DANN Dangsing 51.24 271 *e*P **P 12 12 15.6 +1.6**
KOLN Koldanda 51.73 270 *e*P **P 12 12 18.5 +1.1**
comp=Z,18nm,0.6s
PYUN Piuthan 51.92 271 *e*P **P 12 12 20.1 +1.3**
YKA Yellowknife Ar 52.74 35 P **P 12 12 23.6 -0.2**
comp=Z,0.8nm,0.6s,baz=306,slow=6.9,SNR=8.4
YKA PcP **PcP 12 13 26.3 +0.7**
comp=Z,0.4nm,0.6s,baz=314,slow=3.8,SNR=6.2
YKA ScP **ScP 12 16 36.9 +1.0**
comp=Z,0.4nm,0.6s,baz=304,slow=3.9,SNR=6.3
YKA Yellowknife Ar 52.74 35 *e*P **P 12 12 23.8 -0.1**
ARCES ARCESS Array B 54.96 338 P **P 12 12 39.2 -0.3**
comp=Z,3.0nm,0.4s,baz=46,slow=8.2,SNR=34
ARCES PcP **PcP 12 13 34.2 +0.1**
comp=Z,4.7nm,1.1s,baz=51,slow=4.7,SNR=3.3
DAG Danmarks Havn 55.10 356 *i* P **P 12 12 38.2 -2.2**
comp=Z,5.5nm,1.0s
DAG Danmarks Havn 55.10 356 *i* P **P 12 12 38.2 -2.2**
DAG pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 56.41 326 *e*P **P 12 12 47.8 -1.9**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 59.66 2 *i* P **P 12 13 12.6 +0.5**
comp=Z,14nm,0.6s
SUMG Summit 59.66 2 *i* P **P 12 13 12.6 +0.5**
SUMG pmax pmax
comp=Z,14nm,0.6s
FINES FINESS Array B 60.71 331 P **P 12 13 18.3 -0.5**
comp=Z,18nm,0.5s,baz=40,slow=7.7,SNR=98
OBN Obninsk 61.41 322*ce*P **P 12 13 23.2 -0.3**
OBN *i* *PP **pP 12 15 03.0 +0.9**
OBN pmax pmax
comp=Z,20nm,0.5s
OBN Obninsk 61.41 322 *e*P **P 12 13 23.2 -0.3**
GEYT Alibeck 61.73 296 P **P 12 13 26.5 +0.5**
comp=Z,7.5nm,0.6s,baz=25,slow=4.9,SNR=9.7
VSU Vasula 62.73 329⇓*e*P **P 12 13 31.7 -0.3**
VSU pmax pmax
comp=Z,90nm,0.8s
VSR Storozhevoye 62.99 317 *e*P **P 12 13 33.4 -0.4**
VSR pmax pmax
comp=Z,14nm,0.5s
NB2 NORSAR Subarra 65.33 338 P **P 12 13 48.1 -0.5**
comp=Z,6.8nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 65.33 338 P **P 12 13 48.3 -0.3**
comp=Z,12nm,0.6s,baz=32,slow=6.6,SNR=27
NOA NORSAR Array B 65.33 338 P **P 12 13 48.3 -0.3**
NOA pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 66.34 310 *e*P **P 12 13 57.0 +1.6**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 66.34 310 *e*P **P 12 13 57.0 +1.6**
KBZ Khabaz 66.39 310 P **P 12 13 56.5 +1.0**
comp=Z,10nm,0.9s,baz=52,slow=5.6,SNR=13
ZEI Tsey 66.53 308 *e*P **P 12 13 55.1 -1.6**
ZEI pmax pmax
comp=Z,17nm,0.9s
NEY Neytrino 66.82 309⇓*e*P **P 12 13 59.9 +1.4**
NEY pmax pmax
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 67.67 322 P **P 12 14 02.8 -0.5**
comp=Z,5.2nm,0.5s,baz=36,slow=6.4,SNR=16
KIEV Kiev 67.68 322⇓*e*P **P 12 14 02.9 -0.5**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 67.68 322 *e*P **P 12 14 02.9 -0.5**
PDAR Pinedale Array 67.80 50 P **P 12 14 05.0 +0.5**
comp=Z,0.4nm,0.6s,baz=354,slow=1.5,SNR=4.0
GNI Garni 67.92 306⇑*e*P **P 12 14 07.0 +1.7**
GNI pmax pmax
comp=Z,18nm,0.7s
WRA Warramunga Arr 68.45 192 P **P 12 14 09.8 +1.4**
comp=Z,1.0nm,0.7s,baz=11,slow=6.6,SNR=8.6
WRA Warramunga Arr 68.45 192 *i* P **P 12 14 08.5 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
BURAR Bucovina Array 71.73 322⇑*i*P **P 12 14 28.1 +0.3**
STHS Stebnicka Huta 71.85 326 *e*P **P 12 14 29.6 +1.2**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 71.85 326 *e*P **P 12 14 29.6 +1.2**
ASAR Alice Springs 72.18 192 P **P 12 14 32.8 +2.3**
comp=Z,2.1nm,0.7s,baz=360,slow=5.0,SNR=44
LANS Liptovska Anna 72.73 326 *e*P **P 12 14 34.6 +1.1**
LANS Liptovska Anna 72.73 326 *e*P **P 12 14 34.6 +1.1**
DPC Dobruska-Polom 72.86 329 *e*P **P 12 14 35.2 +0.9**
DPC Dobruska-Polom 72.86 329 *e*P **P 12 14 35.2 +0.9**
KECS Kecovo 72.90 325 *e*P **P 12 14 34.4 0.0**
KECS pmax pmax
comp=Z,13nm,2.3s
KECS Kecovo 72.90 325 *e*P **P 12 14 34.4 0.0**
CLL Collm 73.16 331 *i* P **P 12 14 35.5 -0.3**
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 73.16 331 *i* P **P 12 14 35.5 -0.3**
comp=Z,9.0nm,0.6s
VYHS Vyhne 73.51 326 *e*P **P 12 14 38.8 +0.8**
VYHS Vyhne 73.51 326 *e*P **P 12 14 38.8 +0.8**
VOIR 73.53 321⇓*i*P **P 12 14 39.1 +0.9**
BRTR Keskin Array B 74.03 312 P **P 12 14 41.9 +0.6**
comp=Z,2.5nm,0.8s,baz=57,slow=4.6,SNR=8.8
BRTR Keskin Array B 74.03 312*ce*P **P 12 14 41.7 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 74.83 330 *e*P **P 12 14 46.0 +0.5**
KHC Kasperske Hory 74.83 330 *e*P **P 12 14 46.0 +0.5**
GERES GERESS Array B 75.04 330 P **P 12 14 46.6 -0.2**
comp=Z,0.4nm,0.3s,baz=24,slow=7.6,SNR=3.8
BFO Black Forest 77.23 333 *i* P **P 12 15 00.2 +1.4**
TXAR Lajitas Array 80.95 56 P **P 12 15 19.5 +0.5**
comp=Z,0.2nm,0.5s,baz=289,slow=3.6,SNR=4.2
EIL Elat 81.06 305 P **P 12 15 18.8 -0.6**
comp=Z,4.0nm,0.4s,baz=67,slow=7.7,SNR=4.3

*ISCJB **05** 12:04:30.9±0.5, 17°.27S±0°.03×71°.19W±0°.05, h112km±6km, mb4.2/16, Error ellipse: s-maj=7.8km s-min=5.3km az=176.6*
*SCB **05** 12:04:30.6±0.8, 16°.91S×71°.07W, h99km, Ml3.9/1, Error ellipse: s-maj=21.9km s-min=9.1km az=120.0*
*IDC **05** 12:04:31.3±0.7, 17°.08S×70°.92W, h86km±6km, mb3.8/9, mb1 4.1/13, mb1mx3.9/33, mbtmp4.3/13, Error ellipse: s-maj=19.4km s-min=11.5km az=60.0*
*NEIC **05** 12:04:31.0±0.0, 17°.18S×71°.25W, h84km, mb4.2/7, After ARE.*
NEIC Felt [II] at Moquegua.

ISC 05 12:04:30.9±0.6, 17°.21S±0°.04×71°.17W±0°.06, h89km±5km, h90km:pP-P, n50, σ1°57/64, mb4.1/16, 6C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**2.42**	**142**	*e*Pn	**Pn**	**12 05 10.7**	**+1.7**
MNMC				*e*Sn	**Sn**	12 05 40.1	+2.0
BBOD	**La Paz, Gloria**	**2.53**	**77**⇑	*i*Pn	**Pn**	**12 05 12.6**	**+2.0**
BBOJ	**La Paz, Jacaqu**	**2.86**	**86**⇑	*i*Pn	**Pn**	**12 05 17.6**	**+2.6**
PB11	**IPOC Station P**	**2.91**	**151**	*e*Pn	**Pn**	**12 05 16.4**	**+1.0**
PB11				*e*Sn	**Sn**	12 05 50.7	+1.1
LPAZ	**La Paz**	**3.05**	**73**	P	**Pn**	**12 05 20.0**	**+2.3**
	24nm,0.3s,baz=259,slow=10,SNR=484						
LPAZ				S	**Sn**	12 05 53.3	-0.3
	4.6nm,0.3s,baz=173,slow=24,SNR=8.8						
LPAZ	**La Paz**	**3.05**	**73**⇑	*i*Pn	**Pn**	12 05 20.0	+2.3
LPAZ				*e*Sn	**Sn**	12 05 55.4	+1.7
BBOE	**La Paz, Chanca**	**3.07**	**83**⇑	*i*Pn	**Pn**	12 05 20.6	+2.7
BBOB	**La Paz, Bander**	**3.10**	**70**⇑	*i*Pn	**Pn**	12 05 20.3	+2.1
BBOB				⇑*i*Sn	**Sn**	12 05 55.7	+1.1
	153nm,0.5s						
PB01	**IPOC Station P**	**4.13**	**158**	*e*Pn	**Pn**	12 05 32.4	+0.7
PB01				*e*Sn	**Sn**	12 06 18.5	-0.5
PB04	**IPOC Station P**	**5.18**	**169**	*e*Pn	**Pn**	12 05 46.5	+0.3
PB04				*e*Sn	**Sn**	12 06 43.7	-1.1
LVC	**Limon Verde**	**5.77**	**159**	P	**Pn**	12 05 55.5	+1.1
	499nm,0.3s,baz=20,slow=7.9,SNR=178						
LVC				S	**Sn**	12 06 59.2	-0.3
	475nm,0.3s,baz=190,slow=22,SNR=10.0						
PB10	**IPOC Station P**	**6.29**	**175**	*e*Pn	**Pn**	12 06 00.9	-0.2
PB10				*e*Sn	**Sn**	12 07 09.3	-2.3
MOCB	**Mochara**	**6.59**	**128**⇓	*i*P	**Pn**	12 06 08.9	+3.3
NNA	**Nana**	**7.56**	**313**	P	**Pn**	12 06 19.7	+1.2
	2.3nm,0.3s,baz=138,slow=12,SNR=3.4						
NNA				S	**Sn**	12 07 44.9	+2.2
	1.4nm,0.3s,baz=180,slow=18,SNR=1.9						
SIV	**San Ignacio**	**9.76**	**84**	P	**Pn**	12 06 46.9	-1.5
	2.1nm,0.3s,baz=274,slow=14,SNR=24						
SIV	**San Ignacio**	**9.76**	**84**	*e*P	**Pn**	12 06 47.4	-1.0
SAML	**Samuel**	**11.31**	**44**	*e*Pn	**Pn**	12 07 05.8	-3.8
	4.8nm,0.7s						
ROC1	**El Roble**	**15.70**	**180**	*e*Pn	**Pn**	12 08 08.3	+1.1
	18nm,1.3s						
PTGA	**Pitinga**	**19.74**	**35**	P	**P**	12 08 51.8	-2.0
	3.6nm,0.3s,baz=211,slow=13,SNR=33						
PRAC	**Prado**	**21.12**	**350**	*e*P	**P**	12 09 08.7	+0.1
	7.0nm,0.7s						
ROSC	**El Rosal**	**22.13**	**352**	*e*P	**P**	12 09 18.1	-1.7
	5.8nm,0.6s						
BDFB	**Brasilia**	**22.26**	**89**	*e*P	**P**	12 09 19.3	-1.6
RUSC	**La Rusia**	**23.04**	**355**	*e*P	**P**	12 09 27.3	-1.9
	5.3nm,0.6s						
SPB	**Sao Paulo**	**23.12**	**110**	*e*P	**P**	12 09 29.6	+0.1
	144nm,2.0s						
PLCA	**Paso Flores**	**23.44**	**179**	P	**P**	12 09 34.4	+2.0
	2.8nm,0.7s,baz=21,slow=9.8,SNR=7.7						
HELC	**Santa Helena**	**23.65**	**349**	*e*P	**P**	12 09 33.7	-1.0
	23nm,0.4s						
SDV	**Santo Domingo**	**25.94**	**1**	*e*P	**P**	12 09 54.2	-1.1
	4.8nm,0.8s						
MPR	**Mayaguez**	**35.42**	**7**	*e*P	**P**	12 11 17.0	-1.5
	73nm,0.7s						
TXAR	**Lajitas Array**	**55.91**	**325**	P	**P**	12 14 00.1	+0.2
	0.5nm,0.6s,baz=153,slow=8.5,SNR=9.2						
LTX	**Lajitas**	**55.91**	**325**	*e*P	**P**	12 14 00.1	+0.2
PD31	**Pinedale Array**	**69.35**	**331**	*e*P	**P**	12 15 30.1	+0.9
PDAR	**Pinedale Array**	**69.35**	**331**	P	**P**	12 15 30.1	+0.9
	0.3nm,0.6s,baz=109,slow=7.9,SNR=3.5						
DBIC	**Dimbokro**	**69.67**	**76**	P	**P**	12 15 30.5	-1.0
	3.2nm,0.7s,baz=230,slow=5.4,SNR=4.1						
ULM	**Lac du Bonnet**	**70.61**	**343**	P	**P**	12 15 35.5	-1.0
	2.2nm,0.5s,baz=161,slow=7.8,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**78.00**	**72**	*e*P	**P**	12 16 19.1	-1.1
TOA1				*e*pP	**pP**	12 16 40.7	-2.8
TORD	**Torodi Ar. Bea**	**78.00**	**72**	P	**P**	12 16 19.1	-1.1
	9.3nm,0.6s,baz=257,slow=5.4,SNR=75						
TORD				pP	**pP**	12 16 40.7	-2.8
	1.6nm,0.5s,baz=254,slow=5.4,SNR=3.8						
ESDC	**Sonseca Array**	**84.33**	**46**	P	**P**	12 16 52.6	-0.6
	0.3nm,0.3s,baz=248,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**86.46**	**341**	P	**P**	12 17 03.8	+0.6
	2.0nm,0.7s,baz=134,slow=4.9,SNR=21						
YKA				pP	**pP**	12 17 27.2	+0.3
	0.5nm,0.6s,baz=134,slow=4.7,SNR=2.5						
YKB5	**Yellowknife Ar**	**86.46**	**341**	*e*P	**P**	12 17 03.6	+0.5
YKB5				*e*pP	**pP**	12 17 27.2	+0.3
MAW	**Mawson**	**89.02**	**164**	P	**P**	12 17 17.8	+2.3
	1.0nm,0.7s,baz=216,slow=2.6,SNR=5.1						
ASAR	**Alice Springs**	**132.56**	**212**	PKP	**PKPdf**	12 23 37.0	+1.1
	0.2nm,0.6s,baz=168,slow=2.4,SNR=4.1						
AS31	**Alice Springs**	**132.56**	**212**	*e*PKPdf	**PKPdf**	12 23 35.8	-0.2
ZAA1	**Zalesovo Array**	**138.87**	**21**	*e*PKPdf	**PKPdf**	12 23 45.9	-0.8
ZALV	**Zalesovo Beam**	**138.88**	**21**	PKP	**PKPdf**	12 23 45.9	-0.8
	1.6nm,0.7s,baz=215,slow=1.8,SNR=4.1						
MK32	**Makanchi Array**	**143.24**	**31**	*e*PKPpre	PKPpre	12 23 52.0	
MKAR	**Makanchi Array**	**143.24**	**31**	PKhKP	PKPpre	12 23 52.0	
	0.2nm,0.3s,baz=48,slow=35,SNR=4.0						
USRK	**Ussuriysk Ar.**	**146.76**	**329**	PKPbc	**PKPab**	12 24 03.8	-0.2
	3.7nm,0.7s,baz=68,slow=4.3,SNR=6.0						
MJAR	**Matsushiro Arr**	**147.68**	**312**	PKPbc	**PKPbc**	12 24 06.7	+1.1
	2.1nm,0.7s,baz=104,slow=1.6,SNR=5.6						
SONA0	**Songino Array**	**149.40**	**3**	*e*PKPbc	**PKPbc**	12 24 11.0	+1.3
SONA0				epPKPab	**pPKPbc**	12 24 34.9	+0.4
SONM	**Songino Array**	**149.40**	**3**	PKPbc	**PKPbc**	12 24 11.0	+1.3
	2.3nm,0.6s,baz=311,slow=2.0,SNR=13						
SONM				pPKPbc	**pPKPbc**	12 24 34.9	+0.4
	1.1nm,0.7s,baz=325,slow=1.4,SNR=4.0						

*ISCJB **05** 12:07:19.4±0.8, 32°.35N±0°.05×115°.36W±0°.07, h17km±10km, Error ellipse: s-maj=11.4km s-min=6.0km az=138.5*
*ECX **05** 12:07:20.0±0.4, 32°.29N×115°.36W, h4km, MD2.2, ML2.3*
*MEX **05** 12:07:20.8±0.6, 32°.42N×115°.23W, h17km±7km, MD3.7*

ISC 05 12:07:18.5±1.3, 32°.38N±0°.07×115°.31W±0°.10, h24km±9km, n10, σ0°47/16, 2C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.04**	**11**	*e*P	**Pb**	**12 07 22.9**	**+0.3**
CPBX				*e*S	**Sb**	**12 07 25.0**	**-0.4**
CPBX				IAML		12 07 32.9	
	comp=E,3μm,0.2s						
CPBX				⇑*e*		12 07 32.9	
ERPC	**Ernies Place**	**0.47**	**321**	*e*P	**Pn**	**12 07 29.9**	**+0.2**
WESC	**Westside Schoo**	**0.52**	**317**⇑	*i*P	**Pn**	**12 07 30.4**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.72**	**292**	*e*P	**Pb**	**12 07 32.8**	**+0.3**
ECBX	**El Chinero**	**0.94**	**166**	*e*P	**Pb**	**12 07 36.3**	**+0.2**
ECBX				*e*S	**Sb**	**12 07 48.1**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**267**	*e*P	**Pb**	**12 07 39.9**	**+0.2**
CBX				*e*S	**Sn**	**12 07 53.9**	**-0.4**
CBX	**Cerro Bola**	**1.15**	**267**	*e*P	**Pn**	**12 07 39.5**	**+0.3**
CBX				*e*S	**Sn**	**12 07 54.0**	**-0.3**
TJIG	**Tijuana**	**1.15**	**273**	*e*P	**Pn**	**12 07 39.9**	**+0.7**
TJIG				*e*S	**Sn**	**12 07 53.3**	**-1.0**
SPIG	**San Pedro Mart**	**1.34**	**186**	*i* P	**Pn**	**12 07 42.5**	**+0.5**
SPIG				*e*S	**Sn**	**12 07 59.1**	**-0.2**
SPX	**San Pedro Mart**	**1.34**	**186**	*i* P	**Pn**	**12 07 41.6**	**-0.5**

*IDC **05** 12:12:24.8±1.2, 51°.23N×158°.82E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/38, mbtmp3.5/4, ML2.7/1, MS1.7/1, Ms1 1.7/1, ms1mx1.6/35, Error ellipse: s-maj=49.5km s-min=28.1km az=97.0*
*KRSC **05** 12:12:28.4±1.5, 51°.39N×158°.69E, h41km±24km, ML4.2*
*MOS **05** 12:12:28.6±0.7, 51°.29N×158°.75E, h37km, mb4.3/1, Error ellipse: s-maj=21.1km s-min=5.5km az=92.5*

ISC 05 12:12:26.4±1.8, 51°.33N±0°.05×158°.79E±0°.05, h15km±11km, n46, σ0°95/59, mb3.5/3, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.12**	**351**	PN	**Pg**	**12 12 48.2**	**+0.2**
RUS				S	**Sb**	**12 13 01.3**	**-0.5**
RUS	**Russkaya**	**1.12**	**351**	*e*P	**Pg**	**12 12 48.2**	**+0.2**
RUS				*e*S	**Sb**	**12 13 01.3**	**-0.5**
ASAK	**Asacha**	**1.19**	**333**	PN	**Pg**	**12 12 49.9**	**+0.5**
ASAK				S	**Sb**	**12 13 03.6**	**-0.4**
ASAK	**Asacha**	**1.19**	**333**	*e*P	**Pg**	**12 12 49.9**	**+0.5**
ASAK				*e*S	**Sb**	**12 13 03.6**	**-0.4**
MTVR	**Mutnovka**	**1.22**	**342**	PN	**Pg**	**12 12 49.9**	**0.0**
MTVR				S	**Sb**	**12 13 03.9**	**-0.8**
MTVR	**Mutnovka**	**1.22**	**342**	*e*P	**Pg**	**12 12 49.9**	**0.0**
MTVR				*e*S	**Sb**	**12 13 03.9**	**-0.8**
PAU	**Pauzhetka**	**1.25**	**277**	PN	**Pn**	**12 12 48.4**	**-0.8**
PAU				S	**Sb**	**12 13 03.8**	**-1.6**
PAU	**Pauzhetka**	**1.25**	**277**	*e*P	**Pn**	**12 12 48.4**	**-0.8**
PAU				*e*S	**Sb**	**12 13 03.8**	**-1.6**
KRMR	**Karymshinskiy**	**1.56**	**345**	PN	**Pb**	**12 12 55.1**	**+0.2**
KRMR				S	**Sn**	**12 13 13.7**	**+0.3**
KRMR	**Karymshinskiy**	**1.56**	**345**	*e*P	**Pb**	**12 12 55.1**	**+0.2**
KRMR				*e*S	**Sn**	**12 13 13.7**	**+0.3**
PET	**Petropavlovsk**	**1.70**	**357**⇓	*i*PN	**Pb**	**12 12 56.9**	**-0.4**
PET				*e*S	**Sn**	**12 13 16.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,174nm,0.3s						
PET				smax	smax		
	comp=E,368nm,0.7s						
PET				smax	smax		
	comp=N,728nm,0.6s						
PET	**Petropavlovsk**	**1.70**	**357**	*e*P	**Pb**	**12 12 56.8**	**-0.5**
PET				*e*S	**Sn**	**12 13 16.6**	**-0.3**
DALK	**Dalny**	**1.71**	**359**	PN	**Pb**	**12 12 56.9**	**-0.5**
DALK				S	**Sn**	**12 13 16.8**	**-0.2**
DALK	**Dalny**	**1.71**	**359**	*e*P	**Pb**	**12 12 56.9**	**-0.5**
DALK				*e*S	**Sn**	**12 13 16.8**	**-0.2**
SKR	**Severo-Kuril's**	**1.81**	**250**	*e*PN	**Pb**	**12 12 58.7**	**-0.4**
SKR				*e*S	**Sn**	**12 13 19.8**	**+0.3**
SKR				pmax	pmax		
	comp=Z,246nm,0.3s						
SKR				smax	smax		
	comp=N,1μm,0.9s						
SKR				smax	smax		
	comp=E,915nm,0.5s						
NLC	**Nalytchevo**	**1.88**	**10**	PN	**Pn**	**12 12 58.1**	**+0.2**
NLC				S	**Sn**	**12 13 19.0**	**-2.2**
NLC	**Nalytchevo**	**1.88**	**10**	*e*P	**Pn**	**12 12 58.1**	**+0.2**
NLC				*e*S	**Sn**	**12 13 19.0**	**-2.2**
UGLR	**Uglovaya**	**1.89**	**1**	PN	**Pb**	**12 12 59.7**	**-0.8**
UGLR	**Uglovaya**	**1.89**	**1**	*e*P	**Pb**	**12 12 59.7**	**-0.8**
APC	**Apacha**	**1.89**	**328**	PN	**Pn**	**12 12 59.6**	**+1.6**
APC	**Apacha**	**1.89**	**328**	*e*P	**Pn**	**12 12 59.6**	**+1.6**
PETK	**Petropavlovsk-**	**1.91**	**340**	Pn	**Pb**	**12 12 59.9**	**-0.9**
	comp=E,14nm,0.3s,baz=145,slow=16,SNR=155						
PETK				LR	LR	12 13 18.4	
	comp=E,18nm,21.7s,baz=174,slow=27						
PETK				Sn	**Sn**	**12 13 21.5**	**-0.5**
	comp=E,10nm,0.3s,baz=42,slow=26,SNR=5.4						
SPN	**Mys Shipunski**	**1.93**	**23**	PN	**Pb**	**12 13 00.8**	**-0.4**
SPN				S	**Sb**	**12 13 23.4**	**-1.6**
SPN	**Mys Shipunski**	**1.93**	**23**	*e*P	**Pb**	**12 13 00.8**	**-0.4**
SPN				*e*S	**Sb**	**12 13 23.4**	**-1.6**
AVH	**Avacha**	**1.94**	**359**	PN	**Pb**	**12 13 00.7**	**-0.8**
AVH	**Avacha**	**1.94**	**359**	*e*P	**Pb**	**12 13 00.7**	**-0.8**
SDLR	**Sedlovina**	**1.96**	**2**	PN	**Pn**	**12 13 00.2**	**+1.1**
SDLR	**Sedlovina**	**1.96**	**2**	*e*P	**Pn**	**12 13 00.2**	**+1.1**
KOK	**Koryaka**	**1.97**	**357**	PN	**Pb**	**12 13 01.5**	**-0.5**
KOK	**Koryaka**	**1.97**	**357**	*e*P	**Pb**	**12 13 01.5**	**-0.5**
KRER	**Koryakskii**	**1.98**	**359**	PN	**Pn**	**12 12 59.4**	**-0.1**
KRER	**Koryakskii**	**1.98**	**359**	*e*P	**Pn**	**12 12 59.4**	**-0.1**
KRX	**Arik**	**2.04**	**358**	PN	**Pb**	**12 13 02.0**	**-1.1**
KRX	**Arik**	**2.04**	**358**	*e*P	**Pb**	**12 13 02.0**	**-1.1**
GNL	**Ganaly**	**2.43**	**348**	PN	**Pn**	**12 13 07.4**	**+1.9**
GNL	**Ganaly**	**2.43**	**348**	*e*P	**Pn**	**12 13 07.4**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**32.17**	**166**	T	T	12 52 58.6	
	baz=350,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**32.19**	**166**	T	T	12 52 56.7	
	baz=350,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**32.19**	**166**	T	T	12 53 00.8	
	baz=350,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**33.34**	**166**	T	T	12 54 24.8	
	baz=351,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**33.35**	**166**	T	T	12 54 26.5	
	baz=351,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**33.36**	**166**	T	T	12 54 27.8	
	baz=351,slow=76,SNR=26						
AFI	**Afiamalu**	**69.84**	**149**	LR	LR	12 46 08.4	
	comp=E,72nm,21.5s,baz=243,slow=29						
TXAR	**Lajitas Array**	**72.08**	**65**	P	**P**	**12 23 51.0**	**+1.0**
	comp=E,0.3nm,0.6s,baz=301,slow=5.0,SNR=3.4						
WRA	**Warramunga Arr**	**74.14**	**204**	P	**P**	**12 24 01.9**	**0.0**
	comp=E,0.4nm,0.7s,baz=16,slow=5.9,SNR=2.6						
ASAR	**Alice Springs**	**77.82**	**203**	P	**P**	**12 24 23.9**	**+1.1**
	comp=E,0.2nm,0.4s,baz=8.9,slow=5.4,SNR=5.1						

*CSEM **05** 12:12:54.4, 44°.41N×21°.93E, h0km, ML1.7, Mining explosion.*

BEO 05 12:12:54.4±0.8, 44°.41N×21°.93E, h0km, M1.7/3, 1C-1D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.18**	**271**	*e*Pg	Pg	12 12 55.3	-2.6
KUBS	**Kucevo**	**0.18**	**271**	*e*Pg	Pg	12 12 55.3	-2.6
MDVR	**Moldovita**	**0.40**	**337**	S	Sg	12 13 05.8	-1.6
MDVR				⇑*i*P	Pg	12 13 00.9	-1.2
ZAGS	**Zajecar**	**0.64**	**160**	*e*Pg	Pg	12 13 05.4	-1.2
ZAGS	**Zajecar**	**0.64**	**160**	*e*Pg	Pg	12 13 05.4	-1.2
BOVS	**Bovan**	**0.79**	**192**	*e*Pg	Pg	12 13 09.0	-0.5
BOVS	**Bovan**	**0.79**	**192**	*e*Pg	Pg	12 13 09.0	-0.5
GRUS	**Gruza**	**1.02**	**240**	*e*Pg	Pg	12 13 14.1	+0.2
GRUS				*e*Sg	Sg	12 13 27.7	+0.6
GRUS	**Gruza**	**1.02**	**240**	*e*Pg	Pg	12 13 14.1	+0.2
GRUS				*e*Sg	Sg	12 13 27.7	+0.6
TRUS	**Trudelj**	**1.11**	**261**	*e*Pg	Pg	12 13 15.9	+0.2
TRUS	**Trudelj**	**1.11**	**261**	*e*Pg	Pg	12 13 15.9	+0.2
BZS	**Buzias**	**1.23**	**350**⇓	*i*P	Pg	12 13 16.2	-1.7
BZS				S	Sg	12 13 32.3	-1.5
ZAPS	**Zavoj**	**1.25**	**156**	*e*Pg	Pg	12 13 17.

MAT Matsushiro 2.57 106 eS S 12 56 13.2 +0.3
MJAR Matsushiro Arr 2.57 106 P Pn 12 55 27.7 +1.5
41nm,0.3s,baz=282,slow=9.3,SNR=467
MJAR S S 12 56 14.8 +1.9
baz=278,slow=17,SNR=2.8
JSD Sado 2.60 72 P Pn 12 55 27.4 +1.1
JSD eS S 12 56 13.9 +0.8
JHS Saijyo 2.79 216 P Pn 12 55 28.2 +0.2
JHS S S 12 56 15.4 -0.8
JGT2 ShimaneMisato 3.06 225 P Pn 12 55 30.6 +0.4
JGT2 eS S 12 56 20.2 0.0
JWY Kouya 3.07 173 P Pn 12 55 30.8 +0.4
JWY S S 12 56 19.5 -1.0
JIE Ise 3.15 155 P Pn 12 55 32.0 +1.0
JIE eS S 12 56 21.5 -0.1
JRY Ryogami san 3.28 111 P Pn 12 55 33.0 +0.8
JWZ Kozaga 3.76 173 P Pn 12 55 36.9 +0.2
JOD2 Odawara 2 3.77 121 P Pn 12 55 37.8 +1.1
JMK Ichinoseki 5.09 69 P Pn 12 55 50.6 +0.7
JTU Tsushima 5.40 241 P Pn 12 55 52.6 -0.8
JNU Nakatsue 5.41 221 P Pn 12 55 54.0 +0.4
3.0nm,0.3s,baz=39,slow=4.0,SNR=24
JNU S S 12 57 00.3 -2.5
0.1nm,0.3s,baz=156,slow=22,SNR=4.1
JNU Nakatsue 5.41 221 Pn Pn 12 55 54.0 +0.4
8.5nm,0.6s
JNU eS S 12 57 01.8 -1.1
BSO1 Boso 1 5.42 117 P Pn 12 55 52.9 -0.1
JHJ Hachijo jima 2 5.63 136 P Pn 12 55 59.1 +3.1
14nm,0.3s,baz=246,slow=20,SNR=4.6
JHJ S S 12 57 06.2 -1.0
11nm,0.3s,baz=66,slow=20,SNR=2.9
KSRS Korea Array 5.74 274 P Pn 12 55 58.1 +1.1
3.2nm,0.3s,baz=94,slow=12,SNR=155
KSRS S S 12 57 09.2 -0.1
baz=96,slow=22,SNR=6.8
JOSM Okushiri--Mats 5.86 34 P Pn 12 55 59.7 +1.4
MSHR Mys Shultsa 6.12 331 *ce*P Pn 12 56 01.8 +0.7
JOT Ohata 6.16 46 P Pn 12 56 02.6 +1.0
VLA Vladivostok 6.35 338 *c i*P Pn 12 56 05.2 +1.5
VLA eS S 12 57 20.7 -0.8
VLA pmax pmax
comp=Z,223nm,0.8s
USRK Ussuriysk Ar. 7.32 342 P P 12 56 16.1 +0.4
comp=Z,7.2nm,0.3s,baz=168,slow=11,SNR=145
USRK S S 12 57 43.6 +1.8
baz=138,slow=43,SNR=2.0
ERM Erimo 7.80 50 *ce*P Pn 12 56 20.6 +0.3
ERM pmax pmax
comp=Z,116nm,0.7s
ERM Erimo 7.80 50 *e*Pn Pn 12 56 20.4 +0.1
comp=Z,199nm,0.8s
ERM eS S 12 57 45.0 -7.0
MDJ Mudanjiang 8.45 332 P P 12 56 29.1 0.0
MDJ pmax pmax
comp=Z,51nm,0.6s
MDJ pmax pmax
comp=Z,65nm,4.8s
MDJ Mudanjiang 8.45 332 *e*Pn Pn 12 56 28.2 +0.4
comp=Z,50nm,1.0s
ASAJ Asahikawa 8.88 37 P P 12 56 33.6 -0.4
comp=Z,67nm,0.3s,baz=242,slow=12,SNR=434
ASAJ S S 12 58 08.7 -6.6
comp=Z,9.8nm,0.3s,baz=344,slow=30,SNR=25
ASAJ Asahikawa 8.88 37 *e*Pn Pn 12 56 31.6 -1.3
comp=Z,135nm,0.6s
ASAJ eSn S 12 58 08.3 -6.9
CN2 Changchun 9.84 315 *e*P Pn 12 56 44.2 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
YUK Yuzh-Kuril'sk 10.58 47 *d i*P Pn 12 56 53.5 +0.6
YUK *i* S S 12 58 47.0 -4.3
YUK pmax pmax
comp=N,78nm,0.3s
YUK pmax pmax
comp=Z,249nm,0.3s
YUK pmax pmax
comp=E,47nm,0.1s
SHO Shikotan 11.07 50 *c i*P Pn 12 56 59.0 +0.4
SHO *i* S S 12 58 55.6 -6.0
SHO pmax pmax
comp=E,92nm,0.4s
SHO pmax pmax
comp=Z,145nm,0.4s
SHO pmax pmax
comp=N,63nm,0.5s
HABR Khabarovsk 11.20 360 *e*P P 12 56 58.7 -0.9
HABR eS S 12 59 04.8 +0.6
HABR pmax pmax
comp=N,13nm,1.1s
HABR pmax pmax
comp=Z,27nm,1.1s
HABR pmax pmax
comp=E,4.0nm,1.0s
HABR MLR MLR
comp=Z,11nm,13.0s
YSS Yuzh-Sakhalins 11.20 28⇑ *i*P Pn 12 57 01.5 +1.4
YSS *i* S S 12 58 58.0 -6.4
YSS pmax pmax
comp=N,40nm,0.3s
YSS pmax pmax
comp=E,10.0nm,0.3s
YSS pmax pmax
comp=Z,80nm,0.3s
YSS smax smax
comp=N,40nm,1.0s
YSS smax smax
comp=E,20nm,1.0s
YSS Yuzh-Sakhalins 11.20 28 *e*P Pn 12 57 01.3 +1.1
comp=E,58nm,0.3s
YSS eS S 12 58 59.8 -4.6
JOW Kunigami 11.92 211 P P 12 57 05.6 -2.3
comp=E,1.5nm,0.3s,baz=96,slow=25,SNR=5.5
KUR Kuril'sk 12.45 46 *d i*P Pn 12 57 15.4 +0.7
KUR eS S 12 59 31.0 +0.7
KUR pmax pmax
comp=Z,45nm,0.7s
UGL Uglegorsk 12.83 21 *e*P P 12 57 17.9 +0.3
UGL eS S 12 59 40.1 +2.1
TIA Tai'an 14.48 271⇑P P 12 57 34.7 -1.2
TIA pmax pmax
comp=Z,30nm,0.9s
BJT Baijiatuau 15.07 286 *e*P P 12 57 41.2 -1.1
BJT pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuau 15.07 286 *e*P P 12 57 41.2 -1.1
comp=Z,29nm,0.8s
PETK Petropavlovsk- 22.30 38 P P 12 58 55.5 +0.6
comp=Z,2.3nm,0.8s,baz=215,slow=9.7,SNR=4.5
PETK Petropavlovsk- 22.30 38 P P 12 58 55.6 +0.6
PETK pmax pmax
comp=Z,1.0nm,0.5s
ENH Enshi 22.39 259 *e*P P 12 58 54.5 -1.6
comp=Z,44nm,0.8s
ULN Ulaanbaatar 23.11 306 *de*P P 12 59 01.6 -0.9
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 23.11 306 *e*P P 12 59 01.8 -0.7
comp=Z,4.6nm,0.8s
SONM Songino Array 23.52 306 P P 12 59 05.7 -0.6
comp=Z,6.5nm,0.9s,baz=113,slow=9.1,SNR=21
MA2 Magadan 24.49 19‖ *e*P P 12 59 15.4 +0.8
GYA Guiyang 26.38 254‖ *i*P P 12 59 30.3 -1.7
GYA pmax pmax
comp=Z,20nm,0.8s
TLY Talaya 26.44 313 P P 12 59 31.9 -0.1
comp=Z,3.2nm,0.6s,baz=107,slow=14,SNR=4.8
GTA Gaotai 27.68 285 *e*P P 12 59 41.8 -1.5
GTA pP pP 12 59 47.3 -65
GTA sP sP 12 59 50.3 -106
GTA pmax pmax
comp=Z,6.0nm,1.1s
SEY Seymchan 27.78 17 P P 12 59 45.2 +1.4
comp=Z,0.5nm,0.3s,baz=180,slow=20,SNR=2.9
TIXI Tiksi 34.60 357 P P 13 00 41.5 -1.2
comp=Z,6.6nm,0.8s,baz=225,slow=4.3,SNR=2.7
BILL Biiibino 35.36 20 *e*P P 13 00 49.0 -0.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
DGZ Jazzator, Alta 36.17 306 *i*P P 13 00 56.4 -0.1
DGZ pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 36.56 250 *e*P P 13 00 59.6 -0.4
CHTO pmax pmax
comp=Z,11nm,0.6s
CHTO Chiang Mai 36.56 250 *e*P P 13 00 59.5 -0.4
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 36.78 249 P P 13 01 01.2 -0.6
comp=Z,5.2nm,0.6s,baz=46,slow=7.4,SNR=37
CMAR ScP ScP 13 06 24.4 -0.5
comp=Z,1.9nm,0.8s,baz=20,slow=3.2,SNR=13
LSA Lhasa 37.18 271 *e*P P 13 01 05.2 -0.3
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 37.18 271 *e*P P 13 01 05.2 -0.3
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 38.04 312 P P 13 01 09.7 -2.0
comp=Z,2.4nm,0.5s,baz=99,slow=8.9,SNR=12
ZALV PcP PcP 13 03 15.7 -2.3
comp=Z,1.5nm,0.6s,baz=80,slow=3.8,SNR=4.2
ZALV ScP ScP 13 06 27.8 -1.3
comp=Z,2.0nm,0.5s,baz=99,slow=2.6,SNR=8.1
MKAR Makanchi Array 39.72 301 P P 13 01 24.9 -0.7
comp=Z,4.6nm,0.6s,baz=88,slow=9.8,SNR=24
MKAR ScP ScP 13 06 35.2 -0.5
comp=Z,0.5nm,0.5s,baz=83,slow=6.1,SNR=4.2
TAPN Taplejung 40.91 270 *e*P P 13 01 35.4 -0.5
comp=Z,26nm,0.3s
NRIK Noril'sk 40.99 336 P P 13 01 35.8 +0.2
comp=Z,4.7nm,0.4s,baz=96,slow=6.2,SNR=4.0
ODAN Odare 41.39 270 *e*P P 13 01 38.9 -0.8
comp=Z,28nm,0.5s
KURK Kurchatov 41.81 307 *de*P P 13 01 41.2 -1.2
KURK pmax pmax
comp=Z,25nm,0.6s
KURK Kurchatov 41.81 307 *e*P P 13 01 41.5 -1.0
comp=Z,54nm,0.8s
KURBB Kurchatov Arra 41.88 307 P P 13 01 42.0 -0.9
comp=Z,6.0nm,0.9s,baz=86,slow=8.6,SNR=22
KURBB pP pP 13 02 57.3 +0.9
comp=Z,2.1nm,1.0s,baz=88,slow=8.3,SNR=2.4
RAMN Ramite 41.98 270 *e*P P 13 01 43.5 -0.9
comp=Z,106nm,0.8s
GUN Gumba 42.13 272 *e*P P 13 01 45.3 -0.4
comp=Z,75nm,0.6s
KKN Kakani 42.66 272 *e*P P 13 01 49.3 -0.5
comp=Z,28nm,0.5s
PKIN Phulchoki 42.66 272 *e*P P 13 01 49.4 -0.4
DMN Daman 42.88 272 *e*P P 13 01 50.9 -0.7
comp=Z,23nm,0.7s
GKN Gorkha 43.08 273 *e*P P 13 01 52.4 -0.6
comp=Z,96nm,0.7s
DANN Dangsing 43.63 274 *e*P P 13 01 57.4 -0.1
KOLN Koldanda 44.01 273 *e*P P 13 02 00.0 -0.4
comp=Z,31nm,0.6s
PYUN Piuthan 44.35 274 *e*P P 13 02 02.8 -0.3
comp=Z,72nm,0.6s
KSH Kashi 45.69 292 P P 13 02 16.8 +3.5
KSH PcP PcP 13 03 45.9 +1.9
KSH PP sP 13 04 10.2 -0.4
KSH PcS PcS 13 07 42.6 +3.7
KSH S S 13 08 30.4 +3.1
KSH ScS ScS 13 11 26.3 -1.3
KSH SS SS 13 11 58.9 +2.0
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,370nm,5.4s
KSH LR LR
comp=N,170nm,6.3s
KSH LR LR
comp=E,180nm,6.4s
KSH LR LR
comp=Z,180nm,7.7s
AAK Ala-Archa 45.92 296 P P 13 02 15.0 0.0
comp=Z,7.4nm,0.6s,baz=108,slow=5.6,SNR=23
AAK Ala-Archa 45.92 296‖ *e*P P 13 02 14.4 -0.6
AAK pmax pmax
comp=Z,22nm,0.8s
AAK Ala-Archa 45.92 296 *e*P P 13 02 14.8 -0.2
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 46.67 311 P P 13 02 20.1 -0.3
comp=Z,4.1nm,0.5s,baz=96,slow=9.1,SNR=21
BRVK Borovoye 46.73 311 *ce*P P 13 02 20.7 -0.2
BRVK pmax pmax
comp=Z,22nm,1.0s
KKAR Karatay Array 48.62 298 *e*P P 13 02 35.3 -0.1
KKAR pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 48.62 298 *e*P P 13 02 35.3 -0.1
comp=Z,18nm,0.9s
PPLA Purkeypile 49.85 35 *e*P P 13 02 45.6 +1.2
KDAK Kodiak Island 50.27 42 P P 13 02 48.6 +1.3
comp=Z,5.1nm,0.5s,baz=46,slow=1.5,SNR=42
KTH Kantishna Hill 50.36 34 *e*P P 13 02 50.1 +2.0
comp=Z,11nm,1.2s
MCK McKinley 51.22 34 *e*P P 13 02 55.1 +0.7
MCK pmax pmax
comp=Z,3.0nm,0.5s
MCK McKinley 51.22 34 *e*P P 13 02 55.1 +0.7
comp=Z,2.9nm,0.5s
COEN Coen 51.51 170 *e*P P 13 02 57.9 +0.8
SVE Sverdlovsk 51.61 317 *e*P P 13 02 57.5 +0.2
SVE pmax pmax
comp=Z,28nm,0.9s
ILAR Eielson Array 51.98 32 P P 13 03 00.9 +1.1
comp=Z,2.6nm,0.6s,baz=264,slow=6.2,SNR=71
ILAR pP pP 13 04 19.5 +2.4
comp=Z,0.4nm,0.7s,baz=284,slow=7.9,SNR=2.6
ARU Arti 52.82 317 *d i*P P 13 03 05.6 -0.5
ARU 13 04 05.5
ARU 13 05 08.3
ARU SS SKiKP 13 13 45.5 +3.4
ARU pmax pmax
comp=Z,37nm,1.2s
ARU Arti 52.82 317 *e*P P 13 03 05.7 -0.4
comp=Z,36nm,1.1s
DOT Dot Lake 53.38 33 *e*P P 13 03 11.2 +1.1
comp=Z,9.2nm,0.5s
BMRM Bremner River 53.69 37 *e*P P 13 03 13.1 +0.7
comp=Z,7.5nm,0.9s
ABKAR Abkulak array 53.90 308 *e*P P 13 03 13.3 -0.7
comp=Z,12nm,0.5s
EGAK Eagle 54.39 32 *e*P P 13 03 18.7 +1.5
comp=Z,3.7nm,0.7s
INK Inuvik 56.44 26 P P 13 03 33.1 +1.5
comp=Z,2.1nm,0.5s,baz=292,slow=7.8,SNR=21
WRAB Tennant Creek 56.90 181 *ce*P P 13 03 34.4 -1.0
WRAB pmax pmax
comp=Z,21nm,0.9s
WRAB Tennant Creek 56.90 181 *e*P P 13 03 34.9 -0.5
comp=Z,8.9nm,0.8s
WRA Warramunga Arr 56.91 181 P P 13 03 35.1 -0.4
comp=Z,9.2nm,0.4s,baz=356,slow=7.5,SNR=101
WRA PcP PcP 13 04 25.5 -0.4
comp=Z,0.7nm,0.5s,baz=354,slow=4.3,SNR=4.7
CTA Charters Tower 58.01 168 P P 13 03 43.0 0.0
comp=Z,6.6nm,0.9s,baz=326,slow=6.4,SNR=5.2
CTA Charters Tower 58.01 168 P P 13 03 43.0 0.0
CTA pmax pmax
comp=Z,2.0nm,0.5s
GEYT Alibeck 59.28 296 P P 13 03 51.6 -0.1
comp=Z,5.2nm,0.7s,baz=29,slow=3.4,SNR=9.4
ASAR Alice Springs 60.62 181 P P 13 04 00.6 -0.1
comp=Z,2.0nm,0.6s,baz=5.6,slow=5.7,SNR=50
ASAR Alice Springs 60.62 181 P P 13 04 00.6 -0.1
ASAR pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 60.81 326 *e*P P 13 03 58.4 -3.1
KLMR pmax pmax
comp=Z,15nm,1.5s
ARCES ARCESS Array B 61.95 338 P P 13 04 09.1 +0.2
comp=Z,3.1nm,0.7s,baz=58,slow=9.2,SNR=8.0
OBN Obninsk 64.83 321‖ *e*P P 13 04 27.8 +0.1
OBN pmax pmax
comp=Z,89nm,4.8s
VSR Storozhevoye 65.37 317‖ *e*P P 13 04 31.9 +0.6
VSR pmax pmax
comp=Z,14nm,0.5s
DZM Mont Dzumac 65.99 148 P P 13 04 36.8 +1.1
comp=Z,22nm,1.2s,baz=191,slow=17,SNR=9.5
YKA Yellowknife Ar 66.06 28 P P 13 04 36.5 +1.0
comp=Z,1.0nm,0.6s,baz=304,slow=6.5,SNR=10.0
FINES FINESS Array B 66.19 330 P P 13 04 36.2 0.0
comp=Z,5.8nm,0.6s,baz=81,slow=5.7,SNR=20
ZEI Tsey 66.70 307 *e*P P 13 04 38.2 -1.9
ZEI pmax pmax
comp=Z,7.0nm,0.7s
KBZ Khabaz 66.87 308 P P 13 04 41.0 +0.2
comp=Z,4.2nm,0.8s,baz=12,slow=3.0,SNR=10
KIV Kislovodsk 66.89 308 *e*P P 13 04 40.9 -0.2
KIV pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 69.06 174 P P 13 04 54.5 +0.2
comp=Z,1.1nm,0.5s,baz=325,slow=7.8,SNR=5.4
AKASG Malin Array Be 70.95 320 P P 13 05 05.2 -0.4
comp=Z,7.1nm,0.6s,baz=50,slow=6.4,SNR=24
KIEV Kiev 70.96 320‖ *e*P P 13 05 05.3 -0.4
KIEV pmax pmax
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra 71.93 335 P P 13 05 11.2 -0.1
comp=Z,2.9nm,0.7s,baz=44,slow=6.2
NOA NORSAR Array B 71.93 335 P P 13 05 11.2 -0.1
comp=Z,3.0nm,0.7s,baz=43,slow=5.9,SNR=9.1
BRTR Keskin Array B 74.85 308 P P 13 05 27.3 -1.4
comp=Z,1.2nm,0.9s,baz=27,slow=3.5,SNR=6.3
BRTR Keskin Array B 74.85 308 *ce*P P 13 05 29.2 +0.5
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BMO Blue Mountains 75.37 44 *e*P P 13 05 32.9 +1.5
BMO pmax pmax
comp=Z,2.0nm,0.6s
BMO Blue Mountains 75.37 44 *e*P P 13 05 32.9 +1.5
comp=Z,2.3nm,0.6s
RAYN Ar Rayn 75.87 289 *e*P P 13 05 34.2 -0.3
comp=Z,5.2nm,1.2s
WVOR Wild Horse Val 76.10 47 *e*P P 13 05 35.4 -0.2
WVOR pmax pmax
comp=Z,5.0nm,0.3s
WVOR Wild Horse Val 76.10 47 *e*P P 13 05 35.4 -0.2
comp=Z,4.7nm,0.3s
DLMT Dillon 77.61 42 *e*P P 13 05 45.8 +1.9
comp=Z,12nm,1.0s
HLID Hailey 77.80 44 *e*P P 13 05 46.7 +1.7
comp=Z,3.8nm,1.0s
BOZ Bozeman (W) 77.97 41 *e*P P 13 05 47.9 +1.9
BOZ pmax pmax
comp=Z,2.0nm,0.5s
BOZ Bozeman (W) 77.97 41 *e*P P 13 05 47.9 +1.9
comp=Z,1.8nm,0.5s
CLL Collm 78.28 327 *i*P P 13 05 47.4 +0.2
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 78.28 327 *i*P P 13 05 47.4 +0.2
comp=Z,5.0nm,0.7s
GERES GERESS Array B 79.75 325 P P 13 05 55.1 -0.2
comp=Z,1.0nm,0.6s,baz=25,slow=6.6,SNR=4.7
PDAR Pinedale Array 80.98 42 P P 13 06 03.4 +1.3
comp=Z,1.5nm,0.7s,baz=272,slow=0.7,SNR=15
ULM Lac du Bonnet 81.95 30 P P 13 06 06.5 -0.2
comp=Z,2.5nm,0.7s,baz=314,slow=4.0,SNR=3.3
BFO Black Forest 82.52 327 *i*P P 13 06 11.4 +1.7
TXAR Lajitas Array 93.84 48 P P 13 07 05.3 +1.3
comp=Z,1.3nm,0.7s,baz=289,slow=3.7,SNR=20
LPAZ La Paz 150.68 51 PKPbc PKPbc 13 13 38.3 +0.8
comp=Z,2.2nm,0.7s,baz=324,slow=1.6,SNR=8.5

JMA 05 12:55:13.9, 36°.55N×137°.65E, h0km, M1.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.26**	**282**	*e*S	Sg	12 55 23.7	+1.4
JNG	**Nsakai**	**0.39**	**111**	P	Pg	12 55 22.1	+0.7

JMA 05 12:55:57.8, 36°.56N×137°.64E, h0km, M1.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.25**	**280**	P	Pg	12 56 03.6	+1.0
JTT				S	Sg	12 56 07.2	+1.3
JNG	**Nsakai**	**0.40**	**112**	P	Pg	12 56 06.1	+0.6
JNG				*e*S	Sg	12 56 11.7	+1.0
MAT	**Matsushiro**	**0.46**	**92**	P	Pg	12 56 07.0	+0.4

IDC 05 12:59:26.6±3.2, 10°.99S×161°.93E, h42km±29km, mb3.2/3, mb1 3.6/6, mb1mx3.3/35, mbtmp3.7/6, ML3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/13, Error ellipse: s-maj=29.8km s-min=19.3km az=64.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.49**	**308**	P	Pn	13 00 04.8	+0.1
	13nm,0.3s,baz=217,slow=7.2,SNR=5.2						
HNR				S	Sn	13 00 34.3	+0.5
	44nm,0.3s,baz=193,slow=13,SNR=5.4						
HNR				LR	LR	13 01 13.8	
	comp=Z,215nm,20.6s,baz=138,slow=43						
HNR	**Honiara**	**2.49**	**308**	*e*P	Pn	13 00 09.0	+4.4
HNR				*e*S	Sn	13 00 50.0	+16
DZM	**Mont Dzumac**	**11.84**	**159**	P	Pn	13 02 12.9	-0.1
	0.5nm,0.3s,baz=271,slow=4.3,SNR=7.3						
CTA	**Charters Tower**	**17.59**	**237**	P	Pn	13 03 28.1	-0.6
	0.2nm,0.3s,baz=73,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**28.00**	**248**	P	P	13 05 14.4	+0.6
	0.6nm,0.7s,baz=77,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**29.50**	**241**	P	P	13 05 26.7	-0.5
	0.4nm,0.8s,baz=66,slow=9.8,SNR=3.5						
ILAR	**Eielson Array**	**84.69**	**20**	P	P	13 11 55.6	-0.1
	0.1nm,0.5s,baz=248,slow=4.8,SNR=2.8						

JMA 05 13:23:11.3±0.1, 36°.52N×137°.67E, h1km±1km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.36**	**108**	P	Pg	13 23 18.8	+0.5
JNG				S	Sg	13 23 23.9	+0.9
JGN	**Niukaw**	**0.41**	**224**	S	Sg	13 23 25.4	+0.9
MAT	**Matsushiro**	**0.43**	**87**	P	Pg	13 23 19.8	+0.2
MAT				S	Sg	13 23 25.6	+0.4
MAT	**Matsushiro**	**0.43**	**87**	P	Pg	13 23 19.9	+0.3
MAT				S	Sg	13 23 25.6	+0.4

JMA 05 13:27:45.8±0.1, 36°.53N×137°.68E, h1km±1km, M2.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.29**	**285**	S	Sg	13 27 56.7	+1.6
JNG	**Nsakai**	**0.36**	**110**	P	Pg	13 27 53.3	+0.6
JNG				S	Sg	13 27 58.4	+1.0
JGN	**Niukaw**	**0.42**	**224**	P	Pg	13 27 53.2	-0.7
JGN				S	Sg	13 27 59.9	+0.5
MAT	**Matsushiro**	**0.42**	**88**	S	Pg	13 27 53.4	-0.5
MAT	**Matsushiro**	**0.42**	**88**	P	Pg	13 27 53.5	-0.4
MAT				S	Sg	13 28 00.1	+0.7

MAN 05 13:29:51, 10°.11N×125°.05E, h8km, mb4.3, ML3.2, MS3.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.03**	**335**	*e*P	Pb	13 30 11.1	+0.1
OCLP				*e*S	Sn	13 30 27.1	+0.8
PLP	**Palo**	**1.05**	**356**‖	*e*P	Pg	13 30 11.2	0.0
PLP				*e*S	Sg	13 30 22.9	-1.9
BESP	**Borongan**	**1.53**	**15**	*e*P	Pn	13 30 18.7	+0.1
BESP				*e*S	Sg	13 30 40.0	-0.2

*ISCJB **05** 13:32:15.2±0.7, 23°.95S±0°.10×179°.6W±0°.2, h518km, mb3.3/5, Error ellipse: s-maj=20.8km s-min=9.2km az=30.6*

*IDC **05** 13:32:15.6±3.0, 23°.85S×179°.82W, h494km±42km, mb2.8/5, mb1 3.1/7, mb1mx3.0/33, mbtmp4.0/7, Error ellipse: s-maj=35.8km s-min=23.3km az=26.0*

ISC 05 13:32:16.1±0.8, 23°.8S±0°.1×179°.6W±0°.2, h518km, n8, σ1§69/9, mb3.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.33**	**38**	P	P	13 34 59.7	+1.4
	1.2nm,0.3s,baz=0.0,slow=20,SNR=4.6						
AFI				S	S	13 37 09.5	-2.4
	0.8nm,0.3s,baz=30,slow=18,SNR=2.3						
URZ	**Urewera**	**14.68**	**190**	P	P	13 35 20.2	-2.3
	2.9nm,0.3s,baz=290,slow=2.2,SNR=11						
URZ				S	S	13 37 47.8	-8.5
	0.8nm,0.3s,baz=203,slow=23,SNR=11						

STKA	Stephens Creek	35.06 248	P		P	13 38 25.3	-0.2
	2.5nm,1.1s,baz=120,slow=7.4,SNR=2.8						
ASAR	Alice Springs	42.38 260	P		P	13 39 24.7	-0.2
	0.2nm,0.4s,baz=95,slow=7.4,SNR=11						
WRA	Warramunga Arr	42.74 266	P		P	13 39 27.3	-0.5
	0.2nm,0.3s,baz=95,slow=8.2,SNR=11						
VNDA	Vanda	54.51 185	P		P	13 40 55.9	+1.5
	0.6nm,0.7s,baz=16,slow=7.7,SNR=6.2						
MAW	Mawson	77.96 200	P		P	13 43 21.2	+1.1
	1.1nm,0.5s,baz=148,slow=7.1,SNR=8.7						
TORD	Torodi Ar. Bea	169.33 187	PKPab		PKPab	13 52 40.9	+0.4
	0.4nm,0.6s,baz=164,slow=3.9,SNR=3.2						

NIED ***05*** *13:41:00,38°.00N×142°.20E,h32km,Mw3.6 Best double couple: M₀2.58000×10¹⁴ NP1:φ₀110.00000°,δ34.00000°, λ157.00000°. NP2:φ₀219.00000°,δ77.00000°,λ58.00000°.*
ICSJB ***05*** *13:41:29.1±1.3,38°.05N±0°.05×142°.19E±0°.08,h16km±7km, mb3.6/2,Error ellipse: s-maj=11.1km s-min=6.8km az=25.3*
JMA ***05*** *13:41:30.4±0.2,38°.03N×142°.16E,h39km±2km,M3.8*
IDC ***05*** *13:41:34.1±1.8,38°.61N×141°.22E,h0km,mb3.7/2, mb1 3.6/4,mb1mx3.3/37,mbtmp3.4/4,ML3.2/2,MS2.6/2, Ms1 2.6/2,ms1mx2.3/32,Error ellipse: s-maj=48.4km s-min=24.1km az=98.0*

ISC 05 13:41:28.0±2.2,38°.06N±0°.05×142°.07E±0°.09,h8km±11km, n22,σ1§69/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.69	305	P	Pn	13 41 45.0	+1.0
JIO				S	Sn	13 41 54.8	-0.1
JMM	Marumori	1.03	259	P	Pn	13 41 49.4	+0.7
JMM				eS	Sn	13 42 02.9	-0.3
JMK	Ichinoseki	1.11	323	P	Pn	13 41 51.0	+1.2
JOU	Okura	1.15	286	P	Pn	13 41 52.0	+1.6
JOU				eS	Sn	13 42 07.3	+1.0
JFK	Kawauchi	1.18	234	P	Pb	13 41 50.7	+0.1
JFK				S	Sb	13 42 05.2	-0.7
JFT	Otama	1.48	249	P	Pg	13 41 56.6	+0.2
JFT				eS	Sn	13 42 15.4	+1.0
JOM	Ohasama	1.54	337	P	Pn	13 41 57.1	+1.5
JOM				eS	Sn	13 42 16.2	+0.4
JYS	Shiratake	1.59	276	P	Pg	13 41 58.7	+0.2
JYS				eS	Sg	13 42 19.1	0.0
JYK	Kaneyama	1.59	303	P	Pg	13 41 58.6	+0.1
JYK				eS	Sg	13 42 18.9	-0.3
JRG	Rokugo	1.74	320	P	Pb	13 42 00.9	+0.7
MJAR	Matsushiro Arr	3.43	245	Pn	Pn	13 42 25.4	+3.6
	1.1nm,0.3s,baz=50,slow=9.7,SNR=9.2						
MJAR				Sn	Sb	13 43 08.1	-2.9
	1.6nm,0.3s,baz=79,slow=17,SNR=5.6						
MAT	Matsushiro	3.43	245	P	Pb	13 42 25.8	-3.3
MAT				eS	Sb	13 43 09.8	-1.1
ASAJ	Asahikawa	6.06	4	Pn	Pn	13 42 59.5	+1.6
	0.9nm,0.3s,baz=215,slow=16,SNR=9.0						
ASAJ				Sn	Sn	13 44 03.9	-3.5
	0.4nm,0.3s,baz=210,slow=20,SNR=1.7						
ASAJ				LR	LR	13 45 60.0	
	comp=Z,49nm,20.7s,baz=170,slow=47						
JNU	Nakatsue	10.36	245	LR	LR	13 48 44.0	
	comp=Z,34nm,19.0s,baz=110,slow=43						
H11N2	WAKE ISLAND Hy 28.25	123		T	T	14 16 39.4	
	baz=316,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy 28.26	123		T	T	14 16 51.3	
	baz=316,slow=75,SNR=27						
H11N3	WAKE ISLAND Hy 28.27	123		T	T	14 16 47.9	
	baz=316,slow=75,SNR=30						
H11S1	WAKE ISLAND Hy 29.00	125		T	T	14 18 38.0	
	baz=318,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy 29.00	125		T	T	14 18 09.5	
	baz=318,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy 29.02	125		T	T	14 18 39.2	
	baz=318,slow=76,SNR=10						
MKAR	Makanchi Array	44.02	301	P	P	13 49 36.1	+0.2
	0.3nm,0.3s,baz=91,slow=8.9,SNR=3.4						
WRA	Warramunga Arr	58.15	189	P	P	13 51 32.6	+10
	0.7nm,0.8s,baz=5.2,slow=7.1,SNR=3.1						

MAN 05 13:41:28,6°.60N×126°.52E,h21km,mb3.8,ML2.5,MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.43	323	eP	Pn	13 41 38.1	-0.9
MATI				eS	Sn	13 41 48.0	+1.6
BUKP	Musuan	1.93	311	eP	Pn	13 42 00.2	+0.6

ICSJB ***05*** *13:42:49.3±0.3,40°.36S±0°.02×176°.72E±0°.04,h63km±3km, mb4.0/7,Error ellipse: s-maj=5.8km s-min=2.6km az=29.3*
WEL ***05*** *13:42:51.5±0.1,40°.32S×176°.68E,h50km±1km,ML4.6/55, Mw4.3,Error ellipse: s-maj=1.0km s-min=0.5km az=90.0*
WEL Felt from Hawke"s Bay to Wellington, maximum reported intensity MM 5.
IDC ***05*** *13:42:51.3±3.6,40°.19S×176°.49E,h37km±27km,mb3.8/6, mb1 4.0/7,mb1mx3.8/20,mbtmp4.0/7,ML3.4/1,MS3.4/8, Ms1 3.4/8,ms1mx3.2/23,Error ellipse: s-maj=29.3km s-min=20.4km az=121.0*
NEIC ***05*** *13:42:51.7±0.0,40°.30S×176°.63E,h47km,mb4.3/1, ML4.4(WEL),After WEL.*
NEIC Felt in Hawke's Bay and at Manuatu.

ISC 05 13:42:51.5±0.7,40°.32S±0°.03×176°.62E±0°.04,h52km±4km, n247,σ1§18/254,mb4.2/7,MS3.5/7,45C-22D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	Porangahau	0.05	12	Pn	Pn	13 42 59.0	-0.4
PRHZ	Porangahau	0.05	12	⇓PN	Pn	13 42 59.0	-0.4
PRHZ				AML	AML	13 43 05.1	
PRHZ				AML	AML	13 43 05.3	
ANWZ	Angora Road	0.18	218	⇓PN	Pn	13 43 00.2	+0.3
ANWZ				SN	Sn	13 43 06.4	+0.5
ANWZ				AML	AML	13 43 07.1	
WPHZ	Waipukurau	0.29	331	Pn	Pn	13 42 59.7	-1.0
WPHZ				Sn	Sn	13 43 05.7	-1.6
WPHZ	Waipukurau	0.29	331	⇓PN	Pn	13 42 59.7	-1.0
WPHZ				eSN	Sn	13 43 05.8	-1.6
WPHZ				AML	AML	13 43 06.1	
PXZ	Pawanui	0.34	33	Pn	Pn	13 43 00.8	-0.4
PXZ	Pawanui	0.34	33	PN	Pn	13 43 00.8	-0.4
PXZ				SN	Sn	13 43 07.4	-0.7
PXZ				AML	AML	13 43 08.9	
PXZ				AML	AML	13 43 08.9	
PXZ				AML	AML	13 43 09.4	
DVHZ	Dannevirke	0.35	273	Pn	Pn	13 43 00.6	-0.7
DVHZ	Dannevirke	0.35	273	⇓PN	Pn	13 43 00.5	-0.7
DVHZ				AML	AML	13 43 07.1	
DVHZ				AML	AML	13 43 07.2	
BFZ	Birch Farm	0.46	218	Pn	Pn	13 43 02.9	+0.4
BFZ	Birch Farm	0.46	218	⇓PN	Pn	13 43 02.9	+0.4
BFZ				SN	Sn	13 43 11.7	+1.4
BFZ				AML	AML	13 43 13.5	
BFZ				AML	AML	13 43 13.6	
BFZ				AML	AML	13 43 13.6	
PNHZ	Pukenui	0.52	321	Pn	Pn	13 43 01.9	-1.2
PNHZ	Pukenui	0.52	321	⇑PN	Pn	13 43 01.9	-1.2
PNHZ				AML	AML	13 43 09.7	
PNHZ				AML	AML	13 43 09.8	
PRWZ	Pori Road	0.55	244	Pn	Pn	13 43 03.8	+0.3
PRWZ	Pori Road	0.55	244	⇓PN	Pn	13 43 03.8	+0.3
PRWZ				AML	AML	13 43 13.4	
PRWZ				AML	AML	13 43 13.6	
KAHZ	Kahuranaki	0.56	21	Pn	Pn	13 43 03.3	-0.4
KAHZ	Kahuranaki	0.56	21	⇑PN	Pn	13 43 03.3	-0.4
KAHZ				AML	AML	13 43 12.9	
KAHZ				AML	AML	13 43 16.4	
TSZ	Takapari Road	0.57	297	Pn	Pn	13 43 02.6	-1.1
TSZ	Takapari Road	0.57	297	PN	Pn	13 43 02.6	-1.1
TSZ				AML	AML	13 43 10.5	
TSZ				AML	AML	13 43 10.5	
TSZ				AML	AML	13 43 10.8	
TSZ				AML	AML	13 43 10.9	
POWZ	Post Office Ro	0.66	263	Pn	Pn	13 43 04.5	-0.3
POWZ	Post Office Ro	0.66	263	⇑PN	Pn	13 43 04.5	-0.3
POWZ				AML	AML	13 43 15.8	
POWZ				AML	AML	13 43 16.5	
CPWZ	Castlepoint	0.67	208	Pn	Pn	13 43 06.2	+1.3
CPWZ	Castlepoint	0.67	208	⇑PN	Pn	13 43 06.2	+1.3
CPWZ				AML	AML	13 43 18.7	
CPWZ				AML	AML	13 43 18.8	
KRHZ	Kereru	0.70	344	⇑PN	Pn	13 43 04.2	-1.1
KRHZ				AML	AML	13 43 14.7	
KRHZ				AML	AML	13 43 14.8	
TIWZ	Tintock	0.72	231	Pn	Pn	13 43 06.0	+0.3
TIWZ	Tintock	0.72	231	⇓PN	Pn	13 43 06.0	+0.3
TIWZ				AML	AML	13 43 16.9	
TIWZ				AML	AML	13 43 17.0	
CKHZ	Cape Kidnapper	0.75	28	Pn	Pn	13 43 05.4	-0.5
CKHZ	Cape Kidnapper	0.75	28	⇑PN	Pn	13 43 05.4	-0.5
CKHZ				AML	AML	13 43 24.8	
CKHZ				AML	AML	13 43 39.3	
MRZ	Mangatainoka R	0.86	246	Pn	Pn	13 43 07.2	-0.3
MRZ	Mangatainoka R	0.86	246	⇓PN	Pn	13 43 07.1	-0.3
MRZ				AML	AML	13 43 19.5	
MRZ				AML	AML	13 43 19.6	
MCHZ	McNeill Hill	0.88	4	Pn	Pn	13 43 07.3	-0.3
MCHZ	McNeill Hill	0.88	4	⇑PN	Pn	13 43 07.3	-0.3
MCHZ				AML	AML	13 43 22.1	
MCHZ				AML	AML	13 43 35.0	
KWHZ	Kaweka Forest	0.91	350	⇑PN	Pn	13 43 07.2	-0.9
KWHZ				AML	AML	13 43 21.0	
KWHZ				AML	AML	13 43 21.3	
BHHZ	Black Hill Sta	0.93	332	Pn	Pn	13 43 07.6	-0.9
BHHZ	Black Hill Sta	0.93	332	⇑PN	Pn	13 43 07.6	-0.9
BHHZ				AML	AML	13 43 19.2	
BHHZ				AML	AML	13 43 19.3	
TMWZ	Te Maipa	0.96	215	Pn	Pn	13 43 09.0	+0.2
TMWZ	Te Maipa	0.96	215	⇓PN	Pn	13 43 09.0	+0.2
TMWZ				AML	AML	13 43 23.0	
TMWZ				AML	AML	13 43 23.2	
OHWZ	Ohakea	1.00	276	⇑PN	Pn	13 43 09.9	+0.6
HOWZ	Holdsworth Sta	1.02	235	AML	AML	13 43 23.6	
HOWZ				AML	AML	13 43 23.8	
ARHZ	Aropaoanui	1.09	15	Pn	Pn	13 43 10.4	-0.2
ARHZ	Aropaoanui	1.09	15	⇑PN	Pn	13 43 10.4	-0.2
ARHZ				AML	AML	13 43 26.2	
ARHZ				AML	AML	13 43 26.5	
MOVZ	Moawhango	1.13	323	Pn	Pn	13 43 10.8	-0.3
MOVZ	Moawhango	1.13	323	⇑PN	Pn	13 43 10.7	-0.3
BKZ	Black Stump Fm	1.16	355	⇓PN	Pn	13 43 10.7	-0.8
BKZ				AML	AML	13 43 24.5	
BKZ				AML	AML	13 43 24.5	
MTW	Mount Morrison	1.19	225	Pn	Pn	13 43 11.4	-0.5
MTW	Mount Morrison	1.19	225	PN	Pn	13 43 11.4	-0.5
MTW				AML	AML	13 43 30.3	
MTW				AML	AML	13 43 57.0	
OGWZ	Otaki Gorge	1.21	245	Pn	Pn	13 43 12.1	-0.1
OGWZ	Otaki Gorge	1.21	245	PN	Pn	13 43 12.1	-0.1
OGWZ				AML	AML	13 43 27.6	
OGWZ				AML	AML	13 43 29.2	
NMHZ	Naumai	1.23	7	Pn	Pn	13 43 12.2	-0.3
NMHZ	Naumai	1.23	7	⇑PN	Pn	13 43 12.1	-0.3
NMHZ				AML	AML	13 43 28.1	
NMHZ				AML	AML	13 43 28.3	
WNVZ	Wahianoa	1.27	321	Pn	Pn	13 43 13.0	0.0
WNVZ	Wahianoa	1.27	321	⇑PN	Pn	13 43 13.0	0.0
MTVZ	Mangateitei	1.29	316	Pn	Pn	13 43 13.3	+0.1
MTVZ	Mangateitei	1.29	316	⇑PN	Pn	13 43 13.3	+0.1
TUVZ	Tukino	1.29	324	Pn	Pn	13 43 13.5	+0.2
TUVZ	Tukino	1.29	324	⇑PN	Pn	13 43 13.5	+0.2
TRWZ	Traveller	1.29	213	Pn	Pn	13 43 13.0	-0.2
TRWZ	Traveller	1.29	213	⇑PN	Pn	13 43 13.0	-0.2
TRWZ				AML	AML	13 43 54.1	
TRWZ				AML	AML	13 44 02.6	
WHVZ	Whangaehu Hut	1.30	322	Pn	Pn	13 43 13.3	-0.3
WHVZ	Whangaehu Hut	1.30	322	PN	Pn	13 43 13.3	-0.3
TRVZ	Turoa	1.31	321	Pn	Pn	13 43 13.2	-0.5
TRVZ	Turoa	1.31	321	⇑PN	Pn	13 43 13.7	0.0
DRZ	Dome Shelter	1.32	322	Pn	Pn	13 43 14.1	+0.1
DRZ	Dome Shelter	1.32	322	⇓PN	Pn	13 43 14.1	+0.1
WHHZ	Waihua	1.33	21	PN	Pn	13 43 13.4	-0.3
WHHZ				AML	AML	13 43 31.9	
WHHZ				AML	AML	13 43 33.0	
FWVZ	Far West T-bar	1.34	322	Pn	Pn	13 43 13.8	-0.3
FWVZ	Far West T-bar	1.34	322	PN	Pn	13 43 13.8	-0.3
OTVZ	Oturere	1.37	327	Pn	Pn	13 43 14.4	0.0
OTVZ	Oturere	1.37	327	⇑PN	Pn	13 43 14.4	0.0
WAZ	Wanganui	1.38	294	Pn	Pn	13 43 14.8	+0.4
WAZ	Wanganui	1.38	294	PN	Pn	13 43 14.8	+0.4
NGZ	Ngauruhoe	1.39	325	Pn	Pn	13 43 14.6	0.0
NGZ	Ngauruhoe	1.39	325	⇑PN	Pn	13 43 14.6	0.0
PAWZ	Paruwai Farm	1.40	220	Pn	Pn	13 43 14.2	-0.5
PAWZ	Paruwai Farm	1.40	220	PN	Pn	13 43 14.1	-0.5
PAWZ				AML	AML	13 43 51.2	
PAWZ				AML	AML	13 44 04.6	
KIWZ	Kapiti Island	1.41	247	Pn	Pn	13 43 14.7	-0.2
KIWZ	Kapiti Island	1.41	247	⇑PN	Pn	13 43 14.7	-0.2
KIWZ				AML	AML	13 43 32.1	
KIWZ				AML	AML	13 43 32.9	
CAWZ	Cannon Point	1.42	236	Pn	Pn	13 43 14.3	-0.6
CAWZ	Cannon Point	1.42	236	PN	Pn	13 43 14.3	-0.6
CAWZ				AML	AML	13 43 33.7	
CAWZ				AML	AML	13 43 52.9	
PKVZ	Pokaka	1.42	316	Pn	Pn	13 43 15.1	0.0
PKVZ	Pokaka	1.42	316	⇑PN	Pn	13 43 15.1	0.0
KRVZ	Karewarewa	1.44	328	Pn	Pn	13 43 15.2	-0.1
KRVZ	Karewarewa	1.44	328	⇑PN	Pn	13 43 15.2	-0.1
WTVZ	West Tongariro	1.44	326	Pn	Pn	13 43 15.3	-0.1
WTVZ	West Tongariro	1.44	326	⇑PN	Pn	13 43 15.3	-0.1
RITZ	Rihia Road	1.46	336	Pn	Pn	13 43 15.7	+0.1
RITZ	Rihia Road	1.46	336	⇑PN	Pn	13 43 15.7	+0.1
HATZ	Hinemaiaia	1.48	344	Pn	Pn	13 43 15.5	-0.3
HATZ	Hinemaiaia	1.48	344	⇑PN	Pn	13 43 15.5	-0.3
MRHZ	Matea Rd	1.49	354	⇑PN	Pn	13 43 15.6	-0.3
MRHZ				AML	AML	13 43 34.4	
MRHZ				AML	AML	13 43 35.0	
MSWZ	Moikau Station	1.51	223	Pn	Pn	13 43 15.2	-1.0
MSWZ	Moikau Station	1.51	223	PN	Pn	13 43 15.2	-1.0
MSWZ				AML	AML	13 43 38.8	
MSWZ				AML	AML	13 43 55.5	
KATZ	Kakaramea	1.52	332	Pn	Pn	13 43 16.4	-0.1
KATZ	Kakaramea	1.52	332	⇑PN	Pn	13 43 16.4	-0.1
KNZ	Kokohu	1.53	32	Pn	Pn	13 43 15.6	-0.8
KNZ	Kokohu	1.53	32	PN	Pn	13 43 15.6	-0.8
KNZ				AML	AML	13 43 35.5	
KNZ				AML	AML	13 43 37.3	
MHGZ	Mahia Peninsul	1.53	41	Pn	Pn	13 43 15.9	-0.5
MHGZ	Mahia Peninsul	1.53	41	PN	Pn	13 43 15.9	-0.5
MHGZ				AML	AML	13 43 38.1	
MHGZ				AML	AML	13 43 39.8	
TWVZ	Taurewa	1.54	323	Pn	Pn	13 43 16.4	-0.3
TWVZ	Taurewa	1.54	323	PN	Pn	13 43 16.4	-0.3
RATZ	Rangitukua	1.59	335	Pn	Pn	13 43 16.9	-0.5
RATZ	Rangitukua	1.59	335	⇓PN	Pn	13 43 16.8	-0.5
PLWZ	Palliser	1.62	219	Pn	Pn	13 43 16.8	-1.0
PLWZ	Palliser	1.62	219	PN	Pn	13 43 16.8	-1.0
PLWZ				AML	AML	13 43 37.5	
PLWZ				AML	AML	13 43 41.1	
SNGZ	Shannon Statio	1.63	20	Pn	Pn	13 43 17.3	-0.6
SNGZ	Shannon Statio	1.63	20	⇑PN	Pn	13 43 17.3	-0.6
SNGZ				AML	AML	13 43 37.8	
SNGZ				AML	AML	13 43 41.1	
PRGZ	Paritu Road	1.70	35	Pn	Pn	13 43 17.9	-0.9
PRGZ	Paritu Road	1.70	35	PN	Pn	13 43 17.7	-1.1
PRGZ				AML	AML	13 43 42.4	
PRGZ				AML	AML	13 43 44.8	
WELZ	Wellington	1.71	235	Pn	Pn	13 43 18.0	-0.9
WELZ	Wellington	1.71	235	PN	Pn	13 43 18.0	-0.9
WELZ				AML	AML	13 43 39.5	
WELZ				AML	AML	13 43 39.5	
WELZ				AML	AML	13 43 49.5	
WELZ				AML	AML	13 43 49.5	
BHWZ	Baring Head	1.72	230	Pn	Pn	13 43 18.0	-1.0
BHWZ	Baring Head	1.72	230	PN	Pn	13 43 18.0	-1.0
RTZ	Ruatahuna	1.72	9	PN	Pn	13 43 18.1	-1.1
WHTZ	Whakaora	1.73	343	Pn	Pn	13 43 18.9	-0.3
WHTZ	Whakaora	1.73	343	⇑PN	Pn	13 43 18.9	-0.3
WATZ	Wairara	1.75	337	Pn	Pn	13 43 18.8	-0.7
WATZ	Wairara	1.75	337	⇑PN	Pn	13 43 18.8	-0.7
SNZO	South Karori	1.76	235	ePn	Pn	13 43 18.3	-1.2
ALRZ	Allen Road	1.77	353	Pn	Pn	13 43 18.9	-0.9
ALRZ	Allen Road	1.77	353	⇑PN	Pn	13 43 18.9	-0.9
PRRZ	Plateau Road	1.82	354	Pn	Pn	13 43 19.7	-0.8
PRRZ	Plateau Road	1.82	354	⇑PN	Pn	13 43 19.7	-0.8
WPRZ	Whakapapatarin	1.83	349	Pn	Pn	13 43 19.7	-0.9
WPRZ	Whakapapatarin	1.83	349	⇑PN	Pn	13 43 19.7	-0.9
RIGZ	Rimuhau	1.84	29	PN	Pn	13 43 19.9	-0.7
RIGZ				AML	AML	13 43 43.6	
RIGZ				AML	AML	13 43 47.0	
MUGZ	Murupara	1.84	4	⇑PN	Pn	13 43 19.8	-0.9
VRZ	Vera Road	1.87	309	Pn	Pn	13 43 21.0	0.0
VRZ	Vera Road	1.87	309	PN	Pn	13 43 21.0	0.0
LREZ	Lake Rotokare	1.91	296	⇓PN	Pn	13 43 22.5	+0.9
RAGZ	Rawiri	1.92	19	Pn	Pn	13 43 20.9	-0.9
RAGZ	Rawiri	1.92	19	⇑PN	Pn	13 43 20.9	-0.9
RAGZ				AML	AML	13 43 44.8	
RAGZ				AML	AML	13 43 46.0	
KUTZ	Kaahu Road	1.93	341	Pn	Pn	13 43 21.2	-0.7
KUTZ	Kaahu Road	1.93	341	⇑PN	Pn	13 43 21.2	-0.7
HRRZ	Handcock Road	1.94	352	Pn	Pn	13 43 21.3	-0.8
HRRZ	Handcock Road	1.94	352	⇑PN	Pn	13 43 21.3	-0.8
RRRZ	Republican Roa	1.98	358	Pn	Pn	13 43 21.6	-1.1
RRRZ	Republican Roa	1.98	358	⇑PN	Pn	13 43 21.5	-1.1
TCW	Tory Channel	1.99	243	Pn	Pn	13 43 21.8	-0.9
TCW	Tory Channel	1.99	243	PN	Pn	13 43 21.8	-0.9
TCW				AML	AML	13 43 47.6	
TCW				AML	AML	13 43 48.7	
GRRZ	Galatos Road	2.00	348	PN	Pn	13 43 22.3	-0.6
HSRZ	Hossack Road	2.02	352	⇑PN	Pn	13 43 22.4	-0.8
HLRZ	Highlands Stat	2.07	354	PN	Pn	13 43 23.7	-0.2
TARZ	Mount Tarawera	2.08	358	Pn	Pn	13 43 23.3	-0.8
TARZ	Mount Tarawera	2.08	358	⇑PN	Pn	13 43 23.3	-0.8
URZ	Urewera	2.09	11	Pn	Pn	13 43 22.7	-1.4
	205nm,0.3s,baz=222,slow=4.9,SNR=536						
URZ				Sn	Sn	13 43 46.1	-2.8
	272nm,0.3s,baz=278,slow=19,SNR=27						
URZ				LR	LR	13 44 07.8	
	comp=Z,346nm,21.5s,baz=242,slow=38						
URZ	Urewera	2.09	11	PN	Pn	13 43 22.7	-1.4
URZ				AML	AML	13 43 47.4	
URZ				AML	AML	13 43 47.7	
MWZ	Matawai	2.10	20	Pn	Pn	13 43 23.0	-1.3
MWZ	Matawai	2.10	20	PN	Pn	13 43 23.0	-1.3
MWZ				AML	AML	13 43 48.4	
MWZ				AML	AML	13 43 53.2	
TKGZ	Te Karaka	2.10	27	Pn	Pn	13 43 23.1	-1.2
TKGZ	Te Karaka	2.10	27	⇓PN	Pn	13 43 23.1	-1.2
TKGZ				AML	AML	13 43 49.5	
TKGZ				AML	AML	13 43 49.7	
DUWZ	D'Urville Isla	2.11	256	Pn	Pn	13 43 23.7	-0.7
DUWZ	D'Urville Isla	2.11	256	PN	Pn	13 43 23.7	-0.7
PREZ	Palmer Road	2.13	296	Pn	Pn	13 43 26.0	+1.3
PREZ	Palmer Road	2.13	296	PN	Pn	13 43 26.0	+1.3
TLZ	Tolley Road	2.16	337	Pn	Pn	13 43 23.7	-1.3
TLZ	Tolley Road	2.16	337	⇓PN	Pn	13 43 24.0	-1.0
MHEZ	Mangahewa	2.16	304	Pn	Pn	13 43 26.1	+1.0
MHEZ	Mangahewa	2.16	304	PN	Pn	13 43 26.1	+1.0
DREZ	Durham Road	2.18	300	Pn	Pn	13 43 26.3	+0.9
DREZ	Durham Road	2.18	300	PN	Pn	13 43 26.3	+0.9
CNGZ	Carnagh Statio	2.21	34	Pn	Pn	13 43 24.8	-0.9
CNGZ	Carnagh Statio	2.21	34	PN	Pn	13 43 24.7	-0.9
CNGZ				AML	AML	13 43 52.9	
CNGZ				AML	AML	13 43 55.7	
NEZ	North Egmont	2.21	297	Pn	Pn	13 43 26.9	+1.1
NEZ	North Egmont	2.21	297	PN	Pn	13 43 26.9	+1.1
OMRZ	Omania	2.22	355	Pn	Pn	13 43 24.7	-1.2
OMRZ	Omania	2.22	355	⇑PN	Pn	13 43 24.7	-1.2
KHEZ	Kahui Hut	2.25	296	Pn	Pn	13 43 27.8	+1.4
KHEZ	Kahui Hut	2.25	296	PN	Pn	13 43 27.8	+1.4
HIZ	Hauiti	2.26	322	Pn	Pn	13 43 26.7	+0.2
HIZ	Hauiti	2.26	322	⇓PN	Pn	13 43 26.7	+0.2
NMEZ	Namu Road	2.30	292	Pn	Pn	13 43 28.1	+1.2
NMEZ	Namu Road	2.30	292	PN	Pn	13 43 28.1	+1.2
TUWZ	Tuamarina	2.31	240	Pn	Pn	13 43 25.7	-1.4
TUWZ	Tuamarina	2.31	240	PN	Pn	13 43 25.7	-1.4
TUWZ				AML	AML	13 43 54.2	
TUWZ				AML	AML	13 43 55.4	
PKE	Pukeiti	2.32	298	Pn	Pn	13 43 28.6	+1.3
PKE	Pukeiti	2.32	298	PN	Pn	13 43 28.5	+1.3
MARZ	Manawahe	2.33	1	Pn	Pn	13 43 25.3	-2.1
NWEZ	Newall Road	2.36	295	Pn	Pn	13 43 29.2	+1.3
TWGZ	Tauwhareparae	2.38	27	Pn	Pn	13 43 27.0	-1.2
TWGZ	Tauwhareparae	2.38	27	PN	Pn	13 43 27.0	-1.2
TWGZ				AML	AML	13 43 57.8	
TWGZ				AML	AML	13 43 59.2	
OPRZ	Ohinepanea	2.47	359	Pn	Pn	13 43 27.7	-1.6
OPRZ	Ohinepanea	2.47	359	PN	Pn	13 43 27.7	-1.6
WHRZ	Whale Island	2.47	7	⇑PN	Pn	13 43 28.2	-1.2
RUGZ	Raukumara Rang	2.49	20	PN	Pn	13 43 28.2	-1.5
BSWZ	Blackbirch Sta

comp=Z,42nm,22.0s,baz=354,slow=30
ASAR Alice Springs 39.44 282 P **P 13 50 16.8 +0.1**
0.8nm,0.4s,baz=122,slow=6.9,SNR=31
ASAR PcP **PcP 13 52 23.8 -0.1**
0.4nm,0.8s,baz=94,slow=3.7,SNR=2.9
ASAR S **S 13 56 11.7 -3.3**
0.4nm,0.9s,baz=136,slow=16,SNR=4.1
ASAR LR LR 14 06 59.0
comp=Z,69nm,18.4s,baz=147,slow=37
WRAB Tennant Creek 41.35 287 *e*P **P 13 50 32.5 +0.1**
3.2nm,0.5s
WRA Warramunga Arr 41.35 287 P **P 13 50 32.8 +0.2**
2.6nm,0.6s,baz=126,slow=8.1,SNR=22
WRA LR LR 14 07 11.6
comp=Z,90nm,21.5s,baz=225,slow=35
MAW Mawson 61.49 204 P **P 13 53 05.1 +2.7**
2.0nm,1.1s,baz=139,slow=9.7,SNR=3.9
SNAA Sanae 68.32 180 LR LR 14 22 13.2
comp=Z,23nm,18.1s,baz=179,slow=34
KSRS Korea Array 89.35 323 P **P 13 55 43.3 +1.2**
0.9nm,0.7s,baz=142,slow=6.2,SNR=5.3
KSAR Wonju Array Be 89.36 323 P **P 13 55 43.3 +1.2**
CMAR Chiang Mai Arr 92.75 292 P **P 13 55 57.9 -0.5**
0.5nm,0.6s,baz=156,slow=4.7,SNR=4.0
YKA Yellowknife Ar 116.25 29 PKP **PKPdf 14 01 29.0 +1.0**
0.4nm,0.7s,baz=263,slow=1.1,SNR=3.9
ARCES ARCESS Array B 147.01 342 PKPbc **PKPab 14 02 28.4 -0.5**
10nm,0.6s,baz=48,slow=4.1,SNR=38
BRTR Keskin Array B 151.77 281 PKPbc **PKPbc 14 02 40.8 +0.5**
0.8nm,0.8s,baz=176,slow=3.3,SNR=4.6
BRTR PKPab **pPKPdf 14 02 49.3 -0.2**
1.3nm,0.8s,baz=148,slow=7.3,SNR=5.9
FINES FINESS Array B 152.27 329 PKPbc **PKPbc 14 02 41.0 +0.6**
1.9nm,0.6s,baz=111,slow=4.9,SNR=3.9
TORD Torodi Ar. Bea 152.57 191 PKPbc **PKPbc 14 02 44.1 +1.5**
1.0nm,0.8s,baz=166,slow=2.0,SNR=7.2
TORD PKPab **sPKPdf 14 02 55.4 -1.4**
1.7nm,0.7s,baz=170,slow=4.1,SNR=9.9

JMA 05 13:54:53.5,36°.56N×137°.65E,h0km,M1.3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.26**	**280**	P	Pg	13 54 59.3	+0.8
JTT				S	Sg	13 55 03.5	+1.7
JNG	**Nsakai**	**0.39**	**113**	P	Pg	13 55 01.7	+0.7
JNG				S	Sg	13 55 07.3	+1.2
JGN	**Niukaw**	**0.43**	**219**	P	Pg	13 55 02.1	+0.3
JGN				S	Sg	13 55 08.1	+0.8
MAT	**Matsushiro**	**0.45**	**92**	P	Pg	13 55 02.5	+0.4
MAT				S	Sg	13 55 08.8	+0.9
MAT	**Matsushiro**	**0.45**	**92**	P	Pg	13 55 02.5	+0.4
MAT				S	Sg	13 55 08.8	+0.9

ISCJB ***05*** *14:28:44.9±0.5,40°.87N±0°.04×30°.37E±0°.03,h2km±6km, Error ellipse: s-maj=6.4km s-min=3.6km az=18.7*
CSEM ***05*** *14:28:44.9±0.1,40°.89N×30°.39E,h8km,MD2.6,Error ellipse: s-maj=4.3km s-min=2.2km az=17.0*
ISK ***05*** *14:28:44.1,40°.89N×30°.37E,h3km,MD2.5*
DDA ***05*** *14:28:45.1,40°.88N×30°.40E,h8km,Md2.6*

ISC 05 14:28:45.0±1.0,40°.89N±0°.03×30°.40E±0°.02,h11km±9km, n40,σ0°.63/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAND	**Kocaeli-Kandir**	**0.25**	**323**	*i* P	**Pg**	**14 28 50.5**	**+0.2**
KAND				*i* S	**Sb**	**14 28 55.0**	**-1.0**
KAND	**Kocaeli-Kandir**	**0.25**	**323**	P	**Pg**	**14 28 50.5**	**+0.2**
KAND				S	**Sb**	**14 28 55.0**	**-1.0**
SAHE	**Sakarya_HENDEK**	**0.35**	**96**	*i* P	**Pg**	**14 28 51.3**	**-0.8**
SAHE				*i* S	**Sb**	**14 28 57.9**	**-0.9**
SAHE	**Sakarya_HENDEK**	**0.35**	**96**	P	**Pg**	**14 28 51.3**	**-0.8**
SAHE				S	**Sb**	**14 28 57.9**	**-0.9**
GULT	**Gulveren**	**0.47**	**169**	*e*PG	**Pg**	**14 28 54.1**	**-0.1**
GULT				*e*SG	**Sb**	**14 29 01.4**	**-0.8**
GULT	**Gulveren**	**0.47**	**169**	*e*Pg	**Pg**	**14 28 54.1**	**-0.1**
GULT				*e*Sg	**Sb**	**14 29 01.4**	**-0.8**
HRT	**Hereke**	**0.56**	**263**	*e*PG	**Pg**	**14 28 55.4**	**-0.5**
HRT				*e*SG	**Sg**	**14 29 03.6**	**+0.4**
HRT	**Hereke**	**0.56**	**263**	*e*Pg	**Pg**	**14 28 55.4**	**-0.5**
HRT				*e*Sg	**Sg**	**14 29 03.7**	**+0.4**
SILT	**Sile**	**0.63**	**295**	*e*PG	**Pg**	**14 28 56.7**	**-0.5**
SILT				*e*SG	**Sg**	**14 29 05.9**	**+0.4**
SILT	**Sile**	**0.63**	**295**	*e*Pg	**Pg**	**14 28 56.7**	**-0.5**
SILT				*e*Sg	**Sg**	**14 29 05.9**	**+0.4**
MDUB	**Mudurnu**	**0.74**	**124**	*e*PG	**Pg**	**14 28 59.4**	**0.0**
MDUB	**Mudurnu**	**0.74**	**124**	*e*Pg	**Pg**	**14 28 59.4**	**0.0**
CAVI	**Cavuskoy**	**0.81**	**212**	*e*PG	**Pg**	**14 29 00.3**	**-0.4**
CAVI	**Cavuskoy**	**0.81**	**212**	*e*Pg	**Pg**	**14 29 00.3**	**-0.4**
TUZL	**Tuzla-Istanbul**	**0.86**	**265**	*e*PG	**Pg**	**14 29 01.0**	**-0.6**
TUZL	**Tuzla-Istanbul**	**0.86**	**265**	*e*Pg	**Pg**	**14 29 01.0**	**-0.6**
BUY	**Buyukada**	**0.97**	**268**	*e*PG	**Pg**	**14 29 03.1**	**-0.6**
BUY	**Buyukada**	**0.97**	**268**	*i* P	**Pg**	**14 29 03.5**	**-0.2**
BUY				*i* S	**Sn**	**14 29 18.1**	**-0.2**
BUY	**Buyukada**	**0.97**	**268**	*e*Pg	**Pg**	**14 29 03.1**	**-0.6**
BUY	**Buyukada**	**0.97**	**268**	P	**Pg**	**14 29 03.5**	**-0.2**
BUY				S	**Sn**	**14 29 18.1**	**-0.2**
KAVV	**Kandilli-Istan**	**1.03**	**280**	*e*PG	**Pg**	**14 29 04.2**	**-0.6**
KAVV	**Kandilli-Istan**	**1.03**	**280**	*e*Pg	**Pg**	**14 29 04.2**	**-0.6**
ISK	**Istanbul-Kandi**	**1.03**	**280**	*e*PG	**Pg**	**14 29 04.2**	**-0.6**
ISK	**Istanbul-Kandi**	**1.03**	**280**	*e*Pg	**Pg**	**14 29 04.2**	**-0.6**
KLYT	**Kilyos**	**1.08**	**290**	*e*PG	**Pg**	**14 29 05.5**	**-0.4**
KLYT	**Kilyos**	**1.08**	**290**	*e*Pg	**Pg**	**14 29 05.5**	**-0.4**
SBT5	**Esenkoy-Cinarc**	**1.18**	**258**	*e*PN	**Pb**	**14 29 07.2**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**1.18**	**258**	*e*Pn	**Pb**	**14 29 07.2**	**-0.2**
ARMT	**Armutlu**	**1.21**	**255**	*e*PN	**Pb**	**14 29 07.6**	**-0.3**
ARMT	**Armutlu**	**1.21**	**255**	*e*Pn	**Pb**	**14 29 07.6**	**-0.3**
BCAM	**Yenicaga**	**1.27**	**93**	*i* P	**Pn**	**14 29 08.8**	**0.0**
BCAM				*i* S	**Sn**	**14 29 27.1**	**+1.2**
BCAM	**Yenicaga**	**1.27**	**93**	P	**Pn**	**14 29 08.8**	**0.0**
BCAM				S	**Sn**	**14 29 27.1**	**+1.2**
SBT2	**Guzelce-Avcila**	**1.43**	**270**	*e*PN	**Pb**	**14 29 11.5**	**0.0**
SBT2	**Guzelce-Avcila**	**1.43**	**270**	*e*Pn	**Pb**	**14 29 11.5**	**0.0**
TVSB	**Tavsanli**	**1.61**	**207**	*e*PN	**Pn**	**14 29 14.2**	**+0.8**
TVSB	**Tavsanli**	**1.61**	**207**	*e*Pn	**Pn**	**14 29 14.2**	**+0.8**
CTYL	**Yalikoy Yolu**	**1.69**	**291**	*e*PN	**Pn**	**14 29 15.2**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.69**	**291**	*e*Pn	**Pn**	**14 29 15.2**	**+0.7**
SBT3	**Marmara-Eregli**	**1.83**	**271**	*e*PN	**Pn**	**14 29 17.3**	**+1.0**
SBT3	**Marmara-Eregli**	**1.83**	**271**	*e*Pn	**Pn**	**14 29 17.3**	**+1.0**

NIED ***05*** *14:33:00,32°.90N×130°.90E,h8km,Mw4.4 Best double couple: M0:5.24000×10^15 NP1:φs255.00000°,δ39.00000°, λ-131.00000°. NP2:φs123.00000°,δ62.00000°, λ-62.00000°.*
IDC ***05*** *14:33:25.9±0.5,32°.83N×130°.82E,h0km,mb4.3/24, mb1 4.4/29,mb1mx4.3/69,mbtmp4.3/29,ML3.7/3,MS3.2/7, Ms1 3.2/7,ms1mx3.1/41,Error ellipse: s-maj=12.7km s-min=5.7km az=104.0*
BJI ***05*** *14:33:25.6,32°.71N×131°.02E,h10km,mb4.4/37,mB4.6/26, Ms4.3/22,Ms7 4.1/23*
ISCJB ***05*** *14:33:27.0±0.7,32°.91N±0°.02×130°.91E±0°.03,h15km±4km, mb4.5/55,MS3.4/7,Error ellipse: s-maj=4.7km s-min=3.8km az=14.0*
JMA ***05*** *14:33:27.5,32°.91N×130°.85E,h10km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φs109.00000°,δ46.00000°,λ-77.00000°. NP2: φs271.00000°,δ46.00000°,λ-103.00000°. Principal axes: T Plg0.0000°, Azm190.0000°; N Plg9.0000°, Azm280.0000°; P Plg81.0000°, Azm100.0000°;*
MOS ***05*** *14:33:27.7±1.2,32°.89N×130°.97E,h28km,mb4.8/26 Error ellipse: s-maj=9.4km s-min=5.8km az=100.4*
NEIC ***05*** *14:33:28.7±1.0,32°.91N×130°.80E,h16km±6km,mb4.8/17, Error ellipse: s-maj=5.9km s-min=5.3km az=199.0*
NEIC Felt [IV] at Kumamoto. Also felt at Iwakuni, Honshu. Recorded [5U JMA] in Kumamoto, Kyushu.

ISC 05 14:33:27.0±1.0,32°.92N±0°.03×130°.86E±0°.04,h2km±6km, n133,σ1°.85/158,mb4.6/55,MS3.2/7,14C-4D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.20**	**5**	Pg	**Pg**	**14 33 32.1**	**+1.1**
JNU	10μm,0.3s,baz=193,slow=7.9			Lg	Lg	14 33 35.4	
JNU	**Nakatsue**	**0.20**	**5**	⇑P	**Pg**	**14 33 32.2**	**+1.3**
JNU				S	**Sg**	**14 33 35.3**	**+1.7**
JNU	**Nakatsue**	**0.20**	**5**	*e*Pg	**Pg**	**14 33 31.9**	**+1.0**
JTA	**Tamana**	**0.28**	**279**	P	**Pg**	**14 33 33.2**	**+0.9**
JTA				S	**Sg**	**14 33 37.3**	**+1.4**
JIU2	**Izumi 2**	**0.37**	**186**	⇑P	**Pg**	**14 33 34.9**	**+0.7**
JIU2				S	**Sg**	**14 33 40.3**	**+1.3**
KSRS	**Korea Array**	**5.12**	**333**	Pn	**Pn**	**14 34 44.9**	**+0.1**
	1.4nm,0.3s,baz=148,slow=14,SNR=13						
KSRS				Pg	**Pg**	**14 35 02.2**	**-2.9**
	7.3nm,0.3s,baz=150,slow=17,SNR=51						
KSRS				Sn	**Sn**	**14 35 45.7**	**+1.2**
	3.9nm,0.3s,baz=142,slow=27,SNR=4.7						
KSRS				Lg	Lg	14 36 08.8	
	7.1nm,0.3s,baz=156,slow=32,SNR=6.8						
KS15	**Wonju Array Si**	**5.13**	**332**	*e*Pn	**Pn**	**14 34 44.5**	**-0.3**
KSAR	**Wonju Array Be**	**5.13**	**332**	P	**Pn**	**14 34 44.9**	**0.0**
KSAR						14 35 45.7	
KSAR	**Wonju Array Be**	**5.13**	**332**	Pn	**Pn**	**14 34 44.9**	**0.0**
KSAR				Pg	**Pg**	**14 35 02.2**	**-3.0**
KSAR				Sn	**Sn**	**14 35 45.7**	**+1.1**
KSAR				Lg	Lg	14 36 08.8	
KS01	**Wonju Array Si**	**5.15**	**333**	*e*Pn	**Pn**	**14 34 45.2**	**0.0**
INU	**Inuyama**	**5.65**	**63**	*e*Pn	**Pn**	**14 34 53.2**	**+1.2**
INCN	**Inchon**	**5.72**	**324**	*e*Pn	**Pn**	**14 34 52.9**	**0.0**
JOW	**Kunigami**	**6.47**	**201**	Pn	**Pn**	**14 35 06.0**	**+2.7**
	6.0nm,0.3s,baz=103,slow=22,SNR=10						
JOW				Sn	**Sn**	**14 36 18.5**	**+0.8**
	baz=12,slow=18,SNR=2.4						
MJB9	**Matsu-Tunnel**	**7.05**	**57**	*e*Pn	**Pn**	**14 35 13.0**	**+1.8**
MAJO	**Matsushiro**	**7.05**	**57**	⇓*e*P	**Pn**	**14 35 11.9**	**+0.7**
MAJO	**Matsushiro**	**7.05**	**57**	*e*Pn	**Pn**	**14 35 13.1**	**+1.9**
MAT	**Matsushiro**	**7.05**	**57**	P	**Pn**	**14 35 12.7**	**+1.5**
MAT				*e*S	**Sn**	**14 36 38.9**	**+6.9**
MJAR	**Matsushiro Arr**	**7.05**	**57**	Pn	**Pn**	**14 35 13.5**	**+2.2**
	3.6nm,0.3s,baz=240,slow=13,SNR=52						
MJAR				Lg	Lg	14 37 12.7	
	baz=234,slow=29,SNR=4.4						
MJAR				LR	LR	14 37 45.9	
	comp=Z,235nm,18.1s,baz=240,slow=36						
JHJ	**Hachijo jima 2**	**7.50**	**86**	Pn	**Pn**	**14 35 19.4**	**+2.0**
	35nm,0.3s,baz=60,slow=20,SNR=5.0						
JHJ				LR	LR	14 38 01.0	
	comp=Z,228nm,20.6s,baz=85,slow=36						
JHJ2	**Mitsune**	**7.53**	**86**	*e*Pn	**Pn**	**14 35 20.2**	**+2.4**
MSHR	**Mys Shultsa**	**9.65**	**1**	⇑*e*P	**Pn**	**14 35 45.3**	**-1.5**
NJ2	**Nanjing**	**10.18**	**268**	*e*P	**Pn**	**14 35 54.2**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VLA	**Vladivostok**	**10.22**	**4**	⇑*e*P	**Pn**	**14 35 56.5**	**+1.9**
VLA				*e*S	**Sn**	**14 37 54.1**	**+4.3**
VLA				pmax	pmax		
	comp=Z,13nm,1.3s						
USRK	**Ussuriysk Ar.**	**11.30**	**4**	Pn	**Pn**	**14 36 11.9**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=182,slow=10,SNR=2.7						
USRK				LR	LR	14 40 14.0	
	comp=Z,226nm,19.0s,baz=185,slow=36						
CN2	**Changchun**	**11.66**	**340**	*e*P	**Pn**	**14 36 18.4**	**+4.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,900nm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
CN2				LR	LR		
	comp=Z,700nm,10.0s						
ASAJ	**Asahikawa**	**14.45**	**36**	Pn	**Pn**	**14 36 53.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=213,slow=6.1,SNR=4.3						
HABR	**Khabarovsk**	**15.86**	**10**	*e*P	**Pn**	**14 37 08.3**	**-2.9**
HABR				*e*S	**Sn**	**14 40 05.3**	**-2.2**
HABR				pmax	pmax		
	comp=Z,15nm,2.0s						
HABR				MLR	MLR		
	comp=Z,57nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**16.13**	**42**	⇑*e*P	**Pn**	**14 37 13.4**	**-1.4**
YSS	**Yuzh-Sakhalins**	**16.70**	**29**	*e*P	**Pn**	**14 37 18.3**	**-3.7**
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
HHC	**Hu-ho-hao-te**	**17.32**	**303**	*e*P	**Pn**	**14 37 30.1**	**0.0**
HHC				S	**Sn**	**14 40 43.6**	**+0.2**
HHC				SS	**SnSn**	**14 41 04.3**	**+7.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,6.7s						
HHC				LR	LR		
	comp=Z,390nm,17.4s						
HHC				LR	LR		
	comp=Z,250nm,15.0s						
HHC				LR	LR		
	comp=Z,270nm,16.5s						
UGL	**Uglegorsk**	**18.19**	**24**	*e*P	**Pn**	**14 37 37.3**	**-3.3**
UGL				*e*S	**Sn**	**14 41 01.2**	**-2.9**
ENH	**Enshi**	**18.39**	**267**	*e*P	**P**	**14 37 44.4**	**+1.0**
	comp=Z,8.2nm,0.9s						
GYA	**Guiyang**	**21.96**	**259**	⇑*i*P	**P**	**14 38 24.8**	**+2.5**
GYA				PP	**PnPn**	**14 38 47.2**	**+3.6**
GYA				SS	Sn	14 42 56.4	+21
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,520nm,14.8s						
GYA				LR	LR		
	comp=Z,500nm,15.0s						
GYA				LR	LR		
	comp=Z,560nm,15.3s						
LZH	**Lanzhou**	**22.46**	**286**	*e*P	**P**	**14 38 28.1**	**+0.4**
LZH				pP	pP	14 38 30.1	+2.0
LZH				sP	sP	14 38 32.2	+3.8
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
CD2	**Chengdu**	**23.07**	**272**	*e*P	**P**	**14 38 32.0**	**-2.0**
GUMO	**Guam**	**23.10**	**143**	LR	LR	14 46 26.0	
	comp=Z,33nm,20.3s,baz=328,slow=34						
QIZ	**Qiongzhong**	**23.35**	**239**	P	**P**	**14 38 36.4**	**-0.5**
QIZ				S	**S**	**14 42 50.5**	**-0.2**
ULN	**Ulaanbaatar**	**23.36**	**317**	⇑*e*P	**P**	**14 38 37.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**23.36**	**317**	*e*P	**P**	**14 38 36.8**	**-0.1**
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**23.72**	**316**	P	**P**	**14 38 40.8**	**+0.3**
	comp=Z,7.8nm,0.8s,baz=128,slow=9.5,SNR=36						
SONM				PcP	**PcP**	**14 42 23.4**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=126,slow=2.0,SNR=3.4						
SONA1	**Songino Array**	**23.72**	**316**	*e*P	**P**	**14 38 40.5**	**0.0**
KMI	**Kunming**	**25.73**	**260**	P	**P**	**14 39 01.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
GTA	**Gaotai**	**25.80**	**293**	P	**P**	**14 39 02.2**	**+2.5**
GTA				pP	sP	14 39 06.7	+6.3
GTA				sP	pP	14 39 09.2	+9.0
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PETK	**Petropavlovsk-**	**27.87**	**36**	LR	LR	14 50 09.1	
	comp=Z,55nm,19.7s,baz=183,slow=36						
MA2	**Magadan**	**29.77**	**20**	LR	LR	14 51 53.6	
	comp=Z,42nm,18.0s,baz=199,slow=37						
CMAR	**Chiang Mai Arr**	**32.02**	**251**	P	**P**	**14 39 55.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=56,slow=4.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**32.02**	**251**	P	**P**	**14 39 55.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CM01	**Chiang Mai Arr**	**32.02**	**251**	*e*P	**P**	**14 39 55.7**	**+0.6**
WMQ	**Urumqi**	**35.19**	**301**	P	**P**	**14 40 22.8**	**+0.3**
WMQ				pP	sP	14 40 27.2	+3.9
WMQ				sP	pP	14 40 29.8	+6.8
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.9s						
WMQ				LR	LR		
	comp=Z,160nm,19.7s						
WMQ				LR	LR		
	comp=Z,76nm,19.7s						
WMQ				LR	LR		
	comp=Z,87nm,17.7s						
DGZ	**Jazzator, Alta**	**36.10**	**311**	⇑*e*P	**P**	**14 40 30.4**	**0.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ODAN	**Odare**	**37.97**	**273**	*e*P	**P**	**14 40 48.0**	**+1.4**
RAMN	**Ramite**	**38.60**	**273**	*e*P	**P**	**14 40 53.8**	**+1.9**
	comp=Z,10nm,0.7s						
ZALV	**Zalesovo Beam**	**38.61**	**317**	P	**P**	**14 40 50.2**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=94,slow=8.7,SNR=4.2						
ZALV				PcP	**PcP**	**14 43 01.7**	**-2.0**
	comp=Z,3.0nm,0.7s,baz=115,slow=2.4,SNR=9.0						
JIRN	**Jiri**	**38.71**	**274**	*e*P	**P**	**14 40 55.0**	**+2.0**
	comp=Z,95nm,0.8s						
GUN	**Gumba**	**38.89**	**275**	*e*P	**P**	**14 40 56.4**	**+1.9**
	comp=Z,54nm,0.8s						
MK01	**Makanchi Array**	**39.15**	**305**	*e*P	**P**	**14 40 55.2**	**-0.9**
MK31	**Makanchi Array**	**39.16**	**305**	*e*P	**P**	**14 40 55.6**	**-0.5**
MK31	**Makanchi Array**	**39.16**	**305**	*e*P	**P**	**14 40 55.6**	**-0.5**
MKAR	**Makanchi Array**	**39.16**	**305**	P	**P**	**14 40 55.5**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=84,slow=11,SNR=12						
MAKZ	**Makanchi**	**39.37**	**305**	*e*P	**P**	**14 40 57.5**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAKZ	**Makanchi**	**39.37**	**305**	*e*P	**P**	**14 40 57.5**	**-0.4**
	comp=Z,5.8nm,1.0s						
PKIN	**Phulchoki**	**39.40**	**275**	*e*P	**P**	**14 41 00.3**	**+1.6**
	comp=Z,12nm,0.7s						
KKN	**Kakani**	**39.43**	**275**	*e*P	**P**	**14 41 00.6**	**+1.7**
	comp=Z,26nm,1.1s						
GKN	**Gorkha**	**39.90**	**276**	*e*P	**P**	**14 41 04.2**	**+1.5**
	comp=Z,12nm,0.9s						
DANN	**Dangsing**	**40.52**	**276**	*e*P	**P**	**14 41 09.7**	**+1.7**
BILL	**Bilibino**	**40.62**	**20**	*e*P	**P**	**14 41 07.2**	**-0.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KOLN	**Koldanda**	**40.84**	**276**	*e*P	**P**	**14 41 11.6**	**+1.0**
	comp=Z,13nm,0.9s						
PYUN	**Piuthan**	**41.24**	**276**	*e*P	**P**	**14 41 14.8**	**+0.9**
KURK	**Kurchatov**	**41.84**	**311**	*d*eP	**P**	**14 41 17.2**	**-1.1**
KURK				pmax	pmax		
	comp=Z,25nm,0.9s						
KURK	**Kurchatov**	**41.84**	**311**	*e*P	**P**	**14 41 17.5**	**-0.7**
	comp=Z,8.2nm,0.8s						
KURK				PcP	**PcP**	**14 43 12.2**	**-1.9**
KURBB	**Kurchatov Arra**	**41.89**	**311**	P	**P**	**14 41 18.0**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=97,slow=9.0,SNR=36						
KURBB				PcP	**PcP**	**14 43 12.2**	**-2.1**
	comp=Z,1.7nm,0.7s,baz=98,slow=3.5,SNR=11						
NRIK	**Noril'sk**	**43.70**	**339**	P	**P**	**14 41 32.4**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=130,slow=12,SNR=4.0						
KSH	**Kashi**	**44.19**	**295**	P	P	14 41 42.0	+4.4
KSH				PcP	**PcP**	**14 43 25.1**	**+2.7**
KSH				PcS	**PcS**	**14 47 18.5**	**+2.8**
KSH				S	**S**	**14 48 17.3**	**+5.5**
KSH				SS	**SS**	**14 51 28.6**	**-0.6**
KSH				ScS	**ScS**	**14 51 39.8**	**+2.2**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,260nm,6.1s						
KSH				LR	LR		
	comp=Z,250nm,6.3s						
KSH				LR	LR		
	comp=Z,130nm,7.1s						
KSH				LR	LR		
	comp=Z,350nm,5.6s						
AAK	**Ala-Archa**	**44.86**	**299**	P	**P**	**14 41 42.7**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=134,slow=6.0,SNR=9.9						
AAK	**Ala-Archa**	**44.86**	**299**	*e*P	**P**	**14 41 43.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,27nm,1.5s						
AAK	**Ala-Archa**	**44.86**	**299**	*e*P	**P**	**14 41 43.5**	**+0.5**
	comp=Z,27nm,1.5s						
PMG	**Port Moresby**	**44.87**	**157**	⇓*e*P	**P**	**14 41 38.6**	**-4.4**
PMG				pmax	pmax		
	comp=Z,82nm,1.0s						
MTN	**Manton Dam**	**45.51**	**180**	*e*P	**P**	**14 41 46.8**	**-1.2**
BVAR	**Borovoye Array**	**47.04**	**314**	P	**P**	**14 41 59.6**	**-0.2**
	comp=Z,6.6nm,0.7s,baz=108,slow=10.0,SNR=28						
BVAR				PcP	**PcP**	**14 43 30.7**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=95,slow=3.3,SNR=11						
BRVK	**Borovoye**	**47.11**	**314**	⇑*e*P	**P**	**14 41 59.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,25nm,0.7s						
BRVK	**Borovoye**	**47.11**	**314**	*e*P	**P**	**14 41 59.2**	**-1.1**
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**47.70**	**301**	*e*P	**P**	**14 42 04.8**	**-0.3**
KKAR	**Karatay Array**	**47.70**	**301**	*e*P	**P**	**14 42 04.8**	**-0.3**
	comp=Z,116nm,0.8s						
WRAB	**Tennant Creek**	**52.66**	**176**	⇑*e*P	**P**	**14 42 40.8**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**52.67**	**176**	P	**P**	**14 42 41.0**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=352,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**52.67**	**176**	P	**P**	**14 42 41.0**	**-1.9**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WB2	**Warramunga Arr**	**52.67**	**176**	*e*P	**P**	**14 42 41.3**	**-1.6**
	comp=Z,5.8nm,0.8s						
ARU	**Arti**	**53.71**	**319**	P	**P**	**14 42 49.6**	**-0.7**
ARU				PcP	**PcP**	**14 43 54.9**	**-1.5**
ARU	**Arti**	**53.71**	**319**	*d i*P	**P**	**14 42 50.1**	**-0.1**
ARU						14 43 52.6	
ARU						14 44 48.5	
ARU				S	**S**	**14 50 27.9**	**+2.9**
ARU				SS	**SKiKP**	**14 54 05.2**	**-0.6**
ARU				pmax	pmax		
	comp=Z,18nm,1.7s						
ARU	**Arti**	**53.71**	**319**	*e*P	**P**	**14 42 49.5**	**-0.7**
	comp=Z,7.8nm,0.8s						
ARU				PcP	**PcP**	**14 43 54.9**	**-1.5**
ABKAR	**Akbulak array**	**53.93**	**310**	*e*P	**P**	**14 42 51.3**	**-0.7**
	comp=Z,46nm,0.9s						
SOKR	**Solikamsk**	**54.33**

comp=Z,16nm,20.9s,baz=305,slow=32
AKASG Malin Array Be 71.97 319 P **P 14 44 50.6 -1.3**
comp=Z,3.3nm,0.5s,baz=55,slow=6.3,SNR=15
AKBB Malin Array Si 71.97 319 *e*P **P 14 44 50.6 -1.4**
AKBB pmax pmax
comp=Z,17nm,0.8s
AKBB Malin Array Si 71.97 319 *e*P **P 14 44 50.6 -1.4**
comp=Z,17nm,0.8s
KIEV Kiev 71.98 319⇑ *e*P **P 14 44 50.8 -1.2**
KIEV pmax pmax
comp=Z,12nm,1.2s
KIEV Kiev 71.98 319 *e*P **P 14 44 50.3 -1.7**
comp=Z,17nm,0.8s
AK11 Malin Array Si 72.01 319 *e*P **P 14 44 50.7 -1.5**
RAYN Ar Rayn 73.91 288 *e*P **P 14 45 03.2 -0.8**
comp=Z,8.9nm,1.1s
NOA NORSAR Array B 74.33 334 P **P 14 45 03.8 -2.1**
comp=Z,1.4nm,0.7s,baz=48,slow=5.6,SNR=3.3
BRTR Keskin Array B 74.77 308 P **P 14 45 08.5 -0.4**
comp=Z,2.4nm,0.9s,baz=74,slow=4.5,SNR=6.7
BR231 Keskin MP Arra 75.28 308 *e*P **P 14 45 10.1 -1.7**
BUR08 Bucovina Ar. S 75.82 318 *e*P **P 14 45 13.2 -1.6**
BURAR Bucovina Array 75.83 318⇑ *i*P **P 14 45 14.4 -0.4**
CLL Collm 79.96 326 *i* P **P 14 45 39.4 +1.8**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 79.96 326 *i* P **P 14 45 39.4 +1.8**
comp=Z,12nm,0.9s
GERES GERESS Array B 81.23 324 P **P 14 45 43.2 -1.4**
comp=Z,0.7nm,0.6s,baz=64,slow=4.5,SNR=4.2
PDAR Pinedale Array 86.55 40 P **P 14 46 11.2 -0.9**
comp=Z,0.5nm,0.8s,baz=22,slow=1.6,SNR=4.4

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*IDC **05** 14:40:45.8±0.5,38°.20N×87°.35E, h0km, mb4.4/29, mb1 4.5/35, mb1mx4.4/61, mbtmp4.4/35, ML3.9/6, MS3.8/16, Ms1 3.9/16, ms1mx3.6/48, Error ellipse: s-maj=12.3km s-min=9.6km az=29.0*
*BJI **05** 14:40:46.5,38°.25N×87°.28E, h6km, mb4.5/37, mB4.7/27, ML4.9/14, Ms4.4/22, Ms7 4.2/16*
*MOS **05** 14:40:48.3±0.9,38°.29N×87°.31E, h27km, mb4.7/41, Error ellipse: s-maj=7.9km s-min=4.9km az=113.2*
*NEIC **05** 14:40:48.9±1.8,38°.29N×87°.31E, h18km±11km, mb4.9/38, Error ellipse: s-maj=4.8km s-min=3.8km az=202.0*
*ISCJB **05** 14:40:49.2±0.2,38°.27N±0°.02×87°.28E±0°.03, h33km, mb4.6/90, MS3.8/19, Error ellipse: s-maj=3.2km s-min=3.1km az=148.4*
ISC 05 14:40:51.5±0.3,38°.31N±0°.04×87°.24E±0°.03, h35km, n216, σ1.95/228, mb4.7/90, MS3.9/19, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.52**	**3**	Pn			**Pn**	**14 42 12.8**	**+1.5**
WMQ				Sn			**Sn**	**14 43 17.9**	**+4.3**
WMQ				smax			smax		
	comp=N,1μm,0.9s								
WMQ				smax			smax		
	comp=E,1μm,0.9s								
KSH	**Kashi**	**8.87**	**281**	P			**Pn**	**14 43 01.1**	**+3.8**
KSH				pP				14 43 04.5	
KSH				sP				14 43 08.3	
KSH				S			**Sn**	**14 44 42.2**	**+6.2**
KSH				pmax			pmax		
	comp=Z,97nm,3.8s								
MK01	**Makanchi Array**	**9.21**	**338**	*e*Pn			**Pn**	**14 43 01.3**	**-0.6**
MK31	**Makanchi Array**	**9.23**	**338**	P			**Pn**	**14 43 01.9**	**-0.3**
MK31				pmax			pmax		
	comp=Z,7.0nm,0.4s								
MK31	**Makanchi Array**	**9.23**	**338**	*e*Pn			**Pn**	**14 43 01.8**	**-0.3**
MKAR	**Makanchi Array**	**9.23**	**338**	Pn			**Pn**	**14 43 02.0**	**-0.2**
	comp=Z,6.9nm,0.3s,baz=155,slow=13,SNR=86								
MKAR				Sn			**Sn**	**14 44 42.5**	**-2.2**
	comp=Z,4.3nm,0.3s,baz=130,slow=18,SNR=3.6								
MKAR				Lg			Lg	14 45 41.8	
	comp=Z,1.5nm,0.3s,baz=150,slow=22,SNR=2.3								
MKAR				LR			LR	14 47 14.3	
	comp=Z,637nm,18.9s,baz=150,slow=42								
MAKZ	**Makanchi**	**9.34**	**337**	*e*P			**Pn**	**14 43 03.4**	**-0.2**
MAKZ	**Makanchi**	**9.34**	**337**	*e*Pn			**Pn**	**14 43 03.4**	**-0.2**
GTA	**Gaotai**	**9.87**	**80**	P			**Pn**	**14 43 09.6**	**-1.4**
GTA				pP				14 43 15.7	
GTA				sP				14 43 18.7	
GTA				S			**Sn**	**14 45 00.7**	**+0.1**
GTA				pmax			pmax		
	comp=Z,5.0nm,0.8s								
GTA				pmax			pmax		
	comp=Z,130nm,5.7s								
GTA				LR			LR		
	comp=Z,830nm,8.9s								
GTA				LR			LR		
	comp=Z,670nm,8.7s								
TKM2	**Tokmak 2**	**9.98**	**301**	P			**Pn**	**14 43 12.7**	**+0.1**
TKM2				pmax			pmax		
	comp=Z,6.0nm,0.5s								
GKN	**Gorkha**	**10.50**	**193**	*e*P			**Pn**	**14 43 20.4**	**+0.7**
FRU	**Bishkek**	**10.61**	**299**	*e*P			Pn	14 43 32.0	+11
KKN	**Kakani**	**10.61**	**189**	*e*P			**Pn**	**14 43 22.5**	**+1.2**
AAK	**Ala-Archa**	**10.63**	**298**	Pn			**Pn**	**14 43 21.2**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=109,slow=16,SNR=9.3								
AAK				Lg			Lg	14 46 25.5	
	comp=Z,0.6nm,0.3s,baz=0.0,slow=20,SNR=2.8								
AAK				LR			LR	14 48 34.5	
	comp=Z,779nm,19.0s,baz=106,slow=44								
AAK	**Ala-Archa**	**10.63**	**298**	*e*P			**Pn**	**14 43 21.8**	**+0.4**
AAK	**Ala-Archa**	**10.63**	**298**	*e*Pn			**Pn**	**14 43 21.8**	**+0.4**
AAK				Lg			Lg	14 46 25.5	
PYUN	**Piuthan**	**10.78**	**200**	*e*P			**Pn**	**14 43 23.6**	**0.0**
DHRM	**DHARAMSHALA**	**10.79**	**239**	*e*P			**Pn**	**14 43 22.3**	**-1.4**
PKIN	**Phulchoki**	**10.81**	**189**	*e*P			**Pn**	**14 43 25.3**	**+1.2**
	comp=Z,39nm,0.8s								
DMN	**Daman**	**10.82**	**190**	*e*P			**Pn**	**14 43 25.4**	**+1.3**
TAPN	**Taplejung**	**10.93**	**178**	*e*P			**Pn**	**14 43 26.0**	**+0.2**
	comp=Z,50nm,1.0s								
KOLN	**Koldanda**	**10.94**	**197**	*e*P			**Pn**	**14 43 25.6**	**-0.2**
	comp=Z,29nm,0.9s								
SMLA	**Simla**	**10.95**	**232**	*e*P			**Pn**	**14 43 24.6**	**-1.0**
RAMN	**Ramite**	**11.34**	**183**	*e*P			**Pn**	**14 43 30.4**	**-0.8**
	comp=Z,56nm,0.9s								
DGZ	**Jazzator, Alta**	**11.39**	**1**	*e*P			**Pn**	**14 43 31.8**	**0.0**
ODAN	**Odare**	**11.41**	**179**	*e*P			**Pn**	**14 43 31.0**	**-1.3**
	comp=Z,90nm,1.0s								
MNAS	**Manas**	**11.98**	**295**	P			**Pn**	**14 43 39.4**	**-0.5**
MNAS				pmax			pmax		
	comp=Z,18nm,1.4s								
SHL	**Shillong**	**13.29**	**161**	*e*P			**Pn**	**14 43 55.4**	**-2.6**
LZH	**Lanzhou**	**13.42**	**94**	*e*P			**P**	**14 44 04.1**	**-4.5**
LZH				pP			Pn	14 44 07.4	+7.7
LZH				sP				14 44 09.0	
LZH				*e*S			**Sn**	**14 46 35.0**	**+7.4**
LZH				sS			S	14 46 41.5	-9.1
LZH				*e*SS			**SnSn**	**14 46 48.2**	**+8.4**
LZH				pmax			pmax		
	comp=Z,59nm,1.0s								
LZH				pmax			pmax		
	comp=Z,170nm,4.2s								
LZH				LR			LR		
	comp=Z,750nm,11.3s								
LZH				LR			LR		
	comp=Z,690nm,10.1s								
LZH				LR			LR		
	comp=Z,990nm,12.4s								
KK31	**Karatay Array**	**13.56**	**296**	*i* P			**P**	**14 44 10.6**	**+0.7**
KK31				pmax			pmax		
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**13.56**	**296**	*e*P			**P**	**14 44 07.5**	**-2.4**
KKAR				pmax			pmax		
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**13.56**	**296**	*e*Pn			**P**	**14 44 07.5**	**-2.4**
	comp=Z,1.3nm,0.4s								
KURBB	**Kurchatov Arra**	**13.78**	**336**	Pn			**Pn**	**14 44 01.7**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=59								
KURBB				Lg			Lg	14 48 06.5	
	comp=Z,0.1nm,0.3s,baz=132,slow=26,SNR=3.9								
KURK	**Kurchatov**	**13.83**	**337**	*de*P			**Pn**	**14 44 02.2**	**-2.8**
KURK				pmax			pmax		
	comp=Z,29nm,1.0s								
KURK	**Kurchatov**	**13.83**	**337**	*e*Pn			**Pn**	**14 44 01.4**	**-3.6**
KURK				Lg			Lg	14 48 06.5	
BOK	**Bokaro**	**14.51**	**185**	*e*P			**Pn**	**14 44 13.2**	**-1.2**
KBL	**Kabul**	**15.12**	**261**	*e*P			**Pn**	**14 44 21.2**	**-1.5**
KBL				pmax			pmax		
	comp=Z,10.0nm,0.6s								
KBL	**Kabul**	**15.12**	**261**	*e*Pn			**Pn**	**14 44 21.1**	**-1.5**
	comp=Z,9.9nm,0.6s								
CD2	**Chengdu**	**15.46**	**114**	P			**Pn**	**14 44 24.8**	**-2.2**
CD2				S			**Sn**	**14 47 16.6**	**-0.5**
CD2				pmax			pmax		
	comp=Z,20nm,0.5s								
CD2				pmax			pmax		
	comp=Z,140nm,4.3s								
CD2				LR			LR		
	comp=Z,490nm,10.2s								
CD2				LR			LR		
	comp=Z,960nm,11.6s								
CD2				LR			LR		
	comp=Z,1μm,8.4s								
ZAA0	**Zalesovo Array**	**15.73**	**355**	*e*Pn			**Pn**	**14 44 27.1**	**-3.2**
ZALV	**Zalesovo Beam**	**15.73**	**355**	Pn			**Pn**	**14 44 28.1**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=180,slow=14,SNR=15								
ZALV				Sn			**Sn**	**14 47 16.8**	**-6.6**
	comp=Z,1.0nm,0.3s,baz=173,slow=25,SNR=4.0								
ZALV				Lg			Lg	14 49 10.4	
	baz=164,slow=27,SNR=3.9								
ZAK	**Zakamensk**	**16.61**	**38**	*e*P			**Pn**	**14 44 40.8**	**-0.9**
ZAK				pmax			pmax		
	comp=Z,20nm,1.5s								
NVS	**Novosibirsk**	**16.76**	**352**⇑ *i*P				**P**	**14 44 46.1**	**+0.8**
NVS				pmax			pmax		
	comp=Z,61nm,1.3s								
SONM	**Songino Array**	**16.89**	**50**	Pn			**Pn**	**14 44 42.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=237,slow=14,SNR=18								
SONM				Lg			Lg	14 49 33.5	
	comp=Z,0.5nm,0.3s,baz=243,slow=22,SNR=4.3								
SONA1	**Songino Array**	**16.90**	**50**	*e*Pn			**Pn**	**14 44 43.7**	**-1.6**
BHPL	**Bhopal**	**17.20**	**212**	*e*P			**Pn**	**14 44 47.0**	**-2.2**
BHPL				AMB			AMB	14 44 54.4	
	comp=Z,9.6nm,0.2s								
ULN	**Ulaanbaatar**	**17.30**	**50**	*ce*P			**Pn**	**14 44 50.0**	**-0.4**
ULN				pmax			pmax		
	comp=Z,30nm,1.7s								
ULN	**Ulaanbaatar**	**17.30**	**50**	*e*Pn			**Pn**	**14 44 50.0**	**-0.4**
	comp=Z,20nm,1.1s								
TLY	**Talaya**	**17.65**	**35**	LR			LR	14 52 09.0	
	comp=Z,419nm,20.8s,baz=225,slow=39								
IRK	**Irkutsk**	**18.32**	**35**	*e*P			Pn	14 45 10.2	+7.6
IRK				pmax			pmax		
	comp=Z,53nm,2.3s								
NGP	**Nagpur**	**18.50**	**205**	*e*P			**P**	**14 45 02.4**	**-2.3**
KMI	**Kunming**	**18.58**	**131**	P			**P**	**14 45 05.8**	**-0.1**
KMI				pmax			pmax		
	comp=Z,29nm,0.9s								
KMI				LR			LR		
	comp=Z,290nm,5.0s								
KMI				LR			LR		
	comp=Z,210nm,4.5s								
KMI				LR			LR		
	comp=Z,620nm,12.8s								
BVAR	**Borovoye Array**	**18.78**	**327**	P			**P**	**14 45 08.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=129,slow=12,SNR=41								
BVAR				Lg			Lg	14 50 47.8	
	comp=Z,0.1nm,0.3s,baz=111,slow=32,SNR=2.5								
BRVK	**Borovoye**	**18.85**	**327**	*ce*P			**P**	**14 45 08.7**	**+0.4**
BRVK				pmax			pmax		
	comp=Z,91nm,1.2s								
BRVK	**Borovoye**	**18.85**	**327**	*e*P			**P**	**14 45 08.0**	**-0.3**
	comp=Z,29nm,1.0s								
HHC	**Hu-ho-hao-te**	**18.91**	**75**	*e*P			**Pn**	**14 45 09.5**	**-0.5**
HHC				sP			pP	14 45 16.3	-2.1
HHC				S			**Sn**	**14 48 35.6**	**-5.1**
HHC				SS			**SnSn**	**14 49 01.5**	**+6.9**
HHC				pmax			pmax		
	comp=Z,18nm,1.0s								
HHC				pmax			pmax		
	comp=Z,230nm,9.9s								
ENH	**Enshi**	**20.02**	**107**	*e*P			**P**	**14 45 21.9**	**+0.6**
	comp=Z,38nm,0.9s								
GYA	**Guiyang**	**20.17**	**120**⇑ *i*P				Pn	14 45 25.2	+0.1
GYA				pP			pP	14 45 29.3	-3.0
GYA				PP			**PnPn**	**14 45 45.0**	**+5.0**
GYA				S			**S**	**14 49 06.4**	**-1.3**
GYA				pmax			pmax		
	comp=Z,20nm,0.8s								
GYA				pmax			pmax		
	comp=Z,120nm,4.9s								
GYA				LR			LR		
	comp=Z,580nm,14.8s								
GYA				LR			LR		
	comp=Z,520nm,15.0s								
GYA				LR			LR		
	comp=Z,540nm,15.3s								
VIS	**Vishakhapatnam**	**20.79**	**191**	*e*P			**P**	**14 45 29.9**	**+0.1**
BHJ	**Bhuj**	**21.24**	**230**	*ex*			**P**	**14 45 30.2**	**-4.3**
CHTO	**Chiang Mai**	**21.94**	**149**	P			**P**	**14 45 46.3**	**+4.3**
	comp=Z,54nm,1.7s								
CHTO	**Chiang Mai**	**21.94**	**149**	*e*P			**P**	**14 45 40.4**	**-1.6**
CHTO				pmax			pmax		
	comp=Z,14nm,1.1s								
CHTO	**Chiang Mai**	**21.94**	**149**	*e*P			**P**	**14 45 40.4**	**-1.6**
	comp=Z,14nm,1.1s								
HYB	**Hyderabad**	**22.16**	**202**	*i* P			**P**	**14 45 44.0**	**-0.5**
HYB	**Hyderabad**	**22.16**	**202**	*e*P			**P**	**14 45 41.5**	**-3.0**
SLVN	**Son La**	**22.19**	**135**	*e*P			**P**	**14 45 45.3**	**+0.4**
	comp=Z,25nm,1.2s								
CMAR	**Chiang Mai Arr**	**22.26**	**149**	P			**P**	**14 45 43.4**	**-2.1**
	comp=Z,2.6nm,0.9s,baz=327,slow=9.2,SNR=19								
CMAR				PcP			**PcP**	**14 49 40.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=297,slow=2.9,SNR=4.1								
CMAR				LR			LR	14 56 16.7	
	comp=Z,55nm,19.1s,baz=344,slow=42								
CM01	**Chiang Mai Arr**	**22.30**	**149**	*e*P			**P**	**14 45 45.8**	**-0.1**
AB31	**Akbulak array**	**22.42**	**308**	*i* P			**P**	**14 45 47.2**	**+0.2**
AB31				pmax			pmax		
	comp=Z,5.0nm,0.6s								
ABKAR	**Akbulak array**	**22.42**	**308**	*e*P			**P**	**14 45 46.6**	**-0.4**
	comp=Z,70nm,0.8s								
BJI	**Beijing**	**22.46**	**76**	P			**P**	**14 45 47.0**	**-0.5**
BJI				pmax			pmax		
	comp=Z,5.0nm,0.5s								
GEYT	**Alibeck**	**22.88**	**278**	P			**P**	**14 45 51.9**	**-0.2**
	comp=Z,11nm,1.1s,baz=81,slow=9.2,SNR=15								
POO	**Poona**	**22.91**	**214**	*e*P			**P**	**14 45 52.1**	**-0.3**
POO				AMB			AMB	14 45 59.2	
	comp=Z,14nm,0.7s								
UTTA	**Uttaradit**	**23.57**	**147**	P			**P**	**14 46 04.1**	**+5.2**
	comp=Z,8.2nm,1.0s								
AKTO	**Aktyubinsk**	**23.98**	**310**	P			**P**	**14 46 03.2**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=116,slow=14,SNR=4.8								
AKTO				LR			LR	14 56 46.1	
	comp=Z,176nm,18.5s,baz=85,slow=40								
UMPA	**Umpang Tak**	**24.27**	**152**	P			P	14 46 15.8	+10
	comp=Z,3.7nm,1.1s,comp=Z,151nm								
PBKT	**Sadao Pong**	**24.79**	**147**	P			P	14 46 18.5	+8.3
	comp=Z,13nm,1.0s								
SVE	**Sverdlovsk**	**25.53**	**325**	*e*P			**P**	**14 46 18.2**	**+1.6**
SVE				pmax			pmax		
	comp=Z,70nm,1.2s								
DGPR	**DIGLIPUR**	**25.53**	**167**	*e*P			**P**	**14 46 18.7**	**+1.8**
DGPR				AMB			AMB	14 46 24.6	
	comp=Z,56nm,0.4s								
GOA	**Goa**	**25.62**	**211**	*e*P			**P**	**14 46 16.9**	**-0.9**
GOA				AMB			AMB	14 46 27.2	
	comp=Z,38nm,0.0s								
KHON	**Khomkaen**	**25.82**	**144**	P			**P**	**14 46 26.3**	**+6.8**
	comp=Z,12nm,0.7s								
CHAI	**Chaiyaphum**	**25.82**	**146**	P			P	14 46 29.0	+9.4
	comp=Z,4.4nm,0.8s								
MDRS	**Chennai**	**25.89**	**196**	*e*P			**P**	**14 46 20.1**	**-0.1**
MDRS				AMB			AMB	14 46 27.3	
	comp=Z,21nm,1.6s								
BOD	**Bodaibo**	**26.18**	**33**	*e*P			**P**	**14 46 22.0**	**-0.5**
BOD				pmax			pmax		
	comp=Z,14nm,1.1s								
ARU	**Arti**	**26.27**	**323**	P			**P**	**14 46 24.1**	**+0.8**
ARU				LR			LR	14 58 07.4	
	comp=Z,704nm,18.5s,baz=95,slow=39								
ARU	**Arti**	**26.27**	**323**	*c i*P			**P**	**14 46 24.7**	**+1.4**
ARU								14 47 03.7	
ARU				S			**S**	**14 50 57.1**	**+3.8**
ARU				SS			**SnSn**	**14 51 57.1**	**+2.7**
ARU				pmax			pmax		
	comp=Z,11nm,1.0s								
ARU				MLR			MLR		
	comp=Z,652nm,16.0s								
ARU	**Arti**	**26.27**	**323**	*e*P			**P**	**14 46 22.4**	**-0.9**
	comp=Z,13nm,1.0s								
NJ2	**Nanjing**	**26.50**	**94**	*e*P			**P**	**14 46 25.4**	**-0.2**
NJ2				pmax			pmax		
	comp=Z,11nm,0.8s								
QIZ	**Qiongzhong**	**27.48**	**128**	P			**P**	**14 46 36.9**	**+2.4**
QIZ				S			**S**	**14 51 17.5**	**+4.5**
QIZ				pmax			pmax		
	comp=Z,61nm,3.8s								
QIZ				LR			LR		
	comp=Z,880nm,4.4s								
QIZ				LR			LR		
	comp=Z,1μm,4.2s								
PHET	**Kaeng Krachan**	**27.59**	**153**	P			P	14 46 44.8	+9.3
WSAR	**Wadi Sarin**	**28.66**	**247**	P			**P**	**14 46 46.0**	**+1.0**
	comp=Z,7.3nm,1.0s,baz=63,slow=2.3,SNR=3.5								
SOKR	**Solikamsk**	**28.78**	**328**	*e*P			**P**	**14 46 46.0**	**+0.3**
SOKR				pmax			pmax		
	comp=Z,4.0nm,0.8s								
SOKR				MLR			MLR		
	comp=Z,366nm,13.0s								
CN2	**Changchun**	**29.15**	**67**	*e*P			**P**	**14 46 49.4**	**+0.2**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
CN2				LR			LR		
	comp=Z,200nm,12.0s								
CN2				LR			LR		
	comp=Z,200nm,12.0s								
CN2				LR			LR		
	comp=Z,200nm,12.0s								
NRIK	**Noril'sk**	**31.09**	**0**	P			**P**	**14 47 07.1**	**+1.0**
	comp=Z,12nm,0.5s,baz=165,slow=6.4,SNR=21								
KS01	**Wonju Array Si**	**31.91**	**79**	*e*P			**P**	**14 47 12.3**	**-1.4**
KSAR	**Wonju Array Be**	**31.92**	**79**	P			**P**	**14 47 13.2**	**-0.5**
KSAR	**Wonju Array Be**	**31.92**	**79**	P			**P**	**14 47 13.2**	**-0.5**
KSRS	**Korea Array**	**31.94**	**79**	P			**P**	**14 47 13.2**	**-0.7**
	comp=Z,7.9nm,0.8s,baz=282,slow=8.6,SNR=27								
KSRS				LR			LR	15 01 34.4	
	comp=Z,45nm,20.4s,baz=284,slow=39								
MDJ	**Mudanjiang**	**32.08**	**65**	P			**P**	**14 47 15.1**	**0.0**
MDJ				S			**S**	**14 52 30.3**	**+5.5**
MDJ				PcS			**PcS**	**14 53 51.8**	**+3.3**
MDJ				ScS			**ScS**	**14 57 51.1**	**+7.9**
MDJ				pmax			pmax		
	comp=Z,8.0nm,0.7s								
MDJ				pmax			pmax		
	comp=Z,45nm,4.3s								
MDJ				LR			LR		
	comp=Z,140nm,9.0s								
MDJ				LR			LR		
	comp=Z,230nm,9.6s								
MDJ				LR			LR		
	comp=Z,300nm,10.9s								
KBZ	**Khabaz**	**33.58**	**294**	LR			LR	15 03 31.5	
	comp=Z,110nm,19.1s,baz=70,slow=40								
KIV	**Kislovodsk**	**33.71**	**294**	*e*P			**P**	**14 47 28.9**	**-0.5**
KIV				pmax			pmax		
	comp=Z,7.0nm,1.1s								
KIV				MLR			MLR		
	comp=Z,86nm,15.0s								
USRK	**Ussuriysk Ar.**	**33.83**	**65**	LR			LR	15 02 42.8	
	comp=Z,80nm,19.0s,baz=259,slow=39								
VLA	**Vladivostok**	**33.87**	**67**⇑ *i*P				**P**	**14 47 30.3**	**-0.4**
VLA				*i* *PP			**pP**	**14 47 37.9**	**-2.9**
VLA				*i*				14 48 43.0	
VLA				*e*S			**S**	**14 52 53.4**	**+0.8**
VLA				pmax			pmax		
	comp=Z,31nm,1.6s								
YAK	**Yakutsk**	**35.10**	**34**	P			**P**	**14 47 40.8**	**-0.3**
	comp=Z,14nm,0.6s,baz=353,slow=0.7,SNR=11								
YAK	**Yakutsk**	**35.10**	**34**	*e*P			**P**	**14 47 40.4**	**-0.7**
YAK				pmax			pmax		
	comp=Z,13nm,0.8s								
YAK				pmax			pmax		
	comp=N,4.0nm,1.4s								
YAK	**Yakutsk**	**35.10**	**34**	*e*P			**P**	**14 47 39.9**	**-1.2**
	comp=N,20nm,0.8s								
VSR	**Storozhevoye**	**35.85**	**307**⇓ *e*P				**P**	**14 47 48.2**	**+0.5**
VSR				pmax			pmax		
	comp=Z,11nm,1.1s								
MOS	**Moscow**	**37.12**	**314**	*e*P			**P**	**14 47 58.8**	**+0.4**
KLMR	**Klimovskoe**	**37.12**	**323**	*e*P			**P**	**14 47 57.9**	**-0.5**
KLMR				pmax			pmax		
	comp=Z,32nm,1.3s								
OBN	**Obninsk**	**37.65**	**313**	LR			LR	15 05 07.7	
	comp=Z,263nm,18.8s,baz=92,slow=39								
OBN	**Obninsk**	**37.65**	**313**⇓ *e*P				**P**	**14 48 03.7**	**+0.8**
OBN				pmax			pmax		
	comp=Z,8.0nm,0.5s								
RAYN	**Ar Rayn**	**38.39**	**260**	*e*P			**P**	**14 48 08.6**	**-1.0**
	comp=Z,4.1nm,0.9s								
TIXI	**Tiksi**	**39.49**	**19**	P			**P**	**14 48 17.2**	**-1.0**
	comp=Z,13nm,0.7s,baz=241,slow=6.1,SNR=6.1								
TIXI	**Tiksi**	**39.49**	**19**	*de*P			**P**	**14 48 17.8**	**-0.3**
TIXI				pmax			pmax		
	comp=Z,10.0nm,1.0s								
MJAR	**Matsushiro Arr**	**40.10**	**76**	P			**P**	**14 48 21.9**	**-1.8**
	comp=Z,1.7nm,0.6s,baz=285,slow=8.2,SNR=5.6								
MJAR				LR			LR	15 04 59.5	
	comp=Z,30nm,18.3s,baz=255,slow=36								
YSS	**Yuzh-Sakhalins**	**40.99**	**59**⇑ *e*P				**P**	**14 48 31.3**	**+0.4**
YSS				pmax			pmax		
	comp=Z,10.0nm,0.9s								
BR131	**Keskin Array S**	**41.15**	**289**	*e*P			**P**	**14 48 32.7**	**+0.1**
BRTR	**Keskin Array B**	**41.15**	**289**	P			**P**	**14 48 33.4**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=98,slow=6.7,SNR=12								
LVZ	**Lovozero**	**41.21**	**333**⇑ *e*P				**P**	**14 48 34.0**	**+1.5**
LVZ				pmax			pmax		
	comp=Z,82nm,2.5s								
ASAJ	**Asahikawa**	**41.38**	**64**	P			**P**	**14 48 33.4**	**-0.8**
	comp=Z,9.9nm,1.1s,baz=271,slow=8.7,SNR=5.6								
AKASG	**Malin Array Be**	**42.15**	**307**	P			**P**	**14 48 40.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=69,slow=7.2,SNR=8.2								
AKASG				LR			LR	15 10 24.0	
	comp=Z,134nm,18.0s,baz=55,slow=42								
AKASG	**Malin Array Be**	**42.15**	**307**	*ce*P			**P**	**14 48 40.9**	**+0.6**

CLL	**Collm**	**52.07 310**	⇓*i*P	**P**	**14 49 58.8**	**+1.1**
	comp=Z,15nm,1.3s					
CLL			*i* sP	**pP**	**14 50 07.4**	**-0.8**
KHC	**Kasperske Hory**	**52.35 307**	*e*P	**P**	**14 50 01.0**	**+1.1**
KHC			*ex*	x	14 50 08.8	
KHC	**Kasperske Hory**	**52.35 307**	*e*P	**P**	**14 50 01.0**	**+1.1**
KHC			*e*		14 50 08.8	
GERES	**GERESS Array B**	**52.36 307**	P	**P**	**14 50 00.8**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=77,slow=7.0,SNR=15					
GERES			LR	LR	15 17 16.2	
	comp=Z,108nm,20.0s,baz=55,slow=42					
CUC	**Castrocucco**	**54.01 296**	*e*P	**P**	**14 50 12.9**	**+0.7**
	comp=Z,12nm,0.5s					
BFO	**Black Forest**	**55.89 308**	*e*P	**P**	**14 50 25.9**	**+0.2**
BFO			pmax	pmax		
	comp=Z,12nm,1.0s					
BFO	**Black Forest**	**55.89 308**	*e*P	**P**	**14 50 25.9**	**+0.2**
	comp=Z,12nm,1.0s					
TUE	**Stuetta**	**55.93 305**	*e*P	**P**	**14 50 25.8**	**-0.4**
	comp=Z,7.2nm,1.0s					
BNI	**Bardonecchia**	**58.20 305**	*e*P	**P**	**14 50 42.4**	**+0.2**
BNI			pmax	pmax		
	comp=Z,14nm,1.2s					
BNI	**Bardonecchia**	**58.20 305**	*e*P	**P**	**14 50 42.4**	**+0.2**
	comp=Z,14nm,1.2s					
EKA	**Eskdalemuir Ar**	**59.77 319**	P	**P**	**14 50 53.1**	**+0.4**
	comp=Z,7.7nm,0.9s,baz=68,slow=9.1,SNR=6.2					
EKA	**Eskdalemuir Ar**	**59.77 319**	P	**P**	**14 50 53.1**	**+0.4**
EKA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
KMBO	**Kilima Mbogo**	**60.42 242**	P	**P**	**14 50 58.1**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=67,slow=4.3,SNR=3.2					
KMBO	**Kilima Mbogo**	**60.42 242**	*e*P	**P**	**14 50 58.5**	**+0.5**
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KEST	**Kesra**	**60.45 294**	P	**P**	**14 50 58.3**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=45,slow=20,SNR=3.3					
SUMG	**Summit**	**63.24 344**	*i* P	**P**	**14 51 17.8**	**+1.5**
	comp=Z,11nm,1.0s					
SUMG	**Summit**	**63.24 344**	*i* P	**P**	**14 51 17.8**	**+1.5**
SUMG			pmax	pmax		
	comp=Z,11nm,1.0s					
SUMG	**Summit**	**63.24 344**	*e*P	**P**	**14 51 17.0**	**+0.6**
	comp=Z,13nm,1.0s					
COLD	**Coldfoot**	**66.19 21**	*e*P	**P**	**14 51 35.0**	**-0.2**
	comp=Z,13nm,0.9s					
ESDC	**Sonseca Array**	**67.68 303**	P	**P**	**14 51 45.4**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=55,slow=6.5,SNR=21					
PAB	**San Pablo**	**68.00 304**	*e*P	**P**	**14 51 47.0**	**-0.3**
PAB			pmax	pmax		
	comp=Z,6.0nm,1.0s					
PAB	**San Pablo**	**68.00 304**	*e*P	**P**	**14 51 47.0**	**-0.3**
	comp=Z,6.3nm,1.0s					
CAST	**Castle Rocks**	**68.24 25**	*e*P	**P**	**14 51 48.6**	**+0.3**
	comp=Z,9.0nm,0.8s					
MDM	**Murphy Dome**	**68.36 22**	*e*P	**P**	**14 51 48.8**	**-0.2**
	comp=Z,8.0nm,0.7s					
KTH	**Kantishna Hill**	**68.52 24**	*e*P	**P**	**14 51 50.1**	**0.0**
	comp=Z,9.3nm,0.9s					
COLA	**College**	**68.53 22**	*e*P	**P**	**14 51 50.1**	**+0.1**
COLA			pmax	pmax		
	comp=Z,18nm,0.8s					
COLA	**College**	**68.53 22**	*e*P	**P**	**14 51 50.1**	**+0.1**
	comp=Z,18nm,0.8s					
PPLA	**Purkeypile**	**68.56 25**	*e*P	**P**	**14 51 50.8**	**+0.3**
	comp=Z,14nm,0.8s					
CCB	**Clear Creek Bu**	**68.71 22**	*e*P	**P**	**14 51 50.8**	**-0.3**
	comp=Z,7.7nm,1.0s					
IL1	**Eielson Array**	**68.89 22**	*e*P	**P**	**14 51 51.2**	**-1.1**
ILAR	**Eielson Array**	**68.89 22**	P	**P**	**14 51 51.9**	**-0.4**
	comp=Z,7.9nm,0.8s,baz=310,slow=5.1,SNR=76					
ILAR			PP	**PP**	**14 54 23.7**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=312,slow=9.3,SNR=5.9					
ILB	**Eielson Array**	**68.89 22**	*e*P	**P**	**14 51 51.5**	**-0.8**
INK	**Inuvik**	**69.42 15**	P	**P**	**14 51 56.0**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=338,slow=7.6,SNR=11					
INK	**Inuvik**	**69.42 15**	*e*P	**P**	**14 51 55.0**	**-0.4**
INK			pmax	pmax		
	comp=Z,11nm,1.0s					
INK	**Inuvik**	**69.42 15**	*e*P	**P**	**14 51 55.0**	**-0.4**
	comp=Z,12nm,1.0s					
SPU	**Mount Spurr**	**69.80 26**	*e*P	**P**	**14 51 57.9**	**-0.1**
DHY	**Denali Highway**	**69.99 23**	*e*P	**P**	**14 51 58.9**	**-0.4**
	comp=Z,8.2nm,0.9s					
RSO	**Redoubt South**	**70.05 27**	*e*P	**P**	**14 52 00.2**	**+0.5**
SUA	**Susitna One**	**70.05 26**	*e*P	**P**	**14 51 59.3**	**-0.3**
	comp=Z,9.7nm,0.8s					
EGAK	**Eagle**	**70.49 20**	*e*P	**P**	**14 52 02.0**	**-0.1**
	comp=Z,11nm,1.1s					
DOT	**Dot Lake**	**70.56 22**	*e*P	**P**	**14 52 01.3**	**-1.3**
	comp=Z,11nm,0.6s					
SML	**Sawmill**	**70.61 25**	*e*P	**P**	**14 52 02.1**	**-0.9**
SML			pmax	pmax		
	comp=Z,19nm,0.9s					
SML	**Sawmill**	**70.61 25**	*e*P	**P**	**14 52 02.1**	**-0.9**
	comp=Z,19nm,0.9s					
PAX	**Paxson**	**70.65 23**	*e*P	**P**	**14 52 02.6**	**-0.6**
PAX			pmax	pmax		
	comp=Z,5.0nm,0.9s					
PAX	**Paxson**	**70.65 23**	*e*P	**P**	**14 52 02.6**	**-0.6**
	comp=Z,5.1nm,0.9s					
SCM	**Sheep Creek Mo**	**70.92 24**	*e*P	**P**	**14 52 04.8**	**-0.1**
SCM			pmax	pmax		
	comp=Z,17nm,0.8s					
SCM	**Sheep Creek Mo**	**70.92 24**	*e*P	**P**	**14 52 04.8**	**-0.1**
	comp=Z,17nm,0.8s					
SEW	**Seward**	**71.47 26**	*e*P	**P**	**14 52 07.8**	**-0.3**
	comp=Z,20nm,0.9s					
DAWY	**Dawson**	**71.53 20**	*e*P	**P**	**14 52 07.9**	**-0.6**
	comp=Z,6.2nm,0.9s					
WRAB	**Tennant Creek**	**72.87 134**	⇑*e*P	**P**	**14 52 15.8**	**-1.2**
WRAB			pmax	pmax		
	comp=Z,7.0nm,0.9s					
WRA	**Warramunga Arr**	**72.87 134**	P	**P**	**14 52 15.5**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=328,slow=5.9,SNR=13					
ASAR	**Alice Springs**	**75.60 136**	P	**P**	**14 52 31.4**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=331,slow=6.4,SNR=20					
AS01	**Alice Springs**	**75.63 136**	*e*P	**P**	**14 52 30.9**	**-2.2**
NWAO	**Narrogin (SRO)**	**76.17 154**	LR	LR	15 28 30.7	
	comp=Z,144nm,20.6s,baz=315,slow=38					
SKAG	**Skagway**	**76.42 21**	*e*P	**P**	**14 52 36.2**	**-0.9**
	comp=Z,21nm,1.0s					
YKA	**Yellowknife Ar**	**78.01 10**	P	**P**	**14 52 45.9**	**0.0**
	comp=Z,5.3nm,0.8s,baz=335,slow=5.6,SNR=26					
YKA			LR	LR	15 29 38.3	
	comp=Z,5.3nm,20.4s,baz=0.0,slow=38					
YKA	**Yellowknife Ar**	**78.01 10**	P	**P**	**14 52 45.9**	**0.0**
YKA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
YKA			MLR	MLR		
	comp=Z,5.0nm,20.5s					
TOA0	**Torodi Ar. Sit**	**78.52 278**	*e*P	**P**	**14 52 48.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**78.52 278**	P	**P**	**14 52 48.7**	**-0.9**
	comp=Z,16nm,1.3s,baz=45,slow=5.3,SNR=22					
B08A	**Colville Reser**	**90.54 17**	*e*P	**P**	**14 53 50.1**	**+0.3**
	comp=Z,8.7nm,1.3s					
E09A	**Wood Farm, Sta**	**92.55 17**	*e*P	**P**	**14 53 59.2**	**+0.1**
	comp=Z,6.6nm,0.9s					
F10A	**Beach Ranch, E**	**93.27 17**	*e*P	**P**	**14 54 02.6**	**0.0**
	comp=Z,5.2nm,0.8s					
VNDA	**Vanda**	**123.86 165**	PKP	**PKPdf**	**14 59 42.6**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=297,slow=3.7,SNR=7.0					
CPUP	**Villa Florida**	**147.95 281**	PKP	**PKPdf**	**15 00 29.6**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=47,slow=6.6,SNR=4.6					
LPAZ	**La Paz**	**149.19 309**	PKP	**PKPdf**	**15 00 33.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=338,slow=2.1,SNR=2.8					
LPAZ			PKPbc	**PKPbc**	**15 00 36.7**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=49,slow=8.4,SNR=6.4					
LPAZ	**La Paz**	**149.19 309**	*e*PKPbc	**PKPbc**	**15 00 36.5**	**-1.0**
PLCA	**Paso Flores**	**162.70 255**	PKP	**PKPdf**	**15 00 50.4**	**+0.8**
	comp=Z,2.8nm,1.1s,baz=266,slow=2.9,SNR=3.5					

ISCJB ***05*** *14:41:30.7±0.2,36°.10N±0°.02×23°.38E±0°.02,h89km±1km, mb4.3/39, Error ellipse: s-maj=3.1km s-min=1.9km az=33.7*
ATH ***05*** *14:41:30.8,36°.09N×23°.40E,h79km±3km, ML4.0/26, Error ellipse: s-maj=3.1km s-min=0.8km az=222.0*
MOS ***05*** *14:41:30.6±1.0,36°.14N×23°.31E,h83km, mb4.6/18, Error ellipse: s-maj=8.4km s-min=5.1km az=80.1*
CSEM ***05*** *14:41:31.2±0.1,36°.04N×23°.36E,h80km, mb4.3/23, Error ellipse: s-maj=4.5km s-min=2.4km az=32.0*
NEIC ***05*** *14:41:31.1±0.3,36°.06N×23°.35E,h82km±3km, mb4.2/4, Error ellipse: s-maj=5.0km s-min=3.1km az=210.0*
IDC ***05*** *14:41:31.1±1.1,36°.12N×23°.36E,h75km±11km, mb4.1/24, mb1 4.2/30, mb1mx4.0/54, mbtmp4.4/30, MS2.6/1, Ms1 2.6/1, ms1mx2.2/41, Error ellipse: s-maj=14.0km s-min=10.1km az=20.0*
THE ***05*** *14:41:32.1,36°.08N×23°.38E,h80km±1km, ML4.3/8, Error ellipse: s-maj=1.3km s-min=0.4km az=218.0*
PDG ***05*** *14:41:33.0±0.3,36°.47N×22°.85E,h16km±4km, ML4.7/11, Error ellipse: s-maj=4.5km s-min=2.5km az=90.0*
GII ***05*** *14:41:36.4±0.0,35°.52N×24°.37E,h1km, MD3.4/3*
NIC ***05*** *14:41:41.5±0.3,35°.74N×24°.62E,h25km, mb4.7, ML4.1*
DDA ***05*** *14:41:48.3,36°.01N×22°.75E,h63km, Ml3.9*
ISC 05 14:41:30.9±0.5,36°.10N±0°.03×23°.37E±0°.03,h71km±5km, n521,σ2°27/671,mb4.4/39,23C-23D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.23**	**194**	P	**Pn**	**14 41 43.4**	**+1.6**
ANKY				S	**Sn**	**14 41 52.7**	**+2.9**
ANKY	**Antikythira Is**	**0.23**	**194**	P	**Pn**	**14 41 44.0**	**+2.2**
ANKY				S	**Sn**	**14 41 51.4**	**+1.6**
ANKY				AML	AML	14 41 52.4	
ANKY				AML	AML	14 41 52.5	
ANKY	**Antikythira Is**	**0.23**	**194**	P	**Pn**	**14 41 44.0**	**+2.2**
ANKY				S	**Sn**	**14 41 52.7**	**+2.9**
ANKY	**Antikythira Is**	**0.23**	**194**	P	**Pn**	**14 41 43.4**	**+1.6**
ANKY				S	**Sn**	**14 41 52.7**	**+2.9**
KYTH	**Kithira**	**0.31**	**303**	P	**Pn**	**14 41 44.1**	**+1.8**
KYTH				S	**Sn**	**14 41 54.0**	**+3.2**
KYTH	**Kithira**	**0.31**	**303**	P	**Pn**	**14 41 44.4**	**+2.0**
KYTH				S	**Sn**	**14 41 51.9**	**+1.1**
KYTH				AML	AML	14 41 54.1	
	comp=E,64587μm,0.6s						
KYTH				AML	AML	14 41 55.4	
	comp=N,28992μm,0.2s						
KYTH	**Kithira**	**0.31**	**303**	P	**Pn**	**14 41 44.1**	**+1.8**
KYTH				S	**Sn**	**14 41 54.0**	**+3.2**
VLI	**Veliai**	**0.71**	**331**	P	**Pn**	**14 41 47.6**	**+1.6**
VLI				S	**Sn**	**14 41 59.9**	**+2.6**
VLI	**Veliai**	**0.71**	**331**	P	**Pn**	**14 41 47.6**	**+1.6**
VLI				S	**Sn**	**14 41 57.8**	**+0.6**
VLI				AML	AML	14 41 59.2	
	comp=N,15540μm,0.5s						
VLI				AML	AML	14 41 59.4	
	comp=E,10078μm,0.4s						
VLI	**Veliai**	**0.71**	**331**	P	**Pn**	**14 41 47.7**	**+1.6**
VLI				S	**Sn**	**14 41 59.9**	**+2.6**
VLI	**Veliai**	**0.71**	**331**	P	**Pn**	**14 41 47.6**	**+1.6**
VLI				S	**Sn**	**14 41 59.9**	**+2.6**
IMMV	**Iera Moni Meta**	**0.80**	**142**	P	**Pn**	**14 41 48.4**	**+1.3**
IMMV				S	**Sn**	**14 42 01.0**	**+1.9**
IMMV	**Iera Moni Meta**	**0.80**	**142**	P	**Pn**	**14 41 48.6**	**+1.5**
IMMV				AML	AML	14 42 02.0	
	comp=E,33509μm,0.6s						
IMMV				AML	AML	14 42 02.3	
	comp=N,58988μm,0.4s						
IMMV				S	**Sn**	**14 42 02.3**	**+3.3**
IMMV	**Iera Moni Meta**	**0.80**	**142**	P	**Pn**	**14 41 48.4**	**+1.3**
IMMV				S	**Sn**	**14 42 01.0**	**+1.9**
VAM	**Vamos**	**0.96**	**135**	P	**Pn**	**14 41 50.0**	**+1.0**
VAM				S	**Sn**	**14 42 04.0**	**+1.6**
VAM	**Vamos**	**0.96**	**135**	P	**Pn**	**14 41 50.0**	**+1.0**
VAM	**Vamos**	**0.96**	**135**	P	**Pn**	**14 41 50.0**	**+1.0**
VAM				S	**Sn**	**14 42 03.5**	**+1.1**
VAM				AML	AML	14 42 05.9	
	comp=E,20122μm,0.5s						
VAM				AML	AML	14 42 07.3	
	comp=N,15692μm,0.5s						
VAM	**Vamos**	**0.96**	**135**	P	**Pn**	**14 41 50.0**	**+1.0**
VAM				S	**Sn**	**14 42 03.5**	**+1.1**
VAM	**Vamos**	**0.96**	**135**	P	**Pn**	**14 41 50.0**	**+1.0**
MHLO	**Agia Marina, M**	**1.02**	**54**	P	**Pn**	**14 41 51.1**	**+1.4**
MHLO				S	**Sn**	**14 42 06.0**	**+2.3**
MHLO	**Agia Marina, M**	**1.02**	**54**	P	**Pn**	**14 41 51.6**	**+1.9**
MHLO	**Agia Marina, M**	**1.02**	**54**	P	**Pn**	**14 41 51.1**	**+1.4**
MHLO				S	**Sn**	**14 42 06.0**	**+2.3**
MHLA	**Plaka, Milos I**	**1.07**	**52**	P	**Pn**	**14 41 52.9**	**+2.6**
MHLA	**Plaka, Milos I**	**1.07**	**52**	P	**Pn**	**14 41 52.9**	**+2.6**
GVD	**Gavdhos**	**1.38**	**155**	P	**Pn**	**14 41 54.8**	**+0.5**
GVD				S	**Sn**	**14 42 13.7**	**+1.7**
GVD	**Gavdhos**	**1.38**	**155**	P	**Pn**	**14 41 54.0**	**-0.3**
GVD				S	**Sn**	**14 42 11.5**	**-0.5**
GVD				AML	AML	14 42 13.9	
	comp=E,13905μm,0.3s						
GVD				AML	AML	14 42 15.6	
	comp=N,12444μm,0.3s						
GVD	**Gavdhos**	**1.38**	**155**	P	**Pn**	**14 41 54.8**	**+0.5**
GVD				S	**Sn**	**14 42 11.5**	**-0.5**
GVD	**Gavdhos**	**1.38**	**155**	P	**Pn**	**14 41 54.8**	**+0.5**
GVD				S	**Sn**	**14 42 13.7**	**+1.7**
SERI	**Serifos**	**1.39**	**40**	P	**Pn**	**14 41 55.6**	**+1.1**
SERI				S	**Sn**	**14 42 12.3**	**+0.1**
SERI	**Serifos**	**1.39**	**40**	P	**Pn**	**14 41 55.6**	**+1.1**
SERI				S	**Sn**	**14 42 12.3**	**+0.1**
DID	**Didima**	**1.41**	**356**	P	**Pn**	**14 41 56.2**	**+1.5**
DID				S	**Sn**	**14 42 15.1**	**+2.3**
DID	**Didima**	**1.41**	**356**	P	**Pn**	**14 41 56.3**	**+1.5**
DID				S	**Sn**	**14 42 14.4**	**+1.7**
DID				AML	AML	14 42 15.6	
	comp=E,12878μm,0.3s						
DID				AML	AML	14 42 16.8	
	comp=N,11395μm,0.4s						
DID	**Didima**	**1.41**	**356**	P	**Pn**	**14 41 56.3**	**+1.5**
DID				S	**Sn**	**14 42 15.1**	**+2.3**
DID	**Didima**	**1.41**	**356**	P	**Pn**	**14 41 56.2**	**+1.5**
DID				S	**Sn**	**14 42 15.1**	**+2.3**
IDI	**Anoyia**	**1.48**	**123**	P	**Pn**	**14 41 55.3**	**-0.3**
	comp=N,104nm,0.3s,baz=320,slow=14,SNR=152						
IDI				S	**Sn**	**14 42 15.2**	**+1.0**
	comp=N,210nm,0.3s,baz=21,slow=21,SNR=11						
IDI	**Anoyia**	**1.48**	**123**	P	**Pn**	**14 41 54.0**	**-1.6**
IDI				S	**Sn**	**14 42 16.2**	**+2.0**
IDI				AML	AML	14 42 18.3	
	comp=N,5984μm,0.6s						
IDI				AML	AML	14 42 19.1	
	comp=E,3817μm,0.3s						
IDI	**Anoyia**	**1.48**	**123**	P	**Pn**	**14 41 54.0**	**-1.6**
VLX	**Vlachokerasia**	**1.50**	**328**	P	**Pn**	**14 41 58.4**	**+2.4**
VLX				S	**Sn**	**14 42 17.6**	**+2.6**
VLX	**Vlachokerasia**	**1.50**	**328**	P	**Pn**	**14 41 58.5**	**+2.4**
VLX				S	**Sn**	**14 42 15.8**	**+0.9**
VLX				AML	AML	14 42 19.8	
	comp=E,4949μm,0.5s						
VLX				AML	AML	14 42 20.0	
	comp=N,5762μm,0.6s						
VLX	**Vlachokerasia**	**1.50**	**328**	P	**Pn**	**14 41 58.4**	**+2.4**
VLX				S	**Sn**	**14 42 17.6**	**+2.6**
VLX	**Vlachokerasia**	**1.50**	**328**	P	**Pn**	**14 41 58.4**	**+2.4**
VLX				S	**Sn**	**14 42 17.6**	**+2.6**
TMBK	**Timbaki Herakl**	**1.53**	**132**	P	**Pn**	**14 41 57.9**	**+1.7**
TMBK				S	**Sn**	**14 42 17.4**	**+2.1**
TMBK	**Timbaki Herakl**	**1.53**	**132**	P	**Pn**	**14 41 57.9**	**+1.7**
TMBK				S	**Sn**	**14 42 17.4**	**+2.1**
PYL	**PYLOS**	**1.54**	**302**	P	**Pn**	**14 41 57.0**	**+0.6**
PYL				S	**Sn**	**14 42 18.0**	**+2.4**
PYL	**PYLOS**	**1.54**	**302**	P	**Pn**	**14 41 56.1**	**-0.3**
PYL				S	**Sn**	**14 42 14.9**	**-0.7**
PYL				AML	AML	14 42 22.2	
	comp=E,2221μm,0.5s						
PYL				AML	AML	14 42 23.4	
	comp=N,1469μm,0.4s						
PYL	**PYLOS**	**1.54**	**302**	P	**Pn**	**14 41 57.0**	**+0.6**
PYL				S	**Sn**	**14 42 18.0**	**+2.4**
PYL	**PYLOS**	**1.54**	**302**	P	**Pn**	**14 41 57.0**	**+0.6**
PYL				S	**Sn**	**14 42 18.0**	**+2.4**
ITM	**Ithomi**	**1.59**	**313**	P	**Pn**	**14 41 59.1**	**+2.0**
ITM				S	**Sn**	**14 42 17.9**	**+1.0**
ITM				AML	AML	14 42 20.8	
	comp=N,1828μm,0.3s						
ITM				AML	AML	14 42 21.0	
	comp=E,3040μm,0.3s						
ITM	**Ithomi**	**1.59**	**313**	P	**Pn**	**14 41 59.1**	**+2.0**
ITM				S	**Sn**	**14 42 17.9**	**+1.0**
SIVA	**Sivas**	**1.59**	**132**	P	**Pn**	**14 41 58.6**	**+1.5**
SIVA				S	**Sn**	**14 42 19.2**	**+2.3**
SIVA	**Sivas**	**1.59**	**132**	P	**Pn**	**14 41 59.3**	**+2.2**
SIVA				S	**Sn**	**14 42 19.7**	**+2.8**
SIVA				AML	AML	14 42 23.4	
	comp=E,7833μm,0.4s						
SIVA				AML	AML	14 42 26.2	
	comp=N,5784μm,0.5s						
SIVA	**Sivas**	**1.59**	**132**	P	**Pn**	**14 41 58.6**	**+1.5**
SIVA				S	**Sn**	**14 42 19.2**	**+2.3**
SIVA	**Sivas**	**1.59**	**132**	P	**Pn**	**14 41 58.6**	**+1.5**
SIVA				S	**Sn**	**14 42 19.2**	**+2.3**
IACM	**Heraklion**	**1.59**	**119**	P	**Pn**	**14 41 56.7**	**-0.4**
IACM				S	**Sn**	**14 42 19.8**	**+2.9**
IACM				AML	AML	14 42 23.4	
	comp=E,12415μm,0.3s						
IACM				AML	AML	14 42 24.3	
	comp=N,16313μm,0.4s						
IACM	**Heraklion**	**1.59**	**119**	P	**Pn**	**14 41 56.7**	**-0.4**
IACM				S	**Sn**	**14 42 19.8**	**+2.9**
THR5	**Thira Island,**	**1.63**	**78**	P	**Pn**	**14 41 58.9**	**+1.3**
THR5	**Thira Island,**	**1.63**	**78**	P	**Pn**	**14 41 58.9**	**+1.3**
THR6	**Thira Island,**	**1.66**	**80**	P	**Pn**	**14 41 59.4**	**+1.4**
THR6	**Thira Island,**	**1.66**	**80**	P	**Pn**	**14 41 59.4**	**+1.4**
THR6	**Thira Island,**	**1.66**	**80**	P	**Pn**	**14 41 59.4**	**+1.4**
THR3	**Thira Island,**	**1.67**	**79**	P	**Pn**	**14 41 59.5**	**+1.4**
THR3	**Thira Island,**	**1.67**	**79**	P	**Pn**	**14 41 59.5**	**+1.4**
THR3	**Thira Island,**	**1.67**	**79**	P	**Pn**	**14 41 59.5**	**+1.4**
TRIP	**Tripoli**	**1.68**	**329**	P	**Pn**	**14 42 01.3**	**+2.9**
TRIP				S	**Sn**	**14 42 20.9**	**+1.8**
TRIP	**Tripoli**	**1.68**	**329**	P	**Pn**	**14 42 01.3**	**+2.9**
TRIP				S	**Sn**	**14 42 20.9**	**+1.8**
CMBO	**Columbo, Santo**	**1.69**	**77**	P	**Pn**	**14 41 59.7**	**+1.4**
CMBO	**Columbo, Santo**	**1.69**	**77**	P	**Pn**	**14 41 59.7**	**+1.4**
SANT	**Santorini**	**1.71**	**80**	P	**Pn**	**14 41 59.9**	**+1.2**
SANT	**Santorini**	**1.71**	**80**	P	**Pn**	**14 42 00.3**	**+1.6**
SANT				S	**Sn**	**14 42 20.5**	**+0.8**
SANT				AML	AML	14 42 23.6	
	comp=N,5983μm,0.6s						
SANT				AML	AML	14 42 25.0	
	comp=E,7924μm,0.2s						
SANT	**Santorini**	**1.71**	**80**	P	**Pn**	**14 41 59.9**	**+1.2**
SANT				S	**Sn**	**14 42 20.5**	**+0.8**
SANT	**Santorini**	**1.71**	**80**	*e*Pn	**Pn**	**14 41 59.7**	**+1.1**
VLY	**Voula,Athens**	**1.79**	**11**	P	**Pn**	**14 42 01.0**	**+1.4**
VLY				S	**Sn**	**14 42 23.6**	**+2.0**
VLY	**Voula,Athens**	**1.79**	**11**	P	**Pn**	**14 42 01.1**	**+1.4**
VLY				S	**Sn**	**14 42 20.9**	**-0.6**
VLY				AML	AML	14 42 24.6	
	comp=N,5193μm,0.5s						
VLY				AML	AML	14 42 27.6	
	comp=E,6111μm,0.3s						
VLY	**Voula,Athens**	**1.79**	**11**	P	**Pn**	**14 42 01.1**	**+1.4**
VLY				S	**Sn**	**14 42 23.6**	**+2.0**
VLY	**Voula,Athens**	**1.79**	**11**	P	**Pn**	**14 42 01.0**	**+1.4**
VLY				S	**Sn**	**14 42 23.6**	**+2.0**
ATH	**Athens Observa**	**1.89**	**8**	P	**Pn**	**14 42 02.7**	**+1.6**
ATH	**Athens Observa**	**1.89**	**8**	P	**Pn**	**14 42 02.7**	**+1.6**
ATH	**Athens Observa**	**1.89**	**8**	P	**Pn**	**14 42 02.8**	**+1.6**
ATH				S	**Sn**	**14 42 23.5**	**-0.6**
ATH				AML	AML	14 42 26.2	
	comp=E,4987μm,0.3s						
ATH				AML	AML	14 42 27.8	
	comp=N,4289μm,0.2s						
ATH	**Athens Observa**	**1.89**	**8**	P	**Pn**	**14 42 02.7**	**+1.6**
ATH				S	**Sn**	**14 42 23.5**	**-0.6**
ATH	**Athens Observa**	**1.89**	**8**	P	**Pn**	**14 42 02.7**	**+1.6**
LOUT	**Loutraki**	**1.92**	**351**	P	**Pn**	**14 42 03.2**	**+1.8**
LOUT	**Loutraki**	**1.92**	**351**	P	**Pn**	**14 42 03.2**	**+1.8**
LAST	**Lasithi**	**1.95**	**118**	P	**Pn**	**14 42 02.4**	**+0.4**
LAST				S	**Sn**	**14 42 27.7**	**+2.1**
LAST	**Lasithi**	**1.95**	**118**	P	**Pn**	**14 42 01.5**	**-0.4**
LAST				S	**Sn**	**14 42 25.7**	**+0.1**
LAST				AML	AML	14 42 30.2	
	comp=N,2087μm,0.7s						
LAST				AML	AML	14 42 33.7	
	comp=E,1226μm,0.3s						
LAST	**Lasithi**	**1.95**	**118**	P	**Pn**	**14 42 02.4**	**+0.4**
LAST				S	**Sn**	**14 42 25.7**	**+0.1**
LAST	**Lasithi**	**1.95**	**118**	P	**Pn**	**14 42 02.4**	**+0.4**
LAST				S	**Sn**	**14 42 27.7**	**+2.1**
LTK	**Loutraki**	**1.95**	**351**	P	**Pn**	**14 42 03.6**	**+1.7**
LTK				S	**Sn**	**14 42 28.5**	**+3.0**
LTK	**Loutraki**	**1.95**	**351**	P	**Pn**	**14 42 03.6**	**+1.7**
LTK				S	**Sn**	**14 42 28.5**	**+3.0**
LTK	**Loutraki**	**1.95**	**351**	P	**Pn**	**14 42 03.6**	**+1.7**
LTK				S	**Sn**	**14 42 28.5**	**+3.0**
AMT	**Artemida-Makis**	**1.96**	**318**	P	**Pn**	**14 42 03.8**	**+1.8**
AMT				S	**Sn**	**14 42 29.0**	**+3.3**
AMT	**Artemida-Makis**	**1.96**	**318**	P	**Pn**	**14 42 03.8**	**+1.8**
AMT	**Artemida-Makis**	**1.96**	**318**	P	**Pn**	**14 42 03.8**	**+1.8**
AMT				S	**Sn**	**14 42 29.0**	**+3.3**
PTL	**Penteli**	**1.99**	**11**	P	**Pn**	**14 42 03.8**	**+1.4**
PTL	**Penteli**	**1.99**	**11**	P	**Pn**	**14 42 03.9**	**+1.4**
PTL				S	**Sn**	**14 42 26.1**	**-0.4**
PTL				AML	AML	14 42 28.2	
	comp=N,6310μm,0.4s						
PTL				AML	AML	14 42 28.9	
	comp=E,8817μm,0.5s						
PTL	**Penteli**	**1.99**	**11**	P	**Pn**	**14 42 03.8**	**+1.4**
PTL		

KLV	**Kalavryta, Ach**	**2.18 334**	P	**Pn**	**14 42 06.9 +1.9**
KLV			S	**Sn**	**14 42 33.7 +2.7**
KLV	**Kalavryta, Ach**	**2.18 334**	P	**Pn**	**14 42 06.9 +1.9**
KLV			S	**Sn**	**14 42 33.7 +2.7**
PROD	**Prodromos**	**2.19 350**	P	**Pn**	**14 42 06.3 +1.1**
PROD			S	**Sn**	**14 42 31.7 +0.4**
PROD			AML	AML	14 42 33.4
	comp=N,5080μm,0.3s				
PROD			AML	AML	14 42 34.2
	comp=E,2783μm,0.3s				
PROD	**Prodromos**	**2.19 350**	P	**Pn**	**14 42 06.3 +1.1**
PROD			S	**Sn**	**14 42 31.7 +0.4**
DRO	**Drossia**	**2.28 325**	P	**Pn**	**14 42 08.7 +2.3**
DRO	**Drossia**	**2.28 325**	P	**Pn**	**14 42 09.4 +3.1**
DRO			S	**Sn**	**14 42 36.7 +3.2**
DRO			AML	AML	14 42 40.7
	comp=E,3691μm,0.5s				
DRO			AML	AML	14 42 42.1
	comp=N,2835μm,0.4s				
DRO	**Drossia**	**2.28 325**	P	**Pn**	**14 42 08.7 +2.3**
DRO			S	**Sn**	**14 42 36.7 +3.2**
EREA	**Eretria**	**2.36 11**	P	**Pn**	**14 42 09.3 +1.8**
EREA	**Eretria**	**2.36 11**	P	**Pn**	**14 42 09.3 +1.8**
DSF	**Desfina**	**2.41 344**	P	**Pn**	**14 42 09.6 +1.5**
DSF	**Desfina**	**2.41 344**	P	**Pn**	**14 42 10.1 +1.9**
DSF			S	**Sn**	**14 42 39.5 +2.9**
DSF	**Desfina**	**2.41 344**	P	**Pn**	**14 42 09.6 +1.5**
DSF			S	**Sn**	**14 42 39.5 +2.9**
DSF	**Desfina**	**2.41 344**	P	**Pn**	**14 42 09.6 +1.5**
LAKA	**Lakka**	**2.41 333**	P	**Pn**	**14 42 09.9 +1.7**
LAKA	**Lakka**	**2.41 333**	P	**Pn**	**14 42 09.9 +1.7**
LAKA	**Lakka**	**2.41 333**	P	**Pn**	**14 42 09.9 +1.7**
RLS	**Riolos of Patr**	**2.48 323**	P	**Pn**	**14 42 11.3 +2.3**
RLS	**Riolos of Patr**	**2.48 323**	P	**Pn**	**14 42 11.3 +2.3**
RLS	**Riolos of Patr**	**2.48 323**	P	**Pn**	**14 42 11.3 +2.3**
KALE	**Kalithea**	**2.49 337**	P	**Pn**	**14 42 11.0 +1.7**
KALE	**Kalithea**	**2.49 337**	P	**Pn**	**14 42 11.0 +1.7**
KALE	**Kalithea**	**2.49 337**	P	**Pn**	**14 42 11.0 +1.7**
ZKR	**Zakros**	**2.52 112**	P	**Pn**	**14 42 10.5 +1.0**
ZKR	**Zakros**	**2.52 112**	P	**Pn**	**14 42 10.5 +1.0**
ZKR	**Zakros**	**2.52 112**	P	**Pn**	**14 42 10.5 +1.0**
SERG	**Sergoula**	**2.54 336**	P	**Pn**	**14 42 11.4 +1.5**
SERG	**Sergoula**	**2.54 336**	P	**Pn**	**14 42 11.4 +1.5**
SERG	**Sergoula**	**2.54 336**	P	**Pn**	**14 42 11.4 +1.5**
LKR	**Lokris**	**2.57 353**	P	**Pn**	**14 42 11.6 +1.4**
LKR	**Lokris**	**2.57 353**	P	**Pn**	**14 42 11.6 +1.4**
LKR	**Lokris**	**2.57 353**	P	**Pn**	**14 42 11.6 +1.4**
EFP	**Efpalio**	**2.60 334**	P	**Pn**	**14 42 12.6 +1.9**
EFP	**Efpalio**	**2.60 334**	P	**Pn**	**14 42 12.6 +1.9**
AXS	**Araxos**	**2.63 323**	P	**Pn**	**14 42 13.5 +2.4**
AXS	**Araxos**	**2.63 323**	P	**Pn**	**14 42 13.5 +2.4**
ANX	**Ano Chora**	**2.75 336**	P	**Pn**	**14 42 14.4 +1.6**
ANX	**Ano Chora**	**2.75 336**	P	**Pn**	**14 42 14.4 +1.6**
AGG	**Agios Georgios**	**3.04 344**	P	**Pn**	**14 42 18.5 +1.9**
AGG			S	**Sn**	**14 42 54.2 +2.3**
AGG	**Agios Georgios**	**3.04 344**	*e*P	**Pn**	**14 42 18.3 +1.7**
AGG			S	**Sn**	**14 42 54.2 +2.3**
AGG	**Agios Georgios**	**3.04 344**	*e*P	**Pn**	**14 42 18.3 +1.7**
AGG			S	**Sn**	**14 42 54.2 +2.3**
AGG	**Agios Georgios**	**3.04 344**	*e*Pn	**Pn**	**14 42 18.3 +1.7**
AGG			S	**Sn**	**14 42 54.2 +2.3**
EVR	**Evrytania**	**3.08 337**	P	**Pn**	**14 42 19.3 +2.0**
EVR	**Evrytania**	**3.08 337**	P	**Pn**	**14 42 19.3 +2.0**
EVR	**Evrytania**	**3.08 337**	P	**Pn**	**14 42 19.3 +2.0**
NIS1	**Nisyros Isl.**	**3.11 80**	*e*PN	**Pn**	**14 42 18.3 +0.7**
NIS1	**Nisyros Isl.**	**3.11 80**	*e*Pn	**Pn**	**14 42 18.3 +0.7**
KARP	**Karpathos**	**3.13 99**	*e*PN	**Pn**	**14 42 17.4 -0.5**
KARP	**Karpathos**	**3.13 99**	*e*Pn	**Pn**	**14 42 18.2 +0.3**
KARP	**Karpathos**	**3.13 99**	*e*Pn	**Pn**	**14 42 18.2 +0.3**
XOR	**Xorichti**	**3.27 358**	P	**Pn**	**14 42 21.2 +1.4**
XOR	**Xorichti**	**3.27 358**	P	**Pn**	**14 42 21.2 +1.4**
XOR	**Xorichti**	**3.27 358**	P	**Pn**	**14 42 21.2 +1.4**
ZEY	**¨zmir**	**3.29 49**	*i* P	**Pn**	**14 42 21.6 +1.6**
ZEY			*i* S	**Sn**	**14 42 58.8 +0.8**
BODT	**Bodrum**	**3.31 72**	*e*PN	**Pn**	**14 42 21.3 +0.9**
BODT	**Bodrum**	**3.31 72**	*e*Pn	**Pn**	**14 42 21.3 +0.9**
BDRM	**Kayabasi**	**3.42 72**	*i* S	**Sn**	**14 43 01.4 +0.3**
BDRM	**Kayabasi**	**3.42 72**	S	**Sn**	**14 43 01.4 +0.3**
URLA	**Izmir**	**3.42 48**	*i* P	**Pn**	**14 42 23.6 +1.7**
URLA			*i* S	**Sn**	**14 43 03.3 +2.0**
URLA	**Izmir**	**3.42 48**	P	**Pn**	**14 42 23.6 +1.7**
URLA			S	**Sn**	**14 43 03.3 +2.0**
LKD2	**Lefkada island**	**3.45 322**	P	**Pn**	**14 42 23.3 +1.1**
LKD2	**Lefkada island**	**3.45 322**	P	**Pn**	**14 42 23.3 +1.1**
LKD2	**Lefkada island**	**3.45 322**	P	**Pn**	**14 42 23.3 +1.1**
DAT	**Datca**	**3.45 78**	*e*PN	**Pn**	**14 42 23.2 +0.9**
DAT	**Datca**	**3.45 78**	*e*Pn	**Pn**	**14 42 23.2 +0.9**
DAT			S	**Sn**	**14 43 02.4 +0.3**
DATC	**Datca-Mugla**	**3.52 78**	*e*PN	**Pn**	**14 42 23.5 +0.3**
DATC	**Datca-Mugla**	**3.52 78**	*e*Pn	**Pn**	**14 42 23.5 +0.3**
DSL	**Palaion Diasel**	**3.53 330**	P	**Pn**	**14 42 25.1 +1.8**
DSL	**Palaion Diasel**	**3.53 330**	P	**Pn**	**14 42 25.1 +1.8**
DSL	**Palaion Diasel**	**3.53 330**	P	**Pn**	**14 42 25.1 +1.8**
KRBN	**Karaburun**	**3.56 45**	*e*PN	**Pn**	**14 42 24.5 +0.9**
KRBN	**Karaburun**	**3.56 45**	*e*Pn	**Pn**	**14 42 24.5 +0.9**
THL	**Klokotos Trika**	**3.63 343**	P	**Pn**	**14 42 26.3 +1.7**
THL	**Klokotos Trika**	**3.63 343**	P	**Pn**	**14 42 26.3 +1.7**
SIGR	**SIGRI**	**3.68 32**	*e*PN	**Pn**	**14 42 26.2 +0.8**
SIGR	**SIGRI**	**3.68 32**	*e*Pn	**Pn**	**14 42 26.2 +0.8**
FOCM	**Fo˘§a**	**3.74 45**	*e*PN	**Pn**	**14 42 27.2 +1.1**
FOCM	**Fo˘§a**	**3.74 45**	*e*Pn	**Pn**	**14 42 27.2 +1.1**
ARG	**Arkhangelos**	**3.85 87**	P	**Pn**	**14 42 29.3 +1.7**
ARG	**Arkhangelos**	**3.85 87**	P	**Pn**	**14 42 29.3 +1.7**
ARG	**Arkhangelos**	**3.85 87**	P	**Pn**	**14 42 29.3 +1.7**
ARG	**Arkhangelos**	**3.85 87**	P	**Pn**	**14 42 29.3 +1.7**
AYDN	**Tasoluk**	**3.94 65**	*i* P	**Pn**	**14 42 31.4 +2.5**
AYDN	**Tasoluk**	**3.94 65**	P	**Pn**	**14 42 31.4 +2.5**
LIT	**Litokhoron**	**4.06 350**	P	**Pn**	**14 42 31.8 +1.3**
LIT	**Litokhoron**	**4.06 350**	P	**Pn**	**14 42 31.8 +1.3**
LIT	**Litokhoron**	**4.06 350**	P	**Pn**	**14 42 31.8 +1.3**
LIT	**Litokhoron**	**4.06 350**	P	**Pn**	**14 42 31.8 +1.3**
AYDB	**Zeytinkoy-Aydi**	**4.06 62**	*e*PN	**Pn**	**14 42 32.2 +1.6**
AYDB	**Zeytinkoy-Aydi**	**4.06 62**	*e*Pn	**Pn**	**14 42 32.2 +1.6**
DKL	**Dikili**	**4.09 42**	*e*PN	**Pn**	**14 42 32.3 +1.4**
DKL	**Dikili**	**4.09 42**	*e*Pn	**Pn**	**14 42 32.3 +1.4**
TURN	**Turunc**	**4.29 78**	*i* P	**Pn**	**14 42 31.2 -2.4**
TURN			*i* S	**Sn**	**14 43 17.6 -4.7**
TURN	**Turunc**	**4.29 78**	P	**Pn**	**14 42 31.2 -2.4**
BOZC	**Bozcaada**	**4.30 29**	*e*PN	**Pn**	**14 42 35.0 +1.2**
BOZC	**Bozcaada**	**4.30 29**	*e*Pn	**Pn**	**14 42 35.0 +1.2**
DALY	**Dalyan (Mu˘la**	**4.32 79**	*e*PN	**Pn**	**14 42 35.4 +1.4**
DALY	**Dalyan (Mu˘la**	**4.32 79**	*i* P	**Pn**	**14 42 36.9 +2.9**
DALY	**Dalyan (Mu˘la**	**4.32 79**	*e*Pn	**Pn**	**14 42 35.4 +1.4**
DALY	**Dalyan (Mu˘la**	**4.32 79**	P	**Pn**	**14 42 36.9 +2.9**
GADA	**Gvkgeada**	**4.55 25**	*e*PN	**Pn**	**14 42 38.2 +1.0**
GADA	**Gvkgeada**	**4.55 25**	*e*Pn	**Pn**	**14 42 38.2 +1.0**
FETY	**Fethiye**	**4.64 82**	*e*PN	**Pn**	**14 42 40.1 +1.6**
FETY	**Fethiye**	**4.64 82**	*e*Pn	**Pn**	**14 42 40.1 +1.6**
FETY	**Fethiye**	**4.64 82**	P	**Pn**	**14 42 40.9 +2.4**
FETY			S	**Sn**	**14 43 30.1 -1.0**
TAVA	**DENIZLI_Tavas**	**4.65 71**	*i* P	**Pn**	**14 42 43.1 +4.4**
TAVA			*i* S	**Sn**	**14 43 33.6 +2.2**
TAVA	**DENIZLI_Tavas**	**4.65 71**	P	**Pn**	**14 42 43.1 +4.4**
TAVA			S	**Sn**	**14 43 33.7 +2.2**
STEP	**BALIKESIR_Sava**	**4.75 45**	*i* P	**Pn**	**14 42 41.8 +1.8**
STEP			*i* S	**Sn**	**14 43 34.6 +0.9**
STEP	**BALIKESIR_Sava**	**4.75 45**	P	**Pn**	**14 42 41.8 +1.8**
STEP			S	**Sn**	**14 43 34.7 +0.9**
DNZL	**Cakiroluk**	**4.82 69**	*i* P	**Pn**	**14 42 45.1 +4.1**
DNZL			*i* S	**Sn**	**14 43 42.0 +6.3**
DNZL	**Cakiroluk**	**4.82 69**	P	**Pn**	**14 42 45.1 +4.1**
BALB	**Balikesir**	**5.02 44**	*e*PN	**Pn**	**14 42 45.8 +2.1**
BALB	**Balikesir**	**5.02 44**	*e*Pn	**Pn**	**14 42 45.8 +2.1**
LPK	**Lapseki**	**5.04 31**	*e*PN	**Pn**	**14 42 45.5 +1.7**
LPK	**Lapseki**	**5.04 31**	*e*Pn	**Pn**	**14 42 45.5 +1.7**
GLHS	**Glhisar (BURDU**	**5.04 76**	*e*PN	**Pn**	**14 42 46.2 +2.2**
GLHS	**Glhisar (BURDU**	**5.04 76**	*e*Pn	**Pn**	**14 42 46.2 +2.2**
AKAS	**Kas**	**5.04 87**	*e*PN	**Pn**	**14 42 45.4 +1.3**
AKAS	**Kas**	**5.04 87**	*i* P	**Pn**	**14 42 44.9 +0.8**
AKAS			*i* S	**Sn**	**14 43 39.4 -1.7**
AKAS			*i* S	**Sn**	**14 43 39.4 -1.7**
AKAS	**Kas**	**5.04 87**	*e*Pn	**Pn**	**14 42 45.1 +1.0**
AKAS			S	**Sn**	**14 43 39.4 -1.7**
AKAS	**Kas**	**5.04 87**	*e*Pn	**Pn**	**14 42 45.1 +1.0**
GOLH	**Golhisar**	**5.10 75**	*i* P	**Pn**	**14 42 48.7 +3.8**
GOLH			*i* S	**Sn**	**14 43 42.3 -0.2**
GOLH	**Golhisar**	**5.10 75**	P	**Pn**	**14 42 48.7 +3.8**
GOLH			S	**Sn**	**14 43 42.3 -0.2**
BIA	**Bitola**	**5.17 343**	*e*Pn	**Pn**	**14 42 47.2 +1.4**
BIA			*i* Sn	**Sn**	**14 43 43.5 -0.6**
BIA	**Bitola**	**5.17 343**	*e*Pn	**Pn**	**14 42 47.2 +1.4**
BIA			*i* Sn	**Sn**	**14 43 43.5 -0.6**
VAY	**Valandovo**	**5.26 353**	*i* Pn	**Pn**	**14 42 43.2 -3.7**
VAY			*i* Sn	**Sn**	**14 43 45.0 -1.0**
KRBG	**Karabiga-Canak**	**5.29 35**	*e*PN	**Pn**	**14 42 48.9 +1.7**
KRBG	**Karabiga-Canak**	**5.29 35**	*e*Pn	**Pn**	**14 42 48.9 +1.7**
ELL	**Elmali**	**5.31 81**	*e*PN	**Pn**	**14 42 49.4 +1.7**
ELL	**Elmali**	**5.31 81**	*e*Pn	**Pn**	**14 42 49.4 +1.7**
OHR	**Ohrid**	**5.40 339**	*e*Pn	**Pn**	**14 42 49.9 +1.1**
OHR			*i* Sn	**Sn**	**14 43 44.5 -5.2**
KRUS	**Krusevo**	**5.52 343**	*i* Pn	**Pn**	**14 42 51.5 +1.0**
KRUS			*i* Sn	**Sn**	**14 43 50.0 -2.7**
MRMT	**Marmara Adasi**	**5.59 35**	*e*PN	**Pn**	**14 42 53.2 +1.7**
BRDR	**BURDUR-Merkez**	**5.59 71**	*i* P	**Pn**	**14 42 55.1 +3.5**
BRDR			*i* S	**Sn**	**14 43 57.5 +3.0**
BRDR	**BURDUR-Merkez**	**5.59 71**	P	**Pn**	**14 42 55.1 +3.5**
BRDR			S	**Sn**	**14 43 57.5 +3.0**
KORT	**Korkueli**	**5.69 79**	*e*PN	**Pn**	**14 42 54.2 +1.3**
KORT	**Korkueli**	**5.69 79**	*i* P	**Pn**	**14 42 55.9 +3.0**
KORT			*i* S	**Sn**	**14 43 57.4 +0.5**
KORT	**Korkueli**	**5.69 79**	P	**Pn**	**14 42 55.9 +3.0**
KORT			S	**Sn**	**14 43 57.4 +0.5**
TVSB	**Tavsanli**	**5.87 53**	*e*PN	**Pn**	**14 42 57.2 +1.8**
TIR	**Tirane**	**5.92 333** ⇑	*i*P	**Pn**	**14 42 57.1 +1.2**
TIR	**Tirane**	**5.92 333**	S	**Sn**	**14 43 58.8 -3.5**
TIR	**Tirane**	**5.92 333**	*e*P	**Pn**	**14 42 56.7 +0.8**
TIR	**Tirane**	**5.92 333**	*e*P	**Pn**	**14 42 56.7 +0.8**
TIR	**Tirane**	**5.92 333**	*e*Pn	**Pn**	**14 42 56.6 +0.8**
ANTB	**Antalya**	**5.92 80**	*e*PN	**Pn**	**14 42 57.4 +1.5**
SBT3	**Marmara-Eregli**	**5.99 36**	*e*PN	**Pn**	**14 42 58.4 +1.7**
SKO	**Skopje**	**6.06 346**	*e*Pn	**Pn**	**14 42 58.0 +0.1**
SKO			*i* Sn	**Sn**	**14 44 02.0 -3.7**
SBT2	**Guzelce-Avcila**	**6.25 39**	*e*PN	**Pn**	**14 42 02.2 +1.9**
SBT5	**Esenkoy-Cinarc**	**6.26 42**	*e*PN	**Pn**	**14 43 02.4 +1.9**
SUTC	**Sutluce-Ispart**	**6.28 75**	*e*PN	**Pn**	**14 43 02.3 +1.4**
CEL	**Celeste**	**6.35 292**	*e*Pn	**Pn**	**14 43 00.4 -1.5**
VTS	**Vitosha**	**6.49 359** ⇓	*i*P	**Pn**	**14 43 04.3 +0.5**
VTS	**Vitosha**	**6.49 359**	*e*P	**Pn**	**14 43 04.3 +0.5**
VTS	**Vitosha**	**6.49 359**	*e*P	**Pn**	**14 43 04.3 +0.5**
VTS	**Vitosha**	**6.49 359**	*e*Pn	**Pn**	**14 43 04.3 +0.5**
ULC	**Ulcinj**	**6.68 333** ⇓	*i*Pn	**Pn**	**14 43 05.2 -1.2**
ULC			*e*Sn	**Sn**	**14 44 14.0 -7.0**
ULC	**Ulcinj**	**6.68 333** ⇓	*i*Pn	**Pn**	**14 43 05.2 -1.2**
DRME	**Dracevica, Mon**	**6.90 333** ⇑	*i*Pn	**Pn**	**14 43 08.4 -0.9**
DRME			*e*Sn	**Sn**	**14 44 19.7 -6.6**
DRME	**Dracevica, Mon**	**6.90 333** ⇑	*i*Pn	**Pn**	**14 43 08.4 -0.9**
PVY	**Plav**	**7.01 339** ⇑	*i*Pn	**Pn**	**14 43 10.4 -0.5**
PVY			*e*Sn	**Sn**	**14 44 22.8 -6.3**
PVY	**Plav**	**7.01 339** ⇑	*i*Pn	**Pn**	**14 43 10.4 -0.5**
PDG	**Podgorica**	**7.09 334** ⇑	*i*P	**Pn**	**14 43 11.5 -0.3**
PDG	**Podgorica**	**7.09 334**	S	**Sn**	**14 44 26.9 -3.9**
PDG	**Podgorica**	**7.09 334** ⇑	*i*Pn	**Pn**	**14 43 10.6 -1.2**
TTG	**Podgorica**	**7.09 334** ⇑	*i*Pn	**Pn**	**14 43 10.6 -1.2**
TTG			*e*Sn	**Sn**	**14 44 24.6 -6.2**
BUM	**Brajici-Budva**	**7.11 332** ⇓	*i*Pn	**Pn**	**14 43 10.2 -2.0**
BUM			*e*Sn	**Sn**	**14 44 24.1 -7.3**
CUC	**Castrocucco**	**7.12 305**	*e*Pn	**Pn**	**14 43 12.1 -0.3**
CUC	**Castrocucco**	**7.12 305**	*e*Pn	**Pn**	**14 43 12.1 -0.3**
WDD	**Wied Dalam**	**7.18 271**	*e*Pn	**Pn**	**14 43 11.6 -1.5**
WDD	**Wied Dalam**	**7.18 271**	*e*Pn	**Pn**	**14 43 11.6 -1.5**
BEY	**Berane**	**7.28 339** ⇓	*i*Pn	**Pn**	**14 43 14.4 -0.2**
IVA	**Berane**	**7.28 339** ⇓	*i*Pn	**Pn**	**14 43 14.4 -0.2**
IVA			*e*Sn	**Sn**	**14 44 29.1 -6.7**
CEME	**Cevo**	**7.31 333**	*e*Pn	**Pn**	**14 43 13.2 -1.7**
CEME			*e*Sn	**Sn**	**14 44 29.5 -6.9**
VAE	**Valguarnera**	**7.32 284**	P	**Pn**	**14 43 16.0 +0.9**
	comp=N,8.9nm,0.3s,baz=282,slow=7.9,SNR=6.7				
VAE			S	**Sn**	**14 44 29.4 -7.3**
	comp=N,15nm,0.3s,baz=162,slow=12,SNR=4.1				
KOME	**Kolasin**	**7.38 337** ⇓	*i*Pn	**Pn**	**14 43 15.5 -0.4**
KOME			*e*Sn	**Sn**	**14 44 31.4 -6.7**
KOME	**Kolasin**	**7.38 337** ⇓	*i*Pn	**Pn**	**14 43 15.5 -0.4**
AKMC	**Akamas**	**7.38 96**	P	**Pn**	**14 43 13.5 -2.4**
AKMC	**Akamas**	**7.38 96**	P	**Pn**	**14 43 13.5 -2.4**
baz=278					
HCY	**Herceg Novi**	**7.38 331** ⇓	*i*Pn	**Pn**	**14 43 14.4 -1.5**
HCY			*e*Sn	**Sn**	**14 44 30.8 -7.4**
NKME	**Niksic**	**7.49 334** ⇓	*i*Pn	**Pn**	**14 43 16.2 -1.2**
NKME			*e*Sn	**Sn**	**14 44 33.8 -7.0**
NKME	**Niksic**	**7.49 334** ⇓	*i*Pn	**Pn**	**14 43 16.2 -1.2**
NKY	**Niksic**	**7.51 335** ⇑	*i*Pn	**Pn**	**14 43 16.5 -1.3**
NKY			*e*Sn	**Sn**	**14 44 34.5 -7.0**
ALFC	**Alefka**	**7.57 94**	P	**Pn**	**14 43 16.4 -2.2**
ALFC			S	Sn	14 44 30.7 -12
ALFC	**Alefka**	**7.57 94**	P	**Pn**	**14 43 16.4 -2.2**
baz=277					
ALFC			S	Sn	14 44 30.7 -12
BRY	**Bratogost**	**7.75 333** ⇓	*i*Pn	**Pn**	**14 43 19.4 -1.7**
BRY			*e*Sn	**Sn**	**14 44 39.8 -7.6**
LEF	**Lefka**	**7.81 94**	*e*PN	**Pn**	**14 43 21.6 -0.2**
PLE	**Pljevlja**	**7.85 338** ⇓	*i*Pn	**Pn**	**14 43 21.2 -1.2**
PLE			*e*Sn	**Sn**	**14 44 43.2 -6.5**
SZAC	**Souni**	**7.88 97**	P	**Pn**	**14 43 20.3 -2.4**
SZAC			S	Sn	14 44 38.2 -12
SZAC	**Souni**	**7.88 97**	P	**Pn**	**14 43 20.3 -2.4**
baz=280					
SZAC			S	Sn	14 44 38.2 -12
UPM	**Unac-Piva**	**7.89 335** ⇓	*i*Pn	**Pn**	**14 43 22.5 -0.5**
UPM			*e*Sn	**Sn**	**14 44 43.8 -7.0**
UPM	**Unac-Piva**	**7.89 335** ⇓	*i*Pn	**Pn**	**14 43 22.5 -0.5**
BERE	**Bereket-Mersin**	**7.97 85**	*e*PN	**Pn**	**14 43 24.0 -0.1**
STON	**Ston**	**8.06 329**	*e*Pn	**Pn**	**14 43 22.9 -2.3**
STON			Sn	**Sn**	**14 44 46.1 -8.6**
TEVE	**Tevekalti-Mers**	**8.14 85**	*e*PN	**Pn**	**14 43 27.2 +0.8**
CSS	**Mathiatis**	**8.20 95**	Pn	**Pn**	**14 43 24.7 -2.4**
CSS			Sn	**Sn**	**14 44 50.5 -7.7**
CSS	**Mathiatis**	**8.20 95**	Pn	**Pn**	**14 43 24.7 -2.4**
CSS			S	Sn	14 44 47.1 -11
CSS			Sn	**Sn**	**14 44 50.5 -7.7**
CSS	**Mathiatis**	**8.20 95**	*e*Pn	**Pn**	**14 43 24.5 -2.6**
AKKU	**Akkuyu-Mersin**	**8.24 87**	*e*PN	**Pn**	**14 43 27.6 +0.1**
CLTB	**Caltabellotta**	**8.28 283**	*e*Pn	**Pn**	**14 43 25.9 -2.4**
LFK	**Lefkose**	**8.31 93**	*e*PN	**Pn**	**14 43 28.7 +0.1**
BBLS	**Lazići**	**8.34 340** ⇓	*i*Pn	**Pn**	**14 43 27.8 -1.2**
IKL	**Isikli**	**8.34 86**	*e*PN	**Pn**	**14 43 28.9 -0.2**
MDVR	**Moldovita**	**8.77 352** ⇑	*i*P	**Pn**	**14 43 35.6 +0.7**
BRTR	**Keskin Array B**	**8.88 63**	P	**Pn**	**14 43 40.8 +4.1**
	comp=N,0.5nm,0.3s,baz=238,slow=12,SNR=22				
BRTR	**Keskin Array B**	**8.88 63**	*i* P	**Pn**	**14 43 40.7 +4.1**
BRTR			pmax	pmax	
	comp=Z,6.0nm,0.7s				
BR131	**Keskin Array S**	**8.89 63**	*e*Pn	**Pn**	**14 43 35.3 -1.3**
BR131	**Keskin Array S**	**8.89 63**	*e*Pn	**Pn**	**14 43 35.3 -1.3**
TIRR	**Tirgusor**	**9.20 23** ⇑	*i*P	**Pn**	**14 43 42.3 +1.7**
TIRR	**Tirgusor**	**9.20 23**	*e*P	**Pn**	**14 43 40.1 -0.5**
TIRR	**Tirgusor**	**9.20 23**	*e*P	**Pn**	**14 43 40.1 -0.5**
TIRR	**Tirgusor**	**9.20 23**	*e*Pn	**Pn**	**14 43 40.1 -0.5**
TLB	**Topalu**	**9.20 21** ⇑	*i*P	**Pn**	**14 43 42.9 +2.3**
ARR	**Arges**	**9.31 6** ⇓	*i*P	**Pn**	**14 43 43.9 +1.6**
VOIR		**9.42 7** ⇑	*i*P	**Pn**	**14 43 40.5 -3.3**
MLR	**Muntele Rosu**	**9.59 11**	P	**Pn**	**14 43 47.2 +1.1**
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=5.8				
MLR	**Muntele Rosu**	**9.59 11** ⇑	*i*P	**Pn**	**14 43 47.5 +1.4**
MLR	**Muntele Rosu**	**9.59 11**	*e*Pn	**Pn**	**14 43 45.8 -0.3**
MLR	**Muntele Rosu**	**9.59 11**	*e*Pn	**Pn**	**14 43 45.8 -0.3**
AQU	**L'Aquila**	**9.94 312**	*e*P	**Pn**	**14 43 49.3 -1.6**
AQU	**L'Aquila**	**9.94 312**	*e*Pn	**Pn**	**14 43 53.0 +2.1**
AQU	**L'Aquila**	**9.94 312**	*e*Pn	**Pn**	**14 43 49.3 -1.6**
PLOR	**Plostina**	**10.06 13** ⇑	*i*P	**Pn**	**14 43 53.8 +1.4**
VRI	**Vrincioaia**	**10.09 14** ⇓	*i*P	**Pn**	**14 43 54.6 +1.8**
HNTI	**Hanita**	**10.18 104**	Pn	**Pn**	**14 43 51.8 -2.4**
HNTI	**Hanita**	**10.18 104**	Pn	**Pn**	**14 43 51.8 -2.4**
ARNB	**Al Arnab**	**10.22 88**	*e*P	**Pn**	**14 43 47.9 -6.8**
UDBI	**Udbina**	**10.23 328**	*e*Pn	**Pn**	**14 43 53.4 -1.4**
UDBI			Sn	**Sn**	**14 45 39.9 -7.9**
MMA0B	**Mount Meron ar**	**10.39 104**	Pn	**Pn**	**14 43 54.4 -2.6**
MMA0B	**Mount Meron ar**	**10.39 104**	Pn	**Pn**	**14 43 54.4 -2.6**
MMAI	**Mount Meron Ar**	**10.39 104**	P	**Pn**	**14 43 53.2 -3.8**
	comp=Z,4.2nm,0.3s,baz=299,slow=12,SNR=11				
MMAI			S	Sn	14 45 39.9 -12
	comp=Z,9.5nm,0.3s,baz=246,slow=43,SNR=6.6				
MMAI			LR	LR	14 50 21.6
	comp=Z,28nm,18.4s,baz=340,slow=51				
SLTI	**Sal'it**	**10.40 108**	Pn	**Pn**	**14 43 53.9 -3.3**
SLTI			Sn	Sn	14 45 42.4 -10
SLTI	**Sal'it**	**10.40 108**	Pn	**Pn**	**14 43 53.9 -3.3**
SLTI			Sn	Sn	14 45 42.4 -10
HWQ	**Hawqa**	**10.45 96**	*e*P	**Pn**	**14 43 54.7 -3.3**
KSDI	**Kefar Szold**	**10.53 102**	Pn	**Pn**	**14 43 55.2 -3.7**
KSDI	**Kefar Szold**	**10.53 102**	Pn	**Pn**	**14 43 55.2 -3.7**
RCY	**Rachaya**	**10.57 101**	*e*P	**Pn**	**14 43 55.9 -3.7**
MMLI	**Mount Malkishu**	**10.62 107**	Pn	**Pn**	**14 43 56.3 -3.8**
MMLI	**Mount Malkishu**	**10.62 107**	Pn	**Pn**	**14 43 56.3 -3.8**
AMAZ	**Amatzia**	**10.62 112**	Pn	**Pn**	**14 43 56.7 -3.5**
AMAZ	**Amatzia**	**10.62 112**	Pn	**Pn**	**14 43 56.7 -3.5**
NVLJ	**Novalja**	**10.65 325**	*i* Pn	**Pn**	**14 43 59.0 -1.5**
NVLJ			Sn	Sn	14 45 48.4 -10
BRBR	**Barbar**	**10.69 101**	*e*P	**Pn**	**14 43 57.7 -3.6**
KSHT	**Keshet**	**10.72 103**	Pn	**Pn**	**14 43 59.0 -2.6**
KSHT	**Keshet**	**10.72 103**	Pn	**Pn**	**14 43 59.0 -2.6**
DRWC	**Darouich**	**10.74 83**	*e*P	**Pn**	**14 44 00.3 -1.5**
HMDT	**Nahal Hemdat**	**10.77 107**	Pn	**Pn**	**14 43 58.8 -3.4**
HMDT	**Nahal Hemdat**	**10.77 107**	Pn	**Pn**	**14 43 58.8 -3.4**
MARH	**Ras Al Marh**	**10.94 97**	*e*P	**Pn**	**14 44 00.9 -3.9**
TCHB	**Talchebab**	**10.95 105**	*e*P	Pn	14 43 56.4 -8.4
DSI	**Dead Sea**	**10.96 111**	Pn	**Pn**	**14 44 01.4 -3.3**
DSI			Sn	Sn	14 45 55.9 -10
DSI	**Dead Sea**	**10.96 111**	Pn	**Pn**	**14 44 01.4 -3.3**
DSI			Sn	Sn	14 45 55.9 -10
MZDA	**Masada**	**11.07 112**	Pn	**Pn**	**14 44 02.2 -4.0**
MZDA			Sn	Sn	14 45 58.7 -9.5
MZDA	**Masada**	**11.07 112**	Pn	**Pn**	**14 44 02.2 -4.0**
MZDA			Sn	Sn	14 45 58.7 -9.5
BOJS	**Bojanci**	**11.23 329**	*i* Pn	**Pn**	**14 44 06.5 -1.8**
**OZLJ

PAB	San Pablo	22.13	287	eP	P	14 46 20.4	-0.2
	comp=Z,7.4nm,0.9s						
PAB	San Pablo	22.13	287	eP	P	14 46 20.4	-0.2
	comp=Z,7.4nm,0.9s						
MDT	Midelt	23.27	270	P	P	14 46 32.5	0.0
	comp=Z,4.1nm,0.8s,baz=96,slow=9.7,SNR=8.2						
PBRG	Braganca	24.03	293	eP	P	14 46 39.3	+0.1
	comp=Z,12nm,1.5s						
MVO	Moncorvo	24.21	291	eP	P	14 46 41.1	+0.3
	comp=Z,16nm,1.2s						
PBAR	Barrancos	24.28	284	eP	P	14 46 41.5	+0.1
PMRV	Marv??o	24.49	287	eP	P	14 46 43.4	+0.1
	comp=Z,14nm,1.4s						
PESTR	Estremoz	24.67	286	eP	P	14 46 45.0	+0.1
	comp=Z,9.3nm,2.9s						
POLO	Lamas de Olo	24.80	292	eP	P	14 46 47.0	+0.8
	comp=Z,6.8nm,1.7s						
HFS	Hagfors	24.85	348	P	P	14 46 45.6	-0.8
	comp=Z,14nm,0.4s,baz=151,slow=9.9,SNR=87						
PVIS	Viseu	24.86	290	eP	P	14 46 47.6	+0.9
PVAQ	Vaqueiros	24.89	282	eP	P	14 46 47.5	+0.5
PCAB	Cabril	24.99	293	eP	P	14 46 49.0	+1.2
PBDV	Barranco-do-Ve	25.08	282	eP	P	14 46 49.7	+1.0
FINES	FINESS Array B	25.43	3	P	P	14 46 50.6	-1.0
	comp=Z,3.3nm,0.5s,baz=165,slow=10,SNR=13						
NOA	NORSAR Array B	26.14	347	P	P	14 46 57.5	-0.5
	comp=Z,1.8nm,0.6s,baz=162,slow=11,SNR=11						
KLMR	Klimovskoe	26.84	18	eP	P	14 47 01.4	-2.9
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GEYT	Alibeck	27.71	76	P	P	14 47 12.7	+0.2
	comp=Z,2.5nm,0.4s,baz=271,slow=8.8,SNR=5.6						
TOA0	Torodi Ar. Sit	30.03	226	eP	P	14 47 33.3	+0.1
TOA0	Torodi Ar. Sit	30.03	226	eP	P	14 47 33.3	+0.1
TORD	Torodi Ar. Bea	30.03	226	P	P	14 47 33.5	+0.3
	comp=Z,5.2nm,0.6s,baz=35,slow=9.7,SNR=38						
ARU	Arti	31.19	38	d i P	P	14 47 43.7	+0.7
ARU						14 48 45.3	
ARU				S	S	14 52 51.0	+7.2
ARU				SS	SnSn	14 54 33.8	+1.3
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ARU	Arti	31.19	38	i P	P	14 47 43.7	+0.7
	comp=Z,19nm,1.7s						
LVZ	Lovozero	32.49	8	eP	P	14 47 57.1	+2.8
LVZ				pmax	pmax		
	comp=Z,15nm,1.1s						
LVZ	Lovozero	32.49	8	eP	P	14 47 57.1	+2.8
	comp=Z,15nm,1.1s						
ARCES	ARCESS Array B	33.52	1	P	P	14 48 02.6	-0.6
	comp=Z,6.3nm,0.8s,baz=184,slow=8.7,SNR=14						
KKAR	Karatay Array	36.60	64	eP	P	14 48 30.1	+0.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KKAR	Karatay Array	36.60	64	eP	P	14 48 30.1	+0.1
	comp=Z,4.6nm,0.4s						
KKAR	Karatay Array	36.60	64	eP	P	14 48 30.1	+0.1
	comp=Z,4.6nm,0.4s						
BVAR	Borovoye Array	36.77	48	P	P	14 48 30.9	-0.5
	comp=Z,1.5nm,0.5s,baz=258,slow=6.8,SNR=4.5						
AAK	Ala-Archa	39.56	64	P	P	14 48 55.7	+0.6
	comp=Z,4.7nm,0.5s,baz=164,slow=7.4,SNR=4.9						
KURBB	Kurchatov Arra	41.68	52	P	P	14 49 11.9	-0.3
	comp=Z,8.4nm,0.5s,baz=274,slow=8.4,SNR=13						
KURK	Kurchatov	41.73	52	P	P	14 49 11.9	-0.8
KURK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KURK	Kurchatov	41.73	52	P	P	14 49 11.9	-0.8
	comp=Z,8.0nm,0.5s						
KURK	Kurchatov	41.73	52	P	P	14 49 11.9	-0.8
MKAR	Makanchi Array	44.48	57	P	P	14 49 35.1	+0.1
	comp=Z,9.4nm,0.5s,baz=243,slow=24,SNR=8.6						
MKAR	Makanchi Array	44.48	57	P	P	14 49 35.1	+0.1
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	Makanchi Array	44.48	57	P	P	14 49 35.1	+0.1
	comp=Z,8.0nm,0.6s						
ZALV	Zalesovo Beam	45.42	47	P	P	14 49 41.7	-0.5
	comp=Z,7.3nm,0.4s,baz=269,slow=8.6,SNR=11						
NRIK	Noril'sk	47.66	26	P	P	14 49 59.7	+0.1
	comp=Z,3.1nm,0.3s,baz=231,slow=6.2,SNR=5.0						
WMQ	Urumqi	48.80	60	P	P	14 50 10.8	+2.0
PYUN	Piuthan	50.45	81	eP	P	14 50 21.8	+0.1
	comp=Z,13nm,0.6s						
DANN	Dangsing	50.96	81	eP	P	14 50 26.0	+0.3
KOLN	Koldanda	51.08	81	eP	P	14 50 26.2	-0.3
	comp=Z,4.3nm,0.5s						
GKN	Gorkha	51.81	81	eP	P	14 50 31.3	-0.6
	comp=Z,9.1nm,0.5s						
DMN	Daman	52.36	81	eP	P	14 50 35.6	-0.4
	comp=Z,13nm,0.5s						
KKN	Kakani	52.42	80	eP	P	14 50 35.7	-0.7
	comp=Z,8.1nm,0.5s						
PKIN	Phulchoki	52.60	81	eP	P	14 50 38.1	+0.2
	comp=Z,4.8nm,0.5s						
JIRN	Jiri	53.20	80	eP	P	14 50 41.9	-0.5
	comp=Z,58nm,0.5s						
RAMN	Ramite	53.84	81	eP	P	14 50 45.6	-1.3
	comp=Z,12nm,0.7s						
TIXI	Tiksi	60.80	20	P	P	14 51 34.4	-0.5
	comp=Z,3.4nm,0.3s,baz=5.8,slow=7.6,SNR=6.3						
TIXI	Tiksi	60.80	20	eP	P	14 51 38.9	+4.0
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	Yakutsk	65.79	30	P	P	14 52 06.3	-1.8
	comp=Z,4.8nm,0.4s,baz=222,slow=1.3,SNR=3.3						
HHC	Hu-ho-hao-te	66.33	56	eP	P	14 52 16.4	+4.4
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,6.3s						
KMI	Kunming	67.47	75	P	P	14 52 24.2	+4.5
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CMAR	Chiang Mai Arr	67.91	83	P	P	14 52 21.8	-0.4
	comp=Z,0.9nm,0.7s,baz=303,slow=8.3,SNR=6.3						
BILL	Bilibino	72.51	14	eP	P	14 52 48.1	-1.4
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	Bilibino	72.51	14	eP	P	14 52 48.1	-1.4
	comp=Z,4.0nm,1.0s						
SEY	Seymchan	73.24	22	eP	P	14 52 54.2	+0.3
SEY	Seymchan	73.24	22	eP	P	14 52 54.2	+0.3
INK	Inuvik	74.48	351	P	P	14 53 01.1	+0.1
	comp=Z,1.0nm,0.5s,baz=9.6,slow=11,SNR=3.3						
MA2	Magadan	75.25	25	P	P	14 53 05.9	+0.2
	comp=Z,7.3nm,0.6s,baz=334,slow=8.2,SNR=10						
MA2	Magadan	75.25	25	eP	P	14 53 06.2	+0.5
MA2	Magadan	75.25	25	eP	P	14 53 06.2	+0.5
YKA	Yellowknife Ar	76.11	341	P	P	14 53 10.1	-0.3
	comp=Z,0.7nm,0.5s,baz=23,slow=5.3,SNR=3.0						
USRK	Ussuriysk Ar.	77.20	44	P	P	14 53 15.4	-1.5
	comp=Z,3.1nm,0.7s,baz=356,slow=2.5,SNR=5.0						
KSAR	Wonju Array Be	78.84	52	P	P	14 53 26.2	0.0
KSAR	Wonju Array Be	78.84	52	P	P	14 53 26.2	0.0
KSAR	Wonju Array Be	78.84	52	P	P	14 53 26.2	0.0
KSRS	Korea Array	78.86	52	P	P	14 53 26.2	-0.1
	comp=Z,1.0nm,0.4s,baz=309,slow=3.8,SNR=6.0						
ILAR	Eielson Array	79.17	356	P	P	14 53 27.7	+0.1
	comp=Z,0.5nm,0.8s,baz=342,slow=4.2,SNR=3.7						
MJAR	Matsushiro Arr	85.77	47	P	P	14 54 02.6	+0.2
	comp=Z,3.0nm,0.7s,baz=342,slow=2.4,SNR=2.6						
ASAR	Alice Springs	119.64	99	PKP	PKPdf	15 00 12.2	-0.6
	comp=Z,0.1nm,0.3s,baz=308,slow=1.6,SNR=4.7						

MAN 05 14:44:30,13.51N×125.29E, h9km, mb5.2, ML4.1, MS4.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.11	275	eP	Pg	14 44 50.5	-0.8
PVCP				eS	Sn	14 45 07.3	+0.2
BESP	Borongan	1.90	176	eP	Pn	14 45 02.9	+0.2
BESP				eS	Sg	14 45 40.0	+8.8
PLP	Palo	2.35	187	eP	Pb	14 45 12.1	-0.5
PLP				eS	Sn	14 45 38.9	+1.0
OCLP	Ormoc	2.53	195	eP	Pb	14 45 16.8	+1.1
BOAC	Boac	3.35	270	eP	Pn	14 45 23.2	+0.6
BOAC				eS	Sb	14 46 10.5	-0.1
SJMP	San Jose	4.20	256	eP	Pn	14 45 36.7	+2.5
CAUP	Cauayan	4.78	316	eP	Pn	14 45 43.6	+1.4

*ISCJB **05** 15:02:31.2±0.5, 7.53S±0.06×156.23E±0.08, h44km, mb4.3/21, MS3.6/13, Error ellipse: s-maj=10.8km s-min=8.8km az=175.3*

*NEIC **05** 15:02:36.0±0.9, 7.60S×156.21E, h79km±9km, mb4.1/5, Error ellipse: s-maj=10.4km s-min=8.8km az=91.0*

*IDC **05** 15:02:38.0±3.0, 7.52S×156.31E, h95km±28km, mb3.9/14, mb1 4.0/17, mb1mx3.8/38, mbtmp4.3/17, MS3.6/16, Ms1 3.6/16, ms1mx3.4/31, Error ellipse: s-maj=21.2km s-min=15.2km az=92.0*

ISC 05 15:02:33.1±0.6, 7.49S±0.08×156.26E±0.09, h44km, n50, σ1§99/39, mb4.2/21, MS3.6/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.13	118	P	Pn	15 03 38.4	+4.8
	13nm,0.3s,baz=180,slow=5.1,SNR=5.7						
HNR				S	Sn	15 04 30.6	+10
	26nm,0.3s,baz=44,slow=18,SNR=3.1						
HNR				LR	LR	15 05 12.6	
	comp=Z,580nm,18.1s,baz=282,slow=38						
HNR	Honiara	4.13	118	P	Pn	15 03 37.0	+3.4
HNR				S	Sn	15 04 35.0	+14
HNR	Honiara	4.13	118	ePn	Pn	15 03 35.5	+1.9
HNR				S	Sn	15 04 30.6	+10
RABL	Rabaul	5.23	309	ePn	Pn	15 03 52.2	+3.5
PMG	Port Moresby	9.20	257	LR	LR	15 08 16.5	
	comp=Z,393nm,18.1s,baz=72,slow=37						
PMG	Port Moresby	9.20	257	ePn	Pn	15 04 45.4	+2.1
MANU	Manus Island	10.38	301	ePn	Pn	15 05 01.1	+1.7
COEN	Coen	14.37	242	ePn	Pn	15 05 54.4	+0.5
PATS	Pohnpei	14.38	8	ePn	P	15 05 58.9	-1.2
CTA	Charters Tower	15.84	217	P	P	15 06 15.3	-1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=6.3						
CTA				LR	LR	15 11 32.0	
	comp=Z,242nm,18.2s,baz=18,slow=34						
CTAO	Charters Tower	15.84	217	ePn	Pn	15 06 11.9	-1.2
	16nm,1.1s						
DZM	Mont Dzumac	17.51	147	P	P	15 06 34.7	-0.2
	0.1nm,0.3s,baz=234,slow=19,SNR=2.2						
DZM	Mont Dzumac	17.51	147	eLR	LR	15 10 57.8	
	258nm,25.2s						
GUMO	Guam	23.80	332	LR	LR	15 15 51.7	
	comp=Z,50nm,21.3s,baz=152,slow=33						
WRAB	Tennant Creek	24.58	238	eP	P	15 07 48.8	-0.4
	24nm,0.8s						
WB2	Warramunga Arr	24.58	238	eP	P	15 07 46.3	-2.9
WRA	Warramunga Arr	24.59	238	P	P	15 07 49.4	+0.1
	15nm,0.7s,baz=61,slow=9.7,SNR=67						
WRA				LR	LR	15 17 04.6	
	comp=Z,202nm,19.1s,baz=50,slow=35						
MTN	Manton Dam	25.29	256	eP	P	15 07 52.4	-3.2
	34nm,0.9s						
SIJI	Sorong	25.77	284	P	P	15 08 00.8	+0.8
	43nm,0.5s,baz=97,slow=11,SNR=6.1						
SIJI				LR	LR	15 18 58.8	
	comp=Z,1μm,21.1s,baz=142,slow=38						
AS01	Alice Springs	26.77	231	eP	P	15 08 06.3	-2.8
AS31	Alice Springs	26.81	231	eP	P	15 08 07.7	-1.7
	1.4nm,0.8s						
ASAR	Alice Springs	26.81	231	P	P	15 08 08.8	-0.6
	2.6nm,0.7s,baz=61,slow=9.4,SNR=29						
ASAR				pP	sP	15 08 32.3	+5.9
	3.8nm,0.7s,baz=59,slow=13,SNR=11						
ASAR				LR	LR	15 18 31.1	
	comp=Z,244nm,18.3s,baz=54,slow=36						
STKA	Stephens Creek	27.85	207	P	P	15 08 18.9	+0.3
	5.3nm,0.7s,baz=45,slow=14,SNR=17						
STKA				LR	LR	15 19 07.7	
	comp=Z,229nm,19.4s,baz=25,slow=36						
STKA	Stephens Creek	27.85	207	eP	P	15 08 16.4	-2.2
	1.0nm,0.6s						
H11N1	WAKE ISLAND Hy	28.99	21	T	T	15 38 08.5	
	baz=203,slow=76,SNR=7.8						
H11N3	WAKE ISLAND Hy	29.00	21	T	T	15 38 17.1	
	baz=203,slow=76,SNR=17						
H11N2	WAKE ISLAND Hy	29.01	21	T	T	15 38 11.8	
	baz=203,slow=76,SNR=6.6						
JOW	Kunigami	43.59	323	LR	LR	15 27 23.5	
	comp=Z,30nm,18.3s,baz=90,slow=34						
JNU	Nakatsue	47.05	331	P	P	15 11 01.3	+0.8
	8.4nm,0.8s,baz=167,slow=7.8,SNR=4.2						
JNU				LR	LR	15 28 17.3	
	comp=Z,33nm,19.6s,baz=116,slow=33						
KSRS	Korea Array	51.96	331	P	P	15 11 38.5	+0.7
	1.2nm,0.7s,baz=148,slow=7.4,SNR=5.4						
KSRS				LR	LR	15 34 27.2	
	comp=Z,29nm,18.0s,baz=126,slow=37						
KSAR	Wonju Array Be	51.97	331	P	P	15 11 38.5	+0.6
PPT2	Papeete2	53.66	106	eLR	LR	15 27 38.0	
	61nm,22.8s						
PETK	Petropavlovsk-	60.38	1	LR	LR	15 35 09.2	
	comp=Z,79nm,21.9s,baz=147,slow=32						
KMI	Kunming	61.33	304	P	P	15 12 45.8	+0.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	Chiang Mai Arr	62.13	295	P	P	15 12 49.5	-0.7
	comp=Z,1.6nm,0.8s,baz=118,slow=5.1,SNR=8.5						
CMAR				LR	LR	15 43 04.3	
	comp=Z,13nm,18.3s,baz=285,slow=39						
TAOE	Nuku Hiva Isla	62.90	96	eLR	LR	15 31 51.7	
	comp=Z,48nm,22.6s						
HHC	Hu-ho-hao-te	63.23	323	eP	P	15 12 59.1	+1.9
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,7.5s						
GTA	Gaotai	69.96	317	eP	P	15 13 40.7	+0.5
GTA				pP	PcP	15 14 01.6	-0.7
GTA				sP	sP	15 14 12.6	+15
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	Vanda	70.06	179	P	P	15 13 39.8	-0.3
	comp=Z,1.5nm,0.9s,baz=328,slow=6.1,SNR=9.7						
SONM	Songino Array	70.43	327	P	P	15 13 43.6	+0.6
	comp=Z,1.4nm,0.6s,baz=140,slow=7.2,SNR=9.7						
SONM				LR	LR	15 42 22.9	
	comp=Z,26nm,21.8s,baz=126,slow=34						
WMQ	Urumqi	80.04	317	eP	P	15 14 37.5	-0.7
ILAR	Eielson Array	83.38	21	P	P	15 14 52.9	-2.4
	comp=Z,0.4nm,0.8s,baz=256,slow=5.4,SNR=5.1						
ILAR				LR	LR	15 46 51.8	
	comp=Z,44nm,21.2s,baz=218,slow=32						
MAW	Mawson	84.43	203	P	P	15 15 00.3	-0.3
	comp=Z,4.4nm,0.7s,baz=99,slow=5.9,SNR=14						
MKAR	Makanchi Array	84.60	318	P	P	15 15 01.9	-0.1
	comp=Z,6.0nm,0.9s,baz=93,slow=7.5,SNR=18						
ZALV	Zalesovo Beam	85.29	326	P	P	15 15 03.8	-1.4
	comp=Z,1.1nm,0.5s,baz=125,slow=5.2,SNR=6.4						
KURK	Kurchatov	87.99	322	P	P	15 15 15.9	-2.6
KURBB	Kurchatov Arra	88.03	321	P	P	15 15 15.9	-2.7
	comp=Z,0.4nm,0.6s,baz=115,slow=3.8,SNR=5.3						
BVAR	Borovoye Array	93.44	323	P	P	15 15 42.7	-1.1
	comp=Z,0.8nm,0.7s,baz=72,slow=4.7,SNR=5.2						
PDAR	Pinedale Array	98.10	48	LR	LR	15 54 49.8	
	comp=Z,38nm,20.3s,baz=222,slow=32						
TORD	Torodi Ar. Bea	154.36	285	PKPbc	PKPbc	15 22 28.1	-1.7
	comp=Z,0.6nm,0.8s,baz=62,slow=2.0,SNR=5.3						

*ISCJB **05** 15:32:28.3±0.7, 63.7N±0.1×19.5W±0.3, h10km, mb3.5/8, Error ellipse: s-maj=22.5km s-min=11.2km az=39.1*

*IDC **05** 15:32:28.8±0.8, 63.65N×19.53W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.6/40, mbtmp3.6/9, Error ellipse: s-maj=27.7km s-min=15.5km az=35.0*

ISC 05 15:32:30.2±0.8, 63.7N±0.2×19.5W±0.1, h10km, n10, σ1§45/10, mb3.6/8, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	1.31	324	Pg	Pn	15 32 52.6	-1.8
FINES	FINESS Array B	20.79	75	P	P	15 37 10.0	-1.0
	6.3nm,0.9s,baz=289,slow=5.8,SNR=5.7						
GERES	GERESS Array B	23.32	114	P	P	15 37 39.6	+1.4
	0.7nm,0.4s,baz=306,slow=11,SNR=4.6						
ESDC	Sonseca Array	25.78	152	P	P	15 38 01.1	+0.1
	1.3nm,0.7s,baz=346,slow=10,SNR=8.3						
BRTR	Keskin Array B	39.12	102	P	P	15 39 56.0	-1.5
	0.3nm,0.5s,baz=343,slow=14,SNR=2.6						
ILAR	Eielson Array	46.12	332	P	P	15 40 55.4	+1.4
	0.7nm,0.9s,baz=16,slow=7.9,SNR=5.9						
TORD	Torodi Ar. Bea	52.64	154	P	P	15 41 43.2	-1.0
	1.1nm,0.9s,baz=339,slow=8.5,SNR=6.2						
PDAR	Pinedale Array	52.73	292	P	P	15 41 45.0	0.0
	0.2nm,0.4s,baz=45,slow=4.5,SNR=2.5						
MKAR	Makanchi Array	54.00	56	P	P	15 41 55.5	+1.6
	0.4nm,0.8s,baz=344,slow=4.7,SNR=2.7						
TXAR	Lajitas Array	61.57	279	P	P	15 42 48.3	+0.9
	0.8nm,1.0s,baz=57,slow=4.6,SNR=4.9						

*CSEM **05** 15:59:28.2, 35.09N×0.14W, h0km, ML3.5*

CRAAG 05 15:59:28.2, 35.09N×0.14W, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	Bouhanifia	0.24	357	P	Pg	15 59 35.0	+2.3
ODJA	Bouhanifia	0.24	357	P	Pg	15 59 35.0	+2.3
OTSS	Djebel Tessala	0.57	289	P	Pg	15 59 40.0	+0.8
OTSS	Djebel Tessala	0.57	289	P	Pg	15 59 40.0	+0.8
USTO	Oran	0.72	332	P	Pg	15 59 42.0	-0.1
OJGS	Djebel Guires	0.83	60	P	Pg	15 59 44.0	-0.1
OJGS	Djebel Guires	0.83	60	P	Pg	15 59 44.0	-0.1
OKGL	Djebel Kef Gue	1.14	34	P	Pg	15 59 42.0	-8.0
OKGL	Djebel Kef Gue	1.14	34	P	Pg	15 59 42.0	-8.0

*CSEM **05** 16:09:28.0, 35.46N×0.21E, h0km, ML3.6*

CRAAG 05 16:09:28.0, 35.46N×0.21E, Ml3.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	Bouhanifia	0.32	246	P	Pg	16 09 35.0	+0.8
ODJA	Bouhanifia	0.32	246	P	Pg	16 09 35.0	+0.8
OJGS	Djebel Guires	0.44	84	P	Pg	16 09 37.5	+1.1
OJGS	Djebel Guires	0.44	84	P	Pg	16 09 37.5	+1.1
OKGL	Djebel Kef Gue	0.67	31	P	Pb	16 09 42.0	-0.7
OKGL	Djebel Kef Gue	0.67	31	P	Pb	16 09 42.0	-0.7
USTO	Oran	0.68	294	P	Pg	16 09 41.0	0.0
USTO	Oran	0.68	294	P	Pg	16 09 41.0	0.0
OTSS	Djebel Tessala	0.84	258	P	Pg	16 09 42.0	-2.1
OTSS	Djebel Tessala	0.84	258	P	Pg	16 09 42.0	-2.1

*ISK **05** 16:09:46.9, 34.17N×32.44E, h15km, MD3.4*

*NIC **05** 16:09:48.8±0.2, 34.34N×32.11E, h20km, ML3.5*

*CSEM **05** 16:09:50.9±0.2, 34.44N×32.30E, h15km, ML3.5, Error ellipse: s-maj=4.6km s-min=3.1km az=58.0*

*GII **05** 16:09:50.3±0.2, 34.42N×32.28E, h10km, MD2.5/4*

*NSSC **05** 16:09:51.7±1.8, 34.56N×32.50E, h9km±72km, ML2.3*

*DDA **05** 16:09:54.8, 35.09N×32.10E, h20km, Md3.1*

ISC 05 16:09:52.1±1.1, 34.48N±0.03×32.30E±0.03, h32km±10km, n112, σ1§62/161, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.40	5	P	Pb	16 10 00.6	-0.6
PPCY	Paphos	0.40	5	P	Pb	16 10 00.6	-0.6
	baz=199						
AKMC	Akamas	0.54	3	P	Pb	16 10 02.7	-0.7
AKMC	Akamas	0.54	3	P	Pb	16 10 02.7	-0.7
	baz=194						
SZAC	Souni	0.55	60	P	Pb	16 10 03.0	-0.5
SZAC	Souni	0.55	60	P	Pb	16 10 03.0	-0.5
	baz=237						
SZAC				S	Sn	16 10 14.6	+2.6
ALFC	Alefka	0.71	20	P	Pb	16 10 05.5	-0.7
ALFC				S	Sn	16 10 18.1	+2.1
ALFC	Alefka	0.71	20	P	Pb	16 10 05.5	-0.7
	baz=206						
ALFC				S	Sn	16 10 18.1	+2.1
LEF	Lefka	0.80	37	ePG	Pb	16 10 06.6	-1.0
LEF				eSG	Sn	16 10 20.8	+2.8
LEF	Lefka	0.80	37	ePg	Pb	16 10 06.6	-1.0
LEF	Lefka	0.80	37	P	Pb	16 10 06.8	-0.8
LEF				eSg	Sn	16 10 20.8	+2.8
LEF				S	Sb	16 10 22.2	+4.1
CSS	Mathiatis	0.97	60	Pg	Pb	16 10 09.1	-1.4
CSS	Mathiatis	0.97	60	Pg	Pb	16 10 09.1	-1.4
CSS	Mathiatis	0.97	60	P	Pb	16 10 09.6	-0.9
CSS				S	Sn	16 10 25.5	+3.1
CSS	Mathiatis	0.97	60	P	Pb	16 10 09.6	-0.9
	baz=238						
CSS				S	Sn	16 10 25.5	+3.1
MAMC	Mammari	1.02	48	P	Pb	16 10 11.1	-0.2
MAMC	Mammari	1.02	48	P	Pb	16 10 11.1	-0.2
	baz=227						
LFK	Lefkose	1.29	52	ePN	Pn	16 10 13.1	-0.9
LFK	Lefkose	1.29	52	ePn	Pn	16 10 13.1	-0.9
PHNC	Paralimni	1.52	70	P	Pb	16 10 19.6	-0.1
PHNC	Paralimni	1.52	70	P	Pb	16 10 19.6	-0.1
	baz=247						
PHNC				S	Sb	16 10 43.0	+4.4
TEKE	Tekeli-Mersin	1.79	22	ePN	Pn	16 10 21.9	+1.2
TEKE	Tekeli-Mersin	1.79	22	ePn	Pn	16 10 22.0	+1.2
AKK2	Akkuyu-Mersin	1.94	31	ePN	Pn	16 10 23.5	+0.6
AKK2	Akkuyu-Mersin	1.94	31	ePn	Pn	16 10 23.5	+0.6
AKKU	Akkuyu-Mersin	1.96	31	ePN	Pn	16 10 23.8	+0.7
AKKU	Akkuyu-Mersin	1.96	31	ePn	Pn	16 10 23.8	+0.7
BERE	Bereket-Mersin	2.01	22	ePN	Pn	16 10 24.8	+0.9
BERE	Bereket-Mersin	2.01	22	ePn	Pn	16 10 24.8	+0.9
TEPE	Tepekoy-Mersin	2.02	30	ePN	Pn	16 10 24.5	+0.5
TEPE	Tepekoy-Mersin	2.02	30	ePn	Pn	16 10 24.5	+0.5
YESI	Yesilovacik-Me	2.03	32	ePN	Pn	16 10 24.5	+0.4
YESI	Yesilovacik-Me	2.03	32	ePn	Pn	16 10 24.5	+0.4
IKL	Isikli	2.09	33	ePN	Pn	16 10 25.6	+0.7
IKL	Isikli	2.09	33	ePn	Pn	16 10 25.6	+0.7
TEVE	Tevekalti-Mers	2.16	25	ePN	Pn	16 10 27.1	+1.1
TEVE	Tevekalti-Mers	2.16

FETY	**Fethiye**	**3.39 310**	P	**Pn**	**16 10 43.0**	**+0.2**
FETY			S	**Sn**	**16 11 20.1**	**-1.8**
YAYL	**Yayladag**	**3.48 63**	*e*PN	**Pn**	**16 10 42.9**	**-1.2**
YAYL	**Yayladag**	**3.48 63**	*i* P	**Pn**	**16 10 42.3**	**-1.9**
YAYL			*i* S	**Sn**	**16 11 22.6**	**-1.7**
YAYL	**Yayladag**	**3.48 63**	P	**Pn**	**16 10 42.3**	**-1.9**
YAYL	**Yayladag**	**3.48 63**	*e*Pn	**Pn**	**16 10 42.9**	**-1.2**
YAYL			S	**Sn**	**16 11 22.6**	**-1.7**
MARH	**Ras Al Marh**	**3.49 96**	*e*P	**Pn**	**16 10 44.9**	**+0.4**
MARH			*e*S	**Sn**	**16 11 22.6**	**-2.3**
MARH			AML	AML	16 11 29.5	
	comp=E,12nm,0.4s					
MARH			AML	AML	16 11 32.0	
	comp=N,28nm,0.4s					
HMDT	**Nahal Hemdat**	**3.50 129**	Pn	**Pn**	**16 10 44.6**	**+0.3**
HMDT			Sn	**Sn**	**16 11 26.8**	**+2.2**
HMDT	**Nahal Hemdat**	**3.50 129**	Pn	**Pn**	**16 10 44.6**	**+0.3**
HMDT			Sn	**Sn**	**16 11 26.8**	**+2.2**
GOLH	**Golhisar**	**3.54 322**	*i* P	**Pn**	**16 10 47.4**	**+2.5**
GOLH			*i* S	**Sn**	**16 11 27.8**	**+2.1**
GOLH	**Golhisar**	**3.54 322**	P	**Pn**	**16 10 47.4**	**+2.5**
GOLH			S	**Sn**	**16 11 27.8**	**+2.1**
TOTH	**TOTAH**	**3.61 107**	*e*P	**Pn**	**16 10 47.2**	**+1.3**
TOTH			*e*S	**Sn**	**16 11 26.2**	**-1.2**
TOTH			AML	AML	16 11 33.9	
	comp=E,18nm,1.0s					
TOTH			AML	AML	16 11 44.5	
	comp=N,16nm,0.6s					
AMAZ	**Amatzia**	**3.67 143**	Pn	**Pn**	**16 10 46.4**	**-0.3**
AMAZ	**Amatzia**	**3.67 143**	Pn	**Pn**	**16 10 46.4**	**-0.3**
TAHT	**Tahtakopru-Hat**	**3.69 58**	*e*PN	**Pn**	**16 10 46.3**	**-0.7**
TAHT	**Tahtakopru-Hat**	**3.69 58**	*e*Pn	**Pn**	**16 10 46.3**	**-0.7**
BTCH	**Batrach**	**3.74 64**	*e*P	**Pn**	**16 10 46.8**	**-0.9**
BTCH			*e*S	**Sn**	**16 11 27.1**	**-3.6**
BTCH			AML	AML	16 11 34.5	
	comp=N,21nm,0.4s					
BTCH			AML	AML	16 11 41.8	
	comp=E,19nm,0.3s					
DALY	**Dalyan (Mu`la**	**3.77 309**	*i* P	**Pn**	**16 10 48.3**	**+0.2**
DALY	**Dalyan (Mu`la**	**3.77 309**	P	**Pn**	**16 10 48.3**	**+0.2**
TURN	**Turunc**	**3.84 309**	*i* P	**Pn**	**16 10 51.4**	**+2.5**
TURN			*i* S	**Sn**	**16 11 34.4**	**+1.4**
TURN	**Turunc**	**3.84 309**	P	**Pn**	**16 10 51.4**	**+2.5**
TURN			S	**Sn**	**16 11 34.4**	**+1.4**
DSI	**Dead Sea**	**3.89 137**	Pn	**Pn**	**16 10 49.5**	**-0.2**
DSI			Sn	**Sn**	**16 11 35.4**	**+1.1**
DSI	**Dead Sea**	**3.89 137**	Pn	**Pn**	**16 10 49.5**	**-0.2**
DSI			Sn	**Sn**	**16 11 35.4**	**+1.1**
KZIT	**Kziot**	**3.98 153**	Pn	**Pn**	**16 10 50.5**	**-0.5**
KZIT			Sn	**Sn**	**16 11 36.7**	**+0.2**
KZIT	**Kziot**	**3.98 153**	Pn	**Pn**	**16 10 50.5**	**-0.5**
KZIT			Sn	**Sn**	**16 11 36.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**4.05 318**	*i* P	**Pn**	**16 10 53.0**	**+1.0**
TAVA			*i* S	**Sn**	**16 11 36.9**	**-1.4**
TAVA	**DENIZLI_Tavas**	**4.05 318**	P	**Pn**	**16 10 53.0**	**+1.0**
TAVA			S	**Sn**	**16 11 36.9**	**-1.4**
MZDA	**Masada**	**4.08 140**	Pn	**Pn**	**16 10 52.4**	**+0.1**
MZDA			Sn	**Sn**	**16 11 41.2**	**+2.3**
MZDA	**Masada**	**4.08 140**	Pn	**Pn**	**16 10 52.4**	**+0.1**
MZDA			Sn	**Sn**	**16 11 41.2**	**+2.3**
SALA	**Sala**	**4.10 114**	*e*P	**Pn**	**16 10 53.9**	**+1.1**
SALA			*e*S	**Sn**	**16 11 38.3**	**-1.5**
SALA			AML	AML	16 11 47.0	
	comp=N,16nm,0.4s					
SALA			AML	AML	16 11 51.3	
	comp=E,1.8nm,0.4s					
ROOS	**tl_alroos**	**4.14 93**	*e*P	**Pn**	**16 10 53.7**	**+0.5**
ROOS			*e*S	**Sn**	**16 11 37.7**	**-2.9**
ROOS			AML	AML	16 11 50.5	
	comp=N,17nm,0.4s					
ROOS			AML	AML	16 11 51.5	
	comp=E,21nm,0.5s					
DRWC	**Darouich**	**4.15 58**	*e*P	**Pn**	**16 10 53.1**	**-0.3**
DRWC			*e*S	**Sn**	**16 11 36.9**	**-4.0**
DRWC			AML	AML	16 12 00.5	
	comp=N,6.4nm,0.4s					
DRWC			AML	AML	16 12 03.5	
	comp=E,9.7nm,0.4s					
DAT	**Datca**	**4.45 302**	*i* P	**Pn**	**16 10 57.4**	**-0.1**
DAT			*i* S	**Sn**	**16 11 41.8**	**-6.5**
DAT	**Datca**	**4.45 302**	P	**Pn**	**16 10 57.4**	**-0.1**
AYDN	**Tasoluk**	**4.78 313**	*i* P	**Pn**	**16 11 02.4**	**+0.3**
AYDN	**Tasoluk**	**4.78 313**	P	**Pn**	**16 11 02.3**	**+0.3**
HRFI	**Mount Harif**	**5.00 152**	Pn	**Pn**	**16 11 05.2**	**+0.2**
HRFI	**Mount Harif**	**5.00 152**	Pn	**Pn**	**16 11 05.2**	**+0.2**
MBRI	**Mt Berech**	**5.17 154**	Pn	**Pn**	**16 11 07.5**	**+0.1**
MBRI	**Mt Berech**	**5.17 154**	Pn	**Pn**	**16 11 07.5**	**+0.1**

DJA 05 16:13:06.6±6.0, 2°N±40°×12°E±3°6, h183km±52km, M4.0/5, mB4.7/2, mb4.2/2, MLv3.9/5, Mw(mB)3.9/2, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.12**	**308**	P	Pn	16 13 45.0	-0.2
LBMI	**Labuha**	**2.99**	**174**	P	Pn	16 13 55.3	-0.1
LBMI				S	Sn	16 14 33.5	0.0
KMSI	**Cibinong**	**3.67**	**241**	P	Pn	16 14 03.7	+0.1
SANI	**Sanana**	**4.54**	**195**	P	Pn	16 14 14.7	-0.1
NLAI	**Namlea**	**5.56**	**181**	P	Pn	16 14 28.0	0.0
	24nm,0.5s,2μm						
MSAI	**Masohi**	**5.93**	**163**	P	Pn	16 14 32.8	0.0

*CSEM **05** 16:17:18.7, 35°.73N×0°.79W, h0km, ML3.6*

CRAAG 05 16:17:18.7, 35.73N×0.79W, Ml3.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.20**	**89**	P	Pg	16 17 42.0	+20
ODJA	**Bouhanifia**	**0.66**	**127**	P	Pb	16 17 33.0	-0.1
ODJA	**Bouhanifia**	**0.66**	**127**	P	Pb	16 17 33.0	-0.1
OLHC	**Oulhaca**	**0.70**	**227**	P	Pb	16 17 34.0	+0.2
OLHC	**Oulhaca**	**0.70**	**227**	P	Pb	16 17 34.0	+0.2
OJGS	**Djebel Guires**	**1.27**	**100**	P	Pn	16 17 44.0	+0.1
OJGS	**Djebel Guires**	**1.27**	**100**	P	Pn	16 17 44.0	+0.1

*NIED **05** 16:30:00, 38°.70N×142°.40E, h50km, Mw3.6 Best double couple: M0=2.54000×10^14 NP1:φs=355.00000°, δ36.00000°, λ-77.00000°. NP2:φs=159.00000°, δ55.00000°, λ-100.00000°.*

JMA 05 16:30:26.0±0.1, 38°.74N×142°.43E, h32km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.68**	**300**	P	Pn	16 30 39.3	-0.2
OFUJ				S	Sb	16 30 48.5	-0.3
JIO	**Ouri**	**0.89**	**252**	P	Pn	16 30 42.0	-0.3
JIO				S	Sn	16 30 53.1	-1.0
JMK	**Ichinoseki**	**0.97**	**283**	P	Pn	16 30 43.6	+0.2
JMK				S	Sn	16 30 56.2	+0.2
JOM	**Ohasama**	**1.15**	**310**	P	Pn	16 30 46.4	+0.5
JOM				S	Sn	16 31 01.1	+0.6
JTH	**Tanohata**	**1.27**	**340**	P	Pb	16 30 48.7	-0.7
JOU	**Okura**	**1.43**	**255**	P	Pn	16 30 50.6	+0.8
JRG	**Rokugo**	**1.54**	**296**	P	Pb	16 30 52.8	-1.2
JMM	**Marumori**	**1.56**	**236**	P	Pn	16 30 51.1	-0.3
JMM				S	Sn	16 31 11.8	+1.3
JYK	**Kaneyama**	**1.63**	**277**	P	Pn	16 30 53.5	+1.1
MAT	**Matsushiro**	**4.01**	**238**	P	Pn	16 31 28.5	+3.3
MAT				*e*S	Sn	16 32 15.7	+4.7

*NSSP **05** 16:33:22.0, 40°.12N×46°.17E, h15km, Ms3.3*
*AZER **05** 16:33:21.8±0.1, 40°.23N×46°.13E, h19km, Error ellipse: s-maj=0.5km s-min=0.3km az=37.0*
*CSEM **05** 16:33:23.8±0.2, 40°.14N×46°.13E, h10km, ML3.3, Error ellipse: s-maj=5.3km s-min=4.4km az=17.0*
*MOS **05** 16:33:23.6±1.9, 40°.06N×46°.26E, h15km, mb4.1/1, Error ellipse: s-maj=10.1km s-min=5.0km az=96.4*
*DDA **05** 16:33:24.7, 40°.30N×46°.02E, h7km, Md3.3*
*TEH **05** 16:33:25.8, 39°.96N×46°.43E, h15km, ML3.3*

ISC 05 16:33:21.1±1.1, 40°.13N±0°.02×46°.13E±0°.01, h2km±9km, n126, σ1§22/197, 37C-30D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADZ	**Vardenis**	**0.29**	**278**	⇑*i*P	**Pb**	**16 33 28.0**	**-1.3**
VADZ				⇑*i*S	**Sb**	**16 33 35.0**	**+0.3**
VADZ	**Vardenis**	**0.29**	**278**	⇑P	**Pb**	**16 33 28.0**	**-1.3**
GANJ	**Ganja**	**0.54**	**16**	PG	**Pg**	**16 33 32.1**	**+0.7**
GANJ	**Ganja**	**0.54**	**16**	Pg	**Pg**	**16 33 32.1**	**+0.7**
GRS	**Goris**	**0.65**	**166**	⇑*i*P	**Pn**	**16 33 36.0**	**-1.5**
GRS				⇑*i*S	**Sb**	**16 33 45.0**	**+0.1**
GRS	**Goris**	**0.65**	**166**	⇑P	**Pn**	**16 33 36.0**	**-1.5**
GRS				S	**Sb**	**16 33 45.0**	**+0.1**
GDB	**GEDABAY**	**0.65**	**334**	⇑P	**Pb**	**16 33 34.5**	**-0.9**
	SNR=379						
GDB				⇑S	**Sb**	**16 33 44.2**	**-0.8**
GDB	**GEDABAY**	**0.65**	**334**	P	**Pb**	**16 33 34.5**	**-0.9**
	SNR=379						
GDB				S	**Sb**	**16 33 44.2**	**-0.8**
BRDA	**Brd**	**0.82**	**80**	⇑P	**Pn**	**16 33 38.2**	**-1.5**
	SNR=18						
BRDA				⇓S	**Sn**	**16 33 51.7**	**-0.7**
BRDA	**Brd**	**0.82**	**80**	P	**Pn**	**16 33 38.2**	**-1.5**
	SNR=18						
BRDA				S	**Sn**	**16 33 51.7**	**-0.7**
MNGR	**Mingechevir, A**	**0.97**	**48**	⇑P	**Pn**	**16 33 41.4**	**-0.4**
	SNR=18						
MNGR				⇑S	**Sn**	**16 33 56.3**	**+0.1**
MNGR	**Mingechevir, A**	**0.97**	**48**	PG	**Pn**	**16 33 41.0**	**-0.8**
MNGR	**Mingechevir, A**	**0.97**	**48**	Pg	**Pn**	**16 33 41.0**	**-0.8**
MNGR	**Mingechevir, A**	**0.97**	**48**	P	**Pn**	**16 33 41.4**	**-0.4**
	SNR=18						
MNGR				S	**Sn**	**16 33 56.3**	**+0.1**
GNI	**Garni**	**1.06**	**271**	⇑*i*P	**Pn**	**16 33 43.1**	**-0.1**
GNI				⇓*i*S	**Sn**	**16 33 59.2**	**+0.5**
GNI	**Garni**	**1.06**	**271**	*c i*PG	**Pn**	**16 33 42.9**	**-0.3**
GNI	**Garni**	**1.06**	**271**	⇑P	**Pn**	**16 33 43.1**	**-0.1**
GNI				S	**Sn**	**16 33 59.2**	**+0.5**
NAX	**Nakhchivan**	**1.07**	**207**	⇓Pg	**Pn**	**16 33 43.8**	**+0.4**
NAX				⇓Sg	**Sn**	**16 33 59.8**	**+1.0**
NAX	**Nakhchivan**	**1.07**	**207**	PG	**Pn**	**16 33 43.7**	**+0.4**
NAX	**Nakhchivan**	**1.07**	**207**	Pg	**Pn**	**16 33 43.7**	**+0.4**
NAX				Sg	**Sn**	**16 33 59.8**	**+1.0**
QZX	**Qazax, Azerbai**	**1.09**	**328**	⇓P	**Pn**	**16 33 42.6**	**-0.9**
	SNR=249						
QZX				⇑S	**Sn**	**16 33 59.3**	**+0.1**
QZX	**Qazax, Azerbai**	**1.09**	**328**	P	**Pn**	**16 33 42.6**	**-0.9**
	SNR=249						
QZX				S	**Sn**	**16 33 59.3**	**+0.1**
ZRD	**Zardab**	**1.20**	**82**	P	**Pg**	**16 33 45.5**	**+1.3**
	SNR=8.3						
ZRD				⇓S	**Sn**	**16 34 04.0**	**+2.2**
ZRD	**Zardab**	**1.20**	**82**	P	**Pg**	**16 33 45.5**	**+1.3**
	SNR=8.3						
ZRD				S	**Sn**	**16 34 04.0**	**+2.2**
SEKA	**Sheki**	**1.35**	**37**	⇑P	**Pb**	**16 33 46.9**	**-0.3**
SEKA				⇓S	**Sg**	**16 34 05.8**	**+1.3**
SEKA	**Sheki**	**1.35**	**37**	PG	**Pb**	**16 33 46.9**	**-0.3**
SEKA	**Sheki**	**1.35**	**37**	P	**Pb**	**16 33 46.9**	**-0.3**
SEKA				S	**Sg**	**16 34 05.8**	**+1.3**
CKLZ	**Chkalov**	**1.38**	**306**	⇓*i*P	**Pg**	**16 33 48.4**	**+0.8**
CKLZ				⇓*i*S	**Sg**	**16 34 08.1**	**+2.6**
CKLZ	**Chkalov**	**1.38**	**306**	⇓P	**Pg**	**16 33 48.4**	**+0.8**
CKLZ				S	**Sg**	**16 34 08.1**	**+2.6**
DGRG	**David-gareji**	**1.44**	**337**	P	**Pg**	**16 33 49.5**	**+0.8**
DGRG				S	**Sg**	**16 34 10.1**	**+2.8**
IMRD	**Marand**	**1.45**	**193**	*e*Pg	**Pg**	**16 33 49.7**	**+0.7**
IMRD				*e*AMB	AMB	16 34 17.2	
	comp=Z,11μm,0.2s						
IMRD	**Marand**	**1.45**	**193**	*e*Pg	**Pg**	**16 33 49.7**	**+0.7**
QBL	**Gabala**	**1.54**	**57**	⇑P	**Pg**	**16 33 50.4**	**-0.2**
	SNR=15						
QBL				⇓S	**Sg**	**16 34 11.7**	**+1.2**
QBL	**Gabala**	**1.54**	**57**	P	**Pg**	**16 33 50.4**	**-0.2**
	SNR=15						
QBL				S	**Sg**	**16 34 11.7**	**+1.2**
ZKTA	**Zakatala**	**1.55**	**14**	⇑P	**Pb**	**16 33 50.6**	**-0.1**
	SNR=18						
ZKTA				⇓S	**Sg**	**16 34 12.2**	**+1.2**
ZKTA	**Zakatala**	**1.55**	**14**	PG	**Pb**	**16 33 50.5**	**-0.1**
ZKTA	**Zakatala**	**1.55**	**14**	Pg	**Pb**	**16 33 50.5**	**-0.1**
SPIZ	**Spitak**	**1.58**	**297**	⇓*i*P	**Pb**	**16 33 50.4**	**-0.7**
SPIZ				⇑*i*S	**Sg**	**16 34 12.4**	**+0.6**
SPIZ	**Spitak**	**1.58**	**297**	⇓P	**Pb**	**16 33 50.4**	**-0.7**
SPIZ				S	**Sg**	**16 34 12.4**	**+0.6**
STEZ	**Stepenevan**	**1.58**	**304**	⇓*i*P	**Pb**	**16 33 50.4**	**-0.7**
STEZ				⇓S	**Sg**	**16 34 12.4**	**+0.6**
KDMR	**Kurdemir**	**1.59**	**81**	⇑P	**Pg**	**16 33 51.6**	**-0.1**
	SNR=4.8						
KDMR				⇓S	**Sg**	**16 34 15.2**	**+2.9**
KDMR	**Kurdemir**	**1.59**	**81**	P	**Pg**	**16 33 51.6**	**-0.1**
	SNR=4.8						
KDMR				S	**Sg**	**16 34 15.2**	**+2.9**
STE	**Stepanavan**	**1.59**	**304**	⇓P	**Pb**	**16 33 50.4**	**-1.0**
STE				S	**Sg**	**16 34 12.4**	**0.0**
IML	**Ismayilli**	**1.70**	**67**	⇓P	**Pb**	**16 33 52.7**	**-0.5**
	SNR=3.8						
IML				⇓S	**Sg**	**16 34 15.8**	**0.0**
IML	**Ismayilli**	**1.70**	**67**	P	**Pb**	**16 33 52.7**	**-0.5**
	SNR=3.8						
IML				S	**Sg**	**16 34 15.8**	**0.0**
SAAT	**Saatly**	**1.79**	**98**	⇓P	**Pb**	**16 33 54.0**	**-0.5**
	SNR=2.8						
SAAT				⇑S	**Sb**	**16 34 16.6**	**-0.8**
SAAT	**Saatly**	**1.79**	**98**	P	**Pb**	**16 33 54.0**	**-0.5**
	SNR=2.8						
SAAT				S	**Sb**	**16 34 16.6**	**-0.8**
AKT	**Akhty**	**1.82**	**42**	*e*PN	**Pb**	**16 33 54.7**	**-0.5**
AKT				pmax	pmax		
	comp=Z,66nm,0.3s						
AKT	**Akhty**	**1.82**	**42**	*e*Pn	**Pb**	**16 33 54.7**	**-0.5**
	comp=Z,66nm,0.3s						
XNQ	**Khinaliq**	**1.85**	**55**	⇓P	**Pb**	**16 33 54.4**	**-1.4**
	SNR=27						
XNQ				⇓S	**Sg**	**16 34 20.1**	**-0.5**
XNQ	**Khinaliq**	**1.85**	**55**	P	**Pb**	**16 33 54.4**	**-1.4**
	SNR=27						
XNQ				S	**Sg**	**16 34 20.1**	**-0.5**
ISHB	**Shabestar**	**1.89**	**192**	*e*Pn	**Pg**	**16 33 57.2**	**-0.1**
ISHB				*e*Sg	**Sg**	**16 34 22.1**	**+0.3**
ISHB				*e*AMB	AMB	16 34 26.9	
	comp=Z,4μm,0.1s						
ITBZ	**Tabriz**	**1.90**	**179**	*e*Pg	**Pg**	**16 33 56.9**	**-0.6**
ITBZ				*e*AMB	AMB	16 34 25.1	
	comp=Z,1μm,0.1s						
ITBZ	**Tabriz**	**1.90**	**179**	*e*Pg	**Pg**	**16 33 56.9**	**-0.6**
TBLG	**Delisi**	**1.91**	**327**	P	**Pb**	**16 33 56.3**	**-0.5**
TBLG				S	**Sg**	**16 34 22.5**	**-0.1**
TBLG	**Delisi**	**1.91**	**327**	PN	**Pb**	**16 33 56.3**	**-0.5**
TBLG	**Delisi**	**1.91**	**327**	P	**Pb**	**16 33 56.3**	**-0.5**
TBLG				S	**Sg**	**16 34 22.5**	**-0.1**
SEAG	**Tbilisi Sea**	**1.91**	**329**	P	**Pg**	**16 33 57.4**	**-0.5**
SEAG				S	**Sg**	**16 34 23.5**	**+0.9**
IHRS	**Heris**	**1.95**	**158**	*e*Pg	**Pb**	**16 33 56.6**	**-0.9**
IHRS				*e*AMB	AMB	16 34 26.8	
	comp=Z,4μm,0.1s						
IHRS	**Heris**	**1.95**	**158**	*e*Pg	**Pb**	**16 33 56.6**	**-0.9**
GLBA	**Cilalabad**	**1.96**	**116**	⇓Pn	**Pb**	**16 33 56.7**	**-0.9**
	SNR=23						
GLBA				⇑Sn	**Sb**	**16 34 22.8**	**+0.3**
GLBA	**Cilalabad**	**1.96**	**116**	Pn	**Pb**	**16 33 56.7**	**-0.9**
	SNR=23						
GLBA				Sn	**Sb**	**16 34 22.8**	**+0.3**
DYDN	**Diyadin**	**1.97**	**253**	*i* P	**Pg**	**16 33 60.0**	**+1.2**
DYDN	**Diyadin**	**1.97**	**253**	P	**Pg**	**16 34 00.0**	**+1.2**
PQL	**Pirkuli**	**1.99**	**70**	⇓P	**Pb**	**16 33 57.9**	**-0.3**
	SNR=25						
PQL				⇑S	**Sb**	**16 34 23.8**	**+0.2**
PQL	**Pirkuli**	**1.99**	**70**	P	**Pb**	**16 33 57.9**	**-0.3**
	SNR=25						
PQL				S	**Sb**	**16 34 23.8**	**+0.2**
EAK	**Akyaka**	**2.00**	**287**	*i* P	**Pg**	**16 33 59.7**	**+0.2**
EAK				*i* S	**Sg**	**16 34 28.2**	**+2.8**
EAK	**Akyaka**	**2.00**	**287**	P	**Pg**	**16 33 59.7**	**+0.2**
DIGO	**Kars**	**2.12**	**279**	*i* P	**Pg**	**16 34 01.5**	**-0.4**
DIGO				*i* S	**Sg**	**16 34 31.5**	**+2.1**
DIGO	**Kars**	**2.12**	**279**	P	**Pg**	**16 34 01.5**	**-0.4**
QSAR	**Qusar**	**2.13**	**49**	⇓Pn	**Pb**	**16 33 59.3**	**-1.2**
	SNR=6.3						
QSAR				⇑Sn	**Sg**	**16 34 29.7**	**+0.1**
QSAR	**Qusar**	**2.13**	**49**	Pn	**Pb**	**16 33 59.3**	**-1.2**
	SNR=6.3						
QSAR				Sn	**Sg**	**16 34 29.7**	**+0.1**
QUBA	**Quba, Azerbaij**	**2.17**	**55**	⇓Pn	**Pb**	**16 34 01.2**	**-0.1**
	SNR=13						
QUBA				⇑Sn	**Sg**	**16 34 31.3**	**+0.3**
QUBA	**Quba, Azerbaij**	**2.17**	**55**	Pn	**Pb**	**16 34 01.2**	**-0.1**
	SNR=13						
QUBA				Sn	**Sg**	**16 34 31.3**	**+0.3**
GBS	**Qobustan**	**2.19**	**78**	⇑Pn	**Pb**	**16 34 01.9**	**+0.4**
	SNR=7.1						
GBS	**Qobustan**	**2.19**	**78**	Pn	**Pb**	**16 34 01.9**	**+0.4**
	SNR=7.1						
DUS	**Dusheti**	**2.23**	**332**	P	**Pg**	**16 34 03.8**	**-0.1**
DUS				S	**Sg**	**16 34 34.8**	**+1.9**
DUS	**Dusheti**	**2.23**	**332**	PN	**Pg**	**16 34 03.8**	**-0.1**
DUS				S	**Sg**	**16 34 34.8**	**+1.9**
DUS	**Dusheti**	**2.23**	**332**	Pn	**Pg**	**16 34 03.8**	**-0.1**
ATGJ	**Altiaghaj**	**2.27**	**70**	⇓Pn	**Pb**	**16 34 02.0**	**-0.8**
	SNR=9.8						
ATGJ				⇑Sn	**Sb**	**16 34 31.0**	**-0.3**
ATGJ	**Altiaghaj**	**2.27**	**70**	Pn	**Pb**	**16 34 02.0**	**-0.8**
	SNR=9.8						
ATGJ				Sn	**Sb**	**16 34 31.0**	**-0.3**
LRK	**Lerik**	**2.27**	**130**	⇑Pn	**Pb**	**16 34 02.1**	**-0.8**
	SNR=70						
LRK				⇑Sn	**Sg**	**16 34 33.0**	**-1.1**
LRK	**Lerik**	**2.27**	**130**	Pn	**Pb**	**16 34 02.1**	**-0.8**
	SNR=70						
LRK				Sn	**Sg**	**16 34 33.0**	**-1.1**
SIZA	**Siyzn**	**2.31**	**65**	⇑Pn	**Pb**	**16 34 01.6**	**-2.0**
	SNR=6.2						
SIZA	**Siyzn**	**2.31**	**65**	Pn	**Pb**	**16 34 01.6**	**-2.0**
	SNR=6.2						
GNBR	**Gunib**	**2.34**	**15**	*e*PN	**Pb**	**16 34 04.1**	**0.0**
GNBR				*e*		16 34 35.0	
GNBR				pmax	pmax		
	comp=Z,27nm,0.5s						
GNBR				smax	smax		
	comp=E,96nm,1.5s						
GNBR				smax	smax		
	comp=N,143nm,0.6s						
GNBR				smax	smax		
	comp=E,145nm,0.4s						
GNBR	**Gunib**	**2.34**	**15**	*e*Pn	**Pb**	**16 34 04.1**	**0.0**
	comp=E,27nm,0.5s						
GNBR				*e*Sn	**Sg**	**16 34 35.0**	**-1.4**
	comp=E,143nm,0.6s						
AKH	**Akhalkalaki**	**2.37**	**303**	P	**Pg**	**16 34 06.1**	**-0.5**
AKH				S	**Sg**	**16 34 38.2**	**+0.9**
AKH	**Akhalkalaki**	**2.37**	**303**	PN	**Pg**	**16 34 06.1**	**-0.5**
AKH				S	**Sg**	**16 34 38.2**	**+0.9**
AKH	**Akhalkalaki**	**2.37**	**303**	Pn	**Pg**	**16 34 06.1**	**-0.5**
XNZR	**Khunzakh**	**2.45**	**10**	*e*PN	**Pb**	**16 34 05.8**	**-0.2**
XNZR				*e*		16 34 37.3	
XNZR	**Khunzakh**	**2.45**	**10**	*e*Pn	**Pb**	**16 34 05.8**	**-0.2**
XNZR				*e*Sn	**Sb**	**16 34 37.3**	**+0.7**
LKRN	**Lenkeran, Azer**	**2.50**	**124**	⇑Pn	**Pb**	**16 34 04.4**	**-2.3**
	SNR=11						
LKRN				⇓Sn	**Sb**	**16 34 37.2**	**-0.7**
LKRN	**Lenkeran, Azer**	**2.50**	**124**	PN	**Pb**	**16 34 04.4**	**-2.3**
LKRN	**Lenkeran, Azer**	**2.50**	**124**	Pn	**Pb**	**16 34 04.4**	**-2.3**
	SNR=11						
LKRN				Sn	**Sb**	**16 34 37.2**	**-0.7**
IBST	**Bostanabad**	**2.50**	**166**	*e*AMB	AMB	16 34 46.9	
	comp=Z,1μm,0.3s						
DRN	**Derbent**	**2.52**	**41**	*e*PN	**Pg**	**16 34 08.3**	**-1.2**
DRN				*e*		16 34 41.0	
DRN				pmax	pmax		
	comp=Z,41nm,1.3s						
DRN				smax	smax		
	comp=E,57nm,1.5s						
DRN				smax	smax		
	comp=N,53nm,0.8s						
DRN				smax	smax		
	comp=E,58nm,0.5s						
DRN	**Derbent**	**2.52**	**41**	*e*Pn	**Pg**	**16 34 08.3**	**-1.2**
	comp=E,41nm,1.3s						
ASTR	**Astara**	**2.59**	**126**	⇓Pn	**Pb**	**16 34 07.0**	**-1.4**
	SNR=5.4						
ASTR				⇑Sn	**Sb**	**16 34 41.6**	**+0.9**
ASTR	**Astara**	**2.59**	**126**	Pn	**Pb**	**16 34 07.0**	**-1.4**
	SNR=5.4						
ASTR				Sn	**Sb**	**16 34 41.6**	**+0.9**
ISRB	**Sarab**	**2.60**	**152**	*e*AMB	AMB	16 34 47.3	
	comp=Z,2μm,0.1s						
ISRB				*e*Pn	**Pb**	**16 34 07.6**	**-1.0**
EATA	**Eleskirt**	**2.81**	**266**	*i* P	**Pg**	**16 34 13.9**	**-1.0**
EPOS	**Posof**	**2.92**	**299**	*i* P	**Pg**	**16 34 17.2**	**+0.1**
LACR	**Lac**	**3.02**	**334**	*e*PN	**Pb**	**16 34 14.2**	**-1.6**
LACR				*e*S	**Sb**	**16 34 53.9**	**+0.7**
LACR	**Lac**	**3.02**	**334**	*e*Pn	**Pb**	**16 34 14.2**	**-1.6**
GROC	**Groznyy**	**3.08**	**356**	*e*PN	**Pb**	**16 34 17.8**	**+1.2**
GROC				*e*S	**Sg**	**16 34 57.7**	**-2.3**
VLKR	**Vladikavkaz**	**3.11**	**340**	*e*PN	**Pb**	**16 34 16.5**	**-0.7**
VLKR				*e*S	**Sb**	**16 34 57.0**	**+1.4**
VLKR	**Vladikavkaz**	**3.11**	**340**	*e*Pn	**Pb**	**16 34 16.5**	**-0.7**
ZEI

MNAS				⇓Lg		Lg		16 35 00.2	
	8.4nm,0.6s								
IUG	**Iuzhnay**	**3.00**	**331**	*e*P		**Pg**		**16 34 25.2**	**0.0**
	24nm,0.3s								
IUG				*e*S		**Sg**		**16 35 02.7**	**-1.5**
	29nm,0.2s								
MRKS	**Merke**	**3.33**	**16**	*e*P		**Pg**		**16 34 31.4**	**-0.1**
	11nm,0.3s								
MRKS				*e*S		**Sg**		**16 35 13.1**	**-1.5**
	14nm,0.2s								
EKS2	**Erkin-Say**	**3.39**	**23**	⇑*i*P		**Pb**		**16 34 28.4**	**+1.0**
	baz=26								
EKS2				⇑*i*S		**Sb**		**16 35 09.8**	**+1.5**
	baz=26								
AAK	**Ala-Archa**	**3.62**	**31**	⇑*i*P		**Pb**		**16 34 31.7**	**+0.4**
	baz=33								
AAK				⇑*i*S		**Sb**		**16 35 15.9**	**+1.0**
	baz=33								
AAK	**Ala-Archa**	**3.62**	**31**	⇑Pg		**Pg**		**16 34 38.0**	**+0.9**
	3.7nm,0.6s								
AAK				Lg		Lg		16 35 20.4	
	14nm,0.8s								
KK31	**Karatay Array**	**3.73**	**343**	⇓Pn		**Pb**		**16 34 32.7**	**-0.4**
	1.1nm,0.3s,baz=166,slow=12,SNR=16								
KK31				⇓Pg		**Pg**		**16 34 40.2**	**+1.0**
	4.3nm,0.7s,baz=163,slow=18,SNR=13								
KK31				⇓Lg		Lg		16 35 24.2	
	6.2nm,0.6s,baz=161,slow=26,SNR=8.4								
KBK	**Karagaybulak**	**3.82**	**35**	⇑*i*P		**Pb**		**16 34 34.8**	**0.0**
	baz=37								
KBK				⇑*i*S		**Sb**		**16 35 21.3**	**+0.5**
	baz=37								
BRLS	**Borolday**	**3.84**	**336**	*e*P		**Pb**		**16 34 36.1**	**+1.0**
	0.4nm,0.1s								
BRLS				*e*S		**Sb**		**16 35 21.2**	**-0.2**
	7.3nm,0.4s								
TKM2	**Tokmak 2**	**4.33**	**38**	⇓Pg		**Pg**		**16 34 50.0**	**-0.6**
	4.1nm,0.6s								
TKM2				⇑Sn		**Sb**		**16 35 32.0**	**-3.3**
	3.4nm,0.8s								
TKM2				⇓Lg		Lg		16 35 46.2	
	10.0nm,1.2s								
KST	**Kastek**	**4.59**	**39**	*e*P		**Pg**		**16 34 54.0**	**-1.7**
	3.4nm,0.8s								
KST				*e*S		**Sg**		**16 35 51.8**	**-3.5**
	9.1nm,0.8s								
DGS	**Degeres**	**4.65**	**36**	*e*P		**Pg**		**16 34 57.4**	**+0.4**
	3.8nm,0.2s								
DGS				*e*S		**Sg**		**16 35 57.4**	**+0.2**
	4.7nm,0.3s								
MDOK	**Medeo**	**5.24**	**45**	*e*P		**Pg**		**16 35 08.8**	**+0.7**
	2.5nm,0.9s								
MDOK				*e*S		**Sg**		**16 36 17.3**	**+1.4**
	5.0nm,0.7s								
KUU	**Kurty**	**5.42**	**35**	*e*P		**Pg**		**16 35 11.3**	**-0.2**
	0.9nm,0.1s								
KUU				*e*S		**Sg**		**16 36 21.3**	**-0.4**
	6.4nm,0.8s								
BTLS	**Baital**	**5.70**	**15**	*e*P		**Pg**		**16 35 15.8**	**-1.0**
	1.4nm,0.5s								
BTLS				*e*S		**Sg**		**16 36 29.5**	**-1.0**
	3.6nm,0.4s								

*IDC **05** 16:35:56.1±2.8, 13°.60N×91°.40W, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.8/33, mbtmp3.7/5, ML3.4/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=64.1km s-min=41.7km az=31.0*
*MEX **05** 16:36:00.5±1.7, 13°.45N×91°.98W, h9km±999km, MD4.1*
*CASC **05** 16:36:01.5±1.1, 13°.34N×91°.40W, h70km±88km, ML3.8, mb4.1(NEIC)*
*NEIC **05** 16:36:02.7±2.4, 13°.83N×91°.46W, h35km, mb4.0/2, Error ellipse: s-maj=44.2km s-min=27.6km az=195.0*

ISC 05 16:35:58.8±2.3, 14°.0N±0°.1×91°.47W±0°.07, h6km±12km, n24, σ1§40/26, mb3.9/4, MS3.2/3, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**1.48**	**91**	*e*P	**Pb**	**16 36 26.6**	**-0.2**
CUS1				*e*S	**Sg**	**16 36 47.1**	**+0.6**
RBDL	**Robledal**	**1.74**	**84**	*e*P	**Pg**	**16 36 31.9**	**-0.4**
RBDL				*e*S	**Sg**	**16 36 54.7**	**-0.2**
MONT	**Ecomontaæa**	**1.77**	**93**	*e*P	**Pb**	**16 36 31.3**	**-0.6**
MONT				*e*S	**Sb**	**16 36 53.4**	**-1.1**
RTR	**El Retiro**	**1.77**	**91**	*e*P	**Pn**	**16 36 30.0**	**-0.3**
SBLS	**San Blas**	**1.80**	**93**	*e*P	**Pn**	**16 36 31.2**	**+0.6**
SNJE	**San Jose**	**1.81**	**92**	*e*P	**Pb**	**16 36 31.6**	**-1.0**
SNJE				*e*S	**Sb**	**16 36 55.0**	**-0.7**
MTO3	**Montecristo**	**2.10**	**77**	*e*P	**Pb**	**16 36 37.6**	**+0.2**
MTO3				AML	AML	16 37 12.9	
	comp=Z,159nm,0.3s						
BOQS	**Boqueron**	**2.14**	**95**	*e*P	**Pn**	**16 36 35.7**	**+0.4**
UEES	**San Salvador**	**2.17**	**95**	AML	AML	16 37 15.2	
	comp=Z,1μm,0.3s						
UDBS	**Soyapango**	**2.26**	**95**	AML	AML	16 37 13.8	
	comp=Z,921nm,0.5s						
CCIG	**Comitan**	**2.41**	**345**	*e*P	**Pg**	**16 36 45.6**	**+0.5**
CCIG				*i*S	**Sn**	**16 37 07.7**	**-1.3**
PCIG		**2.43**	**316**	*e*P	**Pn**	**16 36 37.6**	**-1.6**
TGIG		**3.24**	**331**	*e*P	**Pg**	**16 37 00.9**	**0.0**
CNCH	**Conchagua**	**3.60**	**100**	⇓*e*P	**Pn**	**16 36 53.6**	**-1.7**
CMIG	**Matias Romero**	**4.54**	**314**	P	**Pn**	**16 37 09.9**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=140,slow=11,SNR=10						
CMIG				Sn	**Sb**	**16 38 10.0**	**-4.0**
	comp=Z,2.2nm,0.3s,baz=124,slow=21,SNR=6.2						
WHTX	**Lake Whitney,**	**18.78**	**344**	*e*P	**P**	**16 40 18.4**	**-0.5**
	comp=Z,9.6nm,0.7s						
TXAR	**Lajitas Array**	**19.03**	**326**	P	**Pn**	**16 40 24.4**	**+2.0**
	baz=150,slow=10,SNR=5.6						
MNTX	**Cornudas Mount**	**21.79**	**326**	*e*P	**P**	**16 40 53.5**	**+1.8**
	comp=Z,3.0nm,0.8s						
TKL	**Tuckaleechee C**	**22.70**	**16**	P	**P**	**16 41 03.5**	**+2.1**
	comp=Z,4.3nm,0.6s,baz=199,slow=15,SNR=4.6						
TKL				LR	LR	16 51 20.9	
	comp=Z,65nm,18.4s,baz=210,slow=40						
PTGA	**Pitinga**	**34.44**	**113**	LR	LR	16 57 08.6	
	comp=Z,50nm,20.5s,baz=76,slow=37						
SCHQ	**Schefferville**	**45.10**	**20**	LR	LR	17 03 20.4	
	comp=Z,75nm,19.9s,baz=260,slow=36						
YKA	**Yellowknife Ar**	**51.20**	**346**	P	**P**	**16 45 02.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=148,slow=7.0,SNR=3.4						
ILAR	**Eielson Array**	**63.09**	**337**	P	**P**	**16 46 26.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=162,slow=4.1,SNR=8.6						
CMAR	**Chiang Mai Arr**	**146.21**	**342**	PKPbc	**PKPdf**	**16 55 40.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=338,slow=3.7,SNR=12						

*ISCJB **05** 16:50:50.7±0.5, 39°.23N±0°.03×28°.35E±0°.03, h1km±6km, Error ellipse: s-maj=4.8km s-min=3.7km az=26.6*
*DDA **05** 16:50:50.5, 39°.23N×28°.38E, h7km, Md2.4*
*ISK **05** 16:50:50.3, 39°.21N×28°.35E, h5km, MD2.7*
*CSEM **05** 16:50:51.1±0.1, 39°.22N×28°.35E, h5km, MD2.4, Error ellipse: s-maj=2.4km s-min=1.9km az=55.0*

ISC 05 16:50:51.0±1.0, 39°.22N±0°.02×28°.35E±0°.02, h12km±11km, n53, σ0§69/67, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.34**	**121**	*i*P	**Pg**	**16 50 58.0**	**+0.2**
DEMI				*i*S	**Sb**	**16 51 03.2**	**-1.2**
DEMI	**Demirci**	**0.34**	**121**	P	**Pg**	**16 50 58.0**	**+0.2**
DEMI				S	**Sb**	**16 51 03.2**	**-1.2**
STEP	**BALIKESIR_Sava**	**0.51**	**288**	*i*P	**Pg**	**16 51 00.5**	**-0.5**
STEP				*i*S	**Sb**	**16 51 08.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.51**	**288**	P	**Pg**	**16 51 00.5**	**-0.5**
STEP				S	**Sb**	**16 51 08.7**	**-0.6**
SIMA	**Simav-Kutahya**	**0.51**	**105**	*e*PG	**Pg**	**16 51 00.1**	**-1.0**
SIMA				*e*SG	**Sg**	**16 51 08.2**	**+0.3**
SIMA	**Simav-Kutahya**	**0.51**	**105**	*e*Pg	**Pg**	**16 51 00.1**	**-1.0**
SIMA				*e*Sg	**Sg**	**16 51 08.2**	**+0.3**
AKHS	**Akhisar**	**0.54**	**231**	*i*P	**Pg**	**16 51 01.7**	**+0.2**
AKHS				*i*S	**Sb**	**16 51 09.4**	**-0.6**
AKHS	**Akhisar**	**0.54**	**231**	P	**Pg**	**16 51 01.7**	**+0.2**
AKHS				S	**Sb**	**16 51 09.4**	**-0.6**
BALB	**Balikesir**	**0.55**	**320**	*e*PG	**Pg**	**16 51 02.0**	**+0.2**
BALB	**Balikesir**	**0.55**	**320**	*e*Pg	**Pg**	**16 51 02.0**	**+0.2**
KULA	**Kula-Manisa**	**0.74**	**161**	*e*PG	**Pg**	**16 51 04.9**	**-0.5**
KULA				*e*SG	**Sb**	**16 51 15.7**	**-0.4**
KULA	**Kula-Manisa**	**0.74**	**161**	*e*Pg	**Pg**	**16 51 04.9**	**-0.5**
KULA				*e*Sg	**Sb**	**16 51 15.7**	**-0.4**
MANT	**Manisa**	**0.75**	**167**	*i*P	**Pb**	**16 51 05.5**	**-0.5**
MANT				*i*S	**Sb**	**16 51 15.7**	**-0.6**
MANT	**Manisa**	**0.75**	**167**	P	**Pb**	**16 51 05.6**	**-0.5**
MANT				S	**Sb**	**16 51 15.7**	**-0.6**
BALY	**Balya**	**0.77**	**313**	*i*P	**Pb**	**16 51 06.1**	**-0.2**
BALY	**Balya**	**0.77**	**313**	P	**Pb**	**16 51 06.1**	**-0.2**
TVSB	**Tavsanli**	**0.90**	**75**	*e*PG	**Pg**	**16 51 07.9**	**-0.4**
TVSB	**Tavsanli**	**0.90**	**75**	*e*Pg	**Pg**	**16 51 07.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.04**	**0**	*e*PG	**Pg**	**16 51 10.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.04**	**0**	*e*Pg	**Pg**	**16 51 10.8**	**-0.3**
EDC	**Edincik**	**1.19**	**342**	*e*PN	**Pb**	**16 51 13.6**	**+0.1**
EDC	**Edincik**	**1.19**	**342**	*e*Pn	**Pb**	**16 51 13.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**20**	*e*PN	**Pn**	**16 51 14.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.22**	**20**	*e*Pn	**Pn**	**16 51 14.5**	**+0.6**
KHAL	**Karahalli**	**1.23**	**133**	*i*P	**Pn**	**16 51 15.8**	**+1.6**
KHAL	**Karahalli**	**1.23**	**133**	P	**Pn**	**16 51 15.8**	**+1.6**
IGD	**Bursa**	**1.23**	**32**	*i*P	**Pb**	**16 51 14.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**196**	*e*PN	**Pn**	**16 51 15.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**196**	*e*Pn	**Pn**	**16 51 15.8**	**+0.5**
ARMT	**Armutlu**	**1.40**	**16**	*e*PN	**Pg**	**16 51 17.4**	**-0.6**
ARMT	**Armutlu**	**1.40**	**16**	*e*Pn	**Pg**	**16 51 17.4**	**-0.6**
KRBG	**Karabiga-Canak**	**1.42**	**326**	*e*PN	**Pn**	**16 51 17.3**	**+0.6**
KRBG	**Karabiga-Canak**	**1.42**	**326**	*e*Pn	**Pn**	**16 51 17.3**	**+0.6**
SBT5	**Esenkoy-Cinarc**	**1.47**	**16**	*e*PN	**Pb**	**16 51 18.4**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.47**	**16**	*e*Pn	**Pb**	**16 51 18.4**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.49**	**291**	*i*P	**Pb**	**16 51 18.5**	**-0.1**
BAYC				*i*S	**Sg**	**16 51 38.8**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.49**	**291**	P	**Pb**	**16 51 18.5**	**-0.1**
BAYC				S	**Sg**	**16 51 38.8**	**0.0**
MRMT	**Marmara Adasi**	**1.50**	**338**	*e*PN	**Pn**	**16 51 17.9**	**+0.2**
MRMT	**Marmara Adasi**	**1.50**	**338**	*e*Pn	**Pn**	**16 51 18.0**	**+0.2**
CAVI	**Cavuskoy**	**1.52**	**49**	*e*PN	**Pb**	**16 51 19.1**	**0.0**
CAVI	**Cavuskoy**	**1.52**	**49**	*e*Pn	**Pb**	**16 51 19.1**	**0.0**
URLA	**Izmir**	**1.61**	**238**	*e*PN	**Pn**	**16 51 20.3**	**+1.0**
URLA	**Izmir**	**1.61**	**238**	*e*Pn	**Pn**	**16 51 20.3**	**+1.0**
SBT2	**Guzelce-Avcila**	**1.66**	**4**	*e*PN	**Pb**	**16 51 20.9**	**-0.6**
SBT2	**Guzelce-Avcila**	**1.66**	**4**	*e*Pn	**Pb**	**16 51 20.9**	**-0.6**
SBT3	**Marmara-Eregli**	**1.69**	**350**	*e*PN	**Pb**	**16 51 21.4**	**-0.5**
SBT3	**Marmara-Eregli**	**1.69**	**350**	*e*Pn	**Pb**	**16 51 21.4**	**-0.5**
GULT	**Gulveren**	**2.06**	**53**	*e*PN	**Pb**	**16 51 26.7**	**+1.1**
GULT	**Gulveren**	**2.06**	**53**	*e*Pn	**Pb**	**16 51 26.7**	**+1.1**
KLYT	**Kilyos**	**2.10**	**14**	*e*PN	**Pn**	**16 51 27.2**	**+1.2**
KLYT	**Kilyos**	**2.10**	**14**	*e*Pn	**Pn**	**16 51 27.2**	**+1.2**
SILT	**Sile**	**2.17**	**27**	*e*PN	**Pn**	**16 51 28.3**	**+1.3**
SILT	**Sile**	**2.17**	**27**	*e*Pn	**Pn**	**16 51 28.3**	**+1.3**

*NNC **05** 16:57:14.7±1.4, 44°.67N×81°.06E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=46.6km s-min=3.8km az=120.0*
*SOME **05** 16:57:14.6, 44°.40N×81°.48E, h20km*

ISC 05 16:57:12.3±2.1, 44°.41N±0°.06×81°.50E±0°.08, h8km±14km, n11, σ1§13/20, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.23**	**267**	*e*P	**Pg**	**16 57 36.0**	**+0.1**
	1.7nm,0.1s						
DJR				*e*S	**Sg**	**16 57 51.1**	**-0.7**
	4.4nm,0.3s						
KAPS	**Kapalarasan**	**1.76**	**301**	*e*P	**Pg**	**16 57 46.5**	**+0.4**
	1.8nm,0.3s						
KAPS				⇑*i*S	**Sg**	**16 58 09.8**	**+1.0**
	6.3nm,0.2s						
PDGK	**Podgornoye**	**1.81**	**234**	⇑P	**Pb**	**16 57 46.5**	**+0.7**
	0.8nm,0.3s						
PDGK				⇓S	**Sg**	**16 58 09.9**	**-0.6**
	6.9nm,0.5s						
SHLS	**Shalkode**	**1.93**	**230**	*e*P	**Pn**	**16 57 46.0**	**+0.4**
	4.3nm,0.1s						
SHLS				*e*S	**Sn**	**16 58 08.9**	**-1.2**
	12nm,0.2s						
UZB	**Uzynbulak**	**2.19**	**236**	*e*P	**Pb**	**16 57 53.7**	**+1.4**
	2.2nm,0.2s						
UZB				*e*S	**Sg**	**16 58 22.1**	**-0.7**
	6.0nm,0.3s						
MNBS	**Baschi**	**2.25**	**263**	*e*P	**Pb**	**16 57 52.7**	**-0.6**
	3.1nm,0.3s						
MNBS				*e*S	**Sb**	**16 58 20.5**	**-0.8**
	21nm,0.1s						
MAKZ	**Makanchi**	**2.42**	**8**	⇑Pg	**Pb**	**16 57 56.1**	**0.0**
	5.4nm,1.6s						
MAKZ				⇑Lg	Lg	16 58 24.9	
	1.9nm,0.3s						
MK31	**Makanchi Array**	**2.45**	**13**	⇑Pg	**Pb**	**16 57 56.5**	**-0.1**
	0.3nm,0.3s,baz=200,slow=14,SNR=14						
MK31				⇑Lg	Lg	16 58 26.2	
	1.0nm,0.2s,baz=198,slow=26,SNR=22						
ZHN	**Zhinishke**	**2.54**	**242**	*e*P	**Pb**	**16 57 59.8**	**+1.5**
	4.5nm,0.2s						
ZHN				*e*S	**Sg**	**16 58 32.1**	**-1.9**
	14nm,0.2s						
SATY	**Saty**	**2.62**	**240**	*e*P	**Pb**	**16 58 00.9**	**+1.4**
	3.8nm,0.1s						
SATY				*e*S	**Sg**	**16 58 34.4**	**-2.0**
	13nm,0.3s						
CHKK	**Chushkaly**	**3.30**	**262**	*e*P	**Pb**	**16 58 11.5**	**+0.5**
	1.0nm,0.5s						
CHKK				*e*S	**Sb**	**16 58 52.1**	**+0.9**
	7.5nm,0.3s						

*IDC **05** 16:59:41.7±2.4, 11°.45S×165°.46E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/32, mbtmp3.9/6, ML4.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=59.7km s-min=32.8km az=97.0*
*NEIC **05** 16:59:42.9±1.1, 11°.44S×165°.49E, h10km, mb4.2/2, Error ellipse: s-maj=22.0km s-min=13.5km az=67.0*
*ISCJB **05** 16:59:43.6±1.2, 11°.5S±0°.1×165°.4E±0°.1, h24km, mb3.8/6, MS2.8/2, Error ellipse: s-maj=23.6km s-min=11.4km az=43.0*

ISC 05 16:59:45.2±1.4, 11°.5S±0°.2×165°.4E±0°.2, h24km, n13, σ0§78/10, mb4.0/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.78**	**290**	LR	LR	17 03 44.4	
	comp=Z,132nm,18.4s,baz=224,slow=42						
HNR	**Honiara**	**5.78**	**290**	Pn	**Pn**	**17 01 08.6**	**-0.9**
HNR				Sn	**Sn**	**17 02 15.5**	**+0.5**
DZM	**Mont Dzumac**	**10.56**	**175**	Pn	**Pn**	**17 02 15.3**	**+0.1**
	1.1nm,0.3s,baz=4.9,slow=14,SNR=9.9						
DZM	**Mont Dzumac**	**10.56**	**175**	*e*Pn	**Pn**	**17 02 15.0**	**-0.2**
CTAO	**Charters Tower**	**20.32**	**243**	*e*Pn	Pn	17 04 22.9	+0.9
	10.0nm,0.6s						
AFI	**Afiamalu**	**22.35**	**99**	LR	LR	17 11 27.2	
	comp=Z,26nm,19.7s,baz=288,slow=32						
WRAB	**Tennant Creek**	**31.04**	**250**	*e*P	**P**	**17 06 01.5**	**+0.1**
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**31.05**	**250**	P	**P**	**17 06 02.1**	**+0.6**
	2.8nm,0.7s,baz=80,slow=9.3,SNR=20						
GUMO	**Guam**	**32.21**	**320**	LR	LR	17 19 49.8	
	comp=Z,26nm,18.1s,baz=120,slow=38						
ASAR	**Alice Springs**	**32.32**	**244**	P	**P**	**17 06 12.8**	**0.0**
	0.3nm,0.7s,baz=70,slow=9.2,SNR=7.0						
CMAR	**Chiang Mai Arr**	**72.02**	**294**	P	**P**	**17 11 08.4**	**+0.7**
	0.7nm,0.6s,baz=118,slow=5.5,SNR=6.1						
SONM	**Songino Array**	**78.85**	**324**	P	**P**	**17 11 47.4**	**+0.9**
	0.6nm,0.6s,baz=116,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**	**17 12 58.5**	**-1.2**
	0.5nm,0.7s,baz=116,slow=2.8,SNR=3.6						

AUST 05 17:06:17.5±0.2, 33°.73S×117°.24E, h16km, Error ellipse: s-maj=0.8km s-min=0.5km az=266.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**0.80**	**360**	P	Pb	17 06 32.9	-0.1
	baz=0.8,SNR=1000						
NWAO				P	Pb	17 06 32.9	-0.1
	baz=0.8,SNR=1000						
NWAO				S	Sb	17 06 42.8	-0.8
	baz=0.8						
RKGY	**Rocky Gully**	**0.90**	**194**	P	Pb	17 06 34.7	-0.1
	baz=0.9,SNR=643						
RKGY				S	Sb	17 06 46.1	-0.5
	baz=0.9						
MUN	**Mundaring**	**1.95**	**333**	P	Pn	17 06 50.8	+0.9
	baz=2.0						
MUN				S	Sb	17 07 15.8	-0.9
	baz=2.0						
KLBR	**Kellerberrin**	**2.18**	**12**	P	Pb	17 06 54.8	-1.7
	baz=2.2,SNR=206						
KLBR				S	Sn	17 07 21.4	+1.7
	baz=2.2						
BLDU	**Ballidu**	**3.14**	**352**	P	Pn	17 07 06.9	+0.6
	baz=3.1,SNR=49						
BLDU				S	Sn	17 07 43.9	+0.5
	baz=3.1						
KMBL	**Kambalda**	**4.58**	**60**	P	Pn	17 07 27.6	+1.5
	baz=4.6,SNR=6.5						
MORW	**Morawa**	**4.76**	**347**	P	Pn	17 07 29.0	+0.4
	baz=4.8,SNR=12						
FORT	**Forrest**	**9.62**	**75**	P	Pn	17 08 36.2	+0.8
	baz=9.6,SNR=10						

*IDC **05** 17:10:54.8±1.0, 4°.15S×128°.77E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/43, mbtmp3.9/6, ML4.3/2, Error ellipse: s-maj=44.3km s-min=19.8km az=68.0*
*ISCJB **05** 17:10:57.7±0.5, 4°.14S±0°.05×128°.79E±0°.04, h32km, mb3.8/4, Error ellipse: s-maj=7.0km s-min=4.9km az=32.0*
*DJA **05** 17:10:57.6±0.4, 4°.5S±3°.×12°.9E±°., h10km, M3.9/6, MLv3.9/6*

ISC 05 17:10:59.2±0.8, 4°.11S±0°.06×128°.81E±0°.04, h32km, n15, σ1§29/22, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.74**	**305**	P	**Pn**	**17 11 11.9**	**-1.6**
AAI				S	**Sb**	**17 11 22.0**	**-1.6**
MSAI	**Masohi**	**0.77**	**9**	P	**Pn**	**17 11 12.7**	**-1.2**
MSAI				S	**Sb**	**17 11 23.4**	**-1.0**
BNDI	**Bandanaira**	**1.17**	**111**	P	**Pn**	**17 11 19.2**	**-0.2**
BNDI				S	**Sn**	**17 11 34.1**	**-0.2**
NLAI	**Namlea**	**1.91**	**297**	P	**Pn**	**17 11 30.1**	**+0.5**
NLAI				S	**Sb**	**17 11 59.9**	**+3.0**
SANI	**Sanana**	**3.48**	**306**	P	**Pn**	**17 11 51.8**	**+0.6**
SANI				S	**Sn**	**17 12 31.0**	**-0.3**
FAKI	**Fak Fak**	**3.63**	**71**	P	**Pn**	**17 11 55.1**	**+1.7**
LBMI	**Labuha**	**3.69**	**339**	P	**Pn**	**17 11 54.8**	**+0.7**
SIJI	**Sorong**	**4.05**	**37**	Pn	**Pn**	**17 11 59.9**	**+0.8**
	130nm,0.3s,baz=221,slow=11,SNR=99						
SIJI				Sn	**Sn**	**17 12 45.4**	**-0.1**
	28nm,0.3s,baz=107,slow=23,SNR=4.5						
SWI	**Sorong**	**4.05**	**37**	P	**Pn**	**17 11 59.3**	**+0.2**
WRA	**Warramunga Arr**	**16.64**	**162**	Pn	**Pn**	**17 14 48.0**	**-2.2**
	0.5nm,0.3s,baz=341,slow=13,SNR=14						
ASAR	**Alice Springs**	**20.06**	**166**	P	**P**	**17 15 31.4**	**+1.4**
	3.6nm,0.6s,baz=352,slow=11,SNR=14						
ASAR				PcP	**PcP**	**17 19 45.5**	**+0.4**
	0.5nm,0.4s,baz=2.3,slow=1.3,SNR=7.6						
STKA	**Stephens Creek**	**30.12**	**158**	P	**P**	**17 17 05.0**	**-1.2**
	1.9nm,0.7s,baz=320,slow=16,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.00**	**308**	P	**P**	**17 18 07.1**	**+0.9**
	0.4nm,0.8s,baz=134,slow=6.4,SNR=4.5						
MKAR	**Makanchi Array**	**65.17**	**327**	P	**P**	**17 21 37.9**	**+0.5**
	0.7nm,0.4s,baz=130,slow=6.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**68.48**	**334**	P	**P**	**17 21 57.8**	**-0.4**
	0.5nm,0.4s,baz=107,slow=6.2,SNR=4.2						

*IDC **05** 17:10:21.5±1.8, 28°.98S×177°.67W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.5/35, mbtmp3.9/2, Error ellipse: s-maj=83.4km s-min=45.4km az=8.0*

ISC 05 17:11:05.5±1.8, 30°.2S±0°.1×178°.9W±0°.2, h350km, n22, σ1§35/27, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**8.06**	**199**	*e*PN	**Pn**	**17 12 60.0**	**-0.2**
HAZ				*e*SN	**S**	**17 14 35.7**	**+2.0**
PKGZ	**Pakihiroa**	**8.10**	**197**	*e*PN	**Pn**	**17 13 00.4**	**-0.4**
PUZ	**Puketiti**	**8.23**	**196**	PN	**Pn**	**17 13 01.5**	**-0.8**
PUZ				*e*SN	**S**	**17 14 39.2**	**+1.6**
RUGZ	**Raukumara Rang**	**8.28**	**199**	*e*PN	**Pn**	**17 13 02.5**	**-0.4**
MWZ	**Matawai**	**8.67**	**199**	*e*SN	**S**	**17 14 48.4**	**+1.3**
URZ	**Urewera**	**8.72**	**201**	Sn	**S**	**17 14 48.6**	**+0.4**
	0.8nm,0.3s,baz=11,slow=11,SNR=3.0						
URZ	**Urewera**	**8.72**	**201**	PN	**P**	**17 13 08.9**	**-1.7**
URZ				*e*SN	**S**	**17 14 50.4**	**+2.2**
ARHZ	**Aropaoanui**	**9.68**	**199**	*e*PN	**P**	**17 13 20.5**	**-0.7**
BKZ	**Black Stump Fm**	**9.74**	**201**	*e*PN	**P**	**17 13 20.7**	**-1.4**
KWHZ	**Kaweka Forest**	**10.00**	**201**	*e*PN	**P**	**17 13 25.1**	**+0.2**
KAHZ	**Kahuranaki**	**10.21**	**199**	*e*PN	**P**	**17 13 28.4**	**+1.2**
PXZ	**Pawanui**	**10.43**	**198**	*e*PN	**Pn**	**17 13 27.1**	**-1.4**
PXZ				*e*SN	**S**	**17 15 25.9**	**+0.1**
TSZ	**Takapari Road**	**10.72**	**202**	*e

PB04 *e*Sn **Sn** **17 18 00.6 -0.9**
PB10 IPOC Station P 3.39 220 *e*Pn **Pn** **17 17 44.7 -0.8**
LPAZ La Paz 4.59 1 P **Pn** **17 18 03.7 +1.8**
comp=E,2.5nm,0.3s,baz=170,slow=8.7,SNR=45
LPAZ S **Sn** **17 18 56.5 +1.5**
baz=337,slow=19,SNR=1.5
LPAZ La Paz 4.59 1 *e*Pn **Pn** **17 18 04.0 +2.1**
LPAZ *e* 17 18 04.3
LPAZ S **Sn** **17 18 56.5 +1.5**
SIV San Ignacio 8.34 55 P **Pn** **17 18 49.7 -1.9**
comp=E,6.4nm,0.3s,baz=258,slow=12,SNR=49
SIV S **Sn** **17 20 19.1 -5.3**
baz=258,slow=15,SNR=3.4
CPUP Villa Florida 11.34 121 P **Pn** **17 19 30.1 -1.2**
comp=E,0.3nm,0.3s,baz=298,slow=13,SNR=5.3
CPUP Villa Florida 11.34 121 *e*Pn **Pn** **17 19 31.2 -0.1**
NNA Nana 12.13 316 LR LR 17 24 36.2
comp=E,9.1nm,21.4s,baz=321,slow=38
PLCA Paso Flores 19.87 185 P **Pn** **17 21 16.9 +0.2**
comp=E,0.2nm,0.3s,baz=0,slow=9.1,SNR=7.0
PLCA Paso Flores 19.87 185 *e*P **P** **17 21 13.3 -0.4**
comp=E,39nm,2.0s
PTGA Pitinga 21.60 23 P **P** **17 21 30.2 -2.1**
comp=E,1.7nm,0.3s,baz=241,slow=11,SNR=4.6
PTGA Pitinga 21.60 23 *e*P **P** **17 21 29.8 -2.5**
comp=E,8.1nm,1.3s
SNAA Sanae 62.63 161 P **P** **17 27 03.0 +0.6**
comp=E,0.4nm,0.6s,baz=286,slow=7.8,SNR=5.0
DBIC Dimbokro 67.93 73 P **P** **17 27 36.8 -0.6**
comp=E,5.4nm,0.9s,baz=248,slow=6.2,SNR=3.9
TOA1 Torodi Ar. Sit 76.53 70 *e*P **P** **17 28 28.3 -0.2**
TORD Torodi Ar. Bea 76.53 70 P **P** **17 28 28.3 -0.2**
comp=E,4.1nm,0.6s,baz=249,slow=5.5,SNR=31
YKA Yellowknife Ar 90.85 340 P **P** **17 29 41.3 +1.0**
comp=E,0.3nm,0.4s,baz=138,slow=4.8,SNR=4.4
YKB5 Yellowknife Ar 90.85 340 *e*P **P** **17 29 41.3 +1.0**
KEST Kesra 92.42 53 P **P** **17 29 48.0 -0.4**
comp=E,2.8nm,0.7s,baz=214,slow=4.0,SNR=3.5
KURK Kurchatov 140.47 33 *e*PKPdf **PKPdf** **17 36 06.8 +1.2**
KURBB Kurchatov Arra 140.48 33 PKP **PKPdf** **17 36 06.8 +1.2**
comp=E,0.6nm,0.2s,baz=298,slow=4.0,SNR=2.2
MK32 Makanchi Array 144.76 36 *e*PKPbc **PKPab** **17 36 13.7 +1.0**
MKAR Makanchi Array 144.76 36 PKP **PKPab** **17 36 13.7 +1.0**
comp=E,1.0nm,0.7s,baz=336,slow=2.4,SNR=6.2

*IDC **05** 17:20:52.9±1.4,21°.11N×122°.54E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/49,mbtmp3.4/5,Error ellipse: s-maj=56.0km s-min=20.6km az=59.0*
*TAP **05** 17:21:12.6,21°.12N×121°.92E,h172km,ML4.6,D*
*ISCJB **05** 17:21:13.3±0.7,21°.19N±0°.04×121°.90E±0°.07, h167km±5km,mb3.2/5,Error ellipse: s-maj=10.7km s-min=6.8km az=178.7*
ISC 05 17:21:11.8±1.2,21°.09N±0°.07×122°.03E±0°.09,h166km±8km, n55,σ1§20/98,mb3.2/5,13D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.04**	**335**	P	**Pn**	**17 21 39.1**	**+0.6**
	baz=340						
LAY				*e*S	**Sn**	**17 21 58.8**	**-0.4**
	baz=340						
TSEB	**Hengchuen, Pin**	**1.33**	**308**	⇓P	**Pn**	**17 21 42.0**	**+1.1**
	baz=304						
TSEB				*e*S	**Sn**	**17 22 04.0**	**+0.6**
	baz=304						
TWK1	**Hengchun**	**1.42**	**307**	⇓P	**Pn**	**17 21 42.5**	**+0.6**
	baz=305						
TWK1				*e*S	**Sn**	**17 22 04.5**	**-0.6**
	baz=305						
HEN	**Hengchun**	**1.51**	**307**	⇓P	**Pn**	**17 21 43.4**	**+0.7**
	baz=302						
HEN				*e*S	**Sn**	**17 22 05.6**	**-1.0**
	baz=302						
TAW	**Tawu**	**1.65**	**320**	⇓*e*P	**Pn**	**17 21 44.0**	**-0.1**
	baz=323						
TAW				*e*S	**Sn**	**17 22 07.2**	**-1.8**
	baz=323						
EAST	**Anshuo**	**1.69**	**320**	⇓*e*P	**Pn**	**17 21 44.6**	**0.0**
	baz=322						
EAST				*e*S	**Sn**	**17 22 08.4**	**-1.7**
	baz=322						
ECL	**Taimali**	**1.80**	**326**	⇓*e*P	**Pn**	**17 21 45.2**	**-0.5**
	baz=325						
ECL				S	**Sn**	**17 22 09.3**	**-2.8**
	baz=325						
TTN	**Taitung**	**1.85**	**334**	*e*P	**Pn**	**17 21 46.5**	**+0.3**
	baz=330						
TTN				*e*S	**Sn**	**17 22 14.1**	**+1.1**
	baz=330						
TWG	**Pinlang**	**1.94**	**333**	*e*P	**Pn**	**17 21 47.1**	**-0.2**
	baz=330						
TWG				*e*S	**Sn**	**17 22 12.3**	**-2.4**
	baz=330						
TWP	**Hsiaoliuchiu**	**1.99**	**309**	⇓*e*P	**Pn**	**17 21 49.5**	**+1.6**
	baz=310						
TWP				*e*S	**Sn**	**17 22 18.0**	**+2.2**
	baz=310						
CHKT	**Chengkung**	**2.09**	**343**	*e*P	**Pn**	**17 21 49.2**	**+0.2**
	baz=348						
CHKT				S	**Sn**	**17 22 17.1**	**-0.7**
	baz=348						
SSD	**Sandimen**	**2.10**	**322**	⇓*e*P	**Pn**	**17 21 49.3**	**+0.3**
	baz=324						
SSD				*e*S	**Sn**	**17 22 16.5**	**-1.5**
	baz=324						
SGLT	**Jiouru**	**2.17**	**319**	*e*P	**Pn**	**17 21 50.0**	**+0.2**
	baz=324						
SGLT				*e*S	**Sn**	**17 22 20.5**	**+1.2**
	baz=324						
KAU	**Kaohsiung**	**2.17**	**313**	*e*P	**Pn**	**17 21 51.4**	**+1.5**
	baz=308						
KAU				S	**Sn**	**17 22 20.4**	**+0.9**
	baz=308						
TWM1	**Shoushan**	**2.28**	**319**	⇓*e*P	**Pn**	**17 21 52.3**	**+1.1**
	baz=314						
TWM1				*e*S	**Sn**	**17 22 23.7**	**+1.9**
	baz=314						
ELDTW	**Lidau**	**2.29**	**336**	*e*P	**Pn**	**17 21 52.5**	**+1.1**
	baz=338						
ELDTW				*e*S	**Sn**	**17 22 22.4**	**+0.2**
	baz=338						
TWF1	**Yuli**	**2.35**	**343**	*e*P	**Pn**	**17 21 52.6**	**+0.6**
	baz=336						
TWF1				*e*S	**Sn**	**17 22 21.4**	**-1.9**
	baz=336						
STYT	**Tauyuan**	**2.38**	**330**	*e*P	**Pn**	**17 21 52.5**	**+0.1**
	baz=332						
STYT				*e*S	**Sn**	**17 22 22.6**	**-1.2**
	baz=332						
SGST	**Jiashian**	**2.39**	**326**	*e*P	**Pn**	**17 21 53.0**	**+0.5**
	baz=328						
SGST				*e*S	**Sn**	**17 22 22.7**	**-1.5**
	baz=328						
EHY	**Hungye**	**2.49**	**345**	*e*P	**Pn**	**17 21 54.2**	**+0.6**
	baz=339						
EHY				*e*S	**Sn**	**17 22 24.7**	**-1.5**
	baz=339						
CHN1	**Nanshi**	**2.51**	**326**	⇓*e*P	**Pn**	**17 21 54.1**	**+0.2**
	baz=328						
CHN1				S	**Sn**	**17 22 24.9**	**-1.7**
	baz=328						
CHN3	**Shinhua**	**2.51**	**322**	*e*P	**Pn**	**17 21 55.3**	**+1.4**
	baz=331						
CHN3				*e*S	**Sn**	**17 22 27.2**	**+0.7**
	baz=331						
WTP	**Ta-pu**	**2.52**	**329**	⇓*e*P	**Pn**	**17 21 54.1**	**+0.1**
	baz=330						
WTP				S	**Sn**	**17 22 25.5**	**-1.2**
	baz=330						
TAI1	**Yung-k'ang**	**2.56**	**320**	*e*P	**Pn**	**17 21 55.7**	**+1.3**
	baz=313						
TAI1				S	**Sn**	**17 22 26.7**	**-0.8**
	baz=313						
YUS	**Yu-Shan**	**2.59**	**337**	*e*P	**Pn**	**17 21 56.2**	**+0.9**
	baz=335						
YUS				*e*S	**Sn**	**17 22 29.0**	**-0.1**
	baz=335						
TWK	**Hsinying**	**2.59**	**327**	⇓*e*P	**Pn**	**17 21 54.8**	**-0.1**
	baz=328						
TWK				*e*S	**Sn**	**17 22 26.9**	**-1.6**
	baz=328						
CHN4	**Tsaushan**	**2.62**	**330**	⇓*e*P	**Pn**	**17 21 55.0**	**-0.1**
	baz=331						
CHN4				*e*S	**Sn**	**17 22 27.1**	**-1.7**
	baz=331						
ALS	**Alishan**	**2.66**	**335**	*e*P	**Pn**	**17 21 56.4**	**+0.4**
	baz=330						
ALS				*e*S	**Sn**	**17 22 29.9**	**-0.4**
	baz=330						
SCLT	**Jiali**	**2.68**	**321**	*e*P	**Pn**	**17 21 54.1**	**-1.8**
	baz=328						
SCLT				S	**Sn**	**17 22 29.6**	**-0.7**
	baz=328						
ESL	**Shilin**	**2.77**	**349**	*e*P	**Pn**	**17 21 57.5**	**+0.6**
	baz=344						
ESL				*e*S	**Sn**	**17 22 30.7**	**-1.4**
	baz=344						
CHN5	**Tsauling**	**2.79**	**334**	*e*P	**Pn**	**17 21 57.2**	**-0.1**
	baz=335						
CHN5				*e*S	**Sn**	**17 22 31.3**	**-1.5**
	baz=335						
CHN8	**Yiju**	**2.81**	**323**	*e*P	**Pn**	**17 21 57.7**	**+0.2**
	baz=330						
CHN8				S	**Sn**	**17 22 31.5**	**-1.4**
	baz=330						
CHY	**Chiayi**	**2.82**	**328**	*e*P	**Pn**	**17 21 57.7**	**+0.1**
	baz=330						
CHY				*e*S	**Sn**	**17 22 31.2**	**-2.0**
	baz=330						
CHN2	**Minshiung**	**2.83**	**330**	*e*S	**Sn**	**17 22 32.6**	**-0.7**
	baz=331						
WGK	**Gukeng**	**2.92**	**332**	*e*P	**Pn**	**17 21 58.1**	**-0.7**
	baz=334						
WGK				*e*S	**Sn**	**17 22 34.4**	**-1.0**
	baz=334						
SMLT	**Sun Moon Lake**	**2.97**	**340**	*e*P	**Pn**	**17 21 59.9**	**+0.3**
	baz=334						
SMLT				*e*S	**Sn**	**17 22 35.9**	**-0.8**
	baz=334						
TYC	**Yuchr**	**3.00**	**339**	*e*P	**Pn**	**17 22 00.4**	**+0.6**
	baz=334						
TYC				*e*S	**Sn**	**17 22 36.3**	**-1.0**
	baz=334						
WSF	**Szhu**	**3.04**	**327**	*e*P	**Pn**	**17 22 00.4**	**+0.1**
	baz=328						
WSF				S	**Sn**	**17 22 36.0**	**-2.0**
	baz=328						
WNT	**Mingjian**	**3.04**	**336**	*e*P	**Pn**	**17 22 00.4**	**0.0**
	baz=338						
WNT				*e*S	**Sn**	**17 22 37.0**	**-1.1**
	baz=338						
WDGT	**Dungji**	**3.08**	**315**	*e*P	**Pn**	**17 22 00.5**	**-0.4**
	baz=316						
WDGT				S	**Sn**	**17 22 36.4**	**-2.6**
	baz=316						
WHF	**Hehuan Shan**	**3.12**	**347**	*e*S	**Sn**	**17 22 40.2**	**-0.4**
	baz=355						
WTCT	**Ta-ch'eng**	**3.20**	**330**	*e*S	**Sn**	**17 22 40.7**	**-0.9**
	baz=326						
TWT	**Tachien**	**3.25**	**346**	*e*P	**Pn**	**17 22 05.3**	**+2.3**
	baz=347						
TWT				*e*S	**Sn**	**17 22 43.3**	**+0.3**
	baz=347						
TCU	**Taichung**	**3.29**	**338**	*e*P	**Pn**	**17 22 04.4**	**+1.0**
	baz=339						
TCU				*e*S	**Sn**	**17 22 42.7**	**-1.0**
	baz=339						
PNG	**Penghu**	**3.37**	**318**	*e*P	**Pn**	**17 22 04.0**	**-0.4**
	baz=324						
PNG				*e*S	**Sn**	**17 22 42.6**	**-2.7**
	baz=324						
NNS	**Nan Shan**	**3.39**	**350**	*e*S	**Sn**	**17 22 46.9**	**+0.8**
	baz=351						
TWQ1	**Liyutan**	**3.44**	**341**	*e*S	**Sn**	**17 22 46.8**	**-0.4**
	baz=342						
NSY	**Sanyi**	**3.51**	**341**	*e*S	**Sn**	**17 22 50.1**	**+1.3**
	baz=342						
NSK	**Sanguang**	**3.62**	**350**	*e*P	**Pn**	**17 22 07.9**	**+0.2**
	baz=352						
NSK				*e*S	**Sn**	**17 22 52.3**	**+0.9**
	baz=352						
NSTT	**Nanjuang**	**3.65**	**345**	*e*S	**Sn**	**17 22 50.1**	**-1.8**
	baz=346						
CMAR	**Chiang Mai Arr**	**21.88**	**267**	P	**P**	**17 25 52.9**	**+1.1**
	0.6nm,0.7s,baz=77,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**41.12**	**318**	P	**P**	**17 28 40.8**	**+1.3**
	0.9nm,0.6s,baz=112,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**42.52**	**163**	P	**P**	**17 28 49.0**	**-2.1**
	0.2nm,0.4s,baz=344,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.27**	**329**	P	**P**	**17 28 57.9**	**+1.2**
	0.4nm,0.4s,baz=111,slow=6.3,SNR=2.4						
ASAR	**Alice Springs**	**45.97**	**165**	P	**P**	**17 29 17.3**	**-1.1**
	0.1nm,0.4s,baz=344,slow=6.6,SNR=12						

*ISN **05** 17:26:38.1±0.5,31°.15N×49°.78E,h16km±20km,ML3.4*
*CSEM **05** 17:26:40.4±0.6,31°.75N×49°.83E,h10km,ML3.3,Error ellipse: s-maj=15.9km s-min=7.7km az=4.0*
*IDC **05** 17:26:42.4±3.8,31°.79N×49°.91E,h39km±41km,mb3.5/7, mb1 3.6/11,mb1mx3.4/43,mbtmp3.7/11,ML3.5/4,Error ellipse: s-maj=30.2km s-min=19.2km az=161.0*
*TEH **05** 17:26:42.0,31°.86N×49°.92E,h10km,ML3.4*
ISC 05 17:26:40.1±2.7,31°.71N±0°.07×49°.86E±0°.04,h17km±16km, n32,σ1§66/39,mb3.7/7,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.98**	**294**	*e*Pg	**Pb**	**17 26 57.8**	**-0.9**
SHGR				*e*Sg	**Sb**	**17 27 11.7**	**+0.2**
IPIR	**Pirpir**	**1.30**	**42**	*e*AMB	AMB	17 27 27.9	
	comp=Z,18μm,0.3s						
IPIR				*e*Pg	**Pn**	**17 27 03.0**	**-0.9**
IGAR	**Gharneh**	**1.97**	**69**	*e*Pn	**Pn**	**17 27 15.0**	**+2.0**
IGAR				*e*AMB	AMB	17 27 46.7	
	comp=Z,4μm,0.3s						
IRAM	**Ramesheh**	**2.15**	**87**	*e*Pn	**Pn**	**17 27 16.9**	**+1.5**
IRAM				*e*Sg	**Sb**	**17 27 46.5**	**+1.3**
IRAM				*e*AMB	AMB	17 27 55.2	
	comp=Z,1μm,0.2s						
IRAM	**Ramesheh**	**2.15**	**87**	*e*Pn	**Pn**	**17 27 16.9**	**+1.5**
IRAM				*e*Sg	**Sb**	**17 27 46.5**	**+1.3**
IKLH	**Kolahrood**	**2.16**	**42**	*e*Pn	**Pn**	**17 27 17.6**	**+2.0**
IKLH				*e*AMB	AMB	17 27 51.5	
	comp=Z,7μm,0.2s						
IKLH	**Kolahrood**	**2.16**	**42**	*e*Pn	**Pn**	**17 27 17.6**	**+2.0**
IZEF	**Zefreh**	**2.40**	**60**	*e*Pn	**Pn**	**17 27 20.6**	**+1.7**
IZEF				*e*AMB	AMB	17 27 47.0	
	comp=Z,1μm,0.2s						
IZEF				*e*Sg	**Sb**	**17 27 53.3**	**+0.9**
IZEF	**Zefreh**	**2.40**	**60**	*e*Pn	**Pn**	**17 27 20.6**	**+1.7**
IZEF				*e*Sg	**Sb**	**17 27 53.3**	**+0.9**
QAM	**Ghamsar**	**2.44**	**33**	*e*Pn	**Pn**	**17 27 22.1**	**+2.7**
QAM				*e*AMB	AMB	17 28 04.7	
	comp=Z,4μm,0.2s						
NASN	**Na'in**	**2.72**	**66**	*e*Pn	**Pn**	**17 27 25.2**	**+1.8**
ASAO	**Ashtian**	**2.83**	**3**	*e*Pn	**Pn**	**17 27 27.3**	**+2.5**
ASAO				*e*Sg	**Sg**	**17 28 11.4**	**+0.3**
GHVR	**GHOM**	**3.01**	**23**	*e*Pn	**Pn**	**17 27 29.7**	**+2.6**
GHVR				*e*Sg	**Sg**	**17 28 16.4**	**-0.4**
ICHK	**Chekchek**	**3.90**	**81**	*e*Pn	**Pn**	**17 27 41.1**	**+1.6**
ICHK				*e*AMB	AMB	17 28 29.5	
	comp=Z,512nm,0.3s						
ICHK	**Chekchek**	**3.90**	**81**	*e*Pn	**Pn**	**17 27 41.1**	**+1.6**
ILIN	**Lien**	**4.01**	**324**	*e*Pn	**Pn**	**17 27 41.0**	**-0.1**
ILIN				*e*AMB	AMB	17 28 36.7	
	comp=Z,1μm,0.3s						
ILIN	**Lien**	**4.01**	**324**	*e*Pn	**Pn**	**17 27 41.0**	**-0.1**
IMEH	**Mehriz**	**4.07**	**93**	*e*Pn	**Pn**	**17 27 43.4**	**+1.6**
IMEH				*e*AMB	AMB	17 28 38.8	
	comp=Z,303nm,0.1s						
IMEH	**Mehriz**	**4.07**	**93**	*e*Pn	**Pn**	**17 27 43.4**	**+1.6**
IBAF	**Bafgh**	**4.87**	**90**	*e*AMB	AMB	17 28 58.0	
	comp=Z,98nm,0.2s						
BHD	**Baghdad**	**4.88**	**290**	*e*Pn	**Pn**	**17 27 55.0**	**+2.2**
	SNR=5.0						
BHD				*i* Sn	**Sn**	**17 28 51.5**	**+2.5**
	SNR=5.0						
GEYT	**Alibeck**	**9.19**	**45**	Pn	**Pn**	**17 28 53.2**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=236,slow=12,SNR=9.7						
WSAR	**Wadi Sarin**	**11.48**	**135**	Pn	**Pn**	**17 29 21.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=326,slow=6.9,SNR=16						
BRTR	**Keskin Array B**	**15.40**	**306**	Pn	**Pn**	**17 30 18.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**19.66**	**16**	P	**P**	**17 31 08.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=3.0						
IDI	**Anoyia**	**21.11**	**286**	P	**P**	**17 31 24.1**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=99,slow=13,SNR=2.9						
AKASG	**Makin Array Be**	**24.37**	**327**	P	**P**	**17 31 54.8**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=135,slow=9.2,SNR=6.4						
BVAR	**Borovoye Array**	**25.97**	**29**	P	**P**	**17 32 10.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=248,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**29.03**	**49**	P	**P**	**17 32 37.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=236,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**33.40**	**38**	P	**P**	**17 33 15.9**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=246,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**33.54**	**339**	P	**P**	**17 33 17.0**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=145,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**47.78**	**259**	P	**P**	**17 35 17.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=56,slow=8.3,SNR=6.3						

*NNC **05** 17:39:22.3±9.7,39°.05N×71°.12E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=68.2km s-min=51.2km az=3.0*
*KRNET **05** 17:39:27.9±0.1,39°.13N×70°.27E,mb2.9*
ISC 05 17:39:23.2±3.6,39°.0N±0°.2×71°.1E±0°.1,h10km,n11, σ2§99/16,15C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.07**	**349**	⇑*i*P	Pn	17 39 48.1	+3.7
	baz=25						
BTK				⇑*i*S	**Sn**	**17 40 02.8**	**+3.4**
	baz=25						
ARSB	**Arslanbob**	**2.73**	**31**	⇓*i*P	Pg	17 40 19.2	+3.6
	baz=42						
ARSB				⇓*i*S	**Sg**	**17 40 56.7**	**+5.7**
	baz=42						
ARK	**Arkit**	**2.87**	**13**	⇑*e*P	**Pg**	**17 40 18.4**	**+0.2**
	baz=26						
ARK				⇑*i*S	**Sg**	**17 40 55.1**	**-0.3**
	baz=26						
TOKL	**Toktogul**	**3.23**	**24**	⇑*e*P	**Pg**	**17 40 24.6**	**-0.5**
	baz=34						
TOKL				⇑*i*S	**Sg**	**17 41 06.8**	**-0.2**
	baz=34						
MNAS	**Manas**	**3.64**	**17**	⇑*e*P	**Pg**	**17 40 29.3**	**-3.6**
	baz=26						
MNAS				⇑*e*S	**Sg**	**17 41 14.3**	**-5.8**
	baz=26						
MNAS	**Manas**	**3.64**	**17**	⇓Pg	**Pg**	**17 40 31.2**	**-1.8**
	2.5nm,0.3s						
MNAS				⇑Lg	Lg	17 41 20.0	
	7.9nm,0.6s						
AML	**Almayashu**	**3.70**	**32**	⇑*i*P	**Pg**	**17 40 32.0**	**-2.1**
	baz=40						
AML				⇑*i*S	**Sg**	**17 41 18.7**	**-3.3**
	baz=40						
KK31	**Karatay Array**	**4.12**	**354**	⇑Pg	**Pb**	**17 40 35.8**	**0.0**
	0.7nm,0.3s,baz=179,slow=15,SNR=33						
KK31				⇓Lg	Lg	17 41 29.4	
	7.6nm,0.6s,baz=178,slow=29,SNR=6.2						
EKS2	**Erkin-Say**	**4.18**	**28**	⇑*e*P	**Pb**	**17 40 38.1**	**+1.2**
	baz=36						
EKS2				⇑*i*S	**Sb**	**17 41 29.4**	**+1.8**
	baz=36						
AAK	**Ala-Archa**	**4.46**	**34**	Pg	**Pb**	**17 40 42.5**	**+0.9**
	3.7nm,0.7s						
AAK				Lg	Lg	17 41 38.6	
	12nm,1.4s						
TKM2	**Tokmak 2**	**5.19**	**40**	⇓Pg	**Pb**	**17 40 53.4**	**-0.7**
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	17 42 01.5	
	2.9nm,0.7s						

*DJA **05** 17:45:08.4±0.3,1°.S±2°×11°.9E±°,h10km,M4.6/11,mb4.7/6, mB5.1/4,MLv4.6/11,Mw(mB)4.5/4*
*ISCJB **05** 17:45:09.1±0.3,1°.20S±0°.04×119°.32E±0°.04,h33km, mb4.2/17,Error ellipse: s-maj=5.3km s-min=5.0km az=40.6*
*NEIC **05** 17:45:11.7±1.6,1°.16S×119°.71E,h39km±15km,mb4.6/3, Error ellipse: s-maj=16.4km s-min=7.0km az=60.0*
*IDC **05** 17:45:16.2±3.3,1°.22S×119°.60E,h80km±30km,mb3.8/15, mb1 3.9/16,mb1mx3.7/47,mbtmp4.1/16,Error ellipse: s-maj=20.7km s-min=11.1km az=70.0*
ISC 05 17:45:11.4±0.5,1°.18S±0°.04×119°.37E±0°.05,h35km,n41, σ1§46/47,mb4.1/17,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.54**	**60**	P	**Pn**	**17 45 19.3**	**-3.4**
PCI				S	**Sn**	**17 45 27.3**	**-3.3**
MPSI	**Mapaga**	**1.60**	**20**	P	**Pn**	**17 45 35.4**	**-1.8**
MPSI				S	**Sn**	**17 45 58.4**	**+1.8**
TTSI	**Tana Toraja**	**1.91**	**166**	P	**Pn**	**17 45 41.1**	**-0.4**
APSI	**Ampana**	**2.30**	**83**	P	**Pn**	**17 45 47.1**	**+0.2**
APSI				S	**Sn**	**17 46 17.6**	**+3.6**
SPSI	**Sidrap Palu**	**2.80**	**172**	P	**Pn**	**17 45 53.9**	**+0.2**
MRSI	**Marisa**	**3.06**	**57**	P	**Pn**	**17 45 57.4**	**+0.1**
KAPI	**Kappang**	**3.83**	**174**	*e*Pn	**Pn**	**17 46 06.7**	**-1.3**
KDI	**Kendari**	**4.26**	**130**	P	**Pn**	**17 46 13.2**	**-0.7**
MTKI	**Muara Teweh, K**	**4.47**	**273**	P	**Pn**	**17 46 15.7**	**-1.1**
KMSI	**Cibinong**	**4.93**	**69**	P	**Pn**	**17 46 24.3**	**+1.2**
BSSI	**Bau Bau, Buton**	**5.06**	**167**	P	**Pn**	**17 46 25.2**	**+0.4**
BBSI	**Bau Bau**	**5.34**	**143**	P	**Pn**	**17 46 29.1**	**+0.3**
SANI	**Sanana**	**6.68**	**98**	P	**Pn**	**17 46 47.3**	**+0.2**
PBKI	**Pangkalan Bun**	**7.84**	**259**	P	**Pn**	**17 47 02.2**	**-0.9**
STKI	**Sintang**	**7.98**	**279**	P	**Pn**	**17 47 03.6**	**-1.4**
SIJI	**Sorong**	**11.90**	**89**	P	**Pn**	**17 48 00.2**	**+1.4**
	14nm,0.3s,baz=244,slow=16,SNR=7.8						
SIJI				S	**Sn**	**17 50 13.5**	**+3.0**
	2.7nm,0.3s,baz=270,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**17.91**	**160**	P	**P**	**17 49 17.8**	**-0.5**
	0.2nm,0.3s,baz=352,slow=9.3,SNR=8.0						
MBWA	**Marble Bar**	**19.86**	**179**	*e*P	**Pn**	**17 49 40.4**	**-1.1**
PSI	**Prapat**	**20.81**	**281**	P	Pn	17 49 54.5	+1.6
	6.3nm,0.6s,baz=117,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**23.71**	**143**	P	**P**	**17 50 18.7**	**-1.7**
	12nm,0.7s,baz=320,slow=11,SNR=71						
WRAB	**Tennant Creek**	**23.71**	**143**	*e*P	**P**	**17 50 18.6**	**-1.9**
	17nm,0.6s						
ASAR	**Alice Springs**	**26.43**	**149**	P	**P**	**17 50 44.0**	**-1.2**
	1.5nm,0.4s,baz=345,slow=14,SNR=41						
ASAR				PcP	**PcP**	**17 54 09.4**	**-0.7**
	0.5nm,0.5s,baz=333,slow=2.4,SNR=11						
CMAR	**Chiang Mai Arr**	**28.00**	**315**	P	**P**	**17 51 02.8**	**+3.5**
	0.6nm,0.7s,baz=138,slow=7.4,SNR=5.9						
CMAR				PcP	**PcP**	**17 54 14.4**	**+0.4**
	0.5nm,0.7s,baz=255,slow=1.4,SNR=4.4						
NWAO	**Narrogin (SRO)**	**31.64**	**183**	P	**P**	**17 51 31.1**	**-0.3**
	6.5nm,0.6s,baz=16,slow=6.8,SNR=9.0						
NWAO	**Narrogin (SRO)**	**31.64**	**183**	*e*P	**P**	**17 51 31.3**	**-0.1**
STKA	**Stephens Creek**	**37.05**	**148**	P	**P**	**17 52 17.1**	**-1.2**
	5.2nm,0.7s,baz=315,slow=10,SNR

*LDG **05** 18:22:27.9±0.2,51°.34N×16°.08E,h1km,MI4.0/12,Error ellipse: s-maj=6.4km s-min=2.6km az=11.0,Suspected Mining induced.*
*IDC **05** 18:22:27.0±0.6,51°.52N×16°.01E,h0km,mb3.4/1, mb1 3.6/9,mb1mx3.4/47,mbtmp3.5/9,ML3.5/8,Error ellipse: s-maj=10.3km s-min=6.1km az=108.0*
*STR **05** 18:22:28.2±0.4,51°.32N×16°.12E,h5km,MI4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BNS **05** 18:22:28.9±0.3,51°.29N×15°.98E,h1km,ML3.3*
*VIE **05** 18:22:28.5±0.6,51°.38N×16°.07E,h0km,mb3.3/17, ML3.3/16,Ms3.7/3,Error ellipse: s-maj=4.8km s-min=3.7km az=33.0,Suspected Mining induced.*
*UPP **05** 18:22:29.5±2.9,51°.75N×15°.65E,h0km,ML2.6*
ISC 05 18:22:24.9±0.6,51°.53N±0°.02×16°.13E±0°.02,h0km,n211, σ2§13/323,**6C-7D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**171**	*i* Pg	**Pb**	**18 22 40.2**	**+0.4**
KSP				*e*Sg	**Sb**	**18 22 49.2**	**-0.7**
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg	**Pb**	**18 22 40.3**	**+0.4**
KSP	**Ksiaz**	**0.69**	**171**	*i* Pg	**Pb**	**18 22 40.2**	**+0.4**
KSP				*e*Sg	**Sb**	**18 22 49.2**	**-0.7**
KSP	**Ksiaz**	**0.69**	**171**	*i* Pg	**Pb**	**18 22 40.2**	**+0.4**
KSP				*e*Sg	**Sb**	**18 22 49.2**	**-0.7**
UPC	**Upice**	**1.02**	**184**	⇓*i*PG	**Pn**	**18 22 46.4**	**-0.1**
UPC				*e*SG	**Sb**	**18 23 00.2**	**+0.7**
	comp=Z,752nm,0.4s						
UPC	**Upice**	**1.02**	**184**	Pg	**Pn**	**18 22 46.4**	**-0.1**
UPC				Sg	**Sb**	**18 23 00.2**	**+0.7**
	752nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*i* PG	**Pn**	**18 22 49.1**	**+0.3**
DPC				*e*SG	**Sb**	**18 23 05.2**	**+1.0**
	comp=Z,270nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*Pg	**Pn**	**18 22 49.0**	**+0.3**
DPC				*e*Sg	**Sn**	**18 23 05.5**	**-0.1**
DPC	**Dobruska-Polom**	**1.19**	**174**	Pg	**Pn**	**18 22 49.1**	**+0.3**
DPC				Sg	**Sb**	**18 23 05.2**	**+1.0**
	270nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**225**	⇓*e*PG	**Pb**	**18 22 53.0**	**+1.1**
PVCC				*e*SG	**Sn**	**18 23 13.0**	**+2.1**
	comp=Z,696nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**225**	Pg	**Pb**	**18 22 53.0**	**+1.1**
PVCC				Sg	**Sn**	**18 23 13.0**	**+2.1**
	696nm,0.4s						
KRLC	**Kraliky**	**1.51**	**164**	*e*PG	**Pg**	**18 22 54.3**	**+0.5**
KRLC				*e*SG	**Sn**	**18 23 14.5**	**+0.8**
KRLC	**Kraliky**	**1.51**	**164**	Pg	**Pg**	**18 22 54.3**	**+0.5**
KRLC				Sg	**Sn**	**18 23 14.5**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**18 22 54.0**	**+0.7**
BRG				PG	**Pg**	**18 22 55.7**	**+1.7**
BRG				SG	**Sg**	**18 23 16.3**	**+2.6**
	694nm,0.6s						
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn	**Pn**	**18 22 54.0**	**+0.7**
BRG				*e*Sg	**Sg**	**18 23 16.2**	**+2.5**
BRG	**Berggiesshubel**	**1.52**	**245**	Pn	**Pn**	**18 22 54.0**	**+0.7**
BRG				Sg	**Sg**	**18 23 16.2**	**+2.5**
PRA	**Prague**	**1.81**	**217**	⇓*e*PN	**Pb**	**18 22 58.7**	**-0.2**
PRA				*e*SG	**Sg**	**18 23 24.6**	**+1.5**
	comp=Z,242nm,0.6s						
PRA	**Prague**	**1.81**	**217**	Pn	**Pb**	**18 22 58.7**	**-0.2**
PRA				Sg	**Sg**	**18 23 24.6**	**+1.5**
	242nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PN	**Pn**	**18 22 58.7**	**+1.2**
GOPC				*e*PG	**Pg**	**18 23 00.7**	**+0.9**
GOPC				*e*SG	**Sg**	**18 23 24.3**	**+0.8**
	comp=Z,197nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pn	**Pn**	**18 22 58.7**	**+1.2**
PRU	**Pruhonice**	**1.84**	**214**	⇓*e*PN	**Pn**	**18 22 58.7**	**+1.0**
PRU				*e*PG	**Pg**	**18 23 00.7**	**+0.6**
PRU				*ex*	x	18 23 17.5	
PRU				*e*SG	**Sg**	**18 23 25.1**	**+1.1**
	comp=Z,269nm,0.5s						
PRU	**Pruhonice**	**1.84**	**214**	Pn	**Pn**	**18 22 58.7**	**+1.0**
FBE	**Freiberg**	**1.85**	**252**	*e*Pn	**Pn**	**18 22 58.6**	**+0.9**
FBE				*e*Sg	**Sg**	**18 23 25.8**	**+1.7**
FBE	**Freiberg**	**1.85**	**252**	Pn	**Pn**	**18 22 58.6**	**+0.9**
FBE				Sg	**Sg**	**18 23 25.8**	**+1.7**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pg**	**18 23 03.5**	**+2.8**
GKP				*e*Sn	**Sg**	**18 23 29.1**	**+4.2**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pg**	**18 23 03.5**	**+2.8**
GKP				*e*Sn	**Sg**	**18 23 29.1**	**+4.2**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pg**	**18 23 03.5**	**+2.8**
GKP				*e*Sn	**Sg**	**18 23 29.1**	**+4.2**
RAC	**Raciborz**	**1.95**	**137**	*e*Sg	**Sg**	**18 23 28.8**	**+1.2**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**18 23 00.3**	**+0.8**
CLL				*e*Sg	**Sg**	**18 23 30.0**	**+1.9**
CLL	**Collm**	**1.97**	**265**	Pn	**Pn**	**18 23 00.3**	**+0.8**
CLL				Sg	**Sg**	**18 23 30.0**	**+1.9**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**18 23 00.0**	**+0.6**
CLL				*e*Pg	**Pg**	**18 23 03.0**	**+0.4**
CLL				*i* Sg	**Sg**	**18 23 29.8**	**+1.7**
	comp=Z,271nm,0.7s						
MORC	**Moravsky Berou**	**1.97**	**152**	⇑*i*P	**Pn**	**18 23 00.4**	**+0.9**
MORC				S	**Sg**	**18 23 29.4**	**+1.2**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**18 23 00.5**	**+0.9**
MORC				*e*Sg	**Sg**	**18 23 29.0**	**+0.8**
MORC	**Moravsky Berou**	**1.97**	**152**	Pn	**Pn**	**18 23 00.5**	**+0.9**
MORC				Sg	**Sg**	**18 23 29.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.13**	**142**	⇓*e*PN	**Pn**	**18 23 01.9**	**+0.3**
OKC				*e*PG	**Pg**	**18 23 06.2**	**+0.6**
OKC				*e*SG	**Sg**	**18 23 33.5**	**+0.4**
	comp=Z,230nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*Pn	**Pn**	**18 23 01.8**	**+0.2**
OKC				*e*Sg	**Sg**	**18 23 34.0**	**+0.9**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pn	**Pn**	**18 23 01.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pg	**Pg**	**18 23 06.2**	**+0.6**
OKC				Sg	**Sg**	**18 23 34.0**	**+0.9**
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**18 23 04.8**	**+1.5**
	comp=Z,10.0nm,0.3s,baz=350,slow=16,SNR=42						
VRAC				Lg	Lg	18 23 38.2	
	comp=Z,49nm,0.3s,baz=241,slow=21,SNR=12						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**18 23 04.5**	**+1.3**
VRAC				*e*Sg	**Sg**	**18 23 37.5**	**+0.6**
	comp=Z,157nm,0.4s						
TREC	**Trest**	**2.27**	**191**	⇓*e*PN	**Pn**	**18 23 04.9**	**+1.2**
TREC				*e*PG	**Pg**	**18 23 09.0**	**+0.6**
TREC				*e*SG	**Sg**	**18 23 39.3**	**+1.4**
	comp=Z,142nm,0.4s						
TREC	**Trest**	**2.27**	**191**	Pn	**Pn**	**18 23 04.9**	**+1.2**
TREC	**Trest**	**2.27**	**191**	Pg	**Pg**	**18 23 09.0**	**+0.6**
TREC				Sg	**Sg**	**18 23 39.3**	**+1.4**
	comp=Z,142nm,0.4s						
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**18 23 07.8**	**+1.4**
KRUC				*e*Sg	**Sg**	**18 23 44.8**	**+0.5**
	comp=Z,161nm,0.7s						
WERD	**Werda**	**2.65**	**247**	*e*Pn	**Pn**	**18 23 10.2**	**+1.4**
WERD				*e*Sg	**Sg**	**18 23 52.1**	**+2.3**
WERD	**Werda**	**2.65**	**247**	Pn	**Pn**	**18 23 10.2**	**+1.4**
WERD				Sg	**Sg**	**18 23 52.1**	**+2.3**
NKC	**Novy Kostel**	**2.67**	**242**	⇓*e*PN	**Pn**	**18 23 10.6**	**+1.5**
NKC				*e*PG	**Pg**	**18 23 18.3**	**+2.4**
NKC				*e*SG	**Sg**	**18 23 53.7**	**+3.2**
	comp=Z,395nm,0.5s						
NKC	**Novy Kostel**	**2.67**	**242**	Pn	**Pn**	**18 23 10.6**	**+1.5**
NKC	**Novy Kostel**	**2.67**	**242**	Pg	**Pg**	**18 23 18.3**	**+2.4**
NKC				Sg	**Sg**	**18 23 53.7**	**+3.2**
	comp=Z,395nm,0.5s						
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**18 23 08.1**	**-1.0**
OJC				*e*Pg	**Pg**	**18 23 16.1**	**+0.1**
OJC				*e*Sn	**Sn**	**18 23 40.0**	**-2.1**
OJC				*e*Sg	**Sg**	**18 23 51.6**	**+1.0**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**18 23 08.5**	**-0.6**
OJC				*e*Sg	**Sg**	**18 23 51.7**	**+1.2**
OJC	**Ojcow**	**2.67**	**118**	Pn	**Pn**	**18 23 08.5**	**-0.6**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**18 23 08.1**	**-1.0**
OJC				*e*Pg	**Pg**	**18 23 16.1**	**+0.1**
OJC				*e*Sn	**Sn**	**18 23 40.0**	**-2.1**
OJC				*e*Sg	**Sg**	**18 23 51.6**	**+1.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**18 23 13.5**	**+1.2**
KHC				*e*PG	**Pg**	**18 23 20.2**	**-0.3**
KHC				*e*SN	**Sn**	**18 23 49.6**	**+1.7**
KHC				*e*SG	**Sg**	**18 23 58.5**	**+0.4**
	comp=Z,128nm,0.5s						
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**18 23 13.5**	**+1.2**
KHC	**Kasperske Hory**	**2.90**	**215**	Pg	**Pg**	**18 23 20.2**	**-0.3**
KHC				Sn	**Sn**	**18 23 49.6**	**+1.7**
KHC				Sg	**Sg**	**18 23 58.5**	**+0.4**
	comp=Z,128nm,0.5s						
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**18 23 14.3**	**+1.0**
MOX				*e*Sg	**Sg**	**18 24 02.7**	**+2.2**
MOX	**Moxa**	**2.98**	**254**	Pn	**Pn**	**18 23 14.3**	**+1.0**
MOX				Sg	**Sg**	**18 24 02.7**	**+2.2**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**18 23 15.1**	**+1.7**
MANZ	**Manzenberg**	**2.98**	**240**	Pn	**Pn**	**18 23 15.1**	**+1.7**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**18 23 15.7**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	Pn	**Pn**	**18 23 15.7**	**+1.3**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**18 23 16.6**	**+1.4**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn	**Pn**	**18 23 16.6**	**+1.4**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**18 23 16.6**	**+1.4**
	comp=Z,4.3nm,0.3s,baz=32,slow=12,SNR=100						
GERES				Pg	**Pg**	**18 23 23.4**	**-1.0**
	comp=Z,16nm,0.3s,baz=32,slow=15,SNR=68						
GERES				Lg	Lg	18 24 03.2	
	comp=Z,21nm,0.3s,baz=32,slow=30,SNR=7.9						
SMOL	**Smolenice**	**3.13**	**164**	*e*Pg	**Pg**	**18 23 28.0**	**+3.1**
SMOL				*e*Sg	**Sg**	**18 24 06.0**	**+0.6**
SMOL	**Smolenice**	**3.13**	**164**	*e*PG	**Pg**	**18 23 28.0**	**+3.1**
SMOL				*e*SG	**Sg**	**18 24 06.0**	**+0.6**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**18 23 17.4**	**+1.5**
WET				*e*Sg	**Sg**	**18 24 07.4**	**+0.9**
WET	**Wettzell**	**3.17**	**222**	Pn	**Pn**	**18 23 17.4**	**+1.5**
WET				Sg	**Sg**	**18 24 07.4**	**+0.9**
LANS	**Liptovska Anna**	**3.20**	**137**	*e*Pg	**Pg**	**18 23 27.2**	**+1.0**
LANS				*e*Sg	**Sg**	**18 24 08.1**	**+0.5**
LANS	**Liptovska Anna**	**3.20**	**137**	*e*PG	**Pg**	**18 23 27.1**	**+0.9**
LANS				*e*SG	**Sg**	**18 24 08.1**	**+0.5**
NIE	**Niedzica**	**3.40**	**127**	*e*P	**Pg**	**18 23 31.2**	**+1.2**
NIE				*e*S	**Sg**	**18 24 15.9**	**+1.9**
NIE	**Niedzica**	**3.40**	**127**	*e*P	**Pg**	**18 23 31.2**	**+1.2**
NIE				*e*S	**Sg**	**18 24 15.9**	**+1.9**
NIE	**Niedzica**	**3.40**	**127**	*e*P	**Pg**	**18 23 31.2**	**+1.2**
NIE				*e*S	**Sg**	**18 24 15.9**	**+1.9**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pg	**Pg**	**18 23 33.5**	**+1.5**
VYHS				*e*Sg	**Sg**	**18 24 17.0**	**-0.4**
VYHS	**Vyhne**	**3.50**	**149**	*e*	**Pn**	**18 23 21.5**	**+0.9**
VYHS	**Vyhne**	**3.50**	**149**	*e*PG	**Pg**	**18 23 33.5**	**+1.5**
VYHS				*e*SG	**Sg**	**18 24 17.0**	**-0.4**
VYHS				*e*LG	Lg	18 24 26.9	
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**18 23 23.9**	**+2.1**
CLZ				*e*Sg	**Sg**	**18 24 23.4**	**+3.1**
CLZ	**Clausthal**	**3.59**	**277**	Pn	**Pn**	**18 23 23.9**	**+2.1**
CLZ				Sg	**Sg**	**18 24 23.4**	**+3.1**
CONA	**Conrad Observa**	**3.61**	**183**	Pn	**Pn**	**18 23 24.0**	**+1.9**
	comp=Z,8.0nm,0.4s,SNR=6.5						
CONA	**Conrad Observa**	**3.61**	**183**	Pg	**Pg**	**18 23 33.1**	**-0.9**
	comp=Z,18nm,0.3s						
CONA				Sg	**Sg**	**18 24 24.4**	**+3.7**
	comp=Z,120nm,0.5s						
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**18 23 22.4**	**-0.3**
BSD				*i* S	**Sn**	**18 24 03.1**	**-3.5**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**18 23 22.4**	**-0.3**
BSD				*i* S	**Sn**	**18 24 03.1**	**-3.5**
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**18 23 27.5**	**+1.8**
	comp=Z,12nm,0.3s,SNR=18						
MOA				Sg	**Sg**	**18 24 31.8**	**+2.5**
	comp=Z,98nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*Pg	**Pg**	**18 23 40.7**	**+1.3**
STHS				*e*Sg	**Sg**	**18 24 31.4**	**+1.6**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*	**Pn**	**18 23 27.3**	**+1.4**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PG	**Pg**	**18 23 40.7**	**+1.3**
STHS				*e*SG	**Sg**	**18 24 31.4**	**+1.6**
STHS				*e*LG	Lg	18 24 46.7	
KECS	**Kecovo**	**4.15**	**136**	*e*Pg	**Pg**	**18 23 43.9**	**-0.4**
KECS	**Kecovo**	**4.15**	**136**	*e*	**Pn**	**18 23 30.0**	**+0.6**
KECS	**Kecovo**	**4.15**	**136**	*e*PG	**Pg**	**18 23 43.9**	**-0.4**
KECS				*e*LG	Lg	18 24 51.3	
ARSA	**Arzberg**	**4.30**	**185**	Pn	**Pn**	**18 23 33.9**	**+2.4**
	comp=Z,4.6nm,0.2s						
ARSA				Sg	**Sg**	**18 24 45.9**	**+3.0**
	comp=Z,67nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*Pg	**Pg**	**18 23 46.9**	**-0.7**
CRVS				*e*Sg	**Sg**	**18 24 46.3**	**+2.8**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*	**Pn**	**18 23 32.9**	**+1.2**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PG	**Pg**	**18 23 46.9**	**-0.7**
CRVS				*e*SG	**Sg**	**18 24 46.3**	**+2.8**
PSZ	**Piszkesteto**	**4.36**	**144**	⇑*i*P	**Pn**	**18 23 34.8**	**+2.4**
PSZ	**Piszkesteto**	**4.36**	**144**	*e*PKPPKPdiff	**Pn**	**18 23 34.3**	**+1.9**
PSZ	**Piszkesteto**	**4.36**	**144**	*e*PKPPKPdiff	**Pn**	**18 23 34.3**	**+1.9**
PSZ	**Piszkesteto**	**4.36**	**144**	*e*PKPPKPdiff	**Pn**	**18 23 34.3**	**+1.9**
CSKK	**Cs‡kako**	**4.40**	**161**	*e*Pn	**Pn**	**18 23 34.0**	**+1.2**
CSKK	**Cs‡kako**	**4.40**	**161**	*e*PKPPKPdiff	**Pn**	**18 23 34.0**	**+1.2**
CSKK	**Cs‡kako**	**4.40**	**161**	*e*PKPPKPdiff	**Pn**	**18 23 34.0**	**+1.2**
CSKK	**Cs‡kako**	**4.40**	**161**	*ex*	**Pn**	**18 23 34.0**	**+1.2**
KWP	**Kalwaria Pacla**	**4.60**	**112**	*e*Pn	**Pn**	**18 23 36.9**	**+1.2**
KWP				*e*Pg	**Pg**	**18 23 51.4**	**-1.6**
KWP				*e*Sn	**Sn**	**18 24 31.2**	**+1.4**
KWP	**Kalwaria Pacla**	**4.60**	**112**	*e*Pn	**Pn**	**18 23 36.9**	**+1.2**
KWP	**Kalwaria Pacla**	**4.60**	**112**	*e*Pn	**Pn**	**18 23 36.9**	**+1.2**
KWP				*e*Pg	**Pg**	**18 23 51.4**	**-1.6**
KWP				*e*Sn	**Sn**	**18 24 31.2**	**+1.4**
BLEU	**Blekinge**	**4.79**	**358**	P	**Pn**	**18 23 38.2**	**+0.1**
BLEU	**Blekinge**	**4.79**	**358**	P	**Pn**	**18 23 38.2**	**+0.1**
KBA	**Koelnbreinsper**	**4.81**	**203**	Pn	**Pn**	**18 23 40.8**	**+2.1**
	comp=Z,12nm,0.4s,SNR=19						
KBA				Sg	**Sg**	**18 25 03.0**	**+3.6**
	comp=Z,62nm,0.5s						
SOKA	**Soboth**	**4.91**	**189**	Pn	**Pn**	**18 23 42.9**	**+3.0**
	comp=Z,2.3nm,0.4s						
SOKA				Sg	**Sg**	**18 25 05.0**	**+2.6**
	comp=Z,23nm,0.5s						
BJUU	**Bjuv**	**4.91**	**339**	P	**Pn**	**18 23 39.1**	**-0.7**
BJUU				S	**Sn**	**18 24 33.2**	**-4.1**
BJUU	**Bjuv**	**4.91**	**339**	P	**Pn**	**18 23 39.1**	**-0.7**
BJUU				S	**Sn**	**18 24 33.2**	**-4.1**
TOD	**Tromm**	**5.05**	**250**	P	**Pn**	**18 23 43.2**	**+1.4**
TOD				S	**Sn**	**18 24 45.6**	**+4.8**
DEL	**Delary**	**5.13**	**346**	P	**Pn**	**18 23 42.5**	**-0.3**
DEL				S	**Sn**	**18 24 38.2**	**-4.4**
DEL	**Delary**	**5.13**	**346**	P	**Pn**	**18 23 42.5**	**-0.3**
DEL				S	**Sn**	**18 24 38.2**	**-4.4**
OBKA	**Obir**	**5.13**	**192**	Pn	**Pn**	**18 23 45.1**	**+2.1**
	comp=Z,1.3nm,0.3s						
OBKA	**Obir**	**5.13**	**192**	Pg	**Pg**	**18 24 04.7**	**+1.6**
	comp=Z,5.4nm,0.3s						
OBKA				Sg	**Sg**	**18 25 14.2**	**+4.6**
	comp=Z,28nm,0.6s						
WATA	**Walderalm**	**5.14**	**217**	Pn	**Pn**	**18 23 45.7**	**+2.5**
	comp=Z,23nm,0.6s,SNR=12						
MYKA	**Terra Mystica**	**5.17**	**199**	Pn	**Pn**	**18 23 46.6**	**+3.1**
	comp=Z,1.7nm,0.3s						
MYKA				Sg	**Sg**	**18 25 13.8**	**+3.0**
	comp=Z,33nm,0.6s						
WTTA	**Wattenberg**	**5.18**	**216**	Pn	**Pn**	**18 23 46.2**	**+2.5**
	comp=Z,2.8nm,0.2s						
WTTA				Sg	**Sg**	**18 25 15.6**	**+4.5**
	comp=Z,19nm,0.5s						
MOTA	**Moosalm**	**5.32**	**220**	Pn	**Pn**	**18 23 46.9**	**+1.3**
	comp=Z,2.9nm,0.2s,SNR=11						
MOTA				Sg	**Sg**	**18 25 21.3**	**+5.7**
	comp=Z,30nm,0.5s						
ABTA	**Abfaltersbach**	**5.34**	**208**	Pn	**Pn**	**18 23 48.5**	**+2.6**
	comp=Z,4.5nm,0.4s,SNR=6.9						
ABTA				Sg	**Sg**	**18 25 15.2**	**-1.1**
	comp=Z,15nm,0.5s						
RETA	**Reutte**	**5.34**	**223**	Sg	**Sg**	**18 25 19.0**	**+2.5**
	comp=Z,18nm,0.4s						
TRPA	**Tarpa**	**5.37**	**127**	*e*Pn	**Pn**	**18 23 46.7**	**+0.6**
TRPA				*e*Sn	**Sn**	**18 24 45.4**	**-3.1**
TRPA	**Tarpa**	**5.37**	**127**	*ex*	**Pn**	**18 23 46.7**	**+0.6**
TRPA				*ex*	**Sn**	**18 24 45.4**	**-3.1**
KOE	**Koeppel**	**5.42**	**262**	*e*Pn	**Pn**	**18 23 47.9**	**+1.0**
KOE	**Koeppel**	**5.42**	**262**	Pn	**Pn**	**18 23 47.9**	**+1.0**
VXJU	**Vaexsjoe**	**5.45**	**353**	P	**Pn**	**18 23 47.6**	**+0.4**
VXJU	**Vaexsjoe**	**5.45**	**353**	P	**Pn**	**18 23 47.6**	**+0.4**
KTD	**Kalmit**	**5.60**	**250**	P	**Pn**	**18 23 51.3**	**+2.0**
OSKU	**Oskarshamn**	**5.68**	**360**	P	**Pn**	**18 23 50.8**	**+0.5**
OSKU	**Oskarshamn**	**5.68**	**360**	P	**Pn**	**18 23 50.8**	**+0.5**
BGG	**Burgeitz**	**5.72**	**260**	*e*Pn	**Pn**	**18 23 51.9**	**+0.9**
BGG				*e*Sn	**Sn**	**18 24 54.9**	**-2.4**
	comp=Z,9.1nm,0.7s						
BGG	**Burgeitz**	**5.72**	**260**	Pn	**Pn**	**18 23 51.9**	**+0.9**
FETA	**Feichten**	**5.73**	**220**	Pn	**Pn**	**18 23 54.2**	**+2.9**
	comp=Z,1.6nm,0.3s						
FETA				Sg	**Sg**	**18 25 31.4**	**+2.6**
	comp=Z,11nm,0.6s						
LAUG	**Laupendahl**	**5.75**	**272**	*e*Pn	**Pn**	**18 23 52.8**	**+1.5**
LAUG	**Laupendahl**	**5.75**	**272**	Pn	**Pn**	**18 23 52.8**	**+1.5**
BYXU	**Byxelkrok**	**5.80**	**5**	P	**Pn**	**18 23 52.5**	**+0.5**
BYXU	**Byxelkrok**	**5.80**	**5**	P	**Pn**	**18 23 52.5**	**+0.5**
FABU	**Falkenberg**	**5.83**	**341**	P	**Pn**	**18 23 52.1**	**-0.4**
FABU				S	**Sn**	**18 24 54.8**	**-5.3**
FABU	**Falkenberg**	**5.83**	**341**	P	**Pn**	**18 23 52.1**	**-0.4**
SPAK	**Spaichingen-Ko**	**5.86**	**237**	P	**Pn**	**18 23 54.6**	**+1.6**
SPAK				S	**Sn**	**18 25 05.2**	**+4.4**
DAVA	**Damuels**	**5.88**	**226**	Pn	**Pn**	**18 23 54.5**	**+1.1**
	comp=Z,1.8nm,0.2s						
DAVA				Sg	**Sg**	**18 25 38.3**	**+4.5**
	comp=Z,32nm,0.8s						
ASPU	**Aespoe**	**5.91**	**2**	P	**Pn**	**18 23 54.5**	**+1.0**
ASPU	**Aespoe**	**5.91**	**2**	Pn	**Pn**	**18 23 54.5**	**+1.0**
LANF	**Langenberg**	**5.92**	**248**	P	**Pn**	**18 23 55.4**	**+1.7**
LANF				S	**Sn**	**18 25 07.2**	**+5.1**
LANF	**Langenberg**	**5.92**	**248**	P	**Pn**	**18 23 55.4**	**+1.7**
STB	**Steinbach**	**5.93**	**265**	*e*Pn	**Pn**	**18 23 55.1**	**+1.2**
STB	**Steinbach**	**5.93**	**265**	Pn	**Pn**	**18 23 55.1**	**+1.2**
OZLJ	**Ozalj**	**5.93**	**184**	P	**Pn**	**18 23 56.2**	**+2.3**
OZLJ	**Ozalj**	**5.93**	**184**	*i* P	**Pn**	**18 23 56.2**	**+2.3**
GNOU	**Gnosjoe**	**5.94**	**347**	P	**Pn**	**18 23 54.2**	**+0.3**
GNOU	**Gnosjoe**	**5.94**	**347**	P	**Pn**	**18 23 54.2**	**+0.3**
RUP	**Ruppelstein**	**6.05**	**256**	P	**Pn**	**18 23 57.3**	**+1.7**
EKSU	**Eksjoe**	**6.08**	**356**	P	**Pn**	**18 23 56.2**	**+0.4**
EKSU	**Eksjoe**	**6.08**	**356**	P	**Pn**	**18 23 56.2**	**+0.4**
VSTU	**Vaesterwik**	**6.15**	**2**	P	**Pn**	**18 23 57.6**	**+0.8**
VSTU	**Vaesterwik**	**6.15**	**2**	P	**Pn**	**18 23 57.6**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn	**Pn**	**18 24 00.3**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=35,slow=16,SNR=8.4						
DAVOX				Lg	Lg	18 25 44.8	
	comp=Z,0.9nm,0.3s,baz=163,slow=19,SNR=2.5						
DREG	**Dreilaegerbach**	**6.29**	**266**	*e*Pn	**Pn**	**18 23 59.8**	**+0.9**
DREG	**Dreilaegerbach**	**6.29**	**266**	Pn	**Pn**	**18 23 59.8**	**+0.9**
SIRR	**Siria**	**6.40**	**143**	⇑*i*P	**Pn**	**18 24 01.7**	**+1.3**
DRGR		**6.41**	**135**	⇑*i*P	**Pn**	**18 24 02.2**	**+1.7**
FELD	**Feldberg im Sc**	**6.41**	**238**	P	**Pn**	**18 24 00.9**	**+0.3**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**18 24 03.3**	**+1.4**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pg	**Pg**	**18 24 29.6**	**+0.2**
CDF				*e*Sg	**Sg**	**18 25 49.1**	**-4.6**
	comp=Z,118nm,1.1s						
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**18 24 03.3**	**+1.4**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pg	**Pg**	**18 24 29.6**	**+0.2**
ECH	**Echery**	**6.68**	**244**	P	**Pn**	**18 24 05.0**	**+0.8**
ECH	**Echery**	**6.68**	**244**	P	**Pn**	**18 24 05.0**	**+0.8**

46nm,0.7s,702nm
MASI Maura Aman, Be 11.24 296 P **Pn 18 29 33.8 +0.2**
SOEI Soe 11.87 98 *e*Pn **Pn 18 29 39.3 -2.5**
24nm,0.6s
MBWA Marble Bar 14.73 152 *e*Pn **Pn 18 30 17.8 -0.1**
61nm,0.3s
FITZ Fitzroy Crossi 16.25 129 P **Pn 18 30 38.2 +1.7**
2.1nm,0.3s,baz=315,slow=9.3,SNR=18
FITZ S **S 18 33 28.9 -7.6**
baz=182,slow=16
KRAB Krabi 20.92 321 P **P 18 31 29.1 +1.9**
87nm,0.7s,747nm
CHBT CHBT 23.07 334 P **P 18 31 51.9 +3.5**
669nm,1.6s
WRA Warramunga Arr 24.28 121 P **P 18 32 00.3 +0.8**
18nm,0.6s,baz=296,slow=11,SNR=83
WRA PcP **PcP 18 35 34.9 -0.3**
0.5nm,0.6s,baz=235,slow=2.9,SNR=3.8
WRAB Tennant Creek 24.28 121 *e*P **P 18 32 00.7 +1.2**
25nm,0.8s
PHET Kaeng Krachan 24.48 329 P **P 18 32 02.7 +1.4**
8.5nm,0.9s
NWAO Narrogin (SRO) 25.02 170 P **P 18 32 07.6 +1.5**
3.6nm,0.6s,baz=96,slow=2.8,SNR=4.5
NWAO Narrogin (SRO) 25.02 170 *e*P **P 18 32 05.9 -0.2**
ASAR Alice Springs 25.75 129 P **P 18 32 14.2 +1.4**
14nm,0.6s,baz=305,slow=8.6,SNR=337
ASAR PcP **PcP 18 35 38.9 +0.5**
0.8nm,0.6s,baz=327,slow=1.9,SNR=5.1
UTTA Uttaradit 28.29 336 P **P 18 32 37.1 +1.7**
4.8nm,0.9s
CMAR Chiang Mai Arr 29.60 334 P **P 18 32 47.4 +0.3**
7.9nm,0.8s,baz=166,slow=8.4,SNR=57
CMAR ScP **ScP 18 39 14.7 +0.6**
0.7nm,0.8s,baz=197,slow=2.8,SNR=5.8
CHTO Chiang Mai 29.92 334 P **P 18 32 51.6 +1.7**
CHTO Chiang Mai 29.92 334 *e*P **P 18 32 49.6 -0.2**
1.9nm,0.8s
CTAO Charters Tower 34.85 113 *e*P **P 18 33 34.9 +1.9**
STKA Stephens Creek 35.98 135 P **P 18 33 44.2 +1.9**
15nm,0.4s,baz=314,slow=8.9,SNR=76
STKA PcP **PcP 18 36 05.9 +0.5**
2.1nm,0.4s,baz=335,slow=3.8,SNR=4.5
ENH Enshi 38.34 356 *e*P **P 18 34 01.9 -0.4**
7.0nm,0.7s
ODAN Odare 42.43 326 *e*P **P 18 34 35.8 -0.4**
51nm,0.7s
TAPN Taplejung 42.64 327 *e*P **P 18 34 38.0 +0.1**
55nm,0.7s
RAMN Ramite 42.94 325 *e*P **P 18 34 40.0 -0.3**
19nm,0.7s
JIRN Jiri 43.72 326 *e*P **P 18 34 46.3 -0.4**
344nm,0.6s
GUN Gumba 44.09 325 *e*P **P 18 34 49.2 -0.4**
47nm,0.7s
PKIN Phulchoki 44.11 325 *e*P **P 18 34 49.0 -0.6**
12nm,0.8s
DMN Daman 44.30 324 *e*P **P 18 34 50.4 -0.7**
37nm,0.7s
KKN Kakani 44.34 325 *e*P **P 18 34 50.6 -0.8**
14nm,0.7s
GKN Gorkha 44.87 324 *e*P **P 18 34 54.7 -0.8**
9.7nm,0.3s
KOLN Koldanda 45.30 323 *e*P **P 18 34 58.0 -1.0**
16nm,0.4s
DANN Dangsing 45.63 324 *e*P **P 18 35 01.1 -0.6**
PYUN Piuthan 45.91 323 *e*P **P 18 35 02.9 -0.8**
MJAR Matsushiro Arr 50.69 27 P **P 18 35 38.0 -2.0**
2.5nm,0.9s,baz=210,slow=7.7,SNR=5.2
USRK Ussuriysk Ar. 55.09 17 P **P 18 36 10.5 -1.6**
5.7nm,0.9s,baz=209,slow=9.7,SNR=7.1
SONM Songino Array 56.03 355 P **P 18 36 18.4 -0.5**
2.1nm,0.5s,baz=178,slow=8.6,SNR=18
MKAR Makanchi Array 60.94 337 P **P 18 36 51.8 -0.9**
3.3nm,0.5s,baz=152,slow=7.5,SNR=41
KKAR Karatay Array 63.66 327 *e*P **P 18 37 08.9 -1.9**
1.9nm,0.7s
KURK Kurchatov 65.54 337 *e*P **P 18 37 21.0 -1.8**
25nm,0.8s
ZALV Zalesovo Beam 66.13 343 P **P 18 37 25.2 -1.4**
5.1nm,0.7s,baz=148,slow=5.6,SNR=26
MAW Mawson 67.84 198 P **P 18 37 38.9 +1.8**
2.5nm,0.7s,baz=53,slow=7.7,SNR=8.1
GEYT Alibeck 68.23 316 P **P 18 37 39.0 -1.2**
3.1nm,1.1s,baz=125,slow=7.4,SNR=5.3
PETK Petropavlovsk- 72.15 27 P **P 18 38 03.4 -0.3**
2.7nm,0.9s,baz=214,slow=4.4,SNR=6.0
ABKAR Akbulak array 73.22 327 *e*P **P 18 38 09.1 -1.0**
5.8nm,0.8s
VNDA Vanda 73.86 170 P **P 18 38 15.4 +2.1**
1.4nm,0.7s,baz=291,slow=6.0,SNR=12
AKTO Aktyubinsk 74.92 327 P **P 18 38 19.6 -0.3**
1.7nm,0.6s,baz=55,slow=1.2,SNR=7.5
SYO Syowa Base 76.25 201||*e*X P 18 38 21.7 -5.4
SEY Seymchan 77.24 18 P **P 18 38 32.5 -0.3**
1.1nm,0.5s,baz=219,slow=5.5,SNR=8.6
QSPA South Pole Qui 81.80 180 *e*P **P 18 38 59.0 +1.5**
24nm,1.2s
BRTR Keskin Array B 86.60 311 P **P 18 39 21.9 -0.4**
1.1nm,0.8s,baz=124,slow=6.6,SNR=8.8
ABKAS Malin Array Be 91.94 321 P **P 18 39 45.8 -1.2**
0.1nm,0.3s,baz=84,slow=4.0,SNR=3.7
TXAR Lajitas Array 140.19 53 SKPbc **SKPbc 18 49 27.6 -0.1**
0.4nm,0.9s,baz=298,slow=1.9,SNR=3.7
CPUP Villa Florida 144.25 196 PKP **PKPdf 18 46 14.9 +0.6**
6.0nm,0.5s,baz=164,slow=1.9,SNR=18

*ISCJB **05** 18:54:20.6±0.4,29°.79N±0°.05×97°.71E±0°.05,h10km, mb4.1/13,MS3.3/4,Error ellipse: s-maj=7.1km s-min=6.6km az=172.7*
*IDC **05** 18:54:20.4±0.8,29°.80N×97°.61E,h0km,mb4.0/11, mb1 4.0/13,mb1mx3.8/52,mbtmp3.9/13,ML3.3/2,MS3.2/5, Ms1 3.3/5,ms1mx2.8/38,Error ellipse: s-maj=27.6km s-min=14.9km az=61.0*
*BJI **05** 18:54:22.6,29°.79N×97°.54E,h7km,mb4.2/10,mB4.3/1, ML4.2/5,Ms3.8/9,Ms7 3.7/10*
*NEIC **05** 18:54:26.4±1.1,29°.81N×97°.70E,h43km±12km,mb4.4/4, Error ellipse: s-maj=12.2km s-min=8.7km az=224.0*
ISC 05 18:54:22.9±0.5,29°.82N±0°.05×97°.77E±0°.05,h10km,n35, σ2§18/36,mb4.1/13,MS3.4/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.29**	**77**	Pn	**Pn**	**18 55 43.0**	**+1.0**
CD2				Sn	**Sn**	**18 56 43.7**	**+0.7**
CD2				Sg	**Sg**	**18 57 14.0**	**+1.4**
CD2				LR	LR		
	comp=N,860nm,7.6s						
CD2				LR	LR		
	comp=Z,910nm,8.3s						
LSA	**Lhasa**	**5.76**	**270**	Pn	**Pn**	**18 55 51.0**	**+2.2**
LSA				Sg	**Sb**	**18 57 14.8**	**+1.9**
LSA	**Lhasa**	**5.76**	**270**	*e*Pn	**Pn**	**18 55 50.7**	**+1.9**
	16nm,0.8s						
KMI	**Kunming**	**6.43**	**135**	Pg	**Pg**	**18 56 22.6**	**-3.5**
SHL	**Shillong**	**6.72**	**232**	*e*P	**Pn**	**18 56 03.5**	**+1.7**
SHL				*e*S	**Sb**	**18 57 46.0**	**+5.6**
LZH	**Lanzhou**	**8.07**	**38**	*e*P	**Pn**	**18 56 21.4**	**+1.2**
LZH				pP	pP	18 56 25.0	
LZH				sP	sP	18 56 27.8	
LZH				*e*S	Sb	18 58 06.5	-13
LZH				LR	LR		
	comp=N,590nm,10.2s						
LZH				LR	LR		
	comp=Z,1μm,11.8s						
GYA	**Guiyang**	**8.53**	**111**	P	**Pn**	**18 56 31.1**	**+4.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GTA	**Gaotai**	**9.71**	**9**	*e*P	**Pn**	**18 56 43.5**	**+0.7**
GTA				pP		18 56 46.6	
GTA				sP		18 56 49.5	
GTA				S	**Sn**	**18 58 35.4**	**+3.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				LR	LR		
	comp=N,380nm,10.5s						
GTA				LR	LR		
	comp=Z,340nm,10.0s						
ENH	**Enshi**	**10.16**	**85**	*e*Pn	**Pn**	**18 56 50.8**	**+1.9**
XAN	**Xi'an**	**10.37**	**63**	P	**Pn**	**18 56 53.7**	**+2.0**
XAN				pP		18 57 04.2	
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.36**	**174**	Pn	**Pn**	**18 57 04.2**	**-1.1**
	0.1nm,0.3s,baz=347,slow=12,SNR=13						
CMAR				Lg	Lg	19 00 25.0	
	0.1nm,0.3s,baz=7.1,slow=30,SNR=3.1						
CMAR				LR	LR	19 02 17.9	
	comp=Z,35nm,21.5s,baz=340,slow=42						
WMQ	**Urumqi**	**16.12**	**333**	*e*P	**Pn**	**18 58 05.0**	**-4.6**
TIA	**Tai'an**	**17.43**	**63**	*e*P	**P**	**18 58 28.3**	**+1.0**
TIA				pmax	pmax		
	comp=Z,20nm,0.8s						
SONM	**Songino Array**	**19.18**	**18**	P	**P**	**18 58 46.6**	**-0.1**
	0.1nm,0.3s,baz=200,slow=11,SNR=9.0						
KSH	**Kashi**	**20.33**	**304**	*e*P	Pn	18 59 01.4	+0.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**20.79**	**329**	P	**P**	**18 59 02.6**	**-1.5**
	2.0nm,0.7s,baz=143,slow=12,SNR=15						
AAK	**Ala-Archa**	**22.63**	**311**	P	**P**	**18 59 23.1**	**-1.0**
	0.7nm,0.3s,baz=121,slow=12,SNR=4.0						
AAK				LR	LR	19 08 42.1	
	comp=Z,65nm,19.9s,baz=113,slow=38						
AAK	**Ala-Archa**	**22.63**	**311**	*e*P	**P**	**18 59 24.2**	**+0.1**
	12nm,1.2s						
KURBB	**Kurchatov Arra**	**25.31**	**331**	P	**P**	**18 59 48.6**	**-0.9**
	2.2nm,0.2s,baz=143,slow=9.1,SNR=11						
KURK	**Kurchatov**	**25.34**	**331**	*e*P	**P**	**18 59 48.9**	**-0.9**
	36nm,0.6s						
ZALV	**Zalesovo Beam**	**25.88**	**342**	P	**P**	**18 59 53.2**	**-1.5**
	2.6nm,0.6s,baz=157,slow=9.8,SNR=12						
CN2	**Changchun**	**26.04**	**50**	*e*P	**P**	**18 59 59.3**	**+3.1**
KSAR	**Wonju Array Be**	**26.12**	**65**	P	**P**	**18 59 58.0**	**+0.9**
KSRS	**Korea Array**	**26.16**	**65**	P	**P**	**18 59 58.0**	**+0.7**
	2.1nm,0.6s,baz=255,slow=10.0,SNR=13						
JNU	**Nakatsue**	**28.36**	**75**	LR	LR	19 13 10.1	
	comp=Z,82nm,18.1s,baz=281,slow=40						
ABKAR	**Akbulak array**	**34.56**	**315**	*e*P	**P**	**19 01 08.8**	**-2.8**
	1.3nm,0.8s						
PETK	**Petropavlovsk-**	**48.91**	**44**	LR	LR	19 25 20.8	
	comp=Z,44nm,18.2s,baz=274,slow=38						
AKASG	**Malin Array Be**	**54.27**	**313**	LR	LR	19 30 49.7	
	comp=Z,35nm,19.5s,baz=35,slow=40						
WRAB	**Tennant Creek**	**60.73**	**140**	*e*P	**P**	**19 04 34.4**	**-0.5**
	3.9nm,0.9s						
WRA	**Warramunga Arr**	**60.73**	**140**	P	**P**	**19 04 34.7**	**-0.2**
	1.4nm,0.7s,baz=327,slow=7.9,SNR=14						
ASAR	**Alice Springs**	**63.51**	**143**	P	**P**	**19 04 53.5**	**0.0**
	0.4nm,0.5s,baz=329,slow=6.8,SNR=10						
ILAR	**Eielson Array**	**73.29**	**24**	P	**P**	**19 05 52.9**	**-1.3**
	0.9nm,0.8s,baz=294,slow=6.3,SNR=9.2						
STKA	**Stephens Creek**	**74.13**	**142**	P	**P**	**19 05 58.5**	**-1.0**
	1.3nm,0.7s,baz=306,slow=8.7,SNR=3.5						
INK	**Inuvik**	**75.09**	**17**	P	**P**	**19 06 04.1**	**-0.5**
	1.4nm,0.8s,baz=324,slow=8.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**88.73**	**284**	P	**P**	**19 07 15.3**	**-1.9**
	1.7nm,0.9s,baz=53,slow=4.7,SNR=7.4						

*ISK **05** 18:55:01.9,38°.40N×28°.37E,h8km,MD2.7*
*ISCJB **05** 18:55:02.3±0.5,38°.44N±0°.03×28°.32E±0°.03,h6km±5km, Error ellipse: s-maj=5.3km s-min=3.9km az=158.8*
*CSEM **05** 18:55:02.4±0.2,38°.45N×28°.33E,h5km,MD2.7,Error ellipse: s-maj=3.8km s-min=3.5km az=144.0*
*DDA **05** 18:55:02.5,38°.49N×28°.35E,h7km,Md2.7*
ISC 05 18:55:02.5±0.9,38°.44N±0°.03×28°.33E±0°.02,h9km±8km, n30,σ0§63/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.19**	**73**	*i* P	**Pg**	**18 55 06.6**	**+0.1**
MANT				*i* S	**Sg**	**18 55 09.2**	**-0.1**
MANT	**Manisa**	**0.19**	**73**	P	**Pg**	**18 55 06.6**	**+0.1**
MANT				S	**Sg**	**18 55 09.2**	**-0.1**
KULA	**Kula-Manisa**	**0.27**	**73**	*e*PG	**Pg**	**18 55 08.0**	**0.0**
KULA				*e*SG	**Sg**	**18 55 11.4**	**-0.3**
KULA	**Kula-Manisa**	**0.27**	**73**	*e*Pg	**Pg**	**18 55 08.0**	**0.0**
KULA				*e*Sg	**Sg**	**18 55 11.4**	**-0.3**
AKHS	**Akhisar**	**0.60**	**318**	*i* P	**Pg**	**18 55 13.5**	**-0.6**
AKHS				*i* S	**Sg**	**18 55 22.7**	**+0.7**
AKHS	**Akhisar**	**0.60**	**318**	P	**Pg**	**18 55 13.5**	**-0.6**
AKHS				S	**Sg**	**18 55 22.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**215**	*e*PG	**Pg**	**18 55 13.9**	**-0.2**
AYDB				*e*SG	**Sg**	**18 55 22.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**215**	*e*Pg	**Pg**	**18 55 14.0**	**-0.2**
AYDB				*e*Sg	**Sg**	**18 55 22.2**	**+0.2**
SIMA	**Simav-Kutahya**	**0.82**	**38**	*e*PG	**Pg**	**18 55 18.4**	**0.0**
SIMA	**Simav-Kutahya**	**0.82**	**38**	*e*Pg	**Pg**	**18 55 18.4**	**0.0**
AYDN	**Tasoluk**	**0.85**	**205**	*i* P	**Pb**	**18 55 19.9**	**+0.3**
AYDN				*i* S	**Sn**	**18 55 34.1**	**+0.7**
AYDN	**Tasoluk**	**0.85**	**205**	P	**Pb**	**18 55 19.9**	**+0.3**
KHAL	**Karahalli**	**0.92**	**94**	*i* P	**Pg**	**18 55 19.9**	**-0.3**
KHAL				*i* S	**Sb**	**18 55 32.9**	**-0.2**
KHAL	**Karahalli**	**0.92**	**94**	P	**Pg**	**18 55 19.9**	**-0.3**
KHAL				S	**Sb**	**18 55 32.8**	**-0.2**
GEDZ	**Gediz**	**1.04**	**54**	*e*PG	**Pg**	**18 55 22.2**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.05**	**333**	*i* P	**Pg**	**18 55 21.2**	**-1.6**
STEP				*i* S	**Sb**	**18 55 36.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.05**	**333**	P	**Pg**	**18 55 21.2**	**-1.6**
STEP				S	**Sb**	**18 55 36.7**	**-0.2**
DGB	**˜zmir**	**1.20**	**252**	*i* P	**Pn**	**18 55 26.4**	**+0.9**
DGB				*i* S	**Sg**	**18 55 39.3**	**-1.8**
MLSB	**Milas**	**1.22**	**201**	*e*PN	**Pb**	**18 55 25.6**	**-0.2**
MLSB	**Milas**	**1.22**	**201**	*e*Pn	**Pb**	**18 55 25.6**	**-0.2**
BALB	**Balikesir**	**1.25**	**344**	*e*PN	**Pg**	**18 55 27.2**	**+0.6**
BALB	**Balikesir**	**1.25**	**344**	*e*Pn	**Pg**	**18 55 27.2**	**+0.6**
DKL	**Dikili**	**1.28**	**300**	*e*PN	**Pg**	**18 55 27.7**	**+0.6**
DKL	**Dikili**	**1.28**	**300**	*e*Pn	**Pg**	**18 55 27.7**	**+0.6**
TVSB	**Tavsanli**	**1.34**	**41**	*e*PN	**Pn**	**18 55 27.4**	**-0.1**
TVSB	**Tavsanli**	**1.34**	**41**	*e*Pn	**Pn**	**18 55 27.5**	**-0.1**
URLA	**Izmir**	**1.36**	**267**	*e*PN	**Pn**	**18 55 28.0**	**+0.2**
ZEY	**˜zmir**	**1.45**	**263**	*i* P	**Pn**	**18 55 29.0**	**0.0**
ZEY				*i* S	**Sn**	**18 55 47.1**	**-0.9**
KCTX	**Karacabey (Bur**	**1.83**	**1**	*e*PN	**Pn**	**18 55 35.0**	**+0.8**
KCTX	**Karacabey (Bur**	**1.83**	**1**	*e*Pn	**Pn**	**18 55 35.0**	**+0.8**

JMA 05 19:02:58.0±0.1,37°.12N×141°.41E,h25km±1km,M1.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**268**	S	Sb	19 03 14.9	0.0
JFK	**Kawauchi**	**0.49**	**300**	P	Pb	19 03 07.9	-0.2
JFK				S	Sb	19 03 15.1	+0.1
JHO	**Hitachi**	**0.84**	**233**	P	Pb	19 03 13.4	-0.6
JMM	**Marumori**	**0.89**	**327**	P	Pb	19 03 14.6	-0.2
JMM				S	Sb	19 03 25.6	-0.7
JFT	**Otama**	**0.94**	**295**	*e*S	Sn	19 03 28.1	-0.3
JIO	**Ouri**	**1.33**	**358**	*e*S	Sn	19 03 37.7	-0.2

JMA 05 19:03:30.1±0.1,36°.53N×137°.66E,h0km±1km,M1.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.27**	**286**	P	Pg	19 03 36.2	+0.9
JTT				S	Sg	19 03 40.6	+1.7
JNG	**Nsakai**	**0.38**	**109**	P	Pg	19 03 37.6	+0.3
JNG				S	Sg	19 03 43.1	+0.9
JGN	**Niukaw**	**0.41**	**222**	P	Pg	19 03 38.3	+0.3
JGN				S	Sg	19 03 43.9	+0.5
MAT	**Matsushiro**	**0.44**	**88**	P	Pg	19 03 39.0	+0.5
MAT				S	Sg	19 03 44.8	+0.5
MAT	**Matsushiro**	**0.44**	**88**	P	Pg	19 03 39.0	+0.5
MAT				S	Sg	19 03 44.9	+0.6

*IDC **05** 19:08:40.2±1.5,3°.74S×126°.58E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/32,mbtmp3.3/3,ML3.8/2,Error ellipse: s-maj=35.2km s-min=26.0km az=74.0*
*ISCJB **05** 19:08:43.6±0.8,3°.87S±0°.05×126°.72E±0°.06,h33km, mb3.3/1,Error ellipse: s-maj=8.7km s-min=7.1km az=143.4*
*DJA **05** 19:08:44.2±1.4,4°S±7°×12°7E±°,h23km±7km,M3.0/7, MLv3.0/7*
ISC 05 19:08:44.6±1.1,3°.81S±0°.07×126°.70E±0°.08,h33km,n10, σ1§45/14,Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.69**	**35**	P	**Pn**	**19 08 57.3**	**-0.8**
NLAI				S	**Sn**	**19 09 07.0**	**-0.7**
AAI	**Ambon**	**1.49**	**85**	P	**Pn**	**19 09 08.4**	**-0.8**
AAI				S	**Sn**	**19 09 26.4**	**-1.1**
SANI	**Sanana**	**1.89**	**338**	P	**Pn**	**19 09 14.8**	**+0.2**
SANI				S	**Sb**	**19 09 39.2**	**-2.6**
MSAI	**Masohi**	**2.27**	**78**	P	**Pn**	**19 09 19.3**	**-0.5**
LBMI	**Labuha**	**3.25**	**14**	P	**Pn**	**19 09 34.9**	**+1.5**
BNDI	**Bandanaira**	**3.27**	**103**	P	**Pn**	**19 09 32.9**	**-0.7**
SIJI	**Sorong**	**5.41**	**57**	Pn	**Pn**	**19 10 04.0**	**+0.9**
	19nm,0.3s,baz=234,slow=19,SNR=17						
SIJI				Sn	**Sn**	**19 11 07.3**	**+2.9**
	1.5nm,0.3s,baz=221,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**17.68**	**156**	P	**Pn**	**19 12 49.3**	**+0.8**
	0.1nm,0.3s,baz=336,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**20.93**	**161**	P	**P**	**19 13 25.4**	**+0.7**
	0.9nm,0.7s,baz=344,slow=12,SNR=17						
MKAR	**Makanchi Array**	**63.79**	**328**	P	**P**	**19 19 13.4**	**-0.1**
	0.1nm,0.3s,baz=116,slow=7.4,SNR=4.7						

MEX 05 19:10:09.8±0.4,14°.72N×92°.95W,h16km±32km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**345**	*i* P	Pb	19 10 25.4	-3.6
PCIG				*e*S	Sb	19 10 37.5	-4.6
CCIG	**Comitan**	**1.74**	**27**	*e*P	Pn	19 10 36.9	-2.6

MEX 05 19:18:17.6±0.8,18°.69N×105°.64W,h19km±826km,MD3.6, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.98**	**35**	*i* P	Pb	19 18 32.7	-3.3
CJM				*i* S	Sb	19 18 45.1	-3.5
R15V		**1.64**	**73**	*e*P	Pn	19 18 42.2	-3.3
R15V				*e*S	Sn	19 19 01.7	-4.4
EZ5V		**2.08**	**68**	*e*P	Pn	19 18 49.9	-1.9
EZ5V				*e*S	Sn	19 19 13.5	-3.8
MMIG	**Aquila**	**2.22**	**100**	*e*P	Pn	19 18 50.2	-3.1

MAN 05 19:26:57,6°.41N×126°.20E,h55km,mb4.6,ML3.4,MS3.3, 4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.54**	**6**	*e*P	Pn	19 27 11.4	+2.4
MATI				*e*S	Sn	19 27 21.7	+4.0
DMPH	**Davao City--Mi**	**0.96**	**314**⇑	*e*P	Pn	19 27 15.5	+1.1
DMPH				*e*S	Sn	19 27 28.6	+1.5
KCP	**Kidapawan**	**1.25**	**298**⇑	*i*P	Pn	19 27 18.1	-0.2
GSPH	**General Santos**	**1.28**	**256**⇑	*i*P	Pn	19 27 16.4	-2.4
GSPH				*i* S	Sn	19 27 30.7	-4.4
BIPH	**Bislig**	**1.77**	**5**⇑	*i*P	Pn	19 27 30.7	+5.4
BIPH				*i* S	Sn	19 27 53.8	+7.1
BUKP	**Musuan**	**1.84**	**322**	*e*P	Pn	19 27 27.1	+0.7
BUKP				*e*S	Sn	19 27 50.7	+2.1

MEX 05 19:50:45.4±0.5,14°.77N×92°.94W,h10km±51km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.97**	**344**	*e*P	Pg	19 51 01.2	-2.9
PCIG				*e*S	Sg	19 51 13.1	-3.7

*IDC **05** 20:01:11.3±0.8,4°.16S×128°.64E,h0km,mb3.8/8, mb1 3.9/9,mb1mx3.8/29,mbtmp3.8/9,ML4.0/2,MS3.7/2, Ms1 3.7/2,ms1mx2.7/44,Error ellipse: s-maj=38.6km s-min=17.0km az=75.0*
*ISCJB **05** 20:01:13.5±0.4,4°.19S±0°.04×128°.75E±0°.04,h32km, mb4.0/11,MS3.6/2,Error ellipse: s-maj=7.3km s-min=4.9km az=140.3*
*DJA **05** 20:01:14.0±0.6,4°S±4°×12°9E±°,h13km±3km,M3.7/6, MLv3.7/6*
*NEIC **05** 20:01:16.3±1.5,4°.34S×128°.87E,h47km±17km,mb4.2/5, Error ellipse: s-maj=18.4km s-min=9.2km az=99.0*
ISC 05 20:01:15.0±0.6,4°.20S±0°.05×128°.79E±0°.05,h32km,n28, σ2§36/34,mb3.9/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.78**	**311**	P	**Pn**	**20 01 27.3**	**-2.5**
AAI				S	**Sn**	**20 01 38.0**	**-2.4**
MSAI	**Masohi**	**0.86**	**10**	P	**Pn**	**20 01 28.0**	**-2.9**
MSAI				S	**Sn**	**20 01 38.7**	**-3.7**
BNDI	**Bandanaira**	**1.16**	**106**	P	**Pn**	**20 01 34.5**	**-0.5**
NLAI	**Namlea**	**1.94**	**300**	P	**Pb**	**20 01 48.7**	**-0.9**
NLAI				S	**Sn**	**20 02 06.9**	**-2.0**
SANI	**Sanana**	**3.52**	**307**	P	**Pn**	**20 02 08.4**	**+0.9**
SANI				S	**Sn**	**20 02 45.2**	**-2.8**
FAKI	**Fak Fak**	**3.68**	**70**	P	**Pn**	**20 02 10.9**	**+1.1**
FAKI	**Fak Fak**	**3.68**	**70**	*e*Pn	**Pn**	**20 02 10.5**	**+0.7**
LBMI	**Labuha**	**3.77**	**340**	P	**Pn**	**20 02 13.0**	**+2.1**
LBMI				S	**Sn**	**20 02 54.4**	**+0.2**
SIJI	**Sorong**	**4.13**	**37**	Pn	**Pn**	**20 02 16.4**	**+0.4**
	64nm,0.3s,baz=217,slow=23,SNR=48						
SIJI				Sn	**Sn**	**20 03 00.0**	**-3.3**
	20nm,0.3s,baz=102,slow=21,SNR=8.2						
SWI	**Sorong**	**4.14**	**37**	P	**Pn**	**20 02 15.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.15**	**192**	Pn	**Pn**	**20 04 33.3**	**-0.1**
	0.1nm,0.3s,baz=25,slow=13,SNR=6.5						
WRAB	**Tennant Creek**	**16.55**	**161**	*e*P	**Pn**	**20 05 03.0**	**-1.9**
	5.3nm,0.6s						
WRA	**Warramunga Arr**	**16.56**	**161**	Pn	**Pn**	**20 05 02.2**	**-2.8**
	0.5nm,0.3s,baz=332,slow=14,SNR=23						
WRA				Sn	**Sn**	**20 07 59.3**	**-8.6**
	0.0nm,0.3s,baz=330,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**19.97**	**166**	P	**Pn**	**20 05 47.5**	**+0.9**
	4.5nm,0.7s,baz=349,slow=10.0,SNR=93						
ASAR				PcP	**PcP**	**20 10 01.1**	**+0.4**
	0.6nm,0.5s,baz=2.0,slow=1.5,SNR=9.9						
CTA	**Charters Tower**	**23.21**	**134**	LR	LR	20 16 48.4	
	comp=Z,224nm,21.1s,baz=288,slow=40						
STKA	**Stephens Creek**	**30.04**	**158**	P	**P**	**20 07 24.8**	**+3.6**
	1.6nm,0.9s,baz=342,slow=9.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**37.04**	**308**	P	**P**	**20 08 23.1**	**+0.8**
	0.7nm,0.8s,baz=133,slow=7.0,SNR=7.4						
KSAR	**Wonju Array Be**	**41.44**	**359**	P	**P**	**20 09 00.4**	**+1.7**
KSRS	**Korea Array**	**41.45**	**359**	P	**P**	**20 09 00.4**	**+1.7**
	1.3nm,0.8s,baz=182,slow=9.4,SNR=3.9						
ULN	**Ulaanbaatar**	**55.25**	**342**	*e*P	**P**	**20 10 45.5**	**+0.2**
	1.3nm,0.6s						
SONM	**Songino Array**	**55.42**	**342**	P	**P**	**20 10 47.0**	**+0.6**
	0.2nm,0.3s,baz=147,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**65.24**	**327**	P	**P**	**20 11 54.0**	**+0.5**
	1.5nm,0.7s,baz=126,slow=8.0,SNR=13

GUEC Guerrero, Nort 0.98 294 eP Pg 20 21 09.6 -0.6
BTLC Betulia, Santa 1.34 248 eP Pn 20 21 15.7 -0.4
BARC Barichara 1.42 234 eP Pn 20 21 17.2 0.0
BARC i 20 21 46.3
comp=Z,8µm,0.6s
OCAC Ocana 1.52 302 eP Pg 20 21 19.8 -0.5
OCAC i 20 21 22.6
comp=Z,16µm,0.8s
OCAC eS Sb 20 21 38.7 -0.1
BRRC Barranca, Sant 1.71 259 eS Sn 20 21 42.0 -0.8
BRRC i 20 21 52.6
comp=Z,5µm,0.4s
RUSC La Rusia 1.86 215 eP Pb 20 21 25.4 -0.1
RUSC eS Sb 20 21 49.2 +0.3
RUSC i 20 21 57.1
comp=Z,4µm,0.7s
RUSC La Rusia 1.86 215 ePn Pb 20 21 25.3 -0.2
RUSC eSn Sn 20 21 43.4 -3.7
SDV Santo Domingo 2.00 43 P Pb 20 21 27.9 +0.2
comp=Z,2µm,0.3s,baz=205,slow=11,SNR=1081
SDV S Sg 20 21 54.6 -0.8
comp=Z,787nm,0.3s,baz=254,slow=12,SNR=4.8
SDV LR LR 20 22 41.9
comp=Z,925nm,20.7s,baz=288,slow=54
SDV Santo Domingo 2.00 43 ePn Pb 20 21 27.3 -0.3
SDV eSn Sn 20 21 51.0 +0.8
YOPC Yopal, Colombi 2.10 191 eP Pb 20 21 29.7 +0.3
YOPC eS Sb 20 21 55.2 -0.4
YOPC i 20 22 04.8
comp=Z,3µm,0.9s
ZARC Zaragoza, Cauc 2.81 271 eP Pn 20 21 38.0 +1.8
ZARC eS Sn 20 22 10.3 +0.1
ZARC i 20 22 22.5
comp=Z,2µm,0.4s
CHIC Chingaza 3.26 212 eP Pn 20 21 44.6 +1.9
CHIC i 20 21 57.8
comp=Z,2µm,0.6s
CHIC eS Sn 20 22 23.6 +1.9
NORC Norcasia 3.38 237 eP Pn 20 21 45.3 +1.2
NORC eS Sn 20 22 23.2 -1.0
ROSC El Rosal 3.44 222 P Pn 20 21 49.0 +3.9
comp=Z,30nm,0.3s,baz=88,slow=13,SNR=86
ROSC Lg Lg 20 22 42.8
comp=Z,50nm,0.3s,baz=197,slow=19,SNR=2.2
ROSC El Rosal 3.44 222 ePn Pn 20 21 49.0 +3.9
ROSC eSn Sn 20 22 24.5 -1.7
ROSC Lg Lg 20 22 42.8
VILC Villavicencio, 3.69 207 eP Pn 20 21 50.0 +1.6
VILC eS Sn 20 22 34.3 +2.3
VILC i 20 22 56.3
comp=Z,1µm,0.4s
HELC Santa Helena 3.69 251 eP Pn 20 21 50.3 +1.7
HELC eS Sn 20 22 31.9 -0.4
HELC i 20 22 47.2
comp=Z,609nm,0.6s
HELC Santa Helena 3.69 251 ePn Pn 20 21 50.5 +1.9
HELC eSn Sn 20 22 30.3 -2.0
MOTC Monteria, Cord 3.85 291⇑ iP Pn 20 21 53.0 +2.5
MOTC i 20 23 03.5
comp=Z,670nm,0.9s
SJCC San Jacinto, C 3.97 308⇑ iP Pn 20 21 54.9 +2.8
SJCC i 20 21 56.6
comp=Z,788nm,0.5s
SJCC eS Sn 20 22 41.0 +2.3
TOLC Tolima 4.33 229 eP Pn 20 21 58.3 +1.0
PRAC Prado 4.67 218 eP Pn 20 22 03.3 +1.6
PRAC eS Sn 20 22 56.0 +0.1
PRAC Prado 4.67 218 ePn Pn 20 22 03.3 +1.6
PRAC eSn Sn 20 22 55.2 -0.7
PCRV Puerto La Cruz 7.79 69 P Pn 20 22 46.4 +1.7
comp=Z,19nm,0.3s,baz=297,slow=4.6,SNR=36
PCRV S Sn 20 24 13.0 0.0
comp=Z,27nm,0.3s,baz=151,slow=19,SNR=4.6
PCRV Lg Lg 20 24 54.1
comp=Z,21nm,0.3s,baz=101,slow=5.0,SNR=5.5
PCRV LR LR 20 26 20.9
comp=Z,443nm,21.2s,baz=246,slow=42
BCIP Isla Barro Col 7.92 283 ePn Pn 20 22 44.8 -1.6
OTAV Otavalo 9.60 222 ePn Pn 20 23 14.4 +4.5
YHJ Yallahs 11.27 338 iP Pn 20 23 33.2 +0.7
SDDR Presa de Saban 11.51 3 ePn Pn 20 23 36.8 +1.2
GWJ Greenwich 11.53 337 iP Pn 20 23 36.9 +0.9
STH Stony Hill 11.56 337 iP Pn 20 23 38.0 +1.6
MPR Mayaguez 11.72 23 ePn Pn 20 23 38.4 -0.1
CELP Cerrillos 11.83 26 ePn Pn 20 23 38.0 -2.1
BNJ Bonny Gate 11.84 337⇑ iP Pn 20 23 41.3 +1.1
MTDJ Mount Denham 12.00 334 ePn Pn 20 23 43.4 +0.9
BBJ Bamboo Saint A 12.02 335⇑ iP Pn 20 23 43.9 +1.2
SJG San Juan 12.06 28 P Pn 20 23 42.0 -1.1
comp=Z,9.7nm,0.3s,baz=171,slow=15,SNR=14
SJG S Sn 20 25 52.6 -5.1
comp=Z,1.2nm,0.3s,baz=304,slow=22,SNR=1.5
SJG LR LR 20 29 51.9
comp=Z,197nm,18.4s,baz=213,slow=45
SJG San Juan 12.06 28 ePn Pn 20 23 42.7 -0.4
SJG S Sn 20 25 52.6 -5.1
SVB Belmont 12.08 60 eP Pn 20 23 41.8 -1.6
HUMP Col San Antoni 12.23 29 ePn Pn 20 23 41.4 -4.0
CBYP Canovanas 12.34 29 ePn Pn 20 23 47.8 +0.9
STVI Saint Thomas 12.85 32 ePn Pn 20 23 51.3 -2.7
FDF Fort de France 12.90 55 eP Pn 20 23 49.4 -5.3
FDF Fort de France 12.90 55 ePn Pn 20 23 52.5 -2.2
PTGA Pitinga 14.50 123 P Pn 20 24 13.5 -3.1
comp=Z,2.4nm,0.3s,baz=301,slow=15,SNR=19
PTGA S Sn 20 26 48.2 -9.3
comp=Z,2.3nm,0.3s,baz=329,slow=18,SNR=3.0
PTGA Lg Lg 20 28 27.0
comp=Z,11nm,0.3s,baz=215,slow=23,SNR=9.1
PTGA LR LR 20 31 17.1
comp=Z,50nm,18.8s,baz=306,slow=43
ATAH Atahualpa 15.80 204 P Pn 20 24 35.3 +1.0
comp=Z,0.7nm,0.3s,baz=22,slow=5.4,SNR=3.6
ATAH LR LR 20 31 54.3
comp=Z,328nm,19.7s,baz=39,slow=42
SAML Samuel 18.50 151 ePn P 20 25 05.7 -1.9
comp=Z,27nm,1.3s
NNA Nana 19.88 194 P Pn 20 25 24.6 +0.2
comp=Z,0.5nm,0.3s,baz=27,slow=6.8,SNR=1.8
LPAZ La Paz 23.88 171 P P 20 26 06.8 +1.1
comp=Z,3.6nm,0.6s,baz=342,slow=10,SNR=13
LPAZ LR LR 20 36 07.1
comp=Z,463nm,18.3s,baz=338,slow=38
LPAZ La Paz 23.88 171 eP P 20 26 07.0 +1.3
comp=Z,14nm,0.8s
SIV San Ignacio 25.67 155 P P 20 26 22.3 +0.8
comp=Z,17nm,0.8s,baz=347,slow=11,SNR=12
SIV LR LR 20 36 25.3
comp=Z,164nm,21.9s,baz=3.5,slow=36
PB11 IPOC Station P 27.12 175 eP P 20 26 32.5 -2.1
comp=Z,19nm,0.8s
LRAL Lakeview Retre 29.02 333 eP P 20 26 52.4 +1.0
comp=Z,35nm,1.0s
LVC Limon Verde 30.01 174 eP P 20 27 00.3 -0.3
comp=Z,6.8nm,0.7s
TKL Tuckaleechee C 30.09 341 LR LR 20 40 14.8
comp=Z,199nm,19.1s,baz=146,slow=38
Y46A Houston 30.58 332 P P 20 27 05.6 +0.5
baz=145
BLA Blacksburg 30.61 347 eP P 20 27 07.3 +1.9
comp=Z,28nm,0.8s
LNIG Linares 31.46 307 eP P 20 27 12.0 -1.0
comp=Z,7.1nm,1.1s
736A Circle Diamond 31.87 315 P P 20 27 17.0 +0.4
baz=127
034A Hebbronville 31.96 311 P P 20 27 17.3 0.0
baz=123
WVT Waverly 32.02 335 eP P 20 27 18.6 +0.8
comp=Z,17nm,1.0s
Z41A Richland Creek 32.11 326 P P 20 27 19.4 +0.7
baz=138
139A Bunkhouse Ranc 32.60 323 P P 20 27 23.5 +0.6
baz=135
436A Wall Ranch, Ga 32.81 318 P P 20 27 25.6 +0.8
baz=130
Y40A Okolona 32.94 326 P P 20 27 26.4 +0.6
baz=138
W42A Bald Knob 32.99 330 P P 20 27 26.7 +0.4
baz=142
138A Matatall Enter 33.00 323 P P 20 27 27.3 +0.9
baz=134
O56A Blue Knob Stat 33.22 351 P P 20 27 29.1 +0.8
baz=168
336A Riesel 33.24 319 P P 20 27 28.8 +0.2
baz=130
W41B Gary Mavity, V 33.28 329 P P 20 27 29.5 +0.7
baz=141
Y39A Lockesburg 33.34 325 P P 20 27 29.8 +0.5
baz=137
V42A Cord 33.35 331 P P 20 27 29.9 +0.4
baz=143
137A Heron Place, G 33.36 322 P P 20 27 30.1 +0.5
baz=133
WHAR Wooly Hollow 33.39 329 eP P 20 27 30.7 +0.9
comp=Z,8.7nm,0.8s
MIAR Mount Ida 33.50 327 P P 20 27 30.7 -0.1
baz=139
S45A Carrier Mills 33.65 336 P P 20 27 32.6 +0.5
baz=149
PBMO Poplar Bluff 33.69 333 eP P 20 27 33.7 +1.4
comp=Z,39nm,1.5s
V41A Mountainview 33.71 330 P P 20 27 32.9 +0.2
baz=142,SNR=6.8
U42A Revenden 33.72 331 P P 20 27 33.3 +0.6
baz=144,SNR=7.1
W40A Ferguson Farm, 33.72 328 P P 20 27 33.5 +0.8
baz=140
X39A Fountain Ranch 33.77 326 P P 20 27 33.7 +0.5
baz=138
T43A Greenville 33.88 333 P P 20 27 34.5 +0.4
baz=146,SNR=7.1
S44A Carbondale 33.94 335 P P 20 27 35.2 +0.6
baz=148
WHTX Lake Whitney, 34.03 319 P P 20 27 35.8 +0.3
baz=130
U41A Viola 34.04 331 P P 20 27 35.7 +0.2
baz=143
V40A Witts Springs 34.06 329 P P 20 27 36.2 +0.4
baz=141,SNR=7.3
W39A Magazine 34.10 327 P P 20 27 36.6 +0.6
baz=139
N54A Moraine State 34.14 349 P P 20 27 36.9 +0.6
baz=166
Z36A Blue Ridge 34.24 322 P P 20 27 37.6 +0.3
baz=133
X38A Whitesboro 34.28 325 P P 20 27 38.1 +0.4
baz=137
R44A Waltonville 34.34 336 P P 20 27 38.6 +0.6
baz=149
W38A Poteau 34.41 326 P P 20 27 39.1 +0.4
baz=138
U40A Yellville 34.51 330 P P 20 27 40.0 +0.4
baz=141,SNR=10
V39A Pettigrew 34.52 328 P P 20 27 39.9 +0.2
baz=140
T41A Mountain View 34.52 332 P P 20 27 40.0 +0.4
baz=144
X37A Clayton 34.53 325 P P 20 27 40.1 +0.3
baz=136
M54A Oil Creek Stat 34.61 350 P P 20 27 41.5 +1.1
baz=166
S42A Caledonia 34.67 333 P P 20 27 40.9 0.0
baz=146
R43A Red Bud 34.72 335 P P 20 27 41.6 +0.3
baz=148
U39A Green Forest 34.85 329 P P 20 27 43.3 +0.8
baz=140
Q44A Meyer Farm, Va 34.88 336 P P 20 27 43.3 +0.6
baz=149
V38A Canehill 34.94 327 P P 20 27 43.1 -0.2
baz=139,SNR=5.1
S41A Jillco Farms, 34.95 332 P P 20 27 43.5 +0.2
baz=144,SNR=7.0
T40A Mansfield 34.97 331 P P 20 27 43.9 +0.4
baz=143,SNR=7.3
R42A Luebbering 35.09 334 P P 20 27 45.1 +0.5
baz=146,SNR=5.5
P44A Sand Creek, Wi 35.21 337 P P 20 27 45.7 +0.2
baz=150
T39A Clever 35.29 330 P P 20 27 46.3 0.0
baz=141
S40A Lebanon 35.32 331 P P 20 27 46.9 +0.4
baz=143,SNR=21
R41A Rosebud 35.37 333 P P 20 27 47.1 +0.2
baz=145,SNR=5.6
W36A Wetumka 35.42 325 P P 20 27 47.2 -0.3
baz=135
SFIN Lafayette 35.47 340 P P 20 27 48.6 +0.9
baz=153
SFIN Lafayette 35.47 340 eP P 20 27 49.0 +1.2
comp=Z,19nm,0.8s
P43A Skaggs, Pawnee 35.71 337 P P 20 27 50.1 +0.2
baz=149
V36A Jenks 35.72 326 P P 20 27 49.7 -0.3
baz=136
U37A Salina 35.72 327 P P 20 27 50.9 +0.9
baz=138
TUL1 Leonard 35.73 326 P P 20 27 49.8 -0.3
baz=137
R40A Maddies Statio 35.76 332 P P 20 27 50.3 0.0
baz=144,SNR=5.2
T38A Diamond 35.77 329 P P 20 27 50.1 -0.2
baz=140
S39A Bolivar 35.79 330 P P 20 27 51.2 +0.6
baz=142
Q41A Truxton 35.84 334 P P 20 27 51.2 +0.2
baz=146
ABTX Abilene, Hawle 35.86 318 P P 20 27 51.4 +0.1
baz=128
P42A Winchester 36.00 336 P P 20 27 52.8 +0.5
baz=148
S38A Stockton 36.03 330 P P 20 27 52.3 -0.3
baz=141,SNR=5.8
R39A Chumby, Stover 36.14 331 P P 20 27 53.6 0.0
baz=143,SNR=5.2
T37A Cheneyville 18 36.16 328 P P 20 27 53.6 -0.1
baz=139
Q40A Laux Farm, Aux 36.25 333 P P 20 27 54.4 -0.1
baz=145,SNR=5.7
P41A Barry, Barry 36.37 335 P P 20 27 55.1 -0.4
baz=147
R38A Fenwick Farm, 36.46 330 P P 20 27 56.1 -0.2
baz=141
CPUP Villa Florida 36.47 157 P P 20 27 57.6 +1.2
comp=Z,3.2nm,0.8s,baz=352,slow=10.0,SNR=5.4
CPUP LR LR 20 42 37.6
comp=Z,114nm,19.0s,baz=337,slow=36
T36A Boggs Farm, Ca 36.62 327 P P 20 27 56.5 -1.1
baz=138
P40A Paris 36.67 334 P P 20 27 57.7 -0.4
baz=145
Q39A Willow Grove F 36.70 332 P P 20 27 58.0 -0.4
baz=143,SNR=6.7
TXAR Lajitas Array 36.89 310 P P 20 28 00.2 0.0
comp=Z,2.7nm,0.7s,baz=128,slow=8.1,SNR=10
TXAR PcP PcP 20 30 22.0 +0.1
comp=Z,1.1nm,0.7s,baz=124,slow=6.4,SNR=4.5
TXAR LR LR 20 46 20.8
comp=Z,39nm,19.6s,baz=0.0,slow=41
Q38A Cooks Store, C 36.93 331 P P 20 28 00.4 +0.1
baz=142,SNR=12
P39B Salisbury 36.95 333 P P 20 28 00.2 -0.2
baz=144
S36A Lake Cedric, C 36.96 328 P P 20 27 59.7 -0.9
baz=139
O40A La Belle 37.09 334 P P 20 28 01.2 -0.4
baz=146
N41A Harden Midland 37.15 336 P P 20 28 01.8 -0.3
baz=148
Q37A Longview Farm, 37.27 331 P P 20 28 02.7 -0.4
baz=141
T34A McClaskey Farm 37.31 326 P P 20 28 03.2 -0.3
baz=136
R36A Gordon, Harris 37.37 329 P P 20 28 03.5 -0.5
baz=139
P38A Dawn 37.42 332 P P 20 28 04.2 -0.3
baz=143
O39A Kirksville 37.49 334 P P 20 28 04.9 -0.1
baz=145
M41A Milan 37.60 337 P P 20 28 06.2 +0.3
baz=149
N40A Mertquake, Sal 37.60 335 P P 20 28 06.2 +0.3
baz=147
L43A Garden Prairie 37.64 340 P P 20 28 06.1 -0.1
baz=152
R35A Emporia Munici 37.73 328 P P 20 28 07.1 0.0
baz=138
S34A Willow Spring 37.76 327 P P 20 28 07.1 -0.2
baz=136
P37A Lathrop 37.77 331 P P 20 28 07.5 0.0
baz=142
O38A Galt 37.79 333 P P 20 28 07.4 -0.2
baz=144
N39A Derby Farms, D 37.98 334 P P 20 28 09.1 -0.1
baz=146
Q35A Mercer Eighty, 38.04 329 P P 20 28 09.5 -0.3
baz=139
O37A Wolven Farm, M 38.14 332 P P 20 28 10.3 -0.2
baz=143
L41A Preston 38.18 338 P P 20 28 10.3 -0.5
baz=149
P36A Good Intent, A 38.21 331 P P 20 28 10.7 -0.5
baz=141
R34A Isabella, Hill 38.27 327 P P 20 28 11.1 -0.5
baz=137
M39A Webster 38.34 335 P P 20 28 12.1 -0.1
baz=146
L40A Anamosa 38.45 337 P P 20 28 12.4 -0.7
baz=148
Q34A Chapman 38.56 328 P P 20 28 13.5 -0.6
baz=138
K41A Shullsburg 38.57 338 P P 20 28 13.7 -0.4
baz=150
M38A Pleasantville 38.72 334 P P 20 28 15.1 -0.3
baz=145
MSTX Muleshoe 38.76 317 P P 20 28 14.9 -1.2
baz=126
L39A Vinton 38.81 336 P P 20 28 15.6 -0.5
baz=147
JFWS Jewell Farm 38.81 338 eP P 20 28 16.6 +0.4
comp=Z,16nm,0.8s
K40A Colesburg 38.96 337 P P 20 28 16.9 -0.5
baz=149
SPB Sao Paulo 39.09 143 eP P 20 28 12.3 -6.4
comp=Z,26nm,0.9s
J41A Loganville 39.12 339 P P 20 28 18.5 -0.2
baz=151
L38A Oak Wood Farm, 39.22 335 P P 20 28 19.2 -0.3
baz=146
K39A Oelwein 39.26 337 P P 20 28 19.6 -0.3
baz=148
MNTX Cornudas Mount 39.36 312 P P 20 28 21.1 +0.2
baz=121,SNR=12
MNTX Cornudas Mount 39.36 312 eP P 20 28 21.2 +0.3
comp=Z,9.1nm,0.9s
O34A Beatrice 39.38 330 P P 20 28 20.1 -0.8
baz=139
J40A Soldiers Grove 39.41 338 P P 20 28 20.8 -0.3
baz=150,SNR=5.3
K38A Parkersburg 39.56 336 P P 20 28 21.8 -0.7
baz=146
J39A Decorah 39.72 337 P P 20 28 23.0 -0.7
baz=148
I40A Norwalk 39.80 339 P P 20 28 24.0 -0.3
baz=150
M35A Neola 39.88 332 P P 20 28 24.5 -0.6
baz=142
G43A Wallace 40.06 343 P P 20 28 26.2 -0.3
baz=155
I39A Houston 40.09 338 P P 20 28 26.3 -0.5
baz=149
G42A Mountain 40.27 342 P P 20 28 28.2 0.0
baz=154
F43A Flat Rock, Esc 40.44 344 P P 20 28 29.6 0.0
baz=156
H39A Augusta 40.72 339 P P 20 28 32.1 +0.1
baz=150
G40A Rib Lake 40.86 340 P P 20 28 33.1 0.0
baz=152
F41A Three Lakes 40.92 342 P P 20 28 33.9 +0.3
baz=153,SNR=6.3
G39A Holcombe 41.20 339 P P 20 28 36.3 +0.3
baz=150,SNR=8.1
COWI Conover 41.26 342 eP P 20 28 36.5 0.0
comp=Z,15nm,0.9s
G38A Ridgeland 41.35 339 P P 20 28 37.0 -0.1
baz=149
F40A Park Falls 41.41 341 P P 20 28 37.9 +0.2
baz=152
E41A Kenton 41.53 342 P P 20 28 38.8 +0.2
baz=154
F39A Loretta 41.67 340 P P 20 28 40.0 +0.2
baz=151,SNR=6.1
T25A Trinidad 41.72 320 eP P 20 28 44.2 +3.7
KSCO Kaye Shedlock' 41.79 323 P P 20 28 41.1 0.0
baz=131
E40A Wakefield 41.80 341 P P 20 28 41.4 +0.5
baz=153,SNR=12
K32A Verdigre 41.88 331 P P 20 28 41.3 -0.3
baz=139
E39A Mellen 41.95 341 P P 20 28 42.8 +0.7
baz=152,SNR=15
LAZ Ladron 42.01 315 eP P 20 28 44.0 +1.0
F38A Pierce - Schro 42.04 339 P P 20 28 42.8 0.0
baz=150
ECSD EROS Data Cent 42.08 333 P P 20 28 43.0 -0.2
baz=142
F36A Milaca 42.55 338 P P 20 28 47.1 +0.1
baz=147
SDCO Great Sand Dun 42.77 320 P P 20 28 50.2 +0.9
baz=126
SDCO Great Sand Dun 42.77 320 eP P 20 28 50.6 +1.3
comp=Z,8.3nm,1.2s
E36A McGregor 43.01 338 P P 20 28 50.6 -0.1
baz=148,SNR=5.2
C39A Grand Marais 43.10 342 P P 20 28 51.5 +0.2
baz=153
I31A Royce, Wessing 43.19 332 P P 20 28 51.7 -0.5
baz=140
D37A Cotton 43.26 340 P P 20 28 52.9 +0.1
baz=150
C38A Sawbill Land. 43.37 341 P P 20 28 53.2 -0.4
baz=151
D36A Goodland 43.54 339 P P 20 28 54.5 -0.4
baz=149
S22A 4UR Ranch, Cre 43.63 319 eP P 20 28 57.8 +1.6
EYMN Ely 43.64 341 P P 20 28 55.6 -0.2
baz=151
EYMN Ely 43.64 341 eP P 20 28 56.0 +0.2
comp=Z,18nm,0.7s
C37A Embarrass 43.67 340 P P 20 28 56.0 -0.1
baz=150
TUC Tucson 43.69 310 eP P 20 28 57.3 +0.8
comp=Z,4.9nm,1.0s
SUSD Miller 43.70 332 P P 20 28 55.7 -0.6
baz=139
C36A Pine Crest Far 43.92 340 P P 20 28 58.2 +0.1
baz=149
ISCO Idaho Springs 44.08 322 P P 20 29 00.6 +0.7
baz=128,SNR=5.7
ISCO Idaho Springs 44.08 322 eP P 20 29 00.8 +0.9
comp=Z,6.4nm,0.9s
C35A Jirik Farms, M 44.27 339 P P 20 29 00.7 -0.2
baz=148
B35A Bob, Littlefor 44.74 339 P P 20 29 04.4 -0.3
baz=148
E31A Nome 44.87 335 P P 20 29 05.4 -0.2
baz=142
214A Organ Pipe Nat 45.10 308 P P 20 29 08.4 +0.6
baz=114
B34A Aery, Baudette 45.18 339 P P 20 29 08.0 -0.1
baz=147,SNR=7.0
WUAZ Wupatki 45.58 314 P P 20 29 12.4 +0.7
baz=118
WUAZ Wupatki 45.58 314 eP P 20 29 13.1 +1.3
A33A Warroad 45.82 339 P P 20 29 13.1 -0.1
baz=147
ULM Lac du Bonnet 47.09 339 P P 20 29 22.4 -0.8
comp=Z,14nm,0.9s,baz=140,slow=8.4,SNR=9.0
P17A Butcher Ranch, 47.14 319 eP P 20 29 25.0 +1.2
LCMT Little Creek M 47.62 314 eP P 20 29 29.3 +1.7
PLCA Paso Flores 47.94 178 P P 20 29 29.4 -0.5
comp=Z,2.5nm,0.7s,baz=17,slow=10,SNR=6.3
PLCA Paso Flores 47.94 178 eP P 20 29 29.6 -0.3
PDAR Pinedale Array 48.24 323 P P 20 29 32.4 -0.1
comp=Z,1.8nm,0.7s,baz=136,slow=9.7,SNR=5.9
NLU North Lily Min 48.27 318 eP P 20 29 34.0 +1.3
LOHW Long Hollow 49.35 323 eP P 20 29 41.9 +0.9
REDW Red Top Meadow 49.36 323 eP P 20 29 41.9 +0.8
MOOW Moose Ponds 49.52 323 eP P 20 29 42.8 +0.6
R11A Troy Canyon, C 49.88 315 P P 20 29 45.3 +0.3
baz=117
R11A Troy Canyon, C 49.88 315 eP P 20 29 45.2 +0.1
comp=Z,2.6nm,0.8s
GCMT Greycliff 50.12 326 eP P 20 29 47.7 +1.0
EDW2 Edwards Air Fo 50.22 310 P P 20 29 47.5 -0.1
baz=112
DLMT Dillon 51.52 324 eP P 20 29 58.4 +1.1
EGMT Eagleton 51.56 328 P P 20 29 58.0 +0.6
baz=129
HLID Hailey 51.64 321 P P 20 29 58.5 +0.3
baz=121
HLID Hailey 51.64 321 eP P 20 29 59.4 +1.2

MFID	Camas Ranch	52.45	320	eP		P	20 30 04.8 +0.6
MSO	Missoula	53.12	325	P		P	20 30 09.9 +0.8
	baz=124						
BSMT	Bassoo Peak	54.17	326	eP		P	20 30 18.5 +1.6
M04C	Macdoel	55.68	316	P		P	20 30 27.6 -0.2
	baz=113						
NEW	Newport	55.71	325	P		P	20 30 28.0 +0.1
	baz=122						
J05D	Fort Rock, OR	55.88	318	P		P	20 30 29.4 0.0
	baz=115						
YKA	Yellowknife Ar	63.08	339	P		P	20 31 18.1 -0.3
	comp=Z,6.7nm,0.7s,baz=130,slow=6.9,SNR=33						
TIC	Toumodi	66.44	86	eP		P	20 31 41.9 +0.6
LIC	Lamto	66.47	86	eP		P	20 31 42.2 +0.7
	comp=Z,93nm,1.8s						
DBIC	Dimbokro	66.60	86	P		P	20 31 42.3 0.0
	comp=Z,7.2nm,0.7s,baz=280,slow=7.2,SNR=10						
DBIC				LR		LR	20 57 23.7
	comp=Z,29nm,20.3s,baz=254,slow=33						
KIC	Kosan Boka	66.75	86	eP		P	20 31 44.2 +1.0
	comp=Z,17nm,0.7s						
SUMG	Summit	68.19	10	iP		P	20 31 51.8 0.0
	comp=Z,18nm,0.7s						
SUMG	Summit	68.19	10	eP		P	20 31 52.0 +0.2
	comp=Z,28nm,0.8s						
TORD	Torodi Ar. Bea	72.55	79	P		P	20 32 18.8 -0.2
	comp=Z,24nm,0.8s,baz=288,slow=6.8,SNR=6.5						
TORD				LR		LR	21 03 32.7
	comp=Z,42nm,20.3s,baz=165,slow=35						
INK	Inuvik	72.83	340	P		P	20 32 19.5 -0.2
	comp=Z,2.0nm,0.6s,baz=103,slow=6.1,SNR=5.1						
EGAK	Eagle	74.49	335	eP		P	20 32 30.0 +0.5
	comp=Z,8.4nm,1.2s						
DAG	Danmarks Havn	74.85	11	iP		P	20 32 30.8 -0.6
	comp=Z,7.5nm,0.8s						
DOT	Dot Lake	75.44	334	eP		P	20 32 35.9 +0.8
	comp=Z,21nm,0.8s						
ILAR	Eielson Array	76.88	335	P		P	20 32 42.8 -0.4
	comp=Z,1.8nm,0.9s,baz=105,slow=4.6,SNR=13						
TRF	Thorofare Moun	78.15	333	eP		P	20 32 50.4 -0.1
	comp=Z,11nm,1.2s						
NB2	NORSAR Subarra	80.27	29	P		P	20 33 02.3 +0.3
	comp=Z,7.4nm,1.2s,baz=268,slow=5.6						
NOA	NORSAR Array B	80.27	29	P		P	20 33 02.7 +0.7
	comp=Z,1.4nm,0.8s,baz=266,slow=5.4,SNR=3.5						
GERES	GERESS Array B	81.64	42	P		P	20 33 09.1 -0.6
	comp=Z,1.2nm,0.9s,baz=263,slow=4.0,SNR=4.0						
ARCES	ARCESS Array B	85.72	20	P		P	20 33 30.2 +0.2
	comp=Z,2.2nm,0.7s,baz=273,slow=3.3,SNR=5.0						
FINES	FINESS Array B	87.39	28	P		P	20 33 38.0 -0.3
	comp=Z,2.1nm,0.9s,baz=290,slow=7.7,SNR=4.1						
VNA3	Neumayer Olymp	88.44	163	P		P	20 33 42.9 -0.3
VNA2	Neumayer--Watz	88.95	163	P		P	20 33 45.7 +0.2
	baz=314,slow=5.2						
SNAA	Sanae	90.59	163	P		P	20 33 53.3 0.0
LBTB	Lobatse	99.98	114	LR		LR	21 17 21.6
	comp=Z,78nm,19.6s,baz=227,slow=34						
KSH	Kashi	124.69	30	ePKP		PKPdf	20 39 52.7 +1.1
KSH				PP		PP	20 41 43.5 +5.8
KSH				PKS		PKSdf	20 43 28.0 -0.4
KSH				SKS		SKSdf	20 47 01.7 -2.2
KSH				SKKS		SKKSac	20 48 35.4 -2.1
KSH	Kashi	124.69	30	SS		SS	20 58 33.7 +2.3
KSH				AMB		AMB	
	comp=Z,160nm,5.0s						
KSH				LR		LR	
	comp=N,56nm,3.6s						
KSH				LR		LR	
	comp=E,33nm,5.0s						
KSH				LR		LR	
	comp=Z,200nm,6.5s						
HHC	Hu-ho-hao-te	131.85	356	ePKP		PKPdf	20 40 04.2 -1.0
HHC				PP		PP	20 42 29.2 +5.0
HHC	Hu-ho-hao-te	131.85	356	SS		SS	20 59 59.3 +0.2
HHC				LR		LR	
	comp=N,250nm,17.3s						
HHC				LR		LR	
	comp=E,190nm,18.8s						
HHC				LR		LR	
	comp=Z,140nm,18.5s						
ASAR	Alice Springs	150.35	234	PKP		PKPdf	20 40 37.7 -0.7
	comp=Z,0.3nm,0.4s,baz=121,slow=3.2,SNR=5.0						
ASAR				PKPbc		pPKPdf	20 40 42.4 +0.1
	comp=Z,1.1nm,0.6s,baz=123,slow=3.2,SNR=9.8						
WRAB	Tennant Creek	151.58	241	ePKPbc		PKPbc	20 40 45.9 -0.7
WRA	Warramunga Arr	151.58	241	PKP		PKPdf	20 40 39.9 -0.5
	comp=Z,0.8nm,1.0s,baz=112,slow=1.2,SNR=4.6						
WRA				PKPbc		sPKPdf	20 40 45.5 0.0
	comp=Z,3.5nm,0.7s,baz=105,slow=2.6,SNR=28						
CMAR	Chiang Mai Arr	152.78	19	PKPbc		PKPbc	20 40 48.2 -1.1
	comp=Z,1.0nm,0.7s,baz=323,slow=3.1,SNR=8.7						

*NNC **05** 20:21:01.5±1.4, 47°.31N×82°.38E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=7.3km s-min=5.5km az=9.0*
*SOME **05** 20:21:02.8, 47°.32N×81°.90E, h0km*
ISC 05 20:21:03.0±0.9,**47°29**N±0°.04×**82°23E**±0°.05,**h19**km,**n23,**
σ3$**81**/42,**7C-4D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	0.50	175	⇓P		Pg	20 21 12.1 -1.0
	43nm,0.3s,baz=7.6,slow=16,SNR=2601						
MK31				⇓S		Sb	20 21 19.2 -0.8
	122nm,0.5s,baz=11,slow=29,SNR=18						
MAKZ	Makanchi	0.51	200	⇑P		Pg	20 21 12.7 -0.7
	91nm,0.5s						
MAKZ				⇑S		Sb	20 21 20.2 -0.2
	165nm,0.5s						
ZSN	Zaisan	1.80	84	eP		Pn	20 21 34.6 +1.6
	3.2nm,0.4s						
ZSN				eS		Sb	20 21 57.9 +0.5
	18nm,0.4s						
KAPS	Kapalarasan	2.83	226	eP		Pb	20 21 53.8 +0.9
	8.5nm,0.3s						
KAPS				eS		Sb	20 22 30.1 +3.0
	38nm,0.4s						
SEM	Semipalatinsk	3.38	338	eP		Pb	20 22 02.5 +0.1
	27nm,0.4s						
SEM				eS		Sb	20 22 45.0 +1.7
TDK	Taldyqorghan	3.51	231	eP		Pb	20 22 05.3 +0.8
	13nm,0.2s						
TDK				eS		Sb	20 22 50.5 +3.9
	86nm,0.6s						
KURK	Kurchatov	4.17	327	⇑Pg		Pb	20 22 16.7 +1.0
	3.6nm,0.5s						
KURK				⇑Lg		Lg	20 23 11.9
	43nm,0.4s						
MNBS	Baschi	4.18	221	eP		Pb	20 22 18.2 +2.2
	9.9nm,0.3s						
MNBS				eS		Sg	20 23 12.8 -4.5
	7.2nm,0.2s						
ARXS	Arharly	4.36	227	eP		Pb	20 22 22.0 +3.1
	7.7nm,0.4s						
ARXS				eS		Sg	20 23 18.7 -4.0
	73nm,0.2s						
PDGK	Podgornoye	4.41	207	⇓Pn		Pn	20 22 11.0 +2.1
	2.7nm,0.4s						
PDGK				⇓Lg		Lg	20 23 18.0
	35nm,0.6s						
KPKS	Kokpek	4.57	214	eP		Pb	20 22 25.9 +3.4
	3.3nm,0.1s						
KPKS				eS		Sg	20 23 25.5 -4.1
	49nm,0.4s						
SHLS	Shalkode	4.57	206	eP		Pb	20 22 24.0 +1.4
	5.3nm,0.3s						
SHLS				eS		Sb	20 23 21.9 +4.5
	27nm,0.3s						
UZB	Uzynbulak	4.72	210	eP		Pb	20 22 27.4 +2.2
	2.5nm,0.2s						
UZB				eS		Sg	20 23 28.1 -6.4
	15nm,0.6s						
SATY	Saty	5.02	214	eP		Pb	20 22 33.4 +3.1
	6.4nm,0.5s						
SATY				eS		Sg	20 23 39.2 -4.9
	18nm,0.6s						
CHKK	Chushkaly	5.04	229	eP		Pb	20 22 33.2 +2.7
	4.5nm,0.2s						
CHKK				eS		Sg	20 23 39.4 -5.1
	36nm,0.4s						
KTBS	Karatobe	5.29	230	eP		Pb	20 22 39.6 +4.7
	2.1nm,0.3s						
KTBS				eS		Sg	20 23 49.2 -3.6
	8.4nm,0.6s						
KUU	Kurty	5.35	233	eP		Pb	20 22 39.0 +3.1
	3.1nm,0.5s						
KUU				⇑iS		Sg	20 23 48.4 -6.2
	29nm,0.6s						
KOTS	Kotyrbulak	5.43	224	eP		Pb	20 22 41.6 +4.3
	5.5nm,0.5s						
KOTS				eS		Sg	20 23 52.2 -5.0
	14nm,0.7s						
MDOK	Medeo	5.51	223	eP		Pb	20 22 42.4 +3.7
	3.7nm,0.5s						
MDOK				eS		Sg	20 23 54.6 -5.3
	11nm,0.5s						
TNSS	Tian-Shan	5.66	223	eP		Pb	20 22 44.5 +3.1
	4.7nm,0.5s						
TNSS				eS		Sg	20 23 57.5 -7.1
	12nm,0.4s						
IZV	Izvestkoviy	5.82	225	eP		Pb	20 22 47.6 +3.7
	6.9nm,0.5s						
IZV				eS		Sg	20 24 02.6 -7.0
	14nm,0.6s						
KST	Kastek	6.14	229	eP		Pb	20 22 54.9 +5.6
	2.0nm,0.6s						
KST				eS		Sg	20 24 15.5 -4.4
	9.2nm,0.5s						
TKM2	Tokmak 2	6.41	229	⇑Pn		Pn	20 22 37.8 +1.2
	2.0nm,0.6s						
TKM2				⇑Lg		Lg	20 24 27.3
	12nm,0.8s						

*IDC **05** 20:38:11.9±4.1, 11°.61S×117°.04E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/54, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=262.8km s-min=25.5km az=46.0*
*ISCJB **05** 20:38:13.6±0.8, 11°.43S±0°.06×117°.34E±0°.09, h26km, mb3.5/1, Error ellipse: s-maj=14.1km s-min=6.9km az=149.4*
*DJA **05** 20:38:21.2±0.7, 11°S±17°×11°7E±°, h94km±75km, M4.0/7, MLv4.0/7*
ISC 05 20:38:13.0±0.9,**11°48S**±0°.08×**117°36E**±0°.08,**h26**km,**n11,**
σ3$**96**/17,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.67	9	P	Pb	20 38 58.2	-1.8
PLAI				S	Sn	20 39 26.0	+0.2
TWSI	Taliwang, Sumb	2.76	350	P	Pb	20 38 58.6	-3.1
TWSI				S	Sn	20 39 27.4	-0.8
WSI	Waingapu	3.40	58	P	Pb	20 39 13.4	+0.8
IGBI	Denpasar	3.43	320	P	Pn	20 39 06.2	+1.5
DNP	Denpasar	3.50	323	P	Pn	20 39 07.0	+1.3
JAGI	Jajag, Banyuwa	4.35	313	P	Pn	20 39 18.3	+0.8
JAGI				S	Sn	20 40 03.5	-3.9
GMJI	Gumukmas	5.00	309	P	Pn	20 39 27.9	+1.5
FITZ	Fitzroy Crossi	10.36	130	Pn	Pn	20 40 43.2	+3.2
	baz=316,slow=10						
FITZ				Sn	Sn	20 42 31.5	-3.8
	baz=176,slow=23,SNR=10						
WRA	Warramunga Arr	18.37	119	P	Pn	20 42 29.4	+3.4
	0.2nm,0.3s,baz=287,slow=14,SNR=4.9						
WRA				S	Sn	20 45 41.2	-9.4
	0.2nm,0.3s,baz=286,slow=20,SNR=4.5						
ASAR	Alice Springs	19.86	130	P	Pn	20 42 47.8	+3.8
	1.6nm,0.7s,baz=309,slow=10,SNR=13						
ASAR				S	S	20 46 18.9	-5.9
	0.5nm,0.6s,baz=302,slow=23,SNR=4.7						
MKAR	Makanchi Array	65.95	334	P	P	20 48 59.8	+2.9
	0.2nm,0.4s,baz=147,slow=7.1,SNR=5.9						

*CSEM **05** 20:45:51.7, 41°.62N×14°.83E, h24km, MD1.8/4*
ROM 05 20:45:51.7±0.1,**41°62N×14°83E, h24**km,**Md1.8**/4,**MI1.1**/3,
Error ellipse: s-maj=1.0km s-min=0.4km az=118.0,
Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIGN	Sant'Elia a Pi	0.07	60	Pg	Pb	20 45 56.1	+0.1
CIGN				Sg	Sb	20 45 59.3	+0.4
	33nm,0.4s						
CIGN	Sant'Elia a Pi	0.07	60	Pg	Pb	20 45 56.1	+0.1
CIGN				Sg	Sb	20 45 59.3	+0.4
	33nm,0.4s						
GATE	Gambatesa	0.12	149	Pg	Pb	20 45 56.6	+0.2
GATE				Sg	Sb	20 46 00.0	+0.4
	44nm,0.3s						
GATE	Gambatesa	0.12	149	Pg	Pb	20 45 56.6	+0.2
GATE				Sg	Sb	20 46 00.0	+0.4
	44nm,0.3s						
SACR	S. Croce Del S	0.24	202	Pg	Pb	20 45 58.0	+0.2
SACR				Sg	Sb	20 46 02.5	+0.5
	136nm,2.6s						
SACR	S. Croce Del S	0.24	202	Pg	Pb	20 45 58.0	+0.2
SACR				Sg	Sb	20 46 02.5	+0.5
	136nm,2.6s						
PTRJ	Pietraroja	0.34	221	Pg	Pb	20 45 59.3	0.0
PTRJ				Sg	Sb	20 46 05.1	+0.7
	20nm,0.4s						
PTRJ	Pietraroja	0.34	221	Pg	Pb	20 45 59.3	0.0
PTRJ				Sg	Sb	20 46 05.1	+0.7
	20nm,0.4s						

*ISK **05** 20:47:44.9, 38°.58N×25°.16E, h5km, ML3.9*
*ISCJB **05** 20:47:46.5±0.6, 38°.61N±0°.01×25°.28E±0°.01, h9km±4km, mb3.4/5, MS3.3/1, Error ellipse: s-maj=2.3km s-min=1.9km az=155.1*
*IDC **05** 20:47:46.3±1.0, 38°.61N×25°.32E, h0km, mb3.5/5, mb1 3.5/9, mb1mx3.3/52, mbtmp3.4/9, ML3.1/4, MS2.8/2, Ms1 2.8/2, ms1mx2.2/44, Error ellipse: s-maj=18.4km s-min=13.8km az=124.0*
*CSEM **05** 20:47:47.3±0.1, 38°.58N×25°.27E, h10km, ML3.6, Error ellipse: s-maj=2.3km s-min=1.9km az=158.0*
*THE **05** 20:47:47.4, 38°.60N×25°.34E, h8km±1km, ML3.5/15, Error ellipse: s-maj=1.1km s-min=0.5km az=147.0*
*DDA **05** 20:47:47.4, 38°.69N×25°.36E, h30km, Ml3.7*
*ATH **05** 20:47:47.0, 38°.61N×25°.33E, h36km±1km, ML3.6/13, Error ellipse: s-maj=2.0km s-min=0.6km az=30.0*
ISC 05 20:47:46.9±1.1,**38°59N**±0°.02×**25°31E**±0°.01,**h6**km±8km,
n348, σ0$**94**/405,**mb3.3**/5,**8C-10D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	Skiros Island	0.66	296	P	Pg	20 48 00.4	+0.8
SKY				S	Sb	20 48 11.0	+0.8
SKY	Skiros Island	0.66	296	P	Pg	20 47 59.9	+0.3
SKY				S	Sn	20 48 12.4	-1.0
SKY				AML	AML	20 48 12.6	
	comp=E,13073μm,0.3s						
SKY				AML	AML	20 48 12.8	
	comp=N,9554μm,0.2s						
SKY	Skiros Island	0.66	296	P	Pg	20 47 59.8	+0.3
SKY				S	Sb	20 48 11.0	+0.8
SIGR	SIGRI	0.75	34	ePG	Pg	20 48 01.1	-0.3
SIGR	SIGRI	0.75	34	P	Pg	20 48 01.1	-0.3
SIGR				S	Sg	20 48 11.5	+0.3
SIGR	SIGRI	0.75	34	P	Pg	20 48 00.5	-0.9
SIGR				S	Sg	20 48 10.1	-1.0
SIGR				AML	AML	20 48 11.7	
	comp=N,19034μm,0.6s						
SIGR				AML	AML	20 48 12.4	
	comp=E,12003μm,0.3s						
SIGR	SIGRI	0.75	34	P	Pg	20 48 01.1	-0.3
SIGR				S	Sg	20 48 11.5	+0.3
CESE	˜e¯me	0.82	108	ePG	Pb	20 48 03.3	-0.3
CESE				eSG	Sn	20 48 16.3	-1.2
CESE	˜e¯me	0.82	108	ePg	Pb	20 48 03.3	-0.3
CESE				eSg	Sn	20 48 16.3	-1.2
KARY	Karystos	0.88	231	P	Pg	20 48 04.5	+0.6
KARY				S	Sb	20 48 17.4	+0.7
KARY	Karystos	0.88	231	P	Pb	20 48 04.7	0.0
KARY				S	Sb	20 48 16.9	+0.2
KARY				AML	AML	20 48 19.0	
	comp=N,4762μm,0.3s						
KARY				AML	AML	20 48 19.2	
	comp=E,5442μm,0.5s						
KARY	Karystos	0.88	231	P	Pg	20 48 04.5	+0.6
KARY				S	Sb	20 48 16.9	+0.2
KRBN	Karaburun	0.98	89	ePN	Pb	20 48 06.4	+0.2
KRBN	Karaburun	0.98	89	ePn	Pb	20 48 06.4	+0.2
PRK	Paraskevi	1.00	49	P	Pg	20 48 06.0	0.0
PRK				S	Sb	20 48 19.5	-0.5
PRK	Paraskevi	1.00	49	P	Pb	20 48 06.6	0.0
PRK				S	Sb	20 48 20.0	+0.1
PRK				AML	AML	20 48 22.7	
	comp=N,19661μm,0.5s						
PRK				AML	AML	20 48 24.6	
	comp=E,17273μm,0.9s						
PRK	Paraskevi	1.00	49	P	Pb	20 48 06.6	0.0
PRK				S	Sb	20 48 19.5	-0.5
ZEY	˜zmir	1.00	110	iP	Pb	20 48 06.8	+0.1
ZEY				iS	Sb	20 48 20.7	+0.6
URLA	Izmir	1.04	102	ePN	Pb	20 48 07.4	+0.1
URLA	Izmir	1.04	102	iP	Pb	20 48 07.3	+0.1
URLA				iS	Sg	20 48 19.4	-0.9
URLA	Izmir	1.04	102	P	Pb	20 48 07.3	+0.1
URLA				S	Sg	20 48 19.4	-0.9
GPNR	Gulpinar-Canak	1.08	36	ePN	Pg	20 48 07.6	0.0
GPNR	Gulpinar-Canak	1.08	36	ePn	Pg	20 48 07.6	0.0
EREA	Eretria	1.09	261	P	Pg	20 48 08.0	+0.1
EREA				S	Sn	20 48 25.1	+0.9
EREA	Eretria	1.09	261	P	Pb	20 48 08.4	+0.2
EREA				AML	AML	20 48 25.2	
	comp=N,4184μm,0.7s						
EREA				AML	AML	20 48 27.9	
	comp=E,4157μm,0.4s						
EREA	Eretria	1.09	261	P	Pg	20 48 08.0	+0.1
EREA				S	Sn	20 48 25.1	+0.9
FOCM	Fo˜§a	1.12	83	ePN	Pn	20 48 08.8	-0.3
FOCM	Fo˜§a	1.12	83	ePn	Pn	20 48 08.8	-0.3
CAND	Candarli	1.22	72	ePN	Pn	20 48 10.9	+0.4
PTL	Penteli	1.26	245	P	Pn	20 48 10.3	-0.8
PTL	Penteli	1.26	245	P	Pn	20 48 10.3	-0.8
PTL				S	Sn	20 48 28.7	+0.4
PTL				AML	AML	20 48 29.8	
	comp=N,3956μm,0.9s						
PTL				AML	AML	20 48 31.5	
	comp=E,4846μm,0.7s						
PTL	Penteli	1.26	245	P	Pn	20 48 10.3	-0.8
PTL				S	Sn	20 48 28.7	+0.4
AYVA	Ayvalik	1.29	56	iP	Pn	20 48 10.4	-1.1
AYVA	Ayvalik	1.29	56	P	Pn	20 48 10.4	-1.1
CUND	Cunda Adasi-Ba	1.30	55	ePN	Pg	20 48 11.8	0.0
CUND	Cunda Adasi-Ba	1.30	55	ePn	Pg	20 48 11.8	0.0
LIA	Limnos Island	1.31	356	P	Pn	20 48 10.2	-1.5
LIA				S	Sb	20 48 28.6	-0.3
LIA	Limnos Island	1.31	356	P	Pn	20 48 10.3	-1.4
LIA				S	Sb	20 48 28.4	-0.6
LIA				AML	AML	20 48 32.9	
	comp=E,2286μm,0.5s						
LIA				AML	AML	20 48 33.1	
	comp=N,3096μm,0.4s						
LIA	Limnos Island	1.31	356	P	Pn	20 48 10.3	-1.4
LIA				S	Sb	20 48 28.6	-0.3
DKL	Dikili	1.34	68	ePN	Pg	20 48 12.6	+0.1
DKL	Dikili	1.34	68	ePn	Pg	20 48 12.6	+0.1
ATHU	Athens Univers	1.35	243	P	Pn	20 48 09.8	-2.5
ATHU				S	Sb	20 48 27.9	-2.3
ATHU				AML	AML	20 48 35.4	
	comp=E,842μm,0.5s						
ATHU				AML	AML	20 48 35.5	
	comp=N,1288μm,0.4s						
ATHU	Athens Univers	1.35	243	P	Pn	20 48 09.8	-2.5
ATHU				S	Sb	20 48 27.9	-2.3
DGB	˜zmir	1.35	113	iP	Pn	20 48 12.0	-0.3
GMLD	Gumuldur	1.36	112	ePN	Pb	20 48 12.9	+0.1
GMLD	Gumuldur	1.36	112	ePn	Pb	20 48 12.9	+0.1
BOZC	Bozcaada	1.38	25	ePN	Pn	20 48 12.2	-0.5
BOZC	Bozcaada	1.38	25	iP	Pn	20 48 10.9	-1.7
BOZC	Bozcaada	1.38	25	ePn	Pn	20 48 12.2	-0.5
ATH	Athens Observa	1.40	244	P	Pn	20 48 12.4	-0.5
ATH	Athens Observa	1.40	244	P	Pn	20 48 12.5	-0.4
ATH				S	Sb	20 48 29.7	-1.7
ATH				AML	AML	20 48 34.0	
	comp=N,3966μm,0.9s						
ATH				AML	AML	20 48 39.6	
	comp=E,3818μm,0.4s						
ATH	Athens Observa	1.40	244	P	Pn	20 48 12.5	-0.4
ATH				S	Sb	20 48 29.7	-1.7
VLY	Voula,Athens	1.40	239	P	Pn	20 48 12.2	-0.8
VLY	Voula,Athens	1.40	239	P	Pn	20 48 12.3	-0.7
VLY				S	Sb	20 48 31.8	+0.2
VLY				AML	AML	20 48 34.3	
	comp=N,4868μm,0.5s						
VLY				AML	AML	20 48 35.1	
	comp=E,5101μm,0.6s						
VLY	Voula,Athens	1.40	239	P	Pn	20 48 12.3	-0.7
VLY				S	Sb	20 48 31.8	+0.2
EZN	Ezine	1.47	32	ePN	Pn	20 48 13.6	-0.2
EZN	Ezine	1.47	32	P	Pn	20 48 12.2	-1.7
EZN				S	Sb	20 48 33.1	-0.3
EZN	Ezine	1.47	32	P	Pn	20 48 12.2	-1.7
EZN	Ezine	1.47	32	ePn	Pn	20 48 13.6	-0.2
EZN				S	Sb	20 48 33.1	-0.3
SMG	Samos	1.49	126	P	Pn	20 48 13.8	-0.5
SMG				S	Sn	20 48 33.0	-1.1
SMG	Samos	1.49	126	P	Pn	20 48 14.3	0.0
SMG	Samos	1.49	126	P	Pn	20 48 13.8	-0.5
SMG				S	Sn	20 48 33.0	-1.1
BAYC	CANAKKALE_Bayr	1.50	40	iP	Pn	20 48 12.7	-1.7
BAYC	CANAKKALE_Bayr	1.50	40	P	Pn	20 48 12.7	-1.7
APE	Apeiranthos	1.53	173	ePN	Pn	20 48 13.9	-0.9
APE	Apeiranthos	1.53	173	P	Pn	20 48 14.2	-0.6
APE				S	Sn	20 48 34.8	-0.3
APE	Apeiranthos	1.53	173	iP	Pn	20 48 14.1	-0.7
APE				S	Sn	20 48 34.7	-0.3
APE	Apeiranthos	1.53	173	P	Pn	20 48 13.9	-0.9
APE				AML	AML	20 48 38.9	
	comp=E,1812μm,0.6s						
APE				AML	AML	20 48 45.4	
	comp=N,1545μm,0.4s						
APE	Apeiranthos	1.53	173	P	Pn	20 48 14.2	-0.6
APE				S	Sn	20 48 34.8	-0.3
SKIA	Skiathos	1.55	292	P	Pn	20 48 14.4	-0.6
SKIA				S	Sn	20 48 35.1	-0.3
SKIA	Skiathos	1.55	292	P	Pn	20 48 14.6	-0.4
SKIA				AML	AML	20 48 40.2	
	comp=E,2696μm,0.5s						
SKIA				AML	AML	20 48 40.3	
	comp=N,4310μm,0.6s						
SKIA	Skiathos	1.55	292	P	Pn	20 48 14.6	-0.4
SKIA				S	Sn	20 48 35.1	-0.3
SERI	Serifos	1.57	205	P	Pn	20 48 13.8	-1.6
SERI	Serifos	1.57	205	P	Pn	20 48 13.8	-1.6
VILL	Villia	1.62	255	P	Pn	20 48 15.8	-0.3
VILL	Villia	1.62	255	P	Pn	20 48 15.8	-0.3
VILL				S	Sn	20 48 34.5	-2.9
VIL2	Platees	1.65	257	P	Pn	20 48 16.1	-0.3
VIL2				S	Sn	20 48 34.5	-3.4
VIL2				AML	AML	20 48 46.2	
	comp=E,2249μm,0.4s						
VIL2				AML	AML	20 48 50.7	
	comp=N,3103μm,0.7s						
GADA	Gvkgeada	1.66	16	ePN	Pn	20 48 16.1	-0.5
GADA	Gvkgeada	1.66	16	P	Pn	20 48 15.0	-1.6
GADA				S	Sn	20 48 37.6	-0.6
GADA	Gvkgeada	1.66	16	P	Pn	20 48 15.0	-1.6
GADA	Gvkgeada	1.66	16	ePn	Pn	20 48 16.1	-0.5
GADA				S	Sn	20 48 37.6	-0.6
SMIA	Simia	1.67	281	P	Pn	20 48 16.0	-0.7
SMIA				S	Sn	20 48 38.5	+0.1
SMIA	Simia	1.67	281

LTK	Loutraki	1.93 254	P	Pn	20 48 20.0	-0.2
LTK	Loutraki	1.93 254	P	Pn	20 48 20.0	-0.2
LOUT	Loutraki	1.93 253	P	Pn	20 48 20.1	-0.2
LOUT	Loutraki	1.93 253	P	Pn	20 48 20.4	+0.1
LOUT	Loutraki	1.93 253	P	Pn	20 48 20.1	-0.2
DID	Didima	1.96 237	P	Pn	20 48 19.9	-0.8
DID	Didima	1.96 237	P	Pn	20 48 19.9	-0.8
MHLA	Plaka, Milos I	1.97 201	P	Pn	20 48 19.0	-1.8
MHLA	Plaka, Milos I	1.97 201	P	Pn	20 48 19.0	-1.8
AKHS	Akhisar	1.98 81	*i* P	Pn	20 48 21.8	+0.8
AKHS	Akhisar	1.98 81	P	Pn	20 48 21.8	+0.8
OUR	Ouranopolis	2.02 330	*e*PN	Pn	20 48 19.7	-1.8
OUR	Ouranopolis	2.02 330	P	Pn	20 48 20.7	-0.8
OUR			S	Sn	20 48 46.8	-0.3
OUR	Ouranopolis	2.02 330	*e*Pn	Pn	20 48 19.7	-1.8
OUR	Ouranopolis	2.02 330	P	Pn	20 48 20.7	-0.8
OUR			S	Sn	20 48 46.8	-0.3
STEP	BALIKESIR_Sava	2.04 67	*i* P	Pn	20 48 21.4	-0.4
STEP	BALIKESIR_Sava	2.04 67	P	Pn	20 48 21.4	-0.4
AXAR	Agios Charalam	2.08 276	P	Pn	20 48 21.2	-1.2
AXAR	Agios Charalam	2.08 276	P	Pn	20 48 21.2	-1.2
LPK	Lapseki	2.10 32	*e*PN	Pn	20 48 22.6	-0.1
LPK	Lapseki	2.10 32	*e*Pn	Pn	20 48 22.6	-0.1
CMBO	Columbo, Santo	2.12 178	P	Pn	20 48 22.2	-0.6
CMBO	Columbo, Santo	2.12 178	P	Pn	20 48 22.2	-0.6
BALY	Balya	2.13 57	*i* P	Pb	20 48 26.0	0.0
BALY	Balya	2.13 57	P	Pb	20 48 26.0	0.0
AYDB	Zeytinkoy-Aydi	2.13 107	*e*PN	Pn	20 48 23.9	+0.7
AYDB	Zeytinkoy-Aydi	2.13 107	*e*Pn	Pn	20 48 23.9	+0.7
THR2	Thira island,	2.14 177	P	Pn	20 48 22.6	-0.6
THR2	Thira island,	2.14 177	P	Pn	20 48 22.9	-0.3
THR2	Thira island,	2.14 177	P	Pn	20 48 22.6	-0.6
THAL	Thalero	2.15 256	P	Pn	20 48 23.8	+0.5
THAL	Thalero	2.15 256	P	Pn	20 48 23.8	+0.5
THAL	Thalero	2.15 256	P	Pn	20 48 23.8	+0.5
THR5	Thira Island,	2.17 179	P	Pn	20 48 22.8	-0.8
THR5	Thira Island,	2.17 179	P	Pn	20 48 22.8	-0.8
THR5	Thira Island,	2.17 179	P	Pn	20 48 22.8	-0.8
THR3	Thira Island,	2.18 178	P	Pn	20 48 22.9	-0.7
THR3	Thira Island,	2.18 178	P	Pn	20 48 23.0	-0.7
THR3	Thira Island,	2.18 178	P	Pn	20 48 23.0	-0.7
DSF	Desfina	2.19 266	P	Pn	20 48 23.2	-0.7
DSF	Desfina	2.19 266	P	Pn	20 48 23.2	-0.7
BODT	Bodrum	2.20 133	*e*PN	Pn	20 48 23.9	-0.1
BODT	Bodrum	2.20 133	P	Pn	20 48 23.9	-0.1
BODT	Bodrum	2.20 133	P	Pn	20 48 23.9	-0.1
SANT	Santorini	2.22 177	P	Pn	20 48 23.2	-1.1
SANT	Santorini	2.22 177	P	Pn	20 48 23.2	-1.1
AYDN	Tasoluk	2.23 114	*i* P	Pn	20 48 24.8	+0.3
AYDN	Tasoluk	2.23 114	P	Pn	20 48 24.8	+0.3
SAP1	Santorini-Akro	2.23 178	P	Pn	20 48 23.1	-1.3
SAP1	Santorini-Akro	2.23 178	P	Pn	20 48 23.1	-1.3
THR6	Thira Island,	2.23 178	P	Pn	20 48 23.8	-0.6
THR6	Thira Island,	2.23 178	P	Pn	20 48 23.0	-1.5
THR6	Thira Island,	2.23 178	P	Pn	20 48 23.8	-0.6
ENEZ	Enez	2.24 17	*e*PN	Pn	20 48 24.3	-0.2
ENEZ	Enez	2.24 17	P	Pn	20 48 24.1	-0.4
ENEZ	Enez	2.24 17	*e*Pn	Pn	20 48 24.3	-0.2
BALB	Balikesir	2.26 62	*e*PN	Pn	20 48 25.6	+0.8
BALB	Balikesir	2.26 62	*e*Pn	Pn	20 48 25.6	+0.8
BDRM	Kayabasi	2.28 131	*i* P	Pn	20 48 25.8	+0.7
BDRM	Kayabasi	2.28 131	P	Pn	20 48 25.8	+0.7
ERIK	Erikli-Kesan	2.28 24	*e*PN	Pn	20 48 24.2	-0.8
ERIK	Erikli-Kesan	2.28 24	*e*Pn	Pn	20 48 24.2	-0.8
PLG	Polygyros	2.29 322	P	Pn	20 48 24.1	-1.2
PLG	Polygyros	2.29 322	P	Pn	20 48 23.6	-1.6
PLG	Polygyros	2.29 322	P	Pn	20 48 24.1	-1.2
MLSB	Milas	2.34 123	*e*PN	Pn	20 48 25.6	-0.4
MLSB	Milas	2.34 123	*e*Pn	Pn	20 48 25.6	-0.4
AGG	Agios Georgios	2.37 281	P	Pn	20 48 26.0	-0.3
AGG			S	Sn	20 48 56.5	+0.8
AGG	Agios Georgios	2.37 281	P	Pn	20 48 26.5	+0.2
AGG	Agios Georgios	2.37 281	P	Pn	20 48 26.0	-0.3
AGG			S	Sn	20 48 56.5	+0.8
KRBG	Karabiga-Canak	2.37 40	*e*PN	Pn	20 48 26.7	+0.4
KRBG	Karabiga-Canak	2.37 40	*e*Pn	Pn	20 48 26.7	+0.4
ALN	Alexandroupoli	2.37 14	*e*PN	Pn	20 48 26.0	-0.4
ALN	Alexandroupoli	2.37 14	P	Pn	20 48 24.9	-1.4
ALN			S	Sn	20 48 55.6	-0.2
ALN	Alexandroupoli	2.37 14	P	Pn	20 48 24.3	-2.0
ALN	Alexandroupoli	2.37 14	P	Pn	20 48 24.9	-1.4
ALN	Alexandroupoli	2.37 14	*e*Pn	Pn	20 48 26.0	-0.4
ALN			S	Sn	20 48 55.6	-0.2
KAVA	Kavala	2.48 346	P	Pn	20 48 26.5	-1.3
KAVA			S	Sn	20 48 57.3	-1.1
KAVA	Kavala	2.48 346	P	Pn	20 48 26.2	-1.6
KAVA	Kavala	2.48 346	P	Pn	20 48 26.5	-1.3
KAVA			S	Sn	20 48 57.3	-1.1
KALE	Kalithea	2.49 266	P	Pn	20 48 28.1	0.0
KALE	Kalithea	2.49 266	P	Pn	20 48 28.9	+0.8
KALE	Kalithea	2.49 266	P	Pn	20 48 28.1	0.0
KLV	Kalavryta, Ach	2.54 259	P	Pn	20 48 28.5	-0.3
KLV	Kalavryta, Ach	2.54 259	P	Pn	20 48 28.6	-0.2
KLV	Kalavryta, Ach	2.54 259	P	Pn	20 48 28.5	-0.3
TRIZ	Trizonia	2.55 266	P	Pn	20 48 29.6	+0.8
TRIZ	Trizonia	2.55 266	P	Pn	20 48 29.5	+0.8
MANT	Manisa	2.55 91	*i* P	Pn	20 48 28.9	-0.1
MANT	Manisa	2.55 91	P	Pn	20 48 28.9	-0.1
RDO	Rodhopi	2.56 4	P	Pn	20 48 27.6	-1.3
RDO	Rodhopi	2.56 4	P	Pn	20 48 27.4	-1.5
RDO	Rodhopi	2.56 4	P	Pn	20 48 27.6	-1.3
KULA	Kula-Manisa	2.63 91	*e*PN	Pn	20 48 30.5	+0.5
KULA	Kula-Manisa	2.63 91	P	Pn	20 48 29.9	-0.1
KULA	Kula-Manisa	2.63 91	P	Pn	20 48 30.1	+0.1
KULA	Kula-Manisa	2.63 91	*e*Pn	Pn	20 48 30.5	+0.5
HORT	Hortiatis	2.63 320	*e*PN	Pn	20 48 28.1	-1.9
HORT	Hortiatis	2.63 320	P	Pn	20 48 30.2	+0.1
HORT	Hortiatis	2.63 320	*e*Pn	Pn	20 48 28.1	-1.9
HORT	Hortiatis	2.63 320	P	Pn	20 48 30.1	+0.1
LAKA	Lakka	2.64 263	P	Pn	20 48 30.4	+0.3
LAKA	Lakka	2.64 263	P	Pn	20 48 30.4	+0.3
EDC	Edincik	2.64 48	*e*PN	Pn	20 48 31.1	+1.0
EDC	Edincik	2.64 48	*e*Pn	Pn	20 48 31.1	+1.0
VLI	Veliai	2.65 226	P	Pn	20 48 29.4	-0.8
VLI	Veliai	2.65 226	P	Pn	20 48 28.9	-1.4
VLI	Veliai	2.65 226	P	Pn	20 48 29.4	-0.8
LIT	Litokhoron	2.65 305	P	Pn	20 48 30.2	-0.1
LIT	Litokhoron	2.65 305	P	Pn	20 48 30.5	+0.3
LIT	Litokhoron	2.65 305	P	Pn	20 48 30.2	-0.1
MRMT	Marmara Adasi	2.68 41	*e*PN	Pn	20 48 31.3	+0.7
MRMT	Marmara Adasi	2.68 41	*e*Pn	Pn	20 48 31.3	+0.7
SOH	Sokhos	2.69 327	P	Pn	20 48 30.3	-0.5
SOH	Sokhos	2.69 327	P	Pn	20 48 30.9	+0.1
SOH	Sokhos	2.69 327	P	Pn	20 48 30.9	+0.1
DEMI	Demirci	2.70 79	*i* P	Pn	20 48 30.8	-0.1
DEMI	Demirci	2.70 79	P	Pn	20 48 30.8	-0.1
THL	Klokotos Trika	2.74 292	P	Pn	20 48 31.6	+0.2
THL	Klokotos Trika	2.74 292	P	Pn	20 48 31.8	+0.4
THL	Klokotos Trika	2.74 292	P	Pn	20 48 31.6	+0.2
EVR	Evrytania	2.75 278	P	Pn	20 48 32.4	+0.7
EVR	Evrytania	2.75 278	P	Pn	20 48 33.0	+1.3
EVR	Evrytania	2.75 278	P	Pn	20 48 32.4	+0.7
SRS	Serrai	2.85 333	P	Pn	20 48 32.1	-0.8
SRS	Serrai	2.85 333	P	Pn	20 48 32.2	-0.7
SRS	Serrai	2.85 333	P	Pn	20 48 32.2	-0.7
KCTX	Karacabey (Bur	2.89 54	*e*PN	Pn	20 48 34.4	+0.8
KCTX	Karacabey (Bur	2.89 54	*e*Pn	Pn	20 48 34.4	+0.8
DRO	Drossia	2.90 258	P	Pn	20 48 34.1	+0.4
DRO	Drossia	2.90 258	P	Pn	20 48 34.1	+0.4
SIMA	Simav-Kutahya	2.91 79	*e*PN	Pn	20 48 34.9	+1.1
SIMA	Simav-Kutahya	2.91 79	*e*Pn	Pn	20 48 34.9	+1.1
KYTH	Kithira	2.94 218	P	Pn	20 48 33.7	-0.5
KYTH	Kithira	2.94 218	P	Pn	20 48 33.9	-0.3
KYTH	Kithira	2.94 218	P	Pn	20 48 33.7	-0.5
TKR	Tekirdag	2.95 35	*e*PN	Pn	20 48 34.9	+0.6
TKR	Tekirdag	2.95 35	*e*Pn	Pn	20 48 34.9	+0.6
NVR	Nevrokopi	2.97 338	P	Pn	20 48 34.0	-0.6
NVR	Nevrokopi	2.97 338	P	Pn	20 48 34.0	-0.6
ITM	Ithomi	3.02 243	P	Pn	20 48 36.0	+0.7
ITM	Ithomi	3.02 243	P	Pn	20 48 36.0	+0.7
TAVA	DENIZLI_Tavas	3.06 110	*i* P	Pn	20 48 36.5	+0.6
TAVA	DENIZLI_Tavas	3.06 110	P	Pn	20 48 36.5	+0.6
RLS	Riolos of Patr	3.07 261	P	Pn	20 48 37.0	+1.1
RLS	Riolos of Patr	3.07 261	P	Pn	20 48 37.0	+1.1
SBT3	Marmara-Eregli	3.08 41	*e*PN	Pn	20 48 37.1	+1.3
SBT3	Marmara-Eregli	3.08 41	*e*Pn	Pn	20 48 37.2	+1.3
ANKY	Antikythira Is	3.16 211	P	Pn	20 48 36.3	-0.8
ANKY	Antikythira Is	3.16 211	P	Pn	20 48 35.5	-1.6
ANKY	Antikythira Is	3.16 211	P	Pn	20 48 36.3	-0.8
KNT	Kendrikon	3.17 325	P	Pn	20 48 37.4	+0.1
KNT	Kendrikon	3.17 325	P	Pn	20 48 37.5	+0.1
KNT	Kendrikon	3.17 325	P	Pn	20 48 37.4	+0.1
GEDZ	Gediz	3.24 81	*e*PN	Pn	20 48 39.7	+1.4
GEDZ	Gediz	3.24 81	*e*Pn	Pn	20 48 39.7	+1.4
GRG	Griva	3.25 317	P	Pn	20 48 38.8	+0.3
GRG	Griva	3.25 317	P	Pn	20 48 39.5	+0.9
GRG	Griva	3.25 317	P	Pn	20 48 38.8	+0.3
ARG	Arkhangelos	3.26 136	P	Pn	20 48 39.6	+1.0
ARG	Arkhangelos	3.26 136	P	Pn	20 48 39.6	+1.0
MDNY	Mudanya-Bursa	3.29 56	*e*PN	Pn	20 48 40.4	+1.5
MDNY	Mudanya-Bursa	3.29 56	*e*Pn	Pn	20 48 40.4	+1.5
IMMV	Iera Moni Meta	3.30 199	P	Pn	20 48 39.5	+0.4
IMMV	Iera Moni Meta	3.30 199	P	Pn	20 48 37.6	-1.5
IMMV	Iera Moni Meta	3.30 199	P	Pn	20 48 37.6	-1.5
IDI	Anoyia	3.31 186	Pn	Pn	20 48 38.7	-0.7
	comp=N,1.4nm,0.3s,baz=2.7,slow=15,SNR=19					
IDI			Sn	Sn	20 49 16.3	-2.8
	comp=N,2.9nm,0.3s,baz=323,slow=20,SNR=3.3					
IDI			Lg	Lg	20 49 34.0	
	comp=N,6.5nm,0.3s,baz=298,slow=18,SNR=4.0					
IDI	Anoyia	3.31 186	P	Pn	20 48 38.3	-1.1
IDI	Anoyia	3.31 186	P	Pn	20 48 38.3	-1.1
TVSB	Tavsanli	3.35 74	*e*PN	Pn	20 48 41.4	+1.5
TVSB	Tavsanli	3.35 74	*e*Pn	Pn	20 48 41.4	+1.5
SBT2	Guzelce-Avcila	3.37 46	*e*PN	Pn	20 48 41.1	+1.2
SBT2	Guzelce-Avcila	3.37 46	*e*Pn	Pn	20 48 41.1	+1.2
ARMT	Armutlu	3.38 53	*e*PN	Pn	20 48 41.5	+1.2
ARMT	Armutlu	3.38 53	*e*Pn	Pn	20 48 41.5	+1.2
LAST	Lasithi	3.43 178	P	Pn	20 48 40.4	-0.5
LAST	Lasithi	3.43 178	P	Pn	20 48 41.4	+0.4
LAST	Lasithi	3.43 178	P	Pn	20 48 40.4	-0.5
SBT5	Esenkoy-Cinarc	3.43 52	*e*PN	Pn	20 48 42.1	+1.3
SBT5	Esenkoy-Cinarc	3.43 52	*e*Pn	Pn	20 48 42.1	+1.3
EDRB	Edirne	3.43 18	*e*PN	Pn	20 48 41.3	+0.3
EDRB	Edirne	3.43 18	*e*Pn	Pn	20 48 41.3	+0.3
SLVT	Silivri	3.45 39	*e*PN	Pn	20 48 42.2	+1.0
SLVT	Silivri	3.45 39	*e*Pn	Pn	20 48 42.2	+1.0
PHSR	Pinarhisar	3.48 29	*e*PN	Pn	20 48 42.2	+0.6
PHSR	Pinarhisar	3.48 29	*e*Pn	Pn	20 48 42.2	+0.6
GEMT	Gemlik	3.52 57	*e*PN	Pn	20 48 43.6	+1.5
GEMT	Gemlik	3.52 57	*e*Pn	Pn	20 48 43.7	+1.5
ZKR	Zakros	3.55 168	P	Pn	20 48 43.2	+0.7
ZKR	Zakros	3.55 168	P	Pn	20 48 43.2	+0.7
PENT	Pentalofos	3.61 298	P	Pn	20 48 44.6	+1.2
PENT	Pentalofos	3.61 298	P	Pn	20 48 44.6	+1.2
CTKS	Kestanelik-??a	3.61 42	*e*PN	Pn	20 48 44.3	+1.0
CTKS	Kestanelik-??a	3.61 42	*e*Pn	Pn	20 48 44.3	+1.0
CTYL	Yalikoy Yolu	3.68 38	*e*PN	Pn	20 48 45.3	+1.0
CTYL	Yalikoy Yolu	3.68 38	*e*Pn	Pn	20 48 45.3	+1.0
BUY	Buyukada	3.71 51	*e*PN	Pn	20 48 46.6	+1.9
BUY	Buyukada	3.71 51	*e*Pn	Pn	20 48 46.6	+1.9
KAVV	Kandilli-Istan	3.80 48	*e*PN	Pn	20 48 46.8	+0.8
KAVV	Kandilli-Istan	3.80 48	*e*Pn	Pn	20 48 46.8	+0.8
ISK	Istanbul-Kandi	3.80 48	*e*PN	Pn	20 48 47.5	+1.5
ISK	Istanbul-Kandi	3.80 48	*e*Pn	Pn	20 48 47.5	+1.5
CAVI	Cavuskoy	3.86 64	*e*PN	Pn	20 48 48.5	+1.6
CAVI	Cavuskoy	3.86 64	*e*Pn	Pn	20 48 48.5	+1.6
ADVT	Abdulvahap	3.89 60	*e*PN	Pn	20 48 48.8	+1.6
ADVT	Abdulvahap	3.89 60	*e*Pn	Pn	20 48 48.8	+1.6
KLYT	Kilyos	3.91 46	*e*PN	Pn	20 48 48.9	+1.4
KLYT	Kilyos	3.91 46	*e*Pn	Pn	20 48 48.9	+1.4
HRT	Hereke	4.03 55	*e*PN	Pn	20 48 50.9	+1.6
HRT	Hereke	4.03 55	*e*Pn	Pn	20 48 50.9	+1.6
SILT	Sile	4.20 51	*e*PN	Pn	20 48 53.3	+1.8
SILT	Sile	4.20 51	*e*Pn	Pn	20 48 53.3	+1.8
VTS	Vitosha	4.30 339	‖ *i*P	Pn	20 48 53.5	+0.4
BARS	Barje	4.99 329	*e*Pn	Pn	20 49 02.3	0.0
ZAGS	Zajecar	5.71 337	‖ *i*Pn	Pn	20 49 11.6	-0.6
BOVS	Bovan	5.73 333	*e*Pn	Pn	20 49 12.8	+0.4
HUMR	Humele	5.94 358	‖ *i*P	Pn	20 49 14.5	-0.8
TIRR	Tirgusor	6.31 21	‖ *i*P	Pn	20 49 19.2	-1.2
IVAS	Ivanjica	6.32 324	*e*Pn	Pn	20 49 21.8	+1.1
GRUS	Gruza	6.32 328	*e*Pn	Pn	20 49 21.6	+1.0
TLB	Topalu	6.33 18	‖ *i*P	Pn	20 49 19.7	-1.0
KUBS	Kucevo	6.42 336	*e*Pn	Pn	20 49 20.1	-1.9
BRTR	Keskin Array B	6.57 77	Pn	Pn	20 49 24.7	+0.5
	comp=N,0.2nm,0.3s,baz=257,slow=14,SNR=6.0					
BRTR			Lg	Lg	20 51 17.6	
	baz=261,slow=25,SNR=5.4					
TRUS	Trudelj	6.72 328	*e*Pn	Pn	20 49 28.3	+2.1
MDVR	Moldovita	6.74 338	‖ *i*P	Pn	20 49 26.2	-0.3
ARR	Arges	6.79 356	‖ *i*P	Pn	20 49 26.5	-0.6
DIVS	Divibare	6.80 326	*e*Pn	Pn	20 49 25.9	-1.4
VOIR		6.84 358	‖ *i*P	Pn	20 49 26.9	-1.0
CFR	Carcaliu	6.91 17	‖ *i*P	Pn	20 49 27.5	-1.2
MLR	Muntele Rosu	6.91 4	Pn	Pn	20 49 29.2	+0.4
	comp=N,0.1nm,0.3s,baz=169,slow=5.2,SNR=9.3					
MLR			LR	LR	20 52 10.7	
	comp=N,14nm,20.3s,baz=182,slow=38					
MLR	Muntele Rosu	6.91 4	‖ *i*P	Pn	20 49 29.0	+0.2
GZR	Gura Zlata	7.05 345	‖ *i*P	Pn	20 49 29.9	-0.8
PLOR	Plostina	7.32 7	‖ *i*P	Pn	20 49 34.5	+0.1
VRI	Vrincioaia	7.35 8	‖ *i*P	Pn	20 49 34.4	-0.3
BZS	Buzias	7.54 340	‖ *i*P	Pn	20 49 36.4	-0.9
TESR	Tescani	7.98 7	‖ *i*P	Pn	20 49 43.0	-0.3
DRGR		8.41 348	‖ *i*P	Pn	20 49 48.3	-1.1
BURAR	Bucovina Array	9.02 360	‖ *i*P	Pn	20 49 58.5	+0.8
MMAI	Mount Meron Ar	9.90 121	Pn	Pn	20 50 10.0	+0.1
	comp=N,0.7nm,0.3s,baz=312,slow=11,SNR=5.5					
ESDC	Sonseca Array	22.69 282	P	P	20 52 50.1	+0.9
	comp=N,0.2nm,0.4s,baz=74,slow=10,SNR=4.1					
HFS	Hagfors	22.78 345	LR	LR	21 01 56.7	
	comp=N,102nm,19.0s,baz=307,slow=37					
GEYT	Alibeck	25.70 81	P	P	20 53 18.0	+0.1
	comp=N,0.8nm,0.6s,baz=284,slow=7.3,SNR=2.2					
TORD	Torodi Ar. Bea	32.88 226	P	P	20 54 22.0	+0.3
	comp=N,0.9nm,0.6s,baz=35,slow=9.3,SNR=15					
KURBB	Kurchatov Arra	38.95 54	P	P	20 55 14.2	+0.7
	comp=N,0.2nm,0.3s,baz=279,slow=8.6,SNR=3.0					
MKAR	Makanchi Array	41.86 60	P	P	20 55 37.4	-0.3
	comp=N,0.4nm,0.6s,baz=284,slow=6.7,SNR=2.9					

PRE ***05*** *20:48:57.4±1.9, 28°.10S×26°.77E, h2km, ML4.2*
ISCJB ***05*** *20:48:58.5±1.0, 28°.11S±0°.03×26°.66E±0°.03, h15km±8km, mb4.0/13, Error ellipse: s-maj=5.4km s-min=3.4km az=40.6*
NEIC ***05*** *20:48:59.6±0.3, 27°.95S×26°.71E, h5km, mb4.5/2, Error ellipse: s-maj=7.8km s-min=5.8km az=110.0*
IDC ***05*** *20:48:59.1±0.8, 27°.90S×26°.73E, h0km, mb3.9/11, mb1 4.1/15, mb1mx3.9/46, mbtmp4.0/15, ML3.1/4, Error ellipse: s-maj=15.6km s-min=11.4km az=126.0*

ISC 05 20:48:58.4±1.3, 28°.05S±0°.03×26°.73E±0°.03, h5km±8km, n50, σ2.51/79, mb4.0/13, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	Senekal	0.83	109	*e*P	Pg	20 49 12.5	-2.0
SEK				*e*S	Sg	20 49 22.6	-2.7
SEK				AML	AML	20 49 49.4	
	comp=Z,685nm,0.8s						
PRYS	Parys	1.25	27	*e*P	Pg	20 49 22.2	-0.3
PRYS				*e*S	Sn	20 49 39.6	-0.4
PRYS				AML	AML	20 49 40.5	
	comp=Z,1μm,0.6s						
BOSA	Boshof	1.42	246	*i* P	Pg	20 49 27.2	+1.6
BOSA				*i* S	Sn	20 49 46.8	+2.8
BOSA	Boshof	1.42	246	Pg	Pg	20 49 26.9	+1.3
	comp=Z,79nm,0.3s,baz=63,slow=15,SNR=1181						
BOSA				Lg	Lg	20 49 46.1	
	comp=Z,200nm,0.3s,baz=165,slow=20,SNR=17						
BOSA				Rg	Rg	20 49 56.9	
	comp=Z,270nm,0.5s,baz=160,slow=10,SNR=2.4						
BOSA	Boshof	1.42	246	*e*P	Pg	20 49 26.2	+0.6
BOSA				*e*S	Sn	20 49 44.1	+0.1
BOSA				AML	AML	20 49 49.8	
	comp=Z,555nm,0.3s						
SWZ	Schweizer	1.51	305	*e*P	Pg	20 49 27.2	-0.2
SWZ				*e*S	Sg	20 49 47.7	+0.6
SWZ				AML	AML	20 49 50.2	
	comp=Z,1μm,0.3s						
KLOF	Kloof	1.87	25	*e*P	Pn	20 49 30.9	-0.3
KLOF				*e*S	Sn	20 49 55.7	+0.5
KLOF				AML	AML	20 50 19.1	
	comp=Z,2μm,0.2s						
ERPM	east rand prop	2.17	39	*e*P	Pn	20 49 36.3	+0.9
ERPM				*e*S	Sb	20 50 05.2	-0.3
ERPM				AML	AML	20 50 38.2	
	comp=Z,1μm,0.5s						
KSR	Koster	2.20	4	*e*P	Pn	20 49 36.9	+1.2
KSR				*e*S	Sn	20 50 04.4	+1.1
KSR				AML	AML	20 50 29.5	
	comp=Z,856nm,0.6s						
SLR	Silverton	2.69	31	*e*P	Pn	20 49 41.8	-0.6
SLR				*e*S	Sn	20 50 16.9	+1.4
SLR				AML	AML	20 50 51.1	
	comp=Z,788nm,0.6s						
HVD	Gariep Dam	2.76	203	*e*P	Pn	20 49 43.2	-0.3
HVD				*e*S	Sn	20 50 16.7	-0.6
HVD				AML	AML	20 50 32.7	
	comp=Z,259nm,0.5s						
LBTB	Lobatse	3.19	341	Pn	Pn	20 49 49.8	+0.5
	comp=Z,9.5nm,0.3s,baz=162,slow=15,SNR=183						
LBTB				Lg	Lg	20 50 36.7	
	comp=Z,48nm,0.3s,baz=252,slow=20,SNR=16						
LBTB				Rg	Rg	20 50 51.2	
	comp=Z,208nm,0.4s,baz=54,slow=23,SNR=9.2						
LBTB	Lobatse	3.19	341	*e*P	Pn	20 49 50.9	+1.5
LBTB				*e*S	Sn	20 50 28.6	+0.8
LBTB				AML	AML	20 51 06.4	
	comp=Z,797nm,0.3s						
KSD	Kokstad	3.41	137	*e*P	Pn	20 49 52.9	+0.5
KSD				*e*S	Sn	20 50 31.4	-2.0
KSD				AML	AML	20 51 05.6	
	comp=Z,49nm,0.6s						
PKA	Prieska	3.84	244	*e*P	Pn	20 49 58.6	+0.3
PKA				*e*S	Sn	20 50 42.2	-1.6
PKA				AML	AML	20 51 03.2	
	comp=Z,3μm,0.4s						
UPI	Upington	4.84	265	*e*P	Pn	20 50 13.8	+1.8
UPI				*e*S	Sn	20 51 06.8	-1.7
UPI				AML	AML	20 51 55.2	
	comp=Z,135nm,0.4s						
KEIM	Keimoes	5.12	261	*e*P	Pn	20 50 17.3	+1.5
KEIM				*e*S	Sn	20 51 13.5	-1.8
KEIM				AML	AML	20 51 39.7	
	comp=Z,167nm,0.4s						
AUGR	Augrabies	5.66	263	*e*P	Pn	20 50 23.9	+0.7
AUGR				*e*S	Sn	20 51 26.8	-1.9
AUGR				AML	AML	20 52 01.4	
	comp=Z,147nm,0.4s						
BUFB	Buffelsbos	6.31	195	*e*P	Pn	20 50 30.9	-1.2
BUFB				*e*S	Sn	20 51 41.1	-3.5
BUFB				AML	AML	20 52 21.3	
	comp=Z,70nm,0.4s						
SUR	Sutherland	6.70	228	Pn	Pn	20 50 39.7	+2.1
	comp=Z,0.4nm,0.3s,baz=55,slow=16,SNR=90						
SUR				Sn	Sb	20 52 08.5	-7.3
	comp=Z,1.1nm,0.3s,baz=137,slow=22,SNR=10						
SUR				Lg	Lg	20 52 28.5	
	comp=Z,1.1nm,0.3s,baz=322,slow=23,SNR=6.0						
SUR	Sutherland	6.70	228	*e*P	Pn	20 50 39.2	+1.7
SUR				*e*S	Sn	20 51 50.8	-3.5
CVNA	Calvinia	6.96	239	*e*P	Pn	20 50 41.0	0.0
CVNA				*e*S	Sn	20 51 57.5	-3.1
CVNA				AML	AML	20 53 09.3	
	comp=Z,100nm,0.6s						
MATP	Matopo	7.76	12	*i* P	Pn	20 50 51.2	-1.0
MATP				*i* S	Sn	20 52 08.0	-13
MATP	Matopo	7.76	12	Pn	Pn	20 50 51.2	-1.0
	comp=Z,2.9nm,0.3s,baz=198,slow=14,SNR=33						
MATP				Sn	Sn	20 52 16.1	-4.5
	comp=Z,3.

MLR	Muntele Rosu	73.25	360	P	P	21 00 54.6 +1.1
	0.3nm,0.6s,baz=307,slow=17,SNR=3.6					
AKASG	Malin Array Be	78.49	2	P	P	21 01 23.2 +0.1
	0.1nm,0.3s,baz=179,slow=5.0,SNR=4.3					
KKAR	Karatay Array	81.55	31	*e*P	P	21 01 40.7 +0.8
	1.6nm,0.7s					
CMAR	Chiang Mai Arr	83.87	65	P	P	21 01 52.4 -0.1
	0.7nm,0.9s,baz=259,slow=4.4,SNR=2.8					
LSA	Lhasa	84.30	52	*e*P	P	21 01 55.6 +0.5
BVAR	Borovoye Array	89.33	25	P	P	21 02 16.8 -1.7
	0.2nm,0.4s,baz=212,slow=5.1,SNR=2.3					
MKAR	Makanchi Array	89.91	35	P	P	21 02 21.1 -0.3
	0.4nm,0.6s,baz=221,slow=3.1,SNR=4.0					
ASAR	Alice Springs	93.09	119	P	P	21 02 36.1 -0.7
	0.1nm,0.6s,baz=217,slow=4.3,SNR=1.5					

IDC 05 20:58:46.4±2.0, 6°.71S×129°.19E, h0^{km}, mb3.6/2, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=98.2km s-min=28.5km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.07	160	Pn	Pn	21 02 07.3	+0.1
	0.5nm,0.3s,baz=337,slow=13,SNR=15						
WRA				Sn	Sn	21 04 30.5	-14
	1.0nm,0.3s,baz=330,slow=22,SNR=10						
ASAR	Alice Springs	17.46	165	P	Pn	21 02 51.6	+0.1
	0.2nm,0.3s,baz=346,slow=10.0,SNR=17						
ASAR				S	Sn	21 05 52.9	-14
	0.2nm,0.3s,baz=336,slow=18,SNR=4.7						
CMAR	Chiang Mai Arr	38.93	310	P	P	21 06 15.3	+0.9
	0.1nm,0.3s,baz=122,slow=8.6,SNR=5.6						
MKAR	Makanchi Array	67.55	327	P	P	21 09 43.9	-0.7
	0.3nm,0.4s,baz=120,slow=7.6,SNR=7.5						

*ISCJB **05** 21:07:48.9±1.2, 18°.1N±0°.1×94°.78E±0°.08, h53^{km}, mb3.4/3, Error ellipse: s-maj=15.2km s-min=11.5km az=1.9*
*IDC **05** 21:07:50.2±1.4, 17°.93N×94°.80E, h48^{km}±10^{km}, mb3.2/3, mb1 3.5/4, mb1mx3.1/41, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=20.8km s-min=18.7km az=159.0*
*BKK **05** 21:07:58.8±1.7, 18°.N±9°.×9°.5E±1°.3, h110^{km}±66^{km}, M3.2/5, MLv3.2/5*

ISC 05 21:07:50.2±1.4, 18°.0N±0°.1×94°.8E±0°.1, h53^{km}, n10, σ1°32/16, mb3.5/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	3.99	83	P	Pn	21 08 50.1	+1.3
	2.4nm,0.3s,baz=263,slow=15,SNR=68						
CMAR				S	Sn	21 09 34.3	-0.1
	1.0nm,0.3s,baz=255,slow=18,SNR=4.5						
CHTO	Chiang Mai	4.04	78	P	Pn	21 08 50.8	+1.2
CHTO				S	Sn	21 09 34.3	-1.5
CMMT	Chiang Mai	4.05	78	P	Pn	21 08 55.0	+5.3
UMPA	Umpang Tak	4.29	114	P	Pn	21 08 54.8	+1.8
UMPA				S	Sn	21 09 43.2	+1.3
LAMP	Lampang	4.65	83	P	Pn	21 08 59.0	+1.1
UTHA	Uthaitani	5.09	118	P	Pn	21 09 04.6	+0.7
UTHA				S	Sn	21 09 58.5	-2.9
UTTA	Uttaradit	5.51	92	P	Pn	21 09 10.5	+0.8
SONM	Songino Array	31.25	15	P	P	21 14 04.8	-0.1
	0.2nm,0.3s,baz=201,slow=14,SNR=4.0						
SONM				pP	pP	21 14 17.9	-0.5
	0.4nm,0.8s,baz=193,slow=12,SNR=3.2						
WRA	Warramunga Arr	54.12	132	P	P	21 17 10.2	+0.1
	0.4nm,0.6s,baz=320,slow=7.2,SNR=4.3						
WRA				pP	pP	21 17 23.4	-1.1
	0.3nm,0.6s,baz=319,slow=7.5,SNR=2.8						
ASAR	Alice Springs	56.33	136	P	P	21 17 26.6	+0.5
	0.3nm,0.8s,baz=317,slow=8.1,SNR=3.5						
ASAR				pP	pP	21 17 39.8	-0.7
	0.3nm,0.6s,baz=318,slow=6.8,SNR=3.5						

*ISCJB **05** 21:08:01.2±1.2, 25°.6N±0°.2×95°.2E±0°.1, h85^{km}, mb3.1/2, Error ellipse: s-maj=23.3km s-min=11.4km az=19.7*
*IDC **05** 21:08:02.9±4.5, 25°.55N×94°.94E, h97^{km}±52^{km}, mb2.9/2, mb1 3.3/3, mb1mx2.9/43, mbtmp3.4/3, Error ellipse: s-maj=202.7km s-min=29.4km az=59.0*

ISC 05 21:08:03.3±1.2, 25°.6N±0°.2×95°.1E±0°.1, h85^{km}, n4, σ2°47/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.92	271	*i* PN	Pn	21 08 50.0	+2.2
SHL				*e*SN	Sn	21 09 22.0	-0.1
CMAR	Chiang Mai Arr	7.89	153	P	Pn	21 09 56.1	+0.7
	0.5nm,0.3s,baz=327,slow=13,SNR=10						
MKAR	Makanchi Array	23.54	338	P	P	21 13 03.8	-2.0
	0.1nm,0.3s,baz=151,slow=9.6,SNR=2.6						
MKAR				pP	pP	21 13 26.6	+2.6
	0.4nm,0.6s,baz=153,slow=12,SNR=3.9						
WRA	Warramunga Arr	59.14	136	P	P	21 17 54.4	-0.9
	0.4nm,0.6s,baz=326,slow=7.3,SNR=5.3						

*IDC **05** 21:10:27.8±0.7, 7°.45N×72°.18W, h0^{km}, mb4.0/9, mb1 4.2/12, mb1mx4.0/35, mbtmp4.1/12, ML4.1/3, MS3.3/8, Ms1 3.4/8, ms1mx3.1/30, Error ellipse: s-maj=17.6km s-min=14.3km az=126.0*
*RSNC **05** 21:10:34.7±0.9, 7°.36N×72°.25W, h2^{km}±5^{km}, ML4.2*

ISC 05 21:10:30.1±1.4, 7°.44N±0°.03×72°.06W±0°.04, h12^{km}±9^{km}, n37, σ1°46/49, mb4.0/10, MS3.5/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	Pamplona, Colo	0.65	261	*e*P	Pg	21 10 42.5	-0.3
PAMC				*e*S	Sg	21 10 50.2	-1.2
BTLC	Betulia, Santa	1.31	247	*e*P	Pn	21 10 54.5	0.0
BARC	Barichara	1.40	233	*e*P	Pn	21 10 56.1	+0.4
BARC				*e*S	Sb	21 11 13.3	-1.0
BARC				*i*		21 11 23.2	
	comp=Z,4μm,0.4s						
OCAC	Ocana	1.48	303	*e*P	Pg	21 10 58.7	+0.1
OCAC				*e*S	Sg	21 11 17.9	0.0
BRRC	Barranca, Sant	1.68	259	*e*S	Sn	21 11 20.7	-0.1
BRRC				*i*		21 11 31.3	
	comp=Z,3μm,0.6s						
RUSC	La Rusia	1.84	214	*e*P	Pb	21 11 04.1	0.0
RUSC				*e*S	Sn	21 11 26.4	+0.8
RUSC				*i*		21 11 32.5	
	comp=Z,2μm,0.4s						
SDV	Santo Domingo	2.01	44	Pn	Pb	21 11 06.3	-0.5
	comp=Z,416nm,0.3s,baz=191,slow=5.4,SNR=374						
SDV				Lg	Lg	21 11 34.3	
	comp=Z,746nm,0.3s,baz=46,slow=17,SNR=18						
YOPC	Yopal, Colombi	2.10	190	*e*P	Pb	21 11 08.6	+0.3
YOPC				*e*S	Sb	21 11 34.2	-0.2
YOPC				*i*		21 11 49.5	
	comp=Z,1μm,0.4s						
ZARC	Zaragoza, Cauc	2.78	271	*e*P	Pn	21 11 17.0	+2.5
ZARC				*e*S	Sn	21 11 49.0	+0.9
ZARC				*i*		21 12 01.2	
	comp=Z,1μm,0.4s						
CHIC	Chingaza	3.25	211	*e*P	Pn	21 11 23.9	+2.6
CHIC				*i*		21 11 36.5	
	comp=Z,766nm,0.6s						
CHIC				*e*S	Sn	21 12 02.0	+1.7
NORC	Norcasia	3.36	237	*e*P	Pn	21 11 24.0	+1.5
NORC				*e*S	Sn	21 12 03.0	+0.6
ROSC	El Rosal	3.42	221	Pn	Pn	21 11 26.6	+2.8
	comp=Z,16nm,0.3s,baz=63,slow=17,SNR=41						
ROSC				Lg	Lg	21 12 24.1	
	comp=Z,58nm,0.3s,baz=66,slow=20,SNR=3.3						
HELC	Santa Helena	3.67	250	*e*P	Pn	21 11 29.4	+2.4
HELC				*e*S	Sn	21 12 10.6	+0.2
HELC				*i*		21 12 25.9	
	comp=Z,443nm,0.6s						
VILC	Villavicencio,	3.68	206	*e*P	Pn	21 11 29.1	+2.0
VILC				*e*S	Sn	21 12 12.4	+1.8
VILC				*i*		21 12 35.0	
	comp=Z,387nm,0.4s						
MOTC	Monteria, Cord	3.81	291	*e*P	Pn	21 11 31.6	+2.8
MOTC				*e*S	Sn	21 12 15.4	+1.8
MOTC				*i*		21 12 40.1	
	comp=Z,414nm,0.5s						
SJCC	San Jacinto, C	3.94	309	*e*P	Pn	21 11 33.5	+3.0
SJCC				*e*S	Sn	21 12 19.1	+2.3
SJCC				*i*		21 12 30.2	
	comp=Z,349nm,0.4s						
GUYC	Guyana, Colomb	3.98	237	*e*P	Pn	21 11 34.0	+2.6
GUYC				*e*S	Sn	21 12 18.6	+0.3
GUYC				*i*		21 12 37.5	
	comp=Z,521nm,0.5s						
TOLC	Tolima	4.31	229	*e*P	Pn	21 11 37.7	+1.8
PRAC	Prado	4.65	217	*e*P	Pn	21 11 41.7	+1.4
PLMC	San Jos¨ del	4.90	239	*e*P	Pn	21 11 45.4	+1.6
PCRV	Puerto La Cruz	7.82	69	Pn	Pn	21 12 25.3	+1.5
	comp=Z,2.3nm,0.3s,baz=346,slow=2.0,SNR=9.5						
PCRV				Sn	Sn	21 13 52.6	+0.2
	comp=Z,3.7nm,0.3s,baz=162,slow=20,SNR=4.3						
PCRV				LR	LR	21 15 37.3	
	comp=Z,123nm,19.9s,baz=248,slow=39						
SJG	San Juan	12.07	28	Pn	Pn	21 13 22.0	-0.1
	comp=Z,2.6nm,0.3s,baz=261,slow=2.2,SNR=3.4						
SJG				LR	LR	21 19 30.2	
	comp=Z,87nm,18.1s,baz=203,slow=45						
ATAH	Atahualpa	15.80	204	LR	LR	21 21 23.9	
	comp=Z,114nm,21.0s,baz=40,slow=42						
NNA	Nana	19.88	194	LR	LR	21 24 33.6	
	comp=Z,28nm,19.9s,baz=11,slow=43						
LPAZ	La Paz	23.89	171	P	P	21 15 45.5	+0.9
	comp=Z,1.9nm,0.8s,baz=349,slow=8.0,SNR=2.9						
LPAZ				LR	LR	21 26 12.1	
	comp=Z,82nm,18.2s,baz=330,slow=40						
SIV	San Ignacio	25.69	155	P	P	21 16 00.6	+0.2
	comp=Z,3.1nm,0.8s,baz=345,slow=9.5,SNR=4.1						
SIV				LR	LR	21 26 02.5	
	comp=Z,69nm,19.3s,baz=7.5,slow=36						
CPUP	Villa Florida	36.48	157	P	P	21 17 35.3	-0.1
	comp=Z,0.6nm,0.3s,baz=56,slow=3.6,SNR=2.6						
CPUP				LR	LR	21 33 55.2	
	comp=Z,161nm,18.4s,baz=336,slow=38						
TXAR	Lajitas Array	36.86	310	P	P	21 17 37.7	-1.0
	comp=Z,0.8nm,0.7s,baz=126,slow=9.4,SNR=11						
TXAR				PcP	PcP	21 20 00.6	0.0
	comp=Z,0.5nm,0.8s,baz=123,slow=4.5,SNR=4.9						
ULM	Lac du Bonnet	47.08	339	P	P	21 19 01.0	-0.8
	comp=Z,3.7nm,0.7s,baz=152,slow=9.0,SNR=3.6						
YKA	Yellowknife Ar	63.06	339	P	P	21 20 56.1	-1.0
	comp=Z,2.7nm,0.7s,baz=128,slow=6.7,SNR=12						
DBIC	Dimbokro	66.64	86	P	P	21 21 21.6	+0.4
	comp=Z,3.2nm,0.9s,baz=280,slow=11,SNR=2.9						
SUMG	Summit	68.19	10	*i* P	P	21 21 30.4	-0.2
	comp=Z,13nm,1.0s						
TORD	Torodi Ar. Bea	72.58	79	P	P	21 21 57.1	-0.8
	comp=Z,1.3nm,1.1s,baz=265,slow=6.3,SNR=4.7						
ILAR	Eielson Array	76.86	335	P	P	21 22 20.9	-1.0
	comp=Z,0.6nm,0.9s,baz=123,slow=4.1,SNR=4.8						
KDAK	Kodiak Island	78.70	327	LR	LR	22 00 07.5	
	comp=Z,36nm,19.0s,baz=1.9,slow=38						
ASAR	Alice Springs	150.33	234	PKPbc	PKPbc	21 30 20.4	-2.0
	comp=Z,0.2nm,0.3s,baz=106,slow=4.6,SNR=5.0						
WRA	Warramunga Arr	151.56	241	PKPbc	PKPbc	21 30 24.7	-0.6
	comp=Z,1.5nm,0.7s,baz=108,slow=2.2,SNR=13						

IDC 05 21:11:05.1±5.3, 21°.64S×65°.85E, h0^{km}, mb3.5/4, mb1 3.7/4, mb1mx3.4/35, mbtmp3.5/4, MS3.4/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=148.0km s-min=44.5km az=62.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	15.31	26	T	T	21 31 01.1	
	baz=205,slow=76,SNR=4.0						
H08S2	Diego Garcia H	15.32	26	T	T	21 31 03.8	
	baz=205,slow=76,SNR=6.0						
H08S3	Diego Garcia H	15.33	26	T	T	21 31 04.7	
	baz=205,slow=76,SNR=7.6						
H08N3	Diego Garcia H	16.00	19	T	T	21 32 13.3	
	baz=199						
H08N1	Diego Carcia H	16.01	19	T	T	21 32 14.9	
	baz=199						
H08N2	Diego Garcia H	16.02	19	T	T	21 32 14.9	
	baz=199						
CMAR	Chiang Mai Arr	51.36	42	P	P	21 20 11.6	-0.1
	0.6nm,0.7s,baz=234,slow=7.7,SNR=4.2						
CMAR				LR	LR	21 43 08.4	
	comp=Z,32nm,18.0s,baz=220,slow=38						
ASAR	Alice Springs	62.28	106	P	P	21 21 29.5	0.0
	0.4nm,0.7s,baz=254,slow=6.7,SNR=4.6						
WRA	Warramunga Arr	63.56	102	P	P	21 21 37.9	-0.1
	0.3nm,0.8s,baz=258,slow=5.9,SNR=2.4						
ZALV	Zalesovo Beam	77.03	11	P	P	21 22 59.6	0.0
	0.3nm,0.4s,baz=197,slow=4.5,SNR=2.6						

JMA 05 21:16:46.2±0.1, 38°.43N×142°.20E, h29^{km}±1^{km}, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.67	272	P	Pb	21 16 59.0	-0.4
JIO				S	Sb	21 17 07.6	-0.7
OFUJ	Ofunato	0.77	328	P	Pb	21 17 00.7	-0.4
OFUJ				S	Sb	21 17 10.8	-0.4
JMK	Ichinoseki	0.93	304	P	Pn	21 17 03.2	-0.1
JMK				S	Sn	21 17 15.4	-0.2
JOU	Okura	1.21	267	P	Pn	21 17 07.8	+0.6
JOU				S	Sn	21 17 23.0	+0.4
JMM	Marumori	1.24	244	P	Pn	21 17 07.1	-0.5
JMM				S	Sn	21 17 22.3	-1.1
JOM	Ohasama	1.26	326	P	Pn	21 17 08.3	+0.5
JOM				*e*S	Sb	21 17 24.8	-0.3
JFK	Kawauchi	1.49	225	P	Pn	21 17 09.9	-1.2
JYK	Kaneyama	1.52	289	P	Pn	21 17 12.2	+0.8

*ISCJB **05** 21:24:21.3±0.6, 38°.61N±0°.02×25°.31E±0°.02, h9^{km}±4^{km}, Error ellipse: s-maj=3.2km s-min=2.3km az=146.6*
*ATH **05** 21:24:21.6, 38°.62N×25°.33E, h37^{km}±2^{km}, ML2.6/12, Error ellipse: s-maj=2.2km s-min=0.6km az=28.0*
*CSEM **05** 21:24:21.7±0.1, 38°.60N×25°.29E, h10^{km}, ML2.6, Error ellipse: s-maj=2.7km s-min=1.8km az=150.0*
*ISK **05** 21:24:21.2, 38°.66N×25°.28E, h9^{km}, MD3.5*
*THE **05** 21:24:22.2, 38°.63N×25°.33E, h10^{km}±1^{km}, ML2.8/10, Error ellipse: s-maj=1.0km s-min=0.5km az=42.0*

ISC 05 21:24:21.6±1.1, 38°.60N±0°.02×25°.30E±0°.02, h10^{km}±9^{km}, n187, σ0°76/229, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	Skiros Island	0.65	295	P	Pb	21 24 35.0	0.0
SKY				S	Sb	21 24 45.1	+1.0
SKY	Skiros Island	0.65	295	P	Pb	21 24 34.8	-0.2
SKY				S	Sn	21 24 46.2	-1.0
SKY				AML	AML	21 24 46.6	
	comp=N,1112μm,0.3s						
SKY				AML	AML	21 24 47.6	
	comp=E,1706μm,0.3s						
SKY	Skiros Island	0.65	295	P	Pb	21 24 34.8	-0.2
SKY				S	Sb	21 24 45.1	+1.0
SIGR	SIGRI	0.74	35	*e*PG	Pg	21 24 35.4	-0.5
SIGR				*e*SG	Sg	21 24 45.7	0.0
SIGR	SIGRI	0.74	35	P	Pg	21 24 35.6	-0.4
SIGR				S	Sg	21 24 45.9	+0.2
SIGR	SIGRI	0.74	35	P	Pg	21 24 35.1	-0.9
SIGR				S	Sg	21 24 45.4	-0.3
SIGR				AML	AML	21 24 46.5	
	comp=N,2105μm,0.4s						
SIGR				AML	AML	21 24 49.2	
	comp=E,1738μm,0.5s						
SIGR	SIGRI	0.74	35	P	Pg	21 24 35.6	-0.4
SIGR				S	Sg	21 24 45.9	+0.2
CESE	ˆe¯me	0.83	109	*e*PG	Pb	21 24 38.4	+0.4
CESE				*e*SG	Sn	21 24 50.6	-0.9
CESE	ˆe¯me	0.83	109	*e*Pg	Pb	21 24 38.4	+0.4
CESE				*e*Sg	Sn	21 24 50.6	-0.9
KARY	Karystos	0.89	230	P	Pb	21 24 39.5	+0.4
KARY				S	Sn	21 24 52.4	-0.6
KARY	Karystos	0.89	230	P	Pb	21 24 39.3	+0.2
KARY	Karystos	0.89	230	P	Pb	21 24 39.3	+0.2
KARY				S	Sn	21 24 52.4	-0.6
KRBN	Karaburun	0.98	90	*e*PG	Pn	21 24 40.9	-0.4
KRBN	Karaburun	0.98	90	*e*Pg	Pn	21 24 40.9	-0.4
PRK	Paraskevi	0.99	49	P	Pg	21 24 40.5	-0.1
PRK				S	Sb	21 24 54.1	+0.2
PRK	Paraskevi	0.99	49	P	Pn	21 24 41.1	-0.4
PRK				S	Sb	21 24 53.7	-0.2
PRK				AML	AML	21 24 57.2	
	comp=N,2790μm,0.4s						
PRK				AML	AML	21 25 00.8	
	comp=E,1482μm,0.7s						
PRK	Paraskevi	0.99	49	P	Pg	21 24 40.5	-0.1
PRK				S	Sb	21 24 53.7	-0.2
URLA	Izmir	1.04	103	*e*PG	Pb	21 24 41.8	+0.1
URLA	Izmir	1.04	103	*e*Pg	Pb	21 24 41.8	+0.1
GPNR	Gulpinar-Canak	1.07	37	*e*PG	Pb	21 24 41.5	-0.6
GPNR	Gulpinar-Canak	1.07	37	*e*Pg	Pb	21 24 41.5	-0.6
EREA	Eretria	1.09	261	P	Pb	21 24 42.7	+0.2
EREA				S	Sn	21 24 58.4	+0.3
EREA	Eretria	1.09	261	P	Pb	21 24 42.8	+0.3
EREA				S	Sg	21 24 57.4	+0.6
EREA				AML	AML	21 24 58.5	
	comp=N,470μm,0.7s						
EREA				AML	AML	21 24 59.4	
	comp=E,354μm,0.3s						
EREA	Eretria	1.09	261	P	Pb	21 24 42.7	+0.2
EREA				S	Sg	21 24 57.4	+0.6
FOCM	Fo˜§a	1.12	84	*e*PN	Pn	21 24 43.3	0.0
FOCM	Fo˜§a	1.12	84	*e*Pn	Pn	21 24 43.3	0.0
CAND	Candarli	1.22	73	*e*PN	Pg	21 24 44.9	-0.1
PTL	Penteli	1.26	244	P	Pn	21 24 44.8	-0.4
PTL	Penteli	1.26	244	P	Pn	21 24 44.9	-0.4
PTL				S	Sb	21 25 00.6	-1.2
PTL				AML	AML	21 25 04.8	
	comp=N,354μm,0.8s						
PTL				AML	AML	21 25 06.4	
	comp=E,388μm,0.4s						
PTL	Penteli	1.26	244	P	Pn	21 24 44.9	-0.3
PTL				S	Sb	21 25 00.5	-1.2
CUND	Cunda Adasi-Ba	1.29	55	*e*PN	Pb	21 24 45.8	-0.1
CUND	Cunda Adasi-Ba	1.29	55	*e*Pn	Pb	21 24 45.8	-0.1
LIA	Limnos Island	1.30	356	P	Pn	21 24 45.1	-0.6
LIA				S	Sn	21 25 02.8	-0.3
LIA	Limnos Island	1.30	356	P	Pn	21 24 45.0	-0.6
LIA				S	Sb	21 25 01.5	-1.2
LIA				AML	AML	21 25 04.3	
	comp=E,266μm,0.4s						
LIA				AML	AML	21 25 04.5	
	comp=N,259μm,0.4s						
LIA	Limnos Island	1.30	356	P	Pn	21 24 45.1	-0.6
LIA				S	Sn	21 25 02.8	-0.3
DKL	Dikili	1.33	69	*e*PN	Pb	21 24 46.4	-0.3
DKL	Dikili	1.33	69	*e*Pn	Pb	21 24 46.4	-0.3
ATHU	Athens Univers	1.35	243	P	Pn	21 24 44.2	-2.3
ATHU				S	Sb	21 25 04.1	-0.3
ATHU				AML	AML	21 25 07.7	
	comp=E,65μm,0.3s						
ATHU				AML	AML	21 25 08.2	
	comp=N,151μm,0.5s						
ATHU	Athens Univers	1.35	243	P	Pn	21 24 44.2	-2.3
ATHU				S	Sb	21 25 04.0	-0.3
BOZC	Bozcaada	1.37	25	*e*PN	Pn	21 24 46.4	-0.3
BOZC	Bozcaada	1.37	25	*e*Pn	Pn	21 24 46.4	-0.3
GMLD	Gumuldur	1.37	112	*e*PN	Pg	21 24 47.7	-0.2
GMLD	Gumuldur	1.37	112	*e*Pn	Pg	21 24 47.7	-0.2
ATH	Athens Observa	1.40	244	P	Pn	21 24 46.9	-0.2
ATH				S	Sn	21 25 05.5	-0.1
ATH				AML	AML	21 25 10.7	
	comp=N,370μm,0.4s						
ATH				AML	AML	21 25 11.2	
	comp=E,368μm,0.4s						
ATH	Athens Observa	1.40	244	P	Pn	21 24 46.9	-0.2
ATH				S	Sn	21 25 05.5	-0.1
VLY	Voula,Athens	1.41	238	P	Pn	21 24 46.9	-0.3
VLY	Voula,Athens	1.41	238	P	Pn	21 24 46.8	-0.4
VLY				S	Sn	21 25 05.8	0.0
VLY				AML	AML	21 25 09.1	
	comp=N,513μm,0.5s						
VLY				AML	AML	21 25 09.6	
	comp=E,479μm,0.5s						
VLY	Voula,Athens	1.41	238	P	Pn	21 24 46.9	-0.3
VLY				S	Sn	21 25 05.8	0.0
EZN	Ezine	1.46	33	*e*PN	Pn	21 24 48.0	+0.1
EZN	Ezine	1.46	33	P	Pn	21 24 47.5	-0.4
EZN	Ezine	1.46	33	P	Pn	21 24 47.5	-0.4
EZN	Ezine	1.46	33	*e*Pn	Pn	21 24 48.0	+0.1
SMG	Samos	1.50	126	P	Pn	21 24 48.3	-0.3
SMG				S	Sb	21 25 08.7	+0.1
SMG	Samos	1.50	126	P	Pn	21 24 48.5	0.0
SMG				AML	AML	21 25 12.8	
	comp=E,782μm,0.3s						
SMG				AML	AML	21 25 13.0	
	comp=N,611μm,0.5s						
SMG	Samos	1.50	126	P	Pn	21 24 48.5	0.0
SMG				S	Sb	21 25 08.7	+0.1
APE	Apeiranthos	1.54	173	P	Pn	21 24 48.6	-0.5
APE				S	Sb	21 25 10.2	+0.4
APE	Apeiranthos	1.54	173	P	Pn	21 24 48.4	-0.8
APE				S	Sn	21 25 08.2	-1.0
APE				AML	AML	21 25 13.3	
	comp=N,206μm,0.3s						
APE				AML	AML	21 25 13.4	
	comp=E,237μm,0.4s						
APE	Apeiranthos	1.54	173	P	Pn	21 24 48.6	-0.5
APE				S	Sn	21 25 08.2	-1.0
SKIA	Skiathos	1.54	292	P	Pn	21 24 49.1	0.0
SKIA				S	Sb	21 25 10.2	+0.4
SKIA	Skiathos	1.54	292	P	Pn	21 24 49.0	-0.1
SKIA	Skiathos	1.54	292	P	Pn	21 24 49.0	-0.1
SKIA				S	Sb	21 25 10.2	+0.4
SERI	Serifos	1.58	204	P	Pn	21 24 48.6	-1.0
SERI				AML	AML	21 25 17.5	
	comp=N,124μm,0.2s						
SERI				AML	AML	21 25 18.0	
	comp=E,147μm,0.4s						
SERI	Serifos	1.58	204	P	Pn	21 24 48.6	-1.0
VILL	Villia	1.62	255	P	Pn	21 24 50.4	+0.1
VILL	Villia	1.62	255	P	Pn	21 24 50.4	+0.1
VIL2	Platees	1.65	257	P	Pn	21 24 49.8	-0.7
GADA	Gvkgeada	1.65	16	*e*PN	Pn	21 24 50.4	-0.2
GADA	Gvkgeada	1.65	16	P	Pn	21 24 49.6	-1.0
GADA				S	Sn	21 25 11.7	-0.2
GADA	Gvkgeada	1.65	16	P	Pn	21 24 49.6	-1.0
GADA	Gvkgeada	1.65	16	*e*Pn	Pn	21 24 50.4	-0.2
GADA				S	Sn	21 25 11.7	-0.2
SMIA	Simia	1.66	280	P	Pn	21 24 51.0	+0.2
SMIA	Simia	1.66	280	P

ENEZ	Enez	2.23	17	ePn	Pn	21 24 58.7	+0.2
BALB	Balikesir	2.26	62	ePN	Pn	21 24 59.7	+0.8
BALB	Balikesir	2.26	62	ePN	Pn	21 24 59.7	+0.8
ERIK	Erikli-Kesan	2.27	24	ePN	Pn	21 24 58.6	-0.4
ERIK	Erikli-Kesan	2.27	24	ePn	Pn	21 24 58.6	-0.4
AGG	Agios Georgios	2.36	281	P	Pn	21 25 00.8	+0.4
AGG	Agios Georgios	2.36	281	P	Pn	21 25 01.7	+1.4
AGG	Agios Georgios	2.36	281	P	Pn	21 25 00.8	+0.4
ALN	Alexandroupoli	2.36	14	ePN	Pn	21 25 00.5	+0.1
ALN	Alexandroupoli	2.36	14	P	Pn	21 24 59.5	-0.9
ALN	Alexandroupoli	2.36	14	P	Pn	21 24 59.1	-1.2
ALN	Alexandroupoli	2.36	14	P	Pn	21 24 59.5	-0.9
ALN	Alexandroupoli	2.36	14	ePn	Pn	21 25 00.5	+0.1
KRBG	Karabiga-Canak	2.36	40	ePN	Pn	21 25 00.8	+0.5
KRBG	Karabiga-Canak	2.36	40	ePn	Pn	21 25 00.8	+0.5
KAVA	Kavala	2.47	346	P	Pn	21 25 01.0	-0.8
KAVA	Kavala	2.47	346	P	Pn	21 25 01.0	-0.8
KALE	Kalithea	2.49	266	P	Pn	21 25 03.9	+1.7
KALE	Kalithea	2.49	266	P	Pn	21 25 03.9	+1.7
KLV	Kalavryta, Ach	2.54	258	P	Pn	21 25 02.6	-0.3
KLV	Kalavryta, Ach	2.54	258	P	Pn	21 25 02.6	-0.3
RDO	Rodhopi	2.55	4	P	Pn	21 25 01.9	-1.0
RDO	Rodhopi	2.55	4	P	Pn	21 25 01.0	-1.9
RDO	Rodhopi	2.55	4	P	Pn	21 25 01.9	-1.0
TRIZ	Trizonia	2.55	266	P	Pn	21 25 04.5	+1.6
TRIZ	Trizonia	2.55	266	P	Pn	21 25 04.5	+1.6
HORT	Hortiatis	2.62	320	ePN	Pn	21 25 04.1	+0.1
HORT	Hortiatis	2.62	320	ePn	Pn	21 25 04.1	+0.1
TRIP	Tripoli	2.62	247	P	Pn	21 25 05.7	+1.7
TRIP	Tripoli	2.62	247	P	Pn	21 25 05.7	+1.7
KULA	Kula-Manisa	2.63	91	ePN	Pn	21 25 05.7	+1.5
KULA	Kula-Manisa	2.63	91	ePn	Pn	21 25 05.7	+1.5
LAKA	Lakka	2.64	263	P	Pn	21 25 05.5	+1.3
LAKA	Lakka	2.64	263	P	Pn	21 25 05.5	+1.3
EDC	Edincik	2.64	48	ePN	Pn	21 25 05.1	+1.0
EDC	Edincik	2.64	48	ePn	Pn	21 25 05.1	+1.0
VLI	Veliai	2.66	226	P	Pn	21 25 03.2	-1.2
VLI	Veliai	2.66	226	P	Pn	21 25 03.2	-1.2
MRMT	Marmara Adasi	2.67	41	ePN	Pn	21 25 05.1	+0.5
MRMT	Marmara Adasi	2.67	41	ePn	Pn	21 25 05.1	+0.5
KCTX	Karacabey (Bur	2.89	54	ePN	Pn	21 25 08.3	+0.7
KCTX	Karacabey (Bur	2.89	54	ePn	Pn	21 25 08.3	+0.7
KYTH	Kithira	2.94	218	P	Pn	21 25 08.3	-0.1
KYTH	Kithira	2.94	218	P	Pn	21 25 08.3	-0.1
ITM	Ithomi	3.03	243	P	Pn	21 25 09.9	+0.4
ITM	Ithomi	3.03	243	P	Pn	21 25 09.9	+0.4
SBT3	Marmara-Eregli	3.07	41	ePN	Pn	21 25 11.1	+1.1
SBT3	Marmara-Eregli	3.07	41	ePn	Pn	21 25 11.1	+1.1
GRG	Griva	3.25	317	ePN	Pn	21 25 13.1	+0.6
GRG	Griva	3.25	317	P	Pn	21 25 13.7	+1.1
GRG	Griva	3.25	317	ePn	Pn	21 25 13.1	+0.6
GRG	Griva	3.25	317	P	Pn	21 25 13.7	+1.1
MDNY	Mudanya-Bursa	3.28	56	ePN	Pn	21 25 14.3	+1.3
MDNY	Mudanya-Bursa	3.28	56	ePn	Pn	21 25 14.3	+1.3
IDI	Anoyia	3.33	186	P	Pn	21 25 13.0	-0.7
IDI	Anoyia	3.33	186	P	Pn	21 25 13.0	-0.7
TVSB	Tavsanli	3.35	74	ePN	Pn	21 25 15.6	+1.6
TVSB	Tavsanli	3.35	74	ePn	Pn	21 25 15.6	+1.6
ARMT	Armutlu	3.38	53	ePN	Pn	21 25 15.5	+1.2
ARMT	Armutlu	3.38	53	ePn	Pn	21 25 15.5	+1.2
KARP	Karpathos	3.39	153	P	Pn	21 25 14.9	+0.3
KARP	Karpathos	3.39	153	P	Pn	21 25 14.9	+0.3
EDRB	Edirne	3.42	18	ePN	Pn	21 25 15.9	+0.9
EDRB	Edirne	3.42	18	ePn	Pn	21 25 15.9	+0.9
SBT5	Esenkoy-Cinarc	3.42	53	ePN	Pn	21 25 16.1	+1.3
SBT5	Esenkoy-Cinarc	3.42	53	ePn	Pn	21 25 16.2	+1.3
CTKS	Kestanelik-??a	3.60	42	ePN	Pn	21 25 18.6	+1.2
CTKS	Kestanelik-??a	3.60	42	ePn	Pn	21 25 18.6	+1.2
BUY	Buyukada	3.70	51	ePN	Pn	21 25 20.1	+1.3
BUY	Buyukada	3.70	51	ePn	Pn	21 25 20.1	+1.3
ISK	Istanbul-Kandi	3.80	48	ePN	Pn	21 25 21.5	+1.4
ISK	Istanbul-Kandi	3.80	48	ePn	Pn	21 25 21.5	+1.4
KLYT	Kilyos	3.91	46	ePN	Pn	21 25 22.3	+0.7
KLYT	Kilyos	3.91	46	ePn	Pn	21 25 22.3	+0.7

IDC 05 21:34:06.3±1.8, 1°38S×134°15E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4, ML4.0/2, Error ellipse: s-maj=31.9km s-min=20.1km az=45.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.93	280	Pn	Pn	21 34 54.3	+0.1
	150nm,0.3s,baz=329,slow=23,SNR=103						
SIJI				Lg	Lg	21 35 39.1	
	359nm,0.3s,baz=83,slow=19,SNR=3.8						
WRA	Warramunga Arr	18.45	179	P	P	21 38 23.7	+0.1
	0.2nm,0.3s,baz=0.3,slow=12,SNR=5.4						
WRA				S	Sn	21 41 38.7	-12
	0.1nm,0.3s,baz=354,slow=24,SNR=2.7						
FITZ	Fitzroy Crossi	18.60	206	P	P	21 38 23.9	-1.4
	baz=19,slow=12						
ASAR	Alice Springs	22.16	181	P	P	21 39 04.2	+0.3
	0.4nm,0.5s,baz=4.6,slow=12,SNR=7.9						
ASAR				S	S	21 43 01.2	-7.9
	0.2nm,0.3s,baz=0.2,slow=26,SNR=3.1						
MKAR	Makanchi Array	66.00	324	P	P	21 44 54.9	+0.2
	0.1nm,0.4s,baz=103,slow=7.7,SNR=2.9						

MEX 05 21:34:54.2±0.5, 15°74N×91°14W, h30km±27km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.11	300	eP	Pn	21 35 11.5	-2.3
CCIG				i S	Sn	21 35 25.1	-3.0
PCIG		2.01	269	i P	Pn	21 35 24.1	-1.9
PCIG				i S	Sn	21 35 49.9	-0.2

*IDC **05** 21:50:09.5±1.6, 59°40N×153°52W, h92km±19km, mb3.1/2, mb1 3.2/3, mb1mx2.9/42, mbtmp3.3/3, Error ellipse: s-maj=30.3km s-min=12.8km az=95.0*
*ISCJB **05** 21:50:10.0±0.4, 59°27N±0°03×153°43W±0°07, h119km±4km, mb3.4/2, Error ellipse: s-maj=6.1km s-min=3.7km az=32.5*
*NEIC **05** 21:50:11.8±0.0, 59°26N×153°48W, h115km, MG3.0(AEIC), After AEIC.*

ISC 05 21:50:10.8±0.9, 59°28N±0°03×153°50W±0°04, h118km±6km, n63, σ0°91/80, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	Augustine Isla	0.07	36	P	Pn	21 50 27.1	+0.2
AUI				S	Sn	21 50 38.5	-0.5
AUW	Augustine West	0.09	10	P	Pn	21 50 27.3	+0.4
AUE	Augustine Isla	0.10	41	P	Pn	21 50 27.2	+0.3
CDD	Cape Douglas	0.36	192	P	Pn	21 50 27.8	0.0
CDD				S	Sn	21 50 40.2	-0.3
FOSS	Fourpeaked Sta	0.49	192	P	Pn	21 50 28.5	0.0
FOPK	Fourpeaked Vol	0.53	178	P	Pn	21 50 28.4	-0.2
ILS	Iliamna Low So	0.71	18	P	Pn	21 50 30.0	-0.1
ILW	Iliamna West	0.80	13	P	Pn	21 50 31.0	0.0
ILW				S	Sn	21 50 45.3	-0.8
KAPH	Katmai Pasha	0.82	213	P	Pn	21 50 31.0	0.0
KAPH				S	Sn	21 50 45.7	-0.5
ILIM	Iliamna	0.85	19	P	Pn	21 50 31.2	+0.1
KAHC	Katmai Hardscr	1.01	231	P	Pn	21 50 32.5	-0.2
HOM	Homer	1.02	68	P	Pn	21 50 33.2	+0.4
KAWH	Katmai	1.13	217	P	Pn	21 50 33.8	-0.2
CNPM	China Poot	1.18	77	P	Pn	21 50 34.9	+0.4
CNPM				S	Sn	21 50 52.3	-0.2
RED	Redoubt Volcan	1.20	18	P	Pn	21 50 34.7	-0.1
RDWB	Redoubt West	1.25	15	P	Pn	21 50 35.4	0.0
RDWB				S	Sn	21 50 53.8	-0.3
KAKN	Katmai Knife C	1.28	220	P	Pn	21 50 35.5	-0.2
KAKN				S	Sn	21 50 53.4	-1.1
KVTA	Katmai Vly 10	1.30	227	P	Pn	21 50 35.8	0.0
RDJH	Redoubt Jeurge	1.36	15	P	Pn	21 50 36.7	+0.1
DFR	Drift River	1.38	17	P	Pn	21 50 36.9	+0.2
KABR	Katmai Barrier	1.39	214	P	Pn	21 50 36.5	-0.2
BRLK	Bradley Lake	1.42	69	P	Pn	21 50 37.1	0.0
BRLK				S	Sn	21 50 56.0	-1.1
KELA	Mount Kelaz	1.44	235	P	Pn	21 50 37.2	-0.2
BGRM	Barrier Glacie	1.58	20	P	Pn	21 50 39.1	+0.1
KDAK	Kodiak Island	1.58	162	P	Pn	21 50 38.7	-0.2
	22nm,0.3s,baz=356,slow=14,SNR=299						
KDAK				S	Sn	21 50 59.0	-1.3
	68nm,0.3s,baz=143,slow=22,SNR=34						
KDAK	Kodiak Island	1.58	162	ePn	Pn	21 50 38.4	-0.5
KDAK				eS	Sn	21 50 59.2	-1.1
CKL	Chakachamna La	2.01	16	P	Pn	21 50 44.6	+0.4
SPWE	Spurr West	2.05	13	P	Pn	21 50 45.6	+0.8
OHAK	Old Harbor	2.07	177	P	Pn	21 50 44.2	-0.8
OHAK				S	Sn	21 51 08.9	-2.1
SVW2	Sparrevohn	2.10	331	P	Pn	21 50 45.1	-0.2
SPCP	Crater Peak Br	2.10	18	P	Pn	21 50 45.8	+0.4
PLK3	Peulik 3	2.16	223	P	Pn	21 50 46.4	+0.3
SEW	Seward	2.21	66	ePn	Pn	21 50 47.5	+0.8
SEW				eS	Sn	21 51 12.6	-1.7
STLK	Strandline Lak	2.37	20	P	Pn	21 50 49.4	+0.6
SUA	Susitna One	2.58	31	P	Pn	21 50 52.2	+0.6
RC01	Rabbit Creek A	2.61	44	ePn	Pn	21 50 52.4	+0.5
RC01				eS	Sn	21 51 22.1	-1.3
SKT	Skwentna	2.88	19	P	Pn	21 50 55.5	+0.2
PWL	Port Wells	3.03	56	P	Pn	21 50 57.1	-0.2
PMR	Palmer	3.17	41	ePn	Pn	21 50 59.2	+0.1
PMR				eS	Sn	21 51 33.7	-2.8
KNK	Knik Glacier	3.29	47	P	Pn	21 51 00.4	-0.4
GHO	Glory Hole Cre	3.37	40	P	Pn	21 51 01.6	-0.3
GLI	Glacier Island	3.59	61	P	Pn	21 51 03.7	-1.0
SML	Sawmill	3.60	43	ePn	Pn	21 51 04.8	0.0
SML				eS	Sn	21 51 45.2	-1.5
FID	Port Fidalgo	3.82	64	P	Pn	21 51 06.7	-1.0
TT01	Tatalina	3.84	342	P	Pn	21 51 07.4	-0.5
SCM	Sheep Creek Mo	3.98	47	P	Pn	21 51 09.8	-0.2
KLU	Klutina	4.37	56	P	Pn	21 51 15.0	-0.1
KTH	Kantishna Hill	4.46	15	ePn	Pn	21 51 16.9	+0.5
KTH				eS	Sn	21 52 07.4	+0.1
KAIM	Kayak Island	4.66	78	P	Pn	21 51 20.0	+1.0
BMRM	Bremner River	4.76	65	P	Pn	21 51 19.7	-0.7
DHY	Denali Highway	4.82	35	P	Pn	21 51 20.8	-0.6
WAX	Waxell Ridge	5.49	73	P	Pn	21 51 30.6	+0.3
BARK	Barkley Ridge	5.66	74	P	Pn	21 51 33.2	+0.6
ISLE	Juniper Island	5.76	72	P	Pn	21 51 34.3	+0.3
BAGL	Bagley Icefiel	5.87	73	P	Pn	21 51 36.4	+1.1
ILAR	Eielson Array	6.32	27	P	Pn	21 51 40.5	-0.9
	0.2nm,0.3s,baz=219,slow=14,SNR=12						
ILAR				S	Sn	21 52 47.6	-4.6
	1.0nm,0.3s,baz=215,slow=22,SNR=12						
TABL	Table Mountain	6.33	74	P	Pn	21 51 42.8	+1.0
LOGN	Logan Glacier	6.45	71	P	Pn	21 51 43.9	+0.7
IM3	Indian Mountai	6.73	359	P	Pn	21 51 47.1	+0.3
BCA3	Beaver Creek A	6.81	51	P	Pn	21 51 48.8	+0.8
PNL	Peninsula	7.20	81	P	Pn	21 51 53.5	+0.3
TXAR	Lajitas Array	44.98	109	P	P	21 58 15.3	+1.2
	0.3nm,0.7s,baz=326,slow=7.7,SNR=3.6						
SONM	Songino Array	55.01	306	P	P	21 59 30.6	+0.9
	0.4nm,0.5s,baz=36,slow=5.6,SNR=5.0						

JMA 05 21:55:11.0±0.1, 36°52N×137°65E, h2km±2km, M3.5, 1C-2D Broadband fault plane solution: P waves. NP1: ϕ_s=10.00000°, δ89.00000°, λ-14.00000°. NP2: ϕ_s=100.00000°, δ76.00000°, λ-179.00000°. Principal axes: T Plg9.0000°, Azm56.0000°; N Plg76.0000°, Azm184.0000°; P Plg11.0000°, Azm324.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.27	288	↓P	Pg	21 55 16.9	+0.7
JNG	Nsakai	0.38	107	↓P	Pg	21 55 18.6	+0.3
JGN	Niukaw	0.40	222	↑P	Pg	21 55 18.8	+0.1
JGN				S	Sg	21 55 24.4	+0.5
MAT	Matsushiro	0.45	87	P	Pg	21 55 19.7	+0.1
MAT				S	Sg	21 55 25.8	+0.3
MAT	Matsushiro	0.45	87	P	Pg	21 55 19.8	+0.2
MAT				S	Sg	21 55 25.8	+0.3

*NIED **05** 21:55:00, 36°50N×137°70E, h5km, Mw4.2 Best double couple: M_0=2.26000×10^{15} NP1:ϕ_s=278.00000°, δ68.00000°, λ-169.00000°. NP2:ϕ_s=184.00000°, δ80.00000°, λ-23.00000°.*

JMA 05 21:55:31.2, 36°51N×137°65E, h2km±1km, M3.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.27	290	P	Pg	21 55 37.2	+0.8
JTT				S	Sg	21 55 41.5	+1.5
JGN	Niukaw	0.39	223	S	Sg	21 55 44.6	+0.7
MAT	Matsushiro	0.45	86	P	Pg	21 55 39.9	+0.1
MAT				S	Sg	21 55 46.0	+0.3

*IDC **05** 22:06:09.6±1.2, 15°37N×91°40W, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/33, mbtmp3.9/12, ML3.3/2, MS3.9/2, Ms1 3.8/2, ms1mx3.0/39, Error ellipse: s-maj=37.6km s-min=18.9km az=43.0*
*CASC **05** 22:06:12.3±1.0, 16°08N×91°38W, h34km±291km, ML4.1, mb4.2(NEIC)*
*ISCJB **05** 22:06:15.3±0.4, 15°85N±0°05×91°26W±0°05, h30km, mb4.0/13, MS3.9/2, Error ellipse: s-maj=8.0km s-min=4.2km az=43.4*
*MEX **05** 22:06:16.0±0.5, 15°75N×91°15W, h22km±48km, MD4.0*
*NEIC **05** 22:06:16.0±0.0, 15°75N×91°15W, h22km, mb4.2/5, MD4.0(MEX), After MEX.*

ISC 05 22:06:16.1±0.6, 15°78N±0°06×91°26W±0°05, h30km, n34, σ2°04/34, mb4.1/13, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.98	301	eP	Pn	22 06 32.9	-1.1
CCIG				eS	Sn	22 06 46.4	-0.7
MRL	Marmol	1.67	115	eP	Pn	22 06 42.8	-0.7
IXG	Ixpaco	1.77	154	eP	Pn	22 06 45.5	+0.6
PCIG		1.89	268	eP	Pn	22 06 46.4	+0.1
TGIG		2.05	299	eP	Pn	22 06 48.5	0.0
CUS1	Cusmapa	2.25	145	eP	Pn	22 06 51.9	+0.6
CUS1				eS	Sb	22 07 21.8	-1.7
RBDL	Robledal	2.25	137	eP	Pn	22 06 50.9	-0.5
RBDL				eS	Sb	22 07 23.0	-0.6
MTO3	Montecristo	2.29	126	AML	AML	22 07 27.5	
	comp=Z,2μm,0.4s						
MONT	Ecomontaæa	2.46	140	eP	Pn	22 06 55.2	+0.7
SNJE	San Jose	2.48	140	eP	Pn	22 06 55.1	+0.4
UEES	San Salvador	2.82	136	AML	AML	22 07 47.4	
	comp=Z,890nm,0.2s						
UDBS	Soyapango	2.88	135	AML	AML	22 07 48.9	
	comp=Z,940nm,0.2s						
SCIG	Sabancuy	3.17	1	eP	Pn	22 07 02.2	-1.9
SCIG				i S	Sn	22 07 39.6	-1.3
CMIG	Matias Romero	3.71	291	Pn	Pn	22 07 10.1	-1.3
	comp=Z,2.1nm,0.3s,baz=115,slow=7.6,SNR=18						
CMIG				Sn	Sn	22 07 53.0	-1.3
	comp=Z,12nm,0.3s,baz=94,slow=19,SNR=5.7						
CMIG				Lg	Lg	22 08 03.8	
	comp=Z,24nm,0.3s,baz=176,slow=5.3,SNR=17						
MTDJ	Mount Denham	13.36	78	ePn	Pn	22 09 26.4	+2.6
TXAR	Lajitas Array	17.68	322	P	P	22 10 22.4	+1.3
	comp=Z,0.0nm,0.3s,baz=153,slow=11,SNR=9.7						
TKL	Tuckaleechee C	20.90	17	P	Pn	22 10 59.2	+0.4
	comp=Z,2.3nm,0.7s,baz=262,slow=7.1,SNR=3.1						
AMTX	Amarillo	21.20	336	eP	P	22 11 04.0	+4.5
	comp=Z,7.5nm,0.8s						
SDV	Santo Domingo	21.27	106	P	P	22 10 59.7	-0.8
	comp=Z,5.9nm,0.5s,baz=316,slow=3.1,SNR=5.4						
SDV	Santo Domingo	21.27	106	eP	P	22 11 00.8	+0.3
	comp=Z,3.2nm,0.4s						
TUC	Tucson	24.20	316	eP	P	22 11 35.4	+5.2
	comp=Z,5.8nm,0.8s						
PDAR	Pinedale Array	31.14	333	P	P	22 12 34.1	+1.6
	comp=Z,0.2nm,0.5s,baz=113,slow=6.1,SNR=2.5						
PDAR				LR	LR	22 26 44.1	
	comp=Z,33nm,19.0s,baz=228,slow=39						
REDW	Red Top Meadow	32.18	333	eP	P	22 12 45.9	+4.3
	comp=Z,15nm,1.2s						
TPAW	Teton Pass	32.32	333	eP	P	22 12 46.1	+3.2
	comp=Z,2.3nm,0.7s						
LPAZ	La Paz	39.19	143	P	P	22 13 38.6	-3.8
	comp=Z,0.7nm,0.5s,baz=347,slow=4.2,SNR=4.3						
YKA	Yellowknife Ar	49.48	346	P	P	22 15 03.0	-0.4
	comp=Z,0.8nm,0.6s,baz=146,slow=7.5,SNR=4.3						
ILAR	Eielson Array	61.51	336	P	P	22 16 30.1	+0.2
	comp=Z,0.6nm,0.6s,baz=160,slow=4.9,SNR=7.3						
JMIC	Jan Mayen	72.84	20	LR	LR	22 51 11.5	
	comp=Z,490nm,18.1s,baz=65,slow=37						
ESDC	Sonseca Array	78.06	52	P	P	22 18 13.3	+1.0
	comp=Z,1.4nm,0.7s,baz=294,slow=6.0,SNR=10						
GERES	GERESS Array B	87.79	40	P	P	22 19 02.2	-0.3
	comp=Z,0.6nm,0.9s,baz=0.0,slow=2.9,SNR=2.9						
FINES	FINESS Array B	88.60	25	P	P	22 19 04.7	-1.3
	comp=Z,1.8nm,0.6s,baz=306,slow=4.5,SNR=5.3						
TORD	Torodi Ar. Bea	89.27	77	P	P	22 19 08.7	-1.4
	comp=Z,0.4nm,0.6s,baz=290,slow=4.6,SNR=6.0						
WRA	Warramunga Arr	136.50	258	PKP	PKPdf	22 25 34.3	-1.7
	comp=Z,0.3nm,0.7s,baz=87,slow=2.9,SNR=2.8						
CMAR	Chiang Mai Arr	144.53	343	PKP	PKPab	22 25 47.1	-1.8
	comp=Z,1.4nm,0.7s,baz=341,slow=3.1,SNR=9.4						

MEX 05 22:11:58.8±0.7, 30°35N×109°65W, h10km, MD3.9, Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
319A	Douglas	1.07	17	eP	Pg	22 12 15.8	-3.7
319A				eS	Sg	22 12 30.3	-3.1
CGIG		1.44	89	eP	Pn	22 12 21.4	-3.8
CGIG				eS	Sn	22 12 39.9	-4.3
HSIG		1.74	221	eP	Pn	22 12 26.4	-2.7
HSIG				eS	Sn	22 12 48.1	-3.3

*ISCJB **05** 22:33:22.7±1.0, 57°9N±0°1×32°7W±0°3, h18km, mb3.5/7, Error ellipse: s-maj=22.2km s-min=19.4km az=26.6*
*IDC **05** 22:33:22.1±1.4, 57°80N×32°69W, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.4/60, mbtmp3.5/8, Error ellipse: s-maj=30.9km s-min=29.0km az=176.0*

ISC 05 22:33:24.9±1.2, 57°8N±0°2×32°7W±0°2, h18km, n11, σ0°69/8, mb3.6/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.87	33	Pn	Pn	22 35 32.2	+0.3
ESDC	Sonseca Array	25.90	122	P	P	22 38 56.0	+0.3
	0.1nm,0.4s,baz=322,slow=11,SNR=2.4						
AKASG	Malin Array Be	35.70	74	P	P	22 40 21.2	-0.6
	0.4nm,0.5s,baz=304,slow=8.4,SNR=4.1						
BRTR	Keskin Array B	45.30	84	P	P	22 41 42.4	+1.0
	0.2nm,0.5s,baz=318,slow=1.9,SNR=2.6						
TORD	Torodi Ar. Bea	51.56	135	P	P	22 42 29.4	-0.4
	0.7nm,0.9s,baz=336,slow=7.9,SNR=3.5						
TXAR	Lajitas Array	55.67	271	P	P	22 43 00.1	+0.2
	0.1nm,0.4s,baz=28,slow=4.1,SNR=2.4						
KURBB	Kurchatov Arra	58.17	44	P	P	22 43 16.4	-0.7
	0.6nm,0.2s,baz=320,slow=6.8,SNR=4.6						
MKAR	Makanchi Array	62.74	44	P	P	22 43 48.1	-0.4
	0.4nm,0.6s,baz=329,slow=5.6,SNR=4.0						
H10S1	ASCENSION HYDR	68.10	161	T	T	23 58 07.8	
	baz=352						
H10S3	ASCENSION HYDR	68.11	161	T	T	23 58 08.5	
	baz=352						
H10S2	ASCENSION HYDR	68.12	161	T	T	23 58 07.4	
	baz=352						

*IDC **05** 22:35:58.8±1.1, 57°95N×32°32W, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.5/56, mbtmp3.5/9, MS3.6/2, Ms1 3.6/2, ms1mx2.9/32, Error ellipse: s-maj=27.9km s-min=20.5km az=22.0*
*ISCJB **05** 22:35:59.7±0.8, 58°0N±0°1×32°3W±0°2, h18km, mb3.6/10, MS3.5/2, Error ellipse: s-maj=18.1km s-min=14.9km az=19.0*

ISC 05 22:36:01.5±0.9, 57°9N±0°1×32°4W±0°1, h18km, n16, σ1°12/11, mb3.6/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.65	33	Pn	Pn	22 38 06.5	+0.9
ESDC	Sonseca Array	25.82	123	P	P	22 41 32.3	+0.7
	0.4nm,0.7s,baz=316,slow=7.1,SNR=4.5						
ARCES	ARCESS Array B	26.94	41	P	P	22 41 39.2	-2.0
	2.3nm,0.8s,baz=276,slow=8.1,SNR=3.5						
GERES	GERESS Array B	28.41	88	LR	LR	22 52 00.6	
	comp=Z,68nm,21.0s,baz=308,slow=34						
KEST	Kesra	35.32	111	LR	LR	22 55 31.3	
	comp=Z,130nm,18.3s,baz=296,slow=33						
AKASG	Malin Array Be	35.49	74	P	P	22 42 56.6	0.0
	0.2nm,0.3s,baz=307,slow=8.2,SNR=3.2						
YKA	Yellowknife Ar	38.52	312	P	P	22 43 21.0	-1.2
	0.3nm,0.6s,baz=64,slow=12,SNR=3.0						
BRTR	Keskin Array B	45.10	84	P	P	22 44 17.1	+0.5
	0.6nm,0.8s,baz=299,slow=6.5,SNR=4.3						
ILAR	Eielson Array	48.01	328	P	P	22 44 38.9	+0.1
	0.6nm,0.8s,baz=35,slow=8.1,SNR=3.1						
TORD	Torodi Ar. Bea	51.54	136	P	P	22 45 05.2	-1.0
	0.7nm,0.9s,baz=334,slow=9.6,SNR=4.4						
TXAR	Lajitas Array	55.84	272	P	P	22 45 39.1	+1.3
	0.2nm,0.7s,baz=27,slow=6.1,SNR=2.4						
KURBB	Kurchatov Arra	57.94	45	P	P	22 45 52.4	+0.3
	2.9nm,0.2s,baz=328,slow=7.1,SNR=3.7						
MKAR	Makanchi Array	62.51	45	P	P	22 46 23.7	+0.2
	0.5nm,0.6s,baz=326,slow=5.0,SNR=6.4						
H10S1	ASCENSION HYDR	68.17	161	T	T	00 01

TMBK				S	Sb	22 44 44.6	+0.4
TMBK	**Timbaki Herakl**	**0.86**	**67**	P	Pb	22 44 33.1	+0.1
TMBK				S	Sb	22 44 44.6	+0.4
SIVA	**Sivas**	**0.88**	**71**	P	Pb	22 44 33.1	-0.1
SIVA				S	Sn	22 44 46.0	+1.6
SIVA	**Sivas**	**0.88**	**71**	P	Pb	22 44 33.1	-0.1
SIVA				S	Sn	22 44 46.3	+1.9
SIVA				AML	AML	22 45 01.6	
	comp=E,2676μm,0.5s						
SIVA				AML	AML	22 45 02.5	
	comp=N,2654μm,0.7s						
SIVA	**Sivas**	**0.88**	**71**	P	Pb	22 44 33.2	-0.1
SIVA				S	Sn	22 44 46.0	+1.6
IDI	**Anoyia**	**1.05**	**58**	P	Pb	22 44 36.0	-0.2
IDI				S	Sb	22 44 49.9	+0.2
IDI	**Anoyia**	**1.05**	**58**	P	Pb	22 44 36.1	-0.1
IDI				AML	AML	22 45 02.0	
	comp=N,478μm,0.5s						
IDI				AML	AML	22 45 02.1	
	comp=E,351μm,0.4s						
IDI	**Anoyia**	**1.05**	**58**	P	Pb	22 44 36.0	-0.2
IDI				S	Sb	22 44 49.9	+0.2
ANKY	**Antikythira Is**	**1.20**	**340**	P	Pn	22 44 37.7	+0.6
ANKY				S	Sb	22 44 53.3	-0.5
ANKY	**Antikythira Is**	**1.20**	**340**	P	Pn	22 44 37.8	+0.7
ANKY	**Antikythira Is**	**1.20**	**340**	P	Pn	22 44 37.7	+0.6
ANKY				S	Sb	22 44 53.3	-0.5
LAST	**Lasithi**	**1.44**	**73**	P	Pn	22 44 41.2	+0.6
LAST	**Lasithi**	**1.44**	**73**	P	Pn	22 44 41.8	+1.2
LAST	**Lasithi**	**1.44**	**73**	P	Pn	22 44 41.2	+0.6
NPS	**Neapolis**	**1.58**	**70**	P	Pn	22 44 43.4	+1.0
NPS	**Neapolis**	**1.58**	**70**	P	Pn	22 44 44.1	+1.7
NPS	**Neapolis**	**1.58**	**70**	P	Pn	22 44 43.4	+1.0
KYTH	**Kithira**	**1.64**	**338**	P	Pn	22 44 43.9	+0.6
KYTH				S	Sn	22 45 04.3	+0.9
KYTH	**Kithira**	**1.64**	**338**	P	Pn	22 44 43.5	+0.2
MHLO	**Agia Marina, M**	**2.01**	**14**	P	Pn	22 44 48.7	+0.4
MHLO	**Agia Marina, M**	**2.01**	**14**	P	Pn	22 44 47.5	-0.8
MHLO	**Agia Marina, M**	**2.01**	**14**	P	Pn	22 44 48.7	+0.4
ZKR	**Zakros**	**2.02**	**79**	P	Pn	22 44 48.9	+0.4
ZKR	**Zakros**	**2.02**	**79**	P	Pn	22 44 48.7	+0.2
ZKR	**Zakros**	**2.02**	**79**	P	Pn	22 44 48.9	+0.4
MHLA	**Plaka, Milos I**	**2.06**	**14**	P	Pn	22 44 49.3	+0.2
MHLA	**Plaka, Milos I**	**2.06**	**14**	P	Pn	22 44 49.3	+0.2
SAP1	**Santorini-Akro**	**2.07**	**38**	P	Pn	22 44 49.0	-0.2
SAP1	**Santorini-Akro**	**2.07**	**38**	P	Pn	22 44 49.0	-0.2
THR6	**Thira Island,**	**2.07**	**38**	P	Pn	22 44 50.1	+0.9
THR6	**Thira Island,**	**2.07**	**38**	P	Pn	22 44 49.6	+0.4
THR6	**Thira Island,**	**2.07**	**38**	P	Pn	22 44 49.6	+0.4
VLI	**Veliai**	**2.10**	**341**	P	Pn	22 44 51.4	+1.9
VLI	**Veliai**	**2.10**	**341**	P	Pn	22 44 51.3	+1.9
VLI	**Veliai**	**2.10**	**341**	P	Pn	22 44 51.3	+1.8
THR5	**Thira Island,**	**2.10**	**37**	P	Pn	22 44 49.8	+0.3
THR5	**Thira Island,**	**2.10**	**37**	P	Pn	22 44 49.1	-0.4
THR5	**Thira Island,**	**2.10**	**37**	P	Pn	22 44 49.8	+0.3
THT1	**Athinios (Pele**	**2.11**	**38**	P	Pn	22 44 49.5	-0.2
THT1	**Athinios (Pele**	**2.11**	**38**	P	Pn	22 44 49.5	-0.2
THR3	**Thira Island,**	**2.12**	**38**	P	Pn	22 44 50.3	+0.5
THR3	**Thira Island,**	**2.12**	**38**	P	Pn	22 44 50.1	+0.4
THR3	**Thira Island,**	**2.12**	**38**	P	Pn	22 44 50.3	+0.5
SANT	**Santorini**	**2.12**	**39**	P	Pn	22 44 49.8	-0.1
SANT	**Santorini**	**2.12**	**39**	P	Pn	22 44 49.8	-0.1
THR2	**Thira island,**	**2.16**	**38**	P	Pn	22 44 50.9	+0.5
THR2	**Thira island,**	**2.16**	**38**	P	Pn	22 44 50.9	+0.5
CMBO	**Columbo, Santo**	**2.17**	**37**	P	Pn	22 44 51.0	+0.5
CMBO				P	Pn	22 44 51.1	+0.6
CMBO	**Columbo, Santo**	**2.17**	**37**	P	Pn	22 44 51.1	+0.6
SERI	**Serifos**	**2.48**	**13**	P	Pn	22 44 53.8	-1.0
SERI	**Serifos**	**2.48**	**13**	P	Pn	22 44 53.8	-1.0
DID	**Didima**	**2.80**	**351**	P	Pn	22 44 59.4	+0.2
DID	**Didima**	**2.80**	**351**	P	Pn	22 44 59.4	+0.2
KARP	**Karpathos**	**2.87**	**73**	P	Pn	22 45 00.8	+0.6
KARP	**Karpathos**	**2.87**	**73**	P	Pn	22 45 00.8	+0.6
TRIP	**Tripoli**	**3.04**	**336**	P	Pn	22 45 04.8	+2.2
TRIP	**Tripoli**	**3.04**	**336**	P	Pn	22 45 04.8	+2.2
VLY	**Voula,Athens**	**3.11**	**360**	P	Pn	22 45 03.4	0.0
VLY	**Voula,Athens**	**3.11**	**360**	P	Pn	22 45 03.4	0.0
GUR	**Goura**	**3.40**	**340**	P	Pn	22 45 09.0	+1.5
GUR	**Goura**	**3.40**	**340**	P	Pn	22 45 09.0	+1.5
BRTR	**Keskin Array B**	**9.29**	**55**	Pn	**Pn**	**22 46 28.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=3.0						
STON	**Ston**	**9.41**	**331**	*e*Pn	Pn	22 46 26.2	-3.7
STON				Sn	Sn	22 48 06.0	-8.6
MMAI	**Mount Meron Ar**	**9.80**	**97**	Pn	Pn	22 46 29.4	-6.0
	comp=E,0.6nm,0.3s,baz=278,slow=11,SNR=5.4						
NVLJ	**Novalja**	**11.97**	**328**	*e*Pn	**Pn**	**22 47 03.4**	**-1.6**
NVLJ				Sn	Sn	22 49 10.1	-7.3
GERES	**GERESS Array B**	**15.96**	**335**	Pn	**Pn**	**22 48 00.2**	**+1.4**
	comp=E,0.1nm,0.3s,baz=150,slow=10,SNR=6.2						
AKASG	**Malin Array Be**	**16.43**	**12**	Pn	**Pn**	**22 48 03.3**	**-1.4**
	comp=E,0.3nm,0.3s,baz=204,slow=10,SNR=2.3						
HFS	**Hagfors**	**26.25**	**349**	P	**P**	**22 49 46.0**	**-2.6**
	comp=E,3.0nm,0.8s,baz=154,slow=14,SNR=4.6						
FINES	**FINESS Array B**	**26.76**	**2**	P	**P**	**22 49 50.5**	**-2.7**
	comp=E,1.4nm,0.8s,baz=171,slow=9.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**29.37**	**228**	P	P	22 50 11.2	-5.7
	comp=E,0.2nm,0.6s,baz=39,slow=8.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**42.25**	**51**	P	P	22 52 04.2	-2.6
	comp=E,0.9nm,0.3s,baz=276,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**44.94**	**56**	P	P	22 52 26.0	-2.5
	comp=E,0.4nm,0.5s,baz=286,slow=6.6,SNR=4.8						

*IDC **05** 22:44:57.1±4.3, 36°.00N×71°.32E, h183km±33km, mb3.3/3, mb1 3.2/8, mb1mx2.9/51, mbtmp3.7/8, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=56.2km s-min=27.3km az=139.0*

*ISCJB **05** 22:44:58.6±2.1, 36°.3N±0°.2×71°.2E±0°.2, h188km, mb3.5/3, Error ellipse: s-maj=33.0km s-min=11.0km az=139.4*

*NNC **05** 22:45:29.7±12.0, 38°.96N×71°.58E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=105.2km s-min=78.1km az=164.0*

ISC 05 22:44:59.9±2.3, 36°.4N±0°.2×71°.2E±0°.2, h188km, n12, σ1ⁿ02/12, mb3.6/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.22**	**9**	⇓Pg	**Pn**	**22 46 30.5**	**+0.6**
	6.3nm,0.3s						
MNAS				⇓Lg	Lg	22 47 30.1	
	14nm,0.8s						
KK31	**Karatay Array**	**6.77**	**356**	⇓Pn	**Pn**	**22 46 37.2**	**+0.3**
	3.5nm,0.3s,baz=174,slow=17,SNR=104						
KK31				⇑Pg		22 46 42.6	
	1.1nm,0.2s,baz=176,slow=14,SNR=4.7						
KK31				⇓Lg	Lg	22 47 44.4	
	4.3nm,0.6s,baz=163,slow=28,SNR=6.4						
AAK	**Ala-Archa**	**6.79**	**21**	P	**Pn**	**22 46 38.1**	**+0.8**
	5.1nm,0.3s,baz=182,slow=8.1,SNR=43						
AAK				S	**Sn**	**22 47 52.4**	**-2.0**
	0.5nm,0.3s,baz=318,slow=22,SNR=15						
AAK	**Ala-Archa**	**6.79**	**21**	⇑Pn	**Pn**	**22 46 38.1**	**+0.8**
	7.1nm,0.4s						
AAK				⇓Lg	Lg	22 47 51.0	
	7.8nm,0.6s						
GEYT	**Alibeck**	**10.54**	**283**	P	**Pn**	**22 47 26.5**	**+0.2**
	0.1nm,0.3s,baz=99,slow=18,SNR=2.8						
MKAR	**Makanchi Array**	**13.34**	**35**	P	**Pn**	**22 48 02.3**	**+0.4**
	0.1nm,0.3s,baz=222,slow=13,SNR=7.6						
BVAR	**Borovoye Array**	**16.69**	**358**	P	**Pn**	**22 48 43.7**	**+0.9**
	0.3nm,0.3s,baz=179,slow=9.8,SNR=3.4						
AKTO	**Aktyubinsk**	**16.98**	**330**	P	**Pn**	**22 48 46.3**	**0.0**
	0.2nm,0.3s,baz=135,slow=5.7,SNR=3.3						
ARU	**Arti**	**21.82**	**341**	LR	LR	22 59 04.2	
	comp=Z,38nm,18.5s,baz=171,slow=38						
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**22 51 57.2**	**+0.5**
	1.1nm,0.7s,baz=122,slow=10,SNR=4.4						
ARCES	**ARCESS Array B**	**41.34**	**338**	P	**P**	**22 52 27.2**	**+0.4**
	2.2nm,0.8s,baz=113,slow=8.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**22 55 24.2**	**-1.3**
	0.2nm,0.5s,baz=48,slow=6.4,SNR=7.9						

MEX 05 22:49:25.5±0.4, 15°.80N×91°.18W, h20km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.04**	**298**	*i* P	Pb	22 49 41.9	-3.0
CCIG				*i* S	Sb	22 49 54.7	-3.5
PCIG		**1.97**	**267**	*e*P	Pn	22 49 45.4	-12
PCIG				*i* S	Sn	22 50 21.2	-0.5
TGIG		**2.10**	**298**	*e*P	Pb	22 50 04.1	+1.1
TGIG				*e*S	Sn	22 50 22.2	-3.1

*IDC **05** 22:54:31.5±0.7, 8°.46S×118°.04E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/32, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=42.2km s-min=16.3km az=68.0*

*ISCJB **05** 22:54:46.3±0.3, 8°.59S±0°.05×118°.34E±0°.03, h152km, mb4.0/12, Error ellipse: s-maj=7.4km s-min=3.5km az=11.2*

*NEIC **05** 22:54:47.1±0.7, 8°.58S×118°.37E, h132km±8km, mb4.2/3, Error ellipse: s-maj=11.2km s-min=7.5km az=212.0*

*DJA **05** 22:54:48.2±0.3, 9°S±4°×11°8E±°, h120km±4km, M4.4/13, mB4.9/1, mb4.8/1, MLv4.2/13, Mw(mB)4.1/1*

ISC 05 22:54:48.1±0.6, 8°.61S±0°.06×118°.35E±0°.04, h152km, n39, σ1ⁿ95/46, mb3.8/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.61**	**250**	P	**Pn**	**22 55 07.6**	**-2.6**
TWSI	**Taliwang, Sumb**	**1.46**	**265**	P	**Pn**	**22 55 15.7**	**-1.6**
TWSI				S	**Sn**	**22 55 36.8**	**-3.0**
WSI	**Waingapu**	**2.19**	**119**	P	**Pn**	**22 55 25.1**	**-0.4**
WSI				S	**Sn**	**22 55 52.4**	**-1.9**
BASI	**Baing, Sumba**	**2.71**	**126**	P	**Pn**	**22 55 30.6**	**-1.3**
IGBI	**Denpasar**	**3.18**	**266**	P	**Pn**	**22 55 38.1**	**+0.3**
IGBI				S	**Sn**	**22 56 15.6**	**-0.6**
BSSI	**Bau Bau, Buton**	**3.24**	**41**	P	**Pn**	**22 55 37.7**	**-0.9**
EDFI	**Ende, Flores**	**3.30**	**93**	P	**Pn**	**22 55 38.8**	**-0.7**
KAPI	**Kappang**	**3.84**	**21**	*e*Pn	**Pn**	**22 55 45.3**	**-1.0**
KAPI				*e*S	Sn	22 56 40.1	+8.6
MMRI	**Maumere**	**3.84**	**91**	P	**Pn**	**22 55 46.0**	**-0.3**
MMRI	**Maumere**	**3.84**	**91**	*e*Pn	**Pn**	**22 55 45.6**	**-0.8**
MMRI				*e*Sn	**Sn**	**22 56 31.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	P	**Pn**	**22 55 48.9**	**-1.6**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	*e*Pn	**Pn**	**22 55 48.8**	**-1.6**
JAGI				*e*Sn	**Sn**	**22 56 36.6**	**-2.3**
SPSI	**Sidrap Palu**	**4.83**	**17**	P	**Pn**	**22 55 58.2**	**-1.1**
GMJI	**Gumukmas**	**4.87**	**274**	P	**Pn**	**22 55 58.2**	**-1.6**
SOEI	**Soe**	**5.95**	**101**	P	**Pn**	**22 56 13.7**	**-0.5**
SOEI	**Soe**	**5.95**	**101**	*e*Pn	**Pn**	**22 56 13.0**	**-1.2**
SOEI				*e*Sn	**Sn**	**22 57 19.5**	**-2.1**
UGM	**Wanagama**	**7.78**	**275**	*e*Pn	**Pn**	**22 56 38.4**	**-0.2**
UGM				*e*Sn	**Sn**	**22 58 02.3**	**-3.2**
MBWA	**Marble Bar**	**12.54**	**174**	*e*Pn	**Pn**	**22 57 39.6**	**-1.7**
MBWA				*e*Sn	Sn	22 59 47.0	-13
MTN	**Manton Dam**	**13.24**	**110**	*e*Pn	**Pn**	**22 57 48.4**	**-1.9**
MTN				*e*Sn	Sn	23 00 05.0	-12
WRA	**Warramunga Arr**	**19.13**	**128**	P	**P**	**22 58 59.8**	**+0.2**
	0.3nm,0.3s,baz=302,slow=12,SNR=9.8						
WRA				S	**S**	**23 02 22.4**	**-6.2**
	0.1nm,0.3s,baz=307,slow=24,SNR=4.1						
WRAB	**Tennant Creek**	**19.14**	**128**	*e*P	**Pn**	**22 59 00.8**	**-1.4**
	10nm,0.7s						
WRAB				*e*S	**S**	**23 02 24.5**	**-4.2**
WB2	**Warramunga Arr**	**19.14**	**128**	*e*P	**P**	**22 58 59.4**	**-0.4**
AS31	**Alice Springs**	**21.11**	**137**	*e*P	**P**	**22 59 22.3**	**+1.4**
	1.3nm,0.5s						
ASAR	**Alice Springs**	**21.11**	**137**	P	**P**	**22 59 22.1**	**+1.2**
	2.2nm,0.5s,baz=312,slow=9.0,SNR=25						
ASAR				S	**S**	**23 03 06.8**	**-0.5**
	1.4nm,0.9s,baz=315,slow=21,SNR=9.5						
AS01	**Alice Springs**	**21.14**	**137**	*e*P	**P**	**22 59 20.0**	**-1.3**
FORT	**Forrest**	**23.84**	**159**	*e*P	**P**	**22 59 48.9**	**+1.6**
	138nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	P	**P**	**22 59 52.1**	**+1.4**
	7.7nm,0.7s,baz=228,slow=8.4,SNR=6.4						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	*e*P	**P**	**22 59 52.6**	**+1.9**
	46nm,1.5s						
STKA	**Stephens Creek**	**31.66**	**140**	P	**P**	**23 00 58.9**	**+1.8**
	0.7nm,0.4s,baz=306,slow=11,SNR=3.5						
KMI	**Kunming**	**36.82**	**336**	P	P	23 01 46.3	+4.5
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**49.61**	**353**	*e*P	P	23 03 32.8	+8.7
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,8.1s						
SONM	**Songino Array**	**57.19**	**350**	P	**P**	**23 04 19.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=169,slow=9.8,SNR=2.9						
WMQ	**Urumqi**	**59.13**	**335**	P	P	23 04 37.4	+4.6
MKAR	**Makanchi Array**	**63.83**	**333**	P	**P**	**23 05 04.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=149,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**68.46**	**339**	P	**P**	**23 05 33.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=161,slow=5.8,SNR=3.0						
MAW	**Mawson**	**69.38**	**200**	P	**P**	**23 05 41.4**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=57,slow=10.0,SNR=4.1						
VNDA	**Vanda**	**72.47**	**171**	P	**P**	**23 06 00.6**	**+3.1**
	comp=Z,0.5nm,0.4s,baz=315,slow=9.6,SNR=11						
TORD	**Torodi Ar. Bea**	**117.76**	**280**	PKP	**PKPdf**	**23 13 18.1**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=74,slow=2.8,SNR=4.7						
CPUP	**Villa Florida**	**145.01**	**187**	PKPbc	**PKPdf**	**23 14 10.6**	**+2.5**
	comp=Z,4.8nm,0.9s,baz=164,slow=5.1,SNR=6.5						

KRSC 05 22:56:13.5±0.5, 52°.81N×160°.14E, h24km±9km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.30**	**346**	*e*P	Pb	22 56 21.1	+0.7
SPN				*e*S	Sb	22 56 26.4	+1.3
NLC	**Nalytchevo**	**0.60**	**307**	*e*P	Pb	22 56 25.6	+0.3
NLC				*e*S	Sn	22 56 34.7	-0.7
DALK	**Dalny**	**0.87**	**285**	*e*P	Pn	22 56 30.0	-0.1
DALK				*e*S	Sn	22 56 42.1	+0.1
UGLR	**Uglovaya**	**0.89**	**297**	*e*P	Pb	22 56 30.3	0.0
SDLR	**Sedlovina**	**0.89**	**302**	*e*P	Pb	22 56 30.2	-0.1
SDLR				*e*S	Sb	22 56 42.3	+0.4
PET	**Petropavlovsk**	**0.93**	**284**	*e*P	Pb	22 56 30.8	0.0
PET				*e*S	Sn	22 56 43.3	-0.1
AVH	**Avacha**	**0.96**	**299**	*e*P	Pn	22 56 31.4	-0.1
KRER	**Koryakskii**	**0.97**	**301**	*e*P	Pn	22 56 31.7	-0.1
KOK	**Koryaka**	**1.03**	**298**	*e*P	Pn	22 56 32.4	0.0
KRX	**Arik**	**1.05**	**302**	*e*P	Pn	22 56 32.5	-0.3
RUS	**Russkaya**	**1.06**	**250**	*e*P	Pb	22 56 33.1	0.0
RUS				*e*S	Sn	22 56 47.4	+0.6
KRMR	**Karymshinskiy**	**1.22**	**272**	*e*P	Pn	22 56 35.2	+0.2
KRMR				*e*S	Sn	22 56 50.9	+0.2
MTVR	**Mutnovka**	**1.24**	**255**	*e*P	Pb	22 56 36.0	-0.2
MTVR				*e*S	Sb	22 56 52.5	+0.7
ASAK	**Asacha**	**1.43**	**253**	*e*P	Pb	22 56 39.2	-0.3
ASAK				*e*S	Sb	22 56 58.3	+0.9
APC	**Apacha**	**1.81**	**275**	*e*P	Pb	22 56 44.9	-1.0
APC				*e*S	Sb	22 57 07.6	-0.6

*IDC **05** 23:02:10.3±0.6, 57°.95N×32°.52W, h0km, mb4.2/24, mb1 4.4/27, mb1mx4.3/41, mbtmp4.2/27, ML3.4/3, MS3.8/25, Ms1 3.8/25, ms1mx3.6/42, Error ellipse: s-maj=17.7km s-min=10.8km az=10.0*

*MOS **05** 23:02:10.4±0.8, 58°.04N×32°.55W, h9km, mb4.8/37, Error ellipse: s-maj=10.2km s-min=7.5km az=66.1*

*ISCJB **05** 23:02:11.9±0.1, 58°.05N±0°.04×32°.57W±0°.03, h18km, mb4.6/135, MS3.7/24, Error ellipse: s-maj=5.4km s-min=2.3km az=173.8*

*NEIC **05** 23:02:12.2±0.2, 57°.99N×32°.53W, h10km, mb4.7/87, Error ellipse: s-maj=6.7km s-min=3.0km az=180.0*

*CSEM **05** 23:02:12.1±0.1, 58°.04N×32°.52W, h10km, mb4.7/75, Error ellipse: s-maj=7.1km s-min=3.6km az=2.0*

*BJI **05** 23:02:13.1, 58°.77N×32°.08W, h6km, mb4.6/22, mB5.1/15, Ms4.9/6, Ms7 4.6/5*

ISC 05 23:02:13.5±0.4, 57°.96N±0°.07×32°.57W±0°.05, h18km, n506, σ0ⁿ88/503, mb4.7/135, MS3.7/24, 3C-11D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.68**	**34**	Pn	**Pn**	**23 04 19.3**	**+1.3**
BORG				Sn	**Sn**	**23 05 54.9**	**-0.3**
BORG				LR	LR	23 06 52.8	
	comp=Z,4μm,21.4s,slow=33						
SFJD	**Kangerlussuaq**	**12.27**	**325**	Pn	**Pn**	**23 05 06.4**	**-0.5**
	0.2nm,0.3s,baz=141,slow=7.6,SNR=3.6						
SFJD				LR	LR	23 09 09.0	
	comp=Z,1μm,18.2s,baz=136,slow=34						
SUMG	**Summit**	**14.87**	**353**	*e*P	**Pn**	**23 05 41.0**	**-1.9**
SUMG	**Summit**	**14.87**	**353**	*e*Pn	**Pn**	**23 05 41.0**	**-1.9**
EKA	**Eskdalemuir Ar**	**16.32**	**87**	Pn	**Pn**	**23 06 00.6**	**-0.9**
	baz=295,slow=9.2,SNR=3.7						
SCHQ	**Schefferville**	**19.09**	**275**	P	**P**	**23 06 33.5**	**-1.4**
	0.3nm,0.3s,baz=46,slow=5.2,SNR=4.4						
SCHQ				LR	LR	23 12 49.0	
	comp=Z,536nm,18.5s,baz=100,slow=33						
SCHQ	**Schefferville**	**19.09**	**275**	*e*P	**P**	**23 06 35.0**	**+0.1**
NBO02	**NORSAR Array S**	**21.95**	**63**	*e*P	**P**	**23 07 05.5**	**-0.3**
NB2	**NORSAR Subarra**	**22.12**	**63**	P	**P**	**23 07 06.5**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=280,slow=11						
NB2	**NORSAR Subarra**	**22.12**	**63**	P	**P**	**23 07 06.5**	**-1.1**
	comp=Z,1.4nm,0.7s,SNR=4.1						
NOA	**NORSAR Array B**	**22.12**	**63**	P	**P**	**23 07 05.1**	**-2.5**
	comp=Z,5.2nm,1.0s,baz=280,slow=11,SNR=4.8						
NOA				LR	LR	23 14 29.8	
	comp=Z,77nm,19.6s,baz=285,slow=34						
PGAV	**Gavieira, Arco**	**22.18**	**126**	*e*LR	LR	23 12 33.6	
	comp=Z,515nm,18.0s						
POLO	**Lamas de Olo**	**22.87**	**126**	*e*P	**P**	**23 07 16.3**	**+0.5**
POLO	**Lamas de Olo**	**22.87**	**126**	*e*P	**P**	**23 07 16.3**	**+0.5**
PBRG	**Braganca**	**22.98**	**123**	*e*P	**P**	**23 07 18.5**	**+1.6**
	comp=Z,19nm,1.3s						
PBRG	**Braganca**	**22.98**	**123**	*e*P	**P**	**23 07 18.5**	**+1.6**
	comp=Z,19nm,1.3s						
MVO	**Moncorvo**	**23.38**	**125**	*e*P	**P**	**23 07 21.6**	**+0.7**
	comp=Z,38nm,1.6s						
MVO				*e*LR	LR	23 13 07.5	
	comp=Z,427nm,20.0s						
MVO	**Moncorvo**	**23.38**	**125**	*e*P	**P**	**23 07 21.6**	**+0.7**
	comp=Z,38nm,1.6s						
HFS	**Hagfors**	**23.52**	**65**	P	**P**	**23 07 19.5**	**-2.6**
	comp=Z,4.8nm,0.8s,baz=299,slow=6.5,SNR=3.2						
PCAS	**Casmilo, Conde**	**23.67**	**129**	*e*P	**P**	**23 07 24.2**	**+0.5**
	comp=Z,22nm,1.3s						
PCAS	**Casmilo, Conde**	**23.67**	**129**	*e*P	**P**	**23 07 24.2**	**+0.5**
	comp=Z,22nm,1.3s						
MTE	**Manteigas**	**23.78**	**127**	*e*LR	LR	23 13 27.7	
	comp=Z,446nm,20.0s						
PMRV	**Marv??o**	**24.65**	**128**	*e*P	**P**	**23 07 35.0**	**+2.1**
	comp=Z,22nm,1.6s						
PMRV				*e*LR	LR	23 13 58.1	
	comp=Z,327nm,18.0s						
PMRV	**Marv??o**	**24.65**	**128**	*e*P	**P**	**23 07 35.0**	**+2.1**
	comp=Z,22nm,1.6s						
PESTR	**Estremoz**	**25.04**	**129**	*e*P	**P**	**23 07 37.8**	**+1.4**
	comp=Z,38nm,1.9s						
PESTR	**Estremoz**	**25.04**	**129**	*e*P	**P**	**23 07 37.8**	**+1.4**
	comp=Z,38nm,1.9s						
PNCL	**Nicolau / Gran**	**25.30**	**131**	*e*P	**P**	**23 07 39.8**	**+1.1**
	comp=Z,36nm,1.7s						
PNCL	**Nicolau / Gran**	**25.30**	**131**	*e*P	**P**	**23 07 39.8**	**+1.1**
	comp=Z,36nm,1.7s						
KBS	**Kingsbay**	**25.37**	**18**	*e*P	**P**	**23 07 39.7**	**+0.7**
KBS				pmax	pmax		
	comp=Z,20nm,0.7s						
KBS	**Kingsbay**	**25.37**	**18**	*e*P	**P**	**23 07 39.7**	**+0.7**
	comp=Z,20nm,0.7s						
PAB	**San Pablo**	**25.88**	**123**	*e*P	**P**	**23 07 45.5**	**+1.4**
PAB				pmax	pmax		
	comp=Z,16nm,1.4s						
PAB	**San Pablo**	**25.88**	**123**	*e*P	**P**	**23 07 45.5**	**+1.4**
	comp=Z,16nm,1.4s						
PAB	**San Pablo**	**25.88**	**123**	*e*P	**P**	**23 07 45.5**	**+1.4**
	comp=Z,16nm,1.4s						
ESDC	**Sonseca Array**	**25.95**	**122**	P	**P**	**23 07 43.9**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=323,slow=7.3,SNR=22						
ESDC				LR	LR	23 16 01.9	
	comp=Z,192nm,19.8s,baz=305,slow=32						
ESLA	**Sonseca Array**	**25.95**	**122**	*e*P	**P**	**23 07 47.5**	**+2.8**
	comp=Z,5.6nm,1.0s						
ES19	**SONSECA Array**	**25.95**	**122**	*e*P	**P**	**23 07 45.9**	**+1.2**
PVAQ	**Vaqueiros**	**26.24**	**131**	*e*LR	LR	23 14 28.5	
	comp=Z,419nm,22.0s						
CLL	**Collm**	**26.77**	**84**	*e*P	**P**	**23 07 51.0**	**-0.9**
CLL				*e

comp=Z,75nm,18.8s,baz=335,slow=35
AKBB **Malin Array Si** 35.59 74 eP P 23 09 08.6 -0.9
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB **Malin Array Si** 35.59 74 eP P 23 09 08.6 -0.9
comp=Z,13nm,0.9s
AKBB **Malin Array Si** 35.59 74 eP P 23 09 08.6 -0.9
comp=Z,13nm,0.9s
EYMN **Ely** 35.77 280 P P 23 09 11.4 +0.3
baz=51
E40A **Wakefield** 35.89 277 P P 23 09 12.5 +0.4
baz=50
G42A **Mountain** 35.89 274 P P 23 09 12.6 +0.5
baz=49
F41A **Three Lakes** 35.92 275 P P 23 09 12.9 +0.5
baz=49
C37A **Embarrass** 36.27 280 P P 23 09 15.4 0.0
baz=51
E39A **Mellen** 36.28 277 P P 23 09 15.7 +0.2
baz=50
C36A **Pine Crest Far** 36.60 281 P P 23 09 17.9 -0.2
baz=51
ULM **Lac du Bonnet** 36.64 286 P P 23 09 17.4 -1.1
comp=Z,4.6nm,0.7s,baz=62,slow=10,SNR=4.4
ULM LR LR 23 23 08.8
comp=Z,269nm,18.4s,baz=332,slow=34
B35A **Bob, Littlefor** 36.68 282 P P 23 09 18.9 0.0
baz=51
OBN **Obninsk** 36.72 64|| eP P 23 09 17.7 -1.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN **Obninsk** 36.72 64 eP P 23 09 17.7 -1.4
comp=Z,5.0nm,1.0s
D37A **Cotton** 36.76 280 P P 23 09 19.7 +0.1
baz=50
F39A **Loretta** 36.77 277 P P 23 09 19.7 0.0
baz=49
G40A **Rib Lake** 36.81 276 P P 23 09 20.2 +0.2
baz=49
H41A **Junction City** 36.95 274 P P 23 09 21.5 +0.3
baz=48
I42A **Draeger Farm,** 37.05 273 P P 23 09 22.1 0.0
baz=47
FFC **Flin Flon** 37.07 296 i P P 23 09 23.1 +1.0
FFC **Flin Flon** 37.07 296 i P P 23 09 23.1 +1.0
B34A **Aery, Baudette** 37.09 283 P P 23 09 22.5 +0.2
baz=51
D36A **Goodland** 37.14 280 P P 23 09 22.8 0.0
baz=50
A33A **Warroad** 37.19 284 P P 23 09 23.1 -0.1
baz=52
C35A **Jirik Farms, M** 37.23 281 P P 23 09 23.5 0.0
baz=50
F38A **Pierce - Schro** 37.25 278 P P 23 09 23.6 0.0
baz=49
H40A **Chili** 37.34 275 P P 23 09 23.9 -0.6
baz=48
I41A **Arkdale** 37.44 274 P P 23 09 24.9 -0.5
baz=47
E36A **McGregor** 37.61 279 P P 23 09 26.7 0.0
baz=50
D35A **Remer** 37.66 281 P P 23 09 27.9 +0.7
baz=50
G38A **Ridgeland** 37.76 277 P P 23 09 28.5 +0.5
baz=48
H39A **Augusta** 37.78 276 P P 23 09 28.7 +0.5
baz=48
AGMN **Agassiz Nation** 37.83 283 P P 23 09 28.6 0.0
baz=51
AGMN **Agassiz Nation** 37.83 283 eP P 23 09 27.9 -0.8
comp=Z,11nm,0.9s
I40A **Norwalk** 37.95 274 P P 23 09 29.9 +0.2
baz=47
J41A **Loganville** 37.99 273 P P 23 09 30.4 +0.3
baz=47
L43A **Garden Prairie** 38.13 271 P P 23 09 31.8 +0.6
baz=46,SNR=6.0
F36A **Milaca** 38.18 279 P P 23 09 31.9 +0.4
baz=49
E35A **Pequot Lakes** 38.19 280 P P 23 09 32.2 +0.6
baz=49
SPMN **Marine on St.** 38.22 277 P P 23 09 32.4 +0.5
baz=48
D34A **Park Rapids** 38.26 281 P P 23 09 32.7 +0.4
baz=50
YKA **Yellowknife Ar** 38.41 312 P P 23 09 33.2 -0.1
comp=Z,4.1nm,0.8s,baz=58,slow=9.3,SNR=14
YKA LR LR 23 24 48.0
comp=Z,82nm,18.5s,baz=0.0,slow=35
SFIN **Lafayette** 38.53 267 P P 23 09 35.1 +0.6
baz=44
SFIN **Lafayette** 38.53 267 eP P 23 09 34.9 +0.4
comp=Z,16nm,0.9s
K41A **Shullsburg** 38.67 272 P P 23 09 36.0 +0.3
baz=46
J39A **Decorah** 38.91 274 P P 23 09 38.4 +0.6
baz=47
K40A **Colesburg** 39.05 273 P P 23 09 39.2 +0.3
baz=46
L41A **Preston** 39.14 272 P P 23 09 40.0 +0.3
baz=46
J38A **Wedel Dairy, R** 39.33 275 P P 23 09 41.2 0.0
baz=46
K39A **Oelwein** 39.44 274 P P 23 09 41.9 -0.3
baz=46
L40A **Anamosa** 39.53 273 P P 23 09 43.1 +0.2
baz=46
HDIL **Hopedale** 39.57 269 P P 23 09 43.9 +0.6
baz=44
HDIL **Hopedale** 39.57 269 eP P 23 09 42.8 -0.5
comp=Z,21nm,0.8s
F33A **5 Mile Ranch,** 39.65 281 P P 23 09 43.6 -0.2
baz=48
M41A **Milan** 39.66 271 P P 23 09 44.5 +0.6
baz=45
N42A **Yates City** 39.77 270 P P 23 09 45.6 +0.7
baz=44
L39A **Vinton** 39.91 273 P P 23 09 46.3 +0.3
baz=46
E31A **Nome** 40.01 283 P P 23 09 46.9 +0.1
baz=49
N41A **Harden Midland** 40.30 271 P P 23 09 49.9 +0.6
baz=44
K37A **Belmond** 40.33 275 P P 23 09 49.8 +0.2
baz=46,SNR=5.2
P43A **Skaggs, Pawnee** 40.35 268 P P 23 09 50.1 +0.4
baz=44
L38A **Oak Wood Farm,** 40.41 274 P P 23 09 50.4 +0.2
baz=46
M39A **Webster** 40.45 273 P P 23 09 51.2 +0.6
baz=45
Q44A **Meyer Farm, Va** 40.62 267 P P 23 09 52.7 +0.8
baz=43
H33A **Prehn Over Nor** 40.66 280 P P 23 09 52.7 +0.4
baz=47
O41A **Passleys Farm,** 40.73 270 P P 23 09 53.7 +0.8
baz=44
P42A **Winchester** 40.83 269 P P 23 09 54.5 +0.8
baz=44
Q43A **New Douglas** 40.95 268 P P 23 09 55.0 +0.3
baz=43
M38A **Pleasantville** 41.04 273 P P 23 09 55.8 +0.4
baz=45
N39A **Derby Farms, D** 41.05 272 P P 23 09 55.8 +0.3
baz=44
R44A **Waltonville** 41.13 267 P P 23 09 56.7 +0.5
baz=42
P41A **Barry, Barry** 41.15 270 P P 23 09 56.8 +0.5
baz=44
ECSD **EROS Data Cent** 41.24 279 P P 23 09 57.6 +0.5
baz=46
ECSD **EROS Data Cent** 41.24 279 eP P 23 09 57.8 +0.7
comp=Z,7.3nm,1.0s
O40A **La Belle** 41.26 271 P P 23 09 57.5 +0.3
baz=44
S45A **Carrier Mills** 41.29 266 P P 23 09 57.9 +0.4
baz=42
Q42A **Golden Eagle** 41.42 269 P P 23 09 59.0 +0.5
baz=43
SLM **Saint Louis** 41.46 268 eP P 23 09 57.1 -1.8
SLM pmax pmax
comp=Z,24nm,0.6s
SLM **Saint Louis** 41.46 268 eP P 23 09 57.1 -1.8
comp=Z,24nm,0.6s
SLM **Saint Louis** 41.46 268 eP P 23 09 57.1 -1.8
comp=Z,24nm,0.6s
N38A **Joes South For** 41.50 273 P P 23 09 59.5 +0.2
baz=44

R43A **Red Bud** 41.56 267 P P 23 09 59.8 +0.1
baz=42
INK **Inuvik** 41.60 327 P P 23 09 59.3 -0.4
comp=Z,1.7nm,1.0s,baz=79,slow=1.1,SNR=3.7
S44A **Carbondale** 41.63 266 P P 23 10 00.8 +0.5
baz=42
Q41A **Truxton** 41.76 269 P P 23 10 01.7 +0.4
baz=43
P40A **Paris** 41.78 270 P P 23 10 01.7 +0.2
baz=43,SNR=5.6
L35A **Bielow Farm, R** 41.80 276 P P 23 10 01.9 +0.2
baz=45
DGMT **Dagmar** 41.98 289 P P 23 10 04.2 +1.0
baz=49
R42A **Luebbering** 42.02 268 P P 23 10 03.8 +0.3
baz=42
WVT **Waverly** 42.05 263 eP P 23 10 03.9 +0.2
WVT pmax pmax
comp=Z,23nm,1.8s
WVT **Waverly** 42.05 263 eP P 23 10 03.9 +0.2
comp=Z,23nm,1.8s
WVT **Waverly** 42.05 263 eP P 23 10 03.9 +0.2
comp=Z,23nm,1.8s
S43A **Fulton Ridge,** 42.16 267 P P 23 10 05.0 +0.3
baz=42,SNR=5.8
Q40A **Laux Farm, Aux** 42.18 270 P P 23 10 04.9 +0.1
baz=43
P39B **Salisbury** 42.18 271 P P 23 10 05.2 +0.4
baz=43
R41A **Rosebud** 42.32 269 P P 23 10 06.1 +0.2
baz=42,SNR=5.0
S42A **Caledonia** 42.40 268 P P 23 10 06.6 +0.1
baz=42,SNR=5.9
CCM **Cathedral Cave** 42.42 268 eP P 23 10 06.6 -0.2
CCM pmax pmax
comp=Z,15nm,0.8s
CCM **Cathedral Cave** 42.42 268 eP P 23 10 06.6 -0.2
comp=Z,15nm,0.8s
CCM **Cathedral Cave** 42.42 268 eP P 23 10 06.5 -0.2
comp=Z,15nm,0.8s
Q39A **Willow Grove F** 42.62 271 P P 23 10 08.5 +0.1
baz=43
T43A **Greenville** 42.64 267 P P 23 10 08.7 +0.2
baz=42
R40A **Maddies Statio** 42.80 269 P P 23 10 09.8 -0.1
baz=42,SNR=5.3
PBMO **Poplar Bluff** 42.94 266 eP P 23 10 11.2 +0.3
comp=Z,21nm,0.8s
SOKR **Solikamsk** 42.99 48 eP P 23 10 10.6 -0.5
SOKR pmax pmax
comp=Z,19nm,1.2s
Q38A **Cooks Store, C** 43.03 271 P P 23 10 11.5 -0.2
baz=43
S41A **Jillco Farms,** 43.04 268 P P 23 10 11.7 -0.1
baz=42,SNR=12
R39A **Chunky, Stover** 43.19 270 P P 23 10 13.2 +0.2
baz=42
P36A **Good Intent, A** 43.39 273 P P 23 10 14.7 +0.1
baz=43
S40A **Lebanon** 43.43 269 P P 23 10 14.9 0.0
baz=42,SNR=9.9
T41A **Mountain View** 43.45 268 P P 23 10 15.1 0.0
baz=42,SNR=6.8
U42A **Revenden** 43.69 267 P P 23 10 17.3 +0.3
baz=41,SNR=10
R38A **Fenwick Farm,** 43.75 271 P P 23 10 17.1 -0.4
baz=42
Y47A **UCPARC, Winfie** 43.76 261 P P 23 10 18.1 +0.5
baz=39
T40A **Mansfield** 43.77 269 P P 23 10 17.8 0.0
baz=42,SNR=8.4
O34A **Beatrice** 43.78 275 P P 23 10 17.8 0.0
baz=44
S39A **Bolivar** 43.80 270 P P 23 10 17.8 -0.2
baz=42
P35A **Duane Minner,** 43.89 274 P P 23 10 18.5 -0.2
baz=43
LRAL **Lakeview Retre** 43.98 260 eP P 23 10 18.8 -0.6
comp=Z,13nm,1.2s
Z48A **Northport** 44.01 261 P P 23 10 19.9 +0.2
baz=39
U41A **Viola** 44.06 267 P P 23 10 20.5 +0.5
baz=41
R37A **Teagarden Farm** 44.15 272 P P 23 10 20.5 -0.2
baz=42
S38A **Stockton** 44.16 270 P P 23 10 20.7 -0.1
baz=42
V42A **Cord** 44.18 266 P P 23 10 21.5 +0.6
baz=41
LAO **LASA Array** 44.20 289 P P 23 10 22.4 +1.3
baz=47
LAO **LASA Array** 44.20 289 eP P 23 10 21.3 +0.2
comp=Z,20nm,0.9s
ILGA **Ilgaz** 44.30 82 eP P 23 10 23.2 +1.0
comp=Z,11nm,1.1s
Y46A **Houston** 44.30 262 P P 23 10 22.2 +0.2
baz=39
P34A **Walnut Farm, R** 44.31 274 P P 23 10 22.1 +0.1
baz=43
T39A **Clever** 44.33 269 P P 23 10 22.4 +0.3
baz=42
Q35A **Mercer Eighty,** 44.39 273 P P 23 10 22.5 -0.1
baz=43
Z47A **Carrollton** 44.42 261 P P 23 10 23.3 +0.4
baz=39
R36A **Gordon, Harris** 44.50 272 P P 23 10 23.0 -0.5
baz=42
TAM **Tamanrasset** 44.52 126 eP P 23 10 24.1 +0.2
TAM pmax pmax
comp=Z,9.0nm,1.3s
TAM **Tamanrasset** 44.52 126 eP P 23 10 24.1 +0.2
comp=Z,9.0nm,1.3s
TAM **Tamanrasset** 44.52 126 eP P 23 10 24.1 +0.2
comp=Z,8.6nm,1.3s
U40A **Yellville** 44.55 268 P P 23 10 23.7 -0.2
baz=41,SNR=7.1
S37A **Fort Scott** 44.55 271 P P 23 10 23.8 -0.1
baz=42,SNR=7.4
V41A **Mountainview** 44.60 267 P P 23 10 24.3 0.0
baz=41,SNR=7.4
ANTO **Ankara** 44.67 84 eP P 23 10 25.5 +0.6
ANTO pmax pmax
comp=Z,5.0nm,0.6s
ANTO **Ankara** 44.67 84 eP P 23 10 25.5 +0.6
comp=Z,5.0nm,0.6s
ANTO **Ankara** 44.67 84 eP P 23 10 25.5 +0.6
comp=Z,4.5nm,0.6s
BR231 **Keskin MP Arra** 44.68 84 eP P 23 10 29.1 +4.0
T38A **Diamond** 44.80 270 P P 23 10 25.8 -0.2
baz=42,SNR=8.9
Q34A **Chapman** 44.83 274 P P 23 10 25.8 -0.4
baz=43
U39A **Green Forest** 44.86 269 P P 23 10 26.4 0.0
baz=41,SNR=8.7
R35A **Emporia Munici** 44.87 273 P P 23 10 26.2 -0.3
baz=42
V40A **Witts Springs** 44.94 268 P P 23 10 27.2 0.0
baz=41,SNR=16
S36A **Lake Cedric, C** 44.99 272 P P 23 10 26.7 -0.7
baz=42
WHAR **Wooly Hollow** 45.05 267 eP P 23 10 28.4 +0.5
comp=Z,13nm,0.8s
EGMT **Eagleton** 45.05 292 P P 23 10 28.5 +0.6
baz=47
EGMT **Eagleton** 45.05 292 eP P 23 10 29.5 +1.6
comp=Z,17nm,1.1s
T37A **Cheneyville 18** 45.07 271 P P 23 10 28.1 0.0
baz=42
W41B **Gary Mavity, V** 45.12 266 P P 23 10 28.5 +0.1
baz=40,SNR=6.4
X301 **Greenbrier Sit** 45.15 267 eP P 23 10 29.2 +0.5
comp=Z,40nm,1.6s
HHAR **Hobbs** 45.18 269 eP P 23 10 28.1 -0.9
comp=Z,25nm,1.0s
BR131 **Keskin Array S** 45.22 84 eP P 23 10 30.3 +0.9
BRTR **Keskin Array B** 45.22 84 P P 23 10 29.8 +0.3
comp=Z,3.1nm,0.8s,baz=320,slow=5.1,SNR=19
BRTR LR LR 23 29 45.3
comp=Z,59nm,20.2s,baz=298,slow=37
U38A **Gravette** 45.30 269 P P 23 10 30.0 +0.1
baz=41
V39A **Pettigrew** 45.36 268 P P 23 10 30.2 -0.3
baz=41,SNR=7.5
S35A **Otter Creek Ra** 45.41 272 P P 23 10 30.2 -0.6
baz=42
R34A **Isabella, Hill** 45.44 274 P P 23 10 30.7 -0.4
baz=42
W40A **Ferguson Farm,** 45.54 267 P P 23 10 31.6 -0.2
baz=40

T36A **Boggs Farm, Ca** 45.63 271 P P 23 10 31.9 -0.6
baz=42
U37A **Salina** 45.71 270 P P 23 10 32.4 -0.8
baz=41
348A **Jackson** 45.73 259 P P 23 10 33.6 +0.3
baz=38
V38A **Canehill** 45.74 269 P P 23 10 33.0 -0.5
baz=41,SNR=6.9
ARU **Arti** 45.76 51 d iP P 23 10 33.4 +0.1
ARU 23 12 19.1
ARU S S 23 17 18.6 +3.0
ARU pmax pmax
comp=Z,20nm,1.2s
ARU **Arti** 45.76 51 i P P 23 10 33.4 +0.1
comp=Z,20nm,1.2s
ARU **Arti** 45.76 51 eP P 23 10 33.1 -0.2
comp=Z,12nm,1.0s
NRIK **Noril'sk** 45.89 25 P P 23 10 34.9 +0.8
comp=Z,3.4nm,0.8s,baz=275,slow=9.6,SNR=3.1
W39A **Magazine** 45.92 268 P P 23 10 34.8 0.0
baz=40,SNR=10.0
X40A **Basin Creek Fa** 45.95 266 P P 23 10 34.8 -0.2
baz=40
U36A **Oologah** 46.05 271 P P 23 10 36.0 +0.1
baz=41
T35A **Sooner Cattle** 46.08 272 P P 23 10 36.4 +0.3
baz=42
V37A **Hulbert** 46.12 270 P P 23 10 35.8 -0.5
baz=41
DAWY **Dawson** 46.21 324 eP P 23 10 38.1 +1.3
comp=Z,8.7nm,1.1s
MIAR **Mount Ida** 46.30 267 P P 23 10 37.7 -0.1
baz=40,SNR=7.4
MIAR **Mount Ida** 46.30 267 eP P 23 10 37.9 +0.1
MIAR pmax pmax
comp=Z,12nm,0.8s
MIAR **Mount Ida** 46.30 267 eP P 23 10 37.9 +0.1
comp=Z,12nm,0.8s
MIAR **Mount Ida** 46.30 267 eP P 23 10 37.9 +0.1
comp=Z,12nm,0.8s
SVE **Sverdlovsk** 46.34 49 eP P 23 10 38.0 +0.1
SVE **Sverdlovsk** 46.34 49 eP P 23 10 38.0 +0.1
T34A **McClaskey Farm** 46.36 272 P P 23 10 37.7 -0.6
baz=42
WALA **Waterton Lakes** 46.37 296 eP P 23 10 38.5 +0.2
comp=Z,42nm,1.8s
W38A **Poteau** 46.40 268 P P 23 10 38.3 -0.3
baz=40,SNR=8.2
TUL1 **Leonard** 46.45 270 P P 23 10 38.7 -0.3
baz=41
TUL1 **Leonard** 46.45 270 eP P 23 10 37.2 -1.7
comp=Z,12nm,0.9s
VBMS **Vicksburg** 46.47 262 eP P 23 10 37.8 -1.4
comp=Z,68nm,0.3s
GCMT **Greycliff** 46.55 290 eP P 23 10 38.6 -1.2
U35A **Pawnee** 46.60 271 P P 23 10 40.0 -0.2
baz=41
X39A **Fountain Ranch** 46.61 267 P P 23 10 40.6 +0.3
baz=40
V36A **Jenks** 46.62 270 P P 23 10 40.2 -0.1
baz=41
WLAR **White Oak Lake** 46.71 266 eP P 23 10 39.6 -1.4
comp=Z,12nm,0.8s
RLMT **Red Lodge** 46.81 289 P P 23 10 42.7 +0.7
baz=45,SNR=5.8
RLMT **Red Lodge** 46.81 289 eP P 23 10 42.7 +0.7
comp=Z,48nm,1.9s
W37B **Quinton** 46.84 269 P P 23 10 41.8 -0.2
baz=40
X38A **Whitesboro** 46.87 268 P P 23 10 42.4 +0.1
baz=40
DLBC **Dease Lake** 46.91 314 eP P 23 10 41.4 -1.0
comp=Z,7.2nm,0.9s
KIV **Kislovodsk** 46.91 73 eP P 23 10 43.0 +0.4
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,90nm,16.0s
KIV **Kislovodsk** 46.91 73 eP P 23 10 43.0 +0.4
comp=Z,90nm,16.0s
KIV **Kislovodsk** 46.91 73 eP P 23 10 42.9 +0.4
comp=Z,20nm,1.3s
Y39A **Lockesburg** 47.04 267 P P 23 10 43.7 +0.1
baz=40
WHY **Whitehorse** 47.13 319 eP P 23 10 43.1 -1.0
comp=Z,16nm,1.6s
K22A **Casper** 47.17 285 eP P 23 10 44.7 0.0
comp=Z,40nm,0.6s
KBZ **Khabaz** 47.18 73 P P 23 10 45.4 +0.9
comp=Z,5.9nm,0.9s,baz=331,slow=9.5,SNR=11
KBZ LR LR 23 30 49.4
comp=Z,73nm,19.1s,baz=322,slow=36
344A **Westbrook Farm** 47.18 262 P P 23 10 44.6 -0.1
baz=38
X37A **Clayton** 47.22 269 P P 23 10 44.8 -0.2
baz=40
W36A **Wetumka** 47.26 270 P P 23 10 44.5 -0.8
baz=40
SLMT **Seeley Lake** 47.42 294 eP P 23 10 47.1 +0.4
242A **Grayson** 47.46 264 P P 23 10 46.2 -0.6
baz=38
SWMT **Swartz Lake** 47.48 295 eP P 23 10 47.1 +0.1
PHWY **Pilot Hill** 47.59 283 eP P 23 10 49.0 +0.8
comp=Z,12nm,0.6s
W35A **Tecumseh** 47.60 270 P P 23 10 47.5 -0.5
baz=40
BOZ **Bozeman (W)** 47.66 291 P P 23 10 49.0 +0.5
baz=45,SNR=6.7
BOZ **Bozeman (W)** 47.66 291 eP P 23 10 47.7 -0.8
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 47.66 291 eP P 23 10 47.7 -0.8
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 47.66 291 eP P 23 10 47.7 -0.8
comp=Z,12nm,1.2s
NCK **Nalchik** 47.70 73|| eP P 23 10 49.1 +0.4
NCK pmax pmax
comp=Z,7.0nm,1.0s
NCK **Nalchik** 47.70 73 eP P 23 10 49.1 +0.4
comp=Z,7.0nm,1.0s
X36A **Centrahoma** 47.76 269 P P 23 10 49.3 +0.1
baz=40
140A **Cam and Jess,** 47.76 265 P P 23 10 49.2 0.0
baz=39
KSCO **Kaye Shedlock'** 47.77 278 P P 23 10 49.2 -0.2
baz=42
KSCO **Kaye Shedlock'** 47.77 278 eP P 23 10 48.9 -0.6
comp=Z,34nm,0.9s
IL1 **Eielson Array** 47.91 328 ePcP PcP 23 12 17.8 -0.3
IL1 **Eielson Array** 47.91 328 eP P 23 10 50.4 +0.5
IL1 ePcP PcP 23 12 17.8 -0.3
ILAR **Eielson Array** 47.91 328 P P 23 10 50.6 +0.7
comp=Z,2.9nm,0.9s,baz=36,slow=6.5,SNR=13
ILAR PcP PcP 23 12 17.8 -0.3
comp=Z,1.0nm,0.9s,baz=12,slow=2.6,SNR=4.6
ILAR LR LR 23 31 25.7
comp=Z,135nm,19.2s,baz=61,slow=37
MSO **Missoula** 47.93 294 P P 23 10 49.3 -1.3
baz=45
H17A **Grant Village** 47.99 289 eP P 23 10 52.8 +1.6
comp=Z,8.7nm,0.9s
YFT **Old Faithful** 48.08 290 eP P 23 10 53.1 +1.3
comp=Z,16nm,1.1s
COLA **College** 48.10 329|| eP P 23 10 50.8 -0.6
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA **College** 48.10 329 eP P 23 10 50.8 -0.6
comp=Z,4.0nm,0.9s
QLMT **Earthquake Lak** 48.11 290 eP P 23 10 52.7 +0.7
N23A **Red Feather La** 48.13 283 P P 23 10 52.7 +0.4
baz=43,SNR=7.3
N23A **Red Feather La** 48.13 283 eP P 23 10 53.4 +1.0
comp=Z,16nm,0.8s
MDM **Murphy Dome** 48.14 329 eP P 23 10 53.0 +1.2
comp=Z,5.2nm,1.0s
HDA **Harding Lake** 48.20 328 eP P 23 10 56.3 +4.1
comp=Z,27nm,1.2s
X35A **Drake** 48.22 270 P P 23 10 53.0 +0.2
baz=40
Y36A **Durant** 48.24 269 P P 23 10 52.9 0.0
baz=40
NEW **Newport** 48.45 297 P P 23 10 54.2 -0.2
baz=45
LOHW **Long Hollow** 48.56 289 eP P 23 10 56.3 +0.7
comp=Z,9.9nm,1.5s
LOHW **Long Hollow** 48.56 289 eP P 23 10 56.3 +0.7
comp=Z,9.9nm,1.5s

BW06 Boulder Array 48.64 287 P **P 23 10 55.6 -0.6**
baz=44,SNR=7.3
BW06 Boulder Array 48.64 287 *e*P **P 23 10 55.8 -0.5**
comp=Z,7.8nm,0.6s
PD31 Pinedale Array 48.64 287 *e*P **P 23 10 55.7 -0.5**
PDAR Pinedale Array 48.64 287 P **P 23 10 55.3 -0.9**
comp=Z,4.2nm,0.8s,baz=56,slow=7.9,SNR=26
PDAR LR LR 23 30 25.9
comp=Z,246nm,18.4s,baz=44,slow=35
FXWY Fox Creek 48.76 289 *e*P **P 23 10 57.7 +0.6**
comp=Z,4.4nm,1.0s
FXWY Fox Creek 48.76 289 *e*P **P 23 10 57.7 +0.6**
comp=Z,4.4nm,1.0s
ISCO Idaho Springs 48.76 281 P **P 23 10 57.9 +0.7**
baz=42
ISCO Idaho Springs 48.76 281 *e*P **P 23 10 58.5 +1.2**
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 48.76 281 *e*P **P 23 10 58.5 +1.2**
comp=Z,15nm,1.3s
ISCO Idaho Springs 48.76 281 *e*P **P 23 10 58.5 +1.2**
comp=Z,15nm,1.3s
MCMT McKenzie Canyo 48.81 291 *e*P **P 23 10 58.8 +1.3**
MCMT McKenzie Canyo 48.81 291 *e*P **P 23 10 58.8 +1.3**
TPAW Teton Pass 48.82 289 *e*P **P 23 10 57.0 -0.7**
comp=Z,7.8nm,0.9s
TPAW Teton Pass 48.82 289 *e*P **P 23 10 57.0 -0.7**
comp=Z,7.8nm,0.9s
REDW Red Top Meadow 48.87 289 *e*P **P 23 10 58.5 +0.6**
comp=Z,4.7nm,0.8s
REDW Red Top Meadow 48.87 289 *e*P **P 23 10 58.5 +0.6**
comp=Z,4.7nm,0.8s
WMOK Wichita Mounta 48.93 272 P **P 23 10 58.1 -0.1**
baz=40,SNR=6.1
WMOK Wichita Mounta 48.93 272 *e*P **P 23 10 58.5 +0.3**
WMOK pmax pmax
comp=Z,14nm,1.3s
WMOK Wichita Mounta 48.93 272 *e*P **P 23 10 58.5 +0.3**
comp=Z,14nm,1.3s
WMOK Wichita Mounta 48.93 272 *e*P **P 23 10 58.5 +0.3**
comp=Z,14nm,1.3s
B08A Colville Reser 49.42 299 *e*P **P 23 11 01.2 -0.7**
comp=Z,7.7nm,0.8s
B08A Colville Reser 49.42 299 *e*P **P 23 11 01.2 -0.7**
comp=Z,7.7nm,0.8s
O20A White River Ci 49.88 284 P **P 23 11 06.3 +0.6**
baz=42
O20A White River Ci 49.88 284 *e*P **P 23 11 05.6 -0.1**
comp=Z,7.8nm,0.9s
O20A White River Ci 49.88 284 *e*P **P 23 11 05.6 -0.1**
comp=Z,7.8nm,0.9s
SMCO Snowmass 49.93 282 *e*P **P 23 11 05.9 -0.4**
comp=Z,6.9nm,1.3s
SMCO Snowmass 49.93 282 *e*P **P 23 11 05.9 -0.4**
comp=Z,6.9nm,1.3s
T25A Trinidad 50.10 278 P **P 23 11 08.0 +0.5**
baz=41,SNR=7.5
T25A Trinidad 50.10 278 *e*P **P 23 11 07.1 -0.4**
comp=Z,15nm,1.0s
T25A Trinidad 50.10 278 *e*P **P 23 11 07.0 -0.4**
comp=Z,15nm,1.0s
SDCO Great Sand Dun 50.22 280 P **P 23 11 08.4 -0.1**
baz=41
AMTX Amarillo 50.36 274 P **P 23 11 09.6 +0.4**
baz=40
AMTX Amarillo 50.36 274 *e*P **P 23 11 10.3 +1.1**
comp=Z,16nm,0.9s
AMTX Amarillo 50.36 274 *e*P **P 23 11 10.3 +1.1**
comp=Z,16nm,0.9s
336A Riesel 50.48 267 P **P 23 11 10.1 +0.1**
baz=38
HWUT Hardware Ranch 50.51 287 *e*P **P 23 11 10.4 0.0**
comp=Z,9.2nm,0.9s
HWUT Hardware Ranch 50.51 287 *e*P **P 23 11 10.4 0.0**
comp=Z,9.2nm,0.9s
HLID Hailey 50.51 291 P **P 23 11 11.2 +0.8**
baz=43
HLID Hailey 50.51 291 *e*P **P 23 11 11.0 +0.6**
comp=Z,3.7nm,1.0s
HLID Hailey 50.51 291 *e*P **P 23 11 11.0 +0.6**
comp=Z,3.7nm,1.0s
GNI Garni 50.72 75*d i*P **P 23 11 12.8 +0.8**
GNI pmax pmax
comp=Z,69nm,1.2s
GNI Garni 50.72 75 *i*P **P 23 11 12.8 +0.8**
comp=Z,69nm,1.2s
GNI Garni 50.72 75 *e*P **P 23 11 13.3 +1.3**
comp=Z,28nm,1.3s
MARD Mardin 50.77 80 *e*P **P 23 11 11.8 -0.5**
comp=Z,8.4nm,0.8s
MARD Mardin 50.77 80 *e*P **P 23 11 11.8 -0.5**
comp=Z,8.4nm,0.8s
S22A 4UR Ranch, Cre 50.92 281 P **P 23 11 14.3 +0.6**
baz=41,SNR=5.7
S22A 4UR Ranch, Cre 50.92 281 *e*P **P 23 11 13.9 +0.2**
comp=Z,7.8nm,1.1s
S22A 4UR Ranch, Cre 50.92 281 *e*P **P 23 11 13.9 +0.2**
comp=Z,7.8nm,1.1s
BMO Blue Mountains 50.99 294 *e*P **P 23 11 13.3 -0.6**
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 50.99 294 *e*P **P 23 11 13.3 -0.6**
comp=Z,2.9nm,0.8s
BMO Blue Mountains 50.99 294 *e*P **P 23 11 13.3 -0.6**
comp=Z,2.9nm,0.8s
ABTX Abilene, Hawle 51.01 271 P **P 23 11 14.0 -0.1**
baz=39
ABKAR Akbulak array 51.40 57 *e*P **P 23 11 17.1 +0.3**
comp=Z,58nm,0.9s
ABKAR Akbulak array 51.40 57 *e*P **P 23 11 17.1 +0.3**
comp=Z,58nm,0.9s
PV01 Paradox Valley 51.54 282 *e*P **P 23 11 17.9 -0.4**
PV01 Paradox Valley 51.54 282 *e*P **P 23 11 17.9 -0.4**
PV09 Paradox Valley 51.56 283 *e*P **P 23 11 19.0 +0.5**
PV09 Paradox Valley 51.56 283 *e*P **P 23 11 19.0 +0.5**
TOA0 Torodi Ar. Sit 51.66 136 *e*P **P 23 11 17.6 -1.4**
TOA0 Torodi Ar. Sit 51.66 136 *e*P **P 23 11 17.6 -1.4**
TORD Torodi Ar. Bea 51.66 136 P **P 23 11 17.5 -1.5**
comp=Z,4.2nm,0.8s,baz=337,slow=6.3,SNR=15
TORD LR LR 23 30 57.5
comp=Z,63nm,18.4s,baz=355,slow=34
P17A Butcher Ranch, 51.66 285 *e*P **P 23 11 19.9 +0.8**
comp=Z,11nm,1.2s
P17A Butcher Ranch, 51.66 285 *e*P **P 23 11 19.9 +0.8**
comp=Z,11nm,1.2s
MPU Maple Canyon 51.72 286 *e*P **P 23 11 20.1 +0.6**
comp=Z,13nm,1.1s
MPU Maple Canyon 51.72 286 *e*P **P 23 11 20.1 +0.6**
comp=Z,13nm,1.1s
NLU North Lily Min 51.99 286 *e*P **P 23 11 22.4 +0.8**
comp=Z,12nm,1.1s
NLU North Lily Min 51.99 286 *e*P **P 23 11 22.4 +0.8**
comp=Z,12nm,1.1s
TMUT Trail Mountain 52.03 285 *e*P **P 23 11 22.6 +0.6**
comp=Z,5.2nm,0.9s
TMUT Trail Mountain 52.03 285 *e*P **P 23 11 22.6 +0.6**
comp=Z,5.2nm,0.9s
DUG Dugway, Tooele 52.19 287 P **P 23 11 23.2 +0.2**
baz=42
MVCO Mesa Verde 52.20 281 P **P 23 11 23.8 +0.7**
baz=41,SNR=5.8
MVCO Mesa Verde 52.20 281 *e*P **P 23 11 24.5 +1.4**
comp=Z,8.6nm,0.9s
MVCO Mesa Verde 52.20 281 *e*P **P 23 11 24.6 +1.4**
comp=Z,8.6nm,0.9s
JCT Junction City 52.76 269 P **P 23 11 26.5 -0.7**
baz=38
JCT Junction City 52.76 269 *e*P **P 23 11 27.0 -0.2**
JCT pmax pmax
comp=Z,10.0nm,0.8s
JCT Junction City 52.76 269 *e*P **P 23 11 27.0 -0.2**
comp=Z,9.7nm,0.8s
JCT Junction City 52.76 269 *e*P **P 23 11 27.0 -0.2**
comp=Z,9.7nm,0.8s
ANMO Albuquerque 52.84 278 P **P 23 11 28.9 +0.9**
baz=40
ANMO Albuquerque 52.84 278⇓*e*P **P 23 11 29.4 +1.5**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 52.84 278 *e*P **P 23 11 29.3 +1.4**
comp=Z,3.2nm,1.0s
ANMO Albuquerque 52.84 278 *e*P **P 23 11 29.3 +1.4**
comp=Z,3.2nm,1.0s
BRVK Borovoye 52.92 48⇓*e*P **P 23 11 27.9 -0.1**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 52.92 48 *e*P **P 23 11 27.9 -0.1**
comp=Z,15nm,0.8s
BRVK Borovoye 52.92 48 *e*P **P 23 11 28.4 +0.4**
comp=Z,11nm,1.3s
BNM Barren Site 53.54 278 *e*P **P 23 11 33.7 +0.6**
BNM Barren Site 53.54 278 *e*P **P 23 11 33.7 +0.6**
BILL Bilibino 53.55 351 *e*P **P 23 11 31.2 -1.2**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 53.55 351 *e*P **P 23 11 31.2 -1.2**
comp=Z,3.0nm,1.1s
J05D Fort Rock, OR 54.05 296 P **P 23 11 37.8 +1.2**
baz=41
933A Laredo 54.75 266 P **P 23 11 41.6 -0.1**
baz=37
U15A North Rim 54.76 284 *e*P **P 23 11 40.3 -1.8**
comp=Z,16nm,2.0s
U15A North Rim 54.76 284 *e*P **P 23 11 40.3 -1.8**
comp=Z,16nm,2.0s
MNTX Cornudas Mount 54.78 275 P **P 23 11 41.5 -0.5**
baz=38,SNR=5.0
MNTX Cornudas Mount 54.78 275 *e*P **P 23 11 41.7 -0.2**
comp=Z,4.6nm,1.0s
MNTX Cornudas Mount 54.78 275 *e*P **P 23 11 41.7 -0.2**
comp=Z,4.6nm,1.0s
LCMT Little Creek M 54.81 285 *e*P **P 23 11 42.6 +0.4**
comp=Z,2.5nm,0.8s
LCMT Little Creek M 54.81 285 *e*P **P 23 11 42.6 +0.4**
comp=Z,2.5nm,0.8s
034A Hebbronville 54.87 265 P **P 23 11 41.9 -0.7**
baz=36
WUAZ Wupatki 54.99 282 *e*P **P 23 11 43.1 -0.4**
comp=Z,8.0nm,0.6s
WUAZ Wupatki 54.99 282 *e*P **P 23 11 43.1 -0.4**
comp=Z,8.0nm,0.6s
R11A Troy Canyon, C 54.99 288 P **P 23 11 43.7 +0.1**
baz=40,SNR=5.8
R11A Troy Canyon, C 54.99 288 *e*P **P 23 11 44.0 +0.4**
comp=Z,4.3nm,1.0s
R11A Troy Canyon, C 54.99 288 *e*P **P 23 11 44.0 +0.4**
comp=Z,4.3nm,1.0s
121A Cookes Peak, D 55.41 277 P **P 23 11 46.6 0.0**
baz=39
121A Cookes Peak, D 55.41 277 *e*P **P 23 11 47.1 +0.5**
comp=Z,4.3nm,0.9s
DBIC Dimbokro 55.50 146 P **P 23 11 48.2 +1.1**
comp=Z,5.8nm,1.0s,baz=254,slow=4.7,SNR=3.8
DBIC LR LR 23 32 24.2
comp=Z,166nm,21.3s,baz=322,slow=33
TX31 Lajitas Ar. Si 55.72 271 *e*P **P 23 11 48.7 -0.2**
TX31 Lajitas Ar. Si 55.72 271 *e*P **P 23 11 48.7 -0.2**
TXAR Lajitas Array 55.72 271 P **P 23 11 48.7 -0.2**
comp=Z,1.2nm,0.8s,baz=57,slow=4.7,SNR=14
TXAR LR LR 23 34 50.3
comp=Z,80nm,19.1s,baz=0.0,slow=35
PAHR Pah Rah Range 55.86 291 *e*P **P 23 11 50.9 +1.2**
comp=Z,9.7nm,0.9s
PAHR Pah Rah Range 55.86 291 *e*P **P 23 11 50.9 +1.2**
comp=Z,9.7nm,0.9s
X16A Lo Mia Camp, P 55.87 281 *e*P **P 23 11 51.4 +1.4**
comp=Z,6.0nm,1.0s
X16A Lo Mia Camp, P 55.87 281 *e*P **P 23 11 51.4 +1.4**
comp=Z,6.0nm,1.0s
O03D Paynes Creek 56.60 294 P **P 23 11 53.9 -1.0**
baz=40
TUC Tucson 57.16 279 P **P 23 11 59.1 +0.1**
baz=38
TUC Tucson 57.16 279 *e*P **P 23 12 00.3 +1.2**
TUC pmax pmax
comp=Z,11nm,1.5s
TUC Tucson 57.16 279 *e*P **P 23 12 00.3 +1.2**
comp=Z,11nm,1.5s
TUC Tucson 57.16 279 *e*P **P 23 12 00.3 +1.2**
comp=Z,11nm,1.5s
ZALV Zalesovo Beam 57.49 38 P **P 23 12 00.6 -0.4**
comp=Z,0.9nm,0.6s,baz=330,slow=8.6,SNR=3.9
MPMC Manual Prospec 57.72 287 P **P 23 12 03.5 +0.4**
baz=39
CWC Cottonwood Cre 57.72 288 P **P 23 12 02.9 -0.1**
baz=39
GMRC Granite Mounta 57.77 285 P **P 23 12 03.2 -0.1**
baz=39
KURK Kurchatov 57.96 44⇓*e*P **P 23 12 04.0 -0.2**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 57.96 44 *e*P **P 23 12 04.0 -0.2**
comp=Z,12nm,0.8s
KURK Kurchatov 57.96 44 *e*P **P 23 12 03.5 -0.8**
comp=Z,6.5nm,0.8s
GSC Goldstone, Bar 57.96 286 P **P 23 12 04.8 +0.1**
baz=39
113A Mohawk Valley, 58.37 282 *e*P **P 23 12 07.8 +0.4**
comp=Z,5.2nm,1.0s
GLA Glamis 58.70 283 P **P 23 12 10.0 +0.3**
baz=38
EDW2 Edwards Air Fo 58.89 287 P **P 23 12 11.4 +0.3**
baz=38
PFO Pinyon Flats O 59.10 285 *e*P **P 23 12 13.8 +1.1**
PFO pmax pmax
comp=Z,8.0nm,0.8s
PFO Pinyon Flats O 59.10 285 *e*P **P 23 12 13.8 +1.1**
comp=Z,7.7nm,0.8s
PFO Pinyon Flats O 59.10 285 *e*P **P 23 12 13.8 +1.1**
comp=Z,7.7nm,0.8s
GEYT Alibeck 59.15 67 P **P 23 12 13.4 +0.6**
comp=Z,2.2nm,0.7s,baz=284,slow=14,SNR=6.9
PMPB Monarch Peak 59.27 290 *e*P **P 23 12 15.8 +2.1**
comp=Z,107nm,1.6s
PMPB Monarch Peak 59.27 290 *e*P **P 23 12 15.8 +2.1**
comp=Z,107nm,1.6s
KKAR Karatay Array 60.81 55 *e*P **P 23 12 25.1 +1.0**
KKAR Karatay Array 60.81 55 *e*P **P 23 12 25.1 +1.0**
comp=Z,0.3nm,0.4s
KKAR Karatay Array 60.81 55 *e*P **P 23 12 25.1 +1.0**
comp=Z,0.3nm,0.4s
DGZ Jazzator, Alta 61.94 40 *i*P **P 23 12 32.6 +0.7**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
DGZ Jazzator, Alta 61.94 40 *i*P **P 23 12 32.6 +0.7**
comp=Z,2.0nm,0.9s
MAKZ Makanchi 62.44 45 *e*P **P 23 12 34.7 -0.4**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MAKZ Makanchi 62.44 45 *e*P **P 23 12 34.7 -0.4**
comp=Z,7.1nm,1.1s
MAKZ Makanchi 62.44 45 *e*P **P 23 12 34.7 -0.4**
comp=Z,7.1nm,1.1s
MK31 Makanchi Array 62.57 45 *e*P **P 23 12 35.4 -0.5**
MK31 Makanchi Array 62.57 45 *e*P **P 23 12 35.4 -0.5**
MK31 Makanchi Array 62.57 45 *e*P **P 23 12 35.4 -0.5**
MKAR Makanchi Array 62.57 45 P **P 23 12 35.5 -0.4**
comp=Z,4.8nm,0.8s,baz=331,slow=6.0,SNR=38
MKAR LR LR 23 39 09.4
comp=Z,54nm,18.3s,baz=314,slow=36
MKAR Makanchi Array 62.57 45 *e*P **P 23 12 35.7 -0.2**
MK01 Makanchi Array 62.59 45 *e*P **P 23 12 35.5 -0.6**
MK01 Makanchi Array 62.59 45 *e*P **P 23 12 35.5 -0.6**
AAK Ala-Archa 62.90 52⇑*e*P **P 23 12 39.4 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 62.90 52 *e*P **P 23 12 39.4 +1.0**
comp=Z,9.0nm,1.0s
AAK Ala-Archa 62.90 52 *e*P **P 23 12 39.5 +1.1**
comp=Z,4.7nm,0.9s
RAYN Ar Rayn 64.10 87 *e*P **P 23 12 45.8 -0.6**
comp=Z,8.3nm,1.4s
RAYN Ar Rayn 64.10 87 *e*P **P 23 12 45.8 -0.6**
comp=Z,8.3nm,1.4s
KSH Kashi 66.11 53 P **P 23 13 01.6 +2.3**
KSH pP pP 23 13 06.2 +1.0
KSH sP sP 23 13 08.7 +1.4
KSH PcP **PcP 23 13 32.7 +3.1**
KSH PP **PP 23 15 28.3 +3.9**
KSH PcS 23 17 35.8
KSH S **S 23 21 47.0 +0.3**
KSH sS sS 23 21 55.4 -0.9
KSH ScS **SKSac 23 22 54.0 -0.4**
KSH SS **SS 23 26 03.3 +1.8**
KSH pmax pmax
comp=Z,12nm,1.2s
KSH pmax pmax
comp=Z,88nm,5.8s
KSH LR LR
comp=Z,130nm,5.1s
KSH LR LR
comp=Z,110nm,5.1s
WMQ Urumqi 67.09 43 P **P 23 13 07.9 +2.4**
WMQ pP sP 23 13 12.6 -0.9
WMQ sP pP 23 13 14.9 +3.6
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,88nm,5.7s
WMQ LR LR
comp=Z,46nm,15.9s
WMQ LR LR
comp=Z,56nm,20.5s
KBL Kabul 67.11 61 *e*P **P 23 13 05.9 -0.1**
KBL pmax pmax
comp=Z,10.0nm,1.7s
KBL Kabul 67.11 61 *e*P **P 23 13 05.9 -0.1**
comp=Z,9.8nm,1.7s
KBL Kabul 67.11 61 *e*P **P 23 13 05.9 -0.1**
comp=Z,9.8nm,1.7s
H10N2 ASCENSION HYDR 67.19 161 T T 00 25 35.0
baz=350,slow=75,SNR=8.2
H10N3 ASCENSION HYDR 67.20 161 T T 00 25 35.0
baz=350,slow=75,SNR=8.7
H10N1 ASCENSION HYDR 67.21 161 T T 00 25 34.4
baz=350,slow=75,SNR=8.0
H10S1 ASCENSION HYDR 68.25 161 T T 00 26 52.7
baz=351,slow=75,SNR=182
H10S3 ASCENSION HYDR 68.26 161 T T 00 26 53.5
baz=351,slow=75,SNR=184
H10S2 ASCENSION HYDR 68.27 161 T T 00 26 56.2
baz=351,slow=75,SNR=180
SONA1 Songino Array 69.24 28 *e*P **P 23 13 18.6 -0.4**
SONA1 Songino Array 69.24 28 *e*P **P 23 13 18.6 -0.4**
SONM Songino Array 69.25 28 P **P 23 13 18.8 -0.2**
comp=Z,2.7nm,1.0s,baz=323,slow=4.7,SNR=14
SONM LR LR 23 44 25.7
comp=Z,35nm,18.9s,baz=352,slow=37
ULN Ulaanbaatar 69.39 28*d i*P **P 23 13 20.1 +0.2**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 69.39 28 *i*P **P 23 13 20.1 +0.2**
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 69.39 28 *e*P **P 23 13 20.7 +0.7**
comp=Z,6.8nm,1.2s
GTA Gaotai 75.13 36 P **P 23 13 54.2 -0.1**
GTA pP pP 23 13 58.5 -1.8
GTA sP sP 23 14 01.1 -1.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
HHC Hu-ho-hao-te 77.08 27 *e*P **P 23 14 04.9 -0.5**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,79nm,8.6s
KMBO Kilima Mbogo 80.37 108 LR LR 23 51 04.6
comp=Z,47nm,18.5s,baz=291,slow=36
KMI Kunming 89.22 40 P **P 23 15 09.7 +1.3**
KMI pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 93.97 45 P **P 23 15 29.9 -0.2**
comp=Z,0.4nm,0.6s,baz=335,slow=4.3,SNR=4.1
CMAR Chiang Mai Arr 93.97 45 P **P 23 15 30.0 -0.2**
CMAR Chiang Mai Arr 93.97 45 P **P 23 15 30.0 -0.2**
WRA Warramunga Arr 140.84 20 PKP **PKPdf 23 21 41.6 -0.4**
comp=Z,0.7nm,0.8s,baz=348,slow=2.6,SNR=3.0
ASAR Alice Springs 144.38 22 PKP **PKPab 23 21 45.9 -0.5**
comp=Z,0.8nm,0.7s,baz=350,slow=2.6,SNR=8.9
VNDA Vanda 159.74 189 PKPab **PKPab 23 22 48.4 +0.1**
comp=Z,0.5nm,0.8s,baz=169,slow=3.9,SNR=3.8

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*SJA **05** 23:09:48.7±1.3, 32°.03S×69°.27W, h19km±3km, ML3.0, MW3.6*
*ISCJB **05** 23:09:49.1±0.8, 32°.03S±0°.03×69°.29W±0°.04, h6km±6km, Error ellipse: s-maj=6.2km s-min=3.2km az=35.2*
*GUC **05** 23:09:49.6±0.7, 32°.12S×69°.25W, h17km±211km, ML3.0*
ISC 05 23:09:49.5±1.1, 32°.07S±0°.03×69°.24W±0°.04, h15km±9km, n19, σ0s78/32, 11D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.20**	**219**	*e*P	**Pg**	**23 09 55.5**	**+1.1**
ASAL	**Salagasta**	**0.62**	**147**⇓	*e*P	**Pb**	**23 10 02.4**	**+0.2**
ASAL			⇓	*e*S	**Sn**	**23 10 13.6**	**-0.2**
SJA	**San Juan**	**0.79**	**47**⇓	*e*P	**Pb**	**23 10 04.5**	**-0.6**
SJA				*e*S	**Sb**	**23 10 15.9**	**+0.3**
ARCO	**CERRO ARCO**	**0.81**	**161**⇓	*e*P	**Pb**	**23 10 05.4**	**-0.1**
ARCO				IAML		23 10 23.5	
comp=Z,401nm,0.6s							
RTLL	**Cerro Villicun**	**0.98**	**42**	*e*P	**Pb**	**23 10 07.6**	**-0.8**
RTLL				*e*S	**Sb**	**23 10 21.3**	**+0.1**
AAGR	**Agrelo**	**1.07**	**161**	*e*P	**Pn**	**23 10 10.2**	**0.0**
AAGR			⇓	*e*S	**Sn**	**23 10 26.2**	**+1.4**
AMOG	**MOGNA**	**1.29**	**30**	*e*P	**Pb**	**23 10 12.9**	**-0.8**
AMOG				*e*S	**Sb**	**23 10 29.9**	**-0.2**
ACCO	**Cerro Coronel**	**1.48**	**6**⇓	*e*P	**Pn**	**23 10 15.4**	**-0.6**
FCH	**Farellones**	**1.54**	**215**	*e*P	**Pn**	**23 10 16.3**	**-0.5**
FCH				*i* S	**Sn**	**23 10 36.8**	**+0.2**
FCH				IAML		23 10 37.4	
comp=E,425nm,0.3s							
PEL	**Peldehue**	**1.62**	**228**	*e*P	**Pn**	**23 10 17.3**	**-0.4**
PEL				*i* S	**Sn**	**23 10 38.2**	**-0.2**
PEL				IAML		23 10 42.8	
comp=E,207nm,0.8s							
CLCH	**Cerro Calan**	**1.72**	**219**	*e*P	**Pn**	**23 10 19.2**	**+0.2**
CLCH				*i* S	**Sb**	**23 10 42.5**	**+0.2**
ROCH	**El Roble**	**1.75**	**238**	*e*P	**Pn**	**23 10 19.7**	**+0.2**
ROCH				*i* S	**Sb**	**23 10 43.3**	**0.0**
ROCH				IAML		23 10 46.2	
comp=N,387nm,0.4s							
ROC1	**El Roble**	**1.75**	**238**⇓	*e*P	**Pn**	**23 10 19.7**	**+0.1**
ROC1			⇓	*e*S	**Sg**	**23 10 44.5**	**-1.5**
ACAN	**Cantantal**	**1.75**	**97**⇓	*e*P	**Pb**	**23 10 20.2**	**-1.3**
ACAN				*e*S	**Sg**	**23 10 44.4**	**-1.7**
AROD	**Rodeo**	**1.91**	**354**	*e*P	**Pn**	**23 10 22.6**	**+0.8**
AROD				*e*S	**Sb**	**23 10 48.1**	**+0.2**
AVFE	**Valle Fertil**	**2.08**	**48**	*e*P	**Pn**	**23 10 24.4**	**+0.5**
AVFE				*e*S	**Sb**	**23 10 52.7**	**+0.1**
AVFE				IAML		23 10 55.2	
comp=Z,156nm,0.4s							
AGUA	**GUANDACOL**	**2.65**	**14**⇓	*e*P	**Pn**	**23 10 33.3**	**+1.4**
APLL	**PUNTA DE LOS L**	**2.86**	**55**	*e*P	**Pn**	**23 10 35.4**	**+0.7**
ACLC	**CERRO LA CRUZ**	**3.29**	**37**⇓	*e*P	**Pn**	**23 10 41.7**	**+1.0**

IDC 05 23:13:06.5±7.8, 27°.77S×178°.04W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/16, mbtmp3.5/2, Error ellipse: s-maj=432.4km s-min=105.5km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.27**	**264**	P	P	23 21 09.9	-0.2
0.2nm,0.4s,baz=106,slow=7.4,SNR=5.5							
WRA	**Warramunga Arr**	**44.02**	**269**	P	P	23 21 16.1	-0.1
0.5nm,0.5s,baz=108,slow=8.0,SNR=3.1							
FINES	**FINESS Array B**	**142.66**	**341**	PKP	PKPdf	23 32 40.4	-0.5
0.9nm,0.4s,baz=41,slow=2.7,SNR=15							

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*IDC **05** 23:21:50.0±1.1, 57°.79N×32°.35W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, Error ellipse: s-maj=38.8km s-min=21.0km az=27.0*
*ISCJB **05** 23:21:51.1±1.0, 57°.8N±0°.2×32°.3W±0°.3, h18km, mb3.6/7, Error ellipse: s-maj=32.8km s-min=17.3km az=28.0*
ISC 05 23:21:52.9±1.1, 57°.8N±0°.2×32°.3W±0°.2, h18km, n11, σ0s99/8, mb3.7/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.75**	**122**	P	**P**	**23 27 22.6**	**+0.4**
0.1nm,0.3s,baz=328,slow=8.8,SNR=4.6							
AKASG	**Malin Array Be**	**35.52**	**74**	P	**P**	**23 28 48.1**	**-0.1**
0.2nm,0.2s,baz=309,slow=8.8,SNR=5.0							
BRTR	**Keskin Array B**	**45.11**	**84**	P	**P**	**23 30 08.8**	**+0.9**
0.8nm,0.8s,baz=318,slow=5.0,SNR=5.5							
ILAR	**Eielson Array**	**48.12**	**328**	P	**P**	**23 30 32.2**	**+1.2**
0.9nm,1.0s,baz=31,slow=7.5,SNR=5.3							
PDAR	**Pinedale Array**	**48.81**	**287**	P	**P**	**23 30 36.3**	**-0.6**
0.5nm,0.8s,baz=24,slow=5.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**51.44**	**136**	P	**P**	**23 30 56.5**	**-0.2**
1.0nm,0.7s,baz=341,slow=7.3,SNR=8.8							
MKAR	**Makanchi Array**	**62.60**	**45**	P	**P**	**23 32 14.1**	**-1.4**
0.5nm,0.8s,baz=342,slow=7.6,SNR=3.5							
H10S1	**ASCENSION HYDR**	**68.05**	**161**	T	T	00 46 31.1	
baz=351,slow=75,SNR=8.1							
H10S3	**ASCENSION HYDR**	**68.06**	**161**	T	T	00 46 33.0	
baz=351,slow=75,SNR=8.6							

H10S2	ASCENSION HYDR	68.07	161	T	T	00 46 32.6	
	baz=351,slow=75,SNR=8.7						
ASAR	Alice Springs	144.50	22	PKP	PKPab	23 41 26.1	0.0
	0.3nm,0.6s,baz=0.2,slow=0.5,SNR=2.9						

*IASPEI **05** 23:26:29.8±1.0, 35°.37N±0°.02×92°.28W±0°.02, h10km±9km, Error ellipse: s-maj=3.5km s-min=3.0km az=127.4, GT5 selection from ISC bulletin GT5 identified by Bond'ţr and McLaughlin (2009) selection criteria Bond'ţr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ISCJB **05** 23:26:29.6±0.4, 35°.38N±0°.02×92°.28W±0°.02, h3km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=28.9*

*NEIC **05** 23:26:30.3±0.0, 35°.37N×92°.28W, h6km, MD2.7(CERI), After CERI.*

NEIC Felt at Benton and Quitman.

ISC 05 23:26:30.2±1.0, 35°.37N±0°.02×92°.29W±0°.02, h5km±9km, n46, σ0°93/72, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	0.08	181	*e*Pg	Pg	23 26 31.9	-0.1
X301	Greenbrier Sit	0.16	215	*e*Pg	Pg	23 26 33.3	0.0
W41B	Gary Mavity, V	0.20	170	P	Pg	23 26 33.9	-0.2
	baz=352,SNR=121						
W41B				S	Sg	23 26 36.6	-0.1
	baz=352						
V41A	Mountainview	0.43	14	P	Pg	23 26 38.4	-0.1
	baz=194,SNR=180						
V41A				S	Sg	23 26 44.3	+0.1
	baz=194						
UALR	University of	0.59	184	*e*Pg	Pg	23 26 41.6	0.0
V40A	Witts Springs	0.62	315	P	Pg	23 26 42.0	-0.1
	baz=134,SNR=146						
V40A				S	Sg	23 26 50.4	+0.3
	baz=134						
W42A	Bald Knob	0.63	98	P	Pg	23 26 42.1	-0.3
	baz=279,SNR=11						
W42A				S	Sg	23 26 50.7	+0.1
	baz=279						
W40A	Ferguson Farm,	0.66	255	P	Pg	23 26 43.1	+0.2
	baz=74,SNR=16						
W40A				S	Sg	23 26 52.3	+0.7
	baz=74						
V42A	Cord	0.85	59	P	Pg	23 26 45.8	-0.8
	baz=239,SNR=49						
V42A				S	Sg	23 26 57.1	-0.6
	baz=239						
X41A	Kaden, Bauxite	0.89	192	P	Pg	23 26 46.8	-0.6
	baz=12						
X41A				S	Sg	23 26 59.0	+0.2
	baz=12						
X42A	Stuttgart	0.98	146	P	Pg	23 26 48.4	-0.5
	baz=327,SNR=8.2						
X40A	Basin Creek Fa	0.99	207	P	Pg	23 26 48.7	-0.5
	baz=27,SNR=17						
X40A				S	Sg	23 27 02.1	+0.2
	baz=27						
U41A	Viola	1.02	17	P	Pg	23 26 49.0	-0.7
	baz=197,SNR=91						
U41A				S	Sg	23 27 02.6	-0.4
	baz=197						
U40A	Yellville	1.09	335	P	Pg	23 26 50.5	-0.6
	baz=155,SNR=91						
U40A				S	Sg	23 27 04.8	-0.5
	baz=155						
V39A	Pettigrew	1.20	293	P	Pg	23 26 52.5	-0.7
	baz=113,SNR=39						
V39A				S	Sg	23 27 08.4	-0.4
	baz=113						
W39A	Magazine	1.24	262	P	Pg	23 26 53.3	-0.6
	baz=82,SNR=74						
U42A	Revenden	1.30	41	P	Pn	23 26 53.8	-1.3
	baz=221,SNR=77						
U42A				S	Sg	23 27 11.1	-1.0
	baz=221						
W43A	Forest City	1.32	102	S	Sg	23 27 12.7	-0.1
	baz=283						
MIAR	Mount Ida	1.34	233	P	Pn	23 26 54.9	-0.8
	baz=52						
MIAR				S	Sb	23 27 12.8	-0.5
	baz=52						
MIAR	Mount Ida	1.34	233	*e*Pn	Pn	23 26 54.8	-0.9
MIAR				*e*S	Sb	23 27 13.0	-0.3
HBAR	Harrisburg	1.34	82	*e*Pg	Pn	23 26 54.8	-0.9
HBAR				*e*Sn	Sn	23 27 15.3	+1.3
U39A	Green Forest	1.40	317	P	Pn	23 26 55.9	-0.6
	baz=136,SNR=45						
U39A				S	Sb	23 27 14.5	-0.7
	baz=136						
X43A	Marvell	1.43	126	P	Pn	23 26 56.4	-0.6
	baz=307						
X43A				S	Sg	23 27 16.3	0.0
	baz=307						
Y41A	Eaglette Beard	1.51	190	Pb	Pn	23 26 58.0	0.0
	baz=10,SNR=6.1						
Y41A				S	Sg	23 27 18.5	-0.2
	baz=10						
CCAR	Cane Creek	1.51	163	*e*Pn	Pn	23 26 57.8	-0.2
Y40A	Okolona	1.58	211	Pb	Pn	23 26 59.2	+0.2
	baz=31,SNR=7.4						
Y40A				S	Sb	23 27 20.1	-0.2
	baz=31						
Y42A	Garnett, Star	1.58	165	Pb	Pn	23 26 59.2	+0.2
	baz=345,SNR=5.8						
HHAR	Hobbs	1.62	305	*e*Pn	Pn	23 26 60.0	+0.4
T41A	Mountain View	1.73	14	Pb	Pn	23 27 01.2	+0.3
	baz=194,SNR=16						
X39A	Fountain Ranch	1.73	241	Pb	Pn	23 27 01.6	+0.6
	baz=60,SNR=49						
T40A	Mansfield	1.79	354	Pb	Pn	23 27 02.3	+0.5
	baz=174,SNR=68						
V38A	Canehill	1.80	287	Pb	Pn	23 27 02.3	+0.4
	baz=105,SNR=18						
WLAR	White Oak Lake	1.81	202	*e*Pn	Pb	23 27 03.7	-0.1
U43A	Rector	1.83	56	Pb	Pn	23 27 02.8	+0.4
	baz=237,SNR=5.8						
W38A	Poteau	1.85	261	Pb	Pn	23 27 03.4	+0.8
	baz=80,SNR=13						
T39A	Clever	1.87	332	Pb	Pn	23 27 03.9	+0.9
	baz=152,SNR=28						
PBMO	Poplar Bluff	2.06	46	*e*Pn	Pb	23 27 07.0	-1.1
S40A	Lebanon	2.23	356	Pb	Pn	23 27 09.2	+1.3
	baz=175						
S41A	Jillco Farms,	2.26	11	Pb	Pn	23 27 09.7	+1.4
	baz=191						
V37A	Hulbert	2.38	283	P	Pn	23 27 10.5	+0.6
	baz=102,SNR=12						
S39A	Bolivar	2.46	341	P	Pn	23 27 11.9	+0.8
	baz=160						
Y38A	Idabel	2.47	235	Pb	Pb	23 27 14.6	-0.6
	baz=54						
OXF	Oxford	2.51	109	*e*Pn	Pn	23 27 11.6	-0.2
OXF				*e*S	Sn	23 27 42.2	-0.6
LRAL	Lakeview Retre	4.96	116	*e*Pn	Pn	23 27 47.3	+1.9
LRAL				*e*Sn	Sn	23 28 41.3	-2.0
LRAL				*e*Sg	Sb	23 29 00.3	+2.6
WMOK	Wichita Mounta	5.36	265	*e*Pn	Pn	23 27 52.0	+1.0
WMOK				*e*Pg	Pb	23 28 06.6	+2.1
WMOK				*e*Sn	Sn	23 28 53.2	0.0
WMOK				*e*Sg	Sg	23 29 20.3	-2.2
WCI	Wyandotte Cave	5.59	58	Pn	Pn	23 27 54.2	0.0
WCI				*e*S	Sb	23 29 19.2	+3.4

*IDC **05** 23:27:59.8±0.8, 57°.95N×32°.49W, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.8/39, mbtmp3.8/11, MS3.3/3, Ms1 3.3/3, ms1mx2.8/39, Error ellipse: s-maj=27.2km s-min=16.6km az=19.0*

*ISCJB **05** 23:28:00.7±0.7, 58°.1N±0°.1×32°.4W±0°.2, h18km, mb3.7/10, MS3.0/1, Error ellipse: s-maj=18.8km s-min=13.5km az=12.0*

ISC 05 23:28:02.5±0.8, 58°.0N±0°.1×32°.5W±0°.1, h18km, n16, σ0°96/12, mb3.8/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.63	34	Pn	Pn	23 30 05.6	-0.7
SFJD	Kangerlussuaq	12.28	325	LR	LR	23 34 59.2	
	comp=Z,176nm,19.2s,baz=114,slow=34						
FRB	Frobisher Bay	18.29	303	LR	LR	23 38 04.3	
	comp=Z,127nm,19.4s,baz=110,slow=33						
ESDC	Sonseca Array	25.91	123	P	P	23 33 34.5	+1.2
	0.1nm,0.2s,baz=318,slow=8.8,SNR=7.8						
ESDC				LR	LR	23 41 41.1	
	comp=Z,39nm,18.6s,baz=275,slow=32						
AKASG	Malin Array Be	35.53	74	P	P	23 34 57.4	-0.6
	1.7nm,0.7s,baz=305,slow=8.4,SNR=7.1						
YKA	Yellowknife Ar	38.43	312	P	P	23 35 22.1	-0.3
	1.2nm,0.7s,baz=61,slow=9.0,SNR=5.1						
BRTR	Keskin Array B	45.16	84	P	P	23 36 19.2	+1.2
	0.9nm,0.8s,baz=310,slow=4.7,SNR=5.6						
ILAR	Eielson Array	47.91	328	P	P	23 36 40.1	+1.1
	1.1nm,1.0s,baz=36,slow=7.3,SNR=7.6						
ILAR				PcP	PcP	23 38 08.0	+0.8
	0.4nm,0.8s,baz=15,slow=3.7,SNR=3.3						
PDAR	Pinedale Array	48.69	287	P	P	23 36 44.8	-0.8
	0.9nm,0.8s,baz=62,slow=10,SNR=6.1						
TORD	Torodi Ar. Bea	51.63	136	P	P	23 37 06.5	-1.4
	1.4nm,0.7s,baz=340,slow=7.3,SNR=9.0						
TXAR	Lajitas Array	55.78	271	P	P	23 37 38.5	+0.2
	0.5nm,0.8s,baz=28,slow=3.0,SNR=4.8						
MKAR	Makanchi Array	62.51	45	P	P	23 38 24.8	+0.2
	0.9nm,0.7s,baz=320,slow=6.8,SNR=2.5						
H10S1	ASCENSION HYDR	68.26	161	T	T	00 52 43.2	
	baz=351,slow=75,SNR=30						
H10S3	ASCENSION HYDR	68.27	161	T	T	00 52 44.0	
	baz=351,slow=75,SNR=39						
H10S2	ASCENSION HYDR	68.28	161	T	T	00 52 44.5	
	baz=351,slow=75,SNR=29						
SONM	Songino Array	69.20	28	P	P	23 39 07.5	-0.2
	0.2nm,0.4s,baz=340,slow=11,SNR=3.5						

IDC 05 23:36:11.9±2.0, 57°.79N×31°.90W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/38, mbtmp3.4/3, Error ellipse: s-maj=67.3km s-min=32.3km az=57.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	48.24	329	P	P	23 44 53.7	-0.1
	0.8nm,1.1s,baz=34,slow=6.6,SNR=4.6						
TORD	Torodi Ar. Bea	51.28	136	P	P	23 45 17.4	-0.1
	0.7nm,1.0s,baz=335,slow=7.4,SNR=4.4						
MKAR	Makanchi Array	62.44	45	P	P	23 46 36.3	0.0
	0.2nm,0.6s,baz=312,slow=6.8,SNR=2.5						

*IDC **05** 23:38:20.6±0.8, 57°.82N×32°.53W, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.7/39, mbtmp3.8/11, MS3.6/2, Ms1 3.6/2, ms1mx2.8/53, Error ellipse: s-maj=26.9km s-min=16.3km az=18.0*

*ISCJB **05** 23:38:21.6±0.7, 57°.9N±0°.1×32°.5W±0°.2, h18km, mb3.7/10, MS3.9/1, Error ellipse: s-maj=18.3km s-min=13.4km az=13.8*

ISC 05 23:38:23.3±0.8, 57°.8N±0°.1×32°.5W±0°.1, h18km, n17, σ0°61/13, mb3.8/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.81	33	Pn	Pn	23 40 30.1	+0.6
SFJD	Kangerlussuaq	12.41	325	LR	LR	23 45 09.8	
	comp=Z,119nm,21.5s,baz=127,slow=33						
ESDC	Sonseca Array	25.85	122	P	P	23 43 54.3	+0.7
	0.8nm,0.8s,baz=319,slow=8.4,SNR=6.5						
AKASG	Malin Array Be	35.62	74	P	P	23 45 18.8	-0.8
	1.9nm,0.8s,baz=304,slow=8.4,SNR=4.9						
YKA	Yellowknife Ar	38.53	312	P	P	23 45 44.2	+0.1
	0.7nm,0.7s,baz=58,slow=9.4,SNR=3.7						
BRTR	Keskin Array B	45.22	84	P	P	23 46 40.1	+0.8
	0.8nm,0.8s,baz=318,slow=5.0,SNR=5.7						
ILAR	Eielson Array	48.05	328	P	P	23 47 01.4	+0.4
	0.7nm,0.8s,baz=32,slow=6.8,SNR=7.3						
ILAR				PcP	PcP	23 48 28.6	+0.1
	0.3nm,0.8s,baz=15,slow=3.7,SNR=4.1						
PDAR	Pinedale Array	48.70	287	P	P	23 47 06.1	-0.4
	0.6nm,0.7s,baz=41,slow=8.4,SNR=2.7						
TORD	Torodi Ar. Bea	51.53	136	P	P	23 47 27.7	-0.2
	1.5nm,0.8s,baz=337,slow=7.9,SNR=7.8						
KDAK	Kodiak Island	55.28	326	LR	LR	00 12 08.6	
	comp=Z,103nm,18.5s,baz=340,slow=37						
TXAR	Lajitas Array	55.74	272	P	P	23 47 59.3	+0.5
	0.2nm,0.8s,baz=61,slow=7.3,SNR=2.8						
MKAR	Makanchi Array	62.67	45	P	P	23 48 46.0	-0.5
	0.6nm,0.6s,baz=342,slow=5.9,SNR=6.2						
H10S1	ASCENSION HYDR	68.09	161	T	T	01 03 08.6	
	baz=351,slow=75,SNR=13						
H10S3	ASCENSION HYDR	68.10	161	T	T	01 03 15.1	
	baz=351,slow=75,SNR=11						
H10S2	ASCENSION HYDR	68.11	161	T	T	01 03 09.4	
	baz=351,slow=75,SNR=11						
SONM	Songino Array	69.39	28	P	P	23 49 29.3	-0.5
	1.2nm,1.1s,baz=328,slow=7.7,SNR=6.3						
ASAR	Alice Springs	144.53	22	PKP	PKPab	23 57 56.0	-0.8
	0.2nm,0.4s,baz=360,slow=3.0,SNR=3.5						

*CSEM **05** 23:38:26.8, 37°.32N×23°.07E, h24km, ML1.2/3*

ATH 05 23:38:26.8, 37°.32N×23°.07E, h24km±3km, ML1.2/3, Error ellipse: s-maj=3.4km s-min=1.2km az=66.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	Veliai	0.61	190	P	Pb	23 38 38.9	+0.1
VLI	Veliai	0.61	190	P	Pb	23 38 38.9	+0.1
THAL	Thalero	0.79	336	P	Pb	23 38 41.4	-0.4
THAL				AML	AML	23 38 47.1	
	comp=E,36μm,0.2s						
THAL				AML	AML	23 38 48.8	
	comp=N,22μm,0.2s						
THAL	Thalero	0.79	336	P	Pb	23 38 41.4	-0.4
VLY	Voula,Athens	0.79	47	P	Pn	23 38 42.5	+0.2
VLY				AML	AML	23 38 57.1	
	comp=E,36μm,0.5s						
VLY				AML	AML	23 39 01.9	
	comp=N,40μm,1.0s						
VLY	Voula,Athens	0.79	47	P	Pn	23 38 42.5	+0.2
VILL	Villia	0.87	13	P	Pb	23 38 42.5	-0.7
VILL				S	Sn	23 38 55.7	+0.3
VIL2	Platees	0.91	10	P	Pb	23 38 42.5	-1.4
VIL2				S	Sb	23 38 55.7	+0.2
VIL2				AML	AML	23 38 57.1	
	comp=E,27μm,0.9s						
VIL2				AML	AML	23 39 06.0	
	comp=N,28μm,0.8s						
ITM	Ithomi	0.92	262	P	Pn	23 38 44.8	+0.6
ITM	Ithomi	0.92	262	P	Pn	23 38 44.8	+0.6
KLV	Kalavryta, Ach	1.02	315	P	Pb	23 38 46.6	+0.7
KLV	Kalavryta, Ach	1.02	315	P	Pb	23 38 46.6	+0.7
LAKA	Lakka	1.26	317	P	Pb	23 38 51.0	+1.1
LAKA	Lakka	1.26	317	P	Pb	23 38 51.0	+1.1
ANKY	Antikythira Is	1.46	172	P	Pb	23 38 53.4	+0.1
ANKY	Antikythira Is	1.46	172	P	Pb	23 38 53.4	+0.1

IDC 05 23:43:25.9±5.3, 57°.83N×33°.12W, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.5/3, Error ellipse: s-maj=123.9km s-min=39.0km az=94.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.95	34	Pn	Pn	23 45 37.0	+0.8
AKASG	Malin Array Be	35.91	74	P	P	23 50 27.1	-0.3
	0.2nm,0.3s,baz=301,slow=9.0,SNR=2.6						
TORD	Torodi Ar. Bea	51.77	135	P	P	23 52 35.2	+0.1
	0.5nm,0.8s,baz=345,slow=7.3,SNR=4.0						
MKAR	Makanchi Array	62.86	44	P	P	23 53 53.0	-0.2
	0.3nm,0.5s,baz=344,slow=5.8,SNR=5.3						

*BJI **05** 23:52:16.9, 58°.16N×32°.75W, h7km, mb5.2/53, mB5.5/40, Ms5.1/34, Ms7 4.8/35*

*IDC **05** 23:52:17.7±0.4, 57°.86N×32°.67W, h0km, mb4.8/43, mb1 4.9/48, mb1mx4.8/54, mbtmp4.8/48, ML4.0/4, MS4.8/56, Ms1 4.8/56, ms1mx4.8/58, Error ellipse: s-maj=11.9km s-min=8.3km az=180.0*

*MOS **05** 23:52:18.6±0.9, 57°.97N×32°.56W, h13km, mb5.5/82, MS4.9/36, Error ellipse: s-maj=6.2km s-min=5.2km az=137.7*

*CSEM **05** 23:52:19.7±0.0, 57°.91N×32°.54W, h10km, mb5.3/99, Ms5.0, Mw5.6, Error ellipse: s-maj=3.3km s-min=1.6km az=9.0*

*ISCJB **05** 23:52:19.7±1.1, 57°.89N±0°.02×32°.57W±0°.02, h20km±8km, mb5.2/332, MS4.9/226, Error ellipse: s-maj=3.8km s-min=1.5km az=1.1*

*NEIC **05** 23:52:20.0±0.1, 57°.87N×32°.54W, h10km, mb5.3/221, MS5.0/142, Error ellipse: s-maj=3.7km s-min=1.8km az=182.0*

*GCMT **05** 23:52:20.0±0.1, 57°.98N×32°.34W, h12km, MW5.4/127, Moment Tensor Solution. s76,c111; s127,c253; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.56±.02; $M_{\theta\theta}$0.15±.03; $M_{\phi\phi}$1.41±.02; $M_{r\theta}$0.23±.06; $M_{\theta\phi}$0.54±.02; $M_{\phi r}$-0.03±.05; Best double couple: $M_0$1.60300×10^{17} NP1:ϕ_s208.00000°, δ47.00000°, λ-79.00000°. NP2:ϕ_s12.00000°, δ45.00000°, λ-102.00000°. Principal axes: T 1.6130, Plg1.0000°, Azm291.0000°; N -0.0210, Plg8.0000°, Azm21.0000°; P -1.5920, Plg82.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 23:52:20.8±0.6, 57°.91N±0°.04×32°.60W±0°.03, h17km±3km, n1635, σ1°19/1607, mb5.3/343, MS5.0/227, 37C-37D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.73	34	Pn	Pn	23 54 26.6	+0.5
BORG				Sn	Sn	23 56 03.7	-0.2
BORG				LR	LR	23 56 60.0	
	comp=Z,44μm,18.6s,slow=32						
SFJD	Kangerlussuaq	12.29	325	Pn	Pn	23 55 14.4	-0.4
	0.4nm,0.3s,baz=148,slow=13,SNR=7.2						
SFJD				Sn	Sn	23 57 21.3	-10
	0.7nm,0.3s,baz=54,slow=19,SNR=3.2						
SFJD				LR	LR	23 59 16.5	
	comp=Z,13μm,18.9s,baz=133,slow=34						
SFJD	Kangerlussuaq	12.29	325	*i* P	Pn	23 55 14.4	-0.4
SFJD	Kangerlussuaq	12.29	325	*e*P	Pn	23 55 13.9	-0.9
SFJD				*e*S	Sn	23 57 23.5	-7.7
SFJD	Kangerlussuaq	12.29	325	*e*Pn	Pn	23 55 13.9	-0.9
SFJD	Kangerlussuaq	12.29	325	*e*Pn	Pn	23 55 13.9	-0.9
SFJD				*e*S	Sn	23 57 23.5	-7.7
ILULI	Ilulissat	13.93	332	*i* P	Pn	23 55 33.9	-3.1
ILULI	Ilulissat	13.93	332	*i* P	Pn	23 55 33.9	-3.1
VAL	Valentia	14.14	105	*e*P	Pn	23 55 40.1	+0.1
VAL				*e*S	S	23 58 42.0	+4.8
SUMG	Summit	14.92	353	*i* P	Pn	23 55 49.7	-1.2
SUMG	Summit	14.92	353	*i* P	Pn	23 55 49.7	-1.2
SUMG	Summit	14.92	353	*e*Pn	Pn	23 55 49.7	-1.2
SUMG	Summit	14.92	353	*e*Pn	Pn	23 55 49.6	-1.2
DSB	Dublin	15.50	96	*e*Pn	Pn	23 55 54.5	-3.8
	149nm,1.2s						
ESK	Eskdalemuir	16.33	87	*e*P	Pn	23 56 08.1	-0.8
ESK				pmax	pmax		
	comp=Z,476nm,1.7s						
ESK	Eskdalemuir	16.33	87	*e*Pn	Pn	23 56 08.1	-0.8
	comp=Z,476nm,1.7s						
ESK	Eskdalemuir	16.33	87	*e*Pn	Pn	23 56 08.1	-0.8
	comp=Z,476nm,1.7s						
EKA	Eskdalemuir Ar	16.34	86	Pn	Pn	23 56 08.5	-0.7
	baz=294,slow=12,SNR=12						
EKA				LR	LR	00 01 23.4	
	comp=Z,6μm,18.7s,baz=295,slow=33						
JMIC	Jan Mayen	16.54	28	LR	LR	00 01 01.6	
	comp=Z,2μm,19.7s,baz=262,slow=32						
DYA	Yadsworthy	18.27	102	*e*Pn	Pn	23 56 31.6	-1.6
	comp=Z,253nm,1.3s						
DYA	Yadsworthy	18.27	102	*e*Pn	Pn	23 56 31.6	-1.6
	comp=Z,253nm,1.3s						
FRB	Frobisher Bay	18.27	304	P	Pn	23 56 31.9	-1.2
	comp=Z,0.4nm,0.3s,baz=89,slow=11,SNR=7.2						
FRB				LR	LR	00 02 41.3	
	comp=Z,9μm,18.7s,baz=94,slow=34						
CWF	Charnwood Fore	18.43	93	*e*P	P	23 56 34.0	-1.1
	comp=Z,186nm,1.5s						
CWF	Charnwood Fore	18.43	93	*e*P	P	23 56 34.0	-1.1
	comp=Z,186nm,1.5s						
SCHQ	Schefferville	19.08	275	P	P	23 56 41.9	-0.3
	comp=Z,1.9nm,0.3s,baz=58,slow=7.7,SNR=13						
SCHQ				LR	LR	00 02 55.6	
	comp=Z,9μm,18.5s,baz=74,slow=34						
SCHQ	Schefferville	19.08	275	*e*P	P	23 56 42.2	0.0
SCHQ	Schefferville	19.08	275	*e*P	P	23 56 42.2	0.0
ROSA	Rosais	19.41	170	*e*P	P	23 56 45.4	-0.5
	comp=Z,627nm,1.9s						
ROSA	Rosais	19.41	170	*e*P	P	23 56 45.4	-0.5
	comp=Z,627nm,1.9s						
DAG	Danmarks Havn	19.58	10	*i* P	Pn	23 56 49.8	+1.0
DAG	Danmarks Havn	19.58	10	*i* P	Pn	23 56 49.8	+1.0
CMLA	Cha da Macela	20.69	164	PFAKE		23 57 10.0	+7.8
CMLA				LR	LR		
	comp=Z,7μm,20.0s						
NC204	NORSAR Array S	21.90	63	*e*P	P	23 57 12.5	-0.2
NC204	NORSAR Array S	21.90	63	*e*P	P	23 57 12.5	-0.2
NBO00	NORSAR Array S	21.95	63	*e*P	P	23 57 14.6	+1.4
NBO00	NORSAR Array S	21.95	63	*e*P	P	23 57 14.7	+1.4
NBO02	NORSAR Array S	21.98	63	*e*P	P	23 57 09.6	-4.0
NAO01	NORSAR Array S	22.04	64	*e*P	P	23 57 15.7	+1.5
NAO01	NORSAR Array S	22.04	64	*e*P	P	23 57 15.7	+1.5
NB2	NORSAR Subarra	22.16	63	P	P	23 57 14.4	-1.1
	comp=Z,131nm,1.7s,baz=281,slow=11						
NB2	NORSAR Subarra	22.16	63	P	P	23 57 14.4	-1.1
	baz=281,slow=11						
NB2	NORSAR Subarra	22.16	63	P	P	23 57 14.4	-1.1
	comp=Z,131nm,1.7s,SNR=1.4						
NOA	NORSAR Array B	22.16	63	P	P	23 57 14.8	-0.7
	comp=Z,31nm,1.2s,baz=281,slow=10,SNR=12						
NOA				LR	LR	00 04 30.3	
	comp=Z,2μm,21.4s,baz=280,slow=33						
PGAV	Gavieira, Arco	22.17	125	*e*P	P	23 57 12.4	-3.4
	comp=Z,244nm,1.8s						
PGAV				*e*LR	LR	00 02 42.8	
	comp=Z,6μm,18.0s						
NB201	NORSAR Array S	22.19	63	*e*P	P	23 57 17.2	+1.4
NB201	NORSAR Array S	22.19	63	*e*P	P	23 57 17.2	+1.4
NC303	NORSAR Array S	22.19	63	*e*P	P	23 57 17.1	+1.3
NC303	NORSAR Array S	22.19	63	*e*P	P	23 57 17.1	+1.3
NC602	NORSAR Array S	22.38	64	*e*P	P	23 57 18.6	+0.8
NC602	NORSAR Array S	22.38	64	*e*P	P	23 57 18.6	+0.8
NC405	NORSAR Array S	22.38	63	*e*P	P	23 57 19.0	+1.2
NC405	NORSAR Array S	22.38	63	*e*P	P	23 57 19.1	+1.2
UCC	Uccle	22.45	92	P	P	23 57 17.3	-1.3
PCAB	Cabril	22.48	125	*e*P	P	23 57 19.1	0.0
	comp=Z,218nm,1.6s						
PCAB	Cabril	22.48	125	*e*P	P	23 57 19.1	0.0
	comp=Z,218nm,1.6s						
SNF	Seneffe	22.57	93	P	P	23 57 19.7	-0.2
POLO	Lamas de Olo	22.86	126	*e*P	P	23 57 22.9	-0.2
	comp=Z,89nm,1.5s						
POLO	Lamas de Olo	22.86	126	*e*P	P	23 57 22.9	-0.2
	comp=Z,89nm,1.5s						
DOU	Dourbes	22.97	94	P	P	23 57 24.0	-0.1
	comp=Z,49nm,1.8s						
PBRG	Braganca	22.97	123	*e*P	P	23 57 24.4	+0.2
	comp=Z,42nm,1.7s						
PBRG	Braganca	22.97	123	*e*P	P	23 57 24.4	+0.2
	comp=Z,42nm,1.7s						
WTSB	Winterswijk

HFS LR LR 00 05 32.6
comp=Z,2μm,19.5s,baz=284,slow=34
HFS Hagfors 23.56 65 P **P 23 57 30.0 +0.1**
HFS Hagfors 23.56 65 P **P 23 57 30.0 +0.1**
PCAS Casmilo, Conde 23.65 129 *e*P **P 23 57 30.7 -0.3**
comp=Z,144nm,1.8s
PCAS Casmilo, Conde 23.65 129 *e*P **P 23 57 30.7 -0.3**
comp=Z,144nm,1.8s
MTE Manteigas 23.76 127 *e*P **P 23 57 31.5 -0.7**
comp=Z,78nm,2.0s
MTE *e*LR LR 00 03 16.8
comp=Z,5μm,18.0s
MTE Manteigas 23.76 127 *e*P **P 23 57 31.8 -0.4**
comp=Z,67nm,1.2s
MTE Manteigas 23.76 127 *e*P **P 23 57 31.8 -0.4**
comp=Z,67nm,1.2s
MTE LR LR
comp=Z,5μm,20.0s
WLF Walferdange 24.04 93 P **P 23 57 35.7 +1.1**
comp=Z,72nm,2.6s
WLF Walferdange 24.04 93 *e*P **P 23 57 35.4 +0.8**
WLF pmax pmax
comp=Z,161nm,1.8s
WLF MLR MLR
comp=Z,3μm,20.0s
WLF Walferdange 24.04 93 *e*P **P 23 57 35.4 +0.8**
comp=Z,161nm,1.8s
WLF Walferdange 24.04 93 *e*P **P 23 57 35.4 +0.8**
comp=Z,161nm,1.8s
WLF LR LR
comp=Z,3μm,20.0s
PTOM Tomar 24.05 129 *e*P **P 23 57 35.5 +0.7**
comp=Z,233nm,1.8s
PTOM Tomar 24.05 129 *e*P **P 23 57 35.5 +0.7**
comp=Z,233nm,1.8s
PCBR Castelo Branco 24.26 127 *e*P **P 23 57 36.4 -0.3**
comp=Z,180nm,1.6s
PCBR Castelo Branco 24.26 127 *e*P **P 23 57 36.4 -0.3**
comp=Z,180nm,1.6s
PMAFR Mafra 24.26 131 *e*P **P 23 57 36.1 -0.6**
comp=Z,309nm,1.5s
PMAFR Mafra 24.26 131 *e*P **P 23 57 36.1 -0.6**
comp=Z,309nm,1.5s
PMST Lisbon--Monsan 24.49 131 *e*P **P 23 57 38.2 -0.6**
comp=Z,264nm,1.3s
PMST Lisbon--Monsan 24.49 131 *e*P **P 23 57 38.2 -0.6**
comp=Z,264nm,1.3s
RUP Ruppelstein 24.50 92 *e*P **P 23 57 38.5 -0.5**
LIS Lisbon 24.52 131 *e*P **P 23 57 39.3 +0.2**
LIS AMb AMB 23 57 43.0
comp=Z,306nm,1.5s
LIS Lisbon 24.52 131 *e*P **P 23 57 38.2 -0.9**
comp=Z,454nm,1.7s
LIS Lisbon 24.52 131 *e*P **P 23 57 39.2 +0.2**
LIS pmax pmax
comp=Z,306nm,1.5s
LIS Lisbon 24.52 131 *e*P **P 23 57 38.2 -0.9**
comp=Z,454nm,1.7s
PMRV Marv??o 24.64 128 *e*P **P 23 57 39.6 -0.6**
comp=Z,159nm,1.6s
PMRV *e*LR LR 00 03 33.6
comp=Z,4μm,20.0s
PMRV Marv??o 24.64 128 *e*P **P 23 57 39.6 -0.6**
comp=Z,159nm,1.6s
ABH Alteburg 24.66 92 *e*P **P 23 57 42.5 +2.1**
AGO Saint Agoulin 24.69 103 *e*P **P 23 57 40.0 -0.6**
AGO Saint Agoulin 24.69 103 *e*P **P 23 57 40.0 -0.6**
LARF Larrau 24.72 113 *e*P **P 23 57 40.9 -0.1**
LARF Larrau 24.72 113 *e*P **P 23 57 40.9 -0.1**
LMQ La Malbaie 24.76 262 *e*P **P 23 57 42.3 +1.0**
LMQ La Malbaie 24.76 262 *e*P **P 23 57 42.3 +1.0**
THEF They Montfort 24.80 96 *e*P **P 23 57 42.2 +0.6**
THEF They Montfort 24.80 96 *e*P **P 23 57 42.2 +0.6**
PYM Petit Puy Mans 24.82 104 *e*P **P 23 57 41.9 0.0**
PYM Petit Puy Mans 24.82 104 *e*P **P 23 57 41.9 0.0**
PLDF La Plantade 25.00 103 *e*P **P 23 57 43.5 0.0**
PLDF La Plantade 25.00 103 *e*P **P 23 57 43.5 0.0**
PESTR Estremoz 25.03 129 *e*P **P 23 57 42.6 -1.1**
comp=Z,149nm,1.2s
PESTR Estremoz 25.03 129 *e*P **P 23 57 42.6 -1.1**
comp=Z,149nm,1.2s
EVO Evora 25.14 130 *e*P **P 23 57 42.9 -1.8**
comp=Z,97nm,1.4s
EVO Evora 25.14 130 *e*P **P 23 57 42.9 -1.8**
comp=Z,97nm,1.4s
KTD Kalmit 25.27 92 *e*P **P 23 57 46.3 +0.4**
PNCL Nicolau / Gran 25.29 131 *e*P **P 23 57 45.8 -0.2**
comp=Z,132nm,1.4s
PNCL Nicolau / Gran 25.29 131 *e*P **P 23 57 45.8 -0.2**
comp=Z,132nm,1.4s
LBL Lubilhac 25.30 104 *e*P **P 23 57 45.4 -0.8**
LBL Lubilhac 25.30 104 *e*P **P 23 57 45.4 -0.8**
LANF Langenberg 25.32 93 *e*P **P 23 57 46.7 +0.4**
LANF Langenberg 25.32 93 *e*P **P 23 57 46.7 +0.4**
VIEF Viey 25.34 112 *e*P **P 23 57 47.9 +1.3**
VIEF Viey 25.34 112 *e*P **P 23 57 47.9 +1.3**
COLF Collangettes 25.34 103 *e*P **P 23 57 47.5 +1.0**
COLF Collangettes 25.34 103 *e*P **P 23 57 47.5 +1.0**
KBS Kingsbay 25.42 18 PFAKE 23 58 00.0 +13
KBS LR LR
comp=Z,943nm,21.0s
ECH Echery 25.43 95 *e*P **P 23 57 47.5 +0.2**
ECH Echery 25.43 95 *e*P **P 23 57 47.5 +0.2**
TOD Tromm 25.49 91 *e*P **P 23 57 49.1 +1.3**
RESF Ens 25.55 112 *e*P **P 23 57 49.0 +0.5**
RESF Ens 25.55 112 *e*P **P 23 57 49.0 +0.5**
PBEJ Beja 25.63 130 *e*P **P 23 57 48.6 -0.5**
comp=Z,192nm,1.4s
PBEJ Beja 25.63 130 *e*P **P 23 57 48.6 -0.5**
comp=Z,192nm,1.4s
MOF Molkenrain 25.64 96 *e*P **P 23 57 50.4 +1.1**
MOF Molkenrain 25.64 96 *e*P **P 23 57 50.4 +1.1**
PTEO Sao Teotonio 25.70 132 *e*P **P 23 57 51.1 +1.4**
comp=Z,248nm,1.4s
PTEO Sao Teotonio 25.70 132 *e*P **P 23 57 51.1 +1.4**
comp=Z,248nm,1.4s
MELF Melles 25.71 111 *e*P **P 23 57 53.1 +3.2**
PKME Peaks-Kenny Pk 25.71 257 *e*P **P 23 57 51.8 +2.0**
comp=Z,174nm,1.5s
PKME Peaks-Kenny Pk 25.71 257 *e*P **P 23 57 51.8 +2.0**
comp=Z,174nm,1.5s
PKME LR LR
comp=Z,6μm,21.0s
LOMF Lomont 25.79 97 *e*P **P 23 57 52.6 +2.0**
LOMF Lomont 25.79 97 *e*P **P 23 57 52.6 +2.0**
PBAR Barrancos 25.84 129 *e*P **P 23 57 51.2 +0.1**
comp=Z,188nm,1.4s
PBAR Barrancos 25.84 129 *e*P **P 23 57 51.2 +0.1**
comp=Z,188nm,1.4s
PAB San Pablo 25.87 123 *e*P **P 23 57 51.5 +0.1**
PAB pmax pmax
comp=Z,63nm,1.2s
PAB MLR MLR
comp=Z,4μm,22.0s
PAB San Pablo 25.87 123 *e*P **P 23 57 51.5 +0.1**
comp=Z,63nm,1.2s
PAB San Pablo 25.87 123 *e*P **P 23 57 51.5 +0.1**
comp=Z,63nm,1.2s
PAB LR LR
comp=Z,4μm,22.0s
SPA0 Spitsbergen Ar 25.88 21 *e*P **P 23 57 52.6 +1.4**
SPA0 Spitsbergen Ar 25.88 21 *e*P **P 23 57 52.6 +1.4**
SPITS Spitsbergen Ar 25.88 21 LR LR 00 05 32.6
comp=Z,857nm,18.2s,baz=225,slow=31
PCVE Castro Verde 25.89 131 *e*P **P 23 57 51.9 +0.3**
comp=Z,130nm,1.6s
PCVE Castro Verde 25.89 131 *e*P **P 23 57 51.9 +0.3**
comp=Z,130nm,1.6s
MORF Marmelete 25.93 132 *e*P **P 23 57 52.1 +0.1**
MORF AMb AMB 23 58 02.7
comp=Z,144nm,1.8s
MORF *e*S **S 00 02 23.0 +1.7**
MORF Marmelete 25.93 132 *e*P **P 23 57 52.1 +0.1**
comp=Z,147nm,1.8s
MORF Marmelete 25.93 132 *e*P **P 23 57 52.1 +0.1**
MORF *e*S **S 00 02 23.0 +1.7**
MORF pmax pmax
comp=Z,144nm,1.8s
MORF Marmelete 25.93 132 *e*P **P 23 57 52.1 +0.1**
comp=Z,147nm,1.8s
ESDC Sonseca Array 25.93 122 P **P 23 57 51.4 -0.6**
comp=Z,24nm,1.0s,baz=322,slow=7.1,SNR=40
ESDC LR LR 00 06 10.4
comp=Z,2μm,20.1s,baz=310,slow=32
ESLA Sonseca Array 25.93 122 *e*P **P 23 57 52.2 +0.2**
comp=Z,50nm,1.1s
ESLA Sonseca Array 25.93 122 *e*P **P 23 57 52.1 +0.2**
comp=Z,50nm,1.1s
ES19 SONSECA Array 25.94 122 *e*P **P 23 57 51.4 -0.6**
ES19 SONSECA Array 25.94 122 *e*P **P 23 57 51.4 -0.6**
BFO Black Forest 25.99 94 *e*P **P 23 57 52.5 +0.1**
BFO pmax pmax
comp=Z,19nm,1.0s
BFO MLR MLR
comp=Z,2μm,20.0s
BFO Black Forest 25.99 94 *e*P **P 23 57 52.5 +0.1**
comp=Z,19nm,1.0s
BFO Black Forest 25.99 94 *e*P **P 23 57 52.5 +0.1**
comp=Z,19nm,1.0s
BFO LR LR
comp=Z,2μm,20.0s
PFVI Vila Bisbo 26.01 133 *e*P **P 23 57 53.5 +0.9**
comp=Z,239nm,1.6s
PFVI Vila Bisbo 26.01 133 *e*P **P 23 57 53.3 +0.7**
comp=Z,243nm,1.4s
PFVI Vila Bisbo 26.01 133 *e*P **P 23 57 53.3 +0.7**
comp=Z,243nm,1.4s
STU Stuttgart 26.18 92 *e*P **P 23 57 54.0 -0.1**
STU pmax pmax
comp=Z,25nm,0.8s
STU Stuttgart 26.18 92 *e*P **P 23 57 54.0 -0.1**
comp=Z,25nm,0.8s
STU Stuttgart 26.18 92 *e*P **P 23 57 54.0 -0.1**
comp=Z,25nm,0.8s
PVAQ Vaqueiros 26.22 131 *e*P **P 23 57 57.1 +2.6**
comp=Z,102nm,1.7s
PVAQ *e*LR LR 00 04 23.3
comp=Z,5μm,22.0s
PBDV Barranco-do-Ve 26.27 131 *e*P **P 23 57 55.6 +0.6**
comp=Z,115nm,1.9s
PBDV Barranco-do-Ve 26.27 131 *e*P **P 23 57 55.6 +0.6**
comp=Z,115nm,1.9s
SPAK Spaichingen-Ko 26.37 94 *e*P **P 23 57 57.0 +1.1**
CARF Carcanieres 26.50 110 *e*P **P 23 57 57.4 +0.3**
CARF Carcanieres 26.50 110 *e*P **P 23 57 57.4 +0.3**
LRDF Laroque-de-Fa 26.55 109 *e*P **P 23 57 58.1 +0.6**
LRDF Laroque-de-Fa 26.55 109 *e*P **P 23 57 58.1 +0.6**
GRN Grenoble 26.59 102 *e*P **P 23 57 58.4 +0.5**
GRN Grenoble 26.59 102 *e*P **P 23 57 58.4 +0.5**
SENIN Lac Senin/Sane 26.67 98 *e*P **P 23 58 00.8 +2.0**
comp=Z,35nm,1.2s
SENIN Lac Senin/Sane 26.67 98 *e*P **P 23 58 00.8 +2.0**
comp=Z,35nm,1.2s
VALF Valcebollere 26.68 110 *e*P **P 23 58 00.1 +1.2**
VALF Valcebollere 26.68 110 *e*P **P 23 58 00.1 +1.2**
GRFO Grafenberg 26.73 89 *e*P **P 23 58 00.2 +1.1**
GRFO pmax pmax
comp=Z,86nm,1.4s
GRFO Grafenberg 26.73 89 *e*P **P 23 58 00.2 +1.1**
comp=Z,86nm,1.4s
GRFO Grafenberg 26.73 89 *e*P **P 23 58 00.1 +1.1**
comp=Z,86nm,1.4s
CLL Collm 26.79 84⇓ *i*P **P 23 58 00.3 +0.8**
CLL *i* 23 58 03.1
CLL pmax pmax
comp=Z,67nm,1.4s
CLL MLR MLR
comp=Z,4μm,19.3s
CLL Collm 26.79 84 *e*P **P 23 58 00.6 +1.1**
comp=Z,66nm,1.4s
CLL Collm 26.79 84⇓ *i*P **P 23 58 00.3 +0.8**
comp=Z,67nm,1.4s
CLL *i* pP **pP 23 58 03.1 -1.6**
CLL *e* 23 58 15.0
CLL *e*PP **PnPn 23 58 36.0 -4.9**
CLL *e*S **S 00 02 30.0 -4.5**
CLL *e* 00 02 54.0
CLL *e*SSSS 00 04 06.0
CLL Lm MLR 00 08 00.0
comp=Z,4μm,19.3s
CLL Collm 26.79 84 *e*P **P 23 58 00.6 +1.1**
comp=Z,66nm,1.4s
GDM Grand'Maison 26.81 101 *e*P **P 23 58 00.2 +0.2**
GDM Grand'Maison 26.81 101 *e*P **P 23 58 00.2 +0.2**
FILF Fillols 26.84 110 *e*P **P 23 58 00.0 -0.1**
FILF Fillols 26.84 110 *e*P **P 23 58 00.0 -0.1**
ARA0 ARCESS Array S 27.03 41 *e*P **P 23 58 00.4 -1.2**
ARA0 ARCESS Array S 27.03 41 *e*P **P 23 58 00.4 -1.2**
ARCES ARCESS Array B 27.03 41 P **P 23 58 00.3 -1.2**
comp=Z,10nm,0.8s,baz=264,slow=8.4,SNR=29
ARCES LR LR 00 06 36.5
comp=Z,2μm,19.6s,baz=267,slow=32
ARE0 ARCESS Array S 27.03 41 *e*P **P 23 58 02.6 +1.0**
comp=Z,217nm,1.8s
ARE0 ARCESS Array S 27.03 41 *e*P **P 23 58 02.6 +1.0**
comp=Z,217nm,1.8s
SJAF Saint Jean de 27.06 109 *e*P **P 23 58 03.2 +1.2**
SJAF Saint Jean de 27.06 109 *e*P **P 23 58 03.2 +1.2**
NKC Novy Kostel 27.08 87 *e*P **P 23 58 01.9 -0.3**
NKC *e*pP **sP 23 58 12.1 +2.6**
NKC AMS AMS 00 08 30.0
comp=Z,5μm,17.1s
NKC Novy Kostel 27.08 87 *e*P **P 23 58 01.9 -0.3**
NKC *e* 23 58 12.1
PMOZ Porto Moniz, M 27.19 151 *e*LR LR 00 04 49.7
comp=Z,3μm,18.0s
PMOZ Porto Moniz, M 27.19 151 *e*T T 00 25 33.4
PMPS Porto Santo 27.20 149 *e*T T 00 25 38.7
BNI Bardonecchia 27.21 101 *e*P **P 23 58 04.9 +1.4**
BNI pmax pmax
comp=Z,57nm,1.3s
BNI MLR MLR
comp=Z,6μm,19.0s
BNI Bardonecchia 27.21 101 *e*P **P 23 58 04.9 +1.4**
comp=Z,57nm,1.3s
BNI Bardonecchia 27.21 101 *e*P **P 23 58 04.9 +1.4**
comp=Z,57nm,1.3s
BNI LR LR
comp=Z,6μm,19.0s
PMAR Madeira 27.36 150 *e*T T 00 25 38.8
FUL Funchal 27.43 150 *e*T T 00 25 49.0
DAVA Damuels 27.45 94 *i*P P 23 58 13.3 +7.5
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 27.52 84 *e*P **P 23 58 06.8 +0.7**
comp=Z,184nm,2.4s
comp=N,3μm,14.4s
comp=E,3μm,18.6s
comp=Z,5μm,15.8s
BRG Berggiesshubel 27.52 84 *e*P **P 23 58 06.8 +0.7**
BRG pmax pmax
comp=Z,184nm,2.4s
BRG MLR MLR
comp=N,3μm,14.4s
BRG MLR MLR
comp=E,3μm,18.6s
BRG MLR MLR
comp=Z,5μm,15.8s
TUE Stuetta 27.68 96 *e*P **P 23 58 10.0 +2.1**
comp=Z,36nm,1.1s
TUE Stuetta 27.68 96 *e*P **P 23 58 10.0 +2.1**
comp=Z,36nm,1.1s
TUE LR LR
comp=Z,7μm,20.0s
DAVOX Davos/Dischmat 27.77 95 P **P 23 58 07.3 -1.3**
comp=Z,0.7nm,0.3s,baz=349,slow=17,SNR=2.8
DAVOX LR LR 00 08 34.2
comp=Z,4μm,19.8s,baz=310,slow=35
RETA Reutte 27.80 93 *e*P **P 23 58 11.9 +3.2**
comp=Z,6.2nm,1.1s
TRQ Mont Tremblant 27.85 264 *e*P **P 23 58 09.4 +0.2**
TRQ Mont Tremblant 27.85 264 *e*P **P 23 58 09.4 +0.2**
GKP Gorka Klasztor 28.01 78 *e*P **P 23 58 11.4 +1.0**
GKP Gorka Klasztor 28.01 78 *e*P **P 23 58 11.4 +1.0**
GKP Gorka Klasztor 28.01 78 *e*P **P 23 58 11.4 +1.0**
PVCC Panska Ves 28.04 85 *e*P **P 23 58 11.9 +1.1**
PVCC *ex* x 23 58 26.2
PVCC AMS AMS 00 09 40.0
comp=Z,5μm,16.0s
PVCC Panska Ves 28.04 85 *e*P **P 23 58 11.9 +1.1**
MOTA Moosalm 28.07 93 *e*pP **P 23 58 13.5 +2.3**
comp=Z,4.9nm,1.0s
FETA Feichten 28.07 94 *e*pP **P 23 58 12.6 +1.4**
comp=Z,24nm,1.5s
FETA *e*PcP **PcP 00 01 26.0 +0.7**
comp=Z,2.4nm,0.8s
FUORN Ofenpass-Fuorn 28.08 95 *e*P **P 23 58 14.1 +2.7**
comp=Z,83nm,1.6s
FUORN Ofenpass-Fuorn 28.08 95 *e*P **P 23 58 14.1 +2.7**
comp=Z,83nm,1.6s
VLDQ Val d'Or 28.21 269 *e*P **P 23 58 13.2 +0.9**
comp=Z,109nm,1.8s
VLDQ Val d'Or 28.21 269 *e*P **P 23 58 13.2 +0.9**
comp=Z,109nm,1.8s
RES Resolute Bay 28.22 330 LR LR 00 08 50.4
comp=Z,1μm,18.1s,baz=98,slow=35
PRA Prague 28.23 86 *e*P **P 23 58 13.6 +1.2**
PRA AMS AMS 00 09 40.0
comp=Z,5μm,16.0s
PRA Prague 28.23 86 *e*P **P 23 58 13.6 +1.2**
MVIF Mont Vial 28.25 102 *e*P **P 23 58 13.2 +0.4**
MVIF Mont Vial 28.25 102 *e*P **P 23 58 13.2 +0.4**
KHC Kasperske Hory 28.31 88 *e*P **P 23 58 15.0 +1.8**
KHC *ex* x 23 58 57.2
KHC AMS AMS 00 09 00.0
comp=Z,4μm,16.0s
KHC Kasperske Hory 28.31 88 *e*P **P 23 58 15.0 +1.8**
KHC Kasperske Hory 28.31 88 *e*P **P 23 58 14.5 +1.3**
comp=Z,16nm,1.5s
KHC Kasperske Hory 28.31 88 *e*P **P 23 58 14.5 +1.3**
comp=Z,16nm,1.5s
PRU Pruhonice 28.33 86 *e*P **P 23 58 13.5 +0.1**
PRU AMS AMS 00 09 30.0
comp=Z,5μm,17.2s
PRU Pruhonice 28.33 86 *e*P **P 23 58 13.5 +0.1**
LUCF Luceram 28.35 102 *e*P **P 23 58 13.5 -0.2**
LUCF Luceram 28.35 102 *e*P **P 23 58 13.5 -0.2**
WTTA Wattenberg 28.40 93 *i*pP **P 23 58 16.2 +2.0**
comp=Z,18nm,1.7s
REVF Revere 28.46 102 *e*P **P 23 58 14.8 +0.1**
REVF Revere 28.46 102 *e*P **P 23 58 14.8 +0.1**
GOPC GO Pecny, Ondr 28.50 86 *e*P **P 23 58 16.1 +1.2**
GOPC *ex* x 23 59 02.6
GOPC AMS AMS 00 09 40.0
comp=Z,5μm,16.0s
GOPC GO Pecny, Ondr 28.50 86 *e*P **P 23 58 16.1 +1.2**
GOPC *e* 23 59 02.6
GEC2 GERESS Array S 28.55 88 *e*P **P 23 58 17.3 +1.9**
GEC2 pmax pmax
comp=Z,45nm,1.7s
GEC2 GERESS Array S 28.55 88 *e*P **P 23 58 17.3 +1.9**
comp=Z,45nm,1.7s
GEC2 GERESS Array S 28.55 88 *e*P **P 23 58 17.3 +1.9**
comp=Z,45nm,1.7s
GERES GERESS Array B 28.55 88 P **P 23 58 14.9 -0.4**
comp=Z,1.4nm,0.8s,baz=298,slow=8.5,SNR=9.8
GERES LR LR 00 09 22.7
comp=Z,3μm,18.6s,baz=298,slow=36
GERES GERESS Array B 28.55 88 P **P 23 58 15.0 -0.4**
GEA0 GERESS Array S 28.55 88 *e*P **P 23 58 16.1 +0.7**
GEA0 *es*P **pP 23 58 19.1 -1.5**
GEA0 GERESS Array S 28.55 88 *e*P **P 23 58 16.1 +0.7**
GEA0 *es*P **pP 23 58 19.1 -1.5**
KSP Ksiaz 28.79 83 *e*P **P 23 58 18.1 +0.7**
KSP Ksiaz 28.79 83 *e*P **P 23 58 18.1 +0.7**
KSP Ksiaz 28.79 83 *e*P **P 23 58 18.1 +0.7**
UPC Upice 28.82 84 *e*P **P 23 58 18.3 +0.6**
UPC AMS AMS 00 10 10.0
comp=Z,4μm,15.5s
UPC Upice 28.82 84 *e*P **P 23 58 18.3 +0.6**
KLNR Kaliningrad 28.90 74⇑ *e*P **P 23 58 19.9 +1.6**
KLNR pmax pmax
comp=Z,138nm,1.1s
LONY Lake Ozonia 28.92 261 PFAKE 23 58 30.0 +11
LONY LR LR
comp=Z,6μm,19.0s
FIA1 FINESS Array S 28.96 58 *e*P **P 23 58 23.1 +4.2**
FINES FINESS Array B 28.96 58 P **P 23 58 18.1 -0.8**
comp=Z,3.5nm,0.7s,baz=285,slow=7.3,SNR=8.8
FINES LR LR 00 09 15.8
comp=Z,2μm,19.1s,baz=285,slow=35
DPC Dobruska-Polom 29.07 84 *e*P **P 23 58 20.7 +0.7**
DPC AMS AMS 00 10 30.0
comp=Z,4μm,16.0s
DPC Dobruska-Polom 29.07 84 *e*P **P 23 58 20.7 +0.7**
ABTA Abfaltersbach 29.19 93 pP **P 23 58 23.6 +2.5**
comp=Z,14nm,1.5s
ABTA *e*PcP **PcP 00 01 28.1 +0.1**
comp=Z,1.5nm,0.6s
TREC Trest 29.23 86 *e*P **P 23 58 22.2 +0.8**
TREC *ex* x 23 59 06.7
TREC AMS AMS 00 10 00.0
comp=Z,5μm,16.2s
TREC Trest 29.23 86 *e*P **P 23 58 22.2 +0.8**
KBA Koelnbreinsper 29.43 91 *i*pP **P 23 58 25.9 +2.6**
comp=Z,34nm,1.9s,SNR=10
MOA Molln 29.44 89 *i*P P 23 58 28.2 +4.9
comp=Z,13nm,1.5s
KRLC Kraliky 29.47 84 *e*P **P 23 58 25.4 +1.8**
KRLC Kraliky 29.47 84 *e*P **P 23 58 25.4 +1.8**
RTC Rabat Centre 29.54 133 PFAKE 23 58 40.0 +16
RTC LR LR
comp=Z,5μm,19.0s
VLC Villacollemand 29.76 99 *e*P **P 23 58 25.3 -0.8**
comp=Z,19nm,1.2s
VLC Villacollemand 29.76 99 *e*P **P 23 58 25.3 -0.8**
comp=Z,19nm,1.2s
VLC LR LR
comp=Z,4μm,20.0s
VRAC Vranov 29.82 85 P **P 23 58 27.3 +0.8**
comp=Z,8.9nm,1.1s,baz=310,slow=9.6,SNR=13
VRAC LR LR 00 10 26.3
comp=Z,4μm,18.4s,baz=302,slow=36
MYKA Terra Mystica 29.87 92 pP **P 23 58 29.1 +2.0**
comp=Z,32nm,1.5s
PLVO Plevna 29.96 264 *e*P **P 23 58 29.1 +1.3**
comp=Z,49nm,1.5s
PLVO Plevna 29.96 264 *e*P **P 23 58 29.1 +1.3**
comp=Z,49nm,1.5s
MORC Moravsky Berou 30.05 84⇓ *i*P **P 23 58 28.3 -0.3**
MORC Moravsky Berou 30.05 84⇓ P **P 23 58 28.3 -0.3**
MORC Moravsky Berou 30.05 84 *e*P **P 23 58 29.3 +0.7**
comp=Z,268nm,1.7s
MORC Moravsky Berou 30.05 84 *e*P **P 23 58 29.3 +0.7**
comp=Z,268nm,1.7s
CONA Conrad Observa 30.25 88 *i*pP **P 23 58 31.2 +0.7**
SNR=7.5
OKC Ostrava-Krasne 30.33 83 *e*P **P 23 58 31.4 +0.3**
OKC AMS AMS 00 11 30.0
comp=Z,5μm,15.7s
OKC Ostrava-Krasne 30.33 83 *e*P **P 23 58 31.4 +0.3**
VSU Vasula 30.41 63⇑ *e*P **P 23 58 30.5 -1.1**
VSU pmax pmax
comp=Z,49nm,1.0s
OBKA Obir 30.43 91 *i*P **P 23 58 32.5 +0.4**
comp=Z,12nm,1.4s,SNR=8.1
ARSA Arzberg 30.48 89 *i*pP **P 23 58 33.9 +1.4**
comp=Z,19nm,1.8s,SNR=12
TRI Trieste 30.52 93 *e*P **P 23 58 33.7 +0.9**
TRI pmax pmax
comp=Z,15nm,1.0s
TRI Trieste 30.52 93 *e*P **P 23 58 33.7 +0.9**
comp=Z,14nm,1.0s
TRI Trieste 30.52 93 *e*P **P 23 58 33.7 +0.9**
comp=Z,14nm,1.0s
SOKA Soboth 30.58 91 *i*P **P 23 58 33.9 +0.4**
comp=Z,28nm,1.5s,SNR=16
LVZ Lovozero 30.59 43⇑ *e*P **P 23 58 33.0 -0.2**
LVZ pmax pmax
comp=Z,22nm,1.2s
LVZ Lovozero 30.59 43 PFAKE 23 58 50.0 +17
LVZ LR LR
comp=Z,2μm,21.0s
BEL Belsk 30.61 78 *e*P **P 23 58 34.6 +1.1**
BEL Belsk 30.61 78 *e*P **P 23 58 34.6 +1.1**
BEL Belsk 30.61 78 *e*P **P 23 58 34.6 +1.1**
PERS Pernice 30.65 91 *e*P **P 23 58 33.4 -0.6**
SUW Suwalki 30.71 73 *e*P **P 23 58 33.2 -1.1**
SUW Suwalki 30.71 73 *e*P **P 23 58 33.2 -1.1**
SUW Suwalki 30.71 73 *e*P **P 23 58 33.2 -1.1**
OJC Ojcow 30.99 81 *e*P **P 23 58 37.2 +0.3**
OJC Ojcow 30.99 81 *e*P **P 23 58 37.2 +0.3**
OJC Ojcow 30.99 81 *e*P **P 23 58 36.4 -0.5**
comp=Z,76nm,1.4s
OJC Ojcow 30.99 81 *e*P **P 23 58 36.4 -0.5**
comp=Z,76nm,1.4s
CIA Chichaoua 30.99 138 *i*P **P 23 58 37.0 -0.1**
KIB El Ksiba 31.10 133 *i*P **P 23 58 38.0 -0.1**
SADO Sadowa 31.23 266 LR LR 00 09 53.1
comp=Z,6μm,19.5s,baz=54,slow=34
SADO Sadowa 31.23 266 *e*P **P 23 58 40.1 +1.0**
comp=Z,121nm,1.6s
SADO Sadowa 31.23 266 *e*P **P 23 58 40.1 +1.0**
comp=Z,121nm,1.6s
TZC Tazercounte 31.31 134 *i*P **P 23 58 41.0 +0.9**
BINY Binghamton 31.33 259 PFAKE 23 58 50.0 +10
BINY LR LR
comp=Z,5μm,19.0s

KOGS Kog 31.38 90 eP P 23 58 39.1 -1.2
IZAR Zarasai 31.39 68 eP P 23 58 39.6 -0.7
IZAR IAmb IAmb 23 58 46.0
comp=Z,37nm,1.2s
ISAL Salakas 31.42 69 eP P 23 58 39.9 -0.7
ISAL IAmb IAmb 23 58 46.2
comp=Z,34nm,1.3s
LANS Liptovska Anna 31.43 83 eP P 23 58 42.2 +1.3
LANS Liptovska Anna 31.43 83 eP P 23 58 42.2 +1.3
LANS Liptovska Anna 31.43 83 eP P 23 58 42.2 +1.3
BOJS Bojanci 31.45 92 i P P 23 58 39.9 -1.1
MDT Midelt 31.46 131 LR LR 00 10 08.9
comp=Z,2µm,19.5s,baz=337,slow=34
VYHS Vyhne 31.49 85 eP P 23 58 41.0 -0.3
VYHS pmax pmax
comp=Z,533nm,4.8s
VYHS Vyhne 31.49 85 eP P 23 58 41.0 -0.3
comp=Z,533nm,4.8s
VYHS Vyhne 31.49 85 eP P 23 58 41.0 -0.3
IIGN Ignalina 31.58 69 eP P 23 58 41.0 -1.0
IIGN IAmb IAmb 23 58 47.4
comp=Z,48nm,1.2s
OUK Oukaimeden 31.63 137 i P P 23 58 42.0 -1.1
BEHE Becsehely 31.64 89 eP P 23 58 44.0 +1.3
BEHE Becsehely 31.64 89 eP P 23 58 44.0 +1.3
BEHE Becsehely 31.64 89 eP P 23 58 44.0 +1.3
NIE Niedzica 31.72 82 eP P 23 58 44.2 +0.9
NIE Niedzica 31.72 82 eP P 23 58 44.2 +0.9
NIE Niedzica 31.72 82 eP P 23 58 44.2 +0.9
IDID Didziasalis 31.85 69 eP P 23 58 43.6 -0.8
IDID IAmb IAmb 23 58 49.8
comp=Z,29nm,1.2s
CSKK Cs‡kako 31.88 87 eP P 23 58 45.6 +0.9
CSKK Cs‡kako 31.88 87 eP P 23 58 45.6 +0.9
CSKK Cs‡kako 31.88 87 eP P 23 58 45.6 +0.9
MMNY Mt. Morris Dam 31.97 262 eP P 23 58 47.1 +1.5
MMNY Mt. Morris Dam 31.97 262 eP P 23 58 47.1 +1.5
NACGM Naroch 32.08 69 e P 23 58 46.0 -0.4
NACGM eLR LR 00 08 22.0
N59A State Game Lan 32.14 257 P **P 23 58 48.4 +1.3**
baz=43
BUD Budapest 32.21 86 eP P 23 58 49.2 +1.6
BUD Budapest 32.21 86 eP P 23 58 49.2 +1.6
BUD Budapest 32.21 86 eP P 23 58 49.2 +1.6
STHS Stebnicka Huta 32.22 82 eP P 23 58 47.3 -0.4
STHS pmax pmax
comp=Z,20nm,1.3s
STHS Stebnicka Huta 32.22 82 eP P 23 58 47.3 -0.4
comp=Z,20nm,1.3s
STHS Stebnicka Huta 32.22 82 eP P 23 58 47.3 -0.4
YBT Youssef Ben Ta 32.30 140 i P P 23 58 47.0 -1.5
BUF Buffalo 32.33 263 eP P 23 58 48.8 +0.1
BUF Buffalo 32.33 263 eP P 23 58 48.8 +0.1
KECS Kecovo 32.37 83 eP P 23 58 48.8 -0.3
KECS pmax pmax
comp=Z,7.0nm,1.5s
KECS Kecovo 32.37 83 eP P 23 58 48.8 -0.3
comp=Z,6.9nm,1.5s
KECS Kecovo 32.37 83 eP P 23 58 48.8 -0.3
PSZ Piszkesteto 32.40 85⇑iP P 23 58 50.4 +1.0
PSZ Piszkesteto 32.40 85 ⇑P P 23 58 50.4 +1.0
PSZ Piszkesteto 32.40 85 eP P 23 58 50.3 +0.9
comp=Z,57nm,1.5s
PSZ Piszkesteto 32.40 85 eP P 23 58 50.8 +1.4
PSZ Piszkesteto 32.40 85 eP P 23 58 50.8 +1.4
PSZ Piszkesteto 32.40 85 eP P 23 58 50.8 +1.4
PSZ Piszkesteto 32.40 85 eP P 23 58 50.3 +0.9
comp=Z,57nm,1.5s
PSZ LR LR
comp=Z,4µm,19.0s
VSL Villasalto 32.57 106 eP P 23 58 51.7 +0.8
comp=Z,21nm,1.3s
VSL Villasalto 32.57 106 eP P 23 58 51.7 +0.8
comp=Z,21nm,1.3s
VSL LR LR
comp=Z,4µm,21.0s
AQU L'Aquila 32.60 98 eP P 23 58 51.3 +0.1
AQU pmax pmax
comp=Z,16nm,1.1s
AQU MLR MLR
comp=Z,2µm,19.0s
AQU L'Aquila 32.60 98 eP P 23 58 51.3 +0.1
comp=Z,16nm,1.1s
AQU L'Aquila 32.60 98 eP P 23 58 51.3 +0.1
comp=Z,16nm,1.1s
AQU LR LR
comp=Z,2µm,19.0s
CRVS Cervenica-Dubn 32.64 82 eP P 23 58 52.4 +1.0
CRVS Cervenica-Dubn 32.64 82 eP P 23 58 52.4 +1.0
CRVS Cervenica-Dubn 32.64 82 eP P 23 58 52.3 +0.9
MICGM Minsk 32.83 69⇓eP P 23 58 52.0 -1.0
MICGM PM 23 58 54.0
comp=Z,0.2nm,1.0s
MICGM eLR LR 00 08 20.0
MICGM LRM MLR 00 10 56.0
comp=Z,4.6nm,20.0s
MNK Minsk 32.83 69⇓eP P 23 58 52.0 -1.0
MNK pmax pmax
comp=Z,170nm,1.0s
MNK MLR MLR
comp=Z,5µm,20.0s
KWP Kalwaria Pacla 32.86 80 eP P 23 58 54.2 +0.9
KWP Kalwaria Pacla 32.86 80 eP P 23 58 54.2 +0.9
KWP Kalwaria Pacla 32.86 80 eP P 23 58 54.2 +0.9
TMCR Tamitsa 33.11 49 eP P 23 58 53.6 -1.7
TMCR pmax pmax
comp=Z,89nm,1.4s
UZH Uzhgorod 33.24 82 eP P 23 58 57.2 +0.6
UZH eS S 00 04 12.6 -3.0
UZH eSS SnSn 00 06 16.2 +0.6
UZH MLR MLR
comp=Z,900nm,13.0s
E45A Wooded Hills, 33.42 273 P **P 23 58 59.8 +1.5**
baz=50
LVV L'vov 33.45 79 eP P 23 59 01.0 +2.6
LVV eS S 00 04 19.0 +0.2
LVV MLR MLR
comp=Z,1µm,15.0s
E44A Grand Marais A 33.65 274 P **P 23 59 01.3 +1.1**
baz=51
TRPA Tarpa 33.67 82 eP P 23 59 01.7 +1.3
M54A Oil Creek Stat 33.76 262 P **P 23 59 02.1 +0.9**
baz=45
O56A Blue Knob Stat 34.07 259 P **P 23 59 04.9 +0.9**
baz=43,SNR=5.4
FGSL Fruska Gora 34.11 89 eP P 23 59 03.1 -1.2
GLMI Grayling 34.12 270 eP P 23 59 06.1 +1.8
comp=Z,88nm,0.8s
GLMI Grayling 34.12 270 eP P 23 59 06.1 +1.8
comp=Z,88nm,0.8s
N54A Moraine State 34.32 261 P **P 23 59 06.7 +0.6**
baz=44
F44A Big Bay de Noc 34.33 274 P **P 23 59 06.6 +0.4**
baz=50
SIRR Siria 34.38 86⇑iP P 23 59 07.8 +1.2
E43A Lone Tree Farm 34.38 275 P **P 23 59 07.6 +1.0**
baz=50
BMR Baia Mare 34.46 82⇓iP P 23 59 09.1 +1.8
BMR Baia Mare 34.46 82 ⇓P P 23 59 09.1 +1.8
DRGR 34.60 84⇑iP P 23 59 08.9 +0.3
DRGR 34.60 84 ⇑P P 23 59 08.9 +0.3
BBLS Lazići 34.76 91⇑iP P 23 59 11.0 +1.1
BZS Buzias 34.77 87⇓iP P 23 59 10.3 +0.3
BZS Buzias 34.77 87 ⇓P P 23 59 10.3 +0.3
D41A Chassel 34.78 277 P **P 23 59 10.8 +0.8**
baz=51
F43A Flat Rock, Esc 34.82 274 P **P 23 59 10.9 +0.6**
baz=50,SNR=6.7
E42A Champion 34.83 275 P **P 23 59 11.3 +0.8**
baz=50
DIVS Divibare 34.91 90⇑iP P 23 59 11.7 +0.4
CBN Corbin Frederi 34.98 255 PFAKE 23 59 20.0 +8.2
CBN LR LR
comp=Z,3µm,19.0s
TRUS Trudelj 35.05 89⇑iP P 23 59 12.5 +0.1
C39A Grand Marais 35.13 279 P **P 23 59 13.4 +0.4**
baz=52
KLMR Klimovskoe 35.16 54 eP P 23 59 10.2 -2.9
KLMR e 00 01 41.3
KLMR eS S 00 04 44.9 -0.1
KLMR pmax pmax
comp=Z,253nm,1.4s
ARCR ARCALIA 35.29 83⇑iP P 23 59 14.7 +0.3
AAM Ann Arbor 35.32 266 PFAKE 23 59 30.0 +15
AAM LR LR
comp=Z,764nm,19.0s
IVAS Ivanjica 35.35 91 eP P 23 59 15.7 +0.7
E41A Kenton 35.37 276 P **P 23 59 15.1 0.0**
baz=50,SNR=7.9
MDVR Moldovita 35.38 88⇑iP P 23 59 14.5 -0.7
F42A Maple Grove Fa 35.38 275 P **P 23 59 16.1 +0.8**
baz=49
BUR08 Bucovina Ar. S 35.38 81 eP P 23 59 16.2 +0.9
BUR08 Bucovina Ar. S 35.38 81 eP P 23 59 16.2 +0.9
BURAR Bucovina Array 35.41 81⇑iP P 23 59 15.8 +0.2
BURAR Bucovina Array 35.41 81 ⇑P P 23 59 15.8 +0.2
GRUS Gruza 35.44 90⇑iP P 23 59 15.3 -0.4
KEST Kesra 35.45 110 P **P 23 59 16.6 +0.6**
comp=Z,60nm,1.3s,baz=244,slow=5.0,SNR=22
KEST LR LR 00 12 03.9
comp=Z,3µm,21.6s,baz=272,slow=33
KEST Kesra 35.45 110 eP P 23 59 16.2 +0.2
comp=Z,256nm,1.8s
KEST Kesra 35.45 110 eP P 23 59 16.2 +0.2
comp=Z,256nm,1.8s
G43A Wallace 35.47 274 P **P 23 59 16.2 +0.2**
baz=49
CUC Castrocucco 35.56 99 PFAKE 23 59 30.0 +13
CUC LR LR
comp=Z,3µm,21.0s
KUBS Kucevo 35.60 88 eP P 23 59 16.0 -1.1
AK11 Malin Array Si 35.61 74 eP P 23 59 15.9 -1.2
AK11 Malin Array Si 35.61 74 eP P 23 59 15.9 -1.2
KIEV Kiev 35.62 74 ceP P 23 59 16.5 -0.7
KIEV pmax pmax
comp=Z,98nm,1.2s
KIEV Kiev 35.62 74 eP P 23 59 16.0 -1.2
comp=Z,147nm,1.3s
KIEV Kiev 35.62 74 eP P 23 59 16.0 -1.2
comp=Z,147nm,1.3s
KIEV LR LR
comp=Z,2µm,20.0s
AKASG Malin Array Be 35.62 74 P **P 23 59 16.4 -0.8**
comp=Z,29nm,0.9s,baz=306,slow=8.2,SNR=48
AKASG LR LR 00 13 25.3
comp=Z,2µm,19.9s,baz=305,slow=36
AKASG Malin Array Be 35.62 74 ceP P 23 59 16.0 -1.2
AKASG pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 35.62 74 eP P 23 59 16.0 -1.2
AKBB pmax pmax
comp=Z,124nm,1.2s
AKBB Malin Array Si 35.62 74 eP P 23 59 16.0 -1.2
comp=Z,124nm,1.2s
AKBB Malin Array Si 35.62 74 eP P 23 59 16.0 -1.2
comp=Z,124nm,1.2s
PDG Podgorica 35.66 93⇓iP P 23 59 18.0 +0.4
COWI Conover 35.69 276 eP P 23 59 18.8 +0.9
comp=Z,85nm,1.4s
COWI Conover 35.69 276 eP P 23 59 18.8 +0.9
comp=Z,85nm,1.4s
COWI LR LR
comp=Z,3µm,19.0s
EYMN Ely 35.77 280 P **P 23 59 19.0 +0.5**
baz=51,SNR=8.9
EYMN Ely 35.77 280 eP P 23 59 19.4 +0.9
comp=Z,104nm,1.3s
EYMN Ely 35.77 280 eP P 23 59 19.4 +0.9
comp=Z,104nm,1.3s
EYMN LR LR
comp=Z,5µm,20.0s
C38A Sawbill Land. 35.79 280 P **P 23 59 19.2 +0.5**
baz=51
E40A Wakefield 35.88 277 P **P 23 59 19.8 +0.3**
baz=50,SNR=8.1
G42A Mountain 35.88 274 P **P 23 59 19.7 +0.3**
baz=49,SNR=5.9
F41A Three Lakes 35.91 275 P **P 23 59 20.3 +0.5**
baz=49
CLTB Caltabellotta 35.99 104 eP P 23 59 21.0 +0.4
comp=Z,146nm,1.7s
CLTB Caltabellotta 35.99 104 eP P 23 59 21.0 +0.4
comp=Z,146nm,1.7s
CLTB LR LR
comp=Z,3µm,19.0s
BOVS Bovan 36.14 89 eP P 23 59 21.2 -0.5
C37A Embarrass 36.27 280 P **P 23 59 23.2 +0.4**
baz=51,SNR=7.1
E39A Mellen 36.27 277 P **P 23 59 23.4 +0.6**
baz=50
ZAGS Zajecar 36.30 88 i P P 23 59 21.5 -1.6
F40A Park Falls 36.33 276 P **P 23 59 24.0 +0.6**
baz=49
H42A Shiocton 36.42 273 P **P 23 59 24.7 +0.7**
baz=48
ACSO Alum Creek Sta 36.42 263 eP P 23 59 25.3 +1.1
comp=Z,124nm,1.5s
ACSO Alum Creek Sta 36.42 263 eP P 23 59 25.3 +1.1
comp=Z,124nm,1.5s
ACSO LR LR
comp=Z,3µm,19.0s
ARR Arges 36.54 85⇓iP P 23 59 25.6 +0.3
DOPR Dopca 36.55 83⇑iP P 23 59 25.5 +0.2
C36A Pine Crest Far 36.59 281 P **P 23 59 26.1 +0.5**
baz=51,SNR=6.1
ULM Lac du Bonnet 36.63 286 P **P 23 59 25.1 -0.8**
comp=Z,14nm,0.7s,baz=74,slow=8.2,SNR=6.6
ULM LR LR 00 13 15.5
comp=Z,4µm,18.3s,baz=62,slow=34
ULM Lac du Bonnet 36.63 286 eP P 23 59 25.9 0.0
ULM Lac du Bonnet 36.63 286 eP P 23 59 25.9 0.0
ULM Lac du Bonnet 36.63 286 eP P 23 59 25.9 0.0
E38A The Farm, Brul 36.65 278 P **P 23 59 26.6 +0.6**
baz=50
B35A Bob, Littlefor 36.68 282 P **P 23 59 26.9 +0.6**
baz=52,SNR=13
VAE Valguarnera 36.69 103 LR LR 00 12 32.4
comp=Z,2µm,21.9s,baz=325,slow=33
VOIR 36.72 84⇑iP P 23 59 25.3 -1.5
VOIR 36.72 84 ⇑P P 23 59 25.3 -1.5
SORM Soroca 36.73 78⇑iP P 23 59 25.5 -1.1
SORM Soroca 36.73 78 ⇑P P 23 59 25.6 -1.1
TIR Tirane 36.74 94 PFAKE 23 59 40.0 +13
TIR LR LR
comp=Z,3µm,20.0s
D37A Cotton 36.75 280 P **P 23 59 27.6 +0.6**
baz=50,SNR=5.3
BARS Barje 36.76 90⇑iP P 23 59 26.4 -0.6
F39A Loretta 36.76 277 P **P 23 59 27.3 +0.3**
baz=49,SNR=7.9
OBN Obninsk 36.76 64 P **P 23 59 26.5 -0.4**
comp=Z,26nm,1.0s,baz=300,slow=11,SNR=8.4
OBN LR LR 00 15 04.6
comp=Z,671nm,19.9s,baz=348,slow=37
OBN Obninsk 36.76 64 eP P 23 59 25.6 -1.2
OBN e 00 00 48.9
OBN e 00 01 47.4
OBN pmax pmax
comp=Z,29nm,1.3s
OBN Obninsk 36.76 64 eP P 23 59 26.1 -0.8
comp=Z,169nm,1.5s
OBN Obninsk 36.76 64 eP P 23 59 26.1 -0.8
comp=Z,169nm,1.5s
G40A Rib Lake 36.80 276 P **P 23 59 28.0 +0.6**
baz=49
TESR Tescani 36.87 82⇓iP P 23 59 27.8 -0.1
CEL Celeste 36.88 101 PFAKE 23 59 40.0 +12
CEL LR LR
comp=Z,3µm,20.0s
MOS Moscow 36.92 62 eP P 23 59 27.6 -0.6
MOS e 00 00 56.7
MOS pmax pmax
comp=Z,69nm,1.4s
MOS MLR MLR
comp=Z,1µm,16.0s
H41A Junction City 36.94 274 P **P 23 59 29.2 +0.6**
baz=48,SNR=7.4
FFC Flin Flon 37.07 296 eP P 23 59 30.5 +0.9
FFC pmax pmax
comp=Z,113nm,1.8s
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 37.07 296 eP P 23 59 30.5 +0.9
comp=Z,113nm,1.8s
FFC Flin Flon 37.07 296 eP P 23 59 30.5 +0.9
comp=Z,113nm,1.8s
FFC LR LR
comp=Z,3µm,21.0s
B34A Aery, Baudette 37.08 283 P **P 23 59 30.5 +0.8**
baz=51,SNR=16
E37A Wrenshall 37.12 279 P **P 23 59 30.7 +0.7**
baz=50
D36A Goodland 37.13 280 P **P 23 59 31.1 +0.9**
baz=50,SNR=6.8
SKO Skopje 37.14 91 i P P 23 59 30.2 -0.1
SKO Skopje 37.14 91 i P P 23 59 30.2 -0.1
MLR Muntele Rosu 37.16 83 P **P 23 59 30.2 -0.4**
comp=Z,2.7nm,1.2s,baz=352,slow=4.8,SNR=7.6
MLR LR LR 00 15 59.5
comp=Z,851nm,18.1s,baz=312,slow=38
MLR Muntele Rosu 37.16 83⇓iP P 23 59 30.0 -0.6
MLR Muntele Rosu 37.16 83 ⇓P P 23 59 30.0 -0.6
MLR Muntele Rosu 37.16 83 P **P 23 59 30.2 -0.4**
comp=Z,97nm,2.0s
MLR Muntele Rosu 37.16 83 P **P 23 59 30.2 -0.4**
comp=Z,97nm,2.0s
A33A Warroad 37.19 284 P **P 23 59 30.9 +0.3**
baz=52,SNR=10
C35A Jirik Farms, M 37.22 281 P **P 23 59 31.9 +1.0**
baz=51,SNR=6.3
F38A Pierce - Schro 37.24 278 P **P 23 59 32.1 +1.0**
baz=49,SNR=16
PLOR Plostina 37.30 82⇓iP P 23 59 31.3 -0.3
PLOR Plostina 37.30 82 ⇓P P 23 59 31.3 -0.3
G39A Holcombe 37.30 276 P **P 23 59 32.0 +0.3**
baz=49
BLA Blacksburg 37.31 257 PFAKE 23 59 40.0 +8.2
BLA LR LR
comp=Z,4µm,20.0s
VRI Vrincioaia 37.33 82⇑iP P 23 59 31.1 -0.8
VRI Vrincioaia 37.33 82 ⇑P P 23 59 31.1 -0.8
H40A Chili 37.33 275 P **P 23 59 32.7 +0.9**
baz=48,SNR=8.2
OHR Ohrid 37.40 93 i P P 23 59 34.0 +1.3
OHR Ohrid 37.40 93 i P P 23 59 33.9 +1.3
I41A Arkdale 37.43 274 P **P 23 59 33.7 +0.9**
baz=48,SNR=8.6
KRUS Krusevo 37.46 92 i P P 23 59 29.5 -3.6
CNNC Cliffs of the 37.52 253 PFAKE 23 59 50.0 +16
CNNC LR LR
comp=Z,3µm,19.0s
E36A McGregor 37.60 279 P **P 23 59 34.6 +0.4**
baz=50,SNR=13
VTS Vitosha 37.66 89⇓iP P 23 59 34.0 -0.8
VTS Vitosha 37.66 89 ⇓P P 23 59 34.0 -0.8
VTS Vitosha 37.66 89 eP P 23 59 34.0 -0.8
comp=Z,20nm,1.2s
VTS Vitosha 37.66 89 eP P 23 59 34.0 -0.8
comp=Z,20nm,1.2s
D35A Remer 37.66 281 P **P 23 59 35.0 +0.4**
baz=50
KIS Kishinev 37.70 79 eP P 23 59 34.0 -0.9
KIS Kishinev 37.70 79 ePP PP 00 00 57.0 -3.8
KIS Kishinev 37.70 79 eP P 23 59 34.0 -0.9
KIS e 00 00 57.0
KIS ePPP PPP 00 01 20.0
KIS e 00 05 30.0
KIS MLR MLR
comp=Z,2µm,16.0s
KIS MLR MLR
comp=N,1µm,17.0s
KIS MLR MLR
comp=E,1µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 37.70 79 eP P 23 59 34.0 -0.9
LEOM Leova 37.73 80⇓iP P 23 59 34.1 -1.1
LEOM Leova 37.73 80 ⇓P P 23 59 34.1 -1.1
C34A RKJ Ranch, Bem 37.74 282 P **P 23 59 36.2 +0.8**
baz=50
G38A Ridgeland 37.74 277 P **P 23 59 36.2 +0.8**
baz=48,SNR=6.2
H39A Augusta 37.77 276 P **P 23 59 36.0 +0.4**
baz=48,SNR=6.9
A32A Rocking H Ranc 37.77 285 P **P 23 59 35.8 +0.3**
baz=52
F37A Hinrichs Farm, 37.79 278 P **P 23 59 36.3 +0.6**
baz=49
AGMN Agassiz Nation 37.83 284 P **P 23 59 36.6 +0.5**
baz=51,SNR=8.1
AGMN Agassiz Nation 37.83 284 eP P 23 59 36.8 +0.7
comp=Z,76nm,1.5s
AGMN Agassiz Nation 37.83 284 eP P 23 59 36.8 +0.7
comp=Z,76nm,1.5s
AGMN LR LR
comp=Z,4µm,22.0s
I40A Norwalk 37.94 274 P **P 23 59 38.1 +1.0**
baz=47
FNA Florina 37.95 93 P **P 23 59 36.0 -1.2**
FNA Florina 37.95 93 P **P 23 59 36.0 -1.2**
J41A Loganville 37.98 273 P **P 23 59 38.2 +0.9**
baz=47,SNR=10
WDD Wied Dalam 38.00 105 PFAKE 23 59 50.0 +12
WDD LR LR
comp=Z,3µm,20.0s
L43A Garden Prairie 38.11 271 P **P 23 59 39.0 +0.5**
baz=46,SNR=19
B32A Ashes, Strandq 38.12 284 P **P 23 59 39.5 +1.0**
baz=51
C33A Trail 38.12 283 P **P 23 59 39.1 +0.6**
baz=50
F36A Milaca 38.17 279 P **P 23 59 39.9 +1.0**
baz=49,SNR=10
E35A Pequot Lakes 38.18 280 P **P 23 59 39.8 +0.8**
baz=50
VAY Valandovo 38.20 91 i P P 23 59 30.3 -9.0
SPMN Marine on St. 38.21 277 P **P 23 59 40.5 +1.2**
baz=48,SNR=6.0
SPMN Marine on St. 38.21 277 eP P 23 59 39.5 +0.2
comp=Z,76nm,1.4s
SPMN Marine on St. 38.21 277 eP P 23 59 39.5 +0.2
comp=Z,76nm,1.4s
PENT Pentalofos 38.24 94 P **P 23 59 40.0 +0.3**
PENT Pentalofos 38.24 94 P **P 23 59 40.0 +0.3**
D34A Park Rapids 38.25 282 P **P 23 59 40.4 +0.8**
baz=50
H38A Maiden Rock 38.30 276 P **P 23 59 40.7 +0.7**
baz=48
J40A Soldiers Grove 38.34 274 P **P 23 59 41.4 +1.0**
baz=47,SNR=6.4
GRG Griva 38.37 92 P **P 23 59 40.3 -0.4**
GRG Griva 38.37 92 P **P 23 59 40.3 -0.4**
JFWS Jewell Farm 38.41 273 eP P 23 59 42.3 +1.3
JFWS pmax pmax
comp=Z,129nm,1.9s
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 38.41 273 eP P 23 59 42.3 +1.3
comp=Z,129nm,1.9s
JFWS Jewell Farm 38.41 273 eP P 23 59 42.3 +1.3
comp=Z,129nm,1.9s
JFWS LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 38.43 312 P **P 23 59 40.9 +0.1**
comp=Z,5.4nm,0.8s,baz=59,slow=8.9,SNR=23
YKA PcP **PcP 00 01 52.3 -1.4**
comp=Z,1.6nm,0.6s,baz=47,slow=3.4,SNR=10
YKA LR LR 00 14 55.3
comp=Z,976nm,18.4s,baz=0.0,slow=35
YKA Yellowknife Ar 38.43 312 P **P 23 59 41.0 +0.1**
I39A Houston 38.45 275 P **P 23 59 42.3 +1.0**
baz=47,SNR=5.7
C32A Crookston 38.48 283 P **P 23 59 41.9 +0.4**
baz=50
KNT Kendrikon 38.49 91 P **P 23 59 41.8 +0.1**
KNT Kendrikon 38.49 91 P **P 23 59 41.8 +0.1**
SFIN Lafayette 38.51 267 P **P 23 59 43.0 +1.2**
baz=44,SNR=10
SFIN Lafayette 38.51 267 eP P 23 59 42.6 +0.8
comp=Z,97nm,1.3s
SFIN Lafayette 38.51 267 eP P 23 59 42.6 +0.8
comp=Z,97nm,1.3s
CFR Carcaliu 38.53 82⇓iP P 23 59 40.0 -1.9
CFR Carcaliu 38.53 82 ⇓P P 23 59 40.0 -1.9
KPRO Kipourio 38.53 94 P **P 23 59 42.1 0.0**
KPRO Kipourio 38.53 94 P **P 23 59 42.1 0.0**
D33A AnnSam, Waubun 38.56 282 P **P 23 59 43.0 +0.8**
baz=50
E34A Wadena 38.61 281 P **P 23 59 43.4 +0.7**
baz=49
K41A Shullsburg 38.65 272 P **P 23 59 43.7 +0.7**
baz=46
B31A Greenbush Farm 38.67 285 P **P 23 59 43.7 +0.5**
baz=51
H37A Dierke Farm, C 38.70 277 P **P 23 59 44.4 +1.0**
baz=48

G36A	St. Michael	38.70 278	P	P	23 59 44.4	+0.9
	baz=48					
I38A	Scanlan Farm,	38.75 276	P	P	23 59 44.6	+0.7
	baz=47					
NVR	Nevrokopi	38.87 90	P	P	23 59 43.9	-1.0
NVR	Nevrokopi	38.87 90	P	P	23 59 43.9	-1.0
TLB	Topalu	38.87 83	||P	P	23 59 42.4	-2.4
TLB	Topalu	38.87 83	||P	P	23 59 42.4	-2.4
SRS	Serrai	38.89 91	P	P	23 59 44.9	-0.2
SRS	Serrai	38.89 91	P	P	23 59 44.9	-0.2
J39A	Decorah	38.90 274	P	P	23 59 46.0	+0.8
	baz=47,SNR=5.9					
SOH	Sokhos	38.97 91	P	P	23 59 45.9	+0.1
SOH	Sokhos	38.97 91	P	P	23 59 45.9	+0.1
LIT	Litokhoron	39.03 93	P	P	23 59 45.6	-0.6
LIT	Litokhoron	39.03 93	P	P	23 59 45.6	-0.6
K40A	Colesburg	39.03 273	P	P	23 59 47.0	+0.8
	baz=46					
E33A	Westby DABS, E	39.05 281	P	P	23 59 47.2	+0.8
	baz=49					
BLO	Bloomington	39.07 265	eP	P	23 59 42.2	-4.4
BLO			pmax	pmax		
	comp=Z,64nm,1.2s					
BLO	Bloomington	39.07 265	eP	P	23 59 42.2	-4.4
	comp=Z,64nm,1.2s					
G35A	Watkins	39.10 279	P	P	23 59 47.7	+0.9
	baz=48					
C31A	Landman Farms,	39.12 284	P	P	23 59 47.3	+0.4
	baz=50					
L41A	Preston	39.13 272	P	P	23 59 47.5	+0.5
	baz=46,SNR=8.3					
TIRR	Tirgusor	39.15 83	eP	P	23 59 46.8	-0.4
TIRR			pmax	pmax		
	comp=Z,28nm,1.6s					
TIRR	Tirgusor	39.15 83	eP	P	23 59 46.8	-0.4
	comp=Z,28nm,1.6s					
TIRR	Tirgusor	39.15 83	eP	P	23 59 46.8	-0.4
	comp=Z,28nm,1.6s					
THL	Klokotos Trika	39.16 94	P	P	23 59 46.9	-0.4
THL	Klokotos Trika	39.16 94	P	P	23 59 46.9	-0.4
M42A	Sheffield	39.17 271	P	P	23 59 47.9	+0.5
	baz=45					
J38A	Wedel Dairy, R	39.32 275	P	P	23 59 49.1	+0.4
	baz=47,SNR=6.2					
I37A	Lemond, Waseca	39.34 277	P	P	23 59 49.3	+0.6
	baz=47					
PLG	Polygyros	39.34 91	P	P	23 59 48.7	-0.2
PLG	Polygyros	39.34 91	P	P	23 59 48.7	-0.2
LPSR	Galich'ya Gora	39.35 66	eP	P	23 59 47.9	-0.9
LPSR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
VLS	Valsamata	39.42 96	P	P	23 59 49.6	+0.1
VLS	Valsamata	39.42 96	P	P	23 59 49.6	+0.1
K39A	Oelwein	39.43 274	P	P	23 59 50.4	+0.9
	baz=46					
EVR	Evrytania	39.52 94	P	P	23 59 47.8	-2.7
EVR	Evrytania	39.52 94	P	P	23 59 47.8	-2.7
L40A	Anamosa	39.52 273	P	P	23 59 50.9	+0.7
	baz=46,SNR=10					
E32A	Braaten, Kindr	39.55 282	P	P	23 59 51.9	+1.3
	baz=49					
HDIL	Hopedale	39.55 269	P	P	23 59 51.4	+0.8
	baz=44,SNR=6.6					
HDIL	Hopedale	39.55 269	eP	P	23 59 52.2	+1.6
	comp=Z,52nm,0.7s					
HDIL	Hopedale	39.55 269	eP	P	23 59 52.2	+1.6
	comp=Z,52nm,0.7s					
HDIL			LR	LR		
	comp=Z,1μm,22.0s					
D31A	Mcclaflin, Tow	39.60 283	P	P	23 59 51.5	+0.6
	baz=49					
H35A	Sunnyside Ranc	39.63 278	P	P	23 59 51.8	+0.5
	baz=48					
M41A	Milan	39.64 271	P	P	23 59 51.9	+0.6
	baz=45,SNR=9.0					
F33A	5 Mile Ranch,	39.64 281	P	P	23 59 51.9	+0.7
	baz=48					
WCI	Wyandotte Cave	39.64 264	eP	P	23 59 51.9	+0.5
WCI			pmax	pmax		
	comp=Z,51nm,0.7s					
WCI	Wyandotte Cave	39.64 264	eP	P	23 59 51.9	+0.5
	comp=Z,51nm,0.7s					
WCI	Wyandotte Cave	39.64 264	eP	P	23 59 51.9	+0.5
	comp=Z,51nm,0.7s					
AGG	Agios Georgios	39.72 94	P	P	23 59 52.2	+0.2
AGG	Agios Georgios	39.72 94	eP	P	23 59 52.7	+0.6
AGG			pmax	pmax		
	comp=Z,101nm,1.2s					
AGG	Agios Georgios	39.72 94	P	P	23 59 52.2	+0.2
AGG	Agios Georgios	39.72 94	eP	P	23 59 52.7	+0.6
	comp=Z,101nm,1.2s					
N42A	Yates City	39.76 270	P	P	23 59 53.5	+1.2
	baz=45,SNR=9.2					
O43A	Sugar Creek Fa	39.76 269	P	P	23 59 53.4	+1.1
	baz=44,SNR=6.9					
L39A	Vinton	39.89 273	P	P	23 59 54.3	+0.9
	baz=46,SNR=19					
J37A	Redenius Farm,	39.90 276	P	P	23 59 54.0	+0.5
	baz=47					
RDO	Rodhopi	39.91 89	P	P	23 59 52.9	-0.6
RDO	Rodhopi	39.91 89	P	P	23 59 52.9	-0.6
XOR	Xorichti	39.93 93	P	P	23 59 52.4	-1.4
XOR	Xorichti	39.93 93	P	P	23 59 52.4	-1.4
K38A	Parkersburg	39.94 274	P	P	23 59 54.9	+1.1
	baz=46					
RLS	Riolos of Patr	39.97 96	P	P	23 59 54.8	+0.7
RLS	Riolos of Patr	39.97 96	P	P	23 59 54.8	+0.7
P44A	Sand Creek, Wi	39.98 268	P	P	23 59 55.1	+0.9
	baz=44					
NEO	Neokhori	39.99 93	P	P	23 59 53.7	-0.6
NEO	Neokhori	39.99 93	P	P	23 59 53.7	-0.6
E31A	Nome	40.00 283	P	P	23 59 54.8	+0.5
	baz=49					
MDND	Maddock	40.05 286	P	P	23 59 55.4	+0.7
	baz=50					
EDRB	Edirne	40.06 87	P	P	23 59 51.3	-3.5
LAKA	Lakka	40.11 95	P	P	23 59 55.9	+0.6
LAKA	Lakka	40.11 95	P	P	23 59 55.9	+0.6
M40A	Post Highland	40.14 272	P	P	23 59 56.2	+0.8
	baz=45					
G33A	Ortonville	40.15 280	P	P	23 59 56.1	+0.7
	baz=48					
H34A	Spellman Lake,	40.15 279	P	P	23 59 56.1	+0.5
	baz=48,SNR=6.0					
GHAR	Gharyan	40.19 110	iP	P	23 59 56.4	+0.3
	SNR=36					
O42A	Bath	40.23 270	P	P	23 59 57.0	+0.8
	baz=44					
TKL	Tuckaleechee C	40.24 259	LR	LR	00 15 33.7	
	comp=Z,6μm,19.4s,baz=42,slow=35					
N41A	Harden Midland	40.28 271	P	P	23 59 57.4	+0.8
	baz=44,SNR=11					
J36A	Seneca 1, Swea	40.30 276	P	P	23 59 57.7	+0.9
	baz=47					
K37A	Belmond	40.32 275	P	P	23 59 57.6	+0.6
	baz=46,SNR=7.0					
VSR	Storozhevoye	40.32 67	eP	P	23 59 56.1	-0.7
VSR			pmax	pmax		
	comp=Z,30nm,1.1s					
P43A	Skaggs, Pawnee	40.33 268	P	P	23 59 57.6	+0.6
	baz=44					
KLV	Kalavryta, Ach	40.34 95	P	P	23 59 57.5	+0.2
KLV	Kalavryta, Ach	40.34 95	P	P	23 59 57.5	+0.2
LKR	Lokris	40.35 94	P	P	23 59 56.6	-0.6
LKR	Lokris	40.35 94	P	P	23 59 56.6	-0.6
ALN	Alexandroupoli	40.36 89	P	P	23 59 58.2	+1.0
ALN	Alexandroupoli	40.36 89	P	P	23 59 58.2	+1.0
NHSC	New Hope	40.36 253	PFAKE		00 00 10.0	+13
NHSC			LR	LR		
	comp=Z,3μm,21.0s					
L38A	Oak Wood Farm,	40.39 274	P	P	23 59 58.3	+0.7
	baz=46					
M39A	Webster	40.44 273	P	P	23 59 58.8	+0.8
	baz=45					
N40A	Mertquake, Sal	40.54 272	P	P	23 59 59.6	+0.8
	baz=45,SNR=7.1					
USIN	University of	40.57 265	eP	P	00 00 00.3	+1.3
	comp=Z,146nm,1.3s					
USIN	University of	40.57 265	eP	P	00 00 00.3	+1.3
	comp=Z,146nm,1.3s					
Q44A	Meyer Farm, Va	40.60 267	P	P	23 59 59.9	+0.7
	baz=43,SNR=7.5					
H33A	Prehn Over Nor	40.65 280	P	P	00 00 00.2	+0.5
	baz=48					
F31A	Hecla	40.65 282	P	P	00 00 00.3	+0.6
	baz=48					
O41A	Passleys Farm,	40.72 270	P	P	00 00 01.0	+0.8
	baz=44,SNR=11					
CPCT	Cooper Cave	40.79 260	eP	P	00 00 02.5	+1.6
	comp=Z,33nm,1.2s					
CPCT	Cooper Cave	40.79 260	eP	P	00 00 02.5	+1.6
	comp=Z,33nm,1.2s					
P42A	Winchester	40.81 269	P	P	00 00 01.5	+0.5
	baz=44,SNR=13					
L37A	Phoenix Point,	40.83 275	P	P	00 00 01.6	+0.4
	baz=46					
ITM	Ithomi	40.87 96	P	P	00 00 01.2	-0.3
ITM	Ithomi	40.87 96	P	P	00 00 01.2	-0.3
Q43A	New Douglas	40.94 268	P	P	00 00 02.6	+0.5
	baz=43,SNR=6.1					
M38A	Pleasantville	41.03 273	P	P	00 00 03.2	+0.4
	baz=45,SNR=11					
N39A	Derby Farms, D	41.04 272	P	P	00 00 03.1	+0.2
	baz=45,SNR=8.8					
R44A	Waltonville	41.11 267	P	P	00 00 03.5	0.0
	baz=42,SNR=9.4					
P41A	Barry, Barry	41.13 270	P	P	00 00 04.3	+0.6
	baz=44,SNR=7.5					
H32A	Carlson Farm,	41.14 280	P	P	00 00 04.3	+0.6
	baz=47					
J34A	George	41.19 278	P	P	00 00 04.5	+0.4
	baz=46					
K35A	Storm Lake	41.20 276	P	P	00 00 05.0	+0.8
	baz=46					
ECSD	EROS Data Cent	41.23 279	P	P	00 00 05.6	+1.1
	baz=47,SNR=16					
ECSD	EROS Data Cent	41.23 279	eP	P	00 00 05.2	+0.8
	comp=Z,119nm,1.7s					
ECSD	EROS Data Cent	41.23 279	eP	P	00 00 05.2	+0.8
	comp=Z,119nm,1.7s					
ECSD			LR	LR		
	comp=Z,5μm,20.0s					
O40A	La Belle	41.24 271	P	P	00 00 05.1	+0.5
	baz=44,SNR=14					
S45A	Carrier Mills	41.27 266	P	P	00 00 05.3	+0.5
	baz=42,SNR=5.6					
L36A	Harm Buss Farm	41.33 275	P	P	00 00 06.1	+0.8
	baz=46					
Q42A	Golden Eagle	41.40 269	P	P	00 00 06.7	+0.9
	baz=43					
SLM	Saint Louis	41.44 268	eP	P	00 00 07.7	+1.5
SLM			pmax	pmax		
	comp=Z,230nm,1.6s					
SLM	Saint Louis	41.44 268	eP	P	00 00 07.7	+1.5
	comp=Z,230nm,1.6s					
SLM	Saint Louis	41.44 268	eP	P	00 00 07.7	+1.5
	comp=Z,230nm,1.6s					
I32A	Karley and Nic	41.48 280	P	P	00 00 07.4	+0.9
	baz=47					
N38A	Joes South For	41.49 273	P	P	00 00 07.2	+0.6
	baz=44					
M37A	Trindle Farm,	41.49 274	P	P	00 00 07.3	+0.7
	baz=45					
O39A	Kirksville	41.50 272	P	P	00 00 07.2	+0.5
	baz=44					
R43A	Red Bud	41.54 267	P	P	00 00 07.5	+0.5
	baz=43,SNR=15					
S44A	Carbondale	41.61 266	P	P	00 00 08.5	+0.9
	baz=42,SNR=14					
INK	Inuvik	41.63 327	P	P	00 00 07.2	-0.2
	comp=Z,10nm,1.1s,baz=57,slow=9.3,SNR=7.8					
INK			PcP	PcP	00 02 03.6	-0.3
	comp=Z,5.6nm,1.0s,baz=349,slow=4.0,SNR=4.4					
INK			LR	LR	00 17 14.0	
	comp=Z,2μm,18.4s,baz=52,slow=36					
INK	Inuvik	41.63 327	eP	P	00 00 07.5	+0.1
K34A	Le Mars	41.68 277	P	P	00 00 08.7	+0.5
	baz=46					
SWET	Sewanee	41.71 261	eP	P	00 00 09.7	+1.2
	comp=Z,38nm,1.9s					
SWET	Sewanee	41.71 261	eP	P	00 00 09.7	+1.2
	comp=Z,38nm,1.9s					
Q41A	Truxton	41.74 269	P	P	00 00 08.9	+0.2
	baz=43,SNR=13					
VLI	Veliai	41.75 96	P	P	00 00 08.5	-0.2
VLI	Veliai	41.75 96	P	P	00 00 08.5	-0.2
P40A	Paris	41.76 271	P	P	00 00 09.2	+0.4
	baz=44,SNR=12					
L35A	Bielow Farm, R	41.79 276	P	P	00 00 09.6	+0.5
	baz=46,SNR=6.7					
GOGA	Godfrey	41.82 257	eP	P	00 00 10.3	+1.0
GOGA			pmax	pmax		
	comp=Z,72nm,1.5s					
GOGA			MLR	MLR		
	comp=Z,1μm,21.0s					
GOGA	Godfrey	41.82 257	eP	P	00 00 10.3	+1.0
	comp=Z,72nm,1.5s					
GOGA	Godfrey	41.82 257	eP	P	00 00 10.3	+1.0
	comp=Z,72nm,1.5s					
GOGA			LR	LR		
	comp=Z,1μm,21.0s					
SIM	Simferopol'	41.82 78	ceP	P	00 00 12.0	+2.7
SIM					00 01 52.0	
SIM			pmax	pmax		
	comp=Z,15nm,1.6s					
SIM			pmax	pmax		
	comp=Z,320nm,11.0s					
SIM			MLR	MLR		
	comp=Z,2μm,15.0s					
DGMT	Dagmar	41.98 289	P	P	00 00 11.1	+0.5
	baz=49,SNR=9.9					
DGMT	Dagmar	41.98 289	eP	P	00 00 11.8	+1.2
	comp=Z,87nm,1.1s					
DGMT	Dagmar	41.98 289	eP	P	00 00 11.8	+1.2
	comp=Z,87nm,1.1s					
DGMT			LR	LR		
	comp=Z,3μm,19.0s					
R42A	Luebbering	42.00 268	P	P	00 00 11.3	+0.5
	baz=43					
WVT	Waverly	42.02 263	eP	P	00 00 11.2	+0.2
WVT			pmax	pmax		
	comp=Z,128nm,1.8s					
WVT	Waverly	42.02 263	eP	P	00 00 11.2	+0.2
	comp=Z,128nm,1.8s					
WVT	Waverly	42.02 263	eP	P	00 00 11.2	+0.2
	comp=Z,128nm,1.8s					
N37A	Lee Faris, Mou	42.03 274	P	P	00 00 11.4	+0.3
	baz=44					
O38A	Galt	42.09 272	P	P	00 00 11.9	+0.3
	baz=44					
S43A	Fulton Ridge,	42.14 267	P	P	00 00 12.6	+0.7
	baz=42,SNR=15					
KYTH	Kithira	42.15 96	P	P	00 00 12.6	+0.6
Q40A	Laux Farm, Aux	42.16 270	P	P	00 00 12.6	+0.5
	baz=43,SNR=12					
P39B	Salisbury	42.17 271	P	P	00 00 12.5	+0.4
	baz=44,SNR=12					
T44A	Benton	42.24 266	P	P	00 00 13.3	+0.6
	baz=42					
R41A	Rosebud	42.30 269	P	P	00 00 13.6	+0.3
	baz=43,SNR=19					
M35A	Neola	42.32 276	P	P	00 00 13.9	+0.5
	baz=45					
U45A	Rockin P Farm,	42.35 264	P	P	00 00 14.3	+0.6
	baz=41					
S42A	Caledonia	42.38 268	P	P	00 00 14.4	+0.5
	baz=42,SNR=15					
CCM	Cathedral Cave	42.41 268	eP	P	00 00 14.2	+0.1
CCM			pmax	pmax		
	comp=Z,35nm,0.8s					
CCM	Cathedral Cave	42.41 268	eP	P	00 00 14.2	+0.1
	comp=Z,35nm,0.8s					
CCM	Cathedral Cave	42.41 268	eP	P	00 00 14.2	+0.1
	comp=Z,35nm,0.8s					
P38A	Dawn	42.48 272	P	P	00 00 14.9	+0.2
	baz=44,SNR=5.5					
ANKY	Antikythira Is	42.58 96	P	P	00 00 15.9	+0.4
ANKY	Antikythira Is	42.58 96	P	P	00 00 15.9	+0.4
Q39A	Willow Grove F	42.61 271	P	P	00 00 16.1	+0.3
	baz=43,SNR=10					
K32A	Verdigre	42.69 279	P	P	00 00 16.9	+0.5
	baz=46					
R40A	Maddies Statio	42.78 269	P	P	00 00 17.4	+0.3
	baz=43,SNR=18					
LSRT	Sirt	42.84 107	iP	P	00 00 18.4	+0.8
	SNR=35					
APE	Apeiranthos	42.87 93	||eP	P	00 00 18.7	+0.8
APE			pmax	pmax		
	comp=Z,50nm,1.4s					
PBMO	Poplar Bluff	42.92 266	eP	P	00 00 18.2	-0.1
	comp=Z,83nm,1.1s					
PBMO	Poplar Bluff	42.92 266	eP	P	00 00 18.2	-0.1
	comp=Z,83nm,1.1s					
P37A	Lathrop	42.95 272	P	P	00 00 18.8	+0.3
	baz=44					
Q38A	Cooks Store, C	43.01 271	P	P	00 00 19.2	+0.2
	baz=43,SNR=11					
S41A	Jillco Farms,	43.02 268	P	P	00 00 19.2	+0.1
	baz=42,SNR=31					
SOKR	Solikamsk	43.04 48	eP	P	00 00 17.7	-1.2
SOKR					00 02 03.2	
SOKR			S	S	00 06 50.9	+7.6
SOKR			SS	SS	00 09 49.2	-5.8
SOKR			pmax	pmax		
	comp=Z,31nm,0.9s					
SOKR			MLR	MLR		
	comp=Z,238nm,18.0s					
M33A	Taylor Creek F	43.04 277	P	P	00 00 19.5	+0.2
	baz=45					
K31A	O'Neill	43.13 279	P	P	00 00 20.4	+0.5
	baz=46					
R39A	Chumby, Stover	43.17 270	P	P	00 00 20.7	+0.4
	baz=43,SNR=14					
U43A	Rector	43.21 266	P	P	00 00 20.7	+0.1
	baz=41					
IMMV	Iera Moni Meta	43.25 96	P	P	00 00 20.1	-0.9
IMMV	Iera Moni Meta	43.25 96	P	P	00 00 20.1	-0.9
EDM	Edmonton	43.34 300	eP	P	00 00 22.8	+1.2
EDM			pmax	pmax		
	comp=Z,238nm,1.8s					
EDM	Edmonton	43.34 300	eP	P	00 00 22.8	+1.2
	comp=Z,238nm,1.8s					
EDM	Edmonton	43.34 300	eP	P	00 00 22.8	+1.2
	comp=Z,238nm,1.8s					
SANT	Santorini	43.35 94	PFAKE		00 00 30.0	+8.2
SANT			LR	LR		
	comp=Z,2μm,19.0s					
P36A	Good Intent, A	43.38 273	P	P	00 00 21.8	-0.2
	baz=44					
SACV	Santiago Islan	43.39 167	eP	P	00 00 22.0	-0.3
	comp=Z,60nm,1.4s					
SACV	Santiago Islan	43.39 167	eP	P	00 00 22.0	-0.3
	comp=Z,60nm,1.4s					
SACV			LR	LR		
	comp=Z,528nm,21.0s					
VAM	Vamos	43.41 96	P	P	00 00 22.1	-0.1
VAM	Vamos	43.41 96	P	P	00 00 22.1	-0.1
S40A	Lebanon	43.41 269	P	P	00 00 22.4	+0.1
	baz=42,SNR=28					
T41A	Mountain View	43.43 268	P	P	00 00 22.4	0.0
	baz=42,SNR=15					
W45A	Hickory Valley	43.48 264	P	P	00 00 22.8	0.0
	baz=40					
Q37A	Longview Farm,	43.52 272	P	P	00 00 23.1	0.0
	baz=43					
ANN	Anapa	43.65 76	eP	P	00 00 23.7	-0.3
ANN			e		00 02 02.1	
ANN			eS	S	00 06 55.1	+2.4
ANN			pmax	pmax		
	comp=Z,53nm,1.0s					
ANN			MLR	MLR		
	comp=Z,2μm,12.0s					
BGNE	Belgrade	43.66 277	P	P	00 00 24.5	+0.2
	baz=45					
U42A	Revenden	43.67 267	P	P	00 00 24.3	0.0
	baz=41,SNR=34					
R38A	Fenwick Farm,	43.73 271	P	P	00 00 24.8	0.0
	baz=43,SNR=20					
Y47A	UCPARC, Winfie	43.73 261	P	P	00 00 24.6	-0.3
	baz=39,SNR=20					
T40A	Mansfield	43.76 269	P	P	00 00 25.0	0.0
	baz=42,SNR=24					
O34A	Beatrice	43.77 275	P	P	00 00 25.3	+0.2
	baz=44					
S39A	Bolivar	43.78 270	P	P	00 00 25.4	+0.1
	baz=42,SNR=19					
IDI	Anoyia	43.86 95	P	P	00 00 25.8	-0.2
	comp=Z,15nm,0.9s,baz=328,slow=6.3,SNR=9.2					
IDI			PcP	PcP	00 02 11.8	-0.2
	comp=Z,16nm,1.1s,baz=243,slow=4.5,SNR=3.3					
IDI			LR	LR	00 20 02.8	
	comp=Z,990nm,18.3s,baz=310,slow=38					
IDI	Anoyia	43.86 95	P	P	00 00 25.4	-0.6
IDI	Anoyia	43.86 95	P	P	00 00 25.8	-0.2
	comp=Z,62nm,1.2s					
IDI	Anoyia	43.86 95	P	P	00 00 25.8	-0.2
	comp=Z,62nm,1.2s					
IDI			PcP	PcP	00 02 11.8	-0.2
P35A	Duane Minner,	43.88 274	P	P	00 00 26.4	+0.4
	baz=44					
LRAL	Lakeview Retre	43.96 260	eP	P	00 00 26.9	+0.2
	comp=Z,49nm,1.3s					
LRAL	Lakeview Retre	43.96 260	eP	P	00 00 26.9	+0.2
	comp=Z,49nm,1.3s					
HBAR	Harrisburg	43.96 265	eP	P	00 00 28.3	+1.6
HBAR	Harrisburg	43.96 265	eP	P	00 00 28.3	+1.6
Z48A	Northport	43.98 261	P	P	00 00 27.1	+0.2
	baz=39,SNR=15					
Q36A	Arnold C. Orve	43.99 273	P	P	00 00 26.9	-0.1
	baz=43					
LJFR	Jufra	44.01 110	iP	P	00 00 26.5	-0.7
	SNR=35					
SIVA	Sivas	44.03 96	P	P	00 00 27.1	-0.1
SIVA	Sivas	44.03 96	P	P	00 00 27.1	-0.1
U41A	Viola	44.04 267	P	P	00 00 27.8	+0.5
	baz=41,SNR=6.1					
OXF	Oxford	44.09 263	eP	P	00 00 27.7	0.0
OXF			pmax	pmax		
	comp=Z,112nm,1.3s					
OXF	Oxford	44.09 263	eP	P	00 00 27.7	0.0
	comp=Z,112nm,1.3s					
OXF	Oxford	44.09 263	eP	P	00 00 27.7	0.0
	comp=Z,112nm,1.3s					
R37A	Teagarden Farm	44.13 272	P	P	00 00 28.2	+0.1
	baz=43,SNR=6.6					
S38A	Stockton	44.14 270	P	P	00 00 28.2	+0.1
	baz=42,SNR=17					
V42A	Cord	44.16 266	P	P	00 00 28.5	+0.2
	baz=41,SNR=11					
LAO	LASA Array	44.20 289	P	P	00 00 28.6	+0.1
	baz=47,SNR=16					
LAO	LASA Array	44.20 289	eP	P	00 00 29.9	+1.4
	comp=Z,236nm,1.7s					
LAO	LASA Array	44.20 289	eP	P	00 00 29.9	+1.4
	comp=Z,236nm,1.7s					
LAO			LR	LR		
	comp=Z,4μm,19.0s					
Y46A	Houston	44.28 262	P	P	00 00 29.0	-0.3
	baz=39					
P34A	Walnut Farm, R	44.30 274	P	P	00 00 29.1	-0.2
	baz=43,SNR=7.5					
T39A	Clever	44.31 269	P	P	00 00 29.6	+0.1
	baz=42,SNR=18					
O33A	Hebron	44.32 276	P	P	00 00 29.4	-0.1
	baz=44					
ILGA	Ilgaz	44.33 82	eP	P	00 00 31.2	+1.4
	comp=Z,85nm,1.2s					
ILGA	Ilgaz	44.33 82	eP	P	00 00 31.2	+1.4
	comp=Z,85nm,1.2s					
Q35A	Mercer Eighty,	44.38 273	P	P	00 00 30.0	0.0
	baz=43,SNR=8.7					
Z47A	Carrollton	44.39 261	P	P	00 00 30.3	+0.1
	baz=39					
R36A	Gordon, Harris	44.48 272	P	P	00 00 30.7	-0.1
	baz=43,SNR=17					
TAM	Tamanrasset	44.50 126	eP	P	00 00 31.1	-0.2
TAM			pmax	pmax		
	comp=Z,78nm,1.3s					
TAM			MLR	MLR		
	comp=Z,1μm,20.0s					
TAM	Tamanrasset	44.50 126	eP	P	00 00 31.1	-0.2
	comp=Z,78nm,1.3s					
TAM	Tamanrasset	44.50 126	eP	P	00 00 31.1	-0.2
	comp=Z,78nm,1.3s					
TAM			LR	LR		
	comp=Z,1μm,20.0s					
KSU1	Kansas State U	44.51 274	PFAKE		00 00 40.0	+9.0
KSU1			LR	LR		
	comp=Z,3μm,19.0s					
U40A	Yellville	44.53 268	P	P	00 00 31.3	+0.1
	baz=41,SNR=25					
S37A	Fort Scott	44.54 271	P	P	00 00 31.0	-0.3
	baz=42,SNR=30					
BOLV	Bolvadin	44.54 87	eP	P	00 00 32.9	+1.4
	comp=Z,55nm,1.2s					
BOLV	Bolvadin	44.54 87	eP	P	00 00 32.9	+1.4
	comp=Z,55nm,1.2s					
V41A	Mountainview	44.58 267	P	P	00 00 31.9	+0.2
	baz=41,SNR=19					
W42A	Bald Knob	44.63 266	P	P	00 00 31.9	-0.2
	baz=40					

Y45A	Yeager Farm, C	44.66	263	P	P	00 00 32.1 -0.1
	baz=40,SNR=10					
ANTO	Ankara	44.69	84	eP	P	00 00 34.0 +1.4
ANTO				pmax	pmax	
	comp=Z,114nm,1.8s					
ANTO				MLR	MLR	
	comp=Z,625nm,19.0s					
ANTO	Ankara	44.69	84	P	P	00 00 32.1 -0.5
	SNR=15					
ANTO	Ankara	44.69	84	eP	P	00 00 34.0 +1.4
	comp=Z,114nm,1.8s					
ANTO				LR	LR	
	comp=Z,625nm,19.0s					
ANTO	Ankara	44.69	84	P	P	00 00 32.1 -0.5
	SNR=15					
BR231	Keskin MP Arra	44.70	84	eP	P	00 00 35.8 +3.1
T38A	Diamond	44.79	270	P	P	00 00 33.4 +0.1
	baz=42,SNR=31					
Q34A	Chapman	44.81	274	P	P	00 00 33.7 +0.2
	baz=43,SNR=14					
RSSD	Black Hills	44.84	284	eP	P	00 00 35.0 +1.1
RSSD				pmax	pmax	
	comp=Z,26nm,1.5s					
RSSD	Black Hills	44.84	284	eP	P	00 00 35.0 +1.1
	comp=Z,26nm,1.5s					
RSSD	Black Hills	44.84	284	eP	P	00 00 35.0 +1.1
	comp=Z,26nm,1.5s					
U39A	Green Forest	44.84	269	P	P	00 00 34.2 +0.4
	baz=41,SNR=29					
R35A	Emporia Munici	44.85	273	P	P	00 00 33.8 0.0
	baz=43					
147A	Livingston	44.91	261	P	P	00 00 34.7 +0.5
	baz=39					
V40A	Witts Springs	44.93	268	P	P	00 00 34.7 +0.2
	baz=41,SNR=47					
S36A	Lake Cedric, C	44.97	272	P	P	00 00 34.3 -0.4
	baz=42,SNR=10					
WHAR	Wooly Hollow	45.03	267	eP	P	00 00 35.5 +0.3
	comp=Z,290nm,1.8s					
WHAR	Wooly Hollow	45.03	267	eP	P	00 00 35.5 +0.3
	comp=Z,290nm,1.8s					
EGMT	Eagleton	45.05	292	P	P	00 00 35.4 0.0
	baz=47,SNR=20					
EGMT	Eagleton	45.05	292	eP	P	00 00 36.4 +1.0
EGMT	Eagleton	45.05	292	eP	P	00 00 36.4 +1.0
EGMT				LR	LR	
	comp=Z,2µm,20.0s					
T37A	Cheneyville 18	45.06	271	P	P	00 00 35.3 -0.1
	baz=42,SNR=19					
248A	Dixon Mills	45.08	260	P	P	00 00 35.6 0.0
	baz=38,SNR=7.3					
W41B	Gary Mavity, V	45.10	266	P	P	00 00 35.9 +0.2
	baz=40,SNR=7.5					
X301	Greenbrier Sit	45.13	267	eP	P	00 00 36.3 +0.3
	comp=Z,156nm,1.5s					
X301	Greenbrier Sit	45.13	267	eP	P	00 00 36.3 +0.3
	comp=Z,156nm,1.5s					
HHAR	Hobbs	45.16	269	eP	P	00 00 36.5 +0.2
	comp=Z,82nm,1.3s					
HHAR	Hobbs	45.16	269	eP	P	00 00 36.5 +0.2
	comp=Z,82nm,1.3s					
X42A	Stuttgart	45.24	265	P	P	00 00 36.8 0.0
	baz=40					
BR131	Keskin Array S	45.24	84	eP	P	00 00 37.6 +0.5
BR131	Keskin Array S	45.24	84	eP	P	00 00 37.6 +0.5
BRTR	Keskin Array B	45.24	84	P	P	00 00 37.5 +0.5
	comp=Z,7.9nm,0.8s,baz=316,slow=5.2,SNR=41					
BRTR				PcP	PcP	00 02 15.7 -1.1
	comp=Z,5.0nm,1.1s,baz=321,slow=1.6,SNR=4.1					
BRTR				LR	LR	00 19 24.0
	comp=Z,933nm,21.7s,baz=294,slow=36					
BRTR	Keskin Array B	45.24	84	ceP	P	00 00 37.7 +0.7
BRTR				pmax	pmax	
	comp=Z,15nm,1.0s					
U38A	Gravette	45.28	269	P	P	00 00 37.2 -0.1
	baz=41,SNR=17					
V39A	Pettigrew	45.34	268	P	P	00 00 37.8 +0.1
	baz=41,SNR=26					
S35A	Otter Creek Ra	45.39	272	P	P	00 00 37.9 -0.2
	baz=42					
R34A	Isabella, Hill	45.43	274	P	P	00 00 38.1 -0.3
	baz=42,SNR=6.0					
BRAL	Brewton	45.45	258	PFAKE		00 00 50.0 +11
BRAL				LR	LR	
	comp=Z,3µm,19.0s					
UALR	University of	45.45	266	eP	P	00 00 39.4 +0.9
	comp=Z,42nm,1.2s					
UALR	University of	45.45	266	eP	P	00 00 39.4 +0.9
	comp=Z,42nm,1.2s					
W40A	Ferguson Farm,	45.52	267	P	P	00 00 39.6 +0.6
	baz=40,SNR=8.5					
247A	Quitman	45.57	260	P	P	00 00 40.1 +0.6
	baz=38					
T36A	Boggs Farm, Ca	45.62	271	P	P	00 00 39.4 -0.4
	baz=42,SNR=5.9					
ANWB	Willy Bob	45.62	221	PFAKE		00 00 50.0 +10
ANWB				LR	LR	
	comp=Z,612nm,22.0s					
SOC	Sochi	45.68	75	eP	P	00 00 39.1 -1.1
SOC				e		00 02 24.5
SOC				eS	S	00 07 23.2 +1.1
SOC				MLR	MLR	
	comp=Z,2µm,20.0s					
U37A	Salina	45.70	270	P	P	00 00 40.1 -0.5
	baz=41,SNR=21					
348A	Jackson	45.70	259	P	P	00 00 40.5 -0.1
	baz=38,SNR=5.3					
TOLK	Toolik Lake Re	45.72	333	P	P	00 00 40.6 +0.2
	baz=42					
V38A	Canehill	45.73	269	P	P	00 00 40.3 -0.5
	baz=41,SNR=21					
S34A	Willow Spring	45.80	273	P	P	00 00 41.0 -0.3
	baz=42					
CCAR	Cane Creek	45.80	265	eP	P	00 00 42.5 +1.2
	comp=Z,387nm,1.5s					
CCAR	Cane Creek	45.80	265	eP	P	00 00 42.5 +1.2
	comp=Z,387nm,1.5s					
GRTK	Grand Turk	45.80	234	PFAKE		00 00 50.0 +8.6
GRTK				LR	LR	
	comp=Z,1µm,20.0s					
ARU	Arti	45.81	51	P	P	00 00 41.4 +0.3
ARU				LR	LR	00 18 46.2
	comp=Z,1µm,19.0s,baz=305,slow=35					
ARU	Arti	45.81	51	c iP	P	00 00 41.1 0.0
ARU						00 02 30.3
ARU				S	S	00 07 25.9 +2.2
ARU				SS	SS	00 10 46.9 -0.7
ARU				pmax	pmax	
	comp=Z,76nm,1.2s					
ARU	Arti	45.81	51	eP	P	00 00 41.1 0.0
	comp=Z,72nm,1.2s					
ARU	Arti	45.81	51	eP	P	00 00 41.1 0.0
	comp=Z,72nm,1.2s					
ARU				ePP	PP	00 02 30.2 +2.0
145A	Houston Renfro	45.84	262	P	P	00 00 41.1 -0.5
	baz=39					
LTBQ	Tobruq	45.84	99	i P	P	00 00 42.8 +1.1
	SNR=34					
Y42A	Garnett, Star	45.87	265	P	P	00 00 41.9 0.0
	baz=40					
W39A	Magazine	45.90	268	P	P	00 00 41.9 -0.2
	baz=41,SNR=35					
X40A	Basin Creek Fa	45.93	266	P	P	00 00 42.2 -0.2
	baz=40,SNR=21					
NRIK	Noril'sk	45.94	25	P	P	00 00 42.6 +0.6
	comp=Z,15nm,1.0s,baz=310,slow=8.2,SNR=10					
NRIK				LR	LR	00 19 29.6
	comp=Z,431nm,20.8s,baz=332,slow=36					
U36A	Oologah	46.04	271	P	P	00 00 43.0 -0.2
	baz=41					
347A	Saraland	46.05	260	P	P	00 00 43.7 +0.5
	baz=38					
OGNE	Ogallala	46.05	280	PFAKE		00 01 00.0 +17
OGNE				LR	LR	
	comp=Z,2µm,21.0s					
T35A	Sooner Cattle	46.06	272	P	P	00 00 43.1 -0.4
	baz=42					
V37A	Hulbert	46.10	270	P	P	00 00 43.5 -0.3
	baz=41,SNR=13					
FYU	Fort Yukon	46.14	329	eP	P	00 00 45.3 +1.7
	comp=Z,227nm,1.8s					
FYU	Fort Yukon	46.14	329	eP	P	00 00 45.3 +1.7
	comp=Z,227nm,1.8s					
DAWY	Dawson	46.24	324	eP	P	00 00 45.3 +0.8
	comp=Z,72nm,1.4s					
DAWY	Dawson	46.24	324	eP	P	00 00 45.3 +0.8
	comp=Z,72nm,1.4s					
EGAK	Eagle	46.27	326	eP	P	00 00 45.1 +0.4
	comp=Z,40nm,1.4s					
EGAK	Eagle	46.27	326	eP	P	00 00 45.1 +0.4
	comp=Z,40nm,1.4s					
EGAK				LR	LR	
	comp=Z,2µm,22.0s					
Y41A	Eaglette Beard	46.27	266	P	P	00 00 45.1 0.0
	baz=40					
MIAR	Mount Ida	46.28	267	P	P	00 00 45.6 +0.5
	baz=40,SNR=23					
MIAR	Mount Ida	46.28	267	eP	P	00 00 45.5 +0.4
MIAR				pmax	pmax	
	comp=Z,189nm,1.6s					
MIAR				MLR	MLR	
	comp=Z,4µm,20.0s					
MIAR	Mount Ida	46.28	267	eP	P	00 00 45.5 +0.4
	comp=Z,189nm,1.6s					
MIAR	Mount Ida	46.28	267	eP	P	00 00 45.5 +0.4
	comp=Z,189nm,1.6s					
MIAR				LR	LR	
	comp=Z,4µm,20.0s					
TOKA	Tokat	46.31	81	eP	P	00 00 46.1 +0.8
	comp=Z,41nm,1.2s					
TOKA	Tokat	46.31	81	eP	P	00 00 46.1 +0.8
	comp=Z,41nm,1.2s					
GOF	Gofitskoye	46.34	72⇑	i P	P	00 00 45.3 -0.2
GOF				pmax	pmax	
	comp=Z,75nm,1.1s					
T34A	McClaskey Farm	46.34	272	P	P	00 00 45.3 -0.4
	baz=42,SNR=8.9					
WALA	Waterton Lakes	46.37	296	eP	P	00 00 46.0 +0.2
	comp=Z,189nm,1.6s					
WALA	Waterton Lakes	46.37	296	eP	P	00 00 46.0 +0.2
	comp=Z,189nm,1.6s					
CBKS	Cedar Bluff	46.38	276	P	P	00 00 45.8 -0.1
	baz=43					
CBKS	Cedar Bluff	46.38	276	PFAKE		00 01 00.0 +14
CBKS				LR	LR	
	comp=Z,4µm,19.0s					
W38A	Poteau	46.38	268	P	P	00 00 46.1 +0.2
	baz=40,SNR=18					
SVE	Sverdlovsk	46.39	49⇓	i P	P	00 00 45.5 -0.2
SVE				pmax	pmax	
	comp=Z,44nm,1.5s					
Z42A	Norrel Spur, H	46.39	264	P	P	00 00 46.1 +0.1
	baz=39					
TUL1	Leonard	46.43	270	P	P	00 00 46.2 -0.1
	baz=41,SNR=13					
TUL1	Leonard	46.43	270	eP	P	00 00 45.9 -0.4
	comp=Z,94nm,1.3s					
TUL1	Leonard	46.43	270	eP	P	00 00 45.9 -0.4
	comp=Z,94nm,1.3s					
TUL1				ePcP	PcP	00 02 20.7 -0.1
VBMS	Vicksburg	46.45	262	P	P	00 00 46.7 +0.3
	baz=38					
Y40A	Okolona	46.53	266	P	P	00 00 47.2 +0.1
	baz=40,SNR=5.4					
143A	Socs Landing,	46.54	263	P	P	00 00 47.2 0.0
	baz=39					
346A	Big Creek Wild	46.54	261	P	P	00 00 47.3 +0.1
	baz=38					
GCMT	Greycliff	46.55	290	eP	P	00 00 48.5 +1.2
GCMT	Greycliff	46.55	290	eP	P	00 00 48.5 +1.2
CBYP	Canovanas	46.55	226	eP	P	00 00 47.1 -0.3
	comp=Z,50nm,0.9s					
CBYP	Canovanas	46.55	226	eP	P	00 00 47.1 -0.3
	comp=Z,50nm,0.9s					
447A	Lucedale	46.58	259	P	P	00 00 47.8 +0.3
	baz=38					
U35A	Pawnee	46.59	271	P	P	00 00 47.2 -0.4
	baz=41					
X39A	Fountain Ranch	46.59	267	P	P	00 00 47.5 -0.1
	baz=40,SNR=22					
V36A	Jenks	46.60	270	P	P	00 00 47.5 -0.1
	baz=41,SNR=8.4					
HUMP	Col San Antoni	46.67	226	eP	P	00 00 51.8 +3.5
	comp=Z,56nm,1.3s					
HUMP	Col San Antoni	46.67	226	eP	P	00 00 51.8 +3.5
	comp=Z,56nm,1.3s					
244A	Avery, Jackson	46.67	262	P	P	00 00 48.0 -0.2
	baz=38					
WLAR	White Oak Lake	46.69	266	eP	P	00 00 49.2 +0.9
	comp=Z,69nm,1.1s					
WLAR	White Oak Lake	46.69	266	eP	P	00 00 49.2 +0.9
	comp=Z,69nm,1.1s					
SJG	San Juan	46.81	226	eP	P	00 00 49.8 +0.4
SJG				pmax	pmax	
	comp=Z,38nm,1.1s					
SJG				MLR	MLR	
	comp=Z,419nm,21.0s					
SJG	San Juan	46.81	226	eP	P	00 00 49.8 +0.4
	comp=Z,38nm,1.1s					
SJG	San Juan	46.81	226	eP	P	00 00 49.8 +0.4
	comp=Z,38nm,1.1s					
SJG				LR	LR	
	comp=Z,419nm,21.0s					
RLMT	Red Lodge	46.81	289	P	P	00 00 50.2 +0.8
	baz=45,SNR=18					
RLMT	Red Lodge	46.81	289	eP	P	00 00 50.4 +0.9
	comp=Z,111nm,1.5s					
RLMT	Red Lodge	46.81	289	eP	P	00 00 50.4 +0.9
	comp=Z,111nm,1.5s					
RLMT				LR	LR	
	comp=Z,4µm,19.0s					
W37B	Quinton	46.82	269	P	P	00 00 49.7 +0.4
	baz=41,SNR=9.6					
X38A	Whitesboro	46.85	268	P	P	00 00 50.0 +0.4
	baz=40,SNR=12					
Z41A	Richland Creek	46.86	265	P	P	00 00 50.0 +0.4
	baz=39					
345A	Thompson Farm,	46.90	261	P	P	00 00 50.5 +0.5
	baz=38					
GDHS	Morne Mazeau,	46.91	220	eP	P	00 00 50.9 +0.7
	comp=Z,141nm,1.2s					
GDHS	Morne Mazeau,	46.91	220	eP	P	00 00 50.9 +0.7
	comp=Z,141nm,1.2s					
KIV	Kislovodsk	46.94	73	eP	P	00 00 49.9 -0.4
KIV				e		00 02 38.3
KIV				eS	S	00 07 41.7 +1.2
KIV				pmax	pmax	
	comp=Z,37nm,1.0s					
KIV				MLR	MLR	
	comp=Z,1µm,16.0s					
KIV	Kislovodsk	46.94	73	P	P	00 00 50.2 -0.1
	SNR=13					
KIV	Kislovodsk	46.94	73	eP	P	00 00 50.6 +0.4
	comp=Z,68nm,1.3s					
KIV				LR	LR	
	comp=Z,996nm,21.0s					
KIV	Kislovodsk	46.94	73	P	P	00 00 50.2 -0.1
	SNR=13					
KVAR	Kislovodsk Arr	46.94	73	P	P	00 00 51.5 +1.1
	comp=Z,57nm,1.3s,baz=274,slow=3.8,SNR=12					
KVAR				LR	LR	00 20 26.6
	comp=Z,942nm,21.2s,baz=300,slow=36					
COLD	Coldfoot	46.95	332	eP	P	00 00 51.1 +1.1
	comp=Z,14nm,1.2s					
COLD	Coldfoot	46.95	332	eP	P	00 00 51.1 +1.1
	comp=Z,14nm,1.2s					
446A	Poplarville	46.96	260	P	P	00 00 50.6 +0.1
	baz=38					
HRY	Holter Researc	46.98	292	eP	P	00 00 51.9 +1.2
HRY	Holter Researc	46.98	292	eP	P	00 00 51.9 +1.2
CELP	Cerrillos	47.01	227	eP	P	00 00 51.2 +0.3
CELP	Cerrillos	47.01	227	eP	P	00 00 51.2 +0.3
Y39A	Lockesburg	47.02	267	P	P	00 00 51.0 +0.1
	baz=40,SNR=12					
V35A	Meyer Ranch, C	47.10	271	P	P	00 00 51.6 +0.1
	baz=41					
WHY	Whitehorse	47.16	319	eP	P	00 00 52.8 +1.0
	comp=Z,59nm,1.8s					
WHY	Whitehorse	47.16	319	eP	P	00 00 52.8 +1.0
	comp=Z,59nm,1.8s					
344A	Westbrook Farm	47.16	262	P	P	00 00 51.7 -0.3
	baz=38					
K22A	Casper	47.16	285	P	P	00 00 51.7 -0.4
	baz=44,SNR=11					
K22A	Casper	47.16	285	eP	P	00 00 52.1 -0.1
	comp=Z,49nm,1.3s					
K22A	Casper	47.16	285	eP	P	00 00 52.1 -0.1
	comp=Z,49nm,1.3s					
Z40A	Long Farm, Mag	47.17	266	P	P	00 00 52.1 0.0
	baz=39					
X37A	Clayton	47.20	269	P	P	00 00 52.3 0.0
	baz=40,SNR=7.5					
KBZ	Khabaz	47.21	73	P	P	00 00 53.4 +1.1
	comp=Z,27nm,1.1s,baz=306,slow=6.9,SNR=17					
KBZ				LR	LR	00 20 46.6
	comp=Z,994nm,20.1s,baz=318,slow=36					
W36A	Wetumka	47.24	270	P	P	00 00 52.0 -0.6
	baz=41,SNR=13					
YBMT	Yellow Bay	47.25	295	eP	P	00 00 53.2 +0.5
YBMT	Yellow Bay	47.25	295	eP	P	00 00 53.2 +0.5
BLMT	Blacktail Moun	47.31	295	eP	P	00 00 53.9 +0.6
BLMT	Blacktail Moun	47.31	295	eP	P	00 00 53.9 +0.6
Y38A	Idabel	47.37	267	P	P	00 00 53.6 0.0
	baz=40					
SLMT	Seeley Lake	47.43	294	eP	P	00 00 54.0 -0.2
SLMT	Seeley Lake	47.43	294	eP	P	00 00 54.0 -0.2
242A	Grayson	47.44	264	P	P	00 00 53.8 -0.4
	baz=39,SNR=6.3					
NEY	Neytrino	47.46	74⇓	eP	P	00 00 56.4 +1.9
JTMT	Jette	47.46	295	eP	P	00 00 55.2 +0.8
JTMT	Jette	47.46	295	eP	P	00 00 55.2 +0.8
SWMT	Swartz Lake	47.49	295	eP	P	00 00 54.8 +0.2
SWMT	Swartz Lake	47.49	295	eP	P	00 00 54.8 +0.2
CHMT	Chamberlain Mo	47.54	294	eP	P	00 00 55.5 +0.4
CHMT	Chamberlain Mo	47.54	294	eP	P	00 00 55.5 +0.4
PHWY	Pilot Hill	47.58	283	eP	P	00 00 55.6 0.0
	comp=Z,29nm,1.2s					
PHWY	Pilot Hill	47.58	283	eP	P	00 00 55.6 0.0
	comp=Z,29nm,1.2s					
W35A	Tecumseh	47.58	270	P	P	00 00 54.9 -0.4
	baz=41,SNR=19					
BSMT	Bassoo Peak	47.63	295	eP	P	00 00 56.6 +0.8
BSMT	Bassoo Peak	47.63	295	eP	P	00 00 56.6 +0.8
BOZ	Bozeman (W)	47.66	291	P	P	00 00 55.8 -0.2
	baz=45,SNR=30					
BOZ	Bozeman (W)	47.66	291	eP	P	00 00 56.3 +0.3
BOZ				pmax	pmax	
	comp=Z,61nm,1.4s					
BOZ				MLR	MLR	
	comp=Z,2µm,19.0s					
BOZ	Bozeman (W)	47.66	291	eP	P	00 00 56.3 +0.3
	comp=Z,61nm,1.4s					
BOZ	Bozeman (W)	47.66	291	eP	P	00 00 56.3 +0.3
	comp=Z,61nm,1.4s					
BOZ				LR	LR	
	comp=Z,2µm,19.0s					
NCK	Nalchik	47.73	73⇑	eP	P	00 00 57.3 +0.9
NCK				pmax	pmax	
	comp=Z,97nm,2.5s					
140A	Cam and Jess,	47.74	265	P	P	00 00 56.5 0.0
	baz=39					
X36A	Centrahoma	47.74	269	P	P	00 00 56.4 -0.2
	baz=40,SNR=7.9					
KSCO	Kaye Shedlock'	47.76	279	P	P	00 00 56.5 -0.3
	baz=43					
KSCO	Kaye Shedlock'	47.76	279	eP	P	00 00 57.8 +1.0
	comp=Z,140nm,1.4s					
KSCO	Kaye Shedlock'	47.76	279	eP	P	00 00 57.9 +1.0
	comp=Z,140nm,1.4s					
LKWY	Lake	47.78	289	PFAKE		00 01 10.0 +13
LKWY				LR	LR	
	comp=Z,4µm,22.0s					
U32A	Winter Ranch,	47.79	273	P	P	00 00 56.9 -0.1
	baz=41,SNR=5.5					
YNR	Norris Junctio	47.81	290	eP	P	00 01 00.6 +3.3
	comp=Z,47nm,1.5s					
YNR	Norris Junctio	47.81	290	eP	P	00 01 00.6 +3.3
	comp=Z,47nm,1.5s					
YHH	Holmes Hill	47.85	290	eP	P	00 00 58.8 +1.2
	comp=Z,15nm,1.2s					
YHH	Holmes Hill	47.85	290	eP	P	00 00 58.8 +1.2
	comp=Z,15nm,1.2s					
LRM	Limekiln Ridge	47.91	292	eP	P	00 00 59.3 +1.2
LRM	Limekiln Ridge	47.91	292	eP	P	00 00 59.3 +1.2
MSO	Missoula	47.94	294	P	P	00 00 57.9 -0.1
	baz=45,SNR=5.1					
MSO	Missoula	47.94	294	eP	P	00 00 58.2 +0.2
	comp=Z,11nm,0.9s					
MSO	Missoula	47.94	294	eP	P	00 00 58.2 +0.2
	comp=Z,11nm,0.9s					
IL1	Eielson Array	47.94	328	eP	P	00 00 57.5 -0.2
IL1	Eielson Array	47.94	328	eP	P	00 00 57.5 -0.2
ILAR	Eielson Array	47.94	328	P	P	00 00 58.0 +0.3
	comp=Z,12nm,1.0s,baz=41,slow=5.5,SNR=5.1					
ILAR				PcP	PcP	00 02 24.9 -0.7
	comp=Z,7.0nm,0.6s,baz=0.9,slow=2.6,SNR=30					
ILAR				LR	LR	00 21 33.0
	comp=Z,1µm,20.0s,baz=54,slow=37					
ILAR	Eielson Array	47.94	328	PcP	PcP	00 02 25.0 -0.7
ILB	Eielson Array	47.94	328	eP	P	00 00 58.2 +0.5
ILB	Eielson Array	47.94	328	eP	P	00 00 58.2 +0.5
DOT	Dot Lake	47.97	326	eP	P	00 00 59.7 +1.7
	comp=Z,73nm,1.2s					
DOT	Dot Lake	47.97	326	eP	P	00 00 59.7 +1.7
	comp=Z,73nm,1.2s					
H17A	Grant Village	47.99	289	eP	P	00 01 00.1 +1.4
	comp=Z,24nm,1.0s					
H17A	Grant Village	47.99	289	eP	P	00 01 00.1 +1.4
	comp=Z,24nm,1.0s					
YMR	Madison River	47.99	290	eP	P	00 00 56.8 -1.9
	comp=Z,21nm,0.4s					
YMR	Madison River	47.99	290	eP	P	00 00 56.8 -1.9
	comp=Z,21nm,0.4s					
YHB	Horse Butte	48.05	290	eP	P	00 01 02.4 +3.3
	comp=Z,119nm,1.9s					
YHB	Horse Butte	48.05	290	eP	P	00 01 02.4 +3.3
	comp=Z,119nm,1.9s					
YFT	Old Faithful	48.08	290	eP	P	00 01 02.2 +2.8
	comp=Z,50nm,1.2s					
YFT	Old Faithful	48.08	290	eP	P	00 01 02.1 +2.8
	comp=Z,50nm,1.2s					
QLMT	Earthquake Lak	48.11	290	eP	P	00 01 01.0 +1.5
QLMT	Earthquake Lak	48.11	290	eP	P	00 01 01.0 +1.5
SDDR	Presa de Saban	48.11	233	eP	P	00 01 00.8 +1.2
	comp=Z,28nm,1.2s					
SDDR	Presa de Saban	48.11	233	eP	P	00 01 00.8 +1.2
	comp=Z,28nm,1.2s					
SDDR				LR	LR	
	comp=Z,1µm,22.0s					
N23A	Red Feather La	48.13	283	P	P	00 00 59.4 -0.4
	baz=43,SNR=22					
N23A	Red Feather La	48.13	283	eP	P	00 01 00.6 +0.8
	comp=Z,165nm,1.6s					
N23A	Red Feather La	48.13	283	eP	P	00 01 00.6 +0.8
	comp=Z,165nm,1.6s					
COLA	College	48.13	329	PFAKE		00 01 10.0 +11
COLA				LR	LR	
	comp=Z,2µm,19.0s					
FDF	Fort de France	48.13	218	eP	P	00 00 59.4 -0.3
FDF				pmax	pmax	
	comp=Z,119nm,1.1s					
FDF				MLR	MLR	
	comp=Z,586nm,21.0s					
FDF	Fort de France	48.13	218	eP	P	00 00 59.4 -0.3
	comp=Z,118nm,1.1s					
FDF	Fort de France	48.13	218	eP	P	00 00 59.4 -0.3
	comp=Z,118nm,1.1s					
FDF				LR	LR	
	comp=Z,586nm,21.0s					
139A	Bunkhouse Ranc	48.15	266	P	P	00 00 59.7 0.0
	baz=39					
SKAG	Skagway	48.17	318	eP	P	00 01 01.1 +1.6
	comp=Z,70nm,1.5s					
SKAG	Skagway	48.17	318	eP	P	00 01 01.1 +1.6
	comp=Z,70nm,1.5s					
MDM	Murphy Dome	48.17	329	eP	P	00 01 00.4 +0.9
	comp=Z,91nm,1.6s					
MDM	Murphy Dome	48.17	329	eP	P	00 01 00.4 +0.9
	comp=Z,91nm,1.6s					
X35A	Drake	48.20	270	P	P	00 00 59.6 -0.6
	baz=40,SNR=15					
Y36A	Durant	48.22	269	P	P	00 01 00.2 -0.1
	baz=40,SNR=5.3					
CCB	Clear Creek Bu	48.29	329	eP	P	00 01 00.7 +0.3
	comp=Z,32nm,1.5s					
CCB	Clear Creek Bu	48.29	329	eP	P	00 01 00.7 +0.3
	comp=Z,32nm,1.5s					
ONI	Oni	48.30	74	P	P	00 01 01.8 +0.9
ONI	Oni	48.30	74	P	P	00 01 01.8 +0.9
240A	Hunter Patters	48.31	265	P	P	00 01 00.9 0.0
	baz=39					
DLMT	Dillon	48.31	292	eP	P	00 01 02.5 +1.5
	comp=Z,53nm,1.4s					
DLMT	Dillon	48.31	292	eP	P	00 01 02.5 +1.5
	comp=Z,53nm,1.4s					
ZEI	Tsey	48.39	73	eP	P	00 00 59.0 -2.7
ZEI				pmax	pmax	
	comp=Z,87nm,1.8s					
Z37A	Pogue Cattle C	48.40	268	P	P	00 01 01.9 +0.2
	baz=39					
NEW	Newport	48.46	297	P	P	00 01 01.8 -0.1
	baz=45,SNR=7.4					

NEW	**Newport**	**48.46 297**	*e*P	**P**	**00 01 02.6 +0.6**	
NEW			pmax	pmax		
	comp=Z,44nm,1.5s					
NEW			MLR	MLR		
	comp=Z,4μm,20.0s					
NEW	**Newport**	**48.46 297**	*e*P	**P**	**00 01 02.6 +0.6**	
	comp=Z,44nm,1.5s					
NEW	**Newport**	**48.46 297**	*e*P	**P**	**00 01 02.6 +0.6**	
NEW			LR	LR		
	comp=Z,44nm,1.5s					
	comp=Z,4μm,20.0s					
WRH	**Wood River Hil**	**48.51 329**	*e*P	**P**	**00 01 02.4 +0.4**	
	comp=Z,30nm,1.4s					
WRH	**Wood River Hil**	**48.51 329**	*e*P	**P**	**00 01 02.4 +0.4**	
	comp=Z,30nm,1.4s					
IMW	**Indian Meadow**	**48.53 289**	*e*P	**P**	**00 01 04.6 +1.7**	
	comp=Z,33nm,1.4s					
IMW	**Indian Meadow**	**48.53 289**	*e*P	**P**	**00 01 04.6 +1.7**	
	comp=Z,33nm,1.4s					
138A	**Matatall Enter**	**48.53 267**	P	**P**	**00 01 02.6 0.0**	
	baz=39					
ARTV	**Artvin**	**48.53 76**	*e*P	**P**	**00 01 04.3 +1.4**	
	comp=Z,14nm,0.8s					
ARTV	**Artvin**	**48.53 76**	*e*P	**P**	**00 01 04.3 +1.4**	
	comp=Z,14nm,0.8s					
MOOW	**Moose Ponds**	**48.53 289**	*e*P	**P**	**00 01 03.5 +0.6**	
	comp=Z,22nm,1.4s					
MOOW	**Moose Ponds**	**48.53 289**	*e*P	**P**	**00 01 03.5 +0.6**	
	comp=Z,22nm,1.4s					
341A	**Kurthwood**	**48.54 264**	P	**P**	**00 01 03.2 +0.4**	
	baz=38					
LOHW	**Long Hollow**	**48.56 289**	*e*P	**P**	**00 01 03.2 +0.2**	
	comp=Z,27nm,1.3s					
LOHW	**Long Hollow**	**48.56 289**	*e*P	**P**	**00 01 03.2 +0.2**	
	comp=Z,27nm,1.3s					
CSS	**Mathiatis**	**48.61 88**	*e*P	**P**	**00 01 02.8 -0.5**	
	comp=Z,8.8nm,1.1s					
CSS	**Mathiatis**	**48.61 88**	*e*P	**P**	**00 01 02.8 -0.5**	
CSS			LR	LR		
	comp=Z,199nm,20.0s					
Y35A	**Marietta**	**48.62 269**	P	**P**	**00 01 03.6 +0.3**	
	baz=40					
BESE	**Bessie Mountai**	**48.63 317**	*e*P	**P**	**00 01 04.5 +1.3**	
	comp=Z,16nm,1.0s					
BESE	**Bessie Mountai**	**48.63 317**	*e*P	**P**	**00 01 04.5 +1.3**	
	comp=Z,16nm,1.0s					
BW06	**Boulder Array**	**48.64 287**	P	**P**	**00 01 03.2 -0.6**	
	baz=44,SNR=21					
BW06	**Boulder Array**	**48.64 287**	*e*P	**P**	**00 01 03.1 -0.6**	
	comp=Z,34nm,1.3s					
BW06	**Boulder Array**	**48.64 287**	*e*P	**P**	**00 01 03.1 -0.6**	
	comp=Z,34nm,1.3s					
BW06			LR	LR		
	comp=Z,4μm,19.0s					
PD31	**Pinedale Array**	**48.64 287**	*e*P	**P**	**00 01 03.0 -0.6**	
PD31	**Pinedale Array**	**48.64 287**	*e*P	**P**	**00 01 03.0 -0.6**	
PDAR	**Pinedale Array**	**48.64 287**	P	**P**	**00 01 02.5 -1.1**	
	comp=Z,11nm,0.8s,baz=54,slow=7.5,SNR=49					
PDAR			LR	LR	00 20 32.6	
	comp=Z,4μm,18.2s,baz=43,slow=35					
KOPT	**Kop Dagi**	**48.64 78**	*e*P	**P**	**00 01 05.7 +1.9**	
	comp=Z,135nm,1.6s					
KOPT	**Kop Dagi**	**48.64 78**	*e*P	**P**	**00 01 05.7 +1.9**	
	comp=Z,135nm,1.6s					
239A	**Gary**	**48.70 266**	P	**P**	**00 01 03.8 -0.1**	
	baz=39					
SNOW	**Snow King Moun**	**48.74 289**	*e*P	**P**	**00 01 05.2 +0.7**	
	comp=Z,46nm,1.4s					
SNOW	**Snow King Moun**	**48.74 289**	*e*P	**P**	**00 01 05.2 +0.7**	
	comp=Z,46nm,1.4s					
ISCO	**Idaho Springs**	**48.75 282**	P	**P**	**00 01 04.7 0.0**	
	baz=43,SNR=26					
ISCO	**Idaho Springs**	**48.75 282**	*e*P	**P**	**00 01 05.7 +1.0**	
ISCO			pmax	pmax		
	comp=Z,58nm,1.3s					
ISCO			MLR	MLR		
	comp=Z,3μm,19.0s					
ISCO	**Idaho Springs**	**48.75 282**	*e*P	**P**	**00 01 05.7 +1.0**	
	comp=Z,58nm,1.3s					
ISCO	**Idaho Springs**	**48.75 282**	*e*P	**P**	**00 01 05.7 +1.0**	
	comp=Z,58nm,1.3s					
ISCO			LR	LR		
	comp=Z,3μm,19.0s					
FXWY	**Fox Creek**	**48.76 289**	*e*P	**P**	**00 01 04.7 +0.1**	
	comp=Z,23nm,1.1s					
FXWY	**Fox Creek**	**48.76 289**	*e*P	**P**	**00 01 04.7 +0.1**	
	comp=Z,23nm,1.1s					
Z36A	**Blue Ridge**	**48.78 268**	P	**P**	**00 01 04.6 +0.1**	
	baz=40					
MCMT	**McKenzie Canyo**	**48.82 291**	*e*P	**P**	**00 01 05.9 +0.9**	
MCMT	**McKenzie Canyo**	**48.82 291**	*e*P	**P**	**00 01 06.0 +0.9**	
TPAW	**Teton Pass**	**48.83 289**	*e*P	**P**	**00 01 05.6 +0.4**	
	comp=Z,27nm,1.0s					
TPAW	**Teton Pass**	**48.83 289**	*e*P	**P**	**00 01 05.6 +0.4**	
	comp=Z,27nm,1.0s					
340A	**Bronson**	**48.86 265**	P	**P**	**00 01 05.1 -0.1**	
	baz=38					
REDW	**Red Top Meadow**	**48.87 289**	*e*P	**P**	**00 01 05.8 +0.4**	
	comp=Z,44nm,1.3s					
REDW	**Red Top Meadow**	**48.87 289**	*e*P	**P**	**00 01 05.8 +0.4**	
	comp=Z,44nm,1.3s					
WMOK	**Wichita Mounta**	**48.91 272**	P	**P**	**00 01 05.9 +0.3**	
	baz=40,SNR=22					
WMOK	**Wichita Mounta**	**48.91 272**	*e*P	**P**	**00 01 05.4 -0.2**	
WMOK			pmax	pmax		
	comp=Z,117nm,1.6s					
WMOK			MLR	MLR		
	comp=Z,1μm,20.0s					
WMOK	**Wichita Mounta**	**48.91 272**	*e*P	**P**	**00 01 05.4 -0.2**	
	comp=Z,117nm,1.6s					
WMOK	**Wichita Mounta**	**48.91 272**	*e*P	**P**	**00 01 05.4 -0.2**	
	comp=Z,117nm,1.6s					
WMOK			LR	LR		
	comp=Z,1μm,20.0s					
GUDG	**Gudauri**	**48.92 73**	P	**P**	**00 01 07.1 +1.2**	
137A	**Heron Place, G**	**48.94 267**	P	**P**	**00 01 06.3 +0.5**	
	baz=39					
GTBY	**Guantanamo Bay**	**48.95 237**	*e*P	**P**	**00 01 07.7 +1.7**	
	comp=Z,67nm,1.3s					
GTBY	**Guantanamo Bay**	**48.95 237**	*e*P	**P**	**00 01 07.7 +1.7**	
	comp=Z,67nm,1.3s					
GTBY			LR	LR		
	comp=Z,540nm,20.0s					
LLLB	**Lillooet**	**49.00 302**	*e*P	**P**	**00 01 08.9 +2.8**	
	comp=Z,142nm,2.0s					
LLLB	**Lillooet**	**49.00 302**	*e*P	**P**	**00 01 08.9 +2.8**	
	comp=Z,142nm,2.0s					
NATX	**Nacogdoches**	**49.00 266**	P	**P**	**00 01 06.8 +0.5**	
	baz=39					
NATX	**Nacogdoches**	**49.00 266**	PFAKE		00 01 20.0 +14	
NATX			LR	LR		
	comp=Z,3μm,20.0s					
BBGH	**Gun Hill**	**49.11 216**	PFAKE		00 01 20.0 +13	
BBGH			LR	LR		
	comp=Z,1μm,19.0s					
AKH	**Akhalkalaki**	**49.18 75**	P	**P**	**00 01 08.3 +0.6**	
AKH	**Akhalkalaki**	**49.18 75**	P	**P**	**00 01 08.3 +0.6**	
WRAK	**Wrangell Islan**	**49.25 314**	*e*P	**P**	**00 01 09.1 +1.3**	
	comp=Z,26nm,1.3s					
WRAK	**Wrangell Islan**	**49.25 314**	*e*P	**P**	**00 01 09.1 +1.3**	
	comp=Z,27nm,1.3s					
WRAK			LR	LR		
	comp=Z,4μm,19.0s					
339A	**Huntington**	**49.28 265**	P	**P**	**00 01 08.5 +0.1**	
	baz=38					
MCK	**McKinley**	**49.31 328**	*e*P	**P**	**00 01 09.1 +0.8**	
MCK			pmax	pmax		
	comp=Z,75nm,1.4s					
MCK	**McKinley**	**49.31 328**	*e*P	**P**	**00 01 09.1 +0.8**	
	comp=Z,75nm,1.4s					
MCK	**McKinley**	**49.31 328**	*e*P	**P**	**00 01 09.1 +0.8**	
	comp=Z,75nm,1.4s					
DHY	**Denali Highway**	**49.38 327**	*e*P	**P**	**00 01 10.3 +1.3**	
	comp=Z,43nm,1.5s					
DHY	**Denali Highway**	**49.38 327**	*e*P	**P**	**00 01 10.3 +1.3**	
	comp=Z,43nm,1.5s					
237A	**Washetta, Mont**	**49.43 267**	P	**P**	**00 01 09.5 0.0**	
	baz=39					
B08A	**Colville Reser**	**49.43 299**	*e*P	**P**	**00 01 09.1 -0.3**	
	comp=Z,80nm,1.7s					
B08A	**Colville Reser**	**49.43 299**	*e*P	**P**	**00 01 09.2 -0.3**	
	comp=Z,80nm,1.7s					
136A	**Ennis**	**49.45 268**	P	**P**	**00 01 10.2 +0.5**	
	baz=39					
RND	**Reindeer**	**49.55 328**	*e*P	**P**	**00 01 10.2 +0.1**	
RND			pmax	pmax		
	comp=Z,48nm,1.5s					
RND	**Reindeer**	**49.55 328**	*e*P	**P**	**00 01 10.2 +0.1**	
	comp=Z,48nm,1.5s					
RND	**Reindeer**	**49.55 328**	*e*P	**P**	**00 01 10.2 +0.1**	
	comp=Z,48nm,1.5s					
TBLG	**Delisi**	**49.59 74**	P	**P**	**00 01 11.0 +0.4**	
TBLG	**Delisi**	**49.59 74**	P	**P**	**00 01 11.0 +0.4**	
AKTO	**Aktyubinsk**	**49.73 57**	P	**P**	**00 01 11.4 -0.2**	
	comp=Z,22nm,0.9s,baz=317,slow=7.8,SNR=41					
AKTO			LR	LR	00 21 48.8	
	comp=Z,2μm,18.4s,baz=322,slow=36					
O20A	**White River Ci**	**49.88 284**	P	**P**	**00 01 13.3 +0.2**	
	baz=42					
O20A	**White River Ci**	**49.88 284**	*e*P	**P**	**00 01 14.4 +1.3**	
	comp=Z,109nm,1.5s					
O20A	**White River Ci**	**49.88 284**	*e*P	**P**	**00 01 14.4 +1.3**	
	comp=Z,109nm,1.5s					
TRF	**Thorofare Moun**	**49.91 329**	*e*P	**P**	**00 01 15.2 +2.2**	
	comp=Z,201nm,1.8s					
TRF	**Thorofare Moun**	**49.91 329**	*e*P	**P**	**00 01 15.2 +2.2**	
	comp=Z,201nm,1.8s					
SMCO	**Snowmass**	**49.92 282**	*e*P	**P**	**00 01 14.5 +0.8**	
	comp=Z,40nm,1.3s					
SMCO	**Snowmass**	**49.92 282**	*e*P	**P**	**00 01 14.5 +0.8**	
	comp=Z,40nm,1.3s					
KTH	**Kantishna Hill**	**50.01 329**	*e*P	**P**	**00 01 13.9 +0.3**	
	comp=Z,69nm,1.4s					
KTH	**Kantishna Hill**	**50.01 329**	*e*P	**P**	**00 01 13.9 +0.3**	
	comp=Z,69nm,1.4s					
TIXI	**Tiksi**	**50.08 8⇓**	*e*P	**P**	**00 01 15.3 +1.4**	
TIXI			pmax	pmax		
	comp=Z,29nm,1.0s					
TIXI	**Tiksi**	**50.08 8**	*e*P	**P**	**00 01 14.5 +0.6**	
	comp=Z,22nm,0.9s					
TIXI	**Tiksi**	**50.08 8**	*e*P	**P**	**00 01 14.5 +0.6**	
	comp=Z,22nm,0.9s					
TIXI			LR	LR		
	comp=Z,429nm,20.0s					
T25A	**Trinidad**	**50.09 278**	P	**P**	**00 01 14.8 0.0**	
	baz=41,SNR=21					
T25A	**Trinidad**	**50.09 278**	*e*P	**P**	**00 01 15.8 +0.9**	
	comp=Z,79nm,1.4s					
T25A	**Trinidad**	**50.09 278**	*e*P	**P**	**00 01 15.8 +0.9**	
	comp=Z,79nm,1.4s					
MAK	**Makhachkala**	**50.09 71**	*e*P	P	00 01 08.6 -5.8	
MAK			*e*S	**S**	**00 08 16.9 -7.8**	
MAK			pmax	pmax		
	comp=Z,173nm,1.3s					
MAK			MLR	MLR		
	comp=Z,862nm,16.0s					
F10A	**Beach Ranch, E**	**50.14 295**	*e*P	**P**	**00 01 15.2 +0.3**	
	comp=Z,62nm,1.5s					
F10A	**Beach Ranch, E**	**50.14 295**	*e*P	**P**	**00 01 15.2 +0.3**	
	comp=Z,62nm,1.5s					
KLU	**Klutina**	**50.17 325**	*e*P	**P**	**00 01 16.1 +1.2**	
	comp=Z,33nm,1.3s					
KLU	**Klutina**	**50.17 325**	*e*P	**P**	**00 01 16.1 +1.2**	
	comp=Z,33nm,1.3s					
SDCO	**Great Sand Dun**	**50.22 280**	P	**P**	**00 01 16.4 +0.6**	
	baz=42,SNR=6.1					
SDCO	**Great Sand Dun**	**50.22 280**	*e*P	**P**	**00 01 16.7 +0.9**	
	comp=Z,64nm,1.6s					
SDCO	**Great Sand Dun**	**50.22 280**	*e*P	**P**	**00 01 16.7 +0.9**	
	comp=Z,64nm,1.6s					
SDCO			LR	LR		
	comp=Z,3μm,22.0s					
438A	**Sam Houston St**	**50.23 265**	P	**P**	**00 01 15.7 +0.1**	
	baz=38					
WHTX	**Lake Whitney,**	**50.31 268**	P	**P**	**00 01 16.3 0.0**	
	baz=39,SNR=5.6					
WHTX	**Lake Whitney,**	**50.31 268**	*e*P	**P**	**00 01 15.5 -0.8**	
	comp=Z,145nm,1.6s					
WHTX	**Lake Whitney,**	**50.31 268**	*e*P	**P**	**00 01 15.5 -0.8**	
	comp=Z,145nm,1.6s					
AMTX	**Amarillo**	**50.35 274**	P	**P**	**00 01 17.0 +0.4**	
	baz=40					
AMTX	**Amarillo**	**50.35 274**	*e*P	**P**	**00 01 17.4 +0.8**	
	comp=Z,120nm,1.4s					
AMTX	**Amarillo**	**50.35 274**	*e*P	**P**	**00 01 17.4 +0.8**	
	comp=Z,120nm,1.4s					
CAST	**Castle Rocks**	**50.43 329**	*e*P	**P**	**00 01 17.3 +0.5**	
	comp=Z,47nm,1.4s					
CAST	**Castle Rocks**	**50.43 329**	*e*P	**P**	**00 01 17.3 +0.5**	
	comp=Z,47nm,1.4s					
336A	**Riesel**	**50.46 267**	P	**P**	**00 01 17.2 -0.1**	
	baz=38,SNR=7.6					
HWUT	**Hardware Ranch**	**50.50 287**	*e*P	**P**	**00 01 17.7 -0.1**	
	comp=Z,46nm,1.1s					
HWUT	**Hardware Ranch**	**50.50 287**	*e*P	**P**	**00 01 17.7 -0.1**	
	comp=Z,46nm,1.1s					
HWUT			LR	LR		
	comp=Z,4μm,20.0s					
HLID	**Hailey**	**50.51 291**	P	**P**	**00 01 18.3 +0.4**	
	baz=43,SNR=22					
HLID	**Hailey**	**50.51 291**	*e*P	**P**	**00 01 18.8 +0.9**	
	comp=Z,42nm,1.4s					
HLID	**Hailey**	**50.51 291**	*e*P	**P**	**00 01 18.8 +0.9**	
	comp=Z,42nm,1.4s					
HLID			LR	LR		
	comp=Z,1μm,19.0s					
SML	**Sawmill**	**50.65 326**	*e*P	**P**	**00 01 20.0 +1.5**	
SML			pmax	pmax		
	comp=Z,136nm,1.6s					
SML	**Sawmill**	**50.65 326**	*e*P	**P**	**00 01 20.0 +1.5**	
	comp=Z,136nm,1.6s					
SML	**Sawmill**	**50.65 326**	*e*P	**P**	**00 01 20.0 +1.5**	
	comp=Z,136nm,1.6s					
GRGR	**Grenville**	**50.73 218**	PFAKE		00 01 30.0 +10	
GRGR			LR	LR		
	comp=Z,426nm,20.0s					
GNI	**Garni**	**50.75 75**	P	**P**	**00 01 20.9 +1.2**	
	comp=Z,59nm,1.1s,baz=183,slow=5.8,SNR=12					
GNI			LR	LR	00 23 12.1	
	comp=Z,907nm,19.9s,baz=322,slow=36					
GNI	**Garni**	**50.75 75⇑**	*e*P	**P**	**00 01 20.6 +0.9**	
GNI			pmax	pmax		
	comp=Z,373nm,1.2s					
GNI	**Garni**	**50.75 75**	P	**P**	**00 01 20.6 +0.9**	
	SNR=23					
GNI	**Garni**	**50.75 75**	*e*P	**P**	**00 01 20.6 +0.9**	
	comp=Z,132nm,1.3s					
GNI	**Garni**	**50.75 75**	P	**P**	**00 01 20.6 +0.9**	
	SNR=23					
MARD	**Mardin**	**50.79 80**	*e*P	**P**	**00 01 21.5 +1.5**	
	comp=Z,47nm,1.1s					
MARD	**Mardin**	**50.79 80**	*e*P	**P**	**00 01 21.5 +1.5**	
	comp=Z,47nm,1.1s					
PPLA	**Purkeypile**	**50.88 329**	*e*P	**P**	**00 01 22.5 +2.2**	
	comp=Z,93nm,1.4s					
PPLA	**Purkeypile**	**50.88 329**	*e*P	**P**	**00 01 22.5 +2.2**	
	comp=Z,93nm,1.4s					
S22A	**4UR Ranch, Cre**	**50.91 281**	P	**P**	**00 01 21.4 +0.3**	
	baz=41,SNR=24					
S22A	**4UR Ranch, Cre**	**50.91 281**	*e*P	**P**	**00 01 22.2 +1.1**	
	comp=Z,113nm,1.8s					
S22A	**4UR Ranch, Cre**	**50.91 281**	*e*P	**P**	**00 01 22.2 +1.1**	
	comp=Z,113nm,1.8s					
HAWA	**Hanford**	**50.94 297**	PFAKE		00 01 30.0 +9.2	
HAWA			LR	LR		
	comp=Z,3μm,21.0s					
ABTX	**Abilene, Hawle**	**50.99 271**	P	**P**	**00 01 21.2 -0.2**	
	baz=39,SNR=9.6					
ABTX	**Abilene, Hawle**	**50.99 271**	*e*P	**P**	**00 01 21.5 +0.1**	
	comp=Z,100nm,1.5s					
ABTX	**Abilene, Hawle**	**50.99 271**	*e*P	**P**	**00 01 21.5 +0.1**	
	comp=Z,100nm,1.5s					
BMO	**Blue Mountains**	**50.99 294**	*e*P	**P**	**00 01 21.0 -0.4**	
BMO			pmax	pmax		
	comp=Z,14nm,0.9s					
BMO			MLR	MLR		
	comp=Z,2μm,21.0s					
BMO	**Blue Mountains**	**50.99 294**	*e*P	**P**	**00 01 21.0 -0.4**	
	comp=Z,14nm,0.9s					
BMO	**Blue Mountains**	**50.99 294**	*e*P	**P**	**00 01 20.9 -0.4**	
	comp=Z,14nm,0.9s					
BMO			LR	LR		
	comp=Z,2μm,21.0s					
HKT	**Hockley**	**51.05 265**	*e*P	**P**	**00 01 21.7 0.0**	
HKT			pmax	pmax		
	comp=Z,534nm,1.6s					
HKT	**Hockley**	**51.05 265**	*e*P	**P**	**00 01 21.7 0.0**	
	comp=Z,534nm,1.6s					
HKT	**Hockley**	**51.05 265**	*e*P	**P**	**00 01 21.7 0.0**	
	comp=Z,534nm,1.6s					
PMR	**Palmer**	**51.05 327**	*e*P	**P**	**00 01 23.5 +2.1**	
PMR			pmax	pmax		
	comp=Z,83nm,1.8s					
PMR	**Palmer**	**51.05 327**	*e*P	**P**	**00 01 23.5 +2.1**	
	comp=Z,83nm,1.8s					
PMR	**Palmer**	**51.05 327**	*e*P	**P**	**00 01 23.5 +2.1**	
	comp=Z,83nm,1.8s					
JLU	**Jordanelle**	**51.19 287**	*e*P	**P**	**00 01 23.3 +0.2**	
	comp=Z,106nm,1.9s					
JLU	**Jordanelle**	**51.19 287**	*e*P	**P**	**00 01 23.3 +0.2**	
	comp=Z,106nm,1.9s					
537A	**Green Hill Far**	**51.20 266**	P	**P**	**00 01 23.6 +0.6**	
	baz=38					
MMAI	**Mount Meron Ar**	**51.20 88**	P	**P**	**00 01 23.1 0.0**	
	comp=Z,2.3nm,0.6s,baz=354,slow=5.0,SNR=6.9					
MMAI			LR	LR	00 24 31.5	
	comp=Z,911nm,20.8s,baz=320,slow=38					
MFID	**Camas Ranch**	**51.32 292**	*e*P	**P**	**00 01 23.8 -0.1**	
	comp=Z,6.3nm,0.9s					
MFID	**Camas Ranch**	**51.32 292**	*e*P	**P**	**00 01 23.8 -0.1**	
	comp=Z,6.4nm,0.9s					
MFID			*e*PcP	**PcP**	**00 02 39.2 +0.6**	
ABKAR	**Akbulak array**	**51.44 57**	*e*P	**P**	**00 01 24.1 -0.5**	
ABKAR	**Akbulak array**	**51.44 57**	*e*P	**P**	**00 01 24.1 -0.5**	
MTDJ	**Mount Denham**	**51.53 239**	PFAKE		00 01 40.0 +14	
MTDJ			LR	LR		
	comp=Z,730nm,20.0s					
PV01	**Paradox Valley**	**51.53 282**	*e*P	**P**	**00 01 26.6 +0.9**	
PV01	**Paradox Valley**	**51.53 282**	*e*P	**P**	**00 01 26.6 +0.9**	
PV09	**Paradox Valley**	**51.55 283**	*e*P	**P**	**00 01 27.1 +1.2**	
PV09	**Paradox Valley**	**51.55 283**	*e*P	**P**	**00 01 27.1 +1.2**	
SUA	**Susitna One**	**51.62 327**	*e*P	**P**	**00 01 27.6 +1.7**	
	comp=Z,114nm,1.4s					
SUA	**Susitna One**	**51.62 327**	*e*P	**P**	**00 01 27.6 +1.7**	
	comp=Z,114nm,1.4s					
MSTX	**Muleshoe**	**51.63 274**	P	**P**	**00 01 26.1 -0.2**	
	baz=40,SNR=12					
MSTX	**Muleshoe**	**51.63 274**	*e*P	**P**	**00 01 26.8 +0.5**	
	comp=Z,66nm,1.4s					
MSTX	**Muleshoe**	**51.63 274**	*e*P	**P**	**00 01 26.8 +0.5**	
	comp=Z,66nm,1.4s					
RC01	**Rabbit Creek A**	**51.63 327**	*e*P	**P**	**00 01 28.0 +2.2**	
	comp=Z,52nm,1.3s					
RC01	**Rabbit Creek A**	**51.63 327**	*e*P	**P**	**00 01 28.0 +2.2**	
	comp=Z,52nm,1.3s					
TORD	**Torodi Ar. Bea**	**51.63 136**	P	**P**	**00 01 24.4 -1.9**	
	comp=Z,22nm,0.9s,baz=340,slow=7.7,SNR=82					
TORD			LR	LR	00 21 32.9	
	comp=Z,754nm,18.9s,baz=340,slow=34					
P17A	**Butcher Ranch,**	**51.66 285**	*e*P	**P**	**00 01 22.8 -3.8**	
	comp=Z,57nm,1.3s					
BGU	**Big Grassy Mou**	**51.75 288**	*e*P	**P**	**00 01 27.0 -0.2**	
	comp=Z,13nm,1.0s					
BGU	**Big Grassy Mou**	**51.75 288**	*e*P	**P**	**00 01 27.1 -0.2**	
	comp=Z,13nm,1.0s					
SRU	**San Rafael Swe**	**51.82 285**	*e*P	**P**	**00 01 28.3 +0.6**	
SRU			pmax	pmax		
	comp=Z,23nm,1.1s					
SRU	**San Rafael Swe**	**51.82 285**	*e*P	**P**	**00 01 28.3 +0.6**	
	comp=Z,23nm,1.1s					
SRU	**San Rafael Swe**	**51.82 285**	*e*P	**P**	**00 01 28.3 +0.6**	
	comp=Z,23nm,1.1s					
PV05	**Paradox Valley**	**51.85 283**	*e*P	**P**	**00 01 28.5 +0.4**	
PV05	**Paradox Valley**	**51.85 283**	*e*P	**P**	**00 01 28.5 +0.4**	
TTA	**Tatalina**	**51.87 331**	*e*P	**P**	**00 01 28.1 +0.4**	
TTA			pmax	pmax		
	comp=Z,71nm,1.6s					
TTA	**Tatalina**	**51.87 331**	*e*P	**P**	**00 01 28.1 +0.4**	
	comp=Z,71nm,1.6s					
TTA	**Tatalina**	**51.87 331**	*e*P	**P**	**00 01 28.1 +0.4**	
	comp=Z,71nm,1.6s					
TT01	**Tatalina**	**51.89 331**	*e*P	**P**	**00 01 27.8 +0.1**	
TT01	**Tatalina**	**51.89 331**	*e*P	**P**	**00 01 27.8 +0.1**	
NLU	**North Lily Min**	**51.99 286**	*e*P	**P**	**00 01 29.5 +0.5**	
	comp=Z,66nm,1.3s					
NLU	**North Lily Min**	**51.99 286**	*e*P	**P**	**00 01 29.5 +0.5**	
	comp=Z,66nm,1.3s					
TMUT	**Trail Mountain**	**52.03 285**	*e*P	**P**	**00 01 29.8 +0.3**	
	comp=Z,68nm,1.7s					
TMUT	**Trail Mountain**	**52.03 285**	*e*P	**P**	**00 01 29.8 +0.3**	
	comp=Z,68nm,1.7s					
636A	**Smothers Creek**	**52.07 266**	P	**P**	**00 01 29.4 0.0**	
	baz=38,SNR=5.9					
DUG	**Dugway, Tooele**	**52.18 287**	P	**P**	**00 01 30.5 +0.1**	
	baz=42					
DUG	**Dugway, Tooele**	**52.18 287**	*e*P	**P**	**00 01 31.4 +1.0**	
DUG			*e*		00 03 29.0	
DUG			pmax	pmax		
	comp=Z,64nm,1.8s					
DUG			MLR	MLR		
	comp=Z,3μm,19.0s					
DUG	**Dugway, Tooele**	**52.18 287**	*e*P	**P**	**00 01 31.4 +1.0**	
	comp=Z,64nm,1.8s					
DUG	**Dugway, Tooele**	**52.18 287**	*e*PP	PP	00 03 29.0 +0.5	
DUG	**Dugway, Tooele**	**52.18 287**	*e*P	**P**	**00 01 31.4 +1.0**	
	comp=Z,64nm,1.8s					
DUG			*e*PP	**PP**	**00 03 28.9 +0.5**	
DUG			LR	LR		
	comp=Z,3μm,19.0s					
MVCO	**Mesa Verde**	**52.19 281**	P	**P**	**00 01 31.3 +0.7**	
	baz=41,SNR=18					
MVCO	**Mesa Verde**	**52.19 281**	*e*P	**P**	**00 01 31.9 +1.3**	
	comp=Z,70nm,1.1s					
MVCO	**Mesa Verde**	**52.19 281**	*e*P	**P**	**00 01 31.9 +1.3**	
	comp=Z,70nm,1.1s					
MVCO			LR	LR		
	comp=Z,2μm,19.0s					
SPU	**Mount Spurr**	**52.23 328**	*e*P	**P**	**00 01 30.7 +0.4**	
SPU	**Mount Spurr**	**52.23 328**	*e*P	**P**	**00 01 30.7 +0.4**	
NLWA	**Neilton Lookou**	**52.23 301**	PFAKE		00 01 40.0 +9.5	
NLWA			LR	LR		
	comp=Z,4μm,20.0s					
736A	**Circle Diamond**	**52.49 265**	P	**P**	**00 01 33.1 +0.6**	
	baz=37					
635A	**Leesville**	**52.52 266**	P	**P**	**00 01 32.5 -0.3**	
	baz=38					
G05D	**Wamic, OR**	**52.63 297**	P	**P**	**00 01 33.5 0.0**	
	baz=42					
ASF	**Jabal al Asfar**	**52.65 88**	P	**P**	**00 01 34.0 +0.1**	
	comp=Z,5.9nm,0.7s,baz=222,slow=1.8,SNR=10					
ASF			LR	LR	00 25 09.5	
	comp=Z,622nm,22.0s,baz=278,slow=37					
ASF	**Jabal al Asfar**	**52.65 88**	P	**P**	**00 01 34.0 +0.1**	
E03A	**Lebam**	**52.72 300**	*e*P	**P**	**00 01 36.0 +1.9**	
	comp=Z,490nm,2.0s					
E03A	**Lebam**	**52.72 300**	*e*P	**P**	**00 01 36.0 +1.9**	
	comp=Z,490nm,2.0s					
JCT	**Junction City**	**52.74 269**	P	**P**	**00 01 34.1 -0.4**	
	baz=38,SNR=11					
JCT	**Junction City**	**52.74 269**	*e*P	**P**	**00 01 34.4 -0.1**	
JCT			pmax	pmax		
	comp=Z,41nm,1.0s					
JCT			MLR	MLR		
	comp=Z,2μm,20.0s		

SVW2	Sparrevohn	53.28	329	eP	P	00 01 38.8 +0.8
	comp=Z,44nm,1.7s					
SVW2	Sparrevohn	53.28	329	eP	P	00 01 38.8 +0.8
	comp=Z,44nm,1.7s					
I05D	Terrebonne, OR	53.32	297	P	P	00 01 38.3 -0.3
	baz=42					
835A	Beeville	53.42	266	P	P	00 01 39.6 +0.1
	baz=37					
WVOR	Wild Horse Val	53.43	293	eP	P	00 01 40.2 +0.6
WVOR				pmax	pmax	
	comp=Z,81nm,1.5s					
WVOR				MLR	MLR	
	comp=Z,2µm,20.0s					
WVOR	Wild Horse Val	53.43	293	eP	P	00 01 40.2 +0.6
	comp=Z,2µm,20.0s					
WVOR	Wild Horse Val	53.43	293	eP	P	00 01 40.2 +0.6
	comp=Z,81nm,1.5s					
WVOR				LR	LR	
	comp=Z,2µm,20.0s					
MTPU	Mount Pierson	53.48	285	eP	P	00 01 42.9 +2.6
	comp=Z,58nm,1.4s					
MTPU	Mount Pierson	53.48	285	eP	P	00 01 42.9 +2.6
	comp=Z,58nm,1.4s					
BNM	Barren Site	53.53	278	eP	P	00 01 42.0 +1.5
BNM	Barren Site	53.53	278	eP	P	00 01 42.0 +1.5
EIL	Elat	53.57	91	P	P	00 01 41.2 +0.7
	comp=Z,28nm,1.1s,baz=328,slow=4.0,SNR=8.5					
EIL				LR	LR	00 26 05.1
	comp=Z,169nm,20.1s,baz=328,slow=38					
BILL	Bilibino	53.59	351	eP	P	00 01 40.1 -0.1
BILL				e		00 02 46.1
BILL				e		00 03 40.4
BILL				ePPP	PPP	00 04 54.0
BILL				pmax	pmax	
	comp=Z,7.0nm,1.2s					
BILL	Bilibino	53.59	351	eP	P	00 01 40.1 -0.1
	comp=Z,7.0nm,1.2s					
BILL	Bilibino	53.59	351	ePcP	PcP	00 02 46.1 -0.4
LAZ	Ladron	53.61	278	eP	P	00 01 42.6 +1.5
LAZ	Ladron	53.61	278	eP	P	00 01 42.6 +1.5
733A	Divot King Ran	53.86	267	P	P	00 01 42.3 -0.3
	baz=37					
834A	Tilden	53.94	266	P	P	00 01 43.4 +0.1
	baz=37,SNR=7.7					
PKCU	Pink Cliffs	54.00	285	eP	P	00 01 45.0 +1.0
	comp=Z,117nm,1.7s					
PKCU	Pink Cliffs	54.00	285	eP	P	00 01 45.0 +1.0
	comp=Z,117nm,1.7s					
KVTX	Kingsville	54.05	265	PFAKE		00 02 00.0 +16
KVTX				LR	LR	
	comp=Z,2µm,20.0s					
J05D	Fort Rock, OR	54.06	296	P	P	00 01 44.2 0.0
	baz=41,SNR=12					
833A	Chaparral WMA,	54.23	267	P	P	00 01 45.3 -0.1
	baz=37					
BMN	Battle Mountai	54.23	291	eP	P	00 01 46.0 +0.5
BMN				pmax	pmax	
	comp=Z,17nm,1.1s					
BMN	Battle Mountai	54.23	291	eP	P	00 01 46.0 +0.5
	comp=Z,17nm,1.1s					
BMN	Battle Mountai	54.23	291	eP	P	00 01 46.0 +0.5
	comp=Z,17nm,1.1s					
934A	Benavides	54.34	266	P	P	00 01 46.6 +0.4
	baz=37					
W18A	Petrified Fore	54.43	281	P	P	00 01 46.7 -0.3
	baz=40					
W18A	Petrified Fore	54.43	281	eP	P	00 01 48.8 +1.8
	comp=Z,51nm,1.5s					
W18A	Petrified Fore	54.43	281	eP	P	00 01 48.8 +1.8
	comp=Z,51nm,1.5s					
CCUT	Cedar City	54.46	285	eP	P	00 01 48.2 +0.9
	comp=Z,19nm,1.2s					
CCUT	Cedar City	54.46	285	eP	P	00 01 48.2 +0.9
	comp=Z,19nm,1.2s					
J04D	Umpqua Nationa	54.51	296	P	P	00 01 47.1 -0.4
	baz=41					
832A	Faith Ranch, C	54.57	268	P	P	00 01 48.0 +0.1
	baz=37					
035A	Encino	54.64	265	P	P	00 01 48.1 -0.3
	baz=36					
MOD	Modoc Plateau	54.65	294	eP	P	00 01 48.7 +0.2
	comp=Z,39nm,1.2s					
MOD	Modoc Plateau	54.65	294	eP	P	00 01 48.7 +0.2
	comp=Z,39nm,1.2s					
933A	Laredo	54.73	266	P	P	00 01 48.9 -0.1
	baz=37,SNR=9.8					
MNTX	Cornudas Mount	54.77	275	P	P	00 01 48.9 -0.4
	baz=38,SNR=18					
MNTX	Cornudas Mount	54.77	275	eP	P	00 01 49.2 -0.1
	comp=Z,50nm,1.6s					
MNTX	Cornudas Mount	54.77	275	eP	P	00 01 49.1 -0.1
	comp=Z,50nm,1.6s					
MNTX				LR	LR	
	comp=Z,2µm,19.0s					
LCMT	Little Creek M	54.81	285	eP	P	00 01 49.8 +0.1
	comp=Z,24nm,1.1s					
LCMT	Little Creek M	54.81	285	eP	P	00 01 49.8 +0.1
	comp=Z,24nm,1.1s					
034A	Hebbronville	54.85	266	P	P	00 01 50.2 +0.3
	baz=36					
URIC	Uribia, Colomb	54.94	229	eP	P	00 01 50.0 -0.6
WUAZ	Wupatki	54.98	282	P	P	00 01 51.2 +0.2
	baz=40,SNR=8.2					
WUAZ	Wupatki	54.98	282	eP	P	00 01 51.9 +0.9
	comp=Z,166nm,1.9s					
WUAZ	Wupatki	54.98	282	eP	P	00 01 51.9 +0.9
	comp=Z,166nm,1.9s					
WUAZ				LR	LR	
	comp=Z,2µm,21.0s					
R11A	Troy Canyon, C	54.99	288	P	P	00 01 51.1 0.0
	baz=40,SNR=21					
R11A	Troy Canyon, C	54.99	288	eP	P	00 01 51.4 +0.4
	comp=Z,22nm,1.2s					
R11A	Troy Canyon, C	54.99	288	eP	P	00 01 51.4 +0.4
	comp=Z,22nm,1.2s					
035Z	Hargill	55.01	265	P	P	00 01 51.3 +0.3
	baz=36					
KDAK	Kodiak Island	55.17	326	PFAKE		00 02 00.0 +8.2
KDAK				LR	LR	
	comp=Z,426nm,19.0s					
121A	Cookes Peak, D	55.40	277	P	P	00 01 54.5 +0.5
	baz=39,SNR=15					
TIC	Toumodi	55.44	146	eP	P	00 01 52.8 -1.5
DBIC	Dimbokro	55.47	146	P	P	00 01 52.9 -1.6
	comp=Z,20nm,1.0s,baz=350,slow=9.1,SNR=7.5					
DBIC				LR	LR	00 22 42.5
	comp=Z,2µm,20.6s,baz=321,slow=33					
DBIC	Dimbokro	55.47	146	eP	P	00 01 53.0 -1.4
DBIC	Dimbokro	55.47	146	eP	P	00 01 53.0 -1.4
DBIC	Dimbokro	55.47	146	eP	P	00 01 53.0 -1.4
M04C	Macdoel	55.48	295	P	P	00 01 54.7 +0.2
	baz=40,SNR=6.6					
TX31	Lajitas Ar. Si	55.71	271	eP	P	00 01 56.2 0.0
TX31	Lajitas Ar. Si	55.71	271	eP	P	00 01 56.2 0.0
TXAR	Lajitas Array	55.71	271	P	P	00 01 56.1 -0.1
	comp=Z,7.3nm,1.0s,baz=64,slow=5.7,SNR=31					
TXAR				LR	LR	00 25 06.9
	comp=Z,1µm,18.9s,baz=0.0,slow=35					
KIC	Kosan Boka	55.80	146	eP	P	00 01 55.4 -1.4
	comp=Z,122nm,1.4s					
LIC	Lamto	55.84	146	eP	P	00 01 55.7 -1.4
	comp=Z,116nm,1.2s					
PAHR	Pah Rah Range	55.86	291	eP	P	00 01 58.2 +1.0
	comp=Z,107nm,1.5s					
PAHR	Pah Rah Range	55.86	291	eP	P	00 01 58.2 +1.0
	comp=Z,107nm,1.5s					
L02D	Cave Junction,	56.05	296	P	P	00 01 58.9 +0.5
	baz=40					
SHPR	Sheep Range	56.18	286	eP	P	00 02 00.5 +0.9
	comp=Z,18nm,1.1s					
SHPR	Sheep Range	56.18	286	eP	P	00 02 00.5 +0.9
	comp=Z,18nm,1.1s					
BEKR	Beckworth	56.22	292	eP	P	00 02 00.8 +0.9
	comp=Z,57nm,1.7s					
BEKR	Beckworth	56.22	292	eP	P	00 02 00.8 +0.9
	comp=Z,57nm,1.7s					
NVS	Novosibirsk	56.28	39	iP	P	00 02 00.7 +0.9
NVS				e		00 04 07.7
NVS				pmax	pmax	
	comp=Z,66nm,1.4s					
NVS				pmax	pmax	
	comp=N,6.0nm,0.7s					
NVS				pmax	pmax	
	comp=E,7.0nm,0.6s					
NVS	Novosibirsk	56.28	39	iP	P	00 02 00.7 +0.9
	comp=E,6.0nm,0.7s					
TPNV	Topopah Spring	56.40	287	P	P	00 02 00.8 -0.4
	baz=40					
TPNV	Topopah Spring	56.40	287	eP	P	00 02 01.0 -0.1
TPNV				pmax	pmax	
	comp=Z,28nm,1.1s					
TPNV	Topopah Spring	56.40	287	eP	P	00 02 01.0 -0.1
	comp=Z,28nm,1.1s					
TPNV	Topopah Spring	56.40	287	eP	P	00 02 01.0 -0.1
	comp=Z,28nm,1.1s					
PNTR	Pine Nut	56.44	291	eP	P	00 02 03.0 +1.5
	comp=Z,202nm,2.0s					
PNTR	Pine Nut	56.44	291	eP	P	00 02 03.0 +1.5
	comp=Z,202nm,2.0s					
N02D	Trinity Center	56.52	295	P	P	00 02 02.0 +0.1
	baz=40					
TVH2	Borealis Mine	56.57	290	eP	P	00 02 04.3 +1.9
	comp=Z,16nm,1.4s					
TVH2	Borealis Mine	56.57	290	eP	P	00 02 04.3 +1.9
	comp=Z,16nm,1.4s					
O03D	Paynes Creek	56.60	294	P	P	00 02 02.5 0.0
	baz=40					
W13A	Hualapai Mount	56.61	284	eP	P	00 02 03.8 +1.1
W13A	Hualapai Mount	56.61	284	eP	P	00 02 03.8 +1.1
WAKR	Walker	56.81	291	eP	P	00 02 05.8 +1.7
	comp=Z,29nm,1.4s					
WAKR	Walker	56.81	291	eP	P	00 02 05.8 +1.7
	comp=Z,29nm,1.4s					
GRAC	Grapevine Rang	56.93	288	P	P	00 02 04.9 +0.1
	baz=39,SNR=6.5					
SDV	Santo Domingo	56.96	227	PFAKE		00 02 20.0 +15
SDV				LR	LR	
	comp=Z,287nm,20.0s					
LNIG	Linares	57.01	265	eP	P	00 02 04.6 -0.8
	comp=Z,48nm,1.9s					
LNIG	Linares	57.01	265	eP	P	00 02 04.6 -0.8
	comp=Z,48nm,1.9s					
ORV	Oroville	57.02	293	eP	P	00 02 06.6 +1.2
ORV				pmax	pmax	
	comp=Z,21nm,1.5s					
ORV	Oroville	57.02	293	eP	P	00 02 06.6 +1.2
	comp=Z,21nm,1.5s					
ORV	Oroville	57.02	293	eP	P	00 02 06.6 +1.2
	comp=Z,21nm,1.5s					
319A	Douglas	57.09	278	eP	P	00 02 07.3 +1.3
	comp=Z,43nm,1.1s					
TUC	Tucson	57.15	279	P	P	00 02 07.3 +0.9
	baz=38					
TUC	Tucson	57.15	279	eP	P	00 02 07.6 +1.2
TUC				pmax	pmax	
	comp=Z,41nm,1.5s					
TUC				MLR	MLR	
	comp=Z,4µm,20.0s					
TUC	Tucson	57.15	279	eP	P	00 02 07.6 +1.2
	comp=Z,4µm,20.0s					
TUC	Tucson	57.15	279	eP	P	00 02 07.6 +1.2
	comp=Z,41nm,1.5s					
TUC				LR	LR	
	comp=Z,4µm,20.0s					
AFDM	Forest Hills D	57.23	292	eP	P	00 02 07.3 +0.4
	comp=Z,43nm,1.1s					
AFDM	Forest Hills D	57.23	292	eP	P	00 02 06.8 0.0
	comp=Z,67nm,1.8s					
PDMCI	Parker Dam,Lak	57.36	283	P	P	00 02 08.5 +0.8
	baz=39					
ZALV	Zalesovo Beam	57.54	38	P	P	00 02 08.4 -0.3
	comp=Z,1.8nm,0.6s,baz=325,slow=7.7,SNR=8.7					
ZALV				LR	LR	00 27 03.1
	comp=Z,353nm,21.0s,baz=250,slow=36					
CMB	Columbia Colle	57.65	291	eP	P	00 02 10.0 +0.2
CMB				pmax	pmax	
	comp=Z,42nm,1.8s					
CMB	Columbia Colle	57.65	291	eP	P	00 02 10.0 +0.2
	comp=Z,42nm,1.8s					
CMB	Columbia Colle	57.65	291	eP	P	00 02 10.0 +0.2
	comp=Z,42nm,1.8s					
MPMC	Manual Prospec	57.72	287	P	P	00 02 10.7 +0.2
	baz=39,SNR=14					
CWC	Cottonwood Cre	57.72	288	P	P	00 02 10.7 +0.1
	baz=39					
GMRC	Granite Mounta	57.77	285	P	P	00 02 10.9 +0.1
	baz=39,SNR=5.3					
SJCC	San Jacinto, C	57.88	232	eP	P	00 02 11.3 -0.3
GSC	Goldstone, Bar	57.96	286	P	P	00 02 13.0 +0.9
	baz=39,SNR=9.9					
GSC	Goldstone, Bar	57.96	286	eP	P	00 02 13.1 +1.0
GSC				pmax	pmax	
	comp=Z,40nm,1.4s					
GSC	Goldstone, Bar	57.96	286	eP	P	00 02 13.1 +1.0
	comp=Z,40nm,1.4s					
GSC	Goldstone, Bar	57.96	286	eP	P	00 02 13.1 +1.0
	comp=Z,40nm,1.4s					
Y12C	Blythe	57.99	283	P	P	00 02 13.3 +1.1
	baz=38					
KURK	Kurchatov	58.00	44	di P	P	00 02 10.8 -1.2
KURK				pmax	pmax	
	comp=Z,79nm,1.0s					
KURK	Kurchatov	58.00	44	eP	P	00 02 11.5 -0.6
	comp=Z,22nm,1.0s					
KURK	Kurchatov	58.00	44	eP	P	00 02 11.5 -0.6
	comp=Z,22nm,1.0s					
KURK				LR	LR	
	comp=Z,1µm,19.0s					
KURK	Kurchatov	58.00	44	P	P	00 02 10.9 -1.1
	SNR=11					
KURK				P	P	00 02 10.9 -1.1
	SNR=11					
KURK	Kurchatov	58.00	44	P	P	00 02 10.9 -1.1
	SNR=11					
HEC	Hector,Ludlow	58.08	286	P	P	00 02 13.9 +0.9
	baz=39					
RCTC	Rector, Farmer	58.42	289	P	P	00 02 15.7 +0.6
	baz=39					
214A	Organ Pipe Nat	58.50	281	P	P	00 02 16.2 +0.4
	baz=38,SNR=9.2					
ISA	Isabella, Lake	58.53	288	P	P	00 02 16.5 +0.4
	baz=38					
ISA	Isabella, Lake	58.53	288	eP	P	00 02 17.3 +1.3
ISA				pmax	pmax	
	comp=Z,104nm,1.7s					
ISA	Isabella, Lake	58.53	288	eP	P	00 02 17.3 +1.3
	comp=Z,104nm,1.7s					
ISA	Isabella, Lake	58.53	288	eP	P	00 02 17.3 +1.3
	comp=Z,104nm,1.7s					
BC3	Big Chuckawall	58.54	284	P	P	00 02 16.4 +0.2
	baz=38					
BELC	Belle Mtn. Jos	58.55	285	P	P	00 02 16.8 +0.4
	baz=38,SNR=5.7					
HPIG		58.68	271	eP	P	00 02 17.5 +0.2
	comp=Z,21nm,1.3s					
HPIG		58.68	271	eP	P	00 02 17.5 +0.2
	comp=Z,21nm,1.3s					
GLA	Glamis	58.69	283	P	P	00 02 17.2 0.0
	baz=38,SNR=7.3					
GLA	Glamis	58.69	283	eP	P	00 02 18.4 +1.2
GLA				pmax	pmax	
	comp=Z,75nm,1.4s					
GLA	Glamis	58.69	283	eP	P	00 02 18.4 +1.2
	comp=Z,75nm,1.4s					
GLA	Glamis	58.69	283	eP	P	00 02 18.4 +1.2
	comp=Z,75nm,1.4s					
VES	Vestal, Richgr	58.70	288	P	P	00 02 17.3 +0.2
	baz=38					
BBRC	Big Bear Solar	58.83	286	P	P	00 02 18.5 +0.1
	baz=38					
EDW2	Edwards Air Fo	58.89	287	P	P	00 02 19.1 +0.5
	baz=38,SNR=13					
MOTC	Monteria, Cord	59.09	232	eP	P	00 02 20.4 +0.4
PFO	Pinyon Flats O	59.10	285	P	P	00 02 20.6 +0.5
	baz=38					
PFO	Pinyon Flats O	59.10	285	eP	P	00 02 20.9 +0.8
PFO				pmax	pmax	
	comp=Z,56nm,1.3s					
PFO				MLR	MLR	
	comp=Z,2µm,19.0s					
PFO	Pinyon Flats O	59.10	285	eP	P	00 02 20.9 +0.8
	comp=Z,2µm,19.0s					
PFO	Pinyon Flats O	59.10	285	eP	P	00 02 20.9 +0.8
	comp=Z,56nm,1.3s					
PFO				LR	LR	
	comp=Z,2µm,19.0s					
ARVC	Arvin	59.13	288	P	P	00 02 20.6 +0.5
	baz=38					
GEYT	Alibeck	59.18	67	P	P	00 02 20.9 +0.4
	comp=Z,22nm,1.1s,baz=302,slow=8.5,SNR=20					
GEYT				LR	LR	00 28 46.8
	comp=Z,674nm,20.0s,baz=335,slow=37					
BFSC	Mount Baldy Ra	59.22	286	P	P	00 02 21.2 +0.2
	baz=38					
PMPB	Monarch Peak	59.27	290	eP	P	00 02 23.4 +2.2
	comp=Z,124nm,1.4s					
PMPB	Monarch Peak	59.27	290	eP	P	00 02 23.4 +2.2
	comp=Z,124nm,1.4s					
SEY	Seymchan	59.43	357	eP	P	00 02 22.4 +0.6
SEY	Seymchan	59.43	357	eP	P	00 02 22.4 +0.6
MURC	Murrieta	59.49	285	P	P	00 02 23.2 +0.5
	baz=38					
YAK	Yakutsk	59.60	10	eP	P	00 02 23.2 +0.2
YAK				pmax	pmax	
	comp=Z,21nm,0.8s					
YAK				pmax	pmax	
	comp=N,25nm,1.7s					
YAK	Yakutsk	59.60	10	eP	P	00 02 23.2 +0.2
	comp=N,25nm,1.7s					
YAK	Yakutsk	59.60	10	PFAKE		00 02 40.0 +17
YAK				LR	LR	
	comp=Z,413nm,20.0s					
MONP2	Monument Peak	59.64	284	P	P	00 02 24.4 +0.5
	baz=38					
IKP	In-Ko-Pah, Jac	59.67	284	P	P	00 02 24.5 +0.5
	baz=38					
BRRC	Barranca, Sant	59.80	229	eP	P	00 02 23.9 -1.0
HSIG		59.83	277	eP	P	00 02 25.3 +0.2
	comp=Z,45nm,1.2s					
HSIG		59.83	277	eP	P	00 02 25.3 +0.2
	comp=Z,45nm,1.2s					
ZARC	Zaragoza, Cauc	59.91	230	eP	P	00 02 25.9 +0.2
ZAIG	Zacatecas	60.38	266	eP	P	00 02 30.7 +1.5
	comp=Z,21nm,0.9s					
ZAIG	Zacatecas	60.38	266	eP	P	00 02 30.7 +1.5
	comp=Z,21nm,0.9s					
BCIP	Isla Barro Col	60.55	236	PFAKE		00 02 40.0 +10
BCIP				LR	LR	
	comp=Z,482nm,21.0s					
RUSC	La Rusia	60.65	228	eP	P	00 02 29.7 -1.6
RUSC	La Rusia	60.65	228	eP	P	00 02 30.3 -1.1
	comp=Z,9.2nm,1.4s					
KKAR	Karatay Array	60.85	55	eP	P	00 02 31.8 -0.1
KKAR				pmax	pmax	
	comp=Z,27nm,1.3s					
KKAR	Karatay Array	60.85	55	eP	P	00 02 31.8 -0.1
	comp=Z,27nm,1.3s					
KKAR	Karatay Array	60.85	55	eP	P	00 02 31.8 -0.1
	comp=Z,27nm,1.3s					
HELC	Santa Helena	61.37	230	eP	P	00 02 36.6 +0.6
HELC	Santa Helena	61.37	230	eP	P	00 02 36.6 +0.6
	comp=Z,67nm,0.9s					
BOD	Bodaibo	61.59	20	eP	P	00 02 34.8 -1.8
BOD				pmax	pmax	
	comp=Z,24nm,2.5s					
BOD	Bodaibo	61.59	20	eP	P	00 02 34.8 -1.8
	comp=Z,24nm,2.5s					
NORC	Norcasia	61.66	230	eP	P	00 02 37.4 -0.3
DGZ	Jazzator, Alta	61.99	40	eP	P	00 02 39.9 +0.2
DGZ				pmax	pmax	
	comp=Z,7.0nm,1.0s					
DGZ	Jazzator, Alta	61.99	40	eP	P	00 02 39.9 +0.2
	comp=Z,7.0nm,1.0s					
ROSC	El Rosal	62.10	229	P	P	00 02 41.5 +0.5
	comp=Z,15nm,0.6s,baz=43,slow=5.9,SNR=25					
ROSC				LR	LR	00 31 09.8
	comp=Z,144nm,18.1s,baz=9.5,slow=38					
ROSC	El Rosal	62.10	229	eP	P	00 02 42.1 +1.1
GUYC	Guyana, Colomb	62.18	230	eP	P	00 02 42.1 +0.4
PTGA	Pitinga	62.40	211	eP	P	00 02 41.5 -1.0
	comp=Z,45nm,1.4s					
PTGA	Pitinga	62.40	211	eP	P	00 02 41.5 -1.0
	comp=Z,45nm,1.4s					
PTGA				LR	LR	
	comp=Z,33µm,19.0s					
MAKZ	Makanchi	62.48	45	eP	P	00 02 42.0 -0.8
MAKZ	Makanchi	62.48	45	eP	P	00 02 42.0 -0.8
MAKZ	Makanchi	62.48	45	eP	P	00 02 42.0 -0.8
TLIG	Tlapa	62.55	259	eP	P	00 02 44.9 +1.2
TLIG	Tlapa	62.55	259	eP	P	00 02 44.9 +1.2
MK31	Makanchi Array	62.61	45	eP	P	00 02 42.8 -0.9
MK31	Makanchi Array	62.61	45	eP	P	00 02 42.8 -0.9
MK31	Makanchi Array	62.61	45	eP	P	00 02 42.8 -0.9
MKAR	Makanchi Array	62.61	45	P	P	00 02 42.8 -0.9
	comp=Z,11nm,0.8s,baz=335,slow=5.4,SNR=62					
MKAR				PP	PP	00 05 01.4 +0.5
	comp=Z,1.6nm,1.1s,baz=337,slow=6.9,SNR=2.6					
MKAR				LR	LR	00 30 38.2
	comp=Z,330nm,18.5s,baz=310,slow=37					
MK01	Makanchi Array	62.63	45	eP	P	00 02 42.3 -1.5
MK01	Makanchi Array	62.63	45	eP	P	00 02 42.3 -1.5
FRU	Bishkek	62.83	52	eP	P	00 02 46.0 +0.8
FRU				pmax	pmax	
	comp=Z,80nm,2.0s					
FRU	Bishkek	62.83	52	eP	P	00 02 46.0 +0.8
	comp=Z,80nm,2.0s					
AAK	Ala-Archa	62.94	52	di P	P	00 02 46.4 +0.3
AAK				pmax	pmax	
	comp=Z,46nm,1.1s					
AAK	Ala-Archa	62.94	52	i P	P	00 02 46.4 +0.3
	comp=Z,46nm,1.1s					
AAK	Ala-Archa	62.94	52	PFAKE		00 03 00.0 +14
AAK				LR	LR	
	comp=Z,836nm,20.0s					
PRAC	Prado	63.35	229	eP	P	00 02 49.0 +0.1
PRAC	Prado	63.35	229	eP	P	00 02 48.5 -0.5
RCBR	Riachuelo	63.58	184	eP	P	00 02 50.3 -0.1
	comp=Z,49nm,1.4s					
RCBR	Riachuelo	63.58	184	eP	P	00 02 50.4 -0.1
	comp=Z,49nm,1.4s					
RCBR				LR	LR	
	comp=Z,483nm,21.0s					
RAYN	Ar Rayn	64.11	87	eP	P	00 02 53.8 -0.2
RAYN	Ar Rayn	64.11	87	eP	P	00 02 53.8 -0.2
RAYN				LR	LR	
	comp=Z,514nm,21.0s					
CLNS	Chul'man	64.19	14	eP	P	00 02 53.8 -0.2
CLNS				pmax	pmax	
	comp=Z,12nm,1.1s					
CLNS				pmax	pmax	
	comp=E,7.0nm,1.0s					
CLNS				pmax	pmax	
	comp=N,6.0nm,1.3s					
CLNS	Chul'man	64.19	14	eP	P	00 02 53.8 -0.2
	comp=N,6.0nm,1.3s					
IRK	Irkutsk	64.70	28	eP	P	00 02 53.8 -3.6
IRK				pmax	pmax	
	comp=Z,101nm,2.9s					
TLY	Talaya	65.06	28	PFAKE		00 03 10.0 +10
TLY				LR	LR	
	comp=Z,254nm,19.0s					
KSH	Kashi	66.15	53	P	P	00 03 08.6 +1.5
KSH				pP	sP	00 03 13.4 -1.3
KSH				sP	pP	00 03 16.1 +3.5
KSH				PcP	PcP	00 03 39.0 +1.7
KSH				PP	PP	00 05 37.0 +4.8
KSH				PcS		00 07 43.1
KSH				S	S	00 11 54.1 -0.7
KSH				sS	pS	00 12 01.7 +0.1
KSH				ScS	SKSac	00 13 00.4 -1.9
KSH	Kashi	66.15	53	P	P	00 03 08.6 +1.5
KSH				pP	sP	00 03 13.4 -1.3
KSH				sP	pP	00 03 16.1 +3.5
KSH				PcP	PcP	00 03 39.0 +1.7
KSH				PP	PP	00 05 37.0 +4.8
KSH				PcS		00 07 43.1
KSH				S	S	00 11 54.1 -0.7
KSH				sS	pS	00 12 01.7 +0.1
KSH				ScS	SKSac	00 13 00.4 -1.9
KSH				SS	SS	00 16 10.7 +1.0
KSH				pmax	pmax	
	comp=Z,41nm,1.1s					
KSH				pmax	pmax	
	comp=Z,430nm,5.5s					
KSH				LR	LR	
	comp=Z,380nm,9.1s					
KSH				LR	LR	
	comp=Z,580nm,16.5s					
KSH				LR	LR	
	comp=Z,780nm,16.6s					
ZAK	Zakamensk	66.16	29	eP	P	00 03 06.8 -0.1
ZAK				pmax	pmax	
	comp=Z,12nm,1.5s					
ZAK	Zakamensk	66.16	29	eP	P	00 03 06.8 -0.1
	comp=Z,12nm,1.5s					
WMQ	Urumqi	67.14	43	P	P	00 03 13.8 +0.6
WMQ				pP	pP	00 03 19.0 +0.2
WMQ				sP	sP	00 03 25.5 +4.7
WMQ				PcP	PcP	00 03 41.5 +0.2
WMQ				S	S	00 12 09.7 +3.2

WMQ					pmax	pmax		
	comp=Z,17nm,1.3s							
WMQ					pmax	pmax		
	comp=Z,340nm,3.6s							
WMQ					LR	LR		
	comp=N,900nm,18.3s							
WMQ					LR	LR		
	comp=E,710nm,15.1s							
WMQ					LR	LR		
	comp=Z,460nm,16.7s							
WMQ	**Urumqi**	**67.14**	**43**		P	**P**	**00 03 13.8**	**+0.6**
WMQ					pP	pP	00 03 19.0	+0.2
WMQ					sP	sP	00 03 25.5	+4.7
WMQ					PcP	**PcP**	**00 03 41.5**	**+0.2**
WMQ					S	**S**	**00 12 09.7**	**+3.2**
WMQ					pmax	pmax		
	comp=Z,17nm,1.3s							
WMQ					pmax	pmax		
	comp=Z,340nm,3.6s							
WMQ					LR	LR		
	comp=Z,900nm,18.3s							
WMQ					LR	LR		
	comp=Z,710nm,15.1s							
WMQ					LR	LR		
	comp=Z,460nm,16.7s							
KBL	**Kabul**	**67.15**	**61**	*e*P		**P**	**00 03 13.4**	**-0.2**
KBL	**Kabul**	**67.15**	**61**	*e*P		**P**	**00 03 13.4**	**-0.2**
KBL	**Kabul**	**67.15**	**61**	*e*P		**P**	**00 03 13.4**	**-0.2**
H10N2	**ASCENSION HYDR**	**67.15**	**160**	T		T	01 15 41.1	
	baz=350,slow=75,SNR=30							
H10N3	**ASCENSION HYDR**	**67.16**	**160**	T		T	01 15 40.7	
	baz=350,slow=75,SNR=30							
H10N1	**ASCENSION HYDR**	**67.17**	**160**	T		T	01 15 42.5	
	baz=350,slow=75,SNR=27							
ASCN	**Ascension**	**67.28**	**160**	PFAKE			00 03 30.0	+16
ASCN					LR	LR		
	comp=Z,929nm,19.0s							
OTAV	**Otavalo**	**67.96**	**231**	*e*P		**P**	**00 03 19.4**	**+0.2**
	comp=Z,13nm,0.9s							
OTAV	**Otavalo**	**67.96**	**231**	*e*P		**P**	**00 03 19.4**	**+0.2**
	comp=Z,13nm,0.9s							
OTAV					LR	LR		
	comp=Z,424nm,22.0s							
H10S1	**ASCENSION HYDR**	**68.21**	**161**	T		T	01 17 00.6	
	baz=351,slow=75,SNR=320							
H10S3	**ASCENSION HYDR**	**68.22**	**161**	T		T	01 17 01.3	
	baz=351,slow=75,SNR=378							
H10S2	**ASCENSION HYDR**	**68.23**	**161**	T		T	01 17 02.0	
	baz=351,slow=75,SNR=451							
UOSS	**Minazif**	**68.61**	**77**	*e*P		**P**	**00 03 22.0**	**-0.7**
UOSS	**Minazif**	**68.61**	**77**	*e*P		**P**	**00 03 22.0**	**-0.7**
HATD	**Hatta, Dubai**	**68.67**	**77**	P		**P**	**00 03 22.5**	**-0.6**
	SNR=5.5							
HATD	**Hatta, Dubai**	**68.67**	**77**	P		**P**	**00 03 22.5**	**-0.6**
	SNR=5.5							
HATD				P		**P**	**00 03 22.5**	**-0.6**
	SNR=5.5							
HATD	**Hatta, Dubai**	**68.67**	**77**	P		**P**	**00 03 22.5**	**-0.6**
	SNR=5.5							
ASHO	**Ashiyiah**	**68.75**	**77**	P		**P**	**00 03 21.9**	**-1.7**
	SNR=6.9							
ASHO	**Ashiyiah**	**68.75**	**77**	P		**P**	**00 03 21.9**	**-1.7**
	SNR=6.9							
ASHO				P		**P**	**00 03 21.9**	**-1.7**
	SNR=6.9							
ASHO	**Ashiyiah**	**68.75**	**77**	P		**P**	**00 03 21.9**	**-1.7**
	SNR=6.9							
PETK	**Petropavlovsk-**	**69.02**	**353**	LR		LR	00 34 23.6	
	comp=Z,122nm,19.3s,baz=19,slow=37							
PET	**Petropavlovsk**	**69.05**	**353**	*e*P		**P**	**00 03 25.4**	**+0.5**
PET				*e*S		**S**	**00 12 31.7**	**+3.0**
PET				*e*PS		**PnS**	**00 13 01.7**	**+8.0**
PET	**Petropavlovsk**	**69.05**	**353**	*e*P		**P**	**00 03 25.4**	**+0.5**
PET	**Petropavlovsk**	**69.05**	**353**	PFAKE			00 03 40.0	+15
PET					LR	LR		
	comp=Z,762nm,19.0s							
SONA1	**Songino Array**	**69.29**	**28**	*e*P		**P**	**00 03 25.8**	**-1.0**
SONA1	**Songino Array**	**69.29**	**28**	*e*P		**P**	**00 03 25.8**	**-1.0**
SONM	**Songino Array**	**69.30**	**28**	P		**P**	**00 03 26.5**	**-0.3**
	comp=Z,23nm,1.1s,baz=324,slow=5.9,SNR=61							
SONM					LR	LR	00 35 41.8	
	comp=Z,328nm,18.6s,baz=344,slow=38							
ULN	**Ulaanbaatar**	**69.44**	**28**	*d i*P		**P**	**00 03 27.5**	**-0.1**
ULN					pmax	pmax		
	comp=Z,39nm,1.2s							
ULN	**Ulaanbaatar**	**69.44**	**28**	P		**P**	**00 03 27.6**	**-0.1**
	SNR=26							
ULN	**Ulaanbaatar**	**69.44**	**28**	*e*P		**P**	**00 03 27.6**	**-0.1**
	comp=Z,43nm,1.2s							
ULN					LR	LR		
	comp=Z,326nm,20.0s							
ULN	**Ulaanbaatar**	**69.44**	**28**	P		**P**	**00 03 27.6**	**-0.1**
	SNR=26							
ULN	**Ulaanbaatar**	**69.44**	**28**	P		**P**	**00 03 27.6**	**-0.1**
	SNR=26							
HIA	**Hailar**	**70.78**	**19**	PFAKE			00 03 50.0	+14
HIA					LR	LR		
	comp=Z,381nm,19.0s							
SAML	**Samuel**	**71.13**	**212**	*e*P		**P**	**00 03 36.5**	**-1.6**
	comp=Z,17nm,0.9s							
SAML	**Samuel**	**71.13**	**212**	*e*P		**P**	**00 03 36.5**	**-1.6**
	comp=Z,17nm,0.9s							
SAML					LR	LR		
	comp=Z,516nm,20.0s							
GTA	**Gaotai**	**75.18**	**36**	P		**P**	**00 04 01.8**	**-0.3**
GTA				pP		pP	00 04 06.5	-1.2
GTA				sP		sP	00 04 08.8	-0.9
GTA				S		**S**	**00 13 37.6**	**-2.3**
GTA				sS		pS	00 13 47.6	+0.7
GTA				SKS		**SKSac**	**00 14 05.7**	**-4.8**
GTA				SS		**SS**	**00 18 28.3**	**+0.2**
GTA				pmax		pmax		
	comp=Z,21nm,1.2s							
GTA				pmax		pmax		
	comp=Z,380nm,5.0s							
GTA				LR		LR		
	comp=Z,340nm,17.6s							
GTA				LR		LR		
	comp=Z,350nm,17.6s							
GTA				LR		LR		
	comp=Z,460nm,17.6s							
YSS	**Yuzh-Sakhalins**	**75.43**	**3**	PFAKE			00 04 20.0	+17
YSS					LR	LR		
	comp=Z,148nm,21.0s							
MDJ	**Mudanjiang**	**76.77**	**13**	PFAKE			00 04 20.0	+9.1
MDJ					LR	LR		
	comp=Z,299nm,20.0s							
HHC	**Hu-ho-hao-te**	**77.14**	**27**	*e*P		**P**	**00 04 12.8**	**-0.4**
HHC				pP		sP	00 04 19.6	-1.2
HHC				S		**S**	**00 13 59.0**	**-2.3**
HHC	**Hu-ho-hao-te**	**77.14**	**27**	*e*P		**P**	**00 04 12.8**	**-0.4**
HHC				pP		sP	00 04 19.6	-1.2
HHC				S		**S**	**00 13 59.0**	**-2.3**
HHC				SS		**SS**	**00 18 57.2**	**-0.3**
HHC				pmax		pmax		
	comp=Z,26nm,1.2s							
HHC				pmax		pmax		
	comp=Z,290nm,7.5s							
HHC				LR		LR		
	comp=Z,350nm,16.0s							
HHC				LR		LR		
	comp=Z,300nm,16.0s							
HHC				LR		LR		
	comp=Z,400nm,17.3s							
USRK	**Ussuriysk Ar.**	**77.45**	**11**	P		**P**	**00 04 14.9**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=19,slow=12,SNR=6.7							
USRK				LR		LR	00 37 55.3	
	comp=Z,223nm,21.2s,baz=356,slow=35							
NNA	**Nana**	**78.48**	**224**	*e*P		**P**	**00 04 21.1**	**+0.4**
NNA				MLR		MLR		
	comp=Z,214nm,20.0s							
NNA	**Nana**	**78.48**	**224**	*e*P		**P**	**00 04 21.1**	**+0.4**
NNA	**Nana**	**78.48**	**224**	*e*P		**P**	**00 04 21.1**	**+0.4**
NNA				LR		LR		
	comp=Z,214nm,20.0s							
PYUN	**Piuthan**	**78.90**	**54**	*e*P		**P**	**00 04 22.8**	**-0.5**
BJI	**Beijing**	**78.97**	**24**	P		**P**	**00 04 23.3**	**+0.2**
BJI				pmax		pmax		
	comp=Z,21nm,1.4s							
BJI	**Beijing**	**78.97**	**24**	P		**P**	**00 04 23.3**	**+0.2**
BJI				pmax		pmax		
	comp=Z,21nm,1.4s							
BJT	**Baijiatuau**	**78.99**	**24**	PFAKE			00 04 40.0	+17
BJT					LR	LR		
	comp=Z,563nm,20.0s							
KOLN	**Koldanda**	**79.45**	**54**	*e*P		**P**	**00 04 25.6**	**-0.7**
	comp=Z,36nm,1.1s							
LZH	**Lanzhou**	**79.48**	**35**	*e*P		**P**	**00 04 26.3**	**0.0**
LZH				pP		pP	00 04 31.4	-0.5
LZH				sP		PcP	00 04 34.8	+0.5
LZH				PP		**PP**	**00 07 28.6**	**+2.7**
LZH				*e*S		**S**	**00 14 20.2**	**-6.6**
LZH	**Lanzhou**	**79.48**	**35**	*e*P		**P**	**00 04 26.3**	**0.0**
LZH				pP		pP	00 04 31.4	-0.5
LZH				sP		PcP	00 04 34.8	+0.5
LZH				PP		**PP**	**00 07 28.6**	**+2.7**
LZH				*e*S		**S**	**00 14 20.2**	**-6.6**
LZH				sS		sS	00 14 35.0	-1.1
LZH				SS		**SS**	**00 19 32.2**	**-0.9**
LZH				pmax		pmax		
	comp=Z,57nm,1.4s							
LZH				pmax		pmax		
	comp=Z,370nm,4.4s							
LZH				LR		LR		
	comp=Z,570nm,17.2s							
LZH				LR		LR		
	comp=Z,600nm,17.8s							
LZH				LR		LR		
	comp=Z,1μm,19.5s							
LPAZ	**La Paz**	**79.54**	**215**	P		**P**	**00 04 25.8**	**-1.4**
	comp=Z,8.3nm,1.1s,baz=19,slow=5.2,SNR=16							
LPAZ				LR		LR	00 38 30.8	
	comp=Z,156nm,18.5s,baz=350,slow=35							
GKN	**Gorkha**	**79.69**	**53**	*e*P		**P**	**00 04 26.8**	**-0.7**
	comp=Z,51nm,1.1s							
KKN	**Kakani**	**80.15**	**53**	*e*P		**P**	**00 04 29.7**	**-0.4**
	comp=Z,94nm,1.3s							
DMN	**Daman**	**80.24**	**53**	*e*P		**P**	**00 04 30.3**	**-0.3**
	comp=Z,74nm,1.1s							
GUN	**Gumba**	**80.30**	**52**	*e*P		**P**	**00 04 30.9**	**-0.2**
	comp=Z,65nm,1.1s							
TIY	**Taiyuan**	**80.32**	**27**	*e*P		**P**	**00 04 31.1**	**+0.4**
TIY				PP		**PP**	**00 07 35.8**	**+3.1**
TIY				pmax		pmax		
	comp=Z,230nm,3.9s							
TIY				LR		LR		
	comp=N,170nm,10.2s							
TIY				LR		LR		
	comp=E,290nm,13.8s							
TIY				LR		LR		
	comp=Z,390nm,16.9s							
TIY	**Taiyuan**	**80.32**	**27**	*e*P		**P**	**00 04 31.1**	**+0.4**
TIY				PP		**PP**	**00 07 35.8**	**+3.1**
TIY				pmax		pmax		
	comp=Z,230nm,3.9s							
TIY				LR		LR		
	comp=Z,170nm,10.2s							
TIY				LR		LR		
	comp=Z,290nm,13.8s							
TIY				LR		LR		
	comp=Z,390nm,16.9s							
KMBO	**Kilima Mbogo**	**80.37**	**108**	P		**P**	**00 04 31.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=52,slow=19,SNR=5.5							
KMBO				LR		LR	00 41 13.2	
	comp=Z,297nm,19.4s,baz=297,slow=36							
ERM	**Erimo**	**80.38**	**3**	PFAKE			00 04 40.0	+9.2
ERM					LR	LR		
	comp=Z,540nm,21.0s							
PKIN	**Phulchoki**	**80.39**	**53**	*e*P		**P**	**00 04 31.2**	**-0.2**
JIRN	**Jiri**	**80.65**	**52**	*e*P		**P**	**00 04 32.9**	**-0.1**
	comp=Z,447nm,1.1s							
LSA	**Lhasa**	**80.86**	**47**	PFAKE			00 04 50.0	+16
LSA					LR	LR		
	comp=Z,391nm,20.0s							
DL2	**Dalian**	**81.15**	**20**	P		P	00 04 41.7	+6.7
DL2	**Dalian**	**81.15**	**20**	S		**S**	**00 14 50.5**	**+6.7**
DL2				pmax		pmax		
	comp=Z,280nm,5.6s							
DL2				LR		LR		
	comp=N,450nm,17.0s							
DL2				LR		LR		
	comp=E,430nm,19.4s							
DL2				LR		LR		
	comp=Z,640nm,18.8s							
RAMN	**Ramite**	**81.45**	**52**	*e*P		**P**	**00 04 36.4**	**-0.7**
	comp=Z,76nm,1.0s							
TAPN	**Taplejung**	**81.56**	**51**	*e*P		**P**	**00 04 37.7**	**0.0**
ODAN	**Odare**	**81.86**	**51**	*e*P		**P**	**00 04 38.8**	**-0.4**
	comp=Z,71nm,1.2s							
SPB	**Sao Paulo**	**82.13**	**194**	PFAKE			00 04 50.0	+10
SPB					LR	LR		
	comp=Z,365nm,20.0s							
TIA	**Tai'an**	**82.85**	**24**	⇓P		**P**	**00 04 43.4**	**-0.6**
TIA				pmax		pmax		
	comp=Z,30nm,0.8s							
TIA	**Tai'an**	**82.85**	**24**	⇓P		**P**	**00 04 43.4**	**-0.6**
TIA				pmax		pmax		
	comp=Z,30nm,0.8s							
XAN	**Xi'an**	**82.87**	**31**	P		**P**	**00 04 43.6**	**-0.6**
XAN				sP		pP	00 04 49.8	0.0
XAN				PP		**PP**	**00 07 56.3**	**+2.6**
XAN	**Xi'an**	**82.87**	**31**	SS		SS	00 20 31.8	+8.5
XAN				pmax		pmax		
	comp=Z,25nm,1.3s							
XAN				pmax		pmax		
	comp=Z,200nm,5.6s							
XAN				LR		LR		
	comp=N,340nm,20.9s							
XAN				LR		LR		
	comp=E,150nm,16.2s							
XAN				LR		LR		
	comp=Z,630nm,19.7s							
XAN	**Xi'an**	**82.87**	**31**	P		**P**	**00 04 43.6**	**-0.6**
XAN				sP		pP	00 04 49.8	0.0
XAN				PP		**PP**	**00 07 56.3**	**+2.6**
XAN				S		**S**	**00 15 03.7**	**+1.9**
XAN				pmax		pmax		
	comp=Z,25nm,1.3s							
XAN				pmax		pmax		
	comp=Z,200nm,5.6s							
XAN				LR		LR		
	comp=Z,340nm,20.9s							
XAN				LR		LR		
	comp=Z,150nm,16.2s							
XAN				LR		LR		
	comp=Z,630nm,19.7s							
INCN	**Inchon**	**83.38**	**16**	PFAKE			00 05 00.0	+13
INCN					LR	LR		
	comp=Z,42nm,20.0s							
KSRS	**Korea Array**	**83.60**	**15**	P		**P**	**00 04 47.5**	**-0.3**
	comp=Z,9.0nm,1.0s,baz=345,slow=4.7,SNR=17							
KSRS					LR	LR	00 45 52.9	
	comp=Z,176nm,18.2s,baz=12,slow=38							
KSAR	**Wonju Array Be**	**83.60**	**16**	P		**P**	**00 04 47.5**	**-0.3**
KSAR	**Wonju Array Be**	**83.60**	**16**	P		**P**	**00 04 47.5**	**-0.3**
KSAR	**Wonju Array Be**	**83.60**	**16**	P		**P**	**00 04 47.5**	**-0.3**
CD2	**Chengdu**	**84.25**	**37**	*e*P		**P**	**00 04 50.8**	**-0.5**
CD2	**Chengdu**	**84.25**	**37**	*e*P		**P**	**00 04 50.8**	**-0.5**
MAJO	**Matsushiro**	**85.59**	**7**	PFAKE			00 05 10.0	+12
MAJO					LR	LR		
	comp=Z,419nm,21.0s							
MJAR	**Matsushiro Arr**	**85.59**	**7**	P		**P**	**00 04 57.1**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=351,slow=5.6,SNR=5.0							
LVC	**Limon Verde**	**85.74**	**213**	PFAKE			00 05 10.0	+11
LVC					LR	LR		
	comp=Z,460nm,21.0s							
CPUP	**Villa Florida**	**86.44**	**202**	P		**P**	**00 05 00.4**	**-1.5**
	comp=Z,20nm,1.1s,baz=15,slow=5.1,SNR=19							
CPUP					LR	LR	00 38 47.4	
	comp=Z,218nm,20.2s,baz=8.0,slow=32							
ENH	**Enshi**	**86.57**	**32**	*e*P		**P**	**00 05 02.1**	**-0.8**
	comp=Z,61nm,1.2s							
ENH	**Enshi**	**86.57**	**32**	*e*P		**P**	**00 05 02.1**	**-0.8**
	comp=Z,61nm,1.2s							
ENH					LR	LR		
	comp=Z,656nm,21.0s							
NJ2	**Nanjing**	**87.23**	**24**	*e*P		**P**	**00 05 05.3**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,26nm,0.8s							
NJ2	**Nanjing**	**87.23**	**24**	*e*P		**P**	**00 05 05.3**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,26nm,0.8s							
TSUM	**Tsumeb**	**87.33**	**133**	PFAKE			00 05 20.0	+13
TSUM					LR	LR		
	comp=Z,827nm,22.0s							
WHN	**Wuhan**	**87.62**	**28**	⇑P		**P**	**00 05 06.7**	**-1.2**
WHN	**Wuhan**	**87.62**	**28**	⇑P		**P**	**00 05 06.7**	**-1.2**
WHN				SKS		**SKSac**	**00 15 36.2**	**+1.3**
WHN				S		**S**	**00 15 51.9**	**+3.3**
WHN				LR		LR		
	comp=Z,860nm,19.2s							
LSZ	**Lusaka**	**88.28**	**123**	PFAKE			00 05 20.0	+8.8
LSZ					LR	LR		
	comp=Z,1μm,22.0s							
KMI	**Kunming**	**89.27**	**40**	P		**P**	**00 05 15.2**	**-0.9**
KMI				pmax		pmax		
	comp=Z,16nm,1.3s							
KMI	**Kunming**	**89.27**	**40**	P		**P**	**00 05 15.2**	**-0.9**
KMI				pmax		pmax		
	comp=Z,16nm,1.3s							
GYA	**Guiyang**	**89.31**	**36**	⇑*i*P		**P**	**00 05 15.7**	**-0.4**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA	**Guiyang**	**89.31**	**36**	⇑*i*P		**P**	**00 05 15.7**	**-0.4**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
LCO	**Las Campanas**	**92.29**	**213**	PFAKE			00 05 40.0	+10
LCO					LR	LR		
	comp=Z,522nm,20.0s							
MSEY	**Mahe Island**	**92.90**	**94**	PFAKE			00 05 40.0	+7.2
MSEY					LR	LR		
	comp=Z,383nm,19.0s							
CHTO	**Chiang Mai**	**93.69**	**45**	PFAKE			00 05 50.0	+14
CHTO					LR	LR		
	comp=Z,378nm,20.0s							
CMAR	**Chiang Mai Arr**	**94.01**	**45**	P		**P**	**00 05 37.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=321,slow=5.8,SNR=15							
CMAR					LR	LR	00 50 18.5	
	comp=Z,346nm,19.9s,baz=330,slow=37							
TATO	**Taipei**	**94.63**	**23**	PFAKE			00 05 50.0	+9.4
TATO					LR	LR		
	comp=Z,403nm,20.0s							
YHNB	**Yeheng**	**94.90**	**24**	PFAKE			00 05 50.0	+8.0
YHNB					LR	LR		
	comp=Z,463nm,22.0s							
QIZ	**Qiongzhong**	**97.26**	**36**	PFAKE			00 06 00.0	+7.3
QIZ					LR	LR		
	comp=Z,502nm,19.0s							
TRQA	**Tornquist**	**98.73**	**203**	PFAKE			00 06 10.0	+11
TRQA					LR	LR		
	comp=Z,437nm,20.0s							
BOSA	**Boshof**	**98.81**	**131**	LR		LR	00 47 46.0	
	comp=Z,673nm,20.9s,baz=346,slow=34							
SUR	**Sutherland**	**100.45**	**136**	PFAKE			00 06 20.0	+13
SUR					LR	LR		
	comp=Z,1μm,20.0s							
ABPO	**Ambohimpanom**	**100.64**	**109**	PFAKE			00 06 20.0	+12
ABPO					LR	LR		
	comp=Z,265nm,20.0s							
XMAS	**Kiritimati**	**105.95**	**301**	PFAKE			00 11 00.0	
XMAS					LR	LR		
	comp=Z,5.0nm,20.0s							
KULM	**Kulim**	**106.67**	**49**	PFAKE			00 11 00.0	
KULM					LR	LR		
	comp=Z,389nm,19.0s							
TAOE	**Nuku Hiva Isla**	**106.76**	**280**	*e*PS		PS	00 20 19.4	-0.5
	comp=Z,236nm,25.6s							
TAOE	**Nuku Hiva Isla**	**106.76**	**280**	*e*LR		LR	00 41 54.2	
	comp=Z,1μm,22.8s							
KKM	**Kota Kinabalu**	**111.45**	**34**	PFAKE			00 11 10.0	
KKM					LR	LR		
	comp=Z,244nm,21.0s							
DAV	**Davao City (W)**	**112.86**	**24**	PFAKE			00 11 10.0	
DAV					LR	LR		
	comp=Z,220nm,21.0s							
KSM	**Kuching**	**113.83**	**41**	PFAKE			00 11 10.0	
KSM					LR	LR		
	comp=Z,314nm,21.0s							
PTCN	**Pitcairn Islan**	**114.80**	**262**	PFAKE			00 11 10.0	+10
PTCN					LR	LR		
	comp=Z,2μm,21.0s							
RKT	**Rikitea**	**115.81**	**267**	*e*LR		LR	00 46 05.9	
	comp=Z,333nm,23.0s							
TARA	**Tarawa**	**117.50**	**331**	PFAKE			00 11 20.0	+14
TARA					LR	LR		
	comp=Z,64nm,19.0s							
PPT2	**Papeete2**	**119.01**	**284**	*e*PS		PS	00 22 12.3	-2.7
	comp=Z,218nm,26.0s							
PPT2	**Papeete2**	**119.01**	**284**	*e*LR		LR	00 47 37.4	
	comp=Z,785nm,23.2s							
KAPI	**Kappang**	**122.99**	**33**	PFAKE			00 11 30.0	+14
KAPI					LR	LR		
	comp=Z,245nm,22.0s							
PMSA	**Palmer Station**	**124.67**	**196**	PFAKE			00 11 30.0	+12
PMSA					LR	LR		
	comp=Z,287nm,19.0s							
FUNA	**Funafuti**	**124.98**	**320**	PFAKE			00 11 30.0	+10
FUNA					LR	LR		
	comp=Z,3μm,21.0s							
VNA1	**Neumayer--Stat**	**129.43**	**170**	PKP		**PKPdf**	**00 11 26.2**	**-0.3**
VNA2	**Neumayer--Watz**	**129.78**	**170**	PKP		**PKPdf**	**00 11 26.2**	**-1.0**
	baz=31,slow=3.0							
VNA3	**Neumayer Olymp**	**129.87**	**171**	PKP		**PKPdf**	**00 11 26.4**	**-1.0**
HNR	**Honiara**	**130.68**	**344**	PFAKE			00 11 40.0	+9.3
HNR					LR	LR		
	comp=Z,540nm,19.0s							
SNAA	**Sanae**	**130.96**	**168**	PKP		**PKPdf**	**00 11 29.4**	**-0.2**
SNAA	**Sanae**	**130.96**	**168**	*e*PKIKP		**PKPdf**	**00 11 28.8**	**-0.8**
SNAA	**Sanae**	**130.96**	**168**	*e*PKIKP		**PKPdf**	**00 11 28.8**	**-0.8**
SNAA	**Sanae**	**130.96**	**168**	*e*PKPdf		**PKPdf**	**00 11 28.8**	**-0.8**
PMG	**Port Moresby**	**131.61**	**0**	PFAKE			00 11 40.0	+7.5
PMG					LR	LR		
	comp=Z,309nm,20.0s							
MSVF	**Nonsavu**	**133.92**	**318**	PFAKE			00 11 50.0	+13
MSVF					LR	LR		
	comp=Z,976nm,19.0s							
WRAB	**Tennant Creek**	**140.88**	**20**	*e*PKIKP		**PKPdf**	**00 11 47.9**	**-1.6**
WRAB					MLR	MLR		
	comp=Z,479nm,21.0s							
WRAB	**Tennant Creek**	**140.88**	**20**	*e*PKIKP		**PKPdf**	**00 11 47.9**	**-1.6**
WRAB	**Tennant Creek**	**140.88**	**20**	*e*PKPdf		**PKPdf**	**00 11 47.9**	**-1.6**
WRAB					LR	LR		
	comp=Z,479nm,21.0s							
WRA	**Warramunga Arr**	**140.89**	**20**	PKP		**PKPdf**	**00 11 48.7**	**-0.8**
	comp=Z,8.2nm,0.9s,baz=342,slow=2.3,SNR=15							
DZM	**Mont Dzumac**	**141.63**	**331**	*e*LR		LR	00 58 02.8	
	comp=Z,620nm,28.7s							
CTAO	**Charters Tower**	**142.22**	**2**	PFAKE			00 12 00.0	+8.1
CTAO					LR	LR		
	comp=Z,245nm,19.0s							
MAW	**Mawson**	**143.18**	**140**	PKP		PKPbc	00 11 48.9	-0.3
	comp=Z,3.7nm,0.9s,baz=293,slow=4.4,SNR=8.5							
ASAR	**Alice Springs**	**144.44**	**22**	PKP		**PKPab**	**00 11 52.9**	**-1.1**
	comp=Z,6.8nm,0.7s,baz=346,slow=2.7,SNR=50							
EIDS	**Eidsvold**	**147.38**	**354**	*e*PKIKP		**PKPdf**	**00 12 00.7**	**0.0**
EIDS	**Eidsvold**	**147.38**	**354**	*e*PKPdf		**PKPdf**	**00 12 00.7**	**0.0**
EIDS				*e*PKPbc		**PKPbc**	**00 12 03.1**	**0.0**
QSPA	**South Pole Qui**	**147.81**	**180**	*e*PKPdf		**PKPdf**	**00 11 58.5**	**-1.6**
QSPA				*e*PKPbc		**PKPbc**	**00 12 02.2**	**-0.9**
QSPA					LR	LR		
	comp=Z,460nm,20.0s							
FORT	**Forrest**	**149.78**	**34**	*e*PKIKP		**PKPdf**	**00 12 03.6**	**-0.8**
FORT	**Forrest**	**149.78**	**34**	*e*PKPdf		**PKPdf**	**00 12 03.6**	**-0.8**
FORT				*e*PKPbc		**PKPbc**	**00 12 08.6**	**-0.5**
FORT				*e*PKPab		**PKPab**	**00 12 14.3**	**-0.3**
ARMA	**Armidale**	**152.36**	**352**	*e*PKPbc		**PKPbc**	**00 12 15.3**	**-0.1**
ARMA	**Armidale**	**152.36**	**352**	*e*PKPbc		**PKPbc**	**00 12 15.3**	**-0.1**
STKA	**Stephens Creek**	**153.67**	**11**	PKP		**PKP

Mining induced.

ISC 05 23:59:37.0±1.6, 51°.49N±0°.07×16°.11E±0°.04, h0km, n29, σ0s63/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**23 59 49.5**	**-0.1**
KSP				*e*Sg	**Sg**	**23 59 58.2**	**+0.1**
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**23 59 49.5**	**-0.1**
KSP				*e*Sg	**Sg**	**23 59 58.2**	**+0.1**
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**23 59 49.5**	**-0.1**
KSP				*e*Sg	**Sg**	**23 59 58.2**	**+0.1**
UPC	**Upice**	**0.99**	**184**	*e*PG	**Pg**	**23 59 55.6**	**-0.3**
UPC				*e*SG	**Sg**	**00 00 08.3**	**-0.4**
comp=Z,19nm,0.4s							
UPC	**Upice**	**0.99**	**184**	Sg	**Sg**	**00 00 08.3**	**-0.4**
19nm,0.4s							
UPC	**Upice**	**0.99**	**184**	Pg	**Pg**	**23 59 55.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**23 59 58.5**	**-0.5**
DPC				*e*SG	**Sg**	**00 00 13.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.15**	**173**	Sg	**Sg**	**00 00 13.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.15**	**173**	Pg	**Pg**	**23 59 58.5**	**-0.5**
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**00 00 03.0**	**-0.2**
PVCC				*e*SG	**Sg**	**00 00 20.5**	**-0.4**
comp=Z,34nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**226**	Pg	**Pg**	**00 00 03.0**	**-0.2**
PVCC				Sg	**Sg**	**00 00 20.5**	**-0.4**
34nm,0.2s							
KRLC	**Kraliky**	**1.48**	**163**	*e*PG	**Pn**	**00 00 04.7**	**-0.2**
KRLC				*e*SG	**Sg**	**00 00 23.2**	**-1.3**
KRLC	**Kraliky**	**1.48**	**163**	Pg	**Pn**	**00 00 04.7**	**-0.2**
KRLC				Sg	**Sg**	**00 00 23.2**	**-1.3**
BRG	**Berggiesshubel**	**1.50**	**246**	PG	**Pn**	**00 00 05.3**	**+0.2**
BRG				SG	**Sg**	**00 00 25.2**	**+0.2**
13nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	*e*SG	**Sb**	**00 00 33.9**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	Sg	**Sb**	**00 00 33.9**	**+0.3**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pb**	**00 00 10.8**	**-0.1**
PRU				*e*SG	**Sb**	**00 00 34.3**	**+0.3**
comp=Z,4.8nm,0.2s							
PRU	**Pruhonice**	**1.81**	**214**	Pg	**Pb**	**00 00 10.8**	**-0.1**
PRU				Sg	**Sb**	**00 00 34.3**	**+0.3**
4.8nm,0.2s							
CLL	**Collm**	**1.95**	**266**	*e*Pg	**Pb**	**00 00 13.0**	**-0.4**
CLL				*e*Sg	**Sb**	**00 00 39.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*SG	**Sg**	**00 00 44.6**	**+0.1**
OKC	**Ostrava-Krasne**	**2.10**	**141**	Sg	**Sg**	**00 00 44.6**	**+0.1**
TREC	**Trest**	**2.23**	**190**	*e*SG	**Sb**	**00 00 47.8**	**+1.4**
TREC	**Trest**	**2.23**	**190**	Sg	**Sb**	**00 00 47.8**	**+1.4**
NKC	**Novy Kostel**	**2.64**	**243**	*e*SG	**Sg**	**00 01 01.3**	**-0.4**
comp=Z,6.9nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**243**	Sg	**Sg**	**00 01 01.3**	**-0.4**
6.9nm,0.3s							
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PG	**Pb**	**00 00 29.9**	**+0.9**
KHC				*e*SG	**Sg**	**00 01 07.9**	**-1.1**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg	**Pb**	**00 00 29.9**	**+0.9**
KHC				Sg	**Sg**	**00 01 07.9**	**-1.1**
CONA	**Conrad Observa**	**3.57**	**183**	Sg	**Sg**	**00 01 30.7**	**-0.9**
1.7nm,0.3s							
MOA	**Molln**	**3.84**	**199**	Sg	**Sg**	**00 01 40.3**	**+0.1**
1.3nm,0.3s							

*IDC **05** 23:59:57.3±0.8, 57°.93N×32°.33W, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.0/59, mbtmp4.1/20, ML4.0/1, Error ellipse: s-maj=21.6km s-min=14.2km az=15.0*

*ISCJB **05** 23:59:58.4±0.6, 57°.96N±0°.10×32°.4W±0°.1, h18km, mb4.1/20, Error ellipse: s-maj=14.7km s-min=10.7km az=16.6*

*NEIC **05** 23:59:58.6±0.6, 57°.91N×32°.41W, h10km, mb4.2/2, Error ellipse: s-maj=15.0km s-min=10.9km az=2.0*

ISC 06 00:00:00.1±0.7, 57°.9N±0°.1×32°.38W±0°.09, h18km, n30, σ1s11/24, mb4.0/20, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.65**	**33**	Pn	**Pn**	**00 02 05.4**	**+1.2**
EKA	**Eskdalemuir Ar**	**16.22**	**87**	Pn	**Pn**	**00 03 47.7**	**+0.9**
baz=310,slow=6.4,SNR=4.7							
NOA	**NORSAR Array B**	**22.05**	**63**	P	**P**	**00 04 54.2**	**+0.8**
3.6nm,1.1s,baz=282,slow=11,SNR=3.5							
ESDC	**Sonseca Array**	**25.84**	**123**	P	**P**	**00 05 30.4**	**+0.1**
3.2nm,0.9s,baz=322,slow=9.0,SNR=17							
MDT	**Midelt**	**31.37**	**131**	P	**P**	**00 06 19.0**	**-0.8**
1.7nm,0.9s,baz=297,slow=7.1,SNR=5.6							
AKASG	**Malin Array Be**	**35.50**	**74**	P	**P**	**00 06 53.8**	**-1.6**
3.0nm,0.7s,baz=305,slow=8.4,SNR=9.9							
YKA	**Yellowknife Ar**	**38.51**	**312**	P	**P**	**00 07 20.4**	**-0.3**
1.0nm,0.9s,baz=60,slow=9.0,SNR=3.3							
TAM	**Tamanrasset**	**44.41**	**126**	*e*P	**P**	**00 08 11.2**	**+1.4**
5.4nm,1.2s							
BRTR	**Keskin Array B**	**45.12**	**84**	P	**P**	**00 08 16.1**	**+0.8**
1.8nm,0.8s,baz=324,slow=5.4,SNR=9.3							
KVAR	**Kislovodsk Arr**	**46.82**	**73**	P	**P**	**00 08 29.3**	**+0.7**
6.6nm,1.0s,baz=194,slow=8.3,SNR=4.5							
KBZ	**Khabaz**	**47.09**	**73**	P	**P**	**00 08 31.6**	**+1.1**
2.5nm,0.8s,baz=329,slow=6.8,SNR=4.6							
ILAR	**Eielson Array**	**47.99**	**328**	P	**P**	**00 08 37.4**	**0.0**
1.2nm,0.9s,baz=30,slow=5.8,SNR=5.2							
PDAR	**Pinedale Array**	**48.75**	**287**	P	**P**	**00 08 43.6**	**-0.1**
0.9nm,0.7s,baz=50,slow=6.4,SNR=6.3							
AKTO	**Aktyubinsk**	**49.62**	**57**	P	**P**	**00 08 49.6**	**-0.4**
3.5nm,0.8s,baz=315,slow=6.8,SNR=11							
GNI	**Garni**	**50.63**	**75**	P	**P**	**00 08 56.0**	**-2.0**
4.2nm,0.8s,baz=187,slow=14,SNR=3.5							
ABKAR	**Akbulak array**	**51.34**	**57**	*e*P	**P**	**00 09 03.4**	**+0.5**
1.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.55**	**136**	P	**P**	**00 09 04.1**	**-0.8**
3.1nm,0.8s,baz=332,slow=7.0,SNR=16							
BVAR	**Borovoye Array**	**52.93**	**48**	P	**P**	**00 09 13.5**	**-1.3**
1.5nm,0.8s,baz=325,slow=7.2,SNR=6.4							
TXAR	**Lajitas Array**	**55.83**	**272**	P	**P**	**00 09 38.0**	**+1.7**
0.8nm,0.9s,baz=80,slow=2.7,SNR=5.7							
GEYT	**Alibeck**	**59.07**	**67**	P	**P**	**00 10 00.1**	**+1.2**
2.2nm,0.9s,baz=289,slow=9.2,SNR=4.1							
MKAR	**Makanchi Array**	**62.52**	**45**	P	**P**	**00 10 20.9**	**-1.4**
1.8nm,0.9s,baz=332,slow=5.9,SNR=11							
H10N2	**ASCENSION HYDR**	**67.12**	**161**	T	T	01 23 17.3	
baz=350							
H10N3	**ASCENSION HYDR**	**67.13**	**161**	T	T	01 23 21.1	
baz=350							
H10N1	**ASCENSION HYDR**	**67.14**	**161**	T	T	01 23 22.8	
baz=350							
H10S1	**ASCENSION HYDR**	**68.18**	**161**	T	T	01 24 37.6	
baz=353							
H10S3	**ASCENSION HYDR**	**68.19**	**161**	T	T	01 24 44.3	
baz=353							
H10S2	**ASCENSION HYDR**	**68.20**	**161**	T	T	01 24 37.0	
baz=353							
SONM	**Songino Array**	**69.24**	**28**	P	**P**	**00 11 04.9**	**-0.7**
0.8nm,0.7s,baz=330,slow=8.6,SNR=4.8							
WRA	**Warramunga Arr**	**140.84**	**20**	PKP	**PKPdf**	**00 19 27.1**	**-1.5**
0.6nm,0.9s,baz=322,slow=1.4,SNR=2.7							
ASAR	**Alice Springs**	**144.38**	**22**	PKP	**PKPab**	**00 19 33.1**	**+0.2**
0.3nm,0.6s,baz=0.0,slow=2.8,SNR=3.8							

*IDC **06** 00:00:58.4±0.5, 57°.92N×32°.67W, h0km, mb4.3/34, mb1 4.4/37, mb1mx4.3/60, mbtmp4.3/37, ML3.1/2, Error ellipse: s-maj=15.0km s-min=9.6km az=2.0*

*ISCJB **06** 00:00:59.6±0.3, 57°.92N±0°.06×32°.60W±0°.06, h18km, mb4.5/60, Error ellipse: s-maj=9.2km s-min=4.7km az=1.7*

*CSEM **06** 00:00:59.8±0.1, 57°.91N×32°.61W, h10km, mb4.8/26, Error ellipse: s-maj=8.8km s-min=4.5km az=1.0*

*NEIC **06** 00:01:00.1±0.2, 57°.89N×32°.62W, h10km, mb4.8/25, Error ellipse: s-maj=7.1km s-min=3.8km az=2.0*

ISC 06 00:01:01.2±0.4, 57°.89N±0°.08×32°.58W±0°.06, h18km, n113, σ0s87/108, mb4.6/61, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.74**	**33**	Pn	**Pn**	**00 03 07.2**	**+0.8**
SUMG	**Summit**	**14.94**	**353**	*e*Pn	**Pn**	**00 04 32.0**	**+0.6**
SUMG	**Summit**	**14.94**	**353**	*e*Pn	**Pn**	**00 04 32.0**	**+0.6**
DSB	**Dublin**	**15.48**	**96**	*e*Pn	**P**	**00 04 40.5**	**-2.2**
DSB	**Dublin**	**15.48**	**96**	*e*Pn	**P**	**00 04 40.5**	**-2.2**
EKA	**Eskdalemuir Ar**	**16.33**	**86**	Pn	**Pn**	**00 04 49.2**	**-0.1**
baz=292,slow=11,SNR=3.2							
SCHQ	**Schefferville**	**19.10**	**275**	P	**P**	**00 05 21.6**	**-1.0**
0.2nm,0.3s,baz=63,slow=16,SNR=3.3							
NB2	**NORSAR Subarra**	**22.15**	**63**	P	**P**	**00 05 54.4**	**-1.3**
comp=Z,9.8nm,1.2s,baz=280,slow=11							
NB2	**NORSAR Subarra**	**22.15**	**63**	P	**P**	**00 05 54.4**	**-1.3**
comp=Z,9.8nm,1.2s,baz=280,slow=10,SNR=3.7							
NOA	**NORSAR Array B**	**22.15**	**63**	P	**P**	**00 05 55.7**	**0.0**
comp=Z,1.8nm,1.0s,baz=291,slow=16,SNR=3.2							
HFS	**Hagfors**	**23.55**	**65**	P	**P**	**00 06 11.2**	**+1.1**
comp=Z,3.8nm,0.8s,baz=289,slow=9.0,SNR=3.2							
PAB	**San Pablo**	**25.85**	**123**	*e*P	**P**	**00 06 31.5**	**0.0**
comp=Z,6.4nm,0.9s							
PAB	**San Pablo**	**25.85**	**123**	*e*P	**P**	**00 06 31.5**	**0.0**
comp=Z,6.4nm,0.9s							
SPITS	**Spitsbergen Ar**	**25.89**	**21**	P	**P**	**00 06 32.5**	**+1.0**
comp=Z,2.7nm,0.7s,baz=55,slow=18,SNR=2.7							
ESDC	**Sonseca Array**	**25.92**	**122**	P	**P**	**00 06 32.8**	**+0.7**
comp=Z,3.4nm,0.8s,baz=319,slow=8.4,SNR=11							
CLL	**Collm**	**26.78**	**84**	*e*(sP)	sP	00 06 47.0	-0.4
comp=Z,8.0nm,0.9s							
ARCES	**ARCESS Array B**	**27.04**	**41**	P	**P**	**00 06 40.0**	**-1.8**
comp=Z,8.9nm,1.1s,baz=292,slow=3.8,SNR=5.6							
GERES	**GERESS Array B**	**28.53**	**88**	P	**P**	**00 06 56.0**	**+0.5**
comp=Z,0.6nm,0.7s,baz=292,slow=7.1,SNR=4.2							
FINES	**FINESS Array B**	**28.96**	**58**	P	**P**	**00 06 59.4**	**+0.3**
comp=Z,2.7nm,0.9s,baz=195,slow=10,SNR=3.1							
SADO	**Sadowa**	**31.25**	**266**	P	**P**	**00 07 19.9**	**+0.5**
comp=Z,7.8nm,0.9s,baz=54,slow=11,SNR=5.6							
SADO	**Sadowa**	**31.25**	**266**	P	**P**	**00 07 20.0**	**+0.5**
MDT	**Midelt**	**31.44**	**131**	P	**P**	**00 07 22.2**	**+0.8**
comp=Z,2.2nm,0.9s,baz=320,slow=14,SNR=3.9							
KEST	**Kesra**	**35.43**	**110**	P	**P**	**00 07 56.4**	**+0.3**
comp=Z,2.1nm,0.8s,baz=156,slow=4.2,SNR=3.9							
AKASG	**Malin Array Be**	**35.62**	**74**	P	**P**	**00 07 57.4**	**-0.1**
comp=Z,5.2nm,0.7s,baz=307,slow=8.5,SNR=14							
YKA	**Yellowknife Ar**	**38.45**	**312**	P	**P**	**00 08 20.6**	**-0.7**
comp=Z,3.2nm,0.9s,baz=59,slow=9.1,SNR=8.5							
ECSD	**EROS Data Cent**	**41.24**	**279**	*e*P	**P**	**00 08 45.2**	**+0.3**
comp=Z,16nm,1.2s							
ECSD	**EROS Data Cent**	**41.24**	**279**	*e*P	**P**	**00 08 45.2**	**+0.3**
comp=Z,16nm,1.2s							
INK	**Inuvik**	**41.66**	**327**	P	**P**	**00 08 47.2**	**-0.6**
comp=Z,5.0nm,1.1s,baz=83,slow=16,SNR=3.6							
DGMT	**Dagmar**	**42.00**	**289**	*e*P	**P**	**00 08 51.2**	**+0.2**
comp=Z,26nm,1.1s							
DGMT	**Dagmar**	**42.00**	**289**	*e*P	**P**	**00 08 51.2**	**+0.2**
comp=Z,26nm,1.1s							
LRAL	**Lakeview Retre**	**43.97**	**260**	P	**P**	**00 09 07.6**	**+0.6**
comp=Z,12nm,1.1s							
LRAL	**Lakeview Retre**	**43.97**	**260**	P	**P**	**00 09 07.6**	**+0.6**
comp=Z,12nm,1.1s							
LAO	**LASA Array**	**44.21**	**289**	*e*P	**P**	**00 09 10.0**	**+1.1**
comp=Z,16nm,0.9s							
LAO	**LASA Array**	**44.21**	**289**	*e*P	**P**	**00 09 10.0**	**+1.1**
comp=Z,16nm,0.9s							
TAM	**Tamanrasset**	**44.48**	**126**	*e*P	**P**	**00 09 12.5**	**+1.1**
comp=Z,13nm,1.4s							
TAM	**Tamanrasset**	**44.48**	**126**	*e*P	**P**	**00 09 12.5**	**+1.1**
comp=Z,13nm,1.4s							
EGMT	**Eagleton**	**45.07**	**292**	*e*P	**P**	**00 09 16.7**	**+0.9**
comp=Z,32nm,1.4s							
EGMT	**Eagleton**	**45.07**	**292**	*e*P	**P**	**00 09 16.7**	**+0.9**
comp=Z,32nm,1.4s							
BRTR	**Keskin Array B**	**45.23**	**84**	P	**P**	**00 09 18.6**	**+1.3**
comp=Z,3.5nm,0.8s,baz=322,slow=5.0,SNR=16							
ARU	**Arti**	**45.81**	**51**	P	**P**	**00 09 21.1**	**-0.3**
NRIK	**Noril'sk**	**45.95**	**25**	P	**P**	**00 09 20.9**	**-1.4**
comp=Z,4.0nm,0.8s,baz=274,slow=6.0,SNR=3.6							
DAWY	**Dawson**	**46.26**	**324**	*e*P	**P**	**00 09 25.4**	**+0.5**
comp=Z,14nm,1.1s							
DAWY	**Dawson**	**46.26**	**324**	*e*P	**P**	**00 09 25.4**	**+0.5**
comp=Z,14nm,1.1s							
MIAR	**Mount Ida**	**46.29**	**267**	*e*P	**P**	**00 09 25.7**	**+0.2**
comp=Z,25nm,1.3s							
MIAR	**Mount Ida**	**46.29**	**267**	*e*P	**P**	**00 09 25.7**	**+0.2**
comp=Z,25nm,1.3s							
KVAR	**Kislovodsk Arr**	**46.94**	**73**	P	**P**	**00 09 31.8**	**+1.2**
comp=Z,2.3nm,0.3s,baz=299,slow=13,SNR=3.3							
DLBC	**Dease Lake**	**46.95**	**314**	*e*P	**P**	**00 09 31.8**	**+1.4**
comp=Z,14nm,1.3s							
DLBC	**Dease Lake**	**46.95**	**314**	*e*P	**P**	**00 09 31.8**	**+1.4**
comp=Z,14nm,1.3s							
K22A	**Casper**	**47.18**	**285**	*e*P	**P**	**00 09 32.1**	**-0.5**
comp=Z,7.1nm,0.8s							
K22A	**Casper**	**47.18**	**285**	*e*P	**P**	**00 09 32.1**	**-0.5**
comp=Z,7.1nm,0.8s							
KBZ	**Khabaz**	**47.20**	**73**	P	**P**	**00 09 34.4**	**+2.0**
comp=Z,5.3nm,0.9s,baz=314,slow=8.5,SNR=8.3							
PHWY	**Pilot Hill**	**47.60**	**283**	*e*P	**P**	**00 09 36.7**	**+0.8**
comp=Z,4.5nm,1.0s							
PHWY	**Pilot Hill**	**47.60**	**283**	*e*P	**P**	**00 09 36.7**	**+0.8**
comp=Z,4.5nm,1.0s							
ILAR	**Eielson Array**	**47.96**	**328**	P	**P**	**00 09 38.9**	**+0.8**
comp=Z,5.6nm,0.9s,baz=36,slow=6.4,SNR=18							
ILAR				PcP	**PcP**	**00 11 05.3**	**-0.7**
comp=Z,2.2nm,0.8s,baz=3.0,slow=2.6,SNR=8.3							
NEW	**Newport**	**48.48**	**297**	P	**P**	**00 09 41.4**	**-1.0**
comp=Z,2.9nm,0.9s,baz=38,slow=10,SNR=4.2							
BW06	**Boulder Array**	**48.66**	**287**	*e*P	**P**	**00 09 43.8**	**-0.3**
comp=Z,6.4nm,1.0s							
BW06	**Boulder Array**	**48.66**	**287**	*e*P	**P**	**00 09 43.8**	**-0.3**
comp=Z,6.5nm,1.0s							
PDAR	**Pinedale Array**	**48.66**	**287**	P	**P**	**00 09 43.3**	**-0.8**
comp=Z,4.0nm,0.8s,baz=54,slow=7.7,SNR=18							
ISCO	**Idaho Springs**	**48.77**	**282**	*e*P	**P**	**00 09 45.8**	**+0.7**
comp=Z,15nm,1.3s							
ISCO	**Idaho Springs**	**48.77**	**282**	*e*P	**P**	**00 09 45.8**	**+0.7**
comp=Z,16nm,1.3s							
TPAW	**Teton Pass**	**48.84**	**289**	*e*P	**P**	**00 09 45.6**	**0.0**
comp=Z,6.6nm,0.9s							
TPAW	**Teton Pass**	**48.84**	**289**	*e*P	**P**	**00 09 45.6**	**0.0**
comp=Z,6.6nm,0.9s							
REDW	**Red Top Meadow**	**48.88**	**289**	*e*P	**P**	**00 09 45.6**	**-0.2**
comp=Z,18nm,1.5s							
REDW	**Red Top Meadow**	**48.88**	**289**	*e*P	**P**	**00 09 45.6**	**-0.2**
comp=Z,18nm,1.5s							
WMOK	**Wichita Mounta**	**48.92**	**272**	*e*P	**P**	**00 09 45.8**	**-0.2**
comp=Z,16nm,1.4s							
WMOK	**Wichita Mounta**	**48.92**	**272**	*e*P	**P**	**00 09 45.8**	**-0.2**
comp=Z,16nm,1.4s							
AKTO	**Aktyubinsk**	**49.73**	**57**	P	**P**	**00 09 52.1**	**+0.2**
comp=Z,9.6nm,0.8s,baz=316,slow=7.3,SNR=21							
AMTX	**Amarillo**	**50.36**	**274**	*e*P	**P**	**00 09 57.9**	**+0.9**
comp=Z,32nm,1.2s							
AMTX	**Amarillo**	**50.36**	**274**	*e*P	**P**	**00 09 57.9**	**+0.9**
comp=Z,32nm,1.2s							
HWUT	**Hardware Ranch**	**50.52**	**288**	*e*P	**P**	**00 09 57.9**	**-0.4**
comp=Z,13nm,1.0s							
HWUT	**Hardware Ranch**	**50.52**	**288**	*e*P	**P**	**00 09 57.9**	**-0.4**
comp=Z,13nm,1.0s							
GNI	**Garni**	**50.74**	**75**	P	**P**	**00 10 01.9**	**+2.0**
comp=Z,7.5nm,0.8s,baz=217,slow=1.8,SNR=5.2							
BMO	**Blue Mountains**	**51.01**	**294**	*e*P	**P**	**00 10 00.8**	**-1.0**
comp=Z,3.7nm,0.9s							
BMO	**Blue Mountains**	**51.01**	**294**	*e*P	**P**	**00 10 00.8**	**-1.0**
comp=Z,3.7nm,0.9s							
MMAI	**Mount Meron Ar**	**51.19**	**88**	P	**P**	**00 10 01.9**	**-1.3**
comp=Z,2.1nm,0.8s,baz=285,slow=13,SNR=2.8							
ABKAR	**Akbulak array**	**51.44**	**57**	*e*P	**P**	**00 10 05.4**	**+0.6**
comp=Z,8.2nm,0.8s							
ABKAR	**Akbulak array**	**51.44**	**57**	*e*P	**P**	**00 10 05.4**	**+0.6**
comp=Z,8.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.61**	**136**	P	**P**	**00 10 05.4**	**-1.0**
comp=Z,5.8nm,0.8s,baz=341,slow=7.2,SNR=18							
MVCO	**Mesa Verde**	**52.21**	**281**	*e*P	**P**	**00 10 12.2**	**+1.2**
comp=Z,25nm,1.4s							
MVCO	**Mesa Verde**	**52.21**	**281**	*e*P	**P**	**00 10 12.2**	**+1.2**
comp=Z,25nm,1.4s							
ASF	**Jabal al Asfar**	**52.64**	**88**	P	**P**	**00 10 13.9**	**-0.2**
comp=Z,1.9nm,0.8s,baz=229,slow=2.5,SNR=4.3							
BVAR	**Borovoye Array**	**53.03**	**47**	P	**P**	**00 10 17.0**	**+0.4**
comp=Z,4.5nm,0.8s,baz=324,slow=7.3,SNR=17							
BVAR	**Borovoye Array**	**53.03**	**47**	P	**P**	**00 10 17.0**	**+0.4**
TXAR	**Lajitas Array**	**55.72**	**271**	P	**P**	**00 10 36.0**	**-0.5**
comp=Z,2.5nm,1.0s,baz=50,slow=3.4,SNR=9.8							
ZALV	**Zalesovo Beam**	**57.54**	**38**	P	**P**	**00 10 47.9**	**-1.1**
comp=Z,0.6nm,0.5s,baz=355,slow=3.5,SNR=2.2							
DAC	**Darwin (Calif)**	**57.62**	**288**	*e*P	**P**	**00 10 49.8**	**-0.3**
comp=Z,20nm,1.4s							
DAC	**Darwin (Calif)**	**57.62**	**288**	*e*P	**P**	**00 10 49.8**	**-0.3**
comp=Z,20nm,1.4s							
KURK	**Kurchatov**	**58.01**	**44**	*e*P	**P**	**00 10 52.0**	**-0.3**
comp=Z,128nm,0.2s							
KURK	**Kurchatov**	**58.01**	**44**	*e*P	**P**	**00 10 52.0**	**-0.3**
comp=Z,128nm,0.2s							
PFO	**Pinyon Flats O**	**59.11**	**285**	P	**P**	**00 11 01.2**	**+0.8**
comp=Z,6.6nm,0.9s,baz=57,slow=9.6,SNR=4.3							
GEYT	**Alibeck**	**59.18**	**67**	P	**P**	**00 11 01.7**	**+1.0**
comp=Z,2.5nm,1.0s,baz=318,slow=6.0,SNR=4.7							
MKAR	**Makanchi Array**	**62.61**	**45**	P	**P**	**00 11 23.5**	**-0.5**
comp=Z,4.8nm,0.8s,baz=331,slow=6.3,SNR=27							
AAK	**Ala-Archa**	**62.94**	**52**	*e*P	**P**	**00 11 27.8**	**+1.4**
comp=Z,2.5nm,0.8s							
AAK	**Ala-Archa**	**62.94**	**52**	*e*P	**P**	**00 11 27.8**	**+1.4**
comp=Z,2.5nm,0.8s							
H10N2	**ASCENSION HYDR**	**67.13**	**160**	T	T	01 24 22.4	
baz=350							
H10N3	**ASCENSION HYDR**	**67.14**	**161**	T	T	01 24 22.8	
baz=350							
H10N1	**ASCENSION HYDR**	**67.15**	**160**	T	T	01 24 23.5	
baz=350							
H10S1	**ASCENSION HYDR**	**68.19**	**161**	T	T	01 25 42.6	
baz=351,slow=75,SNR=11							
H10S3	**ASCENSION HYDR**	**68.20**	**161**	T	T	01 25 41.9	
baz=351,slow=75,SNR=15							
H10S2	**ASCENSION HYDR**	**68.21**	**161**	T	T	01 25 44.0	
baz=351,slow=75,SNR=14							
SONM	**Songino Array**	**69.31**	**28**	P	**P**	**00 12 06.7**	**-0.4**
comp=Z,4.3nm,1.0s,baz=328,slow=6.0,SNR=15							
ULN	**Ulaanbaatar**	**69.45**	**28**	*e*P	**P**	**00 12 08.0**	**0.0**
comp=Z,13nm,1.2s							
ULN	**Ulaanbaatar**	**69.45**	**28**	*e*P	**P**	**00 12 08.0**	**0.0**
comp=Z,13nm,1.2s							
CPUP	**Villa Florida**	**86.43**	**202**	P	**P**	**00 13 40.9**	**-1.2**
comp=Z,4.3nm,1.1s,baz=24,slow=6.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**94.01**	**45**	P	**P**	**00 14 17.6**	**-0.5**
comp=Z,1.1nm,0.3s,baz=325,slow=6.6,SNR=5.3							
SNAA	**Sanae**	**130.94**	**168**	*e*PKIKP	**PKPdf**	**00 20 09.6**	**-0.2**
SNAA	**Sanae**	**130.94**	**168**	*e*PKPdf	**PKPdf**	**00 20 09.6**	**-0.2**
WRA	**Warramunga Arr**	**140.90**	**20**	PKP	**PKPdf**	**00 20 29.2**	**-0.6**
comp=Z,2.2nm,1.0s,baz=351,slow=2.4,SNR=9.2							
ASAR	**Alice Springs**	**144.45**	**22**	PKP	PKPbc	00 20 35.1	+0.6
comp=Z,2.7nm,0.8s,baz=348,slow=2.4,SNR=8.6							
QSPA	**South Pole Qui**	**147.79**	**180**	*e*PKPdf	**PKPdf**	**00 20 39.5**	**-0.9**
QSPA				*e*PKPbc	**PKPbc**	**00 20 43.2**	**-0.1**
QSPA				*e*PKPab	**PKPab**	**00 20 46.0**	**+0.1**
STKA	**Stephens Creek**	**153.68**	**11**	PKPbc	**PKPbc**	**00 20 57.3**	**-1.0**
comp=Z,2.3nm,1.0s,baz=106,slow=1.8,SNR=6.5							
VNDA	**Vanda**	**159.67**	**189**	PKPab	**PKPab**	**00 21 37.0**	**+1.3**
comp=Z,2.2nm,0.9s,baz=182,slow=2.8,SNR=11							
VNDA	**Vanda**	**159.67**	**189**	PKPab	**PKPab**	**00 21 37.0**	**+1.3**

*ISCJB **06** 00:03:01.8±2.0, 57°.93N±0°.03×32°.52W±0°.02, h11km±12km, mb4.9/242, MS4.8/38, Error ellipse: s-maj=4.7km s-min=2.2km az=1.1*

*MOS **06** 00:03:01.5±1.4, 58°.03N×32°.34W, h8km, mb5.1/57, MS4.8/10, Error ellipse: s-maj=7.5km s-min=6.4km az=71.5*

*IDC **06** 00:03:01.2±0.4, 58°.04N×32°.37W, h0km, mb4.5/39, mb1 4.6/44, mb1mx4.5/61, mbtmp4.5/44, ML3.8/4, MS4.7/23, Ms1 4.7/23, ms1mx4.4/53, Error ellipse: s-maj=12.7km s-min=8.3km az=4.0*

*CSEM **06** 00:03:03.3±0.1, 58°.00N×32°.28W, h10km, mb5.0/99, Mw5.3, Error ellipse: s-maj=6.9km s-min=3.2km az=2.0*

*BJI **06** 00:03:03.8, 58°.65N×31°.81W, h6km, mb4.8/45, mB5.3/31,

comp=Z,31nm,1.2s
MTE Manteigas 23.73 127 *e*P **P 00 08 15.5 +0.2**
comp=Z,31nm,1.2s
WLF Walferdange 23.96 93 P **P 00 08 17.4 +0.1**
comp=Z,52nm,3.4s
PTOM Tomar 24.02 129 *e*P **P 00 08 18.3 +0.3**
comp=Z,72nm,2.1s
PCBR Castelo Branco 24.22 128 *e*P **P 00 08 20.3 +0.4**
comp=Z,51nm,1.8s
PMAFR Mafra 24.23 132 *e*P **P 00 08 20.8 +0.8**
comp=Z,174nm,1.4s
PMRV Marv??o 24.61 128 *e*P **P 00 08 24.0 +0.6**
comp=Z,52nm,1.4s
PMRV *e*LR LR 00 14 23.1
comp=Z,2µm,18.0s
PESTR Estremoz 25.00 129 *e*P **P 00 08 27.4 +0.5**
comp=Z,59nm,1.1s
EVO Evora 25.11 130 *e*P **P 00 08 27.6 -0.3**
comp=Z,28nm,1.2s
PNCL Nicolau / Gran 25.26 131 *e*P **P 00 08 30.2 +1.0**
comp=Z,55nm,1.3s
PBEJ Beja 25.60 131 *e*P **P 00 08 33.3 +1.0**
comp=Z,44nm,1.4s
PBAR Barrancos 25.81 129 *e*P **P 00 08 34.6 +0.3**
comp=Z,54nm,1.3s
PAB San Pablo 25.82 123 *e*P **P 00 08 34.9 +0.4**
PAB pmax pmax
comp=Z,15nm,1.0s
PAB San Pablo 25.82 123 *e*P **P 00 08 34.8 +0.3**
comp=Z,15nm,1.0s
PAB San Pablo 25.82 123 *e*P **P 00 08 34.9 +0.3**
comp=Z,15nm,1.0s
PCVE Castro Verde 25.87 131 *e*P **P 00 08 40.3 +5.5**
comp=Z,49nm,1.8s
ESDC Sonseca Array 25.89 123 P **P 00 08 35.5 +0.4**
comp=Z,14nm,0.9s,baz=320,slow=8.1,SNR=24
ESDC LR LR 00 16 52.4
comp=Z,1µm,20.1s,baz=310,slow=32
ESLA Sonseca Array 25.89 123 *e*P **P 00 08 36.1 +1.0**
comp=Z,16nm,0.9s
ESLA Sonseca Array 25.89 123 *e*P **P 00 08 36.1 +1.0**
comp=Z,16nm,0.9s
ES19 SONSECA Array 25.90 122 *e*P **P 00 08 35.4 +0.2**
ES19 SONSECA Array 25.90 122 *e*P **P 00 08 35.4 +0.2**
BFO Black Forest 25.90 94 *i* P **P 00 08 38.4 +3.3**
MORF Marmelete 25.91 133 *e*P **P 00 08 37.8 +2.6**
comp=Z,87nm,1.9s
PVAQ Vaqueiros 26.19 131 *e*P **P 00 08 39.7 +2.0**
comp=Z,43nm,1.5s
PVAQ *e*LR LR 00 15 18.7
comp=Z,3µm,20.0s
GRFO Grafenberg 26.64 89 *e*P **P 00 08 43.5 +1.8**
GRFO pmax pmax
comp=Z,53nm,1.4s
GRFO Grafenberg 26.64 89 *e*P **P 00 08 43.5 +1.8**
comp=Z,53nm,1.4s
GRFO Grafenberg 26.64 89 *e*P **P 00 08 43.5 +1.8**
comp=Z,53nm,1.4s
CLL Collm 26.70 85 *i* P **P 00 08 42.0 -0.2**
CLL *i* 00 08 45.6
CLL MLR MLR
comp=Z,2µm,19.3s
CLL Collm 26.70 85 *i* P **P 00 08 42.0 -0.2**
comp=Z,2µm,19.3s
CLL Collm 26.70 85 *i* P **P 00 08 42.0 -0.2**
CLL *i* sP **P 00 08 45.6 +3.4**
CLL Lm MLR 00 19 00.0
comp=Z,2µm,19.3s
CLL Collm 26.70 85 *e*P **P 00 08 42.5 +0.4**
comp=Z,15nm,1.1s
ARCES ARCESS Array B 26.93 41 P **P 00 08 41.8 -2.4**
comp=Z,5.5nm,0.9s,baz=265,slow=8.4,SNR=7.8
ARCES LR LR 00 17 17.0
comp=Z,723nm,18.8s,baz=260,slow=32
NKC Novy Kostel 26.99 87 *e*P **P 00 08 39.7 -5.2**
NKC *e*pP **pP 00 08 45.6 -4.8**
NKC AMS AMS 00 19 30.0
comp=Z,3µm,15.0s
NKC Novy Kostel 26.99 87 *e*P **P 00 08 39.7 -5.2**
NKC *e* 00 08 45.6
NKC MLR MLR
comp=Z,3µm,15.0s
BNI Bardonecchia 27.13 101 *e*P **P 00 08 47.3 +1.0**
BNI pmax pmax
comp=Z,34nm,1.7s
BNI Bardonecchia 27.13 101 *e*P **P 00 08 47.3 +1.0**
comp=Z,34nm,1.7s
BNI Bardonecchia 27.13 101 *e*P **P 00 08 47.3 +1.0**
comp=Z,34nm,1.7s
PMOZ Porto Moniz, M 27.20 151 *e*LR LR 00 15 30.8
comp=Z,2µm,18.0s
PMOZ Porto Moniz, M 27.20 151 *e*T T 00 36 26.4
PMAR Madeira 27.36 151 *e*T T 00 36 32.5
BRG Berggiesshubel 27.43 85 *e*P **P 00 08 47.4 -1.4**
comp=Z,165nm,2.9s
BRG *e* 00 09 00.2
comp=Z,4.6nm,1.1s
BRG Berggiesshubel 27.43 85 *e*P **P 00 08 47.4 -1.4**
BRG pmax pmax
comp=Z,165nm,2.9s
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 27.43 85 *e*P **P 00 08 47.4 -1.4**
comp=Z,5.0nm,1.1s
TUE Stuetta 27.60 96 *e*P **P 00 08 53.1 +2.5**
comp=Z,15nm,1.1s
TUE Stuetta 27.60 96 *e*P **P 00 08 53.1 +2.5**
comp=Z,15nm,1.1s
DAVOX Davos/Dischmat 27.69 95 LR LR 00 19 05.4
comp=Z,3µm,19.1s,baz=307,slow=35
PVCC Panska Ves 27.95 85 *e*P **P 00 08 51.0 -2.5**
PVCC *e*pP **pP 00 08 58.4 -0.6**
PVCC AMS AMS 00 20 30.0
comp=Z,2µm,11.4s
PVCC Panska Ves 27.95 85 *e*P **P 00 08 51.0 -2.5**
PVCC *e* 00 08 58.4
PVCC MLR MLR
comp=Z,2µm,11.4s
PVCC Panska Ves 27.95 85 *e*P **P 00 08 51.0 -2.5**
comp=Z,2µm,11.4s
FETA Feichten 27.99 94 pP **P 00 08 56.0 +2.0**
comp=Z,12nm,1.9s
PRA Prague 28.14 86 AMS AMS 00 20 30.0
comp=Z,3µm,15.8s
RES Resolute Bay 28.21 330 LR LR 00 19 42.0
comp=Z,1µm,18.1s,baz=96,slow=36
KHC Kasperske Hory 28.22 88 *e*P **P 00 08 54.5 -1.4**
KHC *e*x x 00 09 02.0
KHC *e*x x 00 09 30.5
KHC AMS AMS 00 19 40.0
comp=Z,3µm,17.0s
KHC Kasperske Hory 28.22 88 *e*P **P 00 08 54.5 -1.4**
KHC *e* 00 09 02.0
KHC MLR MLR
comp=Z,3µm,17.0s
KHC Kasperske Hory 28.22 88 *e*P **P 00 08 54.5 -1.4**
PRU Pruhonice 28.24 86 *e*P **P 00 08 57.0 +1.0**
PRU AMS AMS 00 20 10.0
comp=Z,3µm,17.3s
PRU Pruhonice 28.24 86 *e*P **P 00 08 57.0 +1.0**
PRU MLR MLR
comp=Z,3µm,17.3s
PRU Pruhonice 28.24 86 *e*P **P 00 08 57.0 +1.0**
comp=Z,3µm,17.3s
GOPC GO Pecny, Ondr 28.41 86 AMS AMS 00 20 20.0
comp=Z,3µm,17.1s
GERES GERESS Array B 28.46 88 P **P 00 08 58.3 +0.2**
comp=Z,0.6nm,0.7s,baz=308,slow=6.6,SNR=5.5
GERES LR LR 00 20 03.7
comp=Z,2µm,18.3s,baz=292,slow=36
GEA0 GERESS Array S 28.46 88 *e*P **P 00 09 02.0 +3.9**
UPC Upice 28.73 84 *e*P **P 00 09 04.8 +4.4**
UPC AMS AMS 00 20 30.0
comp=Z,2µm,17.8s
UPC Upice 28.73 84 *e*P **P 00 09 04.8 +4.4**
UPC MLR MLR
comp=Z,2µm,17.8s
FINES FINESS Array B 28.86 58 P **P 00 09 00.2 -1.2**
comp=Z,6.7nm,0.8s,baz=258,slow=7.6,SNR=5.1
FINES LR LR 00 19 56.6
comp=Z,1µm,18.6s,baz=286,slow=35
DPC Dobruska-Polom 28.98 84 *e*P **P 00 09 01.7 -1.0**
DPC AMS AMS 00 20 40.0
comp=Z,2µm,17.8s
DPC Dobruska-Polom 28.98 84 *e*P **P 00 09 01.7 -1.0**
DPC MLR MLR
comp=Z,2µm,17.8s
DPC Dobruska-Polom 28.98 84 *e*P P **00 09 01.7 -1.0**
comp=Z,2µm,17.8s
ABTA Abfaltersbach 29.11 93 P **P 00 09 06.5 +2.6**
comp=Z,8.5nm,2.2s
TREC Trest 29.14 86 AMS AMS 00 20 40.0
comp=Z,3µm,14.3s
KBA Koelnbreinsper 29.34 92 *e*P **P 00 09 09.2 +3.1**
comp=Z,11nm,1.7s
KRLC Kraliky 29.38 84 *e*P **P 00 09 07.1 +0.9**
KRLC Kraliky 29.38 84 *e*P **P 00 09 07.1 +0.9**
KRLC Kraliky 29.38 84 *e*P **P 00 09 07.1 +0.9**
VRAC Vranov 29.72 85 P **P 00 09 08.7 -0.6**
comp=Z,1.3nm,0.5s,baz=301,slow=0.2,SNR=4.1
VRAC LR LR 00 21 07.4
comp=Z,2µm,18.2s,baz=299,slow=37
MYKA Terra Mystica 29.79 92 *e*P P 00 09 15.1 +5.3
comp=Z,13nm,1.4s
OKC Ostrava-Krasne 30.24 83 AMS AMS 00 22 10.0
comp=Z,3µm,16.6s
OBKA Obir 30.34 91 *e*pP **P 00 09 15.7 +0.8**
comp=Z,3.3nm,1.0s
ARSA Arzberg 30.40 90 pP **P 00 09 16.7 +1.5**
comp=Z,5.0nm,1.1s
SOKA Soboth 30.50 91 *e*P **P 00 09 14.6 -1.5**
comp=Z,4.8nm,1.3s
OJC Ojcow 30.89 82 *e*P **P 00 09 24.0 +4.4**
OJC pmax pmax
comp=Z,41nm,1.7s
OJC Ojcow 30.89 82 *e*P **P 00 09 23.9 +4.4**
comp=Z,41nm,1.7s
SADO Sadowa 31.32 266 P **P 00 09 24.2 +0.8**
comp=Z,14nm,0.7s,baz=58,slow=9.2,SNR=14
LANS Liptovska Anna 31.34 83 *e*P **P 00 09 25.2 +1.7**
LANS Liptovska Anna 31.34 83 *e*P **P 00 09 25.2 +1.7**
LANS Liptovska Anna 31.34 83 *e*P **P 00 09 25.2 +1.7**
VYHS Vyhne 31.40 85 *e*P **P 00 09 24.9 +0.9**
VYHS Vyhne 31.40 85 *e*P **P 00 09 24.9 +0.9**
VYHS Vyhne 31.40 85 *e*P **P 00 09 24.9 +0.9**
MDT Midelt 31.43 131 P **P 00 09 25.5 +1.0**
comp=Z,9.6nm,0.8s,baz=337,slow=11,SNR=14
MDT LR LR 00 21 00.3
comp=Z,1µm,18.4s,baz=348,slow=34
UZH Uzhgorod 33.15 82 *e*P **P 00 09 42.2 +2.9**
UZH *i* 00 09 45.6
UZH *e*S **S 00 15 00.0 +2.5**
GLMI Grayling 34.20 271 *e*P **P 00 09 50.1 +1.5**
comp=Z,66nm,0.8s
GLMI Grayling 34.20 271 *e*P **P 00 09 50.1 +1.5**
comp=Z,66nm,0.8s
N54A Moraine State 34.41 261 P **P 00 09 49.7 -0.7**
baz=44
F44A Big Bay de Noc 34.41 274 P **P 00 09 50.0 -0.4**
baz=50
DRGR 34.51 84⇑*i*P **P 00 09 51.7 +0.4**
DRGR 34.51 84⇑P **P 00 09 51.7 +0.4**
DRGR 34.51 84 P **P 00 09 51.7 +0.4**
BZS Buzias 34.69 87⇑*i*P **P 00 09 52.4 -0.3**
BZS Buzias 34.69 87⇑P **P 00 09 52.4 -0.3**
BZS Buzias 34.69 87 P **P 00 09 52.4 -0.3**
F43A Flat Rock, Esc 34.90 274 P **P 00 09 53.9 -0.6**
baz=49
KLMR Klimovskoe 35.05 54 *e*P **P 00 09 53.3 -2.4**
KLMR *e* 00 12 25.1
KLMR pmax pmax
comp=Z,80nm,1.4s
KLMR Klimovskoe 35.05 54 *e*P **P 00 09 53.3 -2.4**
comp=Z,80nm,1.4s
KLMR Klimovskoe 35.05 54 *e*PcP **PcP 00 12 25.1 -1.9**
BUR08 Bucovina Ar. S 35.29 81 *e*P **P 00 09 58.2 +0.2**
BUR08 Bucovina Ar. S 35.29 81 *e*P **P 00 09 58.1 +0.2**
BURAR Bucovina Array 35.32 81⇑*i*P **P 00 09 58.5 +0.3**
BURAR Bucovina Array 35.32 81⇑P **P 00 09 58.5 +0.3**
KEST Kesra 35.38 111 P **P 00 09 59.5 +0.6**
comp=Z,6.4nm,0.8s,baz=284,slow=1.8,SNR=6.9
KEST LR LR 00 22 55.8
comp=Z,2µm,19.3s,baz=288,slow=34
E41A Kenton 35.45 276 P **P 00 09 58.7 -0.6**
baz=50
AK11 Malin Array Si 35.51 74 *e*P **P 00 10 01.3 +1.6**
AK11 Malin Array Si 35.51 74 *e*P **P 00 10 01.3 +1.6**
KIEV Kiev 35.52 74⇑*e*P **P 00 10 01.5 +1.7**
KIEV pmax pmax
comp=Z,44nm,1.5s
KIEV Kiev 35.52 74 *e*P **P 00 09 58.3 -1.5**
comp=Z,59nm,1.5s
KIEV Kiev 35.52 74 *e*P **P 00 09 58.3 -1.5**
comp=Z,59nm,1.5s
AKASG Malin Array Be 35.52 74 P **P 00 09 57.9 -1.9**
comp=Z,10nm,0.9s,baz=306,slow=8.3,SNR=11
AKASG LR LR 00 24 06.5
comp=Z,821nm,19.4s,baz=295,slow=36
AKBB Malin Array Si 35.52 74 *e*P **P 00 09 58.3 -1.5**
AKBB pmax pmax
comp=Z,71nm,1.6s
AKBB Malin Array Si 35.52 74 *e*P **P 00 09 58.3 -1.5**
comp=Z,71nm,1.6s
AKBB Malin Array Si 35.52 74 *e*P **P 00 09 58.3 -1.5**
comp=Z,71nm,1.6s
PDG Podgorica 35.57 93⇓*i*P **P 00 10 00.4 0.0**
COWI Conover 35.77 276 *e*P **P 00 10 02.4 +0.3**
comp=Z,26nm,1.2s
COWI Conover 35.77 276 *e*P **P 00 10 02.4 +0.3**
comp=Z,26nm,1.2s
EYMN Ely 35.84 280 P **P 00 10 02.2 -0.5**
baz=51
EYMN Ely 35.84 280 *e*P **P 00 10 03.3 +0.6**
comp=Z,29nm,1.0s
EYMN Ely 35.84 280 *e*P **P 00 10 03.3 +0.6**
comp=Z,29nm,1.0s
C38A Sawbill Land. 35.87 280 P **P 00 10 02.3 -0.6**
baz=51
E40A Wakefield 35.95 277 P **P 00 10 03.0 -0.6**
baz=50
F41A Three Lakes 35.99 275 P **P 00 10 03.4 -0.6**
baz=49
E39A Mellen 36.34 277 P **P 00 10 06.6 -0.3**
baz=50
H42A Shiocton 36.50 273 P **P 00 10 08.0 -0.3**
baz=48
ACSO Alum Creek Sta 36.52 263 *e*P **P 00 10 09.7 +1.2**
comp=Z,20nm,1.0s
ACSO Alum Creek Sta 36.52 263 *e*P **P 00 10 09.7 +1.2**
comp=Z,20nm,1.0s
VAE Valguarnera 36.62 103 LR LR 00 23 24.1
comp=Z,2µm,18.2s,baz=339,slow=33
VOIR 36.63 84⇑*i*P **P 00 10 13.1 +3.6**
VOIR 36.63 84⇑P **P 00 10 13.1 +3.6**
SORM Soroca 36.63 78⇓*i*P **P 00 10 06.9 -2.5**
SORM Soroca 36.63 78⇓P **P 00 10 06.9 -2.5**
SORM Soroca 36.63 78 P **P 00 10 06.9 -2.5**
OBN Obninsk 36.66 64 LR LR 00 24 44.0
comp=Z,908nm,18.1s,baz=288,slow=36
OBN Obninsk 36.66 64⇑*e*P **P 00 10 10.6 +1.2**
OBN *e* 00 11 30.7
OBN pmax pmax
comp=Z,12nm,1.2s
OBN MLR MLR
comp=Z,872nm,17.0s
OBN Obninsk 36.66 64 *e*P **P 00 10 10.6 +1.2**
comp=Z,12nm,1.2s
C36A Pine Crest Far 36.66 281 P **P 00 10 09.2 -0.5**
baz=51
ULM Lac du Bonnet 36.70 286 P **P 00 10 09.6 -0.3**
comp=Z,9.1nm,0.6s,baz=67,slow=8.5,SNR=12
ULM LR LR 00 23 49.5
comp=Z,2µm,18.8s,baz=82,slow=34
ULM Lac du Bonnet 36.70 286 P **P 00 10 09.6 -0.3**
ULM pmax pmax
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 36.70 286 P **P 00 10 09.6 -0.3**
comp=Z,10nm,0.7s
ULM Lac du Bonnet 36.70 286 P **P 00 10 09.6 -0.3**
comp=Z,10nm,0.7s
B35A Bob, Littlefor 36.75 282 P **P 00 10 09.6 -0.7**
baz=51
D37A Cotton 36.83 280 P **P 00 10 10.7 -0.4**
baz=50
F39A Loretta 36.84 277 P **P 00 10 10.6 -0.6**
baz=49
G40A Rib Lake 36.88 276 P **P 00 10 11.4 -0.1**
baz=49
H41A Junction City 37.02 274 P **P 00 10 12.7 -0.1**
baz=48
MLR Muntele Rosu 37.07 84⇑*i*P **P 00 10 17.1 +3.8**
MLR Muntele Rosu 37.07 84⇑*i*P **S 00 15 55.1 -3.1**
MLR Muntele Rosu 37.07 84⇑P **P 00 10 17.1 +3.8**
MLR Muntele Rosu 37.07 84 *e*P P 00 10 18.6 +5.4
comp=Z,48nm,1.9s
MLR *e*S **S 00 15 54.7 -3.4**
I42A Draeger Farm, 37.12 273 P **P 00 10 13.4 -0.2**
baz=47
FFC Flin Flon 37.13 296 *e*P **P 00 10 14.3 +0.8**
FFC pmax pmax
comp=Z,87nm,1.9s
FFC Flin Flon 37.13 296 *e*P **P 00 10 14.3 +0.8**
comp=Z,87nm,1.9s
FFC Flin Flon 37.13 296 *e*P **P 00 10 14.3 +0.8**
comp=Z,87nm,1.9s
B34A Aery, Baudette 37.15 283 P **P 00 10 13.5 -0.3**
baz=51
E37A Wrenshall 37.20 279 P **P 00 10 13.5 -0.7**
baz=50
PLOR Plostina 37.20 83⇑*i*P **P 00 10 16.4 +2.1**
PLOR Plostina 37.20 83⇑P **P 00 10 16.4 +2.1**
PLOR Plostina 37.20 83 P **P 00 10 16.4 +2.1**
D36A Goodland 37.21 280 P **P 00 10 14.0 -0.3**
baz=50
VRI Vrincioaia 37.23 83⇑*i*P **P 00 10 14.6 +0.1**
VRI Vrincioaia 37.23 83⇑P **P 00 10 14.6 +0.1**
VRI Vrincioaia 37.23 83 P **P 00 10 14.6 +0.1**
A33A Warroad 37.26 284 P **P 00 10 14.2 -0.5**
baz=52
C35A Jirik Farms, M 37.30 281 P **P 00 10 14.7 -0.4**
baz=51
F38A Pierce - Schro 37.32 278 P **P 00 10 14.7 -0.5**
baz=49
G39A Holcombe 37.38 276 P **P 00 10 15.9 +0.2**
baz=48
H40A Chili 37.41 275 P **P 00 10 15.8 -0.2**
baz=48
I41A Arkdale 37.51 274 P **P 00 10 17.1 +0.2**
baz=48
E36A McGregor 37.68 279 P **P 00 10 18.1 -0.1**
baz=50
G38A Ridgeland 37.82 277 P **P 00 10 19.5 0.0**
baz=48
A32A Rocking H Ranc 37.84 285 P **P 00 10 19.6 0.0**
baz=51
H39A Augusta 37.85 276 P **P 00 10 19.9 +0.1**
baz=48
F37A Hinrichs Farm, 37.87 278 P **P 00 10 20.2 +0.4**
baz=49
AGMN Agassiz Nation 37.90 284 P **P 00 10 20.3 +0.2**
baz=51
I40A Norwalk 38.02 274 P **P 00 10 21.4 +0.1**
baz=47
J41A Loganville 38.06 273 P **P 00 10 21.5 -0.1**
baz=47
B32A Ashes, Strandq 38.19 284 P **P 00 10 23.0 +0.5**
baz=51
C33A Trail 38.20 283 P **P 00 10 22.7 +0.1**
baz=50
L43A Garden Prairie 38.20 271 P **P 00 10 23.6 +0.9**
baz=46
F36A Milaca 38.25 279 P **P 00 10 23.4 +0.4**
baz=49
SPMN Marine on St. 38.29 278 P **P 00 10 23.1 -0.4**
baz=48
SPMN Marine on St. 38.29 278 *e*P **P 00 10 24.2 +0.8**
comp=Z,20nm,1.1s
SPMN Marine on St. 38.29 278 *e*P **P 00 10 24.2 +0.8**
comp=Z,20nm,1.1s
D34A Park Rapids 38.33 282 P **P 00 10 23.7 0.0**
baz=50
H38A Maiden Rock 38.38 276 P **P 00 10 24.5 +0.3**
baz=48
J40A Soldiers Grove 38.43 274 P **P 00 10 24.9 +0.3**
baz=47
CFR Carcaliu 38.43 82⇓*i*P P 00 10 19.4 -5.2
CFR Carcaliu 38.43 82⇓P P 00 10 19.4 -5.2
YKA Yellowknife Ar 38.45 312 P **P 00 10 23.2 -1.3**
comp=Z,4.6nm,0.6s,baz=59,slow=9.2,SNR=14
YKA PcP **PcP 00 12 35.3 -2.0**
comp=Z,1.1nm,0.6s,baz=49,slow=3.1,SNR=6.2
YKA LR LR 00 25 37.9
comp=Z,543nm,18.5s,baz=0.0,slow=35
JFWS Jewell Farm 38.49 273 *e*P **P 00 10 26.6 +1.4**
JFWS pmax pmax
comp=Z,15nm,0.8s
JFWS Jewell Farm 38.49 273 *e*P **P 00 10 26.6 +1.4**
comp=Z,15nm,0.8s
JFWS Jewell Farm 38.49 273 *e*P **P 00 10 26.6 +1.4**
comp=Z,15nm,0.8s
I39A Houston 38.53 275 P **P 00 10 25.9 +0.4**
baz=47
SFIN Lafayette 38.60 267 P **P 00 10 26.4 +0.4**
baz=44
SFIN Lafayette 38.60 267 *e*P **P 00 10 26.7 +0.7**
comp=Z,25nm,0.8s
SFIN Lafayette 38.60 267 *e*P **P 00 10 26.7 +0.7**
comp=Z,25nm,0.8s
K41A Shullsburg 38.74 272 P **P 00 10 27.4 +0.2**
baz=46
H37A Dierke Farm, C 38.78 277 P **P 00 10 27.6 0.0**
baz=48
G36A St. Michael 38.78 278 P **P 00 10 28.1 +0.5**
baz=48
I38A Scanlan Farm, 38.83 276 P **P 00 10 28.1 +0.1**
baz=47
J39A Decorah 38.98 274 P **P 00 10 29.3 0.0**
baz=47
TIRR Tirgusor 39.06 83 *e*P P 00 10 35.4 +5.5
TIRR pmax pmax
comp=Z,17nm,1.5s
TIRR Tirgusor 39.06 83 *e*P P 00 10 35.4 +5.5
comp=Z,17nm,1.5s
K40A Colesburg 39.12 273 P **P 00 10 30.6 +0.2**
baz=46
C31A Landman Farms, 39.19 284 P **P 00 10 30.9 -0.1**
baz=50
L41A Preston 39.21 272 P **P 00 10 31.1 -0.1**
baz=46
J38A Wedel Dairy, R 39.40 275 P **P 00 10 32.7 -0.1**
baz=47
I37A Lemond, Waseca 39.42 277 P **P 00 10 32.8 -0.1**
baz=47
K39A Oelwein 39.51 274 P **P 00 10 33.6 -0.1**
baz=46
L40A Anamosa 39.60 273 P **P 00 10 34.5 0.0**
baz=46
AGG Agios Georgios 39.64 94 *e*P **P 00 10 36.3 +1.4**
AGG pmax pmax
comp=Z,88nm,1.5s
AGG Agios Georgios 39.64 94 *e*P **P 00 10 36.3 +1.4**
comp=Z,88nm,1.5s
AGG Agios Georgios 39.64 94 *e*P **P 00 10 36.3 +1.4**
comp=Z,88nm,1.5s
HDIL Hopedale 39.64 269 P **P 00 10 35.7 +0.9**
baz=44
HDIL Hopedale 39.64 269 *e*P **P 00 10 35.0 +0.2**
comp=Z,50nm,0.8s
HDIL Hopedale 39.64 269 *e*P **P 00 10 35.0 +0.2**
comp=Z,50nm,0.8s
D31A Mcclaflin, Tow 39.67 283 P **P 00 10 34.8 -0.2**
baz=49
F33A 5 Mile Ranch, 39.72 281 P **P 00 10 36.1 +0.7**
baz=48
M41A Milan 39.73 271 P **P 00 10 36.0 +0.6**
baz=45
WCI Wyandotte Cave 39.73 264 *e*P **P 00 10 36.8 +1.2**
WCI pmax pmax
comp=Z,25nm,1.1s
WCI Wyandotte Cave 39.73 264 *e*P **P 00 10 36.8 +1.2**
comp=Z,25nm,1.1s
WCI Wyandotte Cave 39.73 264 *e*P **P 00 10 36.8 +1.2**
comp=Z,25nm,1.1s
N42A Yates City 39.84 270 P **P 00 10 36.9 +0.4**
baz=44
O43A Sugar Creek Fa 39.84 269 P **P 00 10 37.4 +0.9**
baz=44
L39A Vinton 39.98 273 P **P 00 10 38.5 +0.9**
baz=46
J37A Redenius Farm, 39.98 276 P **P 00 10 38.4 +0.9**
baz=46
K38A Parkersburg 40.02 275 P **P 00 10 38.1 +0.1**
baz=46
P44A Sand Creek, Wi 40.07 268 P **P 00 10 38.3 0.0**
baz=43
E31A Nome 40.07 283 P **P 00 10 38.1 -0.2**
baz=49
VSR Storozhevoye 40.22 68⇑*e*P **P 00 10 41.7 +2.3**
VSR pmax pmax
comp=Z,11nm,1.1s
VSR Storozhevoye 40.22 68 *e*P **P 00 10 41.7 +2.3**

	comp=Z,11nm,1.1s					
M40A	**Post Highland**	40.22 272	P	P	00 10 39.5	-0.1
	baz=45					
G33A	**Ortonville**	40.22 280	P	P	00 10 39.8	+0.2
	baz=48					
O42A	**Bath**	40.32 270	P	P	00 10 40.7	+0.3
	baz=44					
J36A	**Seneca 1, Swea**	40.38 277	P	P	00 10 40.4	-0.5
	baz=46					
K37A	**Belmond**	40.40 275	P	P	00 10 41.1	0.0
	baz=46					
P43A	**Skaggs, Pawnee**	40.42 269	P	P	00 10 41.3	+0.1
	baz=44					
L38A	**Oak Wood Farm,**	40.47 274	P	P	00 10 41.5	-0.2
	baz=46					
M39A	**Webster**	40.52 273	P	P	00 10 41.9	-0.2
	baz=45					
N40A	**Mertquake, Sal**	40.63 272	P	P	00 10 42.1	-0.8
	baz=44					
USIN	**University of**	40.66 265	*e*P	P	00 10 45.3	+2.1
	comp=Z,35nm,1.0s					
USIN	**University of**	40.66 265	*e*P	P	00 10 45.3	+2.1
	comp=Z,35nm,1.0s					
Q44A	**Meyer Farm, Va**	40.69 267	P	P	00 10 42.8	-0.6
	baz=43					
H33A	**Prehn Over Nor**	40.73 280	P	P	00 10 43.1	-0.7
	baz=47					
O41A	**Passleys Farm,**	40.80 270	P	P	00 10 43.7	-0.7
	baz=44,SNR=9.0					
P42A	**Winchester**	40.90 269	P	P	00 10 45.0	-0.2
	baz=44					
Q43A	**New Douglas**	41.02 268	P	P	00 10 46.6	+0.3
	baz=43					
M38A	**Pleasantville**	41.11 274	P	P	00 10 46.9	0.0
	baz=45					
N39A	**Derby Farms, D**	41.12 272	P	P	00 10 46.9	-0.1
	baz=44					
R44A	**Waltonville**	41.20 267	P	P	00 10 47.1	-0.6
	baz=42					
H32A	**Carlson Farm,**	41.21 280	P	P	00 10 47.3	-0.5
	baz=47					
P41A	**Barry, Barry**	41.22 270	P	P	00 10 47.2	-0.7
	baz=44,SNR=11					
J34A	**George**	41.27 278	P	P	00 10 47.5	-0.8
	baz=46					
K35A	**Storm Lake**	41.28 277	P	P	00 10 47.7	-0.7
	baz=46					
ECSD	**EROS Data Cent**	41.31 279	P	P	00 10 48.2	-0.3
	baz=46,SNR=8.1					
ECSD	**EROS Data Cent**	41.31 279	*e*P	P	00 10 49.4	+0.9
	comp=Z,12nm,0.8s					
ECSD	**EROS Data Cent**	41.31 279	*e*P	P	00 10 49.4	+0.9
	comp=Z,12nm,0.8s					
O40A	**La Belle**	41.33 271	P	P	00 10 48.2	-0.6
	baz=44					
S45A	**Carrier Mills**	41.36 266	P	P	00 10 49.2	+0.3
	baz=42					
Q42A	**Golden Eagle**	41.49 269	P	P	00 10 49.9	-0.2
	baz=43					
SLM	**Saint Louis**	41.53 268	*e*P	P	00 10 52.1	+1.7
SLM			pmax	pmax		
	comp=Z,50nm,0.8s					
SLM	**Saint Louis**	41.53 268	*e*P	P	00 10 52.1	+1.7
	comp=Z,50nm,0.8s					
SLM	**Saint Louis**	41.53 268	*e*P	P	00 10 52.1	+1.7
	comp=Z,50nm,0.8s					
I32A	**Karley and Nic**	41.55 280	P	P	00 10 50.4	-0.2
	baz=47					
N38A	**Joes South For**	41.57 273	P	P	00 10 50.6	-0.1
	baz=44					
M37A	**Trindle Farm,**	41.58 274	P	P	00 10 50.8	0.0
	baz=45					
O39A	**Kirksville**	41.59 272	P	P	00 10 50.9	0.0
	baz=44					
R43A	**Red Bud**	41.63 267	P	P	00 10 51.4	+0.1
	baz=42					
INK	**Inuvik**	41.63 327	P	P	00 10 49.5	-1.3
	comp=Z,3.6nm,0.7s,baz=89,slow=6.7,SNR=3.7					
INK	**Inuvik**	41.63 327	*e*P	P	00 10 52.0	+1.1
INK			pmax	pmax		
	comp=Z,25nm,1.6s					
INK	**Inuvik**	41.63 327	*e*P	P	00 10 52.0	+1.1
	comp=Z,25nm,1.6s					
INK	**Inuvik**	41.63 327	*e*P	P	00 10 52.0	+1.1
	comp=Z,25nm,1.6s					
S44A	**Carbondale**	41.70 266	P	P	00 10 51.2	-0.7
	baz=42,SNR=11					
Q41A	**Truxton**	41.83 269	P	P	00 10 52.8	-0.1
	baz=43					
P40A	**Paris**	41.85 271	P	P	00 10 53.3	+0.3
	baz=44					
L35A	**Bielow Farm, R**	41.87 276	P	P	00 10 52.9	-0.3
	baz=45					
GOGA	**Godfrey**	41.91 257	*e*P	P	00 10 55.8	+2.2
GOGA			pmax	pmax		
	comp=Z,46nm,1.7s					
GOGA	**Godfrey**	41.91 257	*e*P	P	00 10 55.8	+2.2
	comp=Z,46nm,1.7s					
GOGA	**Godfrey**	41.91 257	*e*P	P	00 10 55.8	+2.2
	comp=Z,46nm,1.7s					
DGMT	**Dagmar**	42.05 289	P	P	00 10 54.0	-0.6
	baz=49					
DGMT	**Dagmar**	42.05 289	*e*P	P	00 10 56.0	+1.4
	comp=Z,28nm,0.8s					
DGMT	**Dagmar**	42.05 289	*e*P	P	00 10 56.0	+1.4
	comp=Z,28nm,0.8s					
R42A	**Luebbering**	42.09 268	P	P	00 10 54.6	-0.4
	baz=42					
N37A	**Lee Faris, Mou**	42.12 274	P	P	00 10 54.7	-0.5
	baz=44					
WVT	**Waverly**	42.12 263	*e*P	P	00 10 56.5	+1.3
WVT			pmax	pmax		
	comp=Z,36nm,1.6s					
WVT	**Waverly**	42.12 263	*e*P	P	00 10 56.5	+1.3
	comp=Z,36nm,1.6s					
WVT	**Waverly**	42.12 263	*e*P	P	00 10 56.5	+1.3
	comp=Z,36nm,1.6s					
S43A	**Fulton Ridge,**	42.23 267	P	P	00 10 55.5	-0.7
	baz=42,SNR=14					
Q40A	**Laux Farm, Aux**	42.25 270	P	P	00 10 55.4	-0.8
	baz=43					
P39B	**Salisbury**	42.25 271	P	P	00 10 55.2	-1.1
	baz=43,SNR=9.3					
R41A	**Rosebud**	42.39 269	P	P	00 10 56.3	-1.2
	baz=42,SNR=8.8					
S42A	**Caledonia**	42.47 268	P	P	00 10 57.6	-0.4
	baz=42,SNR=6.0					
CCM	**Cathedral Cave**	42.49 268	*e*P	P	00 10 57.4	-0.9
CCM			pmax	pmax		
	comp=Z,30nm,0.7s					
CCM	**Cathedral Cave**	42.49 268	*e*P	P	00 10 57.4	-0.9
	comp=Z,30nm,0.7s					
CCM	**Cathedral Cave**	42.49 268	*e*P	P	00 10 57.4	-0.9
	comp=Z,30nm,0.7s					
O37A	**Wolven Farm, M**	42.51 273	P	P	00 10 58.1	-0.2
	baz=44					
P38A	**Dawn**	42.57 272	P	P	00 10 58.5	-0.3
	baz=44					
Q39A	**Willow Grove F**	42.69 271	P	P	00 10 59.9	0.0
	baz=43,SNR=5.1					
J31A	**Geddes**	42.73 280	P	P	00 10 59.8	-0.3
	baz=46					
U44B	**Burton Farm, H**	42.77 265	P	P	00 11 00.6	+0.1
	baz=41					
M34A	**Aspy Farms, Fr**	42.85 276	P	P	00 11 01.1	0.0
	baz=45					
R40A	**Maddies Statio**	42.87 270	P	P	00 11 00.9	-0.4
	baz=42,SNR=9.0					
SOKR	**Solikamsk**	42.93 48	*e*P	P	00 10 58.4	-3.1
SOKR			pmax	pmax		
	comp=Z,11nm,0.7s					
PBMO	**Poplar Bluff**	43.01 266	*e*P	P	00 11 01.3	-1.1
	comp=Z,34nm,0.7s					
PBMO	**Poplar Bluff**	43.01 266	*e*P	P	00 11 01.3	-1.1
	comp=Z,34nm,0.7s					
Q38A	**Cooks Store, C**	43.10 271	P	P	00 11 02.3	-0.8
	baz=43					
S41A	**Jillco Farms,**	43.11 268	P	P	00 11 02.3	-1.0
	baz=42,SNR=19					
R39A	**Chumby, Stover**	43.26 270	P	P	00 11 03.3	-1.2
	baz=43					
EDM	**Edmonton**	43.39 300	*e*P	P	00 11 06.4	+1.0
EDM			pmax	pmax		
	comp=Z,28nm,1.0s					
EDM	**Edmonton**	43.39 300	*e*P	P	00 11 06.4	+1.0
	comp=Z,28nm,1.0s					
EDM	**Edmonton**	43.39 300	*e*P	P	00 11 06.4	+1.0
	comp=Z,28nm,1.0s					
P36A	**Good Intent, A**	43.46 273	P	P	00 11 04.8	-1.4
	baz=44					
S40A	**Lebanon**	43.50 269	P	P	00 11 05.5	-1.0
	baz=42,SNR=12					
T41A	**Mountain View**	43.52 268	P	P	00 11 05.8	-0.8
	baz=42					
ANN	**Anapa**	43.55 76	*e*P	P	00 11 01.2	-5.5
ANN			*e*		00 12 47.7	
ANN			*e*S	S	00 17 27.4	-7.2
ANN			pmax	pmax		
	comp=Z,61nm,0.9s					
ANN			MLR	MLR		
	comp=Z,1μm,15.0s					
U42A	**Revenden**	43.76 267	P	P	00 11 07.6	-1.0
	baz=41,SNR=13					
R38A	**Fenwick Farm,**	43.82 271	P	P	00 11 07.6	-1.4
	baz=42,SNR=12					
Y47A	**UCPARC, Winfie**	43.83 261	P	P	00 11 08.2	-0.9
	baz=39					
T40A	**Mansfield**	43.84 269	P	P	00 11 08.2	-1.1
	baz=42					
O34A	**Beatrice**	43.85 275	P	P	00 11 08.2	-1.0
	baz=44					
S39A	**Bolivar**	43.87 270	P	P	00 11 07.8	-1.6
	baz=42,SNR=5.7					
P35A	**Duane Minner,**	43.96 274	P	P	00 11 09.3	-0.9
	baz=43					
LRAL	**Lakeview Retre**	44.05 260	*e*P	P	00 11 12.8	+1.9
	comp=Z,66nm,2.0s					
LRAL	**Lakeview Retre**	44.05 260	*e*P	P	00 11 12.8	+1.9
	comp=Z,66nm,2.0s					
Q36A	**Arnold C. Orve**	44.08 273	P	P	00 11 10.2	-0.9
	baz=43					
Z48A	**Northport**	44.08 261	P	P	00 11 10.3	-0.8
	baz=39					
R37A	**Teagarden Farm**	44.22 272	P	P	00 11 11.2	-1.0
	baz=42					
S38A	**Stockton**	44.23 270	P	P	00 11 11.0	-1.2
	baz=42,SNR=5.6					
ILGA	**Ilgaz**	44.23 83	*e*P	P	00 11 12.6	0.0
	comp=Z,14nm,0.9s					
ILGA	**Ilgaz**	44.23 83	*e*P	P	00 11 12.6	0.0
	comp=Z,14nm,0.9s					
X45A	**UM Field Stati**	44.24 263	P	P	00 11 11.7	-0.7
	baz=40					
V42A	**Cord**	44.25 266	P	P	00 11 11.6	-0.9
	baz=41					
LAO	**LASA Array**	44.26 289	P	P	00 11 11.3	-1.2
	baz=47,SNR=7.7					
LAO	**LASA Array**	44.26 289	*e*P	P	00 11 14.3	+1.8
	comp=Z,22nm,0.8s					
LAO	**LASA Array**	44.26 289	*e*P	P	00 11 14.3	+1.8
	comp=Z,22nm,0.8s					
P34A	**Walnut Farm, R**	44.38 275	P	P	00 11 12.3	-1.1
	baz=43					
T39A	**Clever**	44.40 269	P	P	00 11 12.4	-1.2
	baz=42,SNR=6.7					
Q35A	**Mercer Eighty,**	44.46 273	P	P	00 11 13.8	-0.4
	baz=43					
TAM	**Tamanrasset**	44.47 126	*e*P	P	00 11 14.0	-0.5
TAM			*e*		00 12 59.3	
TAM			pmax	pmax		
	comp=Z,12nm,1.0s					
TAM	**Tamanrasset**	44.47 126	*e*P	P	00 11 14.0	-0.5
	comp=Z,12nm,1.0s					
TAM	**Tamanrasset**	44.47 126	*e*P	P	00 11 14.0	-0.5
	comp=Z,12nm,1.0s					
TAM			*e*PP	PP	00 12 59.3	+1.1
Z47A	**Carrollton**	44.49 261	P	P	00 11 13.6	-0.8
	baz=39					
R36A	**Gordon, Harris**	44.57 272	P	P	00 11 13.6	-1.5
	baz=42,SNR=7.3					
KSU1	**Kansas State U**	44.59 274	P	P	00 11 14.6	-0.5
	baz=43					
BR231	**Keskin MP Arra**	44.61 85	*e*P	P	00 11 18.8	+3.4
U40A	**Yellville**	44.62 268	P	P	00 11 13.7	-1.7
	baz=41					
S37A	**Fort Scott**	44.62 271	P	P	00 11 14.1	-1.4
	baz=42,SNR=12					
V41A	**Mountainview**	44.67 267	P	P	00 11 14.6	-1.3
	baz=41,SNR=9.1					
Y45A	**Yeager Farm, C**	44.75 263	P	P	00 11 15.7	-0.8
	baz=39					
T38A	**Diamond**	44.88 270	P	P	00 11 16.0	-1.5
	baz=42,SNR=11					
Q34A	**Chapman**	44.89 274	P	P	00 11 16.7	-0.9
	baz=43					
U39A	**Green Forest**	44.93 269	P	P	00 11 16.9	-1.1
	baz=41					
R35A	**Emporia Munici**	44.94 273	P	P	00 11 16.8	-1.1
	baz=42					
V40A	**Witts Springs**	45.01 268	P	P	00 11 17.4	-1.3
	baz=41,SNR=19					
S36A	**Lake Cedric, C**	45.06 272	P	P	00 11 17.6	-1.3
	baz=42					
EGMT	**Eagleton**	45.11 292	P	P	00 11 17.7	-1.7
	baz=47					
EGMT	**Eagleton**	45.11 292	*e*P	P	00 11 21.4	+2.1
	comp=Z,68nm,1.6s					
EGMT	**Eagleton**	45.11 292	*e*P	P	00 11 21.4	+2.1
	comp=Z,68nm,1.6s					
WHAR	**Wooly Hollow**	45.12 267	*e*P	P	00 11 20.4	+1.0
	comp=Z,77nm,1.7s					
WHAR	**Wooly Hollow**	45.12 267	*e*P	P	00 11 20.4	+1.0
	comp=Z,77nm,1.7s					
T37A	**Cheneyville 18**	45.14 271	P	P	00 11 18.0	-1.6
	baz=42,SNR=5.3					
BR131	**Keskin Array S**	45.15 84	*e*P	P	00 11 19.7	-0.1
BR131	**Keskin Array S**	45.15 84	*e*P	P	00 11 19.7	-0.1
BRTR	**Keskin Array B**	45.15 84	P	P	00 11 19.4	-0.4
	comp=Z,7.9nm,0.9s,baz=318,slow=5.0,SNR=11					
BRTR			PcP	PcP	00 12 58.4	-1.5
	comp=Z,1.3nm,0.8s,baz=79,slow=3.1,SNR=3.1					
248A	**Dixon Mills**	45.18 260	P	P	00 11 18.5	-1.4
	baz=38					
W41B	**Gary Mavity, V**	45.19 267	P	P	00 11 18.8	-1.1
	baz=40					
X301	**Greenbrier Sit**	45.22 267	*e*P	P	00 11 20.4	+0.2
	comp=Z,46nm,1.5s					
X301	**Greenbrier Sit**	45.22 267	*e*P	P	00 11 20.4	+0.2
	comp=Z,46nm,1.5s					
HHAR	**Hobbs**	45.25 269	*e*P	P	00 11 21.8	+1.3
	comp=Z,32nm,0.3s					
HHAR	**Hobbs**	45.25 269	*e*P	P	00 11 21.8	+1.3
	comp=Z,32nm,0.3s					
U38A	**Gravette**	45.37 270	P	P	00 11 20.0	-1.4
	baz=41					
V39A	**Pettigrew**	45.43 268	P	P	00 11 20.4	-1.5
	baz=41,SNR=9.4					
S35A	**Otter Creek Ra**	45.48 272	P	P	00 11 21.1	-1.1
	baz=42					
R34A	**Isabella, Hill**	45.51 274	P	P	00 11 21.8	-0.8
	baz=42					
W40A	**Ferguson Farm,**	45.61 267	P	P	00 11 22.3	-1.0
	baz=40					
T36A	**Boggs Farm, Ca**	45.70 271	P	P	00 11 22.8	-1.2
	baz=42					
ARU	**Arti**	45.70 51	*c i*P	P	00 11 25.0	+1.2
ARU					00 13 11.6	
ARU			S	S	00 18 10.2	+4.6
ARU			pmax	pmax		
	comp=Z,27nm,1.2s					
ARU	**Arti**	45.70 51	*e*P	P	00 11 23.1	-0.7
	comp=Z,15nm,0.9s					
ARU	**Arti**	45.70 51	*e*P	P	00 11 23.1	-0.7
	comp=Z,15nm,0.9s					
TOLK	**Toolik Lake Re**	45.71 333	P	P	00 11 22.4	-1.4
	baz=41					
U37A	**Salina**	45.78 270	P	P	00 11 23.0	-1.6
	baz=41,SNR=7.3					
V38A	**Canehill**	45.81 269	P	P	00 11 23.3	-1.6
	baz=41,SNR=10					
NRIK	**Noril'sk**	45.85 25	P	P	00 11 24.5	-0.3
	comp=Z,6.1nm,0.8s,baz=65,slow=7.6,SNR=6.0					
CCAR	**Cane Creek**	45.89 265	*e*P	P	00 11 27.5	+2.0
	comp=Z,100nm,1.4s					
CCAR	**Cane Creek**	45.89 265	*e*P	P	00 11 27.4	+2.0
	comp=Z,100nm,1.4s					
145A	**Houston Renfro**	45.93 262	P	P	00 11 25.4	-0.4
	baz=39					
W39A	**Magazine**	45.99 268	P	P	00 11 25.1	-1.2
	baz=40,SNR=10					
X40A	**Basin Creek Fa**	46.02 266	P	P	00 11 25.4	-1.2
	baz=40,SNR=7.8					
U36A	**Oologah**	46.12 271	P	P	00 11 26.4	-0.9
	baz=41					
FYU	**Fort Yukon**	46.14 329	*e*P	P	00 11 30.3	+3.3
	comp=Z,50nm,1.4s					
FYU	**Fort Yukon**	46.14 329	*e*P	P	00 11 30.3	+3.3
	comp=Z,50nm,1.4s					
T35A	**Sooner Cattle**	46.15 272	P	P	00 11 26.8	-0.7
	baz=42					
V37A	**Hulbert**	46.19 270	P	P	00 11 27.6	-0.3
	baz=41					
DAWY	**Dawson**	46.24 324	*e*P	P	00 11 28.6	+0.6
	comp=Z,25nm,1.2s					
DAWY	**Dawson**	46.24 324	*e*P	P	00 11 28.6	+0.6
	comp=Z,25nm,1.2s					
EGAK	**Eagle**	46.27 326	*e*P	P	00 11 28.0	-0.2
	comp=Z,10nm,0.9s					
EGAK	**Eagle**	46.27 326	*e*P	P	00 11 28.0	-0.2
	comp=Z,10nm,0.9s					
SVE	**Sverdlovsk**	46.28 49	*e*P	P	00 11 31.9	+3.5
SVE			pmax	pmax		
	comp=Z,18nm,1.1s					
MIAR	**Mount Ida**	46.37 267	P	P	00 11 28.3	-1.0
	baz=40,SNR=9.3					
MIAR	**Mount Ida**	46.37 267	*e*P	P	00 11 28.5	-0.8
MIAR			pmax	pmax		
	comp=Z,24nm,0.9s					
MIAR	**Mount Ida**	46.37 267	*e*P	P	00 11 28.5	-0.8
	comp=Z,24nm,0.9s					
MIAR	**Mount Ida**	46.37 267	*e*P	P	00 11 28.4	-0.8
	comp=Z,24nm,0.9s					
WALA	**Waterton Lakes**	46.43 296	*e*P	P	00 11 29.2	-0.5
	comp=Z,84nm,1.8s					
WALA	**Waterton Lakes**	46.43 296	*e*P	P	00 11 29.2	-0.5
	comp=Z,84nm,1.8s					
T34A	**McClaskey Farm**	46.43 272	P	P	00 11 28.8	-1.0
	baz=42					
W38A	**Poteau**	46.47 268	P	P	00 11 29.7	-0.4
	baz=40					
Z42A	**Norrel Spur, H**	46.48 265	P	P	00 11 29.8	-0.3
	baz=39					
TUL1	**Leonard**	46.52 270	P	P	00 11 30.3	-0.2
	baz=41					
TUL1	**Leonard**	46.52 270	*e*P	P	00 11 31.1	+0.7
	comp=Z,19nm,1.0s					
TUL1	**Leonard**	46.52 270	*e*P	P	00 11 31.1	+0.7
	comp=Z,19nm,1.0s					
U35A	**Pawnee**	46.67 271	P	P	00 11 31.0	-0.7
	baz=41					
447A	**Lucedale**	46.68 259	P	P	00 11 31.0	-0.7
	baz=37					
X39A	**Fountain Ranch**	46.68 268	P	P	00 11 31.2	-0.6
	baz=40,SNR=7.1					
V36A	**Jenks**	46.69 270	P	P	00 11 31.1	-0.7
	baz=41					
WLAR	**White Oak Lake**	46.78 266	*e*P	P	00 11 36.1	+3.6
	comp=Z,30nm,1.1s					
WLAR	**White Oak Lake**	46.78 266	*e*P	P	00 11 36.1	+3.6
	comp=Z,30nm,1.1s					
KIV	**Kislovodsk**	46.84 73	*e*P	P	00 11 35.6	+2.6
KIV			pmax	pmax		
	comp=Z,21nm,1.1s					
KIV			MLR	MLR		
	comp=Z,705nm,16.0s					
KIV	**Kislovodsk**	46.84 73	*e*P	P	00 11 35.6	+2.6
	comp=Z,705nm,16.0s					
KIV	**Kislovodsk**	46.84 73	*e*P	P	00 11 35.9	+2.9
	comp=Z,26nm,1.1s					
RLMT	**Red Lodge**	46.88 289	P	P	00 11 32.4	-1.1
	baz=45					
RLMT	**Red Lodge**	46.88 289	*e*P	P	00 11 34.2	+0.8
	comp=Z,14nm,1.0s					
RLMT	**Red Lodge**	46.88 289	*e*P	P	00 11 34.2	+0.8
	comp=Z,14nm,1.0s					
W37B	**Quinton**	46.91 269	P	P	00 11 32.8	-0.7
	baz=40					
COLD	**Coldfoot**	46.94 332	*e*P	P	00 11 34.0	+0.6
	comp=Z,38nm,1.9s					
COLD	**Coldfoot**	46.94 332	*e*P	P	00 11 34.0	+0.6
	comp=Z,38nm,1.9s					
X38A	**Whitesboro**	46.94 268	P	P	00 11 32.8	-1.0
	baz=40					
Z41A	**Richland Creek**	46.95 265	P	P	00 11 33.1	-0.7
	baz=39					
DLBC	**Dease Lake**	46.95 314	*e*P	P	00 11 34.6	+0.9
	comp=Z,18nm,1.2s					
DLBC	**Dease Lake**	46.95 314	*e*P	P	00 11 34.6	+0.9
	comp=Z,18nm,1.2s					
HRY	**Holter Researc**	47.04 292	*e*P	P	00 11 37.3	+2.7
HRY	**Holter Researc**	47.04 292	*e*P	P	00 11 37.3	+2.7
KBZ	**Khabaz**	47.11 73	P	P	00 11 35.1	+0.2
	comp=Z,13nm,0.9s,baz=313,slow=11,SNR=6.1					
Y39A	**Lockesburg**	47.11 267	P	P	00 11 34.0	-1.1
	baz=40					
WHY	**Whitehorse**	47.17 319	*e*P	P	00 11 37.0	+1.6
	comp=Z,7.5nm,0.8s					
WHY	**Whitehorse**	47.17 319	*e*P	P	00 11 37.0	+1.6
	comp=Z,7.5nm,0.8s					
K22A	**Casper**	47.23 285	P	P	00 11 34.6	-1.6
	baz=44					
K22A	**Casper**	47.23 285	*e*P	P	00 11 37.0	+0.8
	comp=Z,13nm,0.9s					
K22A	**Casper**	47.23 285	*e*P	P	00 11 37.0	+0.8
	comp=Z,13nm,0.9s					
X37A	**Clayton**	47.29 269	P	P	00 11 36.1	-0.4
	baz=40					
YBMT	**Yellow Bay**	47.30 295	*e*P	P	00 11 36.8	+0.2
YBMT	**Yellow Bay**	47.30 295	*e*P	P	00 11 36.8	+0.2
W36A	**Wetumka**	47.33 270	P	P	00 11 36.3	-0.5
	baz=40					
NEY	**Neytrino**	47.36 74⇑	*e*P	P	00 11 40.0	+2.8
NEY			pmax	pmax		
	comp=Z,1.0nm,1.2s					
BLMT	**Blacktail Moun**	47.37 295	*e*P	P	00 11 38.1	+0.9
BLMT	**Blacktail Moun**	47.37 295	*e*P	P	00 11 38.1	+0.9
SLMT	**Seeley Lake**	47.48 294	*e*P	P	00 11 38.6	+0.5
SLMT	**Seeley Lake**	47.48 294	*e*P	P	00 11 38.6	+0.5
242A	**Grayson**	47.53 264	P	P	00 11 37.9	-0.4
	baz=38					
SWMT	**Swartz Lake**	47.54 295	*e*P	P	00 11 38.7	+0.2
SWMT	**Swartz Lake**	47.54 295	*e*P	P	00 11 38.7	+0.2
NCK	**Nalchik**	47.63 73⇓	*e*P	P	00 11 40.7	+1.6
NCK			pmax	pmax		
	comp=Z,89nm,4.0s					
NCK	**Nalchik**	47.63 73	*e*P	P	00 11 40.7	+1.6
	comp=Z,89nm,4.0s					
PHWY	**Pilot Hill**	47.65 283	*e*P	P	00 11 41.0	+1.4
	comp=Z,8.7nm,0.9s					
PHWY	**Pilot Hill**	47.65 283	*e*P	P	00 11 41.0	+1.4
	comp=Z,8.7nm,0.9s					
W35A	**Tecumseh**	47.67 270	P	P	00 11 38.9	-0.6
	baz=40					
BSMT	**Bassoo Peak**	47.68 295	*e*P	P	00 11 41.0	+1.3
BSMT	**Bassoo Peak**	47.68 295	*e*P	P	00 11 41.0	+1.3
BOZ	**Bozeman (W)**	47.72 291	P	P	00 11 38.6	-1.4
	baz=45,SNR=7.9					
BOZ	**Bozeman (W)**	47.72 291	*e*P	P	00 11 41.4	+1.5
BOZ			*e*		00 13 25.3	
BOZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BOZ	**Bozeman (W)**	47.72 291	*e*P	P	00 11 41.4	+1.5
	comp=Z,9.9nm,0.9s					
BOZ	**Bozeman (W)**	47.72 291	*e*P	P	00 11 41.4	+1.5
	comp=Z,9.9nm,0.9s					
BOZ			*e*PP	PP	00 13 25.3	-6.1
X36A	**Centrahoma**	47.83 270	P	P	00 11 40.0	-0.7
	baz=40					
KSCO	**Kaye Shedlock'**	47.84 279	P	P	00 11 40.8	-0.1
	baz=42					
KSCO	**Kaye Shedlock'**	47.84 279	*e*P	P	00 11 41.8	+0.9
	comp=Z,28nm,0.6s					
KSCO	**Kaye Shedlock'**	47.84 279	*e*P	P	00 11 41.8	+0.9
	comp=Z,28nm,0.6s					
YHH	**Holmes Hill**	47.91 290	*e*P	P	00 11 44.8	+3.2
	comp=Z,8.1nm,1.2s					
YHH	**Holmes Hill**	47.91 290	*e*P	P	00 11 44.8	+3.2
	comp=Z,8.1nm,1.2s					
IL1	**Eielson Array**	47.94 328	*e*P	P	00 11 40.8	-0.3
IL1	**Eielson Array**	47.94 328	*e*P	P	00 11 40.8	-0.3
ILAR	**Eielson Array**	47.94 328	P	P	00 11 41.0	-0.2
	comp=Z,7.4nm,0.9s,baz=38,slow=6.3,SNR=18					
ILAR			PcP	PcP	00 13 07.5	-1.7
	comp=Z,3.4nm,0.7s,baz=0.2,slow=2.1,SNR=14					
ILB	**Eielson Array**	47.94 328	*e*P	P	00 11 43.6	+2.4
ILB	**Eielson Array**	47.

comp=Z,7.1nm,0.8s
MSO Missoula 47.99 294 eP P 00 11 44.2 +2.3
comp=Z,7.1nm,0.8s
H17A Grant Village 48.05 289 eP P 00 11 45.5 +2.9
comp=Z,13nm,0.8s
H17A Grant Village 48.05 289 eP P 00 11 45.5 +2.9
comp=Z,13nm,0.8s
COLA College 48.13 329⇑ eP P 00 11 44.3 +1.7
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 48.13 329 eP P 00 11 44.3 +1.7
comp=Z,12nm,1.0s
YFT Old Faithful 48.14 290 eP P 00 11 47.0 +3.7
comp=Z,29nm,0.3s
YFT Old Faithful 48.14 290 eP P 00 11 47.0 +3.7
comp=Z,29nm,0.3s
MDM Murphy Dome 48.17 329 eP P 00 11 44.3 +1.3
comp=Z,19nm,1.0s
MDM Murphy Dome 48.17 329 eP P 00 11 44.3 +1.3
comp=Z,19nm,1.0s
QLMT Earthquake Lak 48.17 290 eP P 00 11 46.5 +3.0
QLMT Earthquake Lak 48.17 290 eP P 00 11 46.5 +3.0
SKAG Skagway 48.18 318 eP P 00 11 45.1 +2.0
comp=Z,87nm,1.9s
SKAG Skagway 48.18 318 eP P 00 11 45.1 +2.0
comp=Z,87nm,1.9s
N23A Red Feather La 48.20 283 P P 00 11 43.1 -0.7
baz=43
N23A Red Feather La 48.20 283 eP P 00 11 44.7 +0.8
comp=Z,128nm,2.0s
N23A Red Feather La 48.20 283 eP P 00 11 44.6 +0.8
comp=Z,128nm,2.0s
HDA Harding Lake 48.23 328 eP P 00 11 45.9 +2.5
comp=Z,12nm,0.8s
HDA Harding Lake 48.23 328 eP P 00 11 45.9 +2.5
comp=Z,12nm,0.8s
CCB Clear Creek Bu 48.29 329 eP P 00 11 46.0 +2.2
comp=Z,30nm,1.9s
CCB Clear Creek Bu 48.29 329 eP P 00 11 46.0 +2.2
comp=Z,30nm,1.9s
X35A Drake 48.29 270 P P 00 11 44.0 -0.3
baz=40
ZEI Tsey 48.29 73 eP P 00 11 40.9 -3.5
ZEI pmax pmax
comp=Z,24nm,1.5s
Y36A Durant 48.31 269 P P 00 11 44.2 -0.1
baz=40
ARTV Artvin 48.44 76 eP P 00 11 47.6 +2.0
comp=Z,8.1nm,1.0s
ARTV Artvin 48.44 76 eP P 00 11 47.6 +2.0
comp=Z,8.1nm,1.0s
WRH Wood River Hil 48.50 329 eP P 00 11 47.9 +2.4
comp=Z,8.5nm,1.0s
WRH Wood River Hil 48.50 329 eP P 00 11 47.9 +2.4
comp=Z,8.5nm,1.0s
NEW Newport 48.51 297 P P 00 11 45.4 -0.5
comp=Z,6.9nm,0.9s,baz=47,slow=13,SNR=6.5
NEW Newport 48.51 297 P P 00 11 45.4 -0.5
baz=45
NEW Newport 48.51 297 eP P 00 11 47.0 +1.2
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 48.51 297 eP P 00 11 47.0 +1.2
comp=Z,11nm,1.1s
NEW Newport 48.51 297 eP P 00 11 47.0 +1.2
comp=Z,11nm,1.1s
IMW Indian Meadow 48.59 289 eP P 00 11 49.7 +2.9
comp=Z,8.1nm,1.0s
IMW Indian Meadow 48.59 289 eP P 00 11 49.7 +2.9
comp=Z,8.1nm,1.0s
MOOW Moose Ponds 48.60 289 eP P 00 11 49.2 +2.4
comp=Z,13nm,1.5s
MOOW Moose Ponds 48.60 289 eP P 00 11 49.2 +2.4
comp=Z,13nm,1.5s
BESE Bessie Mountai 48.65 317 eP P 00 11 48.8 +2.0
comp=Z,11nm,1.0s
BESE Bessie Mountai 48.65 317 eP P 00 11 48.8 +2.0
comp=Z,11nm,1.0s
BW06 Boulder Array 48.70 287 P P 00 11 46.5 -1.2
baz=44,SNR=10
BW06 Boulder Array 48.70 287 eP P 00 11 47.1 -0.5
comp=Z,58nm,1.9s
BW06 Boulder Array 48.70 287 eP P 00 11 47.1 -0.5
comp=Z,58nm,1.9s
PD31 Pinedale Array 48.70 287 eP P 00 11 46.7 -0.9
PD31 Pinedale Array 48.70 287 eP P 00 11 46.7 -0.9
PDAR Pinedale Array 48.70 287 P P 00 11 47.2 -0.4
comp=Z,5.6nm,0.7s,baz=56,slow=7.2,SNR=18
SNOW Snow King Moun 48.81 289 eP P 00 11 49.5 +1.0
comp=Z,10.0nm,0.7s
SNOW Snow King Moun 48.81 289 eP P 00 11 49.5 +1.0
comp=Z,10.0nm,0.7s
FXWY Fox Creek 48.82 289 eP P 00 11 49.7 +1.2
comp=Z,8.2nm,1.0s
FXWY Fox Creek 48.82 289 eP P 00 11 49.7 +1.2
comp=Z,8.2nm,1.0s
ISCO Idaho Springs 48.83 282 P P 00 11 47.1 -1.6
baz=42,SNR=8.7
ISCO Idaho Springs 48.83 282 eP P 00 11 50.0 +1.3
ISCO pmax pmax
comp=Z,17nm,1.1s
ISCO Idaho Springs 48.83 282 eP P 00 11 50.0 +1.3
comp=Z,17nm,1.1s
ISCO Idaho Springs 48.83 282 eP P 00 11 50.0 +1.3
comp=Z,17nm,1.1s
MCMT McKenzie Canyo 48.88 291 eP P 00 11 50.7 +1.7
MCMT McKenzie Canyo 48.88 291 eP P 00 11 50.7 +1.7
TPAW Teton Pass 48.89 289 eP P 00 11 49.2 +0.1
comp=Z,9.3nm,0.8s
TPAW Teton Pass 48.89 289 eP P 00 11 49.2 +0.1
comp=Z,9.3nm,0.8s
REDW Red Top Meadow 48.93 289 eP P 00 11 49.6 +0.2
comp=Z,10nm,0.9s
REDW Red Top Meadow 48.93 289 eP P 00 11 49.6 +0.2
comp=Z,10nm,0.9s
340A Bronson 48.95 265 P P 00 11 49.1 -0.3
baz=38
WMOK Wichita Mounta 49.00 272 P P 00 11 47.8 -1.9
baz=40,SNR=7.8
WMOK Wichita Mounta 49.00 272 eP P 00 11 49.9 +0.2
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK Wichita Mounta 49.00 272 eP P 00 11 49.9 +0.2
comp=Z,13nm,1.1s
WMOK Wichita Mounta 49.00 272 eP P 00 11 49.9 +0.2
comp=Z,12nm,1.1s
Q24A Divide 49.20 280 P P 00 11 51.0 -0.6
baz=42
MCK McKinley 49.31 328 eP P 00 11 54.0 +2.3
MCK pmax pmax
comp=Z,58nm,1.6s
MCK McKinley 49.31 328 eP P 00 11 54.0 +2.3
comp=Z,58nm,1.6s
MCK McKinley 49.31 328 eP P 00 11 54.0 +2.3
comp=Z,58nm,1.6s
DHY Denali Highway 49.38 327 eP P 00 11 54.3 +1.9
comp=Z,16nm,1.2s
DHY Denali Highway 49.38 327 eP P 00 11 54.3 +1.9
comp=Z,16nm,1.2s
B08A Colville Reser 49.48 299 eP P 00 11 52.6 -0.7
comp=Z,12nm,0.8s
B08A Colville Reser 49.48 299 eP P 00 11 52.6 -0.7
comp=Z,12nm,0.8s
RND Reindeer 49.54 328 eP P 00 11 56.0 +2.4
RND pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 49.54 328 eP P 00 11 56.0 +2.4
comp=Z,12nm,1.0s
RND Reindeer 49.54 328 eP P 00 11 56.0 +2.4
comp=Z,12nm,1.0s
AKTK Aktyubinsk 49.63 57 P P 00 11 53.6 -0.7
AKTO Aktyubinsk 49.63 57 P P 00 11 53.6 -0.7
comp=Z,14nm,1.0s,baz=314,slow=6.4,SNR=14
CRQM Cirque 49.86 323 eP P 00 11 58.8 +2.6
comp=Z,17nm,1.0s
CRQM Cirque 49.86 323 eP P 00 11 58.8 +2.6
comp=Z,17nm,1.0s
O20A White River Ci 49.95 284 P P 00 11 56.9 -0.2
baz=42
O20A White River Ci 49.95 284 eP P 00 12 00.5 +3.4
comp=Z,32nm,1.4s
O20A White River Ci 49.95 284 eP P 00 12 00.5 +3.4
comp=Z,32nm,1.4s
SMCO Snowmass 50.00 282 eP P 00 11 58.6 +0.8
comp=Z,10nm,1.0s
SMCO Snowmass 50.00 282 eP P 00 11 58.6 +0.8
comp=Z,10nm,1.0s
KTH Kantishna Hill 50.00 329 eP P 00 11 58.8 +1.7
comp=Z,28nm,1.4s
KTH Kantishna Hill 50.00 329 eP P 00 11 58.8 +1.7
comp=Z,28nm,1.4s
TIXI Tiksi 50.01 8⇓ eP P 00 11 58.6 +1.7
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 50.01 8 eP P 00 11 58.6 +1.7
comp=Z,7.0nm,0.9s
KLU Klutina 50.17 325 eP P 00 12 01.3 +2.9
comp=Z,12nm,1.0s
KLU Klutina 50.17 325 eP P 00 12 01.3 +2.9
comp=Z,12nm,1.0s
T25A Trinidad 50.17 278 P P 00 11 57.9 -1.0
baz=41,SNR=10
T25A Trinidad 50.17 278 eP P 00 12 00.4 +1.5
comp=Z,19nm,0.9s
T25A Trinidad 50.17 278 eP P 00 12 00.4 +1.5
comp=Z,19nm,0.9s
F10A Beach Ranch, E 50.20 295 eP P 00 11 59.3 +0.5
comp=Z,65nm,1.9s
F10A Beach Ranch, E 50.20 295 eP P 00 11 59.3 +0.5
comp=Z,65nm,1.9s
SDCO Great Sand Dun 50.29 280 P P 00 11 59.6 -0.3
baz=41
SDCO Great Sand Dun 50.29 280 eP P 00 12 00.8 +0.9
comp=Z,43nm,1.9s
SDCO Great Sand Dun 50.29 280 eP P 00 12 00.8 +0.9
comp=Z,43nm,1.9s
AMTX Amarillo 50.43 274 P P 00 12 01.1 +0.4
baz=40
AMTX Amarillo 50.43 274 eP P 00 12 02.1 +1.4
comp=Z,26nm,0.8s
AMTX Amarillo 50.43 274 eP P 00 12 02.1 +1.4
comp=Z,26nm,0.8s
336A Riesel 50.55 267 P P 00 12 01.9 +0.4
baz=38
HLID Hailey 50.57 291 P P 00 12 01.5 -0.3
baz=43
HLID Hailey 50.57 291 eP P 00 12 03.0 +1.2
comp=Z,9.7nm,1.3s
HLID Hailey 50.57 291 eP P 00 12 03.0 +1.2
comp=Z,9.7nm,1.3s
HWUT Hardware Ranch 50.57 288 eP P 00 12 02.0 +0.2
comp=Z,17nm,0.9s
HWUT Hardware Ranch 50.57 288 eP P 00 12 02.0 +0.2
comp=Z,17nm,0.9s
SML Sawmill 50.65 326 eP P 00 12 04.3 +2.4
SML pmax pmax
comp=Z,19nm,1.0s
SML Sawmill 50.65 326 eP P 00 12 04.3 +2.4
comp=Z,19nm,1.0s
SML Sawmill 50.65 326 eP P 00 12 04.3 +2.4
comp=Z,19nm,1.0s
GNI Garni 50.65 75 P P 00 12 02.0 -0.4
comp=Z,16nm,0.8s,baz=229,slow=5.1,SNR=9.5
GNI Garni 50.65 75⇑ eP P 00 12 02.7 +0.3
GNI pmax pmax
comp=Z,34nm,0.9s
GNI Garni 50.65 75 eP P 00 12 02.6 +0.2
comp=Z,30nm,1.0s
GNI Garni 50.65 75 eP P 00 12 02.6 +0.2
comp=Z,30nm,1.0s
MARD Mardin 50.70 81 eP P 00 12 03.7 +0.9
comp=Z,31nm,1.1s
MARD Mardin 50.70 81 eP P 00 12 03.7 +0.9
comp=Z,31nm,1.1s
S22A 4UR Ranch, Cre 50.99 281 P P 00 12 04.1 -1.0
baz=41,SNR=6.7
S22A 4UR Ranch, Cre 50.99 281 eP P 00 12 07.4 +2.3
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 50.99 281 eP P 00 12 07.4 +2.3
comp=Z,12nm,1.1s
BMO Blue Mountains 51.05 294 eP P 00 12 05.1 -0.2
BMO pmax pmax
comp=Z,8.0nm,0.9s
BMO Blue Mountains 51.05 294 eP P 00 12 05.1 -0.2
comp=Z,7.8nm,0.9s
BMO Blue Mountains 51.05 294 eP P 00 12 05.1 -0.2
comp=Z,7.8nm,0.9s
ABTX Abilene, Hawle 51.08 271 P P 00 12 05.6 +0.1
baz=39
ABTX Abilene, Hawle 51.08 271 eP P 00 12 05.4 -0.1
comp=Z,14nm,1.1s
ABTX Abilene, Hawle 51.08 271 eP P 00 12 05.4 -0.1
comp=Z,14nm,1.1s
HKT Hockley 51.14 265 eP P 00 12 06.6 +0.7
HKT pmax pmax
comp=Z,175nm,1.5s
HKT Hockley 51.14 265 eP P 00 12 06.6 +0.7
comp=Z,175nm,1.5s
HKT Hockley 51.14 265 eP P 00 12 06.6 +0.7
comp=Z,175nm,1.5s
JLU Jordanelle 51.25 287 eP P 00 12 08.2 +1.2
comp=Z,10nm,1.0s
JLU Jordanelle 51.25 287 eP P 00 12 08.2 +1.2
comp=Z,10nm,1.0s
ABKAR Akbulak array 51.34 57 eP P 00 12 06.4 -0.8
comp=Z,72nm,1.0s
ABKAR Akbulak array 51.34 57 eP P 00 12 06.5 -0.8
comp=Z,72nm,1.0s
PV01 Paradox Valley 51.60 282 eP P 00 12 10.8 +1.1
PV01 Paradox Valley 51.60 282 eP P 00 12 10.8 +1.1
TOA0 Torodi Ar. Sit 51.61 136 eP P 00 12 08.3 -1.3
TOA0 Torodi Ar. Sit 51.61 136 eP P 00 12 08.3 -1.3
TORD Torodi Ar. Bea 51.61 136 P P 00 12 07.4 -2.2
comp=Z,21nm,0.8s,baz=341,slow=7.0,SNR=19
TORD LR LR 00 32 05.7
comp=Z,435nm,18.9s,baz=345,slow=34
RC01 Rabbit Creek A 51.63 327 eP P 00 12 11.8 +2.5
comp=Z,33nm,1.2s
RC01 Rabbit Creek A 51.63 327 eP P 00 12 11.8 +2.5
comp=Z,33nm,1.2s
MSTX Muleshoe 51.71 274 P P 00 12 10.0 -0.3
baz=40
MSTX Muleshoe 51.71 274 eP P 00 12 12.0 +1.7
comp=Z,12nm,0.9s
MSTX Muleshoe 51.71 274 eP P 00 12 12.0 +1.7
comp=Z,12nm,0.9s
P17A Butcher Ranch, 51.73 285 eP P 00 12 12.3 +1.8
comp=Z,11nm,0.9s
P17A Butcher Ranch, 51.73 285 eP P 00 12 12.3 +1.8
comp=Z,11nm,0.9s
TTA Tatalina 51.86 331 eP P 00 12 13.0 +1.9
TTA pmax pmax
comp=Z,21nm,1.4s
TTA Tatalina 51.86 331 eP P 00 12 13.0 +1.9
comp=Z,21nm,1.4s
TTA Tatalina 51.86 331 eP P 00 12 13.0 +1.9
comp=Z,21nm,1.4s
TT01 Tatalina 51.88 331 eP P 00 12 13.0 +1.9
TT01 Tatalina 51.88 331 eP P 00 12 13.0 +1.9
SRU San Rafael Swe 51.89 285 eP P 00 12 13.9 +2.2
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 51.89 285 eP P 00 12 13.9 +2.2
comp=Z,9.4nm,0.9s
SRU San Rafael Swe 51.89 285 eP P 00 12 13.9 +2.2
comp=Z,9.4nm,0.9s
NLU North Lily Min 52.05 286 eP P 00 12 13.7 +0.7
comp=Z,15nm,0.9s
NLU North Lily Min 52.05 286 eP P 00 12 13.7 +0.7
comp=Z,15nm,0.9s
TMUT Trail Mountain 52.10 285 eP P 00 12 14.1 +0.6
comp=Z,12nm,1.0s
TMUT Trail Mountain 52.10 285 eP P 00 12 14.1 +0.6
comp=Z,12nm,1.0s
636A Smothers Creek 52.16 266 P P 00 12 14.1 +0.5
baz=38
SPU Mount Spurr 52.22 328 eP P 00 12 15.8 +2.0
SPU Mount Spurr 52.22 328 eP P 00 12 15.8 +2.0
MVCO Mesa Verde 52.26 282 P P 00 12 14.4 -0.2
baz=41
MVCO Mesa Verde 52.26 282 eP P 00 12 15.6 +1.0
comp=Z,33nm,1.3s
MVCO Mesa Verde 52.26 282 eP P 00 12 15.6 +1.0
comp=Z,33nm,1.3s
G06A Carlson Farm, 52.37 297 eP P 00 12 15.1 0.0
comp=Z,31nm,0.9s
G06A Carlson Farm, 52.37 297 eP P 00 12 15.1 0.0
comp=Z,31nm,0.9s
ASF Jabal al Asfar 52.56 88 P P 00 12 16.9 +0.2
comp=Z,6.2nm,0.9s,baz=295,slow=1.3,SNR=9.7
E03A Lebam 52.77 300 eP P 00 12 20.2 +2.4
comp=Z,41nm,1.0s
E03A Lebam 52.77 300 eP P 00 12 20.2 +2.4
comp=Z,41nm,1.0s
JCT Junction City 52.83 269 P P 00 12 19.0 +0.3
baz=38
JCT Junction City 52.83 269 eP P 00 12 19.0 +0.3
JCT pmax pmax
comp=Z,17nm,0.9s
JCT Junction City 52.83 269 eP P 00 12 19.0 +0.3
comp=Z,17nm,0.9s
JCT Junction City 52.83 269 eP P 00 12 19.0 +0.3
comp=Z,17nm,0.9s
F04D Rainier, OR 52.85 299 P P 00 12 18.3 -0.3
baz=42
BRVK Borovoye 52.86 48⇑ eP P 00 12 17.7 -0.8
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 52.86 48 eP P 00 12 17.9 -0.6
comp=Z,10nm,1.0s
BRVK Borovoye 52.86 48 eP P 00 12 17.9 -0.6
comp=Z,10nm,1.0s
ANMO Albuquerque 52.91 278 P P 00 12 19.0 -0.4
baz=40
ANMO Albuquerque 52.91 278⇓ eP P 00 12 20.2 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 52.91 278 eP P 00 12 20.2 +0.8
comp=Z,4.0nm,1.0s
ANMO Albuquerque 52.91 278 eP P 00 12 19.9 +0.6
comp=Z,9.3nm,1.2s
BVAR Borovoye Array 52.93 48 P P 00 12 17.8 -1.2
comp=Z,3.5nm,0.7s,baz=319,slow=6.5,SNR=16
633A Saathoff Ranch 53.30 268 P P 00 12 22.0 -0.1
baz=38
EIL Elat 53.48 91 P P 00 12 23.0 -0.4
comp=Z,8.0nm,0.9s,baz=24,slow=20,SNR=2.3
EIL Elat 53.48 91 P P 00 12 23.0 -0.4
WVOR Wild Horse Val 53.49 293 eP P 00 12 24.0 +0.5
WVOR pmax pmax
comp=Z,13nm,1.0s
WVOR Wild Horse Val 53.49 293 eP P 00 12 24.0 +0.5
comp=Z,13nm,1.0s
WVOR Wild Horse Val 53.49 293 eP P 00 12 23.9 +0.5
comp=Z,13nm,1.0s
BILL Bilibino 53.55 351⇑ iP P 00 12 25.6 +2.2
BILL e 00 14 29.5
BILL eS S 00 20 06.3 +11
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 53.55 351 i P P 00 12 25.6 +2.2
comp=Z,4.0nm,1.0s
BNM Barren Site 53.61 278 eP P 00 12 26.9 +2.3
BNM Barren Site 53.61 278 eP P 00 12 26.9 +2.3
LAZ Ladron 53.69 278 eP P 00 12 27.3 +2.2
LAZ Ladron 53.69 278 eP P 00 12 27.3 +2.2
936A North Padre Is 53.93 265 P P 00 12 27.3 +0.7
baz=36
834A Tilden 54.03 266 P P 00 12 27.9 +0.5
baz=37
PKCU Pink Cliffs 54.06 285 eP P 00 12 30.5 +2.5
comp=Z,111nm,2.0s
PKCU Pink Cliffs 54.06 285 eP P 00 12 30.5 +2.5
comp=Z,111nm,2.0s
J05D Fort Rock, OR 54.11 296 P P 00 12 27.8 -0.2
baz=41
BMN Battle Mountai 54.30 291 eP P 00 12 30.4 +1.0
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN Battle Mountai 54.30 291 eP P 00 12 30.4 +1.0
comp=Z,7.1nm,0.8s
BMN Battle Mountai 54.30 291 eP P 00 12 30.4 +1.0
comp=Z,7.1nm,0.8s
833A Chaparral WMA, 54.32 267 P P 00 12 29.9 +0.4
baz=37
K05A Summer Lake 54.37 295 eP P 00 12 31.9 +1.9
comp=Z,83nm,1.7s
K05A Summer Lake 54.37 295 eP P 00 12 31.9 +1.9
comp=Z,83nm,1.7s
934A Benavides 54.43 266 P P 00 12 30.4 +0.1
baz=37
832A Faith Ranch, C 54.66 268 P P 00 12 31.6 -0.4
baz=37
MOD Modoc Plateau 54.70 294 eP P 00 12 32.9 +0.6
comp=Z,12nm,0.8s
MOD Modoc Plateau 54.70 294 eP P 00 12 32.9 +0.6
comp=Z,12nm,0.8s
933A Laredo 54.82 267 P P 00 12 32.9 -0.2
baz=37
U15A North Rim 54.83 284 eP P 00 12 33.5 0.0
comp=Z,5.8nm,0.6s
U15A North Rim 54.83 284 eP P 00 12 33.5 0.0
comp=Z,5.8nm,0.6s
MNTX Cornudas Mount 54.85 275 P P 00 12 32.9 -0.4
baz=38,SNR=5.5
MNTX Cornudas Mount 54.85 275 eP P 00 12 33.5 +0.1
comp=Z,10.0nm,1.2s
MNTX Cornudas Mount 54.85 275 eP P 00 12 33.5 +0.1
comp=Z,10.0nm,1.2s
LCMT Little Creek M 54.88 285 eP P 00 12 35.2 +1.6
comp=Z,28nm,1.7s
LCMT Little Creek M 54.88 285 eP P 00 12 35.2 +1.6
comp=Z,28nm,1.7s
R11A Troy Canyon, C 55.05 288 P P 00 12 34.5 -0.5
baz=40
R11A Troy Canyon, C 55.05 288 eP P 00 12 33.6 -1.3
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 55.05 288 eP P 00 12 33.6 -1.3
comp=Z,5.5nm,0.9s
TIC Toumodi 55.44 146 eP P 00 12 39.6 +1.9
DBIC Dimbokro 55.47 146 P P 00 12 38.0 +0.2
comp=Z,15nm,0.9s,baz=311,slow=9.3,SNR=8.6
DBIC LR LR 00 33 24.7
comp=Z,1μm,20.4s,baz=331,slow=33
121A Cookes Peak, D 55.48 277 P P 00 12 37.3 -0.8
baz=39,SNR=6.7
121A Cookes Peak, D 55.48 277 eP P 00 12 39.5 +1.4
comp=Z,10nm,0.8s
M04C Macdoel 55.54 295 P P 00 12 37.6 -0.8
baz=40
TXAR Lajitas Array 55.79 272 P P 00 12 40.8 +0.5
comp=Z,2.6nm,0.8s,baz=71,slow=5.6,SNR=13
TX31 Lajitas Ar. Si 55.79 272 eP P 00 12 41.0 +0.7
TX31 Lajitas Ar. Si 55.79 272 eP P 00 12 41.0 +0.7
KIC Kosan Boka 55.80 146 eP P 00 12 42.0 +1.7
comp=Z,39nm,1.0s
LIC Lamto 55.84 146 eP P 00 12 42.2 +1.6
comp=Z,105nm,1.3s
PAHR Pah Rah Range 55.92 292 eP P 00 12 41.5 +0.4
comp=Z,26nm,1.3s
PAHR Pah Rah Range 55.92 292 eP P 00 12 41.5 +0.4
comp=Z,26nm,1.3s
X16A Lo Mia Camp, P 55.94 282 eP P 00 12 43.5 +2.1
comp=Z,6.9nm,0.9s
X16A Lo Mia Camp, P 55.94 282 eP P 00 12 43.5 +2.1
comp=Z,6.9nm,0.9s
NVS Novosibirsk 56.18 39 i P P 00 12 41.9 -0.6
NVS Novosibirsk 56.18 39 i P P 00 12 41.9 -0.6
SHPR Sheep Range 56.25 286 eP P 00 12 44.7 +1.2
comp=Z,35nm,1.9s
SHPR Sheep Range 56.25 286 eP P 00 12 44.7 +1.2
comp=Z,35nm,1.9s
TPNV Topopah Spring 56.46 287 P P 00 12 44.6 -0.4
baz=39
TPNV Topopah Spring 56.46 287 eP P 00 12 46.2 +1.1
TPNV pmax pmax
comp=Z,24nm,1.6s
TPNV Topopah Spring 56.46 287 eP P 00 12 46.2 +1.1
comp=Z,24nm,1.6s
TPNV Topopah Spring 56.46 287 eP P 00 12 46.2 +1.1
comp=Z,24nm,1.6s
PNTR Pine Nut 56.50 291 eP P 00 12 47.3 +1.9
comp=Z,13nm,0.7s
PNTR Pine Nut 56.50 291 eP P 00 12 47.3 +1.9
comp=Z,13nm,0.7s
N02D Trinity Center 56.58 295 P P 00 12 44.9 -0.8
baz=40
O03D Paynes Creek 56.66 294 P P 00 12 45.5 -0.8
baz=40
TUC Tucson 57.23 279 P P 00 12 50.6 +0.2
baz=38
TUC Tucson 57.23 279 eP P 00 12 51.7 +1.3
TUC pmax pmax
comp=Z,30nm,1.8s
TUC Tucson 57.23 279 eP P 00 12 51.7 +1.3
comp=Z,30nm,1.8s
TUC Tucson 57.23 279 eP P 00 12 51.7 +1.3
comp=Z,30nm,1.8s
ZAA0 Zalesovo Array 57.44 39 eP P 00 12 50.9 -0.6
ZAA0 Zalesovo Array 57.44 39 eP P 00 12 50.9 -0.6
ZALV Zalesovo Beam 57.44 39 P P 00 12 49.5 -2.1
comp=Z,1.3nm,0.6s,baz=323,slow=7.7,SNR=4.5
DAC Darwin (Calif) 57.67 288 eP P 00 12 52.8 -0.8

DAC pmax pmax
comp=Z,10.0nm,0.8s
DAC Darwin (Calif) 57.67 288 *eP* **P 00 12 52.8 -0.8**
comp=Z,10.0nm,0.8s
DAC Darwin (Calif) 57.67 288 *eP* **P 00 12 52.8 -0.8**
comp=Z,10.0nm,0.8s
MPMC Manual Prospec 57.78 287 P **P 00 12 53.5 -1.0**
baz=39,SNR=5.4
CWC Cottonwood Cre 57.79 288 P **P 00 12 54.5 +0.1**
baz=39
GMRC Granite Mounta 57.84 285 P **P 00 12 54.9 +0.2**
baz=39
KURK Kurchatov 57.90 44ǁ *eP* **P 00 12 58.1 +3.3**
KURK pmax pmax
comp=Z,37nm,1.0s
SJCC San Jacinto, C 57.98 232 *eP* **P 00 12 53.1 -2.7**
GSC Goldstone, Bar 58.02 286 P **P 00 12 56.0 -0.1**
baz=39
GSC Goldstone, Bar 58.02 286 *eP* **P 00 12 58.4 +2.4**
GSC pmax pmax
comp=Z,13nm,1.0s
GSC Goldstone, Bar 58.02 286 *eP* **P 00 12 58.4 +2.4**
comp=Z,13nm,1.0s
GSC Goldstone, Bar 58.02 286 *eP* **P 00 12 58.4 +2.4**
comp=Z,13nm,1.0s
113A Mohawk Valley, 58.43 282 *eP* **P 00 13 00.4 +1.6**
comp=Z,33nm,1.6s
214A Organ Pipe Nat 58.57 281 P **P 00 12 59.2 -0.6**
baz=38
GLA Glamis 58.76 283 P **P 00 13 00.3 -0.8**
baz=38
GLA Glamis 58.76 283 *eP* **P 00 13 04.2 +3.1**
GLA pmax pmax
comp=Z,13nm,0.7s
GLA Glamis 58.76 283 *eP* **P 00 13 04.2 +3.1**
comp=Z,13nm,0.7s
GLA Glamis 58.76 283 *eP* **P 00 13 04.2 +3.1**
comp=Z,13nm,0.7s
EDW2 Edwards Air Fo 58.96 287 P **P 00 13 02.0 -0.5**
baz=38
GEYT Alibeck 59.08 67 P **P 00 13 02.2 -1.1**
comp=Z,3.7nm,1.1s,baz=307,slow=11,SNR=4.0
PFO Pinyon Flats O 59.17 285 P **P 00 13 05.3 +1.2**
comp=Z,9.6nm,0.7s,baz=40,slow=7.3,SNR=8.1
PFO Pinyon Flats O 59.17 285 *eP* **P 00 13 05.7 +1.7**
PFO pmax pmax
comp=Z,10.0nm,0.8s
PFO Pinyon Flats O 59.17 285 *eP* **P 00 13 05.7 +1.7**
comp=Z,10.0nm,0.8s
PFO Pinyon Flats O 59.17 285 *eP* **P 00 13 05.7 +1.7**
comp=Z,10.0nm,0.8s
MOTC Monteria, Cord 59.19 232 *eP* **P 00 13 03.7 -0.5**
IKP In-Ko-Pah, Jac 59.74 284 P **P 00 13 07.6 -0.3**
baz=38
HSIG 59.91 277 *eP* **P 00 13 10.5 +1.4**
comp=Z,15nm,1.0s
HSIG 59.91 277 *eP* **P 00 13 10.5 +1.4**
comp=Z,15nm,1.0s
ZARC Zaragoza, Cauc 60.02 231 *eP* **P 00 13 08.3 -1.6**
ZAIG Zacatecas 60.47 266 *eP* **P 00 13 14.9 +1.6**
comp=Z,8.9nm,0.8s
ZAIG Zacatecas 60.47 266 *eP* **P 00 13 14.9 +1.6**
comp=Z,8.9nm,0.8s
KKAR Karatay Array 60.75 55 *eP* **P 00 13 13.6 -1.1**
KKAR pmax pmax
comp=Z,138nm,1.9s
KKAR Karatay Array 60.75 55 *eP* **P 00 13 13.6 -1.1**
comp=Z,138nm,1.9s
KKAR Karatay Array 60.75 55 *eP* **P 00 13 13.6 -1.1**
comp=Z,138nm,1.9s
RUSC La Rusia 60.75 228 *eP* **P 00 13 14.4 -1.0**
HELC Santa Helena 61.47 231 *eP* **P 00 13 19.9 -0.3**
HELC Santa Helena 61.47 231 *eP* **P 00 13 20.4 +0.2**
comp=Z,28nm,0.9s
BOD Bodaibo 61.51 20 *eP* **P 00 13 18.2 -1.3**
BOD pmax pmax
comp=Z,12nm,1.7s
BOD Bodaibo 61.51 20 *eP* **P 00 13 18.2 -1.3**
comp=Z,12nm,1.7s
NORC Norcasia 61.77 230 *eP* **P 00 13 20.8 -1.1**
DGZ Jazzator, Alta 61.89 40 *eP* **P 00 13 22.0 -0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
DGZ Jazzator, Alta 61.89 40 *eP* **P 00 13 22.0 -0.5**
comp=Z,2.0nm,0.8s
ROSC El Rosal 62.20 229 P **P 00 13 26.1 +0.9**
comp=Z,9.2nm,0.7s,baz=89,slow=2.8,SNR=3.6
ROSC El Rosal 62.20 229 *eP* **P 00 13 27.3 +2.2**
GUYC Guyana, Colomb 62.29 230 *eP* **P 00 13 24.8 -1.1**
MAKZ Makanchi 62.38 45 *eP* **P 00 13 24.4 -1.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 62.38 45 *eP* **P 00 13 24.4 -1.2**
comp=Z,8.1nm,1.0s
MAKZ Makanchi 62.38 45 *eP* **P 00 13 24.4 -1.2**
comp=Z,8.1nm,1.0s
PTGA Pitinga 62.49 211 *eP* **P 00 13 25.9 -0.7**
comp=Z,7.1nm,0.9s
PTGA Pitinga 62.49 211 *eP* **P 00 13 25.9 -0.7**
comp=Z,7.1nm,0.9s
MK31 Makanchi Array 62.51 45 *eP* **P 00 13 25.0 -1.5**
MK31 Makanchi Array 62.51 45 *eP* **P 00 13 25.0 -1.5**
MK31 Makanchi Array 62.51 45 *eP* **P 00 13 24.9 -1.5**
MKAR Makanchi Array 62.51 45 P **P 00 13 24.9 -1.6**
comp=Z,2.5nm,0.7s,baz=338,slow=5.3,SNR=13
MKAR Makanchi Array 62.51 45 *eP* **P 00 13 25.0 -1.5**
MKAR pmax pmax
comp=Z,41nm,0.6s
MKAR Makanchi Array 62.51 45 *eP* **P 00 13 25.0 -1.5**
comp=Z,41nm,0.6s
MKAR Makanchi Array 62.51 45 *eP* **P 00 13 24.9 -1.5**
comp=Z,41nm,0.6s
MK01 Makanchi Array 62.53 45 *eP* **P 00 13 25.0 -1.7**
MK01 Makanchi Array 62.53 45 *eP* **P 00 13 25.0 -1.7**
AAK Ala-Archa 62.84 53ǁ *eP* **P 00 13 29.1 +0.2**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 62.84 53 *eP* **P 00 13 29.1 +0.2**
comp=Z,5.0nm,0.8s
AAK Ala-Archa 62.84 53 *eP* **P 00 13 29.9 +1.0**
comp=Z,12nm,1.3s
PRAC Prado 63.45 229 *eP* **P 00 13 33.3 +0.2**
comp=Z,15nm,0.9s
RAYN Ar Rayn 64.03 87 *eP* **P 00 13 36.8 -0.1**
comp=Z,29nm,2.0s
RAYN Ar Rayn 64.03 87 *eP* **P 00 13 36.8 -0.1**
comp=Z,29nm,2.0s
FLOC Florencia 65.70 229 *eP* **P 00 13 45.8 -2.0**
KSH Kashi 66.05 53 P **P 00 13 50.6 +0.7**
KSH pP sP 00 13 56.7 -1.3
KSH sP pP 00 13 58.4 +2.6
KSH PcP **PcP 00 14 22.1 +1.8**
KSH PP **PP 00 16 18.4 +3.6**
KSH PcS 00 18 25.3
KSH S **S 00 22 34.8 -2.1**
KSH sS pS 00 22 43.2 -0.9
KSH ScS **SKSac 00 23 42.7 -2.1**
KSH SS **SS 00 26 51.8 +0.4**
KSH pmax pmax
comp=Z,25nm,1.1s
KSH pmax pmax
comp=Z,350nm,5.1s
KSH LR LR
comp=Z,220nm,6.8s
KSH LR LR
comp=Z,940nm,14.6s
KSH LR LR
comp=Z,830nm,14.4s
ZAK Zakamensk 66.06 29 *eP* **P 00 13 48.0 -1.8**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK Zakamensk 66.06 29 *eP* **P 00 13 48.0 -1.8**
comp=Z,5.0nm,1.6s
WMQ Urumqi 67.04 43 P **P 00 13 57.7 +1.6**
WMQ pP sP 00 14 04.6 +0.4
WMQ sP pP 00 14 08.8 +6.8
WMQ PcP **PcP 00 14 28.6 +4.3**
WMQ PP **PP 00 16 27.2 +4.0**
WMQ pmax pmax
comp=Z,11nm,2.2s
WMQ pmax pmax
comp=Z,200nm,4.5s
WMQ LR LR
comp=Z,750nm,15.3s
WMQ LR LR
comp=Z,680nm,17.5s
WMQ LR LR
comp=Z,490nm,23.5s
H10N2 ASCENSION HYDR 67.18 161 T T 01 26 24.1
baz=350,slow=75,SNR=10
H10N3 ASCENSION HYDR 67.19 161 T T 01 26 28.5
baz=350,slow=75,SNR=15
H10N1 ASCENSION HYDR 67.20 161 T T 01 26 26.0
baz=350,slow=75,SNR=11
OTAV Otavalo 68.06 231 *eP* **P 00 14 04.7 +1.4**
comp=Z,19nm,1.5s
OTAV Otavalo 68.06 231 *eP* **P 00 14 04.7 +1.4**
comp=Z,19nm,1.5s
H10S1 ASCENSION HYDR 68.24 161 T T 01 27 43.2
baz=351,slow=75,SNR=34
H10S3 ASCENSION HYDR 68.25 161 T T 01 27 45.6
baz=351,slow=75,SNR=40
H10S2 ASCENSION HYDR 68.26 161 T T 01 27 47.7
baz=351,slow=75,SNR=127
SONA1 Songino Array 69.20 28 *eP* **P 00 14 08.3 -1.4**
SONA1 Songino Array 69.20 28 *eP* **P 00 14 08.3 -1.4**
SONM Songino Array 69.21 28 P **P 00 14 08.6 -1.1**
comp=Z,9.0nm,1.1s,baz=333,slow=5.7,SNR=15
ULN Ulaanbaatar 69.35 28 *ceP* **P 00 14 10.1 -0.5**
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 69.35 28 *eP* **P 00 14 10.1 -0.5**
comp=Z,12nm,1.2s
ULN Ulaanbaatar 69.35 28 *eP* **P 00 14 10.0 -0.5**
comp=Z,20nm,1.1s
SAML Samuel 71.23 212 *eP* **P 00 14 19.7 -2.5**
comp=Z,7.5nm,1.0s
GTA Gaotai 75.08 36 P **P 00 14 46.8 +1.8**
GTA pP sP 00 14 51.1 -2.1
GTA sP pP 00 14 53.7 +2.7
GTA S **S 00 24 23.9 +1.7**
GTA sS sS 00 24 31.7 -0.3
GTA SKS **SKSac 00 24 50.3 -2.8**
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,150nm,5.4s
GTA LR LR
comp=Z,280nm,16.2s
GTA LR LR
comp=Z,250nm,17.6s
GTA LR LR
comp=Z,400nm,17.1s
MDJ Mudanjiang 76.69 13 P **P 00 14 53.4 -0.5**
MDJ pP pP 00 14 56.7 -3.2
MDJ sP sP 00 14 58.0 -4.1
MDJ PP **PP 00 17 45.8 +0.2**
MDJ ScS **ScS 00 25 08.1 -0.8**
MDJ SS **SS 00 29 31.9 -1.8**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,87nm,5.2s
MDJ LR LR
comp=Z,450nm,18.6s
MDJ LR LR
comp=Z,510nm,21.5s
CN2 Changchun 76.93 16 *eP* **P 00 14 56.3 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
HHC Hu-ho-hao-te 77.05 27 *eP* **P 00 14 56.2 +0.1**
HHC sP sP 00 15 02.3 -2.0
HHC S **S 00 24 41.7 -2.0**
HHC SS **SS 00 29 33.4 -6.1**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,200nm,6.2s
HHC LR LR
comp=Z,380nm,13.6s
HHC LR LR
comp=Z,300nm,14.8s
HHC LR LR
comp=Z,400nm,14.8s
LZH Lanzhou 79.39 35 *eP* **P 00 15 05.1 -4.1**
LZH pP pP 00 15 11.5 -3.7
LZH sP sP 00 15 15.0 -2.4
LZH pmax pmax
comp=Z,17nm,1.0s
LPAZ La Paz 79.64 215 P **P 00 15 10.8 -0.4**
comp=Z,2.6nm,0.8s,baz=26,slow=20,SNR=7.3
KMBO Kilima Mbogo 80.31 108 P **P 00 15 13.5 -1.0**
comp=Z,0.8nm,0.3s,baz=320,slow=9.5,SNR=3.3
KMBO Kilima Mbogo 80.31 108 *i P* **P 00 15 17.0 +2.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
TIA Tai'an 82.76 24 *eP* **P 00 15 28.3 +1.3**
TIA pmax pmax
comp=Z,20nm,1.0s
PB11 IPOC Station P 83.37 215 *eP* **P 00 15 30.1 -0.2**
comp=Z,19nm,1.0s
PB11 IPOC Station P 83.37 215 *eP* **P 00 15 30.1 -0.2**
comp=Z,19nm,1.0s
KS01 Wonju Array Si 83.49 16 *eP* **P 00 15 31.1 +0.4**
KS01 Wonju Array Si 83.49 16 *eP* **P 00 15 31.1 +0.4**
KSRS Korea Array 83.52 16 P **P 00 15 30.1 -0.7**
comp=Z,1.5nm,0.7s,baz=359,slow=4.4,SNR=6.3
KSAR Wonju Array Be 83.52 16 P **P 00 15 30.1 -0.8**
KSAR Wonju Array Be 83.52 16 P **P 00 15 30.1 -0.8**
KSAR Wonju Array Be 83.52 16 P **P 00 15 30.1 -0.8**
LVC Limon Verde 85.84 213 *eP* **P 00 15 43.3 +0.4**
CPUP Villa Florida 86.53 202 P **P 00 15 44.4 -1.4**
comp=Z,4.3nm,0.9s,baz=64,slow=4.3,SNR=7.6
NJ2 Nanjing 87.14 24 *eP* **P 00 15 50.6 +1.6**
NJ2 pmax pmax
comp=Z,19nm,0.5s
KMI Kunming 89.17 40 P **P 00 16 00.2 +1.1**
KMI pmax pmax
comp=Z,8.0nm,0.6s
GYA Guiyang 89.21 36 *eP* **P 00 16 00.2 +1.1**
GYA PP **PP 00 19 31.2 +2.5**
GYA SKS **SKSac 00 26 27.6 -0.6**
GYA S **S 00 26 45.8 -1.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
CMAR Chiang Mai Arr 93.91 46 P **P 00 16 19.8 -1.1**
comp=Z,1.1nm,0.4s,baz=316,slow=5.2,SNR=5.8
QIZ Qiongzhong 97.16 36 P **P 00 16 35.3 -0.4**
QIZ S **S 00 27 57.6 -0.5**
QIZ LR LR
comp=Z,320nm,22.9s
SNAA Sanae 131.00 168 *e*PKIKP **PKPdf 00 22 11.7 -1.4**
SNAA Sanae 131.00 168 *e*PKPdf **PKPdf 00 22 11.7 -1.4**
WRA Warramunga Arr 140.81 20 PKP **PKPdf 00 22 30.5 -2.4**
comp=Z,2.5nm,0.8s,baz=342,slow=2.4,SNR=10
MAW Mawson 143.17 140 PKP PKPbc 00 22 33.3 +0.7
comp=Z,1.2nm,0.5s,baz=313,slow=11,SNR=4.8
ASAR Alice Springs 144.35 22 PKP **PKPab 00 22 36.5 -0.6**
comp=Z,6.0nm,0.8s,baz=337,slow=2.7,SNR=13
EIDS Eidsvold 147.33 354 *e*PKPbc **PKPbc 00 22 46.5 +0.1**
QSPA South Pole Qui 147.87 180 *e*PKPdf **PKPdf 00 22 43.8 +0.1**
STKA Stephens Creek 153.59 11 PKPbc **PKPbc 00 23 00.6 -0.7**
comp=Z,1.9nm,0.7s,baz=342,slow=7.5,SNR=3.0
VNDA Vanda 159.75 189 PKPab **PKPab 00 23 38.3 -1.0**
comp=Z,2.2nm,0.8s,baz=199,slow=4.1,SNR=7.8

*IDC **06** 00:08:07.9±0.7, 57.°98N×32.°56W, h0km, mb4.1/21, mb1 4.2/24, mb1mx4.0/54, mbtmp4.1/24, ML3.2/2, Error ellipse: s-maj=19.8km s-min=12.4km az=11.0*
*ISCJB **06** 00:08:08.9±0.5, 58.°01N±0.°08×32.°6W±0.°1, h18km, mb4.1/24, Error ellipse: s-maj=12.1km s-min=8.7km az=23.3*
*NEIC **06** 00:08:09.3±0.4, 57.°98N×32.°60W, h10km, mb4.5/3, Error ellipse: s-maj=9.3km s-min=6.7km az=20.0*
ISC 06 00:08:10.7±0.6, 58.°0N±0.°1×32.°57W±0.°08, h18km, n36, σ0.°72/31, mb4.2/24, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.65**	**34**	Pn	**Pn**	**00 10 14.4**	**-0.4**
SUMG	**Summit**	**14.84**	**353**	*e*Pn	**Pn**	**00 11 40.2**	**+0.5**
EKA	**Eskdalemuir Ar**	**16.32**	**87**	Pn	**Pn**	**00 11 58.2**	**-0.5**
baz=295,slow=26,SNR=2.8
SCHQ Schefferville 19.09 275 P **P 00 12 30.4 -1.8**
0.1nm,0.3s,baz=60,slow=20,SNR=2.4
HFS Hagfors 23.50 65 P **P 00 13 18.7 -0.5**
4.0nm,0.9s,baz=289,slow=18,SNR=3.2
PAB San Pablo 25.89 123 P **P 00 13 41.9 +0.4**
14nm,1.3s
ESDC Sonseca Array 25.96 122 P **P 00 13 41.8 -0.3**
3.9nm,0.9s,baz=320,slow=8.6,SNR=14
ARCES ARCESS Array B 26.95 41 P **P 00 13 49.8 -0.9**
1.7nm,0.6s,baz=317,slow=10.0,SNR=5.2
GERES GERESS Array B 28.52 88 P **P 00 14 05.2 +0.2**
0.2nm,0.6s,baz=266,slow=27,SNR=2.4
FINES FINESS Array B 28.90 58 P **P 00 14 08.5 +0.4**
2.1nm,0.7s,baz=226,slow=18,SNR=3.4
MDT Midelt 31.50 131 P **P 00 14 32.0 +0.6**
3.0nm,0.9s,baz=290,slow=8.1,SNR=4.4
AKASG Malin Array Be 35.58 74 P **P 00 15 06.2 -0.4**
2.4nm,0.6s,baz=306,slow=8.4,SNR=11
YKA Yellowknife Ar 38.38 312 P **P 00 15 30.9 +0.6**
1.0nm,0.6s,baz=57,slow=9.4,SNR=5.8
TAM Tamanrasset 44.53 126 *eP* **P 00 16 22.4 +1.0**
8.1nm,1.3s
KBZ Khabaz 47.16 73 P **P 00 16 41.8 +0.1**
2.9nm,0.9s,baz=328,slow=9.2,SNR=5.3
ILAR Eielson Array 47.88 328 P **P 00 16 48.3 +1.3**
1.4nm,1.0s,baz=35,slow=7.4,SNR=8.6
ILAR PcP **PcP 00 18 15.4 +0.1**
0.4nm,0.6s,baz=345,slow=3.1,SNR=4.9
PDAR Pinedale Array 48.63 287 P **P 00 16 53.1 -0.3**
0.7nm,0.6s,baz=60,slow=8.8,SNR=6.3
AKTO Aktyubinsk 49.67 57 P **P 00 17 01.4 +0.5**
4.1nm,0.7s,baz=308,slow=7.1,SNR=9.1
GNI Garni 50.71 75 P **P 00 17 09.6 +0.4**
7.6nm,0.9s,baz=334,slow=14,SNR=4.6
ABKAR Akbulak array 51.38 57 *eP* **P 00 17 14.3 +0.5**
5.9nm,1.0s
TORD Torodi Ar. Bea 51.68 136 P **P 00 17 15.2 -1.2**
2.5nm,0.8s,baz=326,slow=9.1,SNR=12
BVAR Borovoye Array 52.96 48 P **P 00 17 25.9 +0.4**
1.9nm,0.8s,baz=297,slow=6.5,SNR=9.3
EIL Elat 53.55 91 P **P 00 17 30.9 +0.7**
5.0nm,0.8s,baz=46,slow=12,SNR=3.8
TXAR Lajitas Array 55.73 271 P **P 00 17 46.9 +0.8**
0.4nm,0.8s,baz=76,slow=3.8,SNR=3.9
GEYT Alibeck 59.13 67 P **P 00 18 09.4 -0.5**
1.5nm,0.9s,baz=278,slow=10,SNR=5.1
MKAR Makanchi Array 62.54 45 P **P 00 18 33.1 +0.1**
1.7nm,0.7s,baz=337,slow=5.8,SNR=12
H10N2 ASCENSION HYDR 67.22 161 T T 01 31 34.3
baz=350,slow=75,SNR=7.4
H10N3 ASCENSION HYDR 67.23 161 T T 01 31 35.0
baz=350,slow=75,SNR=13
H10N1 ASCENSION HYDR 67.24 161 T T 01 31 35.3
baz=350,slow=75,SNR=6.7
H10S1 ASCENSION HYDR 68.28 161 T T 01 32 54.4
baz=351,slow=76,SNR=73
H10S3 ASCENSION HYDR 68.29 161 T T 01 32 55.1
baz=351,slow=76,SNR=80
H10S2 ASCENSION HYDR 68.30 161 T T 01 32 55.8
baz=351,slow=76,SNR=78
PETK Petropavlovsk- 68.94 353 P **P 00 19 13.0 -1.1**
7.3nm,0.5s,baz=145,slow=18,SNR=4.1
SONM Songino Array 69.22 28 P **P 00 19 15.8 -0.3**
3.6nm,1.2s,baz=324,slow=5.5,SNR=7.4
WRA Warramunga Arr 140.80 20 PKP **PKPdf 00 27 38.3 -0.9**
0.6nm,0.8s,baz=355,slow=1.5,SNR=2.4
ASAR Alice Springs 144.35 22 PKP **PKPab 00 27 43.4 -0.1**
0.4nm,0.8s,baz=325,slow=2.6,SNR=3.2

*DDA **06** 00:14:31.4, 40.°10N×25.°00E, h8km, Ml3.5*
*ISCJB **06** 00:14:32.4±0.4, 40.°15N±0.°01×24.°91E±0.°01, h6km±3km, mb3.3/2, Error ellipse: s-maj=2.0km s-min=1.8km az=17.4*
*IDC **06** 00:14:32.4±1.3, 40.°19N×25.°00E, h0km, mb3.4/2, mb1 3.4/6, mb1mx3.2/38, mbtmp3.3/6, ML3.2/4, Error ellipse: s-maj=20.3km s-min=14.0km az=86.0*
*ATH **06** 00:14:32.7, 40.°13N×24.°95E, h28km, ML3.5/13, Error ellipse: s-maj=1.0km s-min=0.5km az=62.0*
*ISK **06** 00:14:33.4, 40.°14N×24.°97E, h8km, ML3.7*
*SOF **06** 00:14:33.6, 40.°25N×24.°96E, h5km, MD3.4*
*THE **06** 00:14:33.7, 40.°15N×24.°95E, h12km, ML3.7/8, Error ellipse: s-maj=0.7km s-min=0.3km az=25.0*
*CSEM **06** 00:14:33.1±0.1, 40.°12N×24.°91E, h5km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.5km az=175.0*
ISC 06 00:14:33.7±0.9, 40.°13N±0.°02×24.°94E±0.°01, h12km±7km, n370, σ0.°89/428, 9C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.30**	**141**	P	**Pg**	**00 14 40.1**	**+0.3**
LIA				S	**Sg**	**00 14 44.4**	**+0.5**
LIA	**Limnos Island**	**0.30**	**141**	P	**Pg**	**00 14 40.4**	**+0.5**
LIA				S	**Sg**	**00 14 43.8**	**-0.1**
LIA				AML	AML	00 14 44.7	
comp=N,44291μm,0.3s
LIA				AML	AML	00 14 45.1	
comp=E,31652μm,0.2s
LIA	**Limnos Island**	**0.30**	**141**	P	**Pg**	**00 14 40.1**	**+0.3**
LIA				S	**Sg**	**00 14 43.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.56**	**53**	P	**Pg**	**00 14 44.0**	**-0.8**
SMTH				S	**Sg**	**00 14 52.6**	**+0.3**
SMTH	**Samothraki Isl**	**0.56**	**53**	P	**Pg**	**00 14 44.0**	**-0.8**
SMTH				S	**Sg**	**00 14 51.2**	**-1.1**
SMTH				AML	AML	00 14 52.5	
comp=N,6739μm,0.4s
SMTH				AML	AML	00 14 52.8	
comp=E,3527μm,0.3s
SMTH	**Samothraki Isl**	**0.56**	**53**	P	**Pg**	**00 14 44.0**	**-0.8**
SMTH				S	**Sg**	**00 14 52.6**	**+0.3**
GADA	**Gvkgeada**	**0.74**	**85**	*e*PG	**Pg**	**00 14 47.5**	**-0.5**
GADA				*e*SG	**Sg**	**00 14 57.9**	**+0.2**
GADA	**Gvkgeada**	**0.74**	**85**	P	**Pg**	**00 14 47.8**	**-0.2**
GADA				S	**Sg**	**00 14 57.9**	**+0.2**
GADA	**Gvkgeada**	**0.74**	**85**	*e*Pg	**Pg**	**00 14 47.5**	**-0.5**
GADA	**Gvkgeada**	**0.74**	**85**	P	**Pg**	**00 14 47.8**	**-0.2**
GADA				S	**Sg**	**00 14 57.9**	**+0.2**
GOKC	**Gokceada-Canak**	**0.75**	**85**	*e*PG	**Pg**	**00 14 47.9**	**-0.4**
GOKC	**Gokceada-Canak**	**0.75**	**85**	*e*Pg	**Pg**	**00 14 47.9**	**-0.4**
OUR	**Ouranopolis**	**0.76**	**286**	*e*PG	**Pb**	**00 14 48.8**	**-0.1**
OUR	**Ouranopolis**	**0.76**	**286**	P	**Pg**	**00 14 48.4**	**0.0**
OUR				S	**Sb**	**00 14 59.1**	**-0.1**
OUR	**Ouranopolis**	**0.76**	**286**	P	**Pb**	**00 14 49.1**	**+0.2**
OUR				S	**Sb**	**00 14 59.2**	**-0.1**
OUR				AML	AML	00 15 00.5	
comp=N,5828μm,0.4s
OUR				AML	AML	00 15 01.4	
comp=E,9050μm,0.3s
OUR	**Ouranopolis**	**0.76**	**286**	P	**Pg**	**00 14 48.4**	**0.0**
OUR	**Ouranopolis**	**0.76**	**286**	*e*Pg	**Pb**	**00 14 48.8**	**-0.1**
OUR				S	**Sb**	**00 14 59.1**	**-0.1**
BOZC	**Bozcaada**	**0.90**	**108**	*e*PG	**Pg**	**00 14 50.8**	**-0.3**
BOZC	**Bozcaada**	**0.90**	**108**	*i* P	**Pg**	**00 14 50.9**	**-0.3**
BOZC	**Bozcaada**	**0.90**	**108**	*e*Pg	**Pg**	**00 14 50.8**	**-0.3**
KAVA	**Kavala**	**0.92**	**340**	P	**Pg**	**00 14 51.1**	**-0.4**
KAVA				S	**Sb**	**00 15 04.1**	**+0.2**
KAVA	**Kavala**	**0.92**	**340**	P	**Pg**	**00 14 50.9**	**-0.6**
KAVA				AML	AML	00 15 04.3	
comp=N,10909μm,0.3s
KAVA				S	**Sb**	**00 15 04.5**	**+0.6**
KAVA				AML	AML	00 15 05.0	
comp=E,11867μm,0.4s
KAVA	**Kavala**	**0.92**	**340**	P	**Pg**	**00 14 51.1**	**-0.4**
KAVA				S	**Sb**	**00 15 04.1**	**+0.2**
ENEZ	**Enez**	**1.11**	**57**	*e*PN	**Pb**	**00 14 54.3**	**-0.5**
ENEZ	**Enez**	**1.11**	**57**	P	**Pb**	**00 14 53.6**	**-1.2**
ENEZ				S	**Sg**	**00 15 09.7**	**+0.3**
ENEZ	**Enez**	**1.11**	**57**	P	**Pb**	**00 14 53.6**	**-1.2**
ENEZ	**Enez**	**1.11**	**57**	*e*Pn	**Pb**	**00 14 54.3**	**-0.5**
ENEZ				S	**Sg**	**00 15 09.7**	**+0.3**
EZN	**Ezine**	**1.11**	**106**	*e*PN	**Pb**	**00 14 54.6**	**-0.2**
EZN	**Ezine**	**1.11**	**106**	P	**Pb**	**00 14 54.2**	**-0.6**
EZN				S	**Sg**	**00 15 09.4**	**-0.1**
EZN	**Ezine**	**1.11**	**106**	P	**Pb**	**00 14 54.2**	**-0.6**
EZN	**Ezine**	**1.11**	**106**	*e*Pn	**Pb**	**00 14 54.6**	**-0.2**
EZN				S	**Sg**	**00 15 09.4**	**-0.1**
RDO	**Rodhopi**	**1.11**	**24**	P	**Pb**	**00 14 53.6**	**-1.3**
RDO				S	**Sb**	**00 15 09.2**	**-0.1**
RDO	**Rodhopi**	**1.11**	**24**	P	**Pb**	**00 14 54.0**	**-0.9**
RDO				AML	AML	00 15 09.0	
comp=E,1099μm,0.3s
RDO				AML	AML	00 15 09.5	
comp=N,1220μm,0.4s

RDO	**Rodhopi**	**1.11**	**24**	P	**Pb**	**00 14 54.0**	**-0.9**
RDO				S	**Sb**	**00 15 09.2**	**-0.1**
ALN	**Alexandroupoli**	**1.14**	**48**	*e*PN	**Pb**	**00 14 55.1**	**-0.3**
ALN	**Alexandroupoli**	**1.14**	**48**	P	**Pb**	**00 14 53.8**	**-1.6**
ALN				S	**Sb**	**00 15 10.0**	**-0.1**
ALN	**Alexandroupoli**	**1.14**	**48**	P	**Pb**	**00 14 53.5**	**-1.8**
ALN				S	**Sg**	**00 15 10.7**	**+0.2**
ALN				AML	AML	00 15 11.5	
	comp=N,2734μm,0.6s						
ALN				AML	AML	00 15 11.5	
	comp=E,2662μm,0.9s						
ALN	**Alexandroupoli**	**1.14**	**48**	P	**Pb**	**00 14 53.8**	**-1.6**
ALN	**Alexandroupoli**	**1.14**	**48**	*e*Pn	**Pb**	**00 14 55.1**	**-0.3**
ALN				S	**Sg**	**00 15 10.6**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.14**	**126**	*e*PN	**Pb**	**00 14 55.4**	**0.0**
GPNR	**Gulpinar-Canak**	**1.14**	**126**	*e*Pn	**Pb**	**00 14 55.4**	**0.0**
SIGR	**SIGRI**	**1.16**	**142**	*e*PN	**Pg**	**00 14 55.9**	**-0.1**
SIGR	**SIGRI**	**1.16**	**142**	P	**Pb**	**00 14 54.7**	**-1.0**
SIGR				S	**Sn**	**00 15 11.8**	**+0.2**
SIGR	**SIGRI**	**1.16**	**142**	P	**Pb**	**00 14 55.5**	**-0.2**
SIGR				S	**Sb**	**00 15 10.8**	**0.0**
SIGR				AML	AML	00 15 12.3	
	comp=N,8313μm,0.4s						
SIGR				AML	AML	00 15 12.8	
	comp=E,6634μm,0.4s						
SIGR	**SIGRI**	**1.16**	**142**	P	**Pb**	**00 14 55.5**	**-0.2**
SIGR	**SIGRI**	**1.16**	**142**	*e*Pn	**Pg**	**00 14 55.9**	**-0.1**
SIGR				S	**Sb**	**00 15 10.8**	**0.0**
PLG	**Polygyros**	**1.17**	**282**	P	**Pb**	**00 14 55.0**	**-0.9**
PLG				S	**Sg**	**00 15 11.4**	**0.0**
PLG	**Polygyros**	**1.17**	**282**	P	**Pb**	**00 14 55.8**	**-0.1**
PLG				S	**Sb**	**00 15 10.4**	**-0.6**
PLG				AML	AML	00 15 16.2	
	comp=E,1940μm,0.4s						
PLG				AML	AML	00 15 16.3	
	comp=N,2106μm,0.3s						
PLG	**Polygyros**	**1.17**	**282**	P	**Pb**	**00 14 55.0**	**-0.9**
PLG				S	**Sb**	**00 15 10.4**	**-0.6**
SKY	**Skiros Island**	**1.29**	**194**	P	**Pn**	**00 14 56.7**	**-0.9**
SKY				S	**Sg**	**00 15 15.2**	**0.0**
SKY	**Skiros Island**	**1.29**	**194**	P	**Pn**	**00 14 56.9**	**-0.7**
SKY	**Skiros Island**	**1.29**	**194**	P	**Pn**	**00 14 56.9**	**-0.7**
SKY				S	**Sg**	**00 15 15.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.30**	**107**	*i* P	**Pn**	**00 14 57.2**	**-0.5**
BAYC				*i* S	**Sb**	**00 15 13.7**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**1.30**	**107**	P	**Pn**	**00 14 57.2**	**-0.5**
BAYC				S	**Sb**	**00 15 13.7**	**-1.0**
ERIK	**Erikli-Kesan**	**1.32**	**65**	*e*PN	**Pn**	**00 14 58.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.32**	**65**	*e*Pn	**Pn**	**00 14 58.2**	**+0.2**
PRK	**Paraskevi**	**1.36**	**130**	P	**Pn**	**00 14 58.2**	**-0.3**
PRK				S	**Sb**	**00 15 15.9**	**-0.5**
PRK	**Paraskevi**	**1.36**	**130**	P	**Pg**	**00 14 59.4**	**-0.4**
PRK				S	**Sb**	**00 15 15.8**	**-0.5**
PRK				AML	AML	00 15 19.0	
	comp=E,4625μm,0.4s						
PRK				AML	AML	00 15 19.2	
	comp=N,5243μm,1.0s						
PRK	**Paraskevi**	**1.36**	**130**	P	**Pn**	**00 14 58.2**	**-0.3**
PRK				S	**Sb**	**00 15 15.9**	**-0.5**
SOH	**Sokhos**	**1.39**	**300**	P	**Pn**	**00 14 58.2**	**-0.8**
SOH	**Sokhos**	**1.39**	**300**	P	**Pn**	**00 14 58.4**	**-0.7**
SOH				S	**Sn**	**00 15 16.5**	**-0.9**
SOH				AML	AML	00 15 20.1	
	comp=E,4986μm,0.4s						
SOH				AML	AML	00 15 20.4	
	comp=N,6470μm,0.4s						
SOH	**Sokhos**	**1.39**	**300**	P	**Pn**	**00 14 58.3**	**-0.7**
SOH				S	**Sn**	**00 15 16.5**	**-0.9**
LPK	**Lapseki**	**1.42**	**80**	*e*PN	**Pn**	**00 14 58.7**	**-0.6**
LPK	**Lapseki**	**1.42**	**80**	*e*Pn	**Pn**	**00 14 58.7**	**-0.6**
SRS	**Serrai**	**1.42**	**314**	P	**Pn**	**00 14 58.2**	**-1.2**
SRS	**Serrai**	**1.42**	**314**	P	**Pn**	**00 14 58.2**	**-1.2**
SRS				S	**Sn**	**00 15 17.5**	**-0.5**
SRS				AML	AML	00 15 20.0	
	comp=E,4413μm,0.4s						
SRS				AML	AML	00 15 20.2	
	comp=N,1739μm,0.4s						
SRS	**Serrai**	**1.42**	**314**	P	**Pn**	**00 14 58.2**	**-1.2**
SRS				S	**Sn**	**00 15 17.5**	**-0.5**
NVR	**Nevrokopi**	**1.47**	**326**	P	**Pn**	**00 14 59.0**	**-1.1**
NVR	**Nevrokopi**	**1.47**	**326**	P	**Pn**	**00 14 59.2**	**-0.9**
NVR	**Nevrokopi**	**1.47**	**326**	P	**Pn**	**00 14 59.2**	**-0.9**
HORT	**Hortiatis**	**1.48**	**289**	P	**Pn**	**00 14 59.5**	**-0.7**
HORT	**Hortiatis**	**1.48**	**289**	P	**Pn**	**00 14 59.6**	**-0.7**
HORT	**Hortiatis**	**1.48**	**289**	P	**Pn**	**00 14 59.6**	**-0.7**
SKIA	**Skiathos**	**1.49**	**230**	P	**Pn**	**00 14 59.3**	**-1.1**
SKIA	**Skiathos**	**1.49**	**230**	P	**Pn**	**00 14 59.1**	**-1.3**
SKIA				S	**Sn**	**00 15 19.2**	**-0.6**
SKIA				AML	AML	00 15 26.6	
	comp=N,4095μm,0.6s						
SKIA				AML	AML	00 15 26.8	
	comp=E,6226μm,0.7s						
SKIA	**Skiathos**	**1.49**	**230**	P	**Pn**	**00 14 59.3**	**-1.1**
SKIA				S	**Sn**	**00 15 19.2**	**-0.6**
KESN	**Edirne-Kesan**	**1.50**	**62**	*i* P	**Pb**	**00 14 59.1**	**-1.7**
KESN	**Edirne-Kesan**	**1.50**	**62**	*i* P	**Pb**	**00 15 01.3**	**-0.4**
KESN	**Edirne-Kesan**	**1.50**	**62**	P	**Pb**	**00 15 01.3**	**-0.4**
KESN	**Edirne-Kesan**	**1.50**	**62**	P	**Pn**	**00 14 59.1**	**-1.7**
XOR	**Xorichti**	**1.55**	**241**	P	**Pn**	**00 15 00.1**	**-1.1**
XOR	**Xorichti**	**1.55**	**241**	P	**Pn**	**00 15 00.3**	**-0.9**
XOR				AML	AML	00 15 20.5	
	comp=N,1001μm,0.5s						
XOR				AML	AML	00 15 21.1	
	comp=E,771μm,0.3s						
XOR	**Xorichti**	**1.55**	**241**	P	**Pn**	**00 15 00.3**	**-0.9**
CUND	**Cunda Adasi-Ba**	**1.55**	**120**	*e*PN	**Pn**	**00 15 01.8**	**+0.6**
CUND	**Cunda Adasi-Ba**	**1.55**	**120**	*e*Pn	**Pn**	**00 15 01.8**	**+0.6**
KDZ	**Kurdzhali**	**1.56**	**13**	P	**Pn**	**00 14 59.8**	**-1.5**
KDZ				Pg	**Pb**	**00 15 01.9**	**-0.6**
NEO	**Neokhori**	**1.56**	**239**	P	**Pn**	**00 15 00.2**	**-1.1**
NEO	**Neokhori**	**1.56**	**239**	P	**Pn**	**00 14 59.8**	**-1.6**
NEO	**Neokhori**	**1.56**	**239**	P	**Pn**	**00 15 00.2**	**-1.1**
RZN	**Rozhen**	**1.56**	**354**	P	**Pn**	**00 15 00.9**	**-0.6**
RZN				Pg	**Pb**	**00 15 02.9**	**+0.2**
AYVA	**Ayvalik**	**1.58**	**121**	*i* P	**Pn**	**00 15 01.7**	**+0.1**
AYVA				*i* S	**Sn**	**00 15 21.6**	**-0.4**
AYVA				*i* S	**Sn**	**00 15 21.7**	**-0.3**
AYVA	**Ayvalik**	**1.58**	**121**	P	**Pn**	**00 15 01.7**	**+0.1**
AYVA				S	**Sn**	**00 15 21.7**	**-0.3**
THE	**Thessaloniki**	**1.59**	**289**	P	**Pn**	**00 15 01.1**	**-0.6**
THE	**Thessaloniki**	**1.59**	**289**	P	**Pn**	**00 15 01.0**	**-0.6**
THE	**Thessaloniki**	**1.59**	**289**	P	**Pn**	**00 15 01.1**	**-0.6**
FYTO	**Fytoko, Volos**	**1.70**	**245**	P	**Pn**	**00 15 02.5**	**-0.8**
FYTO	**Fytoko, Volos**	**1.70**	**245**	P	**Pn**	**00 15 02.4**	**-0.8**
FYTO	**Fytoko, Volos**	**1.70**	**245**	P	**Pn**	**00 15 02.5**	**-0.8**
MMB	**Musomiste**	**1.72**	**328**	P	**Pn**	**00 15 02.7**	**-0.9**
KRBG	**Karabiga-Canak**	**1.82**	**81**	*e*PN	**Pn**	**00 15 04.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.82**	**81**	*e*Pn	**Pn**	**00 15 04.6**	**-0.3**
SMIA	**Simia**	**1.83**	**227**	P	**Pn**	**00 15 04.5**	**-0.6**
SMIA	**Simia**	**1.83**	**227**	P	**Pn**	**00 15 04.5**	**-0.6**
DKL	**Dikili**	**1.85**	**124**	*e*PN	**Pn**	**00 15 06.0**	**+0.7**
DKL	**Dikili**	**1.85**	**124**	*e*Pn	**Pn**	**00 15 06.0**	**+0.7**
CAND	**Candarli**	**1.86**	**129**	*e*PN	**Pn**	**00 15 06.2**	**+0.7**
KNT	**Kendrikon**	**1.86**	**304**	P	**Pn**	**00 15 05.1**	**-0.4**
KNT	**Kendrikon**	**1.86**	**304**	P	**Pn**	**00 15 05.5**	**0.0**
KNT				S	**Sn**	**00 15 29.2**	**+0.2**
KNT	**Kendrikon**	**1.86**	**304**	P	**Pn**	**00 15 05.1**	**-0.4**
KNT				S	**Sn**	**00 15 29.2**	**+0.2**
LIT	**Litokhoron**	**1.88**	**270**	P	**Pn**	**00 15 04.7**	**-1.0**
LIT	**Litokhoron**	**1.88**	**270**	P	**Pn**	**00 15 04.5**	**-1.2**
LIT	**Litokhoron**	**1.88**	**270**	P	**Pn**	**00 15 04.7**	**-1.0**
EREA	**Eretria**	**1.88**	**205**	P	**Pn**	**00 15 05.1**	**-0.6**
EREA				S	**Sn**	**00 15 29.3**	**-0.1**
EREA	**Eretria**	**1.88**	**205**	P	**Pn**	**00 15 05.4**	**-0.3**
EREA	**Eretria**	**1.88**	**205**	P	**Pn**	**00 15 05.4**	**-0.3**
EREA				S	**Sn**	**00 15 29.3**	**-0.1**
DIM	**Dimitrovgrad**	**1.97**	**13**	P	**Pn**	**00 15 06.7**	**-0.2**
PLD	**Plovdiv**	**1.98**	**355**	P	**Pn**	**00 15 07.3**	**+0.2**
PLD				Pg	**Pg**	**00 15 11.0**	**-0.7**
KRBN	**Karaburun**	**1.98**	**140**	*e*PN	**Pn**	**00 15 08.0**	**+0.9**
KRBN	**Karaburun**	**1.98**	**140**	*e*Pn	**Pn**	**00 15 08.0**	**+0.9**
FOCM	**Fo˘§a**	**1.98**	**135**	*e*PN	**Pn**	**00 15 08.0**	**+0.9**
FOCM	**Fo˘§a**	**1.98**	**135**	*e*Pn	**Pn**	**00 15 08.0**	**+0.9**
KNL	**Bal¨–kesir**	**1.99**	**85**	*i* P	**Pn**	**00 15 07.5**	**+0.4**
KNL	**Bal¨–kesir**	**1.99**	**85**	*i* P	**Pb**	**00 15 08.7**	**-1.1**
MRMT	**Marmara Adasi**	**2.08**	**76**	*e*PN	**Pn**	**00 15 09.0**	**+0.4**
MRMT	**Marmara Adasi**	**2.08**	**76**	*e*Pn	**Pn**	**00 15 09.0**	**+0.4**
BALY	**Balya**	**2.10**	**100**	*i* P	**Pb**	**00 15 10.6**	**-1.2**
BALY	**Balya**	**2.10**	**100**	*i* P	**Pb**	**00 15 12.4**	**+0.7**
BALY	**Balya**	**2.10**	**100**	P	**Pb**	**00 15 12.4**	**+0.7**
BALY	**Balya**	**2.10**	**100**	P	**Pb**	**00 15 10.6**	**-1.2**
GRG	**Griva**	**2.10**	**294**	*e*PN	**Pn**	**00 15 10.0**	**+1.2**
GRG	**Griva**	**2.10**	**294**	P	**Pn**	**00 15 08.5**	**-0.3**
GRG	**Griva**	**2.10**	**294**	P	**Pn**	**00 15 08.4**	**-0.4**
GRG	**Griva**	**2.10**	**294**	P	**Pn**	**00 15 08.4**	**-0.4**
GRG	**Griva**	**2.10**	**294**	*e*Pn	**Pn**	**00 15 10.0**	**+1.2**
LKR	**Lokris**	**2.11**	**226**	P	**Pn**	**00 15 08.2**	**-0.6**
LKR	**Lokris**	**2.11**	**226**	P	**Pn**	**00 15 08.3**	**-0.6**
LKR	**Lokris**	**2.11**	**226**	P	**Pn**	**00 15 08.3**	**-0.6**
KARY	**Karystos**	**2.13**	**191**	P	**Pn**	**00 15 08.3**	**-0.9**
KARY	**Karystos**	**2.13**	**191**	P	**Pn**	**00 15 08.3**	**-0.9**
KARY	**Karystos**	**2.13**	**191**	P	**Pn**	**00 15 08.3**	**-0.9**
TKR	**Tekirdag**	**2.16**	**66**	*e*PN	**Pn**	**00 15 10.1**	**+0.6**
TKR	**Tekirdag**	**2.16**	**66**	*e*Pn	**Pn**	**00 15 10.1**	**+0.6**
VAY	**Valandovo**	**2.16**	**304**	*e*Pn	**Pn**	**00 15 10.0**	**+0.4**
VAY				*i* Sn	**Sg**	**00 15 44.0**	**+1.0**
VAY	**Valandovo**	**2.16**	**304**	*e*Pn	**Pn**	**00 15 09.9**	**+0.4**
URLA	**Izmir**	**2.19**	**143**	*e*PN	**Pn**	**00 15 10.7**	**+0.7**
URLA	**Izmir**	**2.19**	**143**	*i* P	**Pn**	**00 15 10.1**	**+0.1**
URLA	**Izmir**	**2.19**	**143**	*i* P	**Pn**	**00 15 10.0**	**+0.1**
URLA	**Izmir**	**2.19**	**143**	P	**Pn**	**00 15 10.0**	**+0.1**
URLA	**Izmir**	**2.19**	**143**	P	**Pn**	**00 15 10.1**	**+0.1**
URLA	**Izmir**	**2.19**	**143**	*e*Pn	**Pn**	**00 15 10.7**	**+0.7**
EDRB	**Edirne**	**2.19**	**38**	*e*PN	**Pn**	**00 15 10.7**	**+0.7**
EDRB	**Edirne**	**2.19**	**38**	P	**Pn**	**00 15 09.3**	**-0.7**
EDRB	**Edirne**	**2.19**	**38**	P	**Pn**	**00 15 09.3**	**-0.7**
EDRB	**Edirne**	**2.19**	**38**	*e*Pn	**Pn**	**00 15 10.7**	**+0.7**
KKB	**Krupnik**	**2.23**	**322**	P	**Pn**	**00 15 10.3**	**-0.2**
AXAR	**Agios Charalam**	**2.23**	**233**	P	**Pn**	**00 15 09.3**	**-1.2**
AXAR	**Agios Charalam**	**2.23**	**233**	P	**Pn**	**00 15 09.3**	**-1.2**
PTL	**Penteli**	**2.24**	**202**	P	**Pn**	**00 15 10.3**	**-0.4**
PTL	**Penteli**	**2.24**	**202**	P	**Pn**	**00 15 10.4**	**-0.3**
PTL	**Penteli**	**2.24**	**202**	P	**Pn**	**00 15 10.3**	**-0.4**
EDC	**Edincik**	**2.25**	**84**	*e*PN	**Pn**	**00 15 11.5**	**+0.7**
EDC	**Edincik**	**2.25**	**84**	*e*Pn	**Pn**	**00 15 11.5**	**+0.7**
ZEY	**˘zmir**	**2.25**	**147**	*i* P	**Pn**	**00 15 10.8**	**0.0**
ZEY	**˘zmir**	**2.25**	**147**	*i* P	**Pn**	**00 15 10.8**	**0.0**
STEP	**BALIKESIR_Sava**	**2.27**	**109**	*i* P	**Pn**	**00 15 11.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**2.27**	**109**	*i* P	**Pn**	**00 15 11.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**2.27**	**109**	P	**Pn**	**00 15 11.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**2.27**	**109**	P	**Pn**	**00 15 11.2**	**+0.1**
AGG	**Agios Georgios**	**2.30**	**242**	P	**Pn**	**00 15 11.1**	**-0.4**
AGG	**Agios Georgios**	**2.30**	**242**	P	**Pn**	**00 15 11.6**	**+0.1**
AGG	**Agios Georgios**	**2.30**	**242**	P	**Pn**	**00 15 11.1**	**-0.4**
BALB	**Balikesir**	**2.32**	**101**	*e*PN	**Pn**	**00 15 12.3**	**+0.6**
BALB	**Balikesir**	**2.32**	**101**	*e*Pn	**Pn**	**00 15 12.3**	**+0.6**
VIL2	**Platees**	**2.32**	**215**	P	**Pn**	**00 15 11.1**	**-0.6**
THL	**Klokotos Trika**	**2.32**	**257**	P	**Pn**	**00 15 11.3**	**-0.5**
THL	**Klokotos Trika**	**2.32**	**257**	P	**Pn**	**00 15 11.5**	**-0.3**
THL	**Klokotos Trika**	**2.32**	**257**	P	**Pn**	**00 15 11.3**	**-0.5**
VILL	**Villia**	**2.34**	**213**	P	**Pn**	**00 15 11.8**	**-0.3**
VILL	**Villia**	**2.34**	**213**	P	**Pn**	**00 15 11.8**	**-0.3**
CRLT	**Corlu**	**2.35**	**64**	*e*PN	**Pn**	**00 15 12.9**	**+0.8**
CRLT	**Corlu**	**2.35**	**64**	*e*Pn	**Pn**	**00 15 13.0**	**+0.8**
ATH	**Athens Observa**	**2.36**	**204**	P	**Pn**	**00 15 11.2**	**-1.0**
ATH	**Athens Observa**	**2.36**	**204**	P	**Pn**	**00 15 11.2**	**-1.0**
KZN	**Kozani**	**2.43**	**275**	P	**Pn**	**00 15 13.2**	**-0.2**
KZN	**Kozani**	**2.43**	**275**	P	**Pn**	**00 15 14.0**	**+0.6**
KZN	**Kozani**	**2.43**	**275**	P	**Pn**	**00 15 13.2**	**-0.2**
SBT3	**Marmara-Eregli**	**2.43**	**71**	*e*PN	**Pn**	**00 15 14.4**	**+1.2**
SBT3	**Marmara-Eregli**	**2.43**	**71**	*e*Pn	**Pn**	**00 15 14.4**	**+1.2**
VLY	**Voula,Athens**	**2.45**	**202**	P	**Pn**	**00 15 13.3**	**-0.2**
VLY	**Voula,Athens**	**2.45**	**202**	P	**Pn**	**00 15 12.3**	**-1.2**
VLY	**Voula,Athens**	**2.45**	**202**	P	**Pn**	**00 15 13.3**	**-0.2**
PROD	**Prodromos**	**2.45**	**221**	P	**Pn**	**00 15 12.9**	**-0.7**
PROD	**Prodromos**	**2.45**	**221**	P	**Pn**	**00 15 12.9**	**-0.7**
PHSR	**Pinarhisar**	**2.47**	**52**	*e*PN	**Pn**	**00 15 14.6**	**+0.8**
PHSR	**Pinarhisar**	**2.47**	**52**	*e*Pn	**Pn**	**00 15 14.6**	**+0.8**
BOTS	**Marmara Eregli**	**2.47**	**69**	*e*PN	**Pn**	**00 15 14.6**	**+0.8**
BOTS	**Marmara Eregli**	**2.47**	**69**	*e*Pn	**Pn**	**00 15 14.6**	**+0.8**
PGB	**Panagyurishte**	**2.48**	**347**	P	**Pn**	**00 15 13.8**	**-0.3**
PGB				Pg	**Pb**	**00 15 19.0**	**+0.7**
DSF	**Desfina**	**2.54**	**228**	P	**Pn**	**00 15 13.7**	**-1.2**
DSF	**Desfina**	**2.54**	**228**	P	**Pn**	**00 15 13.7**	**-1.2**
AKHS	**Akhisar**	**2.55**	**118**	*i* P	**Pn**	**00 15 15.5**	**+0.5**
AKHS	**Akhisar**	**2.55**	**118**	*i* P	**Pn**	**00 15 15.1**	**+0.1**
AKHS	**Akhisar**	**2.55**	**118**	P	**Pn**	**00 15 15.1**	**+0.1**
AKHS	**Akhisar**	**2.55**	**118**	P	**Pn**	**00 15 15.5**	**+0.5**
DGB	**˘zmir**	**2.57**	**143**	*i* P	**Pn**	**00 15 15.5**	**+0.3**
DGB	**˘zmir**	**2.57**	**143**	*i* P	**Pn**	**00 15 15.7**	**+0.6**
LTK	**Loutraki**	**2.61**	**217**	P	**Pn**	**00 15 16.0**	**+0.3**
LTK	**Loutraki**	**2.61**	**217**	P	**Pn**	**00 15 16.0**	**+0.3**
KCTX	**Karacabey (Bur**	**2.62**	**86**	*e*PN	**Pn**	**00 15 16.5**	**+0.6**
KCTX	**Karacabey (Bur**	**2.62**	**86**	*e*Pn	**Pn**	**00 15 16.5**	**+0.6**
LOUT	**Loutraki**	**2.63**	**216**	P	**Pn**	**00 15 17.1**	**+1.0**
LOUT	**Loutraki**	**2.63**	**216**	P	**Pn**	**00 15 17.1**	**+1.0**
JMB	**Yambol**	**2.64**	**27**	*e*P	**Pn**	**00 15 15.5**	**-0.7**
EVR	**Evrytania**	**2.71**	**244**	P	**Pn**	**00 15 17.6**	**+0.4**
EVR	**Evrytania**	**2.71**	**244**	P	**Pn**	**00 15 17.6**	**+0.4**
SLVT	**Silivri**	**2.72**	**65**	*e*PN	**Pn**	**00 15 18.2**	**+1.0**
SLVT	**Silivri**	**2.72**	**65**	P	**Pb**	**00 15 22.8**	**+0.5**
SLVT	**Silivri**	**2.72**	**65**	*e*Pn	**Pn**	**00 15 18.2**	**+1.0**
THAL	**Thalero**	**2.74**	**221**	P	**Pn**	**00 15 17.8**	**+0.3**
THAL	**Thalero**	**2.74**	**221**	P	**Pn**	**00 15 17.8**	**+0.3**
KPRO	**Kipourio**	**2.75**	**267**	P	**Pn**	**00 15 17.8**	**+0.1**
KPRO	**Kipourio**	**2.75**	**267**	P	**Pn**	**00 15 18.8**	**+1.0**
KPRO	**Kipourio**	**2.75**	**267**	P	**Pn**	**00 15 17.8**	**+0.1**
VTS	**Vitosha**	**2.78**	**333**	*i*P	**Pn**	**00 15 19.5**	**+1.3**
VTS	**Vitosha**	**2.78**	**333**	S	**Sn**	**00 15 53.3**	**+1.5**
VTS	**Vitosha**	**2.78**	**333**	P	**Pn**	**00 15 18.7**	**+0.5**
KALE	**Kalithea**	**2.78**	**232**	P	**Pn**	**00 15 18.5**	**+0.3**
KALE	**Kalithea**	**2.78**	**232**	P	**Pn**	**00 15 18.5**	**+0.3**
FNA	**Florina**	**2.79**	**285**	P	**Pn**	**00 15 18.4**	**+0.1**
FNA	**Florina**	**2.79**	**285**	P	**Pn**	**00 15 19.3**	**+1.0**
FNA	**Florina**	**2.79**	**285**	P	**Pn**	**00 15 18.4**	**+0.1**
SBT2	**Guzelce-Avcila**	**2.83**	**74**	*e*PN	**Pn**	**00 15 19.9**	**+1.3**
SBT2	**Guzelce-Avcila**	**2.83**	**74**	*e*Pn	**Pn**	**00 15 19.9**	**+1.3**
SMG	**Samos**	**2.84**	**148**	P	**Pn**	**00 15 18.8**	**-0.1**
SMG	**Samos**	**2.84**	**148**	P	**Pn**	**00 15 19.1**	**+0.2**
SMG	**Samos**	**2.84**	**148**	P	**Pn**	**00 15 18.8**	**-0.1**
TRIZ	**Trizonia**	**2.84**	**232**	P	**Pn**	**00 15 18.1**	**-0.8**
TRIZ	**Trizonia**	**2.84**	**232**	P	**Pn**	**00 15 18.1**	**-0.8**
ELBA	**Catalca**	**2.84**	**68**	*i* P	**Pn**	**00 15 17.0**	**-2.0**
ELBA	**Catalca**	**2.84**	**68**	P	**Pn**	**00 15 17.0**	**-2.0**
CTYL	**Yalikoy Yolu**	**2.88**	**61**	*e*PN	**Pn**	**00 15 20.4**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.88**	**61**	*e*Pn	**Pn**	**00 15 20.5**	**+1.1**
BIA	**Bitola**	**2.89**	**289**	*i* Pn	**Pn**	**00 15 20.1**	**+0.4**
BIA	**Bitola**	**2.89**	**289**	*i* Pn	**Pn**	**00 15 20.0**	**+0.4**
EFP	**Efpalio**	**2.91**	**235**	P	**Pn**	**00 15 20.3**	**+0.5**
EFP	**Efpalio**	**2.91**	**235**	P	**Pn**	**00 15 20.3**	**+0.5**
PENT	**Pentalofos**	**2.91**	**272**	P	**Pn**	**00 15 21.2**	**+1.2**
PENT	**Pentalofos**	**2.91**	**272**	P	**Pn**	**00 15 21.2**	**+1.2**
CTKS	**Kestanelik-??a**	**2.93**	**67**	*e*PN	**Pn**	**00 15 21.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.93**	**67**	*e*Pn	**Pn**	**00 15 21.2**	**+1.1**
LAKA	**Lakka**	**2.98**	**232**	P	**Pn**	**00 15 21.3**	**+0.5**
LAKA	**Lakka**	**2.98**	**232**	P	**Pn**	**00 15 21.3**	**+0.5**
SERI	**Serifos**	**2.99**	**187**	P	**Pn**	**00 15 20.0**	**-1.0**
SERI	**Serifos**	**2.99**	**187**	P	**Pn**	**00 15 20.0**	**-1.0**
KLV	**Kalavryta, Ach**	**3.01**	**227**	P	**Pn**	**00 15 20.7**	**-0.6**
KLV	**Kalavryta, Ach**	**3.01**	**227**	P	**Pn**	**00 15 20.7**	**-0.6**
ARMT	**Armutlu**	**3.03**	**81**	*e*PN	**Pn**	**00 15 22.7**	**+1.2**
ARMT	**Armutlu**	**3.03**	**81**	*e*Pn	**Pn**	**00 15 22.7**	**+1.2**
MDNY	**Mudanya-Bursa**	**3.03**	**84**	*e*PN	**Pn**	**00 15 22.6**	**+1.1**
MDNY	**Mudanya-Bursa**	**3.03**	**84**	*e*Pn	**Pn**	**00 15 22.6**	**+1.1**
SBT5	**Esenkoy-Cinarc**	**3.05**	**79**	*e*PN	**Pn**	**00 15 22.9**	**+1.2**
SBT5	**Esenkoy-Cinarc**	**3.05**	**79**	*e*Pn	**Pn**	**00 15 23.0**	**+1.2**
KRUS	**Krusevo**	**3.06**	**295**	*i* Pn	**Pn**	**00 15 18.4**	**-3.7**
KRUS	**Krusevo**	**3.06**	**295**	*i* Pn	**Pn**	**00 15 18.4**	**-3.7**
APE	**Apeiranthos**	**3.09**	**171**	*e*PN	**Pn**	**00 15 24.0**	**+1.6**
APE	**Apeiranthos**	**3.09**	**171**	P	**Pn**	**00 15 21.3**	**-0.4**
APE	**Apeiranthos**	**3.09**	**171**	P	**Pn**	**00 15 21.3**	**-1.2**
APE	**Apeiranthos**	**3.09**	**171**	P	**Pn**	**00 15 21.3**	**-1.2**
APE	**Apeiranthos**	**3.09**	**171**	*e*Pn	**Pn**	**00 15 24.0**	**+1.6**
DEMI	**Demirci**	**3.12**	**109**	*i* P	**Pn**	**00 15 23.5**	**+0.7**
DEMI	**Demirci**	**3.12**	**109**	P	**Pn**	**00 15 23.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**133**	*e*PN	**Pn**	**00 15 24.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**133**	*e*Pn	**Pn**	**00 15 24.5**	**+0.9**
MANT	**Manisa**	**3.25**	**119**	*i* P	**Pn**	**00 15 25.9**	**+1.1**
MANT	**Manisa**	**3.25**	**119**	P	**Pn**	**00 15 25.9**	**+1.1**
BUY	**Buyukada**	**3.27**	**76**	*e*PN	**Pn**	**00 15 26.0**	**+1.2**
BUY	**Buyukada**	**3.27**	**76**	*i* P	**Pn**	**00 15 23.2**	**-1.5**
BUY	**Buyukada**	**3.27**	**76**	P	**Pn**	**00 15 23.2**	**-1.5**
BUY	**Buyukada**	**3.27**	**76**	*e*Pn	**Pn**	**00 15 26.0**	**+1.2**
IGD	**Bursa**	**3.27**	**86**	*i* P	**Pn**	**00 15 23.8**	**-1.0**
ISK	**Istanbul-Kandi**	**3.27**	**72**	*e*PN	**Pn**	**00 15 26.2**	**+1.3**
ISK	**Istanbul-Kandi**	**3.27**	**72**	*e*Pn	**Pn**	**00 15 26.2**	**+1.3**
KAVV	**Kandilli-Istan**	**3.27**	**72**	*e*PN	**Pn**	**00 15 26.2**	**+1.3**
KAVV	**Kandilli-Istan**	**3.27**	**72**	*e*Pn	**Pn**	**00 15 26.2**	**+1.3**
SIMA	**Simav-Kutahya**	**3.29**	**107**	*e*PN	**Pn**	**00 15 26.5**	**+1.3**
SIMA	**Simav-Kutahya**	**3.29**	**107**	*e*Pn	**Pn**	**00 15 26.5**	**+1.3**
KULA	**Kula-Manisa**	**3.31**	**118**	*e*PN	**Pn**	**00 15 26.6**	**+1.2**
KULA	**Kula-Manisa**	**3.31**	**118**	*e*Pn	**Pn**	**00 15 26.6**	**+1.2**
KLYT	**Kilyos**	**3.31**	**69**	*e*PN	**Pn**	**00 15 26.9**	**+1.5**
KLYT	**Kilyos**	**3.31**	**69**	*e*Pn	**Pn**	**00 15 26.9**	**+1.5**
AYDN	**Taso

IDC ***06*** *00:39:30.8±0.4, 57°.91N×32°.65W, h0^{km}, mb4.8/41, mb1 4.9/45, mb1mx4.8/58, mbtmp4.8/45, ML3.5/3, MS5.2/46, Ms1 5.2/46, ms1mx5.1/54, Error ellipse: s-maj=11.3km s-min=8.4km az=1.0*

ISCJB ***06*** *00:39:31.2±0.9, 57°.92N±0°.02×32°.64W±0°.01, h10^{km}±5^{km}, mb5.3/442, MS5.4/522, Error ellipse: s-maj=3.3km s-min=1.3km az=179.8*

BJI ***06*** *00:39:31.6, 58°.48N×32°.57W, h6^{km}, mb5.1/61, mB5.5/52, Ms5.4/53, Ms7 5.1/55*

MOS ***06*** *00:39:31.2±0.9, 58°.02N×32°.58W, h9^{km}, mb5.5/126, MS5.4/102, Error ellipse: s-maj=5.7km s-min=4.8km az=60.6*

CSEM ***06*** *00:39:32.8±0.0, 57°.94N×32°.55W, h10^{km}, mb5.4/99, Ms5.5, Mw5.5, Error ellipse: s-maj=3.2km s-min=1.4km az=7.0*

NEIC ***06*** *00:39:32.9±0.1, 57°.89N×32°.49W, h10^{km}, mb5.4/300, MS5.5/300, MW5.6, MW5.5, Error ellipse: s-maj=3.2km s-min=1.6km az=179.0*

GCMT ***06*** *00:39:32.8±0.1, 57°.96N×32°.35W, h12^{km}, MW5.6/137, Moment Tensor Solution. s103,c166; s137,c383; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-3.34±.03; M$_{\theta\theta}$0.35±.03; M$_{\phi\phi}$2.98±.03; M$_{r\theta}$0.38±.09; M$_{\theta\phi}$1.23±.03; M$_{\phi r}$-0.15±.08; Best double couple: M$_0$3.42800×10^{17} NP1:ϕ_s15.00000°, δ45.00000°, λ-100.00000°. NP2:ϕ_s209.00000°, δ45.00000°, λ-80.00000°. Principal axes: T 3.4660, Plg0.0000°, Azm112.0000°; N -0.0810, Plg7.0000°, Azm222.0000°; P -3.3900, Plg83.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***06*** *00:39:33.0±0.0, 57°.88N×32°.56W, h11^{km}, Moment Tensor Solution. s75 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-2.04; M$_{\theta\theta}$0.00; M$_{\phi\phi}$2.04; M$_{r\theta}$0.58; M$_{\theta\phi}$1.02; M$_{\phi r}$-0.23; Best double couple: M$_0$2.40000×10^{17} NP1:ϕ_s220.00000°, δ48.00000°, λ-64.00000°. NP2:ϕ_s5.00000°, δ48.00000°, λ-115.00000°. Principal axes: T 2.4600, Plg0.0000°, Azm292.0000°; N -0.2000, Plg18.0000°, Azm22.0000°; P -2.2500, Plg71.0000°, Azm202.0000°;*

NEIC ***06*** *00:39:40.5±0.0, 57°.91N×32°.24W, h10^{km}, Moment Tensor Solution. s56 Moment tensor: Scale 10^{17}Nm; M$_{rr}$-2.73; M$_{\theta\theta}$0.19; M$_{\phi\phi}$2.54; M$_{r\theta}$0.61; M$_{\theta\phi}$1.16; M$_{\phi r}$1.13; Best double couple: M$_0$3.10000×10^{17} NP1:ϕ_s205.00000°, δ57.00000°, λ-87.00000°. NP2:ϕ_s19.00000°, δ33.00000°, λ-95.00000°. Principal axes: T 3.2900, Plg12.0000°, Azm293.0000°; N -0.2800, Plg3.0000°, Azm23.0000°; P -3.0100, Plg78.0000°, Azm125.0000°;*

ISC 06 00:39:32.7±0.5, 57°.92N±0°.03×32°.64W±0°.03, h12^{km}±2^{km}, n2128, σ1°.45/2079, mb5.3/465, MS5.4/523, 37C-24D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.26**	**302**	*i* P	Pn	00 41 24.2	+5.7
NRS	**Narsarsuaq**	**7.26**	**302**	*e*P	Pn	00 41 24.2	+5.7
BORG	**Borgarnes**	**8.73**	**34**	Pn	**Pn**	**00 41 37.5**	**-1.1**
BORG				LR	LR	00 44 14.4	
	comp=Z,111μm,18.2s,slow=32						
BORG	**Borgarnes**	**8.73**	**34**	*e*P	**Pn**	**00 41 38.4**	**-0.2**
BORG				*e*		00 43 19.4	
BORG	**Borgarnes**	**8.73**	**34**	*e*P	**Pn**	**00 41 38.4**	**-0.2**
BORG				*e*S	**Sn**	**00 43 19.4**	**+2.6**
BORG	**Borgarnes**	**8.73**	**34**	*e*Pn	**Pn**	**00 41 38.4**	**-0.2**
BORG				*e*Sn	**Sn**	**00 43 19.4**	**+2.6**
SFJD	**Kangerlussuaq**	**12.28**	**325**	Pn	**Pn**	**00 42 25.7**	**-1.3**
	0.6nm,0.3s,baz=130,slow=13,SNR=9.6						
SFJD				Sn	Sn	00 44 30.8	-13
	0.6nm,0.3s,baz=79,slow=17,SNR=2.8						
SFJD				LR	LR	00 46 30.2	
	comp=Z,30μm,18.9s,baz=134,slow=34						
SFJD	**Kangerlussuaq**	**12.28**	**325**	*i* P	**Pn**	**00 42 27.2**	**+0.2**
SFJD				*e*S	**Sn**	**00 44 38.6**	**-5.0**
SFJD	**Kangerlussuaq**	**12.28**	**325**	*i* P	**Pn**	**00 42 27.2**	**+0.2**
SFJD				*e*S	**Sn**	**00 44 38.6**	**-5.0**
SFJD	**Kangerlussuaq**	**12.28**	**325**	*i* P	**Pn**	**00 42 27.2**	**+0.2**
SFJD	**Kangerlussuaq**	**12.28**	**325**	*e*Pn	**Pn**	**00 42 28.1**	**+1.0**
SFJD	**Kangerlussuaq**	**12.28**	**325**	*e*Pn	**Pn**	**00 42 28.1**	**+1.0**
SFJD				*e*Sn	**Sn**	**00 44 39.1**	**-4.5**
ILULI	**Ilulissat**	**13.91**	**332**	*i* P	**Pn**	**00 42 48.4**	**-0.9**
ILULI	**Ilulissat**	**13.91**	**332**	*i* P	**Pn**	**00 42 48.4**	**-0.9**
VAL	**Valentia**	**14.16**	**105**	*e*P	**Pn**	**00 42 52.1**	**-0.7**
VAL	**Valentia**	**14.16**	**105**	↑*i*S	**S**	**00 45 58.6**	**+8.0**
KAC	**Achnashellach**	**14.58**	**80**	*e*P	**Pn**	**00 43 01.1**	**+2.6**
SUMG	**Summit**	**14.91**	**353**	*i* P	**Pn**	**00 43 03.1**	**-0.2**
SUMG	**Summit**	**14.91**	**353**	*i* P	**Pn**	**00 43 03.1**	**-0.2**
SUMG	**Summit**	**14.91**	**353**	*e*Pn	**Pn**	**00 43 01.8**	**-1.5**
SUMG	**Summit**	**14.91**	**353**	*e*Pn	**Pn**	**00 43 01.8**	**-1.5**
MDO	**Dochfour**	**15.09**	**80**	*e*P	**Pn**	**00 43 06.4**	**+1.0**
BIGH	**Upper Bighouse**	**15.10**	**76**	AMS	AMS	00 47 00.0	
	comp=Z,22μm,19.8s						
PGBU	**Glenifferbraes**	**15.49**	**86**	AMS	AMS	00 47 12.1	
	comp=Z,12μm,25.7s						
DSB	**Dublin**	**15.52**	**96**	*e*Pn	**Pn**	**00 43 08.6**	**-2.4**
	comp=Z,230nm,1.2s						
DSB	**Dublin**	**15.52**	**96**	*e*Pn	**Pn**	**00 43 08.6**	**-2.4**
	comp=Z,230nm,1.2s						
GAL1	**Galloway**	**15.71**	**89**	AMS	AMS	00 46 38.4	
	comp=Z,8μm,18.6s						
MME1	**Meikle Cairn**	**15.85**	**80**	*e*P	**Pn**	**00 43 16.9**	**+1.5**
MME1	**Meikle Cairn**	**15.85**	**80**	*e*P	**Pn**	**00 43 16.9**	**+1.5**
EDI	**Edinburgh**	**16.14**	**85**	AMS	AMS	00 47 55.1	
	comp=Z,12μm,19.4s						
ESK	**Eskdalemuir**	**16.34**	**87**	*e*P	**P**	**00 43 23.6**	**-1.0**
ESK				AMB	AMB	00 43 27.6	
	comp=Z,264nm,2.9s						
ESK				AMS	AMS	00 48 20.4	
	comp=Z,12μm,18.5s						
ESK	**Eskdalemuir**	**16.34**	**87**	*e*P	**Pn**	**00 43 22.3**	**+0.6**
ESK				pmax	pmax		
	comp=Z,535nm,1.8s						
ESK	**Eskdalemuir**	**16.34**	**87**	*e*Pn	**Pn**	**00 43 22.3**	**+0.6**
	comp=Z,535nm,1.8s						
ESK	**Eskdalemuir**	**16.34**	**87**	*e*P	**P**	**00 43 23.6**	**-1.0**
ESK	**Eskdalemuir**	**16.34**	**87**	*e*Pn	**Pn**	**00 43 22.3**	**+0.6**
	comp=Z,535nm,1.8s						
EKA	**Eskdalemuir Ar**	**16.36**	**86**	Pn	**Pn**	**00 43 18.6**	**-3.4**
	baz=295,slow=12,SNR=6.1						
EKA				LR	LR	00 48 38.2	
	comp=Z,13μm,18.6s,baz=295,slow=33						
BHH	**Howats Hill**	**16.42**	**87**	*e*P	**P**	**00 43 24.2**	**-1.2**
BHH	**Howats Hill**	**16.42**	**87**	*e*P	**P**	**00 43 24.2**	**-1.2**
ESY	**Stoneypath**	**16.45**	**84**	*e*P	**P**	**00 43 25.1**	**-0.6**
ESY	**Stoneypath**	**16.45**	**84**	*e*P	**P**	**00 43 25.1**	**-0.6**
JMIC	**Jan Mayen**	**16.54**	**28**	LR	LR	00 48 15.9	
	comp=Z,5μm,18.6s,baz=248,slow=32						
WLF1	**Llynfaes**	**16.55**	**94**	*e*P	**P**	**00 43 26.0**	**-0.8**
WLF1				AMS	AMS	00 48 52.6	
	comp=Z,22μm,15.8s						
WLF1	**Llynfaes**	**16.55**	**94**	*e*P	**P**	**00 43 26.0**	**-0.8**
WME	**Myndd Eilian**	**16.55**	**94**	*e*P	**Pn**	**00 43 24.5**	**+0.2**
WME	**Myndd Eilian**	**16.55**	**94**	*e*P	**Pn**	**00 43 24.5**	**+0.2**
KESW	**Keswick, Cumbr**	**16.67**	**89**	*e*P	**Pn**	**00 43 26.4**	**+0.5**
KESW				AMB	AMB	00 43 34.0	
	comp=Z,351nm,1.5s						
KESW				AMS	AMS	00 49 13.7	
	comp=Z,14μm,15.8s						
KESW	**Keswick, Cumbr**	**16.67**	**89**	*e*P	**Pn**	**00 43 26.4**	**+0.5**
WPM1	**Penmaenmawr**	**16.82**	**94**	*e*P	**P**	**00 43 29.7**	**-0.2**
WPM1	**Penmaenmawr**	**16.82**	**94**	*e*P	**P**	**00 43 29.7**	**-0.2**
DRLN	**Deer Lake**	**17.04**	**250**	*e*Pn	**Pn**	**00 43 31.2**	**+0.7**
	comp=Z,580nm,1.8s						
DRLN	**Deer Lake**	**17.04**	**250**	*e*Pn	**Pn**	**00 43 31.2**	**+0.7**
	comp=Z,580nm,1.8s						
LLW	**Llanuwchllyn**	**17.14**	**95**	*e*P	**Pn**	**00 43 32.6**	**+0.8**
LLW				AMS	AMS	00 47 50.0	
	comp=Z,154μm,30.3s						
LLW	**Llanuwychllyn**	**17.14**	**95**	*e*P	**Pn**	**00 43 32.6**	**+0.8**
EDMD	**Edmundbyers**	**17.19**	**87**	*e*P	**Pn**	**00 43 32.6**	**+0.2**
EDMD				AMS	AMS	00 48 56.6	
	comp=Z,12μm,17.3s						
EDMD	**Edmundbyers**	**17.19**	**87**	*e*P	**Pn**	**00 43 32.6**	**+0.2**
LPW	**Lampeter**	**17.30**	**97**	*e*P	**Pn**	**00 43 34.3**	**+0.6**
LPW				AMS	AMS	00 48 30.1	
	comp=Z,12μm,23.3s						
LPW	**Lampeter**	**17.30**	**97**	*e*P	**Pn**	**00 43 34.3**	**+0.6**
FOEL	**Foel Wylfa**	**17.37**	**94**	*e*P	**P**	**00 43 35.5**	**-0.5**
FOEL				AMB	AMB	00 43 40.6	
	comp=Z,198nm,1.6s						
FOEL				AMS	AMS	00 48 19.8	
	comp=Z,10μm,23.8s						
FOEL	**Foel Wylfa**	**17.37**	**94**	*e*P	**P**	**00 43 35.5**	**-0.5**
HTL	**Hartland**	**17.68**	**101**	*e*P	**P**	**00 43 39.3**	**0.0**
HTL				AMS	AMS	00 49 21.9	
	comp=Z,6μm,17.8s						
HTL	**Hartland**	**17.68**	**101**	*e*P	**P**	**00 43 39.3**	**0.0**
HLM1	**Long Mynd**	**17.72**	**95**	*e*P	**P**	**00 43 40.1**	**+0.3**
HLM1				AMS	AMS	00 48 53.8	
	comp=Z,10μm,19.9s						
HLM1	**Long Mynd**	**17.72**	**95**	*e*P	**P**	**00 43 40.2**	**+0.3**
CCA1	**Carnmenellis**	**17.76**	**104**	*e*P	**P**	**00 43 40.2**	**0.0**
CCA1				AMB	AMB	00 43 41.4	
	comp=Z,202nm,2.9s						
CCA1				AMS	AMS	00 49 42.5	
	comp=Z,16μm,16.0s						
CCA1	**Carnmenellis**	**17.76**	**104**	*e*P	**P**	**00 43 40.2**	**0.0**
STNC	**Stoke**	**17.80**	**93**	*e*P	**P**	**00 43 40.6**	**-0.1**
STNC				AMB	AMB	00 43 44.4	
	comp=Z,412nm,2.7s						
STNC				AMS	AMS	00 49 41.7	
	comp=Z,10μm,14.6s						
STNC	**Stoke**	**17.80**	**93**	*e*P	**P**	**00 43 40.6**	**-0.1**
MCH1	**Michaelchurch**	**17.92**	**97**	*e*P	**P**	**00 43 42.5**	**+0.4**
MCH1				AMB	AMB	00 43 51.6	
	comp=Z,346nm,1.3s						
MCH1				AMS	AMS	00 48 48.7	
	comp=Z,12μm,22.4s						
MCH1	**Michaelchurch**	**17.92**	**97**	*e*P	**P**	**00 43 42.5**	**+0.4**
MONM	**Monmouth**	**18.11**	**97**	*e*P	**P**	**00 43 44.9**	**+0.8**
MONM				AMS	AMS	00 49 35.1	
	comp=Z,12μm,16.8s						
MONM	**Monmouth**	**18.11**	**97**	*e*P	**P**	**00 43 44.9**	**+0.8**
HGH	**Gray Hill**	**18.21**	**97**	*e*P	**Pn**	**00 43 43.7**	**-1.3**
HGH	**Gray Hill**	**18.21**	**97**	*e*P	**Pn**	**00 43 43.7**	**-1.3**
FRB	**Frobisher Bay**	**18.25**	**304**	P	**Pn**	**00 43 45.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=96,slow=13,SNR=7.5						
FRB				LR	LR	00 49 55.2	
	comp=Z,22μm,18.7s,baz=90,slow=34						
DYA	**Yadsworthy**	**18.29**	**102**	*e*P	**Pn**	**00 43 44.7**	**-1.3**
DYA				AMS	AMS	00 49 41.3	
	comp=Z,11μm,17.8s						
DYA	**Yadsworthy**	**18.29**	**102**	*e*P	**Pn**	**00 43 44.7**	**-1.3**
DYA	**Yadsworthy**	**18.29**	**102**	*e*Pn	**Pn**	**00 43 45.0**	**-0.9**
	comp=Z,187nm,1.2s						
DYA	**Yadsworthy**	**18.29**	**102**	*e*Pn	**Pn**	**00 43 45.0**	**-0.9**
	comp=Z,187nm,1.2s						
OLDB	**Oldbury-Upon-S**	**18.33**	**97**	*e*P	**P**	**00 43 47.6**	**+1.0**
OLDB				AMS	AMS	00 49 12.4	
	comp=Z,12μm,19.9s						
OLDB	**Oldbury-Upon-S**	**18.33**	**97**	*e*P	**P**	**00 43 47.6**	**+1.0**
CWF	**Charnwood Fore**	**18.45**	**93**	*e*P	**Pn**	**00 43 48.8**	**+0.8**
CWF				AMB	AMB	00 43 49.8	
	comp=Z,224nm,2.9s						
CWF				AMS	AMS	00 48 51.5	
	comp=Z,10μm,24.1s						
CWF	**Charnwood Fore**	**18.45**	**93**	*e*Pn	**P**	**00 43 47.4**	**-0.5**
	comp=Z,302nm,1.6s						
CWF	**Charnwood Fore**	**18.45**	**93**	*e*P	**Pn**	**00 43 48.8**	**+0.8**
CWF	**Charnwood Fore**	**18.45**	**93**	*e*Pn	**P**	**00 43 47.4**	**-0.5**
	comp=Z,302nm,1.6s						
STRD	**Stroud**	**18.48**	**96**	*e*P	**P**	**00 43 47.9**	**-0.4**
STRD				AMB	AMB	00 43 58.1	
	comp=Z,476nm,1.6s						
STRD				AMS	AMS	00 49 17.1	
	comp=Z,11μm,20.0s						
STRD	**Stroud**	**18.48**	**96**	*e*P	**P**	**00 43 47.8**	**-0.4**
LMK	**Market Rasen**	**18.64**	**90**	*e*P	**Pn**	**00 43 50.9**	**+0.7**
LMK				AMS	AMS	00 49 50.7	
	comp=Z,13μm,17.9s						
LMK	**Market Rasen**	**18.64**	**90**	*e*P	**Pn**	**00 43 50.9**	**+0.7**
SCHQ	**Schefferville**	**19.06**	**275**	P	**P**	**00 43 54.0**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=63,slow=9.3,SNR=14						
SCHQ				LR	LR	00 50 09.6	
	comp=Z,20μm,18.4s,baz=69,slow=34						
SCHQ	**Schefferville**	**19.06**	**275**	*e*P	**Pn**	**00 43 56.0**	**+0.6**
	comp=Z,145nm,1.0s						
SCHQ	**Schefferville**	**19.06**	**275**	*e*P	**Pn**	**00 43 56.0**	**+0.6**
	comp=Z,145nm,1.0s						
SCHQ				*e*Sn	**Sn**	**00 47 20.6**	**-8.0**
WOL	**Wolverton**	**19.22**	**97**	*e*P	**Pn**	**00 43 58.6**	**+1.4**
WOL				AMS	AMS	00 49 41.1	
	comp=Z,11μm,18.8s						
WOL	**Wolverton**	**19.22**	**97**	*e*P	**Pn**	**00 43 58.7**	**+1.4**
ROSA	**Rosais**	**19.43**	**170**	*e*P	**Pn**	**00 44 00.5**	**+0.7**
	comp=Z,308nm,1.4s						
ROSA	**Rosais**	**19.43**	**170**	*e*P	**Pn**	**00 44 00.5**	**+0.7**
	comp=Z,308nm,1.4s						
WACR	**West Acre**	**19.49**	**91**	*e*P	**Pn**	**00 44 01.5**	**+1.0**
WACR				AMB	AMB	00 44 03.5	
	comp=Z,314nm,2.8s						
WACR				AMS	AMS	00 51 07.4	
	comp=Z,12μm,14.5s						
WACR	**West Acre**	**19.49**	**91**	*e*P	**Pn**	**00 44 01.5**	**+1.0**
DAG	**Danmarks Havn**	**19.57**	**10**	*i* P	**Pn**	**00 44 04.2**	**+2.9**
DAG	**Danmarks Havn**	**19.57**	**10**	*i* P	**Pn**	**00 44 04.2**	**+2.9**
JSA	**Saint Aubin**	**19.94**	**103**	*e*P	**Pn**	**00 44 05.2**	**-0.7**
JSA				AMS	AMS	00 50 51.1	
	comp=Z,11μm,17.6s						
JSA	**Saint Aubin**	**19.94**	**103**	*e*P	**Pn**	**00 44 05.2**	**-0.7**
CMLA	**Cha da Macela**	**20.70**	**164**	PFAKE		00 44 20.0	+5.1
CMLA				LR	LR		
	comp=Z,15μm,20.0s						
NC204	**NORSAR Array S**	**21.91**	**63**	*e*P	**P**	**00 44 24.5**	**-0.9**
NC204	**NORSAR Array S**	**21.91**	**63**	*e*P	**P**	**00 44 24.5**	**-0.9**
NBO00	**NORSAR Array S**	**21.96**	**63**	*e*P	**P**	**00 44 26.9**	**+0.9**
NBO00	**NORSAR Array S**	**21.96**	**63**	*e*P	**P**	**00 44 26.9**	**+0.9**
NBO02	**NORSAR Array S**	**22.00**	**63**	*e*P	**P**	**00 44 27.2**	**+0.9**
NBO02	**NORSAR Array S**	**22.00**	**63**	*e*P	**P**	**00 44 27.2**	**+0.9**
NAO01	**NORSAR Array S**	**22.05**	**64**	*e*P	**P**	**00 44 26.9**	**0.0**
NAO01	**NORSAR Array S**	**22.05**	**64**	*e*P	**P**	**00 44 26.9**	**0.0**
NB2	**NORSAR Subarra**	**22.17**	**63**	P	**P**	**00 44 27.1**	**-1.1**
	comp=Z,191nm,2.0s,baz=282,slow=10						
NB2	**NORSAR Subarra**	**22.17**	**63**	P	**P**	**00 44 27.1**	**-1.1**
	baz=282,slow=10						
NB2	**NORSAR Subarra**	**22.17**	**63**	P	**P**	**00 44 27.1**	**-1.1**
	comp=Z,191nm,2.0s,SNR=5.8						
NOA	**NORSAR Array B**	**22.17**	**63**	P	**P**	**00 44 27.4**	**-0.7**
	comp=Z,43nm,1.1s,baz=282,slow=10,SNR=16						
NOA				LR	LR	00 51 45.0	
	comp=Z,5μm,21.4s,baz=280,slow=33						
PGAV	**Gavieira, Arco**	**22.19**	**125**	*e*P	**P**	**00 44 29.3**	**+0.7**
	comp=Z,356nm,1.7s						
PGAV				*e*LR	LR	00 49 41.3	
	comp=Z,14μm,18.0s						
PGAV	**Gavieira, Arco**	**22.19**	**125**	*e*P	**P**	**00 44 29.3**	**+0.7**
	comp=Z,356nm,1.7s						
NB201	**NORSAR Array S**	**22.20**	**63**	*e*P	**P**	**00 44 28.9**	**+0.4**
NB201	**NORSAR Array S**	**22.20**	**63**	*e*P	**P**	**00 44 28.9**	**+0.4**
NC303	**NORSAR Array S**	**22.20**	**63**	*e*P	**P**	**00 44 28.4**	**-0.1**
NC303	**NORSAR Array S**	**22.20**	**63**	*e*P	**P**	**00 44 28.4**	**-0.1**
NC602	**NORSAR Array S**	**22.39**	**64**	*e*P	**P**	**00 44 29.9**	**-0.6**
NC602	**NORSAR Array S**	**22.39**	**64**	*e*P	**P**	**00 44 29.9**	**-0.6**
NC405	**NORSAR Array S**	**22.39**	**63**	*e*P	**P**	**00 44 30.0**	**-0.6**
NC405	**NORSAR Array S**	**22.39**	**63**	*e*P	**P**	**00 44 30.0**	**-0.6**
UCC	**Uccle**	**22.47**	**92**	P	**P**	**00 44 31.9**	**+0.5**
	comp=Z,56nm,1.4s						
PCAB	**Cabril**	**22.50**	**125**	*e*P	**P**	**00 44 33.2**	**+1.3**
	comp=Z,278nm,1.9s						
PCAB	**Cabril**	**22.50**	**125**	*e*P	**P**	**00 44 33.2**	**+1.3**
	comp=Z,278nm,1.9s						
SNF	**Seneffe**	**22.59**	**93**	P	**P**	**00 44 33.1**	**+0.4**
POLO	**Lamas de Olo**	**22.88**	**126**	*e*P	**P**	**00 44 36.5**	**+0.6**
	comp=Z,60nm,1.5s						
POLO				*e*LR	LR	00 49 59.9	
	comp=Z,6μm,20.0s						
POLO	**Lamas de Olo**	**22.88**	**126**	*e*P	**P**	**00 44 36.5**	**+0.6**
	comp=Z,60nm,1.5s						
DOU	**Dourbes**	**22.98**	**94**	P	**P**	**00 44 36.4**	**-0.4**
	comp=Z,66nm,2.7s						
LMN	**Caledonia Moun**	**22.99**	**252**	*e*P	**P**	**00 44 41.0**	**+4.0**
	comp=Z,253nm,1.4s						
LMN	**Caledonia Moun**	**22.99**	**252**	*e*P	**P**	**00 44 41.0**	**+4.0**
	comp=Z,253nm,1.4s						
LMN				LR	LR		
	comp=Z,15μm,19.0s						
PBRG	**Braganca**	**22.99**	**123**	*e*P	**P**	**00 44 37.5**	**+0.4**
	comp=Z,170nm,1.9s						
PBRG				*e*LR	LR	00 50 07.7	
	comp=Z,9μm,20.0s						
PBRG	**Braganca**	**22.99**	**123**	*e*P	**P**	**00 44 37.5**	**+0.4**
	comp=Z,170nm,1.9s						
BEBN	**Eben Emael**	**23.17**	**91**	P	**P**	**00 44 39.3**	**+0.5**
BCLA	**Clavier**	**23.18**	**92**	P	**P**	**00 44 37.7**	**-1.2**
	comp=Z,68nm,1.8s						
PVIS	**Viseu**	**23.37**	**127**	*e*P	**P**	**00 44 42.8**	**+1.8**
	comp=Z,160nm,1.5s						
PVIS	**Viseu**	**23.37**	**127**	*e*P	**P**	**00 44 42.8**	**+1.8**
	comp=Z,160nm,1.5s						
MVO	**Moncorvo**	**23.38**	**125**	*e*P	**P**	**00 44 41.4**	**+0.3**
	comp=Z,255nm,1.4s						
MVO				*e*LR	LR	00 50 16.7	
	comp=Z,12μm,20.0s						
MVO	**Moncorvo**	**23.38**	**125**	*e*P	**P**	**00 44 41.4**	**+0.3**
	comp=Z,255nm,1.4s						
MEM	**Membach**	**23.45**	**91**	P	**P**	**00 44 41.9**	**+0.3**
	comp=Z,72nm,2.4s						
HFS	**Hagfors**	**23.57**	**65**	P	**P**	**00 44 42.3**	**-0.4**
	comp=Z,16nm,1.0s,baz=270,slow=12,SNR=9.3						
HFS				LR	LR	00 52 37.4	
	comp=Z,5μm,20.6s,baz=281,slow=33						
COI	**Coimbra**	**23.57**	**128**	*e*P	**P**	**00 44 42.9**	**0.0**
	comp=Z,146nm,1.3s						
PCAS	**Casmilo, Conde**	**23.67**	**129**	*e*P	**P**	**00 44 43.4**	**-0.4**
	comp=Z,120nm,1.9s						
PCAS				*e*LR	LR	00 50 15.5	
	comp=Z,10μm,20.0s						
PCAS	**Casmilo, Conde**	**23.67**	**129**	*e*P	**P**	**00 44 43.4**	**-0.4**
	comp=Z,120nm,1.9s						
MTE	**Manteigas**	**23.78**	**127**	*e*P	**P**	**00 44 45.1**	**+0.1**
	comp=Z,59nm,2.7s						
MTE				*e*LR	LR	00 50 27.4	
	comp=Z,12μm,20.0s						
MTE	**Manteigas**	**23.78**	**127**	*e*P	**P**	**00 44 45.1**	**+0.1**
	comp=Z,59nm,2.7s						
MTE	**Manteigas**	**23.78**	**127**	*e*P	**P**	**00 44 43.1**	**-1.9**
	comp=Z,83nm,1.4s						
MTE				LR	LR		
	comp=Z,12μm,20.0s						
WLF	**Walferdange**	**24.06**	**93**	P	**P**	**00 44 48.2**	**+0.7**
	comp=Z,58nm,2.7s						
WLF	**Walferdange**	**24.06**	**93**	*e*P	**P**	**00 44 47.6**	**+0.1**
WLF				pmax	pmax		
	comp=Z,68nm,1.3s						
WLF				MLR	MLR		
	comp=Z,7μm,20.0s						
WLF	**Walferdange**	**24.06**	**93**	*e*P	**P**	**00 44 47.6**	**+0.1**
	comp=Z,7μm,20.0s						
WLF	**Walferdange**	**24.06**	**93**	*e*P	**P**	**00 44 47.6**	**+0.1**
	comp=Z,68nm,1.3s						
WLF				LR	LR		
	comp=Z,7μm,20.0s						
PTOM	**Tomar**	**24.07**	**129**	*e*P	**P**	**00 44 49.6**	**+2.0**
	comp=Z,232nm,2.1s						
PTOM	**Tomar**	**24.07**	**129**	*e*P	**P**	**00 44 49.6**	**+2.0**
	comp=Z,232nm,2.1s						
PCBR	**Castelo Branco**	**24.28**	**127**	*e*P	**P**	**00 44 49.8**	**+0.3**
	comp=Z,152nm,1.7s						
PCBR	**Castelo Branco**	**24.28**	**127**	*e*P	**P**	**00 44 49.8**	**+0.3**
	comp=Z,152nm,1.7s						
PMAFR	**Mafra**	**24.28**	**131**	*e*P	**P**	**00 44 50.3**	**+0.7**
	comp=Z,431nm,1.5s						
PMAFR				*e*LR	LR	00 50 32.5	
	comp=Z,11μm,20.0s						
PMAFR	**Mafra**	**24.28**	**131**	*e*P	**P**	**00 44 50.3**	**+0.7**
	comp=Z,431nm,1.5s						
PMST	**Lisbon--Monsan**	**24.50**	**131**	*e*P	**P**	**00 44 51.9**	**+0.3**
	comp=Z,441nm,1.6s						
PMST	**Lisbon--Monsan**	**24.50**	**131**	*e*P	**P**	**00 44 51.9**	**+0.3**
	comp=Z,441nm,1.6s						
RUP	**Ruppelstein**	**24.52**	**92**	*e*P	**P**	**00 44 52.0**	**+0.2**
GGN	**Saint George**	**24.54**	**253**	PFAKE		00 45 00.0	+8.2
GGN				LR	LR		
	comp=Z,10μm,19.0s						
LIS	**Lisbon**	**24.54**	**131**	*e*P	**P**	**00 44 51.5**	**-0.4**
LIS				AMb	AMB	00 44 56.3	
	comp=Z,265nm,1.5s						
LIS				*e*S	**S**	**00 49 13.3**	**+1.3**
LIS	**Lisbon**	**24.54**	**131**	*e*P	**P**	**00 44 51.3**	**-0.6**
	comp=Z,510nm,1.8s						
LIS	**Lisbon**	**24.54**	**131**	*e*P	**P**	**00 44 51.5**	**-0.4**
LIS				*e*S	**S**	**00 49 13.3**	**+1.3**
LIS				pmax	pmax		
	comp=Z,265nm,1.5s						
LIS	**Lisbon**	**24.54**	**131**	*e*P	**P**	**00 44 51.3**	**-0.6**
	comp=Z,510nm,1.8s						
PMRV	**Marv??o**	**24.66**	**128**	*e*P	**P**	**00 44 53.7**	**+0.7**

comp=Z,21μm,20.0s
PBAR Barrancos 25.86 129 *e*P **P 00 45 04.8 +0.9**
comp=Z,164nm,1.5s
SPA0 Spitsbergen Ar 25.88 21 *e*P **P 00 45 07.6 +3.8**
SPITS Spitsbergen Ar 25.88 21 P **P 00 45 04.1 +0.3**
comp=Z,13nm,0.9s,baz=199,slow=26,SNR=2.5
SPITS LR LR 00 52 46.9
comp=Z,2μm,18.4s,baz=260,slow=31
PAB San Pablo 25.89 123 *e*P **P 00 45 04.4 +0.2**
PAB pmax pmax
comp=Z,161nm,1.7s
PAB MLR MLR
comp=Z,8μm,19.0s
PAB San Pablo 25.89 123 *e*P **P 00 45 04.4 +0.2**
comp=Z,8μm,19.0s
PAB San Pablo 25.89 123 *e*P **P 00 45 04.4 +0.2**
comp=Z,161nm,1.7s
PAB LR LR
comp=Z,8μm,19.0s
PCVE Castro Verde 25.91 131 *e*P **P 00 45 05.6 +1.2**
comp=Z,174nm,1.7s
PCVE *e*LR LR 00 51 22.1
comp=Z,12μm,20.0s
PCVE Castro Verde 25.91 131 *e*P **P 00 45 05.6 +1.2**
comp=Z,174nm,1.7s
MORF Marmelete 25.95 132 *e*P **P 00 45 04.5 -0.3**
MORF AMb AMB 00 45 12.0
comp=Z,118nm,2.1s
MORF *e*S **S 00 49 35.8 +1.0**
MORF Marmelete 25.95 132 *e*P **P 00 45 05.9 +1.1**
comp=Z,213nm,2.0s
MORF *e*LR LR 00 51 22.1
comp=Z,8μm,20.0s
MORF Marmelete 25.95 132 *e*P **P 00 45 04.5 -0.3**
MORF *e*S **S 00 49 35.8 +1.0**
MORF pmax pmax
comp=Z,118nm,2.1s
MORF Marmelete 25.95 132 *e*P **P 00 45 04.5 -0.3**
comp=Z,118nm,2.1s
MORF *e*S **S 00 49 35.8 +1.0**
ESDC Sonseca Array 25.95 122 P **P 00 45 04.5 -0.3**
comp=Z,20nm,0.8s,baz=320,slow=8.2,SNR=51
ESDC LR LR 00 53 25.3
comp=Z,5μm,20.1s,baz=310,slow=32
ESLA Sonseca Array 25.95 122 *e*P **P 00 45 04.4 -0.4**
comp=Z,92nm,1.4s
ESLA Sonseca Array 25.95 122 *e*P **P 00 45 04.4 -0.4**
comp=Z,92nm,1.4s
ESLA LR LR
comp=Z,6μm,20.0s
ES19 SONSECA Array 25.96 122 *e*P **P 00 45 04.5 -0.4**
ES19 SONSECA Array 25.96 122 *e*P **P 00 45 04.5 -0.4**
BFO Black Forest 26.00 94 *e*P **P 00 45 04.2 -1.0**
BFO *e* 00 48 31.7
BFO pmax pmax
comp=Z,44nm,1.2s
BFO MLR MLR
comp=Z,5μm,22.0s
BFO Black Forest 26.00 94 *e*P **P 00 45 04.2 -1.0**
comp=Z,44nm,1.2s
BFO Black Forest 26.00 94 *e*P **P 00 45 04.2 -1.0**
comp=Z,44nm,1.2s
BFO *e*PcP **PcP 00 48 31.7 -1.2**
BFO LR LR
comp=Z,5μm,22.0s
PFVI Vila Bisbo 26.03 133 *e*P **P 00 45 05.2 -0.3**
comp=Z,172nm,1.6s
PFVI *e*LR LR 00 51 24.7
comp=Z,7μm,20.0s
PFVI Vila Bisbo 26.03 133 *e*P **P 00 45 05.5 0.0**
comp=Z,132nm,1.2s
PFVI Vila Bisbo 26.03 133 *e*P **P 00 45 05.5 0.0**
comp=Z,132nm,1.2s
PFVI LR LR
comp=Z,9μm,22.0s
FELD Feldberg im Sc 26.11 95 *e*P **P 00 45 07.5 +1.3**
STU Stuttgart 26.20 92 *e*P **P 00 45 07.6 +0.7**
STU pmax pmax
comp=Z,70nm,1.2s
STU MLR MLR
comp=Z,4μm,19.0s
STU Stuttgart 26.20 92 *e*P **P 00 45 07.6 +0.7**
comp=Z,4μm,19.0s
STU Stuttgart 26.20 92 *e*P **P 00 45 07.6 +0.7**
comp=Z,70nm,1.2s
STU LR LR
comp=Z,4μm,19.0s
PVAQ Vaqueiros 26.24 131 *e*P **P 00 45 08.2 +0.9**
comp=Z,101nm,1.5s
PVAQ *e*LR LR 00 51 37.8
comp=Z,12μm,22.0s
PVAQ Vaqueiros 26.24 131 *e*P **P 00 45 08.2 +0.9**
comp=Z,101nm,1.5s
PBDV Barranco-do-Ve 26.29 131 *e*P **P 00 45 12.3 +4.4**
comp=Z,133nm,1.7s
PBDV *e*LR LR 00 51 41.7
comp=Z,11μm,20.0s
WVL Waterville 26.37 256 *e*P **P 00 45 10.3 +1.9**
comp=Z,340nm,1.8s
WVL Waterville 26.37 256 *e*P **P 00 45 10.3 +1.9**
comp=Z,340nm,1.8s
WVL LR LR
comp=Z,16μm,19.0s
SPAK Spaichingen-Ko 26.39 94 *e*P **P 00 45 10.9 +2.2**
CARF Carcanieres 26.52 110 *e*P **P 00 45 10.0 +0.1**
CARF Carcanieres 26.52 110 *e*P **P 00 45 10.0 +0.1**
LRDF Laroque-de-Fa 26.57 109 *e*P **P 00 45 11.7 +1.4**
LRDF Laroque-de-Fa 26.57 109 *e*P **P 00 45 11.7 +1.4**
GRN Grenoble 26.61 102 *e*P **P 00 45 11.8 +1.1**
GRN Grenoble 26.61 102 *e*P **P 00 45 11.8 +1.1**
SENIN Lac Senin/Sane 26.69 98 *e*P **P 00 45 11.9 +0.3**
comp=Z,57nm,1.4s
SENIN Lac Senin/Sane 26.69 98 *e*P **P 00 45 11.9 +0.3**
comp=Z,57nm,1.4s
SENIN LR LR
comp=Z,12μm,18.0s
VALF Valcebollere 26.70 110 *e*P **P 00 45 11.0 -0.7**
VALF Valcebollere 26.70 110 *e*P **P 00 45 11.0 -0.7**
GRFO Grafenberg 26.75 89 *e*P **P 00 45 12.3 +0.4**
GRFO pmax pmax
comp=Z,81nm,1.3s
GRFO MLR MLR
comp=Z,5μm,20.0s
GRFO Grafenberg 26.75 89 *e*P **P 00 45 12.3 +0.4**
comp=Z,5μm,20.0s
GRFO Grafenberg 26.75 89 *e*P **P 00 45 12.3 +0.4**
comp=Z,81nm,1.3s
GRFO LR LR
comp=Z,5μm,20.0s
CLL Collm 26.80 84 *e*P **P 00 45 12.0 -0.3**
CLL *i* 00 45 18.0
CLL pmax pmax
comp=Z,31nm,1.3s
CLL MLR MLR
comp=Z,9μm,20.1s
CLL Collm 26.80 84 *e*P **P 00 45 12.0 -0.3**
comp=Z,31nm,1.3s
CLL Collm 26.80 84 *e*P **P 00 45 12.0 -0.3**
comp=Z,31nm,1.3s
CLL *i* sP **sP 00 45 18.0 +0.6**
CLL *i* 00 45 29.3
CLL *e*PP **PnPn 00 45 52.0 -1.6**
CLL *e*S **S 00 49 48.0 +0.1**
CLL *e* 00 50 06.0
CLL *e*SSSS 00 51 24.0
CLL Lm MLR 00 55 00.0
comp=Z,9μm,20.1s
CLL Collm 26.80 84 *e*P **P 00 45 11.0 -1.3**
comp=Z,30nm,1.0s
CLL LR LR
comp=Z,10μm,19.0s
GDM Grand'Maison 26.83 101 *e*P **P 00 45 13.9 +1.1**
GDM Grand'Maison 26.83 101 *e*P **P 00 45 13.9 +1.1**
FILF Fillols 26.86 110 *e*P **P 00 45 12.7 -0.3**
FILF Fillols 26.86 110 *e*P **P 00 45 12.7 -0.3**
ARA0 ARCESS Array S 27.04 41 *e*P **P 00 45 14.3 0.0**
ARA0 ARCESS Array S 27.04 41 *e*P **P 00 45 14.3 0.0**
ARCES ARCESS Array B 27.04 41 P **P 00 45 12.7 -1.6**
comp=Z,14nm,0.8s,baz=260,slow=8.6,SNR=18
ARCES LR LR 00 53 50.6
comp=Z,3μm,19.6s,baz=267,slow=32
ARE0 ARCESS Array S 27.04 41 *e*P **P 00 45 14.3 0.0**
comp=Z,210nm,1.8s
ARE0 ARCESS Array S 27.04 41 *e*P **P 00 45 14.3 0.0**
comp=Z,210nm,1.8s
SJAF Saint Jean de 27.08 109 *e*P **P 00 45 13.8 -1.1**

SJAF Saint Jean de 27.08 109 *e*P **P 00 45 13.8 -1.1**
NKC Novy Kostel 27.10 87 *e*P **P 00 45 15.7 +0.7**
NKC *e*S **S 00 49 55.4 +2.8**
NKC AMS AMS 00 56 00.0
comp=Z,12μm,15.0s
NKC Novy Kostel 27.10 87 *e*P **P 00 45 15.7 +0.7**
NKC *e*S **S 00 49 55.4 +2.8**
NKC MLR MLR
comp=Z,12μm,15.0s
PMOZ Porto Moniz, M 27.20 151 *e*LR LR 00 51 59.8
comp=Z,6μm,20.0s
BNI Bardonecchia 27.23 101 *e*P **P 00 45 17.4 +1.0**
BNI pmax pmax
comp=Z,61nm,1.4s
BNI MLR MLR
comp=Z,14μm,19.0s
BNI Bardonecchia 27.23 101 *e*P **P 00 45 17.4 +1.0**
comp=Z,61nm,1.4s
BNI Bardonecchia 27.23 101 *e*P **P 00 45 17.4 +1.0**
comp=Z,61nm,1.4s
BNI LR LR
comp=Z,14μm,19.0s
BRG Berggiesshubel 27.54 84 *e*P **P 00 45 19.2 +0.3**
comp=Z,68nm,1.7s
BRG PP **PnPn 00 46 00.0 -3.6**
BRG S **S 00 49 55.0 -4.5**
comp=N,7μm,14.6s
comp=E,9μm,15.3s
comp=Z,11μm,16.5s
BRG Berggiesshubel 27.54 84 *e*P **P 00 45 19.2 +0.3**
BRG S **S 00 49 55.0 -4.5**
BRG pmax pmax
comp=Z,68nm,1.7s
BRG MLR MLR
comp=N,7μm,14.6s
BRG MLR MLR
comp=E,9μm,15.3s
BRG MLR MLR
comp=Z,11μm,16.5s
TUE Stuetta 27.70 96 *e*P **P 00 45 22.5 +1.8**
comp=Z,68nm,1.3s
TUE Stuetta 27.70 96 *e*P **P 00 45 22.5 +1.8**
comp=Z,68nm,1.3s
TUE LR LR
comp=Z,16μm,20.0s
LBNH Lisbon 27.77 258 PFAKE 00 45 30.0 +9.0
LBNH LR LR
comp=Z,11μm,19.0s
DAVOX Davos/Dischmat 27.79 95 LR LR 00 55 49.1
comp=Z,10μm,19.9s,baz=310,slow=35
RETA Reutte 27.82 93 P **P 00 45 25.4 +3.9**
comp=Z,9.2nm,1.5s
TRQ Mont Tremblant 27.83 264 *e*P **P 00 45 23.7 +2.0**
TRQ Mont Tremblant 27.83 264 *e*P **P 00 45 23.7 +2.0**
GKP Gorka Klasztor 28.02 78 *e*P **P 00 45 25.0 +1.8**
GKP Gorka Klasztor 28.02 78 *e*P **P 00 45 25.0 +1.8**
GKP Gorka Klasztor 28.02 78 *e*P **P 00 45 25.0 +1.8**
PVCC Panska Ves 28.06 85 *e*P P 00 45 28.6 +5.0
PVCC *e*S **S 00 50 09.3 +1.6**
PVCC AMS AMS 00 57 00.0
comp=Z,11μm,16.0s
PVCC Panska Ves 28.06 85 *e*P P 00 45 28.6 +5.0
PVCC *e*S **S 00 50 09.3 +1.6**
PVCC MLR MLR
comp=Z,11μm,16.0s
MOTA Moosalm 28.09 93 *e*P **P 00 45 28.8 +4.8**
comp=Z,6.5nm,0.9s
FETA Feichten 28.09 94 *e*P **P 00 45 27.1 +3.1**
comp=Z,14nm,1.3s
FUORN Ofenpass-Fuorn 28.09 95 *e*P **P 00 45 25.9 +1.6**
comp=Z,39nm,1.3s
FUORN Ofenpass-Fuorn 28.09 95 *e*P **P 00 45 25.9 +1.6**
comp=Z,39nm,1.3s
FUORN LR LR
comp=Z,10μm,22.0s
FFD Franklin Falls 28.16 256 PFAKE 00 45 40.0 +15
FFD LR LR
comp=Z,19μm,20.0s
VLDQ Val d'Or 28.19 269 *e*P **P 00 45 26.4 +1.7**
comp=Z,69nm,1.3s
VLDQ Val d'Or 28.19 269 *e*P **P 00 45 26.4 +1.7**
comp=Z,69nm,1.3s
VLDQ LR LR
comp=Z,8μm,20.0s
RES Resolute Bay 28.20 330 LR LR 00 56 04.1
comp=Z,3μm,18.0s,baz=93,slow=35
FRNY Flat Rock 28.23 260 PFAKE 00 45 40.0 +15
FRNY LR LR
comp=Z,14μm,20.0s
PRA Prague 28.24 86 *e*P **P 00 45 26.4 +1.2**
PRA *ex* x 00 45 34.9
PRA *e*S **S 00 50 13.6 +3.0**
PRA AMS AMS 00 56 50.0
comp=Z,12μm,16.1s
PRA Prague 28.24 86 *e*P **P 00 45 26.4 +1.2**
PRA *e* 00 45 34.9
PRA *e*S **S 00 50 13.6 +3.0**
PRA MLR MLR
comp=Z,12μm,16.1s
MVIF Mont Vial 28.26 102 *e*P **P 00 45 28.2 +2.6**
MVIF Mont Vial 28.26 102 *e*P **P 00 45 28.2 +2.6**
HNH Hanover 28.32 257 PFAKE 00 45 40.0 +14
HNH LR LR
comp=Z,18μm,19.0s
KHC Kasperske Hory 28.33 88 *e*P **P 00 45 27.1 +1.1**
KHC *ex* x 00 45 35.5
KHC *e*S **S 00 50 06.9 -5.2**
KHC AMS AMS 00 56 20.0
comp=Z,9μm,16.1s
KHC Kasperske Hory 28.33 88 *e*P P 00 45 18.6 -7.5
KHC *e* 00 45 27.1
KHC *e*S **S 00 50 06.9 -5.2**
KHC MLR MLR
comp=Z,9μm,16.1s
KHC Kasperske Hory 28.33 88 *e*P **P 00 45 27.1 +1.1**
comp=Z,32nm,2.0s
KHC Kasperske Hory 28.33 88 *e*P **P 00 45 27.1 +1.1**
comp=Z,32nm,2.0s
KHC LR LR
comp=Z,4μm,18.0s
PRU Pruhonice 28.35 86 *e*P **P 00 45 27.3 +1.1**
PRU *ex* x 00 45 35.8
PRU *e*S **S 00 50 16.5 +4.2**
PRU AMS AMS 00 56 50.0
comp=Z,12μm,16.0s
PRU Pruhonice 28.35 86 *e*P **P 00 45 27.3 +1.1**
PRU *e* 00 45 35.8
PRU *e*S **S 00 50 16.5 +4.2**
PRU MLR MLR
comp=Z,12μm,16.0s
LUCF Luceram 28.37 102 *e*P **P 00 45 27.6 +1.1**
LUCF Luceram 28.37 102 *e*P **P 00 45 27.6 +1.1**
WTTA Wattenberg 28.42 93 pP **P 00 45 28.9 +1.8**
comp=Z,14nm,1.5s
REVF Revere 28.48 102 *e*P **P 00 45 29.8 +2.3**
REVF Revere 28.48 102 *e*P **P 00 45 29.8 +2.3**
GOPC GO Pecny, Ondr 28.52 86 *e*P **P 00 45 28.3 +0.6**
GOPC AMS AMS 00 56 50.0
comp=Z,12μm,16.7s
GOPC GO Pecny, Ondr 28.52 86 *e*P **P 00 45 28.3 +0.6**
GOPC MLR MLR
comp=Z,12μm,16.7s
GEC2 GERESS Array S 28.56 88 *e*P **P 00 45 28.5 +0.3**
GEC2 pmax pmax
comp=Z,34nm,1.5s
GEC2 MLR MLR
comp=Z,8μm,19.0s
GEC2 GERESS Array S 28.56 88 *e*P **P 00 45 28.5 +0.3**
comp=Z,34nm,1.5s
GEC2 GERESS Array S 28.56 88 *e*P **P 00 45 28.5 +0.3**
comp=Z,34nm,1.5s
GEC2 LR LR
comp=Z,8μm,19.0s
GERES GERESS Array B 28.56 88 P **P 00 45 27.7 -0.5**
comp=Z,2.5nm,0.9s,baz=292,slow=7.1,SNR=13
GERES LR LR 00 56 46.6
comp=Z,8μm,18.2s,baz=295,slow=36
GEA0 GERESS Array S 28.57 88 *e*P **P 00 45 28.0 -0.3**
GEA0 GERESS Array S 28.57 88 *e*P **P 00 45 27.9 -0.3**
GEA0 *e*PcP **PcP 00 48 37.1 -2.1**
MDV Middlebury 28.59 259 *e*P **P 00 45 30.4 +2.1**
MDV Middlebury 28.59 259 *e*P **P 00 45 30.4 +2.1**
WES Weston 28.76 254 PFAKE 00 45 40.0 +10
WES LR LR
comp=Z,9μm,20.0s

HRV Adam Dziewonsk 28.80 255 *e*P **P 00 45 34.0 +3.8**
HRV pmax pmax
comp=Z,101nm,1.5s
HRV MLR MLR
comp=Z,6μm,21.0s
HRV Adam Dziewonsk 28.80 255 *e*P **P 00 45 34.0 +3.8**
comp=Z,101nm,1.5s
HRV Adam Dziewonsk 28.80 255 *e*P **P 00 45 34.0 +3.8**
comp=Z,101nm,1.5s
HRV LR LR
comp=Z,6μm,21.0s
KSP Ksiaz 28.80 83 *e*P **P 00 45 31.2 +1.0**
KSP *e*S **S 00 50 25.2 +5.8**
KSP Ksiaz 28.80 83 *e*P **P 00 45 31.2 +1.0**
KSP *e*S **S 00 50 25.2 +5.8**
KSP Ksiaz 28.80 83 *e*P **P 00 45 31.2 +1.0**
UPC Upice 28.84 84 *e*P **P 00 45 32.0 +1.5**
UPC *e*S **S 00 50 18.3 -1.7**
UPC AMS AMS 00 57 20.0
comp=Z,11μm,16.9s
UPC Upice 28.84 84 *e*P **P 00 45 32.0 +1.5**
UPC *e*S **S 00 50 18.3 -1.7**
UPC MLR MLR
comp=Z,11μm,16.9s
LONY Lake Ozonia 28.90 261 PFAKE 00 45 40.0 +8.8
LONY LR LR
comp=Z,15μm,20.0s
KLNR Kaliningrad 28.91 74⇑*e*P **P 00 45 31.2 +0.1**
KLNR pmax pmax
comp=Z,387nm,1.7s
KLNR MLR MLR
comp=Z,38μm,24.0s
FINES FINESS Array B 28.97 58 P **P 00 45 31.2 -0.4**
comp=Z,6.1nm,0.7s,baz=343,slow=6.0,SNR=8.2
FINES LR LR 00 56 40.3
comp=Z,3μm,19.2s,baz=285,slow=36
FIA1 FINESS Array S 28.98 58 *e*P **P 00 45 32.2 +0.6**
comp=Z,66nm,1.0s
FIA1 FINESS Array S 28.98 58 *e*P **P 00 45 32.2 +0.6**
comp=Z,66nm,1.0s
DPC Dobruska-Polom 29.09 84 *e*P **P 00 45 32.8 0.0**
DPC *e*S **S 00 50 24.6 +0.5**
DPC AMS AMS 00 57 40.0
comp=Z,10μm,16.9s
DPC Dobruska-Polom 29.09 84 *e*P **P 00 45 32.8 0.0**
DPC *e*S **S 00 50 24.6 +0.5**
DPC MLR MLR
comp=Z,10μm,16.9s
NCB Newcomb 29.16 260 PFAKE 00 45 50.0 +17
NCB LR LR
comp=Z,100nm,19.0s
ABTA Abfaltersbach 29.21 93 *e*P **P 00 45 37.7 +3.7**
comp=Z,16nm,1.3s
BRYW Bryant College 29.21 254 PFAKE 00 45 50.0 +16
BRYW LR LR
comp=Z,10μm,21.0s
TREC Trest 29.25 86 *e*P **P 00 45 35.5 +1.3**
TREC *e*S **S 00 50 26.2 -0.3**
TREC AMS AMS 00 57 10.0
comp=Z,12μm,17.3s
TREC Trest 29.25 86 *e*P **P 00 45 35.5 +1.3**
TREC *e*S **S 00 50 26.2 -0.3**
TREC MLR MLR
comp=Z,12μm,17.3s
ACCN Adirondack Com 29.27 258 PFAKE 00 45 50.0 +16
ACCN LR LR
comp=Z,11μm,20.0s
QUA2 Belchertown 29.37 255 PFAKE 00 45 50.0 +15
QUA2 LR LR
comp=Z,7μm,20.0s
KBA Koelnbreinsper 29.45 91 *e*pP **P 00 45 38.1 +2.0**
comp=Z,31nm,1.5s
MOA Molln 29.46 89 *e*pP **P 00 45 38.6 +2.5**
comp=Z,9.7nm,1.5s
KRLC Kraliky 29.49 84 *e*P **P 00 45 35.1 -1.3**
KRLC Kraliky 29.49 84 *e*P **P 00 45 35.1 -1.3**
RTC Rabat Centre 29.56 133 PFAKE 00 45 50.0 +13
RTC LR LR
comp=Z,11μm,19.0s
TRY Troy 29.73 257 PFAKE 00 45 50.0 +12
TRY LR LR
comp=Z,17μm,19.0s
VLC Villacollemand 29.78 99 *e*P **P 00 45 39.8 +0.8**
comp=Z,78nm,2.0s
VLC Villacollemand 29.78 99 *e*P **P 00 45 39.8 +0.8**
comp=Z,78nm,2.0s
VLC LR LR
comp=Z,9μm,20.0s
VRAC Vranov 29.83 85 P **P 00 45 39.7 +0.3**
comp=Z,4.4nm,0.9s,baz=300,slow=10,SNR=8.2
VRAC LR LR 00 57 41.1
comp=Z,10μm,18.5s,baz=302,slow=36
MYKA Terra Mystica 29.89 92 *e*pP **P 00 45 40.6 +0.7**
comp=Z,27nm,1.1s
PLVO Plevna 29.94 264 *e*P **P 00 45 41.7 +1.4**
comp=Z,38nm,1.0s
PLVO Plevna 29.94 264 *e*P **P 00 45 41.7 +1.4**
comp=Z,38nm,1.0s
PLVO LR LR
comp=Z,10μm,18.0s
MORC Moravsky Berou 30.06 84⇑*i*P **P 00 45 42.8 +1.4**
MORC Moravsky Berou 30.06 84 ⇑P **P 00 45 42.8 +1.4**
MORC Moravsky Berou 30.06 84 *e*P **P 00 45 42.4 +1.0**
comp=Z,193nm,1.5s
MORC Moravsky Berou 30.06 84 *e*P **P 00 45 42.4 +1.0**
comp=Z,193nm,1.5s
MORC LR LR
comp=Z,54μm,18.0s
APA Apatity 30.22 44⇓*i*P **P 00 45 41.6 -1.0**
APA *i* 00 46 55.0
APA *i* S **S 00 50 36.0 -5.3**
APA pmax pmax
comp=Z,27nm,0.9s
RAC Raciborz 30.23 83 *e*P **P 00 45 44.9 +2.0**
RAC MLR MLR
comp=Z,8μm,21.4s
RAC Raciborz 30.23 83 *e*P **P 00 45 44.9 +2.0**
CONA Conrad Observa 30.27 88 pP **P 00 45 44.5 +1.2**
comp=Z,8.3nm,1.2s
OKC Ostrava-Krasne 30.35 83 *e*P **P 00 45 44.7 +0.8**
OKC *e*S **S 00 50 49.4 +5.7**
OKC AMS AMS 00 58 40.0
comp=Z,13μm,15.5s
OKC Ostrava-Krasne 30.35 83 *e*P **P 00 45 44.7 +0.8**
OKC *e*S **S 00 50 49.4 +5.7**
OKC MLR MLR
comp=Z,13μm,15.5s
YLE Yale 30.37 255 PFAKE 00 46 00.0 +16
YLE LR LR
comp=Z,8μm,20.0s
VSU Vasula 30.42 63⇑*e*P **P 00 45 46.1 +1.7**
VSU pmax pmax
comp=Z,61nm,1.1s
VSU MLR MLR
comp=Z,12μm,21.0s
OBKA Obir 30.45 91 pP **P 00 45 46.3 +1.4**
comp=Z,8.3nm,1.1s
ARSA Arzberg 30.50 89 pP **P 00 45 45.9 +0.6**
comp=Z,22nm,1.2s,SNR=6.2
TRI Trieste 30.54 93 *e*P **P 00 45 46.3 +0.6**
TRI pmax pmax
comp=Z,15nm,1.1s
TRI MLR MLR
comp=Z,3μm,19.0s
TRI Trieste 30.54 93 *e*P **P 00 45 46.2 +0.6**
comp=Z,15nm,1.1s
TRI Trieste 30.54 93 *e*P **P 00 45 46.2 +0.6**
comp=Z,15nm,1.1s
TRI LR LR
comp=Z,3μm,19.0s
JAVS Javornik 30.58 93 *i* P **P 00 45 45.3 -0.8**
LVZ Lovozero 30.60 43⇑*e*P **P 00 45 46.9 +0.9**
LVZ pmax pmax
comp=Z,26nm,1.2s
LVZ Lovozero 30.60 43 PFAKE 00 46 00.0 +14
LVZ LR LR
comp=Z,6μm,20.0s
SOKA Soboth 30.60 91 *e*pP **P 00 45 47.5 +1.3**
comp=Z,17nm,1.4s,SNR=6.4
BEL Belsk 30.62 78 *e*P **P 00 45 48.1 +1.8**
BEL Belsk 30.62 78 *e*P **P 00 45 48.1 +1.8**
BEL Belsk 30.62 78 *e*P **P 00 45 48.1 +1.8**
PERS Pernice 30.67 91 *i* P **P 00 45 46.0 -0.8**
SUW Suwalki 30.72 73 *e*P **P 00 45 48.4 +1.3**
SUW Suwalki 30.72 73 *e*P **P 00 45 48.4 +1.3**

SUW	Suwalki	30.72	73	eP	P	00 45 48.4	+1.3
SMOL	Smolenice	30.75	86	eP	P	00 45 48.6	+1.2
SMOL	Smolenice	30.75	86	eP	P	00 45 48.6	+1.2
SMOL	Smolenice	30.75	86	eP	P	00 45 48.6	+1.2
CEY	Cerknica	30.88	93	eP	P	00 45 48.9	+0.3
OJC	Ojcow	31.00	81	eP	P	00 45 50.7	+1.0
OJC				eS	S	00 50 58.0	+4.0
OJC	Ojcow	31.00	81	eP	P	00 45 50.7	+1.0
OJC				eS	S	00 50 58.0	+4.0
OJC	Ojcow	31.00	81	eP	P	00 45 50.5	+0.8
	comp=Z,60nm,1.2s						
OJC	Ojcow	31.00	81	eP	P	00 45 50.5	+0.8
	comp=Z,60nm,1.2s						
CIA	Chichaoua	31.01	138	i P	P	00 45 48.0	-1.9
VISS	Visnje	31.05	92	eP	P	00 45 51.1	+0.9
PAL	Palisades	31.09	255	PFAKE		00 46 00.0	+9.5
PAL				LR	LR		
	comp=Z,5μm,19.0s						
KIB	El Ksiba	31.12	133	i P	P	00 45 52.0	+1.0
SADO	Sadowa	31.22	266	eP	P	00 45 52.2	+0.6
	comp=Z,137nm,1.6s						
SADO	Sadowa	31.22	266	eP	P	00 45 52.2	+0.6
	comp=Z,137nm,1.6s						
SADO				LR	LR		
	comp=Z,14μm,21.0s						
FCC	Fort Churchill	31.28	298	eP	P	00 45 54.3	+2.3
FCC				pmax	pmax		
	comp=Z,149nm,1.2s						
FCC				MLR	MLR		
	comp=Z,12μm,21.0s						
FCC	Fort Churchill	31.28	298	eP	P	00 45 54.2	+2.3
	comp=Z,149nm,1.2s						
FCC	Fort Churchill	31.28	298	eP	P	00 45 54.2	+2.3
	comp=Z,149nm,1.2s						
FCC				LR	LR		
	comp=Z,12μm,21.0s						
CPNY	Central Park	31.28	255	PFAKE		00 46 10.0	+18
CPNY				LR	LR		
	comp=Z,4μm,18.0s						
BINY	Binghamton	31.32	259	PFAKE		00 46 10.0	+17
BINY				LR	LR		
	comp=Z,11μm,20.0s						
TZC	Tazercounte	31.33	134	i P	P	00 45 52.0	-0.9
CRES	Cresnjev	31.37	91	eP	P	00 45 52.1	-0.9
ODNJ	Ogdensburg	31.40	256	PFAKE		00 46 10.0	+17
ODNJ				LR	LR		
	comp=Z,7μm,18.0s						
IZAR	Zarasai	31.41	68	eP	P	00 45 53.7	+0.5
IZAR				IAmb	IAmb	00 46 01.4	
	comp=Z,45nm,1.4s						
ISAL	Salakas	31.43	69	eP	P	00 45 53.9	+0.5
ISAL				IAmb	IAmb	00 46 01.6	
	comp=Z,60nm,1.5s						
LANS	Liptovska Anna	31.45	83	eP	P	00 45 56.2	+2.5
LANS	Liptovska Anna	31.45	83	eP	P	00 45 56.2	+2.5
LANS	Liptovska Anna	31.45	83	eP	P	00 45 56.2	+2.5
BOJS	Bojanci	31.47	92	i P	P	00 45 53.8	0.0
MDT	Midelt	31.48	131	P	P	00 45 54.7	+0.6
	comp=Z,15nm,0.9s,baz=327,slow=7.7,SNR=13						
MDT				LR	LR	00 57 24.0	
	comp=Z,4μm,19.4s,baz=333,slow=34						
VYHS	Vyhne	31.51	85	eP	P	00 45 55.5	+1.4
VYHS				pmax	pmax		
	comp=Z,42nm,1.8s						
VYHS	Vyhne	31.51	85	eP	P	00 45 55.5	+1.4
	comp=Z,42nm,1.8s						
VYHS	Vyhne	31.51	85	eP	P	00 45 55.5	+1.4
VYHS				eL	L	00 57 07.0	
PUL	Pulkovo	31.55	59⇓	eP	P	00 45 53.6	-0.7
PUL				pmax	pmax		
	comp=Z,30nm,0.6s						
PUL				MLR	MLR		
	comp=Z,5μm,21.0s						
IIGN	Ignalina	31.59	69	eP	P	00 45 55.3	+0.5
IIGN				IAmb	IAmb	00 46 02.9	
	comp=Z,64nm,1.5s						
OUK	Oukaimeden	31.65	137	i P	P	00 45 56.0	+0.1
KSPA	Keystone Colle	31.66	258	PFAKE		00 46 10.0	+14
KSPA				LR	LR		
	comp=Z,12μm,19.0s						
BEHE	Becsehely	31.66	89	eP	P	00 45 58.0	+2.5
BRNJ	Basking Ridge	31.67	255	PFAKE		00 46 10.0	+14
BRNJ				LR	LR		
	comp=Z,6μm,19.0s						
NIE	Niedzica	31.73	82	eP	P	00 45 58.3	+2.1
NIE				eS	S	00 51 17.1	+12
NIE	Niedzica	31.73	82	eP	P	00 45 58.3	+2.1
NIE	Niedzica	31.73	82	eP	P	00 45 58.3	+2.1
IDID	Didziasalis	31.86	69	eP	P	00 45 57.7	+0.5
IDID				IAmb	IAmb	00 46 05.2	
	comp=Z,16nm,1.0s						
MMNY	Mt. Morris Dam	31.95	262	eP	P	00 45 58.6	+0.5
MMNY	Mt. Morris Dam	31.95	262	eP	P	00 45 58.6	+0.5
N59A	State Game Lan	32.12	257	P	P	00 46 00.3	+0.7
	baz=43						
STHS	Stebnicka Huta	32.23	82	eP	P	00 46 03.2	+2.7
STHS				pmax	pmax		
	comp=Z,17nm,0.6s						
STHS	Stebnicka Huta	32.23	82	eP	P	00 46 03.2	+2.7
	comp=Z,17nm,0.6s						
STHS	Stebnicka Huta	32.23	82	eP	P	00 46 03.2	+2.7
YBT	Youssef Ben Ta	32.31	140	eP	P	00 46 01.0	-0.3
BUF	Buffalo	32.32	263	eP	P	00 45 59.0	-2.2
KECS	Kecovo	32.39	83	eP	P	00 46 07.0	+5.1
KECS	Kecovo	32.39	83	e	P	00 46 07.0	+5.1
PSZ	Piszkesteto	32.42	85⇑	i P	P	00 46 03.0	+0.8
PSZ	Piszkesteto	32.42	85⇑	P	P	00 46 03.0	+0.8
PSZ	Piszkesteto	32.42	85	eP	P	00 46 02.1	-0.1
	comp=Z,99nm,1.6s						
PSZ	Piszkesteto	32.42	85⇑	eP	P	00 46 03.9	+1.7
PSZ	Piszkesteto	32.42	85⇑	eP	P	00 46 03.9	+1.7
PSZ	Piszkesteto	32.42	85⇑	eP	P	00 46 03.9	+1.7
PSZ	Piszkesteto	32.42	85	eP	P	00 46 02.1	-0.1
	comp=Z,99nm,1.6s						
PSZ				LR	LR		
	comp=Z,10μm,20.0s						
VSL	Villasalto	32.59	106	eP	P	00 46 03.1	-0.6
	comp=Z,18nm,1.2s						
VSL	Villasalto	32.59	106	eP	P	00 46 03.1	-0.6
	comp=Z,18nm,1.2s						
VSL				LR	LR		
	comp=Z,10μm,18.0s						
AQU	L'Aquila	32.62	98	eP	P	00 46 02.2	-1.8
AQU				pmax	pmax		
	comp=Z,24nm,1.3s						
AQU				MLR	MLR		
	comp=Z,5μm,18.0s						
AQU	L'Aquila	32.62	98	eP	P	00 46 02.2	-1.8
	comp=Z,24nm,1.3s						
AQU	L'Aquila	32.62	98	eP	P	00 46 02.2	-1.8
	comp=Z,24nm,1.3s						
AQU				LR	LR		
	comp=Z,5μm,18.0s						
CRVS	Cervenica-Dubn	32.65	82	eP	P	00 46 06.1	+1.9
CRVS	Cervenica-Dubn	32.65	82	eP	P	00 46 06.1	+1.9
CRVS	Cervenica-Dubn	32.65	82	eP	P	00 46 06.1	+1.9
PSUB	Penn St. - Bra	32.68	255	eP	P	00 46 05.2	+0.7
	comp=Z,44nm,1.4s						
PSUB	Penn St. - Bra	32.68	255	eP	P	00 46 05.2	+0.7
	comp=Z,44nm,1.4s						
PSUB				LR	LR		
	comp=Z,6μm,20.0s						
KWP	Kalwaria Pacla	32.88	80	eP	P	00 46 08.0	+1.9
KWP	Kalwaria Pacla	32.88	80	eP	P	00 46 08.0	+1.9
KWP	Kalwaria Pacla	32.88	80	eP	P	00 46 08.0	+1.9
BLY	Banja Luka	33.00	92	eP	P	00 46 07.2	0.0
BLY	Banja Luka	33.00	92	eP	P	00 46 08.3	+1.1
	comp=Z,28nm,1.4s						
BLY				LR	LR		
	comp=Z,8μm,20.0s						
MVL	Millersville	33.10	256	eP	P	00 46 09.6	+1.5
	comp=Z,78nm,1.6s						
MVL	Millersville	33.10	256	eP	P	00 46 09.6	+1.5
	comp=Z,78nm,1.6s						
MVL				LR	LR		
	comp=Z,8μm,19.0s						
TMCR	Tamitsa	33.11	49	eP	P	00 46 08.0	0.0
TMCR				eS	S	00 51 30.0	+3.5
TMCR				pmax	pmax		
	comp=Z,39nm,0.9s						
UZH	Uzhgorod	33.26	82	eP	P	00 46 08.4	-1.0
UZH				i		00 46 10.0	
UZH				i		00 46 16.2	
UZH				i		00 47 16.8	
UZH				eS	S	00 51 24.2	-4.8
UZH				MLR	MLR		
	comp=Z,2μm,14.0s						
E45A	Wooded Hills,	33.40	273	P	P	00 46 10.9	+0.2
	baz=50						
SSPA	Standing Stone	33.43	259	eP	P	00 46 12.2	+1.1
	comp=Z,132nm,1.9s						
SSPA	Standing Stone	33.43	259	eP	P	00 46 12.2	+1.1
	comp=Z,132nm,1.9s						
SSPA				LR	LR		
	comp=Z,11μm,19.0s						
LVV	L'vov	33.46	79	eP	P	00 46 13.8	+2.6
LVV				e		00 47 29.1	
LVV				eS	S	00 51 32.6	+0.4
LVV				MLR	MLR		
	comp=N,4μm,15.0s						
LVV				MLR	MLR		
	comp=E,3μm,15.0s						
LVV				MLR	MLR		
	comp=Z,4μm,15.0s						
ERPA	Erie	33.48	263	PFAKE		00 46 20.0	+8.5
ERPA				LR	LR		
	comp=Z,11μm,18.0s						
E44A	Grand Marais A	33.63	274	P	P	00 46 12.0	-0.7
	baz=50						
TRPA	Tarpa	33.69	82⇑	eP	P	00 46 14.6	+1.4
M54A	Oil Creek Stat	33.74	262	P	P	00 46 14.3	+0.6
	baz=45,SNR=6.2						
SDMD	Soldier's Deli	33.79	256	eP	P	00 46 14.4	+0.2
	comp=Z,29nm,1.3s						
SDMD	Soldier's Deli	33.79	256	eP	P	00 46 14.4	+0.2
	comp=Z,29nm,1.3s						
SDMD				ePP	PP	00 47 34.2	+3.7
SDMD				LR	LR		
	comp=Z,5μm,18.0s						
ALLY	Alegheny Colle	33.90	262	eP	P	00 46 16.6	+1.5
	comp=Z,152nm,1.5s						
ALLY	Alegheny Colle	33.90	262	eP	P	00 46 16.6	+1.5
	comp=Z,152nm,1.5s						
ALLY				LR	LR		
	comp=Z,14μm,18.0s						
F45A	CMU Biological	34.02	272	P	P	00 46 16.9	+0.8
	baz=50						
O56A	Blue Knob Stat	34.05	259	P	P	00 46 17.1	+0.6
	baz=43						
GLMI	Grayling	34.10	270	eP	P	00 46 18.2	+1.4
	comp=Z,144nm,1.0s						
GLMI	Grayling	34.10	270	eP	P	00 46 18.2	+1.4
	comp=Z,144nm,1.0s						
GLMI				LR	LR		
	comp=Z,4μm,19.0s						
FGSL	Fruska Gora	34.13	89	eP	P	00 46 17.6	+0.5
N54A	Moraine State	34.30	261	P	P	00 46 20.1	+1.4
	baz=44						
F44A	Big Bay de Noc	34.31	273	P	P	00 46 19.0	+0.4
	baz=50						
E43A	Lone Tree Farm	34.36	274	P	P	00 46 20.4	+1.4
	baz=50						
TEKS	Tekeris	34.38	90	eP	P	00 46 18.8	-0.5
SIRR	Siria	34.39	86⇑	iP	P	00 46 20.8	+1.4
DRGR		34.62	84⇓	iP	P	00 46 23.9	+2.5
DRGR		34.62	84	⇓P	P	00 46 23.9	+2.5
D41A	Chassel	34.76	277	P	P	00 46 23.6	+1.1
	baz=51						
BBLS	Lazići	34.77	91	eP	P	00 46 22.4	-0.3
BZS	Buzias	34.79	87⇓	iP	P	00 46 24.3	+1.5
BZS	Buzias	34.79	87	⇓P	P	00 46 24.3	+1.5
F43A	Flat Rock, Esc	34.80	274	P	P	00 46 23.6	+0.7
	baz=50,SNR=9.9						
E42A	Champion	34.81	275	P	P	00 46 23.6	+0.6
	baz=50						
DIVS	Divare	34.93	90	eP	P	00 46 23.5	-0.6
CBN	Corbin Frederi	34.96	255	PFAKE		00 46 40.0	+16
CBN				LR	LR		
	comp=Z,6μm,19.0s						
BRY	Bratogost	34.97	93	eP	P	00 46 24.8	+0.3
C39A	Grand Marais	35.11	279	P	P	00 46 26.3	+0.8
	baz=51						
PTRD	Partlow Road	35.16	256	PFAKE		00 46 40.0	+14
PTRD				LR	LR		
	comp=Z,7μm,18.0s						
KLMR	Klimovskoe	35.17	54	eP	P	00 46 24.4	-1.4
KLMR				e		00 48 55.4	
KLMR				pmax	pmax		
	comp=Z,163nm,1.2s						
MCWV	Mont Chateau	35.17	260	eP	P	00 46 26.1	0.0
	comp=Z,78nm,1.6s						
MCWV	Mont Chateau	35.17	260	eP	P	00 46 26.1	0.0
	comp=Z,78nm,1.6s						
MCWV				LR	LR		
	comp=Z,8μm,19.0s						
CVRD	Centerville Ro	35.29	256	eP	P	00 46 30.4	+3.3
	comp=Z,65nm,1.5s						
CVRD	Centerville Ro	35.29	256	eP	P	00 46 30.4	+3.3
	comp=Z,65nm,1.5s						
CVRD				LR	LR		
	comp=Z,6μm,18.0s						
AAM	Ann Arbor	35.30	266	eP	P	00 46 28.6	+1.4
AAM				pmax	pmax		
	comp=Z,160nm,1.7s						
AAM				MLR	MLR		
	comp=Z,16μm,19.0s						
AAM	Ann Arbor	35.30	266	eP	P	00 46 28.6	+1.4
	comp=Z,160nm,1.7s						
AAM	Ann Arbor	35.30	266	eP	P	00 46 28.6	+1.4
	comp=Z,160nm,1.7s						
AAM				LR	LR		
	comp=Z,16μm,19.0s						
ARCR	ARCALIA	35.30	83⇓	iP	P	00 46 33.0	+5.8
E41A	Kenton	35.35	276	P	P	00 46 27.9	+0.3
	baz=50,SNR=9.4						
F42A	Maple Grove Fa	35.36	275	P	P	00 46 28.7	+1.0
	baz=49						
IVAS	Ivanjica	35.37	91	eP	P	00 46 28.9	+1.0
MDVR	Moldovita	35.39	88⇓	iP	P	00 46 34.2	+6.2
BUR08	Bucovina Ar. S	35.40	81	eP	P	00 46 29.6	+1.4
BUR08	Bucovina Ar. S	35.40	81	eP	P	00 46 29.6	+1.4
BUR08				ePP	PnPn	00 47 40.5	-5.9
IP04	Greensprings	35.42	256	eP	P	00 46 30.0	+1.7
	comp=Z,60nm,1.4s						
IP04	Greensprings	35.42	256	eP	P	00 46 30.0	+1.7
	comp=Z,60nm,1.4s						
IP04				LR	LR		
	comp=Z,7μm,18.0s						
BURAR	Bucovina Array	35.42	81⇑	iP	P	00 46 30.6	+2.2
IP01	Cuckoo	35.43	256	eP	P	00 46 29.6	+1.3
	comp=Z,63nm,1.5s						
IP01	Cuckoo	35.43	256	eP	P	00 46 29.6	+1.3
	comp=Z,63nm,1.5s						
IP01				LR	LR		
	comp=Z,7μm,19.0s						
IP03	Louisa	35.43	256	eP	P	00 46 28.6	+0.2
	comp=Z,64nm,1.5s						
IP03	Louisa	35.43	256	eP	P	00 46 28.6	+0.2
	comp=Z,64nm,1.5s						
IP03				LR	LR		
	comp=Z,7μm,18.0s						
IP05	Hopewell Churc	35.44	255	eP	P	00 46 28.7	+0.2
	comp=Z,82nm,2.0s						
IP05	Hopewell Churc	35.44	255	eP	P	00 46 28.7	+0.2
	comp=Z,82nm,2.0s						
IP05				LR	LR		
	comp=Z,7μm,18.0s						
G43A	Wallace	35.45	274	P	P	00 46 29.0	+0.6
	baz=49						
GRUS	Gruza	35.46	90⇑	iP	P	00 46 29.4	+0.9
KEST	Kesra	35.47	110	P	P	00 46 29.2	+0.4
	comp=Z,16nm,1.0s,baz=281,slow=3.3,SNR=18						
KEST				LR	LR	00 59 18.6	
	comp=Z,6μm,21.3s,baz=282,slow=34						
KEST	Kesra	35.47	110	eP	P	00 46 28.9	+0.1
	comp=Z,168nm,1.8s						
KEST	Kesra	35.47	110	eP	P	00 46 28.9	+0.1
	comp=Z,168nm,1.8s						
IP06	Yanceyville	35.48	256	eP	P	00 46 29.8	+1.0
	comp=Z,89nm,1.7s						
IP06	Yanceyville	35.48	256	eP	P	00 46 29.8	+1.0
	comp=Z,89nm,1.7s						
IP06				ePP	PnPn	00 47 44.8	-2.7
IP06				ePcP	PcP	00 48 56.8	-1.2
IP06				LR	LR		
	comp=Z,7μm,18.0s						
IP07	Quail	35.52	256	eP	P	00 46 30.4	+1.3
	comp=Z,98nm,1.8s						
IP07	Quail	35.52	256	eP	P	00 46 30.4	+1.3
	comp=Z,98nm,1.8s						
IP07				LR	LR		
	comp=Z,7μm,18.0s						
CUC	Castrocucco	35.58	99	eP	P	00 46 27.6	-2.1
	comp=Z,12nm,1.2s						
CUC	Castrocucco	35.58	99	eP	P	00 46 27.6	-2.1
	comp=Z,12nm,1.2s						
CUC				LR	LR		
	comp=Z,8μm,18.0s						
JSRW	J. Sargeant Re	35.61	255	eP	P	00 46 31.1	+1.2
JSRW	J. Sargeant Re	35.61	255	eP	P	00 46 31.1	+1.2
AK11	Malin Array Si	35.62	74	eP	P	00 46 29.2	-0.6
AK11	Malin Array Si	35.62	74	eP	P	00 46 29.2	-0.6
KIEV	Kiev	35.63	74	c iP	P	00 46 30.2	+0.3
KIEV				pmax	pmax		
	comp=Z,43nm,1.1s						
KIEV				MLR	MLR		
	comp=Z,5μm,15.0s						
KIEV	Kiev	35.63	74	P	P	00 46 30.0	+0.1
	SNR=42						
KIEV	Kiev	35.63	74	eP	P	00 46 29.9	-0.1
	comp=Z,89nm,1.0s						
KIEV				LR	LR		
	comp=Z,4μm,20.0s						
AKASG	Malin Array Be	35.64	74	P	P	00 46 29.4	-0.6
	comp=Z,39nm,0.8s,baz=306,slow=8.5,SNR=62						
AKASG				LR	LR	01 00 40.0	
	comp=Z,4μm,19.9s,baz=310,slow=36						
AKBB	Malin Array Si	35.64	74	eP	P	00 46 29.3	-0.7
AKBB				pmax	pmax		
	comp=Z,83nm,0.9s						
AKBB				MLR	MLR		
	comp=Z,4μm,20.0s						
AKBB	Malin Array Si	35.64	74	eP	P	00 46 29.3	-0.7
	comp=Z,83nm,0.9s						
AKBB	Malin Array Si	35.64	74	eP	P	00 46 29.3	-0.7
	comp=Z,83nm,0.9s						
AKBB				LR	LR		
	comp=Z,4μm,20.0s						
COWI	Conover	35.67	276	eP	P	00 46 31.4	+1.0
	comp=Z,66nm,1.1s						
COWI	Conover	35.67	276	eP	P	00 46 31.4	+1.0
	comp=Z,66nm,1.1s						
COWI				LR	LR		
	comp=Z,10μm,18.0s						
PDG	Podgorica	35.67	93	eP	P	00 46 31.0	+0.6
EYMN	Ely	35.75	280	P	P	00 46 31.6	+0.5
	baz=51,SNR=22						
EYMN	Ely	35.75	280	eP	P	00 46 32.1	+1.0
	comp=Z,115nm,1.1s						
EYMN	Ely	35.75	280	eP	P	00 46 32.1	+1.0
	comp=Z,115nm,1.1s						
EYMN				ePP	PnPn	00 47 47.8	-2.9
EYMN				LR	LR		
	comp=Z,12μm,20.0s						
C38A	Sawbill Land.	35.78	279	P	P	00 46 31.7	+0.4
	baz=51						
DRME	Dracevica, Mon	35.81	93	eP	P	00 46 30.4	-1.2
E40A	Wakefield	35.86	277	P	P	00 46 32.9	+0.9
	baz=50,SNR=9.9						
G42A	Mountain	35.86	274	P	P	00 46 32.4	+0.5
	baz=49,SNR=9.9						
F41A	Three Lakes	35.89	275	P	P	00 46 32.6	+0.3
	baz=49,SNR=8.4						
CLTB	Caltabellotta	36.01	104	eP	P	00 46 33.9	+0.4
	comp=Z,44nm,1.1s						
CLTB	Caltabellotta	36.01	104	eP	P	00 46 33.9	+0.4
	comp=Z,44nm,1.1s						
CLTB				LR	LR		
	comp=Z,12μm,19.0s						
PRAR	RASCA	36.12	81⇑	iP	P	00 46 36.3	+2.1
BOVS	Bovan	36.16	89	eP	P	00 46 35.1	+0.6
C37A	Embarrass	36.25	280	P	P	00 46 35.9	+0.6
	baz=51,SNR=9.1						
E39A	Mellen	36.25	277	P	P	00 46 35.1	-0.2
	baz=50						
G41A	Antigo	36.28	275	P	P	00 46 36.3	+0.7
	baz=49						
F40A	Park Falls	36.31	276	P	P	00 46 36.3	+0.4
	baz=49						
H42A	Shiocton	36.40	273	P	P	00 46 36.8	+0.2
	baz=48						
ACSO	Alum Creek Sta	36.41	263	eP	P	00 46 38.4	+1.6
	comp=Z,195nm,1.6s						
ACSO	Alum Creek Sta	36.41	263	eP	P	00 46 38.4	+1.6
	comp=Z,195nm,1.6s						
ACSO				LR	LR		
	comp=Z,9μm,18.0s						
ARR	Arges	36.56	85⇓	iP	P	00 46 43.7	+5.6
DOPR	Dopca	36.57	83⇓	iP	P	00 46 43.8	+5.7
C36A	Pine Crest Far	36.57	281	P	P	00 46 38.6	+0.5
	baz=51,SNR=11						
ULM	Lac du Bonnet	36.62	286	P	P	00 46 37.5	-0.9
	comp=Z,17nm,0.6s,baz=43,slow=8.6,SNR=24						
ULM				LR	LR	01 00 29.4	
	comp=Z,10μm,18.2s,baz=52,slow=34						
ULM	Lac du Bonnet	36.62	286	eP	P	00 46 38.5	+0.1
ULM				pmax	pmax		
	comp=Z,83nm,1.4s						
ULM	Lac du Bonnet	36.62	286	eP	P	00 46 38.5	+0.1
	comp=Z,83nm,1.4s						
ULM	Lac du Bonnet	36.62	286	eP	P	00 46 38.5	+0.1
	comp=Z,83nm,1.4s						
E38A	The Farm, Brul	36.63	278	P	P	00 46 38.6	0.0
	baz=50						
B35A	Bob, Littlefor	36.66	282	P	P	00 46 39.2	+0.4
	baz=51,SNR=14						
D37A	Cotton	36.74	280	P	P	00 46 40.0	+0.5
	baz=50,SNR=12						
F39A	Loretta	36.74	277	P	P	00 46 40.0	+0.5
	baz=49						
SORM	Soroca	36.74	78⇑	iP	P	00 46 40.3	+0.8
SORM	Soroca	36.74	78⇑	P	P	00 46 40.3	+0.8
TIR	Tirane	36.76	93	eP	P	00 46 40.6	+0.9
TIR				pmax	pmax		
	comp=Z,16nm,0.8s						
TIR				MLR	MLR		
	comp=Z,6μm,20.0s						
TIR	Tirane	36.76	93	eP	P	00 46 40.6	+0.9
	comp=Z,16nm,0.8s						
TIR	Tirane	36.76	93	eP	P	00 46 40.6	+0.9
	comp=Z,16nm,0.8s						
TIR				LR	LR		
	comp=Z,6μm,20.0s						
OBN	Obninsk	36.77	64	P	P	00 46 39.6	0.0
	comp=Z,7.9nm,0.3s,baz=316,slow=7.1,SNR=6.0						
OBN	Obninsk	36.77	64⇑	iP	P	00 46 39.0	-0.6
OBN				e		00 48 02.0	
OBN				eS	S	00 52 20.0	-2.9
OBN				pmax	pmax		
	comp=Z,58nm,1.7s						
OBN				MLR	MLR		
	comp=Z,5μm,21.0s						
OBN	Obninsk	36.77	64	eP	P	00 46 38.1	-1.5
	comp=Z,64nm,1.3s						
OBN	Obninsk	36.77	64	eP	P	00 46 38.1	-1.5
	comp=Z,64nm,1.3s						
OBN				LR	LR		
	comp=Z,5μm,21.0s						
BARS	Barje	36.77	90⇑	iP	P	00 46 39.1	-0.7
G40A	Rib Lake	36.78	276	P	P	00 46 40.3	+0.4
	baz=49						
CEL	Celeste	36.90	101	eP	P	00 46 39.2	-1.8
	comp=Z,27nm,1.1s						
CEL	Celeste	36.90	101	eP	P	00 46 39.2	-1.8
	comp=Z,27nm,1.1s						
CEL				LR	LR		
	comp=Z,6μm,20.0s						
H41A	Junction City	36.92	274	P	P	00 46 41.8	+0.7
	baz=48,SNR=9.6						
MOS	Moscow	36.93	62	eP	P	00 46 40.5	-0.5
MOS				eS	S	00 52 21.1	-4.2
MOS				eSS	SnSn	00 54 51.6	-5.9
MOS				e		00 56 56.0	
MOS				pmax	pmax		
	comp=Z,44nm,0.9s						
MOS				MLR	MLR		
	comp=Z,2μm,16.0s						
I42A	Draeger Farm,	37.02	273	P	P	00 46 42.4	+0.6
	baz=47						
VWCC	Virginia Weste	37.04	257	eP	P	00 46 43.9	+1.7
VWCC	Virginia Weste	37.04	257	eP	P	00 46 43.9	+1.7
FFC	Flin Flon	37.05	296	eP	P	00 46 43.1	+1.0
FFC				pmax	pmax		
	comp=Z,111nm,1.5s						
FFC				MLR	MLR		
	comp

comp=Z,111nm,1.5s
FFC LR LR
B34A Aery, Baudette 37.06 283 P P 00 46 42.2 0.0
baz=51,SNR=14
E37A Wrenshall 37.10 279 P P 00 46 43.0 +0.4
baz=50
D36A Goodland 37.11 280 P P 00 46 43.0 +0.4
baz=50,SNR=15
SKO Skopje 37.16 91 *i* P **P 00 46 44.2 +1.1**
SKO Skopje 37.16 91 *i* P **P 00 46 44.2 +1.1**
A33A Warroad 37.17 284 P P 00 46 43.3 +0.2
baz=52,SNR=11
MLR Muntele Rosu 37.17 83 P P 00 46 44.6 +1.3
comp=Z,0.6nm,0.8s,baz=125,slow=8.1,SNR=6.2
MLR Muntele Rosu 37.17 83 ⇑*i*P **P 00 46 44.0 +0.6**
MLR Muntele Rosu 37.17 83 *e*P **P 00 46 43.2 -0.2**
MLR *e* 00 48 10.0
MLR pmax pmax
comp=Z,37nm,1.2s
MLR MLR MLR
comp=Z,10μm,18.0s
MLR Muntele Rosu 37.17 83 *e*P **P 00 46 43.2 -0.2**
comp=Z,37nm,1.2s
MLR Muntele Rosu 37.17 83 *e*PP PP 00 48 10.0 +2.1
MLR Muntele Rosu 37.17 83 *e*P **P 00 46 43.2 -0.2**
comp=Z,37nm,1.2s
MLR *e*PP **PnPn 00 48 10.0 +1.7**
MLR LR LR
comp=Z,10μm,18.0s
C35A Jirik Farms, M 37.20 281 P P 00 46 43.6 +0.1
baz=51,SNR=12
F38A Pierce - Schro 37.22 278 P P 00 46 44.5 +0.9
baz=49,SNR=26
G39A Holcombe 37.29 276 P P 00 46 44.7 +0.5
baz=49
BLA Blacksburg 37.29 257 *e*P **P 00 46 46.8 +2.5**
BLA pmax pmax
comp=Z,154nm,1.8s
BLA MLR MLR
comp=Z,9μm,20.0s
BLA Blacksburg 37.29 257 *e*P **P 00 46 46.8 +2.5**
comp=Z,154nm,1.8s
BLA Blacksburg 37.29 257 *e*P **P 00 46 46.8 +2.5**
comp=Z,154nm,1.8s
BLA LR LR
comp=Z,9μm,20.0s
PLOR Plostina 37.31 82 ⇓*i*P **P 00 46 46.3 +1.9**
PLOR Plostina 37.31 82 ⇓P **P 00 46 46.3 +1.9**
H40A Chili 37.31 275 P P 00 46 44.9 +0.5
baz=48,SNR=9.5
I41A Arkdale 37.41 274 P P 00 46 46.2 +0.9
baz=48,SNR=11
OHR Ohrid 37.42 93 *i* P **P 00 46 47.0 +1.5**
OHR Ohrid 37.42 93 *i* P **P 00 46 46.9 +1.5**
CNNC Cliffs of the 37.51 253 *e*P **P 00 46 48.5 +2.5**
comp=Z,111nm,2.0s
CNNC Cliffs of the 37.51 253 *e*P **P 00 46 48.5 +2.5**
comp=Z,111nm,2.0s
CNNC LR LR
comp=Z,10μm,19.0s
E36A McGregor 37.58 279 P P 00 46 46.3 -0.4
baz=50,SNR=18
D35A Remer 37.64 281 P P 00 46 47.7 +0.6
baz=50,SNR=7.5
VTS Vitosha 37.67 89 *e*P **P 00 46 47.9 +0.2**
VTS *e* 00 48 09.5
VTS pmax pmax
comp=Z,18nm,1.2s
VTS MLR MLR
comp=Z,5μm,18.0s
VTS Vitosha 37.67 89 *e*P **P 00 46 47.8 +0.2**
comp=Z,18nm,1.2s
VTS Vitosha 37.67 89 *e*P **P 00 46 47.9 +0.2**
comp=Z,18nm,1.2s
VTS *e*PP **PP 00 48 09.5 -3.9**
VTS LR LR
comp=Z,5μm,18.0s
B33A Robert and Kas 37.68 283 P P 00 46 48.6 +1.1
baz=51
KIS Kishinev 37.71 79 *e*P **P 00 46 51.0 +3.3**
KIS Kishinev 37.71 79 *e*PP PP 00 48 18.0 +4.4
KIS Kishinev 37.71 79 *e*PPP PPP 00 48 50.0
KIS *e*SS SS 00 55 32.0 +9.5
KIS *e*SSS SSS 00 56 38.0
KIS LRM MLR 01 04 12.0
comp=Z,5μm,16.0s
KIS Kishinev 37.71 79 *e*P **P 00 46 51.0 +3.3**
KIS *e* 00 48 18.0
KIS *e* 00 52 44.0
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=E,4μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
KIS MLR MLR
comp=Z,5μm,16.0s
C34A RKJ Ranch, Bem 37.73 282 P P 00 46 48.4 +0.6
baz=50
G38A Ridgeland 37.73 277 P P 00 46 48.4 +0.5
baz=48,SNR=16
A32A Rocking H Ranc 37.75 285 P P 00 46 49.0 +1.0
baz=51
H39A Augusta 37.75 276 P P 00 46 49.0 +0.9
baz=48,SNR=12
LEOM Leova 37.75 80 ⇑*i*P P 00 46 53.0 +5.0
LEOM Leova 37.75 80 ⇑P P 00 46 53.0 +5.0
F37A Hinrichs Farm, 37.77 278 P P 00 46 49.2 +1.0
baz=49
AGMN Agassiz Nation 37.81 283 P P 00 46 49.4 +0.8
baz=51
AGMN Agassiz Nation 37.81 283 *e*P **P 00 46 50.0 +1.4**
comp=Z,92nm,1.5s
AGMN Agassiz Nation 37.81 283 *e*P **P 00 46 50.0 +1.4**
comp=Z,92nm,1.5s
AGMN *e*PP **PnPn 00 48 16.5 +0.7**
AGMN LR LR
comp=Z,9μm,22.0s
I40A Norwalk 37.92 274 P P 00 46 50.7 +1.1
baz=47
J41A Loganville 37.96 273 P P 00 46 50.9 +1.0
baz=47,SNR=11
FNA Florina 37.96 93 P P 00 46 49.8 -0.2
FNA Florina 37.96 93 P P 00 46 49.8 -0.2
WDD Wied Dalam 38.02 105 *e*P **P 00 46 50.2 -0.2**
comp=Z,304nm,1.9s
WDD Wied Dalam 38.02 105 *e*P **P 00 46 50.2 -0.2**
comp=Z,304nm,1.9s
WDD LR LR
comp=Z,7μm,19.0s
L43A Garden Prairie 38.10 271 P P 00 46 52.1 +1.1
baz=46,SNR=26
B32A Ashes, Strandq 38.10 284 P P 00 46 51.4 +0.5
baz=51,SNR=9.8
C33A Trail 38.10 283 P P 00 46 51.6 +0.6
baz=50
F36A Milaca 38.15 279 P P 00 46 52.2 +0.7
baz=49,SNR=12
E35A Pequot Lakes 38.16 280 P P 00 46 51.9 +0.3
baz=50,SNR=8.1
SPMN Marine on St. 38.19 277 P P 00 46 52.6 +0.8
baz=48,SNR=12
SPMN Marine on St. 38.19 277 *e*P **P 00 46 53.2 +1.4**
comp=Z,90nm,1.4s
SPMN Marine on St. 38.19 277 *e*P **P 00 46 53.2 +1.4**
comp=Z,90nm,1.4s
SPMN LR LR
comp=Z,17μm,18.0s
D34A Park Rapids 38.23 281 P P 00 46 52.3 +0.1
baz=50
H38A Maiden Rock 38.28 276 P P 00 46 53.3 +0.8
baz=48,SNR=7.8
J40A Soldiers Grove 38.33 274 P P 00 46 53.7 +0.8
baz=47,SNR=7.7
YKW3 Yellowknife Ar 38.38 312 *e*P **P 00 46 54.1 +1.0**
comp=Z,83nm,1.5s
YKW3 Yellowknife Ar 38.38 312 *e*P **P 00 46 54.1 +1.0**
comp=Z,83nm,1.5s
YKW3 LR LR
comp=Z,21μm,19.0s
GRG Griva 38.39 92 P P 00 46 54.4 +0.9
GRG Griva 38.39 92 P P 00 46 54.4 +0.9
JFWS Jewell Farm 38.39 273 *e*P **P 00 46 54.4 +0.9**
JFWS pmax pmax
comp=Z,35nm,1.0s
JFWS MLR MLR
comp=Z,5μm,19.0s
JFWS Jewell Farm 38.39 273 *e*P **P 00 46 54.4 +0.9**
comp=Z,35nm,1.0s
JFWS LR LR
comp=Z,5μm,19.0s
YKA Yellowknife Ar 38.41 312 P P 00 46 54.1 +0.7
comp=Z,19nm,1.1s,baz=58,slow=8.6,SNR=35
YKA PcP **PcP 00 49 05.4 -1.0**
comp=Z,1.3nm,1.1s,baz=48,slow=3.3,SNR=4.3
YKA LR LR 01 02 09.2
comp=Z,2μm,18.4s,baz=0.0,slow=35
YKB5 Yellowknife Ar 38.41 312 *e*P **P 00 46 53.8 +0.4**
YKB5 Yellowknife Ar 38.41 312 *e*P **P 00 46 53.8 +0.4**
YKB5 *e*PP **PnPn 00 48 25.2 +2.4**
YKB5 *e*PcP **PcP 00 49 06.0 -0.4**
I39A Houston 38.43 275 P P 00 46 54.5 +0.6
baz=47,SNR=8.0
C32A Crookston 38.46 283 P P 00 46 54.7 +0.7
baz=50
SFIN Lafayette 38.49 267 P P 00 46 55.3 +1.0
baz=44
SFIN Lafayette 38.49 267 *e*P **P 00 46 55.9 +1.5**
comp=Z,64nm,1.0s
SFIN Lafayette 38.49 267 *e*P **P 00 46 55.9 +1.5**
comp=Z,64nm,1.0s
SFIN LR LR
comp=Z,13μm,20.0s
KNT Kendrikon 38.51 91 P P 00 46 55.4 +0.9
KNT Kendrikon 38.51 91 P P 00 46 55.4 +0.9
D33A AnnSam, Waubun 38.54 282 P P 00 46 55.2 +0.4
baz=50
CFR Carcaliu 38.54 82 ⇓*i*P **P 00 46 53.7 -1.0**
CFR Carcaliu 38.54 82 ⇓P **P 00 46 53.7 -1.0**
KPRO Kipourio 38.55 94 P P 00 46 56.6 +1.7
KPRO Kipourio 38.55 94 P P 00 46 56.6 +1.7
E34A Wadena 38.59 281 P P 00 46 55.4 +0.2
baz=49
K41A Shullsburg 38.64 272 P P 00 46 56.5 +0.9
baz=46
B31A Greenbush Farm 38.66 285 P P 00 46 56.0 +0.3
baz=51
H37A Dierke Farm, C 38.68 277 P P 00 46 56.2 +0.3
baz=48
G36A St. Michael 38.69 278 P P 00 46 56.6 +0.6
baz=48,SNR=5.8
F35A Swanville 38.71 280 P P 00 46 57.0 +0.8
baz=49
I38A Scanlan Farm, 38.73 276 P P 00 46 57.3 +0.9
baz=47,SNR=5.7
J39A Decorah 38.88 274 P P 00 46 58.0 +0.4
baz=47,SNR=7.4
NVR Nevrokopi 38.89 90 P P 00 46 58.5 +0.8
NVR Nevrokopi 38.89 90 P P 00 46 58.5 +0.8
SOH Sokhos 38.99 91 P P 00 47 00.0 +1.4
SOH Sokhos 38.99 91 P P 00 47 00.0 +1.4
K40A Colesburg 39.02 273 P P 00 46 59.8 +1.0
baz=46
E33A Westby DABS, E 39.04 281 P P 00 46 60.0 +1.1
baz=49
LIT Litokhoron 39.04 93 P P 00 46 59.4 +0.4
LIT Litokhoron 39.04 93 P P 00 46 59.4 +0.4
BLO Bloomington 39.06 265 *e*P **P 00 47 01.3 +2.2**
BLO pmax pmax
comp=Z,219nm,1.8s
BLO MLR MLR
comp=Z,15μm,19.0s
BLO Bloomington 39.06 265 *e*P **P 00 47 01.3 +2.2**
comp=Z,219nm,1.8s
BLO Bloomington 39.06 265 *e*P **P 00 47 01.3 +2.2**
comp=Z,219nm,1.8s
BLO LR LR
comp=Z,15μm,19.0s
G35A Watkins 39.08 279 P P 00 47 00.4 +1.1
baz=48
C31A Landman Farms, 39.10 284 P P 00 47 00.2 +0.8
baz=50
L41A Preston 39.11 272 P P 00 47 00.4 +0.9
baz=46
F34A Alexandria 39.11 280 P P 00 46 60.0 +0.5
baz=49
M42A Sheffield 39.15 271 P P 00 47 00.9 +1.1
baz=45
TIRR Tirgusor 39.17 83 *e*P **P 00 46 58.7 -1.3**
TIRR *e* 00 48 27.8
TIRR pmax pmax
comp=Z,17nm,1.3s
TIRR MLR MLR
comp=Z,9μm,18.0s
TIRR Tirgusor 39.17 83 *e*P **P 00 46 58.7 -1.3**
comp=Z,17nm,1.3s
TIRR Tirgusor 39.17 83 *e*P **P 00 46 58.7 -1.3**
comp=Z,17nm,1.3s
TIRR *e*PP **PP 00 48 27.8 -1.8**
TIRR LR LR
comp=Z,9μm,18.0s
THL Klokotos Trika 39.18 94 P P 00 47 00.5 +0.4
THL Klokotos Trika 39.18 94 P P 00 47 00.5 +0.4
H36A Jessenland, He 39.22 278 P P 00 47 01.7 +1.2
baz=48
J38A Wedel Dairy, R 39.30 275 P P 00 47 01.6 +0.5
baz=47,SNR=12
I37A Lemond, Waseca 39.32 276 P P 00 47 02.3 +1.0
baz=47
KMSC Kings Mountain 39.35 256 P P 00 47 03.0 +1.4
baz=39
KMSC Kings Mountain 39.35 256 PFAKE 00 47 10.0 +8.4
KMSC LR LR
comp=Z,4μm,18.0s
LPSR Galich'ya Gora 39.37 66 *e*P **P 00 47 01.2 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
K39A Oelwein 39.41 274 P P 00 47 02.5 +0.4
baz=46,SNR=8.0
VLS Valsamata 39.43 96 P P 00 47 03.5 +1.2
VLS Valsamata 39.43 96 P P 00 47 03.5 +1.2
L40A Anamosa 39.50 273 P P 00 47 03.5 +0.7
baz=46,SNR=15
E32A Braaten, Kindr 39.53 282 P P 00 47 04.0 +0.9
baz=49
HDIL Hopedale 39.54 269 P P 00 47 04.3 +1.2
baz=44
HDIL Hopedale 39.54 269 *e*P **P 00 47 05.2 +2.1**
comp=Z,84nm,0.9s
HDIL Hopedale 39.54 269 *e*P **P 00 47 05.2 +2.1**
comp=Z,84nm,0.9s
HDIL LR LR
comp=Z,4μm,22.0s
D31A Mcclaflin, Tow 39.58 283 P P 00 47 04.4 +1.1
baz=49
H35A Sunnyside Ranc 39.62 278 P P 00 47 04.7 +1.0
baz=48
F33A 5 Mile Ranch, 39.62 281 P P 00 47 05.0 +1.2
baz=48,SNR=13
M41A Milan 39.62 271 P P 00 47 04.5 +0.7
baz=45,SNR=17
WCI Wyandotte Cave 39.63 264 *e*P **P 00 47 05.1 +1.2**
WCI pmax pmax
comp=Z,100nm,1.4s
WCI MLR MLR
comp=Z,15μm,19.0s
WCI Wyandotte Cave 39.63 264 *e*P **P 00 47 05.1 +1.2**
comp=Z,100nm,1.4s
WCI Wyandotte Cave 39.63 264 *e*P **P 00 47 05.1 +1.2**
comp=Z,100nm,1.4s
WCI LR LR
comp=Z,15μm,19.0s
I36A Fitzsimmons Fa 39.64 277 P P 00 47 04.9 +1.0
baz=47
G34A Benson 39.68 280 P P 00 47 05.2 +1.0
baz=48
N42A Yates City 39.74 270 P P 00 47 06.0 +1.2
baz=45,SNR=12
AGG Agios Georgios 39.74 94 P P 00 47 06.3 +1.4
AGG Agios Georgios 39.74 94 *e*P **P 00 47 05.8 +0.9**
AGG MLR MLR
comp=Z,18μm,20.0s
AGG Agios Georgios 39.74 94 *e*P **P 00 47 05.8 +0.9**
AGG Agios Georgios 39.74 94 *e*P **P 00 47 05.8 +0.9**
AGG *e*PP **PP 00 48 32.5 -3.4**
AGG LR LR
comp=Z,18μm,20.0s
O43A Sugar Creek Fa 39.74 269 P P 00 47 05.9 +1.1
baz=44
L39A Vinton 39.88 273 P P 00 47 06.9 +1.0
baz=46,SNR=27
J37A Redenius Farm, 39.88 276 P P 00 47 07.1 +1.1
baz=47
K38A Parkersburg 39.92 274 P P 00 47 06.9 +0.6
baz=46,SNR=10
RDO Rodhopi 39.93 89 P P 00 47 07.1 +0.8
RDO Rodhopi 39.93 89 P P 00 47 07.1 +0.8
XOR Xorichti 39.95 93 P P 00 47 07.0 +0.4
XOR Xorichti 39.95 93 P P 00 47 07.0 +0.4
P44A Sand Creek, Wi 39.96 267 P P 00 47 07.5 +0.8
baz=44
JSC Jenkinsville 39.98 255 *e*P **P 00 47 08.3 +1.4**
JSC *e* 00 49 08.7
JSC pmax pmax
comp=Z,102nm,1.8s
JSC MLR MLR
comp=Z,3μm,21.0s
JSC Jenkinsville 39.98 255 *e*P **P 00 47 08.3 +1.4**
comp=Z,102nm,1.8s
JSC Jenkinsville 39.98 255 *e*P **P 00 47 08.3 +1.4**
comp=Z,102nm,1.8s
JSC *e*PcP **PcP 00 49 08.7 -3.1**
JSC LR LR
comp=Z,3μm,21.0s
E31A Nome 39.98 283 P P 00 47 07.6 +0.8
baz=49
MDND Maddock 40.03 285 P P 00 47 07.9 +0.8
baz=50,SNR=5.6
MDND Maddock 40.03 285 *e*P **P 00 47 08.4 +1.2**
comp=Z,131nm,1.1s
MDND Maddock 40.03 285 *e*P **P 00 47 08.4 +1.2**
comp=Z,131nm,1.1s
MDND LR LR
comp=Z,7μm,18.0s
EDRB Edirne 40.08 87 P P 00 47 07.4 -0.2
EDRB Edirne 40.08 87 P P 00 47 07.4 -0.2
M40A Post Highland 40.12 272 P P 00 47 08.7 +0.8
baz=45
LAKA Lakka 40.13 95 P P 00 47 09.7 +1.6
LAKA Lakka 40.13 95 P P 00 47 09.7 +1.6
G33A Ortonville 40.13 280 P P 00 47 08.8 +0.8
baz=48
H34A Spellman Lake, 40.13 279 P P 00 47 09.3 +1.2
baz=48,SNR=10
O42A Bath 40.22 270 P P 00 47 09.7 +0.9
baz=44
OLIL Olney 40.22 266 *e*P **P 00 47 09.6 +0.8**
comp=Z,75nm,1.6s
OLIL Olney 40.22 266 *e*P **P 00 47 09.6 +0.8**
comp=Z,75nm,1.6s
OLIL LR LR
comp=Z,12μm,19.0s
TKL Tuckaleechee C 40.23 259 P P 00 47 09.9 +1.0
comp=Z,5.2nm,1.1s,baz=50,slow=3.6,SNR=4.7
TKL Tuckaleechee C 40.23 259 *e*P **P 00 47 10.7 +1.8**
TKL pmax pmax
comp=Z,74nm,1.6s
TKL MLR MLR
comp=Z,14μm,20.0s
TKL Tuckaleechee C 40.23 259 *e*P **P 00 47 10.6 +1.7**
comp=Z,74nm,1.6s
TKL Tuckaleechee C 40.23 259 *e*P **P 00 47 10.7 +1.7**
comp=Z,74nm,1.6s
TKL LR LR
comp=Z,14μm,20.0s
N41A Harden Midland 40.26 271 P P 00 47 10.2 +1.1
baz=44
I35A Creekview Farm 40.27 278 P P 00 47 09.4 +0.2
baz=47
J36A Seneca 1, Swea 40.28 276 P P 00 47 10.3 +1.0
baz=46,SNR=11
K37A Belmond 40.30 275 P P 00 47 10.4 +1.0
baz=46,SNR=21
P43A Skaggs, Pawnee 40.31 268 P P 00 47 10.7 +1.1
baz=44,SNR=16
VSR Storozhevoye 40.33 67 *e*P **P 00 47 09.2 -0.4**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR MLR MLR
comp=Z,4μm,17.0s
NHSC New Hope 40.35 253 *e*P **P 00 47 11.4 +1.5**
comp=Z,173nm,1.3s
NHSC New Hope 40.35 253 *e*P **P 00 47 11.3 +1.5**
comp=Z,173nm,1.3s
NHSC LR LR
comp=Z,8μm,18.0s
KLV Kalavryta, Ach 40.36 95 P P 00 47 10.9 +0.8
KLV Kalavryta, Ach 40.36 95 P P 00 47 10.9 +0.8
ALN Alexandroupoli 40.37 89 P P 00 47 11.0 +1.0
ALN Alexandroupoli 40.37 89 P P 00 47 11.0 +1.0
L38A Oak Wood Farm, 40.38 274 P P 00 47 10.8 +0.8
baz=46
M39A Webster 40.42 273 P P 00 47 11.1 +0.7
baz=45,SNR=9.2
RGRS Roger Stewart 40.52 253 *e*P **P 00 47 11.4 +0.2**
comp=Z,897nm,1.9s
RGRS Roger Stewart 40.52 253 *e*P **P 00 47 11.4 +0.2**
comp=Z,897nm,1.9s
N40A Mertquake, Sal 40.53 272 P P 00 47 12.0 +0.7
baz=45,SNR=11
USIN University of 40.55 265 *e*P **P 00 47 12.9 +1.4**
comp=Z,380nm,1.8s
USIN University of 40.55 265 *e*P **P 00 47 12.9 +1.4**
comp=Z,380nm,1.8s
USIN LR LR
comp=Z,13μm,20.0s
Q44A Meyer Farm, Va 40.58 267 P P 00 47 13.1 +1.3
baz=43
I34A Hadley 40.60 278 P P 00 47 13.0 +1.1
baz=47
F31A Hecla 40.63 282 P P 00 47 13.3 +1.2
baz=48
H33A Prehn Over Nor 40.63 280 P P 00 47 13.1 +0.9
baz=47
G32A Webster 40.65 281 P P 00 47 13.2 +0.9
baz=48
O41A Passleys Farm, 40.70 270 P P 00 47 13.8 +1.1
baz=44,SNR=22
J35A Milford 40.72 277 P P 00 47 13.9 +0.9
baz=46
CPCT Cooper Cave 40.78 260 *e*P **P 00 47 15.4 +1.9**
comp=Z,68nm,1.4s
CPCT Cooper Cave 40.78 260 *e*P **P 00 47 15.4 +1.9**
comp=Z,68nm,1.4s
P42A Winchester 40.79 269 P P 00 47 13.9 +0.3
baz=44,SNR=22
L37A Phoenix Point, 40.81 275 P P 00 47 14.5 +0.9
baz=46
K36A Gilmore City 40.82 276 P P 00 47 14.7 +1.0
baz=46
Q43A New Douglas 40.92 268 P P 00 47 15.5 +1.0
baz=43
M38A Pleasantville 41.01 273 P P 00 47 15.8 +0.5
baz=45,SNR=14
N39A Derby Farms, D 41.02 272 P P 00 47 16.1 +0.6
baz=45,SNR=15
G31A Conde 41.04 281 P P 00 47 16.3 +0.8
baz=48
R44A Waltonville 41.10 267 P P 00 47 16.5 +0.5
baz=42,SNR=17
P41A Barry, Barry 41.11 270 P P 00 47 16.7 +0.6
baz=44,SNR=14
H32A Carlson Farm, 41.12 280 P P 00 47 16.7 +0.5
baz=47,SNR=6.7
J34A George 41.17 278 P P 00 47 17.8 +1.2
baz=46
K35A Storm Lake 41.18 276 P P 00 47 17.9 +1.2
baz=46
ECSD EROS Data Cent 41.21 279 P P 00 47 17.9 +0.9
baz=47,SNR=29
ECSD EROS Data Cent 41.21 279 *e*P **P 00 47 18.5 +1.5**
comp=Z,52nm,1.1s
ECSD EROS Data Cent 41.21 279 *e*P **P 00 47 18.5 +1.5**
comp=Z,52nm,1.1s
ECSD LR LR
comp=Z,11μm,20.0s
O40A La Belle 41.23 271 P P 00 47 17.6 +0.5
baz=44,SNR=20
S45A Carrier Mills 41.25 266 P P 00 47 18.5 +1.2
baz=42
L36A Harm Buss Farm 41.31 275 P P 00 47 18.9 +1.1
baz=46
Q42A Golden Eagle 41.38 269 P P 00 47 18.6 +0.2
baz=43,SNR=14
SLM Saint Louis 41.43 268 *e*P **P 00 47 20.4 +1.6**
SLM pmax pmax
comp=Z,70nm,0.9s
SLM MLR MLR

	comp=Z,8μm,19.0s					
SLM	Saint Louis	41.43	268	eP	P	00 47 20.4 +1.6
	comp=Z,70nm,0.9s					
SLM	Saint Louis	41.43	268	eP	P	00 47 20.4 +1.6
	comp=Z,70nm,0.9s					
SLM				LR	LR	
	comp=Z,8μm,19.0s					
I32A	Karley and Nic	41.46	280	P	P	00 47 19.8 +0.8
	baz=47					
N38A	Joes South For	41.47	273	P	P	00 47 20.0 +0.9
	baz=44					
M37A	Trindle Farm,	41.48	274	P	P	00 47 19.5 +0.4
	baz=45,SNR=11					
O39A	Kirksville	41.49	272	P	P	00 47 20.1 +0.9
	baz=44					
R43A	Red Bud	41.53	267	P	P	00 47 20.3 +0.7
	baz=43,SNR=23					
S44A	Carbondale	41.60	266	P	P	00 47 21.1 +1.0
	baz=42,SNR=10					
INK	Inuvik	41.62	327	P	P	00 47 19.7 -0.2
	comp=Z,33nm,1.2s,baz=34,slow=9.2,SNR=13					
INK				LR	LR	01 04 27.7
	comp=Z,5μm,18.4s,baz=52,slow=36					
INK	Inuvik	41.62	327	eP	P	00 47 20.6 +0.6
INK				pmax	pmax	
	comp=Z,55nm,1.4s					
INK	Inuvik	41.62	327	eP	P	00 47 20.6 +0.6
	comp=Z,55nm,1.4s					
INK	Inuvik	41.62	327	eP	P	00 47 20.6 +0.6
	comp=Z,55nm,1.4s					
K34A	Le Mars	41.66	277	P	P	00 47 21.4 +0.7
	baz=46					
H31A	Wolsey	41.68	281	P	P	00 47 21.7 +0.9
	baz=47					
J33A	Davis	41.68	278	P	P	00 47 21.9 +1.1
	baz=46					
SWET	Sewanee	41.70	261	eP	P	00 47 22.4 +1.3
	comp=Z,9.9nm,1.1s					
SWET	Sewanee	41.70	261	eP	P	00 47 22.4 +1.3
	comp=Z,9.9nm,1.1s					
SWET				LR	LR	
	comp=Z,4μm,19.0s					
Q41A	Truxton	41.73	269	P	P	00 47 22.0 +0.8
	baz=43,SNR=14					
P40A	Paris	41.74	270	P	P	00 47 21.4 0.0
	baz=44,SNR=27					
L35A	Bielow Farm, R	41.77	276	P	P	00 47 22.0 +0.5
	baz=45,SNR=9.7					
GOGA	Godfrey	41.80	257	eP	P	00 47 22.3 +0.4
GOGA				e		00 49 01.3
GOGA				pmax	pmax	
	comp=Z,64nm,1.3s					
GOGA				MLR	MLR	
	comp=Z,3μm,18.0s					
GOGA	Godfrey	41.80	257	eP	P	00 47 22.3 +0.4
	comp=Z,64nm,1.3s					
GOGA	Godfrey	41.80	257	eP	P	00 47 22.3 +0.4
	comp=Z,64nm,1.3s					
GOGA				ePP	PnPn	00 49 01.3 -2.1
GOGA				LR	LR	
	comp=Z,3μm,18.0s					
M36A	Felix, Anita	41.84	275	P	P	00 47 22.0 -0.2
	baz=45					
SIM	Simferopol'	41.84	78	cePP	P	00 47 29.4 +7.3
SIM				eS	S	00 53 48.0 +8.7
SIM				pmax	pmax	
	comp=Z,16nm,1.2s					
SIM				pmax	pmax	
	comp=Z,660nm,11.0s					
SIM				MLR	MLR	
	comp=Z,6μm,15.0s					
SUSD	Miller	41.96	281	P	P	00 47 23.1 0.0
	baz=47					
DGMT	Dagmar	41.97	289	P	P	00 47 23.4 +0.3
	baz=49,SNR=16					
DGMT	Dagmar	41.97	289	eP	P	00 47 25.1 +2.0
	comp=Z,116nm,1.1s					
DGMT	Dagmar	41.97	289	eP	P	00 47 25.1 +2.0
	comp=Z,116nm,1.1s					
DGMT				LR	LR	
	comp=Z,6μm,18.0s					
R42A	Luebbering	41.98	268	P	P	00 47 23.5 +0.2
	baz=43,SNR=5.5					
WVT	Waverly	42.01	263	eP	P	00 47 24.5 +1.0
WVT				pmax	pmax	
	comp=Z,123nm,1.6s					
WVT				MLR	MLR	
	comp=Z,13μm,19.0s					
WVT	Waverly	42.01	263	eP	P	00 47 24.5 +1.0
	comp=Z,123nm,1.6s					
WVT	Waverly	42.01	263	eP	P	00 47 24.5 +1.0
	comp=Z,123nm,1.6s					
WVT				LR	LR	
	comp=Z,13μm,19.0s					
N37A	Lee Faris, Mou	42.02	274	P	P	00 47 24.1 +0.5
	baz=44					
I31A	Royce, Wessing	42.02	280	P	P	00 47 24.0 +0.4
	baz=47					
O38A	Galt	42.08	272	P	P	00 47 24.2 +0.1
	baz=44					
J32A	Parkston	42.11	279	P	P	00 47 24.5 +0.2
	baz=46					
S43A	Fulton Ridge,	42.12	267	P	P	00 47 24.4 0.0
	baz=42,SNR=21					
Q40A	Laux Farm, Aux	42.15	270	P	P	00 47 24.8 +0.2
	baz=43,SNR=12					
P39B	Salisbury	42.15	271	P	P	00 47 24.6 -0.1
	baz=44,SNR=17					
K33A	Hardington	42.20	278	P	P	00 47 25.1 0.0
	baz=46					
T44A	Benton	42.23	266	P	P	00 47 25.8 +0.5
	baz=42					
R41A	Rosebud	42.28	269	P	P	00 47 25.7 -0.1
	baz=43,SNR=25					
M35A	Neola	42.30	275	P	P	00 47 26.0 +0.1
	baz=45					
L34A	Svendsen Farm,	42.31	277	P	P	00 47 26.1 +0.1
	baz=45					
U45A	Rockin P Farm,	42.34	264	P	P	00 47 26.6 +0.4
	baz=41					
S42A	Caledonia	42.36	268	P	P	00 47 26.5 +0.1
	baz=42,SNR=18					
N36A	Muff Farm, Cla	42.37	274	P	P	00 47 27.4 +0.9
	baz=44					
CCM	Cathedral Cave	42.39	268	eP	P	00 47 27.4 +0.8
CCM				pmax	pmax	
	comp=Z,51nm,0.9s					
CCM				MLR	MLR	
	comp=Z,7μm,19.0s					
CCM	Cathedral Cave	42.39	268	eP	P	00 47 27.4 +0.8
	comp=Z,51nm,0.9s					
CCM	Cathedral Cave	42.39	268	eP	P	00 47 27.4 +0.8
	comp=Z,51nm,0.9s					
CCM				LR	LR	
	comp=Z,7μm,19.0s					
O37A	Wolven Farm, M	42.41	273	P	P	00 47 26.9 +0.1
	baz=44					
P38A	Dawn	42.47	272	P	P	00 47 27.4 +0.1
	baz=44,SNR=7.0					
Q39A	Willow Grove F	42.59	271	P	P	00 47 28.4 +0.2
	baz=43,SNR=17					
ANKY	Antikythira Is	42.60	96	P	P	00 47 29.2 +0.8
ANKY	Antikythira Is	42.60	96	P	P	00 47 29.2 +0.8
T43A	Greenville	42.60	266	P	P	00 47 29.0 +0.6
	baz=42,SNR=21					
PARMO	Parma	42.63	266	eP	P	00 47 29.6 +1.0
PARMO	Parma	42.63	266	eP	P	00 47 29.6 +1.0
J31A	Geddes	42.64	280	P	P	00 47 29.1 +0.5
	baz=46					
L33A	Hoskins	42.65	277	P	P	00 47 29.1 +0.4
	baz=45					
U44B	Burton Farm, H	42.66	265	P	P	00 47 29.1 +0.3
	baz=41					
K32A	Verdigre	42.67	278	P	P	00 47 29.2 +0.3
	baz=46					
GLAT	Glass	42.68	265	eP	P	00 47 30.3 +1.3
GLAT	Glass	42.68	265	eP	P	00 47 30.3 +1.3
N35A	Tabor	42.70	275	P	P	00 47 29.7 +0.5
	baz=44					
U44A	Portageville	42.71	265	P	P	00 47 29.5 +0.3
	baz=41					
M34A	Aspy Farms, Fr	42.75	276	P	P	00 47 30.0 +0.4
	baz=45					
R40A	Maddies Statio	42.76	269	P	P	00 47 29.7 +0.1
	baz=43,SNR=25					
O36A	Bolckow	42.87	274	P	P	00 47 30.9 +0.4
	baz=44					
V45A	Humboldt	42.90	264	P	P	00 47 31.1 +0.3
	baz=41					
PBMO	Poplar Bluff	42.90	266	eP	P	00 47 31.6 +0.8
	comp=Z,82nm,1.0s					
PBMO	Poplar Bluff	42.90	266	eP	P	00 47 31.6 +0.8
	comp=Z,82nm,1.0s					
PBMO				LR	LR	
	comp=Z,11μm,20.0s					
P37A	Lathrop	42.93	272	P	P	00 47 31.0 0.0
	baz=44					
HALT	Halls	42.98	265	PFAKE		00 47 40.0 +8.6
HALT				LR	LR	
	comp=Z,15312μm,18.0s					
Q38A	Cooks Store, C	42.99	271	P	P	00 47 31.9 +0.4
	baz=43,SNR=20					
S41A	Jillco Farms,	43.00	268	P	P	00 47 32.2 +0.5
	baz=42,SNR=48					
M33A	Taylor Creek F	43.02	277	P	P	00 47 32.3 +0.5
	baz=45					
SOKR	Solikamsk	43.04	48	eP	P	00 47 29.7 -1.9
SOKR						00 49 17.7
SOKR				S	S	00 54 00.6 +4.0
SOKR				pmax	pmax	
	comp=Z,95nm,1.8s					
SOKR				MLR	MLR	
	comp=Z,444nm,13.0s					
K31A	O'Neill	43.11	279	P	P	00 47 32.7 +0.3
	baz=46					
L32A	Elgin	43.15	278	P	P	00 47 33.0 +0.1
	baz=45					
R39A	Chumby, Stover	43.16	270	P	P	00 47 33.2 +0.3
	baz=43,SNR=23					
N34A	Lincoln	43.18	275	P	P	00 47 33.0 0.0
	baz=44					
U43A	Rector	43.20	266	P	P	00 47 33.8 +0.6
	baz=41					
O35A	Humboldt	43.27	274	P	P	00 47 34.3 +0.5
	baz=44					
GNAR	Gosnell	43.29	265	eP	P	00 47 35.8 +1.8
GNAR	Gosnell	43.29	265	eP	P	00 47 35.8 +1.8
EDM	Edmonton	43.32	300	eP	P	00 47 35.3 +1.2
EDM				pmax	pmax	
	comp=Z,120nm,1.2s					
EDM				MLR	MLR	
	comp=Z,8μm,19.0s					
EDM	Edmonton	43.32	300	eP	P	00 47 35.3 +1.2
	comp=Z,120nm,1.2s					
EDM	Edmonton	43.32	300	eP	P	00 47 35.3 +1.2
	comp=Z,120nm,1.2s					
EDM				LR	LR	
	comp=Z,8μm,19.0s					
P36A	Good Intent, A	43.36	273	P	P	00 47 34.6 +0.1
	baz=44,SNR=5.4					
SANT	Santorini	43.37	94	PFAKE		00 47 50.0 +15
SANT				LR	LR	
	comp=Z,4μm,19.0s					
S40A	Lebanon	43.40	269	P	P	00 47 35.5 +0.7
	baz=42,SNR=36					
SACV	Santiago Islan	43.41	167	PFAKE		00 47 50.0 +15
SACV				LR	LR	
	comp=Z,1μm,21.0s					
T41A	Mountain View	43.42	268	P	P	00 47 35.5 +0.6
	baz=42,SNR=21					
TIGA	Tifton	43.42	255	P	P	00 47 34.9 -0.2
	baz=37					
TIGA	Tifton	43.42	255	PFAKE		00 47 50.0 +15
TIGA				LR	LR	
	comp=Z,4μm,21.0s					
W45A	Hickory Valley	43.46	264	P	P	00 47 35.6 +0.3
	baz=40					
Q37A	Longview Farm,	43.50	272	P	P	00 47 36.3 +0.6
	baz=43					
BGNE	Belgrade	43.65	277	P	P	00 47 37.0 +0.2
	baz=45					
BGNE	Belgrade	43.65	277	eP	P	00 47 38.3 +1.5
	comp=Z,105nm,1.0s					
BGNE	Belgrade	43.65	277	eP	P	00 47 38.3 +1.5
	comp=Z,105nm,1.0s					
BGNE				LR	LR	
	comp=Z,15μm,18.0s					
U42A	Revenden	43.65	267	P	P	00 47 37.5 +0.6
	baz=41,SNR=44					
ANN	Anapa	43.66	76	eP	P	00 47 40.5 +3.7
ANN				e		00 49 15.7
ANN				eS	S	00 54 12.8 +6.7
ANN				pmax	pmax	
	comp=Z,94nm,1.1s					
ANN				MLR	MLR	
	comp=N,1μm,13.0s					
ANN				MLR	MLR	
	comp=Z,5μm,13.0s					
ANN				MLR	MLR	
	comp=E,3μm,13.0s					
V43A	Jonesboro	43.71	265	P	P	00 47 37.6 +0.3
	baz=41					
R38A	Fenwick Farm,	43.71	271	P	P	00 47 37.5 +0.2
	baz=42,SNR=33					
Y47A	UCPARC, Winfie	43.72	261	P	P	00 47 38.0 +0.6
	baz=39,SNR=23					
T40A	Mansfield	43.74	268	P	P	00 47 38.0 +0.4
	baz=42,SNR=11					
O34A	Beatrice	43.75	275	P	P	00 47 37.6 0.0
	baz=44,SNR=8.9					
N33A	J Bar K, Exete	43.75	276	P	P	00 47 37.4 -0.3
	baz=44					
S39A	Bolivar	43.77	270	P	P	00 47 37.8 0.0
	baz=42,SNR=22					
W44A	Shelby Farms P	43.81	264	P	P	00 47 38.3 +0.1
	baz=40					
P35A	Duane Minner,	43.86	274	P	P	00 47 38.7 +0.1
	baz=43,SNR=14					
IDI	Anoyia	43.88	95	P	P	00 47 39.5 +0.7
	comp=E,14nm,1.1s,baz=327,slow=6.7,SNR=3.1					
IDI	Anoyia	43.88	95	eP	P	00 47 38.8 0.0
	comp=E,96nm,1.6s					
IDI	Anoyia	43.88	95	eP	P	00 47 38.8 0.0
	comp=E,96nm,1.6s					
IDI				LR	LR	
	comp=Z,3μm,21.0s					
MET	Memphis--Engin	43.89	264	PFAKE		00 47 50.0 +11
MET				LR	LR	
	comp=Z,12μm,18.0s					
LRAL	Lakeview Retre	43.94	260	eP	P	00 47 40.3 +1.1
	comp=Z,56nm,1.2s					
LRAL	Lakeview Retre	43.94	260	eP	P	00 47 40.3 +1.1
	comp=Z,56nm,1.2s					
LRAL				LR	LR	
	comp=Z,21μm,19.0s					
HBAR	Harrisburg	43.94	265	eP	P	00 47 40.2 +1.0
HBAR	Harrisburg	43.94	265	eP	P	00 47 40.2 +1.0
Z48A	Northport	43.97	261	P	P	00 47 40.1 +0.7
	baz=39,SNR=19					
Q36A	Arnold C. Orve	43.98	273	P	P	00 47 39.6 +0.1
	baz=43					
U41A	Viola	44.02	267	P	P	00 47 40.4 +0.6
	baz=41,SNR=10					
OXF	Oxford	44.07	263	eP	P	00 47 40.4 +0.1
OXF				pmax	pmax	
	comp=Z,97nm,1.2s					
OXF				MLR	MLR	
	comp=Z,12μm,20.0s					
OXF	Oxford	44.07	263	eP	P	00 47 40.4 +0.1
	comp=Z,98nm,1.2s					
OXF	Oxford	44.07	263	eP	P	00 47 40.4 +0.1
	comp=Z,98nm,1.2s					
OXF				LR	LR	
	comp=Z,12μm,20.0s					
R37A	Teagarden Farm	44.11	272	P	P	00 47 40.7 +0.1
	baz=43,SNR=11					
S38A	Stockton	44.12	270	P	P	00 47 41.0 +0.3
	baz=42,SNR=18					
X45A	UM Field Stati	44.13	263	P	P	00 47 41.0 +0.3
	baz=40					
V42A	Cord	44.14	266	P	P	00 47 41.4 +0.6
	baz=41,SNR=24					
LAO	LASA Array	44.18	289	P	P	00 47 40.4 -0.6
	baz=47					
LAO	LASA Array	44.18	289	eP	P	00 47 43.0 +1.9
	comp=Z,93nm,1.0s					
LAO	LASA Array	44.18	289	eP	P	00 47 43.0 +1.9
	comp=Z,93nm,1.0s					
LAO				LR	LR	
	comp=Z,10μm,19.0s					
Y46A	Houston	44.27	262	P	P	00 47 41.9 +0.1
	baz=39,SNR=14					
P34A	Walnut Farm, R	44.28	274	P	P	00 47 42.2 +0.3
	baz=43,SNR=15					
T39A	Clever	44.29	269	P	P	00 47 42.4 +0.4
	baz=42,SNR=22					
O33A	Hebron	44.30	276	P	P	00 47 42.0 -0.1
	baz=44					
W43A	Forest City	44.32	265	P	P	00 47 42.0 -0.2
	baz=40					
ILGA	Ilgaz	44.34	82	eP	P	00 47 44.2 +1.5
	comp=Z,99nm,1.5s					
ILGA	Ilgaz	44.34	82	eP	P	00 47 44.2 +1.5
	comp=Z,99nm,1.5s					
ILGA				LR	LR	
	comp=Z,6μm,22.0s					
Q35A	Mercer Eighty,	44.36	273	P	P	00 47 42.6 +0.1
	baz=43,SNR=9.4					
Z47A	Carrollton	44.38	261	P	P	00 47 43.2 +0.5
	baz=39					
R36A	Gordon, Harris	44.47	272	P	P	00 47 43.5 +0.1
	baz=43,SNR=19					
X44A	Crenshaw	44.47	264	P	P	00 47 43.1 -0.3
	baz=40					
KSU1	Kansas State U	44.49	274	P	P	00 47 43.9 +0.3
	baz=43					
KSU1	Kansas State U	44.49	274	eP	P	00 47 43.8 +0.3
KSU1	Kansas State U	44.49	274	eP	P	00 47 43.8 +0.3
KSU1				LR	LR	
	comp=Z,11μm,18.0s					
U40A	Yellville	44.51	268	P	P	00 47 44.1 +0.3
	baz=41,SNR=36					
S37A	Fort Scott	44.52	271	P	P	00 47 44.2 +0.4
	baz=42,SNR=25					
TAM	Tamanrasset	44.52	126	eP	P	00 47 44.4 +0.3
TAM				pmax	pmax	
	comp=Z,45nm,1.2s					
TAM				MLR	MLR	
	comp=Z,3μm,20.0s					
TAM	Tamanrasset	44.52	126	eP	P	00 47 44.4 +0.3
	comp=Z,45nm,1.2s					
TAM	Tamanrasset	44.52	126	eP	P	00 47 44.4 +0.3
	comp=Z,45nm,1.2s					
TAM				LR	LR	
	comp=Z,3μm,20.0s					
BOLV	Bolvadin	44.56	87	eP	P	00 47 46.6 +2.3
	comp=Z,101nm,1.6s					
BOLV	Bolvadin	44.56	87	eP	P	00 47 46.6 +2.3
	comp=Z,101nm,1.6s					
BOLV				LR	LR	
	comp=Z,4μm,20.0s					
V41A	Mountainview	44.57	267	P	P	00 47 44.4 +0.2
	baz=41,SNR=21					
Y45A	Yeager Farm, C	44.64	263	P	P	00 47 44.9 0.0
	baz=39,SNR=12					
ANTO	Ankara	44.70	84	eP	P	00 47 47.3 +1.9
ANTO				pmax	pmax	
	comp=Z,64nm,1.4s					
ANTO				MLR	MLR	
	comp=Z,2μm,22.0s					
ANTO	Ankara	44.70	84	eP	P	00 47 47.3 +1.9
	comp=Z,64nm,1.4s					
ANTO	Ankara	44.70	84	eP	P	00 47 47.3 +1.9
	comp=Z,64nm,1.4s					
ANTO				LR	LR	
	comp=Z,2μm,22.0s					
ANTO	Ankara	44.70	84	P	P	00 47 48.2 +2.8
	SNR=13					
ANTO				P	P	00 47 48.2 +2.8
	SNR=13					
ANTO	Ankara	44.70	84	P	P	00 47 48.2 +2.8
	SNR=13					
BR231	Keskin MP Arra	44.71	84	eP	P	00 47 47.1 +1.6
BR231	Keskin MP Arra	44.71	84	eP	P	00 47 47.1 +1.6
T38A	Diamond	44.77	270	P	P	00 47 46.1 +0.3
	baz=42,SNR=40					
Q34A	Chapman	44.79	274	P	P	00 47 46.4 +0.3
	baz=43,SNR=16					
RSSD	Black Hills	44.82	284	P	P	00 47 46.2 -0.3
	baz=46					
RSSD	Black Hills	44.82	284	eP	P	00 47 47.4 +1.0
RSSD				pmax	pmax	
	comp=Z,20nm,1.2s					
RSSD				MLR	MLR	
	comp=Z,4μm,19.0s					
RSSD	Black Hills	44.82	284	eP	P	00 47 47.4 +1.0
	comp=Z,20nm,1.2s					
RSSD	Black Hills	44.82	284	eP	P	00 47 47.4 +1.0
	comp=Z,20nm,1.2s					
RSSD				LR	LR	
	comp=Z,4μm,19.0s					
U39A	Green Forest	44.83	269	P	P	00 47 46.6 +0.3
	baz=41,SNR=44					
R35A	Emporia Munici	44.84	273	P	P	00 47 45.7 -0.6
	baz=43					
Z46A	Louisville	44.84	262	P	P	00 47 46.1 -0.3
	baz=39					
X43A	Marvell	44.85	265	P	P	00 47 46.5 0.0
	baz=40					
147A	Livingston	44.89	261	P	P	00 47 46.7 -0.2
	baz=38					
KARP	Karpathos	44.89	93	PFAKE		00 48 00.0 +13
KARP				LR	LR	
	comp=Z,900nm,20.0s					
V40A	Witts Springs	44.91	267	P	P	00 47 47.8 +0.8
	baz=41,SNR=46					
Y44A	Strider, Charl	44.92	263	P	P	00 47 47.1 0.0
	baz=40					
S36A	Lake Cedric, C	44.95	272	P	P	00 47 46.9 -0.4
	baz=42,SNR=12					
WHAR	Wooly Hollow	45.01	267	eP	P	00 47 48.5 +0.7
	comp=Z,166nm,1.4s					
WHAR	Wooly Hollow	45.01	267	eP	P	00 47 48.5 +0.7
	comp=Z,166nm,1.4s					
WHAR				LR	LR	
	comp=Z,10μm,20.0s					
DWPF	Disney Wildern	45.02	250	PFAKE		00 48 00.0 +12
DWPF				LR	LR	
	comp=Z,2μm,20.0s					
EGMT	Eagleton	45.03	292	P	P	00 47 48.1 +0.2
	baz=47,SNR=30					
EGMT	Eagleton	45.03	292	eP	P	00 47 49.8 +1.9
	comp=Z,130nm,1.3s					
EGMT	Eagleton	45.03	292	eP	P	00 47 49.8 +1.9
	comp=Z,130nm,1.3s					
EGMT				LR	LR	
	comp=Z,3μm,18.0s					
T37A	Cheneyville 18	45.04	271	P	P	00 47 48.0 0.0
	baz=42,SNR=19					
248A	Dixon Mills	45.07	260	P	P	00 47 49.3 +1.1
	baz=38,SNR=9.8					
W41B	Gary Mavity, V	45.08	266	P	P	00 47 49.0 +0.7
	baz=40,SNR=22					
Z45A	Winona	45.10	262	P	P	00 47 47.9 -0.6
	baz=39					
X301	Greenbrier Sit	45.11	267	eP	P	00 47 49.3 +0.8
	comp=Z,147nm,1.3s					
X301	Greenbrier Sit	45.11	267	eP	P	00 47 49.3 +0.8
	comp=Z,147nm,1.3s					
X301				LR	LR	
	comp=Z,10μm,20.0s					
HHAR	Hobbs	45.15	269	eP	P	00 47 49.4 +0.6
	comp=Z,242nm,1.9s					
HHAR	Hobbs	45.15	269	eP	P	00 47 49.4 +0.6
	comp=Z,242nm,1.9s					
HHAR				LR	LR	
	comp=Z,4μm,20.0s					
X42A	Stuttgart	45.22	265	P	P	00 47 49.7 +0.3
	baz=40					
BR131	Keskin Array S	45.26	84	eP	P	00 47 50.7 +0.9
BR131	Keskin Array S	45.26	84	eP	P	00 47 50.7 +0.9
BRTR	Keskin Array B	45.26	84	P	P	00 47 50.7 +0.9
	comp=Z,9.5nm,0.9s,baz=315,slow=4.6,SNR=49					
BRTR				PcP	PcP	00 49 28.3 -1.3
	comp=Z,3.2nm,1.1s,baz=318,slow=4.1,SNR=2.5					
BRTR				LR	LR	01 06 38.8
	comp=Z,2μm,21.6s,baz=294,slow=36					
U38A	Gravette	45.27	269	P	P	00 47 49.8 0.0
	baz=41,SNR=16					
V39A	Pettigrew	45.32	268	P	P	00 47 50.2 -0.1
	baz=41,SNR=28					
146A	Union	45.34	261	P	P	00 47 50.2 -0.2
	baz=39					
Y43A	Makayla and Ka	45.34	264	P	P	00 47 50.5 +0.2
	baz=40					
S35A	Otter Creek Ra	45.37	272	P	P	00 47 50.6 0.0
	baz=42					
R34A	Isabella, Hill	45.41	274	P	P	00 47 51.0 +0.1
	baz=42,SNR=8.3					
UALR	University of	45.43	266	eP	P	00 47 51.1 0.0
	comp=Z,54nm,1.1s					
UALR	University of	45.43	266	eP	P	00 47 51.1 0.0
	comp=Z,54nm,1.1s					
UALR				LR	LR	

comp=Z,11μm,19.0s
BRAL Brewton 45.43 258 *e*P **P 00 47 52.3 +1.1**
BRAL comp=Z,254nm,1.7s
LR LR
comp=Z,6μm,19.0s
W40A Ferguson Farm, 45.50 267 P **P 00 47 52.4 +0.7**
baz=40,SNR=15
247A Quitman 45.55 260 P **P 00 47 52.2 +0.1**
baz=38
Z44A Pea Ridge, Bel 45.57 263 P **P 00 47 51.6 -0.6**
baz=39
T36A Boggs Farm, Ca 45.60 271 P **P 00 47 52.3 -0.1**
baz=42,SNR=12
ANWB Willy Bob 45.61 221 PFAKE 00 48 10.0 +17
ANWB LR LR
comp=Z,1μm,22.0s
U37A Salina 45.68 270 P **P 00 47 53.0 -0.1**
baz=41,SNR=21
AKAS Kas 45.68 90 PFAKE 00 48 00.0 +6.8
AKAS LR LR
comp=Z,4μm,22.0s
348A Jackson 45.69 259 P **P 00 47 54.0 +0.9**
baz=38,SNR=7.2
SOC Sochi 45.69 75 *e*P **P 00 47 53.9 +0.9**
SOC *e* 00 49 37.7
SOC *e*S **S 00 54 38.8 +3.3**
SOC pmax pmax
comp=Z,14nm,0.7s
SOC MLR MLR
comp=Z,3μm,18.0s
TOLK Toolik Lake Re 45.71 333 P **P 00 47 53.1 +0.2**
baz=42
V38A Canehill 45.71 269 P **P 00 47 53.1 -0.2**
baz=41,SNR=22
X41A Kaden, Bauxite 45.74 266 P **P 00 47 53.3 -0.2**
baz=40
S34A Willow Spring 45.78 273 P **P 00 47 53.5 -0.4**
baz=42
CCAR Cane Creek 45.78 265 *e*P **P 00 47 55.1 +1.2**
comp=Z,529nm,1.6s
CCAR Cane Creek 45.78 265 *e*P **P 00 47 55.1 +1.2**
comp=Z,529nm,1.6s
GRTK Grand Turk 45.79 234 PFAKE 00 48 10.0 +16
GRTK LR LR
comp=Z,2μm,21.0s
ARU Arti 45.81 51 *d i*P **P 00 47 53.6 -0.3**
ARU 00 49 32.8
ARU S **S 00 54 38.8 +1.8**
ARU SS **SS 00 57 55.5 -5.3**
ARU pmax pmax
comp=Z,63nm,1.2s
ARU Arti 45.81 51 *e*P **P 00 47 53.3 -0.6**
comp=Z,43nm,0.9s
ARU Arti 45.81 51 *e*P **P 00 47 53.3 -0.6**
comp=Z,43nm,0.9s
ARU LR LR
comp=Z,4μm,20.0s
145A Houston Renfro 45.82 262 P **P 00 47 54.1 -0.1**
baz=39
Y42A Garnett, Star 45.85 265 P **P 00 47 55.2 +0.8**
baz=40,SNR=8.8
W39A Magazine 45.88 268 P **P 00 47 55.4 +0.7**
baz=40,SNR=39
X40A Basin Creek Fa 45.91 266 P **P 00 47 55.0 +0.1**
baz=40,SNR=26
NRIK Noril'sk 45.94 25 P **P 00 47 54.5 -0.2**
comp=Z,12nm,0.9s,baz=354,slow=8.2,SNR=12
NRIK LR LR 01 08 21.3
comp=Z,968nm,19.2s,baz=329,slow=38
U36A Oologah 46.02 271 P **P 00 47 55.4 -0.3**
baz=41,SNR=11
OGNE Ogallala 46.03 280 P **P 00 47 55.3 -0.6**
baz=44
OGNE Ogallala 46.03 280 *e*P **P 00 47 56.3 +0.5**
comp=Z,51nm,1.1s
OGNE Ogallala 46.03 280 *e*P **P 00 47 56.4 +0.5**
comp=Z,51nm,1.1s
OGNE LR LR
comp=Z,5μm,21.0s
347A Saraland 46.03 260 P **P 00 47 55.8 0.0**
baz=38
448A Bay Minette 46.05 259 P **P 00 47 56.1 +0.1**
baz=37
T35A Sooner Cattle 46.05 272 P **P 00 47 55.6 -0.4**
baz=42,SNR=7.5
Z43A Armstrong Fami 46.05 264 P **P 00 47 55.9 -0.1**
baz=39
144A Alexander Plac 46.06 263 P **P 00 47 56.3 +0.2**
baz=39
V37A Hulbert 46.09 270 P **P 00 47 56.0 -0.3**
baz=41,SNR=21
FYU Fort Yukon 46.12 329 *e*P **P 00 47 58.3 +2.1**
comp=Z,149nm,1.4s
FYU Fort Yukon 46.12 329 *e*P **P 00 47 58.3 +2.1**
comp=Z,149nm,1.4s
FYU LR LR
comp=Z,3μm,18.0s
STVI Saint Thomas 46.13 225 PFAKE 00 48 10.0 +13
STVI LR LR
comp=Z,1μm,21.0s
SABA Saba 46.17 222 PFAKE 00 48 10.0 +13
SABA LR LR
comp=Z,2μm,22.0s
SEUS St. Eustatius 46.20 222 PFAKE 00 48 10.0 +13
SEUS LR LR
comp=Z,1μm,21.0s
DAWY Dawson 46.22 324 *e*P **P 00 47 58.5 +1.4**
comp=Z,90nm,1.3s
DAWY Dawson 46.22 324 *e*P **P 00 47 58.5 +1.4**
comp=Z,90nm,1.3s
DAWY LR LR
comp=Z,5μm,18.0s
245A Little AP, Sta 46.25 262 P **P 00 47 57.4 -0.2**
baz=38
EGAK Eagle 46.25 326 *e*P **P 00 47 58.0 +0.8**
comp=Z,77nm,1.5s
EGAK Eagle 46.25 326 *e*P **P 00 47 58.0 +0.8**
comp=Z,77nm,1.5s
EGAK LR LR
comp=Z,3μm,20.0s
SKI Saint Kitts 46.26 222 PFAKE 00 48 10.0 +12
SKI LR LR
comp=Z,3μm,22.0s
Y41A Eaglette Beard 46.26 266 P **P 00 47 57.1 -0.5**
baz=40
MIAR Mount Ida 46.26 267 P **P 00 47 58.4 +0.7**
baz=40,SNR=27
MIAR Mount Ida 46.26 267 *e*P **P 00 47 58.4 +0.7**
MIAR pmax pmax
comp=Z,99nm,1.2s
MIAR MLR MLR
comp=Z,10μm,19.0s
MIAR Mount Ida 46.26 267 *e*P **P 00 47 58.4 +0.7**
comp=Z,99nm,1.2s
MIAR Mount Ida 46.26 267 *e*P **P 00 47 58.4 +0.7**
comp=Z,99nm,1.2s
MIAR LR LR
comp=Z,10μm,19.0s
TOKA Tokat 46.32 81 *e*P **P 00 47 58.5 +0.3**
comp=Z,26nm,1.0s
TOKA Tokat 46.32 81 *e*P **P 00 47 58.5 +0.3**
comp=Z,26nm,1.0s
TOKA LR LR
comp=Z,4μm,20.0s
T34A McClaskey Farm 46.33 272 P **P 00 47 58.2 0.0**
baz=42,SNR=14
WALA Waterton Lakes 46.35 296 *e*P **P 00 47 59.3 +0.9**
comp=Z,226nm,1.8s
WALA Waterton Lakes 46.35 296 *e*P **P 00 47 59.3 +0.9**
comp=Z,226nm,1.8s
WALA LR LR
comp=Z,7μm,20.0s
GOF Gofitskoye 46.36 72⇑ *e*P **P 00 47 59.5 +1.2**
GOF pmax pmax
comp=Z,118nm,1.0s
CBKS Cedar Bluff 46.36 276 P **P 00 47 58.0 -0.5**
baz=43
CBKS Cedar Bluff 46.36 276 *e*P **P 00 47 59.9 +1.4**
CBKS pmax pmax
comp=Z,33nm,0.8s
CBKS MLR MLR
comp=Z,12μm,18.0s
CBKS Cedar Bluff 46.36 276 *e*P **P 00 47 59.9 +1.4**
comp=Z,32nm,0.8s
CBKS Cedar Bluff 46.36 276 *e*P **P 00 47 59.9 +1.4**
comp=Z,32nm,0.8s
CBKS LR LR
comp=Z,12μm,18.0s

W38A Poteau 46.37 268 P **P 00 47 59.1 +0.6**
baz=40,SNR=25
Z42A Norrel Spur, H 46.37 264 P **P 00 47 58.4 -0.1**
baz=39,SNR=8.7
SVE Sverdlovsk 46.40 49⇓ *i*P **P 00 47 58.6 +0.2**
SVE *e*S **S 00 54 45.4 0.0**
SVE pmax pmax
comp=Z,49nm,1.8s
TUL1 Leonard 46.41 270 P **P 00 47 59.0 +0.2**
baz=41,SNR=17
TUL1 Leonard 46.41 270 *e*P **P 00 47 58.8 0.0**
comp=Z,79nm,1.1s
TUL1 Leonard 46.41 270 *e*P **P 00 47 58.8 0.0**
comp=Z,79nm,1.1s
TUL1 LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 46.43 262 P **P 00 47 59.1 +0.1**
baz=38
VBMS Vicksburg 46.43 262 *e*P **P 00 47 58.4 -0.6**
comp=Z,85nm,1.0s
VBMS Vicksburg 46.43 262 *e*P **P 00 47 58.4 -0.6**
comp=Z,85nm,1.0s
VBMS LR LR
comp=Z,10μm,18.0s
Y40A Okolona 46.51 266 P **P 00 47 59.8 +0.1**
baz=40
143A Socs Landing, 46.52 263 P **P 00 48 00.0 +0.3**
baz=39
346A Big Creek Wild 46.53 261 P **P 00 47 60.0 +0.2**
baz=38
GCMT Greycliff 46.53 290 *e*P **P 00 48 01.1 +1.3**
GCMT Greycliff 46.53 290 *e*P **P 00 48 01.1 +1.3**
CBYP Canovanas 46.55 226 *e*P **P 00 48 00.0 -0.1**
comp=Z,67nm,1.2s
CBYP Canovanas 46.55 226 *e*P **P 00 47 60.0 -0.1**
comp=Z,67nm,1.2s
447A Lucedale 46.57 259 P **P 00 48 00.5 +0.4**
baz=38
X39A Fountain Ranch 46.58 267 P **P 00 48 00.6 +0.5**
baz=40,SNR=26
V36A Jenks 46.59 270 P **P 00 48 00.4 +0.2**
baz=41,SNR=10
MTP Monte Pirata 46.59 225 *e*P **P 00 48 01.3 +1.0**
comp=Z,236nm,2.0s
MTP Monte Pirata 46.59 225 *e*P **P 00 48 01.3 +1.0**
comp=Z,236nm,2.0s
244A Avery, Jackson 46.66 262 P **P 00 48 01.1 +0.3**
baz=38
HUMP Col San Antoni 46.66 226 *e*P **P 00 48 00.1 -0.8**
comp=Z,37nm,1.1s
HUMP Col San Antoni 46.66 226 *e*P **P 00 48 00.1 -0.8**
comp=Z,37nm,1.1s
HUMP LR LR
comp=Z,1μm,22.0s
WLAR White Oak Lake 46.67 266 *e*P **P 00 48 01.8 +0.9**
comp=Z,102nm,1.2s
WLAR White Oak Lake 46.67 266 *e*P **P 00 48 01.8 +0.9**
comp=Z,102nm,1.2s
WLAR LR LR
comp=Z,10μm,20.0s
RLMT Red Lodge 46.80 289 P **P 00 48 02.8 +0.8**
baz=45,SNR=33
RLMT Red Lodge 46.80 289 *e*P **P 00 48 03.6 +1.6**
comp=Z,116nm,1.4s
RLMT Red Lodge 46.80 289 *e*P **P 00 48 03.6 +1.6**
comp=Z,116nm,1.4s
RLMT LR LR
comp=Z,9μm,18.0s
W37B Quinton 46.80 269 P **P 00 48 01.8 -0.1**
baz=40,SNR=13
SJG San Juan 46.80 226 *e*P **P 00 48 02.9 +0.9**
SJG San Juan 46.80 226 PFAKE 00 48 10.0 +8.0
SJG LR LR
comp=Z,700nm,20.0s
X38A Whitesboro 46.84 268 P **P 00 48 02.8 +0.6**
baz=40,SNR=19
Z41A Richland Creek 46.84 265 P **P 00 48 02.5 +0.3**
baz=39,SNR=9.1
345A Thompson Farm, 46.89 261 P **P 00 48 02.7 +0.1**
baz=38
GDHS Morne Mazeau, 46.90 220 *e*P **P 00 48 04.2 +1.3**
comp=Z,118nm,1.1s
GDHS Morne Mazeau, 46.90 220 *e*P **P 00 48 04.2 +1.3**
comp=Z,118nm,1.1s
DLBC Dease Lake 46.91 314 LR LR 01 07 17.4
comp=Z,11μm,20.0s,baz=46,slow=36
DLBC Dease Lake 46.91 314 *e*P **P 00 48 05.0 +2.4**
comp=Z,57nm,1.3s
DLBC Dease Lake 46.91 314 *e*P **P 00 48 05.0 +2.4**
comp=Z,57nm,1.3s
142A Monroe 46.93 264 P **P 00 48 03.5 +0.6**
baz=39
COLD Coldfoot 46.94 332 *e*P **P 00 48 03.6 +1.1**
comp=Z,20nm,1.1s
COLD Coldfoot 46.94 332 *e*P **P 00 48 03.6 +1.1**
comp=Z,20nm,1.1s
COLD LR LR
comp=Z,3μm,22.0s
KIV Kislovodsk 46.95 73 *i* P **P 00 48 04.5 +1.4**
SNR=19
KIV Kislovodsk 46.95 73 *e*P **P 00 48 03.5 +0.4**
KIV *e* 00 49 52.1
KIV *e*S **S 00 54 56.6 +2.7**
KIV pmax pmax
comp=Z,90nm,1.1s
KIV pmax pmax
comp=Z,181nm,4.7s
KIV MLR MLR
comp=Z,3μm,16.0s
KIV Kislovodsk 46.95 73 *e*P **P 00 48 04.3 +1.2**
comp=Z,79nm,1.0s
KIV Kislovodsk 46.95 73 *e*P **P 00 48 04.3 +1.2**
comp=Z,79nm,1.0s
KIV LR LR
comp=Z,2μm,22.0s
KIV Kislovodsk 46.95 73 P **P 00 48 05.1 +2.0**
SNR=20
KIV P **P 00 48 05.1 +2.0**
SNR=20
KIV Kislovodsk 46.95 73 P **P 00 48 05.1 +2.0**
SNR=20
HRY Holter Researc 46.96 292 *e*P **P 00 48 04.6 +1.4**
HRY Holter Researc 46.96 292 *e*P **P 00 48 04.5 +1.4**
CRMT Chrome Mountai 47.00 290 *e*P **P 00 48 07.9 +4.2**
CELP Cerrillos 47.00 227 *e*P **P 00 48 04.8 +1.2**
CELP Cerrillos 47.00 227 *e*P **P 00 48 04.8 +1.2**
Y39A Lockesburg 47.00 267 P **P 00 48 04.0 +0.5**
baz=40,SNR=20
V35A Meyer Ranch, C 47.08 271 P **P 00 48 03.8 -0.3**
baz=41
MPR Mayaguez 47.10 227 *e*P **P 00 48 05.1 +0.8**
comp=Z,53nm,1.4s
MPR Mayaguez 47.10 227 *e*P **P 00 48 05.1 +0.8**
comp=Z,53nm,1.4s
MPR LR LR
comp=Z,600nm,21.0s
WHY Whitehorse 47.14 319 *e*P **P 00 48 05.7 +1.4**
comp=Z,77nm,1.5s
WHY Whitehorse 47.14 319 *e*P **P 00 48 05.7 +1.4**
comp=Z,77nm,1.5s
WHY LR LR
comp=Z,6μm,18.0s
344A Westbrook Farm 47.14 262 P **P 00 48 05.0 +0.5**
baz=38,SNR=6.4
K22A Casper 47.15 285 P **P 00 48 04.7 0.0**
baz=44,SNR=22
K22A Casper 47.15 285 *e*P **P 00 48 05.2 +0.5**
comp=Z,62nm,1.1s
K22A Casper 47.15 285 *e*P **P 00 48 05.2 +0.5**
comp=Z,62nm,1.1s
K22A LR LR
comp=Z,5μm,20.0s
Z40A Long Farm, Mag 47.16 266 P **P 00 48 04.9 +0.3**
baz=39
X37A Clayton 47.19 269 P **P 00 48 05.4 +0.5**
baz=40,SNR=13
243A Waterproof 47.21 263 P **P 00 48 05.9 +0.8**
baz=38
KBZ Khabaz 47.22 73 P **P 00 48 06.2 +1.2**
comp=Z,35nm,1.0s,baz=299,slow=9.4,SNR=19
KBZ LR LR 01 08 01.1
comp=Z,2μm,20.0s,baz=322,slow=36
W36A Wetumka 47.23 270 P **P 00 48 04.9 -0.3**
baz=40,SNR=17
Y38A Idabel 47.35 267 P **P 00 48 06.9 +0.7**
baz=40
141A Papa Simpson, 47.40 265 P **P 00 48 07.3 +0.8**
baz=39

SLMT Seeley Lake 47.41 294 *e*P **P 00 48 07.1 +0.4**
SLMT Seeley Lake 47.41 294 *e*P **P 00 48 07.1 +0.4**
242A Grayson 47.42 264 P **P 00 48 07.2 +0.4**
baz=39
JTMT Jette 47.44 295 *e*P **P 00 48 07.0 +0.1**
JTMT Jette 47.44 295 *e*P **P 00 48 07.0 +0.1**
SWMT Swartz Lake 47.47 295 *e*P **P 00 48 07.6 +0.5**
SWMT Swartz Lake 47.47 295 *e*P **P 00 48 07.6 +0.5**
NEY Neytrino 47.47 74⇓ *e*P **P 00 48 09.7 +2.4**
NEY pmax pmax
comp=Z,1.0nm,0.8s
445A Amite 47.50 261 P **P 00 48 08.0 +0.6**
baz=38
CHMT Chamberlain Mo 47.52 293 *e*P **P 00 48 08.2 +0.6**
CHMT Chamberlain Mo 47.52 293 *e*P **P 00 48 08.2 +0.6**
PHWY Pilot Hill 47.56 283 *e*P **P 00 48 08.9 +0.8**
comp=Z,31nm,1.1s
PHWY Pilot Hill 47.56 283 *e*P **P 00 48 08.9 +0.8**
comp=Z,31nm,1.1s
PHWY LR LR
comp=Z,7μm,21.0s
W35A Tecumseh 47.56 270 P **P 00 48 07.9 0.0**
baz=40,SNR=23
Z39A Irene McRaven, 47.59 266 P **P 00 48 08.9 +0.9**
baz=39
BSMT Bassoo Peak 47.61 295 *e*P **P 00 48 08.6 +0.3**
BSMT Bassoo Peak 47.61 295 *e*P **P 00 48 08.6 +0.3**
BOZ Bozeman (W) 47.65 291 P **P 00 48 08.5 -0.1**
baz=45,SNR=39
BOZ Bozeman (W) 47.65 291 *e*P **P 00 48 09.4 +0.8**
BOZ pmax pmax
comp=Z,59nm,1.2s
BOZ MLR MLR
comp=Z,6μm,18.0s
BOZ Bozeman (W) 47.65 291 *e*P **P 00 48 09.4 +0.8**
comp=Z,59nm,1.2s
BOZ Bozeman (W) 47.65 291 *e*P **P 00 48 09.4 +0.8**
comp=Z,59nm,1.2s
BOZ LR LR
comp=Z,6μm,18.0s
140A Cam and Jess, 47.73 265 P **P 00 48 09.9 +0.8**
baz=39
X36A Centrahoma 47.73 269 P **P 00 48 09.4 +0.3**
baz=40,SNR=10
444A Pine Grove 47.73 261 P **P 00 48 10.3 +1.1**
baz=38
NCK Nalchik 47.74 73⇑ *e*P **P 00 48 11.2 +2.0**
NCK pmax pmax
comp=Z,19nm,1.2s
343A Vidalia 47.74 262 P **P 00 48 10.1 +0.8**
baz=38
KSCO Kaye Shedlock' 47.74 278 P **P 00 48 09.8 +0.4**
baz=43
KSCO Kaye Shedlock' 47.74 278 *e*P **P 00 48 10.3 +0.9**
comp=Z,126nm,1.1s
KSCO Kaye Shedlock' 47.74 278 *e*P **P 00 48 10.3 +0.9**
comp=Z,126nm,1.1s
KSCO LR LR
comp=Z,9μm,20.0s
LKWY Lake 47.76 289 PFAKE 00 48 20.0 +10
LKWY LR LR
comp=Z,16μm,18.0s
U32A Winter Ranch, 47.77 273 P **P 00 48 09.7 +0.2**
baz=41,SNR=9.1
Y37A Hugo 47.79 268 P **P 00 48 10.2 +0.6**
baz=40
YNR Norris Junctio 47.79 290 *e*P **P 00 48 13.8 +4.0**
comp=Z,42nm,1.4s
YNR Norris Junctio 47.79 290 *e*P **P 00 48 13.8 +4.0**
comp=Z,42nm,1.4s
YNR LR LR
comp=Z,8μm,20.0s
YHH Holmes Hill 47.83 290 *e*P **P 00 48 11.9 +1.8**
comp=Z,26nm,1.3s
YHH Holmes Hill 47.83 290 *e*P **P 00 48 11.9 +1.8**
comp=Z,26nm,1.3s
YHH LR LR
comp=Z,6μm,21.0s
241A Mo Tay, Goldon 47.86 264 P **P 00 48 11.5 +1.4**
baz=39
LRM Limekiln Ridge 47.89 292 *e*P **P 00 48 11.9 +1.3**
LRM Limekiln Ridge 47.89 292 *e*P **P 00 48 11.9 +1.3**
MSO Missoula 47.92 294 P **P 00 48 10.3 -0.3**
baz=45
MSO Missoula 47.92 294 *e*P **P 00 48 11.4 +0.8**
comp=Z,11nm,0.9s
MSO Missoula 47.92 294 *e*P **P 00 48 11.3 +0.8**
comp=Z,11nm,0.9s
MSO LR LR
comp=Z,4μm,19.0s
IL1 Eielson Array 47.92 328 *e*P **P 00 48 11.2 +1.0**
IL1 Eielson Array 47.92 328 *e*P **P 00 48 11.2 +1.0**
IL1 *e*PcP **PcP 00 49 38.5 +0.1**
ILAR Eielson Array 47.92 328 P **P 00 48 11.3 +1.1**
comp=Z,25nm,1.1s,baz=34,slow=5.7,SNR=57
ILAR PcP **PcP 00 49 38.0 -0.4**
comp=Z,3.9nm,0.7s,baz=4.4,slow=2.7,SNR=13
ILAR LR LR 01 08 46.8
comp=Z,4μm,20.0s,baz=54,slow=37
ILB Eielson Array 47.92 328 *e*P **P 00 48 11.4 +1.1**
ILB Eielson Array 47.92 328 *e*P **P 00 48 11.4 +1.1**
DOT Dot Lake 47.95 326 *e*P **P 00 48 12.2 +1.7**
comp=Z,186nm,1.5s
DOT Dot Lake 47.95 326 *e*P **P 00 48 12.2 +1.7**
comp=Z,186nm,1.5s
DOT LR LR
comp=Z,8μm,20.0s
H17A Grant Village 47.97 289 P **P 00 48 12.9 +1.7**
baz=44,SNR=13
H17A Grant Village 47.97 289 *e*P **P 00 48 13.6 +2.4**
comp=Z,40nm,1.0s
H17A Grant Village 47.97 289 *e*P **P 00 48 13.6 +2.4**
comp=Z,40nm,1.0s
H17A LR LR
comp=Z,14μm,19.0s
YMR Madison River 47.97 290 *e*P **P 00 48 12.4 +1.2**
comp=Z,35nm,1.3s
YMR Madison River 47.97 290 *e*P **P 00 48 12.4 +1.2**
comp=Z,35nm,1.3s
YMR LR LR
comp=Z,6μm,20.0s
Z38A Mt. Pleasant 48.01 267 P **P 00 48 11.7 +0.4**
baz=39
YHB Horse Butte 48.03 290 *e*P **P 00 48 13.6 +2.0**
comp=Z,51nm,1.2s
YHB Horse Butte 48.03 290 *e*P **P 00 48 13.6 +2.0**
comp=Z,51nm,1.2s
YHB LR LR
comp=Z,7μm,20.0s
342A Flagon Creek P 48.05 263 P **P 00 48 11.9 +0.3**
baz=38
YFT Old Faithful 48.06 290 *e*P **P 00 48 14.8 +2.9**
comp=Z,36nm,0.9s
YFT Old Faithful 48.06 290 *e*P **P 00 48 14.8 +2.9**
comp=Z,36nm,0.9s
YFT LR LR
comp=Z,14μm,18.0s
QLMT Earthquake Lak 48.09 290 *e*P **P 00 48 14.2 +2.1**
QLMT Earthquake Lak 48.09 290 *e*P **P 00 48 14.2 +2.1**
SDDR Presa de Saban 48.10 233 *e*P **P 00 48 13.8 +1.6**
comp=Z,34nm,1.3s
SDDR Presa de Saban 48.10 233 *e*P **P 00 48 13.8 +1.6**
comp=Z,34nm,1.3s
SDDR LR LR
comp=Z,3μm,22.0s
N23A Red Feather La 48.11 283 P **P 00 48 13.1 +0.8**
baz=43,SNR=34
N23A Red Feather La 48.11 283 *e*P **P 00 48 13.5 +1.2**
comp=Z,134nm,1.4s
N23A Red Feather La 48.11 283 *e*P **P 00 48 13.5 +1.2**
comp=Z,134nm,1.4s
N23A LR LR
comp=Z,7μm,21.0s
COLA College 48.11 329 *e*P **P 00 48 13.2 +1.5**
COLA pmax pmax
comp=Z,100nm,1.5s
COLA MLR MLR
comp=Z,4μm,19.0s
COLA College 48.11 329 *e*P **P 00 48 13.2 +1.5**
comp=Z,100nm,1.5s
COLA College 48.11 329 *e*P **P 00 48 13.2 +1.5**
comp=Z,100nm,1.5s
COLA LR LR
comp=Z,4μm,19.0s
FDF Fort de France 48.13 218 PFAKE 00 48 20.0 +7.6
FDF LR LR
comp=Z,1μm,21.0s

139A	**Bunkhouse Ranc**	**48.13 266**	P	**P**	**00 48 12.9 +0.7**
	baz=39				
SKAG	**Skagway**	**48.15 318**	*e*P	**P**	**00 48 13.6 +1.6**
	comp=Z,75nm,1.4s				
SKAG	**Skagway**	**48.15 318**	*e*P	**P**	**00 48 13.6 +1.6**
	comp=Z,75nm,1.4s				
SKAG			LR	LR	
	comp=Z,3μm,20.0s				
MDM	**Murphy Dome**	**48.15 329**	*e*P	**P**	**00 48 13.0 +0.9**
	comp=Z,72nm,1.2s				
MDM	**Murphy Dome**	**48.15 329**	*e*P	**P**	**00 48 13.0 +0.9**
	comp=Z,72nm,1.2s				
MDM			LR	LR	
	comp=Z,4μm,20.0s				
X35A	**Drake**	**48.19 270**	P	**P**	**00 48 12.7 +0.1**
	baz=40,SNR=23				
RWWY	**Rawlins**	**48.19 284**	*e*P	**P**	**00 48 13.2 +0.3**
	comp=Z,59nm,1.3s				
RWWY	**Rawlins**	**48.19 284**	*e*P	**P**	**00 48 13.2 +0.3**
	comp=Z,59nm,1.3s				
RWWY			LR	LR	
	comp=Z,5μm,21.0s				
Y36A	**Durant**	**48.20 269**	P	**P**	**00 48 13.4 +0.6**
	baz=40,SNR=14				
HDA	**Harding Lake**	**48.22 328**	*e*P	**P**	**00 48 13.7 +1.2**
	comp=Z,80nm,1.6s				
HDA	**Harding Lake**	**48.22 328**	*e*P	**P**	**00 48 13.7 +1.2**
	comp=Z,80nm,1.6s				
HDA			LR	LR	
	comp=Z,4μm,19.0s				
443A	**Delano Plantat**	**48.24 262**	P	**P**	**00 48 12.6 -0.5**
	baz=38				
CCB	**Clear Creek Bu**	**48.27 329**	*e*P	**P**	**00 48 13.8 +0.9**
	comp=Z,40nm,1.5s				
CCB	**Clear Creek Bu**	**48.27 329**	*e*P	**P**	**00 48 13.8 +0.9**
	comp=Z,40nm,1.5s				
CCB			LR	LR	
	comp=Z,4μm,20.0s				
DLMT	**Dillon**	**48.29 292**	*e*P	**P**	**00 48 15.5 +2.0**
	comp=Z,45nm,1.3s				
DLMT	**Dillon**	**48.29 292**	*e*P	**P**	**00 48 15.5 +2.0**
	comp=Z,45nm,1.3s				
DLMT			LR	LR	
	comp=Z,3μm,19.0s				
240A	**Hunter Patters**	**48.29 265**	P	**P**	**00 48 13.4 -0.1**
	baz=39				
ONI	**Oni**	**48.32 74**	P	**P**	**00 48 14.7 +1.0**
ONI	**Oni**	**48.32 74**	P	**P**	**00 48 14.6 +1.0**
Z37A	**Pogue Cattle C**	**48.39 268**	P	**P**	**00 48 14.2 0.0**
	baz=39				
ZEI	**Tsey**	**48.41 73**	*e*P	**P**	**00 48 14.2 -0.3**
ZEI			pmax	pmax	
	comp=Z,38nm,0.9s				
MCID	**Moose Creek**	**48.42 290**	*e*P	**P**	**00 48 16.4 +1.8**
MCID	**Moose Creek**	**48.42 290**	*e*P	**P**	**00 48 16.4 +1.8**
544A	**White Castle**	**48.43 261**	P	**P**	**00 48 14.7 +0.1**
	baz=37				
NEW	**Newport**	**48.44 297**	LR	LR	01 07 36.1
	comp=Z,9μm,20.2s,baz=40,slow=35				
NEW	**Newport**	**48.44 297**	P	**P**	**00 48 14.8 +0.3**
	baz=45				
NEW	**Newport**	**48.44 297**	*e*P	**P**	**00 48 15.3 +0.7**
NEW			pmax	pmax	
	comp=Z,98nm,1.9s				
NEW	**Newport**	**48.44 297**	*e*P	**P**	**00 48 15.2 +0.7**
	comp=Z,98nm,1.9s				
NEW	**Newport**	**48.44 297**	*e*P	**P**	**00 48 15.2 +0.7**
	comp=Z,98nm,1.9s				
WRH	**Wood River Hil**	**48.49 328**	*e*P	**P**	**00 48 15.6 +1.0**
	comp=Z,54nm,1.5s				
WRH	**Wood River Hil**	**48.49 328**	*e*P	**P**	**00 48 15.6 +1.0**
	comp=Z,54nm,1.5s				
WRH			*e*PcP	**PcP**	**00 49 41.3 +0.9**
WRH			LR	LR	
	comp=Z,4μm,20.0s				
IMW	**Indian Meadow**	**48.51 289**	*e*P	**P**	**00 48 16.2 +0.8**
	comp=Z,82nm,1.9s				
IMW	**Indian Meadow**	**48.51 289**	*e*P	**P**	**00 48 16.2 +0.8**
	comp=Z,82nm,1.9s				
IMW			LR	LR	
	comp=Z,6μm,18.0s				
MOOW	**Moose Ponds**	**48.52 289**	*e*P	**P**	**00 48 16.1 +0.7**
	comp=Z,36nm,1.4s				
MOOW	**Moose Ponds**	**48.52 289**	*e*P	**P**	**00 48 16.1 +0.7**
	comp=Z,36nm,1.4s				
MOOW			LR	LR	
	comp=Z,6μm,18.0s				
138A	**Matatall Enter**	**48.52 267**	P	**P**	**00 48 16.4 +1.1**
	baz=39				
341A	**Kurthwood**	**48.53 264**	P	**P**	**00 48 15.3 -0.1**
	baz=38				
LOHW	**Long Hollow**	**48.54 289**	*e*P	**P**	**00 48 16.6 +1.0**
	comp=Z,34nm,1.2s				
LOHW	**Long Hollow**	**48.54 289**	*e*P	**P**	**00 48 16.6 +1.0**
	comp=Z,34nm,1.2s				
LOHW			LR	LR	
	comp=Z,8μm,18.0s				
ARTV	**Artvin**	**48.55 76**	*e*P	**P**	**00 48 17.5 +1.8**
	comp=Z,22nm,0.8s				
ARTV	**Artvin**	**48.55 76**	*e*P	**P**	**00 48 17.4 +1.8**
	comp=Z,22nm,0.8s				
ARTV			LR	LR	
	comp=Z,800nm,18.0s				
Y35A	**Marietta**	**48.60 269**	P	**P**	**00 48 16.7 +0.8**
	baz=40				
BESE	**Bessie Mountai**	**48.61 317**	*e*P	**P**	**00 48 17.7 +2.0**
	comp=Z,42nm,1.2s				
BESE	**Bessie Mountai**	**48.61 317**	*e*P	**P**	**00 48 17.7 +2.0**
	comp=Z,42nm,1.2s				
BESE			LR	LR	
	comp=Z,5μm,20.0s				
BW06	**Boulder Array**	**48.62 287**	P	**P**	**00 48 15.9 -0.3**
	baz=44,SNR=33				
BW06	**Boulder Array**	**48.62 287**	*e*P	**P**	**00 48 15.9 -0.3**
	comp=Z,37nm,1.1s				
BW06	**Boulder Array**	**48.62 287**	*e*P	**P**	**00 48 15.9 -0.3**
	comp=Z,37nm,1.1s				
BW06			LR	LR	
	comp=Z,9μm,19.0s				
PD31	**Pinedale Array**	**48.62 287**	*e*P	**P**	**00 48 16.3 +0.1**
PD31	**Pinedale Array**	**48.62 287**	*e*P	**P**	**00 48 16.3 +0.1**
PDAR	**Pinedale Array**	**48.62 287**	P	**P**	**00 48 16.2 +0.1**
	comp=Z,15nm,0.9s,baz=59,slow=7.1,SNR=38				
CSS	**Mathiatis**	**48.63 88**	*e*P	**P**	**00 48 16.4 +0.3**
	comp=Z,15nm,1.3s				
CSS	**Mathiatis**	**48.63 88**	*e*P	**P**	**00 48 16.4 +0.3**
	comp=Z,15nm,1.3s				
CSS			LR	LR	
	comp=Z,800nm,22.0s				
645A	**Chauvin**	**48.65 260**	P	**P**	**00 48 17.6 +1.4**
	baz=37				
KOPT	**Kop Dagi**	**48.66 78**	*e*P	**P**	**00 48 18.6 +2.1**
	comp=Z,43nm,0.9s				
KOPT	**Kop Dagi**	**48.66 78**	*e*P	**P**	**00 48 18.6 +2.1**
	comp=Z,43nm,0.9s				
KOPT			LR	LR	
	comp=Z,2μm,20.0s				
239A	**Gary**	**48.69 266**	P	**P**	**00 48 17.3 +0.8**
	baz=39				
SNOW	**Snow King Moun**	**48.73 289**	*e*P	**P**	**00 48 18.4 +1.4**
	comp=Z,72nm,1.5s				
SNOW	**Snow King Moun**	**48.73 289**	*e*P	**P**	**00 48 18.4 +1.4**
	comp=Z,72nm,1.5s				
SNOW			LR	LR	
	comp=Z,9μm,18.0s				
ISCO	**Idaho Springs**	**48.74 281**	P	**P**	**00 48 17.4 +0.1**
	baz=43,SNR=53				
ISCO	**Idaho Springs**	**48.74 281**	*e*P	**P**	**00 48 18.6 +1.4**
ISCO			pmax	pmax	
	comp=Z,53nm,1.1s				
ISCO			MLR	MLR	
	comp=Z,6μm,20.0s				
ISCO	**Idaho Springs**	**48.74 281**	*e*P	**P**	**00 48 18.6 +1.4**
	comp=Z,53nm,1.1s				
ISCO	**Idaho Springs**	**48.74 281**	*e*P	**P**	**00 48 18.6 +1.4**
	comp=Z,53nm,1.1s				
ISCO			LR	LR	
	comp=Z,6μm,20.0s				
FXWY	**Fox Creek**	**48.74 289**	*e*P	**P**	**00 48 18.2 +1.1**
	comp=Z,34nm,1.1s				
FXWY	**Fox Creek**	**48.74 289**	*e*P	**P**	**00 48 18.2 +1.1**
	comp=Z,34nm,1.1s				
FXWY			LR	LR	
	comp=Z,5μm,18.0s				
Z36A	**Blue Ridge**	**48.76 268**	P	**P**	**00 48 17.6 +0.5**
	baz=40				
MCMT	**McKenzie Canyo**	**48.80 291**	*e*P	**P**	**00 48 19.2 +1.6**
MCMT	**McKenzie Canyo**	**48.80 291**	*e*P	**P**	**00 48 19.2 +1.6**
TPAW	**Teton Pass**	**48.80 289**	*e*P	**P**	**00 48 18.8 +1.1**
	comp=Z,42nm,1.1s				
TPAW	**Teton Pass**	**48.80 289**	*e*P	**P**	**00 48 18.8 +1.1**
	comp=Z,42nm,1.1s				
TPAW			LR	LR	
	comp=Z,6μm,19.0s				
340A	**Bronson**	**48.84 265**	P	**P**	**00 48 17.9 +0.2**
	baz=38,SNR=5.7				
REDW	**Red Top Meadow**	**48.85 289**	*e*P	**P**	**00 48 18.3 +0.4**
	comp=Z,34nm,1.1s				
REDW	**Red Top Meadow**	**48.85 289**	*e*P	**P**	**00 48 18.3 +0.4**
	comp=Z,34nm,1.1s				
REDW			LR	LR	
	comp=Z,9μm,19.0s				
PAX	**Paxson**	**48.88 326**	PFAKE		00 48 30.0 +12
PAX			LR	LR	
	comp=Z,3μm,21.0s				
WMOK	**Wichita Mounta**	**48.90 272**	P	**P**	**00 48 18.8 +0.6**
	baz=40,SNR=30				
WMOK	**Wichita Mounta**	**48.90 272**	*e*P	**P**	**00 48 18.8 +0.6**
WMOK			pmax	pmax	
	comp=Z,141nm,1.6s				
WMOK			MLR	MLR	
	comp=Z,3μm,20.0s				
WMOK	**Wichita Mounta**	**48.90 272**	*e*P	**P**	**00 48 18.8 +0.6**
	comp=Z,141nm,1.6s				
WMOK	**Wichita Mounta**	**48.90 272**	*e*P	**P**	**00 48 18.8 +0.6**
	comp=Z,141nm,1.6s				
WMOK			LR	LR	
	comp=Z,3μm,20.0s				
137A	**Heron Place, G**	**48.92 267**	P	**P**	**00 48 19.1 +0.8**
	baz=39				
GUDG	**Gudauri**	**48.93 73**	P	P	00 48 24.2 +5.6
GTBY	**Guantanamo Bay**	**48.94 237**	*e*P	**P**	**00 48 19.9 +1.4**
	comp=Z,70nm,1.3s				
GTBY	**Guantanamo Bay**	**48.94 237**	*e*P	**P**	**00 48 19.9 +1.4**
	comp=Z,70nm,1.3s				
GTBY			LR	LR	
	comp=Z,1μm,21.0s				
LLLB	**Lillooet**	**48.98 302**	*e*P	**P**	**00 48 21.1 +2.5**
	comp=Z,59nm,1.4s				
LLLB	**Lillooet**	**48.98 302**	*e*P	**P**	**00 48 21.1 +2.5**
	comp=Z,59nm,1.4s				
LLLB			LR	LR	
	comp=Z,6μm,22.0s				
NATX	**Nacogdoches**	**48.99 266**	P	**P**	**00 48 19.3 +0.4**
	baz=39				
NATX	**Nacogdoches**	**48.99 266**	*e*P	**P**	**00 48 19.3 +0.4**
	comp=Z,168nm,1.7s				
NATX			LR	LR	
	comp=Z,6μm,20.0s				
441A	**DeRidder**	**49.00 263**	P	**P**	**00 48 19.1 +0.2**
	baz=38				
238A	**Jacksonville**	**49.04 266**	P	**P**	**00 48 19.5 +0.3**
	baz=39				
Q24A	**Divide**	**49.11 280**	P	**P**	**00 48 20.5 +0.4**
	baz=42				
Q24A	**Divide**	**49.11 280**	*e*P	**P**	**00 48 21.2 +1.1**
	comp=Z,61nm,1.4s				
Q24A	**Divide**	**49.11 280**	*e*P	**P**	**00 48 21.2 +1.1**
	comp=Z,61nm,1.4s				
Q24A			LR	LR	
	comp=Z,4μm,20.0s				
AKH	**Akhalkalaki**	**49.19 75**	P	P	00 48 26.4 +5.9
AKH	**Akhalkalaki**	**49.19 75**	P	P	00 48 26.4 +5.8
HARP	**HAARP**	**49.21 325**	*e*P	**P**	**00 48 21.7 +1.4**
	comp=Z,92nm,1.6s				
HARP	**HAARP**	**49.21 325**	*e*P	**P**	**00 48 21.7 +1.4**
	comp=Z,92nm,1.6s				
HARP			LR	LR	
	comp=Z,3μm,19.0s				
WRAK	**Wrangell Islan**	**49.23 314**	*e*P	**P**	**00 48 22.6 +2.3**
	comp=Z,38nm,1.1s				
WRAK	**Wrangell Islan**	**49.23 314**	*e*P	**P**	**00 48 22.6 +2.3**
	comp=Z,38nm,1.1s				
WRAK			LR	LR	
	comp=Z,10μm,20.0s				
DPW	**Davenport**	**49.23 298**	*e*P	**P**	**00 48 21.2 +0.6**
DPW	**Davenport**	**49.23 298**	*e*P	**P**	**00 48 21.2 +0.6**
DPW	**Davenport**	**49.23 298**	*e*P	**P**	**00 48 21.2 +0.6**
339A	**Huntington**	**49.27 265**	P	**P**	**00 48 21.4 +0.4**
	baz=38				
MCK	**McKinley**	**49.30 328**	*e*P	**P**	**00 48 22.0 +1.1**
MCK			pmax	pmax	
	comp=Z,72nm,1.2s				
MCK			MLR	MLR	
	comp=Z,4μm,20.0s				
MCK	**McKinley**	**49.30 328**	*e*P	**P**	**00 48 22.0 +1.1**
	comp=Z,72nm,1.2s				
MCK	**McKinley**	**49.30 328**	*e*P	**P**	**00 48 22.0 +1.1**
	comp=Z,72nm,1.2s				
MCK			LR	LR	
	comp=Z,4μm,20.0s				
DHY	**Denali Highway**	**49.36 327**	*e*P	**P**	**00 48 23.4 +1.9**
	comp=Z,41nm,1.2s				
DHY	**Denali Highway**	**49.36 327**	*e*P	**P**	**00 48 23.4 +1.9**
	comp=Z,41nm,1.2s				
DHY			LR	LR	
	comp=Z,3μm,20.0s				
PCA	**Pinnacle**	**49.39 321**	PFAKE		00 48 30.0 +8.3
PCA			LR	LR	
	comp=Z,15μm,18.0s				
237A	**Washetta, Mont**	**49.41 267**	P	**P**	**00 48 22.7 +0.6**
	baz=39				
B08A	**Colville Reser**	**49.41 299**	*e*P	**P**	**00 48 22.3 +0.3**
	comp=Z,102nm,1.5s				
B08A	**Colville Reser**	**49.41 299**	*e*P	**P**	**00 48 22.3 +0.3**
	comp=Z,102nm,1.5s				
B08A			LR	LR	
	comp=Z,6μm,19.0s				
136A	**Ennis**	**49.43 268**	P	**P**	**00 48 22.7 +0.5**
	baz=39				
DHAK	**Deception Hill**	**49.44 319**	PFAKE		00 48 30.0 +8.0
DHAK			LR	LR	
	comp=Z,5μm,20.0s				
RND	**Reindeer**	**49.53 328**	*e*P	**P**	**00 48 23.5 +0.8**
RND			pmax	pmax	
	comp=Z,43nm,1.2s				
RND			MLR	MLR	
	comp=Z,3μm,20.0s				
RND	**Reindeer**	**49.53 328**	*e*P	**P**	**00 48 23.5 +0.8**
	comp=Z,43nm,1.2s				
RND	**Reindeer**	**49.53 328**	*e*P	**P**	**00 48 23.5 +0.8**
	comp=Z,43nm,1.2s				
RND			LR	LR	
	comp=Z,3μm,20.0s				
SVB	**Belmont**	**49.53 218**	PFAKE		00 48 40.0 +17
SVB			LR	LR	
	comp=Z,1μm,19.0s				
541A	**Lake Charles**	**49.54 263**	P	**P**	**00 48 23.3 +0.2**
	baz=38				
TBLG	**Delisi**	**49.60 74**	P	**P**	**00 48 25.8 +2.4**
TBLG	**Delisi**	**49.60 74**	P	**P**	**00 48 25.8 +2.4**
TBLG	**Delisi**	**49.60 74**	P	**P**	**00 48 25.8 +2.4**
YKU2	**Yakutat**	**49.63 320**	PFAKE		00 48 40.0 +17
YKU2			LR	LR	
	comp=Z,13μm,19.0s				
338A	**Crockett**	**49.65 266**	P	**P**	**00 48 24.4 +0.5**
	baz=38				
AKTO	**Aktyubinsk**	**49.74 57**	P	**P**	**00 48 24.7 +0.3**
AKTO			pmax	pmax	
	comp=Z,56nm,0.8s				
236A	**Katherine and**	**49.80 267**	P	**P**	**00 48 25.5 +0.5**
	baz=39				
439A	**Center Grove,**	**49.80 265**	P	**P**	**00 48 25.9 +0.8**
	baz=38				
CRQM	**Cirque**	**49.84 323**	*e*P	**P**	**00 48 26.7 +1.4**
	comp=Z,56nm,1.1s				
CRQM	**Cirque**	**49.84 323**	*e*P	**P**	**00 48 26.7 +1.4**
	comp=Z,56nm,1.1s				
CRQM			LR	LR	
	comp=Z,6μm,22.0s				
O20A	**White River Ci**	**49.86 284**	P	**P**	**00 48 26.2 +0.5**
	baz=42,SNR=9.6				
O20A	**White River Ci**	**49.86 284**	*e*P	**P**	**00 48 26.6 +0.9**
	comp=Z,113nm,1.4s				
O20A	**White River Ci**	**49.86 284**	*e*P	**P**	**00 48 26.6 +0.9**
	comp=Z,113nm,1.4s				
O20A			LR	LR	
	comp=Z,5μm,22.0s				
TRF	**Thorofare Moun**	**49.90 329**	*e*P	**P**	**00 48 26.7 +1.1**
	comp=Z,161nm,1.7s				
TRF	**Thorofare Moun**	**49.90 329**	*e*P	**P**	**00 48 26.7 +1.1**
	comp=Z,161nm,1.7s				
TRF			LR	LR	
	comp=Z,4μm,20.0s				
SMCO	**Snowmass**	**49.91 282**	*e*P	**P**	**00 48 27.7 +1.4**
	comp=Z,78nm,1.4s				
SMCO	**Snowmass**	**49.91 282**	*e*P	**P**	**00 48 27.7 +1.4**
	comp=Z,78nm,1.4s				
SMCO			LR	LR	
	comp=Z,8μm,20.0s				
337A	**Centerville**	**49.99 266**	P	**P**	**00 48 27.5 +1.0**
	baz=38				
KTH	**Kantishna Hill**	**49.99 329**	*e*P	**P**	**00 48 27.5 +1.3**
	comp=Z,90nm,1.4s				
KTH	**Kantishna Hill**	**49.99 329**	*e*P	**P**	**00 48 27.5 +1.3**
	comp=Z,90nm,1.4s				
KTH			LR	LR	
	comp=Z,3μm,20.0s				
TIXI	**Tiksi**	**50.07 8**	*c e*P	**P**	**00 48 27.6 +1.0**
TIXI			pmax	pmax	
	comp=Z,56nm,1.2s				
TIXI	**Tiksi**	**50.07 8**	*e*P	**P**	**00 48 27.8 +1.2**
	comp=Z,38nm,1.0s				
TIXI	**Tiksi**	**50.07 8**	*e*P	**P**	**00 48 27.8 +1.2**
	comp=Z,38nm,1.0s				
TIXI			LR	LR	
	comp=Z,900nm,22.0s				
T25A	**Trinidad**	**50.08 278**	P	**P**	**00 48 28.4 +1.0**
	baz=41,SNR=27				
T25A	**Trinidad**	**50.08 278**	*e*P	**P**	**00 48 28.4 +1.0**
	comp=Z,62nm,1.1s				
T25A	**Trinidad**	**50.08 278**	*e*P	**P**	**00 48 28.4 +1.0**
	comp=Z,62nm,1.1s				
T25A			LR	LR	
	comp=Z,9μm,19.0s				
MAK	**Makhachkala**	**50.11 71**	*e*P	**P**	**00 48 30.0 +2.8**
MAK			*e*		00 50 19.3
MAK			*e*S	**S**	**00 55 43.1 +5.0**
MAK			*e*SS	**SS**	**00 59 10.4 -0.3**
MAK			pmax	pmax	
	comp=Z,102nm,1.1s				
MAK			MLR	MLR	
	comp=Z,2μm,15.0s				
F10A	**Beach Ranch, E**	**50.12 295**	*e*P	**P**	**00 48 27.9 +0.4**
	comp=Z,74nm,1.5s				
F10A	**Beach Ranch, E**	**50.12 295**	*e*P	**P**	**00 48 27.9 +0.4**
	comp=Z,74nm,1.5s				
F10A			LR	LR	
	comp=Z,5μm,22.0s				
DGRG	**David-gareji**	**50.13 73**	P	**P**	**00 48 30.0 +2.5**
DGRG	**David-gareji**	**50.13 73**	P	**P**	**00 48 30.0 +2.5**
BMRM	**Bremner River**	**50.14 324**	*e*P	**P**	**00 48 28.0 +0.6**
	comp=Z,82nm,1.4s				
BMRM	**Bremner River**	**50.14 324**	*e*P	**P**	**00 48 28.0 +0.6**
	comp=Z,82nm,1.4s				
BMRM			LR	LR	
	comp=Z,5μm,22.0s				
KLU	**Klutina**	**50.15 325**	*e*P	**P**	**00 48 28.8 +1.4**
	comp=Z,48nm,1.4s				
KLU	**Klutina**	**50.15 325**	*e*P	**P**	**00 48 28.8 +1.4**
	comp=Z,48nm,1.4s				
KLU			LR	LR	
	comp=Z,4μm,18.0s				
D08A	**Wollman Farm,**	**50.15 297**	PFAKE		00 48 40.0 +12
D08A			LR	LR	
	comp=Z,8μm,20.0s				
E09A	**Wood Farm, Sta**	**50.17 296**	*e*P	**P**	**00 48 29.2 +1.5**
	comp=Z,44nm,1.6s				
E09A	**Wood Farm, Sta**	**50.17 296**	*e*P	**P**	**00 48 29.2 +1.5**
	comp=Z,44nm,1.6s				
E09A			LR	LR	
	comp=Z,6μm,19.0s				
WTV	**Waterville**	**50.18 299**	*e*P	**P**	**00 48 27.7 -0.1**
WTV	**Waterville**	**50.18 299**	*e*P	**P**	**00 48 27.7 -0.1**
SDCO	**Great Sand Dun**	**50.20 280**	P	**P**	**00 48 29.2 +0.8**
	baz=42,SNR=24				
SDCO	**Great Sand Dun**	**50.20 280**	*e*P	**P**	**00 48 29.4 +1.0**
	comp=Z,27nm,1.1s				
SDCO	**Great Sand Dun**	**50.20 280**	*e*P	**P**	**00 48 29.4 +1.0**
	comp=Z,27nm,1.1s				
SDCO			LR	LR	
	comp=Z,7μm,22.0s				
438A	**Sam Houston St**	**50.21 265**	P	**P**	**00 48 29.0 +0.8**
	baz=38				
CRAG	**Craig**	**50.22 313**	PFAKE		00 48 40.0 +12
CRAG			LR	LR	
	comp=Z,12μm,19.0s				
B06A	**Marblemount**	**50.30 300**	*e*P	**P**	**00 48 30.2 +1.6**
	comp=Z,32nm,1.5s				
B06A	**Marblemount**	**50.30 300**	*e*P	**P**	**00 48 30.2 +1.6**
	comp=Z,32nm,1.5s				
WHTX	**Lake Whitney,**	**50.30 268**	P	**P**	**00 48 28.6 -0.2**
	baz=39,SNR=12				
WHTX	**Lake Whitney,**	**50.30 268**	*e*P	**P**	**00 48 29.4 +0.6**
	comp=Z,214nm,1.8s				
WHTX	**Lake Whitney,**	**50.30 268**	*e*P	**P**	**00 48 29.4 +0.6**
	comp=Z,214nm,1.8s				
WHTX			LR	LR	
	comp=Z,6μm,20.0s				
SCM	**Sheep Creek Mo**	**50.31 326**	PFAKE		00 48 40.0 +11
SCM			LR	LR	
	comp=Z,2μm,20.0s				
AMTX	**Amarillo**	**50.33 274**	P	**P**	**00 48 30.1 +0.9**
	baz=40				
AMTX	**Amarillo**	**50.33 274**	*e*P	**P**	**00 48 30.8 +1.6**
	comp=Z,85nm,1.1s				
AMTX	**Amarillo**	**50.33 274**	*e*P	**P**	**00 48 30.8 +1.6**
	comp=Z,85nm,1.1s				
AMTX			LR	LR	
	comp=Z,7μm,18.0s				
DIV	**Divide**	**50.38 325**	*e*P	**P**	**00 48 30.3 +1.1**
	comp=Z,50nm,1.6s				
DIV	**Divide**	**50.38 325**	*e*P	**P**	**00 48 30.3 +1.1**
	comp=Z,50nm,1.6s				
DIV			LR	LR	
	comp=Z,5μm,18.0s				
CAST	**Castle Rocks**	**50.41 329**	*e*P	**P**	**00 48 30.4 +1.0**
	comp=Z,50nm,1.4s				
CAST	**Castle Rocks**	**50.41 329**	*e*P	**P**	**00 48 30.4 +1.0**
	comp=Z,50nm,1.4s				
CAST			LR	LR	
	comp=Z,2μm,20.0s				
ETW	**Entiat**	**50.42 299**	*e*P	**P**	**00 48 29.6 -0.2**
ETW	**Entiat**	**50.42 299**	*e*P	**P**	**00 48 29.6 -0.2**
336A	**Riesel**	**50.44 267**	P	**P**	**00 48 29.9 0.0**
	baz=38,SNR=9.4				
C06D	**Leavenworth**	**50.45 299**	P	**P**	**00 48 30.0 +0.2**
	baz=44				
HWUT	**Hardware Ranch**	**50.48 287**	*e*P	**P**	**00 48 30.8 +0.4**
	comp=Z,56nm,1.1s				
HWUT	**Hardware Ranch**	**50.48 287**	*e*P	**P**	**00 48 30.8 +0.4**
	comp=Z,56nm,1.1s				
HWUT			*e*PcP	**PcP**	**00 49 48.4 0.0**
HWUT			LR	LR	
	comp=Z,9μm,18.0s				
HLID	**Hailey**	**50.49 291**	P	**P**	**00 48 31.1 +0.7**
	baz=43,SNR=25				
HLID	**Hailey**	**50.49 291**	*e*P	**P**	**00 48 31.3 +0.9**
	comp=Z,42nm,1.4s				
HLID	**Hailey**	**50.49 291**	*e*P	**P**	**00 48 31.3 +0.9**
	comp=Z,42nm,1.4s				
HLID			LR	LR	
	comp=Z,3μm,18.0s				
437A	**Phantom Ranch,**	**50.50 266**	P	**P**	**00 48 31.0 +0.7**
	baz=38				
HWQ	**Hawqa**	**50.54 87**	*e*P	**P**	**00 48 30.4 -0.4**
HWQ	**Hawqa**	**50.54 87**	*e*P	**P**	**00 48 30.4 -0.4**
BBB	**Bella Bella**	**50.58 307**	LR	LR	01 08 29.5
	comp=Z,3μm,21.7s,baz=34,slow=34				
RAGM	**Ragged Mountai**	**50.61 323**	PFAKE		00 48 40.0 +9.1
RAGM			LR	LR	
	comp=Z,6μm,21.0s				
SML	**Sawmill**	**50.63 326**	*e*P	**P**	**00 48 32.5 +1.5**
SML			pmax	pmax	
	comp=Z,103nm,1.4s				
SML			MLR	MLR	
	comp=Z,2μm,21.0s				
SML	**Sawmill**	**50.63 326**	*e*P	**P**	**00 48 32.5 +1.5**
	comp=Z,103nm,1.4s				
SML	**Sawmill**	**50.63 326**	*e*P	**P**	**00 48 32.5 +1.5**
	comp=Z,103nm,1.4s				
SML			LR	LR	
	comp=Z,2μm,21.0s				
538A	**Harpers Horsep**	**50.63 265**	P	**P**	**00 48 31.1 -0.3**
	baz=38				
BHL	**Bhannes**	**50.67 87**	*e*P	**P**	**00 48 32.6 +0.8**
BHL	**Bhannes**	**50.67 87**	*e*P	**P**	**00 48 32.6 +0.8**
GRGR	**Grenville**	**50.73 218**	PFAKE		00 48 40.0 +7.8
GRGR			LR	LR	
	comp=Z,800nm,21.0s				
GNI	**Garni**	**50.76 75**	P	**P**	**00 48 34.1 +1.7**
	comp=Z,56nm,1.0s,baz=184,slow=4.8,SNR=15				

GNI	**Garni**	**50.76 75**	*i* P	**P**	**00 48 33.4 +0.9**
	SNR=12				
GNI	**Garni**	**50.76 75**	*c i* P	**P**	**00 48 33.8 +1.3**
GNI			pmax	pmax	
	comp=Z,160nm,1.0s				
GNI	**Garni**	**50.76 75**	P	**P**	**00 48 33.4 +0.9**
	SNR=12				
GNI	**Garni**	**50.76 75**	*e*P	**P**	**00 48 33.9 +1.5**
	comp=Z,74nm,1.0s				
GNI			LR	LR	
	comp=Z,2μm,21.0s				
GNI	**Garni**	**50.76 75**	P	**P**	**00 48 34.3 +1.9**
	SNR=21				
GNI			P	**P**	**00 48 34.3 +1.9**
	SNR=21				
GNI	**Garni**	**50.76 75**	P	**P**	**00 48 34.3 +1.9**
	SNR=21				
MARD	**Mardin**	**50.81 80**	*e*P	**P**	**00 48 34.6 +1.8**
	comp=Z,50nm,0.9s				
MARD	**Mardin**	**50.81 80**	*e*P	**P**	**00 48 34.6 +1.8**
	comp=Z,50nm,0.9s				
MARD			LR	LR	
	comp=Z,3μm,20.0s				
EYAK	**Cordova Ski Ar**	**50.83 324**	PFAKE		00 48 50.0 +18
EYAK			LR	LR	
	comp=Z,6μm,19.0s				
PPLA	**Purkeypile**	**50.86 329**	*e*P	**P**	**00 48 34.0 +1.1**
	comp=Z,100nm,1.3s				
PPLA	**Purkeypile**	**50.86 329**	*e*P	**P**	**00 48 34.0 +1.1**
	comp=Z,100nm,1.3s				
PPLA			LR	LR	
	comp=Z,3μm,18.0s				
S22A	**4UR Ranch, Cre**	**50.89 281**	P	**P**	**00 48 34.8 +1.2**
	baz=41,SNR=45				
S22A	**4UR Ranch, Cre**	**50.89 281**	*e*P	**P**	**00 48 35.5 +1.8**
	comp=Z,211nm,2.0s				
S22A	**4UR Ranch, Cre**	**50.89 281**	*e*P	**P**	**00 48 35.5 +1.8**
	comp=Z,211nm,2.0s				
S22A			LR	LR	
	comp=Z,4μm,22.0s				
436A	**Wall Ranch, Ga**	**50.90 267**	P	**P**	**00 48 33.8 +0.4**
	baz=38				
FID	**Port Fidalgo**	**50.90 325**	*e*P	**P**	**00 48 35.6 +2.6**
	comp=Z,98nm,1.3s				
FID	**Port Fidalgo**	**50.90 325**	*e*P	**P**	**00 48 35.6 +2.6**
	comp=Z,98nm,1.3s				
FID			LR	LR	
	comp=Z,6μm,19.0s				
HAWA	**Hanford**	**50.92 297**	*e*P	**P**	**00 48 33.3 -0.1**
	comp=Z,37nm,1.6s				
HAWA	**Hanford**	**50.92 297**	*e*P	**P**	**00 48 33.4 -0.1**
	comp=Z,37nm,1.6s				
HAWA			LR	LR	
	comp=Z,7μm,19.0s				
E07A	**Sunnyside**	**50.95 297**	*e*P	**P**	**00 48 35.1 +1.5**
	comp=Z,9.8nm,0.9s				
E07A	**Sunnyside**	**50.95 297**	*e*P	**P**	**00 48 35.1 +1.5**
	comp=Z,9.8nm,0.9s				
E07A			LR	LR	
	comp=Z,8μm,21.0s				
HVU	**Hansel Valley**	**50.97 288**	*e*P	**P**	**00 48 35.8 +1.8**
HVU			pmax	pmax	
	comp=Z,24nm,1.0s				
HVU			MLR	MLR	
	comp=Z,8μm,18.0s				
HVU	**Hansel Valley**	**50.97 288**	*e*P	**P**	**00 48 35.8 +1.8**
	comp=Z,24nm,1.0s				
HVU	**Hansel Valley**	**50.97 288**	*e*P	**P**	**00 48 35.8 +1.8**
	comp=Z,24nm,1.0s				
HVU			LR	LR	
	comp=Z,8μm,18.0s				
BMO	**Blue Mountains**	**50.97 294**	*e*P	**P**	**00 48 33.7 -0.2**
BMO			pmax	pmax	
	comp=Z,18nm,1.0s				
BMO			MLR	MLR	
	comp=Z,4μm,22.0s				
BMO	**Blue Mountains**	**50.97 294**	*e*P	**P**	**00 48 33.7 -0.2**
	comp=Z,18nm,1.0s				
BMO	**Blue Mountains**	**50.97 294**	*e*P	**P**	**00 48 33.7 -0.2**
	comp=Z,18nm,1.0s				
BMO			LR	LR	
	comp=Z,4μm,22.0s				
ABTX	**Abilene, Hawle**	**50.98 271**	P	**P**	**00 48 34.2 +0.2**
	baz=39,SNR=14				
ABTX	**Abilene, Hawle**	**50.98 271**	*e*P	**P**	**00 48 34.6 +0.6**
	comp=Z,96nm,1.4s				
ABTX	**Abilene, Hawle**	**50.98 271**	*e*P	**P**	**00 48 34.6 +0.6**
	comp=Z,96nm,1.4s				
ABTX			LR	LR	
	comp=Z,3μm,18.0s				
GLI	**Glacier Island**	**50.98 325**	PFAKE		00 48 50.0 +16
GLI			LR	LR	
	comp=Z,4μm,18.0s				
HKT	**Hockley**	**51.03 265**	*e*P	**P**	**00 48 34.5 +0.2**
HKT			pmax	pmax	
	comp=Z,145nm,1.5s				
HKT			MLR	MLR	
	comp=Z,32μm,19.0s				
HKT	**Hockley**	**51.03 265**	*e*P	**P**	**00 48 34.5 +0.2**
	comp=Z,145nm,1.5s				
HKT	**Hockley**	**51.03 265**	*e*P	**P**	**00 48 34.5 +0.2**
	comp=Z,145nm,1.5s				
HKT			LR	LR	
	comp=Z,32μm,19.0s				
PMR	**Palmer**	**51.03 327**	*e*P	**P**	**00 48 35.3 +1.3**
PMR			pmax	pmax	
	comp=Z,79nm,1.5s				
PMR			MLR	MLR	
	comp=Z,3μm,20.0s				
PMR	**Palmer**	**51.03 327**	*e*P	**P**	**00 48 35.3 +1.3**
	comp=Z,79nm,1.5s				
PMR	**Palmer**	**51.03 327**	*e*P	**P**	**00 48 35.3 +1.3**
	comp=Z,79nm,1.5s				
PMR			LR	LR	
	comp=Z,3μm,20.0s				
PGC	**Sidney**	**51.10 302**	PFAKE		00 48 50.0 +15
PGC			LR	LR	
	comp=Z,4μm,20.0s				
SPUT	**South Promonto**	**51.15 288**	*e*P	**P**	**00 48 36.1 +0.7**
	comp=Z,114nm,1.3s				
SPUT	**South Promonto**	**51.15 288**	*e*P	**P**	**00 48 36.1 +0.7**
	comp=Z,114nm,1.3s				
SPUT			LR	LR	
	comp=Z,9μm,18.0s				
JLU	**Jordanelle**	**51.17 286**	*e*P	**P**	**00 48 36.8 +1.2**
	comp=Z,46nm,1.2s				
JLU	**Jordanelle**	**51.17 286**	*e*P	**P**	**00 48 36.8 +1.2**
	comp=Z,46nm,1.2s				
JLU			LR	LR	
	comp=Z,6μm,18.0s				
537A	**Green Hill Par**	**51.18 266**	P	**P**	**00 48 36.5 +0.9**
	baz=38,SNR=7.6				
MMAI	**Mount Meron Ar**	**51.22 88**	P	**P**	**00 48 36.1 +0.2**
	comp=Z,11nm,1.1s,baz=52,slow=2.6,SNR=5.7				
638A	**Rosharon**	**51.24 264**	P	**P**	**00 48 36.2 +0.2**
	baz=37				
P18A	**Preston Nutter**	**51.27 285**	*e*P	**P**	**00 48 36.7 +0.2**
	comp=Z,84nm,1.3s				
P18A	**Preston Nutter**	**51.27 285**	*e*P	**P**	**00 48 36.7 +0.2**
	comp=Z,84nm,1.3s				
P18A			LR	LR	
	comp=Z,6μm,21.0s				
MFID	**Camas Ranch**	**51.30 292**	*e*P	**P**	**00 48 37.6 +1.2**
	comp=Z,33nm,1.4s				
MFID	**Camas Ranch**	**51.30 292**	*e*P	**P**	**00 48 37.6 +1.2**
	comp=Z,33nm,1.4s				
MFID			LR	LR	
	comp=Z,5μm,18.0s				
435B	**Jarrell**	**51.31 267**	P	**P**	**00 48 36.9 +0.4**
	baz=38				
AB31	**Akbulak array**	**51.45 57**	*i* P	**P**	**00 48 37.3 0.0**
AB31			pmax	pmax	
	comp=Z,32nm,0.8s				
ABKAR	**Akbulak array**	**51.45 57**	*e*P	**P**	**00 48 37.6 +0.3**
	comp=Z,263nm,0.8s				
ABKAR	**Akbulak array**	**51.45 57**	*e*P	**P**	**00 48 37.6 +0.3**
	comp=Z,263nm,0.8s				
ABKAR			LR	LR	
	comp=Z,1μm,18.0s				
D05A	**Enumclaw**	**51.50 299**	PFAKE		00 48 50.0 +12
D05A			LR	LR	
	comp=Z,4μm,20.0s				
PV01	**Paradox Valley**	**51.51 282**	*e*P	**P**	**00 48 39.5 +1.3**
PV01	**Paradox Valley**	**51.51 282**	*e*P	**P**	**00 48 39.5 +1.3**
MTDJ	**Mount Denham**	**51.52 239**	PFAKE		00 48 50.0 +12
MTDJ			LR	LR	
	comp=Z,1μm,20.0s				
PV09	**Paradox Valley**	**51.53 283**	*e*P	**P**	**00 48 39.8 +1.3**
PV09	**Paradox Valley**	**51.53 283**	*e*P	**P**	**00 48 39.8 +1.3**
536A	**Bastrop**	**51.59 266**	P	**P**	**00 48 38.5 -0.1**
	baz=38				
SUA	**Susitna One**	**51.61 327**	*e*P	**P**	**00 48 40.3 +1.8**
	comp=Z,96nm,1.2s				
SUA	**Susitna One**	**51.61 327**	*e*P	**P**	**00 48 40.3 +1.8**
	comp=Z,96nm,1.2s				
SUA			LR	LR	
	comp=Z,3μm,20.0s				
MSTX	**Muleshoe**	**51.61 274**	P	**P**	**00 48 39.3 +0.5**
	baz=40,SNR=11				
MSTX	**Muleshoe**	**51.61 274**	*e*P	**P**	**00 48 39.7 +0.9**
	comp=Z,180nm,1.8s				
MSTX	**Muleshoe**	**51.61 274**	*e*P	**P**	**00 48 39.7 +0.9**
	comp=Z,180nm,1.8s				
MSTX			LR	LR	
	comp=Z,6μm,18.0s				
RC01	**Rabbit Creek A**	**51.61 327**	*e*P	**P**	**00 48 39.3 +0.9**
	comp=Z,126nm,1.5s				
RC01	**Rabbit Creek A**	**51.61 327**	*e*P	**P**	**00 48 39.3 +0.9**
	comp=Z,126nm,1.5s				
RC01			LR	LR	
	comp=Z,3μm,19.0s				
TOC7	**Torodi Ar. Sit**	**51.63 136**	PFAKE		00 48 50.0 +11
TOC7			LR	LR	
	comp=Z,2μm,22.0s				
TOC1	**Torodi Ar. Sit**	**51.63 136**	PFAKE		00 48 50.0 +11
TOC1			LR	LR	
	comp=Z,2μm,21.0s				
DIB	**Dawson Inlet,**	**51.63 311**	PFAKE		00 48 50.0 +11
DIB			LR	LR	
	comp=Z,16μm,18.0s				
P17A	**Butcher Ranch,**	**51.64 285**	*e*P	**P**	**00 48 40.1 +1.0**
	comp=Z,80nm,1.4s				
P17A	**Butcher Ranch,**	**51.64 285**	*e*P	**P**	**00 48 40.1 +1.0**
	comp=Z,80nm,1.4s				
P17A			LR	LR	
	comp=Z,6μm,20.0s				
TOB5	**Torodi Ar. Sit**	**51.64 136**	PFAKE		00 48 50.0 +11
TOB5			LR	LR	
	comp=Z,2μm,21.0s				
TOB2	**Torodi Ar. Sit**	**51.65 136**	PFAKE		00 48 50.0 +11
TOB2			LR	LR	
	comp=Z,2μm,22.0s				
TOA0	**Torodi Ar. Sit**	**51.65 136**	*e*P	**P**	**00 48 38.2 -1.0**
TOA0	**Torodi Ar. Sit**	**51.65 136**	*e*P	**P**	**00 48 38.1 -1.0**
TOA0			LR	LR	
	comp=Z,2μm,21.0s				
TORD	**Torodi Ar. Bea**	**51.65 136**	P	**P**	**00 48 37.6 -1.5**
	comp=Z,18nm,0.8s,baz=338,slow=7.3,SNR=77				
TORD			LR	LR	01 08 38.5
	comp=Z,2μm,18.3s,baz=350,slow=34				
TOC2	**Torodi Ar. Sit**	**51.65 135**	PFAKE		00 48 50.0 +11
TOC2			LR	LR	
	comp=Z,2μm,21.0s				
TOB4	**Torodi Ar. Sit**	**51.66 136**	PFAKE		00 48 50.0 +11
TOB4			LR	LR	
	comp=Z,2μm,21.0s				
TOC5	**Torodi Ar. Sit**	**51.66 136**	PFAKE		00 48 50.0 +11
TOC5			LR	LR	
	comp=Z,3μm,21.0s				
TOB3	**Torodi Ar. Sit**	**51.66 136**	PFAKE		00 48 50.0 +11
TOB3			LR	LR	
	comp=Z,2μm,21.0s				
TOC3	**Torodi Ar. Sit**	**51.67 136**	PFAKE		00 48 50.0 +11
TOC3			LR	LR	
	comp=Z,2μm,21.0s				
TOC4	**Torodi Ar. Sit**	**51.68 136**	PFAKE		00 48 50.0 +11
TOC4			LR	LR	
	comp=Z,2μm,21.0s				
MPU	**Maple Canyon**	**51.70 286**	*e*P	**P**	**00 48 40.5 +1.0**
	comp=Z,82nm,1.2s				
MPU	**Maple Canyon**	**51.70 286**	*e*P	**P**	**00 48 40.5 +1.0**
	comp=Z,82nm,1.2s				
MPU			LR	LR	
	comp=Z,8μm,18.0s				
637A	**Eagle Lake**	**51.70 265**	P	**P**	**00 48 39.7 +0.3**
	baz=38				
BGU	**Big Grassy Mou**	**51.73 288**	*e*P	**P**	**00 48 40.9 +1.2**
	comp=Z,29nm,1.3s				
BGU	**Big Grassy Mou**	**51.73 288**	*e*P	**P**	**00 48 40.9 +1.2**
	comp=Z,29nm,1.3s				
BGU			LR	LR	
	comp=Z,7μm,18.0s				
LON	**Longmire**	**51.73 299**	*e*P	**P**	**00 48 41.5 +1.9**
LON			pmax	pmax	
	comp=Z,45nm,1.8s				
LON	**Longmire**	**51.73 299**	*e*P	**P**	**00 48 41.5 +1.9**
	comp=Z,45nm,1.8s				
LON	**Longmire**	**51.73 299**	*e*P	**P**	**00 48 41.5 +1.9**
	comp=Z,45nm,1.8s				
SRU	**San Rafael Swe**	**51.80 285**	*e*P	**P**	**00 48 41.4 +1.1**
SRU			*e*		00 49 50.6
SRU			pmax	pmax	
	comp=Z,34nm,1.1s				
SRU			MLR	MLR	
	comp=Z,5μm,22.0s				
SRU	**San Rafael Swe**	**51.80 285**	*e*P	**P**	**00 48 41.4 +1.1**
	comp=Z,34nm,1.1s				
SRU	**San Rafael Swe**	**51.80 285**	*e*P	**P**	**00 48 41.4 +1.1**
	comp=Z,34nm,1.1s				
SRU			*e*PcP	**PcP**	**00 49 50.5 -2.7**
SRU			LR	LR	
	comp=Z,5μm,22.0s				
PV05	**Paradox Valley**	**51.83 283**	*e*P	**P**	**00 48 41.2 +0.6**
PV05	**Paradox Valley**	**51.83 283**	*e*P	**P**	**00 48 41.1 +0.6**
TTA	**Tatalina**	**51.85 331**	*e*P	**P**	**00 48 40.4 +0.2**
TTA			pmax	pmax	
	comp=Z,72nm,1.4s				
TTA			MLR	MLR	
	comp=Z,2μm,20.0s				
TTA	**Tatalina**	**51.85 331**	*e*P	**P**	**00 48 40.4 +0.2**
	comp=Z,72nm,1.4s				
TTA	**Tatalina**	**51.85 331**	*e*P	**P**	**00 48 40.4 +0.2**
	comp=Z,72nm,1.4s				
TTA			LR	LR	
	comp=Z,2μm,20.0s				
TT01	**Tatalina**	**51.88 331**	*e*P	**P**	**00 48 40.6 +0.3**
TT01	**Tatalina**	**51.88 331**	*e*P	**P**	**00 48 40.6 +0.3**
MID	**Middleton Isla**	**51.89 323**	PFAKE		00 48 50.0 +10
MID			LR	LR	
	comp=Z,4μm,20.0s				
535A	**Dale**	**51.89 267**	P	**P**	**00 48 41.0 +0.2**
	baz=38				
NLU	**North Lily Min**	**51.97 286**	*e*P	**P**	**00 48 42.8 +1.2**
	comp=Z,62nm,1.1s				
NLU	**North Lily Min**	**51.97 286**	*e*P	**P**	**00 48 42.8 +1.2**
	comp=Z,62nm,1.1s				
NLU			LR	LR	
	comp=Z,6μm,19.0s				
TMUT	**Trail Mountain**	**52.01 285**	*e*P	**P**	**00 48 42.9 +0.9**
	comp=Z,62nm,1.5s				
TMUT	**Trail Mountain**	**52.01 285**	*e*P	**P**	**00 48 42.9 +0.9**
	comp=Z,62nm,1.5s				
TMUT			LR	LR	
	comp=Z,5μm,20.0s				
636A	**Smothers Creek**	**52.05 266**	P	**P**	**00 48 42.6 +0.6**
	baz=38				
DUG	**Dugway, Tooele**	**52.16 287**	P	**P**	**00 48 42.0 -1.0**
	baz=42				
DUG	**Dugway, Tooele**	**52.16 287**	*e*P	**P**	**00 48 43.8 +0.8**
DUG			pmax	pmax	
	comp=Z,53nm,1.5s				
DUG			MLR	MLR	
	comp=Z,7μm,18.0s				
DUG	**Dugway, Tooele**	**52.16 287**	*e*P	**P**	**00 48 43.8 +0.8**
	comp=Z,54nm,1.5s				
DUG	**Dugway, Tooele**	**52.16 287**	*e*P	**P**	**00 48 43.8 +0.8**
	comp=Z,54nm,1.5s				
DUG			LR	LR	
	comp=Z,7μm,18.0s				
MVCO	**Mesa Verde**	**52.17 281**	P	**P**	**00 48 44.4 +1.2**
	baz=41,SNR=28				
MVCO	**Mesa Verde**	**52.17 281**	*e*P	**P**	**00 48 45.1 +2.0**
	comp=Z,109nm,1.2s				
MVCO	**Mesa Verde**	**52.17 281**	*e*P	**P**	**00 48 45.1 +2.0**
	comp=Z,109nm,1.2s				
MVCO			LR	LR	
	comp=Z,6μm,19.0s				
SPU	**Mount Spurr**	**52.21 328**	*e*P	**P**	**00 48 43.6 +0.8**
SPU	**Mount Spurr**	**52.21 328**	*e*P	**P**	**00 48 43.6 +0.8**
NLWA	**Neilton Lookou**	**52.22 301**	*e*P	**P**	**00 48 44.0 +0.9**
	comp=Z,69nm,1.3s				
NLWA	**Neilton Lookou**	**52.22 301**	*e*P	**P**	**00 48 44.0 +0.9**
	comp=Z,69nm,1.3s				
NLWA			LR	LR	
	comp=Z,8μm,19.0s				
G06A	**Carlson Farm,**	**52.30 297**	PFAKE		00 49 00.0 +16
G06A			LR	LR	
	comp=Z,4μm,21.0s				
SEW	**Seward**	**52.31 326**	*e*P	**P**	**00 48 46.0 +2.5**
	comp=Z,88nm,1.4s				
SEW	**Seward**	**52.31 326**	*e*P	**P**	**00 48 46.0 +2.5**
	comp=Z,88nm,1.4s				
SEW			LR	LR	
	comp=Z,4μm,18.0s				
SHW	**Mount Saint He**	**52.34 299**	*e*P	**P**	**00 48 46.6 +2.4**
SHW	**Mount Saint He**	**52.34 299**	*e*P	**P**	**00 48 46.6 +2.4**
SHW	**Mount Saint He**	**52.34 299**	*e*P	**P**	**00 48 46.6 +2.4**
736A	**Circle Diamond**	**52.47 265**	P	**P**	**00 48 45.4 +0.2**
	baz=37				
635A	**Leesville**	**52.51 266**	P	**P**	**00 48 45.3 0.0**
	baz=38,SNR=5.6				
F04A	**Amboy**	**52.62 299**	*e*P	**P**	**00 48 46.8 +0.7**
	comp=Z,60nm,1.4s				
F04A	**Amboy**	**52.62 299**	*e*P	**P**	**00 48 46.8 +0.7**
	comp=Z,60nm,1.4s				
F04A			LR	LR	
	comp=Z,6μm,19.0s				
E03A	**Lebam**	**52.70 300**	*e*P	**P**	**00 48 46.6 0.0**
	comp=Z,289nm,1.7s				
E03A	**Lebam**	**52.70 300**	*e*P	**P**	**00 48 46.6 0.0**
	comp=Z,289nm,1.7s				
E03A			LR	LR	
	comp=Z,5μm,22.0s				
JCT	**Junction City**	**52.73 269**	P	**P**	**00 48 47.1 0.0**
	baz=38,SNR=17				
JCT	**Junction City**	**52.73 269**	*e*P	**P**	**00 48 46.9 -0.2**
JCT			pmax	pmax	
	comp=Z,55nm,1.0s				
JCT			MLR	MLR	
	comp=Z,4μm,20.0s				
JCT	**Junction City**	**52.73 269**	*e*P	**P**	**00 48 46.9 -0.2**
	comp=Z,55nm,1.0s				
JCT	**Junction City**	**52.73 269**	*e*P	**P**	**00 48 46.9 -0.2**
	comp=Z,55nm,1.0s				
JCT			LR	LR	
	comp=Z,4μm,20.0s				
F04D	**Rainier, OR**	**52.79 299**	P	**P**	**00 48 47.2 0.0**
	baz=42				
ANMO	**Albuquerque**	**52.82 278**	P	**P**	**00 48 48.7 +0.8**
	baz=40				
ANMO	**Albuquerque**	**52.82 278**	*d i* P	**P**	**00 48 49.4 +1.5**
ANMO			pmax	pmax	
	comp=Z,45nm,1.7s				
ANMO	**Albuquerque**	**52.82 278**	*e*P	**P**	**00 48 49.8 +1.9**
	comp=Z,69nm,1.5s				
ANMO	**Albuquerque**	**52.82 278**	*e*P	**P**	**00 48 49.8 +1.9**
	comp=Z,69nm,1.5s				
ANMO			LR	LR	
	comp=Z,9μm,18.0s				
634A	**China Grove, S**	**52.82 267**	P	**P**	**00 48 48.0 +0.3**
	baz=38				
735A	**Kenedy**	**52.94 266**	P	**P**	**00 48 48.6 0.0**
	baz=37				
BRVK	**Borovoye**	**52.97 47**	*c e*P	**P**	**00 48 48.9 +0.4**
BRVK			pmax	pmax	
	comp=Z,79nm,1.7s				
BRVK	**Borovoye**	**52.97 47**	*e*P	**P**	**00 48 49.0 +0.4**
	comp=Z,40nm,1.3s				
BRVK	**Borovoye**	**52.97 47**	*e*P	**P**	**00 48 49.0 +0.4**
	comp=Z,40nm,1.3s				
BRVK			LR	LR	
	comp=Z,2μm,22.0s				
BRVK	**Borovoye**	**52.97 47**	P	**P**	**00 48 48.9 +0.4**
	SNR=13				
BRVK			P	**P**	**00 48 48.9 +0.4**
	SNR=13				
BRVK	**Borovoye**	**52.97 47**	P	**P**	**00 48 48.9 +0.4**
	SNR=13				
BRLK	**Bradley Lake**	**53.02 326**	*e*P	**P**	**00 48 50.8 +2.0**
	comp=Z,85nm,1.5s				
BRLK	**Bradley Lake**	**53.02 326**	*e*P	**P**	**00 48 50.9 +2.0**
	comp=Z,85nm,1.5s				
BRLK			LR	LR	
	comp=Z,3μm,20.0s				
BVA0	**Borovoye Array**	**53.03 47**	P	**P**	**00 48 49.0 0.0**
BVA0			pmax	pmax	
	comp=Z,24nm,0.9s				
BVAR	**Borovoye Array**	**53.03 47**	P	**P**	**00 48 49.1 0.0**
	comp=Z,7.2nm,0.7s,baz=316,slow=6.2,SNR=31				
MSU	**Marysvale**	**53.10 285**	*e*P	**P**	**00 48 51.4 +1.4**
MSU	**Marysvale**	**53.10 285**	*e*P	**P**	**00 48 51.4 +1.4**
MSU	**Marysvale**	**53.10 285**	*e*P	**P**	**00 48 51.4 +1.4**
F03A	**Seaside**	**53.16 299**	PFAKE		00 49 00.0 +10
F03A			LR	LR	
	comp=Z,4μm,20.0s				
TCRU	**Three Creeks R**	**53.17 286**	*e*P	**P**	**00 48 51.0 +0.5**
	comp=Z,56nm,1.4s				
TCRU	**Three Creeks R**	**53.17 286**	*e*P	**P**	**00 48 51.0 +0.5**
	comp=Z,56nm,1.4s				
TCRU			LR	LR	
	comp=Z,7μm,19.0s				
633A	**Saathoff Ranch**	**53.20 268**	P	**P**	**00 48 50.7 +0.2**
	baz=38,SNR=7.8				
SVW2	**Sparrevohn**	**53.26 329**	*e*P	**P**	**00 48 51.2 +0.6**
	comp=Z,32nm,1.3s				
SVW2	**Sparrevohn**	**53.26 329**	*e*P	**P**	**00 48 51.2 +0.6**
	comp=Z,32nm,1.3s				
SVW2			LR	LR	
	comp=Z,2μm,18.0s				
I05D	**Terrebonne, OR**	**53.30 297**	P	**P**	**00 48 51.3 +0.1**
	baz=42				
CNPM	**China Poot**	**53.32 326**	*e*P	**P**	**00 48 52.9 +1.9**
	comp=Z,73nm,1.2s				
CNPM	**China Poot**	**53.32 326**	*e*P	**P**	**00 48 52.9 +1.9**
	comp=Z,73nm,1.2s				
CNPM			LR	LR	
	comp=Z,3μm,19.0s				
HOM	**Homer**	**53.33 326**	PFAKE		00 49 00.0 +8.9
HOM			LR	LR	
	comp=Z,3μm,19.0s				
734A	**La Parita Cree**	**53.35 267**	P	**P**	**00 48 52.5 +0.8**
	baz=37				
LPM	**Los Pinos Moun**	**53.39 278**	*e*P	**P**	**00 48 53.4 +1.3**
LPM	**Los Pinos Moun**	**53.39 278**	*e*P	**P**	**00 48 53.4 +1.3**
835A	**Beeville**	**53.41 266**	P	**P**	**00 48 52.5 +0.5**
	baz=37				
WVOR	**Wild Horse Val**	**53.41 293**	*e*P	**P**	**00 48 53.1 +1.0**
WVOR			pmax	pmax	
	comp=Z,60nm,1.3s				
WVOR			MLR	MLR	
	comp=Z,4μm,20.0s				
WVOR	**Wild Horse Val**	**53.41 293**	*e*P	**P**	**00 48 53.1 +1.0**
	comp=Z,60nm,1.3s				
WVOR	**Wild Horse Val**	**53.41 293**	*e*P	**P**	**00 48 53.1 +1.0**
	comp=Z,60nm,1.3s				
WVOR			LR	LR	
	comp=Z,4μm,20.0s				
MTPU	**Mount Pierson**	**53.46 285**	*e*P	**P**	**00 48 55.6 +2.8**
	comp=Z,81nm,1.6s				
MTPU	**Mount Pierson**	**53.46 285**	*e*P	**P**	**00 48 55.6 +2.8**
	comp=Z,81nm,1.6s				
MTPU			*e*PcP	**PcP**	**00 49 58.2 -1.5**
BNM	**Barren Site**	**53.52 277**	*e*P	**P**	**00 48 55.1 +2.0**
BNM	**Barren Site**	**53.52 277**	*e*P	**P**	**00 48 55.1 +2.0**
BILL	**Bilibino**	**53.58 351**	‖ *i*P	**P**	**00 48 53.4 +0.6**
BILL			*e*		00 51 00.1
BILL			pmax	pmax	
	comp=Z,21nm,1.4s				
LAZ	**Ladron**	**53.59 278**	*e*P	**P**	**00 48 55.7 +2.1**
LAZ	**Ladron**	**53.59 278**	*e*P	**P**	**00 48 55.7 +2.1**
Y22D	**IRIS PASSCAL I**	**53.73 278**	*e*P	**P**	**00 48 56.2 +1.6**
	comp=Z,81nm,1.1s				
Y22D	**IRIS PASSCAL I**	**53.73 278**	*e*P	**P**	**00 48 56.1 +1.6**
	comp=Z,81nm,1.1s				
Y22D			LR	LR	
	comp=Z,7μm,19.0s				
733A	**Divot King Ran**	**53.84 267**	P	**P**	**00 48 55.1 -0.2**
	baz=37				
834A	**Tilden**	**53.92 266**	P	**P**	**00 48 56.2 +0.3**
	baz=37,SNR=9.4				
PSUT	**Pine Spring**	**53.95 287**	*e*P	**P**	**00 48 58.5 +2.3**
	comp=Z,64nm,1.5s				
PSUT	**Pine Spring**	**53.95 287**	*e*P	**P**	**00 48 58.5 +2.3**
	comp=Z,64nm,1.5s				
PSUT			LR	LR	
	comp=Z,5μm,18.0s				
PKCU	**Pink Cliffs**	**53.98 284**	*e*P	**P**	**00 48 57.9 +1.4**
	comp=Z,145nm,1.7s				
PKCU	**Pink Cliffs**	**53.98 284**	*e*P	**P**	**00 48 57.9 +1.4**
	comp=Z,145nm,1.7s				
PKCU			LR	LR	
	comp=Z,5μm,22.0s				

KVTX	Kingsville	54.03	265	PFAKE		00 49 10.0 +13
KVTX				LR	LR	
	comp=Z,5µm,18.0s					
J05D	Fort Rock, OR	54.04	296	P	P	00 48 56.9 +0.2
	baz=41,SNR=27					
COR	Corvallis	54.04	298	PFAKE		00 49 10.0 +13
COR				LR	LR	
	comp=Z,7µm,20.0s					
833A	Chaparral WMA,	54.21	267	P	P	00 48 58.2 +0.2
	baz=37,SNR=7.2					
BMN	Battle Mountai	54.22	290	eP	P	00 48 59.6 +1.5
BMN				pmax	pmax	
	comp=Z,32nm,1.3s					
BMN				MLR	MLR	
	comp=Z,4µm,20.0s					
BMN	Battle Mountai	54.22	290	eP	P	00 48 59.6 +1.5
	comp=Z,32nm,1.3s					
BMN	Battle Mountai	54.22	290	eP	P	00 48 59.6 +1.5
	comp=Z,32nm,1.3s					
BMN				LR	LR	
	comp=Z,4µm,20.0s					
SZCU	Shurtz Canyon	54.26	285	PFAKE		00 49 10.0 +11
SZCU				LR	LR	
	comp=Z,7µm,20.0s					
K05A	Summer Lake	54.29	295	eP	P	00 49 00.0 +1.4
	comp=Z,166nm,1.5s					
K05A	Summer Lake	54.29	295	eP	P	00 49 00.0 +1.4
	comp=Z,166nm,1.5s					
K05A				LR	LR	
	comp=Z,5µm,21.0s					
934A	Benavides	54.32	266	P	P	00 48 59.0 +0.2
	baz=37					
W18A	Petrified Fore	54.41	281	P	P	00 48 59.2 -0.4
	baz=40,SNR=5.5					
W18A	Petrified Fore	54.41	281	eP	P	00 49 01.3 +1.7
	comp=Z,41nm,1.4s					
W18A	Petrified Fore	54.41	281	eP	P	00 49 01.3 +1.7
	comp=Z,41nm,1.4s					
W18A				LR	LR	
	comp=Z,7µm,20.0s					
CCUT	Cedar City	54.44	285	eP	P	00 49 00.1 +0.3
	comp=Z,38nm,1.5s					
CCUT	Cedar City	54.44	285	eP	P	00 49 00.1 +0.3
	comp=Z,38nm,1.5s					
CCUT				LR	LR	
	comp=Z,7µm,21.0s					
J04D	Umpqua Nationa	54.49	296	P	P	00 48 59.4 -0.7
	baz=41					
832A	Faith Ranch, C	54.55	267	P	P	00 49 00.6 +0.2
	baz=37,SNR=11					
MOD	Modoc Plateau	54.63	294	eP	P	00 49 01.9 +0.9
	comp=Z,50nm,1.1s					
MOD	Modoc Plateau	54.63	294	eP	P	00 49 01.9 +0.9
	comp=Z,50nm,1.1s					
MOD				LR	LR	
	comp=Z,4µm,18.0s					
GAMB	Gambell	54.65	339	PFAKE		00 49 10.0 +9.4
GAMB				LR	LR	
	comp=Z,1µm,20.0s					
933A	Laredo	54.71	266	P	P	00 49 01.9 +0.3
	baz=37,SNR=14					
U15A	North Rim	54.74	284	eP	P	00 49 02.5 +0.4
	comp=Z,47nm,1.4s					
U15A	North Rim	54.74	284	eP	P	00 49 02.5 +0.4
	comp=Z,47nm,1.4s					
U15A				LR	LR	
	comp=Z,4µm,21.0s					
MNTX	Cornudas Mount	54.75	275	P	P	00 49 01.9 0.0
	baz=38,SNR=30					
MNTX	Cornudas Mount	54.75	275	eP	P	00 49 01.9 0.0
	comp=Z,26nm,1.1s					
MNTX	Cornudas Mount	54.75	275	eP	P	00 49 01.9 0.0
	comp=Z,26nm,1.1s					
MNTX				LR	LR	
	comp=Z,5µm,19.0s					
K04D	Chiloquin, OR	54.78	295	P	P	00 49 02.4 +0.3
	baz=41					
LCMT	Little Creek M	54.79	285	eP	P	00 49 03.0 +0.8
	comp=Z,50nm,1.5s					
LCMT	Little Creek M	54.79	285	eP	P	00 49 03.0 +0.8
	comp=Z,50nm,1.5s					
LCMT				LR	LR	
	comp=Z,5µm,21.0s					
034A	Hebbronville	54.84	265	P	P	00 49 03.1 +0.6
	baz=36,SNR=9.0					
URIC	Uribia, Colomb	54.93	229	eP	P	00 48 59.0 -4.3
WUAZ	Wupatki	54.96	282	P	P	00 49 04.4 +0.8
	baz=40,SNR=11					
WUAZ	Wupatki	54.96	282	eP	P	00 49 04.9 +1.4
	comp=Z,181nm,1.8s					
WUAZ	Wupatki	54.96	282	eP	P	00 49 05.0 +1.4
	comp=Z,181nm,1.8s					
WUAZ				LR	LR	
	comp=Z,4µm,21.0s					
R11A	Troy Canyon, C	54.97	288	P	P	00 49 04.1 +0.5
	baz=40,SNR=37					
R11A	Troy Canyon, C	54.97	288	eP	P	00 49 04.5 +0.9
	comp=Z,26nm,1.1s					
R11A	Troy Canyon, C	54.97	288	eP	P	00 49 04.5 +0.9
	comp=Z,26nm,1.1s					
X18A	Snowflake	54.98	280	eP	P	00 49 04.6 +0.9
	comp=Z,66nm,1.6s					
X18A	Snowflake	54.98	280	eP	P	00 49 04.5 +0.9
	comp=Z,66nm,1.6s					
X18A				LR	LR	
	comp=Z,6µm,21.0s					
035Z	Hargill	54.99	264	P	P	00 49 03.4 -0.2
	baz=36					
KDAK	Kodiak Island	55.15	326	LR	LR	01 12 03.6
	comp=Z,1µm,19.1s,baz=53,slow=35					
HUMO	Hull Mountain	55.38	296	PFAKE		00 49 20.0 +14
HUMO				LR	LR	
	comp=Z,3µm,21.0s					
121A	Cookes Peak, D	55.38	277	P	P	00 49 07.6 +1.0
	baz=39,SNR=20					
TIC	Toumodi	55.46	146	eP	P	00 49 05.2 -1.9
M04C	Macdoel	55.46	295	P	P	00 49 06.2 -0.8
	baz=40					
DBIC	Dimbokro	55.49	146	P	P	00 49 05.5 -1.8
	comp=Z,25nm,1.0s,baz=348,slow=7.4,SNR=11					
DBIC				LR	LR	01 09 57.6
	comp=Z,4µm,20.7s,baz=323,slow=33					
DBIC	Dimbokro	55.49	146	eP	P	00 49 06.3 -0.9
DBIC				pmax	pmax	
	comp=Z,26nm,0.9s					
DBIC	Dimbokro	55.49	146	eP	P	00 49 06.3 -0.9
	comp=Z,26nm,0.9s					
DBIC	Dimbokro	55.49	146	eP	P	00 49 06.3 -0.9
	comp=Z,26nm,0.9s					
TX31	Lajitas Ar. Si	55.69	271	eP	P	00 49 09.3 +0.5
TX31	Lajitas Ar. Si	55.69	271	eP	P	00 49 09.3 +0.5
TXAR	Lajitas Array	55.69	271	P	P	00 49 08.6 -0.2
	comp=Z,7.5nm,1.0s,baz=46,slow=3.6,SNR=38					
TXAR				LR	LR	01 12 21.0
	comp=Z,3µm,18.8s,baz=0.0,slow=35					
KIC	Kosan Boka	55.81	146	eP	P	00 49 07.7 -1.9
	comp=Z,42nm,1.0s					
OHAK	Old Harbor	55.83	326	PFAKE		00 49 20.0 +11
OHAK				LR	LR	
	comp=Z,5µm,19.0s					
PAHR	Pah Rah Range	55.84	291	eP	P	00 49 11.4 +1.6
	comp=Z,132nm,1.5s					
PAHR	Pah Rah Range	55.84	291	eP	P	00 49 11.4 +1.6
	comp=Z,132nm,1.5s					
PAHR				LR	LR	
	comp=Z,3µm,20.0s					
X16A	Lo Mia Camp, P	55.84	281	eP	P	00 49 11.9 +1.9
	comp=Z,28nm,1.1s					
X16A	Lo Mia Camp, P	55.84	281	eP	P	00 49 11.8 +1.9
	comp=Z,28nm,1.1s					
X16A				LR	LR	
	comp=Z,5µm,20.0s					
LIC	Lamto	55.86	146	eP	P	00 49 07.8 -2.1
	comp=Z,86nm,1.0s					
YBH	Yreka Blue Hor	55.92	295	eP	P	00 49 09.3 -1.0
YBH				pmax	pmax	
	comp=Z,23nm,1.4s					
YBH				MLR	MLR	
	comp=Z,4µm,22.0s					
YBH	Yreka Blue Hor	55.92	295	eP	P	00 49 09.3 -1.0
	comp=Z,23nm,1.4s					
YBH	Yreka Blue Hor	55.92	295	eP	P	00 49 09.3 -1.0
	comp=Z,23nm,1.4s					
YBH				LR	LR	
	comp=Z,4µm,22.0s					
SHPR	Sheep Range	56.16	286	eP	P	00 49 13.3 +1.1
	comp=Z,59nm,1.7s					
SHPR	Sheep Range	56.16	286	eP	P	00 49 13.3 +1.1
	comp=Z,59nm,1.7s					
SHPR				LR	LR	
	comp=Z,6µm,18.0s					
BEKR	Beckworth	56.20	292	eP	P	00 49 13.3 +0.9
	comp=Z,50nm,1.6s					
BEKR	Beckworth	56.20	292	eP	P	00 49 13.3 +0.9
	comp=Z,50nm,1.6s					
BEKR				LR	LR	
	comp=Z,3µm,20.0s					
M02C	Callahan	56.25	295	P	P	00 49 12.7 0.0
	baz=40					
NVS	Novosibirsk	56.28	39	eP	P	00 49 13.6 +1.1
NVS				pmax	pmax	
	comp=Z,113nm,1.7s					
NVS				pmax	pmax	
	comp=N,20nm,1.1s					
NVS				pmax	pmax	
	comp=E,7.0nm,0.9s					
KBO	Bosley Butte	56.28	297	PFAKE		00 49 30.0 +17
KBO				LR	LR	
	comp=Z,5µm,18.0s					
TPNV	Topopah Spring	56.38	287	P	P	00 49 13.8 +0.2
	baz=40,SNR=9.1					
TPNV	Topopah Spring	56.38	287	eP	P	00 49 14.7 +1.0
TPNV				pmax	pmax	
	comp=Z,26nm,1.0s					
TPNV				MLR	MLR	
	comp=Z,3µm,22.0s					
TPNV	Topopah Spring	56.38	287	eP	P	00 49 14.7 +1.0
	comp=Z,26nm,1.0s					
TPNV	Topopah Spring	56.38	287	eP	P	00 49 14.7 +1.0
	comp=Z,26nm,1.0s					
TPNV				LR	LR	
	comp=Z,3µm,22.0s					
PNTR	Pine Nut	56.42	291	eP	P	00 49 16.0 +1.9
	comp=Z,175nm,1.8s					
PNTR	Pine Nut	56.42	291	eP	P	00 49 16.0 +1.9
	comp=Z,175nm,1.8s					
N02D	Trinity Center	56.50	295	P	P	00 49 14.7 +0.3
	baz=40					
TVH2	Borealis Mine	56.55	290	eP	P	00 49 16.6 +1.6
	comp=Z,26nm,1.5s					
TVH2	Borealis Mine	56.55	290	eP	P	00 49 16.6 +1.6
	comp=Z,26nm,1.5s					
TVH2				LR	LR	
	comp=Z,4µm,18.0s					
O03D	Paynes Creek	56.58	294	P	P	00 49 14.8 -0.2
	baz=40,SNR=9.7					
W13A	Hualapai Mount	56.59	284	eP	P	00 49 16.8 +1.5
	comp=Z,62nm,1.8s					
W13A	Hualapai Mount	56.59	284	eP	P	00 49 16.8 +1.5
	comp=Z,62nm,1.8s					
W13A				LR	LR	
	comp=Z,3µm,21.0s					
KRMB	Red Mountain	56.66	296	eP	P	00 49 18.1 +2.5
	comp=Z,125nm,1.6s					
KRMB	Red Mountain	56.66	296	eP	P	00 49 18.1 +2.5
	comp=Z,125nm,1.6s					
KRMB				LR	LR	
	comp=Z,4µm,20.0s					
WDC	Whiskeytown Da	56.73	294	PFAKE		00 49 30.0 +14
WDC				LR	LR	
	comp=Z,4µm,21.0s					
WAKR	Walker	56.79	291	eP	P	00 49 18.5 +1.9
	comp=Z,53nm,1.6s					
WAKR	Walker	56.79	291	eP	P	00 49 18.5 +1.9
	comp=Z,53nm,1.6s					
WAKR				LR	LR	
	comp=Z,4µm,19.0s					
GRAC	Grapevine Rang	56.91	288	P	P	00 49 18.0 +0.7
	baz=39,SNR=13					
SDV	Santo Domingo	56.95	227	eP	P	00 49 18.4 +0.5
	comp=Z,46nm,1.6s					
SDV	Santo Domingo	56.95	227	eP	P	00 49 18.4 +0.5
	comp=Z,46nm,1.6s					
SDV				ePcP	PcP	00 50 12.3 -0.9
SDV				LR	LR	
	comp=Z,400nm,20.0s					
LNIG	Linares	56.99	265	eP	P	00 49 17.6 -0.4
	comp=Z,74nm,2.0s					
LNIG	Linares	56.99	265	eP	P	00 49 17.6 -0.4
	comp=Z,74nm,2.0s					
LNIG				LR	LR	
	comp=Z,2µm,18.0s					
ORV	Oroville	57.01	293	eP	P	00 49 17.5 -0.4
ORV				pmax	pmax	
	comp=Z,34nm,1.4s					
ORV				MLR	MLR	
	comp=Z,6µm,18.0s					
ORV	Oroville	57.01	293	eP	P	00 49 17.5 -0.4
	comp=Z,34nm,1.4s					
ORV	Oroville	57.01	293	eP	P	00 49 17.5 -0.4
	comp=Z,34nm,1.4s					
ORV				LR	LR	
	comp=Z,6µm,18.0s					
Y14A	Wickenburg	57.03	282	eP	P	00 49 19.5 +1.3
	comp=Z,105nm,1.4s					
Y14A	Wickenburg	57.03	282	eP	P	00 49 19.5 +1.3
	comp=Z,105nm,1.4s					
Y14A				LR	LR	
	comp=Z,17µm,18.0s					
FURC	Furnace Creek,	57.06	287	P	P	00 49 19.1 +0.8
	baz=39					
319A	Douglas	57.07	277	eP	P	00 49 20.4 +1.7
	comp=Z,73nm,1.3s					
319A				ePP	PP	00 51 23.0 -2.1
319A				LR	LR	
	comp=Z,5µm,18.0s					
KHMM	Horse Mountain	57.07	295	PFAKE		00 49 30.0 +11
KHMM				LR	LR	
	comp=Z,6µm,21.0s					
TUC	Tucson	57.14	279	P	P	00 49 20.0 +1.0
	baz=38					
TUC	Tucson	57.14	279	eP	P	00 49 20.3 +1.3
TUC				pmax	pmax	
	comp=Z,39nm,1.4s					
TUC				MLR	MLR	
	comp=Z,7µm,21.0s					
TUC	Tucson	57.14	279	eP	P	00 49 20.3 +1.3
	comp=Z,39nm,1.4s					
TUC	Tucson	57.14	279	eP	P	00 49 20.3 +1.3
	comp=Z,39nm,1.4s					
TUC				LR	LR	
	comp=Z,7µm,21.0s					
SHOC	Shoshone, Teco	57.20	286	P	P	00 49 20.2 +0.9
	baz=39					
AFDM	Forest Hills D	57.21	292	eP	P	00 49 20.2 +0.8
	comp=Z,66nm,1.6s					
AFDM	Forest Hills D	57.21	292	eP	P	00 49 20.2 +0.8
	comp=Z,66nm,1.6s					
NEE2	Needles Airpor	57.23	284	P	P	00 49 20.2 +0.7
	baz=39					
LDFC	Landfair	57.24	285	eP	P	00 49 20.1 +0.4
	comp=Z,38nm,0.4s					
LDFC	Landfair	57.24	285	eP	P	00 49 20.1 +0.4
	comp=Z,38nm,0.4s					
LDFC				LR	LR	
	comp=Z,6µm,20.0s					
JCC	Jacoby Creek,	57.26	296	PFAKE		00 49 30.0 +10
JCC				LR	LR	
	comp=Z,5µm,19.0s					
TIN	Tinemaha, Big	57.30	289	P	P	00 49 20.1 0.0
	baz=39					
PDMCI	Parker Dam,Lak	57.34	283	P	P	00 49 20.9 +0.6
	baz=39,SNR=6.2					
TUQ	Turquoise Moun	57.38	286	P	P	00 49 21.1 +0.4
	baz=39					
SCIG	Sabancuy	57.54	253	PFAKE		00 49 40.0 +18
SCIG				LR	LR	
	comp=Z,4µm,19.0s					
ZAA0	Zalesovo Array	57.54	38	eP	P	00 49 21.4 0.0
ZAA0	Zalesovo Array	57.54	38	eP	P	00 49 21.4 0.0
ZAA0				ePcP	PcP	00 50 10.2 -4.6
ZALV	Zalesovo Beam	57.54	38	P	P	00 49 21.0 -0.4
	comp=Z,3.2nm,0.8s,baz=321,slow=7.5,SNR=9.6					
ZALV				LR	LR	01 14 16.9
	comp=Z,824nm,20.7s,baz=250,slow=36					
KMRM	Mail Ridge	57.57	295	PFAKE		00 49 40.0 +18
KMRM				LR	LR	
	comp=Z,7µm,19.0s					
DAC	Darwin (Calif)	57.58	288	eP	P	00 49 23.2 +0.9
DAC				pmax	pmax	
	comp=Z,79nm,1.4s					
DAC				MLR	MLR	
	comp=Z,3µm,20.0s					
DAC	Darwin (Calif)	57.58	288	eP	P	00 49 23.2 +0.9
	comp=Z,79nm,1.4s					
DAC	Darwin (Calif)	57.58	288	eP	P	00 49 23.2 +0.9
	comp=Z,79nm,1.4s					
DAC				LR	LR	
	comp=Z,3µm,20.0s					
CMB	Columbia Colle	57.63	291	eP	P	00 49 23.2 +0.8
CMB				pmax	pmax	
	comp=Z,20nm,1.3s					
CMB				MLR	MLR	
	comp=Z,3µm,19.0s					
CMB	Columbia Colle	57.63	291	eP	P	00 49 23.2 +0.8
	comp=Z,20nm,1.3s					
CMB	Columbia Colle	57.63	291	eP	P	00 49 23.2 +0.8
	comp=Z,20nm,1.3s					
CMB				LR	LR	
	comp=Z,3µm,19.0s					
MPMC	Manual Prospec	57.70	287	P	P	00 49 23.7 +0.6
	baz=39,SNR=18					
CWC	Cottonwood Cre	57.70	288	P	P	00 49 24.0 +0.9
	baz=39					
GMRC	Granite Mounta	57.75	285	P	P	00 49 24.0 +0.6
	baz=39,SNR=9.0					
SJCC	San Jacinto, C	57.87	232	eP	P	00 49 25.5 +1.2
KCPM	Cahto Peak	57.92	294	PFAKE		00 49 40.0 +15
KCPM				LR	LR	
	comp=Z,3µm,19.0s					
GSC	Goldstone, Bar	57.94	286	P	P	00 49 25.2 +0.5
	baz=39,SNR=10					
GSC	Goldstone, Bar	57.94	286	eP	P	00 49 26.1 +1.5
GSC				pmax	pmax	
	comp=Z,88nm,1.6s					
GSC				MLR	MLR	
	comp=Z,3µm,18.0s					
GSC	Goldstone, Bar	57.94	286	eP	P	00 49 26.1 +1.5
	comp=Z,88nm,1.6s					
GSC	Goldstone, Bar	57.94	286	eP	P	00 49 26.1 +1.5
	comp=Z,88nm,1.6s					
GSC				LR	LR	
	comp=Z,3µm,18.0s					
Y12C	Blythe	57.97	283	P	P	00 49 26.0 +1.2
	baz=38					
Y12C	Blythe	57.97	283	eP	P	00 49 25.5 +0.8
	comp=Z,102nm,1.5s					
Y12C	Blythe	57.97	283	eP	P	00 49 25.5 +0.8
	comp=Z,102nm,1.5s					
Y12C				LR	LR	
	comp=Z,3µm,21.0s					
IRM	Iron Mountain	57.97	284	P	P	00 49 25.7 +0.9
	baz=38					
KURK	Kurchatov	58.01	44d	iP	P	00 49 24.1 -0.7
KURK				pmax	pmax	
	comp=Z,119nm,1.7s					
KURK	Kurchatov	58.01	44	P	P	00 49 24.7 -0.1
	SNR=13					
KURK	Kurchatov	58.01	44	eP	P	00 49 24.3 -0.5
	comp=Z,27nm,0.8s					
KURK				ePP	PP	00 51 31.5 -1.3
KURK				LR	LR	
	comp=Z,2µm,18.0s					
KURK	Kurchatov	58.01	44	P	P	00 49 24.7 -0.1
	SNR=13					
KURK				P	P	00 49 24.7 -0.1
	SNR=13					
KURK	Kurchatov	58.01	44	P	P	00 49 24.7 -0.1
	SNR=13					
HEC	Hector,Ludlow	58.06	286	P	P	00 49 26.3 +0.8
	baz=39					
CHGN	Chignik	58.12	328	PFAKE		00 49 40.0 +15
CHGN				LR	LR	
	comp=Z,2µm,21.0s					
HOPS	Hopland Field	58.21	294	PFAKE		00 49 40.0 +14
HOPS				LR	LR	
	comp=Z,2µm,21.0s					
GDXM	Geysers	58.22	293	eP	P	00 49 29.1 +2.5
	comp=Z,118nm,1.7s					
GDXM	Geysers	58.22	293	eP	P	00 49 29.1 +2.5
	comp=Z,118nm,1.7s					
GDXM				LR	LR	
	comp=Z,8µm,18.0s					
LRMC	Laurel Mtn Rad	58.25	287	P	P	00 49 27.6 +0.7
	baz=39					
113A	Mohawk Valley,	58.34	282	eP	P	00 49 28.8 +1.4
	comp=Z,154nm,1.8s					
113A				LR	LR	
	comp=Z,4µm,22.0s					
RRX	Edison Barstow	58.37	286	P	P	00 49 28.7 +1.1
	baz=38					
RCTC	Rector, Farmer	58.40	289	P	P	00 49 28.5 +0.8
	baz=39					
214A	Organ Pipe Nat	58.48	281	P	P	00 49 29.1 +0.7
	baz=38,SNR=14					
ISA	Isabella, Lake	58.51	288	P	P	00 49 28.8 +0.2
	baz=38,SNR=6.8					
ISA	Isabella, Lake	58.51	288	eP	P	00 49 30.2 +1.6
ISA				pmax	pmax	
	comp=Z,108nm,1.6s					
ISA				MLR	MLR	
	comp=Z,2µm,19.0s					
ISA	Isabella, Lake	58.51	288	eP	P	00 49 30.2 +1.6
	comp=Z,108nm,1.6s					
ISA	Isabella, Lake	58.51	288	eP	P	00 49 30.2 +1.6
	comp=Z,108nm,1.6s					
ISA				LR	LR	
	comp=Z,2µm,19.0s					
BC3	Big Chuckawall	58.52	284	P	P	00 49 29.2 +0.4
	baz=38					
BELC	Belle Mtn. Jos	58.54	285	P	P	00 49 29.5 +0.6
	baz=38,SNR=10					
HPIG		58.66	271	eP	P	00 49 29.6 -0.3
	comp=Z,26nm,1.3s					
HPIG		58.66	271	eP	P	00 49 29.6 -0.3
	comp=Z,26nm,1.3s					
HPIG				LR	LR	
	comp=Z,3µm,18.0s					
GLA	Glamis	58.67	283	P	P	00 49 30.5 +0.8
	baz=38,SNR=10					
GLA	Glamis	58.67	283	eP	P	00 49 31.3 +1.6
GLA				pmax	pmax	
	comp=Z,120nm,1.3s					
GLA	Glamis	58.67	283	eP	P	00 49 31.3 +1.6
	comp=Z,120nm,1.3s					
GLA	Glamis	58.67	283	eP	P	00 49 31.3 +1.6
	comp=Z,120nm,1.3s					
VES	Vestal, Richgr	58.68	288	P	P	00 49 29.8 +0.1
	baz=38,SNR=11					
MCCM	Marconi Confer	58.78	293	PFAKE		00 49 40.0 +10
MCCM				LR	LR	
	comp=Z,4µm,18.0s					
EDW2	Edwards Air Fo	58.87	287	P	P	00 49 31.8 +0.7
	baz=38,SNR=17					
PFO	Pinyon Flats O	59.08	285	P	P	00 49 33.8 +1.1
	baz=38					
PFO	Pinyon Flats O	59.08	285	eP	P	00 49 34.2 +1.5
PFO				pmax	pmax	
	comp=Z,41nm,1.0s					
PFO				MLR	MLR	
	comp=Z,4µm,20.0s					
PFO	Pinyon Flats O	59.08	285	eP	P	00 49 34.2 +1.5
	comp=Z,41nm,1.0s					
PFO	Pinyon Flats O	59.08	285	eP	P	00 49 34.2 +1.5
	comp=Z,41nm,1.0s					
PFO				LR	LR	
	comp=Z,4µm,20.0s					
MOTC	Monteria, Cord	59.08	232	eP	P	00 49 32.8 +0.1
ARVC	Arvin	59.11	288	P	P	00 49 33.3 +0.6
	baz=38					
SAO	San Andreas Ge	59.15	291	PFAKE		00 49 50.0 +17
SAO				LR	LR	
	comp=Z,2µm,20.0s					
LRRC	Littlerock Res	59.17	287	eP	P	00 49 35.8 +2.7
LRRC	Littlerock Res	59.17	287	eP	P	00 49 35.8 +2.7
PAMC	Pamplona, Colo	59.17	228	eP	P	00 49 33.6 -0.2
GEYT	Alibeck	59.20	67	P	P	00 49 33.9 +0.6
	comp=Z,19nm,1.1s,baz=308,slow=5.5,SNR=20					
GEYT				LR	LR	01 16 01.3
	comp=Z,1µm,20.2s,baz=320,slow=37					
DNR	Dunn Ranch,Anz	59.20	285	eP	P	00 49 32.4 -1.1
DNR	Dunn Ranch,Anz	59.20	285	eP	P	00 49 32.4 -1.1
BFSC	Mount Baldy Ra	59.20	286	P	P	00 49 34.9 +1.4
	baz=38					
JBNB	Ben Lomond Mou	59.22	292	eP	P	00 49 34.8 +1.3
JBNB	Ben Lomond Mou	59.22	292	eP	P	00 49 34.8 +1.3
PMPB	Monarch Peak	59.25	290	eP	P	00 49 36.8 +3.1
	comp=Z,158nm,1.4s					
PMPB	Monarch Peak	59.25	290	eP	P	00 49 36.8 +3.1
	comp=Z,158nm,1.4s					
PMPB				LR	LR	
	comp=Z,5µm,18.0s					
SWSC	Sam W. Stewart	59.26	284	P	P	00 49 35.2 +1.5

baz=38
PAGB Antelope Grade 59.35 289 PFAKE 00 49 50.0 +16
PAGB LR LR
comp=Z,5μm,18.0s
SEY Seymchan 59.42 357↑ *e*P **P 00 49 35.4 +1.0**
MWC Mount Wilson 59.42 286 PFAKE 00 49 50.0 +15
MWC LR LR
comp=Z,3μm,21.0s
OSI Osito Audit: C 59.45 287 P **P 00 49 36.7 +1.6**
baz=38
OSI Osito Audit: C 59.45 287 *e*P **P 00 49 36.9 +1.7**
comp=Z,274nm,1.8s
OSI Osito Audit: C 59.45 287 *e*P **P 00 49 36.9 +1.7**
comp=Z,274nm,1.8s
MURC Murrieta 59.47 285 P **P 00 49 36.9 +1.6**
baz=38
SDPT Sand Point 59.52 328 PFAKE 00 49 50.0 +15
SDPT LR LR
comp=Z,4μm,19.0s
PASC Pasadena Art C 59.53 286 PFAKE 00 49 50.0 +14
PASC LR LR
comp=Z,3μm,21.0s
YAK Yakutsk 59.60 10 *e*P **P 00 49 35.9 +0.3**
YAK pmax pmax
comp=Z,51nm,1.5s
YAK pmax pmax
comp=N,31nm,1.6s
LVIG Laguna Verde 59.62 258 *e*P **P 00 49 34.8 -1.5**
comp=N,29nm,1.2s
LVIG Laguna Verde 59.62 258 *e*P **P 00 49 34.8 -1.5**
comp=N,29nm,1.2s
LVIG LR LR
comp=Z,1μm,19.0s
MONP2 Monument Peak 59.62 284 P **P 00 49 37.4 +0.8**
baz=38
IKP In-Ko-Pah, Jac 59.65 284 P **P 00 49 37.8 +1.2**
baz=38
TGUH Tegucigalpa,Un 59.74 246 *e*P **P 00 49 38.4 +1.2**
comp=Z,54nm,1.4s
TGUH Tegucigalpa,Un 59.74 246 *e*P **P 00 49 38.4 +1.2**
comp=Z,54nm,1.4s
TGUH LR LR
comp=Z,1μm,21.0s
BRRC Barranca, Sant 59.79 229 *e*P **P 00 49 35.4 -2.2**
PKM Mcpherson Peak 59.79 288 P **P 00 49 38.7 +1.0**
baz=38
HSIG 59.81 277 *e*P **P 00 49 38.4 +0.7**
comp=Z,44nm,1.0s
HSIG 59.81 277 *e*P **P 00 49 38.4 +0.7**
comp=Z,44nm,1.0s
ZARC Zaragoza, Cauc 59.91 230 *e*P **P 00 49 38.7 +0.3**
BAR Barrett 59.92 284 PFAKE 00 49 50.0 +12
BAR LR LR
comp=Z,3μm,20.0s
TUIG Tuzandepetl 59.98 256 PFAKE 00 49 50.0 +11
TUIG LR LR
comp=Z,3μm,20.0s
CCIG Comitan 60.28 252 PFAKE 00 49 50.0 +8.9
CCIG LR LR
comp=Z,4μm,20.0s
SPIA Saint Paul Isl 60.36 335 PFAKE 00 49 50.0 +9.1
SPIA LR LR
comp=Z,2μm,18.0s
ZAIG Zacatecas 60.37 266 *e*P **P 00 49 43.7 +1.8**
comp=Z,54nm,1.3s
ZAIG Zacatecas 60.37 266 *e*P **P 00 49 43.7 +1.8**
comp=Z,54nm,1.3s
ZAIG LR LR
comp=Z,4μm,20.0s
BCIP Isla Barro Col 60.54 236 PFAKE 00 50 00.0 +17
BCIP LR LR
comp=Z,1μm,19.0s
RUSC La Rusia 60.64 228 *e*P **P 00 49 42.3 -1.6**
RUSC La Rusia 60.64 228 *e*P **P 00 49 42.3 -1.6**
comp=Z,11nm,1.5s
FALS False Pass 60.76 330 PFAKE 00 50 00.0 +16
FALS LR LR
comp=Z,3μm,20.0s
KK31 Karatay Array 60.86 55 P **P 00 49 44.3 -0.4**
KK31 pmax pmax
comp=Z,21nm,1.3s
KKAR Karatay Array 60.86 55 *e*P **P 00 49 45.3 +0.6**
KKAR pmax pmax
comp=Z,107nm,1.3s
KKAR MLR MLR
comp=Z,500nm,18.0s
KKAR Karatay Array 60.86 55 *e*P **P 00 49 45.3 +0.6**
comp=Z,108nm,1.3s
KKAR Karatay Array 60.86 55 *e*P **P 00 49 45.3 +0.6**
comp=Z,108nm,1.3s
KKAR *e*PP **PP 00 51 51.1 -7.1**
KKAR LR LR
comp=Z,500nm,18.0s
SNCC San Nicolas Is 60.94 287 PFAKE 00 50 00.0 +15
SNCC LR LR
comp=Z,2μm,21.0s
HELC Santa Helena 61.36 230 *e*P **P 00 49 49.4 +0.7**
HELC Santa Helena 61.36 230 *e*P **P 00 49 48.8 +0.1**
comp=Z,63nm,1.0s
HELC LR LR
comp=Z,2μm,22.0s
UNM Universidad Na 61.39 261 PFAKE 00 50 00.0 +11
UNM LR LR
comp=Z,2μm,20.0s
BOD Bodaibo 61.59 20 *e*P **P 00 49 47.7 -1.6**
BOD *e* 00 59 39.6
BOD pmax pmax
comp=Z,33nm,1.5s
NORC Norcasia 61.66 229 *e*P **P 00 49 50.2 -0.2**
HDC Heredia 61.75 241 PFAKE 00 50 00.0 +8.9
HDC LR LR
comp=Z,1μm,22.0s
DGZ Jazzator, Alta 61.99 40 *e*P **P 00 49 53.1 +0.7**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
AKUT Akutan 62.03 331 PFAKE 00 50 10.0 +18
AKUT LR LR
comp=Z,2μm,20.0s
CHIC Chingaza 62.05 228 *e*P **P 00 49 51.5 -1.9**
ROSC El Rosal 62.09 229 P **P 00 49 55.5 +1.9**
comp=Z,25nm,1.0s,baz=43,slow=5.7,SNR=24
ROSC LR LR 01 18 33.2
comp=Z,391nm,18.1s,baz=7.5,slow=38
ROSC El Rosal 62.09 229 *e*P **P 00 49 55.1 +1.5**
ROSC El Rosal 62.09 229 *e*P **P 00 49 55.2 +1.5**
comp=Z,118nm,1.6s
MOIG Morelia 62.16 263 *e*P **P 00 49 54.7 +0.7**
comp=Z,30nm,0.8s
MOIG Morelia 62.16 263 *e*P **P 00 49 54.7 +0.7**
comp=Z,30nm,0.8s
MOIG LR LR
comp=Z,2μm,21.0s
GUYC Guyana, Colomb 62.18 230 *e*P **P 00 49 55.1 +0.8**
MNAS Manas 62.22 54 P **P 00 49 53.2 -0.8**
MNAS pmax pmax
comp=Z,25nm,1.3s
PTGA Pitinga 62.40 211 *e*P **P 00 49 54.9 -0.3**
comp=Z,14nm,0.8s
PTGA Pitinga 62.40 211 *e*P **P 00 49 54.9 -0.3**
comp=Z,14nm,0.8s
PTGA LR LR
comp=Z,1μm,20.0s
UNV Unalaska Valle 62.48 331 PFAKE 00 50 10.0 +15
UNV LR LR
comp=Z,2μm,19.0s
MAKZ Makanchi 62.49 45 *e*P **P 00 49 55.2 -0.3**
MAKZ *e* 00 52 13.4
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ MLR MLR
comp=Z,900nm,19.0s
MAKZ Makanchi 62.49 45 *e*P **P 00 49 55.2 -0.3**
comp=Z,21nm,0.9s
MAKZ Makanchi 62.49 45 *e*P **P 00 49 55.2 -0.3**
comp=Z,21nm,0.9s
MAKZ *e*PP **PP 00 52 13.4 +0.9**
MAKZ LR LR
comp=Z,900nm,19.0s
TLIG Tlapa 62.53 259 *e*P **P 00 49 56.1 -0.2**
comp=Z,68nm,1.4s
TLIG Tlapa 62.53 259 *e*P **P 00 49 56.1 -0.2**
comp=Z,68nm,1.4s
TLIG LR LR
comp=Z,2μm,19.0s
MK31 Makanchi Array 62.62 45 *e*P **P 00 49 56.1 -0.3**
MK31 Makanchi Array 62.62 45 *e*P **P 00 49 56.1 -0.3**
baz=351,slow=75,SNR=302
FAQ Al Faqa, Dubai 68.47 78 P **P 00 50 34.8 +0.3**
FAQ Al Faqa, Dubai 68.47 78 P **P 00 50 34.8 +0.3**
UOSS Minazif 68.62 77 P **P 00 50 34.7 -0.8**
UOSS Minazif 68.62 77 *e*P **P 00 50 34.3 -1.2**
comp=Z,31nm,0.9s
UOSS LR LR
comp=Z,2μm,21.0s
HATD Hatta, Dubai 68.68 77 P **P 00 50 34.6 -1.2**
HATD Hatta, Dubai 68.68 77 P **P 00 50 34.6 -1.2**
PEA0 Petropavlovsk- 69.01 353 *e*P **P 00 50 37.6 +0.1**
PEA0 Petropavlovsk- 69.01 353 *e*P **P 00 50 37.6 +0.1**
PETK Petropavlovsk- 69.01 353 LR LR 01 21 37.3
comp=Z,331nm,19.4s,baz=17,slow=37
PET Petropavlovsk 69.03 353 *e*P **P 00 50 37.9 +0.3**
PET *e*S **S 00 59 44.2 +2.4**
PET *e*PS **PnS 01 00 14.2 +8.2**
PET *e*SS **SS 01 04 16.0 +10**
PET pmax pmax
comp=Z,300nm,16.7s
PET Petropavlovsk 69.03 353 PFAKE 00 50 50.0 +12
PET LR LR
comp=Z,2μm,21.0s
SONA1 Songino Array 69.29 28 *e*P **P 00 50 39.3 -0.2**
SONA1 Songino Array 69.29 28 *e*P **P 00 50 39.3 -0.2**
SONM Songino Array 69.30 28 P **P 00 50 39.8 +0.2**
comp=Z,29nm,1.2s,baz=318,slow=4.2,SNR=49
SONM LR LR 01 23 05.3
comp=Z,810nm,18.4s,baz=338,slow=38
ULN Ulaanbaatar 69.44 28 *d i*P **P 00 50 40.5 +0.1**
ULN pmax pmax
comp=Z,54nm,1.3s
ULN Ulaanbaatar 69.44 28 *e*P **P 00 50 40.7 +0.3**
comp=Z,72nm,1.3s
ULN Ulaanbaatar 69.44 28 *e*P **P 00 50 40.7 +0.3**
comp=Z,72nm,1.3s
ULN LR LR
comp=Z,800nm,19.0s
ULN Ulaanbaatar 69.44 28 P **P 00 50 40.5 +0.1**
SNR=36
HIA Hailar 70.78 19 *e*P **P 00 50 49.0 +0.6**
HIA pmax pmax
comp=Z,25nm,1.2s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 70.78 19 *e*P **P 00 50 49.0 +0.6**
comp=Z,25nm,1.2s
HIA Hailar 70.78 19 *e*P **P 00 50 49.0 +0.6**
comp=Z,25nm,1.2s
HIA LR LR
comp=Z,1μm,20.0s
DAMY Dhamar 70.89 93 PFAKE 00 51 00.0 +10
DAMY LR LR
comp=Z,800nm,22.0s
SAML Samuel 71.13 212 *e*P **P 00 50 49.7 -1.1**
comp=Z,17nm,1.0s
SAML Samuel 71.13 212 *e*P **P 00 50 49.7 -1.1**
comp=Z,17nm,1.0s
SAML LR LR
comp=Z,600nm,19.0s
THN Thein Dam 71.98 58 *e*P **P 00 50 52.2 -3.7**
HABR Khabarovsk 73.48 9 *e*P **P 00 51 03.3 -1.3**
HABR *e*PP **pP 00 51 06.8 -1.7**
HABR *e*SP **sP 00 51 08.1 -1.8**
HABR *e* 00 51 19.3
HABR *e*PPP PPP 00 55 31.7
HABR S **S 01 00 33.2 -0.3**
HABR *e* 01 01 12.0
HABR *e*SS **SS 01 05 17.0 +2.3**
HABR pmax pmax
comp=Z,21nm,1.5s
HABR pmax pmax
comp=Z,32nm,1.1s
HABR pmax pmax
comp=E,31nm,1.0s
HABR pmax pmax
comp=Z,50nm,1.8s
HABR pmax pmax
comp=E,8.0nm,0.7s
HABR pmax pmax
comp=N,13nm,1.5s
HABR MLR MLR
comp=Z,761nm,18.0s
GTA Gaotai 75.19 36 P **P 00 51 14.3 -0.5**
GTA pP sP 00 51 21.6 +1.4
GTA sP PcP 00 51 26.0 -2.3
GTA S **S 01 00 50.9 -2.3**
GTA sS sS 01 01 01.3 +1.6
GTA SKS **SKSac 01 01 16.5 -7.3**
GTA SS **SS 01 05 42.8 +1.5**
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,250nm,6.3s
GTA LR LR
comp=Z,690nm,15.7s
GTA LR LR
comp=Z,760nm,16.6s
GTA LR LR
comp=Z,1μm,16.6s
YSS Yuzh-Sakhalins 75.42 3↑ *e*P **P 00 51 17.8 +1.9**
YSS *e* 00 51 27.0
YSS *e* 00 54 04.0
YSS *e*S **S 01 00 52.0 -3.3**
YSS *e*PS **PnS 01 01 37.0 +6.6**
YSS pmax pmax
comp=Z,30nm,1.5s
YSS MLR MLR
comp=Z,700nm,20.0s
YSS Yuzh-Sakhalins 75.42 3 *e*P **P 00 51 17.1 +1.3**
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 75.42 3 *e*P **P 00 51 17.1 +1.3**
comp=Z,50nm,1.2s
YSS LR LR
comp=Z,400nm,19.0s
MDJ Mudanjiang 76.76 13 P **P 00 51 22.8 -0.8**
MDJ pP pP 00 51 26.1 -1.4
MDJ sP sP 00 51 27.3 -1.6
MDJ PP **PP 00 54 10.6 -4.8**
MDJ S **S 01 01 08.6 -1.5**
MDJ sS pS 01 01 12.7 -2.4
MDJ ScS **ScS 01 01 38.5 -1.0**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,180nm,5.3s
MDJ LR LR
comp=Z,450nm,18.3s
MDJ LR LR
comp=Z,490nm,17.5s
MDJ LR LR
comp=Z,560nm,17.7s
MDJ Mudanjiang 76.76 13 *e*P **P 00 51 23.4 -0.1**
comp=Z,41nm,1.3s
MDJ Mudanjiang 76.76 13 *e*P **P 00 51 23.4 -0.1**
comp=Z,41nm,1.3s
MDJ LR LR
comp=Z,600nm,21.0s
BTO Baotou 76.98 28 *e*P **P 00 51 25.0 0.0**
CN2 Changchun 77.01 16 *e*P **P 00 51 24.0 -0.9**
CN2 *e*PP **PP 00 54 17.7 +0.3**
CN2 *e*sS sS 01 01 16.4 -2.9
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
HHC Hu-ho-hao-te 77.14 27 *e*P **P 00 51 26.5 +0.6**
HHC sP sP 00 51 33.0 +1.8
HHC S **S 01 01 12.1 -2.4**
HHC ScS **SKKSac 01 01 38.9 +0.1**
HHC SS **SS 01 06 11.4 +0.8**
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,350nm,5.7s
HHC LR LR
comp=Z,690nm,19.7s
HHC LR LR
comp=Z,580nm,17.3s
MK31 Makanchi Array 62.62 45 *e*P **P 00 49 56.1 -0.3**
MKAR Makanchi Array 62.62 45 P **P 00 49 56.0 -0.5**
comp=Z,9.2nm,0.7s,baz=331,slow=5.6,SNR=49
MKAR LR LR 01 17 53.2
comp=Z,668nm,19.5s,baz=314,slow=37
MKAR Makanchi Array 62.62 45 *c e*P **P 00 49 56.0 -0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 62.62 45 *e*P **P 00 49 56.1 -0.3**
comp=Z,117nm,0.8s
MKAR Makanchi Array 62.62 45 *e*P **P 00 49 56.1 -0.3**
comp=Z,117nm,0.8s
MK01 Makanchi Array 62.64 45 *e*P **P 00 49 55.9 -0.7**
MK01 Makanchi Array 62.64 45 *e*P **P 00 49 55.9 -0.7**
PLMC San Jos¨ del 62.83 231 *e*P **P 00 50 02.6 +4.4**
FRU Bishkek 62.84 52 *e*P **P 00 49 58.0 0.0**
FRU *e* 00 50 06.0
AAK Ala-Archa 62.95 52 P **P 00 49 59.5 +0.5**
baz=275,slow=3.8
AAK Ala-Archa 62.95 52 *d i*P **P 00 49 59.4 +0.5**
AAK pmax pmax
comp=Z,49nm,1.0s
AAK Ala-Archa 62.95 52 P **P 00 49 59.8 +0.9**
SNR=14
AAK Ala-Archa 62.95 52 *e*P **P 00 50 00.1 +1.3**
comp=Z,25nm,1.0s
AAK LR LR
comp=Z,2μm,19.0s
AAK Ala-Archa 62.95 52 P **P 00 49 59.8 +0.9**
SNR=14
TKM2 Tokmak 2 63.18 51 P **P 00 50 00.1 -0.4**
TKM2 pmax pmax
comp=Z,42nm,1.5s
PRAC Prado 63.34 229 *e*P **P 00 50 01.4 -0.2**
PRAC Prado 63.34 229 *e*P **P 00 50 01.9 +0.3**
comp=Z,139nm,1.7s
PRAC LR LR
comp=Z,800nm,21.0s
AAA Alma-Ata 63.49 50 *i*P P 00 50 12.3 +10
AAA pmax pmax
comp=Z,1μm,3.7s
SLBS Sierra La Lagu 63.56 273 *e*P **P 00 50 04.6 +1.6**
comp=Z,91nm,1.5s
SLBS Sierra La Lagu 63.56 273 *e*P **P 00 50 04.6 +1.6**
comp=Z,91nm,1.5s
SLBS LR LR
comp=Z,5μm,18.0s
RCBR Riachuelo 63.59 184 PFAKE 00 50 20.0 +17
RCBR LR LR
comp=Z,900nm,20.0s
NIKH Nikolski High 63.87 332 PFAKE 00 50 20.0 +15
NIKH LR LR
comp=Z,4μm,20.0s
RAYN Ar Rayn 64.13 87 *e*P **P 00 50 07.0 +0.2**
comp=Z,14nm,1.0s
RAYN Ar Rayn 64.13 87 *e*P **P 00 50 07.0 +0.2**
comp=Z,14nm,1.0s
RAYN LR LR
comp=Z,1μm,20.0s
CLNS Chul'man 64.19 13 *e*P **P 00 50 05.2 -1.4**
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS pmax pmax
comp=N,23nm,1.0s
MOY Mondy 64.39 30 *e*P **P 00 50 08.9 +0.8**
MOY pmax pmax
comp=Z,56nm,2.2s
PDGK Podgornoye 64.43 49 P **P 00 50 09.0 +0.4**
PDGK pmax pmax
comp=Z,11nm,0.9s
TLY Talaya 65.06 28 *e*P **P 00 50 13.5 +1.1**
TLY *e*S **S 00 58 48.7 -5.4**
TLY *e*SS **SS 01 03 05.9 +0.8**
TLY pmax pmax
comp=Z,24nm,1.6s
TLY MLR MLR
comp=Z,512nm,19.0s
TLY Talaya 65.06 28 *e*P **P 00 50 13.8 +1.4**
comp=Z,11nm,0.7s
TLY Talaya 65.06 28 *e*P **P 00 50 13.8 +1.4**
comp=Z,11nm,0.7s
TLY LR LR
comp=Z,600nm,18.0s
POPC Popayan, Colom 65.13 230 *e*P P 00 50 20.1 +6.5
FLOC Florencia 65.59 228 *e*P **P 00 50 15.4 -0.9**
CRUC La Cruz 66.13 230 *e*P **P 00 50 21.1 +1.0**
KSH Kashi 66.16 53 P **P 00 50 21.7 +1.9**
KSH pP sP 00 50 26.9 +1.7
KSH sP pP 00 50 28.7 +5.0
KSH PcP **PcP 00 50 52.4 +2.3**
KSH PP **PP 00 52 48.7 +3.8**
KSH PcS 00 54 55.8
KSH S **S 00 59 07.5 -0.6**
KSH sS sS 00 59 16.2 +1.7
KSH ScS **SKSac 01 00 13.4 -2.2**
KSH SS **SS 01 03 23.7 +0.7**
KSH pmax pmax
comp=Z,46nm,1.0s
KSH pmax pmax
comp=Z,690nm,5.5s
KSH LR LR
comp=Z,1μm,15.2s
KSH LR LR
comp=Z,460nm,10.6s
KSH LR LR
comp=Z,680nm,14.4s
ZAK Zakamensk 66.16 29 *e*P **P 00 50 18.4 -1.2**
ZAK pmax pmax
comp=Z,17nm,1.5s
TUMC Tumaco 66.63 232 PFAKE 00 50 40.0 +17
TUMC LR LR
comp=Z,1μm,21.0s
WMQ Urumqi 67.14 43 P **P 00 50 26.4 +0.4**
WMQ pP sP 00 50 32.9 +1.6
WMQ sP pP 00 50 35.5 +5.6
WMQ PcP **PcP 00 50 52.7 -1.3**
WMQ PP **PP 00 52 55.0 +1.7**
WMQ S **S 00 59 18.7 -1.1**
WMQ sS sS 00 59 31.4 +5.2
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,240nm,5.3s
WMQ LR LR
comp=Z,2μm,14.9s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,1μm,21.1s
KBL Kabul 67.16 61 *e*P **P 00 50 27.0 +0.6**
KBL pmax pmax
comp=Z,45nm,1.5s
KBL MLR MLR
comp=Z,2μm,20.0s
KBL Kabul 67.16 61 *e*P **P 00 50 27.0 +0.6**
comp=Z,45nm,1.5s
KBL Kabul 67.16 61 *e*P **P 00 50 27.0 +0.6**
comp=Z,45nm,1.5s
KBL LR LR
comp=Z,2μm,20.0s
H10N2 ASCENSION HYDR 67.17 160 T T 02 02 58.0
baz=350,slow=75,SNR=60
H10N3 ASCENSION HYDR 67.18 160 T T 02 02 56.3
baz=350,slow=75,SNR=61
H10N1 ASCENSION HYDR 67.19 160 T T 02 02 59.4
baz=350,slow=75,SNR=58
SMY Shemya 67.58 343 *e*P **P 00 50 29.0 +0.5**
SMY pmax pmax
comp=Z,700nm,1.8s
SMY Shemya 67.58 343 *e*P **P 00 50 29.0 +0.5**
comp=Z,700nm,1.8s
SMY Shemya 67.58 343 *e*P **P 00 50 28.9 +0.5**
comp=Z,700nm,1.8s
OTAV Otavalo 67.95 231 *e*P **P 00 50 32.3 +0.5**
comp=Z,29nm,1.4s
OTAV Otavalo 67.95 231 *e*P **P 00 50 32.3 +0.5**
comp=Z,29nm,1.4s
OTAV LR LR
comp=Z,1μm,22.0s
H10S1 ASCENSION HYDR 68.23 161 T T 02 04 14.5
baz=351,slow=75,SNR=321
H10S3 ASCENSION HYDR 68.23 161 T T 02 04 17.7
baz=351,slow=75,SNR=253
H10S2 ASCENSION HYDR 68.25 161 T T 02 04 18.2

HHC					LR	LR		
	comp=Z,960nm,19.7s							
KUR	**Kuril'sk**	**77.21**	**360**		P	**P**	**00 51 27.6**	**+1.6**
KUR					*e*		00 54 19.5	
KUR					S	**S**	**01 01 15.7**	**+0.8**
USRK	**Ussuriysk Ar.**	**77.44**	**11**		P	**P**	**00 51 26.8**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=28,slow=8.6,SNR=7.1							
USRK					LR	LR	01 25 09.2	
	comp=Z,569nm,20.8s,baz=356,slow=35							
ASAJ	**Asahikawa**	**78.25**	**4**		P	**P**	**00 51 32.9**	**+1.0**
	comp=Z,4.1nm,0.4s,baz=121,slow=5.9,SNR=3.3							
ASAJ	**Asahikawa**	**78.25**	**4**		*e*P	**P**	**00 51 33.2**	**+1.3**
	comp=Z,37nm,1.2s							
ASAJ	**Asahikawa**	**78.25**	**4**		*e*P	**P**	**00 51 33.2**	**+1.3**
	comp=Z,37nm,1.2s							
ASAJ					LR	LR		
	comp=Z,1μm,21.0s							
YUK	**Yuzh-Kuril'sk**	**78.41**	**1**	*c i*	P	**P**	**00 51 31.3**	**-1.4**
YUK				*i*			00 51 39.7	
YUK				*i*			00 51 42.1	
YUK					S	**S**	**01 01 30.1**	**+2.3**
YUK							01 01 49.2	
YUK					pmax	pmax		
	comp=Z,442nm,1.2s							
YUK					pmax	pmax		
	comp=N,301nm,0.8s							
YUK					pmax	pmax		
	comp=E,91nm,0.8s							
YUK					pmax	pmax		
	comp=Z,490nm,4.0s							
YUK					MLR	MLR		
	comp=N,929nm,19.0s							
YUK					MLR	MLR		
	comp=E,184nm,19.0s							
YUK					MLR	MLR		
	comp=Z,1μm,19.0s							
BJT	**Baijiatuau**	**78.98**	**24**	*e*	P	**P**	**00 51 35.7**	**-0.3**
BJT					pmax	pmax		
	comp=Z,90nm,1.7s							
BJT					MLR	MLR		
	comp=Z,1μm,20.0s							
BJT	**Baijiatuau**	**78.98**	**24**	*e*	P	**P**	**00 51 35.7**	**-0.3**
	comp=Z,90nm,1.7s							
BJT	**Baijiatuau**	**78.98**	**24**	*e*	P	**P**	**00 51 35.7**	**-0.3**
	comp=Z,90nm,1.7s							
BJT					LR	LR		
	comp=Z,1μm,20.0s							
LZH	**Lanzhou**	**79.49**	**35**	*e*	P	**P**	**00 51 37.5**	**-1.5**
LZH					pP	PcP	00 51 46.6	-0.4
LZH					sP	sP	00 51 51.5	+7.1
LZH					pmax	pmax		
	comp=Z,21nm,1.0s							
LZH					pmax	pmax		
	comp=Z,130nm,4.3s							
LPAZ	**La Paz**	**79.54**	**215**		P	**P**	**00 51 39.1**	**-0.7**
	comp=Z,6.0nm,0.9s,baz=19,slow=8.3,SNR=15							
LPAZ					LR	LR	01 25 18.0	
	comp=Z,388nm,18.9s,baz=346,slow=34							
LPAZ	**La Paz**	**79.54**	**215**	*e*	P	**P**	**00 51 39.9**	**0.0**
LPAZ					pmax	pmax		
	comp=Z,25nm,1.4s							
LPAZ	**La Paz**	**79.54**	**215**	*e*	P	**P**	**00 51 39.8**	**0.0**
	comp=Z,24nm,1.4s							
LPAZ	**La Paz**	**79.54**	**215**	*e*	P	**P**	**00 51 39.9**	**0.0**
	comp=Z,24nm,1.4s							
GKN	**Gorkha**	**79.70**	**53**	*e*	P	**P**	**00 51 40.0**	**-0.3**
	comp=Z,61nm,1.0s							
KKN	**Kakani**	**80.16**	**53**	*e*	P	**P**	**00 51 42.7**	**-0.2**
	comp=Z,62nm,1.0s							
DMN	**Daman**	**80.25**	**53**	*e*	P	**P**	**00 51 43.3**	**-0.1**
	comp=Z,110nm,1.1s							
GUN	**Gumba**	**80.31**	**52**	*e*	P	**P**	**00 51 44.0**	**+0.2**
	comp=Z,123nm,1.2s							
KMBO	**Kilima Mbogo**	**80.39**	**108**		P	**P**	**00 51 45.2**	**+1.0**
	comp=Z,0.7nm,0.2s,baz=252,slow=20,SNR=4.0							
KMBO					LR	LR	01 28 27.9	
	comp=Z,739nm,19.6s,baz=318,slow=36							
PKIN	**Phulchoki**	**80.40**	**53**	*e*	P	**P**	**00 51 44.0**	**-0.2**
	comp=Z,36nm,1.1s							
JIRN	**Jiri**	**80.66**	**52**	*e*	P	**P**	**00 51 45.7**	**0.0**
	comp=Z,458nm,1.0s							
LSA	**Lhasa**	**80.87**	**47**	*e*	P	**P**	**00 51 47.1**	**+0.1**
LSA					pmax	pmax		
	comp=Z,35nm,1.6s							
LSA					MLR	MLR		
	comp=Z,900nm,19.0s							
LSA	**Lhasa**	**80.87**	**47**	*e*	P	**P**	**00 51 47.1**	**+0.1**
	comp=Z,35nm,1.6s							
LSA	**Lhasa**	**80.87**	**47**	*e*	P	**P**	**00 51 47.1**	**+0.1**
	comp=Z,35nm,1.6s							
LSA					LR	LR		
	comp=Z,900nm,19.0s							
DL2	**Dalian**	**81.15**	**20**		P	**P**	**00 51 50.6**	**+2.9**
DL2					pmax	pmax		
	comp=Z,710nm,5.8s							
DL2					LR	LR		
	comp=Z,940nm,17.9s							
DL2					LR	LR		
	comp=Z,610nm,18.6s							
DL2					LR	LR		
	comp=Z,1μm,18.8s							
RAMN	**Ramite**	**81.46**	**52**	*e*	P	**P**	**00 51 49.5**	**-0.3**
	comp=Z,93nm,0.9s							
TAPN	**Taplejung**	**81.57**	**51**	*e*	P	**P**	**00 51 50.5**	**0.0**
	comp=Z,40nm,1.1s							
ODAN	**Odare**	**81.87**	**51**	*e*	P	**P**	**00 51 51.9**	**-0.1**
	comp=Z,66nm,1.1s							
SPB	**Sao Paulo**	**82.14**	**194**		PFAKE		00 52 00.0	+7.2
SPB					LR	LR		
	comp=Z,700nm,18.0s							
TIA	**Tai'an**	**82.84**	**24**	⇓	P	**P**	**00 51 56.6**	**-0.1**
TIA					pmax	pmax		
	comp=Z,20nm,1.4s							
XAN	**Xi'an**	**82.87**	**31**		P	**P**	**00 51 56.6**	**-0.3**
XAN					sP	PcP	00 52 01.7	0.0
XAN					S	**S**	**01 02 17.9**	**+2.9**
XAN					pmax	pmax		
	comp=Z,25nm,1.3s							
XAN					pmax	pmax		
	comp=Z,500nm,10.3s							
XAN					LR	LR		
	comp=Z,730nm,19.9s							
XAN					LR	LR		
	comp=Z,520nm,18.5s							
XAN					LR	LR		
	comp=Z,2μm,19.9s							
PB11	**IPOC Station P**	**83.28**	**215**	*e*	P	**P**	**00 51 58.8**	**-0.3**
	comp=Z,50nm,1.0s							
PB11	**IPOC Station P**	**83.28**	**215**	*e*	P	**P**	**00 51 58.8**	**-0.3**
	comp=Z,50nm,1.0s							
INCN	**Inchon**	**83.37**	**16**		PFAKE		00 52 10.0	+11
INCN					LR	LR		
	comp=Z,900nm,18.0s							
KS01	**Wonju Array Si**	**83.56**	**15**	*e*	P	**P**	**00 51 59.7**	**-0.6**
KS01	**Wonju Array Si**	**83.56**	**15**	*e*	P	**P**	**00 51 59.7**	**-0.6**
KSRS	**Korea Array**	**83.59**	**15**		P	**P**	**00 52 00.4**	**-0.1**
	comp=Z,17nm,1.2s,baz=354,slow=5.2,SNR=18							
KSRS					LR	LR	01 33 07.3	
	comp=Z,405nm,18.0s,baz=5.5,slow=38							
KSAR	**Wonju Array Be**	**83.60**	**15**		P	**P**	**00 52 00.4**	**-0.1**
KSAR	**Wonju Array Be**	**83.60**	**15**		P	**P**	**00 52 00.4**	**-0.1**
KSAR	**Wonju Array Be**	**83.60**	**15**		P	**P**	**00 52 00.4**	**-0.1**
CD2	**Chengdu**	**84.25**	**37**	*e*	P	**P**	**00 52 03.6**	**-0.5**
CD2					pP	PcP	00 52 06.9	-0.9
CD2					PP	**PP**	**00 55 16.9**	**-0.9**
CD2					SKS	**S**	**01 02 25.8**	**-3.3**
CD2					S	**SKSac**	**01 02 28.1**	**+0.8**
CD2					SS	**SS**	**01 07 57.0**	**-0.1**
CD2					pmax	pmax		
	comp=Z,20nm,0.5s							
CD2					pmax	pmax		
	comp=Z,230nm,5.2s							
CD2					LR	LR		
	comp=Z,830nm,25.8s							
CD2					LR	LR		
	comp=Z,1μm,21.8s							
CD2					LR	LR		
	comp=Z,1μm,23.8s							
PB01	**IPOC Station P**	**84.43**	**214**	*e*	P	**P**	**00 52 04.6**	**-0.3**
	comp=Z,22nm,1.1s							
PB01	**IPOC Station P**	**84.43**	**214**	*e*	P	**P**	**00 52 04.6**	**-0.3**
	comp=Z,22nm,1.1s							
KLRI	**Killari**	**84.64**	**64**	*e*	P	**P**	**00 52 04.8**	**-1.4**
KLRI					IAmb	IAmb	00 52 09.9	
	comp=Z,58nm,1.5s							
KLRI				*e*	SKSac	**SKSac**	**01 02 28.3**	**-1.8**
KLRI					IVMs_BB	IVMs_BB	01 31 51.7	
	comp=Z,696nm,20.0s							
SRSP	**Sriramsagar**	**84.73**	**63**	*e*	P	**P**	**00 52 05.6**	**-1.0**
SRSP					IAmb	IAmb	00 52 12.6	
	comp=Z,21nm,0.9s							
SRSP				*e*	SKSac	**SKSac**	**01 02 28.9**	**-1.7**
SRSP					IVMs_BB	IVMs_BB	01 33 09.1	
	comp=Z,401nm,26.7s							
RPR	**Rampur**	**85.24**	**62**	*e*	P	**P**	**00 52 08.6**	**-0.5**
RPR					IAmb	IAmb	00 52 15.5	
	comp=Z,22nm,1.0s							
RPR				*e*	SKSac	**SKSac**	**01 02 31.7**	**-2.1**
RPR					IVMs_BB	IVMs_BB	01 31 56.9	
	comp=Z,364nm,21.0s							
MAJO	**Matsushiro**	**85.58**	**7**	⇑ *e*	P	**P**	**00 52 10.3**	**-0.3**
MAJO					pmax	pmax		
	comp=Z,48nm,1.2s							
MJAR	**Matsushiro Arr**	**85.58**	**7**		P	**P**	**00 52 10.1**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=331,slow=4.4,SNR=6.3							
LVC	**Limon Verde**	**85.74**	**213**	*e*	P	**P**	**00 52 12.7**	**+1.0**
	comp=Z,55nm,1.3s							
LVC	**Limon Verde**	**85.74**	**213**	*e*	P	**P**	**00 52 12.7**	**+1.0**
	comp=Z,55nm,1.3s							
HYBB	**Hyderabad (bro**	**86.13**	**63**	*e*	P	**P**	**00 52 12.4**	**-1.1**
HYBB					IAmb	IAmb	00 52 19.9	
	comp=Z,18nm,1.1s							
HYBB				*e*	SKSac	**SKSac**	**01 02 37.6**	**-1.9**
HYBB					IVMs_BB	IVMs_BB	01 28 22.6	
	comp=Z,336nm,25.7s							
HYB	**Hyderabad**	**86.13**	**63**	*i*	P	**P**	**00 52 13.0**	**-0.6**
CPUP	**Villa Florida**	**86.44**	**202**		P	**P**	**00 52 13.6**	**-1.0**
	comp=Z,13nm,1.0s,baz=26,slow=5.3,SNR=17							
CPUP					LR	LR	01 25 51.7	
	comp=Z,680nm,21.8s,baz=9.0,slow=32							
CPUP	**Villa Florida**	**86.44**	**202**	*e*	P	**P**	**00 52 13.9**	**-0.7**
CPUP	**Villa Florida**	**86.44**	**202**	*e*	P	**P**	**00 52 13.9**	**-0.7**
CPUP	**Villa Florida**	**86.44**	**202**	*e*	P	**P**	**00 52 13.9**	**-0.7**
ENH	**Enshi**	**86.57**	**32**	*e*	P	**P**	**00 52 15.6**	**0.0**
	comp=Z,78nm,1.4s							
ENH	**Enshi**	**86.57**	**32**	*e*	P	**P**	**00 52 15.6**	**0.0**
	comp=Z,78nm,1.4s							
ENH					LR	LR		
	comp=Z,1μm,20.0s							
NJ2	**Nanjing**	**87.23**	**24**	*e*	P	**P**	**00 52 18.5**	**-0.2**
NJ2					pmax	pmax		
	comp=Z,23nm,0.5s							
NJS	**Nagarjunasagar**	**87.24**	**63**	*e*	P	**P**	**00 52 17.8**	**-1.1**
NJS					IAmb	IAmb	00 52 24.9	
	comp=Z,19nm,0.9s							
NJS				*e*	SKSac	**SKSac**	**01 02 44.9**	**-1.3**
NJS					IVMs_BB	IVMs_BB	01 28 52.6	
	comp=Z,298nm,30.9s							
TSUM	**Tsumeb**	**87.35**	**133**		PFAKE		00 52 30.0	+11
TSUM					LR	LR		
	comp=Z,2μm,22.0s							
SRLM	**Srisailam**	**87.43**	**64**	*e*	P	**P**	**00 52 19.6**	**-0.3**
SRLM					IAmb	IAmb	00 52 21.3	
	comp=Z,38nm,1.5s							
SRLM				*e*	SKSac	**SKSac**	**01 02 45.3**	**-2.2**
SRLM					IVMs_BB	IVMs_BB	01 24 60.0	
	comp=Z,208nm,13.1s							
WHN	**Wuhan**	**87.62**	**28**	⇑	P	**P**	**00 52 19.9**	**-0.7**
WHN					S	**S**	**01 03 05.8**	**+3.9**
WHN					LR	LR		
	comp=Z,990nm,10.7s							
WHN					LR	LR		
	comp=Z,2μm,21.3s							
WHN					LR	LR		
	comp=Z,2μm,17.0s							
URV	**Uravakonda**	**87.64**	**65**	*e*	P	**P**	**00 52 19.6**	**-1.3**
URV					IAmb	IAmb	00 52 26.7	
	comp=Z,18nm,1.1s							
URV				*e*	SKSac	**SKSac**	**01 02 42.5**	**-6.2**
URV					IVMs_BB	IVMs_BB	01 33 45.4	
	comp=Z,395nm,23.0s							
PVM	**Polavaram**	**87.72**	**61**	*e*	P	**P**	**00 52 21.6**	**+0.3**
PVM					IAmb	IAmb	00 52 27.3	
	comp=Z,212nm,2.6s							
PVM				*e*	SKSac	**SKSac**	**01 02 42.1**	**-7.1**
PVM					IVMs_BB	IVMs_BB	01 34 29.8	
	comp=Z,360nm,19.1s							
CHLP	**Challavanipeta**	**87.75**	**58**	*e*	P	**P**	**00 52 22.2**	**+0.8**
CHLP					IAmb	IAmb	00 52 23.6	
	comp=Z,21nm,1.3s							
CHLP				*e*	SKSac	**SKSac**	**01 02 47.8**	**-1.5**
CHLP					IVMs_BB	IVMs_BB	01 35 20.9	
	comp=Z,368nm,19.2s							
ADKI	**Addanki**	**88.16**	**63**	*e*	P	**P**	**00 52 23.9**	**+0.5**
ADKI					IAmb	IAmb	00 52 30.4	
	comp=Z,13nm,1.1s							
ADKI				*e*	SKSac	**SKSac**	**01 02 55.4**	**+3.5**
ADKI					IVMs_BB	IVMs_BB	01 35 12.3	
	comp=Z,327nm,17.5s							
LSZ	**Lusaka**	**88.30**	**123**	*e*	P	**P**	**00 52 24.4**	**+0.4**
LSZ					pmax	pmax		
	comp=Z,31nm,1.8s							
LSZ					MLR	MLR		
	comp=Z,2μm,22.0s							
LSZ	**Lusaka**	**88.30**	**123**	*e*	P	**P**	**00 52 24.4**	**+0.4**
	comp=Z,31nm,1.8s							
LSZ	**Lusaka**	**88.30**	**123**	*e*	P	**P**	**00 52 24.4**	**+0.4**
	comp=Z,31nm,1.8s							
LSZ					LR	LR		
	comp=Z,2μm,22.0s							
KMI	**Kunming**	**89.27**	**40**		P	**P**	**00 52 28.8**	**0.0**
KMI					pmax	pmax		
	comp=Z,23nm,0.6s							
GYA	**Guiyang**	**89.31**	**36**	⇑ *i*	P	**P**	**00 52 28.9**	**0.0**
GYA					PP	**PP**	**00 56 01.2**	**+2.5**
GYA					SKS	**SKSac**	**01 02 55.8**	**-3.0**
GYA					S	**S**	**01 03 15.0**	**-3.3**
GYA					SS	**SS**	**01 09 12.2**	**+0.8**
GYA					pmax	pmax		
	comp=Z,40nm,0.8s							
GYA					pmax	pmax		
	comp=Z,140nm,6.2s							
GYA					LR	LR		
	comp=Z,2μm,21.3s							
GYA					LR	LR		
	comp=Z,2μm,22.0s							
GYA					LR	LR		
	comp=Z,1μm,23.7s							
STCH	**Steam Cracks**	**89.52**	**307**		PFAKE		00 52 40.0	+10
STCH					LR	LR		
	comp=Z,2μm,18.0s							
NPH	**North Pit**	**89.56**	**307**		PFAKE		00 52 40.0	+10
NPH					LR	LR		
	comp=Z,2μm,20.0s							
SDHHI	**Sand Hill**	**89.59**	**307**		PFAKE		00 52 40.0	+10
SDHHI					LR	LR		
	comp=Z,2μm,20.0s							
MWH	**Moku'aweowe**	**89.63**	**308**		PFAKE		00 52 40.0	+9.1
MWH					LR	LR		
	comp=Z,2μm,21.0s							
AIN	**Ainahou**	**89.67**	**307**		PFAKE		00 52 40.0	+9.3
AIN					LR	LR		
	comp=Z,2μm,18.0s							
SKHT	**Srikalahasti**	**89.86**	**64**	*e*	P	**P**	**00 52 33.4**	**+2.1**
SKHT					IAmb	IAmb	00 52 49.9	
	comp=Z,7.0nm,0.9s							
LCO	**Las Campanas**	**92.29**	**213**	*e*	P	**P**	**00 52 42.8**	**+0.3**
	comp=Z,42nm,1.4s							
LCO	**Las Campanas**	**92.29**	**213**	*e*	P	**P**	**00 52 42.8**	**+0.3**
	comp=Z,42nm,1.4s							
MSEY	**Mahe Island**	**92.92**	**94**		PFAKE		00 53 00.0	+14
MSEY					LR	LR		
	comp=Z,700nm,19.0s							
SLVN	**Son La**	**93.17**	**40**		PFAKE		00 53 00.0	+13
SLVN					LR	LR		
	comp=Z,500nm,19.0s							
CHTO	**Chiang Mai**	**93.69**	**45**	*e*	P	**P**	**00 52 48.8**	**-0.3**
CHTO					pmax	pmax		
	comp=Z,7.0nm,1.1s							
CHTO					MLR	MLR		
	comp=Z,800nm,20.0s							
CHTO	**Chiang Mai**	**93.69**	**45**	*e*	P	**P**	**00 52 48.8**	**-0.3**
	comp=Z,7.1nm,1.1s							
CHTO	**Chiang Mai**	**93.69**	**45**	*e*	P	**P**	**00 52 48.8**	**-0.3**
	comp=Z,7.1nm,1.1s							
CHTO					LR	LR		
	comp=Z,800nm,20.0s							
CM31	**Chiang Mai Arr**	**94.02**	**45**	*e*	P	**P**	**00 52 50.8**	**+0.2**
CM31	**Chiang Mai Arr**	**94.02**	**45**	*e*	P	**P**	**00 52 50.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**94.02**	**45**		P	**P**	**00 52 50.4**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=319,slow=6.0,SNR=10							
CMAR					LR	LR	01 37 32.9	
	comp=Z,720nm,20.0s,baz=334,slow=37							
CM01	**Chiang Mai Arr**	**94.06**	**45**	*e*	P	**P**	**00 52 50.2**	**-0.6**
CM01	**Chiang Mai Arr**	**94.06**	**45**	*e*	P	**P**	**00 52 50.2**	**-0.6**
YHNB	**Yeheng**	**94.90**	**24**		PFAKE		00 53 10.0	+15
YHNB					LR	LR		
	comp=Z,800nm,20.0s							
NACB	**Ninganchiao**	**95.43**	**24**		PFAKE		00 53 10.0	+13
NACB					LR	LR		
	comp=Z,800nm,19.0s							
SSLB	**Suanglung**	**95.66**	**24**		PFAKE		00 53 10.0	+12
SSLB					LR	LR		
	comp=Z,700nm,20.0s							
PALK	**Pallekele**	**95.93**	**66**		PFAKE		00 53 10.0	+11
PALK					LR	LR		
	comp=Z,1μm,22.0s							
YULB	**Yu-li**	**96.12**	**24**		PFAKE		00 53 10.0	+10
YULB					LR	LR		
	comp=Z,700nm,18.0s							
TWG	**Pinlang**	**96.62**	**24**		PFAKE		00 53 10.0	+7.5
TWG					LR	LR		
	comp=Z,2μm,20.0s							
QIZ	**Qiongzhong**	**97.26**	**36**		P	**P**	**00 53 05.2**	**-0.2**
QIZ					S	**S**	**01 04 27.9**	**-1.0**
QIZ					LR	LR		
	comp=Z,1μm,21.8s							
BOSA	**Boshof**	**98.83**	**131**		LR	LR	01 35 01.0	
	comp=Z,2μm,20.9s,baz=344,slow=34							
SUR	**Sutherland**	**100.47**	**136**		PFAKE		00 53 30.0	+11
SUR					LR	LR		
	comp=Z,2μm,18.0s							
ABPO	**Ambohimpanom**	**100.66**	**109**		PFAKE		00 53 30.0	+9.4
ABPO					LR	LR		
	comp=Z,1μm,19.0s							
DLV	**T Lat**	**103.46**	**39**		PFAKE		00 53 40.0	+6.7
DLV					LR	LR		
	comp=Z,600nm,20.0s							
KULM	**Kulim**	**106.67**	**49**		PFAKE		00 58 10.0	
KULM					LR	LR		
	comp=Z,600nm,20.0s							
TAOE	**Nuku Hiva Isla**	**106.74**	**280**	*e*	PS	PS	01 07 35.2	+2.9
	comp=Z,344nm,26.5s							
TAOE				*e*	SS	SS	01 13 14.8	-3.1
	comp=Z,577nm,26.6s							
TAOE	**Nuku Hiva Isla**	**106.74**	**280**	*e*	LR	LR	01 28 53.3	
	comp=Z,2μm,22.5s							
GSI	**Gunungsitoli**	**108.99**	**54**		PFAKE		00 58 10.0	
GSI					LR	LR		
	comp=Z,100nm,20.0s							
DAV	**Davao City (W)**	**112.86**	**24**		PFAKE		00 58 20.0	
DAV					LR	LR		
	comp=Z,700nm,21.0s							
SBUM	**Sibu**	**113.58**	**39**		PFAKE		00 58 20.0	
SBUM					LR	LR		
	comp=Z,600nm,22.0s							
KSM	**Kuching**	**113.84**	**41**		PFAKE		00 58 20.0	
KSM					LR	LR		
	comp=Z,600nm,20.0s							
RKT	**Rikitea**	**115.80**	**267**	*e*	SS	SS	01 15 28.6	+10
	comp=Z,370nm,29.2s							
RKT	**Rikitea**	**115.80**	**267**	*e*	LR	LR	01 33 08.4	
	comp=Z,969nm,34.5s							
PPT2	**Papeete2**	**118.99**	**284**	*e*	SS	SS	01 16 10.9	+11
	comp=Z,2μm,31.5s							
PPT2	**Papeete2**	**118.99**	**284**	*e*	LR	LR	01 34 46.0	
	comp=Z,2μm,23.5s							
FAKI	**Fak Fak**	**123.87**	**18**		PFAKE		00 58 40.0	+9.4
FAKI					LR	LR		
	comp=Z,300nm,20.0s							
MANU	**Manus Island**	**124.28**	**360**		PFAKE		00 58 40.0	+8.6
MANU					LR	LR		
	comp=Z,600nm,22.0s							
JAY	**Jayapura**	**124.50**	**8**		PKP	**PKPdf**	**00 58 30.5**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=135,slow=22,SNR=4.3							
RABL	**Rabaul**	**126.28**	**354**		PFAKE		00 58 50.0	+15
RABL					LR	LR		
	comp=Z,500nm,22.0s							
VNA1	**Neumayer--Stat**	**129.44**	**170**		PKP	**PKPdf**	**00 58 39.9**	**+0.6**
VNA2	**Neumayer--Watz**	**129.79**	**169**		PKP	**PKPdf**	**00 58 39.6**	**-0.4**
	baz=52,slow=2.9							
VNA3	**Neumayer Olymp**	**129.88**	**171**		PKP	**PKPdf**	**00 58 39.8**	**-0.4**
SNAA	**Sanae**	**130.97**	**168**		PKP	**PKPdf**	**00 58 41.6**	**-0.7**
SNAA	**Sanae**	**130.97**	**168**	*e*	PKIKP	**PKPdf**	**00 58 41.5**	**-0.9**
SNAA					MLR	MLR		
	comp=Z,900nm,20.0s							
SNAA	**Sanae**	**130.97**	**168**	*e*	PKIKP	**PKPdf**	**00 58 41.5**	**-0.9**
SNAA	**Sanae**	**130.97**	**168**	*e*	PKPdf	**PKPdf**	**00 58 41.5**	**-0.9**
SNAA					LR	LR		
	comp=Z,900nm,20.0s							
NVL	**N'lazarevskaya**	**132.20**	**162**	*e*	PKHKP	PKPpre	00 58 34.1	
MSVF	**Nonsavu**	**133.90**	**318**		PFAKE		00 59 00.0	+10
MSVF					LR	LR		
	comp=Z,3μm,19.0s							
WB6	**Warramunga Arr**	**140.81**	**20**		PFAKE		00 59 10.0	+7.8
WB6					LR	LR		
	comp=Z,3μm,22.0s							
WRA	**Warramunga Arr**	**140.89**	**20**		PKP	**PKPdf**	**00 58 59.6**	**-2.7**
	comp=Z,3.6nm,0.9s,baz=337,slow=2.3,SNR=15							
WB2	**Warramunga Arr**	**140.89**	**20**	*e*	PKIKP	**PKPdf**	**00 59 01.7**	**-0.6**
WB2	**Warramunga Arr**	**140.89**	**20**	*e*	PKPdf	**PKPdf**	**00 59 01.7**	**-0.6**
WR2	**Warramunga Arr**	**140.89**	**20**		PFAKE		00 59 10.0	+7.7
WR2					LR	LR		
	comp=Z,500nm,18.0s							
WC3	**Warramunga Arr**	**140.91**	**20**	*e*	PKIKP	**PKPdf**	**00 59 01.5**	**-0.8**
WC3	**Warramunga Arr**	**140.91**	**20**	*e*	PKPdf	**PKPdf**	**00 59 01.5**	**-0.8**
DZM	**Mont Dzumac**	**141.61**	**331**	*e*	LR	LR	01 45 14.2	
	comp=Z,2μm,28.4s							
CTAO	**Charters Tower**	**142.21**	**2**	*e*	PKIKP	**PKPdf**	**00 59 04.7**	**0.0**
CTAO	**Charters Tower**	**142.21**	**2**	*e*	PKIKP	**PKPdf**	**00 59 04.7**	**0.0**
CTAO	**Charters Tower**	**142.21**	**2**	*e*	PKPdf	**PKPdf**	**00 59 04.7**	**0.0**
MAW	**Mawson**	**143.20**	**140**		PKhKP	PKPpre	00 59 01.4	
	comp=Z,3.1nm,0.8s,baz=264,slow=4.8,SNR=6.9							
MAW	**Mawson**	**143.20**	**140**	*e*	PKPpre	PKPpre	00 59 02.9	
MAW					LR	LR		
	comp=Z,200nm,21.0s							
AS31	**Alice Springs**	**144.43**	**22**	*e*	PKIKP	PKPbc	00 59 07.2	+0.2
AS31	**Alice Springs**	**144.43**	**22**	*e*	PKPdf	PKPbc	00 59 07.2	+0.1
ASAR	**Alice Springs**	**144.43**	**22**		PKP	**PKPab**	**00 59 06.0**	**-0.7**
	comp=Z,5.4nm,0.7s,baz=345,slow=2.5,SNR=36							
AS01	**Alice Springs**	**144.44**	**21**	*e*	PKPdf	**PKPab**	**00 59 06.3**	**-0.5**
EIDS	**Eidsvold**	**147.37**	**354**	*e*	PKPbc	**PKPbc**	**00 59 16.0**	**+0.2**
EIDS	**Eidsvold**	**147.37**	**354**	*e*	PKPbc	**PKPbc**	**00 59 16.1**	**+0.2**
NWAO	**Narrogin (SRO)**

comp=Z,8.9nm,1.0s,baz=183,slow=2.8,SNR=12

VNDA	**Vanda**	**159.69**	**189**	*e*PKIKP	**PKPdf**	**00 59 28.2 -1.2**
VNDA	**Vanda**	**159.69**	**189**	*e*PKPdf	**PKPdf**	**00 59 28.1 -1.2**
VNDA				*e*PKPab	**PKPab**	**01 00 09.1 +0.8**

ISCJB ***06*** *00:41:36.3±0.6,39°.17N±0°.04×29°.11E±0°.05,h21km±9km, Error ellipse: s-maj=7.4km s-min=5.4km az=139.2*
CSEM ***06*** *00:41:36.1±0.3,39°.20N×29°.08E,h7km,MD2.4,Error ellipse: s-maj=8.1km s-min=6.3km az=120.0*
ISK ***06*** *00:41:36.0,39°.26N×28°.98E,h7km,MD2.4*
DDA ***06*** *00:41:37.1,39°.11N×29°.14E,h7km,Md2.4*
ISC 06 00:41:35.9±0.9,39°.20N±0°.03×29°.08E±0°.03,h16km±8km, n20,σ0s94/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**214**	*e*PG	**Pg**	**00 41 40.2**	**+0.3**
SIMA	**Simav-Kutahya**	**0.14**	**214**	*e*Pg	**Pg**	**00 41 40.2**	**+0.3**
DEMI	**Demirci**	**0.33**	**241**	*i* P	**Pb**	**00 41 44.1**	**+0.7**
DEMI				*i* S	**Sb**	**00 41 48.8**	**+0.4**
DEMI	**Demirci**	**0.33**	**241**	P	**Pb**	**00 41 44.1**	**+0.7**
DEMI				S	**Sb**	**00 41 48.8**	**+0.4**
GDZ	**Gediz**	**0.33**	**110**	*i* P	**Pg**	**00 41 42.9**	**0.0**
GDZ				*i* S	**Sg**	**00 41 46.9**	**-0.8**
GDZ	**Gediz**	**0.33**	**110**	P	**Pg**	**00 41 42.9**	**0.0**
GDZ				S	**Sg**	**00 41 46.9**	**-0.8**
TVSB	**Tavsanli**	**0.39**	**50**	*e*PG	**Pb**	**00 41 45.1**	**+0.7**
TVSB				*e*SG	**Sb**	**00 41 50.5**	**+0.3**
TVSB	**Tavsanli**	**0.39**	**50**	*e*Pg	**Pb**	**00 41 45.1**	**+0.7**
TVSB				*e*Sg	**Sb**	**00 41 50.5**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**206**	*e*PG	**Pb**	**00 41 51.3**	**+0.5**
KULA	**Kula-Manisa**	**0.76**	**206**	*e*Pg	**Pb**	**00 41 51.3**	**+0.5**
MANT	**Manisa**	**0.82**	**210**	*i* P	**Pg**	**00 41 52.0**	**+0.1**
MANT				*i* S	**Sg**	**00 42 01.7**	**-1.1**
MANT	**Manisa**	**0.82**	**210**	P	**Pg**	**00 41 52.0**	**+0.1**
MANT				S	**Sg**	**00 42 01.7**	**-1.1**
KHAL	**Karahalli**	**0.89**	**159**	*i* P	**Pg**	**00 41 51.9**	**-1.3**
KHAL				*i* S	**Sg**	**00 42 03.2**	**-1.7**
KHAL	**Karahalli**	**0.89**	**159**	P	**Pg**	**00 41 51.9**	**-1.3**
KHAL				S	**Sg**	**00 42 03.2**	**-1.7**
BALB	**Balikesir**	**1.03**	**296**	*e*PG	**Pg**	**00 41 54.6**	**-1.3**
BALB	**Balikesir**	**1.03**	**296**	*e*Pg	**Pg**	**00 41 54.6**	**-1.3**
MDNY	**Mudanya-Bursa**	**1.18**	**353**	*e*PN	**Pg**	**00 41 57.7**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.18**	**353**	*e*Pn	**Pg**	**00 41 57.7**	**-1.0**
ARMT	**Armutlu**	**1.37**	**353**	*e*PN	**Pn**	**00 42 01.4**	**+1.0**
ARMT	**Armutlu**	**1.37**	**353**	*e*Pn	**Pn**	**00 42 01.4**	**+1.0**

CSEM ***06*** *00:44:15.7,38°.90N×21°.86E,h10km,ML1.1/3*
ATH 06 00:44:15.7,38°.90N×21°.86E,h11km±2km,ML1.1/3,Error ellipse: s-maj=2.4km s-min=0.9km az=289.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.04**	**297**	P	Pg	00 44 17.4	-0.4
EVR				S	Sg	00 44 19.4	-0.1
EVR				AML	AML	00 44 19.6	
	comp=E,323μm,0.1s						
EVR				AML	AML	00 44 19.6	
	comp=N,452μm,0.2s						
EVR	**Evrytania**	**0.04**	**297**	P	Pg	00 44 17.5	-0.4
EVR				S	Sg	00 44 19.4	-0.1
PVO	**Paravola**	**0.38**	**223**	P	Pg	00 44 22.8	-0.4
PVO				S	Sb	00 44 29.5	-1.0
PVO	**Paravola**	**0.38**	**223**	P	Pg	00 44 22.8	-0.4
PVO				S	Sb	00 44 29.5	-0.9
AGG	**Agios Georgios**	**0.39**	**71**	P	Pg	00 44 22.5	-0.9
AGG				S	Sb	00 44 29.8	-0.9
AGG				AML	AML	00 44 29.9	
	comp=E,135μm,0.5s						
AGG				AML	AML	00 44 30.1	
	comp=N,186μm,0.2s						
AGG	**Agios Georgios**	**0.39**	**71**	P	Pg	00 44 22.5	-0.9
AGG				S	Sb	00 44 29.8	-0.9
EFP	**Efpalio**	**0.47**	**175**	P	Pg	00 44 25.1	+0.2
EFP	**Efpalio**	**0.47**	**175**	P	Pg	00 44 25.1	+0.2
KALE	**Kalithea**	**0.55**	**156**	P	Pg	00 44 25.2	-1.2
KALE				S	Sg	00 44 33.6	-0.1
KALE				AML	AML	00 44 35.5	
	comp=E,33μm,0.3s						
KALE				AML	AML	00 44 36.1	
	comp=N,28μm,0.2s						
KALE	**Kalithea**	**0.55**	**156**	P	Pg	00 44 25.3	-1.1
KALE				S	Sg	00 44 33.6	-0.1
TRIZ	**Trizonia**	**0.56**	**162**	P	Pg	00 44 26.5	0.0
TRIZ				S	Sg	00 44 33.9	+0.1
TRIZ	**Trizonia**	**0.56**	**162**	P	Pg	00 44 26.5	0.0
TRIZ				S	Sg	00 44 34.0	+0.2
DSL	**Palaion Diasel**	**0.64**	**292**	P	Pg	00 44 26.9	-1.2
DSL				S	Sb	00 44 37.7	-0.3
DSL	**Palaion Diasel**	**0.64**	**292**	P	Pg	00 44 26.9	-1.2
DSL				S	Sb	00 44 37.7	-0.2
THL	**Klokotos Trika**	**0.68**	**10**	P	Pg	00 44 27.5	-1.3
THL				S	Sb	00 44 39.0	0.0
THL	**Klokotos Trika**	**0.68**	**10**	P	Pg	00 44 27.5	-1.3
THL				S	Sb	00 44 39.0	0.0
KLV	**Kalavryta, Ach**	**0.88**	**165**	P	Pb	00 44 33.3	+0.3
KLV	**Kalavryta, Ach**	**0.88**	**165**	P	Pb	00 44 33.3	+0.2
LKD2	**Lefkada island**	**0.94**	**264**	P	Pb	00 44 34.4	+0.3
LKD2	**Lefkada island**	**0.94**	**264**	P	Pb	00 44 34.4	+0.3

IDC ***06*** *00:44:26.4±0.7,57°.95N×32°.43W,h0km,mb3.9/19, mb1 4.1/21,mb1mx3.9/55,mbtmp4.0/21,ML3.6/1,Error ellipse: s-maj=21.4km s-min=12.3km az=6.0*
ISCJB ***06*** *00:44:27.5±0.6,57°.98N±0°.09×32°.5W±0°.1,h18km, mb3.9/21,Error ellipse: s-maj=13.9km s-min=9.4km az=12.5*
NEIC ***06*** *00:44:27.9±0.5,57°.94N×32°.49W,h10km,mb4.1/2,Error ellipse: s-maj=11.6km s-min=8.2km az=9.0*
ISC 06 00:44:29.1±0.7,57°.9N±0°.1×32°.42W±0°.08,h18km,n34, σ0s97/27,mb4.0/21,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.65**	**33**	Pn	**Pn**	**00 46 34.2**	**+1.1**
SUMG	**Summit**	**14.90**	**353**	*e*Pn	**Pn**	**00 47 57.9**	**-0.9**
EKA	**Eskdalemuir Ar**	**16.25**	**87**	Pn	**P**	**00 48 17.9**	**-1.2**
	baz=291,slow=16,SNR=3.1						
NOA	**NORSAR Array B**	**22.05**	**63**	P	**P**	**00 49 23.4**	**+0.9**
	1.2nm,0.9s,baz=284,slow=14,SNR=2.7						
HFS	**Hagfors**	**23.45**	**65**	P	**P**	**00 49 37.0**	**-0.1**
	1.4nm,0.6s,baz=225,slow=20,SNR=2.0						
ESDC	**Sonseca Array**	**25.87**	**123**	P	**P**	**00 49 59.7**	**+0.2**
	1.3nm,0.9s,baz=329,slow=9.2,SNR=4.1						
ARCES	**ARCESS Array B**	**26.94**	**41**	P	**P**	**00 50 08.1**	**-0.8**
	5.0nm,1.0s,baz=289,slow=7.6,SNR=5.3						
FINES	**FINESS Array B**	**28.86**	**58**	P	**P**	**00 50 24.7**	**-1.4**
	1.5nm,0.8s,baz=8.2,slow=13,SNR=3.0						
KEST	**Kesra**	**35.37**	**111**	P	**P**	**00 51 24.0**	**+0.6**
	2.5nm,0.8s,baz=262,slow=7.1,SNR=2.1						
AKASG	**Malin Array Be**	**35.52**	**74**	P	**P**	**00 51 23.9**	**-0.5**
	3.0nm,0.8s,baz=307,slow=8.5,SNR=7.1						
ULM	**Lac du Bonnet**	**36.72**	**286**	P	**P**	**00 51 35.9**	**+1.2**
	3.1nm,0.7s,baz=0.0,slow=8.1,SNR=2.5						
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**00 51 48.9**	**-0.6**
	0.9nm,0.8s,baz=62,slow=9.1,SNR=3.7						
TAM	**Tamanrasset**	**44.44**	**126**	*e*P	P	00 52 44.0	+5.1
	4.8nm,1.3s						
BRTR	**Keskin Array B**	**45.14**	**84**	P	**P**	**00 52 45.8**	**+1.4**
	1.7nm,0.9s,baz=314,slow=5.2,SNR=4.7						
KBZ	**Khabaz**	**47.10**	**73**	P	**P**	**00 53 01.2**	**+1.7**
	2.5nm,0.9s,baz=289,slow=9.7,SNR=3.7						
ILAR	**Eielson Array**	**47.97**	**328**	P	**P**	**00 53 06.5**	**+0.5**
	1.3nm,0.9s,baz=37,slow=6.1,SNR=5.2						
ILAR				PcP	**PcP**	**00 54 32.6**	**-1.3**
	0.5nm,0.8s,baz=24,slow=3.1,SNR=3.1						
PDAR	**Pinedale Array**	**48.72**	**287**	P	**P**	**00 53 12.2**	**-0.3**
	0.4nm,0.5s,baz=45,slow=6.5,SNR=4.1						
ABKAR	**Akbulak array**	**51.34**	**57**	*e*P	**P**	**00 53 32.9**	**+1.0**
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.59**	**136**	P	**P**	**00 53 33.3**	**-0.8**
	2.7nm,0.9s,baz=333,slow=7.0,SNR=8.2						
BVAR	**Borovoye Array**	**52.94**	**48**	P	**P**	**00 53 44.3**	**+0.6**
	baz=345,slow=10						
TXAR	**Lajitas Array**	**55.81**	**272**	P	**P**	**00 54 05.7**	**+0.6**
	0.4nm,0.8s,baz=359,slow=6.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.45**	**39**	P	**P**	**00 54 17.7**	**+1.4**
	0.4nm,0.4s,baz=128,slow=28,SNR=2.7						
GEYT	**Alibeck**	**59.08**	**67**	P	**P**	**00 54 27.1**	**-0.9**
	0.6nm,0.3s,baz=273,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**62.52**	**45**	P	**P**	**00 54 50.2**	**-1.0**
	0.8nm,0.6s,baz=345,slow=6.2,SNR=8.4						
H10N2	**ASCENSION HYDR**	**67.15**	**161**	T	T	02 08 04.4	
	baz=358						
H10N3	**ASCENSION HYDR**	**67.16**	**161**	T	T	02 08 04.7	
	baz=358						
H10N1	**ASCENSION HYDR**	**67.17**	**161**	T	T	02 08 09.1	
	baz=358						
H10S1	**ASCENSION HYDR**	**68.21**	**161**	T	T	02 09 25.3	
	baz=348						
H10S3	**ASCENSION HYDR**	**68.22**	**161**	T	T	02 09 20.8	
	baz=348						
H10S2	**ASCENSION HYDR**	**68.23**	**161**	T	T	02 09 23.1	
	baz=348						
SONM	**Songino Array**	**69.23**	**28**	P	**P**	**00 55 34.2**	**-0.3**
	1.2nm,0.9s,baz=318,slow=4.2,SNR=4.4						
SNAA	**Sanae**	**130.97**	**168**	PKPdf	**PKPdf**	**01 03 37.4**	**-0.3**
WRA	**Warrmunga Arr**	**140.83**	**20**	PKP	**PKPdf**	**01 03 57.2**	**-0.4**
	0.7nm,0.9s,baz=350,slow=2.8,SNR=2.8						
ASAR	**Alice Springs**	**144.37**	**22**	PKP	PKPbc	01 04 02.7	+0.5
	0.4nm,0.8s,baz=339,slow=2.3,SNR=3.7						

ATH ***06*** *00:46:00.6,34°.91N×24°.17E,h32km±1km,ML1.8/6,Error ellipse: s-maj=2.5km s-min=1.4km az=213.0*
CSEM ***06*** *00:46:02.6,34°.97N×24°.21E,h11km,ML1.6/6*
THE 06 00:45:59.9,34°.80N×24°.11E,h44km±1km,ML2.2/5,Error ellipse: s-maj=2.0km s-min=0.9km az=211.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.04**	**340**	P	Pn	00 46 06.6	-0.2
GVD				S	Sn	00 46 11.6	-0.1
GVD	**Gavdhos**	**0.04**	**340**	P	Pn	00 46 07.0	+0.1
GVD				S	Sn	00 46 08.9	-2.8
GVD				AML	AML	00 46 13.9	
	comp=N,1627μm,0.4s						
GVD				AML	AML	00 46 14.6	
	comp=E,1383μm,0.3s						
GVD	**Gavdhos**	**0.04**	**340**	P	Pn	00 46 06.3	-0.5
GVD				S	Sn	00 46 12.0	+0.3
GVD				AML	AML	00 46 13.9	
	comp=N,1627μm,0.4s						
GVD				AML	AML	00 46 14.6	
	comp=E,1383μm,0.3s						
GVD	**Gavdhos**	**0.04**	**340**	P	Pn	00 46 06.8	0.0
GVD				S	Sn	00 46 09.9	-1.8
GVD	**Gavdhos**	**0.04**	**340**	P	Pn	00 46 06.6	-0.2
GVD				S	Sn	00 46 11.6	-0.1
TMBK	**Timbaki Herakl**	**0.61**	**63**	P	Pn	00 46 11.5	-0.7
TMBK				S	Sn	00 46 21.2	+0.2
TMBK	**Timbaki Herakl**	**0.61**	**63**	P	Pn	00 46 11.5	-0.7
TMBK				S	Sn	00 46 21.2	+0.2
VAM	**Vamos**	**0.61**	**7**	P	Pn	00 46 11.7	-0.6
VAM				S	Sn	00 46 21.4	+0.2
VAM	**Vamos**	**0.61**	**7**	P	Pn	00 46 12.3	0.0
VAM				S	Sn	00 46 18.2	-3.0
VAM				AML	AML	00 46 23.1	
	comp=E,163μm,0.2s						
VAM				AML	AML	00 46 25.0	
	comp=N,221μm,0.2s						
VAM	**Vamos**	**0.61**	**7**	P	Pn	00 46 11.6	-0.7
VAM				S	Sn	00 46 20.4	-0.7
VAM				AML	AML	00 46 25.0	
	comp=N,221μm,0.2s						
VAM				AML	AML	00 46 26.0	
	comp=E,195μm,0.2s						
VAM	**Vamos**	**0.61**	**7**	P	Pn	00 46 12.1	-0.2
VAM				S	Sn	00 46 19.1	-2.0
VAM	**Vamos**	**0.61**	**7**	P	Pn	00 46 11.7	-0.6
VAM				S	Sn	00 46 20.4	-0.8
SIVA	**Sivas**	**0.62**	**69**	P	Pn	00 46 12.0	-0.3
SIVA				S	Sn	00 46 21.6	+0.3
SIVA	**Sivas**	**0.62**	**69**	P	Pn	00 46 12.2	-0.2
SIVA				S	Sn	00 46 21.4	+0.2
SIVA				AML	AML	00 46 24.9	
	comp=E,543μm,0.3s						
SIVA				AML	AML	00 46 25.1	
	comp=N,467μm,0.4s						
SIVA	**Sivas**	**0.62**	**69**	P	Pn	00 46 11.6	-0.7
SIVA				S	Sn	00 46 21.2	-0.1
SIVA				AML	AML	00 46 22.1	
	comp=N,544μm,0.4s						
SIVA				AML	AML	00 46 26.9	
	comp=E,601μm,0.5s						
SIVA	**Sivas**	**0.62**	**69**	P	Pn	00 46 11.6	-0.7
SIVA				S	Sn	00 46 21.7	+0.5
SIVA	**Sivas**	**0.62**	**69**	P	Pn	00 46 12.0	-0.3
SIVA				S	Sn	00 46 21.2	-0.1
IMMV	**Iera Moni Meta**	**0.67**	**351**	P	Pn	00 46 12.8	-0.2
IMMV				S	Sn	00 46 22.3	-0.2
IMMV	**Iera Moni Meta**	**0.67**	**351**	P	Pn	00 46 14.1	+1.1
IMMV				S	Sn	00 46 20.5	-2.0
IMMV				AML	AML	00 46 24.1	
	comp=E,261μm,0.4s						
IMMV				AML	AML	00 46 27.5	
	comp=N,250μm,0.5s						
IMMV	**Iera Moni Meta**	**0.67**	**351**	P	Pn	00 46 12.7	-0.3
IMMV				S	Sn	00 46 23.4	+0.9
IMMV				AML	AML	00 46 23.8	
	comp=E,285μm,0.3s						
IMMV				AML	AML	00 46 27.5	
	comp=N,250μm,0.5s						
IMMV	**Iera Moni Meta**	**0.67**	**351**	P	Pn	00 46 13.6	+0.6
IMMV				S	Sn	00 46 20.8	-1.7
IMMV	**Iera Moni Meta**	**0.67**	**351**	P	Pn	00 46 12.8	-0.2
IMMV				S	Sn	00 46 22.3	-0.2
IDI	**Anoyia**	**0.81**	**53**	P	Pn	00 46 14.5	-0.5
IDI				S	Sn	00 46 25.4	-0.5
IDI	**Anoyia**	**0.81**	**53**	P	Pn	00 46 13.9	-1.0
IDI				S	Sn	00 46 24.3	-1.6
IDI				AML	AML	00 46 29.1	
	comp=N,112μm,0.5s						
IDI				AML	AML	00 46 30.0	
	comp=E,111μm,0.5s						
IDI	**Anoyia**	**0.81**	**53**	P	Pn	00 46 14.4	-0.6
IDI				S	Sn	00 46 25.4	-0.5
IDI				AML	AML	00 46 29.1	
	comp=N,112μm,0.5s						
IDI				AML	AML	00 46 30.0	
	comp=E,111μm,0.5s						
IDI	**Anoyia**	**0.81**	**53**	P	Pn	00 46 13.5	-1.5
IDI				S	Sn	00 46 24.7	-1.2
IDI	**Anoyia**	**0.81**	**53**	P	Pn	00 46 14.5	-0.5
IDI				S	Sn	00 46 25.4	-0.5
LAST	**Lasithi**	**1.18**	**72**	P	Pn	00 46 20.1	0.0
LAST				S	Sn	00 46 36.5	+1.4
LAST				AML	AML	00 46 45.6	
	comp=N,38μm,0.5s						
LAST				AML	AML	00 46 46.2	
	comp=E,42μm,1.1s						
LAST	**Lasithi**	**1.18**	**72**	P	Pn	00 46 21.8	+1.7
LAST	**Lasithi**	**1.18**	**72**	P	Pn	00 46 20.0	-0.1
LAST				S	Sn	00 46 37.3	+2.2
LAST	**Lasithi**	**1.18**	**72**	P	Pn	00 46 21.8	+1.7
ANKY	**Antikythira Is**	**1.25**	**329**	P	Pn	00 46 22.4	+1.4
ANKY	**Antikythira Is**	**1.25**	**329**	P	Pn	00 46 23.6	+2.7
ANKY	**Antikythira Is**	**1.25**	**329**	P	Pn	00 46 22.2	+1.2
ANKY	**Antikythira Is**	**1.25**	**329**	P	Pn	00 46 23.6	+2.6
NPS	**Neapolis**	**1.32**	**69**	P	Pn	00 46 24.3	+2.4
NPS	**Neapolis**	**1.32**	**69**	P	Pn	00 46 25.1	+3.2
NPS	**Neapolis**	**1.32**	**69**	P	Pn	00 46 24.6	+2.7
NPS	**Neapolis**	**1.32**	**69**	P	Pn	00 46 25.1	+3.2

ISCJB ***06*** *00:46:01.1±0.4,7°.15S±0°.04×107°.67E±0°.03,h10km, mb3.6/5,Error ellipse: s-maj=6.2km s-min=3.5km az=23.7*
DJA ***06*** *00:46:01.4±0.2,7°.5±3°×10°.8E±°,h10km,M4.0/11, MLv4.0/11*
IDC ***06*** *00:46:52.4±7.8,6°.61S×108°.27E,h600km±104km,mb2.7/5, mb1 2.9/5,mb1mx2.6/46,mbtmp3.8/5,Error ellipse: s-maj=154.1km s-min=14.9km az=54.0*
ISC 06 00:46:01.7±0.7,7°.15S±0°.04×107°.66E±0°.03,h10km,n24, σ1s87/31,mb3.6/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.43**	**159**	P	**Pg**	**00 46 09.2**	**-1.0**
CISI				S	**Sb**	**00 46 15.4**	**-2.6**
CNJI	**Cibinong**	**0.55**	**254**	P	**Pg**	**00 46 10.8**	**-1.7**
JCJI	**Jatiwangi**	**0.89**	**43**	P	**Pg**	**00 46 16.4**	**-2.6**
JCJI				S	**Sg**	**00 46 28.3**	**-2.3**
CMJI	**Cimerak**	**1.00**	**129**	P	**Pg**	**00 46 19.5**	**-1.5**
DBJI	**Dramaga**	**1.08**	**303**	P	**Pb**	**00 46 21.6**	**-1.0**
DBJI				S	**Sg**	**00 46 35.6**	**-1.1**
SKJI	**Sukabumi**	**1.11**	**278**	P	**Pn**	**00 46 22.7**	**-0.6**
TNG	**Tangerang**	**1.40**	**314**	P	**Pn**	**00 46 27.2**	**-0.2**
CGJI	**Cibinong**	**2.03**	**285**	P	**Pn**	**00 46 35.8**	**-0.2**
CGJI				S	**Sb**	**00 47 02.1**	**-1.9**
SMRI	**Semarang**	**2.76**	**88**	P	**Pn**	**00 46 46.1**	**0.0**
SMRI				S	**Sn**	**00 47 21.3**	**+1.8**
UGM	**Wanagama**	**2.94**	**105**	P	**Pn**	**00 46 50.1**	**+1.6**
UGM				S	**Sn**	**00 47 25.1**	**+1.2**
BLSI	**Bandar Lampung**	**2.99**	**306**	P	**Pg**	**00 46 59.5**	**+0.5**
KASI	**Kota Agung**	**3.54**	**297**	P	**Pn**	**00 46 56.9**	**+0.1**
PCJI	**Pacitan**	**3.63**	**107**	P	**Pn**	**00 46 59.7**	**+1.6**
PCJI				S	**Sn**	**00 47 41.3**	**+0.2**
NGJI	**Ngawi**	**3.77**	**93**	P	**Pg**	**00 47 12.9**	**-1.2**
KLSI		**3.81**	**310**	P	**Pb**	**00 47 06.4**	**-2.7**
KLSI				S	**Sb**	**00 47 59.3**	**+4.0**
LWLI	**Liwa**	**4.16**	**300**	P	**Pb**	**00 47 17.5**	**+2.3**
MDSI	**Maura Dua**	**4.36**	**307**	P	**Pb**	**00 47 14.7**	**-3.9**
GMJI	**Gumukmas**	**5.84**	**101**	P	**Pb**	**00 47 43.6**	**-0.1**
MASI	**Maura Aman, Be**	**6.71**	**306**	P	**Pb**	**00 48 00.7**	**+2.1**
CMAR	**Chiang Mai Arr**	**26.86**	**341**	P	**P**	**00 51 45.3**	**+2.5**
	0.4nm,0.3s,baz=181,slow=9.7,SNR=5.9						
WRA	**Warramunga Arr**	**28.82**	**119**	P	**P**	**00 52 01.0**	**+0.5**
	1.0nm,0.9s,baz=288,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**30.07**	**126**	P	**P**	**00 52 12.2**	**+0.7**
	0.2nm,0.3s,baz=303,slow=8.7,SNR=4.8						
STKA	**Stephens Creek**	**40.05**	**132**	P	**P**	**00 53 38.1**	**+0.7**
	6.6nm,0.7s,baz=319,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**58.25**	**340**	P	P	00 55 48.0	-8.5
	0.5nm,0.9s,baz=147,slow=8.1,SNR=2.9						

IDC ***06*** *00:48:12.5±0.7,57°.85N×32°.58W,h0km,mb4.0/18, mb1 4.2/21,mb1mx4.0/60,mbtmp4.1/21,ML3.3/2,Error ellipse: s-maj=22.5km s-min=11.9km az=4.0*
ISCJB ***06*** *00:48:13.7±0.5,57°.89N±0°.09×32°.5W±0°.1,h18km, mb4.0/21,Error ellipse: s-maj=12.9km s-min=7.8km az=6.5*
NEIC ***06*** *00:48:14.1±0.4,57°.85N×32°.54W,h10km,mb4.5/3,Error ellipse: s-maj=11.5km s-min=7.1km az=7.0*
CSEM ***06*** *00:48:14.1,57°.85N×32°.54W,h10km,mb4.5/3*
ISC 06 00:48:15.5±0.6,57°.9N±0°.1×32°.54W±0°.08,h18km,n40, σ0s83/35,mb4.1/21,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.74**	**33**	Pn	**Pn**	**00 50 21.2**	**+0.4**
SUMG	**Summit**	**14.96**	**353**	Pn	**Pn**	**00 51 46.3**	**+0.3**
SUMG	**Summit**	**14.96**	**353**	Pn	**Pn**	**00 51 46.3**	**+0.3**
EKA	**Eskdalemuir Ar**	**16.32**	**86**	Pn	**Pn**	**00 52 01.8**	**-1.6**
	baz=290,slow=10,SNR=2.6						
SCHQ	**Schefferville**	**19.12**	**276**	P	**P**	**00 52 36.9**	**-0.3**
	0.3nm,0.3s,baz=166,slow=2.8,SNR=3.9						
HFS	**Hagfors**	**23.54**	**65**	P	**P**	**00 53 23.6**	**-0.8**
	3.1nm,0.9s,baz=233,slow=7.0,SNR=2.8						
ESDC	**Sonseca Array**	**25.89**	**122**	P	**P**	**00 53 46.1**	**0.0**
	0.8nm,0.7s,baz=321,slow=8.8,SNR=7.1						
ARCES	**ARCESS Array B**	**27.04**	**41**	P	**P**	**00 53 55.2**	**-0.9**
	7.7nm,1.1s,baz=333,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**28.96**	**58**	P	**P**	**00 54 13.9**	**+0.5**
	3.8nm,1.1s,baz=81,slow=8.6,SNR=2.5						
AKASG	**Malin Array Be**	**35.60**	**74**	P	**P**	**00 55 11.3**	**-0.3**
	1.8nm,0.7s,baz=306,slow=8.2,SNR=5.6						
YKA	**Yellowknife Ar**	**38.47**	**312**	P	**P**	**00 55 35.0**	**-0.8**
	1.1nm,0.7s,baz=61,slow=8.8,SNR=5.8						
YKA	**Yellowknife Ar**	**38.47**	**312**	P	**P**	**00 55 35.0**	**-0.8**
YKA	**Yellowknife Ar**	**38.47**	**312**	P	**P**	**00 55 35.0**	**-0.8**
TAM	**Tamanrasset**	**44.45**	**126**	*e*P	**P**	**00 56 26.6**	**+1.1**
	9.8nm,1.6s						
TAM	**Tamanrasset**	**44.45**	**126**	*e*P	**P**	**00 56 26.6**	**+1.1**
	9.8nm,1.6s						
BRTR	**Keskin Array B**	**45.21**	**84**	P	**P**	**00 56 32.1**	**+0.7**
	0.8nm,0.8s,baz=328,slow=4.4,SNR=5.1						
DAWY	**Dawson**	**46.29**	**324**	*e*P	**P**	**00 56 40.0**	**+0.6**
	2.1nm,0.4s						
DAWY	**Dawson**	**46.29**	**324**	*e*P	**P**	**00 56 40.0**	**+0.6**
	2.1nm,0.4s						
DLBC	**Dease Lake**	**46.98**	**314**	P	**P**	**00 56 45.0**	**+0.1**
	1.8nm,0.3s,baz=44,slow=6.5,SNR=6.1						
KBZ	**Khabaz**	**47.19**	**73**	P	**P**	**00 56 48.7**	**+2.1**
	2.0nm,0.9s,baz=306,slow=6.2,SNR=3.5						
ILAR	**Eielson Array**	**47.99**	**328**	P	**P**	**00 56 52.8**	**+0.2**
	2.4nm,1.0s,baz=34,slow=6.7,SNR=12						
ILAR				PcP	**PcP**	**00 58 19.8**	**-0.7**
	1.1nm,0.6s,baz=3.1,slow=2.5,SNR=9.4						
NEW	**Newport**	**48.50**	**297**	P	**P**	**00 56 56.5**	**-0.3**
	2.0nm,0.7s,baz=45,slow=2.9,SNR=3.2						
PDAR	**Pinedale Array**	**48.68**	**287**	P	**P**

0.6nm,0.8s,baz=345,slow=4.6,SNR=3.5
ASAR Alice Springs 144.65 21 PKP **PKPdf 01 12 52.2 -0.3**
0.2nm,0.4s,baz=341,slow=2.3,SNR=3.3

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*IDC **06** 00:54:28.0±0.7,57°.89N×32°.52W, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/48, mbtmp3.9/14, Error ellipse: s-maj=23.4km s-min=14.2km az=4.0*
*ISCJB **06** 00:54:29.0±0.6, 57°.9N±0°.1×32°.5W±0°.1, h18km, mb3.8/15, Error ellipse: s-maj=16.8km s-min=11.0km az=178.6*
*NEIC **06** 00:54:29.3±0.6, 57°.86N×32°.56W, h10km, mb4.0/1, Error ellipse: s-maj=16.6km s-min=10.8km az=178.0*
*CSEM **06** 00:54:29.3, 57°.86N×32°.56W, h10km, mb4.0/1*
ISC 06 00:54:30.7±0.7,**57°.9N**±0°.1×**32°.53W**±0°.10,**h18**km,**n23,**
σ0**91**/21,**mb3.9**/15,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.74**	**33**	Pn	**Pn**	**00 56 36.4**	**+0.4**
ESDC	**Sonseca Array**	**25.88**	**122**	P	**P**	**01 00 02.1**	**+0.8**
	0.9nm,0.8s,baz=319,slow=9.3,SNR=7.4						
ARCES	**ARCESS Array B**	**27.04**	**41**	P	**P**	**01 00 10.5**	**-1.0**
	3.9nm,1.0s,baz=278,slow=8.2,SNR=5.3						
AKASG	**Malin Array Be**	**35.60**	**74**	P	**P**	**01 01 25.9**	**-0.9**
	0.5nm,0.4s,baz=304,slow=8.4,SNR=4.3						
ULM	**Lac du Bonnet**	**36.68**	**286**	P	**P**	**01 01 36.3**	**+0.2**
	2.2nm,0.7s,baz=350,slow=12,SNR=3.0						
BRTR	**Keskin Array B**	**45.21**	**84**	P	**P**	**01 02 48.1**	**+1.6**
	0.6nm,0.8s,baz=308,slow=3.4,SNR=4.1						
DLBC	**Dease Lake**	**46.99**	**315**	P	**P**	**01 03 01.0**	**+0.7**
	1.0nm,0.3s,baz=189,slow=19,SNR=3.0						
DLBC	**Dease Lake**	**46.99**	**315**	P	**P**	**01 03 01.0**	**+0.7**
ILAR	**Eielson Array**	**48.00**	**328**	P	**P**	**01 03 08.3**	**+0.4**
	1.3nm,0.9s,baz=40,slow=5.8,SNR=5.4						
ILAR				PcP	**PcP**	**01 04 35.1**	**-0.5**
	0.8nm,0.8s,baz=15,slow=3.3,SNR=4.7						
PDAR	**Pinedale Array**	**48.69**	**287**	P	**P**	**01 03 12.9**	**-0.9**
	0.4nm,0.4s,baz=64,slow=6.2,SNR=4.1						
ABKAR	**Akbulak array**	**51.44**	**57**	*e*P	**P**	**01 03 34.7**	**+0.4**
	1.6nm,0.8s						
ABKAR	**Akbulak array**	**51.44**	**57**	*e*P	**P**	**01 03 34.6**	**+0.4**
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.58**	**136**	P	**P**	**01 03 35.5**	**-0.2**
	1.0nm,0.6s,baz=334,slow=7.4,SNR=8.0						
ANMO	**Albuquerque**	**52.88**	**278**	P	**P**	**01 03 46.4**	**+0.9**
	0.5nm,0.5s,baz=90,slow=1.0,SNR=3.5						
TXAR	**Lajitas Array**	**55.75**	**272**	P	**P**	**01 04 05.6**	**-0.7**
	0.5nm,0.9s,baz=69,slow=4.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**57.55**	**38**	P	**P**	**01 04 19.2**	**+0.6**
	0.4nm,0.4s,baz=329,slow=5.4,SNR=2.0						
MKAR	**Makanchi Array**	**62.62**	**45**	P	**P**	**01 04 52.9**	**-0.6**
	0.9nm,0.6s,baz=329,slow=5.7,SNR=11						
H10S1	**ASCENSION HYDR**	**68.16**	**161**	T	T	02 19 22.6	
	baz=352						
H10S3	**ASCENSION HYDR**	**68.17**	**161**	T	T	02 19 23.0	
	baz=352						
H10S2	**ASCENSION HYDR**	**68.18**	**161**	T	T	02 19 24.4	
	baz=352						
SONM	**Songino Array**	**69.32**	**28**	P	**P**	**01 05 36.3**	**-0.5**
	2.3nm,1.1s,baz=329,slow=1.7,SNR=5.8						
WRA	**Warramunga Arr**	**140.92**	**20**	PKP	**PKPdf**	**01 13 57.3**	**-2.1**
	0.7nm,0.8s,baz=18,slow=1.9,SNR=2.9						
ASAR	**Alice Springs**	**144.46**	**22**	PKP	**PKPab**	**01 14 03.3**	**-0.6**
	0.2nm,0.5s,baz=344,slow=3.0,SNR=3.1						

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*NEIC **06** 00:57:37.5±0.9, 22°.05N×143°.27E, h166km±8km, mb4.4/7, Error ellipse: s-maj=12.2km s-min=6.4km az=79.0*
*IDC **06** 00:57:39.0±1.6, 22°.12N×143°.28E, h176km±13km, mb3.8/22, mb1 4.0/25, mb1mx3.8/48, mbtmp4.3/25, Error ellipse: s-maj=16.1km s-min=9.5km az=84.0*
*JMA **06** 00:57:40.8±0.2, 22°.59N×144°.14E, h200km, M5.3*
ISC 06 00:57:41.1±0.7,**22°.37N**±0°.08×**143°.6E**±0°.2,**h200**km,**n56,**
σ1**43**/48,**mb4.0**/27,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.43**	**343**	P	**Pn**	**00 58 48.2**	**-0.1**
JHHJ				S	**Sn**	**00 59 40.7**	**-0.6**
CBIJ	**Chichi jima**	**4.88**	**345**	P	**Pn**	**00 58 53.4**	**-0.5**
CBIJ				*e*S	**Sn**	**00 59 49.8**	**-1.6**
CBIJ	**Chichi jima**	**4.88**	**345**	*e*Pn	**Pn**	**00 58 53.5**	**-0.5**
	260nm,0.4s						
CBIJ				*e*S	**Sn**	**00 59 47.4**	**-4.0**
GUMO	**Guam**	**8.82**	**172**	P	Pn	00 59 40.2	-4.9
	baz=347,slow=16,SNR=3.6						
GUMO	**Guam**	**8.82**	**172**	Pn	Pn	00 59 37.1	-8.0
JOD2	**Odawara 2**	**13.44**	**344**	P	**Pn**	**01 00 44.2**	**+0.2**
JNY	**Yasuok**	**13.88**	**340**	P	**Pn**	**01 00 49.7**	**+0.1**
JHU	**Hanno**	**13.95**	**345**	P	**Pn**	**01 00 49.7**	**-0.7**
JAO	**Obara**	**14.00**	**338**	P	**Pn**	**01 00 51.3**	**+0.3**
JRY	**Ryogami san**	**14.20**	**344**	P	**P**	**01 00 53.5**	**-1.6**
JAG	**Ashikaga**	**14.46**	**346**	P	**P**	**01 00 56.4**	**-1.6**
MJAR	**Matsushiro Arr**	**14.88**	**343**	P	**P**	**01 01 01.6**	**-1.0**
	1.6nm,0.3s,baz=162,slow=10.0,SNR=13						
MAJO	**Matsushiro**	**14.88**	**343**	*e*Pn	**P**	**01 01 02.3**	**-0.3**
	19nm,0.7s						
MAT	**Matsushiro**	**14.88**	**343**	P	**P**	**01 01 02.2**	**-0.4**
JNU	**Nakatsue**	**15.53**	**316**	P	**P**	**01 01 07.7**	**-2.2**
	0.3nm,0.3s,baz=338,slow=16,SNR=2.2						
JHS	**Saijyo**	**15.58**	**326**	P	**Pn**	**01 01 12.3**	**+2.0**
KSRS	**Korea Array**	**20.23**	**321**	P	**P**	**01 01 59.4**	**-1.4**
	0.9nm,0.3s,baz=144,slow=9.4,SNR=4.1						
KSAR	**Wonju Array Be**	**20.24**	**321**	P	**P**	**01 01 59.4**	**-1.6**
ASAJ	**Asahikawa**	**21.70**	**358**	P	**P**	**01 02 20.1**	**+3.9**
	2.9nm,0.3s,baz=219,slow=14,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**21.88**	**93**	T	T	01 25 04.6	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**21.88**	**93**	T	T	01 25 14.7	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**21.90**	**93**	T	T	01 25 15.1	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**21.96**	**96**	T	T	01 25 20.5	
	baz=284,slow=74,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**21.96**	**96**	T	T	01 25 25.7	
	baz=284,slow=74,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**21.97**	**96**	T	T	01 25 28.1	
	baz=284,slow=74,SNR=3.8						
USRK	**Ussuriysk Ar.**	**23.79**	**339**	P	**P**	**01 02 37.0**	**+1.5**
	0.9nm,0.5s,baz=158,slow=27,SNR=4.0						
SONM	**Songino Array**	**39.08**	**320**	P	**P**	**01 04 50.7**	**+1.8**
	0.8nm,0.5s,baz=140,slow=7.4,SNR=4.6						
SONM				ScP	**ScP**	**01 10 26.5**	**+2.6**
	0.3nm,0.4s,baz=132,slow=2.1,SNR=4.3						
WRAB	**Tennant Creek**	**43.01**	**193**	*e*P	P	01 05 18.4	-2.7
	2.2nm,0.4s						
WRA	**Warramunga Arr**	**43.02**	**193**	P	P	01 05 18.2	-2.9
	2.1nm,0.7s,baz=11,slow=8.1,SNR=16						
WRA				PcP	**PcP**	**01 07 07.7**	**+0.1**
	4.1nm,0.7s,baz=3.8,slow=3.5,SNR=16						
WRA				ScP	**ScP**	**01 10 41.3**	**+1.6**
	1.1nm,0.9s,baz=4.5,slow=4.5,SNR=5.1						
ASAR	**Alice Springs**	**46.73**	**192**	P	**P**	**01 05 47.9**	**-2.5**
	1.1nm,0.6s,baz=16,slow=10,SNR=19						
ASAR				PcP	**PcP**	**01 07 20.6**	**+0.1**
	1.6nm,0.7s,baz=21,slow=3.3,SNR=12						
ASAR				ScP	**ScP**	**01 10 56.3**	**+1.3**
	0.2nm,0.6s,baz=30,slow=3.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**53.93**	**321**	P	**P**	**01 06 44.1**	**+0.2**
	1.0nm,0.5s,baz=104,slow=8.6,SNR=4.9						
ZALV				PcP	**PcP**	**01 07 46.8**	**+0.2**
	1.1nm,0.4s,baz=117,slow=4.6,SNR=5.9						
STKA	**Stephens Creek**	**53.98**	**182**	P	**P**	**01 06 42.3**	**-2.1**
	1.8nm,0.5s,baz=2.8,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**54.54**	**312**	P	**P**	**01 06 49.0**	**+0.5**
	0.6nm,0.4s,baz=89,slow=8.4,SNR=6.9						
MKAR				PcP	**PcP**	**01 07 49.6**	**+0.4**
	0.9nm,0.5s,baz=74,slow=5.0,SNR=5.4						
MKAR				ScP	**ScP**	**01 11 29.6**	**+1.3**
	0.3nm,0.4s,baz=84,slow=5.9,SNR=3.1						
KURK	**Kurchatov**	**57.26**	**317**	*e*P	**P**	**01 07 08.1**	**+0.4**
	17nm,0.3s						
ILAR	**Eielson Array**	**61.26**	**27**	P	P	01 07 36.8	+2.0
	2.0nm,0.8s,baz=257,slow=5.7,SNR=19						
INK	**Inuvik**	**66.79**	**24**	P	P	01 08 13.3	+2.6
	2.5nm,0.6s,baz=300,slow=5.5,SNR=8.7						
ABKAR	**Akbulak array**	**69.34**	**316**	*e*P	**P**	**01 08 27.4**	**+0.4**
	4.0nm,0.5s						
GEYT	**Alibeck**	**73.19**	**305**	P	**P**	**01 08 50.7**	**+0.4**
	2.7nm,0.9s,baz=357,slow=3.1,SNR=6.1						
YKA	**Yellowknife Ar**	**75.67**	**28**	P	P	01 09 06.9	+2.9
	6.7nm,0.6s,baz=292,slow=5.8,SNR=62						
ARCES	**ARCESS Array B**	**78.41**	**342**	P	**P**	**01 09 20.9**	**+1.8**
	5.5nm,0.6s,baz=72,slow=8.1,SNR=29						
NEW	**Newport**	**79.51**	**42**	P	P	01 09 28.4	+2.8
	3.7nm,0.7s,baz=297,slow=5.7,SNR=7.4						
KBZ	**Khabaz**	**82.19**	**314**	P	**P**	**01 09 41.0**	**+1.2**
	6.4nm,0.8s,baz=100,slow=3.9,SNR=8.8						
FINES	**FINESS Array B**	**82.75**	**335**	P	**P**	**01 09 42.4**	**+0.1**
	2.4nm,0.3s,baz=67,slow=5.0,SNR=40						
BOZ	**Bozeman (W)**	**84.03**	**43**	*e*P	P	01 09 52.3	+2.9
	3.6nm,0.6s						
HWUT	**Hardware Ranch**	**85.83**	**47**	*e*P	P	01 10 01.3	+2.8
	4.7nm,0.7s						
PDAR	**Pinedale Array**	**86.63**	**45**	P	P	01 10 05.0	+2.5
	0.8nm,0.7s,baz=141,slow=0.6,SNR=3.1						
HFS	**Hagfors**	**88.26**	**337**	P	**P**	**01 10 08.9**	**-0.6**
	3.2nm,0.6s,baz=108,slow=4.7,SNR=16						
NOA	**NORSAR Array B**	**88.46**	**339**	P	**P**	**01 10 10.3**	**-0.3**
	0.9nm,0.6s,baz=46,slow=4.7,SNR=3.3						
SMCO	**Snowmass**	**90.06**	**47**	*e*P	P	01 10 21.4	+2.5
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**90.17**	**314**	P	**P**	**01 10 18.6**	**-0.5**
	0.7nm,0.9s,baz=163,slow=1.3,SNR=5.3						
EYMN	**Ely**	**94.35**	**34**	*e*P	P	01 10 40.9	+2.9
TXAR	**Lajitas Array**	**97.33**	**54**	P	P	01 10 55.0	+2.9
	0.2nm,0.5s,baz=219,slow=1.6,SNR=3.6						
SNAA	**Sanae**	**127.09**	**193**	*e*PKPdf	**PKPdf**	**01 16 20.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**128.62**	**310**	PKP	**PKPdf**	**01 16 24.3**	**-0.9**
	0.8nm,0.5s,baz=32,slow=1.3,SNR=16						
PLCA	**Paso Flores**	**145.90**	**130**	PKPbc	**PKPab**	**01 16 58.4**	**+0.3**
	5.6nm,0.5s,baz=280,slow=4.4,SNR=22						
LPAZ	**La Paz**	**149.48**	**84**	PKP	**PKPdf**	**01 17 03.8**	**+0.3**
	1.2nm,0.7s,baz=75,slow=3.9,SNR=3.8						
LPAZ				PKPbc	**PKiKP**	**01 17 09.4**	**+0.3**
	8.5nm,0.6s,baz=323,slow=2.5,SNR=30						

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*IDC **06** 01:03:32.2±0.6, 57°.91N×32°.54W, h0km, mb4.1/23, mb1 4.3/25, mb1mx4.2/41, mbtmp4.2/25, ML3.2/2, MS4.3/20, Ms1 4.3/20, ms1mx4.1/59, Error ellipse: s-maj=17.5km s-min=10.8km az=5.0*
*ISCJB **06** 01:03:33.7±0.1, 57°.95N±0°.04×32°.45W±0°.03, h18km, mb4.6/100, MS4.2/16, Error ellipse: s-maj=6.0km s-min=2.5km az=178.4*
*CSEM **06** 01:03:34.3±0.1, 58°.00N×32°.36W, h10km, mb4.8/71, Error ellipse: s-maj=6.8km s-min=3.5km az=5.0*
*NEIC **06** 01:03:34.4±0.2, 57°.93N×32°.35W, h10km, mb4.8/70, Error ellipse: s-maj=7.1km s-min=3.2km az=179.0*
*GCMT **06** 01:03:34.4±0.2, 58°.00N×32°.29W, h12km, MW5.0/94, Moment Tensor Solution. s24,c25; s94,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.21±.09; $M_{\theta\theta}$0.60±.10; $M_{\phi\phi}$2.61±.07; $M_{r\theta}$0.38±.36; $M_{r\phi}$1.26±.07; $M_{\theta\phi}$-1.34±.32; Best double couple: $M_0$3.49700×10^{16} NP1:ϕs11.00000°, δ56.00000°, λ-107.00000°. NP2: ϕs219.00000°, δ38.00000°, λ-67.00000°. Principal axes: T 3.3870, Plg9.0000°, Azm113.0000°; N 0.2160, Plg14.0000°, Azm21.0000°; P -3.6070, Plg73.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 01:03:35.6±0.4,**57°.91N**±0°.08×**32°.42W**±0°.05,**h18**km,**n482,**
σ0**99**/468,**mb4.7**/100,**MS4.3**/16,**3C-3D,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.68**	**33**	LR	LR	01 07 20.2	
	comp=Z,953nm,18.9s,slow=26						
SFJD	**Kangerlussuaq**	**12.35**	**325**	LR	LR	01 10 29.6	
	comp=Z,3μm,18.1s,baz=146,slow=34						
SFJD	**Kangerlussuaq**	**12.35**	**325**	*e*Pn	**Pn**	**01 06 31.1**	**+0.8**
SFJD	**Kangerlussuaq**	**12.35**	**325**	*e*Pn	**Pn**	**01 06 31.1**	**+0.8**
EKA	**Eskdalemuir Ar**	**16.25**	**87**	Pn	**P**	**01 07 23.6**	**-2.0**
	baz=292,slow=11,SNR=4.3						
FRB	**Frobisher Bay**	**18.35**	**304**	LR	LR	01 13 35.1	
	comp=Z,2μm,20.7s,baz=68,slow=33						
SCHQ	**Schefferville**	**19.18**	**276**	P	**P**	**01 07 56.4**	**-1.5**
	0.2nm,0.3s,baz=63,slow=6.8,SNR=2.9						
SCHQ				LR	LR	01 14 09.9	
	comp=Z,2μm,18.6s,baz=77,slow=33						
SCHQ	**Schefferville**	**19.18**	**276**	*e*P	**Pn**	**01 07 59.5**	**+0.6**
	137nm,1.9s						
SCHQ	**Schefferville**	**19.18**	**276**	*e*P	**Pn**	**01 07 59.5**	**+0.6**
	137nm,1.9s						
DAG	**Danmarks Havn**	**19.57**	**9**	*i*P	**Pn**	**01 08 05.4**	**+2.1**
	8.6nm,1.0s						
NB2	**NORSAR Subarra**	**22.07**	**63**	P	**P**	**01 08 28.1**	**-1.1**
	comp=Z,12nm,1.2s,baz=280,slow=11						
NB2	**NORSAR Subarra**	**22.07**	**63**	P	**P**	**01 08 28.1**	**-1.1**
	comp=Z,12nm,1.2s,SNR=4.2						
NB200	**NORSAR Array S**	**22.07**	**63**	*e*P	**P**	**01 08 28.4**	**-0.9**
NB200	**NORSAR Array S**	**22.07**	**63**	*e*P	**P**	**01 08 28.4**	**-0.9**
NOA	**NORSAR Array B**	**22.07**	**63**	P	**P**	**01 08 28.4**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=281,slow=9.7,SNR=4.3						
NOA				LR	LR	01 15 32.8	
	comp=Z,450nm,20.6s,baz=270,slow=33						
PBRG	**Braganca**	**22.89**	**124**	*e*P	**P**	**01 08 40.3**	**+2.2**
PBRG	**Braganca**	**22.89**	**124**	*e*P	**P**	**01 08 40.3**	**+2.2**
MVO	**Moncorvo**	**23.28**	**125**	*e*P	**P**	**01 08 43.5**	**+1.4**
	comp=Z,50nm,1.6s						
MVO	**Moncorvo**	**23.28**	**125**	*e*P	**P**	**01 08 43.5**	**+1.4**
	comp=Z,50nm,1.6s						
HFS	**Hagfors**	**23.47**	**65**	P	**P**	**01 08 44.2**	**+0.4**
	comp=Z,8.0nm,0.9s,baz=259,slow=1.5,SNR=3.1						
PCAS	**Casmilo, Conde**	**23.57**	**129**	*e*P	**P**	**01 08 46.3**	**+1.4**
	comp=Z,22nm,1.2s						
PCAS	**Casmilo, Conde**	**23.57**	**129**	*e*P	**P**	**01 08 46.3**	**+1.4**
	comp=Z,22nm,1.2s						
MTE	**Manteigas**	**23.69**	**127**	*e*P	**P**	**01 08 50.8**	**+4.7**
	comp=Z,24nm,1.4s						
PMRV	**Marv??o**	**24.56**	**128**	*e*P	**P**	**01 08 54.6**	**+0.4**
	comp=Z,33nm,1.4s						
PMRV	**Marv??o**	**24.56**	**128**	*e*P	**P**	**01 08 54.6**	**+0.4**
	comp=Z,33nm,1.4s						
PESTR	**Estremoz**	**24.95**	**129**	*e*P	**P**	**01 08 57.6**	**-0.1**
	comp=Z,23nm,1.4s						
PESTR	**Estremoz**	**24.95**	**129**	*e*P	**P**	**01 08 57.6**	**-0.1**
	comp=Z,23nm,1.4s						
EVO	**Evora**	**25.06**	**130**	*e*P	**P**	**01 09 00.0**	**+1.3**
EVO	**Evora**	**25.06**	**130**	*e*P	**P**	**01 09 00.0**	**+1.3**
PNCL	**Nicolau / Gran**	**25.21**	**131**	*e*P	**P**	**01 09 00.3**	**+0.3**
	comp=Z,20nm,1.0s						
PNCL	**Nicolau / Gran**	**25.21**	**131**	*e*P	**P**	**01 09 00.3**	**+0.3**
	comp=Z,20nm,1.0s						
PBAR	**Barrancos**	**25.77**	**129**	*e*P	**P**	**01 09 06.8**	**+1.7**
PBAR	**Barrancos**	**25.77**	**129**	*e*P	**P**	**01 09 06.8**	**+1.7**
PAB	**San Pablo**	**25.79**	**123**	*e*P	**P**	**01 09 06.9**	**+1.6**
	comp=Z,14nm,1.2s						
PAB	**San Pablo**	**25.79**	**123**	*e*P	**P**	**01 09 06.9**	**+1.6**
	comp=Z,14nm,1.2s						
ESDC	**Sonseca Array**	**25.85**	**122**	P	**P**	**01 09 05.7**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=319,slow=8.6,SNR=13						
ESDC				LR	LR	01 18 00.7	
	comp=Z,347nm,18.2s,baz=315,slow=34						
ESLA	**Sonseca Array**	**25.85**	**122**	*e*P	**P**	**01 09 08.1**	**+2.2**
	comp=Z,13nm,1.3s						
ESLA	**Sonseca Array**	**25.85**	**122**	*e*P	**P**	**01 09 08.1**	**+2.2**
	comp=Z,13nm,1.3s						
MORF	**Marmelete**	**25.86**	**133**	*e*P	**P**	**01 09 07.6**	**+1.6**
MORF	**Marmelete**	**25.86**	**133**	*e*P	**P**	**01 09 07.6**	**+1.6**
ES19	**SONSECA Array**	**25.86**	**122**	*e*P	**P**	**01 09 06.4**	**+0.4**
ES19	**SONSECA Array**	**25.86**	**122**	*e*P	**P**	**01 09 06.4**	**+0.4**
CLL	**Collm**	**26.69**	**84**	*e*P	**P**	**01 09 13.0**	**-0.3**
ARA0	**ARCESS Array S**	**26.97**	**41**	*e*P	**P**	**01 09 14.9**	**-0.8**
ARA0	**ARCESS Array S**	**26.97**	**41**	*e*P	**P**	**01 09 14.9**	**-0.8**
ARCES	**ARCESS Array B**	**26.97**	**41**	P	**P**	**01 09 14.7**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=266,slow=7.3,SNR=12						
ARCES				LR	LR	01 17 47.9	
	comp=Z,382nm,21.4s,baz=228,slow=32						
ARE0	**ARCESS Array S**	**26.97**	**41**	*e*P	**P**	**01 09 15.0**	**-0.7**
	comp=Z,188nm,2.0s						
ARE0	**ARCESS Array S**	**26.97**	**41**	*e*P	**P**	**01 09 15.0**	**-0.7**
	comp=Z,188nm,2.0s						
PMOZ	**Porto Moniz, M**	**27.14**	**151**	*e*T	T	01 36 57.6	
PMPS	**Porto Santo**	**27.15**	**149**	*e*T	T	01 37 00.6	
PMAR	**Madeira**	**27.31**	**151**	*e*T	T	01 37 03.3	
KEV	**Kevo**	**27.48**	**41**	*e*P	**P**	**01 09 16.6**	**-3.6**
	comp=Z,63nm,1.5s						
DAVOX	**Davos/Dischmat**	**27.67**	**95**	LR	LR	01 18 11.9	
	comp=Z,649nm,21.4s,baz=315,slow=32						
GEC2	**GERESS Array S**	**28.45**	**88**	*e*P	**P**	**01 09 29.0**	**-0.3**
	comp=Z,22nm,1.9s						
GEC2	**GERESS Array S**	**28.45**	**88**	*e*P	**P**	**01 09 28.9**	**-0.3**
	comp=Z,22nm,1.9s						
GERES	**GERESS Array B**	**28.45**	**88**	P	**P**	**01 09 28.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.8,SNR=2.8						
GERES				LR	LR	01 20 18.0	
	comp=Z,914nm,18.1s,baz=286,slow=35						
GERES	**GERESS Array B**	**28.45**	**88**	P	**P**	**01 09 29.0**	**-0.3**
GEA0	**GERESS Array S**	**28.45**	**88**	*e*P	**P**	**01 09 26.7**	**-2.6**
GEA0	**GERESS Array S**	**28.45**	**88**	*e*P	**P**	**01 09 26.7**	**-2.6**
FIA0	**FINESS Array S**	**28.89**	**58**	*e*P	**P**	**01 09 32.2**	**-0.6**
FIA0	**FINESS Array S**	**28.89**	**58**	*e*P	**P**	**01 09 32.2**	**-0.6**
FINES	**FINESS Array B**	**28.89**	**58**	P	**P**	**01 09 32.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=292,slow=6.0,SNR=3.8						
FIA1	**FINESS Array S**	**28.89**	**58**	*e*P	**P**	**01 09 32.1**	**-0.7**
FIA1	**FINESS Array S**	**28.89**	**58**	*e*P	**P**	**01 09 32.1**	**-0.7**
RTC	**Rabat Centre**	**29.46**	**133**	*e*P	**P**	**01 09 36.2**	**-2.0**
	comp=Z,418nm,0.4s						
RTC	**Rabat Centre**	**29.46**	**133**	*e*P	**P**	**01 09 36.2**	**-2.0**
	comp=Z,418nm,0.4s						
VRAC	**Vranov**	**29.72**	**85**	LR	LR	01 21 40.7	
	comp=Z,978nm,19.4s,baz=315,slow=36						
STHS	**Stebnicka Huta**	**32.12**	**82**	*e*P	**P**	**01 10 01.9**	**+0.3**
	comp=Z,4.3nm,1.1s						
STHS	**Stebnicka Huta**	**32.12**	**82**	*e*P	**P**	**01 10 01.9**	**+0.3**
N54A	**Moraine State**	**34.41**	**262**	P	**P**	**01 10 22.9**	**+1.3**
	baz=44						
F44A	**Big Bay de Noc**	**34.43**	**274**	P	**P**	**01 10 22.2**	**+0.5**
	baz=50						
BZS	**Buzias**	**34.68**	**87⇑**	*i*P	**P**	**01 10 24.1**	**+0.3**
F43A	**Flat Rock, Esc**	**34.92**	**274**	P	**P**	**01 10 26.0**	**+0.1**
	baz=50						
BUR08	**Bucovina Ar. S**	**35.29**	**81**	*e*P	**P**	**01 10 29.9**	**+0.7**
BUR08	**Bucovina Ar. S**	**35.29**	**81**	*e*P	**P**	**01 10 29.9**	**+0.7**
BURAR	**Bucovina Array**	**35.32**	**81**	‖*i*P	**P**	**01 10 27.7**	**-1.7**
KEST	**Kesra**	**35.36**	**111**	P	**P**	**01 10 31.4**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=252,slow=9.5,SNR=6.9						
KEST				LR	LR	01 23 18.4	
	comp=Z,613nm,20.7s,baz=265,slow=34						
KEST	**Kesra**	**35.36**	**111**	*e*P	P	01 10 35.5	+5.6
	comp=Z,57nm,1.9s						
E41A	**Kenton**	**35.46**	**276**	P	**P**	**01 10 30.1**	**-0.5**
	baz=50						
AK11	**Malin Array Si**	**35.52**	**74**	*e*P	**P**	**01 10 30.2**	**-0.8**
AK11	**Malin Array Si**	**35.52**	**74**	*e*P	**P**	**01 10 30.2**	**-0.8**
KIEV	**Kiev**	**35.53**	**74**	*e*P	**P**	**01 10 30.5**	**-0.6**
	comp=Z,10nm,0.8s						
KIEV	**Kiev**	**35.53**	**74**	*e*P	**P**	**01 10 30.5**	**-0.6**
	comp=Z,10nm,0.8s						
AKASG	**Malin Array Be**	**35.53**	**74**	P	**P**	**01 10 30.1**	**-1.0**
	comp=Z,5.0nm,0.7s,baz=306,slow=8.5,SNR=22						
AKASG				LR	LR	01 24 38.9	
	comp=Z,410nm,19.1s,baz=25,slow=36						
AKBB	**Malin Array Si**	**35.53**	**74**	*e*P	**P**	**01 10 30.5**	**-0.6**
	comp=Z,10nm,0.8s						
AKBB	**Malin Array Si**	**35.53**	**74**	*e*P	**P**	**01 10 30.5**	**-0.6**
	comp=Z,10nm,0.8s						
G43A	**Wallace**	**35.57**	**274**	P	**P**	**01 10 31.4**	**-0.1**
	baz=49						
EYMN	**Ely**	**35.86**	**280**	P	**P**	**01 10 34.1**	**+0.1**
	baz=51						
E40A	**Wakefield**	**35.97**	**277**	P	**P**	**01 10 35.3**	**+0.4**
	baz=50						
SORM	**Soroca**	**36.64**	**78⇑**	*i*P	**P**	**01 10 39.5**	**-1.1**
ULM	**Lac du Bonnet**	**36.73**	**286**	P	**P**	**01 10 40.0**	**-1.4**
	comp=Z,2.4nm,0.6s,baz=61,slow=8.2,SNR=3.6						
ULM				LR	LR	01 24 21.9	
	comp=Z

baz=44
P42A Winchester 40.91 269 P P 01 11 16.5 0.0
baz=44
L37A Phoenix Point, 40.92 275 P P 01 11 16.1 -0.5
baz=46
Q43A New Douglas 41.03 268 P P 01 11 16.8 -0.7
baz=43
N39A Derby Farms, D 41.13 272 P P 01 11 18.1 -0.3
baz=45
R44A Waltonville 41.21 267 P P 01 11 19.3 +0.3
baz=42
P41A Barry, Barry 41.23 270 P P 01 11 18.7 -0.4
baz=44
H32A Carlson Farm, 41.23 280 P P 01 11 19.6 +0.4
baz=47
ECSD EROS Data Cent 41.32 279 P P 01 11 19.9 0.0
baz=47,SNR=7.0
ECSD EROS Data Cent 41.32 279 eP P 01 11 20.5 +0.6
comp=Z,11nm,1.0s
ECSD EROS Data Cent 41.32 279 eP P 01 11 20.5 +0.6
comp=Z,11nm,1.0s
O40A La Belle 41.34 271 P P 01 11 20.0 0.0
baz=44
L36A Harm Buss Farm 41.42 276 P P 01 11 20.9 +0.2
baz=45
Q42A Golden Eagle 41.50 269 P P 01 11 21.5 +0.2
baz=43
N38A Joes South For 41.58 273 P P 01 11 21.6 -0.5
baz=44
M37A Trindle Farm, 41.59 274 P P 01 11 22.2 +0.1
baz=45
O39A Kirksville 41.60 272 P P 01 11 22.0 -0.2
baz=44
R43A Red Bud 41.64 268 P P 01 11 22.6 +0.1
baz=42
INK Inuvik 41.69 327 P P 01 11 21.3 -1.3
comp=Z,2.6nm,0.9s,baz=46,slow=5.3,SNR=6.0
INK LR LR 01 26 26.2
comp=Z,435nm,19.2s,baz=50,slow=33
INK Inuvik 41.69 327 eP P 01 11 21.3 -1.3
comp=Z,23nm,1.8s
INK Inuvik 41.69 327 eP P 01 11 21.3 -1.3
comp=Z,23nm,1.8s
S44A Carbondale 41.71 266 P P 01 11 22.9 -0.2
baz=42
H31A Wolsey 41.80 281 P P 01 11 23.6 -0.1
baz=47
J33A Davis 41.80 279 P P 01 11 23.3 -0.4
baz=46
Q41A Truxton 41.84 269 P P 01 11 23.6 -0.5
baz=43
P40A Paris 41.86 271 P P 01 11 22.8 -1.5
baz=44,SNR=7.3
L35A Bielow Farm, R 41.88 276 P P 01 11 24.5 0.0
baz=45
DGMT Dagmar 42.08 289 P P 01 11 27.4 +1.4
baz=49
DGMT Dagmar 42.08 289 eP P 01 11 27.6 +1.6
comp=Z,15nm,0.9s
DGMT Dagmar 42.08 289 eP P 01 11 27.6 +1.6
comp=Z,15nm,0.9s
WVT Waverly 42.12 264 eP P 01 11 27.4 +1.0
comp=Z,14nm,1.3s
WVT Waverly 42.12 264 eP P 01 11 27.4 +1.0
comp=Z,14nm,1.3s
N37A Lee Faris, Mou 42.13 274 P P 01 11 25.6 -0.9
baz=44
S43A Fulton Ridge, 42.24 267 P P 01 11 27.0 -0.4
baz=42
P39B Salisbury 42.26 271 P P 01 11 27.0 -0.6
baz=44
T44A Benton 42.34 266 P P 01 11 27.8 -0.4
baz=42
R41A Rosebud 42.40 269 P P 01 11 27.5 -1.2
baz=43
S42A Caledonia 42.47 268 P P 01 11 28.8 -0.5
baz=42
CCM Cathedral Cave 42.50 268 eP P 01 11 29.1 -0.4
comp=Z,16nm,0.9s
CCM Cathedral Cave 42.50 268 eP P 01 11 29.1 -0.4
comp=Z,16nm,0.9s
T43A Greenville 42.71 267 P P 01 11 30.8 -0.5
baz=42
J31A Geddes 42.75 280 P P 01 11 31.3 -0.2
baz=46
K32A Verdigre 42.78 279 P P 01 11 31.5 -0.3
baz=46
GLAT Glass 42.79 265 eP P 01 11 33.5 +1.6
comp=Z,242nm,0.7s
GLAT Glass 42.79 265 eP P 01 11 33.5 +1.6
comp=Z,242nm,0.7s
PBMO Poplar Bluff 43.01 267 eP P 01 11 33.3 -0.4
comp=Z,23nm,0.9s
PBMO Poplar Bluff 43.01 267 eP P 01 11 33.3 -0.4
comp=Z,23nm,0.9s
Q38A Cooks Store, C 43.11 271 P P 01 11 34.0 -0.5
baz=43
S41A Jillco Farms, 43.12 268 P P 01 11 34.4 -0.2
baz=42
M33A Taylor Creek F 43.14 277 P P 01 11 34.0 -0.7
baz=45
R39A Chumby, Stover 43.27 270 P P 01 11 35.6 -0.2
baz=43
U43A Rector 43.31 266 P P 01 11 35.7 -0.3
baz=41
P36A Good Intent, A 43.48 273 P P 01 11 36.8 -0.6
baz=44
S40A Lebanon 43.51 269 P P 01 11 36.8 -0.9
baz=42,SNR=8.4
Q37A Longview Farm, 43.61 272 P P 01 11 37.9 -0.7
baz=43
U42A Revenden 43.77 267 P P 01 11 39.4 -0.4
baz=41,SNR=7.7
R38A Fenwick Farm, 43.83 271 P P 01 11 39.7 -0.5
baz=42
Y47A UCPARC, Winfie 43.83 261 P P 01 11 40.0 -0.3
baz=39
T40A Mansfield 43.85 269 P P 01 11 39.9 -0.6
baz=42
O34A Beatrice 43.86 275 P P 01 11 40.0 -0.6
baz=44
S39A Bolivar 43.88 270 P P 01 11 40.5 -0.2
baz=42
LRAL Lakeview Retre 44.05 260 eP P 01 11 42.7 +0.6
comp=Z,20nm,1.3s
LRAL Lakeview Retre 44.05 260 eP P 01 11 42.6 +0.6
comp=Z,20nm,1.3s
U41A Viola 44.13 267 P P 01 11 42.4 -0.4
baz=41
OXF Oxford 44.19 263 eP P 01 11 42.3 -0.9
comp=Z,30nm,1.3s
OXF Oxford 44.19 263 eP P 01 11 42.3 -0.9
comp=Z,30nm,1.3s
R37A Teagarden Farm 44.23 272 P P 01 11 42.6 -0.9
baz=43
S38A Stockton 44.24 270 P P 01 11 42.5 -1.0
baz=42
X45A UM Field Stati 44.24 263 P P 01 11 43.2 -0.5
baz=40
LAO LASA Array 44.29 289 P P 01 11 44.9 +1.0
baz=47
LAO LASA Array 44.29 289 eP P 01 11 45.2 +1.3
comp=Z,25nm,1.3s
LAO LASA Array 44.29 289 eP P 01 11 45.2 +1.3
comp=Z,25nm,1.3s
Y46A Houston 44.38 262 P P 01 11 44.5 -0.2
baz=39
P34A Walnut Farm, R 44.39 275 P P 01 11 44.2 -0.6
baz=43
T39A Clever 44.40 269 P P 01 11 43.8 -1.1
baz=42,SNR=7.5
TAM Tamanrasset 44.42 126 eP P 01 11 45.9 +0.5
comp=Z,12nm,1.5s
TAM Tamanrasset 44.42 126 eP P 01 11 45.9 +0.5
comp=Z,12nm,1.5s
Q35A Mercer Eighty, 44.47 273 P P 01 11 44.6 -0.8
baz=43
Z47A Carrollton 44.49 261 P P 01 11 45.3 -0.2
baz=39
R36A Gordon, Harris 44.58 272 P P 01 11 45.7 -0.6
baz=42
KSU1 Kansas State U 44.60 274 P P 01 11 45.3 -1.2
baz=43
BR231 Keskin MP Arra 44.60 84 eP P 01 11 50.7 +4.1
U40A Yellville 44.62 268 P P 01 11 45.6 -1.1
baz=41,SNR=6.3
S37A Fort Scott 44.63 271 P P 01 11 45.3 -1.4
baz=42,SNR=8.1

V41A Mountainview 44.68 267 P P 01 11 45.9 -1.3
baz=41
T38A Diamond 44.88 270 P P 01 11 47.4 -1.4
baz=42,SNR=10
Q34A Chapman 44.91 274 P P 01 11 48.3 -0.6
baz=43
U39A Green Forest 44.94 269 P P 01 11 48.5 -0.7
baz=41,SNR=7.2
R35A Emporia Munici 44.95 273 P P 01 11 48.7 -0.6
baz=42
Z46A Louisville 44.95 262 P P 01 11 49.3 0.0
baz=39
V40A Witts Springs 45.02 268 P P 01 11 49.2 -0.7
baz=41,SNR=10
S36A Lake Cedric, C 45.07 272 P P 01 11 49.1 -1.1
baz=42
WHAR Wooly Hollow 45.12 267 eP P 01 11 50.6 0.0
comp=Z,13nm,0.9s
WHAR Wooly Hollow 45.12 267 eP P 01 11 50.6 0.0
comp=Z,13nm,0.9s
EGMT Eagleton 45.14 292 P P 01 11 51.9 +1.1
baz=47
EGMT Eagleton 45.14 292 eP P 01 11 52.7 +1.9
comp=Z,30nm,1.3s
EGMT Eagleton 45.14 292 eP P 01 11 52.7 +1.9
comp=Z,30nm,1.3s
BR101 Keskin Array S 45.15 84 eP P 01 11 51.2 +0.2
BR101 Keskin Array S 45.15 84 eP P 01 11 51.1 +0.2
BR131 Keskin Array S 45.15 84 eP P 01 11 52.0 +1.1
BR131 Keskin Array S 45.15 84 eP P 01 11 52.0 +1.1
BRTR Keskin Array B 45.15 84 P P 01 11 51.1 +0.2
comp=Z,2.6nm,0.8s,baz=324,slow=5.0,SNR=20
T37A Cheneyville 18 45.15 271 P P 01 11 50.2 -0.7
baz=42
248A Dixon Mills 45.17 260 P P 01 11 51.5 +0.4
baz=38
W41B Gary Mavity, V 45.19 267 P P 01 11 50.1 -1.1
baz=40
X301 Greenbrier Sit 45.22 267 eP P 01 11 51.2 -0.2
comp=Z,21nm,1.1s
X301 Greenbrier Sit 45.22 267 eP P 01 11 51.2 -0.2
comp=Z,21nm,1.1s
HHAR Hobbs 45.26 269 eP P 01 11 51.6 -0.1
comp=Z,20nm,1.4s
HHAR Hobbs 45.26 269 eP P 01 11 51.6 -0.1
comp=Z,20nm,1.4s
U38A Gravette 45.38 270 P P 01 11 51.8 -0.9
baz=41
V39A Pettigrew 45.43 268 P P 01 11 52.3 -0.9
baz=41,SNR=9.2
R34A Isabella, Hill 45.52 274 P P 01 11 53.5 -0.4
baz=42
W40A Ferguson Farm, 45.61 267 P P 01 11 53.3 -1.2
baz=40
T36A Boggs Farm, Ca 45.71 271 P P 01 11 54.3 -1.0
baz=42
ARU Arti 45.73 51 eP P 01 11 55.0 -0.2
comp=Z,52nm,2.0s
ARU Arti 45.73 51 eP P 01 11 55.0 -0.2
comp=Z,52nm,2.0s
U37A Salina 45.79 270 P P 01 11 55.4 -0.6
baz=41
348A Jackson 45.80 259 P P 01 11 56.7 +0.7
baz=38
V38A Canehill 45.82 269 P P 01 11 55.4 -0.8
baz=41
S34A Willow Spring 45.90 273 P P 01 11 55.9 -0.9
baz=42
NRIK Noril'sk 45.91 25 P P 01 11 56.5 0.0
comp=Z,2.2nm,0.6s,baz=354,slow=5.3,SNR=4.6
W39A Magazine 45.99 268 P P 01 11 56.1 -1.5
baz=40,SNR=7.8
X40A Basin Creek Fa 46.02 266 P P 01 11 57.2 -0.6
baz=40
U36A Oologah 46.13 271 P P 01 11 57.7 -0.9
baz=41
T35A Sooner Cattle 46.16 272 P P 01 11 57.8 -1.0
baz=42
V37A Hulbert 46.20 270 P P 01 11 58.3 -0.8
baz=41
DAWY Dawson 46.30 324 eP P 01 12 01.2 +1.6
comp=Z,15nm,1.3s
DAWY Dawson 46.30 324 eP P 01 12 01.2 +1.6
comp=Z,15nm,1.3s
Y41A Eaglette Beard 46.37 266 P P 01 12 00.5 0.0
baz=40
MIAR Mount Ida 46.38 267 P P 01 12 00.3 -0.3
baz=40
MIAR Mount Ida 46.38 267 eP P 01 12 00.7 +0.1
comp=Z,16nm,0.9s
MIAR Mount Ida 46.38 267 eP P 01 12 00.7 +0.1
comp=Z,16nm,0.9s
T34A McClaskey Farm 46.44 272 P P 01 12 00.5 -0.5
baz=42
W38A Poteau 46.48 268 P P 01 12 00.4 -1.0
baz=40
Z42A Norrel Spur, H 46.48 265 P P 01 12 00.8 -0.5
baz=39
TUL1 Leonard 46.53 270 P P 01 12 01.0 -0.7
baz=41
TUL1 Leonard 46.53 270 eP P 01 12 02.0 +0.3
comp=Z,26nm,1.4s
TUL1 Leonard 46.53 270 eP P 01 12 02.0 +0.3
comp=Z,26nm,1.4s
VBMS Vicksburg 46.54 262 P P 01 12 01.5 -0.4
baz=38
Y40A Okolona 46.62 266 P P 01 12 02.3 -0.2
baz=40
X39A Fountain Ranch 46.69 268 P P 01 12 02.4 -0.6
baz=40
V36A Jenks 46.70 270 P P 01 12 02.4 -0.7
baz=41
Z41A Richland Creek 46.95 265 P P 01 12 04.9 -0.1
baz=39
KBZ Khabaz 47.12 73 P P 01 12 06.7 +0.5
comp=Z,3.5nm,0.8s,baz=310,slow=13,SNR=5.8
Y39A Lockesburg 47.12 267 P P 01 12 06.2 -0.2
baz=40
V35A Meyer Ranch, C 47.20 271 P P 01 12 06.2 -0.8
baz=41
344A Westbrook Farm 47.25 262 P P 01 12 07.1 -0.3
baz=38
K22A Casper 47.26 285 P P 01 12 07.2 -0.4
baz=44
W36A Wetumka 47.34 270 P P 01 12 07.0 -1.1
baz=40
141A Papa Simpson, 47.51 265 P P 01 12 08.9 -0.5
baz=39
242A Grayson 47.53 264 P P 01 12 09.3 -0.3
baz=38
PHWY Pilot Hill 47.67 283 eP P 01 12 11.0 0.0
comp=Z,17nm,1.5s
PHWY Pilot Hill 47.67 283 eP P 01 12 11.0 0.0
comp=Z,17nm,1.5s
W35A Tecumseh 47.67 271 P P 01 12 10.1 -0.6
baz=40
BOZ Bozeman (W) 47.75 291 P P 01 12 12.2 +0.8
baz=45
BOZ Bozeman (W) 47.75 291 eP P 01 12 11.8 +0.4
comp=Z,10nm,1.1s
BOZ Bozeman (W) 47.75 291 eP P 01 12 11.8 +0.4
comp=Z,10nm,1.1s
U32A Winter Ranch, 47.89 273 P P 01 12 11.8 -0.5
baz=41
Y37A Hugo 47.90 268 P P 01 12 12.2 -0.3
baz=40
IL1 Eielson Array 47.99 328 eP P 01 12 12.5 -0.3
IL1 Eielson Array 47.99 328 eP P 01 12 12.5 -0.3
ILAR Eielson Array 47.99 328 P P 01 12 12.5 -0.3
comp=Z,2.1nm,0.8s,baz=35,slow=5.9,SNR=19
ILAR PcP PcP 01 13 39.3 -1.2
comp=Z,0.9nm,0.8s,baz=359,slow=3.2,SNR=5.5
ILAR LR LR 01 32 54.8
comp=Z,477nm,18.0s,baz=68,slow=37
ILB Eielson Array 47.99 328 eP P 01 12 14.0 +1.2
ILB Eielson Array 47.99 328 ePcP PcP 01 13 39.3 -1.2
ILB Eielson Array 47.99 328 eP P 01 12 14.0 +1.2
ILB ePcP PcP 01 13 39.3 -1.2
DOT Dot Lake 48.02 326 eP P 01 12 14.8 +1.7
comp=Z,20nm,1.0s
DOT Dot Lake 48.02 326 eP P 01 12 14.8 +1.7
comp=Z,20nm,1.0s
H17A Grant Village 48.08 289 P P 01 12 14.5 +0.4
baz=44
YFT Old Faithful 48.17 290 eP P 01 12 17.4 +2.7
comp=Z,12nm,1.0s
YFT Old Faithful 48.17 290 eP P 01 12 17.4 +2.7
comp=Z,12nm,1.0s

N23A Red Feather La 48.22 283 eP P 01 12 16.0 +0.8
comp=Z,25nm,1.4s
N23A Red Feather La 48.22 283 eP P 01 12 16.0 +0.8
comp=Z,25nm,1.4s
MDM Murphy Dome 48.22 329 eP P 01 12 15.2 +0.6
comp=Z,8.1nm,1.0s
MDM Murphy Dome 48.22 329 eP P 01 12 15.2 +0.6
comp=Z,8.1nm,1.0s
139A Bunkhouse Ranc 48.24 266 P P 01 12 14.8 -0.3
baz=39
X35A Drake 48.30 270 P P 01 12 14.7 -0.8
baz=40
Y36A Durant 48.31 269 P P 01 12 15.1 -0.5
baz=40
138A Matatall Enter 48.63 267 P P 01 12 17.6 -0.5
baz=39
341A Kurthwood 48.64 264 P P 01 12 18.0 -0.1
baz=38
LOHW Long Hollow 48.65 289 eP P 01 12 18.4 0.0
comp=Z,10nm,1.6s
LOHW Long Hollow 48.65 289 eP P 01 12 18.4 0.0
comp=Z,10nm,1.6s
BW06 Boulder Array 48.73 287 P P 01 12 18.4 -0.7
baz=44
BW06 Boulder Array 48.73 287 eP P 01 12 17.8 -1.3
comp=Z,8.9nm,1.3s
BW06 Boulder Array 48.73 287 eP P 01 12 17.8 -1.3
comp=Z,8.9nm,1.3s
PD31 Pinedale Array 48.73 287 eP P 01 12 17.5 -1.6
PD31 Pinedale Array 48.73 287 eP P 01 12 17.5 -1.6
PDAR Pinedale Array 48.73 287 P P 01 12 17.4 -1.6
comp=Z,1.5nm,0.6s,baz=59,slow=7.5,SNR=8.0
PDAR LR LR 01 31 06.5
comp=Z,631nm,19.7s,baz=0.0,slow=34
FXWY Fox Creek 48.85 289 eP P 01 12 20.3 +0.4
comp=Z,4.7nm,1.0s
FXWY Fox Creek 48.85 289 eP P 01 12 20.3 +0.4
comp=Z,4.7nm,1.0s
ISCO Idaho Springs 48.85 282 P P 01 12 20.2 +0.1
baz=43,SNR=12
ISCO Idaho Springs 48.85 282 eP P 01 12 20.9 +0.8
comp=Z,14nm,1.1s
ISCO Idaho Springs 48.85 282 eP P 01 12 20.9 +0.8
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 48.91 291 eP P 01 12 21.3 +0.9
MCMT McKenzie Canyo 48.91 291 eP P 01 12 21.3 +0.9
TPAW Teton Pass 48.92 289 eP P 01 12 20.9 +0.4
comp=Z,8.1nm,1.3s
TPAW Teton Pass 48.92 289 eP P 01 12 20.9 +0.4
comp=Z,8.1nm,1.3s
340A Bronson 48.96 265 P P 01 12 20.8 +0.2
baz=38
WMOK Wichita Mounta 49.01 272 P P 01 12 20.2 -0.8
baz=40,SNR=6.2
WMOK Wichita Mounta 49.01 272 eP P 01 12 21.2 +0.2
comp=Z,13nm,1.1s
WMOK Wichita Mounta 49.01 272 eP P 01 12 21.2 +0.2
comp=Z,13nm,1.1s
Q24A Divide 49.22 281 P P 01 12 22.1 -0.8
baz=42
MCK McKinley 49.37 328 eP P 01 12 27.5 +4.1
comp=Z,15nm,1.2s
339A Huntington 49.38 265 P P 01 12 23.5 -0.3
baz=38
B08A Colville Reser 49.52 299 eP P 01 12 24.7 -0.1
comp=Z,7.3nm,1.0s
B08A Colville Reser 49.52 299 eP P 01 12 24.7 -0.1
comp=Z,7.3nm,1.0s
237A Washetta, Mont 49.52 267 P P 01 12 24.3 -0.7
baz=39
T25A Trinidad 50.19 278 P P 01 12 29.8 -0.5
baz=41
T25A Trinidad 50.19 278 eP P 01 12 31.1 +0.9
comp=Z,15nm,1.0s
T25A Trinidad 50.19 278 eP P 01 12 31.1 +0.9
comp=Z,15nm,1.0s
SDCO Great Sand Dun 50.31 280 P P 01 12 30.7 -0.5
baz=41
SDCO Great Sand Dun 50.31 280 eP P 01 12 31.8 +0.6
comp=Z,16nm,1.7s
SDCO Great Sand Dun 50.31 280 eP P 01 12 31.8 +0.6
comp=Z,16nm,1.7s
WHTX Lake Whitney, 50.41 268 P P 01 12 30.8 -0.9
baz=39
WHTX Lake Whitney, 50.41 268 eP P 01 12 32.2 +0.5
comp=Z,23nm,1.4s
WHTX Lake Whitney, 50.41 268 eP P 01 12 32.1 +0.5
comp=Z,23nm,1.4s
AMTX Amarillo 50.44 274 P P 01 12 30.9 -1.1
baz=40
AMTX Amarillo 50.44 274 eP P 01 12 32.1 +0.1
comp=Z,14nm,0.8s
AMTX Amarillo 50.44 274 eP P 01 12 32.1 +0.1
comp=Z,14nm,0.8s
336A Riesel 50.55 267 P P 01 12 32.4 -0.4
baz=38
HWUT Hardware Ranch 50.60 288 eP P 01 12 33.3 +0.1
comp=Z,8.9nm,1.0s
HWUT Hardware Ranch 50.60 288 eP P 01 12 33.3 +0.1
comp=Z,8.9nm,1.0s
HLID Hailey 50.60 291 P P 01 12 32.9 -0.3
baz=43
HLID Hailey 50.60 291 eP P 01 12 34.0 +0.8
comp=Z,8.1nm,1.4s
HLID Hailey 50.60 291 eP P 01 12 34.0 +0.8
comp=Z,8.1nm,1.4s
GNI Garni 50.66 75 LR LR 01 33 30.7
comp=Z,225nm,21.1s,baz=18,slow=36
GNI Garni 50.66 75 eP P 01 12 35.1 +1.5
comp=Z,14nm,1.0s
GNI Garni 50.66 75 eP P 01 12 35.1 +1.5
comp=Z,14nm,1.0s
BBB Bella Bella 50.67 308 LR LR 01 31 40.7
comp=Z,396nm,19.9s,baz=44,slow=33
A04D Lummi Island 50.81 301 P P 01 12 37.7 +3.2
baz=43
S22A 4UR Ranch, Cre 51.01 281 P P 01 12 36.0 -0.5
baz=41
S22A 4UR Ranch, Cre 51.01 281 eP P 01 12 37.6 +1.1
comp=Z,17nm,1.4s
S22A 4UR Ranch, Cre 51.01 281 eP P 01 12 37.6 +1.1
comp=Z,17nm,1.4s
BMO Blue Mountains 51.08 294 eP P 01 12 40.4 +3.6
comp=Z,9.6nm,1.4s
ABTX Abilene, Hawle 51.09 271 P P 01 12 36.4 -0.4
baz=39
537A Green Hill Far 51.30 266 P P 01 12 38.3 0.0
baz=38
ABKAR Akbulak array 51.37 57 eP P 01 12 38.9 +0.3
comp=Z,51nm,0.9s
ABKAR Akbulak array 51.37 57 eP P 01 12 38.9 +0.3
comp=Z,51nm,0.9s
TOA1 Torodi Ar. Sit 51.56 136 eP P 01 12 39.2 -1.2
TOA1 Torodi Ar. Sit 51.56 136 eP P 01 12 39.1 -1.2
TOA0 Torodi Ar. Sit 51.56 136 eP P 01 12 39.5 -1.0
TOA0 Torodi Ar. Sit 51.56 136 eP P 01 12 39.5 -1.0
TORD Torodi Ar. Bea 51.56 136 P P 01 12 39.1 -1.3
comp=Z,5.1nm,0.9s,baz=334,slow=7.7,SNR=32
MSTX Muleshoe 51.72 274 P P 01 12 41.3 -0.3
baz=40
MSTX Muleshoe 51.72 274 eP P 01 12 41.8 +0.1
comp=Z,19nm,1.5s
MSTX Muleshoe 51.72 274 eP P 01 12 41.8 +0.1
comp=Z,19nm,1.5s
MPU Maple Canyon 51.81 286 eP P 01 12 42.5 +0.2
comp=Z,18nm,1.2s
MPU Maple Canyon 51.81 286 eP P 01 12 42.5 +0.2
comp=Z,18nm,1.2s
NLU North Lily Min 52.08 287 eP P 01 12 45.3 +0.9
comp=Z,13nm,1.1s
NLU North Lily Min 52.08 287 eP P 01 12 45.3 +0.9
comp=Z,13nm,1.1s
MVCO Mesa Verde 52.28 282 P P 01 12 45.3 -0.7
baz=41
MVCO Mesa Verde 52.28 282 eP P 01 12 47.2 +1.2
comp=Z,10nm,1.0s
MVCO Mesa Verde 52.28 282 eP P 01 12 47.2 +1.2
comp=Z,10nm,1.0s
635A Leesville 52.62 267 P P 01 12 47.0 -1.2
baz=38
JCT Junction City 52.84 269 P P 01 12 49.4 -0.5
baz=38
JCT Junction City 52.84 269 eP P 01 12 49.8 -0.1
comp=Z,13nm,1.0s
JCT Junction City 52.84 269 eP P 01 12 49.8 -0.1
comp=Z,13nm,1.0s
BRVK Borovoye 52.89 48 eP P 01 12 50.1 +0.2
comp=Z,6.8nm,1.1s

BRVK Borovoye 52.89 48 *eP* **P 01 12 50.1 +0.2**
comp=Z,6.8nm,1.1s
ANMO Albuquerque 52.93 278 P **P 01 12 50.0 -0.7**
baz=40
ANMO Albuquerque 52.93 278 *eP* **P 01 12 51.1 +0.4**
comp=Z,5.9nm,1.1s
ANMO Albuquerque 52.93 278 *eP* **P 01 12 51.1 +0.4**
comp=Z,5.9nm,1.1s
EIL Elat 53.48 91 LR LR 01 38 29.3
comp=Z,198nm,18.8s,baz=262,slow=39
LAZ Ladron 53.71 278 *eP* **P 01 12 57.8 +1.4**
LAZ Ladron 53.71 278 *eP* **P 01 12 57.8 +1.4**
834A Tilden 54.03 266 P **P 01 12 57.6 -1.0**
baz=37
J05D Fort Rock, OR 54.14 296 P **P 01 13 00.3 +0.8**
baz=41
832A Faith Ranch, C 54.66 268 P **P 01 13 02.6 -0.6**
baz=37
MNTX Cornudas Mount 54.87 275 P **P 01 13 04.3 -0.4**
baz=38
MNTX Cornudas Mount 54.87 275 *eP* **P 01 13 04.4 -0.2**
comp=Z,6.4nm,1.0s
MNTX Cornudas Mount 54.87 275 *eP* **P 01 13 04.5 -0.2**
comp=Z,6.4nm,1.0s
LCMT Little Creek M 54.90 285 *eP* **P 01 13 05.7 +0.7**
comp=Z,6.9nm,1.3s
LCMT Little Creek M 54.90 285 *eP* **P 01 13 05.7 +0.7**
comp=Z,6.9nm,1.3s
WUAZ Wupatki 55.07 282 P **P 01 13 06.3 -0.1**
baz=40
LTX Lajitas 55.80 272 *eP* **P 01 13 10.8 -0.8**
LTX Lajitas 55.80 272 *eP* **P 01 13 10.8 -0.8**
TX31 Lajitas Ar. Si 55.80 272 *eP* **P 01 13 12.3 +0.7**
TX31 Lajitas Ar. Si 55.80 272 *eP* **P 01 13 12.3 +0.7**
TXAR Lajitas Array 55.80 272 P **P 01 13 10.8 -0.7**
comp=Z,1.0nm,0.9s,baz=64,slow=4.3,SNR=7.4
ZAA1 Zalesovo Array 57.48 39 *eP* **P 01 13 22.5 -0.5**
ZAA1 Zalesovo Array 57.48 39 *eP* **P 01 13 22.5 -0.5**
ZALV Zalesovo Beam 57.48 39 P **P 01 13 22.5 -0.5**
comp=Z,1.0nm,0.6s,baz=321,slow=6.5,SNR=5.3
DAC Darwin (Calif) 57.69 288 *eP* **P 01 13 25.5 +0.5**
comp=Z,7.6nm,1.0s
DAC Darwin (Calif) 57.69 288 *eP* **P 01 13 25.5 +0.5**
comp=Z,7.6nm,1.0s
DANC Danby, Needles 57.83 285 *eP* **P 01 13 27.5 +1.7**
DANC Danby, Needles 57.83 285 *eP* **P 01 13 27.4 +1.7**
KURK Kurchatov 57.94 44 *eP* **P 01 13 25.5 -0.8**
comp=Z,6.5nm,0.9s
KURK Kurchatov 57.94 44 *eP* **P 01 13 25.5 -0.8**
comp=Z,6.5nm,0.9s
113A Mohawk Valley, 58.45 282 *eP* **P 01 13 30.8 +0.6**
comp=Z,11nm,1.2s
WASM Alta Sierra Ca 58.60 288 *eP* **P 01 13 33.5 +2.1**
WASM Alta Sierra Ca 58.60 288 *eP* **P 01 13 33.5 +2.1**
VES Vestal, Richgr 58.79 288 P **P 01 13 31.9 -0.6**
baz=38
EDW2 Edwards Air Fo 58.98 287 P **P 01 13 33.3 -0.6**
baz=38
GEYT Alibeck 59.10 67 P **P 01 13 34.8 +0.2**
comp=Z,1.1nm,0.8s,baz=325,slow=9.0,SNR=4.9
BFSC Mount Baldy Ra 59.31 286 P **P 01 13 35.1 -1.2**
baz=38
BAR Barrett 60.03 284 *eP* **P 01 13 43.3 +2.2**
BAR Barrett 60.03 284 *eP* **P 01 13 43.3 +2.2**
FMP Fort Macarthur 60.05 286 *eP* **P 01 13 39.8 -1.4**
FMP Fort Macarthur 60.05 286 *eP* **P 01 13 39.8 -1.4**
MAKZ Makanchi 62.42 45 *eP* **P 01 13 56.3 -0.7**
comp=Z,3.7nm,0.9s
MAKZ Makanchi 62.42 45 *eP* **P 01 13 56.3 -0.7**
comp=Z,3.7nm,0.9s
MK31 Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
MK31 Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
MK32 Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
MK32 Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
MKAR Makanchi Array 62.55 45 P **P 01 13 57.3 -0.6**
comp=Z,3.2nm,0.7s,baz=332,slow=6.2,SNR=33
MKAR Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
comp=Z,21nm,0.6s
MKAR Makanchi Array 62.55 45 *eP* **P 01 13 57.3 -0.6**
comp=Z,21nm,0.6s
MK01 Makanchi Array 62.57 45 *eP* **P 01 13 57.3 -0.8**
MK01 Makanchi Array 62.57 45 *eP* **P 01 13 57.3 -0.8**
AAK Ala-Archa 62.87 52 *eP* **P 01 14 01.3 +1.0**
comp=Z,3.6nm,0.8s
AAK Ala-Archa 62.87 52 *eP* **P 01 14 01.3 +1.0**
comp=Z,3.6nm,0.8s
KSH Kashi 66.07 53 P **P 01 14 22.9 +1.6**
KSH pP sP 01 14 28.0 -1.3
KSH sP pP 01 14 30.0 +2.9
KSH *e*PcP **PcP** **01 14 53.0 +1.3**
KSH PP **PP** **01 16 51.0 +4.8**
KSH S **S** **01 23 09.6 +1.2**
KSH ScS **ScS** **01 24 16.0 -0.5**
KSH Kashi 66.07 53 SS SS 01 27 25.0 +1.9
KSH pmax pmax
comp=Z,15nm,1.2s
KSH pmax pmax
comp=Z,230nm,6.2s
KSH LR LR
comp=N,170nm,9.2s
KSH LR LR
comp=E,210nm,9.2s
KSH LR LR
comp=Z,250nm,8.4s
H10N2 ASCENSION HYDR 67.12 161 T T 02 27 00.7
baz=349,slow=75,SNR=8.8
H10N3 ASCENSION HYDR 67.13 161 T T 02 27 00.3
baz=349,slow=75,SNR=9.6
H10N1 ASCENSION HYDR 67.14 161 T T 02 27 00.8
baz=349,slow=75,SNR=9.3
H10S1 ASCENSION HYDR 68.18 161 T T 02 28 16.6
baz=351,slow=75,SNR=99
H10S3 ASCENSION HYDR 68.19 161 T T 02 28 13.6
baz=351,slow=75,SNR=97
H10S2 ASCENSION HYDR 68.20 161 T T 02 28 18.0
baz=351,slow=75,SNR=91
SONA1 Songino Array 69.25 28 *eP* **P 01 14 40.5 -0.7**
SONA1 Songino Array 69.25 28 *eP* **P 01 14 40.5 -0.7**
SONA0 Songino Array 69.26 28 *eP* **P 01 14 40.7 -0.5**
comp=Z,7.3nm,1.3s
SONA0 Songino Array 69.26 28 *eP* **P 01 14 40.7 -0.5**
comp=Z,7.3nm,1.3s
SONM Songino Array 69.26 28 P **P 01 14 40.7 -0.5**
comp=Z,3.4nm,1.1s,baz=335,slow=5.1,SNR=10
ULN Ulaanbaatar 69.40 28 *eP* **P 01 14 41.9 -0.2**
comp=Z,16nm,1.3s
ULN Ulaanbaatar 69.40 28 *eP* **P 01 14 41.9 -0.2**
comp=Z,16nm,1.3s
GTA Gaotai 75.13 36 *eP* **P 01 15 16.1 -0.4**
GTA pP pP 01 15 20.3 -2.1
GTA sP sP 01 15 23.1 -1.4
GTA pmax pmax
comp=Z,7.0nm,1.6s
LPAZ La Paz 79.59 215 P **P 01 15 41.5 -0.6**
comp=Z,1.6nm,1.0s,baz=45,slow=3.0,SNR=4.1
CPUP Villa Florida 86.47 202 P **P 01 16 16.0 -0.7**
comp=Z,1.9nm,0.8s,baz=6.1,slow=9.8,SNR=3.2
CPUP Villa Florida 86.47 202 *eP* **P 01 16 16.0 -0.7**
ROC1 El Roble 96.16 212 *eP* **P 01 17 04.1 +2.0**
comp=Z,11nm,0.7s
ROC1 El Roble 96.16 212 *eP* **P 01 17 04.1 +2.0**
comp=Z,11nm,0.7s
WR1 Warramunga Arr 140.86 20 *e*PKIKP **PKPdf** **01 23 01.9 -2.3**
WR1 Warramunga Arr 140.86 20 *e*PKPdf **PKPdf** **01 23 01.9 -2.3**
WRA Warramunga Arr 140.86 20 PKP **PKPdf** **01 23 01.9 -2.3**
comp=Z,1.3nm,0.9s,baz=342,slow=2.2,SNR=3.6
AS31 Alice Springs 144.40 22 *e*PKPdf **PKPab** **01 23 07.3 -1.2**
ASAR Alice Springs 144.40 22 PKP **PKPab** **01 23 07.3 -1.2**
comp=Z,0.9nm,0.8s,baz=346,slow=2.3,SNR=8.8

*ISCJB **06** 01:05:25.0±1.4, 57°.9N±0°.3×32°.6W±0°.4, h18km, mb3.8/6, MS4.1/1, Error ellipse: s-maj=40.6km s-min=23.2km az=32.0*
*IDC **06** 01:05:24.2±1.6, 57°.88N×32°.55W, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/41, mbtmp3.7/6, MS4.1/1, Ms1 4.1/1, ms1mx3.3/53, Error ellipse: s-maj=44.9km s-min=25.8km az=32.0*
ISC 06 01:05:26.9±1.5, 57°.9N±0°.3×32°.6W±0°.2, h18km, n7, σ0°.66/6, mb3.9/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**35.61**	**74**	P		**P**		**01 12 22.5**	**-0.6**
	0.6nm,0.5s,baz=306,slow=8.6,SNR=4.9								
YKA	**Yellowknife Ar**	**38.47**	**312**	P		**P**		**01 12 47.3**	**+0.1**
	0.4nm,0.6s,baz=58,slow=9.4,SNR=2.9								
BRTR	**Keskin Array B**	**45.22**	**84**	P		**P**		**01 13 43.8**	**+0.9**
	0.8nm,0.8s,baz=321,slow=6.0,SNR=4.3								
KVAR	**Kislovodsk Arr**	**46.93**	**73**	LR		LR		01 32 39.4	
	comp=Z,200nm,18.1s,slow=35								
TORD	**Torodi Ar. Bea**	**51.59**	**136**	P		**P**		**01 14 31.8**	**-0.2**
	1.3nm,0.6s,baz=330,slow=8.0,SNR=7.2								
MKAR	**Makanchi Array**	**62.62**	**45**	P		**P**		**01 15 49.5**	**-0.2**
	0.8nm,0.7s,baz=358,slow=7.3,SNR=3.8								
SONM	**Songino Array**	**69.33**	**28**	P		**P**		**01 16 33.0**	**0.0**
	0.5nm,0.4s,baz=327,slow=7.7,SNR=3.8								

*IDC **06** 01:19:34.5±0.6, 31°.05N×141°.90E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.1/58, mbtmp4.1/25, ML3.9/2, MS4.1/2, Ms1 4.1/2, ms1mx3.2/44, Error ellipse: s-maj=21.0km s-min=14.1km az=71.0*
*ISCJB **06** 01:19:35.2±1.7, 31°.00N±0°.04×141°.81E±0°.08, h18km±12km, mb4.4/39, MS4.1/2, Error ellipse: s-maj=11.6km s-min=5.6km az=163.0*
*JMA **06** 01:19:36.6±0.2, 31°.15N×141°.97E, h39km, M4.5*
*NEIC **06** 01:19:38.5±2.3, 30°.98N×141°.87E, h30km±16km, mb4.8/20, Error ellipse: s-maj=10.6km s-min=6.0km az=78.0*
ISC 06 01:19:38.8±3.6, 31°.00N±0°.05×141°.82E±0°.09, h30km±25km, n89, σ1°.44/94, mb4.4/39, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.71**	**322**	P		**Pn**		**01 20 18.7**	**-1.5**
JHJ2				*e*S		**Sn**		**01 20 49.9**	**-2.0**
JHJ2	**Mitsune**	**2.71**	**322**	*e*Pn		**Pn**		**01 20 17.9**	**-2.3**
JHJ2				*e*Sn		**Sn**		**01 20 49.5**	**-2.4**
JHJ	**Hachijo jima 2**	**2.73**	**321**	Pn		**Pn**		**01 20 17.9**	**-2.6**
	18nm,0.3s,baz=62,slow=23,SNR=7.4								
JHJ				Sn		**Sn**		**01 20 49.2**	**-3.3**
	55nm,0.3s,baz=256,slow=23,SNR=5.2								
BSO1	**Boso 1**	**3.71**	**349**	P		**Pn**		**01 20 31.6**	**-2.0**
CBIJ	**Chichi jima**	**3.90**	**175**	P		**Pn**		**01 20 38.0**	**+1.3**
CBIJ				*e*S		**Sn**		**01 21 20.3**	**-1.1**
CBIJ	**Chichi jima**	**3.90**	**175**	*e*Pn		**Pn**		**01 20 38.8**	**+2.2**
CBIJ				*e*Sn		**Sn**		**01 21 18.4**	**-3.1**
BSO3	**Boso 3**	**3.95**	**344**	P		**Pn**		**01 20 35.4**	**-1.7**
JOD2	**Odawara 2**	**4.83**	**332**	P		**Pn**		**01 20 49.8**	**+0.4**
JOD2				*e*S		**Sn**		**01 21 42.4**	**-2.0**
JRY	**Ryogami san**	**5.57**	**335**	P		**Pn**		**01 20 59.9**	**+0.4**
JRY				*e*S		**Sn**		**01 21 59.8**	**-2.7**
INU	**Inuyama**	**5.92**	**318**	*e*Pn		**Pn**		**01 21 05.1**	**+0.7**
MJAR	**Matsushiro Arr**	**6.29**	**332**	Pn		**Pn**		**01 21 09.7**	**+0.2**
	6.4nm,0.3s,baz=158,slow=11,SNR=65								
MAJO	**Matsushiro**	**6.29**	**332**	*e*Pn		**Pn**		**01 21 10.2**	**+0.6**
MAT	**Matsushiro**	**6.29**	**332**	P		**Pn**		**01 21 09.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**6.30**	**332**	*e*Pn		**Pn**		**01 21 10.3**	**+0.7**
JMK	**Ichinoseki**	**7.95**	**357**	P		**Pn**		**01 21 29.8**	**-2.4**
JMK				*e*S		Sn		01 22 52.9	-8.2
KSRS	**Korea Array**	**13.17**	**303**	Pn		**Pn**		**01 22 47.2**	**+3.5**
	0.2nm,0.3s,baz=111,slow=12,SNR=4.4								
KSAR	**Wonju Array Be**	**13.19**	**303**	Pn		**Pn**		**01 22 47.2**	**+3.2**
USRK	**Ussuriysk Ar.**	**15.29**	**332**	Pn		**Pn**		**01 23 15.1**	**+2.7**
	0.2nm,0.3s,baz=148,slow=8.5,SNR=3.6								
YULB	**Yu-li**	**19.74**	**252**	*e*P		**P**		**01 24 06.5**	**+0.4**
	66nm,1.6s								
SSLB	**Suanglung**	**19.85**	**254**	*e*P		**P**		**01 24 06.2**	**-1.2**
	14nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**25.23**	**110**	T		T		01 51 16.1	
	baz=302								
H11N1	**WAKE ISLAND Hy**	**25.23**	**111**	T		T		01 51 14.1	
	baz=302								
H11N3	**WAKE ISLAND Hy**	**25.25**	**110**	T		T		01 51 22.6	
	baz=302								
H11S3	**WAKE ISLAND Hy**	**25.72**	**113**	T		T		01 52 34.7	
	baz=306								
H11S1	**WAKE ISLAND Hy**	**25.73**	**113**	T		T		01 52 35.3	
	baz=306								
H11S2	**WAKE ISLAND Hy**	**25.74**	**113**	T		T		01 52 32.1	
	baz=306								
PATS	**Pohnpei**	**28.58**	**144**	*e*P		**P**		**01 25 29.9**	**-2.3**
	147nm,1.4s								
SONA1	**Songino Array**	**31.77**	**312**	*e*P		**P**		**01 26 01.3**	**+0.9**
SONA0	**Songino Array**	**31.77**	**312**	*e*P		**P**		**01 26 01.6**	**+1.2**
	5.8nm,1.2s								
SONM	**Songino Array**	**31.77**	**312**	P		**P**		**01 26 01.6**	**+1.2**
	1.0nm,0.5s,baz=114,slow=8.6,SNR=11								
MYLDM	**Lahad Datu**	**33.76**	**225**	*e*P		**P**		**01 26 15.1**	**-2.8**
	26nm,1.4s								
DLV	**T Lat**	**36.15**	**246**	*e*P		**P**		**01 26 36.2**	**-2.6**
	76nm,1.6s								
PMG	**Port Moresby**	**40.50**	**172**	*e*P		**P**		**01 27 12.3**	**-2.7**
	33nm,1.3s								
TIXI	**Tiksi**	**41.31**	**354**	LR		LR		01 46 52.2	
	comp=Z,266nm,20.7s,baz=228,slow=40								
TIXI	**Tiksi**	**41.31**	**354**	*e*P		**P**		**01 27 19.4**	**-1.8**
	8.4nm,1.0s								
MTN	**Manton Dam**	**44.78**	**195**	*e*P		**P**		**01 27 49.6**	**-0.2**
	27nm,1.9s								
ZAA0	**Zalesovo Array**	**46.38**	**317**	*e*P		**P**		**01 28 01.6**	**-0.5**
ZAA1	**Zalesovo Array**	**46.38**	**317**	*e*P		**P**		**01 28 02.3**	**+0.1**
ZAA1				*e*PcP		**PcP**		**01 29 36.7**	**0.0**
ZALV	**Zalesovo Beam**	**46.38**	**317**	P		**P**		**01 28 02.3**	**+0.2**
	2.2nm,0.6s,baz=88,slow=7.7,SNR=7.0								
ZALV				PcP		**PcP**		**01 29 36.7**	**0.0**
	1.7nm,0.5s,baz=103,slow=3.1,SNR=6.6								
MK01	**Makanchi Array**	**47.81**	**307**	*e*P		**P**		**01 28 12.8**	**-0.6**
MK31	**Makanchi Array**	**47.81**	**307**	*e*P		**P**		**01 28 13.3**	**-0.2**
MK32	**Makanchi Array**	**47.81**	**307**	*e*P		**P**		**01 28 13.0**	**-0.5**
MKAR	**Makanchi Array**	**47.81**	**307**	P		**P**		**01 28 13.0**	**-0.5**
	0.5nm,0.4s,baz=84,slow=9.1,SNR=7.9								
MKAR	**Makanchi Array**	**47.81**	**307**	*e*P		**P**		**01 28 13.3**	**-0.2**
	8.0nm,0.7s								
KURK	**Kurchatov**	**50.08**	**312**	*e*P		**P**		**01 28 31.0**	**+0.3**
KURBB	**Kurchatov Arra**	**50.14**	**312**	P		**P**		**01 28 31.0**	**-0.2**
	1.9nm,0.3s,baz=87,slow=7.0,SNR=6.1								
WB2	**Warramunga Arr**	**51.15**	**189**	*e*P		**P**		**01 28 39.2**	**+0.1**
	14nm,1.5s								
WR1	**Warramunga Arr**	**51.15**	**189**	*e*P		**P**		**01 28 39.4**	**+0.3**
	12nm,1.4s								
WR1				*e*PcP		**PcP**		**01 29 55.7**	**+1.3**
WRA	**Warramunga Arr**	**51.15**	**189**	P		**P**		**01 28 39.4**	**+0.3**
	2.2nm,0.5s,baz=4.4,slow=7.6,SNR=35								
WRA				PcP		**PcP**		**01 29 55.7**	**+1.3**
	0.4nm,0.5s,baz=360,slow=4.2,SNR=2.7								
KDAK	**Kodiak Island**	**51.48**	**39**	P		**P**		**01 28 40.6**	**-0.5**
	5.9nm,0.9s,baz=328,slow=6.5,SNR=8.9								
KDAK	**Kodiak Island**	**51.48**	**39**	*e*P		**P**		**01 28 40.6**	**-0.5**
	103nm,1.6s								
ILAR	**Eielson Array**	**54.48**	**30**	P		**P**		**01 29 02.4**	**-0.8**
	0.6nm,0.6s,baz=264,slow=6.9,SNR=7.0								
ILB	**Eielson Array**	**54.48**	**30**	*e*P		**P**		**01 29 02.4**	**-0.8**
AS01	**Alice Springs**	**54.87**	**189**	*e*P		**P**		**01 29 06.5**	**0.0**
AS31	**Alice Springs**	**54.88**	**189**	*e*P		**P**		**01 29 07.2**	**+0.7**
	1.4nm,0.4s								
ASAR	**Alice Springs**	**54.88**	**189**	P		**P**		**01 29 07.1**	**+0.6**
	1.4nm,0.5s,baz=359,slow=5.0,SNR=33								
BVAR	**Borovoye Array**	**55.00**	**316**	P		**P**		**01 29 07.6**	**+0.4**
	1.4nm,0.4s,baz=117,slow=8.8,SNR=7.8								
BVAR				PcP		**PcP**		**01 30 09.3**	**+0.7**
	0.7nm,0.5s,baz=98,slow=6.5,SNR=3.2								
KKAR	**Karatay Array**	**56.60**	**304**	*e*P		**P**		**01 29 19.5**	**+0.7**
	24nm,0.8s								
ARU	**Arti**	**61.17**	**321**	*e*P		**P**		**01 29 50.6**	**+0.4**
	4.2nm,0.7s								
ABKAR	**Akbulak array**	**62.18**	**313**	*e*P		**P**		**01 29 57.3**	**+0.1**
	43nm,0.4s								
STKA	**Stephens Creek**	**62.53**	**180**	P		**P**		**01 30 00.1**	**+0.5**
	1.0nm,0.5s,baz=6.7,slow=4.5,SNR=4.3								
STKA	**Stephens Creek**	**62.53**	**180**	*e*P		**P**		**01 30 00.1**	**+0.5**
	3.1nm,1.6s								
AKTO	**Aktyubinsk**	**63.05**	**315**	P		**P**		**01 30 04.5**	**+1.5**
	2.0nm,0.5s,baz=77,slow=6.5,SNR=4.4								
GEYT	**Alibeck**	**67.16**	**301**	P		**P**		**01 30 29.9**	**0.0**
	1.1nm,0.6s,baz=144,slow=1.3,SNR=5.0								
YKA	**Yellowknife Ar**	**68.88**	**29**	P		**P**		**01 30 39.6**	**-0.6**
	0.3nm,0.7s,baz=300,slow=6.4,SNR=4.2								
YKB5	**Yelloknife Ar**	**68.88**	**29**	*e*P		**P**		**01 30 39.6**	**-0.6**
ARA0	**ARCESS Array S**	**69.77**	**340**	*e*P		**P**		**01 30 46.4**	**+0.8**
ARCES	**ARCESS Array B**	**69.77**	**340**	P		**P**		**01 30 46.4**	**+0.8**
	2.6nm,0.8s,baz=75,slow=9.2,SNR=5.6								
FIA0	**FINESS Array S**	**74.32**	**333**	*e*P		**P**		**01 31 13.3**	**+0.3**
FINES	**FINESS Array B**	**74.32**	**333**	P		**P**		**01 31 13.3**	**+0.3**
	1.9nm,0.7s,baz=58,slow=4.7,SNR=10								
KBZ	**Khabaz**	**75.14**	**312**	P		**P**		**01 31 18.9**	**+0.8**
	1.8nm,0.8s,baz=64,slow=5.0,SNR=4.2								
AKASG	**Malin Array Be**	**79.30**	**323**	P		**P**		**01 31 40.2**	**-1.0**
	0.5nm,0.3s,baz=46,slow=7.4,SNR=3.8								
AKASG				LR		LR		02 09 21.5	
	comp=Z,93nm,18.8s,baz=25,slow=38								
AKBB	**Malin Array Si**	**79.30**	**323**	*e*P		**P**		**01 31 40.2**	**-1.0**
	26nm,1.8s								
HFS	**Hagfors**	**79.73**	**336**	P		**P**		**01 31 43.2**	**-0.2**
	2.6nm,0.7s,baz=86,slow=5.9,SNR=4.4								
NB2	**NORSAR Subarra**	**79.88**	**338**	P		**P**		**01 31 44.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=40,slow=5.3								
NB200	**NORSAR Array S**	**79.88**	**338**	*e*P		**P**		**01 31 44.4**	**0.0**
NOA	**NORSAR Array B**	**79.88**	**338**	P		**P**		**01 31 44.3**	**0.0**
	comp=Z,1.0nm,0.6s,baz=268,slow=2.8,SNR=3.9								
BW06	**Boulder Array**	**81.68**	**45**	*e*P		**P**		**01 31 58.1**	**+3.6**
	comp=Z,9.7nm,1.7s								
BR101	**Keskin Array S**	**83.13**	**312**	*e*P		**P**		**01 32 03.0**	**+0.9**
BR131	**Keskin Array S**	**83.13**	**312**	*e*P		**P**		**01 32 03.1**	**+1.1**
BRTR	**Keskin Array B**	**83.13**	**312**	P		**P**		**01 32 03.0**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=125,slow=3.2,SNR=8.3								
RAYN	**Ar Rayn**	**83.30**	**293**	*e*P		**P**		**01 32 04.4**	**+1.4**
	comp=Z,3.8nm,0.6s								
MMAI	**Mount Meron Ar**	**85.75**	**306**	P		**P**		**01 32 17.8**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=5.3								
GERES	**GERESS Array B**	**88.02**	**329**	P		**P**		**01 32 27.3**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=38,slow=5.2,SNR=4.0								
LTX	**Lajitas**	**93.52**	**53**	*e*P		**P**		**01 32 52.2**	**+0.1**
TXAR	**Lajitas Array**	**93.52**	**53**	P		**P**		**01 32 52.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=292,slow=3.1,SNR=6.2								
TOA1	**Torodi Ar. Sit**	**121.74**	**313**	*e*PKPdf		**PKPdf**		**01 38 29.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**121.74**	**313**	PKP		**PKPdf**		**01 38 29.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=49,slow=0.6,SNR=4.7								
LPAZ	**La Paz**	**149.03**	**69**	PKPbc		**PKPbc**		**01 39 26.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=344,slow=7.4,SNR=3.2								

*GUC **06** 01:23:09.9±0.6, 21°.71S×68°.58W, h136km±4km, ML3.6*
*ISCJB **06** 01:23:10.2±0.8, 21°.72S±0°.04×68°.6W±0°.1, h139km±9km, mb3.5/2, Error ellipse: s-maj=21.1km s-min=6.7km az=4.5*
*IDC **06** 01:23:25.5±8.7, 20°.53S×67°.73W, h217km±57km, mb3.4/2, mb1 3.4/3, mb1mx3.1/27, mbtmp3.8/3, Error ellipse: s-maj=104.2km s-min=47.0km az=27.0*
ISC 06 01:23:10.5±1.2, 21°.70S±0°.05×68°.5W±0°.1, h132km±11km, n15, σ1°.71/26, 8C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.70**	**262**	⇑*i*P		**Pn**		**01 23 31.0**	**-0.3**
PB09				*i* S		**Sn**		**01 23 46.8**	**-0.3**
PB09				IAML				01 23 48.2	
	comp=N,2μm,0.2s								
PB01	**IPOC Station P**	**1.13**	**305**	⇑*i*P		**Pn**		**01 23 34.6**	**-0.3**
PB01				*i* S		**Sn**		**01 23 53.4**	**-0.1**
PB01				IAML				01 23 55.6	
	comp=E,834nm,0.2s								
PB07	**IPOC Station P**	**1.29**	**268**	⇑*i*P		**Pn**		**01 23 36.4**	**-0.3**
PB07				*i* S		**Sn**		**01 23 56.5**	**-0.1**
PB07				IAML				01 23 57.3	
	comp=N,872nm,0.4s								
PB06	**IPOC Station P**	**1.41**	**224**	⇑*i*P		**Pn**		**01 23 37.5**	**-0.5**
PB06				*i* S		**Sn**		**01 23 58.5**	**-0.4**
PB04	**IPOC Station P**	**1.66**	**247**	⇑*i*P		**Pn**		**01 23 40.2**	**-0.5**
PB04				*i* S		**Sn**		**01 24 03.5**	**-0.2**
PB04				IAML				01 24 10.4	
	comp=E,336nm,0.2s								
PB08	**IPOC Station P**	**1.66**	**338**	⇓*i*P		**Pn**		**01 23 42.0**	**+0.9**
PB08				*i* S		**Sn**		**01 24 05.7**	**+1.4**
HMBC	**Humberstone**	**1.92**	**317**	⇑*i*P		**Pn**		**01 23 43.5**	**-0.3**
HMBC				*e*S		**Sn**		**01 24 09.1**	**0.0**
HMBC				IAML				01 24 10.2	
	comp=N,858nm,0.3s								
PB11	**IPOC Station P**	**2.21**	**330**	⇓*i*P		**Pn**		**01 23 47.3**	**0.0**
PB11				*i* S		**Sn**		**01 24 15.8**	**+0.3**
PSGC	**Pisagua**	**2.58**	**324**	⇑*i*P		**Pn**		**01 23 51.0**	**-1.0**
PSGC				*e*S		**Sn**		**01 24 22.8**	**-1.0**
PB10	**IPOC Station P**	**2.62**	**226**	*e*P		**Pn**		**01 23 51.9**	**-0.4**
MNMC	**Minye Minye**	**2.75**	**338**	⇑*i*P		**Pn**		**01 23 54.6**	**+0.4**
MNMC				*e*S		**Sn**		**01 24 29.1**	**+1.1**
MNMC				IAML				01 24 39.8	
	comp=E,230nm,0.2s								
PB12	**IPOC Station P**	**3.51**	**330**	*e*P		**Pn**		**01 24 02.8**	**-1.2**
LPAZ	**La Paz**	**5.39**	**4**	P		**Pn**		**01 24 31.6**	**+2.1**
	comp=E,0.8nm,0.3s,baz=181,slow=5.6,SNR=17								
LPAZ				S		**Sn**		**01 25 23.9**	**-7.0**
	baz=250,slow=3.5,SNR=1.2								
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P		**P**		**01 34 49.3**	**-0.3**
	comp=E,0.6nm,0.5s,baz=254,slow=5.2,SNR=21								
YKA	**Yellowknife Ar**	**91.50**	**340**	P		**P**		**01 36 02.8**	**+1.4**
	comp=E,0.4nm,0.7s,baz=140,slow=4.8,SNR=5.3								

*ISCJB **06** 01:25:48.8±0.7, 57°.9N±0°.2×32°.5W±0°.2, h18km, mb3.6/11, MS3.6/1, Error ellipse: s-maj=24.3km s-min=13.3km az=17.3*
*IDC **06** 01:25:48.0±0.9, 57°.90N×32°.48W, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.6/62, mbtmp3.6/11, MS3.7/1, Ms1 3.7/1, ms1mx3.0

1.8nm,0.6s,baz=334,slow=9.8,SNR=6.0
TORD Torodi Ar. Bea 51.40 136 P **P 01 37 25.0 -1.6**
0.8nm,0.7s,baz=327,slow=7.5,SNR=5.3
BVAR Borovoye Array 52.72 48 P **P 01 37 35.1 -1.0**
0.6nm,0.6s,baz=341,slow=13,SNR=3.9
TXAR Lajitas Array 56.08 272 P **P 01 38 01.9 +1.1**
0.1nm,0.5s,baz=67,slow=5.0,SNR=2.6
KURBB Kurchatov Arra 57.75 45 P **P 01 38 11.8 -0.5**
0.8nm,0.3s,baz=324,slow=7.0,SNR=6.1
MKAR Makanchi Array 62.32 45 P **P 01 38 43.0 -0.7**
0.9nm,0.6s,baz=335,slow=5.4,SNR=8.7
H10N2 ASCENSION HYDR67.07 161 T T 02 51 43.7
baz=0.0
H10N3 ASCENSION HYDR67.08 161 T T 02 51 42.4
baz=0.0
H10N1 ASCENSION HYDR67.09 161 T T 02 51 45.0
baz=0.0
H10S1 ASCENSION HYDR68.13 162 T T 02 53 02.9
baz=351,slow=75,SNR=18
H10S3 ASCENSION HYDR68.14 162 T T 02 53 03.9
baz=351,slow=75,SNR=21
H10S2 ASCENSION HYDR68.15 162 T T 02 53 04.5
baz=351,slow=75,SNR=16
SONM Songino Array 69.09 29 P **P 01 39 26.3 -1.2**
0.7nm,0.7s,baz=333,slow=1.7,SNR=4.3
ASAR Alice Springs 144.25 23 PKP **PKPdf 01 47 56.4 -1.1**
0.3nm,0.5s,baz=357,slow=1.9,SNR=3.8

MAN 06 01:28:34, 8°.27N×126°.98E, h3km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.62**	**262**	⇓*e*P	Pb	01 28 47.9	+0.4
BIPH				*e*S	Sg	01 28 55.0	+1.1
MATI	**Mati**	**1.50**	**209**	*e*P	Pn	01 29 01.3	-0.5
MATI				*e*S	Sg	01 29 22.3	+0.1
BUKP	**Musuan**	**1.94**	**259**	*e*P	Pb	01 29 09.2	-0.8
BUKP				*e*S	Sb	01 29 35.1	+0.4
SCPH	**Surigao**	**2.10**	**316**	⇑*e*P	Pn	01 29 10.8	+0.6

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*IDC **06** 01:29:52.4±6.2, 35°.69N×66°.76E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.3/62, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=97.2km s-min=24.9km az=165.0*
*NNC **06** 01:29:54.4±1.9, 35°.84N×66°.83E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=32.7km s-min=14.0km az=120.0*
ISC 06 01:29:55.4±2.7, 35°.6N±0°.2×66°.8E±0°.1, h35km, n9, σ0999/14, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**7.38**	**291**	Pn	**Pn**	**01 31 41.2**	**+0.6**
	0.7nm,0.3s,baz=131,slow=10,SNR=9.0						
GEYT				Sn	**Sn**	**01 33 03.4**	**+0.2**
	0.3nm,0.3s,baz=136,slow=25,SNR=2.6						
KK31	**Karatay Array**	**8.03**	**20**	Pn	**Pn**	**01 31 49.5**	**0.0**
	0.6nm,0.3s,baz=207,slow=13,SNR=7.4						
KK31				⇑Sn	**Sn**	**01 33 19.3**	**+0.2**
	3.3nm,0.7s,baz=198,slow=14,SNR=4.1						
KK31				⇑Lg	Lg	01 34 02.8	
	3.0nm,0.6s,baz=201,slow=30,SNR=4.3						
MNAS	**Manas**	**8.18**	**31**	⇑Pn	**Pn**	**01 31 51.0**	**-0.7**
	1.8nm,0.4s						
MNAS				⇑Sn	**Sn**	**01 33 23.2**	**+0.2**
	3.9nm,0.7s						
AAK	**Ala-Archa**	**9.22**	**38**	Pn	**Pn**	**01 32 06.7**	**+0.8**
	1.0nm,0.3s,baz=232,slow=3.2,SNR=6.8						
AAK				Sn	**Sn**	**01 33 49.5**	**+1.0**
	0.2nm,0.3s,baz=289,slow=5.5,SNR=2.2						
AAK	**Ala-Archa**	**9.22**	**38**	Pn	**Pn**	**01 32 06.3**	**+0.4**
	2.3nm,0.5s						
AAK				Sn	**Sn**	**01 33 50.0**	**+1.5**
	3.0nm,0.7s						
MKAR	**Makanchi Array**	**16.11**	**41**	Pn	**Pn**	**01 33 37.3**	**-1.9**
	0.1nm,0.3s,baz=224,slow=12,SNR=3.0						
KURBB	**Kurchatov Arra**	**17.25**	**26**	Pn	**P**	**01 33 54.5**	**-0.1**
	0.1nm,0.3s,baz=216,slow=9.9,SNR=7.8						
BVAR	**Borovoye Array**	**17.62**	**7**	P	**Pn**	**01 33 56.6**	**-1.3**
	0.4nm,0.3s,baz=180,slow=12,SNR=5.6						
ZALV	**Zalesovo Beam**	**22.25**	**29**	P	**P**	**01 34 49.6**	**+0.6**
	0.6nm,0.3s,baz=228,slow=12,SNR=4.3						

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*KLM **06** 01:33:33.4, 0°.63N×99°.86E, h176km, mb4.6*
*ISCJB **06** 01:33:34.6±0.2, 0°.61N±0°.03×100°.19E±0°.03, h207km±2km, mb4.2/44, Error ellipse: s-maj=6.2km s-min=4.0km az=141.5*
*NEIC **06** 01:33:35.7±0.2, 0°.64N×100°.33E, mb4.5/20, Error ellipse: s-maj=7.4km s-min=3.5km az=52.0*
*DJA **06** 01:33:35.2±0.4, 1°.N±3°.×10°.0E±°., h196km±6km, M4.5/14, mB4.5/1, mb4.5/4, MLv4.5/14, Mw(mB)3.7/1*
*IDC **06** 01:33:36.0±0.7, 0°.74N×100°.33E, h202km±5km, mb3.9/28, mb1 3.9/30, mb1mx3.8/50, mbtmp4.4/30, Error ellipse: s-maj=13.9km s-min=7.9km az=49.0*
ISC 06 01:33:35.5±0.5, 0°.62N±0°.04×100°.16E±0°.04, h202km±4km, h202km·pP-P, n114, σ1916/149, mb4.3/44, 8C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.93**	**108**	P	**Pn**	**01 34 05.6**	**+0.6**
BKNI				S	**S**	**01 34 27.3**	**-0.4**
BKNI	**Bangkinang**	**0.93**	**108**	*e*Pn	**Pn**	**01 34 05.6**	**+0.6**
BKNI				*e*Sn	**S**	**01 34 27.0**	**-0.7**
PDSI	**Padang**	**1.55**	**169**	P	**Pn**	**01 34 09.6**	**-0.3**
PDSI				S	**S**	**01 34 36.9**	**+0.6**
PBSI	**Pulau Batu**	**2.00**	**250**	P	**Pn**	**01 34 13.3**	**-0.8**
PBSI				S	**S**	**01 34 44.6**	**+1.0**
SDSI	**Sungai Dareh**	**2.00**	**141**	P	**Pn**	**01 34 14.2**	**0.0**
SDSI				S	**S**	**01 34 44.2**	**+0.5**
SISI	**Saibi**	**2.21**	**209**	P	**Pn**	**01 34 16.1**	**-0.3**
SISI				S	**S**	**01 34 47.5**	**-0.2**
RGRI	**Rengat**	**2.38**	**114**	P	**Pn**	**01 34 18.9**	**+0.7**
PSI	**Prapat**	**2.49**	**330**	P	**Pn**	**01 34 19.5**	**-0.1**
	36nm,0.3s,baz=152,slow=9.3,SNR=259						
PSI				S	**S**	**01 34 51.3**	**-2.1**
	3.0nm,0.3s,baz=19,slow=18,SNR=11						
GSI	**Gunungsitoli**	**2.67**	**285**	*e*Pn	**Pn**	**01 34 19.5**	**-1.9**
PPSI	**Pulau Pagai**	**3.37**	**183**	P	**Pn**	**01 34 29.8**	**+0.2**
PPSI				S	**S**	**01 35 11.7**	**+0.2**
KCSI	**Kotacane, Aceh**	**3.74**	**320**	P	**Pn**	**01 34 33.3**	**-0.9**
KCSI				S	**S**	**01 35 16.9**	**-2.8**
MYKOM	**Kota Tinggi**	**3.87**	**72**	*e*Pn	**Pn**	**01 34 36.0**	**+0.3**
MYKOM				*e*Sn	**S**	**01 35 23.9**	**+1.5**
MYKOM	**Kota Tinggi**	**3.87**	**72**	⇓P	**Pn**	**01 34 36.4**	**+0.6**
TPTI		**3.97**	**311**	P	**Pn**	**01 34 38.0**	**+1.0**
TPTI				S	**S**	**01 35 20.4**	**-4.3**
MASI	**Maura Aman, Be**	**4.28**	**151**	P	**Pn**	**01 34 40.0**	**-0.9**
MASI				S	**S**	**01 35 31.9**	**+0.1**
TPRI	**Tanjung Pinang**	**4.38**	**86**	P	**Pn**	**01 34 43.2**	**+1.1**
KULM	**Kulim**	**4.66**	**6**	*e*Pn	**Pn**	**01 34 46.1**	**+0.3**
MLSI	**Meulaboh, Aceh**	**5.21**	**314**	P	**Pn**	**01 34 52.1**	**-0.6**
LHSI	**Lahat**	**5.55**	**143**	P	**Pn**	**01 34 57.6**	**+0.5**
LHMI	**Lhok Sumawe**	**5.59**	**325**	P	**Pn**	**01 34 57.1**	**-0.4**
LHMI	**Lhok Sumawe**	**5.59**	**325**	*e*Pn	**Pn**	**01 34 58.0**	**+0.5**
MNAI	**Manna**	**5.68**	**151**	P	**Pn**	**01 34 57.8**	**-1.0**
MNAI	**Manna**	**5.68**	**151**	*e*Pn	**Pn**	**01 34 58.1**	**-0.7**
MNAI				*e*Sn	**S**	**01 36 02.1**	**-2.1**
MDSI	**Maura Dua**	**6.47**	**142**	P	**Pn**	**01 35 07.9**	**-1.0**
	27nm,0.7s,796nm						
KLSI		**6.98**	**139**	P	**Pn**	**01 35 15.8**	**+0.3**
SBUM	**Sibu**	**12.19**	**81**	⇑P	**P**	**01 36 25.2**	**-2.1**
UGM	**Wanagama**	**13.37**	**130**	*e*Pn	**Pn**	**01 36 35.1**	**-2.6**
CM31	**Chiang Mai Arr**	**17.77**	**356**	*e*P	**P**	**01 37 28.1**	**-0.6**
CM31				*e*ScP	**ScP**	**01 45 11.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.77**	**356**	P	**Pn**	**01 37 29.9**	**-0.8**
	0.5nm,0.3s,baz=185,slow=11,SNR=5.7						
CMAR				ScP	**ScP**	**01 45 11.7**	**-1.0**
	0.5nm,0.3s,baz=204,slow=2.7,SNR=7.5						
PALK	**Pallekele**	**20.49**	**289**	P	Pn	01 38 01.3	-2.3
	14nm,0.8s,baz=114,slow=8.4,SNR=6.3						
PALK	**Pallekele**	**20.49**	**289**	*e*P	Pn	01 38 01.3	-2.3
	16nm,0.8s						
ODAN	**Odare**	**28.83**	**336**	*e*P	**P**	**01 39 16.5**	**+1.1**
	7.2nm,0.6s						
MBWA	**Marble Bar**	**28.89**	**140**	*e*P	**P**	**01 39 14.6**	**-1.1**
	17nm,1.4s						
TAPN	**Taplejung**	**29.14**	**337**	*e*P	**P**	**01 39 19.5**	**+1.3**
RAMN	**Ramite**	**29.24**	**335**	*e*P	**P**	**01 39 20.6**	**+1.6**
JIRN	**Jiri**	**30.04**	**335**	*e*P	**P**	**01 39 27.5**	**+1.3**
	80nm,0.4s						
GUN	**Gumba**	**30.39**	**334**	*e*P	**P**	**01 39 30.5**	**+1.2**
	20nm,0.3s						
KKN	**Kakani**	**30.55**	**333**	*e*P	**P**	**01 39 31.7**	**+1.2**
GKN	**Gorkha**	**31.02**	**333**	*e*P	**P**	**01 39 35.9**	**+1.3**
	5.5nm,0.3s						
KOLN	**Koldanda**	**31.32**	**331**	*e*P	**P**	**01 39 38.5**	**+1.3**
	26nm,0.7s						
PYUN	**Piuthan**	**31.89**	**330**	*e*P	**P**	**01 39 43.5**	**+1.2**
	7.1nm,0.3s						
MTN	**Manton Dam**	**33.51**	**115**	*e*P	**P**	**01 39 53.9**	**-2.3**
	32nm,1.9s						
NWAO	**Narrogin (SRO)**	**37.05**	**156**	P	**P**	**01 40 26.5**	**+0.3**
	2.6nm,0.4s,baz=284,slow=4.2,SNR=2.2						
NWAO	**Narrogin (SRO)**	**37.05**	**156**	*e*P	**P**	**01 40 26.5**	**+0.3**
	35nm,1.4s						
WRA	**Warramunga Arr**	**39.23**	**123**	P	**P**	**01 40 44.0**	**-0.7**
	6.1nm,0.6s,baz=309,slow=8.9,SNR=21						
WRA				PcP	**PcP**	**01 42 49.9**	**+0.3**
	0.8nm,0.4s,baz=317,slow=2.6,SNR=7.9						
WRA				ScP	**ScP**	**01 46 17.6**	**-1.5**
	1.1nm,0.8s,baz=314,slow=3.5,SNR=5.9						
WR1	**Warramunga Arr**	**39.23**	**123**	*e*P	**P**	**01 40 44.0**	**-0.7**
	6.6nm,0.6s						
WR1				*e*PcP	**PcP**	**01 42 49.9**	**+0.3**
WR1				*e*ScP	**ScP**	**01 46 17.6**	**-1.5**
WRAB	**Tennant Creek**	**39.24**	**123**	*e*P	**P**	**01 40 43.3**	**-1.4**
	6.5nm,0.7s						
WB2	**Warramunga Arr**	**39.24**	**123**	*e*P	**P**	**01 40 43.7**	**-1.0**
AS31	**Alice Springs**	**40.71**	**129**	*e*P	**P**	**01 40 55.6**	**-1.2**
	0.6nm,0.8s						
AS31				*e*PcP	**PcP**	**01 42 55.0**	**+0.7**
AS31				*e*ScP	**ScP**	**01 46 23.6**	**-1.2**
ASAR	**Alice Springs**	**40.71**	**129**	P	**P**	**01 40 55.6**	**-1.2**
	1.3nm,0.6s,baz=306,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**01 42 55.0**	**+0.7**
	1.3nm,0.6s,baz=319,slow=3.0,SNR=12						
ASAR				ScP	**ScP**	**01 46 23.6**	**-1.2**
	1.6nm,0.8s,baz=302,slow=3.7,SNR=16						
AS01	**Alice Springs**	**40.74**	**129**	*e*P	**P**	**01 40 55.8**	**-1.2**
FORT	**Forrest**	**40.97**	**142**	*e*P	**P**	**01 40 59.0**	**+0.3**
	186nm,0.6s						
KBL	**Kabul**	**44.54**	**323**	*e*P	**P**	**01 41 27.2**	**-0.4**
	4.6nm,0.5s						
KSH	**Kashi**	**44.57**	**333**	P	**P**	**01 41 26.9**	**-0.8**
KSH				sP	pP	01 41 35.1	-36
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,240nm,6.2s						
KS15	**Wonju Array Si**	**44.68**	**32**	*e*P	**P**	**01 41 28.4**	**-0.1**
KSAR	**Wonju Array Be**	**44.68**	**32**	P	**P**	**01 41 28.4**	**-0.1**
KSRS	**Korea Array**	**44.71**	**32**	P	**P**	**01 41 28.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=223,slow=7.4,SNR=3.6						
SONA0	**Songino Array**	**47.34**	**6**	*e*P	**P**	**01 41 49.2**	**+0.1**
SONA0				*e*PcP	**PcP**	**01 43 16.6**	**0.0**
SONA0				*e*ScP	**ScP**	**01 46 49.3**	**-2.2**
SONM	**Songino Array**	**47.34**	**6**	P	**P**	**01 41 49.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=189,slow=11,SNR=7.8						
SONM				PcP	**PcP**	**01 43 16.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=184,slow=5.9,SNR=5.1						
SONM				ScP	**ScP**	**01 46 49.3**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=190,slow=3.6,SNR=3.8						
BBOO	**Buckleboo**	**47.44**	**138**	*e*P	**P**	**01 41 49.3**	**-0.8**
	comp=Z,50nm,1.6s						
AAK	**Ala-Archa**	**47.75**	**334**	*e*P	**P**	**01 41 52.8**	**+0.3**
	comp=Z,3.9nm,0.8s						
MK01	**Makanchi Array**	**48.55**	**344**	*e*P	**P**	**01 41 58.6**	**+0.3**
MK01				*e*pP	**pP**	**01 42 45.7**	**+3.1**
MK31	**Makanchi Array**	**48.57**	**344**	*e*P	**P**	**01 41 59.2**	**+0.7**
MK32	**Makanchi Array**	**48.57**	**344**	*e*P	**P**	**01 41 58.9**	**+0.4**
MK32				*e*pP	**pP**	**01 42 44.0**	**+1.2**
MKAR	**Makanchi Array**	**48.57**	**344**	P	**P**	**01 41 58.9**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=157,slow=8.8,SNR=23						
MKAR				pP	**pP**	**01 42 44.0**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=144,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**48.57**	**344**	*e*P	**P**	**01 41 59.1**	**+0.6**
	comp=Z,18nm,0.8s						
MKAR				pP	**pP**	**01 42 44.0**	**+1.2**
KKAR	**Karatay Array**	**49.92**	**332**	*e*P	**P**	**01 42 09.4**	**+0.7**
	comp=Z,28nm,0.5s						
STKA	**Stephens Creek**	**50.79**	**133**	P	**P**	**01 42 15.2**	**-0.2**
	comp=Z,8nm,0.6s,baz=296,slow=5.8,SNR=8.6						
STKA	**Stephens Creek**	**50.79**	**133**	*e*P	**P**	**01 42 15.2**	**-0.2**
	comp=Z,6.3nm,1.8s						
MDJ	**Mudanjiang**	**50.99**	**27**	*e*P	**P**	**01 42 14.9**	**-1.8**
	comp=Z,35nm,1.6s						
USRK	**Ussuriysk Ar.**	**51.79**	**29**	P	**P**	**01 42 22.1**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=174,slow=3.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**53.10**	**343**	P	**P**	**01 42 31.9**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=162,slow=7.2,SNR=14						
KURBB				pP	**pP**	**01 43 18.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=164,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**53.16**	**343**	*e*P	**P**	**01 42 33.2**	**+0.7**
KURK				*e*pP	**pP**	**01 43 18.4**	**0.7**
GEYT	**Alibeck**	**53.57**	**319**	P	**P**	**01 42 36.5**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=131,slow=6.8,SNR=7.6						
ZAA0	**Zalesovo Array**	**54.64**	**349**	*e*P	**P**	**01 42 43.0**	**-0.3**
ZALV	**Zalesovo Beam**	**54.64**	**349**	P	**P**	**01 42 43.0**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=166,slow=5.6,SNR=11						
ZALV				pP	**pP**	**01 43 29.8**	**+1.2**
	comp=Z,4.1nm,0.5s,baz=177,slow=5.8,SNR=4.7						
ZAA1	**Zalesovo Array**	**54.65**	**349**	*e*P	**P**	**01 42 43.0**	**-0.3**
ZAA1				*e*pP	**pP**	**01 43 29.8**	**+1.2**
RAYN	**Ar Rayn**	**57.64**	**298**	*e*P	**P**	**01 43 05.1**	**0.0**
	comp=Z,18nm,1.9s						
BVAR	**Borovoye Array**	**57.80**	**339**	P	**P**	**01 43 05.4**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=144,slow=9.2,SNR=11						
BVAR				pP	**pP**	**01 43 52.3**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=116,slow=8.4,SNR=3.5						
BRVK	**Borovoye**	**57.87**	**339**	*e*P	**P**	**01 43 06.3**	**+0.3**
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**59.44**	**331**	*e*P	**P**	**01 43 17.4**	**+0.4**
	comp=Z,112nm,0.6s						
AKTO	**Aktyubinsk**	**61.16**	**331**	P	**P**	**01 43 28.1**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=130,slow=6.5,SNR=14						
KMBO	**Kilima Mbogo**	**62.93**	**268**	P	**P**	**01 43 43.6**	**+2.3**
	comp=Z,2.4nm,0.8s,baz=62,slow=6.1,SNR=9.3						
MARD	**Mardin**	**65.63**	**311**	*e*P	**P**	**01 43 59.9**	**+1.5**
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**66.46**	**318**	P	**P**	**01 44 04.3**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=155,slow=7.7,SNR=6.1						
EIL	**Elat**	**68.27**	**302**	P	**P**	**01 44 16.4**	**+1.5**
	comp=Z,6.6nm,0.7s,baz=107,slow=2.3,SNR=7.3						
MMAI	**Mount Meron Ar**	**68.64**	**305**	P	**P**	**01 44 18.9**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=95,slow=9.3,SNR=6.9						
BR101	**Keskin Array S**	**71.69**	**312**	*e*P	**P**	**01 44 35.8**	**0.0**
BR101				*e*pP	**pP**	**01 45 22.1**	**-1.5**
BRTR	**Keskin Array B**	**71.69**	**312**	P	**P**	**01 44 35.8**	**0.0**
	comp=Z,3.9nm,0.6s,baz=135,slow=7.1,SNR=38						
BRTR				pP	**pP**	**01 45 22.1**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=132,slow=7.0,SNR=2.5						
TIXI	**Tiksi**	**73.26**	**9**	P	**P**	**01 44 43.8**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=218,slow=3.7,SNR=2.0						
OBN	**Obninsk**	**74.67**	**328**	P	**P**	**01 44 52.6**	**0.0**
	comp=Z,8.7nm,0.5s,baz=191,slow=22,SNR=3.2						
OBN	**Obninsk**	**74.67**	**328**	*e*P	**P**	**01 44 52.6**	**0.0**
	comp=Z,72nm,2.0s						
TIRR	**Tirgusor**	**76.60**	**316**	⇑*i*P	**P**	**01 45 04.6**	**+0.8**
BOSA	**Boshof**	**77.06**	**241**	P	**P**	**01 45 08.7**	**+1.7**
	comp=Z,2.1nm,0.5s,baz=102,slow=4.2,SNR=8.0						
SORM	**Soroca**	**77.46**	**319**	⇑P	**P**	**01 45 09.2**	**+0.6**
AKASG	**Malin Array Be**	**77.53**	**322**	P	**P**	**01 45 08.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=86,slow=4.9,SNR=7.0						
AKBB	**Malin Array Si**	**77.53**	**322**	*e*P	**P**	**01 45 08.8**	**0.0**
	comp=Z,30nm,1.8s						
VRI	**Vrincioaia**	**78.06**	**317**	⇑*i*P	**P**	**01 45 13.5**	**+1.5**
TESR	**Tescani**	**78.24**	**317**	⇑*i*P	**P**	**01 45 14.1**	**+1.1**
BURAR	**Bucovina Array**	**79.42**	**318**	⇑*i*P	**P**	**01 45 20.9**	**+1.4**
VTS	**Vitosha**	**79.98**	**313**	⇑*i*P	**P**	**01 45 23.2**	**+0.5**
DRGR		**80.96**	**317**	⇑*i*P	**P**	**01 45 29.1**	**+1.4**
BZS	**Buzias**	**81.54**	**316**	⇓*i*P	**P**	**01 45 31.6**	**+0.9**
FIA0	**FINESS Array S**	**81.88**	**332**	*e*P	**P**	**01 45 32.5**	**+0.5**
FINES	**FINESS Array B**	**81.88**	**332**	P	**P**	**01 45 32.5**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=105,slow=5.6,SNR=30						
ARCES	**ARCESS Array B**	**84.08**	**340**	P	**P**	**01 45 43.4**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=105,slow=3.8,SNR=29						
GERES	**GERESS Array B**	**87.20**	**319**	P	**P**	**01 45 59.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=104,slow=4.3,SNR=7.5						
CLL	**Collm**	**87.73**	**321**	*e*P	**P**	**01 46 00.0**	**-1.5**
DAVOX	**Davos/Dischmat**	**89.74**	**317**	P	**P**	**01 46 12.6**	**+1.3**
	comp=Z,2.8nm,0.5s,baz=143,slow=5.7,SNR=6.5						
KEST	**Kesra**	**90.30**	**306**	P	**P**	**01 46 16.0**	**+2.0**
	comp=Z,6.2nm,0.8s,baz=338,slow=0.6,SNR=7.1						
KEST	**Kesra**	**90.30**	**306**	*e*P	**P**	**01 46 16.6**	**+2.6**
	comp=Z,6.6nm,0.8s						
LTX	**Lajitas**	**142.51**	**35**	*e*PKPpre	PKPpre	01 52 41.6	
LTX				*e*SKPbc	**SKPbc**	**01 56 02.5**	**-1.6**
TXAR	**Lajitas Array**	**142.51**	**35**	PKhKP	PKPpre	01 52 41.6	
	comp=Z,0.5nm,0.7s,baz=261,slow=1.3,SNR=5.9						
TXAR				SKP		01 56 02.5	
	comp=Z,0.2nm,0.4s,baz=219,slow=1.6,SNR=5.4						
CPUP	**Villa Florida**	**146.49**	**218**	PKPbc	**PKPbc**	**01 52 54.4**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=236,slow=2.9,SNR=4.9						

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*TIR **06** 01:55:48.0, 41°.42N×22°.73E, h9km, ML3.8*
*IDC **06** 01:55:49.5±1.2, 41°.18N×22°.79E, h0km, mb3.7/3, mb1 3.6/9, mb1mx3.4/34, mbtmp3.5/9, ML3.1/6, Error ellipse: s-maj=18.3km s-min=15.0km az=140.0*
*ATH **06** 01:55:49.9, 41°.29N×22°.72E, h21km±1km, ML3.4/13, Error ellipse: s-maj=1.9km s-min=0.8km az=161.0*
*SKO **06** 01:55:49.4, 41°.30N×22°.73E, h15km, M2.5, ML3.2*
*BEO **06** 01:55:49.6±0.6, 41°.25N×22°.77E, h7km±2km, M3.4/1*
*THE **06** 01:55:50.7, 41°.27N×22°.73E, h3km, ML3.5/12, Error ellipse: s-maj=0.9km s-min=0.4km az=215.0*
*CSEM **06** 01:55:50.7±0.1, 41°.28N×22°.66E, h2km, ML3.2, Error ellipse: s-maj=2.6km s-min=1.7km az=33.0*
*PDG **06** 01:55:50.8±0.7, 41°.28N×22°.67E, h12km, ML3.3/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
ISC 06 01:55:50.6±0.8, 41°.29N±0°.02×22°.73E±0°.01, h9km±5km, n337, σ1843/443, mb3.8/3, 30C-37D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**285**	P	**Pg**	**01 55 53.3**	**-0.2**
VAY				S	**Sg**	**01 55 55.6**	**+0.1**
VAY	**Valandovo**	**0.12**	**285**	⇓*i*Pg	**Pg**	**01 55 53.4**	**-0.1**
VAY				*i* Sg	**Sg**	**01 55 55.6**	**+0.1**
VAY				*e*Lg	Lg	01 55 55.6	
	comp=E,7μm,0.3s						
VAY				*e*Lg	Lg	01 55 55.7	
	comp=N,19μm,0.3s						
VAY	**Valandovo**	**0.12**	**285**	⇓*i*Pg	**Pg**	**01 55 53.4**	**-0.1**
VAY				*e*Sg	**Sg**	**01 55 55.5**	**+0.1**
VAY	**Valandovo**	**0.12**	**285**	P	**Pg**	**01 55 53.3**	**-0.2**
VAY				S	**Sg**	**01 55 55.6**	**+0.1**
KNT	**Kendrikon**	**0.18**	**135**	P	**Pg**	**01 55 54.7**	**+0.3**
KNT				S	**Sg**	**01 55 57.7**	**+0.7**
KNT	**Kendrikon**	**0.18**	**135**	P	**Pg**	**01 55 54.5**	**+0.1**
KNT				S	**Sg**	**01 55 56.8**	**-0.2**
KNT				AML	AML	01 55 58.0	
KNT				AML	AML	01 55 58.5	
	comp=E,44130μm,0.3s						
KNT	**Kendrikon**	**0.18**	**135**	P	**Pg**	**01 55 54.5**	**+0.1**
KNT				S	**Sg**	**01 55 56.8**	**-0.2**
GRG	**Griva**	**0.41**	**217**	P	**Pg**	**01 55 58.5**	**-0.3**
GRG				S	**Sg**	**01 56 04.5**	**+0.3**
GRG	**Griva**	**0.41**	**217**	P	**Pg**	**01 55 58.8**	**0.0**
GRG				S	**Sg**	**01 56 04.2**	**-0.1**
GRG				AML	AML	01 56 05.3	
	comp=E,67514μm,0.2s						
GRG				AML	AML	01 56 09.0	
	comp=N,27523μm,0.4s						
GRG	**Griva**	**0.41**	**217**	P	**Pg**	**01 55 58.8**	**0.0**
GRG				S	**Sg**	**01 56 04.2**	**-0.1**
SOH	**Sokhos**	**0.66**	**134**	P	**Pg**	**01 56 03.0**	**-0.5**
SOH				S	**Sg**	**01 56 12.5**	**+0.3**
SOH	**Sokhos**	**0.66**	**134**	P	**Pg**	**01 56 03.2**	**-0.3**
SOH				S	**Sg**	**01 56 12.0**	**-0.2**
SOH				AML	AML	01 56 15.0	
	comp=N,19732μm,0.5s						
SOH				AML	AML	01 56 15.3	
	comp=E,15445μm,0.4s						
SOH	**Sokhos**	**0.66**	**134**	P	**Pg**	**01 56 03.0**	**-0.5**
SOH				S	**Sg**	**01 56 12.0**	**-0.2**
SRS	**Serrai**	**0.67**	**104**	P	**Pg**	**01 56 03.3**	**-0

SKO				eSg	Sb	01 56 28.6	-0.1
SKO				eLg	Lg	01 56 29.4	
	comp=E,31nm,0.3s						
SKO				eLg	Lg	01 56 29.6	
	comp=N,51nm,0.5s						
SKO	**Skopje**	**1.18**	**306**	⇓iPg	**Pb**	**01 56 12.8**	**-0.5**
SKO				eSg	Sb	01 56 28.6	-0.1
SKO	**Skopje**	**1.18**	**306**	⇓iPg	**Pb**	**01 56 12.8**	**-0.5**
SKO	**Skopje**	**1.18**	**306**	P	**Pb**	**01 56 13.2**	**-0.1**
SKO				S	**Sb**	**01 56 28.6**	**-0.1**
SKO				eLg	Lg	01 56 29.3	
	comp=N,31nm,0.3s						
LIT	**Litokhoron**	**1.20**	**189**	P	**Pb**	**01 56 12.1**	**-1.4**
LIT				S	**Sg**	**01 56 29.4**	**+0.1**
LIT	**Litokhoron**	**1.20**	**189**	P	**Pb**	**01 56 12.1**	**-1.4**
LIT				S	**Sb**	**01 56 29.1**	**0.0**
LIT				AML	AML	01 56 32.4	
	comp=E,1571μm,0.4s						
LIT				AML	AML	01 56 35.5	
	comp=N,988μm,0.4s						
LIT	**Litokhoron**	**1.20**	**189**	P	**Pb**	**01 56 12.1**	**-1.4**
LIT				S	**Sg**	**01 56 29.4**	**+0.1**
KZN	**Kozani**	**1.22**	**217**	P	**Pb**	**01 56 12.9**	**-1.0**
KZN				S	**Sn**	**01 56 31.0**	**+0.4**
KZN	**Kozani**	**1.22**	**217**	P	**Pb**	**01 56 11.9**	**-2.1**
KZN				S	**Sg**	**01 56 30.1**	**+0.2**
KZN				AML	AML	01 56 33.3	
	comp=N,1698μm,0.4s						
KZN				AML	AML	01 56 36.8	
	comp=E,3818μm,0.5s						
KZN	**Kozani**	**1.22**	**217**	P	**Pb**	**01 56 12.9**	**-1.0**
KZN				S	**Sg**	**01 56 30.1**	**+0.2**
OUR	**Ouranopolis**	**1.35**	**135**	ePN	**Pn**	**01 56 16.0**	**+0.4**
OUR	**Ouranopolis**	**1.35**	**135**	P	**Pn**	**01 56 15.2**	**-0.4**
OUR				S	**Sg**	**01 56 35.0**	**+1.1**
OUR	**Ouranopolis**	**1.35**	**135**	P	**Pn**	**01 56 15.4**	**-0.2**
OUR				S	**Sg**	**01 56 35.8**	**+1.8**
OUR				AML	AML	01 56 39.9	
	comp=N,6065μm,0.5s						
OUR				AML	AML	01 56 40.0	
	comp=E,5973μm,0.8s						
OUR	**Ouranopolis**	**1.35**	**135**	P	**Pn**	**01 56 15.4**	**-0.2**
OUR	**Ouranopolis**	**1.35**	**135**	ePn	**Pn**	**01 56 16.0**	**+0.4**
OUR				S	**Sg**	**01 56 35.0**	**+1.1**
VTS	**Vitosha**	**1.35**	**15**	P	**Pn**	**01 56 15.7**	**-0.1**
VTS	**Vitosha**	**1.35**	**15**	⇓iPg	**Pn**	**01 56 15.9**	**+0.1**
VTS				eSg	**Sb**	**01 56 34.0**	**+0.4**
VTS	**Vitosha**	**1.35**	**15**	⇑iP	**Pn**	**01 56 16.1**	**+0.3**
VTS	**Vitosha**	**1.35**	**15**	S	**Sg**	**01 56 35.2**	**+1.1**
VTS	**Vitosha**	**1.35**	**15**	P	**Pn**	**01 56 15.7**	**-0.1**
VTS				eSg	**Sb**	**01 56 34.0**	**+0.4**
KAVA	**Kavala**	**1.38**	**102**	P	**Pn**	**01 56 16.2**	**+0.2**
KAVA				S	**Sg**	**01 56 35.2**	**+0.2**
KAVA	**Kavala**	**1.38**	**102**	P	**Pn**	**01 56 15.8**	**-0.2**
KAVA				S	**Sb**	**01 56 33.5**	**-0.8**
KAVA				AML	AML	01 56 37.4	
	comp=E,1971μm,0.6s						
KAVA				AML	AML	01 56 40.3	
	comp=N,3082μm,0.5s						
KAVA	**Kavala**	**1.38**	**102**	P	**Pn**	**01 56 15.9**	**-0.2**
KAVA				S	**Sb**	**01 56 33.5**	**-0.8**
OHR	**Ohrid**	**1.47**	**264**	⇑iPg	**Pn**	**01 56 17.2**	**-0.1**
OHR				*i* Sg	**Sg**	**01 56 37.6**	**-0.2**
OHR				eLg	Lg	01 56 39.9	
	comp=E,232nm,0.6s						
OHR				eLg	Lg	01 56 40.1	
	comp=N,452nm,0.7s						
OHR	**Ohrid**	**1.47**	**264**	⇑iPg	**Pn**	**01 56 17.2**	**-0.1**
OHR				*i* Sg	**Sg**	**01 56 37.6**	**-0.2**
OHR				eLg	Lg	01 56 39.8	
	comp=N,232nm,0.6s						
KBN	**Korca**	**1.61**	**246**	*i* PN	**Pn**	**01 56 19.5**	**+0.1**
KBN				*i* SN	**Sg**	**01 56 44.3**	**+1.8**
KBN	**Korca**	**1.61**	**246**	*i* Pn	**Pn**	**01 56 19.5**	**+0.1**
KBN				*i* Sn	**Sg**	**01 56 44.3**	**+1.8**
PENT	**Pentalofos**	**1.63**	**228**	P	**Pn**	**01 56 19.4**	**-0.2**
PENT	**Pentalofos**	**1.63**	**228**	P	**Pn**	**01 56 20.0**	**+0.4**
PENT	**Pentalofos**	**1.63**	**228**	P	**Pn**	**01 56 22.6**	**+0.4**
LRSO	**Larissa Observ**	**1.64**	**189**	P	**Pn**	**01 56 19.5**	**-0.1**
LRSO	**Larissa Observ**	**1.64**	**189**	P	**Pn**	**01 56 19.5**	**-0.1**
BARS	**Barje**	**1.67**	**336**	*i* Pn	**Pn**	**01 56 19.8**	**-0.3**
BARS				eSn	**Sn**	**01 56 42.0**	**+0.4**
BARS	**Barje**	**1.67**	**336**	*i* Pn	**Pn**	**01 56 19.8**	**-0.3**
BARS				eSn	**Sn**	**01 56 42.0**	**+0.4**
KPRO	**Kipourio**	**1.69**	**218**	P	**Pn**	**01 56 20.6**	**+0.2**
KPRO	**Kipourio**	**1.69**	**218**	P	**Pn**	**01 56 21.2**	**+0.7**
KPRO	**Kipourio**	**1.69**	**218**	P	**Pn**	**01 56 21.1**	**+0.7**
PHP	**Peshkopia**	**1.76**	**284**	*i* PN	**Pn**	**01 56 21.5**	**+0.1**
PHP				*i* SN	**Sb**	**01 56 45.8**	**+0.4**
PHP	**Peshkopia**	**1.76**	**284**	*i* Pn	**Pn**	**01 56 21.5**	**+0.1**
PHP				*i* Sn	**Sb**	**01 56 45.8**	**+0.4**
THL	**Klokotos Trika**	**1.81**	**198**	P	**Pn**	**01 56 22.1**	**+0.2**
THL	**Klokotos Trika**	**1.81**	**198**	P	**Pn**	**01 56 21.6**	**-0.3**
THL	**Klokotos Trika**	**1.81**	**198**	P	**Pn**	**01 56 22.1**	**+0.2**
FYTO	**Fytoko, Volos**	**1.89**	**175**	P	**Pn**	**01 56 22.6**	**-0.4**
FYTO	**Fytoko, Volos**	**1.89**	**175**	P	**Pn**	**01 56 22.6**	**-0.4**
XOR	**Xorichti**	**1.95**	**169**	P	**Pn**	**01 56 23.4**	**-0.6**
XOR	**Xorichti**	**1.95**	**169**	P	**Pn**	**01 56 23.1**	**-0.9**
XOR	**Xorichti**	**1.95**	**169**	P	**Pn**	**01 56 23.4**	**-0.6**
ZAPS	**Zavoj**	**1.98**	**358**	ePn	**Pn**	**01 56 25.0**	**+0.6**
NEO	**Neokhori**	**2.02**	**169**	P	**Pn**	**01 56 24.2**	**-0.6**
NEO	**Neokhori**	**2.02**	**169**	P	**Pn**	**01 56 23.8**	**-1.1**
NEO	**Neokhori**	**2.02**	**169**	P	**Pn**	**01 56 24.2**	**-0.6**
RDO	**Rodhopi**	**2.12**	**93**	P	**Pn**	**01 56 26.3**	**0.0**
RDO	**Rodhopi**	**2.12**	**93**	P	**Pn**	**01 56 26.1**	**-0.1**
RDO	**Rodhopi**	**2.12**	**93**	P	**Pn**	**01 56 26.3**	**0.0**
TIR	**Tirane**	**2.16**	**272**	*i* PN	**Pn**	**01 56 28.0**	**+1.2**
TIR				*i* SN	**Sb**	**01 57 5.6**	**+0.9**
TIR	**Tirane**	**2.16**	**272**	ePn	**Pn**	**01 56 27.7**	**+0.9**
TIR	**Tirane**	**2.16**	**272**	⇑iP	**Pn**	**01 56 27.9**	**+1.2**
TIR	**Tirane**	**2.16**	**272**	ePn	**Pn**	**01 56 27.7**	**+0.9**
TIR				*i* Sn	**Sb**	**01 56 57.6**	**+0.9**
JAN	**Janina**	**2.17**	**222**	P	**Pn**	**01 56 27.4**	**+0.4**
JAN	**Janina**	**2.17**	**222**	P	**Pn**	**01 56 27.4**	**+0.4**
SKIA	**Skiathos**	**2.19**	**165**	P	**Pn**	**01 56 26.6**	**-0.7**
SKIA	**Skiathos**	**2.19**	**165**	P	**Pn**	**01 56 26.6**	**-0.7**
PUK	**Puka**	**2.25**	**290**	*i* PN	**Pn**	**01 56 28.9**	**+0.7**
PUK				*i* SN	**Sn**	**01 57 8.**	**+1.7**
PUK	**Puka**	**2.25**	**290**	*i* Pn	**Pn**	**01 56 28.9**	**+0.7**
PUK				*i* Sn	**Sn**	**01 57 8.**	**+1.7**
SELS	**Selova**	**2.27**	**329**	⇓iPn	**Pn**	**01 56 27.4**	**-0.9**
SELS				eSn	**Sn**	**01 58.0**	**+1.6**
SMTH	**Samothraki Isl**	**2.28**	**110**	P	**Pn**	**01 56 28.5**	**+0.1**
SMTH	**Samothraki Isl**	**2.28**	**110**	P	**Pn**	**01 56 30.0**	**+1.6**
SMTH	**Samothraki Isl**	**2.28**	**110**	P	**Pn**	**01 56 28.5**	**+0.1**
AGG	**Agios Georgios**	**2.29**	**188**	ePN	**Pn**	**01 56 28.4**	**-0.1**
AGG	**Agios Georgios**	**2.29**	**188**	P	**Pn**	**01 56 28.4**	**-0.1**
AGG	**Agios Georgios**	**2.29**	**188**	P	**Pn**	**01 56 28.1**	**-0.4**
AGG	**Agios Georgios**	**2.29**	**188**	P	**Pn**	**01 56 28.4**	**-0.1**
LIA	**Limnos Island**	**2.33**	**126**	P	**Pn**	**01 56 29.0**	**-0.1**
LIA	**Limnos Island**	**2.33**	**126**	P	**Pn**	**01 56 29.0**	**-0.1**
SMIA	**Simia**	**2.44**	**171**	P	**Pn**	**01 56 31.0**	**+0.4**
SMIA	**Simia**	**2.44**	**171**	P	**Pn**	**01 56 31.0**	**+0.4**
PVY	**Plav**	**2.44**	**303**	⇓iPn	**Pn**	**01 56 31.3**	**+0.5**
PVY				eSn	**Sn**	**01 57 02.7**	**+1.8**
PVY	**Plav**	**2.44**	**303**	⇓iPn	**Pn**	**01 56 31.3**	**+0.5**
PVY				eSn	**Sn**	**01 57 02.7**	**+1.8**
BOVS	**Bovan**	**2.46**	**342**	ePn	**Pn**	**01 56 30.6**	**-0.4**
BOVS				eSn	**Sn**	**01 57 01.7**	**+0.5**
BOVS	**Bovan**	**2.46**	**342**	ePn	**Pn**	**01 56 30.6**	**-0.4**
BOVS				eSn	**Sn**	**01 57 01.7**	**+0.5**
EVR	**Evrytania**	**2.47**	**197**	P	**Pn**	**01 56 30.8**	**-0.4**
EVR	**Evrytania**	**2.47**	**197**	P	**Pn**	**01 56 30.8**	**-0.4**
ALN	**Alexandroupoli**	**2.54**	**98**	ePN	**Pn**	**01 56 33.5**	**+1.6**
ALN	**Alexandroupoli**	**2.54**	**98**	P	**Pn**	**01 56 32.2**	**+0.3**
ALN	**Alexandroupoli**	**2.54**	**98**	P	**Pn**	**01 56 31.7**	**-0.2**
ALN	**Alexandroupoli**	**2.54**	**98**	P	**Pn**	**01 56 32.2**	**+0.3**
ALN	**Alexandroupoli**	**2.54**	**98**	ePn	**Pn**	**01 56 33.5**	**+1.6**
ZAGS	**Zajecar**	**2.55**	**352**	⇓iPn	**Pn**	**01 56 31.8**	**-0.3**
ZAGS				eSn	**Sn**	**01 57 03.9**	**+0.7**
ZAGS	**Zajecar**	**2.55**	**352**	⇓iPn	**Pn**	**01 56 31.8**	**-0.3**
ZAGS				eSn	**Sn**	**01 57 03.9**	**+0.7**
BEY	**Berane**	**2.64**	**308**	⇓iPn	**Pn**	**01 56 33.9**	**+0.5**
BEY				eSn	**Sn**	**01 57 07.4**	**+1.8**
IVA	**Berane**	**2.64**	**308**	⇓iPn	**Pn**	**01 56 33.9**	**+0.5**
IVA				eSn	**Sn**	**01 57 07.4**	**+1.8**
GADA	**Gvkgeada**	**2.65**	**113**	ePN	**Pn**	**01 56 35.4**	**+1.9**
GADA	**Gvkgeada**	**2.65**	**113**	ePn	**Pn**	**01 56 35.4**	**+1.9**
ENEZ	**Enez**	**2.65**	**101**	ePN	**Pn**	**01 56 35.7**	**+2.2**
ENEZ	**Enez**	**2.65**	**101**	P	**Pn**	**01 56 34.1**	**+0.6**
ENEZ	**Enez**	**2.65**	**101**	P	**Pn**	**01 56 34.1**	**+0.6**
ENEZ	**Enez**	**2.65**	**101**	ePn	**Pn**	**01 56 35.7**	**+2.2**
ULC	**Ulcinj**	**2.70**	**286**	⇓iPn	**Pn**	**01 56 35.1**	**+0.9**
ULC				eSn	**Sn**	**01 57 08.7**	**+1.7**
ULC	**Ulcinj**	**2.70**	**286**	⇓iPn	**Pn**	**01 56 35.1**	**+0.9**
ULC				eSn	**Sn**	**01 57 08.7**	**+1.7**
KEK	**Kerkira**	**2.73**	**236**	P	**Pn**	**01 56 36.0**	**+1.3**
KEK	**Kerkira**	**2.73**	**236**	P	**Pn**	**01 56 36.4**	**+1.7**
KEK	**Kerkira**	**2.73**	**236**	P	**Pn**	**01 56 36.0**	**+1.3**
DRME	**Dracevica, Mon**	**2.80**	**290**	⇑iPn	**Pn**	**01 56 36.8**	**+1.2**
DRME				eSn	**Sn**	**01 57 11.1**	**+1.6**
DRME	**Dracevica, Mon**	**2.80**	**290**	⇑iPn	**Pn**	**01 56 36.8**	**+1.2**
DRME				eSn	**Sn**	**01 57 11.1**	**+1.6**
PDG	**Podgorica**	**2.83**	**295**	⇑iP	**Pn**	**01 56 37.5**	**+1.5**
PDG	**Podgorica**	**2.83**	**295**	S	**Sn**	**01 57 12.5**	**+2.2**
PDG	**Podgorica**	**2.83**	**295**	⇑iPn	**Pn**	**01 56 36.1**	**+0.1**
PDG				eSn	**Sn**	**01 57 12.2**	**+1.9**
TTG	**Podgorica**	**2.83**	**295**	⇑iPn	**Pn**	**01 56 36.1**	**+0.1**
TTG				eSn	**Sn**	**01 57 12.2**	**+1.9**
SJES	**Sjenica**	**2.84**	**315**	⇓iPn	**Pn**	**01 56 36.4**	**+0.2**
SJES				eSn	**Sn**	**01 57 11.6**	**+1.0**
KOME	**Kolasin**	**2.86**	**304**	⇑iPn	**Pn**	**01 56 36.9**	**+0.5**
KOME				eSn	**Sn**	**01 57 12.8**	**+1.8**
KOME	**Kolasin**	**2.86**	**304**	⇑iPn	**Pn**	**01 56 36.9**	**+0.5**
KOME				eSn	**Sn**	**01 57 12.8**	**+1.8**
BOZC	**Bozcaada**	**2.92**	**119**	ePN	**Pn**	**01 56 39.0**	**+1.8**
BOZC	**Bozcaada**	**2.92**	**119**	ePn	**Pn**	**01 56 39.0**	**+1.8**
KALE	**Kalithea**	**2.93**	**189**	P	**Pn**	**01 56 37.8**	**+0.4**
KALE	**Kalithea**	**2.93**	**189**	P	**Pn**	**01 56 37.8**	**+0.4**
ERIK	**Erikli-Kesan**	**2.93**	**101**	ePN	**Pn**	**01 56 39.8**	**+2.4**
ERIK	**Erikli-Kesan**	**2.93**	**101**	ePn	**Pn**	**01 56 39.8**	**+2.4**
LKD2	**Lefkada island**	**2.96**	**213**	P	**Pn**	**01 56 38.7**	**+0.9**
LKD2	**Lefkada island**	**2.96**	**213**	P	**Pn**	**01 56 38.7**	**+0.9**
IVAS	**Ivanjica**	**2.98**	**321**	ePn	**Pn**	**01 56 37.6**	**-0.5**
IVAS	**Ivanjica**	**2.98**	**321**	ePn	**Pn**	**01 56 37.6**	**-0.5**
GRUS	**Gruza**	**2.99**	**331**	⇓iPn	**Pn**	**01 56 37.8**	**-0.4**
GRUS	**Gruza**	**2.99**	**331**	⇓iPn	**Pn**	**01 56 37.8**	**-0.4**
BUM	**Brajici-Budva**	**3.04**	**291**	ePn	**Pn**	**01 56 40.0**	**+1.0**
BUM				eSn	**Sn**	**01 57 16.9**	**+1.4**
BUM	**Brajici-Budva**	**3.04**	**291**	ePn	**Pn**	**01 56 40.0**	**+1.0**
BUM				eSn	**Sn**	**01 57 16.9**	**+1.4**
EDRB	**Edirne**	**3.06**	**78**	ePN	**Pn**	**01 56 42.2**	**+3.0**
EDRB	**Edirne**	**3.06**	**78**	P	**Pn**	**01 56 40.0**	**+0.8**
EDRB	**Edirne**	**3.06**	**78**	P	**Pn**	**01 56 40.0**	**+0.8**
EDRB	**Edirne**	**3.06**	**78**	ePn	**Pn**	**01 56 42.2**	**+3.0**
ZIMR		**3.07**	**39**	⇓iP	**Pg**	**01 56 48.2**	**-1.2**
ZIMR		**3.07**	**39**	S	**Sg**	**01 57 28.8**	**-0.3**
LAKA	**Lakka**	**3.10**	**191**	P	**Pn**	**01 56 40.1**	**+0.4**
LAKA	**Lakka**	**3.10**	**191**	P	**Pn**	**01 56 40.1**	**+0.4**
EZN	**Ezine**	**3.10**	**117**	ePN	**Pn**	**01 56 41.7**	**+1.9**
EZN	**Ezine**	**3.10**	**117**	P	**Pn**	**01 56 40.6**	**+0.8**
EZN	**Ezine**	**3.10**	**117**	P	**Pn**	**01 56 40.6**	**+0.8**
EZN	**Ezine**	**3.10**	**117**	ePn	**Pn**	**01 56 41.7**	**+1.9**
CEME	**Cevo**	**3.11**	**295**	ePn	**Pn**	**01 56 40.8**	**+0.9**
CEME				eSn	**Sn**	**01 57 18.7**	**+1.5**
CEME	**Cevo**	**3.11**	**295**	ePn	**Pn**	**01 56 40.8**	**+0.9**
CEME				eSn	**Sn**	**01 57 18.7**	**+1.5**
SIGR	**SIGRI**	**3.17**	**130**	ePN	**Pn**	**01 56 42.1**	**+1.5**
SIGR	**SIGRI**	**3.17**	**130**	ePn	**Pn**	**01 56 42.1**	**+1.5**
NKY	**Niksic**	**3.17**	**300**	ePn	**Pn**	**01 56 41.4**	**+0.6**
NKY				eSn	**Sn**	**01 57 20.2**	**+1.4**
NKY	**Niksic**	**3.17**	**300**	ePn	**Pn**	**01 56 41.4**	**+0.6**
NKY				eSn	**Sn**	**01 57 20.2**	**+1.4**
NKME	**Niksic**	**3.18**	**299**	ePn	**Pn**	**01 56 41.6**	**+0.8**
NKME				eSn	**Sn**	**01 57 20.4**	**+1.6**
NKME	**Niksic**	**3.18**	**299**	ePn	**Pn**	**01 56 41.6**	**+0.8**
NKME				eSn	**Sn**	**01 57 20.4**	**+1.6**
SVIS	**Svilajnac**	**3.18**	**340**	ePn	**Pn**	**01 56 39.8**	**-0.9**
LPK	**Lapseki**	**3.19**	**105**	ePN	**Pn**	**01 56 43.2**	**+2.2**
LPK	**Lapseki**	**3.19**	**105**	ePn	**Pn**	**01 56 43.2**	**+2.2**
KUBS	**Kucevo**	**3.22**	**346**	ePn	**Pn**	**01 56 39.2**	**-2.1**
KUBS	**Kucevo**	**3.22**	**346**	ePn	**Pn**	**01 56 39.2**	**-2.1**
KLV	**Kalavryta, Ach**	**3.27**	**188**	P	**Pn**	**01 56 42.8**	**+0.7**
KLV	**Kalavryta, Ach**	**3.27**	**188**	P	**Pn**	**01 56 43.0**	**+0.9**
KLV	**Kalavryta, Ach**	**3.27**	**188**	P	**Pn**	**01 56 42.8**	**+0.7**
HCY	**Herceg Novi**	**3.37**	**291**	ePn	**Pn**	**01 56 44.5**	**+1.1**
HCY				eSn	**Sn**	**01 57 25.1**	**+1.6**
HCY	**Herceg Novi**	**3.37**	**291**	ePn	**Pn**	**01 56 44.5**	**+1.1**
HCY				eSn	**Sn**	**01 57 25.1**	**+1.6**
DJES	**Djerdap**	**3.38**	**357**	ePn	**Pn**	**01 56 42.6**	**-0.9**
SRE	**Strehaia**	**3.39**	**6**	⇓iP	**Pn**	**01 56 45.5**	**+1.8**
TRUS	**Trudelj**	**3.40**	**331**	⇓iPn	**Pn**	**01 56 43.1**	**-0.7**
TRUS	**Trudelj**	**3.40**	**331**	⇓iPn	**Pn**	**01 56 43.1**	**-0.7**
UPM	**Unac-Piva**	**3.42**	**305**	⇓iPn	**Pn**	**01 56 45.1**	**+0.8**
UPM				eSn	**Sn**	**01 57 26.3**	**+1.2**
UPM	**Unac-Piva**	**3.42**	**305**	⇓iPn	**Pn**	**01 56 45.1**	**+0.8**
UPM				eSn	**Sn**	**01 57 26.3**	**+1.2**
DIVS	**Divibare**	**3.46**	**325**	⇓iPn	**Pn**	**01 56 44.2**	**-0.5**
DIVS				eSn	**Sn**	**01 57 25.7**	**-0.1**
DIVS	**Divibare**	**3.46**	**325**	⇓iPn	**Pn**	**01 56 44.2**	**-0.5**
DIVS				eSn	**Sn**	**01 57 25.7**	**-0.1**
BRY	**Bratogost**	**3.51**	**299**	ePn	**Pn**	**01 56 46.0**	**+0.5**
BRY				eSn	**Sn**	**01 57 28.4**	**+1.2**
BRY	**Bratogost**	**3.51**	**299**	ePn	**Pn**	**01 56 46.0**	**+0.5**
BRY				eSn	**Sn**	**01 57 28.4**	**+1.2**
BBLS	**Lazići**	**3.56**	**317**	ePn	**Pn**	**01 56 46.3**	**+0.2**
BBLS	**Lazići**	**3.56**	**317**	ePn	**Pn**	**01 56 46.3**	**+0.2**
TREB	**Trebinje**	**3.56**	**295**	ePn	**Pn**	**01 56 47.3**	**+1.2**
MDVR	**Moldovita**	**3.57**	**348**	⇑iP	**Pn**	**01 56 45.7**	**-0.5**
MDVR	**Moldovita**	**3.57**	**348**	S	**Sg**	**01 57 41.6**	**-3.6**
KRBG	**Karabiga-Canak**	**3.58**	**103**	ePN	**Pn**	**01 56 49.2**	**+2.9**
KRBG	**Karabiga-Canak**	**3.58**	**103**	ePn	**Pn**	**01 56 49.2**	**+2.9**
HUMR	**Humele**	**3.63**	**26**	⇑iP	**Pn**	**01 56 47.3**	**+0.2**
TKR	**Tekirdag**	**3.64**	**93**	ePN	**Pn**	**01 56 50.1**	**+3.0**
TKR	**Tekirdag**	**3.64**	**93**	ePn	**Pn**	**01 56 50.1**	**+3.0**
MRMT	**Marmara Adasi**	**3.75**	**99**	ePN	**Pn**	**01 56 51.4**	**+2.7**
MRMT	**Marmara Adasi**	**3.75**	**99**	ePn	**Pn**	**01 56 51.4**	**+2.7**
CRLT	**Corlu**	**3.78**	**91**	ePN	**Pn**	**01 56 52.1**	**+3.0**
CRLT	**Corlu**	**3.78**	**91**	ePn	**Pn**	**01 56 52.1**	**+3.0**
DKL	**Dikili**	**3.89**	**123**	ePN	**Pn**	**01 56 52.5**	**+2.0**
DKL	**Dikili**	**3.89**	**123**	ePn	**Pn**	**01 56 52.5**	**+2.0**
SBT3	**Marmara-Eregli**	**3.98**	**94**	ePN	**Pn**	**01 56 55.3**	**+3.6**
SBT3	**Marmara-Eregli**	**3.98**	**94**	ePn	**Pn**	**01 56 55.3**	**+3.6**
EDC	**Edincik**	**4.01**	**102**	ePN	**Pn**	**01 56 55.2**	**+3.0**
EDC	**Edincik**	**4.01**	**102**	ePn	**Pn**	**01 56 55.2**	**+3.0**
TEKS	**Tekeris**	**4.02**	**325**	*i* Pn	**Pn**	**01 56 52.1**	**-0.2**
TEKS	**Tekeris**	**4.02**	**325**	*i* Pn	**Pn**	**01 56 52.1**	**-0.2**
STON	**Ston**	**4.06**	**295**	P	**Pn**	**01 56 53.5**	**+0.6**
STON	**Ston**	**4.06**	**295**	*i* P	**Pn**	**01 56 53.5**	**+0.6**
SLVT	**Silivri**	**4.13**	**89**	ePN	**Pn**	**01 56 57.1**	**+3.2**
SLVT	**Silivri**	**4.13**	**89**	ePn	**Pn**	**01 56 57.1**	**+3.2**
URLA	**Izmir**	**4.17**	**133**	ePN	**Pn**	**01 56 56.4**	**+1.9**
URLA	**Izmir**	**4.17**	**133**	ePn	**Pn**	**01 56 56.4**	**+1.9**
CTYL	**Yalikoy Yolu**	**4.19**	**86**	ePN	**Pn**	**01 56 58.0**	**+3.4**
CTYL	**Yalikoy Yolu**	**4.19**	**86**	ePn	**Pn**	**01 56 58.0**	**+3.4**
BALB	**Balikesir**	**4.26**	**111**	ePN	**Pn**	**01 56 58.1**	**+2.5**
BALB	**Balikesir**	**4.26**	**111**	ePn	**Pn**	**01 56 58.2**	**+2.5**
ARR	**Arges**	**4.31**	**18**	⇑iP	**Pn**	**01 56 56.4**	**0.0**
CTKS	**Kestanelik-??a**	**4.36**	**89**	ePN	**Pn**	**01 56 59.9**	**+2.9**
CTKS	**Kestanelik-??a**	**4.36**	**89**	ePn	**Pn**	**01 56 59.9**	**+2.9**
SBT2	**Guzelce-Avcila**	**4.39**	**93**	ePN	**Pn**	**01 57 00.8**	**+3.5**
SBT2	**Guzelce-Avcila**	**4.39**	**93**	ePn	**Pn**	**01 57 00.8**	**+3.5**
KCTX	**Karacabey (Bur**	**4.39**	**102**	ePN	**Pn**	**01 57 00.3**	**+2.8**
KCTX	**Karacabey (Bur**	**4.39**	**102**	ePn	**Pn**	**01 57 00.3**	**+2.8**
BZS	**Buzias**	**4.40**	**350**	⇑iP	**Pn**	**01 56 57.2**	**-0.4**
FGSL	**Fruska Gora**	**4.42**	**332**	ePn	**Pn**	**01 56 56.9**	**-0.9**
FRGS	**Fruska Gora**	**4.42**	**332**	ePn	**Pn**	**01 56 56.9**	**-0.9**
SECR		**4.47**	**32**	⇑iP	**Pn**	**01 57 00.4**	**+1.9**
VOIR		**4.48**	**21**	⇑iP	**Pn**	**01 56 59.5**	**+0.8**
VLI	**Veliai**	**4.57**	**178**	P	**Pn**	**01 57 00.6**	**+0.7**
VLI	**Veliai**	**4.57**	**178**	P	**Pn**	**01 57 00.6**	**+0.7**
ARMT	**Armutlu**	**4.70**	**97**	ePN	**Pn**	**01 57 05.1**	**+3.4**
ARMT	**Armutlu**	**4.70**	**97**	ePn	**Pn**	**01 57 05.1**	**+3.4**
ISR	**Istrita**	**4.74**	**35**	⇑iP	**Pn**	**01 57 03.7**	**+1.5**
APE	**Apeiranthos**	**4.74**	**152**	ePN	**Pn**	**01 57 04.1**	**+1.8**
APE	**Apeiranthos**	**4.74**	**152**	ePn	**Pn**	**01 57 04.1**	**+1.8**
KLYT	**Kilyos**	**4.76**	**88**	ePN	**Pn**	**01 57 06.0**	**+3.5**
KLYT	**Kilyos**	**4.76**	**88**	ePn	**Pn**	**01 57 06.0**	**+3.5**
PGOR	**Pogoanele**	**4.77**	**39**	⇑iP	**Pn**	**01 57 04.6**	**+1.9**
ISK	**Istanbul-Kandi**	**4.78**	**91**	ePN	**Pn**	**01 57 06.3**	**+3.5**
ISK	**Istanbul-Kandi**	**4.78**	**91**	ePn	**Pn**	**01 57 06.3**	**+3.5**
KAVV	**Kandilli-Istan**	**4.78**	**91**	ePN	**Pn**	**01 57 06.3**	**+3.5**
KAVV	**Kandilli-Istan**	**4.78**	**91**	ePn	**Pn**	**01 57 06.3**	**+3.5**
MLR	**Muntele Rosu**	**4.81**	**28**	Pn	**Pn**	**01 57 04.9**	**+1.6**
	comp=N,0.6nm,0.3s,baz=198,slow=6.5,SNR=39						
MLR				Lg	Lg	01 58 25.8	
	comp=N,0.6nm,0.3s,baz=156,slow=19,SNR=2.1						
MLR	**Muntele Rosu**	**4.81**	**28**	⇓iP	**Pn**	**01 57 05.9**	**+2.6**
BUY	**Buyukada**	**4.85**	**93**	ePN	**Pn**	**01 57 06.5**	**+2.8**
BUY	**Buyukada**	**4.85**	**93**	ePn	**Pn**	**01 57 06.5**	**+2.8**
SIRR	**Siria**	**5.04**	**352**	⇑iP	**Pn**	**01 57 06.1**	**-0.2**
DOPR	**Dopca**	**5.06**	**22**	⇑iP	**Pn**	**01 57 09.1**	**+2.5**
TLB	**Topalu**	**5.11**	**48**	⇓iP	**Pn**	**01 57 08.4**	**+1.2**
HARR	**Harsova**	**5.11**	**47**	⇓iP	**Pn**	**01 57 08.6**	**+1.3**
GRER		**5.13**	**36**	⇓iP	**Pn**	**01 57 11.5**	**+3.9**
AYDB	**Zeytinkoy-Aydi**	**5.20**	**128**	ePN	**Pn**	**01 57 11.2**	**+2.5**
AYDB	**Zeytinkoy-Aydi**	**5.20**	**128**	ePn	**Pn**	**01 57 11.2**	**+2.5**
HRT	**Hereke**	**5.27**	**93**	ePN	**Pn**	**01 57 12.8**	**+3.2**
HRT	**Hereke**	**5.27**	**93**	ePn	**Pn**	**01 57 12.8**	**+3.2**
BLY	**Banja Luka**	**5.34**	**312**	ePn	**Pn**	**01 57 11.0**	**+0.6**
PLOR	**Plostina**	**5.38**	**31**	⇑iP	**Pn**	**01 57 13.1**	**+2.1**
VRI	**Vrincioa

	comp=E,2492µm,0.7s					
HORT			AML	AML	01 58 58.7	
	comp=N,3084µm,0.6s					
HORT	**Hortiatis**	**0.73 157**	P	**Pg**	**01 58 45.5**	**+0.2**
HORT			S	**Sb**	**01 58 56.1**	**-0.3**
NVR	**Nevrokopi**	**0.86 85**	P	**Pg**	**01 58 47.3**	**-0.4**
NVR			S	**Sg**	**01 58 58.3**	**-0.7**
NVR			AML	AML	01 59 03.2	
	comp=N,1129µm,0.3s					
NVR			AML	AML	01 59 06.0	
	comp=E,863µm,0.2s					
NVR	**Nevrokopi**	**0.86 85**	P	**Pg**	**01 58 47.3**	**-0.4**
NVR			S	**Sg**	**01 58 58.3**	**-0.7**
PLG	**Polygyros**	**1.05 148**	P	**Pg**	**01 58 50.9**	**-0.5**
PLG			S	**Sn**	**01 59 06.6**	**-0.5**
PLG			AML	AML	01 59 08.0	
	comp=E,2269µm,0.4s					
PLG			AML	AML	01 59 09.3	
	comp=N,2449µm,0.4s					
PLG	**Polygyros**	**1.05 148**	P	**Pg**	**01 58 50.9**	**-0.5**
PLG			S	**Sn**	**01 59 06.6**	**-0.5**
BIA	**Bitola**	**1.08 257** ⇑	*i* Pg	**Pg**	**01 58 51.8**	**-0.2**
BIA			*i* Sg	**Sg**	**01 59 06.3**	**+0.2**
BIA			*e*Lg	Lg	01 59 08.7	
	comp=E,172nm,0.5s					
BIA			*e*Lg	Lg	01 59 08.9	
	comp=N,132nm,0.5s					
BIA	**Bitola**	**1.08 257** ⇑	*i* Pg	**Pg**	**01 58 51.8**	**-0.2**
BIA			*i* Sg	**Sg**	**01 59 06.3**	**+0.2**
BIA			*e*Lg	Lg	01 59 08.8	
	comp=N,132nm,0.5s					
KRUS	**Krusevo**	**1.11 275** ⇑	*i* Pg	**Pg**	**01 58 52.4**	**-0.1**
KRUS			*i* Sg	**Sg**	**01 59 07.2**	**+0.2**
KRUS			*e*Lg	Lg	01 59 08.8	
	comp=N,130nm,0.9s					
KRUS			*e*Lg	Lg	01 59 09.6	
	comp=E,43nm,0.6s					
KRUS	**Krusevo**	**1.11 275** ⇑	*i* Pg	**Pg**	**01 58 52.4**	**-0.1**
KRUS			*i* Sg	**Sg**	**01 59 07.2**	**+0.2**
KRUS			*e*Lg	Lg	01 59 09.5	
	comp=E,43nm,0.6s					
FNA	**Florina**	**1.13 245**	P	**Pg**	**01 58 52.4**	**-0.4**
FNA			S	**Sg**	**01 59 07.7**	**+0.2**
FNA			AML	AML	01 59 12.3	
	comp=N,1731µm,0.5s					
FNA			AML	AML	01 59 15.9	
	comp=E,1509µm,0.8s					
FNA	**Florina**	**1.13 245**	P	**Pg**	**01 58 52.4**	**-0.4**
FNA			S	**Sg**	**01 59 07.7**	**+0.2**
LIT	**Litokhoron**	**1.18 189**	P	**Pg**	**01 58 52.2**	**-1.7**
LIT			S	**Sb**	**01 59 09.3**	**0.0**
LIT			AML	AML	01 59 12.6	
	comp=N,447µm,0.5s					
LIT			AML	AML	01 59 15.8	
	comp=E,710µm,0.5s					
LIT	**Litokhoron**	**1.18 189**	P	**Pg**	**01 58 52.2**	**-1.7**
LIT			S	**Sb**	**01 59 09.3**	**0.0**
SKO	**Skopje**	**1.19 306** ⇑	*i* Pg	**Pb**	**01 58 53.4**	**-0.5**
SKO			*i* Sg	**Sb**	**01 59 10.1**	**+0.6**
SKO			*e*Lg	Lg	01 59 12.5	
	comp=E,23nm,0.8s					
SKO			*e*Lg	Lg	01 59 12.7	
	comp=N,27nm,0.8s					
SKO	**Skopje**	**1.19 306** ⇓	*i* Pg	**Pb**	**01 58 53.5**	**-0.5**
SKO			*e*Sg	**Sg**	**01 59 09.5**	**+0.1**
SKO	**Skopje**	**1.19 306** ⇑	*i* Pg	**Pb**	**01 58 53.4**	**-0.5**
SKO			*e*Sg	**Sg**	**01 59 09.5**	**+0.1**
SKO			*e*Lg	Lg	01 59 12.6	
	comp=N,27nm,0.8s					
KZN	**Kozani**	**1.21 217**	P	**Pb**	**01 58 53.7**	**-0.5**
KZN			S	**Sn**	**01 59 11.0**	**+0.1**
KZN			AML	AML	01 59 12.3	
	comp=E,1427µm,0.6s					
KZN			AML	AML	01 59 17.9	
	comp=N,825µm,0.8s					
KZN	**Kozani**	**1.21 217**	P	**Pb**	**01 58 53.7**	**-0.5**
KZN			S	**Sn**	**01 59 11.0**	**+0.1**
OUR	**Ouranopolis**	**1.34 134**	*e*PN	**Pg**	**01 58 56.6**	**-0.2**
OUR	**Ouranopolis**	**1.34 134**	P	**Pb**	**01 58 56.1**	**-0.4**
OUR			S	**Sg**	**01 59 14.4**	**+0.2**
OUR			AML	AML	01 59 20.4	
	comp=N,3008µm,0.5s					
OUR			AML	AML	01 59 20.5	
	comp=E,3569µm,0.8s					
OUR	**Ouranopolis**	**1.34 134**	P	**Pb**	**01 58 56.1**	**-0.4**
OUR	**Ouranopolis**	**1.34 134**	*e*Pn	**Pg**	**01 58 56.6**	**-0.2**
OUR			S	**Sg**	**01 59 14.4**	**+0.2**
VTS	**Vitosha**	**1.37 15**	*i* Pg	**Pn**	**01 58 56.4**	**-0.2**
VTS			*e*Sg	**Sb**	**01 59 14.0**	**-0.7**
VTS	**Vitosha**	**1.37 15**	*i* Pg	**Pn**	**01 58 56.4**	**-0.2**
VTS			*e*Sg	**Sb**	**01 59 14.0**	**-0.7**
KAVA	**Kavala**	**1.38 101**	P	**Pb**	**01 58 57.1**	**-0.1**
KAVA			S	**Sg**	**01 59 16.6**	**+1.0**
KAVA			AML	AML	01 59 20.8	
	comp=N,1331µm,0.5s					
KAVA			AML	AML	01 59 23.0	
	comp=E,1215µm,0.6s					
KAVA	**Kavala**	**1.38 101**	P	**Pb**	**01 58 57.1**	**-0.1**
KAVA			S	**Sg**	**01 59 16.6**	**+1.0**
OHR	**Ohrid**	**1.46 264** ⇑	*i* Pg	**Pn**	**01 58 57.8**	**0.0**
OHR			*i* Sg	**Sg**	**01 59 18.4**	**+0.3**
OHR			*e*Lg	Lg	01 59 20.4	
	comp=N,284nm,0.8s					
OHR			*e*Lg	Lg	01 59 20.4	
	comp=E,164nm,0.6s					
OHR	**Ohrid**	**1.46 264** ⇑	*i* Pg	**Pn**	**01 58 57.8**	**0.0**
OHR			*i* Sg	**Sg**	**01 59 18.4**	**+0.3**
OHR			*e*Lg	Lg	01 59 20.4	
	comp=E,164nm,0.6s					
PENT	**Pentalofos**	**1.61 229**	P	**Pn**	**01 59 00.5**	**+0.5**
PENT	**Pentalofos**	**1.61 229**	P	**Pn**	**01 59 00.5**	**+0.5**
KPRO	**Kipourio**	**1.67 219**	P	**Pb**	**01 59 01.6**	**-0.6**
KPRO	**Kipourio**	**1.67 219**	P	**Pb**	**01 59 01.6**	**-0.6**
BARS	**Barje**	**1.68 337**	*e*Pn	**Pn**	**01 59 00.5**	**-0.4**
BARS			*e*Sn	**Sn**	**01 59 22.6**	**0.0**
BARS	**Barje**	**1.68 337**	*e*Pn	**Pn**	**01 59 00.5**	**-0.4**
BARS			*e*Sn	**Sn**	**01 59 22.6**	**0.0**
THL	**Klokotos Trika**	**1.79 198**	P	**Pn**	**01 59 02.7**	**+0.4**
THL	**Klokotos Trika**	**1.79 198**	P	**Pn**	**01 59 02.7**	**+0.4**
FYTO	**Fytoko, Volos**	**1.87 175**	P	**Pn**	**01 59 03.5**	**+0.1**
FYTO	**Fytoko, Volos**	**1.87 175**	P	**Pn**	**01 59 03.5**	**+0.1**
XOR	**Xorichti**	**1.94 169**	P	**Pn**	**01 59 04.7**	**+0.3**
XOR	**Xorichti**	**1.94 169**	P	**Pn**	**01 59 04.7**	**+0.3**
ZAPS	**Zavoj**	**2.00 358**	*e*Pn	**Pn**	**01 59 04.6**	**-0.6**
ZAPS			*e*Sn	**Sn**	**01 59 30.5**	**0.0**
NEO	**Neokhori**	**2.00 169**	P	**Pn**	**01 59 04.3**	**-1.0**
NEO	**Neokhori**	**2.00 169**	P	**Pn**	**01 59 04.3**	**-1.0**
RDO	**Rodhopi**	**2.13 92**	P	**Pn**	**01 59 07.2**	**+0.3**
RDO	**Rodhopi**	**2.13 92**	P	**Pn**	**01 59 07.2**	**+0.3**
SKIA	**Skiathos**	**2.18 165**	P	**Pn**	**01 59 07.8**	**+0.1**
SKIA	**Skiathos**	**2.18 165**	P	**Pn**	**01 59 07.8**	**+0.1**
AGG	**Agios Georgios**	**2.27 188**	P	**Pn**	**01 59 09.0**	**+0.1**
AGG	**Agios Georgios**	**2.27 188**	P	**Pn**	**01 59 09.0**	**+0.1**
SELS	**Selova**	**2.28 329**	*e*Pn	**Pn**	**01 59 08.1**	**-1.0**
LIA	**Limnos Island**	**2.32 125**	P	**Pn**	**01 59 09.7**	**+0.1**
LIA	**Limnos Island**	**2.32 125**	P	**Pn**	**01 59 09.7**	**+0.1**
BOVS	**Bovan**	**2.48 343**	*e*Pn	**Pn**	**01 59 11.6**	**-0.1**
BOVS			*e*Sn	**Sn**	**01 59 44.2**	**+2.1**
BOVS	**Bovan**	**2.48 343**	*e*Pn	**Pn**	**01 59 11.6**	**-0.1**
BOVS			*e*Sn	**Sn**	**01 59 44.2**	**+2.1**
ALN	**Alexandroupoli**	**2.54 97**	*e*PN	**Pn**	**01 59 13.3**	**+0.8**
ALN	**Alexandroupoli**	**2.54 97**	P	**Pn**	**01 59 12.5**	**-0.1**
ALN	**Alexandroupoli**	**2.54 97**	P	**Pn**	**01 59 12.5**	**-0.1**
ALN	**Alexandroupoli**	**2.54 97**	*e*Pn	**Pn**	**01 59 13.4**	**+0.8**
ZAGS	**Zajecar**	**2.56 352**	*e*Pn	**Pn**	**01 59 12.5**	**-0.4**
ZAGS			*e*Sn	**Sn**	**01 59 46.2**	**+1.9**
ZAGS	**Zajecar**	**2.56 352**	*e*Pn	**Pn**	**01 59 12.5**	**-0.4**
ZAGS			*e*Sn	**Sn**	**01 59 46.2**	**+1.9**
GADA	**Gvkgeada**	**2.65 113**	*e*PN	**Pn**	**01 59 15.1**	**+1.0**
GADA	**Gvkgeada**	**2.65 113**	*e*Pn	**Pn**	**01 59 15.1**	**+1.0**
ENEZ	**Enez**	**2.65 101**	*e*PN	**Pn**	**01 59 15.0**	**+0.9**
ENEZ	**Enez**	**2.65 101**	*e*Pn	**Pn**	**01 59 15.0**	**+0.9**
SJES	**Sjenica**	**2.85 315**	*e*Pn	**Pn**	**01 59 17.9**	**+1.0**
BOZC	**Bozcaada**	**2.91 118**	*e*PN	**Pn**	**01 59 18.9**	**+1.2**
BOZC	**Bozcaada**	**2.91 118**	*e*Pn	**Pn**	**01 59 18.9**	**+1.2**
ERIK	**Erikli-Kesan**	**2.93 101**	*e*PN	**Pn**	**01 59 19.0**	**+1.0**
ERIK	**Erikli-Kesan**	**2.93 101**	*e*Pn	**Pn**	**01 59 19.0**	**+1.0**
IVAS	**Ivanjica**	**2.99 321**	*e*Pn	**Pn**	**01 59 18.3**	**-0.5**
IVAS	**Ivanjica**	**2.99 321**	*e*Pn	**Pn**	**01 59 18.3**	**-0.5**
GRUS	**Gruza**	**3.00 331**	*e*Pn	**Pn**	**01 59 18.5**	**-0.5**
GRUS	**Gruza**	**3.00 331**	*e*Pn	**Pn**	**01 59 18.5**	**-0.5**
EDRB	**Edirne**	**3.07 78**	*e*PN	**Pn**	**01 59 21.0**	**+1.1**
EDRB	**Edirne**	**3.07 78**	*e*Pn	**Pn**	**01 59 21.0**	**+1.1**
EZN	**Ezine**	**3.10 117**	*e*PN	**Pn**	**01 59 21.0**	**+0.7**
EZN	**Ezine**	**3.10 117**	*e*Pn	**Pn**	**01 59 21.0**	**+0.7**
SIGR	**SIGRI**	**3.16 130**	*e*PN	**Pn**	**01 59 22.4**	**+1.2**
SIGR	**SIGRI**	**3.16 130**	*e*Pn	**Pn**	**01 59 22.4**	**+1.2**
SVIS	**Svilajnac**	**3.19 340**	*e*Pn	**Pn**	**01 59 20.2**	**-1.3**
SVIS			*e*Sn	**Sn**	**01 59 59.6**	**-0.1**
LPK	**Lapseki**	**3.19 105**	*e*PN	**Pn**	**01 59 22.3**	**+0.7**
LPK	**Lapseki**	**3.19 105**	*e*Pn	**Pn**	**01 59 22.3**	**+0.7**
KUBS	**Kucevo**	**3.23 347**	*e*Pn	**Pn**	**01 59 19.8**	**-2.3**
KUBS			*e*Sn	**Sn**	**02 00 02.8**	**+2.0**
KUBS	**Kucevo**	**3.23 347**	*e*Pn	**Pn**	**01 59 19.8**	**-2.3**
KUBS			*e*Sn	**Sn**	**02 00 02.8**	**+2.0**
DIVS	**Divibare**	**3.47 325**	*e*Pn	**Pn**	**01 59 24.5**	**-0.9**
DIVS	**Divibare**	**3.47 325**	*e*Pn	**Pn**	**01 59 24.5**	**-0.9**
KRBG	**Karabiga-Canak**	**3.58 103**	*e*PN	**Pn**	**01 59 28.1**	**+1.2**
KRBG	**Karabiga-Canak**	**3.58 103**	*e*Pn	**Pn**	**01 59 28.1**	**+1.2**
TEKS	**Tekeris**	**4.03 325**	*e*Pn	**Pn**	**01 59 32.7**	**-0.4**
TEKS	**Tekeris**	**4.03 325**	*e*Pn	**Pn**	**01 59 32.7**	**-0.4**

ATH ***06*** *02:06:20.4, 36.°60N×28.°39E, h65km±4km, ML2.3/8, Error ellipse: s-maj=4.6km s-min=1.5km az=160.0*
DDA ***06*** *02:06:21.0, 36.°67N×28.°37E, h58km, Md2.8*
ISK ***06*** *02:06:20.8, 36.°47N×28.°35E, h27km, MD2.9*
ISCJB ***06*** *02:06:21.6±0.4, 36.°58N±0.°03×28.°36E±0.°02, h55km±6km, Error ellipse: s-maj=4.6km s-min=3.3km az=173.7*
CSEM ***06*** *02:06:22.2±0.2, 36.°57N×28.°37E, h43km±3km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.1km az=170.0*
THE ***06*** *02:06:22.3, 36.°59N×28.°39E, h59km±2km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=0.5km az=165.0*

ISC 06 02:06:22.4±1.2, 36.°59N±0.°02×28.°37E±0.°02, h46km±6km, n77, σ0.°95/126, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**313**	*e*PG	**Pn**	**02 06 28.3**	**-1.9**
MRSB	**Marmaris-Mugla**	**0.19**	**313**	*e*Pg	**Pn**	**02 06 28.3**	**-1.9**
DALY	**Dalyan (Mu¨la**	**0.33**	**45**	*e*PG	**Pn**	**02 06 30.5**	**-0.9**
DALY				*e*SG	**Sn**	**02 06 37.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.33**	**45**	*i* P	**Pn**	**02 06 31.6**	**+0.2**
DALY				*i* S	**Sn**	**02 06 38.9**	**+1.2**
DALY	**Dalyan (Mu¨la**	**0.33**	**45**	*e*Pg	**Pn**	**02 06 30.5**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.33**	**45**	P	**Pn**	**02 06 31.6**	**+0.2**
DALY				*e*Sg	**Sn**	**02 06 37.6**	**-0.1**
DALY				S	**Sn**	**02 06 38.9**	**+1.2**
TURN	**Turunc**	**0.34**	**33**	*i* P	**Pn**	**02 06 30.9**	**-0.6**
TURN				*i* S	**Sn**	**02 06 38.1**	**+0.1**
TURN	**Turunc**	**0.34**	**33**	P	**Pn**	**02 06 31.0**	**-0.6**
TURN				S	**Sn**	**02 06 38.1**	**+0.1**
ARG	**Arkhangelos**	**0.42**	**208**	P	**Pn**	**02 06 33.0**	**+0.6**
ARG				S	**Sn**	**02 06 41.2**	**+1.7**
ARG	**Arkhangelos**	**0.42**	**208**	P	**Pn**	**02 06 33.4**	**+1.0**
ARG				S	**Sn**	**02 06 40.8**	**+1.3**
ARG				AML	AML	02 06 41.5	
	comp=N,553µm,0.2s						
ARG				AML	AML	02 06 42.2	
	comp=E,646µm,0.3s						
ARG	**Arkhangelos**	**0.42**	**208**	P	**Pn**	**02 06 33.0**	**+0.6**
ARG				S	**Sn**	**02 06 40.8**	**+1.3**
FETY	**Fethiye**	**0.58**	**85**	*e*PG	**Pn**	**02 06 33.9**	**-0.5**
FETY				*e*SG	**Sn**	**02 06 43.4**	**+0.4**
FETY	**Fethiye**	**0.58**	**85**	P	**Pn**	**02 06 34.1**	**-0.3**
FETY				S	**Sn**	**02 06 43.6**	**+0.6**
FETY	**Fethiye**	**0.58**	**85**	P	**Pn**	**02 06 34.1**	**-0.3**
FETY				S	**Sn**	**02 06 43.6**	**+0.6**
DATC	**Datca-Mugla**	**0.59**	**287**	*e*PG	**Pn**	**02 06 33.9**	**-0.6**
DATC				*e*SG	**Sn**	**02 06 43.5**	**+0.2**
DATC	**Datca-Mugla**	**0.59**	**287**	*e*Pg	**Pn**	**02 06 33.9**	**-0.6**
DATC				*e*Sg	**Sn**	**02 06 43.5**	**+0.2**
FETI	**Fethiye-Mugla**	**0.59**	**80**	*e*PG	**Pn**	**02 06 34.1**	**-0.5**
FETI				*e*SG	**Sn**	**02 06 43.9**	**+0.6**
FETI	**Fethiye-Mugla**	**0.59**	**80**	*e*Pg	**Pn**	**02 06 34.1**	**-0.5**
FETI				*e*Sg	**Sn**	**02 06 43.9**	**+0.6**
DAT	**Datca**	**0.65**	**283**	*e*PG	**Pn**	**02 06 34.6**	**-0.8**
DAT	**Datca**	**0.65**	**283**	*i* P	**Pn**	**02 06 36.0**	**+0.6**
DAT				*i* S	**Sn**	**02 06 46.2**	**+1.4**
DAT	**Datca**	**0.65**	**283**	*e*Pg	**Pn**	**02 06 34.6**	**-0.8**
DAT	**Datca**	**0.65**	**283**	P	**Pn**	**02 06 36.0**	**+0.6**
DAT				S	**Sn**	**02 06 46.2**	**+1.4**
MLSB	**Milas**	**0.85**	**326**	*e*PG	**Pn**	**02 06 38.7**	**+0.7**
MLSB	**Milas**	**0.85**	**326**	*e*Pg	**Pn**	**02 06 38.7**	**+0.7**
BDRM	**Kayabasi**	**0.88**	**303**	*i* P	**Pn**	**02 06 38.1**	**-0.3**
BDRM				*i* S	**Sn**	**02 06 49.8**	**-0.4**
BDRM	**Kayabasi**	**0.88**	**303**	P	**Pn**	**02 06 38.1**	**-0.3**
BDRM				S	**Sn**	**02 06 49.8**	**-0.4**
NIS1	**Nisyros Isl.**	**0.96**	**271**	*e*PG	**Pn**	**02 06 38.8**	**-0.7**
NIS1	**Nisyros Isl.**	**0.96**	**271**	P	**Pn**	**02 06 39.0**	**-0.4**
NIS1				S	**Sn**	**02 06 52.4**	**+0.4**
NIS1	**Nisyros Isl.**	**0.96**	**271**	P	**Pn**	**02 06 38.4**	**-1.1**
NIS1				S	**Sn**	**02 06 54.3**	**+2.3**
NIS1				AML	AML	02 07 00.4	
	comp=N,523µm,0.5s						
NIS1				AML	AML	02 07 01.1	
	comp=E,604µm,0.7s						
NIS1	**Nisyros Isl.**	**0.96**	**271**	P	**Pn**	**02 06 39.0**	**-0.4**
NIS1				S	**Sn**	**02 06 52.4**	**+0.4**
BODT	**Bodrum**	**0.97**	**300**	*e*PG	**Pn**	**02 06 39.7**	**+0.1**
BODT	**Bodrum**	**0.97**	**300**	P	**Pn**	**02 06 39.7**	**+0.1**
BODT				S	**Sn**	**02 06 53.0**	**+0.7**
BODT	**Bodrum**	**0.97**	**300**	P	**Pn**	**02 06 39.7**	**+0.1**
BODT				S	**Sn**	**02 06 53.0**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.98**	**26**	*i* P	**Pn**	**02 06 39.7**	**-0.2**
TAVA				*i* S	**Sn**	**02 06 51.1**	**-1.6**
TAVA	**DENIZLI_Tavas**	**0.98**	**26**	P	**Pn**	**02 06 39.7**	**-0.2**
TAVA				S	**Sn**	**02 06 51.1**	**-1.6**
YKAV	**Yalikavak-Bodr**	**1.02**	**302**	*e*PG	**Pn**	**02 06 39.9**	**-0.4**
YKAV	**Yalikavak-Bodr**	**1.02**	**302**	*e*Pg	**Pn**	**02 06 39.9**	**-0.4**
AKAS	**Kas**	**1.06**	**109**	*e*PG	**Pn**	**02 06 40.1**	**-0.8**
AKAS	**Kas**	**1.06**	**109**	*i* P	**Pn**	**02 06 40.6**	**-0.3**
AKAS				*i* S	**Sn**	**02 06 53.7**	**-0.9**
AKAS	**Kas**	**1.06**	**109**	*e*Pg	**Pn**	**02 06 40.1**	**-0.8**
AKAS	**Kas**	**1.06**	**109**	P	**Pn**	**02 06 40.6**	**-0.3**
AKAS				S	**Sn**	**02 06 53.7**	**-0.9**
GLHS	**Glhisar (BURDU**	**1.07**	**58**	*e*PN	**Pn**	**02 06 41.6**	**+0.5**
GLHS	**Glhisar (BURDU**	**1.07**	**58**	*e*Pn	**Pn**	**02 06 41.6**	**+0.5**
KSL	**Kastellorizon**	**1.07**	**114**	P	**Pn**	**02 06 40.1**	**-0.9**
KSL				S	**Sn**	**02 06 54.8**	**+0.1**
KSL	**Kastellorizon**	**1.07**	**114**	P	**Pn**	**02 06 40.0**	**-1.0**
KSL				S	**Sn**	**02 06 54.8**	**+0.1**
KSL				AML	AML	02 06 57.1	
	comp=N,72µm,0.6s						
KSL				AML	AML	02 07 09.2	
	comp=E,138µm,0.9s						
AYDN	**Tasoluk**	**1.14**	**340**	*i* P	**Pn**	**02 06 44.6**	**+2.6**
AYDN				*i* S	**Sn**	**02 06 57.6**	**+1.1**
AYDN	**Tasoluk**	**1.14**	**340**	P	**Pn**	**02 06 44.6**	**+2.6**
AYDN				S	**Sn**	**02 06 57.6**	**+1.1**
GOLH	**Golhisar**	**1.16**	**55**	*i* P	**Pn**	**02 06 42.6**	**+0.4**
GOLH				*i* S	**Sn**	**02 06 58.4**	**+1.4**
GOLH	**Golhisar**	**1.16**	**55**	P	**Pn**	**02 06 42.6**	**+0.4**
GOLH				S	**Sn**	**02 06 58.4**	**+1.4**
ELL	**Elmali**	**1.25**	**82**	*e*PN	**Pn**	**02 06 43.6**	**+0.1**
ELL	**Elmali**	**1.25**	**82**	*e*Pn	**Pn**	**02 06 43.6**	**+0.1**
KARP	**Karpathos**	**1.43**	**224**	*e*PN	**Pn**	**02 06 44.2**	**-1.6**
KARP	**Karpathos**	**1.43**	**224**	P	**Pn**	**02 06 45.6**	**-0.2**
KARP				S	**Sn**	**02 07 03.6**	**+0.2**
KARP	**Karpathos**	**1.43**	**224**	P	**Pn**	**02 06 45.9**	**0.0**
KARP				S	**Sn**	**02 07 03.8**	**+0.4**
KARP				AML	AML	02 07 04.8	
	comp=N,157µm,0.1s						
KARP				AML	AML	02 07 06.6	
	comp=E,225µm,0.3s						
KARP	**Karpathos**	**1.43**	**224**	*e*Pn	**Pn**	**02 06 44.2**	**-1.6**
KARP	**Karpathos**	**1.43**	**224**	P	**Pn**	**02 06 45.9**	**0.0**
KARP				S	**Sn**	**02 07 03.8**	**+0.4**
GCAM	**G?zelcaml?**	**1.44**	**321**	*i* P	**Pn**	**02 06 44.6**	**-1.3**
GCAM				*i* S	**Sn**	**02 07 02.8**	**-0.8**
GCAM	**G?zelcaml?**	**1.44**	**321**	P	**Pn**	**02 06 44.6**	**-1.3**
GCAM				S	**Sn**	**02 07 02.8**	**-0.8**
KORT	**Korkueli**	**1.64**	**75**	*e*PN	**Pn**	**02 06 49.4**	**+0.5**
KORT	**Korkueli**	**1.64**	**75**	*e*Pn	**Pn**	**02 06 49.4**	**+0.5**
SMG	**Samos**	**1.66**	**313**	P	**Pn**	**02 06 48.7**	**-0.3**
SMG				S	**Sn**	**02 07 08.7**	**-0.4**
SMG	**Samos**	**1.66**	**313**	P	**Pn**	**02 06 49.0**	**0.0**
SMG				S	**Sn**	**02 07 07.9**	**-1.2**
SMG				AML	AML	02 07 10.9	
	comp=N,199µm,0.2s						
SMG				AML	AML	02 07 11.5	
	comp=E,147µm,0.2s						
SMG	**Samos**	**1.66**	**313**	P	**Pn**	**02 06 48.7**	**-0.3**
SMG				S	**Sn**	**02 07 08.7**	**-0.4**
KULA	**Kula-Manisa**	**1.94**	**7**	*e*PN	**Pn**	**02 06 54.4**	**+1.5**
KULA	**Kula-Manisa**	**1.94**	**7**	P	**Pn**	**02 06 52.4**	**-0.5**
KULA	**Kula-Manisa**	**1.94**	**7**	P	**Pn**	**02 06 52.4**	**-0.5**
KULA	**Kula-Manisa**	**1.94**	**7**	*e*Pn	**Pn**	**02 06 54.4**	**+1.5**
KHAL	**Karahalli**	**1.99**	**26**	*i* P	**Pn**	**02 06 52.4**	**-1.3**
KHAL	**Karahalli**	**1.99**	**26**	P	**Pn**	**02 06 52.4**	**-1.3**
URLA	**Izmir**	**2.26**	**322**	*e*PN	**Pn**	**02 06 58.4**	**+1.0**
URLA	**Izmir**	**2.26**	**322**	*e*Pn	**Pn**	**02 06 58.4**	**+1.0**
ZKR	**Zakros**	**2.28**	**231**	P	**Pn**	**02 06 59.0**	**+1.4**
ZKR				S	**Sn**	**02 07 24.9**	**+0.5**
ZKR				AML	AML	02 07 35.5	
	comp=N,24µm,0.7s						
ZKR				AML	AML	02 07 37.0	
	comp=E,47µm,0.6s						
ZKR	**Zakros**	**2.28**	**231**	P	**Pn**	**02 06 59.0**	**+1.4**
ZKR				S	**Sn**	**02 07 24.9**	**+0.5**
NPS	**Neapolis**	**2.60**	**240**	P	**Pn**	**02 07 00.6**	**-1.3**
NPS				S	**Sn**	**02 07 30.7**	**-1.5**
NPS				AML	AML	02 07 32.7	
	comp=E,103µm,0.2s						
NPS				AML	AML	02 07 33.8	
	comp=N,58µm,0.2s						
NPS	**Neapolis**	**2.60**	**240**	P	**Pn**	**02 07 00.6**	**-1.3**
NPS				S	**Sn**	**02 07 30.7**	**-1.5**
LAST	**Lasithi**	**2.74**	**240**	P	**Pn**	**02 07 03.9**	**-0.1**
LAST				S	**Sn**	**02 07 34.8**	**-1.1**
LAST				AML	AML	02 07 46.8	
	comp=E,27µm,0.7s						
LAST				AML	AML	02 07 49.2	
	comp=N,44µm,1.8s						
LAST	**Lasithi**	**2.74**	**240**	P	**Pn**	**02 07 03.9**	**-0.1**
LAST				S	**Sn**	**02 07 34.8**	**-1.1**

IDC ***06*** *02:24:02.6±0.9, 57.°72N×32.°62W, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.8/49, mbtmp3.9/13, MS3.5/10, Ms1 3.5/10, ms1mx3.1/52, Error ellipse: s-maj=27.3km s-min=17.1km az=13.0*
ISCJB ***06*** *02:24:04.1±0.4, 57.°80N±0.°09×32.°52W±0.°10, h18km, mb4.3/24, MS3.4/9, Error ellipse: s-maj=13.5km s-min=7.4km az=8.6*
CSEM ***06*** *02:24:04.6, 57.°80N×32.°55W, h10km, mb4.6/11*
NEIC ***06*** *02:24:04.6±0.3, 57.°80N×32.°55W, h10km, mb4.6/11, Error ellipse: s-maj=12.6km s-min=6.8km az=190.0*

ISC 06 02:24:06.2±0.6, 57.°9N±0.°1×32.°54W±0.°08, h18km, n74, σ0.°93/62, mb4.3/24, MS3.4/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**18.34**	**304**	LR	LR	02 34 16.9	
	comp=Z,204nm,20.5s,baz=20,slow=33						
NOA	**NORSAR Array B**	**22.15**	**63**	LR	LR	02 36 05.0	
	comp=Z,58nm,18.3s,baz=280,slow=32						
HFS	**Hagfors**	**23.55**	**65**	LR	LR	02 36 42.6	
	comp=Z,112nm,19.7s,baz=329,slow=32						
ESDC	**Sonseca Array**	**25.87**	**122**	*e*P	**P**	**02 29 34.2**	**-2.4**
	0.5nm,0.7s,baz=328,slow=8.0,SNR=6.9						
ES19	**SONSECA Array**	**25.88**	**122**	*e*P	**P**	**02 29 37.4**	**+0.6**
ES19	**SONSECA Array**	**25.88**	**122**	*e*P	**P**	**02 29 37.4**	**+0.6**
DAVOX	**Davos/Dischmat**	**27.73**	**95**	LR	LR	02 40 08.8	
	comp=Z,111nm,18.7s,baz=282,slow=35						
GERES	**GERESS Array B**	**28.51**	**88**	LR	LR	02 41 09.9	
	comp=Z,86nm,18.4s,baz=306,slow=36						
VRAC	**Vranov**	**29.79**	**85**	LR	LR	02 40 57.7

SONA1	Songino Array	69.33	28	eP	P	02 35 12.6	+0.3
SONA1	Songino Array	69.33	28	eP	P	02 35 12.6	+0.3
SONA0	Songino Array	69.34	28	eP	P	02 35 11.9	-0.4
	7.6nm,1.4s						
SONA0	Songino Array	69.34	28	eP	P	02 35 11.9	-0.4
	7.6nm,1.4s						
SONM	Songino Array	69.34	28	P	P	02 35 11.9	-0.5
	2.6nm,1.1s,baz=338,slow=6.4,SNR=6.2						
AS31	Alice Springs	144.48	22	ePKIKP	PKPab	02 43 38.8	-0.6
AS31	Alice Springs	144.48	22	ePKPdf	PKPab	02 43 38.8	-0.6
ASAR	Alice Springs	144.48	22	PKP	PKPab	02 43 38.8	-0.6
	1.0nm,0.9s,baz=342,slow=2.3,SNR=5.3						

*ISCJB **06** 02:26:01.8±0.5, 42°.00N±0°.06×86°.85E±0°.07, h33km, mb3.6/11, Error ellipse: s-maj=8.6km s-min=6.8km az=34.7*
*NNC **06** 02:26:01.4±3.7, 42°.24N×87°.01E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=33.0km s-min=24.5km az=136.0*
*IDC **06** 02:26:01.6±0.8, 42°.03N×86°.98E, h20km±4km, mb3.6/11, mb1 3.7/15, mb1mx3.5/53, mbtmp3.7/15, MLS.4/4, Error ellipse: s-maj=27.6km s-min=14.6km az=42.0*
*BJI **06** 02:26:03.0, 42°.05N×86°.96E, h8km, mb3.9/2, ML3.9/8*

ISC 06 02:26:03.1±0.6, 42°.12N±0°.07×86°.92E±0°.07, h35km, n30, σ2°32/34, mb3.6/11, 8C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.79	18	Pg	Pn	02 26 34.1	+2.4
WMQ				Sg	Sn	02 26 57.3	+4.0
WMQ				smax	smax		
	comp=N,990nm,0.5s						
WMQ				smax	smax		
	comp=E,2μm,0.4s						
PDGK	Podgornoye	5.61	285	⇑Pn	Pn	02 27 25.3	+1.2
	5.1nm,0.4s						
PDGK				⇑Lg	Lg	02 28 56.6	
	52nm,0.6s						
MK31	Makanchi Array	5.73	326	⇑Pn	Pn	02 27 28.8	+3.1
	2.5nm,0.3s,baz=143,slow=14,SNR=35						
MK31				⇓Lg	Lg	02 29 00.4	
	4.0nm,0.3s,baz=138,slow=29,SNR=4.9						
MKAR	Makanchi Array	5.73	326	Pn	Pn	02 27 28.4	+2.7
	2.4nm,0.3s,baz=143,slow=14,SNR=65						
MKAR				Sn	Sn	02 28 31.4	+1.2
	2.8nm,0.3s,baz=163,slow=26,SNR=4.3						
MKAR				Lg	Lg	02 28 57.8	
	6.6nm,0.3s,baz=134,slow=30,SNR=6.0						
MAKZ	Makanchi	5.88	325	⇑Pn	Pn	02 27 30.2	+2.5
	1.5nm,0.3s						
MAKZ				⇓Lg	Lg	02 29 07.5	
	10nm,0.5s						
MDOK	Medeo	7.36	281	⇓Pn	Pn	02 27 48.9	+0.8
MDOK				⇓Lg	Lg	02 29 58.1	
TKM2	Tokmak 2	8.41	279	⇓Pn	Pn	02 28 05.6	+3.0
	1.9nm,0.3s						
TKM2				⇑Lg	Lg	02 30 30.3	
	9.1nm,0.7s						
AAK	Ala-Archa	9.22	277	Pn	Pn	02 28 15.0	+1.4
	0.5nm,0.3s,baz=124,slow=11,SNR=3.0						
AAK				Lg	Lg	02 30 52.7	
	0.4nm,0.3s,baz=195,slow=22,SNR=2.0						
AAK	Ala-Archa	9.22	277	⇑Lg	Lg	02 30 58.8	
	16nm,0.8s						
GTA	Gaotai	10.15	101	eP	Pn	02 28 28.4	+2.0
GTA				pP		02 28 33.1	
GTA				sP		02 28 35.4	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURBB	Kurchatov Arra	10.29	329	Pn	Pn	02 28 28.7	+0.6
	0.1nm,0.3s,baz=141,slow=13,SNR=6.4						
KURBB				Lg	Lg	02 31 24.3	
	0.1nm,0.3s,baz=50,slow=24,SNR=4.3						
KURBB	Kurchatov Arra	10.29	329	⇑Lg	Lg	02 31 21.4	
	20nm,0.7s						
KURK	Kurchatov	10.33	329	⇓Lg	Lg	02 31 21.9	
	8.8nm,0.8s						
MNAS	Manas	10.69	277	⇑Lg	Lg	02 31 41.6	
	3.9nm,0.7s						
ZALV	Zalesovo Beam	11.92	354	Pn	Pn	02 28 48.9	-1.5
	0.4nm,0.3s,baz=168,slow=15,SNR=3.8						
ZALV				Sn	Sn	02 30 56.9	-5.1
	1.3nm,0.3s,baz=166,slow=26,SNR=12						
SONM	Songino Array	14.90	61	Pn	P	02 29 42.8	+6.3
	0.2nm,0.3s,baz=251,slow=14,SNR=4.7						
SONM				Lg	Lg	02 33 56.7	
	0.0nm,0.3s,baz=270,slow=32,SNR=3.7						
BVAR	Borovoye Array	15.56	320	Pn	Pn	02 29 38.7	-1.1
	0.3nm,0.3s,baz=131,slow=6.7,SNR=3.7						
CD2	Chengdu	17.52	124	eP	Pn	02 30 03.6	-1.1
AKTO	Aktyubinsk	21.54	303	P	P	02 30 51.5	+2.4
	1.1nm,0.4s,baz=105,slow=13,SNR=6.1						
BRTR	Keskin Array B	39.79	285	P	P	02 33 35.0	+2.2
	0.6nm,0.8s,baz=88,slow=7.9,SNR=2.8						
FINES	FINESS Array B	40.52	320	P	P	02 33 39.3	+0.9
	4.5nm,1.1s,baz=107,slow=8.9,SNR=0.7						
ARCES	ARCESS Array B	41.35	332	P	P	02 33 45.9	+0.8
	2.8nm,0.9s,baz=97,slow=7.7,SNR=1.7						
HFS	Hagfors	46.69	319	P	P	02 34 29.1	+1.0
	2.7nm,0.7s,baz=100,slow=7.6,SNR=2.7						
HFS				pP	pP	02 34 36.2	-2.3
	1.4nm,0.7s,baz=51,slow=40,SNR=1.1						
NB2	NORSAR Subarra	47.70	320	P	P	02 34 36.4	+0.5
	comp=Z,1.0nm,0.5s,baz=76,slow=7.9						
NOA	NORSAR Array B	47.70	320	P	P	02 34 36.5	+0.6
	comp=Z,1.5nm,0.6s,baz=78,slow=7.9,SNR=4.9						
NOA				pP	pP	02 34 44.0	-2.3
	comp=Z,1.4nm,0.9s,baz=79,slow=6.8,SNR=2.4						
ESDC	Sonseca Array	65.42	302	P	P	02 36 42.4	+0.1
	comp=Z,0.1nm,0.3s,baz=54,slow=6.5,SNR=2.2						
ESDC				pP	pP	02 36 49.6	-3.4
	comp=Z,0.3nm,0.4s,baz=44,slow=6.2,SNR=4.6						
YKA	Yellowknife Ar	74.31	10	P	P	02 37 36.7	+0.3
	comp=Z,0.3nm,0.8s,baz=335,slow=5.5,SNR=1.5						
YKA				pP	pP	02 37 42.8	-4.5
	comp=Z,0.4nm,0.6s,baz=338,slow=5.9,SNR=2.3						
WRA	Warramunga Arr	75.69	134	P	P	02 37 45.7	+0.7
	comp=Z,0.3nm,0.7s,baz=339,slow=6.4,SNR=1.6						
WRA				pP	pP	02 37 52.7	-3.2
	comp=Z,0.3nm,0.6s,baz=191,slow=27,SNR=1.5						
TORD	Torodi Ar. Bea	77.80	277	P	P	02 37 57.2	+0.2
	comp=Z,0.5nm,0.8s,baz=48,slow=4.1,SNR=5.3						
TORD				pP	PcP	02 38 04.6	-2.3
	comp=Z,0.4nm,0.6s,baz=38,slow=4.9,SNR=3.7						
ASAR	Alice Springs	78.54	137	P	P	02 38 01.1	+0.3
	comp=Z,0.3nm,0.7s,baz=334,slow=5.7,SNR=2.2						

*GUC **06** 02:33:24.5±0.6, 28°.34S×69°.01W, h135km±20km, ML3.7*
*ISCJB **06** 02:33:25.1±0.7, 28°.40S±0°.04×68°.95W±0°.04, h115km±9km, Error ellipse: s-maj=6.7km s-min=4.7km az=39.2*
*SJA **06** 02:33:25.2±0.9, 28°.42S×68°.94W, h113km±5km, ML3.4, MW3.2*

ISC 06 02:33:25.5±1.5, 28°.38S±0°.04×68°.95W±0°.04, h116km±13km, n19, σ0°95/31, 1C-8D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	Vinchina	0.74	119	eP	Pn	02 33 45.3	+0.3
VCA				⇓eS	Sn	02 33 59.1	-0.7
VCA				IAML		02 34 02.2	
	comp=Z,3μm,0.3s						
AGUA	GUANDACOL	1.17	160	eP	Pn	02 33 49.6	+0.5
AGUA				eS	Sn	02 34 07.0	-0.1
VACH	Vallenar	1.60	263	⇑iP	Pn	02 33 56.6	+2.6
VACH				iS	Sn	02 34 17.4	+1.8
CPCH	Copiapo	1.61	309	⇓iP	Pn	02 33 53.7	-0.3
CPCH				iS	Sn	02 34 14.3	-1.3
LCO	Las Campanas	1.66	247	eP	Pn	02 33 54.6	-0.3
LCO				iS	Sn	02 34 16.8	-0.5
LCO				IAML		02 34 17.7	
	comp=N,1μm,0.4s						
LCO	Las Campanas	1.66	247	eP	Pn	02 33 54.8	-0.1
LCO				eS	Sn	02 34 17.2	0.0
ACLC	CERRO LA CRUZ	2.04	121	eP	Pn	02 33 59.9	+0.4
ACLC				eS	Sn	02 34 25.2	-0.1
CDCH	Caldera	2.11	308	eP	Pn	02 34 00.0	-0.2
CDCH				iS	Sn	02 34 25.0	-1.7
TLL	Tololo Astrono	2.41	222	⇓iP	Pn	02 34 04.0	-0.2
TLL				iS	Sn	02 34 33.2	-0.7
TLL				IAML		02 34 38.0	
	comp=E,261nm,0.3s						
AMOG	MOGNA	2.58	171	eP	Pn	02 34 06.7	+0.4
AMOG				eS	Sn	02 34 36.9	-0.7
AVFE	Valle Fertil	2.62	151	eP	Pn	02 34 07.3	+0.5
AVFE				eS	Sn	02 34 37.7	-0.8
AVFE				IAML		02 34 39.4	
	comp=Z,45nm,0.3s						
CYA	Choya	2.77	92	eP	Pn	02 34 09.2	+0.5
CYA				IAML		02 34 09.5	
	comp=Z,446nm,0.4s						
APLL	PUNTA DE LOS L	2.92	134	⇓eP	Pn	02 34 10.7	0.0
APLL				⇓eS	Sn	02 34 44.4	-1.0
RTLL	Cerro Villicun	2.97	172	⇓eS	Sn	02 34 46.0	-0.7
FSA	Cafayete	3.48	50	eP	Pn	02 34 19.9	+1.7
FSA				IAML		02 34 20.6	
	comp=Z,22nm,0.3s						
RTCV	Cerro Valdivia	3.49	174	eS	Sn	02 34 58.2	-0.7
AHML	Horco Molle	3.58	64	eP	Pn	02 34 19.6	+0.2
AHML				⇓eS	Sn	02 34 31.8	-29
AUSP	Uspallata	3.85	186	⇓eP	Pn	02 34 23.9	+0.6
ASAL	Salagasta	4.20	179	eP	Pn	02 34 28.3	+0.6

*IDC **06** 02:44:26.7±1.3, 9°.75S×78°.43W, h81km±9km, mb3.5/6, mb1 3.7/9, mb1mx3.5/32, mbtmp3.9/9, MS2.7/2, Ms1 2.7/2, ms1mx2.5/21, Error ellipse: s-maj=20.0km s-min=7.7km az=74.0*

ISC 06 02:44:23.5±1.0, 9°.79S±0°.06×78°.7W±0°.1, h55km, n17, σ2°37/18, mb3.7/5, Neuquen Province of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.65	7	P	Pn	02 45 06.4	+2.1
	22nm,0.3s,baz=149,slow=4.0,SNR=60						
ATAH				S	Sn	02 45 38.8	+3.4
	46nm,0.3s,baz=26,slow=16,SNR=10						
NNA	Nana	2.85	140	P	Pn	02 45 07.1	+0.4
	46nm,0.3s,baz=329,slow=12,SNR=59						
NNA				S	Sn	02 45 41.2	+1.2
	92nm,0.3s,baz=267,slow=12,SNR=6.1						
NNA				LR	LR	02 45 55.9	
	comp=Z,53nm,20.7s,baz=342,slow=33						
FLOC	Florencia	11.70	15	eP	Pn	02 47 06.2	-1.6
LPAZ	La Paz	12.16	123	P	Pn	02 47 15.3	+0.6
	0.1nm,0.3s,baz=293,slow=11,SNR=2.4						
LPAZ				S	Sn	02 49 33.7	+4.6
	0.1nm,0.3s,baz=348,slow=23,SNR=2.2						
CHIC	Chingaza	15.15	19	eP	Pn	02 47 56.6	+2.0
RUSC	La Rusia	16.55	20	eP	P	02 48 13.7	-0.6
PTGA	Pitinga	20.70	65	P	P	02 48 58.0	-1.4
	1.0nm,0.5s,baz=261,slow=13,SNR=2.6						
PTGA				S	S	02 52 41.9	-5.9
	2.1nm,0.8s,baz=341,slow=21,SNR=2.1						
PTGA				LR	LR	02 56 28.8	
	comp=Z,54nm,19.5s,baz=250,slow=35						
DBIC	Dimbokro	75.36	80	P	P	02 56 01.2	-0.6
	2.2nm,0.5s,baz=237,slow=7.1,SNR=7.3						
SNAA	Sanae	76.33	162	P	P	02 56 06.7	+0.2
	0.2nm,0.4s,baz=277,slow=12,SNR=6.6						
YKA	Yellowknife Ar	77.22	344	P	P	02 56 10.7	-0.6
	0.6nm,0.7s,baz=142,slow=6.0,SNR=5.9						
TORD	Torodi Ar. Bea	83.00	75	P	P	02 56 42.5	-1.1
	0.7nm,0.6s,baz=272,slow=5.3,SNR=9.8						
ESDC	Sonseca Array	84.68	48	P	P	02 56 51.6	-0.1
	0.3nm,0.5s,baz=252,slow=5.4,SNR=3.9						
H11N3	WAKE ISLAND Hyl	16.10	287	T	T	05 09 41.3	
	baz=91						
H11N2	WAKE ISLAND Hyl	16.11	287	T	T	05 09 41.5	
	baz=91						
H11N1	WAKE ISLAND Hyl	16.12	287	T	T	05 09 40.8	
	baz=91						
ASAR	Alice Springs	133.93	223	PKP	PKPdf	03 03 35.1	-0.4
	0.3nm,0.5s,baz=133,slow=3.9,SNR=4.1						
WRA	Warramunga Arr	136.05	228	PKP	PKPdf	03 03 39.4	-0.1
	1.1nm,0.9s,baz=116,slow=2.2,SNR=7.3						

*SOME **06** 02:52:35.9, 40°.07N×76°.73E, h15km*
*KRNET **06** 02:52:43.7±0.1, 40°.31N×76°.70E, mb3.4*
*NNC **06** 02:52:47.9±3.4, 40°.38N×76°.33E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=29.6km s-min=18.4km az=171.0*

ISC 06 02:52:34.3±2.4, 40°.0N±0°.1×76°.71E±0°.04, h10km, n31, σ2°22/57, 27C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	2.16	9	eP	Pg	02 53 17.7	+2.0
	baz=11						
KDJ				⇑iS	Sg	02 53 43.1	-0.7
	baz=11						
ULHL	Ulahol	2.27	351	⇑eP	Pg	02 53 19.3	+1.4
	baz=350						
ULHL				⇑iS	Sb	02 53 44.9	+1.0
	baz=350						
KZA	Kyzart	2.36	332	⇑iP	Pg	02 53 21.7	+2.2
	baz=329						
KZA				⇑iS	Sg	02 53 49.0	-1.1
	baz=329						
BOOM	Boomskoye usch	2.56	347	⇑eP	Pg	02 53 24.3	+0.9
	baz=346						
BOOM				⇑eS	Sg	02 53 55.0	-1.5
	baz=346						
ARLS	Aral	2.60	317	⇑eP	Pg	02 53 25.5	+1.4
	baz=312						
ARLS				⇑iS	Sg	02 53 58.0	+0.2
	baz=312						
ANVS	Anan'yevo	2.88	14	⇓eP	Pg	02 53 28.5	-0.9
	baz=16						
ANVS				⇓eS	Sb	02 54 01.8	+0.7
	baz=16						
KBK	Karagaybulak	2.97	334	⇑iP	Pg	02 53 30.2	-1.1
	baz=331						
KBK				⇑iS	Sb	02 54 03.4	-0.5
	baz=331						
IZV	Izvestkoviy	3.04	359	eP	Pb	02 53 30.6	+2.1
	31nm,0.5s						
IZV				eS	Sg	02 54 09.7	-2.2
	41nm,0.4s						
TKM2	Tokmak 2	3.04	344	⇑iP	Pb	02 53 30.7	+2.1
	baz=343						
TKM2				⇑iS	Sb	02 54 03.9	-2.0
	baz=343						
TKM2	Tokmak 2	3.04	344	⇑Pn	Pb	02 53 30.7	+2.1
	7.1nm,0.4s						
TKM2				⇑Lg	Lg	02 54 10.5	
	22nm,0.5s						
TNSS	Tian-Shan	3.04	3	eP	Pb	02 53 29.3	+0.5
	31nm,0.5s						
TNSS				eS	Sb	02 54 07.8	+1.6
	81nm,0.4s						
KST	Kastek	3.10	350	eP	Pb	02 53 31.5	+2.0
	4.0nm,0.3s						
KST				eS	Sg	02 54 11.7	-2.0
	35nm,0.5s						
AAK	Ala-Archa	3.12	328	⇑iP	Pb	02 53 32.4	+2.4
	baz=325						
AAK				⇑iS	Sb	02 54 07.0	-1.2
	baz=325						
AAK	Ala-Archa	3.12	328	⇑Pn	Pb	02 53 32.3	+2.3
	13nm,0.5s						
AAK				⇓Lg	Lg	02 54 13.6	
	22nm,0.4s						
AML	Almayashu	3.12	314	⇑iP	Pg	02 53 33.1	-1.1
	baz=310						
AML				⇑iS	Sb	02 54 09.6	+1.1
	baz=310						
MTBS	Maitube	3.14	356	eP	Pb	02 53 32.2	+2.0
	18nm,0.4s						
MTBS				eS	Sg	02 54 13.0	-2.1
	32nm,0.3s						
MDOK	Medeo	3.17	4	⇑Pn	Pb	02 53 31.2	+0.3
MDOK				Lg	Lg	02 54 13.8	
KOTS	Kotyrbulak	3.25	5	eP	Pb	02 53 33.9	+1.8
KOTS				eS	Sg	02 54 15.7	-2.9
SATY	Saty	3.31	22	eP	Pb	02 53 34.2	+1.0
	9.8nm,0.6s						
SATY				eS	Sb	02 54 15.7	+2.1
	49nm,0.5s						
DGS	Degeres	3.32	348	eP	Pb	02 53 35.9	+2.5
	15nm,0.6s						
DGS				eS	Sg	02 54 18.9	-2.0
	53nm,0.5s						
EKS2	Erkin-Say	3.46	321	⇑iP	Pb	02 53 37.4	+1.6
	baz=318						
EKS2				⇑iS	Sb	02 54 16.0	-1.9
	baz=318						
UZB	Uzynbulak	3.59	28	eP	Pb	02 53 39.8	+1.7
	3.2nm,1.1s						
UZB				eS	Sg	02 54 25.7	-4.0
	20nm,0.8s						
KURS	Kuram	3.66	17	eP	Pb	02 53 40.6	+1.6
	3.3nm,0.4s						
KURS				eS	Sg	02 54 27.4	-4.3
	15nm,0.8s						
KTBS	Karatobe	3.71	360	eP	Pb	02 53 41.0	+1.0
	5.0nm,0.6s						
KTBS				eS	Sb	02 54 27.5	+2.4
	18nm,0.5s						
MRKS	Merke	3.80	317	eP	Pb	02 53 44.5	+3.1
	3.7nm,0.4s						
MRKS				eS	Sg	02 54 33.8	-2.5
	17nm,0.6s						
CHKK	Chushkaly	3.86	3	eP	Pb	02 53 44.8	+2.3
	11nm,0.4s						
CHKK				eS	Sg	02 54 34.2	-4.0
	98nm,0.4s						
PDGK	Podgornoye	3.93	31	⇑Pn	Pg	02 53 48.7	-0.8
	3.5nm,0.4s						
PDGK				⇓Sn	Sg	02 54 36.4	-4.0
	15nm,0.7s						
MNAS	Manas	4.03	309	⇓Pn	Pb	02 53 45.1	-0.4
	3.0nm,0.4s						
MNAS				⇑Lg	Lg	02 54 45.4	
	9.2nm,0.7s						
MNBS	Baschi	4.27	17	eP	Pb	02 53 51.5	+2.0
	6.5nm,0.2s						
MNBS				eS	Sb	02 54 45.4	+4.2
	19nm,0.2s						
ARXS	Arharly	4.29	11	eP	Pb	02 53 52.5	+2.5
	6.9nm,0.4s						
ARXS				eS	Sg	02 54 47.3	-4.8
	30nm,0.4s						
KK31	Karatay Array	5.59	306	Pn	Pb	02 54 07.1	-4.9
	0.3nm,0.3s,baz=135,slow=12,SNR=6.5						
KK31				Pg	Pg	02 54 19.4	-2.0
	0.9nm,0.5s,baz=122,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	02 55 35.0	
	2.3nm,0.5s,baz=111,slow=27,SNR=3.5						

*ISCJB **06** 02:59:25.6±0.5, 38°.43N±0°.03×28°.29E±0°.04, h8km±5km, Error ellipse: s-maj=5.8km s-min=4.4km az=157.0*
*CSEM **06** 02:59:25.6±0.1, 38°.41N×28°.31E, h8km, MD2.6, Error ellipse: s-maj=2.2km s-min=1.7km az=154.0*
*ISK **06** 02:59:25.2, 38°.42N×28°.30E, h8km, MD2.9*
*DDA **06** 02:59:25.8, 38°.45N×28°.30E, h7km, Md2.6*

ISC 06 02:59:25.9±0.9, 38°.42N±0°.03×28°.30E±0°.02, h13km±8km, n32, σ0°64/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	Manisa	0.21	71	iP	Pg	02 59 30.9	+0.2
MANT				iS	Sg	02 59 34.0	0.0
MANT	Manisa	0.21	71	P	Pg	02 59 30.9	+0.2
MANT				S	Sg	02 59 34.0	0.0
KULA	Kula-Manisa	0.29	72	ePG	Pg	02 59 31.5	-0.5
KULA				eSG	Sg	02 59 36.2	0.0
KULA	Kula-Manisa	0.29	72	ePg	Pg	02 59 31.5	-0.5
KULA				eSg	Sg	02 59 36.2	0.0
AYDB	Zeytinkoy-Aydi	0.58	214	ePG	Pg	02 59 36.7	-0.5
AYDB				eSG	Sg	02 59 45.0	+0.2
AYDB	Zeytinkoy-Aydi	0.58	214	ePg	Pg	02 59 36.7	-0.5
AYDB				eSg	Sg	02 59 45.0	+0.2
AKHS	Akhisar	0.59	320	iP	Pg	02 59 36.7	-0.9
AKHS				iS	Sg	02 59 45.7	+0.3
AKHS	Akhisar	0.59	320	P	Pg	02 59 36.7	-0.9
AKHS				S	Sg	02 59 45.7	+0.3
DEMI	Demirci	0.70	27	iP	Pg	02 59 39.2	-0.3
DEMI				iS	Sg	02 59 45.7	-3.0
DEMI	Demirci	0.70	27	P	Pg	02 59 39.2	-0.3
SIMA	Simav-Kutahya	0.85	39	ePG	Pg	02 59 42.0	-0.3
SIMA				eSG	Sb	02 59 54.4	+0.6
SIMA	Simav-Kutahya	0.85	39	ePg	Pg	02 59 42.0	-0.3
SIMA				eSg	Sb	02 59 54.4	+0.6
KHAL	Karahalli	0.94	93	iP	Pg	02 59 43.1	-0.9
KHAL				iS	Sg	02 59 56.1	-0.1
KHAL	Karahalli	0.94	93	P	Pg	02 59 43.1	-0.9
KHAL				S	Sg	02 59 56.1	-0.1
STEP	BALIKESIR_Sava	1.06	335	iP	Pb	02 59 45.7	-0.3
STEP	BALIKESIR_Sava	1.06	335	P	Pb	02 59 45.7	-0.3
GEDZ	Gediz	1.06	54	ePG	Pb	02 59 46.1	-0.2
GEDZ	Gediz	1.06	54	ePg	Pb	02 59 46.1	-0.2
MLSB	Milas	1.20	200	ePN	Pn	02 59 48.5	+0.1
MLSB	Milas	1.20	200	ePn	Pn	02 59 48.5	+0.1
BALB	Balikesir	1.26	345	ePN	Pb	02 59 49.8	+0.3
BALB	Balikesir	1.26	345	ePn	Pb	02 59 49.8	+0.3
DKL	Dikili	1.27	301	ePN	Pb	02 59 49.9	+0.2
DKL	Dikili	1.27	301	ePn	Pb	02 59 49.9	+0.2
URLA	Izmir	1.34	268	ePN	Pb	02 59 50.8	-0.1
URLA	Izmir	1.34	268	ePn	Pb	02 59 50.8	-0.1
TVSB	Tavsanli	1.37	41	ePN	Pb	02 59 51.4	0.0
TVSB	Tavsanli	1.37	41	ePn	Pb	02 59 51.4	0.0
KCTX	Karacabey (Bur	1.84	1	ePN	Pn	02 59 58.0	+0.8
KCTX	Karacabey (Bur	1.84	1	ePn	Pn	02 59 58.0	+0.8
EDC	Edincik	1.95	350	ePN	Pn	02 59 59.3	+0.6
EDC	Edincik	1.95	350	ePn	Pn	02 59 59.3	+0.6

JMA 06 03:36:18.0, 32°.92N×130°.85E, h9km±1km, M1.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	0.20	7	P	Pg	03 36 22.4	+0.2
JNU				S	Sg	03 36 25.6	+0.5
JTA	Tamana	0.27	279	P	Pg	03 36 23.6	+0.2
JTA				eS	Sg	03 36 27.6	+0.5
JIU2	Izumi 2	0.38	185	P	Pg	03 36 25.2	-0.2
JIU2				eS	Sg	03 36 30.4	+0.1

JMA 06 03:37:53.0±0.1, 36°.52N×137°.67E, h2km±1km, M0.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.36	108	P	Pg	03 38 00.6	+0.6
JNG				S	Sg	03 38 05.7	+0.9
JGN	Niukaw	0.41	224	P	Pg	03 38 01.3	+0.4
JGN				S	Sg	03 38 06.8	+0.5
MAT	Matsushiro	0.43	87	P	Pg	03 38 01.6	+0.3
MAT				S	Sg	03 38 07.5	+0.6
MAT	Matsushiro	0.43	87	P	Pg	03 38 01.6	+0.3
MAT				S	Sg	03 38 07.6	+0.7

*IDC **06** 03:48:32.2±1.9, 0°.12N×123°.27E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/31, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=250.6km s-min=28.0km az=62.0*
*ISCJB **06** 03:48:43.4±0.6, 0°.33S±0°.08×123°.10E±0°.05, h35km, mb3.2/3, MS2.9/1, Error ellipse: s-maj=12.9km s

CASC 06 03:53:43.3±2.4, 11°.15N×87°.49W, h0km±12km, MD3.7, ML3.4, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.35**	**41**	*eP*	Pg	03 54 08.4	-0.8
COPN				*eS*	Sn	03 54 28.9	+0.8
XAVN	**Gruta Xavier**	**1.51**	**49**	*eP*	Pn	03 54 10.6	-1.0
CNGN	**Cerro Negro**	**1.55**	**30**	*eP*	Pn	03 54 11.3	-0.9
CNGN				*eS*	Sg	03 54 34.9	+1.8
CNGN				AML	AML	03 54 36.1	
	comp=N,497nm,0.5s						
TISN	**Laguna Tiscapa**	**1.55**	**50**	*eP*	Pn	03 54 11.0	-1.2
MOMN	**Momotombo**	**1.56**	**37**	*eP*	Pn	03 54 11.2	-1.1
MGAN	**Managua**	**1.57**	**51**	*eP*	Pn	03 54 11.2	-1.2
CRZ1	**La Cruz**	**1.82**	**92**	*eP*	Pn	03 54 16.2	+0.2
CRZ1				*eS*	Sb	03 54 40.8	-0.2
CONN	**Concepcion**	**1.87**	**77**	*eP*	Pn	03 54 15.7	-1.0
CNCH	**Conchagua**	**2.14**	**351**	*eP*	Pn	03 54 20.8	+0.4
BOAB	**BOACO BROADBAN**	**2.20**	**54**	*eP*	Pn	03 54 19.5	-1.7
ESTN	**Estel**	**2.23**	**29**	*eP*	Pn	03 54 20.6	-1.0
TGUH	**Tegucigalpa,Un**	**2.90**	**4**	*eP*	Pn	03 54 31.8	+1.1
CGA2	**Cerro Gallo 2**	**3.18**	**111**	*eP*	Pn	03 54 37.4	+2.6
CGA2				*eS*	Sn	03 55 11.3	-2.2
ESPN	**Las Esperanzas**	**3.29**	**71**	*eP*	Pn	03 54 36.5	+0.3
URSC	**Urasca**	**3.88**	**109**	*eP*	Pn	03 54 47.6	+3.2

*ISCJB **06** 03:55:09.8±0.5, 37°.66N±0°.03×28°.36E±0°.04, h7km±6km, Error ellipse: s-maj=5.0km s-min=4.7km az=157.9*
*CSEM **06** 03:55:09.8±0.1, 37°.67N×28°.35E, h15km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.8km az=82.0*
*DDA **06** 03:55:09.7, 37°.65N×28°.36E, h7km, Md2.7*
*ISK **06** 03:55:09.2, 37°.65N×28°.34E, h12km, MD2.5*

ISC 06 03:55:09.9±1.0, 37°.65N±0°.03×28°.34E±0°.03, h16km±9km, n22, σ0.44/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.36**	**271**	*iP*	Pb	03 55 18.3	+0.2
AYDN				*iS*	Sb	03 55 23.6	0.0
AYDN	**Tasoluk**	**0.36**	**271**	P	Pb	03 55 18.3	+0.2
AYDN				S	Sb	03 55 23.6	0.0
AYDB	**Zeytinkoy-Aydi**	**0.46**	**310**	*e*PG	Pg	03 55 18.8	-0.4
AYDB				*e*SG	Sg	03 55 25.8	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.46**	**310**	*e*Pg	Pg	03 55 18.8	-0.4
AYDB				*e*Sg	Sg	03 55 25.8	+0.3
TAVA	**DENIZLI_Tavas**	**0.49**	**112**	*iP*	Pg	03 55 19.7	0.0
TAVA				*iS*	Sg	03 55 26.6	+0.2
TAVA	**DENIZLI_Tavas**	**0.49**	**112**	P	Pg	03 55 19.7	0.0
TAVA				S	Sg	03 55 26.6	+0.2
TURN	**Turunc**	**0.81**	**165**	*iP*	Pn	03 55 26.4	-0.3
TURN				*iS*	Sn	03 55 38.0	-0.3
TURN	**Turunc**	**0.81**	**165**	P	Pn	03 55 26.4	-0.3
TURN				S	Sn	03 55 38.0	-0.3
MANT	**Manisa**	**0.85**	**12**	*iP*	Pg	03 55 26.1	-0.4
MANT				*iS*	Sb	03 55 38.1	+0.2
MANT	**Manisa**	**0.85**	**12**	P	Pg	03 55 26.1	-0.4
MANT				S	Sb	03 55 38.1	+0.2
DALY	**Dalyan (Mu¨la**	**0.87**	**163**	*e*PG	Pg	03 55 26.4	-0.4
DALY	**Dalyan (Mu¨la**	**0.87**	**163**	*e*Pg	Pg	03 55 26.4	-0.4
KULA	**Kula-Manisa**	**0.90**	**16**	*e*PG	Pg	03 55 26.8	-0.5
KULA				*e*SG	Sb	03 55 39.9	+0.9
KULA	**Kula-Manisa**	**0.90**	**16**	*e*Pg	Pg	03 55 26.8	-0.5
KULA				*e*Sg	Sb	03 55 39.9	+0.9
BDRM	**Kayabasi**	**0.92**	**231**	*iP*	Pb	03 55 27.7	+0.1
BDRM				*iS*	Sb	03 55 40.6	+1.0
BDRM	**Kayabasi**	**0.92**	**231**	P	Pb	03 55 27.7	+0.1
BDRM				S	Sb	03 55 40.6	+1.0
BODT	**Bodrum**	**1.01**	**235**	*e*PG	Pb	03 55 28.9	-0.2
BODT	**Bodrum**	**1.01**	**235**	*e*Pg	Pb	03 55 28.9	-0.2
DAT	**Datca**	**1.10**	**214**	*e*PN	Pb	03 55 30.7	0.0
DAT	**Datca**	**1.10**	**214**	*e*Pn	Pb	03 55 30.7	0.0
FETY	**Fethiye**	**1.18**	**149**	*e*PN	Pb	03 55 31.9	0.0
FETY	**Fethiye**	**1.18**	**149**	*e*Pn	Pb	03 55 31.9	0.0

IDC 06 04:07:15.0±2.0, 0°.72S×133°.83E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/34, mbtmp3.9/4, ML4.2/2, Error ellipse: s-maj=40.8km s-min=25.5km az=58.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.56**	**267**	Pn	Pn	04 07 58.4	+0.5
	94nm,0.3s,baz=219,slow=23,SNR=41						
SIJI				Sn	Sn	04 08 29.8	0.0
	235nm,0.3s,baz=100,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**19.11**	**179**	P	P	04 11 40.0	+0.3
	0.5nm,0.3s,baz=356,slow=12,SNR=19						
ASAR	**Alice Springs**	**22.81**	**180**	P	P	04 12 19.6	-0.1
	1.2nm,0.7s,baz=6.3,slow=12,SNR=17						
MKAR	**Makanchi Array**	**65.27**	**324**	P	P	04 17 58.6	-0.1
	0.3nm,0.4s,baz=113,slow=7.3,SNR=4.8						

*IDC **06** 04:13:35.1±4.6, 12°.07S×116°.52E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/30, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=277.6km s-min=27.5km az=44.0*
*DJA **06** 04:13:48.0±1.3, 11°.8°×11°.7E±°, h10km, M3.7/4, MLv3.7/4*

ISC 06 04:13:40.6±1.6, 11°.1S±0°.1×117°.6E±0°.2, h10km, n5, σ1.40/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.29**	**4**	P	Pb	04 14 22.5	+0.5
PLAI				S	Sb	04 14 49.5	-0.8
TWSI	**Taliwang, Sumb**	**2.48**	**343**	P	Pn	04 14 23.1	+1.9
TWSI				S	Sn	04 14 50.6	-1.0
WRA	**Warramunga Arr**	**18.32**	**121**	P	Pn	04 17 55.2	+0.1
	0.4nm,0.3s,baz=280,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**19.89**	**131**	P	P	04 18 12.3	-0.1
	0.8nm,0.6s,baz=304,slow=10,SNR=9.5						
MKAR	**Makanchi Array**	**65.75**	**334**	P	P	04 24 24.2	-1.5
	0.7nm,0.5s,baz=141,slow=7.4,SNR=8.3						

*IDC **06** 04:25:11.0±1.7, 1°.25S×127°.07E, h0km, mb3.6/2, mb1 4.1/4, mb1mx3.7/34, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=45.7km s-min=28.2km az=64.0*
*DJA **06** 04:25:14.5±1.2, 1°.5°×12°.8E±°, h42km±24km, M3.7/4, MLv3.7/4*
*ISCJB **06** 04:25:15.3±0.7, 1°.26S±0°.05×127°.45E±0°.06, h31km, mb3.7/2, Error ellipse: s-maj=8.9km s-min=5.9km az=28.1*

ISC 06 04:25:15.6±0.9, 1°.20S±0°.06×127°.26E±0°.07, h31km, n8, σ1.30/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.60**	**23**	P	Pn	04 25 28.5	+0.5
LBMI				S	Sb	04 25 36.0	-0.1
SANI	**Sanana**	**1.53**	**236**	P	Pb	04 25 43.4	+0.1
SANI				S	Sb	04 26 03.0	+0.7
NLAI	**Namlea**	**2.04**	**185**	P	Pn	04 25 47.3	-0.4
NLAI				S	Sn	04 26 12.7	+0.6
SIJI	**Sorong**	**4.02**	**85**	Pn	Pn	04 26 17.5	+2.5
	10nm,0.3s,baz=197,slow=23,SNR=7.9						
SIJI				Sn	Sn	04 26 58.7	-2.4
	30nm,0.3s,baz=168,slow=22,SNR=5.6						
BNDI	**Bandanaira**	**4.23**	**141**	P	Pn	04 26 04.3	-14
WRA	**Warramunga Arr**	**19.88**	**160**	P	P	04 29 43.9	-0.5
	0.6nm,0.3s,baz=341,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**23.25**	**164**	P	P	04 30 20.0	-0.5
	1.6nm,0.5s,baz=342,slow=10.0,SNR=28						
MKAR	**Makanchi Array**	**61.91**	**327**	P	P	04 35 31.9	-0.4
	0.2nm,0.3s,baz=136,slow=6.6,SNR=2.8						

TRN 06 04:39:59.4, 17°.38N×61°.58W, h31km, MD3.9, 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.34**	**326**	*e*P	Pn	04 40 09.2	+1.0
ANWB				*e*S	Sn	04 40 16.0	+1.8
BPA	**Boggy Peak**	**0.42**	**218**	*e*P	Pn	04 40 10.4	+1.1
BPA				*e*S	Sn	04 40 18.3	+2.2
MLYT	**Lee's Yard**	**0.88**	**222**	*e*P	Pb	04 40 17.0	+0.8
MLYT				*e*S	Sb	04 40 29.1	+1.5
NEV	**Hard Times**	**0.97**	**256**	*e*P	Pb	04 40 18.1	+0.3
SEG	**Port Louis**	**0.98**	**176**	⇑*iP*	Pb	04 40 18.4	+0.7
SKI	**Saint Kitts**	**1.10**	**268**	*e*P	Pb	04 40 19.9	-0.1
SKI				*e*S	Sb	04 40 35.0	+0.9
DEG	**La Desirade**	**1.17**	**155**	*e*P	Pb	04 40 20.6	-0.5
DEG				*e*S	Sb	04 40 36.4	+0.3
SFG	**Saint Francois**	**1.18**	**162**	*e*P	Pb	04 40 21.4	+0.2
LZG	**Guadaloupe-1**	**1.25**	**189**	⇑*e*P	Pb	04 40 22.0	-0.4
SSG	**Sans Toucher**	**1.29**	**184**	*e*P	Pb	04 40 22.5	-0.7
MLG	**Mont-d'or**	**1.32**	**185**	*e*P	Pb	04 40 23.1	-0.5
SEUS	**St. Eustatius**	**1.34**	**275**	⇓*iP*	Pb	04 40 23.5	-0.4
SEUS	**St. Eustatius**	**1.34**	**275**	*e*P	Pb	04 40 23.8	-0.1
SEUS				*e*S	Sb	04 40 41.5	+0.8
PHG	**Guadaloupe-2**	**1.36**	**182**	*e*P	Pb	04 40 23.6	-0.8
MGG	**Marie-Galante**	**1.48**	**170**	*e*P	Pb	04 40 25.9	-0.3
MGG				*e*S	Sb	04 40 44.9	+0.3
TBG	**Guadaloupe-3**	**1.52**	**182**	*e*P	Pb	04 40 26.2	-0.8
TBG				*e*S	Sb	04 40 45.9	0.0
SABA	**Saba**	**1.60**	**279**	*e*P	Pb	04 40 27.3	-1.1
SABA				*e*S	Sb	04 40 47.6	-0.7
DWS	**Wesley**	**1.82**	**172**	*e*P	Pn	04 40 30.2	+1.7
DWS				*e*S	Sb	04 40 52.6	-1.9
BBL	**Barber's Block**	**1.85**	**177**	*e*P	Pn	04 40 30.5	+1.5
BBL				*e*S	Sb	04 40 53.8	-1.5
DLPL	**La Plaine**	**2.06**	**171**	*e*P	Pb	04 40 34.4	-1.8
DLPL				*e*S	Sn	04 40 57.9	+1.3
PCM	**Pelee Case Pet**	**2.58**	**172**	*e*P	Pn	04 40 40.1	+1.1
PCM	**Pelee Case Pet**	**2.58**	**172**	*e*P	Pn	04 40 40.5	+1.5
BAMF	**Morne Balai**	**2.58**	**171**	*e*P	Pn	04 40 40.6	+1.4
CXM	**Morne La Croix**	**2.59**	**171**	*e*P	Pn	04 40 40.6	+1.3
GBMF	**Grand Be**	**2.60**	**171**	*e*P	Pn	04 40 40.4	+1.0
PML	**Morne Lenard**	**2.61**	**172**	*e*P	Pn	04 40 41.0	+1.5
FDF	**Fort de France**	**2.67**	**171**	*e*P	Pn	04 40 42.1	+1.8
FDF				*e*S	Sn	04 41 13.3	+1.7
ZAM	**Aeronautique**	**2.84**	**169**	*e*P	Pn	04 40 43.8	+1.1
TRMF	**Trois Ilets**	**2.87**	**170**	*e*P	Pn	04 40 44.4	+1.3
MVM	**Montagne Vaucl**	**2.89**	**167**	*e*P	Pn	04 40 44.6	+1.3
SLW	**Petit Monier**	**3.40**	**169**	*e*P	Pn	04 40 52.4	+2.1
SLTA	**Morne Tabac**	**3.53**	**171**	*e*P	Pn	04 40 54.6	+2.5
MCLT	**Moule a Chique**	**3.70**	**170**	*e*P	Pn	04 40 56.5	+2.0
SFAN	**Fancy Village**	**3.99**	**174**	*e*P	Pn	04 41 01.2	+2.7
SVB	**Belmont**	**4.10**	**175**	*e*P	Pn	04 41 02.7	+2.7
GRGR	**Grenville**	**5.22**	**181**	*e*P	Pn	04 41 17.7	+2.4

IDC 06 04:47:55.4±2.8, 7°.39S×129°.25E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/21, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=254.1km s-min=33.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.42**	**159**	Pn	Pn	04 51 06.9	-0.4
	0.2nm,0.3s,baz=334,slow=14,SNR=7.5						
WRA				Sn	Sn	04 53 23.9	-14
	0.6nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.79**	**165**	Pn	Pn	04 51 52.7	+0.5
	0.1nm,0.3s,baz=355,slow=9.4,SNR=3.3						
ASAR				Sn	Sn	04 54 46.1	-13
	0.2nm,0.3s,baz=347,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	04 58 57.5	0.0
	0.2nm,0.4s,baz=116,slow=7.0,SNR=4.3						

*ISCJB **06** 05:09:31.4±1.0, 51°.46N±0°.04×16°.09E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=3.1km az=18.3*
*CSEM **06** 05:09:32.1±0.5, 51°.52N×16°.11E, h1km, ML2.9/9, Error ellipse: s-maj=6.3km s-min=3.7km az=8.0*
*VIE **06** 05:09:32.5±0.6, 51°.41N×16°.01E, h0km, mb2.4/1, ML2.4/5, Error ellipse: s-maj=3.7km s-min=2.5km az=12.0, Suspected Mining induced.*
*WAR **06** 05:09:32.7, 51°.54N×16°.09E, h1km, Mw2.3*

ISC 06 05:09:32.8±1.3, 51°.50N±0°.06×16°.07E±0°.03, h0km, n33, σ0.63/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**168**	*e*Pg	Pg	05 09 45.9	+0.1
KSP				*e*Sg	Sg	05 09 55.3	+0.8
KSP	**Ksiaz**	**0.68**	**168**	*e*Pg	Pg	05 09 45.9	+0.1
KSP				*e*Sg	Sg	05 09 55.3	+0.8
KSP	**Ksiaz**	**0.68**	**168**	*e*Pg	Pg	05 09 45.9	+0.1
KSP				*e*Sg	Sg	05 09 55.3	+0.8
UPC	**Upice**	**1.00**	**182**	*e*PG	Pg	05 09 51.9	0.0
UPC				*e*SG	Sg	05 10 04.9	+0.1
	comp=Z,41nm,0.3s						
UPC	**Upice**	**1.00**	**182**	Pg	Pg	05 09 51.9	0.0
UPC				Sg	Sg	05 10 04.9	+0.1
	41nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG	Pg	05 09 54.6	-0.5
DPC				*e*SG	Sg	05 10 09.6	-0.6
	comp=Z,11nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**172**	Pg	Pg	05 09 54.6	-0.5
DPC				Sg	Sg	05 10 09.6	-0.6
	11nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	Pg	05 09 59.0	+0.1
PVCC				*e*SG	Sn	05 10 18.1	+0.3
	comp=Z,39nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	Pg	Pg	05 09 59.0	+0.1
PVCC				Sg	Sn	05 10 18.1	+0.3
	39nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**246**	PG	Pg	05 10 01.1	-0.1
BRG				SG	Sn	05 10 21.1	+0.4
	29nm,0.4s						
KRLC	**Kraliky**	**1.50**	**162**	*e*PG	Pn	05 10 00.7	-0.3
KRLC				*e*SG	Sg	05 10 20.2	-0.7
KRLC	**Kraliky**	**1.50**	**162**	Pg	Pn	05 10 00.7	-0.3
KRLC				Sg	Sg	05 10 20.2	-0.7
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	*e*PG	Pb	05 10 06.5	0.0
GOPC				*e*SG	Sg	05 10 30.1	-0.1
	comp=Z,5.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	Pg	Pb	05 10 06.5	0.0
GOPC				Sg	Sg	05 10 30.1	-0.1
	5.7nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	*e*SG	Sb	05 10 30.2	+0.4
	comp=Z,12nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	Sg	Sb	05 10 30.2	+0.4
	12nm,0.3s						
CLL	**Collm**	**1.93**	**265**	*e*Pg	Pb	05 10 09.0	+0.1
CLL				*e*Sg	Sg	05 10 35.0	+0.2
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	Pn	05 10 06.3	-1.1
MORC				*e*Sg	Sb	05 10 34.6	0.0
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*SG	Sb	05 10 38.6	-0.5
OKC	**Ostrava-Krasne**	**2.13**	**141**	Sg	Sb	05 10 38.6	-0.5
VRAC	**Vranov**	**2.22**	**171**	*e*Sg	Sb	05 10 43.0	+1.1
NKC	**Novy Kostel**	**2.62**	**242**	*e*SG	Sg	05 10 57.4	+0.3
	comp=Z,13nm,0.4s						
NKC	**Novy Kostel**	**2.62**	**242**	Sg	Sg	05 10 57.4	+0.3
	13nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	Pn	05 10 19.0	-0.7
KHC				*e*PG	Pg	05 10 28.0	+0.3
KHC				*e*SG	Sg	05 11 03.5	-1.2
KHC	**Kasperske Hory**	**2.86**	**215**	Pn	Pn	05 10 19.0	-0.7
KHC	**Kasperske Hory**	**2.86**	**215**	Pg	Pg	05 10 28.0	+0.3
KHC				Sg	Sg	05 11 03.5	-1.2
LANS	**Liptovska Anna**	**3.21**	**136**	*e*Sg	Sg	05 11 16.9	+1.1
LANS	**Liptovska Anna**	**3.21**	**136**	*e*SG	Sg	05 11 16.9	+1.1
CONA	**Conrad Observa**	**3.58**	**182**	Sg	Sg	05 11 27.8	0.0
	1.8nm,0.3s						
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*Sg	Sg	05 11 38.7	+0.4
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*SG	Sg	05 11 38.7	+0.4
ARSA	**Arzberg**	**4.27**	**185**	Sg	Sg	05 11 50.4	+0.4
	1.1nm,0.2s						
KBA	**Koelnbreinsper**	**4.78**	**203**	Sg	Sg	05 12 07.9	+1.8
	0.1nm,0.1s						

*IDC **06** 05:11:46.2±1.0, 17°.27N×93°.97W, h157km±11km, mb3.3/7, mb1 3.6/7, mb1mx3.4/30, mbtmp3.8/7, Error ellipse: s-maj=36.2km s-min=14.1km az=68.0*
*MEX **06** 05:11:48.9±0.9, 17°.08N×94°.11W, h162km±8km, MD4.4*
*NEIC **06** 05:11:49.7±0.9, 16°.74N×94°.27W, h92km±14km, mb4.2/9, Error ellipse: s-maj=19.3km s-min=8.5km az=199.0*
*ISCJB **06** 05:11:50.9±0.4, 16°.99N±0°.05×94°.24W±0°.03, h119km±5km, mb3.8/6, Error ellipse: s-maj=8.2km s-min=5.1km az=175.3*

ISC 06 05:11:49.0±0.7, 16°.93N±0°.05×94°.13W±0°.04, h147km±6km, n94, σ3.15/96, mb3.8/6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.73**	**283**	P	Pn	05 12 11.9	+0.5
	baz=91,slow=6.5						
CMIG				S	Sn	05 12 29.9	+1.5
	2μm,0.3s,baz=322,slow=22,SNR=135						
TGIG		**0.98**	**99**	*i*P	Pn	05 12 13.3	0.0
TGIG				*i*S	Sn	05 12 32.1	+0.2
TGBT	**Tuxtla Gutierr**	**1.01**	**99**	*e*P	Pn	05 12 13.5	0.0
TGBT				*e*S	Sn	05 12 32.8	+0.6
TUIG	**Tuzandepetl**	**1.13**	**346**	*e*P	Pn	05 12 13.5	-1.1
TUIG				*e*S	Sn	05 12 31.9	-2.3
TUIG	**Tuzandepetl**	**1.13**	**346**	*e*Pn	Pn	05 12 13.6	-1.1
TUIG				*e*Sn	Sn	05 12 29.2	-5.1
PCIG		**1.50**	**144**	*e*P	Pn	05 12 19.6	+1.2
PCIG				*i*S	Sn	05 12 43.3	+2.5
CCIG	**Comitan**	**2.02**	**108**	*e*P	Pn	05 12 24.1	-0.2
CCIG	**Comitan**	**2.02**	**108**	*e*Pn	Pn	05 12 24.2	-0.2
HUIG	**Huatulco**	**2.22**	**239**	*e*P	Pn	05 12 25.4	-1.2
HUIG				*i*S	Sn	05 12 57.3	+1.9
OXBJ	**Oaxaca**	**2.48**	**274**	*e*P	Pn	05 12 30.0	+0.1
VHO	**Vista Hermosa**	**2.49**	**274**	*e*P	Pn	05 12 30.2	+0.2
VHO				*e*S	Sn	05 13 02.1	+0.5
PANG	**Puerto Angel**	**2.57**	**241**	*e*P	Pn	05 12 29.1	-1.7
PANG				*e*S	Sn	05 13 03.9	+0.7
TPIG	**Tehuac#an**	**3.41**	**296**	*e*P	Pn	05 12 41.2	-0.5
SCIG	**Sabancuy**	**3.46**	**54**	*e*Pn	Pn	05 12 38.2	-4.0
LVIG	**Laguna Verde**	**3.52**	**322**	*e*P	Pn	05 12 39.3	-3.7
LVIG	**Laguna Verde**	**3.52**	**322**	*e*Pn	Pn	05 12 40.1	-2.9
PNIG	**Pinotepa**	**3.87**	**263**	*e*P	Pn	05 12 45.6	-1.8
TLIG	**Tlapa**	**4.28**	**279**	*e*P	Pn	05 12 52.4	-0.6
TLIG	**Tlapa**	**4.28**	**279**	*e*Pn	Pn	05 12 52.4	-0.6
PPM	**Popocatepetl**	**4.77**	**297**	*e*P	Pn	05 13 00.2	+0.4
YAIG	**Yautepec**	**5.07**	**293**	*e*P	Pn	05 13 03.2	-0.2
UNM	**Universidad Na**	**5.36**	**297**	*e*Pn	Pn	05 13 07.3	-0.1
TGUH	**Tegucigalpa,Un**	**7.21**	**112**	*e*Pn	Pn	05 13 31.7	-0.1
MOIG	**Morelia**	**7.24**	**293**	*e*Pn	Pn	05 13 33.1	+0.6
ZAIG	**Zacatecas**	**9.83**	**308**	*e*Pn	Pn	05 14 07.3	+0.2
934A	**Benavides**	**11.37**	**340**	P	Pn	05 14 29.8	+2.8
	baz=159						
834A	**Tilden**	**11.86**	**341**	P	Pn	05 14 36.0	+2.4
	baz=160						
736A	**Circle Diamond**	**12.27**	**348**	P	Pn	05 14 42.1	+3.3
	baz=168						
833A	**Chaparral WMA,**	**12.33**	**338**	P	Pn	05 14 42.1	+2.4
	baz=157,SNR=8.9						
832A	**Faith Ranch, C**	**12.52**	**336**	P	Pn	05 14 44.6	+2.6
	baz=154,SNR=5.9						
734A	**La Parita Cree**	**12.54**	**342**	P	Pn	05 14 45.4	+3.1
	baz=161						
733A	**Divot King Ran**	**12.66**	**339**	P	Pn	05 14 46.6	+2.7
	baz=158						
634A	**China Grove, S**	**12.98**	**343**	P	Pn	05 14 50.4	+2.3
	baz=163						
633A	**Saathoff Ranch**	**13.30**	**341**	P	P	05 14 55.9	-0.7
	baz=160						
435B	**Jarrell**	**14.14**	**348**	P	Pn	05 15 04.5	+1.6
	baz=167						
339A	**Huntington**	**14.34**	**359**	P	Pn	05 15 04.2	-1.1
	baz=179						
338A	**Crockett**	**14.40**	**356**	P	Pn	05 15 05.4	-0.7
	baz=176						
340A	**Bronson**	**14.42**	**1**	P	Pn	05 15 05.3	-1.0
	baz=181						
JCT	**Junction City**	**14.45**	**340**	*e*Pn	P	05 15 11.0	+1.6
336A	**Riesel**	**14.60**	**351**	P	Pn	05 15 09.0	+0.5
	baz=170						
HPIG		**14.60**	**315**	*e*Pn	P	05 15 12.0	+0.7
238A	**Jacksonville**	**15.03**	**357**	P	Pn	05 15 15.0	+1.0
	baz=177						
237A	**Washetta, Mont**	**15.08**	**355**	P	Pn	05 15 15.4	+0.8
	baz=174						
TXAR	**Lajitas Array**	**15.13**	**326**	P	Pn	05 15 12.6	-2.7
	0.0nm,0.3s,baz=149,slow=15,SNR=4.7						
242A	**Grayson**	**15.17**	**6**	P	Pn	05 15 15.4	-0.2
	baz=188						
WHTX	**Lake Whitney,**	**15.29**	**349**	P	Pn	05 15 18.0	+0.8
	baz=168						
WHTX	**Lake Whitney,**	**15.29**	**349**	*e*Pn	P	05 15 23.3	+4.7
	18nm,0.6s						
Z41A	**Richland Creek**	**16.30**	**4**	P	P	05 15 31.1	+1.3
	baz=185						
ABTX	**Abilene, Hawle**	**16.40**	**343**	*e*Pn	P	05 15 35.6	+4.7
	12nm,0.8s						
ABTX				*e*pP	pP	05 15 55.7	-0.5
Z36A	**Blue Ridge**	**16.40**	**353**	P	P	05 15 32.6	+1.7
	baz=173						
Z43A	**Armstrong Fami**	**16.42**	**9**	P	Pn	05 15 31.8	+0.9
	baz=190						
WLAR	**White Oak Lake**	**16.71**	**3**	*e*Pn	Pn	05 15 38.1	+3.7
	29nm,1.0s						
Y38A	**Idabel**	**16.93**	**358**	P	Pn	05 15 38.9	+1.7
	baz=178						
Y41A	**Eaglette Beard**	**16.93**	**4**	P	Pn	05 15 39.6	+2.4
	baz=185						
Y36A	**Durant**	**17.01**	**354**	P	Pn	05 15 41.9	+3.8
	baz=174						
Y40A	**Okolona**	**17.03**	**2**	P	Pn	05 15 41.2	+2.8
	baz=183						
Y37A	**Hugo**	**17.03**	**356**	P	Pn	05 15 41.2	+2.8
	baz=176						
Y35A	**Marietta**	**17.10**	**352**	P	Pn	05 15 44.0	+4.7
	baz=171,SNR=14						
X39A	**Fountain Ranch**	**17.51**	**0**	P	Pn	05 15 49.1	+5.0
	baz=180						
X40A	**Basin Creek Fa**	**17.52**	**4

PLCA	**Paso Flores**	**61.41 160**	P	**P**	**05 21 47.8**	**-2.0**
	2.8nm,0.8s,baz=6.6,slow=9.2,SNR=6.0					
WRA	**Warramunga Arr**	**134.04 258**	PKP	**PKPdf**	**05 30 45.9**	**-3.8**
	0.7nm,0.7s,baz=19,slow=0.7,SNR=10					
ASAR	**Alice Springs**	**134.62 253**	PKP	**PKPdf**	**05 30 47.1**	**-3.7**
	0.4nm,0.7s,baz=75,slow=1.6,SNR=5.6					

IDC 06 05:14:60.0±4.3, 30°.37S×138°.39E, h0km, mb1 3.0/3, mb1mx3.0/24, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=108.7km s-min=17.6km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.13**	**120**	Pn	Pn	05 15 50.9	+0.3
	0.3nm,0.3s,baz=291,slow=11,SNR=3.2						
STKA				Sn	Sn	05 16 27.2	-1.5
	1.5nm,0.3s,baz=250,slow=23,SNR=4.3						
STKA				Lg	Lg	05 16 39.0	
	1.7nm,0.3s,baz=27,slow=21,SNR=6.0						
ASAR	**Alice Springs**	**7.78**	**328**	Pn	Pn	05 16 54.9	+0.3
	0.1nm,0.3s,baz=150,slow=12,SNR=5.2						
ASAR				Sn	Sn	05 18 22.8	-0.7
	0.1nm,0.3s,baz=153,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**11.01**	**340**	Pn	Pn	05 17 39.0	+0.2
	0.1nm,0.3s,baz=158,slow=14,SNR=3.8						

SGS 06 05:28:15.9, 25°.17N×37°.96E, h43km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY01	**LNY01**	**0.05**	**1**	S	Sn	05 28 27.2	-0.5
LNY01				P	Pn	05 28 22.5	-0.4
LNY02	**LNY02**	**0.09**	**251**	S	Sn	05 28 27.5	-0.5
LNY02				P	Pn	05 28 22.5	-0.6
LNY08	**LNY08**	**0.17**	**216**	S	Sn	05 28 28.1	-0.6
LNY08				P	Pn	05 28 22.8	-0.7
LNY12	**LNY12**	**0.20**	**301**	P	Pn	05 28 23.2	-0.4
LNY03	**LNY03**	**0.23**	**336**	S	Sn	05 28 28.9	-0.5
LNY03				P	Pn	05 28 23.5	-0.4
LNY04	**LNY04**	**0.30**	**290**	P	Pn	05 28 24.0	-0.5
LNY07	**LNY07**	**0.35**	**264**	P	Pn	05 28 24.5	-0.5

NEIC 06 06:00:31.2±0.0, 51°.96N×177°.78E, h70km, MG3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**2.15**	**94**	P	Pn	06 01 05.3	+0.6
GAEA	**Gareloi East**	**2.16**	**93**	P	Pn	06 01 05.8	+0.9
GAEA				S	Sn	06 01 32.6	+1.9
SMY	**Shemya**	**2.39**	**290**	P	Pn	06 01 08.7	+0.7
SMY				S	Sn	06 01 38.2	+2.0
TANO	**Tanaga North**	**2.54**	**89**	P	Pn	06 01 11.3	+1.3
TAFP	**Tanaga Falls P**	**2.62**	**90**	P	Pn	06 01 12.1	+0.9
TAFP				S	Sn	06 01 42.5	+0.6
TAPA	**Tanaga Point A**	**2.73**	**91**	P	Pn	06 01 13.7	+1.0
KKIV	**Kanaga Island**	**3.12**	**90**	P	Pn	06 01 19.1	+1.1
ADK	**Adak**	**3.43**	**89**	P	Pn	06 01 23.2	+1.1
ADK				S	Sn	06 02 03.7	+2.2
ETKA	**Kagalaska Isla**	**3.60**	**89**	P	Pn	06 01 25.9	+1.4
GSCK	**Great Sitkin C**	**3.74**	**87**	P	Pn	06 01 27.4	+1.0
KOWE	**Korovin West**	**4.92**	**82**	P	Pn	06 01 45.2	+2.7
ATKA	**Atka Island**	**4.95**	**84**	P	Pn	06 01 44.7	+1.8

NIED ***06*** *06:08:00, 38°.00N×144°.60E, h5km, Mw4.1 Best double couple: M₀1.37000×10¹⁵ NP1:φs9.00000°, δ17.00000°, λ-98.00000°. NP2:φs197.00000°, δ73.00000°, λ-88.00000°.*
IDC ***06*** *06:08:41.2±0.8, 37°.82N×144°.89E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/33, mbtmp4.0/10, ML4.0/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/30, Error ellipse: s-maj=28.9km s-min=16.4km az=115.0*
ISCJB ***06*** *06:08:44.0±0.5, 37°.97N±0°.03×144°.65E±0°.04, h33km, mb4.1/9, MS3.4/1, Error ellipse: s-maj=5.0km s-min=4.5km az=24.2*
JMA ***06*** *06:08:45.8±0.2, 37°.99N×144°.56E, h46km, M4.4*
NEIC ***06*** *06:08:46.2±0.6, 37°.91N×144°.75E, h35km, mb4.3/1, Error ellipse: s-maj=13.3km s-min=9.2km az=116.0*

ISC 06 06:08:46.4±0.8, 38°.01N±0°.05×144°.64E±0°.08, h35km, n37, σ2°.06/53, mb3.9/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.56**	**296**	P	**Pn**	**06 09 25.4**	**-0.1**
OFUJ				*e*S	**Sn**	**06 09 54.9**	**-0.5**
JIO	**Ouri**	**2.63**	**281**	P	**Pn**	**06 09 26.2**	**-0.1**
JIO				S	**Sn**	**06 09 56.2**	**-0.8**
MIYJ	**Miyakonagasawa**	**2.70**	**306**	P	**Pn**	**06 09 27.3**	**-0.1**
MIYJ				*e*S	**Sn**	**06 09 58.0**	**-0.8**
JMK	**Ichinoseki**	**2.84**	**290**	P	**Pn**	**06 09 29.7**	**+0.4**
JMK				*e*S	**Sn**	**06 10 01.9**	**-0.4**
JOM	**Ohasama**	**3.00**	**300**	P	**Pn**	**06 09 32.0**	**+0.6**
JOM				*e*S	**Sn**	**06 10 06.3**	**+0.2**
JANG	**Nango**	**3.39**	**315**	P	**Pn**	**06 09 36.7**	**-0.1**
JANG				*e*S	**Sn**	**06 10 15.1**	**-0.6**
JFT	**Otama**	**3.44**	**263**	P	**Pn**	**06 09 38.2**	**+0.6**
JFT				S	**Sn**	**06 10 16.8**	**-0.4**
JYK	**Kaneyama**	**3.48**	**286**	P	**Pn**	**06 09 38.9**	**+0.8**
JYK				*e*S	**Sn**	**06 10 18.6**	**+0.6**
ERM	**Erimo**	**4.16**	**345**	*e*Pn	**Pn**	**06 09 47.5**	**+0.1**
JOT	**Ohata**	**4.36**	**322**	P	**Pn**	**06 09 51.1**	**+0.9**
JOT				*e*S	**Sn**	**06 10 37.9**	**-1.8**
BSO1	**Boso 1**	**4.46**	**223**	P	**Pn**	**06 09 49.3**	**-1.8**
BSO1				*e*S	**Sn**	**06 10 40.1**	**-1.5**
JCH	**Churui**	**4.70**	**348**	P	**Pn**	**06 09 54.2**	**-0.7**
JCH				*e*S	**Sn**	**06 10 45.4**	**-2.7**
JKB	**Kayabe**	**4.76**	**326**	P	**Pn**	**06 09 57.1**	**+1.4**
JKB				*e*S	**Sn**	**06 10 48.2**	**-1.4**
JRY	**Ryogami san**	**5.00**	**248**	P	**Pn**	**06 09 58.2**	**-0.8**
JRY				*e*S	**Sn**	**06 10 52.0**	**-3.6**
JOD2	**Odawara 2**	**5.24**	**240**	P	**Pn**	**06 10 01.5**	**-0.7**
JOD2				*e*S	**Sn**	**06 10 57.1**	**-4.3**
MJAR	**Matsushiro Arr**	**5.33**	**256**	Pn	**Pn**	**06 10 04.5**	**+1.0**
	3.0nm,0.3s,baz=77,slow=15,SNR=15						
MJAR				LR	LR	06 12 48.9	
	comp=Z,118nm,18.8s,baz=70,slow=45						
MAJO	**Matsushiro**	**5.33**	**256**	*e*Pn	**Pn**	**06 10 04.4**	**+0.8**
	22nm,0.5s						
MAJO				*e*Sn	**Sn**	**06 11 04.7**	**+0.9**
MAT	**Matsushiro**	**5.33**	**256**	P	**Pn**	**06 10 04.7**	**+1.1**
MAT				S	**Sn**	**06 11 04.5**	**+0.7**
NEM2	**Nemuro 2**	**5.42**	**9**	P	**Pn**	**06 10 01.4**	**-3.2**
NEM2				*e*S	**Sn**	**06 10 59.6**	**-6.1**
JTKR	**Abashiri--Toko**	**5.98**	**355**	P	**Pn**	**06 10 11.5**	**-0.9**
JTKR				*e*S	**Sn**	**06 11 15.3**	**-4.3**
JHR	**Hokuryu**	**6.14**	**340**	P	**Pn**	**06 10 16.3**	**+1.7**
JHR				*e*S	**Sn**	**06 11 23.2**	**-0.3**
JHJ	**Hachijo jima 2**	**6.28**	**220**	Pn	**Pn**	**06 10 15.2**	**-1.3**
	22nm,0.3s,baz=268,slow=21,SNR=4.5						
JHJ				Sn	**Sn**	**06 11 19.3**	**-7.8**
	11nm,0.3s,baz=110,slow=22,SNR=3.4						
ASAJ	**Asahikawa**	**6.29**	**346**	Pn	**Pn**	**06 10 17.1**	**+0.4**
	3.2nm,0.3s,baz=150,slow=18,SNR=6.0						
USRK	**Ussuriysk Ar.**	**11.37**	**307**	LR	LR	06 16 03.6	
	comp=Z,24nm,20.4s,baz=89,slow=38						
KSRS	**Korea Array**	**13.25**	**273**	LR	LR	06 15 41.4	
	comp=Z,40nm,21.4s,baz=52,slow=31						
SEY	**Seymchan**	**25.40**	**8**	P	**P**	**06 14 12.0**	**+1.8**
	2.7nm,0.9s,baz=185,slow=7.4,SNR=4.9						
SEY	**Seymchan**	**25.40**	**8**	P	**P**	**06 14 12.0**	**+1.8**
ZALV	**Zalesovo Beam**	**43.17**	**312**	PcP	**PcP**	**06 18 33.6**	**+1.1**
	1.8nm,0.5s,baz=90,slow=0.3,SNR=4.8						
LSA	**Lhasa**	**44.67**	**276**	*e*P	P	06 16 50.2	-6.2
	5.4nm,0.2s						
MKAR	**Makanchi Array**	**45.78**	**302**	P	**P**	**06 17 06.4**	**+1.9**
	0.7nm,0.7s,baz=81,slow=10,SNR=7.6						
ILAR	**Eielson Array**	**47.29**	**33**	P	**P**	**06 17 16.4**	**+0.3**
	0.9nm,0.7s,baz=258,slow=6.7,SNR=13						
WRAB	**Tennant Creek**	**58.44**	**191**	*e*P	**P**	**06 18 37.1**	**-1.6**
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**58.45**	**191**	P	**P**	**06 18 37.4**	**-1.4**
	1.7nm,0.7s,baz=13,slow=7.3,SNR=15						
YKA	**Yellowknife Ar**	**61.66**	**31**	P	**P**	**06 19 00.2**	**-0.2**
	0.7nm,0.7s,baz=301,slow=6.8,SNR=3.8						
ASAR	**Alice Springs**	**62.17**	**191**	P	**P**	**06 19 03.4**	**-0.8**
	0.8nm,0.8s,baz=17,slow=7.3,SNR=9.4						
FINES	**FINESS Array B**	**69.13**	**333**	LR	LR	06 52 32.0	
	comp=Z,20nm,18.0s,baz=260,slow=38						

PDAR	**Pinedale Array**	**75.14**	**47**	P	**P**	**06 20 25.9**	**+0.6**
	1.0nm,0.6s,baz=257,slow=2.0,SNR=10					

NIED ***06*** *06:26:00, 38°.20N×142°.10E, h65km, Mw3.7 Best double couple: M₀3.64000×10¹⁴ NP1:φs84.00000°, δ69.00000°, λ173.00000°. NP2:φs177.00000°, δ84.00000°, λ21.00000°.*
IDC ***06*** *06:26:26.2±1.4, 38°.60N×141°.97E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, ML3.1/1, MS2.5/3, Ms1 2.5/3, ms1mx2.3/17, Error ellipse: s-maj=41.2km s-min=28.6km az=117.0*
ISCJB ***06*** *06:26:29.2±1.0, 38°.13N±0°.04×142°.13E±0°.09, h51km±11km, mb3.3/3, Error ellipse: s-maj=11.5km s-min=6.4km az=15.4*
JMA ***06*** *06:26:29.7±0.1, 38°.15N×142°.10E, h50km±1km, M3.9*

ISC 06 06:26:28.8±1.8, 38°.11N±0°.04×142°.2E±0°.1, h36km±4km, n25, σ1°.17/28, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.76**	**297**	P	**Pn**	**06 26 43.1**	**+0.1**
JIO				S	**Sn**	**06 26 52.4**	**-0.8**
OFUJ	**Ofunato**	**1.06**	**337**	P	**Pn**	**06 26 47.4**	**+0.3**
OFUJ				S	**Sn**	**06 27 00.0**	**-0.6**
JMM	**Marumori**	**1.14**	**258**	P	**Pn**	**06 26 48.3**	**+0.1**
JMM				S	**Sn**	**06 27 01.4**	**-1.3**
JMK	**Ichinoseki**	**1.15**	**318**	P	**Pn**	**06 26 48.7**	**+0.4**
JMK				S	**Sn**	**06 27 02.2**	**-0.5**
JOU	**Okura**	**1.24**	**282**	P	**Pn**	**06 26 49.9**	**+0.2**
JOU				S	**Sn**	**06 27 04.5**	**-0.7**
JFK	**Kawauchi**	**1.29**	**235**	P	**Pn**	**06 26 50.5**	**+0.2**
JFK				*e*S	**Sn**	**06 27 05.7**	**-0.6**
JOM	**Ohasama**	**1.54**	**333**	P	**Pn**	**06 26 54.4**	**+0.7**
JFT	**Otama**	**1.59**	**249**	P	**Pn**	**06 26 55.5**	**+1.0**
JFT				S	**Sn**	**06 27 14.4**	**+0.6**
JYK	**Kaneyama**	**1.66**	**300**	P	**Pn**	**06 26 55.6**	**+0.2**
JYK				S	**Sn**	**06 27 15.3**	**-0.2**
JYS	**Shiratake**	**1.69**	**275**	P	**Pn**	**06 26 56.2**	**+0.4**
JYS				*e*S	**Sn**	**06 27 16.0**	**-0.3**
JRG	**Rokugo**	**1.78**	**317**	P	**Pn**	**06 26 57.8**	**+0.8**
JRG				*e*S	**Sn**	**06 27 18.9**	**+0.5**
JYA	**Atsumi**	**2.02**	**285**	P	**Pn**	**06 27 00.8**	**+0.5**
JYA				*e*S	**Sn**	**06 27 24.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.55**	**245**	Pn	**Pn**	**06 27 23.9**	**+2.5**
	1.7nm,0.3s,baz=69,slow=12,SNR=7.7						
MJAR				LR	LR	06 28 58.0	
	comp=Z,40nm,19.3s,baz=225,slow=42						
JHJ	**Hachijo jima 2**	**5.35**	**202**	Pn	**Pn**	**06 27 48.3**	**+2.1**
	4.5nm,0.3s,baz=357,slow=24,SNR=2.7						
JHJ				Sn	**Sn**	**06 28 42.8**	**-3.7**
	9.9nm,0.3s,baz=127,slow=22,SNR=4.2						
JNU	**Nakatsue**	**10.47**	**245**	LR	LR	06 33 20.0	
	comp=Z,23nm,18.8s,baz=114,slow=39						
PETK	**Petropavlovsk-**	**18.44**	**31**	LR	LR	06 37 08.5	
	comp=Z,25nm,19.4s,baz=33,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.18**	**124**	T	T	07 02 43.4	
	baz=316,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.19**	**124**	T	T	07 02 39.8	
	baz=316,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.20**	**124**	T	T	07 02 40.5	
	baz=316,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**28.94**	**126**	T	T	07 03 36.4	
	baz=318,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.94**	**126**	T	T	07 03 38.0	
	baz=318,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.96**	**126**	T	T	07 03 37.5	
	baz=318,slow=76,SNR=22						
MKAR	**Makanchi Array**	**44.09**	**301**	P	**P**	**06 34 32.5**	**-0.9**
	0.3nm,0.5s,baz=88,slow=9.0,SNR=5.5						
ILAR	**Eielson Array**	**48.25**	**33**	P	**P**	**06 35 06.0**	**+0.2**
	0.4nm,0.8s,baz=268,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**58.21**	**189**	P	P	06 36 25.2	+5.7
	0.2nm,0.8s,baz=1.5,slow=6.8,SNR=2.6						

ISK ***06*** *06:29:54.6, 39°.31N×26°.11E, h13km, ML2.7*
ISCJB ***06*** *06:29:54.9±0.3, 39°.30N±0°.01×26°.11E±0°.02, h5km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=162.3*
ATH ***06*** *06:29:54.7, 39°.29N×26°.12E, h12km±6km, ML2.6/6, Error ellipse: s-maj=7.3km s-min=1.6km az=138.0*
DDA ***06*** *06:29:54.6, 39°.32N×26°.13E, h26km, Md3.1*
THE ***06*** *06:29:55.2, 39°.30N×26°.11E, h2km±1km, ML2.8/5, Error ellipse: s-maj=1.0km s-min=0.4km az=263.0*
CSEM ***06*** *06:29:55.1±0.1, 39°.30N×26°.11E, h10km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.6km az=71.0*

ISC 06 06:29:54.8±0.8, 39°.30N±0°.01×26°.12E±0°.02, h12km±4km, n99, σ0°.46/146, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.13**	**114**	P	**Pg**	**06 29 58.0**	**-0.1**
PRK				S	**Sg**	**06 30 00.2**	**-0.2**
PRK	**Paraskevi**	**0.13**	**114**	P	**Pg**	**06 29 58.3**	**+0.2**
PRK				AML	AML	06 30 00.4	
	comp=E,19437μm,0.2s						
PRK				S	**Sg**	**06 30 00.5**	**+0.1**
PRK				AML	AML	06 30 00.6	
	comp=N,10168μm,0.4s						
PRK	**Paraskevi**	**0.13**	**114**	P	**Pg**	**06 29 58.3**	**+0.2**
PRK				S	**Sg**	**06 30 00.5**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.16**	**5**	*e*PG	**Pg**	**06 29 58.7**	**+0.2**
GPNR				*e*SG	**Sg**	**06 30 01.6**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.16**	**5**	*e*Pg	**Pg**	**06 29 58.7**	**+0.2**
GPNR				*e*Sg	**Sg**	**06 30 01.6**	**+0.5**
SIGR	**SIGRI**	**0.22**	**247**	*e*PG	**Pg**	**06 29 59.8**	**+0.3**
SIGR	**SIGRI**	**0.22**	**247**	P	**Pg**	**06 29 59.3**	**-0.2**
SIGR				S	**Sg**	**06 30 02.7**	**0.0**
SIGR	**SIGRI**	**0.22**	**247**	P	**Pg**	**06 29 59.1**	**-0.4**
SIGR				S	**Sg**	**06 30 01.2**	**-1.5**
SIGR				AML	AML	06 30 02.9	
	comp=E,11358μm,0.2s						
SIGR				AML	AML	06 30 03.0	
	comp=N,6379μm,0.3s						
SIGR	**SIGRI**	**0.22**	**247**	P	**Pg**	**06 29 59.3**	**-0.2**
SIGR	**SIGRI**	**0.22**	**247**	*e*Pg	**Pg**	**06 29 59.8**	**+0.3**
SIGR				S	**Sg**	**06 30 02.7**	**0.0**
CUND	**Cunda Adasi-Ba**	**0.43**	**85**	*e*PG	**Pg**	**06 30 03.5**	**+0.2**
CUND	**Cunda Adasi-Ba**	**0.43**	**85**	*e*Pg	**Pg**	**06 30 03.5**	**+0.2**
AYVA	**Ayvalik**	**0.45**	**89**	*i* P	**Pg**	**06 30 03.3**	**-0.3**
AYVA				*i* S	**Sb**	**06 30 10.5**	**-0.6**
AYVA	**Ayvalik**	**0.45**	**89**	P	**Pg**	**06 30 03.3**	**-0.3**
AYVA				S	**Sb**	**06 30 10.5**	**-0.6**
BOZC	**Bozcaada**	**0.54**	**355**	*e*PG	**Pg**	**06 30 05.6**	**+0.1**
BOZC				*e*SG	**Sb**	**06 30 13.5**	**-0.6**
BOZC	**Bozcaada**	**0.54**	**355**	*i* P	**Pg**	**06 30 05.4**	**-0.1**
BOZC				*i* S	**Sg**	**06 30 13.2**	**+0.6**
BOZC	**Bozcaada**	**0.54**	**355**	*e*Pg	**Pg**	**06 30 05.6**	**+0.1**
BOZC				*e*Sg	**Sb**	**06 30 13.5**	**-0.6**
EZN	**Ezine**	**0.55**	**17**	*e*PG	**Pg**	**06 30 05.5**	**-0.1**
EZN				*e*SG	**Sb**	**06 30 14.0**	**-0.3**
EZN	**Ezine**	**0.55**	**17**	P	**Pg**	**06 30 05.8**	**+0.2**
EZN				S	**Sb**	**06 30 13.9**	**-0.3**
EZN	**Ezine**	**0.55**	**17**	*e*Pg	**Pg**	**06 30 05.5**	**-0.1**
EZN	**Ezine**	**0.55**	**17**	P	**Pg**	**06 30 05.8**	**+0.2**
EZN				S	**Sb**	**06 30 13.9**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.55**	**37**	*i* P	**Pg**	**06 30 05.4**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.55**	**37**	P	**Pg**	**06 30 05.4**	**-0.2**
CAND	**Candarli**	**0.64**	**123**	*e*PG	**Pb**	**06 30 07.7**	**-0.1**
DKL	**Dikili**	**0.65**	**110**	*e*PG	**Pb**	**06 30 07.9**	**-0.2**
DKL	**Dikili**	**0.65**	**110**	*e*Pg	**Pb**	**06 30 07.9**	**-0.2**
FOCM	**Fo¯§a**	**0.76**	**141**	*e*PG	**Pb**	**06 30 10.0**	**+0.1**
FOCM	**Fo¯§a**	**0.76**	**141**	*e*Pg	**Pb**	**06 30 10.0**	**+0.1**
KRBN	**Karaburun**	**0.78**	**154**	*e*PG	**Pb**	**06 30 10.4**	**0.0**
KRBN	**Karaburun**	**0.78**	**154**	*e*Pg	**Pb**	**06 30 10.4**	**0.0**
GADA	**Gvkgeada**	**0.91**	**349**	*e*PG	**Pg**	**06 30 12.3**	**0.0**
GADA	**Gvkgeada**	**0.91**	**349**	P	**Pg**	**06 30 12.2**	**-0.1**
GADA				S	**Sn**	**06 30 25.7**	**-0.6**
GADA	**Gvkgeada**	**0.91**	**349**	*e*Pg	**Pg**	**06 30 12.3**	**0.0**
GADA				S	**Sn**	**06 30 25.7**	**-0.6**
GOKC	**Gokceada-Canak**	**0.91**	**350**	*e*PG	**Pb**	**06 30 12.5**	**-0.1**
GOKC	**Gokceada-Canak**	**0.91**	**350**	*e*Pg	**Pb**	**06 30 12.5**	**-0.1**
LIA	**Limnos Island**	**0.94**	**310**	P	**Pb**	**06 30 13.3**	**+0.3**
LIA				S	**Sn**	**06 30 26.9**	**-0.2**
LIA	**Limnos Island**	**0.94**	**310**	P	**Pn**	**06 30 14.0**	**+0.2**
LIA				S	**Sn**	**06 30 27.3**	**+0.2**
LIA				AML	AML	06 30 28.0	
	comp=E,1406μm,0.4s						
LIA				AML	AML	06 30 28.7	
	comp=N,872μm,0.3s						
LIA	**Limnos Island**	**0.94**	**310**	P	**Pb**	**06 30 13.3**	**+0.3**
LIA				S	**Sn**	**06 30 26.9**	**-0.2**
CESE	**¯e¯me**	**0.98**	**172**	*e*PG	**Pg**	**06 30 13.8**	**+0.2**
CESE	**¯e¯me**	**0.98**	**172**	*e*Pg	**Pg**	**06 30 13.8**	**+0.2**
URLA	**Izmir**	**1.01**	**158**	*e*PG	**Pg**	**06 30 14.5**	**+0.2**
URLA	**Izmir**	**1.01**	**158**	*i* P	**Pg**	**06 30 14.4**	**+0.2**
URLA				*i* S	**Sn**	**06 30 28.6**	**-0.4**
URLA	**Izmir**	**1.01**	**158**	*e*Pg	**Pg**	**06 30 14.5**	**+0.2**
URLA				S	**Sn**	**06 30 28.5**	**-0.4**
ZEY	**¯zmir**	**1.10**	**164**	*i* P	**Pb**	**06 30 15.6**	**-0.2**
ZEY				*i* S	**Sg**	**06 30 30.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.13**	**14**	*e*PN	**Pn**	**06 30 16.5**	**0.0**
GELI	**Tayfur-Gelibol**	**1.13**	**14**	*e*Pn	**Pn**	**06 30 16.5**	**0.0**
LPK	**Lapseki**	**1.18**	**25**	*e*PN	**Pg**	**06 30 17.4**	**-0.1**
LPK	**Lapseki**	**1.18**	**25**	*e*Pn	**Pg**	**06 30 17.4**	**-0.1**
BALY	**Balya**	**1.24**	**69**	*i* P	**Pb**	**06 30 18.1**	**-0.1**
BALY				*i* S	**Sg**	**06 30 35.3**	**+0.4**
BALY	**Balya**	**1.24**	**69**	P	**Pb**	**06 30 18.1**	**-0.1**
BALY				S	**Sg**	**06 30 35.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.24**	**86**	*i* P	**Pg**	**06 30 19.1**	**+0.4**
STEP				*i* S	**Sg**	**06 30 35.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.24**	**86**	P	**Pg**	**06 30 19.1**	**+0.4**
STEP				S	**Sg**	**06 30 35.3**	**+0.4**
SMTH	**Samothraki Isl**	**1.25**	**339**	P	**Pb**	**06 30 18.5**	**+0.1**
SMTH				S	**Sg**	**06 30 36.2**	**+0.9**
SMTH	**Samothraki Isl**	**1.25**	**339**	P	**Pg**	**06 30 18.9**	**-0.1**
SMTH				S	**Sg**	**06 30 36.5**	**+1.2**
SMTH				AML	AML	06 30 36.6	
	comp=E,196μm,0.2s						
SMTH				AML	AML	06 30 37.3	
	comp=N,191μm,0.3s						
SMTH	**Samothraki Isl**	**1.25**	**339**	P	**Pg**	**06 30 18.9**	**-0.1**
SMTH				S	**Sg**	**06 30 36.2**	**+0.9**
SKY	**Skiros Island**	**1.29**	**251**	P	**Pg**	**06 30 19.4**	**-0.2**
SKY				S	**Sg**	**06 30 37.5**	**+1.1**
SKY	**Skiros Island**	**1.29**	**251**	P	**Pg**	**06 30 19.4**	**-0.2**
SKY				S	**Sg**	**06 30 36.3**	**-0.1**
SKY				AML	AML	06 30 39.3	
	comp=E,566μm,0.2s						
SKY				AML	AML	06 30 39.6	
	comp=N,593μm,0.3s						
SKY	**Skiros Island**	**1.29**	**251**	P	**Pg**	**06 30 19.4**	**-0.2**
SKY				S	**Sg**	**06 30 36.3**	**-0.1**
DGB	**¯zmir**	**1.38**	**154**	*i* P	**Pn**	**06 30 20.2**	**+0.3**
DGB				*i* S	**Sg**	**06 30 39.5**	**+0.2**
AKHS	**Akhisar**	**1.39**	**107**	*i* P	**Pg**	**06 30 21.3**	**-0.1**
AKHS				*i* S	**Sb**	**06 30 38.7**	**+0.4**
AKHS	**Akhisar**	**1.39**	**107**	P	**Pg**	**06 30 21.3**	**-0.1**
AKHS				S	**Sb**	**06 30 38.7**	**+0.4**
ERIK	**Erikli-Kesan**	**1.40**	**12**	*e*PN	**Pn**	**06 30 20.4**	**+0.2**
ERIK	**Erikli-Kesan**	**1.40**	**12**	*e*Pn	**Pn**	**06 30 20.4**	**+0.2**
BALB	**Balikesir**	**1.41**	**75**	*e*PN	**Pb**	**06 30 20.6**	**-0.4**
BALB	**Balikesir**	**1.41**	**75**	*e*Pn	**Pb**	**06 30 20.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.42**	**39**	*e*PN	**Pn**	**06 30 20.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.42**	**39**	*e*Pn	**Pn**	**06 30 20.7**	**+0.3**
ENEZ	**Enez**	**1.44**	**1**	*e*PN	**Pn**	**06 30 20.8**	**+0.2**
ENEZ	**Enez**	**1.44**	**1**	P	**Pb**	**06 30 21.6**	**+0.1**
ENEZ				S	**Sg**	**06 30 41.1**	**+0.1**
ENEZ	**Enez**	**1.44**	**1**	*e*Pn	**Pn**	**06 30 20.8**	**+0.2**
ENEZ	**Enez**	**1.44**	**1**	P	**Pb**	**06 30 21.6**	**+0.1**
ENEZ				S	**Sg**	**06 30 41.1**	**+0.1**
KNL	**Bal¯–kesir**	**1.46**	**48**	*i* P	**Pb**	**06 30 21.9**	**0.0**
KNL				*i* S	**Sb**	**06 30 40.3**	**0.0**
KESN	**Edirne-Kesan**	**1.58**	**16**	*i* P	**Pb**	**06 30 23.7**	**-0.6**
KESN				*i* S	**Sn**	**06 30 43.8**	**+0.2**
KESN	**Edirne-Kesan**	**1.58**	**16**	P	**Pb**	**06 30 23.7**	**-0.6**
KESN				S	**Sn**	**06 30 43.8**	**+0.2**
ALN	**Alexandroupoli**	**1.60**	**358**	*e*PN	**Pn**	**06 30 22.3**	**-0.5**
ALN	**Alexandroupoli

KK31 ⇑Sn Sn 07 05 03.3 -3.7
1.3nm,0.5s,baz=133,slow=21,SNR=3.7
KK31 ⇓Lg Lg 07 05 30.9
2.0nm,0.6s

MEX 06 07:15:41.3±0.5, 16°.59N×99°.60W, h7km±35km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.37**	**319**	*i* P	Pn	07 15 52.8	-0.4
ACX				*i* S	Sb	07 15 58.4	+2.0
ACP2	**Acapulco**	**0.40**	**317**	*i* P	Pg	07 15 48.4	-0.6
ACP2				*e*S	Sg	07 15 54.8	+0.6
CAIG	**El Cayaco**	**0.79**	**306**	*e*P	Pg	07 15 55.0	-1.4
CAIG				*e*S	Sg	07 16 05.3	-1.4

*IDC **06** 07:34:45.3±1.1, 9°.14S×127°.83E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.7/44, mbtmp3.9/4, ML5.4/1, Error ellipse: s-maj=43.0km s-min=22.4km az=71.0*
*ISCJB **06** 07:34:47.0±0.4, 9°.30S±0°.03×128°.29E±0°.04, h35km, mb4.4/7, Error ellipse: s-maj=5.8km s-min=4.5km az=158.3*
*NEIC **06** 07:34:50.0±0.9, 9°.26S×128°.27E, h46km±12km, mb4.0/6, Error ellipse: s-maj=11.2km s-min=8.7km az=80.0*
*DJA **06** 07:34:51.4±0.4, 9°.5S±5°×12°.8E±°, h143km±18km, M4.9/7, mb5.0/7, mB4.9/3, MLv5.0/6, Mw(mB)4.2/3*
ISC 06 07:34:49.2±0.5, 9°.25S±0°.05×128°.25E±0°.05, h35km, n40, σ2.59/51, mb4.1/9, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.26**	**68**	P	**Pn**	**07 35 42.1**	**+4.2**
SAUI				S	**Sn**	**07 36 17.7**	**+2.1**
SAUI	**Saumlaki**	**3.26**	**68**	*e*Pn	**Pn**	**07 35 41.2**	**+3.3**
SAUI				*e*Sn	**Sn**	**07 36 17.6**	**+2.0**
SOEI	**Soe**	**3.96**	**262**	P	**Pn**	**07 35 51.1**	**+3.4**
SOEI				S	**Sn**	**07 36 34.1**	**+1.0**
SOEI	**Soe**	**3.96**	**262**	*e*Pn	**Pn**	**07 35 50.8**	**+3.1**
SOEI				*e*Sn	**Sn**	**07 36 33.4**	**+0.3**
MTN	**Manton Dam**	**4.56**	**142**	*e*Pn	**Pn**	**07 36 00.2**	**+4.4**
MTN				*e*Sn	**Sn**	**07 36 50.7**	**+3.2**
BNDI	**Bandanaira**	**4.97**	**19**	P	**Pn**	**07 36 02.6**	**+1.2**
BBSI	**Bau Bau**	**6.76**	**303**	P	**Pn**	**07 36 28.9**	**+2.9**
FAKI	**Fak Fak**	**7.43**	**33**	P	**Pn**	**07 36 34.4**	**-0.9**
FAKI				S	**Sn**	**07 37 51.6**	**-6.9**
FAKI	**Fak Fak**	**7.43**	**33**	*e*Pn	**Pn**	**07 36 34.6**	**-0.7**
FAKI				*e*Sn	**Sn**	**07 37 59.4**	**+0.9**
BASI	**Baing, Sumba**	**7.63**	**262**	P	**Pn**	**07 36 40.6**	**+2.6**
KMPI	**Kaimana, Papua**	**7.75**	**45**	P	**Pn**	**07 36 36.4**	**-3.3**
SIJI	**Sorong**	**8.85**	**20**	Pn	**Pn**	**07 36 56.6**	**+1.9**
	39nm,0.3s,baz=231,slow=23,SNR=9.8						
SIJI				Sn	**Sn**	**07 38 31.3**	**-1.9**
	15nm,0.3s,baz=197,slow=22,SNR=3.5						
FITZ	**Fitzroy Crossi**	**9.16**	**196**	Pn	**Pn**	**07 36 59.8**	**+0.8**
FITZ				Sn	**Sn**	**07 38 38.7**	**-2.2**
PLAI	**Plampang**	**10.36**	**271**	P	**Pn**	**07 37 17.9**	**+2.5**
WRAB	**Tennant Creek**	**12.15**	**152**	*e*Pn	**Pn**	**07 37 40.0**	**+0.1**
WR1	**Warramunga Arr**	**12.15**	**152**	*e*Pn	**Pn**	**07 37 40.1**	**+0.1**
WR1				*e*Sn	Sn	07 39 45.9	-8.5
WRA	**Warramunga Arr**	**12.15**	**152**	Pn	**Pn**	**07 37 40.1**	**+0.1**
	2.1nm,0.3s,baz=324,slow=13,SNR=82						
WRA				Sn	Sn	07 39 45.9	-8.5
	6.2nm,0.3s,baz=337,slow=21,SNR=12						
WB2	**Warramunga Arr**	**12.16**	**152**	*e*Pn	**Pn**	**07 37 40.6**	**+0.6**
WB2				*e*Sn	**Sn**	**07 39 53.7**	**-0.8**
MBWA	**Marble Bar**	**14.41**	**214**	*e*Pn	Pn	07 38 09.3	-1.5
MBWA				*e*Sn	Sn	07 40 42.3	-7.2
AS31	**Alice Springs**	**15.32**	**160**	*e*Pn	**Pn**	**07 38 22.1**	**-0.9**
	3.9nm,0.6s						
AS31				*e*Sn	**Sn**	**07 41 05.3**	**-6.5**
ASAR	**Alice Springs**	**15.32**	**160**	Pn	**Pn**	**07 38 21.6**	**-1.4**
	1.1nm,0.3s,baz=328,slow=9.8,SNR=85						
ASAR				Sn	**Sn**	**07 41 06.0**	**-5.8**
	2.3nm,0.3s,baz=321,slow=24,SNR=9.9						
AS01	**Alice Springs**	**15.34**	**160**	*e*Pn	**Pn**	**07 38 23.4**	**+0.1**
AS01				*e*Sn	**Sn**	**07 41 08.6**	**-3.5**
COEN	**Coen**	**15.35**	**109**	*e*Pn	**Pn**	**07 38 22.7**	**-0.6**
	4.5nm,0.4s						
COEN				*e*Sn	Sn	07 41 01.2	-11
SBUM	**Sibu**	**19.75**	**305**	*e*P	**P**	**07 39 17.1**	**+0.7**
	12nm,0.8s						
CTA	**Charters Tower**	**20.46**	**124**	P	Pn	07 39 28.5	+2.3
	2.0nm,0.4s,baz=300,slow=12,SNR=5.2						
FORT	**Forrest**	**21.43**	**180**	*e*P	**P**	**07 39 36.9**	**+2.6**
	115nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.67**	**202**	*e*P	**P**	**07 40 15.3**	**-0.7**
	12nm,0.5s						
STKA	**Stephens Creek**	**25.70**	**153**	P	**P**	**07 40 19.8**	**+3.6**
	2.4nm,0.7s,baz=322,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**25.70**	**153**	*e*P	**P**	**07 40 17.2**	**+1.0**
	6.0nm,1.8s						
CM31	**Chiang Mai Arr**	**39.93**	**314**	*e*P	**P**	**07 42 19.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.93**	**314**	pP	pP	07 42 35.2	+4.6
	1.0nm,0.3s,baz=140,slow=6.5,SNR=2.4						
LSA	**Lhasa**	**52.67**	**319**	*e*P	**P**	**07 43 58.4**	**-2.5**
	74nm,0.9s						
SONA0	**Songino Array**	**60.04**	**343**	*e*P	**P**	**07 44 52.4**	**-0.4**
SONM	**Songino Array**	**60.04**	**343**	P	**P**	**07 44 52.4**	**-0.4**
	0.8nm,0.5s,baz=168,slow=7.6,SNR=3.8						
SONM				pP	**sP**	**07 45 07.2**	**-0.4**
	0.5nm,0.4s,baz=172,slow=6.3,SNR=2.7						
MK32	**Makanchi Array**	**69.18**	**328**	*e*P	**P**	**07 45 51.6**	**-0.7**
MKAR	**Makanchi Array**	**69.18**	**328**	P	**P**	**07 45 51.6**	**-0.7**
	0.5nm,0.7s,baz=126,slow=6.2,SNR=4.3						
MKAR				pP	**pP**	**07 46 06.8**	**+3.7**
	0.5nm,0.5s,baz=132,slow=7.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**72.84**	**335**	pP	pP	07 46 29.3	+4.1
	2.6nm,0.6s,baz=140,slow=4.2,SNR=2.9						
ABKAR	**Akbulak array**	**83.20**	**322**	*e*P	**P**	**07 47 11.9**	**0.0**
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**127.51**	**279**	PKP	**PKPdf**	**07 53 52.4**	**+0.8**
	0.5nm,0.6s,baz=98,slow=2.5,SNR=4.0						
TOA1	**Torodi Ar. Sit**	**127.51**	**279**	*e*PKPdf	**PKPdf**	**07 53 52.4**	**+0.8**

*IDC **06** 07:36:57.9±0.3, 9°.74N×138°.31E, h0km, mb5.1/45, mb1 5.2/48, mb1mx5.1/60, mbtmp5.1/48, ML5.6/4, MS5.3/39, Ms1 5.4/39, ms1mx5.2/47, Error ellipse: s-maj=13.4km s-min=8.3km az=78.0*
*BJI **06** 07:36:58.3, 9°.58N×138°.73E, h29km, mb5.3/86, mB5.8/75, Ms5.7/89, Ms7 5.5/85*
*ISCJB **06** 07:37:00.0±0.6, 9°.70N±0°.02×138°.26E±0°.02, h21km±4km, mb5.5/307, MS5.5/430, Error ellipse: s-maj=3.2km s-min=2.8km az=17.6*
*MOS **06** 07:37:00.2±1.1, 9°.73N×138°.22E, h24km, mb5.7/90, MS5.5/78, Error ellipse: s-maj=7.7km s-min=4.2km az=105.9*
*NEIC **06** 07:37:01.4±0.1, 9°.70N×138°.25E, h20km, mb5.6/198, ME5.5, MS5.5/299, MW5.8, MW5.8, Error ellipse: s-maj=3.1km s-min=2.7km az=95.0, Moment Tensor Solution. s57 Moment tensor: Scale 10^{17}Nm; M_{rr}2.14; $M_{\theta\theta}$3.68; $M_{\phi\phi}$-5.82; $M_{r\theta}$2.69; $M_{\theta\phi}$-1.93; $M_{\phi r}$2.06; Best double couple: $M_0$6.40000×10^{17} NP1:ϕ_s149.00000°, δ52.00000°, λ16.00000°. NP2:ϕ_s49.00000°, δ77.00000°, λ141.00000°. Principal axes: T 5.7100, Plg36.0000°, Azm2.0000°; N 1.2300, Plg49.0000°, Azm214.0000°; P -6.9500, Plg16.0000°, Azm104.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s147.00000°, δ42.00000°, λ23.00000°. NP2:ϕ_s40.00000°, δ75.00000°, λ130.00000°. Principal axes: T Plg45.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm101.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Colonia. Also felt in Fanif and on Gagil-Tamil and Rumung.
*DJA **06** 07:37:01.9±0.5, 10°.N±5°×13°.8E±°, h10km, M6.0/12, mb6.0/12, mB6.2/12, MLv6.1/1, Mw(mB)6.0/12, Mwp6.0/2*
*GCMT **06** 07:37:01.4±0.1, 9°.69N×138°.21E, h22km, MW5.9/146, Moment Tensor Solution. s125,c237; s146,c431; Duration: 2s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.36±.01; $M_{\theta\theta}$0.46±.01; $M_{\phi\phi}$-0.81±.01; $M_{r\theta}$0.27±.01; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$0.09±.01; Best double couple: $M_0$0.76800×10^{18} NP1:ϕ_s45.00000°, δ68.00000°, λ146.00000°. NP2:ϕ_s149.00000°, δ59.00000°, λ26.00000°.*

Principal axes: T 0.6830, Plg39.0000°, Azm4.0000°; N 0.1710, Plg50.0000°, Azm196.0000°; P -0.8540, Plg6.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*NEIC **06** 07:37:03.0±0.0, 9°.71N×138°.29E, h20km, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}3.88; $M_{\theta\theta}$1.32; $M_{\phi\phi}$-5.20; $M_{r\theta}$2.82; $M_{\theta\phi}$-1.70; $M_{\phi r}$3.21; Best double couple: $M_0$6.60000×10^{17} NP1:ϕ_s35.00000°, δ68.00000°, λ112.00000°. NP2:ϕ_s167.00000°, δ31.00000°, λ47.00000°. Principal axes: T 6.0200, Plg60.0000°, Azm338.0000°; N 0.9700, Plg20.0000°, Azm206.0000°; P -7.0000, Plg19.0000°, Azm108.0000°;*
ISC 06 07:37:03.3±0.5, 9°.71N±0°.03×138°.32E±0°.03, h35km±1km, h35km: pP-P, n1021, σ1.55/840, mb5.6/303, MS5.5/431, 34C-21D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	**PALAU INFRASON**	**4.31**	**240**	Pn	**Pn**	**07 38 02.5**	**-3.9**
	baz=49,slow=23,SNR=1.2						
I39PW				Sn	**Sn**	**07 38 48.0**	**-7.6**
GUMO	**Guam**	**7.49**	**58**	Pn	**Pn**	**07 38 48.5**	**-1.6**
	113nm,0.3s,baz=198,slow=9.5,SNR=48						
GUMO				Sn	**Sn**	**07 40 10.6**	**-3.3**
	53nm,0.3s,baz=224,slow=21,SNR=3.3						
GUMO				LR	LR	07 41 15.1	
	comp=Z,29μm,18.5s,baz=244,slow=34						
GUMO	**Guam**	**7.49**	**58**	P	**Pn**	**07 38 48.5**	**-1.6**
GUMO						07 40 10.6	
GUMO				pmax	pmax		
	comp=Z,113nm,0.3s						
GUMO				smax	smax		
	comp=N,53nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,29μm,18.5s						
GUMO	**Guam**	**7.49**	**58**	*e*Pn	**Pn**	**07 38 49.8**	**-0.3**
GUMO				*e*Sn	**Sn**	**07 40 12.6**	**-1.3**
ANA2	**Anatahan**	**9.76**	**47**	*e*Sn	**Sn**	**07 41 06.5**	**-3.4**
SARN	**Sarigan**	**10.05**	**45**	*e*Pn	**Pn**	**07 39 23.6**	**-1.8**
SARN				*e*Sn	**Sn**	**07 41 11.7**	**-5.3**
SMPI	**Sarmi**	**11.63**	**178**	P	**Pn**	**07 39 48.0**	**+1.1**
MATI	**Mati**	**12.24**	**258**	*e*P	**Pn**	**07 39 53.9**	**-1.5**
GENI	**Genyem**	**12.36**	**171**	P	**Pn**	**07 39 58.1**	**+1.2**
JAY	**Jayapura**	**12.37**	**169**	Pn	**Pn**	**07 39 57.2**	**+0.1**
	comp=Z,11nm,0.3s,baz=210,slow=21,SNR=249						
JAY				Sn	**Sn**	**07 42 09.1**	**-4.9**
	comp=Z,1.0nm,0.3s,baz=212,slow=23,SNR=8.1						
JAY				LR	LR	07 43 34.3	
	comp=Z,1μm,19.6s,baz=11,slow=32						
JAY	**Jayapura**	**12.37**	**169**	P	**Pn**	**07 39 57.3**	**+0.1**
	comp=Z,631nm,0.9s,comp=Z,6μm						
SWI	**Sorong**	**12.64**	**214**	P	**Pn**	**07 40 00.2**	**-0.5**
SIJI	**Sorong**	**12.64**	**214**	Pn	**Pn**	**07 40 00.1**	**-0.7**
	comp=Z,86nm,0.3s,baz=19,slow=14,SNR=23						
SIJI				LR	LR	07 43 37.4	
	comp=Z,161μm,21.5s,baz=12,slow=32						
BESP	**Borongan**	**12.80**	**280**	*e*P	**Pn**	**07 40 03.2**	**+0.3**
DAV	**Davao City (W)**	**12.87**	**259**	⇓*e*P	**Pn**	**07 40 05.7**	**+1.8**
DAV	**Davao City (W)**	**12.87**	**259**	*e*Pn	**Pn**	**07 40 02.3**	**-1.6**
DAV	**Davao City (W)**	**12.87**	**259**	Pn	**Pn**	**07 40 03.4**	**-0.5**
	SNR=44						
PLP	**Palo**	**13.20**	**277**	⇓*e*P	**Pn**	**07 40 07.8**	**-0.6**
BUKP	**Musuan**	**13.23**	**263**	*e*P	**Pn**	**07 40 09.7**	**+0.8**
MSLP	**Maasin**	**13.27**	**273**	*e*P	**Pn**	**07 40 11.3**	**+1.9**
CNP	**Catarman**	**13.69**	**283**	*e*P	**Pn**	**07 40 15.8**	**+0.7**
FAKI	**Fak Fak**	**13.93**	**206**	P	**Pn**	**07 40 19.2**	**+0.9**
	comp=Z,326nm,1.1s,comp=Z,8μmcomp=Z,12μm						
FAKI				S	Sn	07 42 40.9	-11
	comp=Z,326nm,1.1s,comp=Z,8μmcomp=Z,12μm						
FAKI	**Fak Fak**	**13.93**	**206**	*e*Pn	**Pn**	**07 40 16.9**	**-1.4**
SGSI	**Sangihe**	**14.04**	**246**	P	**Pn**	**07 40 20.2**	**+0.3**
KMPI	**Kaimana, Papua**	**14.05**	**199**	P	**P**	**07 40 24.7**	**-2.7**
	comp=Z,549nm,1.0s,comp=Z,9μm						
PVCP	**Virac**	**14.40**	**287**	*e*P	**Pn**	**07 40 24.2**	**-0.5**
MANU	**Manus Island**	**14.75**	**142**	*e*Pn	**Pn**	**07 40 29.4**	**-0.1**
PAGZ	**Pagadian**	**14.88**	**264**	*e*P	**Pn**	**07 40 31.3**	**0.0**
LBMI	**Labuha**	**14.89**	**227**	P	**P**	**07 40 35.8**	**-0.9**
RCP	**Roxas**	**15.42**	**278**	⇓*e*P	**Pn**	**07 40 38.9**	**+0.5**
GUIM	**Jordan**	**15.51**	**275**	*e*P	**Pn**	**07 40 39.2**	**-0.4**
AUQP	**San Andres**	**15.74**	**285**	*e*P	**Pn**	**07 40 39.2**	**-3.3**
MSAI	**Masohi**	**15.99**	**216**	P	**P**	**07 40 48.5**	**-0.5**
OTRP	**Odiongan**	**16.21**	**281**	*e*P	**Pn**	**07 40 48.4**	**-0.2**
BNDI	**Bandanaira**	**16.43**	**211**	P	**P**	**07 40 54.8**	**+0.9**
BOAC	**Boac**	**16.56**	**285**	*e*P	**Pn**	**07 40 53.1**	**0.0**
AAI	**Amboon**	**16.70**	**218**	P	**P**	**07 40 57.7**	**+0.9**
NLAI	**Namlea**	**17.04**	**222**	P	**P**	**07 41 01.4**	**+0.8**
SJMP	**San Jose**	**17.10**	**281**	*e*P	**Pn**	**07 41 00.1**	**+0.3**
TGY	**Tagaytay City**	**17.56**	**286**	P	**P**	**07 41 06.0**	**-0.4**
	comp=Z,23nm,0.3s,baz=49,slow=9.3,SNR=5.8						
TGY				LR	LR	07 46 42.9	
	comp=Z,14μm,19.9s,baz=88,slow=33						
TGY	**Tagaytay City**	**17.56**	**286**	P	**P**	**07 41 06.0**	**-0.4**
TGY				pmax	pmax		
	comp=Z,23nm,0.3s						
TGY				MLR	MLR		
	comp=Z,14μm,19.9s						
TGY	**Tagaytay City**	**17.56**	**286**	*e*Pn	**P**	**07 41 06.0**	**-0.4**
CAUP	**Cauayan**	**17.58**	**296**	*e*P	**P**	**07 41 07.1**	**+0.5**
CBIJ	**Chichi jima**	**17.68**	**11**	*e*Pn	**P**	**07 41 07.4**	**-0.2**
	comp=Z,264nm,0.8s						
CBIJ				*e*Sn	**S**	**07 44 26.7**	**-2.6**
SGCP	**Mt. Cagua**	**17.91**	**300**	*e*P	**P**	**07 41 12.3**	**+2.1**
BUSP	**Coron**	**17.94**	**279**	*e*P	**Pn**	**07 41 08.9**	**-1.4**
LUBP	**Lubang**	**18.14**	**284**	*e*P	**Pn**	**07 41 12.3**	**-0.4**
ENPP	**El Nido**	**18.64**	**276**	*e*P	**Pn**	**07 41 19.9**	**+1.1**
ABRA	**Dolores**	**18.83**	**297**	*e*P	**Pn**	**07 41 21.6**	**+0.6**
SAUI	**Saumlaki**	**18.91**	**202**	P	**Pn**	**07 41 24.3**	**+2.2**
SAUI	**Saumlaki**	**18.91**	**202**	*e*P	**P**	**07 41 19.7**	**-1.5**
	comp=Z,616nm,1.1s						
SCZP	**Santa Cruz**	**18.93**	**290**	*e*P	**Pn**	**07 41 24.1**	**+1.9**
SZP	**Santa**	**19.02**	**296**	*e*P	**Pn**	**07 41 23.0**	**-0.3**
	comp=Z,495nm,1.1s						
BOLP	**Bolinao**	**19.11**	**292**	*e*P	**Pn**	**07 41 23.9**	**-0.5**
JOW	**Kunigami**	**19.50**	**332**	*e*P	**Pn**	**07 41 29.8**	**+0.8**
	comp=Z,381nm,1.1s						
RABL	**Rabaul**	**19.52**	**134**	*e*P	**Pn**	**07 41 29.9**	**+0.5**
	comp=Z,601nm,1.3s						
PATS	**Pohnpei**	**19.99**	**97**	P	**Pn**	**07 41 34.5**	**-0.4**
	baz=20,SNR=8.4						
PATS	**Pohnpei**	**19.99**	**97**	*e*P	**Pn**	**07 41 34.0**	**-0.9**
	comp=Z,353nm,1.3s						
PATS				LR	LR		
	comp=Z,29μm,20.0s						
MYLDM	**Lahad Datu**	**20.16**	**259**	*e*P	Pn	07 41 37.5	+0.6
	comp=Z,2μm,1.3s						
MYLDM				LR	LR		
	comp=Z,28μm,18.0s						
MYLDM	**Lahad Datu**	**20.16**	**259**	⇓P	Pn	07 41 38.3	+1.4
YOJ	**Yonaguni jima**	**20.69**	**317**	*e*P	Pn	07 41 43.6	+0.6
YOJ				pmax	pmax		
	comp=Z,864nm,1.2s						
YOJ				MLR	MLR		
	comp=Z,18μm,21.0s						
YOJ	**Yonaguni jima**	**20.69**	**317**	*e*P	Pn	07 41 43.5	+0.5
	comp=Z,864nm,1.2s						
YOJ				LR	LR		
	comp=Z,18μm,21.0s						
PMG	**Port Moresby**	**20.93**	**155**	P	**P**	**07 41 43.0**	**-0.2**
	comp=Z,141nm,0.9s,baz=337,slow=7.0,SNR=24						
PMG				LR	LR	07 48 55.6	
	comp=Z,36μm,19.9s,baz=342,slow=34						
PMG	**Port Moresby**	**20.93**	**155**	*d* iP	**P**	**07 41 42.8**	**-0.3**
PMG				pmax	pmax		
	comp=Z,1μm,1.2s						
PMG				MLR	MLR		
	comp=Z,140μm,19.0s						
PMG	**Port Moresby**	**20.93**	**155**	*e*P	**P**	**07 41 42.9**	**-0.3**
	comp=Z,411nm,1.3s						
PMG				LR	LR		
	comp=Z,36μm,20.0s						
TSM	**Tawau**	**20.99**	**257**	⇑P	Pn	07 41 45.9	-0.7
TWG	**Pinlang**	**21.04**	**310**	*e*P	**P**	**07 41 42.5**	**-1.9**
	comp=Z,1μm,1.4s						
TWG				LR	LR		
	comp=Z,50μm,18.0s						
YULB	**Yu-li**	**21.21**	**312**	*e*P	**P**	**07 41 47.4**	**+1.2**
	comp=Z,266nm,1.1s						
YULB				LR	LR		
	comp=Z,18μm,19.0s						
KDM	**Kudat**	**21.44**	**264**	⇑P	**P**	**07 41 53.1**	**+4.4**
NACB	**Ninganchiao**	**21.48**	**314**	*e*P	**P**	**07 41 48.9**	**-0.2**
	comp=Z,255nm,1.1s						
NACB				LR	LR		
	comp=Z,16μm,20.0s						
TPUB	**Ta-pu**	**21.65**	**311**	*e*P	**P**	**07 41 51.5**	**+0.5**
	comp=Z,424nm,1.2s						
TPUB				LR	LR		
	comp=Z,13μm,20.0s						
SSLB	**Suanglung**	**21.70**	**312**	*e*P	**P**	**07 41 51.7**	**+0.2**
	comp=Z,256nm,1.1s						
SSLB				LR	LR		
	comp=Z,19μm,19.0s						
YHNB	**Yeheng**	**21.95**	**315**	*e*P	**P**	**07 41 55.2**	**+1.1**
	comp=Z,669nm,1.3s						
YHNB				LR	LR		
	comp=Z,14μm,20.0s						
TATO	**Taipei**	**22.06**	**316**	*e*P	**P**	**07 41 54.0**	**-1.3**
	comp=Z,638nm,1.4s						
TATO				LR	LR		
	comp=Z,19μm,20.0s						
KKM	**Kota Kinabalu**	**22.19**	**262**	*e*P	**P**	**07 41 57.3**	**+0.3**
	comp=Z,566nm,1.0s						
KKM	**Kota Kinabalu**	**22.19**	**262**	⇑P	**P**	**07 41 58.6**	**+1.7**
KDU	**Kakadu**	**22.99**	**195**	P	**P**	**07 42 04.8**	**-0.4**
	baz=23,SNR=7.2						
JHJ2	**Mitsune**	**23.33**	**3**	*e*P	**P**	**07 42 09.4**	**+1.0**
	comp=Z,2μm,1.8s						
JHJ2				LR	LR		
	comp=Z,15μm,21.0s						
JHJ	**Hachijo jima 2**	**23.34**	**3**	LR	LR	07 49 15.5	
	comp=Z,13μm,20.5s,baz=194,slow=32						
MTN	**Manton Dam**	**23.51**	**198**	P	**P**	**07 42 10.1**	**-0.3**
	baz=23,SNR=8.6						
MTN	**Manton Dam**	**23.51**	**198**	*e*P	**P**	**07 42 07.5**	**-2.9**
	comp=Z,284nm,1.3s						
MTN				LR	LR		
	comp=Z,6μm,20.0s						
KAPI	**Kappang**	**23.58**	**232**	*e*P	**P**	**07 42 09.8**	**-1.3**
	comp=Z,396nm,1.4s						
KAPI	**Kappang**	**23.58**	**232**	P	**P**	**07 42 11.0**	**-0.1**
	SNR=14						
KAPI	**Kappang**	**23.58**	**232**	P	**P**	**07 42 11.0**	**-0.1**
	SNR=14						
SOEI	**Soe**	**23.86**	**216**	*e*P	**P**	**07 42 12.4**	**-1.5**
	comp=Z,704nm,0.8s						
SOEI				LR	LR		
	comp=Z,12μm,21.0s						
COEN	**Coen**	**24.00**	**168**	P	**P**	**07 42 15.2**	**+0.2**
	baz=24,SNR=18						
COEN	**Coen**	**24.00**	**168**	*e*P	**P**	**07 42 15.1**	**+0.2**
	comp=Z,144nm,1.3s						
COEN				LR	LR		
	comp=Z,12μm,21.0s						
QZH	**Quanzhou**	**24.12**	**311**	⇑*i*P	**P**	**07 42 15.3**	**-0.7**
QZH				S	**S**	**07 46 33.4**	**+1.8**
QZH				pmax	pmax		
	comp=Z,400nm,1.2s						
QZH				pmax	pmax		
	comp=Z,10μm,7.6s						
QZH				LR	LR		
	comp=Z,21μm,15.9s						
QZH				LR	LR		
	comp=Z,11μm,11.1s						
QZH				LR	LR		
	comp=Z,19μm,15.0s						
MMRI	**Maumere**	**24.26**	**222**	*e*P	**P**	**07 42 16.8**	**-0.7**
	comp=Z,471nm,0.9s						
JNU	**Nakatsue**	**24.29**	**345**	P	**P**	**07 42 17.1**	**-0.5**
	comp=Z,134nm,1.0s,baz=153,slow=5.2,SNR=29						
JNU				LR	LR	07 51 48.0	
	comp=Z,8μm,18.6s,baz=156,slow=37						
JNU	**Nakatsue**	**24.29**	**345**	*e*P	**P**	**07 42 17.8**	**+0.2**
	comp=Z,352nm,1.2s						
JNU				LR	LR		
	comp=Z,11μm,22.0s						
INU	**Inuyama**	**25.55**	**358**	*e*P	**P**	**07 42 28.6**	**-0.3**
	comp=Z,133nm,1.3s						
INU				LR	LR		
	comp=Z,5μm,20.0s						
BTM	**Bintulu**	**25.88**	**257**	⇑P	**P**	**07 42 32.4**	**+0.1**
SSE	**Sheshan**	**26.58**	**326**	P	**P**	**07 42 38.9**	**+0.6**
SSE				pmax	pmax		
	comp=Z,100nm,1.2s						
SSE				pmax	pmax		
	comp=Z,2μm,11.0s						
SSE				LR	LR		
	comp=Z,5μm,20.7s						
SSE				LR	LR		
	comp=Z,7μm,20.5s						
SSE				LR	LR		
	comp=Z,14μm,18.5s						
MJAR	**Matsushiro Arr**	**26.71**	**360**	P	**P**	**07 42 37.1**	**-2.4**
	comp=Z,19nm,0.9s,baz=179,slow=10,SNR=22						
MJAR				LR	LR	07 51 59.2	
	comp=Z,6μm,20.2s,baz=180,slow=34						
MJAR	**Matsushiro Arr**	**26.71**	**360**	P	**P**	**07 42 37.1**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,18nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,6μm,20.2s						
MAJO	**Matsushiro**	**26.71**	**360**	⇑*i*P	**P**	**07 42 40.5**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,137nm,0.8s						
MAJO				MLR	MLR		
	comp=Z,31μm,18.0s						
MAJO	**Matsushiro**	**26.71**	**360**	*e*P	**P**	**07 42 39.3**	**-0.2**
	comp=Z,162nm,1.8s						
MAJO				LR	LR		
	comp=Z,8μm,20.0s						
MAT	**Matsushiro**	**26.71**	**360**	P	**P**	**07 42 36.7**	**-2.8**
MAT				S	**S**	**07 47 17.2**	**+4.4**
MJB9	**Matsu-Tunnel**	**26.72**	**360**	*e*P	**P**	**07 42 39.4**	**-0.1**
	comp=Z,40nm,1.8s						
MJB9				LR	LR		
	comp=Z,2μm,20.0s						
SBUM

comp=Z,4μm,16.4s
QIZ LR LR
comp=Z,6μm,14.6s
QIZ Qiongzhong 29.06 292 *e*P **P 07 43 00.4 -0.3**
comp=Z,65nm,1.1s
QIZ LR LR
comp=Z,6μm,18.0s
KSRS Korea Array 29.18 343 P **P 07 43 00.9 -0.5**
comp=Z,9.8nm,0.9s,baz=164,slow=9.8,SNR=11
KSRS PcP **PcP 07 46 09.3 +0.9**
comp=Z,2.1nm,0.7s,baz=171,slow=3.0,SNR=5.4
KSRS LR LR 07 53 26.5
comp=Z,6μm,20.8s,baz=159,slow=34
KS15 Wonju Array Si 29.18 343 *e*P **P 07 43 02.8 +1.3**
KSAR Wonju Array Be 29.18 343 P **P 07 43 00.9 -0.5**
KSAR Wonju Array Be 29.18 343 P **P 07 43 00.9 -0.5**
KS01 Wonju Array Si 29.20 343 *e*P **P 07 43 00.2 -1.5**
H11N1 WAKE ISLAND Hy 29.33 67 T T 08 13 59.4
baz=254,slow=75,SNR=125
H11N2 WAKE ISLAND Hy 29.34 67 T T 08 14 00.6
baz=254,slow=75,SNR=124
H11N3 WAKE ISLAND Hy 29.34 67 T T 08 14 00.4
baz=254,slow=75,SNR=96
DLV T Lat 29.38 277 *e*P **P 07 43 03.0 -0.7**
comp=Z,145nm,1.6s
WB9 Warramunga Arr 29.57 188 PFAKE 07 43 20.0 +15
WB9 LR LR
comp=Z,15μm,22.0s
WB8 Warramunga Arr 29.59 188 PFAKE 07 43 20.0 +15
WB8 LR LR
comp=Z,7μm,21.0s
INCN Inchon 29.60 341 *e*P **P 07 43 06.3 +1.1**
comp=Z,33nm,0.6s
INCN LR LR
comp=Z,8μm,18.0s
WB6 Warramunga Arr 29.63 188 PFAKE 07 43 20.0 +14
WB6 LR LR
comp=Z,6μm,18.0s
WB5 Warramunga Arr 29.66 188 PFAKE 07 43 20.0 +14
WB5 LR LR
comp=Z,6μm,21.0s
WB4 Warramunga Arr 29.68 188 PFAKE 07 43 20.0 +14
WB4 LR LR
comp=Z,7μm,22.0s
WRAB Tennant Creek 29.71 188⇑*e*P **P 07 43 06.7 +0.3**
WRAB pmax pmax
comp=Z,30nm,0.8s
WRAB MLR MLR
comp=Z,12μm,16.0s
WRAB Tennant Creek 29.71 188 *e*P **P 07 43 06.6 +0.2**
comp=Z,65nm,1.0s
WRAB LR LR
comp=Z,6μm,19.0s
WR0 Warramunga Arr 29.71 187 PFAKE 07 43 20.0 +14
WR0 LR LR
comp=Z,8μm,18.0s
WR9 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR9 LR LR
comp=Z,8μm,18.0s
WR7 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR7 LR LR
comp=Z,8μm,21.0s
WR6 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR6 LR LR
comp=Z,7μm,22.0s
WR5 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR5 LR LR
comp=Z,7μm,22.0s
WB2 Warramunga Arr 29.72 188 *e*P **P 07 43 06.3 -0.2**
WB2 LR LR
comp=Z,6μm,20.0s
WR4 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR4 LR LR
comp=Z,6μm,22.0s
WR1 Warramunga Arr 29.72 188 *e*P **P 07 43 05.6 -0.9**
comp=Z,122nm,1.4s
WR1 LR LR
comp=Z,7μm,21.0s
WR3 Warramunga Arr 29.72 187 PFAKE 07 43 20.0 +14
WR3 LR LR
comp=Z,6μm,21.0s
WRA Warramunga Arr 29.72 188 P **P 07 43 05.6 -0.9**
comp=Z,17nm,1.0s,baz=4.8,slow=9.7,SNR=11
WRA LR LR 07 54 44.2
comp=Z,7μm,20.4s,baz=5.0,slow=36
WR2 Warramunga Arr 29.72 188 PFAKE 07 43 20.0 +14
WR2 LR LR
comp=Z,7μm,22.0s
WC3 Warramunga Arr 29.73 187 PFAKE 07 43 20.0 +13
WC3 LR LR
comp=Z,7μm,18.0s
WC4 Warramunga Arr 29.74 188 PFAKE 07 43 20.0 +13
WC4 LR LR
comp=Z,6μm,21.0s
QIS Mount Isa 30.10 178 P **P 07 43 10.2 +0.4**
baz=30,SNR=3.6
FITZ Fitzroy Crossi 30.34 204 P **P 07 43 10.3 -1.5**
comp=Z,26nm,1.0s,baz=32,slow=10
WHN Wuhan 30.47 316 ⇑P **P 07 43 14.7 +1.7**
WHN S **S 07 48 12.3 +0.3**
WHN pmax pmax
comp=Z,270nm,1.5s
WHN LR LR
comp=Z,13μm,11.2s
WHN LR LR
comp=Z,10μm,9.5s
WHN LR LR
comp=Z,28μm,19.5s
CTA Charters Tower 30.62 165 P **P 07 43 14.5 +0.1**
comp=Z,6.1nm,0.8s,baz=341,slow=9.0,SNR=9.8
CTA Charters Tower 30.62 165 P **P 07 43 14.5 +0.1**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 30.62 165 *e*P **P 07 43 15.3 +0.9**
CTAO pmax pmax
comp=Z,51nm,1.1s
CTAO MLR MLR
comp=Z,9μm,22.0s
CTAO Charters Tower 30.62 165 *e*P **P 07 43 15.2 +0.9**
comp=Z,51nm,1.1s
CTAO LR LR
comp=Z,9μm,22.0s
ERM Erimo 32.46 7*d i*P **P 07 43 30.8 +0.5**
ERM pmax pmax
comp=Z,77nm,1.3s
ERM MLR MLR
comp=Z,4μm,19.0s
ERM Erimo 32.46 7 PFAKE 07 43 40.0 +10
ERM LR LR
comp=Z,5μm,19.0s
TIA Tai'an 32.66 327 ⇑P **P 07 43 32.7 +0.5**
TIA S **S 07 48 48.4 +2.3**
TIA pmax pmax
comp=Z,50nm,1.8s
TIA pmax pmax
comp=Z,2μm,10.0s
TIA LR LR
comp=Z,9μm,16.0s
TIA LR LR
comp=Z,7μm,16.0s
TIA LR LR
comp=Z,15μm,18.0s
DL2 Dalian 32.69 335⇑*i*P **P 07 43 33.1 +0.7**
DL2 S **S 07 48 47.3 +0.8**
DL2 pmax pmax
comp=Z,53nm,1.0s
DL2 pmax pmax
comp=Z,2μm,9.6s
DL2 LR LR
comp=Z,5μm,16.7s
DL2 LR LR
comp=Z,6μm,16.3s
DL2 LR LR
comp=Z,8μm,18.0s
AS31 Alice Springs 33.45 187 *e*P **P 07 43 39.0 -0.2**
comp=Z,12nm,0.6s
AS31 LR LR
comp=Z,100nm,21.0s
ASAR Alice Springs 33.45 187 P **P 07 43 39.0 -0.2**
comp=Z,12nm,0.5s,baz=18,slow=12,SNR=19
ASAR LR LR 07 56 59.8
comp=Z,8μm,20.9s,baz=14,slow=36
ENH Enshi 33.78 311 *e*P **P 07 43 43.2 +1.1**
comp=Z,138nm,1.3s
ENH LR LR
comp=Z,8μm,18.0s
GYA Guiyang 34.26 303 *i* P **P 07 43 47.6 +1.2**

GYA pP sP 07 43 58.2 -2.4
GYA PP **PP 07 45 04.0 -0.4**
GYA PcP **PcP 07 46 24.8 +2.2**
GYA S **S 07 49 15.6 +4.2**
GYA sS sS 07 49 29.4 +1.5
GYA ScP **ScP 07 50 06.0 +0.8**
GYA SS **SnSn 07 51 22.2 +0.2**
GYA ScS **ScS 07 54 06.8 -1.0**
GYA pmax pmax
comp=Z,50nm,1.2s
GYA pmax pmax
comp=Z,1μm,6.8s
GYA LR LR
comp=Z,2μm,18.3s
GYA LR LR
comp=Z,4μm,18.0s
GYA LR LR
comp=Z,6μm,17.7s
ASAJ Asahikawa 34.48 5 *e*P **P 07 43 48.0 0.0**
comp=Z,109nm,1.5s
ASAJ LR LR
comp=Z,4μm,21.0s
SNY Shenyang 34.53 340 ⇑P **P 07 43 48.8 +0.5**
SNY S **S 07 49 08.0 -6.9**
SNY pmax pmax
comp=Z,90nm,2.0s
SNY pmax pmax
comp=Z,2μm,5.0s
SNY LR LR
comp=Z,6μm,16.0s
SNY LR LR
comp=Z,4μm,13.5s
SNY LR LR
comp=Z,11μm,15.7s
USRK Ussuriysk Ar. 34.80 352 P **P 07 43 49.5 -1.2**
comp=Z,6.2nm,0.5s,baz=160,slow=6.1,SNR=9.8
USRK LR LR 07 55 47.1
comp=Z,10μm,21.7s,baz=155,slow=32
YUK Yuzh-Kuril'sk 34.82 10*c i*P **P 07 43 50.9 0.0**
YUK *i* 07 45 12.9
YUK *i* S **S 07 49 19.5 +0.2**
YUK *i* SS **SnSn 07 51 32.3 -2.7**
YUK pmax pmax
comp=Z,573nm,1.5s
YUK pmax pmax
comp=N,312nm,1.3s
YUK pmax pmax
comp=E,30nm,0.5s
YUK pmax pmax
comp=Z,572nm,2.2s
CISI Cisompet, Garu 34.89 242 *e*P **P 07 43 51.0 -0.9**
comp=Z,116nm,1.0s
SLVN Son La 35.03 293 *e*P **P 07 43 54.0 +1.0**
comp=Z,72nm,1.2s
SLVN LR LR
comp=Z,5μm,19.0s
KTGM Kuala Trenggan 35.14 265 ⇓P **P 07 43 54.3 +0.3**
MYKOM Kota Tinggi 35.16 259 *e*P **P 07 43 53.0 -1.2**
comp=Z,58nm,1.2s
MYKOM LR LR
comp=Z,3μm,20.0s
MYKOM Kota Tinggi 35.16 259 ⇓P **P 07 43 53.6 -0.6**
KHON Khomkaen 35.17 285 P **P 07 43 55.7 +1.5**
comp=Z,14nm,0.8s
TARA Tarawa 35.40 101 PFAKE 07 44 10.0 +14
TARA LR LR
comp=Z,11μm,20.0s
MDJ Mudanjiang 35.59 349 PFAKE 07 44 10.0 +12
MDJ LR LR
comp=Z,9μm,20.0s
MBWA Marble Bar 35.70 211 *e*P **P 07 43 57.8 -0.9**
comp=Z,38nm,1.0s
MBWA LR LR
comp=Z,3μm,22.0s
MBWA Marble Bar 35.70 211 P **P 07 43 58.5 -0.2**
SNR=7.7
MBWA Marble Bar 35.70 211 P **P 07 43 58.5 -0.2**
SNR=7.7
CN2 Changchun 35.76 344 *e*P **P 07 43 58.0 -1.0**
CN2 *e*PP **PnPn 07 45 19.7 +0.2**
CN2 *e*S **S 07 49 32.5 -1.4**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,6μm,18.0s
BJT Baijiatuau 36.05 331 *e*P **P 07 44 01.7 +0.2**
BJT pmax pmax
comp=Z,262nm,1.3s
BJT MLR MLR
comp=Z,6μm,20.0s
BJT Baijiatuau 36.05 331 *e*P **P 07 44 01.7 +0.2**
comp=Z,262nm,1.3s
BJT LR LR
comp=Z,6μm,20.0s
BJI Beijing 36.06 331 P **P 07 44 01.5 -0.1**
BJI PP **PP 07 45 27.0 +3.0**
BJI pmax pmax
comp=Z,150nm,1.5s
BJI pmax pmax
comp=Z,2μm,4.6s
BJI LR LR
comp=Z,7μm,18.3s
BJI LR LR
comp=Z,7μm,16.9s
BJI LR LR
comp=Z,5μm,25.7s
XAN Xi'an 36.24 316 P **P 07 44 04.1 +0.8**
XAN sP sP 07 44 18.0 +0.5
XAN pmax pmax
comp=Z,36nm,1.1s
XAN pmax pmax
comp=Z,2μm,10.9s
XAN LR LR
comp=Z,4μm,20.0s
XAN LR LR
comp=Z,5μm,19.7s
XAN LR LR
comp=Z,11μm,19.4s
KUR Kuril'sk 36.34 11*c i*P **P 07 44 04.4 +0.5**
KUR *e* 07 45 23.7
KUR *i* S **S 07 49 45.6 +3.0**
KUR *e* 07 54 13.5
KUR pmax pmax
comp=Z,269nm,1.3s
KUR pmax pmax
comp=Z,2μm,4.8s
TIY Taiyuan 36.34 324 *e*P **P 07 44 05.1 +0.9**
TIY PP **PP 07 45 32.4 +5.1**
TIY S **S 07 49 42.8 -0.3**
TIY SS **SnSn 07 52 12.2 0.0**
TIY pmax pmax
comp=Z,150nm,1.0s
TIY pmax pmax
comp=Z,1μm,5.0s
TIY LR LR
comp=Z,4μm,15.1s
TIY LR LR
comp=Z,4μm,13.7s
TIY LR LR
comp=Z,8μm,21.1s
QLP Quilpie 36.53 171 P **P 07 44 05.5 -0.2**
baz=36,SNR=10.0
PATY Pattaya 36.84 279 P P 07 44 13.7 +5.1
comp=Z,8.8nm,0.9s
FRIM Kepong 37.00 262 ⇑P **P 07 44 09.3 -0.6**
EIDS Eidsvold 37.02 161 *e*P **P 07 44 09.6 -0.3**
comp=Z,22nm,1.0s
EIDS LR LR
comp=Z,6μm,19.0s
KMI Kunming 37.10 299 P **P 07 44 12.8 +1.8**
KMI pP pP 07 44 21.5 +0.4
KMI PP **PnPn 07 45 41.8 +5.4**
KMI S **S 07 49 54.9 -0.4**
KMI sS sS 07 50 11.6 -0.3
KMI pmax pmax
comp=Z,39nm,1.2s
KMI pmax pmax
comp=Z,590nm,5.4s
KMI LR LR
comp=Z,3μm,17.5s

KMI LR LR
comp=Z,9μm,15.9s
KMI LR LR
comp=Z,10μm,16.4s
YSS Yuzh-Sakhalins 37.31 5*αe*P **P 07 44 12.2 +0.1**
YSS *e* 07 45 39.0
YSS *e*S **S 07 49 52.6 -4.8**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS smax smax
comp=E,1μm,6.3s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS Yuzh-Sakhalins 37.31 5 *e*P **P 07 44 11.7 -0.5**
comp=Z,158nm,1.4s
IPM Ipoh 37.35 265 *e*P **P 07 44 11.3 -1.6**
comp=Z,78nm,0.9s
IPM LR LR
comp=Z,5μm,20.0s
IPM Ipoh 37.35 265 ⇑P **P 07 44 12.6 -0.3**
SKLT Songkhla 37.36 269 P **P 07 44 12.5 -0.5**
comp=Z,198nm,1.0s,comp=Z,3μm
RMQ Roma 37.38 164 P **P 07 44 13.5 +0.5**
baz=37,SNR=8.1
UTTA Uttaradit 37.49 286 P **P 07 44 14.1 +0.1**
comp=Z,21nm,1.1s,comp=Z,178nm
NANT Nan 37.49 288 P **P 07 44 14.1 0.0**
comp=Z,22nm,1.0s,comp=Z,382nm
KULM Kulim 37.59 266 *e*P **P 07 44 14.5 -0.4**
comp=Z,101nm,0.9s
KULM Kulim 37.59 266 ⇑P **P 07 44 14.9 0.0**
PHET Kaeng Krachan 38.05 279 P **P 07 44 19.5 +0.7**
comp=Z,10nm,1.2s,comp=Z,157nm
CD2 Chengdu 38.42 308⇑*i*P **P 07 44 22.9 +1.0**
CD2 sP sP 07 44 35.2 -1.0
CD2 PP **PnPn 07 45 51.2 -1.0**
CD2 S **S 07 50 09.7 -5.1**
CD2 sS sS 07 50 31.6 +0.1
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,2μm,6.4s
CD2 LR LR
comp=Z,5μm,17.4s
CD2 LR LR
comp=Z,8μm,18.9s
CD2 LR LR
comp=Z,8μm,17.4s
LAMP Lampang 38.46 288 P **P 07 44 23.3 +1.0**
comp=Z,20nm,0.8s,comp=Z,178nm
HABR Khabarovsk 38.73 357*ce*P **P 07 44 22.4 -1.7**
HABR *e**PP **pP 07 44 32.0 -2.2**
HABR *e* 07 45 51.4
HABR *e*PPP PPP 07 46 12.8
HABR *e* 07 46 33.1
HABR *e*S **S 07 50 18.4 -0.5**
HABR *e**SS **sS 07 50 34.8 -0.8**
HABR *e*SSS SSS 07 53 28.4
HABR *e* 07 54 29.6
HABR pmax pmax
comp=E,12nm,0.8s
HABR pmax pmax
comp=N,73nm,1.6s
HABR pmax pmax
comp=Z,234nm,1.6s
HABR pmax pmax
comp=Z,1μm,3.3s
HABR MLR MLR
comp=Z,4μm,16.0s
UMPA Umpang Tak 38.94 284 P **P 07 44 27.4 +1.0**
comp=Z,16nm,1.2s,comp=Z,3μm
SURT Suratani 38.99 272 P **P 07 44 26.6 -0.2**
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 39.02 327 *e*P **P 07 44 27.9 +1.1**
HHC sP pP 07 44 36.8 -0.1
HHC S **S 07 50 24.9 +1.3**
HHC SS **SS 07 53 10.9 -5.7**
HHC ScS **ScS 07 54 32.3 -1.5**
HHC pmax pmax
comp=Z,80nm,1.2s
HHC pmax pmax
comp=Z,2μm,9.6s
HHC LR LR
comp=Z,6μm,19.7s
HHC LR LR
comp=Z,4μm,18.5s
HHC LR LR
comp=Z,8μm,18.5s
CM01 Chiang Mai Arr 39.08 287 *e*P **P 07 44 27.5 +0.1**
CM31 Chiang Mai Arr 39.10 287 *e*P **P 07 44 28.5 +0.9**
CMAR Chiang Mai Arr 39.10 287 P **P 07 44 28.1 +0.4**
comp=Z,77nm,1.0s,baz=98,slow=6.6,SNR=124
CMAR LR LR 08 00 54.6
comp=Z,3μm,19.4s,baz=79,slow=37
CMAR Chiang Mai Arr 39.10 287 P **P 07 44 28.1 +0.4**
CMAR pmax pmax
comp=Z,71nm,1.0s
CMAR MLR MLR
comp=Z,3μm,19.4s
CHTO Chiang Mai 39.14 288 P **P 07 44 28.3 +0.3**
comp=Z,261nm,1.2s,comp=Z,7μm
CHTO Chiang Mai 39.14 288 *e*P **P 07 44 27.7 -0.3**
CHTO pmax pmax
comp=Z,53nm,0.9s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 39.14 288 *e*P **P 07 44 27.7 -0.3**
comp=Z,53nm,0.9s
CHTO LR LR
comp=Z,3μm,20.0s
CHTO Chiang Mai 39.14 288 P **P 07 44 28.7 +0.7**
SNR=20
CHTO P **P 07 44 28.7 +0.7**
SNR=20
CHTO Chiang Mai 39.14 288 P **P 07 44 28.7 +0.7**
SNR=20
BTO Baotou 39.69 326 *e*P **P 07 44 32.5 +0.1**
PSI Prapat 39.73 263 P **P 07 44 31.6 -1.5**
comp=Z,35nm,0.7s,baz=80,slow=11,SNR=27
LZH Lanzhou 40.84 315 *e*P **P 07 44 43.5 +1.4**
LZH pP pP 07 44 53.6 -2.8
LZH sP pP 07 44 58.7 +6.5
LZH PP **PnPn 07 46 19.0 -1.9**
LZH S **S 07 50 51.0 -0.2**
LZH sS sS 07 51 08.0 +0.1
LZH SS **SS 07 53 55.0 +1.8**
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,1μm,4.9s
LZH LR LR
comp=Z,3μm,13.5s
LZH LR LR
comp=Z,4μm,13.6s
LZH LR LR
comp=Z,4μm,15.4s
TYV Tymovskoe 41.19 4*c i*P **P 07 44 45.6 +1.2**
TYV *e*S **S 07 50 52.4 -3.1**
TYV pmax pmax
comp=Z,49nm,1.4s
TYV pmax pmax
comp=Z,2μm,4.9s
TYV pmax pmax
comp=E,3μm,19.8s
TYV smax smax
comp=E,3μm,19.8s
TYV MLR MLR
comp=E,3μm,16.0s
TYV MLR MLR
comp=Z,4μm,21.0s
LHMI Lhok Sumawe 41.24 267 *e*P **P 07 44 45.6 +0.2**
comp=Z,446nm,1.1s
FORT Forrest 41.44 193 P **P 07 44 47.2 +0.4**
baz=42,SNR=24
FORT Forrest 41.44 193 *e*P **P 07 44 47.0 +0.2**
comp=Z,2μm,0.8s
FORT LR LR
comp=Z,51μm,20.0s
STKA Stephens Creek 41.47 176 P **P 07 44 46.0 -0.9**
comp=Z,14nm,0.7s,baz=342,slow=9.0,SNR=24
STKA LR LR 08 02 21.7
comp=Z,10μm,20.3s,baz=6.2,slow=37

STKA	**Stephens Creek**	**41.47 176**	P	**P**	**07 44 45.8**	**-1.2**	
	baz=42,SNR=23						
STKA	**Stephens Creek**	**41.47 176**	*e*P	**P**	**07 44 46.1**	**-0.9**	
STKA			pmax	pmax			
	comp=Z,9.0nm,0.9s						
STKA			MLR	MLR			
	comp=Z,2μm,20.0s						
STKA	**Stephens Creek**	**41.47 176**	*e*P	**P**	**07 44 46.1**	**-0.9**	
	comp=Z,8.6nm,0.9s						
STKA			LR	LR			
	comp=Z,2μm,20.0s						
CMSA	**Cobar Meteorol**	**41.62 171**	P	**P**	**07 44 48.8**	**+0.7**	
	baz=42,SNR=14						
ARMA	**Armidale**	**41.90 163**	P	**P**	**07 44 50.8**	**+0.2**	
	baz=42,SNR=11						
ARMA	**Armidale**	**41.90 163**	*e*P	**P**	**07 44 50.8**	**+0.2**	
	comp=Z,37nm,1.0s						
ARMA			LR	LR			
	comp=Z,5μm,19.0s						
DZM	**Mont Dzumac**	**41.94 139**	P	**P**	**07 44 51.4**	**+0.3**	
	comp=Z,48nm,1.1s,baz=339,slow=9.4,SNR=12						
DZM			LR	LR	07 59 47.9		
	comp=Z,7μm,21.4s,baz=322,slow=33						
DZM	**Mont Dzumac**	**41.94 139**	*e*P	**P**	**07 44 50.8**	**-0.3**	
	comp=Z,155nm,1.2s						
DZM			*e*S	**S**	**07 51 10.6**	**+3.1**	
	comp=Z,5μm,23.6s						
DZM			*e*LQ	LQ	07 54 42.9		
	comp=Z,12μm,25.6s						
DZM			*e*LR	LR	07 56 31.5		
	comp=Z,13μm,22.9s						
DZM	**Mont Dzumac**	**41.94 139**	*e*P	**P**	**07 44 50.3**	**-0.7**	
	comp=Z,102nm,1.3s						
DZM			LR	LR			
	comp=Z,7μm,20.0s						
BBOO	**Buckleboo**	**42.33 183**	P	**P**	**07 44 53.7**	**-0.4**	
	baz=42,SNR=7.9						
BBOO	**Buckleboo**	**42.33 183**	*e*P	**P**	**07 44 53.7**	**-0.4**	
	comp=Z,63nm,1.0s						
BBOO			LR	LR			
	comp=Z,8μm,18.0s						
HIA	**Hailar**	**42.38 342**	*e*P	**P**	**07 44 55.0**	**+0.7**	
HIA			pmax	pmax			
	comp=Z,115nm,1.5s						
HIA			MLR	MLR			
	comp=Z,8μm,21.0s						
HIA	**Hailar**	**42.38 342**	*e*P	**P**	**07 44 55.0**	**+0.7**	
	comp=Z,115nm,1.5s						
HIA			LR	LR			
	comp=Z,8μm,21.0s						
HTT	**Hallett**	**42.90 179**	P	**P**	**07 44 58.8**	**+0.1**	
	baz=43,SNR=8.6						
NKL	**Nikolayevsk**	**43.36 2**	*e*P	**P**	**07 45 00.5**	**-1.6**	
NKL			pmax	pmax			
	comp=N,2μm,10.0s						
NKL			pmax	pmax			
	comp=Z,4μm,10.0s						
NKL			pmax	pmax			
	comp=N,43nm,1.0s						
NKL			pmax	pmax			
	comp=Z,130nm,1.0s						
KMBL	**Kambalda**	**43.77 200**	P	**P**	**07 45 04.7**	**-1.1**	
	baz=44,SNR=12						
MORW	**Morawa**	**44.14 208**	P	**P**	**07 45 07.2**	**-1.5**	
	baz=44,SNR=6.6						
FUNA	**Funafuti**	**44.55 113**	*e*P	**P**	**07 45 13.9**	**+1.7**	
DGPR	**DIGLIPUR**	**44.58 279**	*e*P	**P**	**07 45 11.7**	**-0.7**	
DGPR			AMB	AMB	07 45 20.7		
	comp=Z,46nm,0.5s						
PBA	**Port Blair**	**44.79 277**	*e*P	P	07 45 13.6	-0.6	
YNG	**Young**	**44.80 168**	P	P	07 45 21.9	+8.0	
	baz=45,SNR=5.7						
BLDU	**Ballidu**	**45.15 207**	P	**P**	**07 45 15.3**	**-1.4**	
	baz=45,SNR=9.4						
GTA	**Gaotai**	**45.28 317**	⇑P	**P**	**07 45 18.7**	**+0.8**	
GTA			pP	pP	07 45 28.3	+0.1	
GTA			sP	sP	07 45 32.2	-0.1	
GTA			PP	**PP**	**07 47 04.4**	**+0.2**	
GTA			S	**S**	**07 51 55.6**	**-0.6**	
GTA			sS	sS	07 52 11.8	-1.3	
GTA			SS	**ScS**	**07 55 09.4**	**-3.0**	
GTA			pmax	pmax			
	comp=Z,37nm,1.7s						
GTA			pmax	pmax			
	comp=Z,840nm,5.9s						
GTA			LR	LR			
	comp=Z,3μm,20.4s						
GTA			LR	LR			
	comp=Z,5μm,19.7s						
GTA			LR	LR			
	comp=Z,5μm,19.5s						
KLBR	**Kellerberrin**	**45.54 205**	P	**P**	**07 45 18.9**	**-1.0**	
	baz=46,SNR=6.9						
CAN	**Canberra**	**45.91 168**	*e*P	**P**	**07 45 24.4**	**+1.6**	
CAN			pmax	pmax			
	comp=Z,121nm,1.7s						
CAN			MLR	MLR			
	comp=Z,9μm,18.0s						
CAN	**Canberra**	**45.91 168**	*e*P	**P**	**07 45 24.4**	**+1.6**	
	comp=Z,121nm,1.7s						
CAN			LR	LR			
	comp=Z,9μm,18.0s						
PEA0	**Petropavlovsk-**	**46.02 16**	*e*P	**P**	**07 45 23.5**	**+0.1**	
PEA0B	**Petropavlovsk-**	**46.02 16**	*e*P	**P**	**07 45 23.4**	**0.0**	
	comp=Z,69nm,1.0s						
PEA0B			LR	LR			
	comp=Z,3μm,22.0s						
PETK	**Petropavlovsk-**	**46.02 16**	P	**P**	**07 45 23.3**	**-0.1**	
	comp=Z,37nm,1.1s,baz=186,slow=4.5,SNR=15						
PETK			LR	LR	08 01 39.3		
	comp=Z,2μm,21.8s,baz=203,slow=32						
PETK	**Petropavlovsk-**	**46.02 16**	*e*P	**P**	**07 45 23.7**	**+0.3**	
PETK	**Petropavlovsk-**	**46.02 16**	*e*P	**P**	**07 45 23.7**	**+0.3**	
PEA1	**Petropavlovsk-**	**46.03 16**	*e*P	**P**	**07 45 23.3**	**-0.2**	
PET	**Petropavlovsk**	**46.22 17**	*d i*P	**P**	**07 45 25.4**	**+0.5**	
PET			*e*S	**S**	**07 52 08.5**	**-0.4**	
PET			pmax	pmax			
	comp=Z,66nm,1.5s						
PET			pmax	pmax			
	comp=Z,1μm,5.4s						
PET			pmax	pmax			
	comp=Z,1μm,12.9s						
PET			MLR	MLR			
	comp=Z,2μm,17.0s						
PET			MLR	MLR			
	comp=Z,2μm,18.0s						
PET	**Petropavlovsk**	**46.22 17**	*e*P	**P**	**07 45 25.4**	**+0.5**	
	comp=Z,144nm,1.5s						
PET			LR	LR			
	comp=Z,2μm,18.0s						
ULN	**Ulaanbaatar**	**46.27 331**	*c i*P	**P**	**07 45 25.7**	**+0.1**	
ULN			pmax	pmax			
	comp=Z,82nm,1.0s						
ULN			MLR	MLR			
	comp=Z,5μm,17.0s						
ULN	**Ulaanbaatar**	**46.27 331**	*e*P	**P**	**07 45 25.9**	**+0.3**	
	comp=Z,70nm,1.0s						
ULN			LR	LR			
	comp=Z,4μm,18.0s						
ULN	**Ulaanbaatar**	**46.27 331**	P	**P**	**07 45 26.3**	**+0.7**	
	SNR=44						
ULN			P	**P**	**07 45 26.3**	**+0.7**	
	SNR=44						
ULN	**Ulaanbaatar**	**46.27 331**	P	**P**	**07 45 26.3**	**+0.7**	
	SNR=44						
ARPS	**Mount Arapiles**	**46.35 176**	P	**P**	**07 45 26.0**	**-0.1**	
	baz=46,SNR=16						
SONA0	**Songino Array**	**46.56 331**	*e*P	**P**	**07 45 28.6**	**+0.7**	
	comp=Z,142nm,1.2s						
SONM	**Songino Array**	**46.56 331**	P	**P**	**07 45 28.6**	**+0.7**	
	comp=Z,70nm,1.0s,baz=146,slow=7.7,SNR=128						
SONM			LR	LR	08 07 44.7		
	comp=Z,3μm,18.1s,baz=140,slow=40						
SONA1	**Songino Array**	**46.57 331**	*e*P	**P**	**07 45 28.2**	**+0.2**	
SHL	**Shillong**	**46.72 296**	*e*P	**P**	**07 45 29.6**	**+0.1**	
SHL			AMB	AMB	07 45 35.5		
	comp=Z,82nm,1.0s						
SHL			*ex*	x	07 52 16.0		
CIT	**Chita**	**46.77 339**	*e*P	**P**	**07 45 29.7**	**+0.3**	
CIT			*e*		07 45 37.2		
CIT			*e*		07 45 41.4		
CIT			pmax	pmax			
	comp=Z,302nm,2.5s						
NWAO	**Narrogin (SRO)**	**46.92 204**	LR	LR	08 05 50.4		
	comp=Z,2μm,19.4s,baz=277,slow=37						
NWAO	**Narrogin (SRO)**	**46.92 204**	P	**P**	**07 45 29.6**	**-1.0**	
	baz=47,SNR=7.9						
NWAO			P	**P**	**07 45 29.6**	**-1.0**	
	baz=47,SNR=7.9						
NWAO	**Narrogin (SRO)**	**46.92 204**	*e*P	**P**	**07 45 30.4**	**-0.3**	
NWAO			pmax	pmax			
	comp=Z,54nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.92 204**	*e*P	**P**	**07 45 30.4**	**-0.3**	
	comp=Z,54nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.92 204**	P	**P**	**07 45 31.8**	**+1.2**	
	SNR=5.3						
TOO	**Toolangi**	**47.51 172**	P	**P**	**07 45 37.4**	**+2.2**	
	baz=48,SNR=7.7						
MSVF	**Nonsavu**	**47.79 125**	*e*P	**P**	**07 45 39.4**	**+1.6**	
MSVF			pmax	pmax			
	comp=Z,96nm,1.3s						
MSVF	**Nonsavu**	**47.79 125**	*e*P	**P**	**07 45 39.4**	**+1.6**	
	comp=Z,96nm,1.3s						
CLNS	**Chul'man**	**48.16 350**	*e*P	**P**	**07 45 39.3**	**-0.8**	
CLNS			*e**PP	**pP**	**07 45 49.7**	**-0.7**	
CLNS			*e*		07 47 08.3		
CLNS			*e*		07 47 32.0		
CLNS			*e*PPP	PPP	07 48 19.8		
CLNS			*e*S	**S**	**07 52 35.7**	**-1.0**	
CLNS			*e*SSS	SSS	07 57 16.7		
CLNS			pmax	pmax			
	comp=Z,18nm,1.0s						
CLNS			pmax	pmax			
	comp=N,39nm,0.9s						
CLNS			pmax	pmax			
	comp=E,14nm,0.9s						
CLNS			pmax	pmax			
	comp=E,10.0nm,1.2s						
CLNS			pmax	pmax			
	comp=Z,17nm,1.0s						
CLNS			pmax	pmax			
	comp=N,14nm,1.0s						
CLNS			smax	smax			
	comp=N,2μm,14.3s						
CLNS			smax	smax			
	comp=E,852nm,12.4s						
LSA	**Lhasa**	**48.26 301**	P	**P**	**07 45 43.0**	**+1.2**	
LSA			pmax	pmax			
	comp=E,27nm,1.5s						
LSA	**Lhasa**	**48.26 301**	*e*P	**P**	**07 45 39.9**	**-1.9**	
LSA			pmax	pmax			
	comp=Z,74nm,0.9s						
LSA			MLR	MLR			
	comp=Z,5μm,19.0s						
LSA	**Lhasa**	**48.26 301**	*e*P	**P**	**07 45 39.9**	**-1.9**	
	comp=Z,74nm,0.9s						
LSA			LR	LR			
	comp=Z,5μm,19.0s						
RKGY	**Rocky Gully**	**48.49 204**	P	**P**	**07 45 43.8**	**+0.9**	
	baz=48,SNR=5.7						
ZAK	**Zakamensk**	**49.80 331**	*e*P	**P**	**07 45 52.7**	**-0.1**	
ZAK			pmax	pmax			
	comp=Z,102nm,1.2s						
TLY	**Talaya**	**50.51 333**	*c i*P	**P**	**07 45 58.2**	**+0.1**	
TLY			*e*		07 47 49.0		
TLY			*e*S	**S**	**07 53 13.7**	**+3.9**	
TLY			*e*SS	**SS**	**07 56 41.5**	**-2.6**	
TLY			pmax	pmax			
	comp=Z,107nm,2.0s						
TLY			MLR	MLR			
	comp=Z,5μm,20.0s						
TLY	**Talaya**	**50.51 333**	*e*P	**P**	**07 45 58.2**	**+0.1**	
	comp=Z,86nm,1.4s						
TLY			LR	LR			
	comp=Z,5μm,22.0s						
TLY	**Talaya**	**50.51 333**	P	**P**	**07 45 58.9**	**+0.8**	
	SNR=43						
TLY			P	**P**	**07 45 58.9**	**+0.8**	
	SNR=43						
IRK	**Irkutsk**	**50.62 334**	*e*P	**P**	**07 45 59.6**	**+0.7**	
IRK			*e*S	**S**	**07 53 16.4**	**+5.1**	
IRK			pmax	pmax			
	comp=Z,270nm,2.6s						
MA2	**Magadan**	**50.64 8**	P	**P**	**07 45 58.8**	**-0.1**	
	comp=Z,43nm,1.2s,baz=193,slow=9.3,SNR=13						
MA2	**Magadan**	**50.64 8**	*c i*P	**P**	**07 45 59.3**	**+0.4**	
TAPN	**Taplejung**	**50.72 297**	*e*P	**P**	**07 46 00.2**	**-0.2**	
	comp=Z,223nm,1.1s						
ODAN	**Odare**	**50.92 297**	*e*P	**P**	**07 46 01.6**	**-0.2**	
	comp=Z,424nm,0.9s						
BOD	**Bodaibo**	**51.51 344**	*e*P	**P**	**07 46 04.9**	**-0.5**	
BOD			pmax	pmax			
	comp=Z,63nm,1.3s						
RAMN	**Ramite**	**51.63 297**	*e*P	**P**	**07 46 07.1**	**-0.1**	
	comp=Z,325nm,1.1s						
MOY	**Mondy**	**51.73 331**	*e*P	**P**	**07 46 08.0**	**+0.6**	
MOY			pmax	pmax			
	comp=Z,179nm,1.3s						
BOK	**Bokaro**	**51.84 293**	*e*P	**P**	**07 46 09.8**	**+1.2**	
BOK			AMB	AMB	07 46 16.8		
	comp=Z,155nm,0.3s						
JIRN	**Jiri**	**52.11 297**	*e*P	**P**	**07 46 10.7**	**-0.2**	
	comp=Z,2μm,0.8s						
GUN	**Gumba**	**52.42 298**	*e*P	**P**	**07 46 13.0**	**-0.2**	
	comp=Z,834nm,0.9s						
YAK	**Yakutsk**	**52.61 355**	P	**P**	**07 46 12.8**	**-0.7**	
	comp=Z,37nm,0.6s,baz=210,slow=2.8,SNR=17						
YAK	**Yakutsk**	**52.61 355**	*i* P	**P**	**07 46 13.3**	**-0.2**	
YAK			*e**PP	**pP**	**07 46 20.7**	**-3.2**	
YAK			*e*		07 47 26.3		
YAK			*e*		07 48 16.5		
YAK			*e*PPP	PPP	07 49 15.5		
YAK			*e*S	**S**	**07 53 40.5**	**+2.3**	
YAK			*e*		07 56 02.8		
YAK			*e*SS	**SS**	**07 57 15.3**	**-1.4**	
YAK			pmax	pmax			
	comp=Z,168nm,1.3s						
YAK			pmax	pmax			
	comp=N,92nm,1.4s						
YAK			pmax	pmax			
	comp=Z,107nm,1.6s						
YAK			pmax	pmax			
	comp=N,90nm,2.0s						
YAK			smax	smax			
	comp=N,2μm,10.4s						
YAK			MLR	MLR			
	comp=Z,2μm,20.0s						
YAK			MLR	MLR			
	comp=N,4μm,19.0s						
YAK	**Yakutsk**	**52.61 355**	*e*P	**P**	**07 46 12.8**	**-0.7**	
	comp=N,216nm,1.2s						
YAK			LR	LR			
	comp=Z,5μm,22.0s						
PKI	**Pulchoki**	**52.78 297**	*e*P	**P**	**07 46 15.3**	**-0.5**	
	comp=Z,275nm,1.0s						
PKIN	**Phulchoki**	**52.79 297**	*e*P	**P**	**07 46 15.4**	**-0.4**	
	comp=Z,159nm,0.8s						
KKN	**Kakani**	**52.92 297**	*e*P	**P**	**07 46 16.3**	**-0.4**	
	comp=Z,327nm,0.9s						
TAU	**Tasmania Unive**	**53.01 172**	*e*P	**P**	**07 46 17.2**	**+0.6**	
TAU			pmax	pmax			
	comp=Z,66nm,1.3s						
TAU			MLR	MLR			
	comp=Z,13μm,18.0s						
TAU	**Tasmania Unive**	**53.01 172**	*e*P	**P**	**07 46 17.2**	**+0.6**	
	comp=Z,66nm,1.3s						
TAU			LR	LR			
	comp=Z,13μm,18.0s						
DMN	**Daman**	**53.05 297**	*e*P	**P**	**07 46 17.5**	**-0.2**	
	comp=Z,446nm,1.0s						
CHLP	**Challavanipeta**	**53.18 286**	*e*P	**P**	**07 46 18.8**	**+0.3**	
CHLP			IAmb	IAmb	07 46 26.1		
	comp=Z,146nm,0.8s						
CHLP			*e*S	**S**	**07 53 48.2**	**+0.9**	
CHLP			IVMs_BB	IVMs_BB	08 08 45.0		
	comp=Z,626nm,18.0s						
GKN	**Gorkha**	**53.52 298**	*e*P	**P**	**07 46 20.8**	**-0.3**	
	comp=Z,477nm,1.2s						
VIS	**Vishakhapatnam**	**53.86 285**	*e*P	**P**	**07 46 24.5**	**+1.1**	
VIS			AMB	AMB	07 46 32.0		
	comp=Z,89nm,3.1s						
VIS			*i* S	**S**	**07 53 57.6**	**+1.0**	
SEY	**Seymchan**	**54.09 8**	P	**P**	**07 46 25.0**	**+0.6**	
	comp=Z,119nm,1.1s,baz=189,slow=6.5,SNR=68						
SEY			LR	LR	08 10 04.8		
	comp=Z,550nm,20.0s,baz=182,slow=37						
SEY	**Seymchan**	**54.09 8**	⇓*e*P	**P**	**07 46 25.3**	**+0.9**	
KOLN	**Koidanda**	**54.39 297**	*e*P	**P**	**07 46 27.2**	**-0.3**	
	comp=Z,253nm,0.8s						
AFI	**Afiamalu**	**54.79 115**	LR	LR	08 05 17.7		
	comp=Z,4μm,20.7s,baz=289,slow=31						
AFI	**Afiamalu**	**54.79 115**	PFAKE		07 46 40.0	+10	
AFI			LR	LR			
	comp=Z,4μm,20.0s						
PYUN	**Piuthan**	**54.97 297**	*e*P	**P**	**07 46 31.5**	**-0.2**	
	comp=Z,701nm,1.0s						
WMQ	**Urumqi**	**55.37 317**	P	**P**	**07 46 35.3**	**+1.2**	
WMQ			pP	pP	07 46 43.8	-0.8	
WMQ			sP	sP	07 46 53.3	+4.6	
WMQ			PP	**PP**	**07 48 44.9**	**+6.8**	
WMQ			PcS	**PcS**	**07 51 34.1**	**-0.3**	
WMQ			S	**S**	**07 54 17.0**	**+0.7**	
WMQ			sS	sS	07 54 32.8	-0.7	
WMQ			ScS	**ScS**	**07 56 18.0**	**-2.9**	
WMQ			pmax	pmax			
	comp=Z,43nm,1.7s						
WMQ			pmax	pmax			
	comp=Z,2μm,7.5s						
WMQ			LR	LR			
	comp=Z,4μm,16.3s						
WMQ			LR	LR			
	comp=Z,2μm,16.3s						
WMQ			LR	LR			
	comp=Z,2μm,27.5s						
PVM	**Polavaram**	**55.48 284**	*e*P	**P**	**07 46 35.9**	**+0.7**	
PVM			IAmb	IAmb	07 46 42.9		
	comp=Z,54nm,0.8s						
PVM			*e*S	**S**	**07 54 18.4**	**+0.1**	
ADK	**Adak**	**55.70 32**	*e*P	**P**	**07 46 37.0**	**+0.8**	
ADK			pmax	pmax			
	comp=Z,299nm,1.5s						
ADK			MLR	MLR			
	comp=Z,5μm,22.0s						
ADK	**Adak**	**55.70 32**	*e*P	**P**	**07 46 37.0**	**+0.8**	
	comp=Z,299nm,1.5s						
ADK			LR	LR			
	comp=Z,5μm,22.0s						
OUZ	**Omahuta**	**55.75 145**	PFAKE		07 46 50.0	+13	
OUZ			LR	LR			
	comp=Z,6μm,18.0s						
MDRS	**Chennai**	**56.93 279**	*e*P	**P**	**07 46 45.2**	**-0.4**	
MDRS			⇑*e*P	**P**	**07 46 46.8**	**+1.2**	
MDRS			AMB	AMB	07 46 54.5		
	comp=Z,108nm,1.4s						
PALK	**Pallekele**	**56.98 272**	P	**P**	**07 46 46.3**	**+0.2**	
	comp=Z,19nm,0.9s,baz=116,slow=7.7,SNR=8.4						
PALK	**Pallekele**	**56.98 272**	*i* P	**P**	**07 46 47.0**	**+0.9**	
PALK	**Pallekele**	**56.98 272**	*e*P	**P**	**07 46 46.3**	**+0.2**	
	comp=Z,75nm,1.2s						
PALK			LR	LR			
	comp=Z,2μm,18.0s						
ADKI	**Addanki**	**57.09 283**	*e*P	**P**	**07 46 47.7**	**+1.0**	
ADKI			IAmb	IAmb	07 46 55.2		
	comp=Z,78nm,1.1s						
ADKI			*e*S	**S**	**07 54 38.8**	**-1.0**	
ADKI			IVMs_BB	IVMs_BB	08 05 58.4		
	comp=Z,633nm,33.4s						
SKHT	**Srikalahasti**	**57.41 280**	*e*P	**P**	**07 46 49.1**	**+0.1**	
SKHT			IAmb	IAmb	07 46 58.0		
	comp=Z,140nm,1.0s						
RPR	**Rampur**	**57.70 286**	*e*P	**P**	**07 46 51.4**	**+0.3**	
RPR			IAmb	IAmb	07 46 58.0		
	comp=Z,99nm,0.8s						
RPR			*e*S	**S**	**07 54 48.7**	**+0.9**	
RPR			IVMs_BB	IVMs_BB	08 15 44.6		
	comp=Z,477nm,17.3s						
NJS	**Nagarjunasagar**	**57.71 283**	*e*P	**P**	**07 46 51.2**	**+0.2**	
NJS			IAmb	IAmb	07 46 58.0		
	comp=Z,67nm,0.9s						
NJS			*e*S	**S**	**07 54 48.1**	**+0.2**	
NJS			IVMs_BB	IVMs_BB	08 06 01.6		
	comp=Z,582nm,21.6s						
DGZ	**Jazzator, Alta**	**57.91 324**	⇓*i* P	**P**	**07 46 52.9**	**+0.7**	
DGZ			pmax	pmax			
	comp=Z,30nm,1.4s						
NGP	**Nagpur**	**57.97 289**	*e*P	**P**	**07 46 51.4**	**-1.5**	
NGP			*ex*	x	07 54 34.2		
SRLM	**Srisailam**	**58.12 283**	*e*P	**P**	**07 46 54.0**	**0.0**	
SRLM			IAmb	IAmb	07 47 02.0		
	comp=Z,122nm,1.0s						
SRLM			*e*S	**S**	**07 54 51.8**	**-1.5**	
SRLM			IVMs_BB	IVMs_BB	08 08 56.0		
	comp=Z,625nm,25.0s						
HYB	**Hyderabad**	**58.41 284**	*i* P	**P**	**07 46 56.0**	**-0.1**	
HYB			*e*pP	**pP**	**07 47 02.5**	**-4.1**	
HYB			*e*PP	**PP**	**07 49 10.0**	**+4.4**	
HYB			*e*S	**S**	**07 55 00.0**	**+2.8**	
HYB	**Hyderabad**	**58.41 284**	*e*P	**P**	**07 46 56.3**	**+0.2**	
HYB			AMB	AMB	07 47 02.4		
	comp=Z,90nm,0.7s						
HYBB	**Hyderabad (bro**	**58.41 284**	*e*P	**P**	**07 46 56.0**	**-0.1**	
HYBB			IAmb	IAmb	07 47 02.8		
	comp=Z,69nm,0.9s						
HYBB			*e*S	**S**	**07 54 57.1**	**-0.1**	
HYBB			IVMs_BB	IVMs_BB	08 11 21.1		
	comp=Z,485nm,17.1s						
ZSN	**Zaisan**	**58.57 320**	*i* P	**P**	**07 46 56.6**	**0.0**	
	comp=Z,43nm,1.8s						
ZSN			LRM	MLR	08 14 40.1		
	comp=Z,288nm,15.3s						
SRSP	**Sriramsagar**	**58.60 286**	*e*P	**P**	**07 46 57.3**	**-0.1**	
SRSP			IAmb	IAmb	07 47 04.0		
	comp=Z,322nm,2.0s						
SRSP			*e*S	**S**	**07 54 58.0**	**-1.5**	
SRSP			IVMs_BB	IVMs_BB	08 18 03.1		
	comp=Z,588nm,17.0s						
HIZ	**Hauiti**	**58.83 147**	PFAKE		07 47 10.0	+11	
HIZ			LR	LR			
	comp=Z,4μm,20.0s						
BHPL	**Bhopal**	**59.55 291**	*e*P	**P**	**07 47 03.9**	**0.0**	
BHPL			AMB	AMB	07 47 10.0		
	comp=Z,72nm,1.0s						
URV	**Uravakonda**	**59.73 282**	*e*P	**P**	**07 47 04.7**	**-0.5**	
URV			IAmb	IAmb	07 47 11.6		
	comp=Z,52nm,0.8s						
URV			*e*S	**S**	**07 55 13.2**	**-1.1**	
URV			IVMs_BB	IVMs_BB	08 06 53.9		
	comp=Z,504nm,23.2s						
URZ	**Urewera**	**59.89 145**	P	**P**	**07 47 06.5**	**+0.7**	
	comp=Z,14nm,1.1s,baz=38,slow=4.9,SNR=3.3						
URZ			LR	LR	08 08 43.9		
	comp=Z,3μm,21.8s,baz=309,slow=32						
URZ	**Urewera**	**59.89 145**	*e*P	**P**	**07 47 06.5**	**+0.7**	
URZ			LR	LR			
	comp=Z,4μm,22.0s						
MK01	**Makanchi Array**	**59.97 319**	*e*P	**P**	**07 47 06.4**	**0.0**	
MK31	**Makanchi Array**	**59.98 319**	*e*P	**P**	**07 47 07.2**	**+0.7**	
MK31	**Makanchi Array**	**59.98 319**	*e*P	**P**	**07 47 07.2**	**+0.7**	
MK32	**Makanchi Array**	**59.98 319**	*e*P	**P**	**07 47 07.1**	**+0.6**	
MKAR	**Makanchi Array**	**59.98 319**	P	**P**	**07 47 07.1**	**+0.6**	
	comp=Z,16nm,0.8s,baz=104,slow=8.1,SNR=43						
MKAR			LR	LR	08 13 44.3		
	comp=Z,4μm,18.8s,baz=97,slow=37						
MKAR	**Makanchi Array**	**59.98 319**	*e*P	**P**	**07 47 07.2**	**+0.7**	
MKAR			pmax	pmax			
	comp=Z,174nm,0.9s						
MKAR			MLR	MLR			
	comp=Z,1μm,18.0s						
MKAR	**Makanchi Array**	**59.98 319**	*e*P	**P**	**07 47 07.2**	**+0.7**	
	comp=Z,174nm,0.9s						
MKAR			LR	LR			
	comp=Z,1μm,18.0s						
MXZ	**Matakaoa Point**	**60.10 144**	PFAKE		07 47 20.0	+13	
MXZ			LR	LR			
	comp=Z,4μm,20.0s						
BKZ	**Black Stump Fm**	**60.19 146**	*e*P	**P**	**07 47 08.8**	**+0.8**	
	comp=Z,34nm,0.9s						
BKZ			LR	LR			
	comp=Z,4μm,21.0s						
MAKZ	**Makanchi**	**60.19 319**	*e*P	**P**	**07 47 07.8**	**-0.1**	
MAKZ			pmax	pmax			
	comp=Z,45nm,1.0s						
MAKZ			MLR	MLR			
	comp=Z,5μm,19.0s						
MAKZ	**Makanchi**	**60.19 319**	*e*P	**P**	**07 47 07.8**	**-0.1**	
	comp=Z,45nm,1.0s						
MAKZ			LR	LR			
	comp=Z,5μm,19.0s						
FOZ	**Fox Glacier**	**60.24 154**	PFAKE		07 47 20.0	+12	
FOZ			LR	LR			
	comp=Z,3μm,19.0s						
THZ	**Tophouse**	**60.26 151**	PFAKE		07 47 20.0	+12	
THZ			LR	LR			
	comp=Z,2μm,18.0s						
KLRI	**Killari**	**60.27 285**	*e*P	**P**	**07 47 08.3**	**-0.6**	
KLRI			IAmb	IAmb	07 47 15.3		
	comp=Z,683nm,2.2s						
KLRI			*e*S	**S**	**07 55

KLRI				IVMs_BB	IVMs_BB	08 16 22.7
	comp=Z,629nm,15.5s					
SMLA	**Simla**	**60.39**	**300**	*e*P	**P**	**07 47 10.3 +0.9**
SMLA				AMB	AMB	07 47 17.6
	comp=Z,134nm,2.0s					
NIKH	**Nikolski High**	**60.42**	**34**	PFAKE		07 47 20.0 +11
NIKH				LR	LR	
	comp=Z,4μm,21.0s					
DCZ	**Deep Cove**	**60.74**	**157**	*e*P	**P**	**07 47 14.5 +3.1**
	comp=Z,50nm,1.3s					
LTZ	**Lake Taylor**	**60.75**	**152**	PFAKE		07 47 20.0 +8.3
LTZ				LR	LR	
	comp=Z,4μm,19.0s					
SNZO	**South Karori**	**60.81**	**149**	PFAKE		07 47 20.0 +8.0
SNZO				LR	LR	
	comp=Z,5μm,21.0s					
RPZ	**Rata Peaks**	**60.92**	**153**	P	**P**	**07 47 13.5 +0.7**
	comp=Z,24nm,1.0s,baz=4.7,slow=3.8,SNR=5.6					
RPZ				LR	LR	08 13 19.4
	comp=Z,2μm,18.6s,baz=323,slow=36					
RPZ	**Rata Peaks**	**60.92**	**153**	*e*P	**P**	**07 47 13.2 +0.4**
	comp=Z,42nm,0.9s					
RPZ				LR	LR	
	comp=Z,3μm,18.0s					
MLZ	**Mavora Lakes**	**61.04**	**156**	*e*P	**P**	**07 47 14.4 +0.8**
	comp=Z,59nm,1.1s					
BHK	**Bhakra**	**61.06**	**300**	*e*P	**P**	**07 47 13.0 -1.1**
OXZ	**Oxford**	**61.06**	**152**	PFAKE		07 47 30.0 +16
OXZ				LR	LR	
	comp=Z,4μm,21.0s					
KHZ	**Kahutara**	**61.06**	**151**	PFAKE		07 47 30.0 +16
KHZ				LR	LR	
	comp=Z,3μm,18.0s					
LBZ	**Lake Benmore**	**61.08**	**154**	*e*P	**P**	**07 47 14.6 +0.8**
	comp=Z,87nm,1.3s					
LBZ				LR	LR	
	comp=Z,4μm,20.0s					
BILL	**Bilibino**	**61.13**	**12**	*i*P	**P**	**07 47 13.9 0.0**
BILL				*e*		07 47 57.5
BILL				*e*		07 49 24.8
BILL				*i*S	**S**	**07 55 27.9 -2.7**
BILL				pmax	pmax	
	comp=Z,77nm,1.2s					
BFZ	**Birch Farm**	**61.14**	**148**	PFAKE		07 47 30.0 +16
BFZ				LR	LR	
	comp=Z,8μm,20.0s					
UZB	**Uzynbulak**	**61.15**	**314**	*i*P	**P**	**07 47 12.3 -2.4**
	comp=Z,138nm,1.5s					
UZB				*i*S	**S**	**07 55 30.2 -1.7**
UZB				LR	LR	08 13 55.0
	comp=Z,472nm,14.2s					
ZAA0	**Zalesovo Array**	**61.20**	**327**	*e*P	**P**	**07 47 14.3 -0.2**
ZALV	**Zalesovo Beam**	**61.20**	**327**	P	**P**	**07 47 13.9 -0.7**
	comp=Z,5.4nm,0.5s,baz=110,slow=5.8,SNR=11					
ZALV				LR	LR	08 13 33.8
	comp=Z,5μm,21.5s,baz=115,slow=36					
ZALV	**Zalesovo Beam**	**61.20**	**327**	P	**P**	**07 47 13.9 -0.7**
ZALV				pmax	pmax	
	comp=Z,6.0nm,0.6s					
ZALV				MLR	MLR	
	comp=Z,5μm,21.5s					
ZAA1	**Zalesovo Array**	**61.20**	**327**	*e*P	**P**	**07 47 13.9 -0.7**
WHZ	**Wether Hill Ro**	**61.41**	**157**	*e*P	**P**	**07 47 17.1 +1.0**
	comp=Z,43nm,1.1s					
SATY	**Saty**	**61.56**	**314**	*i*P	**P**	**07 47 15.5 -1.9**
	comp=Z,248nm,1.6s					
SATY				*i*S	**S**	**07 55 35.9 -1.3**
SATY				LRM	MLR	08 16 35.6
	comp=Z,1μm,14.5s					
ZHN	**Zhinishke**	**61.57**	**314**	*i*P	**P**	**07 47 15.2 -2.2**
	comp=Z,86nm,0.9s					
SPIA	**Saint Paul Isl**	**61.63**	**29**	*e*P	**P**	**07 47 19.9 +2.6**
	comp=Z,787nm,1.6s					
SPIA				LR	LR	
	comp=Z,3μm,22.0s					
MQZ	**McQueen's Vall**	**61.64**	**152**	PFAKE		07 47 30.0 +12
MQZ				LR	LR	
	comp=Z,3μm,21.0s					
ODZ	**Otahua Downs**	**61.81**	**155**	PFAKE		07 47 30.0 +11
ODZ				LR	LR	
	comp=Z,3μm,20.0s					
UNV	**Unalaska Valle**	**62.06**	**33**	*e*P	**P**	**07 47 21.7 +1.4**
	comp=Z,180nm,1.3s					
UNV				LR	LR	
	comp=Z,2μm,20.0s					
KIP	**Kipapa**	**62.08**	**71⇑**	*e*P	**P**	**07 47 20.9 -0.2**
KIP				pmax	pmax	
	comp=Z,430nm,1.4s					
TIXI	**Tiksi**	**62.16**	**357***c*	*i*P	**P**	**07 47 20.7 0.0**
TIXI				pmax	pmax	
	comp=Z,41nm,1.3s					
TIXI				MLR	MLR	
	comp=Z,2μm,18.0s					
TIXI	**Tiksi**	**62.16**	**357**	*e*P	**P**	**07 47 21.3 +0.5**
	comp=Z,48nm,1.3s					
TIXI				LR	LR	
	comp=Z,3μm,20.0s					
NVS	**Novosibirsk**	**62.41**	**328⇑**	*i*P	**P**	**07 47 23.7 +1.0**
NVS				pmax	pmax	
	comp=Z,140nm,2.0s					
NVS				pmax	pmax	
	comp=N,6.0nm,0.7s					
NVS				pmax	pmax	
	comp=E,10.0nm,0.5s					
SEM	**Semipalatinsk**	**62.46**	**322**	*i*P	**P**	**07 47 21.3 -2.1**
	comp=E,164nm,1.5s					
SEM				*e*S	**S**	**07 55 46.9 -1.5**
SEM				LR	LR	08 14 02.7
	comp=E,445nm,16.9s					
MDOK	**Medeo**	**62.55**	**314**	*i*P	**P**	**07 47 21.8 -2.3**
	comp=E,122nm,1.4s					
MDOK				*i*S	**S**	**07 55 48.0 -1.7**
MDOK				LRM	MLR	08 17 16.5
	comp=E,599nm,18.1s					
KSH	**Kashi**	**62.60**	**309**	*e*P	**P**	**07 47 26.2 +1.7**
KSH				*ep*P	sP	07 47 36.1 -3.0
KSH				sP	pP	07 47 40.8 +5.7
KSH				PcP	**PcP**	**07 48 04.7 +1.4**
KSH				PP	**PP**	**07 49 45.7 +3.3**
KSH				PcS	**PcS**	**07 52 03.4 -3.3**
KSH				S	**S**	**07 55 48.1 -2.3**
KSH				sS	sS	07 56 06.5 -1.4
KSH				ScS	**SKSac**	**07 57 09.4 -5.3**
KSH				pmax	pmax	
	comp=E,45nm,1.6s					
KSH				pmax	pmax	
	comp=E,1μm,6.9s					
KSH				LR	LR	
	comp=E,1μm,13.6s					
KSH				LR	LR	
	comp=E,2μm,14.7s					
KSH				LR	LR	
	comp=E,3μm,16.9s					
AAA	**Alma-Ata**	**62.66**	**314**	*i*P	**P**	**07 47 25.7 +1.0**
AAA				*i*S	S	07 56 03.0 +12
AAA				pmax	pmax	
	comp=Z,2μm,4.7s					
AAA				smax	smax	
	comp=E,2μm,5.2s					
AAA				MLR	MLR	
	comp=Z,2μm,7.0s					
POO	**Poona**	**62.87**	**286**	AMB	AMB	07 47 32.1
	comp=Z,67nm,0.8s					
GOA	**Goa**	**63.01**	**282**	*e*P	**P**	**07 47 27.0 -0.4**
GOA				AMB	AMB	07 47 35.2
	comp=Z,76nm,1.3s					
KUU	**Kurty**	**63.22**	**314**	*i*P	**P**	**07 47 26.8 -1.6**
	comp=Z,75nm,1.5s					
KUU				*i*S	**S**	**07 55 57.2 -0.5**
KUU				LRM	MLR	08 17 11.9
	comp=Z,698nm,17.9s					
BMNS	**Besmoynak**	**63.53**	**313**	*i*P	**P**	**07 47 28.3 -2.2**
	comp=Z,119nm,1.1s					
BMNS				*i*S	**S**	**07 56 00.1 -1.8**
BMNS				LR	LR	08 15 13.8
	comp=Z,966nm,16.2s					
KURK	**Kurchatov**	**63.54**	**322**	*de*P	**P**	**07 47 30.2 -0.1**
KURK				pmax	pmax	
	comp=Z,396nm,1.2s					
KURK				MLR	MLR	
	comp=Z,9μm,18.0s					
KURK	**Kurchatov**	**63.54**	**322**	*e*P	**P**	**07 47 29.7 -0.6**
KURK				LR	LR	
	comp=Z,4μm,18.0s					
KURK	**Kurchatov**	**63.54**	**322**	P	**P**	**07 47 30.5 +0.2**
	SNR=38					
KURK				P	**P**	**07 47 30.5 +0.2**
	SNR=38					
KURK	**Kurchatov**	**63.54**	**322**	P	**P**	**07 47 30.5 +0.2**
	SNR=38					
KURBB	**Kurchatov Arra**	**63.57**	**322**	P	**P**	**07 47 29.7 -0.8**
	comp=Z,34nm,1.0s,baz=105,slow=6.9,SNR=100					
FRU	**Bishkek**	**64.23**	**313**	*e*P	**P**	**07 47 36.0 +1.0**
FRU				pmax	pmax	
	comp=Z,160nm,2.5s					
XMAS	**Kiritimati**	**64.27**	**92**	PFAKE		07 47 50.0 +14
XMAS				LR	LR	
	comp=Z,5μm,20.0s					
AAK	**Ala-Archa**	**64.28**	**313**	P	**P**	**07 47 36.4 +0.8**
	comp=Z,1.8nm,0.8s,baz=99,slow=5.0,SNR=8.1					
AAK	**Ala-Archa**	**64.28**	**313***c*	*i*P	**P**	**07 47 36.0 +0.5**
AAK				pmax	pmax	
	comp=Z,47nm,2.5s					
AAK				MLR	MLR	
	comp=Z,7μm,18.0s					
AAK	**Ala-Archa**	**64.28**	**313**	*e*P	**P**	**07 47 36.2 +0.6**
	comp=Z,22nm,1.1s					
AAK				LR	LR	
	comp=Z,3μm,18.0s					
AAK	**Ala-Archa**	**64.28**	**313**	P	**P**	**07 47 34.6 -0.9**
	SNR=7.8					
AAK				P	**P**	**07 47 34.6 -0.9**
	SNR=7.8					
AAK	**Ala-Archa**	**64.28**	**313**	P	**P**	**07 47 34.6 -0.9**
	SNR=7.8					
WRMHI	**West Rim**	**64.65**	**73**	PFAKE		07 47 50.0 +12
WRMHI				LR	LR	
	comp=Z,4μm,22.0s					
SBLHI	**Steaming Bluff**	**64.68**	**73**	PFAKE		07 47 50.0 +12
SBLHI				LR	LR	
	comp=Z,900nm,19.0s					
JCUZ	**Jacuzzi**	**64.84**	**73**	PFAKE		07 47 50.0 +11
JCUZ				LR	LR	
	comp=Z,4μm,18.0s					
BHJ	**Bhuj**	**66.69**	**291**	*e*P	**P**	**07 47 52.2 +1.0**
BHJ				AMB	AMB	07 48 00.4
	comp=Z,81nm,2.6s					
BRZS	**Berezniki**	**67.02**	**320**	*i*P	**P**	**07 47 50.8 -2.1**
KK31	**Karatay Array**	**67.24**	**313**	P	**P**	**07 47 54.2 -0.3**
KK31				pmax	pmax	
	comp=Z,18nm,1.4s					
KKAR	**Karatay Array**	**67.24**	**313**	*e*P	**P**	**07 47 54.8 +0.3**
KKAR				pmax	pmax	
	comp=Z,90nm,0.9s					
KKAR				MLR	MLR	
	comp=Z,1μm,20.0s					
KKAR	**Karatay Array**	**67.24**	**313**	*e*P	**P**	**07 47 54.8 +0.3**
	comp=Z,90nm,0.9s					
KKAR				LR	LR	
	comp=Z,1μm,20.0s					
IUG	**Iuzhnay**	**67.47**	**312**	*i*P	**P**	**07 47 53.9 -2.1**
	comp=Z,191nm,1.3s					
IUG				LR	LR	08 17 50.8
	comp=Z,578nm,14.5s					
KBL	**Kabul**	**67.51**	**303**	*e*P	**P**	**07 47 55.9 -0.7**
KBL				pmax	pmax	
	comp=Z,32nm,1.1s					
KBL				MLR	MLR	
	comp=Z,3μm,20.0s					
KBL	**Kabul**	**67.51**	**303**	*e*P	**P**	**07 47 55.9 -0.7**
	comp=Z,32nm,1.1s					
KBL				LR	LR	
	comp=Z,3μm,20.0s					
NRIK	**Noril'sk**	**67.79**	**343**	P	**P**	**07 47 57.5 +0.1**
	comp=Z,54nm,1.1s,baz=121,slow=6.6,SNR=38					
NRIK				LR	LR	08 17 51.3
	comp=Z,6μm,19.9s,baz=128,slow=36					
RAR	**Rarotonga**	**68.11**	**117**	LR	LR	08 11 54.4
	comp=Z,2μm,21.9s,baz=282,slow=31					
BVA0	**Borovoye Array**	**69.07**	**323**	P	**P**	**07 48 04.7 -1.0**
BVA0				pmax	pmax	
	comp=Z,65nm,1.2s					
BVAR	**Borovoye Array**	**69.07**	**323**	P	**P**	**07 48 05.4 -0.3**
	comp=Z,25nm,0.8s,baz=101,slow=7.7,SNR=71					
BVAR	**Borovoye Array**	**69.07**	**323**	P	**P**	**07 48 05.4 -0.3**
BVAR				pmax	pmax	
	comp=Z,26nm,0.8s					
BRVK	**Borovoye**	**69.14**	**323**	*de*P	**P**	**07 48 06.0 -0.1**
BRVK				pmax	pmax	
	comp=Z,170nm,1.2s					
BRVK				MLR	MLR	
	comp=Z,7μm,17.0s					
BRVK	**Borovoye**	**69.14**	**323**	*e*P	**P**	**07 48 05.6 -0.5**
	comp=Z,51nm,1.0s					
BRVK				LR	LR	
	comp=Z,3μm,20.0s					
BRVK	**Borovoye**	**69.14**	**323**	P	**P**	**07 48 05.3 -0.8**
	SNR=25					
BRVK				P	**P**	**07 48 05.3 -0.8**
	SNR=25					
BRVK	**Borovoye**	**69.14**	**323**	P	**P**	**07 48 05.3 -0.8**
	SNR=25					
SVW2	**Sparrevohn**	**70.09**	**28**	*e*P	**P**	**07 48 12.4 +0.6**
	comp=Z,55nm,1.0s					
SVW2				LR	LR	
	comp=Z,3μm,20.0s					
OHAK	**Old Harbor**	**70.24**	**33**	*e*P	**P**	**07 48 14.2 +1.4**
	comp=Z,122nm,1.3s					
OHAK				LR	LR	
	comp=Z,4μm,20.0s					
TT01	**Tatalina**	**70.43**	**26**	*e*P	**P**	**07 48 14.2 +0.3**
TTA	**Tatalina**	**70.44**	**26**	PFAKE		07 48 30.0 +16
TTA				LR	LR	
	comp=Z,4μm,21.0s					
KDAK	**Kodiak Island**	**70.74**	**32**	P	**P**	**07 48 15.8 0.0**
	comp=Z,72nm,1.1s,baz=269,slow=4.5,SNR=11					
KDAK				LR	LR	08 13 45.6
	comp=Z,1μm,21.9s,baz=249,slow=31					
KDAK	**Kodiak Island**	**70.74**	**32**	*e*P	**P**	**07 48 17.0 +1.2**
	comp=Z,94nm,1.1s					
KDAK				LR	LR	
	comp=Z,2μm,21.0s					
SPU	**Mount Spurr**	**71.77**	**29**	*e*P	**P**	**07 48 22.7 +0.6**
CNPM	**China Poot**	**71.80**	**30**	*e*P	**P**	**07 48 23.1 +0.8**
	comp=Z,130nm,0.9s					
CNPM				LR	LR	
	comp=Z,2μm,20.0s					
BRLK	**Bradley Lake**	**72.03**	**30**	*e*P	**P**	**07 48 23.2 -0.4**
	comp=Z,74nm,0.8s					
BRLK				LR	LR	
	comp=Z,2μm,20.0s					
PPLA	**Purkeypile**	**72.12**	**27**	*e*P	**P**	**07 48 24.6 +0.4**
	comp=Z,115nm,1.4s					
PPLA				LR	LR	
	comp=Z,2μm,22.0s					
IMAR	**Indian Mountai**	**72.28**	**23**	*e*P	**P**	**07 48 25.0 0.0**
CAST	**Castle Rocks**	**72.29**	**26**	*e*P	**P**	**07 48 25.3 +0.2**
	comp=Z,76nm,0.9s					
CAST				LR	LR	
	comp=Z,3μm,20.0s					
SUA	**Susitna One**	**72.45**	**28**	*e*P	**P**	**07 48 26.5 +0.3**
	comp=Z,67nm,1.1s					
SUA				LR	LR	
	comp=Z,2μm,20.0s					
SEW	**Seward**	**72.80**	**30**	*e*P	**P**	**07 48 29.2 +1.0**
	comp=Z,124nm,1.2s					
SEW				LR	LR	
	comp=Z,2μm,22.0s					
KTH	**Kantishna Hill**	**72.83**	**26**	*e*P	**P**	**07 48 28.3 -0.1**
	comp=Z,167nm,1.2s					
RC01	**Rabbit Creek A**	**72.85**	**29**	*e*P	**P**	**07 48 28.2 -0.3**
	comp=Z,129nm,1.4s					
RC01				LR	LR	
	comp=Z,3μm,20.0s					
TRF	**Thorofare Moun**	**73.08**	**26**	*e*P	**P**	**07 48 29.8 -0.2**
	comp=Z,87nm,1.0s					
PMR	**Palmer**	**73.23**	**28**	*e*P	**P**	**07 48 30.2 -0.5**
PMR				pmax	pmax	
	comp=Z,62nm,0.8s					
PMR				MLR	MLR	
	comp=Z,3μm,21.0s					
PMR	**Palmer**	**73.23**	**28**	*e*P	**P**	**07 48 30.2 -0.5**
	comp=Z,62nm,0.8s					
PMR				LR	LR	
	comp=Z,3μm,21.0s					
SML	**Sawmill**	**73.64**	**28**	*e*P	**P**	**07 48 33.2 0.0**
SML				pmax	pmax	
	comp=Z,145nm,0.9s					
SML				MLR	MLR	
	comp=Z,3μm,20.0s					
SML	**Sawmill**	**73.64**	**28**	*e*P	**P**	**07 48 33.2 0.0**
	comp=Z,145nm,0.9s					
SML				LR	LR	
	comp=Z,3μm,20.0s					
RND	**Reindeer**	**73.70**	**27**	*e*P	**P**	**07 48 32.8 -0.7**
RND				pmax	pmax	
	comp=Z,137nm,1.1s					
RND				MLR	MLR	
	comp=Z,3μm,22.0s					
RND	**Reindeer**	**73.70**	**27**	*e*P	**P**	**07 48 32.8 -0.7**
	comp=Z,137nm,1.1s					
RND				LR	LR	
	comp=Z,3μm,22.0s					
MCK	**McKinley**	**73.73**	**26**	*e*P	**P**	**07 48 32.9 -0.7**
MCK				pmax	pmax	
	comp=Z,228nm,1.1s					
MCK				MLR	MLR	
	comp=Z,3μm,21.0s					
MCK	**McKinley**	**73.73**	**26**	*e*P	**P**	**07 48 32.9 -0.7**
	comp=Z,228nm,1.1s					
MCK				LR	LR	
	comp=Z,3μm,21.0s					
COLD	**Coldfoot**	**73.97**	**23**	*e*P	**P**	**07 48 35.4 +0.5**
	comp=Z,40nm,0.8s					
GLI	**Glacier Island**	**74.08**	**29**	PFAKE		07 48 50.0 +14
GLI				LR	LR	
	comp=Z,2μm,20.0s					
SCM	**Sheep Creek Mo**	**74.12**	**28**	*e*P	**P**	**07 48 36.1 +0.1**
SCM				pmax	pmax	
	comp=Z,373nm,1.2s					
SCM				MLR	MLR	
	comp=Z,3μm,20.0s					
SCM	**Sheep Creek Mo**	**74.12**	**28**	*e*P	**P**	**07 48 36.1 +0.1**
	comp=Z,373nm,1.2s					
SCM				LR	LR	
	comp=Z,3μm,20.0s					
WRH	**Wood River Hil**	**74.24**	**26**	*e*P	**P**	**07 48 36.0 -0.5**
	comp=Z,108nm,1.2s					
MDM	**Murphy Dome**	**74.27**	**25**	*e*P	**P**	**07 48 36.6 -0.1**
	comp=Z,24nm,1.0s					
MDM				LR	LR	
	comp=Z,3μm,21.0s					
DHY	**Denali Highway**	**74.30**	**27**	*e*P	**P**	**07 48 37.6 +0.4**
	comp=Z,183nm,1.5s					
FID	**Port Fidalgo**	**74.36**	**30**	*e*P	**P**	**07 48 37.5 +0.2**
	comp=Z,137nm,1.0s					
FID				LR	LR	
	comp=Z,1μm,20.0s					
CCB	**Clear Creek Bu**	**74.39**	**25**	*e*P	**P**	**07 48 36.6 -0.8**
	comp=Z,96nm,1.2s					
COLA	**College**	**74.41**	**25**	*e*P	**P**	**07 48 37.0 -0.5**
COLA				pmax	pmax	
	comp=Z,30nm,0.9s					
COLA	**College**	**74.41**	**25**	*e*P	**P**	**07 48 37.0 -0.5**
	comp=Z,30nm,0.9s					
TOLK	**Toolik Lake Re**	**74.52**	**21**	P	**P**	**07 48 39.4 +1.2**
	baz=257					
EYAK	**Cordova Ski Ar**	**74.69**	**30**	*e*P	**P**	**07 48 39.8 +0.5**
	comp=Z,67nm,0.8s					
EYAK				LR	LR	
	comp=Z,4μm,21.0s					
HDA	**Harding Lake**	**74.71**	**26**	PFAKE		07 48 50.0 +11
HDA				LR	LR	
	comp=Z,3μm,20.0s					
KLU	**Klutina**	**74.73**	**29**	*e*P	**P**	**07 48 39.8 +0.2**
	comp=Z,113nm,0.9s					
KLU				LR	LR	
	comp=Z,4μm,20.0s					
DIV	**Divide**	**74.75**	**29**	*e*P	**P**	**07 48 40.2 +0.5**
	comp=Z,225nm,1.2s					
IL1	**Eielson Array**	**74.80**	**25**	*e*P	**P**	**07 48 38.1 -1.7**
ILAR	**Eielson Array**	**74.80**	**25**	P	**P**	**07 48 38.4 -1.4**
	comp=Z,17nm,0.8s,baz=248,slow=5.0,SNR=107					
ILAR				LR	LR	08 18 16.7
	comp=Z,2μm,21.7s,baz=254,slow=33					
ILB	**Eielson Array**	**74.80**	**25**	*e*P	**P**	**07 48 38.7 -1.1**
AB31	**Akbulak array**	**75.12**	**318**	*i*P	**P**	**07 48 40.6 -1.4**
AB31				pmax	pmax	
	comp=Z,9.0nm,0.8s					
ABKAR	**Akbulak array**	**75.12**	**318**	*e*P	**P**	**07 48 41.6 -0.4**
	comp=Z,139nm,0.9s					
ABKAR				LR	LR	
	comp=Z,1μm,19.0s					
PAX	**Paxson**	**75.15**	**27**	*e*P	**P**	**07 48 40.4 -1.6**
PAX				pmax	pmax	
	comp=Z,58nm,0.9s					
PAX	**Paxson**	**75.15**	**27**	*e*P	**P**	**07 48 40.4 -1.6**
	comp=Z,58nm,0.9s					
SVE	**Sverdlovsk**	**75.19**	**326⇓**	*i*P	**P**	**07 48 42.4 +0.2**
SVE				*e*		07 51 35.6
SVE				*e*PPP	PPP	07 53 15.7
SVE				*e*S	**S**	**07 58 18.1 -0.5**
SVE				*e*SS	**SS**	**08 03 12.0 +3.8**
SVE				pmax	pmax	
	comp=Z,100nm,1.5s					
SVE				MLR	MLR	
	comp=Z,5μm,19.0s					
RAGM	**Ragged Mountai**	**75.20**	**30**	*e*P	**P**	**07 48 43.2 +1.0**
	comp=Z,142nm,1.2s					
RAGM				LR	LR	
	comp=Z,3μm,20.0s					
HARP	**HAARP**	**75.21**	**28**	*e*P	**P**	**07 48 42.9 +0.7**
	comp=Z,110nm,0.8s					
HARP				LR	LR	
	comp=Z,2μm,20.0s					
BMRM	**Bremner River**	**75.30**	**29**	*e*P	**P**	**07 48 43.2 +0.4**
	comp=Z,251nm,1.2s					
BMRM				LR	LR	
	comp=Z,3μm,22.0s					
FYU	**Fort Yukon**	**75.76**	**24**	*e*P	**P**	**07 48 45.8 +0.5**
	comp=Z,282nm,1.5s					
DOT	**Dot Lake**	**75.86**	**27**	*e*P	**P**	**07 48 45.9 -0.1**
	comp=Z,191nm,1.1s					
CRQM	**Cirque**	**75.99**	**30**	*e*P	**P**	**07 48 48.0 +1.0**
	comp=Z,147nm,1.1s					
CRQM				LR	LR	
	comp=Z,2μm,21.0s					
PPT	**Papeete**	**76.19**	**111**	LR	LR	08 18 34.8
	comp=Z,1μm,18.3s,baz=276,slow=33					
PPT2	**Papeete2**	**76.19**	**111**	*e*S	**S**	**07 58 33.6 +2.5**
	comp=Z,6μm,31.2s					
PPT2				*e*SS	**SS**	**08 03 24.5 -0.9**
	comp=Z,2μm,27.0s					
PPT2				*e*LQ	LQ	08 08 49.9
	comp=Z,3μm,28.5s					
PPT2				*e*LR	LR	08 12 16.0
	comp=Z,7μm,32.5s					
PPT2	**Papeete2**	**76.19**	**111**	*e*T	T	09 12 20.8
	comp=Z,2.2nm,0.2s					
PAE	**Paea**	**76.21**	**111**	*e*T	T	09 12 20.6
	comp=Z,1.5nm,0.2s					
ARU	**Arti**	**76.31**	**326**	P	**P**	**07 48 47.8 -0.8**
	comp=Z,12nm,0.6s,baz=105,slow=3.3,SNR=22					
ARU	**Arti**	**76.31**	**326***d*	*i*P	**P**	**07 48 47.8 -0.8**
ARU						07 51 37.2
ARU				PPP	PPP	07 53 21.4
ARU				S	**S**	**07 58 31.4 +0.5**
ARU				SS	**SS**	**08 03 23.1 -2.0**
ARU				pmax	pmax	
	comp=Z,118nm,2.5s					
ARU				MLR	MLR	
	comp=Z,6μm,21.0s					
ARU	**Arti**	**76.31**	**326**	*e*P	**P**	**07 48 47.6 -1.0**
	comp=Z,37nm,1.0s					
ARU				LR	LR	
	comp=Z,6μm,21.0s					
GEYT	**Alibeck**	**76.39**	**307**	P	**P**	**07 48 50.2 +0.6**
	comp=Z,9.7nm,1.0s,baz=85,slow=3.6,SNR=20					
GEYT				LR	LR	08 25 41.5
	comp=Z,3μm,20.5s,baz=80,slow=38					
AKTO	**Aktyubinsk**	**76.41**	**320**	P	**P**	**07 48 49.5 +0.2**
	comp=Z,3.9nm,0.7s,baz=100,slow=7.2,SNR=9.1					
PMOR	**Pomariorio Ree**	**77.12**	**108**	*e*T	T	09 13 29.9
	comp=Z,3.2nm,0.2s					
EGAK	**Eagle**	**77.24**	**26**	*e*P	**P**	**07 48 53.7 0.0**
	comp=Z,26nm,1.0s					
EGAK				LR	LR	
	comp=Z,2μm,22.0s					
BIDO	**Bidbid**	**77.25**	**292**	P	**P**	**07 48 55.0 +0.4**
	SNR=9.9					
BIDO				P	**P**	**07 48 55.0 +0.4**
	SNR=9.9					
BIDO	**Bidbid**	**77.25**	**292**	P	**P**	**07 48 55.0 +0.4**
	SNR=9.9					
PCA	**Pinnacle**	**77.37**	**31**	*e*P	**P**	**07 48 55.1 +0.4**
	comp=Z,71nm,0.9s					
PCA				LR	LR	
	comp=Z,3μm,21.0s					
SOKR	**Solikamsk**	**77.40**	**329**	*e*P	**P**	**07 48 53.6 -1.0**
SOKR				S	S	07 58 55.7 +13

SOKR SS **SS** **08 03 37.8 -3.5**
SOKR pmax pmax
comp=Z,29nm,0.8s
SOKR MLR MLR
comp=Z,5µm,20.0s
DAWY Dawson 77.96 26 *e*P **P** **07 48 58.1 +0.2**
comp=Z,67nm,1.0s
DHAK Deception Hill 78.38 32 PFAKE 07 49 10.0 +10
DHAK LR LR
comp=Z,2µm,22.0s
UOSS Minazif 78.87 294 PFAKE 07 49 10.0 +6.4
UOSS LR LR
comp=Z,1µm,22.0s
SKAG Skagway 79.86 31 *e*P **P** **07 49 08.9 +0.7**
comp=Z,100nm,1.3s
SKAG LR LR
comp=Z,2µm,21.0s
WHY Whitehorse 80.04 30 *e*P **P** **07 49 09.9 +0.5**
comp=Z,80nm,1.0s
WHY LR LR
comp=Z,2µm,20.0s
BESE Bessie Mountai 80.14 32 *e*P **P** **07 49 10.4 +0.5**
comp=Z,104nm,1.2s
BESE LR LR
comp=Z,2µm,21.0s
INK Inuvik 80.37 22 P **P** **07 49 10.4 -0.4**
comp=Z,44nm,1.1s,baz=298,slow=4.9,SNR=25
WRAK Wrangell Islan 81.63 34 *e*P **P** **07 49 18.7 +0.9**
comp=Z,77nm,0.9s
H02N1 VAN INLET T-PH 81.79 37 T T 09 19 54.4
SNR=58
DIB Dawson Inlet, 81.83 37 *e*P **P** **07 49 19.9 +1.0**
comp=Z,156nm,1.6s
DIB LR LR
comp=Z,2µm,20.0s
H02S1 DAWSON INLET T 81.83 37 T T 09 19 53.2
SNR=57
DLBC Dease Lake 82.67 32 LR LR 08 22 16.4
comp=Z,1µm,21.6s,baz=307,slow=33
DLBC Dease Lake 82.67 32 *e*P **P** **07 49 23.9 +0.5**
comp=Z,96nm,1.3s
MIR Mirnyy 82.88 197 *i*P **P** **07 49 24.0 +0.1**
MIR pmax pmax
comp=Z,6.0nm,1.9s
TAOE Nuku Hiva Isla 83.23 100 *e*PP PP 07 52 31.1 -7.9
TAOE *e*S **S** **07 59 42.0 -3.7**
comp=Z,3µm,31.6s
TAOE *e*SS **SS** **08 05 13.0 +1.9**
comp=Z,1µm,26.0s
TAOE *e*LQ LQ 08 12 04.8
comp=Z,1µm,23.6s
TAOE *e*LR LR 08 15 20.0
comp=Z,6µm,22.5s
TAOE Nuku Hiva Isla 83.23 100 PFAKE 07 49 40.0 +13
TAOE LR LR
comp=Z,4µm,20.0s
MAK Makhachkala 84.06 312 *e*P P 07 49 24.6 -6.1
MAK *e* 07 52 40.5
MAK *e*S S 07 59 42.5 -10
MAK pmax pmax
comp=Z,38nm,0.4s
BBB Bella Bella 84.59 38 PFAKE 07 49 40.0 +6.9
BBB LR LR
comp=Z,2µm,20.0s
MRIV Mauritius Mete 84.84 248 *e*P **P** **07 49 35.2 +0.1**
TMCR Tamitsa 85.79 334 *e*P **P** **07 49 38.2 -0.7**
TMCR pmax pmax
comp=Z,61nm,1.2s
KLMR Klimovskoe 85.86 331 *e*P **P** **07 49 37.5 -1.8**
KLMR *e* 07 52 53.8
KLMR *e*S S 07 59 59.5 -10
KLMR *e*SS **SS** **08 05 45.8 -1.2**
KLMR pmax pmax
comp=Z,44nm,0.9s
KLMR MLR MLR
comp=Z,1µm,18.0s
GNI Garni 86.53 310 P **P** **07 49 43.7 +0.4**
comp=Z,5.4nm,0.4s,baz=191,slow=5.3,SNR=8.9
GNI Garni 86.53 310 *c*e*P* **P** **07 49 43.5 +0.2**
GNI pmax pmax
comp=Z,127nm,1.8s
GNI MLR MLR
comp=Z,3µm,20.0s
GNI Garni 86.53 310 *e*P **P** **07 49 43.7 +0.4**
GNI LR LR
comp=Z,1µm,20.0s
GNI Garni 86.53 310 P **P** **07 49 43.2 -0.1**
SNR=7.5
GNI P **P** **07 49 43.2 -0.1**
SNR=7.5
GNI Garni 86.53 310 P **P** **07 49 43.2 -0.1**
SNR=7.5
RER Riviere de l'E 86.63 248 *e*P **P** **07 49 43.1 -0.9**
comp=Z,86nm,0.9s
ZEI Tsey 86.70 313 *e*P **P** **07 49 42.0 -2.2**
ZEI pmax pmax
comp=Z,47nm,0.8s
APA Apatity 86.71 338⇓*i*P **P** **07 49 42.2 -1.2**
APA *i* 07 53 11.0
APA *i*S S 08 00 08.0 -10
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,3µm,20.0s
SPA0 Spitsbergen Ar 86.77 350 *e*P **P** **07 49 45.1 +1.5**
SPITS Spitsbergen Ar 86.77 350 P **P** **07 49 42.8 -0.7**
comp=Z,21nm,1.0s,baz=99,slow=10,SNR=6.2
SPITS Spitsbergen Ar 86.77 350 P **P** **07 49 42.8 -0.7**
SPITS pmax pmax
comp=Z,20nm,1.0s
NCK Nalchik 86.80 313⇓*e*P **P** **07 49 44.8 +0.4**
NCK pmax pmax
comp=Z,22nm,1.0s
NCK MLR MLR
comp=Z,2µm,22.0s
KBS Kingsbay 87.06 351 PFAKE 07 50 00.0 +15
KBS LR LR
comp=Z,2µm,22.0s
KBZ Khabaz 87.25 314 P **P** **07 49 46.1 -0.4**
comp=Z,2.2nm,0.4s,baz=255,slow=20,SNR=6.3
KBZ LR LR 08 32 42.1
comp=Z,2µm,19.5s,baz=70,slow=38
KIV Kislovodsk 87.36 314 *e*P **P** **07 49 46.7 -0.5**
KIV *e* 08 00 11.1
KIV *e*SS SS 08 06 08.7 -1.6
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 87.36 314 PFAKE 07 50 00.0 +13
KIV LR LR
comp=Z,2µm,20.0s
NEY Neytrino 87.47 313⇓*i*P **P** **07 49 48.1 +0.3**
NEY pmax pmax
comp=Z,1.0nm,0.8s
MOS Moscow 88.01 326 *e*P **P** **07 49 47.5 -2.4**
MOS pmax pmax
comp=Z,93nm,1.3s
MOS MLR MLR
comp=Z,5µm,20.0s
LPSR Galich'ya Gora 88.01 323 *e*P **P** **07 49 46.6 -3.4**
LPSR pmax pmax
comp=Z,8.0nm,0.4s
VNDA Vanda 88.10 175 P **P** **07 49 49.6 -0.2**
comp=Z,4.6nm,0.8s,baz=325,slow=4.8,SNR=19
VNDA LR LR 08 27 51.1
comp=Z,2µm,18.3s,baz=348,slow=35
VNDA Vanda 88.10 175 *e*P **P** **07 49 49.9 +0.1**
comp=Z,18nm,1.0s
NLWA Neilton Lookou 88.17 42 *e*P **P** **07 49 52.4 +1.5**
comp=Z,254nm,2.0s
PGC Sidney 88.18 41 *e*P **P** **07 49 51.2 +0.4**
comp=Z,40nm,1.1s
VSR Storozhevoye 88.19 322 *e*P **P** **07 49 48.5 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
ARTV Artvin 88.45 311 PFAKE 07 50 00.0 +7.4
ARTV LR LR
comp=Z,1µm,20.0s
E03A Lebam 88.56 43 *e*P **P** **07 49 53.9 +1.2**
comp=Z,112nm,1.3s
MCW Mount Constitu 88.57 41 P **P** **07 49 54.0 +1.2**
MCW Mount Constitu 88.57 41 P **P** **07 49 54.0 +1.2**
A04D Lummi Island 88.64 41 P **P** **07 49 53.6 +0.6**
baz=283

F03A Seaside 88.70 44 *e*P **P** **07 49 54.8 +1.4**
comp=Z,210nm,1.4s
ARA0 ARCESS Array S 88.72 341 *e*P **P** **07 49 51.9 -1.1**
ARCES ARCESS Array B 88.72 341 P **P** **07 49 51.9 -1.1**
comp=Z,19nm,1.0s,baz=74,slow=6.5,SNR=23
ARCES LR LR 08 33 37.2
comp=Z,3µm,20.1s,baz=62,slow=38
ARCES ARCESS Array B 88.72 341 *e*P **P** **07 49 52.4 -0.6**
ARE0 ARCESS Array S 88.72 341 PFAKE 07 50 00.0 +7.0
ARE0 LR LR
comp=Z,4µm,20.0s
LLLB Lilloet 88.73 39 *e*P **P** **07 49 54.2 +0.7**
comp=Z,82nm,1.4s
RAYN Ar Rayn 88.74 294 *e*P **P** **07 49 54.4 +0.3**
comp=Z,39nm,1.1s
RAYN LR LR
comp=Z,800nm,18.0s
OBN Obninsk 88.75 326 P **P** **07 49 52.9 -0.4**
comp=Z,19nm,0.3s,baz=57,slow=3.1,SNR=8.6
OBN Obninsk 88.75 326⇓*i*P **P** **07 49 52.8 -0.6**
OBN *e* 07 53 20.9
OBN *i*S **SKSac** **08 00 11.3 -8.8**
OBN *e*SSS SSS 08 10 08.3
OBN pmax pmax
comp=Z,71nm,1.2s
OBN MLR MLR
comp=Z,3µm,20.0s
OBN Obninsk 88.75 326 *e*P **P** **07 49 52.6 -0.8**
comp=Z,77nm,1.2s
OBN LR LR
comp=Z,4µm,19.0s
SBA Scott Base 88.86 174 *e*P **P** **07 49 55.5 +2.2**
SBA pmax pmax
comp=Z,147nm,1.9s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 88.86 174 *e*P **P** **07 49 55.5 +2.2**
comp=Z,147nm,1.9s
SBA LR LR
comp=Z,2µm,19.0s
G03D McMinnville, O 89.06 44 P **P** **07 49 56.2 +1.1**
baz=283
B05A Bryant 89.14 41 P **P** **07 49 56.2 +0.8**
baz=284
YKW3 Yellowknife Ar 89.17 26 *e*P **P** **07 49 54.9 -0.3**
comp=Z,20nm,0.9s
YKW3 LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 89.20 26 P **P** **07 49 55.1 -0.2**
comp=Z,10nm,0.6s,baz=292,slow=4.8,SNR=39
YKA LR LR 08 28 14.8
comp=Z,220nm,20.8s,baz=0.0,slow=34
YKA Yellowknife Ar 89.20 26 *i*P **P** **07 49 55.0 -0.3**
YKA pmax pmax
comp=Z,10.0nm,0.6s
YKB5 Yellowknife Ar 89.20 26 *e*P **P** **07 49 54.8 -0.5**
I03D Drain, OR 89.33 46 P **P** **07 49 57.8 +1.4**
baz=283
ERK Elk Rock 89.44 43 *e*P **P** **07 49 58.8 +1.8**
FL2 Flat Top 2 89.46 43 *e*P **P** **07 49 58.0 +0.9**
D05A Enumclaw 89.47 42 *e*P **P** **07 49 58.3 +1.3**
comp=Z,96nm,1.4s
F04A Amboy 89.47 44 *e*P **P** **07 49 58.6 +1.6**
comp=Z,131nm,1.7s
B06A Marblemount 89.48 41 *e*P **P** **07 49 59.0 +2.1**
comp=Z,28nm,1.3s
B06A LR LR
comp=Z,2µm,22.0s
L02D Cave Junction, 89.48 47 P **P** **07 49 59.3 +2.1**
baz=283
B201 Coldwater, Mou 89.49 43 P **P** **07 49 58.5 +1.3**
TDL Tradedollar La 89.51 43 *e*P **P** **07 49 58.1 +0.7**
SOC Sochi 89.55 314 *e*P **P** **07 49 56.8 -0.6**
SOC *e* 07 53 25.5
SOC *e*S **SKSac** **08 00 23.5 -1.9**
SOC MLR MLR
comp=Z,2µm,19.0s
KHMM Horse Mountain 89.67 49 *e*P **P** **07 50 00.1 +1.8**
comp=Z,161nm,1.8s
LON Longmire 89.69 43 *e*P **P** **07 49 59.7 +1.6**
LON pmax pmax
comp=Z,36nm,1.6s
LON Longmire 89.69 43 *e*P **P** **07 49 59.7 +1.6**
comp=Z,36nm,1.6s
RES Resolute Bay 89.73 12 LR LR 08 27 03.9
comp=Z,119nm,21.6s,baz=277,slow=34
HUMO Hull Mountain 89.85 47 *e*P **P** **07 49 60.0 +1.1**
comp=Z,49nm,1.4s
MARD Mardin 90.11 308 PFAKE 07 50 10.0 +10
MARD LR LR
comp=Z,2µm,20.0s
M02C Callahan 90.20 48 P **P** **07 50 01.3 +0.7**
baz=283
YBH Yreka Blue Hor 90.23 48 *e*P **P** **07 50 02.1 +1.3**
YBH pmax pmax
comp=Z,68nm,1.7s
YBH Yreka Blue Hor 90.23 48 *e*P **P** **07 50 02.0 +1.3**
comp=Z,68nm,1.7s
J04D Umpqua Nationa 90.31 46 P **P** **07 50 02.1 +0.8**
baz=284
NAC Naches 90.35 42 P **P** **07 50 01.8 +0.6**
G05D Wamic, OR 90.39 44 P **P** **07 50 02.0 +0.6**
baz=284
N02D Trinity Center 90.40 48 P **P** **07 50 02.3 +0.7**
baz=283
PUL Pulkovo 90.56 331⇑*e*P **P** **07 50 02.2 +0.5**
PUL pmax pmax
comp=Z,66nm,0.6s
PUL MLR MLR
comp=Z,3µm,19.0s
I05D Terebonne, OR 90.59 45 P **P** **07 50 03.2 +0.9**
baz=284
WDC Whiskeytown Da 90.61 49 *e*P **P** **07 50 03.6 +1.1**
WDC pmax pmax
comp=Z,74nm,1.6s
WDC MLR MLR
comp=Z,2µm,21.0s
WDC Whiskeytown Da 90.61 49 *e*P **P** **07 50 03.6 +1.1**
comp=Z,74nm,1.6s
WDC LR LR
comp=Z,2µm,21.0s
WTV Waterville 90.68 41 *e*P **P** **07 50 03.8 +1.1**
M04C Macdoel 90.85 47 P **P** **07 50 03.9 +0.2**
baz=284
ANN Anapa 90.85 316 *e*P **P** **07 50 05.3 +1.9**
ANN *e* 08 00 34.7
ANN *e*SS SS 08 06 55.4 -5.2
ANN pmax pmax
comp=Z,108nm,2.2s
ANN MLR MLR
comp=Z,2µm,19.0s
G06A Carlson Farm, 90.86 44 PFAKE 07 50 20.0 +16
G06A LR LR
comp=Z,6µm,22.0s
B08A Colville Reser 90.91 41 *e*P **P** **07 50 03.3 -0.4**
comp=Z,20nm,1.0s
J05D Fort Rock, OR 90.92 46 P **P** **07 50 04.5 +0.4**
baz=284
SAW Saint Andrews 91.04 41 P **P** **07 50 04.5 +0.2**
E07A Sunnyside 91.04 42 *e*P **P** **07 50 05.4 +1.0**
comp=Z,50nm,1.6s
O03D Paynes Creek 91.23 49 P **P** **07 50 05.7 +0.2**
baz=284
HAWA Hanford 91.30 43 *e*P **P** **07 50 06.6 +1.1**
comp=Z,46nm,1.4s
K05A Summer Lake 91.30 46 *e*P **P** **07 50 06.5 +0.6**
comp=Z,50nm,1.1s
DAMY Dhamar 91.34 285 PFAKE 07 50 20.0 +13
DAMY LR LR
comp=Z,900nm,22.0s
D08A Wollman Farm, 91.53 42 *e*P **P** **07 50 07.0 +0.4**
comp=Z,19nm,1.0s
ORV Oroville 91.63 50 *e*P **P** **07 50 08.0 +0.8**
ORV pmax pmax
comp=Z,41nm,1.4s
ORV Oroville 91.63 50 *e*P **P** **07 50 08.0 +0.8**
comp=Z,41nm,1.4s
FIA1 FINESS Array S 91.85 334 *e*P **P** **07 50 05.8 -1.9**
FIA0 FINESS Array S 91.86 334 *e*P **P** **07 50 06.0 -1.7**
FIA0 FINESS Array S 91.86 334 *e*P **P** **07 50 06.0 -1.7**
FINES FINESS Array B 91.86 334 P **P** **07 50 06.0 -1.7**
comp=Z,12nm,0.7s,baz=90,slow=5.7,SNR=21
FINES LR LR 08 33 20.0
comp=Z,5µm,21.1s,baz=63,slow=37
FINES FINESS Array B 91.86 334 P **P** **07 50 06.0 -1.7**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES MLR MLR
comp=Z,5µm,21.1s
FINES FINESS Array B 91.86 334 P **P** **07 50 06.0 -1.7**
MOD Modoc Plateau 91.93 47 *e*P **P** **07 50 08.8 0.0**
comp=Z,28nm,1.2s
AFDM Forest Hills D 92.18 50 *e*P **P** **07 50 10.9 +1.1**
comp=Z,51nm,1.5s
E09A Wood Farm, Sta 92.19 42 *e*P **P** **07 50 09.8 +0.2**
comp=Z,41nm,1.3s
NEW Newport 92.35 40 P **P** **07 50 10.6 +0.2**
comp=Z,15nm,1.1s,baz=279,slow=2.9,SNR=13
NEW Newport 92.35 40 P **P** **07 50 10.5 +0.1**
baz=287
NEW Newport 92.35 40 *e*P **P** **07 50 10.6 +0.2**
comp=Z,19nm,1.1s
BEKR Beckworth 92.41 49 *e*P **P** **07 50 11.6 +0.6**
comp=Z,58nm,1.4s
BEKR LR LR
comp=Z,2µm,19.0s
DAG Danmarks Havn 92.63 355 *i*P **P** **07 50 08.8 -2.3**
comp=Z,26nm,1.2s
DAG Danmarks Havn 92.63 355 *i*P **P** **07 50 08.8 -2.3**
DAG pmax pmax
comp=Z,41nm,1.2s
TOKA Tokat 92.67 311 PFAKE 07 50 20.0 +7.9
TOKA LR LR
comp=Z,800nm,22.0s
VSU Vasula 92.76 331⇓*i*P **P** **07 50 11.6 -0.3**
VSU pmax pmax
comp=Z,127nm,1.2s
VSU MLR MLR
comp=Z,9µm,22.0s
CMB Columbia Colle 92.85 51 *e*P **P** **07 50 13.8 +0.8**
CMB pmax pmax
comp=Z,19nm,1.0s
CMB Columbia Colle 92.85 51 *e*P **P** **07 50 13.8 +0.8**
comp=Z,19nm,1.0s
F10A Beach Ranch, E 92.95 43 *e*P **P** **07 50 14.4 +1.1**
comp=Z,18nm,1.3s
WVOR Wild Horse Val 92.99 46 *e*P **P** **07 50 14.3 +0.7**
WVOR pmax pmax
comp=Z,45nm,1.6s
WVOR Wild Horse Val 92.99 46 *e*P **P** **07 50 14.3 +0.7**
comp=Z,45nm,1.6s
EDM Edmonton 93.02 35 *e*P **P** **07 50 13.4 +0.1**
EDM pmax pmax
comp=Z,31nm,1.0s
EDM MLR MLR
comp=Z,2µm,21.0s
EDM Edmonton 93.02 35 *e*P **P** **07 50 13.4 +0.1**
comp=Z,31nm,1.0s
EDM LR LR
comp=Z,2µm,21.0s
SIM Simferopol' 93.08 316 P **P** **07 50 13.5 -0.3**
SIM pmax pmax
comp=Z,19nm,1.1s
SIM pmax pmax
comp=Z,170nm,16.0s
PAHR Pah Rah Range 93.17 49 *e*P **P** **07 50 13.5 -1.1**
comp=Z,53nm,1.6s
PAHR LR LR
comp=Z,1µm,18.0s
PNTR Pine Nut 93.17 50 *e*P **P** **07 50 16.4 +1.7**
comp=Z,130nm,2.0s
BMO Blue Mountains 93.23 44 *e*P **P** **07 50 14.1 -0.5**
BMO pmax pmax
comp=Z,28nm,1.3s
BMO Blue Mountains 93.23 44 *e*P **P** **07 50 14.1 -0.5**
comp=Z,28nm,1.3s
MAW Mawson 93.43 202 P **P** **07 50 13.9 -0.8**
comp=Z,5.4nm,1.1s,baz=68,slow=7.5,SNR=9.8
MAW PKKP **PKKPdf** **08 07 22.3 -0.6**
comp=Z,0.7nm,0.6s,baz=44,slow=2.5,SNR=4.5
MAW LR LR 08 31 11.0
comp=Z,958nm,18.6s,baz=66,slow=35
MAW Mawson 93.43 202 P **P** **07 50 15.0 +0.3**
baz=93,SNR=7.2
MAW Mawson 93.43 202 *e*P **P** **07 50 15.4 +0.6**
comp=Z,2.4nm,0.9s
MAW LR LR
comp=Z,200nm,19.0s
WAKR Walker 93.45 50 *e*P **P** **07 50 15.9 0.0**
comp=Z,86nm,1.9s
WAKR LR LR
comp=Z,1µm,20.0s
YERR Yerington 93.47 50 *e*P **P** **07 50 16.6 +0.6**
comp=Z,59nm,1.7s
YERR LR LR
comp=Z,1µm,20.0s
PAGB Antelope Grade 93.53 53 *e*P **P** **07 50 16.7 +0.6**
comp=Z,48nm,1.4s
BSMT Bassoo Peak 93.97 40 *e*P **P** **07 50 17.2 -0.8**
TVH2 Borealis Mine 94.00 50 PFAKE 07 50 30.0 +12
TVH2 LR LR
comp=Z,1µm,21.0s
WALA Waterton Lakes 94.11 39 *e*P **P** **07 50 19.6 +1.0**
comp=Z,44nm,1.5s
MLAC Mammoth, Mammo 94.14 51 P **P** **07 50 19.5 +0.3**
baz=286
BLMT Blacktail Moun 94.18 40 *e*P **P** **07 50 19.5 +0.4**
JTMT Jette 94.32 40 *e*P **P** **07 50 20.4 +0.8**
AKASG Malin Array Be 94.35 323 P **P** **07 50 17.3 -2.1**
comp=Z,4.8nm,1.0s,baz=57,slow=4.9,SNR=9.0
AKASG LR LR 08 34 50.3
comp=Z,2µm,21.1s,baz=50,slow=37
AKBB Malin Array Si 94.35 323 *e*P **P** **07 50 18.4 -1.1**
AKBB pmax pmax
comp=Z,19nm,1.4s
AKBB MLR MLR
comp=Z,2µm,20.0s
AKBB Malin Array Si 94.35 323 *e*P **P** **07 50 18.4 -1.1**
comp=Z,19nm,1.4s
AKBB LR LR
comp=Z,2µm,20.0s
KIEV Kiev 94.36 323⇓*e*P **P** **07 50 17.8 -1.7**
KIEV pmax pmax
comp=Z,14nm,1.3s
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 94.36 323 *e*P **P** **07 50 16.8 -2.7**
comp=Z,20nm,1.4s
KIEV LR LR
comp=Z,2µm,19.0s
AK11 Malin Array Si 94.39 323 *e*P **P** **07 50 17.4 -2.3**
ILGA Ilgaz 94.49 313 PFAKE 07 50 30.0 +9.3
ILGA LR LR
comp=Z,1µm,22.0s
BMN Battle Mountai 94.57 48 *e*P **P** **07 50 22.1 +1.1**
BMN pmax pmax
comp=Z,15nm,1.4s
BMN MLR MLR
comp=Z,2µm,21.0s
BMN Battle Mountai 94.57 48 *e*P **P** **07 50 22.1 +1.1**
comp=Z,15nm,1.4s
BMN LR LR
comp=Z,2µm,21.0s
SWMT Swartz Lake 94.58 40 *e*P **P** **07 50 20.8 0.0**
MFID Camas Ranch 94.68 45 *e*P **P** **07 50 21.9 +0.5**
comp=Z,29nm,1.3s
MSO Missoula 94.85 41 P **P** **07 50 21.9 -0.1**
baz=290
MSO Missoula 94.85 41 *e*P **P** **07 50 17.6 -4.4**
comp=Z,16nm,1.5s
MSO LR LR
comp=Z,1µm,21.0s
BR101 Keskin Array S 94.94 312 *e*P **P** **07 50 21.3 -1.3**
BRTR Keskin Array B 94.94 312 P **P** **07 50 21.3 -1.3**
comp=Z,1.1nm,0.7s,baz=105,slow=5.7,SNR=6.0
BRTR LR LR 08 38 56.2
comp=Z,584nm,18.3s,baz=60,slow=39
BRTR Keskin Array B 94.94 312 *i*P **P** **07 50 22.3 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ISA Isabella, Lake 94.94 53 PFAKE 07 50 30.0 +7.3
ISA LR LR
comp=Z,1µm,21.0s
SLMT Seeley Lake 94.99 41 *e*P **P** **07 50 23.1 +0.4**
CWC Cottonwood Cre 95.04 52 P **P** **07 50 22.6 -0.6**
baz=286
CHMT Chamberlain Mo 95.26 41 *e*P **P** **07 50 23.3 -0.8**
GRAC Grapevine Rang 95.44 51 P **P** **07 50 24.4 -0.4**
baz=286
DAC Darwin (Calif) 95.46 52 *e*P **P** **07 50 26.5 +1.3**
DAC pmax pmax
comp=Z,28nm,1.6s
DAC Darwin (Calif) 95.46 52 *e*P **P** **07 50 26.5 +1.3**

comp=Z,28nm,1.6s
BR231 Keskin MP Arra 95.54 312 *e*P **P 07 50 22.1 -3.2**
PASC Pasadena Art C 95.57 54 PFAKE 07 50 40.0 +15
PASC LR LR
comp=Z,2μm,20.0s
HLID Hailey 95.61 44 P **P 07 50 25.2 -0.4**
baz=289
HLID Hailey 95.61 44 *e*P **P 07 50 25.9 +0.2**
comp=Z,24nm,1.5s
MPMC Manual Prospec 95.61 52 P **P 07 50 27.0 +1.1**
baz=286
MWC Mount Wilson 95.66 54 PFAKE 07 50 40.0 +14
MWC LR LR
comp=Z,2μm,20.0s
KIS Kishinev 95.92 320 *e*P **P 07 50 31.0 +4.3**
KIS Kishinev 95.92 320 *e*PP PP 07 54 23.0 +4.2
KIS Kishinev 95.92 320 *e*P **P 07 50 31.0 +4.3**
KIS *e* 07 54 23.0
KIS *e* 08 01 04.0
KIS MLR MLR
comp=Z,2μm,17.0s
KIS MLR MLR
comp=N,1μm,20.0s
KIS MLR MLR
comp=E,2μm,19.0s
KIS MLR MLR
comp=Z,2μm,20.0s
FURC Furnace Creek, 95.98 52 P **P 07 50 27.0 -0.2**
baz=287
LRM Limekiln Ridge 96.16 42 *e*P **P 07 50 28.3 0.0**
DLMT Dillon 96.23 42 *e*P **P 07 50 28.9 +0.5**
comp=Z,18nm,1.2s
MCMT McKenzie Canyo 96.24 43 *e*P **P 07 50 29.2 +0.5**
HRY Holter Researc 96.25 41 *e*P **P 07 50 28.4 0.0**
TPNV Topopah Spring 96.31 51 P **P 07 50 28.8 -0.2**
baz=287
TPNV Topopah Spring 96.31 51 *e*P **P 07 50 29.1 +0.1**
TPNV pmax pmax
comp=Z,36nm,1.6s
TPNV Topopah Spring 96.31 51 *e*P **P 07 50 29.1 +0.1**
comp=Z,36nm,1.6s
GSC Goldstone, Bar 96.35 53 P **P 07 50 30.5 +1.3**
baz=287
GSC Goldstone, Bar 96.35 53 PFAKE 07 50 40.0 +11
GSC LR LR
comp=Z,1μm,20.0s
R11A Troy Canyon, C 96.40 49 P **P 07 50 29.5 +0.2**
baz=288
R11A Troy Canyon, C 96.40 49 *e*P **P 07 50 30.0 +0.7**
comp=Z,16nm,1.5s
SUW Suwalki 96.43 327 *e*P **P 07 50 28.2 -0.7**
SUW Suwalki 96.43 327 *e*P **P 07 50 28.2 -0.7**
CSS Mathiatis 96.54 307 PFAKE 07 50 40.0 +10
CSS LR LR
comp=Z,300nm,20.0s
BOZ Bozeman (W) 96.78 42 P **P 07 50 30.5 -0.4**
baz=291
BOZ Bozeman (W) 96.78 42 *e*P **P 07 50 30.8 -0.1**
BOZ pmax pmax
comp=Z,11nm,1.2s
BOZ MLR MLR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 96.78 42 *e*P **P 07 50 30.8 -0.1**
comp=Z,11nm,1.2s
BOZ LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 97.06 39 P Pdif 07 50 33.1 +0.9
baz=293
EGMT Eagleton 97.06 39 PFAKE 07 50 40.0 +7.9
EGMT LR LR
comp=Z,2μm,22.0s
TIRR Tirgusor 97.09 317 PFAKE 07 50 40.0 +7.8
TIRR LR LR
comp=Z,2μm,21.0s
PFO Pinyon Flats O 97.11 54 PFAKE 07 50 40.0 +7.3
PFO LR LR
comp=Z,2μm,21.0s
XPFO Piæon Flat 97.11 54 PFAKE 07 50 40.0 +7.3
XPFO LR LR
comp=Z,2μm,21.0s
QLMT Earthquake Lak 97.19 42 *e*P Pdif 07 50 33.2 +0.3
BAR Barrett 97.20 55 PFAKE 07 50 40.0 +7.0
BAR LR LR
comp=Z,1μm,21.0s
SHPR Sheep Range 97.28 51 *e*P Pdif 07 50 34.4 +0.9
comp=Z,20nm,1.5s
HVU Hansel Valley 97.34 46 *e*P Pdif 07 50 35.1 +1.5
HVU pmax pmax
comp=Z,17nm,1.3s
HVU Hansel Valley 97.34 46 *e*P Pdif 07 50 35.1 +1.5
comp=Z,17nm,1.3s
YHB Horse Butte 97.37 42 *e*P Pdif 07 50 34.8 +1.0
comp=Z,18nm,1.2s
YHB LR LR
comp=Z,2μm,21.0s
GMRC Granite Mounta 97.40 53 P Pdif 07 50 34.0 -0.1
baz=287
YMR Madison River 97.56 42 *e*P Pdif 07 50 36.7 +2.1
comp=Z,13nm,0.9s
YMR LR LR
comp=Z,2μm,20.0s
YHH Holmes Hill 97.59 42 *e*P Pdif 07 50 36.0 +1.2
comp=Z,13nm,1.3s
YHH LR LR
comp=Z,2μm,19.0s
YFT Old Faithful 97.72 42 *e*P Pdif 07 50 37.1 +1.7
comp=Z,56nm,2.0s
YNR Norris Junctio 97.73 42 *e*P Pdif 07 50 38.1 +2.7
comp=Z,30nm,1.4s
DUG Dugway, Tooele 97.85 47 P Pdif 07 50 35.9 0.0
baz=290
DUG Dugway, Tooele 97.85 47 *e*P Pdif 07 50 36.9 +1.0
DUG pmax pmax
comp=Z,42nm,1.9s
DUG Dugway, Tooele 97.85 47 *e*P Pdif 07 50 36.9 +1.0
comp=Z,42nm,1.9s
IMW Indian Meadow 97.86 43 *e*P Pdif 07 50 38.0 +1.9
comp=Z,28nm,1.9s
FXWY Fox Creek 97.89 43 *e*P Pdif 07 50 37.6 +1.5
comp=Z,25nm,1.8s
H17A Grant Village 97.91 42 *e*P Pdif 07 50 38.6 +2.4
comp=Z,13nm,1.2s
TPAW Teton Pass 98.00 43 *e*P Pdif 07 50 38.0 +1.4
comp=Z,26nm,2.0s
MOOW Moose Ponds 98.04 43 *e*P Pdif 07 50 38.2 +1.5
comp=Z,9.3nm,1.4s
NOA NORSAR Array B 98.23 337 LR LR 08 35 55.1
comp=Z,2μm,21.8s,baz=60,slow=36
HWUT Hardware Ranch 98.25 45 *e*P Pdif 07 50 38.6 +0.9
comp=Z,9.1nm,1.0s
CCUT Cedar City 98.31 50 *e*P Pdif 07 50 39.1 +0.9
comp=Z,16nm,1.5s
MLR Muntele Rosu 98.33 319 PFAKE 07 50 50.0 +12
MLR LR LR
comp=Z,3μm,20.0s
FFC Flin Flon 98.45 31 PFAKE 07 50 50.0 +12
FFC LR LR
comp=Z,2μm,21.0s
RLMT Red Lodge 98.50 41 P Pdif 07 50 39.4 +0.6
baz=293
RLMT Red Lodge 98.50 41 *e*P Pdif 07 50 39.7 +0.9
comp=Z,47nm,1.9s
SZCU Shurtz Canyon 98.51 50 *e*P **P 07 50 37.6 -1.3**
comp=Z,21nm,1.0s
SZCU LR LR
comp=Z,1μm,20.0s
GLA Glamis 98.58 54 PFAKE 07 50 50.0 +11
GLA LR LR
comp=Z,1μm,20.0s
LCMT Little Creek M 98.58 50 *e*P Pdif 07 50 40.6 +1.4
comp=Z,6.9nm,1.1s
Y12C Blythe 98.61 54 PFAKE 07 50 50.0 +11
Y12C LR LR
comp=Z,2μm,19.0s
TCRU Three Creeks R 98.65 48 PFAKE 07 50 50.0 +10
TCRU LR LR
comp=Z,1μm,20.0s
W13A Hualapai Mount 98.69 52 PFAKE 07 50 50.0 +10
W13A LR LR
comp=Z,1μm,20.0s
MSU Marysvale 98.88 48 *e*P Pdif 07 50 41.8 +1.2
MSU Marysvale 98.88 48 *e*P Pdif 07 50 41.8 +1.2
MTPU Mount Pierson 99.03 49 PFAKE 07 50 50.0 +8.5
MTPU LR LR
comp=Z,2μm,19.0s
AKAS Kas 99.04 309 PFAKE 07 50 50.0 +8.7
AKAS LR LR
comp=Z,500nm,22.0s
PD31 Pinedale Array 99.21 44 *e*P **Pdif 07 50 42.6 +0.6**
PDAR Pinedale Array 99.21 44 P **Pdif 07 50 42.6 +0.6**
comp=Z,0.8nm,0.8s,baz=325,slow=1.4,SNR=6.8
PDAR PP **PP 07 54 48.5 +3.9**
comp=Z,1.6nm,1.1s,baz=337,slow=3.4,SNR=5.2
UZH Uzhgorod 99.30 323 *e*P **Pdif 07 50 43.2 +1.3**
UZH *e* 07 50 54.3
113A Mohawk Valley, 99.51 54 PFAKE 07 51 00.0 +17
113A LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 99.57 180 *e*P **Pdif 07 50 43.3 +0.5**
QSPA LR LR
comp=Z,4μm,22.0s
P17A Butcher Ranch, 99.59 47 PFAKE 07 51 00.0 +16
P17A LR LR
comp=Z,1μm,20.0s
CRVS Cervenica-Dubn 99.67 323 *e*P **Pdif 07 50 43.9 +0.3**
CRVS Cervenica-Dubn 99.67 323 *e*PDIFF **Pdif 07 50 43.9 +0.3**
SRU San Rafael Swe 99.88 47 PFAKE 07 51 00.0 +15
SRU LR LR
comp=Z,900nm,21.0s
NIE Niedzica 100.11 324 *e*P **Pdif 07 50 45.9 +0.3**
NIE Niedzica 100.11 324 *e*P **Pdif 07 50 45.9 +0.3**
DGMT Dagmar 100.24 37 PFAKE 07 51 00.0 +14
DGMT LR LR
comp=Z,2μm,21.0s
X16A Lo Mia Camp, P 100.82 52 PFAKE 07 51 00.0 +11
X16A LR LR
comp=Z,2μm,21.0s
PSZ Piszkesteto 101.05 323 PFAKE 07 51 00.0 +10
PSZ LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 101.10 271 PFAKE 07 51 00.0 +9.0
KMBO LR LR
comp=Z,700nm,18.0s
OKC Ostrava-Krasne 101.14 325 *e*PP PP 07 55 01.8 +3.3
OKC AMS AMS 08 44 00.0
comp=Z,3μm,19.7s
RGN Rugen 101.14 331 PFAKE 07 51 00.0 +10
RGN LR LR
comp=Z,3μm,20.0s
VTS Vitosha 101.30 317 PFAKE 07 51 00.0 +8.8
VTS LR LR
comp=Z,1μm,22.0s
K22A Casper 101.31 43 PFAKE 07 51 00.0 +8.7
K22A LR LR
comp=Z,2μm,20.0s
VYHS Vyhne 101.40 324 *e*P **Pdif 07 50 51.8 +0.5**
VYHS Vyhne 101.40 324 *e*PDIFF **Pdif 07 50 51.8 +0.5**
MORC Moravsky Berou 101.51 325 PFAKE 07 51 00.0 +8.2
MORC LR LR
comp=Z,13μm,21.0s
KSP Ksiaz 101.65 327 *e*P **Pdif 07 50 52.8 +0.5**
KSP Ksiaz 101.65 327 *e*P **Pdif 07 50 52.8 +0.5**
DPC Dobruska-Polom 101.89 326 *e*PP PP 07 54 58.0 -6.2
DPC *e*SKS 08 01 34.0
DPC AMS AMS 08 38 00.0
comp=Z,4μm,20.0s
X18A Snowflake 101.94 52 PFAKE 07 51 10.0 +16
X18A LR LR
comp=Z,1μm,20.0s
UPC Upice 101.98 327 *e*PP PP 07 55 09.1 +4.3
UPC *e*SKS 08 01 33.6
UPC AMS AMS 08 38 20.0
comp=Z,4μm,21.4s
TUC Tucson 102.04 54 PFAKE 07 51 10.0 +15
TUC LR LR
comp=Z,2μm,20.0s
MVCO Mesa Verde 102.06 49 PFAKE 07 51 10.0 +15
MVCO LR LR
comp=Z,1μm,19.0s
RSSD Black Hills 102.31 41 PFAKE 07 51 10.0 +14
RSSD LR LR
comp=Z,1μm,20.0s
SMCO Snowmass 102.41 46 PFAKE 07 51 10.0 +13
SMCO LR LR
comp=Z,2μm,22.0s
N23A Red Feather La 102.43 44 P **Pdif 07 50 57.5 +1.0**
baz=295
N23A Red Feather La 102.43 44 PFAKE 07 51 10.0 +14
N23A LR LR
comp=Z,1μm,21.0s
PVCC Panska Ves 102.74 327 AMS AMS 08 38 50.0
comp=Z,3μm,17.8s
BRG Berggiesshubel 102.89 328 *e*PDIFF **Pdif 07 50 57.9 0.0**
comp=Z,9.3nm,1.2s
BRG PP **PKiKP 07 55 17.0 -1.1**
BRG SKS 08 01 35.0
BRG SP **SP 08 04 30.0 +15**
comp=N,2μm,14.3s
comp=E,2μm,17.1s
comp=Z,4μm,18.5s
BRG Berggiesshubel 102.89 328 *e*P **Pdif 07 50 57.8 0.0**
BRG 07 55 17.0
BRG 08 01 35.0
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG MLR MLR
comp=E,2μm,17.1s
BRG MLR MLR
comp=Z,2μm,18.5s
TREC Trest 102.90 326 AMS AMS 08 38 40.0
comp=Z,4μm,23.5s
GOPC GO Pecny, Ondr 102.96 326 *e*PP PP 07 55 12.6 +0.4
GOPC *e*SKS 08 01 43.6
GOPC AMS AMS 08 39 00.0
comp=Z,3μm,19.2s
IDI Anoyia 102.96 310 PFAKE 07 51 10.0 +11
IDI LR LR
comp=Z,800nm,20.0s
HSIG 102.99 57 PFAKE 07 51 10.0 +11
HSIG LR LR
comp=Z,1μm,20.0s
PRU Pruhonice 103.05 327 *e*PP PP 07 55 14.5 +1.6
PRU *e*SKS 08 01 42.1
PRU *e*SP **SP 08 04 20.7 +3.6**
PRU AMS AMS 08 38 50.0
comp=Z,3μm,18.5s
PRA Prague 103.07 327 AMS AMS 08 40 20.0
comp=Z,3μm,16.6s
S22A 4UR Ranch, Cre 103.08 48 P **Pdif 07 50 59.3 -0.1**
baz=293
S22A 4UR Ranch, Cre 103.08 48 PFAKE 07 51 10.0 +11
S22A LR LR
comp=Z,2μm,21.0s
CLL Collm 103.14 328 *e*P **Pdif 07 50 57.0 -1.9**
CLL *e* 07 55 12.0
CLL *e* 08 01 32.0
CLL MLR MLR
comp=Z,6μm,21.5s
CLL Collm 103.14 328 *e*Pdif **Pdif 07 50 57.0 -1.9**
CLL *e*PP **PP 07 55 12.0 -1.5**
CLL *e*PPP PPP 07 57 24.0
CLL *e* 07 58 48.0
CLL *e*SKSac **SKSac 08 01 32.0 -4.3**
CLL *e*SKKSac **SKKSac 08 02 18.0 +1.0**
CLL *e*Sdif **Sdif 08 02 48.0 +4.6**
CLL *e*PS **PS 08 04 26.0 +3.2**
CLL *e*PPS PPS 08 05 14.0
CLL *e*SS **SS 08 09 48.0 -5.2**
CLL *e*SSS SSS 08 13 54.0
CLL *e* 08 19 36.0
CLL Lm MLR 08 39 00.0
comp=Z,6μm,21.5s
CLL Collm 103.14 328 PFAKE 07 51 10.0 +11
CLL LR LR
comp=Z,6μm,21.0s
MDND Maddock 103.23 36 PFAKE 07 51 10.0 +11
MDND LR LR
comp=Z,2μm,21.0s
319A Douglas 103.56 54 PFAKE 07 51 10.0 +8.5
319A LR LR
comp=Z,2μm,20.0s
NKC Novy Kostel 104.04 328 AMS AMS 08 46 30.0
comp=Z,4μm,17.5s
KHC Kasperske Hory 104.05 326 *e*PP PP 07 55 19.0 -1.4
KHC *e*SKS 08 01 42.0
KHC AMS AMS 08 39 20.0
comp=Z,4μm,22.1s
KHC Kasperske Hory 104.05 326 PFAKE 07 51 10.0 +6.9
KHC LR LR
comp=Z,2μm,21.0s
SDCO Great Sand Dun 104.05 47 PFAKE 07 51 20.0 +16
SDCO LR LR
comp=Z,1μm,20.0s
TIR Tirane 104.09 317 PFAKE 07 51 10.0 +6.6
TIR LR LR
comp=Z,2μm,22.0s
GEC2 GERESS Array S 104.13 326 PFAKE 07 51 20.0 +16
GEC2 LR LR
comp=Z,4μm,22.0s
GERES GERESS Array B 104.13 326 Pdiff **Pdif 07 51 01.7 -1.9**
comp=Z,0.4nm,0.2s,baz=72,slow=8.7,SNR=4.1
Y22D IRIS PASSCAL I 104.44 51 PFAKE 07 51 20.0 +15
Y22D LR LR
comp=Z,1μm,20.0s
MHTCO State Highway 104.89 47 PFAKE 07 51 20.0 +13
MHTCO LR LR
comp=Z,900nm,20.0s
HGTCO Madrid Canyon 104.91 47 PFAKE 07 51 20.0 +13
HGTCO LR LR
comp=Z,1μm,21.0s
GRFO Grafenberg 105.00 328 PFAKE 07 51 20.0 +13
GRFO LR LR
comp=Z,3μm,21.0s
OGNE Ogallala 105.07 43 PFAKE 07 55 30.0
OGNE LR LR
comp=Z,1μm,20.0s
T25A Trinidad 105.09 47 PFAKE 07 55 30.0
T25A LR LR
comp=Z,1μm,22.0s
AGMN Agassiz Nation 105.10 34 PFAKE 07 55 30.0
AGMN LR LR
comp=Z,3μm,20.0s
EPT El Paso 105.63 53 PFAKE 07 55 40.0
EPT LR LR
comp=Z,2μm,19.0s
TRI Trieste 105.80 323 PFAKE 07 55 40.0
TRI LR LR
comp=Z,2μm,18.0s
MNTX Cornudas Mount 106.54 53 P **PKiKP 07 55 26.8 +1.4**
baz=293
MNTX Cornudas Mount 106.54 53 PFAKE 07 55 40.0
MNTX LR LR
comp=Z,2μm,20.0s
STU Stuttgart 106.61 328 PFAKE 07 55 40.0
STU LR LR
comp=Z,4μm,21.0s
ECSD EROS Data Cent 107.17 38 PFAKE 07 55 40.0
ECSD LR LR
comp=Z,1μm,21.0s
FUORN Ofenpass-Fuorn 107.31 325 PFAKE 07 55 40.0
FUORN LR LR
comp=Z,6μm,21.0s
BFO Black Forest 107.34 328 PFAKE 07 55 40.0
BFO LR LR
comp=Z,3μm,19.0s
BGNE Belgrade 107.41 41 PFAKE 07 55 40.0
BGNE LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 107.44 317 PFAKE 07 55 40.0
CUC LR LR
comp=Z,1μm,18.0s
BCLA Clavier 107.55 331 P **Pdif 07 51 18.3 -0.3**
BCLA PKP **PKiKP 07 55 29.6 +2.9**
WLF Walferdange 107.62 330 PFAKE 07 55 40.0
WLF LR LR
comp=Z,6μm,19.0s
CBKS Cedar Bluff 107.63 44 PFAKE 07 55 40.0
CBKS LR LR
comp=Z,1μm,22.0s
EYMN Ely 107.68 33 PFAKE 07 55 40.0
EYMN LR LR
comp=Z,2μm,20.0s
AQU L'Aquila 107.81 320 PFAKE 07 55 40.0
AQU LR LR
comp=Z,3μm,20.0s
TUE Stuetta 107.91 326 PFAKE 07 55 40.0
TUE LR LR
comp=Z,4μm,22.0s
SNF Seneffe 107.98 331 PKP **PKiKP 07 55 28.6 +1.1**
HPIG 108.09 58 PFAKE 07 55 40.0
HPIG LR LR
comp=Z,2μm,21.0s
CEL Celeste 108.23 316 PFAKE 07 55 40.0
CEL LR LR
comp=Z,2μm,21.0s
SPMN Marine on St. 108.59 35 PFAKE 07 55 40.0
SPMN LR LR
comp=Z,2μm,22.0s
VLC Villacollemand 108.66 323 PFAKE 07 55 40.0
VLC LR LR
comp=Z,3μm,20.0s
SENIN Lac Senin/Sane 109.10 326 PFAKE 07 55 40.0
SENIN LR LR
comp=Z,3μm,18.0s
KSU1 Kansas State U 109.61 43 PFAKE 07 55 40.0
KSU1 LR LR
comp=Z,2μm,22.0s
COWI Conover 110.09 33 PFAKE 07 55 40.0
COWI LR LR
comp=Z,2μm,20.0s
BNI Bardonecchia 110.25 326 PFAKE 07 55 40.0
BNI LR LR
comp=Z,4μm,19.0s
WDD Wied Dalam 110.36 314 PFAKE 07 55 40.0
WDD LR LR
comp=Z,800nm,21.0s
CLTB Caltabellotta 110.41 316 PFAKE 07 55 40.0
CLTB LR LR
comp=Z,2μm,18.0s
ABTX Abilene, Hawle 110.58 50 PFAKE 07 55 40.0
ABTX LR LR
comp=Z,900nm,20.0s
JCT Junction City 111.40 52 *e*PKIKP **PKiKP 07 55 35.7 +1.1**
JCT MLR MLR
comp=Z,2μm,19.0s
JCT Junction City 111.40 52 *e*PKPdf **PKiKP 07 55 35.7 +1.1**
JCT LR LR
comp=Z,2μm,19.0s
JFWS Jewell Farm 111.45 36 PFAKE 07 55 50.0
JFWS LR LR
comp=Z,2μm,22.0s
DYA Yadsworthy 111.70 335 PFAKE 07 55 50.0
DYA LR LR
comp=Z,4μm,18.0s
TUL1 Leonard 111.80 45 PFAKE 07 55 50.0
TUL1 LR LR
comp=Z,2μm,21.0s
VSL Villasalto 111.92 320 PFAKE 07 55 50.0
VSL LR LR
comp=Z,1μm,20.0s
ZAIG Zacatecas 112.23 61 PFAKE 07 55 50.0
ZAIG LR LR
comp=Z,1μm,19.0s
HHAR Hobbs 112.89 44 PFAKE 07 55 50.0
HHAR LR LR
comp=Z,2μm,19.0s
SNAA Sanae 113.69 193 PFAKE 07 55 50.0
SNAA LR LR
comp=Z,2μm,19.0s
SLM Saint Louis 114.01 40 PFAKE 07 55 50.0 +11
SLM LR LR
comp=Z,1μm,21.0s
KEST Kesra 114.02 316 PFAKE 07 55 50.0 +11
KEST LR LR
comp=Z,2μm,18.0s
LNIG Linares 114.03 57 PFAKE 07 55 50.0 +10
LNIG LR LR
comp=Z,2μm,20.0s
MIAR Mount Ida 114.06 45 PFAKE 07 55 50.0 +11
MIAR LR LR
comp=Z,1μm,21.0s
W40A Ferguson Farm, 114.07 44 PFAKE 07 55 50.0 +11
W40A LR LR
comp=Z,2μm,21.0s
X301 Greenbrier Sit 114.50 44 PFAKE 07 55 50.0 +10
X301 LR LR
comp=Z,2μm,22.0s
WHAR Wooly Hollow 114.55 44 PFAKE 07 55 50.0 +10
WHAR LR LR
comp=Z,2μm,22.0s
HKT Hockley 114.70 51 PFAKE 07 55 50.0 +9.3
HKT LR LR
comp=Z,1μm,19.0s
UALR University of 114.79 45 PFAKE 07 55 50.0 +9.2
UALR LR LR
comp=Z,2μm,20.0s

WLAR White Oak Lake 114.83 46 PFAKE 07 55 50.0 +9.1
WLAR LR LR
comp=Z,2μm,21.0s
SFIN Lafayette 114.87 37 PFAKE 07 55 50.0 +9.2
SFIN LR LR
comp=Z,2μm,21.0s
PBMO Poplar Bluff 114.96 42 PFAKE 07 55 50.0 +8.9
PBMO LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 115.21 192 PKP **PKPdf 07 55 39.0 -1.6**
baz=88,slow=1.8
PARMO Parma 115.47 42 PFAKE 07 55 50.0 +7.9
PARMO LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 115.56 33 PFAKE 07 55 50.0 +7.9
AAM LR LR
comp=Z,2μm,20.0s
PVMO Portageville 115.65 42 PFAKE 07 55 50.0 +7.6
PVMO LR LR
comp=Z,1μm,20.0s
GNAR Gosnell 115.70 42 PFAKE 07 55 50.0 +7.4
GNAR LR LR
comp=Z,1μm,19.0s
BLO Bloomington 115.98 38 PFAKE 07 56 00.0 +17
BLO LR LR
comp=Z,2μm,20.0s
GLAT Glass 116.01 42 PFAKE 07 56 00.0 +17
GLAT LR LR
comp=Z,1μm,20.0s
HALT Halls 116.18 42 PFAKE 07 56 00.0 +17
HALT LR LR
comp=Z,1μm,20.0s
MET Memphis--Engin 116.24 43 PFAKE 07 56 00.0 +16
MET LR LR
comp=Z,1μm,20.0s
WCI Wyandotte Cave 116.71 38 PFAKE 07 56 00.0 +16
WCI LR LR
comp=Z,2μm,20.0s
PLVO Plevna 116.85 27 PFAKE 07 56 00.0 +15
PLVO LR LR
comp=Z,2μm,20.0s
OXF Oxford 116.94 43 PFAKE 07 56 00.0 +15
OXF LR LR
comp=Z,1μm,20.0s
WVT Waverly 117.04 41 *e*PKIKP **PKPdf 07 55 45.7 +0.5**
WVT MLR MLR
comp=Z,1μm,19.0s
WVT Waverly 117.04 41 *e*PKPdf **PKPdf 07 55 45.7 +0.5**
WVT LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 117.34 35 PFAKE 07 56 00.0 +14
ACSO LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 117.46 46 PFAKE 07 56 00.0 +14
VBMS LR LR
comp=Z,2μm,22.0s
LVIG Laguna Verde 118.69 61 PFAKE 07 56 00.0 +11
LVIG LR LR
comp=Z,900nm,21.0s
SWET Sewanee 118.82 41 PFAKE 07 56 00.0 +11
SWET LR LR
comp=Z,1μm,21.0s
LRAL Lakeview Retre 119.44 43 *e*PKPdf **PKPdf 07 55 49.8 -0.1**
LRAL LR LR
comp=Z,2μm,22.0s
MCWV Mont Chateau 119.47 33 PFAKE 07 56 00.0 +10
MCWV LR LR
comp=Z,2μm,21.0s
PBRG Braganca 119.53 331 *e*LR LR 08 44 10.4
comp=Z,5μm,20.0s
CPCT Cooper Cave 119.57 40 PFAKE 07 56 00.0 +10
CPCT LR LR
comp=Z,2μm,20.0s
ES19 SONSECA Array 119.64 327 *e*PKPdf **PKPdf 07 55 51.0 +0.9**
ESDC Sonseca Array 119.69 327 PKP **PKPdf 07 55 50.9 +0.7**
comp=Z,0.5nm,0.4s,baz=13,slow=2.9,SNR=5.0
ESDC PP **PP 07 57 12.8 +0.4**
comp=Z,0.8nm,0.7s,baz=38,slow=7.3,SNR=4.7
ESLA Sonseca Array 119.69 327 PFAKE 07 56 00.0 +10
ESLA LR LR
comp=Z,2μm,18.0s
SSPA Standing Stone 119.78 31 PFAKE 07 56 00.0 +10
SSPA LR LR
comp=Z,2μm,21.0s
TKL Tuckaleechee C 119.90 39 *e*PKIKP **PKPdf 07 55 51.8 +1.1**
TKL MLR MLR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 119.90 39 *e*PKPdf **PKPdf 07 55 51.8 +1.1**
TKL LR LR
comp=Z,2μm,20.0s
PAB San Pablo 119.99 327 *e*PKIKP **PKPdf 07 55 50.5 -0.3**
PAB MLR MLR
comp=Z,2μm,18.0s
PAB San Pablo 119.99 327 *e*PKPdf **PKPdf 07 55 50.5 -0.3**
PAB LR LR
comp=Z,2μm,18.0s
PGAV Gavieira, Arco 120.14 332 *e*LR LR 08 47 41.0
comp=Z,2μm,18.0s
MVO Moncorvo 120.16 330 *e*PKPdf **PKPdf 07 55 52.7 +1.6**
MVO Moncorvo 120.16 330 *e*LR LR 08 45 20.6
comp=Z,4μm,20.0s
WVL Waterville 120.34 23 PFAKE 07 56 00.0 +8.8
WVL LR LR
comp=Z,2μm,18.0s
POLO Lamas de Olo 120.37 331 *e*PKPdf **PKPdf 07 55 53.3 +1.8**
POLO Lamas de Olo 120.37 331 *e*LR LR 08 48 34.3
comp=Z,2μm,18.0s
BRAL Brewton 120.49 45 PFAKE 07 56 00.0 +8.1
BRAL LR LR
comp=Z,2μm,20.0s
BG3 Lake Jocassee 120.86 39 *e*PKPdf **PKPdf 07 55 53.0 +0.5**
BG3 LR LR
comp=Z,1μm,20.0s
BLA Blacksburg 120.87 36 PFAKE 07 56 00.0 +7.4
BLA LR LR
comp=Z,2μm,20.0s
MTE Manteigas 121.00 330 *e*PKPdf **PKPdf 07 55 53.6 +0.8**
MTE Manteigas 121.00 330 *e*LR LR 08 45 00.5
comp=Z,4μm,20.0s
MTE Manteigas 121.00 330 *e*PKPdf **PKPdf 07 55 53.5 +0.8**
MTE LR LR
comp=Z,4μm,19.0s
MVL Millersville 121.04 31 *e*PKPdf **PKPdf 07 55 53.8 +1.1**
MVL LR LR
comp=Z,2μm,21.0s
QUA2 Belchertown 121.13 26 PFAKE 07 56 00.0 +7.2
QUA2 LR LR
comp=Z,2μm,22.0s
SDMD Soldier's Deli 121.23 31 PFAKE 07 56 10.0 +17
SDMD LR LR
comp=Z,1μm,20.0s
WES Weston 121.49 25 PFAKE 07 56 10.0 +17
WES LR LR
comp=Z,2μm,18.0s
GOGA Godfrey 121.54 41 PFAKE 07 56 10.0 +16
GOGA LR LR
comp=Z,1μm,21.0s
IP04 Greensprings 121.54 33 PFAKE 07 56 10.0 +16
IP04 LR LR
comp=Z,3μm,21.0s
PSUB Penn St. - Bra 121.54 30 PFAKE 07 56 10.0 +16
PSUB LR LR
comp=Z,2μm,22.0s
BCX Boston College 121.59 25 PFAKE 07 56 10.0 +16
BCX LR LR
comp=Z,1μm,20.0s
IP03 Louisa 121.64 33 PFAKE 07 56 10.0 +16
IP03 LR LR
comp=Z,3μm,22.0s
YLE Yale 121.65 27 PFAKE 07 56 10.0 +16
YLE LR LR
comp=Z,2μm,22.0s
PMRV Marv??o 121.66 329 *e*PKPdf **PKPdf 07 55 55.4 +1.4**
PMRV Marv??o 121.66 329 *e*LR LR 08 48 37.1
comp=Z,1μm,16.0s
IP07 Quail 121.70 33 PFAKE 07 56 10.0 +16
IP07 LR LR
comp=Z,2μm,21.0s
CVRD Centerville Ro 121.71 33 PFAKE 07 56 10.0 +16
CVRD LR LR
comp=Z,2μm,21.0s
IP06 Yanceyville 121.72 33 PFAKE 07 56 10.0 +16
IP06 LR LR
comp=Z,2μm,21.0s
PCAS Casmilo, Conde 121.73 330 *e*LR LR 08 43 50.8
comp=Z,4μm,18.0s
IP01 Cuckoo 121.74 33 PFAKE 07 56 10.0 +16
IP01 LR LR
comp=Z,3μm,22.0s
KMSC Kings Mountain 121.74 38 PFAKE 07 56 10.0 +16
KMSC LR LR
comp=Z,1μm,20.0s
PTRD Partlow Road 121.77 33 PFAKE 07 56 10.0 +16
PTRD LR LR
comp=Z,2μm,20.0s
HODGE Hodges 121.78 39 PFAKE 07 56 10.0 +16
HODGE LR LR
comp=Z,2μm,21.0s
SPFD Spotsylvania F 121.82 33 PFAKE 07 56 10.0 +16
SPFD LR LR
comp=Z,2μm,20.0s
CBN Corbin Frederi 121.84 33 PFAKE 07 56 10.0 +16
CBN LR LR
comp=Z,2μm,20.0s
IP05 Hopewell Churc 121.91 33 PFAKE 07 56 10.0 +16
IP05 LR LR
comp=Z,2μm,22.0s
PTOM Tomar 122.02 330 *e*PKPdf **PKPdf 07 55 54.9 +0.3**
TSUM Tsumeb 122.07 253 PFAKE 07 56 10.0 +15
TSUM LR LR
comp=Z,800nm,21.0s
JSC Jenkinsville 122.36 39 *e*PKIKP **PKPdf 07 55 56.9 +1.5**
JSC MLR MLR
comp=Z,1μm,21.0s
JSC Jenkinsville 122.36 39 *e*PKPdf **PKPdf 07 55 56.9 +1.5**
JSC LR LR
comp=Z,1μm,21.0s
PBAR Barrancos 122.42 328 *e*PKPdf **PKPdf 07 55 56.5 +1.1**
PBAR Barrancos 122.42 328 *e*LR LR 08 47 45.1
comp=Z,6μm,20.0s
TIGA Tifton 122.70 43 PFAKE 07 56 10.0 +14
TIGA LR LR
comp=Z,1μm,21.0s
PMSA Palmer Station 122.82 169 PFAKE 07 56 10.0 +15
PMSA LR LR
comp=Z,1μm,22.0s
PBEJ Beja 122.96 328 *e*PKPdf **PKPdf 07 55 58.4 +1.9**
LIS Lisbon 123.08 330 *e*P **PKPdf 07 55 56.5 -0.2**
LIS *e*PP **PP 07 57 36.0 +0.7**
LIS AMS AMS 08 54 24.0
comp=Z,3μm,20.2s
LIS Lisbon 123.08 330 *e*PKIKP **PKPdf 07 55 56.4 -0.2**
LIS *e* 07 57 36.0
PNCL Nicolau / Gran 123.24 329 *e*PKPdf **PKPdf 07 55 58.5 +1.5**
PNCL Nicolau / Gran 123.24 329 *e*LR LR 08 48 28.7
comp=Z,2μm,18.0s
PCVE Castro Verde 123.35 328 *e*PKPdf **PKPdf 07 55 59.1 +1.9**
PCVE Castro Verde 123.35 328 *e*LR LR 08 47 49.4
comp=Z,2μm,18.0s
PVAQ Vaqueiros 123.35 328 *e*PKPdf **PKPdf 07 55 58.9 +1.6**
PVAQ Vaqueiros 123.35 328 *e*LR LR 08 48 28.7
comp=Z,2μm,20.0s
PBDV Barranco-do-Ve 123.59 328 *e*PKPdf **PKPdf 07 55 59.1 +1.4**
PBDV Barranco-do-Ve 123.59 328 *e*LR LR 08 46 46.8
comp=Z,3μm,22.0s
TAM Tamanrasset 123.61 306 PFAKE 07 56 10.0 +12
TAM LR LR
comp=Z,800nm,18.0s
CNNC Cliffs of the 123.70 36 PFAKE 07 56 10.0 +12
CNNC LR LR
comp=Z,1μm,21.0s
NHSC New Hope 123.82 39 PFAKE 07 56 10.0 +12
NHSC LR LR
comp=Z,1μm,19.0s
MORF Marmelete 123.91 328 *e*P **PKPdf 07 55 57.9 -0.6**
MORF *e*PP **PP 07 57 41.9 +0.8**
MORF AMS AMS 08 52 34.0
comp=N,1μm,17.3s
MORF Marmelete 123.91 328 *e*PKPdf **PKPdf 07 55 59.6 +1.2**
MORF Marmelete 123.91 328 *e*LR LR 08 44 22.1
comp=N,1μm,18.0s
MORF Marmelete 123.91 328 *e*PKIKP **PKPdf 07 55 57.8 -0.6**
MORF *e* 07 57 41.8
PFVI Vila Bisbo 124.14 328 PFAKE 07 56 10.0 +11
PFVI LR LR
comp=Z,2μm,20.0s
RTC Rabat Centre 125.39 324 PFAKE 07 56 10.0 +8.8
RTC LR LR
comp=Z,6μm,21.0s
DWPF Disney Wildern 126.23 44 PFAKE 07 56 20.0 +17
DWPF LR LR
comp=Z,1μm,20.0s
TGUH Tegucigalpa,Un 128.98 63 PFAKE 07 56 20.0 +11
TGUH LR LR
comp=Z,800nm,20.0s
TOC2 Torodi Ar. Sit 131.29 297 PFAKE 07 56 20.0 +7.0
TOC2 LR LR
comp=Z,1μm,20.0s
TOC3 Torodi Ar. Sit 131.29 297 PFAKE 07 56 20.0 +7.0
TOC3 LR LR
comp=Z,1μm,19.0s
TOB2 Torodi Ar. Sit 131.30 297 PFAKE 07 56 20.0 +7.0
TOB2 LR LR
comp=Z,1μm,18.0s
TOA0 Torodi Ar. Sit 131.31 297 *e*PKPdf **PKPdf 07 56 13.2 +0.2**
TOA0 *e*PKPdf **PKiKP 07 56 13.5 -0.5**
TOA1 Torodi Ar. Sit 131.31 297 *e*PKPdf **PKPdf 07 56 12.2 -0.8**
TORD Torodi Ar. Bea 131.31 297 PKP **PKPdf 07 56 12.2 -0.8**
comp=Z,4.6nm,0.9s,baz=53,slow=2.3,SNR=16
TOC4 Torodi Ar. Sit 131.32 297 PFAKE 07 56 20.0 +7.0
TOC4 LR LR
comp=Z,1μm,20.0s
PMOZ Porto Moniz, M 131.69 332 *e*LR LR 08 50 43.6
comp=Z,2μm,22.0s
HDC Heredia 133.46 66 PFAKE 07 56 30.0 +13
HDC LR LR
comp=Z,2μm,21.0s
HOPE Hope Point 135.35 184 PFAKE 07 56 30.0 +11
HOPE LR LR
comp=Z,2μm,19.0s
GTBY Guantanamo Bay 135.84 48 PFAKE 07 56 30.0 +8.6
GTBY LR LR
comp=Z,900nm,20.0s
GRTK Grand Turk 137.59 43 PFAKE 07 56 40.0 +15
GRTK LR LR
comp=Z,1μm,22.0s
BCIP Isla Barro Col 137.64 65 PFAKE 07 56 40.0 +15
BCIP LR LR
comp=Z,700nm,21.0s
LGNH LÕogne 138.56 47 PFAKE 07 56 40.0 +14
LGNH LR LR
comp=Z,1μm,20.0s
SDDR Presa de Saban 139.20 46 PFAKE 07 56 40.0 +12
SDDR LR LR
comp=Z,1μm,20.0s
DBIC Dimbokro 139.87 293 PKhKP PKPpre 07 56 25.2
comp=Z,3.5nm,0.7s,baz=70,slow=8.3,SNR=3.9
DBIC Dimbokro 139.87 293 *e*PKPdf PKPpre 07 56 25.8
PLCA Paso Flores 139.91 145 PKP **PKPdf 07 56 28.2 -0.2**
comp=Z,2.0nm,0.8s,baz=163,slow=2.1,SNR=4.1
SDD Santo Domingo 140.51 45 PFAKE 07 56 40.0 +10
SDD LR LR
comp=Z,600nm,20.0s
MOTC Monteria, Cord 141.50 63 *e*P PKPpre 07 56 25.5
OTAV Otavalo 142.10 77 *e*P PKPpre 07 56 29.1
OTAV Otavalo 142.10 77 *e*PKPdf PKPpre 07 56 30.2
OTAV LR LR
comp=Z,900nm,20.0s
MPR Mayaguez 142.57 42 PFAKE 07 56 50.0 +16
MPR LR LR
comp=Z,600nm,22.0s
PLMC San Jos¨ del 142.59 69 *e*P **PKPdf 07 56 33.0 -1.0**
GO05 HualaæØ 142.63 137 PFAKE 07 56 50.0 +17
GO05 LR LR
comp=Z,1μm,20.0s
HELC Santa Helena 142.76 66 *e*P **PKPdf 07 56 33.4 -1.3**
POPC Popayan, Colomb 143.08 73 *e*P PKPbc 07 56 32.0 +0.1
GUYC Guyana, Colomb 143.28 68 *e*P PKPbc 07 56 34.1 +1.4
SJG San Juan 143.29 41 PFAKE 07 56 50.0 +15
SJG LR LR
comp=Z,700nm,20.0s
HUMP Col San Antoni 143.46 41 PFAKE 07 56 50.0 +15
HUMP LR LR
comp=Z,1μm,21.0s
NORC Norcasia 143.62 67 *e*P PKPab 07 56 32.2 -0.2
MTP Monte Pirata 143.68 41 *e*PKPdf PKPbc 07 56 33.9 +0.8
OCAC Ocana 143.80 62 *e*P **PKPdf 07 56 36.7 +0.5**
STVI Saint Thomas 143.88 40 *e*PKPpre PKPpre 07 56 33.3
BRRC Barranca, Sant 143.99 64 *e*P PKPbc 07 56 34.1 -0.1
BETC Betania 144.19 72 *e*P **PKPdf 07 56 37.2 +0.4**
PRAC Prado 144.33 70 *e*P **PKPab 07 56 33.0 -2.1**
PRAC Prado 144.33 70 *e*PKPdf PKPbc 07 56 35.8 +0.4
PRAC LR LR
comp=Z,700nm,22.0s
FLOC Florencia 144.36 73 *e*P PKPbc 07 56 35.3 -0.1
ROSC El Rosal 144.41 67 PKP PKPbc 07 56 36.4 +0.4
comp=Z,29nm,0.8s,baz=259,slow=0.7,SNR=26
ROSC El Rosal 144.41 67 *e*P **PKPdf 07 56 37.1 -0.5**
ROSC El Rosal 144.41 67 *e*PKPdf **PKPdf 07 56 36.8 -0.8**
ROSC LR LR
comp=Z,500nm,21.0s
CDVI St. Croix 144.44 40 *e*PKPdf **PKPdf 07 56 36.2 -0.8**
GIRC Giron, Santand 144.46 63 *e*P PKPbc 07 56 36.0 +0.2
CBRI Barrientos, No 144.50 62 *e*P **PKPdf 07 56 37.3 -0.1**
PEL Peldehue 144.54 135 *e*P **PKPdf 07 56 36.4 -0.4**
BARC Barichara 144.69 64 *e*P **PKPab 07 56 35.3 -1.2**
PAMC Pamplona, Colo 144.77 62 *e*P **PKPab 07 56 35.7 -1.4**
RUSC La Rusia 145.09 65 *e*P **PKPbc 07 56 36.1 -2.2**
RUSC La Rusia 145.09 65 *e*PKPbc **PKPbc 07 56 37.8 -0.6**
RUSC LR LR
comp=Z,300nm,19.0s
NNA Nana 145.41 97 *e*PKIKP **PKPab 07 56 40.4 +1.4**
NNA MLR MLR
comp=Z,2μm,19.0s
NNA Nana 145.41 97 *e*PKPdf **PKPab 07 56 40.4 +1.4**
NNA LR LR
comp=Z,2μm,19.0s
SABA Saba 145.49 38 PFAKE 07 56 50.0 +11
SABA LR LR
comp=Z,1μm,21.0s
SEUS St. Eustatius 145.74 38 PFAKE 07 56 50.0 +10
SEUS LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 145.76 58 *e*P **PKPdf 07 56 38.3 -1.4**
SDV Santo Domingo 145.76 58 *e*PKPdf **PKPbc 07 56 40.0 -0.1**
SDV LR LR
comp=Z,700nm,20.0s
ANWB Willy Bob 146.32 36 PFAKE 07 56 50.0 +7.9
ANWB LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 146.38 150 *e*PKPdf **PKPbc 07 56 40.6 -0.5**
TRQA LR LR
comp=Z,1μm,18.0s
LCO Las Campanas 146.72 129 *e*PKPdf **PKPbc 07 56 42.9 +0.3**
GDHS Morne Mazeau, 147.42 38 *e*PKPbc **PKPab 07 56 45.6 -1.0**
CXM Morne La Croix 148.91 39 *e*P **PKPdf 07 56 45.4 +0.7**
BAMF Morne Balai 148.92 39 *e*P **PKPbc 07 56 48.6 -0.1**
FDF Fort de France 148.98 39 *e*P **PKPdf 07 56 46.4 +1.7**
FDF Fort de France 148.98 39 *e*PKP2 **PKPbc 07 56 49.5 +0.7**
FDF MLR MLR
comp=Z,900nm,22.0s
FDF Fort de France 148.98 39 *e*PKPbc **PKPbc 07 56 49.5 +0.7**
FDF LR LR
comp=Z,900nm,22.0s
SACV Santiago Islan 149.63 324 *e*PKPdf **PKPdf 07 56 46.6 +0.8**
SACV *e*PKPbc **PKiKP 07 56 51.2 -0.2**
PB04 IPOC Station P 149.97 118 *e*PKPbc **PKPbc 07 56 52.8 +1.6**
SVB Belmont 150.02 41 *e*P **PKPbc 07 56 52.1 +0.8**
GRGR Grenville 150.59 43 PFAKE 07 57 00.0 +0.6
GRGR LR LR
comp=Z,800nm,20.0s
LVC Limon Verde 150.94 120 *e*PKPdf **PKPdf 07 56 49.2 +1.1**
LVC *e*PKPbc **PKiKP 07 56 54.2 -0.2**
LVC *e*PKPab **PKPab 07 57 01.5 +0.3**
PB01 IPOC Station P 150.97 116 *e*PKPbc **PKPbc 07 56 53.9 +0.3**
PB01 *e*PKPab **PKPab 07 57 00.2 -0.8**
PB11 IPOC Station P 151.20 113 *e*PKPdf **PKPdf 07 56 47.1 -1.2**
PB11 *e*PKPbc **PKPbc 07 56 54.3 +0.1**
MNMC Minye Minye 151.43 112 *e*PKPbc **PKPbc 07 56 56.6 +1.7**
MNMC *e*PKPab **sPKPdf 07 57 02.3 -1.7**
TOSP Speyside 151.95 42 *e*P **PKPbc 07 56 57.2 +1.4**
LPAZ La Paz 153.43 107 PKP **PKPdf 07 56 53.1 +0.9**
comp=Z,13nm,1.1s,baz=357,slow=2.0,SNR=17
LPAZ PKPbc **PKiKP 07 57 00.1 +0.1**
comp=Z,8.3nm,0.7s,baz=260,slow=5.5,SNR=20
LPAZ La Paz 153.43 107 *e*PKIKP **PKPdf 07 56 52.7 +0.5**
LPAZ *e* 07 57 00.1
LPAZ La Paz 153.43 107 *e*PKPdf **PKPdf 07 56 52.7 +0.5**
LPAZ *e*PKPbc **PKiKP 07 57 00.1 +0.1**
CPUP Villa Florida 157.80 140 PKP **PKPdf 07 56 57.5 +0.5**
comp=Z,5.3nm,1.2s,baz=272,slow=1.5,SNR=3.3
CPUP PKPab **PKPab 07 57 30.1 +0.4**
comp=Z,2.5nm,0.8s,baz=224,slow=2.1,SNR=4.8
SAML Samuel 158.77 90 *e*PKPdf **PKPdf 07 56 59.0 +0.4**
SAML LR LR
comp=Z,700nm,20.0s
PTGA Pitinga 159.74 65 *e*PKPdf **PKPdf 07 57 00.2 +0.5**
PTGA LR LR
comp=Z,1μm,22.0s

IDC 06 07:51:58.5±1.2, 9°.60N×138°.59E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/49, mbtmp3.7/6, Error ellipse: s-maj=42.6km s-min=21.6km az=83.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy 29.12**	**67**		T	T	08 28 59.0	
	baz=254,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy 29.13**	**67**		T	T	08 29 03.4	
	baz=254,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hy 29.14**	**67**		T	T	08 28 58.3	
	baz=254,slow=74,SNR=10						
WRA	**Warramunga Arr**	**29.65**	**188**	P	P	07 58 05.7	-0.3
	0.5nm,0.8s,baz=5.8,slow=9.9,SNR=3.7						
ASAR	**Alice Springs**	**33.38**	**188**	P	P	07 58 39.2	+0.4
	0.5nm,0.8s,baz=15,slow=13,SNR=8.0						
CMAR	**Chiang Mai Arr**	**39.38**	**287**	P	P	07 59 29.8	-0.5
	1.4nm,0.4s,baz=105,slow=7.6,SNR=5.5						
SONM	**Songino Array**	**46.79**	**330**	P	P	08 00 30.8	+0.8
	1.1nm,0.9s,baz=131,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**60.24**	**319**	P	P	08 02 08.4	-0.3
	0.3nm,0.7s,baz=104,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**74.78**	**25**	P	P	08 03 40.1	-0.2
	0.5nm,0.8s,baz=236,slow=5.5,SNR=6.1						

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*ISCJB **06** 07:57:41.4±0.6, 37°.43N±0°.02×27°.76E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=3.5km az=10.6*
*CSEM **06** 07:57:41.4±0.2, 37°.42N×27°.79E, h1km, ML2.1, Error ellipse: s-maj=4.4km s-min=3.0km az=95.0, Suspected Mining explosion.*
*DDA **06** 07:57:41.3, 37°.42N×27°.69E, h7km, Md2.5, Suspected Mining explosion.*
*ISK **06** 07:57:41.2, 37°.43N×27°.76E, h7km, ML2.1*
ISC 06 07:57:41.8±1.3, 37°.42N±0°.02×27°.77E±0°.03, h0km, n22, σ0°79/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.13**	**178**	*e*PG	**Pg**	**07 57 44.3**	**+0.1**
MLSB				*e*SG	**Sg**	**07 57 47.0**	**+1.1**
MLSB	**Milas**	**0.13**	**178**	*e*Pg	**Pg**	**07 57 44.3**	**+0.1**
MLSB				*e*Sg	**Sg**	**07 57 47.0**	**+1.1**
AYDN	**Tasoluk**	**0.25**	**20**	*i* P	**Pg**	**07 57 47.1**	**+0.4**
AYDN				*i* S	**Sg**	**07 57 50.7**	**+0.7**
AYDN	**Tasoluk**	**0.25**	**20**	P	**Pg**	**07 57 47.1**	**+0.4**
AYDN				S	**Sg**	**07 57 50.7**	**+0.7**
DIDI	**Didim-Aydin**	**0.42**	**264**	*e*PG	**Pg**	**07 57 49.8**	**-0.2**
DIDI				*e*SG	**Sg**	**07 57 56.2**	**+0.7**
DIDI	**Didim-Aydin**	**0.42**	**264**	*e*Pg	**Pg**	**07 57 49.8**	**-0.2**
DIDI				*e*Sg	**Sg**	**07 57 56.2**	**+0.7**
BDRM	**Kayabasi**	**0.44**	**216**	*i* P	**Pg**	**07 57 49.4**	**-0.9**
BDRM				*i* S	**Sg**	**07 57 55.7**	**-0.3**
BDRM	**Kayabasi**	**0.44**	**216**	P	**Pg**	**07 57 49.4**	**-0.9**
BDRM				S	**Sg**	**07 57 55.7**	**-0.3**
GCAM	**G?zelcaml?**	**0.51**	**303**	*i* P	**Pg**	**07 57 51.2**	**-0.4**
GCAM				*i* S	**Sg**	**07 57 57.4**	**-0.9**
GCAM	**G?zelcaml?**	**0.51**	**303**	P	**Pg**	**07 57 51.2**	**-0.4**
GCAM				S	**Sg**	**07 57 57.3**	**-0.9**
BODT	**Bodrum**	**0.51**	**226**	*e*PG	**Pg**	**07 57 51.7**	**0.0**
BODT				*e*SG	**Sg**	**07 57 59.3**	**+1.0**
BODT	**Bodrum**	**0.51**	**226**	*e*Pg	**Pg**	**07 57 51.7**	**0.0**
BODT				*e*Sg	**Sg**	**07 57 59.3**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.53**	**10**	*e*PG	**Pg**	**07 57 52.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.53**	**10**	*e*Pg	**Pg**	**07 57 52.1**	**0.0**
DAT	**Datca**	**0.71**	**193**	*e*PG	**Pg**	**07 57 55.4**	**0.0**
DAT				*e*SG	**Sg**	**07 58 05.7**	**+1.1**
DAT	**Datca**	**0.71**	**193**	*i* P	**Pg**	**07 57 55.0**	**-0.4**
DAT	**Datca**	**0.71**	**193**	P	**Pg**	**07 57 55.0**	**-0.4**
DAT	**Datca**	**0.71**	**193**	*e*Pg	**Pg**	**07 57 55.4**	**0.0**

DAT			*e*Sg	**Sg**	**07 58 05.7**	**+1.1**
TURN	**Turunc**	**0.86 129**	*i* P	**Pg**	**07 57 56.6**	**-1.8**
TURN	**Turunc**	**0.86 129**	P	**Pg**	**07 57 56.6**	**-1.8**
URLA	**Izmir**	**1.32 316**	*e*PN	**Pg**	**07 58 06.5**	**-0.6**
URLA	**Izmir**	**1.32 316**	*e*Pn	**Pg**	**07 58 06.5**	**-0.6**

IDC 06 08:00:36.2±28.0, 20°21'S×174°50'W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/39, mbtmp3.8/4, Error ellipse: s-maj=518.9km s-min=148.5km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.79**	**263**	P	P	08 07 46.9	+0.9
	2.0nm,0.6s,baz=90,slow=8.1,SNR=3.5						
STKA	**Stephens Creek**	**40.87**	**244**	P	P	08 08 19.8	-0.4
	1.0nm,0.4s,baz=98,slow=9.9,SNR=7.7						
ASAR	**Alice Springs**	**47.78**	**256**	P	P	08 09 15.1	-0.6
	0.8nm,0.6s,baz=93,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**47.89**	**261**	P	P	08 09 16.3	-0.3
	0.1nm,0.3s,baz=96,slow=7.9,SNR=7.5						

*PRU **06** 08:02:06.5, 50°01'N×18°42'E, h0km*
CSEM 06 08:02:02.8±0.5, 50°06'N×18°61'E, h1km, Error ellipse: s-maj=11.3km s-min=4.4km az=28.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.37**	**234**	*e*PG	Pg	08 02 10.3	+0.4
OKC				*e*SG	Sg	08 02 14.9	+0.1
	comp=Z,14nm,0.4s						
OKC	**Ostrava-Krasne**	**0.37**	**234**	Pg	Pg	08 02 10.3	+0.4
OKC				Sg	Sg	08 02 14.9	+0.1
	14nm,0.4s						
MORC	**Moravsky Berou**	**0.75**	**248**	*e*Pg	Pg	08 02 17.8	+0.7
MORC				*e*Sg	Sg	08 02 26.0	-0.8
LANS	**Liptovska Anna**	**1.07**	**148**	*e*Pg	Pb	08 02 23.7	-0.4
LANS				*e*Sg	Sg	08 02 35.3	-1.7
LANS	**Liptovska Anna**	**1.07**	**148**	*e*PG	Pb	08 02 23.7	-0.4
LANS				*e*SG	Sg	08 02 35.3	-1.7
KRLC	**Kraliky**	**1.18**	**272**	*e*PG	Pg	08 02 25.1	-0.3
KRLC				*e*SG	Sg	08 02 40.8	+0.1
KRLC	**Kraliky**	**1.18**	**272**	Pg	Pg	08 02 25.1	-0.3
KRLC				Sg	Sg	08 02 40.8	+0.1
DPC	**Dobruska-Polom**	**1.50**	**282**	*e*PG	Pg	08 02 31.6	+0.1
DPC				*e*SG	Sg	08 02 50.6	-0.4
DPC	**Dobruska-Polom**	**1.50**	**282**	Pg	Pg	08 02 31.6	+0.1
DPC				Sg	Sg	08 02 50.6	-0.4
VYHS	**Vyhne**	**1.57**	**175**	*e*Sg	Sn	08 02 45.2	-7.7
VYHS	**Vyhne**	**1.57**	**175**	*e*SG	Sn	08 02 45.2	-7.7

*ISCJB **06** 08:07:39.6±0.7, 25°37'N±0°05×129°71'E±0°04, h10km, mb3.5/4, Error ellipse: s-maj=7.1km s-min=5.2km az=21.9*
*JMA **06** 08:07:40.8±0.3, 25°29'N×129°77'E, h44km, M3.6*
*IDC **06** 08:07:40.2±1.2, 25°32'N×129°93'E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.4/4, Error ellipse: s-maj=50.3km s-min=25.3km az=83.0*
ISC 06 08:07:40.4±1.0, 25°30'N±0°07×129°74'E±0°05, h10km, n15, σ2°01/26, mb3.6/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.44**	**69**	P	**Pn**	**08 08 04.6**	**-2.0**
JMZ				S	**Sn**	**08 08 21.8**	**-3.7**
JNTH	**Nagotoyohara**	**1.96**	**309**	P	**Pn**	**08 08 13.0**	**-0.8**
JNTH				*e*S	**Sn**	**08 08 36.0**	**-2.5**
JJT2	**Tamagusuku 2**	**1.98**	**296**	P	**Pn**	**08 08 13.6**	**-0.4**
JJT2				S	**Sn**	**08 08 36.9**	**-2.0**
JOW	**Kunigami**	**2.01**	**320**	P	**Pn**	**08 08 14.1**	**-0.4**
JOW				*e*S	**Sn**	**08 08 37.2**	**-2.6**
JOKE	**Okinoerabujima**	**2.30**	**333**	P	**Pn**	**08 08 18.6**	**+0.1**
JOKE				*e*S	**Sn**	**08 08 44.9**	**-2.0**
JIH	**Iheya**	**2.35**	**318**	P	**Pn**	**08 08 18.6**	**-0.5**
JIH				S	**Sn**	**08 08 45.4**	**-2.6**
JTK	**Tokunoshima**	**2.57**	**344**	P	**Pn**	**08 08 22.4**	**+0.2**
JTK				*e*S	**Sn**	**08 08 50.5**	**-3.1**
JAGN	**Aguni-jima**	**2.59**	**300**	P	**Pn**	**08 08 21.8**	**-0.5**
JAGN				S	**Sn**	**08 08 51.3**	**-2.5**
JKE	**Kume jima 2**	**2.85**	**292**	P	**Pn**	**08 08 24.8**	**-1.2**
JKE				S	**Sn**	**08 08 56.8**	**-3.5**
JAMN	**Amaminishikomi**	**2.97**	**350**	P	**Pn**	**08 08 27.8**	**+0.1**
JAMN				S	**Sn**	**08 09 02.3**	**-1.1**
JAM	**Amami Oshima**	**3.10**	**358**	P	**Pn**	**08 08 30.9**	**+1.5**
JAM				*e*S	**Sn**	**08 09 05.6**	**-1.0**
MKAR	**Makanchi Array**	**43.16**	**312**	P	**P**	**08 15 43.3**	**+2.0**
	0.8nm,0.6s,baz=110,slow=8.0,SNR=6.0						
WRA	**Warramunga Arr**	**45.19**	**174**	P	**P**	**08 15 57.5**	**-0.2**
	0.5nm,0.7s,baz=354,slow=8.4,SNR=5.4						
ASAR	**Alice Springs**	**48.84**	**175**	P	**P**	**08 16 29.0**	**+2.8**
	0.1nm,0.3s,baz=5.5,slow=14,SNR=4.8						
ILAR	**Eielson Array**	**64.61**	**28**	P	**P**	**08 18 18.6**	**+0.8**
	0.3nm,0.7s,baz=263,slow=5.3,SNR=4.0						

*NEIC **06** 08:18:12.3±0.5, 9°91'N×138°96'E, h10km, mb4.6/2, Error ellipse: s-maj=13.4km s-min=9.9km az=109.0*
*ISCJB **06** 08:18:13.1±0.5, 9°91'N±0°06×139°15'E±0°08, h33km, mb4.0/13, MS4.2/3, Error ellipse: s-maj=11.7km s-min=8.2km az=15.5*
*IDC **06** 08:18:19.9±5.6, 9°65'N×138°50'E, h60km±54km, mb3.6/10, mb1 3.8/11, mb1mx3.6/38, mbtmp3.9/11, ML4.0/1, MS4.2/3, Ms1 4.1/3, ms1mx3.5/32, Error ellipse: s-maj=32.3km s-min=18.7km az=73.0*
ISC 06 08:18:15.7±0.6, 9°89N±0°07×139°11E±0°09, h35km, n33, σ2°19/26, mb3.9/13, MS4.1/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.74**	**56**	*e*Pn	**Pn**	**08 19 53.0**	**+0.8**
GUMO				*e*Sn	**Sn**	**08 21 03.2**	**-4.5**
ANA2	**Anatahan**	**9.09**	**44**	*e*Pn	**Pn**	**08 20 23.6**	**-0.8**
ANA2				*e*Sn	Sn	08 21 53.4	-12
SARN	**Sarigan**	**9.38**	**43**	*e*Pn	**Pn**	**08 20 26.6**	**-1.9**
SARN				*e*Sn	Sn	08 22 01.3	-12
JAY	**Jayapura**	**12.42**	**173**	P	**Pn**	**08 21 12.2**	**+2.0**
	0.8nm,0.3s,baz=252,slow=21,SNR=36						
JAY				S	**Sn**	**08 23 23.9**	**-3.6**
	0.2nm,0.3s,baz=38,slow=23,SNR=8.0						
JAY				LR	LR	08 24 16.9	
	comp=Z,12nm,18.8s,baz=100,slow=29						
MYLDM	**Lahad Datu**	**20.95**	**259**	*e*P	**P**	**08 22 53.0**	**-2.7**
	95nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**28.04**	**69**	T	T	08 54 33.7	
	baz=256,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.06**	**69**	T	T	08 54 34.9	
	baz=256,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.06**	**69**	T	T	08 54 35.3	
	baz=256,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.54**	**67**	T	T	08 55 14.5	
	baz=254,slow=75,SNR=138						
H11N2	**WAKE ISLAND Hy**	**28.55**	**67**	T	T	08 55 12.8	
	baz=254,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**28.56**	**67**	T	T	08 55 14.8	
	baz=254,slow=75,SNR=82						
WB2	**Warramunga Arr**	**30.01**	**189**	*e*P	**P**	**08 24 22.4**	**+1.1**
WR1	**Warramunga Arr**	**30.01**	**189**	*e*P	**P**	**08 24 20.5**	**-0.8**
	13nm,1.6s						
WRA	**Warramunga Arr**	**30.01**	**189**	P	**P**	**08 24 20.5**	**-0.8**
	1.7nm,1.0s,baz=5.9,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**33.73**	**189**	P	**P**	**08 24 53.3**	**-0.7**
	0.4nm,0.7s,baz=18,slow=12,SNR=15						
ASAR				LR	LR	08 38 29.9	
	comp=Z,357nm,18.2s,baz=76,slow=36						
CM01	**Chiang Mai Arr**	**39.77**	**287**	*e*P	**P**	**08 25 43.0**	**-2.5**
CMAR	**Chiang Mai Arr**	**39.78**	**287**	P	**P**	**08 25 42.6**	**-3.1**
	2.2nm,0.7s,baz=98,slow=5.8,SNR=7.0						
STKA	**Stephens Creek**	**41.59**	**177**	P	**P**	**08 25 59.9**	**-0.4**
	1.7nm,0.8s,baz=330,slow=8.9,SNR=3.4						
STKA				LR	LR	08 43 25.6	
	comp=Z,191nm,18.8s,baz=15,slow=36						
FORT	**Forrest**	**41.80**	**194**	*e*P	**P**	**08 26 05.1**	**+3.1**
	179nm,0.9s						
SONA0	**Songino Array**	**46.79**	**330**	*e*P	**P**	**08 26 43.0**	**+1.0**
	9.3nm,1.3s						
SONM	**Songino Array**	**46.79**	**330**	P	**P**	**08 26 43.0**	**+1.0**
	2.5nm,0.9s,baz=144,slow=8.0,SNR=10						
SONA1	**Songino Array**	**46.80**	**330**	*e*P	**P**	**08 26 41.3**	**-0.8**
MK32	**Makanchi Array**	**60.36**	**319**	*e*P	**P**	**08 28 22.2**	**+0.8**
MKAR	**Makanchi Array**	**60.36**	**319**	P	**P**	**08 28 22.2**	**+0.8**
	0.5nm,0.6s,baz=98,slow=7.5,SNR=4.4						
KURK	**Kurchatov**	**63.88**	**322**	P	**P**	**08 28 45.0**	**+0.2**
KURBB	**Kurchatov Arra**	**63.91**	**322**	P	**P**	**08 28 45.0**	**0.0**
	0.8nm,0.8s,baz=104,slow=6.9,SNR=5.6						
BVAR	**Borovoye Array**	**69.39**	**323**	P	**P**	**08 29 20.3**	**+0.3**
	0.5nm,0.4s,baz=108,slow=9.5,SNR=3.5						
KDAK	**Kodiak Island**	**70.18**	**32**	LR	LR	08 57 54.0	
	comp=Z,177nm,19.1s,baz=330,slow=34						
ILAR	**Eielson Array**	**74.31**	**25**	P	**P**	**08 29 53.3**	**+4.0**
	0.6nm,0.7s,baz=243,slow=5.3,SNR=12						
ILB	**Eielson Array**	**74.31**	**25**	*e*P	**P**	**08 29 50.3**	**+1.0**
H02N1	**VAN INLET T-PH**	**81.18**	**37**	T	T	10 01 06.4	
H02S1	**DAWSON INLET T**	**81.22**	**37**	T	T	10 01 10.3	
	SNR=8.1						
YKA	**Yellowknife Ar**	**88.70**	**26**	P	**P**	**08 31 08.7**	**+3.4**
	0.3nm,0.5s,baz=292,slow=4.7,SNR=4.6						

IDC 06 08:19:03.8±1.3, 32°56N×95°98E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/43, mbtmp3.7/6, ML3.5/1, MS4.3/1, Ms1 4.3/1, ms1mx3.3/44, Error ellipse: s-maj=74.8km s-min=19.1km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.30**	**169**	Pn	P	08 22 35.0	-0.1
	0.6nm,0.3s,baz=343,slow=12,SNR=6.4						
SONM	**Songino Array**	**17.18**	**24**	P	Pn	08 23 04.2	-1.1
	baz=210,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**17.65**	**328**	P	Pn	08 23 11.4	+0.2
	0.2nm,0.3s,baz=139,slow=14,SNR=12						
KURBB	**Kurchatov Arra**	**22.17**	**330**	P	P	08 24 00.2	-1.1
	0.9nm,0.6s,baz=135,slow=11,SNR=7.7						
ZALV	**Zalesovo Beam**	**22.82**	**343**	P	P	08 24 09.3	+1.2
	1.0nm,0.3s,baz=155,slow=11,SNR=3.4						
JHJ	**Hachijo jima 2**	**36.60**	**77**	LR	LR	08 41 49.8	
	comp=Z,504nm,20.6s,baz=50,slow=37						
WRA	**Warramunga Arr**	**63.81**	**139**	P	P	08 29 37.6	-0.4
	0.5nm,0.6s,baz=331,slow=7.3,SNR=8.8						
ASAR	**Alice Springs**	**66.61**	**142**	P	P	08 29 56.6	+0.4
	0.5nm,0.5s,baz=324,slow=6.5,SNR=13						

WEL 06 08:26:03.4±0.4, 37°63S×176°13E, h262km±3km, ML3.9/37, 15C-6D, Error ellipse: s-maj=4.8km s-min=4.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.98**	**149**	PN	Pn	08 26 39.9	+0.3
MUGZ				SN	S	08 27 07.0	-1.2
URZ	**Urewera**	**0.99**	**129**	⇑PN	Pn	08 26 39.8	+0.1
URZ				SN	S	08 27 08.7	+0.4
URZ				AML	AML	08 27 10.5	
RTZ	**Ruatahuna**	**1.19**	**146**	PN	Pn	08 26 41.1	+0.2
MRHZ	**Matea Rd**	**1.22**	**169**	PN	Pn	08 26 41.2	+0.1
MRHZ				AML	AML	08 27 13.5	
MRHZ				AML	AML	08 27 14.0	
RUGZ	**Raukumara Rang**	**1.27**	**106**	⇓PN	Pn	08 26 40.9	-0.5
MWZ	**Matawai**	**1.31**	**123**	⇑PN	Pn	08 26 41.7	+0.1
MWZ				AML	AML	08 27 14.6	
MWZ				AML	AML	08 27 14.8	
HAZ	**Te Kaha**	**1.32**	**96**	⇑PN	Pn	08 26 41.5	-0.1
HAZ				SN	S	08 27 11.3	-0.4
HAZ				AML	AML	08 27 14.0	
RAGZ	**Rawiri**	**1.33**	**131**	⇑PN	Pn	08 26 42.2	+0.4
RAGZ				AML	AML	08 27 15.9	
RAGZ				AML	AML	08 27 16.2	
RITZ	**Rihia Road**	**1.36**	**189**	PN	Pn	08 26 42.5	+0.6
SNGZ	**Shannon Statio**	**1.49**	**141**	⇑PN	Pn	08 26 43.0	+0.2
SNGZ				AML	AML	08 27 17.0	
SNGZ				AML	AML	08 27 17.8	
KRVZ	**Karewarewa**	**1.51**	**195**	PN	Pn	08 26 43.6	+0.5
TWVZ	**Taurewa**	**1.54**	**201**	PN	Pn	08 26 43.4	+0.2
WTVZ	**West Tongariro**	**1.54**	**196**	PN	Pn	08 26 43.5	+0.2
NMHZ	**Naumai**	**1.56**	**160**	PN	Pn	08 26 43.9	+0.5
NMHZ				AML	AML	08 27 20.0	
NMHZ				AML	AML	08 27 20.2	
BKZ	**Black Stump Fm**	**1.56**	**170**	PN	Pn	08 26 43.1	-0.2
BKZ				AML	AML	08 27 14.7	
BKZ				AML	AML	08 27 16.2	
TWGZ	**Tauwhareparae**	**1.56**	**111**	PN	Pn	08 26 43.4	0.0
TWGZ				AML	AML	08 27 19.7	
TWGZ				AML	AML	08 27 20.7	
PKGZ	**Pakihiroa**	**1.56**	**100**	PN	Pn	08 26 43.7	+0.2
PKGZ				AML	AML	08 27 16.0	
PKGZ				AML	AML	08 27 16.1	
OTVZ	**Oturere**	**1.57**	**193**	PN	Pn	08 26 43.9	+0.3
TKGZ	**Te Karaka**	**1.58**	**121**	PN	Pn	08 26 43.6	+0.2
TKGZ				AML	AML	08 27 17.2	
TKGZ				AML	AML	08 27 17.7	
NGZ	**Ngauruhoe**	**1.59**	**195**	PN	Pn	08 26 43.9	+0.2
RIGZ	**Rimuhau**	**1.67**	**130**	PN	Pn	08 26 44.3	0.0
RIGZ				AML	AML	08 27 19.3	
RIGZ				AML	AML	08 27 19.5	
TUVZ	**Tukino**	**1.67**	**193**	PN	Pn	08 26 44.4	0.0
FWVZ	**Far West T-bar**	**1.68**	**195**	PN	Pn	08 26 44.4	-0.1
WHVZ	**Whangaehu Hut**	**1.70**	**194**	⇑PN	Pn	08 26 44.6	-0.1
MXZ	**Matakaoa Point**	**1.73**	**88**	PN	Pn	08 26 45.0	+0.4
PUZ	**Puketiti**	**1.74**	**105**	PN	Pn	08 26 45.0	+0.3
WNVZ	**Wahianoa**	**1.74**	**194**	⇑PN	Pn	08 26 44.7	-0.2
PKVZ	**Pokaka**	**1.76**	**200**	PN	Pn	08 26 44.8	-0.1
MOVZ	**Moawhango**	**1.79**	**189**	⇑PN	Pn	08 26 44.7	-0.5
KWHZ	**Kaweka Forest**	**1.80**	**173**	PN	Pn	08 26 45.0	-0.2
KWHZ				AML	AML	08 27 20.9	
KWHZ				AML	AML	08 27 21.5	
WMGZ	**Waiomatatini S**	**1.82**	**97**	PN	Pn	08 26 45.4	+0.1
WMGZ				AML	AML	08 27 19.0	
WMGZ				AML	AML	08 27 20.7	
MTVZ	**Mangateitei**	**1.82**	**196**	PN	Pn	08 26 45.3	-0.1
VRZ	**Vera Road**	**1.84**	**216**	PN	Pn	08 26 45.9	+0.4
KNZ	**Kokohu**	**1.84**	**139**	⇑PN	Pn	08 26 45.0	-0.5
BHHZ	**Black Hill Sta**	**1.85**	**182**	⇑PN	Pn	08 26 45.2	-0.5
BHHZ				AML	AML	08 27 20.4	
BHHZ				AML	AML	08 27 20.8	
MCHZ	**McNeill Hill**	**1.86**	**166**	⇑PN	Pn	08 26 45.7	0.0
MCHZ				AML	AML	08 27 22.3	
MCHZ				AML	AML	08 27 23.5	
KRHZ	**Kereru**	**2.02**	**175**	⇓PN	Pn	08 26 46.4	-0.6
KRHZ				AML	AML	08 27 22.7	
KRHZ				AML	AML	08 27 23.1	
MHGZ	**Mahia Peninsul**	**2.06**	**138**	PN	Pn	08 26 47.0	-0.4
CKHZ	**Cape Kidnapper**	**2.15**	**160**	PN	Pn	08 26 47.7	-0.5
KAHZ	**Kahuranaki**	**2.23**	**165**	PN	Pn	08 26 48.5	-0.6
PNHZ	**Pukenui**	**2.28**	**179**	PN	Pn	08 26 48.3	-1.1
PNHZ				AML	AML	08 27 26.4	
PNHZ				AML	AML	08 27 27.6	
NEZ	**North Egmont**	**2.29**	**224**	PN	Pn	08 26 50.1	+0.6
WAZ	**Wanganui**	**2.30**	**203**	⇑PN	Pn	08 26 49.0	-0.6
TSZ	**Takapari Road**	**2.42**	**183**	⇑PN	Pn	08 26 49.5	-1.4
TSZ				AML	AML	08 27 28.5	
TSZ				AML	AML	08 27 30.3	
WPHZ	**Waipukurau**	**2.44**	**174**	PN	Pn	08 26 49.8	-1.1
PXZ	**Pawanui**	**2.46**	**167**	⇑PN	Pn	08 26 50.0	-1.1
PXZ				AML	AML	08 27 29.7	
OHWZ	**Ohakea**	**2.65**	**194**	PN	Pn	08 26 52.2	-0.7
PRHZ	**Porangahau**	**2.66**	**172**	PN	Pn	08 26 51.7	-1.3
PRHZ				AML	AML	08 27 32.0	
PRHZ				AML	AML	08 27 34.4	
DVHZ	**Dannevirke**	**2.66**	**179**	PN	Pn	08 26 51.4	-1.8
DVHZ				AML	AML	08 27 31.7	
DVHZ				AML	AML	08 27 32.6	
POWZ	**Post Office Ro**	**2.77**	**186**	PN	Pn	08 26 52.3	-1.8
POWZ				AML	AML	08 27 34.3	
ANWZ	**Angora Road**	**2.83**	**175**	PN	Pn	08 26 53.3	-1.6
ANWZ				AML	AML	08 27 35.1	
ANWZ				AML	AML	08 27 38.7	
PRWZ	**Pori Road**	**2.92**	**182**	PN	Pn	08 26 54.1	-1.6
PRWZ				AML	AML	08 27 36.6	
BFZ	**Birch Farm**	**3.04**	**178**	PN	Pn	08 26 55.2	-1.9
MRZ	**Mangatainoka R**	**3.05**	**188**	⇑PN	Pn	08 26 54.8	-2.3
MRZ				AML	AML	08 27 38.9	
MRZ				AML	AML	08 27 38.9	
TIWZ	**Tintock**	**3.14**	**183**	⇓PN	Pn	08 26 56.9	-2.2
TIWZ				AML	AML	08 27 42.5	
TIWZ				AML	AML	08 27 44.9	
OGWZ	**Otaki Gorge**	**3.27**	**193**	PN	Pn	08 26 57.1	-2.3
OGWZ				AML	AML	08 27 43.1	
OGWZ				AML	AML	08 27 44.0	
HOWZ	**Holdsworth Sta**	**3.29**	**188**	PN	Pn	08 26 57.0	-2.8
HOWZ				AML	AML	08 27 42.7	
HOWZ				AML	AML	08 27 44.4	
KIW	**Kapiti Island**	**3.36**	**196**	⇓PN	Pn	08 26 58.0	-2.5
KIW				AML	AML	08 27 44.3	
KIW				AML	AML	08 27 44.4	
TMWZ	**Te Maipa**	**3.47**	**183**	PN	Pn	08 26 59.1	-2.6
TMWZ				AML	AML	08 27 02.8	
MTW	**Mount Morrison**	**3.55**	**188**	PN	Pn	08 26 59.6	-3.1
CAW	**Cannon Point**	**3.57**	**193**	PN	Pn	08 26 60.0	-2.8
CAW				AML	AML	08 27 48.6	
CAW				AML	AML	08 27 48.8	
DUWZ	**D'Urville Isla**	**3.60**	**208**	PN	Pn	08 27 00.4	-2.7
TRWZ	**Traveller**	**3.77**	**185**	PN	Pn	08 27 02.3	-2.8
PAWZ	**Paruwai Farm**	**3.78**	**188**	PN	Pn	08 27 02.0	-3.3
WEL	**Wellington**	**3.79**	**196**	PN	Pn	08 27 02.5	-2.8
WEL				AML	AML	08 27 52.7	
WEL				AML	AML	08 27 54.5	
MSWZ	**Moikau Station**	**3.84**	**190**	PN	Pn	08 27 02.6	-3.2
MSWZ				AML	AML	08 27 55.4	
TCW	**Tory Channel**	**3.85**	**201**	PN	Pn	08 27 03.1	-2.9
TCW				AML	AML	08 27 53.1	
TCW				AML	AML	08 27 54.0	
BHW	**Baring Head**	**3.89**	**194**	PN	Pn	08 27 03.5	-3.0
PLWZ	**Palliser**	**3.99**	**189**	PN	Pn	08 27 04.2	-3.4
TUWZ	**Tuamarina**	**4.15**	**203**	⇓PN	Pn	08 27 06.3	-3.1
TUWZ				AML	AML	08 27 58.7	
TUWZ				AML	AML	08 27 59.9	
NNZ	**Nelson**	**4.17**	**210**	⇓PN	Pn	08 27 06.2	-3.4
QRZ	**Quartz Range**	**4.24**	**220**	PN	Pn	08 27 06.6	-3.9
BSWZ	**Blackbirch Sta**	**4.43**	**202**	PN	Pn	08 27 09.5	-3.2
THZ	**Tophouse**	**4.82**	**210**	PN	Pn	08 27 13.2	-4.1
KHZ	**Kahutara**	**5.17**	**202**	PN	Pn	08 27 17.9	-3.7
KHZ				AML	AML	08 28 20.1	
DSZ	**Denniston Nort**	**5.29**	**218**	PN	Pn	08 27 18.5	-4.6
LTZ	**Lake Taylor**	**5.93**	**209**	PN	Pn	08 27 26.0	-4.9
INZ	**Inchbonnie**	**6.22**	**214**	PN	Pn	08 27 29.5	-5.0
OXZ	**Oxford**	**6.49**	**207**	PN	Pn	08 27 32.4	-5.3
MQZ	**McQueen's Vall**	**6.62**	**202**	PN	Pn	08 27 33.7	-5.6
FOZ	**Fox Glacier**	**7.60**	**217**	PN	Pn	08 27 46.0	-5.7
LBZ	**Lake Benmore**	**8.10**	**212**	PN	Pn	08 27 52.6	-5.4
ODZ	**Otahua Downs**	**8.47**	**207**	PN	Pn	08 27 58.0	-4.5
JCZ	**Jackson Bay**	**8.50**	**219**	PN	Pn	08 27 57.2	-5.8

*ISK **06** 08:35:43.4, 38°21'N×32°68'E, h7km, MD2.6*
*ISCJB **06** 08:35:44.0±0.6, 38°24'N±0°03×32°68'E±0°04, h1km±8km, Error ellipse: s-maj=5.8km s-min=4.8km az=160.7*
*CSEM **06** 08:35:44.1±0.2, 38°22'N×32°67'E, h10km, MD2.6, Error ellipse: s-maj=4.8km s-min=3.6km az=143.0*
*DDA **06** 08:35:44.0, 38°20'N×32°67'E, h7km, Md2.5*
ISC 06 08:35:44.1±0.9, 38°23'N±0°02×32°65'E±0°02, h11km±9km, n23, σ1°00/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADK	**Ladik-KONYA**	**0.23**	**264**	*e*PG	**Pg**	**08 35 48.9**	**0.0**
LADK				*e*SG	**Sg**	**08 35 52.9**	**+0.8**
LADK	**Ladik-KONYA**	**0.23**	**264**	*e*Pg	**Pg**	**08 35 48.9**	**0.0**
LADK				*e*Sg	**Sg**	**08 35 52.9**	**+0.8**
KONT	**Konya--Tatoy**	**0.36**	**220**	*e*PG	**Pg**	**08 35 51.0**	**-0.3**
KONT				*e*SG	**Sg**	**08 35 56.4**	**+0.3**
KONT	**Konya--Tatoy**	**0.36**	**220**	*i* P	**Pb**	**08 35 52.0**	**-0.6**
KONT				*i* S	**Sg**	**08 35 56.8**	**+0.7**
KONT	**Konya--Tatoy**	**0.36**	**220**	*e*Pg	**Pg**	**08 35 51.0**	**-0.3**
KONT				*e*Sg	**Sg**	**08 35 56.4**	**+0.3**
CHBY	**Cihanbeyli**	**0.40**	**28**	*e*PG	**Pg**	**08 35 51.9**	**-0.2**
CHBY	**Cihanbeyli**	**0.40**	**28**	*e*Pg	**Pg**	**08 35 51.9**	**-0.2**
KMER	**Konya-Meram**	**0.51**	**206**	*i* P	**Pb**	**08 35 54.5**	**-0.6**
KMER				*i* S	**Sb**	**08 36 02.5**	**-0.1**
KMER	**Konya-Meram**	**0.51**	**206**	P	**Pb**	**08 35 54.5**	**-0.6**
KMER				S	**Sb**	**08 36 02.5**	**-0.1**
KDHN	**Kadinhani**	**0.52**	**305**	*i* P	**Pg**	**08 35 54.0**	**-0.1**
KDHN				*i* S	**Sg**	**08 35 57.9**	**-3.1**
KDHN	**Kadinhani**	**0.52**	**305**	P	**Pg**	**08 35 54.0**	**-0.1**
KDHN				S	**Sg**	**08 35 57.9**	**-3.1**
SULT	**Sultanhani-AKS**	**0.68**	**92**	*e*PG	**Pg**	**08 35 56.4**	**-0.9**
SULT				*e*SG	**Sg**	**08 36 06.2**	**0.0**
SULT	**Sultanhani-AKS**	**0.68**	**92**	*e*Pg	**Pg**	**08 35 56.4**	**-0.9**
SULT				*e*Sg	**Sg**	**08 36 06.2**	**0.0**
DOGA	**KONYA_Doganhis**	**0.79**	**262**	*i* S	**Sb**	**08 36 11.8**	**+1.2**
DOGA	**KONYA_Doganhis**	**0.79**	**262**	S	**

JHJ2 Mitsune 5.62 205 *e*Pn **Pn 08 38 52.6 -0.8**
JHJ2 *e*Sn **Sn 08 39 51.4 -6.1**
JHJ Hachijo jima 2 5.63 206 P **Pn 08 38 52.6 -0.9**
16nm,0.3s,baz=319,slow=24,SNR=21
JHJ S **Sn 08 39 51.9 -5.7**
49nm,0.3s,baz=46,slow=22,SNR=7.3
ASAJ Asahikawa 5.87 359 P **Pn 08 38 56.6 -0.1**
3.2nm,0.3s,baz=196,slow=12,SNR=9.0
ASAJ S **Sn 08 40 04.3 +0.9**
1.9nm,0.3s,baz=19,slow=18,SNR=4.9
ASAJ Asahikawa 5.87 359 *e*Pn **Pn 08 38 56.7 -0.1**
ASAJ *e*Sn **Sn 08 40 03.9 +0.4**
YUK Yuzh-Kuril'sk 6.26 22*d i*P **Pn 08 39 00.3 -1.9**
YUK *i* S **Sn 08 40 07.2 -6.0**
YUK pmax pmax
comp=N,43nm,0.3s
YUK pmax pmax
comp=Z,152nm,0.3s
YUK pmax pmax
comp=E,9.0nm,0.2s
YUK smax smax
comp=N,155nm,0.5s
YUK smax smax
comp=E,124nm,0.5s
SHO Shikotan 6.44 28 *e*P **Pn 08 39 01.7 -2.9**
SHO *i* S **Sn 08 40 09.6 -7.9**
SHO pmax pmax
comp=N,27nm,0.5s
SHO pmax pmax
comp=Z,66nm,0.5s
SHO pmax pmax
comp=E,22nm,0.4s
SHO smax smax
comp=N,149nm,0.4s
SHO smax smax
comp=E,2.0nm,0.4s
KUR Kuril'sk 7.99 27 *e*P **Pn 08 39 24.4 -1.5**
KUR *i* S **Sn 08 40 49.4 -6.2**
KUR pmax pmax
comp=Z,51nm,0.4s
KUR pmax pmax
comp=N,7.0nm,0.2s
KUR pmax pmax
comp=E,12nm,0.2s
KUR smax smax
comp=N,6.0nm,0.4s
KUR smax smax
comp=E,42nm,0.5s
YSS Yuzh-Sakhalins 8.70 0 *e*P **Pn 08 39 35.9 +0.2**
YSS pmax pmax
comp=Z,20nm,0.3s
YSS Yuzh-Sakhalins 8.70 0 *e*Pn **Pn 08 39 35.2 -0.5**
VLA Vladivostok 9.53 304⇓ *e*P Pn 08 39 52.5 +5.5
VLA pmax pmax
comp=Z,56nm,1.0s
USRK Ussuriysk Ar. 10.00 310 P **Pn 08 39 55.1 +1.6**
comp=Z,0.3nm,0.3s,baz=103,slow=15,SNR=4.5
USRK LR LR 08 43 35.9
comp=Z,332nm,18.9s,baz=144,slow=36
JNU Nakatsue 10.87 245 P **Pn 08 40 06.6 +1.2**
comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=3.6
JNU LR LR 08 44 47.0
comp=Z,792nm,18.2s,baz=89,slow=40
JNU Nakatsue 10.87 245 *e*Pn **Pn 08 40 06.1 +0.7**
CBIJ Chichi jima 11.12 182 *e*Pn **Pn 08 40 08.8 -0.1**
KSRS Korea Array 11.69 271 P **Pn 08 40 19.9 +3.3**
comp=Z,0.3nm,0.3s,baz=83,slow=14,SNR=2.9
KSRS LR LR 08 44 33.9
comp=Z,312nm,18.2s,baz=85,slow=36
PEA0B Petropavlovsk- 18.14 30 *e*P **Pn 08 41 41.1 -0.5**
comp=Z,61nm,1.5s
PETK Petropavlovsk- 18.14 30 P **P 08 41 42.4 +0.6**
comp=Z,0.1nm,0.3s,baz=216,slow=7.3,SNR=4.4
PETK LR LR 08 50 24.5
comp=Z,163nm,18.2s,baz=263,slow=42
PETK Petropavlovsk- 18.14 30 *e*P **P 08 41 42.2 +0.4**
PETK Petropavlovsk- 18.14 30 *e*P **P 08 41 42.1 +0.4**
PEA1 Petropavlovsk- 18.14 30 *e*P **P 08 41 42.4 +0.5**
PET Petropavlovsk 18.46 32⇑ *e*P **Pn 08 41 46.7 +1.2**
PET pmax pmax
comp=Z,31nm,1.3s
PET Petropavlovsk 18.46 32 *e*P **Pn 08 41 46.4 +0.9**
comp=Z,44nm,1.4s
NJ2 Nanjing 20.41 260 *e*P **P 08 42 06.2 -0.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
TIA Tai'an 20.43 272 *e*P **P 08 42 07.8 +0.8**
TIA pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 21.97 11 P **P 08 42 23.5 +0.2**
comp=Z,15nm,0.7s,baz=185,slow=11,SNR=11
MA2 Magadan 21.97 11*d e*P **P 08 42 23.1 -0.3**
SSLB Suanglung 23.46 238 *e*P **P 08 42 38.8 -0.5**
comp=Z,45nm,1.7s
YULB Yu-li 23.50 237 *e*P **P 08 42 40.6 +0.9**
comp=Z,48nm,1.6s
HHC Hu-ho-hao-te 24.07 286 *e*P **P 08 42 44.5 -0.6**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,220nm,6.7s
GUMO Guam 24.63 175 *e*P **P 08 42 50.5 +0.3**
GUMO pmax pmax
comp=Z,210nm,1.4s
GUMO Guam 24.63 175 *e*P **P 08 42 50.5 +0.3**
comp=Z,210nm,1.4s
SEY Seymchan 25.42 10 P **P 08 42 57.6 +0.6**
comp=Z,10nm,0.7s,baz=191,slow=6.6,SNR=26
SEY Seymchan 25.42 10⇑ *e*P **P 08 42 58.2 +1.3**
BOD Bodaibo 27.07 326 *e*P **P 08 43 10.8 -1.1**
BOD pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 27.53 302⇑ *e*P **P 08 43 17.5 +1.1**
ULN pmax pmax
comp=Z,1.0nm,0.5s
H11N2 WAKE ISLAND Hy 27.96 124 T T 09 13 47.9
baz=317,SNR=249
SONA1 Songino Array 27.96 302 *e*P **P 08 43 19.6 -0.6**
H11N1 WAKE ISLAND Hy 27.97 125 T T 09 13 56.3
baz=317,slow=74,SNR=73
SONA0 Songino Array 27.97 302 *e*P **P 08 43 19.9 -0.4**
comp=Z,6.6nm,1.4s
SONM Songino Array 27.97 302 P **P 08 43 20.0 -0.3**
comp=Z,0.6nm,0.5s,baz=99,slow=9.9,SNR=4.2
SONM Songino Array 27.97 302 P **P 08 43 20.0 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.5s
H11N3 WAKE ISLAND Hy 27.98 124 T T 09 13 47.1
baz=317,slow=74,SNR=264
H11S1 WAKE ISLAND Hy 28.73 126 T T 09 15 04.2
baz=318,slow=76,SNR=57
H11S3 WAKE ISLAND Hy 28.73 127 T T 09 14 42.6
baz=318,slow=76,SNR=32
H11S2 WAKE ISLAND Hy 28.74 127 T T 09 14 56.8
baz=318,slow=76,SNR=22
TLY Talaya 30.32 309⇓ *e*P P 08 43 49.9 +8.9
TLY pmax pmax
comp=Z,4.0nm,0.9s
ZAK Zakamensk 30.33 306 *e*P P 08 43 48.6 +7.4
ZAK pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 30.87 278 *e*P **P 08 43 46.4 +0.2**
LZH pP sP 08 43 55.2 +0.8
LZH sP pP 08 43 58.9 +6.9
LZH pmax pmax
comp=Z,15nm,1.0s
GYA Guiyang 32.42 259 *e*P **P 08 44 00.2 +0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 32.59 16⇑ *i*P **P 08 44 00.3 -0.4**
BILL *e* 08 45 05.5
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,982nm,20.0s
CD2 Chengdu 32.68 269 *e*P **P 08 44 01.2 -0.8**
KMI Kunming 36.14 261 P **P 08 44 31.3 -0.9**
KMI pmax pmax
comp=Z,13nm,0.5s
DGZ Jazzator, Alta 40.51 305 *e*P **P 08 45 09.0 +0.4**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ Urumqi 41.20 296 P **P 08 45 15.4 +1.1**
WMQ pP sP 08 45 25.1 +2.5
WMQ sP pP 08 45 28.1 +7.9
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,130nm,30.9s
WMQ LR LR
comp=Z,300nm,24.1s
ZAA1 Zalesovo Array 41.85 311 *e*P **P 08 45 18.0 -1.4**
ZALV Zalesovo Beam 41.85 311 P **P 08 45 18.0 -1.4**
comp=Z,3.1nm,0.5s,baz=74,slow=9.4,SNR=4.9
ZALV Zalesovo Beam 41.85 311 P **P 08 45 18.0 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
MK01 Makanchi Array 44.33 301 *e*P **P 08 45 36.8 -2.9**
MK32 Makanchi Array 44.33 301 *e*P **P 08 45 39.0 -0.6**
MKAR Makanchi Array 44.33 301 P **P 08 45 39.0 -0.6**
comp=Z,1.1nm,0.6s,baz=87,slow=9.7,SNR=10
MAKZ Makanchi 44.54 301 *e*P **P 08 45 43.0 +1.7**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 44.54 301 *e*P **P 08 45 43.0 +1.7**
comp=Z,2.6nm,0.7s
IMAR Indian Mountai 45.10 31 *e*P **P 08 45 45.4 -0.1**
KDAK Kodiak Island 45.53 43 P **P 08 45 48.5 -0.4**
comp=Z,12nm,0.7s,baz=292,slow=3.3,SNR=12
KDAK Kodiak Island 45.53 43 *e*P **P 08 45 48.7 -0.3**
KDAK pmax pmax
comp=Z,198nm,2.0s
KDAK Kodiak Island 45.53 43 *e*P **P 08 45 48.7 -0.3**
comp=Z,198nm,2.0s
KURK Kurchatov 45.98 307*d i*P **P 08 45 51.6 -1.0**
KURK pmax pmax
comp=Z,16nm,0.5s
KURK Kurchatov 45.98 307 *e*P **P 08 45 51.8 -0.9**
comp=Z,9.3nm,0.6s
KURBB Kurchatov Arra 46.06 307 P **P 08 45 52.3 -0.9**
comp=Z,8.2nm,0.5s,baz=81,slow=8.1,SNR=61
COLA College 47.52 33⇓ *e*P **P 08 46 04.7 +0.3**
COLA pmax pmax
comp=Z,13nm,2.8s
HDA Harding Lake 47.92 33 *e*P **P 08 46 03.2 -4.4**
comp=Z,165nm,1.5s
IL1 Eielson Array 47.94 33 *e*P **P 08 46 07.3 -0.4**
ILAR Eielson Array 47.94 33 P **P 08 46 07.5 -0.3**
comp=Z,4.5nm,0.7s,baz=267,slow=6.6,SNR=47
ILB Eielson Array 47.94 33 *e*P **P 08 46 07.3 -0.4**
RAGM Ragged Mountai 49.33 39 *e*P **P 08 46 19.0 +0.4**
comp=Z,102nm,0.8s
RAGM *e*S **S 08 53 26.3 +2.4**
BVAR Borovoye Array 50.51 312 P **P 08 46 26.7 -0.9**
comp=Z,6.6nm,0.5s,baz=68,slow=8.0,SNR=12
BRVK Borovoye 50.56 312⇓ *e*P **P 08 46 27.1 -0.8**
BRVK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 50.80 298⇑ *e*P **P 08 46 31.0 +0.9**
AAK pmax pmax
comp=Z,6.0nm,1.4s
KSH Kashi 50.83 294 *e*P **P 08 46 34.4 +4.0**
KSH pP sP 08 46 43.9 +5.2
KSH sP pP 08 46 46.8 +10
KSH PcP **PcP 08 47 50.3 +3.3**
KSH PP **PP 08 48 30.2 +3.8**
KSH PcS **PcS 08 51 47.6 +3.1**
KSH S **S 08 53 48.6 +3.1**
KSH sS sS 08 54 05.1 +10
KSH ScS **ScS 08 56 18.9 -1.4**
KSH SS **SS 08 57 21.4 +1.5**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH LR LR
comp=Z,110nm,5.7s
KSH LR LR
comp=Z,120nm,6.2s
KSH LR LR
comp=Z,170nm,7.6s
PCA Pinnacle 51.55 39 *e*P **P 08 46 33.5 -1.9**
comp=Z,32nm,0.5s
INK Inuvik 52.85 28 P **P 08 46 45.1 +0.3**
comp=Z,1.7nm,0.6s,baz=324,slow=6.4,SNR=6.2
INK Inuvik 52.85 28 *e*P **P 08 46 44.1 -0.7**
comp=Z,16nm,1.5s
ARU Arti 56.12 318*d i*P **P 08 47 08.0 -0.7**
ARU 08 48 04.1
ARU 08 49 10.8
ARU S **S 08 54 56.2 -0.3**
ARU SS **SS 08 58 37.9 -4.4**
ARU pmax pmax
comp=Z,6.0nm,0.8s
DLBC Dease Lake 57.06 39 P **P 08 47 16.7 +1.3**
comp=Z,2.6nm,0.9s,baz=271,slow=8.4,SNR=6.2
DLBC Dease Lake 57.06 39 *e*P **P 08 47 16.5 +1.0**
comp=Z,5.5nm,1.1s
ABKAR Akbulak array 57.93 310 *e*P **P 08 47 20.2 -1.4**
comp=Z,29nm,0.5s
WRAB Tennant Creek 58.39 189⇑ *e*P **P 08 47 24.0 -1.1**
WRAB pmax pmax
comp=Z,22nm,1.9s
WRAB Tennant Creek 58.39 189 *e*P **P 08 47 23.9 -1.2**
comp=Z,25nm,1.9s
WB2 Warramunga Arr 58.40 189 *e*P **P 08 47 24.6 -0.6**
WR1 Warramunga Arr 58.41 189 *e*P **P 08 47 24.0 -1.2**
comp=Z,11nm,1.5s
WRA Warramunga Arr 58.41 189 P **P 08 47 24.0 -1.2**
comp=Z,1.5nm,0.6s,baz=7.9,slow=7.1,SNR=20
AS01 Alice Springs 62.12 189 *e*P **P 08 47 49.9 -0.8**
AS01 *ep*P **sP 08 48 00.0 +1.0**
ASAR Alice Springs 62.13 189 P **P 08 47 49.2 -1.5**
comp=Z,0.7nm,0.8s,baz=8.4,slow=5.8,SNR=14
YKA Yellowknife Ar 62.26 31 P **P 08 47 50.5 -0.6**
comp=Z,1.3nm,0.7s,baz=304,slow=6.6,SNR=7.3
ARA0 ARCESS Array S 63.22 339 *e*P **P 08 47 56.8 -0.6**
ARCES ARCESS Array B 63.22 339 P **P 08 47 56.8 -0.6**
comp=Z,1.3nm,0.6s,baz=46,slow=7.7,SNR=4.8
OBN Obninsk 67.72 323⇓ *e*P **P 08 48 25.2 -1.5**
OBN *e* 08 50 56.3
OBN pmax pmax
comp=Z,27nm,1.8s
OBN MLR MLR
comp=Z,187nm,16.0s
EDM Edmonton 67.78 39 *e*P **P 08 48 27.1 -0.1**
EDM pmax pmax
comp=Z,7.0nm,0.9s
EDM Edmonton 67.78 39 *e*P **P 08 48 27.1 -0.1**
comp=Z,6.6nm,0.9s
FIA0 FINESS Array S 68.21 332 *e*P **P 08 48 28.8 -0.9**
FIA0 FINESS Array S 68.21 332 *e*P **P 08 48 28.8 -0.9**
FINES FINESS Array B 68.21 332 P **P 08 48 28.8 -0.9**
comp=Z,4.3nm,0.7s,baz=23,slow=10,SNR=9.6
NEW Newport 68.57 45 P **P 08 48 32.2 -0.1**
comp=Z,2.3nm,0.6s,baz=306,slow=4.0,SNR=6.5
STKA Stephens Creek 69.77 181 P **P 08 48 38.4 -1.2**
comp=Z,1.1nm,0.8s,baz=32,slow=6.0,SNR=3.7
STKA Stephens Creek 69.77 181 *e*P **P 08 48 38.5 -1.1**
STKA pmax pmax
comp=Z,5.0nm,1.9s
STKA Stephens Creek 69.77 181 *e*P **P 08 48 38.5 -1.1**
comp=Z,4.9nm,1.9s
VSU Vasula 69.92 330⇑ *e*P **P 08 48 40.6 +0.3**
VSU pmax pmax
comp=Z,116nm,1.7s
NCK Nalchik 70.58 310⇑ *e*P **P 08 48 46.6 +1.8**
NCK pmax pmax
comp=Z,15nm,0.2s
KIV Kislovodsk 70.87 311 *e*P **P 08 48 46.2 -0.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 70.87 311 P **P 08 48 46.5 +0.1**
comp=Z,0.8nm,0.3s,baz=120,slow=8.1,SNR=3.5
BEKR Beckworth 71.33 54 *e*P **P 08 48 49.2 -0.4**
comp=Z,4.3nm,0.9s
PAHR Pah Rah Range 72.04 53 *e*P **P 08 48 52.5 -1.3**
comp=Z,13nm,1.5s
YERR Yerington 72.55 54 *e*P **P 08 48 57.5 +0.6**
comp=Z,5.8nm,0.9s
NB2 NORSAR Subarra 73.45 338 P **P 08 49 00.9 -0.8**
comp=Z,1.3nm,0.6s,baz=37,slow=6.2
NB200 NORSAR Array S 73.45 338 *e*P **P 08 49 00.8 -0.8**
NOA NORSAR Array B 73.45 338 P **P 08 49 00.8 -0.8**
comp=Z,2.7nm,0.8s,baz=37,slow=6.1,SNR=5.0
AKASG Malin Array Be 73.95 323 P **P 08 49 03.7 -0.9**
comp=Z,1.6nm,0.6s,baz=46,slow=6.0,SNR=8.7
AKBB Malin Array Si 73.95 323 *e*P **P 08 49 03.5 -1.1**
AKBB pmax pmax
comp=Z,9.0nm,1.4s
AKBB Malin Array Si 73.95 323 *e*P **P 08 49 03.5 -1.1**
comp=Z,9.0nm,1.4s
KIEV Kiev 73.96 323⇑ *e*P **P 08 49 05.3 +0.6**
R11A Troy Canyon, C 75.23 53 *e*P **P 08 49 12.2 -0.4**
comp=Z,15nm,1.9s
FRB Frobisher Bay 75.36 14 P **P 08 49 12.1 -0.6**
comp=Z,8.6nm,0.6s,baz=346,slow=4.9,SNR=5.6
TPNV Topopah Spring 75.66 54 *e*P **P 08 49 13.2 -1.8**
TPNV pmax pmax
comp=Z,18nm,1.9s
TPNV Topopah Spring 75.66 54 *e*P **P 08 49 13.2 -1.8**
comp=Z,18nm,1.9s
BW06 Boulder Array 76.11 46 *e*P **P 08 49 17.4 -0.2**
comp=Z,2.9nm,0.6s
PD31 Pinedale Array 76.11 46 *e*P **P 08 49 17.4 -0.2**
PDAR Pinedale Array 76.11 46 P **P 08 49 17.4 -0.2**
comp=Z,2.4nm,0.5s,baz=321,slow=0.7,SNR=25
PDAR Pinedale Array 76.11 46 *e*P **P 08 49 16.9 -0.8**
CCUT Cedar City 77.11 52 *e*P **P 08 49 24.0 +0.6**
comp=Z,11nm,1.7s
DNR Dunn Ranch,Anz 77.45 57 *e*P **P 08 49 21.0 -4.2**
P17A Butcher Ranch, 77.51 49 *e*P **P 08 49 26.0 +0.5**
comp=Z,7.8nm,1.1s
SRU San Rafael Swe 77.86 50 *e*P **P 08 49 27.9 +0.4**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 77.86 50 *e*P **P 08 49 27.9 +0.4**
comp=Z,5.7nm,0.8s
MHTCO State Highway 82.63 48 *e*P **P 08 49 53.9 +0.7**
comp=Z,81nm,0.4s
ANMO Albuquerque 83.05 51 P **P 08 49 56.2 +0.7**
comp=Z,2.0nm,0.9s,baz=315,slow=7.2,SNR=6.9
ANMO Albuquerque 83.05 51*e*P **P 08 49 56.5 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 83.05 51 *e*P **P 08 49 55.6 +0.2**
comp=Z,3.8nm,1.1s
VNA2 Neumayer--Watz 143.76 196 P PKPab 08 57 00.6 +0.2
baz=125,slow=1.8
LPAZ La Paz 145.22 60 PKPbc **PKPbc 08 57 07.1 -0.9**
comp=Z,1.3nm,0.5s,baz=358,slow=3.9,SNR=8.5

CASC ***06*** *08:38:05.7±2.6, 11°.30N×87°.31W, h28km±22km, MD4.1, ML4.0, mb4.4(NEIC)*
ISCJB ***06*** *08:38:07.8±0.5, 11°.47N±0°.05×87°.19W±0°.03, h56km±3km, mb4.3/52, Error ellipse: s-maj=8.8km s-min=3.8km az=31.4*
NEIC ***06*** *08:38:10.5±0.6, 11°.61N×87°.14W, h54km±6km, mb4.4/49, Error ellipse: s-maj=8.8km s-min=4.1km az=214.0*
IDC ***06*** *08:38:10.3±3.6, 11°.71N×87°.05W, h51km±34km, mb3.8/9, mb1 4.1/11, mb1mx3.8/49, mbtmp4.1/11, ML3.4/2, Error ellipse: s-maj=38.5km s-min=15.4km az=44.0*
ISC 06 08:38:08.3±1.0, 11°.42N±0°.06×87°.27W±0°.05, h44km±10km, n286, σ1$32/290, mb4.4/52, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.00**	**41**	*e*P	**Pn**	**08 38 25.2**	**-0.8**
COPN				AML	AML	08 38 46.7	
	comp=Z,4μm,0.6s						
XAVN	**Gruta Xavier**	**1.17**	**52**	*e*P	**Pn**	**08 38 27.1**	**-1.1**
CNGN	**Cerro Negro**	**1.21**	**28**	*e*P	**Pn**	**08 38 27.9**	**-1.0**
CNGN				*e*S	**Sn**	**08 38 48.4**	**+4.3**
TISN	**Laguna Tiscapa**	**1.22**	**54**	*e*P	**Pn**	**08 38 27.5**	**-1.3**
MASN	**Masaya**	**1.23**	**63**	*e*S	**Sn**	**08 38 47.4**	**+2.7**
MGAN	**Managua**	**1.23**	**54**	*e*P	**Pn**	**08 38 27.5**	**-1.6**
MGAN				*e*S	**Sn**	**08 38 46.6**	**+2.0**
CONN	**Concepcion**	**1.62**	**85**	*e*P	**Pn**	**08 38 31.1**	**-3.3**
CONN				*e*S	**Sn**	**08 38 54.5**	**+0.4**
CRZ1	**La Cruz**	**1.64**	**102**	*e*P	**Pn**	**08 38 32.2**	**-2.5**
ESTN	**Estel**	**1.89**	**28**	*e*P	**Pn**	**08 38 37.5**	**-0.7**
CNCH	**Conchagua**	**1.92**	**343**	*e*P	**Pn**	**08 38 38.6**	**0.0**
CNCH				*e*S	**Sn**	**08 39 05.5**	**+3.8**
TGUH	**Tegucigalpa,Un**	**2.62**	**360**	*e*Pn	**Pn**	**08 38 48.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.62**	**360**	*e*P	**Pn**	**08 38 48.1**	**0.0**
LFRS	**El Faro**	**2.80**	**322**	*e*P	**Pn**	**08 38 49.9**	**-0.9**
LFRS				*e*S	**Sn**	**08 39 23.5**	**+0.2**
LBRS	**Las Brisas**	**2.88**	**323**	*e*P	**Pn**	**08 38 51.1**	**-0.7**
LFU	**La Fuente**	**2.93**	**322**	*e*P	**Pn**	**08 38 52.3**	**-0.2**
UEES	**San Salvador**	**2.99**	**320**	AML	AML	08 39 55.9	
	comp=Z,265nm,0.5s						
ESPN	**Las Esperanzas**	**3.01**	**75**	*e*P	**Pn**	**08 38 50.8**	**-2.7**
CGA2	**Cerro Gallo 2**	**3.09**	**117**	*e*P	**Pn**	**08 38 57.4**	**+2.7**
CGA2				*e*S	**Sn**	**08 39 28.2**	**-2.3**
SBLS	**San Blas**	**3.32**	**317**	*e*P	**Pn**	**08 38 57.7**	**-0.4**
HDC	**Heredia**	**3.41**	**114**	*e*Pn	**Pn**	**08 39 00.8**	**+1.7**
RBDL	**Robledal**	**3.56**	**319**	*e*P	**Pn**	**08 39 01.6**	**+0.3**
RBDL				*e*S	**Sn**	**08 39 41.7**	**-0.6**
TRT1	**Tortuguero**	**3.60**	**103**	*e*P	**Pn**	**08 38 57.6**	**-4.0**
QCR1	**Quepos**	**3.64**	**123**	*e*P	**Pn**	**08 39 02.2**	**+0.1**
VTR0	**Volcan Turrial**	**3.72**	**112**	*e*P	**Pn**	**08 39 03.9**	**+0.2**
URSC	**Urasca**	**3.78**	**114**	*e*P	**Pn**	**08 39 04.8**	**+0.6**
CCIG	**Comitan**	**6.76**	**316**	*e*Pn	**Pn**	**08 39 47.4**	**+2.2**
BCIP	**Isla Barro Col**	**7.65**	**106**	*e*Sn	**Sn**	**08 41 18.4**	**-4.3**
SCIG	**Sabancuy**	**8.40**	**334**	*e*Pn	**Pn**	**08 40 07.1**	**-0.3**
CMIG	**Matias Romero**	**9.29**	**308**	P	**Pn**	**08 40 20.6**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=124,slow=11,SNR=19						
TLIG	**Tlapa**	**12.52**	**300**	*e*Pn	**Pn**	**08 41 06.3**	**+2.3**
TLIG				*e*Sn	**Sn**	**08 43 15.9**	**-6.4**
UNM	**Universidad Na**	**13.91**	**306**	*e*Pn	**Pn**	**08 41 25.7**	**+2.5**
OTAV	**Otavalo**	**14.15**	**141**	*e*Pn	**Pn**	**08 41 29.8**	**+3.2**
GTBY	**Guantanamo Bay**	**14.44**	**53**	*e*Pn	**Pn**	**08 41 27.3**	**-2.7**
GTBY				*e*Sn	Sn	08 43 57.0	-12
RUSC	**La Rusia**	**15.06**	**110**	*e*Pn	**P**	**08 41 42.0**	**-1.4**
	comp=Z,2.3nm,0.9s						
SDV	**Santo Domingo**	**16.57**	**97**	P	**Pn**	**08 41 57.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=254,slow=7.4,SNR=4.2						
SDV	**Santo Domingo**	**16.57**	**97**	*e*Pn	**Pn**	**08 41 57.2**	**-0.6**
	comp=Z,19nm,1.4s						
LNIG	**Linares**	**17.70**	**321**	*e*Pn	**P**	**08 42 13.2**	**+1.1**
	comp=Z,24nm,1.2s						
SDD	**Santo Domingo**	**18.16**	**65**	*e*P	**Pn**	**08 42 17.9**	**+0.6**
	comp=Z,388nm,1.7s						
034A	**Hebbronville**	**18.91**	**327**	P	**Pn**	**08 42 27.4**	**+1.1**
	baz=143,SNR=9.0						
934A	**Benavides**	**19.25**	**328**	P	**Pn**	**08 42 31.2**	**+0.8**
	baz=144,SNR=6.1						
447A	**Lucedale**	**19.32**	**356**	P	**Pn**	**08 42 31.3**	**+0.1**
	baz=176						
446A	**Poplarville**	**19.37**	**355**	P	**Pn**	**08 42 31.4**	**-0.4**
	baz=173						
933A	**Laredo**	**19.66**	**327**	P	**Pn**	**08 42 35.0**	**-0.2**
	baz=142,SNR=7.2						
834A	**Tilden**	**19.70**	**329**	P	**Pn**	**08 42 36.1**	**+0.4**
	baz=145						
443A	**Delano Plantat**	**19.70**	**348**	P	**Pn**	**08 42 35.5**	**-0.2**
	baz=166						
736A	**Circle Diamond**	**19.70**	**334**	P	**Pn**	**08 42 35.3**	**-0.4**
	baz=150						
348A	**Jackson**	**19.90**	**358**	P	**Pn**	**08 42 37.7**	**-0.3**
	baz=178						
345A	**Thompson Farm,**	**19.95**	**353**	P	**Pn**	**08 42 38.5**	**-0.1**
	baz=172						
346A	**Big Creek Wild**	**19.97**	**354**	P	**Pn**	**08 42 38.6**	**-0.3**
	baz=173						
441A	**DeRidder**	**20.00**	**345**	P	**Pn**	**08 42 39.5**	**+0.3**
	baz=162						
HKT	**Hockley**	**20.09**	**338**	*e*P	**P**	**08 42 39.1**	**+1.0**
	comp=Z,12nm,1.1s						
636A	**Smothers Creek**	**20.15**	**335**	P	Pn	08 42 40.6	-0.4
	baz=151						
344A	**Westbrook Farm**	**20.19**	**351**	P	Pn	08 42 40.8	-0.7
	baz=170						
538A	**Harpers Horsep**	**20.21**	**339**	P	Pn	08 42 41.2	-0.4
	baz=156						
833A	**Chaparral WMA,**	**20.29**	**328**	P	**P**	**08 42 41.6**	**+1.2**
	baz=143						
734A	**La Parita Cree**	**20.29**	**330**	P	**P**	**08 42 41.7**	**+1.3**
	baz=146						
537A	**Green Hill Far**	**20.38**	**337**	P	**P**	**08 42 42.7**	**+1.3**
	baz=153						
635A	**Leesville**	**20.38**	**333**	P	**P**	**08 42 42.9**	**+1.5**
	baz=149						
342A	**Flagon Creek P**	**20.40**	**348**	P	**P**	**08 42 42.6**	**+1.1**
	baz=165,SNR=6.2						
439A	**Center Grove,**	**20.49**	**341**	P	**P**	**08 42 43.4**	**+0.9**
	baz=158						
341A	**Kurthwood**	**20.55**	**345**	P	**P**	**08 42 44.5**	**+1.3**
	baz=163,SNR=18						
733A	**Divot King Ran**	**20.56**	**329**	P	**P**	**08 42 44.3**	**+1.1**
	baz=144						
832A	**Faith Ranch, C**	**20.57**	**326**	P	**P**	**08 42 44.0**	**+0.6**
	baz=142,SNR=5.9						
247A	**Quitman**	**20.57**	**357**	P	**P**	**08 42 44.5**	**+1.1**
	baz=176						
248A	**Dixon Mills**	**20.58**	**359**	P	**P**	**08 42 44.6**	**+1.1**
	baz=178						

438A	Sam Houston St	20.68 340	P	P	08 42 46.0	+1.4
	baz=156,SNR=5.2					
243A	Waterproof	20.73 350	P	P	08 42 46.2	+1.1
	baz=168					
340A	Bronson	20.82 344	P	P	08 42 47.3	+1.2
	baz=161,SNR=7.7					
535A	Dale	20.85 334	P	Pn	08 42 48.4	-0.9
	baz=150					
339A	Huntington	20.93 342	P	P	08 42 49.0	+1.7
	baz=159					
147A	Livingston	21.17 358	P	P	08 42 51.9	+2.0
	baz=177					
146A	Union	21.18 356	P	P	08 42 51.1	+1.2
	baz=175					
338A	Crockett	21.19 341	P	P	08 42 51.7	+1.6
	baz=157					
NATX	Nacogdoches	21.36 342	P	P	08 42 54.0	+2.1
	baz=159					
NATX	Nacogdoches	21.36 342	eP	P	08 42 52.8	+0.9
	comp=Z,12nm,0.7s					
240A	Hunter Patters	21.38 345	P	P	08 42 53.6	+1.6
	baz=162					
142A	Monroe	21.46 349	P	P	08 42 54.2	+1.2
	baz=167					
SJG	San Juan	21.47 69	eP	P	08 42 52.4	-0.8
	comp=Z,14nm,1.1s					
LRAL	Lakeview Retre	21.51 1	eP	P	08 42 53.9	+0.3
	comp=Z,12nm,0.9s					
Z47A	Carrollton	21.69 358	P	P	08 42 55.7	+0.3
	baz=178					
141A	Papa Simpson,	21.71 347	P	P	08 42 56.2	+0.5
	baz=164					
Z46A	Louisville	21.73 356	P	P	08 42 56.0	+0.2
	baz=175					
HUMP	Col San Antoni	21.75 70	eP	P	08 42 56.3	+0.1
	comp=Z,30nm,1.5s					
336A	Riesel	21.75 337	P	P	08 42 56.3	+0.2
	baz=154					
Z48A	Northport	21.86 359	P	P	08 42 56.7	-0.5
	baz=179					
140A	Cam and Jess,	21.90 346	P	P	08 42 57.6	-0.1
	baz=163					
Z44A	Pea Ridge, Bel	21.95 353	P	P	08 42 58.3	+0.1
	baz=171					
Z45A	Winona	21.96 355	P	P	08 42 58.2	-0.1
	baz=173					
Z43A	Armstrong Fami	21.99 351	P	P	08 42 58.7	+0.1
	baz=169					
139A	Bunkhouse Ranc	22.15 344	P	P	08 43 00.8	+0.4
	baz=161					
GOGA	Godfrey	22.16 8	eP	P	08 43 01.3	+0.8
	comp=Z,16nm,1.1s					
Z42A	Norrel Spur, H	22.17 350	P	P	08 43 00.9	+0.3
	baz=167					
236A	Katherine and	22.19 339	P	P	08 43 01.2	+0.4
	baz=155					
JCT	Junction City	22.25 330	P	P	08 43 02.1	+0.5
	baz=145					
JCT	Junction City	22.25 330	eP	P	08 43 02.0	+0.5
	comp=Z,7.4nm,0.9s					
PCRV	Puerto La Cruz	22.27 91	P	P	08 43 00.9	-1.0
	comp=Z,12nm,0.6s,baz=237,slow=6.3,SNR=6.8					
Z41A	Richland Creek	22.32 348	P	P	08 43 02.9	+0.7
	baz=165					
138A	Matatall Enter	22.33 342	P	P	08 43 03.1	+0.8
	baz=159					
Y47A	UCPARC, Winfie	22.38 359	P	P	08 43 02.9	+0.1
	baz=178,SNR=7.9					
Y46A	Houston	22.41 357	P	P	08 43 03.5	+0.4
	baz=176					
Y45A	Yeager Farm, C	22.44 355	P	P	08 43 03.0	-0.5
	baz=174					
Z40A	Long Farm, Mag	22.45 346	P	P	08 43 03.9	+0.3
	baz=164					
137A	Heron Place, G	22.48 341	P	P	08 43 04.7	+0.8
	baz=157					
WHTX	Lake Whitney,	22.52 337	P	P	08 43 05.1	+0.7
	baz=153					
WHTX	Lake Whitney,	22.52 337	eP	P	08 43 04.0	-0.4
	comp=Z,13nm,0.9s					
136A	Ennis	22.62 339	P	P	08 43 06.5	+1.1
	baz=155					
CCAR	Cane Creek	22.77 350	eP	P	08 43 06.0	-0.9
	comp=Z,19nm,1.2s					
WLAR	White Oak Lake	22.80 347	eP	P	08 43 06.2	-1.0
	comp=Z,12nm,0.8s					
Y41A	Eaglette Beard	22.88 349	P	P	08 43 08.1	0.0
	baz=166					
X45A	UM Field Stati	22.98 356	P	P	08 43 08.7	-0.4
	baz=174					
OXF	Oxford	23.07 355	eP	P	08 43 08.5	-1.5
	comp=Z,18nm,0.8s					
HODGE	Hodges	23.16 11	eP	P	08 43 10.3	-0.7
	comp=Z,15nm,1.2s					
X43A	Marvell	23.23 352	P	P	08 43 11.8	+0.2
	baz=171					
Y39A	Lockesburg	23.27 346	P	P	08 43 11.7	-0.3
	baz=162					
X42A	Stuttgart	23.37 351	P	P	08 43 12.5	-0.4
	baz=169					
Y38A	Idabel	23.42 344	P	P	08 43 13.6	+0.1
	baz=161					
X41A	Kaden, Bauxite	23.46 349	P	P	08 43 13.9	+0.1
	baz=167					
LTX	Lajitas	23.48 322	eP	P	08 43 15.1	+0.9
LTX			ePcP	PcP	08 47 03.2	+4.0
TXAR	Lajitas Array	23.48 322	P	P	08 43 15.1	+0.9
	comp=Z,2.3nm,0.6s,baz=137,slow=9.3,SNR=51					
TXAR			PcP	PcP	08 47 03.2	+4.0
	comp=Z,1.0nm,0.9s,baz=151,slow=3.9,SNR=4.6					
TX31	Lajitas Ar. Si	23.48 322	eP	P	08 43 15.2	+1.0
UALR	University of	23.70 350	eP	P	08 43 16.1	0.0
	comp=Z,12nm,1.0s					
Y37A	Hugo	23.72 343	P	P	08 43 16.5	+0.2
	baz=159					
SWET	Sewanee	23.72 3	eP	P	08 43 16.5	+0.1
	comp=Z,15nm,1.0s					
MIAR	Mount Ida	23.73 347	P	P	08 43 16.5	+0.1
	baz=164					
MIAR	Mount Ida	23.73 347	eP	P	08 43 16.8	+0.4
	comp=Z,7.2nm,0.8s					
W43A	Forest City	23.77 353	P	P	08 43 16.5	-0.2
	baz=171					
BG3	Lake Jocassee	23.80 9	eP	P	08 43 17.0	0.0
	comp=Z,30nm,1.6s					
X39A	Fountain Ranch	23.82 346	P	P	08 43 16.8	-0.4
	baz=163					
H06E1	SOCORRO T-PHAS	23.96 291	T	T	09 08 05.5	
	SNR=13					
CPCT	Cooper Cave	24.05 6	eP	P	08 43 19.2	-0.2
	comp=Z,16nm,1.0s					
W41B	Gary Mavity, V	24.07 350	P	P	08 43 19.5	-0.1
	baz=168					
Y35A	Marietta	24.10 340	P	P	08 43 21.4	+1.6
	baz=156,SNR=9.6					
X38A	Whitesboro	24.15 345	P	P	08 43 21.0	+0.7
	baz=161,SNR=7.8					
WHAR	Wooly Hollow	24.20 350	eP	P	08 43 20.0	-0.7
	comp=Z,16nm,1.4s					
X37A	Clayton	24.22 344	P	P	08 43 21.9	+1.0
	baz=160,SNR=13					
KMSC	Kings Mountain	24.22 12	P	P	08 43 20.6	-0.3
	baz=194					
W40A	Ferguson Farm,	24.25 348	P	P	08 43 21.6	+0.5
	baz=166					
TKL	Tuckaleechee C	24.34 7	P	P	08 43 22.3	+0.2
	comp=Z,10nm,0.7s,baz=169,slow=13,SNR=14					
TKL	Tuckaleechee C	24.34 7	eP	P	08 43 22.2	+0.2
	comp=Z,48nm,1.5s					
W39A	Magazine	24.40 347	P	P	08 43 22.9	+0.4
	baz=164					
W38A	Poteau	24.45 346	P	P	08 43 24.0	+1.0
	baz=162,SNR=5.0					
X36A	Centrahoma	24.49 342	P	P	08 43 24.0	+0.7
	baz=158,SNR=6.3					
X35A	Drake	24.53 340	P	P	08 43 24.7	+0.9
	baz=156					
WVT	Waverly	24.61 359	eP	P	08 43 24.1	-0.4
	comp=Z,29nm,1.9s					
V41A	Mountainview	24.66 350	P	P	08 43 24.4	-0.5
	baz=168					
W37B	Quinton	24.75 344	P	P	08 43 26.1	+0.4
	baz=160,SNR=7.4					
SLBS	Sierra La Lagu	24.77 303	eP	P	08 43 25.8	-0.4
	comp=Z,91nm,1.9s					
V40A	Witts Springs	24.79 349	P	P	08 43 25.7	-0.5
	baz=167					
GLAT	Glass	24.81 356	eP	P	08 43 24.5	-1.7
	comp=Z,27nm,0.6s					
U44B	Burton Farm, H	24.88 356	P	P	08 43 26.5	-0.4
	baz=175					
W36A	Wetumka	24.98 342	P	P	08 43 28.4	+0.6
	baz=158					
V39A	Pettigrew	24.99 348	P	P	08 43 28.4	+0.4
	baz=165,SNR=5.7					
U43A	Rector	25.00 354	P	P	08 43 27.4	-0.6
	baz=172					
U42A	Revenden	25.08 352	P	P	08 43 28.1	-0.6
	baz=170					
GRGR	Grenville	25.09 86	eP	P	08 43 28.6	-0.4
	comp=Z,131nm,1.1s					
V38A	Canehill	25.18 346	P	P	08 43 28.9	-0.8
	baz=163					
W35A	Tecumseh	25.19 341	P	P	08 43 29.0	-0.7
	baz=157					
PARMO	Parma	25.23 355	eP	P	08 43 28.5	-1.6
	comp=Z,13nm,0.7s					
U40A	Yellville	25.33 349	P	P	08 43 30.0	-1.1
	baz=167					
V37A	Hulbert	25.38 345	P	P	08 43 30.6	-0.8
	baz=161					
PBMO	Poplar Bluff	25.41 354	eP	P	08 43 30.6	-1.1
	comp=Z,25nm,1.6s					
WMOK	Wichita Mounta	25.47 338	P	P	08 43 32.4	+0.1
	baz=153					
WMOK	Wichita Mounta	25.47 338	eP	P	08 43 32.5	+0.1
	comp=Z,8.9nm,1.1s					
HHAR	Hobbs	25.48 347	eP	P	08 43 32.2	-0.1
	comp=Z,14nm,1.5s					
U39A	Green Forest	25.48 348	P	P	08 43 31.6	-0.8
	baz=165					
V36A	Jenks	25.50 343	P	P	08 43 32.8	+0.3
	baz=160,SNR=8.4					
TUL1	Leonard	25.57 344	P	P	08 43 33.1	-0.1
	baz=160,SNR=8.1					
TUL1	Leonard	25.57 344	eP	P	08 43 33.1	-0.1
	comp=Z,27nm,1.0s					
T44A	Benton	25.64 356	P	P	08 43 33.1	-0.6
	baz=174					
FDF	Fort de France	25.65 80	eP	P	08 43 33.8	-0.4
	comp=Z,53nm,1.0s					
T43A	Greenville	25.70 354	P	P	08 43 33.6	-0.7
	baz=173					
U38A	Gravette	25.73 347	P	P	08 43 34.1	-0.5
	baz=163					
V35A	Meyer Ranch, C	25.74 342	P	P	08 43 34.3	-0.4
	baz=158					
T41A	Mountain View	25.83 352	P	P	08 43 34.8	-0.7
	baz=170					
U37A	Salina	25.87 345	P	P	08 43 35.8	-0.1
	baz=162					
U36A	Oologah	26.01 344	P	P	08 43 37.0	-0.2
	baz=160					
T40A	Mansfield	26.05 350	P	P	08 43 37.2	-0.3
	baz=168					
T39A	Clever	26.08 349	P	P	08 43 37.1	-0.7
	baz=166					
MNTX	Cornudas Mount	26.21 323	P	P	08 43 38.4	-0.6
	baz=136					
MNTX	Cornudas Mount	26.21 323	eP	P	08 43 39.0	0.0
	comp=Z,2.6nm,0.9s					
U35A	Pawnee	26.27 343	P	P	08 43 39.4	-0.2
	baz=158					
T38A	Diamond	26.28 347	P	P	08 43 39.0	-0.6
	baz=164					
S41A	Jillco Farms,	26.36 352	P	P	08 43 39.4	-1.0
	baz=170					
T37A	Cheneyville 18	26.50 346	P	P	08 43 41.0	-0.6
	baz=163,SNR=5.2					
MSTX	Muleshoe	26.54 330	P	P	08 43 41.4	-0.8
	baz=144					
MSTX	Muleshoe	26.54 330	eP	P	08 43 42.2	0.0
	comp=Z,11nm,0.8s					
T36A	Boggs Farm, Ca	26.68 345	P	P	08 43 42.5	-0.7
	baz=161					
WCI	Wyandotte Cave	26.71 2	eP	P	08 43 42.5	-1.0
	comp=Z,7.6nm,0.9s					
S39A	Bolivar	26.72 349	P	P	08 43 42.3	-1.3
	baz=166,SNR=6.3					
CCM	Cathedral Cave	26.76 353	eP	P	08 43 42.1	-1.8
	comp=Z,12nm,1.1s					
R44A	Waltonville	26.76 357	P	P	08 43 43.7	-0.3
	baz=176					
S38A	Stockton	26.77 348	P	P	08 43 42.9	-1.1
	baz=165					
R43A	Red Bud	26.85 355	P	P	08 43 44.1	-0.6
	baz=174					
R41A	Rosebud	27.02 353	P	P	08 43 45.1	-1.1
	baz=171					
S37A	Fort Scott	27.09 347	P	P	08 43 46.3	-0.6
	baz=163					
R40A	Maddies Statio	27.13 351	P	P	08 43 46.1	-1.2
	baz=169					
S36A	Lake Cedric, C	27.23 345	P	P	08 43 47.7	-0.5
	baz=162					
R39A	Chumby, Stover	27.27 350	P	P	08 43 47.4	-1.2
	baz=167					
R38A	Fewick Farm,	27.31 349	P	P	08 43 48.1	-0.7
	baz=165					
S35A	Otter Creek Ra	27.38 344	P	P	08 43 48.7	-0.8
	baz=160					
Q37A	Longview Farm,	28.08 348	P	P	08 43 54.6	-1.1
	baz=165					
HDIL	Hopedale	29.07 357	P	P	08 44 03.6	-1.0
	baz=176					
O38A	Galt	29.11 350	P	P	08 44 04.5	-0.4
	baz=167					
ANMO	Albuquerque	29.20 326	P	P	08 44 08.0	+2.0
	comp=Z,0.4nm,0.5s,baz=143,slow=15,SNR=3.6					
ANMO	Albuquerque	29.20 326	eP	P	08 44 07.7	+1.6
	comp=Z,9.9nm,1.8s					
P34A	Walnut Farm, R	29.27 345	P	P	08 44 06.0	-0.3
	baz=160					
O36A	Bolckow	29.39 348	P	P	08 44 06.3	-1.1
	baz=164					
O34A	Beatrice	29.84 345	P	P	08 44 10.8	-0.6
	baz=161					
N37A	Lee Faris, Mou	29.86 349	P	P	08 44 10.6	-0.9
	baz=166					
O33A	Hebron	29.96 344	P	P	08 44 12.5	+0.1
	baz=159					
N34A	Lincoln	30.41 346	P	P	08 44 15.6	-0.8
	baz=162					
M35A	Neola	30.83 348	P	P	08 44 19.6	-0.5
	baz=163					
M34A	Aspy Farms, Fr	31.06 346	P	P	08 44 21.8	-0.3
	baz=162					
N59A	State Game Lan	31.08 17	P	P	08 44 22.0	-0.3
	baz=202					
SAML	Samuel	31.36 129	eP	P	08 44 24.9	-0.2
	comp=Z,4.4nm,0.9s					
K39A	Oelwein	31.43 353	P	P	08 44 24.1	-1.2
	baz=171					
K37A	Belmond	31.72 351	P	P	08 44 26.5	-1.4
	baz=168					
L33A	Hoskins	31.85 346	P	P	08 44 29.0	-0.1
	baz=161					
J41A	Loganville	31.92 356	P	P	08 44 28.4	-1.2
	baz=175					
J39A	Decorah	32.03 354	P	P	08 44 29.5	-1.1
	baz=172					
J38A	Wedel Dairy, R	32.10 353	P	P	08 44 30.1	-1.2
	baz=170					
J37A	Redenius Farm,	32.24 351	P	P	08 44 32.3	-0.2
	baz=168					
J36A	Seneca 1, Swea	32.38 350	P	P	08 44 32.4	-1.3
	baz=167					
I42A	Draeger Farm,	32.38 358	P	P	08 44 32.6	-1.1
	baz=177					
I40A	Norwalk	32.48 355	P	P	08 44 33.2	-1.4
	baz=174					
K32A	Verdigre	32.49 345	P	P	08 44 33.7	-1.0
	baz=160					
I39A	Houston	32.52 354	P	P	08 44 34.1	-0.8
	baz=172					
J35A	Milford	32.56 349	P	P	08 44 33.7	-1.6
	baz=165					
I41A	Arkdale	32.60 357	P	P	08 44 34.0	-1.6
	baz=175					
I37A	Lemond, Waseca	32.91 352	P	P	08 44 37.2	-1.0
	baz=169					
J32A	Parkston	33.13 346	P	P	08 44 39.3	-1.0
	baz=160					
H40A	Chili	33.19 356	P	P	08 44 39.5	-1.2
	baz=174					
ECSD	EROS Data Cent	33.20 348	P	P	08 44 39.7	-1.1
	baz=163					
ECSD	EROS Data Cent	33.20 348	eP	P	08 44 39.3	-1.6
	comp=Z,6.7nm,1.1s					
Y12C	Blythe	33.38 316	P	P	08 44 41.2	-1.4
	baz=125					
H36A	Jessenland, He	33.53 351	P	P	08 44 42.2	-1.5
	baz=168					
I33A	Coleman	33.53 348	P	P	08 44 42.8	-1.0
	baz=163					
SWSC	Sam W. Stewart	33.82 314	eP	P	08 44 48.5	+2.1
G40A	Rib Lake	33.82 356	P	P	08 44 44.5	-1.8
	baz=175					
G38A	Ridgeland	33.86 354	P	P	08 44 44.7	-1.8
	baz=172					
G39A	Holcombe	33.91 355	P	P	08 44 45.6	-1.5
	baz=173					
SPMN	Marine on St.	34.02 353	P	P	08 44 46.4	-1.6
	baz=170					
F44A	Big Bay de Noc	34.44 1	P	P	08 44 50.0	-1.6
	baz=181					
G34A	Benson	34.46 350	P	P	08 44 50.7	-1.0
	baz=165					
F40A	Park Falls	34.47 356	P	P	08 44 50.4	-1.4
	baz=175					
F37A	Hinrichs Farm,	34.49 353	P	P	08 44 50.6	-1.5
	baz=170					
F39A	Loretta	34.52 356	P	P	08 44 50.2	-2.1
	baz=173					
BELC	Belle Mtn. Jos	34.53 315	P	P	08 44 50.7	-2.1
	baz=124					
G33A	Ortonville	34.56 349	P	P	08 44 50.4	-2.3
	baz=164					
F38A	Pierce - Schro	34.64 354	P	P	08 44 51.1	-2.2
	baz=172					
P17A	Butcher Ranch,	34.85 327	eP	P	08 44 56.4	+1.0
	comp=Z,6.5nm,1.0s					
RWWY	Rawlins	34.85 333	eP	P	08 44 57.0	+1.5
	comp=Z,15nm,1.0s					
E39A	Mellen	34.95 356	P	P	08 44 54.4	-1.7
	baz=174					
E40A	Wakefield	34.98 357	P	P	08 44 54.5	-1.8
	baz=175					
E44A	Grand Marais A	35.10 2	P	P	08 44 55.9	-1.4
	baz=182					
F33A	5 Mile Ranch,	35.15 349	P	P	08 44 56.5	-1.3
	baz=164					
D36A	Goodland	35.98 353	P	P	08 45 02.8	-2.1
	baz=170					
D35A	Remer	36.00 352	P	P	08 45 03.0	-2.1
	baz=168					
C35A	Jirik Farms, M	36.60 352	P	P	08 45 08.5	-1.6
	baz=169					
C34A	RKJ Ranch, Bem	36.68 351	P	P	08 45 08.7	-2.1
	baz=167					
PD31	Pinedale Array	36.76 332	eP	P	08 45 11.9	0.0
PDAR	Pinedale Array	36.76 332	P	P	08 45 11.8	0.0
	comp=Z,1.0nm,0.7s,baz=126,slow=10,SNR=9.7					
B34A	Aery, Baudette	37.46 352	P	P	08 45 15.8	-1.6
	baz=168					
SIV	San Ignacio	37.60 136	P	P	08 45 21.1	+2.1
	comp=Z,4.8nm,0.5s,baz=321,slow=7.7,SNR=15					
B32A	Ashes, Strandq	37.66 350	P	P	08 45 17.7	-1.4
	baz=165,SNR=5.4					
REDW	Red Top Meadow	37.82 332	eP	P	08 45 21.2	+0.4
	comp=Z,12nm,1.2s					
SNOW	Snow King Moun	37.85 332	eP	P	08 45 21.9	+0.8
	comp=Z,6.3nm,0.7s					
B31A	Greenbush Farm	37.89 349	P	P	08 45 20.0	-1.0
	baz=163					
LOHW	Long Hollow	37.90 332	eP	P	08 45 22.8	+1.3
	comp=Z,3.1nm,0.9s					
TPAW	Teton Pass	37.96 332	eP	P	08 45 23.4	+1.4
	comp=Z,3.7nm,0.8s					
A33A	Warroad	38.01 351	P	P	08 45 20.3	-1.7
	baz=167					
MOOW	Moose Ponds	38.07 332	eP	P	08 45 23.8	+0.9
	comp=Z,3.3nm,0.8s					
FXWY	Fox Creek	38.11 332	eP	P	08 45 25.1	+1.8
	comp=Z,2.4nm,0.9s					
A32A	Rocking H Ranc	38.16 350	P	P	08 45 21.6	-1.7
	baz=165					
RLMT	Red Lodge	38.51 335	P	P	08 45 25.3	-1.2
	baz=144					
ULM	Lac du Bonnet	39.36 351	P	P	08 45 31.2	-2.1
	comp=Z,1.6nm,0.5s,baz=166,slow=9.1,SNR=4.9					
HLID	Hailey	39.71 329	eP	P	08 45 37.5	+1.0
	comp=Z,2.3nm,0.9s					
KFPM	Farley Peak	42.58 318	eP	P	08 45 58.1	-2.1
F10A	Beach Ranch, E	42.83 329	eP	P	08 46 03.5	+1.5
	comp=Z,3.4nm,0.8s					
YKA	Yellowknife Ar	54.65 345	P	P	08 47 30.9	-1.5
	comp=Z,1.3nm,0.7s,baz=134,slow=7.6,SNR=7.5					
ILAR	Eielson Array	67.03 336	P	P	08 48 56.3	-0.2
	comp=Z,0.5nm,0.8s,baz=156,slow=4.3,SNR=7.5					
ILB	Eielson Array	67.03 336	eP	P	08 48 56.3	-0.2
ASAR	Alice Springs	139.04 247	PKP	PKPdf	08 57 31.9	+0.9
	comp=Z,0.4nm,0.5s,baz=113,slow=2.1,SNR=3.6					
WR1	Warramunga Arr	139.14 253	ePKPdf	PKPdf	08 57 32.4	+1.1
WRA	Warramunga Arr	139.14 253	PKP	PKPdf	08 57 32.4	+1.1
	comp=Z,0.6nm,0.5s,baz=88,slow=2.5,SNR=3.0					
CMAR	Chiang Mai Arr	149.69 348	PKPbc	PKPbc	08 57 54.4	+0.2
	comp=Z,1.8nm,0.3s,baz=344,slow=4.0,SNR=11					

NIED ***06*** *08:39:00, 36.70N×139.50E, h5km, Mw4.1 Best double couple: M0 1.82000×1015 NP1:φ0=173.00000°, δ39.00000°, λ145.00000°. NP2:φ0=291.00000°, δ69.00000°, λ56.00000°.*
ISCJB ***06*** *08:39:28.2±0.6, 36.67N±0.04×139.44E±0.04, h9km±5km, mb3.8/2, Error ellipse: s-maj=6.3km s-min=5.6km az=179.6*
JMA ***06*** *08:39:28.3, 36.67N×139.47E, h4km±1km, M3.7*
JMA Felt III J1.
IDC ***06*** *08:39:33.6±1.9, 35.93N×137.69E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.4/62, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=47.9km s-min=10.0km az=117.0*

ISC 06 08:39:28.9±1.3, 36.67N±0.04×139.44E±0.04, h2km±11km, n10, σ0=97/16, 3C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	Katashina	0.18	302	⇓P	Pg	08 39 32.5	-0.1
JKT				S	Sg	08 39 35.5	+0.5
JAG	Ashikaga	0.24	178	⇑P	Pg	08 39 33.3	-0.3
JAG				S	Sg	08 39 36.7	-0.1
JSB	Shiboa	0.48	52	⇑P	Pg	08 39 37.9	-0.4
JSB				S	Sg	08 39 44.6	0.0
JGK	Kuni	0.66	261	⇑P	Pg	08 39 41.6	+0.1
JGK				S	Sg	08 39 50.7	+0.7
JHK	Hiroka	0.67	330	⇓P	Pg	08 39 41.4	-0.4
MJAR	Matsushiro Arr	1.00	263	Pg	Pg	08 39 46.9	-1.3
	82nm,0.3s,baz=171,slow=26,SNR=5.8						
MJAR				Lg	Lg	08 39 59.2	
	169nm,0.3s,baz=119,slow=19,SNR=26						
MAT	Matsushiro	1.00	263	P	Pg	08 39 47.7	-0.5
MAT				S	Sg	08 40 00.8	-0.4
JHJ	Hachijo jima 2	3.55	175	Pn	Pn	08 40 26.5	+1.5
	17nm,0.3s,baz=48,slow=19,SNR=2.1						
JHJ				Sn	Sn	08 41 07.4	-0.2
	13nm,0.3s,baz=207,slow=23,SNR=1.9						
WRA	Warramunga Arr	56.51	186	P	P	08 49 10.3	-2.3
	1.0nm,0.5s,baz=0.6,slow=7.5,SNR=4.4						
ASAR	Alice Springs	60.24	186	P	P	08 49 39.5	+0.9
	0.3nm,0.6s,baz=18,slow=12,SNR=4.1						

JMA 06 08:40:07.8±0.1, 36.55N×137.71E, h2km±1km, M2.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.31	280	P	Pg	08 40 14.5	+0.8
JTT				S	Sg	08 40 19.4	+1.7
JNG	Nsakai	0.34	114	P	Pg	08 40 14.8	+0.4
JNG				S	Sg	08 40 19.4	+0.5
MAT	Matsushiro	0.40	91	P	Pg	08 40 15.9	+0.4
MAT				S	Sg	08 40 21.1	+0.4
JGN	Niukaw	0.46	224	P	Pg	08 40 16.7	+0.2

ISCJB ***06*** *08:47:54.9±0.9, 6.3S±0.1×149.2E±0.1, h49km, mb3.9/6, Error ellipse: s-maj=24.7km s-min=10.6km az=34.4*
IDC ***06*** *08:47:55.9±4.5, 6.31S×149.26E, h41km±41km, mb3.7/6, mb1 4.0/8, mb1mx3.7/39, mbtmp4.1/8, ML4.3/1, Error ellipse: s-maj=30.0km s-min=23.7km az=140.0*

ISC 06 08:47:56.5±0.9, 6.3S±0.1×149.3E±0.2, h49km, n9,

σ0°66/10, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**214**	P	**Pn**	**08 48 51.3**	**-0.1**
	31nm,0.3s,baz=7.0,slow=4.6,SNR=46						
PMG				S	**Sn**	**08 49 33.7**	**-0.1**
	35nm,0.3s,baz=61,slow=18,SNR=14						
WRA	**Warramunga Arr**	**19.84**	**226**	P	**P**	**08 52 23.4**	**0.0**
	0.8nm,0.3s,baz=49,slow=11,SNR=34						
ASAR	**Alice Springs**	**22.71**	**219**	P	**P**	**08 52 54.2**	**-0.1**
	0.7nm,0.5s,baz=55,slow=9.1,SNR=14						
DZM	**Mont Dzumac**	**22.84**	**135**	P	**P**	**08 52 55.7**	**-0.1**
	2.9nm,0.5s,baz=279,slow=8.9,SNR=8.4						
FITZ	**Fitzroy Crossi**	**25.84**	**241**	P	**P**	**08 53 23.7**	**+0.1**
	7.7nm,0.6s,baz=78,slow=11						
PETK	**Petropavlovsk-**	**59.62**	**6**	P	**P**	**08 57 56.3**	**+1.0**
	2.2nm,0.6s,baz=152,slow=6.1,SNR=4.7						
VNDA	**Vanda**	**71.49**	**177**	P	**P**	**08 59 12.3**	**+0.7**
	0.8nm,0.8s,baz=323,slow=6.7,SNR=5.3						
ILAR	**Eielson Array**	**84.89**	**23**	P	**P**	**09 00 24.6**	**-1.2**
	0.4nm,0.7s,baz=235,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**147.33**	**284**	PKPbc	**PKPbc**	**09 07 35.6**	**-0.2**
	0.6nm,0.5s,baz=65,slow=2.8,SNR=7.9						

*IDC **06** 08:54:18.4±3.2, 23°.78S×179°.99E, h482km±45km, mb3.4/6, mb1 3.6/8, mb1mx3.2/34, mbtmp4.3/8, Error ellipse: s-maj=28.9km s-min=21.5km az=161.0*

ISC 06 08:54:21.3±1.4, 24°.1S±0°.1×179°.9W±0°.2, h518km, n9, σ1°25/9, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.70**	**277**	P	**P**	**08 57 08.6**	**+1.3**
	0.4nm,0.3s,baz=104,slow=17,SNR=4.8						
AFI	**Afiamalu**	**12.74**	**39**	P	P	08 57 02.8	-5.0
	3.9nm,0.3s,baz=47,slow=22,SNR=6.3						
URZ	**Urewera**	**14.32**	**189**	P	**P**	**08 57 24.4**	**+0.4**
	1.2nm,0.3s,baz=81,slow=4.6,SNR=7.9						
URZ				S	**S**	**08 59 54.0**	**-0.7**
	0.8nm,0.3s,baz=45,slow=23,SNR=7.2						
RPZ	**Rata Peaks**	**20.91**	**199**	P	**P**	**08 58 28.7**	**+1.7**
	3.8nm,0.4s,baz=310,slow=1.4,SNR=5.0						
CTA	**Charters Tower**	**31.54**	**271**	P	**P**	**09 00 00.8**	**-0.2**
	5.6nm,0.5s,baz=93,slow=12,SNR=11						
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**09 01 26.6**	**-1.1**
	3.9nm,1.1s,baz=96,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**09 01 29.0**	**-1.7**
	3.9nm,0.5s,baz=96,slow=8.3,SNR=38						
FITZ	**Fitzroy Crossi**	**50.87**	**266**	P	**P**	**09 02 33.9**	**-0.6**
	2.5nm,1.0s,baz=90,slow=15						
TXAR	**Lajitas Array**	**90.49**	**58**	P	**P**	**09 06 28.0**	**0.0**
	0.3nm,0.7s,baz=220,slow=7.1,SNR=4.9						

IDC 06 08:55:00.0±51.0, 11°.50S×170°.19E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/36, mbtmp3.8/3, Error ellipse: s-maj=876.1km s-min=119.6km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.25**	**228**	P	P	09 01 39.3	+0.2
	0.7nm,0.6s,baz=49,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**35.45**	**252**	P	P	09 01 58.7	+0.3
	0.6nm,0.3s,baz=84,slow=8.6,SNR=6.0						
ASAR	**Alice Springs**	**36.53**	**246**	P	P	09 02 07.1	-0.6
	1.3nm,0.6s,baz=73,slow=9.3,SNR=9.5						

*IDC **06** 08:55:35.9±1.8, 6°.89S×122°.55E, h0km, mb3.7/1, mb1 4.2/3, mb1mx3.6/40, mbtmp3.9/3, ML3.6/2, Error ellipse: s-maj=150.6km s-min=26.6km az=61.0*
*ISCJB **06** 08:55:39.5±0.6, 7°.26S±0°.04×122°.04E±0°.05, h33km, mb3.8/1, Error ellipse: s-maj=7.4km s-min=5.2km az=23.9*
*DJA **06** 08:55:41.6±1.1, 7°S±3°×12°2E±°, h28km±10km, M4.3/8, mb4.5/1, MLv4.2/8*

ISC 06 08:55:41.1±0.9, 7°.20S±0°.04×122°.03E±0°.06, h35km, n14, σ1°70/19, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.57**	**192**	P	**Pn**	**08 56 05.9**	**-0.8**
BBSI	**Bau Bau**	**1.79**	**18**	P	**Pn**	**08 56 10.8**	**+1.3**
BBSI				S	**Sn**	**08 56 32.7**	**+1.7**
BSSI	**Bau Bau, Buton**	**1.85**	**305**	P	**Pn**	**08 56 10.1**	**-0.3**
BSSI				S	**Sn**	**08 56 33.1**	**+0.4**
KDI	**Kendari**	**3.28**	**10**	P	**Pn**	**08 56 27.6**	**-2.4**
KDI				S	**Sn**	**08 57 08.9**	**+1.1**
BASI	**Baing, Sumba**	**3.32**	**205**	P	**Pn**	**08 56 31.4**	**+0.8**
SOEI	**Soe**	**3.37**	**139**	P	**Pn**	**08 56 34.9**	**+3.5**
SPSI	**Sidrap Palu**	**3.92**	**325**	P	**Pn**	**08 56 39.0**	**+0.1**
PLAI	**Plampang**	**4.51**	**249**	P	**Pn**	**08 56 48.0**	**+1.0**
PLAI				S	**Sn**	**08 57 39.2**	**+1.0**
TTSI	**Tana Toraja**	**4.68**	**332**	P	**Pn**	**08 56 50.6**	**+1.3**
TWSI	**Taliwang, Sumb**	**5.32**	**253**	P	**Pn**	**08 56 56.8**	**-1.3**
TWSI				S	**Sn**	**08 57 59.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.39**	**162**	Pn	**Pn**	**08 58 21.6**	**+0.2**
WRA	**Warramunga Arr**	**17.41**	**138**	P	**Pn**	**08 59 37.5**	**-3.9**
	0.2nm,0.3s,baz=315,slow=13,SNR=12						
ASAR	**Alice Springs**	**19.95**	**146**	P	**P**	**09 00 10.5**	**+0.1**
	0.3nm,0.3s,baz=326,slow=12,SNR=48						
MKAR	**Makanchi Array**	**64.30**	**331**	P	**P**	**09 06 13.0**	**0.0**
	0.5nm,0.5s,baz=131,slow=6.6,SNR=3.6						

*ISK **06** 08:57:12.8, 37°.92N×29°.15E, h10km, ML2.0*
*ISCJB **06** 08:57:13.1±0.5, 37°.91N±0°.02×29°.12E±0°.04, h6km±6km, Error ellipse: s-maj=5.1km s-min=4.0km az=171.3*
*CSEM **06** 08:57:13.0±0.2, 37°.91N×29°.13E, h10km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.7km az=120.0*
*DDA **06** 08:57:13.0, 37°.91N×29°.10E, h7km, Md2.6*

ISC 06 08:57:12.9±1.1, 37°.91N±0°.02×29°.12E±0°.03, h7km±9km, n29, σ0°70/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**195**	*i* P	**Pg**	**08 57 17.5**	**0.0**
DNZL	**Cakiroluk**	**0.23**	**195**	P	**Pg**	**08 57 17.5**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.47**	**200**	*i* P	**Pg**	**08 57 21.6**	**-0.4**
TAVA				*i* S	**Sg**	**08 57 28.4**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.47**	**200**	P	**Pg**	**08 57 21.6**	**-0.4**
TAVA				S	**Sg**	**08 57 28.4**	**+0.1**
KHAL	**Karahalli**	**0.54**	**32**	*i* P	**Pg**	**08 57 21.8**	**-1.6**
KHAL				*i* S	**Sb**	**08 57 33.5**	**+0.5**
KHAL	**Karahalli**	**0.54**	**32**	P	**Pg**	**08 57 21.8**	**-1.6**
KHAL				S	**Sb**	**08 57 33.5**	**+0.5**
KULA	**Kula-Manisa**	**0.70**	**329**	*e*PG	**Pg**	**08 57 27.0**	**+0.5**
KULA				*e*SG	**Sb**	**08 57 37.3**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**329**	*e*Pg	**Pg**	**08 57 27.0**	**+0.5**
KULA				*e*Sg	**Sb**	**08 57 37.3**	**-0.2**
MANT	**Manisa**	**0.73**	**323**	*i* P	**Pg**	**08 57 27.0**	**0.0**
MANT				*i* S	**Sg**	**08 57 37.4**	**+0.9**
MANT	**Manisa**	**0.73**	**323**	P	**Pg**	**08 57 27.0**	**0.0**
MANT				S	**Sg**	**08 57 37.3**	**+0.9**
GOLH	**Golhisar**	**0.76**	**152**	*i* S	**Sb**	**08 57 39.9**	**+0.9**
BRDR	**BURDUR-Merkez**	**0.78**	**106**	*i* P	**Pn**	**08 57 29.6**	**-0.8**
BRDR				*i* S	**Sn**	**08 57 43.8**	**+1.5**
BRDR	**BURDUR-Merkez**	**0.78**	**106**	P	**Pn**	**08 57 29.6**	**-0.8**
KZIL	**AFYON_Kizioren**	**0.88**	**66**	*i* P	**Pg**	**08 57 29.6**	**-0.2**
KZIL				*i* S	**Sn**	**08 57 46.4**	**+1.6**
KZIL	**AFYON_Kizioren**	**0.88**	**66**	P	**Pg**	**08 57 29.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**272**	*e*PG	**Pb**	**08 57 32.4**	**+0.2**
AYDB				*e*SG	**Sn**	**08 57 46.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**272**	*e*Pg	**Pb**	**08 57 32.4**	**+0.2**
AYDB				*e*Sg	**Sn**	**08 57 46.4**	**-0.8**
AYDN	**Tasoluk**	**1.01**	**256**	*i* P	**Pg**	**08 57 32.2**	**-0.2**
AYDN				*i* S	**Sn**	**08 57 47.7**	**-0.5**
AYDN	**Tasoluk**	**1.01**	**256**	P	**Pg**	**08 57 32.2**	**-0.2**
AYDN				S	**Sn**	**08 57 47.7**	**-0.5**
DEMI	**Demirci**	**1.17**	**344**	*i* P	**Pg**	**08 57 36.0**	**+0.6**
DEMI				*i* S	**Sb**	**08 57 50.3**	**-0.7**
DEMI	**Demirci**	**1.17**	**344**	P	**Pg**	**08 57 36.0**	**+0.6**
DEMI				S	**Sb**	**08 57 50.3**	**-0.7**
SIMA	**Simav-Kutahya**	**1.18**	**355**	*e*PN	**Pb**	**08 57 35.6**	**0.0**
SIMA	**Simav-Kutahya**	**1.18**	**355**	*e*Pn	**Pb**	**08 57 35.6**	**0.0**
FETY	**Fethiye**	**1.27**	**181**	*e*PN	**Pg**	**08 57 37.4**	**+0.1**
FETY	**Fethiye**	**1.27**	**181**	*e*Pn	**Pg**	**08 57 37.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.30**	**60**	*e*PN	**Pn**	**08 57 36.8**	**-0.8**
SHUT	**Suhut-Afyon**	**1.30**	**60**	*e*Pn	**Pn**	**08 57 36.8**	**-0.8**
TVSB	**Tavsanli**	**1.56**	**10**	*e*PN	**Pn**	**08 57 41.3**	**+0.1**
TVSB	**Tavsanli**	**1.56**	**10**	*e*Pn	**Pn**	**08 57 41.3**	**+0.1**

IDC 06 08:59:21.6±1.3, 12°.16N×145°.39E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/44, mbtmp3.6/4, Error ellipse: s-maj=50.9km s-min=19.5km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.51**	**340**	Pn	Pn	08 59 49.3	-0.7
	28nm,0.3s,baz=172,slow=7.1,SNR=14						
GUMO				Sn	Sg	09 00 06.4	-3.9
	39nm,0.3s,baz=212,slow=23,SNR=13						
WRA	**Warramunga Arr**	**33.70**	**199**	P	P	09 06 04.4	-0.4
	1.8nm,0.7s,baz=22,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**37.33**	**198**	P	P	09 06 35.9	-0.1
	0.5nm,0.8s,baz=18,slow=13,SNR=7.2						
MKAR	**Makanchi Array**	**62.87**	**316**	P	P	09 09 50.1	+0.5
	0.2nm,0.2s,baz=100,slow=5.9,SNR=2.2						
ILAR	**Eielson Array**	**69.64**	**25**	P	P	09 10 32.7	0.0
	0.2nm,0.7s,baz=254,slow=6.0,SNR=3.5						

*ISCJB **06** 09:12:33.7±0.7, 37°.22N±0°.04×27°.80E±0°.06, h0km, Error ellipse: s-maj=7.9km s-min=4.1km az=29.1*
*CSEM **06** 09:12:33.9±0.2, 37°.23N×27°.76E, h1km, MD2.1, Error ellipse: s-maj=5.7km s-min=3.3km az=118.0, Suspected Mining explosion.*
*ISK **06** 09:12:33.3, 37°.22N×27°.74E, h5km, MD2.1*
*DDA **06** 09:12:34.5, 37°.33N×27°.57E, h7km, Md2.5, Suspected Mining explosion.*

ISC 06 09:12:34.0±1.2, 37°.22N±0°.03×27°.74E±0°.04, h0km, n14, σ0°77/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.08**	**22**	*e*PG	**Pg**	**09 12 35.4**	**-0.1**
MLSB	**Milas**	**0.08**	**22**	*e*Pg	**Pg**	**09 12 35.4**	**-0.1**
BDRM	**Kayabasi**	**0.28**	**236**	*i* P	**Pg**	**09 12 39.3**	**-0.1**
BDRM				*i* S	**Sb**	**09 12 45.9**	**-1.5**
BDRM	**Kayabasi**	**0.28**	**236**	P	**Pg**	**09 12 39.3**	**-0.1**
BDRM				S	**Sb**	**09 12 45.8**	**-1.5**
BODT	**Bodrum**	**0.38**	**245**	*e*PG	**Pg**	**09 12 41.3**	**+0.1**
BODT				*e*SG	**Sg**	**09 12 47.2**	**+1.1**
BODT	**Bodrum**	**0.38**	**245**	*e*Pg	**Pg**	**09 12 41.3**	**+0.1**
BODT				*e*Sg	**Sg**	**09 12 47.2**	**+1.1**
AYDN	**Tasoluk**	**0.45**	**14**	*i* P	**Pg**	**09 12 42.3**	**-0.3**
AYDN				*i* S	**Sg**	**09 12 49.5**	**+1.1**
AYDN	**Tasoluk**	**0.45**	**14**	P	**Pg**	**09 12 42.3**	**-0.3**
AYDN				S	**Sg**	**09 12 49.5**	**+1.1**
DAT	**Datca**	**0.51**	**195**	*e*PG	**Pg**	**09 12 43.7**	**0.0**
DAT				*e*SG	**Sg**	**09 12 51.4**	**+1.0**
DAT	**Datca**	**0.51**	**195**	*e*Pg	**Pg**	**09 12 43.7**	**0.0**
DAT				*e*Sg	**Sg**	**09 12 51.4**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**9**	*e*PG	**Pg**	**09 12 47.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**9**	*e*Pg	**Pg**	**09 12 47.9**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.84**	**119**	*e*PG	**Pg**	**09 12 49.8**	**-0.2**
DALY	**Dalyan (Mu¨la**	**0.84**	**119**	*e*Pg	**Pg**	**09 12 49.8**	**-0.2**

*ISK **06** 09:15:50.4, 37°.51N×28°.29E, h28km, ML2.2*
*ISCJB **06** 09:15:54.7±0.5, 37°.24N±0°.04×28°.19E±0°.03, h0km, Error ellipse: s-maj=5.2km s-min=3.6km az=164.4*
*CSEM **06** 09:15:54.4±0.3, 37°.21N×28°.21E, h1km, ML2.2, Error ellipse: s-maj=8.1km s-min=6.1km az=2.0, Suspected Mining explosion.*
*DDA **06** 09:15:55.4, 37°.26N×28°.21E, h7km, Md2.5, Suspected Mining explosion.*

ISC 06 09:15:52.2±0.8, 37°.23N±0°.04×28°.16E±0°.03, h0km, n22, σ0°74/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.32**	**282**	*e*PG	**Pb**	**09 16 00.8**	**+0.1**
MLSB	**Milas**	**0.32**	**282**	*e*Pg	**Pb**	**09 16 00.8**	**+0.1**
AYDN	**Tasoluk**	**0.49**	**332**	*i* P	**Pb**	**09 16 03.5**	**-0.1**
AYDN				*i* S	**Sb**	**09 16 12.6**	**+1.2**
AYDN	**Tasoluk**	**0.49**	**332**	P	**Pb**	**09 16 03.5**	**-0.1**
AYDN				S	**Sb**	**09 16 12.6**	**+1.2**
TURN	**Turunc**	**0.50**	**135**	*i* P	**Pg**	**09 16 02.2**	**+0.5**
TURN	**Turunc**	**0.50**	**135**	P	**Pg**	**09 16 02.2**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.57**	**136**	*e*PG	**Pb**	**09 16 05.3**	**+0.3**
DALY				*e*SG	**Sn**	**09 16 16.3**	**-1.3**
DALY	**Dalyan (Mu¨la**	**0.57**	**136**	*e*Pg	**Pb**	**09 16 05.3**	**+0.3**
DALY				*e*Sg	**Sn**	**09 16 16.3**	**-1.3**
TAVA	**DENIZLI_Tavas**	**0.64**	**68**	*i* P	**Pb**	**09 16 06.8**	**+0.5**
TAVA				*i* S	**Sb**	**09 16 15.6**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.64**	**68**	P	**Pb**	**09 16 06.8**	**+0.5**
TAVA				S	**Sb**	**09 16 15.6**	**-0.3**
DAT	**Datca**	**0.69**	**223**	*e*PG	**Pn**	**09 16 08.5**	**-0.7**
DAT	**Datca**	**0.69**	**223**	*i* P	**Pn**	**09 16 10.0**	**+0.8**
DAT				*i* S	**Sn**	**09 16 20.4**	**-0.2**
DAT	**Datca**	**0.69**	**223**	*e*Pg	**Pn**	**09 16 08.5**	**-0.7**
DAT	**Datca**	**0.69**	**223**	P	**Pn**	**09 16 10.0**	**+0.8**
DAT				S	**Sn**	**09 16 20.4**	**-0.2**
BODT	**Bodrum**	**0.70**	**257**	*e*PG	**Pb**	**09 16 07.7**	**+0.4**
BODT				*e*SG	**Sn**	**09 16 19.8**	**-1.1**
BODT	**Bodrum**	**0.70**	**257**	*e*Pg	**Pb**	**09 16 07.7**	**+0.4**
BODT				*e*Sg	**Sn**	**09 16 19.8**	**-1.1**
DNZL	**Cakiroluk**	**0.84**	**57**	*i* P	**Pn**	**09 16 11.3**	**-0.1**
DNZL				*i* S	**Sb**	**09 16 23.0**	**+1.3**
DNZL	**Cakiroluk**	**0.84**	**57**	P	**Pn**	**09 16 11.3**	**-0.1**
DNZL				S	**Sb**	**09 16 23.0**	**+1.3**
GCAM	**G?zelcaml?**	**0.88**	**303**	*i* P	**Pn**	**09 16 11.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.88**	**303**	P	**Pn**	**09 16 11.3**	**-0.4**
FETY	**Fethiye**	**0.95**	**129**	*e*PG	**Pg**	**09 16 09.9**	**-0.4**
FETY	**Fethiye**	**0.95**	**129**	*e*Pg	**Pg**	**09 16 09.9**	**-0.4**

*NEIC **06** 09:16:29.2±4.5, 28°.90S×176°.72W, h14km±27km, mb4.8/15, Error ellipse: s-maj=12.8km s-min=10.5km az=163.0*
*ISCJB **06** 09:16:32.6±1.5, 29°.05S±0°.06×176°.73W±0°.09, h49km±12km, mb4.7/20, MS4.5/4, Error ellipse: s-maj=12.7km s-min=9.2km az=7.3*
*BJI **06** 09:16:34.8, 29°.10S×176°.90W, h56km, mb5.0/2, Ms4.6/1*
*IDC **06** 09:16:36.2±0.9, 28°.96S×176°.81W, h62km±6km, mb4.1/11, mb1 4.3/12, mb1mx4.0/31, mbtmp4.4/12, MS4.5/6, Ms1 4.4/6, ms1mx3.9/28, Error ellipse: s-maj=20.3km s-min=12.2km az=154.0*

ISC 06 09:16:34.9±0.6, 29°.10S±0°.06×176°.71W±0°.08, h54km±4km, h52km: pP-P, n81, σ2°29/87, mb4.7/20, MS4.5/5, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**261**	P	**Pn**	**09 16 52.4**	**-1.2**
	650nm,0.3s,baz=110,slow=9.8,SNR=19						
RAO				S	**Sn**	**09 17 08.8**	**+1.3**
	2μm,0.3s,baz=73,slow=19,SNR=17						
URZ	**Urewera**	**10.49**	**208**	P	Pn	09 18 57.3	-5.2
	1.4nm,0.3s,baz=315,slow=3.5,SNR=7.9						
URZ				S	**Sn**	**09 20 52.4**	**-6.1**
	1.9nm,0.3s,baz=113,slow=15,SNR=5.1						
URZ	**Urewera**	**10.49**	**208**	*e*Pn	**Pn**	**09 19 01.6**	**-0.9**
URZ				S	**Sn**	**09 20 52.4**	**-6.1**
MSVF	**Nonsavu**	**12.29**	**336**	*e*Pn	**Pn**	**09 19 28.4**	**+1.1**
THZ	**Tophouse**	**15.19**	**211**	*e*Pn	**Pn**	**09 20 03.4**	**-2.7**
	58nm,1.2s						
THZ				*e*Sn	**Sn**	**09 22 55.8**	**+2.4**
KHZ	**Kahutara**	**15.45**	**208**	*e*Pn	**Pn**	**09 20 10.0**	**+0.7**
	74nm,1.2s						
AFI	**Afiamalu**	**15.79**	**18**	P	Pn	09 20 04.8	-9.1
	1.1nm,0.3s,baz=217,slow=20,SNR=3.0						
AFI				S	Sn	09 22 52.3	-16
	1.5nm,0.3s,baz=252,slow=23,SNR=3.9						
LTZ	**Lake Taylor**	**16.29**	**210**	*e*Pn	**Pn**	**09 20 19.9**	**-0.2**
	127nm,1.9s						
DZM	**Mont Dzumac**	**16.72**	**291**	P	**Pn**	**09 20 24.0**	**-1.7**
	0.1nm,0.3s,baz=143,slow=20,SNR=2.1						
DZM				LR	LR	09 25 58.8	
	comp=Z,3μm,18.2s,baz=160,slow=34						
DZM	**Mont Dzumac**	**16.72**	**291**	*e*P	**P**	**09 20 28.2**	**+0.9**
	158nm,1.4s						
DZM				*e*LR	LR	09 24 27.4	
	2μm,21.6s						
DZM	**Mont Dzumac**	**16.72**	**291**	*e*Pn	**P**	**09 20 28.2**	**+0.9**
	212nm,1.8s						
OXZ	**Oxford**	**16.83**	**209**	*e*Pn	**Pn**	**09 20 20.9**	**-5.9**
	46nm,0.5s						
OXZ				*e*Sn	**S**	**09 23 51.4**	**+10**
RAR	**Rarotonga**	**17.21**	**67**	P	**Pn**	**09 20 27.3**	**-4.3**
	0.6nm,0.3s,baz=333,slow=14,SNR=2.6						
RAR				S	Sn	09 23 28.9	-13
	0.8nm,0.3s,baz=181,slow=18,SNR=2.2						
RAR				LR	LR	09 27 37.7	
	comp=Z,436nm,18.2s,baz=248,slow=38						
RPZ	**Rata Peaks**	**17.57**	**211**	P	**Pn**	**09 20 32.5**	**-3.5**
	1.3nm,0.3s,baz=332,slow=6.0,SNR=5.8						
RPZ				S	Sn	09 23 30.7	-20
	0.4nm,0.3s,baz=38,slow=12,SNR=2.5						
RPZ	**Rata Peaks**	**17.57**	**211**	*e*Pn	**Pn**	**09 20 34.6**	**-1.4**
	26nm,0.8s						
RPZ				S	Sn	09 23 30.7	-20
PAE	**Paea**	**27.31**	**71**	*e*T	T	09 50 03.8	
	5.4nm,0.3s						
PPT2	**Papeete2**	**27.35**	**71**	*e*LQ	LQ	09 27 39.0	
	346nm,22.5s						
PPT2				*e*LR	LR	09 28 57.7	
	434nm,24.5s						
PPT2	**Papeete2**	**27.35**	**71**	*e*T	T	09 50 08.3	
	3.3nm,0.3s						
PPT	**Papeete**	**27.36**	**71**	LR	LR	09 32 39.1	
	comp=Z,291nm,18.2s,baz=200,slow=35						
EIDS	**Eidsvold**	**28.83**	**270**	*e*P	**P**	**09 22 28.9**	**+0.6**
	32nm,1.8s						
VAH	**Vaihoa**	**30.16**	**69**	*e*T	T	09 53 39.0	
	12nm,0.3s						
CTA	**Charters Tower**	**34.73**	**276**	P	**P**	**09 23 18.9**	**-1.3**
	9.1nm,0.8s,baz=99,slow=11,SNR=12						
CTA				pP	**pP**	**09 23 36.7**	**+2.9**
	12nm,0.7s,baz=95,slow=12,SNR=6.2						
CTAO	**Charters Tower**	**34.73**	**276**	*e*P	**P**	**09 23 20.7**	**+0.6**
CTAO				*e*pP	**sP**	**09 23 38.1**	**-2.1**
STKA	**Stephens Creek**	**35.88**	**255**	P	**P**	**09 23 29.4**	**-0.5**
	4.7nm,0.7s,baz=89,slow=9.9,SNR=13						
STKA				LR	LR	09 37 41.0	
	comp=Z,968nm,18.1s,baz=70,slow=35						
STKA	**Stephens Creek**	**35.88**	**255**	*e*P	**P**	**09 23 29.8**	**-0.1**
	1.8nm,0.8s						
TAOE	**Nuku Hiva Isla**	**39.76**	**67**	*e*LR	LR	09 34 36.9	
	293nm,24.1s						
AS01	**Alice Springs**	**44.28**	**265**	*e*P	**P**	**09 24 37.3**	**-2.3**
AS31	**Alice Springs**	**44.32**	**265**	*e*P	**P**	**09 24 38.1**	**-1.8**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**44.32**	**265**	P	**P**	**09 24 38.5**	**-1.5**
	5.2nm,0.7s,baz=102,slow=6.5,SNR=112						
ASAR				pP	**pP**	**09 24 55.0**	**+0.9**
	9.0nm,0.6s,baz=105,slow=6.8,SNR=14						
ASAR				LR	LR	09 43 17.4	
	comp=Z,1μm,18.1s,baz=111,slow=36						
WB2	**Warramunga Arr**	**45.18**	**270**	*e*P	**P**	**09 24 45.1**	**-1.7**
	21nm,0.8s						
WRAB	**Tennant Creek**	**45.19**	**270**	*e*P	**P**	**09 24 45.4**	**-1.5**
	19nm,0.8s						
WRA	**Warramunga Arr**	**45.20**	**270**	P	**P**	**09 24 45.4**	**-1.5**
	8.6nm,0.6s,baz=109,slow=7.7,SNR=63						
WRA				pP	**pP**	**09 25 03.0**	**+1.9**
	16nm,0.7s,baz=109,slow=7.7,SNR=17						
WRA				PcP	**PcP**	**09 26 26.3**	**-0.1**
	3.1nm,0.9s,baz=111,slow=3.4,SNR=4.0						
WRA				LR	LR	09 43 03.7	
	comp=Z,452nm,18.2s,baz=110,slow=35						
FORT	**Forrest**	**47.48**	**254**	*e*P	**P**	**09 25 03.2**	**-1.4**
	154nm,0.6s						
SBA	**Scott Base**	**49.42**	**185**	*e*P	**P**	**09 25 22.2**	**+3.3**
	31nm,1.2s						
VNDA	**Vanda**	**49.50**	**186**	P	**P**	**09 25 21.1**	**+1.6**
	1.3nm,0.9s,baz=4.3,slow=7.8,SNR=8.5						
VNDA	**Vanda**	**49.50**	**186**	*e*P	**P**	**09 25 22.0**	**+2.5**
	7.0nm,1.2s						
QSPA	**South Pole Qui**	**61.01**	**180**	*e*P	**P**	**09 26 43.8**	**+1.1**
MAW	**Mawson**	**73.92**	**200**	P	**P**	**09 28 05.0**	**+1.1**
	5.0nm,0.8s,baz=120,slow=7.0,SNR=18						
MAW	**Mawson**	**73.92**	**200**	*e*P	**P**	**09 28 05.1**	**+1.2**
	1.6nm,0.8s						
MJAR	**Matsushiro Arr**	**77.83**	**324**	P	**P**	**09 28 25.7**	**-0.9**
	1.8nm,0.6s,baz=154,slow=4.9,SNR=4.7						
SYO	**Syowa Base**	**78.63**	**193**	*e*P	**P**	**09 28 29.0**	**-1.6**
SNAA	**Sanae**	**79.42**	**178**	P	**P**	**09 28 35.0**	**0.0**
SNAA	**Sanae**	**79.42**	**178**	*e*P	**P**	**09 28 34.5**	**-0.5**
SNAA				*e*pP	**pP**	**09 28 53.2**	**+3.0**
VNA3	**Neumayer Olymp**	**79.52**	**176**	P	**P**	**09 28 35.3**	**-0.3**
VNA2	**Neumayer--Watz**	**79.97**

σ1⚲30/13, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.73**	**284**	Pg	**Pn**	**09 24 28.0**	**+0.8**
	13nm,0.3s,baz=103,slow=14,SNR=85						
ZALV				Lg	Lg	09 24 52.7	
	9.8nm,0.3s,baz=109,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	**Pn**	**09 25 32.2**	**+1.5**
	0.9nm,0.3s,baz=62,slow=14,SNR=50						
KURBB				Sn	**Sn**	**09 26 44.1**	**+0.8**
	0.1nm,0.3s,baz=66,slow=25,SNR=2.9						
KURBB				Lg	Lg	09 27 19.1	
	0.3nm,0.3s,baz=58,slow=31,SNR=7.9						
MK31	**Makanchi Array**	**7.62**	**209**	Pn	**Pn**	**09 25 49.1**	**+1.1**
	1.9nm,0.7s,baz=32,slow=13,SNR=21						
MK31				⇓Sn	**Sn**	**09 27 13.2**	**-1.1**
	3.1nm,0.6s,baz=28,slow=28,SNR=3.5						
MK31				⇑Lg	Lg	09 27 53.2	
	12nm,1.0s,baz=39,slow=33,SNR=3.6						
MKAR	**Makanchi Array**	**7.62**	**209**	Pn	**Pn**	**09 25 49.3**	**+1.3**
	0.7nm,0.3s,baz=31,slow=12,SNR=21						
MKAR				Sn	**Sn**	**09 27 13.3**	**-1.0**
	0.2nm,0.3s,baz=27,slow=24,SNR=6.6						
MKAR				Lg	Lg	09 27 55.1	
	0.6nm,0.3s,baz=32,slow=30,SNR=4.8						
MAKZ	**Makanchi**	**7.70**	**211**	⇑Pn	**Pn**	**09 25 50.4**	**+1.3**
	1.9nm,0.6s						
MAKZ				⇓Sn	**Sn**	**09 27 15.5**	**-0.8**
	3.7nm,0.7s						
MAKZ				⇑Lg	Lg	09 27 56.9	
	8.3nm,0.8s						
BVA0	**Borovoye Array**	**10.36**	**274**	⇓Pg	**Pn**	**09 26 26.3**	**+0.7**
	1.8nm,0.8s,baz=79,slow=15,SNR=3.8						
BVA0				⇓Lg	Lg	09 28 20.9	
	1.9nm,0.7s,baz=87,slow=24,SNR=4.2						
BVAR	**Borovoye Array**	**10.36**	**274**	Pn	**Pn**	**09 26 26.3**	**+0.7**
	0.3nm,0.3s,baz=77,slow=13,SNR=4.4						
BVAR				Sn	**Sn**	**09 28 19.5**	**-2.2**
	0.7nm,0.3s,baz=83,slow=26,SNR=6.9						
SONM	**Songino Array**	**13.17**	**108**	Pn	**Pn**	**09 27 03.6**	**-0.5**
	0.1nm,0.3s,baz=308,slow=14,SNR=2.4						
SONM				Lg	Lg	09 30 49.8	
	0.2nm,0.3s,baz=57,slow=5.5,SNR=3.1						

NEIC 06 09:26:21.8±0.0, 59°.13N×153°.24W, h4km, ML2.7(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.23**	**336**	P	Pg	09 26 26.6	+0.4
AUE	**Augustine Isla**	**0.24**	**344**	P	Pg	09 26 27.2	+0.7
AUL	**Augustine Lava**	**0.28**	**339**	P	Pg	09 26 27.5	+0.4
AUL				S	Sg	09 26 32.2	+1.4
CDD	**Cape Douglas**	**0.29**	**227**	P	Pg	09 26 27.8	+0.5
FOPK	**Fourpeaked Vol**	**0.39**	**198**	P	Pg	09 26 29.4	+0.2
FOSS	**Fourpeaked Sta**	**0.40**	**216**	P	Pg	09 26 29.7	+0.2
FOSS				S	Sg	09 26 34.9	+0.1
FONW	**Fourpeaked Sta**	**0.46**	**231**	P	Pg	09 26 30.7	+0.1
KAPH	**Katmai Pasha**	**0.78**	**228**	P	Pg	09 26 36.5	-0.3
KAPH				S	Sg	09 26 46.8	0.0
ILS	**Iliamna Low So**	**0.84**	**6**	P	Pg	09 26 37.0	-0.9
IVE	**Iliamna Volcan**	**0.90**	**7**	P	Pg	09 26 37.9	-1.1
ILIM	**Iliamna**	**0.97**	**8**	P	Pg	09 26 38.9	-1.4
HOM	**Homer**	**0.98**	**56**	P	Pg	09 26 39.4	-1.1
HOM				S	Sg	09 26 53.3	+0.2
KAHC	**Katmai Hardscr**	**1.03**	**243**	P	Pg	09 26 40.2	-1.3
KAWH	**Katmai**	**1.10**	**228**	P	Pg	09 26 41.7	-1.2
CNPM	**China Poot**	**1.10**	**68**	P	Pg	09 26 41.0	-1.9
CNPM				S	Sg	09 26 56.6	-0.6
KAKN	**Katmai Knife C**	**1.26**	**230**	P	Pg	09 26 44.3	-1.7
KAKN				S	Sg	09 27 00.4	-1.9
KVTA	**Katmai Vly 10**	**1.30**	**236**	P	Pn	09 26 45.1	-1.6
RED	**Redoubt Volcan**	**1.32**	**10**	P	Pn	09 26 44.6	-2.4
RED				S	Sg	09 27 01.6	-2.5
KABR	**Katmai Barrier**	**1.35**	**223**	P	Pn	09 26 46.1	-1.2
BRLK	**Bradley Lake**	**1.36**	**61**	P	Pn	09 26 45.0	-2.5
BRLK				S	Sg	09 27 02.5	-3.0
KABU	**Katmai Buttres**	**1.37**	**232**	P	Pn	09 26 46.4	-1.3
RDWB	**Redoubt West**	**1.38**	**8**	P	Pn	09 26 45.5	-2.4
RDWB				S	Sg	09 27 03.3	-2.9
KDAK	**Kodiak Island**	**1.39**	**165**	P	Pn	09 26 46.2	-1.6
KDAK				S	Sb	09 27 04.3	-2.0
KELA	**Mount Kelaz**	**1.47**	**243**	P	Pn	09 26 47.7	-1.4
RDJH	**Redoubt Jeurge**	**1.49**	**8**	P	Pn	09 26 47.3	-2.0
RDJH				S	Sb	09 27 06.8	-2.5
DFR	**Drift River**	**1.50**	**11**	P	Pn	09 26 47.3	-2.1
DFR				S	Sn	09 27 06.8	-2.7
OHAK	**Old Harbor**	**1.91**	**181**	P	Pn	09 26 54.4	-0.6
SLKM	**Skilak Lake**	**2.06**	**46**	P	Pn	09 26 56.7	-0.5
CKL	**Chakachamna La**	**2.13**	**12**	P	Pn	09 26 57.6	-0.5
SEW	**Seward**	**2.16**	**61**	P	Pn	09 26 57.9	-0.6
SPWE	**Spurr West**	**2.18**	**9**	P	Pn	09 26 57.8	-1.0
SPCP	**Crater Peak Br**	**2.21**	**14**	P	Pn	09 26 58.6	-0.8
SVW2	**Sparrevohn**	**2.30**	**330**	P	Pn	09 26 58.5	-1.9
STLK	**Strandline Lak**	**2.48**	**16**	P	Pn	09 27 02.0	-1.0
RC01	**Rabbit Creek A**	**2.64**	**40**	P	Pn	09 27 04.1	-1.0
SUA	**Susitna One**	**2.66**	**27**	P	Pn	09 27 04.8	-0.6
PWL	**Port Wells**	**3.02**	**53**	P	Pn	09 27 09.8	-0.5
PMR	**Palmer**	**3.21**	**38**	P	Pn	09 27 12.3	-0.6
KNK	**Knik Glacier**	**3.31**	**44**	P	Pn	09 27 13.7	-0.5
CUT	**Chulitna**	**3.60**	**23**	P	Pn	09 27 17.7	-0.5
SCM	**Sheep Creek Mo**	**3.99**	**45**	P	Pn	09 27 23.1	-0.6
KTH	**Kantishna Hill**	**4.58**	**13**	P	Pn	09 27 31.3	-0.4
DHY	**Denali Highway**	**4.88**	**33**	P	Pn	09 27 35.6	-0.3
IL1	**Eielson Array**	**6.41**	**25**	P	Pn	09 27 55.6	-1.1

*ISCJB **06** 09:33:47.7±0.5, 24°.31S±0°.04×67°.15W±0°.05, h169km, Error ellipse: s-maj=7.2km s-min=3.9km az=137.7*
*GUC **06** 09:33:47.8±0.3, 24°.15S×67°.48W, h218km±16km, ML3.9*
*SJA **06** 09:33:48.5±0.8, 24°.44S×66°.82W, h202km±15km, ML2.5, MW2.6*

ISC 06 09:33:47.9±1.2, 24°.29S±0°.05×67°.12W±0°.05, h169km, n14, σ0⚲98/24, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.54**	**107**	⇓*i*P	**Pn**	**09 34 20.2**	**+0.8**
SLA	**San Lorenzo**	**1.54**	**107**	*e*P	**Pn**	**09 34 20.5**	**+1.0**
SLA				IAML		09 34 21.9	
	comp=Z,47nm,0.7s						
AZAP	**Zapla**	**1.88**	**88**	*e*P	**Pn**	**09 34 22.8**	**-0.3**
AZAP				IAML		09 34 23.1	
	comp=Z,91nm,0.5s						
AZAP				*e*S	**Sn**	**09 34 51.2**	**+0.9**
FSA	**Cafayete**	**2.09**	**151**	*e*P	**Pn**	**09 34 26.2**	**+0.9**
FSA				IAML		09 34 26.6	
	comp=Z,8.3nm,0.3s						
FSA				*e*S	**Sn**	**09 34 54.0**	**-0.4**
PB06	**IPOC Station P**	**2.75**	**305**	⇑*i*P	**Pn**	**09 34 33.8**	**+0.6**
PB06				*i*S	**Sn**	**09 35 08.4**	**+0.2**
PB06				IAML		09 35 10.6	
	comp=E,195nm,0.3s						
AHML	**Horco Molle**	**2.96**	**147**	*e*P	**Pn**	**09 34 35.5**	**-0.1**
AHML				IAML		09 34 36.5	
	comp=Z,7.9nm,0.4s						
PB14	**IPOC Station P**	**3.01**	**263**	*e*P	**Pn**	**09 34 37.6**	**+1.1**
PB14				*e*S	**Sn**	**09 35 15.1**	**+0.9**
PB09	**IPOC Station P**	**3.16**	**321**	⇓*i*P	**Pn**	**09 34 38.7**	**+0.5**
PB09				*e*S	**Sn**	**09 35 17.5**	**+0.2**
PB09				IAML		09 35 21.2	
	comp=N,181nm,0.2s						
PB10	**IPOC Station P**	**3.23**	**283**	*e*P	**Pn**	**09 34 39.6**	**+0.7**
PB10				*i*S	**Sn**	**09 35 18.6**	**-0.1**
PB10				IAML		09 35 23.2	
	comp=E,272nm,0.3s						
PB04	**IPOC Station P**	**3.40**	**304**	⇑*i*P	**Pn**	**09 34 41.2**	**0.0**
PB04				*i*S	**Sn**	**09 35 21.7**	**-0.9**
PB04				IAML		09 35 25.3	
	comp=N,99nm,0.4s						
PB07	**IPOC Station P**	**3.60**	**314**	⇑*i*P	**Pn**	**09 34 43.2**	**-0.7**
PB07				*i*S	**Sn**	**09 35 24.9**	**-2.4**
PB07				IAML		09 35 26.8	
	comp=N,108nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.12**	**178**	*e*P	**Pn**	**09 35 03.7**	**+0.4**
ACLC				*e*S	**Sn**	**09 36 01.8**	**-0.7**
AGUA	**GUANDACOL**	**5.32**	**193**	*e*P	**Pn**	**09 35 07.0**	**+1.1**
AGUA				*e*S	**Sn**	**09 36 05.3**	**-1.8**
APLL	**PUNTA DE LOS L**	**6.11**	**175**	*e*P	**Pn**	**09 35 15.1**	**-1.1**
APLL				*e*S	Sn	09 36 08.0	-18

*ISCJB **06** 09:37:54.6±0.5, 37°.23N±0°.03×28°.26E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=3.1km az=35.6*
*CSEM **06** 09:37:54.6±0.2, 37°.23N×28°.27E, h1km, ML2.3, Error ellipse: s-maj=4.0km s-min=3.1km az=34.0, Suspected Mining explosion.*
*DDA **06** 09:37:54.4, 37°.20N×28°.21E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **06** 09:37:54.4, 37°.21N×28°.24E, h17km, ML2.3*

ISC 06 09:37:53.7±0.9, 37°.24N±0°.02×28°.31E±0°.03, h0km, n22, σ0⚲67/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.43**	**277**	*e*PG	**Pg**	**09 38 01.6**	**-0.3**
MLSB				*e*SG	**Sg**	**09 38 08.4**	**+0.8**
MLSB	**Milas**	**0.43**	**277**	*e*Pg	**Pg**	**09 38 01.7**	**-0.3**
MLSB				*e*Sg	**Sg**	**09 38 08.4**	**+0.8**
TURN	**Turunc**	**0.43**	**148**	*i* P	**Pg**	**09 38 02.4**	**+0.3**
TURN				*i* S	**Sg**	**09 38 08.9**	**+1.2**
TURN	**Turunc**	**0.43**	**148**	P	**Pg**	**09 38 02.4**	**+0.3**
TURN				S	**Sg**	**09 38 08.9**	**+1.2**
DALY	**Dalyan (Mu¨la**	**0.50**	**147**	*e*PG	**Pb**	**09 38 05.1**	**-0.3**
DALY				*e*SG	**Sb**	**09 38 13.0**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.50**	**147**	*e*Pg	**Pb**	**09 38 05.1**	**-0.3**
DALY				*e*Sg	**Sb**	**09 38 13.0**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.53**	**65**	*i* P	**Pb**	**09 38 06.3**	**+0.3**
TAVA				*i* S	**Sn**	**09 38 16.7**	**-1.7**
TAVA	**DENIZLI_Tavas**	**0.53**	**65**	P	**Pb**	**09 38 06.3**	**+0.3**
TAVA				S	**Sn**	**09 38 16.7**	**-1.7**
AYDN	**Tasoluk**	**0.54**	**321**	*i* P	**Pg**	**09 38 04.5**	**+0.3**
AYDN				*i* S	**Sg**	**09 38 11.5**	**+0.3**
AYDN	**Tasoluk**	**0.54**	**321**	P	**Pg**	**09 38 04.5**	**+0.3**
AYDN				S	**Sg**	**09 38 11.5**	**+0.3**
BDRM	**Kayabasi**	**0.72**	**256**	*i* P	**Pg**	**09 38 07.6**	**+0.1**
BDRM				*i* S	**Sg**	**09 38 18.0**	**+1.2**
BDRM	**Kayabasi**	**0.72**	**256**	P	**Pg**	**09 38 07.6**	**+0.1**
BDRM				S	**Sg**	**09 38 18.0**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**335**	*e*PG	**Pb**	**09 38 10.2**	**-0.1**
AYDB				*e*SG	**Sb**	**09 38 21.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**335**	*e*Pg	**Pb**	**09 38 10.2**	**-0.1**
AYDB				*e*Sg	**Sb**	**09 38 21.5**	**0.0**
DAT	**Datca**	**0.78**	**229**	*e*PG	**Pg**	**09 38 09.0**	**+0.3**
DAT				*e*SG	**Sg**	**09 38 19.2**	**+0.4**
DAT	**Datca**	**0.78**	**229**	*e*Pg	**Pg**	**09 38 09.0**	**+0.3**
DAT				*e*Sg	**Sg**	**09 38 19.2**	**+0.4**
BODT	**Bodrum**	**0.82**	**258**	*e*PG	**Pg**	**09 38 09.6**	**+0.1**
BODT				*e*SG	**Sg**	**09 38 20.7**	**+0.6**
BODT	**Bodrum**	**0.82**	**258**	*e*Pg	**Pg**	**09 38 09.6**	**+0.1**
BODT				*e*Sg	**Sg**	**09 38 20.7**	**+0.6**
GCAM	**G?zelcaml?**	**0.97**	**298**	*i* P	**Pg**	**09 38 12.8**	**+0.4**
GCAM				*i* S	**Sg**	**09 38 25.8**	**+0.8**
GCAM	**G?zelcaml?**	**0.97**	**298**	P	**Pg**	**09 38 12.8**	**+0.4**
GCAM				S	**Sg**	**09 38 25.8**	**+0.8**
KULA	**Kula-Manisa**	**1.30**	**12**	*e*PN	**Pg**	**09 38 19.1**	**+0.4**
KULA	**Kula-Manisa**	**1.30**	**12**	*e*Pn	**Pg**	**09 38 19.1**	**+0.4**

KRSC 06 10:08:27.6±1.2, 53°.97N×161°.44E, h54km±21km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**1.18**	**274**	*e*P	Pn	10 08 49.0	+1.2
KII				*e*S	Sn	10 09 02.7	-0.2
SPN	**Mys Shipunski**	**1.21**	**225**	*e*P	Pn	10 08 50.2	+2.0
SPN				*e*S	Sn	10 09 05.1	+1.6
KZV	**Kizimen**	**1.33**	**330**	*e*P	Pn	10 08 51.2	+1.2
KZV				*e*S	Sn	10 09 07.1	+0.4
TUMD	**Tumrok D**	**1.38**	**334**	*e*P	Pn	10 08 51.4	+0.9
TUMD				*e*S	Sn	10 09 07.4	-0.3
NLC	**Nalytchevo**	**1.48**	**238**	*e*P	Pn	10 08 53.8	+2.0
NLC				*e*S	Sn	10 09 11.7	+1.7
TUMR	**Tumrok**	**1.52**	**331**	*e*P	Pn	10 08 54.3	+1.8
SDLR	**Sedlovina**	**1.67**	**247**	*e*P	Pn	10 08 57.1	+2.6
SDLR				*e*S	Sn	10 09 16.9	+2.0
KRER	**Koryakskii**	**1.73**	**249**	*e*P	Pn	10 08 58.3	+2.8
KRER				*e*S	Sn	10 09 19.5	+3.0
UGLR	**Uglovaya**	**1.73**	**245**	*e*P	Pn	10 08 58.1	+2.7
UGLR				*e*S	Sn	10 09 18.7	+2.3
AVH	**Avacha**	**1.75**	**248**	*e*P	Pn	10 08 58.6	+3.0
AVH				*e*S	Sn	10 09 19.6	+2.7
KRX	**Arik**	**1.77**	**251**	*e*P	Pn	10 08 58.4	+2.5
KRX				*e*S	Sn	10 09 19.1	+1.8
KOK	**Koryaka**	**1.80**	**249**	*e*P	Pn	10 08 59.1	+2.8
KOK				*e*S	Sn	10 09 20.9	+2.9
DALK	**Dalny**	**1.86**	**241**	*e*P	Pn	10 08 59.5	+2.6
DALK				*e*S	Sn	10 09 21.1	+1.9
PET	**Petropavlovsk**	**1.91**	**242**	*e*P	Pn	10 09 00.4	+2.7
PET				*e*S	Sn	10 09 22.6	+2.0
KMNR	**Kamenistaya**	**1.93**	**339**	*e*P	Pn	10 09 00.9	+2.9
KMNR				*e*S	Sn	10 09 24.4	+3.3
BZMR	**Bezymyannaya**	**2.05**	**345**	*e*P	Pn	10 09 02.7	+3.0
GNL	**Ganaly**	**2.09**	**264**	*e*P	Pn	10 09 02.7	+2.4
GNL				*e*S	Sn	10 09 26.9	+1.8
ZLN	**Zelenaya**	**2.09**	**350**	*e*P	Pn	10 09 03.3	+3.1
ZLN				*e*S	Sn	10 09 28.1	+3.0
KIRR	**Kirishev**	**2.09**	**343**	*e*P	Pn	10 09 03.3	+3.0
KIRR				*e*S	Sn	10 09 28.3	+3.1
LGNR	**Loginova**	**2.17**	**349**	*e*P	Pn	10 09 04.8	+3.3
LGNR				*e*S	Sn	10 09 30.7	+3.4
CIRR	**Tsirk**	**2.19**	**350**	*e*P	Pn	10 09 05.0	+3.3
CIRR				*e*S	Sn	10 09 31.7	+4.0
KOZ	**Kozyrevsk**	**2.28**	**337**	*e*P	Pn	10 09 05.5	+2.7
KOZ				*e*S	Sn	10 09 32.2	+2.5
KRMR	**Karymshinskiy**	**2.28**	**241**	*e*P	Pn	10 09 05.9	+3.1
KRMR				*e*S	Sn	10 09 33.1	+3.4
KRSR	**Krestovskiy**	**2.31**	**348**	*e*P	Pn	10 09 06.0	+2.7
KRSR				*e*S	Sn	10 09 33.3	+2.7
RUS	**Russkaya**	**2.33**	**230**	*e*P	Pn	10 09 06.0	+2.5
RUS				*e*S	Sn	10 09 32.1	+1.2
KLY	**Klyuchi**	**2.40**	**349**	*e*P	Pn	10 09 06.8	+2.5
KLY				*e*S	Sn	10 09 34.9	+2.5
MTVR	**Mutnovka**	**2.46**	**234**	*e*S	Sn	10 09 37.1	+3.0
ESO	**Esso**	**2.52**	**322**	*e*P	Pn	10 09 07.5	+1.4
APC	**Apacha**	**2.76**	**250**	*e*S	Sn	10 09 45.7	+4.3
BKI	**Bering**	**2.92**	**63**	*e*S	Sn	10 09 45.6	+0.4

*IDC **06** 10:26:52.3±0.8, 9°.78N×138°.41E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/48, mbtmp3.9/10, ML3.8/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/41, Error ellipse: s-maj=28.7km s-min=16.8km az=82.0*
*ISCJB **06** 10:26:54.9±0.6, 9°.75N±0°.08×138°.53E±0°.08, h33km, mb3.8/8, MS3.5/1, Error ellipse: s-maj=13.2km s-min=8.9km az=41.9*

ISC 06 10:26:57.2±0.7, 9°.69N±0°.07×138°.5E±0°.1, h35km, n17, σ1⚲34/12, mb3.9/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.36**	**58**	Pn	**Pn**	**10 28 43.1**	**+0.9**
	2.9nm,0.3s,baz=180,slow=20,SNR=2.4						
GUMO				Sn	**Sn**	**10 30 03.5**	**-1.0**
	5.2nm,0.3s,baz=180,slow=19,SNR=2.6						
GUMO				LR	LR	10 31 07.4	
	comp=Z,165nm,19.6s,baz=8.0,slow=35						
JAY	**Jayapura**	**12.32**	**170**	Pn	**Pn**	**10 29 50.7**	**+0.4**
	0.2nm,0.3s,baz=285,slow=21,SNR=15						
JAY				Sn	**Sn**	**10 32 03.9**	**-2.7**
	0.1nm,0.3s,baz=43,slow=23,SNR=7.6						
SIJI	**Sorong**	**12.71**	**215**	LR	LR	10 33 28.6	
	comp=Z,739nm,20.5s,baz=204,slow=31						
H11S3	**WAKE ISLAND Hy 28.69**	**69**		T	T	11 03 15.6	
	baz=256,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy 28.70**	**69**		T	T	11 03 16.5	
	baz=256,slow=75,SNR=48						
H11S2	**WAKE ISLAND Hy 28.70**	**69**		T	T	11 03 14.8	
	baz=256,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy 29.18**	**67**		T	T	11 03 51.8	
	baz=254,slow=75,SNR=83						
H11N2	**WAKE ISLAND Hy 29.19**	**67**		T	T	11 03 53.0	
	baz=254,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy 29.20**	**67**		T	T	11 03 52.2	
	baz=254,slow=75,SNR=76						
WRA	**Warramunga Arr**	**29.73**	**188**	P	**P**	**10 33 02.3**	**+2.0**
	1.2nm,1.1s,baz=8.1,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**33.45**	**188**	P	**P**	**10 33 33.0**	**-0.1**
	0.5nm,0.6s,baz=18,slow=12,SNR=13						
ASAR				LR	LR	10 46 49.6	
	comp=Z,87nm,19.3s,baz=205,slow=36						
CMAR	**Chiang Mai Arr**	**39.26**	**287**	P	**P**	**10 34 21.8**	**-1.0**
	1.7nm,0.6s,baz=108,slow=6.9,SNR=7.7						
STKA	**Stephens Creek**	**41.44**	**176**	P	**P**	**10 34 41.7**	**+1.2**
	0.7nm,0.7s,baz=358,slow=7.7,SNR=3.4						
SONM	**Songino Array**	**46.66**	**331**	P	**P**	**10 35 22.2**	**-0.3**
	2.2nm,0.9s,baz=140,slow=7.0,SNR=9.1						
MKAR	**Makanchi Array**	**60.11**	**319**	P	**P**	**10 37 01.6**	**+0.4**
	0.8nm,0.7s,baz=96,slow=8.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**63.68**	**322**	P	**P**	**10 37 24.7**	**-0.3**
	0.7nm,0.5s,baz=98,slow=6.6,SNR=2.1						
ILAR	**Eielson Array**	**74.75**	**25**	P	**P**	**10 38 32.8**	**-0.6**
	1.1nm,0.8s,baz=249,slow=6.0,SNR=14						

KRSC 06 10:26:59.3±0.8, 54°.20N×162°.14E, h40km±18km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**1.41**	**311**	*e*P	Pn	10 27 24.0	+1.4
TUMD	**Tumrok D**	**1.43**	**316**	*e*P	Pn	10 27 24.0	+1.3
TUMD				*e*S	Sn	10 27 41.0	+0.8
TUMR	**Tumrok**	**1.59**	**314**	*e*P	Pn	10 27 26.7	+1.7
KII	**Karymskiy**	**1.59**	**265**	*e*P	Pn	10 27 26.7	+1.7
KII				*e*S	Sn	10 27 45.7	+1.3
SPN	**Mys Shipunski**	**1.67**	**230**	*e*P	Pn	10 27 27.5	+1.4
SPN				*e*S	Sn	10 27 46.8	+0.5
KMNR	**Kamenistaya**	**1.91**	**326**	*e*P	Pn	10 27 32.0	+2.6
KMNR				*e*S	Sn	10 27 54.8	+2.6
NLC	**Nalytchevo**	**1.96**	**239**	*e*P	Pn	10 27 32.5	+2.6
NLC				*e*S	Sn	10 27 54.9	+1.7
ZLN	**Zelenaya**	**1.98**	**338**	*e*P	Pn	10 27 33.1	+2.8
BZMR	**Bezymyannaya**	**1.98**	**332**	*e*P	Pn	10 27 32.8	+2.4
KIRR	**Kirishev**	**2.04**	**330**	*e*P	Pn	10 27 34.0	+2.8
LGNR	**Loginova**	**2.06**	**337**	*e*P	Pn	10 27 33.6	+1.9
CIRR	**Tsirk**	**2.08**	**338**	*e*P	Pn	10 27 34.7	+2.9
CIRR				*e*S	Sn	10 27 59.4	+2.9
KBG	**Krutoberegovo**	**2.09**	**9**	*e*P	Pn	10 27 32.9	+1.2
KPT	**Kopyto**	**2.09**	**329**	*e*P	Pn	10 27 34.9	+3.1
SDLR	**Sedlovina**	**2.14**	**246**	*e*P	Pn	10 27 35.1	+2.5
SDLR				*e*S	Sn	10 28 00.6	+2.6
KRER	**Koryakskii**	**2.20**	**247**	*e*P	Pn	10 27 36.3	+2.8
UGLR	**Uglovaya**	**2.21**	**245**	*e*P	Pn	10 27 36.7	+3.2
UGLR				*e*S	Sn	10 28 02.8	+3.2
KRSR	**Krestovskiy**	**2.21**	**337**	*e*P	Pn	10 27 36.1	+2.5
AVH	**Avacha**	**2.23**	**247**	*e*P	Pn	10 27 36.6	+2.9
AVH				*e*S	Sn	10 28 02.8	+2.8
KRX	**Arik**	**2.23**	**249**	*e*P	Pn	10 27 36.6	+2.7
KRX				*e*S	Sn	10 28 02.6	+2.3
KOK	**Koryaka**	**2.27**	**248**	*e*P	Pn	10 27 38.2	+3.9
KOZ	**Kozyrevsk**	**2.27**	**326**	*e*P	Pn	10 27 38.0	+3.7
KLY	**Klyuchi**	**2.28**	**339**	*e*S	Sn	10 28 03.2	+1.9
DALK	**Dalny**	**2.33**	**241**	*e*P	Pn	10 27 37.8	+2.7
DALK				*e*S	Sn	10 28 04.9	+2.5
BKI	**Bering**	**2.44**	**64**	*e*S	Sn	10 28 07.4	+2.3
GNL	**Ganaly**	**2.53**	**260**	*e*P	Pn	10 27 41.1	+3.1
ESO	**Esso**	**2.63**	**313**	*e*P	Pn	10 27 41.5	+2.3
KRMR	**Karymshinskiy**	**2.76**	**242**	*e*P	Pn	10 27 44.6	+3.7
KRMR				*e*S	Sn	10 28 17.1	+4.1
RUS	**Russkaya**	**2.80**	**232**	*e*P	Pn	10 27 44.7	+3.1
APC	**Apacha**	**3.23**	**249**	*e*P	Pn	10 27 51.6	+4.2

*IDC **06** 10:33:39.4±0.9, 57°.90N×32°.59W, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.7/54, mbtmp3.7/12, MS3.3/9, Ms1 3.3/9, ms1mx3.1/54, Error ellipse: s-maj=29.1km s-min=18.1km az=8.0*
*ISCJB **06** 10:33:40.3±0.7, 57°.9N±0°.2×32°.6W±0°.2, h18km, mb3.8/12, MS3.2/8, Error ellipse: s-maj=22.7km s-min=14.4km az=12.6*

ISC 06 10:33:42.0±0.8, 57°.9N±0°.2×32°.6W±0°.1, h18km, n23, σ1⚲06/13, mb3.8/12, MS3.2/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.30**	**325**	LR	LR	10 40 36.7	
	comp=Z,152nm,18.6s,ba

Moment Tensor Solution. s12,c13; s78,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.40±.09; $M_{\theta\theta}$-0.41±.08; $M_{\phi\phi}$0.01±.09; $M_{r\theta}$-0.29±.17; $M_{\theta\phi}$-2.29±.09; $M_{r\phi}$-0.44±.21; Best double couple: $M_0$2.34800×10^{16} NP1:ϕ_s2.00000°, δ86.00000°, λ-10.00000°. NP2: ϕ_s93.00000°, δ80.00000°, λ-176.00000°. Principal axes: T 2.1110, Plg4.0000°, Azm48.0000°; N 0.4740, Plg79.0000°, Azm162.0000°; P -2.5860, Plg10.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **06** 10:37:13.3±0.3,36°.38N×137°.54E,h10km,mb4.8/23 Error ellipse: s-maj=6.8km s-min=5.4km az=150.0*

NEIC Recorded [3 JMA] in Nagano.

*ISCJB **06** 10:37:15.1±0.2,36°.44N±0°.03×137°.45E±0°.04,h33km, mb4.4/63,MS4.3/17,Error ellipse: s-maj=5.0km s-min=3.8km az=44.4*

ISC 06 10:37:16.2±0.4,36°.37N±0°.05×137°.67E±0°.03,h31km±2km, h32km:pP-P,n160,σ2s09/186,mb4.5/63,MS4.5/18,6C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.32**	**243**	P	**Pb**	**10 37 21.4**	**-2.7**
JGN				S	**Sb**	**10 37 27.2**	**-2.3**
JNG	**Nsakai**	**0.35**	**84**	P	**Pb**	**10 37 20.6**	**-4.0**
JNG				S	**Sb**	**10 37 25.9**	**-4.3**
JTT	**Ttatey**	**0.36**	**311**	P	Pb	10 37 18.3	-6.3
MAT	**Matsushiro**	**0.47**	**68**	P	Pb	10 37 21.4	-4.8
MAT				S	**Sb**	**10 37 27.3**	**-5.8**
MJAR	**Matsushiro Arr**	**0.47**	**68**	Pg	**Pb**	**10 37 22.0**	**-4.2**
	759nm,0.3s,baz=278,slow=18,SNR=558						
MJAR				Lg	Lg	10 37 28.6	
	2μm,0.3s,baz=270,slow=28,SNR=68						
MJAR				LR	LR	10 37 43.0	
	comp=Z,4μm,19.8s,baz=260,slow=57						
INU	**Inuyama**	**1.15**	**208**	*e*Pn	**Pn**	**10 37 35.1**	**-1.0**
I30JP	**ISUMI INFRASON**	**2.40**	**115**	*i*		10 50 10.0	
	baz=304,slow=323,SNR=0.4						
JHJ	**Hachijo jima 2**	**3.68**	**151**	Pn	**Pb**	**10 38 16.8**	**-3.7**
	39nm,0.3s,baz=241,slow=11,SNR=11						
JNU	**Nakatsue**	**6.46**	**242**	Pn	**Pn**	**10 38 50.7**	**+1.5**
	1.2nm,0.3s,baz=40,slow=3.1,SNR=9.7						
JNU				Lg	Lg	10 40 23.1	
	baz=137,slow=19,SNR=2.1						
JNU	**Nakatsue**	**6.46**	**242**	*e*Pn	**Pn**	**10 38 49.4**	**+0.2**
JNU				*e*Sn	**Sb**	**10 40 23.1**	**-1.5**
ERM	**Erimo**	**7.07**	**35**	⇓*e*P	**Pn**	**10 38 58.2**	**+0.8**
ERM	**Erimo**	**7.07**	**35**	*e*Pn	**Pn**	**10 38 57.1**	**-0.3**
KSRS	**Korea Array**	**7.88**	**281**	Pn	**Pn**	**10 39 06.5**	**-2.1**
	0.5nm,0.3s,baz=90,slow=14,SNR=3.8						
KS01	**Wonju Array Si**	**7.91**	**281**	*e*Pn	**Pn**	**10 39 08.0**	**-1.0**
KS15	**Wonju Array Si**	**7.91**	**281**	*e*Pn	**Pn**	**10 39 07.0**	**-2.0**
KSAR	**Wonju Array Be**	**7.91**	**281**	P	**Pn**	**10 39 06.5**	**-2.5**
KSAR	**Wonju Array Be**	**7.91**	**281**	Pn	**Pn**	**10 39 06.5**	**-2.5**
VLA	**Vladivostok**	**8.08**	**328**	⇓*i*P		10 39 15.6	+4.4
VLA				pmax	pmax		
	comp=Z,17nm,1.1s						
ASAJ	**Asahikawa**	**8.60**	**24**	Pn	**Pn**	**10 39 17.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=199,slow=11,SNR=16						
ASAJ				LR	LR	10 42 43.9	
	comp=Z,928nm,20.7s,baz=204,slow=38						
ASAJ	**Asahikawa**	**8.60**	**24**	*e*Pn	**Pn**	**10 39 20.8**	**+2.3**
USRK	**Ussuriysk Ar.**	**8.94**	**333**	Pn	**Pn**	**10 39 20.6**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=2.6						
USRK				LR	LR	10 42 28.0	
	comp=Z,1μm,18.4s,baz=138,slow=36						
MDJ	**Mudanjiang**	**10.27**	**326**	P	**Pn**	**10 39 40.9**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,56nm,8.6s						
YSS	**Yuzh-Sakhalins**	**11.23**	**18**	α*e*P	**Pn**	**10 39 55.3**	**+0.8**
YSS				*e*S	**Sn**	**10 42 03.7**	**+4.8**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				pmax	pmax		
	comp=Z,400nm,2.7s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,2μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**11.23**	**18**	*e*Pn	**Pn**	**10 39 55.1**	**+0.6**
KUR	**Kuril'sk**	**11.74**	**38**	P	Pn	10 40 07.1	+5.7
KUR				*e*S	**Sn**	**10 42 13.3**	**+2.0**
KUR				pmax	pmax		
	comp=N,11nm,0.9s						
KUR				pmax	pmax		
	comp=Z,23nm,0.9s						
KUR				MLR	MLR		
	comp=E,1μm,12.0s						
KUR				MLR	MLR		
	comp=E,899nm,11.0s						
KUR				MLR	MLR		
	comp=N,746nm,12.0s						
CN2	**Changchun**	**11.94**	**312**	*e*P	**Pn**	**10 40 01.3**	**-2.8**
CN2				*e*PP	**PnPn**	**10 40 11.2**	**-0.6**
CN2				*e*S	**Sn**	**10 42 12.8**	**-3.3**
CN2				LR	LR		
	comp=N,700nm,14.0s						
CN2				LR	LR		
	comp=N,2μm,14.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s						
HABR	**Khabarovsk**	**12.25**	**352**	*e*P	**Pn**	**10 40 06.4**	**-1.9**
HABR				*e*S	**Sn**	**10 42 22.8**	**-0.8**
HABR				pmax	pmax		
	comp=E,68nm,2.1s						
HABR				pmax	pmax		
	comp=N,43nm,2.1s						
HABR				pmax	pmax		
	comp=Z,90nm,2.1s						
HABR				MLR	MLR		
	comp=Z,658nm,12.0s						
TYV	**Tymovskoe**	**14.93**	**12**	*e*P	**Pn**	**10 40 44.0**	**-0.8**
TYV				pmax	pmax		
	comp=Z,200nm,2.5s						
NJ2	**Nanjing**	**16.15**	**260**	*e*P	**P**	**10 41 08.1**	**+4.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,12.5s						
NJ2				LR	LR		
	comp=E,2μm,16.3s						
NJ2				LR	LR		
	comp=Z,2μm,15.7s						
TIA	**Tai'an**	**16.57**	**276**	*e*P	**P**	**10 41 10.8**	**+2.4**
TIA				S	**S**	**10 44 28.6**	**+8.6**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA				pmax	pmax		
	comp=Z,270nm,6.0s						
TIA				LR	LR		
	comp=N,2μm,13.0s						
TIA				LR	LR		
	comp=E,3μm,15.0s						
TIA				LR	LR		
	comp=Z,3μm,14.0s						
BJI	**Beijing**	**17.28**	**289**	P	**Pn**	**10 41 12.8**	**-2.2**
BJI				pmax	pmax		
	comp=Z,13nm,1.6s						
BJI				pmax	pmax		
	comp=Z,100nm,3.6s						
BJI				LR	LR		
	comp=Z,960nm,15.7s						
BJI				LR	LR		
	comp=Z,980nm,15.1s						
BJI				LR	LR		
	comp=Z,470nm,22.7s						
WHN	**Wuhan**	**20.28**	**260**	⇓P	Pn	10 41 52.9	+1.5
WHN				pmax	pmax		
	comp=Z,62nm,1.0s						
WHN				LR	LR		
	comp=Z,2μm,12.6s						
WHN				LR	LR		
	comp=Z,4μm,13.9s						
WHN				LR	LR		
	comp=Z,5μm,13.5s						
HHC	**Hu-ho-hao-te**	**20.85**	**290**	*e*P	**P**	**10 41 54.7**	**-0.8**
HHC				sP	sP	10 42 07.6	-0.3
HHC				S	**S**	**10 45 37.7**	**-8.7**
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,9.3s						
HHC				LR	LR		
	comp=Z,500nm,13.6s						
HHC				LR	LR		
	comp=Z,1μm,13.8s						
HHC				LR	LR		
	comp=Z,1μm,13.1s						
PETK	**Petropavlovsk-**	**21.84**	**34**	P	**P**	**10 42 05.8**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=211,slow=7.6,SNR=3.0						
PEA1	**Petropavlovsk-**	**21.85**	**34**	*e*P	**P**	**10 42 05.8**	**-0.1**
PET	**Petropavlovsk**	**22.22**	**35**	*e*P	P	10 42 16.9	+7.0
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
PET				MLR	MLR		
	comp=Z,700nm,16.0s						
XAN	**Xi'an**	**23.57**	**273**	*e*P	**P**	**10 42 21.5**	**-2.5**
XAN				sP	sP	10 42 35.1	-1.6
XAN				PP	**PnPn**	**10 42 52.7**	**+1.3**
XAN				S	**S**	**10 46 27.0**	**-9.2**
XAN				pmax	pmax		
	comp=Z,74nm,9.5s						
XAN				LR	LR		
	comp=Z,1μm,14.8s						
XAN				LR	LR		
	comp=Z,550nm,18.4s						
XAN				LR	LR		
	comp=Z,1μm,16.3s						
GUMO	**Guam**	**23.59**	**162**	LR	LR	10 51 23.4	
	comp=Z,955nm,19.2s,baz=2.0,slow=36						
MA2	**Magadan**	**24.73**	**16**	P	**P**	**10 42 33.5**	**-0.9**
	comp=Z,5.0nm,0.8s,baz=199,slow=18,SNR=5.1						
MA2				LR	LR	10 51 46.8	
	comp=Z,157nm,18.4s,baz=210,slow=35						
MA2	**Magadan**	**24.73**	**16**	⇑*e*P	**P**	**10 42 34.0**	**-0.4**
ULN	**Ulaanbaatar**	**25.28**	**307**	⇓*i*P	**P**	**10 42 41.4**	**+1.6**
ULN				pmax	pmax		
	comp=Z,15nm,2.0s						
SONA1	**Songino Array**	**25.70**	**306**	*e*P	**P**	**10 42 43.3**	**-0.3**
SONA0	**Songino Array**	**25.70**	**306**	*e*P	**P**	**10 42 42.9**	**-0.6**
	comp=Z,25nm,1.9s						
SONM	**Songino Array**	**25.70**	**306**	P	**P**	**10 42 42.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=109,slow=7.9,SNR=6.5						
YAK	**Yakutsk**	**26.17**	**351**	P	**P**	**10 42 46.7**	**-0.8**
	comp=Z,14nm,0.6s,baz=104,slow=1.6,SNR=5.1						
YAK				LR	LR	10 52 52.0	
	comp=Z,775nm,18.6s,baz=269,slow=36						
YAK	**Yakutsk**	**26.17**	**351**	*e*P	**P**	**10 42 44.6**	**-2.8**
YAK				pmax	pmax		
	comp=Z,23nm,1.4s						
YAK				pmax	pmax		
	comp=N,15nm,1.6s						
YAK	**Yakutsk**	**26.17**	**351**	*e*P	**P**	**10 42 46.7**	**-0.8**
	comp=N,46nm,1.3s						
LZH	**Lanzhou**	**27.21**	**280**	*e*P	**P**	**10 42 56.2**	**-1.1**
LZH				pP	sP	10 43 06.4	-3.8
LZH				sP	pP	10 43 11.1	+4.7
LZH				pmax	pmax		
	comp=N,18nm,1.0s						
GYA	**Guiyang**	**28.14**	**258**	*e*P	**P**	**10 43 04.6**	**-1.1**
GYA				pmax	pmax		
	comp=N,10.0nm,0.7s						
TLY	**Talaya**	**28.54**	**313**	*e*P	**P**	**10 43 08.9**	**0.0**
TLY				*e*SS	SS	10 49 37.2	-19
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,879nm,16.0s						
CD2	**Chengdu**	**28.66**	**269**	*e*P	**P**	**10 43 08.2**	**-2.0**
GTA	**Gaotai**	**29.88**	**287**	*e*P	**P**	**10 43 21.0**	**-0.1**
GTA				pP	sP	10 43 31.1	-2.9
GTA				sP	pP	10 43 35.2	+5.0
GTA				S	**S**	**10 48 15.0**	**-1.3**
GTA				sS	sS	10 48 30.7	-0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,140nm,6.2s						
GTA				LR	LR		
	comp=Z,1μm,15.1s						
GTA				LR	LR		
	comp=Z,940nm,15.2s						
GTA				LR	LR		
	comp=Z,960nm,13.8s						
QIZ	**Qiongzhong**	**29.93**	**242**	P	**P**	**10 43 20.3**	**-1.2**
QIZ				S	**S**	**10 48 15.6**	**-1.5**
QIZ				sS	**sS**	**10 48 27.6**	**-4.5**
QIZ				pmax	pmax		
	comp=Z,39nm,2.2s						
QIZ				LR	LR		
	comp=Z,920nm,16.3s						
QIZ				LR	LR		
	comp=Z,860nm,15.3s						
QIZ				LR	LR		
	comp=Z,630nm,15.2s						
KMI	**Kunming**	**31.88**	**259**	P	**P**	**10 43 37.0**	**-1.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIXI	**Tiksi**	**35.64**	**355**	⇓*e*P	**P**	**10 44 09.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**35.64**	**355**	*e*P	**P**	**10 44 09.4**	**-1.4**
	comp=Z,10nm,1.0s						
DGZ	**Jazzator, Alta**	**38.35**	**306**	⇓*e*P	**P**	**10 44 36.0**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**38.42**	**253**	LR	LR	11 00 40.3	
	comp=Z,91nm,18.3s,baz=39,slow=37						
WMQ	**Urumqi**	**38.45**	**297**	P	**P**	**10 44 35.8**	**+0.7**
WMQ				sP	sP	10 44 47.0	-1.2
WMQ				PP	**PnPn**	**10 46 06.8**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,14nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.1s						
WMQ				LR	LR		
	comp=Z,850nm,16.9s						
WMQ				LR	LR		
	comp=Z,290nm,6.9s						
ZAA1	**Zalesovo Array**	**40.15**	**313**	*e*P	**P**	**10 44 47.5**	**-1.5**
ZAA1				*e*PcP	**PcP**	**10 46 53.0**	**+0.1**
ZALV	**Zalesovo Beam**	**40.15**	**313**	P	**P**	**10 44 47.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=96,slow=8.9,SNR=2.5						
ZALV				PcP	**PcP**	**10 46 53.0**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=113,slow=2.6,SNR=6.8						
MK32	**Makanchi Array**	**41.92**	**302**	*e*P	**P**	**10 45 02.9**	**-0.9**
MK32				*e*PcP	**PcP**	**10 46 59.5**	**+0.6**
MKAR	**Makanchi Array**	**41.92**	**302**	P	**P**	**10 45 02.9**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=93,slow=9.6,SNR=5.9						
MKAR				PcP	**PcP**	**10 46 59.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=80,slow=1.6,SNR=2.9						
NRIK	**Noril'sk**	**42.63**	**336**	PcP	**PcP**	**10 47 02.0**	**+1.3**
	comp=Z,4.5nm,0.7s,baz=140,slow=3.9,SNR=2.9						
KURK	**Kurchatov**	**43.97**	**308**	⇑*e*P	**P**	**10 45 18.6**	**-1.7**
KURK				pmax	pmax		
	comp=Z,31nm,1.6s						
KURK	**Kurchatov**	**43.97**	**308**	*e*P	**P**	**10 45 19.6**	**-0.6**
KURK				*e*pP	**sP**	**10 45 34.7**	**+1.4**
KURK				*e*PP	**PcP**	**10 47 07.1**	**+1.5**
KURBB	**Kurchatov Arra**	**44.04**	**308**	P	**P**	**10 45 19.7**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=85,slow=7.8,SNR=16						
KURBB				PcP	**PcP**	**10 47 07.1**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=86,slow=4.1,SNR=4.8						
PMG	**Port Moresby**	**46.40**	**167**	LR	LR	11 03 36.0	
	comp=Z,119nm,18.5s,baz=340,slow=34						
KSH	**Kashi**	**47.92**	**293**	*e*P	**P**	**10 45 53.1**	**+1.4**
KSH				pP	sP	10 46 03.9	-1.0
KSH				sP	pP	10 46 07.2	+6.1
KSH				PcP	**PcP**	**10 47 22.8**	**+3.0**
KSH				PP	**PP**	**10 47 43.9**	**+0.3**
KSH				PcS	**PcS**	**10 51 15.1**	**-0.4**
KSH				S	**S**	**10 52 45.7**	**-1.5**
KSH				pmax	pmax		
	comp=Z,66nm,4.1s						
KSH				LR	LR		
	comp=Z,310nm,9.5s						
KSH				LR	LR		
	comp=Z,310nm,13.3s						
KSH				LR	LR		
	comp=Z,370nm,14.5s						
BVAR	**Borovoye Array**	**48.79**	**312**	P	**P**	**10 45 57.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=95,slow=9.1,SNR=3.5						
KDAK	**Kodiak Island**	**49.59**	**41**	P	**P**	**10 46 04.1**	**0.0**
	comp=Z,11nm,1.0s,baz=225,slow=16,SNR=4.1						
KDAK	**Kodiak Island**	**49.59**	**41**	*e*P	**P**	**10 46 04.1**	**0.0**
	comp=Z,167nm,1.9s						
ILAR	**Eielson Array**	**51.66**	**32**	P	**P**	**10 46 19.2**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=270,slow=5.0,SNR=12						
ILAR				LR	LR	11 08 55.9	
	comp=Z,106nm,20.3s,baz=290,slow=37						
ILB	**Eielson Array**	**51.66**	**32**	*e*P	**P**	**10 46 19.2**	**-0.4**
ARU	**Arti**	**54.85**	**318**	P	**P**	**10 46 42.2**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=22,slow=2.3,SNR=3.7						
ARU	**Arti**	**54.85**	**318**	*e*P	**P**	**10 46 42.2**	**-1.0**
	comp=Z,24nm,1.8s						
ABKAR	**Akbulak array**	**56.05**	**309**	*e*P	**P**	**10 46 50.0**	**-2.0**
	comp=Z,57nm,0.6s						
ABKAR				*e*pP	**sP**	**10 47 05.1**	**-0.1**
WRAB	**Tennant Creek**	**56.09**	**184**	⇑*e*P	**P**	**10 46 54.3**	**+1.9**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**56.09**	**184**	*e*P	**P**	**10 46 53.5**	**+1.1**
	comp=Z,5.3nm,0.6s						
WB2	**Warramunga Arr**	**56.09**	**184**	*e*P	**P**	**10 46 52.5**	**0.0**
WR1	**Warramunga Arr**	**56.09**	**184**	*e*P	**P**	**10 46 51.6**	**-0.9**
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**56.09**	**184**	P	**P**	**10 46 51.6**	**-0.9**
	comp=Z,4.5nm,0.6s,baz=358,slow=7.6,SNR=41						
WRA	**Warramunga Arr**	**56.09**	**184**	*i* P	**P**	**10 46 52.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**56.34**	**27**	P	**P**	**10 46 52.7**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=310,slow=9.4,SNR=5.0						
INK	**Inuvik**	**56.34**	**27**	*e*P	**P**	**10 46 53.1**	**-0.5**
	comp=Z,8.4nm,1.2s						
CTA	**Charters Tower**	**56.74**	**170**	P	**P**	**10 46 57.8**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=340,slow=15,SNR=2.7						
AKTO	**Aktyubinsk**	**56.86**	**311**	P	**P**	**10 46 56.0**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=94,slow=7.7,SNR=4.9						
AKTO				LR	LR	11 10 47.8	
	comp=Z,146nm,20.7s,baz=56,slow=36						
AS01	**Alice Springs**	**59.81**	**184**	*e*P	**P**	**10 47 18.3**	**-0.2**
AS01				*e*pP	**sP**	**10 47 34.1**	**+2.3**
AS31	**Alice Springs**	**59.82**	**184**	*e*P	**P**	**10 47 20.1**	**+1.5**
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**59.82**	**184**	P	**P**	**10 47 17.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=18,slow=5.7,SNR=39						
ARA0	**ARCESS Array S**	**63.54**	**339**	*e*P	**P**	**10 47 42.0**	**-1.1**
ARCES	**ARCESS Array B**	**63.54**	**339**	P	**P**	**10 47 42.0**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=64,slow=6.9,SNR=4.7						
YKA	**Yellowknife Ar**	**65.87**	**29**	P	**P**	**10 47 58.8**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=308,slow=7.2,SNR=3.5						
YKB5	**Yellowknife Ar**	**65.87**	**29**	*e*P	**P**	**10 47 58.8**	**+0.5**
DAG	**Danmarks Havn**	**66.15**	**354**	*i* P	**P**	**10 48 00.0**	**0.0**
	comp=Z,6.3nm,1.1s						
DAG	**Danmarks Havn**	**66.15**	**354**	*i* P	**P**	**10 48 00.0**	**0.0**
DAG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAK	**Makhachkala**	**66.47**	**307**	*e*P	P	10 48 09.1	+6.6
MAK				MLR	MLR		
	comp=Z,604nm,15.0s						
FIA0	**FINESS Array S**	**67.97**	**331**	*e*P	**P**	**10 48 10.7**	**-1.1**
FIA0	**FINESS Array S**	**67.97**	**331**	*e*P	**P**	**10 48 10.7**	**-1.1**
FINES	**FINESS Array B**	**67.97**	**331**	P	**P**	**10 48 10.7**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=86,slow=9.8,SNR=4.3						
STKA	**Stephens Creek**	**67.99**	**176**	P	**P**	**10 48 10.8**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=351,slow=15,SNR=2.7						
KBZ	**Khabaz**	**69.02**	**309**	P	**P**	**10 48 19.6**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=56,slow=3.3,SNR=5.3						
KIV	**Kislovodsk**	**69.04**	**310**	*e*P	**P**	**10 48 20.2**	**+1.3**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV				MLR	MLR		
	comp=Z,281nm,18.0s						
SUMG	**Summit**	**71.31**	**359**	*i* P	**P**	**10 48 34.4**	**+1.7**
	comp=Z,11nm,0.8s						
SUMG				*i*		10 48 47.4	
SUMG	**Summit**	**71.31**	**359**	*e*P	**P**	**10 48 34.0**	**+1.3**
SUMG				*e**PP	**sP**	**10 48 47.1**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,61nm,1.7s						
SUMG	**Summit**	**71.31**	**359**	*e*P	**P**	**10 48 34.0**	**+1.3**
	comp=Z,61nm,1.7s						
SUMG				*e*pP	**sP**	**10 48 47.1**	**+1.0**
AKASG	**Malin Array Be**	**72.94**	**321**	P	**P**	**10 48 40.9**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=49,slow=6.2,SNR=10						
AKASG	**Malin Array Be**	**72.94**	**321**	*i* P	**P**	**10 48 42.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	**Malin Array Si**	**72.94**	**321**	*e*P	**P**	**10 48 40.9**	**-1.4**
AKBB				pmax	pmax		
	comp=Z,21nm,1.8s						
AKBB	**Malin Array Si**	**72.94**	**321**	*e*P	**P**	**10 48 40.9**	**-1.4**
	comp=Z,21nm,1.8s						
KIEV	**Kiev**	**72.96**	**321**	*c*e*P	**P**	**10 48 43.2**	**+0.8**
KIEV				pmax	pmax		
	comp=Z,10.0nm,1.7s						
HFS	**Hagfors**	**73.42**	**334**	P	**P**	**10 48 45.0**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=79,slow=11,SNR=5.5						
HFS	**Hagfors**	**73.42**	**334**	P	**P**	**10 48 45.0**	**+0.1**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NB2	**NORSAR Subarra**	**73.60**	**336**	P	**P**	**10 48 46.7**	**+0.7**
	comp=Z,12nm,1.1s,baz=42,slow=5.9						
NB200	**NORSAR Array S**	**73.60**	**336**	*e*P	**P**	**10 48 46.5**	**+0.4**
NOA	**NORSAR Array B**	**73.60**	**336**	P	**P**	**10 48 46.5**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=41,slow=5.9,SNR=8.2						
SLMT	**Seeley Lake**	**75.25**	**42**	*e*P	**P**	**10 48 57.8**	**+1.8**
BEKR	**Beckworth**	**75.64**	**51**	*e*P	**P**	**10 49 00.3**	**+1.9**
	comp=Z,39nm,2.0s						
ILGA	**Ilgaz**	**76.17**	**311**	*e*P	**P**	**10 49 04.3**	**+2.8**
	comp=Z,9.7nm,1.0s						
EGMT	**Eagleton**	**76.73**	**40**	*e*P	**P**	**10 49 06.9**	**+2.6**
	comp=Z,7.0nm,0.8s						
YERR	**Yerington**	**76.85**	**51**	*e*P	**P**	**10 49 08.2**	**+2.8**
	comp=Z,6.0nm,0.9s						
DLMT	**Dillon**	**76.90**	**43**	*e*P	**P**	**10 49 06.1**	**+0.6**
	comp=Z,6.1nm,0.7s						
DLMT				*e*pP	**PcP**	**10 49 21.3**	**+4.8**
BR101	**Keskin Array S**	**77.00**	**310**	*e*P	**P**	**10 49 06.7**	**+0.6**
BRTR	**Keskin Array B**	**77.00**	**310**	P	**P**	**10 49 06.7**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=142,slow=4.7,SNR=12						
BRTR	**Keskin Array B**	**77.00**	**310**	*i* P	**P**	**10 49 06.6**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HLID	**Hailey**	**77.00**	**45**	*e*P	**P**	**10 49 09.1**	**+3.0**
	comp=Z,7.9nm,1.6s						
BOZ	**Bozeman (W)**	**77.28**	**42**	*e*P	**P**	**10 49 09.4**	**+1.7**
BOZ				pmax	pmax		
	comp=Z,26nm,1.9s						
BOZ	**Bozeman (W)**	**77.28**	**42**	*e*P	**P**	**10 49 09.4**	**+1.7**
	comp=Z,26nm,1.9s						
BR231	**Keskin MP Arra**	**77.46**	**310**	*e*P	**P**	**10 49 06.8**	**-1.8**
BR231				*e*pP	**PcP**	**10 49 21.5**	**+2.5**
H17A	**

comp=Z,6.0nm,1.1s
SRU San Rafael Swe 82.09 47 *e*P **P 10 49 35.3 +1.4**
comp=Z,5.9nm,1.1s
SWSC Sam W. Stewart 82.73 54 *e*P **P 10 49 37.0 -0.1**
PV09 Paradox Valley 83.31 47 *e*P **P 10 49 43.0 +2.6**
PV09 *e*pP **sP 10 49 55.7 +1.7**
BFO Black Forest 84.36 329 *i* P **P 10 49 46.9 +1.7**
DAVOX Davos/Dischmat 84.89 327 P **P 10 49 49.2 +1.0**
comp=Z,1.4nm,0.5s,baz=6.5,slow=15,SNR=3.3
TX31 Lajitas Ar. Si 92.88 50 *e*P **P 10 50 27.4 +1.0**
TX31 *e*P **P 10 50 28.8 +2.4**
LTX Lajitas 92.88 50 *e*P **P 10 50 26.5 +0.1**
LTX Lajitas 92.88 50 *e*P **P 10 50 26.4 +0.1**
TXAR Lajitas Array 92.88 50 P **P 10 50 26.4 +0.1**
comp=Z,1.1nm,0.7s,baz=299,slow=3.3,SNR=16
LPAZ La Paz 149.59 56 PKPbc **PKPbc 10 57 03.1 -0.6**
comp=Z,1.0nm,0.7s,baz=8.0,slow=3.4,SNR=5.2
LPAZ La Paz 149.59 56 *e*PKHKP **PKPdf 10 56 58.5 -0.7**
LPAZ La Paz 149.59 56 *e*PKPdf **PKPdf 10 56 58.5 -0.7**

JMA 06 10:37:26.3±0.1, 36°.57N×137°.65E, h0km±1km, M4.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.26**	**278**	S	Sg	10 37 36.4	+1.8
JNG	**Nsakai**	**0.40**	**114**	P	Pg	10 37 34.4	+0.5
JGN	**Niukaw**	**0.44**	**218**	P	Pg	10 37 35.2	+0.5
JGN				S	Sg	10 37 40.8	+0.4
MAT	**Matsushiro**	**0.45**	**93**	S	Sg	10 37 41.1	+0.4

NIED ***06*** *10:38:00, 36°.50N×137°.70E, h11km, Mw4.5 Best double couple: M0 6.36000×10^15 NP1:φs178.00000°, δ73.00000°, λ-15.00000°. NP2:φs273.00000°, δ76.00000°, λ-162.00000°.*
ISCJB ***06*** *10:38:32.6±0.4, 36°.51N±0°.05×137°.66E±0°.03, h11km, mb4.1/11, Error ellipse: s-maj=7.7km s-min=4.0km az=179.7*
JMA ***06*** *10:38:32.1±0.1, 36°.55N×137°.65E, h0km±1km, M3.6*
JMA Felt II J1.
IDC ***06*** *10:38:32.5±0.7, 36°.56N×137°.68E, h0km, mb4.1/10, mb1 4.4/10, mb1mx3.9/53, mbtmp4.1/10, Error ellipse: s-maj=21.5km s-min=7.7km az=9.0*

ISC 06 10:38:34.0±0.7, 36°.52N±0°.06×137°.66E±0°.03, h11km, n17, σ1§40/22, mb4.1/11, 1C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.28**	**289**	P	**Pg**	**10 38 37.9**	**-1.7**
JTT				S	**Sg**	**10 38 42.1**	**-1.3**
JNG	**Nsakai**	**0.37**	**107**	⇓P	**Pg**	**10 38 40.2**	**-1.3**
JNG				S	**Sg**	**10 38 45.7**	**-0.8**
JGN	**Niukaw**	**0.40**	**223**	⇑P	**Pg**	**10 38 40.6**	**-1.4**
JGN				S	**Sg**	**10 38 46.6**	**-0.8**
MAT	**Matsushiro**	**0.44**	**87**	P	**Pg**	**10 38 41.1**	**-1.7**
MAT				S	**Sg**	**10 38 47.3**	**-1.3**
MAT	**Matsushiro**	**0.44**	**87**	P	**Pg**	**10 38 41.0**	**-1.7**
MAT				S	**Sg**	**10 38 47.3**	**-1.3**
MJAR	**Matsushiro Arr**	**0.45**	**87**	Pg	**Pg**	**10 38 41.4**	**-1.3**
	baz=277,slow=18,SNR=2.7						
MJAR				Lg	Lg	10 38 47.3	
	488nm,0.3s,baz=275,slow=27,SNR=9.1						
MA2	**Magadan**	**24.59**	**16**	P	**P**	**10 43 53.5**	**-0.3**
	7.6nm,0.8s,baz=176,slow=12,SNR=3.1						
SEY	**Seymchan**	**27.96**	**14**	P	**P**	**10 44 26.8**	**+2.6**
	3.0nm,0.9s,baz=238,slow=18,SNR=3.5						
KURBB	**Kurchatov Arra**	**43.94**	**308**	P	**P**	**10 46 39.5**	**-1.3**
	1.5nm,0.7s,baz=86,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**48.68**	**312**	P	**P**	**10 47 19.6**	**+1.6**
	0.8nm,0.5s,baz=123,slow=5.3,SNR=3.2						
WRA	**Warramunga Arr**	**56.24**	**184**	P	**P**	**10 48 14.7**	**+0.3**
	6.4nm,1.1s,baz=2.1,slow=7.4,SNR=5.6						
ASAR	**Alice Springs**	**59.96**	**184**	P	**P**	**10 48 41.0**	**+0.6**
	2.8nm,1.0s,baz=2.0,slow=6.1,SNR=8.5						
AKASG	**Malin Array Be**	**72.83**	**321**	P	**P**	**10 50 01.2**	**-1.3**
	2.6nm,0.7s,baz=47,slow=5.5,SNR=5.0						
BRTR	**Keskin Array B**	**76.90**	**310**	P	**P**	**10 50 26.8**	**+0.2**
	2.6nm,0.9s,baz=104,slow=5.2,SNR=7.4						
PDAR	**Pinedale Array**	**80.15**	**44**	P	**P**	**10 50 45.2**	**+0.7**
	0.9nm,0.6s,baz=270,slow=2.9,SNR=4.8						
GERES	**GERESS Array B**	**81.52**	**326**	P	**P**	**10 50 51.7**	**+0.2**
	0.7nm,0.6s,baz=95,slow=5.8,SNR=4.5						
TXAR	**Lajitas Array**	**92.80**	**50**	P	**P**	**10 51 48.7**	**+1.8**
	0.4nm,0.7s,baz=301,slow=3.4,SNR=3.7						

IDC ***06*** *10:38:35.0±8.6, 35°.74N×71°.95E, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.3/58, mbtmp3.6/5, ML3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/53, Error ellipse: s-maj=127.5km s-min=38.4km az=156.0*
ISCJB ***06*** *10:38:46.7±0.7, 36°.45N±0°.05×71°.43E±0°.09, h114km, Error ellipse: s-maj=11.1km s-min=5.6km az=160.7*
NNC ***06*** *10:38:52.6±4.4, 37°.07N×71°.18E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=46.2km s-min=29.6km az=130.0*

ISC 06 10:38:47.1±1.0, 36°.44N±0°.08×71°.30E±0°.07, h114km, n19, σ1§77/24, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.12**	**8**	⇓P	**Pn**	**10 40 17.6**	**+2.5**
	1.5nm,0.4s						
MNAS				⇓S	**Sn**	**10 41 22.0**	**-1.8**
	17nm,0.6s						
AAK	**Ala-Archa**	**6.67**	**21**	Pn	**Pn**	**10 40 23.2**	**+0.6**
	1.3nm,0.3s,baz=206,slow=4.8,SNR=7.8						
AAK				Sn	**Sn**	**10 41 33.3**	**-3.8**
	0.6nm,0.3s,baz=186,slow=9.2,SNR=3.5						
AAK	**Ala-Archa**	**6.67**	**21**	P	**Pn**	**10 40 24.4**	**+1.9**
	2.2nm,0.4s						
AAK				⇓S	**Sn**	**10 41 36.2**	**-0.9**
	6.2nm,0.5s						
KK31	**Karatay Array**	**6.69**	**355**	P	**Pn**	**10 40 24.3**	**+1.6**
	2.9nm,0.3s,baz=180,slow=13,SNR=57						
KK31				⇓S	**Sn**	**10 41 34.8**	**-2.6**
	2.4nm,0.4s,baz=184,slow=22,SNR=4.1						
TKM2	**Tokmak 2**	**7.27**	**26**	⇑P	**Pn**	**10 40 32.9**	**+2.1**
	4.1nm,0.8s						
TKM2				⇑S	**Sn**	**10 41 50.2**	**-1.7**
	4.0nm,1.1s						
GEYT	**Alibeck**	**10.63**	**282**	Pn	**Pn**	**10 41 16.8**	**+0.7**
	1.1nm,0.3s,baz=92,slow=13,SNR=5.8						
GEYT				Sn	**Sn**	**10 43 10.4**	**-2.7**
	1.6nm,0.3s,baz=94,slow=23,SNR=4.9						
PYUN	**Piuthan**	**12.91**	**127**	*e*P	**Pn**	**10 41 45.9**	**-0.6**
	16nm,0.3s						
MKAR	**Makanchi Array**	**13.20**	**35**	Pn	**Pn**	**10 41 50.3**	**+0.3**
	0.1nm,0.3s,baz=217,slow=14,SNR=2.2						
KOLN	**Koldanda**	**13.53**	**126**	*e*P	**Pn**	**10 41 53.7**	**-0.8**
	6.4nm,0.4s						
GKN	**Gorkha**	**14.06**	**123**	*e*P	**Pn**	**10 42 00.6**	**-0.8**
	31nm,0.6s						
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**10 42 08.0**	**-0.8**
	8.8nm,0.5s						
PKIN	**Phulchoki**	**14.85**	**123**	*e*P	**Pn**	**10 42 10.8**	**-0.7**
	18nm,0.5s						
AB31	**Akbulak array**	**15.26**	**331**	⇑P	**Pn**	**10 42 16.5**	**+0.3**
	0.5nm,0.3s						
JIRN	**Jiri**	**15.34**	**121**	*e*P	**Pn**	**10 42 16.9**	**-0.9**
	104nm,0.4s						
RAMN	**Ramite**	**16.07**	**122**	*e*P	**Pn**	**10 42 25.7**	**-1.1**
	11nm,0.4s						
TAPN	**Taplejung**	**16.60**	**118**	*e*P	**Pn**	**10 42 32.1**	**-1.2**
	7.8nm,0.5s						
BVAR	**Borovoye Array**	**16.60**	**358**	Pn	**P**	**10 42 35.8**	**+2.5**
	0.2nm,0.3s,baz=185,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**Pn**	**10 43 11.9**	**+0.2**
	1.5nm,0.3s,baz=206,slow=11,SNR=6.2						
BRTR	**Keskin Array B**	**29.69**	**288**	LR	LR	10 59 24.5	
	comp=Z,58nm,18.7s,baz=254,slow=41						

GUC 06 10:49:52.3±0.6, 20°.91S×69°.04W, h107km±3km, ML3.5, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.43**	**253**	⇑*i*P	Pn	10 50 08.8	+0.2
PB01				*i* S	Sn	10 50 21.4	+0.7
PB01				IAML		10 50 21.9	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**0.78**	**352**	⇓*i*P	Pn	10 50 12.3	+0.8
PB08				*i* S	Sn	10 50 26.9	+1.0
PB08				IAML		10 50 27.3	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**0.90**	**192**	⇑*i*P	Pn	10 50 13.2	+0.7
PB09				*i* S	Sn	10 50 28.7	+1.1
PB09				IAML		10 50 29.7	
	comp=N,2μm,0.7s						
HMBC	**Humberstone**	**1.01**	**308**	⇑*i*P	Pn	10 50 14.2	+0.7
HMBC				*i* S	Sn	10 50 30.6	+1.1
HMBC				IAML		10 50 31.2	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.13**	**224**	⇑*i*P	Pn	10 50 15.4	+0.6
PB07				*i* S	Sn	10 50 32.9	+1.1
PSGC	**Pisagua**	**1.66**	**322**	⇑*i*P	Pn	10 50 21.4	+0.4
PSGC				*i* S	Sn	10 50 43.7	+0.9
MNMC	**Minye Minye**	**1.85**	**344**	⇓*i*P	Pn	10 50 24.4	+0.8
MNMC				*e*S	Sn	10 50 48.8	+1.5
MNMC				IAML		10 50 51.0	
	comp=N,418nm,0.3s						
PB06	**IPOC Station P**	**1.85**	**195**	⇑*i*P	Pn	10 50 24.1	+0.6
PB06				*i* S	Sn	10 50 47.7	+0.5
PB06				IAML		10 50 48.5	
	comp=E,342nm,0.3s						
PB12	**IPOC Station P**	**2.59**	**332**	⇑*i*P	Pn	10 50 32.6	-0.3
PB12				*i* S	Sn	10 51 04.5	+0.4

IDC ***06*** *11:01:38.2±3.1, 36°.30N×70°.89E, h167km±27km, mb3.5/8, mb1 3.5/14, mb1mx3.2/57, mbtmp3.9/14, Error ellipse: s-maj=24.6km s-min=16.9km az=25.0*
ISCJB ***06*** *11:01:39.7±0.5, 36°.55N±0°.05×70°.94E±0°.08, h188km, mb3.5/7, Error ellipse: s-maj=9.9km s-min=4.8km az=150.3*
NNC ***06*** *11:01:43.5±6.7, 36°.87N×70°.36E, h123km±134km, mb3.0, mpv3.6, Error ellipse: s-maj=54.4km s-min=48.6km az=18.0*

ISC 06 11:01:40.4±0.8, 36°.61N±0°.07×70°.88E±0°.08, h188km, n29, σ1§67/34, mb3.5/7, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.00**	**12**	⇓P	**Pn**	**11 03 08.4**	**+0.9**
	1.8nm,0.3s						
MNAS				⇓S	**Sn**	**11 04 14.8**	**-1.5**
	9.7nm,0.5s						
KK31	**Karatay Array**	**6.49**	**358**	⇓P	**Pn**	**11 03 14.2**	**+0.5**
	2.4nm,0.3s,baz=182,slow=12						
KK31				⇓S	**Sn**	**11 04 24.5**	**-3.1**
	5.3nm,0.3s,baz=186,slow=23						
AAK	**Ala-Archa**	**6.63**	**24**	P	**Pn**	**11 03 17.7**	**+1.9**
	1.5nm,0.3s,baz=178,slow=4.0,SNR=7.8						
AAK				S	**Sn**	**11 04 29.7**	**-1.4**
	0.6nm,0.3s,baz=328,slow=21,SNR=7.5						
AAK	**Ala-Archa**	**6.63**	**24**	⇑P	**Pn**	**11 03 17.1**	**+1.3**
	1.3nm,0.3s						
AAK				⇓S	**Sn**	**11 04 29.9**	**-1.3**
	5.5nm,0.8s						
GEYT	**Alibeck**	**10.26**	**281**	P	**Pn**	**11 04 01.9**	**-1.3**
	0.7nm,0.3s,baz=122,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**13.25**	**36**	P	**P**	**11 04 43.0**	**-1.5**
	0.2nm,0.3s,baz=211,slow=8.4,SNR=9.0						
PYUN	**Piuthan**	**13.29**	**126**	*e*P	**Pn**	**11 04 39.3**	**-2.8**
	11nm,0.4s						
KOLN	**Koldanda**	**13.91**	**126**	*e*P	**Pn**	**11 04 47.4**	**-2.4**
	5.3nm,0.3s						
GKN	**Gorkha**	**14.44**	**123**	*e*P	**Pn**	**11 04 56.2**	**-0.2**
	19nm,0.5s						
AB31	**Akbulak array**	**14.94**	**331**	⇑P	**Pn**	**11 05 01.6**	**-0.5**
	0.5nm,0.3s,baz=162,slow=11,SNR=5.6						
AB31				⇑S	**Sn**	**11 07 46.6**	**-2.4**
	0.5nm,0.5s,baz=153,slow=24,SNR=4.2						
DMN	**Daman**	**15.01**	**123**	*e*P	**Pn**	**11 05 03.1**	**-0.5**
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**15.04**	**19**	P	**P**	**11 05 06.2**	**+1.9**
	0.1nm,0.3s,baz=210,slow=10,SNR=8.2						
PKIN	**Phulchoki**	**15.23**	**122**	*e*P	**Pn**	**11 05 05.7**	**-0.5**
	14nm,0.5s						
PKI	**Pulchoki**	**15.24**	**122**	*e*P	**Pn**	**11 05 06.2**	**-0.2**
	14nm,0.4s						
JIRN	**Jiri**	**15.73**	**120**	*e*P	**P**	**11 05 13.1**	**+0.6**
	179nm,0.3s						
BVAR	**Borovoye Array**	**16.41**	**359**	P	**Pn**	**11 05 22.4**	**+2.4**
	0.3nm,0.3s,baz=173,slow=12,SNR=4.0						
RAMN	**Ramite**	**16.45**	**121**	*e*P	**P**	**11 05 19.6**	**-0.8**
	20nm,0.5s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**Pn**	**11 05 24.4**	**+1.7**
	0.6nm,0.3s,baz=134,slow=10.0,SNR=9.5						
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**Pn**	**11 05 24.4**	**+1.7**
	1.5nm,0.5s						
TAPN	**Taplejung**	**16.98**	**118**	*e*P	**Pn**	**11 05 28.0**	**+0.6**
	7.9nm,0.3s						
ODAN	**Odare**	**17.06**	**120**	*e*P	**P**	**11 05 27.1**	**+0.1**
	11nm,0.7s						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**Pn**	**11 05 58.4**	**-2.3**
	5.2nm,0.5s,baz=219,slow=11,SNR=17						
SONM	**Songino Array**	**28.35**	**56**	P	**P**	**11 07 18.2**	**+1.4**
	0.3nm,0.3s,baz=256,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**11 08 36.5**	**+2.3**
	0.5nm,0.3s,baz=141,slow=9.8,SNR=4.7						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**11 09 06.9**	**+2.3**
	1.7nm,0.7s,baz=113,slow=7.8,SNR=9.0						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**11 09 32.3**	**+1.7**
	0.8nm,0.5s,baz=120,slow=5.6,SNR=2.8						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**11 13 35.9**	**+1.6**
	0.4nm,0.4s,baz=350,slow=5.5,SNR=5.5						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**11 13 39.3**	**-0.9**
	0.5nm,0.5s,baz=324,slow=4.9,SNR=9.6						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**11 13 51.2**	**-0.5**
	0.6nm,0.6s,baz=312,slow=5.0,SNR=14						

IDC ***06*** *11:07:33.5±0.8, 15°.17S×173°.59W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/38, mbtmp4.1/10, MS3.6/2, Ms1 3.6/2, ms1mx3.1/37, Error ellipse: s-maj=32.2km s-min=18.1km az=134.0*

ISC 06 11:07:38.1±0.8, 15°.2S±0°.2×173°.7W±0°.2, h30km, n19, σ0§71/11, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**56**	Pn	Pn	11 08 02.5	-10
	156nm,0.3s,baz=70,slow=1.2,SNR=236						
AFI				Sn	Sn	11 08 20.5	-18
	1μm,0.3s,baz=55,slow=19,SNR=77						
AFI				LR	LR	11 08 45.4	
	comp=Z,971nm,20.4s,baz=238,slow=33						
RAR	**Rarotonga**	**14.49**	**117**	Pn	Pn	11 10 49.3	-12
	2.6nm,0.3s,baz=267,slow=1.5,SNR=6.8						
RAR				T	T	11 24 52.3	
	4.0nm,0.3s,baz=105,slow=20,SNR=7.7						
DZM	**Mont Dzumac**	**20.07**	**247**	P	**P**	**11 12 08.9**	**-0.4**
	4.3nm,1.0s,baz=122,slow=16,SNR=2.2						
DZM				LR	LR	11 18 21.2	
	comp=Z,228nm,18.6s,baz=84,slow=32						
URZ	**Urewera**	**24.42**	**198**	P	**P**	**11 12 54.0**	**0.0**
	8.5nm,0.6s,baz=22,slow=7.2,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	11 55 42.3	
	baz=146,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	11 55 40.6	
	baz=146,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	11 55 41.3	
	baz=146,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**39.58**	**331**	T	T	11 56 50.3	
	baz=147,slow=76,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	11 56 52.6	
	baz=147,slow=76,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**39.60**	**331**	T	T	11 56 51.6	
	baz=147,slow=76,SNR=9.6						
STKA	**Stephens Creek**	**43.95**	**240**	P	**P**	**11 15 43.1**	**+0.4**
	2.8nm,0.9s,baz=80,slow=8.4,SNR=6.5						
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**11 16 27.6**	**0.0**
	2.2nm,0.7s,baz=91,slow=7.1,SNR=32						
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**11 16 30.1**	**+0.2**
	5.2nm,0.8s,baz=86,slow=8.8,SNR=57						
VNDA	**Vanda**	**63.60**	**186**	P	**P**	**11 18 05.7**	**0.0**
	3.2nm,0.8s,baz=0.9,slow=5.8,SNR=19						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**11 19 48.3**	**-0.5**
	0.3nm,0.9s,baz=225,slow=1.1,SNR=2.9						
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**11 19 58.2**	**+1.3**
	0.4nm,0.7s,baz=270,slow=3.6,SNR=2.7						
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**11 19 55.0**	**-1.1**
	1.2nm,1.0s,baz=223,slow=6.3,SNR=11						
MAW	**Mawson**	**87.95**	**199**	P	**P**	**11 20 24.5**	**-0.3**
	2.9nm,1.0s,baz=110,slow=6.3,SNR=8.3						
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	**PKPab**	**11 27 15.9**	**+0.6**
	4.4nm,1.0s,baz=116,slow=2.9,SNR=13						

IDC ***06*** *11:11:39.8±1.3, 23°.23S×170°.26E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/36, mbtmp3.9/9, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/31, Error ellipse: s-maj=33.0km s-min=28.3km az=58.0*
ISCJB ***06*** *11:11:42.4±1.0, 23°.3S±0°.2×170°.1E±0°.1, h25km, mb3.9/8, MS3.8/1, Error ellipse: s-maj=25.5km s-min=12.0km az=26.4*

ISC 06 11:11:44.0±1.1, 23°.2S±0°.2×170°.2E±0°.1, h25km, n11, σ1§22/10, mb3.9/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.61**	**287**	Pn	**Pn**	**11 12 38.5**	**+0.1**
	1.7nm,0.3s,baz=99,slow=22,SNR=3.9						
DZM				Sn	**Sn**	**11 13 19.5**	**-0.9**
	17nm,0.3s,baz=300,slow=23,SNR=9.6						
URZ	**Urewera**	**16.15**	**160**	LR	LR	11 19 35.8	
	comp=Z,52nm,19.0s,baz=18,slow=30						
STKA	**Stephens Creek**	**26.70**	**245**	P	**P**	**11 17 22.1**	**+0.8**
	1.0nm,0.6s,baz=86,slow=14,SNR=3.7						
RAR	**Rarotonga**	**27.88**	**92**	LR	LR	11 25 33.0	
	comp=Z,252nm,20.7s,baz=190,slow=30						
ASAR	**Alice Springs**	**33.22**	**262**	P	**P**	**11 18 18.8**	**-0.4**
	1.3nm,0.5s,baz=91,slow=9.3,SNR=9.6						
WRA	**Warramunga Arr**	**33.42**	**269**	P	**P**	**11 18 20.2**	**-0.7**
	0.5nm,0.5s,baz=98,slow=8.7,SNR=4.6						
VNDA	**Vanda**	**54.53**	**182**	P	**P**	**11 21 09.5**	**+0.2**
	0.7nm,0.8s,baz=343,slow=5.9,SNR=3.4						
MAW	**Mawson**	**75.11**	**202**	P	**P**	**11 23 22.5**	**-1.0**
	0.5nm,0.5s,baz=71,slow=8.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**80.91**	**294**	P	**P**	**11 23 58.4**	**+1.8**
	1.2nm,0.7s,baz=132,slow=4.3,SNR=6.0						
SONM	**Songino Array**	**90.88**	**323**	P	**P**	**11 24 46.6**	**+1.2**
	0.6nm,0.5s,baz=130,slow=2.4,SNR=3.0						
ILAR	**Eielson Array**	**93.74**	**17**	P	**P**	**11 24 56.5**	**-1.6**
	0.6nm,1.0s,baz=239,slow=7.0,SNR=4.5						

MEX 06 11:12:00.5±1.0, 17°.08N×99°.97W, h20km±24km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.21**	**158**	*e*P	Pb	11 12 04.2	-1.7
ACP2				*e*S	Sb	11 12 08.8	-0.8
ACX	**Acapulco**	**0.23**	**152**	*i* P	Pb	11 12 08.8	+2.7
ACX				*e*S	Sb	11 12 12.6	+2.7
CAIG	**El Cayaco**	**0.29**	**265**	*i* P	Pb	11 12 05.7	-1.3
CAIG				*e*S	Sb	11 12 09.7	-1.7
MEIG	**Mezcala**	**0.91**	**22**	*i* P	Pb	11 12 14.1	-3.6
MEIG				*i* S	Sb	11 12 25.5	-3.9
ARIG	**Puente Sto Nin**	**1.25**	**343**	*e*P	Pn	11 12 19.9	-3.0
ARIG				*e*S	Sb	11 12 35.5	-3.7
PLIG	**Platanillo**	**1.38**	**19**	*e*P	Pn	11 12 22.0	-2.8
PLIG				*e*S	Sn	11 12 38.7	-3.9
TLIG	**Tlapa**	**1.43**	**70**	*e*P	Pn	11 12 22.6	-2.8
ZIIG	**Zihuatanejo**	**1.52**	**291**	*e*P	Pn	11 12 24.5	-2.1
PNIG	**Pinotepa**	**1.89**	**111**	*e*P	Pn	11 12 28.6	-3.1
YAIG	**Yautepec**	**1.97**	**26**	*e*P	Pn	11 12 30.3	-2.7
YAIG				*e*S	Sn	11 12 53.4	-3.8
PPM	**Popocatepetl**	**2.36**	**33**	*e*P	Pn	11 12 36.1	-2.4
PPM				*i* S	Sn	11 13 03.5	-3.7
TPIG	**Tehuac#an**	**2.82**	**61**	*i* P	Pn	11 12 42.5	-2.1
VHO	**Vista Hermosa**	**3.10**	**90**	*e*P	Pn	11 12 42.0	-6.5
HUIG	**Huatulco**	**3.93**	**109**	*e*P	Pn	11 12 54.4	-5.3

SCB ***06*** *11:12:22.2±1.0, 24°.38S×64°.62W, h15km, Ml6.2/1, Error ellipse: s-maj=26.3km s-min=12.9km az=5.0*
BJI ***06*** *11:12:28.8, 24°.20S×64°.20W, h10km, mB6.1/65, Ms6.1/70, Ms7 6.0/70*
SJA ***06*** *11:12:28.8±0.7, 24°.25S×64°.35W, h8km±5km, ML5.6, MW6.0*
ISCJB ***06*** *11:12:29.2±0.1, 24°.02S±0°.02×64°.29W±0°.02, h18km, mb6.3/323, MS5.7/192, Error ellipse: s-maj=3.0km s-min=2.8km az=18.8*
NEIC ***06*** *11:12:29.0±0.0, 24°.18S×64°.65W, h15km, Moment Tensor Solution. s12 Moment tensor: Scale 10^18Nm; Mrr1.00; Mθθ0.10; Mφφ-1.10; Mrθ0.10; Mrφ0.40; Mθr0.20; Best double couple: M0 1.00000×10^18 NP1:φs351.00000°, δ50.00000°, λ101.00000°. NP2:φs153.00000°, δ40.00000°, λ75.00000°. Principal axes: T 1.0000, Plg79.0000°, Azm313.0000°; N 0.2000, Plg9.0000°, Azm164.0000°; P -1.2000, Plg5.0000°, Azm73.0000°;*
GCMT ***06*** *11:12:30.1±0.1, 24°.18S×64°.28W, h18km, MW5.9/129, Moment Tensor Solution. s111,c198; s129,c378; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr0.82±.01; Mθθ0.09±.01; Mφφ-0.90±.01; Mrφ-0.14±.01; Mθφ0.06±.01; Mθr0.18±.02; Best double couple: M0 0.89600×10^18 NP1:φs348.00000°, δ52.00000°, λ79.00000°. NP2:φs186.00000°, δ40.00000°, λ104.00000°. Principal axes: T 0.8590, Plg79.0000°, Azm210.0000°; N 0.0740, Plg9.0000°, Azm355.0000°; P -0.9340, Plg6.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***06*** *11:12:30.5±0.3, 24°.16S×64°.29W, h18km±1km, mb5.6/28, mb1 5.7/34, mb1mx5.6/37, mbtmp5.7/34, ML5.1/5, MS5.7/19, Ms1 5.7/19, ms1mx5.6/26 Error ellipse: s-maj=10.0km s-min=8

MOCB Mochara 3.12 336⇑ *i*Pn Pn 11 13 19.6 +0.6
MOCB *e*Sn **Sb 11 14 01.4 -2.1**
comp=Z,31µm,0.5s
CYA Choya 4.50 197⇑ *i*P Pn 11 13 37.0 -0.6
LVC Limon Verde 4.50 289 Pn **Pn 11 13 40.0 +2.2**
comp=Z,1µm,0.3s,baz=110,slow=13,SNR=249
LVC Limon Verde 4.50 289⇓ *i*P Pn 11 13 40.1 +2.3
LVC Limon Verde 4.50 289 *e*Pn Pn 11 13 40.3 +2.4
PB06 IPOC Station P 5.05 285⇓ *i*P Pn 11 13 47.8 +2.6
PB09 IPOC Station P 5.12 296⇓ *i*P Pn 11 13 49.5 +3.4
PB14 IPOC Station P 5.59 264⇓ *i*P Pn 11 13 53.6 +0.9
PB04 IPOC Station P 5.67 287⇓ *i*P Pn 11 13 55.4 +1.7
PB04 IPOC Station P 5.67 287 *e*Pn Pn 11 13 52.9 -0.9
PB07 IPOC Station P 5.68 294⇓ *i*P Pn 11 13 55.8 +1.9
PB01 IPOC Station P 5.70 302⇓ *i*P Pn 11 13 56.6 +2.5
PB01 IPOC Station P 5.70 302 *e*Pn Pn 11 13 56.1 +2.0
PB10 IPOC Station P 5.76 275⇓ *i*P Pn 11 13 56.2 +1.4
PB10 IPOC Station P 5.76 275 *e*Pn Pn 11 13 56.8 +1.9
VCA Vinchina 5.77 217 *e*P Pn 11 13 56.0 +0.9
PB08 IPOC Station P 6.00 310 *e*P Pn 11 14 01.7 +3.2
HMBC Humberstone 6.45 305⇓ *i*P Pn 11 14 06.1 +1.7
CPUP Villa Florida 6.68 111 Pn **Pn 11 14 06.8 -0.6**
comp=Z,32nm,0.3s,baz=291,slow=12,SNR=344
CPUP Pg **Pg 11 14 37.7 -0.2**
comp=Z,247nm,0.3s,baz=294,slow=15,SNR=10
CPUP Lg Lg 11 15 59.5
comp=Z,251nm,0.3s,baz=1.6,slow=19,SNR=3.1
CPUP LR LR 11 17 02.1
comp=Z,73µm,21.8s,baz=304,slow=41
CPUP Villa Florida 6.68 111 *e*P Pn 11 14 06.9 -0.5
I41PY VILLA FLORIDA 6.70 111 Pn **Pn 11 14 08.1 +0.4**
baz=320,slow=530
I41PY *i* 11 51 20.0
baz=285,slow=321,SNR=1.2
MNMC Minye Minye 7.00 314⇑ *i*P Pn 11 14 14.8 +2.6
PSGC Pisagua 7.04 309⇓ *i*P Pn 11 14 13.4 +0.8
LCO Las Campanas 7.51 228 *e*Pn Pn 11 14 19.5 +0.3
BBOJ La Paz, Jacaqu 8.00 332⇑ *i*Pn Pn 11 14 27.2 +1.1
BBOE La Paz, Chanca 8.06 334⇑ *i*Pn Pn 11 14 28.5 +1.6
BBOD La Paz, Gloria 8.48 331⇑ *i*Pn Pn 11 14 33.6 +1.0
LPAZ La Paz 8.59 335 Pn **Pn 11 14 35.6 +1.3**
comp=Z,20nm,0.3s,baz=118,slow=11,SNR=184
LPAZ Sn **Sn 11 16 11.8 +0.5**
comp=Z,22nm,0.3s,baz=280,slow=17,SNR=4.2
LPAZ LR LR 11 18 30.0
comp=Z,49µm,20.3s,baz=158,slow=42
LPAZ La Paz 8.59 335⇑ *i*Pn Pn 11 14 35.1 +0.8
LPAZ La Paz 8.59 335 *e*Pn Pn 11 14 35.1 +0.8
LPAZ Sn **Sn 11 16 11.8 +0.5**
SIV San Ignacio 8.65 21 Pn **Pn 11 14 34.8 +0.3**
comp=Z,47nm,0.3s,baz=219,slow=14,SNR=298
SIV Sn **Sn 11 16 07.0 -4.8**
comp=Z,74nm,0.3s,baz=221,slow=17,SNR=1.7
SIV Lg Lg 11 17 04.7
comp=Z,134nm,0.3s,baz=301,slow=22,SNR=3.6
SIV LR LR 11 18 53.9
comp=Z,37µm,19.8s,baz=206,slow=44
SIV San Ignacio 8.65 21 *e*P Pn 11 14 34.7 +0.2
BBOB La Paz, Bander 8.73 335⇑ *i*Pn Pn 11 14 36.8 +0.8
I08BO LAS PENAS INFR 8.79 333 *i* 12 05 20.0
baz=158,slow=328,SNR=0.8
ROC1 El Roble 10.60 212 *e*Pn Pn 11 14 59.0 -2.5
GO05 HualaæØ 12.71 210 *e*Pn Pn 11 15 28.4 -1.6
TRQA Tornquist 14.02 172 *e*Pn Pn 11 15 44.6 -3.4
SAML Samuel 15.14 4 *e*Pn Pn 11 16 01.1 -2.1
comp=Z,1µm,1.4s
SPB Sao Paulo 15.44 91 *e*Pn Pn 11 16 08.4 +1.2
comp=Z,279nm,1.1s
NNA Nana 16.96 313 Pn **P 11 16 28.1 -0.5**
comp=Z,3.0nm,0.3s,baz=157,slow=11,SNR=18
NNA Sn **S 11 19 41.2 -3.8**
comp=Z,1.1nm,0.3s,baz=53,slow=19,SNR=2.8
NNA LR LR 11 23 11.7
comp=Z,16µm,19.8s,baz=132,slow=38
NNA Nana 16.96 313 *e*Pn P 11 16 28.1 -0.5
comp=Z,1µm,1.4s
NNA Sn **S 11 19 41.2 -3.8**
PLCA Paso Flores 17.37 196 P **Pn 11 16 30.5 -1.2**
comp=Z,0.5nm,0.3s,baz=48,slow=13,SNR=30
PLCA S **Sn 11 19 47.8 +3.1**
comp=Z,0.5nm,0.3s,baz=46,slow=17,SNR=2.8
PLCA Lg Lg 11 21 43.3
comp=Z,0.6nm,0.3s,baz=351,slow=23,SNR=3.1
PLCA LR LR 11 23 00.5
comp=Z,6µm,20.8s,baz=24,slow=36
PLCA Paso Flores 17.37 196 *e*Pn Pn 11 16 29.9 -1.8
comp=Z,726nm,1.4s
PLCA S **Sn 11 19 47.8 +3.1**
PLCA Lg Lg 11 21 43.3
BDFB Brasilia 17.48 64 P **Pn 11 16 32.8 -0.5**
comp=Z,467nm,0.3s,baz=54,slow=0.0,SNR=3.2
BDFB Lg Lg 11 21 43.2
comp=Z,892nm,0.3s,baz=108,slow=0.3,SNR=2.4
BDFB Brasilia 17.48 64 P **Pn 11 16 32.8 -0.5**
BDFB pmax pmax
comp=Z,467nm,0.3s
BDFB pmax pmax
comp=Z,1.0nm,0.9s
ATAH Atahualpa 21.64 319 P **P 11 17 21.9 +1.7**
comp=Z,96nm,0.9s,baz=139,slow=7.1,SNR=86
ATAH S **S 11 21 21.8 +2.0**
comp=Z,16nm,0.9s,baz=69,slow=17,SNR=2.4
ATAH LR LR 11 27 16.1
comp=Z,25µm,21.4s,baz=149,slow=41
PTGA Pitinga 23.64 11 P **P 11 17 40.8 +0.2**
comp=Z,279nm,1.2s,baz=194,slow=11,SNR=168
PTGA S **S 11 22 00.5 +5.8**
comp=Z,36nm,1.0s,baz=239,slow=12,SNR=2.5
PTGA LR LR 11 27 40.3
comp=Z,12µm,18.2s,baz=188,slow=38
PTGA Pitinga 23.64 11 *e*P P 11 17 40.7 +0.2
comp=Z,2µm,1.5s
PTGA S **S 11 22 00.5 +5.8**
CHRN Cochrane 24.00 194 *e*P P 11 17 43.4 -0.5
comp=Z,270nm,1.3s
GO09 Cerro Castillo 27.80 191 *e*P P 11 18 17.7 -0.4
comp=Z,367nm,1.3s
OTAV Otavalo 27.85 328 *e*P P 11 18 21.1 +1.7
comp=Z,252nm,1.3s
OTAV LR LR
comp=Z,11µm,19.0s
EFI East Falkland 27.91 172⇑ *e*P P 11 18 17.5 -1.6
EFI pmax pmax
comp=Z,118nm,1.3s
EFI East Falkland 27.91 172 PFAKE 11 18 30.0 +11
EFI LR LR
comp=Z,35µm,19.0s
PRAC Prado 29.54 338 *e*P P 11 18 33.4 -0.6
comp=Z,198nm,1.2s
ROSC El Rosal 30.41 340 P **P 11 18 42.5 +0.4**
comp=Z,45nm,0.9s,baz=165,slow=8.2,SNR=16
ROSC El Rosal 30.41 340 *e*P P 11 18 43.2 +1.2
comp=Z,547nm,1.7s
USHA Ushuaia 30.82 185 P **P 11 18 43.8 -1.0**
comp=Z,365nm,1.0s,baz=345,slow=7.7,SNR=14
HELC Santa Helena 32.07 339 *e*P P 11 18 54.4 -2.3
comp=Z,238nm,0.9s
RCBR Riachuelo 32.80 61 P **P 11 19 03.6 +0.9**
comp=Z,237nm,1.3s,baz=217,slow=8.8,SNR=25
RCBR Riachuelo 32.80 61 *e*P P 11 19 04.9 +2.2
comp=Z,669nm,1.6s
RCBR LR LR
comp=Z,19µm,19.0s
SDV Santo Domingo 33.39 349 *e*P P 11 19 07.2 -0.9
comp=Z,220nm,1.1s
SDV LR LR
comp=Z,8µm,20.0s
PAYG Puerto Ayora 34.32 309 PFAKE 11 19 30.0 +14
PAYG LR LR
comp=Z,8µm,21.0s
GRGR Grenville 36.13 4 PFAKE 11 19 40.0 +8.5
GRGR LR LR
comp=Z,27µm,19.0s
BCIP Isla Barro Col 36.41 334 *e*P P 11 19 34.6 +0.7
comp=Z,214nm,1.4s
BCIP LR LR
comp=Z,6µm,19.0s
HOPE Hope Point 36.57 153 *e*P P 11 19 36.1 +1.2
comp=Z,962nm,1.4s
HOPE LR LR
comp=Z,8µm,20.0s
BBGH Gun Hill 37.34 8 PFAKE 11 19 50.0 +8.2
BBGH LR LR
comp=Z,21µm,22.0s
FDF Fort de France 38.75 5 *e*P P 11 19 55.7 +2.0
FDF Fort de France 38.75 5 *e*P P 11 19 55.2 +1.5
FDF pmax pmax
comp=Z,215nm,1.2s
FDF MLR MLR
comp=Z,24µm,20.0s
FDF Fort de France 38.75 5 *e*P P 11 19 55.2 +1.5
comp=Z,214nm,1.2s
FDF LR LR
comp=Z,24µm,20.0s
CXM Morne La Croix 38.83 5 *e*P P 11 19 60.0 +5.5
HDC Heredia 39.06 328 *e*P P 11 19 59.6 +3.1
comp=Z,1µm,1.5s
RPN Rapa Nui 40.56 256 PFAKE 11 20 20.0 +11
RPN LR LR
comp=Z,3µm,19.0s
PMSA Palmer Station 40.64 180 P **P 11 20 09.2 +0.4**
comp=Z,128nm,1.1s,baz=12,slow=7.0,SNR=32
PMSA Palmer Station 40.64 180 *e*P P 11 20 08.6 -0.3
comp=Z,459nm,1.4s
PMSA LR LR
comp=Z,13µm,19.0s
ANWB Willy Bob 41.62 4 *e*P P 11 20 16.7 -0.7
ANWB Willy Bob 41.62 4 *e*P P 11 20 17.2 -0.2
comp=Z,162nm,0.9s
ANWB LR LR
comp=Z,11µm,20.0s
CELP Cerrillos 42.01 357 *e*P P 11 20 18.9 -1.7
SJG San Juan 42.02 357 *e*P P 11 20 17.9 -2.8
SJG pmax pmax
comp=Z,183nm,1.2s
SJG MLR MLR
comp=Z,11µm,22.0s
SJG San Juan 42.02 357 *e*P P 11 20 17.9 -2.8
comp=Z,183nm,1.2s
SJG LR LR
comp=Z,11µm,22.0s
HUMP Col San Antoni 42.04 358 *e*P P 11 20 25.4 +4.5
comp=Z,42nm,1.0s
CBYP Canovanas 42.17 358 *e*P P 11 20 19.8 -2.3
comp=Z,142nm,1.3s
MPR Mayaguez 42.18 356 *e*P P 11 20 19.2 -2.8
comp=Z,215nm,1.3s
LGNH LØogne 43.15 348 *e*P P 11 20 30.2 +0.3
SDDR Presa de Saban 43.39 350 *e*P P 11 20 30.6 -1.3
comp=Z,225nm,1.4s
SDDR LR LR
comp=Z,11µm,20.0s
MTDJ Mount Denham 44.04 342 *e*P P 11 20 36.6 -0.6
comp=Z,438nm,1.5s
MTDJ LR LR
comp=Z,5µm,19.0s
TGUH Tegucigalpa,Un 44.10 327 *e*P P 11 20 38.4 +0.8
comp=Z,414nm,1.3s
GTBY Guantanamo Bay 45.04 346 *e*P P 11 20 43.5 -1.5
comp=Z,254nm,1.2s
GTBY LR LR
comp=Z,5µm,19.0s
GRTK Grand Turk 45.85 351 *e*P P 11 20 51.0 -0.5
comp=Z,726nm,1.6s
GRTK LR LR
comp=Z,9µm,19.0s
CCIG Comitan 48.50 323 *e*P P 11 21 12.3 -0.1
comp=Z,120nm,1.2s
SCIG Sabancuy 50.22 326 *e*P P 11 21 26.7 +1.4
comp=Z,902nm,1.9s
ASCN Ascension 50.34 80 PFAKE 11 21 40.0 +14
ASCN LR LR
comp=Z,17µm,19.0s
TLIG Tlapa 53.25 318 *e*P P 11 21 49.5 +1.4
comp=Z,104nm,1.1s
DWPF Disney Wildern 54.50 341 *e*P P 11 21 57.3 +0.3
comp=Z,1µm,1.6s
SACV Santiago Islan 55.58 50 *e*P P 11 22 04.7 -0.4
comp=Z,76nm,1.2s
SACV LR LR
comp=Z,3µm,19.0s
BBSR BB Station 56.19 360 *e*P P 11 22 08.9 -0.2
comp=Z,213nm,1.4s
BBSR LR LR
comp=Z,5µm,20.0s
VNA3 Neumayer Olymp 56.23 162 P **P 11 22 09.2 +0.2**
VNA1 Neumayer--Stat 56.40 161 P **P 11 22 11.0 +0.8**
MOIG Morelia 56.47 317 *e*P P 11 22 13.0 +1.4
comp=Z,182nm,1.0s
VNA2 Neumayer--Watz 56.77 161 P **P 11 22 13.0 +0.1**
baz=293,slow=7.7
TIGA Tifton 58.26 341 P **P 11 22 23.7 -0.1**
baz=159,SNR=9.7
TIGA Tifton 58.26 341 *e*P P 11 22 23.4 -0.3
comp=Z,719nm,1.8s
SNAA Sanae 58.41 161 P **P 11 22 24.6 +0.1**
SNAA Sanae 58.41 161 LR LR 11 46 40.8
comp=Z,8µm,19.6s,baz=306,slow=35
SNAA PKPPKP P'P'df 11 52 00.1 -8.9
comp=Z,1.2nm,0.9s,baz=13,slow=4.4,SNR=5.1
SNAA Sanae 58.41 161 *c i*P P 11 22 24.1 -0.4
SNAA Sanae 58.41 161 *e*P P 11 22 23.8 -0.7
comp=Z,504nm,1.2s
RGRS Roger Stewart 58.71 344 *e*P P 11 22 27.8 +1.0
comp=Z,2µm,0.7s
CSU Charleston Sou 58.76 344 *e*P P 11 22 27.7 +0.5
646A Port Sulphur 58.77 334 P **P 11 22 28.3 +0.9**
baz=153
NHSC New Hope 58.90 344 *e*P P 11 22 29.2 +1.0
comp=Z,2µm,1.4s
NHSC LR LR
comp=Z,6µm,21.0s
645A Chauvin 58.98 333 P **P 11 22 29.8 +1.0**
baz=152
BRAL Brewton 59.15 337 *e*P P 11 22 30.0 +0.1
comp=Z,2µm,1.5s
BRAL LR LR
comp=Z,3µm,20.0s
448A Bay Minette 59.22 336 P **P 11 22 30.1 -0.3**
baz=155,SNR=9.9
PTCN Pitcairn Islan 59.27 254 PFAKE 11 22 40.0 +8.9
PTCN LR LR
comp=Z,5µm,19.0s
546A Slidell 59.31 334 P **P 11 22 31.8 +0.8**
baz=153
447A Lucedale 59.40 336 P **P 11 22 31.7 +0.1**
baz=154,SNR=7.4
447A S **S 11 30 38.1 -1.8**
baz=154
545A Edgard 59.45 334 P **P 11 22 32.8 +0.8**
baz=152
LNIG Linares 59.47 323 *e*P P 11 22 31.7 -0.6
comp=Z,479nm,1.4s
ZAIG Zacatecas 59.63 318 *e*P P 11 22 35.0 +1.2
comp=Z,232nm,1.2s
446A Poplarville 59.66 335 P **P 11 22 33.7 +0.2**
baz=153,SNR=21
348A Jackson 59.67 337 P **P 11 22 33.5 -0.1**
baz=155,SNR=8.8
544A White Castle 59.78 333 P **P 11 22 35.1 +0.8**
baz=152
347A Saraland 59.90 336 P **P 11 22 34.8 -0.2**
baz=154,SNR=16
035Z Hargill 59.96 325 P **P 11 22 36.2 +0.6**
baz=144,SNR=6.8
445A Amite 59.99 334 P **P 11 22 36.0 +0.2**
baz=152,SNR=6.7
543A St. Martinvill 60.05 332 P **P 11 22 37.5 +1.4**
baz=151
GOGA Godfrey 60.07 342 *e*P P 11 22 36.0 -0.2
GOGA pmax pmax
comp=Z,324nm,1.3s
GOGA MLR MLR
comp=Z,3µm,22.0s
GOGA Godfrey 60.07 342 *e*P P 11 22 36.0 -0.2
comp=Z,324nm,1.3s
GOGA LR LR
comp=Z,3µm,22.0s
444A Pine Grove 60.14 334 P **P 11 22 37.1 +0.3**
baz=152,SNR=10
248A Dixon Mills 60.23 337 P **P 11 22 37.0 -0.4**
baz=155,SNR=33
346A Big Creek Wild 60.23 335 P **P 11 22 37.2 -0.2**
baz=154,SNR=13
JSC Jenkinsville 60.29 344 *e*P P 11 22 37.4 -0.3
JSC pmax pmax
comp=Z,597nm,1.3s
JSC Jenkinsville 60.29 344 *e*P P 11 22 37.4 -0.3
comp=Z,597nm,1.3s
035A Encino 60.36 325 P **P 11 22 39.0 +0.7**
baz=144,SNR=14
542A Morse 60.38 332 P **P 11 22 40.6 +2.1**
baz=150,SNR=8.1
345A Thompson Farm, 60.38 335 P **P 11 22 38.5 +0.1**
baz=153,SNR=27
CNNC Cliffs of the 60.44 347 *e*P P 11 22 38.9 +0.2
comp=Z,347nm,1.5s
CNNC LR LR
comp=Z,3µm,20.0s
247A Quitman 60.51 336 P **P 11 22 39.0 -0.2**
baz=154,SNR=34
BBTS Babate 60.52 55 P **P 11 22 41.3 +1.7**
comp=Z,228nm,1.0s,baz=236,slow=0.8,SNR=52
BBTS LR LR 11 48 08.1
comp=Z,6µm,18.1s,baz=239,slow=35
541A Lake Charles 60.60 331 P **P 11 22 41.6 +1.7**
baz=150,SNR=7.8
443A Delano Plantat 60.61 333 P **P 11 22 40.5 +0.5**
baz=151,SNR=6.0
246A Jackson Lee, B 60.67 336 P **P 11 22 40.1 -0.3**
baz=154,SNR=6.8
KVTX Kingsville 60.75 326 *e*P P 11 22 42.7 +1.7
comp=Z,1µm,1.3s
KVTX LR LR
comp=Z,3µm,19.0s
034A Hebbronville 60.77 325 P **P 11 22 41.9 +0.7**
baz=144,SNR=51
344A Westbrook Farm 60.79 334 P **P 11 22 41.4 +0.3**
baz=152,SNR=25
LRAL Lakeview Retre 60.83 338 *e*P P 11 22 41.0 -0.5
comp=Z,246nm,1.2s
442A Mamou 60.84 332 P **P 11 22 42.8 +1.3**
baz=150
147A Livingston 60.95 337 P **P 11 22 41.5 -0.7**
baz=155,SNR=29
245A Little AP, Sta 60.97 335 P **P 11 22 42.4 -0.1**
baz=153,SNR=57
343A Vidalia 61.00 333 P **P 11 22 42.5 -0.1**
baz=151
737A Port Lavaca 61.02 328 P **P 11 22 44.6 +1.8**
baz=146,SNR=6.0
540A Vidor 61.08 331 P **P 11 22 45.2 +2.0**
baz=149,SNR=5.3
638A Rosharon 61.09 329 P **P 11 22 44.8 +1.5**
baz=147
934A Benavides 61.12 325 P **P 11 22 44.5 +1.0**
baz=144,SNR=49
KMSC Kings Mountain 61.12 344 P **P 11 22 43.5 +0.2**
baz=162,SNR=79
KMSC Kings Mountain 61.12 344 *e*P P 11 22 43.6 +0.2
comp=Z,636nm,1.3s
441A DeRidder 61.20 332 P **P 11 22 45.2 +1.2**
baz=150,SNR=20
146A Union 61.20 336 P **P 11 22 43.8 -0.2**
baz=154,SNR=32
244A Avery, Jackson 61.29 335 P **P 11 22 44.4 -0.2**
baz=152,SNR=51
835A Beeville 61.32 326 P **P 11 22 45.9 +1.1**
baz=145,SNR=20
Z48A Northport 61.33 338 P **P 11 22 44.2 -0.7**
baz=156,SNR=83
539A Cross D Ranch, 61.33 330 P **P 11 22 46.7 +1.8**
baz=148,SNR=20
Z47A Carrollton 61.35 337 P **P 11 22 44.5 -0.5**
baz=155,SNR=11
342A Flagon Creek P 61.37 333 P **P 11 22 45.8 +0.7**
baz=151,SNR=26
VBMS Vicksburg 61.38 335 P **P 11 22 45.0 -0.2**
baz=153,SNR=9.0
VBMS Vicksburg 61.38 335 *e*P P 11 22 45.8 +0.6
comp=Z,1µm,1.6s
243A Waterproof 61.46 334 P **P 11 22 45.9 +0.2**
baz=152,SNR=17
736A Circle Diamond 61.48 327 P **P 11 22 47.5 +1.5**
baz=146,SNR=66
145A Houston Renfro 61.49 335 P **P 11 22 46.0 0.0**
baz=153,SNR=20
933A Laredo 61.52 325 P **P 11 22 46.7 +0.5**
baz=144,SNR=134
637A Eagle Lake 61.52 328 P **P 11 22 47.9 +1.7**
baz=147,SNR=63
440A Kirbyville 61.53 331 P **P 11 22 47.7 +1.5**
baz=149,SNR=11
834A Tilden 61.55 326 P **P 11 22 47.4 +1.0**
baz=144,SNR=49
Z46A Louisville 61.66 337 P **P 11 22 47.2 +0.2**
baz=154,SNR=46
341A Kurthwood 61.69 332 P **P 11 22 48.2 +0.9**
baz=150,SNR=41
144A Alexander Plac 61.71 335 P **P 11 22 47.6 +0.2**
baz=153,SNR=12
HKT Hockley 61.71 329 *e*P P 11 22 48.1 +0.7
HKT pmax pmax
comp=Z,3µm,1.5s
HKT Hockley 61.71 329 *e*P P 11 22 48.0 +0.7
comp=Z,3µm,1.5s
735A Kenedy 61.77 327 P **P 11 22 48.8 +0.9**
baz=145,SNR=24
538A Harpers Horsep 61.78 329 P **P 11 22 49.5 +1.6**
baz=148,SNR=9.8
242A Grayson 61.90 333 P **P 11 22 49.0 +0.3**
baz=151,SNR=29
Y47A UCPARC, Winfie 61.91 338 P **P 11 22 48.6 -0.2**
baz=156,SNR=95
636A Smothers Creek 61.91 328 P **P 11 22 50.0 +1.2**
baz=146,SNR=98
439A Center Grove, 61.93 330 P **P 11 22 50.5 +1.5**
baz=148,SNR=99
537A Green Hill Far 62.05 329 P **P 11 22 50.8 +1.0**
baz=147,SNR=43
340A Bronson 62.07 331 P **P 11 22 51.1 +1.2**
baz=149,SNR=107
Z45A Winona 62.09 336 P **P 11 22 50.0 +0.1**
baz=154,SNR=35
734A La Parita Cree 62.14 326 P **P 11 22 50.9 +0.5**
baz=144,SNR=45
833A Chaparral WMA, 62.15 325 P **P 11 22 51.1 +0.6**
baz=144,SNR=172
143A Socs Landing, 62.16 334 P **P 11 22 50.5 +0.1**
baz=152,SNR=40
241A Mo Tay, Goldon 62.18 333 P **P 11 22 51.5 +0.9**
baz=150,SNR=39
635A Leesville 62.19 327 P **P 11 22 50.9 +0.2**
baz=145,SNR=35
438A Sam Houston St 62.22 330 P **P 11 22 52.3 +1.4**
baz=148,SNR=18
142A Monroe 62.24 334 P **P 11 22 51.4 +0.5**
baz=151,SNR=14
Y46A Houston 62.25 337 P **P 11 22 50.4 -0.6**
baz=155,SNR=35
TKL Tuckaleechee C 62.26 342 *e*P P 11 22 50.4 -0.7
TKL pmax pmax
comp=Z,564nm,1.2s
TKL Tuckaleechee C 62.26 342 *e*P P 11 22 50.4 -0.7
comp=Z,564nm,1.2s
CPCT Cooper Cave 62.28 341 *e*P P 11 22 50.9 -0.3
comp=Z,206nm,1.1s
Z44A Pea Ridge, Bel 62.28 335 P **P 11 22 51.4 +0.1**
baz=153,SNR=62
339A Huntington 62.30 331 P **P 11 22 52.6 +1.2**
baz=149,SNR=50
536A Bastrop 62.41 328 P **P 11 22 52.9 +0.7**
baz=146,SNR=44
733A Divot King Ran 62.42 325 P **P 11 22 52.5 +0.2**
baz=144,SNR=50
832A Faith Ranch, C 62.43 325 P **P 11 22 52.7 +0.4**
baz=143,SNR=121
634A China Grove, S 62.47 327 P **P 11 22 52.8 +0.2**
baz=145,SNR=6.7
Y45A Yeager Farm, C 62.48 336 P **P 11 22 52.4 -0.1**
baz=154,SNR=42
SWET Sewanee 62.48 340 *e*P P 11 22 52.3 -0.4
comp=Z,222nm,1.3s
Z43A Armstrong Fami 62.54 335 P **P 11 22 52.8 -0.2**
baz=152,SNR=10.0
240A Hunter Patters 62.55 332 P **P 11 22 54.3 +1.2**
baz=150,SNR=27
437A Phantom Ranch, 62.59 329 P **P 11 22 54.3 +1.0**
baz=147,SNR=14
535A Dale 62.61 328 P **P 11 22 53.9 +0.3**
baz=146,SNR=48
URVA University of 62.62 348 *e*P P 11 22 53.3 -0.2
338A Crockett 62.66 330 P **P 11 22 55.5 +1.7**
baz=148,SNR=45
141A Papa Simpson, 62.68 333 P **P 11 22 54.9 +1.0**
baz=151,SNR=25
NATX Nacogdoches 62.71 331 P **P 11 22 55.4 +1.3**
baz=149,SNR=24
NATX Nacogdoches 62.71 331 *e*P P 11 22 55.2 +1.1
comp=Z,551nm,0.9s
NATX LR LR
comp=Z,2µm,21.0s

JSRW	J. Sargeant Re	62.81	348	eP	P	11 22 54.5 -0.1
VWCC	Virginia Weste	62.81	346	eP	P	11 22 54.9 +0.2
Y44A	Strider, Charl	62.81	336	P	P	11 22 54.5 -0.2
	baz=153,SNR=32					
239A	Gary	62.84	331	P	P	11 22 56.1 +1.1
	baz=149,SNR=37					
436A	Wall Ranch, Ga	62.85	329	P	P	11 22 56.3 +1.2
	baz=147,SNR=41					
NVL	N'lazarevskaya	62.86	159⇑	iP	P	11 22 57.0 +2.3
NVL				e*PP	sP	11 23 02.9 +0.9
NVL				e*SP	pP	11 23 04.8 +4.8
NVL				e		11 25 17.4
NVL				eS	S	11 31 26.4 +3.2
NVL				eSS	SS	11 35 31.7 +3.9
NVL				MLR	MLR	
	comp=Z,9μm,20.0s					
Z42A	Norrel Spur, H	62.87	334	P	P	11 22 55.3 +0.1
	baz=152,SNR=22					
BLA	Blacksburg	62.88	346	eP	P	11 22 55.7 +0.5
BLA				pmax	pmax	
	comp=Z,724nm,1.4s					
BLA				MLR	MLR	
	comp=Z,4μm,20.0s					
BLA	Blacksburg	62.88	346	eP	P	11 22 55.7 +0.5
	comp=Z,724nm,1.4s					
BLA				LR	LR	
	comp=Z,4μm,20.0s					
337A	Centerville	62.88	330	P	P	11 22 56.8 +1.5
	baz=148,SNR=40					
X45A	UM Field Stati	62.92	337	P	P	11 22 54.7 -0.9
	baz=154,SNR=32					
633A	Saathoff Ranch	62.95	326	P	P	11 22 56.0 +0.1
	baz=144,SNR=163					
140A	Cam and Jess,	62.99	332	P	P	11 22 57.1 +1.1
	baz=150,SNR=42					
OXF	Oxford	63.01	337	eP	P	11 22 55.3 -0.8
OXF				pmax	pmax	
	comp=Z,556nm,1.0s					
OXF	Oxford	63.01	337	eP	P	11 22 55.3 -0.8
	comp=Z,556nm,1.0s					
Y43A	Makayla and Ka	63.04	335	P	P	11 22 56.4 +0.1
	baz=153,SNR=26					
238A	Jacksonville	63.12	331	P	P	11 22 58.2 +1.4
	baz=148,SNR=27					
Z41A	Richland Creek	63.20	333	P	P	11 22 57.7 +0.3
	baz=151,SNR=11					
CBN	Corbin Frederi	63.21	348	eP	P	11 22 58.0 +0.6
	comp=Z,354nm,1.5s					
CBN				LR	LR	
	comp=Z,4μm,20.0s					
435B	Jarrell	63.24	328	P	P	11 22 58.1 +0.3
	baz=146,SNR=29					
X44A	Crenshaw	63.27	336	P	P	11 22 57.2 -0.6
	baz=154,SNR=6.5					
Y42A	Garnett, Star	63.30	335	P	P	11 22 58.2 +0.1
	baz=152,SNR=6.7					
CCAR	Cane Creek	63.37	335	eP	P	11 22 59.4 +0.9
	comp=Z,2μm,1.9s					
139A	Bunkhouse Ranc	63.37	332	P	P	11 22 59.5 +1.0
	baz=149,SNR=10					
336A	Riesel	63.39	329	P	P	11 22 59.3 +0.7
	baz=147,SNR=85					
237A	Washetta, Mont	63.42	330	P	P	11 22 60.0 +1.1
	baz=148,SNR=64					
Z40A	Long Farm, Mag	63.45	333	P	P	11 22 59.9 +0.9
	baz=150,SNR=92					
W45A	Hickory Valley	63.51	337	P	P	11 22 58.7 -0.7
	baz=155,SNR=67					
X43A	Marvell	63.56	336	P	P	11 22 59.9 +0.2
	baz=153,SNR=20					
138A	Matatall Enter	63.66	331	P	P	11 23 01.7 +1.2
	baz=149,SNR=60					
Y41A	Eaglette Beard	63.67	334	P	P	11 23 00.8 +0.4
	baz=151,SNR=34					
WLAR	White Oak Lake	63.70	333	eP	P	11 23 01.8 +1.1
	comp=Z,1μm,1.2s					
W44A	Shelby Farms P	63.72	337	P	P	11 23 00.2 -0.6
	baz=154					
MET	Memphis--Engin	63.74	337	eP	P	11 23 00.9 0.0
	comp=Z,918nm,1.3s					
236A	Katherine and	63.75	330	P	P	11 23 02.0 +0.9
	baz=147,SNR=58					
Z39A	Irene McRaven,	63.77	332	P	P	11 23 02.2 +1.1
	baz=150,SNR=37					
X42A	Stuttgart	63.87	335	P	P	11 23 01.6 -0.1
	baz=152,SNR=9.2					
137A	Heron Place, G	63.90	331	P	P	11 23 03.3 +1.3
	baz=148,SNR=66					
WVT	Waverly	63.93	339	eP	P	11 23 01.4 -0.8
WVT				pmax	pmax	
	comp=Z,511nm,1.0s					
WVT	Waverly	63.93	339	eP	P	11 23 01.4 -0.8
	comp=Z,511nm,1.0s					
V45A	Humboldt	63.96	338	P	P	11 23 01.6 -0.7
	baz=155,SNR=28					
W43A	Forest City	64.00	336	P	P	11 23 02.1 -0.5
	baz=153					
Y40A	Okolona	64.06	333	P	P	11 23 03.2 +0.2
	baz=151,SNR=33					
RKT	Rikitea	64.08	255	eS	S	11 31 39.5 -0.4
	comp=Z,4μm,28.8s					
RKT				eLQ	LQ	11 39 37.0
	comp=Z,4μm,31.8s					
RKT				eLR	LR	11 42 22.8
	comp=Z,11μm,26.5s					
JCT	Junction City	64.09	326	P	P	11 23 03.6 +0.2
	baz=144,SNR=115					
JCT	Junction City	64.09	326	eP	P	11 23 03.8 +0.4
JCT				pmax	pmax	
	comp=Z,435nm,1.0s					
JCT				MLR	MLR	
	comp=Z,1μm,22.0s					
JCT	Junction City	64.09	326	eP	P	11 23 03.8 +0.4
	comp=Z,435nm,1.0s					
JCT				LR	LR	
	comp=Z,1μm,22.0s					
Z38A	Mt. Pleasant	64.13	332	P	P	11 23 04.4 +0.9
	baz=149,SNR=13					
136A	Ennis	64.15	330	P	P	11 23 04.2 +0.5
	baz=147,SNR=20					
X41A	Kaden, Bauxite	64.17	334	P	P	11 23 03.1 -0.6
	baz=151,SNR=8.8					
WHTX	Lake Whitney,	64.18	329	P	P	11 23 04.2 +0.3
	baz=146,SNR=80					
WHTX	Lake Whitney,	64.18	329	eP	P	11 23 04.2 +0.3
SDMD	Soldier's Deli	64.29	349	eP	P	11 23 05.1 +0.7
	comp=Z,234nm,1.9s					
X40A	Basin Creek Fa	64.29	334	P	P	11 23 03.9 -0.6
	baz=151,SNR=16					
Y39A	Lockesburg	64.33	333	P	P	11 23 05.2 +0.4
	baz=150,SNR=47					
UALR	University of	64.35	335	eP	P	11 23 04.6 -0.3
	comp=Z,397nm,1.4s					
Z37A	Pogue Cattle C	64.35	331	P	P	11 23 06.0 +1.0
	baz=148,SNR=16					
V44A	Blytheville	64.36	337	P	P	11 23 04.7 -0.3
	baz=154					
HBAR	Harrisburg	64.40	336	eP	P	11 23 05.6 +0.4
U45A	Rockin P Farm,	64.44	338	P	P	11 23 04.9 -0.6
	baz=155,SNR=30					
W42A	Bald Knob	64.47	335	P	P	11 23 05.4 -0.3
	baz=152,SNR=12					
GNAR	Gosnell	64.53	337	eP	P	11 23 06.7 +0.7
V43A	Jonesboro	64.56	337	P	P	11 23 06.0 -0.3
	baz=154,SNR=8.5					
PSUB	Penn St. - Bra	64.57	351	eP	P	11 23 06.5 +0.2
	comp=Z,341nm,1.5s					
Y38A	Idabel	64.59	332	P	P	11 23 06.8 +0.3
	baz=149,SNR=12					
HPIG		64.60	319	eP	P	11 23 06.7 -0.3
	comp=Z,864nm,1.9s					
U44B	Burton Farm, H	64.63	338	P	P	11 23 06.5 -0.3
	baz=155,SNR=58					
MIAR	Mount Ida	64.64	333	P	P	11 23 06.8 0.0
	baz=150,SNR=76					
MIAR	Mount Ida	64.64	333	eP	P	11 23 06.8 0.0
MIAR				pmax	pmax	
	comp=Z,376nm,1.4s					
MIAR				MLR	MLR	
	comp=Z,3μm,19.0s					
MIAR	Mount Ida	64.64	333	eP	P	11 23 06.8 0.0
	comp=Z,376nm,1.4s					
MIAR				LR	LR	
	comp=Z,3μm,19.0s					
W41B	Gary Mavity, V	64.66	335	P	P	11 23 06.4 -0.5
	baz=152,SNR=40					
X301	Greenbrier Sit	64.78	335	eP	P	11 23 07.5 -0.2
	comp=Z,397nm,1.6s					
WHAR	Wooly Hollow	64.78	335	eP	P	11 23 07.3 -0.4
	comp=Z,521nm,1.7s					
Z36A	Blue Ridge	64.78	330	P	P	11 23 08.4 +0.6
	baz=148,SNR=118					
MVL	Millersville	64.78	350	eP	P	11 23 08.1 +0.5
	comp=Z,166nm,1.3s					
PVMO	Portageville	64.82	338	eP	P	11 23 08.7 +0.8
	comp=Z,3μm,1.0s					
X39A	Fountain Ranch	64.83	333	P	P	11 23 08.7 +0.6
	baz=150,SNR=165					
V42A	Cord	64.89	336	P	P	11 23 07.5 -1.0
	baz=153,SNR=45					
U44A	Portageville	64.90	338	P	P	11 23 08.2 -0.2
	baz=154,SNR=36					
SLBS	Sierra La Lagu	64.97	314	eP	P	11 23 11.1 +1.7
	comp=Z,405nm,1.4s					
W40A	Ferguson Farm,	65.00	334	P	P	11 23 09.5 +0.4
	baz=151,SNR=66					
Y37A	Hugo	65.02	332	P	P	11 23 10.5 +1.2
	baz=148,SNR=138					
U43A	Rector	65.03	337	P	P	11 23 09.1 -0.3
	baz=154,SNR=27					
MCWV	Mont Chateau	65.10	347	eP	P	11 23 10.3 +0.6
	comp=Z,207nm,1.1s					
LIC	Lamto	65.14	70	eP	P	11 23 10.5 -0.1
	comp=Z,886nm,1.8s					
V41A	Mountainview	65.16	335	P	P	11 23 09.6 -0.6
	baz=152,SNR=86					
BRNJ	Basking Ridge	65.19	351	eP	P	11 23 10.7 +0.5
	comp=Z,416nm,1.3s					
CPNY	Central Park	65.21	352	eP	P	11 23 10.8 +0.5
	comp=Z,502nm,1.5s					
Y36A	Durant	65.24	331	P	P	11 23 11.3 +0.6
	baz=148,SNR=34					
TXAR	Lajitas Array	65.26	322	P	P	11 23 11.4 +0.3
	comp=Z,36nm,0.8s,baz=146,slow=8.1,SNR=345					
TXAR				LR	LR	11 51 32.5
	comp=Z,2μm,21.5s,baz=0.0,slow=36					
TXAR				PKP2bc		11 51 55.4
	comp=Z,2.0nm,1.0s,baz=338,slow=1.3,SNR=12					
TX31	Lajitas Ar. Si	65.26	322	eP	P	11 23 10.4 -0.7
TX31				eP	P	11 23 11.0 -0.1
X38A	Whitesboro	65.27	333	P	P	11 23 11.7 +0.8
	baz=149,SNR=176					
W39A	Magazine	65.29	334	P	P	11 23 11.4 +0.4
	baz=150,SNR=74					
U42A	Revenden	65.32	336	P	P	11 23 10.6 -0.6
	baz=153,SNR=69					
TIC	Toumodi	65.36	70	eP	P	11 23 11.7 -0.3
WCI	Wyandotte Cave	65.38	341	eP	P	11 23 10.6 -0.9
WCI				pmax	pmax	
	comp=Z,230nm,0.9s					
WCI	Wyandotte Cave	65.38	341	eP	P	11 23 10.6 -0.9
	comp=Z,230nm,0.9s					
T44A	Benton	65.39	338	P	P	11 23 10.8 -0.8
	baz=155,SNR=25					
PBMO	Poplar Bluff	65.41	337	eP	P	11 23 10.9 -0.9
	comp=Z,631nm,1.0s					
PAL	Palisades	65.42	352	eP	P	11 23 12.2 +0.5
PAL				pmax	pmax	
	comp=Z,465nm,1.5s					
PAL	Palisades	65.42	352	eP	P	11 23 12.2 +0.5
	comp=Z,465nm,1.5s					
X37A	Clayton	65.43	332	P	P	11 23 12.6 +0.6
	baz=149,SNR=101					
O56A	Blue Knob Stat	65.43	348	P	P	11 23 12.6 +0.6
	baz=166,SNR=56					
V40A	Witts Springs	65.44	335	P	P	11 23 11.5 -0.5
	baz=151,SNR=44					
KIC	Kosan Boka	65.46	70	eP	P	11 23 12.4 -0.2
	comp=Z,631nm,1.0s					
W38A	Poteau	65.48	333	P	P	11 23 13.0 +0.7
	baz=150,SNR=133					
DBIC	Dimbokro	65.51	70	P	P	11 23 13.2 +0.2
	comp=Z,180nm,0.9s,baz=212,slow=6.8,SNR=110					
DBIC				pP	sP	11 23 19.4 -0.9
	comp=Z,238nm,1.1s,baz=224,slow=9.7,SNR=20					
DBIC				LR	LR	11 49 54.8
	comp=Z,14μm,19.1s,baz=215,slow=34					
DBIC	Dimbokro	65.51	70	eP	P	11 23 13.6 +0.6
DBIC				*PP	sP	11 23 19.4 -0.9
DBIC				pmax	pmax	
	comp=Z,807nm,1.4s					
DBIC	Dimbokro	65.51	70	eP	P	11 23 13.6 +0.6
	comp=Z,807nm,1.4s					
DBIC				pP	sP	11 23 19.4 -0.9
USIN	University of	65.56	340	eP	P	11 23 11.5 -1.2
	comp=Z,288nm,1.1s					
U41A	Viola	65.56	336	P	P	11 23 12.2 -0.6
	baz=152,SNR=86					
Y35A	Marietta	65.58	330	P	P	11 23 13.8 +0.8
	baz=147,SNR=100					
ODNJ	Ogdensburg	65.58	351	eP	P	11 23 13.0 +0.2
	comp=Z,444nm,1.8s					
S45A	Carrier Mills	65.59	339	P	P	11 23 11.9 -1.0
	baz=156,SNR=42					
N59A	State Game Lan	65.59	350	P	P	11 23 13.3 +0.4
	baz=168,SNR=28					
YLE	Yale	65.61	353	eP	P	11 23 13.9 +1.0
	comp=Z,437nm,1.3s					
T43A	Greenville	65.63	337	P	P	11 23 12.8 -0.4
	baz=154,SNR=144					
SSPA	Standing Stone	65.66	349	eP	P	11 23 13.7 +0.4
	comp=Z,625nm,1.4s					
ABTX	Abilene, Hawle	65.75	328	P	P	11 23 14.3 +0.2
	baz=145,SNR=54					
ABTX	Abilene, Hawle	65.75	328	eP	P	11 23 14.4 +0.2
	comp=Z,564nm,1.3s					
V39A	Pettigrew	65.79	334	P	P	11 23 14.3 -0.1
	baz=151,SNR=139					
S44A	Carbondale	65.82	338	P	P	11 23 13.6 -0.9
	baz=155,SNR=32					
X36A	Centrahoma	65.84	331	P	P	11 23 14.5 -0.1
	baz=148,SNR=98					
W37B	Quinton	65.92	332	P	P	11 23 15.7 +0.5
	baz=149,SNR=155					
U40A	Yellville	65.93	335	P	P	11 23 14.8 -0.4
	baz=152,SNR=56					
X35A	Drake	65.97	331	P	P	11 23 15.3 -0.2
	baz=147,SNR=81					
S43A	Fulton Ridge,	65.99	338	P	P	11 23 14.5 -1.0
	baz=154,SNR=47					
BRYW	Bryant College	66.06	354	eP	P	11 23 16.6 +0.7
	comp=Z,902nm,1.3s					
QSPA	South Pole Qui	66.08	180	eP	P	11 23 16.1 +0.1
	comp=Z,2μm,1.2s					
QSPA				LR	LR	
	comp=Z,8μm,19.0s					
V38A	Canehill	66.12	334	P	P	11 23 16.4 0.0
	baz=150,SNR=138					
T41A	Mountain View	66.12	336	P	P	11 23 16.0 -0.4
	baz=153,SNR=120					
U39A	Green Forest	66.20	335	P	P	11 23 16.4 -0.6
	baz=151,SNR=78					
W36A	Wetumka	66.26	332	P	P	11 23 17.2 -0.2
	baz=148,SNR=44					
R44A	Waltonville	66.27	339	P	P	11 23 16.1 -1.1
	baz=155,SNR=42					
HHAR	Hobbs	66.29	334	eP	P	11 23 17.3 -0.2
	comp=Z,270nm,1.1s					
BLO	Bloomington	66.32	341	eP	P	11 23 17.0 -0.6
BLO				pmax	pmax	
	comp=Z,380nm,1.0s					
BLO	Bloomington	66.32	341	eP	P	11 23 17.0 -0.6
	comp=Z,380nm,1.0s					
ACSO	Alum Creek Sta	66.36	344	eP	P	11 23 17.6 -0.2
	comp=Z,675nm,1.0s					
ACSO				LR	LR	
	comp=Z,4μm,19.0s					
N54A	Moraine State	66.38	347	P	P	11 23 18.5 +0.5
	baz=164,SNR=94					
OLIL	Olney	66.39	340	eP	P	11 23 16.9 -1.2
	comp=Z,828nm,1.8s					
S42A	Caledonia	66.42	337	P	P	11 23 17.3 -1.0
	baz=154,SNR=68					
BCX	Boston College	66.44	354	eP	P	11 23 18.7 +0.5
	comp=Z,520nm,1.5s					
V37A	Hulbert	66.44	333	P	P	11 23 18.5 +0.1
	baz=149,SNR=176					
QUA2	Belchertown	66.49	353	eP	P	11 23 19.1 +0.5
	comp=Z,192nm,1.3s					
WES	Weston	66.50	354	eP	P	11 23 19.2 +0.5
WES				pmax	pmax	
	comp=Z,391nm,1.5s					
WES	Weston	66.50	354	eP	P	11 23 19.1 +0.5
	comp=Z,391nm,1.5s					
T40A	Mansfield	66.50	336	P	P	11 23 18.4 -0.4
	baz=152,SNR=60					
W35A	Tecumseh	66.56	331	P	P	11 23 18.9 -0.4
	baz=148,SNR=54					
R43A	Red Bud	66.58	338	P	P	11 23 18.4 -0.9
	baz=154,SNR=29					
S41A	Jillco Farms,	66.60	336	P	P	11 23 19.1 -0.4
	baz=153,SNR=213					
U38A	Gravette	66.61	334	P	P	11 23 19.3 -0.2
	baz=150,SNR=65					
HRV	Adam Dziewonsk	66.64	354	eP	P	11 23 20.3 +0.7
HRV				pmax	pmax	
	comp=Z,373nm,1.3s					
HRV	Adam Dziewonsk	66.64	354	eP	P	11 23 20.3 +0.7
	comp=Z,373nm,1.3s					
V36A	Jenks	66.69	332	P	P	11 23 20.2 +0.1
	baz=149,SNR=96					
T39A	Clever	66.72	335	P	P	11 23 20.1 -0.2
	baz=151,SNR=66					
TUL1	Leonard	66.73	333	P	P	11 23 20.4 0.0
	baz=149,SNR=51					
TUL1	Leonard	66.73	333	eP	P	11 23 20.6 +0.3
CCM	Cathedral Cave	66.84	337	eP	P	11 23 20.1 -0.8
CCM				pmax	pmax	
	comp=Z,612nm,1.4s					
CCM	Cathedral Cave	66.84	337	eP	P	11 23 20.1 -0.8
	comp=Z,612nm,1.4s					
M54A	Oil Creek Stat	66.84	347	P	P	11 23 21.3 +0.4
	baz=165,SNR=92					
BINY	Binghamton	66.88	351	eP	P	11 23 21.7 +0.5
	comp=Z,3μm,1.8s					
BINY				epP	pP	11 23 27.0 +0.5
BINY				LR	LR	
	comp=Z,3μm,19.0s					
U37A	Salina	66.88	333	P	P	11 23 21.5 +0.3
	baz=150,SNR=115					
R42A	Luebbering	66.88	338	P	P	11 23 20.6 -0.6
	baz=154,SNR=42					
S40A	Lebanon	66.89	336	P	P	11 23 21.0 -0.3
	baz=152,SNR=84					
SLM	Saint Louis	67.01	338	eP	P	11 23 21.6 -0.4
SLM				pmax	pmax	
	comp=Z,340nm,1.5s					
SLM	Saint Louis	67.01	338	eP	P	11 23 21.6 -0.4
	comp=Z,340nm,1.5s					
V35A	Meyer Ranch, C	67.06	332	P	P	11 23 22.4 0.0
	baz=148,SNR=127					
WMOK	Wichita Mounta	67.07	330	P	P	11 23 22.3 -0.3
	baz=146,SNR=52					
WMOK	Wichita Mounta	67.07	330	eP	P	11 23 22.3 -0.3
WMOK				pmax	pmax	
	comp=Z,417nm,1.5s					
WMOK				MLR	MLR	
	comp=Z,2μm,19.0s					
WMOK	Wichita Mounta	67.07	330	eP	P	11 23 22.3 -0.3
	comp=Z,417nm,1.5s					
WMOK				LR	LR	
	comp=Z,2μm,19.0s					
ALLY	Alegheny Colle	67.08	347	eP	P	11 23 22.8 +0.4
	comp=Z,1μm,1.0s					
T38A	Diamond	67.09	334	P	P	11 23 22.4 -0.2
	baz=150,SNR=128					
TRY	Troy	67.09	353	eP	P	11 23 23.1 +0.7
	comp=Z,923nm,1.4s					
Q43A	New Douglas	67.10	339	P	P	11 23 21.6 -1.0
	baz=155,SNR=37					
R41A	Rosebud	67.10	337	P	P	11 23 22.1 -0.6
	baz=153,SNR=134					
U36A	Oologah	67.12	333	P	P	11 23 22.8 0.0
	baz=149,SNR=40					
P44A	Sand Creek, Wi	67.23	340	P	P	11 23 21.9 -1.5
	baz=156,SNR=36					
S39A	Bolivar	67.28	335	P	P	11 23 23.8 0.0
	baz=151,SNR=251					
Q42A	Golden Eagle	67.36	338	P	P	11 23 23.1 -1.1
	baz=154,SNR=31					
T37A	Cheneyville 18	67.41	334	P	P	11 23 25.0 +0.4
	baz=150,SNR=290					
R40A	Maddies Statio	67.41	336	P	P	11 23 24.1 -0.5
	baz=152,SNR=60					
S38A	Stockton	67.45	335	P	P	11 23 24.7 -0.2
	baz=151,SNR=145					
ERPA	Erie	67.50	347	eP	P	11 23 24.9 -0.2
	comp=Z,2μm,1.1s					
U35A	Pawnee	67.52	332	P	P	11 23 25.8 +0.5
	baz=148,SNR=84					
SFIN	Lafayette	67.60	341	P	P	11 23 24.5 -1.1
	baz=158,SNR=17					
SFIN	Lafayette	67.60	341	eP	P	11 23 24.6 -1.1
FFD	Franklin Falls	67.61	354	eP	P	11 23 26.7 +1.0
	comp=Z,540nm,1.4s					
Q41A	Truxton	67.63	338	P	P	11 23 25.2 -0.8
	baz=154,SNR=72					
P43A	Skaggs, Pawnee	67.67	339	P	P	11 23 25.0 -1.2
	baz=155,SNR=42					
MMNY	Mt. Morris Dam	67.70	349	eP	P	11 23 26.7 +0.4
R39A	Chumby, Stover	67.72	336	P	P	11 23 26.2 -0.3
	baz=152,SNR=157					
ACCN	Adirondack Com	67.73	353	eP	P	11 23 26.8 +0.3
	comp=Z,272nm,1.6s					
T36A	Boggs Farm, Ca	67.75	333	P	P	11 23 26.8 +0.1
	baz=149,SNR=140					
T35A	Sooner Cattle	67.89	333	P	P	11 23 27.9 +0.2
	baz=148,SNR=159					
P42A	Winchester	67.90	339	P	P	11 23 26.5 -1.1
	baz=154,SNR=42					
HNH	Hanover	67.90	354	eP	P	11 23 28.4 +0.9
	comp=Z,815nm,1.4s					
S37A	Fort Scott	67.93	334	P	P	11 23 27.9 0.0
	baz=150,SNR=186					
R38A	Fenwick Farm,	67.94	335	P	P	11 23 27.8 -0.1
	baz=151,SNR=254					
Q40A	Laux Farm, Aux	67.97	337	P	P	11 23 27.5 -0.6
	baz=153,SNR=30					
MNTX	Cornudas Mount	68.01	323	P	P	11 23 28.4 -0.1
	baz=140,SNR=420					
MNTX	Cornudas Mount	68.01	323	eP	P	11 23 27.8 -0.8
	comp=Z,371nm,1.0s					
MNTX				LR	LR	
	comp=Z,2μm,21.0s					
BUF	Buffalo	68.06	349	eP	P	11 23 28.9 +0.4
O43A	Sugar Creek Fa	68.19	340	P	P	11 23 28.2 -1.2
	baz=155,SNR=25					
S36A	Lake Cedric, C	68.20	334	P	P	11 23 29.8 +0.2
	baz=149,SNR=136					
P41A	Barry, Barry	68.22	338	P	P	11 23 28.8 -0.9
	baz=154,SNR=32					
T34A	McClaskey Farm	68.27	332	P	P	11 23 30.5 +0.5
	baz=148,SNR=80					
MDV	Middlebury	68.28	353	eP	P	11 23 30.3 +0.3
Q39A	Willow Grove F	68.34	336	P	P	11 23 30.0 -0.4
	baz=152,SNR=125					
O42A	Bath	68.36	339	P	P	11 23 29.6 -0.9
	baz=155,SNR=24					
NCB	Newcomb	68.38	352	eP	P	11 23 30.8 +0.2
	comp=Z,2.6nm,1.3s					
MSTX	Muleshoe	68.39	326	P	P	11 23 31.1 +0.1
	baz=142,SNR=483					
MSTX	Muleshoe	68.39	326	eP	P	11 23 31.4 +0.4
	comp=Z,1μm,1.0s					
LBNH	Lisbon	68.39	354	eP	P	11 23 31.6 +1.0
LBNH				pmax	pmax	
	comp=Z,287nm,1.3s					
LBNH	Lisbon	68.39	354	eP	P	11 23 31.6 +1.0
	comp=Z,287nm,1.3s					
R37A	Teagarden Farm	68.41	335	P	P	11 23 30.8 -0.1
	baz=150,SNR=72					
HDIL	Hopedale	68.43	340	PFAKE		11 23 40.0 +9.0
HDIL				LR	LR	
	comp=Z,3μm,19.0s					
P40A	Paris	68.43	337	P	P	11 23 30.3 -0.7
	baz=153,SNR=95					
S35A	Otter Creek Ra	68.46	333	P	P	11 23 31.4 +0.2
	baz=149,SNR=143					
AAM	Ann Arbor	68.48	345	eP	P	11 23 30.8 -0.4
AAM				pmax	pmax	
	comp=Z,1μm,1.6s					
AAM				MLR	MLR	
	comp=Z,3μm,22.0s					
AAM	Ann Arbor	68.48	345	eP	P	11 23 30.8 -0.4
	comp=Z,1μm,1.6s					
AAM				LR	LR	
	comp=Z,3μm,22.0s					
Q38A	Cooks Store, C	68.50	336	P	P	11 23 31.3 -0.1
	baz=151,SNR=104					
U32A	Winter Ranch,	68.53	330	P	P	11 23 31.9 +0.2
	baz=146,SNR=50					
WVL	Waterville	68.54	356	eP	P	11 23 32.3 +0.8
	comp=Z,593nm,1.5s					
O41A	Passleys Farm,	68.55	338	P	P	11 23 30.6 -1.2

baz=154,SNR=30
EMMW East Machias 68.57 358 eP P 11 23 32.3 +0.7
comp=Z,268nm,1.3s
AMTX Amarillo 68.57 328 P P 11 23 32.2 +0.2
baz=144
AMTX Amarillo 68.57 328 eP P 11 23 32.3 +0.2
comp=Z,585nm,1.1s
P39B Salisbury 68.65 337 P P 11 23 31.8 -0.6
baz=152,SNR=54
R36A Gordon, Harris 68.68 334 P P 11 23 32.7 +0.1
baz=150,SNR=119
Q37A Longview Farm, 68.75 335 P P 11 23 32.8 -0.2
baz=151,SNR=49
S34A Willow Spring 68.81 333 P P 11 23 33.5 +0.1
baz=148,SNR=40
O40A La Belle 68.90 338 P P 11 23 33.2 -0.7
baz=153,SNR=40
N42A Yates City 68.92 339 P P 11 23 33.2 -0.8
baz=155,SNR=50
R35A Emporia Munici 68.96 334 P P 11 23 34.8 +0.4
baz=149,SNR=43
P38A Dawn 69.05 336 P P 11 23 34.4 -0.5
baz=152,SNR=108
LONY Lake Ozonia 69.06 352 eP P 11 23 35.1 +0.3
comp=Z,462nm,1.4s
LONY LR LR
comp=Z,4µm,21.0s
N41A Harden Midland 69.08 339 P P 11 23 34.0 -1.0
baz=154,SNR=12
FRNY Flat Rock 69.16 353 eP P 11 23 35.5 +0.2
comp=Z,375nm,1.6s
PKME Peaks-Kenny Pk 69.21 356 eP P 11 23 36.0 +0.3
comp=Z,655nm,1.9s
PKME LR LR
comp=Z,4µm,20.0s
Q36A Arnold C. Orve 69.21 334 P P 11 23 35.3 -0.5
baz=150,SNR=27
O39A Kirksville 69.25 337 P P 11 23 35.4 -0.6
baz=152,SNR=22
HSIG 69.33 317 eP P 11 23 38.0 +1.2
comp=Z,1µm,1.8s
P37A Lathrop 69.33 336 P P 11 23 36.1 -0.4
baz=151,SNR=62
Q35A Mercer Eighty, 69.35 334 P P 11 23 36.5 -0.3
baz=149,SNR=69
R34A Isabella, Hill 69.37 333 P P 11 23 37.2 +0.3
baz=148,SNR=127
M42A Sheffield 69.39 340 P P 11 23 36.0 -0.9
baz=155,SNR=16
O38A Galt 69.47 336 P P 11 23 36.8 -0.6
baz=152,SNR=44
N40A Mertquake, Sal 69.48 338 P P 11 23 36.7 -0.8
baz=154,SNR=34
M41A Milan 69.57 339 P P 11 23 37.2 -0.9
baz=154,SNR=38
P36A Good Intent, A 69.68 335 P P 11 23 38.2 -0.5
baz=150,SNR=39
L43A Garden Prairie 69.75 341 P P 11 23 38.3 -0.7
baz=156,SNR=100
O37A Wolven Farm, M 69.75 336 P P 11 23 38.8 -0.4
baz=151,SNR=49
Q34A Chapman 69.77 333 P P 11 23 39.4 +0.1
baz=148,SNR=86
N39A Derby Farms, D 69.79 338 P P 11 23 38.7 -0.7
baz=153,SNR=49
KSU1 Kansas State U 69.79 334 P P 11 23 39.3 -0.2
baz=149,SNR=55
KSU1 Kansas State U 69.79 334 eP P 11 23 39.1 -0.3
comp=Z,386nm,0.9s
KSU1 LR LR
comp=Z,3µm,19.0s
PLVO Plevna 69.82 350 eP P 11 23 39.6 +0.2
comp=Z,676nm,1.5s
M40A Post Highland 69.92 339 P P 11 23 39.3 -0.9
baz=154,SNR=56
P35A Duane Minner, 69.92 334 P P 11 23 39.9 -0.4
baz=149,SNR=33
N38A Joes South For 69.97 337 P P 11 23 40.0 -0.6
baz=152,SNR=19
121A Cookes Peak, D 69.98 322 P P 11 23 42.7 +1.7
baz=138,SNR=195
121A Cookes Peak, D 69.98 322 eP P 11 23 42.7 +1.7
comp=Z,2µm,1.6s
319A Douglas 70.00 320 eP P 11 23 42.6 +1.6
comp=Z,257nm,0.9s
O36A Bolckow 70.03 335 P P 11 23 40.1 -0.8
baz=150,SNR=35
L41A Preston 70.19 340 P P 11 23 41.0 -0.9
baz=155,SNR=53
M39A Webster 70.21 338 P P 11 23 41.2 -0.7
baz=153,SNR=56
P34A Walnut Farm, R 70.26 334 P P 11 23 42.6 +0.3
baz=149,SNR=136
N37A Lee Faris, Mou 70.30 336 P P 11 23 42.1 -0.4
baz=151,SNR=18
H07S1 FLORES T-PHASE 70.34 27 eP P 11 23 42.9 0.0
L40A Anamosa 70.41 339 P P 11 23 42.5 -0.7
baz=154,SNR=92
M38A Pleasantville 70.51 337 P P 11 23 43.2 -0.5
baz=152,SNR=70
O35A Humboldt 70.51 335 P P 11 23 42.9 -0.9
baz=150,SNR=12
BNM Barren Site 70.55 324 eP P 11 23 45.4 +0.9
K41A Shullsburg 70.61 340 P P 11 23 44.0 -0.4
baz=155,SNR=67
N36A Muff Farm, Cla 70.62 336 P P 11 23 44.5 0.0
baz=150,SNR=42
TRQ Mont Tremblant 70.64 352 eP P 11 23 44.3 -0.2
H07N1 FLORES T-PHASE 70.64 27 eP P 11 23 45.9 +1.2
Y22D iRIS PASSCAL I 70.65 323 P P 11 23 46.6 +1.6
baz=139,SNR=27
L39A Vinton 70.73 339 P P 11 23 44.6 -0.5
baz=153,SNR=83
PCAN Candelaria 70.74 29 eP P 11 23 46.2 +0.9
comp=Z,673nm,1.3s
O34A Beatrice 70.75 334 P P 11 23 45.0 -0.3
baz=149,SNR=35
LENM Lemitar 70.75 323 eP P 11 23 47.9 +2.2
PICO Pico 70.80 29 eP P 11 23 43.8 -1.9
comp=Z,1µm,1.5s
M37A Trindle Farm, 70.80 337 P P 11 23 45.6 0.0
baz=151,SNR=57
CBKS Cedar Bluff 70.87 331 P P 11 23 47.2 +1.1
baz=146,SNR=56
CBKS Cedar Bluff 70.87 331 eP P 11 23 47.2 +1.1
CBKS pmax pmax
comp=Z,1µm,1.0s
CBKS MLR MLR
comp=Z,2µm,20.0s
CBKS Cedar Bluff 70.87 331 eP P 11 23 47.2 +1.1
comp=Z,1µm,1.0s
CBKS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 70.87 340 eP P 11 23 45.8 -0.2
JFWS pmax pmax
comp=Z,503nm,1.1s
JFWS MLR MLR
comp=Z,4µm,22.0s
JFWS Jewell Farm 70.87 340 eP P 11 23 45.8 -0.2
comp=Z,503nm,1.1s
JFWS LR LR
comp=Z,4µm,22.0s
N35A Tabor 70.92 335 P P 11 23 45.9 -0.4
baz=150,SNR=16
K40A Colesburg 70.96 339 P P 11 23 46.2 -0.3
baz=154,SNR=73
O33A Hebron 71.02 334 P P 11 23 47.0 0.0
baz=148,SNR=98
LAZ Ladron 71.02 324 eP P 11 23 48.8 +1.4
ROSA Rosais 71.06 29 eP P 11 23 47.1 -0.1
comp=Z,845nm,1.4s
ROSA Rosais 71.06 29 eP P 11 23 48.6 +1.4
comp=Z,867nm,1.3s
ANMO Albuquerque 71.06 324 P P 11 23 49.1 +1.5
baz=140
ANMO Albuquerque 71.06 324 ceP P 11 23 48.3 +0.7
ANMO pmax pmax
comp=Z,721nm,1.3s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 71.06 324 eP P 11 23 48.3 +0.7
comp=Z,1µm,1.4s
ANMO LR LR
comp=Z,2µm,21.0s
L38A Oak Wood Farm, 71.07 338 P P 11 23 46.7 -0.5
baz=152,SNR=25
M36A Felix, Anita 71.12 336 P P 11 23 47.2 -0.3
baz=151,SNR=25

PSMA Santa Maria 71.12 32 eP P 11 23 46.2 -1.4
comp=Z,848nm,1.6s
PSMN Pico do Norte, 71.16 32 eP P 11 23 47.8 -0.1
comp=Z,1µm,1.6s
J41A Loganville 71.21 340 P P 11 23 47.9 -0.1
baz=155,SNR=68
K39A Oelwein 71.21 339 P P 11 23 47.4 -0.6
baz=154,SNR=103
N34A Lincoln 71.23 335 P P 11 23 47.6 -0.6
baz=149,SNR=17
L37A Phoenix Point, 71.33 337 P P 11 23 48.1 -0.7
baz=152,SNR=26
I42A Draeger Farm, 71.36 341 P P 11 23 48.6 -0.3
baz=156
PGRA Graciosa 71.43 29 eP P 11 23 49.2 -0.2
comp=Z,626nm,1.5s
K38A Parkersburg 71.45 338 P P 11 23 48.9 -0.6
baz=153,SNR=54
J40A Soldiers Grove 71.46 340 P P 11 23 49.1 -0.4
baz=155,SNR=69
ADH Angra Heroismo 71.46 30 eP P 11 23 50.1 +0.5
comp=Z,415nm,1.2s
M35A Neola 71.46 336 P P 11 23 49.0 -0.6
baz=150,SNR=15
PSET Sete Cidades 71.50 31 eP P 11 23 50.3 +0.4
comp=Z,431nm,1.3s
N33A J Bar K, Exete 71.52 334 P P 11 23 49.9 -0.1
baz=148,SNR=16
CMLA Cha da Macela 71.54 32 eP P 11 23 48.1 -2.1
comp=Z,262nm,1.8s
CMLA Cha da Macela 71.54 32 PFAKE 11 24 00.0 +10
CMLA LR LR
comp=Z,4µm,20.0s
TUC Tucson 71.56 320 P P 11 23 51.5 +1.1
baz=136
TUC Tucson 71.56 320 eP P 11 23 51.6 +1.1
TUC pmax pmax
comp=Z,651nm,1.4s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 71.56 320 eP P 11 23 51.6 +1.2
comp=Z,651nm,1.4s
TUC LR LR
comp=Z,4µm,19.0s
L36A Harm Buss Farm 71.64 337 P P 11 23 50.4 -0.2
baz=151,SNR=25
T25A Trinidad 71.70 327 P P 11 23 53.0 +1.6
baz=142,SNR=165
T25A Trinidad 71.70 327 eP P 11 23 53.0 +1.6
J39A Decorah 71.71 339 P P 11 23 50.6 -0.4
baz=154,SNR=70
BART Pico Bartolome 71.72 32 eP P 11 23 51.2 -0.1
comp=Z,529nm,1.6s
I41A Arkdale 71.80 341 P P 11 23 51.2 -0.3
baz=156,SNR=54
H42A Shiocton 71.82 342 P P 11 23 51.5 -0.2
baz=157,SNR=42
M34A Aspy Farms, Fr 71.83 335 P P 11 23 51.6 -0.3
baz=149,SNR=25
K37A Belmond 71.86 338 P P 11 23 51.3 -0.7
baz=152,SNR=26
I40A Norwalk 71.87 340 P P 11 23 51.7 -0.3
baz=155,SNR=42
J38A Wedel Dairy, R 71.95 339 P P 11 23 52.0 -0.4
baz=153,SNR=44
L35A Bielow Farm, R 71.97 336 P P 11 23 52.5 -0.1
baz=150,SNR=58
K36A Gilmore City 72.03 337 P P 11 23 52.7 -0.3
baz=151,SNR=23
F45A CMU Biological 72.11 345 P P 11 23 53.2 -0.2
baz=160,SNR=28
I39A Houston 72.12 340 P P 11 23 53.1 -0.4
baz=154,SNR=69
M33A Taylor Creek F 72.13 335 P P 11 23 53.2 -0.5
baz=149,SNR=30
L34A Svendsen Farm, 72.15 335 P P 11 23 53.6 -0.2
baz=149,SNR=30
H41A Junction City 72.24 341 P P 11 23 53.9 -0.3
baz=156,SNR=55
G43A Wallace 72.27 343 P P 11 23 54.0 -0.4
baz=158,SNR=35
PMOZ Porto Moniz, M 72.28 40 eP P 11 23 55.2 +0.4
comp=Z,621nm,1.7s
PMOZ Porto Moniz, M 72.28 40 eLR LR 11 46 00.9
comp=Z,5µm,16.0s
J37A Redenius Farm, 72.31 338 P P 11 23 54.1 -0.5
baz=152,SNR=29
KSCO Kaye Shedlock' 72.33 330 P P 11 23 56.3 +1.2
baz=144,SNR=64
KSCO Kaye Shedlock' 72.33 330 eP P 11 23 56.5 +1.4
comp=Z,2µm,1.5s
BGNE Belgrade 72.37 334 P P 11 23 55.4 +0.3
baz=148,SNR=87
BGNE Belgrade 72.37 334 eP P 11 23 54.8 -0.2
comp=Z,2µm,1.3s
PMAR Madeira 72.38 41 eP P 11 23 55.9 +0.4
comp=Z,736nm,1.8s
K35A Storm Lake 72.38 337 P P 11 23 54.9 -0.2
baz=150,SNR=14
G42A Mountain 72.46 342 P P 11 23 55.3 -0.2
baz=157,SNR=38
H40A Chili 72.46 341 P P 11 23 55.4 -0.1
baz=155,SNR=78
SYO Syowa Base 72.53 158 ||iP P 11 23 54.0 -1.7
SYO Syowa Base 72.53 158 ||ipP P 11 23 55.5 -0.2
I38A Scanlan Farm, 72.55 339 P P 11 23 55.8 -0.3
baz=153,SNR=72
J36A Seneca 1, Swea 72.59 337 P P 11 23 55.9 -0.4
baz=151,SNR=46
F44A Big Bay de Noc 72.61 344 P P 11 23 56.1 -0.2
baz=159,SNR=38
G41A Antigo 72.65 342 P P 11 23 56.3 -0.3
baz=156,SNR=18
E45A Wooded Hills, 72.67 345 P P 11 23 56.6 0.0
baz=160,SNR=82
K34A Le Mars 72.67 336 P P 11 23 56.5 -0.3
baz=150,SNR=17
L33A Hoskins 72.67 335 P P 11 23 56.3 -0.6
baz=149
F43A Flat Rock, Esc 72.67 343 P P 11 23 56.4 -0.3
baz=158,SNR=33
SDCO Great Sand Dun 72.72 327 P P 11 23 59.1 +1.6
baz=141,SNR=137
SDCO Great Sand Dun 72.72 327 eP P 11 23 59.2 +1.6
comp=Z,2µm,1.5s
SDCO LR LR
comp=Z,2µm,20.0s
H39A Augusta 72.79 340 P P 11 23 56.8 -0.6
baz=154,SNR=46
L32A Elgin 72.82 334 P P 11 23 57.3 -0.5
baz=148
F42A Maple Grove Fa 72.86 343 P P 11 23 57.5 -0.4
baz=157,SNR=8.5
I37A Lemond, Waseca 72.88 338 P P 11 23 57.8 -0.2
baz=152,SNR=54
J35A Milford 72.93 337 P P 11 23 57.9 -0.5
baz=151,SNR=12
K33A Hardington 72.94 335 P P 11 23 58.4 0.0
baz=149,SNR=15
PMPS Porto Santo 72.96 41 eP P 11 24 00.0 +1.3
comp=Z,1µm,1.7s
W18A Petrified Fore 72.98 322 P P 11 24 00.5 +1.5
baz=137,SNR=137
W18A Petrified Fore 72.98 322 eP P 11 24 00.7 +1.6
G40A Rib Lake 72.99 341 P P 11 23 58.5 -0.1
baz=155,SNR=39
I36A Fitzsimmons Fa 73.09 338 P P 11 23 59.0 -0.3
baz=152,SNR=26
E44A Grand Marais A 73.09 345 P P 11 23 59.3 +0.2
baz=159,SNR=17
H38A Maiden Rock 73.10 340 P P 11 23 58.9 -0.4
baz=153,SNR=36
F41A Three Lakes 73.11 342 P P 11 23 59.4 +0.1
baz=156,SNR=83
E43A Lone Tree Farm 73.13 344 P P 11 23 59.4 -0.1
baz=158,SNR=34
J34A George 73.13 336 P P 11 23 59.4 -0.1
baz=150,SNR=20
H37A Dierke Farm, C 73.22 339 P P 11 23 59.8 -0.2
baz=153,SNR=25
I35A Creekview Farm 73.28 337 P P 11 24 00.2 -0.2
baz=151,SNR=13
G39A Holcombe 73.30 341 P P 11 24 00.1 -0.4
baz=154,SNR=56
K32A Verdigre 73.36 335 P P 11 24 00.4 -0.5
baz=148,SNR=17
G38A Ridgeland 73.41 340 P P 11 24 00.5 -0.6
baz=154,SNR=77

E42A Champion 73.42 343 P P 11 24 01.0 -0.2
baz=158,SNR=52
X16A Lo Mia Camp, P 73.44 321 eP P 11 24 03.6 +1.8
comp=Z,942nm,1.4s
Q24A Divide 73.49 328 P P 11 24 03.5 +1.3
baz=142,SNR=296
Q24A Divide 73.49 328 eP P 11 24 03.1 +0.9
J33A Davis 73.54 336 P P 11 24 01.7 -0.3
baz=149,SNR=45
H36A Jessenland, He 73.55 338 P P 11 24 02.2 +0.2
baz=152,SNR=31
F40A Park Falls 73.56 342 P P 11 24 02.3 +0.2
baz=156,SNR=150
TAOE Nuku Hiva Isla 73.57 268 eP P 11 24 04.5 +1.6
comp=Z,532nm,1.4s
TAOE eS S 11 33 31.1 -1.8
comp=Z,4µm,25.1s
TAOE Nuku Hiva Isla 73.57 268 eLR LR 11 46 38.7
comp=Z,4µm,25.7s
TAOE Nuku Hiva Isla 73.57 268 eP P 11 24 04.6 +1.6
comp=Z,393nm,1.4s
SUR Sutherland 73.58 118 P P 11 24 03.8 +0.9
comp=Z,7.2nm,1.1s,baz=231,slow=4.4,SNR=21
SUR pP sP 11 24 09.6 -0.7
comp=Z,7.7nm,0.9s,baz=260,slow=4.6,SNR=20
SUR Sutherland 73.58 118 eP P 11 24 04.3 +1.4
comp=Z,220nm,1.1s
SUR pP sP 11 24 09.6 -0.7
SUR LR LR
comp=Z,8µm,19.0s
OGNE Ogallala 73.62 331 P P 11 24 03.6 +1.0
baz=144,SNR=40
OGNE Ogallala 73.62 331 eP P 11 24 04.0 +1.4
comp=Z,575nm,0.9s
OGNE LR LR
comp=Z,2µm,19.0s
K31A O'Neill 73.64 334 P P 11 24 02.9 +0.3
baz=147,SNR=23
113A Mohawk Valley, 73.67 318 eP P 11 24 04.8 +1.9
comp=Z,338nm,1.4s
E41A Kenton 73.73 343 P P 11 24 02.9 -0.1
baz=157,SNR=27
I34A Hadley 73.75 337 P P 11 24 02.8 -0.3
baz=150,SNR=7.9
SPMN Marine on St. 73.75 339 P P 11 24 02.7 -0.4
baz=153,SNR=45
SPMN Marine on St. 73.75 339 eP P 11 24 02.1 -1.0
ECSD EROS Data Cent 73.76 336 P P 11 24 03.2 -0.1
baz=150,SNR=108
ECSD EROS Data Cent 73.76 336 eP P 11 24 03.1 -0.1
comp=Z,684nm,1.5s
ECSD LR LR
comp=Z,3µm,19.0s
F39A Loretta 73.79 341 P P 11 24 03.4 +0.1
baz=155,SNR=88
MVCO Mesa Verde 73.85 325 P P 11 24 05.8 +1.6
baz=139,SNR=258
MVCO Mesa Verde 73.85 325 eP P 11 24 05.7 +1.5
comp=Z,2µm,1.4s
MVCO LR LR
comp=Z,2µm,20.0s
J32A Parkston 73.92 335 P P 11 24 03.9 -0.3
baz=148,SNR=32
H35A Sunnyside Ranc 73.97 338 P P 11 24 04.2 -0.2
baz=151,SNR=86
E40A Wakefield 73.98 342 P P 11 24 04.8 +0.3
baz=156,SNR=67
SBA Scott Base 74.00 190 eP P 11 24 05.3 +1.0
SBA pmax pmax
comp=Z,258nm,1.8s
SBA MLR MLR
comp=Z,4µm,20.0s
SBA Scott Base 74.00 190 eP P 11 24 05.2 +1.0
comp=Z,258nm,1.8s
SBA LR LR
comp=Z,4µm,20.0s
G36A St. Michael 74.07 339 P P 11 24 04.7 -0.3
baz=152,SNR=23
I33A Coleman 74.10 336 P P 11 24 05.2 0.0
baz=149,SNR=14
F38A Pierce - Schro 74.12 340 P P 11 24 05.2 0.0
baz=154,SNR=62
F37A Hinrichs Farm, 74.14 340 P P 11 24 05.4 0.0
baz=153,SNR=56
D41A Chassel 74.17 343 P P 11 24 05.9 +0.4
baz=157,SNR=42
WUAZ Wupatki 74.19 322 P P 11 24 08.0 +1.8
baz=136,SNR=167
WUAZ Wupatki 74.19 322 eP P 11 24 08.0 +1.8
comp=Z,600nm,1.0s
WUAZ LR LR
comp=Z,2µm,21.0s
J31A Geddes 74.19 335 P P 11 24 05.8 0.0
baz=148,SNR=46
H34A Spellman Lake, 74.27 337 P P 11 24 05.9 -0.2
baz=150,SNR=42
G35A Watkins 74.30 338 P P 11 24 06.2 -0.2
baz=152,SNR=25
TOA0 Torodi Ar. Sit 74.32 68 eP P 11 24 06.5 -0.6
TOA0 eP P 11 24 06.7 -0.4
TORD Torodi Ar. Bea 74.32 68 P P 11 24 06.6 -0.5
comp=Z,140nm,0.8s,baz=248,slow=4.3,SNR=446
TORD pP pP 11 24 13.2 +0.7
comp=Z,254nm,0.9s,baz=251,slow=4.4,SNR=37
TORD LR LR 11 55 28.4
comp=Z,11µm,19.2s,baz=220,slow=35
I32A Karley and Nic 74.33 336 P P 11 24 06.6 0.0
baz=149,SNR=30
ISCO Idaho Springs 74.37 328 P P 11 24 08.9 +1.6
baz=141,SNR=277
ISCO Idaho Springs 74.37 328 eP P 11 24 08.3 +1.0
ISCO pmax pmax
comp=Z,1µm,1.5s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO Idaho Springs 74.37 328 eP P 11 24 08.3 +1.0
comp=Z,1µm,1.5s
ISCO LR LR
comp=Z,2µm,19.0s
GLA Glamis 74.51 318 P P 11 24 09.3 +1.4
baz=133,SNR=28
GLA Glamis 74.51 318 eP P 11 24 09.9 +2.0
GLA pmax pmax
comp=Z,583nm,1.5s
GLA Glamis 74.51 318 eP P 11 24 09.9 +2.0
comp=Z,583nm,1.5s
F36A Milaca 74.55 339 P P 11 24 07.5 -0.3
baz=152,SNR=63
SMCO Snowmass 74.56 327 eP P 11 24 09.8 +1.3
comp=Z,1µm,1.5s
PV01 Paradox Valley 74.58 325 eP P 11 24 09.9 +1.5
E38A The Farm, Brul 74.61 341 P P 11 24 07.7 -0.4
baz=154,SNR=41
H33A Prehn Over Nor 74.63 337 P P 11 24 08.5 +0.2
baz=150,SNR=83
G34A Benson 74.72 338 P P 11 24 08.5 -0.3
baz=150,SNR=14
H32A Carlson Farm, 74.73 336 P P 11 24 08.9 0.0
baz=149,SNR=45
I31A Royce, Wessing 74.74 335 P P 11 24 08.9 0.0
baz=148
Y12C Blythe 74.80 318 P P 11 24 11.0 +1.5
baz=133,SNR=62
Y12C Blythe 74.80 318 eP P 11 24 11.2 +1.7
comp=Z,722nm,1.4s
PV05 Paradox Valley 74.82 325 eP P 11 24 07.4 -2.4
E37A Wrenshall 74.83 340 P P 11 24 09.3 0.0
baz=154,SNR=12
F35A Swanville 74.89 339 P P 11 24 09.4 -0.4
baz=152,SNR=30
PDMCI Parker Dam,Lak 74.95 319 P P 11 24 11.9 +1.6
baz=134,SNR=40
PV04 Paradox Valley 74.95 325 eP P 11 24 11.8 +1.3
G33A Ortonville 74.96 337 P P 11 24 09.8 -0.3
baz=150,SNR=51
VNDA Vanda 74.98 189 P P 11 24 10.8 +0.9
comp=Z,25nm,1.0s,baz=138,slow=5.0,SNR=60
VNDA pP sP 11 24 16.8 -0.6
comp=Z,22nm,0.9s,baz=126,slow=4.4,SNR=17
VNDA LR LR 11 55 17.2
comp=Z,7µm,20.9s,baz=138,slow=34
VNDA Vanda 74.98 189 eP P 11 24 11.0 +1.0
comp=Z,94nm,1.4s
VNDA pP sP 11 24 16.8 -0.6
PV10 Paradox Valley 75.01 325 eP P 11 24 12.3 +1.4
IKP In-Ko-Pah, Jac 75.04 317 P P 11 24 12.6 +1.5
baz=132,SNR=28
SWSC Sam W. Stewart 75.04 317 P P 11 24 12.4 +1.5

baz=132,SNR=14
E36A McGregor 75.05 340 P P 11 24 10.7 0.0
baz=153,SNR=75
F34A Alexandria 75.07 338 P P 11 24 10.5 -0.3
baz=151,SNR=14
H31A Wolsey 75.10 335 P P 11 24 10.8 -0.2
baz=148,SNR=10
PV09 Paradox Valley 75.15 325 eP P 11 24 13.5 +1.7
TSUM Tsumeb 75.23 105 P P 11 24 13.1 +0.5
comp=Z,170nm,1.1s,baz=237,slow=6.1,SNR=100
TSUM Tsumeb 75.23 105 P P 11 24 13.1 +0.5
TSUM LR LR
comp=Z,7µm,20.0s
SUSD Miller 75.25 335 P P 11 24 11.9 0.0
baz=148,SNR=15
BC3 Big Chuckawall 75.30 318 P P 11 24 13.9 +1.4
baz=133,SNR=81
W13A Hualapai Mount 75.35 320 eP P 11 24 14.8 +1.9
D37A Cotton 75.36 341 P P 11 24 12.5 0.0
baz=154,SNR=40
N23A Red Feather La 75.38 329 P P 11 24 14.5 +1.5
baz=141,SNR=174
N23A Red Feather La 75.38 329 eP P 11 24 14.5 +1.5
comp=Z,563nm,1.1s
G32A Webster 75.39 336 P P 11 24 12.2 -0.5
baz=149
MONP2 Monument Peak 75.39 317 P P 11 24 14.6 +1.4
baz=132,SNR=21
BAR Barrett 75.41 316 eP P 11 24 14.5 +1.4
comp=Z,419nm,1.4s
E35A Pequot Lakes 75.45 339 P P 11 24 12.6 -0.4
baz=152,SNR=25
IRM Iron Mountain 75.46 318 P P 11 24 14.9 +1.6
baz=133,SNR=105
F33A 5 Mile Ranch, 75.47 338 P P 11 24 12.6 -0.5
baz=150,SNR=28
PHWY Pilot Hill 75.47 329 eP P 11 24 14.5 +0.9
comp=Z,880nm,1.4s
C38A Sawbill Land. 75.53 342 P P 11 24 12.8 -0.6
baz=155,SNR=38
NEE2 Needles Airpor 75.56 319 P P 11 24 15.1 +1.3
baz=134,SNR=12
D36A Goodland 75.61 340 P P 11 24 13.6 -0.3
baz=153,SNR=28
G31A Conde 75.63 336 P P 11 24 13.7 -0.4
baz=148,SNR=14
E34A Wadena 75.67 339 P P 11 24 14.1 -0.1
baz=151,SNR=9.5
F32A Veblen 75.79 337 P P 11 24 14.4 -0.5
baz=149
EYMN Ely 75.80 342 P P 11 24 14.5 -0.4
baz=154,SNR=35
EYMN Ely 75.80 342 eP P 11 24 14.6 -0.4
comp=Z,442nm,1.4s
EYMN LR LR
comp=Z,3µm,22.0s
C37A Embarrass 75.80 341 P P 11 24 14.6 -0.3
baz=154,SNR=42
D35A Remer 75.80 340 P P 11 24 14.3 -0.6
baz=152,SNR=28
109C Camp Elliot, M 75.82 316 P P 11 24 16.6 +1.2
baz=132,SNR=9.2
BELC Belle Mtn. Jos 75.87 318 P P 11 24 17.4 +1.5
baz=132,SNR=53
PFO Pinyon Flats O 75.90 317 P P 11 24 17.4 +1.4
baz=132,SNR=40
PFO Pinyon Flats O 75.90 317 eP P 11 24 17.6 +1.6
PFO pmax pmax
comp=Z,510nm,1.4s
PFO MLR MLR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 75.90 317 eP P 11 24 17.6 +1.6
comp=Z,510nm,1.4s
PFO LR LR
comp=Z,2µm,21.0s
O20A White River Ci 75.92 327 P P 11 24 17.4 +1.3
baz=139,SNR=309
O20A White River Ci 75.92 327 eP P 11 24 17.8 +1.7
E33A Westby DABS, E 75.94 338 P P 11 24 15.3 -0.5
baz=150,SNR=12
C36A Pine Crest Far 76.03 341 P P 11 24 16.1 -0.2
baz=153,SNR=53
PKCU Pink Cliffs 76.09 322 eP P 11 24 19.6 +2.4
comp=Z,442nm,1.3s
D34A Park Rapids 76.18 339 P P 11 24 16.8 -0.3
baz=151,SNR=30
F31A Hecla 76.19 336 P P 11 24 17.2 0.0
baz=148,SNR=30
LCMT Little Creek M 76.31 322 eP P 11 24 20.1 +1.8
comp=Z,441nm,1.2s
C35A Jirik Farms, M 76.33 340 P P 11 24 17.8 -0.2
baz=152,SNR=69
SRU San Rafael Swe 76.33 325 eP P 11 24 19.9 +1.5
SRU pmax pmax
comp=Z,535nm,0.9s
SRU San Rafael Swe 76.33 325 eP P 11 24 19.9 +1.5
comp=Z,535nm,0.9s
MURC Murrieta 76.35 317 P P 11 24 19.8 +1.3
baz=132,SNR=35
E32A Braaten, Kindr 76.39 337 P P 11 24 18.2 -0.1
baz=149
D33A AnnSam, Waubun 76.44 338 P P 11 24 18.5 -0.1
baz=151,SNR=12
MTPU Mount Pierson 76.45 323 eP P 11 24 21.1 +1.7
comp=Z,393nm,1.2s
C34A RKJ Ranch, Bem 76.58 339 P P 11 24 19.1 -0.3
baz=151,SNR=30
RWWY Rawlins 76.60 328 eP P 11 24 21.5 +1.5
comp=Z,954nm,1.2s
BBRC Big Bear Solar 76.61 317 P P 11 24 21.9 +1.7
baz=132,SNR=7.9
HEC Hector,Ludlow 76.63 318 P P 11 24 21.9 +1.8
baz=132,SNR=65
SZCU Shurtz Canyon 76.64 322 eP P 11 24 21.9 +1.7
comp=Z,711nm,1.5s
E31A Nome 76.65 337 P P 11 24 19.9 +0.1
baz=149,SNR=40
P17A Butcher Ranch, 76.71 325 eP P 11 24 22.1 +1.6
comp=Z,2µm,1.3s
CCUT Cedar City 76.76 322 eP P 11 24 23.1 +2.2
comp=Z,825nm,1.2s
MSU Marysvale 76.79 323 eP P 11 24 22.5 +1.4
MSU Marysvale 76.79 323 eP P 11 24 22.5 +1.4
TUQ Turquoise Moun 76.79 319 P P 11 24 22.4 +1.4
baz=133,SNR=131
SCI2 San Clemente I 76.80 316 P P 11 24 22.2 +1.2
baz=130,SNR=7.5
TMUT Trail Mountain 76.83 324 eP P 11 24 22.5 +1.1
comp=Z,479nm,1.2s
B35A Bob, Littlefor 76.83 340 P P 11 24 20.7 -0.1
baz=153,SNR=54
D32A Dogwood Acres, 76.84 338 P P 11 24 20.7 -0.1
baz=150
C33A Trail 76.96 339 P P 11 24 21.5 0.0
baz=151,SNR=12
CIS Catalina Islan 76.99 316 P P 11 24 23.2 +1.2
baz=131,SNR=7.6
D31A Mcclaflin, Tow 77.01 337 P P 11 24 21.9 +0.1
baz=149
K22A Casper 77.02 329 P P 11 24 23.7 +1.5
baz=141,SNR=165
K22A Casper 77.02 329 eP P 11 24 23.4 +1.3
comp=Z,2µm,1.6s
BFSC Mount Baldy Ra 77.06 317 P P 11 24 23.6 +1.0
baz=131,SNR=60
RSSD Black Hills 77.06 332 P P 11 24 23.3 +0.8
baz=143
RSSD Black Hills 77.06 332 eP P 11 24 23.3 +0.8
RSSD pmax pmax
comp=Z,284nm,1.1s
RSSD Black Hills 77.06 332 eP P 11 24 23.3 +0.8
comp=Z,284nm,1.1s
SHPR Sheep Range 77.07 320 eP P 11 24 24.0 +1.4
comp=Z,349nm,1.1s
RRX Edison Barstow 77.07 318 P P 11 24 24.3 +1.8
baz=132,SNR=10
FMP Fort Macarthur 77.11 316 P P 11 24 24.1 +1.4
baz=131
B34A Aery, Baudette 77.23 340 P P 11 24 22.9 -0.1
baz=152,SNR=34
GSC Goldstone, Bar 77.24 318 P P 11 24 25.1 +1.6
baz=132,SNR=117
GSC Goldstone, Bar 77.24 318 eP P 11 24 25.1 +1.6
GSC pmax pmax
comp=Z,649nm,1.3s
GSC Goldstone, Bar 77.24 318 eP P 11 24 25.1 +1.6
comp=Z,649nm,1.3s
C32A Crookston 77.27 338 P P 11 24 23.4 +0.2
baz=150
SHOC Shoshone, Teco 77.32 319 P P 11 24 25.3 +1.4
baz=133,SNR=69
PASC Pasadena Art C 77.34 317 eP P 11 24 23.4 -0.6
comp=Z,464nm,1.3s
B33A Robert and Kas 77.34 339 P P 11 24 23.7 0.0
baz=151,SNR=24
AGMN Agassiz Nation 77.46 339 eP P 11 24 24.2 -0.1
comp=Z,307nm,1.3s
AGMN LR LR
comp=Z,4µm,22.0s
DECC Green Verdugo 77.49 317 P P 11 24 26.3 +1.4
baz=131,SNR=15
SNCC San Nicolas Is 77.60 315 P P 11 24 26.8 +1.3
baz=130
SNCC San Nicolas Is 77.60 315 eP P 11 24 27.2 +1.8
comp=Z,452nm,1.2s
C31A Landman Farms, 77.65 338 P P 11 24 25.5 +0.1
baz=149,SNR=8.4
EDW2 Edwards Air Fo 77.69 317 P P 11 24 27.0 +1.0
baz=131,SNR=46
PSUT Pine Spring 77.73 322 eP P 11 24 28.8 +2.5
comp=Z,314nm,1.2s
B32A Ashes, Strandq 77.76 339 P P 11 24 26.2 +0.2
baz=150,SNR=33
NLU North Lily Min 77.77 324 eP P 11 24 28.2 +1.7
comp=Z,716nm,1.3s
BLG Laguna Peak, P 77.86 316 P P 11 24 27.9 +1.0
baz=130,SNR=12
A33A Warroad 77.86 340 P P 11 24 26.7 +0.2
baz=151,SNR=56
LRMC Laurel Mtn Rad 77.89 318 P P 11 24 28.6 +1.4
baz=132,SNR=60
JLU Jordanelle 77.91 325 eP P 11 24 29.0 +1.7
comp=Z,1µm,1.3s
VAH Vaihoa 77.96 259 eP P 11 24 29.8 +1.9
comp=Z,335nm,1.3s
OSI Osito Audit: C 77.97 317 P P 11 24 28.5 +1.0
baz=131,SNR=13
OSI Osito Audit: C 77.97 317 eP P 11 24 29.2 +1.7
comp=Z,425nm,1.4s
TPNV Topopah Spring 78.01 320 P P 11 24 29.9 +2.0
baz=133,SNR=315
TPNV Topopah Spring 78.01 320 eP P 11 24 29.6 +1.7
TPNV pmax pmax
comp=Z,836nm,1.3s
TPNV Topopah Spring 78.01 320 eP P 11 24 29.6 +1.7
comp=Z,836nm,1.3s
FURC Furnace Creek, 78.05 319 P P 11 24 29.5 +1.7
baz=132,SNR=175
SCZ2 Santa Cruz Isl 78.14 316 P P 11 24 29.6 +1.1
baz=130,SNR=13
MPMC Manual Prospec 78.15 318 P P 11 24 30.0 +1.3
baz=132,SNR=113
B31A Greenbush Farm 78.16 338 P P 11 24 28.2 0.0
baz=149,SNR=17
A32A Rocking H Ranc 78.20 339 P P 11 24 28.4 0.0
baz=150,SNR=31
PMOR Pomariorio Ree 78.29 259 eP P 11 24 31.6 +1.9
comp=Z,362nm,1.3s
DUG Dugway, Tooele 78.33 324 P P 11 24 31.3 +1.7
baz=136,SNR=359
DUG Dugway, Tooele 78.33 324 eP P 11 24 30.6 +1.0
DUG pmax pmax
comp=Z,764nm,1.3s
DUG MLR MLR
comp=Z,3µm,19.0s
DUG Dugway, Tooele 78.33 324 eP P 11 24 30.6 +1.0
comp=Z,764nm,1.3s
DUG LR LR
comp=Z,3µm,19.0s
DAC Darwin (Calif) 78.36 319 eP P 11 24 31.2 +1.3
DAC pmax pmax
comp=Z,757nm,1.4s
DAC Darwin (Calif) 78.36 319 eP P 11 24 31.2 +1.3
comp=Z,757nm,1.4s
MDND Maddock 78.36 337 P P 11 24 30.2 +0.8
baz=147,SNR=42
MDND Maddock 78.36 337 eP P 11 24 30.3 +0.9
comp=Z,2µm,1.4s
ARVC Arvin 78.37 317 P P 11 24 31.1 +1.5
baz=131,SNR=21
A31A Linda, St. Vin 78.45 339 P P 11 24 29.5 -0.2
baz=150
BOSA Boshof 78.47 116 P P 11 24 30.2 -0.5
comp=Z,79nm,1.0s,baz=252,slow=5.6,SNR=32
BOSA pP pP 11 24 36.3 +0.1
comp=Z,203nm,1.1s,baz=244,slow=4.7,SNR=26
BOSA Boshof 78.47 116 eP P 11 24 30.4 -0.3
comp=Z,712nm,1.6s
BOSA pP pP 11 24 36.3 +0.1
TVO Taravao 78.47 256 eP P 11 24 32.6 +1.8
comp=Z,59nm,1.5s
SBC Santa Barbara 78.48 316 P P 11 24 31.5 +1.2
baz=130,SNR=5.5
ISA Isabella, Lake 78.50 318 P P 11 24 31.9 +1.5
baz=131,SNR=51
ISA Isabella, Lake 78.50 318 eP P 11 24 32.2 +1.7
ISA pmax pmax
comp=Z,606nm,1.4s
ISA Isabella, Lake 78.50 318 eP P 11 24 32.2 +1.7
comp=Z,606nm,1.4s
PD31 Pinedale Array 78.55 328 eP P 11 24 31.5 +0.7
PDAR Pinedale Array 78.55 328 P P 11 24 31.5 +0.7
comp=Z,114nm,1.2s,baz=134,slow=6.4,SNR=240
PDAR LR LR 12 03 44.8
comp=Z,1µm,20.2s,baz=136,slow=39
BW06 Boulder Array 78.55 328 P P 11 24 31.5 +0.7
baz=139,SNR=171
BW06 Boulder Array 78.55 328 eP P 11 24 30.0 -0.8
BW06 eP P 11 24 31.4 +0.6
BW06 LR LR
comp=Z,2µm,19.0s
HWUT Hardware Ranch 78.70 326 eP P 11 24 32.5 +0.9
comp=Z,1µm,1.4s
HWUT LR LR
comp=Z,2µm,21.0s
GRAC Grapevine Rang 78.70 319 P P 11 24 33.2 +1.7
baz=132,SNR=62
CWC Cottonwood Cre 78.76 318 P P 11 24 33.7 +1.6
baz=131
PAE Paea 78.80 256 eP P 11 24 34.0 +1.5
comp=Z,45nm,1.4s
PPT2 Papeete2 78.82 256 eP P 11 24 34.6 +1.8
comp=Z,186nm,1.5s
PPT2 Papeete2 78.82 256 ePP PP 11 27 29.5 -1.7
comp=Z,370nm,26.0s
PPT2 eS S 11 34 28.5 -2.1
comp=Z,3µm,26.2s
PPT2 Papeete2 78.82 256 eLQ LQ 11 45 49.0
comp=Z,3µm,25.2s
PPT2 eLR LR 11 49 13.0
comp=Z,11µm,31.2s
PKM Mcpherson Peak 78.83 316 P P 11 24 33.6 +1.2
baz=130,SNR=71
PPT Papeete 78.83 256 P P 11 24 34.0 +1.3
comp=Z,122nm,1.2s,baz=105,slow=7.3,SNR=5.4
PPT LR LR 11 53 02.9
comp=Z,2µm,18.9s,baz=126,slow=31
SPUT South Promonto 78.94 325 eP P 11 24 34.9 +2.0
comp=Z,1µm,1.3s
VES Vestal, Richgr 78.99 317 P P 11 24 34.3 +1.2
baz=131,SNR=155
SMMC Simmler 79.22 317 P P 11 24 36.1 +1.7
baz=130,SNR=44
TIN Tinemaha, Big 79.26 319 P P 11 24 36.4 +1.7
baz=131,SNR=29
RCTC Rector, Farmer 79.39 318 P P 11 24 35.8 +0.6
baz=131,SNR=66
HVU Hansel Valley 79.45 325 eP P 11 24 36.6 +0.9
HVU pmax pmax
comp=Z,771nm,1.2s
HVU Hansel Valley 79.45 325 eP P 11 24 36.6 +0.9
comp=Z,771nm,1.2s
RTC Rabat Centre 79.49 45 PFAKE 11 24 50.0 +14
RTC LR LR
comp=Z,38µm,19.0s
REDW Red Top Meadow 79.63 327 eP P 11 24 37.3 +0.6
comp=Z,798nm,1.3s
PAGB Antelope Garde 79.64 317 eP P 11 24 38.4 +1.7
comp=Z,1µm,1.5s
SNOW Snow King Moun 79.65 328 eP P 11 24 38.2 +1.3
comp=Z,475nm,1.3s
LOHW Long Hollow 79.69 328 eP P 11 24 37.6 +0.6
comp=Z,1µm,1.5s
TPAW Teton Pass 79.77 327 eP P 11 24 38.0 +0.5
comp=Z,793nm,1.4s
MOOW Moose Ponds 79.86 328 eP P 11 24 38.9 +1.0
comp=Z,649nm,1.4s
FXWY Fox Creek 79.92 328 eP P 11 24 39.4 +1.1
comp=Z,1µm,1.9s
MLAC Mammoth, Mammo 80.00 319 P P 11 24 40.2 +1.4
baz=131,SNR=32
LAO LASA Array 80.03 332 P P 11 24 39.4 +0.7
baz=142,SNR=85
LAO LASA Array 80.03 332 eP P 11 24 39.3 +0.7
comp=Z,588nm,1.3s
LAO LR LR
comp=Z,2µm,19.0s
IMW Indian Meadow 80.06 328 eP P 11 24 40.4 +1.3
LBTB Lobatse 80.07 113 P P 11 24 39.2 -0.2
comp=Z,158nm,1.2s,baz=251,slow=6.4,SNR=48
LBTB pP pP 11 24 45.3 +0.3
comp=Z,119nm,1.0s,baz=238,slow=8.8,SNR=21
LBTB Lobatse 80.07 113 eP P 11 24 39.3 -0.2
comp=Z,768nm,1.6s
LBTB pP pP 11 24 45.3 +0.3
RLMT Red Lodge 80.18 329 eP P 11 24 40.7 +1.0
comp=Z,1µm,1.5s
RLMT LR LR
comp=Z,2µm,20.0s
PFVI Vila Bisbo 80.24 42 eP P 11 24 40.1 +0.2
comp=Z,917nm,1.8s
PFVI Vila Bisbo 80.24 42 eLR LR 11 49 27.5
comp=Z,8µm,20.0s
PFVI Vila Bisbo 80.24 42 eP P 11 24 41.6 +1.7
comp=Z,700nm,1.4s
H17A Grant Village 80.26 328 P P 11 24 42.0 +1.8
baz=138,SNR=69
H17A Grant Village 80.26 328 eP P 11 24 41.9 +1.8
comp=Z,628nm,1.6s
MDT Midelt 80.27 48 P P 11 24 41.5 +1.2
comp=Z,41nm,1.0s,baz=250,slow=6.2,SNR=68
MDT pP PcP 11 24 47.6 +0.2
comp=Z,81nm,1.1s,baz=257,slow=8.1,SNR=27
MDT LR LR 11 58 40.7
comp=Z,9µm,20.0s,baz=234,slow=34
PMPB Monarch Peak 80.29 317 eP P 11 24 42.1 +1.9
comp=Z,1µm,1.5s
LKWY Lake 80.30 328 eP P 11 24 42.5 +2.2
LKWY pmax pmax
comp=Z,2µm,1.6s
LKWY MLR MLR
comp=Z,4µm,20.0s
LKWY Lake 80.30 328 eP P 11 24 42.5 +2.2
comp=Z,2µm,1.6s
LKWY LR LR
comp=Z,4µm,20.0s
YFT Old Faithful 80.42 328 eP P 11 24 43.4 +2.4
comp=Z,244nm,1.0s
MORF Marmelete 80.46 42 eP P 11 24 41.1 0.0
MORF eS S 11 34 48.0 +1.1
MORF AMS AMS 11 59 30.0
comp=Z,8µm,22.6s
MORF Marmelete 80.46 42 eP P 11 24 42.5 +1.4
comp=Z,864nm,1.7s
MORF Marmelete 80.46 42 eLR LR 11 49 51.4
comp=Z,8µm,20.0s
MORF Marmelete 80.46 42 eP P 11 24 41.1 0.0
MORF eS S 11 34 48.0 +1.1
YNR Norris Junctio 80.55 328 eP P 11 24 43.5 +1.9
comp=Z,844nm,1.6s
MAW Mawson 80.56 162 P P 11 24 41.3 +0.1
comp=Z,31nm,1.1s,baz=226,slow=6.6,SNR=53
MAW pP pP 11 24 47.1 +0.5
comp=Z,21nm,0.8s,baz=222,slow=5.1,SNR=15
MAW Mawson 80.56 162 eP P 11 24 41.3 +0.1
comp=Z,79nm,1.8s
MAW pP pP 11 24 47.1 +0.5
PTEO Sao Teotonio 80.57 42 eP P 11 24 42.7 +1.1
comp=Z,2µm,1.7s
DGMT Dagmar 80.62 334 P P 11 24 43.1 +1.4
baz=144,SNR=70
DGMT Dagmar 80.62 334 eP P 11 24 43.0 +1.4
comp=Z,884nm,1.1s
DGMT LR LR
comp=Z,2µm,19.0s
YMR Madison River 80.65 328 eP P 11 24 44.2 +2.0
comp=Z,2µm,1.7s
YHH Holmes Hill 80.68 328 eP P 11 24 43.9 +1.5
comp=Z,873nm,1.2s
YHB Horse Butte 80.82 328 eP P 11 24 44.8 +1.7
comp=Z,460nm,1.0s
PBDV Barranco-do-Ve 80.86 42 eP P 11 24 44.7 +1.5
comp=Z,1µm,1.7s
PBDV Barranco-do-Ve 80.86 42 eLR LR 11 49 09.9
comp=Z,9µm,20.0s
GCMT Greycliff 80.87 330 eP P 11 24 44.1 +0.8
BMN Battle Mountai 80.92 322 eP P 11 24 44.1 +0.4
BMN pmax pmax
comp=Z,178nm,1.4s
BMN Battle Mountai 80.92 322 eP P 11 24 44.0 +0.4
comp=Z,178nm,1.4s
WAKR Walker 80.93 319 eP P 11 24 45.2 +1.4
comp=Z,847nm,1.4s
QLMT Earthquake Lak 80.99 328 eP P 11 24 45.6 +1.7
PCVE Castro Verde 81.04 42 eP P 11 24 45.6 +1.5
comp=Z,574nm,1.8s
PCVE Castro Verde 81.04 42 eLR LR 11 50 15.9
comp=Z,8µm,20.0s
PNCL Nicolau / Gran 81.05 41 eP P 11 24 45.3 +1.1
comp=Z,389nm,1.8s
PNCL Nicolau / Gran 81.05 41 eLR LR 11 50 33.5
comp=Z,6µm,20.0s
PMST Lisbon--Monsan 81.06 40 eP P 11 24 45.5 +1.3
comp=Z,862nm,1.7s
LIS Lisbon 81.07 41 eP P 11 24 44.2 0.0
LIS eS S 11 34 54.1 +1.0
LIS AMS AMS 11 58 21.2
comp=Z,7µm,18.8s
LIS Lisbon 81.07 41 eP P 11 24 44.2 0.0
LIS eS S 11 34 54.1 +1.0
PVAQ Vaqueiros 81.09 42 eP P 11 24 45.5 +1.1
comp=Z,859nm,1.7s
PVAQ Vaqueiros 81.09 42 eLR LR 11 49 12.9
comp=Z,8µm,18.0s
YERR Yerington 81.13 320 eP P 11 24 46.4 +1.5
comp=Z,771nm,1.2s
PMAFR Mafra 81.15 40 eP P 11 24 45.3 +0.6
comp=Z,594nm,1.8s
PMAFR Mafra 81.15 40 eLR LR 11 51 58.0
comp=Z,7µm,20.0s
PBEJ Beja 81.40 42 eP P 11 24 47.4 +1.4
comp=Z,458nm,1.6s
PNTR Pine Nut 81.41 320 eP P 11 24 48.1 +1.7
comp=Z,785nm,1.1s
HLID Hailey 81.57 326 P P 11 24 49.0 +1.9
baz=135,SNR=523
HLID Hailey 81.57 326 eP P 11 24 48.3 +1.3
comp=Z,859nm,1.0s
HLID LR LR
comp=Z,2µm,21.0s
EVO Evora 81.63 41 eP P 11 24 48.1 +0.8
comp=Z,330nm,1.6s
BOZ Bozeman (W) 81.65 329 P P 11 24 48.4 +1.0
baz=137,SNR=69
BOZ Bozeman (W) 81.65 329 eP P 11 24 48.1 +0.7
BOZ pmax pmax
comp=Z,466nm,1.5s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 81.65 329 eP P 11 24 48.1 +0.7
comp=Z,466nm,1.5s
BOZ LR LR
comp=Z,2µm,19.0s
MCMT McKenzie Canyo 81.68 327 eP P 11 24 49.1 +1.4
PAHR Pah Rah Range 81.68 320 eP P 11 24 49.2 +1.5
comp=Z,961nm,1.2s
DLMT Dillon 81.94 328 eP P 11 24 50.1 +1.2
comp=Z,793nm,1.4s
PBAR Barrancos 82.00 42 eP P 11 24 50.1 +0.9
comp=Z,882nm,1.6s
PBAR Barrancos 82.00 42 eLR LR 11 50 05.2
comp=Z,16µm,18.0s
PTOM Tomar 82.09 40 eP P 11 24 50.3 +0.7
comp=Z,1µm,1.7s
PESTR Estremoz 82.10 41 eP P 11 24 50.8 +1.1
comp=Z,501nm,1.6s
PESTR Estremoz 82.10 41 eLR LR 11 50 51.4
comp=Z,6µm,20.0s
AFDM Forest Hills D 82.13 319 eP P 11 24 50.6 +0.6
comp=Z,442nm,1.3s
MFID Camas Ranch 82.20 325 eP P 11 24 51.3 +1.0
comp=Z,870nm,1.4s
LRM Limekiln Ridge 82.21 328 eP P 11 24 50.9 +0.5

TAM	**Tamanrasset**	**82.28**	**61**	*eP*	**P**		**11 24 52.2 +1.0**
TAM	comp=Z,390nm,1.4s			pmax	pmax		
TAM	comp=Z,7μm,19.0s			MLR	MLR		
TAM	**Tamanrasset**	**82.28**	**61**	*eP*	**P**		**11 24 52.2 +1.0**
TAM	comp=Z,390nm,1.4s			LR	LR		
TAM	comp=Z,7μm,19.0s						
PCAS	**Casmilo, Conde**	**82.32**	**40**	*eP*	**P**		**11 24 51.9 +1.0**
	comp=Z,836nm,1.6s						
PCAS	**Casmilo, Conde**	**82.32**	**40**	*e*LR	LR		11 51 40.8
	comp=Z,6μm,18.0s						
BEKR	**Beckworth**	**82.36**	**320**	*eP*	**P**		**11 24 52.4 +1.1**
	comp=Z,619nm,1.3s						
HRY	**Holter Researc**	**82.56**	**329**	*eP*	**P**		**11 24 53.3 +1.2**
PMRV	**Marv??o**	**82.58**	**41**	*eP*	**P**		**11 24 52.3 +0.1**
	comp=Z,300nm,1.7s						
PMRV	**Marv??o**	**82.58**	**41**	*e*LR	LR		11 50 17.7
	comp=Z,6μm,22.0s						
EGMT	**Eagleton**	**82.60**	**331**	P	**P**		**11 24 52.6 +0.4**
	baz=139,SNR=65						
EGMT	**Eagleton**	**82.60**	**331**	*eP*	**P**		**11 24 52.6 +0.4**
	comp=Z,833nm,1.4s						
EGMT	comp=Z,2μm,19.0s			LR	LR		
PCBR	**Castelo Branco**	**82.79**	**41**	*eP*	**P**		**11 24 53.5 +0.2**
	comp=Z,179nm,1.8s						
WVOR	**Wild Horse Val**	**83.05**	**323**	*eP*	**P**		**11 24 55.5 +0.7**
WVOR	comp=Z,150nm,1.3s			pmax	pmax		
WVOR	comp=Z,2μm,19.0s			MLR	MLR		
WVOR	**Wild Horse Val**	**83.05**	**323**	*eP*	**P**		**11 24 55.5 +0.7**
	comp=Z,150nm,1.3s						
WVOR	comp=Z,2μm,19.0s			LR	LR		
PVIS	**Viseu**	**83.10**	**40**	*eP*	**P**		**11 24 55.2 +0.2**
	comp=Z,373nm,1.7s						
MTE	**Manteigas**	**83.10**	**40**	*eP*	**P**		**11 24 55.4 +0.4**
	comp=Z,709nm,1.9s						
MTE	**Manteigas**	**83.10**	**40**	*e*LQ	LQ		11 48 04.0
MTE				*e*LR	LR		11 50 37.6
	comp=Z,6μm,20.0s						
MTE	**Manteigas**	**83.10**	**40**	*eP*	**P**		**11 24 55.6 +0.6**
	comp=Z,1μm,2.0s						
MTE	comp=Z,6μm,20.0s			LR	LR		
GDXM	**Geysers**	**83.15**	**318**	*eP*	**P**		**11 24 56.9 +1.6**
	comp=Z,189nm,1.2s						
CHMT	**Chamberlain Mo**	**83.38**	**329**	*eP*	**P**		**11 24 57.2 +0.7**
POLO	**Lamas de Olo**	**83.58**	**39**	*eP*	**P**		**11 24 58.0 +0.5**
	comp=Z,408nm,1.8s						
POLO	**Lamas de Olo**	**83.58**	**39**	*e*LR	LR		11 50 51.3
	comp=Z,2μm,18.0s						
MSO	**Missoula**	**83.65**	**328**	P	**P**		**11 24 58.6 +0.9**
	baz=136,SNR=44						
MSO	**Missoula**	**83.65**	**328**	*eP*	**P**		**11 24 58.7 +1.0**
	comp=Z,386nm,1.6s						
PCAB	**Cabril**	**83.66**	**39**	*eP*	**P**		**11 24 57.8 0.0**
	comp=Z,912nm,1.8s						
PGAV	**Gavieira, Arco**	**83.69**	**38**	*eP*	**P**		**11 24 58.8 +0.8**
	comp=Z,997nm,1.8s						
PGAV	**Gavieira, Arco**	**83.69**	**38**	*e*LR	LR		11 51 42.0
	comp=Z,7μm,18.0s						
SLMT	**Seeley Lake**	**83.73**	**329**	*eP*	**P**		**11 24 58.8 +0.6**
MVO	**Moncorvo**	**83.89**	**40**	*eP*	**P**		**11 24 59.9 +0.9**
	comp=Z,1μm,1.8s						
MVO	**Moncorvo**	**83.89**	**40**	*e*LQ	LQ		11 47 57.6
MVO				*e*LR	LR		11 51 13.8
	comp=Z,5μm,18.0s						
BMO	**Blue Mountains**	**83.96**	**325**	*eP*	**P**		**11 25 00.2 +0.9**
BMO	comp=Z,608nm,1.3s			pmax	pmax		
BMO	comp=Z,2μm,19.0s			MLR	MLR		
BMO	**Blue Mountains**	**83.96**	**325**	*eP*	**P**		**11 25 00.2 +0.9**
	comp=Z,608nm,1.3s						
BMO	comp=Z,2μm,19.0s			LR	LR		
SWMT	**Swartz Lake**	**84.16**	**329**	*eP*	**P**		**11 25 00.8 +0.5**
KCPM	**Cahto Peak**	**84.17**	**318**	*eP*	**P**		**11 25 02.8 +2.3**
	comp=Z,698nm,1.4s						
YBMT	**Yellow Bay**	**84.42**	**329**	*eP*	**P**		**11 25 02.7 +1.1**
M04C	**Macdoel**	**84.44**	**321**	P	**P**		**11 25 02.6 +0.7**
	baz=129,SNR=44						
N02D	**Trinity Center**	**84.44**	**320**	P	**P**		**11 25 01.8 -0.1**
	baz=129,SNR=25						
PBRG	**Braganca**	**84.46**	**39**	*eP*	**P**		**11 25 03.1 +1.2**
	comp=Z,1μm,1.6s						
PBRG	**Braganca**	**84.46**	**39**	*e*LR	LR		11 51 20.6
	comp=Z,4μm,20.0s						
JTMT	**Jette**	**84.47**	**329**	*eP*	**P**		**11 25 02.8 +0.9**
PAB	**San Pablo**	**84.49**	**42**	*eP*	**P**		**11 25 03.1 +0.9**
PAB	comp=Z,813nm,1.5s			pmax	pmax		
PAB	comp=Z,8μm,19.0s			MLR	MLR		
PAB	**San Pablo**	**84.49**	**42**	*eP*	**P**		**11 25 03.1 +0.9**
	comp=Z,813nm,1.5s						
PAB	comp=Z,8μm,19.0s			LR	LR		
KMRM	**Mail Ridge**	**84.58**	**319**	*eP*	**P**		**11 25 04.5 +2.0**
	comp=Z,577nm,1.2s						
BLMT	**Blacktail Moun**	**84.69**	**329**	*eP*	**P**		**11 25 03.9 +0.7**
BSMT	**Bassoo Peak**	**84.78**	**329**	*eP*	**P**		**11 25 04.2 +0.6**
M02C	**Callahan**	**84.79**	**320**	P	**P**		**11 25 04.2 +0.6**
	baz=129,SNR=14						
ESDC	**Sonseca Array**	**84.81**	**42**	P	**P**		**11 25 04.6 +0.9**
	comp=Z,72nm,1.1s,baz=234,slow=4.8,SNR=126						
ESDC	comp=Z,103nm,1.1s,baz=237,slow=4.6,SNR=26			pP	**sP**		**11 25 10.5 -0.7**
ESDC	comp=Z,5μm,18.8s,baz=235,slow=35			LR	LR		12 01 56.8
ESLA	**Sonseca Array**	**84.81**	**42**	*eP*	**P**		**11 25 04.5 +0.8**
	comp=Z,561nm,1.4s						
ES19	**SONSECA Array**	**84.86**	**42**	*eP*	**P**		**11 25 04.5 +0.5**
K04D	**Chiloquin, OR**	**84.93**	**321**	P	**P**		**11 25 05.2 +0.8**
	baz=129,SNR=28						
FFC	**Flin Flon**	**84.94**	**339**	*eP*	**P**		**11 25 04.1 +0.2**
FFC	comp=Z,266nm,1.4s			pmax	pmax		
FFC	comp=Z,3μm,22.0s			MLR	MLR		
FFC	**Flin Flon**	**84.94**	**339**	*eP*	**P**		**11 25 04.1 +0.2**
	comp=Z,266nm,1.4s						
FFC	comp=Z,3μm,22.0s			LR	LR		
KHMM	**Horse Mountain**	**84.99**	**319**	*eP*	**P**		**11 25 06.0 +1.3**
	comp=Z,432nm,1.4s						
J05D	**Fort Rock, OR**	**85.05**	**322**	P	**P**		**11 25 06.1 +1.1**
	baz=130,SNR=80						
KRMB	**Red Mountain**	**85.50**	**319**	*eP*	**P**		**11 25 09.2 +2.0**
	comp=Z,626nm,1.3s						
J04D	**Umpqua Nationa**	**85.52**	**322**	P	**P**		**11 25 08.1 +0.7**
	baz=129,SNR=28						
JBO	**Jordan Butte**	**85.70**	**324**	P	**P**		**11 25 09.2 +1.2**
ETRT	**Tiaret**	**85.75**	**48**	P	**P**		**11 25 10.5 +1.9**
I05D	**Terrebonne, OR**	**85.79**	**323**	P	**P**		**11 25 09.8 +1.3**
	baz=130,SNR=40						
VTHM	**Trough**	**85.90**	**324**	P	**P**		**11 25 10.3 +1.2**
EANR	**'Ain N'Sour**	**85.93**	**48**	P	**P**		**11 25 11.2 +1.8**
LSZ	**Lusaka**	**86.09**	**105**	P	**P**		**11 25 11.5 +0.7**
	comp=Z,273nm,1.3s,baz=243,slow=5.8,SNR=135						
LSZ	comp=Z,320nm,1.2s,baz=239,slow=4.5,SNR=27			pP	**sP**		**11 25 18.2 0.0**
LSZ	**Lusaka**	**86.09**	**105**	P	**P**		**11 25 11.5 +0.7**
LSZ				pP	**sP**		**11 25 18.2 0.0**
LSZ	comp=Z,5μm,20.0s			LR	LR		
KBO	**Bosley Butte**	**86.10**	**320**	*eP*	**P**		**11 25 12.3 +2.1**
	comp=Z,2μm,1.5s						
HAWA	**Hanford**	**86.15**	**325**	*eP*	**P**		**11 25 11.2 +1.0**
	comp=Z,613nm,1.1s						
HAWA	comp=Z,2μm,21.0s			LR	LR		
NEW	**Newport**	**86.19**	**328**	P	**P**		**11 25 10.2 -0.2**
	comp=Z,42nm,1.2s,baz=129,slow=6.4,SNR=33						
NEW	**Newport**	**86.19**	**328**	P	**P**		**11 25 10.2 -0.2**
	baz=133,SNR=35						
NEW	**Newport**	**86.19**	**328**	*eP*	**P**		**11 25 10.0 -0.4**
NEW	comp=Z,249nm,1.5s			pmax	pmax		
NEW	comp=Z,2μm,19.0s			MLR	MLR		
NEW	**Newport**	**86.19**	**328**	*eP*	**P**		**11 25 10.0 -0.4**
	comp=Z,249nm,1.5s						
NEW	comp=Z,2μm,19.0s			LR	LR		
ECHA	**Ech Chlef**	**86.22**	**48**	P	**P**		**11 25 11.3 +0.6**
D08A	**Wollman Farm,**	**86.28**	**326**	*eP*	**P**		**11 25 11.3 +0.6**
	comp=Z,748nm,1.3s						
RAR	**Rarotonga**	**86.28**	**249**	P	**P**		**11 25 11.3 -0.2**
	comp=Z,12nm,0.3s,baz=211,slow=5.9,SNR=4.2						
RAR	**Rarotonga**	**86.28**	**249**	P	**P**		**11 25 11.3 -0.2**
RAR	comp=Z,3μm,19.0s			LR	LR		
G05D	**Wamic, OR**	**86.35**	**324**	P	**P**		**11 25 12.6 +1.4**
	baz=130,SNR=34						
EBNR	**Beni Rached**	**86.41**	**48**	P	**P**		**11 25 13.7 +2.0**
E07A	**Sunnyside**	**86.43**	**325**	*eP*	**P**		**11 25 13.1 +1.6**
	comp=Z,306nm,1.1s						
VFP	**Flag Point**	**86.48**	**324**	P	**P**		**11 25 13.1 +1.0**
I03D	**Drain, OR**	**86.51**	**321**	P	**P**		**11 25 12.6 +0.6**
	baz=128,SNR=19						
KEBM	**Edson Butte**	**86.57**	**320**	*eP*	**P**		**11 25 14.7 +2.3**
	comp=Z,968nm,1.2s						
TRW	**Toppenish Ridg**	**86.61**	**325**	P	**P**		**11 25 13.6 +1.1**
SAW	**Saint Andrews**	**86.95**	**326**	P	**P**		**11 25 14.3 +0.2**
COR	**Corvallis**	**87.03**	**322**	*eP*	**P**		**11 25 16.3 +1.8**
COR	comp=Z,861nm,1.4s			pmax	pmax		
COR	**Corvallis**	**87.03**	**322**	*eP*	**P**		**11 25 16.3 +1.8**
	comp=Z,861nm,1.4s						
WTV	**Waterville**	**87.23**	**326**	P	**P**		**11 25 16.5 +1.0**
EMHD	**Djebel Mahouad**	**87.32**	**48**	P	**P**		**11 25 18.1 +1.8**
MTMW	**Mount Mitchell**	**87.33**	**324**	P	**P**		**11 25 16.6 +0.5**
B08A	**Colville Reser**	**87.35**	**327**	*eP*	**P**		**11 25 15.8 -0.3**
	comp=Z,411nm,1.4s						
F04A	**Amboy**	**87.39**	**324**	*eP*	**P**		**11 25 17.1 +0.9**
	comp=Z,612nm,1.3s						
G03D	**McMinnville, O**	**87.40**	**323**	P	**P**		**11 25 17.0 +0.7**
	baz=128,SNR=20						
LVP	**Lakeview Peak**	**87.47**	**324**	P	**P**		**11 25 17.1 +0.4**
TDL	**Tradedollar La**	**87.54**	**324**	P	**P**		**11 25 17.1 0.0**
LON	**Longmire**	**87.58**	**325**	*eP*	**P**		**11 25 17.7 +0.5**
LON	comp=Z,260nm,1.3s			pmax	pmax		
LON	**Longmire**	**87.58**	**325**	*eP*	**P**		**11 25 17.7 +0.5**
	comp=Z,260nm,1.3s						
NLW	**Nelson Butte**	**87.67**	**326**	P	**P**		**11 25 17.9 +0.2**
RVC	**Mount Rainier-**	**87.79**	**325**	P	**P**		**11 25 18.5 +0.3**
F04D	**Rainier, OR**	**87.80**	**323**	P	**P**		**11 25 19.2 +1.0**
	baz=129,SNR=5.2						
C06D	**Leavenworth**	**87.85**	**326**	P	**P**		**11 25 18.5 0.0**
	baz=130,SNR=14						
D05A	**Enumclaw**	**87.95**	**325**	*eP*	**P**		**11 25 19.7 +0.8**
	comp=Z,914nm,1.4s						
MIR	**Mirnyy**	**87.98**	**171**	⇑*i*P	**P**		**11 25 18.0 -0.8**
MIR				*i* S	**S**		**11 36 00.0 -1.3**
MIR	comp=Z,11nm,2.0s			pmax	pmax		
MIR	comp=Z,2μm,3.0s			pmax	pmax		
MIR	comp=N,2μm,11.0s			smax	smax		
MIR	comp=N,5μm,17.0s			MLR	MLR		
MIR	comp=E,2μm,17.0s			MLR	MLR		
MIR	comp=Z,10μm,17.0s			MLR	MLR		
F03A	**Seaside**	**88.01**	**323**	*eP*	**P**		**11 25 21.2 +2.0**
	comp=Z,596nm,1.3s						
E03A	**Lebam**	**88.39**	**324**	*eP*	**P**		**11 25 22.2 +1.3**
	comp=Z,389nm,1.1s						
B06A	**Marblemount**	**88.54**	**326**	*eP*	**P**		**11 25 21.5 -0.1**
	comp=Z,434nm,1.2s						
OSSF	**Osses**	**88.56**	**41**	*eP*	**P**		**11 25 22.4 +0.5**
LARF	**Larrau**	**88.60**	**41**	*eP*	**P**		**11 25 23.3 +1.2**
B05A	**Bryant**	**88.69**	**326**	P	**P**		**11 25 22.5 +0.1**
	baz=129,SNR=72						
ORDF	**Ordiarp**	**88.73**	**41**	*eP*	**P**		**11 25 23.1 +0.4**
ATE	**Arette**	**88.80**	**41**	*eP*	**P**		**11 25 23.7 +0.7**
REYF	**Montagne du Re**	**88.98**	**41**	*eP*	**P**		**11 25 24.9 +1.0**
SET	**Setif**	**89.00**	**49**	P	**P**		**11 25 25.2 +0.9**
VIEF	**Viey**	**89.12**	**41**	*eP*	**P**		**11 25 25.3 +0.7**
RESF	**Ens**	**89.27**	**42**	*eP*	**P**		**11 25 26.4 +1.0**
VAL	**Valentia**	**89.27**	**30**	*eP*	**P**		**11 25 21.7 -3.2**
A04D	**Lummi Island**	**89.29**	**326**	P	**P**		**11 25 25.7 +0.5**
	baz=129,SNR=34						
DFRA	**Djebel Bou Aff**	**89.51**	**49**	P	**P**		**11 25 28.8 +2.1**
MELF	**Melles**	**89.56**	**42**	*eP*	**P**		**11 25 27.8 +1.1**
PGC	**Sidney**	**89.64**	**325**	*eP*	**P**		**11 25 27.4 +0.7**
	comp=Z,430nm,1.2s						
VALF	**Valcebollere**	**90.07**	**43**	*eP*	**P**		**11 25 29.8 +0.6**
CARF	**Carcanieres**	**90.30**	**42**	*eP*	**P**		**11 25 30.9 +0.7**
FILF	**Fillols**	**90.50**	**43**	*eP*	**P**		**11 25 31.4 +0.3**
CMAH	**Djebel Manchou**	**90.62**	**50**	P	**P**		**11 25 32.4 +0.6**
SJAF	**Saint Jean de**	**90.66**	**43**	*eP*	**P**		**11 25 32.1 +0.4**
LRDF	**Laroque-de-Fa**	**90.69**	**42**	*eP*	**P**		**11 25 32.1 +0.2**
DYA	**Yadsworthy**	**91.36**	**34**	*eP*	**P**		**11 25 35.6 +0.8**
	comp=Z,239nm,1.3s						
SFJD	**Kangerlussuaq**	**91.43**	**5**	P	**P**		**11 25 34.7 +0.1**
	comp=Z,42nm,1.1s,baz=227,slow=8.6,SNR=6.7						
SFJD	**Kangerlussuaq**	**91.43**	**5**	*i* P	**P**		**11 25 35.2 +0.5**
	comp=Z,80nm,1.2s						
SFJD	**Kangerlussuaq**	**91.43**	**5**	*i* P	**P**		**11 25 35.2 +0.5**
SFJD	comp=Z,80nm,1.2s			pmax	pmax		
SFJD	**Kangerlussuaq**	**91.43**	**5**	*eP*	**P**		**11 25 35.4 +0.7**
	comp=Z,263nm,1.5s						
SFJD	comp=Z,4μm,20.0s			LR	LR		
KEST	**Kesra**	**91.55**	**51**	P	**P**		**11 25 37.2 +1.2**
	comp=Z,12nm,1.0s,baz=171,slow=4.2,SNR=14						
KEST	comp=Z,11μm,20.9s,baz=190,slow=35			LR	LR		12 06 21.9
KEST	**Kesra**	**91.55**	**51**	*eP*	**P**		**11 25 37.4 +1.2**
	comp=Z,113nm,1.4s						
DSB	**Dublin**	**91.91**	**31**	*eP*	**P**		**11 25 37.2 0.0**
	comp=Z,185nm,1.2s						
LBL	**Lubilhac**	**92.35**	**41**	*eP*	**P**		**11 25 40.9 +1.3**
PYM	**Petit Puy Mans**	**92.49**	**40**	*eP*	**P**		**11 25 41.0 +0.8**
AGO	**Saint Agoulin**	**92.72**	**40**	*eP*	**P**		**11 25 42.0 +0.8**
COLF	**Collangettes**	**92.77**	**41**	*eP*	**P**		**11 25 43.6 +2.1**
PLDF	**La Plantade**	**92.97**	**40**	*eP*	**P**		**11 25 43.3 +0.9**
SSB	**Saint Sauveur**	**93.16**	**41**	*eP*	**P**		**11 25 44.1 +0.8**
SSB	**Saint Sauveur**	**93.16**	**41**	*eP*	**P**		**11 25 43.9 +0.6**
SSB	comp=Z,198nm,1.3s			pmax	pmax		
SSB	comp=Z,6μm,20.0s			MLR	MLR		
SSB	**Saint Sauveur**	**93.16**	**41**	*eP*	**P**		**11 25 43.9 +0.6**
	comp=Z,198nm,1.3s						
SSB	comp=Z,6μm,20.0s			LR	LR		
OG26	**St.-Nazaire-De**	**93.25**	**42**	*eP*	**P**		**11 25 45.2 +1.4**
VSL	**Villasalto**	**93.37**	**48**	*eP*	**P**		**11 25 44.8 +0.4**
	comp=Z,98nm,1.3s						
VSL	comp=Z,4μm,19.0s			LR	LR		
GRN	**Grenoble**	**93.86**	**42**	*eP*	**P**		**11 25 47.8 +1.2**
GDM	**Grand'Maison**	**94.07**	**42**	*eP*	**P**		**11 25 48.3 +0.7**
BNI	**Bardonecchia**	**94.34**	**42**	*eP*	**P**		**11 25 49.4 +0.5**
BNI	comp=Z,105nm,1.3s			pmax	pmax		
BNI	comp=Z,9μm,19.0s			MLR	MLR		
BNI	**Bardonecchia**	**94.34**	**42**	*eP*	**P**		**11 25 49.4 +0.5**
	comp=Z,105nm,1.3s						
BNI	comp=Z,9μm,19.0s			LR	LR		
RSL	**Roselend**	**94.62**	**42**	*eP*	**P**		**11 25 51.0 +0.8**
ESK	**Eskdalemuir**	**94.65**	**30**	*eP*	**P**		**11 25 50.3 +0.5**
ESK	comp=Z,267nm,1.6s			pmax	pmax		
ESK	comp=Z,5μm,20.0s			MLR	MLR		
ESK	**Eskdalemuir**	**94.65**	**30**	*eP*	**P**		**11 25 50.3 +0.5**
	comp=Z,267nm,1.6s						
ESK	comp=Z,5μm,20.0s			LR	LR		
EKA	**Eskdalemuir Ar**	**94.68**	**30**	P	**P**		**11 25 49.8 -0.1**
	comp=Z,26nm,1.2s,baz=216,slow=4.1,SNR=10						
EKA	comp=Z,70nm,1.2s,baz=213,slow=2.9,SNR=13			pP	**pP**		**11 25 55.0 -0.5**
SNZO	**South Karori**	**95.00**	**220**	PFAKE			11 26 00.0 +8.1
SNZO	comp=Z,3μm,19.0s			LR	LR		
YKA	**Yellowknife Ar**	**95.11**	**339**	P	**P**		**11 25 52.4 +0.7**
	comp=Z,62nm,1.0s,baz=126,slow=4.5,SNR=135						
YKA				pP	**pP**		**11 25 57.5 +0.2**
	comp=Z,109nm,1.0s,baz=125,slow=4.5,SNR=34						
YKA				LR	LR		12 10 38.7
	comp=Z,255nm,21.5s,baz=180,slow=37						
YKA	**Yellowknife Ar**	**95.11**	**339**	P	**P**		**11 25 52.4 +0.7**
YKA				*PP	**pP**		**11 25 57.5 +0.2**
YKA	comp=Z,59nm,1.0s			pmax	pmax		
YKA	comp=Z,109nm,1.0s			pmax	pmax		
YKA	comp=Z,255nm,21.5s			MLR	MLR		
CLTB	**Caltabellotta**	**95.16**	**51**	PFAKE			11 26 00.0 +7.3
CLTB	comp=Z,4μm,19.0s			LR	LR		
WDD	**Wied Dalam**	**95.34**	**53**	PFAKE			11 26 00.0 +6.5
WDD	comp=Z,8μm,20.0s			LR	LR		
SENIN	**Lac Senin/Sane**	**95.37**	**41**	*eP*	**P**		**11 25 54.5 +0.8**
	comp=Z,146nm,1.4s						
LTZ	**Lake Taylor**	**95.48**	**218**	*eP*	**P**		**11 25 55.7 +1.5**
	comp=Z,70nm,1.5s						
THEF	**They Montfort**	**95.52**	**39**	*eP*	**P**		**11 25 54.2 +0.2**
RPZ	**Rata Peaks**	**95.55**	**217**	P	**P**		**11 25 54.2 -0.3**
	comp=Z,12nm,1.0s,baz=56,slow=4.8,SNR=4.3						
LOMF	**Lomont**	**95.57**	**40**	*eP*	**P**		**11 25 54.7 +0.3**
DOU	**Dourbes**	**95.69**	**37**	P	**P**		**11 25 55.3 +0.6**
	comp=Z,83nm,1.9s						
DOU				AP	**pP**		**11 26 00.3 +0.1**
SNF	**Seneffe**	**95.73**	**37**	P	**P**		**11 25 55.4 +0.5**
SNF				AP	**pP**		**11 26 00.5 +0.1**
THZ	**Tophouse**	**95.77**	**219**	*eP*	**P**		**11 25 56.8 +1.2**
	comp=Z,137nm,1.9s						
MOF	**Molkenrain**	**96.00**	**40**	*eP*	**P**		**11 25 56.2 -0.1**
ECH	**Echery**	**96.19**	**40**	*eP*	**P**		**11 25 57.0 -0.1**
VLC	**Villacollemand**	**96.23**	**44**	*eP*	**P**		**11 25 57.0 -0.4**
	comp=Z,80nm,1.2s						
VLC	comp=Z,2μm,22.0s			LR	LR		
BCLA	**Clavier**	**96.24**	**37**	P	**P**		**11 25 57.7 +0.4**
	comp=Z,71nm,2.0s						
BCLA				AP	**pP**		**11 26 02.8 +0.1**
WLF	**Walferdange**	**96.34**	**38**	P	**P**		**11 25 58.7 +1.0**
	comp=Z,130nm,1.8s						
WLF				AP	**sP**		**11 26 04.0 -1.1**
WLF	**Walferdange**	**96.34**	**38**	*eP*	**P**		**11 25 58.3 +0.6**
WLF	comp=Z,205nm,1.3s			pmax	pmax		
WLF	comp=Z,7μm,19.0s			MLR	MLR		
WLF	**Walferdange**	**96.34**	**38**	*eP*	**P**		**11 25 58.2 +0.6**
	comp=Z,204nm,1.3s						
WLF	comp=Z,7μm,19.0s			LR	LR		
PAF	**Port-aux-Franc**	**96.39**	**152**	PFAKE			11 26 10.0 +12
PAF	comp=Z,3μm,20.0s			LR	LR		
BEBN	**Eben Emael**	**96.64**	**37**	AP	pP		11 26 04.7 +0.2
TUE	**Stuetta**	**96.66**	**42**	*eP*	**P**		**11 25 59.7 +0.1**
	comp=Z,216nm,1.5s						
TUE	comp=Z,8μm,20.0s			LR	LR		
MEM	**Membach**	**96.73**	**37**	P	**P**		**11 25 59.6 +0.2**
	comp=Z,54nm,2.1s						
MEM				AP	**pP**		**11 26 04.2 -0.8**
BFO	**Black Forest**	**96.93**	**40**	*eP*	**P**		**11 26 00.3 -0.2**
BFO	comp=Z,3μm,20.0s			MLR	MLR		
BFO	**Black Forest**	**96.93**	**40**	*eP*	**P**		**11 26 00.3 -0.2**
BFO	comp=Z,3μm,20.0s			LR	LR		
LANF	**Langenberg**	**96.94**	**39**	*eP*	**P**		**11 26 00.5 0.0**
DAVOX	**Davos/Dischmat**	**97.13**	**42**	P	Pdif		11 26 02.5 +0.8
	comp=Z,17nm,1.0s,baz=229,slow=4.3,SNR=34						
DAVOX	comp=Z,4μm,21.8s,baz=254,slow=33			LR	LR		12 05 53.0
FUORN	**Ofenpass-Fuorn**	**97.29**	**42**	*eP*	Pdif		11 26 03.4 +0.8
	comp=Z,118nm,1.2s						
CEL	**Celeste**	**97.36**	**51**	PFAKE			11 26 10.0 +7.2
CEL	comp=Z,5μm,22.0s			LR	LR		
DAVA	**Damuels**	**97.36**	**41**	*i* PcP	Pdif		11 26 03.8 +1.1
	comp=Z,98nm,1.4s,SNR=24						
AQU	**L'Aquila**	**97.39**	**47**	*eP*	Pdif		11 26 03.5 +0.7
AQU	comp=Z,98nm,1.4s			pmax	pmax		
AQU	comp=Z,4μm,19.0s			MLR	MLR		
AQU	**L'Aquila**	**97.39**	**47**	*eP*	Pdif		11 26 03.5 +0.7
AQU	comp=Z,98nm,1.4s			LR	LR		
STU	**Stuttgart**	**97.65**	**40**	*eP*	Pdif		11 26 04.4 +0.7
STU	comp=Z,104nm,1.0s			pmax	pmax		
STU	**Stuttgart**	**97.65**	**40**	*eP*	Pdif		11 26 04.4 +0.7
	comp=Z,104nm,1.0s						
FETA	**Feichten**	**97.76**	**42**	*i* PcP	Pdif		11 26 05.4 +1.0
	comp=Z,86nm,1.4s,SNR=31						
RETA	**Reutte**	**97.99**	**41**	*i* PcP	Pdif		11 26 05.9 +0.6
	comp=Z,78nm,1.4s,SNR=30						
CUC	**Castrocucco**	**98.03**	**50**	*eP*	Pdif		11 26 06.8 +1.1
	comp=Z,38nm,1.7s						
CUC	comp=Z,3μm,20.0s			LR	LR		
SUMG	**Summit**	**98.04**	**8**	*i* P	**P**		**11 26 05.3 -0.1**
	comp=Z,50nm,1.3s						
SUMG				*i*			11 26 27.4
SUMG	**Summit**	**98.04**	**8**	*i* P	**P**		**11 26 05.3 -0.1**
SUMG	comp=Z,50nm,1.3s			pmax	pmax		
SUMG	**Summit**	**98.04**	**8**	*eP*	Pdif		11 26 05.9 +0.5
	comp=Z,55nm,1.2s						
MOTA	**Moosalm**	**98.13**	**42**	*i* PcP	Pdif		11 26 07.0 +0.9
	comp=Z,44nm,1.1s,SNR=20						
WATA	**Walderalm**	**98.42**	**42**	*i* Pdiff	Pdif		11 26 08.1 +0.8
	comp=Z,62nm,1.3s,SNR=12						
WTTA	**Wattenberg**	**98.42**	**42**	*i* Pdiff	Pdif		11 26 08.5 +1.1
	comp=Z,50nm,1.6s,SNR=12						
WRAK	**Wrangell Islan**	**98.52**	**329**	*eP*	Pdif		11 26 08.4 +1.1
	comp=Z,40nm,1.0s						
WRAK	comp=Z,2μm,19.0s			LR	LR		
ABTA	**Abfaltersbach**	**98.73**	**43**	*i* Pdiff	Pdif		11 26 09.2 +0.5
	comp=Z,62nm,1.4s,SNR=16						
POHA	**Pohakuloa**	**98.93**	**288**	PFAKE			11 26 20.0 +10
POHA	comp=Z,1μm,19.0s			LR	LR		
TRI	**Trieste**	**99.07**	**44**	*eP*	**Pdif**		**11 26 10.4 +0.3**
TRI	comp=Z,80nm,1.3s			pmax	pmax		
TRI	**Trieste**	**99.07**	**44**	*eP*	**Pdif**		**11 26 10.4 +0.3**
	comp=Z,80nm,1.3s						
GRFO	**Grafenberg**	**99.25**	**40**	*eP*	**Pdif**		**11 26 11.1 +0.3**
GRF

comp=Z,38nm,1.4s,SNR=14
PERS Pernice 100.31 44 *i* Pdiff **Pdif 11 26 16.1 +0.4**
GEC2 GERESS Array S 100.35 41 *e*P **Pdif 11 26 16.4 +0.5**
GEC2 GERESS Array S 100.35 41 *e*Pdif **Pdif 11 26 16.4 +0.5**
GERES GERESS Array B 100.35 41 P **Pdif 11 26 15.3 -0.6**
comp=Z,0.6nm,0.3s,baz=326,slow=13,SNR=3.6
GERES pP pP 11 26 21.4 0.0
comp=Z,0.6nm,0.3s,baz=174,slow=40,SNR=3.0
GERES GERESS Array B 100.35 41 P **Pdif 11 26 15.3 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES pmax pmax
comp=Z,1.0nm,0.3s
KHC Kasperske Hory 100.40 41 *e*PDIFF **Pdif 11 26 16.7 +0.7**
KHC *e*pP pP 11 26 22.2 +0.6
KHC *e*x x 11 28 51.1
KHC *e*XS **sS 11 38 01.4 +0.7**
KHC *e*SP **SP 11 39 20.8 +0.2**
KHC AMS AMS 12 18 00.0
comp=Z,3μm,16.3s
KHC Kasperske Hory 100.40 41 *e*P **Pdif 11 26 16.7 +0.7**
KHC *e* 11 39 20.8
KHC MLR MLR
comp=Z,3μm,16.3s
ABPO Ambohimpanom 100.69 116 PFAKE 11 26 30.0 +12
ABPO LR LR
comp=Z,1μm,20.0s
ARSA Arzberg 100.81 43 *i* Pdiff **Pdif 11 26 18.7 +0.8**
comp=Z,29nm,1.4s,SNR=14
CLL Collm 100.98 39 *i* P **Pdif 11 26 19.0 +0.6**
CLL *e* 11 36 56.0
CLL pmax pmax
comp=Z,74nm,1.7s
CLL MLR MLR
comp=Z,4μm,19.8s
CLL Collm 100.98 39⇑ *i* Pdif **Pdif 11 26 19.0 +0.6**
comp=Z,74nm,1.7s
CLL *i* pPdif pP 11 26 24.4 +0.3
comp=Z,92nm,1.5s
CLL *e*PP **PP 11 30 25.0 -2.1**
CLL *e*SKSac **SKSac 11 36 56.0 -0.7**
CLL *e*Sdif **Sdif 11 38 00.0 +4.0**
CLL *e*PS **PS 11 39 27.0 -2.1**
CLL *e*SS **SS 11 44 59.0 +3.7**
CLL *e*SSS SSS 11 48 54.0
CLL Lm MLR 12 10 00.0
comp=N,2μm,20.4s
CLL Lm MLR 12 10 00.0
comp=E,3μm,20.3s
CLL Lm MLR 12 10 00.0
comp=Z,4μm,19.8s
PRA Prague 101.29 40 *e*PDIFF **Pdif 11 26 21.6 +1.7**
PRA *e*pP **sPdif 11 26 27.4 +0.1**
PRA *e*SP SP 11 39 34.8 +4.8
PRA AMS AMS 12 10 30.0
comp=Z,3μm,18.2s
PRA Prague 101.29 40 *e*P **Pdif 11 26 21.6 +1.7**
PRA *e* 11 39 34.8
PRA MLR MLR
comp=Z,3μm,18.2s
CONA Conrad Observa 101.29 43 *i* Pdiff **Pdif 11 26 21.1 +1.1**
comp=Z,28nm,1.6s,SNR=13
PRU Pruhonice 101.32 40 *e*PDIFF **Pdif 11 26 21.3 +1.3**
PRU *e*x x 11 28 43.2
PRU *e*PP **PP 11 30 28.2 -1.6**
PRU *e*XS **sS 11 38 09.5 +1.2**
PRU AMS AMS 12 10 20.0
comp=Z,2μm,19.4s
PRU Pruhonice 101.32 40 *e*P **Pdif 11 26 21.3 +1.3**
PRU *e* 11 30 28.2
PRU MLR MLR
comp=Z,2μm,19.4s
BRG Berggiesshubel 101.33 39 *e*PDIFF **Pdif 11 26 21.3 +1.2**
comp=Z,61nm,1.6s
BRG *i* 11 26 26.4
comp=Z,120nm,1.7s
BRG PP **PP 11 30 28.0 -1.8**
BRG SDIFF 11 38 09.0
BRG PS **PS 11 39 40.0 +7.0**
BRG SS **SS 11 45 09.0 +8.6**
comp=N,2μm,19.3s
comp=E,2μm,20.3s
comp=Z,4μm,20.7s
BRG Berggiesshubel 101.33 39 *e*P **Pdif 11 26 21.3 +1.2**
BRG 11 30 28.0
BRG PS **PS 11 39 40.0 +7.0**
BRG SS SS 11 45 09.0 +8.6
BRG pmax pmax
comp=Z,4.0nm,1.7s
BRG pmax pmax
comp=Z,61nm,1.7s
BRG MLR MLR
comp=N,120μm,19.3s
BRG MLR MLR
comp=E,2μm,20.3s
BRG MLR MLR
comp=Z,2μm,20.7s
TIR Tirane 101.40 50 PFAKE 11 26 30.0 +9.4
TIR LR LR
comp=Z,5μm,19.0s
GOPC GO Pecny, Ondr 101.44 40 *e*PDIFF **Pdif 11 26 21.9 +1.3**
GOPC *e*pP **sPdif 11 26 27.2 -0.8**
GOPC *e*PP **PP 11 30 28.9 -1.8**
GOPC *e*SDIF 11 38 05.9
GOPC *e*PS **PS 11 39 35.9 +1.7**
GOPC AMS AMS 12 14 40.0
comp=Z,2μm,17.1s
GOPC GO Pecny, Ondr 101.44 40 *e*P **Pdif 11 26 21.9 +1.3**
GOPC *e* 11 30 28.9
GOPC *e* 11 39 35.9
GOPC MLR MLR
comp=Z,2μm,17.1s
PVCC Panska Ves 101.56 40 AMS AMS 12 10 50.0
comp=Z,4μm,19.6s
TREC Trest 101.61 41 AMS AMS 12 11 40.0
comp=Z,4μm,20.6s
VRAC Vranov 102.28 41 P **Pdif 11 26 23.4 -0.9**
comp=Z,2.9nm,0.5s,baz=224,slow=5.9,SNR=5.3
UPC Upice 102.40 40 *e*PDIFF **Pdif 11 26 26.3 +1.5**
UPC *e*pP **sPdif 11 26 31.6 -0.7**
UPC *e*PP **PP 11 30 32.5 -5.4**
UPC AMS AMS 12 11 00.0
comp=Z,3μm,20.5s
UPC Upice 102.40 40 *e*P **Pdif 11 26 26.3 +1.5**
UPC MLR MLR
comp=Z,3μm,20.5s
DPC Dobruska-Polom 102.52 40 *e*PDIFF **Pdif 11 26 26.9 +1.5**
DPC *e*pP **sPdif 11 26 32.1 -0.8**
DPC *e*PP **PP 11 30 33.3 -5.5**
DPC *e*XS sS 11 38 20.4 +1.7
DPC *e*SP **SP 11 39 46.3 +3.2**
DPC AMS AMS 12 15 20.0
comp=Z,2μm,15.8s
DPC Dobruska-Polom 102.52 40 *e*P **Pdif 11 26 26.9 +1.5**
DPC *e* 11 39 46.3
DPC MLR MLR
comp=Z,2μm,15.8s
KRLC Kraliky 102.69 41 *e*PDIFF **Pdif 11 26 28.0 +1.9**
KRLC *e*pP **sPdif 11 26 33.8 +0.2**
KRLC Kraliky 102.69 41 *e*P **Pdif 11 26 28.0 +1.9**
KSP Ksiaz 102.69 40 *e*PKP **Pdif 11 26 27.1 +1.0**
KSP Ksiaz 102.69 40 *e*P **Pdif 11 26 27.1 +1.0**
IDI Anoyia 102.90 57 P **Pdif 11 26 28.5 +1.1**
comp=Z,0.7nm,0.3s,baz=206,slow=9.3,SNR=3.1
VYHS Vyhne 103.35 43 *e*P **Pdif 11 26 31.1 +2.0**
OKC Ostrava-Krasne 103.42 41 AMS AMS 12 13 30.0
comp=Z,2μm,16.9s
SANT Santorini 103.70 56 PFAKE 11 26 40.0 +9.0
SANT LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 103.81 44 PFAKE 11 26 40.0 +8.8
PSZ LR LR
comp=Z,5μm,20.0s
NOA NORSAR Array B 104.12 29 Pdiff **Pdif 11 26 33.8 +1.5**
comp=Z,2.7nm,0.9s,baz=247,slow=5.1,SNR=2.6
DAG Danmarks Havn 104.39 10 *i* P **Pdif 11 26 32.9 -0.2**
comp=Z,4μm,22.0s
DAG Danmarks Havn 104.39 10 *i* P **Pdif 11 26 32.9 -0.2**
DAG MLR MLR
comp=Z,5μm,22.0s
OJC Ojcow 104.55 41 *e*PKP **Pdif 11 26 35.5 +1.1**
OJC Ojcow 104.55 41 *e*P **Pdif 11 26 35.5 +1.1**
NIE Niedzica 104.58 42 *e*PKP **Pdif 11 26 36.9 +2.3**
NIE Niedzica 104.58 42 *e*P **Pdif 11 26 36.8 +2.3**

INK Inuvik 104.89 339 Pdiff **Pdif 11 26 36.3 +0.9**
comp=Z,17nm,1.2s,baz=91,slow=8.0,SNR=8.1
INK PP **PP 11 30 54.3 -1.6**
comp=Z,5.6nm,1.1s,baz=136,slow=10.0,SNR=3.9
DAWY Dawson 105.18 334 *e*Pdif **Pdif 11 26 37.7 +0.8**
UZH Uzhgorod 105.55 43 *e*P **Pdif 11 26 41.0 +2.2**
KWP Kalwaria Pacla 106.13 43 *e*PKP **Pdif 11 26 49.0 +7.6**
KWP Kalwaria Pacla 106.13 43 *e*P **Pdif 11 26 49.0 +7.6**
EGAK Eagle 106.16 334 *e*Pdif **Pdif 11 26 42.6 +1.4**
EGAK LR LR
comp=Z,3μm,20.0s
RER Riviere de l'E 106.32 123 PFAKE 11 31 10.0
RER LR LR
comp=Z,4μm,21.0s
MSVF Nonsavu 106.32 242 PFAKE 11 31 10.0
MSVF LR LR
comp=Z,2μm,21.0s
TAU Tasmania Unive 107.21 204 PFAKE 11 31 10.0
TAU LR LR
comp=Z,3μm,19.0s
IL1 Eielson Array 108.47 333 *e*Pdif **Pdif 11 26 51.4 -0.1**
ILAR Eielson Array 108.47 333 Pdiff **Pdif 11 26 52.1 +0.6**
comp=Z,0.7nm,1.0s,baz=176,slow=4.1,SNR=4.7
ILAR pPdiff **pPdif 11 26 57.2 +0.3**
comp=Z,1.3nm,0.9s,baz=99,slow=2.3,SNR=7.6
ILAR PKiKP **PKiKP 11 30 55.0 -2.1**
comp=Z,4.7nm,1.1s,baz=107,slow=3.5,SNR=6.5
ILAR PKKPbc **PKKPab 11 42 16.1 -2.5**
comp=Z,0.4nm,0.9s,baz=318,slow=1.2,SNR=4.0
COLA College 108.90 333 PFAKE 11 31 10.0
COLA LR LR
comp=Z,2μm,20.0s
MDM Murphy Dome 109.07 333 *e*Pdif **Pdif 11 26 55.6 +1.5**
KDAK Kodiak Island 109.19 325 PFAKE 11 31 10.0
KDAK LR LR
comp=Z,687nm,19.0s
KIS Kishinev 109.29 46 *e*PKP PP 11 31 21.0 -7.8
CSS Mathiatis 109.36 60 PFAKE 11 31 10.0
CSS LR LR
comp=Z,729nm,22.0s
FUNA Funafuti 110.09 250 PFAKE 11 31 10.0
FUNA LR LR
comp=Z,6μm,19.0s
JOHN Johnston Islan 110.26 280 PFAKE 11 31 10.0
JOHN LR LR
comp=Z,229nm,21.0s
ANTO Ankara 110.27 55 PFAKE 11 31 10.0
ANTO LR LR
comp=Z,2μm,22.0s
KIEV Kiev 110.44 43⇑ *i* PKIKP **PKiKP 11 31 00.9 -0.3**
KIEV Kiev 110.44 43 PFAKE 11 31 10.0
KIEV LR LR
comp=Z,3μm,21.0s
AKASG Malin Array Be 110.45 43 PKiKP **PKiKP 11 31 00.5 -0.7**
comp=Z,1.5nm,0.7s,baz=266,slow=2.0,SNR=4.8
AKASG PP PP 11 31 28.8 -8.3
comp=Z,0.5nm,0.3s,baz=258,slow=7.5,SNR=4.3
AKASG PKKPab **PKKPab 11 42 11.1 +0.7**
comp=Z,0.2nm,0.3s,baz=63,slow=4.4,SNR=6.2
TOLK Toolik Lake Re 110.53 337 PKiKP **PKiKP 11 31 02.6 +1.6**
baz=104
BRTR Keskin Array B 110.86 55 PKiKP **PKiKP 11 31 01.9 -0.6**
comp=Z,2.1nm,0.8s,baz=197,slow=3.9,SNR=6.7
BRTR PP **PP 11 31 33.5 -7.1**
comp=Z,9.2nm,1.1s,baz=243,slow=8.2,SNR=8.7
BRTR PKKPab **PKKPab 11 42 10.7 +1.4**
comp=Z,0.8nm,0.8s,baz=91,slow=7.2,SNR=4.1
KBS Kingsbay 110.91 12 PFAKE 11 31 10.0
KBS LR LR
comp=Z,2μm,21.0s
FINES FINESS Array B 111.06 31 PP PP 11 31 42.1 +0.9
comp=Z,12nm,1.1s,baz=275,slow=7.1,SNR=6.0
DZM Mont Dzumac 112.61 231 *e*PP PP 11 31 49.1 -3.5
comp=Z,250nm,26.3s
DZM Mont Dzumac 112.61 231 *e*PS PS 11 41 31.9 +4.5
comp=Z,1μm,31.1s
DZM *e*SS SS 11 47 34.0 +0.7
comp=Z,1μm,26.4s
DZM Mont Dzumac 112.61 231 *e*LQ LQ 12 00 07.9
comp=Z,3μm,32.5s
DZM *e*LR LR 12 04 53.4
comp=Z,3μm,29.1s
KEV Kevo 112.85 22 PFAKE 11 31 20.0
KEV LR LR
comp=Z,2μm,20.0s
CAN Canberra 112.98 209 PFAKE 11 31 20.0
CAN LR LR
comp=Z,2μm,19.0s
ANN Anapa 114.69 50 *i* PKIKP PKPpre 11 31 01.9
ANN *e* 11 32 08.9
ANN *e*PPP PPP 11 34 31.1
ANN *e* 11 37 57.0
ANN *e*PS **PS 11 41 43.4 -2.8**
ANN *e*SS SS 11 48 01.2 -0.1
ANN pmax pmax
comp=Z,55nm,0.9s
MSEY Mahe Island 114.79 108 PFAKE 11 31 20.0 +9.3
MSEY LR LR
comp=Z,6μm,20.0s
APA Apatity 114.99 25⇓ *i* PKIKP PKPdf 11 31 05.8 -3.6
APA *i* 11 32 16.1
APA *i* 11 37 56.0
APA *i* PS PS 11 42 56.0 +68
APA *i* SS SS 11 48 17.0 +13
LVZ Lovozero 115.47 24 PFAKE 11 31 20.0 +10
LVZ LR LR
comp=Z,3μm,20.0s
OBN Obninsk 115.58 39⇑ *i* PKIKP **PKPdf 11 31 11.2 +0.4**
OBN *e* 11 32 16.3
OBN *e*SS SS 11 48 06.9 -5.3
OBN pmax pmax
comp=Z,33nm,1.1s
OBN MLR MLR
comp=Z,4μm,21.0s
OBN Obninsk 115.58 39 PFAKE 11 31 20.0 +9.2
OBN LR LR
comp=Z,4μm,21.0s
SOC Sochi 116.11 52 *i* PKIKP **PKPdf 11 31 11.7 -0.6**
SOC *e* 11 32 17.0
SOC *e*PS **PS 11 41 57.0 -2.3**
SOC *e*SS SS 11 48 26.3 +6.4
SOC *e*SSS SSS 11 52 31.6
SOC pmax pmax
comp=Z,35nm,0.8s
RAYN Ar Rayn 116.45 75 *e*PKPdf **PKPdf 11 31 14.1 +0.4**
RAYN LR LR
comp=Z,4μm,19.0s
LPSR Galich'ya Gora 116.72 42 *e*PKIKP **PKPdf 11 31 12.5 -0.6**
LPSR *e* 11 32 25.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 116.73 43 *e*PKIKP **PKPdf 11 31 11.5 -1.7**
VSR *e* 11 32 23.6
VSR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 117.47 32 *e*PKIKP **PKPdf 11 31 12.8 -1.5**
KLMR *e* 11 32 25.3
KLMR pmax pmax
comp=Z,54nm,1.4s
KLMR MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 118.29 52 *i* PKIKP **PKPdf 11 31 16.3 -0.3**
KIV *e* 11 32 32.7
KIV *e*PS **PS 11 42 19.2 -0.1**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV Kislovodsk 118.29 52 *e*PKPdf **PKPdf 11 31 17.1 +0.5**
KIV LR LR
comp=Z,1μm,19.0s
KVAR Kislovodsk Arr 118.30 52 PKP **PKPdf 11 31 15.4 -1.3**
comp=Z,16nm,0.8s,baz=269,slow=3.6,SNR=9.6
KVAR PP **PP 11 32 39.8 +6.8**
comp=Z,3.5nm,0.4s,baz=349,slow=2.5,SNR=3.5
KBZ Khabaz 118.41 52 PKP **PKPdf 11 31 17.3 +0.6**
comp=Z,16nm,1.0s,baz=201,slow=1.6,SNR=20
KBZ PP **PP 11 32 39.8 +6.2**
comp=Z,4.4nm,0.8s,baz=272,slow=10.0,SNR=5.6
AKH Akhalkalaki 118.55 55 P **PP 11 32 35.7 +0.8**
NCK Nalchik 118.89 52⇑ *i* PKIKP **PKPdf 11 31 16.7 -1.0**
ZEI Tsey 119.03 53 *i* PKIKP **PKPdf 11 31 15.6 -2.6**
ZEI pmax pmax
comp=Z,40nm,0.9s
STKA Stephens Creek 119.05 205 PKP **PKPdf 11 31 18.4 -0.1**
comp=Z,8.6nm,0.9s,baz=36,slow=1.5,SNR=17
STKA pPKP **pPKPdf 11 31 23.5 -0.6**

comp=Z,6.0nm,0.8s,baz=95,slow=3.7,SNR=8.9
STKA PP **PP 11 32 41.4 +4.5**
comp=Z,3.8nm,1.0s,baz=160,slow=7.7,SNR=4.5
STKA PKKPbc **PKKPbc 11 41 31.2 -1.4**
comp=Z,2.1nm,0.9s,baz=326,slow=6.6,SNR=4.7
GNI Garni 119.31 56*c* *i* PKIKP **PKPdf 11 31 19.1 +0.3**
GNI Garni 119.31 56 *e*PKPdf **PKPdf 11 31 18.9 +0.1**
GNI LR LR
comp=Z,2μm,22.0s
GUDG Gudauri 119.41 54 P **PP 11 32 43.7 +2.8**
TBLG Delisi 119.51 54 P **PP 11 32 43.4 +2.0**
DGRG David-gareji 119.95 55 P PP 11 32 34.7 -10
MIDW Midway 120.48 290 PFAKE 11 31 30.0 +8.9
MIDW LR LR
comp=Z,1μm,21.0s
ADK Adak 122.33 317 PFAKE 11 31 40.0 +16
ADK LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 123.24 182 PKP **PKPdf 11 31 25.8 -0.7**
comp=Z,28nm,1.2s,baz=49,slow=3.1,SNR=4.6
NWAO pPKP **pPKPdf 11 31 31.4 -0.7**
comp=Z,15nm,0.8s,baz=58,slow=5.2,SNR=4.8
NWAO PP **PP 11 33 09.6 +4.5**
comp=Z,20nm,1.2s,baz=42,slow=12,SNR=3.9
NWAO Narrogin (SRO) 123.24 182 PKIKP **PKPdf 11 31 25.8 -0.7**
NWAO 11 31 31.4
NWAO 11 33 09.6
NWAO pmax pmax
comp=Z,19nm,1.1s
NWAO pmax pmax
comp=Z,15nm,0.9s
NWAO pmax pmax
comp=Z,20nm,1.2s
NWAO Narrogin (SRO) 123.24 182 PKP **PKPdf 11 31 25.8 -0.7**
NWAO pPKP **pPKPdf 11 31 31.4 -0.7**
NWAO PP **PP 11 33 09.6 +4.5**
NWAO LR LR
comp=Z,2μm,19.0s
FORT Forrest 124.13 193 *e*PKPdf **PKPdf 11 31 27.4 -0.8**
HNR Honiara 125.42 238 PFAKE 11 31 40.0 +8.9
HNR LR LR
comp=Z,927nm,21.0s
SOKR Solikamsk 126.16 33 *i* PKIKP **PKPdf 11 31 29.9 -1.1**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
BILL Bilibino 126.51 339*c* *i* PKIKP **PKPdf 11 31 31.6 +0.1**
BILL *e* 11 33 35.9
BILL *e*SS SS 11 50 25.4 -5.8
BILL pmax pmax
comp=Z,37nm,1.0s
CTA Charters Tower 126.92 217 PKP **PKPdf 11 31 33.6 -0.2**
comp=Z,36nm,1.0s,baz=186,slow=1.8,SNR=23
CTA pPKP **pPKPdf 11 31 39.4 -0.1**
comp=Z,28nm,0.9s,baz=209,slow=2.8,SNR=10
CTAO Charters Tower 126.92 217 *e*PKIKP **PKPdf 11 31 33.7 -0.2**
CTAO MLR MLR
comp=Z,2μm,19.0s
CTAO Charters Tower 126.92 217 *e*PKPdf **PKPdf 11 31 33.7 -0.2**
CTAO LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 127.44 121⇓ *i* PKIKP **PKPdf 11 31 34.2 -0.7**
DGAR Diego Garcia 127.44 121 PFAKE 11 31 50.0 +15
DGAR LR LR
comp=Z,3μm,19.0s
ARU Arti 127.84 36 PKP **PKPdf 11 31 34.5 +0.1**
comp=Z,6.5nm,0.6s,baz=294,slow=2.0,SNR=14
ARU pPKP **pPKPdf 11 31 40.6 +0.6**
comp=Z,8.7nm,0.7s,baz=299,slow=2.2,SNR=5.6
ARU PP **PP 11 33 36.4 -0.3**
comp=Z,3.6nm,0.7s,baz=213,slow=3.5,SNR=2.8
ARU Arti 127.84 36 *i* PKIKP **PKPdf 11 31 34.8 +0.4**
ARU 11 33 35.5
ARU 11 38 45.8
ARU SS SS 11 50 44.0 -4.5
ARU Arti 127.84 36 PKP **PKPdf 11 31 34.5 +0.1**
ARU pPKP **pPKPdf 11 31 40.6 +0.6**
ARU PP **PP 11 33 36.5 -0.3**
ARU LR LR
comp=Z,3μm,22.0s
WSAR Wadi Sarin 128.05 79 PKP **PKPdf 11 31 35.2 -0.6**
comp=Z,17nm,1.0s,baz=249,slow=3.7,SNR=7.5
WSAR pPKP **pPKPdf 11 31 41.4 -0.1**
comp=Z,18nm,0.9s,baz=315,slow=2.9,SNR=6.8
WSAR PP **PP 11 33 36.6 -2.6**
comp=Z,15nm,1.2s,baz=307,slow=5.1,SNR=4.4
AKTO Aktyubinsk 128.67 44 PKP **PKPdf 11 31 35.6 -0.6**
baz=24,slow=3.9
AKTO PP **PP 11 33 42.6 +0.1**
comp=Z,28nm,1.3s,baz=280,slow=12,SNR=11
SVE Sverdlovsk 128.84 35 *i* PKIKP **PKPdf 11 31 37.0 +0.7**
SVE pmax pmax
comp=Z,27nm,1.6s
SVE MLR MLR
comp=Z,3μm,19.0s
ASAR Alice Springs 129.31 202 PKhKP PKPpre 11 31 29.1
comp=Z,0.8nm,0.7s,baz=149,slow=3.0,SNR=7.3
ASAR PKP **PKPdf 11 31 37.8 -0.6**
comp=Z,50nm,0.9s,baz=151,slow=2.3,SNR=191
ASAR pPKP pPKPdf 11 31 43.1 -0.9
comp=Z,52nm,0.8s,baz=142,slow=2.0,SNR=30
ASAR PKKP **PKKPdf 11 41 42.1 -0.6**
comp=Z,0.4nm,0.9s,baz=344,slow=1.9,SNR=5.2
ASAR SKKPbc SKKPbc 11 44 43.1 -0.1
comp=Z,8.5nm,1.2s,baz=336,slow=4.1,SNR=7.3
GEYT Alibeck 129.50 60 PKP **PKPdf 11 31 37.9 -0.4**
comp=Z,5.7nm,0.9s,baz=256,slow=6.0,SNR=12
GEYT pPKP **pPKPdf 11 31 44.1 +0.2**
comp=Z,9.5nm,0.9s,baz=267,slow=7.4,SNR=8.9
GEYT PP **PP 11 33 46.4 -2.1**
comp=Z,4.4nm,0.8s,baz=277,slow=12,SNR=4.5
AB31 Akbulak array 130.09 45 *i* PKIKP **PKPdf 11 31 38.9 0.0**
AB31 pmax pmax
comp=Z,56nm,1.3s
NRIK Noril'sk 131.76 13 PKP **PKPdf 11 31 41.4 -0.1**
comp=Z,3.1nm,0.6s,baz=22,slow=1.3,SNR=7.7
NRIK pPKP **pPKPdf 11 31 47.5 +0.4**
comp=Z,3.7nm,0.5s,baz=313,slow=3.7,SNR=2.4
NRIK PP **PP 11 33 56.5 -5.1**
comp=Z,1.3nm,0.4s,baz=334,slow=4.0,SNR=3.2
TIXI Tiksi 131.87 354*c* *i* PKIKP **PKPdf 11 31 40.6 -1.0**
TIXI MLR MLR
comp=Z,2μm,22.0s
TIXI Tiksi 131.87 354 *e*PKPdf **PKPdf 11 31 41.5 -0.1**
TIXI LR LR
comp=Z,2μm,22.0s
WRA Warramunga Arr 132.58 204 PKP **PKPdf 11 31 44.3 -0.3**
comp=Z,59nm,1.0s,baz=170,slow=1.6,SNR=77
WRA SKPab **SKPbc 11 35 10.1 -1.0**
comp=Z,16nm,1.3s,baz=172,slow=3.2,SNR=6.1
WRA SKKPbc **SKKPbc 11 44 21.5 -10**
comp=Z,6.5nm,1.2s,baz=344,slow=5.0,SNR=5.3
WRAB Tennant Creek 132.58 204*c* *i* PKIKP **PKPdf 11 31 44.2 -0.4**
WRAB MLR MLR
comp=Z,8μm,19.0s
WRAB Tennant Creek 132.58 204 PFAKE 11 32 00.0 +15
WRAB LR LR
comp=Z,3μm,19.0s
WAKE Wake Island 132.62 275 PFAKE 11 32 00.0 +15
WAKE LR LR
comp=Z,1μm,20.0s
SEY Seymchan 134.16 338 PKhKP PKPpre 11 31 37.1
comp=Z,1.6nm,0.3s,baz=0.0,slow=3.0,SNR=9.9
SEY PKP **PKPdf 11 31 46.6 +0.4**
comp=Z,21nm,0.7s,baz=109,slow=2.1,SNR=40
SEY pPKP sPKPdf 11 31 52.8 -0.9
comp=Z,17nm,0.6s,baz=52,slow=2.3,SNR=11
SEY PP **PP 11 34 15.2 -2.1**
comp=Z,19nm,1.2s,baz=60,slow=7.2,SNR=8.0
SEY Seymchan 134.16 338*c* *i* PKIKP **PKPdf 11 31 47.1 +0.9**
PMG Port Moresby 134.67 226 PKP **PKPdf 11 31 49.3 +0.6**
comp=Z,19nm,1.0s,baz=22,slow=7.9,SNR=8.3
PMG pPKP **sPKPdf 11 31 55.0 -1.3**
comp=Z,22nm,0.9s,baz=42,slow=13,SNR=3.5
PMG Port Moresby 134.67 226*c* *i* PKIKP **PKPdf 11 31 49.0 +0.4**
PMG Port Moresby 134.67 226 PKP **PKPdf 11 31 49.3 +0.6**
PMG pPKP **sPKPdf 11 31 55.0 -1.3**
PMG LR LR
comp=Z,2μm,22.0s
MBWA Marble Bar 134.81 185 *e*PKPdf **PKPdf 11 31 46.7 -2.1**
MBWA LR LR
comp=Z,2μm,22.0s
BRVK Borovoye 135.33 38*c* *i* PKIKP **PKPdf 11 31 49.8 +1.1**
BRVK MLR MLR
comp=Z,8μm,19.0s
BRVK Borovoye 135.33 38 *e*PKPdf **PKPdf 11 31 48.9 +0.2**
BRVK LR LR

comp=Z,2μm,20.0s
BVA0 Borovoye Array 135.40 38 *i* PKIKP **PKPdf 11 31 49.2 +0.4**
BVA0 pmax pmax
comp=Z,28nm,1.2s
BVAR Borovoye Array 135.40 38 PKP **PKPdf 11 31 49.0 +0.2**
comp=Z,6.3nm,0.8s,baz=11,slow=3.0,SNR=20
BVAR PP **PP 11 34 27.4 +1.8**
comp=Z,9.3nm,1.1s,baz=304,slow=3.4,SNR=5.9
PET Petropavlovsk 136.72 323 *i* PKIKP PKPpre 11 31 45.3
PET *e* 11 34 36.6
PET *e*PPS PPS 11 46 38.8
PET *e*SS SS 11 52 37.9 +1.5
PET *e*SSS SSS 11 57 48.2
PET pmax pmax
comp=Z,2μm,9.7s
PET pmax pmax
comp=Z,1μm,9.8s
PET Petropavlovsk 136.72 323 *e*PKPdf **PKPdf 11 31 51.5 +0.3**
PET LR LR
comp=Z,2μm,21.0s
MA2 Magadan 136.93 335 PKP **PKPdf 11 31 50.3 -1.1**
comp=Z,7.4nm,0.9s,baz=199,slow=1.5,SNR=3.9
MA2 PP **PP 11 34 33.5 -1.2**
comp=Z,13nm,0.9s,baz=50,slow=6.6,SNR=4.9
PETK Petropavlovsk- 137.20 324 PKP **PKPdf 11 31 52.9 +0.7**
comp=Z,17nm,0.9s,baz=85,slow=3.4,SNR=14
PETK PP **PP 11 34 35.1 -1.7**
comp=Z,13nm,1.0s,baz=80,slow=12,SNR=5.0
BHJ Bhuj 137.97 81 *e*P **PKPdf 11 31 52.0 -2.4**
SKR Severo-Kuril's 139.13 321 *e*PKHKP PKPpre 11 31 47.9
SKR *e* 11 34 46.0
SKR *e* 11 39 06.6
SKR *e* 11 53 04.6
SKR pmax pmax
comp=Z,93nm,3.4s
SKR pmax pmax
comp=Z,560nm,10.0s
SKR pmax pmax
comp=Z,948nm,11.1s
SKR pmax pmax
comp=Z,1μm,7.0s
SKR pmax pmax
comp=Z,1μm,9.3s
COCO West Island 139.46 151 PFAKE 11 32 10.0 +13
COCO LR LR
comp=Z,4μm,19.0s
GOA Goa 139.80 94 *e*P **PKPdf 11 31 57.0 -1.0**
MNAS Manas 140.02 52 PKIKP **PKPdf 11 31 56.3 -1.6**
MNAS pmax pmax
comp=Z,30nm,1.4s
POO Poona 140.72 90 *e*P **PKPdf 11 31 58.3 -1.4**
YAK Yakutsk 140.94 350 PKhKP PKPpre 11 31 52.6
comp=Z,12nm,0.6s,baz=294,slow=2.1,SNR=4.1
YAK PKP **PKPdf 11 31 58.3 -0.4**
comp=Z,18nm,0.7s,baz=272,slow=3.1,SNR=9.7
YAK PP **PP 11 34 55.8 -3.4**
comp=Z,6.4nm,0.3s,baz=70,slow=1.5,SNR=9.2
YAK Yakutsk 140.94 350 *e*PKIKP **PKPdf 11 31 58.1 -0.6**
YAK *e* 11 34 57.5
YAK pmax pmax
comp=Z,54nm,1.4s
YAK pmax pmax
comp=N,10.0nm,1.9s
YAK pmax pmax
comp=Z,1μm,2.5s
YAK pmax pmax
comp=N,426nm,2.4s
YAK MLR MLR
comp=Z,2μm,23.0s
YAK MLR MLR
comp=N,6μm,25.0s
YAK Yakutsk 140.94 350 PKPpre PKPpre 11 31 52.6
YAK PKP **PKPdf 11 31 58.3 -0.4**
YAK PP **PP 11 34 55.8 -3.4**
YAK LR LR
comp=Z,2μm,22.0s
KURBB Kurchatov Arra 141.00 38 PKhKP PKPpre 11 31 53.3
comp=Z,2.4nm,0.5s,baz=303,slow=3.8,SNR=13
KURBB PKP **PKPdf 11 31 59.5 +0.3**
comp=Z,12nm,1.1s,baz=300,slow=3.2,SNR=20
KURBB PP **PP 11 35 05.5 +5.3**
comp=Z,24nm,1.3s,baz=298,slow=6.1,SNR=11
KURK Kurchatov 141.00 38*c* *i*PKIKP **PKPdf 11 31 57.2 -1.9**
KURK MLR MLR
comp=Z,8μm,20.0s
KURK Kurchatov 141.00 38 PKPpre PKPpre 11 31 53.3
KURK PKP **PKPdf 11 31 59.5 +0.3**
KURK PP **PP 11 35 05.5 +5.3**
KURK LR LR
comp=Z,5μm,21.0s
NVS Novosibirsk 141.03 30 *e*PKHKP PKPpre 11 31 53.3
NVS *e* 11 34 59.3
NVS pmax pmax
comp=Z,113nm,1.7s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,25nm,1.3s
AAK Ala-Archa 141.40 51*c* *i*PKIKP **PKPdf 11 32 02.2 +1.8**
AAK Ala-Archa 141.40 51 PFAKE 11 32 10.0 +10
AAK LR LR
comp=Z,3μm,20.0s
FRU Bishkek 141.44 51⇓ *e*PKHKP PKPpre 11 31 55.0
FRU *e* 11 35 10.0
FRU *e* 11 38 20.0
FRU pmax pmax
comp=Z,330nm,2.5s
SEM Semipalatinsk 142.06 37 *e*PKP PKPpre 11 31 56.2
comp=Z,157nm,1.7s
SEM *e*PKiKP **PKPdf 11 31 59.7 -1.7**
SEM LRM MLR 12 35 45.5
comp=Z,461nm,20.2s
TKM2 Tokmak 2 142.11 50 PKHKP PKPpre 11 31 56.2
TKM2 pmax pmax
comp=Z,80nm,1.6s
ZALV Zalesovo Beam 142.32 30 PKhKP PKPpre 11 31 57.3
comp=Z,8.8nm,0.9s,baz=305,slow=5.2,SNR=30
PALK Pallekele 142.52 111 PKhKP PKPpre 11 31 59.8
comp=Z,9.4nm,0.8s,baz=298,slow=1.1,SNR=3.8
URV Uravakonda 142.74 97 *e*PKPdf PKPpre 11 31 59.1
URV *e*PKiKP **PKPdf 11 32 04.6 +1.2**
URV *e*PP **PP 11 35 09.1 -3.0**
URV IVMs_BB IVMs_BB 12 32 59.6
comp=Z,1μm,17.1s
AAA Alma-Ata 142.94 49 *e*PKP PKPpre 11 31 57.9
AAA *i* PP **PP 11 35 08.3 -4.3**
AAA LRM MLR 12 39 36.9
comp=Z,939nm,19.2s
MDOK Medeo 143.05 49 *i* PKP PKPab 11 31 57.8 -0.8
MDOK *i* PP **PP 11 35 08.9 -4.5**
MDOK *i* SKP 11 35 29.4
MDOK LRM MLR 12 35 19.4
comp=Z,579nm,21.6s
KLRI Killari 143.11 92 *e*PKPdf PKPbc 11 32 00.8 0.0
KLRI *e*PP **PP 11 35 12.3 -2.1**
KLRI IVMs_BB IVMs_BB 12 34 41.6
comp=Z,2μm,17.5s
KSH Kashi 143.24 56⇓ *i*PKP PKPab 11 31 59.9 +0.4
KSH SKS **SKSdf 11 39 13.4 +0.5**
KSH SKKS **SKKSac 11 42 10.3 +3.3**
KSH SS **SS 11 53 53.8 -0.7**
KSH AMB AMB
comp=Z,1μm,5.3s
KSH LR LR
comp=Z,2μm,19.6s
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,3μm,21.2s
TDK Taldygorghan 143.34 46 *e*PKP PKPab 11 31 58.4 -1.1
comp=Z,171nm,1.3s
ZHN Zhinishke 144.01 49 *i* PKP **PKPab 11 31 59.6 -2.7**
ZHN LR LR 12 39 31.6
comp=Z,572nm,19.7s
SATY Saty 144.02 49 *i* PKP **PKPab 11 31 59.6 -2.8**
SATY *i* PP **PP 11 35 14.8 -4.4**
SATY LRM MLR 12 39 04.1
comp=Z,720nm,18.1s
KPKS Kokpek 144.08 48 *i* PKP **PKPab 11 31 59.7 -2.9**
comp=Z,3μm,1.1s
KPKS LR LR 12 40 28.4
comp=Z,941nm,19.7s
GENI Genyem 144.34 225 PKP **PKPdf 11 32 05.9 -0.3**
UZB Uzynbulak 144.42 49 *i* PKP **PKPab 11 32 00.2 -3.6**
UZB LRM MLR 12 37 42.6
comp=Z,409nm,19.6s
DHRM DHARAMSHALA 144.50 68 *e*P PKPbc 11 32 05.0 +0.2
SKHT Srikalahasti 144.51 100 *e*PKPdf PKPbc 11 32 05.0 0.0
SKHT *e*PP **PP 11 35 19.1 -3.6**
SRLM Srisailam 144.60 96 *e*PKPdf **PKPab 11 32 04.5 -0.7**
SRLM *e*PKiKP **PKiKP 11 32 09.4 -0.8**
SRLM *e*PP **PP 11 35 21.2 -2.1**
SRLM IVMs_BB IVMs_BB 12 30 26.8
comp=Z,963nm,20.0s
BHK Bhakra 144.63 69 *e*P **PKPab 11 32 04.0 -0.9**
PDGK Podgornoye 144.67 48 PKIKP PKPbc 11 32 04.9 0.0
PDGK pmax pmax
comp=Z,816nm,1.0s
HYBB Hyderabad (bro 144.70 94 *e*PKPdf **PKPab 11 32 04.9 -0.6**
HYBB *e*PKiKP **PKiKP 11 32 09.7 -0.8**
HYBB *e*PP **PP 11 35 22.6 -1.3**
HYBB IVMs_BB IVMs_BB 12 30 50.0
comp=Z,2μm,21.9s
HYB Hyderabad 144.71 94 *i* PKP **PKPab 11 32 05.0 -0.5**
HYB *e*pPKP **pPKPdf 11 32 11.5 -0.9**
HYB *e*PP **PP 11 35 22.0 -2.0**
HYB Hyderabad 144.71 94 *e*P **PKPab 11 32 05.5 0.0**
HYB IAMs_20 IAMs_20 12 30 56.6
comp=Z,5μm,24.2s
MDRS Chennai 144.74 102 *e*P **PKPab 11 32 05.5 -0.1**
MDRS IAMs_20 IAMs_20 12 32 05.1
comp=Z,4μm,20.3s
MAKZ Makanchi 144.83 41 PKIKP PKPbc 11 32 05.2 0.0
MAKZ pmax pmax
comp=Z,486nm,1.4s
SRSP Sriramsagar 144.93 91 *e*PKPdf **PKPab 11 32 05.6 -0.7**
SRSP *e*PP **PP 11 35 23.1 -2.2**
BHPL Bhopal 145.00 84 *e*P **PKPbc 11 32 06.1 -0.4**
MK31 Makanchi Array 145.02 41 *i* PKIKP **PKPbc 11 32 05.8 0.0**
MK31 pmax pmax
comp=Z,330nm,1.0s
MKAR Makanchi Array 145.02 41 PKPbc **PKPab 11 32 06.1 +0.3**
comp=Z,141nm,0.8s,baz=306,slow=2.9,SNR=417
MKAR PP **PP 11 35 22.0 -2.7**
comp=Z,7.6nm,1.0s,baz=284,slow=4.4,SNR=3.2
SDNR Sundarnagar 145.10 69 *e*P **PKPab 11 32 06.6 0.0**
NJS Nagarjunasagar 145.13 96 *e*PKPdf **PKPbc 11 32 06.5 -0.5**
NJS *e*PP **PP 11 35 27.2 +0.8**
NJS IVMs_BB IVMs_BB 12 32 14.8
comp=Z,1μm,19.5s
SMLA Simla 145.28 70 *e*P **PKPbc 11 32 07.1 +0.1**
SOEI Soe 145.30 195 *e*PKPbc **PKPab 11 32 07.9 +0.1**
NDI New Delhi 145.33 74 *e*P **PKPbc 11 32 05.0 -2.3**
NKL Nikolayevsk 145.42 333 *i* PKIKP **PKPab 11 32 07.5 +0.5**
NKL pmax pmax
comp=E,140nm,0.8s
NKL pmax pmax
comp=Z,230nm,0.8s
NKL pmax pmax
comp=N,2μm,8.0s
NKL pmax pmax
comp=Z,14μm,8.0s
ADKI Addanki 145.50 97 *e*PKiKP **PKPab 11 32 09.9 +1.6**
RPR Rampur 145.78 92 *e*PKPab **PKPdf 11 32 08.4 -0.1**
RPR IVMs_BB IVMs_BB 12 32 31.6
comp=Z,1μm,19.7s
DDI Dehra Dun 146.07 71 *e*P **PKPab 11 32 10.1 -0.2**
DDI IAmb IAmb 11 32 12.0
comp=Z,629nm,1.0s
NGP Nagpur 146.10 88 *e*P **PKPdf 11 32 09.3 +0.3**
NGP *ex* x 11 32 20.4
TYV Tymovskoe 146.16 329 *e*PKP2 **PKPbc 11 32 09.3 +0.1**
TYV pmax pmax
comp=Z,20nm,1.5s
DGZ Jazzator, Alta 146.27 34 *i* PKP2 **PKPdf 11 32 09.2 +0.5**
BOD Bodaibo 146.32 2 *e*PKIKP **PKPdf 11 32 08.1 -0.2**
BOD pmax pmax
comp=Z,727nm,1.5s
KUR Kuril'sk 146.53 317*c* *i*PKIKP **PKPdf 11 32 09.1 +0.1**
KUR *i* 11 32 10.5
KUR *e* 11 35 34.4
CLNS Chul'man 146.65 351 *e*PKIKP **PKPdf 11 32 09.0 +0.1**
CLNS pmax pmax
comp=Z,62nm,1.1s
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.1s
MMRI Maumere 146.81 192 *e*PKPdf **PKPdf 11 32 10.2 -0.2**
JBP Jabalpur 147.32 84 *e*P **PKPdf 11 32 10.4 -0.6**
JBP *ex* x 11 35 41.6
PVM Polavaram 147.45 96 *e*PKPbc **PKPbc 11 32 12.7 -1.2**
JAGI Jajag, Banyuwa 147.56 177 *e*PKPdf **PKPdf 11 32 11.6 -0.1**
CISI Cisompet, Garu 147.58 165 *e*PKPdf **PKPdf 11 32 11.9 +0.1**
PTH Pithoragarh 147.96 72 *e*P **PKPdf 11 32 12.0 -0.2**
YUK Yuzh-Kuril'sk 148.36 316*c* *i*PKIKP **PKPdf 11 32 12.5 +0.4**
YUK *i* 11 32 15.5
YUK 11 35 49.5
SMRI Semarang 148.59 170 *e*PKPdf **PKPdf 11 32 13.9 +0.4**
YSS Yuzh-Sakhalins 148.60 323α *i*PKIKP **PKPdf 11 32 12.7 +0.3**
YSS *e* 11 35 48.0
YSS pmax pmax
comp=Z,70nm,1.7s
YSS pmax pmax
comp=Z,3μm,3.4s
YSS MLR MLR
comp=Z,900nm,22.0s
YSS Yuzh-Sakhalins 148.60 323 *e*PKPdf **PKPdf 11 32 12.9 +0.5**
YSS LR LR
comp=Z,524nm,19.0s
FAKI Fak Fak 148.66 213 *e*PKPdf **PKPdf 11 32 13.9 +0.3**
VIS Vishakhapatnam 149.14 96 *e*P **PKPdf 11 32 14.6 +0.5**
WMQ Urumqi 149.81 43 PKPbc **PKPdf 11 32 14.5 -0.1**
WMQ PKPab **sPKPbc 11 32 27.3 +0.4**
WMQ SKS **SKSdf 11 39 19.9 -2.1**
WMQ SKKS **SKKSac 11 42 43.3 -0.3**
WMQ SS **SS 11 55 09.2 +1.2**
WMQ AMB AMB
comp=Z,840nm,8.1s
WMQ LR LR
comp=Z,2μm,19.5s
WMQ LR LR
comp=Z,1μm,19.5s
WMQ LR LR
comp=Z,2μm,22.3s
CHLP Challavanipeta 150.03 95 *e*PKPdf **PKPdf 11 32 15.4 -0.1**
CHLP *e*PKiKP **PKPbc 11 32 20.5 0.0**
CHLP *e*PP **PP 11 35 53.4 -1.8**
CHLP IVMs_BB IVMs_BB 12 35 23.0
comp=Z,957nm,20.0s
MOY Mondy 150.28 19 *e*PKIKP **PKPdf 11 32 16.2 +1.1**
MOY pmax pmax
comp=Z,628nm,2.1s
ASAJ Asahikawa 150.33 319 PKP **PKPdf 11 32 15.7 +0.4**
comp=Z,59nm,1.1s,baz=35,slow=1.8,SNR=8.3
ASAJ PKPbc **pPKPdf 11 32 20.6 -0.3**
comp=Z,131nm,1.1s,baz=322,slow=4.4,SNR=29
ASAJ PP **PP 11 35 56.2 +0.5**
comp=Z,27nm,1.1s,baz=309,slow=6.5,SNR=3.2
ASAJ Asahikawa 150.33 319 PKIKP **PKPdf 11 32 15.7 +0.4**
ASAJ 11 32 20.6
ASAJ 11 35 56.2
ASAJ pmax pmax
comp=Z,25nm,1.0s
ASAJ pmax pmax
comp=Z,131nm,1.1s
ASAJ pmax pmax
comp=Z,27nm,1.2s
PYUN Piuthan 150.41 75 *e*P **PKPdf 11 32 16.0 -0.2**
comp=Z,2μm,1.3s
GUMO Guam 150.54 254 PKP **PKPdf 11 32 16.7 +0.3**
comp=Z,116nm,1.0s,baz=135,slow=7.1,SNR=2.8
GUMO PKPbc **pPKPdf 11 32 21.9 -0.1**
comp=Z,256nm,1.1s,baz=192,slow=8.2,SNR=5.6
GUMO Guam 150.54 254 PKP **PKPdf 11 32 16.7 +0.3**
GUMO PKPbc **pPKPdf 11 32 21.9 -0.1**
GUMO LR LR
comp=Z,872nm,19.0s
IRK Irkutsk 150.60 14 *e*PKIKP **PKPdf 11 32 16.0 +0.6**
IRK pmax pmax
comp=Z,900nm,2.3s
KAPI Kappang 150.76 188 *e*PKPdf **PKPdf 11 32 17.5 +0.6**
KAPI LR LR
comp=Z,1μm,20.0s
KOLN Koldanda 150.95 76 *e*P **PKPdf 11 32 16.6 -0.4**
comp=Z,251nm,1.1s
TLY Talaya 150.98 16⇑ *i*PKIKP **PKPdf 11 32 16.9 +0.8**
TLY *e*PPP PPP 11 39 22.9
TLY pmax pmax
comp=Z,111nm,2.3s
TLY Talaya 150.98 16 *e*PKPdf **PKPdf 11 32 17.3 +1.3**
TLY LR LR
comp=Z,3μm,20.0s
ERM Erimo 151.08 315*d* *i*PKIKP **PKPdf 11 32 16.7 +0.3**
ERM Erimo 151.08 315 *e*PKPdf **PKPbc 11 32 20.9 -1.4**
ERM LR LR
comp=Z,1μm,21.0s
HABR Khabarovsk 151.30 333 *e*PKIKP **PKPdf 11 32 15.2 -1.4**
HABR *e* 11 32 18.7
HABR *i* 11 32 22.5
HABR *e* 11 32 26.0
HABR *e* 11 32 29.9
HABR *e* 11 36 01.0
HABR *e* 11 39 22.9
HABR *e* 11 39 28.9
HABR *e*SS SS 11 55 27.1 +3.8
HABR *e*SSS SSS 12 01 11.3
HABR pmax pmax
comp=Z,89nm,1.6s
HABR pmax pmax
comp=Z,120nm,1.6s
HABR pmax pmax
comp=E,22nm,1.4s
HABR pmax pmax
comp=N,37nm,1.4s
HABR pmax pmax
comp=Z,338nm,1.4s
HABR pmax pmax
comp=Z,214nm,1.8s
HABR pmax pmax
comp=Z,492nm,1.7s
GKN Gorkha 151.87 75 *e*P **PKPdf 11 32 18.0 -0.3**
comp=Z,498nm,1.1s
ZAK Zakamensk 152.07 17 *e*PKIKP **PKPdf 11 32 17.8 -0.1**
ZAK *e* 11 36 06.7
ZAK pmax pmax
comp=Z,47nm,1.7s
ZAK pmax pmax
comp=Z,28nm,1.6s
BWNR Bhubaneshwar 152.09 92 *ex* **PKiKP 11 32 25.0 -0.6**
CIT Chita 152.10 3 *e*PKIKP **PKPbc 11 32 24.8 +0.4**
CIT *e* 11 32 36.3
CIT pmax pmax
comp=Z,288nm,2.4s
DMN Daman 152.29 76 *e*P **PKPdf 11 32 18.8 -0.3**
comp=Z,846nm,1.3s
KKN Kakani 152.44 76 *e*P **PKPdf 11 32 19.0 -0.3**
comp=Z,735nm,1.5s
PKIN Phulchoki 152.54 76 *e*P **PKPdf 11 32 19.1 -0.4**
comp=Z,244nm,1.2s
PKI Pulchoki 152.56 76 *e*P **PKPdf 11 32 19.1 -0.5**
comp=Z,1μm,1.7s
BOK Bokaro 152.77 85 *e*P **PKPdf 11 32 20.4 +0.8**
BOK IAmb IAmb 11 32 28.6
comp=Z,262nm,1.4s
BOK IAMs_20 IAMs_20 12 21 32.0
comp=Z,232nm,9.4s
GUN Gumba 152.97 76 *e*P **PKPdf 11 32 20.1 -0.1**
comp=Z,1μm,1.5s
CMBY CAMPBELL BAY 153.06 126 *e*P **PKPdf 11 32 19.1 -1.2**
CMBY IAMs_20 IAMs_20 12 31 06.1
comp=Z,20μm,21.9s
JIRN Jiri 153.25 76 *e*P **PKPdf 11 32 20.4 -0.3**
comp=Z,2μm,1.2s
PSI Prapat 153.31 140 PKP **PKPdf 11 32 20.4 -0.4**
comp=Z,15nm,1.1s,baz=246,slow=3.8,SNR=20
PSI PKPbc **pPKPdf 11 32 26.6 +0.1**
comp=Z,34nm,1.1s,baz=218,slow=6.7,SNR=12
PSI PKPab **PKPab 11 32 40.6 +0.5**
comp=Z,87nm,1.1s,baz=208,slow=7.1,SNR=22
RAMN Ramite 153.62 78 *e*P **PKPdf 11 32 21.0 -0.1**
comp=Z,329nm,1.0s
ODAN Odare 154.32 78 *e*P **PKPdf 11 32 21.7 -0.3**
comp=Z,383nm,1.4s
TAPN Taplejung 154.60 77 *e*P **PKPdf 11 32 22.3 -0.2**
comp=Z,392nm,1.5s
HIA Hailar 154.71 354 *e*PKIKP **PKPdf 11 32 21.9 +0.3**
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 154.71 354 *e*PKPdf **PKPdf 11 32 21.9 +0.3**
HIA LR LR
comp=Z,2μm,19.0s
PBA Port Blair 154.92 116 *e*P PKPdf 11 32 23.6 +0.8
PBA IAMs_20 IAMs_20 12 26 14.3
comp=Z,866nm,9.9s
SONM Songino Array 155.21 15 PKP **PKPdf 11 32 22.8 +0.3**
comp=Z,4.5nm,1.0s,baz=303,slow=1.1,SNR=28
SONM PKPab **PKPab 11 32 46.8 -0.5**
comp=Z,9.1nm,0.9s,baz=230,slow=1.9,SNR=16
SONM PP **PP 11 36 22.5 -0.3**
comp=Z,4.5nm,1.0s,baz=330,slow=5.0,SNR=4.5
SONM Songino Array 155.21 15 PKIKP **PKPdf 11 32 22.8 +0.3**
SONM 11 32 46.8
SONM 11 36 22.5
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 155.34 14*c* *i*PKIKP **PKPdf 11 32 23.2 +0.5**
ULN Ulaanbaatar 155.34 14 *e*PKPdf **PKPdf 11 32 23.2 +0.5**
ULN LR LR
comp=Z,3μm,20.0s
DGPR DIGLIPUR 155.87 113 *e*P **PKPdf 11 32 24.5 +0.4**
DGPR IAMs_20 IAMs_20 12 20 27.5
comp=Z,2μm,3.9s
IPM Ipoh 155.88 142 *e*PKPdf **PKPdf 11 32 24.2 0.0**
USRK Ussuriysk Ar. 155.95 330 PKP **PKPdf 11 32 23.4 0.0**
comp=Z,20nm,1.2s,baz=299,slow=2.0,SNR=16
USRK pPKP **pPKPdf 11 32 29.1 0.0**
comp=Z,12nm,1.0s,baz=22,slow=2.1,SNR=7.3
USRK PP **PP 11 36 24.3 -2.8**
comp=Z,4.1nm,0.9s,baz=24,slow=5.4,SNR=3.9
KULM Kulim 156.32 140 *e*PKPdf **PKPdf 11 32 25.0 +0.2**
KULM LR LR
comp=Z,2μm,20.0s
MDJ Mudanjiang 156.63 334 PKP **PKPdf 11 32 24.0 -0.3**
MDJ AMB AMB
comp=Z,760nm,8.9s
MDJ LR LR
comp=Z,1μm,20.2s
MDJ LR LR
comp=Z,1μm,16.5s
MDJ LR LR
comp=Z,2μm,19.1s
MDJ Mudanjiang 156.63 334 *e*PKPdf **PKPdf 11 32 24.3 +0.1**
MDJ LR LR
comp=Z,2μm,19.0s
KSM Kuching 156.88 166 *e*PKPdf **PKPdf 11 32 25.6 +0.1**
KSM LR LR
comp=Z,2μm,21.0s
MJAR Matsushiro Arr 157.04 308 PKP **PKPdf 11 32 24.5 -0.6**
comp=Z,11nm,1.2s,baz=282,slow=1.1,SNR=14
MJAR pPKP **pPKPdf 11 32 30.6 -0.2**
comp=Z,16nm,1.1s,baz=263,slow=0.5,SNR=11
MJAR PKPab **PKPab 11 32 55.5 0.0**
comp=Z,6.8nm,1.0s,baz=69,slow=3.9,SNR=5.2
MAJO Matsushiro 157.04 308⇓ *e*PKIKP **PKPdf 11 32 25.0 -0.1**
MAJO Matsushiro 157.04 308 *e*PKPdf **PKPdf 11 32 24.9 -0.2**
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 157.04 308 PKP **PKPdf 11 32 24.3 -0.8**
LSA Lhasa 157.43 70 PKP **PKPdf 11 32 27.2 +0.8**
LSA Lhasa 157.43 70 *e*PKIKP **PKPdf 11 32 28.0 +1.6**
LSA MLR MLR
comp=Z,3μm,21.0s
LSA Lhasa 157.43 70 *e*PKPdf **PKPdf 11 32 27.9 +1.6**
LSA LR LR
comp=Z,3μm,21.0s
SKLT Songkhla 157.78 137 P **PKPdf 11 32 32.6 +6.0**
comp=Z,64nm,2.2s,comp=Z,2μm
SHL Shillong 158.34 81 *e*P **PKPdf 11 32 24.6 -2.7**
SHL *ex* x 11 36 42.0
CN2 Changchun 158.81 340 *e*PKP **PKPdf 11 32 25.9 -1.1**
CN2 *e*SS SS 11 56 45.3 +0.9
CN2 AMB AMB
comp=Z,1μm,7.0s
CN2 LR LR
comp=Z,800nm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,2μm,22.0s
GTA Gaotai 159.69 38 ⇑PKP **PKPdf 11 32 28.2 -0.2**

GTA			PKPab	**PKPab**	**11 33 07.7**	**+0.8**
GTA			PP	**PP**	**11 36 48.7**	**+0.6**
GTA			SKS	**SKSdf**	**11 39 34.1**	**+0.8**
GTA			SKKS	**SKKSac**	**11 43 36.3**	**-0.5**
GTA			SS	**SS**	**11 56 52.0**	**-3.0**
GTA			AMB	AMB		
	comp=Z,920nm,6.4s					
GTA			LR	LR		
	comp=Z,2μm,20.0s					
GTA			LR	LR		
	comp=Z,1μm,19.4s					
GTA			LR	LR		
	comp=Z,3μm,20.4s					
DAV	**Davao City (W)**	**160.57 211**	PFAKE		11 32 40.0	+10
DAV			LR	LR		
	comp=Z,819nm,19.0s					
SNY	**Shenyang**	**161.17 342**	⇑PKP	**PKPdf**	**11 32 29.1**	**-0.6**
SNY			AMB	AMB		
	comp=Z,2μm,8.9s					
SNY			LR	LR		
	comp=Z,1μm,18.9s					
SNY			LR	LR		
	comp=Z,1μm,18.9s					
SNY			LR	LR		
	comp=Z,4μm,18.2s					
BUKP	**Musuan**	**161.52 211**	*e*P	**PKPdf**	**11 32 31.4**	**+0.4**
KKM	**Kota Kinabalu**	**162.01 182**	*e*PKPdf	**PKPdf**	**11 32 31.4**	**-0.1**
KKM			LR	LR		
	comp=Z,2μm,22.0s					
UMPA	**Umpang Tak**	**162.34 113**	P	**PKPab**	**11 33 19.3**	**+0.3**
UTHA	**Uthaitani**	**162.50 116**	P	**PKPab**	**11 33 19.8**	**+0.1**
BTO	**Baotou**	**162.89 15**	*e*PKP	**PKPdf**	**11 32 32.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**162.97 11**	*e*PKP	**PKPdf**	**11 32 32.0**	**+0.3**
HHC			sPKP		11 32 38.7	
HHC			PP	**PP**	**11 37 03.7**	**-1.2**
HHC			SS	SS	11 57 25.5	-2.5
HHC			AMB	AMB		
	comp=Z,1μm,9.2s					
HHC			LR	LR		
	comp=Z,2μm,18.5s					
HHC			LR	LR		
	comp=Z,1μm,21.0s					
HHC			LR	LR		
	comp=Z,2μm,21.0s					
CHBT	**CHBT**	**163.01 129**	P	**PKPab**	**11 33 24.3**	**+2.4**
KSRS	**Korea Array**	**163.09 325**	PKP	**PKPdf**	**11 32 31.9**	**+0.1**
	comp=Z,14nm,1.1s,baz=72,slow=0.3,SNR=25					
KSRS			pPKP	**pPKPdf**	**11 32 37.6**	**+0.2**
	comp=Z,15nm,1.1s,baz=109,slow=0.7,SNR=8.4					
KSRS			PKPab	**PKPab**	**11 33 22.2**	**+0.6**
	comp=Z,12nm,1.0s,baz=51,slow=4.5,SNR=8.6					
KSRS			pPKPab	**pPKPab**	**11 33 27.8**	**+0.6**
	comp=Z,32nm,1.1s,baz=50,slow=4.0,SNR=8.4					
KSRS			PP	**PP**	**11 37 03.2**	**-2.9**
	comp=Z,4.5nm,1.1s,baz=46,slow=3.6,SNR=4.1					
KSAR	**Wonju Array Be**	**163.12 325**	PKIKP	**PKPdf**	**11 32 31.9**	**+0.1**
KSAR					11 32 37.7	
KSAR					11 33 22.2	
KSAR					11 37 03.2	
KSAR	**Wonju Array Be**	**163.12 325**	PKP	**PKPdf**	**11 32 31.9**	**+0.1**
KSAR			pPKP	**pPKPdf**	**11 32 37.6**	**+0.1**
KSAR			PKPab	**PKPab**	**11 33 22.2**	**+0.4**
KSAR			pPKPab	**pPKPab**	**11 33 27.8**	**+0.5**
KSAR			PP	**PP**	**11 37 03.2**	**-3.0**
CMAR	**Chiang Mai Arr**	**163.40 107**	PKP	**PKPdf**	**11 32 32.6**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=252,slow=2.3,SNR=38					
CMAR			pPKP	**pPKPdf**	**11 32 38.5**	**+0.2**
	comp=Z,8.2nm,1.0s,baz=264,slow=1.8,SNR=8.8					
CMAR			PKPab	**PKPab**	**11 33 23.4**	**-0.2**
	comp=Z,31nm,1.1s,baz=251,slow=5.1,SNR=20					
CMAR			pPKPab	**pPKPab**	**11 33 29.2**	**+0.1**
	comp=Z,37nm,1.0s,baz=256,slow=3.5,SNR=14					
CMAR			PP	**PP**	**11 37 08.8**	**-0.2**
	comp=Z,18nm,1.2s,baz=262,slow=6.7,SNR=13					
CHTO	**Chiang Mai**	**163.53 106**	P	**PKPab**	**11 33 24.4**	**+0.2**
	comp=Z,613nm,1.4s,comp=Z,11μm					
CHTO	**Chiang Mai**	**163.53 106**	*e*PKIKP	**PKPdf**	**11 32 32.2**	**-0.6**
CHTO			MLR	MLR		
	comp=Z,1μm,21.0s					
CHTO	**Chiang Mai**	**163.53 106**	*e*PKPdf	**PKPdf**	**11 32 32.2**	**-0.6**
CHTO			LR	LR		
	comp=Z,1μm,21.0s					
CMMT	**Chiang Mai**	**163.53 106**	P	**PKPab**	**11 33 24.4**	**+0.1**
	comp=Z,135nm,1.4s,comp=Z,3μm					
MSLP	**Maasin**	**163.57 214**	*e*P	**PKPdf**	**11 32 32.8**	**-0.1**
JNU	**Nakatsue**	**163.96 307**	PKP	**PKPdf**	**11 32 31.7**	**-1.1**
	comp=Z,14nm,1.0s,baz=105,slow=7.1,SNR=3.8					
JNU			pPKP	**pPKPdf**	**11 32 38.4**	**-0.2**
	comp=Z,51nm,1.3s,baz=188,slow=2.2,SNR=4.1					
LAMP	**Lampang**	**164.02 107**	P	**PKPab**	**11 33 26.8**	**+0.4**
	comp=Z,48nm,1.2s,comp=Z,442nm					
PHIT	**Phitsanulok**	**164.12 113**	P	**PKPab**	**11 33 27.9**	**+1.1**
	comp=Z,84nm,1.2s,comp=Z,752nm					
BJI	**Beijing**	**164.13 359**	PKP	**PKPdf**	**11 32 32.7**	**0.0**
BJT	**Baijiatuan**	**164.16 359**	PFAKE		11 32 40.0	+7.3
BJT			LR	LR		
	comp=Z,3μm,19.0s					
PBKT	**Sadao Pong**	**164.28 116**	P	**PKPab**	**11 33 27.9**	**+0.4**
	comp=Z,53nm,1.5s					
LZH	**Lanzhou**	**164.29 38**	*e*PKP	**PKPdf**	**11 32 33.9**	**+0.7**
LZH			pPKP	sPKPdf	11 32 40.0	-0.8
LZH			PKPab	**PKPab**	**11 33 28.3**	**+1.1**
LZH			PP	**PP**	**11 37 15.0**	**+2.3**
LZH			SS	SS	11 57 39.0	-4.1
LZH			AMB	AMB		
	comp=Z,1μm,9.9s					
LZH			LR	LR		
	comp=Z,1μm,16.7s					
LZH			LR	LR		
	comp=Z,2μm,19.3s					
LZH			LR	LR		
	comp=Z,3μm,20.4s					
DL2	**Dalian**	**164.44 343**	PKP	**PKPdf**	**11 32 30.3**	**-2.7**
DL2			PKPab	**PKPab**	**11 33 25.8**	**-1.6**
DL2			AMB	AMB		
	comp=Z,1μm,7.8s					
DL2			LR	LR		
	comp=Z,2μm,19.6s					
DL2			LR	LR		
	comp=Z,690nm,17.3s					
DL2			LR	LR		
	comp=Z,3μm,18.4s					
BESP	**Borongan**	**164.48 218**	*e*P	**PKPdf**	**11 32 32.0**	**-1.7**
UTTA	**Uttaradit**	**164.49 111**	P	**PKPab**	**11 33 28.6**	**+0.2**
	comp=Z,27nm,1.2s,comp=Z,264nm					
GUIM	**Jordan**	**165.05 207**	*e*P	**PKPdf**	**11 32 29.0**	**-5.3**
KHON	**Khomkaen**	**165.65 120**	P	**PKPab**	**11 33 34.2**	**+0.7**
	comp=Z,26nm,1.6s,comp=Z,1μm					
RCP	**Roxas**	**165.82 209**	⇑*e*P	**PKPdf**	**11 32 35.6**	**+0.8**
TIY	**Taiyuan**	**166.18 11**	*e*PKP	**PKPdf**	**11 32 34.8**	**+0.2**
TIY			PKPab	**PKPab**	**11 33 35.6**	**+0.4**
TIY			PP	**PP**	**11 37 19.9**	**-1.8**
TIY			SKS	**SKSdf**	**11 39 34.1**	**-4.1**
TIY			AMB	AMB		
	comp=Z,1μm,9.0s					
TIY			LR	LR		
	comp=Z,2μm,16.3s					
TIY			LR	LR		
	comp=Z,1μm,17.7s					
TIY			LR	LR		
	comp=Z,2μm,16.9s					
ENPP	**El Nido**	**166.67 196**	*e*P	**PKPdf**	**11 32 36.4**	**+0.8**
NONG	**Nongkai**	**166.82 115**	P	PKPab	11 33 49.8	+11
CD2	**Chengdu**	**167.44 55**	⇑PKP	**PKPdf**	**11 32 36.0**	**+0.3**
CD2			pPKP	pPKPdf	11 32 40.5	-0.9
CD2			PP	**PP**	**11 37 28.9**	**-0.6**
CD2			SKS	**SKSdf**	**11 39 40.1**	**+0.9**
CD2			SKKS	**SKKSac**	**11 44 17.2**	**+0.7**
CD2			SS	**SS**	**11 58 18.0**	**+2.0**
CD2			AMB	AMB		
	comp=Z,2μm,8.7s					
CD2			LR	LR		
	comp=Z,2μm,18.9s					
CD2			LR	LR		
	comp=Z,2μm,19.7s					
CD2			LR	LR		
	comp=Z,2μm,19.5s					
TIA	**Tai'an**	**167.90 355**	PKP	**PKPdf**	**11 32 35.9**	**+0.1**
TIA			PP	**PP**	**11 37 28.6**	**-1.8**
TIA			AMB	AMB		
	comp=Z,3μm,9.2s					
TIA			LR	LR		
	comp=Z,1μm,17.0s					
TIA			LR	LR		
	comp=Z,2μm,20.2s					
TIA			LR	LR		
	comp=Z,5μm,18.0s					
KMI	**Kunming**	**168.16 83**	PKP	**PKPdf**	**11 32 36.4**	**-0.2**
KMI			sPKP		11 32 41.8	
JOW	**Kunigami**	**168.33 286**	*e*PKPdf	**PKPdf**	**11 32 37.5**	**+1.1**
XAN	**Xi'an**	**168.49 29**	PKP	**PKPdf**	**11 32 36.7**	**+0.3**
XAN			sPKP		11 32 45.1	
XAN			PKPab	**PKPab**	**11 33 45.4**	**-0.1**
XAN			SKS	**SKSdf**	**11 39 35.1**	**-4.5**
XAN			AMB	AMB		
	comp=Z,2μm,9.2s					
XAN			LR	LR		
	comp=Z,620nm,17.1s					
XAN			LR	LR		
	comp=Z,2μm,18.6s					
XAN			LR	LR		
	comp=Z,3μm,19.5s					
SLVN	**Son La**	**168.76 102**	*e*PKPdf	**PKPdf**	**11 32 37.4**	**+0.5**
GYA	**Guiyang**	**171.50 72**	*i* PKP	**PKPdf**	**11 32 37.9**	**-0.5**
GYA			PKPab	**PKPab**	**11 33 56.9**	**-2.6**
GYA			PKS	**PKSdf**	**11 36 08.0**	**-3.0**
GYA			PP	**PP**	**11 37 49.7**	**-1.0**
GYA			SKKS		11 44 36.4	
GYA			SS	**SS**	**11 58 55.0**	**-2.6**
GYA			AMB	AMB		
	comp=Z,2μm,11.2s					
GYA			LR	LR		
	comp=Z,1μm,19.0s					
GYA			LR	LR		
	comp=Z,1μm,19.0s					
GYA			LR	LR		
	comp=Z,2μm,20.2s					
SSE	**Sheshan**	**171.53 326**	PKP	**PKPdf**	**11 32 39.2**	**+1.1**
SSE			PP	**PP**	**11 37 53.0**	**+3.7**
SSE			SS	SS	11 58 56.1	+1.0
SSE			AMB	AMB		
	comp=Z,590nm,12.0s					
SSE			LR	LR		
	comp=Z,1μm,24.1s					
SSE			LR	LR		
	comp=Z,840nm,24.1s					
SSE			LR	LR		
	comp=Z,2μm,20.1s					
NJ2	**Nanjing**	**171.63 341**	*e*PKP	**PKPdf**	**11 32 38.3**	**+0.2**
NJ2			PKPab	**PKPab**	**11 33 59.4**	**0.0**
NJ2			PP	**PP**	**11 37 47.5**	**-1.8**
NJ2			SS	SS	11 58 57.7	+2.4
NJ2			AMB	AMB		
	comp=Z,2μm,6.1s					
NJ2			LR	LR		
	comp=Z,2μm,18.4s					
NJ2			LR	LR		
	comp=Z,1μm,17.9s					
NJ2			LR	LR		
	comp=Z,3μm,19.5s					
ENH	**Enshi**	**171.75 41**	*e*PKPdf	**PKPdf**	**11 32 38.4**	**+0.1**
ENH			LR	LR		
	comp=Z,2μm,21.0s					
ABRA	**Dolores**	**172.03 217**	*e*P	**PKPdf**	**11 32 39.4**	**+0.6**
SZP	**Santa**	**172.09 215**	*e*PKPdf	**PKPdf**	**11 32 39.2**	**+0.5**
QIZ	**Qiongzhong**	**172.55 132**	PKP	**PKPdf**	**11 32 39.8**	**+0.9**
QIZ			PP	**PP**	**11 37 54.3**	**-0.6**
QIZ			AMB	AMB		
	comp=Z,2μm,8.5s					
QIZ			LR	LR		
	comp=Z,2μm,19.3s					
QIZ			LR	LR		
	comp=Z,2μm,18.4s					
QIZ	**Qiongzhong**	**172.55 132**	PFAKE		11 32 50.0	+11
QIZ			LR	LR		
	comp=Z,2μm,20.0s					
WHN	**Wuhan**	**173.50 10**	⇑PKP	**PKPdf**	**11 32 38.5**	**-0.5**
WHN			PKPab	**PKPab**	**11 34 08.0**	**+0.4**
WHN			PP	**PP**	**11 37 57.2**	**-1.1**
WHN			LR	LR		
	comp=Z,4μm,18.2s					
WHN			LR	LR		
	comp=Z,3μm,19.4s					
WHN			LR	LR		
	comp=Z,6μm,17.8s					
TATO	**Taipei**	**174.67 280**	PFAKE		11 32 50.0	+10
TATO			LR	LR		
	comp=Z,2μm,20.0s					
YHNB	**Yeheng**	**174.80 277**	PFAKE		11 32 50.0	+10
YHNB			LR	LR		
	comp=Z,2μm,22.0s					
SSLB	**Suanglung**	**175.19 267**	*e*PKPdf	**PKPdf**	**11 32 40.2**	**+0.4**
QZH	**Quanzhou**	**177.25 288**	*i* PKP	**PKPdf**	**11 32 40.1**	**0.0**
QZH			PKPab	PKPab	11 34 23.2	-1.7
QZH			PP	**PP**	**11 38 14.8**	**-3.5**
QZH			SKKS		11 45 04.7	
QZH			AMB	AMB		
	comp=Z,7μm,5.3s					
QZH			LR	LR		
	comp=Z,4μm,21.0s					
QZH			LR	LR		
	comp=Z,1μm,12.4s					
QZH			LR	LR		
	comp=Z,5μm,23.7s					
GZH	**Guangzhou**	**177.60 115**	PKP	**PKPdf**	**11 32 40.2**	**0.0**
GZH			PKPab	PKPab	11 34 29.0	+2.6
GZH			PP	**PP**	**11 38 25.6**	**+5.8**
GZH			SS	SS	11 59 51.7	-4.0
GZH			AMB	AMB		
	comp=Z,8μm,9.4s					

*ISCJB **06** 11:14:48.6±0.8, 13°.94N±0°.10×144°.8E±0°.2, h150km, mb4.0/7, Error ellipse: s-maj=26.5km s-min=13.4km az=176.4*
*IDC **06** 11:14:49.3±0.7, 13°.96N×144°.75E, h137km±4km, mb3.8/7, mb1 4.0/8, mb1mx3.6/47, mbtmp4.3/8, Error ellipse: s-maj=27.8km s-min=14.7km az=85.0*
ISC 06 11:14:49.9±0.8, 13°.9N±0°.1×144°.7E±0°.2, h150km, n10, σ1§59/12, mb4.1/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.40**	**152**	P	**Pn**	**11 15 09.8**	**-1.1**
	392nm,0.3s,baz=70,slow=0.2,SNR=164						
GUMO				S	**Sn**	**11 15 24.4**	**-2.4**
	baz=37,slow=20						
JAY	**Jayapura**	**16.82**	**194**	P	**Pn**	**11 18 38.1**	**+1.3**
	0.0nm,0.3s,baz=334,slow=22,SNR=6.9						
SIJI	**Sorong**	**19.82**	**223**	P	**Pn**	**11 19 10.0**	**-2.3**
	4.6nm,0.3s,baz=171,slow=1.8,SNR=3.6						
JNU	**Nakatsue**	**22.85**	**329**	P	**P**	**11 19 41.6**	**+1.2**
	17nm,1.0s,baz=173,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**35.18**	**197**	P	**P**	**11 21 29.9**	**+0.3**
	5.1nm,0.5s,baz=23,slow=9.5,SNR=46						
ASAR	**Alice Springs**	**38.84**	**196**	P	**P**	**11 22 00.7**	**+0.1**
	1.4nm,0.4s,baz=16,slow=8.4,SNR=62						
DZM	**Mont Dzumac**	**41.68**	**149**	P	**P**	**11 22 25.2**	**+1.1**
	7.3nm,0.7s,baz=255,slow=7.3,SNR=13						
STKA	**Stephens Creek**	**45.66**	**184**	P	**P**	**11 22 56.6**	**+1.1**
	1.6nm,0.4s,baz=2.0,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**61.10**	**316**	P	**P**	**11 24 49.6**	**+1.3**
	0.4nm,0.5s,baz=110,slow=4.4,SNR=3.5						
MKAR				pP	**pP**	**11 25 22.0**	**-1.7**
	1.1nm,0.7s,baz=85,slow=8.1,SNR=4.3						
ILAR	**Eielson Array**	**68.33**	**25**	P	**P**	**11 25 34.0**	**-0.6**
	0.3nm,0.6s,baz=251,slow=6.6,SNR=4.4						

*GEN **06** 11:18:04.2, 44°.56N×9°.40E, h10km, ML1.1*
*CSEM **06** 11:18:04.0±0.2, 44°.55N×9°.40E, h10km, ML1.1, Error ellipse: s-maj=5.7km s-min=3.3km az=24.0*
ROM 06 11:18:03.7±0.3, 44°.54N×9°.36E, h3km, Md1.5/2, Ml1.1/2, Error ellipse: s-maj=4.3km s-min=0.8km az=80.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.19**	**138**	Pg	Pg	11 18 08.0	+0.7
SC2M				Sg	Sg	11 18 11.1	+1.3
SC2M	**Scurtabo**	**0.19**	**138**	P	Pg	11 18 08.0	+0.7
SC2M				S	Sg	11 18 10.8	+1.0
SC2M				Sg	Sg	11 18 11.1	+1.3
BOB	**Bobbio (Coli)**	**0.23**	**16**	Pg	Pg	11 18 09.1	+0.9
BOB				Sg	Sg	11 18 12.6	+1.3
	35nm,0.5s						
MSSA	**Maissana**	**0.25**	**154**	Pg	Pg	11 18 09.3	+0.7
MSSA				Sg	Sg	11 18 13.4	+1.5
	22nm,0.3s						
CODM	**Codolo**	**0.38**	**113**	P	Pg	11 18 11.1	0.0
CODM				S	Sg	11 18 16.2	+0.2
PCP	**Piancastagn**	**0.58**	**270**	P	Pb	11 18 16.0	-0.6
PCP				S	Sb	11 18 24.3	-0.9

*ISCJB **06** 11:19:55.4±0.4, 24°.13S±0°.06×64°.27W±0°.06, h10km, mb4.8/22, Error ellipse: s-maj=9.1km s-min=6.8km az=142.5*
*IDC **06** 11:19:55.1±0.7, 24°.30S×64°.34W, h0km, mb4.5/10, mb1 4.7/12, mb1mx4.5/34, mbtmp4.6/12, ML4.6/2, Error ellipse: s-maj=28.1km s-min=17.0km az=37.0*
*NEIC **06** 11:19:56.6±0.4, 24°.28S×64°.30W, h10km, mb5.1/13, Error ellipse: s-maj=14.0km s-min=7.7km az=212.0*
*SJA **06** 11:19:58.6±0.5, 24°.20S×64°.55W, h19km±3km, ML4.1, MW4.3*
ISC 06 11:19:56.5±0.5, 24°.29S±0°.06×64°.32W±0°.05, h10km, n36, σ1§19/40, mb4.9/22, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.69**	**275**	*i* P	**Pg**	**11 20 09.2**	**-0.6**
AZAP				*e*S	**Sg**	**11 20 16.6**	**-2.3**
AZAP				IAML		11 20 24.7	
	comp=Z,12μm,0.5s						
FSA	**Cafayete**	**2.36**	**219**	*e*P	**Pb**	**11 20 38.4**	**-0.8**
FSA				*i* S	**Sb**	**11 21 08.0**	**-0.4**
FSA				IAML		11 21 13.2	
	comp=Z,1μm,0.7s						
YJA	**Yavi**	**2.37**	**332**	*e*P	**Pn**	**11 20 37.5**	**+1.6**
YJA				*e*S	**Sn**	**11 21 06.6**	**+1.4**
LVC	**Limon Verde**	**4.54**	**291**	Pn	**Pn**	**11 21 08.6**	**+3.0**
	comp=Z,38nm,0.3s,baz=270,slow=20,SNR=2.8						
CPUP	**Villa Florida**	**6.64**	**109**	Pn	**Pn**	**11 21 35.9**	**+1.7**
	comp=Z,5.0nm,0.3s,baz=135,slow=20,SNR=2.1						
CPUP				Lg	Lg	11 23 27.2	
	comp=Z,12nm,0.3s,baz=234,slow=19,SNR=2.5						
SIV	**San Ignacio**	**8.80**	**21**	Pn	**Pn**	**11 22 04.2**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=221,slow=18,SNR=5.6						
SIV				Sn	**Sn**	**11 23 38.7**	**-4.4**
	comp=Z,4.3nm,0.3s,baz=229,slow=20,SNR=2.4						
SNAA	**Sanae**	**58.27**	**161**	P	**P**	**11 29 51.6**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=352,slow=7.1,SNR=4.3						
SNAA	**Sanae**	**58.27**	**161**	*e*P	**P**	**11 29 50.9**	**-0.2**
JCT	**Junction City**	**64.21**	**326**	*e*P	**P**	**11 30 31.1**	**-0.6**
	comp=Z,25nm,1.0s						
TXAR	**Lajitas Array**	**65.37**	**322**	P	**P**	**11 30 39.0**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=165,slow=10,SNR=3.7						
DBIC	**Dimbokro**	**65.58**	**70**	P	**P**	**11 30 41.2**	**+0.3**
	comp=Z,13nm,0.8s,baz=212,slow=10,SNR=7.3						
MSTX	**Muleshoe**	**68.51**	**326**	*e*P	**P**	**11 30 58.5**	**-0.8**
	comp=Z,27nm,1.0s						
AMTX	**Amarillo**	**68.69**	**328**	*e*P	**P**	**11 31 00.0**	**-0.3**
	comp=Z,21nm,1.1s						
CBKS	**Cedar Bluff**	**71.00**	**331**	*e*P	**P**	**11 31 14.3**	**-0.2**
	comp=Z,35nm,0.8s						
ANMO	**Albuquerque**	**71.18**	**324**	P	**P**	**11 31 16.9**	**+1.1**
	comp=Z,7.2nm,1.1s,baz=146,slow=7.8,SNR=6.7						
ANMO	**Albuquerque**	**71.18**	**324**	*e*P	**P**	**11 31 14.9**	**-0.8**
	comp=Z,6.4nm,0.9s						
W18A	**Petrified Fore**	**73.09**	**322**	*e*P	**P**	**11 31 27.3**	**0.0**
	comp=Z,18nm,1.0s						
MVCO	**Mesa Verde**	**73.97**	**325**	*e*P	**P**	**11 31 33.2**	**+0.8**
	comp=Z,24nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.40**	**68**	P	**P**	**11 31 35.1**	**0.0**
	comp=Z,8.7nm,0.7s,baz=263,slow=6.8,SNR=19						
ISCO	**Idaho Springs**	**74.49**	**328**	*e*P	**P**	**11 31 35.4**	**-0.2**
	comp=Z,11nm,1.0s						
SMCO	**Snowmass**	**74.67**	**327**	*e*P	**P**	**11 31 37.1**	**+0.4**
	comp=Z,27nm,1.5s						
PV04	**Paradox Valley**	**75.07**	**325**	*e*P	**P**	**11 31 39.4**	**+0.6**
TSUM	**Tsumeb**	**75.22**	**105**	P	**P**	**11 31 40.7**	**+0.6**
	comp=Z,8.7nm,0.9s,baz=244,slow=5.3,SNR=7.9						
O20A	**White River Ci**	**76.04**	**327**	*e*P	**P**	**11 31 45.2**	**+0.9**
	comp=Z,24nm,1.0s						
BOSA	**Boshof**	**78.42**	**116**	P	**P**	**11 31 58.0**	**0.0**
	comp=Z,3.7nm,0.7s,baz=222,slow=4.0,SNR=5.5						
PDAR	**Pinedale Array**	**78.67**	**328**	P	**P**	**11 31 59.8**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=165,slow=6.2,SNR=4.6						
REDW	**Red Top Meadow**	**79.75**	**327**	*e*P	**P**	**11 32 04.1**	**-0.8**
	comp=Z,19nm,1.4s						
IMW	**Indian Meadow**	**80.18**	**328**	*e*P	**P**	**11 32 06.5**	**-0.8**
	comp=Z,14nm,1.2s						
HLID	**Hailey**	**81.68**	**326**	*e*P	**P**	**11 32 15.2**	**+0.1**
	comp=Z,26nm,1.5s						
ESDC	**Sonseca Array**	**84.94**	**42**	P	**P**	**11 32 31.4**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=235,slow=5.0,SNR=6.2						
YKA	**Yellowknife Ar**	**95.25**	**339**	P	**P**	**11 33 20.0**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=129,slow=4.8,SNR=3.7						
ASAR	**Alice Springs**	**129.16**	**202**	PKP	**PKPdf**	**11 39 05.3**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=159,slow=2.6,SNR=7.1						
WRA	**Warramunga Arr**	**132.43**	**204**	PKP	**PKPdf**	**11 39 10.8**	**-1.1**
	comp=Z,3.0nm,1.1s,baz=154,slow=2.1,SNR=4.5						
HYB	**Hyderabad**	**144.72**	**94**	*i* PKP	**PKPdf**	**11 39 34.0**	**-0.4**
MKAR	**Makanchi Array**	**145.15**	**41**	PKPbc	**PKPdf**	**11 39 34.5**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=295,slow=3.7,SNR=11						
CMAR	**Chiang Mai Arr**	**163.37**	**107**	PKPab	**PKPab**	**11 40 50.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=259,slow=4.8,SNR=4.2						

*GEN **06** 11:24:01.6, 44°.57N×9°.49E, h9km, ML1.2*
*CSEM **06** 11:24:01.6±0.1, 44°.55N×9°.44E, h10km, ML1.2, Error ellipse: s-maj=4.1km s-min=2.6km az=68.0*
ROM 06 11:24:00.9±0.2, 44°.54N×9°.37E, h5km±1km, Md1.6/3, Ml1.6/2, Error ellipse: s-maj=4.0km s-min=0.9km az=79.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.18**	**138**	Pg	Pg	11 24 05.2	+0.7
SC2M				Sg	Sg	11 24 08.2	+1.3
	157nm,0.2s						
SC2M	**Scurtabo**	**0.18**	**138**	Pg	Pg	11 24 05.2	+0.7
SC2M				S	Sg	11 24 08.0	+1.1
BOB	**Bobbio (Coli)**	**0.23**	**15**	Pg	Pg	11 24 06.3	+0.8
BOB				Sg	Sg	11 24 09.9	+1.3
	289nm,1.6s						
BOB	**Bobbio (Coli)**	**0.23**	**15**	Pg	Pg	11 24 06.3	+0.8
BOB				Sg	Sg	11 24 09.9	+1.3
	289nm,1.6s						
MSSA	**Maissana**	**0.25**	**154**	Pg	Pg	11 24 06.5	+0.7
MSSA				Sg	Sg	11 24 10.5	+1.4
MSSA	**Maissana**	**0.25**	**154**	Pg	Pg	11 24 06.5	+0.7
MSSA				Sg	Sg	11 24 10.5	+1.4
PCP	**Piancastagn**	**0.59**	**270**	P	Pb	11 24 13.9	+0.2
PCP				S	Sb	11 24 23.2	+0.9

*IDC **06** 11:27:00.2±1.1, 2°.36S×127°.90E, h0km, mb4.1/4, mb1 4.3/6, mb1mx3.9/54, mbtmp4.2/6, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx3.1/45, Error ellipse: s-maj=39.3km s-min=21.6km az=71.0*
*ISCJB **06** 11:27:04.1±0.6, 2°.21S±0°.06×127°.98E±0°.06, h32km, mb4.2/4, MS5.4/2, Error ellipse: s-maj=9.2km s-min=8.2km az=20.3*
*DJA **06** 11:27:04.7±1.6, 2°.S±6°×12°.8E±1°.0, h93km±32km, M3.8/4, MLv3.8/4*
ISC 06 11:27:04.3±0.9, 2°.26S±0°.05×127°.90E±0°.07, h32km, n15, σ1§66/14, mb4.2/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.26**	**219**

2.1nm,0.5s,baz=172,slow=6.6,SNR=5.3
MKAR Makanchi Array 63.14 327 P **P 11 37 30.1 +0.9**
1.1nm,0.6s,baz=117,slow=7.6,SNR=4.6
KURBB Kurchatov Arra 67.41 328 P **P 11 37 57.9 +1.3**
1.1nm,0.5s,baz=132,slow=6.2,SNR=8.0
GNI Garni 86.21 310 LR LR 12 25 16.4
comp=Z,970nm,20.1s,baz=256,slow=40
OBN Obninsk 92.61 325 LR LR 12 25 32.8
comp=Z,2μm,19.6s,baz=287,slow=38

BUC 06 11:38:41.5±0.5, 45°25'N×24°07'E, h6km±2km, MD2.5/2, 10C-2D, Error ellipse: s-maj=6.1km s-min=1.0km az=11.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOT	**Lotru**	**0.29**	**313**	⇑*iP*	Pg	11 38 47.7	+0.5
LOT				*i* S	Sg	11 38 52.2	+1.2
LOT	**Lotru**	**0.29**	**313**	⇑*iP*	Pg	11 38 47.7	+0.5
LOT	**Lotru**	**0.29**	**313**	S	Sg	11 38 52.2	+1.2
ARR	**Arges**	**0.41**	**74**	⇑*iP*	Pg	11 38 50.0	+0.5
ARR				*i* S	Sb	11 38 57.1	-0.8
ARR	**Arges**	**0.41**	**74**	⇑*iP*	Pg	11 38 50.0	+0.5
ARR	**Arges**	**0.41**	**74**	S	Sb	11 38 57.1	-0.8
VOIR		**0.71**	**75**	⇓*iP*	Pg	11 38 55.7	+0.5
VOIR				*i* S	Sb	11 39 05.8	-0.7
VOIR		**0.71**	**75**	⇓*iP*	Pg	11 38 55.7	+0.5
MLR	**Muntele Rosu**	**1.34**	**79**	⇑*iP*	Pg	11 39 07.2	0.0
MLR				*i* S	Sn	11 39 26.0	+0.8
MLR	**Muntele Rosu**	**1.34**	**79**	⇑*iP*	Pg	11 39 07.2	0.0
BZS	**Buzias**	**1.77**	**283**	⇑*iP*	Pb	11 39 13.8	-0.5
BZS				*i* S	Sb	11 39 36.9	+0.2
BZS	**Buzias**	**1.77**	**283**	⇑*iP*	Pb	11 39 13.8	-0.5
DRGR		**1.81**	**329**	⇑*iP*	Pb	11 39 14.2	-0.9
DRGR		**1.81**	**329**	⇑*iP*	Pb	11 39 14.2	-0.9

NIED ***06*** *11:44:00, 37°70N×145°10E, h14km, Mw4.3 Best double couple: M0=3.25000×10^15 NP1:φ=354.00000°, δ=39.00000°, λ=-127.00000°. NP2:φ=218.00000°, δ=60.00000°, λ=-64.00000°.*
IDC ***06*** *11:44:26.9±0.6, 37°51N×145°56E, h0km, mb4.1/24, mb1 4.3/31, mb1mx4.2/59, mbtmp4.2/31, ML4.2/6, Error ellipse: s-maj=15.2km s-min=13.1km az=117.0*
NEIC ***06*** *11:44:28.9±0.4, 37°57N×145°50E, h10km, mb4.8/9, Error ellipse: s-maj=8.7km s-min=5.4km az=155.0*
MOS ***06*** *11:44:30.0±1.5, 37°69N×145°51E, h30km, mb4.6/21, Error ellipse: s-maj=9.2km s-min=6.2km az=101.4*
ISCJB ***06*** *11:44:31.8±0.3, 37°77N±0°03×145°24E±0°03, h33km, mb4.4/43, MS3.9/1, Error ellipse: s-maj=4.9km s-min=3.6km az=175.6*
JMA ***06*** *11:44:32.4±0.2, 37°67N×145°14E, h49km, M5.1*
BJI ***06*** *11:44:33.6, 37°89N×145°17E, h22km, mb4.5/11, mB5.0/7, Ms4.8/3, Ms7 4.6/3*
ISC 06 11:44:32.3±0.6, 37°64N±0°05×145°43E±0°06, h35km, n118, σ2°61/133, **mb4.4/43, 18C-8D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**3.28**	**297**	⇑P	**Pn**	**11 45 20.0**	**-1.3**
OFUJ				*e*S	**Sn**	**11 45 55.0**	**-4.1**
JIO	**Ouri**	**3.32**	**285**	⇑P	**Pn**	**11 45 20.3**	**-1.4**
JIO				S	**Sn**	**11 45 56.0**	**-3.9**
MIYJ	**Miyakonagasawa**	**3.42**	**305**	⇑P	**Pn**	**11 45 21.8**	**-1.4**
MIYJ				*e*S	**Sn**	**11 45 58.9**	**-3.6**
JMK	**Ichinoseki**	**3.56**	**293**	P	**Pn**	**11 45 23.8**	**-1.2**
JMK				*e*S	**Sn**	**11 46 02.5**	**-3.3**
JMM	**Marumori**	**3.68**	**275**	⇑P	**Pn**	**11 45 25.0**	**-1.7**
JOU	**Okura**	**3.83**	**282**	⇑P	**Pn**	**11 45 27.9**	**-0.9**
JKZ	**Kuzumaki**	**3.96**	**307**	⇑P	**Pn**	**11 45 30.0**	**-0.7**
JFT	**Otama**	**4.04**	**270**	P	**Pn**	**11 45 30.8**	**-0.9**
JFT				*e*S	**Sn**	**11 46 14.5**	**-3.4**
JRG	**Rokugo**	**4.15**	**296**	⇑P	**Pn**	**11 45 31.9**	**-1.2**
JRG				*e*S	**Sn**	**11 46 17.9**	**-2.5**
JYK	**Kaneyama**	**4.18**	**289**	⇑P	**Pn**	**11 45 32.9**	**-0.8**
JYK				*e*S	**Sn**	**11 46 18.6**	**-2.7**
JAH	**Hinai**	**4.52**	**306**	⇓P	**Pn**	**11 45 38.1**	**-0.1**
JAH				*e*S	**Sn**	**11 46 26.6**	**-2.9**
JTM	**Tenmabayashi**	**4.62**	**314**	P	**Pn**	**11 45 38.8**	**-0.8**
BSO1	**Boso 1**	**4.67**	**232**	P	**Pn**	**11 45 36.6**	**-3.3**
BSO1				*e*S	**Sn**	**11 46 28.4**	**-4.2**
ERM	**Erimo**	**4.71**	**339**	*c iP*	**Pn**	**11 45 40.6**	**-0.2**
ERM	**Erimo**	**4.71**	**339**	*e*Pn	**Pn**	**11 45 40.8**	**0.0**
JOT	**Ohata**	**5.04**	**319**	P	**Pn**	**11 45 44.4**	**-1.0**
JOT				S	**Sn**	**11 46 37.4**	**-5.0**
JCH	**Churui**	**5.21**	**343**	P	**Pn**	**11 45 46.5**	**-1.3**
JCH				*e*S	**Sn**	**11 46 42.2**	**-4.4**
JKB	**Kayabe**	**5.43**	**323**	P	**Pn**	**11 45 50.0**	**-0.7**
JKB				*e*S	**Sn**	**11 46 49.2**	**-2.6**
JRY	**Ryogami san**	**5.48**	**255**	⇑P	**Pn**	**11 45 49.2**	**-2.3**
JRY				*e*S	**Sn**	**11 46 46.2**	**-7.1**
JOD2	**Odawara 2**	**5.63**	**247**	P	**Pn**	**11 45 51.1**	**-2.5**
JOD2				*e*S	**Sn**	**11 46 50.0**	**-7.0**
NEM2	**Nemuro 2**	**5.72**	**2**	P	**Pn**	**11 45 51.4**	**-3.4**
NEM2				*e*S	**Sn**	**11 46 52.0**	**-7.2**
MJA0	**Matsu Arr-Jizo**	**5.84**	**261**	*e*P	**Pn**	**11 45 56.3**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,20nm,0.3s						
MJAR	**Matsushiro Arr**	**5.87**	**261**	Pn	**Pn**	**11 45 56.3**	**-0.6**
	comp=Z,20nm,0.3s,baz=77,slow=8.2,SNR=124						
MJAR				Sn	**Sn**	**11 46 58.1**	**-4.9**
	comp=Z,3.3nm,0.3s,baz=77,slow=13,SNR=3.0						
MJAR	**Matsushiro Arr**	**5.87**	**261**	P	**Pn**	**11 45 56.3**	**-0.6**
MJAR						11 46 58.1	
MJAR				pmax	pmax		
	comp=Z,20nm,0.3s						
MJAR				smax	smax		
	comp=N,4.0nm,0.3s						
MAJO	**Matsushiro**	**5.87**	**261**	*c iP*	**Pn**	**11 45 56.6**	**-0.3**
MAJO	**Matsushiro**	**5.87**	**261**	*e*Pn	**Pn**	**11 45 56.6**	**-0.3**
MAT	**Matsushiro**	**5.87**	**261**	P	**Pn**	**11 45 56.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.88**	**261**	*e*Pn	**Pn**	**11 45 56.6**	**-0.3**
SHO	**Shikotan**	**6.31**	**9**	*d iP*	**Pn**	**11 45 59.1**	**-3.8**
SHO				*i* S	**Sn**	**11 47 06.3**	**-7.4**
SHO				pmax	pmax		
	comp=Z,262nm,0.5s						
SHO				pmax	pmax		
	comp=E,88nm,0.4s						
SHO				pmax	pmax		
	comp=N,139nm,0.6s						
SHO				smax	smax		
	comp=N,797nm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.5s						
JOSM	**Okushiri--Mats**	**6.37**	**316**	P	**Pn**	**11 46 03.3**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**6.40**	**3**	*c iP*	**Pn**	**11 46 00.6**	**-3.4**
YUK				*i* S	**Sn**	**11 47 08.8**	**-6.9**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,29nm,0.1s						
YUK				pmax	pmax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,214nm,0.4s						
YUK				smax	smax		
	comp=N,413nm,0.3s						
JTKR	**Abashiri--Toko**	**6.43**	**350**	P	**Pn**	**11 46 02.8**	**-1.6**
JTKR				*e*S	**Sn**	**11 47 11.2**	**-5.3**
JHJ2	**Mitsune**	**6.43**	**227**	P	**Pn**	**11 46 01.1**	**-3.5**
JHJ	**Hachijo jima 2**	**6.45**	**227**	Pn	**Pn**	**11 46 01.1**	**-3.6**
	comp=N,20nm,0.3s,baz=135,slow=14,SNR=21						
JHJ				Sn	**Sn**	**11 47 08.8**	**-8.3**
	comp=N,46nm,0.3s,baz=249,slow=22,SNR=8.9						
JHR	**Hokuryu**	**6.71**	**336**	P	**Pn**	**11 46 09.0**	**+0.7**
JHR				*e*S	**Sn**	**11 47 21.2**	**-2.3**
ASAJ	**Asahikawa**	**6.81**	**343**	Pn	**Pn**	**11 46 09.0**	**-0.7**
	comp=N,18nm,0.3s,baz=191,slow=9.7,SNR=132						
ASAJ				Sn	**Sn**	**11 47 23.0**	**-3.1**
	comp=N,4.5nm,0.3s,baz=38,slow=22,SNR=4.3						
INU	**Inuyama**	**7.15**	**254**	*e*Pn	**Pn**	**11 46 13.8**	**-0.5**
KUR	**Kuril'sk**	**7.80**	**13**	*d iP*	**Pn**	**11 46 19.7**	**-3.6**
KUR				*e*S	**Sn**	**11 47 43.6**	**-6.8**
KUR				pmax	pmax		
	comp=N,33nm,0.5s						
KUR				pmax	pmax		
	comp=Z,68nm,0.5s						
KUR				smax	smax		
	comp=E,255nm,0.4s						
KUR				smax	smax		
	comp=N,132nm,0.2s						
JWK2	**Keihoku**	**8.11**	**342**	P	**Pn**	**11 46 27.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**9.51**	**349**	⇑*eP*	**Pn**	**11 46 45.8**	**-0.9**
YSS				*e*S	**Sn**	**11 48 26.8**	**-5.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.51**	**349**	*e*Pn	**Pn**	**11 46 45.2**	**-1.6**
CBIJ	**Chichi jima**	**10.86**	**196**	*e*S	Sn	11 48 52.5	-13
VLA	**Vladivostok**	**11.68**	**302**	⇓*iP*	**Pn**	**11 47 18.4**	**+2.0**
VLA				pmax	pmax		
	comp=Z,84nm,1.6s						
USRK	**Ussuriysk Ar.**	**12.09**	**307**	Pn	**Pn**	**11 47 22.6**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=119,slow=14,SNR=21						
JNU	**Nakatsue**	**12.70**	**254**	Pn	**Pn**	**11 47 28.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=18,slow=8.9,SNR=4.2						
MDJ	**Mudanjiang**	**13.81**	**305**	*e*Pn	**Pn**	**11 47 46.1**	**+0.7**
KSRS	**Korea Array**	**13.89**	**275**	Pn	**Pn**	**11 47 47.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=13						
KS01	**Wonju Array Si**	**13.91**	**275**	*e*Pn	**Pn**	**11 47 47.4**	**+0.5**
KSAR	**Wonju Array Be**	**13.92**	**275**	P	**Pn**	**11 47 47.7**	**+0.6**
KSAR	**Wonju Array Be**	**13.92**	**275**	Pn	**Pn**	**11 47 47.6**	**+0.6**
PETK	**Petropavlovsk-**	**17.67**	**25**	P	**P**	**11 48 35.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=132,slow=4.2,SNR=4.8						
PETK	**Petropavlovsk-**	**17.67**	**25**	P	**P**	**11 48 35.0**	**-1.1**
SEY	**Seymchan**	**25.68**	**7**	P	**P**	**11 49 59.0**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=177,slow=8.9,SNR=7.3						
SEY	**Seymchan**	**25.68**	**7**	⇑*eP*	**P**	**11 50 00.4**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**25.84**	**128**	T	T	12 17 08.3	
	baz=319,slow=74,SNR=44						
H11N1	**WAKE ISLAND Hy**	**25.85**	**128**	T	T	12 16 36.4	
	baz=319,slow=74,SNR=41						
H11N3	**WAKE ISLAND Hy**	**25.86**	**128**	T	T	12 17 02.9	
	baz=319,slow=74,SNR=44						
YAK	**Yakutsk**	**26.30**	**343**	P	**P**	**11 50 05.6**	**+1.4**
	comp=Z,4.9nm,0.4s,baz=304,slow=1.8,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**26.64**	**130**	T	T	12 17 46.1	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**26.64**	**130**	T	T	12 17 51.2	
	baz=315,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.66**	**130**	T	T	12 18 02.1	
	baz=315,slow=74						
BOD	**Bodaibo**	**28.81**	**325**	*e*P	P	11 50 31.4	+4.6
BOD				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**30.13**	**302**	P	**P**	**11 50 40.9**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=94,slow=9.3,SNR=3.8						
BILL	**Bilibino**	**32.59**	**14**	⇑*eP*	**P**	**11 51 00.2**	**+0.1**
BILL				*e*		11 52 08.3	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,253nm,19.0s						
GTA	**Gaotai**	**35.44**	**287**	*e*P	P	11 51 31.2	+5.9
GTA				pP	sP	11 51 38.3	-1.3
GTA				sP	pP	11 51 41.8	+6.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DGZ	**Jazzator, Alta**	**42.63**	**306**	*i* P	**P**	**11 52 27.7**	**+2.4**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**43.88**	**312**	P	**P**	**11 52 36.5**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=87,slow=7.6,SNR=8.9						
ZALV				PcP	**PcP**	**11 54 21.9**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=64,slow=3.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**43.88**	**312**	P	**P**	**11 52 36.5**	**+1.4**
ZALV						11 54 21.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KDAK	**Kodiak Island**	**44.50**	**42**	P	**P**	**11 52 39.8**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=238,slow=3.2,SNR=8.1						
MK01	**Makanchi Array**	**46.50**	**302**	*e*P	**P**	**11 52 57.4**	**+1.4**
MK31	**Makanchi Array**	**46.50**	**302**	*e*P	**P**	**11 52 57.6**	**+1.5**
MK31	**Makanchi Array**	**46.50**	**302**	*e*P	**P**	**11 52 57.5**	**+1.5**
MKAR	**Makanchi Array**	**46.50**	**302**	P	**P**	**11 52 57.4**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=90,slow=8.9,SNR=6.3						
MKAR				PcP	**PcP**	**11 54 31.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=2.1						
MKAR	**Makanchi Array**	**46.50**	**302**	*e*P	**P**	**11 52 57.5**	**+1.5**
	comp=Z,28nm,1.0s						
MKAR				PcP	**PcP**	**11 54 30.9**	**+0.9**
MDM	**Murphy Dome**	**46.70**	**32**	*e*P	**P**	**11 52 58.9**	**+1.5**
	comp=Z,11nm,0.9s						
COLA	**College**	**46.85**	**33**	⇓*eP*	**P**	**11 52 59.6**	**+1.1**
COLA				pmax	pmax		
	comp=Z,17nm,2.4s						
IL1	**Eielson Array**	**47.27**	**33**	*e*P	**P**	**11 53 01.7**	**0.0**
ILAR	**Eielson Array**	**47.27**	**33**	P	**P**	**11 53 01.8**	**0.0**
	comp=Z,4.1nm,0.8s,baz=261,slow=6.6,SNR=38						
ILB	**Eielson Array**	**47.27**	**33**	*e*P	**P**	**11 53 01.9**	**+0.1**
KURK	**Kurchatov**	**48.07**	**308**	*de*P	**P**	**11 53 09.1**	**+1.0**
KURK				pmax	pmax		
	comp=Z,22nm,0.7s						
KURK	**Kurchatov**	**48.07**	**308**	*e*P	**P**	**11 53 09.2**	**+1.0**
	comp=Z,8.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.15**	**308**	P	**P**	**11 53 09.7**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=82,slow=7.9,SNR=30						
RAGM	**Ragged Mountai**	**48.45**	**39**	*e*P	**P**	**11 53 08.1**	**-2.9**
	comp=Z,470nm,1.0s						
INK	**Inuvik**	**52.38**	**28**	P	**P**	**11 53 40.6**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=272,slow=6.4,SNR=7.5						
BVAR	**Borovoye Array**	**52.52**	**313**	P	**P**	**11 53 41.5**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=90,slow=7.4,SNR=5.2						
BRVK	**Borovoye**	**52.58**	**313**	⇑*eP*	**P**	**11 53 43.9**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSH	**Kashi**	**53.06**	**295**	*e*P	P	11 53 55.3	+9.1
KSH				PP	PP	11 55 56.0	+10
KSH				PcS	PcS	11 59 00.8	+7.6
KSH				S	**S**	**12 01 14.3**	**+0.3**
KSH				sS	sS	12 01 35.3	+4.0
KSH				ScS	**ScS**	**12 03 37.4**	**+4.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,110nm,5.0s						
KSH				LR	LR		
	comp=Z,110nm,5.3s						
KSH				LR	LR		
	comp=Z,210nm,5.8s						
KSH				LR	LR		
	comp=Z,170nm,6.2s						
ARU	**Arti**	**58.01**	**319**	P	**P**	**11 54 22.5**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=58,slow=3.8,SNR=5.1						
ARU	**Arti**	**58.01**	**319**	*d iP*	**P**	**11 54 22.5**	**+1.2**
ARU						11 56 29.8	
ARU				S	**S**	**12 02 23.4**	**+4.2**
ARU				SS	**SS**	**12 06 12.4**	**+2.4**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**58.01**	**319**	*e*P	**P**	**11 54 22.8**	**+1.5**
	comp=Z,38nm,1.9s						
WRA	**Warramunga Arr**	**58.22**	**192**	P	**P**	**11 54 21.5**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=10,0,slow=7.1,SNR=21						
ABKAR	**Akbulak array**	**59.97**	**311**	*e*P	**P**	**11 54 36.0**	**+1.0**
	comp=Z,18nm,0.5s						
AKTO	**Aktyubinsk**	**60.63**	**313**	P	**P**	**11 54 40.5**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=57,slow=9.5,SNR=6.4						
YKA	**Yellowknife Ar**	**61.65**	**31**	P	**P**	**11 54 46.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=301,slow=7.4,SNR=4.0						
YKA	**Yellowknife Ar**	**61.65**	**31**	*e*P	**P**	**11 54 46.7**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**61.94**	**192**	P	**P**	**11 54 47.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=8.8,slow=6.8,SNR=10.0						
GEYT	**Alibeck**	**66.31**	**300**	P	**P**	**11 55 17.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=355,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**69.25**	**183**	P	**P**	**11 55 35.5**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=325,slow=12,SNR=2.8						
OBN	**Obninsk**	**69.49**	**325**	⇑*eP*	**P**	**11 55 38.9**	**+2.0**
OBN				*e*		11 58 11.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NCK	**Nalchik**	**72.62**	**312**	⇓*eP*	P	11 55 59.0	+2.8
NCK				pmax	pmax		
	comp=Z,73nm,0.4s						
ZEI	**Tsey**	**72.85**	**311**	*e*P	**P**	**11 55 57.1**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,16nm,1.5s						
KVAR	**Kislovodsk Arr**	**72.88**	**313**	P	**P**	**11 56 00.1**	**+2.3**
	comp=Z,2.7nm,0.3s,baz=286,slow=3.2,SNR=5.5						
KIV	**Kislovodsk**	**72.89**	**313**	*e*P	P	11 56 00.6	+2.8
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**72.90**	**312**	P	**P**	**11 55 59.6**	**+1.9**
	comp=Z,5.1nm,1.0s,baz=135,slow=1.1,SNR=5.9						
KBZ	**Khabaz**	**72.90**	**312**	P	**P**	**11 55 59.6**	**+1.9**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H17A	**Grant Village**	**73.36**	**47**	*e*P	P	11 56 03.9	+3.1
	comp=Z,5.4nm,0.9s						
IMW	**Indian Meadow**	**73.45**	**47**	*e*P	P	11 56 03.6	+2.2
	comp=Z,5.1nm,1.1s						
FXWY	**Fox Creek**	**73.55**	**47**	*e*P	P	11 56 03.9	+2.0
	comp=Z,16nm,2.0s						
TPAW	**Teton Pass**	**73.68**	**47**	*e*P	**P**	**11 56 03.9**	**+1.1**
	comp=Z,8.0nm,1.3s						
GNI	**Garni**	**73.87**	**308**	⇑*eP*	P	11 56 07.0	+3.2
GNI				pmax	pmax		
	comp=Z,17nm,0.9s						
NOA	**NORSAR Array B**	**74.82**	**339**	P	**P**	**11 56 08.9**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=32,slow=5.8,SNR=3.8						
PDAR	**Pinedale Array**	**74.93**	**47**	P	**P**	**11 56 10.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=255,slow=2.9,SNR=4.5						
AKASG	**Malin Array Be**	**75.73**	**324**	P	**P**	**11 56 13.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=46,slow=5.8,SNR=6.6						
PV10	**Paradox Valley**	**77.94**	**51**	*e*P	**P**	**11 56 25.1**	**-2.1**
BRTR	**Keskin Array B**	**80.80**	**313**	P	**P**	**11 56 43.8**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=90,slow=3.7,SNR=7.0						
BRTR	**Keskin Array B**	**80.80**	**313**	*e*P	**P**	**11 56 43.3**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BR231	**Keskin MP Arra**	**81.22**	**314**	*e*P	**P**	**11 56 44.6**	**-0.1**
TXAR	**Lajitas Array**	**87.19**	**55**	P	**P**	**11 57 15.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=321,slow=1.8,SNR=5.8						

SJA 06 11:52:11.7±0.7, 22°93S×64°27W, h71km±10km, ML3.2, MW3.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTB	**Santa Barbara**	**1.03**	**190**	*e*P	Pn	11 52 31.7	+1.0
ASTB				*e*S	Sn	11 52 47.3	+2.3
AZAP	**Zapla**	**1.48**	**210**	*e*P	Pn	11 52 38.4	+1.7
AZAP				*e*S	Sn	11 52 48.7	-6.8
FSA	**Cafayete**	**3.53**	**206**	*e*P	Pn	11 53 07.0	+2.7
FSA				*e*S	Sn	11 53 47.1	+2.1
FSA				IAML		11 53 52.6	
	comp=Z,44nm,0.5s						

CSEM ***06*** *11:59:05.6±0.1, 46°39N×12°88E, h5km, ML2.9/16, Error ellipse: s-maj=2.2km s-min=1.4km az=13.0*
VIE ***06*** *11:59:05.8±0.2, 46°41N×12°88E, h8km, mb2.0/13, ML2.6/15, Error ellipse: s-maj=2.1km s-min=1.3km az=21.0*
ROM ***06*** *11:59:05.4±0.1, 46°39N×12°92E, h6km±1km, Md2.4/13, Ml2.4/11, Error ellipse: s-maj=1.8km s-min=1.3km az=176.0*
IASPEI ***06*** *11:59:06.2±0.8, 46°40N±0°02×12°89E±0°01, h10km±5km, Error ellipse: s-maj=2.4km s-min=2.0km az=9.2, GT5 selection from ISC bulletin GT5 identified by Bond^jr and McLaughlin (2009) selection criteria Bond^jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISC 06 11:59:06.1±0.8, 46°39N±0°02×12°89E±0°01, h12km±4km, n93, σ0°67/140, **6C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.08**	**71**	⇑*iPg*	**Pg**	**11 59 08.4**	**-0.3**
FUSE				*i* Sg	**Sg**	**11 59 10.5**	**-0.2**
FUSE	**Fusea**	**0.08**	**71**	*i* Pg	**Pg**	**11 59 08.4**	**-0.3**
FUSE				*i* Sg	**Sg**	**11 59 10.5**	**-0.2**
MPRI	**Monte Prat**	**0.16**	**155**	⇓*ePg*	**Pg**	**11 59 09.5**	**-0.4**
MPRI				*e*Sg	**Sg**	**11 59 12.8**	**+0.3**
MPRI	**Monte Prat**	**0.16**	**155**	*ePg*	**Pg**	**11 59 09.5**	**-0.4**
MPRI				*e*Sg	**Sg**	**11 59 12.8**	**+0.3**
ZOU	**Zoufplan**	**0.18**	**19**	⇓*ePg*	**Pg**	**11 59 10.0**	**-0.3**
ZOU				*e*Sg	**Sg**	**11 59 13.1**	**-0.1**
ZOU	**Zoufplan**	**0.18**	**19**	⇓*ePg*	**Pg**	**11 59 10.0**	**-0.3**
ZOU				*e*Sg	**Sg**	**11 59 13.1**	**-0.1**
ZOU	**Zoufplan**	**0.18**	**19**	*ePg*	**Pg**	**11 59 10.0**	**-0.3**
ZOU				*e*Sg	**Sg**	**11 59 13.1**	**-0.1**
STAL	**STALIGIAL**	**0.18**	**224**	Pg	**Pg**	**11 59 09.8**	**-0.3**
STAL				Sg	**Sg**	**11 59 13.1**	**+0.2**
	1μm,0.1s						
STAL	**STALIGIAL**	**0.18**	**224**	Pg	**Pg**	**11 59 09.8**	**-0.3**
STAL				Sg	**Sg**	**11 59 13.1**	**+0.2**
	1μm,0.1s						
FVI	**Forni Avoltri**	**0.22**	**340**	Pg	**Pg**	**11 59 10.5**	**-0.4**
FVI				Sg	**Sg**	**11 59 14.0**	**-0.2**
	515nm,0.2s						
FVI	**Forni Avoltri**	**0.22**	**340**	Pg	**Pg**	**11 59 10.5**	**-0.4**
FVI				Sg	**Sg**	**11 59 14.0**	**-0.2**
	515nm,0.2s						
BUA	**Buia**	**0.23**	**136**	⇑*ePg*	**Pg**	**11 59 10.7**	**-0.4**
BUA			

SABO M.te Sabotino 0.64 129 Pg **Pg 11 59 18.0 -0.6**
comp=Z,109nm,0.3s
VARN Col Varnada, M 0.67 234 *e*Pg **Pg 11 59 18.2 -1.0**
VARN Col Varnada, M 0.67 234 *e*Pg **Pg 11 59 18.2 -1.0**
KBA Koelnbreinsper 0.76 24 Pg **Pg 11 59 20.4 -0.4**
comp=Z,1.8nm,0.1s,SNR=23
KBA Sg **Sg 11 59 30.2 -0.6**
comp=Z,22nm,0.1s
VOJS Vojsko 0.78 117 *i* Pg **Pg 11 59 19.7 -1.4**
comp=Z,18nm,0.1s
VOJS Vojsko 0.78 117 *i* Pg **Pg 11 59 19.7 -1.4**
comp=Z,18nm,0.1s
RISI Rein 0.79 315 Pg **Pg 11 59 21.0 -0.5**
RISI Sg **Sg 11 59 31.8 -0.1**
comp=Z,181nm,0.3s
RISI Rein 0.79 315 Pg **Pg 11 59 21.0 -0.5**
RISI Sg **Sg 11 59 31.8 -0.1**
comp=Z,181nm,0.3s
TRI Trieste 0.91 138 *e*Pg **Pb 11 59 24.1 +0.2**
TRI Trieste 0.91 138 *e*Pg **Pb 11 59 24.1 +0.2**
CGRP Cima Grappa 0.91 237 *e*Pg **Pb 11 59 23.7 -0.3**
CGRP Cima Grappa 0.91 237 *e*Pg **Pb 11 59 23.7 -0.3**
JAVS Javornik 0.95 121 *i* Pg **Pg 11 59 22.7 -1.8**
comp=Z,10.0nm,0.1s
JAVS Javornik 0.95 121 *i* Pg **Pg 11 59 22.7 -1.8**
comp=Z,10.0nm,0.1s
CRNS Crni Vrh 1.00 107 *i* Pg **Pg 11 59 24.6 -0.8**
comp=Z,29nm,0.1s
CRNS Crni Vrh 1.00 107 *i* Pg **Pg 11 59 24.6 -0.8**
comp=Z,29nm,0.1s
KOSI Kohlern 1.05 275 Pg **Pb 11 59 26.0 -0.3**
KOSI Sg **Sb 11 59 40.6 +0.5**
comp=Z,42nm,0.5s
KOSI Kohlern 1.05 275 Pg **Pb 11 59 26.0 -0.3**
KOSI Sg **Sb 11 59 40.6 +0.5**
comp=Z,42nm,0.5s
MOZS Mozjanca 1.08 94 *i* Pg **Pg 11 59 26.5 -0.4**
MOZS *i* Sg **Sn 11 59 43.7 +1.6**
comp=Z,10.0nm,0.1s
MOZS Mozjanca 1.08 94 *i* Pg **Pg 11 59 26.5 -0.4**
MOZS *i* Sg **Sn 11 59 43.7 +1.6**
comp=Z,10.0nm,0.1s
PANI Panarotta 1.13 253 *e*Pg **Pb 11 59 27.9 +0.1**
ABSI Aberstueckl 1.14 288 Pg **Pb 11 59 27.6 -0.2**
comp=Z,76nm,0.4s
ABSI Aberstueckl 1.14 288 Pg **Pb 11 59 27.6 -0.2**
comp=Z,76nm,0.4s
SKDS Skadanscina 1.15 137 *i* Pg **Pg 11 59 27.6 -0.6**
SKDS *i* Sg **Sn 11 59 44.9 +1.1**
comp=Z,15nm,0.1s
SKDS Skadanscina 1.15 137 *i* Pg **Pg 11 59 27.6 -0.6**
SKDS *i* Sg **Sn 11 59 44.9 +1.1**
comp=Z,15nm,0.1s
OBKA Obir 1.15 83 Pg **Pn 11 59 28.3 +0.1**
comp=Z,4.1nm,0.2s
OBKA Sg **Sn 11 59 45.0 +1.0**
comp=Z,24nm,0.3s
ROSI Rosskopf 1.15 298 Pg **Pg 11 59 27.7 -0.6**
comp=Z,49nm,0.5s
ROSI Rosskopf 1.15 298 Pg **Pg 11 59 27.7 -0.6**
comp=Z,49nm,0.5s
APPI Appiano 1.15 275 Pg **Pb 11 59 27.8 -0.3**
comp=Z,75nm,0.6s
APPI Appiano 1.15 275 Pg **Pb 11 59 27.8 -0.3**
comp=Z,75nm,0.6s
WTTA Wattenberg 1.23 316 Pg **Pb 11 59 29.3 -0.1**
WTTA Wattenberg 1.23 316 Pg **Pb 11 59 29.3 -0.1**
OZOL Ozolo 1.27 271 *e*Pg **Pn 11 59 30.1 +0.2**
OZOL Ozolo 1.27 271 *e*Pg **Pn 11 59 30.1 +0.2**
WATA Walderalm 1.31 317 Pg **Pb 11 59 31.1 +0.3**
comp=Z,4.4nm,0.2s,SNR=6.6
ROVR Rover¯¤ Verone 1.47 240 Pg **Pb 11 59 33.4 0.0**
ROVR Rover¯¤ Verone 1.47 240 Pg **Pb 11 59 33.4 0.0**
SOKA Soboth 1.51 78 Pg **Pn 11 59 32.8 -0.3**
comp=Z,1.0nm,0.2s
SOKA Sg **Sg 11 59 54.7 +0.1**
comp=Z,3.3nm,0.3s
CARE Lago del Cares 1.52 272 *e*Pg **Pb 11 59 34.2 -0.2**
CARE Lago del Cares 1.52 272 *e*Pg **Pb 11 59 34.2 -0.2**
MOTA Moosalm 1.56 309 Pg **Pg 11 59 36.1 +0.1**
SNR=4.7
FETA Feichten 1.62 294 Pg **Pg 11 59 36.2 -1.0**
comp=Z,1.8nm,0.2s,SNR=7.6
FETA Sg **Sg 11 59 57.4 -0.8**
comp=Z,7.8nm,0.4s,SNR=5.3
MOSI Grossmontoni 1.63 279 Pg **Pb 11 59 36.3 0.0**
comp=Z,110nm,0.8s
MOSI Grossmontoni 1.63 279 Pg **Pb 11 59 36.3 0.0**
comp=Z,110nm,0.8s
RETA Reutte 1.83 308 Pg **Pg 11 59 40.2 -1.0**
comp=Z,9.4nm,0.3s,SNR=5.2
RETA Sg **Sg 12 00 06.4 +1.6**
comp=Z,9.6nm,0.3s
OZLJ Ozalj 1.96 112 *e*Pn **Pn 11 59 39.0 -0.2**
OZLJ Ozalj 1.96 112 *e*Pn **Pn 11 59 38.9 -0.2**
DAVA Damuels 2.25 295 Pg **Pb 11 59 47.3 +0.4**
comp=Z,1.4nm,0.1s
DAVA Sn **Sn 12 00 12.6 +1.4**
comp=Z,16nm,0.3s
NVLJ Novalja 2.30 142 *e*Pn **Pn 11 59 43.8 0.0**
NVLJ Novalja 2.30 142 *e*Pn **Pn 11 59 43.8 0.0**

*VIE **06** 12:05:56.1±0.5, 46°.39N×12°.86E, h8km, mb1.1/3, ML1.9/5, Error ellipse: s-maj=4.4km s-min=2.1km az=19.0*
*CSEM **06** 12:05:56.2±0.1, 46°.39N×12°.88E, h5km, ML1.8, Error ellipse: s-maj=2.4km s-min=1.7km az=19.0*
ROM 06 12:05:55.7±0.1, 46°.40N×12°.91E, h5km±2km, Md2.2/5, Ml1.8/4, 3C-2D, Error ellipse: s-maj=1.6km s-min=1.5km az=173.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.07**	**73**	⇓*e*P	Pg	12 05 58.8	+1.6
FUSE				*e*Sg	Sg	12 06 00.8	+2.6
FUSE	**Fusea**	**0.07**	**73**	*e*Pg	Pg	12 05 58.8	+1.6
ZOU	**Zoufplan**	**0.17**	**15**	⇓*e*Pg	Pg	12 06 00.4	+1.3
ZOU				*e*Sg	Sg	12 06 03.6	+2.3
STAL	**STALIGIAL**	**0.19**	**226**	Pg	Pg	12 06 00.2	+0.7
STAL				Sg	Sg	12 06 03.5	+1.4
292nm,0.2s							
STAL	**STALIGIAL**	**0.19**	**226**	Pg	Pg	12 06 00.2	+0.7
STAL				Sg	Sg	12 06 03.5	+1.4
292nm,0.2s							
FVI	**Forni Avoltri**	**0.22**	**336**	Pg	Pg	12 06 01.0	+0.9
FVI				Sg	Sg	12 06 04.4	+1.4
198nm,0.2s							
FVI	**Forni Avoltri**	**0.22**	**336**	Pg	Pg	12 06 01.0	+0.9
FVI				Sg	Sg	12 06 04.4	+1.4
198nm,0.2s							
VINO	**Villanova**	**0.29**	**118**	⇑*e*Pg	Pg	12 06 02.0	+0.6
VINO				*e*Sg	Sb	12 06 07.3	-1.4
VINO	**Villanova**	**0.29**	**118**	*e*Pg	Pg	12 06 02.0	+0.7
VINO				*e*Sg	Sb	12 06 07.3	-1.3
PTCC	**Patocco-Chiusa**	**0.31**	**88**	Pg	Pg	12 06 02.5	+0.9
PTCC				Sg	Sb	12 06 07.8	-1.3
38nm,0.2s							
PTCC	**Patocco-Chiusa**	**0.31**	**88**	Pg	Pg	12 06 02.5	+0.9
PTCC				Sg	Sb	12 06 07.8	-1.3
38nm,0.2s							
CIMO	**Cimolais**	**0.34**	**256**	⇑*e*Pg	Pg	12 06 02.4	+0.2
CIMO				*e*Sg	Sg	12 06 07.1	+0.4
CIMO	**Cimolais**	**0.34**	**256**	*e*Pg	Pg	12 06 02.4	+0.2
CIMO				*e*Sg	Sg	12 06 07.1	+0.4
ROBS	**Robic**	**0.44**	**110**	*i* Pg	Pg	12 06 04.3	+0.1
ROBS				*i* Sg	Sb	12 06 12.0	-0.9
comp=Z,12nm,0.1s							
ROBS	**Robic**	**0.44**	**110**	*i* Pg	Pg	12 06 04.3	+0.1
ROBS				*i* Sg	Sb	12 06 12.0	-0.9
comp=Z,12nm,0.1s							
ACOM	**Acomizza, Ital**	**0.44**	**70**	Pg	Pg	12 06 05.2	+0.9
ACOM				Sg	Sb	12 06 12.9	-0.3
comp=Z,41nm,0.3s							
ACOM	**Acomizza, Ital**	**0.44**	**70**	⇑*e*Pg	Pg	12 06 05.2	+0.9
ACOM				*e*Sg	Sb	12 06 12.5	-0.6
ACOM	**Acomizza, Ital**	**0.44**	**70**	Pg	Pg	12 06 05.2	+0.9
ACOM				Sg	Sb	12 06 12.9	-0.3
comp=Z,41nm,0.3s							
ABTA	**Abfaltersbach**	**0.45**	**322**	Pg	Pg	12 06 05.1	+0.8
comp=Z,3.9nm,0.1s							
ABTA				Sg	Sg	12 06 10.8	+0.6
comp=Z,26nm,0.2s							
DRE	**Drenchia**	**0.55**	**113**	*e*Pg	Pg	12 06 06.8	+0.5
DRE				*e*Sg	Sb	12 06 15.8	-0.4
DRE	**Drenchia**	**0.55**	**113**	*e*Pg	Pg	12 06 06.8	+0.5
DRE				*e*Sg	Sb	12 06 15.8	-0.4
MYKA	**Terra Mystica**	**0.56**	**65**	Pg	Pb	12 06 07.4	-0.6
comp=Z,1.5nm,0.2s							
MYKA				Sg	Sb	12 06 16.8	+0.5
comp=Z,4.4nm,0.1s							
CADS	**Cadrg**	**0.60**	**106**	*i* Pg	Pg	12 06 07.2	0.0
CADS				*i* Sg	Sb	12 06 16.8	-0.6
comp=Z,14nm,0.2s							
CADS	**Cadrg**	**0.60**	**106**	*i* Pg	Pg	12 06 07.2	+0.1
CADS				*i* Sg	Sb	12 06 16.8	-0.6
comp=Z,14nm,0.2s							
SABO	**M.te Sabotino**	**0.63**	**131**	Pg	Pg	12 06 08.5	+0.7
SABO				Sg	Sb	12 06 19.7	+1.2
SABO	**M.te Sabotino**	**0.63**	**131**	*e*Pg	Pg	12 06 08.4	+0.6
SABO	**M.te Sabotino**	**0.63**	**131**	Pg	Pg	12 06 08.5	+0.7
VARN	**Col Varnada, M**	**0.69**	**235**	*e*Pg	Pg	12 06 09.1	+0.2
VARN	**Col Varnada, M**	**0.69**	**235**	*e*Pg	Pg	12 06 09.1	+0.2
KBA	**Koelnbreinsper**	**0.75**	**23**	Pg	Pb	12 06 10.8	-0.5
comp=Z,0.6nm,0.1s							
KBA				Sg	Sg	12 06 20.6	+0.9
comp=Z,6.7nm,0.1s							
JAVS	**Javornik**	**0.94**	**122**	*i* Pg	Pb	12 06 14.9	+0.2
comp=Z,12nm,0.1s							
JAVS	**Javornik**	**0.94**	**122**	*i* Pg	Pb	12 06 14.9	+0.2
comp=Z,12nm,0.1s							
SKDS	**Skadanscina**	**1.15**	**137**	*i* Pg	Pn	12 06 18.5	0.0
SKDS				*i* Sg	Sn	12 06 34.8	+0.2
comp=Z,11nm,0.1s							
SKDS	**Skadanscina**	**1.15**	**137**	*i* Pg	Pn	12 06 18.5	0.0
SKDS				*i* Sg	Sn	12 06 34.8	+0.2
comp=Z,11nm,0.1s							
WTTA	**Wattenberg**	**1.23**	**315**	Pg	Pb	12 06 19.7	+0.1
comp=Z,0.9nm,0.1s							
WTTA				Sg	Sb	12 06 35.9	0.0
comp=Z,9.9nm,0.3s							
FETA	**Feichten**	**1.63**	**293**	Pg	Pg	12 06 27.0	+0.1
comp=Z,0.3nm,0.1s							
NVLJ	**Novalja**	**2.29**	**142**	Sn	Sn	12 07 02.5	-0.2
NVLJ	**Novalja**	**2.29**	**142**	Sn	Sn	12 07 02.5	-0.3

SJA 06 12:13:55.2±0.4, 22°.72S×63°.73W, h10km, ML3.8, MW4.4, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.74**	**288**	*e*P	Pg	12 14 28.5	-0.1
YJA				*e*S	Sg	12 14 53.3	+1.9
AZAP	**Zapla**	**1.94**	**219**	*e*P	Pb	12 14 30.7	-0.1
AZAP				*e*S	Sn	12 14 38.3	-15
AZAP				IAML		12 14 41.5	
comp=Z,1μm,0.6s							
FSA	**Cafayete**	**3.95**	**211**	*e*P	Pn	12 14 59.6	+3.5
FSA				*e*S	Sn	12 15 29.4	-13
FSA				IAML		12 15 31.9	
comp=Z,95nm,0.5s							

*ISCJB **06** 12:15:15.3±0.3, 50°.13N±0°.05×150°.55E±0°.07, h400km, mb3.5/11, Error ellipse: s-maj=8.4km s-min=3.7km az=143.6*
*SKHL **06** 12:15:15.2±0.8, 49°.93N×150°.80E, h411km±7km, mb4.5/4, msh4.7/5*
*MOS **06** 12:15:15.2±1.2, 50°.12N×150°.52E, h407km, mb3.9/5, Error ellipse: s-maj=16.3km s-min=7.2km az=61.5*
*KRSC **06** 12:15:16.8±2.2, 49°.66N×151°.56E, h402km±57km, ML4.4*
*IDC **06** 12:15:17.4±1.4, 50°.14N×150°.61E, h418km±16km, mb3.2/11, mb1 3.4/16, mb1mx3.2/51, mbtmp4.0/16, Error ellipse: s-maj=16.9km s-min=10.6km az=129.0*
ISC 06 12:15:15.4±0.5, 50°.06N±0°.06×150°.73E±0°.06, h400km, n64, σ1§79/74, mb3.6/11, 4C-3D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.50**	**78**	PN	**Pn**	**12 16 24.6**	**+1.7**
SKR	**Severo-Kuril's**	**3.50**	**78**	*e*P	**Pn**	**12 16 24.5**	**+1.7**
SKR				AMB	AMB	12 16 27.8	
300nm,3.0s							
SKR				*e*S	**S**	**12 17 18.3**	**+0.8**
SKR				A	A	12 17 28.0	
300nm,2.5s							
SKR	**Severo-Kuril's**	**3.50**	**78**	*e*P	**Pn**	**12 16 24.6**	**+1.7**
PAU	**Pauzhetka**	**4.11**	**68**	*e*P	**Pn**	**12 16 30.5**	**+2.1**
PAU				AMB	AMB	12 16 31.0	
110nm,0.6s							
PAU				*e*S	**S**	**12 17 28.5**	**+0.8**
PAU				A	A	12 17 35.5	
330nm,0.8s							
APC	**Apacha**	**4.93**	**52**	PN	**Pn**	**12 16 38.0**	**+1.4**
APC	**Apacha**	**4.93**	**52**	*e*P	**Pn**	**12 16 38.0**	**+1.4**
KUR	**Kuril'sk**	**5.21**	**203**	⇑*i*PN	**Pn**	**12 16 40.4**	**+0.8**
KUR				*e*S	**S**	**12 17 52.6**	**+4.6**
KUR				pmax	pmax		
comp=Z,52nm,0.8s							
KUR				pmax	pmax		
comp=N,18nm,0.3s							
KUR				smax	smax		
comp=N,13nm,0.8s							
KUR				smax	smax		
comp=E,12nm,0.7s							
KUR	**Kuril'sk**	**5.21**	**203**	*e*P	**Pn**	**12 16 40.3**	**+0.7**
KUR				AMB	AMB	12 16 41.6	
comp=E,70nm,0.9s							
KUR				AMB	AMB	12 16 45.4	
comp=E,100nm,3.0s							
KUR				*e*S	**S**	**12 17 47.3**	**-0.7**
KUR				A	A	12 17 54.0	
comp=E,400nm,3.0s							
TYV	**Tymovskoe**	**5.22**	**282**	*e*P	**Pn**	**12 16 42.3**	**+2.7**
PETK	**Petropavlovsk-Kamchatskiy**	**5.31**	**52**	P	**Pn**	**12 16 42.3**	**+1.8**
comp=E,1.6nm,0.3s,baz=224,slow=6.5,SNR=25							
KRMR	**Karymshinskiy**	**5.39**	**56**	PN	**Pn**	**12 16 42.8**	**+1.4**
KRMR	**Karymshinskiy**	**5.39**	**56**	*e*P	**Pn**	**12 16 42.8**	**+1.4**
RUS	**Russkaya**	**5.43**	**61**	PN	**Pn**	**12 16 42.9**	**+1.1**
RUS				S	**S**	**12 17 47.6**	**-4.6**
RUS	**Russkaya**	**5.43**	**61**	*e*P	**Pn**	**12 16 42.9**	**+1.1**
RUS				*e*S	**S**	**12 17 47.6**	**-4.6**
GNL	**Ganaly**	**5.76**	**48**	PN	**Pn**	**12 16 47.1**	**+1.7**
GNL	**Ganaly**	**5.76**	**48**	*e*P	**Pn**	**12 16 47.1**	**+1.7**
PET	**Petropavlovsk**	**5.76**	**56**	⇓*i*PN	**Pn**	**12 16 47.2**	**+1.9**
PET	**Petropavlovsk**	**5.76**	**56**	*e*P	**Pn**	**12 16 47.1**	**+1.8**
PET				AMB	AMB	12 16 56.9	
comp=E,300nm,4.0s							
PET				*e*S	**S**	**12 17 59.2**	**+0.6**
PET				A	A	12 18 00.5	
comp=E,9.0nm,0.4s							
PET				A	A	12 18 01.5	
comp=E,200nm,3.0s							
DALK	**Dalny**	**5.82**	**56**	PN	**Pn**	**12 16 47.6**	**+1.7**
DALK	**Dalny**	**5.82**	**56**	*e*P	**Pn**	**12 16 47.6**	**+1.7**
AVH	**Avacha**	**5.92**	**54**	PN	**Pn**	**12 16 50.5**	**+3.3**
AVH	**Avacha**	**5.92**	**54**	*e*P	**Pn**	**12 16 50.5**	**+3.3**
SDLR	**Sedlovina**	**6.01**	**54**	PN	**Pn**	**12 16 50.9**	**+2.8**
SDLR				S	**S**	**12 18 01.6**	**-2.1**
SDLR	**Sedlovina**	**6.01**	**54**	*e*P	**Pn**	**12 16 50.9**	**+2.8**
SDLR				*e*S	**S**	**12 18 01.6**	**-2.1**
YSS	**Yuzh-Sakhalins**	**6.14**	**243**	*e*P	**Pn**	**12 16 49.8**	**+0.2**
SPN	**Mys Shipunski**	**6.54**	**59**	PN	**Pn**	**12 16 54.1**	**+0.3**
SPN	**Mys Shipunski**	**6.54**	**59**	*e*P	**Pn**	**12 16 54.1**	**+0.3**
SPN				*e*S	S	12 18 07.1	-7.0
SHO	**Shikotan**	**6.74**	**205**	*e*PN	Pn	12 16 53.5	-2.8
SHO				*e*S	S	12 18 11.8	-6.7
SHO				pmax	pmax		
comp=Z,48nm,0.4s							
SHO				pmax	pmax		
comp=N,44nm,0.6s							
SHO				pmax	pmax		
comp=E,19nm,0.2s							
SHO	**Shikotan**	**6.74**	**205**	*e*P	Pn	12 16 53.4	-2.9
SHO				AMB	AMB	12 16 55.2	
comp=E,50nm,0.3s							
SHO				AMB	AMB	12 17 06.2	
comp=E,300nm,2.0s							
SHO				*e*S	S	12 18 11.5	-7.0
SHO				A	A	12 18 11.9	
comp=E,100nm,2.0s							
SHO				A	A	12 18 15.0	
comp=E,80nm,0.3s							
SHO				A	A	12 18 15.0	
comp=E,100nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**6.88**	**211**	*e*PN	**Pn**	**12 16 57.7**	**-0.1**
YUK				*e*S	**S**	**12 18 18.0**	**-3.4**
YUK				pmax	pmax		
comp=Z,262nm,0.3s							
YUK				pmax	pmax		
comp=E,25nm,0.2s							
YUK				pmax	pmax		
comp=N,69nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**6.88**	**211**	*e*P	**Pn**	**12 16 57.8**	**-0.1**
YUK				AMB	AMB	12 16 58.6	
comp=N,300nm,0.2s							
YUK				*e*S	**S**	**12 18 20.6**	**-0.8**
YUK				A	A	12 18 26.2	
comp=N,400nm,1.0s							
YUK				A	A	12 18 26.2	
comp=N,900nm,2.0s							
YUK				A	A	12 18 26.2	
comp=N,700nm,2.0s							
ASAJ	**Asahikawa**	**8.13**	**226**	P	**Pn**	**12 17 13.6**	**+1.6**
comp=N,0.7nm,0.3s,baz=68,slow=6.1,SNR=10.0							
MA2	**Magadan**	**9.53**	**0**	P	**Pn**	**12 17 29.3**	**+1.6**
comp=N,1.5nm,0.3s,baz=183,slow=12,SNR=10							
MA2	**Magadan**	**9.53**	**0c**	*i*PN	**Pn**	**12 17 29.2**	**+1.4**
MA2	**Magadan**	**9.53**	**0**	*e*P	**Pn**	**12 17 29.2**	**+1.4**
ERM	**Erimo**	**9.61**	**216**	⇑*e*PN	**P**	**12 17 27.8**	**-0.9**
ERM	**Erimo**	**9.61**	**216**	*e*P	**P**	**12 17 27.8**	**-0.9**
HABR	**Khabarovsk**	**10.37**	**267**	*e*PN	**P**	**12 17 35.7**	**-1.3**
HABR				*e*S	**S**	**12 19 31.9**	**-1.9**
HABR				pmax	pmax		
comp=Z,16nm,1.8s							
HABR				pmax	pmax		
comp=E,43nm,1.9s							
HABR				pmax	pmax		
comp=N,5.0nm,0.6s							
HABR				pmax	pmax		
comp=Z,24nm,2.2s							
HABR				MLR	MLR		
comp=Z,43nm,14.0s							
SEY	**Seymchan**	**12.94**	**3**	P	**Pn**	**12 18 07.2**	**+0.1**
comp=Z,1.5nm,0.3s,baz=186,slow=8.6,SNR=12							
SEY	**Seymchan**	**12.94**	**3**	⇑*e*PN	**Pn**	**12 18 07.4**	**+0.3**
SEY	**Seymchan**	**12.94**	**3**	*e*P	**Pn**	**12 18 07.4**	**+0.3**
MAJO	**Matsushiro**	**16.27**	**219**	⇓*e*P	**P**	**12 18 43.9**	**+2.3**
MAJO	**Matsushiro**	**16.27**	**219**	*e*P	**P**	**12 18 40.8**	**-0.8**
MAT	**Matsushiro**	**16.27**	**219**	P	**P**	**12 18 43.4**	**+1.8**
MJAR	**Matsushiro Arr**	**16.27**	**219**	P	**P**	**12 18 43.6**	**+2.1**
comp=Z,0.7nm,0.3s,baz=22,slow=11,SNR=13							
KSRS	**Korea Array**	**20.64**	**241**	P	**P**	**12 19 26.9**	**+1.4**
comp=Z,0.9nm,0.7s,baz=36,slow=11,SNR=6.3							
KSRS	**Korea Array**	**20.64**	**241**	P	**P**	**12 19 27.0**	**+1.4**
KSRS				pmax	pmax		
comp=Z,3.0nm,0.7s							
ULN	**Ulaanbaatar**	**28.46**	**283**	⇓*e*P	**P**	**12 20 35.5**	**-0.1**
ULN				pmax	pmax		
comp=Z,7.0nm,2.1s							
ULN	**Ulaanbaatar**	**28.46**	**283**	*e*P	**P**	**12 20 35.5**	**-0.1**
COLA	**College**	**34.61**	**41**	*e*P	**P**	**12 21 29.3**	**+1.1**
ILAR	**Eielson Array**	**35.03**	**41**	P	**P**	**12 21 32.2**	**+0.4**
comp=Z,1.9nm,0.8s,baz=257,slow=5.5,SNR=26							
ILAR	**Eielson Array**	**35.03**	**41**	P	**P**	**12 21 32.2**	**+0.4**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**35.03**	**41**	*e*P	**P**	**12 21 32.1**	**+0.3**
MKAR	**Makanchi Array**	**44.09**	**293**	P	**P**	**12 22 46.0**	**+0.3**
comp=Z,0.9nm,0.6s,baz=70,slow=7.9,SNR=7.3							
YKA	**Yellowknife Ar**	**49.24**	**38**	P	**P**	**12 23 25.0**	**+0.3**
comp=Z,1.9nm,0.4s,baz=302,slow=6.7,SNR=14							
ARCES	**ARCESS Array B**	**54.19**	**339**	P	**P**	**12 24 00.5**	**-0.3**
comp=Z,4.3nm,1.0s,baz=21,slow=7.7,SNR=2.7							
FINES	**FINESS Array B**	**60.36**	**333**	P	**P**	**12 24 42.7**	**-0.7**
comp=Z,1.2nm,0.3s,baz=30,slow=7.0,SNR=16							
PDAR	**Pinedale Array**	**64.07**	**54**	P	**P**	**12 25 09.1**	**+0.7**
comp=Z,0.6nm,0.6s,baz=316,slow=1.6,SNR=7.6							
AKASG	**Malin Array Be**	**67.92**	**324**	*e*P	**P**	**12 25 30.6**	**-1.5**
comp=Z,0.8nm,0.5s,baz=34,slow=5.5,SNR=4.2							
AKASG	**Malin Array Be**	**67.92**	**324**	*e*P	**P**	**12 25 30.9**	**-1.2**
WRA	**Warramunga Arr**	**71.19**	**196**	P	**P**	**12 25 52.1**	**-0.1**
comp=Z,0.3nm,0.6s,baz=8.2,slow=6.7,SNR=4.5							
ASAR	**Alice Springs**	**74.91**	**196**	P	**P**	**12 26 14.5**	**+0.9**
comp=Z,0.6nm,0.5s,baz=10,slow=5.2,SNR=8.5							
BFO	**Black Forest**	**76.78**	**335**	*i* P	**P**	**12 26 21.4**	**-2.5**
TXAR	**Lajitas Array**	**77.21**	**60**	P	**P**	**12 26 27.8**	**+1.1**
comp=Z,0.4nm,0.7s,baz=306,slow=3.4,SNR=4.9							

BUC 06 12:22:18.5±0.4, 45°.39N×27°.17E, h8km±6km, MD2.2/2, 14C-2D, Error ellipse: s-maj=6.0km s-min=2.7km az=29.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRER		**0.14**	**266**	⇑*i*P	Pg	12 22 21.9	+0.4
GRER		**0.14**	**266**	⇑*i*P	Pg	12 22 21.9	+0.4
VRI	**Vrincioaia**	**0.57**	**327**	⇑*i*P	Pb	12 22 30.5	-0.2
VRI				*i* S	Sb	12 22 38.8	-0.2
VRI	**Vrincioaia**	**0.57**	**327**	⇑*i*P	Pb	12 22 30.5	-0.2
PLOR	**Plostina**	**0.59**	**322**	⇑*i*P	Pb	12 22 30.5	-0.6
PLOR				*i* S	Sb	12 22 40.0	+0.4
PLOR	**Plostina**	**0.59**	**322**	⇑*i*P	Pb	12 22 30.5	-0.6
CFR	**Carcaliu**	**0.71**	**107**	⇑*i*P	Pb	12 22 33.0	-0.2
CFR				*i* S	Sn	12 22 44.6	-1.4
CFR	**Carcaliu**	**0.71**	**107**	⇑*i*P	Pb	12 22 33.0	-0.2
MLR	**Muntele Rosu**	**0.87**	**277**	⇑*i*P	Pb	12 22 36.2	+0.3
MLR				*i* S	Sn	12 22 49.5	-0.5
MLR	**Muntele Rosu**	**0.87**	**277**	⇑*i*P	Pb	12 22 36.2	+0.3
TLB	**Topalu**	**1.01**	**142**	⇑*i*P	Pn	12 22 38.8	-0.2
TLB				*i* S	Sn	12 22 54.5	+1.1
TLB	**Topalu**	**1.01**	**142**	⇑*i*P	Pn	12 22 38.8	-0.2
TIRR	**Tirgusor**	**1.28**	**136**	⇑*i*P	Pg	12 22 43.5	+0.4
TIRR				*i* S	Sn	12 23 01.8	+1.7
TIRR	**Tirgusor**	**1.28**	**136**	⇑*i*P	Pg	12 22 43.5	+0.4
VOIR		**1.49**	**273**	⇓*i*P	Pb	12 22 46.3	-0.2
VOIR				*i* S	Sg	12 23 07.9	+1.4
VOIR		**1.49**	**273**	⇓*i*P	Pb	12 22 46.3	-0.2

*IDC **06** 12:30:18.1±1.1, 36°.12N×141°.93E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/42, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=25.4km s-min=19.1km az=84.0*
*ISCJB **06** 12:30:19.4±0.7, 36°.21N±0°.04×142°.01E±0°.07, h23km, mb3.5/6, Error ellipse: s-maj=8.0km s-min=5.9km az=16.6*
*JMA **06** 12:30:21.6±0.2, 36°.22N×141°.82E, h58km, M3.6*
**ISC 06 12:30:21.1±1.0, 36°.15N±0°.05×141°.96E±0°.09, h23km, n21, σ1§11/26, mb3.5/6, Near east coast of eastern

*SOME **06** 12:37:38.4, 41°.38N×71°.83E, h0km*
*NNC **06** 12:37:41.8±6.5, 41°.54N×72°.16E, h0km, mb2.7, mpv2.1, Error ellipse: s-maj=46.4km s-min=36.4km az=153.0*

ISC 06 12:37:35.2±1.2, 41°.29N±0°.04×71°.95E±0°.03, h11km±12km, n11, σ1§22/20, 9C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.51**	**1**	⇑*iP*	**Pb**	**12 37 44.9**	**-1.4**
	baz=29						
ARK				⇑*iS*	**Sg**	**12 37 51.2**	**-0.7**
	baz=29						
MNAS	**Manas**	**1.26**	**19**	⇓*eP*	**Pn**	**12 37 58.8**	**-0.3**
	baz=29						
MNAS				⇓*iS*	**Sn**	**12 38 16.3**	**+0.1**
	baz=29						
MNAS	**Manas**	**1.26**	**19**	⇑P	**Pn**	**12 38 00.7**	**+1.6**
	0.3nm,0.2s						
MNAS				⇑S	**Sn**	**12 38 16.1**	**-0.1**
	2.4nm,0.4s						
BTK	**Batken**	**1.50**	**215**	⇑*eP*	**Pb**	**12 38 02.5**	**-0.8**
	baz=207						
BTK				⇑*iS*	**Sg**	**12 38 23.1**	**-0.5**
	baz=207						
AML	**Almayashu**	**1.55**	**57**	⇑*iP*	**Pg**	**12 38 05.1**	**+0.1**
	baz=63						
AML				⇑*iS*	**Sg**	**12 38 28.3**	**+3.1**
	baz=63						
IUG	**Iuzhnay**	**1.67**	**301**	*eP*	**Pg**	**12 38 08.7**	**+1.4**
	12nm,0.3s						
IUG				*eS*	**Sg**	**12 38 29.8**	**+0.7**
	40nm,0.3s						
MRKS	**Merke**	**1.73**	**33**	*eP*	**Pg**	**12 38 09.4**	**+0.8**
	2.0nm,0.2s						
MRKS				*eS*	**Sg**	**12 38 30.9**	**-0.1**
	16nm,0.3s						
ARLS	**Aral**	**1.87**	**71**	⇓*eP*	**Pg**	**12 38 10.4**	**-0.7**
	baz=76						
ARLS				⇓*eS*	**Sg**	**12 38 35.8**	**+0.5**
	baz=76						
EKS2	**Erkin-Say**	**1.93**	**44**	⇓*iP*	**Pb**	**12 38 09.7**	**-0.9**
	baz=50						
EKS2				⇓*iS*	**Sg**	**12 38 35.7**	**-1.6**
	baz=50						
KK31	**Karatay Array**	**2.10**	**330**	Pg	**Pg**	**12 38 14.8**	**-0.8**
	0.5nm,0.3s,baz=135,slow=14,SNR=14						
KK31				Lg	Lg	12 38 43.3	
	3.8nm,0.5s,baz=134,slow=23,SNR=7.5						
AAK	**Ala-Archa**	**2.32**	**54**	⇑Pn	**Pb**	**12 38 16.8**	**-0.5**
	1.5nm,0.6s						
AAK				⇓Lg	Lg	12 38 50.1	
	2.0nm,0.5s						

*ISCJB **06** 13:05:28.6±0.3, 45°.62N±0°.02×26°.60E±0°.03, h116km±3km, mb3.3/5, Error ellipse: s-maj=3.4km s-min=3.2km az=166.8*
*SIGU **06** 13:05:28.1, 45°.60N×26°.58E, h121km, mb3.1*
*BUC **06** 13:05:29.0±0.5, 45°.60N×26°.57E, h120km±5km, MD4.3/4, Error ellipse: s-maj=3.3km s-min=3.0km az=123.0*
*IDC **06** 13:05:29.7±0.8, 45°.60N×26°.42E, h109km±6km, mb3.2/5, mb1 3.2/9, mb1mx3.1/33, mbtmp3.6/9, Error ellipse: s-maj=26.5km s-min=16.7km az=135.0*

ISC 06 13:05:29.5±0.8, 45°.60N±0°.02×26°.59E±0°.03, h119km±4km, n102, σ1§18/146, mb3.4/5, 48C-26D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.25**	**10**	P	**Pn**	**13 05 45.7**	**-0.6**
PLOR				S	**Sn**	**13 05 57.3**	**-1.7**
PLOR	**Plostina**	**0.25**	**10**	⇓*iP*	**Pn**	**13 05 45.7**	**-0.6**
PLOR				*i* S	**Sn**	**13 05 57.5**	**-1.5**
PLOR	**Plostina**	**0.25**	**10**	⇓*iP*	**Pn**	**13 05 45.7**	**-0.6**
VRI	**Vrincioaia**	**0.28**	**21**	P	**Pn**	**13 05 46.0**	**-0.4**
VRI				S	**Sn**	**13 05 57.8**	**-1.4**
VRI	**Vrincioaia**	**0.28**	**21**	⇓*iP*	**Pn**	**13 05 46.0**	**-0.4**
VRI				*i* S	**Sn**	**13 05 57.7**	**-1.4**
VRI	**Vrincioaia**	**0.28**	**21**	⇓*iP*	**Pn**	**13 05 46.0**	**-0.4**
GRER		**0.35**	**129**	⇑*iP*	**Pn**	**13 05 46.9**	**+0.3**
GRER		**0.35**	**129**	⇑*iP*	**Pn**	**13 05 46.9**	**+0.3**
ODBI	**Odobesti**	**0.37**	**64**	⇓*iP*	**Pn**	**13 05 47.0**	**+0.3**
ODBI	**Odobesti**	**0.37**	**64**	⇓*iP*	**Pn**	**13 05 47.0**	**+0.3**
MLR	**Muntele Rosu**	**0.46**	**256**	P	**Pn**	**13 05 46.9**	**-0.5**
	6.6nm,0.3s,baz=24,slow=3.2,SNR=297						
MLR				S	**Sn**	**13 05 59.4**	**-1.4**
	153nm,0.3s,baz=254,slow=19,SNR=141						
MLR	**Muntele Rosu**	**0.46**	**256**	⇑*iP*	**Pn**	**13 05 46.9**	**-0.5**
MLR				*i* S	**Sn**	**13 05 59.6**	**-1.2**
MLR	**Muntele Rosu**	**0.46**	**256**	⇑*iP*	**Pn**	**13 05 46.9**	**-0.5**
PETR	**Petresti**	**0.47**	**75**	P	**Pn**	**13 05 47.2**	**0.0**
PETR				S	**Sn**	**13 06 00.0**	**-0.4**
PETR	**Petresti**	**0.47**	**75**	⇑*iP*	**Pn**	**13 05 47.2**	**0.0**
PETR				*i* S	**Sn**	**13 06 00.1**	**-0.4**
PETR	**Petresti**	**0.47**	**75**	⇑*iP*	**Pn**	**13 05 47.2**	**0.0**
ISR	**Istrita**	**0.48**	**184**	⇑*iP*	**Pn**	**13 05 46.9**	**-0.5**
ISR				*i* S	**Sn**	**13 06 00.7**	**-0.2**
ISR	**Istrita**	**0.48**	**184**	⇑*iP*	**Pn**	**13 05 46.9**	**-0.5**
SECR		**0.68**	**213**	⇑*iP*	**Pn**	**13 05 48.5**	**-0.2**
SECR				*i* S	**Sn**	**13 06 02.3**	**-0.8**
SECR		**0.68**	**213**	⇑*iP*	**Pn**	**13 05 48.5**	**-0.2**
PGOR	**Pogoanele**	**0.75**	**158**	⇑*iP*	**Pn**	**13 05 48.9**	**-0.3**
PGOR				*i* S	**Sn**	**13 06 03.6**	**-0.4**
PGOR	**Pogoanele**	**0.75**	**158**	⇑*iP*	**Pn**	**13 05 48.9**	**-0.3**
TESR	**Tescani**	**0.91**	**3**	P	**Pn**	**13 05 50.1**	**-0.5**
TESR				S	**Sn**	**13 06 04.8**	**-1.8**
TESR	**Tescani**	**0.91**	**3**	⇓*iP*	**Pn**	**13 05 50.1**	**-0.5**
TESR				*i* S	**Sn**	**13 06 04.8**	**-1.8**
TESR	**Tescani**	**0.91**	**3**	⇓*iP*	**Pn**	**13 05 50.1**	**-0.5**
DOPR	**Dopca**	**0.91**	**294**	⇓*iP*	**Pn**	**13 05 50.1**	**-0.6**
DOPR				*i* S	**Sn**	**13 06 05.1**	**-1.6**
DOPR	**Dopca**	**0.91**	**294**	⇓*iP*	**Pn**	**13 05 50.1**	**-0.6**
SULR		**0.95**	**194**	⇑*iP*	**Pn**	**13 05 50.8**	**-0.2**
SULR				*i* S	**Sn**	**13 06 06.7**	**-0.6**
SULR		**0.95**	**194**	⇑*iP*	**Pn**	**13 05 50.8**	**-0.2**
VOIR		**1.09**	**262**	⇓*iP*	**Pn**	**13 05 51.7**	**-0.8**
VOIR				*i* S	**Sn**	**13 06 07.9**	**-2.0**
VOIR		**1.09**	**262**	⇓*iP*	**Pn**	**13 05 51.7**	**-0.8**
AMRR	**Amara**	**1.12**	**152**	⇑*iP*	**Pn**	**13 05 52.4**	**-0.3**
AMRR				*i* S	**Sn**	**13 06 09.2**	**-1.1**
AMRR	**Amara**	**1.12**	**152**	⇑*iP*	**Pn**	**13 05 52.4**	**-0.3**
MTUR	**Matau**	**1.14**	**251**	⇓*iP*	**Pn**	**13 05 53.2**	**+0.2**
MTUR	**Matau**	**1.14**	**251**	⇓*iP*	**Pn**	**13 05 53.2**	**+0.2**
GIUM	**Giurgiulesti**	**1.15**	**95**	P	**Pn**	**13 05 52.8**	**-0.1**
GIUM				S	**Sn**	**13 06 10.4**	**-0.3**
CFR	**Carcaliu**	**1.17**	**111**	⇑*iP*	**Pn**	**13 05 52.3**	**-0.9**
CFR				*i* S	**Sn**	**13 06 08.8**	**-2.4**
CFR	**Carcaliu**	**1.17**	**111**	⇑*iP*	**Pn**	**13 05 52.3**	**-0.9**
BUC1	**Bucharest**	**1.32**	**198**	⇑*iP*	**Pn**	**13 05 54.2**	**-0.6**
BUC1				*i* S	**Sn**	**13 06 12.5**	**-1.5**
BUC1	**Bucharest**	**1.32**	**198**	⇑*iP*	**Pn**	**13 05 54.2**	**-0.6**
HARR	**Harsova**	**1.32**	**133**	⇑*iP*	**Pn**	**13 05 54.3**	**-0.5**
HARR	**Harsova**	**1.32**	**133**	⇑*iP*	**Pn**	**13 05 54.3**	**-0.5**
ARR	**Arges**	**1.39**	**261**	⇑*iP*	**Pn**	**13 05 55.3**	**-0.5**
ARR				*i* S	**Sn**	**13 06 15.1**	**-0.6**
ARR	**Arges**	**1.39**	**261**	⇑*iP*	**Pn**	**13 05 55.3**	**-0.5**
LEOM	**Leova**	**1.45**	**52**	P	**Pn**	**13 05 56.2**	**0.0**
LEOM				S	**Sn**	**13 06 15.8**	**-0.8**
LEOM	**Leova**	**1.45**	**52**	⇑*iP*	**Pn**	**13 05 56.2**	**0.0**
LEOM				*i* S	**Sn**	**13 06 15.9**	**-0.7**
LEOM	**Leova**	**1.45**	**52**	⇑*iP*	**Pn**	**13 05 56.2**	**0.0**
TLB	**Topalu**	**1.45**	**134**	⇑*iP*	**Pn**	**13 05 55.7**	**-0.6**
TLB				*i* S	**Sn**	**13 06 14.6**	**-2.0**
TLB	**Topalu**	**1.45**	**134**	⇑*iP*	**Pn**	**13 05 55.7**	**-0.6**
HUMR	**Humele**	**1.56**	**227**	⇑*iP*	**Pn**	**13 05 56.9**	**-0.8**
HUMR				*i* S	**Sn**	**13 06 17.3**	**-1.8**
HUMR	**Humele**	**1.56**	**227**	⇑*iP*	**Pn**	**13 05 56.9**	**-0.8**
TLCR		**1.62**	**104**	⇑*iP*	**Pn**	**13 05 58.3**	**0.0**
TLCR				*i* S	**Sn**	**13 06 19.3**	**-1.0**
TLCR		**1.62**	**104**	⇑*iP*	**Pn**	**13 05 58.3**	**0.0**
CVDA	**Cernavoda**	**1.64**	**140**	⇑*iP*	**Pn**	**13 05 58.1**	**-0.4**
CVDA				*i* S	**Sn**	**13 06 18.2**	**-2.3**
CVDA	**Cernavoda**	**1.64**	**140**	⇑*iP*	**Pn**	**13 05 58.1**	**-0.4**
IAS	**Iasi**	**1.73**	**23**	⇓*iP*	**Pn**	**13 05 59.5**	**-0.1**
IAS				*i* S	**Sn**	**13 06 21.1**	**-1.4**
IAS	**Iasi**	**1.73**	**23**	⇓*iP*	**Pn**	**13 05 59.5**	**-0.1**
TIRR	**Tirgusor**	**1.73**	**131**	⇑*iP*	**Pn**	**13 05 59.1**	**-0.5**
TIRR	**Tirgusor**	**1.73**	**131**	⇑*iP*	**Pn**	**13 05 59.1**	**-0.5**
LOT	**Lotru**	**1.99**	**267**	⇑*iP*	**Pn**	**13 06 02.1**	**-0.8**
LOT				*i* S	**Sn**	**13 06 27.7**	**-0.7**
LOT	**Lotru**	**1.99**	**267**	⇑*iP*	**Pn**	**13 06 02.1**	**-0.8**
MILM	**Milestii Mici**	**2.03**	**49**	P	**Pn**	**13 06 03.1**	**-0.1**
MILM				S	**Sn**	**13 06 27.5**	**-1.6**
MILM	**Milestii Mici**	**2.03**	**49**	⇓*iP*	**Pn**	**13 06 03.1**	**-0.1**
MILM				*i* S	**Sn**	**13 06 27.5**	**-1.6**
MILM	**Milestii Mici**	**2.03**	**49**	⇓*iP*	**Pn**	**13 06 03.1**	**-0.1**
KIS	**Kishinev**	**2.08**	**47**	P	**Pn**	**13 06 04.0**	**+0.1**
KIS				*i* S	**Sn**	**13 06 28.5**	**-1.8**
	820nm,0.5s						
KIS	**Kishinev**	**2.08**	**47**	*eP*	**Pn**	**13 06 04.0**	**+0.1**
KIS				*i* S	**Sn**	**13 06 28.5**	**-1.8**
KIS				Sm		13 06 29.0	
EFOR	**EFORIE**	**2.11**	**136**	⇑*iP*	**Pn**	**13 06 04.0**	**-0.2**
EFOR				*i* S	**Sn**	**13 06 29.4**	**-1.4**
EFOR	**EFORIE**	**2.11**	**136**	⇑*iP*	**Pn**	**13 06 04.0**	**-0.2**
MANR	**Mangalia**	**2.29**	**141**	⇑*iP*	**Pn**	**13 06 06.3**	**-0.2**
MANR				*i* S	**Sn**	**13 06 32.5**	**-2.4**
MANR	**Mangalia**	**2.29**	**141**	⇑*iP*	**Pn**	**13 06 06.3**	**-0.2**
SRE	**Strehaia**	**2.57**	**250**	⇑*iP*	**Pn**	**13 06 09.4**	**-0.8**
SRE	**Strehaia**	**2.57**	**250**	⇑*iP*	**Pn**	**13 06 09.4**	**-0.8**
CHRU	**Chernivtsi**	**2.73**	**351**	*eP*	**Pn**	**13 06 11.9**	**-0.4**
CHRU				*eS*	**Sn**	**13 06 44.5**	**-0.7**
SORM	**Soroca**	**2.81**	**25**	P	**Pn**	**13 06 12.6**	**-0.6**
SORM				S	**Sn**	**13 06 44.0**	**-2.9**
SORM	**Soroca**	**2.81**	**25**	⇓*iP*	**Pn**	**13 06 12.6**	**-0.6**
SORM				*i* S	**Sn**	**13 06 43.6**	**-3.3**
SORM	**Soroca**	**2.81**	**25**	⇓*iP*	**Pn**	**13 06 12.6**	**-0.6**
KSV	**Kosov**	**2.91**	**340**	P	**Pn**	**13 06 14.7**	**+0.2**
RAKU	**Rahkiv**	**2.94**	**326**	⇓*iP*	**Pn**	**13 06 15.1**	**+0.1**
RAKU				Pm		13 06 16.9	
RAKU				*eS*	**Sn**	**13 06 48.7**	**-1.3**
RAKU				Sm		13 06 52.5	
RAKU				Sm		13 06 52.5	
DRGR		**2.94**	**295**	⇑*iP*	**Pn**	**13 06 14.1**	**-1.0**
DRGR		**2.94**	**295**	⇑*iP*	**Pn**	**13 06 14.1**	**-1.0**
KMPD	**K-Podol'skiy**	**2.96**	**358**	⇑*iP*	**Pn**	**13 06 14.5**	**-0.7**
KMPD				*i* S	**Sn**	**13 06 47.8**	**-2.7**
NSLU	**Nyzhne Selyshc**	**2.98**	**331**	⇑*iP*	Pn	13 06 20.6	+5.2
NSLU				Pm		13 06 21.8	
NDNU	**Novodnistrovsk**	**3.04**	**10**	⇓*iP*	**Pn**	**13 06 15.7**	**-0.6**
NDNU				Pm		13 06 16.0	
NDNU				*i* S	**Sn**	**13 06 49.8**	**-2.5**
NDNU				Sm		13 06 51.8	
BZS	**Buzias**	**3.49**	**272**	⇓*iP*	**Pn**	**13 06 22.1**	**-0.1**
BZS	**Buzias**	**3.49**	**272**	⇓*iP*	**Pn**	**13 06 22.1**	**-0.1**
MEZ	**Mezhgor'ye**	**3.59**	**325**	*eP*	**Pn**	**13 06 23.7**	**+0.2**
MEZ				Pm		13 06 26.0	
HORU	**Horodok**	**3.62**	**358**	*eP*	**Pn**	**13 06 23.4**	**-0.4**
HORU				*i* S	**Sn**	**13 07 05.1**	**-0.8**
BRIU	**Brid**	**3.67**	**320**	*i P*	**Pn**	**13 06 24.4**	**-0.1**
BRIU				Pm		13 06 24.9	
VTS	**Vitosha**	**3.87**	**220**	⇓*iP*	**Pn**	**13 06 25.7**	**-1.8**
VTS				*i* S	**Sn**	**13 07 07.8**	**-4.5**
VTS	**Vitosha**	**3.87**	**220**	⇓*iP*	**Pn**	**13 06 25.7**	**-1.8**
MUKU	**Mukachevo**	**3.90**	**318**	*eP*	**Pn**	**13 06 28.0**	**+0.3**
MUKU				Pm		13 06 29.2	
MORS	**Morshin**	**3.98**	**334**	*i P*	**Pn**	**13 06 28.7**	**0.0**
SEV	**Sevastopol'**	**5.13**	**99**	*eP*	**Pn**	**13 06 43.3**	**-0.8**
SEV				Pm		13 06 46.9	
SEV				*eS*	**Sn**	**13 07 38.8**	**-3.3**
SEV				Sm		13 07 41.6	
AKASG	**Malin Array Be**	**5.40**	**18**	P	**Pn**	**13 06 46.9**	**-0.9**
	2.2nm,0.3s,baz=201,slow=13,SNR=5.3						
AKASG				S	**Sn**	**13 07 44.1**	**-4.6**
	10nm,0.3s,baz=252,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**15.87**	**359**	P	**P**	**13 09 07.6**	**+0.4**
	0.5nm,0.3s,baz=167,slow=12,SNR=14						
HFS	**Hagfors**	**16.45**	**337**	P	**P**	**13 09 14.9**	**+1.2**
	0.2nm,0.3s,baz=157,slow=15,SNR=3.2						
NOA	**NORSAR Array B**	**17.91**	**335**	P	**Pn**	**13 09 30.6**	**-0.1**
	0.2nm,0.3s,baz=148,slow=9.6,SNR=2.9						
ESDC	**Sonseca Array**	**23.15**	**266**	P	**P**	**13 10 24.5**	**-0.9**
	0.1nm,0.3s,baz=65,slow=9.4,SNR=2.7						
ARCES	**ARCESS Array B**	**24.00**	**359**	P	**P**	**13 10 33.7**	**+1.0**
	1.0nm,0.6s,baz=181,slow=11,SNR=6.3						
ZALV	**Zalesovo Beam**	**37.54**	**56**	P	**P**	**13 12 33.8**	**+2.1**
	0.7nm,0.4s,baz=286,slow=9.7,SNR=1.6						
MKAR	**Makanchi Array**	**37.89**	**68**	P	**P**	**13 12 36.3**	**+1.6**
	0.2nm,0.4s,baz=271,slow=8.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**38.62**	**221**	P	**P**	**13 12 41.9**	**+0.8**
	0.2nm,0.3s,baz=28,slow=9.0,SNR=5.1						

IDC 06 13:17:26.2±1.3, 57°.90N×33°.86W, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/33, mbtmp3.6/5, Error ellipse: s-maj=45.7km s-min=28.9km az=175.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**36.27**	**73**	P	P	13 24 29.0	-1.8
	0.2nm,0.3s,baz=302,slow=8.6,SNR=4.0						
BRTR	**Keskin Array B**	**45.91**	**83**	P	P	13 25 50.4	0.0
	0.6nm,0.4s,baz=331,slow=5.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**52.10**	**134**	P	P	13 26 38.2	+0.3
	0.9nm,0.7s,baz=342,slow=7.6,SNR=6.4						
TXAR	**Lajitas Array**	**55.04**	**270**	P	P	13 26 59.0	-0.5
	0.1nm,0.4s,baz=56,slow=4.9,SNR=3.9						
MKAR	**Makanchi Array**	**63.09**	**44**	P	P	13 27 56.0	+1.0
	0.1nm,0.3s,baz=322,slow=6.2,SNR=5.3						

*IDC **06** 13:59:17.8±0.5, 28°.99S×176°.62W, h0km, mb4.6/16, mb1 4.7/18, mb1mx4.7/22, mbtmp4.6/18, ML4.0/2, MS4.2/15, Ms1 4.2/15, ms1mx3.9/35, Error ellipse: s-maj=18.4km s-min=13.9km az=161.0*
*MOS **06** 13:59:21.3±1.1, 29°.02S×176°.84W, h27km, mb5.3/11, Error ellipse: s-maj=11.1km s-min=10.7km az=70.9*
*ISCJB **06** 13:59:22.1±0.3, 29°.14S±0°.05×176°.85W±0°.06, h36km, mb4.9/45, MS4.2/14, Error ellipse: s-maj=8.4km s-min=6.5km az=42.6*
*NEIC **06** 13:59:23.1±0.3, 29°.13S×176°.82W, h35km, mb4.9/31, Error ellipse: s-maj=8.3km s-min=6.1km az=131.0*
*GCMT **06** 13:59:23.1±0.4, 28°.94S×176°.38W, h17km±1km, MW5.0/64, Moment Tensor Solution. s27,c30; s64,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.15±.20; $M_{\theta\theta}$0.21±.12; $M_{\phi\phi}$-2.36±.13; $M_{r\theta}$-0.01±.35; $M_{r\phi}$-0.65±.08; $M_{\theta\phi}$2.54±.36; Best double couple: $M_0$3.45400×10^{16} NP1:ϕ_s3.00000°, δ69.00000°, λ81.00000°. NP2: ϕ_s206.00000°, δ23.00000°, λ112.00000°. Principal axes: T 3.3160, Plg65.0000°, Azm258.0000°; N 0.2750, Plg8.0000°, Azm6.0000°; P -3.5920, Plg24.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 13:59:23.1, 29°.20S×176°.90W, h35km, mb5.1/20, mB5.4/10, Ms4.9/6, Ms7 4.6/6*

ISC 06 13:59:22.7±0.4, 29°.24S±0°.06×176°.64W±0°.06, h36km, n153, σ1§91/153, mb5.0/46, MS4.4/15, 9C-8D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**269**	Pn	**Pn**	**13 59 42.7**	**+0.9**
	863nm,0.3s,baz=117,slow=4.8,SNR=26						
RAO				Sn	**Sn**	**14 00 00.8**	**+4.8**
	3μm,0.3s,baz=100,slow=23,SNR=13						
RAO	**Raoul Island**	**1.12**	**269**	*eP*	**Pn**	**13 59 41.0**	**-0.8**
RAO				*e*		13 59 58.8	
RAO	**Raoul Island**	**1.12**	**269**	*ePn*	**Pn**	**13 59 41.0**	**-0.8**
RAO				*eSn*	**Sn**	**13 59 58.8**	**+2.8**
OUZ	**Omahuta**	**10.19**	**232**	*ePn*	**Pn**	**14 01 51.1**	**+4.7**
URZ	**Urewera**	**10.39**	**208**	Pn	**Pn**	**14 01 44.8**	**-4.3**
	0.6nm,0.3s,baz=9.2,slow=9.5,SNR=4.5						
URZ				Sn	**Sn**	**14 03 40.7**	**-3.6**
	12nm,0.3s,baz=80,slow=21,SNR=11						
URZ	**Urewera**	**10.39**	**208**	*ePn*	**Pn**	**14 01 49.3**	**+0.2**
URZ				Sn	**Sn**	**14 03 40.7**	**-3.6**
MSVF	**Nonsavu**	**12.44**	**336**	*eP*	**Pn**	**14 02 14.1**	**-3.3**
MSVF	**Nonsavu**	**12.44**	**336**	*ePn*	**Pn**	**14 02 14.1**	**-3.3**
THZ	**Tophouse**	**15.11**	**211**	*ePn*	**Pn**	**14 02 55.0**	**+1.5**
	37nm,0.8s						
KHZ	**Kahutara**	**15.36**	**208**	*ePn*	**Pn**	**14 02 52.6**	**-4.0**
	44nm,0.7s						
AFI	**Afiamalu**	**15.90**	**17**	Pn	**Pn**	**14 03 02.8**	**-1.2**
	0.9nm,0.3s,baz=225,slow=11,SNR=3.2						
AFI				Sn	Sn	14 05 40.7	-19
	0.9nm,0.3s,baz=53,slow=20,SNR=2.1						
LTZ	**Lake Taylor**	**16.20**	**211**	*ePn*	**Pn**	**14 03 03.3**	**-4.3**
	94nm,1.7s						
OXZ	**Oxford**	**16.74**	**210**	*ePn*	**Pn**	**14 03 09.1**	**-5.3**
	137nm,1.4s						
DZM	**Mont Dzumac**	**16.83**	**291**	Pn	**P**	**14 03 16.8**	**-0.7**
	0.8nm,0.3s,baz=104,slow=13,SNR=10						
DZM				LR	LR	14 08 31.5	
	comp=Z,2μm,18.2s,baz=120,slow=33						
DZM	**Mont Dzumac**	**16.83**	**291**	*eP*	**P**	**14 03 19.1**	**+1.6**
	165nm,1.5s						
DZM				*e*LR	LR	14 07 07.2	
	2μm,25.4s						
DZM	**Mont Dzumac**	**16.83**	**291**	*ePn*	**Pn**	**14 03 13.6**	**-2.1**
	58nm,1.1s						
RAR	**Rarotonga**	**17.21**	**66**	Pn	**Pn**	**14 03 17.9**	**-2.5**
	1.3nm,0.3s,baz=238,slow=15,SNR=3.7						
RAR				Sn	Sn	14 06 09.4	-21
	0.6nm,0.3s,baz=52,slow=19,SNR=3.0						
RAR				LR	LR	14 10 03.6	
	comp=Z,367nm,18.9s,baz=249,slow=38						
RPZ	**Rata Peaks**	**17.48**	**211**	P	**Pn**	**14 03 24.0**	**+0.4**
	2.0nm,0.3s,baz=32,slow=2.5,SNR=12						
RPZ				S	Sn	14 06 18.7	-18
	0.8nm,0.3s,baz=18,slow=16,SNR=4.7						
RPZ	**Rata Peaks**	**17.48**	**211**	*ePn*	**Pn**	**14 03 21.7**	**-1.9**
	20nm,0.8s						
RPZ				S	Sn	14 06 18.7	-18
ODZ	**Otahua Downs**	**18.72**	**209**	*eP*	**P**	**14 03 37.6**	**-0.4**
	18nm,0.8s						
LHI	**Lord Howe Isla**	**21.08**	**258**	*eP*	**P**	**14 04 07.1**	**+3.2**
	117nm,0.8s						
PPT2	**Papeete2**	**27.34**	**71**	*e*LQ	LQ	14 10 22.5	
	706nm,23.8s						
PPT2				*e*LR	LR	14 12 02.9	
	574nm,25.5s,baz=239						
PPT	**Papeete**	**27.35**	**71**	LR	LR	14 14 56.4	
	comp=Z,191nm,18.8s,baz=243,slow=34						
ARMA	**Armidale**	**27.51**	**260**	*eP*	**P**	**14 05 08.9**	**+2.9**
	9.9nm,0.8s						
EIDS	**Eidsvold**	**28.89**	**270**	*eP*	**P**	**14 05 17.2**	**-1.0**
	8.6nm,0.8s						
HNR	**Honiara**	**29.49**	**307**	P	**P**	**14 05 21.7**	**-1.8**
	51nm,0.8s,baz=170,slow=6.1,SNR=4.1						
CAN	**Canberra**	**29.58**	**249**	*eP*	**P**	**14 05 25.1**	**+0.8**
CAN				pmax	pmax		
	comp=Z,14nm,0.8s						
CAN	**Canberra**	**29.58**	**249**	*eP*	**P**	**14 05 25.1**	**+0.8**
	comp=Z,14nm,0.8s						
TAU	**Tasmania Unive**	**31.91**	**235**	*eP*	**P**	**14 05 44.1**	**-0.6**
TAU	**Tasmania Unive**	**31.91**	**235**	*eP*	**P**	**14 05 44.1**	**-0.6**
CTA	**Charters Tower**	**34.81**	**277**	P	**P**	**14 06 10.7**	**+0.4**
	comp=Z,22nm,0.8s,baz=102,slow=11,SNR=22						
CTA				LR	LR	14 18 20.0	
	comp=Z,706nm,22.0s,baz=84,slow=33						
CTAO	**Charters Tower**	**34.81**	**277**	*eP*	**P**	**14 06 11.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,26nm,0.8s						
CTAO	**Charters Tower**	**34.81**	**277**	*eP*	**P**	**14 06 11.3**	**+1.0**
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	**35.91**	**255**	P	**P**	**14 06 19.6**	**+0.1**
	comp=Z,7.8nm,0.8s,baz=98,slow=9.7,SNR=17						
STKA				LR	LR	14 20 22.8	
	comp=Z,655nm,18.1s,baz=66,slow=35						
STKA	**Stephens Creek**	**35.91**	**255**	*eP*	**P**	**14 06 20.3**	**+0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**35.91**	**255**	*eP*	**P**	**14 06 20.3**	**+0.7**
	comp=Z,2.2nm,0.8s						
RKT	**Rikitea**	**37.74**	**91**	*e*LR	LR	14 16 29.5	
	comp=Z,442nm,30.8s						
TAOE	**Nuku Hiva Isla**	**39.76**	**67**	*e*LR	LR	14 17 29.9	
	comp=Z,374nm,28.4s						
BBOO	**Buckleboo**	**40.44**	**253**	*eP*	**P**	**14 06 55.6**	**-2.1**
	comp=Z,24nm,1.1s						
MANU	**Manus Island**	**43.63**	**302**	*eP*	**P**	**14 07 22.5**	**-1.4**
	comp=Z,32nm,0.8s

USRK	Ussuriysk Ar.	86.86	326	P		P	14 12 04.1	+0.8
	comp=Z,2.8nm,0.9s,baz=146,slow=3.1,SNR=4.0							
CN2	Changchun	89.94	322	*e*P		P	14 12 19.1	+1.1
CN2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
TX31	Lajitas Ar. Si	90.76	57	*e*P		P	14 12 23.7	+1.4
TXAR	Lajitas Array	90.76	57	P		P	14 12 24.1	+1.8
	comp=Z,4.0nm,1.1s,baz=207,slow=5.2,SNR=12							
MNTX	Cornudas Mount	90.84	54	*e*P		P	14 12 24.3	+1.8
	comp=Z,12nm,1.4s							
LNIG	Linares	91.56	62	*e*P		P	14 12 27.3	+1.4
	comp=Z,12nm,1.3s							
SRU	San Rafael Swe	91.72	45	*e*P		P	14 12 27.6	+1.0
SRU				pmax	pmax			
	comp=Z,21nm,1.8s							
SRU	San Rafael Swe	91.72	45	*e*P		P	14 12 27.6	+1.0
	comp=Z,20nm,1.8s							
ANMO	Albuquerque	91.93	51	⇑*i*P		P	14 12 29.2	+1.5
ANMO				pmax	pmax			
	comp=Z,8.0nm,1.4s							
ANMO	Albuquerque	91.93	51	*e*P		P	14 12 29.1	+1.4
	comp=Z,9.4nm,1.4s							
ENH	Enshi	91.94	304	*e*P		P	14 12 27.5	-0.1
	comp=Z,58nm,1.0s							
HVU	Hansel Valley	91.98	42	*e*P		P	14 12 29.1	+1.4
HVU				pmax	pmax			
	comp=Z,10.0nm,1.4s							
HVU	Hansel Valley	91.98	42	*e*P		P	14 12 29.1	+1.4
	comp=Z,9.7nm,1.4s							
D08A	Wollman Farm,	92.03	35	*e*P		P	14 12 29.4	+1.8
	comp=Z,7.6nm,1.0s							
HLID	Hailey	92.16	40	*e*P		P	14 12 29.7	+1.2
	comp=Z,5.6nm,1.3s							
ATAH	Atahualpa	93.69	100	LR		LR	14 47 57.0	
	comp=Z,82nm,18.2s,baz=196,slow=31							
FXWY	Fox Creek	94.14	42	*e*P		P	14 12 39.6	+1.9
	comp=Z,13nm,1.8s							
CMAR	Chiang Mai Arr	94.14	289	P		P	14 12 38.4	+0.3
	comp=Z,0.3nm,0.4s,baz=172,slow=2.7,SNR=4.3							
CMAR				LR		LR	14 54 57.9	
	comp=Z,33nm,20.1s,baz=165,slow=36							
KMI	Kunming	94.36	296	P		P	14 12 40.3	+1.1
KMI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PDAR	Pinedale Array	94.48	43	P		P	14 12 38.3	-1.1
	comp=Z,0.1nm,0.3s,baz=224,slow=7.6,SNR=3.2							
PDAR				LR		LR	14 52 10.1	
	comp=Z,107nm,18.4s,baz=282,slow=34							
SEY	Seymchan	95.13	346	⇓*e*P		P	14 12 41.9	+0.5
HHC	Hu-ho-hao-te	96.29	314	*e*P		P	14 12 47.1	-0.4
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,5.9s							
CD2	Chengdu	96.48	302	*e*P		P	14 12 48.5	0.0
IL1	Eielson Array	96.54	12	*e*P		P	14 12 47.2	-0.7
ILAR	Eielson Array	96.54	12	P		P	14 12 47.2	-0.6
	comp=Z,0.8nm,0.9s,baz=226,slow=7.0,SNR=6.0							
WMQ	Urumqi	113.44	308	PKP		PKiKP	14 17 56.4	-0.4
WMQ				LR		LR		
	comp=Z,71nm,17.3s							
MKAR	Makanchi Array	117.93	310	PKP		PKPdf	14 18 05.5	+0.3
	comp=Z,1.3nm,0.7s,baz=64,slow=2.8,SNR=10							
ZALV	Zalesovo Beam	117.95	319	PKP		PKPdf	14 18 03.3	-1.7
	comp=Z,0.7nm,0.6s,baz=108,slow=3.2,SNR=3.2							
KSH	Kashi	120.67	301	*e*PKP		PKPdf	14 18 07.0	-3.9
KSH				PP		PP	14 19 42.3	+3.0
KSH				PKS		PKSdf	14 21 43.4	-4.2
KSH				AMB		AMB		
	comp=Z,220nm,4.8s							
KSH				LR		LR		
	comp=Z,92nm,4.8s							
KSH				LR		LR		
	comp=Z,65nm,5.6s							
KSH				LR		LR		
	comp=Z,150nm,5.5s							
KURK	Kurchatov	121.10	314	⇑*i*PKIKP		PKPdf	14 18 11.3	+0.2
AAK	Ala-Archa	122.45	304	⇑*i*PKIKP		PKPdf	14 18 13.8	-0.4
BRVK	Borovoye	126.46	316	⇓*e*PKIKP		PKPdf	14 18 22.1	+0.7
ARU	Arti	132.94	321	*i* PKIKP		PKPdf	14 18 36.9	+3.3
ARU							14 21 01.3	
ARU				SS		SS	14 38 39.7	+0.6
GEYT	Alibeck	134.13	296	PKP		PKPdf	14 18 38.3	+1.8
	comp=Z,2.1nm,0.8s,baz=250,slow=3.0,SNR=4.7							
KLMR	Klimovskoe	140.28	333	*e*PKIKP		PKPdf	14 18 45.2	-1.8
KLMR				pmax	pmax			
	comp=Z,19nm,1.5s							
FINES	FINESS Array B	144.44	341	PKP		PKPbc	14 18 52.9	-0.1
	comp=Z,9.2nm,0.9s,baz=72,slow=6.2,SNR=10.0							
GNI	Garni	144.56	299	*c*/*i*PKIKP		PKPdf	14 18 55.7	+0.2
ZEI	Tsey	144.87	304	*i* PKIKP		PKPab	14 18 54.4	-0.8
ZEI				pmax	pmax			
	comp=Z,48nm,1.0s							
OBN	Obninsk	144.87	327	⇑*e*PKIKP		PKPbc	14 18 54.6	+0.1
OBN				*e*			14 22 09.1	
OBN				*e*SS		SS	14 41 02.7	+3.4
OBN				pmax	pmax			
	comp=Z,42nm,1.0s							
OBN				MLR		MLR		
	comp=Z,85nm,15.0s							
LPSR	Galich'ya Gora	144.96	322	*e*PKIKP		PKPbc	14 18 54.0	-0.9
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
NCK	Nalchik	144.97	305	⇓*e*PKIKP		PKPdf	14 18 57.2	+1.2
KBZ	Khabaz	145.43	306	PKPbc		PKPab	14 18 57.6	+0.7
	comp=Z,5.6nm,0.8s,baz=130,slow=0.8,SNR=15							
VSR	Storozhevoye	145.45	320	*e*PKIKP		PKPdf	14 18 56.5	0.0
VSR				pmax	pmax			
	comp=Z,40nm,0.7s							
KIV	Kislovodsk	145.53	306	*i* PKIKP		PKPab	14 18 58.6	+1.2
KIV				pmax	pmax			
	comp=Z,22nm,1.1s							
VSU	Vasula	146.63	338	⇓*i*PKP2		PKPab	14 19 02.2	+1.2
NB2	NORSAR Subarra	147.77	353	PKP		PKPbc	14 19 02.6	-0.4
	comp=Z,4.0nm,0.7s,baz=10,slow=3.2							
NOA	NORSAR Array B	147.77	353	PKPbc		PKPbc	14 19 02.4	-0.6
	comp=Z,3.9nm,0.9s,baz=16,slow=4.7,SNR=6.7							
MZRK	Al-Mazaregh	148.02	292	*e*P		PKPab	14 19 10.2	+2.9
HFS	Hagfors	148.32	350	PKPbc		PKPbc	14 19 04.5	0.0
	comp=Z,9.3nm,0.9s,baz=49,slow=4.6,SNR=5.1							
SFNV	Sufian	148.44	293	*e*P		PKPab	14 19 10.5	+1.4
KSRV	Kasrt alli	149.36	292	*e*P		PKPab	14 19 10.5	-2.2
SLMH	Al Salmeh	150.21	293	*e*P		PKPbc	14 19 10.0	0.0
AKASG	Malin Array Be	151.06	325	PKPbc		PKPbc	14 19 11.9	+0.4
	comp=Z,9.6nm,0.8s,baz=46,slow=3.0,SNR=29							
KIEV	Kiev	151.08	325	⇓*e*PKIKP		PKPbc	14 19 09.0	-2.5
SIM	Simferopol'	151.10	311	*i* PKIKP		PKPbc	14 19 13.7	+1.9
SIM				pmax	pmax			
	comp=Z,16nm,0.8s							
DRWC	Darouich	151.20	294	*e*P		PKPbc	14 19 13.7	+1.3
MARH	Ras Al Marh	151.48	288	*e*P		PKPab	14 19 17.8	-4.1
ARNB	Al Arnab	151.82	292	*e*P		PKPbc	14 19 15.0	+1.2
BRBR	Barbar	151.92	287	*e*P		PKPbc	14 19 16.2	+1.9
BRTR	Keskin Array B	153.06	301	PKPbc		PKPbc	14 19 17.2	+0.7
	comp=Z,2.9nm,1.0s,baz=127,slow=3.3,SNR=13							
BRTR				PKPab		PKPab	14 19 27.9	-0.2
	comp=Z,6.0nm,0.9s,baz=10,slow=4.1,SNR=5.0							
DPC	Dobruska-Polom	156.75	339	*e*PKPAB		PKPab	14 19 44.4	+1.1
DPC				*ep*PKP		pPKPab	14 19 55.6	+0.8
DPC	Dobruska-Polom	156.75	339	*e*PKP2		PKPab	14 19 44.4	+1.1
CLL	Collm	156.80	345	*e*PKP2		PKPab	14 19 43.0	-0.4
CLL				pmax	pmax			
	comp=Z,8.0nm,1.3s							
CLL	Collm	156.80	345	*e*PKPab		PKPab	14 19 43.0	-0.4
	comp=Z,8.0nm,1.3s							
BRG	Berggiesshubel	156.97	343	*e*P		PKPab	14 19 54.8	+11
	comp=Z,4.3nm,1.0s							
BRG	Berggiesshubel	156.97	343	*e*PKP2		PKPab	14 19 54.8	+11
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PRU	Pruhonice	157.61	341	*e*PKPAB		PKPab	14 19 48.9	+1.9
PRU	Pruhonice	157.61	341	*e*PKP2		PKPab	14 19 48.9	+1.9
KHC	Kasperske Hory	158.65	341	*e*PKPAB		PKPab	14 19 51.0	-0.6
KHC				*ep*PKP		pPKPab	14 20 01.9	-1.1
KHC	Kasperske Hory	158.65	341	*e*PKP2		PKPab	14 19 51.0	-0.6
TORD	Torodi Ar. Bea	163.91	174	PKP		PKPdf	14 19 24.2	+1.5
	comp=Z,1.0nm,0.8s,baz=255,slow=1.1,SNR=3.7							
TORD				PKPab		PKPab	14 20 17.0	+1.7
	comp=Z,7.3nm,1.0s,baz=184,slow=3.0,SNR=9.1							

MAN 06 14:00:15.12°49N×123°56E, h9km, mb4.5, ML3.4, MS3.2, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.15	154	⇑*i*P		Pg	14 00 21.3	+3.0
MMPH				*i* S		Sg	14 00 24.1	+3.5
CNP	Catarman	1.08	89	*e*P		Pg	14 00 35.4	-0.4
CNP				*e*S		Sn	14 00 51.8	+0.3
AUQP	San Andres	1.19	314	*e*P		Pg	14 00 39.1	+1.2
AUQP				*e*S		Sn	14 00 59.6	+5.4
RCP	Roxas	1.22	221	⇓*e*P		Pn	14 00 38.0	-0.3
RCP				*e*S		Sn	14 00 55.8	+0.9
PVCP	Virac	1.24	28	*e*P		Pn	14 00 38.0	-0.5
OTRP	Odiongan	1.50	265	*e*P		Pn	14 00 42.0	-0.2
OTRP				*e*S		Sn	14 01 02.1	+0.2
OCLP	Ormoc	1.77	144	*e*P		Pb	14 00 47.0	-0.6
GQP	Guinayangan	1.77	322	⇓*e*		Pn	14 00 46.4	+0.6
GQP				*e*S		Sb	14 01 10.4	+0.4
PLP	Palo	1.92	133	⇑*e*P		Pn	14 00 47.2	-0.7
PLP				*i* S		Sn	14 01 12.7	+0.5
BOAC	Boac	1.93	300	*e*P		Pn	14 00 48.5	+0.5
BOAC				*e*S		Sg	14 01 19.4	+2.4
GUIM	Jordan	2.08	207	*e*P		Pn	14 00 51.5	+1.3
GUIM				*e*S		Sb	14 01 20.5	+1.5
LLP	Lapu-Lapu	2.20	169	⇑*e*P		Pn	14 00 52.7	+1.0
LLP				*e*S		Sb	14 01 22.3	-0.1
SJMP	San Jose	2.38	269	*e*P		Pn	14 00 55.8	+1.6
SJMP				*e*S		Sb	14 01 27.1	-0.5
MSLP	Maasin	2.67	151	*e*P		Pn	14 00 54.8	-3.5
MSLP				*e*S		Sg	14 01 40.9	0.0
ENPP	El Nido	4.24	253	*e*P		Pn	14 01 20.8	+0.9

*ISCJB **06** 14:12:09.8±0.8, 58°.0N±0°.2×32°.8W±0°.3, h10km, mb3.6/7, Error ellipse: s-maj=30.2km s-min=16.6km az=23.7*
*IDC **06** 14:12:10.0±1.0, 58°.00N×32°.85W, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/35, mbtmp3.5/7, Error ellipse: s-maj=38.6km s-min=22.1km az=22.0*
ISC 06 14:12:11.6±0.9, 58°.0N±0°.2×32°.9W±0°.1, h10km, n11, σ0°91/9, mb3.6/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	26.09	122	P		P	14 17 45.7	+0.4
	0.2nm,0.3s,baz=322,slow=9.4,SNR=4.4							
ILAR	Eielson Array	47.80	328	P		P	14 20 49.6	+1.1
	0.5nm,0.9s,baz=37,slow=6.3,SNR=4.6							
ILAR				ScP		ScP	14 26 09.5	-1.8
	0.6nm,0.9s,baz=32,slow=5.6,SNR=4.6							
PDAR	Pinedale Array	48.48	287	P		P	14 20 54.2	-0.2
	0.5nm,0.8s,baz=40,slow=7.1,SNR=3.0							
TORD	Torodi Ar. Bea	51.78	135	P		P	14 21 19.6	+0.3
	1.0nm,0.8s,baz=339,slow=8.8,SNR=2.5							
TXAR	Lajitas Array	55.57	271	P		P	14 21 47.0	-0.2
	0.3nm,0.8s,baz=27,slow=4.4,SNR=2.7							
GEYT	Alibeck	59.28	67	P		P	14 22 12.5	-0.6
	2.6nm,1.1s,baz=336,slow=3.2,SNR=3.9							
MKAR	Makanchi Array	62.65	44	P		P	14 22 36.1	+0.2
	0.2nm,0.2s,baz=345,slow=4.1,SNR=3.8							
H10S1	ASCENSION HYDR	68.33	161	T		T	15 36 51.7	
	baz=351,slow=75,SNR=4.5							
H10S3	ASCENSION HYDR	68.34	161	T		T	15 36 54.3	
	baz=351,slow=75,SNR=5.5							
H10S2	ASCENSION HYDR	68.35	161	T		T	15 36 52.0	
	baz=351,slow=75,SNR=5.4							
ASAR	Alice Springs	144.41	21	PKP		PKPab	14 31 45.8	-0.2
	0.6nm,1.0s,baz=338,slow=2.3,SNR=3.9							

*IDC **06** 14:31:17.6±1.4, 6°.98N×127°.08E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/43, mbtmp4.0/6, Error ellipse: s-maj=195.4km s-min=17.3km az=68.0*
*ISCJB **06** 14:31:24.3±0.8, 6°.55N±0°.06×126°.46E±0°.07, h60km±8km, mb4.0/6, Error ellipse: s-maj=11.2km s-min=9.9km az=31.6*
*MAN **06** 14:31:25, 6°.71N×126°.51E, h32km, mb4.7, ML3.6, MS3.6*
ISC 06 14:31:25.0±1.3, 6°.52N±0°.07×126°.45E±0°.08, h49km±12km, n13, σ1°31/21, mb4.1/6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.47	335	*e*P		Pn	14 31 35.4	-0.4
MATI				*e*S		Sn	14 31 43.4	-0.1
DMPH	Davao City--Mi	1.09	301	⇑*e*P		Pn	14 31 44.9	+1.0
DMPH				*e*S		Sn	14 31 59.1	+1.1
GSPH	General Santos	1.55	254	⇑*i*P		Pn	14 31 49.4	-1.0
GSPH				*i* S		Sn	14 32 07.8	-1.7
BIPH	Bislig	1.66	357	⇑*i*P		Pn	14 31 51.2	-0.4
BIPH				*i* S		Sn	14 32 10.4	-1.3
BUKP	Musuan	1.93	314	*e*P		Pn	14 31 55.6	+0.2
BUKP				*e*S		Sn	14 32 18.2	-0.4
CTBH	Cotabato--PC H	2.30	288	*e*P		Pn	14 32 01.5	+1.1
CTBH				*i* S		Sn	14 32 28.9	+1.3
SCPH	Surigao	3.38	344	⇓*e*P		Pn	14 32 17.9	+2.6
WRA	Warramunga Arr	27.42	164	P		P	14 37 07.2	+0.9
	0.6nm,0.6s,baz=345,slow=10.0,SNR=3.2							
ASAR	Alice Springs	30.87	167	P		P	14 37 38.1	+1.2
	0.3nm,0.3s,baz=340,slow=7.0,SNR=15							
ASAR				PcP		PcP	14 40 33.5	+0.4
	0.2nm,0.4s,baz=341,slow=2.2,SNR=4.3							
STKA	Stephens Creek	40.83	160	P		P	14 39 03.6	+1.6
	1.7nm,0.5s,baz=336,slow=9.4,SNR=9.1							
MKAR	Makanchi Array	55.13	324	P		P	14 40 51.5	-0.9
	1.0nm,0.4s,baz=123,slow=7.9,SNR=23							
MKAR				PcP		PcP	14 41 52.6	-0.6
	0.3nm,0.4s,baz=116,slow=5.3,SNR=2.7							
ZALV	Zalesovo Beam	58.00	332	P		P	14 41 12.2	-0.5
	1.0nm,0.3s,baz=133,slow=7.9,SNR=3.1							
ARCES	ARCESS Array B	87.75	340	P		P	14 44 06.1	-2.3
	2.4nm,0.8s,baz=74,slow=7.6,SNR=2.8							

*ISCJB **06** 14:35:16.5±0.7, 11°.88S±0°.09×167°.7E±0°.1, h317km, mb3.9/15, Error ellipse: s-maj=16.6km s-min=12.1km az=165.4*
*IDC **06** 14:35:19.6±2.1, 11°.88S×167°.58E, h331km±19km, mb3.6/15, mb1 3.7/17, mb1mx3.5/42, mbtmp4.3/17, Error ellipse: s-maj=17.7km s-min=12.1km az=82.0*
ISC 06 14:35:17.9±0.7, 11°.88S±0°.09×167°.7E±0°.1, h317km, n22, σ0°84/24, mb4.0/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.99	287	P		Pn	14 37 12.8	+1.3
	3.2nm,0.3s,baz=175,slow=12,SNR=3.8							
DZM	Mont Dzumac	10.21	187	P		P	14 37 41.4	+0.2
	1.0nm,0.3s,baz=9.3,slow=23,SNR=14							
PMG	Port Moresby	20.32	275	P		P	14 39 30.8	-0.4
	17nm,0.8s,baz=91,slow=6.5,SNR=5.5							
CTA	Charters Tower	22.15	246	P		P	14 39 49.2	+1.1
	8.3nm,0.7s,baz=74,slow=11,SNR=10							
URZ	Urewera	27.59	164	P		P	14 40 37.0	+0.4
	2.8nm,0.5s,baz=298,slow=1.4,SNR=5.2							
STKA	Stephens Creek	31.20	226	P		P	14 41 08.1	-0.4
	2.9nm,0.6s,baz=66,slow=10,SNR=10							
RPZ	Rata Peaks	31.86	175	P		P	14 41 14.8	+0.7
	8.8nm,0.9s,baz=8.1,slow=6.3,SNR=3.7							
WRA	Warramunga Arr	33.01	252	P		P	14 41 23.1	-1.3
	5.0nm,0.7s,baz=78,slow=8.8,SNR=38							
ASAR	Alice Springs	34.15	245	P		P	14 41 32.5	-1.6
	1.7nm,0.5s,baz=72,slow=9.0,SNR=64							
ASAR				PcP		PcP	14 44 02.9	-0.5
	0.7nm,0.5s,baz=80,slow=2.2,SNR=8.2							
ASAR				ScP		ScP	14 47 16.9	-0.8
	0.7nm,1.0s,baz=98,slow=3.0,SNR=5.0							
MJAR	Matsushiro Arr	55.59	331	P		P	14 44 20.3	-1.2
	1.3nm,0.7s,baz=160,slow=8.1,SNR=3.5							
USRK	Ussuriysk Ar.	64.55	332	P		P	14 45 22.8	+1.1
	1.0nm,0.5s,baz=131,slow=7.9,SNR=3.1							
VNDA	Vanda	65.71	181	P		P	14 45 29.6	+1.1
	0.3nm,0.5s,baz=343,slow=5.6,SNR=6.0							
CMAR	Chiang Mai Arr	74.19	293	P		P	14 46 21.4	+0.5
	2.9nm,0.9s,baz=118,slow=4.1,SNR=17							
SEY	Seymchan	75.52	353	P		P	14 46 27.6	+0.1
	1.1nm,0.5s,baz=59,slow=22,SNR=4.9							
SONM	Songino Array	80.46	323	P		P	14 46 55.6	+0.5
	0.8nm,0.5s,baz=144,slow=6.4,SNR=4.5							
ILAR	Eielson Array	83.70	18	P		P	14 47 10.9	-0.3
	2.4nm,0.6s,baz=247,slow=5.1,SNR=40							
MAW	Mawson	84.67	202	P		P	14 47 15.1	-1.0
	2.6nm,1.2s,baz=90,slow=8.1,SNR=4.6							
MKAR	Makanchi Array	95.43	317	P		P	14 48 06.6	-0.3
	4.6nm,0.6s,baz=89,slow=6.6,SNR=43							
ARCES	ARCESS Array B	117.61	346	PKP		PKPdf	14 53 25.3	-0.5
	5.0nm,0.9s,baz=8.5,slow=2.5,SNR=8.0							
FINES	FINESS Array B	123.23	339	PKP		PKPdf	14 53 36.4	-0.4
	5.2nm,1.0s,baz=325,slow=2.3,SNR=4.7							
KEST	Kesra	149.21	324	PKPbc		PKPbc	14 54 29.8	+0.1
	3.8nm,0.7s,baz=0.0,slow=3.0,SNR=5.2							
ESDC	Sonseca Array	151.34	346	PKPbc		PKPbc	14 54 34.7	+0.1
	0.2nm,0.3s,baz=40,slow=2.5,SNR=5.1							

*MOS **06** 14:56:32.0±1.0, 19°.59S×68°.95W, h92km, mb5.2/3, Error ellipse: s-maj=18.6km s-min=9.0km az=118.1*
*SCB **06** 14:56:32.6±0.7, 19°.69S×69°.29W, h98km, Ml4.5/2, Error ellipse: s-maj=22.8km s-min=5.4km az=73.0*
*ISCJB **06** 14:56:33.1±0.2, 19°.66S±0°.03×69°.18W±0°.04, h114km±2km, mb4.8/28, Error ellipse: s-maj=6.1km s-min=3.2km az=157.6*
*GUC **06** 14:56:34.3±0.5, 19°.71S×69°.25W, h102km±2km, ML5.2*
*NEIC **06** 14:56:34.0±0.0, 19°.71S×69°.25W, h102km, mb4.9/16, After GUC.*
NEIC Felt [III] at Alto Hospicio, Codpa, Cuya, Huara and Iquique. Also felt at Camina.
*IDC **06** 14:56:35.0±0.4, 19°.61S×69°.02W, h108km±2km, mb4.4/15, mb1 4.5/19, mb1mx4.4/31, mbtmp4.8/19, MS3.5/9, Ms1 3.5/9, ms1mx3.4/23, Error ellipse: s-maj=13.3km s-min=11.3km az=68.0*
*BJI **06** 14:56:35.0, 19°.70S×69°.30W, h102km, mB5.3/9*
ISC 06 14:56:34.5±0.3, 19°.71S±0°.03×69°.18W±0°.04, h106km±2km, h107km; pP-P, n437, σ1°27/512, mb4.8/29, 15C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.43	177	*i* P		Pn	14 56 51.1	0.0
PB08				*i* S		Sn	14 57 03.3	-0.1
PB11	IPOC Station P	0.45	264	⇑*i*P		Pn	14 56 50.1	-0.8
PB11				*i* S		Sn	14 57 02.2	-0.9
PB11				IAML			14 57 03.3	
	comp=N,180μm,0.4s							
PB11	IPOC Station P	0.45	264	*e*Pn		Pn	14 56 49.7	-1.2
MNMC	Minye Minye	0.70	326	⇑*i*P		Pn	14 56 52.7	-0.2
MNMC				*i* S		Sn	14 57 06.0	-0.6
MNMC				IAML			14 57 08.2	
HMBC	Humberstone	0.87	230	⇑*i*P		Pn	14 56 53.5	-0.8
HMBC				*i* S		Sn	14 57 07.9	-1.2
HMBC				IAML			14 57 08.8	
	comp=N,50μm,0.7s							
PSGC	Pisagua	0.90	277	⇑*i*P		Pn	14 56 53.6	-0.8
PSGC				*i* S		Sn	14 57 08.4	-1.1
PB01	IPOC Station P	1.36	192	⇓*i*P		Pn	14 56 59.6	0.0
PB01				*i* S		Sn	14 57 18.3	-0.2
PB01				IAML			14 57 19.5	
	comp=E,34μm,0.5s							
PB01	IPOC Station P	1.36	192	*e*Pn		Pn	14 56 59.5	0.0
PB12	IPOC Station P	1.54	315	⇑*i*P		Pn	14 57 01.0	-0.7
PB12				*i* S		Sn	14 57 21.6	-0.8
PB12				IAML			14 57 25.1	
	comp=E,58μm,0.3s							
PB09	IPOC Station P	2.08	182	⇑*i*P		Pn	14 57 09.0	+0.5
PB09				*i* S		Sn	14 57 35.4	+0.9
PB04	IPOC Station P	2.76	199	*e*Pn		Pn	14 57 18.0	+0.5
BBOJ	La Paz, Jacaqu	2.88	19	⇑*i*Pn		Pn	14 57 21.8	+2.4
BBOJ				*e*Sn		Sn	14 57 56.8	+3.0
LVC	Limon Verde	2.90	175	P		Pn	14 57 20.1	+0.7
	comp=E,9μm,0.3s,baz=337,slow=8.7,SNR=393							
LVC				S		Sn	14 57 53.5	-0.4
	comp=E,10μm,0.3s,baz=302,slow=7.8,SNR=23							
LVC	Limon Verde	2.90	175	*e*P		Pn	14 57 20.2	+0.8
LVC				*e*S		Sn	14 57 58.4	+4.5
LVC	Limon Verde	2.90	175	*e*Pn		Pn	14 57 20.3	+0.9
LVC				*e*Sn		Sn	14 57 49.5	-4.4
BBOE	La Paz, Chanca	3.10	22	⇑*i*Pn		Pn	14 57 25.1	+2.8
BBOD	La Paz, Gloria	3.11	10	⇑*i*Pn		Pn	14 57 24.6	+2.2
BBOD				*e*Sn		Sn	14 58 02.7	+3.5
	comp=E,315nm,0.6s							
LPAZ	La Paz	3.55	17	P		Pn	14 57 30.6	+2.2
	comp=E,15nm,0.3s,baz=190,slow=8.1,SNR=546							
LPAZ				S		Sn	14 58 11.4	+1.6
	comp=E,7.4nm,0.3s,baz=247,slow=7.7,SNR=2.2							
LPAZ				LR		LR	14 58 41.0	
	comp=E,299nm,21.6s,baz=178,slow=37							
LPAZ	La Paz	3.55	17	*e*P		Pn	14 57 30.3	+2.0
LPAZ				*e*S		Sn	14 58 11.1	+1.2
LPAZ	La Paz	3.55	17	⇑*i*Pn		Pn	14 57 30.3	+1.9
LPAZ				*e*Sn		Sn	14 58 12.1

HELC	Santa Helena	26.49 346	eP	P	15 01 59.2	-3.3
	comp=Z,30nm,0.6s					
CHRN	Cochrane	27.61 185	eP	P	15 02 11.1	-0.7
	comp=Z,7.1nm,0.8s					
SDV	Santo Domingo	28.45 357	P	P	15 02 18.5	-1.3
	comp=Z,12nm,0.8s,baz=221,slow=4.9,SNR=7.1					
SDV	Santo Domingo	28.45 357	eP	P	15 02 19.1	-0.7
	comp=Z,15nm,0.9s					
BCIP	Isla Barro Col	30.55 339	eP	P	15 02 37.5	-0.7
EFI	East Falkland	33.07 167	i/P	P	15 03 00.2	+0.3
EFI			pmax	pmax		
	comp=Z,70nm,1.2s					
RCBR	Riachuelo	35.17 71	LR	LR	15 16 59.9	
	comp=Z,100nm,18.4s,baz=231,slow=35					
RCBR	Riachuelo	35.17 71	eP	P	15 03 18.3	-0.3
	comp=Z,32nm,0.9s					
RPN	Rapa Nui	37.45 251	P	P	15 03 39.9	+2.0
	comp=Z,29nm,0.5s,baz=96,slow=9.2,SNR=2.3					
CELP	Cerrillos	37.64 4	eP	P	15 03 37.8	-1.5
CMIG	Matias Romero	44.44 324	LR	LR	15 22 42.1	
	comp=Z,37nm,18.7s,baz=160,slow=35					
LNIG	Linares	53.24 325	eP	P	15 05 42.6	+0.3
	comp=Z,18nm,1.2s					
ZAIG	Zacatecas	53.34 321	eP	P	15 05 45.0	+1.6
	comp=Z,15nm,0.8s					
347A	Saraland	54.11 340	P	P	15 05 48.8	+0.3
	baz=158					
034A	Hebbronville	54.59 327	P	P	15 05 52.9	+0.8
	baz=146					
247A	Quitman	54.73 340	P	P	15 05 52.7	-0.3
	baz=158					
245A	Little AP, Sta	55.15 339	P	P	15 05 55.8	-0.2
	baz=156					
933A	Laredo	55.34 327	P	P	15 05 57.5	+0.1
	baz=145					
736A	Circle Diamond	55.37 330	P	P	15 05 57.2	-0.5
	baz=148					
834A	Tilden	55.39 328	P	P	15 05 57.9	+0.1
	baz=146					
146A	Union	55.42 340	P	P	15 05 58.2	+0.3
	baz=157					
342A	Flagon Creek P	55.44 336	P	P	15 05 58.4	+0.3
	baz=154					
440A	Kirbyville	55.54 334	P	P	15 05 59.1	+0.4
	baz=152					
243A	Waterproof	55.58 337	P	P	15 05 59.0	-0.1
	baz=154					
Z47A	Carrollton	55.62 341	P	P	15 05 59.3	0.0
	baz=158					
Z48A	Northport	55.63 341	P	P	15 05 58.4	-1.0
	baz=159					
636A	Smothers Creek	55.81 330	P	P	15 06 01.7	+0.9
	baz=148					
439A	Center Grove,	55.91 333	P	P	15 06 02.4	+0.8
	baz=151					
537A	Green Hill Far	55.98 332	P	P	15 06 02.5	+0.6
	baz=149					
833A	Chaparral WMA,	55.98 328	P	P	15 06 02.6	+0.6
	baz=145					
242A	Grayson	55.99 336	P	P	15 06 02.3	+0.3
	baz=154					
734A	La Parita Cree	55.99 329	P	P	15 06 02.4	+0.2
	baz=146					
635A	Leesville	56.06 330	P	P	15 06 02.4	-0.2
	baz=147					
340A	Bronson	56.09 334	P	P	15 06 03.3	+0.5
	baz=152					
Y47A	UCPARC, Winfie	56.21 341	P	P	15 06 03.1	-0.4
	baz=159					
832A	Faith Ranch, C	56.24 327	P	P	15 06 03.9	-0.1
	baz=145					
241A	Mo Tay, Goldon	56.24 336	P	P	15 06 04.1	+0.3
	baz=153					
733A	Divot King Ran	56.25 328	P	P	15 06 03.8	-0.1
	baz=146					
Z45A	Winona	56.30 339	P	P	15 06 04.5	+0.3
	baz=157					
536A	Bastrop	56.31 331	P	P	15 06 04.8	+0.4
	baz=148					
Z44A	Pea Ridge, Bel	56.46 339	P	P	15 06 05.2	-0.2
	baz=156					
Y46A	Houston	56.50 340	P	P	15 06 05.2	-0.4
	baz=158					
240A	Hunter Patters	56.59 335	P	P	15 06 07.0	+0.8
	baz=152					
338A	Crockett	56.63 333	P	P	15 06 07.3	+0.7
	baz=150					
NATX	Nacogdoches	56.71 334	P	P	15 06 07.5	+0.4
	baz=151					
141A	Papa Simpson,	56.76 336	P	P	15 06 07.9	+0.4
	baz=153					
436A	Wall Ranch, Ga	56.78 332	P	P	15 06 08.0	+0.3
	baz=149					
633A	Saathoff Ranch	56.80 329	P	P	15 06 08.0	+0.1
	baz=146					
337A	Centerville	56.84 333	P	P	15 06 09.1	+1.0
	baz=150					
239A	Gary	56.86 334	P	P	15 06 09.4	+1.2
	baz=152					
140A	Cam and Jess,	57.05 335	P	P	15 06 10.5	+1.0
	baz=153					
237A	Washetta, Mont	57.40 333	P	P	15 06 13.3	+1.2
	baz=150					
Z40A	Long Farm, Mag	57.53 336	P	P	15 06 13.7	+0.8
	baz=153					
138A	Matatall Enter	57.67 334	P	P	15 06 14.8	+0.9
	baz=151					
236A	Katherine and	57.71 332	P	P	15 06 14.7	+0.5
	baz=149					
X43A	Marvell	57.75 339	P	P	15 06 15.1	+0.7
	baz=156					
WLAR	White Oak Lake	57.80 336	eP	P	15 06 16.3	+1.6
	comp=Z,149nm,1.5s					
137A	Heron Place, G	57.90 334	P	P	15 06 16.1	+0.6
	baz=150					
JCT	Junction City	57.95 329	P	P	15 06 16.0	+0.1
	baz=146					
JCT	Junction City	57.95 329	eP	P	15 06 16.4	+0.4
JCT			pmax	pmax		
	comp=Z,8.0nm,0.9s					
JCT	Junction City	57.95 329	eP	P	15 06 16.4	+0.4
	comp=Z,8.3nm,0.9s					
WHTX	Lake Whitney,	58.11 332	P	P	15 06 17.2	+0.2
	baz=148					
Z38A	Mt. Pleasant	58.14 335	P	P	15 06 17.7	+0.5
	baz=151					
Y40A	Okolona	58.15 336	P	P	15 06 17.5	+0.3
	baz=153					
WVT	Waverly	58.27 342	eP	P	15 06 16.8	-1.2
WVT	Waverly	58.27 342	eP	P	15 06 16.8	-1.2
MIAR	Mount Ida	58.74 336	P	P	15 06 20.9	-0.4
	baz=153,SNR=9.0					
MIAR	Mount Ida	58.74 336	eP	P	15 06 21.4	+0.1
MIAR	Mount Ida	58.74 336	eP	P	15 06 21.4	+0.1
Z36A	Blue Ridge	58.76 333	P	P	15 06 21.7	+0.3
	baz=150					
W41B	Gary Mavity, V	58.81 338	P	P	15 06 21.5	-0.3
	baz=155					
X39A	Fountain Ranch	58.91 336	P	P	15 06 22.7	+0.2
	baz=153,SNR=8.7					
TXAR	Lajitas Array	59.02 325	P	P	15 06 22.9	-0.7
	comp=Z,1.5nm,0.8s,baz=148,slow=8.4,SNR=13					
TXAR			pP	pP	15 06 49.1	-0.4
	comp=Z,3.0nm,1.0s,baz=143,slow=8.6,SNR=6.5					
TXAR			LR	LR	15 31 25.8	
	comp=Z,40nm,19.0s,baz=0.0,slow=35					
TX31	Lajitas Ar. Si	59.03 325	eP	P	15 06 23.5	-0.1
Y37A	Hugo	59.04 334	P	P	15 06 24.2	+0.8
	baz=151,SNR=6.8					
W40A	Ferguson Farm,	59.12 337	P	P	15 06 24.0	0.0
	baz=154,SNR=5.2					
X38A	Whitesboro	59.33 335	P	P	15 06 25.8	+0.4
	baz=152,SNR=8.9					
V41A	Mountainview	59.33 338	P	P	15 06 24.4	-1.0
	baz=155,SNR=5.4					
W39A	Magazine	59.39 337	P	P	15 06 25.8	0.0
	baz=153,SNR=7.5					
X37A	Clayton	59.47 335	P	P	15 06 26.8	+0.4
	baz=151,SNR=7.5					
U42A	Revenden	59.53 339	P	P	15 06 26.1	-0.6
	baz=156					
W38A	Poteau	59.56 336	P	P	15 06 27.4	+0.4
	baz=152,SNR=6.4					
Y35A	Marietta	59.56 333	P	P	15 06 27.3	+0.3
	baz=150					
V40A	Witts Springs	59.58 338	P	P	15 06 26.6	-0.6
	baz=154					
ABTX	Abilene, Hawle	59.64 330	P	P	15 06 27.5	-0.1
	baz=147					
PBMO	Poplar Bluff	59.66 340	eP	P	15 06 27.1	-0.5
PBMO			epP	pP	15 06 53.8	+0.1
T44A	Benton	59.68 341	P	P	15 06 27.1	-0.6
	baz=158					
U41A	Viola	59.76 339	P	P	15 06 27.2	-1.1
	baz=155,SNR=7.0					
X36A	Centrahoma	59.85 334	P	P	15 06 28.3	-0.7
	baz=150					
T43A	Greenville	59.90 341	P	P	15 06 28.4	-0.9
	baz=157,SNR=5.8					
V39A	Pettigrew	59.91 337	P	P	15 06 29.1	-0.4
	baz=153,SNR=6.6					
S45A	Carrier Mills	59.93 342	P	P	15 06 28.6	-0.8
	baz=159					
X35A	Drake	59.96 334	P	P	15 06 29.2	-0.5
	baz=150					
W37B	Quinton	59.97 335	P	P	15 06 29.9	+0.1
	baz=151,SNR=7.3					
U40A	Yellville	60.09 338	P	P	15 06 29.8	-0.8
	baz=154,SNR=7.4					
S44A	Carbondale	60.14 342	P	P	15 06 30.1	-0.8
	baz=158					
V38A	Canehill	60.22 336	P	P	15 06 31.0	-0.5
	baz=153,SNR=8.3					
S43A	Fulton Ridge,	60.28 341	P	P	15 06 31.0	-0.9
	baz=157					
W36A	Wetumka	60.29 335	P	P	15 06 31.3	-0.7
	baz=151					
T41A	Mountain View	60.34 339	P	P	15 06 31.5	-0.8
	baz=156					
U39A	Green Forest	60.34 338	P	P	15 06 31.6	-0.7
	baz=154,SNR=6.3					
HHAR	Hobbs	60.41 337	eP	P	15 06 32.6	-0.2
	comp=Z,18nm,1.1s					
V37A	Hulbert	60.51 336	P	P	15 06 33.3	-0.1
	baz=152,SNR=6.2					
W35A	Tecumseh	60.57 334	P	P	15 06 33.0	-0.8
	baz=150					
R44A	Waltonville	60.61 342	P	P	15 06 32.7	-1.3
	baz=159					
S42A	Caledonia	60.69 340	P	P	15 06 33.1	-1.5
	baz=157					
T40A	Mansfield	60.69 339	P	P	15 06 33.7	-0.9
	baz=155,SNR=5.2					
U38A	Gravette	60.72 337	P	P	15 06 34.1	-0.8
	baz=153					
V36A	Jenks	60.74 335	P	P	15 06 34.8	-0.2
	baz=151,SNR=7.2					
S41A	Jillco Farms,	60.83 340	P	P	15 06 34.6	-0.9
	baz=156,SNR=7.7					
T39A	Clever	60.87 338	P	P	15 06 34.6	-1.3
	baz=154					
R43A	Red Bud	60.88 341	P	P	15 06 34.8	-1.1
	baz=158					
U37A	Salina	60.96 336	P	P	15 06 36.4	-0.1
	baz=152,SNR=9.8					
ACSO	Alum Creek Sta	61.01 348	eP	P	15 06 36.4	-0.3
WMOK	Wichita Mounta	61.02 332	P	P	15 06 35.7	-1.3
	baz=148					
V35A	Meyer Ranch, C	61.08 334	P	P	15 06 36.7	-0.6
	baz=150					
S40A	Lebanon	61.09 339	P	P	15 06 36.6	-0.8
	baz=155					
CCM	Cathedral Cave	61.09 340	eP	P	15 06 36.8	-0.5
CCM			e*PP	pP	15 07 03.5	+0.1
CCM	Cathedral Cave	61.09 340	eP	P	15 06 36.8	-0.5
CCM			epP	pP	15 07 03.5	+0.1
R42A	Luebbering	61.15 341	P	P	15 06 36.9	-0.8
	baz=157					
U36A	Oologah	61.19 336	P	P	15 06 37.1	-0.9
	baz=151					
N54A	Moraine State	61.19 351	P	P	15 06 37.5	-0.4
	baz=168					
T38A	Diamond	61.21 337	P	P	15 06 37.8	-0.4
	baz=153,SNR=7.5					
R41A	Rosebud	61.35 340	P	P	15 06 38.3	-0.8
	baz=156,SNR=7.9					
Q43A	New Douglas	61.43 342	P	P	15 06 38.5	-1.1
	baz=158					
S39A	Bolivar	61.45 338	P	P	15 06 39.1	-0.6
	baz=154,SNR=10					
T37A	Cheneyville 18	61.52 337	P	P	15 06 40.1	-0.1
	baz=152,SNR=17					
U35A	Pawnee	61.56 335	P	P	15 06 40.3	-0.3
	baz=150					
S38A	Stockton	61.60 338	P	P	15 06 40.0	-0.8
	baz=154					
P44A	Sand Creek, Wi	61.61 343	P	P	15 06 39.9	-0.9
	baz=159					
R40A	Maddies Statio	61.64 339	P	P	15 06 40.9	-0.1
	baz=155,SNR=5.1					
Q42A	Golden Eagle	61.65 341	P	P	15 06 39.9	-1.2
	baz=157					
M54A	Oil Creek Stat	61.68 351	P	P	15 06 40.2	-1.1
	baz=169					
MNTX	Cornudas Mount	61.79 325	P	P	15 06 41.6	-0.7
	baz=141,SNR=6.8					
MNTX	Cornudas Mount	61.79 325	eP	P	15 06 41.5	-0.7
MNTX			epP	pP	15 07 07.8	-0.6
T36A	Boggs Farm, Ca	61.83 336	P	P	15 06 41.9	-0.5
	baz=152,SNR=5.0					
Q41A	Truxton	61.91 341	P	P	15 06 42.0	-0.8
	baz=156,SNR=6.5					
R39A	Chumby, Stover	61.91 339	P	P	15 06 41.9	-0.9
	baz=155,SNR=7.2					
T35A	Sooner Cattle	61.95 335	P	P	15 06 42.7	-0.4
	baz=151					
P43A	Skaggs, Pawnee	62.03 342	P	P	15 06 42.5	-1.0
	baz=158					
S37A	Fort Scott	62.05 337	P	P	15 06 43.4	-0.4
	baz=153,SNR=8.2					
SFIN	Lafayette	62.07 345	P	P	15 06 42.7	-1.2
	baz=161					
SFIN	Lafayette	62.07 345	eP	P	15 06 42.6	-1.2
SFIN			epP	pP	15 07 09.0	-1.0
R38A	Fenwick Farm,	62.10 338	P	P	15 06 43.5	-0.6
	baz=154,SNR=8.6					
Q40A	Laux Farm, Aux	62.21 340	P	P	15 06 44.1	-0.7
	baz=156					
P42A	Winchester	62.22 342	P	P	15 06 44.2	-0.7
	baz=158					
MSTX	Muleshoe	62.24 329	P	P	15 06 44.8	-0.5
	baz=144,SNR=6.6					
MSTX	Muleshoe	62.24 329	eP	P	15 06 45.2	-0.1
MSTX			epP	pP	15 07 10.7	-0.9
S36A	Lake Cedric, C	62.30 337	P	P	15 06 45.1	-0.4
	baz=152,SNR=11					
T34A	McClaskey Farm	62.31 335	P	P	15 06 45.2	-0.3
	baz=150					
ERPA	Erie	62.32 351	eP	P	15 06 45.9	+0.4
P41A	Barry, Barry	62.51 341	P	P	15 06 46.1	-0.7
	baz=157					
R37A	Teagarden Farm	62.54 337	P	P	15 06 46.3	-0.8
	baz=153,SNR=6.1					
S35A	Otter Creek Ra	62.54 336	P	P	15 06 46.7	-0.4
	baz=151,SNR=5.7					
Q39A	Willow Grove F	62.55 339	P	P	15 06 46.5	-0.6
	baz=155,SNR=8.0					
O43A	Sugar Creek Fa	62.57 343	P	P	15 06 46.2	-0.9
	baz=159					
P40A	Paris	62.69 340	P	P	15 06 47.1	-0.9
	baz=156,SNR=6.6					
Q38A	Cooks Store, C	62.69 339	P	P	15 06 47.6	-0.5
	baz=154,SNR=9.6					
O42A	Bath	62.70 342	P	P	15 06 47.1	-0.9
	baz=158					
R36A	Gordon, Harris	62.80 337	P	P	15 06 48.1	-0.6
	baz=152					
O41A	Passleys Farm,	62.86 341	P	P	15 06 47.7	-1.4
	baz=157					
S34A	Willow Spring	62.87 335	P	P	15 06 48.8	-0.4
	baz=150					
P39B	Salisbury	62.88 340	P	P	15 06 48.2	-1.1
	baz=155					
Q37A	Longview Farm,	62.91 338	P	P	15 06 48.6	-0.9
	baz=153					
R35A	Emporia Munici	63.06 336	P	P	15 06 50.3	-0.1
	baz=152					
O40A	La Belle	63.17 341	P	P	15 06 50.4	-0.8
	baz=156					
P38A	Dawn	63.26 339	P	P	15 06 51.0	-0.8
	baz=154					
N42A	Yates City	63.27 342	P	P	15 06 50.6	-1.2
	baz=158,SNR=5.4					
Q36A	Arnold C. Orve	63.34 337	P	P	15 06 51.5	-0.9
	baz=152					
N41A	Harden Midland	63.40 342	P	P	15 06 51.4	-1.3
	baz=157,SNR=5.5					
R34A	Isabella, Hill	63.44 336	P	P	15 06 52.4	-0.7
	baz=150					
Q35A	Mercer Eighty,	63.47 337	P	P	15 06 52.4	-0.8
	baz=152					
O39A	Kirksville	63.51 340	P	P	15 06 52.6	-0.8
	baz=156					
P37A	Lathrop	63.51 338	P	P	15 06 52.7	-0.7
	baz=154					
O38A	Galt	63.69 339	P	P	15 06 53.6	-0.9
	baz=154					
121A	Cookes Peak, D	63.74 324	P	P	15 06 54.7	-0.6
	baz=139					
N40A	Mertquake, Sal	63.78 341	P	P	15 06 54.4	-0.8
	baz=157					
P36A	Good Intent, A	63.84 338	P	P	15 06 54.6	-1.0
	baz=153					
Q34A	Chapman	63.86 336	P	P	15 06 55.1	-0.6
	baz=151					
KSU1	Kansas State U	63.89 336	P	P	15 06 55.2	-0.7
	baz=151					
M41A	Milan	63.92 342	P	P	15 06 55.2	-0.9
	baz=158					
O37A	Wolven Farm, M	63.95 339	P	P	15 06 55.9	-0.5
	baz=154					
SNAA	Sanae	64.05 161	c iP	P	15 06 57.4	+0.8
SNAA	Sanae	64.05 161	eP	P	15 06 57.5	+0.8
	comp=Z,34nm,0.9s					
P35A	Duane Minner,	64.05 337	P	P	15 06 56.1	-0.9
	baz=152					
N39A	Derby Farms, D	64.06 340	P	P	15 06 56.0	-1.1
	baz=156					
L43A	Garden Prairie	64.18 344	P	P	15 06 56.5	-1.3
	baz=160,SNR=12					
O36A	Bolckow	64.20 338	P	P	15 06 57.0	-1.0
	baz=153					
M40A	Post Highland	64.24 341	P	P	15 06 57.4	-0.8
	baz=157					
P34A	Walnut Farm, R	64.36 337	P	P	15 06 59.0	0.0
	baz=151					
M39A	Webster	64.50 341	P	P	15 06 59.1	-0.8
	baz=156					
N37A	Lee Faris, Mou	64.51 339	P	P	15 06 59.9	-0.1
	baz=154					
L41A	Preston	64.56 343	P	P	15 06 58.8	-1.4
	baz=158,SNR=6.4					
L40A	Anamosa	64.75 342	P	P	15 07 00.5	-1.1
	baz=157,SNR=5.9					
M38A	Pleasantville	64.77 340	P	P	15 07 00.7	-0.9
	baz=155,SNR=5.5					
N36A	Muff Farm, Cla	64.81 339	P	P	15 07 01.5	-0.5
	baz=153					
ANMO	Albuquerque	64.87 327	P	P	15 07 03.3	+0.6
	comp=Z,1.0nm,0.6s,baz=136,slow=4.8,SNR=5.3					
ANMO			pP	pP	15 07 29.4	+0.3
	comp=Z,3.8nm,1.0s,baz=127,slow=8.8,SNR=3.8					
ANMO	Albuquerque	64.87 327	P	P	15 07 02.2	-0.4
	baz=141					
O34A	Beatrice	64.87 337	P	P	15 07 01.6	-0.7
	baz=151					
K41A	Shullsburg	65.00 343	P	P	15 07 02.6	-0.5
	baz=158					
M37A	Trindle Farm,	65.03 340	P	P	15 07 03.0	-0.3
	baz=154					
L39A	Vinton	65.04 341	P	P	15 07 02.0	-1.4
	baz=156,SNR=5.2					
N35A	Tabor	65.09 338	P	P	15 07 03.3	-0.5
	baz=153					
O33A	Hebron	65.11 336	P	P	15 07 03.1	-0.8
	baz=151					
K40A	Colesburg	65.32 342	P	P	15 07 04.2	-1.0
	baz=157,SNR=7.6					
M36A	Felix, Anita	65.33 339	P	P	15 07 04.6	-0.7
	baz=154					
L38A	Oak Wood Farm,	65.35 341	P	P	15 07 04.4	-1.0
	baz=155,SNR=5.1					
N34A	Lincoln	65.37 337	P	P	15 07 04.8	-0.7
	baz=152					
K39A	Oelwein	65.54 342	P	P	15 07 05.4	-1.2
	baz=157,SNR=6.5					
J41A	Loganville	65.62 343	P	P	15 07 06.4	-0.7
	baz=159,SNR=7.0					
M35A	Neola	65.64 338	P	P	15 07 06.8	-0.5
	baz=153					
K38A	Parkersburg	65.75 341	P	P	15 07 07.3	-0.7
	baz=156					
I42A	Draeger Farm,	65.83 344	P	P	15 07 06.5	-1.9
	baz=160					
J40A	Soldiers Grove	65.85 343	P	P	15 07 07.3	-1.3
	baz=158,SNR=5.9					
M34A	Aspy Farms, Fr	65.99 338	P	P	15 07 09.3	-0.2
	baz=152					
J39A	Decorah	66.06 342	P	P	15 07 09.1	-0.9
	baz=157,SNR=7.6					
K37A	Belmond	66.13 341	P	P	15 07 09.4	-1.0
	baz=155,SNR=5.5					
L35A	Bielow Farm, R	66.17 339	P	P	15 07 10.4	-0.2
	baz=153					
I41A	Arkdale	66.23 344	P	P	15 07 10.7	-0.3
	baz=159					
M33A	Taylor Creek F	66.27 337	P	P	15 07 10.8	-0.5
	baz=151					
K36A	Gilmore City	66.27 340	P	P	15 07 11.0	-0.3
	baz=154					
I40A	Norwalk	66.27 343	P	P	15 07 10.7	-0.5
	baz=158					
J38A	Wedel Dairy, R	66.28 342	P	P	15 07 10.8	-0.5
	baz=156					
H42A	Shiocton	66.31 345	P	P	15 07 10.5	-1.0
	baz=160,SNR=5.0					
BGNE	Belgrade	66.48 337	P	P	15 07 12.3	-0.4
	baz=150					
BGNE	Belgrade	66.48 337	eP	P	15 07 13.0	+0.3
I39A	Houston	66.49 343	P	P	15 07 11.9	-0.8
	baz=157,SNR=7.5					
SDCO	Great Sand Dun	66.59 329	P	P	15 07 12.4	-1.4
	baz=143					
J37A	Redenius Farm,	66.59 341	P	P	15 07 12.4	-0.9
	baz=155,SNR=6.8					
H41A	Junction City	66.69 344	P	P	15 07 13.0	-0.9
	baz=159,SNR=6.2					
F45A	CMU Biological	66.75 348	P	P	15 07 12.8	-1.5
	baz=163					
L33A	Hoskins	66.82 338	P	P	15 07 13.9	-0.9
	baz=151					
H40A	Chili	66.89 344	P	P	15 07 14.0	-1.2
	baz=158,SNR=11					
I38A	Scanlan Farm,	66.89 342	P	P	15 07 14.5	-0.7
	baz=156,SNR=13					
G42A	Mountain	66.98 345	P	P	15 07 15.4	-0.3
	baz=160,SNR=7.6					
K33A	Hardington	67.11 338	P	P	15 07 16.1	-0.5
	baz=152					
G41A	Antigo	67.13 345	P	P	15 07 16.2	-0.5
	baz=160					
H39A	Augusta	67.18 343	P	P	15 07 16.3	-0.8
	baz=158					
I37A	Lemond, Waseca	67.19 341	P	P	15 07 16.8	-0.3
	baz=155					
S22A	4UR Ranch, Cre	67.23 328	P	P	15 07 17.1	-0.8
	baz=142					
F43A	Flat Rock, Esc	67.24 346	P	P	15 07 16.3	-1.1
	baz=162,SNR=6.6					
Q24A	Divide	67.39 330	P	P	15 07 17.9	-1.0
	baz=143					
H38A	Maiden Rock	67.46 342	P	P	15 07 18.6	-0.1
	baz=157,SNR=6.6					
K32A	Verdigre	67.50 337	P	P	15 07 18.9	-0.2
	baz=151					
H37A	Dierke Farm, C	67.56 342	P	P	15 07 18.9	-0.5
	baz=156					
F41A	Three Lakes	67.61 345	P	P	15 07 18.8	-0.9
	baz=160,SNR=12					
G39A	Holcombe	67.71 343	P	P	15 07 20.0	-0.3
	baz=158,SNR=9.0					
G38A	Ridgeland	67.79 343	P	P	15 07 20.2	-0.7
	baz=157,SNR=6.6					
ECSD	EROS Data Cent	67.97 339	P	P	15 07 21.3	-0.7
	baz=152,SNR=8.4					
F40A	Park Falls	68.03 344	P	P	15 07 21.7	-0.7
	baz=159,SNR=16					
J32A	Parkston	68.08 338	P	P	15 07 22.1	-0.6
	baz=151					
SPMN	Marine on St.	68.11 342	P	P	15 07 22.3	-0.5
	baz=156					
LIC	Lamto	68.15 75	eP	P	15 07 22.3	-1.5
	comp=Z,50nm,0.7s					
F39A	Loretta	68.23 344	P	P	15 07 22.6	-1.0

baz=158,SNR=6.0
H35A Sunnyside Ranc 68.24 341 P **P 15 07 23.3 -0.4**
baz=154
ISCO Idaho Springs 68.27 330 P **P 15 07 24.3 -0.1**
baz=143
ISCO Idaho Springs 68.27 330 *e*P **P 15 07 25.5 +1.1**
ISCO *e**PP **pP 15 07 51.7 +0.7**
ISCO Idaho Springs 68.27 330 *e*P **P 15 07 25.5 +1.1**
ISCO epP **pP 15 07 51.7 +0.7**
TIC Toumodi 68.32 74 *e*P **P 15 07 23.4 -1.5**
SMCO Snowmass 68.42 329 *e*P **P 15 07 26.9 +1.4**
SMCO epP **pP 15 07 53.1 +1.1**
E40A Wakefield 68.46 345 P **P 15 07 24.9 -0.1**
baz=159,SNR=13
KIC Kosan Boka 68.46 75 *e*P **P 15 07 24.5 -1.2**
comp=Z,107nm,0.9s
DBIC Dimbokro 68.48 74 P **P 15 07 24.7 -1.1**
comp=Z,37nm,0.8s,baz=219,slow=6.4,SNR=29
DBIC pP **pP 15 07 52.6 +0.2**
comp=Z,11nm,0.7s,baz=240,slow=7.5,SNR=3.6
DBIC LR LR 15 37 10.7
comp=Z,76nm,19.1s,baz=197,slow=36
H34A Spellman Lake, 68.52 340 P **P 15 07 24.6 -0.8**
baz=153
F38A Pierce - Schro 68.53 343 P **P 15 07 24.8 -0.6**
baz=157
E39A Mellen 68.56 344 P **P 15 07 25.0 -0.6**
baz=158,SNR=9.1
NVL N'lazarevskaya 68.59 159 *e*P **P 15 07 29.9 +4.4**
H33A Prehn Over Nor 68.85 339 P **P 15 07 27.0 -0.5**
baz=152
I31A Royce, Wessing 68.89 338 P **P 15 07 27.3 -0.5**
baz=150
F36A Milaca 68.90 342 P **P 15 07 27.2 -0.5**
baz=156,SNR=6.0
BC3 Big Chuckawall 69.01 320 P **P 15 07 28.1 -0.7**
baz=133
IRM Iron Mountain 69.17 320 P **P 15 07 30.8 +1.1**
baz=134,SNR=7.3
G33A Ortonville 69.20 340 P **P 15 07 29.3 -0.3**
baz=153
N23A Red Feather La 69.30 331 P **P 15 07 31.0 +0.3**
baz=143
N23A Red Feather La 69.30 331 *e*P **P 15 07 31.8 +1.1**
F34A Alexandria 69.36 341 P **P 15 07 30.3 -0.3**
baz=154
SUSD Miller 69.40 338 P **P 15 07 30.7 -0.2**
baz=150
BELC Belle Mtn. Jos 69.57 320 P **P 15 07 32.3 0.0**
baz=133
PFO Pinyon Flats O 69.59 319 pP pP 15 07 60.0 +0.8
comp=Z,7.9nm,0.8s,baz=135,slow=6.8,SNR=4.8
F33A 5 Mile Ranch, 69.73 340 P **P 15 07 32.9 +0.1**
baz=153
D37A Cotton 69.78 343 P **P 15 07 33.6 +0.5**
baz=157
E35A Pequot Lakes 69.79 342 P **P 15 07 33.3 +0.1**
baz=155
LCMT Little Creek M 70.07 324 *e*P **P 15 07 37.3 +2.0**
LCMT epP **pP 15 08 03.7 +1.6**
SRU San Rafael Swe 70.14 327 *e*P **P 15 07 37.1 +1.3**
SRU *e**PP **pP 15 08 03.6 +1.0**
SRU San Rafael Swe 70.14 327 *e*P **P 15 07 37.1 +1.3**
SRU epP **pP 15 08 03.6 +1.0**
C37A Embarrass 70.24 344 P **P 15 07 35.8 -0.1**
baz=157,SNR=5.1
EYMN Ely 70.26 344 P **P 15 07 35.6 -0.4**
baz=158,SNR=5.3
CMLA Cha da Macela 70.38 36 *i*P **P 15 07 36.2 -0.9**
F31A Hecla 70.39 339 P **P 15 07 36.6 -0.3**
baz=151
SZCU Shurtz Canyon 70.40 324 *e*P **P 15 07 39.5 +2.1**
SZCU epP **pP 15 08 05.9 +1.8**
C36A Pine Crest Far 70.44 343 P **P 15 07 36.6 -0.5**
baz=156,SNR=5.3
CCUT Cedar City 70.52 324 *e*P **P 15 07 40.7 +2.6**
CCUT *e*PcP **PcP 15 08 00.9 +2.2**
P17A Butcher Ranch, 70.53 327 *e*P **P 15 07 39.5 +1.4**
P17A epP **pP 15 08 05.8 +1.0**
MSU Marysvale 70.57 325 *e*P **P 15 07 40.4 +1.9**
MSU *e**PP **pP 15 08 06.8 +1.6**
MSU Marysvale 70.57 325 *e*P **P 15 07 40.4 +1.9**
MSU epP **pP 15 08 06.8 +1.6**
RSSD Black Hills 71.08 334 P **P 15 07 40.9 -0.5**
baz=146
RSSD Black Hills 71.08 334 *e*P **P 15 07 42.1 +0.7**
RSSD *e**PP **pP 15 08 09.1 +0.9**
RSSD Black Hills 71.08 334 *e*P **P 15 07 42.1 +0.7**
RSSD epP **pP 15 08 09.1 +0.9**
B35A Bob, Littlefor 71.23 343 P **P 15 07 41.1 -0.8**
baz=156,SNR=5.5
JLU Jordanelle 71.73 327 *e*P **P 15 07 47.1 +1.6**
JLU epP **pP 15 08 13.6 +1.3**
TPNV Topopah Spring 71.74 322 *e*P **P 15 07 47.4 +1.9**
TPNV Topopah Spring 71.74 322 *e*P **P 15 07 47.4 +1.9**
FURC Furnace Creek, 71.77 321 P **P 15 07 46.9 +1.5**
baz=133,SNR=5.2
A33A Warroad 72.22 342 P **P 15 07 47.5 -0.3**
baz=154,SNR=5.6
BW06 Boulder Array 72.44 330 *e*P **P 15 07 48.8 -0.8**
baz=140
BW06 Boulder Array 72.44 330 *e*P **P 15 07 49.7 +0.1**
PD31 Pinedale Array 72.44 330 *e*P **P 15 07 52.1 +2.5**
PD31 epP **pP 15 08 17.8 +1.2**
PDAR Pinedale Array 72.44 330 P **P 15 07 49.5 -0.2**
comp=Z,2.0nm,0.9s,baz=142,slow=5.1,SNR=8.2
PDAR pP **pP 15 08 16.6 +0.1**
comp=Z,2.0nm,0.8s,baz=123,slow=5.5,SNR=7.0
PKM Mcpherson Peak 72.52 318 P **P 15 07 50.4 +0.2**
baz=130
HWUT Hardware Ranch 72.54 328 *e*P **P 15 07 51.0 +0.9**
MDND Maddock 72.58 339 P **P 15 07 50.1 0.0**
baz=150
BGU Big Grassy Mou 72.78 327 *e*P **P 15 07 52.9 +1.3**
HVU Hansel Valley 73.28 327 *e*P **P 15 07 55.7 +1.2**
HVU *e**PP **pP 15 08 22.1 +0.7**
HVU Hansel Valley 73.28 327 *e*P **P 15 07 55.7 +1.2**
HVU epP **pP 15 08 22.1 +0.7**
REDW Red Top Meadow 73.51 330 *e*P **P 15 07 57.2 +1.3**
LOHW Long Hollow 73.58 330 *e*P **P 15 07 57.5 +1.2**
TPAW Teton Pass 73.65 330 *e*P **P 15 07 58.1 +1.3**
TPAW epP **pP 15 08 25.1 +1.3**
FXWY Fox Creek 73.80 330 *e*P **P 15 07 58.8 +1.2**
FXWY epP **pP 15 08 25.3 +0.8**
IMW Indian Meadow 73.95 330 *e*P **P 15 07 59.4 +0.8**
IMW epP **pP 15 08 26.6 +1.0**
LAO LASA Array 74.07 334 P **P 15 07 59.5 +0.6**
baz=144
YHH Holmes Hill 74.59 331 *e*P **P 15 08 04.4 +2.1**
YHH epP **pP 15 08 30.9 +1.7**
YHB Horse Butte 74.72 330 *e*P **P 15 08 04.6 +1.7**
YHB epP **pP 15 08 31.6 +1.7**
GCMT Greycliff 74.82 332 *e*P **P 15 08 04.6 +1.2**
HLID Hailey 75.40 328 P **P 15 08 08.1 +1.3**
baz=136,SNR=5.4
HLID Hailey 75.40 328 *e*P **P 15 08 08.3 +1.5**
PAHR Pah Rah Range 75.41 322 *e*P **P 15 08 08.9 +2.0**
PAHR epP **pP 15 08 35.7 +1.7**
MCMT McKenzie Canyo 75.56 330 *e*P **P 15 08 09.3 +1.5**
MCMT epP **pP 15 08 36.3 +1.5**
BOZ Bozeman (W) 75.56 331 P **P 15 08 08.3 +0.7**
baz=139
BOZ Bozeman (W) 75.56 331 *e*P **P 15 08 08.9 +1.3**
BOZ Bozeman (W) 75.56 331 *e*P **P 15 08 08.8 +1.3**
DLMT Dillon 75.84 330 *e*P **P 15 08 10.8 +1.6**
MFID Camas Ranch 76.01 327 *e*P **P 15 08 12.1 +1.9**
MFID epP **pP 15 08 38.7 +1.4**
BEKR Beckworth 76.08 322 *e*P **P 15 08 13.0 +2.2**
BEKR epP **pP 15 08 39.2 +1.3**
ORV Oroville 76.55 321 *e*P **P 15 08 15.1 +1.9**
ORV Oroville 76.55 321 *e*P **P 15 08 15.1 +1.9**
EGMT Eagleton 76.59 333 P **P 15 08 13.4 +0.1**
baz=141
EGMT Eagleton 76.59 333 *e*P **P 15 08 14.2 +0.9**
TORD Torodi Ar. Bea 77.00 71 P **P 15 08 14.8 -1.4**
comp=Z,14nm,0.6s,baz=251,slow=5.4,SNR=73
TORD pP **pP 15 08 43.7 +0.3**
comp=Z,7.2nm,0.8s,baz=255,slow=5.6,SNR=3.8
TORD sP **sP 15 08 56.6 +1.7**
comp=Z,4.0nm,0.5s,baz=253,slow=5.2,SNR=2.5
TORD S **S 15 17 52.0 -4.5**
comp=Z,1.1nm,1.1s,baz=249,slow=12,SNR=5.0
SBA Scott Base 77.53 190 *e*P **P 15 08 20.9 +2.8**
SBA Scott Base 77.53 190 *e*P **P 15 08 20.9 +2.8**

MSO Missoula 77.55 330 P **P 15 08 19.0 +0.2**
baz=137
BMO Blue Mountains 77.78 327 *e*P **P 15 08 21.4 +1.3**
BMO Blue Mountains 77.78 327 *e*P **P 15 08 21.4 +1.3**
VNDA Vanda 78.56 190 P **P 15 08 25.6 +1.8**
comp=Z,1.9nm,0.9s,baz=128,slow=5.5,SNR=11
NEW Newport 80.08 330 pP pP 15 08 59.0 -0.8
comp=Z,2.1nm,0.7s,baz=124,slow=15,SNR=2.4
MDT Midelt 80.80 50 P **P 15 08 36.3 -0.5**
comp=Z,4.8nm,0.9s,baz=236,slow=5.5,SNR=7.3
BOSA Boshof 84.51 118 P **P 15 08 55.7 -0.6**
comp=Z,12nm,1.0s,baz=228,slow=3.8,SNR=10
BOSA pP **pP 15 09 23.1 -0.8**
comp=Z,5.3nm,0.9s,baz=236,slow=7.6,SNR=3.0
ESDC Sonseca Array 84.75 45 P **P 15 08 56.4 -0.5**
comp=Z,2.0nm,0.8s,baz=237,slow=5.7,SNR=9.8
ESDC pP **pP 15 09 25.2 +0.6**
comp=Z,0.2nm,0.3s,baz=242,slow=5.2,SNR=1.8
MAW Mawson 86.11 163 P **P 15 09 03.7 +0.5**
comp=Z,6.0nm,0.9s,baz=225,slow=6.5,SNR=16
YKA Yellowknife Ar 89.42 341 P **P 15 09 19.5 +0.6**
comp=Z,6.1nm,0.8s,baz=135,slow=4.6,SNR=19
YKA pP **pP 15 09 47.2 +0.5**
comp=Z,24nm,1.0s,baz=134,slow=4.8,SNR=13
ILAR Eielson Array 102.53 335 PP PP 15 14 39.6 +6.7
comp=Z,0.6nm,1.0s,baz=106,slow=6.3,SNR=4.4
BRTR Keskin Array B 112.00 54 PP PP 15 15 45.0 +1.8
comp=Z,0.4nm,0.5s,baz=252,slow=7.5,SNR=3.8
KBZ Khabaz 119.19 50 PKP **PKPdf 15 15 11.2 +0.1**
comp=Z,1.4nm,0.8s,baz=333,slow=2.3,SNR=3.6
NCK Nalchik 119.69 51 ↓*i*PKIKP **PKPdf 15 15 11.2 -1.0**
STKA Stephens Creek 120.83 210 PKP **PKPdf 15 15 14.9 +0.1**
comp=Z,1.2nm,0.6s,baz=178,slow=2.9,SNR=4.8
SEY Seymchan 128.36 337 pPKP pPKPdf 15 15 58.1 +0.9
comp=Z,1.8nm,0.8s,baz=67,slow=7.7,SNR=3.7
GEYT Alibeck 131.05 57 PKP **PKPdf 15 15 34.1 0.0**
comp=Z,0.9nm,0.7s,baz=5.7,slow=4.3,SNR=2.4
ASAR Alice Springs 131.36 209 PKP **PKPdf 15 15 35.1 -0.1**
comp=Z,1.7nm,0.6s,baz=129,slow=1.6,SNR=42
ASAR pPKP **pPKPdf 15 16 04.0 -0.3**
comp=Z,0.7nm,0.6s,baz=128,slow=1.5,SNR=3.4
ASAR SKPbc **SKPbc 15 18 49.9 -0.8**
comp=Z,2.0nm,0.9s,baz=146,slow=4.0,SNR=13
PMG Port Moresby 133.98 234 ↓*e*PKIKP **PKPdf 15 15 39.0 -1.3**
WRA Warramunga Arr 134.35 212 PKP **PKPdf 15 15 41.0 +0.2**
comp=Z,2.9nm,0.6s,baz=155,slow=1.8,SNR=34
WRA pPKP **pPKPdf 15 16 09.8 -0.1**
comp=Z,1.0nm,0.7s,baz=150,slow=1.8,SNR=3.2
WRA SKPbc **SKPbc 15 19 00.3 -0.7**
comp=Z,3.0nm,1.0s,baz=146,slow=2.9,SNR=9.3
WRAB Tennant Creek 134.35 212 ↓*e*PKIKP **PKPdf 15 15 41.6 +0.7**
KURK Kurchatov 139.96 32 ↓*i*PKIKP **PKPdf 15 15 52.1 +1.9**
ZALV Zalesovo Beam 140.44 24 PKhKP PKPpre 15 15 46.3
comp=Z,0.4nm,0.3s,baz=298,slow=3.1,SNR=3.3
ZALV PKP **PKPdf 15 15 51.3 +0.4**
comp=Z,1.8nm,0.7s,baz=301,slow=3.7,SNR=6.9
ZALV pPKP pPKPdf 15 16 20.8 +0.7
comp=Z,3.4nm,0.7s,baz=295,slow=2.7,SNR=6.9
ZALV SKPbc **SKPbc 15 19 17.9 +0.2**
comp=Z,1.8nm,0.7s,baz=320,slow=3.9,SNR=5.3
AAK Ala-Archa 141.85 45 ↓*i*PKIKP **PKPdf 15 15 54.5 +0.4**
KSH Kashi 144.15 49 PKP PKPbc 15 15 56.8 +0.2
KSH pPKP pPKPdf 15 16 24.6 -2.7
KSH sPKP 15 16 35.5
KSH PP **PP 15 19 15.2 +1.4**
KSH PKS **PKSdf 15 19 34.3 +0.4**
KSH SKS **SKSdf 15 22 57.7 -0.5**
KSH SKKS **SKKSac 15 25 55.9 -0.6**
KSH SS **SS 15 37 50.7 +0.1**
KSH AMB AMB
comp=Z,130nm,4.0s
KSH LR LR
comp=Z,120nm,5.4s
KSH LR LR
comp=Z,95nm,5.0s
KSH LR LR
comp=Z,140nm,5.8s
MKAR Makanchi Array 144.32 34 PKP PKPbc 15 15 56.8 0.0
comp=Z,1.7nm,0.6s,baz=320,slow=3.2,SNR=17
MKAR pPKP pPKPdf 15 16 26.0 -1.3
comp=Z,1.6nm,0.7s,baz=296,slow=2.1,SNR=3.5
MKAR SKPbc **SKiKP 15 19 28.5 +0.2**
comp=Z,0.2nm,0.3s,baz=308,slow=2.3,SNR=4.1
DGZ Jazzator, Alta 144.73 27 *i*PKIKP PKPbc 15 15 58.3 +0.2
MOY Mondy 147.19 11 *e*PKP2 **PKPab 15 16 06.4 -0.8**
MOY pmax pmax
comp=Z,13nm,1.6s
TLY Talaya 147.60 8 ↓*e*PKP2 **PKPab 15 16 07.8 -1.0**
ZAK Zakamensk 148.81 9 *e*PKP2 **PKPbc 15 16 09.6 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
WMQ Urumqi 149.15 34 PKPbc **PKPdf 15 16 06.1 -0.3**
WMQ LR LR
comp=Z,59nm,21.5s
WMQ LR LR
comp=Z,55nm,23.5s
WMQ LR LR
comp=Z,55nm,23.5s
HYB Hyderabad 149.35 89 *i*PKP **PKPbc 15 16 12.0 +0.1**
USRK Ussuriysk Ar. 149.86 329 PKPbc **PKPbc 15 16 13.3 +1.0**
comp=Z,2.1nm,0.6s,baz=348,slow=1.6,SNR=4.7
USRK pPKPbc **pPKPbc 15 16 41.0 -0.3**
comp=Z,11nm,0.9s,baz=355,slow=1.3,SNR=9.1
MJAR Matsushiro Arr 150.74 311 PKPbc **PKPbc 15 16 15.0 +0.3**
comp=Z,1.1nm,0.6s,baz=87,slow=1.0,SNR=3.6
MJAR pPKPbc **pPKPbc 15 16 44.1 +0.4**
comp=Z,5.3nm,0.7s,baz=86,slow=1.1,SNR=9.1
SONM Songino Array 151.72 6 PKP **PKPdf 15 16 11.1 +0.7**
comp=Z,1.1nm,0.8s,baz=58,slow=1.0,SNR=5.4
SONM PKPbc **PKiKP 15 16 17.2 +0.1**
comp=Z,5.3nm,0.6s,baz=310,slow=1.2,SNR=29
SONM pPKPbc **pPKPbc 15 16 46.5 +0.8**
comp=Z,7.4nm,0.8s,baz=324,slow=1.3,SNR=11
KSRS Korea Array 156.87 323 pPKPab pPKPab 15 17 16.7 +0.7
comp=Z,2.3nm,0.8s,baz=60,slow=4.6,SNR=5.3
KSAR Wonju Array Be 156.90 323 pPKPab pPKPab 15 17 16.7 +0.6
GTA Gaotai 158.19 23 *e*PKP **PKPdf 15 16 18.4 -1.1**
GTA pPKP pPKPdf 15 16 45.5 -3.2
GTA sPKP 15 16 57.2
HHC Hu-ho-hao-te 158.92 358 *e*PKP **PKPdf 15 16 20.5 +0.2**
LZH Lanzhou 162.57 19 *e*PKP **PKPdf 15 16 24.4 0.0**
LZH pPKP pPKPdf 15 16 51.1 -2.6
LZH sPKP 15 17 02.0
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,160nm,18.1s
LZH LR LR
comp=Z,220nm,20.2s
NJ2 Nanjing 165.75 331 *e*PKP **PKPdf 15 16 27.5 +0.3**
CD2 Chengdu 167.16 28 PKP **PKPdf 15 16 27.4 -1.0**
CMAR Chiang Mai Arr 168.70 94 PKP **PKPdf 15 16 29.9 +0.2**
comp=Z,0.7nm,0.5s,baz=268,slow=2.4,SNR=7.6
CMAR pPKP **pPKPdf 15 17 00.2 +1.2**
comp=Z,0.3nm,0.4s,baz=274,slow=1.4,SNR=1.7
CMAR PKPab **PKPab 15 17 40.1 -0.4**
comp=Z,1.8nm,0.8s,baz=260,slow=6.4,SNR=12
CMAR PP **PP 15 21 30.5 +0.2**
comp=Z,0.3nm,0.6s,baz=255,slow=6.1,SNR=4.2
KMI Kunming 170.79 53 PKP **PKPdf 15 16 30.8 -0.3**
GYA Guiyang 172.27 29 *e*PKP **PKPdf 15 16 31.2 -0.4**
GYA sPKP 15 17 09.4
GYA PKS **PKSdf 15 20 02.8 -1.4**
GYA PP **PP 15 21 49.6 +3.2**
GYA AMB AMB
comp=Z,120nm,8.4s

*IDC **06** 14:57:14.6±1.2, 57.°94N×32.°51W, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/46, mbtmp3.8/10, MS3.1/2, Ms1 3.1/2, ms1mx2.6/40, Error ellipse: s-maj=31.2km s-min=22.0km az=33.0*
*ISCJB **06** 14:57:15.8±0.9, 58.°0N±0.°1×32.°4W±0.°2, h18km, mb3.7/9, MS2.7/1, Error ellipse: s-maj=20.1km s-min=16.4km az=33.9*
ISC 06 14:57:17.4±1.0, 58.°0N±0.°2×32.°5W±0.°1, h18km, n15, σ0°81/10, mb3.8/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.66**	**33**	Pn		**Pn**		**14 59 21.5**	**-0.2**
SFJD	**Kangerlussuaq**	**12.30**	**325**	LR		LR		15 04 01.4	
comp=Z,217nm,18.9s,baz=171,slow=33									
ESDC	**Sonseca Array**	**25.90**	**122**	P		**P**		**15 02 48.6**	**+0.4**
0.4nm,0.5s,baz=327,slow=8.8,SNR=4.5									

AKASG Malin Array Be 35.55 74 P **P 15 04 12.6 -0.5**
1.0nm,0.6s,baz=307,slow=8.3,SNR=6.3
YKA Yellowknife Ar 38.45 312 LR LR 15 19 43.4
comp=Z,11nm,18.1s,baz=180,slow=35
BRTR Keskin Array B 45.17 84 P **P 15 05 34.0 +1.0**
1.1nm,0.9s,baz=316,slow=5.2,SNR=5.3
KBZ Khabaz 47.14 73 P **P 15 05 49.2 +1.0**
1.5nm,0.7s,baz=333,slow=6.8,SNR=3.6
ILAR Eielson Array 47.94 328 P **P 15 05 55.2 +1.0**
1.1nm,1.1s,baz=40,slow=7.4,SNR=4.2
PDAR Pinedale Array 48.69 287 P **P 15 06 00.1 -0.4**
0.2nm,0.4s,baz=44,slow=11,SNR=2.0
TORD Torodi Ar. Bea 51.61 136 P **P 15 06 22.2 -0.5**
1.1nm,0.8s,baz=343,slow=7.0,SNR=7.0
MKAR Makanchi Array 62.54 45 P **P 15 07 39.4 -0.3**
0.7nm,0.6s,baz=342,slow=6.1,SNR=9.7
H10S1 ASCENSION HYDR 68.23 161 T T 16 22 16.6
baz=351,slow=75,SNR=5.5
H10S3 ASCENSION HYDR 68.23 161 T T 16 22 16.9
baz=351,slow=75,SNR=5.8
H10S2 ASCENSION HYDR 68.24 161 T T 16 22 17.4
baz=351,slow=75,SNR=4.8
SONM Songino Array 69.24 28 P **P 15 08 22.1 -0.8**
0.5nm,0.8s,baz=339,slow=7.7,SNR=3.4

*IDC **06** 15:16:38.6±5.8, 34.°64N×137.°40E, h168km±91km, mb2.8/2, mb1 3.0/4, mb1mx2.8/41, mbtmp3.2/4, Error ellipse: s-maj=205.3km s-min=24.8km az=74.0*
*ISCJB **06** 15:16:42.7±1.0, 35.°41N±0.°05×140.°47E±0.°08, h56km±8km, Error ellipse: s-maj=11.2km s-min=7.3km az=163.0*
*JMA **06** 15:16:43.0±0.1, 35.°46N×140.°41E, h52km±1km, M2.3*
ISC 06 15:16:43.4±1.6, 35.°43N±0.°05×140.°48E±0.°07, h51km±10km, n12, σ0°69/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**267**	P		**Pn**		**15 16 51.9**	**-0.1**
JCN				*e*S		**Sn**		**15 16 57.8**	**-0.3**
KTR	**Katsuura**	**0.31**	**205**	P		**Pn**		**15 16 52.7**	**0.0**
KTR				*e*S		**Sn**		**15 16 59.7**	**+0.4**
CHOJ	**Chosi**	**0.41**	**49**	P		**Pn**		**15 16 53.7**	**0.0**
CHOJ				*e*S		**Sn**		**15 17 01.3**	**+0.1**
BSO4	**Boso 4**	**0.45**	**194**	P		**Pn**		**15 16 54.2**	**+0.2**
BSO3	**Boso 3**	**0.63**	**177**	P		**Pn**		**15 16 55.9**	**-0.1**
JAG	**Ashikaga**	**1.29**	**320**	P		**Pn**		**15 17 04.5**	**-0.6**
JRY	**Ryogami san**	**1.41**	**295**	P		**Pn**		**15 17 06.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.15**	**302**	P		**Pn**		**15 17 16.7**	**0.0**
1.8nm,0.3s,baz=301,slow=43,SNR=22									
MJAR				S		**Sn**		**15 17 42.9**	**+0.7**
1.2nm,0.3s,baz=295,slow=28,SNR=4.6									
MAT	**Matsushiro**	**2.15**	**302**	P		**Pn**		**15 17 17.4**	**+0.6**
MAT				*e*S		**Sn**		**15 17 42.5**	**+0.3**
JHJ	**Hachijo jima 2**	**2.37**	**194**	P		**Pn**		**15 17 20.7**	**+0.9**
9.4nm,0.3s,baz=270,slow=20,SNR=6.1									
JHJ				S		**Sn**		**15 17 46.0**	**-1.7**
9.9nm,0.3s,baz=90,slow=20,SNR=5.0									
WRA	**Warramunga Arr**	**55.37**	**187**	P				15 25 47.6	-25
0.2nm,0.4s,baz=0.3,slow=7.5,SNR=4.9									
ASAR	**Alice Springs**	**59.10**	**187**	P				15 26 14.2	-24
0.3nm,1.0s,baz=357,slow=4.7,SNR=4.6									

SJA 06 15:19:35.3±0.3, 22.°53S×63.°66W, h157km±16km, ML2.5, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASTB	**Santa Barbara**	**1.59**	**207**	*e*P			Pn	15 20 07.3	+0.8
HJA	**Humahuaca**	**1.75**	**247**	*e*P			Pn	15 20 09.8	+1.3
HJA				IAML				15 20 10.6	
comp=Z,24nm,0.7s									
HJA				*e*S			Sn	15 20 35.2	+1.2
YJA	**Yavi**	**1.76**	**281**	*e*P			Pn	15 20 09.9	+1.3
AZAP	**Zapla**	**2.12**	**217**	*e*P			Pn	15 20 13.6	+1.1
AZAP				IAML				15 20 20.8	
comp=Z,26nm,0.2s									

TRN 06 15:22:24.3, 10.°88N×62.°46W, h15km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.06**	**102**	*e*P			Pg	15 22 45.1	+0.3
TRN				*e*S			Sn	15 23 00.2	+1.0
TBH	**Brigand Hill**	**1.42**	**106**	*e*P			Pn	15 22 49.9	+0.2
TBH				*e*S			Sg	15 23 09.6	-0.6
GRGR	**Grenville**	**1.47**	**32**	*e*P			Pn	15 22 50.8	+0.4
GRGR				*e*S			Sb	15 23 10.2	+0.2
BOT	**Bacolet**	**1.73**	**80**	*e*P			Pn	15 22 53.4	-0.5
BOT				*e*S			Sn	15 23 15.7	-0.1
TOSP	**Speyside**	**1.93**	**77**	*e*P			Pn	15 22 56.3	-0.4
TOSP				*e*S			Sn	15 23 20.8	+0.1
SVB	**Belmont**	**2.65**	**26**	*e*P			Pn	15 23 07.5	+0.9
SVB	**Belmont**	**2.65**	**26**	*e*P			Pn	15 23 07.5	+0.9
SVB				*e*S			Sn	15 23 38.2	-0.4
SLDE	**Delcer**	**3.21**	**25**	*e*P			Pn	15 23 14.7	+0.4
SLPA	**Patience**	**3.31**	**27**	*e*P			Pn	15 23 16.0	+0.3
SLW	**Petit Monier**	**3.46**	**25**	*e*P			Pn	15 23 18.4	+0.7
SLW				*e*S			Sn	15 23 58.6	+0.2

*ISCJB **06** 15:26:19.2±0.1, 14.°84S±0.°03×167.°37E±0.°03, h129km, mb5.0/138, Error ellipse: s-maj=3.9km s-min=3.7km az=38.9*
*BJI **06** 15:26:21.8, 14.°64S×167.°83E, h163km, mb4.9/55, mB5.0/41*
*IDC **06** 15:26:22.9±0.9, 14.°86S×167.°38E, h147km±7km, mb4.7/23, mb1 4.8/25, mb1mx4.8/25, mbtmp5.1/25, MS3.9/9, Ms1 3.9/9, ms1mx3.6/29, Error ellipse: s-maj=8.4km s-min=7.8km az=40.0*
*NEIC **06** 15:26:24.0±0.7, 14.°83S×167.°39E, h164km±6km, mb5.1/88, Error ellipse: s-maj=4.0km s-min=3.8km az=216.0*
NEIC Felt at Luganville.
*GCMT **06** 15:26:24.0±0.1, 14.°87S×167.°26E, h151km±1km, MW5.3/110, Moment Tensor Solution. s88,c115; s110,c185; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.86±.01; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$-0.76±.02; $M_{r\theta}$-0.24±.01; $M_{r\phi}$0.55±.02; $M_{\theta\phi}$-0.32±.01; Best double couple: $M_0$1.06100×10^{17} NP1:ϕ_s173.00000°, δ54.00000°, λ119.00000°. NP2:ϕ_s309.00000°, δ45.00000°, λ56.00000°. Principal axes: T 1.0360, Plg66.0000°, Azm141.0000°; N 0.0500, Plg23.0000°, Azm334.0000°; P -1.0860, Plg5.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 15:26:24.0±1.3, 14.°77S×167.°33E, h168km, mb5.0/40 Error ellipse: s-maj=8.4km s-min=7.3km az=40.0*
ISC 06 15:26:20.7±0.2, 14.°80S±0.°04×167.°33E±0.°04, h129km, n423, σ1°88/479, mb5.1/138, 16C-9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.28**	**187**	P			**Pn**	**15 28 06.0**	**+1.4**
14nm,0.3s,baz=34,slow=6.4,SNR=113									
DZM				S			**Sn**	**15 29 29.1**	**+3.2**
38nm,0.3s,baz=142,slow=23,SNR=6.8									
DZM	**Mont Dzumac**	**7.28**	**187**	*e*Pn			**Pn**	**15 28 05.7**	**+1.1**
115nm,0.2s									
DZM				*e*Sn			**Sn**	**15 29 23.5**	**-2.4**
198nm,0.3s									
DZM	**Mont Dzumac**	**7.28**	**187**	*e*Pn			**Pn**	**15 28 04.9**	**+0.3**
DZM				*e*Sn			**Sn**	**15 29 24.1**	**-1.8**
DZM				S			**Sn**	**15 29 29.1**	**+3.2**
HNR	**Honiara**	**8.97**	**306**	P			**Pn**	**15 28 32.0**	**+4.7**
29nm,0.3s,baz=175,slow=6.5,SNR=18									
HNR				S			**Sn**	**15 30 13.4**	**+6.6**
113nm,0.3s,baz=164,slow=23,SNR=10									
HNR	**Honiara**	**8.97**	**306**	*e*P			**Pn**	**15 28 30.0**	**+2.7**
HNR				*e*S			**Sn**	**15 30 10.0**	**+3.2**
HNR	**Honiara**	**8.97**	**306**	*e*P			**Pn**	**15 28 30.4**	**+3.1**
HNR				S			**Sn**	**15 30 13.4**	**+6.6**
HNR	**Honiara**	**8.97**	**306**	*e*Pn			**Pn**	**15 28 30.4**	**+3.1**
HNR				*e*Sn			**Sn**	**15 30 09.0**	**+2.2**
HNR				S			**Sn**	**15 30 13.4**	**+6.6**
MSVF	**Nonsavu**	**10.70**	**107**	*e*P			**Pn**	**15 28 54.6**	**+4.0**
MSVF	**Nonsavu**	**10.70**	**107**	*e*Pn			**Pn**	**15 28 54.6**	**+4.0**
FUNA	**Funafuti**	**13.18**	**63**	*e*Pn			**Pn**	**15 29 24.8**	**+1.7**
RABL	**Rabaul**	**18.28**	**304**	*e*P			**P**	**15 30 24.6**	**-0.1**
104nm,1.2s									
EIDS	**Eidsvold**	**18.51**	**233**	↓*i*P			**Pn**	**15 30 29.9**	**+1.1**

434nm,1.5s
EIDS *e*S **Sn** **15 33 54.9 -1.8**
AFI Afiamalu 20.26 90 P Pn 15 30 48.5 -0.9
101nm,0.8s,baz=259,slow=6.8,SNR=19
AFI Afiamalu 20.26 90 *e*P **P** **15 30 47.6 +1.4**
AFI pmax pmax
comp=Z,129nm,0.9s
AFI Afiamalu 20.26 90 *e*P **P** **15 30 47.6 +1.4**
comp=Z,130nm,0.9s
PMG Port Moresby 20.43 283 P Pn 15 30 50.2 -1.2
comp=Z,101nm,1.0s,baz=101,slow=6.7,SNR=21
PMG S **S** **15 34 29.6 -0.3**
comp=Z,7.9nm,0.9s,baz=186,slow=10,SNR=2.1
PMG Port Moresby 20.43 283 *e*P Pn 15 30 50.0 -1.4
comp=Z,109nm,1.0s
PMG S **S** **15 34 29.6 -0.3**
CTA Charters Tower 20.78 252 P Pn 15 30 54.0 -1.5
comp=Z,86nm,0.9s,baz=78,slow=13,SNR=60
CTA S **S** **15 34 38.7 +2.1**
comp=Z,4.6nm,0.9s,baz=3.5,slow=19,SNR=5.2
CTAO Charters Tower 20.78 252 *e*P **P** **15 30 53.5 +1.8**
CTAO pmax pmax
comp=Z,127nm,1.0s
CTAO Charters Tower 20.78 252 *e*P **P** **15 30 53.5 +1.8**
comp=Z,127nm,1.0s
OUZ Omahuta 21.10 166 *e*P **P** **15 30 56.5 +1.5**
comp=Z,196nm,1.1s
ARMA Armidale 21.21 220 *e*P **P** **15 30 58.5 +2.1**
comp=Z,72nm,1.0s
COEN Coen 23.41 269 *e*P **P** **15 31 19.6 +1.3**
comp=Z,44nm,1.0s
MANU Manus Island 23.43 301 *e*P **P** **15 31 19.7 +1.2**
comp=Z,94nm,1.2s
HIZ Hauiti 24.54 166 *e*P **P** **15 31 30.1 +1.8**
comp=Z,126nm,1.3s
URZ Urewera 24.92 161 P **P** **15 31 31.4 -0.4**
comp=Z,10nm,0.4s,baz=247,slow=2.6,SNR=23
URZ S **S** **15 35 42.3 -3.3**
comp=Z,4.5nm,0.6s,baz=342,slow=20,SNR=2.8
URZ Urewera 24.92 161 *e*P **P** **15 31 31.0 -0.8**
comp=Z,129nm,1.5s
URZ S **S** **15 35 42.3 -3.3**
BKZ Black Stump Fm 25.58 163 *e*P **P** **15 31 37.2 -0.6**
comp=Z,74nm,1.2s
THZ Tophouse 27.30 171 *e*P **P** **15 31 53.0 -0.3**
comp=Z,49nm,1.1s
KHZ Kahutara 28.04 170 *e*P **P** **15 31 58.6 -1.1**
comp=Z,99nm,1.7s
LTZ Lake Taylor 28.21 172 *e*P **P** **15 32 00.4 -0.9**
comp=Z,56nm,1.1s
FOZ Fox Glacier 28.72 176 *e*P **P** **15 32 05.7 0.0**
comp=Z,135nm,0.9s
OXZ Oxford 28.72 173 *e*P **P** **15 32 04.8 -1.0**
comp=Z,236nm,1.8s
JAY Jayapura 28.96 292 P **P** **15 32 09.5 +1.2**
comp=Z,0.3nm,0.5s,baz=295,slow=23,SNR=4.4
STKA Stephens Creek 28.99 230 P **P** **15 32 10.1 +1.7**
comp=Z,23nm,0.5s,baz=49,slow=8.7,SNR=138
STKA PcP **PcP** **15 35 14.3 +0.4**
comp=Z,16nm,0.8s,baz=10,slow=2.0,SNR=6.8
STKA S **S** **15 36 49.9 -0.2**
comp=Z,3.9nm,1.1s,baz=350,slow=18,SNR=2.9
STKA ScP **ScP** **15 38 43.5 -0.1**
comp=Z,10nm,0.9s,baz=18,slow=3.5,SNR=12
STKA Stephens Creek 28.99 230 *e*P **P** **15 32 09.7 +1.4**
STKA 15 35 14.3
STKA S **S** **15 36 49.9 -0.2**
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 28.99 230 *e*P **P** **15 32 09.7 +1.4**
comp=Z,7.0nm,0.8s
STKA PcP **PcP** **15 35 14.3 +0.4**
STKA S **S** **15 36 49.9 -0.2**
STKA ScP **ScP** **15 38 43.5 -0.1**
RPZ Rata Peaks 29.00 174 P **P** **15 32 07.7 -0.5**
comp=Z,45nm,0.8s,baz=300,slow=1.6,SNR=22
RPZ S **S** **15 36 45.7 -4.1**
comp=Z,8.8nm,1.0s,baz=243,slow=16,SNR=3.5
RPZ Rata Peaks 29.00 174 *e*P **P** **15 32 07.7 -0.5**
comp=Z,65nm,0.9s
RPZ S **S** **15 36 45.7 -4.1**
CRLZ Canterbury Las 29.04 172 *e*P **P** **15 32 07.7 -0.8**
comp=Z,113nm,1.4s
MQZ McQueen's Vall 29.17 172 *e*P **P** **15 32 08.9 -0.8**
comp=Z,59nm,1.1s
LBZ Lake Benmore 29.59 176 *e*P **P** **15 32 12.9 -0.6**
comp=Z,38nm,0.8s
WKZ Wanaka 29.97 178 *e*P **P** **15 32 16.7 -0.1**
comp=Z,73nm,0.9s
MLZ Mavora Lakes 30.48 179 *e*P **P** **15 32 20.1 -1.3**
comp=Z,90nm,1.0s
DCZ Deep Cove 30.57 180 *e*P **P** **15 32 21.7 -0.4**
comp=Z,187nm,1.0s
SMPI Sarmi 30.98 292 P **P** **15 32 28.1 +2.0**
WHZ Wether Hill Ro 31.00 179 *e*P **P** **15 32 25.1 -0.8**
comp=Z,86nm,1.0s
WB2 Warramunga Arr 31.86 256 *e*P **P** **15 32 32.3 -1.4**
WRAB Tennant Creek 31.86 256 *ce*P **P** **15 32 32.9 -0.8**
WRAB pmax pmax
comp=Z,80nm,1.2s
WRAB Tennant Creek 31.86 256 *e*P **P** **15 32 33.0 -0.8**
comp=Z,36nm,1.2s
WRA Warramunga Arr 31.87 256 P **P** **15 32 33.1 -0.7**
comp=Z,9.4nm,0.5s,baz=84,slow=8.9,SNR=107
WRA PcP **PcP** **15 35 21.8 +0.1**
comp=Z,10.0nm,1.0s,baz=81,slow=2.4,SNR=8.6
WRA S **S** **15 37 29.3 -6.0**
comp=Z,5.7nm,1.2s,baz=85,slow=14,SNR=10.0
WRA ScP **ScP** **15 38 53.3 -0.1**
comp=Z,7.0nm,1.0s,baz=84,slow=3.3,SNR=11
WRA PKiKP **PKiKP** **15 42 48.5 -1.7**
comp=Z,0.4nm,0.6s,baz=12,slow=0.5,SNR=14
WRA LR LR 15 45 31.2
comp=Z,411nm,18.4s,baz=75,slow=36
RAR Rarotonga 31.89 106 P **P** **15 32 34.7 +0.8**
comp=Z,97nm,1.1s,baz=231,slow=7.0,SNR=9.6
RAR Rarotonga 31.89 106 *e*P **P** **15 32 33.7 -0.2**
comp=Z,184nm,1.2s
AS01 Alice Springs 32.66 249 *e*P **P** **15 32 40.2 -0.6**
AS31 Alice Springs 32.70 249 *e*P **P** **15 32 40.7 -0.4**
comp=Z,22nm,1.2s
ASAR Alice Springs 32.70 249 P **P** **15 32 40.9 -0.3**
comp=Z,19nm,0.5s,baz=79,slow=9.2,SNR=650
ASAR PcP **PcP** **15 35 23.9 -0.1**
comp=Z,6.9nm,0.9s,baz=89,slow=3.2,SNR=7.1
ASAR S **S** **15 37 44.5 -3.8**
comp=Z,17nm,1.2s,baz=72,slow=17,SNR=14
ASAR ScP **ScP** **15 38 55.6 -0.6**
comp=Z,12nm,0.9s,baz=84,slow=3.3,SNR=22
ASAR PKiKP **PKiKP** **15 42 48.9 -1.9**
comp=Z,1.4nm,0.9s,baz=108,slow=1.3,SNR=8.9
ASAR LR LR 15 45 41.8
comp=Z,394nm,18.6s,baz=90,slow=35
ASAR Alice Springs 32.70 249 P **P** **15 32 40.9 -0.3**
ASAR 15 35 23.9
ASAR S **S** **15 37 44.5 -3.8**
ASAR pmax pmax
comp=Z,20nm,0.5s
ASAR pmax pmax
comp=Z,7.0nm,0.9s
ASAR smax smax
comp=N,17nm,1.2s
ASAR pmax pmax
comp=N,12nm,0.9s
TAU Tasmania Unive 32.87 208 *e*P **P** **15 32 42.3 +0.1**
TAU pmax pmax
comp=Z,45nm,1.2s
TAU Tasmania Unive 32.87 208 *e*P **P** **15 32 42.3 +0.1**
comp=Z,45nm,1.2s
BBOO Buckleboo 33.58 232 *e*P **P** **15 32 49.9 +1.2**
comp=Z,50nm,1.1s
MTN Manton Dam 35.18 269 *e*P **P** **15 33 03.0 +0.5**
comp=Z,58nm,1.6s
FAKI Fak Fak 36.55 285 P **P** **15 33 15.1 +0.9**
FAKI Fak Fak 36.55 285 *e*P **P** **15 33 15.2 +0.9**
comp=Z,44nm,1.1s
BNDI Bandanaira 38.22 282 P **P** **15 33 29.3 +0.9**
SIJI Sorong 38.22 288 S **S** **15 39 12.3 -0.5**
comp=Z,19nm,0.7s,baz=225,slow=15,SNR=5.6
FORT Forrest 39.31 239 *e*P **P** **15 33 37.6 +0.3**
comp=Z,350nm,0.7s
FITZ Fitzroy Crossi 40.06 259 P **P** **15 33 44.4 +0.8**
baz=258,slow=0.0
PAE Paea 41.41 100 *e*P **P** **15 33 55.7 +1.0**
comp=Z,25nm,1.1s
PPT2 Papeete2 41.41 100 *e*P **P** **15 33 56.2 +1.4**
comp=Z,186nm,1.6s
PPT2 *e*S **S** **15 40 01.6 +1.1**
comp=Z,154nm,26.8s
PPT2 *e*LQ LQ 15 43 53.5
comp=Z,1μm,28.2s
PPT2 *e*LR LR 15 45 41.3
comp=Z,599nm,31.8s
PPT Papeete 41.41 100 P **P** **15 33 55.3 +0.5**
comp=Z,80nm,0.9s,baz=290,slow=12,SNR=5.4
TIAR Tiarei 41.63 100 *e*P **P** **15 33 57.9 +1.3**
comp=Z,45nm,1.2s
TVO Taravao 41.71 100 *e*P **P** **15 33 58.6 +1.3**
comp=Z,42nm,1.0s
TVO *e*pP **pP** **15 34 28.6 +2.3**
comp=Z,29nm,1.1s
LBMI Labuha 41.79 286 P **P** **15 34 00.9 +3.0**
SOEI Soe 42.33 272 *e*P **P** **15 34 03.1 +0.7**
comp=Z,36nm,0.9s
PMOR Pomariorio Ree 43.21 96 *e*P **P** **15 34 11.2 +1.9**
comp=Z,365nm,1.1s
VAH Vaihoa 43.45 97 *e*P **P** **15 34 12.6 +1.4**
comp=Z,189nm,1.0s
MBWA Marble Bar 45.58 255 *e*P **P** **15 34 28.6 +0.5**
comp=Z,43nm,1.3s
NWAO Narrogin (SRO) 48.77 239 *e*P **P** **15 34 52.7 0.0**
NWAO pmax pmax
comp=Z,99nm,1.3s
NWAO Narrogin (SRO) 48.77 239 *e*P **P** **15 34 52.6 0.0**
comp=Z,99nm,1.3s
OPA Opana 49.70 44 *e*P **P** **15 34 59.7 -0.2**
OPA pmax pmax
comp=Z,210nm,1.1s
OPA Opana 49.70 44 *e*P **P** **15 34 59.7 -0.2**
comp=Z,210nm,1.1s
TAOE Nuku Hiva Isla 51.65 90 *e*P **P** **15 35 16.4 +1.6**
comp=Z,240nm,1.2s
TAOE Nuku Hiva Isla 51.65 90 *e*LR LR 15 50 15.2
comp=Z,366nm,34.5s
MYLDM Lahad Datu 52.31 289 *e*P **P** **15 35 21.3 +1.8**
comp=Z,74nm,1.4s
KKM Kota Kinabalu 54.74 289 *e*P **P** **15 35 38.4 +1.0**
comp=Z,84nm,1.2s
KKM Kota Kinabalu 54.74 289 ⇑P **P** **15 35 39.6 +2.2**
RKT Rikitea 54.90 108 *e*LQ LQ 15 49 32.8
comp=Z,466nm,29.5s
RKT *e*LR LR 15 51 53.6
comp=Z,355nm,31.2s
SBUM Sibu 57.18 283 *e*P **P** **15 35 55.7 +1.1**
comp=Z,22nm,1.0s
SBUM Sibu 57.18 283 ⇑P **P** **15 35 56.9 +2.2**
MJAR Matsushiro Arr 57.99 332 P **P** **15 36 00.3 +0.3**
comp=Z,9.0nm,0.8s,baz=231,slow=12,SNR=23
MAJO Matsushiro 57.99 332 *de*P **P** **15 36 01.0 +1.1**
MAJO pmax pmax
comp=Z,113nm,0.8s
MAJO Matsushiro 57.99 332 *e*P **P** **15 35 59.8 -0.1**
comp=Z,17nm,0.6s
MAT Matsushiro 57.99 332 P **P** **15 36 00.4 +0.5**
MJB9 Matsu-Tunnel 58.00 332 *e*P **P** **15 35 59.8 -0.1**
comp=Z,4.0nm,0.6s
KSM Kuching 58.68 281 *e*P **P** **15 36 05.0 -0.1**
comp=Z,72nm,1.1s
YHNB Yeheng 59.57 311 *e*P **P** **15 36 11.3 +0.2**
comp=Z,74nm,1.2s
KUR Kuril'sk 62.30 345 *e*P **P** **15 36 29.5 +0.4**
KUR *e*S **PcP** **15 37 09.3 +1.7**
KUR pmax pmax
comp=Z,23nm,1.1s
VNDA Vanda 62.80 181 P **P** **15 36 31.9 -0.1**
comp=Z,14nm,0.8s,baz=357,slow=6.7,SNR=59
VNDA Vanda 62.80 181 *e*P **P** **15 36 31.7 -0.3**
VNDA pmax pmax
comp=Z,137nm,1.7s
VNDA Vanda 62.80 181 *e*P **P** **15 36 31.7 -0.3**
comp=Z,137nm,1.7s
ASAJ Asahikawa 62.83 340 *e*P **P** **15 36 33.8 +1.2**
comp=Z,94nm,1.2s
SBA Scott Base 63.07 180 *e*P **P** **15 36 34.3 +0.5**
SBA pmax pmax
comp=Z,112nm,1.0s
SBA Scott Base 63.07 180 *e*P **P** **15 36 34.3 +0.5**
comp=Z,112nm,1.0s
KSRS Korea Array 63.83 326 P **P** **15 36 40.5 +1.2**
comp=Z,3.5nm,0.8s,baz=144,slow=6.4,SNR=8.0
KSRS S **S** **15 44 57.4 -6.9**
comp=Z,1.2nm,0.7s,baz=135,slow=12,SNR=4.3
KSRS LR LR 15 59 20.2
comp=Z,28nm,21.9s,baz=115,slow=31
KSAR Wonju Array Be 63.84 326 P **P** **15 36 40.5 +1.1**
KSAR S **S** **15 44 57.5 -7.1**
KSAR Wonju Array Be 63.84 326 P **P** **15 36 40.5 +1.1**
KSAR S **S** **15 44 57.5 -7.1**
KS01 Wonju Array Si 63.86 326 *e*P **P** **15 36 39.2 -0.3**
MYKOM Kota Tinggi 64.93 279 *e*P **P** **15 36 45.5 -1.6**
comp=Z,34nm,1.1s
YSS Yuzh-Sakhalins 65.31 342 *α i*P **P** **15 36 50.6 +1.8**
YSS *e*S **S** **15 45 19.0 -3.2**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=Z,300nm,3.5s
YSS Yuzh-Sakhalins 65.31 342 *e*P **P** **15 36 49.1 +0.4**
comp=Z,88nm,1.1s
NJ2 Nanjing 65.77 316 *e*P **P** **15 36 52.8 +0.8**
NJ2 pmax pmax
comp=Z,18nm,0.6s
MSHR Mys Shultsa 66.07 332 ⇑*e*P **P** **15 36 56.4 +2.7**
USRK Ussuriysk Ar. 66.97 333 P **P** **15 37 00.6 +1.2**
comp=Z,27nm,1.0s,baz=116,slow=4.4,SNR=19
PET Petropavlovsk 67.96 354 *e*P **P** **15 37 04.5 -0.9**
PET *e*S **S** **15 45 47.0 -6.8**
PET pmax pmax
comp=Z,47nm,1.2s
PET pmax pmax
comp=Z,100nm,13.9s
PET Petropavlovsk 67.96 354 *e*P **P** **15 37 05.5 +0.1**
comp=Z,58nm,1.2s
PEA0 Petropavlovsk- 68.14 354 *e*P **P** **15 37 06.2 -0.4**
PEA0B Petropavlovsk- 68.14 354 *e*P **P** **15 37 06.7 +0.1**
comp=Z,70nm,1.1s
PETK Petropavlovsk- 68.14 354 P **P** **15 37 07.5 +1.0**
comp=Z,32nm,0.9s,baz=140,slow=7.2,SNR=23
PETK LR LR 16 04 02.6
comp=Z,68nm,18.5s,baz=143,slow=33
MDJ Mudanjiang 68.37 332 P **P** **15 37 09.4 +1.2**
MDJ pP sP 15 37 49.7 -4.1
MDJ sP pP 15 38 08.4 +29
MDJ PP **PP** **15 39 43.5 +2.5**
MDJ S **S** **15 45 58.2 -0.9**
MDJ ScS **SKiKP** **15 46 52.1 +2.7**
MDJ sS ScS 15 47 08.7 +13
MDJ SS **SS** **15 50 25.9 +0.3**
MDJ pmax pmax
comp=Z,31nm,1.4s
MDJ pmax pmax
comp=Z,140nm,5.7s
MDJ LR LR
comp=Z,21nm,20.2s
MDJ LR LR
comp=Z,31nm,21.5s
MDJ LR LR
comp=Z,37nm,22.9s
MDJ Mudanjiang 68.37 332 *e*P **P** **15 37 07.7 -0.6**
comp=Z,40nm,1.1s
IPM Ipoh 68.42 281 *e*P **P** **15 37 08.4 -0.8**
comp=Z,56nm,1.0s
TYV Tymovskoe 68.86 344 *e*P **P** **15 37 12.2 +1.1**
TYV pmax pmax
comp=Z,30nm,1.2s
KULM Kulim 69.02 282 *e*P **P** **15 37 12.3 -0.6**
comp=Z,40nm,1.0s
HABR Khabarovsk 69.22 338 *ce*P **P** **15 37 12.4 -1.0**
HABR *e* 15 37 35.1
HABR *e* 15 39 47.2
HABR *e*PPP PPP 15 41 29.3
HABR *e*S **S** **15 46 07.4 -1.6**
HABR *e* 15 46 48.2
HABR *e* 15 47 00.1
HABR *e*SS **SS** **15 50 38.2 -0.3**
HABR pmax pmax
comp=N,15nm,1.1s
HABR pmax pmax
comp=E,15nm,1.1s
HABR pmax pmax
comp=Z,45nm,1.1s
HABR MLR MLR
comp=Z,42nm,20.0s
TIA Tai'an 69.43 318 ⇑P **P** **15 37 14.8 -0.2**
TIA pmax pmax
comp=Z,40nm,1.0s
SKLT Songkhla 69.64 284 P **P** **15 37 18.4 +1.7**
comp=Z,34nm,1.1s
CN2 Changchun 69.73 329 *e*P **P** **15 37 17.1 +0.4**
CN2 *e*PP **PP** **15 39 56.3 +3.5**
CN2 *e*S **S** **15 46 11.9 -3.3**
CN2 *es*S sS 15 47 24.9 +15
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,200nm,3.0s
MIR Mirnyy 70.29 204 *i* P **P** **15 37 20.0 +0.3**
MIR pmax pmax
comp=Z,9.0nm,1.4s
KRAB Krabi 71.31 284 P **P** **15 37 28.9 +2.1**
comp=Z,21nm,1.0s,comp=Z,345nm
CHAI Chaiyaphum 71.39 293 P **P** **15 37 28.7 +1.4**
comp=Z,5.0nm,0.9s
ENH Enshi 71.45 309 *e*P **P** **15 37 27.1 -0.4**
comp=Z,52nm,1.3s
GYA Guiyang 71.80 305 P **P** **15 37 31.0 +1.3**
GYA pP sP 15 38 14.2 -1.3
GYA sP pP 15 38 33.0 +31
GYA PP **PP** **15 40 15.5 +4.5**
GYA S **S** **15 46 36.5 -3.6**
GYA pmax pmax
comp=Z,20nm,1.0s
BJI Beijing 72.36 321 P **P** **15 37 33.4 +0.9**
BJI S **S** **15 46 41.3 -4.3**
BJI pmax pmax
comp=Z,24nm,1.7s
BJI LR LR
comp=Z,98nm,24.5s
BJI LR LR
comp=Z,99nm,34.5s
PHET Kaeng Krachan 72.45 289 P **P** **15 37 37.1 +3.5**
comp=Z,7.2nm,1.2s
PBKT Sadao Pong 72.54 293 P **P** **15 37 35.8 +1.7**
comp=Z,29nm,1.0s
UTTA Uttaradit 73.35 294 P **P** **15 37 40.6 +1.8**
comp=Z,8.0nm,1.0s,comp=Z,81nm
UTHA Uthaitani 73.54 291 P **P** **15 37 42.0 +2.0**
comp=Z,7.6nm,1.0s,comp=Z,66nm
NANT Nan 73.61 295 P **P** **15 37 42.0 +1.6**
comp=Z,14nm,0.9s
XAN Xi'an 73.78 313 P **P** **15 37 42.3 +1.1**
XAN pmax pmax
comp=Z,27nm,1.0s
XAN pmax pmax
comp=Z,100nm,6.1s
UMPA Umpang Tak 74.30 292 P **P** **15 37 46.5 +2.0**
comp=Z,4.2nm,1.1s
KMI Kunming 74.39 302 P **P** **15 37 46.9 +1.8**
KMI pP pP 15 38 22.6 +5.4
KMI S **S** **15 47 10.3 +0.6**
KMI sS sS 15 48 14.8 +10
KMI pmax pmax
comp=Z,35nm,1.2s
LAMP Lampang 74.45 294 P **P** **15 37 47.2 +1.9**
comp=Z,19nm,0.9s,comp=Z,132nm
CM01 Chiang Mai Arr 75.00 294 *e*P **P** **15 37 49.4 +0.9**
CM31 Chiang Mai Arr 75.03 294 *e*P **P** **15 37 48.6 -0.1**
CMAR Chiang Mai Arr 75.03 294 P **P** **15 37 49.9 +1.2**
comp=Z,10.0nm,0.9s,baz=127,slow=4.5,SNR=67
CMAR Chiang Mai Arr 75.03 294 P **P** **15 37 49.9 +1.2**
CMAR pmax pmax
comp=Z,11nm,0.9s
CMMT Chiang Mai 75.16 294 P **P** **15 37 50.8 +1.4**
comp=Z,27nm,1.3s
CHTO Chiang Mai 75.16 294 P **P** **15 37 50.8 +1.4**
comp=Z,136nm,1.1s
CHTO Chiang Mai 75.16 294 *e*P **P** **15 37 49.6 +0.2**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 75.16 294 *e*P **P** **15 37 49.6 +0.2**
comp=Z,20nm,0.9s
MA2 Magadan 75.32 351 *ce*P **P** **15 37 49.1 -0.3**
HHC Hu-ho-hao-te 75.68 320 *e*P **P** **15 37 53.5 +1.5**
HHC pP pP 15 38 28.4 +4.2
HHC S **S** **15 47 24.5 +1.4**
HHC SS **SS** **15 52 21.3 +3.6**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,85nm,6.4s
CD2 Chengdu 76.10 308 *e*P **P** **15 37 54.8 +0.2**
SEY Seymchan 78.36 353 ⇓*i*P **P** **15 38 07.1 +0.8**
LZH Lanzhou 78.41 312 *e*P **P** **15 38 09.2 +1.7**
LZH pP pP 15 38 46.2 +6.3
LZH sP sP 15 39 08.3 +15
LZH *e*S **S** **15 47 55.2 +2.2**
LZH sS sS 15 49 05.0 +16
LZH SS **SS** **15 52 54.4 -4.8**
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,250nm,4.2s
CIT Chita 81.16 330 *e*P **P** **15 38 22.2 +0.4**
CIT *e* 15 39 21.9
CIT pmax pmax
comp=Z,179nm,1.3s
MAW Mawson 81.84 202 P **P** **15 38 25.3 +0.1**
comp=Z,32nm,0.9s,baz=103,slow=6.3,SNR=67
MAW LR LR 16 10 20.8
comp=Z,100nm,20.2s,baz=61,slow=32
MAW Mawson 81.84 202 *e*P **P** **15 38 24.4 -0.7**
comp=Z,12nm,1.1s
YAK Yakutsk 82.11 343 *e*P **P** **15 38 26.6 +0.1**
YAK *e*S **S** **15 48 26.0 -4.2**
YAK pmax pmax
comp=Z,164nm,1.1s
YAK pmax pmax
comp=N,47nm,1.3s
YAK pmax pmax
comp=Z,118nm,4.9s
YAK pmax pmax
comp=N,64nm,4.3s
YAK smax smax
comp=N,115nm,4.8s
YAK Yakutsk 82.11 343 *e*P **P** **15 38 26.4 -0.1**
comp=N,168nm,1.0s
ULN Ulaanbaatar 82.23 324 *ce*P **P** **15 38 28.2 +0.6**
ULN pmax pmax
comp=Z,54nm,1.1s
ULN Ulaanbaatar 82.23 324 *e*P **P** **15 38 27.9 +0.2**
comp=Z,45nm,1.1s
TT01 Tatalina 82.55 16 *e*P **P** **15 38 29.4 +0.6**
TTA Tatalina 82.57 16 *e*P **P** **15 38 28.7 -0.3**
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA Tatalina 82.57 16 *e*P **P** **15 38 28.7 -0.3**
comp=Z,10nm,1.0s
SONM Songino Array 82.59 324 P **P** **15 38 30.2 +0.7**
comp=Z,11nm,0.8s,baz=148,slow=5.2,SNR=59
SONM S **S** **15 48 35.5 -0.5**
comp=Z,0.3nm,0.5s,baz=144,slow=5.3,SNR=3.8
SONM LR LR 16 13 47.2
comp=Z,30nm,20.6s,baz=96,slow=34
SONA1 Songino Array 82.59 324 *e*P **P** **15 38 29.8 +0.2**
BILL Bilibino 82.61 360 *c i*P **P** **15 38 28.8 -0.2**
BILL *e**PP **pP** **15 39 08.2 +6.5**
BILL *e* 15 41 38.9
BILL *e*S S 15 49 17.3 +42
BILL pmax pmax
comp=Z,22nm,1.2s
GTA Gaotai 82.76 314 ⇑P **P** **15 38 31.7 +1.1**
GTA pP pP 15 39 07.7 +4.4
GTA S **S** **15 48 35.7 -2.4**
GTA SS **SS** **15 54 03.4 -0.5**
GTA pmax pmax
comp=Z,26nm,1.3s
GTA pmax pmax
comp=Z,180nm,4.7s
SUA Susitna One 82.94 19 *e*P **P** **15 38 30.6 -0.4**
comp=Z,37nm,1.1s
PMR Palmer 83.55 19 *e*P **P** **15 38 33.3 -0.6**
PMR pmax pmax
comp=Z,44nm,1.4s
PMR Palmer 83.55 19 *e*P **P** **15 38 33.3 -0.6**
comp=Z,44nm,1.4s
SHL Shillong 83.65 298 *e*P **P** **15 38 38.0 +2.5**
SHL *e*S **S** **15 48 48.0 +0.2**
CAST Castle Rocks 84.04 17 *e*P **P** **15 38 35.1 -1.4**

comp=Z,38nm,0.9s
KTH Kantishna Hill 84.48 17 eP P 15 38 37.0 -1.7
comp=Z,23nm,1.0s
BOD Bodaibo 84.56 334 eP P 15 38 39.1 0.0
BOD pmax pmax
comp=Z,54nm,1.6s
TRF Thorofare Moun 84.59 18 eP P 15 38 38.1 -1.3
comp=Z,16nm,0.8s
RND Reindeer 84.98 18 eP P 15 38 38.5 -2.8
RND pmax pmax
comp=Z,25nm,1.0s
RND Reindeer 84.98 18 eP P 15 38 38.5 -2.8
comp=Z,25nm,1.0s
MCK McKinley 85.20 18 eP P 15 38 41.5 -0.7
MCK pmax pmax
comp=Z,26nm,1.1s
MCK McKinley 85.20 18 eP P 15 38 41.5 -0.7
comp=Z,26nm,1.1s
ORV Oroville 85.39 47 eP P 15 38 42.7 -1.0
ORV pmax pmax
comp=Z,7.0nm,1.1s
ORV Oroville 85.39 47 eP P 15 38 42.7 -1.0
comp=Z,6.6nm,1.1s
AFDM Forest Hills D 85.53 48 eP P 15 38 43.9 -0.6
comp=Z,22nm,1.6s
ZAK Zakamensk 85.64 325 eP P 15 38 44.3 -0.6
ZAK pmax pmax
comp=Z,33nm,1.4s
LSA Lhasa 85.65 302 eP P 15 38 44.6 -1.2
LSA Lhasa 85.65 302 eP P 15 38 44.6 -1.2
WRH Wood River Hil 86.00 18 eP P 15 38 44.9 -1.2
comp=Z,7.6nm,0.7s
IRK Irkutsk 86.03 327 eP P 15 38 44.4 -2.2
IRK pmax pmax
comp=Z,34nm,2.2s
M04C Macdoel 86.04 45 P P 15 38 46.5 -0.6
baz=246
TLY Talaya 86.08 326 eP P 15 38 40.9 -6.0
TLY pmax pmax
comp=Z,36nm,1.5s
ISA Isabella, Lake 86.15 52 P P 15 38 47.6 0.0
baz=249
CCB Clear Creek Bu 86.21 18 eP P 15 38 45.9 -1.2
comp=Z,7.9nm,1.0s
EDW2 Edwards Air Fo 86.23 53 P P 15 38 48.2 +0.1
baz=249
BFSC Mount Baldy Ra 86.27 53 P P 15 38 48.0 -0.4
baz=249
HDA Harding Lake 86.29 18 eP P 15 38 46.6 -1.0
comp=Z,19nm,1.0s
MDM Murphy Dome 86.32 17 eP P 15 38 45.9 -1.8
comp=Z,13nm,1.0s
MURC Murrieta 86.41 54 P P 15 38 48.7 -0.3
baz=250
J04D Umpqua Nationa 86.44 44 P P 15 38 48.9 -0.2
baz=246
IL1 Eielson Array 86.57 18 eP P 15 38 46.4 -2.6
ILAR Eielson Array 86.57 18 P P 15 38 47.6 -1.4
comp=Z,8.9nm,0.9s,baz=234,slow=5.7,SNR=59
ILAR S SKSac 15 48 59.5 -3.7
comp=Z,0.3nm,1.0s,baz=188,slow=12,SNR=3.0
ILAR PKKP PKKPdf 15 56 43.5 +2.7
comp=Z,1.3nm,1.0s,baz=28,slow=1.7,SNR=5.9
ILAR LR LR 16 10 14.2
comp=Z,99nm,20.1s,baz=226,slow=30
ILB Eielson Array 86.57 18 eP P 15 38 47.3 -1.7
LRMC Laurel Mtn Rad 86.68 52 P P 15 38 50.2 -0.2
baz=249
CWC Cottonwood Cre 86.72 51 P P 15 38 50.3 -0.3
baz=249
MONP2 Monument Peak 86.77 55 P P 15 38 51.0 +0.1
baz=250
PFO Pinyon Flats O 86.99 54 P P 15 38 52.2 +0.3
baz=250
TPFO Pinon Flats 86.99 54 P P 15 38 51.8 -0.1
baz=250
MPMC Manual Prospec 87.03 52 P P 15 38 51.9 -0.2
baz=249
J05D Fort Rock, OR 87.05 44 P P 15 38 51.8 -0.2
baz=246
SWSC Sam W. Stewart 87.28 55 P P 15 38 52.2 -1.0
baz=250
GRAC Grapevine Rang 87.45 51 P P 15 38 53.6 -0.3
baz=249
BELC Belle Mtn. Jos 87.48 54 P P 15 38 54.0 -0.3
baz=250
COLD Coldfoot 87.48 15 eP P 15 38 53.4 +0.1
comp=Z,8.0nm,0.9s
FURC Furnace Creek, 87.65 51 P P 15 38 55.5 +0.8
baz=250
TAPN Taplejung 87.76 299 eP P 15 38 56.1 +0.1
comp=Z,47nm,0.9s
BC3 Big Chuckawall 87.79 54 P P 15 38 55.3 -0.4
baz=251
ODAN Odare 87.89 298 eP P 15 38 56.5 0.0
comp=Z,53nm,0.7s
SHOC Shoshone, Teco 87.90 52 P P 15 38 56.3 +0.2
baz=250
TUQ Turquoise Moun 88.02 53 P P 15 38 56.2 -0.5
baz=250
GLA Glamis 88.09 55 P P 15 38 57.4 +0.4
baz=251
IRM Iron Mountain 88.20 54 P P 15 38 57.6 +0.1
baz=251
TPNV Topopah Spring 88.28 51 P P 15 38 57.3 -0.7
baz=250
TPNV Topopah Spring 88.28 51 eP P 15 38 56.1 -1.9
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 88.28 51 eP P 15 38 56.1 -1.9
comp=Z,4.3nm,0.8s
EGAK Eagle 88.36 20 eP P 15 38 55.8 -1.7
comp=Z,8.6nm,1.0s
Y12C Blythe 88.56 55 P P 15 38 59.9 +0.7
baz=251
RAMN Ramite 88.59 298 eP P 15 38 59.7 -0.1
comp=Z,38nm,0.8s
PALK Pallekele 88.60 278 i P P 15 39 01.9 +2.1
SYO Syowa Base 88.66 197‖ eP P 15 38 56.7 -2.3
SYO Syowa Base 88.66 197‖ eP P 15 39 02.7 +3.7
TOLK Toolik Lake Re 88.71 14 P P 15 39 00.2 +1.0
baz=221
BMN Battle Mountai 88.77 48 eP P 15 38 58.8 -1.4
BMN pmax pmax
comp=Z,11nm,1.3s
BMN Battle Mountai 88.77 48 eP P 15 38 58.8 -1.4
comp=Z,11nm,1.3s
SHPR Sheep Range 88.96 52 eP P 15 39 00.1 -1.1
comp=Z,19nm,1.3s
PDMCI Parker Dam,Lak 89.03 54 P P 15 39 01.1 -0.3
baz=251
JIRN Jiri 89.14 299 eP P 15 39 02.6 +0.1
comp=Z,293nm,0.8s
HAWA Hanford 89.37 41 eP P 15 39 01.5 -1.1
comp=Z,7.8nm,0.9s
GUN Gumba 89.48 299 eP P 15 39 04.1 0.0
comp=Z,64nm,1.0s
W13A Hualapai Mount 89.48 54 eP P 15 39 02.5 -1.2
comp=Z,9.8nm,1.0s
PKI Pulchoki 89.78 298 eP P 15 39 05.4 -0.1
PKIN Phulchoki 89.79 298 eP P 15 39 05.4 -0.1
comp=Z,19nm,0.7s
KKN Kakani 89.95 299 eP P 15 39 05.9 -0.2
comp=Z,42nm,1.0s
D08A Wollman Farm, 90.01 41 eP P 15 39 04.4 -1.2
comp=Z,8.9nm,1.0s
TIXI Tiksi 90.05 349 c i P P 15 39 04.6 -0.6
TIXI pmax pmax
comp=Z,24nm,1.2s
TIXI Tiksi 90.05 349 eP P 15 39 04.1 -1.1
comp=Z,24nm,1.2s
DMN Daman 90.05 298 eP P 15 39 06.5 -0.1
comp=Z,103nm,1.1s
BMO Blue Mountains 90.26 43 eP P 15 39 06.0 -1.0
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 90.26 43 eP P 15 39 06.0 -1.0
comp=Z,4.4nm,1.0s
GKN Gorkha 90.56 299 eP P 15 39 08.1 -0.8
comp=Z,13nm,0.4s
LCMT Little Creek M 90.58 52 eP P 15 39 08.5 -0.2
comp=Z,13nm,1.2s
CCUT Cedar City 90.65 51 eP P 15 39 09.2 0.0
comp=Z,7.1nm,1.2s
TUC Tucson 91.11 57 P P 15 39 11.4 +0.2
baz=253
KOLN Koldanda 91.38 298 eP P 15 39 11.7 -1.0

NEW Newport 91.58 40 P P 15 39 12.8 -0.1
baz=249
HLID Hailey 91.79 45 P P 15 39 14.1 -0.1
baz=251
PYUN Piuthan 91.99 298 eP P 15 39 14.5 -1.1
319A Douglas 92.08 58 eP P 15 39 14.6 -1.2
comp=Z,11nm,0.9s
WMQ Urumqi 92.82 315 P P 15 39 18.8 0.0
WMQ pP pP 15 39 56.0 +4.0
WMQ S S 15 50 05.9 -7.5
WMQ sS sS 15 51 24.2 +13
WMQ pmax pmax
comp=Z,28nm,1.7s
WMQ pmax pmax
comp=Z,210nm,3.8s
WMQ LR LR
comp=Z,26nm,19.5s
WMQ LR LR
comp=Z,62nm,21.3s
WMQ LR LR
comp=Z,55nm,23.1s
NVL N'lazarevskaya 92.99 188 eP P 15 39 21.5 +2.4
SNAA Sanae 93.48 183 P P 15 39 20.0 -1.5
SNAA Sanae 93.48 183 c i P P 15 39 19.8 -1.7
SNAA Sanae 93.48 183 eP P 15 39 19.6 -1.8
comp=Z,52nm,1.4s
VNA3 Neumayer Olymp 94.15 181 P P 15 39 22.7 -1.7
VNA2 Neumayer--Watz 94.41 182 P P 15 39 24.7 -1.0
baz=180,slow=5.0
VNA1 Neumayer--Stat 94.71 181 P P 15 39 25.9 -1.1
PDAR Pinedale Array 94.95 47 P P 15 39 28.4 -0.5
comp=Z,0.5nm,0.5s,baz=291,slow=7.6,SNR=4.1
PDAR LR LR 16 18 24.4
comp=Z,46nm,18.1s,baz=258,slow=33
ANMO Albuquerque 95.29 55 P P 15 39 30.1 -0.4
baz=256
ANMO Albuquerque 95.29 55‖ eP P 15 39 30.2 -0.4
ANMO pmax pmax
comp=Z,11nm,2.7s
MNTX Cornudas Mount 95.38 59 P P 15 39 30.0 -0.8
baz=256
TXAR Lajitas Array 96.26 61 P P 15 39 34.1 -0.9
comp=Z,0.6nm,0.7s,baz=220,slow=5.7,SNR=7.5
TXAR PP PP 15 43 29.7 -0.5
comp=Z,2.3nm,1.1s,baz=243,slow=8.1,SNR=9.0
TXAR PKKP PKKPdf 15 56 21.9 -0.5
comp=Z,0.4nm,0.7s,baz=103,slow=4.0,SNR=4.1
TXAR LR LR 16 17 14.2
comp=Z,49nm,18.9s,baz=0.0,slow=32
MK01 Makanchi Array 97.28 316 eP P 15 39 38.9 -0.2
MK31 Makanchi Array 97.29 316 eP P 15 39 38.6 -0.6
MK31 Makanchi Array 97.29 316 eP P 15 39 38.6 -0.6
MKAR Makanchi Array 97.29 316 P Pdif 15 39 39.8 +0.6
comp=Z,4.9nm,0.6s,baz=95,slow=6.0,SNR=41
MKAR PKiKP PKiKP 15 44 13.4 -0.4
comp=Z,0.2nm,0.3s,baz=194,slow=0.9,SNR=3.4
MKAR S SKSac 15 50 01.8 -2.5
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=4.4
MKAR Makanchi Array 97.29 316 eP P 15 39 38.7 -0.5
comp=Z,42nm,0.7s
MKAR PKiKP PKiKP 15 44 13.4 -0.4
MKAR S SKSac 15 50 01.8 -2.5
ZAA0 Zalesovo Array 97.48 324 eP P 15 39 38.6 -1.1
ZALV Zalesovo Beam 97.48 324 P P 15 39 39.3 -0.5
comp=Z,8.4nm,0.8s,baz=114,slow=4.3,SNR=28
YKA Yellowknife Ar 97.58 27 P P 15 39 38.1 -1.8
comp=Z,0.9nm,0.4s,baz=258,slow=5.0,SNR=4.8
NVS Novosibirsk 98.60 324 eP P 15 39 44.5 -0.2
NRIK Noril'sk 100.16 339 P Pdif 15 39 51.1 -0.2
comp=Z,14nm,1.1s,baz=121,slow=4.9,SNR=11
KSH Kashi 100.29 308 eP Pdif 15 39 53.9 +1.1
KSH PP PP 15 44 06.1 +5.4
KSH SKS SKSac 15 50 11.0 -8.9
KSH S Sdif 15 51 08.2 -10
KSH pmax pmax
comp=Z,11nm,1.5s
KSH pmax pmax
comp=Z,77nm,5.5s
KSH LR LR
comp=Z,84nm,4.7s
KSH LR LR
comp=Z,110nm,6.3s
KSH LR LR
comp=Z,98nm,7.1s
KURK Kurchatov 100.49 320⇑ eP Pdif 15 39 52.4 -0.9
KURK Kurchatov 100.49 320 ePdif Pdif 15 39 51.9 -1.3
ARU Arti 112.58 325 i PKIKP PKiKP 15 44 41.5 0.0
ARU 15 45 29.3
ARU 15 51 40.3
ARU SS SS 16 00 58.4 -2.8
GEYT Alibeck 114.02 305 PKP PKiKP 15 44 44.9 -0.1
comp=Z,1.4nm,0.6s,baz=0.0,slow=1.5,SNR=4.5
LPAZ La Paz 117.12 117 PKKPbc PKKPbc 15 55 18.3 +1.4
comp=Z,0.5nm,0.4s,baz=53,slow=5.1,SNR=3.9
SUMG Summit 120.29 9 ePKiKP PKPdf 15 44 55.6 -0.9
SUMG Summit 120.29 9 ePKPdf PKPdf 15 44 55.5 -0.9
ARCES ARCESS Array B 120.33 345 PKP PKPdf 15 44 55.4 -0.7
comp=Z,6.9nm,0.5s,baz=72,slow=1.9,SNR=78
ARCES PKKPab PKKPab 15 55 02.2 -1.9
comp=Z,2.5nm,0.8s,baz=218,slow=2.8,SNR=9.8
KLMR Klimovskoe 120.77 333 ePKiKP PKPdf 15 44 55.0 -2.1
KLMR pmax pmax
comp=Z,35nm,1.3s
BOSA Boshof 123.36 220 PKP PKPdf 15 45 03.2 -0.2
comp=Z,13nm,1.0s,baz=137,slow=2.5,SNR=12
BOSA Boshof 123.36 220 ePKPdf PKPdf 15 45 01.7 -1.7
GNI Garni 124.22 309 d i PKiKP PKPdf 15 45 05.4 +0.8
ZEI Tsey 124.34 312 i PKiKP PKPdf 15 45 02.0 -2.8
ZEI pmax pmax
comp=Z,23nm,1.1s
NCK Nalchik 124.40 313‖ i PKiKP PKPdf 15 45 05.2 +0.5
LPSR Galich'ya Gora 124.58 325 ePKiKP PKPdf 15 45 05.0 +0.3
LPSR pmax pmax
comp=Z,30nm,1.2s
RAYN Ar Rayn 124.68 289 ePKPdf PKPdf 15 45 05.0 -0.9
OBN Obninsk 124.79 328‖ i PKiKP PKPdf 15 45 04.8 -0.2
OBN e 15 46 58.9
OBN pmax pmax
comp=Z,44nm,1.6s
KBZ Khabaz 124.84 313 PKP PKPdf 15 45 06.6 +1.1
comp=Z,1.3nm,0.5s,baz=89,slow=7.8,SNR=5.8
KIV Kislovodsk 124.94 314 ePKiKP PKPdf 15 45 05.7 -0.1
KIV pmax pmax
comp=Z,11nm,1.0s
VSR Storozhevoye 124.98 323 ePKiKP PKPdf 15 45 04.8 -0.7
VSR pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 125.61 224 ePKiKP PKPdf 15 45 06.1 -1.7
LBTB Lobatse 125.61 224 ePKPdf PKPdf 15 45 06.1 -1.7
FIA1 FINESS Array S 125.81 338 ePKPdf PKPdf 15 45 06.1 -0.6
FINES FINESS Array B 125.81 338 PKP PKPdf 15 45 06.4 -0.4
comp=Z,4.7nm,0.5s,baz=37,slow=2.3,SNR=23
ARTV Artvin 126.12 310 ePKPdf PKPdf 15 45 06.9 -1.5
SOC Sochi 127.11 314 i PKiKP PKPdf 15 45 10.5 +0.7
SOC e 15 47 07.7
SOC eSSS SSS 16 08 46.5
KMBO Kilima Mbogo 128.15 257 PKP PKPdf 15 45 14.2 +1.2
comp=Z,3.2nm,0.7s,baz=90,slow=1.7,SNR=7.6
NB2 NORSAR Subarra 130.71 345 PKPdf PKPdf 15 45 16.0 -0.2
comp=Z,14nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.71 345 PKPdf PKPdf 15 45 16.0 -0.2
baz=31,slow=1.9
NOA NORSAR Array B 130.71 345 PKP PKPdf 15 45 16.5 +0.3
comp=Z,4.3nm,0.9s,baz=31,slow=1.9,SNR=6.3
NOA SKPbc SKPbc 15 48 28.0 -0.4
comp=Z,14nm,1.0s,baz=33,slow=2.9,SNR=12
PTGA Pitinga 130.75 104 ePKPdf PKPdf 15 45 15.7 -1.9
AKASG Malin Array Be 130.82 326 PKP PKPdf 15 45 16.2 -0.4
comp=Z,0.4nm,0.3s,baz=50,slow=2.1,SNR=18
AKASG SKPbc SKPbc 15 48 27.9 -1.1
comp=Z,4.4nm,0.7s,baz=46,slow=4.6,SNR=15
AKBB Malin Array Si 130.82 326 ePKiKP PKPdf 15 45 15.8 -0.8
AKBB Malin Array Si 130.82 326 ePKPdf PKPdf 15 45 15.8 -0.8
KIEV Kiev 130.84 326⇑ i PKiKP PKPdf 15 45 16.7 0.0
KIEV Kiev 130.84 326 ePKPdf PKPdf 15 45 15.9 -0.8
AK11 Malin Array Si 130.87 326 ePKPdf PKPdf 15 45 16.0 -0.7
ILGA Ilgaz 132.12 312 ePKPdf PKPdf 15 45 18.7 -1.0
BR131 Keskin Array S 132.60 311 ePKPdf PKPdf 15 45 19.3 -1.3
BRTR Keskin Array B 132.60 311 PKP PKPdf 15 45 20.0 -0.6
comp=Z,2.0nm,0.8s,baz=145,slow=4.4,SNR=9.6
BRTR SKPbc SKPbc 15 48 34.7 -1.3
comp=Z,3.8nm,1.0s,baz=94,slow=3.7,SNR=11
UZH Uzhgorod 135.71 327 ePKHKP PKPpre 15 45 12.2
UZH e 15 45 26.2
CRVS Cervenica-Dubn 135.97 328 ePKiKP PKPdf 15 45 27.2 +0.8

CRVS Cervenica-Dubn 135.97 328 ePKP PKPdf 15 45 27.2 +0.8
CRVS e 15 48 46.7
DPC Dobruska-Polom 137.47 333 ePKPpre PKPpre 15 45 22.5
DPC ePKPdf PKiKP 15 45 31.6 +0.5
DPC Dobruska-Polom 137.47 333 ePKIKP PKPpre 15 45 22.5
VYHS Vyhne 137.57 329 ePKIKP PKPdf 15 45 31.8 +2.4
VYHS Vyhne 137.57 329 ePKP PKPdf 15 45 31.8 +2.4
VYHS e 15 48 52.6
BRG Berggiesshubel 138.10 335 ePKP PKPpre 15 45 22.6
comp=Z,3.2nm,0.9s
BRG e 15 45 32.6
comp=Z,19nm,1.3s
BRG Berggiesshubel 138.10 335 ePKHKP PKPpre 15 45 22.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,1.3s
CLL Collm 138.14 336 i PKIKP PKPdf 15 45 30.3 0.0
CLL pmax pmax
comp=Z,17nm,1.3s
CLL Collm 138.14 336 i PKPdf PKPdf 15 45 30.3 0.0
comp=Z,17nm,1.3s
CLL e 15 45 50.0
PRU Pruhonice 138.51 334 ePKPpre PKPpre 15 45 27.5
PRU ePKPdf PKiKP 15 45 33.5 +0.3
PRU eSKP 15 48 53.6
PRU Pruhonice 138.51 334 ePKIKP PKPpre 15 45 27.5
CONA Conrad Observa 139.41 330 i PKiKP PKPdf 15 45 33.2 +0.3
comp=Z,9.4nm,1.3s
KHC Kasperske Hory 139.57 333 ePKPpre PKPpre 15 45 28.0
KHC ePKPdf PKPdf 15 45 33.4 +0.3
KHC ePP PP 15 48 30.3 +1.6
KHC eSKP 15 48 56.0
KHC Kasperske Hory 139.57 333 ePKIKP PKPdf 15 45 28.0 -5.1
KHC e 15 48 30.3
GEC2 GERESS Array S 139.73 333 ePKIKP PKPdf 15 45 32.8 -0.7
GEC2 GERESS Array S 139.73 333 ePKPdf PKPdf 15 45 32.8 -0.7
GERES GERESS Array B 139.73 333 PKPKP PKPpre 15 45 24.5
comp=Z,0.8nm,0.4s,baz=36,slow=2.9,SNR=7.2
GERES PKP PKPdf 15 45 34.0 +0.5
comp=Z,2.6nm,0.7s,baz=90,slow=1.3,SNR=11
GERES SKPbc SKPbc 15 48 55.5 -1.9
comp=Z,1.2nm,0.7s,baz=42,slow=2.2,SNR=5.5
PERS Pernice 140.68 330 i PKPdf PKPpre 15 45 29.7
SOKA Soboth 140.69 330 i PKPdf PKPpre 15 45 31.6
comp=Z,13nm,1.2s
KBA Koelnbreinsper 141.20 331 i PKPdf PKPpre 15 45 30.9
comp=Z,4.7nm,0.9s
BOJS Bojanci 141.40 328 i PKPdf PKPpre 15 45 32.6
VISS Visnje 141.40 329 i PKPdf PKPpre 15 45 32.3
JAVS Javornik 141.72 330 ePKPdf PKPpre 15 45 32.9
WATA Walderalm 141.81 333 i PKPdf PKPpre 15 45 33.4
comp=Z,15nm,1.0s
ABTA Abfaltersbach 141.83 332 i PKPdf PKPpre 15 45 32.2
comp=Z,20nm,1.2s,SNR=7.3
WTTA Wattenberg 141.83 333 i PKPdf PKPpre 15 45 33.3
comp=Z,19nm,1.4s,SNR=5.2
LANF Langenberg 141.99 338 PKP PKPdf 15 45 34.0 -3.4
MOTA Moosalm 142.00 334 i PKPdf PKPdf 15 45 34.1 -3.6
comp=Z,36nm,1.1s,SNR=11
RETA Reutte 142.04 334 i PKPdf PKPdf 15 45 34.0 -3.7
comp=Z,23nm,1.2s,SNR=7.8
FETA Feichten 142.42 334 i PKPdf PKPdf 15 45 35.3 -3.1
comp=Z,48nm,1.1s,SNR=24
DAVA Damuels 142.57 335 i PKPdf PKPdf 15 45 35.9 -2.8
comp=Z,36nm,1.1s,SNR=9.1
ECH Echery 142.87 338 PKP PKPdf 15 45 35.6 -3.4
FUORN Ofenpass-Fuorn 143.93 334 ePKPdf PKPdf 15 45 36.5 -3.0
MOF Molkenrain 143.18 338 PKP PKPab 15 45 36.0 +0.4
THEF They Montfort 143.28 339 PKP PKPab 15 45 36.1 +0.3
TUE Stuetta 143.44 334 ePKPdf PKPbc 15 45 37.6 -0.2
LOMF Lomont 143.72 337 PKP PKPbc 15 45 38.8 +0.3
SENIN Lac Senin/Sane 144.36 336 ePKPdf PKPab 15 45 40.2 -0.1
AQU L'Aquila 144.53 326 ePKIKP PKPbc 15 45 41.0 -0.1
AQU L'Aquila 144.53 326 ePKPbc PKPbc 15 45 41.0 -0.1
CUC Castrocucco 144.65 321 ePKPbc PKPab 15 45 40.1 -1.3
VLC Villacollemand 144.76 331 ePKPbc PKPab 15 45 41.2 -0.4
RSL Roselend 145.18 336 PKP PKPab 15 45 43.6 +0.3
BNI Bardonecchia 145.68 335 ePKP2 PKPbc 15 45 44.7 0.0
BNI Bardonecchia 145.68 335 ePKPdf PKPbc 15 45 44.7 0.0
GDM Grand'Maison 145.78 336 PKP PKPab 15 45 46.0 +0.4
GRN Grenoble 145.89 337 PKP PKPab 15 45 46.3 +0.4
PLDF La Plantade 146.04 340 PKP PKPab 15 45 46.5 +0.1
AGO Saint Agoulin 146.13 340 PKP PKPab 15 45 46.7 0.0
SSB Saint Sauveur 146.31 338 PKP PKPab 15 45 47.1 -0.4
SSB Saint Sauveur 146.31 338 ePKP2 PKPbc 15 45 46.6 +0.1
SSB Saint Sauveur 146.31 338 ePKPbc PKPbc 15 45 46.6 +0.1
COLF Collangettes 146.41 339 PKP PKPab 15 45 48.5 +0.7
PYM Petit Puy Mans 146.44 340 PKP PKPab 15 45 47.9 -0.1
OG26 St.-Nazaire-De 146.62 336 PKP PKPab 15 45 48.2 -0.5
LBL Lubilhac 146.81 339 PKP PKPab 15 45 49.1 -0.4
CLTB Caltabellotta 147.73 319 ePKPbc PKPbc 15 45 50.5 -0.2
VSL Villasalto 148.70 326 ePKPbc PKPbc 15 45 52.8 -0.4
LRDF Laroque-de-Fa 149.06 338 PKP PKPbc 15 45 54.3 +0.4
FILF Fillols 149.38 338 PKP PKPbc 15 45 55.0 +0.2
CARF Carcanieres 149.41 338 PKP PKPbc 15 45 54.8 -0.1
VALF Valcebollere 149.72 338 PKP PKPbc 15 45 56.1 +0.3
REYF Montagne du Re 149.92 342 PKP PKPbc 15 45 57.5 +1.4
RESF Ens 149.93 341 PKP PKPbc 15 45 57.3 +1.1
VIEF Viey 149.96 341 PKP PKPbc 15 45 57.1 +0.9
ATE Arette 149.99 342 PKP PKPbc 15 45 56.3 +0.1
LARF Larrau 150.12 343 PKP PKPbc 15 45 57.3 +0.7
KEST Kesra 151.30 321 PKPbc PKPbc 15 45 59.9 +0.2
comp=Z,32nm,1.0s,baz=164,slow=2.3,SNR=24
KEST Kesra 151.30 321 ePKPbc PKPbc 15 45 59.4 -0.2
PGAV Gavieira, Arco 152.66 353 ePKPbc PKPbc 15 46 02.5 0.0
POLO Lamas de Olo 153.18 352 ePKPdf PKPdf 15 45 56.6 +0.4
POLO Lamas de Olo 153.18 352 ePKPbc PKPbc 15 46 04.3 +0.6
POLO Lamas de Olo 153.18 352 ePKPab PKPab 15 46 17.2 +1.5
MVO Moncorvo 153.28 351 ePKPbc PKPbc 15 46 01.8 -2.0
MVO Moncorvo 153.28 351 ePKPab PKPab 15 46 17.5 +1.4
PVIS Viseu 153.84 352 ePKPab PKPab 15 46 18.9 +0.5
PVIS Viseu 153.84 352 ePKPab PKPab 15 46 20.0 +1.6
ES19 SONSECA Array 154.03 344 ePKPbc PKPbc 15 46 04.8 -0.7
ESDC Sonseca Array 154.07 345 PKP PKPdf 15 45 57.5 +0.1
comp=Z,0.1nm,0.3s,baz=5.6,slow=2.1,SNR=6.3
ESDC PKPbc PKPbc 15 46 05.2 -0.4
comp=Z,2.6nm,0.8s,baz=22,slow=2.3,SNR=9.6
ESDC PKPab PKPab 15 46 19.8 +0.4
comp=Z,7.2nm,0.9s,baz=20,slow=3.1,SNR=15
ESDC PP PP 15 49 51.1 -2.5
comp=Z,2.9nm,1.0s,baz=18,slow=6.8,SNR=6.8
ESLA Sonseca Array 154.07 345 ePKPab PKPab 15 46 19.9 +0.4
MTE Manteigas 154.10 351 ePKPbc PKPbc 15 46 05.2 -0.4
MTE Manteigas 154.10 351 ePKPab PKPab 15 46 19.7 +0.1
PMRV Marv??o 155.03 350 ePKPbc PKPbc 15 46 08.1
PESTR Estremoz 155.61 350 ePKPab PKPab 15 46 27.5 +1.5
PBAR Barrancos 156.19 349 ePKPab PKPab 15 46 29.4 +1.0
PNCL Nicolau / Gran 156.49 352 ePKPab PKPab 15 46 31.3 +1.6
PCVE Castro Verde 156.89 351 ePKPab PKPab 15 46 32.4 +0.9
PVAQ Vaqueiros 157.06 350 ePKPdf PKPdf 15 46 01.1 -0.3
PVAQ Vaqueiros 157.06 350 ePKPab PKPab 15 46 32.9 +0.7
PVAQ Vaqueiros 157.06 350 ePKPab PKPab 15 46 33.2 +1.0
PTEO Sao Teotonio 157.07 352 ePKPab PKPab 15 46 35.1 +2.8
PBDV Barranco-do-Ve 157.25 350 ePKPab PKPab 15 46 35.1 +2.0
MORF Marmelete 157.30 352 ePKPab PKPab 15 46 35.5 +2.2
PFVI Vila Bisbo 157.49 352 ePKPab PKPab 15 46 35.1 +1.0
TOA0 Torodi Ar. Sit 165.96 265 ePKPdf PKPdf 15 46 09.8 -1.5
TOA0 ePKPab PKPab 15 47 09.5 -2.5
TORD Torodi Ar. Bea 165.96 265 PKP PKPdf 15 46 10.1 -1.2
comp=Z,7.3nm,1.0s,baz=59,slow=1.0,SNR=28
TORD PKPab PKPab 15 47 11.2 -0.8
comp=Z,10nm,1.0s,baz=94,slow=3.0,SNR=15
KIC Kosan Boka 168.56 224 ePKIKP PKPdf 15 46 11.9 -1.3
comp=Z,84nm,1.2s
LIC Lamto 168.65 222 ePKIKP PKPdf 15 46 11.7 -1.6
comp=Z,78nm,1.3s
DBIC Dimbokro 168.86 224 PKP PKPdf 15 46 11.8 -1.6
comp=Z,12nm,1.0s,baz=89,slow=3.1,SNR=6.5
TIC Toumodi 168.95 224 ePKIKP PKPdf 15 46 12.0 -1.5

DJA 06 15:28:38.2±1.5, 2°S±6°×13°4E±°, h114km±13km, M3.7/3, MLv3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWPI	Manokwari, Pap	0.64	345	P	Pn	15 28 57.5	+1.0
MWPI				S	Sn	15 29 12.7	+2.5
KMPI	Kaimana, Papua	2.15	193	P	Pn	15 29 12.2	-1.2
KMPI				S	Sn	15 29 41.5	+1.2
FAKI	Fak Fak	2.38	235	P	Pn	15 29 17.4	+1.2
FAKI				S	Sn	15 29 44.9	-0.5

MEX 06 15:30:19.1±0.5, 13°.90N×92°.20W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.05**	**331**	*eP*	Pn	15 30 50.6	-3.1
PCIG				*i* S	Sn	15 31 16.2	-3.2
CCIG	**Comitan**	**2.37**	**1**	*eP*	Pn	15 30 57.0	-1.2
CCIG				*i* S	Sn	15 31 28.7	+1.2
TGIG		**3.00**	**343**	*eP*	Pn	15 31 04.0	-2.9

*IDC **06** 15:50:24.9±2.7, 24°.44S×179°.94E, h491km±28km, mb3.4/10, mb1 3.5/11, mb1mx3.3/22, mbtmp4.2/11, Error ellipse: s-maj=22.7km s-min=18.7km az=92.0*
*ISCJB **06** 15:50:25.1±0.8, 24°.40S±0°.08×179°.9E±0°.2, h500km, mb3.7/9, Error ellipse: s-maj=22.0km s-min=10.9km az=1.6*

ISC 06 15:50:26.1±0.8, 24°.5S±0°.1×179°.8E±0°.1, h500km, n17, σ1°94/21, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**278**	P	**P**	**15 53 14.2**	**+3.7**
	0.4nm,0.3s,baz=91,slow=17,SNR=7.1						
AFI	**Afiamalu**	**13.16**	**38**	P	P	15 53 11.0	-6.2
	3.4nm,0.3s,baz=44,slow=4.2,SNR=8.1						
AFI				S	S	15 55 26.5	-12
	0.4nm,0.3s,baz=197,slow=20,SNR=2.7						
URZ	**Urewera**	**13.93**	**189**	P	**P**	**15 53 24.9**	**+0.1**
	2.5nm,0.3s,baz=69,slow=1.6,SNR=20						
URZ				S	**S**	**15 55 52.2**	**-0.1**
	1.6nm,0.3s,baz=228,slow=22,SNR=14						
RPZ	**Rata Peaks**	**20.49**	**198**	P	**P**	**15 54 29.0**	**+0.1**
	6.9nm,0.5s,baz=11,slow=3.6,SNR=9.9						
STKA	**Stephens Creek**	**34.37**	**249**	P	**P**	**15 56 31.1**	**+0.4**
	1.4nm,0.6s,baz=103,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**41.79**	**261**	P	**P**	**15 57 31.7**	**+0.2**
	2.2nm,0.7s,baz=95,slow=7.0,SNR=49						
ASAR				S	**S**	**16 03 09.6**	**-3.0**
	0.2nm,0.7s,baz=113,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**42.22**	**267**	P	**P**	**15 57 34.5**	**-0.3**
	6.2nm,0.5s,baz=101,slow=8.2,SNR=74						
WRA				ScP	**ScP**	**16 02 21.4**	**+1.0**
	0.6nm,0.3s,baz=100,slow=4.0,SNR=8.5						
WRA				S	**S**	**16 03 13.7**	**-5.1**
	0.4nm,0.9s,baz=109,slow=30,SNR=2.4						
MAW	**Mawson**	**77.15**	**201**	P	**P**	**16 01 27.3**	**+0.1**
	0.9nm,0.5s,baz=126,slow=6.4,SNR=7.5						
KSRS	**Korea Array**	**78.59**	**320**	P	**P**	**16 01 35.9**	**+0.4**
	1.1nm,0.8s,baz=121,slow=5.3,SNR=2.5						
PETK	**Petropavlovsk-**	**79.63**	**347**	P	**P**	**16 01 39.9**	**-0.8**
	2.0nm,0.8s,baz=123,slow=5.3,SNR=4.0						
USRK	**Ussuriysk Ar.**	**81.17**	**327**	P	**P**	**16 01 48.9**	**+0.1**
	1.8nm,0.8s,baz=124,slow=7.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**16 02 31.4**	**+1.1**
	1.0nm,0.9s,baz=132,slow=2.9,SNR=6.5						
TXAR	**Lajitas Array**	**90.87**	**58**	P	**P**	**16 02 35.6**	**-0.6**
	0.7nm,0.8s,baz=210,slow=7.2,SNR=6.7						
ARCES	**ARCESS Array B**	**132.42**	**348**	SKPbc	**SKPbc**	**16 11 20.2**	**-2.1**
	2.8nm,1.0s,baz=11,slow=1.8,SNR=3.6						
FINES	**FINESS Array B**	**138.95**	**341**	SKPbc	**SKPbc**	**16 11 39.9**	**-2.5**
	1.4nm,0.7s,baz=64,slow=7.9,SNR=4.7						
AKASG	**Malin Array Be**	**145.37**	**327**	PKPbc	**PKPdf**	**16 09 05.4**	**-1.0**
	0.7nm,0.4s,baz=43,slow=4.4,SNR=5.8						
BRTR	**Keskin Array B**	**147.80**	**306**	PKPbc	**PKPdf**	**16 09 13.1**	**+2.1**
	0.8nm,0.6s,baz=134,slow=3.7,SNR=5.6						
BRTR				PKPab	**PKPab**	**16 09 18.3**	**-0.6**
	1.5nm,0.6s,baz=121,slow=3.5,SNR=10						

*GUC **06** 15:51:31.2±0.5, 32°.22S×69°.83W, h121km±12km, ML3.6*
*SJA **06** 15:51:32.2±0.8, 32°.25S×69°.55W, h118km±5km, ML3.4, MW3.9*

ISC 06 15:51:31.6±1.9, 32°.28S±0°.07×69°.70W±0°.07, h125km±13km, n18, σ0°47/22, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.27**	**78**	*eP*	**Pn**	**15 51 49.3**	**-0.1**
AUSP				*eS*	**Sn**	**15 52 02.6**	**-0.2**
RTLS	**Leoncito**	**0.59**	**35**	*eP*	**Pn**	**15 51 51.1**	**0.0**
RTLS				*eS*	**Sn**	**15 52 05.5**	**-0.2**
ASAL	**Salagasta**	**0.79**	**113**	*eP*	**Pn**	**15 51 52.4**	**+0.1**
ARCO	**CERRO ARCO**	**0.85**	**131**	*eP*	**Pn**	**15 51 53.1**	**+0.2**
ARCO				IAML		15 52 10.6	
	comp=Z,1μm,0.6s						
RTCV	**Cerro Valdivia**	**1.07**	**67**	*eP*	**Pn**	**15 51 54.5**	**-0.2**
AAGR	**Agrelo**	**1.09**	**138**	*eP*	**Pn**	**15 51 55.4**	**+0.4**
FCH	**Farellones**	**1.16**	**205**	*i* P	**Pn**	**15 51 56.6**	**+0.6**
FCH				*i* S	**Sn**	**15 52 15.6**	**+1.1**
FCH				IAML		15 52 15.9	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.20**	**224**	⇓*iP*	**Pn**	**15 51 55.7**	**-0.4**
PEL				*i* S	**Sn**	**15 52 14.1**	**-0.6**
PEL				IAML		15 52 15.4	
	comp=E,1μm,0.1s						
SJA	**San Juan**	**1.22**	**53**	*eP*	**Pn**	**15 51 56.6**	**+0.2**
SJA				IAML		15 51 56.7	
	comp=Z,541nm,0.2s						
ROCH	**El Roble**	**1.31**	**238**	⇑*iP*	**Pn**	**15 51 57.1**	**-0.3**
ROCH				*i* S	**Sn**	**15 52 16.9**	**-0.2**
ROCH				IAML		15 52 17.8	
	comp=N,2μm,0.3s						
RTLL	**Cerro Villicun**	**1.41**	**48**	*eP*	**Pn**	**15 51 58.1**	**-0.3**
ANTU	**Antumapu**	**1.51**	**211**	*i* P	**Pn**	**15 51 59.1**	**-0.4**
ANTU				*i* S	**Sn**	**15 52 21.0**	**+0.2**
ANTU				IAML		15 52 22.7	
	comp=E,1μm,0.3s						
AMOG	**MOGNA**	**1.69**	**38**	*eP*	**Pn**	**15 52 01.8**	**+0.2**
ACAN	**Cantantal**	**2.12**	**91**	*eP*	**Pn**	**15 52 06.6**	**-0.3**
AVFE	**Valle Fertil**	**2.50**	**50**	IAML		15 52 42.3	
	comp=Z,120nm,0.4s						
ACHE	**Chepes**	**2.81**	**67**	*eP*	**Pn**	**15 52 15.2**	**-0.6**
AGUA	**GUANDACOL**	**2.97**	**21**	*eP*	**Pn**	**15 52 18.6**	**+0.8**
VCA	**Vinchina**	**3.76**	**20**	IAML		15 53 15.2	
	comp=Z,54nm,0.3s						

IDC 06 15:56:45.6±14.0, 8°.72S×154°.05E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/10, Error ellipse: s-maj=233.0km s-min=100.2km az=25.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**238**	P	P	16 01 41.4	-1.2
	1.0nm,0.7s,baz=61,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**24.35**	**230**	P	P	16 02 06.3	+0.8
	0.5nm,0.8s,baz=66,slow=9.0,SNR=7.2						
ASAR				LR	LR	16 10 40.7	
	comp=Z,64nm,19.0s,baz=106,slow=34						
STKA	**Stephens Creek**	**25.79**	**205**	P	P	16 02 18.3	0.0
	0.6nm,0.7s,baz=9.3,slow=10,SNR=2.4						

*ISK **06** 16:05:25.2, 39°.07N×29°.16E, h6km, MD2.3*
*ISCJB **06** 16:05:26.1±0.4, 39°.09N±0°.03×29°.14E±0°.03, h6km±5km, Error ellipse: s-maj=5.1km s-min=3.6km az=144.9*
*DDA **06** 16:05:26.6, 39°.06N×29°.13E, h7km, Md2.6*
*CSEM **06** 16:05:26.3±0.1, 39°.09N×29°.14E, h8km, MD2.3, Error ellipse: s-maj=2.5km s-min=1.8km az=127.0*

ISC 06 16:05:26.3±0.9, 39°.10N±0°.03×29°.13E±0°.02, h9km±7km, n33, σ0°60/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**262**	*ePG*	**Pg**	**16 05 28.7**	**-0.4**
SIMA				*eSG*	**Sg**	**16 05 30.9**	**-0.2**
SIMA	**Simav-Kutahya**	**0.12**	**262**	*ePg*	**Pg**	**16 05 28.7**	**-0.4**
SIMA				*eSg*	**Sg**	**16 05 30.9**	**-0.2**
GDZ	**Gediz**	**0.27**	**92**	*i* P	**Pg**	**16 05 32.3**	**+0.5**
GDZ				*i* S	**Sg**	**16 05 36.3**	**+0.9**
GDZ	**Gediz**	**0.27**	**92**	P	**Pg**	**16 05 32.3**	**+0.5**
GDZ				S	**Sg**	**16 05 36.3**	**+0.9**
DEMI	**Demirci**	**0.33**	**260**	*i* P	**Pg**	**16 05 32.9**	**+0.1**
DEMI				*i* S	**Sg**	**16 05 38.1**	**+0.9**
DEMI	**Demirci**	**0.33**	**260**	P	**Pg**	**16 05 32.9**	**+0.1**
DEMI				S	**Sg**	**16 05 38.1**	**+0.9**
TVSB	**Tavsanli**	**0.43**	**36**	*ePG*	**Pg**	**16 05 34.5**	**-0.2**
TVSB				*eSG*	**Sg**	**16 05 40.5**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**36**	*ePg*	**Pg**	**16 05 34.6**	**-0.2**
TVSB				*eSg*	**Sg**	**16 05 40.5**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**212**	*ePG*	**Pg**	**16 05 39.0**	**-0.6**
KULA				*eSG*	**Sg**	**16 05 48.5**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**212**	*ePg*	**Pg**	**16 05 39.0**	**-0.6**
KULA				*eSg*	**Sg**	**16 05 48.5**	**-0.2**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pg**	**16 05 40.8**	**-0.1**
MANT				*i* S	**Sg**	**16 05 50.5**	**-0.3**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**16 05 40.8**	**-0.1**
MANT				S	**Sg**	**16 05 50.5**	**-0.3**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pb**	**16 05 41.6**	**-0.5**
KHAL				*i* S	**Sb**	**16 05 52.1**	**-0.7**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**16 05 41.6**	**-0.5**
KHAL				S	**Sb**	**16 05 52.1**	**-0.7**
AKHS	**Akhisar**	**1.05**	**258**	*i* P	**Pn**	**16 05 47.5**	**+0.3**
AKHS				*i* S	**Sb**	**16 06 01.3**	**+0.8**
AKHS	**Akhisar**	**1.05**	**258**	P	**Pn**	**16 05 47.5**	**+0.3**
AKHS				S	**Sb**	**16 06 01.3**	**+0.8**
IGD	**Bursa**	**1.16**	**3**	*i* P	**Pg**	**16 05 47.5**	**-1.1**
IGD				*i* S	**Sg**	**16 06 01.8**	**-1.9**
CAVI	**Cavuskoy**	**1.23**	**26**	*ePN*	**Pn**	**16 05 49.5**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**26**	*ePn*	**Pn**	**16 05 49.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*ePN*	**Pn**	**16 05 50.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*ePn*	**Pn**	**16 05 50.8**	**+0.4**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*ePN*	**Pn**	**16 05 51.3**	**+0.5**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*ePn*	**Pn**	**16 05 51.3**	**+0.5**
BALY	**Balya**	**1.34**	**299**	*i* P	**Pn**	**16 05 51.4**	**+0.3**
BALY				*i* S	**Sb**	**16 06 09.6**	**+0.8**
BALY	**Balya**	**1.34**	**299**	P	**Pn**	**16 05 51.4**	**+0.3**
BALY				S	**Sb**	**16 06 09.6**	**+0.8**
ARMT	**Armutlu**	**1.48**	**352**	*ePN*	**Pn**	**16 05 53.5**	**+0.4**
ARMT	**Armutlu**	**1.48**	**352**	*ePn*	**Pn**	**16 05 53.5**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.54**	**353**	*ePN*	**Pn**	**16 05 54.5**	**+0.6**
SBT5	**Esenkoy-Cinarc**	**1.54**	**353**	*ePn*	**Pn**	**16 05 54.5**	**+0.6**
GULT	**Gulveren**	**1.70**	**38**	*ePN*	**Pn**	**16 05 56.5**	**+0.2**
GULT	**Gulveren**	**1.70**	**38**	*ePn*	**Pn**	**16 05 56.5**	**+0.2**
BUY	**Buyukada**	**1.75**	**360**	*ePN*	**Pn**	**16 05 57.4**	**+0.6**
BUY	**Buyukada**	**1.75**	**360**	*ePn*	**Pn**	**16 05 57.4**	**+0.6**

*NIED **06** 16:06:00, 38°.60N×144°.30E, h5km, Mw3.6 Best double couple: M0:2.78000×10^14 NP1:φ0=22.00000°, δ32.00000°, λ-49.00000°. NP2:φ0=156.00000°, δ67.00000°, λ-112.00000°.*
*IDC **06** 16:06:30.0±1.3, 38°.47N×144°.82E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/33, mbtmp3.8/9, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/42, Error ellipse: s-maj=38.7km s-min=19.3km az=88.0*
*ISCJB **06** 16:06:32.6±0.8, 38°.54N±0°.06×144°.72E±0°.09, h35km, mb3.9/8, Error ellipse: s-maj=11.0km s-min=7.1km az=40.5*
*NEIC **06** 16:06:34.8±0.7, 38°.53N×144°.78E, h35km, mb4.3/3, Error ellipse: s-maj=16.0km s-min=9.4km az=120.0*
*JMA **06** 16:06:35.2±0.2, 38°.58N×144°.34E, h21km, M4.2*

ISC 06 16:06:34.9±1.0, 38°.58N±0°.07×144°.67E±0°.09, h35km, n29, σ1°30/28, mb3.9/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**283**	P	**Pn**	**16 07 10.8**	**-0.9**
MIYJ	**Miyakonagasawa**	**2.43**	**295**	P	**Pn**	**16 07 11.2**	**-0.9**
JMK	**Ichinoseki**	**2.72**	**279**	P	**Pn**	**16 07 15.6**	**-0.5**
JOM	**Ohasama**	**2.78**	**290**	P	**Pn**	**16 07 16.6**	**-0.3**
JOU	**Okura**	**3.15**	**267**	P	**Pn**	**16 07 21.8**	**-0.3**
JRG	**Rokugo**	**3.25**	**286**	P	**Pn**	**16 07 23.6**	**+0.2**
JYK	**Kaneyama**	**3.39**	**277**	P	**Pn**	**16 07 25.5**	**+0.2**
ERM	**Erimo**	**3.62**	**342**	*ePn*	**Pn**	**16 07 28.6**	**+0.1**
ERM				*eSn*	**Sn**	**16 08 07.3**	**-2.6**
JCH	**Churui**	**4.15**	**347**	P	**Pn**	**16 07 35.4**	**-0.4**
JRY	**Ryogami san**	**5.26**	**243**	P	**Pn**	**16 07 50.3**	**-0.8**
JTKR	**Abashiri--Toko**	**5.42**	**354**	P	**Pn**	**16 07 52.4**	**-0.7**
MJAR	**Matsushiro Arr**	**5.52**	**250**	Pn	**Pn**	**16 07 54.6**	**0.0**
	1.3nm,0.3s,baz=60,slow=10.0,SNR=11						
MJAR				Sn	**Sn**	**16 08 55.1**	**-1.8**
	1.8nm,0.3s,baz=75,slow=26,SNR=4.9						
MAJO	**Matsushiro**	**5.52**	**250**	*ePn*	**Pn**	**16 07 55.1**	**+0.5**
ASAJ	**Asahikawa**	**5.75**	**345**	Pn	**Pn**	**16 07 58.0**	**+0.3**
	1.2nm,0.3s,baz=180,slow=18,SNR=10						
ASAJ				Sn	**Sn**	**16 09 00.2**	**-2.2**
	0.9nm,0.3s,baz=139,slow=20,SNR=3.2						
USRK	**Ussuriysk Ar.**	**11.05**	**305**	Pn	**Pn**	**16 09 13.5**	**+3.0**
	0.1nm,0.3s,baz=127,slow=17,SNR=3.3						
JNU	**Nakatsue**	**12.44**	**248**	LR	LR	16 14 35.9	
	comp=Z,44nm,18.9s,baz=116,slow=39						
PET	**Petropavlovsk**	**17.38**	**29**	*ePn*	**Pn**	**16 10 34.1**	**-0.3**
SEY	**Seymchan**	**24.83**	**8**	P	**P**	**16 11 55.9**	**+2.3**
	0.9nm,0.7s,baz=180,slow=6.2,SNR=5.1						
YAK	**Yakutsk**	**25.23**	**343**	P	**P**	**16 11 57.8**	**+0.7**
	5.3nm,0.6s,baz=132,slow=1.8,SNR=4.4						
YAK	**Yakutsk**	**25.23**	**343**	*eP*	**P**	**16 11 57.8**	**+0.7**
	8.1nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**27.70**	**130**	T	T	16 39 35.3	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**27.70**	**130**	T	T	16 39 35.7	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.72**	**130**	T	T	16 39 38.5	
	baz=318,slow=74						
MKAR	**Makanchi Array**	**45.50**	**301**	P	**P**	**16 14 52.0**	**+1.2**
	0.2nm,0.3s,baz=81,slow=8.7,SNR=4.6						
PMR	**Palmer**	**45.84**	**38**	*eP*	**P**	**16 14 50.8**	**-2.3**
	6.1nm,0.6s						
ABKAR	**Akbulak array**	**58.91**	**310**	*eP*	**P**	**16 16 31.1**	**+0.8**
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**59.01**	**191**	P	**P**	**16 16 30.9**	**-0.2**
	0.4nm,0.6s,baz=12,slow=7.2,SNR=4.3						
ASAR	**Alice Springs**	**62.73**	**191**	P	**P**	**16 16 56.4**	**-0.1**
	0.2nm,0.8s,baz=5.3,slow=5.4,SNR=4.5						
FINES	**FINESS Array B**	**68.63**	**333**	P	**P**	**16 17 34.8**	**+0.7**
	3.1nm,0.9s,baz=76,slow=8.6,SNR=4.7						

*NSSC **06** 16:12:45.3±1.5, 34°.49N×36°.08E, h6km±10km, ML1.7*
*CSEM **06** 16:12:47.8, 34°.55N×36°.41E, h0km, ML2.9*
*GRAL **06** 16:12:47.8±0.3, 34°.55N×36°.41E, h1km±54km, MD2.9*

ISC 06 16:12:45.4±1.4, 34°.54N±0°.03×36°.34E±0°.05, h7km±13km, n13, σ1°49/21, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.30**	**169**	*eP*	**Pb**	**16 12 53.3**	**+0.1**
FKH				*eS*	**Sb**	**16 12 57.4**	**-1.0**
HWQ	**Hawqa**	**0.42**	**231**	*eP*	**Pb**	**16 12 56.2**	**+1.0**
HWQ				*eS*	**Sb**	**16 13 02.4**	**+0.6**
HWQ	**Hawqa**	**0.42**	**231**	*eP*	**Pb**	**16 12 56.2**	**+1.0**
HWQ				*eS*	**Sb**	**16 13 02.4**	**+0.6**
MARH	**Ras Al Marh**	**0.53**	**167**	*eP*	**Pb**	**16 12 57.2**	**0.0**
MARH				*eS*	**Sg**	**16 13 03.6**	**+1.0**
MARH				AML	AML	16 13 08.5	
	comp=E,50nm,0.3s						
MARH				AML	AML	16 13 09.2	
	comp=N,69nm,0.3s						
BHL	**Bhannes**	**0.85**	**222**	*eP*	**Pn**	**16 13 03.9**	**-0.1**
BHL	**Bhannes**	**0.85**	**222**	*eP*	**Pn**	**16 13 03.9**	**-0.1**
ROOS	**tl_alroos**	**0.87**	**115**	*eP*	**Pn**	**16 13 05.3**	**+1.1**
ROOS				*eS*	**Sn**	**16 13 20.0**	**+2.9**
ROOS				AML	AML	16 13 29.4	
	comp=N,26nm,0.5s						
ROOS				AML	AML	16 13 32.4	
	comp=E,30nm,0.6s						
DQRL	**Deir Qamar**	**1.05**	**218**	*eP*	**Pn**	**16 13 07.4**	**+0.7**
DQRL	**Deir Qamar**	**1.05**	**218**	*eP*	**Pn**	**16 13 07.4**	**+0.7**
BRBR	**Barbar**	**1.17**	**196**	*eP*	**Pn**	**16 13 06.3**	**-2.2**
BRBR				*eS*	**Sb**	**16 13 19.8**	**-3.8**
BRBR				AML	AML	16 13 31.0	
	comp=N,20nm,0.5s						
BRBR				AML	AML	16 13 37.3	
	comp=E,15nm,0.6s						
ARNB	**Al Arnab**	**1.35**	**347**	*eP*	**Pb**	**16 13 10.8**	**-0.3**
ARNB				*eS*	**Sn**	**16 13 28.3**	**-0.7**
ARNB				AML	AML	16 13 40.7	
	comp=N,30nm,0.3s						
ARNB				AML	AML	16 13 41.4	
	comp=E,18nm,0.7s						
BTCH	**Batrach**	**1.50**	**4**	*eP*	**Pg**	**16 13 14.0**	**-0.1**
BTCH				*eS*	**Sg**	**16 13 33.4**	**-0.1**
BTCH				AML	AML	16 13 44.6	
	comp=E,19nm,0.5s						
BTCH				AML	AML	16 13 49.0	
	comp=N,16nm,0.4s						
SALA	**Sala**	**1.85**	**170**	*eP*	**Pb**	**16 13 18.3**	**-1.4**

*ISCJB **06** 16:15:16.0±0.4, 43°.25N±0°.03×77°.62E±0°.02, h1km±3km, Error ellipse: s-maj=4.3km s-min=2.3km az=170.0*
*NNC **06** 16:15:15.7±0.3, 43°.19N×77°.66E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=25.2km s-min=1.7km az=175.0*
*SOME **06** 16:15:16.8, 43°.27N×77°.58E, h10km*
*KRNET **06** 16:15:16.2±0.1, 43°.24N×77°.65E, h19km, mb2.4*

ISC 06 16:15:16.2±1.0, 43°.23N±0°.03×77°.64E±0°.02, h8km±9km, n32, σ0°78/59, 25C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.39**	**270**	*eP*	**Pg**	**16 15 23.3**	**-0.6**
KOTS				*eS*	**Sg**	**16 15 28.2**	**-0.8**
MDOK	**Medeo**	**0.44**	**261**	⇑P	**Pg**	**16 15 24.6**	**-0.2**
MDOK				⇓S	**Sg**	**16 15 30.8**	**+0.2**
MDOK	**Medeo**	**0.44**	**261**	⇓*iP*	**Pg**	**16 15 24.9**	**+0.1**
	12nm,0.6s						
MDOK				⇓*iS*	**Sg**	**16 15 31.0**	**+0.4**
	85nm,0.2s						
ANVS	**Anan'yevo**	**0.45**	**178**	⇓*eP*	**Pg**	**16 15 25.4**	**+0.4**
	baz=179						
ANVS				⇓*eS*	**Sg**	**16 15 31.9**	**+1.0**
	baz=179						
KURS	**Kuram**	**0.46**	**56**	⇓*iP*	**Pg**	**16 15 25.6**	**+0.4**
	2.5nm,0.1s						
KURS				⇓*iS*	**Sg**	**16 15 32.0**	**+0.8**
	49nm,0.2s						
KNDC	**Almaty**	**0.49**	**268**	⇓P	**Pg**	**16 15 25.5**	**-0.3**
	8.4nm,0.3s						
KNDC				⇑S	**Sg**	**16 15 33.3**	**+1.0**
	18nm,0.3s						
TNSS	**Tian-Shan**	**0.55**	**249**	*eP*	**Pg**	**16 15 27.0**	**+0.1**
	15nm,0.1s						
TNSS				*eS*	**Sg**	**16 15 34.4**	**+0.4**
	123nm,0.1s						
SATY	**Saty**	**0.58**	**107**	⇑*iP*	**Pg**	**16 15 28.0**	**+0.4**
	51nm,0.1s						
SATY				⇑*iS*	**Sb**	**16 15 36.2**	**-1.1**
	481nm,0.2s						
IZV	**Izvestkoviy**	**0.78**	**256**	*eP*	**Pg**	**16 15 30.4**	**-0.9**
	17nm,0.1s						
IZV				*eS*	**Sg**	**16 15 40.0**	**-1.4**
	49nm,0.1s						
CHKK	**Chushkaly**	**0.78**	**323**	*eP*	**Pg**	**16 15 31.0**	**-0.3**
	4.6nm,0.2s						
CHKK				*eS*	**Sg**	**16 15 41.4**	**0.0**
	125nm,0.3s						
KPKS	**Kokpek**	**0.79**	**73**	*eP*	**Pg**	**16 15 31.6**	**0.0**
	48nm,0.1s						
KPKS				*eS*	**Sb**	**16 15 42.4**	**-1.0**
	134nm,0.2s						
MTBS	**Maitube**	**0.89**	**264**	⇑*iP*	**Pg**	**16 15 33.1**	**-0.3**
	9.3nm,0.2s						
MTBS				⇓*iS*	**Sg**	**16 15 45.2**	**+0.2**
	91nm,0.2s						
UZB	**Uzynbulak**	**1.01**	**94**	*eP*	**Pg**	**16 15 35.3**	**-0.3**
	18nm,0.2s						
UZB				*eS*	**Sg**	**16 15 48.5**	**-0.3**
	51nm,0.1s						
KUU	**Kurty**	**1.15**	**305**	⇓*iP*	**Pb**	**16 15 37.6**	**-0.9**
	2.0nm,0.2s						
KUU				⇓*iS*	**Sb**	**16 15 52.4**	**-1.2**
	8.9nm,0.2s						
KDJ	**Kajisay**	**1.16**	**197**	⇑*eP*	**Pb**	**16 15 38.4**	**-0.2**
	baz=198						
KDJ				⇑*iS*	**Sn**	**16 15 54.5**	**-0.5**
	baz=198						
KST	**Kastek**	**1.24**	**262**	⇑*iP*	**Pn**	**16 15 39.3**	**-0.8**
	3.0nm,0.2s						
KST				⇑*iS*	**Sb**	**16 15 55.8**	**-0.6**
	28nm,0.7s						
SHLS	**Shalkode**	**1.33**	**93**	*eP*	Pg	16 15 46.6	+4.8
	13nm,0.2s						
SHLS				*eS*	Sg	16 16 08.5	+9.5
	25nm,0.2s						
PDGK	**Podgornoye**	**1.35**	**85**	⇓*iP*	**Pn**	**16 15 41.3**	**-0.3**
	baz=86						
PDGK				⇓*eS*	**Sn**	**16 15 59.2**	**-0.6**
	baz=86						
PDGK	**Podgornoye**	**1.35**	**85**	⇑P	**Pn**	**16 15 41.1**	**-0.5**
	3.2nm,0.3s						
PDGK				⇓S	**Sb**	**16 15 59.0**	**-0.5**
	12nm,0.6s						
ULHL	**Ulahol**	**1.43**	**227**	⇑*iP*	**Pn**	**16 15 42.8**	**+0.1**
	baz=227						
ULHL				⇑*iS*	**Sb**	**16 16 01.6**	**-0.1**
	baz=227						
BOOM	**Boomskoye usch**	**1.46**	**240**	⇑*eP*	**Pb**	**16 15 43.6**	**-0.1**
	baz=240						
BOOM				⇑*eS*	**Sg**	**16 16 03.2**	**+0.2**
	baz=240						
TKM2	**Tokmak 2**	**1.53**	**259**	⇑*iP*	**Pb**	**16 15 44.5**	**-0.5**
	baz=259						
TKM2				⇑*iS*	**Sb**	**16 16 04.5**	**-0.2**
	baz=259						
TKM2	**Tokmak 2**	**1.53**	**259**	⇓P	**Pb**	**16 15 44.7**	**-0.3**
	0.9nm,0.3s						
TKM2				⇓S	**Sb**	**16 16

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LLP				*e*S		**Sb**	**16 37 51.7**	**+0.6**
PAGZ	**Pagadian**	**3.56**	**247**	*e*P		**Pb**	**16 37 23.9**	**-2.8**
PAGZ				*e*S		**Sb**	**16 38 07.8**	**-2.5**
FITZ	**Fitzroy Crossi**	**27.20**	**182**	P		**P**	**16 42 08.2**	**+0.1**
	2.9nm,0.8s,baz=11,slow=11,SNR=1.8							
WRA	**Warramunga Arr**	**29.97**	**165**	P		**P**	**16 42 33.1**	**+0.3**
	0.3nm,0.7s,baz=345,slow=9.3,SNR=2.2							
ASAR	**Alice Springs**	**33.47**	**168**	P		**P**	**16 43 04.7**	**+1.0**
	0.1nm,0.3s,baz=350,slow=7.0,SNR=12							
H11S3	**WAKE ISLAND Hy**	**39.82**	**72**	T		T	17 26 59.3	
	baz=261							
H11S1	**WAKE ISLAND Hy**	**39.83**	**72**	T		T	17 27 07.4	
	baz=261							
H11S2	**WAKE ISLAND Hy**	**39.84**	**72**	T		T	17 27 03.0	
	baz=261							
MKAR	**Makanchi Array**	**53.09**	**323**	P		**P**	**16 45 41.2**	**-0.6**
	0.9nm,0.7s,baz=116,slow=8.2,SNR=9.0							
KURBB	**Kurchatov Arra**	**57.15**	**326**	P		**P**	**16 46 10.7**	**-0.3**
	0.7nm,0.7s,baz=126,slow=6.9,SNR=8.3							

SOME ***06*** *16:47:11.4,39°.58N×72°.92E,h5km,MS3.8*
BJI ***06*** *16:47:12.4,39°.47N×72°.45E,h6km,mb4.4/31,mB4.4/16, ML4.5/6,Ms4.1/13,Ms7 3.8/6*
KRNET ***06*** *16:47:13.6±0.1,39°.27N×72°.68E,mb4.8*
IDC ***06*** *16:47:14.1±0.6,39°.27N×72°.84E,h0km,mb4.1/24, mb1 4.3/32,mb1mx4.1/50,mbtmp4.2/32,ML4.0/8,MS3.4/19, Ms1 3.4/19,ms1mx3.3/39,Error ellipse: s-maj=12.3km s-min=9.8km az=162.0*
ISCJB ***06*** *16:47:15.6±0.9,39°.12N±0°.02×72°.81E±0°.03,h15km±5km, mb4.4/62,MS3.5/19,Error ellipse: s-maj=3.5km s-min=2.5km az=172.2*
MOS ***06*** *16:47:18.1±1.7,39°.39N×72°.88E,h31km,mb4.6/33,Error ellipse: s-maj=7.5km s-min=4.8km az=92.9*
NEIC ***06*** *16:47:20.4±0.8,39°.43N×72°.88E,h42km±8km,mb4.6/16, Error ellipse: s-maj=7.2km s-min=5.8km az=170.0*
NNC ***06*** *16:47:22.3±2.1,39°.73N×72°.84E,h0km,mb4.9,mpv4.6, Error ellipse: s-maj=18.3km s-min=10.7km az=20.2*
ISC 06 16:47:16.0±1.4**,39°.33N**±0°.03×**72°.87E**±0°.03,**h9**km±9km,**n234**,σ2**S72**/264,**mb4.5**/66,**MS3.5**/20,**41C-30D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.74**	**295**	⇓*i*P		**Pn**	**16 47 44.7**	**-1.8**
	baz=299							
BTK				⇓*i*S		**Sn**	**16 48 07.7**	**-1.2**
	baz=299							
ARSB	**Arslanbob**	**1.99**	**2**	⇑*e*P		**Pb**	**16 47 51.7**	**-0.8**
	baz=6.0							
ARSB				⇑*e*S		**Sg**	**16 48 19.4**	**-0.6**
	baz=6.0							
KSH	**Kashi**	**2.41**	**85**	Pn		**Pn**	**16 47 56.0**	**+0.4**
KSH				Sn		**Sn**	**16 48 26.3**	**+1.0**
KSH				smax		smax		
	comp=N,6μm,0.9s							
KSH				smax		smax		
	comp=E,4μm,0.7s							
ARK	**Arkit**	**2.56**	**345**	⇓*e*P		**Pn**	**16 47 59.4**	**+1.7**
	baz=348							
ARK				⇓*i*S		**Sb**	**16 48 32.6**	**-1.1**
	baz=348							
TOKL	**Toktogul**	**2.60**	**360**	⇑*e*P		**Pn**	**16 48 00.8**	**+2.5**
	baz=3.0							
TOKL				⇑*e*S		**Sb**	**16 48 34.1**	**-0.9**
	baz=3.0							
ARLS	**Aral**	**2.76**	**23**	⇑*e*P		**Pn**	**16 48 02.9**	**+2.4**
	baz=25							
ARLS				⇑*e*S		**Sb**	**16 48 39.4**	**0.0**
	baz=25							
AML	**Almayashu**	**2.86**	**12**	⇓*i*P		**Pn**	**16 48 05.1**	**+2.9**
	baz=15							
AML				⇓*i*S		**Sb**	**16 48 42.2**	**-0.6**
	baz=15							
MNAS	**Manas**	**3.16**	**355**	⇓*e*P		**Pn**	**16 48 08.1**	**+2.0**
	baz=358							
MNAS				⇓*e*S		**Sn**	**16 48 47.2**	**+3.2**
	baz=358							
MNAS	**Manas**	**3.16**	**355**	⇓Pn		**Pn**	**16 48 08.4**	**+2.3**
	59nm,0.4s							
MNAS				⇑Lg		Lg	16 48 52.1	
	365nm,0.5s							
MNAS	**Manas**	**3.16**	**355**	PN		**Pn**	**16 48 08.4**	**+2.3**
KZA	**Kyzart**	**3.28**	**33**	⇓*i*P		**Pb**	**16 48 11.8**	**-2.8**
	baz=34							
KZA				⇓*i*S		**Sb**	**16 48 54.0**	**-0.8**
	baz=34							
EKS2	**Erkin-Say**	**3.40**	**11**	⇑*i*P		**Pn**	**16 48 12.8**	**+3.6**
	baz=14							
EKS2				⇑*i*S		**Sb**	**16 48 55.6**	**-2.2**
	baz=14							
MRKS	**Merke**	**3.42**	**4**	⇑*i*P		**Pn**	**16 48 12.4**	**+2.9**
	1μm,0.5s							
MRKS				⇑*i*S		**Sb**	**16 48 59.7**	**+1.2**
	1μm,0.5s							
AAK	**Ala-Archa**	**3.52**	**20**	Pn		**Pn**	**16 48 14.5**	**+3.6**
	95nm,0.3s,baz=185,slow=8.1,SNR=1120							
AAK				Sn		**Sb**	**16 48 58.3**	**-3.2**
	55nm,0.3s,baz=134,slow=22,SNR=7.5							
AAK				LR		LR	16 49 50.1	
	comp=Z,384nm,20.1s,baz=178,slow=43							
AAK	**Ala-Archa**	**3.52**	**20**	⇑*i*P		**Pn**	**16 48 14.6**	**+3.6**
	baz=22							
AAK				⇑*i*S		**Sb**	**16 48 58.5**	**-3.0**
	baz=22							
AAK	**Ala-Archa**	**3.52**	**20**	Pn		**Pn**	**16 48 15.1**	**+4.1**
	340nm,0.5s							
AAK				Lg		Lg	16 48 59.2	
	441nm,0.7s							
IUG	**Iuzhnay**	**3.54**	**323**	*e*P		**Pn**	**16 48 12.4**	**+1.2**
	708nm,0.3s							
IUG				*e*S		**Sb**	**16 48 59.6**	**-2.5**
	2μm,0.6s							
KBK	**Karagaybulak**	**3.67**	**25**	⇑*i*P		**Pn**	**16 48 17.0**	**+3.9**
	baz=26							
KBK				⇑*i*S		**Sb**	**16 49 02.5**	**-3.3**
	baz=26							
FRU1	**Bishkek**	**3.72**	**20**	⇑*i*P		**Pn**	**16 48 17.7**	**+4.1**
	baz=22							
FRU1				⇑*i*S		**Sb**	**16 49 03.4**	**-3.6**
	baz=22							
FRU	**Bishkek**	**3.74**	**20**	*e*PN		**Pn**	**16 48 18.0**	**+4.2**
FRU				*e*			16 48 27.0	
FRU				*e*S		**Sb**	**16 49 04.5**	**-3.0**
FRU				*i* S		**Sb**	**16 49 12.0**	**+4.5**
FRU				pmax		pmax		
	comp=Z,490nm,1.4s							
FRU				smax		smax		
	comp=N,2μm,1.8s							
FRU				MLR		MLR		
	comp=E,4μm,8.0s							
DZA	**Taraz**	**3.74**	**342**	*e*P		**Pn**	**16 48 16.1**	**+2.2**
	comp=E,504nm,0.3s							
DZA				*e*S		**Sb**	**16 49 05.9**	**-1.8**
	comp=E,4μm,0.2s							
ULHL	**Ulahol**	**3.87**	**40**	⇓*i*P		**Pn**	**16 48 20.1**	**+4.2**
	baz=41							
ULHL				⇓*i*S		**Sn**	**16 49 07.3**	**+5.7**
	baz=41							
USP	**Ospenovka**	**4.12**	**17**	⇑*i*P		**Pn**	**16 48 22.6**	**+3.5**
	baz=18							
USP				⇑*i*S		**Sn**	**16 49 12.5**	**+5.2**
	baz=18							
TKM2	**Tokmak 2**	**4.13**	**29**	⇑*i*P		**Pn**	**16 48 23.0**	**+3.6**
	baz=30							
TKM2				⇑*i*S		**Sn**	**16 49 13.9**	**+5.9**
	baz=30							
TKM2	**Tokmak 2**	**4.13**	**29**	⇑Pn		**Pn**	**16 48 22.9**	**+3.5**
	comp=E,41nm,0.5s							
TKM2				⇑Lg		Lg	16 49 23.9	
	comp=E,157nm,0.6s							
KK31	**Karatay Array**	**4.17**	**335**	⇓Pn		**Pn**	**16 48 21.2**	**+1.4**
	comp=E,44nm,0.3s,baz=154,slow=12,SNR=909							
KK31				⇑Sn		**Sn**	**16 49 09.4**	**+0.8**
	comp=E,285nm,0.4s,baz=144,slow=23,SNR=12							
KK31				⇓Lg		Lg	16 49 21.6	
	comp=E,88nm,0.3s,baz=147,slow=13,SNR=4.7							
KK31	**Karatay Array**	**4.17**	**335**	PN		**Pn**	**16 48 21.2**	**+1.4**
KKAR	**Karatay Array**	**4.17**	**335**	*e*PN		**Pn**	**16 48 21.0**	**+1.3**
KKAR	**Karatay Array**	**4.17**	**335**	*e*Pn		**Pn**	**16 48 21.0**	**+1.3**
KST	**Kastek**	**4.38**	**31**	*e*P		**Pn**	**16 48 26.8**	**+4.1**
	comp=E,45nm,0.4s							
KST				*e*S		**Sb**	**16 49 25.3**	**-0.7**
	comp=E,481nm,0.6s							
DGS	**Degeres**	**4.47**	**28**	*e*P		**Pn**	**16 48 28.0**	**+4.0**
	comp=E,217nm,0.3s							
DGS				*e*S		**Sb**	**16 49 28.0**	**-0.8**
	comp=E,443nm,0.4s							
IZV	**Izvestkoviy**	**4.65**	**36**	*e*P		Pn	16 48 31.6	+5.1
TNSS	**Tian-Shan**	**4.81**	**38**	*e*P		Pn	16 48 33.9	+5.0
AAA	**Alma-Ata**	**4.93**	**37**	*i* PN		**Pb**	**16 48 46.3**	**+3.9**
AAA				pmax		pmax		
	comp=Z,442nm,0.4s							
AAA	**Alma-Ata**	**4.93**	**37**	*e*P		Pn	16 48 35.3	+5.1
	comp=Z,140nm,0.5s							
AAA				*e*S		**Sb**	**16 49 40.2**	**-1.6**
	comp=Z,696nm,0.4s							
MDOK	**Medeo**	**4.95**	**38**	⇓Pn		**Pn**	**16 48 34.8**	**+4.2**
MDOK				⇓Pg		**Pb**	**16 48 45.2**	**+2.3**
MDOK				⇓Lg		Lg	16 49 51.6	
MDOK	**Medeo**	**4.95**	**38**	⇑*i*P		**Pn**	**16 48 35.2**	**+4.5**
	comp=Z,173nm,0.5s							
MDOK				*e*S		**Sb**	**16 49 40.3**	**-2.3**
	comp=Z,276nm,0.7s							
KNDC	**Almaty**	**4.96**	**37**	⇑Pn		**Pn**	**16 48 35.2**	**+4.6**
	comp=Z,128nm,0.7s							
KNDC				⇑Pg		**Pb**	**16 48 46.0**	**+3.1**
	comp=Z,209nm,0.6s							
KNDC				⇓Lg		Lg	16 49 52.9	
	comp=Z,693nm,1.0s							
KOTS	**Kotyrbulak**	**5.04**	**38**	*e*P		Pn	16 48 37.2	+5.3
KUU	**Kurty**	**5.24**	**29**	*e*P		**Pb**	**16 48 44.1**	**-3.7**
	comp=Z,195nm,0.7s							
KUU				*e*S		**Sb**	**16 49 56.1**	**+5.3**
	comp=Z,352nm,0.3s							
CEP	**Cherat**	**5.55**	**188**	P		Pn	16 48 44.7	+5.8
CEP				S		**Sn**	**16 49 50.0**	**+7.1**
SATY	**Saty**	**5.59**	**46**	*e*P		**Pb**	**16 48 54.3**	**+0.5**
	comp=Z,292nm,0.8s							
SATY				*e*S		**Sg**	**16 50 13.3**	**-2.1**
	comp=Z,240nm,0.9s							
CHCP	**Chirah Chowk**	**5.67**	**177**	P		Pn	16 48 47.1	+6.7
KBL	**Kabul**	**5.68**	**214**	*e*PN		**Pn**	**16 48 44.7**	**+3.9**
KBL	**Kabul**	**5.68**	**214**	*e*Pn		**Pn**	**16 48 44.6**	**+3.9**
KURS	**Kuram**	**5.75**	**42**	*e*P		**Pb**	**16 48 56.3**	**-0.1**
	comp=Z,42nm,0.7s							
KURS				*e*S		**Sg**	**16 50 17.1**	**-3.4**
	comp=Z,177nm,0.8s							
UZB	**Uzynbulak**	**6.00**	**49**	*e*P		**Pb**	**16 49 00.8**	**0.0**
	comp=Z,58nm,0.5s							
UZB				*e*S		**Sg**	**16 50 25.4**	**-3.1**
	comp=Z,120nm,0.5s							
KPKS	**Kokpek**	**6.01**	**45**	*e*P		**Pb**	**16 48 59.9**	**-1.0**
	comp=Z,171nm,0.5s							
KPKS				*e*S		**Sg**	**16 50 23.7**	**-5.2**
	comp=Z,277nm,0.8s							
SHLS	**Shalkode**	**6.26**	**50**	*e*P		Pb	16 49 10.7	+5.5
	comp=Z,81nm,0.6s							
SHLS				*e*S		**Sg**	**16 50 43.1**	**+6.0**
	comp=Z,191nm,0.7s							
PDGK	**Podgornoye**	**6.38**	**49**	⇑Pn		**Pn**	**16 48 53.3**	**+3.0**
	comp=Z,17nm,0.6s							
PDGK				⇑Lg		Lg	16 50 35.4	
	comp=Z,124nm,1.0s							
PDGK	**Podgornoye**	**6.38**	**49**	PN		**Pn**	**16 48 53.3**	**+3.0**
THW	**Thamme Wali**	**6.59**	**188**	P		Pn	16 48 57.9	+4.9
THN	**Thein Dam**	**7.26**	**161**	*e*P		**Pn**	**16 49 03.0**	**+0.8**
THN				*e*S		**Sn**	**16 50 20.0**	**-4.7**
SARP	**Sargodha**	**7.40**	**181**	P		Pn	16 49 08.7	+4.6
DHRM	**DHARAMSHALA**	**7.59**	**157**	*e*P		**Pn**	**16 49 11.0**	**+4.0**
DHRM				*e*S		**Sn**	**16 50 31.6**	**-1.7**
JWA	**Jwalamukhi**	**7.96**	**158**	*e*P		**Pn**	**16 49 14.0**	**+2.2**
BHK	**Bhakra**	**8.41**	**159**	*ex*		Sn	16 51 02.4	+9.3
SDNR	**Sundarnagar**	**8.50**	**156**	*e*P		**Pn**	**16 49 22.0**	**+2.8**
SDNR				*e*S		**Sn**	**16 50 51.0**	**-4.3**
SMLA	**Simla**	**8.90**	**156**	*e*P		**Pn**	**16 49 27.6**	**+2.8**
SMLA				*e*S		**Sn**	**16 51 03.2**	**-2.0**
DDI	**Dehra Dun**	**9.94**	**153**	*e*P		**Pn**	**16 49 39.8**	**+0.8**
DDI				*ex*		x	16 51 31.1	
DDI				IAML			16 52 02.6	
	comp=N,191nm,0.1s							
DDI				IAML			16 52 03.2	
	comp=E,166nm,0.1s							
MAKZ	**Makanchi**	**10.00**	**39**	*e*P		**Pn**	**16 49 40.9**	**+1.1**
MAKZ	**Makanchi**	**10.00**	**39**	*e*Pn		**Pn**	**16 49 40.9**	**+1.1**
MK01	**Makanchi Array**	**10.13**	**40**	*e*Pn		**Pn**	**16 49 43.0**	**+1.4**
MK31	**Makanchi Array**	**10.15**	**40**	Pn		**Pn**	**16 49 44.5**	**+2.7**
	comp=E,3.3nm,0.7s,baz=239,slow=14,SNR=41							
MK31				⇑Lg		Lg	16 52 29.2	
	comp=E,18nm,0.8s							
MK31	**Makanchi Array**	**10.15**	**40**	*e*P		**Pn**	**16 49 43.4**	**+1.6**
MK31	**Makanchi Array**	**10.15**	**40**	*e*Pn		**Pn**	**16 49 43.4**	**+1.6**
MKAR	**Makanchi Array**	**10.15**	**40**	Pn		**Pn**	**16 49 44.1**	**+2.4**
	comp=E,0.5nm,0.3s,baz=240,slow=14,SNR=38							
MKAR				Lg		Lg	16 52 32.6	
	comp=E,0.6nm,0.3s,baz=238,slow=25,SNR=2.7							
MKAR	**Makanchi Array**	**10.15**	**40**	*e*P		**Pn**	**16 49 43.4**	**+1.6**
MKAR	**Makanchi Array**	**10.15**	**40**	*e*Pn		**Pn**	**16 49 43.4**	**+1.6**
MKAR				Lg		Lg	16 52 32.6	
JOSI	**Joshimath**	**10.33**	**146**	*e*P		**Pn**	**16 49 46.9**	**+2.5**
JOSI				*e*S		**Sn**	**16 51 37.7**	**-2.8**
JOSI				IAML			16 51 48.5	
	comp=E,1μm,1.1s							
JOSI				IAML			16 51 49.0	
	comp=N,758nm,0.6s							
KALG	**Kalgarh**	**10.94**	**152**	*ex*		Pn	16 49 47.0	-5.6
KALG				*ex*		**Sn**	**16 51 46.1**	**-8.9**
KHET	**Khetri**	**11.49**	**167**	*e*S		**Sn**	**16 52 01.2**	**-7.4**
KUDL	**Kundal**	**11.56**	**164**	*e*P		**Pn**	**16 50 01.1**	**0.0**
KUDL				*e*S		**Sn**	**16 52 01.4**	**-8.9**
KUDL				IAML			16 52 15.9	
	comp=N,26nm,0.5s							
KUDL				IAML			16 52 16.6	
	comp=E,26nm,0.7s							
SONA	**Sohna**	**11.59**	**161**	*e*S		**Sn**	**16 52 03.0**	**-8.1**
SONA				IAML			16 52 12.9	
	comp=E,89nm,0.2s							
SONA				IAML			16 52 15.8	
	comp=N,40nm,0.7s							
GEYT	**Alibeck**	**11.63**	**268**	Pn		**Pn**	**16 49 59.3**	**-2.8**
	comp=N,3.0nm,0.3s,baz=102,slow=12,SNR=27							
GEYT				Sn		**Sn**	**16 52 07.6**	**-4.5**
	comp=N,4.6nm,0.3s,baz=72,slow=23,SNR=7.7							
GEYT				Lg		Lg	16 53 20.1	
	baz=81,slow=29,SNR=2.0							
GEYT				LR		LR	16 55 11.9	
	comp=N,109nm,20.4s,baz=75,slow=41							
WMQ	**Urumqi**	**11.97**	**63**	P		**Pn**	**16 50 08.5**	**+1.8**
WMQ				pP			16 50 09.8	
WMQ				PP		**PnPn**	**16 50 17.3**	**+2.9**
WMQ				SS		Sn	16 52 44.8	+24
WMQ				pmax		pmax		
	comp=N,29nm,0.7s							
WMQ				LR		LR		
	comp=N,760nm,6.9s							
WMQ				LR		LR		
	comp=N,400nm,8.3s							
KURBB	**Kurchatov Arra**	**11.97**	**18**	Pn		**Pn**	**16 50 05.1**	**-1.6**
	comp=N,0.3nm,0.3s,baz=209,slow=13,SNR=39							
KURBB				Lg		Lg	16 53 35.9	
	comp=N,0.4nm,0.3s,baz=206,slow=28,SNR=6.4							
KURBB	**Kurchatov Arra**	**11.97**	**18**	⇑Lg		Lg	16 53 37.2	
	comp=N,157nm,1.1s							
KURK	**Kurchatov**	**12.08**	**18**	⇓Lg		Lg	16 53 36.6	
	comp=N,40nm,0.7s							
KURK	**Kurchatov**	**12.08**	**18**	⇓*i*P		**Pn**	**16 50 07.5**	**-0.7**
KURK				pmax		pmax		
	comp=Z,34nm,1.2s							
KURK	**Kurchatov**	**12.08**	**18**	*e*Pn		**Pn**	**16 50 07.0**	**-1.2**
KURK				Lg		Lg	16 53 35.9	
AB31	**Akbulak array**	**13.55**	**321**	⇑P		**Pn**	**16 50 27.6**	**-0.6**
	comp=Z,5.2nm,0.5s							
AB31				S		**Sn**	**16 52 50.7**	**-8.1**
	comp=Z,7.5nm,0.5s,baz=249,slow=37,SNR=6.0							
AB31	**Akbulak array**	**13.55**	**321**	P		**Pn**	**16 50 27.6**	**-0.6**
ABKAR	**Akbulak array**	**13.55**	**321**	*e*Pn		**Pn**	**16 50 24.9**	**-3.3**
BVA0	**Borovoye Array**	**13.80**	**354**	Pn		**Pn**	**16 50 29.9**	**-1.7**
	comp=Z,9.9nm,1.2s,baz=160,slow=12,SNR=22							
BVA0				⇑Lg		Lg	16 54 23.3	
	comp=Z,30nm,1.2s							
BVAR	**Borovoye Array**	**13.80**	**354**	Pn		**Pn**	**16 50 29.7**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=159,slow=13,SNR=18							
BVAR				Sn		**Sn**	**16 52 58.0**	**-7.0**
	comp=Z,0.9nm,0.3s,baz=169,slow=23,SNR=3.6							
BVAR				Lg		Lg	16 54 31.7	
	comp=Z,1.3nm,0.3s,baz=162,slow=29,SNR=3.8							
BRVK	**Borovoye**	**13.84**	**353**	*d*P		**Pn**	**16 50 30.5**	**-1.7**
BRVK				pmax		pmax		
	comp=Z,27nm,1.7s							
BRVK	**Borovoye**	**13.84**	**353**	*e*Pn		**Pn**	**16 50 30.1**	**-2.1**
PYUN	**Piuthan**	**14.00**	**140**	*e*P		**Pn**	**16 50 32.8**	**-1.9**
	comp=Z,70nm,0.6s							
KOLN	**Koldanda**	**14.58**	**139**	*e*P		**Pn**	**16 50 40.0**	**-2.6**
	comp=Z,19nm,0.4s							
GKN	**Gorkha**	**14.94**	**136**	*e*P		**Pn**	**16 50 44.8**	**-2.6**
	comp=Z,40nm,0.4s							
AKTO	**Aktyubinsk**	**15.27**	**321**	Pn		**Pn**	**16 50 48.3**	**-3.3**
	comp=Z,1.5nm,0.3s,baz=133,slow=13,SNR=16							
AKTO				Sn		Sn	16 53 29.4	-11
	comp=Z,0.6nm,0.3s,baz=127,slow=20,SNR=3.3							
AKTO				LR		LR	16 56 21.1	
	comp=Z,73nm,18.6s,baz=135,slow=36							
AKTO	**Aktyubinsk**	**15.27**	**321**	⇓P		**P**	**16 50 57.4**	**+0.9**
	comp=Z,36nm,0.7s							
AKTO				⇑S		**Sn**	**16 53 46.4**	**+5.7**
	comp=Z,11nm,0.6s							
KKN	**Kakani**	**15.46**	**134**	*e*P		**Pn**	**16 50 51.6**	**-2.8**
	comp=Z,40nm,0.6s							
DMN	**Daman**	**15.50**	**135**	*e*P		**Pn**	**16 50 52.4**	**-2.6**
	comp=Z,26nm,0.6s							
PKIN	**Phulchoki**	**15.69**	**135**	*e*P		**Pn**	**16 50 55.1**	**-2.3**
	comp=Z,27nm,0.6s							
JIRN	**Jiri**	**16.07**	**132**	*e*P		**Pn**	**16 50 59.9**	**-2.6**
	comp=Z,257nm,0.4s							
BHJ	**Bhuj**	**16.26**	**191**	*e*P		**Pn**	**16 51 04.5**	**-0.1**
BHJ				IAmb		IAmb	16 51 06.2	
	comp=Z,21nm,0.3s							
BHPL	**Bhopal**	**16.50**	**165**	*e*P		**Pn**	**16 51 08.4**	**+0.7**
ZAA0	**Zalesovo Array**	**16.73**	**25**	*e*Pn		**Pn**	**16 51 09.4**	**-0.9**
ZALV	**Zalesovo Beam**	**16.73**	**25**	Pn		**Pn**	**16 51 10.2**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=215,slow=13,SNR=28							
ZALV				LR		LR	16 58 12.7	
	comp=Z,113nm,18.5s,baz=259,slow=39							
RAMN	**Ramite**	**16.84**	**133**	*e*P		**Pn**	**16 51 09.4**	**-2.8**
	comp=Z,54nm,0.6s							
NVS	**Novosibirsk**	**17.01**	**21**	*e*P		**Pn**	**16 51 14.1**	**+0.2**
TAPN	**Taplejung**	**17.19**	**130**	*e*P		**Pn**	**16 51 13.9**	**-2.7**
	comp=Z,19nm,0.7s							
ODAN	**Odare**	**17.37**	**131**	*e*P		**Pn**	**16 51 16.5**	**-2.3**
	comp=Z,55nm,0.7s							
LSA	**Lhasa**	**17.84**	**117**	P		**P**	**16 51 28.7**	**+3.1**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
LSA	**Lhasa**	**17.84**	**117**	*e*P		**P**	**16 51 26.0**	**+0.4**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
LSA	**Lhasa**	**17.84**	**117**	*e*Pn		**P**	**16 51 26.0**	**+0.4**
	comp=Z,5.4nm,0.7s							
NGP	**Nagpur**	**18.88**	**162**	*e*P		**Pn**	**16 51 37.7**	**+0.5**
BOK	**Bokaro**	**19.02**	**141**	*ex*		**Pn**	**16 51 37.7**	**-1.1**
SVE	**Sverdlovsk**	**19.27**	**339**	⇓*e*P		**Pn**	**16 51 42.1**	**+0.5**
SVE				pmax		pmax		
	comp=Z,21nm,1.3s							
MAK	**Makhachkala**	**19.42**	**289**	*e*P		**P**	**16 51 42.3**	**-0.1**
MAK				*e*S		**Sn**	**16 55 21.1**	**-0.3**
MAK				pmax		pmax		
	comp=Z,110nm,1.4s							
MAK				MLR		MLR		
	comp=Z,332nm,14.0s							
ARU	**Arti**	**19.55**	**336**	P		**P**	**16 51 43.3**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=114,slow=12,SNR=14							
ARU				LR		LR	16 59 49.1	
	comp=Z,122nm,18.7s,baz=134,slow=38							
ARU	**Arti**	**19.55**	**336**	*d*iP		**Pn**	**16 51 44.5**	**-0.4**
ARU				S		**S**	**16 55 24.9**	**+0.7**
ARU				pmax		pmax		
	comp=Z,15nm,0.8s							
ARU	**Arti**	**19.55**	**336**	*e*P		**P**	**16 51 42.9**	**-0.8**
	comp=Z,24nm,1.1s							
WSAR	**Wadi Sarin**	**20.10**	**221**	P		**P**	**16 51 50.0**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=63,slow=7.2,SNR=4.3							
WSAR				LR		LR	17 01 41.6	
	comp=Z,105nm,20.8s,baz=90,slow=43							
POO	**Poona**	**20.75**	**177**	*e*P		**P**	**16 51 56.2**	**-0.8**
GTA	**Gaotai**	**20.80**	**81**	*e*P		Pn	16 52 00.8	+0.7
GTA				pP		sP	16 52 04.8	+3.3
GTA				sP		pP	16 52 07.9	+7.6
GTA				S		Sn	16 55 55.4	+0.4
GTA				sS		pS	16 56 01.6	+3.1
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,77nm,4.2s							
GTA				LR		LR		
	comp=Z,260nm,12.4s							
GTA				LR		LR		
	comp=Z,170nm,17.1s							
GNI	**Garni**	**21.62**	**281**	P		**P**	**16 52 07.3**	**+0.9**
	comp=Z,5.0nm,0.4s,baz=110,slow=12,SNR=5.7							
GNI	**Garni**	**21.62**	**281**	*e*eP		**P**	**16 52 10.6**	**+4.2**
GNI	**Garni**	**21.62**	**281**	*e*P		**P**	**16 52 05.8**	**-0.6**
	comp=Z,56nm,1.1s							
ZEI	**Tsey**	**22.07**	**288**	*e*P		**P**	**16 52 10.8**	**-0.5**
ZE

comp=Z,108nm,19.9s,baz=93,slow=38
SIM Simferopol' 29.08 294 P **P 16 53 18.5 +1.9**
SIM pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 29.48 74 *e*P **P 16 53 20.1 -0.2**
HHC S **S 16 58 12.0 -2.8**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,52nm,6.4s
HHC LR LR
comp=Z,170nm,14.8s
HHC LR LR
comp=Z,160nm,14.8s
HHC LR LR
comp=Z,130nm,14.8s
KLMR Klimovskoe 29.82 327 *e*P **P 16 53 24.0 +1.0**
KLMR pmax pmax
comp=Z,13nm,1.3s
ASF Jabal al Asfar 29.91 267 LR LR 17 07 04.0
comp=Z,70nm,21.7s,baz=92,slow=40
BR131 Keskin Array S 30.10 283 *e*P **P 16 53 26.0 +0.1**
BRTR Keskin Array B 30.10 283 P **P 16 53 25.1 -0.8**
comp=Z,0.4nm,0.3s,baz=106,slow=7.7,SNR=5.6
BRTR Keskin Array B 30.10 283 P **P 16 53 25.1 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 30.69 125 P **P 16 53 30.0 -1.1**
comp=Z,1.4nm,0.8s,baz=312,slow=8.4,SNR=11
CMAR LR LR 17 07 49.7
comp=Z,62nm,19.6s,baz=308,slow=40
BR231 Keskin MP Arra 30.73 284 *e*P **P 16 53 27.5 -3.9**
CM01 Chiang Mai Arr 30.73 125 *e*P **P 16 53 31.1 -0.4**
NRIK Noril'sk 31.08 10 LR LR 17 07 46.3
comp=Z,99nm,19.1s,baz=140,slow=40
BOD Bodaibo 32.23 41 *e*P **P 16 53 44.7 +0.4**
BOD pmax pmax
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 32.43 305 P **P 16 53 44.6 -1.4**
comp=Z,0.8nm,0.5s,baz=79,slow=8.1,SNR=2.9
KIEV Kiev 32.44 305⇑ *e*P **P 16 53 48.8 +2.6**
KIEV pmax pmax
comp=Z,29nm,3.9s
VRI Vrincioaia 34.20 296⇓ *i*P P 16 54 08.1 +6.4
MLR Muntele Rosu 34.79 296 P **P 16 54 06.1 -0.7**
comp=Z,0.2nm,0.5s,baz=80,slow=12,SNR=2.8
MLR Muntele Rosu 34.79 296⇑ *i*P **P 16 54 11.3 +4.4**
MLR Muntele Rosu 34.79 296 *e*P **P 16 54 06.2 -0.7**
MLR pmax pmax
comp=Z,11nm,1.0s
MLR Muntele Rosu 34.79 296 *e*P **P 16 54 06.2 -0.7**
comp=Z,10nm,1.0s
VOIR 35.42 296⇓ *i*P **P 16 54 11.8 -0.5**
APA Apatity 35.64 335⇑ *i*P P 16 54 25.2 +11
APA MLR MLR
comp=Z,2μm,12.0s
FINES FINESS Array B 36.03 323 P **P 16 54 17.0 -0.1**
comp=Z,3.7nm,0.6s,baz=111,slow=9.4,SNR=16
FINES LR LR 17 09 41.4
comp=Z,92nm,19.8s,baz=91,slow=37
FINES FINESS Array B 36.03 323 *i*P **P 16 54 17.2 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
NJ2 Nanjing 37.72 87 *e*P **P 16 54 32.1 +0.2**
NJ2 pmax pmax
comp=Z,17nm,0.5s
MDVR Moldovita 37.86 295⇓ *i*P **P 16 54 32.3 -0.7**
IDI Anoyia 38.03 279 P **P 16 54 35.0 +0.5**
comp=Z,1.0nm,0.4s,baz=0.0,slow=7.1,SNR=2.6
ARCES ARCESS Array B 39.13 336 P **P 16 54 43.2 -0.1**
comp=Z,1.4nm,0.4s,baz=108,slow=8.6,SNR=27
ARCES LR LR 17 11 51.1
comp=Z,61nm,19.5s,baz=86,slow=38
YAK Yakutsk 40.81 37 P **P 16 54 56.6 -0.7**
comp=Z,8.6nm,0.8s,baz=342,slow=5.1,SNR=8.8
YAK Yakutsk 40.81 37 *i*P **P 16 54 59.2 +1.9**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK MLR MLR
comp=Z,51nm,14.5s
YAK Yakutsk 40.81 37 *e*P **P 16 54 56.6 -0.7**
comp=Z,12nm,0.9s
CONA Conrad Observa 41.31 301 *i*P **P 16 55 05.2 +3.4**
comp=Z,5.3nm,1.0s
MDJ Mudanjiang 41.77 64 P **P 16 55 04.8 -0.7**
MDJ pmax pmax
comp=Z,4.0nm,0.4s
MDJ pmax pmax
comp=Z,51nm,4.2s
HFS Hagfors 41.81 320 P **P 16 55 05.1 -0.5**
comp=Z,3.1nm,0.4s,baz=98,slow=10,SNR=17
SOKA Soboth 42.09 300 *i*P **P 16 55 11.6 +3.4**
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 42.10 306 *e*P **P 16 55 10.2 +2.1**
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 42.10 306 *e*P **P 16 55 10.2 +2.1**
BRG pmax pmax
comp=Z,19nm,1.1s
GERES GERESS Array B 42.57 303 P **P 16 55 11.8 -0.2**
comp=Z,2.9nm,0.9s,baz=69,slow=8.7,SNR=9.3
GERES LR LR 17 14 20.9
comp=Z,85nm,18.2s,baz=101,slow=38
GEA0 GERESS Array S 42.57 303 *e*P **P 16 55 11.4 -0.7**
TIXI Tiksi 42.59 23⇑ *e*P **P 16 55 12.2 +0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,42nm,16.0s
TIXI Tiksi 42.59 23 *e*P **P 16 55 11.4 -0.4**
comp=Z,7.8nm,0.8s
KHC Kasperske Hory 42.60 303 *e*P **P 16 55 14.0 +1.8**
KHC Kasperske Hory 42.60 303 *e*P **P 16 55 13.6 +1.4**
KHC pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 42.60 303 *e*P **P 16 55 13.6 +1.4**
comp=Z,1.8nm,0.7s
KSRS Korea Array 42.62 74 LR LR 17 15 37.7
comp=Z,67nm,19.8s,baz=293,slow=40
CLL Collm 42.63 307 *e*P **P 16 55 17.0 +4.6**
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 42.63 307 *e*P **P 16 55 17.0 +4.6**
comp=Z,7.0nm,0.7s
NB2 NORSAR Subarra 43.06 321 P **P 16 55 14.9 -0.9**
comp=Z,7.8nm,1.0s,baz=93,slow=8.6
NOA NORSAR Array B 43.06 321 P **P 16 55 14.6 -1.2**
comp=Z,1.8nm,0.6s,baz=93,slow=8.0,SNR=6.6
NOA LR LR 17 13 50.1
comp=Z,94nm,18.3s,baz=100,slow=37
CUC Castrocucco 43.27 290 *e*P **P 16 55 18.9 +1.0**
comp=Z,4.7nm,0.7s
USRK Ussuriysk Ar. 43.54 64 LR LR 17 15 35.9
comp=Z,54nm,19.0s,baz=278,slow=39
WATA Walderalm 44.27 301 *i*pP **P 16 55 30.3 +4.4**
comp=Z,4.3nm,0.6s
MOTA Moosalm 44.58 301 *i*P **P 16 55 32.2 +3.9**
comp=Z,6.6nm,0.9s
DAVA Damuels 45.40 302 *i*pP P 16 55 40.0 +5.1
comp=Z,11nm,1.2s
SENIN Lac Senin/Sane 47.35 301 *e*P **P 16 55 52.6 +2.3**
comp=Z,40nm,1.9s
BNI Bardonecchia 48.15 299 *e*P **P 16 55 59.0 +2.6**
BNI pmax pmax
comp=Z,15nm,1.3s
BNI Bardonecchia 48.15 299 *e*P **P 16 55 59.0 +2.6**
comp=Z,15nm,1.3s
MJAR Matsushiro Arr 50.59 71 P **P 16 56 15.0 -0.1**
comp=Z,1.3nm,0.7s,baz=288,slow=9.2,SNR=2.8
MJAR Matsushiro Arr 50.59 71 P **P 16 56 15.0 -0.1**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
SEY Seymchan 51.25 35⇑ *e*P **P 16 56 18.7 -0.9**
KMBO Kilima Mbogo 51.83 228 P **P 16 56 26.5 +1.7**
comp=Z,0.9nm,0.4s,baz=44,slow=8.9,SNR=7.0
DAG Danmarks Havn 52.44 343 *i*P **P 16 56 29.8 +1.5**
comp=Z,4.7nm,0.8s
DAG Danmarks Havn 52.44 343 *i*P **P 16 56 29.8 +1.5**
DAG pmax pmax
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 57.47 297 P **P 16 57 06.3 +1.0**
comp=Z,0.9nm,0.5s,baz=56,slow=6.9,SNR=4.1
SUMG Summit 58.87 341 *i*P **P 16 57 17.9 +2.9**
comp=Z,11nm,1.1s
SUMG Summit 58.87 341 *i*P **P 16 57 17.9 +2.9**
SUMG pmax pmax
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 67.27 269 *e*P **P 16 58 09.7 -1.4**
TORD Torodi Ar. Bea 67.27 269 P **P 16 58 09.7 -1.5**
comp=Z,3.3nm,0.6s,baz=47,slow=5.4,SNR=15
INK Inuvik 70.87 10 P **P 16 58 33.2 +0.6**
comp=Z,2.0nm,0.8s,baz=333,slow=2.3,SNR=2.8
IL1 Eielson Array 71.65 17 *e*P **P 16 58 36.4 -1.1**
ILAR Eielson Array 71.65 17 P **P 16 58 37.0 -0.5**
comp=Z,0.6nm,0.8s,baz=328,slow=4.3,SNR=6.4
LBTB Lobatse 77.76 223 *e*P **P 16 59 13.7 +0.2**
LBTB pmax pmax
comp=Z,29nm,1.5s
LBTB Lobatse 77.76 223 *e*P **P 16 59 13.7 +0.2**
comp=Z,29nm,1.5s
YKA Yellowknife Ar 78.34 4 P **P 16 59 16.1 0.0**
comp=Z,2.8nm,0.6s,baz=351,slow=5.6,SNR=3.2
BOSA Boshof 80.86 221 P **P 16 59 32.6 +2.3**
comp=Z,5.3nm,1.0s,baz=0.0,slow=2.0,SNR=5.5
BOSA Boshof 80.86 221 P **P 16 59 32.6 +2.3**
BOSA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 82.27 123 P **P 16 59 37.5 -0.4**
comp=Z,1.5nm,0.9s,baz=326,slow=5.0,SNR=14
WRA Warramunga Arr 82.27 123 P **P 16 59 37.5 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 82.27 123 *e*P **P 16 59 38.0 +0.1**
WRAB pmax pmax
comp=Z,17nm,1.6s
WRAB Tennant Creek 82.27 123 *e*P **P 16 59 38.0 +0.1**
comp=Z,17nm,1.6s
WB2 Warramunga Arr 82.28 123 *e*P **P 16 59 37.8 -0.2**
comp=Z,3.3nm,0.8s
ASAR Alice Springs 84.70 126 P **P 16 59 49.3 -1.0**
comp=Z,0.5nm,0.8s,baz=320,slow=4.7,SNR=12
HRV Adam Dziewonsk 92.38 335 *e*P **P 17 00 23.9 -2.9**
HRV Adam Dziewonsk 92.38 335 *e*P **P 17 00 23.9 -2.9**
comp=Z,79nm,0.6s
WES Weston 92.41 334 *e*P **P 17 00 27.0 +0.1**
WES Weston 92.41 334 *e*P **P 17 00 27.0 +0.1**
comp=Z,92nm,0.8s

SCB ***06*** *17:05:25.2±1.1,23°.03S×66°.67W,h199km,Ml4.8/2,Error ellipse: s-maj=28.4km s-min=13.5km az=32.0*
BJI ***06*** *17:05:25.5,23°.00S×66°.30W,h170km,mB5.1/6*
SJA ***06*** *17:05:27.9±0.6,23°.05S×66°.47W,h245km±4km,ML4.9, MW4.2*
ISCJB ***06*** *17:05:28.4±0.2,23°.06S±0°.02×66°.43W±0°.03,h228km±1km, mb4.7/107, Error ellipse: s-maj=4.7km s-min=2.8km az=165.0*
GCMT ***06*** *17:05:29.9±0.2,23°.07S×66°.54W,h236km±1km,MW5.2/83, Moment Tensor Solution. s59,c74; s83,c111; Duration: 1*^{19} *Moment tensor: Scale 10*^{16}*Nm; Mrr0.72±.21; Mθθ-2.09±.25; Mφφ1.36±.27; Mrθ2.87±.18; Mθφ0.11±.25; Mφr-8.74±.18; Best double couple: M*$_0$*9.27200×10*^{16} *NP1:*ϕ_s*340.00000°,δ7.00000°,λ-1.00000°. Principal axes: T 10.0950, Plg44.0000°, Azm77.0000°; N -1.6510, Plg7.0000°, Azm340.0000°; P -8.4490, Plg45.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***06*** *17:05:29.1±1.0,22°.98S×66°.22W,h212km±8km,mb4.3/13, mb1 4.4/19,mb1mx4.4/22,mbtmp4.9/19 Error ellipse: s-maj=12.7km s-min=9.5km az=77.0*
NEIC ***06*** *17:05:29.9±0.2,23°.00S×66°.27W,mb4.7/97,Error ellipse: s-maj=6.3km s-min=4.2km az=61.0*
GUC ***06*** *17:05:30.1±0.5,23°.03S×66°.96W,h258km±8km,ML5.6*
ISC 06 17:05:29.7±0.4**,23°.10S**±0°.04×**66°.51W**±0°.04**,h222**km±3km**, n533,**σ1$47/583**,mb4.7**/107**,15C-4D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.02**	**96**	*i*P		**Pn**	**17 06 03.7**	**+1.3**
HJA				IAML			17 06 04.7	
comp=Z,11μm,0.5s								
HJA				*i*S		**S**	**17 06 29.6**	**+1.8**
YJA	**Yavi**	**1.30**	**45**	*i*P		**Pn**	**17 06 05.2**	**+0.7**
YJA				IAML			17 06 06.6	
comp=Z,3μm,0.6s								
YJA				*i*S		**S**	**17 06 32.9**	**+1.6**
SLA	**San Lorenzo**	**1.86**	**151**	⇓*i*P		**Pn**	**17 06 10.3**	**+1.6**
SLA				*i*S		**S**	**17 06 41.2**	**+2.0**
SLA				IAML			17 06 42.8	
comp=E,2μm,1.1s								
MOCB	**Mochara**	**2.01**	**24**	⇓*i*Pn		**Pn**	**17 06 08.2**	**-2.4**
MOCB				*e*Sn		**S**	**17 06 41.0**	**-1.2**
comp=E,2μm,0.5s								
LVC	**Limon Verde**	**2.27**	**282**	P		**Pn**	**17 06 13.4**	**+0.4**
comp=E,18μm,0.3s,baz=98,slow=6.1,SNR=2231								
LVC				S		**S**	**17 06 46.9**	**+0.3**
comp=E,14μm,0.3s,baz=241,slow=19,SNR=31								
LVC	**Limon Verde**	**2.27**	**282**	⇑*i*P		**Pn**	**17 06 13.7**	**+0.7**
LVC				*e*S		**S**	**17 06 47.4**	**+0.8**
LVC	**Limon Verde**	**2.27**	**282**	*i*P		**Pn**	**17 06 13.6**	**+0.7**
LVC				*i*S		**S**	**17 06 47.0**	**+0.3**
LVC	**Limon Verde**	**2.27**	**282**	*e*Pn		**Pn**	**17 06 13.8**	**+0.7**
LVC				S		**S**	**17 06 46.9**	**+0.3**
ALOL	**LOMAS DE OLMED**	**2.43**	**108**	*i*P		**Pn**	**17 06 14.3**	**0.0**
PB09	**IPOC Station P**	**2.84**	**297**	⇑*i*P		**Pn**	**17 06 19.8**	**+0.8**
PB09				*i*S		**S**	**17 06 57.1**	**-0.3**
PB09				IAML			17 06 59.8	
comp=N,25μm,0.7s								
PB06	**IPOC Station P**	**2.85**	**277**	⇑*i*P		**Pn**	**17 06 19.2**	**+0.2**
PB06				*i*S		**S**	**17 06 56.8**	**-0.7**
PB06				IAML			17 06 58.6	
comp=N,10μm,0.5s								
FSA	**Cafayete**	**3.04**	**171**	*i*P		**Pn**	**17 06 22.2**	**+1.1**
FSA				IAML			17 06 24.4	
comp=Z,323nm,0.5s								
FSA				*i*S		**S**	**17 07 01.5**	**+0.1**
PB01	**IPOC Station P**	**3.44**	**306**	*e*Pn		**Pn**	**17 06 25.6**	**-0.1**
PB04	**IPOC Station P**	**3.45**	**282**	⇑*i*P		**Pn**	**17 06 25.9**	**0.0**
PB04				*i*S		**S**	**17 07 08.1**	**-1.7**
PB04				IAML			17 07 15.1	
comp=N,11μm,0.5s								
PB04	**IPOC Station P**	**3.45**	**282**	*e*Pn		**Pn**	**17 06 25.7**	**-0.2**
PB10	**IPOC Station P**	**3.74**	**263**	⇑*i*P		**Pn**	**17 06 29.4**	**+0.2**
PB10				*i*S		**S**	**17 07 14.5**	**-1.5**
PB10	**IPOC Station P**	**3.74**	**263**	*e*Pn		**Pn**	**17 06 29.5**	**+0.2**
PB08	**IPOC Station P**	**3.84**	**320**	⇑*i*P		**Pn**	**17 06 31.5**	**+0.7**
PB08				*i*S		**S**	**17 07 18.4**	**-0.2**
PB14	**IPOC Station P**	**3.88**	**246**	⇑*i*P		**Pn**	**17 06 31.1**	**0.0**
PB14				*e*S		**S**	**17 07 17.9**	**-1.5**
PB11	**IPOC Station P**	**4.43**	**318**	*e*Pn		**Pn**	**17 06 36.6**	**-1.2**
MNMC	**Minye Minye**	**4.89**	**323**	⇑*i*P		**Pn**	**17 06 42.9**	**-0.7**
VCA	**Vinchina**	**5.82**	**195**	*i*P		**Pn**	**17 06 56.0**	**+0.9**
VCA				IAML			17 06 58.2	
comp=Z,413nm,0.4s								
VCA				*i*S		**S**	**17 08 00.1**	**-2.9**
BBOJ	**La Paz, Jacaqu**	**6.29**	**345**	⇑*i*Pn		**Pn**	**17 07 02.5**	**+0.9**
ACLC	**CERRO LA CRUZ**	**6.32**	**184**	*i*P		**Pn**	**17 07 01.1**	**-0.4**
BBOE	**La Paz, Chanca**	**6.40**	**347**	⇓*i*Pn		**Pn**	**17 07 03.7**	**+0.6**
AGUA	**GUANDACOL**	**6.61**	**195**	*i*S		**S**	**17 08 17.2**	**-3.9**
BBOD	**La Paz, Gloria**	**6.72**	**343**	⇑*i*Pn		**Pn**	**17 07 07.6**	**+0.5**
BBOD				⇑*i*Sn		**S**	**17 08 22.2**	**-2.4**
LPAZ	**La Paz**	**6.94**	**347**	P		**Pn**	**17 07 10.1**	**0.0**
comp=Z,24nm,0.3s,baz=155,slow=7.6,SNR=247								
LPAZ				S		**S**	**17 08 26.4**	**-3.5**
comp=Z,3.4nm,0.3s,baz=258,slow=19,SNR=5.4								
LPAZ	**La Paz**	**6.94**	**347**	⇑*i*Pn		**Pn**	**17 07 09.6**	**-0.5**
LPAZ				*e*Sn		**S**	**17 08 26.0**	**-3.9**
LCO	**Las Campanas**	**6.99**	**212**	*e*Pn		**Pn**	**17 07 08.4**	**-1.9**
BBOB	**La Paz, Bander**	**7.09**	**347**	⇑*i*Pn		**Pn**	**17 07 11.2**	**-0.6**
BBOB				⇑*i*Sn		**S**	**17 08 29.1**	**-4.0**
comp=Z,450nm,0.9s								
APLL	**PUNTA DE LOS L**	**7.27**	**180**	*i*P		**Pn**	**17 07 12.9**	**-0.7**
APLL				*i*S		**S**	**17 08 30.8**	**-5.7**
ACDV	**Cuesta del Vie**	**7.42**	**198**	*i*P		**Pn**	**17 07 15.9**	**+0.2**
AVFE	**Valle Fertil**	**7.58**	**186**	*i*P		**Pn**	**17 07 16.8**	**-0.7**
AVFE				IAML			17 07 19.0	
comp=Z,344nm,0.3s								
AVFE				*i*S		**S**	**17 08 37.8**	**-6.1**
AMOG	**MOGNA**	**8.01**	**192**	*i*P		**Pn**	**17 07 22.4**	**-0.7**
AMOG				*i*S		**S**	**17 08 47.4**	**-6.5**
ACHE	**Chepes**	**8.03**	**181**	*i*P		**Pn**	**17 07 22.4**	**-1.0**
ACHE				*i*S		**S**	**17 08 48.1**	**-6.5**
RTLL	**Cerro Villicun**	**8.38**	**192**	*e*P		**Pn**	**17 07 26.4**	**-1.4**
RTLL	**Cerro Villicun**	**8.38**	**192**	*i*P		**Pn**	**17 07 26.9**	**-1.0**
RTLL				*i*S		**S**	**17 08 56.1**	**-6.6**
SIV	**San Ignacio**	**8.73**	**37**	P		**Pn**	**17 07 29.8**	**-2.7**
comp=Z,60nm,0.3s,baz=240,slow=11,SNR=473								
SIV				S		S	17 08 57.3	-14
baz=237,slow=18,SNR=2.0								
SIV	**San Ignacio**	**8.73**	**37**	⇓*i*P		**Pn**	**17 07 29.6**	**-2.9**
RTCV	**Cerro Valdivia**	**8.92**	**191**	*i*P		**Pn**	**17 07 33.5**	**-1.2**
CPUP	**Villa Florida**	**8.94**	**113**	P		**Pn**	**17 07 32.7**	**-2.3**
comp=Z,2.3nm,0.3s,baz=283,slow=11,SNR=24								
CPUP				S		S	17 09 05.2	-11
comp=Z,0.3nm,0.3s,baz=298,slow=18,SNR=2.5								
CPUP				ScP		**ScP**	**17 16 49.7**	**+2.1**
baz=198,slow=3.2,SNR=2.8								
RTLS	**Leoncito**	**9.02**	**195**	*i*P		**Pn**	**17 07 35.9**	**-0.3**
RTLS				*i*S		**S**	**17 09 10.2**	**-7.7**
ACAN	**Cantantal**	**9.16**	**184**	*i*P		**Pn**	**17 07 36.4**	**-1.4**
ACAN				*i*S		**S**	**17 09 12.3**	**-8.7**
MRA	**San Martin**	**9.31**	**176**	*i*P		**Pn**	**17 07 38.0**	**-1.9**
AUSP	**Uspallata**	**9.44**	**195**	*i*P		**Pn**	**17 07 41.4**	**-0.3**
ASAL	**Salagasta**	**9.68**	**192**	*i*P		**Pn**	**17 07 43.5**	**-1.1**
ARCO	**CERRO ARCO**	**9.94**	**192**	*i*P		**Pn**	**17 07 46.6**	**-1.3**
ROC1	**El Roble**	**10.62**	**201**	*e*Pn		**Pn**	**17 07 55.5**	**-1.1**
GO05	**HualaæØ**	**12.78**	**201**	*e*Pn		**Pn**	**17 08 23.4**	**-0.3**
SAML	**Samuel**	**14.43**	**13**	*e*Pn		**Pn**	**17 08 42.5**	**-1.6**
NNA	**Nana**	**14.79**	**317**	P		**P**	**17 08 49.5**	**+0.4**
comp=Z,5.3nm,0.3s,baz=163,slow=12,SNR=36								
NNA				S		**S**	**17 11 28.7**	**-3.8**
comp=Z,3.1nm,0.3s,baz=209,slow=19,SNR=3.0								
NNA	**Nana**	**14.79**	**317**	*e*Pn		**P**	**17 08 50.0**	**+0.9**
NNA				S		**S**	**17 11 28.7**	**-3.8**
TRQA	**Tornquist**	**15.41**	**166**	*e*P		**P**	**17 08 54.3**	**-1.4**
comp=Z,46nm,0.6s								
SPB	**Sao Paulo**	**17.53**	**95**	*e*P		**P**	**17 09 18.3**	**-0.6**
comp=Z,75nm,0.6s								
PLCA	**Paso Flores**	**17.91**	**190**	P		**P**	**17 09 23.9**	**+0.8**
comp=Z,3.4nm,0.3s,baz=31,slow=11,SNR=102								
PLCA				PcP		**PcP**	**17 13 49.3**	**+1.2**
comp=Z,0.2nm,0.3s,baz=20,slow=4.9,SNR=3.3								
PLCA	**Paso Flores**	**17.91**	**190**	*e*P		**P**	**17 09 23.8**	**+0.7**
comp=Z,36nm,0.7s								
PLCA				PcP		**PcP**	**17 13 49.3**	**+1.2**
ATAH	**Atahualpa**	**19.56**	**322**	P		**P**	**17 09 42.8**	**+1.3**
comp=Z,0.8nm,0.3s,baz=165,slow=10.0,SNR=9.2								
PTGA	**Pitinga**	**23.12**	**17**	P		**P**	**17 10 14.5**	**-1.9**
comp=Z,70nm,0.9s,baz=196,slow=11,SNR=79								
PTGA	**Pitinga**	**23.12**	**17**	*e*P		**P**	**17 10 14.3**	**-2.1**
comp=Z,93nm,1.0s								
CHRN	**Cochrane**	**24.59**	**190**	*e*P		**P**	**17 10 30.8**	**+1.4**
comp=Z,10nm,0.7s								
OTAV	**Otavalo**	**25.94**	**332**	*e*P		**P**	**17 10 42.5**	**+0.1**
OTAV	**Otavalo**	**25.94**	**332**	*e*P		**P**	**17 10 45.9**	**+3.5**
comp=Z,8.0nm,0.6s								
FLOC	**Florencia**	**26.10**	**339**	*e*P		**P**	**17 10 43.9**	**+0.5**
POPC	**Popayan, Colom**	**27.34**	**337**	*e*P		**P**	**17 10 50.7**	**-3.9**
PRAC	**Prado**	**27.87**	**342**	*e*P		**P**	**17 11 03.2**	**+4.0**
comp=Z,11nm,0.5s								
EFI	**East Falkland**	**29.27**	**169**	*e*P		**P**	**17 11 12.2**	**+1.2**
comp=Z,40nm,0.5s								
GUYC	**Guyana, Colomb**	**29.45**	**342**	*e*P		**P**	**17 11 18.1**	**+4.6**
RUSC	**La Rusia**	**29.52**	**347**	*e*P		**P**	**17 11 12.7**	**-1.5**
RUSC	**La Rusia**	**29.52**	**347**	*e*P		**P**	**17 11 13.3**	**-0.8**
comp=Z,8.2nm,0.6s								
HELC	**Santa Helena**	**30.41**	**342**	*e*P		P	17 11 16.8	-5.1
HELC	**Santa Helena**	**30.41**	**342**	*e*P		**P**	**17 11 19.1**	**-2.8**
comp=Z,29nm,0.5s								
PAMC	**Pamplona, Colo**	**30.85**	**348**	*e*P		**P**	**17 11 25.0**	**-0.9**
USHA	**Ushuaia**	**31.73**	**182**	P		**P**	**17 11 33.3**	**+0.8**
comp=Z,39nm,0.5s,baz=352,slow=6.1,SNR=7.5								
SDV	**Santo Domingo**	**32.04**	**352**	*e*P		**P**	**17 11 35.0**	**-0.9**
comp=Z,22nm,1.0s								
RCBR	**Riachuelo**	**34.12**	**65**	*e*P		**P**	**17 11 52.8**	**-1.1**
comp=Z,125nm,1.5s								
GRGR	**Grenville**	**35.33**	**8**	*e*P		**P**	**17 12 03.1**	**-1.0**
comp=Z,223nm,0.6s								
SVB	**Belmont**	**36.51**	**9**	*e*P		**P**	**17 12 14.1**	**0.0**
comp=Z,87nm,0.9s								
TRMF	**Trois Ilets**	**37.78**	**9**	*e*P		**P**	**17 12 22.9**	**-1.8**
ZAM	**Aeronautique**	**37.82**	**9**	*e*P		**P**	**17 12 24.7**	**-0.3**
MVM	**Montagne Vaucl**	**37.82**	**9**	*e*P		**P**	**17 12 23.5**	**-1.6**
FDF	**Fort de France**	**37.96**	**8**	*e*P		**P**	**17 12 24.0**	**-2.3**
FDF	**Fort de France**	**37.96**	**8**	*e*P		**P**	**17 12 25.0**	**-1.3**
comp=Z,187nm,0.5s								
GBMF	**Grand Be**	**38.02**	**8**	*e*P		**P**	**17 12 25.4**	**-1.4**
PCM	**Pelee Case Pet**	**38.03**	**8**	*e*P		**P**	**17 12 25.0**	**-1.8**
PCM	**Pelee Case Pet**	**38.03**	**8**	*e*P		**P**	**17 12 25.2**	**-1.6**
CXM	**Morne La Croix**	**38.04**	**8**	*e*P		**P**	**17 12 25.7**	**-1.3**
BAMF	**Morne Balai**	**38.04**	**8**	*e*P		**P**	**17 12 25.9**	**-1.1**
HOPE	**Hope Point**	**38.42**	**152**	*e*P		**P**	**17 12 29.8**	**+0.1**
ANWB	**Willy Bob**	**40.78**	**7**	*e*P		**P**	**17 12 46.5**	**-3.0**
ANWB	**Willy Bob**	**40.78**	**7**	*e*P		**P**	**17 12 46.2**	**-3.2**
comp=Z,141nm,0.6s								
CELP	**Cerrillos**	**40.92**	**360**	*e*P		**P**	**17 12 49.1**	**-1.5**
SJG	**San Juan**	**40.96**	**1**	*e*P		**P**	**17 12 52.1**	**+1.3**
comp=Z,18nm,0.6s								
SMRT	**St. Maarten**	**41.03**	**5**	*e*P		**P**	**17 12 48.7**	**-2.8**
comp=Z,37nm,0.4s								
PMSA	**Palmer Station**	**41.70**	**178**	P		**P**	**17 12 58.2**	**+1.9**
comp=Z,6.5nm,0.6s,baz=13,slow=5.8,SNR=5.6								
SDDR	**Presa de Saban**	**42.08**	**353**	*e*P		**P**	**17 12 59.8**	**-0.2**
comp=Z,12nm,0.4s								
GRTK	**Grand Turk**	**44.57**	**354**	*e*P		**P**	**17 13 18.1**	**-1.7**
NHSC	**New Hope**	**57.39**	**346**	*e*P		**P**	**17 14 55.5**	**+0.5**
comp=Z,39nm,1.1s								
LNIG	**Linares**	**57.43**	**324**	*e*P		**P**	**17 14 55.5**	**+0.1**
comp=Z,11nm,0.9s								
ZAIG	**Zacatecas**	**57.52**	**320**	*e*P		**P**	**17 14 58.4**	**+2.0**
comp=Z,22nm,1.2s								
VNA3	**Neumayer Olymp**	**57.86**	**161**	P		**P**	**17 14 59.3**	**+1.5**
035Z	**Hargill**	**57.97**	**326**	P		**P**	**17 15 00.0**	**+0.9**
baz=145								
VNA1	**Neumayer--Stat**	**58.04**	**160**	P		**P**	**17 15 01.1**	**+2.1**
445A	**Amite**	**58.20**	**336**	P		**P**	**17 15 00.1**	**-0.5**
baz=154								
936A	**North Padre Is**	**58.38**	**328**	P		**P**	**17 15 02.3**	**+0.4**
baz=146								
VNA2	**Neumayer--Watz**	**58.41**	**161**	P		**P**	**17 15 02.2**	**+0.6**
baz=281,slow=8.3								
248A	**Dixon Mills**	**58.52**	**339**	P		**P**	**17 15 02.0**	**-0.9**
baz=157								
JSC	**Jenkinsville**	**58.76**	**346**	*e*P		**P**	**17 15 05.0**	**+0.5**
comp=Z,55nm,1.4s								
034A	**Hebbronville**	**58.77**	**326**	P		**P**	**17 15 05.0**	**+0.3**
baz=145								
247A	**Quitman**	**58.77**	**338**	P		**P**	**17 15 03.6**	**-1.0**
baz=156								
344A	**Westbrook Farm**	**59.00**	**336**	P		**P**	**17 15 05.2**	**-1.0**
baz=154								

baz=145,SNR=11
734A La Parita Cree 60.17 328 P P 17 15 14.0 -0.2
baz=146
Y47A UCPARC, Winfie 60.22 340 P P 17 15 13.3 -1.1
baz=157
340A Bronson 60.22 333 P P 17 15 13.6 -0.8
baz=151
635A Leesville 60.23 329 P P 17 15 13.2 -1.4
baz=146
438A Sam Houston St 60.32 331 P P 17 15 14.5 -0.7
baz=149
Z45A Winona 60.35 338 P P 17 15 14.2 -1.0
baz=155
241A Mo Tay, Goldon 60.35 334 P P 17 15 14.6 -0.7
baz=152
832A Faith Ranch, C 60.42 326 P P 17 15 15.8 -0.1
baz=144
339A Huntington 60.43 332 P P 17 15 15.6 -0.2
baz=150
733A Divot King Ran 60.43 327 P P 17 15 15.2 -0.7
baz=145
536A Bastrop 60.48 330 P P 17 15 16.0 -0.2
baz=147
Z44A Pea Ridge, Bel 60.52 337 P P 17 15 15.5 -0.9
baz=154
Y46A Houston 60.53 339 P P 17 15 15.1 -1.4
baz=156
CPCT Cooper Cave 60.68 343 eP P 17 15 17.3 -0.2
comp=Z,11nm,1.2s
437A Phantom Ranch, 60.69 331 P P 17 15 17.1 -0.5
baz=148
240A Hunter Patters 60.71 334 P P 17 15 17.4 -0.4
baz=151
Y45A Yeager Farm, C 60.74 338 P P 17 15 17.0 -0.9
baz=155
338A Crockett 60.77 332 P P 17 15 18.4 +0.2
baz=149
NATX Nacogdoches 60.84 333 P P 17 15 18.8 +0.1
baz=150
SWET Sewanee 60.85 342 eP P 17 15 18.2 -0.5
comp=Z,7.7nm,0.8s
141A Papa Simpson, 60.86 335 P P 17 15 18.9 +0.1
baz=152
436A Wall Ranch, Ga 60.94 330 P P 17 15 19.7 +0.3
baz=148
633A Saathoff Ranch 60.98 327 P P 17 15 19.9 +0.3
baz=145
239A Gary 60.98 333 P P 17 15 20.5 +0.9
baz=150
337A Centerville 60.99 331 P P 17 15 20.2 +0.6
baz=149
Y44A Strider, Charl 61.06 338 P P 17 15 20.2 +0.1
baz=155
Z42A Norrel Spur, H 61.08 336 P P 17 15 19.7 -0.5
baz=153
140A Cam and Jess, 61.16 334 P P 17 15 20.6 -0.1
baz=151
X45A UM Field Stati 61.20 338 P P 17 15 20.5 -0.5
baz=156
238A Jacksonville 61.25 332 P P 17 15 21.3 -0.1
baz=150
435B Jarrell 61.31 330 P P 17 15 22.1 +0.3
baz=147
336A Riesel 61.48 331 P P 17 15 23.1 +0.2
baz=148
237A Washetta, Mont 61.54 332 P P 17 15 23.6 +0.3
baz=149
Z40A Long Farm, Mag 61.63 334 P P 17 15 23.6 -0.3
baz=152
138A Matatall Enter 61.80 333 P P 17 15 25.2 +0.1
baz=150
W45A Hickory Valley 61.80 339 P P 17 15 24.2 -0.8
baz=156
236A Katherine and 61.86 331 P P 17 15 25.4 0.0
baz=148
Y41A Eaglette Beard 61.87 335 P P 17 15 25.6 +0.1
baz=152
WLAR White Oak Lake 61.89 335 eP P 17 15 26.2 +0.6
comp=Z,34nm,0.9s
Z39A Irene McRaven, 61.93 334 P P 17 15 26.3 +0.4
baz=151
137A Heron Place, G 62.03 332 P P 17 15 26.6 0.0
baz=149
JCT Junction City 62.12 328 P P 17 15 27.2 -0.1
baz=145
JCT Junction City 62.12 328 eP P 17 15 27.6 +0.3
comp=Z,44nm,1.5s
Y40A Okolona 62.25 335 P P 17 15 27.6 -0.4
baz=152
V45A Humboldt 62.26 339 P P 17 15 27.0 -1.1
baz=156
WVT Waverly 62.26 341 eP P 17 15 26.7 -1.4
comp=Z,38nm,1.2s
WVT epP pP 17 16 23.7 +4.9
WHTX Lake Whitney, 62.27 330 P P 17 15 28.0 -0.2
baz=148
Z38A Mt. Pleasant 62.27 333 P P 17 15 27.7 -0.5
baz=150
X41A Kaden, Bauxite 62.38 336 P P 17 15 28.2 -0.6
baz=153
X40A Basin Creek Fa 62.49 336 P P 17 15 29.5 -0.1
baz=152
Y39A Lockesburg 62.50 334 P P 17 15 29.5 -0.2
baz=151
U45A Rockin P Farm, 62.75 340 P P 17 15 30.3 -1.0
baz=157
MIAR Mount Ida 62.83 335 P P 17 15 30.9 -1.0
baz=152,SNR=6.0
MIAR Mount Ida 62.83 335 eP P 17 15 31.7 -0.2
comp=Z,8.0nm,0.9s
W41B Gary Mavity, V 62.88 336 P P 17 15 31.5 -0.6
baz=153
Z36A Blue Ridge 62.90 332 P P 17 15 32.2 -0.1
baz=149
U44B Burton Farm, H 62.93 339 P P 17 15 31.0 -1.5
baz=156
X39A Fountain Ranch 63.01 335 P P 17 15 32.9 -0.2
baz=151,SNR=7.5
V42A Cord 63.14 337 P P 17 15 32.8 -1.1
baz=154
Y37A Hugo 63.16 333 P P 17 15 33.9 -0.1
baz=150
U44A Portageville 63.19 339 P P 17 15 33.8 -0.4
baz=156
W40A Ferguson Farm, 63.21 336 P P 17 15 33.6 -0.7
baz=152
TXAR Lajitas Array 63.22 324 P P 17 15 34.7 +0.1
comp=Z,1.5nm,0.4s,baz=149,slow=7.5,SNR=32
TX31 Lajitas Ar. Si 63.22 324 eP P 17 15 34.7 0.0
Y36A Durant 63.37 332 P P 17 15 35.3 -0.2
baz=149
V41A Mountainview 63.40 337 P P 17 15 34.3 -1.2
baz=153
X38A Whitesboro 63.43 334 P P 17 15 35.3 -0.5
baz=151,SNR=6.9
W39A Magazine 63.48 335 P P 17 15 35.5 -0.6
baz=152,SNR=6.1
U42A Revenden 63.58 338 P P 17 15 35.7 -1.0
baz=154
X37A Clayton 63.59 334 P P 17 15 36.1 -0.7
baz=150
V40A Witts Springs 63.66 336 P P 17 15 37.1 -0.2
baz=153
W38A Poteau 63.66 335 P P 17 15 37.0 -0.3
baz=151,SNR=7.1
PBMO Poplar Bluff 63.69 339 eP P 17 15 37.0 -0.4
comp=Z,42nm,1.2s
T44A Benton 63.69 340 P P 17 15 36.4 -1.0
baz=156
Y35A Marietta 63.70 332 P P 17 15 36.9 -0.7
baz=148
WCI Wyandotte Cave 63.77 343 eP P 17 15 36.8 -1.1
comp=Z,36nm,1.3s
ABTX Abilene, Hawle 63.81 329 P P 17 15 37.1 -1.3
baz=146
U41A Viola 63.81 337 P P 17 15 37.1 -1.1
baz=154
S45A Carrier Mills 63.92 341 P P 17 15 37.8 -1.1
baz=157
T43A Greenville 63.92 339 P P 17 15 38.2 -0.7
baz=155
X36A Centrahoma 63.98 333 P P 17 15 38.9 -0.4
baz=149
V39A Pettigrew 64.00 336 P P 17 15 39.0 -0.6
baz=152,SNR=7.3
O56A Blue Knob Stat 64.03 350 P P 17 15 39.0 -0.6
baz=167
W37B Quinton 64.09 334 P P 17 15 38.8 -1.3
baz=150
X35A Drake 64.09 332 P P 17 15 39.1 -1.0
baz=149
U40A Yellville 64.16 337 P P 17 15 39.7 -0.8
baz=153
V38A Canehill 64.31 335 P P 17 15 41.1 -0.5
baz=151,SNR=8.4
T41A Mountain View 64.38 338 P P 17 15 40.9 -1.1
baz=154
W36A Wetumka 64.41 333 P P 17 15 42.0 -0.2
baz=149,SNR=8.1
U39A Green Forest 64.42 336 P P 17 15 41.3 -0.9
baz=152,SNR=5.2
V37A Hulbert 64.62 334 P P 17 15 42.7 -0.8
baz=151,SNR=5.1
W35A Tecumseh 64.69 333 P P 17 15 43.0 -1.1
baz=149
S42A Caledonia 64.71 339 P P 17 15 43.1 -0.9
baz=155
T40A Mansfield 64.75 337 P P 17 15 42.8 -1.5
baz=153
U38A Gravette 64.81 335 P P 17 15 44.3 -0.4
baz=151
ACSO Alum Creek Sta 64.85 346 eP P 17 15 44.5 -0.4
comp=Z,45nm,1.3s
V36A Jenks 64.85 334 P P 17 15 45.2 +0.2
baz=150,SNR=7.0
S41A Jillco Farms, 64.87 338 P P 17 15 43.9 -1.2
baz=154,SNR=11
TUL1 Leonard 64.90 334 P P 17 15 45.7 +0.4
baz=150
T39A Clever 64.94 336 P P 17 15 45.2 -0.3
baz=152
N54A Moraine State 64.95 349 P P 17 15 45.0 -0.6
baz=166
U37A Salina 65.06 335 P P 17 15 46.1 -0.3
baz=151
CCM Cathedral Cave 65.12 339 eP P 17 15 45.8 -0.9
comp=Z,36nm,1.2s
CCM epP pP 17 16 37.8 -0.1
S40A Lebanon 65.14 337 P P 17 15 46.1 -0.7
baz=153,SNR=6.9
R42A Luebbering 65.17 339 P P 17 15 46.1 -0.9
baz=155,SNR=7.9
Q44A Meyer Farm, Va 65.18 341 P P 17 15 45.8 -1.3
baz=157
V35A Meyer Ranch, C 65.20 333 P P 17 15 46.2 -1.1
baz=149
U36A Oologah 65.29 334 P P 17 15 47.2 -0.7
baz=150
T38A Diamond 65.30 336 P P 17 15 46.7 -1.2
baz=152,SNR=8.0
R41A Rosebud 65.38 339 P P 17 15 47.6 -0.8
baz=155,SNR=12
M54A Oil Creek Stat 65.42 349 P P 17 15 47.7 -0.9
baz=166
Q43A New Douglas 65.42 340 P P 17 15 47.5 -1.1
baz=156
S39A Bolivar 65.52 337 P P 17 15 48.5 -0.8
baz=153,SNR=13
BINY Binghamton 65.56 352 eP P 17 15 49.7 +0.3
comp=Z,34nm,0.9s
P44A Sand Creek, Wi 65.58 341 P P 17 15 48.7 -0.9
baz=157
T37A Cheneyville 18 65.61 335 P P 17 15 49.9 +0.1
baz=151,SNR=18
Q42A Golden Eagle 65.66 340 P P 17 15 48.9 -1.2
baz=156,SNR=6.2
S38A Stockton 65.68 336 P P 17 15 49.7 -0.5
baz=152
R40A Maddies Statio 65.68 338 P P 17 15 49.9 -0.4
baz=154
U35A Pawnee 65.68 334 P P 17 15 48.9 -1.4
baz=149
Q41A Truxton 65.93 339 P P 17 15 49.9 -1.9
baz=155
T36A Boggs Farm, Ca 65.93 335 P P 17 15 51.5 -0.4
baz=150
R39A Chumby, Stover 65.97 337 P P 17 15 50.8 -1.3
baz=153,SNR=5.8
MNTX Cornudas Mount 65.98 324 P P 17 15 51.1 -1.2
baz=141
MNTX Cornudas Mount 65.98 324 eP P 17 15 52.2 -0.1
comp=Z,9.9nm,1.0s
SFIN Lafayette 66.00 343 P P 17 15 50.5 -1.7
baz=159
SFIN Lafayette 66.00 343 eP P 17 15 51.5 -0.7
comp=Z,37nm,1.4s
P43A Skaggs, Pawnee 66.01 341 P P 17 15 50.0 -2.4
baz=157
T35A Sooner Cattle 66.06 334 P P 17 15 49.4 -3.3
baz=150
S37A Fort Scott 66.14 336 P P 17 15 51.6 -1.5
baz=151,SNR=7.6
R38A Fenwick Farm, 66.17 337 P P 17 15 52.0 -1.4
baz=152,SNR=10
P42A Winchester 66.22 340 P P 17 15 52.6 -1.0
baz=156
Q40A Laux Farm, Aux 66.25 338 P P 17 15 53.0 -0.8
baz=154
MMNY Mt. Morris Dam 66.34 351 eP P 17 15 54.8 +0.4
S36A Lake Cedric, C 66.40 335 P P 17 15 54.2 -0.7
baz=151
MSTX Muleshoe 66.42 328 P P 17 15 54.9 -0.3
baz=143
MSTX Muleshoe 66.42 328 eP P 17 15 55.1 -0.1
comp=Z,35nm,0.9s
T34A McClaskey Farm 66.43 334 P P 17 15 54.6 -0.5
baz=149
P41A Barry, Barry 66.53 340 P P 17 15 54.7 -0.9
baz=155
Q39A Willow Grove F 66.60 338 P P 17 15 55.4 -0.7
baz=153,SNR=8.3
R37A Teagarden Farm 66.62 336 P P 17 15 55.5 -0.7
baz=151
AMTX Amarillo 66.63 329 P P 17 15 56.9 +0.4
baz=145
S35A Otter Creek Ra 66.64 335 P P 17 15 56.5 +0.1
baz=150
O42A Bath 66.69 341 P P 17 15 56.0 -0.6
baz=156
P40A Paris 66.72 339 P P 17 15 56.3 -0.5
baz=154,SNR=5.7
LIC Lamto 66.73 72 eP P 17 15 55.9 -1.6
comp=Z,55nm,0.8s
Q38A Cooks Store, C 66.75 337 P P 17 15 56.9 -0.1
baz=153,SNR=5.2
O41A Passleys Farm, 66.87 340 P P 17 15 56.8 -0.9
baz=155
R36A Gordon, Harris 66.89 336 P P 17 15 58.0 +0.1
baz=151
P39B Salisbury 66.92 338 P P 17 15 57.3 -0.8
baz=154,SNR=7.8
TIC Toumodi 66.93 72 eP P 17 15 56.6 -2.2
Q37A Longview Farm, 66.98 337 P P 17 15 57.9 -0.6
baz=152
KIC Kosan Boka 67.04 72 eP P 17 15 57.5 -2.0
comp=Z,40nm,0.5s
DBIC Dimbokro 67.09 72 P P 17 15 57.9 -1.8
comp=Z,13nm,0.5s,baz=212,slow=7.1,SNR=36
DBIC Dimbokro 67.09 72 eP P 17 15 58.2 -1.5
comp=Z,13nm,0.6s
QSPA South Pole Qui 67.10 180 eP P 17 16 00.8 +1.7
comp=Z,98nm,0.8s
R35A Emporia Munici 67.15 335 P P 17 15 59.3 -0.3
baz=150
O40A La Belle 67.19 339 P P 17 15 58.9 -0.9
baz=154,SNR=6.0
N42A Yates City 67.26 341 P P 17 15 59.0 -1.2
baz=156
P38A Dawn 67.31 338 P P 17 16 00.1 -0.4
baz=153,SNR=8.5
N41A Harden Midland 67.40 340 P P 17 16 00.2 -0.9
baz=156
Q36A Arnold C. Orve 67.43 336 P P 17 16 00.3 -1.0
baz=151
O39A Kirksville 67.53 339 P P 17 16 01.3 -0.7
baz=154
R34A Isabella, Hill 67.55 334 P P 17 16 01.8 -0.2
baz=149
Q35A Mercer Eighty, 67.56 335 P P 17 16 01.6 -0.5
baz=150
P37A Lathrop 67.57 337 P P 17 16 00.8 -1.4
baz=152
O38A Galt 67.73 338 P P 17 16 02.1 -1.1
baz=153,SNR=5.5
N40A Mertquake, Sal 67.79 340 P P 17 16 02.3 -1.2
baz=155
P36A Good Intent, A 67.91 336 P P 17 16 02.7 -1.6
baz=151
M41A Milan 67.91 341 P P 17 16 02.8 -1.5
baz=156
121A Cookes Peak, D 67.93 323 P P 17 16 06.2 +1.4
baz=139
121A Cookes Peak, D 67.93 323 eP P 17 16 06.4 +1.6
comp=Z,8.4nm,1.0s
KSU1 Kansas State U 67.99 335 P P 17 16 04.6 -0.2
baz=150
O37A Wolven Farm, M 68.01 337 P P 17 16 04.0 -0.9
baz=152
N39A Derby Farms, D 68.08 339 P P 17 16 04.8 -0.5
baz=154
L43A Garden Prairie 68.13 342 P P 17 16 04.9 -0.7
baz=158
P35A Duane Minner, 68.13 336 P P 17 16 05.5 -0.2
baz=151
M40A Post Highland 68.24 340 P P 17 16 05.8 -0.5
baz=155
N38A Joes South For 68.25 338 P P 17 16 06.3 -0.1
baz=153
O36A Bolckow 68.27 337 P P 17 16 06.0 -0.5
baz=152
P34A Walnut Farm, R 68.46 335 P P 17 16 07.2 -0.5
baz=150
M39A Webster 68.52 340 P P 17 16 06.6 -1.4
baz=154
BNM Barren Site 68.53 325 eP P 17 16 10.2 +1.6
L41A Preston 68.54 341 P P 17 16 06.3 -1.8
baz=156
N37A Lee Faris, Mou 68.56 338 P P 17 16 07.4 -0.9
baz=152
L40A Anamosa 68.75 340 P P 17 16 08.4 -1.0
baz=155,SNR=5.7
M38A Pleasantville 68.80 339 P P 17 16 09.0 -0.7
baz=154,SNR=5.9
O34A Beatrice 68.96 336 P P 17 16 10.8 0.0
baz=150
K41A Shullsburg 68.97 341 P P 17 16 09.6 -1.2
baz=156
LAZ Ladron 69.00 325 eP P 17 16 13.0 +1.6
L39A Vinton 69.04 340 P P 17 16 10.7 -0.6
baz=155
ANMO Albuquerque 69.06 326 P P 17 16 11.3 -0.4
baz=141
ANMO Albuquerque 69.06 326 eP P 17 16 12.2 +0.4
comp=Z,9.0nm,0.8s
ANMO epP pP 17 17 03.1 -0.5
M37A Trindle Farm, 69.08 338 P P 17 16 11.3 -0.2
baz=153
O33A Hebron 69.21 335 P P 17 16 11.8 -0.6
baz=149
K40A Colesburg 69.30 341 P P 17 16 12.0 -0.8
baz=156
TUC Tucson 69.47 321 P P 17 16 14.1 -0.1
baz=136
TUC Tucson 69.47 321 eP P 17 16 15.8 +1.6
comp=Z,13nm,1.1s
K39A Oelwein 69.53 340 P P 17 16 13.1 -1.1
baz=155
J41A Loganville 69.58 342 P P 17 16 14.2 -0.3
baz=157
M35A Neola 69.71 337 P P 17 16 15.1 -0.3
baz=151
T25A Trinidad 69.75 328 P P 17 16 15.8 -0.1
baz=143
I42A Draeger Farm, 69.76 343 P P 17 16 15.1 -0.5
baz=158
K38A Parkersburg 69.76 340 P P 17 16 15.4 -0.2
baz=154
L36A Harm Buss Farm 69.90 338 P P 17 16 16.5 0.0
baz=152
J39A Decorah 70.05 341 P P 17 16 16.7 -0.7
baz=155
M34A Aspy Farms, Fr 70.06 336 P P 17 16 17.0 -0.5
baz=150
I41A Arkdale 70.18 342 P P 17 16 16.9 -1.2
baz=157
H42A Shiocton 70.23 343 P P 17 16 17.5 -1.0
baz=158
I40A Norwalk 70.24 342 P P 17 16 18.1 -0.4
baz=156
J38A Wedel Dairy, R 70.27 340 P P 17 16 18.4 -0.3
baz=154
M33A Taylor Creek F 70.35 336 P P 17 16 18.6 -0.7
baz=150
I39A Houston 70.47 341 P P 17 16 18.5 -1.4
baz=155
BGNE Belgrade 70.57 335 P P 17 16 19.9 -0.7
baz=149
F45A CMU Biological 70.60 346 P P 17 16 19.8 -0.8
baz=161
J37A Redenius Farm, 70.61 339 P P 17 16 20.5 -0.3
baz=154
H41A Junction City 70.63 343 P P 17 16 20.6 -0.3
baz=157
G43A Wallace 70.71 344 P P 17 16 20.7 -0.7
baz=159
SDCO Great Sand Dun 70.76 328 P P 17 16 21.9 -0.2
baz=142
H40A Chili 70.84 342 P P 17 16 21.5 -0.6
baz=157
I38A Scanlan Farm, 70.88 341 P P 17 16 22.4 0.0
baz=155
G42A Mountain 70.89 344 P P 17 16 21.8 -0.6
baz=158
W18A Petrified Fore 70.94 324 P P 17 16 24.0 +0.8
baz=138
W18A Petrified Fore 70.94 324 eP P 17 16 24.7 +1.6
comp=Z,12nm,0.8s
G41A Antigo 71.06 343 P P 17 16 23.1 -0.3
baz=158
F44A Big Bay de Noc 71.08 345 P P 17 16 23.1 -0.4
baz=160
F43A Flat Rock, Esc 71.12 345 P P 17 16 23.3 -0.4
baz=160
H39A Augusta 71.15 342 P P 17 16 23.7 -0.2
baz=156
I37A Lemond, Waseca 71.19 340 P P 17 16 23.9 -0.3
baz=154
X16A Lo Mia Camp, P 71.37 322 eP P 17 16 27.4 +1.6
comp=Z,9.0nm,0.9s
J34A George 71.39 338 P P 17 16 26.2 +0.7
baz=151
S22A 4UR Ranch, Cre 71.41 327 P P 17 16 26.7 +0.5
baz=141
S22A 4UR Ranch, Cre 71.41 327 eP P 17 16 26.6 +0.5
comp=Z,7.9nm,1.3s
H38A Maiden Rock 71.44 341 P P 17 16 25.9 +0.2
baz=155
F41A Three Lakes 71.52 344 P P 17 16 25.6 -0.6
baz=158
H37A Dierke Farm, C 71.55 340 P P 17 16 25.8 -0.6
baz=154
Q24A Divide 71.56 329 P P 17 16 27.9 +0.9
baz=143
Q24A Divide 71.56 329 eP P 17 16 28.3 +1.3
comp=Z,13nm,0.8s
G38A Ridgeland 71.76 341 P P 17 16 27.2 -0.4
baz=155
MVCO Mesa Verde 71.85 326 P P 17 16 29.2 +0.5
baz=140
MVCO Mesa Verde 71.85 326 eP P 17 16 29.8 +1.2
comp=Z,33nm,1.4s
F40A Park Falls 71.96 343 P P 17 16 28.6 -0.2
baz=157
ECSD EROS Data Cent 72.02 338 P P 17 16 29.4 +0.2
baz=151
ECSD EROS Data Cent 72.02 338 eP P 17 16 29.1 -0.1
comp=Z,15nm,1.3s
SPMN Marine on St. 72.10 341 P P 17 16 29.4 -0.2
baz=154
WUAZ Wupatki 72.13 323 P P 17 16 30.9 +0.6
baz=137
F39A Loretta 72.18 342 P P 17 16 29.7 -0.4
baz=156
E40A Wakefield 72.39 343 P P 17 16 31.5 +0.2
baz=157
G36A St. Michael 72.40 340 P P 17 16 31.5 +0.1
baz=154
J31A Geddes 72.41 336 P P 17 16 31.6 +0.1
baz=149
ISCO Idaho Springs 72.44 329 P P 17 16 32.1 0.0
baz=142
ISCO Idaho Springs 72.44 329 eP P 17 16 33.2 +1.1
comp=Z,7.4nm,0.9s
F38A Pierce - Schro 72.49 342 P P 17 16 31.7 -0.2

baz=155
F37A Hinrichs Farm, 72.50 341 P P 17 16 31.6 -0.4
baz=155
E39A Mellen 72.50 343 P P 17 16 32.1 +0.2
baz=157
SMCO Snowmass 72.60 328 eP P 17 16 34.9 +1.7
comp=Z,7.7nm,0.8s
G35A Watkins 72.62 340 P P 17 16 32.6 -0.1
baz=153
Y12C Blythe 72.69 320 P P 17 16 33.9 +0.5
baz=134
Y12C Blythe 72.69 320 eP P 17 16 35.6 +2.3
comp=Z,57nm,1.9s
F36A Milaca 72.89 341 P P 17 16 33.4 -0.9
baz=154
BC3 Big Chuckawall 73.19 319 P P 17 16 38.2 +1.7
baz=133
G33A Ortonville 73.24 338 P P 17 16 36.3 -0.1
baz=151
IRM Iron Mountain 73.35 319 P P 17 16 37.1 -0.2
baz=134
E36A McGregor 73.40 341 P P 17 16 36.6 -0.6
baz=154
N23A Red Feather La 73.46 330 P P 17 16 38.4 +0.3
baz=142
N23A Red Feather La 73.46 330 eP P 17 16 38.4 +0.3
comp=Z,7.2nm,0.9s
D37A Cotton 73.74 342 P P 17 16 38.5 -0.7
baz=155
BELC Belle Mtn. Jos 73.75 319 P P 17 16 40.9 +1.1
baz=133
E35A Pequot Lakes 73.78 340 P P 17 16 39.3 -0.2
baz=153
C38A Sawbill Land. 73.93 343 P P 17 16 39.6 -0.7
baz=156
O20A White River Ci 73.96 328 P P 17 16 41.8 +0.9
baz=140
O20A White River Ci 73.96 328 eP P 17 16 42.8 +1.9
comp=Z,18nm,1.0s
KNB Kanab 74.03 323 eP P 17 16 43.4 +2.1
comp=Z,44nm,1.2s
C37A Embarrass 74.19 342 P P 17 16 41.7 -0.1
baz=155
MURC Murrieta 74.22 318 P P 17 16 43.3 +1.0
baz=132
SYO Syowa Base 74.22 159⇑ eP P 17 16 41.6 -0.2
SRU San Rafael Swe 74.33 326 eP P 17 16 44.6 +1.5
comp=Z,20nm,1.0s
C36A Pine Crest Far 74.40 342 P P 17 16 43.7 +0.7
baz=155
SZCU Shurtz Canyon 74.59 323 eP P 17 16 46.7 +2.1
comp=Z,20nm,1.6s
RWWY Rawlins 74.67 330 eP P 17 16 46.5 +1.5
comp=Z,27nm,1.4s
C35A Jirik Farms, M 74.68 341 P P 17 16 44.1 -0.6
baz=154
TUQ Turquoise Moun 74.69 320 P P 17 16 46.3 +1.2
baz=133
CCUT Cedar City 74.71 323 eP P 17 16 47.8 +2.4
comp=Z,16nm,1.0s
P17A Butcher Ranch, 74.71 326 eP P 17 16 46.8 +1.6
comp=Z,20nm,1.1s
MSU Marysvale 74.76 324 eP P 17 16 47.5 +1.9
BFSC Mount Baldy Ra 74.93 318 P P 17 16 47.2 +0.6
baz=132
SHPR Sheep Range 74.99 321 eP P 17 16 48.8 +1.9
comp=Z,6.0nm,0.8s
K22A Casper 75.11 331 P P 17 16 47.9 +0.4
baz=142
K22A Casper 75.11 331 eP P 17 16 48.9 +1.5
comp=Z,39nm,1.6s
GSC Goldstone, Bar 75.13 319 P P 17 16 47.9 +0.3
baz=133
GSC Goldstone, Bar 75.13 319 eP P 17 16 49.6 +2.0
comp=Z,5.8nm,0.7s
B35A Bob, Littlefor 75.20 342 P P 17 16 47.1 -0.5
baz=154
RSSD Black Hills 75.21 333 P P 17 16 47.2 -0.8
baz=144
EDW2 Edwards Air Fo 75.56 318 P P 17 16 51.7 +1.6
baz=132
VNDA Vanda 75.66 190 P P 17 16 52.2 +2.3
comp=Z,2.6nm,1.0s,baz=125,slow=5.0,SNR=11
VNDA Vanda 75.66 190 eP P 17 16 52.7 +2.8
comp=Z,3.6nm,1.0s
TOA0 Torodi Ar. Sit 75.82 69 eP P 17 16 50.1 -1.8
TORD Torodi Ar. Bea 75.82 69 P P 17 16 50.1 -1.7
comp=Z,22nm,0.6s,baz=260,slow=5.7,SNR=160
OSI Osito Audit: C 75.83 318 P P 17 16 52.7 +1.1
baz=131
JLU Jordanelle 75.91 326 eP P 17 16 53.8 +1.7
comp=Z,12nm,0.7s
TPNV Topopah Spring 75.92 321 P P 17 16 54.5 +2.3
baz=134
TPNV Topopah Spring 75.92 321 eP P 17 16 54.3 +2.1
comp=Z,11nm,0.9s
FURC Furnace Creek, 75.95 320 P P 17 16 54.4 +2.3
baz=133
DAC Darwin (Calif) 76.26 320 eP P 17 16 55.7 +1.6
comp=Z,7.2nm,1.0s
DAC epP pP 17 17 47.5 +0.6
DUG Dugway, Tooele 76.32 325 P P 17 16 56.1 +1.8
baz=137
DUG Dugway, Tooele 76.32 325 eP P 17 16 56.2 +1.8
comp=Z,12nm,1.1s
ISA Isabella, Lake 76.38 319 P P 17 16 56.9 +2.3
baz=132
GRAC Grapevine Rang 76.61 320 P P 17 16 57.6 +1.8
baz=133
BW06 Boulder Array 76.61 329 P P 17 16 57.1 +1.2
baz=140
BW06 Boulder Array 76.61 329 eP P 17 16 55.9 0.0
PD31 Pinedale Array 76.61 329 eP P 17 16 56.6 +0.7
PD31 eS S 17 26 30.2 +6.4
PDAR Pinedale Array 76.61 329 P P 17 16 56.3 +0.3
comp=Z,1.8nm,0.5s,baz=125,slow=7.3,SNR=15
MDND Maddock 76.63 338 P P 17 16 56.8 +1.2
baz=149
CWC Cottonwood Cre 76.66 320 P P 17 16 58.1 +1.8
baz=132
PKM Mcpherson Peak 76.69 317 P P 17 16 57.6 +1.0
baz=130
HWUT Hardware Ranch 76.72 327 eP P 17 16 57.7 +1.1
comp=Z,14nm,1.1s
VES Vestal, Richgr 76.86 319 P P 17 16 59.0 +1.8
baz=131
BGU Big Grassy Mou 76.97 326 eP P 17 16 59.2 +1.3
comp=Z,20nm,1.3s
SMMC Simmler 77.08 318 P P 17 16 59.9 +1.3
baz=130
TIN Timemaha, Big 77.16 320 P P 17 17 00.3 +1.3
baz=132
RCTC Rector, Farmer 77.27 319 P P 17 17 01.2 +1.7
baz=131
HVU Hansel Valley 77.46 326 eP P 17 17 01.8 +1.2
comp=Z,15nm,1.2s
TSUM Tsumeb 77.46 106 eP P 17 17 00.1 -1.1
comp=Z,5.1nm,0.5s
REDW Red Top Meadow 77.68 329 eP P 17 17 03.2 +1.3
comp=Z,12nm,1.1s
LOHW Long Hollow 77.75 329 eP P 17 17 03.3 +1.0
comp=Z,6.9nm,0.8s
TPAW Teton Pass 77.82 329 eP P 17 17 04.3 +1.5
comp=Z,21nm,1.3s
FXWY Fox Creek 77.97 329 eP P 17 17 04.8 +1.3
comp=Z,4.9nm,1.0s
IMW Indian Meadow 78.12 329 eP P 17 17 05.7 +1.3
comp=Z,22nm,1.2s
LAO LASA Array 78.19 333 P P 17 17 05.2 +0.8
baz=143
RLMT Red Lodge 78.28 331 eP P 17 17 06.1 +0.9
comp=Z,5.4nm,0.5s
YHH Holmes Hill 78.75 330 eP P 17 17 09.7 +1.9
comp=Z,23nm,1.2s
DGMT Dagmar 78.83 335 P P 17 17 08.9 +1.1
baz=145
WAKR Walker 78.83 320 eP P 17 17 10.6 +2.3
comp=Z,8.6nm,0.9s
YHB Horse Butte 78.89 329 eP P 17 17 10.4 +2.0
comp=Z,7.2nm,0.9s
GCMT Greycliff 78.97 331 eP P 17 17 09.9 +1.1
YERR Yerington 79.04 321 eP P 17 17 11.2 +1.8
comp=Z,12nm,0.7s
PNTR Pine Nut 79.32 321 eP P 17 17 12.9 +2.0
comp=Z,18nm,0.8s
HLID Hailey 79.58 327 P P 17 17 14.1 +1.9
baz=136
HLID Hailey 79.58 327 eP P 17 17 13.9 +1.7
comp=Z,39nm,1.4s
PAHR Pah Rah Range 79.60 321 eP P 17 17 14.3 +1.9
comp=Z,20nm,0.9s
BOZ Bozeman (W) 79.72 330 P P 17 17 13.5 +0.6
baz=138
MCMT McKenzie Canyo 79.73 328 eP P 17 17 14.9 +1.8
DLMT Dillon 80.00 329 eP P 17 17 15.8 +1.5
comp=Z,8.4nm,1.0s
AFDM Forest Hills D 80.03 320 eP P 17 17 15.7 +1.2
comp=Z,6.1nm,1.0s
MFID Camas Ranch 80.20 326 eP P 17 17 16.9 +1.4
comp=Z,11nm,1.2s
BEKR Beckworth 80.27 321 eP P 17 17 17.7 +1.7
comp=Z,7.4nm,0.9s
EGMT Eagleton 80.73 332 P P 17 17 17.8 -0.3
baz=140
ORV Oroville 80.74 320 eP P 17 17 19.8 +1.5
comp=Z,22nm,1.3s
BOSA Boshof 80.74 117 P P 17 17 17.4 -1.4
comp=Z,3.5nm,0.4s,baz=268,slow=3.4,SNR=18
BOSA Boshof 80.74 117 eP P 17 17 18.7 -0.1
comp=Z,38nm,1.6s
MSO Missoula 81.72 329 P P 17 17 24.0 +0.6
baz=137
BMO Blue Mountains 81.97 326 eP P 17 17 25.9 +1.3
comp=Z,31nm,1.6s
BMO pP pP 17 18 15.2 -3.0
MAW Mawson 82.16 163 P P 17 17 26.4 +1.1
comp=Z,6.3nm,0.8s,baz=231,slow=8.3,SNR=10
MAW Mawson 82.16 163 eP P 17 17 26.6 +1.3
comp=Z,1.3nm,0.8s
LBTB Lobatse 82.34 114 eP P 17 17 26.3 -0.9
comp=Z,42nm,1.9s
N02D Trinity Center 82.35 321 P P 17 17 27.2 +0.5
baz=129
M04C Macdoel 82.37 322 P P 17 17 27.6 +0.7
baz=130
M02C Callahan 82.70 321 P P 17 17 29.5 +1.0
baz=129
J05D Fort Rock, OR 83.00 323 P P 17 17 31.9 +1.8
baz=131
J04D Umpqua Nationa 83.46 323 P P 17 17 34.0 +1.5
baz=130
TAM Tamanrasset 83.58 62 eP P 17 17 32.2 -1.3
comp=Z,42nm,1.7s
I05D Terrebonne, OR 83.75 324 P P 17 17 35.5 +1.7
baz=131
PAB San Pablo 85.12 43 eP P 17 17 40.5 -0.3
comp=Z,68nm,1.7s
ESDC Sonseca Array 85.43 43 P P 17 17 41.6 -0.7
comp=Z,2.9nm,0.6s,baz=244,slow=5.0,SNR=16
ESLA Sonseca Array 85.43 43 eP P 17 17 42.8 +0.5
comp=Z,65nm,1.9s
ES19 SONSECA Array 85.49 43 eP P 17 17 42.1 -0.5
B05A Bryant 86.70 326 P P 17 17 48.8 +0.6
baz=130
LSZ Lusaka 88.32 106 eP P 17 17 58.5 +1.7
comp=Z,10nm,1.0s
LSZ pP pP 17 18 56.1 +4.9
KEST Kesra 92.50 52 P P 17 18 15.0 -0.8
comp=Z,2.2nm,0.6s,baz=226,slow=3.2,SNR=2.5
YKA Yellowknife Ar 93.44 340 P P 17 18 19.7 +0.4
comp=Z,2.1nm,0.4s,baz=132,slow=4.7,SNR=15
BRTR Keskin Array B 111.92 55 PKiKP PKiKP 17 23 39.1 +0.5
comp=Z,0.5nm,0.7s,baz=346,slow=0.6,SNR=3.1
BRTR PKKPab PKKPab 17 34 42.0 +2.3
comp=Z,0.8nm,0.7s,baz=119,slow=4.4,SNR=5.7
ARCES ARCESS Array B 112.12 22 PKKPbc PKKPbc 17 34 31.0 -1.3
comp=Z,1.9nm,0.7s,baz=107,slow=4.1,SNR=3.6
STKA Stephens Creek 119.08 207 PKP PKPdf 17 23 52.9 +0.4
comp=Z,0.6nm,0.6s,baz=216,slow=2.0,SNR=2.2
KBZ Khabaz 119.37 52 PKP PKPdf 17 23 52.0 -0.5
comp=Z,0.9nm,0.7s,baz=219,slow=4.9,SNR=3.9
AS01 Alice Springs 129.44 205 ePKPdf PKPdf 17 24 12.5 -0.1
ASAR Alice Springs 129.46 204 PKhKP PKPpre 17 24 02.9
comp=Z,0.1nm,0.5s,baz=130,slow=1.7,SNR=5.3
ASAR PKP PKPdf 17 24 12.8 +0.1
comp=Z,2.1nm,0.7s,baz=147,slow=2.3,SNR=24
ASAR SKPbc SKPbc 17 27 13.4 +0.3
comp=Z,0.6nm,0.6s,baz=151,slow=3.7,SNR=7.1
ASAR PKKP PKKPdf 17 34 16.0 -0.5
comp=Z,0.2nm,0.4s,baz=356,slow=1.8,SNR=8.2
AS31 Alice Springs 129.46 204 ePKPdf PKPdf 17 24 13.0 +0.4
TIXI Tiksi 130.63 354 SKPbc SKPbc 17 27 15.7 -0.3
comp=Z,3.0nm,0.6s,baz=36,slow=2.4,SNR=10
GEYT Alibeck 130.73 59 SKPbc SKPbc 17 27 15.8 -1.7
comp=Z,2.1nm,0.9s,baz=289,slow=9.2,SNR=5.8
ABKAR Akbulak array 130.78 44 ePKPdf PKPdf 17 24 15.7 +1.5
WB2 Warramunga Arr 132.63 207 ePKPdf PKPdf 17 24 19.4 +0.7
WRA Warramunga Arr 132.63 207 PKhKP PKPpre 17 24 07.6
comp=Z,0.2nm,0.3s,baz=141,slow=3.0,SNR=6.9
WRA PKP PKPdf 17 24 18.7 0.0
comp=Z,1.6nm,0.6s,baz=151,slow=1.9,SNR=7.5
WRA SKPbc SKPbc 17 27 25.3 +0.4
comp=Z,5.2nm,0.9s,baz=151,slow=3.2,SNR=19
PETK Petropavlovsk- 135.16 323 PKP PKPdf 17 24 22.9 +0.6
comp=Z,2.4nm,0.8s,baz=63,slow=2.4,SNR=7.5
PETK SKPbc SKPbc 17 27 33.1 +1.1
comp=Z,2.7nm,0.7s,baz=93,slow=5.9,SNR=4.3
ZALV Zalesovo Beam 142.39 28 PKhKP PKPpre 17 24 31.4
comp=Z,4.0nm,0.5s,baz=308,slow=4.1,SNR=22
ZALV SKPbc SKiKP 17 27 53.8 +0.3
comp=Z,3.1nm,0.6s,baz=300,slow=3.5,SNR=7.0
KSH Kashi 144.31 54 PKP PKPab 17 24 37.8 -0.3
KSH epPKP pPKPdf 17 25 26.3 -10
KSH sPKP 17 25 42.2
KSH ePP PP 17 27 58.1 +0.8
KSH SKS SKSdf 17 31 26.8 -1.0
KSH SKKS SKKSac 17 34 26.5 -1.0
KSH SS SS 17 46 22.7 -2.4
KSH AMB AMB
comp=Z,83nm,5.8s
KSH LR LR
comp=Z,86nm,7.0s
KSH LR LR
comp=Z,84nm,5.4s
KSH LR LR
comp=Z,120nm,5.4s
MAKZ Makanchi 145.35 39 ePKPdf PKPab 17 24 41.5 -0.2
MK31 Makanchi Array 145.54 39 ePKPdf PKPbc 17 24 42.0 +0.1
MKAR Makanchi Array 145.54 39 PKPbc PKPbc 17 24 41.9 0.0
comp=Z,13nm,0.6s,baz=319,slow=3.0,SNR=119
MKAR SKPbc SKiKP 17 28 00.8 +0.5
comp=Z,3.4nm,0.8s,baz=315,slow=1.9,SNR=8.1
MK01 Makanchi Array 145.56 39 ePKPdf PKPbc 17 24 41.9 -0.1
SOEI Soe 145.63 199 ePKPdf PKPab 17 24 44.7 +0.8
ASAJ Asahikawa 148.22 318 PKPbc PKPbc 17 24 49.5 +0.2
comp=Z,4.6nm,0.7s,baz=336,slow=2.4,SNR=10.0
CISI Cisompet, Garu 149.03 169 ePKPbc PKPbc 17 24 52.9 +0.5
TLY Talaya 150.47 12 ePKPbc PKPbc 17 24 54.7 0.0
SONA1 Songino Array 154.66 11 ePKPdf PKPdf 17 24 56.8 +1.2
SONA1 ePKPbc PKiKP 17 25 04.9 +0.6
SONM Songino Array 154.67 11 PKP PKPdf 17 24 56.2 +0.6
comp=Z,1.6nm,1.0s,baz=290,slow=0.6,SNR=8.4
SONM PKPbc PKiKP 17 25 04.6 +0.3
comp=Z,1.6nm,0.4s,baz=284,slow=1.3,SNR=18
SONM PKPab PKPab 17 25 20.1 +0.1
comp=Z,3.0nm,0.5s,baz=319,slow=3.6,SNR=14
ULN Ulaanbaatar 154.75 10 ePKPab PKPab 17 25 21.5 +1.2
GTA Gaotai 160.01 32 ePKP PKPdf 17 25 03.4 +0.9
CMAR Chiang Mai Arr 165.63 106 PKP PKPdf 17 25 07.1 -1.3
comp=Z,0.8nm,0.9s,baz=251,slow=4.0,SNR=5.3
CMAR PKPab PKPab 17 26 08.2 -0.4
comp=Z,4.4nm,0.6s,baz=246,slow=6.1,SNR=29
CHTO Chiang Mai 165.76 105 ePKPab PKPab 17 26 09.3 +0.2
CD2 Chengdu 168.35 46 PKP PKPdf 17 25 09.5 -0.6

*ISCJB **06** 17:50:08.6±0.2, 4°.20N±0°.03×126°.77E±0°.05, h10km, mb4.7/51, MS3.7/4, Error ellipse: s-maj=7.0km s-min=3.7km az=161.8*
*IDC **06** 17:50:08.7±0.5, 4°.12N×126°.65E, h0km, mb4.5/25, mb1 4.6/26, mb1mx4.5/33, mbtmp4.5/26, ML5.0/1, MS3.6/5, Ms1 3.7/5, ms1mx3.2/29, Error ellipse: s-maj=20.9km s-min=10.9km az=76.0*
*NEIC **06** 17:50:14.8±1.0, 4°.14N×126°.65E, h42km±10km, mb4.6/22, Error ellipse: s-maj=9.3km s-min=5.1km az=73.0*
*DJA **06** 17:50:21.1±0.4, 4°.N±3°×12°.7E±°, h107km±7km, M4.8/12, mb4.7/12, mB5.2/3, MLv4.9/5, Mw(mB)4.6/3*
ISC 06 17:50:10.6±0.3,**4°.16N**±0°.04×**126°.85E**±0°.06,**h10**km,**n112**, σ2±**10**/119,**mb4.6**/51,**MS3.8**/4,**3C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.69	315⇑	eP	Pn	17 50 55.1	+1.0
MATI	Mati	2.83	348	eP	Pn	17 50 59.0	+3.1
MATI				eS	Sg	17 51 42.4	+0.8
DAV	Davao City (W)	3.15	336	Pg	Pn	17 51 00.6	+0.2
DMPH	Davao City--Mi	3.19	335⇑	eP	Pb	17 51 08.5	+1.0
DMPH				eS	Sg	17 51 58.9	+5.6
CTBH	Cotabato--PC H	3.99	320	eP	Pn	17 51 14.7	+2.8
CTBH				i S	Sn	17 51 44.0	-15
BUKP	Musuan	4.10	334	eP	Pn	17 51 16.1	+2.7
BUKP				eS	Sb	17 52 18.2	+5.6
LBMI	Labuha	4.81	172	P	Pn	17 51 25.3	+2.1
PAGZ	Pagadian	5.03	317	eP	Pn	17 51 30.4	+4.2
SCPH	Surigao	5.75	347⇓	eP	Pb	17 51 45.1	-5.9
MSLP	Maasin	6.25	342	eP	Pn	17 51 44.1	+1.1
MSLP				eS	Sb	17 53 10.6	-4.0
SIJI	Sorong	6.67	138	Pn	Pn	17 51 51.1	+2.4
	33nm,0.3s,baz=351,slow=13,SNR=16						
SIJI				Sn	Sn	17 53 04.9	0.0
	baz=221,slow=19,SNR=2.2						
SIJI				LR	LR	17 53 43.4	
	comp=Z,898nm,20.6s,baz=353,slow=32						
NLAI	Namlea	7.36	178	P	Pn	17 51 59.4	+1.3
NLAI				S	Sn	17 53 20.5	-1.2
BESP	Borongan	7.52	349	eP	Pn	17 52 07.0	+6.6
MSAI	Masohi	7.74	164	P	Pn	17 51 55.6	-7.9
AAI	Ambon	7.91	170	P	Pn	17 52 08.9	+3.1
PCI	Palu	8.62	234	P	Pn	17 52 17.5	+1.9
FAKI	Fak Fak	8.87	142	P	Pn	17 52 21.8	+2.9
KDI	Kendari	9.10	208	P	Pn	17 52 28.3	+6.1
TTSI	Tana Toraja	10.03	225	P	Pn	17 52 38.9	+4.1
	56nm,1.0s,710nm						
BBSI	Bau Bau	10.49	204	P	Pn	17 52 44.7	+3.5
KKM	Kota Kinabalu	10.75	280	ePn	Pn	17 52 48.8	+3.9
TGY	Tagaytay City	11.47	330	LR	LR	17 57 50.4	
	comp=Z,164nm,18.8s,baz=152,slow=40						
SOEI	Soe	14.06	191	P	Pn	17 53 33.2	+3.0
SOEI	Soe	14.06	191	ePn	Pn	17 53 29.6	-0.6
	47nm,0.9s						
GENI	Genyem	14.91	117	P	P	17 53 54.2	+6.9
JAY	Jayapura	15.36	115	Pn	P	17 53 53.6	+1.3
	0.1nm,0.3s,baz=308,slow=20,SNR=4.3						
JAY	Jayapura	15.36	115	P	P	17 53 58.8	+6.5
PLAI	Plampang	15.76	215	P	P	17 53 58.0	+1.2
STKI	Sintang	15.89	256	P	P	17 54 00.7	+2.5
	27nm,1.2s						
TWSI	Taliwang, Sumb	16.21	218	P	P	17 54 01.5	-0.3
	54nm,0.9s						
KSM	Kuching	16.73	261	ePn	P	17 54 09.1	+1.5
	43nm,1.1s						
JAGI	Jajag, Banyuwa	17.82	225	P	P	17 54 26.8	+7.1
GMJI	Gumukmas	18.20	227	P	Pn	17 54 22.8	-0.8
	43nm,1.1s						
DLV	T Lat	19.74	294	eP	P	17 54 42.5	+1.6
	30nm,0.9s						
YULB	Yu-li	19.86	345	eP	P	17 54 40.5	-1.4
	14nm,0.7s						
PCJI	Pacitan	19.87	232	P	P	17 54 41.0	-1.2
	42nm,1.6s						
TPUB	Ta-pu	19.95	343	eP	P	17 54 42.1	-0.9
	20nm,0.6s						
SSLB	Suanglung	20.32	344	eP	P	17 54 47.5	+0.4
	16nm,0.6s						
FITZ	Fitzroy Crossi	22.15	183	P	P	17 55 05.1	-7.1
	14nm,0.7s,baz=10,slow=6.7,SNR=35						
FITZ				S	S	17 59 04.0	-7.7
	7.6nm,1.1s,baz=294,slow=20,SNR=5.6						
TNG	Tangerang	22.63	243	P	P	17 55 12.0	0.0
COEN	Coen	24.22	138	eP	P	17 55 29.8	+2.0
WRAB	Tennant Creek	25.05	163	eP	P	17 55 34.9	-0.4
	26nm,0.8s						
WRA	Warramunga Arr	25.06	163	P	P	17 55 34.8	-0.6
	13nm,0.6s,baz=344,slow=10,SNR=59						
WRA				S	S	17 59 58.4	-1.5
	1.3nm,1.0s,baz=347,slow=21,SNR=4.8						
IPM	Ipoh	25.75	272	eP	P	17 55 40.2	-1.5
	26nm,1.2s						
MBWA	Marble Bar	26.11	195	eP	P	17 55 45.0	+0.1
	95nm,1.0s						
KULM	Kulim	26.13	274	eP	P	17 55 43.9	-1.3
	12nm,1.1s						
NONG	Nongkai	27.00	303	P	P	17 55 49.4	-3.6
	364nm,1.1s,4μm						
CHAI	Chaiyaphum	27.08	297	P	P	17 55 52.3	-1.4
	10nm,0.8s						
NAYO	Nakonayok	27.11	294	P	P	17 55 55.6	+1.6
	242nm,1.5s						
PSI	Prapat	27.90	268	P	P	17 56 00.2	-1.1
	2.8nm,0.3s,baz=96,slow=3.4,SNR=6.0						
ASAR	Alice Springs	28.50	166	P	P	17 56 06.0	-0.4
	2.1nm,0.5s,baz=348,slow=7.6,SNR=104						
ASAR				PcP	PcP	17 59 17.7	-0.6
	0.8nm,0.7s,baz=350,slow=2.8,SNR=2.7						
ASAR				S	S	18 00 57.3	+3.0
	1.4nm,1.0s,baz=348,slow=22,SNR=5.1						
JNU	Nakatsue	29.06	7	P	P	17 56 12.3	+1.1
	11nm,0.9s,baz=192,slow=15,SNR=3.1						
ENH	Enshi	30.72	330	eP	P	17 56 24.6	-1.4
CMAR	Chiang Mai Arr	30.76	300	P	P	17 56 26.2	-0.2
	4.1nm,0.8s,baz=117,slow=7.1,SNR=38						
CMAR				ScP	ScP	18 03 07.8	+0.7
	0.4nm,0.7s,baz=150,slow=2.0,SNR=4.0						
CMAR				LR	LR	18 09 22.9	
	comp=Z,62nm,20.4s,baz=90,slow=38						
CHTO	Chiang Mai	30.90	300	P	P	17 56 27.8	0.0
	60nm,0.8s						
CHTO	Chiang Mai	30.90	300	eP	P	17 56 27.5	-0.3
	7.9nm,0.7s						
KSAR	Wonju Array Be	33.14	2	P	P	17 56 47.8	+0.7
KSRS	Korea Array	33.15	2	P	P	17 56 47.8	+0.6
	4.2nm,0.8s,baz=181,slow=9.4,SNR=12						
XAN	Xi'an	34.09	333	P	P	17 56 53.7	-1.8
XAN				sP	sP	17 57 01.2	+1.4
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,110nm,9.9s						
FORT	Forrest	34.76	178	eP	P	17 57 00.5	-0.8
	comp=Z,287nm,0.8s						
BBOO	Buckleboo	37.79	167	eP	P	17 57 27.2	0.0
	comp=Z,7.2nm,0.3s						
NWAO	Narrogin (SRO)	37.99	193	eP	P	17 57 28.0	-0.9
LZH	Lanzhou	38.19	329	eP	P	17 57 31.0	+0.2
LZH				pP	sP	17 57 38.6	+3.5
LZH				sP	pP	17 57 43.1	+9.2
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,5.3s						
STKA	Stephens Creek	38.49	160	P	P	17 57 33.3	+0.2
	comp=Z,14nm,0.8s,baz=335,slow=8.1,SNR=42						
USRK	Ussuriysk Ar.	40.13	6	P	P	17 57 48.3	+1.6
	comp=Z,1.9nm,0.7s,baz=152,slow=7.5,SNR=3.8						
ARMA	Armidale	41.76	147	eP	P	17 58 01.4	+0.9
	comp=Z,6.6nm,0.7s						
ASAJ	Asahikawa	42.15	17	P	P	17 58 03.4	+0.1
	comp=Z,5.6nm,0.9s,baz=238,slow=16,SNR=6.1						
LSA	Lhasa	42.24	311	eP	P	17 58 04.5	-0.4
	comp=Z,6.9nm,0.8s						
GTA	Gaotai	42.79	329	eP	P	17 58 07.5	-1.2
GTA				pP	sP	17 58 17.4	+4.3
GTA				sP	pP	17 58 21.4	+10
GTA				S	S	18 04 56.0	+23
GTA				sS	sS	18 05 13.2	+35
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,62nm,5.9s						
GTA				LR	LR		
	comp=N,150nm,17.6s						
GTA				LR	LR		
	comp=E,130nm,15.7s						
GTA				LR	LR		
	comp=Z,190nm,19.5s						
TAPN	Taplejung	43.86	306	eP	P	17 58 16.1	-1.7
	comp=Z,16nm,0.6s						
ODAN	Odare	43.92	305	eP	P	17 58 16.6	-1.6
	comp=Z,26nm,0.6s						
RAMN	Ramite	44.60	305	eP	P	17 58 22.2	-1.5
	comp=Z,29nm,0.7s						
JIRN	Jiri	45.22	305	eP	P	17 58 27.2	-1.5
	comp=Z,176nm,0.7s						
GUN	Gumba	45.57	306	eP	P	17 58 29.9	-1.6
	comp=Z,32nm,0.7s						
PKIN	Phulchoki	45.83	305	eP	P	17 58 32.1	-1.4
	comp=Z,5.9nm,0.6s						
KKN	Kakani	46.01	305	eP	P	17 58 33.0	-1.8
	comp=Z,10nm,0.5s						

DMN	**Daman**	46.08	305	*e*P	P	17 58 34.0	-1.4
	comp=Z,21nm,0.9s						
GKN	**Gorkha**	46.62	305	*e*P	P	17 58 37.8	-1.7
	comp=Z,11nm,0.6s						
ULN	**Ulaanbaatar**	46.75	342	*e*P	P	17 58 40.0	-0.2
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	46.93	341	P	P	17 58 41.7	+0.1
	comp=Z,1.5nm,0.5s,baz=163,slow=8.6,SNR=12						
SONM				PcP	PcP	18 00 13.8	-0.4
	comp=Z,1.7nm,0.9s,baz=168,slow=4.0,SNR=4.1						
SONM				LR	LR	18 19 22.8	
	comp=Z,110nm,20.5s,baz=160,slow=37						
KOLN	**Koldanda**	47.38	304	*e*P	P	17 58 44.2	-1.3
	comp=Z,47nm,0.6s						
PYUN	**Piuthan**	48.00	305	*e*P	P	17 58 49.2	-1.2
	comp=Z,40nm,0.7s						
PETK	**Petropavlovsk-**	54.99	22	P	P	17 59 42.8	+0.8
	comp=Z,3.5nm,0.7s,baz=195,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	57.27	325	P	P	17 59 57.5	-1.0
	comp=Z,4.9nm,0.7s,baz=128,slow=8.1,SNR=54						
MKAR				PcP	PcP	18 00 52.0	-0.8
	comp=Z,3.0nm,0.7s,baz=129,slow=4.1,SNR=2.0						
YAK	**Yakutsk**	57.78	2	*e*P	P	18 00 01.4	-0.3
	comp=Z,26nm,0.6s						
KSH	**Kashi**	57.82	315	*e*P	P	18 00 01.0	-1.7
KSH				PcP	PcP	18 00 55.5	+0.3
KSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,93nm,4.8s						
ZALV	**Zalesovo Beam**	60.26	333	P	P	18 00 16.9	-2.2
	comp=Z,2.0nm,0.6s,baz=120,slow=8.8,SNR=8.3						
ZALV				LR	LR	18 29 26.2	
	comp=Z,59nm,18.0s,baz=72,slow=39						
KURK	**Kurchatov**	61.44	327	*e*P	P	18 00 25.9	-1.4
	comp=Z,79nm,0.7s						
BRVK	**Borovoye**	67.10	327	*e*P	P	18 01 03.1	-1.2
	comp=Z,14nm,0.6s						
TIXI	**Tiksi**	67.41	1	*e*P	P	18 01 05.2	-0.7
	comp=Z,4.9nm,0.5s						
GEYT	**Alibeck**	70.72	309	P	P	18 01 25.9	-1.3
	comp=Z,4.1nm,0.8s,baz=120,slow=6.0,SNR=8.9						
ABKAR	**Akbulak array**	71.89	321	*e*P	P	18 01 32.4	-1.6
	comp=Z,1.6nm,0.4s						
ARU	**Arti**	74.64	328	*e*P	P	18 01 48.8	-1.3
	comp=Z,6.0nm,0.6s						
RAYN	**Ar Rayn**	80.42	293	*e*P	P	18 02 21.4	-1.8
	comp=Z,4.5nm,0.6s						
KBZ	**Khabaz**	82.77	313	P	P	18 02 36.3	+1.2
	comp=Z,1.6nm,1.0s,baz=90,slow=1.0,SNR=3.2						
KTH	**Kantishna Hill**	82.83	27	*e*P	P	18 02 36.0	+0.9
	comp=Z,21nm,1.5s						
COLD	**Coldfoot**	83.45	23	*e*P	P	18 02 39.1	+0.9
	comp=Z,5.7nm,1.0s						
MCK	**McKinley**	83.73	26	*e*P	P	18 02 38.6	-1.0
VNDA	**Vanda**	83.84	173	P	P	18 02 39.8	-0.1
	comp=Z,2.0nm,0.7s,baz=314,slow=6.2,SNR=17						
MAW	**Mawson**	84.20	200	P	P	18 02 41.1	-0.7
	comp=Z,2.9nm,1.1s,baz=59,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	84.67	25	P	P	18 02 44.0	-0.4
	comp=Z,1.2nm,0.8s,baz=238,slow=6.5,SNR=9.8						
KMBO	**Kilima Mbogo**	89.68	269	P	P	18 03 09.4	-0.7
	comp=Z,0.8nm,0.4s,baz=70,slow=4.2,SNR=4.4						
BRTR	**Keskin Array B**	89.84	310	P	P	18 03 08.2	-2.0
	comp=Z,1.1nm,0.7s,baz=141,slow=3.4,SNR=7.1						
ARCES	**ARCESS Array B**	90.09	340	P	P	18 03 08.2	-2.4
	comp=Z,5.3nm,1.0s,baz=86,slow=6.6,SNR=13						
FINES	**FINESS Array B**	91.51	332	P	P	18 03 14.8	-2.5
	comp=Z,2.7nm,0.7s,baz=174,slow=1.9,SNR=7.8						
AKASG	**Malin Array Be**	91.63	321	P	P	18 03 16.1	-1.9
	comp=Z,2.3nm,0.6s,baz=69,slow=4.5,SNR=10						
SYO	**Syowa Base**	92.87	201⇑	*e*X	P	18 03 29.0	+5.7
CRVS	**Cervenica-Dubn**	96.92	320	*e*PDIFF	P	18 03 41.6	-0.8
NOA	**NORSAR Array B**	98.45	334	P	P	18 03 47.0	-2.1
	comp=Z,1.3nm,0.8s,baz=69,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	121.24	52	PKP	PKPdf	18 09 05.8	+0.9
	comp=Z,0.1nm,0.4s,baz=270,slow=0.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	122.89	288	PKP	PKPdf	18 09 07.2	-1.0
	comp=Z,1.0nm,0.7s,baz=50,slow=1.7,SNR=8.3						
LCO	**Las Campanas**	150.20	148	*e*PKPbc	PKPbc	18 10 03.0	0.0

*ISCJB **06** 17:57:07.9±0.5, 39°.03N±0°.03×27°.07E±0°.03, h10km±4km, Error ellipse: s-maj=5.7km s-min=3.9km az=165.9*
*DDA **06** 17:57:07.6, 39°.06N×27°.06E, h7km, Md2.5*
*CSEM **06** 17:57:07.7±0.1, 38°.99N×27°.07E, h12km, MD2.5, Error ellipse: s-maj=3.4km s-min=2.6km az=178.0*
*ISK **06** 17:57:07.2, 39°.01N×27°.09E, h9km, MD2.5*

ISC 06 17:57:07.8±0.9, 39°.01N±0°.03×27°.07E±0°.02, h12km±6km, n27, σ0°61/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	0.14	297	*e*PG	Pg	17 57 11.1	-0.2
DKL				*e*SG	Sg	17 57 13.8	+0.1
DKL	**Dikili**	0.14	297	*e*Pg	Pg	17 57 11.1	-0.2
DKL				*e*Sg	Sg	17 57 13.8	+0.1
CAND	**Candarli**	0.21	256	*e*PG	Pg	17 57 12.3	-0.2
CAND				*e*SG	Sg	17 57 16.1	+0.5
AKHS	**Akhisar**	0.59	102	*i* P	Pg	17 57 19.2	-0.3
AKHS				*i* S	Sg	17 57 27.0	-0.3
AKHS				*i* S	Sb	17 57 29.6	+1.0
AKHS	**Akhisar**	0.59	102	P	Pg	17 57 19.2	-0.3
AKHS				S	Sg	17 57 27.0	-0.3
STEP	**BALIKESIR_Sava**	0.63	53	*i* P	Pg	17 57 19.9	-0.2
STEP				*i* S	Sb	17 57 30.9	+1.4
STEP	**BALIKESIR_Sava**	0.63	53	P	Pg	17 57 19.9	-0.2
STEP				S	Sb	17 57 30.9	+1.4
URLA	**Izmir**	0.74	210	*i* P	Pg	17 57 21.8	-0.4
URLA				*i* S	Sn	17 57 34.8	-0.6
URLA	**Izmir**	0.74	210	P	Pg	17 57 21.8	-0.4
URLA				S	Sn	17 57 34.8	-0.6
BAYC	**CANAKKALE_Bayr**	0.84	331	*i* P	Pb	17 57 24.4	0.0
BAYC				*i* S	Sg	17 57 33.5	-1.6
BAYC	**CANAKKALE_Bayr**	0.84	331	P	Pb	17 57 24.4	0.0
BAYC				S	Sg	17 57 33.5	-1.6
BALY	**Balya**	0.85	30	*i* P	Pb	17 57 24.4	-0.2
BALY				*i* S	Sn	17 57 38.6	+0.6
BALY	**Balya**	0.85	30	P	Pb	17 57 24.4	-0.2
BALY				S	Sn	17 57 38.7	+0.6
BALB	**Balikesir**	0.89	45	*e*PG	Pg	17 57 24.5	-0.6
BALB				*e*SG	Sb	17 57 37.1	0.0
BALB	**Balikesir**	0.89	45	*e*Pg	Pg	17 57 24.5	-0.6
BALB				*e*Sg	Sb	17 57 37.1	0.0
SIGR	**SIGRI**	0.97	283	*e*PG	Pb	17 57 26.5	0.0
SIGR				*e*SG	Sb	17 57 40.1	+0.9
SIGR	**SIGRI**	0.97	283	*e*Pg	Pb	17 57 26.5	0.0
SIGR				*e*Sg	Sb	17 57 40.1	+0.9
BOZC	**Bozcaada**	1.15	317	*e*PN	Pg	17 57 29.6	-0.3
BOZC	**Bozcaada**	1.15	317	*e*Pn	Pg	17 57 29.6	-0.3
AYDB	**Zeytinkoy-Aydi**	1.24	148	*e*PN	Pn	17 57 31.1	0.0
AYDB	**Zeytinkoy-Aydi**	1.24	148	*e*Pn	Pn	17 57 31.1	0.0
GELI	**Tayfur-Gelibol**	1.47	342	*e*PN	Pn	17 57 34.5	+0.4
GELI	**Tayfur-Gelibol**	1.47	342	*e*Pn	Pn	17 57 34.5	+0.4
KCTX	**Karacabey (Bur**	1.60	38	*e*PN	Pn	17 57 36.0	0.0
KCTX	**Karacabey (Bur**	1.60	38	*e*Pn	Pn	17 57 36.0	0.0
MRMT	**Marmara Adasi**	1.65	14	*e*PN	Pn	17 57 36.9	+0.3
MRMT	**Marmara Adasi**	1.65	14	*e*Pn	Pn	17 57 36.9	+0.3

MAN 06 18:17:53, 13°.78N×120°.95E, h1km, mb3.5, ML2.2, MS1.6, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	0.27	179⇓	*e*P	Pg	18 17 58.5	+0.2
PGP				*i* S	Sb	18 18 04.6	-1.3
TGY	**Tagaytay City**	0.32	358⇓	*i*P	Pb	18 18 02.5	+0.8
TGY				*i* S	Sb	18 18 09.3	+1.9
LUBP	**Lubang**	0.68	267	*e*P	Pg	18 18 06.5	+0.4
LUBP				*e*S	Sg	18 18 16.1	+1.2
BOAC	**Boac**	0.93	110	*e*P	Pb	18 18 12.2	+0.3
BOAC				*e*S	Sn	18 18 26.9	-0.2
SJMP	**San Jose**	1.32	173	*e*P	Pb	18 18 18.9	+0.4
SJMP				*e*S	Sn	18 18 37.6	+0.8

*ROM **06** 18:19:12.9±1.1, 45°.69N×14°.36E, h10km, Md2.2/4, Ml1.9/4, Error ellipse: s-maj=12.3km s-min=9.8km az=52.0*
*VIE **06** 18:19:15.7±0.2, 45°.82N×14°.16E, h5km±5km, mb1.9/4, ML2.1/6, Error ellipse: s-maj=2.4km s-min=1.4km az=170.0*
*LJU **06** 18:19:15.0, 45°.78N×14°.16E, h17km, ML1.8*
*CSEM **06** 18:19:15.3±0.1, 45°.77N×14°.14E, h10km, ML2.5/13, Error ellipse: s-maj=2.4km s-min=1.7km az=26.0*

ISC 06 18:19:15.6±0.8, 45°.79N±0°.02×14°.17E±0°.02, h13km±5km, n61, σ0°51/97, 10C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	0.13	325⇓	*i*Pg	Pg	18 19 19.0	-0.1
JAVS				*i* Sg	Sg	18 19 21.6	+0.1
	comp=Z,57nm,0.1s						
JAVS	**Javornik**	0.13	325	Pg	Pg	18 19 19.0	-0.1
JAVS				*i* Sg	Sg	18 19 21.6	+0.1
	comp=Z,57nm,0.1s						
CEY	**Cerknica**	0.19	105⇑	*i*Pg	Pg	18 19 19.8	-0.1
	comp=Z,20nm,0.0s						
CEY	**Cerknica**	0.19	105⇑	*i*Pg	Pg	18 19 19.8	-0.1
	comp=Z,20nm,0.0s						
GBAS	**Gorenja Brezov**	0.24	53⇓	*i*Pg	Pg	18 19 20.8	0.0
GBAS				*i* Sg	Sg	18 19 24.7	+0.4
	comp=Z,57nm,0.1s						
GBAS	**Gorenja Brezov**	0.24	53⇓	*i*Pg	Pg	18 19 20.8	0.0
GBAS				*i* Sg	Sg	18 19 24.7	+0.4
SKDS	**Skadanscina**	0.27	204⇓	*i*Pg	Pg	18 19 20.6	-0.6
SKDS				*i* Sg	Sg	18 19 24.9	0.0
	comp=Z,52nm,0.1s						
SKDS	**Skadanscina**	0.27	204⇓	*i*Pg	Pg	18 19 20.6	-0.6
SKDS				*i* Sg	Sg	18 19 25.0	0.0
	comp=Z,52nm,0.1s						
TRI	**Trieste**	0.29	254⇑	*e*Pg	Pg	18 19 21.1	-0.6
TRI				*e*Sg	Sg	18 19 25.9	+0.2
TRI	**Trieste**	0.29	254	*e*P	Pg	18 19 21.1	-0.6
CRNS	**Crni Vrh**	0.30	13⇑	*i*Pg	Pg	18 19 21.9	0.0
	comp=Z,17nm,0.1s						
CRNS	**Crni Vrh**	0.30	13⇑	*i*Pg	Pg	18 19 21.9	0.0
	comp=Z,17nm,0.1s						
KNDS	**Knezji Dol**	0.30	150⇑	*i*Pg	Pg	18 19 21.4	-0.5
KNDS				*i* Sg	Sg	18 19 26.4	+0.4
	comp=Z,80nm,0.1s						
KNDS	**Knezji Dol**	0.30	150⇑	*i*Pg	Pg	18 19 21.4	-0.5
KNDS				*i* Sg	Sg	18 19 26.5	+0.4
	comp=Z,80nm,0.1s						
VOJS	**Vojsko**	0.31	321⇓	*i*Pg	Pg	18 19 21.8	-0.3
VOJS				*i* Sg	Sg	18 19 26.8	+0.3
	comp=Z,70nm,0.2s						
VOJS	**Vojsko**	0.31	321⇓	*i*Pg	Pg	18 19 21.8	-0.3
VOJS				*i* Sg	Sg	18 19 26.8	+0.3
	comp=Z,70nm,0.2s						
LJU	**Ljubljana**	0.36	44	*i* Pg	Pb	18 19 23.4	-0.5
LJU				*i* Sg	Sb	18 19 28.7	-0.7
	comp=Z,25nm,0.1s						
LJU	**Ljubljana**	0.36	44	*i* Pg	Pb	18 19 23.4	-0.5
LJU				*i* Sg	Sb	18 19 28.7	-0.7
	comp=Z,25nm,0.1s						
SABO	**M.te Sabotino**	0.44	296	Pg	Pg	18 19 23.7	-0.6
	comp=Z,41nm,0.5s						
SABO	**M.te Sabotino**	0.44	296⇑	*e*Pg	Pg	18 19 23.8	-0.6
SABO				*e*Sg	Sg	18 19 30.2	-0.1
SABO	**M.te Sabotino**	0.44	296	*e*P	Pg	18 19 23.8	-0.6
VISS	**Visnje**	0.47	88⇓	*i*Pg	Pg	18 19 25.0	+0.1
VISS				*i* Sg	Sg	18 19 31.6	+0.4
	comp=Z,10.0nm,0.1s						
VISS	**Visnje**	0.47	88⇓	*i*Pg	Pg	18 19 25.0	+0.1
VISS				*i* Sg	Sg	18 19 31.6	+0.4
	comp=Z,10.0nm,0.1s						
VNDS	**Vrh nad Dolski**	0.49	50⇓	*i*Pg	Pb	18 19 25.5	-0.6
VNDS				*i* Sg	Sg	18 19 32.1	+0.3
	comp=Z,14nm,0.1s						
VNDS	**Vrh nad Dolski**	0.49	50⇓	*i*Pg	Pb	18 19 25.5	-0.6
VNDS				*i* Sg	Sg	18 19 32.1	+0.3
	comp=Z,14nm,0.1s						
DRE	**Drenchia**	0.53	317⇓	*e*Pg	Pg	18 19 25.5	-0.6
DRE				*e*Sg	Sg	18 19 33.4	+0.3
DRE	**Drenchia**	0.53	317	*e*P	Pg	18 19 25.5	-0.6
CADS	**Cadrg**	0.53	326	*i* Pg	Pg	18 19 25.4	-0.6
CADS				*i* Sg	Sb	18 19 34.2	-0.3
	comp=Z,20nm,0.1s						
CADS	**Cadrg**	0.53	326	*i* Pg	Pg	18 19 25.5	-0.6
CADS				*i* Sg	Sb	18 19 34.2	-0.3
	comp=Z,20nm,0.1s						
MOZS	**Mozjanca**	0.54	21⇓	*i*Pg	Pb	18 19 26.5	-0.5
	comp=Z,14nm,0.1s						
MOZS	**Mozjanca**	0.54	21⇓	*i*Pg	Pb	18 19 26.5	-0.5
	comp=Z,14nm,0.1s						
PDKS	**Podkum**	0.64	65⇑	*i*Pg	Pb	18 19 28.3	-0.4
	comp=Z,12nm,0.1s						
PDKS	**Podkum**	0.64	65⇑	*i*Pg	Pb	18 19 28.3	-0.4
	comp=Z,12nm,0.1s						
ROBS	**Robic**	0.65	315	*i* Pg	Pg	18 19 27.7	-0.6
	comp=Z,11nm,0.1s						
ROBS	**Robic**	0.65	315	*i* Pg	Pg	18 19 27.7	-0.6
	comp=Z,11nm,0.1s						
COLI	**Coloredo**	0.65	302	*e*Pg	Pg	18 19 28.2	-0.1
COLI				*e*Sg	Sb	18 19 37.5	-0.3
COLI	**Coloredo**	0.65	302	*e*P	Pg	18 19 28.2	-0.1
OBKA	**Obir**	0.77	20	Pg	Pg	18 19 30.5	0.0
	SNR=12						
VINO	**Villanova**	0.77	307	*e*Pg	Pg	18 19 29.7	-0.9
VINO				*e*Sg	Sg	18 19 40.9	+0.1
VINO	**Villanova**	0.77	307	*e*P	Pg	18 19 29.7	-0.9
PTCC	**Patocco-Chiusa**	0.84	318	Pg	Pg	18 19 31.6	-0.3
PTCC				Sg	Sb	18 19 44.3	+1.0
	comp=Z,174nm,3.2s						
PTCC	**Patocco-Chiusa**	0.84	318	Pg	Pg	18 19 31.6	-0.3
PTCC				Sg	Sb	18 19 44.3	+1.0
	comp=Z,174nm,3.2s						
ACOM	**Acomizza, Ital**	0.89	329	Pg	Pg	18 19 32.1	-0.7
ACOM				Sg	Sn	18 19 46.9	+0.1
	comp=Z,33nm,0.4s						
ACOM	**Acomizza, Ital**	0.89	329	*e*Pg	Pg	18 19 32.1	-0.7
ACOM	**Acomizza, Ital**	0.89	329	Pg	Pg	18 19 32.1	-0.7
ACOM				Sg	Sn	18 19 46.9	+0.1
	comp=Z,33nm,0.4s						
MYKA	**Terra Mystica**	0.92	337	Pg	Pg	18 19 33.1	-0.3
	comp=Z,1.2nm,0.2s						
MYKA				Sg	Sb	18 19 46.6	+1.0
	comp=Z,5.2nm,0.2s,SNR=5.4						
OZLJ	**Ozalj**	0.93	100	*e*Pg	Pn	18 19 34.0	-0.3
OZLJ				Sg	Sg	18 19 45.3	-0.3
OZLJ	**Ozalj**	0.93	100	*e*Pg	Pn	18 19 34.0	-0.3
OZLJ				Sg	Sg	18 19 45.3	-0.3
FUSE	**Fusea**	1.02	308	*e*Pg	Pg	18 19 35.0	-0.4
FUSE	**Fusea**	1.02	308	*e*Pg	Pg	18 19 35.0	-0.4
SOKA	**Soboth**	1.07	34	Pg	Pg	18 19 35.9	-0.4
	comp=Z,0.1nm,0.0s						
SOKA				Sg	Sg	18 19 50.1	-0.2
	comp=Z,3.5nm,0.3s,SNR=9.2						
STAL	**STALIGIAL**	1.12	295	Pg	Pn	18 19 37.2	+0.1
STAL				Sg	Sn	18 19 53.7	+1.4
	comp=Z,47nm,0.2s						
STAL	**STALIGIAL**	1.12	295	Pg	Pn	18 19 37.2	+0.1
STAL				Sg	Sn	18 19 53.7	+1.4
	comp=Z,47nm,0.2s						
ZOU	**Zoufplan**	1.13	313	*e*Pg	Pg	18 19 36.8	-0.6
CIMO	**Cimolais**	1.31	294	*e*Pg	Pn	18 19 39.5	-0.2
CIMO	**Cimolais**	1.31	294	*e*Pg	Pn	18 19 39.5	-0.2
NVLJ	**Novalja**	1.32	158	*e*Pg	Pb	18 19 40.4	0.0
NVLJ				Sg	Sg	18 19 59.0	+0.7
NVLJ	**Novalja**	1.32	158	*e*Pg	Pb	18 19 40.3	0.0
NVLJ				Sg	Sg	18 19 58.9	+0.7
VARN	**Col Varnada, M**	1.46	279	*e*Pg	Pn	18 19 41.7	0.0
VARN	**Col Varnada, M**	1.46	279	*e*Pg	Pn	18 19 41.7	0.0
ABTA	**Abfaltersbach**	1.50	310	Pg	Pg	18 19 44.0	-0.4
	SNR=11						
ABTA				Sg	Sg	18 20 05.0	+1.2
	comp=Z,2.3nm,0.2s,SNR=4.5						

IDC 06 18:19:27.4±3.7, 0°.06N×96°.27E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/41, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=134.6km s-min=26.9km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	18.47	8	P	Pn	18 23 45.5	+0.4
	0.0nm,0.3s,baz=204,slow=9.8,SNR=4.2						
H08S2	**Diego Garcia H**	24.91	252	T	T	18 52 10.6	
	baz=72,slow=75,SNR=89						
H08S3	**Diego Garcia H**	24.91	252	T	T	18 52 08.4	
	baz=72,slow=75,SNR=99						
H08S1	**Diego Garcia H**	24.93	252	T	T	18 52 05.9	
	baz=72,slow=75,SNR=113						
H01W3	**Cape Leeuwin H**	38.57	156	T	T	19 08 06.4	
	baz=333,slow=76,SNR=6.4						
H01W2	**Cape Leeuwin H**	38.58	156	T	T	19 08 18.7	
	baz=333,slow=76,SNR=2.9						
H01W1	**Cape Leeuwin H**	38.58	156	T	T	19 08 20.7	
	baz=333,slow=76,SNR=3.1						
WRA	**Warramunga Arr**	42.25	120	P	P	18 27 22.4	-0.5
	0.2nm,0.6s,baz=304,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	43.48	126	P	P	18 27 33.1	+0.3
	0.1nm,0.6s,baz=296,slow=7.8,SNR=1.7						
MKAR	**Makanchi Array**	48.13	347	P	P	18 28 08.9	-0.3
	0.3nm,0.5s,baz=154,slow=9.0,SNR=5.9						

*SKHL **06** 18:27:08.9±1.1, 46°.85N×152°.97E, h89km±8km, mb4.7/7, msh5.4/6*
*MOS **06** 18:27:09.8±1.1, 46°.95N×152°.70E, h92km, mb4.0/5, Error ellipse: s-maj=15.3km s-min=9.6km az=62.4*
*IDC **06** 18:27:14.8±2.3, 47°.24N×152°.29E, h121km±21km, mb3.4/13, mb1 3.5/19, mb1mx3.4/43, mbtmp3.8/19, Error ellipse: s-maj=19.6km s-min=12.5km az=136.0*

ISC 06 18:27:09.5±0.8, 46°.94N±0°.08×152°.83E±0°.09, h100km, n45, σ1°90/42, mb3.6/12, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	3.85	245	*d*PN	Pn	18 28 07.9	+1.3
KUR				*i* S	Sn	18 28 52.0	+1.1
KUR				pmax	pmax		
	comp=N,31nm,0.4s						
KUR				pmax	pmax		
	comp=Z,75nm,0.4s						
KUR				pmax	pmax		
	comp=E,11nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,1.9s						
KUR				smax	smax		
	comp=E,974nm,2.1s						
KUR				smax	smax		
	comp=E,119nm,0.6s						
KUR				smax	smax		
	comp=N,90nm,0.3s						
KUR	**Kuril'sk**	3.85	245	*e*P	Pn	18 28 07.7	+1.1
KUR				AMB	AMB	18 28 08.9	
	comp=N,75nm,0.4s						
KUR				*i* S	Sn	18 28 52.0	+1.1
KUR				A	A	18 28 55.8	
	comp=N,1μm,2.0s						
KUR				A	A	18 28 55.8	
	comp=N,970nm,2.0s						
KUR				A	A	18 29 03.9	
	comp=N,120nm,0.6s						
KUR				A	A	18 29 03.9	
	comp=N,90nm,0.6s						
SKR	**Severo-Kuril's**	4.33	29	*e*PN	Pn	18 28 14.1	+1.1
SKR				*e*S	Sn	18 29 03.2	+0.9
SKR				pmax	pmax		
	comp=Z,69nm,1.2s						
SKR				smax	smax		
	comp=E,188nm,0.6s						
SKR				smax	smax		
	comp=N,158nm,0.6s						
SKR	**Severo-Kuril's**	4.33	29	*e*P	Pn	18 28 14.1	+1.1
SKR				AMB	AMB	18 28 16.9	
	comp=N,69nm,1.0s						
SKR				*e*S	Sn	18 29 01.9	-0.4
SKR				A	A	18 29 26.0	
	comp=N,190nm,0.6s						
SKR				A	A	18 29 26.0	
	comp=N,160nm,0.6s						
SHO	**Shikotan**	5.22	236	*e*PN	Pn	18 28 23.5	-1.7
SHO				*e*S	Sn	18 29 20.3	-3.8
SHO				pmax	pmax		
	comp=Z,27nm,0.3s						
SHO				pmax	pmax		
	comp=N,26nm,0.4s						
SHO				pmax	pmax		
	comp=E,12nm,0.4s						
SHO				smax	smax		
	comp=N,63nm,0.7s						
SHO				smax	smax		
	comp=E,72nm,0.7s						
SHO	**Shikotan**	5.22	236	*e*P	Pn	18 28 23.9	-1.3
SHO				AMB	AMB	18 28 33.9	
	comp=E,27nm,0.3s						
SHO				*e*S	Sn	18 29 20.3	-3.8
SHO				A	A	18 29 31.2	
	comp=E,63nm,0.7s						
SHO				A	A	18 29 31.2	
	comp=E,72nm,0.7s						
PAU	**Pauzhetka**	5.23	28	*e*P	Pn	18 28 24.9	-0.3
PAU				*e*S	Sn	18 29 22.8	-1.3
PAU				A	A	18 29 26.3	
	comp=E,300nm,0.5s						
YUK	**Yuzh-Kuril'sk**	5.70	242	*e*PN	Pn	18 28 32.4	+0.8
YUK				*e*S	Sn	18 29 39.3	+3.7
YUK				pmax	pmax		
	comp=Z,68nm,0.5s						
YUK	**Yuzh-Kuril'sk**	5.70	242	*e*P	Pn	18 28 32.4	+0.8
YUK				AMB	AMB	18 28 35.6	
	comp=Z,68nm,0.5s						
YUK				*e*S	Sn	18 29 35.0	-0.6
YUK				A	A	18 29 46.7	
	comp=Z,170nm,0.6s						
YSS	**Yuzh-Sakhalins**	6.90	274	*e*PN	Pn	18 28 49.6	+1.7
YSS				*e*S	Sn	18 30 03.7	-1.1
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	6.90	274	*e*P	Pn	18 28 49.3	+1.4
YSS				AMB	AMB	18 28 51.4	

ZALV Zalesovo Beam 42.34 306 P **P 18 34 51.2 -2.0**
comp=Z,0.4nm,0.3s,baz=52,slow=5.7,SNR=2.5
ZALV PcP **PcP 18 36 46.8 +2.0**
comp=Z,0.3nm,0.3s,baz=129,slow=3.9,SNR=3.0
MKAR Makanchi Array 46.68 297 P **P 18 35 26.6 -1.3**
comp=Z,0.3nm,0.6s,baz=73,slow=8.9,SNR=4.6
MKAR PcP **PcP 18 37 01.2 +1.3**
comp=Z,0.3nm,0.6s,baz=72,slow=2.7,SNR=4.1
CMAR Chiang Mai Arr 52.23 256 P **P 18 36 11.0 +0.7**
comp=Z,0.5nm,0.7s,baz=42,slow=6.0,SNR=5.3
FINES FINESS Array B 63.78 335 P **P 18 37 30.5 +0.1**
comp=Z,2.4nm,0.9s,baz=12,slow=7.3,SNR=6.6
FINES FINESS Array B 63.78 335 *e*P **P 18 37 31.9 +1.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 68.63 199 P **P 18 38 04.4 +2.6**
comp=Z,0.2nm,0.6s,baz=17,slow=7.0,SNR=3.2
AKASG Malin Array Be 71.28 326 P **P 18 38 18.4 +0.7**
comp=Z,0.3nm,0.4s,baz=31,slow=5.7,SNR=3.3
ASAR Alice Springs 72.33 198 P P 18 38 28.7 +4.5
comp=Z,0.8nm,0.7s,baz=14,slow=6.0,SNR=24
ASAR Alice Springs 72.33 198 *e*P P 18 38 28.6 +4.4
TXAR Lajitas Array 77.57 60 P P 18 38 58.6 +4.0
comp=Z,1.3nm,0.7s,baz=306,slow=4.1,SNR=15
ESDC Sonseca Array 91.31 342 P **P 18 40 03.9 +0.1**
comp=Z,0.3nm,0.4s,baz=343,slow=3.2,SNR=3.5

IDC 06 18:27:30.9±1.1, 57°.98N×32°.09W, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/38, mbtmp3.6/8, MS3.4/4, Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=32.6km s-min=21.9km az=25.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**21.88**	**64**	LR	LR	18 39 28.5	
	comp=Z,71nm,19.5s,baz=255,slow=33						
ESDC	**Sonseca Array**	**25.75**	**123**	P	P	18 33 04.2	+1.2
	0.2nm,0.3s,baz=330,slow=12,SNR=5.2						
GERES	**GERESS Array B**	**28.27**	**89**	LR	LR	18 43 19.6	
	comp=Z,122nm,18.7s,baz=318,slow=34						
AKASG	**Malin Array Be**	**35.34**	**75**	P	P	18 34 27.4	-0.2
	0.5nm,0.6s,baz=306,slow=8.4,SNR=5.1						
BRTR	**Keskin Array B**	**44.96**	**84**	P	P	18 35 48.3	+0.7
	0.5nm,0.7s,baz=330,slow=5.0,SNR=4.9						
KBZ	**Khabaz**	**46.92**	**73**	LR	LR	18 54 46.5	
	comp=Z,32nm,20.5s,baz=35,slow=35						
ILAR	**Eielson Array**	**48.02**	**328**	P	P	18 36 10.5	-0.6
	1.1nm,0.9s,baz=29,slow=7.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**51.50**	**136**	P	P	18 36 36.5	-1.6
	1.8nm,0.9s,baz=349,slow=7.0,SNR=6.8						
TXAR	**Lajitas Array**	**55.98**	**272**	P	P	18 37 11.6	+0.6
	0.3nm,0.6s,baz=12,slow=4.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**57.31**	**39**	P	P	18 37 20.0	+0.1
	0.6nm,0.5s,baz=352,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**62.37**	**45**	P	P	18 37 54.6	-0.3
	0.4nm,0.7s,baz=328,slow=6.4,SNR=5.0						
NNA	**Nana**	**78.72**	**225**	LR	LR	19 14 40.1	
	comp=Z,29nm,19.1s,baz=336,slow=36						

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*ISCJB **06** 18:34:29.2±1.1, 36°.22N±0°.06×28°.28E±0°.04, h0km, Error ellipse: s-maj=8.9km s-min=4.9km az=173.5*
*CSEM **06** 18:34:29.6±0.8, 36°.23N×28°.30E, h1km, MD2.6, Error ellipse: s-maj=15.5km s-min=9.0km az=171.0, Suspected Mining explosion.*
*ISK **06** 18:34:31.0, 36°.33N×28°.29E, h26km, MD2.4*
*DDA **06** 18:34:34.1, 37°.16N×28°.12E, h7km, Md2.6, Suspected Mining explosion.*

ISC 06 18:34:29.1±1.2, 36°.36N±0°.05×28°.19E±0°.04, h0km, n24, σ0°46/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.58**	**313**	*e*PG	**Pn**	**18 34 44.8**	**+0.1**
DATC				*e*SG	**Sn**	**18 34 55.0**	**+0.1**
DATC	**Datca-Mugla**	**0.58**	**313**	*e*Pg	**Pn**	**18 34 44.8**	**+0.1**
DATC				*e*Sg	**Sn**	**18 34 55.0**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.59**	**39**	*e*PG	**Pb**	**18 34 43.1**	**+0.8**
DALY				*e*SG	**Sb**	**18 34 51.8**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.59**	**39**	*e*Pg	**Pb**	**18 34 43.1**	**+0.8**
DALY				*e*Sg	**Sb**	**18 34 51.8**	**+0.6**
TURN	**Turunc**	**0.61**	**33**	*i* P	**Pb**	**18 34 42.2**	**-0.5**
TURN				*i* S	**Sg**	**18 34 48.5**	**-0.3**
TURN	**Turunc**	**0.61**	**33**	P	**Pb**	**18 34 42.2**	**-0.5**
DAT	**Datca**	**0.61**	**307**	*e*PG	**Pn**	**18 34 45.5**	**+0.3**
DAT				*e*SG	**Sn**	**18 34 55.9**	**0.0**
DAT	**Datca**	**0.61**	**307**	*i* P	**Pn**	**18 34 46.0**	**+0.8**
DAT				*i* S	**Sn**	**18 34 55.4**	**-0.4**
DAT	**Datca**	**0.61**	**307**	*e*Pg	**Pn**	**18 34 45.5**	**+0.3**
DAT	**Datca**	**0.61**	**307**	P	**Pn**	**18 34 46.0**	**+0.8**
DAT				S	**Sn**	**18 34 55.4**	**-0.4**
FETY	**Fethiye**	**0.77**	**69**	*e*PG	**Pb**	**18 34 45.5**	**+0.1**
FETY				*e*SG	**Sb**	**18 34 56.1**	**-0.4**
FETY	**Fethiye**	**0.77**	**69**	*e*Pg	**Pb**	**18 34 45.5**	**+0.1**
FETY				*e*Sg	**Sb**	**18 34 56.1**	**-0.4**
MLSB	**Milas**	**0.99**	**341**	*e*PG	**Pn**	**18 34 50.5**	**+0.2**
MLSB	**Milas**	**0.99**	**341**	*e*Pg	**Pn**	**18 34 50.5**	**+0.2**
BODT	**Bodrum**	**0.99**	**315**	*e*PG	**Pn**	**18 34 50.7**	**+0.4**
BODT	**Bodrum**	**0.99**	**315**	*e*Pg	**Pn**	**18 34 50.7**	**+0.4**
KARP	**Karpathos**	**1.16**	**226**	*e*PN	**Pn**	**18 34 52.8**	**+0.1**
KARP	**Karpathos**	**1.16**	**226**	*e*Pn	**Pn**	**18 34 52.8**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.25**	**28**	*i* P	**Pn**	**18 34 54.5**	**+0.6**
TAVA				*i* S	**Sg**	**18 35 08.4**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.25**	**28**	P	**Pn**	**18 34 54.5**	**+0.6**
TAVA				S	**Sg**	**18 35 08.4**	**-0.8**
AYDN	**Tasoluk**	**1.32**	**349**	*i* P	**Pb**	**18 34 54.9**	**+0.1**
AYDN	**Tasoluk**	**1.32**	**349**	P	**Pb**	**18 34 54.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**352**	*e*PN	**Pn**	**18 34 58.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**352**	*e*Pn	**Pn**	**18 34 58.8**	**0.0**

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*IDC **06** 18:44:14.9±1.1, 57°.91N×32°.37W, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/31, mbtmp3.7/9, MS3.4/8, Ms1 3.4/8, ms1mx3.1/37, Error ellipse: s-maj=32.6km s-min=22.2km az=27.0*
*ISCJB **06** 18:44:15.6±0.9, 57°.9N±0°.2×32°.4W±0°.2, h18km, mb3.8/9, MS3.4/8, Error ellipse: s-maj=25.8km s-min=16.9km az=23.8*

ISC 06 18:44:17.6±1.0, 57°.9N±0°.2×32°.4W±0°.2, h18km, n22, σ0°83/10, mb3.9/9, MS3.4/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.82**	**123**	P	**P**	**18 49 48.7**	**+1.1**
	0.3nm,0.4s,baz=321,slow=9.0,SNR=5.5						
GERES	**GERESS Array B**	**28.42**	**88**	LR	LR	19 00 49.2	
	comp=Z,102nm,19.1s,baz=310,slow=35						
KEST	**Kesra**	**35.33**	**111**	LR	LR	19 02 51.0	
	comp=Z,69nm,19.0s,baz=245,slow=32						
AKASG	**Malin Array Be**	**35.51**	**74**	P	**P**	**18 51 11.8**	**-1.1**
	2.0nm,0.8s,baz=306,slow=8.3,SNR=5.4						
YKA	**Yellowknife Ar**	**38.53**	**312**	LR	LR	19 06 42.6	
	comp=Z,22nm,20.0s,baz=0.0,slow=35						
BRTR	**Keskin Array B**	**45.12**	**84**	P	**P**	**18 52 33.6**	**+0.9**
	0.7nm,0.7s,baz=310,slow=5.4,SNR=3.8						
BRTR				LR	LR	19 11 49.7	
	comp=Z,26nm,19.2s,baz=291,slow=37						
SJG	**San Juan**	**46.89**	**226**	LR	LR	19 12 20.5	
	comp=Z,25nm,18.2s,baz=98,slow=36						
KBZ	**Khabaz**	**47.09**	**73**	P	**P**	**18 52 48.0**	**+0.1**
	1.0nm,0.8s,baz=336,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**48.02**	**328**	P	**P**	**18 52 56.0**	**+1.0**
	0.7nm,0.9s,baz=44,slow=5.6,SNR=5.3						
ILAR				LR	LR	19 13 08.0	
	comp=Z,36nm,18.4s,baz=300,slow=36						
PDAR	**Pinedale Array**	**48.76**	**287**	LR	LR	19 11 14.4	
	comp=Z,95nm,18.7s,baz=62,slow=33						
TORD	**Torodi Ar. Bea**	**51.53**	**136**	P	**P**	**18 53 21.9**	**-0.2**
	1.5nm,0.9s,baz=338,slow=7.8,SNR=5.6						
DBIC	**Dimbokro**	**55.39**	**146**	LR	LR	19 13 44.3	
	comp=Z,57nm,20.6s,baz=346,slow=32						
TXAR	**Lajitas Array**	**55.83**	**272**	P	**P**	**18 53 53.1**	**-0.6**
	0.6nm,1.0s,baz=72,slow=5.8,SNR=2.5						
MKAR	**Makanchi Array**	**62.54**	**45**	P	**P**	**18 54 39.7**	**-0.1**
	1.8nm,1.1s,baz=320,slow=5.4,SNR=7.3						
H10N2	**ASCENSION HYDR**	**67.09**	**161**	T	T	20 07 41.6	
	baz=348						
H10N3	**ASCENSION HYDR**	**67.11**	**161**	T	T	20 07 41.6	
	baz=348						
H10N1	**ASCENSION HYDR**	**67.11**	**161**	T	T	20 07 41.6	
	baz=348						
H10S1	**ASCENSION HYDR**	**68.16**	**161**	T	T	20 08 59.3	
	baz=351,slow=75,SNR=16						
H10S3	**ASCENSION HYDR**	**68.16**	**161**	T	T	20 09 00.3	
	baz=351,slow=75,SNR=20						
H10S2	**ASCENSION HYDR**	**68.17**	**161**	T	T	20 08 59.6	
	baz=351,slow=75,SNR=17						
SONM	**Songino Array**	**69.26**	**28**	P	**P**	**18 55 23.1**	**-0.1**
	1.2nm,1.0s,baz=316,slow=4.0,SNR=6.1						
ASAR	**Alice Springs**	**144.41**	**22**	PKP	**PKPdf**	**19 03 52.0**	**-0.3**
	0.4nm,0.7s,baz=3.8,slow=2.8,SNR=3.1						

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*ISCJB **06** 18:46:51.6±0.6, 21°.3S±0°.1×178°.6W±0°.1, h579km, mb3.8/12, Error ellipse: s-maj=17.2km s-min=9.1km az=43.2*
*IDC **06** 18:46:52.1±1.8, 21°.20S×178°.69W, h561km±20km, mb3.3/12, mb1 3.5/13, mb1mx3.3/24, mbtmp4.2/13, Error ellipse: s-maj=17.1km s-min=13.9km az=126.0*

ISC 06 18:46:53.0±0.6, 21°.2S±0°.1×178°.5W±0°.1, h579km, n31, σ1°27/33, mb3.9/12, 7C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.71**	**43**	P	**P**	**18 49 07.3**	**-1.4**
	1.9nm,0.3s,baz=85,slow=21,SNR=4.0						
AFI				S	**S**	**18 50 56.9**	**-3.0**
	3.9nm,0.3s,baz=180,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**13.99**	**264**	P	P	18 49 42.5	-10
	0.2nm,0.3s,baz=128,slow=13,SNR=3.5						
URZ	**Urewera**	**17.40**	**192**	P	**P**	**18 50 21.0**	**-2.9**
	1.9nm,0.3s,baz=266,slow=3.2,SNR=6.3						
RPZ	**Rata Peaks**	**24.06**	**199**	P	**P**	**18 51 23.0**	**-0.7**
	4.8nm,0.4s,baz=162,slow=20,SNR=3.3						
CTA	**Charters Tower**	**32.92**	**266**	P	**P**	**18 52 40.0**	**-0.9**
	4.2nm,0.4s,baz=94,slow=9.6,SNR=9.2						
JAY	**Jayapura**	**43.80**	**290**	P	**P**	**18 54 08.6**	**-0.4**
	0.5nm,0.5s,baz=199,slow=24,SNR=11						
ASAR	**Alice Springs**	**43.87**	**258**	P	**P**	**18 54 08.2**	**-1.2**
	4.1nm,0.8s,baz=96,slow=7.8,SNR=70						
ASAR				PcP	**PcP**	**18 55 42.5**	**-0.2**
	0.7nm,0.6s,baz=103,slow=4.3,SNR=7.0						
ASAR				ScP	**ScP**	**18 58 40.1**	**+0.4**
	0.2nm,0.6s,baz=110,slow=4.2,SNR=5.7						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**18 54 08.8**	**-1.6**
	1.7nm,0.3s,baz=96,slow=7.5,SNR=58						
VNDA	**Vanda**	**57.16**	**185**	P	**P**	**18 55 45.8**	**+0.8**
	0.6nm,0.5s,baz=2.6,slow=6.5,SNR=12						
MJAR	**Matsushiro Arr**	**70.48**	**324**	P	**P**	**18 57 09.9**	**-0.2**
	1.8nm,0.7s,baz=168,slow=6.4,SNR=4.2						
PETK	**Petropavlovsk-**	**76.83**	**346**	P	**P**	**18 57 46.2**	**+0.5**
	3.4nm,0.7s,baz=140,slow=3.0,SNR=6.8						
TXAR	**Lajitas Array**	**87.86**	**58**	P	**P**	**18 58 44.0**	**+2.0**
	0.8nm,0.8s,baz=227,slow=5.0,SNR=6.2						
ILAR	**Eielson Array**	**89.11**	**13**	P	**P**	**18 58 46.9**	**0.0**
	0.8nm,0.4s,baz=216,slow=5.1,SNR=10						
PDAR	**Pinedale Array**	**89.82**	**43**	P	**P**	**18 58 52.4**	**+1.4**
	0.8nm,0.7s,baz=225,slow=3.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.88**	**290**	P	**P**	**18 58 53.2**	**+1.7**
	1.5nm,0.8s,baz=140,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP	**PKiKP**	**19 04 21.2**	**-0.6**
	0.1nm,0.3s,baz=100,slow=0.7,SNR=2.5						
ARCES	**ARCESS Array B**	**129.52**	**349**	PKP	**PKPdf**	**19 04 55.5**	**-0.5**
	2.3nm,0.7s,baz=89,slow=0.5,SNR=8.8						
AKASG	**Malin Array Be**	**143.38**	**330**	PKP	PKPab	19 05 19.9	-0.5
	4.4nm,0.5s,baz=42,slow=4.4,SNR=29						
SORM	**Soroca**	**145.54**	**328**	↑P	**PKPbc**	**19 05 27.4**	**+0.1**
BRTR	**Keskin Array B**	**146.93**	**311**	PKPbc	**PKPbc**	**19 05 31.4**	**-0.2**
	1.4nm,0.7s,baz=135,slow=4.6,SNR=11						
BURAR	**Bucovina Array**	**147.42**	**330**	↑*i*P	**PKPbc**	**19 05 34.3**	**+1.7**
VRI	**Vrincioaia**	**147.88**	**326**	↓*i*P	**PKPdf**	**19 05 31.6**	**+1.8**
MLR	**Muntele Rosu**	**148.53**	**326**	↑*i*P	**PKPbc**	**19 05 36.7**	**+1.2**
VOIR		**149.03**	**327**	↓*i*P	**PKPbc**	**19 05 36.4**	**-0.2**
DRGR		**149.19**	**331**	↑*i*P	**PKPbc**	**19 05 37.4**	**+0.5**
ARR	**Arges**	**149.29**	**327**	↑*i*P	**PKPbc**	**19 05 38.7**	**+1.5**
SIRR	**Siria**	**150.06**	**331**	↓*i*P	**PKPbc**	**19 05 39.4**	**+0.5**
GZR	**Gura Zlata**	**150.19**	**329**	↑*i*P	**PKPbc**	**19 05 39.4**	**+0.1**
KHC	**Kasperske Hory**	**150.51**	**344**	*e*P	**PKPbc**	**19 05 40.0**	**+0.1**
BZS	**Buzias**	**150.57**	**331**	↑*i*P	**PKPbc**	**19 05 40.5**	**+0.4**
GERES	**GERESS Array B**	**150.74**	**343**	PKPbc	**PKPbc**	**19 05 40.8**	**+0.3**
	1.0nm,0.5s,baz=13,slow=1.8,SNR=8.0						
GERES				PKPab	**PKPab**	**19 05 51.3**	**+1.1**
	0.6nm,0.7s,baz=0.0,slow=9.8,SNR=3.1						

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*ISCJB **06** 19:01:47.7±0.5, 48°.83N±0°.05×155°.14E±0°.07, h55km, mb3.9/15, MS3.2/2, Error ellipse: s-maj=9.4km s-min=2.9km az=44.0*
*KRSC **06** 19:01:47.6±2.7, 48°.84N×156°.47E, h6km±40km, ML4.7*
*MOS **06** 19:01:47.5±1.1, 48°.78N×155°.13E, h56km, mb4.2/11, Error ellipse: s-maj=11.6km s-min=4.4km az=70.5*
*SKHL **06** 19:01:48.6±0.9, 48°.80N×155°.17E, h55km±5km, mb4.8/5, msh4.8/3*
*IDC **06** 19:01:53.0±2.1, 48°.91N×154°.88E, h92km±19km, mb3.6/14, mb1 3.8/21, mb1mx3.7/38, mbtmp4.0/21, MS3.0/5, Ms1 3.0/5, ms1mx2.8/34, Error ellipse: s-maj=19.5km s-min=11.0km az=134.0*

ISC 06 19:01:48.5±0.6, 48°.78N±0°.06×155°.21E±0°.07, h55km, n91, σ1°79/111, mb3.8/15, 2C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.00**	**17**	*e*PN	**Pn**	**19 02 19.0**	**-0.8**
SKR				*e*S	**Sn**	**19 02 41.7**	**-1.9**
SKR				pmax	pmax		
	comp=Z,309nm,0.7s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR				smax	smax		
	comp=N,888nm,0.2s						
SKR	**Severo-Kuril's**	**2.00**	**17**	*e*P	**Pn**	**19 02 19.0**	**-0.8**
SKR				AMB	AMB	19 02 23.9	
	comp=N,220nm,0.3s						
SKR				*e*S	**Sn**	**19 02 41.7**	**-1.9**
SKR				A	A	19 02 45.0	
	comp=N,1μm,0.2s						
SKR				A	A	19 02 45.0	
	comp=N,2μm,0.2s						
SKR	**Severo-Kuril's**	**2.00**	**17**	*e*P	**Pn**	**19 02 19.0**	**-0.8**
SKR				*e*S	**Sn**	**19 02 42.4**	**-1.2**
PAU	**Pauzhetka**	**2.88**	**20**	PN	**Pn**	**19 02 29.9**	**-2.0**
PAU				S	**Sn**	**19 03 03.4**	**-1.9**
PAU	**Pauzhetka**	**2.88**	**20**	*e*P	**Pn**	**19 02 30.8**	**-1.1**
PAU				AMB	AMB	19 02 32.7	
	comp=N,100nm,0.3s						
PAU				*e*S	**Sn**	**19 03 03.2**	**-2.1**
PAU				A	A	19 03 07.5	
	comp=N,900nm,0.2s						
PAU	**Pauzhetka**	**2.88**	**20**	*e*P	**Pn**	**19 02 29.9**	**-2.0**
PAU				*e*S	**Sn**	**19 03 03.4**	**-1.9**
ASAK	**Asacha**	**4.00**	**24**	PN	**Pn**	**19 02 49.1**	**+1.9**
ASAK	**Asacha**	**4.00**	**24**	*e*P	**Pn**	**19 02 49.1**	**+1.9**
MTVR	**Mutnovka**	**4.17**	**26**	PN	**Pn**	**19 02 51.0**	**+1.4**
MTVR				S	**Sn**	**19 03 38.6**	**+1.6**
MTVR	**Mutnovka**	**4.17**	**26**	*e*P	**Pn**	**19 02 51.0**	**+1.4**
MTVR				*e*S	**Sn**	**19 03 38.6**	**+1.6**
RUS	**Russkaya**	**4.22**	**29**	PN	**Pn**	**19 02 50.2**	**0.0**
RUS				S	**Sn**	**19 03 37.4**	**-0.7**
RUS	**Russkaya**	**4.22**	**29**	*e*P	**Pn**	**19 02 50.2**	**0.0**
RUS				*e*S	**Sn**	**19 03 37.4**	**-0.7**
APC	**Apacha**	**4.33**	**16**	PN	**Pn**	**19 02 54.5**	**+2.8**
APC	**Apacha**	**4.33**	**16**	*e*P	**Pn**	**19 02 54.5**	**+2.8**
KRMR	**Karymshinskiy**	**4.46**	**23**	PN	**Pn**	**19 02 55.4**	**+1.9**
KRMR	**Karymshinskiy**	**4.46**	**23**	*e*P	**Pn**	**19 02 55.4**	**+1.9**
PETK	**Petropavlovsk-**	**4.61**	**19**	P	**Pn**	**19 02 57.8**	**+2.2**
	comp=N,5.1nm,0.3s,baz=171,slow=11,SNR=64						
PETK				S	**Sn**	**19 03 53.2**	**+5.4**
	baz=145,slow=18,SNR=2.8						
PETK				LR	LR	19 04 58.4	
	comp=N,121nm,21.5s,baz=190,slow=41						
PET	**Petropavlovsk**	**4.78**	**26**	*e*PN	**Pn**	**19 02 58.1**	**+0.3**
PET				*e*S	**Sn**	**19 03 52.4**	**+0.6**
PET				pmax	pmax		
	comp=Z,34nm,0.4s						
PET				smax	smax		
	comp=E,221nm,0.6s						
PET				smax	smax		
	comp=E,400nm,3.3s						
PET				smax	smax		
	comp=N,400nm,2.0s						
PET				smax	smax		
	comp=N,220nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**4.78**	**26**	*e*P	**Pn**	**19 02 58.8**	**+1.0**
PET				*e*S	**Sn**	**19 03 50.9**	**-0.9**
PET				A	A	19 03 55.5	
	comp=Z,330nm,3.0s						
PET				A	A	19 03 55.5	
	comp=Z,280nm,3.0s						
PET				A	A	19 04 10.2	
	comp=Z,180nm,0.4s						
PET	**Petropavlovsk**	**4.78**	**26**	*e*P	**Pn**	**19 02 58.8**	**+1.0**
PET				*e*S	**Sn**	**19 03 52.9**	**+1.1**
DALK	**Dalny**	**4.81**	**26**	PN	**Pn**	**19 02 59.1**	**+0.8**
DALK				S	**Sn**	**19 03 52.9**	**+0.2**
DALK	**Dalny**	**4.81**	**26**	*e*P	**Pn**	**19 02 59.1**	**+0.8**
DALK				*e*S	**Sn**	**19 03 52.9**	**+0.2**
UGLR	**Uglovaya**	**4.99**	**26**	PN	**Pn**	**19 03 02.8**	**+2.0**
UGLR	**Uglovaya**	**4.99**	**26**	*e*P	**Pn**	**19 03 02.8**	**+2.0**
KOK	**Koryaka**	**5.01**	**24**	PN	**Pn**	**19 03 04.1**	**+3.0**
KOK	**Koryaka**	**5.01**	**24**	*e*P	**Pn**	**19 03 04.1**	**+3.0**
AVH	**Avacha**	**5.01**	**25**	PN	**Pn**	**19 03 03.3**	**+2.1**
AVH	**Avacha**	**5.01**	**25**	*e*P	**Pn**	**19 03 03.3**	**+2.1**
KRER	**Koryakskii**	**5.05**	**25**	PN	**Pn**	**19 03 03.7**	**+1.9**
KRER				S	**Sn**	**19 04 01.5**	**+2.6**
KRER	**Koryakskii**	**5.05**	**25**	*e*P	**Pn**	**19 03 03.7**	**+1.9**
KRER				*e*S	**Sn**	**19 04 01.5**	**+2.6**
SDLR	**Sedlovina**	**5.07**	**26**	PN	**Pn**	**19 03 02.8**	**+0.9**
SDLR				S	**Sn**	**19 03 59.3**	**+0.2**
SDLR	**Sedlovina**	**5.07**	**26**	*e*P	**Pn**	**19 03 02.8**	**+0.9**
SDLR				*e*S	**Sn**	**19 03 59.3**	**+0.2**
KRX	**Arik**	**5.07**	**24**	PN	**Pn**	**19 03 04.3**	**+2.3**
KRX	**Arik**	**5.07**	**24**	*e*P	**Pn**	**19 03 04.3**	**+2.3**
GNL	**Ganaly**	**5.21**	**18**	PN	**Pn**	**19 03 06.4**	**+2.5**
GNL	**Ganaly**	**5.21**	**18**	*e*P	**Pn**	**19 03 06.4**	**+2.5**
SPN	**Mys Shipunski**	**5.29**	**33**	PN	**Pn**	**19 03 05.0**	**+0.2**
SPN	**Mys Shipunski**	**5.29**	**33**	*e*P	**Pn**	**19 03 05.0**	**+0.2**
SPN				*e*S	**Sn**	**19 04 03.5**	**-0.9**
KUR	**Kuril'sk**	**6.14**	**238**	*c i*PN	**Pn**	**19 03 18.2**	**+1.6**
KUR				*e*S	**Sn**	**19 04 28.7**	**+3.3**
KUR				pmax	pmax		
	comp=Z,49nm,0.7s						
KUR				pmax	pmax		
	comp=N,17nm,0.4s						
KUR				pmax	pmax		
	comp=E,16nm,0.5s						
KUR				smax	smax		
	comp=E,528nm,2.3s						
KUR				smax	smax		
	comp=N,323nm,1.8s						
KUR				smax	smax		
	comp=N,50nm,0.5s						
KUR				smax	smax		
	comp=E,26nm,0.5s						
KUR	**Kuril'sk**	**6.14**	**238**	*i* P	**Pn**	**19 03 18.2**	**+1.6**
KUR				AMB	AMB	19 03 19.7	
	comp=E,49nm,0.6s						
KUR				*e*S	**Sn**	**19 04 24.2**	**-1.2**
KUR				A	A	19 04 40.0	
	comp=E,530nm,2.3s						
KUR				A	A	19 04 40.0	
	comp=E,320nm,2.3s						
KUR				A	A	19 04 52.0	
	comp=E,500nm,0.5s						
KUR				A	A	19 04 52.0	
	comp=E,260nm,0.5s						
MKZ	**Mys Kozlova**	**7.06**	**33**	PN	**Pn**	**19 03 27.9**	**-1.2**
MKZ	**Mys Kozlova**	**7.06**	**33**	*e*P	**Pn**	**19 03 27.9**	**-1.2**
SHO	**Shikotan**	**7.59**	**233**	*e*PN	**Pn**	**19 03 34.5**	**-1.9**
SHO				pmax	pmax		
	comp=Z,29nm,0.6s						
SHO				pmax	pmax		
	comp=N,27nm,0.7s						
SHO				pmax	pmax		
	comp=E,18nm,0.4s						
SHO	**Shikotan**	**7.59**	**233**	*e*P	**Pn**	**19 03 35.0**	**-1.4**
SHO				AMB	AMB	19 03 43.9	
	comp=E,29nm,0.6s						
SHO				*e*S	**Sn**	**19 04 55.4**	**-5.6**
SHO				A	A	19 05 04.0	
	comp=E,290nm,3.5s						
SHO				A	A	19 05 04.0	
	comp=E,300nm,3.5s						
YUK	**Yuzh-Kuril'sk**	**8.01**	**237**	*e*PN	**Pn**	**19 03 41.9**	**-0.2**
YUK				pmax	pmax		
	comp=Z,124nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**8.01**	**237**	*e*P	**Pn**	**19 03 42.3**	**+0.2**
YUK				AMB	AMB	19 03 43.0	
	comp=Z,124nm,0.5s						
YUK				*e*S	**Sn**	**19 05 10.1**	**-1.1**
TYV	**Tymovskoe**	**8.38**	**289**	*e*P	**Pn**	**19 03 48.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**8.57**	**262**	↑*e*PN	**Pn**	**19 03 52.0**	**+2.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.57**	**262**	*e*P	**Pn**	**19 03 51.9**	**+2.2**
UGL	**Uglegorsk**	**8.66**	**277**	*e*PN	**Pn**	**19 03 50.9**	**-0.1**
ASAJ	**Asahikawa**	**9.87**	**247**	P	**Pn**	**19 04 10.3**	**+2.8**
	comp=Z,4

CMAR Chiang Mai Arr 54.22 257 P **P 19 11 09.3 +0.7**
comp=Z,2.7nm,0.7s,baz=34,slow=7.3,SNR=26
PDAR Pinedale Array 62.42 56 P **P 19 12 07.6 +1.8**
comp=Z,1.0nm,0.8s,baz=300,slow=3.3,SNR=5.3
FINES FINESS Array B 62.80 335 P **P 19 12 05.9 -1.8**
comp=Z,3.4nm,0.8s,baz=45,slow=8.4,SNR=6.4
FINES FINESS Array B 62.80 335 P **P 19 12 05.9 -1.8**
FINES pmax pmax
comp=Z,15nm,1.3s
NOA NORSAR Array B 66.75 342 P **P 19 12 32.7 -0.8**
comp=Z,0.7nm,0.6s,baz=28,slow=6.5,SNR=3.1
WRA Warramunga Arr 70.90 201 P **P 19 12 59.3 -0.3**
comp=Z,1.3nm,0.7s,baz=17,slow=6.3,SNR=7.5
WRA Warramunga Arr 70.90 201 *e*P **P 19 12 59.9 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 74.59 200 P **P 19 13 21.9 +0.4**
comp=Z,1.0nm,0.6s,baz=13,slow=5.6,SNR=30
ASAR Alice Springs 74.59 200 *e*P **P 19 13 22.4 +0.9**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 75.28 62 P **P 19 13 27.4 +1.7**
comp=Z,0.8nm,0.6s,baz=307,slow=4.9,SNR=8.7
BRTR Keskin Array B 77.86 318 P **P 19 13 39.1 -1.1**
comp=Z,0.7nm,1.0s,baz=10,slow=1.6,SNR=2.5

IDC 06 19:06:13.9±4.0, 23°.93S×66°.73W, h189km±41km, mb3.1/1, mb1 3.0/2, mb1mx2.8/25, mbtmp3.4/2, Error ellipse: s-maj=62.5km s-min=30.2km az=118.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.40**	**303**	P		Pn		19 06 56.8	+0.5
	686nm,0.3s,baz=109,slow=9.4,SNR=202								
LVC				S		Sn		19 07 29.4	+0.1
	743nm,0.3s,baz=288,slow=20,SNR=48								
LPAZ	**La Paz**	**7.71**	**350**	P		Pn		19 08 05.8	+1.7
	0.2nm,0.3s,baz=198,slow=6.4,SNR=2.6								
LPAZ				S		Sn		19 09 30.6	-0.8
	0.1nm,0.3s,baz=47,slow=19,SNR=1.6								
TORD	**Torodi Ar. Bea**	**76.31**	**69**	P		P		19 17 41.7	-0.6
	0.2nm,0.4s,baz=257,slow=6.7,SNR=4.2								
ASAR	**Alice Springs**	**128.62**	**204**	PKP		PKPdf		19 24 58.2	-0.9
	0.2nm,0.5s,baz=145,slow=2.0,SNR=4.9								
MKAR	**Makanchi Array**	**146.31**	**40**	PKPbc		PKPbc		19 25 32.3	+0.1
	0.5nm,0.5s,baz=312,slow=3.7,SNR=5.9								

*KRNET **06** 19:08:56.1±0.1, 38°.07N×71°.89E, mb3.3*
*NNC **06** 19:09:01.1±6.5, 38°.53N×71°.41E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=61.2km s-min=38.5km az=146.0*

ISC 06 19:08:57.5±3.3, 38°.2N±0°.2×71°.81E±0°.10, h10km, n10, σ1§33/19, 11C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.03**	**338**	⇑*e*P			**Pn**	**19 09 33.1**	**+1.2**
	baz=338								
BTK				⇑*i*S			**Sn**	**19 10 00.1**	**+2.7**
	baz=338								
ARSB	**Arslanbob**	**3.27**	**16**	⇑*e*P			**Pn**	**19 09 49.6**	**+0.6**
	baz=14								
ARSB				⇑*i*S			**Sn**	**19 10 28.9**	**+0.8**
	baz=14								
ARK	**Arkit**	**3.62**	**2**	⇓*e*P			**Pn**	**19 09 54.8**	**+1.0**
	baz=1.0								
ARK				⇓*e*S			**Sn**	**19 10 36.5**	**-0.1**
	baz=1.0								
ARLS	**Aral**	**4.16**	**27**	⇓*e*P			**Pn**	**19 10 01.8**	**+0.6**
	baz=26								
ARLS				⇓*e*S			**Sn**	**19 10 49.4**	**-0.5**
	baz=26								
AML	**Almayashu**	**4.21**	**19**	⇑*i*P			**Pn**	**19 10 02.3**	**+0.2**
	baz=18								
AML				⇑*i*S			**Sn**	**19 10 50.0**	**-1.5**
	baz=18								
MNAS	**Manas**	**4.34**	**7**	⇑*e*P			**Pn**	**19 10 04.3**	**+0.6**
	baz=6.0								
MNAS				⇑*e*S			**Sn**	**19 10 54.4**	**0.0**
	baz=6.0								
MNAS	**Manas**	**4.34**	**7**	⇓Pn			**Pn**	**19 10 04.3**	**+0.6**
	6.0nm,0.8s								
MNAS				⇑Sn			**Sn**	**19 10 54.5**	**0.0**
	34nm,0.6s								
AAK	**Ala-Archa**	**4.91**	**24**	⇓Pn			**Pn**	**19 10 13.2**	**+1.7**
	4.3nm,0.5s								
AAK				⇑Sn			**Sn**	**19 11 09.0**	**+0.6**
	5.9nm,0.6s								
KK31	**Karatay Array**	**5.02**	**349**	Pn			**Pn**	**19 10 12.8**	**-0.1**
	1.1nm,0.3s,baz=175,slow=14,SNR=49								
KK31				⇑Sn			**Sn**	**19 11 08.2**	**-2.8**
	2.9nm,0.5s,baz=177,slow=24,SNR=3.5								
AKTO	**Aktyubinsk**	**15.70**	**326**	⇓P			**P**	**19 12 41.1**	**-1.7**
	4.0nm,1.1s								

MEX 06 19:42:47.4±0.3, 29°.43N×113°.86W, h4km±22km, MD3.6, Gulf of California

*IDC **06** 19:46:18.1±0.5, 57°.86N×32°.33W, h0km, mb4.3/35, mb1 4.4/38, mb1mx4.3/55, mbtmp4.3/38, ML3.7/2, MS4.3/25, Ms1 4.3/25, ms1mx4.2/34, Error ellipse: s-maj=12.8km s-min=11.0km az=174.0*
*MOS **06** 19:46:18.3±1.1, 57°.92N×32°.34W, h12km, mb4.9/24, MS4.4/7, Error ellipse: s-maj=11.4km s-min=7.0km az=64.9*
*ISCJB **06** 19:46:19.3±0.3, 57°.96N±0°.05×32°.41W±0°.06, h18km, mb4.6/79, MS4.3/28, Error ellipse: s-maj=7.2km s-min=4.6km az=9.0*
*NEIC **06** 19:46:19.4±0.3, 57°.87N×32°.41W, h10km, mb4.9/17, Error ellipse: s-maj=7.9km s-min=5.4km az=3.0*
*CSEM **06** 19:46:19.3±0.2, 57°.87N×32°.45W, h10km, mb4.8/21, Error ellipse: s-maj=9.6km s-min=6.3km az=8.0*
*GCMT **06** 19:46:19.4±0.2, 58°.08N×32°.32W, h12km, MW5.1/104, Moment Tensor Solution. s36,c41; s104,c167; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=4.24±.10; $M_{\theta\theta}$0.39±.11; $M_{\phi\phi}$3.85±.08; $M_{r\theta}$1.12±.32; $M_{\theta\phi}$2.09±.07; $M_{\phi r}$-0.80±.28; Best double couple: M_0=4.76600×10^16^ NP1:ϕ_s8.00000°, δ49.00000°, λ-114.00000°. NP2: ϕ_s223.00000°, δ46.00000°, λ-64.00000°. Principal axes: T 4.8400, Plg2.0000°, Azm115.0000°; N -0.1470, Plg18.0000°, Azm24.0000°; P -4.6930, Plg72.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 19:46:21.2±0.4, 57°.96N±0°.06×32°.34W±0°.05, h18km, n207, σ1§79/193, mb4.6/79, MS4.3/29, 16C-12D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.61**	**33**	Pn			**Pn**	**19 48 26.3**	**+1.6**
BORG				LR			LR	19 50 56.7	
	comp=Z,9μm,18.1s,slow=32								
SFJD	**Kangerlussuaq**	**12.34**	**325**	Pn			**Pn**	**19 49 15.5**	**-0.1**
	0.1nm,0.3s,baz=145,slow=16,SNR=2.7								
SFJD				LR			LR	19 53 16.1	
	comp=Z,4μm,18.4s,baz=132,slow=34								
SUMG	**Summit**	**14.89**	**353**	*i*P			**Pn**	**19 49 49.5**	**-1.2**
	10nm,0.8s								
SUMG	**Summit**	**14.89**	**353**	*e*P			**Pn**	**19 49 49.1**	**-1.6**
SUMG								19 52 29.2	
SUMG				pmax			pmax		
	comp=Z,22nm,1.1s								
SUMG	**Summit**	**14.89**	**353**	*e*P			**Pn**	**19 49 49.1**	**-1.6**
	comp=Z,22nm,1.1s								
SUMG				P			**Sn**	**19 52 29.1**	**-5.9**
EKA	**Eskdalemuir Ar**	**16.20**	**87**	Pn			**Pn**	**19 50 07.0**	**-0.6**
	baz=303,slow=12,SNR=4.4								
EKA				LR			LR	19 55 02.5	
	comp=Z,2μm,20.7s,baz=125,slow=32								
H07N1	**FLORES T-PHASE**	**18.30**	**177**	T			T	20 08 57.1	
DAG	**Danmarks Havn**	**19.51**	**9**	*i*P			**Pn**	**19 50 50.2**	**+2.0**
	comp=Z,11nm,1.1s								
DAG	**Danmarks Havn**	**19.51**	**9**	*i*P			**Pn**	**19 50 50.2**	**+2.0**
DAG				pmax			pmax		
	comp=Z,14nm,1.1s								
NOA	**NORSAR Array B**	**22.01**	**63**	P			**P**	**19 51 13.1**	**-1.1**
	comp=Z,3.8nm,0.9s,baz=283,slow=9.6,SNR=3.4								
NOA				LR			LR	19 58 28.2	
	comp=Z,527nm,20.5s,baz=280,slow=33								

PGAV Gavieira, Arco 22.08 126 *e*S **S 19 55 07.8 -10**
PGAV *e*LR LR 19 55 45.6
comp=Z,2μm,18.0s
POLO Lamas de Olo 22.77 126 *e*LR LR 19 55 24.8
comp=Z,730nm,20.0s
PBRG Braganca 22.88 124 *e*P **P 19 51 25.9 +2.4**
comp=Z,4.1nm,1.9s
PBRG *e*LR LR 19 55 10.2
comp=Z,1μm,20.0s
PVIS Viseu 23.27 127 *e*P **P 19 51 31.0 +3.5**
comp=Z,38nm,1.8s
MVO Moncorvo 23.27 125 *e*P **P 19 51 27.1 -0.5**
comp=Z,54nm,1.6s
MVO *e*S **S 19 55 46.3 +7.4**
MVO *e*LR LR 19 56 50.5
comp=Z,2μm,18.0s
MVO Moncorvo 23.27 125 *e*P **P 19 51 27.1 -0.5**
comp=Z,54nm,1.6s
HFS Hagfors 23.41 65 P **P 19 51 27.8 -0.9**
comp=Z,6.9nm,1.0s,baz=257,slow=5.8,SNR=2.7
HFS LR LR 19 59 39.9
comp=Z,547nm,18.3s,baz=282,slow=34
PCAS Casmilo, Conde 23.57 129 *e*LR LR 19 56 10.1
comp=Z,1μm,20.0s
MTE Manteigas 23.68 127 *e*S **S 19 55 49.6 +4.1**
MTE *e*LR LR 19 57 04.0
comp=Z,2μm,20.0s
PMAFR Mafra 24.19 132 *e*LR LR 19 55 39.9
comp=Z,1μm,20.0s
PMRV Marv??o 24.56 128 *e*P **P 19 51 41.3 +1.6**
comp=Z,40nm,1.8s
PMRV *e*S S 19 56 19.2 +20
PMRV *e*LR LR 19 56 41.8
comp=Z,1μm,20.0s
PMRV Marv??o 24.56 128 *e*P **P 19 51 41.3 +1.6**
comp=Z,40nm,1.8s
PESTR Estremoz 24.95 129 *e*P **P 19 51 44.2 +1.0**
comp=Z,34nm,1.8s
PESTR *e*LR LR 19 56 56.9
comp=Z,1μm,20.0s
PESTR Estremoz 24.95 129 *e*P **P 19 51 44.2 +1.0**
comp=Z,34nm,1.8s
PNCL Nicolau / Gran 25.21 132 *e*LR LR 19 56 50.9
comp=Z,2μm,22.0s
PBEJ Beja 25.55 131 *e*P **P 19 51 53.4 +4.7**
comp=Z,43nm,1.4s
PBAR Barrancos 25.76 129 *e*LR LR 19 57 02.7
comp=Z,3μm,20.0s
PCVE Castro Verde 25.82 131 *e*LR LR 19 56 38.9
comp=Z,2μm,20.0s
ESDC Sonseca Array 25.84 123 P **P 19 51 51.6 +0.2**
comp=Z,4.1nm,0.8s,baz=322,slow=8.1,SNR=20
ESDC LR LR 20 00 19.8
comp=Z,633nm,19.4s,baz=320,slow=33
MORF Marmelete 25.86 133 *e*LR LR 19 56 36.2
comp=Z,917nm,20.0s
PFVI Vila Bisbo 25.94 133 *e*LR LR 19 56 51.0
comp=Z,796nm,20.0s
PBDV Barranco-do-Ve 26.20 132 *e*LR LR 19 56 50.9
comp=Z,1μm,20.0s
CLL Collm 26.64 85 *e*P **P 19 51 54.0 -4.4**
CLL *e* 19 51 58.0
CLL MLR MLR
comp=Z,1μm,19.0s
CLL Collm 26.64 85 *e*P **P 19 51 58.0 -0.4**
comp=Z,20nm,1.5s
CLL LmV 20 02 00.0
comp=Z,1μm,19.0s
ARCES ARCESS Array B 26.90 41 P **P 19 52 00.1 -0.6**
comp=Z,5.1nm,0.9s,baz=271,slow=8.1,SNR=11
ARCES LR LR 20 00 34.0
comp=Z,285nm,18.4s,baz=269,slow=32
BRG Berggiesshubel 27.38 85 *e*P **P 19 52 05.3 +0.3**
comp=Z,29nm,1.9s
BRG *e* 19 52 13.4
comp=Z,32nm,2.0s
comp=N,917nm,13.3s
comp=E,1μm,19.9s
comp=Z,2μm,20.6s
BRG Berggiesshubel 27.38 85 *e*P **P 19 52 05.3 +0.3**
BRG *e* 19 52 13.4
BRG pmax pmax
comp=Z,5.0nm,1.9s
BRG pmax pmax
comp=Z,29nm,2.0s
BRG MLR MLR
comp=N,32μm,13.3s
BRG MLR MLR
comp=E,917nm,19.9s
BRG MLR MLR
comp=Z,1μm,20.6s
DAVOX Davos/Dischmat 27.64 95 LR LR 20 02 33.3
comp=Z,1μm,19.8s,baz=276,slow=35
GERES GERESS Array B 28.40 89 P **P 19 52 14.6 +0.2**
comp=Z,0.3nm,0.7s,baz=334,slow=6.5,SNR=2.8
GERES LR LR 20 03 21.5
comp=Z,867nm,18.4s,baz=296,slow=36
KSP Ksiaz 28.64 83 *e*P **P 19 52 17.3 +1.0**
KSP Ksiaz 28.64 83 *e*P **P 19 52 17.3 +1.0**
KSP Ksiaz 28.64 83 *e*P **P 19 52 17.3 +1.0**
FINES FINESS Array B 28.82 58 P **P 19 52 18.0 +0.2**
comp=Z,5.9nm,1.0s,baz=289,slow=8.7,SNR=3.4
FINES LR LR 20 03 04.3
comp=Z,455nm,19.3s,baz=262,slow=35
FINES FINESS Array B 28.82 58 P **P 19 52 18.0 +0.2**
VRAC Vranov 29.67 85 P **P 19 52 24.4 -1.1**
comp=Z,1.1nm,0.4s,baz=298,slow=7.0,SNR=4.3
VRAC LR LR 20 04 33.9
comp=Z,1μm,18.3s,baz=304,slow=37
VRAC Vranov 29.67 85 *e*P **P 19 52 25.2 -0.3**
MORC Moravsky Berou 29.90 84 *e*P **P 19 52 27.3 -0.3**
LVZ Lovozero 30.46 43 ⇓*e*P **P 19 52 32.2 -0.1**
LVZ pmax pmax
comp=Z,45nm,1.6s
BEL Belsk 30.46 78 *e*P **P 19 52 34.3 +1.9**
BEL Belsk 30.46 78 *e*P **P 19 52 34.3 +1.9**
BEL Belsk 30.46 78 *e*P **P 19 52 34.3 +1.9**
SUW Suwalki 30.56 73 *e*P **P 19 52 34.3 +1.0**
SUW Suwalki 30.56 73 *e*P **P 19 52 34.3 +1.0**
SUW Suwalki 30.56 73 *e*P **P 19 52 34.3 +1.0**
OJC Ojcow 30.84 82 *e*P **P 19 52 35.2 -0.6**
OJC Ojcow 30.84 82 *e*P **P 19 52 35.2 -0.6**
OJC Ojcow 30.84 82 *e*P **P 19 52 35.2 -0.6**
LANS Liptovska Anna 31.29 84 *e*P **P 19 52 41.8 +2.0**
LANS Liptovska Anna 31.29 84 *e*P **P 19 52 41.8 +2.0**
LANS Liptovska Anna 31.29 84 *e*P **P 19 52 41.8 +2.0**
VYHS Vyhne 31.35 85 *e*P **P 19 52 40.6 +0.3**
VYHS pmax pmax
comp=Z,30nm,2.2s
VYHS Vyhne 31.35 85 *e*P **P 19 52 40.6 +0.3**
comp=Z,30nm,2.2s
VYHS Vyhne 31.35 85 *e*P **P 19 52 40.6 +0.3**
MDT Midelt 31.38 131 P **P 19 52 40.0 -0.9**
comp=Z,3.4nm,0.9s,baz=325,slow=12,SNR=3.5
MDT Midelt 31.38 131 P **P 19 52 40.0 -0.9**
STHS Stebnicka Huta 32.07 82 *e*P **P 19 52 49.9 +3.2**
STHS pmax pmax
comp=Z,8.0nm,1.5s
STHS Stebnicka Huta 32.07 82 *e*P **P 19 52 49.9 +3.2**
KECS Kecovo 32.23 84 *e*P **P 19 52 46.9 -1.1**
KECS pmax pmax
comp=Z,67nm,4.4s
KECS Kecovo 32.23 84 *e*P **P 19 52 46.9 -1.1**
comp=Z,67nm,4.4s
KECS Kecovo 32.23 84 *e*P **P 19 52 46.9 -1.1**
PSZ Piszkesteto 32.26 85 ⇑*i*P **P 19 52 49.8 +1.4**
CRVS Cervenica-Dubn 32.49 82 *e*P **P 19 52 50.9 +0.6**
CRVS Cervenica-Dubn 32.49 82 *e*P **P 19 52 50.9 +0.6**
CRVS Cervenica-Dubn 32.49 82 *e*P **P 19 52 50.9 +0.6**
UZH Uzhgorod 33.09 82 *i*P **P 19 52 55.4 -0.2**
LVV L'vov 33.30 79 *e*P **P 19 52 57.6 +0.2**
LVV MLR MLR
comp=N,700nm,17.0s
LVV MLR MLR
comp=E,400nm,17.0s
LVV MLR MLR
comp=Z,800nm,18.0s
DRGR 34.46 84 ⇓*i*P **P 19 53 08.7 +1.1**
BZS Buzias 34.63 87 ⇑*i*P **P 19 53 10.0 +1.0**
KLMR Klimovskoe 35.02 54 *e*P **P 19 53 10.5 -1.6**
KLMR *e* 19 55 43.8
KLMR pmax pmax
comp=Z,74nm,1.4s
BURAR Bucovina Array 35.26 81 ⇑*i*P **P 19 53 15.0 +0.5**
KEST Kesra 35.33 111 P **P 19 53 14.4 -0.8**
comp=Z,4.9nm,0.9s,baz=340,slow=10,SNR=9.0

KEST LR LR 20 06 13.2
comp=Z,765nm,20.2s,baz=258,slow=34
KIEV Kiev 35.47 75 ⇑*i*P **P 19 53 15.2 -0.9**
KIEV Kiev 35.47 75 *e*P **P 19 53 15.9 -0.2**
comp=Z,34nm,1.3s
KIEV Kiev 35.47 75 *e*P **P 19 53 15.9 -0.2**
comp=Z,34nm,1.3s
AKASG Malin Array Be 35.48 74 P **P 19 53 15.3 -0.8**
comp=Z,7.5nm,0.8s,baz=306,slow=8.3,SNR=26
AKASG LR LR 20 07 42.4
comp=Z,411nm,18.1s,baz=260,slow=36
AKASG Malin Array Be 35.48 74 *c e*P **P 19 53 16.0 -0.2**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
EYMN Ely 35.90 280 *e*P **P 19 53 17.8 -2.1**
comp=Z,14nm,1.1s
EYMN Ely 35.90 280 *e*P **P 19 53 17.8 -2.1**
comp=Z,14nm,1.1s
ARR Arges 36.40 85 ⇓*i*P **P 19 53 25.1 +0.8**
VOIR 36.58 84 ⇑*i*P **P 19 53 26.1 +0.3**
SORM Soroca 36.58 79 ⇑*i*P **P 19 53 24.6 -1.1**
OBN Obninsk 36.61 64 LR LR 20 07 22.3
comp=Z,480nm,20.8s,baz=280,slow=34
OBN Obninsk 36.61 64 ⇓*e*P **P 19 53 26.9 +1.1**
OBN *e* 19 54 48.7
OBN *e*SS SS 20 01 38.0 -9.2
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,495nm,21.0s
TESR Tescani 36.72 82 ⇑*i*P **P 19 53 28.5 +1.6**
MLR Muntele Rosu 37.01 84 ⇑*i*P **P 19 53 29.7 +0.1**
PLOR Plostina 37.15 83 ⇑*i*P **P 19 53 32.5 +1.9**
VRI Vrincioaia 37.18 83 ⇑*i*P **P 19 53 31.4 +0.6**
VTS Vitosha 37.52 89 ⇑*i*P **P 19 53 36.5 +2.6**
CFR Carcaliu 38.38 82 ⇑*i*P **P 19 53 39.9 -1.0**
YKA Yellowknife Ar 38.50 312 P **P 19 53 43.2 +1.5**
comp=Z,1.7nm,0.7s,baz=60,slow=9.2,SNR=2.7
YKA LR LR 20 08 55.5
comp=Z,268nm,18.5s,baz=0.0,slow=35
ECSD EROS Data Cent 41.36 279 *e*P **P 19 54 05.2 -0.6**
comp=Z,11nm,1.1s
ECSD EROS Data Cent 41.36 279 *e*P **P 19 54 05.2 -0.6**
comp=Z,11nm,1.1s
INK Inuvik 41.67 327 P **P 19 54 08.3 +0.4**
comp=Z,4.1nm,1.0s,baz=34,slow=9.7,SNR=4.4
SOKR Solikamsk 42.90 48 *e*P **P 19 54 16.7 -1.3**
SOKR pmax pmax
comp=Z,37nm,1.8s
ANN Anapa 43.50 76 *e*P **P 19 54 20.2 -2.9**
ANN *e*S **S 20 00 49.5 -1.1**
ANN *e*SS **SS 20 03 58.7 -6.1**
ANN pmax pmax
comp=Z,75nm,1.5s
ANN MLR MLR
comp=N,276nm,14.0s
ANN MLR MLR
comp=Z,591nm,14.0s
ANN MLR MLR
comp=E,346nm,14.0s
TAM Tamanrasset 44.42 126 *e*P **P 19 54 31.6 +0.8**
TAM pmax pmax
comp=Z,15nm,1.3s
TAM Tamanrasset 44.42 126 *e*P **P 19 54 31.6 +0.8**
comp=Z,15nm,1.3s
TAM Tamanrasset 44.42 126 *e*P **P 19 54 31.6 +0.8**
comp=Z,15nm,1.3s
BRTR Keskin Array B 45.10 84 P **P 19 54 37.5 +1.4**
comp=Z,4.7nm,0.9s,baz=316,slow=5.2,SNR=28
BRTR PcP **PcP 19 56 16.0 -0.5**
comp=Z,2.0nm,1.1s,baz=246,slow=2.4,SNR=4.0
BRTR LR LR 20 14 25.0
comp=Z,236nm,20.6s,baz=296,slow=37
ARU Arti 45.67 51 P **P 19 54 40.2 -0.1**
comp=Z,2.4nm,0.5s,baz=304,slow=5.7,SNR=16
NRIK Noril'sk 45.84 25 P **P 19 54 42.6 +1.1**
comp=Z,1.8nm,0.4s,baz=330,slow=7.9,SNR=6.8
NRIK LR LR 20 14 55.1
comp=Z,86nm,18.0s,baz=24,slow=37
GOF Gofitskoye 46.20 72 ⇑*e*P **P 19 54 44.9 +0.3**
GOF pmax pmax
comp=Z,28nm,1.0s
SVE Sverdlovsk 46.25 49 *e*P **P 19 54 45.2 +0.4**
SVE pmax pmax
comp=Z,17nm,1.6s
DAWY Dawson 46.28 324 *e*P **P 19 54 47.6 +2.6**
comp=Z,18nm,1.3s
DAWY Dawson 46.28 324 *e*P **P 19 54 47.6 +2.6**
comp=Z,18nm,1.3s
MIAR Mount Ida 46.42 267 *e*P **P 19 54 45.3 -1.2**
MIAR pmax pmax
comp=Z,26nm,1.4s
MIAR Mount Ida 46.42 267 *e*P **P 19 54 45.3 -1.2**
comp=Z,26nm,1.4s
MIAR Mount Ida 46.42 267 *e*P **P 19 54 45.3 -1.2**
comp=Z,26nm,1.4s
KIV Kislovodsk 46.79 73 *e*P **P 19 54 50.1 +0.7**
KIV *e*S **S 20 01 40.9 +2.4**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,275nm,16.0s
KIV Kislovodsk 46.79 73 *e*P **P 19 54 50.4 +1.0**
comp=Z,14nm,1.0s
KIV Kislovodsk 46.79 73 *e*P **P 19 54 50.4 +1.0**
comp=Z,14nm,1.0s
KBZ Khabaz 47.06 73 P **P 19 54 52.5 +1.2**
comp=Z,5.3nm,1.0s,baz=308,slow=6.3,SNR=11
KBZ LR LR 20 14 35.2
comp=Z,260nm,21.2s,baz=326,slow=36
NCK Nalchik 47.58 73 ⇑*e*P **P 19 54 57.5 +2.1**
NCK pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 47.97 328 P **P 19 54 59.9 +1.7**
comp=Z,4.2nm,0.9s,baz=38,slow=6.6,SNR=16
ILAR PcP **PcP 19 56 26.5 +0.5**
comp=Z,1.3nm,0.8s,baz=0.9,slow=3.0,SNR=5.2
ILAR LR LR 20 15 32.9
comp=Z,425nm,19.7s,baz=50,slow=36
COLA College 48.16 329 ⇓*e*P **P 19 55 02.1 +2.5**
COLA pmax pmax
comp=Z,13nm,1.3s
ZEI Tsey 48.24 73 *e*P **P 19 54 59.5 -1.3**
ZEI pmax pmax
comp=Z,17nm,1.3s
BW06 Boulder Array 48.76 287 *e*P **P 19 55 03.0 -1.8**
comp=Z,20nm,1.6s
BW06 Boulder Array 48.76 287 *e*P **P 19 55 03.0 -1.8**
comp=Z,20nm,1.6s
PDAR Pinedale Array 48.76 287 P **P 19 55 03.2 -1.5**
comp=Z,2.0nm,0.9s,baz=63,slow=6.8,SNR=9.8
PDAR LR LR 20 14 33.8
comp=Z,1μm,18.2s,baz=48,slow=35
ISCO Idaho Springs 48.88 282 *e*P **P 19 55 03.8 -2.1**
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO Idaho Springs 48.88 282 *e*P **P 19 55 03.8 -2.1**
comp=Z,7.7nm,1.1s
ISCO Idaho Springs 48.88 282 *e*P **P 19 55 03.8 -2.1**
comp=Z,7.7nm,1.1s
TPAW Teton Pass 48.94 289 *e*P **P 19 55 04.3 -1.9**
comp=Z,5.8nm,1.0s
TPAW Teton Pass 48.94 289 *e*P **P 19 55 04.3 -1.9**
comp=Z,5.8nm,1.0s
AKTO Aktyubinsk 49.59 57 P **P 19 55 11.1 +0.4**
comp=Z,5.4nm,0.6s,baz=323,slow=8.2,SNR=17
TIXI Tiksi 50.01 8 P **P 19 55 13.9 +0.2**
comp=Z,2.3nm,0.6s,baz=356,slow=5.5,SNR=8.8
TIXI Tiksi 50.01 8 *c e*P **P 19 55 13.8 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 50.60 75 *d i*P **P 19 55 20.2 +1.4**
GNI pmax pmax
comp=Z,112nm,1.2s
GNI Garni 50.60 75 *e*P **P 19 55 20.5 +1.8**
comp=Z,158nm,1.1s
GNI Garni 50.60 75 *e*P **P 19 55 20.5 +1.8**
comp=Z,158nm,1.1s
HWUT Hardware Ranch 50.62 288 *e*P **P 19 55 18.5 -0.4**
comp=Z,9.7nm,1.0s
HWUT Hardware Ranch 50.62 288 *e*P **P 19 55 18.5 -0.4**
comp=Z,9.7nm,1.0s
HKT Hockley 51.19 265 ⇓*e*P **P 19 55 23.8 +0.8**
HKT pmax pmax
comp=Z,35nm,1.1s
ABKAR Akbulak array 51.30 57 *e*P **P 19 55 24.3 +0.6**
comp=Z,20nm,1.3s

ABKAR Akbulak array 51.30 57 *eP* **P 19 55 24.3 +0.6**
comp=Z,20nm,1.3s
TORD Torodi Ar. Bea 51.57 136 P **P 19 55 24.9 -1.2**
comp=Z,10nm,1.1s,baz=338,slow=7.6,SNR=30
TORD LR LR 20 15 23.7
comp=Z,214nm,18.0s,baz=345,slow=34
MVCO Mesa Verde 52.32 282 *eP* **P 19 55 33.1 +1.4**
comp=Z,23nm,1.3s
MVCO Mesa Verde 52.32 282 *eP* **P 19 55 33.1 +1.4**
comp=Z,23nm,1.3s
BRVK Borovoye 52.83 48 *d iP* **P 19 55 35.3 +0.3**
BRVK pmax pmax
comp=Z,60nm,1.7s
BRVK Borovoye 52.83 48 *eP* **P 19 55 35.5 +0.5**
comp=Z,32nm,1.3s
BRVK Borovoye 52.83 48 *eP* **P 19 55 35.5 +0.5**
comp=Z,32nm,1.3s
BVAR Borovoye Array 52.89 48 P **P 19 55 35.8 +0.3**
comp=Z,2.6nm,0.7s,baz=331,slow=5.8,SNR=17
ANMO Albuquerque 52.97 278 *d iP* **P 19 55 37.2 +0.7**
ANMO pmax pmax
comp=Z,9.0nm,1.7s
DBIC Dimbokro 55.43 146 P **P 19 55 53.4 -1.0**
comp=Z,5.9nm,1.1s,baz=27,slow=4.5,SNR=3.4
DBIC LR LR 20 16 42.8
comp=Z,509nm,20.8s,baz=322,slow=33
TXAR Lajitas Array 55.85 272 P **P 19 55 58.0 +0.6**
comp=Z,1.7nm,0.9s,baz=49,slow=4.1,SNR=7.3
TXAR LR LR 20 19 08.6
comp=Z,322nm,19.1s,baz=0.0,slow=35
TXAR Lajitas Array 55.85 272 P **P 19 55 58.0 +0.6**
TXAR Lajitas Array 55.85 272 P **P 19 55 58.0 +0.6**
TXAR Lajitas Array 55.85 272 P **P 19 55 58.0 +0.6**
NVS Novosibirsk 56.15 39 *eP* **P 19 56 00.2 +1.1**
NVS pmax pmax
comp=Z,35nm,1.6s
NVS pmax pmax
comp=N,6.0nm,1.4s
ZALV Zalesovo Beam 57.41 39 P **P 19 56 08.2 +0.1**
comp=N,0.9nm,0.5s,baz=312,slow=5.5,SNR=4.8
ZALV PcP **PcP 19 57 01.0 -0.7**
comp=N,0.2nm,0.3s,baz=291,slow=4.3,SNR=3.6
KURK Kurchatov 57.87 45 *d iP* **P 19 56 11.0 -0.3**
KURK pmax pmax
comp=Z,87nm,2.5s
KURK MLR MLR
comp=Z,336nm,18.0s
KURK Kurchatov 57.87 45 *eP* **P 19 56 11.2 -0.1**
KURK Kurchatov 57.87 45 *eP* **P 19 56 11.2 -0.1**
KURBB Kurchatov Arra 57.91 45 P **P 19 56 11.5 -0.1**
comp=Z,1.3nm,0.4s,baz=324,slow=7.1,SNR=28
GEYT Alibeck 59.03 67 P **P 19 56 20.4 +0.7**
comp=Z,5.0nm,1.1s,baz=297,slow=9.8,SNR=14
KKAR Karatay Array 60.71 55 *eP* **P 19 56 31.0 -0.1**
KKAR Karatay Array 60.71 55 *eP* **P 19 56 31.0 -0.1**
comp=Z,0.4nm,0.3s
KKAR Karatay Array 60.71 55 *eP* **P 19 56 31.0 -0.1**
comp=Z,0.4nm,0.3s
BOD Bodaibo 61.50 20 *eP* **P 19 56 34.8 -1.4**
BOD pmax pmax
comp=Z,6.0nm,1.5s
ROSC El Rosal 62.24 229 P **P 19 56 43.1 +1.0**
comp=Z,6.2nm,0.4s,baz=128,slow=19,SNR=3.4
MKAR Makanchi Array 62.48 45 P **P 19 56 42.8 -0.2**
comp=Z,2.2nm,0.6s,baz=336,slow=5.8,SNR=31
AAK Ala-Archa 62.80 53 P **P 19 56 45.5 +0.1**
comp=Z,1.6nm,0.4s,baz=332,slow=15,SNR=4.4
TLY Talaya 64.95 29 ⇓ *eP* **P 19 56 59.5 +0.3**
TLY pmax pmax
comp=Z,9.0nm,1.6s
KSH Kashi 66.01 53 *eP* **P 19 57 08.7 +2.3**
KSH PcP **PcP 19 57 38.8 +1.9**
KSH pP sP 19 57 45.7 +31
KSH sP pP 19 58 04.3 +52
KSH PP **PP 19 59 37.6 +6.4**
KSH PcS 20 01 38.7
KSH S S 20 05 37.0 -16
KSH ScS SKSac 20 06 40.1 -21
KSH sS SKKSac 20 06 46.1 -15
KSH Kashi 66.01 53 SS SS 20 09 56.3 -11
KSH pmax pmax
comp=Z,44nm,1.5s
KSH pmax pmax
comp=Z,200nm,6.5s
KSH LR LR
comp=N,92nm,4.1s
KSH LR LR
comp=E,120nm,5.8s
KSH LR LR
comp=Z,120nm,6.9s
H10N2 ASCENSION HYDR 67.15 161 T T 21 09 42.2
baz=350,slow=75,SNR=20
H10N3 ASCENSION HYDR 67.16 161 T T 21 09 42.3
baz=350,slow=75,SNR=24
H10N1 ASCENSION HYDR 67.17 161 T T 21 09 43.8
baz=350,slow=75,SNR=21
H10S1 ASCENSION HYDR 68.21 161 T T 21 11 02.4
baz=351,slow=75,SNR=14
H10S3 ASCENSION HYDR 68.22 161 T T 21 11 03.1
baz=351,slow=75,SNR=123
H10S2 ASCENSION HYDR 68.23 161 T T 21 11 03.8
baz=351,slow=75,SNR=15
PETK Petropavlovsk- 68.99 354 LR LR 20 30 45.7
comp=Z,34nm,18.2s,baz=24,slow=39
SONM Songino Array 69.19 28 P **P 19 57 26.5 +0.1**
comp=Z,4.9nm,1.1s,baz=322,slow=5.1,SNR=25
ULN Ulaanbaatar 69.33 28 *d iP* **P 19 57 27.5 +0.3**
ULN pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 69.33 28 *eP* **P 19 57 27.8 +0.5**
comp=Z,33nm,1.5s
ULN Ulaanbaatar 69.33 28 *eP* **P 19 57 27.8 +0.5**
comp=Z,33nm,1.5s
GTA Gaotai 75.06 36 *eP* **P 19 58 01.7 +0.1**
GTA pP sP 19 58 12.0 +2.3
GTA sP PcP 19 58 16.3 +1.1
GTA S **SKiKP 20 07 27.6 +3.6**
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,120nm,5.6s
GTA LR LR
comp=N,81nm,16.2s
GTA LR LR
comp=E,120nm,17.1s
GTA LR LR
comp=Z,91nm,18.1s
LPAZ La Paz 79.66 215 P **P 19 58 26.9 -1.1**
comp=Z,3.6nm,1.3s,baz=45,slow=4.3,SNR=3.4
KSRS Korea Array 83.51 16 P **P 19 58 47.8 +0.2**
comp=Z,1.3nm,0.9s,baz=320,slow=3.3,SNR=4.7
KSAR Wonju Array Be 83.52 16 P **P 19 58 47.8 +0.2**
KSAR Wonju Array Be 83.52 16 P **P 19 58 47.8 +0.2**
KSAR Wonju Array Be 83.52 16 P **P 19 58 47.8 +0.2**
CPUP Villa Florida 86.54 202 P **P 19 59 00.5 -2.1**
comp=Z,2.8nm,0.8s,baz=12,slow=5.7,SNR=6.6
CMAR Chiang Mai Arr 93.88 46 P **P 19 59 37.3 -0.2**
comp=Z,0.4nm,0.7s,baz=315,slow=5.4,SNR=5.0
BOSA Boshof 98.74 131 LR LR 20 46 00.6
comp=Z,178nm,18.0s,baz=351,slow=36
TAOE Nuku Hiva Isla 106.89 280 *eLR* LR 20 36 45.9
comp=Z,372nm,23.8s
PPT2 Papeete2 119.13 284 *eSS* SS 20 23 28.0 +39
comp=Z,243nm,26.2s
PPT2 Papeete2 119.13 284 *eLR* LR 20 42 27.2
comp=Z,212nm,23.2s
WRA Warramunga Arr 140.79 20 PKP **PKPdf 20 05 49.1 -0.4**
comp=Z,0.8nm,0.5s,baz=347,slow=2.3,SNR=4.7
DZM Mont Dzumac 141.65 331 *eLR* LR 20 53 15.4
comp=Z,192nm,22.9s
CTA Charters Tower 142.17 2 PKP **PKPdf 20 05 52.2 +0.2**
comp=Z,2.8nm,0.8s,baz=0.0,slow=4.0,SNR=3.2
MAW Mawson 143.13 141 PKP PKPbc 20 05 49.9 +0.7
comp=Z,2.5nm,1.1s,baz=277,slow=22,SNR=4.4
ASAR Alice Springs 144.34 22 PKP **PKPab 20 05 54.0 +0.2**
comp=Z,1.4nm,0.8s,baz=344,slow=2.3,SNR=12
QSPA South Pole Qui 147.86 180 *eP* **PKPdf 20 06 00.3 -0.1**
QSPA South Pole Qui 147.86 180 *eP* **PKPdf 20 06 00.3 -0.1**
STKA Stephens Creek 153.59 12 PKPbc **PKPbc 20 06 17.7 -0.4**
comp=Z,3.8nm,1.0s,baz=179,slow=1.6,SNR=5.3
VNDA Vanda 159.75 189 PKP **PKPdf 20 06 15.6 -1.3**
comp=Z,1.8nm,1.1s,baz=203,slow=0.6,SNR=4.0
VNDA PKPab **PKPab 20 06 55.8 -0.2**
comp=Z,2.5nm,1.0s,baz=174,slow=3.1,SNR=7.4

*IDC **06** 19:48:27.7±1.0, 58°.14N×32°.64W, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/55, mbtmp3.7/12, ML3.8/1, Error ellipse: s-maj=30.8km s-min=19.0km az=17.0*
*ISCJB **06** 19:48:28.4±0.8, 58°.2N±0°.1×32°.7W±0°.2, h18km, mb3.8/11, Error ellipse: s-maj=22.9km s-min=12.9km az=26.0*
ISC 06 19:48:30.5±0.9, 58°.2N±0°.2×32°.7W±0°.1, h18km, n12, σ1§11/12, mb3.8/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.07**	**325**	Pn	**Pn**	**19 51 20.3**	**-0.9**
	0.6nm,0.3s,baz=195,slow=19,SNR=1.3						
ESDC	**Sonseca Array**	**26.10**	**123**	P	**P**	**19 54 02.5**	**-0.5**
	0.8nm,0.8s,baz=312,slow=11,SNR=3.4						
AKASG	**Malin Array Be**	**35.59**	**75**	P	**P**	**19 55 24.8**	**-1.7**
	0.5nm,0.3s,baz=305,slow=8.8,SNR=4.1						
BRTR	**Keskin Array B**	**45.25**	**84**	P	**P**	**19 56 46.7**	**0.0**
	0.9nm,0.8s,baz=316,slow=6.0,SNR=3.1						
ILAR	**Eielson Array**	**47.71**	**328**	P	**P**	**19 57 07.5**	**+2.1**
	1.6nm,1.1s,baz=41,slow=6.0,SNR=2.4						
PDAR	**Pinedale Array**	**48.53**	**287**	P	**P**	**19 57 11.6**	**-0.8**
	0.6nm,0.6s,baz=68,slow=8.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**51.84**	**136**	P	**P**	**19 57 38.1**	**+0.7**
	0.9nm,0.7s,baz=344,slow=6.2,SNR=3.9						
TXAR	**Lajitas Array**	**55.67**	**271**	P	**P**	**19 58 05.2**	**-0.3**
	0.5nm,0.7s,baz=74,slow=7.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**57.89**	**45**	P	**P**	**19 58 20.5**	**-0.3**
	0.5nm,0.6s,baz=317,slow=6.7,SNR=3.6						
GEYT	**Alibeck**	**59.12**	**67**	P	**P**	**19 58 30.6**	**+1.0**
	0.6nm,0.3s,baz=311,slow=9.0,SNR=2.5						
MKAR	**Makanchi Array**	**62.46**	**45**	P	**P**	**19 58 51.9**	**-0.3**
	0.5nm,0.7s,baz=350,slow=5.3,SNR=2.2						
SONM	**Songino Array**	**69.10**	**28**	P	**P**	**19 59 35.8**	**+0.7**
	0.9nm,1.0s,baz=316,slow=4.0,SNR=3.8						

IDC 06 19:49:23.1±5.0, 57°.87N×34°.21W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/55, mbtmp3.9/6, Error ellipse: s-maj=118.4km s-min=37.7km az=90.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.26**	**36**	Pn	Pn	19 51 37.6	-0.1
BRTR	**Keskin Array B**	**46.10**	**82**	P	P	19 57 48.6	-0.2
	0.8nm,0.8s,baz=331,slow=7.2,SNR=3.6						
AKTO	**Aktyubinsk**	**50.47**	**56**	P	P	19 58 22.5	+0.2
	1.3nm,0.6s,baz=343,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**52.21**	**134**	P	P	19 58 35.5	-0.1
	1.0nm,0.9s,baz=343,slow=7.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**58.67**	**43**	P	P	19 59 20.9	-0.9
	0.2nm,0.5s,baz=323,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**63.24**	**44**	P	P	19 59 53.6	+0.6
	0.4nm,0.5s,baz=339,slow=5.6,SNR=4.1						

*IDC **06** 19:54:14.2±0.7, 57°.92N×32°.64W, h0km, mb4.0/22, mb1 4.1/24, mb1mx4.0/49, mbtmp4.0/24, ML4.3/1, Error ellipse: s-maj=18.5km s-min=14.6km az=17.0*
*ISCJB **06** 19:54:15.0±0.6, 57°.95N±0°.09×32°.6W±0°.2, h18km, mb4.0/24, Error ellipse: s-maj=13.5km s-min=11.7km az=17.3*
*CSEM **06** 19:54:15.3, 57°.87N×32°.70W, h10km, mb4.2/1*
*NEIC **06** 19:54:15.3±0.6, 57°.87N×32°.70W, h10km, mb4.2/1, Error ellipse: s-maj=12.6km s-min=11.1km az=11.0*
ISC 06 19:54:16.9±0.7, 57°.9N±0°.1×32°.64W±0°.09, h18km, n40, σ0§99/35, mb4.1/24, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.76**	**34**	Pn	**Pn**	**19 56 22.4**	**0.0**
EKA	**Eskdalemuir Ar**	**16.37**	**86**	Pn	**Pn**	**19 58 05.7**	**+0.3**
	baz=290,slow=9.7,SNR=5.7						
NOA	**NORSAR Array B**	**22.18**	**63**	P	**P**	**19 59 12.1**	**+0.4**
	2.7nm,1.0s,baz=286,slow=9.9,SNR=3.0						
ESDC	**Sonseca Array**	**25.94**	**122**	P	**P**	**19 59 46.4**	**-1.6**
	1.7nm,0.8s,baz=321,slow=8.7,SNR=14						
ARCES	**ARCESS Array B**	**27.06**	**41**	P	**P**	**19 59 55.8**	**-1.9**
	2.5nm,0.7s,baz=267,slow=8.0,SNR=8.1						
GERES	**GERESS Array B**	**28.57**	**88**	P	**P**	**20 00 13.1**	**+1.6**
	0.4nm,0.6s,baz=353,slow=7.1,SNR=2.7						
FINES	**FINESS Array B**	**28.99**	**58**	P	**P**	**20 00 16.3**	**+1.3**
	2.4nm,0.8s,baz=269,slow=16,SNR=2.3						
MDT	**Midelt**	**31.46**	**131**	P	**P**	**20 00 38.5**	**+1.2**
	baz=318,slow=14						
KEST	**Kesra**	**35.46**	**110**	P	**P**	**20 01 13.4**	**+1.5**
	2.2nm,0.7s,baz=305,slow=12,SNR=3.0						
AKASG	**Malin Array Be**	**35.65**	**74**	P	**P**	**20 01 12.0**	**-1.4**
	1.0nm,0.4s,baz=306,slow=8.3,SNR=8.2						
AKASG	**Malin Array Be**	**35.65**	**74**	P	**P**	**20 01 12.0**	**-1.4**
BRTR	**Keskin Array B**	**45.26**	**84**	P	**P**	**20 02 34.0**	**+0.9**
	2.1nm,0.8s,baz=324,slow=5.9,SNR=9.6						
ARU	**Arti**	**45.84**	**51**	P	**P**	**20 02 36.9**	**-0.3**
	2.4nm,0.7s,baz=287,slow=10,SNR=5.6						
KBZ	**Khabaz**	**47.23**	**73**	P	**P**	**20 02 49.1**	**+0.8**
	2.3nm,0.9s,baz=325,slow=9.8,SNR=4.3						
ILAR	**Eielson Array**	**47.95**	**328**	P	**P**	**20 02 54.9**	**+1.2**
	2.2nm,1.0s,baz=35,slow=6.1,SNR=9.0						
ILAR				PcP	**PcP**	**20 04 22.1**	**+0.4**
	0.7nm,0.7s,baz=4.6,slow=2.1,SNR=5.7						
PDAR	**Pinedale Array**	**48.62**	**287**	P	**P**	**20 02 59.4**	**0.0**
	1.0nm,0.8s,baz=60,slow=8.8,SNR=4.6						
AKTO	**Aktyubinsk**	**49.76**	**57**	P	**P**	**20 03 07.6**	**-0.1**
	4.9nm,0.8s,baz=323,slow=8.3,SNR=17						
ABKAR	**Akbulak array**	**51.47**	**57**	*eP*	**P**	**20 03 20.5**	**-0.2**
	2.8nm,0.8s						
ABKAR	**Akbulak array**	**51.47**	**57**	*eP*	**P**	**20 03 20.4**	**-0.2**
	2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**51.63**	**136**	P	**P**	**20 03 21.5**	**-0.7**
	3.4nm,0.7s,baz=340,slow=6.8,SNR=17						
BVAR	**Borovoye Array**	**53.06**	**47**	P	**P**	**20 03 32.2**	**-0.2**
	0.9nm,0.5s,baz=347,slow=12,SNR=5.4						
DBIC	**Dimbokro**	**55.46**	**146**	P	**P**	**20 03 48.1**	**-2.2**
	4.9nm,0.9s,baz=325,slow=14,SNR=3.2						
TXAR	**Lajitas Array**	**55.69**	**271**	P	**P**	**20 03 52.5**	**+0.6**
	1.2nm,1.0s,baz=94,slow=4.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**57.57**	**38**	P	**P**	**20 04 04.4**	**-0.4**
	0.5nm,0.4s,baz=313,slow=9.3,SNR=3.1						
KURK	**Kurchatov**	**58.03**	**44**	P	**P**	**20 04 08.1**	**-0.1**
KURK	**Kurchatov**	**58.03**	**44**	P	**P**	**20 04 08.1**	**-0.1**
KURBB	**Kurchatov Arra**	**58.07**	**44**	P	**P**	**20 04 08.1**	**-0.4**
	1.3nm,0.5s,baz=324,slow=6.8,SNR=12						
GEYT	**Alibeck**	**59.21**	**67**	P	**P**	**20 04 17.0**	**+0.4**
	1.8nm,1.0s,baz=302,slow=17,SNR=3.3						
MKAR	**Makanchi Array**	**62.64**	**45**	P	**P**	**20 04 39.3**	**-0.5**
	1.2nm,0.5s,baz=332,slow=6.1,SNR=16						
AAK	**Ala-Archa**	**62.97**	**52**	P	**P**	**20 04 43.1**	**+0.9**
	1.3nm,0.7s,baz=252,slow=3.2,SNR=3.2						
H10N2	**ASCENSION HYDR**	**67.14**	**160**	T	T	21 17 50.2	
	baz=352						
H10N3	**ASCENSION HYDR**	**67.15**	**160**	T	T	21 17 39.8	
	baz=352						
H10N1	**ASCENSION HYDR**	**67.16**	**160**	T	T	21 17 53.6	
	baz=352						
H10S1	**ASCENSION HYDR**	**68.20**	**161**	T	T	21 19 08.9	
	baz=351,slow=75,SNR=36						
H10S3	**ASCENSION HYDR**	**68.21**	**161**	T	T	21 19 11.0	
	baz=351,slow=75,SNR=34						
H10S2	**ASCENSION HYDR**	**68.22**	**161**	T	T	21 19 10.3	
	baz=351,slow=75,SNR=41						
SONM	**Songino Array**	**69.33**	**28**	P	**P**	**20 05 21.5**	**-1.4**
	0.8nm,0.9s,baz=343,slow=4.6,SNR=5.2						
WRA	**Warramunga Arr**	**140.91**	**20**	PKP	**PKPdf**	**20 13 44.8**	**-0.7**
	0.4nm,0.8s,baz=343,slow=2.5,SNR=4.0						
ASAR	**Alice Springs**	**144.46**	**22**	PKP	**PKPab**	**20 13 49.5**	**-0.4**
	0.5nm,0.8s,baz=346,slow=2.8,SNR=8.3						
STKA	**Stephens Creek**	**153.69**	**11**	PKPbc	**PKPbc**	**20 14 14.2**	**+0.2**
	0.4nm,0.6s,baz=131,slow=19,SNR=2.7						

IDC 06 19:55:56.0±1.4, 1°.54N×127°.30E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/40, mbtmp3.7/6, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/36, Error ellipse: s-maj=105.4km s-min=18.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.59**	**185**	P	Pn	20 00 27.1	0.0
	0.2nm,0.3s,baz=17,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**22.44**	**162**	P	P	20 00 57.1	+0.4
	1.3nm,0.3s,baz=339,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.87**	**166**	P	P	20 01 29.1	-0.6
	0.2nm,0.3s,baz=345,slow=10,SNR=14						
STKA	**Stephens Creek**	**35.90**	**159**	P	P	20 02 57.5	-0.5
	1.3nm,0.8s,baz=319,slow=9.3,SNR=4.5						
SONM	**Songino Array**	**49.54**	**342**	LR	LR	20 27 32.0	
	comp=Z,58nm,20.0s,baz=348,slow=38						
MKAR	**Makanchi Array**	**59.67**	**326**	P	P	20 06 02.7	+0.4
	0.4nm,0.3s,baz=112,slow=8.1,SNR=7.2						
KURBB	**Kurchatov Arra**	**63.88**	**328**	P	P	20 06 30.1	-0.4
	0.6nm,0.6s,baz=130,slow=5.7,SNR=5.5						
KDAK	**Kodiak Island**	**83.43**	**32**	LR	LR	20 37 45.9	
	comp=Z,42nm,21.9s,baz=341,slow=30						

IDC 06 19:59:06.9±2.5, 6°.45S×128°.59E, h374km±41km, mb2.8/1, mb1 3.2/5, mb1mx2.8/35, mbtmp4.0/5, Error ellipse: s-maj=66.7km s-min=19.4km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.16**	**26**	P	Pn	20 00 40.6	+0.2
	6.2nm,0.3s,baz=127,slow=23,SNR=7.4						
SIJI				S	S	20 01 47.3	-9.2
	13nm,0.3s,baz=249,slow=23,SNR=9.1						
FITZ	**Fitzroy Crossi**	**11.93**	**194**	P	P	20 01 45.4	-1.4
	0.1nm,0.3s,baz=19,slow=10,SNR=3.3						
FITZ				S	S	20 03 53.1	-6.0
	0.4nm,0.3s,baz=305,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**14.53**	**158**	P	P	20 02 15.4	0.0
	0.7nm,0.3s,baz=338,slow=12,SNR=14						
WRA				S	S	20 04 39.8	-12
	0.6nm,0.3s,baz=334,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**17.86**	**164**	P	P	20 02 51.7	+0.4
	0.8nm,0.3s,baz=347,slow=11,SNR=35						
MKAR	**Makanchi Array**	**67.00**	**327**	P	P	20 09 20.8	0.0
	0.3nm,0.6s,baz=125,slow=7.3,SNR=3.7						

*TAP **06** 20:01:26.7, 24°.87N×122°.00E, h4km, ML2.9, D*
*JMA **06** 20:01:27.4±0.2, 24°.87N×121°.99E, h32km*
ISC 06 20:01:26.9±1.0, 24°.90N±0°.03×122°.05E±0°.03, h10km±7km, n29, σ0§59/48, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.12**	**333**	⇓P	**Pg**	**20 01 30.1**	**+0.2**
	baz=357						
TWB1				S	**Sg**	**20 01 32.2**	**+0.2**
	baz=357						
NWF	**Wu-fen Shan**	**0.30**	**305**	⇓P	**Pb**	**20 01 33.8**	**-0.7**
	baz=314						
NWF				*eS*	**Sb**	**20 01 38.3**	**-1.3**
	baz=314						
TWC	**Suao**	**0.34**	**213**	P	**Pg**	**20 01 33.8**	**+0.1**
	baz=206						
TWC				*eS*	**Sg**	**20 01 37.8**	**-0.5**
	baz=206						
TWE	**Neicheng**	**0.39**	**243**	⇓ *eP*	**Pg**	**20 01 34.6**	**0.0**
	baz=242						
TWE				*eS*	**Sg**	**20 01 40.0**	**+0.2**
	baz=242						
TWA	**Mucha**	**0.43**	**281**	*eP*	**Pb**	**20 01 36.1**	**-0.6**
	baz=285						
TWA				S	**Sb**	**20 01 42.2**	**-1.1**
	baz=285						
ENTT	**Nioudou**	**0.51**	**240**	⇑P	**Pg**	**20 01 36.8**	**-0.1**
	baz=238						
ENTT				*eS*	**Sb**	**20 01 44.3**	**-1.2**
	baz=238						
ENA	**Nanau**	**0.55**	**211**	*eP*	**Pb**	**20 01 38.4**	**-0.2**
	baz=207						
ENA				*eS*	**Sg**	**20 01 45.5**	**+0.7**
	baz=207						
TWY	**Chenhua**	**0.56**	**313**	*eP*	**Pb**	**20 01 38.9**	**+0.1**
	baz=317						
TWY				*eS*	**Sg**	**20 01 45.0**	**-0.1**
	baz=317						
TWS1	**Kuangyinshan**	**0.61**	**290**	*eP*	**Pb**	**20 01 40.1**	**+0.4**
	baz=293						
TWS1				*eS*	**Sb**	**20 01 48.3**	**-0.1**
	baz=293						
NSK	**Sanguang**	**0.67**	**251**	⇓P	**Pg**	**20 01 39.6**	**-0.3**
	baz=251						
NSK				*eS*	**Sg**	**20 01 48.3**	**-0.3**
	baz=251						
PCYT	**Pengchaiyu**	**0.73**	**1**	*eP*	**Pb**	**20 01 42.5**	**+0.7**
	baz=5.0						
PCYT				*eS*	**Sn**	**20 01 54.5**	**0.0**
	baz=5.0						
NNS	**Nan Shan**	**0.77**	**234**	*eP*	**Pg**	**20 01 41.2**	**-0.6**
	baz=232						
NNS				*eS*	**Sg**	**20 01 51.0**	**-0.8**
	baz=232						
TWD	**Chiawan**	**0.91**	**207**	*eP*	**Pb**	**20 01 45.4**	**+0.5**
	baz=204						
TWD				*eS*	**Sn**	**20 01 59.1**	**+0.1**
	baz=204						
JYNG	**Yonagunijimaku**	**0.93**	**118**	P	**Pg**	**20 01 44.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.97**	**116**	P	**Pg**	**20 01 45.5**	**-0.2**
NSTT	**Nanjuang**	**0.99**	**255**	*eP*	**Pb**	**20 01 46.1**	**-0.1**
	baz=254						
WHF	**Hehuan Shan**	**1.04**	**224**	*eP*	**Pg**	**20 01 46.7**	**-0.3**
	baz=222						
WHF				*eS*	**Sb**	**20 02 01.9**	**+0.8**
	baz=222						
ESL	**Shilin**	**1.22**	**208**	*eP*	**Pg**	**20 01 50.8**	**+0.5**
	baz=205						
ESL				*eS*	**Sn**	**20 02 07.4**	**+0.8**
	baz=205						
NSY	**Sanyi**	**1.27**	**248**	*eP*	**Pg**	**20 01 52.0**	**+0.7**
	baz=247						
NSY				*eS*	**Sn**	**20 02 08.7**	**+0.8**
	baz=247						
TWQ1	**Liyutan**	**1.29**	**245**	*eP*	**Pg**	**20 01 52.8**	**+1.1**
	baz=244						
TWQ1				*eS*	**Sb**	**20 02 07.4**	**-0.5**
	baz=244						
SMLT	**Sun Moon Lake**	**1.46**	**226**	*eP*	**Pb**	**20 01 54.2**	**0.0**
	baz=225						
SMLT				*eS*	**Sg**	**20 02 13.8**	**-0.1**
	baz=225						
TYC	**Yuchr**	**1.47**	**228**	*eP*	**Pb**	**20 01 54.8**	**+0.4**
	baz=227						
TYC				*eS*	**Sg**	**20 02 15.0**	**+0.7**
	baz=227						
YUS	**Yu-Shan**	**1.72**	**216**	*eP*	**Pg**	**20 01 60.0**	**-0.1**
	baz=214						
ALS	**Alishan**	**1.79**	**220**	*eP*	**Pb**	**20 02 00.1**	**0.0**
	baz=218						
CHN5	**Tsauling**	**1.80**	**224**	*eP*	**Pb**	**20 01 59.4**	**-0.7**
	baz=223						
JKRS	**Kuro-shima**	**1.90**	**110**	P	**Pn**	**20 01 59.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.98**	**105**	P	**Pn**	**20 02 00.7**	**+0.2**
CHN4	**Tsaushan**	**2.04**	**221**	*eP*	**Pb**	**20 02 03.8**	**-0.2**
	baz=220						
WTP	**Ta-pu**	**2.10**	**219**	*eP*	**Pb**	**20 02 04.2**	**-1.1**
	baz=217						

*ISCJB **06** 20:15:01.9±1.0, 7°.81S±0°.08×110°.54E±0°.05, h5km±9km, mb3.1/3, Error ellipse: s-maj=13.7km s-min=8.7km az=6.7*
*DJA **06** 20:15:01.0±0.4, 8°.5S±5°.×11°.1E±°, h14km±3km, M3.5/7, MLv3.5/7*
*IDC **06** 20:15:05.3±3.8, 7°.31S×111°.08E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/46, mbtmp3.3/3, Error ellipse: s-maj=234.3km s-min=26.2km az=49.0*
ISC 06 20:15:03.3±1.0, 7°.87S±0°.07×110°.54E±0°.05, h13km±6km, n11, σ2§63/13, mb3.3/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.04**	**201**	P	**Pb**	**20 15 04.7**	**-1.1**
UGM				S	**Sb**	**20 15 07.1**	**-0.5**
PCJI	**Pacitan**	**0.71**	**117**	P	**Pb**	**20 15 14.5**	**-3.0**
PCJI	

s-maj=44.9km s-min=35.2km az=51.0
*ISCJB **06** 20:18:39.2±1.9, 24°.57S±0°.10×177°.0W±0°.3, h10km, mb3.9/6, Error ellipse: s-maj=42.2km s-min=13.4km az=173.0*
ISC 06 20:18:40.5±1.5, 24°.5S±0°.1×177°.1W±0°.2, h10km, n9, σ1.9/26/10, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.78**	**189**	Sn	**Sn**	**20 20 48.2**	**+0.1**
	66nm,0.3s,baz=114,slow=23,SNR=2.8						
STKA	**Stephens Creek**	**37.00**	**249**	P	**P**	**20 25 50.8**	**+0.4**
	0.7nm,0.3s,baz=86,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**44.59**	**261**	P	**P**	**20 26 53.1**	**-0.1**
	0.6nm,0.5s,baz=92,slow=7.1,SNR=19						
ASAR				PcP	**PP**	**20 28 35.8**	**-1.4**
	0.4nm,0.5s,baz=110,slow=4.0,SNR=3.6						
WRA	**Warramunga Arr**	**45.05**	**266**	P	**P**	**20 26 57.2**	**+0.3**
	1.1nm,0.6s,baz=100,slow=7.6,SNR=15						
VNDA	**Vanda**	**54.01**	**186**	P	**P**	**20 28 04.9**	**+0.5**
	0.8nm,0.9s,baz=14,slow=7.9,SNR=5.1						
MAW	**Mawson**	**78.10**	**200**	P	**P**	**20 30 38.3**	**-1.0**
	1.9nm,0.5s,baz=133,slow=6.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**92.27**	**289**	P	**P**	**20 31 52.7**	**+1.5**
	0.7nm,0.9s,baz=133,slow=3.8,SNR=2.5						
AKASG	**Malin Array Be**	**146.91**	**329**	PKPbc	**PKPbc**	**20 38 20.8**	**-2.2**
	0.3nm,0.3s,baz=39,slow=3.4,SNR=3.5						
BRTR	**Keskin Array B**	**150.09**	**308**	PKPbc	**PKPbc**	**20 38 32.7**	**+0.9**
	0.7nm,0.8s,baz=130,slow=4.5,SNR=4.1						

*CSEM **06** 20:23:59.6, 42°.84N×12°.93E, h10km, MD1.5/5*
ROM 06 20:23:59.6±0.2, 42°.84N×12°.93E, h10km±1km, Md1.5/5, Ml1.0/5, Error ellipse: s-maj=3.1km s-min=1.5km az=69.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.14**	**91**	Pg	Pg	20 24 03.3	+0.5
NRCA				Sg	Sg	20 24 05.8	+0.7
	75nm,0.1s						
NRCA	**Norcia**	**0.14**	**91**	Pg	Pg	20 24 03.3	+0.5
NRCA				Sg	Sg	20 24 05.8	+0.7
	75nm,0.1s						
CESI	**CESI - Serrava**	**0.17**	**354**	Pg	Pg	20 24 04.1	+0.7
CESI				Sg	Sg	20 24 07.3	+1.3
	7.0nm,0.3s						
CESI	**CESI - Serrava**	**0.17**	**354**	Pg	Pg	20 24 04.1	+0.7
CESI				Sg	Sg	20 24 07.3	+1.3
	7.0nm,0.3s						
FDMO	**Fiordimonte**	**0.23**	**30**	Pg	Pg	20 24 05.0	+0.6
FDMO				Sg	Sg	20 24 08.9	+1.2
	27nm,0.1s						
FDMO	**Fiordimonte**	**0.23**	**30**	Pg	Pg	20 24 05.0	+0.6
FDMO				Sg	Sg	20 24 08.9	+1.2
	27nm,0.1s						
LNSS	**Leonessa**	**0.25**	**161**	Pg	Pg	20 24 05.2	+0.5
LNSS				Sg	Sg	20 24 09.3	+1.1
	24nm,0.3s						
LNSS	**Leonessa**	**0.25**	**161**	Pg	Pg	20 24 05.2	+0.5
LNSS				Sg	Sg	20 24 09.3	+1.1
	24nm,0.3s						
SMA1	**SAN MARTINO**	**0.36**	**125**	Pg	Pb	20 24 07.7	-0.5
SMA1				Sg	Sb	20 24 13.7	-0.2
	1μm,10.0s						
SMA1	**SAN MARTINO**	**0.36**	**125**	Pg	Pb	20 24 07.7	-0.5
SMA1				Sg	Sb	20 24 13.7	-0.2
	1μm,10.0s						

IDC 06 20:25:33.9±4.9, 4°.59S×151°.44E, h0km, mb2.8/2, mb1 3.2/2, mb1mx3.0/31, mbtmp2.9/2, Error ellipse: s-maj=235.3km s-min=47.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.59**	**226**	P	P	20 30 35.1	-1.2
	0.3nm,0.8s,baz=52,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**25.42**	**220**	P	P	20 31 04.4	+0.9
	0.2nm,0.6s,baz=53,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.96**	**288**	PKPbc	PKPbc	20 45 24.3	-0.7
	0.6nm,0.8s,baz=59,slow=3.8,SNR=3.5						

*CSEM **06** 20:25:41.6±0.3, 50°.27N×18°.84E, h2km, Error ellipse: s-maj=7.6km s-min=3.0km az=4.0*
PRU 06 20:25:42.6, 50°.22N×18°.83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.58**	**229**	ePG	Pg	20 25 54.1	+0.3
OKC				eSG	Sg	20 26 00.8	-0.5
OKC	**Ostrava-Krasne**	**0.58**	**229**	Pg	Pg	20 25 54.1	+0.3
OKC				Sg	Sg	20 26 00.8	-0.5
OJC	**Ojcow**	**0.62**	**90**	ePg	Pg	20 25 53.0	-1.5
OJC				eSg	Sg	20 26 01.0	-1.5
OJC	**Ojcow**	**0.62**	**90**	ePg	Pg	20 25 53.0	-1.5
OJC				eSg	Sg	20 26 01.0	-1.6
MORC	**Moravsky Berou**	**0.94**	**242**	ePg	Pg	20 26 00.8	+0.2
MORC				eSg	Sb	20 26 13.9	-1.0
LANS	**Liptovska Anna**	**1.15**	**159**	ePG	Pg	20 26 04.2	-0.4
LANS				eSG	Sg	20 26 19.6	+0.2
NIE	**Niedzica**	**1.25**	**130**	ePg	Pg	20 26 05.8	-0.6
NIE				eSg	Sb	20 26 23.9	+0.3
NIE	**Niedzica**	**1.25**	**130**	ePg	Pg	20 26 05.8	-0.6
NIE				eSg	Sb	20 26 23.9	+0.3
KRLC	**Kraliky**	**1.33**	**265**	ePG	Pg	20 26 06.8	-1.2
KRLC				eSG	Sg	20 26 25.2	0.0
KRLC	**Kraliky**	**1.33**	**265**	Pg	Pg	20 26 06.8	-1.2
KRLC				Sg	Sg	20 26 25.2	0.0
DPC	**Dobruska-Polom**	**1.61**	**276**	ePG	Pn	20 26 12.3	-0.1
DPC				eSG	Sn	20 26 33.4	-0.5
	comp=Z,4.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.61**	**276**	Pg	Pn	20 26 12.3	-0.1
DPC				Sg	Sn	20 26 33.4	-0.5
	4.8nm,0.4s						
VRAC	**Vranov**	**1.71**	**239**	eSg	Sn	20 26 36.5	+0.2
VYHS	**Vyhne**	**1.73**	**180**	eSn	Sn	20 26 36.5	-0.2
VYHS	**Vyhne**	**1.73**	**180**	ePG	Pn	20 26 12.9	-1.0
VYHS				eSN	Sn	20 26 36.5	-0.2
STHS	**Stebnicka Huta**	**1.76**	**116**	ePn	Pn	20 26 14.6	+0.3
STHS	**Stebnicka Huta**	**1.76**	**116**	ePN	Pn	20 26 14.6	+0.3
STHS				eLG	Lg	20 26 51.4	
UPC	**Upice**	**1.83**	**280**	eSG	Sg	20 26 42.4	+1.1
UPC	**Upice**	**1.83**	**280**	Sg	Sg	20 26 42.4	+1.1
PRU	**Pruhonice**	**2.77**	**267**	eSG	Sg	20 27 10.7	-0.9
PRU	**Pruhonice**	**2.77**	**267**	Sg	Sg	20 27 10.7	-0.9
KHC	**Kasperske Hory**	**3.58**	**254**	eSG	Sg	20 27 35.3	-2.3
KHC	**Kasperske Hory**	**3.58**	**254**	Sg	Sg	20 27 35.3	-2.3

*ISCJB **06** 20:30:17.3±1.0, 24°.03N±0°.02×122°.34E±0°.02, h14km±7km, Error ellipse: s-maj=4.1km s-min=2.7km az=156.7*
*JMA **06** 20:30:17.8±0.1, 24°.06N×122°.32E, h29km±4km, M2.4*
*TAP **06** 20:30:18.8, 24°.11N×122°.26E, h23km±1km, ML2.8, D*
ISC 06 20:30:16.0±1.2, 24°.04N±0°.03×122°.31E±0°.02, h9km±10km, n33, σ0.9/72/62, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.65**	**306**	P	**Pb**	**20 30 30.3**	**+0.8**
	baz=314						
ENA				S	**Sb**	**20 30 38.6**	**0.0**
	baz=314						
TWD	**Chiawan**	**0.66**	**273**	eP	**Pn**	**20 30 31.0**	**-0.5**
	baz=254						
TWD				eS	**Sb**	**20 30 40.5**	**+1.6**
	baz=254						
TWC	**Suao**	**0.70**	**323**	P	**Pb**	**20 30 30.6**	**+0.2**
	baz=324						
TWC				S	**Sb**	**20 30 38.8**	**-1.5**
	baz=324						
JYNG	**Yonagunijimaku**	**0.70**	**55**	P	**Pb**	**20 30 30.8**	**+0.3**
JYNG				S	**Sb**	**20 30 39.8**	**-0.5**
YOJ	**Yonaguni jima**	**0.76**	**57**	P	**Pb**	**20 30 32.0**	**+0.6**
YOJ				eS	**Sb**	**20 30 42.0**	**+0.1**
ESL	**Shilin**	**0.84**	**254**	eP	**Pb**	**20 30 33.1**	**+0.4**
	baz=239						
ESL				S	**Sb**	**20 30 44.4**	**+0.3**
	baz=239						
TWE	**Neicheng**	**0.90**	**319**	eP	**Pn**	**20 30 34.9**	**+0.1**
	baz=322						
TWE				eS	**Sn**	**20 30 46.6**	**-1.2**
	baz=322						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.90**	**311**	eP	**Pn**	**20 30 35.0**	**+0.1**
	baz=317						
ENTT				eS	**Sb**	**20 30 46.0**	**0.0**
	baz=317						
NNS	**Nan Shan**	**0.94**	**295**	eP	**Pb**	**20 30 35.0**	**+0.3**
	baz=292						
NNS				eS	**Sn**	**20 30 48.9**	**-0.4**
	baz=292						
WHF	**Hehuan Shan**	**0.96**	**276**	eP	**Pn**	**20 30 36.1**	**0.0**
	baz=261						
WHF				eS	**Sb**	**20 30 48.4**	**+0.2**
	baz=261						
EHY	**Hungye**	**1.05**	**240**	eP	**Pg**	**20 30 36.6**	**+0.3**
	baz=228						
EHY				eS	**Sg**	**20 30 49.6**	**-0.3**
	baz=228						
NSK	**Sanguang**	**1.07**	**306**	eP	**Pn**	**20 30 37.8**	**+0.5**
	baz=304						
NSK				eS	**Sb**	**20 30 51.3**	**+0.3**
	baz=304						
NWF	**Wu-fen Shan**	**1.13**	**335**	eP	**Pn**	**20 30 38.7**	**+0.6**
	baz=334						
NWF				eS	**Sb**	**20 30 52.8**	**+0.1**
	baz=334						
TWF1	**Yuli**	**1.16**	**234**	eP	**Pg**	**20 30 38.3**	**0.0**
	baz=219						
TWF1				eS	**Sg**	**20 30 53.3**	**0.0**
	baz=219						
CHKT	**Chengkung**	**1.28**	**223**	eP	**Pn**	**20 30 39.6**	**-0.5**
	baz=209						
CHKT				eS	**Sg**	**20 30 54.7**	**-2.5**
	baz=209						
SMLT	**Sun Moon Lake**	**1.30**	**263**	eP	**Pb**	**20 30 41.3**	**+0.6**
	baz=261						
SMLT				eS	**Sg**	**20 30 57.7**	**-0.3**
	baz=261						
IRIF	**Iriomote-Funau**	**1.33**	**77**	P	**Pb**	**20 30 41.6**	**+0.5**
TYC	**Yuchr**	**1.34**	**264**	eP	**Pg**	**20 30 41.7**	**0.0**
	baz=262						
TYC				eS	**Sb**	**20 30 58.8**	**+0.3**
	baz=262						
HATJ	**Hateruma jima**	**1.36**	**89**	P	**Pn**	**20 30 41.9**	**+0.7**
YUS	**Yu-Shan**	**1.36**	**246**	eP	**Pb**	**20 30 42.4**	**+0.4**
	baz=244						
YUS				eS	**Sg**	**20 30 59.3**	**-0.7**
	baz=244						
ELDTW	**Lidau**	**1.46**	**235**	eP	**Pn**	**20 30 42.5**	**-0.2**
	baz=220						
ELDTW				eS	**Sb**	**20 31 00.4**	**-1.8**
	baz=220						
ALS	**Alishan**	**1.48**	**249**	eP	**Pb**	**20 30 44.3**	**+0.4**
	baz=247						
ALS				eS	**Sb**	**20 31 02.6**	**-0.2**
	baz=247						
CHN5	**Tsauling**	**1.56**	**254**	eP	**Pg**	**20 30 45.9**	**-0.1**
	baz=242						
CHN5				eS	**Sg**	**20 31 06.3**	**0.0**
	baz=242						
JKRS	**Kuro-shima**	**1.56**	**83**	P	**Pb**	**20 30 45.5**	**+0.4**
TWG	**Pinlang**	**1.67**	**223**	eP	**Pn**	**20 30 46.2**	**+0.8**
	baz=234						
TWG				eS	**Sn**	**20 31 05.5**	**-1.4**
	baz=234						
STYT	**Tauyuan**	**1.68**	**239**	eP	**Pb**	**20 30 47.3**	**+0.2**
	baz=237						
STYT				eS	**Sn**	**20 31 08.0**	**+0.8**
	baz=237						
JIJ	**Ishigaki jima**	**1.70**	**79**	P	**Pn**	**20 30 46.3**	**+0.4**
JIJ				S	**Sn**	**20 31 07.3**	**-0.4**
CHN4	**Tsaushan**	**1.72**	**247**	eP	**Pg**	**20 30 49.3**	**+0.3**
	baz=235						
CHN4				eS	**Sg**	**20 31 11.7**	**+0.3**
	baz=235						
WTP	**Ta-pu**	**1.75**	**243**	eP	**Pg**	**20 30 49.4**	**-0.2**
	baz=242						
WTP				eS	**Sb**	**20 31 11.7**	**+1.3**
	baz=242						
CHN1	**Nanshi**	**1.85**	**243**	eP	**Pb**	**20 30 50.8**	**+0.8**
	baz=242						
CHN1				eS	**Sb**	**20 31 14.0**	**+0.8**
	baz=242						
JISG	**Ishigakijimahi**	**1.90**	**73**	P	**Pn**	**20 30 49.0**	**+0.4**
JISG				S	**Sn**	**20 31 11.7**	**-1.0**
SSD	**Sandimen**	**2.01**	**230**	eP	**Pb**	**20 30 53.0**	**+0.2**
	baz=222						
SSD				eS	**Sb**	**20 31 18.5**	**+0.5**
	baz=222						
EAST	**Anshuo**	**2.13**	**219**	eP	**Pn**	**20 30 52.4**	**+0.5**
	baz=218						

IDC 06 20:36:46.6±1.5, 14°.19N×144°.35E, h189km±54km, mb2.9/4, mb1 3.0/4, mb1mx2.8/28, mbtmp3.4/4, Error ellipse: s-maj=275.8km s-min=21.1km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.78**	**140**	P	Pn	20 37 15.4	+1.5
	7.9nm,0.3s,baz=86,slow=3.6,SNR=8.3						
GUMO				S	Sn	20 37 35.4	+0.5
	23nm,0.3s,baz=139,slow=23,SNR=16						
WRA	**Warramunga Arr**	**35.32**	**196**	P	P	20 43 24.0	+0.1
	0.2nm,0.3s,baz=22,slow=9.6,SNR=5.5						
ASAR	**Alice Springs**	**38.98**	**195**	P	P	20 43 54.4	-0.4
	0.1nm,0.3s,baz=19,slow=8.8,SNR=3.3						
MKAR	**Makanchi Array**	**60.72**	**316**	P	P	20 46 40.0	+1.8
	0.1nm,0.2s,baz=94,slow=8.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**60.85**	**324**	P	P	20 46 37.5	-1.4
	0.6nm,0.6s,baz=107,slow=7.7,SNR=2.8						

*JMA **06** 20:39:53.5±0.1, 24°.13N×122°.50E, h37km±4km, M2.0*
*ISCJB **06** 20:39:54.2±0.5, 24°.17N±0°.03×122°.54E±0°.02, h33km±4km, Error ellipse: s-maj=5.7km s-min=2.6km az=169.4*
*TAP **06** 20:39:54.1, 24°.16N×122°.50E, h38km, ML3.0, D*
ISC 06 20:39:53.3±1.0, 24°.11N±0°.04×122°.51E±0°.02, h29km±11km, n35, σ0.9/77/67, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.52**	**50**	P	**Pb**	**20 40 04.2**	**+0.2**
JYNG				S	**Sb**	**20 40 11.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.57**	**53**	P	**Pb**	**20 40 05.0**	**+0.1**
YOJ				eS	**Sb**	**20 40 12.9**	**+0.1**
ENA	**Nanau**	**0.77**	**294**	P	**Pn**	**20 40 08.2**	**0.0**
	baz=291						
ENA				S	**Sn**	**20 40 19.1**	**+0.2**
	baz=291						
TWC	**Suao**	**0.78**	**309**	P	**Pn**	**20 40 08.3**	**-0.1**
	baz=307						
TWC				S	**Sn**	**20 40 18.6**	**-0.5**
	baz=307						
TWD	**Chiawan**	**0.84**	**268**	eP	**Pn**	**20 40 09.7**	**+0.6**
	baz=252						
TWD				eS	**Sb**	**20 40 19.6**	**-0.5**
	baz=252						
TWE	**Neicheng**	**0.98**	**308**	eP	**Pb**	**20 40 11.5**	**-0.2**
	baz=307						
TWE				eS	**Sn**	**20 40 24.9**	**+0.8**
	baz=307						
ENTT	**Nioudou**	**1.01**	**302**	eP	**Pb**	**20 40 12.1**	**-0.1**
	baz=299						
ESL	**Shilin**	**1.03**	**253**	eP	**Pn**	**20 40 12.3**	**+0.5**
	baz=240						
ESL				eS	**Sn**	**20 40 25.3**	**0.0**
	baz=240						
NNS	**Nan Shan**	**1.09**	**288**	eP	**Pn**	**20 40 13.0**	**+0.3**
	baz=285						
NNS				eS	**Sb**	**20 40 27.9**	**+0.4**
	baz=285						
IRIF	**Iriomote-Funau**	**1.14**	**79**	P	**Pn**	**20 40 13.5**	**+0.2**
IRIF				eS	**Sn**	**20 40 27.9**	**0.0**
WHF	**Hehuan Shan**	**1.14**	**272**	eP	**Pn**	**20 40 14.0**	**+0.3**
	baz=257						
WHF				eS	**Sb**	**20 40 29.1**	**-0.2**
	baz=257						
NWF	**Wu-fen Shan**	**1.16**	**325**	eP	**Pn**	**20 40 13.7**	**0.0**
	baz=325						
NWF				eS	**Sn**	**20 40 28.3**	**-0.3**
	baz=325						
HATJ	**Hateruma jima**	**1.19**	**92**	P	**Pb**	**20 40 15.0**	**-0.2**
NSK	**Sanguang**	**1.19**	**298**	eP	**Pb**	**20 40 14.5**	**-0.8**
	baz=297						
NSK				eS	**Sb**	**20 40 30.2**	**-0.1**
	baz=297						
TWT	**Tachien**	**1.23**	**277**	eP	**Pb**	**20 40 16.5**	**+0.5**
	baz=266						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWT				eS	**Sb**	**20 40 31.8**	**+0.3**
	baz=266						
EHY	**Hungye**	**1.25**	**241**	eP	**Pn**	**20 40 15.6**	**+0.8**
	baz=251						
EHY				eS	**Sn**	**20 40 30.3**	**-0.3**
	baz=251						
TWF1	**Yuli**	**1.34**	**236**	eP	**Pn**	**20 40 16.8**	**+0.7**
	baz=223						
TWF1				eS	**Sn**	**20 40 33.5**	**+0.4**
	baz=223						
JKRS	**Kuro-shima**	**1.38**	**85**	P	**Pn**	**20 40 17.5**	**+0.9**
JKRS				S	**Sn**	**20 40 34.5**	**+0.7**
CHKT	**Chengkung**	**1.46**	**226**	eP	**Pn**	**20 40 18.7**	**+1.0**
	baz=223						
CHKT				eS	**Sn**	**20 40 34.2**	**-1.6**
	baz=223						
SMLT	**Sun Moon Lake**	**1.49**	**261**	eP	**Pb**	**20 40 19.7**	**-0.7**
	baz=259						
SMLT				eS	**Sn**	**20 40 37.4**	**+0.6**
	baz=259						
JIJ	**Ishigaki jima**	**1.51**	**80**	P	**Pn**	**20 40 18.6**	**+0.2**
JIJ				eS	**Sn**	**20 40 36.3**	**-0.9**
TYC	**Yuchr**	**1.53**	**262**	eP	**Pb**	**20 40 19.9**	**-1.0**
	baz=260						
TYC				eS	**Sn**	**20 40 38.2**	**+0.7**
	baz=260						
YUS	**Yu-Shan**	**1.56**	**247**	eP	**Pn**	**20 40 20.8**	**+1.3**
	baz=244						
YUS				eS	**Sn**	**20 40 39.2**	**+0.3**
	baz=244						
ELDTW	**Lidau**	**1.65**	**236**	eP	**Pn**	**20 40 21.1**	**+0.7**
	baz=233						
ALS	**Alishan**	**1.67**	**249**	eP	**Pb**	**20 40 23.1**	**-0.5**
	baz=247						
ALS				eS	**Sn**	**20 40 43.2**	**+1.6**
	baz=247						
JISG	**Ishigakijimahi**	**1.71**	**74**	P	**Pn**	**20 40 21.0**	**-0.1**
JISG				S	**Sn**	**20 40 40.1**	**-1.9**
CHN5	**Tsauling**	**1.75**	**253**	eP	**Pb**	**20 40 24.0**	**-0.9**
	baz=242						
CHN5				eS	**Sb**	**20 40 46.1**	**-0.4**
	baz=242						
STYT	**Tauyuan**	**1.86**	**240**	eP	**Pb**	**20 40 26.3**	**-0.5**
	baz=229						
STYT				eS	**Sn**	**20 40 47.8**	**+1.7**
	baz=229						
CHN4	**Tsaushan**	**1.91**	**247**	eP	**Pb**	**20 40 26.9**	**-0.7**
	baz=245						
CHN4				eS	**Sb**	**20 40 50.7**	**-0.3**
	baz=245						
WTP	**Ta-pu**	**1.94**	**244**	eP	**Pb**	**20 40 26.9**	**-1.1**
	baz=241						
WTP				eS	**Sn**	**20 40 49.1**	**+1.3**
	baz=241						
TWK	**Hsinying**	**2.04**	**246**	eP	**Pb**	**20 40 28.3**	**-1.4**
	baz=243						
TWK				eS	**Sb**	**20 40 53.7**	**-0.9**
	baz=243						
CHN1	**Nanshi**	**2.04**	**243**	eP	**Pb**	**20 40 28.6**	**-1.1**
	baz=241						
CHN1				eS	**Sb**	**20 40 54.1**	**-0.5**
	baz=241						
SGST	**Jiashian**	**2.04**	**240**	eP	**Pb**	**20 40 29.3**	**-0.5**
	baz=238						
SGST				eS	**Sb**	**20 40 54.1**	**-0.7**
	baz=238						
JTJ	**Tarama**	**2.07**	**75**	P	**Pn**	**20 40 26.9**	**+0.8**
JTJ				S	**Sn**	**20 40 50.7**	**-0.2**
SSD	**Sandimen**	**2.20**	**232**	eP	**Pb**	**20 40 31.4**	**-1.0**
	baz=225						
SSD				eS	**Sn**	**20 40 55.4**	**+1.2**
	baz=225						

*NIED **06** 20:49:00, 40°.20N×142°.90E, h5km, Mw3.7 Best double couple: M0=3.44000×10^14 NP1:φ0=258.00000°, δ45.00000°, λ-73.00000°. NP2:φ0=55.00000°, δ47.00000°, λ-106.00000°.*
*IDC **06** 20:49:03.2±1.1, 40°.22N×143°.07E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/36, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=30.0km s-min=19.0km az=90.0*
*ISCJB **06** 20:49:04.8±1.4, 40°.25N±0°.04×142°.89E±0°.08, h16km±9km, mb3.4/6, Error ellipse: s-maj=9.8km s-min=6.3km az=6.2*
*JMA **06** 20:49:05.1±0.2, 40°.24N×142°.87E, h26km±2km, M3.7*
ISC 06 20:49:05.0±1.8, 40°.24N±0°.05×142°.81E±0°.07, h9km±11km, n26, σ1.9/37/28, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.79**	**248**	P	**Pg**	**20 49 20.5**	**+0.4**
JTH				S	**Sg**	**20 49 31.8**	**+1.4**
JANG	**Nango**	**1.00**	**278**	P	**Pb**	**20 49 24.2**	**-0.3**
JANG				eS	**Sg**	**20 49 37.1**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.01**	**230**	P	**Pg**	**20 49 23.7**	**-0.7**
JOM	**Ohasama**	**1.40**	**237**	P	**Pn**	**20 49 30.0**	**-0.6**
JOM				eS	**Sn**	**20 49 48.2**	**-1.0**
JTM	**Tenmabayashi**	**1.44**	**293**	P	**Pn**	**20 49 30.7**	**-0.5**
JTM				S	**Sn**	**20 49 49.6**	**-0.6**
JAH	**Hinai**	**1.67**	**269**	P	**Pn**	**20 49 35.0**	**+0.7**
JAH				S	**Sn**	**20 49 56.4**	**+0.6**
JOT	**Ohata**	**1.76**	**311**	P	**Pn**	**20 49 35.3**	**-0.3**
JOT				S	**Sn**	**20 49 57.0**	**-1.2**
JMK	**Ichinoseki**	**1.78**	**224**	P	**Pb**	**20 49 36.5**	**-1.2**
JMK				S	**Sb**	**20 49 59.4**	**-0.7**
JRG	**Rokugo**	**1.88**	**244**	P	**Pb**	**20 49 38.5**	**-0.9**
JIO	**Ouri**	**2.11**	**213**	P	**Pb**	**20 49 41.2**	**-2.2**
JKB	**Kayabe**	**2.13**	**321**	P	**Pn**	**20 49 40.9**	**+0.2**
ASAJ	**Asahikawa**	**3.88**	**358**	Pn	**Pn**	**20 50 05.4**	**+0.6**
	3.3nm,0.3s,baz=207,slow=10,SNR=25						
ASAJ				Sn	**Sn**	**20 50 52.2**	**+1.7**
	2.5nm,0.3s,baz=319,slow=7.3,SNR=3.6						
MAT	**Matsushiro**	**5.17**	**226**	P	**Pn**	**20 50 26.1**	**+3.6**
MJAR	**Matsushiro Arr**	**5.17**	**226**	Pn	**Pn**	**20 50 25.6**	**+3.1**
	1.1nm,0.3s,baz=32,slow=13,SNR=27						
SONM	**Songino Array**	**27.06**	**298**	P	**P**	**20 54 49.3**	**+1.5**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.5						
H11N2	**WAKE ISLAND Hy 29.04**	**128**		T	T	21 25 58.3	
	baz=320,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy 29.05**	**128**		T	T	21 25 37.5	
	baz=320,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy 29.06**	**128**		T	T	21 25 29.9	
	baz=320,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy 29.86**	**129**		T	T	21 26 33.1	
	baz=322,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy 29.87**	**130**		T	T	21 26 33.6	
	baz=322,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy 29.88**	**130**		T	T	21 26 35.1	
	baz=322,slow=76,SNR=6.8						
ZALV	**Zalesovo Beam**	**40.64**	**310**	P	**P**	**20 56 45.7**	**+0.6**
	0.4nm,0.4s,baz=76,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**43.42**	**300**	P	**P**	**20 57 08.2**	**+0.3**
	0.6nm,0.6s,baz=84,slow=11,SNR=7.1						
ILAR	**Eielson Array**	**46.22**	**34**	P	**P**	**20 57 29.0**	**-0.9**
	0.3nm,0.6s,baz=264,slow=7.9,SNR=3.6

comp=Z,8.3nm,0.8s
DPC Dobruska-Polom 1.18 175 Pg **Pg 20 49 31.4 +0.3**
DPC Sg **Sg 20 49 46.3 -0.1**
8.3nm,0.8s
PVCC Panska Ves 1.42 226 *e*PG **Pb 20 49 36.1 +0.2**
PVCC *e*SG **Sb 20 49 54.7 +0.2**
comp=Z,12nm,0.2s
PVCC Panska Ves 1.42 226 Pg **Pb 20 49 36.1 +0.2**
PVCC Sg **Sb 20 49 54.7 +0.2**
12nm,0.2s
KRLC Kraliky 1.50 165 *e*PG **Pb 20 49 37.9 +0.6**
KRLC *e*SG **Sg 20 49 56.5 -0.2**
KRLC Kraliky 1.50 165 Pg **Pb 20 49 37.9 +0.6**
KRLC Sg **Sg 20 49 56.5 -0.2**
BRG Berggiesshubel 1.54 246 PG **Pg 20 49 38.2 0.0**
BRG SG **Sn 20 49 58.1 -0.1**
5.8nm,0.5s
GOPC GO Pecny, Ondr 1.83 209 *e*SG **Sb 20 50 06.5 0.0**
GOPC GO Pecny, Ondr 1.83 209 Sg **Sb 20 50 06.5 0.0**
PRU Pruhonice 1.85 215 *e*PG **Pb 20 49 43.1 -0.2**
PRU *e*SG **Sb 20 50 06.9 -0.1**
comp=Z,5.9nm,0.7s
PRU Pruhonice 1.85 215 Pg **Pb 20 49 43.1 -0.2**
PRU Sg **Sb 20 50 06.9 -0.1**
5.9nm,0.7s
MORC Moravsky Berou 1.95 153 *e*Sg **Sb 20 50 10.1 +0.1**
OKC Ostrava-Krasne 2.10 143 *e*SG **Sg 20 50 16.2 +0.1**
OKC Ostrava-Krasne 2.10 143 Sg **Sg 20 50 16.2 +0.1**
NKC Novy Kostel 2.69 243 *e*SG **Sg 20 50 35.5 +0.6**
NKC Novy Kostel 2.69 243 Sg **Sg 20 50 35.5 +0.6**
KHC Kasperske Hory 2.91 216 *e*PN **Pn 20 49 55.7 -0.5**
KHC *e*PG **Pb 20 50 02.5 +1.1**
KHC *e*SG **Sg 20 50 40.8 -1.4**
KHC Kasperske Hory 2.91 216 Pn **Pn 20 49 55.7 -0.5**

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*IDC **06** 20:58:37.1±0.6, 57°.87N×32°.55W, h0km, mb4.2/24, mb1 4.4/26, mb1mx4.3/41, mbtmp4.2/26, ML3.6/1, MS4.0/34, Ms1 4.1/34, ms1mx4.0/39, Error ellipse: s-maj=16.0km s-min=12.6km az=8.0*
*GCMT **06** 20:58:38.8±0.2, 58°.07N×32°.30W, h12km, MW4.9/88, Moment Tensor Solution. s28,c34; s88,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.62±.07; $M_{\theta\theta}$0.39±.08; $M_{\phi\phi}$2.23±.05; $M_{r\theta}$0.55±.25; $M_{\theta\phi}$1.26±.05; $M_{\phi r}$-0.42±.21; Best double couple: $M_0$2.83900×10^{16} NP1:ϕs13.00000°, δ48.00000°, λ-110.00000°. NP2: ϕs221.00000°, δ46.00000°, λ-69.00000°. Principal axes: T 2.8740, Plg1.0000°, Azm117.0000°; N -0.0690, Plg15.0000°, Azm26.0000°; P -2.8040, Plg75.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **06** 20:58:38.9±0.2, 57°.97N×32°.55W, h10km, mb4.8/24 Error ellipse: s-maj=10.1km s-min=6.6km az=9.0*
*NEIC **06** 20:58:38.8±0.2, 57°.87N×32°.46W, h10km, mb4.8/22, Error ellipse: s-maj=7.8km s-min=4.9km az=181.0*
*ISCJB **06** 20:58:39.0±0.3, 58°.06N±0°.06×32°.51W±0°.07, h18km, mb4.5/50, MS4.0/31, Error ellipse: s-maj=8.3km s-min=5.1km az=13.1*
ISC 06 20:58:40.3±0.4, 57°.94N±0°.07×32°.58W±0°.06, h18km, n135, σ1 9.35/108, mb4.6/50, MS4.0/31, 5C-2D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.70**	**34**	Pn	**Pn**	**21 00 45.1**	**+0.1**
BORG				LR	LR	21 02 51.7	
comp=Z,722nm,19.9s,slow=29							
SFJD	**Kangerlussuaq**	**12.27**	**325**	Pn	**Pn**	**21 01 34.6**	**+0.7**
0.4nm,0.3s,baz=170,slow=7.6,SNR=3.6							
SFJD				Sn	Sn	21 03 40.4	-10
0.6nm,0.3s,baz=134,slow=15,SNR=2.9							
SFJD				LR	LR	21 05 35.7	
comp=Z,3μm,18.6s,baz=133,slow=34							
SUMG	**Summit**	**14.89**	**353**	*i* P	**Pn**	**21 02 06.9**	**-3.0**
6.3nm,0.8s							
EKA	**Eskdalemuir Ar**	**16.33**	**87**	Pn	**P**	**21 02 30.6**	**-0.6**
baz=286,slow=10,SNR=5.0							
EKA				LR	LR	21 07 41.5	
comp=Z,972nm,18.5s,baz=30,slow=33							
DAG	**Danmarks Havn**	**19.54**	**10**	*i* P	**Pn**	**21 03 07.4**	**-0.4**
6.1nm,1.0s							
NOA	**NORSAR Array B**	**22.13**	**63**	P	**P**	**21 03 33.6**	**-1.0**
2.6nm,0.9s,baz=287,slow=11,SNR=3.4							
NOA				LR	LR	21 10 58.0	
comp=Z,334nm,19.8s,baz=290,slow=33							
PGAV	**Gavieira, Arco**	**22.18**	**126**	*e*LR	LR	21 08 15.6	
1μm,18.0s							
POLO	**Lamas de Olo**	**22.87**	**126**	*e*P	**P**	**21 03 47.3**	**+4.7**
POLO				*e*LR	LR	21 07 39.7	
506nm,20.0s							
PBRG	**Braganca**	**22.98**	**123**	*e*LR	LR	21 07 36.7	
737nm,20.0s							
PVIS	**Viseu**	**23.36**	**127**	*e*P	**P**	**21 03 50.1**	**+2.5**
36nm,1.2s							
PVIS	**Viseu**	**23.36**	**127**	*e*P	**P**	**21 03 50.1**	**+2.5**
36nm,1.2s							
MVO	**Moncorvo**	**23.37**	**125**	*e*P	**P**	**21 03 48.4**	**+0.7**
49nm,1.6s							
MVO				*e*S	**S**	**21 08 03.2**	**+3.5**
MVO				*e*LR	LR	21 09 10.5	
1μm,20.0s							
MVO	**Moncorvo**	**23.37**	**125**	*e*P	**P**	**21 03 48.4**	**+0.7**
49nm,1.6s							
HFS	**Hagfors**	**23.53**	**65**	P	**P**	**21 03 49.5**	**+0.4**
6.9nm,0.8s,baz=298,slow=3.1,SNR=4.5							
HFS				LR	LR	21 11 29.3	
comp=Z,438nm,18.6s,baz=286,slow=33							
PCAS	**Casmilo, Conde**	**23.66**	**129**	*e*LR	LR	21 09 43.3	
950nm,18.0s							
MTE	**Manteigas**	**23.77**	**127**	*e*P	**P**	**21 03 54.1**	**+2.4**
MTE				*e*LR	LR	21 08 43.8	
1μm,18.0s							
MTE				*e*S	Sn	21 08 48.0	+20
MTE	**Manteigas**	**23.77**	**127**	*e*P	**P**	**21 03 54.1**	**+2.4**
PMAFR	**Mafra**	**24.27**	**131**	*e*LR	LR	21 08 36.1	
934nm,20.0s							
PMRV	**Marv??o**	**24.65**	**128**	*e*P	**P**	**21 04 00.4**	**+0.7**
PMRV				*e*LR	LR	21 09 02.2	
769nm,20.0s							
PMRV				*e*S	S	21 09 14.2	+54
PMRV	**Marv??o**	**24.65**	**128**	*e*P	**P**	**21 04 00.4**	**+0.7**
PESTR	**Estremoz**	**25.04**	**129**	*e*P	**P**	**21 04 04.4**	**+1.2**
PESTR				*e*LR	LR	21 08 56.7	
783nm,20.0s							
PESTR	**Estremoz**	**25.04**	**129**	*e*P	**P**	**21 04 04.4**	**+1.2**
PNCL	**Nicolau / Gran**	**25.30**	**131**	*e*LR	LR	21 08 54.0	
1μm,20.0s							
PBAR	**Barrancos**	**25.85**	**129**	*e*LR	LR	21 09 25.5	
2μm,18.0s							
PCVE	**Castro Verde**	**25.91**	**131**	*e*LR	LR	21 09 07.2	
1μm,20.0s							
ESDC	**Sonseca Array**	**25.94**	**122**	P	**P**	**21 04 11.2**	**-0.3**
6.0nm,1.0s,baz=322,slow=8.8,SNR=14							
ESDC				LR	LR	21 12 19.3	
comp=Z,430nm,20.3s,baz=305,slow=32							
MORF	**Marmelete**	**25.95**	**132**	*e*LR	LR	21 10 23.5	
613nm,20.0s							
PFVI	**Vila Bisbo**	**26.03**	**133**	*e*LR	LR	21 08 54.1	
552nm,22.0s							
PVAQ	**Vaqueiros**	**26.23**	**131**	*e*LR	LR	21 09 17.6	
983nm,22.0s							
PVAQ				*e*S	S	21 09 27.1	+42
PBDV	**Barranco-do-Ve**	**26.29**	**131**	*e*LR	LR	21 09 17.3	
936nm,20.0s							
CLL	**Collm**	**26.77**	**84**	*e*P	**P**	**21 04 18.0**	**-0.8**
CLL				LmV		21 14 00.0	
comp=Z,700nm,18.8s							
ARCES	**ARCESS Array B**	**27.00**	**41**	P	**P**	**21 04 19.6**	**-1.1**
comp=Z,6.7nm,0.9s,baz=262,slow=6.9,SNR=10							
ARCES				LR	LR	21 12 53.6	
comp=Z,254nm,18.5s,baz=261,slow=32							
PMOZ	**Porto Moniz, M**	**27.21**	**151**	*e*S	S	21 09 23.7	+23
PMOZ				*e*LR	LR	21 09 27.9	
comp=Z,567nm,20.0s							
DAVOX	**Davos/Dischmat**	**27.76**	**95**	LR	LR	21 15 02.0	
comp=Z,686nm,18.4s,baz=310,slow=36							
GERES	**GERESS Array B**	**28.53**	**88**	P	**P**	**21 04 34.9**	**+0.2**
comp=Z,0.3nm,0.4s,baz=306,slow=8.4,SNR=3.3							
GERES				LR	LR	21 15 40.6	
comp=Z,601nm,18.4s,baz=298,slow=36							
FINES	**FINESS Array B**	**28.94**	**58**	P	**P**	**21 04 37.9**	**-0.1**
comp=Z,4.4nm,1.0s,baz=308,slow=12,SNR=2.5							
FINES				LR	LR	21 15 33.1	
comp=Z,366nm,18.0s,baz=263,slow=35							
VRAC	**Vranov**	**29.80**	**85**	LR	LR	21 16 44.2	
comp=Z,777nm,18.2s,baz=303,slow=36							
CRVS	**Cervenica-Dubn**	**32.62**	**82**	*e*P	**P**	**21 05 11.6**	**+1.0**
CRVS	**Cervenica-Dubn**	**32.62**	**82**	*e*P	**P**	**21 05 11.6**	**+1.0**
DRGR		**34.59**	**84**	⇑*i*P	**P**	**21 05 28.9**	**+1.1**
BZS	**Buzias**	**34.76**	**87**	⇓*i*P	**P**	**21 05 30.1**	**+0.8**
BURAR	**Bucovina Array**	**35.39**	**81**	⇑*i*P	**P**	**21 05 35.0**	**+0.2**
KEST	**Kesra**	**35.45**	**110**	LR	LR	21 18 42.4	
comp=Z,491nm,19.2s,baz=258,slow=34							
KIEV	**Kiev**	**35.60**	**74**	*e*P	**P**	**21 05 35.3**	**-1.1**
comp=Z,25nm,1.4s							
KIEV	**Kiev**	**35.60**	**74**	*e*P	**P**	**21 05 35.3**	**-1.1**
comp=Z,25nm,1.4s							
AKASG	**Malin Array Be**	**35.60**	**74**	P	**P**	**21 05 35.4**	**-1.1**
comp=Z,6.4nm,0.8s,baz=306,slow=8.4,SNR=23							
AKASG				LR	LR	21 19 32.7	
comp=Z,303nm,20.0s,baz=270,slow=35							
EYMN	**Ely**	**35.77**	**280**	*e*P	**P**	**21 05 38.1**	**+0.1**
comp=Z,18nm,1.0s							
EYMN	**Ely**	**35.77**	**280**	*e*P	**P**	**21 05 38.1**	**+0.1**
comp=Z,18nm,1.0s							
VOIR		**36.70**	**84**	⇑*i*P	**P**	**21 05 45.0**	**-1.0**
SORM	**Soroca**	**36.71**	**78**	⇓*i*P	**P**	**21 05 45.0**	**-0.9**
VRI	**Vrincioaia**	**37.31**	**82**	⇑*i*P	P	21 05 44.7	-6.4
YKA	**Yellowknife Ar**	**38.41**	**312**	P	**P**	**21 05 59.4**	**-0.8**
comp=Z,2.5nm,0.9s,baz=61,slow=9.1,SNR=2.8							
YKA				LR	LR	21 21 15.2	
comp=Z,181nm,18.4s,baz=0.0,slow=35							
CFR	**Carcaliu**	**38.51**	**82**	⇑*i*P	**P**	**21 05 59.5**	**-1.7**
ECSD	**EROS Data Cent**	**41.24**	**279**	*e*P	**P**	**21 06 25.1**	**+1.2**
comp=Z,11nm,1.0s							
ECSD	**EROS Data Cent**	**41.24**	**279**	*e*P	**P**	**21 06 25.1**	**+1.2**
comp=Z,11nm,1.0s							
INK	**Inuvik**	**41.61**	**327**	P	**P**	**21 06 27.6**	**+1.0**
comp=Z,5.0nm,1.1s,baz=35,slow=15,SNR=5.7							
INK				LR	LR	21 23 33.5	
comp=Z,490nm,18.2s,baz=62,slow=36							
CCM	**Cathedral Cave**	**42.42**	**268**	*e*P	**P**	**21 06 35.0**	**+1.4**
comp=Z,72nm,0.8s							
CCM	**Cathedral Cave**	**42.42**	**268**	*e*P	**P**	**21 06 35.0**	**+1.4**
comp=Z,72nm,0.8s							
TAM	**Tamanrasset**	**44.51**	**126**	*e*P	**P**	**21 06 49.2**	**-1.6**
comp=Z,12nm,1.3s							
TAM	**Tamanrasset**	**44.51**	**126**	*e*P	**P**	**21 06 49.2**	**-1.6**
comp=Z,12nm,1.3s							
EGMT	**Eagleton**	**45.05**	**292**	*e*P	**P**	**21 06 56.1**	**+1.3**
comp=Z,9.6nm,1.1s							
EGMT	**Eagleton**	**45.05**	**292**	*e*P	**P**	**21 06 56.1**	**+1.3**
comp=Z,9.6nm,1.1s							
BRTR	**Keskin Array B**	**45.22**	**84**	P	**P**	**21 06 56.7**	**+0.4**
comp=Z,2.7nm,0.8s,baz=317,slow=5.2,SNR=18							
BRTR				LR	LR	21 26 23.2	
comp=Z,179nm,20.6s,baz=296,slow=37							
ARU	**Arti**	**45.78**	**51**	*e*P	**P**	**21 06 59.4**	**-0.9**
comp=Z,33nm,1.4s							
ARU	**Arti**	**45.78**	**51**	*e*P	**P**	**21 06 59.4**	**-0.9**
comp=Z,33nm,1.4s							
NRIK	**Noril'sk**	**45.91**	**25**	LR	LR	21 25 57.4	
comp=Z,77nm,20.7s,baz=310,slow=36							
DAWY	**Dawson**	**46.22**	**324**	*e*P	**P**	**21 07 04.4**	**+0.7**
comp=Z,13nm,1.1s							
DAWY	**Dawson**	**46.22**	**324**	*e*P	**P**	**21 07 04.4**	**+0.7**
comp=Z,13nm,1.1s							
EGAK	**Eagle**	**46.25**	**326**	*e*P	**P**	**21 07 02.9**	**-1.0**
comp=Z,6.1nm,1.0s							
EGAK	**Eagle**	**46.25**	**326**	*e*P	**P**	**21 07 02.9**	**-1.0**
comp=Z,6.1nm,1.0s							
KIV	**Kislovodsk**	**46.92**	**73**	*e*P	**P**	**21 07 09.4**	**-0.1**
comp=Z,15nm,1.2s							
KIV	**Kislovodsk**	**46.92**	**73**	*e*P	**P**	**21 07 09.4**	**-0.1**
comp=Z,15nm,1.2s							
KBZ	**Khabaz**	**47.19**	**73**	P	**P**	**21 07 11.9**	**+0.4**
comp=Z,5.5nm,0.9s,baz=300,slow=6.7,SNR=13							
KBZ				LR	LR	21 26 54.2	
comp=Z,186nm,20.7s,baz=326,slow=36							
BOZ	**Bozeman (W)**	**47.66**	**291**	*e*P	**P**	**21 07 16.4**	**+1.0**
comp=Z,6.8nm,0.9s							
BOZ	**Bozeman (W)**	**47.66**	**291**	*e*P	**P**	**21 07 16.4**	**+1.0**
comp=Z,6.8nm,0.9s							
ILAR	**Eielson Array**	**47.92**	**328**	P	**P**	**21 07 17.9**	**+1.0**
comp=Z,8.3nm,0.9s,baz=33,slow=6.4,SNR=27							
ILAR				PcP	**PcP**	**21 08 44.6**	**-0.4**
comp=Z,1.6nm,0.7s,baz=8.5,slow=2.5,SNR=15							
ILAR				LR	LR	21 27 52.9	
comp=Z,275nm,19.7s,baz=54,slow=37							
PDAR	**Pinedale Array**	**48.64**	**287**	P	**P**	**21 07 22.9**	**-0.2**
comp=Z,4.6nm,0.8s,baz=51,slow=7.1,SNR=11							
PDAR				LR	LR	21 26 53.3	
comp=Z,685nm,18.1s,baz=45,slow=35							
ISCO	**Idaho Springs**	**48.76**	**281**	*e*P	**P**	**21 07 25.6**	**+1.5**
comp=Z,8.5nm,1.0s							
ISCO	**Idaho Springs**	**48.76**	**281**	*e*P	**P**	**21 07 25.6**	**+1.5**
comp=Z,8.5nm,1.0s							
TPAW	**Teton Pass**	**48.83**	**289**	*e*P	**P**	**21 07 24.8**	**+0.2**
comp=Z,9.2nm,1.0s							
TPAW	**Teton Pass**	**48.83**	**289**	*e*P	**P**	**21 07 24.8**	**+0.2**
comp=Z,9.2nm,1.0s							
REDW	**Red Top Meadow**	**48.87**	**289**	*e*P	**P**	**21 07 27.6**	**+2.8**
comp=Z,5.4nm,0.8s							
REDW	**Red Top Meadow**	**48.87**	**289**	*e*P	**P**	**21 07 27.6**	**+2.8**
comp=Z,5.4nm,0.8s							
O20A	**White River Ci**	**49.88**	**284**	*e*P	**P**	**21 07 34.2**	**+1.7**
comp=Z,18nm,1.0s							
O20A	**White River Ci**	**49.88**	**284**	*e*P	**P**	**21 07 34.2**	**+1.7**
comp=Z,18nm,1.0s							
TIXI	**Tiksi**	**50.04**	**8**	*e*P	**P**	**21 07 33.8**	**+0.8**
comp=Z,5.8nm,1.0s							
TIXI	**Tiksi**	**50.04**	**8**	*e*P	**P**	**21 07 33.9**	**+0.8**
comp=Z,5.8nm,1.0s							
GNI	**Garni**	**50.73**	**75**	*e*P	**P**	**21 07 39.8**	**+0.9**
comp=Z,63nm,1.1s							
GNI	**Garni**	**50.73**	**75**	*e*P	**P**	**21 07 39.8**	**+0.9**
comp=Z,63nm,1.1s							
BMO	**Blue Mountains**	**50.99**	**294**	*e*P	**P**	**21 07 39.6**	**-1.1**
comp=Z,4.4nm,0.9s							
BMO	**Blue Mountains**	**50.99**	**294**	*e*P	**P**	**21 07 39.6**	**-1.1**
comp=Z,4.4nm,0.9s							
ABKAR	**Akbulak array**	**51.42**	**57**	*e*P	**P**	**21 07 43.6**	**-0.1**
comp=Z,7.5nm,0.8s							
ABKAR	**Akbulak array**	**51.42**	**57**	*e*P	**P**	**21 07 43.6**	**-0.1**
comp=Z,7.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.65**	**136**	P	**P**	**21 07 44.7**	**-1.1**
comp=Z,3.4nm,0.6s,baz=332,slow=8.3,SNR=28							
TORD				LR	LR	21 27 42.6	
comp=Z,152nm,18.0s,baz=345,slow=34							
JCT	**Junction City**	**52.76**	**269**	*e*P	**P**	**21 07 53.1**	**-0.9**
comp=Z,8.2nm,0.9s							
JCT	**Junction City**	**52.76**	**269**	*e*P	**P**	**21 07 53.1**	**-0.9**
comp=Z,8.2nm,0.9s							
DBIC	**Dimbokro**	**55.49**	**146**	P	**P**	**21 08 12.3**	**-1.7**
comp=Z,3.2nm,0.9s,baz=61,slow=19,SNR=2.6							
DBIC				LR	LR	21 29 02.1	
comp=Z,372nm,20.6s,baz=325,slow=33							
TXAR	**Lajitas Array**	**55.72**	**271**	P	**P**	**21 08 16.2**	**+0.5**
comp=Z,1.4nm,0.8s,baz=52,slow=5.8,SNR=4.6							
TXAR				LR	LR	21 31 27.5	
comp=Z,238nm,18.5s,baz=0.0,slow=35							
ZALV	**Zalesovo Beam**	**57.50**	**38**	P	**P**	**21 08 27.4**	**-0.5**
comp=Z,0.8nm,0.6s,baz=317,slow=7.7,SNR=4.8							
ZALV				PcP	**PcP**	**21 09 20.6**	**-0.7**
comp=Z,0.6nm,0.5s,baz=339,slow=3.2,SNR=4.3							
ZALV				LR	LR	21 33 19.3	
comp=Z,82nm,18.3s,baz=62,slow=36							
KURK	**Kurchatov**	**57.97**	**44**	*e*P	**P**	**21 08 30.5**	**-0.7**
comp=Z,35nm,0.8s							
KURK	**Kurchatov**	**57.97**	**44**	*e*P	**P**	**21 08 30.5**	**-0.7**
comp=Z,35nm,0.8s							
GEYT	**Alibeck**	**59.16**	**67**	P	**P**	**21 08 39.8**	**+0.1**
comp=Z,2.9nm,0.9s,baz=286,slow=12,SNR=8.8							
GEYT				LR	LR	21 35 04.6	
comp=Z,116nm,19.9s,baz=325,slow=37							
ROSC	**El Rosal**	**62.13**	**229**	LR	LR	21 37 05.6	
comp=Z,35nm,18.0s,baz=12,slow=37							
MKAR	**Makanchi Array**	**62.58**	**45**	P	**P**	**21 09 02.6**	**-0.3**
comp=Z,3.9nm,0.7s,baz=333,slow=5.6,SNR=38							
MKAR				LR	LR	21 34 01.4	
comp=Z,59nm,18.6s,baz=336,slow=34							
KSH	**Kashi**	**66.12**	**53**	P	**P**	**21 09 28.2**	**+1.9**
KSH				pP	sP	21 09 33.7	-0.6
KSH				sP	pP	21 09 36.8	+4.7
KSH				PcP	**PcP**	**21 09 57.8**	**+1.2**
KSH				PP	**PP**	**21 11 56.5**	**+5.2**
KSH				PcS		21 14 02.6	
KSH				S	**S**	**21 18 15.0**	**+1.3**
KSH	**Kashi**	**66.12**	**53**	ScS	**SKiKP**	**21 19 29.5**	**-0.5**
KSH	**Kashi**	**66.12**	**53**	SS	SS	21 22 30.7	+2.2
KSH				pmax	pmax		
comp=Z,14nm,1.1s							
KSH				pmax	pmax		
comp=Z,150nm,4.7s							
KSH				LR	LR		
comp=N,120nm,5.2s							
KSH				LR	LR		
comp=E,170nm,4.8s							
KSH				LR	LR		
comp=Z,210nm,6.7s							
H10N2	**ASCENSION HYDR**	**67.18**	**160**	T	T	22 22 03.0	
baz=350,slow=75,SNR=18							
H10N3	**ASCENSION HYDR**	**67.19**	**161**	T	T	22 22 03.8	
baz=350,slow=75,SNR=18							
H10N1	**ASCENSION HYDR**	**67.20**	**160**	T	T	22 22 01.6	
baz=350,slow=75,SNR=18							
H10S1	**ASCENSION HYDR**	**68.24**	**161**	T	T	22 23 23.5	
baz=351,slow=75,SNR=129							
H10S3	**ASCENSION HYDR**	**68.25**	**161**	T	T	22 23 24.2	
baz=351,slow=75,SNR=139							
H10S2	**ASCENSION HYDR**	**68.26**	**161**	T	T	22 23 24.9	
baz=351,slow=75,SNR=137							
PETK	**Petropavlovsk-**	**68.99**	**353**	LR	LR	21 42 08.7	
comp=Z,23nm,18.5s,baz=35,slow=38							
SONM	**Songino Array**	**69.27**	**28**	P	**P**	**21 09 45.7**	**-0.3**
comp=Z,3.1nm,0.9s,baz=330,slow=6.3,SNR=17							
ULN	**Ulaanbaatar**	**69.40**	**28**	*e*P	**P**	**21 09 47.0**	**+0.1**
comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**69.40**	**28**	*e*P	**P**	**21 09 47.0**	**+0.1**
comp=Z,7.0nm,1.0s							
GTA	**Gaotai**	**75.15**	**36**	*e*P	**P**	**21 10 20.6**	**-0.7**
GTA				pP	pP	21 10 24.9	-2.3
GTA				sP	sP	21 10 27.6	-1.8
GTA				pmax	pmax		
comp=Z,5.0nm,1.5s							
LPAZ	**La Paz**	**79.58**	**215**	P	**P**	**21 10 45.7**	**-1.1**
comp=Z,0.8nm,0.8s,baz=0.0,slow=2.0,SNR=3.4							
LPAZ				LR	LR	21 43 58.6	
comp=Z,23nm,19.6s,baz=342,slow=34							
KMBO	**Kilima Mbogo**	**80.37**	**108**	LR	LR	21 47 41.5	
comp=Z,85nm,19.1s,baz=87,slow=37							
KSRS	**Korea Array**	**83.56**	**16**	P	**P**	**21 11 07.0**	**0.0**
comp=Z,1.1nm,0.8s,baz=355,slow=4.2,SNR=3.7							
KSRS				LR	LR	21 50 07.3	
comp=Z,27nm,18.9s,baz=350,slow=37							
KSAR	**Wonju Array Be**	**83.57**	**16**	P	**P**	**21 11 07.0**	**0.0**
KSAR	**Wonju Array Be**	**83.57**	**16**	P	**P**	**21 11 07.0**	**0.0**
CPUP	**Villa Florida**	**86.47**	**202**	P	**P**	**21 11 19.9**	**-1.5**
comp=Z,1.1nm,0.4s,baz=11,slow=7.6,SNR=3.1							
CPUP				LR	LR	21 46 40.8	
comp=Z,25nm,21.6s,baz=6.0,slow=33							
CMAR	**Chiang Mai Arr**	**93.98**	**45**	P	**P**	**21 11 56.2**	**-0.9**
comp=Z,0.8nm,0.8s,baz=324,slow=6.9,SNR=8.1							
CMAR				LR	LR	21 56 25.3	
comp=Z,49nm,21.3s,baz=305,slow=37							
BOSA	**Boshof**	**98.82**	**131**	LR	LR	21 54 16.1	
comp=Z,130nm,20.8s,baz=29,slow=34							
TAOE	**Nuku Hiva Isla**	**106.77**	**280**	*e*LR	LR	21 48 15.7	
comp=Z,263nm,23.8s							
PPT2	**Papeete2**	**119.01**	**284**	*e*LR	LR	21 53 55.1	
comp=Z,146nm,23.5s							
WRA	**Warramunga Arr**	**140.85**	**20**	PKhKP	PKPpre	21 18 05.3	
comp=Z,0.8nm,0.7s,baz=344,slow=2.1,SNR=3.1							
DZM	**Mont Dzumac**	**141.60**	**331**	*e*LR	LR	22 04 23.1	
comp=Z,154nm,27.4s							
ASAR	**Alice Springs**	**144.40**	**22**	PKP	PKPbc	21 18 13.4	-0.1
comp=Z,1.7nm,0.7s,baz=341,slow=2.8,SNR=18							
QSPA	**South Pole Qui**	**147.84**	**180**	*e*PKPbc	**PKPbc**	**21 18 21.8**	**-0.8**
QSPA	**South Pole Qui**	**147.84**	**180**	*e*PKPbc	**PKPbc**	**21 18 21.8**	**-0.8**
STKA	**Stephens Creek**	**153.63**	**11**	PKPbc	**PKPbc**	**21 18 36.5**	**-0.9**
comp=Z,1.5nm,0.8s,baz=336,slow=6.1,SNR=4.8							
VNDA	**Vanda**	**159.72**	**189**	PKPab	**PKPab**	**21 19 15.2**	**+0.2**
comp=Z,1.0nm,0.9s,baz=165,slow=5.8,SNR=3.7							

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*IDC **06** 21:07:54.9±1.1, 57°.88N×32°.48W, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/44, mbtmp3.7/11, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=31.3km s-min=20.1km az=25.0*
*ISCJB **06** 21:07:55.9±0.9, 57°.9N±0°.2×32°.4W±0°.2, h18km, mb3.8/11, Error ellipse: s-maj=24.9km s-min=13.1km az=23.8*
*NEIC **06** 21:07:56.2±0.7, 57°.88N×32°.47W, h10km, mb4.6/1, Error ellipse: s-maj=22.5km s-min=11.6km az=22.0*
ISC 06 21:07:57.6±1.1, 57°.9N±0°.2×32°.4W±0°.1, h18km, n21, σ0 8.85/13, mb3.8/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.37**	**325**	LR	LR	21 14 26.8	
comp=Z,161nm,18.4s,baz=160,slow=32							
EKA	**Eskdalemuir Ar**	**16.26**	**86**	Pn	**Pn**	**21 11 43.3**	**-1.4**
baz=297,slow=11,SNR=3.5							
ESDC	**Sonseca Array**	**25.84**	**122**	P	**P**	**21 13 28.6**	**+0.7**
1.4nm,1.0s,baz=331,slow=8.8,SNR=5.4							
AKASG	**Malin Array Be**	**35.54**	**74**	P	**P**	**21 14 52.2**	**-1.0**
1.1nm,0.6s,baz=308,slow=7.9,

MURC			S		Sg	21 13 11.7	-0.2
	baz=142						
IKP	**In-Ko-Pah, Jac**	**0.77 133**	P		**Pg**	**21 13 08.8**	**0.0**
	baz=313,SNR=9.1						
IKP			S		Sg	21 13 19.2	0.0
	baz=313						
SWSC	**Sam W. Stewart**	**0.86 106**	P		**Pg**	**21 13 10.7**	**+0.3**
	baz=286						
SWSC			S		Sg	21 13 22.0	+0.3
	baz=286						
YUH	**Yuha Desert**	**0.90 126**	||P		**Pb**	**21 13 11.1**	**+0.4**
YUH			eS		Sb	21 13 22.7	+0.4
BELC	**Belle Mtn. Jos**	**1.04 38**	P		**Pb**	**21 13 13.6**	**+0.2**
	baz=220,SNR=17						
BELC			S		Sb	21 13 27.1	+0.4
	baz=220						
BBRC	**Big Bear Solar**	**1.08 354**	P		**Pb**	**21 13 14.2**	**+0.1**
	baz=175						
BC3	**Big Chuckawall**	**1.21 67**	P		**Pn**	**21 13 15.2**	**-0.6**
	baz=248						
BFSC	**Mount Baldy Ra**	**1.28 325**	S		**Sb**	**21 13 33.6**	**0.0**
	baz=146						
CIS	**Catalina Islan**	**1.39 280**	P		**Pn**	**21 13 17.4**	**-0.8**
	baz=99						
PASC	**Pasadena Art C**	**1.53 310**	ePn		**Pn**	**21 13 20.6**	**+0.4**
PASC			eSg		Sb	21 13 41.8	+1.1
GLA	**Glamis**	**1.64 94**	P		**Pn**	**21 13 21.4**	**-0.4**
	baz=275						
GLA			S		Sn	21 13 41.7	-0.8
	baz=275						
IRM	**Iron Mountain**	**1.67 54**	P		**Pn**	**21 13 22.1**	**-0.1**
	baz=235,SNR=14						
DECC	**Green Verdugo**	**1.68 310**	Sb		**Sb**	**21 13 45.7**	**+0.7**
	baz=130						
Y12C	**Blythe**	**1.97 73**	P		**Pn**	**21 13 26.0**	**-0.2**
	baz=254,SNR=5.5						
EDW2	**Edwards Air Fo**	**1.97 330**	Sb		**Sb**	**21 13 54.3**	**+0.9**
	baz=150						

*ISCJB **06** 21:18:28.5±0.6, 50°.25N±0°.04×19°.18E±0°.03, h0km, Error ellipse: s-maj=6.4km s-min=2.5km az=14.8*
*CSEM **06** 21:18:29.8±0.4, 50°.24N×19°.24E, h2km, ML2.8/6, Error ellipse: s-maj=8.4km s-min=3.3km az=12.0*
*PRU **06** 21:18:30.7, 50°.24N×19°.24E, h0km*

ISC 06 21:18:30.1±0.9, 50°.20N±0°.04×19°.22E±0°.02, h0km, n32, σ0s50/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**87**	ePg	**Pg**	**21 18 37.1**	**-0.1**
OJC				eSg	**Sg**	**21 18 41.4**	**-0.7**
OJC	**Ojcow**	**0.37**	**87**	ePg	**Pg**	**21 18 37.1**	**-0.1**
OJC				eSg	**Sg**	**21 18 41.4**	**-0.7**
OKC	**Ostrava-Krasne**	**0.78**	**243**	ePG	**Pb**	**21 18 46.9**	**+0.4**
OKC				eSG	**Sb**	**21 18 57.1**	**-0.5**
	comp=Z,15nm,0.3s						
OKC	**Ostrava-Krasne**	**0.78**	**243**	Pg	**Pb**	**21 18 46.9**	**+0.4**
OKC				Sg	**Sb**	**21 18 57.1**	**-0.5**
	15nm,0.3s						
NIE	**Niedzica**	**1.05**	**138**	ePg	**Pg**	**21 18 50.1**	**-0.1**
NIE				eSg	**Sg**	**21 19 04.2**	**+0.4**
NIE	**Niedzica**	**1.05**	**138**	ePg	**Pg**	**21 18 50.1**	**-0.1**
NIE				eSg	**Sg**	**21 19 04.2**	**+0.4**
LANS	**Liptovska Anna**	**1.06**	**171**	ePg	**Pb**	**21 18 51.2**	**-0.2**
LANS				eSg	**Sb**	**21 19 05.6**	**-0.2**
LANS	**Liptovska Anna**	**1.06**	**171**	ePG	**Pb**	**21 18 51.2**	**-0.2**
LANS				eSG	**Sb**	**21 19 05.6**	**-0.2**
MORC	**Moravsky Berou**	**1.16**	**249**	ePg	**Pn**	**21 18 53.8**	**+0.2**
MORC				eSg	**Sn**	**21 19 09.8**	**-0.4**
STHS	**Stebnicka Huta**	**1.53**	**120**	ePg	**Pg**	**21 18 59.7**	**+0.3**
STHS				eSn	**Sn**	**21 19 20.1**	**+0.8**
STHS	**Stebnicka Huta**	**1.53**	**120**	ePG	**Pg**	**21 18 59.7**	**+0.3**
STHS				eSN	**Sn**	**21 19 20.1**	**+0.8**
STHS				eLG	Lg	21 19 21.4	
KRLC	**Kraliky**	**1.57**	**266**	ePG	**Pn**	**21 18 59.7**	**+0.4**
KRLC				eSG	**Sb**	**21 19 20.6**	**+0.1**
KRLC	**Kraliky**	**1.57**	**266**	Pg	**Pn**	**21 18 59.7**	**+0.4**
KRLC				Sg	**Sb**	**21 19 20.6**	**+0.1**
VYHS	**Vyhne**	**1.72**	**188**	ePg	**Pn**	**21 19 01.4**	**0.0**
VYHS	**Vyhne**	**1.72**	**188**	ePG	**Pn**	**21 19 01.4**	**0.0**
VYHS				eSN	**Sn**	**21 19 23.7**	**-0.4**
VYHS				eLG	Lg	21 19 26.0	
DPC	**Dobruska-Polom**	**1.86**	**276**	ePG	**Pb**	**21 19 04.5**	**-0.5**
DPC				eSG	**Sg**	**21 19 30.0**	**+0.1**
	comp=Z,15nm,0.4s						
DPC	**Dobruska-Polom**	**1.86**	**276**	Pg	**Pb**	**21 19 04.5**	**-0.5**
DPC				Sg	**Sg**	**21 19 30.0**	**+0.1**
	15nm,0.4s						
KECS	**Kecovo**	**1.91**	**154**	eSn	**Sb**	**21 19 30.1**	**0.0**
KECS	**Kecovo**	**1.91**	**154**	eSN	**Sb**	**21 19 30.0**	**0.0**
KECS				eLG	Lg	21 19 36.5	
VRAC	**Vranov**	**1.92**	**243**	eSg	**Sg**	**21 19 32.2**	**+0.4**
UPC	**Upice**	**2.08**	**280**	eSG	**Sg**	**21 19 37.6**	**+0.8**
	comp=Z,9.0nm,0.6s						
UPC	**Upice**	**2.08**	**280**	Sg	**Sg**	**21 19 37.6**	**+0.8**
	9.0nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.87**	**266**	eSG	**Sg**	**21 20 01.5**	**-0.7**
	comp=Z,6.1nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.87**	**266**	Sg	**Sg**	**21 20 01.5**	**-0.7**
	6.1nm,0.4s						
PVCC	**Panska Ves**	**3.00**	**278**	eSG	**Sg**	**21 20 07.3**	**+1.0**
	comp=Z,12nm,0.6s						
PVCC	**Panska Ves**	**3.00**	**278**	Sg	**Sg**	**21 20 07.3**	**+1.0**
	12nm,0.6s						
PRU	**Pruhonice**	**3.02**	**268**	eSG	**Sg**	**21 20 06.3**	**-0.7**
	comp=Z,8.8nm,0.9s						
PRU	**Pruhonice**	**3.02**	**268**	Sg	**Sg**	**21 20 06.3**	**-0.7**
	8.8nm,0.9s						
KHC	**Kasperske Hory**	**3.82**	**256**	ePN	**Pn**	**21 19 30.0**	**-0.1**
KHC				eSG	**Sg**	**21 20 32.1**	**-0.5**
KHC	**Kasperske Hory**	**3.82**	**256**	Pn	**Pn**	**21 19 30.0**	**-0.1**
KHC				Sg	**Sg**	**21 20 32.1**	**-0.5**
NKC	**Novy Kostel**	**4.35**	**273**	eSG	**Sg**	**21 20 50.0**	**+0.3**
NKC	**Novy Kostel**	**4.35**	**273**	Sg	**Sg**	**21 20 50.0**	**+0.3**

IDC 06 21:23:04.7±7.4, 62°.50S×154°.08E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML3.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=539.8km s-min=41.5km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.29**	**174**	Pn	Pn	21 26 41.5	0.0
	0.3nm,0.3s,baz=338,slow=13,SNR=25						
VNDA				LR	LR	21 32 17.5	
	comp=Z,550nm,18.5s,baz=351,slow=36						
RPZ	**Rata Peaks**	**21.27**	**36**	LR	LR	21 33 58.4	
	comp=Z,514nm,20.2s,baz=208,slow=31						
STKA	**Stephens Creek**	**31.67**	**339**	LR	LR	21 38 51.3	
	comp=Z,75nm,20.2s,baz=156,slow=30						
MAW	**Mawson**	**35.48**	**221**	LR	LR	21 45 01.3	
	comp=Z,269nm,18.8s,baz=68,slow=37						
H01W1	**Cape Leeuwin H**	**37.16**	**299**	T	T	22 10 08.9	
	baz=150,slow=75,SNR=84						
H01W2	**Cape Leeuwin H**	**37.16**	**299**	T	T	22 10 09.0	
	baz=150,slow=75,SNR=40						
H01W3	**Cape Leeuwin H**	**37.17**	**299**	T	T	22 10 09.7	
	baz=150,slow=75,SNR=65						
ASAR	**Alice Springs**	**41.15**	**331**	P	P	21 30 50.6	+0.1
	0.9nm,0.9s,baz=162,slow=9.2,SNR=6.9						
WRA	**Warramunga Arr**	**44.66**	**333**	P	P	21 31 18.5	-0.4
	0.9nm,0.9s,baz=164,slow=7.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**91.54**	**309**	LR	LR	22 16 25.6	
	comp=Z,15nm,18.5s,baz=345,slow=35						

KRSC 06 21:41:24.3±1.0, 52°.81N×160°.05E, h50km±7km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.29**	**356**	eP	Pn	21 41 34.6	+1.3
SPN				eS	Sn	21 41 40.7	+1.0
NLC	**Nalytchevo**	**0.56**	**310**	eP	Pn	21 41 37.2	+1.0
NLC				eS	Sn	21 41 45.3	+0.5
DALK	**Dalny**	**0.82**	**286**	eP	Pn	21 41 40.6	+1.1
DALK				eS	Sn	21 41 52.1	+1.4
UGLR	**Uglovaya**	**0.84**	**299**	eP	Pn	21 41 41.3	+1.3
SDLR	**Sedlovina**	**0.85**	**304**	eP	Pn	21 41 41.2	+1.1
PET	**Petropavlovsk**	**0.88**	**285**	eP	Pn	21 41 41.4	+1.1
PET				eS	Sn	21 41 53.5	+1.5
AVH	**Avacha**	**0.92**	**300**	eP	Pn	21 41 42.4	+1.5
KRER	**Koryakskii**	**0.93**	**303**	eP	Pn	21 41 42.9	+1.7
KOK	**Koryaka**	**0.98**	**300**	eP	Pn	21 41 43.5	+1.7
KRX	**Arik**	**1.01**	**303**	eP	Pn	21 41 43.6	+1.4
RUS	**Russkaya**	**1.01**	**249**	eP	Pn	21 41 43.0	+0.9
RUS				eS	Sn	21 41 56.3	+1.0
KRMR	**Karymshinskiy**	**1.17**	**272**	eP	Pn	21 41 45.4	+1.2
KRMR				eS	Sn	21 41 59.7	+0.7
MTVR	**Mutnovka**	**1.19**	**255**	eP	Pn	21 41 46.1	+1.5
MTVR				eS	Sn	21 42 01.2	+1.5
ASAK	**Asacha**	**1.38**	**253**	eP	Pn	21 41 49.1	+1.9
ASAK				eS	Sn	21 42 05.6	+1.2
GNL	**Ganaly**	**1.55**	**306**	eP	Pn	21 41 52.0	+2.5
APC	**Apacha**	**1.76**	**275**	eP	Pn	21 41 55.0	+2.7
APC				eS	Sn	21 42 16.5	+3.0
MKZ	**Mys Kozlova**	**2.01**	**29**	eP	Pn	21 41 57.4	+1.7
MKZ				eS	Sn	21 42 20.8	+1.1

*IDC **06** 21:51:37.4±2.3, 22°.08S×179°.47W, h550km±26km, mb3.0/3, mb1 3.4/6, mb1mx3.1/41, mbtmp4.3/6, Error ellipse: s-maj=24.8km s-min=22.0km az=95.0*
*ISCJB **06** 21:51:38.3±0.9, 22°.2S±0°.1×179°.4W±0°.2, h592km, mb3.5/3, Error ellipse: s-maj=21.2km s-min=13.1km az=10.8*

ISC 06 21:51:39.4±0.9, 22°.2S±0°.1×179°.5W±0°.1, h592km, n10, σ2s45/10, mb3.8/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.00**	**43**	P	**P**	**21 54 06.0**	**-2.3**
	4.5nm,0.3s,baz=223,slow=18,SNR=3.7						
DZM	**Mont Dzumac**	**13.06**	**268**	P	**P**	**21 54 25.4**	**-3.6**
	0.3nm,0.3s,baz=102,slow=16,SNR=2.2						
URZ	**Urewera**	**16.29**	**190**	P	**P**	**21 54 58.3**	**-1.3**
	2.6nm,0.3s,baz=4.1,slow=4.2,SNR=13						
URZ				S	**S**	**21 57 40.0**	**-2.6**
	0.7nm,0.3s,baz=253,slow=23,SNR=6.6						
STKA	**Stephens Creek**	**35.84**	**246**	P	**P**	**21 57 51.5**	**+0.8**
	1.0nm,0.4s,baz=92,slow=9.6,SNR=5.9						
SIJI	**Sorong**	**52.38**	**287**	P	**P**	**21 59 58.9**	**+0.8**
	200nm,0.7s,baz=88,slow=5.7,SNR=12						
VNDA	**Vanda**	**56.13**	**185**	P	**P**	**22 00 25.6**	**+2.3**
	0.5nm,0.6s,baz=5.7,slow=7.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**22 03 36.6**	**+2.2**
	1.4nm,0.8s,baz=128,slow=3.4,SNR=8.0						
AKASG	**Malin Array Be**	**143.78**	**329**	PKP	PKPbc	22 10 07.6	+0.6
	0.6nm,0.4s,baz=40,slow=4.4,SNR=5.8						
BRTR	**Keskin Array B**	**146.90**	**310**	PKPbc	**PKPbc**	**22 10 18.2**	**+1.6**
	0.6nm,0.6s,baz=85,slow=3.2,SNR=4.4						
GERES	**GERESS Array B**	**151.40**	**342**	PKPbc	**PKPbc**	**22 10 28.1**	**+1.0**
	0.4nm,0.5s,baz=25,slow=4.9,SNR=2.6						

*ISCJB **06** 21:52:35.7±0.2, 7°.63S±0°.03×129°.60E±0°.03, h100km, mb4.6/44, Error ellipse: s-maj=4.3km s-min=3.6km az=147.3*
*IDC **06** 21:52:35.6±2.4, 7°.49S×129°.50E, h80km±21km, mb4.2/21, mb1 4.2/22, mb1mx4.1/44, mbtmp4.5/22, MS3.4/6, Ms1 3.4/6, ms1mx3.0/30, Error ellipse: s-maj=17.6km s-min=10.3km az=79.0*
*NEIC **06** 21:52:36.1±0.6, 7°.65S×129°.55E, h90km±6km, mb4.7/23, Error ellipse: s-maj=7.6km s-min=5.8km az=59.0*
*BJI **06** 21:52:36.8, 7°.72S×129°.65E, h110km, mb4.3/23, mB4.9/17*
*DJA **06** 21:52:38.2±0.2, 8°.5S±3°.×13°.0E±°, h85km±5km, M5.0/18, mb4.9/18, mB5.3/6, MLv5.1/11, Mw(mB)4.8/6*

ISC 06 21:52:37.3±0.3, 7°.62S±0°.04×129°.64E±0°.04, h100km, n149, σ1s77/152, mb4.5/43, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.69**	**102**	P	**Pn**	**21 53 09.4**	**+3.5**
SAUI				S	**Sn**	**21 53 26.6**	**-1.1**
SAUI	**Saumlaki**	**1.69**	**102**	ePn	**Pn**	**21 53 09.4**	**+3.5**
BNDI	**Bandanaira**	**3.09**	**5**	P	**Pn**	**21 53 27.0**	**+2.7**
AAI	**Ambon**	**4.16**	**340**	P	**Pn**	**21 53 40.7**	**+1.9**
MSAI	**Masohi**	**4.30**	**351**	P	**Pn**	**21 53 43.6**	**+2.9**
NLAI	**Namlea**	**5.03**	**330**	P	**Pn**	**21 53 53.4**	**+2.9**
FAKI	**Fak Fak**	**5.34**	**29**	P	**Pn**	**21 53 54.7**	**-0.1**
	249nm,0.4s,5μm1.3nm						
FAKI	**Fak Fak**	**5.34**	**29**	ePn	**Pn**	**21 53 54.8**	**-0.1**
MTN	**Manton Dam**	**5.40**	**164**	P	**Pn**	**21 53 55.6**	**+0.1**
	baz=5.3,SNR=1000						
MTN	**Manton Dam**	**5.40**	**164**	ePn	**Pn**	**21 53 56.3**	**+0.8**
KMPI	**Kaimana, Papua**	**5.64**	**46**	P	**Pn**	**21 53 59.9**	**+1.1**
	236nm,0.5s,6μm4.1nm						
SOEI	**Soe**	**5.72**	**248**	P	**Pn**	**21 54 00.3**	**+0.4**
SOEI	**Soe**	**5.72**	**248**	ePn	**Pn**	**21 53 57.8**	**-2.1**
KDU	**Kakadu**	**5.76**	**151**	P	**Pn**	**21 53 59.7**	**-0.7**
	baz=5.7,SNR=389						
SIJI	**Sorong**	**6.90**	**14**	P	**Pn**	**21 54 14.7**	**-1.2**
	203nm,0.3s,baz=213,slow=11,SNR=49						
SIJI				S	**Sn**	**21 55 30.1**	**-2.9**
	121nm,0.3s,baz=241,slow=23,SNR=8.8						
LBMI	**Labuha**	**7.25**	**343**	P	**Pn**	**21 54 23.9**	**+3.1**
	80nm,1.3s,1μm0.4nm						
BBSI	**Bau Bau**	**7.33**	**286**	P	Pn	21 54 27.4	+5.6
MMRI	**Maumere**	**7.39**	**262**	P	**Pn**	**21 54 23.8**	**+1.1**
MMRI	**Maumere**	**7.39**	**262**	ePn	**Pn**	**21 54 20.4**	**-2.2**
KNRA	**Kununurra**	**8.05**	**186**	P	**Pn**	**21 54 29.7**	**-1.9**
	baz=7.9,SNR=241						
SPSI	**Sidrap Palu**	**10.46**	**290**	P	**Pn**	**21 55 05.7**	**+1.2**
	22nm,1.0s						
SMPI	**Sarmi**	**10.63**	**59**	P	**Pn**	**21 55 07.8**	**+1.1**
	25nm,0.7s						
GENI	**Genyem**	**11.62**	**65**	P	**Pn**	**21 55 21.9**	**+1.9**
	32nm,0.5s						
PLAI	**Plampang**	**11.80**	**263**	P	**Pn**	**21 55 20.9**	**-1.6**
JAY	**Jayapura**	**12.13**	**66**	P	**Pn**	**21 55 25.4**	**-1.5**
	0.0nm,0.3s,baz=72,slow=19,SNR=3.1						
JAY				S	**Sn**	**21 57 38.8**	**-1.7**
	0.1nm,0.3s,baz=197,slow=19,SNR=3.1						
WRAB	**Tennant Creek**	**13.07**	**160**	ePn	**Pn**	**21 55 35.3**	**-3.9**
	65nm,0.4s						
WRAB				eSn	Sn	21 57 51.3	-12
WRA	**Warramunga Arr**	**13.07**	**160**	P	**Pn**	**21 55 35.8**	**-3.5**
	23nm,0.3s,baz=335,slow=13,SNR=181						
WRA				S	Sn	21 57 51.2	-12
	37nm,0.3s,baz=342,slow=22,SNR=15						
WRA				LR	LR	22 01 34.4	
	comp=Z,281nm,18.5s,baz=320,slow=41						
WB2	**Warramunga Arr**	**13.08**	**160**	ePn	**Pn**	**21 55 35.1**	**-4.2**
COEN	**Coen**	**14.71**	**116**	ePn	**Pn**	**21 56 00.0**	**-0.5**
QIS	**Mount Isa**	**16.08**	**144**	P	**Pn**	**21 56 16.6**	**-1.1**
	baz=16,SNR=28						
AS31	**Alice Springs**	**16.47**	**166**	ePn	**Pn**	**21 56 19.5**	**-3.1**
	30nm,0.6s						
ASAR	**Alice Springs**	**16.47**	**166**	P	**Pn**	**21 56 20.2**	**-2.4**
	7.9nm,0.3s,baz=346,slow=11,SNR=151						
ASAR				S	Sn	21 59 13.2	-12
	6.3nm,0.3s,baz=344,slow=22,SNR=8.5						
ASAR				LR	LR	22 03 36.6	
	comp=Z,138nm,19.5s,baz=348,slow=40						
AS01	**Alice Springs**	**16.48**	**166**	ePn	**Pn**	**21 56 19.7**	**-3.0**
MBWA	**Marble Bar**	**16.52**	**214**	ePn	**Pn**	**21 56 21.2**	**-1.9**
	42nm,0.8s						
PMG	**Port Moresby**	**17.42**	**97**	P	**P**	**21 56 33.5**	**-0.5**
	0.7nm,0.3s,baz=262,slow=15,SNR=2.5						
PMG				S	**Sn**	**21 59 38.9**	**-9.3**
	1.3nm,0.3s,baz=2.3,slow=22,SNR=1.9						
MTSU	**Mount Surprise**	**17.71**	**128**	P	**Pn**	**21 56 39.1**	**+1.4**
	baz=18,SNR=131						
MANU	**Manus Island**	**18.51**	**73**	eP	**Pn**	**21 56 51.1**	**+3.8**
	23nm,0.8s						
PBKI	**Pangkalan Bun**	**18.54**	**284**	P	**Pn**	**21 56 48.6**	**+0.9**
	208nm,1.1s						
STKI	**Sintang**	**19.65**	**292**	P	**Pn**	**21 56 59.4**	**-1.4**
	26nm,0.8s,2μm						
SBUM	**Sibu**	**20.05**	**299**	eP	**Pn**	**21 57 03.3**	**-2.1**
	20nm,0.8s						
CTA	**Charters Tower**	**20.32**	**129**	P	Pn	21 57 08.3	-0.2
	11nm,0.7s,baz=312,slow=13,SNR=17						
CTA				S	Sn	22 00 58.4	+0.6
	7.6nm,0.7s,baz=232,slow=19,SNR=4.7						
CTAO	**Charters Tower**	**20.32**	**129**	eP	**P**	**21 57 06.2**	**+0.5**
	14nm,0.7s						
CMJI	**Cimerak**	**21.00**	**268**	P	Pn	21 57 14.7	-1.8
	28nm,1.0s						
GIRL	**Giralia**	**21.04**	**223**	P	**P**	**21 57 12.5**	**-0.9**
	baz=21,SNR=6.2						
JCJI	**Jatiwangi**	**21.23**	**272**	P	**P**	**21 57 18.1**	**+2.6**
KSM	**Kuching**	**21.29**	**294**	eP	**P**	**21 57 14.6**	**-1.5**
	23nm,0.9s						
CISI	**Cisompet, Garu**	**21.63**	**269**	P	**P**	**21 57 22.1**	**+2.3**
	44nm,0.8s						
CISI	**Cisompet, Garu**	**21.63**	**269**	eP	**P**	**21 57 17.4**	**-2.3**
	29nm,0.6s						
FORT	**Forrest**	**23.09**	**183**	P	**P**	**21 57 34.9**	**+0.4**
	baz=23,SNR=133						
FORT	**Forrest**	**23.09**	**183**	eP	**P**	**21 57 35.0**	**+0.4**
	594nm,0.6s						
QLP	**Quilpie**	**23.41**	**145**	P	**P**	**21 57 39.5**	**+1.9**
	baz=24,SNR=59						
KMBL	**Kambalda**	**24.71**	**196**	P	**P**	**21 57 49.3**	**0.0**
	baz=25,SNR=23						
MORW	**Morawa**	**24.89**	**209**	P	**P**	**21 57 52.6**	**+1.7**
	baz=25,SNR=13						
BBOO	**Buckleboo**	**25.77**	**167**	P	**P**	**21 57 59.4**	**+0.6**
	baz=26,SNR=34						
BBOO	**Buckleboo**	**25.77**	**167**	eP	**P**	**21 57 59.7**	**+0.9**
	112nm,1.7s						
BLDU	**Ballidu**	**25.88**	**206**	P	**P**	**21 57 59.7**	**-0.2**
	baz=26,SNR=27						
GUMO	**Guam**	**25.94**	**36**	LR	LR	22 07 36.4	
	comp=Z,34nm,21.1s,baz=108,slow=35						
KLBR	**Kellerberrin**	**26.30**	**203**	P	**P**	**21 58 04.5**	**+0.8**
	baz=26,SNR=13						
STKA	**Stephens Creek**	**26.59**	**157**	P	**P**	**21 58 07.4**	**+1.2**
	6.8nm,0.5s,baz=330,slow=9.3,SNR=12						
STKA				LR	LR	22 10 19.6	
	comp=Z,164nm,18.5s,baz=24,slow=40						
STKA	**Stephens Creek**	**26.59**	**157**	P	**P**	**21 58 07.8**	**+1.5**
	baz=27,SNR=11						
STKA	**Stephens Creek**	**26.59**	**157**	eP	**P**	**21 58 07.7**	**+1.5**
	3.8nm,0.7s						
HTT	**Hallett**	**27.09**	**163**	P	**P**	**21 58 11.6**	**+0.8**
	baz=27,SNR=14						
NWAO	**Narrogin (SRO)**	**27.69**	**203**	P	**P**	**21 58 16.7**	**+0.6**
	4.0nm,0.4s,baz=264,slow=9.3,SNR=16						
NWAO				LR	LR	22 10 11.7	
	comp=Z,61nm,20.6s,baz=126,slow=38						
NWAO	**Narrogin (SRO)**	**27.69**	**203**	P	**P**	**21 58 17.0**	**+0.9**
	baz=28,SNR=11						
NWAO				P	**P**	**21 58 17.0**	**+0.9**
	baz=28,SNR=11						
CMSA	**Cobar Meteorol**	**28.12**	**150**	P	**P**	**21 58 20.4**	**+0.5**
	baz=28,SNR=15						
ARPS	**Mount Arapiles**	**31.07**	**161**	P	**P**	**21 58 47.8**	**+1.8**
	baz=31,SNR=15						
PSI	**Prapat**	**32.34**	**288**	P	**P**	**21 58 55.7**	**-1.9**
	3.4nm,0.4s,baz=118,slow=15,SNR=3.0						
TOO	**Toolangi**	**33.11**	**157**	P	**P**	**21 59 04.4**	**+0.5**
	baz=33,SNR=5.2						
LHI	**Lord Howe Isla**	**36.31**	**135**	P	**P**	**21 59 32.0**	**+0.6**
	baz=36,SNR=3.2						
CM01	**Chiang Mai Arr**	**39.82**	**311**	eP	**P**	**21 59 59.7**	**-1.4**
CM01				ePcP	**PcP**	**22 02 07.2**	**+1.7**
CM31	**Chiang Mai Arr**	**39.85**	**311**	ePP	pP	22 00 22.4	-2.1
CMAR	**Chiang Mai Arr**	**39.85**	**311**	P	**P**	**21 59 59.5**	**-1.9**
	2.2nm,0.7s,baz=137,slow=7.2,SNR=18						
CMAR				PcP	**PcP**	**22 02 05.9**	**+0.3**
	1.2nm,0.6s,baz=171,slow=2.6,SNR=7.1						
CHTO	**Chiang Mai**	**40.07**	**311**	eP	**P**	**22 00 02.5**	**-0.7**
	7.7nm,1.2s						
NJ2	**Nanjing**	**40.77**	**346**	eP	**P**	**22 00 09.1**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KMI	**Kunming**	**41.77**	**322**	P	**P**	**22 00 19.6**	**+2.2**
KMI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**44.66**	**10**	P	**P**	**22 00 38.8**	**-1.4**
	2.3nm,0.6s,baz=185,slow=9.2,SNR=4.2						
KSAR	**Wonju Array Be**	**44.85**	**358**	P	**P**	**22 00 40.7**	**-0.9**
KSRS	**Korea Array**	**44.87**	**358**	P	**P**	**22 00 40.7**	**-1.0**
	1.2nm,0.5s,baz=172,slow=9.2,SNR=5.5						
KSRS				LR	LR	22 18 53.1	
	comp=Z,23nm,18.8s,baz=150,slow=35						
CD2	**Chengdu**	**45.63**	**328**	P	**P**	**22 00 48.4**	**+0.4**
LZH	**Lanzhou**	**49.78**	**333**	eP	**P**	**22 01 22.0**	**+1.9**
LZH				pP	pP	22 01 46.9	+2.8
LZH				sP	sP	22 02 00.5	+5.2
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
HHC	**Hu-ho-hao-te**	**51.02**	**342**	eP	**P**	**22 01 31.4**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,81nm,7.5s						
USRK	**Ussuriysk Ar.**	**51.62**	**2**	P	**P**	**22 01 32.9**	**-0.7**
	2.2nm,0.6s,baz=170,slow=7.0,SNR=4.5						
MDJ	**Mudanjiang**	**51.99**	**360**	P	**P**	**22 01 39.5**	**+3.2**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,69nm,4.2s						
LSA	**Lhasa**	**52.40**	**317**	eP	**P**	**22 01 40.0**	**-0.2**
	6.4nm,0.6s						
ODAN	**Odare**	**53.39**	**312**	eP	**P**	**22 01 46.0**	**-1.3**
	10nm,0.5s				

ZAA0	Zalesovo Array	71.98	334	eP	P	P	22 03 49.0	-0.9
ZALV	Zalesovo Beam	71.98	334	P	P	P	22 03 48.8	-1.2
	2.2nm,0.6s,baz=136,slow=4.6,SNR=11							
SEY	Seymchan	72.48	11	P	P	P	22 03 52.9	+0.2
	5.0nm,0.6s,baz=199,slow=5.4,SNR=8.8							
KURK	Kurchatov	72.86	329	eP	P	P	22 03 54.7	-0.6
	4.0nm,1.0s							
MAW	Mawson	74.25	201	P	P	P	22 04 04.4	+1.3
	0.7nm,0.3s,baz=74,slow=5.7,SNR=6.0							
BRVK	Borovoye	78.46	328	eP	P	P	22 04 27.4	+0.2
	3.2nm,0.8s							
NRIK	Noril'sk	82.07	346	P	P	P	22 04 46.2	0.0
	2.6nm,0.5s,baz=141,slow=6.5,SNR=3.0							
QSPA	South Pole Qui	82.36	180	eP	P	P	22 04 49.3	+1.2
ABKAR	Akbulak array	82.77	322	eP	P	P	22 04 49.7	-0.6
	21nm,0.6s							
KDAK	Kodiak Island	89.93	32	P	P	P	22 05 26.2	+1.1
	7.2nm,0.8s,baz=180,slow=20,SNR=3.7							
KMBO	Kilima Mbogo	92.22	269	P	P	P	22 05 37.7	+0.6
	1.1nm,0.3s,baz=86,slow=12,SNR=3.3							
COLD	Coldfoot	93.17	23	eP	P	P	22 05 41.0	+1.0
	4.1nm,0.8s							
WRH	Wood River Hil	93.50	25	eP	P	P	22 05 41.2	-0.3
	7.8nm,0.8s							
CCB	Clear Creek Bu	93.65	25	eP	P	P	22 05 42.1	-0.1
	9.5nm,0.8s							
HDA	Harding Lake	93.97	26	eP	P	P	22 05 43.4	-0.3
	6.3nm,0.7s							
ILAR	Eielson Array	94.06	25	P	P	P	22 05 42.8	-1.3
	2.9nm,0.7s,baz=271,slow=4.3,SNR=24							
ILB	Eielson Array	94.06	25	eP	P	P	22 05 43.2	-0.9
SNAA	Sanae	94.98	194	P	P	P	22 05 49.1	+0.8
	1.9nm,0.7s,baz=174,slow=4.9,SNR=19							
EGAK	Eagle	96.50	26	eP	P	P	22 05 56.3	+1.1
	7.1nm,1.1s							
DAWY	Dawson	97.22	26	eP	Pdif	Pdif	22 05 59.7	+1.0
	9.3nm,1.1s							
ARCES	ARCESS Array B	102.03	340	P	Pdif	Pdif	22 06 18.7	-1.2
	9.9nm,1.1s,baz=92,slow=7.3,SNR=4.7							
ARCES				PKiKP	PKiKP	PKiKP	22 10 42.4	+0.6
	3.3nm,0.9s,baz=72,slow=2.9,SNR=5.4							
FINES	FINESS Array B	103.13	331	PP	PP	PP	22 10 44.2	+3.5
	4.3nm,1.0s,baz=142,slow=9.6,SNR=4.6							
GERES	GERESS Array B	112.66	320	PKiKP	PKiKP	PKiKP	22 11 02.6	+0.2
	1.8nm,0.5s,baz=61,slow=1.9,SNR=20							
WTTA	Wattenberg	114.42	319	i PKiKP	PKiKP	PKiKP	22 11 06.7	+0.8
	5.9nm,0.5s							
WATA	Walderalm	114.44	319	i PKiKP	PKiKP	PKiKP	22 11 06.4	+0.5
	2.7nm,0.5s							
SQTA	Sankt Quirin	114.71	319	i PKiKP	PKiKP	PKdif	22 11 07.1	+0.7
MOTA	Moosalm	114.74	319	i PKiKP	PKiKP	PKdif	22 11 06.8	+0.3
	3.1nm,0.4s							
RETA	Reutte	114.92	319	i PKiKP	PKiKP	PKdif	22 11 07.2	+0.5
	1.6nm,0.6s							
DAVA	Damuels	115.56	319	i PKiKP	PKiKP	PKdif	22 11 08.6	+0.5
	4.1nm,0.4s							
PDAR	Pinedale Array	117.58	46	PKiP	PKiP	PKdif	22 11 12.4	+0.2
	0.4nm,0.6s,baz=113,slow=1.9,SNR=4.4							
KEST	Kesra	118.91	307	PKiP	PKiP	PKdif	22 11 13.9	-0.9
	2.8nm,0.6s,baz=209,slow=2.1,SNR=9.3							
ESDC	Sonseca Array	127.69	315	PKiP	PKiP	PKdif	22 11 30.7	-0.8
	0.4nm,0.6s,baz=27,slow=1.7,SNR=3.9							
TORD	Torodi Ar. Bea	128.57	281	PKiP	PKiP	PKdif	22 11 33.9	+0.2
	3.6nm,0.6s,baz=61,slow=2.1,SNR=32							
DBIC	Dimbokro	134.85	272	PKiP	PKiP	PKdif	22 11 46.5	+0.9
	4.1nm,0.6s,baz=150,slow=1.7,SNR=7.5							
LVC	Limon Verde	144.89	149	PKPbc	PKiP	PKdif	22 12 04.9	+0.8
	15nm,0.7s,baz=284,slow=3.8,SNR=3.8							
LVC	Limon Verde	144.89	149	ePKPab	PKPbc	PKdif	22 12 02.4	-1.0
LVC				PKPbc	PKPdif	PKdif	22 12 04.9	+0.8
LVC				ePKPdf	PKPdif	PKdif	22 12 05.8	+1.7
CPUP	Villa Florida	145.58	169	PKPbc	PKPab	PKdif	22 12 05.9	+0.6
	2.0nm,0.4s,baz=199,slow=3.5,SNR=9.3							
BBTS	Babate	146.11	285	PKPbc	PKPab	PKdif	22 12 07.3	-0.3
	32nm,0.7s,baz=91,slow=0.6,SNR=12							
LPAZ	La Paz	150.45	144	PKPbc	PKPbc	PKdif	22 12 20.2	+1.1
	1.9nm,0.4s,baz=57,slow=4.2,SNR=14							

NIED ***06*** *22:00:00,37.°40N×141.°30E,h38km,Mw4.0 Best double couple: M0=1.31000×10^15 NP1:φs=187.00000°,δ16.00000°, λ52.00000°. NP2:φs=46.00000°,δ78.00000°,λ100.00000°.*
ISCJB ***06*** *22:00:57.0±0.7,37.°41N±0.°03×141.°35E±0.°07,h38km±5km, mb4.0/23,MS3.5/2,Error ellipse: s-maj=9.3km s-min=5.1km az=12.0*
JMA ***06*** *22:00:57.7±0.1,37.°45N×141.°30E,h31km±1km,M4.1*
JMA Felt III J1.
IDC ***06*** *22:01:00.9±2.0,37.°36N×141.°35E,h61km±19km,mb3.8/19, mb1 3.9/23,mb1mx3.9/35,mbtmp4.1/23,MS3.2/5, Ms1 3.2/5,ms1mx2.9/32,Error ellipse: s-maj=15.5km s-min=12.2km az=80.0*
NEIC ***06*** *22:01:00.1±0.9,37.°44N×141.°32E,h51km±7km,mb4.1/4, Error ellipse: s-maj=10.8km s-min=6.5km az=133.0*
NEIC Recorded [3 JMA] in Fukushima.

ISC 06 22:00:57.0±1.6,37.°43N±0.°04×141.°37E±0.°07,h26km±10km, n52,σ1§30/56,mb4.1/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.40	261	P	Pb	22 01 05.8	+0.1
JFK				S	Sb	22 01 11.1	-0.4
ONAJ	Iwakimizuishiy	0.56	235	P	Pb	22 01 08.3	0.0
ONAJ				S	Sb	22 01 15.7	-0.3
JMM	Marumori	0.63	314	P	Pb	22 01 09.0	-0.5
JMM				S	Sb	22 01 16.9	-1.1
JFT	Otama	0.83	277	P	Pb	22 01 12.7	-0.1
JFT				S	Sb	22 01 22.9	-0.7
JIO	Ouri	1.02	359	P	Pn	22 01 15.2	-0.6
JIO				S	Sn	22 01 27.7	-1.6
JHO	Hitachi	1.04	218	P	Pn	22 01 14.7	-1.2
JOU	Okura	1.09	329	P	Pn	22 01 16.7	0.0
JOU				S	Sn	22 01 30.4	-0.6
JYS	Shirataka	1.30	308	P	Pn	22 01 20.0	+0.4
JYS				eS	Sn	22 01 36.1	-0.1
JFY	Yanaizu	1.33	270	P	Pn	22 01 20.2	+0.3
MJAR	Matsushiro Arr	2.68	252	P	Pn	22 01 39.9	+1.3
	4.1nm,0.3s,baz=80,slow=16,SNR=20						
MJAR				S	Sb	22 02 13.9	-2.9
	6.9nm,0.3s,baz=99,slow=16,SNR=5.7						
MAJO	Matsushiro	2.68	252	ePn	Pn	22 01 40.3	+1.7
MAT	Matsushiro	2.68	252	P	Pn	22 01 40.2	+1.6
MAT				S	Sb	22 02 15.2	-1.7
JHJ	Hachijo jima 2	4.49	197	P	Pn	22 02 04.0	+0.6
	14nm,0.3s,baz=340,slow=22,SNR=5.3						
JHJ				S	Sn	22 02 54.2	-0.6
	23nm,0.3s,baz=66,slow=20,SNR=4.1						
JHJ				LR	LR	22 04 03.7	
	comp=Z,307nm,21.1s,baz=124,slow=41						
ERM	Erimo	4.78	16	ePn	Pn	22 02 09.9	+2.5
ASAJ	Asahikawa	6.75	8	P	Pn	22 02 34.8	+0.4
	3.0nm,0.3s,baz=245,slow=9.8,SNR=9.3						
ASAJ				S	Sn	22 03 46.8	-3.5
	0.6nm,0.3s,baz=153,slow=11,SNR=1.9						
USRK	Ussuriysk Ar.	9.81	317	P	Pn	22 03 19.7	+3.3
	0.4nm,0.3s,baz=117,slow=12,SNR=8.8						
USRK				LR	LR	22 06 50.7	
	comp=Z,115nm,20.2s,baz=136,slow=36						
KSRS	Korea Array	10.70	274	P	Pn	22 03 31.5	+2.9
	0.3nm,0.3s,baz=90,slow=15,SNR=2.7						
KSRS				LR	LR	22 07 19.4	
	comp=Z,65nm,18.6s,baz=99,slow=35						
KSAR	Wonju Array Be	10.73	274	P	Pn	22 03 31.5	+2.5
MDJ	Mudanjiang	11.43	313	Pn	Pn	22 03 40.9	+2.4
MA2	Magadan	22.98	12	P	P	22 06 00.4	+1.0
	4.9nm,0.3s,baz=241,slow=7.6,SNR=3.5						
YAK	Yakutsk	25.68	347	P	P	22 06 24.8	+0.2
	4.6nm,0.5s						
SEY	Seymchan	26.41	11	P	P	22 06 32.6	+1.4
	2.6nm,0.3s,baz=205,slow=6.2,SNR=6.7						
SONM	Songino Array	27.54	303	P	P	22 06 41.2	-0.5
	2.0nm,0.8s,baz=91,slow=8.0,SNR=9.4						
H11N2	WAKE ISLAND Hy	28.38	121	T	T	22 36 51.9	
	baz=314,slow=75,SNR=293						
H11N1	WAKE ISLAND Hy	28.39	121	T	T	22 36 55.6	
	baz=314,slow=75,SNR=369						
H11N3	WAKE ISLAND Hy	28.40	121	T	T	22 36 54.4	
	baz=314,slow=75,SNR=284						
H11S1	WAKE ISLAND Hy	29.10	123	T	T	22 37 45.9	
	baz=316,slow=76,SNR=174						
H11S3	WAKE ISLAND Hy	29.10	123	T	T	22 37 45.1	
	baz=316,slow=76,SNR=146						
H11S2	WAKE ISLAND Hy	29.12	123	T	T	22 37 48.9	
	baz=316,slow=76,SNR=129						

ZALV	Zalesovo Beam	41.62	312	P	P	P	22 08 42.6	-0.2
	3.5nm,0.8s,baz=85,slow=6.4,SNR=14							
ZALV				LR	LR	LR	22 26 21.4	
	comp=Z,45nm,18.2s,baz=72,slow=36							
MKAR	Makanchi Array	43.88	302	P	P	P	22 09 01.0	-0.2
	2.9nm,0.7s,baz=90,slow=10,SNR=18							
KURK	Kurchatov	45.66	308	eP	P	P	22 09 14.8	-0.5
ILAR	Eielson Array	49.18	33	P	P	P	22 09 42.9	+0.4
	0.8nm,0.7s,baz=259,slow=5.6,SNR=7.3							
AAK	Ala-Archa	50.27	298	LR	LR	LR	22 32 15.1	
	comp=Z,52nm,19.9s,baz=66,slow=37							
AAK	Ala-Archa	50.27	298	P	P	P	22 09 51.7	+0.3
	0.5nm,0.7s							
INK	Inuvik	54.05	27	P	P	P	22 10 20.0	+1.2
	1.1nm,0.7s,baz=281,slow=7.9,SNR=2.9							
WRA	Warramunga Arr	57.45	188	P	P	P	22 10 43.6	-0.1
	0.8nm,0.6s,baz=6.9,slow=7.5,SNR=7.3							
ABKAR	Akbulak array	57.66	310	eP	P	P	22 10 44.6	-0.3
	1.1nm,0.6s							
ASAR	Alice Springs	61.17	188	P	P	P	22 11 09.8	+0.3
	0.7nm,0.7s,baz=14,slow=6.8,SNR=5.3							
GEYT	Alibeck	63.62	299	P	P	P	22 11 24.9	-0.9
	1.3nm,0.7s,baz=46,slow=4.3,SNR=4.1							
ARCES	ARCESS Array B	63.62	339	P	P	P	22 11 24.7	-0.5
	4.0nm,0.9s,baz=66,slow=11,SNR=3.5							
FINES	FINESS Array B	68.45	332	P	P	P	22 11 55.9	-0.5
	2.9nm,0.6s,baz=32,slow=9.1,SNR=7.8							
KBZ	Khabaz	70.62	311	P	P	P	22 12 10.4	+0.3
	1.2nm,0.8s,baz=34,slow=3.6,SNR=5.1							
KIV	Kislovodsk	70.62	311	eP	P	P	22 12 10.1	-0.2
	1.4nm,0.7s							
NB2	NORSAR Subarra	73.81	337	P	P	P	22 12 28.9	-0.1
	comp=Z,4.0nm,0.8s,baz=36,slow=6.2							
NOA	NORSAR Array B	73.81	337	P	P	P	22 12 28.1	-0.9
	comp=Z,1.7nm,0.6s,baz=39,slow=6.0,SNR=6.4							
AKASG	Malin Array Be	73.97	322	P	P	P	22 12 29.5	-0.5
	comp=Z,2.2nm,0.5s,baz=46,slow=6.1,SNR=12							
PDAR	Pinedale Array	77.41	45	P	P	P	22 12 50.6	+0.4
	comp=Z,0.3nm,0.5s,baz=277,slow=2.2,SNR=2.7							
BRTR	Keskin Array B	78.57	311	P	P	P	22 12 56.5	0.0
	comp=Z,0.8nm,0.9s,baz=120,slow=5.0,SNR=4.5							
GERES	GERESS Array B	82.36	328	P	P	P	22 13 15.8	-0.8
	comp=Z,0.6nm,0.4s,baz=40,slow=6.6,SNR=6.8							
TXAR	Lajitas Array	89.91	52	P	P	P	22 13 55.5	+1.3
	comp=Z,0.4nm,0.7s,baz=300,slow=2.0,SNR=3.8							
LPAZ	La Paz	146.52	59	PKPbc	PKPdf	PKPdf	22 20 35.0	-0.8
	comp=Z,0.9nm,0.5s,baz=229,slow=9.3,SNR=4.8							

IDC ***06*** *22:11:54.1±0.7,0.°06N×24.°86W,h0km,mb4.0/11, mb1 4.2/11,mb1mx3.9/38,mbtmp4.0/11,MS3.5/6, Ms1 3.6/6,ms1mx3.2/24,Error ellipse: s-maj=25.4km s-min=19.6km az=142.0*
ISCJB ***06*** *22:11:55.4±0.6,0.°1N±0.°1×24.°7W±0.°1,h18km,mb4.0/12, MS3.6/4,Error ellipse: s-maj=20.1km s-min=14.9km az=154.7*
NEIC ***06*** *22:11:55.6±0.4,0.°01N×24.°82W,h10km,mb4.6/2,Error ellipse: s-maj=14.6km s-min=11.5km az=148.0*

ISC 06 22:11:56.9±0.6,0.°0N±0.°1×24.°8W±0.°1,h18km,n26, σ0§80/16,mb4.1/12,MS3.6/4,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	12.49	242	LR	LR	22 18 31.4	
	comp=Z,179nm,19.8s,baz=95,slow=32						
H10N3	ASCENSION HYDR	12.91	127	T	T	22 28 16.3	
	baz=306,slow=74,SNR=322						
H10N2	ASCENSION HYDR	12.91	127	T	T	22 28 16.7	
	baz=306,slow=74,SNR=286						
H10N1	ASCENSION HYDR	12.93	127	T	T	22 28 18.9	
	baz=306,slow=74,SNR=261						
H10S3	ASCENSION HYDR	13.47	132	T	T	22 29 06.3	
	baz=310,slow=74,SNR=174						
H10S1	ASCENSION HYDR	13.48	132	T	T	22 29 06.7	
	baz=310,slow=74,SNR=228						
H10S2	ASCENSION HYDR	13.49	132	T	T	22 29 07.6	
	baz=310,slow=74,SNR=151						
BBTS	Babate	16.70	29	LR	LR	22 20 38.2	
	comp=Z,117nm,21.2s,baz=140,slow=31						
DBIC	Dimbokro	20.99	71	P	P	22 16 38.6	-0.9
	7.6nm,1.1s,baz=270,slow=5.5,SNR=3.3						
TORD	Torodi Ar. Bea	29.34	63	P	P	22 17 58.6	-0.4
	0.6nm,0.6s,baz=241,slow=11,SNR=4.5						
TORD				LR	LR	22 28 33.3	
	comp=Z,154nm,19.4s,baz=235,slow=34						
CPUP	Villa Florida	40.83	228	LR	LR	22 35 19.0	
	comp=Z,48nm,18.8s,baz=50,slow=34						
ESDC	Sonseca Array	43.83	23	P	P	22 20 02.6	+0.5
	3.2nm,1.1s,baz=221,slow=8.4,SNR=9.2						
LPAZ	La Paz	45.67	247	P	P	22 20 17.4	-0.5
	1.8nm,0.8s,baz=67,slow=5.6,SNR=6.3						
LPAZ				LR	LR	22 39 11.5	
	comp=Z,108nm,18.5s,baz=47,slow=36						
ROSC	El Rosal	49.67	276	LR	LR	22 42 36.1	
	comp=Z,45nm,18.2s,baz=158,slow=37						
BOSA	Boshof	55.65	125	P	P	22 21 32.5	0.0
	1.7nm,0.6s,baz=284,slow=11,SNR=4.9						
GERES	GERESS Array B	58.87	29	P	P	22 21 55.1	+0.4
	1.1nm,0.9s,baz=201,slow=7.1,SNR=6.6						
BRTR	Keskin Array B	66.20	46	P	P	22 22 44.4	+0.4
	1.1nm,0.7s,baz=246,slow=5.5,SNR=7.6						
AKASG	Malin Array Be	68.06	34	P	P	22 22 55.1	-0.3
	1.6nm,0.6s,baz=239,slow=5.9,SNR=7.4						
AGMN	Agassiz Nation	77.47	320	P	P	22 23 52.4	+1.0
	2.8nm,0.3s						
TXAR	Lajitas Array	80.27	300	P	P	22 24 07.3	0.0
	0.4nm,0.7s,baz=119,slow=7.3,SNR=4.6						
PDAR	Pinedale Array	86.12	313	P	P	22 24 36.4	-1.0
	0.7nm,0.9s,baz=117,slow=5.2,SNR=3.4						
MAW	Mawson	89.12	157	P	P	22 24 52.8	+1.9
	0.9nm,0.6s,baz=284,slow=5.7,SNR=4.6						
QSPA	South Pole Qui	90.08	180	eP	P	22 24 55.0	-0.7
	1.9nm,0.8s						
STKA	Stephens Creek	145.80	159	PKPbc	PKPab	22 31 35.9	-0.2
	1.1nm,0.6s,baz=240,slow=6.8,SNR=4.4						
ASAR	Alice Springs	148.70	140	PKPbc	PKPbc	22 31 44.1	0.0
	1.9nm,0.8s,baz=204,slow=2.3,SNR=22						
WRA	Warramunga Arr	151.55	135	PKPbc	PKPbc	22 31 50.4	-0.7
	2.3nm,1.0s,baz=244,slow=2.2,SNR=6.9						

BJI ***06*** *22:24:06.1,24.°73N×99.°13E,h10km,ML3.5/8*
BKK ***06*** *22:24:16.4±1.0,24.°N±4.°×9.°9E±.°,h114km±28km,M3.9/4, mb4.0/4,mB3.9/1,MLv3.9/4,Mw(mB)2.9/1*

ISC 06 22:24:04.2±1.5,24.°72N±0.°07×99.°08E±0.°09,h7km,n8, σ1§63/15,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.35	82	Pg	Pg	22 25 08.6	+0.2
KMI				Sg	Sg	22 25 50.3	-1.5
KMI				smax	smax		
	comp=N,180nm,0.6s						
KMI				smax	smax		
	comp=E,150nm,0.5s						
CHTO	Chiang Mai	5.88	181	Pg	Pg	22 25 55.3	-1.6
	59nm,0.6s,0.8nm						
CHTO				Pn	Pn	22 25 34.5	+2.7
	59nm,0.6s,0.8nm						
CHTO				Sg	Sg	22 27 12.4	-0.7
	59nm,0.6s,0.8nm						
CMMT	Chiang Mai	5.88	181	Pn	Pn	22 25 34.6	+2.7
CMMT				S	Sg	22 27 12.8	-0.3
CMMT				Sg	Sg	22 27 12.9	-0.2
LAMP	Lampang	6.19	175	Pg	Pg	22 26 02.2	-0.6
	15nm,0.7s,142nm0.1nm						
LAMP				Sg	Sg	22 27 21.3	-1.7
	15nm,0.7s,142nm0.1nm						
UTTA	Uttaradit	7.08	169	Pg	Pg	22 26 19.9	+0.1
UTTA				Sg	Sg	22 27 49.3	-2.2
PBKT	Sadao Pong	8.30	167	Sg	Sg	22 28 31.1	+0.4
UMPA	Umpang Tak	8.47	181	Sg	Sg	22 28 35.4	-0.9
WMQ	Urumqi	21.21	337	eP	P	22 28 49.0	-1.6

IDC 06 23:05:17.5±1.8,0.°68S×132.°14E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.4/25,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=27.9km s-min=14.1km az=179.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	0.90	258	Pg	Pg	23 05 34.4	-0.3
	650nm,0.3s,baz=181,slow=23,SNR=199						
SIJI				Lg	Lg	23 05 47.6	
	3μm,0.3s,baz=180,slow=20,SNR=96						

WRA	Warramunga Arr	19.26	174	P	P	P	23 09 43.8	0.0
	0.2nm,0.3s,baz=352,slow=11,SNR=9.8							
ASAR	Alice Springs	22.91	176	P	P	P	23 10 23.2	0.0
	1.5nm,0.8s,baz=351,slow=9.9,SNR=22							
MKAR	Makanchi Array	64.26	324	P	P	P	23 15 54.7	+0.1
	0.3nm,0.6s,baz=116,slow=7.2,SNR=4.5							

IDC 06 23:27:35.5±2.4,1.°51N×126.°72E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.3/41,mbtmp3.2/3,Error ellipse: s-maj=222.7km s-min=25.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.59	161	P	P	23 32 37.5	-0.3
	0.9nm,0.7s,baz=340,slow=11,SNR=5.2						
ASAR	Alice Springs	25.99	165	P	P	23 33 10.4	+0.2
	0.2nm,0.6s,baz=345,slow=11,SNR=3.2						
MKAR	Makanchi Array	59.37	326	P	P	23 37 39.6	-0.1
	0.1nm,0.3s,baz=133,slow=6.9,SNR=2.6						

GUC 06 23:39:19.3±0.5,21.°83S×67.°53W,h203km±8km,ML3.5,4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.50	239	i S	S	23 40 21.6	+1.6
PB01	IPOC Station P	1.99	293	i P	Pn	23 39 59.3	+1.3
PB01				i S	S	23 40 29.7	+2.1
PB01				IAML		23 40 30.9	
	comp=N,244nm,0.1s						
PB07	IPOC Station P	2.19	272	⇑i P	Pn	23 40 01.6	+1.4
PB07				i S	S	23 40 33.8	+2.2
PB07				IAML		23 40 35.7	
	comp=N,165nm,0.2s						
PB08	IPOC Station P	2.27	318	⇑i P	Pn	23 40 02.6	+1.3
PB08				i S	S	23 40 36.2	+2.9
PB08				IAML		23 40 37.1	
	comp=N,88nm,0.6s						
HMBC	Humberstone	2.69	305	⇑i P	Pn	23 40 06.0	+0.3
HMBC				i S	S	23 40 42.6	+1.3
HMBC				IAML		23 40 44.5	
	comp=N,196nm,0.3s						
PB11	IPOC Station P	2.87	316	⇑i P	Pn	23 40 08.1	+0.3
PB11				i S	S	23 40 45.8	+0.9

ISCJB ***06*** *23:47:01.7±0.7,8.°61N±0.°02×126.°26E±0.°03,h32km±5km, mb4.6/65,MS3.7/21,Error ellipse: s-maj=5.3km s-min=3.5km az=146.2*
MAN ***06*** *23:47:01,8.°53N×126.°01E,h2km,mb5.4,ML4.4,MS4.7*
MAN INTENSITY III - LIANGA SURIGAO DEL SUR; INTENSITY II - BISLIG CITY.
BJI ***06*** *23:47:03.3,8.°67N×126.°06E,h31km,mb4.6/33,mB4.9/24, Ms4.5/13,Ms7 4.2/14*
NEIC ***06*** *23:47:04.9±0.8,8.°63N×126.°12E,h47km±7km,mb4.8/26, Error ellipse: s-maj=6.5km s-min=3.7km az=62.0*
NEIC Felt [III PIVS] at Lianga and [II PIVS] at Bislig.
IDC ***06*** *23:47:04.8±1.9,8.°64N×126.°20E,h46km±18km,mb4.1/28, mb1 4.2/28,mb1mx4.2/38,mbtmp4.4/28,ML2.7/1,MS3.6/20, Ms1 3.6/20,ms1mx3.5/34,Error ellipse: s-maj=17.6km s-min=9.9km az=78.0*
DJA ***06*** *23:47:12.2±3.2,8.°N±30.°×12.°6E±.°,h10km,M5.0/5,mb4.8/5, mB5.3/3,MLv5.1/1,Mw(mB)4.7/3*

ISC 06 23:47:01.9±1.0,8.°53N±0.°03×126.°10E±0.°04,h17km±6km, n143,σ1§97/164,mb4.6/65,MS3.7/21,6C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.43	142	⇓eP	Pg	23 47 10.7	0.0
BIPH				eS	Sg	23 47 17.0	+0.4
BUKP	Musuan	1.21	238	eP	Pb	23 47 23.6	-0.8
BUKP				eS	Sn	23 47 44.0	+3.9
SCPH	Surigao	1.39	334	⇑eP	Pn	23 47 24.9	-1.6
DAV	Davao City (W)	1.53	200	ePn	Pg	23 47 30.7	-0.8
DMPH	Davao City--Mi	1.55	202	⇓eP	Pg	23 47 31.1	-0.7
DMPH				eS	Sg	23 47 55.3	+3.3
MATI	Mati	1.58	174	eP	Pn	23 47 29.5	+0.4
MATI				eS	Sg	23 47 52.7	-0.2
MSLP	Maasin	2.01	323	eP	Pn	23 47 34.8	-0.3
MSLP				eS	Sb	23 48 01.6	-1.3
CTBH	Cotabato--PC H	2.25	235	⇑eP	Pn	23 47 39.3	+1.0
CTBH				i S	Sb	23 48 08.9	-0.6
TBP	Tagbilaran	2.49	298	eP	Pn	23 47 42.4	+0.7
TBP				i S	Sb	23 48 14.2	-2.6
GSPH	General Santos	2.68	205	⇑eP	Pb	23 47 48.7	-0.8
LLP	Lapu-Lapu	2.76	310	⇓eP	Pn	23 47 45.8	+0.5
LLP				eS	Sn	23 48 19.7	+1.4
PAGZ	Pagadian	2.77	256	eP	Pb	23 47 47.7	-3.3
PAGZ				eS	Sg	23 48 25.8	-5.3
PLP	Palo	2.85	337	⇑eP	Pn	23 47 46.8	+0.2
PLP				i S	Sn	23 48 23.9	+3.4
SNPH	Sibulan	2.94	286	⇑i P	Pn	23 47 48.7	+0.7

17nm,1.7s
SRIT Nakonsritamara 26.20 272 P **P 23 52 40.4 +4.4**
4μm,1.5s
PHET Kaeng Krachan 26.36 282 P **P 23 52 40.9 +3.4**
4.8nm,1.1s
UTHA Uthaitani 26.97 288 P **P 23 52 45.1 +2.2**
4.1nm,0.9s
PSI Prapat 27.62 260 P **P 23 52 49.6 +0.7**
1.5nm,0.4s,baz=163,slow=11,SNR=4.1
PSI LR LR 00 05 30.5
comp=Z,79nm,18.5s,baz=70,slow=40
UMPA Umpang Tak 27.65 289 P P 23 52 58.8 +10
KMI Kunming 27.71 309 P **P 23 52 51.4 +1.6**
KMI pmax pmax
comp=Z,12nm,0.5s
COEN Coen 28.04 143 *e*P **P 23 52 52.6 +0.1**
22nm,0.9s
CM01 Chiang Mai Arr 28.13 293 *e*P **P 23 52 53.4 +0.1**
CMAR Chiang Mai Arr 28.15 293 P **P 23 52 54.0 +0.4**
1.2nm,0.4s,baz=118,slow=7.7,SNR=13
CMAR PcP **PcP 23 56 07.7 +0.1**
0.6nm,0.3s,baz=135,slow=1.5,SNR=4.9
CMAR LR LR 00 04 09.6
comp=Z,89nm,20.8s,baz=143,slow=36
CMMT Chiang Mai 28.25 294 P **P 23 52 55.8 +1.3**
5.5nm,1.4s
CHTO Chiang Mai 28.26 294 P **P 23 52 56.0 +1.5**
25nm,1.4s
KSAR Wonju Array Be 28.83 3 P **P 23 52 56.2 -3.1**
KSRS Korea Array 28.85 3 P **P 23 52 56.2 -3.3**
2.7nm,0.9s,baz=180,slow=12,SNR=8.5
KSRS LR LR 00 03 56.3
comp=Z,82nm,21.1s,baz=214,slow=35
WRAB Tennant Creek 29.42 164 *e*P **P 23 53 04.4 -0.3**
8.9nm,1.0s
WRA Warramunga Arr 29.43 164 P **P 23 53 03.5 -1.3**
1.8nm,0.6s,baz=345,slow=9.3,SNR=18
WRA PcP **PcP 23 56 10.2 -0.5**
1.8nm,0.7s,baz=346,slow=2.9,SNR=7.3
WRA LR LR 00 05 42.3
comp=Z,90nm,21.4s,baz=340,slow=38
WB2 Warramunga Arr 29.43 164 *e*P **P 23 53 05.6 +0.8**
5.4nm,0.8s
MJAR Matsushiro Arr 29.99 20 P **P 23 53 07.9 -1.8**
0.8nm,0.4s,baz=201,slow=8.6,SNR=2.7
MJAR LR LR 00 04 58.2
comp=Z,161nm,19.5s,baz=205,slow=36
CD2 Chengdu 30.50 320 P **P 23 53 14.0 -0.3**
AS31 Alice Springs 32.89 167 *e*P **P 23 53 35.6 +0.3**
1.2nm,0.6s
ASAR Alice Springs 32.89 167 P **P 23 53 36.1 +0.8**
3.2nm,0.6s,baz=338,slow=6.8,SNR=22
ASAR PcP **PcP 23 56 19.2 -0.6**
1.8nm,0.5s,baz=346,slow=2.2,SNR=11
ASAR ScP **ScP 23 59 58.7 -4.8**
0.5nm,0.8s,baz=344,slow=2.6,SNR=2.6
ASAR LR LR 00 08 01.8
comp=Z,66nm,20.7s,baz=12,slow=38
AS01 Alice Springs 32.90 167 *e*P **P 23 53 35.7 +0.3**
AS01 *e*PcP **PcP 23 56 19.0 -0.9**
LZH Lanzhou 34.12 327 *e*P **P 23 53 47.2 +1.1**
LZH pP sP 23 53 56.8 +3.2
LZH sP pP 23 54 01.3 +10
LZH pmax pmax
comp=Z,13nm,1.0s
CTAO Charters Tower 34.67 145 *e*P **P 23 53 50.7 -0.1**
10.0nm,0.8s
HHC Hu-ho-hao-te 34.69 340 *e*P **P 23 53 52.9 +2.0**
HHC sP sP 23 54 07.3 +8.9
HHC S **S 23 59 20.3 +0.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,100nm,8.4s
HHC LR LR
comp=N,640nm,14.8s
HHC LR LR
comp=E,640nm,14.8s
HHC LR LR
comp=Z,620nm,16.0s
USRK Ussuriysk Ar. 35.91 7 P **P 23 54 00.4 -0.8**
14nm,0.7s,baz=192,slow=7.8,SNR=20
USRK LR LR 00 07 12.4
comp=Z,101nm,20.6s,baz=204,slow=34
MDJ Mudanjiang 36.08 4 P **P 23 54 03.4 +0.7**
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,120nm,3.8s
GTA Gaotai 38.73 327 *e*P **P 23 54 25.0 -0.4**
GTA pP sP 23 54 35.4 +2.5
GTA sP pP 23 54 39.1 +8.4
GTA PcP **PcP 23 56 39.1 +2.1**
GTA S **S 00 00 20.4 -1.5**
GTA sS ScP 00 00 35.2 +11
GTA SS **SnSn 00 03 03.9 -7.1**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,62nm,5.0s
GTA LR LR
comp=N,200nm,21.9s
GTA LR LR
comp=E,240nm,21.4s
GTA LR LR
comp=Z,280nm,20.0s
FORT Forrest 39.12 177 *e*P **P 23 54 29.2 +0.6**
267nm,0.8s
TAPN Taplejung 40.81 302 *e*P **P 23 54 43.6 +0.5**
79nm,1.0s
ODAN Odare 40.91 301 *e*P **P 23 54 44.2 +0.3**
73nm,0.8s
EIDS Eidsvold 41.55 145 *e*P **P 23 54 48.6 -0.2**
15nm,1.0s
RAMN Ramite 41.61 301 *e*P **P 23 54 50.1 +0.4**
91nm,1.0s
NWAO Narrogin (SRO) 42.08 191 P **P 23 54 53.3 +0.3**
15nm,0.9s,baz=220,slow=9.3,SNR=6.8
NWAO Narrogin (SRO) 42.08 191 *e*P **P 23 54 53.7 +0.7**
25nm,1.1s
JIRN Jiri 42.19 302 *e*P **P 23 54 54.9 +0.4**
401nm,0.8s
BBOO Buckleboo 42.19 167 *e*P **P 23 54 53.8 0.0**
22nm,0.6s
GUN Gumba 42.53 302 *e*P **P 23 54 57.5 +0.3**
52nm,0.7s
SONM Songino Array 42.59 340 P **P 23 54 56.0 -1.2**
0.3nm,0.3s,baz=155,slow=4.8,SNR=4.3
SONM PcP **PcP 23 56 48.6 -0.7**
0.8nm,0.7s,baz=149,slow=5.9,SNR=2.7
SONM LR LR 00 14 40.9
comp=Z,104nm,18.8s,baz=104,slow=39
PKI Pulchoki 42.81 302 *e*P **P 23 54 59.5 -0.1**
34nm,0.9s
STKA Stephens Creek 42.82 160 P **P 23 54 58.8 -0.2**
7.5nm,0.8s,baz=34,slow=11,SNR=16
STKA LR LR 00 15 12.9
comp=Z,51nm,18.8s,baz=15,slow=39
STKA Stephens Creek 42.82 160 *e*P **P 23 54 59.3 +0.2**
2.3nm,1.0s
PKIN Phulchoki 42.83 302 *e*P **P 23 55 00.0 +0.4**
26nm,0.7s
KKN Kakani 42.99 302 *e*P **P 23 55 00.7 -0.2**
53nm,1.1s
DMN Daman 43.08 302 *e*P **P 23 55 01.6 0.0**
66nm,1.2s
GKN Gorkha 43.60 302 *e*P **P 23 55 05.4 -0.3**
31nm,1.0s
KOLN Koldanda 44.40 301 *e*P **P 23 55 12.3 +0.1**
56nm,0.7s
PYUN Piuthan 45.01 301 *e*P **P 23 55 17.3 +0.2**
135nm,1.0s
HYB Hyderabad 47.06 286 *i*P **P 23 55 34.0 +0.8**
WMQ Urumqi 48.50 323 P **P 23 55 44.3 +0.3**
WMQ pP sP 23 55 55.2 +3.7
WMQ sP pP 23 56 02.8 +13
WMQ S S 00 02 32.9 -12
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ pmax pmax
comp=Z,62nm,5.7s
WMQ LR LR
comp=N,280nm,27.9s
WMQ LR LR
comp=E,180nm,24.5s
WMQ LR LR
comp=Z,130nm,23.7s

PETK Petropavlovsk- 51.29 24 P **P 23 56 03.0 -1.9**
3.0nm,0.7s,baz=208,slow=2.5,SNR=2.8
PETK LR LR 00 17 42.9
comp=Z,54nm,19.3s,baz=210,slow=36
MK01 Makanchi Array 53.30 324 *e*P **P 23 56 19.0 -1.0**
MK31 Makanchi Array 53.31 324 *e*P **P 23 56 19.4 -0.8**
MKAR Makanchi Array 53.31 324 P **P 23 56 19.5 -0.6**
1.7nm,0.7s,baz=121,slow=7.9,SNR=16
MKAR PcP **PcP 23 57 26.4 -1.2**
3.8nm,0.8s,baz=108,slow=4.0,SNR=6.4
MKAR LR LR 00 18 38.6
comp=Z,70nm,20.4s,baz=91,slow=36
MKAR Makanchi Array 53.31 324 *e*P **P 23 56 19.4 -0.8**
24nm,0.9s
MKAR PcP **PcP 23 57 26.4 -1.2**
MAKZ Makanchi 53.51 323 *e*P **P 23 56 20.9 -0.6**
8.5nm,1.3s
KSH Kashi 54.28 313 *e*P P 23 56 32.9 +5.4
KSH pP sP 23 56 42.9 +7.8
KSH sP pP 23 56 47.1 +14
KSH PcP **PcP 23 57 32.2 +0.6**
KSH PcS **PcS 00 01 35.7 +4.6**
KSH S **S 00 04 08.9 +4.3**
KSH pmax pmax
comp=Z,11nm,1.6s
KSH pmax pmax
comp=Z,61nm,4.8s
KSH LR LR
comp=N,93nm,4.7s
KSH LR LR
comp=E,180nm,5.0s
KSH LR LR
comp=Z,140nm,7.6s
ZAA0 Zalesovo Array 56.07 332 *e*P **P 23 56 39.2 -0.7**
ZALV Zalesovo Beam 56.07 332 P **P 23 56 37.8 -2.1**
0.9nm,0.4s,baz=116,slow=6.8,SNR=5.8
ZALV LR LR 00 21 26.8
comp=Z,61nm,18.4s,baz=74,slow=37
KBL Kabul 58.19 305 *e*P **P 23 56 55.2 -0.4**
13nm,0.8s
BRVK Borovoye 63.07 326 *e*P **P 23 57 27.8 -0.5**
8.1nm,0.9s
NRIK Noril'sk 65.65 346 P **P 23 57 42.9 -2.0**
4.8nm,0.9s,baz=139,slow=4.8,SNR=6.3
NRIK LR LR 00 29 23.9
comp=Z,85nm,18.7s,baz=254,slow=39
LBZ Lake Benmore 66.00 147 *e*P **P 23 57 47.5 0.0**
27nm,1.0s
RPZ Rata Peaks 66.04 146 *e*P **P 23 57 47.9 +0.1**
27nm,0.7s
BKZ Black Stump Fm 66.58 139 *e*P **P 23 57 51.8 +0.4**
22nm,0.8s
GEYT Alibeck 67.46 307 P **P 23 57 57.0 -0.1**
5.4nm,0.8s,baz=134,slow=4.3,SNR=18
ABKAR Akbulak array 68.08 320 *e*P **P 23 57 59.6 -1.1**
ARU Arti 70.58 327 *e*P **P 23 58 14.8 -1.3**
8.5nm,0.7s
GNI Garni 77.97 309 *e*P **P 23 59 03.0 +3.3**
26nm,1.5s
RAYN Ar Rayn 78.06 292 *e*P **P 23 58 59.1 -1.3**
7.4nm,0.8s
KBZ Khabaz 79.26 313 P **P 23 59 05.8 -0.7**
2.8nm,1.0s,baz=80,slow=12,SNR=4.5
KIV Kislovodsk 79.41 313 *e*P **P 23 59 06.2 -1.3**
COLD Coldfoot 79.75 23 *e*P **P 23 59 07.9 -0.8**
MCK McKinley 80.18 27 *e*P **P 23 59 10.4 -0.7**
WRH Wood River Hil 80.56 26 *e*P **P 23 59 12.4 -0.7**
ILAR Eielson Array 81.08 26 P **P 23 59 14.2 -1.7**
1.4nm,0.7s,baz=246,slow=5.8,SNR=15
KOPT Kop Dagi 81.22 309 *e*P **P 23 59 16.3 -1.3**
OBN Obninsk 82.81 325 P **P 23 59 22.1 -3.0**
11nm,1.2s
DAWY Dawson 84.37 26 *e*P **P 23 59 31.4 -1.7**
SPITS Spitsbergen Ar 85.68 349 P **P 23 59 37.9 -1.5**
6.6nm,0.9s,baz=50,slow=7.8,SNR=3.6
ARCES ARCESS Array B 85.76 340 P **P 23 59 38.2 -1.8**
4.0nm,0.9s,baz=98,slow=5.6,SNR=2.8
ARCES LR LR 00 41 34.6
comp=Z,62nm,19.0s,baz=71,slow=38
INK Inuvik 85.96 22 P **P 23 59 39.0 -1.8**
1.8nm,0.9s,baz=315,slow=4.3,SNR=3.8
BR131 Keskin Array S 86.50 309 *e*P **P 23 59 43.2 -1.1**
BRTR Keskin Array B 86.50 309 P **P 23 59 42.6 -1.7**
1.7nm,0.9s,baz=96,slow=5.0,SNR=8.7
BR231 Keskin MP Arra 87.14 310 *e*P P 23 59 43.4 -4.0
FINES FINESS Array B 87.34 332 P **P 23 59 45.8 -2.0**
4.2nm,0.9s,baz=90,slow=2.8,SNR=4.4
FINES LR LR 00 40 36.5
comp=Z,78nm,21.1s,baz=78,slow=37
AKASG Malin Array Be 87.80 321 P **P 23 59 47.8 -2.4**
0.4nm,0.3s,baz=67,slow=5.0,SNR=7.1
MAW Mawson 88.01 200 P **P 23 59 49.7 -1.1**
4.5nm,1.0s,baz=62,slow=9.5,SNR=6.5
VNDA Vanda 88.23 173 P **P 23 59 51.0 -0.6**
1.0nm,0.5s,baz=326,slow=6.0,SNR=9.7
VNDA Vanda 88.23 173 *e*P **P 23 59 52.7 +1.0**
KMBO Kilima Mbogo 89.02 269 P **P 23 59 56.3 -0.8**
0.8nm,0.3s,baz=58,slow=15,SNR=5.8
HFS Hagfors 93.51 332 P **P 00 00 13.9 -2.8**
4.4nm,1.0s,baz=98,slow=7.4,SNR=2.6
IDI Ankara 94.16 306 LR LR 00 47 41.2
comp=Z,27nm,18.5s,baz=51,slow=39
NOA NORSAR Array B 94.24 334 LR LR 00 48 39.1
comp=Z,25nm,18.2s,baz=60,slow=39
TORD Torodi Ar. Bea 120.74 291 PKP **PKPdf 00 05 51.4 -2.7**
0.5nm,0.7s,baz=59,slow=2.9,SNR=4.4
PLCA Paso Flores 144.67 158 PKP **PKPab 00 06 37.5 +0.7**
7.4nm,1.1s,baz=237,slow=5.3,SNR=6.0

IDC ***06*** *23:52:58.6±0.6, 57°.95N×32°.41W, h0km, mb4.3/24, mb1 4.5/25, mb1mx4.4/38, mbtmp4.3/25, ML3.9/1, MS4.0/28, Ms1 4.0/28, ms1mx3.9/42, Error ellipse: s-maj=17.4km s-min=12.0km az=8.0*
BJI ***06*** *23:52:59.0, 58°.10N×32°.30W, h10km, mb4.7/21, mB5.1/12, Ms4.8/3, Ms7 4.6/2*
CSEM ***06*** *23:53:00.7±0.1, 58°.13N×32°.32W, h10km, mb4.8/72, Error ellipse: s-maj=7.0km s-min=2.7km az=1.0*
ISCJB ***06*** *23:53:00.0±0.1, 58°.04N±0°.04×32°.45W±0°.03, h18km, mb4.6/113, MS4.0/32, Error ellipse: s-maj=6.2km s-min=2.5km az=0.4*
NEIC ***06*** *23:53:00.7±0.2, 58°.04N×32°.32W, h10km, mb4.8/74, Error ellipse: s-maj=7.1km s-min=3.0km az=182.0*
GCMT ***06*** *23:53:00.7±0.2, 58°.08N×32°.30W, h12km, MW4.8/89, Moment Tensor Solution. s10,c10; s89,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.86±.06; Mθθ0.44±.06; Mφφ1.43±.05; Mrθ0.11±.25; Mrφ0.79±.05; Mθφ-0.35±.24; Best double couple: M0 1.90000×1016 NP1:φs21.00000°, δ49.00000°, λ-100.00000°. NP2: φs217.00000°, δ42.00000°, λ-78.00000°. Principal axes: T 1.8870, Plg4.0000°, Azm118.0000°; N 0.0320, Plg8.0000°, Azm28.0000°; P -1.9130, Plg81.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 23:53:01.7±0.3, 57°.96N±0°.07×32°.44W±0°.05, h18km, n424, σ1§**12**/409, **mb4.7**/113, **MS4.1**/32, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.30**	**325**	LR	LR	23 59 56.2	
	comp=Z,2μm,18.3s,baz=136,slow=34						
VAL	**Valentia**	**14.07**	**106**	*e*P	**Pn**	**23 56 21.8**	**+1.9**
VAL				*e*S	S	23 59 31.5	+15
SUMG	**Summit**	**14.88**	**353**	*i*P	**Pn**	**23 56 29.7**	**-1.5**
	32nm,1.3s						
EKA	**Eskdalemuir Ar**	**16.25**	**87**	Pn	**Pn**	**23 56 48.9**	**+0.1**
	baz=279,slow=9.8,SNR=9.5						
JMIC	**Jan Mayen**	**16.46**	**28**	LR	LR	00 01 37.0	
	comp=Z,244nm,20.1s,baz=249,slow=32						
DAG	**Danmarks Havn**	**19.52**	**9**	*i*P	**Pn**	**23 57 33.1**	**+4.2**
	13nm,1.2s						
NB2	**NORSAR Subarra**	**22.06**	**63**	P	**P**	**23 57 54.1**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=281,slow=10						
NB2	**NORSAR Subarra**	**22.06**	**63**	P	**P**	**23 57 54.1**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=281,slow=10.0,SNR=8.1						
NOA	**NORSAR Array B**	**22.06**	**63**	P	**P**	**23 57 54.4**	**-0.8**
	comp=Z,6.4nm,0.9s,baz=281,slow=10,SNR=7.0						
NOA				LR	LR	00 05 08.3	
	comp=Z,230nm,20.7s,baz=280,slow=33						
PGAV	**Gavieira, Arco**	**22.13**	**126**	*e*S	**S**	**00 02 02.5**	**+3.4**
PGAV				*e*LR	LR	00 03 11.0	
	comp=Z,830nm,20.0s						
POLO	**Lamas de Olo**	**22.82**	**126**	*e*LR	LR	00 03 20.6	
	comp=Z,356nm,20.0s						
PBRG	**Braganca**	**22.93**	**124**	*e*P	**P**	**23 58 06.8**	**+2.2**
	comp=Z,25nm,1.5s						
PBRG				*e*LR	LR	00 03 41.5	
	comp=Z,535nm,20.0s						
BCLA	**Clavier**	**23.08**	**93**	P	**P**	**23 58 05.2**	**-0.8**
	comp=Z,23nm,2.4s						
PVIS	**Viseu**	**23.31**	**127**	*e*P	**P**	**23 58 09.4**	**+0.9**
	comp=Z,25nm,1.2s						
MVO	**Moncorvo**	**23.32**	**125**	*e*P	**P**	**23 58 09.8**	**+1.2**
	comp=Z,35nm,1.4s						
MVO				*e*S	**S**	**00 02 09.6**	**-11**
MVO				*e*LR	LR	00 03 47.2	
	comp=Z,685nm,20.0s						
HFS	**Hagfors**	**23.46**	**65**	LR	LR	00 05 38.5	
	comp=Z,325nm,19.9s,baz=280,slow=32						
MTE	**Manteigas**	**23.72**	**127**	*e*LR	LR	00 03 56.7	
	comp=Z,759nm,20.0s						
PTOM	**Tomar**	**24.02**	**129**	*e*P	**P**	**23 58 14.8**	**-0.4**
	comp=Z,46nm,2.0s						
PMAFR	**Mafra**	**24.23**	**132**	*e*LR	LR	00 04 13.9	
	comp=Z,648nm,22.0s						
PMRV	**Marv??o**	**24.60**	**128**	*e*P	**P**	**23 58 20.3**	**-0.3**
	comp=Z,21nm,1.8s						
PMRV				*e*LR	LR	00 04 19.6	
	comp=Z,542nm,20.0s						
PESTR	**Estremoz**	**24.99**	**129**	*e*P	**P**	**23 58 25.5**	**+1.4**
	comp=Z,29nm,0.9s						
PESTR				*e*LR	LR	00 04 32.9	
	comp=Z,554nm,20.0s						
PNCL	**Nicolau / Gran**	**25.25**	**131**	*e*P	**P**	**23 58 26.4**	**-0.1**
PNCL				*e*LR	LR	00 04 48.2	
	comp=Z,725nm,20.0s						
PBEJ	**Beja**	**25.59**	**131**	*e*P	**P**	**23 58 29.7**	**+0.1**
	comp=Z,29nm,1.7s						
PBAR	**Barrancos**	**25.80**	**129**	*e*LR	LR	00 04 53.9	
	comp=Z,1μm,20.0s						
PAB	**San Pablo**	**25.82**	**123**	*e*P	**P**	**23 58 33.6**	**+1.8**
	comp=Z,11nm,0.9s						
PAB	**San Pablo**	**25.82**	**123**	*e*P	**P**	**23 58 33.6**	**+1.8**
	comp=Z,11nm,0.9s						
PCVE	**Castro Verde**	**25.86**	**131**	*e*LR	LR	00 04 25.3	
	comp=Z,701nm,22.0s						
ESDC	**Sonseca Array**	**25.89**	**123**	P	**P**	**23 58 32.1**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=321,slow=8.2,SNR=16						
ESDC				LR	LR	00 06 40.3	
	comp=Z,297nm,20.3s,baz=310,slow=32						
ESLA	**Sonseca Array**	**25.89**	**123**	*e*P	**P**	**23 58 33.9**	**+1.6**
	comp=Z,8.9nm,0.9s						
ESLA	**Sonseca Array**	**25.89**	**123**	*e*P	**P**	**23 58 33.9**	**+1.6**
	comp=Z,8.9nm,0.9s						
ES19	**SONSECA Array**	**25.89**	**122**	*e*P	**P**	**23 58 32.2**	**-0.2**
ES19	**SONSECA Array**	**25.89**	**122**	*e*P	**P**	**23 58 32.2**	**-0.2**
MORF	**Marmelete**	**25.90**	**133**	*e*LR	LR	00 04 57.7	
	comp=Z,447nm,22.0s						
PFVI	**Vila Bispo**	**25.98**	**133**	*e*LR	LR	00 04 59.6	
	comp=Z,406nm,20.0s						
PVAQ	**Vaqueiros**	**26.19**	**131**	*e*LR	LR	00 05 14.8	
	comp=Z,679nm,20.0s						
PBDV	**Barranco-do-Ve**	**26.24**	**132**	*e*LR	LR	00 05 03.4	
	comp=Z,644nm,20.0s						
CLL	**Collm**	**26.70**	**85**	*e*P	**P**	**23 58 39.0**	**-0.5**
	comp=Z,13nm,1.2s						
CLL	**Collm**	**26.70**	**85**	*e*P	**P**	**23 58 39.0**	**-0.5**
	comp=Z,15nm,1.5s						
CLL				*e*		00 03 42.0	
CLL				*e*SSSS		00 04 42.0	
CLL				LmV		00 09 00.0	
	comp=Z,500nm,19.3s						
CLL	**Collm**	**26.70**	**85**	*e*P	**P**	**23 58 39.0**	**-0.5**
	comp=Z,13nm,1.2s						
ARCES	**ARCESS Array B**	**26.94**	**41**	P	**P**	**23 58 40.5**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=260,slow=7.0,SNR=10.0						
ARCES				LR	LR	00 07 04.4	
	comp=Z,145nm,21.5s,baz=266,slow=31						
NKC	**Novy Kostel**	**26.99**	**87**	*e*P	**P**	**23 58 43.2**	**+1.0**
NKC				AMS	AMS	00 09 30.0	
	comp=Z,700nm,11.1s						
PMOZ	**Porto Moniz, M**	**27.19**	**151**	*e*LR	LR	00 05 20.7	
	comp=Z,395nm,20.0s						
BRG	**Berggiesshubel**	**27.43**	**85**	*e*(P)	**P**	**23 58 47.5**	**+1.4**
	comp=Z,4.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.69**	**95**	LR	LR	00 09 13.4	
	comp=Z,476nm,19.7s,baz=308,slow=35						
PVCC	**Panska Ves**	**27.95**	**85**	AMS	AMS	00 10 30.0	
	comp=Z,700nm,13.5s						
PRA	**Prague**	**28.14**	**86**	AMS	AMS	00 10 30.0	
	comp=Z,700nm,14.6s						
PRU	**Pruhonice**	**28.24**	**86**	*e*P	**P**	**23 58 55.6**	**+2.3**
PRU				AMS	AMS	00 10 30.0	
	comp=Z,800nm,16.2s						
GOPC	**GO Pecny, Ondr**	**28.41**	**86**	AMS	AMS	00 10 30.0	
	comp=Z,600nm,15.5s						
GERES	**GERESS Array B**	**28.46**	**88**	P	**P**	**23 58 55.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=282,slow=6.5,SNR=4.3						
GERES				LR	LR	00 09 42.1	
	comp=Z,462nm,18.7s,baz=298,slow=35						
KSP	**Ksiaz**	**28.69**	**83**	*e*P	**P**	**23 58 57.6**	**+0.3**
KSP	**Ksiaz**	**28.69**	**83**	*e*P	**P**	**23 58 57.6**	**+0.3**
UPC	**Upice**	**28.73**	**84**	*e*P	**P**	**23 58 57.5**	**-0.2**
UPC				*e*x	x	23 59 05.3	
UPC				AMS	AMS	00 10 50.0	
	comp=Z,600nm,19.2s						
FINES	**FINESS Array B**	**28.86**	**58**	P	**P**	**23 58 58.4**	**-0.3**
	comp=Z,7.1nm,1.1s,baz=262,slow=9.7,SNR=3.2						
FINES				LR	LR	00 09 44.5	
	comp=Z,217nm,18.7s,baz=251,slow=35						
DPC	**Dobruska-Polom**	**28.98**	**84**	*e*P	**P**	**23 58 59.7**	**-0.3**
DPC				*e*x	x	23 59 08.7	
TREC	**Trest**	**29.14**	**86**	*e*P	**P**	**23 59 02.0**	**+0.6**
KRLC	**Kraliky**	**29.38**	**84**	*e*P	**P**	**23 59 04.4**	**+0.9**
VRAC	**Vranov**	**29.73**	**85**	P	**P**	**23 59 05.0**	**-1.5**
	comp=Z,2.3nm,0.9s,baz=322,slow=13,SNR=3.3						
VRAC				LR	LR	00 11 05.1	
	comp=Z,458nm,18.5s,baz=304,slow=37						
OJC	**Ojcow**	**30.89**	**82**	*e*P	**P**	**23 59 16.6**	**-0.2**
OJC	**Ojcow**	**30.89**	**82**	*e*P	**P**	**23 59 16.5**	**-0.3**
	comp=Z,9.2nm,1.0s						
OJC	**Ojcow**	**30.89**	**82**	*e*P	**P**	**23 59 16.5**	**-0.3**
	comp=Z,9.2nm,1.0s						
NIE	**Niedzica**	**31.62**	**82**	*e*P	**P**	**23 59 23.7**	**+0.4**
MMNY	**Mt. Morris Dam**	**32.06**	**262**	*e*P	**P**	**23 59 28.5**	**+1.3**
MMNY	**Mt. Morris Dam**	**32.06**	**262**	*e*P	**P**	**23 59 28.5**	**+1.3**
STHS	**Stebnicka Huta**	**32.12**	**82**	*e*P	**P**	**23 59 27.3**	**-0.4**
STHS	**Stebnicka Huta**	**32.12**	**82**	*e*P	**P**	**23 59 27.3**	**-0.4**
CRVS	**Cervenica-Dubn**	**32.55**	**82**	*e*P	**P**	**23 59 30.8**	**-0.6**
CRVS	**Cervenica-Dubn**	**32.55**	**82**	*e*P	**P**	**23 59 30.8**	**-0.6**
M54A	**Oil Creek Stat**	**33.85**	**262**	P	**P**	**23 59 42.8**	**0.0**
	baz=44						
O56A	**Blue Knob Stat**	**34.16**	**259**	P	**P**	**23 59 45.5**	**-0.1**
	baz=43						
N54A	**Moraine State**	**34.41**	**261**	P	**P**	**23 59 47.8**	**+0.1**
	baz=44						
F44A	**Big Bay de Noc**	**34.41**	**274**	P	**P**	**23 59 47.1**	**-0.5**
	baz=50						
E43A	**Lone Tree Farm**	**34.46**	**275**	P	**P**	**23 59 47.4**	**-0.6**
	baz=50						
D41A	**Chassel**	**34.86**	**277**	P	**P**	**23 59 51.0**	**-0.4**
	baz=50						
F43A	**Flat Rock, Esc**	**34.90**	**274**	P	**P**	**23 59 51.8**	**-0.1**
	baz=49						
E42A	**Champion**	**34.91**	**275**	P	**P**	**23 59 50.6**	**-1.4**
	baz=50						
BUR08	**Bucovina Ar. S**	**35.29**	**81**	*e*P	**P**	**23 59 55.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**35.29**	**81**	*e*P	**P**	**23 59 55.1**	**-0.2**
KEST	**Kesra**	**35.38**	**111**	P	**P**	**23 59 55.3**	**-0.9**
	comp=Z,5.0nm,0.8s,baz=324,slow=8.1,SNR=5.6						
KEST				LR	LR	00 13 03.8	
	comp=Z,346nm,19.2s,baz=244,slow=34						
KEST	**Kesra**	**35.38**	**111**	*e*P	**P**	**23 59 56.7**	**+0.5**
	comp=Z,7.7nm,0.9s						
KEST	**Kesra**	**35.38**	**111**	*e*P	**P**	**23 59 56.7**	**+0.5**
	comp=Z,7.7nm,0.9s						
E41A	**Kenton**	**35.45**	**276**	P	**P**	**23 59 55.4**	**-1.2**
	baz=50						
AK11	**Malin Array Si**	**35.51**	**74**	*e*P	**P**	**23 59 55.9**	**-1.1**
AK11	**Malin Array Si**	**35.51**	**74**	*e*P	**P**	**23 59 55.9**	**-1.1**
KIEV	**Kiev**	**35.52**	**74**	*e*P	**P**	**23 59 56.1**	**-1.0**
	comp=Z,13nm,0.9s						
KIEV	**Kiev**	**35.52**	**74**	*e*P	**P**	**23 59 56.1**	**-1.0**
	comp=Z,13nm,0.9s						
AKASG	**Malin Array Be**	**35.53**	**74**	P	**P**	**23 59 56.1**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=306,slow=8.3,SNR=23						
AKASG				LR	LR	00 13 53.2	
	comp=Z,205nm,19.5s,baz=275,slow=35						
AKBB	**Malin Array Si**	**35.53**	**74**	*e*P	**P**	**23 59 56.5**	**-0.7**
	comp=Z,13nm,0.9s						

AKBB	Malin Array Si	35.53	74	eP	P	23 59 56.5 -0.7
	comp=Z,13nm,0.9s					
EYMN	Ely	35.84	280	P	P	23 59 59.1 -0.9
	baz=51					
EYMN	Ely	35.84	280	eP	P	00 00 00.0 0.0
	comp=Z,15nm,1.0s					
EYMN	Ely	35.84	280	eP	P	23 59 60.0 0.0
	comp=Z,15nm,1.0s					
E40A	Wakefield	35.96	277	P	P	23 59 60.0 -1.0
	baz=50					
G42A	Mountain	35.96	274	P	P	00 00 00.3 -0.6
	baz=49					
F41A	Three Lakes	35.99	275	P	P	00 00 00.6 -0.7
	baz=49					
C37A	Embarrass	36.34	280	P	P	00 00 03.8 -0.5
	baz=51					
C36A	Pine Crest Far	36.67	281	P	P	00 00 06.4 -0.6
	baz=51					
B35A	Bob, Littlefor	36.75	282	P	P	00 00 06.9 -0.8
	baz=51					
D37A	Cotton	36.83	280	P	P	00 00 07.5 -0.8
	baz=50					
F39A	Loretta	36.84	277	P	P	00 00 07.8 -0.6
	baz=49					
H41A	Junction City	37.02	274	P	P	00 00 09.6 -0.4
	baz=48					
I42A	Draeger Farm,	37.12	273	P	P	00 00 10.6 -0.2
	baz=47					
D36A	Goodland	37.21	280	P	P	00 00 11.0 -0.6
	baz=50					
C35A	Jirik Farms, M	37.30	281	P	P	00 00 11.8 -0.6
	baz=50					
F38A	Pierce - Schro	37.32	278	P	P	00 00 12.1 -0.4
	baz=49					
VTS	Vitosha	37.57	89	eP	P	00 00 14.1 -0.8
	comp=Z,3.3nm,1.0s					
VTS	Vitosha	37.57	89	eP	P	00 00 14.1 -0.8
	comp=Z,3.3nm,1.0s					
E36A	McGregor	37.68	279	P	P	00 00 15.2 -0.4
	baz=49					
G38A	Ridgeland	37.83	277	P	P	00 00 16.2 -0.6
	baz=48					
J41A	Loganville	38.06	273	P	P	00 00 18.7 -0.1
	baz=47					
L43A	Garden Prairie	38.20	271	P	P	00 00 20.1 +0.1
	baz=46					
F36A	Milaca	38.25	279	P	P	00 00 20.4 0.0
	baz=49					
YKA	Yellowknife Ar	38.46	312	P	P	00 00 21.3 -0.6
	comp=Z,2.8nm,0.8s,baz=59,slow=9.3,SNR=4.2					
YKA				LR	LR	00 15 35.8
	comp=Z,131nm,18.3s,baz=0.0,slow=35					
SFIN	Lafayette	38.60	267	P	P	00 00 23.5 +0.1
	baz=44					
SFIN	Lafayette	38.60	267	eP	P	00 00 23.9 +0.6
	comp=Z,17nm,0.9s					
SFIN	Lafayette	38.60	267	eP	P	00 00 23.9 +0.6
	comp=Z,17nm,0.9s					
J39A	Decorah	38.98	274	P	P	00 00 26.7 +0.1
	baz=46					
J38A	Wedel Dairy, R	39.40	275	P	P	00 00 30.2 +0.1
	baz=46					
L39A	Vinton	39.98	273	P	P	00 00 34.6 -0.3
	baz=45					
P44A	Sand Creek, Wi	40.07	268	P	P	00 00 35.8 +0.2
	baz=43					
N41A	Harden Midland	40.37	271	P	P	00 00 38.0 -0.1
	baz=44					
K37A	Belmond	40.40	275	P	P	00 00 38.3 -0.1
	baz=46					
P43A	Skaggs, Pawnee	40.42	269	P	P	00 00 38.6 0.0
	baz=43					
O41A	Passleys Farm,	40.80	270	P	P	00 00 41.4 -0.3
	baz=44					
CPCT	Cooper Cave	40.89	260	eP	P	00 00 43.8 +1.3
	comp=Z,41nm,1.9s					
CPCT	Cooper Cave	40.89	260	eP	P	00 00 43.8 +1.3
	comp=Z,41nm,1.9s					
P42A	Winchester	40.90	269	P	P	00 00 42.5 0.0
	baz=43					
R44A	Waltonville	41.20	267	P	P	00 00 45.0 0.0
	baz=42					
ECSD	EROS Data Cent	41.31	279	eP	P	00 00 47.2 +1.4
	comp=Z,6.9nm,0.9s					
ECSD	EROS Data Cent	41.31	279	eP	P	00 00 47.2 +1.4
	comp=Z,6.9nm,0.9s					
O40A	La Belle	41.33	271	P	P	00 00 46.0 -0.1
	baz=44					
R43A	Red Bud	41.63	267	P	P	00 00 48.6 +0.1
	baz=42					
INK	Inuvik	41.64	327	P	P	00 00 49.1 +0.9
	comp=Z,5.6nm,1.0s,baz=78,slow=11,SNR=4.9					
P40A	Paris	41.85	271	P	P	00 00 50.2 -0.1
	baz=43					
DGMT	Dagmar	42.05	289	P	P	00 00 51.2 -0.7
	baz=49					
DGMT	Dagmar	42.05	289	eP	P	00 00 53.3 +1.4
	comp=Z,24nm,0.8s					
DGMT	Dagmar	42.05	289	eP	P	00 00 53.3 +1.4
	comp=Z,24nm,0.8s					
S43A	Fulton Ridge,	42.23	267	P	P	00 00 53.4 0.0
	baz=42					
Q40A	Laux Farm, Aux	42.25	270	P	P	00 00 53.5 -0.1
	baz=43					
P39B	Salisbury	42.25	271	P	P	00 00 53.5 -0.1
	baz=43					
R41A	Rosebud	42.39	269	P	P	00 00 54.6 -0.1
	baz=42					
S42A	Caledonia	42.47	268	P	P	00 00 55.3 -0.1
	baz=42					
CCM	Cathedral Cave	42.49	268	eP	P	00 00 55.8 +0.2
	comp=Z,15nm,0.8s					
CCM	Cathedral Cave	42.49	268	eP	P	00 00 55.8 +0.2
	comp=Z,15nm,0.8s					
Q39A	Willow Grove F	42.69	271	P	P	00 00 57.0 -0.2
	baz=43					
PBMO	Poplar Bluff	43.01	266	eP	P	00 01 00.0 +0.2
	comp=Z,24nm,0.9s					
PBMO	Poplar Bluff	43.01	266	eP	P	00 00 60.0 +0.2
	comp=Z,24nm,0.9s					
Q38A	Cooks Store, C	43.10	271	P	P	00 01 00.1 -0.3
	baz=43					
S41A	Jillco Farms,	43.11	268	P	P	00 01 00.2 -0.4
	baz=42,SNR=12					
R39A	Chumby, Stover	43.26	270	P	P	00 01 01.9 +0.1
	baz=42					
P36A	Good Intent, A	43.46	273	P	P	00 01 03.4 -0.1
	baz=43					
S40A	Lebanon	43.50	269	P	P	00 01 04.0 +0.2
	baz=42					
T41A	Mountain View	43.52	268	P	P	00 01 04.0 0.0
	baz=42					
U42A	Revenden	43.76	267	P	P	00 01 05.9 +0.1
	baz=41					
R38A	Fenwick Farm,	43.82	271	P	P	00 01 06.1 -0.2
	baz=42					
Y47A	UCPARC, Winfie	43.83	261	P	P	00 01 07.0 +0.6
	baz=39					
T40A	Mansfield	43.84	269	P	P	00 01 06.4 -0.1
	baz=42					
S39A	Bolivar	43.87	270	P	P	00 01 06.7 0.0
	baz=42					
LRAL	Lakeview Retre	44.05	260	eP	P	00 01 09.9 +1.7
	comp=Z,14nm,1.1s					
LRAL	Lakeview Retre	44.05	260	eP	P	00 01 09.9 +1.7
	comp=Z,14nm,1.1s					
Z48A	Northport	44.08	261	P	P	00 01 08.9 +0.5
	baz=39					
R37A	Teagarden Farm	44.22	272	P	P	00 01 09.1 -0.4
	baz=42					
S38A	Stockton	44.23	270	P	P	00 01 08.9 -0.7
	baz=42					
ILGA	Ilgaz	44.23	83	eP	P	00 01 10.4 +0.5
	comp=Z,14nm,1.0s					
ILGA	Ilgaz	44.23	83	eP	P	00 01 10.4 +0.5
	comp=Z,14nm,1.0s					
X45A	UM Field Stati	44.24	263	P	P	00 01 09.3 -0.4
	baz=40					
V42A	Cord	44.25	266	P	P	00 01 09.4 -0.4
	baz=41					
LAO	LASA Array	44.26	289	P	P	00 01 09.6 -0.2
	baz=47					
LAO	LASA Array	44.26	289	eP	P	00 01 11.0 +1.2
	comp=Z,14nm,0.9s					
LAO	LASA Array	44.26	289	eP	P	00 01 11.0 +1.2
	comp=Z,14nm,0.9s					
Y46A	Houston	44.37	262	P	P	00 01 11.1 +0.3
	baz=39					
P34A	Walnut Farm, R	44.38	275	P	P	00 01 10.0 -0.8
	baz=43					
T39A	Clever	44.40	269	P	P	00 01 10.6 -0.4
	baz=42,SNR=7.6					
TAM	Tamanrasset	44.46	126	eP	P	00 01 11.9 +0.1
	comp=Z,23nm,1.7s					
TAM	Tamanrasset	44.46	126	eP	P	00 01 11.9 +0.1
	comp=Z,23nm,1.7s					
Q35A	Mercer Eighty,	44.46	273	P	P	00 01 10.6 -0.8
	baz=43					
Z47A	Carrollton	44.49	261	P	P	00 01 11.5 -0.1
	baz=39					
R36A	Gordon, Harris	44.57	272	P	P	00 01 11.7 -0.6
	baz=42					
BR231	Keskin MP Arra	44.61	85	eP	P	00 01 16.2 +3.4
U40A	Yellville	44.62	268	P	P	00 01 12.2 -0.5
	baz=41,SNR=7.2					
S37A	Fort Scott	44.62	271	P	P	00 01 12.2 -0.6
	baz=42					
V41A	Mountainview	44.67	267	P	P	00 01 12.6 -0.6
	baz=41					
Y45A	Yeager Farm, C	44.75	263	P	P	00 01 13.2 -0.6
	baz=39					
T38A	Diamond	44.88	270	P	P	00 01 14.3 -0.4
	baz=42,SNR=7.6					
Q34A	Chapman	44.90	274	P	P	00 01 13.2 -1.7
	baz=43					
U39A	Grn Forest	44.93	269	P	P	00 01 14.6 -0.6
	baz=41,SNR=7.8					
V40A	Witts Springs	45.01	268	P	P	00 01 15.4 -0.5
	baz=41,SNR=16					
EGMT	Eagleton	45.12	292	P	P	00 01 15.7 -1.0
	baz=47					
WHAR	Wooly Hollow	45.12	267	eP	P	00 01 17.3 +0.6
	comp=Z,13nm,1.0s					
WHAR	Wooly Hollow	45.12	267	eP	P	00 01 17.3 +0.6
	comp=Z,13nm,1.0s					
T37A	Cheneyville 18	45.14	271	P	P	00 01 16.7 -0.2
	baz=42					
BR131	Keskin Array S	45.15	84	eP	P	00 01 17.8 +0.7
BR131	Keskin Array S	45.15	84	eP	P	00 01 17.8 +0.7
BRTR	Keskin Array B	45.15	84	P	P	00 01 17.7 +0.7
	comp=Z,4.5nm,0.8s,baz=324,slow=4.5,SNR=24					
BRTR				LR	LR	00 19 52.0
	comp=Z,125nm,22.0s,baz=292,slow=36					
W41B	Gary Mavity, V	45.19	267	P	P	00 01 17.5 +0.2
	baz=40					
X301	Greenbrier Sit	45.22	267	eP	P	00 01 17.6 +0.1
	comp=Z,16nm,1.0s					
X301	Greenbrier Sit	45.22	267	eP	P	00 01 17.6 +0.1
	comp=Z,16nm,1.0s					
HHAR	Hobbs	45.25	269	eP	P	00 01 19.0 +1.2
	comp=Z,14nm,1.0s					
HHAR	Hobbs	45.25	269	eP	P	00 01 18.9 +1.2
	comp=Z,14nm,1.0s					
U38A	Gravette	45.37	270	P	P	00 01 18.7 0.0
	baz=41					
V39A	Pettigrew	45.43	268	P	P	00 01 19.3 +0.1
	baz=41					
W40A	Ferguson Farm,	45.61	267	P	P	00 01 20.3 -0.3
	baz=40					
T36A	Boggs Farm, Ca	45.70	271	P	P	00 01 21.2 -0.1
	baz=42					
ARU	Arti	45.71	51	eP	P	00 01 20.4 -0.7
	comp=Z,54nm,1.8s					
ARU	Arti	45.71	51	eP	P	00 01 20.4 -0.7
	comp=Z,54nm,1.8s					
TOLK	Toolik Lake Re	45.72	333	P	P	00 01 19.4 -1.7
	baz=41					
U37A	Salina	45.78	270	P	P	00 01 21.8 -0.2
	baz=41					
V38A	Canehill	45.81	269	P	P	00 01 22.3 +0.1
	baz=41					
NRIK	Noril'sk	45.86	25	P	P	00 01 21.5 -0.7
	comp=Z,1.3nm,0.4s,baz=346,slow=4.3,SNR=3.5					
W39A	Magazine	45.99	268	P	P	00 01 23.4 -0.2
	baz=40,SNR=7.1					
X40A	Basin Creek Fa	46.02	266	P	P	00 01 23.8 0.0
	baz=40					
V37A	Hulbert	46.19	270	P	P	00 01 25.1 -0.1
	baz=41					
DAWY	Dawson	46.25	324	eP	P	00 01 25.2 -0.2
	comp=Z,14nm,1.3s					
DAWY	Dawson	46.25	324	eP	P	00 01 25.2 -0.2
	comp=Z,14nm,1.3s					
MIAR	Mount Ida	46.37	267	P	P	00 01 26.6 0.0
	baz=40					
MIAR	Mount Ida	46.37	267	eP	P	00 01 27.2 +0.6
	comp=Z,15nm,1.0s					
MIAR	Mount Ida	46.37	267	eP	P	00 01 27.2 +0.6
	comp=Z,15nm,1.0s					
T34A	McClaskey Farm	46.43	272	P	P	00 01 26.8 -0.3
	baz=42					
W38A	Poteau	46.47	268	P	P	00 01 27.3 -0.1
	baz=40					
Z42A	Norrel Spur, H	46.48	265	P	P	00 01 27.4 0.0
	baz=39					
TUL1	Leonard	46.52	270	P	P	00 01 27.3 -0.4
	baz=41					
TUL1	Leonard	46.52	270	eP	P	00 01 29.2 +1.4
	comp=Z,31nm,1.4s					
TUL1	Leonard	46.52	270	eP	P	00 01 29.2 +1.4
	comp=Z,31nm,1.4s					
X39A	Fountain Ranch	46.68	268	P	P	00 01 29.0 -0.1
	baz=40,SNR=5.6					
KIV	Kislovodsk	46.84	73	eP	P	00 01 29.9 -0.4
	comp=Z,15nm,1.0s					
KIV	Kislovodsk	46.84	73	eP	P	00 01 29.9 -0.4
	comp=Z,15nm,1.0s					
W37B	Quinton	46.91	269	P	P	00 01 30.6 -0.3
	baz=40					
X38A	Whitesboro	46.94	268	P	P	00 01 31.1 0.0
	baz=40					
KBZ	Khabaz	47.11	73	P	P	00 01 33.0 +0.7
	comp=Z,5.1nm,0.8s,baz=314,slow=9.8,SNR=11					
KBZ				LR	LR	00 20 52.3
	comp=Z,122nm,20.2s,baz=10,slow=36					
KBZ	Khabaz	47.11	73	P	P	00 01 33.0 +0.7
Y39A	Lockesburg	47.11	267	P	P	00 01 32.6 +0.2
	baz=40					
K22A	Casper	47.23	285	P	P	00 01 33.3 -0.2
	baz=44					
K22A	Casper	47.23	285	eP	P	00 01 33.9 +0.4
	comp=Z,8.6nm,1.0s					
K22A	Casper	47.23	285	eP	P	00 01 33.9 +0.4
	comp=Z,8.6nm,1.0s					
X37A	Clayton	47.29	269	P	P	00 01 34.2 +0.4
	baz=40					
W36A	Wetumka	47.33	270	P	P	00 01 34.2 +0.1
	baz=40					
SWMT	Swartz Lake	47.55	295	eP	P	00 01 35.5 -0.3
SWMT	Swartz Lake	47.55	295	eP	P	00 01 35.5 -0.3
W35A	Tecumseh	47.67	270	P	P	00 01 36.6 -0.2
	baz=40					
BOZ	Bozeman (W)	47.73	291	P	P	00 01 36.8 -0.5
	baz=45,SNR=8.7					
BOZ	Bozeman (W)	47.73	291	eP	P	00 01 37.2 -0.1
	comp=Z,5.8nm,0.8s					
BOZ	Bozeman (W)	47.73	291	eP	P	00 01 37.2 -0.1
	comp=Z,5.8nm,0.8s					
X36A	Centrahoma	47.83	270	P	P	00 01 38.1 +0.1
	baz=40					
IL1	Eielson Array	47.94	328	eP	P	00 01 38.2 -0.3
IL1	Eielson Array	47.94	328	eP	P	00 01 38.2 -0.3
ILAR	Eielson Array	47.94	328	P	P	00 01 38.7 +0.2
	comp=Z,6.0nm,1.0s,baz=30,slow=6.7,SNR=20					
ILAR				PcP	PcP	00 03 05.7 -0.8
	comp=Z,1.5nm,0.7s,baz=6.6,slow=2.3,SNR=10					
ILAR				LR	LR	00 22 13.6
	comp=Z,198nm,20.3s,baz=58,slow=37					
ILB	Eielson Array	47.94	328	eP	P	00 01 38.3 -0.2
ILB	Eielson Array	47.94	328	eP	P	00 01 38.3 -0.2
DOT	Dot Lake	47.97	326	eP	P	00 01 38.2 -0.6
	comp=Z,108nm,2.0s					
DOT	Dot Lake	47.97	326	eP	P	00 01 38.2 -0.6
	comp=Z,108nm,2.0s					
H17A	Grant Village	48.05	289	P	P	00 01 38.8 -1.1
	baz=44					
MDM	Murphy Dome	48.17	329	eP	P	00 01 39.1 -1.2
	comp=Z,8.3nm,0.9s					
MDM	Murphy Dome	48.17	329	eP	P	00 01 39.1 -1.2
	comp=Z,8.3nm,0.9s					
N23A	Red Feather La	48.20	283	P	P	00 01 41.0 -0.1
	baz=43					
N23A	Red Feather La	48.20	283	eP	P	00 01 43.2 +2.1
	comp=Z,26nm,1.5s					
N23A	Red Feather La	48.20	283	eP	P	00 01 43.2 +2.1
	comp=Z,26nm,1.5s					
X35A	Drake	48.29	270	P	P	00 01 41.8 +0.2
	baz=40					
ARTV	Artvin	48.44	76	eP	P	00 01 44.0 +1.1
	comp=Z,6.0nm,0.7s					
ARTV	Artvin	48.44	76	eP	P	00 01 44.0 +1.1
	comp=Z,6.0nm,0.7s					
NEW	Newport	48.51	297	P	P	00 01 42.4 -0.8
	baz=45					
KOPT	Kop Dagi	48.55	78	eP	P	00 01 43.5 -0.3
	comp=Z,43nm,1.9s					
KOPT	Kop Dagi	48.55	78	eP	P	00 01 43.5 -0.3
	comp=Z,43nm,1.9s					
LOHW	Long Hollow	48.63	289	eP	P	00 01 44.8 +0.5
	comp=Z,4.1nm,1.1s					
LOHW	Long Hollow	48.63	289	eP	P	00 01 44.8 +0.5
	comp=Z,4.1nm,1.1s					
BW06	Boulder Array	48.71	287	P	P	00 01 44.0 -1.0
	baz=44					
BW06	Boulder Array	48.71	287	eP	P	00 01 44.1 -0.9
BW06	Boulder Array	48.71	287	eP	P	00 01 44.1 -0.9
PD31	Pinedale Array	48.71	287	eP	P	00 01 44.1 -0.9
PD31	Pinedale Array	48.71	287	eP	P	00 01 44.1 -0.9
PDAR	Pinedale Array	48.71	287	P	P	00 01 44.2 -0.8
	comp=Z,4.0nm,0.8s,baz=53,slow=8.4,SNR=13					
PDAR				LR	LR	00 21 14.0
	comp=Z,435nm,18.2s,baz=44,slow=35					
FXWY	Fox Creek	48.82	289	eP	P	00 01 46.5 +0.6
	comp=Z,4.3nm,1.0s					
FXWY	Fox Creek	48.82	289	eP	P	00 01 46.5 +0.6
	comp=Z,4.3nm,1.0s					
ISCO	Idaho Springs	48.83	282	P	P	00 01 46.0 0.0
	baz=42					
ISCO	Idaho Springs	48.83	282	eP	P	00 01 47.0 +0.9
	comp=Z,9.2nm,1.1s					
ISCO	Idaho Springs	48.83	282	eP	P	00 01 47.0 +0.9
	comp=Z,9.2nm,1.1s					
MCMT	McKenzie Canyo	48.88	291	eP	P	00 01 47.6 +1.3
MCMT	McKenzie Canyo	48.88	291	eP	P	00 01 47.6 +1.3
TPAW	Teton Pass	48.89	289	eP	P	00 01 47.1 +0.7
	comp=Z,5.9nm,0.9s					
TPAW	Teton Pass	48.89	289	eP	P	00 01 47.1 +0.7
	comp=Z,5.9nm,0.9s					
REDW	Red Top Meadow	48.93	289	eP	P	00 01 47.9 +1.2
	comp=Z,8.0nm,0.9s					
REDW	Red Top Meadow	48.93	289	eP	P	00 01 47.9 +1.2
	comp=Z,8.0nm,0.9s					
MCK	McKinley	49.32	328	eP	P	00 01 49.7 +0.6
	comp=Z,14nm,1.1s					
MCK	McKinley	49.32	328	eP	P	00 01 49.7 +0.6
	comp=Z,14nm,1.1s					
B08A	Colville Reser	49.48	299	eP	P	00 01 50.8 +0.2
	comp=Z,8.3nm,0.9s					
B08A	Colville Reser	49.48	299	eP	P	00 01 50.8 +0.2
	comp=Z,8.3nm,0.9s					
O20A	White River Ci	49.95	284	P	P	00 01 53.9 -0.6
	baz=42					
O20A	White River Ci	49.95	284	eP	P	00 01 55.9 +1.4
	comp=Z,34nm,1.8s					
O20A	White River Ci	49.95	284	eP	P	00 01 55.9 +1.4
	comp=Z,34nm,1.8s					
T25A	Trinidad	50.17	278	P	P	00 01 56.1 -0.1
	baz=41					
T25A	Trinidad	50.17	278	eP	P	00 01 57.0 +0.8
	comp=Z,11nm,0.9s					
T25A	Trinidad	50.17	278	eP	P	00 01 57.0 +0.8
	comp=Z,11nm,0.9s					
SDCO	Great Sand Dun	50.29	280	P	P	00 01 57.0 -0.1
	baz=41					
SDCO	Great Sand Dun	50.29	280	eP	P	00 01 57.6 +0.4
	comp=Z,6.4nm,1.3s					
SDCO	Great Sand Dun	50.29	280	eP	P	00 01 57.6 +0.4
	comp=Z,6.4nm,1.3s					
HLID	Hailey	50.57	291	P	P	00 01 58.5 -0.6
	baz=43					
HLID	Hailey	50.57	291	eP	P	00 02 00.0 +0.9
	comp=Z,3.8nm,1.1s					
HLID	Hailey	50.57	291	eP	P	00 02 00.0 +0.9
	comp=Z,3.8nm,1.1s					
HWUT	Hardware Ranch	50.57	288	eP	P	00 02 00.4 +1.3
	comp=Z,9.9nm,0.9s					
HWUT	Hardware Ranch	50.57	288	eP	P	00 02 00.4 +1.3
	comp=Z,9.9nm,0.9s					
GNI	Garni	50.65	75	eP	P	00 01 59.6 -0.1
	comp=Z,14nm,1.0s					
GNI	Garni	50.65	75	eP	P	00 01 59.6 -0.1
	comp=Z,14nm,1.0s					
MARD	Mardin	50.70	81	eP	P	00 02 00.5 +0.4
	comp=Z,15nm,1.0s					
MARD	Mardin	50.70	81	eP	P	00 02 00.5 +0.4
	comp=Z,15nm,1.0s					
S22A	4UR Ranch, Cre	50.99	281	P	P	00 02 02.6 +0.2
	baz=41					
S22A	4UR Ranch, Cre	50.99	281	eP	P	00 02 04.9 +2.4
	comp=Z,10nm,1.3s					
S22A	4UR Ranch, Cre	50.99	281	eP	P	00 02 04.9 +2.4
	comp=Z,10nm,1.3s					
BMO	Blue Mountains	51.05	294	eP	P	00 02 03.1 +0.5
	comp=Z,3.7nm,0.9s					
BMO	Blue Mountains	51.05	294	eP	P	00 02 03.1 +0.5
	comp=Z,3.7nm,0.9s					
JLU	Jordanelle	51.26	287	eP	P	00 02 05.0 +0.7
	comp=Z,14nm,1.5s					
JLU	Jordanelle	51.26	287	eP	P	00 02 05.0 +0.7
	comp=Z,14nm,1.5s					
ABKAR	Akbulak array	51.34	57	eP	P	00 02 04.5 -0.1
	comp=Z,55nm,0.8s					
ABKAR	Akbulak array	51.34	57	eP	P	00 02 04.5 -0.1
	comp=Z,55nm,0.8s					
TOA0	Torodi Ar. Sit	51.61	136	eP	P	00 02 05.8 -1.1
TOA0	Torodi Ar. Sit	51.61	136	eP	P	00 02 05.8 -1.1
TORD	Torodi Ar. Bea	51.61	136	P	P	00 02 05.5 -1.4
	comp=Z,6.5nm,0.7s,baz=341,slow=7.0,SNR=38					
TORD				LR	LR	00 22 13.3
	comp=Z,93nm,18.1s,baz=345,slow=34					
PV01	Paradox Valley	51.61	282	eP	P	00 02 07.0 0.0
	comp=Z,342nm,1.0s					
PV01	Paradox Valley	51.61	282	eP	P	00 02 07.0 0.0
	comp=Z,342nm,1.0s					
PV10	Paradox Valley	51.67	283	eP	P	00 02 09.4 +1.9
PV10	Paradox Valley	51.67	283	eP	P	00 02 09.4 +1.9
P17A	Butcher Ranch,	51.73	285	eP	P	00 02 08.5 +0.7
	comp=Z,7.4nm,1.1s					
P17A	Butcher Ranch,	51.73	285	eP	P	00 02 08.5 +0.7
	comp=Z,7.4nm,1.1s					
SRU	San Rafael Swe	51.89	285	eP	P	00 02 09.5 +0.5
	comp=Z,5.4nm,0.9s					
SRU	San Rafael Swe	51.89	285	eP	P	00 02 09.5 +0.5
	comp=Z,5.4nm,0.9s					
PV05	Paradox Valley	51.92	283	eP	P	00 02 08.9 -0.5
PV05	Paradox Valley	51.92	283	eP	P	00 02 08.9 -0.5
NLU	North Lily Min	52.05	287	eP	P	00 02 10.9 +0.6
	comp=Z,8.5nm,1.0s					
NLU	North Lily Min	52.05	287	eP	P	00 02 10.9 +0.6
	comp=Z,8.5nm,1.0s					
MVCO	Mesa Verde	52.27	282	P	P	00 02 12.2 +0.3
	baz=41,SNR=6.1					
MVCO	Mesa Verde	52.27	282	eP	P	00 02 13.1 +1.2
	comp=Z,8.4nm,0.9s					
MVCO	Mesa Verde	52.27	282	eP	P	00 02 13.1 +1.2
	comp=Z,8.4nm,0.9s					
JCT	Junction City	52.83	269	P	P	00 02 16.3 +0.4
	baz=38					
JCT	Junction City	52.83	269	eP	P	00 02 17.6 +1.7
	comp=Z,11nm,1.0s					
JCT	Junction City	52.83	269	eP	P	00 02 17.6 +1.7
	comp=Z,11nm,1.0s					
ANMO	Albuquerque	52.91	278	P	P	00 02 16.9 +0.2
	baz=40					
ANMO	Albuquerque	52.91	278	eP	P	00 02 17.7 +1.0
	comp=Z,17nm,2.0s					
ANMO	Albuquerque	52.91	278	eP	P	00 02 17.7 +1.0
	comp=Z,17nm,2.0s					
MSU	Marysvale	53.19	285	eP	P	00 02 19.5 +0.7
MSU	Marysvale	53.19	285	eP	P	00 02 19.5 +0.7
LAZ	Ladron	53.69	278	eP	P	00 02 24.3 +1.9
LAZ	Ladron	53.69	278	eP	P	00 02 24.3 +1.9
J05D	Fort Rock, OR	54.11	296	P	P	00 02 25.0 -0.3
	baz=41					
833A	Chaparral WMA,	54.32	267	P	P	00 02 26.7 -0.1
	baz=37					
KNB	K

933A	Laredo	54.82 267	P	P	00 02 30.9 +0.5
	baz=37				
MNTX	Cornudas Mount	54.85 275	P	P	00 02 31.2 +0.6
	baz=38				
MNTX	Cornudas Mount	54.85 275	eP	P	00 02 32.0 +1.3
	comp=Z,9.0nm,1.4s				
MNTX	Cornudas Mount	54.85 275	eP	P	00 02 32.0 +1.3
	comp=Z,9.0nm,1.4s				
LCMT	Little Creek M	54.88 285	eP	P	00 02 31.5 +0.5
	comp=Z,10nm,1.6s				
LCMT	Little Creek M	54.88 285	eP	P	00 02 31.5 +0.5
	comp=Z,10nm,1.6s				
WUAZ	Wupatki	55.05 282	eP	P	00 02 33.5 +1.2
	comp=Z,35nm,1.7s				
WUAZ	Wupatki	55.05 282	eP	P	00 02 33.5 +1.2
	comp=Z,35nm,1.7s				
DBIC	Dimbokro	55.46 146	LR	LR	00 23 33.5
	comp=Z,253nm,19.7s,baz=328,slow=33				
121A	Cookes Peak, D	55.48 277	P	P	00 02 34.9 -0.5
	baz=38				
TX31	Lajitas Ar. Si	55.79 272	eP	P	00 02 39.0 +1.4
TX31	Lajitas Ar. Si	55.79 272	eP	P	00 02 39.0 +1.4
TXAR	Lajitas Array	55.79 272	P	P	00 02 37.3 -0.3
	comp=Z,2.8nm,1.0s,baz=60,slow=3.0,SNR=12				
TXAR			LR	LR	00 25 49.4
	comp=Z,137nm,18.5s,baz=0.0,slow=35				
PAHR	Pah Rah Range	55.92 292	eP	P	00 02 37.5 -1.0
	comp=Z,11nm,0.9s				
PAHR	Pah Rah Range	55.92 292	eP	P	00 02 37.5 -1.0
	comp=Z,11nm,0.9s				
X16A	Lo Mia Camp, P	55.94 282	eP	P	00 02 41.3 +2.6
X16A	Lo Mia Camp, P	55.94 282	eP	P	00 02 41.4 +2.6
SHPR	Sheep Range	56.25 286	eP	P	00 02 42.2 +1.3
	comp=Z,4.1nm,1.0s				
SHPR	Sheep Range	56.25 286	eP	P	00 02 42.2 +1.3
	comp=Z,4.1nm,1.0s				
TPNV	Topopah Spring	56.47 287	P	P	00 02 41.9 -0.5
	baz=39				
TPNV	Topopah Spring	56.47 287	eP	P	00 02 43.5 +1.1
	comp=Z,3.7nm,0.8s				
TPNV	Topopah Spring	56.47 287	eP	P	00 02 43.5 +1.1
	comp=Z,3.7nm,0.8s				
TUC	Tucson	57.23 280	P	P	00 02 47.6 -0.2
	baz=38				
JCC	Jacoby Creek,	57.34 296	eP	P	00 02 45.9 -2.4
	comp=Z,191nm,1.4s				
ZALV	Zalesovo Beam	57.45 39	P	P	00 02 48.4 -0.5
	comp=Z,1.0nm,0.6s,baz=308,slow=6.4,SNR=4.4				
MPMC	Manual Prospec	57.79 287	P	P	00 02 51.3 -0.5
	baz=39				
KURK	Kurchatov	57.91 44	eP	P	00 02 51.3 -0.8
	comp=Z,5.1nm,0.8s				
KURK	Kurchatov	57.91 44	eP	P	00 02 51.3 -0.8
	comp=Z,5.1nm,0.8s				
GSC	Goldstone, Bar	58.03 286	P	P	00 02 53.4 0.0
	baz=38				
BC3	Big Chuckawall	58.62 284	P	P	00 02 57.2 -0.3
	baz=38				
BELC	Belle Mtn. Jos	58.63 285	P	P	00 02 57.7 +0.1
	baz=38				
EDW2	Edwards Air Fo	58.96 287	P	P	00 02 59.7 -0.2
	baz=38				
GEYT	Alibeck	59.08 67	P	P	00 03 00.8 +0.1
	comp=Z,3.9nm,1.1s,baz=309,slow=9.4,SNR=8.4				
PFO	Pinyon Flats O	59.17 285	P	P	00 03 01.1 -0.3
	baz=38				
ZAIG	Zacatecas	60.47 266	eP	P	00 03 15.4 +4.8
	comp=Z,35nm,1.9s				
MAKZ	Makanchi	62.39 45	eP	P	00 03 22.6 -0.4
	comp=Z,25nm,2.0s				
MAKZ	Makanchi	62.39 45	eP	P	00 03 22.6 -0.4
	comp=Z,25nm,2.0s				
MK31	Makanchi Array	62.52 45	eP	P	00 03 23.3 -0.5
MK31	Makanchi Array	62.52 45	eP	P	00 03 23.3 -0.5
MKAR	Makanchi Array	62.52 45	P	P	00 03 23.3 -0.5
	comp=Z,3.5nm,0.7s,baz=331,slow=6.0,SNR=42				
MKAR	Makanchi Array	62.52 45	eP	P	00 03 23.3 -0.5
	comp=Z,25nm,0.6s				
MKAR	Makanchi Array	62.52 45	eP	P	00 03 23.3 -0.5
	comp=Z,25nm,0.6s				
MK01	Makanchi Array	62.54 45	eP	P	00 03 23.3 -0.7
MK01	Makanchi Array	62.54 45	eP	P	00 03 23.3 -0.7
RAYN	Ar Rayn	64.03 87	eP	P	00 03 34.1 -0.1
	comp=Z,21nm,1.9s				
RAYN	Ar Rayn	64.03 87	eP	P	00 03 34.1 -0.1
	comp=Z,21nm,1.9s				
KSH	Kashi	66.05 53	P	P	00 03 48.9 +1.7
KSH			pP	pP	00 03 53.6 +0.6
KSH			sP	sP	00 03 56.0 +0.8
KSH			PcP	PcP	00 04 19.7 +2.0
KSH			PP	PP	00 06 14.4 +2.3
KSH			PcS		00 08 23.5
KSH			S	S	00 12 33.9 -0.3
KSH			sS	pS	00 12 42.0 +0.6
KSH			ScS	ScS	00 13 42.5 +0.1
KSH			SS	SS	00 16 50.5 +1.7
KSH			pmax	pmax	
	comp=Z,19nm,1.3s				
KSH			pmax	pmax	
	comp=Z,100nm,6.1s				
KSH			LR	LR	
	comp=Z,100nm,5.4s				
KSH			LR	LR	
	comp=Z,93nm,5.9s				
KSH			LR	LR	
	comp=Z,140nm,7.3s				
WMQ	Urumqi	67.04 43	P	P	00 03 53.9 +0.5
WMQ			pP	pP	00 03 59.3 0.0
WMQ			sP	sP	00 04 05.6 +4.2
WMQ			PcP	PcP	00 04 25.2 +3.6
WMQ			PP	PP	00 06 22.8 +2.2
WMQ			ScP		00 08 24.0
WMQ			S	S	00 12 46.1 +0.1
WMQ			pmax	pmax	
	comp=Z,9.0nm,1.7s				
WMQ			pmax	pmax	
	comp=Z,100nm,3.7s				
KBL	Kabul	67.05 61	eP	P	00 03 53.8 0.0
	comp=Z,5.3nm,0.8s				
KBL	Kabul	67.05 61	eP	P	00 03 53.8 0.0
	comp=Z,5.3nm,0.8s				
PETK	Petropavlovsk-	68.98 353	LR	LR	00 36 22.7
	comp=Z,21nm,18.9s,baz=36,slow=38				
SONA1	Songino Array	69.21 28	eP	P	00 04 06.7 -0.3
SONA1	Songino Array	69.21 28	eP	P	00 04 06.7 -0.3
SONM	Songino Array	69.22 28	P	P	00 04 06.6 -0.5
	comp=Z,2.3nm,0.8s,baz=333,slow=7.1,SNR=11				
ULN	Ulaanbaatar	69.36 28	eP	P	00 04 08.1 +0.2
	comp=Z,23nm,1.7s				
ULN	Ulaanbaatar	69.36 28	eP	P	00 04 08.1 +0.2
	comp=Z,23nm,1.7s				
SAML	Samuel	71.22 212	eP	P	00 04 18.1 -1.3
	comp=Z,14nm,1.8s				
GTA	Gaotai	75.09 36	eP	P	00 04 42.1 -0.2
GTA			pP	pP	00 04 47.2 -1.1
GTA			sP	sP	00 04 50.5 +0.1
GTA			pmax	pmax	
	comp=Z,5.0nm,0.9s				
HHC	Hu-ho-hao-te	77.05 27	eP	P	00 04 51.3 -2.2
HHC			pmax	pmax	
	comp=Z,25nm,0.7s				
HHC			pmax	pmax	
	comp=Z,160nm,6.2s				
LPAZ	La Paz	79.63 215	P	P	00 05 10.3 +1.9
	comp=Z,1.0nm,0.8s,baz=6.8,slow=11,SNR=4.1				
LPAZ			PP	PP	00 08 06.6 -2.9
	comp=Z,1.8nm,0.8s,baz=117,slow=2.3,SNR=4.0				
KMBO	Kilima Mbogo	80.30 108	LR	LR	00 39 28.9
	comp=Z,69nm,21.9s,baz=132,slow=35				
KSRS	Korea Array	83.53 16	P	P	00 05 28.4 +0.3
	comp=Z,0.9nm,0.7s,baz=356,slow=5.9,SNR=3.1				
KSRS			LR	LR	00 45 01.2
	comp=Z,32nm,18.2s,baz=2.0,slow=37				
KSAR	Wonju Array Be	83.53 16	P	P	00 05 28.4 +0.2
KSAR	Wonju Array Be	83.53 16	P	P	00 05 28.4 +0.2
LVC	Limon Verde	85.83 213	eP	P	00 05 43.4 +3.2
LVC	Limon Verde	85.83 213	eP	P	00 05 43.4 +3.2
CPUP	Villa Florida	86.52 202	P	P	00 05 41.5 -1.5
	comp=Z,2.8nm,1.0s,baz=43,slow=4.6,SNR=2.9				
CPUP			LR	LR	00 42 13.3
	comp=Z,23nm,19.1s,baz=30,slow=34				
NJ2	Nanjing	87.15 24	eP	P	00 05 45.8 -0.6
NJ2			pmax	pmax	
	comp=Z,17nm,0.5s				
GYA	Guiyang	89.22 36	eP	P	00 05 56.0 -0.5
GYA			pmax	pmax	
	comp=Z,10.0nm,1.0s				
MATP	Matopo	92.90 125	LR	LR	00 48 07.4
	comp=Z,156nm,19.8s,baz=360,slow=36				
CMAR	Chiang Mai Arr	93.92 46	LR	LR	00 50 21.4
	comp=Z,74nm,18.2s,baz=318,slow=37				
LBTB	Lobatse	95.72 129	LR	LR	00 50 44.3
	comp=Z,98nm,18.2s,baz=17,slow=36				
BOSA	Boshof	98.78 131	LR	LR	00 52 32.2
	comp=Z,82nm,18.4s,baz=346,slow=36				
TAOE	Nuku Hiva Isla	106.84 280	eLR	LR	00 42 43.6
	comp=Z,129nm,23.5s				
PPT2	Papeete2	119.08 284	eLR	LR	00 48 25.2
	comp=Z,93nm,23.5s				
WRA	Warramunga Arr	140.81 20	PKP	PKPdf	00 12 29.1 -1.1
	comp=Z,1.5nm,1.0s,baz=358,slow=2.4,SNR=7.6				
ASAR	Alice Springs	144.36 22	PKP	PKPab	00 12 33.4 -1.1
	comp=Z,1.3nm,0.7s,baz=358,slow=1.9,SNR=12				
QSPA	South Pole Qui	147.86 180	ePKPdf	PKPdf	00 12 40.2 -0.8
VNDA	Vanda	159.75 189	PKP	PKPdf	00 12 56.8 -0.7
	comp=Z,0.7nm,0.9s,baz=142,slow=2.4,SNR=2.5				

*ISCJB **07** 00:24:02.9±1.1, 57°.8N±0°.2×32°.4W±0°.3, h18km, mb3.5/7, MS2.4/1, Error ellipse: s-maj=33.2km s-min=19.1km az=20.5*
*IDC **07** 00:24:02.0±1.3, 57°.81N×32°.45W, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/35, mbtmp3.5/7, MS2.5/1, Ms1 2.5/1, ms1mx2.3/37, Error ellipse: s-maj=38.9km s-min=22.8km az=19.0*

ISC 07 00:24:04.8±1.2, **57°.8N**±0°.2×**32°.4W**±0°.2, **h18**km, **n11**, σ0=**68**/**7**, **mb3.6**/**7**, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	35.56	74	P	P	00 30 59.7	-0.9
	0.1nm,0.3s,baz=303,slow=8.6,SNR=4.5						
YKA	Yellowknife Ar	38.55	312	LR	LR	00 46 38.0	
	comp=Z,5.8nm,18.0s,baz=180,slow=35						
BRTR	Keskin Array B	45.16	84	P	P	00 32 20.0	-0.3
	0.4nm,0.5s,baz=332,slow=4.9,SNR=2.5						
ILAR	Eielson Array	48.07	328	P	P	00 32 42.6	+0.1
	0.6nm,0.8s,baz=40,slow=8.4,SNR=5.8						
PDAR	Pinedale Array	48.75	287	P	P	00 32 47.9	-0.5
	0.2nm,0.5s,baz=61,slow=4.3,SNR=2.9						
TORD	Torodi Ar. Bea	51.50	136	P	P	00 33 09.7	+0.5
	0.5nm,0.7s,baz=335,slow=7.9,SNR=5.2						
MKAR	Makanchi Array	62.62	45	P	P	00 34 28.1	+0.5
	0.6nm,0.7s,baz=335,slow=5.5,SNR=4.5						
H10S1	ASCENSION HYDR	68.09	161	T	T	01 48 53.2	
	baz=351,slow=75,SNR=7.4						
H10S3	ASCENSION HYDR	68.10	161	T	T	01 48 53.2	
	baz=351,slow=75,SNR=9.2						
H10S2	ASCENSION HYDR	68.11	161	T	T	01 48 52.6	
	baz=351,slow=75,SNR=8.9						
SONM	Songino Array	69.35	28	P	P	00 35 11.5	+0.6
	0.7nm,0.8s,baz=330,slow=5.0,SNR=3.2						

*NIED **07** 00:25:00.40°.20N×142°.90E, h5km, Mw3.6 Best double couple: M0=2.61000×10^14 NP1:φs=261.00000°, δ45.00000°, λ-53.00000°. NP2:φs=33.00000°, δ56.00000°, λ-121.00000°.*
*JMA **07** 00:25:40.6±0.1, 40°.24N×142°.87E, h22km±2km, M3.5*
*IDC **07** 00:26:07.1±23.0, 39°.28N×141°.06E, h178km±133km, mb3.0/2, mb1 3.2/3, mb1mx2.9/30, mbtmp3.5/3, Error ellipse: s-maj=340.1km s-min=30.5km az=62.0*

ISC 07 00:25:45.3±3.2, **40°.25N**±0°.05×**142°.6E**±0°.1, **h31**km±18km, **n19**, σ1=**69**/**21**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.67	243	P	Pn	00 25 56.3	-2.4
JTH				S	Sb	00 26 07.7	+0.1
JANG	Nango	0.87	279	P	Pn	00 25 59.8	-1.6
JANG				eS	Sn	00 26 13.3	+0.3
MIYJ	Miyakonagasawa	0.92	223	P	Pn	00 25 59.4	-2.7
MIYJ				eS	Sn	00 26 13.5	-0.8
JKZ	Kuzumaki	1.04	256	P	Pn	00 26 02.3	-1.5
JKZ				eS	Sn	00 26 17.6	+0.4
JOM	Ohasama	1.29	234	P	Pn	00 26 05.9	-1.3
JTM	Tenmabayashi	1.31	295	P	Pn	00 26 06.8	-0.7
JTM				eS	Sb	00 26 26.0	+0.2
JAH	Hinai	1.53	268	eS	Sb	00 26 32.1	0.0
JOT	Ohata	1.65	314	P	Pn	00 26 11.0	-1.2
JOT				S	Sn	00 26 32.8	+0.4
JMK	Ichinoseki	1.70	221	P	Pn	00 26 12.2	-0.6
JMK				S	Sn	00 26 35.0	+1.6
MAT	Matsushiro	5.08	225	P	Pn	00 27 01.5	+2.2
MAT				eS	Sn	00 27 56.0	-0.9
MJAR	Matsushiro Arr	5.08	225	P	Pn	00 27 02.3	+3.0
	1.2nm,0.3s,baz=32,slow=13,SNR=23						
H11N2	WAKE ISLAND Hy	29.16	127	T	T	01 02 00.9	
	baz=320,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	29.16	127	T	T	01 01 60.0	
	baz=320,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	29.17	127	T	T	01 02 02.2	
	baz=320,slow=75,SNR=23						
H11S1	WAKE ISLAND Hy	29.98	129	T	T	01 03 07.4	
	baz=322,slow=76,SNR=6.9						
H11S3	WAKE ISLAND Hy	29.98	129	T	T	01 03 07.1	
	baz=322,slow=76,SNR=4.6						
H11S2	WAKE ISLAND Hy	29.99	129	T	T	01 03 08.2	
	baz=322,slow=76,SNR=5.1						
MKAR	Makanchi Array	43.30	299	P	P	00 33 46.4	+2.3
	0.3nm,0.5s,baz=90,slow=7.2,SNR=3.7						
WRA	Warramunga Arr	60.38	189	P	P	00 35 49.6	-1.9
	0.6nm,0.8s,baz=6.5,slow=7.0,SNR=4.6						

TRN 07 00:30:08.8, 17°.16N×62°.21W, h9km, MD3.9, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEV	Hard Times	0.35	265	eP	Pb	00 30 18.5	+1.3
NEV				eS	Sb	00 30 24.1	+1.2
BPA	Boggy Peak	0.36	109	eP	Pn	00 30 19.0	-1.4
BPA				eS	Sb	00 30 24.7	+1.5
MLYT	Lee's Yard	0.44	178	i P	Pb	00 30 20.0	+1.2
MLYT				eS	Sb	00 30 27.2	+1.6
SKI	Saint Kitts	0.53	288	i P	Pn	00 30 22.1	-0.6
SKI				eS	Sn	00 30 30.4	-1.5
ANWB	Willy Bob	0.65	39	eP	Pn	00 30 24.8	+0.6
ANWB				eS	Sn	00 30 34.7	+0.1
SEUS	St. Eustatius	0.81	294	eP	Pn	00 30 27.2	+0.8
SEG	Port Louis	1.01	138	∩iP	Pn	00 30 30.2	+0.9
SABA	Saba	1.08	295	eP	Pn	00 30 32.1	+1.7
SABA				eS	Sn	00 30 49.8	+4.3
LZG	Guadaloupe-1	1.10	158	eP	Pn	00 30 31.6	+1.1
SSG	Sans Toucher	1.18	154	∩iP	Pn	00 30 32.9	+1.1
MLG	Mont-d'or	1.20	156	∩iP	Pn	00 30 33.3	+1.4
SMRT	St. Maarten	1.21	317	i P	Pg	00 30 32.7	+0.7
PHG	Guadaloupe-2	1.27	154	∩iP	Pg	00 30 34.4	+1.2
SFG	Saint Francois	1.33	133	∩iP	Pg	00 30 35.3	+1.0
DEG	La Desirade	1.39	127	i P	Pg	00 30 36.0	+0.4
TBG	Guadaloupe-3	1.41	157	eP	Pg	00 30 36.8	+0.8
MGG	Marie-Galante	1.51	145	eP	Pg	00 30 38.2	+0.4
MGG				eS	Sg	00 30 59.2	+1.9
BBL	Barber's Block	1.78	156	eP	Pb	00 30 42.1	+0.5
BBL				eS	Sg	00 31 06.2	+0.2
DWS	Wesley	1.81	151	eP	Pg	00 30 42.9	-0.6
DWS				eS	Sg	00 31 06.8	-0.2
MDN	Morne-Daniel	2.00	157	eS	Sb	00 31 11.3	+0.9
DLPL	La Plaine	2.04	153	eP	Pb	00 30 46.1	-0.1
DLPL				eS	Sg	00 31 13.5	-1.1
DPMT	Pointe Michel	2.06	157	eP	Pb	00 30 46.2	-0.2
DPMT				eS	Sb	00 31 12.7	+0.6
DBCT	Belle View Cho	2.06	156	eP	Pb	00 30 46.7	+0.2
DBCT				eS	Sb	00 31 12.7	+0.4
DSHT	Scott's Head	2.10	157	eP	Pb	00 30 47.1	-0.1
DSHT				eS	Sb	00 31 13.9	+0.5
PCM	Pelee Case Pet	2.52	157	eP	Pn	00 30 51.8	+1.7
PCM	Pelee Case Pet	2.52	157	eP	Pb	00 30 55.8	+1.3
CXM	Morne La Croix	2.54	157	eP	Pg	00 30 56.4	-1.3
BAMF	Morne Balai	2.55	156	eP	Pg	00 30 56.4	-1.4
GBMF	Grand Be	2.56	157	eP	Pb	00 30 55.7	+0.7
FDF	Fort de France	2.62	157	eP	Pb	00 30 54.8	-1.3
FDF				eS	Sn	00 31 25.9	+2.4
ZAM	Aeronautique	2.82	156	eP	Pb	00 30 58.7	-0.7
MVM	Montagne Vaucl	2.89	154	eP	Pb	00 30 59.4	-1.3
MCLT	Moule a Chique	3.65	160	eP	Pn	00 31 07.5	+2.0
GRGR	Grenville	5.03	174	eP	Pn	00 31 25.3	+0.7

MAN 07 00:30:14, 11°.20N×125°.40E, h10km, mb3.8, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.40	5	eP	Pb	00 30 23.1	-0.2
BESP				eS	Sb	00 30 30.5	+1.0
CNP	Cataram	1.49	331	eP	Pn	00 30 40.8	0.0
CNP				eS	Sg	00 31 01.5	-0.6

*ISCJB **07** 00:36:06.1±0.6, 17°.8S±0°.1×40°.04E±0°.09, h10km, mb3.6/10, Error ellipse: s-maj=16.9km s-min=11.6km az=152.5*
*IDC **07** 00:36:06.2±0.9, 17°.82S×40°.07E, h0km, mb3.7/10, mb1 3.7/12, mb1mx3.5/47, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=27.6km s-min=19.2km az=142.0*

ISC 07 00:36:06.6±0.7, **17°.9S**±0°.1×**39°.9E**±0°.06, **h10**km, **n16**, σ2=**94**/**17**, **mb3.6**/**10**, **Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	6.88	97	Pn	Pn	00 37 48.7	+1.0
	0.2nm,0.3s,baz=253,slow=19,SNR=5.0						
OPO				Sn	Sn	00 38 59.0	-7.1
	0.5nm,0.3s,baz=8.7,slow=23,SNR=6.2						
MATP	Matopo	11.16	255	Pn	Pn	00 38 42.9	-3.6
	0.1nm,0.3s,baz=80,slow=15,SNR=5.7						
MATP				Sn	Sn	00 40 41.0	-10
	0.2nm,0.3s,baz=158,slow=19,SNR=3.5						
LSZ	Lusaka	11.61	281	Pn	Pn	00 38 50.8	-1.8
	0.1nm,0.3s,baz=107,slow=14,SNR=2.4						
LSZ				Sn	Sn	00 40 55.6	-6.8
	0.1nm,0.3s,baz=52,slow=19,SNR=2.7						
LBTB	Lobatse	15.17	240	Pn	P	00 39 47.8	+1.4
	0.2nm,0.3s,baz=82,slow=7.5,SNR=3.6						
BOSA	Boshof	17.25	229	P	P	00 40 10.5	+1.2
	0.1nm,0.3s,baz=57,slow=12,SNR=4.6						
TSUM	Tsumeb	21.29	263	P	P	00 40 54.8	+1.1
	2.0nm,0.8s,baz=82,slow=13,SNR=6.8						
SUR	Sutherland	22.55	226	P	P	00 41 09.4	+2.3
	0.6nm,1.0s,baz=50,slow=12,SNR=4.9						
ATD	Arta Tunnel	29.34	6	P	P	00 42 10.1	+0.2
	3.1nm,0.5s,baz=244,slow=18,SNR=3.9						
TORD	Torodi Ar. Bea	48.76	307	P	P	00 44 52.9	+0.8
	0.3nm,0.6s,baz=124,slow=5.9,SNR=4.1						
IDI	Anoyia	54.76	345	P	P	00 45 38.6	+1.9
	2.9nm,0.8s,baz=210,slow=20,SNR=2.6						
MKAR	Makanchi Array	74.78	29	P	P	00 47 47.2	+0.3
	0.2nm,0.5s,baz=224,slow=6.0,SNR=2.7						
BVAR	Borovoye Array	75.33	18	P	P	00 47 51.5	+1.6
	0.5nm,0.7s,baz=280,slow=41,SNR=2.5						
KURBB	Kurchatov Arra	76.14	24	P	P	00 47 55.1	+0.5
	0.4nm,0.7s,baz=221,slow=6.5,SNR=3.8						
ZALV	Zalesovo Beam	81.17	25	P	P	00 48 23.3	+1.0
	0.4nm,0.4s,baz=228,slow=3.8,SNR=4.0						
ASAR	Alice Springs	86.44	114	P	P	00 48 50.2	+0.1
	0.2nm,0.6s,baz=257,slow=4.2,SNR=4.2						
TXAR	Lajitas Array	144.93	296	PKP	PKPdf	00 55 46.1	+1.3
	1.1nm,0.9s,baz=96,slow=5.4,SNR=8.1						

*AZER **07** 00:39:05.0±99.0, 35°.21N×52°.45E, h2km±367km, Error ellipse: s-maj=9999.0km s-min=43.9km az=326.0*
*IDC **07** 00:39:09.2±4.4, 34°.70N×51°.90E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.0/35, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=85.8km s-min=35.6km az=4.0*
*ISCJB **07** 00:39:11.9±0.3, 35°.26N±0°.02×51°.95E±0°.03, h15km, mb3.0/1, Error ellipse: s-maj=3.9km s-min=3.0km az=11.3*
*CSEM **07** 00:39:11.8±0.2, 35°.28N×51°.92E, h10km, ML3.5, Error ellipse: s-maj=4.3km s-min=3.3km az=115.0*
*TEH **07** 00:39:12.1, 35°.25N×51°.90E, h10km, ML3.5*

ISC 07 00:39:12.2±0.7, **35°.23N**±0°.02×**51°.91E**±0°.03, **h15**km, **n53**, σ2=**32**/**69**, **7C-11D**, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	Varamin	0.28	212	ePg	Pg	00 39 18.0	-0.2
IVRN				eSg	Sg	00 39 21.4	-0.9
IVRN				eAMB	AMB	00 39 25.9	
	comp=Z,41μm,0.1s						
IVRN	Varamin	0.28	212	ePg	Pg	00 39 18.0	-0.2
IVRN				eSg	Sg	00 39 21.4	-0.9
IDMV	Damavand	0.36	16	ePg	Pg	00 39 18.2	-1.5
IDMV				eSg	Sg	00 39 23.7	-1.1
IDMV				eAMB	AMB	00 39 25.2	
	comp=Z,49μm,0.2s						
IDMV	Damavand	0.36	16	ePg	Pg	00 39 18.2	-1.5
IDMV				eSg	Sg	00 39 23.7	-1.1
IAFJ	Afjeh	0.64	346	ePg	Pg	00 39 23.8	-1.1
IAFJ				eSg	Sg	00 39 32.0	-1.4
IAFJ				eAMB	AMB	00 39 39.4	
	comp=Z,26μm,0.1s						
IAFJ	Afjeh	0.64	346	ePg	Pg	00 39 23.8	-1.1
IAFJ				eSg	Sg	00 39 32.0	-1.4
IFIR	Firoozkooh	0.80	59	ePg	Pg	00 39 26.1	-1.7
IFIR				eAMB	AMB	00 39 28.8	
	comp=Z,24μm,0.2s						
IFIR				eSg	Sb	00 39 38.1	-0.6
IFIR	Firoozkooh	0.80	59	ePg	Pg	00 39 26.1	-1.7
IFIR				eSg	Sb	00 39 38.1	-0.6
ILAS	Lasjerd	0.87	80	ePg	Pg	00 39 27.9	-1.2
ILAS				eAMB	AMB	00 39 41.2	
	comp=E,24μm,0.1s						
ILAS	Lasjerd	0.87	80	ePg	Pg	00 39 27.9	-1.2
GHVR	GHOM	0.91	214	ePg	Pb	00 39 29.1	-0.5
CHTH	Charan	0.93	317	ePg	Pb	00 39 28.8	-1.3
IPRN	Peran	1.06	19	ePg	Pb	00 39 31.3	-1.1
IPRN				eAMB	AMB	00 39 51.0	
	comp=Z,11μm,0.3s						
IMHD	Mahdasht	1.11	294	ePg	Pb	00 39 32.0	-1.1
IMHD				eAMB	AMB	00 39 32.4	
	comp=Z,6μm,0.2s						
IMHD	Mahdasht	1.11	294	ePg	Pb	00 39 32.0	-1.1
IALA	Alasht	1.12	41	ePg	Pb	00 39 32.0	-1.5
IALA				eAMB	AMB	00 39 55.9	
	comp=Z,12μm,0.2s						
IALA	Alasht	1.12	41	ePg	Pb	00 39 32.0	-1.5
ISHM	Shahmirzad	1.27	63	ePg	Pb	00 39 34.9	-1.0
ISHM				eAMB	AMB	00 40 01.1	
	comp=Z,15μm,0.2s						
QAM	Ghamsar	1.52	195	ePn	Pn	00 39 38.6	-0.4
QAM				eAMB	AMB	00 40 03.0	
	comp=Z,18μm,0.2s						
IRAZ	Razeghan	1.63	277	ePn	Pn	00 39 40.8	+0.3
IRAZ				eAMB	AMB	00 39 43.1	
	comp

SNGE	Sanandaj	3.74	269	*e*Pn	Pn	00 40 11.2 +1.6
ASTR	Astara	4.16	324	⇑Pn	Pn	00 40 16.6 +1.5
ASTR				⇓Sn	Sb	00 41 11.8 -3.2
LRK	Lerik	4.44	321	⇑Pn	Pn	00 40 20.4 +1.2
LRK				⇓Sn	Sb	00 41 18.0 -5.5
GLBA	Clilabad	4.89	326	⇓Pn	Pn	00 40 26.8 +1.7
GLBA				⇓Sn	Sb	00 41 28.5 -7.5
GEYT	Alibeck	5.67	60	Pn	Pn	00 40 39.3 +3.3
	comp=Z,0.5nm,0.3s,baz=239,slow=18,SNR=6.9					
ATGJ	Altiaghaj	6.09	338	⇑Pn	Pn	00 40 43.4 +1.7
ATGJ				⇑Sn	Sn	00 41 55.8 +4.7
PQL	Pirkuli	6.13	336	⇓Pn	Pn	00 40 44.0 +1.6
PQL				⇓Sn	Sn	00 41 56.4 +4.1
QBL	Gabala	6.54	332	⇓Pn	Pn	00 40 49.6 +1.7
QBL				⇓Sn	Sn	00 42 08.7 +6.4
XNQ	Khinaliq	6.63	335	⇑Pn	Pn	00 40 51.3 +2.1
XNQ				⇑Sn	Sn	00 42 09.3 +4.7
QUBA	Quba, Azerbaij	6.67	337	⇓Pn	Pn	00 40 50.3 +0.5
SEKA	Sheki	7.02	330	⇓Pn	Pn	00 40 56.2 +1.7
SEKA				⇓Sn	Sn	00 42 20.9 +6.8
ZKTA	Zakatala	7.62	329	⇑Pn	Pn	00 41 05.3 +2.7
BRTR	Keskin Array B	15.18	293	Pn	P	00 42 50.5 -0.6
	comp=Z,0.0nm,0.3s,baz=110,slow=11,SNR=4.8					
MKAR	Makanchi Array	25.51	54	P	P	00 44 41.9 +2.0
	comp=Z,0.3nm,0.6s,baz=254,slow=8.9,SNR=3.6					

DDA ***07*** *00:40:36.7, 39°.13N×28°.97E, h7km, Md2.6*
ISCJB ***07*** *00:40:37.2±0.4, 39°.09N±0°.03×29°.00E±0°.03, h10km±3km, Error ellipse: s-maj=5.0km s-min=4.1km az=160.5*
CSEM ***07*** *00:40:37.3±0.1, 39°.09N×29°.01E, h8km, MD2.4, Error ellipse: s-maj=2.4km s-min=2.1km az=131.0*
ISK ***07*** *00:40:37.0, 39°.11N×29°.04E, h10km, MD2.4*

ISC 07 00:40:37.0±0.8, 39°.10N±0°.02×29°.01E±0°.02, h12km±5km, n40, σ0§67/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.03	229	*e*PG	Pg	00 40 39.2	-0.1
SIMA				*e*SG	Sg	00 40 40.9	0.0
SIMA	Simav-Kutahya	0.03	229	*e*Pg	Pg	00 40 39.2	-0.1
SIMA				*e*Sg	Sg	00 40 40.9	0.0
DEMI	Demirci	0.24	256	*i* P	Pg	00 40 41.9	-0.1
DEMI				*i* S	Sg	00 40 45.0	-0.4
DEMI	Demirci	0.24	256	P	Pg	00 40 41.9	-0.1
DEMI				S	Sg	00 40 45.0	-0.4
GEDZ	Gediz	0.32	100	*e*PG	Pg	00 40 43.5	0.0
GEDZ	Gediz	0.32	100	*e*Pg	Pg	00 40 43.5	0.0
GDZ	Gediz	0.37	92	*i* P	Pb	00 40 45.1	-0.4
GDZ				*i* S	Sb	00 40 50.5	-0.8
GDZ	Gediz	0.37	92	P	Pb	00 40 45.2	-0.4
GDZ				S	Sb	00 40 50.5	-0.8
TVSB	Tavsanli	0.49	45	*e*PG	Pg	00 40 46.7	0.0
TVSB				*e*SG	Sg	00 40 53.8	+0.5
TVSB	Tavsanli	0.49	45	*e*Pg	Pg	00 40 46.7	0.0
TVSB				*e*Sg	Sg	00 40 53.8	+0.5
KULA	Kula-Manisa	0.65	205	*e*PG	Pg	00 40 49.7	+0.1
KULA	Kula-Manisa	0.65	205	*e*Pg	Pg	00 40 49.7	+0.1
MANT	Manisa	0.70	210	*i* P	Pg	00 40 50.5	-0.2
MANT				*i* S	Sg	00 40 59.4	-0.6
MANT	Manisa	0.70	210	P	Pg	00 40 50.5	-0.2
MANT				S	Sg	00 40 59.4	-0.6
KHAL	Karahalli	0.82	153	*i* P	Pb	00 40 53.8	+0.5
KHAL				*i* S	Sg	00 41 03.3	-0.4
KHAL	Karahalli	0.82	153	P	Pb	00 40 53.8	+0.5
KHAL				S	Sg	00 41 03.3	-0.4
AKHS	Akhisar	0.96	257	*i* P	Pb	00 40 56.2	+0.6
AKHS	Akhisar	0.96	257	P	Pb	00 40 56.2	+0.6
BALB	Balikesir	1.03	302	*e*PG	Pn	00 40 57.8	+0.5
BALB	Balikesir	1.03	302	*e*Pg	Pn	00 40 57.8	+0.5
STEP	BALIKESIR_Sava	1.04	286	*i* S	Sb	00 41 11.8	+1.2
STEP	BALIKESIR_Sava	1.04	286	S	Sb	00 41 11.8	+1.2
BALY	Balya	1.25	301	*i* S	Sb	00 41 14.3	-2.4
BALY	Balya	1.25	301	S	Sb	00 41 14.4	-2.4
KCTX	Karacabey (Bur	1.27	337	*e*PN	Pg	00 41 01.2	-0.2
KCTX	Karacabey (Bur	1.27	337	*e*Pn	Pg	00 41 01.2	-0.2
MDNY	Mudanya-Bursa	1.27	356	*e*PN	Pg	00 41 01.4	0.0
MDNY	Mudanya-Bursa	1.27	356	*e*Pn	Pg	00 41 01.4	0.0
GEMT	Gemlik	1.34	6	*e*Pn	Pb	00 41 02.3	+0.2
GEMT	Gemlik	1.34	6	*e*Pn	Pb	00 41 02.3	+0.2
ADVT	Abdulvahap	1.44	23	*e*PN	Pn	00 41 03.6	+0.6
ADVT	Abdulvahap	1.44	23	*e*Pn	Pn	00 41 03.6	+0.6
AYDB	Zeytinkoy-Aydi	1.45	218	*e*PN	Pb	00 41 04.2	+0.2
AYDB	Zeytinkoy-Aydi	1.45	218	*e*Pn	Pb	00 41 04.2	+0.2
ARMT	Armutlu	1.47	356	*e*PN	Pb	00 41 04.2	0.0
ARMT	Armutlu	1.47	356	*e*Pn	Pb	00 41 04.2	0.0
EDC	Edincik	1.53	325	*e*PN	Pb	00 41 05.2	-0.1
EDC	Edincik	1.53	325	*e*Pn	Pb	00 41 05.2	-0.1
GULT	Gulveren	1.76	41	*e*PN	Pn	00 41 08.2	+0.8
GULT	Gulveren	1.76	41	*e*Pn	Pn	00 41 08.3	+0.8

ISK ***07*** *00:42:42.6, 38°.73N×39°.66E, h5km, MD2.6*
DDA ***07*** *00:42:43.0, 38°.75N×39°.63E, h7km, Md2.6*
CSEM ***07*** *00:42:43.3±0.6, 38°.81N×39°.49E, h5km, MD2.6, Error ellipse: s-maj=14.4km s-min=10.6km az=118.0*

ISC 07 00:42:43.0±1.0, 38°.80N±0°.03×39°.64E±0°.05, h16km±9km, n14, σ1§45/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.22	295	*e*PG	Pg	00 42 48.3	+0.2
PTK				*e*SG	Sg	00 42 52.4	+0.8
PTK	Pertek	0.22	295	*e*Pg	Pg	00 42 48.3	+0.2
PTK				*e*Sg	Sg	00 42 52.4	+0.8
TNCL	Tunceli-Merkez	0.32	346	*i* P	Pb	00 42 50.5	0.0
TNCL				*i* S	Sb	00 42 56.2	+0.6
TNCL	Tunceli-Merkez	0.32	346	P	Pb	00 42 50.5	0.0
TNCL				S	Sb	00 42 56.2	+0.6
SVRC	Sivrice-ELAZID	0.50	212	*e*PG	Pg	00 42 51.9	-1.1
SVRC				*e*SG	Sg	00 42 58.6	-1.0
SVRC	Sivrice-ELAZID	0.50	212	*e*Pg	Pg	00 42 51.9	-1.1
SVRC				*e*Sg	Sg	00 42 58.6	-1.0
ELZG	Elazig	0.60	240	*i* P	Pg	00 42 52.9	-1.9
ELZG				*i* S	Sb	00 43 04.6	+1.1
ELZG	Elazig	0.60	240	P	Pg	00 42 52.9	-1.9
BINT	Bingol	0.66	83	*e*Pg	Pn	00 42 59.0	+1.1
BINT				*e*Sg	Sn	00 43 11.3	+3.2
ERZN	Erzincan	0.79	4	*e*PG	Pb	00 42 59.5	+1.1
ERZN				*e*SG	Sn	00 43 11.8	+0.6
BNGB	Bing¨¶l	0.83	76	*e*PG	Pb	00 42 59.0	-0.1
BNGB				*e*SG	Sn	00 43 11.3	-0.9
YEDI	Yedisu-Bingol	0.95	47	*e*PG	Pn	00 43 01.9	+0.1
YEDI	Yedisu-Bingol	0.95	47	*e*Pg	Pn	00 43 01.9	+0.1
EZC	Erzincan	0.98	347	*e*Pg	Pg	00 42 59.5	-2.4
EZC				*e*Sg	Sg	00 43 11.8	-3.0

NIED ***07*** *01:07:00, 40°.20N×142°.80E, h5km, Mw3.6 Best double couple: M0=2.52000×10^14 NP1:φs=34.00000°, δ45.00000°, λ-103.00000°. NP2:φs=232.00000°, δ47.00000°, λ-78.00000°.*
JMA ***07*** *01:07:35.6±0.2, 40°.24N×142°.85E, h24km±2km, M3.9*
IDC ***07*** *01:07:35.2±2.2, 40°.26N×143°.05E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.5/53, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=41.3km s-min=24.4km az=137.0*
ISCJB ***07*** *01:07:36.8±1.3, 40°.23N±0°.04×142°.77E±0°.08, h19km±8km, mb3.5/3, Error ellipse: s-maj=10.1km s-min=5.9km az=13.2*

ISC 07 01:07:37.9±1.8, 40°.22N±0°.04×142°.68E±0°.07, h16km±10km, n23, σ1§51/27, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.68	246	P	Pg	01 07 51.0	-0.3
JTH				S	Sg	01 08 01.8	+1.4
JANG	Nango	0.90	280	P	Pb	01 07 53.9	-1.3
JANG				S	Sb	01 08 07.4	+0.4
MIYJ	Miyakonagasawa	0.92	226	P	Pb	01 07 54.1	-1.4
MIYJ				S	Sb	01 08 07.1	-0.4
JKZ	Kuzumaki	1.06	258	P	Pb	01 07 57.7	-0.2
JKZ				S	Sb	01 08 12.0	+0.4
JOM	Ohasama	1.30	235	P	Pn	01 08 00.3	-1.1
JOM				*e*S	Sn	01 08 18.5	0.0
JTM	Tenmabayashi	1.35	295	P	Pn	01 08 01.0	-1.1
JTM				S	Sn	01 08 19.4	-0.3
JAH	Hinai	1.56	269	P	Pn	01 08 05.2	+0.2
JAH				S	Sn	01 08 26.4	+1.5
JOT	Ohata	1.69	314	P	Pn	01 08 05.4	-1.4
JOT				S	Sn	01 08 27.1	-1.1
JMK	Ichinoseki	1.69	222	P	Pn	01 08 06.5	-0.3
JMK				S	Sn	01 08 28.6	+0.4
ASAJ	Asahikawa	3.89	359	Pn	Pn	01 08 37.0	0.0
	5.0nm,0.3s,baz=195,slow=11,SNR=9.6					
ASAJ				Sn	Sn	01 09 24.8	+2.4
	1.7nm,0.3s,baz=88,slow=27,SNR=3.7					
MJAR	Matsushiro Arr	5.08	225	Pn	Pn	01 08 56.6	+3.2
	1.1nm,0.3s,baz=30,slow=13,SNR=21					
MAT	Matsushiro	5.08	225	P	Pn	01 08 56.3	+2.9
MAT				*e*S	Sn	01 09 52.3	+0.5
USRK	Ussuriysk Ar.	8.87	300	Pn	Pn	01 09 48.4	+3.0
	0.1nm,0.3s,baz=112,slow=13,SNR=4.5					
KSRS	Korea Array	11.83	261	Pn	Pn	01 10 31.7	+5.8
	0.3nm,0.3s,baz=62,slow=17,SNR=3.2					
H11N2	WAKE ISLAND Hy	29.11	127	T	T	01 44 00.5	
	baz=320,slow=75,SNR=55					
H11N1	WAKE ISLAND Hy	29.12	127	T	T	01 44 02.6	
	baz=320,slow=75,SNR=42					
H11N3	WAKE ISLAND Hy	29.13	127	T	T	01 44 03.1	
	baz=320,slow=75,SNR=51					
H11S1	WAKE ISLAND Hy	29.94	129	T	T	01 45 04.6	
	baz=325,slow=74,SNR=5.8					
H11S3	WAKE ISLAND Hy	29.94	129	T	T	01 45 02.9	
	baz=325,slow=74,SNR=9.0					
H11S2	WAKE ISLAND Hy	29.95	129	T	T	01 45 03.1	
	baz=325,SNR=6.4					
ZALV	Zalesovo Beam	40.57	310	P	P	01 15 17.8	+1.4
	0.5nm,0.4s,baz=87,slow=9.3,SNR=3.7					
MKAR	Makanchi Array	43.34	300	P	P	01 15 38.9	-0.2
	0.5nm,0.5s,baz=81,slow=9.6,SNR=6.0					
ILAR	Eielson Array	46.29	34	P	P	01 16 00.7	-1.6
	0.3nm,0.7s,baz=272,slow=6.8,SNR=3.2					

NEIC ***07*** *01:12:09.8±2.0, 5°.65S×150°.33E, h98km±18km, mb4.4/4, Error ellipse: s-maj=16.1km s-min=12.0km az=89.0*
IDC ***07*** *01:12:10.2±2.1, 5°.71S×150°.20E, h93km±17km, mb3.9/11, mb1 4.0/13, mb1mx3.8/32, mbtmp4.2/13, MS3.0/5, Ms1 3.0/5, ms1mx2.8/28, Error ellipse: s-maj=23.1km s-min=12.7km az=94.0*
ISCJB ***07*** *01:12:12.3±0.5, 5°.73S±0°.06×150°.2E±0°.1, h135km, mb4.0/13, Error ellipse: s-maj=15.8km s-min=7.9km az=16.7*

ISC 07 01:12:14.3±0.7, 5°.80S±0°.08×150°.1E±0°.1, h135km, n28, σ2§00/29, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.61	219	P	Pn	01 13 21.0	-1.3
	49nm,0.3s,baz=50,slow=5.6,SNR=46						
PMG				S	Sn	01 14 12.8	-2.3
	20nm,0.3s,baz=351,slow=9.3,SNR=16						
PMG				LR	LR	01 15 16.6	
	comp=Z,140nm,19.8s,baz=42,slow=39						
PMG	Port Moresby	4.61	219	*e*Pn	Pn	01 13 20.5	-1.8
PMG				*e*Sn	Sn	01 14 14.5	-0.6
HNR	Honiara	10.42	111	LR	LR	01 17 51.5	
	comp=Z,57nm,21.1s,baz=302,slow=33						
CTA	Charters Tower	14.68	194	P	Pn	01 15 35.9	+0.3
	0.3nm,0.3s,baz=4.4,slow=13,SNR=2.8						
CTAO	Charters Tower	14.68	194	*e*Pn	Pn	01 15 36.5	+0.9
	94nm,1.1s						
EIDS	Eidsvold	19.48	177	*e*P	P	01 16 31.6	+0.8
	14nm,0.8s						
WRAB	Tennant Creek	20.77	226	*e*P	P	01 16 45.4	+0.6
	11nm,0.5s						
WRA	Warramunga Arr	20.78	226	P	P	01 16 46.0	+1.0
	8.4nm,0.5s,baz=50,slow=11,SNR=177						
WRA				S	S	01 20 27.4	-2.2
	0.4nm,0.7s,baz=51,slow=22,SNR=3.7						
WRA				ScP	ScP	01 24 18.1	+5.0
	2.1nm,0.8s,baz=50,slow=2.7,SNR=17						
DZM	Mont Dzumac	22.63	137	P	P	01 17 03.0	-1.2
	16nm,0.5s,baz=307,slow=7.2,SNR=26						
DZM	Mont Dzumac	22.63	137	*e*P	P	01 17 01.3	-2.9
	16nm,0.6s						
ASAR	Alice Springs	23.62	220	P	P	01 17 15.2	+1.8
	5.5nm,0.6s,baz=49,slow=8.6,SNR=68						
ASAR				ScP	ScP	01 24 24.9	+4.5
	0.6nm,0.8s,baz=58,slow=2.8,SNR=5.0						
STKA	Stephens Creek	27.13	196	P	P	01 17 45.0	+0.1
	3.3nm,0.5s,baz=34,slow=14,SNR=7.7						
FORT	Forrest	32.33	217	*e*P	P	01 18 31.9	+1.0
MBWA	Marble Bar	33.13	240	*e*P	P	01 18 38.9	+1.0
	32nm,0.6s						
MJAR	Matsushiro Arr	43.56	346	LR	LR	01 39 07.7	
	comp=Z,18nm,18.8s,baz=95,slow=37						
KSRS	Korea Array	47.74	336	P	P	01 20 36.2	-1.5
	0.8nm,0.4s,baz=155,slow=8.9,SNR=3.7						
KSAR	Wonju Array Be	47.74	336	P	P	01 20 36.2	-1.5
USRK	Ussuriysk Ar.	52.38	344	P	P	01 21 13.7	+1.2
	1.7nm,0.6s,baz=163,slow=5.6,SNR=3.1						
PETK	Petropavlovsk-	59.04	5	P	P	01 21 59.1	-0.8
	2.6nm,0.5s,baz=186,slow=8.7,SNR=2.4						
SONM	Songino Array	65.76	329	P	P	01 22 45.8	+0.9
	0.8nm,0.5s,baz=154,slow=7.8,SNR=3.8						
VNDA	Vanda	71.95	177	P	P	01 23 24.3	+1.7
	1.5nm,0.7s,baz=332,slow=6.5,SNR=13						
MKAR	Makanchi Array	79.31	320	P	P	01 24 06.8	+1.7
	0.2nm,0.5s,baz=124,slow=5.1,SNR=2.6						
ZALV	Zalesovo Beam	80.50	327	P	P	01 24 10.3	-0.9
	0.5nm,0.3s,baz=117,slow=7.7,SNR=2.7						
MCK	McKinley	82.83	23	*e*P	P	01 24 21.8	-1.5
	3.1nm,0.5s						
ILAR	Eielson Array	84.11	23	P	P	01 24 26.7	-3.1
	0.9nm,0.6s,baz=245,slow=5.6,SNR=7.6						
ARU	Arti	95.63	326	LR	LR	02 08 53.1	
	comp=Z,18nm,21.3s,baz=287,slow=36						
AKTO	Aktyubinsk	95.75	320	LR	LR	02 10 20.6	
	comp=Z,6.1nm,18.1s,baz=102,slow=36						
TORD	Torodi Ar. Bea	148.00	285	PKPbc	PKPbc	01 31 44.6	-0.4
	0.4nm,0.6s,baz=92,slow=2.6,SNR=11						

MAN ***07*** *01:21:27, 8°.27N×127°.62E, h32km, mb4.8, ML3.8, MS3.8*
IDC ***07*** *01:21:28.7±1.0, 8°.47N×127°.05E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/44, mbtmp3.8/8, MS2.9/3, Ms1 3.0/3, ms1mx2.6/51, Error ellipse: s-maj=46.5km s-min=18.7km az=67.0*
NEIC ***07*** *01:21:33.9±0.7, 8°.42N×126°.95E, h35km, mb4.0/3, Error ellipse: s-maj=31.8km s-min=13.1km az=66.0*

ISC 07 01:21:29.5±0.8, 8°.44N±0°.05×127°.09E±0°.08, h10km, n18, σ2§12/20, mb3.9/11, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.69	209	*e*P	Pn	01 21 58.1	-1.0
MATI				*e*S	Sn	01 22 19.5	-1.3
SCPH	Surigao	2.07	310	*e*P	Pg	01 22 06.7	-2.5
BUKP	Musuan	2.08	255	*e*P	Pg	01 22 08.2	-1.2
BUKP				*e*S	Sg	01 22 37.9	+1.5
MSLP	Maasin	2.77	308	*e*P	Pb	01 22 18.0	-1.1
MSLP				*e*S	Sg	01 23 05.1	+6.5
OCLP	Ormoc	3.57	317	*e*P	Pg	01 22 35.0	-2.9
OCLP				*e*S	Sg	01 23 23.8	-0.4
GUMO	Guam	18.18	72	LR	LR	01 32 35.2	
	comp=Z,31nm,20.2s,baz=104,slow=37						
CMAR	Chiang Mai Arr	29.09	293	P	P	01 27 31.6	+1.0
	1.2nm,0.6s,baz=107,slow=7.2,SNR=10						
CMAR				LR	LR	01 37 53.7	
	comp=Z,15nm,20.2s,baz=180,slow=34						
WRA	Warramunga Arr	29.09	166	P	P	01 27 30.5	0.0
	0.3nm,0.8s,baz=349,slow=9.5,SNR=3.8						
ASAR	Alice Springs	32.59	168	P	P	01 28 03.5	+2.1
	0.2nm,0.5s,baz=345,slow=7.0,SNR=3.8						
SONM	Songino Array	43.01	340	P	P	01 29 30.1	+0.8
	0.5nm,0.3s,baz=157,slow=7.8,SNR=3.8						
MKAR	Makanchi Array	53.97	323	P	P	01 30 54.6	+0.9
	0.9nm,0.5s,baz=118,slow=7.5,SNR=14						
ZALV	Zalesovo Beam	56.61	332	P	P	01 31 11.9	-0.6
	0.7nm,0.6s,baz=108,slow=4.7,SNR=3.4						
KKAR	Karatay Array	60.11	315	*e*P	P	01 31 37.1	-0.1
	2.7nm,0.9s						
AFI	Afiamalu	64.60	110	LR	LR	01 55 36.9	
	comp=Z,21nm,20.8s,baz=92,slow=32						
ABKAR	Akbulak array	68.78	320	*e*P	P	01 32 33.6	-0.2
	0.6nm,0.6s						
ARU	Arti	71.19	327	P	P	01 32 47.9	-0.6
	1.3nm,0.3s,baz=106,slow=20,SNR=3.4						
RAYN	Ar Rayn	79.00	292	*e*P	P	01 33 33.2	-1.1
	1.0nm,0.6s						
ILAR	Eielson Array	80.73	26	P	P	01 33 44.5	+1.6
	0.4nm,0.7s,baz=264,slow=6.1,SNR=4.4						

ISCJB ***07*** *01:46:07.8±1.0, 10°.8S±0°.1×162°.2E±0°.1, h100km, mb3.7/5, Error ellipse: s-maj=21.5km s-min=10.4km az=140.3*
IDC ***07*** *01:46:10.0±2.9, 10°.87S×162°.01E, h102km±20km, mb3.6/5, mb1 3.7/7, mb1mx3.4/34, mbtmp4.0/7, MS3.0/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=33.7km s-min=19.4km az=70.0*

ISC 07 01:46:09.4±1.2, 10°.8S±0°.1×162°.2E±0°.2, h100km, n14, σ1§12/9, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.57	302	P	Pn	01 46 49.8	+0.4
	56nm,0.3s,baz=195,slow=11,SNR=14						
HNR				S	Sn	01 47 19.2	-1.0
	154nm,0.3s,baz=198,slow=20,SNR=8.4						
DZM	Mont Dzumac	11.93	160	P	Pn	01 48 55.9	-0.3
	0.3nm,0.3s,baz=349,slow=19,SNR=3.4						
DZM				LR	LR	01 52 13.5	
	comp=Z,67nm,20.3s,baz=48,slow=30						
CTA	Charters Tower	17.87	237	P	Pn	01 50 13.6	+1.8
	0.5nm,0.3s,baz=57,slow=12,SNR=6.1						
WRA	Warramunga Arr	28.28	248	P	P	01 51 52.9	-0.6
	0.6nm,0.5s,baz=75,slow=9.0,SNR=7.8						
H11S2	WAKE ISLAND Hy	29.46	9	T	T	02 23 13.8	
	baz=188,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	29.46	9	T	T	02 23 13.1	
	baz=188,slow=76,SNR=25						
H11S1	WAKE ISLAND Hy	29.48	9	T	T	02 23 14.1	
	baz=188,slow=76,SNR=27						
ASAR	Alice Springs	29.78	241	P	P	01 52 05.8	-1.2
	0.3nm,0.4s,baz=67,slow=10,SNR=5.1						
H11N1	WAKE ISLAND Hy	30.69	9	T	T	02 24 45.0	
	baz=188,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	30.70	9	T	T	02 24 46.1	
	baz=188,slow=76,SNR=28						
H11N2	WAKE ISLAND Hy	30.71	9	T	T	02 24 46.5	
	baz=188,slow=76,SNR=21						
USRK	Ussuriysk Ar.	61.22	336	P	P	01 56 14.1	+0.4
	3.5nm,0.8s,baz=119,slow=13,SNR=4.7						
SONM	Songino Array	76.42	325	P	P	01 57 48.9	+0.7
	1.1nm,0.8s,baz=117,slow=5.9,SNR=5.3						
MKAR	Makanchi Array	90.95	317	P	P	01 59 01.5	-0.7
	0.5nm,0.7s,baz=86,slow=6.5,SNR=4.6						

IDC 07 02:08:43.2±1.5, 1°.96N×127°.26E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/45, Error ellipse: s-maj=62.1km s-min=22.1km az=57.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.90	125	Pn	Pn	02 09 59.2	+1.0
	7.1nm,0.3s,baz=14,slow=18,SNR=1.7						
SIJI				Sn	Sn	02 10 57.1	+1.5
	5.9nm,0.3s,baz=301,slow=23,SNR=1.9						
PMG	Port Moresby	22.82	120	LR	LR	02 25 07.1	
	comp=Z,41nm,19.2s,baz=120,slow=43						
WRA	Warramunga Arr	22.85	163	P	P	02 13 49.0	+0.7
	1.9nm,0.4s,baz=343,slow=10,SNR=17						
ASAR	Alice Springs	26.28	166	P	P	02 14 20.6	0.0
	0.4nm,0.4s,baz=350,slow=7.7,SNR=10						
STKA	Stephens Creek	36.30	159	P	P	02 15 47.0	-1.6
	0.9nm,0.4s,baz=332,slow=10.0,SNR=4.9						
MKAR	Makanchi Array	59.30	326	P	P	02 18 47.4	+0.4
	0.3nm,0.4s,baz=118,slow=7.2,SNR=5.9						
MLR	Muntele Rosu	96.53	316	LR	LR	03 15 08.6	
	comp=Z,47nm,19.5s,baz=349,slow=41						

THE ***07*** *02:20:49.3, 34°.71N×23°.77E, h15km, ML2.3/4, Error ellipse: s-maj=1.3km s-min=0.7km az=192.0*
CSEM ***07*** *02:20:49.3±0.6, 34°.69N×23°.85E, h17km±2km, ML2.2, Error ellipse: s-maj=11.4km s-min=7.7km az=29.0*
ATH ***07*** *02:20:49.8, 34°.78N×23°.90E, h30km±1km, ML2.2/4, Error ellipse: s-maj=3.2km s-min=1.6km az=60.0*

ISC 07 02:20:49.8±2.2, 34°.77N±0°.10×23°.84E±0°.07, h16km±10km, n27, σ0§58/45, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.21	70	P	Pb	02 20 55.6	+0.3
GVD				S	Sb	02 21 00.1	+1.1
GVD	Gavdhos	0.21	70	P	Pb	02 20 55.3	0.0
GVD				S	Sb	02 21 00.3	+1.3
GVD				AML	AML	02 21 01.7	
	comp=E,2378μm,0.3s						
GVD				AML	AML	02 21 02.4	
	comp=N,2705μm,0.3s						
GVD	Gavdhos	0.21	70	P	Pb	02 20 55.4	0.0
GVD				S	Sb	02 21 00.0	+1.1
GVD				AML	AML	02 21 01.7	
	comp=E,2378μm,0.3s						
GVD				AML	AML	02 21 02.4	
	comp=N,2705μm,0.3s						
GVD	Gavdhos	0.21	70	P	Pb	02 20 55.6	+0.3
GVD				S	Sb	02 21 00.3	+1.3
IMMV	Iera Moni Meta	0.70	9	P

JMA 07 02:32:37.3, 36°.68N×140°.62E, h6km±1km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.08**	**211**	P	Pg	02 32 39.3	+0.1
JHO				S	Sg	02 32 40.7	+0.2
ONAJ	**Iwakimizuishiy**	**0.45**	**19**	P	Pg	02 32 45.8	-0.1
ONAJ				S	Sg	02 32 52.0	+0.2
JYT	**Yasato**	**0.57**	**217**	P	Pg	02 32 48.2	0.0
MAT	**Matsushiro**	**1.95**	**267**	P	Pn	02 33 11.0	+0.1
MAT				S	Sn	02 33 36.3	+0.6

*NIED **07** 02:34:00, 34°.70N×142°.70E, h8km, Mw3.8 Best double couple: M0:6.02000×10^14 NP1:φs:15.00000°, δ29.00000°, λ-105.00000°. NP2:φs:212.00000°, δ62.00000°, λ-82.00000°.*
*IDC **07** 02:34:19.7±1.4, 34°.54N×142°.65E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/54, mbtmp3.6/10, ML3.4/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/49, Error ellipse: s-maj=55.6km s-min=18.4km az=64.0*
*JMA **07** 02:34:21.9±0.5, 34°.72N×142°.69E, h53km, M3.8*
*ISCJB **07** 02:34:26.8±0.9, 34°.60N±0°.06×142°.25E±0°.09, h76km, mb3.6/9, Error ellipse: s-maj=11.6km s-min=6.8km az=143.3*

ISC 07 02:34:29.6±1.0, 34°.67N±0°.07×142°.3E±0°.1, h76km, n29, σ29 61/27, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.06**	**269**	P	**Pn**	**02 34 45.6**	**-3.0**
BSO3	**Boso 3**	**1.45**	**276**	P	**Pn**	**02 34 51.7**	**-2.2**
CHOJ	**Chosi**	**1.54**	**312**	P	**Pn**	**02 34 51.6**	**-3.7**
CHOJ				*e*S	**Sn**	**02 35 13.3**	**-1.5**
BSO4	**Boso 4**	**1.62**	**282**	P	**Pn**	**02 34 54.3**	**-1.9**
JHJ	**Hachijo jima 2**	**2.58**	**234**	Sn	**Sn**	**02 35 36.4**	**-3.3**
	89nm,0.3s,baz=56,slow=22,SNR=5.5						
JOD2	**Odawara 2**	**2.68**	**284**	P	**Pn**	**02 35 07.7**	**-2.8**
JAG	**Ashikaga**	**2.88**	**308**	P	**Pn**	**02 35 09.9**	**-3.4**
JAG				S	**Sn**	**02 35 45.5**	**-1.5**
JRY	**Ryogami san**	**3.06**	**297**	P	**Pn**	**02 35 13.6**	**-2.1**
JYN	**Shimob**	**3.16**	**286**	P	**Pn**	**02 35 14.6**	**-2.5**
JYN				*e*S	**Sn**	**02 35 54.1**	**+0.3**
JFT	**Otama**	**3.24**	**332**	P	Pn	02 35 12.8	-5.4
JFT				S	**Sn**	**02 35 49.6**	**-6.0**
MJAR	**Matsushiro Arr**	**3.80**	**301**	Pn	**Pn**	**02 35 22.5**	**-3.2**
	2.2nm,0.3s,baz=91,slow=13,SNR=6.5						
MJAR				Sn	**Sn**	**02 36 10.4**	**+1.2**
	3.8nm,0.3s,baz=280,slow=28,SNR=5.7						
MJAR				LR	LR	02 37 30.2	
	comp=Z,72nm,20.5s,baz=305,slow=46						
MAT	**Matsushiro**	**3.80**	**301**	P	**Pn**	**02 35 24.1**	**-1.6**
MAT				*e*S	**Sn**	**02 36 09.1**	**-0.1**
KSRS	**Korea Array**	**11.94**	**288**	LR	LR	02 41 49.7	
	comp=Z,31nm,20.5s,baz=60,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.39**	**118**	T	T	03 07 10.8	
H11N1	**WAKE ISLAND Hy**	**26.39**	**118**	T	T	03 07 12.0	
H11N3	**WAKE ISLAND Hy**	**26.40**	**118**	T	T	03 07 11.7	
H11S3	**WAKE ISLAND Hy**	**27.03**	**120**	T	T	03 08 02.0	
H11S1	**WAKE ISLAND Hy**	**27.03**	**120**	T	T	03 07 56.1	
H11S2	**WAKE ISLAND Hy**	**27.05**	**120**	T	T	03 07 57.4	
SONM	**Songino Array**	**29.72**	**307**	P	**P**	**02 40 30.4**	**+1.8**
	0.3nm,0.4s,baz=108,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**44.03**	**314**	P	**P**	**02 42 31.7**	**+2.2**
	0.6nm,0.4s,baz=82,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**45.99**	**304**	P	**P**	**02 42 47.1**	**+1.9**
	0.2nm,0.5s,baz=72,slow=9.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.02**	**310**	P	**P**	**02 43 01.5**	**+0.7**
	0.2nm,0.3s,baz=79,slow=6.8,SNR=2.4						
WRA	**Warramunga Arr**	**54.83**	**189**	P	**P**	**02 43 51.4**	**-0.7**
	1.9nm,0.8s,baz=9.6,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**58.56**	**189**	P	**P**	**02 44 17.5**	**-0.9**
	0.7nm,0.8s,baz=7.6,slow=5.1,SNR=8.8						
AKTO	**Aktyubinsk**	**60.78**	**313**	P	**P**	**02 44 37.4**	**+3.9**
	0.5nm,0.4s,baz=45,slow=7.4,SNR=3.5						
STKA	**Stephens Creek**	**66.20**	**181**	P	**P**	**02 45 07.8**	**-1.3**
	0.5nm,0.4s,baz=349,slow=7.9,SNR=3.4						
BRTR	**Keskin Array B**	**80.94**	**312**	P	**P**	**02 46 37.8**	**+1.8**
	0.3nm,0.7s,baz=71,slow=6.2,SNR=3.0						
LPAZ	**La Paz**	**147.20**	**64**	PKPbc	**PKPbc**	**02 54 04.3**	**-1.1**
	0.8nm,0.6s,baz=294,slow=5.1,SNR=3.5						

JMA 07 02:50:21.7, 37°.04N×140°.82E, h8km±1km, M1.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.06**	**344**	P	Pg	02 50 23.5	-0.2
ONAJ				S	Sg	02 50 25.1	0.0
JFK	**Kawauchi**	**0.33**	**8**	P	Pg	02 50 28.3	+0.1
JFK				S	Sg	02 50 33.1	+0.5
JFT	**Otama**	**0.61**	**321**	P	Pg	02 50 33.7	+0.1
JFT				S	Sg	02 50 42.3	+0.7

*NIED **07** 02:51:00, 41°.60N×142°.10E, h50km, Mw5.3 Best double couple: M0:9.33000×10^16 NP1:φs:182.00000°, δ18.00000°, λ70.00000°. NP2:φs:24.00000°, δ73.00000°, λ96.00000°.*
*BJI **07** 02:51:16.7, 41°.46N×142°.22E, h72km, mb5.2/72, mB5.2/53, Ms4.6/75, Ms7 4.6/71*
*MOS **07** 02:51:17.3±0.8, 41°.76N×141°.99E, h47km, mb5.5/99, MS4.5/47, Error ellipse: s-maj=5.9km s-min=3.8km az=102.3*
*JMA **07** 02:51:18.1±0.1, 41°.57N×142°.06E, h67km±3km, M5.0 Broadband fault plane solution: P waves. NP1: φs:27.00000°, δ68.00000°, λ96.00000°. NP2:φs:191.00000°, δ22.00000°, λ75.00000°. Principal axes: T Plg66.0000°, Azm307.0000°; N Plg6.0000°, Azm204.0000°; P Plg23.0000°, Azm112.0000°;*
JMA Felt III J1.
*NEIC **07** 02:51:18.3±0.5, 41°.63N×141°.96E, h46km±4km, mb5.3/178, MS4.7/93 Error ellipse: s-maj=3.6km s-min=2.4km az=145.0*
NEIC Felt [IV] at Misawa, Honshu. Also felt at Towada. Felt at Sapporo, Hokkaido. Recorded [3 JMA] in southwestern Hokkaido. Also recorded [3 JMA] in Aomori, Honshu.
*ISCJB **07** 02:51:18.5±0.3, 41°.61N±0°.02×142°.04E±0°.02, h63km±2km, mb5.2/277, Error ellipse: s-maj=3.3km s-min=2.1km az=154.9*
*GCMT **07** 02:51:18.3±0.1, 41°.65N×142°.21E, h57km, MW5.3/119, Moment Tensor Solution. s97,c171; s119,c202; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr0.88±.02; Mθθ0.01±.01; Mϕϕ-0.89±.02; Mrθ0.34±.01; Mθϕ-0.26±.01; Mϕr0.56±.01; Best double couple: M0:1.13200×10^17 NP1:φs:25.00000°, δ63.00000°, λ100.00000°. NP2:φs:184.00000°, δ29.00000°, λ72.00000°. Principal axes: T 1.1050, Plg71.0000°, Azm316.0000°; N 0.0550, Plg9.0000°, Azm200.0000°; P -1.1600, Plg17.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 02:51:19.9±1.2, 41°.63N×142°.14E, h65km±10km, mb4.7/31, mb1 4.8/37, mb1mx4.8/42, mbtmp5.0/37, MS4.5/37, Ms1 4.5/37, ms1mx4.4/46 Error ellipse: s-maj=10.8km s-min=7.6km az=114.0*

ISC 07 02:51:18.9±0.3, 41°.66N±0°.03×142°.08E±0°.03, h56km±2km, h56km:pP-P, n959, σ1§59/1014, mb5.2/277, MS4.7/150, 49C-35D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.80**	**39**	P	**Pn**	**02 51 34.5**	**+0.4**
JKB	**Kayabe**	**0.82**	**287**	⇓P	**Pn**	**02 51 33.9**	**-0.4**
JOT	**Ohata**	**0.82**	**251**	⇓P	**Pn**	**02 51 33.7**	**-0.7**
ERM	**Erimo**	**0.88**	**66**	*d*iP	**Pn**	**02 51 35.6**	**+0.5**
ERM	**Erimo**	**0.88**	**66**	*e*Pn	**Sn**	**02 51 35.8**	**+0.6**
ERM				*e*Sn	**Sn**	**02 51 49.9**	**+2.8**
JEM	**Erimo**	**0.88**	**66**	⇑P	**Pn**	**02 51 35.6**	**+0.5**
JNB	**Noboribetsu**	**1.12**	**316**	⇓P	**Pn**	**02 51 38.4**	**+0.1**
JNB				*e*S	**Sn**	**02 51 54.1**	**+1.3**
JBT2	**Biratori 2**	**1.14**	**11**	⇓P	**Pn**	**02 51 39.7**	**+1.1**
JTM	**Tenmabayashi**	**1.16**	**222**	⇓P	**Pn**	**02 51 37.9**	**-1.0**
JSR	**Shiriuchi**	**1.25**	**265**	P	**Pn**	**02 51 39.8**	**-0.3**
JEW	**Eniwo**	**1.27**	**339**	⇓P	**Pn**	**02 51 41.4**	**+1.1**
JEW				*e*S	**Sn**	**02 51 59.8**	**+3.4**
JCH	**Churui**	**1.35**	**45**	⇓P	**Pn**	**02 51 42.9**	**+1.5**
JANG	**Nango**	**1.35**	**199**	⇑P	**Pn**	**02 51 40.1**	**-1.4**
JANG				*e*S	**Sn**	**02 51 56.3**	**-2.1**
JYM2	**Yakumo 2**	**1.36**	**290**	⇓P	**Pn**	**02 51 42.0**	**+0.5**
JYM2				*e*S	**Sn**	**02 52 00.8**	**+2.3**
JFR	**Furan**	**1.55**	**14**	P	**Pn**	**02 51 45.4**	**+1.3**
JOSM	**Okushiri--Mats**	**1.99**	**283**	P	**Pn**	**02 51 49.7**	**-0.4**
ASAJ	**Asahikawa**	**2.48**	**9**	P	**Pn**	**02 51 59.6**	**+2.7**
	212nm,0.3s,baz=217,slow=13,SNR=107						
ASAJ				S	**Sn**	**02 52 28.1**	**+2.1**
	255nm,0.3s,baz=164,slow=15,SNR=8.1						
ASAJ	**Asahikawa**	**2.48**	**9**	*e*Pn	**Pn**	**02 51 58.2**	**+1.3**
ASAJ				*e*Sn	**Sn**	**02 52 27.2**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**3.66**	**48**	*d*iP	**Pn**	**02 52 13.7**	**+0.9**
YUK				*i* S	**Sn**	**02 52 54.6**	**-0.1**
YUK				pmax	pmax		
	comp=E,2μm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
SHO	**Shikotan**	**4.13**	**56**	*d* iP	**Pn**	**02 52 18.5**	**-0.9**
SHO				*i* S	**Sn**	**02 53 02.0**	**-4.5**
SHO				pmax	pmax		
	comp=Z,779nm,0.5s						
SHO				pmax	pmax		
	comp=N,295nm,0.2s						
SHO				pmax	pmax		
	comp=E,414nm,0.3s						
SHO				smax	smax		
	comp=E,4μm,0.3s						
SHO				smax	smax		
	comp=N,3μm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.32**	**5**	⇑*e*P	**Pn**	**02 52 39.1**	**+3.5**
YSS				*e*S	**Sn**	**02 53 35.9**	**+0.5**
YSS				pmax	pmax		
	comp=Z,180nm,0.8s						
YSS				smax	smax		
	comp=N,190nm,0.8s						
YSS				smax	smax		
	comp=E,190nm,0.9s						
YSS				MLR	MLR		
	comp=Z,4μm,12.0s						
YSS				MLR	MLR		
	comp=N,4μm,19.0s						
YSS	**Yuzh-Sakhalins**	**5.32**	**5**	*e*Pn	**Pn**	**02 52 34.3**	**-1.3**
KUR	**Kuril'sk**	**5.52**	**48**	*d* iP	**Pn**	**02 52 39.1**	**+0.7**
KUR				*e*S	**Sn**	**02 53 40.1**	**-0.4**
KUR				pmax	pmax		
	comp=Z,595nm,1.0s						
KUR				pmax	pmax		
	comp=E,730nm,1.2s						
KUR				pmax	pmax		
	comp=N,2μm,1.3s						
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
KUR				smax	smax		
	comp=E,671nm,0.4s						
KUR				smax	smax		
	comp=N,304nm,0.2s						
KUR				smax	smax		
	comp=E,5μm,3.3s						
KUR				smax	smax		
	comp=N,3μm,2.5s						
KUR				MLR	MLR		
	comp=Z,4μm,15.0s						
MJB9	**Matsu-Tunnel**	**5.93**	**212**	*e*Pn	**Pn**	**02 52 45.9**	**+1.8**
MAJO	**Matsushiro**	**5.93**	**212**	*d* iP	**Pn**	**02 52 45.7**	**+1.6**
MAJO	**Matsushiro**	**5.93**	**212**	*e*Pn	**Pn**	**02 52 45.9**	**+1.8**
MAT	**Matsushiro**	**5.93**	**212**	P	**Pn**	**02 52 45.7**	**+1.6**
MAT				S	**Sn**	**02 53 51.5**	**+0.8**
MJAR	**Matsushiro Arr**	**5.93**	**212**	P	**Pn**	**02 52 46.1**	**+2.0**
	comp=Z,5.7nm,0.3s,baz=26,slow=13,SNR=36						
UGL	**Uglegorsk**	**7.42**	**360**	*e*P	**Pn**	**02 53 03.3**	**-1.1**
UGL				*e*S	**Sn**	**02 54 27.1**	**+0.1**
INU	**Inuyama**	**7.45**	**214**	*e*Pn	**Pn**	**02 53 08.5**	**+3.6**
VLA	**Vladivostok**	**7.69**	**284**	⇑*i*P	**Pn**	**02 53 10.2**	**+2.1**
VLA				*e*S	**Sn**	**02 54 37.5**	**+3.8**
VLA				pmax	pmax		
	comp=Z,179nm,1.5s						
USRK	**Ussuriysk Ar.**	**7.83**	**292**	P	**Pn**	**02 53 12.3**	**+2.3**
	comp=Z,12nm,0.3s,baz=96,slow=14,SNR=56						
USRK				LR	LR	02 56 16.8	
	comp=Z,3μm,18.9s,baz=113,slow=38						
MSHR	**Mys Shultsa**	**8.17**	**280**	⇓*e*P	**Pn**	**02 53 16.3**	**+1.6**
HABR	**Khabarovsk**	**8.43**	**326**	*e*P	**Pn**	**02 53 17.1**	**-1.1**
HABR				*e*S	**Sn**	**02 54 51.8**	**-0.1**
HABR				pmax	pmax		
	comp=N,39nm,1.1s						
HABR				pmax	pmax		
	comp=E,32nm,1.1s						
HABR				pmax	pmax		
	comp=Z,114nm,1.1s						
HABR				MLR	MLR		
	comp=Z,2μm,11.0s						
JHJ	**Hachijo jima 2**	**8.72**	**193**	S	**Sn**	**02 54 51.7**	**-7.4**
	baz=79,slow=19,SNR=1.8						
JHJ				LR	LR	02 57 22.7	
	comp=Z,824nm,20.6s,baz=248,slow=42						
JHJ2	**Mitsune**	**8.72**	**193**	*e*Pn	**Pn**	**02 53 24.9**	**+2.6**
TYV	**Tymovskoe**	**9.21**	**2**	⇑*i*P	**Pn**	**02 53 32.2**	**+3.3**
TYV				pmax	pmax		
	comp=Z,44nm,0.9s						
TYV				MLR	MLR		
	comp=Z,4μm,22.0s						
TYV				MLR	MLR		
	comp=N,5μm,22.0s						
MDJ	**Mudanjiang**	**9.60**	**292**	P	**Pn**	**02 53 38.6**	**+4.4**
MDJ				S	**Sn**	**02 55 28.6**	**+8.1**
MDJ				pmax	pmax		
	comp=N,110nm,0.8s						
MDJ				pmax	pmax		
	comp=N,500nm,9.5s						
MDJ				LR	LR		
	comp=N,980nm,19.9s						
MDJ				LR	LR		
	comp=N,3μm,22.4s						
MDJ				LR	LR		
	comp=N,4μm,24.1s						
MDJ	**Mudanjiang**	**9.60**	**292**	*e*Pn	**Pn**	**02 53 31.1**	**-3.1**
	comp=N,88nm,0.9s						
NKL	**Nikolayevsk**	**11.54**	**356**	*e*P	**Pn**	**02 54 04.0**	**+3.4**
NKL				MLR	MLR		
	comp=N,2μm,16.0s						
NKL				MLR	MLR		
	comp=E,4μm,16.0s						
NKL				MLR	MLR		
	comp=Z,6μm,16.0s						
KSRS	**Korea Array**	**11.71**	**254**	P	**Pn**	**02 54 06.8**	**+3.8**
	comp=Z,8.7nm,0.3s,baz=63,slow=14,SNR=67						
KSRS				S	**Sn**	**02 56 19.2**	**+7.1**
	comp=Z,3.4nm,0.3s,baz=68,slow=24,SNR=12						
KSRS				LR	LR	02 58 09.1	
	comp=Z,2μm,21.8s,baz=70,slow=35						
KS01	**Wonju Array Si**	**11.72**	**254**	*e*Pn	**Pn**	**02 54 07.7**	**+4.5**
KS01				*e*Sn	**Sn**	**02 56 20.3**	**+7.9**
KS15	**Wonju Array Si**	**11.74**	**254**	*e*Pn	**Pn**	**02 54 07.9**	**+4.4**
KS15				*e*Sn	**Sn**	**02 56 20.6**	**+7.7**
KSAR	**Wonju Array Be**	**11.74**	**254**	P	**Pn**	**02 54 06.9**	**+3.4**
KSAR				S	**Sn**	**02 56 19.3**	**+6.3**
KSAR	**Wonju Array Be**	**11.74**	**254**	P	**Pn**	**02 54 06.8**	**+3.4**
KSAR				S	**Sn**	**02 56 19.2**	**+6.3**
OKH	**Okha**	**11.91**	**2**	⇑*i*P	**Pn**	**02 54 08.4**	**+2.7**
OKH				pmax	pmax		
	comp=Z,400nm,8.0s						
JNU	**Nakatsue**	**12.32**	**230**	P	**Pn**	**02 54 12.4**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=80,slow=2.9,SNR=16						
JNU				LR	LR	02 58 45.1	
	comp=Z,2μm,21.2s,baz=38,slow=36						
JNU	**Nakatsue**	**12.32**	**230**	*e*Pn	**Pn**	**02 54 10.1**	**-1.4**
CN2	**Changchun**	**12.42**	**285**	*e*P	**Pn**	**02 54 16.1**	**+3.3**
CN2				*es*P	sP	02 54 38.5	
CN2				*e*S	**Sn**	**02 56 31.9**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
CN2				LR	LR		
	comp=Z,13μm,16.0s						
SKR	**Severo-Kuril's**	**13.25**	**42**	*d* iP	**Pn**	**02 54 27.0**	**+3.0**
SKR				pmax	pmax		
	comp=Z,600nm,2.5s						
SKR				pmax	pmax		
	comp=Z,200nm,3.4s						
SKR				pmax	pmax		
	comp=Z,133nm,1.1s						
SKR				MLR	MLR		
	comp=Z,1μm,17.0s						
SNY	**Shenyang**	**13.82**	**277**	⇓P	**P**	**02 54 35.3**	**-3.2**
SNY				S	**S**	**02 57 14.8**	**-8.2**
SNY				pmax	pmax		
	comp=Z,15nm,0.6s						
SNY				pmax	pmax		
	comp=Z,550nm,5.7s						
SNY				LR	LR		
	comp=Z,880nm,10.3s						
SNY				LR	LR		
	comp=Z,770nm,13.2s						
SNY				LR	LR		
	comp=Z,1μm,13.2s						
CBIJ	**Chichi jima**	**14.53**	**180**	*e*Pn	**Pn**	**02 54 42.5**	**+1.2**
PEA0	**Petropavlovsk-**	**15.55**	**37**	*e*Pn	**Pn**	**02 54 53.6**	**-0.7**
PETK	**Petropavlovsk-**	**15.55**	**37**	P	**Pn**	**02 54 53.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=210,slow=8.6,SNR=5.0						
PETK				LR	LR	03 00 56.9	
	comp=Z,1μm,21.7s,baz=216,slow=37						
DL2	**Dalian**	**15.85**	**267**	P	**Pn**	**02 54 57.9**	**-0.3**
DL2				pP	**pP**	**02 55 09.5**	**-3.7**
DL2				S	**Sn**	**02 57 50.3**	**-2.5**
DL2				pmax	pmax		
	comp=Z,150nm,0.9s						
DL2				pmax	pmax		
	comp=Z,430nm,6.3s						
DL2				LR	LR		
	comp=Z,850nm,17.1s						
DL2				LR	LR		
	comp=Z,870nm,24.5s						
DL2				LR	LR		
	comp=Z,2μm,30.4s						
PET	**Petropavlovsk**	**15.94**	**39**	*e*P	P	02 55 12.4	+10
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
HIA	**Hailar**	**17.38**	**304**	*e*P	**Pn**	**02 55 17.2**	**-0.1**
HIA				pmax	pmax		
	comp=Z,19nm,0.5s						
HIA	**Hailar**	**17.38**	**304**	*e*Pn	**Pn**	**02 55 17.2**	**-0.1**
	comp=Z,19nm,0.5s						
MA2	**Magadan**	**18.73**	**14**	P	**P**	**02 55 31.8**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=298,slow=6.4,SNR=4.6						
MA2	**Magadan**	**18.73**	**14**	⇑*i*P	**P**	**02 55 33.2**	**+0.4**
CLNS	**Chul'man**	**18.80**	**330**	*e*P	**P**	**02 55 33.8**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,68nm,0.9s						
CLNS				pmax	pmax		
	comp=N,34nm,0.8s						
CLNS				pmax	pmax		
	comp=E,15nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,1μm,15.0s						
CLNS				MLR	MLR		
	comp=E,636nm,13.0s						
CLNS				MLR	MLR		
	comp=N,961nm,15.0s						
BJI	**Beijing**	**19.65**	**274**	P	**P**	**02 55 42.5**	**-0.4**
BJI				pP	**pP**	**02 55 58.3**	**+3.1**
BJI				S	**S**	**02 59 14.2**	**-7.2**
BJI				sS	**sS**	**02 59 45.3**	**+3.9**
BJI				pmax	pmax		
	comp=N,130nm,1.0s						
BJI				pmax	pmax		
	comp=N,460nm,3.5s						
BJI				LR	LR		
	comp=N,1μm,14.9s						
BJI				LR	LR		
	comp=N,1μm,24.7s						
BJI				LR	LR		
	comp=N,3μm,29.8s						
BJT	**Baijiatuau**	**19.66**	**274**	*e*P	**P**	**02 55 41.7**	**-1.3**
BJT				pmax	pmax		
	comp=Z,169nm,1.0s						
BJT	**Baijiatuau**	**19.66**	**274**	*e*P	**P**	**02 55 41.6**	**-1.3**
	comp=Z,169nm,1.0s						
SSE	**Sheshan**	**19.81**	**245**	P	Pn	02 55 55.0	+8.4
SSE				sP	sP	02 56 15.3	+11
SSE				S	**Sn**	**02 59 37.2**	**+8.7**
SSE				sS	sS	02 59 59.2	+14
TIA	**Tai'an**	**20.13**	**263**	⇓P	**P**	**02 55 46.8**	**-1.4**
TIA				S	S	02 59 19.9	-11
TIA				pmax	pmax		
	comp=Z,70nm,0.9s						
TIA				pmax	pmax		
	comp=Z,290nm,3.5s						
TIA				LR	LR		
	comp=Z,550nm,11.9s						
TIA				LR	LR		
	comp=Z,550nm,12.1s						
TIA				LR	LR		
	comp=Z,2μm,29.1s						
NJ2	**Nanjing**	**20.86**	**250**	*e*P	**P**	**02 55 54.7**	**-1.4**
NJ2				S	**S**	**02 59 46.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,40nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,670nm,6.5s						
NJ2				LR	LR		
	comp=Z,1μm,19.5s						
NJ2				LR	LR		
	comp=Z,2μm,20.1s						
NJ2				LR	LR		
	comp=Z,2μm,22.8s						
YAK	**Yakutsk**	**21.72**	**344**	P	**P**	**02 56 03.0**	**-2.0**
	comp=Z,60nm,0.4s,baz=189,slow=2.9,SNR=14						
YAK	**Yakutsk**	**21.72**	**344**	*e*P	**P**	**02 56 02.5**	**-2.5**
YAK				*e**PP	**sP**	**02 56 21.7**	**-2.8**
YAK				*e*S	**S**	**02 59 55.3**	**-6.7**
YAK				*e*		03 07 17.1	
YAK				pmax	pmax		
	comp=Z,153nm,0.9s						
YAK				pmax	pmax		
	comp=N,36nm,1.1s						
YAK				smax	smax		
	comp=N,292nm,2.8s						
YAK				MLR	MLR		
	comp=N,592nm,19.0s						
YAK				MLR	MLR		
	comp=Z,1μm,20.0s						
YAK	**Yakutsk**	**21.72**	**344**	*e*P	**P**	**02 56 03.0**	**-2.0**
	comp=Z,135nm,0.7s						
YAK				LR	LR		
	comp=Z,1μm,20.0s						
SEY	**Seymchan**	**22.16**	**13**	P	**P**	**02 56 08.6**	**-1.2**
	comp=Z,9.7nm,0.5s,baz=187,slow=8.3,SNR=20						
HHC	**Hu-ho-hao-te**	**22.90**	**278**	*e*P	**P**	**02 56 15.4**	**-2.6**
HHC				sP	sP	02 56 38.0	+0.5
HHC				S	**S**	**03 00 15.8**	**-7.9**
HHC				pmax	pmax		
	comp=Z,28nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
HHC				LR	LR		
	comp=Z,2μm,10.1s						
HHC				LR	LR		
	comp=Z,3μm,11.0s						
HHC				LR	LR		
	comp=Z,3μm,11.3s						
TIY	**Taiyuan**	**23.10**	**270**	*e*P	**P**	**02 56 18.5**	**-1.4**
TIY				pP	**sP**	**02 56 39.7**	**+0.1**
TIY				S	**S**	**03 00 26.3**	**-0.5**
TIY				pmax	pmax		
	comp=Z,160nm,3.5s						
TIY				LR	LR		
	comp=Z,380nm,13.5s						
TIY				LR	LR		
	comp=Z,480nm,15.1s						
TIY				LR	LR		
	comp=Z,900nm,18.4s						
BOD	**Bodaibo**	**24.05**	**322**	*e*P	**P**	**02 56 26.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,29nm,1.1s						
YHNB	**Yeheng**	**24.14**	**232**	*e*P	**P**	**02 56 31.7**	**+2.1**
	comp=Z,67nm,1.2s						
YHNB				LR	LR		
	comp=Z,1μm,20.0s						
WHN	**Wuhan**	**24.90**	**252**	⇓P	**P**	**02 56 35.3**	**-1.1**

WHN				S	S	03 00 46.7	-9.0
WHN				pmax	pmax		
	comp=Z,110nm,0.5s						
WHN				LR	LR		
	comp=Z,2μm,12.2s						
WHN				LR	LR		
	comp=Z,2μm,11.6s						
WHN				LR	LR		
	comp=Z,3μm,17.0s						
SSLB	Suanglung	25.06	231	eP	P	02 56 38.2	+0.2
	comp=Z,35nm,0.9s						
YULB	Yu-li	25.17	230	eP	P	02 56 39.3	+0.4
	comp=Z,19nm,0.7s						
ULN	Ulaanbaatar	25.48	296c	iP	P	02 56 41.3	-0.5
ULN				pmax	pmax		
	comp=Z,50nm,1.2s						
ULN	Ulaanbaatar	25.48	296	eP	P	02 56 41.8	0.0
	comp=Z,44nm,1.1s						
ULN				LR	LR		
	comp=Z,1μm,20.0s						
TPUB	Ta-pu	25.62	231	eP	P	02 56 42.0	-1.1
	comp=Z,27nm,0.6s						
QZH	Quanzhou	25.63	237⇑	iP	P	02 56 41.9	-1.2
QZH				S	S	03 01 05.0	-2.4
QZH				pmax	pmax		
	comp=Z,140nm,0.8s						
QZH				LR	LR		
	comp=Z,2μm,32.2s						
TWG	Pinlang	25.74	230	eP	P	02 56 42.6	-1.6
SONA1	Songino Array	25.92	296	eP	P	02 56 45.5	-0.2
SONM	Songino Array	25.92	296	P	P	02 56 46.0	+0.3
	comp=Z,28nm,0.5s,baz=87,slow=7.7,SNR=90						
SONM				LR	LR	03 07 45.0	
	comp=Z,2μm,18.6s,baz=72,slow=38						
XAN	Xi'an	27.14	265	P	P	02 56 54.9	-1.9
XAN				pP	pP	02 57 11.0	+0.3
XAN				PP	PnPn	02 57 41.5	-0.8
XAN				PcP	PcP	03 00 16.6	+0.5
XAN				S	S	03 01 22.4	-8.9
XAN				pmax	pmax		
	comp=Z,44nm,1.1s						
XAN				pmax	pmax		
	comp=Z,240nm,11.6s						
XAN				LR	LR		
	comp=Z,1μm,29.3s						
IRK	Irkutsk	27.60	306	eP	P	02 57 00.0	-0.6
IRK				pmax	pmax		
	comp=Z,90nm,2.7s						
ZAK	Zakamensk	28.05	301	eP	P	02 57 04.8	0.0
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s						
GUMO	Guam	28.07	174	LR	LR	03 07 45.8	
	comp=Z,603nm,21.5s,baz=342,slow=35						
GUMO	Guam	28.07	174	PFAKE		02 57 20.0	+15
GUMO				LR	LR		
	comp=Z,1μm,21.0s						
ENH	Enshi	28.56	257	eP	P	02 57 08.4	-1.1
	comp=Z,33nm,0.5s						
ENH				LR	LR		
	comp=Z,1μm,21.0s						
BILL	Bilibino	29.46	18d	iP	P	02 57 17.5	+0.5
BILL				e		02 58 14.4	
BILL				eS	S	03 02 03.5	-3.5
BILL				eSS	SnSn	03 03 37.7	-0.8
BILL				pmax	pmax		
	comp=Z,13nm,0.9s						
BILL				MLR	MLR		
	comp=Z,837nm,20.0s						
MOY	Mondy	29.56	304	eP	P	02 57 18.9	+0.7
MOY				pmax	pmax		
	comp=Z,54nm,1.9s						
ADK	Adak	29.66	56	PFAKE		02 57 30.0	+11
ADK				LR	LR		
	comp=Z,796nm,22.0s						
LZH	Lanzhou	30.11	272	eP	P	02 57 23.0	-0.3
LZH				pP	pP	02 57 39.7	+2.4
LZH				sP	sP	02 57 46.3	+2.4
LZH				PcP	PcP	03 00 24.0	+0.3
LZH				eS	S	03 02 15.0	-3.2
LZH				sS	sS	03 02 51.4	+9.5
LZH				SS	SnSn	03 03 57.3	+2.1
LZH				pmax	pmax		
	comp=Z,50nm,1.2s						
LZH				pmax	pmax		
	comp=Z,220nm,5.8s						
LZH				LR	LR		
	comp=Z,2μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
H11N2	WAKE ISLAND Hy	30.35	129	T	T	03 29 00.9	
	baz=324,slow=75,SNR=171						
H11N1	WAKE ISLAND Hy	30.36	129	T	T	03 29 04.7	
	baz=324						
H11N3	WAKE ISLAND Hy	30.37	129	T	T	03 28 58.5	
	baz=324,slow=75,SNR=248						
H11S1	WAKE ISLAND Hy	31.20	130	T	T	03 30 08.7	
	baz=324						
H11S3	WAKE ISLAND Hy	31.20	130	T	T	03 30 09.2	
	baz=324,slow=74,SNR=773						
H11S2	WAKE ISLAND Hy	31.22	130	T	T	03 30 09.1	
	baz=324,slow=74,SNR=1188						
GTA	Gaotai	31.97	280	P	P	02 57 39.3	-0.3
GTA				pP	pP	02 57 54.3	+0.6
GTA				sP	sP	02 58 01.2	+0.9
GTA				PP	PnPn	02 58 45.9	-0.4
GTA				PcP	PcP	03 00 30.0	+1.5
GTA				S	S	03 02 44.0	-3.2
GTA				PcS	PcS	03 04 14.9	+1.5
GTA				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA				pmax	pmax		
	comp=Z,170nm,6.0s						
GTA				LR	LR		
	comp=Z,580nm,17.6s						
GTA				LR	LR		
	comp=Z,1μm,17.1s						
GTA				LR	LR		
	comp=Z,2μm,16.2s						
CD2	Chengdu	32.46	263	P	P	02 57 42.9	-1.0
CD2				pP	pP	02 58 00.1	+2.1
CD2				sP	sP	02 58 08.8	+4.3
CD2				S	S	03 02 52.1	-2.7
CD2				sS	sS	03 03 22.2	+3.6
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,220nm,5.2s						
CD2				LR	LR		
	comp=Z,730nm,22.9s						
CD2				LR	LR		
	comp=Z,910nm,25.8s						
CD2				LR	LR		
	comp=Z,830nm,28.4s						
GYA	Guiyang	32.77	254⇑	iP	P	02 57 45.3	-1.4
GYA				pP	sP	02 58 05.6	-1.7
GYA				PP	PP	02 58 59.2	-2.3
GYA				PcP	PcP	03 00 33.0	+2.1
GYA				S	S	03 02 57.8	-1.9
GYA				sS	sS	03 03 29.4	+5.8
GYA				ScP	ScP	03 04 09.0	-1.0
GYA				SS	SnSn	03 05 00.2	+0.3
GYA				pmax	pmax		
	comp=Z,20nm,0.6s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,3μm,18.0s						
GYA				LR	LR		
	comp=Z,2μm,18.6s						
GYA				LR	LR		
	comp=Z,3μm,18.2s						
QIZ	Qiongzhong	35.49	240	P	P	02 58 10.0	-0.2
QIZ				sP	sP	02 58 36.2	+5.3
QIZ				S	S	03 03 44.4	+2.8
QIZ				LR	LR		
	comp=Z,610nm,17.8s						
QIZ				LR	LR		
	comp=Z,690nm,20.5s						
QIZ	Qiongzhong	35.49	240	PFAKE		02 58 20.0	+10
QIZ				LR	LR		
	comp=Z,765nm,20.0s						
KMI	Kunming	36.40	256	P	P	02 58 17.8	-0.4
KMI				pP	sP	02 58 37.6	-1.3
KMI				sP	pP	02 58 46.0	+14
KMI				PP	PnPn	02 59 44.3	+2.5
KMI				S	S	03 03 53.4	-2.5
KMI				sS	ScP	03 04 26.1	+2.9
KMI				SS	SnSn	03 06 21.4	-6.6
KMI				pmax	pmax		
	comp=Z,26nm,0.6s						
KMI				pmax	pmax		
	comp=Z,280nm,4.8s						
KMI				LR	LR		
	comp=Z,560nm,19.3s						
KMI				LR	LR		
	comp=Z,540nm,18.2s						
KMI				LR	LR		
	comp=Z,830nm,28.4s						
DAV	Davao City (W)	37.44	208	PFAKE		02 58 40.0	+13
DAV				LR	LR		
	comp=Z,297nm,22.0s						
SLVN	Son La	37.94	250	eP	P	02 58 31.2	+0.1
	comp=Z,29nm,1.1s						
ZAA0	Zalesovo Array	39.32	308	eP	P	02 58 42.4	+0.2
ZALV	Zalesovo Beam	39.32	308	P	P	02 58 42.8	+0.6
	comp=Z,38nm,0.6s,baz=88,slow=7.6,SNR=139						
ZALV				PcP	PcP	03 00 50.0	+0.3
	comp=Z,13nm,0.6s,baz=90,slow=3.1,SNR=5.4						
ZALV				LR	LR	03 15 58.4	
	comp=Z,1μm,19.2s,baz=69,slow=38						
NRIK	Noril'sk	39.34	333	P	P	02 58 42.2	0.0
	comp=Z,13nm,0.5s,baz=106,slow=12,SNR=16						
NRIK				LR	LR	03 15 53.8	
	comp=Z,2μm,20.8s,baz=103,slow=37						
WMQ	Urumqi	39.40	292	P	P	02 58 44.4	+1.3
WMQ				sP	sP	02 59 10.8	+6.9
WMQ				PcP	PcP	03 00 48.2	-2.1
WMQ				S	S	03 04 41.1	+0.5
WMQ				pmax	pmax		
	comp=Z,77nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,320nm,3.8s						
WMQ				LR	LR		
	comp=Z,590nm,15.5s						
WMQ				LR	LR		
	comp=Z,2μm,14.7s						
WMQ				LR	LR		
	comp=Z,1μm,19.3s						
NVS	Novosibirsk	40.15	310	eP	P	02 58 49.7	+0.7
NVS				e		02 59 07.9	
NVS				pmax	pmax		
	comp=Z,87nm,1.7s						
NVS				pmax	pmax		
	comp=N,15nm,1.3s						
NVS				pmax	pmax		
	comp=E,57nm,1.6s						
NONG	Nongkai	40.66	247	P	P	02 58 49.6	-4.1
	comp=E,276nm,0.7s,comp=E,6μm						
TT01	Tatalina	41.38	38	eP	P	02 58 59.9	+0.8
TTA	Tatalina	41.38	38	eP	P	02 59 00.5	+1.2
TTA				pmax	pmax		
	comp=Z,25nm,1.0s						
TTA	Tatalina	41.38	38	eP	P	02 59 00.5	+1.2
	comp=Z,25nm,1.0s						
SVW2	Sparrevohn	41.60	40	eP	P	02 59 03.3	+2.3
	comp=Z,28nm,1.2s						
DLV	T Lat	41.67	235	eP	P	02 59 02.5	+0.3
	comp=Z,29nm,0.6s						
MK01	Makanchi Array	42.25	298	eP	P	02 59 05.9	-0.6
MK31	Makanchi Array	42.25	298	eP	P	02 59 06.0	-0.5
MK31	Makanchi Array	42.25	298	eP	P	02 59 06.0	-0.5
MKAR	Makanchi Array	42.25	298	P	P	02 59 06.4	-0.1
	comp=Z,24nm,0.7s,baz=82,slow=8.7,SNR=127						
MKAR				PcP	PcP	03 00 59.4	-0.1
	comp=Z,4.4nm,0.5s,baz=74,slow=5.5,SNR=6.6						
MKAR				ScP	ScP	03 04 43.7	-1.5
	comp=Z,1.4nm,1.0s,baz=74,slow=5.1,SNR=3.0						
MKAR				LR	LR	03 18 10.3	
	comp=Z,753nm,18.6s,baz=91,slow=38						
MKAR	Makanchi Array	42.25	298	P	P	02 59 06.4	-0.1
MKAR						03 00 59.4	
MKAR				pmax	pmax		
	comp=Z,39nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,753nm,18.6s						
MKAR	Makanchi Array	42.25	298	eP	P	02 59 06.0	-0.6
	comp=Z,399nm,1.2s						
MKAR				PcP	PcP	03 00 59.4	-0.1
MKAR				ScP	ScP	03 04 43.7	-1.5
MAKZ	Makanchi	42.45	298	eP	P	02 59 08.3	+0.1
MAKZ				pmax	pmax		
	comp=Z,67nm,1.0s						
MAKZ	Makanchi	42.45	298	eP	P	02 59 08.3	+0.1
	comp=Z,66nm,1.0s						
LSA	Lhasa	42.50	271	P	P	02 59 10.6	+1.4
LSA				pmax	pmax		
	comp=Z,27nm,1.2s						
LSA	Lhasa	42.50	271	eP	P	02 59 10.8	+1.6
LSA				pmax	pmax		
	comp=Z,96nm,1.4s						
LSA				MLR	MLR		
	comp=Z,868nm,22.0s						
LSA	Lhasa	42.50	271	eP	P	02 59 10.8	+1.6
	comp=Z,96nm,1.4s						
LSA				LR	LR		
	comp=Z,868nm,22.0s						
UTTA	Uttaradit	42.67	249	P	P	02 59 10.9	+0.7
	comp=Z,8.9nm,0.9s,comp=Z,86nm						
LAMP	Lampang	42.80	250	P	P	02 59 12.6	+1.4
	comp=Z,23nm,0.8s,comp=Z,188nm						
CHAI	Chaiyaphum	42.96	245	P	P	02 59 12.2	-0.3
	comp=Z,26nm,0.9s,comp=Z,314nm						
RSO	Redoubt South	43.02	41	eP	P	02 59 13.2	+0.5
OHAK	Old Harbor	43.09	46	eP	P	02 59 14.3	+1.2
	comp=Z,22nm,0.9s						
CHTO	Chiang Mai	43.10	251	P	P	02 59 14.3	+0.6
	comp=Z,195nm,0.8s,comp=Z,2μm						
CHTO	Chiang Mai	43.10	251	eP	P	02 59 14.2	+0.6
CHTO				pmax	pmax		
	comp=Z,28nm,0.7s						
CHTO				MLR	MLR		
	comp=Z,495nm,21.0s						
CHTO	Chiang Mai	43.10	251	eP	P	02 59 14.2	+0.6
	comp=Z,28nm,0.7s						
CHTO				LR	LR		
	comp=Z,495nm,21.0s						
PPLA	Purkeypile	43.14	38	eP	P	02 59 16.0	+2.4
	comp=Z,90nm,1.4s						
CAST	Castle Rocks	43.16	37	eP	P	02 59 15.6	+2.0
	comp=Z,48nm,0.8s						
PBKT	Sadao Pong	43.19	247	P	P	02 59 14.9	+0.6
	comp=Z,23nm,1.0s						
SPU	Mount Spurr	43.30	40	eP	P	02 59 16.9	+2.0
CM31	Chiang Mai Arr	43.33	251	eP	P	02 59 17.2	+1.7
CMAR	Chiang Mai Arr	43.33	251	P	P	02 59 16.3	+0.8
	comp=Z,9.6nm,0.6s,baz=43,slow=8.1,SNR=40						
CMAR				PcP	PcP	03 01 04.3	+0.9
	comp=Z,4.1nm,0.6s,baz=19,slow=2.2,SNR=7.5						
CMAR				ScP	ScP	03 04 50.5	+0.6
	comp=Z,1.3nm,0.4s,baz=35,slow=3.3,SNR=3.8						
CMAR				LR	LR	03 17 54.7	
	comp=Z,444nm,20.1s,baz=56,slow=37						
CM01	Chiang Mai Arr	43.34	251	eP	P	02 59 16.2	+0.6
KDAK	Kodiak Island	43.39	45	P	P	02 59 15.1	-0.4
	comp=Z,7.8nm,0.4s,baz=268,slow=1.3,SNR=23						
KDAK	Kodiak Island	43.39	45	iP	P	02 59 16.3	+0.8
KDAK	Kodiak Island	43.39	45	P	P	02 59 15.1	-0.4
KDAK				LR	LR		
	comp=Z,292nm,20.0s						
SIJI	Sorong	43.45	196	P	P	02 59 15.6	-0.8
	comp=Z,267nm,0.6s,baz=26,slow=7.5,SNR=12						
KURK	Kurchatov	43.61	304c	iP	P	02 59 17.2	-0.2
KURK				pmax	pmax		
	comp=Z,461nm,1.2s						
KURK	Kurchatov	43.61	304	eP	P	02 59 16.8	-0.6
	comp=Z,89nm,0.9s						
KURK				PcP	PcP	03 01 04.3	+0.4
KURK				LR	LR		
	comp=Z,1μm,19.0s						
KTH	Kantishna Hill	43.68	37	eP	P	02 59 19.7	+1.9
	comp=Z,84nm,0.9s						
KURBB	Kurchatov Arra	43.69	304	P	P	02 59 17.9	-0.1
	comp=Z,74nm,0.8s,baz=77,slow=8.8,SNR=256						
KURBB				PcP	PcP	03 01 04.3	+0.2
	comp=Z,4.0nm,0.6s,baz=75,slow=9.1,SNR=4.7						
COLD	Coldfoot	43.90	31	eP	P	02 59 19.9	+0.4
	comp=Z,15nm,1.0s						
SUA	Susitna One	43.91	40	eP	P	02 59 21.5	+1.7
	comp=Z,29nm,1.0s						
TRF	Thorofare Moun	43.97	37	eP	P	02 59 21.0	+0.7
	comp=Z,28nm,0.8s						
JAY	Jayapura	43.98	182	P	P	02 59 21.6	+0.9
	comp=Z,0.7nm,0.8s,baz=287,slow=19,SNR=4.9						
TOLK	Toolik Lake Re	44.15	29	P	P	02 59 21.0	-0.6
	baz=269						
MCK	McKinley	44.55	36	eP	P	02 59 26.3	+1.5
MCK				pmax	pmax		
	comp=Z,39nm,1.0s						
MCK	McKinley	44.55	36	eP	P	02 59 26.3	+1.5
	comp=Z,39nm,1.0s						
RND	Reindeer	44.61	37	eP	P	02 59 26.4	+1.1
RND				pmax	pmax		
	comp=Z,43nm,1.0s						
RND	Reindeer	44.61	37	eP	P	02 59 26.4	+1.1
	comp=Z,43nm,1.0s						
PMR	Palmer	44.66	39	eP	P	02 59 26.7	+1.1
PMR				pmax	pmax		
	comp=Z,33nm,1.1s						
PMR	Palmer	44.66	39	eP	P	02 59 26.6	+1.1
	comp=Z,33nm,1.1s						
SEW	Seward	44.69	41	eP	P	02 59 26.5	+0.6
	comp=Z,66nm,1.2s						
MDM	Murphy Dome	44.77	35	eP	P	02 59 27.0	+0.5
	comp=Z,41nm,0.8s						
WRH	Wood River Hil	44.87	35	eP	P	02 59 28.7	+1.4
	comp=Z,77nm,1.7s						
UMPA	Umpang Tak	44.90	249	P	P	02 59 30.5	+2.4
	comp=Z,11nm,1.0s,comp=Z,1μm						
COLA	College	44.94	35	eP	P	02 59 29.4	+1.6
COLA				pmax	pmax		
	comp=Z,84nm,0.8s						
COLA				MLR	MLR		
	comp=Z,549nm,21.0s						
COLA	College	44.94	35	eP	P	02 59 29.4	+1.6
	comp=Z,84nm,0.8s						
COLA				LR	LR		
	comp=Z,549nm,21.0s						
UTHA	Uthaitani	44.94	248	P	P	02 59 29.7	+1.3
	comp=Z,6.5nm,0.8s,comp=Z,66nm						
CCB	Clear Creek Bu	44.97	35	eP	P	02 59 28.9	+0.9
	comp=Z,17nm,0.9s						
SML	Sawmill	45.02	39	eP	P	02 59 30.0	+1.5
SML				pmax	pmax		
	comp=Z,131nm,1.6s						
SML	Sawmill	45.02	39	eP	P	02 59 30.0	+1.5
	comp=Z,131nm,1.6s						
FAKI	Fak Fak	45.26	194	eP	P	02 59 31.2	+0.3
	comp=Z,52nm,0.8s						
DHY	Denali Highway	45.31	37	eP	P	02 59 32.2	+1.2
	comp=Z,54nm,1.2s						
ILAR	Eielson Array	45.36	35	P	P	02 59 31.9	+0.7
	comp=Z,40nm,1.0s,baz=264,slow=5.2,SNR=179						
ILAR				LR	LR	03 20 50.2	
	comp=Z,268nm,18.5s,baz=278,slow=39						
ILB	Eielson Array	45.36	35	eP	P	02 59 31.7	+0.5
IL1	Eielson Array	45.36	35	eP	P	02 59 30.5	-0.6
HDA	Harding Lake	45.36	35	eP	P	02 59 31.5	+0.4
	comp=Z,29nm,0.8s						
SCM	Sheep Creek Mo	45.49	39	eP	P	02 59 34.2	+1.9
SCM				pmax	pmax		
	comp=Z,38nm,0.9s						
SCM	Sheep Creek Mo	45.49	39	eP	P	02 59 34.2	+1.9
	comp=Z,38nm,0.9s						
FYU	Fort Yukon	45.88	32	eP	P	02 59 37.1	+1.8
	comp=Z,200nm,1.8s						
PAX	Paxson	46.19	37	eP	P	02 59 39.6	+1.8
PAX				pmax	pmax		
	comp=Z,20nm,1.3s						
PAX	Paxson	46.19	37	eP	P	02 59 39.6	+1.8
	comp=Z,20nm,1.3s						
KLU	Klutina	46.20	39	eP	P	02 59 39.6	+1.7
	comp=Z,55nm,1.3s						
TAPN	Taplejung	46.30	270	eP	P	02 59 40.1	+0.7
	comp=Z,129nm,0.7s						
DIV	Divide	46.33	40	eP	P	02 59 40.6	+1.7
	comp=Z,47nm,1.2s						
HARP	HAARP	46.41	38	eP	P	02 59 41.8	+2.3
	comp=Z,56nm,0.8s						
PHET	Kaeng Krachan	46.68	245	P	P	02 59 43.6	+1.5
	comp=Z,19nm,0.8s,comp=Z,188nm						
DOT	Dot Lake	46.72	36	eP	P	02 59 42.2	+0.4
	comp=Z,50nm,1.1s						
ODAN	Odare	46.80	270	eP	P	02 59 43.5	+0.2
	comp=Z,88nm,0.5s						
BMRM	Bremner River	46.92	40	eP	P	02 59 45.7	+2.2
	comp=Z,39nm,1.1s						
AAA	Alma-Ata	47.01	295	eP	P	02 59 44.7	+0.2
AAA				pmax	pmax		
	comp=Z,700nm,4.3s						
AAA				MLR	MLR		
	comp=Z,1μm,14.0s						
JIRN	Jiri	47.27	271	eP	P	02 59 47.7	+0.6
RAMN	Ramite	47.35	270	eP	P	02 59 47.3	-0.2
	comp=Z,300nm,0.8s						
GUN	Gumba	47.37	272	eP	P	02 59 48.5	+0.7
	comp=Z,244nm,0.4s						
EGAK	Eagle	47.79	34	eP	P	02 59 51.0	+0.9
	comp=Z,42nm,1.1s						
EGAK				LR	LR		
	comp=Z,437nm,19.0s						
KKN	Kakani	47.89	272	eP	P	02 59 52.1	+0.4
	comp=Z,100nm,0.7s						
PKI	Pulchoki	47.91	272	eP	P	02 59 52.2	+0.2
	comp=Z,66nm,0.6s						
PKIN	Phulchoki	47.91	272	eP	P	02 59 52.3	+0.4
	comp=Z,38nm,0.4s						
BVA0	Borovoye Array	47.94	309	iP	P	02 59 50.8	-0.7
BVA0				pmax	pmax		
	comp=Z,22nm,0.6s						
BVAR	Borovoye Array	47.94	309	P	P	02 59 52.2	+0.8
	comp=Z,32nm,0.4s,baz=76,slow=8.9,SNR=175						
BVAR				PcP	PcP	03 01 18.9	-0.1
	comp=Z,6.1nm,0.5s,baz=77,slow=3.8,SNR=3.4						
BRVK	Borovoye	47.99	309d	iP	P	02 59 52.3	+0.4
BRVK				pmax	pmax		
	comp=Z,131nm,1.2s						
BRVK	Borovoye	47.99	309	eP	P	02 59 52.4	+0.6
	comp=Z,56nm,1.1s						
BRVK				LR	LR		
	comp=Z,580nm,19.0s						
DMN	Daman	48.11	272	eP	P	02 59 53.9	+0.4
	comp=Z,76nm,0.6s						
GKN	Gorkha	48.25	273	eP	P	02 59 54.9	+0.5
	comp=Z,101nm,0.5s						
DAWY	Dawson	48.68	35	eP	P	02 59 58.7	+1.6
	comp=Z,8.8nm,1.1s						
FRU	Bishkek	48.71	295⇑	eP	P	02 59 59.0	+1.4
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
AAK	Ala-Archa	48.87	295	eP	P	02 59 58.7	-0.3
AAK				pmax	pmax		
	comp=Z,19nm,0.4s						
AAK				MLR	MLR		
	comp=Z,847nm,20.0s						
AAK	Ala-Archa	48.87	295	eP	P	02 59 58.7	-0.3
	comp=Z,19nm,0.4s						
AAK				LR	LR		
	comp=Z,847nm,20.0s						
KSH	Kashi	49.12	291	P	P	03 00 05.1	+4.2
KSH				pP	sP	03 00 24.3	+2.2
KSH				sP	pP	03 00 33.4	+18
KSH				ePcP	PcP	03 01 27.4	+3.7
KSH				PP	PP	03 02 01.4	+6.6
KSH				PcS	PcS	03 05 22.4	+2.2
KSH				S	S	03 07 03.7	+1.6
KSH				sS	sS	03 07 36.4	+10
KSH				ScS	ScS	03 09 47.8	-0.2
KSH				SS	SS	03 10 31.7	-1.8
KSH				pmax	pmax		
	comp=Z,21nm,0.9s						
KSH				pmax	pmax		
	comp=Z,220nm,8.0s						
KSH				LR	LR		
	comp=Z,820nm,17.0s						
KSH				LR	LR		
	comp=Z,260nm,12.4s						
KSH				LR	LR		
	comp=Z,860nm,18.2s						
KOLN	Koldanda	49.15	273	eP	P	03 00 01.3	-0.1
	comp=Z,82nm,0.5s						
KSM	Kuching	49.18	224	eP	P	03 00 01.9	+0.5
	comp=Z,52nm,0.9s						
KSM				LR	LR		
	comp=Z,154nm,19.0s						
PYUN	Piuthan	49.44	274	eP	P	03 00 03.9	+0.4
	comp=Z,104nm,0.4s						

INK	**Inuvik**	**50.06 29**	P	**P**	**03 00 08.6 +1.1**
	comp=Z,37nm,0.8s,baz=300,slow=7.8,SNR=77				
INK	**Inuvik**	**50.06 29**	*e*P	**P**	**03 00 08.2 +0.7**
	comp=Z,40nm,0.9s				
MNAS	**Manas**	**50.28 296**	P	**P**	**03 00 09.7 0.0**
MNAS			pmax	pmax	
	comp=Z,80nm,1.2s				
KAPI	**Kappang**	**50.73 209**	*e*P	**P**	**03 00 12.9 -0.2**
	comp=Z,57nm,1.4s				
KAPI			LR	LR	
	comp=Z,143nm,19.0s				
PMG	**Port Moresby**	**51.03 174**	PFAKE		03 00 30.0 +15
PMG			LR	LR	
	comp=Z,236nm,20.0s				
KK31	**Karatay Array**	**51.36 297**	*i* P	**P**	**03 00 16.9 -0.8**
KK31			pmax	pmax	
	comp=Z,16nm,0.6s				
KKAR	**Karatay Array**	**51.36 297**	*e*P	**P**	**03 00 17.3 -0.4**
KKAR			pmax	pmax	
	comp=Z,213nm,0.6s				
KKAR	**Karatay Array**	**51.36 297**	*e*P	**P**	**03 00 17.3 -0.4**
	comp=Z,213nm,0.6s				
KULM	**Kulim**	**51.68 237**	*e*P	**P**	**03 00 20.9 +0.6**
	comp=Z,31nm,0.8s				
IPM	**Ipoh**	**52.07 236**	*e*P	**P**	**03 00 22.8 -0.4**
	comp=Z,26nm,1.0s				
SVE	**Sverdlovsk**	**52.09 316***d i*P		**P**	**03 00 24.1 +1.3**
SVE			pmax	pmax	
	comp=Z,73nm,0.9s				
SVE			MLR	MLR	
	comp=Z,2μm,17.0s				
THN	**Thein Dam**	**52.59 283**	*e*P	**P**	**03 00 23.0 -3.9**
SOKR	**Solikamsk**	**53.03 321***c i*P		**P**	**03 00 29.1 -0.6**
SOKR			pmax	pmax	
	comp=Z,91nm,1.1s				
SOKR			MLR	MLR	
	comp=Z,360nm,17.0s				
MMRI	**Maumere**	**53.26 205**	*e*P	**P**	**03 00 31.1 -0.9**
ARU	**Arti**	**53.30 316**	LR	LR	03 25 56.9
	comp=Z,2μm,18.2s,baz=64,slow=39				
ARU	**Arti**	**53.30 316***c i*P		**P**	**03 00 32.3 +0.5**
ARU			*PP	**pP**	**03 00 48.2 +1.5**
ARU					03 01 35.7
ARU					03 02 30.8
ARU			S	**S**	**03 08 01.7 +2.7**
ARU			SS	**SS**	**03 11 39.8 +1.1**
ARU			pmax	pmax	
	comp=Z,68nm,1.2s				
ARU			MLR	MLR	
	comp=Z,2μm,18.0s				
ARU	**Arti**	**53.30 316**	*e*P	**P**	**03 00 31.8 0.0**
	comp=Z,55nm,1.0s				
ARU			LR	LR	
	comp=Z,1μm,22.0s				
HNR	**Honiara**	**53.43 158**	PFAKE		03 00 50.0 +17
HNR			LR	LR	
	comp=Z,757nm,22.0s				
SOEI	**Soe**	**53.72 202**	*e*P	**P**	**03 00 34.8 -0.6**
	comp=Z,85nm,1.1s				
WRAK	**Wrangell Islan**	**54.36 43**	PFAKE		03 00 50.0 +11
WRAK			LR	LR	
	comp=Z,361nm,21.0s				
DLBC	**Dease Lake**	**54.71 40**	*e*P	**P**	**03 00 45.2 +3.0**
	comp=Z,57nm,1.4s				
MTN	**Manton Dam**	**55.16 193**	*e*P	**P**	**03 00 45.1 -0.6**
	comp=Z,29nm,0.8s				
COEN	**Coen**	**55.34 179**	*e*P	**P**	**03 00 47.7 +0.7**
	comp=Z,32nm,1.2s				
ABKAR	**Akbulak array**	**55.43 308**	*e*P	**P**	**03 00 47.1 -0.2**
	comp=Z,354nm,0.8s				
AKTO	**Aktyubinsk**	**56.04 310**	LR	LR	03 26 23.7
	comp=Z,818nm,20.7s,slow=38				
AKTO	**Aktyubinsk**	**56.04 310**	P	**P**	**03 00 50.5 -1.2**
AKTO			pmax	pmax	
	comp=Z,23nm,0.9s				
KBS	**Kingsbay**	**56.20 350**	*e*P	**P**	**03 00 53.7 +1.3**
KBS			pmax	pmax	
	comp=Z,36nm,0.9s				
KBS			MLR	MLR	
	comp=Z,228nm,22.0s				
KBS	**Kingsbay**	**56.20 350**	*e*P	**P**	**03 00 53.7 +1.3**
	comp=Z,36nm,0.9s				
KBS			LR	LR	
	comp=Z,228nm,22.0s				
KBL	**Kabul**	**56.34 288**	*e*P	**P**	**03 00 54.0 -0.4**
KBL			pmax	pmax	
	comp=Z,35nm,0.9s				
KBL	**Kabul**	**56.34 288**	*e*P	**P**	**03 00 54.0 -0.4**
	comp=Z,35nm,0.9s				
UGM	**Wanagama**	**57.18 218**	*e*P	**P**	**03 00 59.1 -1.1**
	comp=Z,117nm,1.1s				
RES	**Resolute Bay**	**58.00 15**	P	**P**	**03 01 05.5 +0.3**
	comp=Z,54nm,0.7s,baz=303,slow=7.9,SNR=12				
RES	**Resolute Bay**	**58.00 15**	*e*P	**P**	**03 01 05.2 0.0**
	comp=Z,58nm,0.7s				
LVZ	**Lovozero**	**58.13 335***de*P		**P**	**03 01 07.3 +1.1**
LVZ			pmax	pmax	
	comp=Z,22nm,0.9s				
LVZ	**Lovozero**	**58.13 335**	PFAKE		03 01 20.0 +14
LVZ			LR	LR	
	comp=Z,692nm,22.0s				
HYB	**Hyderabad**	**58.94 266**	*i* P	**P**	**03 01 12.0 -0.6**
TMCR	**Tamitsa**	**58.97 330**	*e*P	**P**	**03 01 12.3 +0.3**
TMCR			pmax	pmax	
	comp=Z,50nm,0.8s				
KEV	**Kevo**	**59.32 338**	*e*P	**P**	**03 01 14.1 -0.3**
KEV			pmax	pmax	
	comp=Z,22nm,0.8s				
KEV	**Kevo**	**59.32 338**	*e*P	**P**	**03 01 14.1 -0.3**
	comp=Z,22nm,0.8s				
YKA	**Yellowknife Ar**	**59.58 32**	P	**P**	**03 01 17.1 +0.9**
	comp=Z,4.5nm,0.8s,baz=302,slow=6.6,SNR=7.3				
YKA			LR	LR	03 31 13.5
	comp=Z,14nm,19.4s,baz=0.0,slow=40				
ARCES	**ARCESS Array B**	**59.87 339**	P	**P**	**03 01 18.4 +0.2**
	comp=Z,7.9nm,0.8s,baz=52,slow=7.0,SNR=18				
ARCES			LR	LR	03 32 07.7
	comp=Z,316nm,18.6s,baz=52,slow=41				
KLMR	**Klimovskoe**	**60.16 327**	*e*P	**P**	**03 01 19.6 -0.7**
KLMR			pmax	pmax	
	comp=Z,61nm,1.3s				
FUNA	**Funafuti**	**60.43 137**	PFAKE		03 01 40.0 +17
FUNA			LR	LR	
	comp=Z,4μm,19.0s				
DAG	**Danmarks Havn**	**61.22 355**	*i* P	**P**	**03 01 27.4 +0.1**
	comp=Z,44nm,0.8s				
DAG	**Danmarks Havn**	**61.22 355**	*i* P	**P**	**03 01 27.4 +0.1**
DAG			pmax	pmax	
	comp=Z,33nm,0.8s				
CTAO	**Charters Tower**	**61.55 176**	*e*P	**P**	**03 01 29.8 -0.4**
CTAO			pmax	pmax	
	comp=Z,17nm,0.6s				
CTAO	**Charters Tower**	**61.55 176**	*e*P	**P**	**03 01 29.8 -0.4**
	comp=Z,17nm,0.6s				
WRAB	**Tennant Creek**	**61.70 188***ce*P		**P**	**03 01 29.3 -1.9**
WRAB			pmax	pmax	
	comp=Z,80nm,0.9s				
WRAB	**Tennant Creek**	**61.70 188**	*e*P	**P**	**03 01 29.7 -1.5**
	comp=Z,32nm,0.9s				
WRAB			LR	LR	
	comp=Z,512nm,20.0s				
WRA	**Warramunga Arr**	**61.71 188**	P	**P**	**03 01 29.4 -1.8**
	comp=Z,26nm,0.8s,baz=4.4,slow=7.0,SNR=143				
WRA			LR	LR	03 28 33.4
	comp=Z,84nm,21.8s,baz=290,slow=36				
GEYT	**Alibeck**	**62.12 297**	P	**P**	**03 01 33.8 -0.2**
	comp=Z,20nm,0.5s,baz=29,slow=3.4,SNR=43				
GEYT			LR	LR	03 30 54.2
	comp=Z,945nm,18.3s,baz=45,slow=38				
LLLB	**Lillooet**	**62.60 46**	*e*P	**P**	**03 01 38.8 +1.8**
	comp=Z,34nm,1.2s				
NLWA	**Neilton Lookou**	**63.26 49**	PFAKE		03 01 50.0 +8.5
NLWA			LR	LR	
	comp=Z,643nm,21.0s				
B05A	**Bryant**	**63.77 48**	P	**P**	**03 01 45.2 +0.4**
	baz=304				
MOS	**Moscow**	**63.88 322**	*e*P	**P**	**03 01 45.0 -0.3**
MOS			*e**PP	**pP**	**03 02 02.0 +1.5**
MOS			*e*		03 02 22.6
MOS			*e*		03 04 04.8
MOS			pmax	pmax	
	comp=Z,60nm,1.4s				
PALK	**Pallekele**	**63.94 256**	*i* P	**P**	**03 01 47.9 +1.5**
PALK	**Pallekele**	**63.94 256**	*e*P	**P**	**03 01 46.0 -0.3**
	comp=Z,22nm,1.1s				
D05A	**Enumclaw**	**64.44 49**	*e*P	**P**	**03 01 48.7 -0.5**
D05A			*ep*P	**sP**	**03 02 09.5 -1.2**
PUL	**Pulkovo**	**64.50 329**⇑	*e*P	**P**	**03 01 50.0 +0.7**
PUL			pmax	pmax	
	comp=Z,47nm,0.8s				
OBN	**Obninsk**	**64.73 322**	LR	LR	03 32 25.1
	comp=Z,511nm,18.2s,baz=73,slow=38				
OBN	**Obninsk**	**64.73 322***c i*P		**P**	**03 01 51.0 +0.1**
OBN			*e*		03 02 25.0
OBN			*e*		03 04 11.7
OBN			*e*PPP	PPP	03 05 45.0
OBN			*e*S	**S**	**03 10 27.7 +0.9**
OBN			*e*SS	**SS**	**03 14 33.1 -4.7**
OBN			pmax	pmax	
	comp=Z,67nm,1.2s				
OBN			MLR	MLR	
	comp=Z,650nm,17.0s				
OBN	**Obninsk**	**64.73 322**	*e*P	**P**	**03 01 50.8 0.0**
	comp=Z,42nm,0.8s				
OBN			LR	LR	
	comp=Z,629nm,19.0s				
F04A	**Amboy**	**64.90 50**	*e*P	**P**	**03 01 52.7 +0.5**
F04A			*ep*P	**sP**	**03 02 12.4 -1.3**
FIA1	**FINESS Array S**	**64.98 332**	*e*P	**P**	**03 01 52.8 +0.3**
	comp=Z,71nm,0.9s				
FINES	**FINESS Array B**	**64.98 332**	P	**P**	**03 01 52.1 -0.3**
	comp=Z,56nm,0.8s,baz=40,slow=7.9,SNR=66				
FINES			LR	LR	03 32 42.3
	comp=Z,1μm,19.0s,baz=50,slow=38				
LPSR	**Galich'ya Gora**	**65.12 319**	*e*P	**P**	**03 01 53.8 +0.4**
LPSR			pmax	pmax	
	comp=Z,40nm,0.8s				
B08A	**Colville Reser**	**65.24 47**	*e*P	**P**	**03 01 55.8 +1.3**
B08A			*ep*P	**sP**	**03 02 14.4 -1.6**
AS01	**Alice Springs**	**65.43 188**	*e*P	**P**	**03 01 53.5 -2.3**
EDM	**Edmonton**	**65.43 40**	*e*P	**P**	**03 01 56.7 +1.1**
EDM			pmax	pmax	
	comp=Z,59nm,1.2s				
EDM	**Edmonton**	**65.43 40**	*e*P	**P**	**03 01 56.7 +1.1**
	comp=Z,59nm,1.2s				
AS31	**Alice Springs**	**65.43 188**	*e*P	**P**	**03 01 54.5 -1.3**
	comp=Z,6.4nm,1.1s				
ASAR	**Alice Springs**	**65.44 188**	P	**P**	**03 01 54.9 -0.9**
	comp=Z,12nm,0.8s,baz=9.4,slow=6.1,SNR=129				
ASAR			LR	LR	03 30 13.3
	comp=Z,187nm,22.0s,baz=2.0,slow=36				
VSR	**Storozhevoye**	**65.83 318**	*e*P	**P**	**03 01 57.9 -0.2**
VSR			pmax	pmax	
	comp=Z,40nm,0.5s				
MBWA	**Marble Bar**	**65.84 203**	*e*P	**P**	**03 01 57.8 -0.6**
	comp=Z,47nm,0.7s				
G05D	**Wamic, OR**	**65.93 50**	P	**P**	**03 01 58.8 -0.1**
	baz=306				
MAK	**Makhachkala**	**66.06 307**	*e*P	**P**	**03 02 01.4 +1.7**
MAK			*e*S	**S**	**03 10 45.9 +2.4**
MAK			pmax	pmax	
	comp=Z,102nm,1.2s				
MAK			MLR	MLR	
	comp=Z,492nm,14.0s				
SUMG	**Summit**	**66.06 0**⇑	*i*P	**P**	**03 02 01.3 +1.5**
	comp=Z,72nm,0.9s				
SUMG	**Summit**	**66.06 0**⇑	*i*P	**P**	**03 02 01.3 +1.5**
SUMG			pmax	pmax	
	comp=Z,72nm,0.9s				
SUMG	**Summit**	**66.06 0**	*e*P	**P**	**03 02 00.2 +0.5**
	comp=Z,64nm,0.8s				
HAWA	**Hanford**	**66.28 48**	*e*P	**P**	**03 02 02.8 +1.8**
	comp=Z,80nm,1.6s				
NEW	**Newport**	**66.49 46**	P	**P**	**03 02 02.3 -0.2**
	baz=333,slow=4.5				
NEW	**Newport**	**66.49 46**	P	**P**	**03 02 02.6 +0.1**
	baz=307				
NEW	**Newport**	**66.49 46**	*e*P	**P**	**03 02 03.1 +0.6**
NEW			pmax	pmax	
	comp=Z,13nm,0.8s				
NEW			MLR	MLR	
	comp=Z,433nm,19.0s				
NEW	**Newport**	**66.49 46**	*e*P	**P**	**03 02 03.0 +0.6**
	comp=Z,13nm,0.8s				
NEW			LR	LR	
	comp=Z,433nm,19.0s				
J04D	**Umpqua Nationa**	**66.63 52**	P	**P**	**03 02 04.5 +0.9**
	baz=306				
VSU	**Vasula**	**66.75 329**⇓	*e*P	**P**	**03 02 03.9 +0.1**
VSU			pmax	pmax	
	comp=Z,148nm,0.9s				
J05D	**Fort Rock, OR**	**67.12 52**	P	**P**	**03 02 07.8 +1.1**
	baz=306				
EIDS	**Eidsvold**	**67.21 171**	*e*P	**P**	**03 02 07.1 +0.1**
	comp=Z,9.5nm,1.0s				
M02C	**Callahan**	**67.27 54**	P	**P**	**03 02 08.4 +0.9**
	baz=306				
DZM	**Mont Dzumac**	**67.31 155**	*e*S	S	03 10 47.5 -11
	comp=Z,180nm,26.2s				
DZM	**Mont Dzumac**	**67.31 155**	*e*LR	LR	03 22 24.0
	comp=Z,680nm,22.9s				
GOF	**Gofitskoye**	**67.44 311**⇑	*e*P	**P**	**03 02 09.6 +1.2**
GOF			pmax	pmax	
	comp=Z,78nm,0.9s				
N02D	**Trinity Center**	**67.60 55**	P	**P**	**03 02 10.9 +1.2**
	baz=306				
M04C	**Macdoel**	**67.65 54**	P	**P**	**03 02 10.7 +0.6**
	baz=306				
WALA	**Waterton Lakes**	**67.70 44**	*e*P	**P**	**03 02 10.9 +0.7**
	comp=Z,44nm,1.4s				
MSVF	**Nonsavu**	**67.82 143**	PFAKE		03 02 20.0 +8.9
MSVF			LR	LR	
	comp=Z,1μm,19.0s				
NCK	**Nalchik**	**68.06 309**⇓	*i*P	**P**	**03 02 14.1 +1.7**
NCK			pmax	pmax	
	comp=Z,53nm,1.1s				
GUDG	**Gudauri**	**68.16 308**	P	**P**	**03 02 15.4 +2.1**
KVAR	**Kislovodsk Arr**	**68.30 310**	LR	LR	03 37 31.2
	comp=Z,633nm,18.1s,slow=40				
ZEI	**Tsey**	**68.30 308**	*e*P	**P**	**03 02 11.7 -2.5**
ZEI			pmax	pmax	
	comp=Z,35nm,0.6s				
KIV	**Kislovodsk**	**68.30 310**	*i* P	**P**	**03 02 15.6 +1.6**
	SNR=28				
KIV	**Kislovodsk**	**68.30 310***c i*P		**P**	**03 02 14.5 +0.5**
KIV			*e*		03 02 39.0
KIV			*e*		03 04 43.5
KIV			*e*PPP	PPP	03 06 19.4
KIV			*e*S	**S**	**03 11 07.7 -3.0**
KIV			*e*SS	**SS**	**03 15 35.8 +1.9**
KIV			pmax	pmax	
	comp=Z,161nm,1.2s				
KIV	**Kislovodsk**	**68.30 310**	*e*P	**P**	**03 02 15.0 +1.0**
	comp=Z,110nm,1.0s				
KIV			LR	LR	
	comp=Z,624nm,19.0s				
JTMT	**Jette**	**68.32 45**	*e*P	**P**	**03 02 15.0 +0.9**
JTMT			*ep*P	**sP**	**03 02 34.9 -0.9**
KBZ	**Khabaz**	**68.32 310**	P	**P**	**03 02 15.2 +1.3**
	comp=Z,30nm,0.9s,baz=35,slow=3.5,SNR=64				
KBZ			LR	LR	03 35 49.5
	comp=Z,397nm,21.4s,baz=38,slow=39				
TBLG	**Delisi**	**68.44 307**	P	**P**	**03 02 16.2 +1.3**
TBLG	**Delisi**	**68.44 307**	P	**P**	**03 02 16.1 +1.3**
BMO	**Blue Mountains**	**68.45 49**	*e*P	**P**	**03 02 15.5 +0.6**
BMO			pmax	pmax	
	comp=Z,25nm,1.4s				
BMO			MLR	MLR	
	comp=Z,338nm,21.0s				
BMO	**Blue Mountains**	**68.45 49**	*e*P	**P**	**03 02 15.5 +0.6**
	comp=Z,25nm,1.4s				
BMO			LR	LR	
	comp=Z,338nm,21.0s				
MOD	**Modoc Plateau**	**68.50 53**	*e*P	**P**	**03 02 16.4 +1.0**
	comp=Z,113nm,1.9s				
O03D	**Paynes Creek**	**68.56 55**	P	**P**	**03 02 16.4 +0.7**
	baz=307				
SWMT	**Swartz Lake**	**68.62 45**	*e*P	**P**	**03 02 17.5 +1.5**
ONI	**Oni**	**68.69 308**	P	**P**	**03 02 17.5 +1.0**
ONI	**Oni**	**68.69 308**	P	**P**	**03 02 17.4 +1.0**
ILULI	**Ilulissat**	**69.02 5**	*i* P	**P**	**03 02 18.5 +0.6**
	comp=Z,44nm,1.1s				
ILULI	**Ilulissat**	**69.02 5**	*i* P	**P**	**03 02 18.5 +0.6**
ILULI			pmax	pmax	
	comp=Z,44nm,1.1s				
SLMT	**Seeley Lake**	**69.05 45**	*e*P	**P**	**03 02 19.4 +0.7**
SLMT			*ep*P	**sP**	**03 02 38.6 -1.9**
MSO	**Missoula**	**69.07 46**	P	**P**	**03 02 19.7 +0.9**
	baz=309				
MSO	**Missoula**	**69.07 46**	*e*P	**P**	**03 02 19.9 +1.0**
MSO			*ep*P	**sP**	**03 02 39.5 -1.0**
ORV	**Oroville**	**69.19 55**	*e*P	**P**	**03 02 19.9 +0.4**
ORV			pmax	pmax	
	comp=Z,26nm,0.9s				
ORV	**Oroville**	**69.19 55**	*e*P	**P**	**03 02 19.9 +0.4**
	comp=Z,26nm,0.9s				
AKH	**Akhalkalaki**	**69.38 307**	P	**P**	**03 02 22.9 +2.0**
AKH	**Akhalkalaki**	**69.38 307**⇑	*i*P	**P**	**03 02 22.1 +1.2**
AKH	**Akhalkalaki**	**69.38 307**	P	**P**	**03 02 22.9 +2.0**
CHMT	**Chamberlain Mo**	**69.39 45**	*e*P	**P**	**03 02 21.0 +0.1**
CHMT			*ep*P	**sP**	**03 02 41.0 -1.6**
GNI	**Garni**	**69.39 306**	LR	LR	03 35 43.8
	comp=Z,206nm,19.3s,baz=44,slow=38				
GNI	**Garni**	**69.39 306**	*i* P	**P**	**03 02 21.9 +0.9**
	SNR=7.8				
GNI	**Garni**	**69.39 306***c i*P		**P**	**03 02 22.6 +1.6**
GNI			pmax	pmax	
	comp=Z,126nm,1.2s				
GNI	**Garni**	**69.39 306**	*e*P	**P**	**03 02 22.4 +1.4**
	comp=Z,71nm,1.5s				
GNI			LR	LR	
	comp=Z,373nm,20.0s				
FCC	**Fort Churchill**	**69.65 27**	*e*P	**P**	**03 02 21.4 -0.6**
FCC			pmax	pmax	
	comp=Z,71nm,1.3s				
FCC	**Fort Churchill**	**69.65 27**	*e*P	**P**	**03 02 21.4 -0.6**
	comp=Z,71nm,1.3s				
BEKR	**Beckworth**	**69.70 54**	*e*P	**P**	**03 02 24.0 +1.1**
	comp=Z,36nm,0.9s				
AFDM	**Forest Hills D**	**69.88 56**	*e*P	**P**	**03 02 25.7 +1.9**
	comp=Z,38nm,1.4s				
NC405	**NORSAR Array S**	**69.92 337**	*e*P	**P**	**03 02 23.6 0.0**
NC303	**NORSAR Array S**	**69.94 337**	*e*P	**P**	**03 02 24.1 +0.3**
NC204	**NORSAR Array S**	**70.07 337**	*e*P	**P**	**03 02 24.5 -0.2**
HFS	**Hagfors**	**70.10 335**	LR	LR	03 36 42.6
	comp=Z,391nm,18.7s,baz=46,slow=39				
NB201	**NORSAR Array S**	**70.10 337**	*e*P	**P**	**03 02 24.9 +0.1**
NB2	**NORSAR Subarra**	**70.13 337**	P	**P**	**03 02 24.8 -0.2**
	comp=Z,12nm,0.5s,baz=35,slow=6.5				
NB2	**NORSAR Subarra**	**70.13 337**	P	**P**	**03 02 24.8 -0.2**
	baz=35,slow=6.5				
NOA	**NORSAR Array B**	**70.13 337**	P	**P**	**03 02 24.9 0.0**
	comp=Z,1.2nm,0.4s,baz=281,slow=8.6,SNR=40				
NOA			LR	LR	03 36 25.7
	comp=Z,415nm,21.6s,baz=30,slow=39				
MFID	**Camas Ranch**	**70.17 49**	*e*P	**P**	**03 02 26.6 +0.9**
	comp=Z,86nm,1.9s				
WSAR	**Wadi Sarin**	**70.22 284**	LR	LR	03 36 49.2
	comp=Z,160nm,21.1s,baz=72,slow=39				
SOC	**Sochi**	**70.23 311***c i*P		**P**	**03 02 25.7 -0.1**
SOC			*e*		03 02 48.1
SOC			*e*PPP	PPP	03 06 40.8
SOC			*e*S	**S**	**03 11 33.1 0.0**
SOC			*e*		03 11 58.2
SOC			pmax	pmax	
	comp=Z,18nm,0.6s				
SOC			MLR	MLR	
	comp=Z,295nm,16.0s				
NBO02	**NORSAR Array S**	**70.23 337**	*e*P	**P**	**03 02 25.6 +0.1**
NBO00	**NORSAR Array S**	**70.27 337**	*e*P	**P**	**03 02 26.2 +0.4**
PAHR	**Pah Rah Range**	**70.39 54**	*e*P	**P**	**03 02 28.7 +1.6**
	comp=Z,38nm,1.0s				
ARTV	**Artvin**	**70.45 308**	*e*P	**P**	**03 02 28.6 +1.1**
	comp=Z,70nm,1.7s				
EGMT	**Eagleton**	**70.49 43**	P	**P**	**03 02 28.0 +0.6**
	baz=311				
EGMT	**Eagleton**	**70.49 43**	*e*P	**P**	**03 02 28.6 +1.1**
	comp=Z,31nm,1.0s				
EGMT			LR	LR	
	comp=Z,592nm,20.0s				
LRM	**Limekiln Ridge**	**70.51 46**	*e*P	**P**	**03 02 28.9 +1.0**
PNTR	**Pine Nut**	**70.64 55**	*e*P	**P**	**03 02 31.0 +2.3**
	comp=Z,41nm,0.9s				
ANN	**Anapa**	**70.72 313**	*e*P	**P**	**03 02 26.2 -2.6**
ANN			*e**PP	**pP**	**03 02 39.6 -4.7**
ANN			*e*		03 02 47.1
ANN			*e*S	**S**	**03 11 35.9 -2.9**
ANN			pmax	pmax	
	comp=Z,72nm,1.1s				
ANN			MLR	MLR	
	comp=N,438nm,23.0s				
ANN			MLR	MLR	
	comp=E,223nm,23.0s				
ANN			MLR	MLR	
	comp=Z,472nm,23.0s				
DLMT	**Dillon**	**70.73 46**	*e*P	**P**	**03 02 30.3 +1.3**
	comp=Z,78nm,1.6s				
CMB	**Columbia Colle**	**70.81 56**	*e*P	**P**	**03 02 31.1 +1.6**
CMB			pmax	pmax	
	comp=Z,30nm,0.9s				
CMB	**Columbia Colle**	**70.81 56**	*e*P	**P**	**03 02 31.1 +1.6**
	comp=Z,30nm,0.9s				
HLID	**Hailey**	**70.88 48**	P	**P**	**03 02 30.7 +0.7**
	baz=310				
HLID	**Hailey**	**70.88 48**	*e*P	**P**	**03 02 31.4 +1.4**
	comp=Z,18nm,1.3s				
HLID			LR	LR	
	comp=Z,521nm,21.0s				
YERR	**Yerington**	**70.92 55**	*e*P	**P**	**03 02 31.8 +1.4**
	comp=Z,55nm,0.9s				
UOSS	**Minazif**	**70.94 287**	*e*P	**P**	**03 02 30.2 -0.2**
	comp=Z,57nm,0.7s				
AKASG	**Malin Array Be**	**70.97 322**	P	**P**	**03 02 30.1 -0.1**
	comp=Z,8.7nm,0.4s,baz=45,slow=6.5,SNR=71				
AKASG			LR	LR	03 36 28.8
	comp=Z,563nm,18.4s,baz=20,slow=38				
AKBB	**Malin Array Si**	**70.97 322**	*e*P	**P**	**03 02 30.0 -0.2**
AKBB			pmax	pmax	
	comp=Z,33nm,0.8s				
AKBB	**Malin Array Si**	**70.97 322**	*e*P	**P**	**03 02 30.0 -0.2**
	comp=Z,33nm,0.8s				
KIEV	**Kiev**	**70.99 322***c i*P		**P**	**03 02 30.6 +0.3**
KIEV			pmax	pmax	
	comp=Z,39nm,0.9s				
KIEV	**Kiev**	**70.99 322**	*e*P	**P**	**03 02 29.9 -0.3**
	comp=Z,31nm,0.8s				
KIEV			LR	LR	
	comp=Z,549nm,20.0s				
AK11	**Malin Array Si**	**71.02 322**	*e*P	**P**	**03 02 30.5 0.0**
HATD	**Hatta, Dubai**	**71.06 287**	*i* P	**P**	**03 02 31.5 +0.3**
	SNR=22				
BOZ	**Bozeman (W)**	**71.09 45**	P	**P**	**03 02 31.6 +0.3**
	baz=311				
BOZ	**Bozeman (W)**	**71.09 45**	*e*P	**P**	**03 02 32.0 +0.7**
BOZ			pmax	pmax	
	comp=Z,15nm,0.8s				
BOZ	**Bozeman (W)**	**71.09 45**	*e*P	**P**	**03 02 32.0 +0.7**
	comp=Z,15nm,0.8s				
WAKR	**Walker**	**71.10 55**	*e*P	**P**	**03 02 33.5 +2.0**
	comp=Z,26nm,0.9s				
SFJD	**Kangerlussuaq**	**71.24 5**	*i* P	**P**	**03 02 31.6 +0.1**
	comp=Z,27nm,1.1s				
SFJD	**Kangerlussuaq**	**71.24 5**	*i* P	**P**	**03 02 31.6 +0.1**
SFJD			pmax	pmax	
	comp=Z,27nm,1.1s				
SUW	**Suwalki**	**71.29 327**	*e*P	pP	03 02 50.5 +3.0
SUW	**Suwalki**	**71.29 327**	*e*P	pP	03 02 50.5 +3.0
NAZ	**Nazwa, Dubai**	**71.30 287**	*i* P	**P**	**03 02 33.1 +0.5**
	SNR=6.0				
FAQ	**Al Faqa, Dubai**	**71.50 287**	*i* P	**P**	**03 02 34.2 +0.4**
	SNR=10				
QLMT	**Earthquake Lak**	**71.70 46**	*e*P	**P**	**03 02 35.4 +0.4**
QLMT			*ep*P	**sP**	**03 02 55.7 -1.1**
KOPT	**Kop Dagi**	**72.03 308**	*e*P	**P**	**03 02 39.6 +2.4**
	comp=Z,35nm,1.2s				
KLNR	**Kaliningrad**	**72.04 329**⇑	*e*P	**P**	**03 02 36.6 +0.1**
KLNR			pmax	pmax	
	comp=Z,123nm,0.7s				
YHH	**Holmes Hill**	**72.04 46**	*e*P	**P**	**03 02 38.8 +1.6**
YHH			*ep*P	**PcP**	**03 02 56.9 +1.5**
YMR	**Madison River**	**72.06 46**	*e*P	**P**	**03 02 39.0 +1.8**
ARMA	**Armidale**	**72.26 171**	*e*P	**P**	**03 02 39.2 +1.0**
	comp=Z,13nm,1.2s				
YFT	**Old Faithful**	**72.27 46**	*e*P	**P**	**03 02 41.7 +3.2**
YFT			*ep*P	**sP**	**03 03 01.2 +1.0**
PAGB	**Antelope Grade**	**72.32 58**	*e*P	**P**	**03 02 40.1 +1.5**
PAGB			*ep*P	**sP**	**03 02 58.9 -1.5**
SIM	**Simferopol'**	**72.41 315***ce*P		**P**	**03 02 39.6 +0.6**
SIM			pmax	pmax	
	comp=Z,36nm,0.9s				
SIM			MLR	MLR	
	comp=Z,500nm,18.0s				
LKWY	**Lake**	**72.43 46**	PFAKE

comp=Z,48nm,1.3s
IMW Indian Meadow 72.58 46 *e*P **P 03 02 42.3 +1.9**
comp=Z,31nm,1.1s
RLMT Red Lodge 72.66 45 P **P 03 02 41.7 +0.9**
baz=312
FXWY Fox Creek 72.70 47 *e*P **P 03 02 42.9 +1.8**
FXWY *ep*P **sP 03 03 02.0 -0.8**
MOOW Moose Ponds 72.78 46 *e*P **P 03 02 43.7 +2.2**
comp=Z,46nm,1.4s
TPAW Teton Pass 72.84 47 *e*P **P 03 02 43.5 +1.5**
comp=Z,50nm,1.3s
DGMT Dagmar 72.92 40 P **P 03 02 41.7 -0.3**
baz=314
DGMT Dagmar 72.92 40 *e*P **P 03 02 42.0 0.0**
comp=Z,38nm,1.1s
DGMT LR LR
comp=Z,615nm,19.0s
LOHW Long Hollow 72.95 46 *e*P **P 03 02 43.6 +1.1**
comp=Z,66nm,1.8s
HVU Hansel Valley 72.95 49 *e*P **P 03 02 44.4 +1.9**
HVU pmax pmax
comp=Z,16nm,1.0s
HVU Hansel Valley 72.95 49 *e*P **P 03 02 44.4 +1.9**
comp=Z,16nm,1.0s
SNOW Snow King Moun 72.97 47 *e*P **P 03 02 45.0 +2.3**
comp=Z,17nm,1.0s
REDW Red Top Meadow 72.98 47 *e*P **P 03 02 44.4 +1.7**
comp=Z,38nm,1.2s
VES Vestal, Richgr 72.99 57 P **P 03 02 42.4 -0.2**
baz=309
SORM Soroca 73.16 320⇑ *i*P **P 03 02 43.5 +0.2**
LAO LASA Array 73.16 42 *e*P **P 03 02 44.0 +0.5**
comp=Z,93nm,1.6s
LAO LR LR
comp=Z,736nm,20.0s
STKA Stephens Creek 73.17 180 P **P 03 02 44.1 +0.8**
comp=Z,6.3nm,0.8s,baz=345,slow=7.1,SNR=19
STKA LR LR 03 34 26.4
comp=Z,114nm,22.0s,baz=19,slow=35
STKA Stephens Creek 73.17 180 *e*P **P 03 02 44.2 +0.8**
comp=Z,1.8nm,0.9s
FORT Forrest 73.23 193 *e*P **P 03 02 43.1 -0.7**
comp=Z,369nm,1.4s
CWC Cottonwood Cre 73.24 56 P **P 03 02 44.7 +0.4**
baz=310
GRAC Grapevine Rang 73.33 55 P **P 03 02 44.8 +0.2**
baz=310
BGU Big Grassy Mou 73.37 50 *e*P **P 03 02 45.9 +1.0**
BGU *ep*P **sP 03 03 06.0 -0.7**
R11A Troy Canyon, C 73.54 53 P **P 03 02 46.2 +0.2**
baz=310
MARD Mardin 73.58 305 *e*P **P 03 02 47.5 +1.3**
comp=Z,70nm,1.1s
BSD Bornholm Skovb 73.62 331 *i*P **P 03 02 46.0 +0.1**
BSD Bornholm Skovb 73.62 331 *e*P **P 03 02 46.0 +0.1**
KIS Kishinev 73.73 319 *e*P **P 03 02 47.0 +0.3**
KIS LRM MLR 03 36 00.0
comp=Z,600nm,19.0s
KIS Kishinev 73.73 319 *e*P **P 03 02 47.0 +0.3**
KIS MLR MLR
comp=Z,700nm,20.0s
HWUT Hardware Ranch 73.75 49 PFAKE 03 03 00.0 +13
HWUT LR LR
comp=Z,504nm,21.0s
MPMC Manual Prospec 73.85 56 P **P 03 02 47.9 +0.1**
baz=310
BEL Belsk 73.87 326 *e*P **P 03 02 48.9 +1.5**
BEL Belsk 73.87 326 *e*P **P 03 02 48.9 +1.5**
LVV L'vov 73.96 324 *e*P **P 03 02 50.8 +2.8**
LVV *e*S **SKiKP 03 12 06.1 -5.1**
LVV *e*PS **PnS 03 12 50.3 -4.7**
LVV MLR MLR
comp=N,200nm,17.0s
LVV MLR MLR
comp=E,400nm,17.0s
LVV MLR MLR
comp=Z,500nm,17.0s
DUG Dugway, Tooele 73.97 50 P **P 03 02 48.5 0.0**
baz=311
DUG Dugway, Tooele 73.97 50 *e*P **P 03 02 50.0 +1.5**
DUG pmax pmax
comp=Z,32nm,1.0s
DUG MLR MLR
comp=Z,162nm,20.0s
DUG Dugway, Tooele 73.97 50 *e*P **P 03 02 50.0 +1.5**
comp=Z,32nm,1.0s
DUG LR LR
comp=Z,162nm,20.0s
FURC Furnace Creek, 73.97 55 P **P 03 02 48.8 +0.5**
baz=310
TPNV Topopah Spring 74.04 55 P **P 03 02 48.7 -0.3**
baz=310
TPNV Topopah Spring 74.04 55 *e*P **P 03 02 50.3 +1.3**
TPNV pmax pmax
comp=Z,49nm,1.0s
TPNV Topopah Spring 74.04 55 *e*P **P 03 02 50.3 +1.3**
comp=Z,48nm,1.0s
BW06 Boulder Array 74.08 47 P **P 03 02 48.7 -0.5**
baz=312
BW06 Boulder Array 74.08 47 *e*P **P 03 02 49.7 +0.5**
comp=Z,29nm,1.1s
BW06 LR LR
comp=Z,405nm,20.0s
PD31 Pinedale Array 74.08 47 *e*P **P 03 02 49.7 +0.5**
PDAR Pinedale Array 74.08 47 P **P 03 02 49.9 +0.7**
comp=Z,5.0nm,0.7s,baz=266,slow=2.3,SNR=44
PDAR LR LR 03 36 17.2
comp=Z,140nm,21.3s,baz=332,slow=36
EDW2 Edwards Air Fo 74.29 57 P **P 03 02 50.4 +0.1**
baz=310
BBOO Buckleboo 74.31 185 *e*P **P 03 02 50.3 +0.3**
comp=Z,12nm,0.9s
JLU Jordanelle 74.48 49 *e*P **P 03 02 52.7 +1.2**
JLU *ep*P **sP 03 03 11.4 -2.0**
NLU North Lily Min 74.55 50 *e*P **P 03 02 52.5 +0.5**
NLU *ep*P **sP 03 03 13.1 -0.7**
SFNV Sufian 74.57 305 *e*P **P 03 02 53.5 +1.6**
KWP Kalwaria Pacla 74.69 324 *e*P **P 03 02 53.4 +1.1**
KWP Kalwaria Pacla 74.69 324 *e*P **P 03 02 53.3 +1.1**
GSC Goldstone, Bar 74.76 56 *e*P **P 03 02 53.9 +0.9**
GSC *e**PP **sP 03 03 13.4 -1.5**
GSC Goldstone, Bar 74.76 56 *e*P **P 03 02 53.9 +0.9**
GSC *ep*P **sP 03 03 13.4 -1.5**
SHPR Sheep Range 74.99 54 *e*P **P 03 02 56.5 +2.0**
SHPR *ep*P **sP 03 03 15.0 -1.3**
BUR08 Bucovina Ar. S 75.00 321 *e*P **P 03 02 54.6 +0.4**
BURAR Bucovina Array 75.02 321⇓ *i*P **P 03 02 54.7 +0.4**
TESR Tescani 75.13 320⇑ *i*P **P 03 02 55.5 +0.6**
TUQ Turquoise Moun 75.22 56 P **P 03 02 55.4 -0.4**
baz=311
ILGA Ilgaz 75.25 312 *e*P **P 03 02 57.6 +1.7**
comp=Z,53nm,0.8s
CFR Carcaliu 75.34 318⇑ *i*P **P 03 02 56.1 0.0**
HEC Hector,Ludlow 75.36 56 P **P 03 02 57.9 +1.4**
baz=311
ULM Lac du Bonnet 75.37 34 P **P 03 02 56.0 -0.2**
comp=Z,5.8nm,0.9s,baz=251,slow=6.2,SNR=4.0
ULM LR LR 03 39 43.6
comp=Z,177nm,18.3s,baz=68,slow=38
ULM Lac du Bonnet 75.37 34 P **P 03 02 56.0 -0.2**
ULM pmax pmax
comp=Z,6.0nm,0.9s
ULM MLR MLR
comp=Z,177nm,18.3s
ULM Lac du Bonnet 75.37 34 P **P 03 02 56.0 -0.2**
ULM *ep*P **sP 03 03 15.2 -2.8**
CCUT Cedar City 75.39 53 *e*P **P 03 02 59.3 +2.4**
CCUT *ep*P **sP 03 03 17.2 -1.5**
MSU Marysvale 75.45 51 *e*P **P 03 02 58.1 +1.0**
MSU *e**PP **sP 03 03 18.5 -0.5**
MSU Marysvale 75.45 51 *e*P **P 03 02 58.1 +1.0**
MSU *ep*P **sP 03 03 18.5 -0.5**
STHS Stebnicka Huta 75.48 325 *e*P **P 03 02 58.3 +1.4**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 75.48 325 *e*P **P 03 02 58.3 +1.4**
TMUT Trail Mountain 75.49 50 *e*P **P 03 02 59.6 +2.1**
comp=Z,16nm,1.0s
OJC Ojcow 75.50 326 *e*P **P 03 02 57.7 +0.8**
OJC Ojcow 75.50 326 *e*P **P 03 02 57.7 +0.8**
OJC Ojcow 75.50 326 *e*P **P 03 02 57.2 +0.3**
comp=Z,52nm,0.9s
VRI Vrincioaia 75.55 319⇑ *i*P **P 03 02 58.6 +1.3**
PLOR Plostina 75.60 319⇑ *i*P **P 03 02 58.1 +0.5**
UZH Uzhgorod 75.61 324⇑ *i*P **P 03 02 58.6 +1.1**
UZH *e* 03 03 12.6
UZH *e* 03 03 17.6
KSRV Kasrt alli 75.61 305 *e*P **P 03 02 59.3 +1.5**
P17A Butcher Ranch, 75.64 50 *e*P **P 03 02 59.9 +1.8**
comp=Z,47nm,1.1s
TIRR Tirgusor 75.71 317⇑ *i*P **P 03 02 59.0 +0.8**
CRVS Cervenica-Dubn 75.77 324 *e*P **P 03 02 59.2 +0.7**
CRVS Cervenica-Dubn 75.77 324 *e*P **P 03 02 59.2 +0.7**
HARR Harsova 75.79 318⇑ *i*P **P 03 02 58.9 +0.2**
K22A Casper 75.80 45 *e*P **P 03 03 00.1 +1.1**
TLB Topalu 75.81 318⇑ *i*P **P 03 02 59.1 +0.4**
GMRC Granite Mounta 75.81 56 P **P 03 02 59.1 0.0**
baz=311
LCMT Little Creek M 75.82 53 *e*P **P 03 03 01.1 +2.0**
comp=Z,27nm,1.1s
TRPA Tarpa 75.87 323⇓ *e*P **P 03 03 00.9 +1.9**
NIE Niedzica 75.89 325 *e*P **P 03 03 00.5 +1.3**
NIE Niedzica 75.89 325 *e*P **P 03 03 00.5 +1.3**
LDFC Landfair 75.96 56 *e*P **P 03 03 00.5 +0.5**
LDFC *ep*P **sP 03 03 19.4 -2.4**
SRU San Rafael Swe 76.01 50 *e*P **P 03 03 01.4 +1.1**
SRU pmax pmax
comp=Z,29nm,0.9s
SRU San Rafael Swe 76.01 50 *e*P **P 03 03 01.4 +1.1**
comp=Z,29nm,0.9s
RSSD Black Hills 76.06 43 P **P 03 03 00.5 0.0**
baz=315
RSSD Black Hills 76.06 43 *e*P **P 03 03 00.3 -0.2**
RSSD pmax pmax
comp=Z,49nm,1.4s
RSSD Black Hills 76.06 43 *e*P **P 03 03 00.3 -0.2**
comp=Z,48nm,1.4s
KNB Kanab 76.07 53 *e*P **P 03 03 02.7 +2.1**
KNB pmax pmax
comp=Z,46nm,1.3s
KNB Kanab 76.07 53 *e*P **P 03 03 02.7 +2.1**
comp=Z,46nm,1.3s
PFO Pinyon Flats O 76.08 57 *e*P **P 03 03 01.1 +0.4**
PFO pmax pmax
comp=Z,30nm,1.2s
PFO MLR MLR
comp=Z,426nm,20.0s
PFO Pinyon Flats O 76.08 57 *e*P **P 03 03 01.1 +0.4**
comp=Z,30nm,1.2s
PFO LR LR
comp=Z,426nm,20.0s
JHLN Al Jahlan 76.08 305 *e*P **P 03 02 57.5 -3.0**
TPFO Pinon Flats 76.08 57 P **P 03 03 01.4 +0.7**
baz=311
A32A Rocking H Ranc 76.11 35 P **P 03 02 59.8 -0.6**
baz=319
DOPR Dopca 76.13 320⇑ *i*P **P 03 03 02.4 +1.8**
ISR Istrita 76.18 319⇑ *i*P **P 03 03 01.6 +0.7**
BR131 Keskin Array S 76.19 311 *e*P **P 03 03 01.6 +0.4**
BRTR Keskin Array B 76.19 311 P **P 03 03 01.6 +0.4**
comp=Z,9.6nm,0.8s,baz=63,slow=3.7,SNR=53
BRTR PP PP 03 05 38.1 -14
comp=Z,1.1nm,0.8s,baz=61,slow=8.9,SNR=2.8
BRTR LR LR 03 42 33.9
comp=Z,171nm,18.3s,baz=46,slow=40
BRTR Keskin Array B 76.19 311 P **P 03 03 01.6 +0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
MLR Muntele Rosu 76.20 319⇑ *i*P **P 03 03 01.1 -0.1**
MLR Muntele Rosu 76.20 319 *e*P **P 03 03 01.6 +0.4**
MLR pmax pmax
comp=Z,35nm,1.5s
MLR Muntele Rosu 76.20 319 *e*P **P 03 03 01.6 +0.4**
comp=Z,35nm,1.5s
KSP Ksiaz 76.45 328 *e*P **P 03 03 03.3 +1.0**
KSP Ksiaz 76.45 328 *e*P **P 03 03 03.3 +1.0**
LANS Liptovska Anna 76.45 325 *e*P **P 03 03 04.4 +2.0**
LANS Liptovska Anna 76.45 325 *e*P **P 03 03 04.4 +2.0**
OKC Ostrava-Krasne 76.48 326 *e*P **P 03 03 03.9 +1.4**
OKC *es*P **sP 03 03 23.8 -0.5**
OKC Ostrava-Krasne 76.48 326 *e*P **P 03 03 03.9 +1.4**
OKC *e* 03 03 23.8
B32A Ashes, Strandq 76.49 36 P **P 03 03 02.3 -0.3**
baz=319
KECS Kecovo 76.52 324 *e*P **P 03 03 03.6 +0.9**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 76.52 324 *e*P **P 03 03 03.6 +0.9**
DRWC Darouich 76.52 307 *e*P **P 03 03 04.5 +1.4**
IRM Iron Mountain 76.54 56 P **P 03 03 03.3 +0.1**
baz=311
ANTO Ankara 76.57 312 *e*P **P 03 03 04.3 +1.0**
ANTO pmax pmax
comp=Z,40nm,0.9s
ANTO MLR MLR
comp=Z,231nm,20.0s
ANTO Ankara 76.57 312 *e*P **P 03 03 04.3 +1.0**
comp=Z,40nm,0.9s
ANTO LR LR
comp=Z,231nm,20.0s
A33A Warroad 76.58 35 P **P 03 03 02.6 -0.4**
baz=320
BR231 Keskin MP Arra 76.59 312 *e*P **P 03 03 05.1 +1.6**
O20A White River Ci 76.60 48 P **P 03 03 03.2 -0.4**
baz=314
O20A White River Ci 76.60 48 *e*P **P 03 03 04.8 +1.1**
comp=Z,35nm,1.2s
BBAL Bala 76.61 311 *i*P **P 03 03 03.8 +0.2**
VOIR 76.67 320⇓ *i*P **P 03 03 04.5 +0.7**
BC3 Big Chuckawall 76.68 57 P **P 03 03 04.6 +0.5**
baz=311
AKO Adana 76.68 308 *i*P **P 03 03 04.7 +0.8**
MORC Moravsky Berou 76.78 327⇑ *i*P **P 03 03 05.5 +1.3**
MORC Moravsky Berou 76.78 327 *e*P **P 03 03 05.1 +0.9**
MORC pmax pmax
comp=Z,127nm,1.0s
MORC Moravsky Berou 76.78 327 *e*P **P 03 03 05.1 +0.9**
comp=Z,127nm,1.0s
DRGR 76.78 322⇓ *i*P **P 03 03 04.4 0.0**
DPC Dobruska-Polom 76.82 328 *e*P **P 03 03 04.7 +0.2**
DPC *es*P **sP 03 03 23.7 -2.7**
DPC Dobruska-Polom 76.82 328 *e*P **P 03 03 04.7 +0.2**
DPC *e* 03 03 23.7
UPC Upice 76.82 328 *e*P **P 03 03 05.5 +1.1**
UPC Upice 76.82 328 *e*P **P 03 03 05.5 +1.1**
KRLC Kraliky 76.85 327 *e*P **P 03 03 05.3 +0.6**
KRLC *es*P **sP 03 03 25.6 -0.9**
KRLC Kraliky 76.85 327 *e*P **P 03 03 05.3 +0.6**
KRLC *e* 03 03 25.6
ARR Arges 76.93 320⇑ *i*P **P 03 03 06.4 +1.2**
KKUL Konya-Kulu 76.97 311 *i*P **P 03 03 06.4 +0.8**
YURE YUREGIR 77.00 308 *i*P **P 03 03 05.9 +0.2**
PDMCI Parker Dam,Lak 77.07 56 P **P 03 03 06.9 +0.9**
baz=312
Y12C Blythe 77.20 56 P **P 03 03 06.5 -0.3**
baz=312
PSZ Piszkesteto 77.20 324⇓ *i*P **P 03 03 07.7 +1.0**
PSZ Piszkesteto 77.20 324 *e*P **P 03 03 06.9 +0.2**
PSZ MLR MLR
comp=Z,1μm,19.0s
PSZ Piszkesteto 77.20 324⇓ *e*P **P 03 03 08.5 +1.8**
PSZ Piszkesteto 77.20 324⇓ *e*P **P 03 03 08.5 +1.8**
PSZ Piszkesteto 77.20 324 *e*P **P 03 03 06.9 +0.2**
PSZ LR LR
comp=Z,1μm,19.0s
VYHS Vyhne 77.22 325 *e*P **P 03 03 07.6 +0.9**
VYHS pmax pmax
comp=Z,67nm,2.5s
VYHS Vyhne 77.22 325 *e*P **P 03 03 07.6 +0.9**
B34A Aery, Baudette 77.24 35 P **P 03 03 06.0 -0.8**
baz=320
LOT Lotru 77.28 321⇓ *i*P **P 03 03 07.7 +0.5**
PHWY Pilot Hill 77.31 46 *e*P **P 03 03 08.5 +0.8**
N23A Red Feather La 77.33 46 P **P 03 03 09.0 +1.2**
baz=315
N23A Red Feather La 77.33 46 *e*P **P 03 03 09.6 +1.8**
comp=Z,61nm,1.4s
BRG Berggiesshubel 77.34 329 *e*P **P 03 03 07.4 +0.1**
comp=Z,19nm,1.2s
BRG Berggiesshubel 77.34 329 *e*P **P 03 03 07.4 +0.1**
BRG *e* 03 03 27.6
BRG S SKSac 03 13 29.0 +14
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,16μm,24.3s
BRG MLR MLR
comp=E,518nm,18.0s
BRG MLR MLR
comp=Z,558nm,19.8s
CLL Collm 77.35 330 *i*P **P 03 03 07.3 0.0**
CLL *i* 03 03 27.6
CLL *e*S **SKSac 03 13 16.0 +0.6**
CLL pmax pmax
comp=Z,22nm,0.9s
CLL MLR MLR
comp=Z,600nm,21.9s
CLL Collm 77.35 330 *i*P **P 03 03 07.3 0.0**
comp=Z,22nm,0.9s
CLL *ep*P **pP 03 03 23.0 0.0**
CLL *i*sP **sP 03 03 27.6 -1.6**
CLL Lm MLR 03 39 00.0
comp=N,500nm,20.5s
CLL Lm MLR 03 39 00.0
comp=E,400nm,20.4s
CLL Lm MLR 03 39 00.0
comp=Z,600nm,21.9s
CLL Collm 77.35 330 *e*P **P 03 03 07.8 +0.4**
comp=Z,25nm,1.0s
PVCC Panska Ves 77.38 329 *e*P **P 03 03 08.3 +0.8**
PVCC Panska Ves 77.38 329 *e*P **P 03 03 08.3 +0.8**
ARNB Al Arnab 77.45 307 *e*P **P 03 03 08.0 -0.3**
GLA Glamis 77.47 57 P **P 03 03 08.9 +0.5**
baz=312
VRAC Vranov 77.53 327 LR LR 03 40 21.2
comp=Z,680nm,18.9s,baz=16,slow=38
NWAO Narrogin (SRO) 77.67 201 *e*P **P 03 03 09.7 +0.6**
NWAO pmax pmax
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 77.67 201 *e*P **P 03 03 09.7 +0.6**
comp=Z,29nm,1.1s
B35A Bob, Littlefor 77.73 34 P **P 03 03 08.9 -0.6**
baz=321
GOPC GO Pecny, Ondr 77.78 328 *e*P **P 03 03 10.5 +0.7**
GOPC GO Pecny, Ondr 77.78 328 *e*P **P 03 03 10.5 +0.7**
ROOS tl_alroos 77.78 305 *e*P **P 03 03 13.0 +2.8**
PRA Prague 77.79 329 *e*P **P 03 03 11.2 +1.4**
PRA *es*P **sP 03 03 30.6 -1.1**
PRA Prague 77.79 329 *e*P **P 03 03 11.2 +1.4**
PRA *e* 03 03 30.6
PRU Pruhonice 77.81 328 *e*P **P 03 03 10.9 +0.9**
PRU *ex* x 03 03 28.8
PRU AMS AMS 03 40 20.0
comp=Z,700nm,20.4s
PRU Pruhonice 77.81 328 *e*P **P 03 03 10.9 +0.9**
PRU *e* 03 03 28.8
PRU MLR MLR
comp=Z,700nm,20.4s
ESKT Eskisehir 77.89 312 *i*P **P 03 03 11.1 +0.3**
BUD Budapest 77.92 324⇓ *e*P **P 03 03 12.5 +1.9**
BUD Budapest 77.92 324⇓ *e*P **P 03 03 12.5 +1.9**
BUD Budapest 77.92 324⇓ *e*P **P 03 03 12.5 +1.9**
WUAZ Wupatki 77.94 53 P **P 03 03 11.1 -0.1**
baz=313
WUAZ Wupatki 77.94 53 *e*P **P 03 03 13.2 +2.0**
comp=Z,31nm,1.0s
WUAZ LR LR
comp=Z,423nm,19.0s
SMCO Snowmass 77.97 48 *e*P **P 03 03 13.0 +1.5**
comp=Z,24nm,1.1s
TREC Trest 77.99 327 *e*P **P 03 03 12.0 +1.0**
TREC Trest 77.99 327 *e*P **P 03 03 12.0 +1.0**
KONT Konya--Tatoy 78.14 310 *i*P **P 03 03 12.7 +0.7**
BZS Buzias 78.17 322⇑ *i*P **P 03 03 12.1 +0.1**
ISCO Idaho Springs 78.28 47 P **P 03 03 13.6 +0.5**
baz=315
ISCO Idaho Springs 78.28 47 *e*P **P 03 03 13.8 +0.6**
ISCO pmax pmax
comp=Z,45nm,1.5s
ISCO Idaho Springs 78.28 47 *e*P **P 03 03 13.8 +0.6**
comp=Z,45nm,1.5s
CSKK Cs^ˇtkako 78.34 325⇑ *e*P **P 03 03 14.1 +1.2**
CSKK Cs^ˇtkako 78.34 325⇑ *e*P **P 03 03 14.1 +1.2**
CSKK Cs^ˇtkako 78.34 325⇑ *e*P **P 03 03 14.1 +1.2**
MARH Ras Al Marh 78.38 305 *e*P **P 03 03 15.6 +1.8**
BOLV Bolvadin 78.39 312 *i*P **P 03 03 14.3 +0.7**
BOLV Bolvadin 78.39 312 *e*P **P 03 03 14.7 +1.2**
comp=Z,43nm,0.9s
NKC Novy Kostel 78.42 330 *e*P **P 03 03 14.6 +1.2**
NKC *es*P **pP 03 03 31.5 +2.4**
NKC Novy Kostel 78.42 330 *e*P **P 03 03 14.6 +1.2**
NKC *e* 03 03 31.5
EDRB Edirne 78.43 316 P **P 03 03 14.6 +1.1**
EDRB Edirne 78.43 316 P **P 03 03 14.6 +1.1**
MVCO Mesa Verde 78.47 50 P **P 03 03 13.9 -0.2**
baz=314
MVCO Mesa Verde 78.47 50 *e*P **P 03 03 15.3 +1.1**
comp=Z,36nm,1.3s
MVCO LR LR
comp=Z,327nm,19.0s
C36A Pine Crest Far 78.57 34 P **P 03 03 13.7 -0.5**
baz=321
X16A Lo Mia Camp, P 78.64 54 *e*P **P 03 03 16.9 +1.8**
comp=Z,23nm,1.0s
GULN MERSIN_Gulnar 78.67 309 *i*P **P 03 03 15.8 +0.9**
MDVR Moldovita 78.75 321⇑ *i*P **P 03 03 15.7 +0.4**
TOTH TOTAH 78.86 305 *e*P **P 03 03 13.2 -2.9**
C37A Embarrass 78.87 34 P **P 03 03 15.5 -0.3**
baz=322
KHC Kasperske Hory 78.88 328 *e*P **P 03 03 16.6 +0.7**
KHC *es*P **sP 03 03 36.4 -1.4**
KHC AMS AMS 03 41 00.0
comp=Z,500nm,17.9s
KHC Kasperske Hory 78.88 328 *e*P **P 03 03 16.6 +0.7**
KHC *e* 03 03 36.4
KHC MLR MLR
comp=Z,500nm,17.9s
KHC Kasperske Hory 78.88 328 *e*P **P 03 03 16.8 +0.8**
comp=Z,6.7nm,0.9s
CONA Conrad Observa 78.91 326 *e*P **P 03 03 17.3 +1.1**
comp=Z,22nm,1.6s,SNR=5.2
GDZ Gediz 78.95 313 *i*P **P 03 03 16.8 +0.2**
ESK Eskdalemuir 78.97 341 *e*P **P 03 03 16.9 +0.6**
ESK pmax pmax
comp=Z,10.0nm,0.7s
ESK Eskdalemuir 78.97 341 *e*P **P 03 03 16.9 +0.6**
comp=Z,9.5nm,0.7s
EYMN Ely 78.98 33 P **P 03 03 15.7 -0.8**
baz=322
EYMN Ely 78.98 33 *e*P **P 03 03 16.3 -0.1**
comp=Z,33nm,1.1s
BAGO Egridir - ISPA 78.99 311 *i*P **P 03 03 15.8 -1.1**
S22A 4UR Ranch, Cre 79.05 49 P **P 03 03 17.2 -0.2**
baz=315
GEC2 GERESS Array S 79.06 328 *e*P **P 03 03 18.0 +1.0**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 79.06 328 *e*P **P 03 03 18.0 +1.0**
comp=Z,6.4nm,0.8s
GERES GERESS Array B 79.06 328 P **P 03 03 17.4 +0.4**
comp=Z,2.7nm,0.5s,baz=36,slow=5.9,SNR=23
GERES PP **PP 03 06 15.9 0.0**
comp=Z,1.4nm,0.9s,baz=42,slow=9.0,SNR=3.5
GERES LR LR 03 41 42.1
comp=Z,371nm,18.2s,baz=36,slow=38
GEA0 GERESS Array S 79.06 328 *e*P **P 03 03 17.2 +0.2**
SALA Sala 79.11 304 *e*P **P 03 03 14.9 -2.8**
BRBR Barbar 79.12 305 *e*P **P 03 03 17.1 -0.7**
Q24A Divide 79.13 47 P **P 03 03 17.9 +0.1**
baz=315
C38A Sawbill Land. 79.25 33 P **P 03 03 17.1 -0.8**
baz=322
E36A McGregor 79.36 35 P **P 03 03 17.2 -1.3**
baz=321
OGNE Ogallala 79.37 44 *e*P **P 03 03 19.7 +0.9**
comp=Z,99nm,1.5s
OGNE LR LR
comp=Z,409nm,19.0s
RAYN Ar Rayn 79.40 292 *e*P **P 03 03 18.8 -0.4**
comp=Z,35nm,0.8s
RAYN LR LR
comp=Z,232nm,21.0s
KHAL Karahalli 79.45 312 *i*P **P 03 03 19.6 +0.3**
ALN Alexandroupoli 79.48 316 P **P 03 03 19.9 +0.6**
ALN Alexandroupoli 79.48 316 P **P 03 03 19.9 +0.6**
ALN Alexandroupoli 79.48 316 P **P 03 03 19.9 +0.6**
BALY Balya 79.49 314 *i*P **P 03 03 19.7 +0.3**
RZN Rozhen 79.58 317 P **P 03 03 20.0 -0.1**
ARSA Arzberg 79.59 326 *e*P **P 03 03 21.1 +1.2**
comp=Z,12nm,1.4s
BRDR BURDUR-Merkez 79.61 312 *i*P **P 03 03 20.1 -0.1**
TCHB Talchebab 79.61 305 *e*P **P 03 03 21.9 +1.7**
MOA Molln 79.63 327 *i*P **P 03 03 21.2 +1.2**
comp=Z,5.8nm,0.9s

CSS	Mathiatis	79.64	308	eP	P	03 03 21.4	+1.2
	comp=Z,8.2nm,1.0s						
CSS				LR	LR		
	comp=Z,45nm,21.0s						
VTS	Vitosha	79.67	319	P	P	03 03 21.6	+1.1
VTS	Vitosha	79.67	319	↑iP	P	03 03 21.4	+0.9
VTS	Vitosha	79.67	319	eP	P	03 03 21.2	+0.7
VTS				pmax	pmax		
	comp=Z,19nm,0.7s						
VTS	Vitosha	79.67	319	P	P	03 03 19.5	-1.0
VTS	Vitosha	79.67	319	eP	P	03 03 21.2	+0.7
	comp=Z,19nm,0.7s						
SDCO	Great Sand Dun	79.80	48	P	P	03 03 21.5	0.0
	baz=315						
SDCO	Great Sand Dun	79.80	48	eP	P	03 03 23.0	+1.5
	comp=Z,20nm,1.3s						
KORT	Korkueli	79.94	311	iP	P	03 03 22.4	+0.4
ECSD	EROS Data Cent	79.98	39	P	P	03 03 21.6	-0.4
	baz=320						
ECSD	EROS Data Cent	79.98	39	eP	P	03 03 21.9	-0.1
	comp=Z,60nm,1.5s						
ECSD				LR	LR		
	comp=Z,626nm,19.0s						
E38A	The Farm, Brul	80.02	34	P	P	03 03 20.5	-1.7
	baz=322						
GOLH	Golhisar	80.22	312	iP	P	03 03 28.6	+5.2
GROS	Grobnik	80.22	326	eP	P	03 03 23.3	0.0
PERS	Pernice	80.25	326	eP	P	03 03 23.6	+0.2
SOKA	Soboth	80.25	326	iP	P	03 03 24.5	+1.0
	comp=Z,16nm,0.6s,SNR=8.1						
NVR	Nevrokopi	80.27	318	P	P	03 03 24.7	+1.1
NVR	Nevrokopi	80.27	318	P	P	03 03 24.7	+1.1
KKB	Krupnik	80.27	318	P	P	03 03 24.3	+0.7
F38A	Pierce - Schro	80.39	35	P	P	03 03 24.2	0.0
	baz=322						
MEM	Membach	80.41	333	P	P	03 03 24.6	+0.4
	comp=Z,7.8nm,1.1s						
KSCO	Kaye Shedlock'	80.46	46	eP	P	03 03 25.4	+0.6
	comp=Z,54nm,1.3s						
TUC	Tucson	80.48	55	P	P	03 03 25.5	+0.5
	baz=314						
TUC	Tucson	80.48	55	eP	P	03 03 25.8	+0.8
TUC				pmax	pmax		
	comp=Z,28nm,1.4s						
TUC				MLR	MLR		
	comp=Z,359nm,21.0s						
TUC	Tucson	80.48	55	eP	P	03 03 25.8	+0.8
	comp=Z,28nm,1.4s						
TUC				LR	LR		
	comp=Z,359nm,21.0s						
GOLS	Golise	80.53	325	eP	P	03 03 24.8	-0.1
SRS	Serrai	80.58	318	P	P	03 03 25.0	-0.2
SRS	Serrai	80.58	318	P	P	03 03 25.0	-0.2
SRS	Serrai	80.58	318	P	P	03 03 25.0	-0.2
OBKA	Obir	80.58	326	eP	P	03 03 25.3	0.0
	comp=Z,11nm,0.7s						
E39A	Mellen	80.62	34	P	P	03 03 23.8	-1.5
	baz=323						
KBA	Koelnbreinsper	80.62	327	eP	P	03 03 26.7	+1.1
	comp=Z,25nm,1.2s,SNR=6.6						
LEGS	Legarje	80.71	326	eP	P	03 03 25.7	-0.1
SCHQ	Schefferville	80.76	16	P	P	03 03 26.2	+0.3
	comp=Z,13nm,0.7s,baz=17,slow=4.4,SNR=13						
SCHQ				LR	LR	03 43 58.6	
	comp=Z,156nm,18.5s,baz=321,slow=39						
T25A	Trinidad	80.84	48	P	P	03 03 28.1	+1.1
	baz=316						
T25A	Trinidad	80.84	48	eP	P	03 03 28.3	+1.3
	comp=Z,46nm,1.3s						
E40A	Wakefield	80.84	33	P	P	03 03 26.7	+0.2
	baz=323						
STU	Stuttgart	80.84	331	eP	P	03 03 26.8	+0.3
STU				pmax	pmax		
	comp=Z,21nm,0.7s						
STU	Stuttgart	80.84	331	eP	P	03 03 26.8	+0.3
	comp=Z,21nm,0.7s						
AYDN	Tasoluk	80.84	313	iP	P	03 03 28.2	+1.4
MYKA	Terra Mystica	80.86	327	eP	P	03 03 26.6	-0.1
	comp=Z,4.9nm,0.5s						
AKAS	Kas	80.90	311	iP	P	03 03 27.3	+0.1
AKAS	Kas	80.90	311	eP	P	03 03 28.3	+1.1
	comp=Z,32nm,0.9s						
VAY	Valandovo	80.94	318	iP	P	03 03 27.6	+0.5
SKO	Skopje	81.00	319	iP	P	03 03 28.4	+0.9
G38A	Ridgeland	81.02	35	P	P	03 03 27.1	-0.5
	baz=322						
SNF	Seneffe	81.07	334	P	P	03 03 27.5	-0.1
WATA	Walderalm	81.12	328	eP	P	03 03 28.4	+0.2
	comp=Z,6.8nm,0.5s,SNR=5.9						
WTTA	Wattenberg	81.15	328	eP	P	03 03 28.8	+0.4
	comp=Z,9.7nm,0.7s						
F40A	Park Falls	81.17	34	P	P	03 03 28.1	-0.2
	baz=323						
WLF	Walferdange	81.17	333	eP	P	03 03 28.3	+0.1
WLF				MLR	MLR		
	comp=Z,756nm,19.0s						
WLF	Walferdange	81.17	333	eP	P	03 03 28.3	+0.1
WLF				LR	LR		
	comp=Z,756nm,19.0s						
E41A	Kenton	81.20	33	P	P	03 03 28.0	-0.5
	baz=324						
LAZ	Ladron	81.22	51	eP	P	03 03 30.1	+1.1
LAZ				epP	sP	03 03 50.3	-0.7
ABTA	Abfaltersbach	81.22	328	eP	P	03 03 29.0	+0.3
	comp=Z,12nm,1.2s						
ANMO	Albuquerque	81.23	51	P	P	03 03 30.1	+1.0
	baz=315						
ANMO	Albuquerque	81.23	51	ceP	P	03 03 30.4	+1.3
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ANMO	Albuquerque	81.23	51	eP	P	03 03 31.0	+1.9
	comp=Z,38nm,1.4s						
I37A	Lemond, Waseca	81.25	37	P	P	03 03 29.6	+0.9
	baz=322						
MOTA	Moosalm	81.30	329	eP	P	03 03 29.9	+0.7
	comp=Z,12nm,0.6s,SNR=15						
RETA	Reutte	81.31	329	eP	P	03 03 30.1	+1.0
	comp=Z,24nm,1.1s,SNR=7.0						
BDRM	Kayabasi	81.52	313	iP	P	03 03 37.2	+6.9
BFO	Black Forest	81.52	331	iP	P	03 03 31.9	+1.7
BFO	Black Forest	81.52	331	eP	P	03 03 29.5	-0.7
	comp=Z,42nm,1.6s						
BFO				LR	LR		
	comp=Z,265nm,19.0s						
KRUS	Krusevo	81.55	319	eP	P	03 03 30.6	0.0
G40A	Rib Lake	81.65	34	P	P	03 03 30.4	-0.5
	baz=323						
E42A	Champion	81.66	32	P	P	03 03 30.4	-0.5
	baz=325						
H39A	Augusta	81.66	35	P	P	03 03 30.9	0.0
	baz=323						
DAT	Datca	81.68	312	iP	P	03 03 26.0	-5.3
PDG	Podgorica	81.70	321	↑iP	P	03 03 31.8	+0.7
I38A	Scanlan Farm,	81.70	36	P	P	03 03 31.2	0.0
	baz=322						
FETA	Feichten	81.71	329	eP	P	03 03 31.9	+0.6
	comp=Z,23nm,1.1s,SNR=6.5						
F41A	Three Lakes	81.73	33	P	P	03 03 31.6	+0.3
	baz=324						
DAVA	Damuels	81.81	329	eP	P	03 03 32.3	+0.4
	comp=Z,25nm,0.9s,SNR=8.8						
OHR	Ohrid	81.97	319	iP	P	03 03 31.9	-0.8
ECH	Echery	82.04	331	eP	P	03 03 33.3	+0.4
319A	Douglas	82.05	55	eP	P	03 03 35.6	+2.3
E43A	Lone Tree Farm	82.07	32	P	P	03 03 32.3	-0.7
	baz=325						
STON	Ston	82.08	322	P	P	03 03 32.1	-1.0
H40A	Chili	82.09	35	P	P	03 03 32.4	-0.8
	baz=323						
K37A	Belmond	82.11	38	P	P	03 03 33.6	+0.2
	baz=322						
CBKS	Cedar Bluff	82.13	44	eP	P	03 03 33.8	+0.2
CBKS				pmax	pmax		
	comp=Z,31nm,0.8s						
CBKS				MLR	MLR		
	comp=Z,439nm,20.0s						
CBKS	Cedar Bluff	82.13	44	eP	P	03 03 33.8	+0.2
	comp=Z,31nm,0.8s						
CBKS				LR	LR		
	comp=Z,439nm,20.0s						
121A	Cookes Peak, D	82.15	53	P	P	03 03 35.3	+1.4
	baz=315						
121A	Cookes Peak, D	82.15	53	eP	P	03 03 35.3	+1.4
	comp=Z,42nm,1.4s						
M35A	Neola	82.15	40	P	P	03 03 34.0	+0.4
	baz=320						
I39A	Houston	82.21	36	P	P	03 03 33.8	0.0
	baz=323						
FUORN	Ofenpass-Fuorn	82.22	329	eP	P	03 03 34.9	+0.8
	comp=Z,33nm,0.8s						
TIR	Tirane	82.24	320	PFAKE		03 03 50.0	+16
TIR				LR	LR		
	comp=Z,423nm,19.0s						
MOF	Molkenrain	82.36	331	eP	P	03 03 34.9	+0.3
H41A	Junction City	82.41	34	P	P	03 03 35.4	+0.5
	baz=324						
G42A	Mountain	82.42	33	P	P	03 03 34.9	0.0
	baz=324						
F43A	Flat Rock, Esc	82.45	32	P	P	03 03 34.5	-0.5
	baz=325						
THEF	They Montfort	82.45	332	eP	P	03 03 35.2	+0.2
J39A	Decorah	82.54	36	P	P	03 03 34.4	-1.1
	baz=323						
L37A	Phoenix Point,	82.56	38	P	P	03 03 34.5	-1.1
	baz=321						
F44A	Big Bay de Noc	82.62	32	P	P	03 03 36.6	+0.7
	baz=326						
N35A	Tabor	82.64	40	P	P	03 03 37.0	+0.9
	baz=320						
O34A	Beatrice	82.64	41	P	P	03 03 36.4	+0.3
	baz=320						
TUE	Stuetta	82.69	329	eP	P	03 03 37.3	+0.7
	comp=Z,20nm,1.1s						
TUE				LR	LR		
	comp=Z,1µm,19.0s						
G43A	Wallace	82.71	33	P	P	03 03 36.7	+0.4
	baz=325						
I41A	Arkdale	82.77	35	P	P	03 03 36.7	0.0
	baz=324						
AGG	Agios Georgios	82.78	317	eP	P	03 03 36.8	-0.2
AGG				pmax	pmax		
	comp=Z,42nm,1.2s						
AGG	Agios Georgios	82.78	317	eP	P	03 03 36.8	-0.2
	comp=Z,42nm,1.2s						
LOMF	Lomnic	82.89	331	eP	P	03 03 38.0	+0.6
L38A	Oak Wood Farm,	82.91	38	P	P	03 03 37.7	+0.2
	baz=322						
J40A	Soldiers Grove	82.92	36	P	P	03 03 37.4	-0.1
	baz=323						
K39A	Oelwein	82.96	37	P	P	03 03 37.3	-0.5
	baz=322						
P34A	Walnut Farm, R	83.06	42	P	P	03 03 37.8	-0.6
	baz=320						
SANT	Santorini	83.11	313	PFAKE		03 03 50.0	+11
SANT				LR	LR		
	comp=Z,240nm,20.0s						
F45A	CMU Biological	83.22	31	P	P	03 03 37.8	-1.2
	baz=326						
J41A	Loganville	83.26	35	P	P	03 03 39.5	+0.2
	baz=324						
K40A	Colesburg	83.30	36	P	P	03 03 39.0	-0.5
	baz=323						
I42A	Draeger Farm,	83.31	34	P	P	03 03 39.7	+0.2
	baz=324						
ANX	Ano Chora	83.32	317	P	P	03 03 40.5	+0.7
DSL	Palaion Diasel	83.33	318	P	P	03 03 39.5	-0.2
L39A	Vinton	83.37	37	P	P	03 03 39.4	-0.5
	baz=322						
M38A	Pleasantville	83.37	38	P	P	03 03 40.3	+0.4
	baz=322						
P35A	Duane Minner,	83.48	41	P	P	03 03 41.2	+0.8
	baz=320						
KSU1	Kansas State U	83.51	42	PFAKE		03 03 50.0	+9.3
KSU1				LR	LR		
	comp=Z,576nm,20.0s						
O36A	Bolckow	83.53	40	P	P	03 03 41.7	+0.9
	baz=321						
LAKA	Lakka	83.56	317	P	P	03 03 41.0	+0.1
GUR	Goura	83.60	316	P	P	03 03 40.7	-0.5
K41A	Shullsburg	83.74	36	P	P	03 03 42.0	+0.2
	baz=324						
L40A	Anamosa	83.77	37	P	P	03 03 41.9	0.0
	baz=323						
P36A	Good Intent, A	83.81	41	P	P	03 03 42.2	+0.1
	baz=321						
N38A	Joes South For	83.84	39	P	P	03 03 42.7	+0.4
	baz=322						
DRO	Drossia	83.91	317	P	P	03 03 43.2	+0.5
RLS	Riolos of Patr	83.96	317	P	P	03 03 43.4	+0.5
Q35A	Mercer Eighty,	83.98	42	P	P	03 03 43.7	+0.6
	baz=320						
LAST	Lasithi	83.99	313	P	P	03 03 44.1	+0.8
VLDQ	Val d'Or	84.02	25	eP	P	03 03 42.8	-0.2
	comp=Z,94nm,1.4s						
MSTX	Muskhoe	84.05	49	P	P	03 03 43.5	-0.1
	baz=317						
L41A	Preston	84.08	36	P	P	03 03 42.9	-0.6
	baz=323						
N39A	Derby Farms, D	84.12	38	P	P	03 03 43.9	+0.2
	baz=322						
M40A	Post Highland	84.16	37	P	P	03 03 43.8	-0.1
	baz=323						
MNTX	Cornudas Mount	84.18	52	P	P	03 03 44.6	+0.4
	baz=316						
MNTX	Cornudas Mount	84.18	52	eP	P	03 03 45.2	+1.0
	comp=Z,28nm,1.4s						
VLC	Villacollemand	84.20	327	PFAKE		03 04 00.0	+16
VLC				LR	LR		
	comp=Z,298nm,21.0s						
IDI	Anoyia	84.22	313	P	P	03 03 43.7	-0.7
IDI	Anoyia	84.22	313	eP	P	03 03 43.6	-0.8
	comp=Z,47nm,1.1s						
P37A	Lathrop	84.25	40	P	P	03 03 44.7	+0.2
	baz=321						
VLS	Valsamata	84.31	318	P	P	03 03 45.0	+0.2
AQU	L'Aquila	84.41	324	eP	P	03 03 45.9	+0.6
AQU				pmax	pmax		
	comp=Z,36nm,1.1s						
AQU				MLR	MLR		
	comp=Z,969nm,20.0s						
AQU	L'Aquila	84.41	324	eP	P	03 03 45.9	+0.6
	comp=Z,36nm,1.1s						
AQU				LR	LR		
	comp=Z,969nm,20.0s						
SIVA	Sivas	84.46	313	P	P	03 03 46.0	+0.5
N40A	Mertquake, Sal	84.54	38	P	P	03 03 45.9	+0.1
	baz=323						
IMMV	Iera Moni Meta	84.59	314	P	P	03 03 46.5	+0.3
P38A	Dawn	84.62	40	P	P	03 03 46.8	+0.6
	baz=322						
M41A	Milan	84.62	37	P	P	03 03 46.6	+0.4
	baz=323						
R36A	Gordon, Harris	84.66	42	P	P	03 03 46.6	+0.1
	baz=321						
PYL	PYLOS	84.70	316	P	P	03 03 46.2	-0.5
S35A	Otter Creek Ra	84.75	43	P	P	03 03 47.5	+0.6
	baz=320						
T34A	McClaskey Farm	84.80	44	P	P	03 03 47.4	+0.1
	baz=320						
BNI	Bardonecchia	84.90	330	eP	P	03 03 48.0	+0.3
BNI				pmax	pmax		
	comp=Z,19nm,1.1s						
BNI				MLR	MLR		
	comp=Z,881nm,20.0s						
BNI	Bardonecchia	84.90	330	eP	P	03 03 48.0	+0.3
	comp=Z,19nm,1.1s						
BNI				LR	LR		
	comp=Z,881nm,20.0s						
O40A	La Belle	85.01	38	P	P	03 03 47.1	-1.1
	baz=323						
N41A	Harden Midland	85.01	38	P	P	03 03 48.3	0.0
	baz=323						
Q38A	Cooks Store, C	85.10	40	P	P	03 03 48.6	-0.1
	baz=322						
P39B	Salisbury	85.10	39	P	P	03 03 48.0	-0.6
	baz=322						
CUC	Castrocucco	85.22	322	eP	P	03 03 48.1	-1.2
	comp=Z,5.9nm,0.8s						
CUC				LR	LR		
	comp=Z,198nm,20.0s						
PLDF	La Plantade	85.22	332	eP	P	03 03 50.5	+1.3
T35A	Sooner Cattle	85.23	43	P	P	03 03 50.0	+0.6
	baz=320						
AGO	Saint Agoulin	85.31	333	eP	P	03 03 49.5	-0.2
Q39A	Willow Grove F	85.34	40	P	P	03 03 49.9	+0.1
	baz=322						
P40A	Paris	85.40	39	P	P	03 03 50.0	-0.1
	baz=323						
S37A	Fort Scott	85.44	42	P	P	03 03 50.6	+0.3
	baz=321						
T36A	Boggs Farm, Ca	85.45	43	P	P	03 03 50.6	+0.1
	baz=321						
O41A	Passleys Farm,	85.47	38	P	P	03 03 50.6	+0.1
	baz=323						
SSB	Saint Sauveur	85.49	331	eP	P	03 03 51.7	+1.1
SSB				pmax	pmax		
	comp=Z,27nm,1.4s						
SSB	Saint Sauveur	85.49	331	eP	P	03 03 51.7	+1.1
	comp=Z,27nm,1.4s						
U35A	Pawnee	85.54	44	P	P	03 03 50.4	-0.6
	baz=320						
R38A	Fenwick Farm,	85.56	41	P	P	03 03 49.6	-1.4
	baz=322						
PYM	Petit Puy Mans	85.62	333	eP	P	03 03 51.3	0.0
WMOK	Wichita Mounta	85.69	46	eP	P	03 03 51.8	+0.1
WMOK				e*PP	sP	03 04 12.3	-1.5
WMOK	Wichita Mounta	85.69	46	eP	P	03 03 51.8	+0.1
WMOK				epP	sP	03 04 12.3	-1.5
URZ	Urewera	85.72	153	P	P	03 03 49.9	-1.5
	comp=Z,4.3nm,0.7s,baz=281,slow=5.2,SNR=2.9						
P41A	Barry, Barry	85.74	38	P	P	03 03 52.1	+0.2
	baz=323						
Q40A	Laux Farm, Aux	85.81	39	P	P	03 03 52.8	+0.6
	baz=323						
HDIL	Hopedale	85.84	37	P	P	03 03 52.5	+0.2
	baz=324						
R39A	Chumby, Stover	85.88	40	P	P	03 03 52.5	-0.1
	baz=322						
T37A	Cheneyville 18	85.89	42	P	P	03 03 52.4	-0.2
	baz=321						
LBL	Lubilhac	85.99	332	eP	P	03 03 53.4	+0.3
S38A	Stockton	85.99	41	P	P	03 03 53.4	+0.2
	baz=322						
P42A	Winchester	86.15	38	P	P	03 03 53.7	-0.1
	baz=324						
S39A	Bolivar	86.23	41	P	P	03 03 53.9	-0.4
	baz=322						
Q41A	Truxton	86.24	39	P	P	03 03 53.9	-0.5
	baz=323						
PPT	Papeete	86.27	117	LR	LR	03 36 15.4	
	comp=Z,511nm,19.7s,baz=342,slow=31						
T38A	Diamond	86.27	42	P	P	03 03 54.1	-0.4
	baz=322						
R40A	Maddies Statio	86.27	40	P	P	03 03 54.1	-0.4
	baz=323						
PPT2	Papeete2	86.28	117	eS	S	03 14 22.0	-3.9
	comp=Z,264nm,25.2s						
PPT2	Papeete2	86.28	117	eLR	LR	03 31 00.7	
	comp=Z,1µm,26.0s,baz=314						
PPT2	Papeete2	86.28	117	eT	T	04 38 17.0	
	comp=Z,8.7nm,0.3s						
PAE	Paea	86.33	117	eT	T	04 38 19.4	
	comp=Z,1.3nm,0.3s						
U37A	Salina	86.34	43	P	P	03 03 54.5	-0.4
	baz=321						
TUL1	Leonard	86.38	44	P	P	03 03 54.7	-0.4
	baz=321						
TIAR	Tiarei	86.41	117	eT	T	04 38 26.4	
	comp=Z,3.0nm,0.2s						
CEL	Celeste	86.56	320	eP	P	03 03 56.1	+0.1
	comp=Z,17nm,0.7s						
CEL				LR	LR		
	comp=Z,361nm,22.0s						
TRQ	Mont Tremblant	86.61	25	eP	P	03 03 56.7	+0.6
TRQ				epP	sP	03 04 15.7	-2.4
TVO	Taravao	86.63	117	eT	T	04 38 42.9	
	comp=Z,0.9nm,0.4s						
LMQ	La Malbaie	86.64	21	eP	P	03 03 55.8	-0.4
U38A	Gravette	86.68	42	P	P	03 03 56.2	-0.4
	baz=321						
R41A	Rosebud	86.69	39	P	P	03 03 56.3	-0.3
	baz=323						
S40A	Lebanon	86.71	40	P	P	03 03 55.9	-0.8
	baz=322						
T39A	Clever	86.73	41	P	P	03 03 57.2	+0.4
	baz=322						
V37A	Hulbert	86.73	43	P	P	03 03 56.9	+0.1
	baz=321						
TAOE	Nuku Hiva Isla	86.81	105	eS	S	03 14 33.5	+2.2
	comp=Z,130nm,24.7s						
TAOE	Nuku Hiva Isla	86.81	105	eLR	LR	03 31 23.8	
	comp=Z,851nm,23.0s						
TAOE	Nuku Hiva Isla	86.81	105	eT	T	04 39 10.9	
	comp=Z,15nm,0.2s						
PLVO	Plevna	86.84	27	eP	P	03 03 57.2	+0.1
	comp=Z,37nm,1.6s						
TX31	Lajitas Ar. Si	86.90	53	eP	P	03 03 59.1	+1.2
TXAR	Lajitas Array	86.90	53	P	P	03 03 58.8	+0.9
	comp=Z,1.9nm,0.7s,baz=294,slow=3.7,SNR=27						
X35A	Drake	86.92	45	P	P	03 03 57.7	-0.1
	baz=320						
CCM	Cathedral Cave	86.95	39	eP	P	03 03 57.7	-0.1
CCM				pmax	pmax		
	comp=Z,65nm,1.7s						
CCM	Cathedral Cave	86.95	39	eP	P	03 03 57.7	-0.1
	comp=Z,64nm,1.7s						
SFIN	Lafayette	86.95	35	P	P	03 03 58.3	+0.5
	baz=326						
R42A	Luebbering	86.98	39	P	P	03 03 58.2	+0.2
	baz=323						
P44A	Sand Creek, Wi	87.03	37	P	P	03 03 58.2	0.0
	baz=325						
T40A	Mansfield	87.05	41	P	P	03 03 57.7	-0.6
	baz=322						
S41A	Jillco Farms,	87.08	40	P	P	03 03 57.9	-0.6
	baz=323						
X36A	Centrahoma	87.11	45	P	P	03 03 58.5	-0.2
	baz=320						
V38A	Canehill	87.12	43	P	P	03 03 58.1	-0.6
	baz=321						
W37B	Quinton	87.16	44	P	P	03 03 59.5	+0.6
	baz=321						
U39A	Green Forest	87.18	42	P	P	03 03 58.1	-1.0
	baz=322						
R43A	Red Bud	87.39	38	P	P	03 03 59.7	-0.3
	baz=324						
S42A	Caledonia	87.39	39	P	P	03 03 59.3	-0.6
	baz=323						
T41A	Mountain View	87.51	40	P	P	03 04 00.4	-0.1
	baz=323						
U40A	Yellville	87.52	41	P	P	03 04 00.2	-0.5
	baz=322						
V39A	Pettigrew	87.53	42	P	P	03 03 59.9	-0.8
	baz=322						
R44A	Waltonville	87.81	38	P	P	03 04 02.5	+0.6
	baz=324						
OLIL	Olney	87.86	37	eP	P	03 04 03.7	+1.6
	comp=Z,18nm,0.8s						
S43A	Fulton Ridge,	87.89	39	P	P	03 04 02.4	0.0
	baz=324						
U41A	Viola	87.98	41	P	P	03 04 02.6	-0.3
	baz=323						
Z36A	Blue Ridge	88.07	46	P	P	03 04 03.8	+0.5
	baz=320						
S44A	Carbondale	88.17	38	P	P	03 04 03.9	+0.2
	baz=324						
T43A	Greenville	88.18	39	P	P	03 04 03.6	-0.1
	baz=324						
V41A	Mountainview	88.31	41	P	P	03 04 04.3	-0.1
	baz=323						
JCT	Junction City	88.32	50	eP	P	03 04 05.0	+0.4
JCT	Junction City	88.32	50	eP	P	03 04 05.0	+0.4
W40A	Ferguson Farm,	88.32	42	P	P	03 04 04.0	-0.4
	baz=322						
X39A	Fountain Ranch	88.33	43	P	P	03 04 04.6	+0.1
	baz=322						
CLTB	Caltabellotta	88.36	322	PFAKE		03 04 20.0	+15
CLTB				LR	LR		
	comp=Z,174nm,19.0s						
VSL	Villasalto	88.49	325	PFAKE		03 04 20.0	+15
VSL				LR	LR		
	comp=Z,522nm,20.0s						
MIAR	Mount Ida	88.58	43	P	P	03 04 05.6	-0.1
	baz=322						
MIAR	Mount Ida	88.58	43	eP	P	03 04 06.8	+1.1
MIAR				pmax	pmax		
	comp=Z,20nm,1.2s						
MIAR	Mount Ida	88.58	43	eP	P	03 04 06.8	+1.1
	comp=Z,20nm,1.2s						
WHAR	Wooly Hollow	88.64	42	eP	P	03 04 06.7	+0.7
	comp=Z,26nm,1.2s						
W41B	Gary Mavity, V	88.75	42	P	P	03 04 06.5	+0.1
	baz=323						
Y39A	Lockesburg	88.78	44	P	P	03 04 06.7	+0.1
	baz=322						
ACSO	Alum Creek Sta	88.81	33	eP	P	03 04 07.3	+0.7
	comp=Z,22nm,0.8s						
X40A	Basin Creek Fa	89.00	43	P	P	03 04 07.6	-0.1
	baz=322						
M54A	Oil Creek Stat	89.01	30	P	P	03 04 07.8	+0.2
	baz=330						

PKME	Peaks-Kenny Pk	89.02	22	PFAKE		03 04 20.0	+12
PKME				LR	LR		
comp=Z,874nm,22.0s							
WCI	Wyandotte Cave	89.08	36	*e*P	P	03 04 07.8	-0.2
WCI				pmax	pmax		
comp=Z,20nm,0.6s							
WCI	Wyandotte Cave	89.08	36	*e*P	P	03 04 07.8	-0.2
comp=Z,20nm,0.6s							
WDD	Wied Dalam	89.15	320	PFAKE		03 04 20.0	+12
WDD				LR	LR		
comp=Z,259nm,20.0s							
U44B	Burton Farm, H	89.23	39	P	P	03 04 08.2	-0.5
baz=324							
N54A	Moraine State	89.36	30	P	P	03 04 08.6	-0.6
baz=330							
WLAR	White Oak Lake	89.49	43	*e*P	P	03 04 11.7	+1.8
WLAR				*e*pP	sP	03 04 32.0	0.0
Y41A	Eaglette Beard	89.59	43	P	P	03 04 11.0	+0.6
baz=322							
NATX	Nacogdoches	90.18	45	PFAKE		03 04 30.0	+17
NATX				LR	LR		
comp=Z,649nm,20.0s							
Z42A	Norrel Spur, H	90.41	43	P	P	03 04 14.7	+0.4
baz=323							
SSPA	Standing Stone	90.43	29	*e*P	P	03 04 15.5	+1.3
comp=Z,22nm,1.0s							
TBI	Tubuai	90.46	121	*e*S	S	03 15 03.1	-2.0
comp=Z,200nm,29.5s							
TBI	Tubuai	90.46	121	*e*LR	LR	03 32 47.5	
comp=Z,683nm,31.8s,baz=322							
O56A	Blue Knob Stat	90.50	30	P	P	03 04 15.0	+0.3
baz=331							
MSEY	Mahe Island	90.53	264	PFAKE		03 04 30.0	+15
MSEY				LR	LR		
comp=Z,306nm,22.0s							
N59A	State Game Lan	90.94	28	P	P	03 04 17.1	+0.5
baz=333							
Y46A	Houston	91.45	40	P	P	03 04 18.9	-0.1
baz=325							
034A	Hebbronville	91.53	51	P	P	03 04 19.1	-0.5
baz=319							
KEST	Kesra	91.64	323	P	P	03 04 19.5	-0.5
comp=Z,6.3nm,0.8s,baz=350,slow=6.2,SNR=11							
KEST				LR	LR	03 50 19.7	
comp=Z,609nm,19.5s,baz=344,slow=39							
ES19	SONSECA Array	93.32	334	*e*P	P	03 04 27.7	+0.1
ESDC	Sonseca Array	93.36	334	P	P	03 04 27.6	-0.2
comp=Z,1.4nm,0.5s,baz=23,slow=4.2,SNR=13							
ESDC				PP	PP	03 08 13.3	+1.9
comp=Z,2.7nm,1.1s,baz=29,slow=9.2,SNR=7.4							
ESDC				LR	LR	03 52 11.7	
comp=Z,251nm,19.5s,baz=45,slow=39							
PAB	San Pablo	93.60	335	PFAKE		03 04 40.0	+11
PAB				LR	LR		
comp=Z,576nm,22.0s							
MTE	Manteigas	93.80	337	PFAKE		03 04 40.0	+10
MTE				LR	LR		
comp=Z,345nm,19.0s							
GOGA	Godfrey	94.36	37	PFAKE		03 04 40.0	+7.5
GOGA				LR	LR		
comp=Z,503nm,22.0s							
RTC	Rabat Centre	99.49	334	PFAKE		03 05 10.0	+14
RTC				LR	LR		
comp=Z,2μm,20.0s							
RKT	Rikitea	100.01	112	*e*SKSac	SKSac	03 15 35.0	+3.1
comp=Z,93nm,38.0s							
RKT				*e*SP	SP	03 17 56.3	-0.7
comp=Z,514nm,38.8s							
RKT	Rikitea	100.01	112	*e*LR	LR	03 37 16.4	
comp=Z,618nm,31.5s,baz=303							
KMBO	Kilima Mbogo	101.81	279	P	Pdif	03 05 06.5	0.0
comp=Z,1.5nm,0.4s,baz=14,slow=8.5,SNR=5.5							
KMBO	Kilima Mbogo	101.81	279	*i* P	Pdif	03 05 07.8	+1.2
KMBO				pmax	pmax		
comp=Z,1.0nm,0.3s							
KMBO	Kilima Mbogo	101.81	279	P	Pdif	03 05 06.5	0.0
KMBO				LR	LR		
comp=Z,128nm,20.0s							
TAM	Tamanrasset	104.30	319	PFAKE		03 05 30.0	+13
TAM				LR	LR		
comp=Z,170nm,22.0s							
GTBY	Guantanamo Bay	109.71	37	PFAKE		03 10 00.0	
GTBY				LR	LR		
comp=Z,420nm,21.0s							
GRTK	Grand Turk	110.02	33	PFAKE		03 10 00.0	
GRTK				LR	LR		
comp=Z,270nm,21.0s							
SDDR	Presa de Saban	112.21	34	PFAKE		03 10 00.0	
SDDR				LR	LR		
comp=Z,303nm,22.0s							
TORD	Torodi Ar. Bea	114.37	317	PKiKP	PKiKP	03 09 51.4	-1.4
comp=Z,0.5nm,0.5s,baz=31,slow=1.8,SNR=11							
TORD				PP	PP	03 10 40.6	-7.8
comp=Z,4.0nm,1.0s,baz=25,slow=6.2,SNR=5.3							
SJG	San Juan	115.04	30	PFAKE		03 10 10.0	+16
SJG				LR	LR		
comp=Z,160nm,22.0s							
BCIP	Isla Barro Col	116.47	47	PFAKE		03 10 10.0	+13
BCIP				LR	LR		
comp=Z,256nm,19.0s							
LSZ	Lusaka	117.80	274	*e*PKIKP	PKPdf	03 09 59.4	+0.1
LSZ	Lusaka	117.80	274	*e*PKPdf	PKPdf	03 09 59.4	+0.1
VNDA	Vanda	119.53	175	PKP	PKPdf	03 10 00.1	-0.6
comp=Z,0.7nm,0.9s,baz=316,slow=6.1,SNR=4.7							
FDF	Fort de France	119.92	26	PFAKE		03 10 20.0	+17
FDF				LR	LR		
comp=Z,196nm,20.0s							
SBA	Scott Base	120.20	174	PFAKE		03 10 10.0	+8.0
SBA				LR	LR		
comp=Z,230nm,22.0s							
SDV	Santo Domingo	121.42	39	*e*PKPdf	PKPdf	03 10 06.6	+0.1
SDV				LR	LR		
comp=Z,199nm,20.0s							
SACV	Santiago Islan	122.12	344	PFAKE		03 10 20.0	+12
SACV				LR	LR		
comp=Z,156nm,21.0s							
GRGR	Grenville	122.18	28	PFAKE		03 10 20.0	+12
GRGR				LR	LR		
comp=Z,206nm,20.0s							
DBIC	Dimbokro	123.19	320	PKP	PKPdf	03 10 08.9	-0.8
comp=Z,6.8nm,1.0s,baz=94,slow=5.7,SNR=3.7							
OTAV	Otavalo	124.53	52	*e*PKPdf	PKPdf	03 10 13.6	+0.7
OTAV				LR	LR		
comp=Z,189nm,21.0s							
TSUM	Tsumeb	128.14	278	PFAKE		03 10 30.0	+11
TSUM				LR	LR		
comp=Z,112nm,21.0s							
QSPA	South Pole Qui	131.40	180	PFAKE		03 10 40.0	+16
QSPA				LR	LR		
comp=Z,328nm,19.0s							
NNA	Nana	135.00	60	PFAKE		03 10 40.0	+7.9
NNA				LR	LR		
comp=Z,151nm,21.0s							
ASCN	Ascension	140.46	322	PFAKE		03 10 50.0	+7.8
ASCN				LR	LR		
comp=Z,740nm,20.0s							
SAML	Samuel	140.52	42	*e*PKPdf	PKPdf	03 10 42.5	+0.2
SAML				LR	LR		
comp=Z,241nm,20.0s							
LPAZ	La Paz	143.75	55	PKP	PKPbc	03 10 46.4	0.0
comp=Z,2.1nm,0.8s,baz=358,slow=5.1,SNR=4.1							
SNAA	Sanae	145.31	199	*e*PKIKP	PKPab	03 10 49.2	0.0
SNAA	Sanae	145.31	199	*e*PKPbc	PKPab	03 10 49.2	0.0
SIV	San Ignacio	147.56	45	PKPbc	PKPdf	03 10 55.4	+1.0
comp=Z,20nm,0.9s,baz=315,slow=1.7,SNR=22							
LVC	Limon Verde	147.85	63	PKPbc	PKPbc	03 10 57.9	-0.3
comp=Z,19nm,1.0s,baz=303,slow=6.0,SNR=2.8							
LVC	Limon Verde	147.85	63	*e*PKPbc	PKPbc	03 10 59.0	+0.7
LCO	Las Campanas	150.61	75	*e*PKPbc	PKPbc	03 11 05.2	+0.3
LCO				*e*PKPab	PKPab	03 11 11.7	-0.1
LCO				LR	LR		
comp=Z,282nm,21.0s							
SPB	Sao Paulo	160.31	27	PFAKE		03 11 20.0	+7.9
SPB				LR	LR		
comp=Z,309nm,20.0s							
HOPE	Hope Point	167.33	184	PFAKE		03 11 30.0	+12
HOPE				LR	LR		
comp=Z,157nm,19.0s							

CSEM ***07*** *03:02:04.4, 35.°01N×24.°45E, h28km, ML0.8/3*
ATH 07 03:02:04.4, 35.°01N×24.°45E, h28km±5km, ML0.8/3, Error ellipse: s-maj=5.1km s-min=1.1km az=159.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.30	88	P	Pb	03 02 12.1	+0.5
SIVA				S	Sb	03 02 17.2	+0.7
SIVA				AML	AML	03 02 17.6	
comp=E,62μm,0.3s							
SIVA				AML	AML	03 02 17.7	
comp=N,71μm,0.3s							
SIVA	Sivas	0.30	88	P	Pb	03 02 12.1	+0.5
SIVA				S	Sb	03 02 17.2	+0.7
GVD	Gavdhos	0.34	240	P	Pb	03 02 12.4	+0.2
GVD				S	Sb	03 02 17.7	+0.2
GVD				AML	AML	03 02 18.8	
comp=N,66μm,0.3s							
GVD				AML	AML	03 02 20.3	
comp=E,50μm,0.2s							
GVD	Gavdhos	0.34	240	P	Pb	03 02 12.4	+0.2
GVD				S	Sb	03 02 17.7	+0.2
VAM	Vamos	0.45	333	P	Pb	03 02 14.0	+0.2
VAM				S	Sb	03 02 20.8	+0.6
VAM	Vamos	0.45	333	P	Pb	03 02 14.0	+0.2
VAM				S	Sb	03 02 20.8	+0.5
IDI	Anoyia	0.46	52	P	Pb	03 02 13.9	-0.2
IDI				S	Sb	03 02 21.1	+0.4
IDI				AML	AML	03 02 21.8	
comp=E,10μm,0.1s							
IDI				AML	AML	03 02 22.6	
comp=N,14μm,0.4s							
IDI	Anoyia	0.46	52	P	Pb	03 02 13.9	-0.2
IDI				S	Sb	03 02 21.1	+0.4
IMMV	Iera Moni Meta	0.59	320	P	Pb	03 02 16.1	-0.1
IMMV				S	Sn	03 02 25.8	+0.1
IMMV	Iera Moni Meta	0.59	320	P	Pb	03 02 16.1	-0.1
IMMV				S	Sn	03 02 25.8	+0.1

IDC ***07*** *03:17:51.5±1.1, 36.°38N×28.°71E, h0km, mb3.6/4, mb1 3.6/9, mb1mx3.5/43, mbtmp3.5/9, ML3.6/5, Error ellipse: s-maj=23.1km s-min=16.3km az=160.0*
ISCJB ***07*** *03:17:53.6±0.4, 36.°41N±0.°02×28.°65E±0.°02, h8km±2km, mb3.4/4, Error ellipse: s-maj=3.0km s-min=2.1km az=164.6*
DDA ***07*** *03:17:54.0, 36.°44N×28.°65E, h7km, Ml3.6*
ISK ***07*** *03:17:53.5, 36.°45N×28.°68E, h3km, ML3.5*
ATH ***07*** *03:17:53.5, 36.°48N×28.°66E, h21km, ML3.2/11, Error ellipse: s-maj=1.0km s-min=0.6km az=188.0*
CSEM ***07*** *03:17:54.0±0.1, 36.°41N×28.°67E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.7km az=166.0*
THE ***07*** *03:17:55.2, 36.°41N×28.°69E, h2km±1km, ML3.4/2, Error ellipse: s-maj=1.1km s-min=0.6km az=22.0*
HLW ***07*** *03:18:00.2, 36.°05N×28.°77E, h17km±7km, Md3.0, Ml3.0*
ISC 07 03:17:53.9±0.9, 36.°41N±0.°02×28.°67E±0.°01, h11km±7km, n254, σ1.9 53/329, mb3.4/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.40	56	*e*PG	Pg	03 18 01.6	-0.3
FETY				*e*SG	Sg	03 18 07.9	+0.6
FETY	Fethiye	0.40	56	P	Pg	03 18 01.6	-0.3
FETY				*e*Sg	Sg	03 18 07.9	+0.6
FETY				S	Sb	03 18 08.3	-1.0
DALY	Dalyan (Mu¨la	0.41	358	*e*PG	Pg	03 18 01.4	-0.6
DALY				*e*SG	Sg	03 18 07.4	0.0
DALY	Dalyan (Mu¨la	0.41	358	*i* P	Pg	03 18 01.2	-0.8
DALY				*i* S	Sg	03 18 07.0	-0.5
DALY	Dalyan (Mu¨la	0.41	358	*e*Pg	Pg	03 18 01.4	-0.6
DALY				S	Sg	03 18 06.9	-0.5
DALY				*e*Sg	Sg	03 18 07.4	0.0
FETI	Fethiye-Mugla	0.44	51	*e*PG	Pg	03 18 02.1	-0.6
FETI				*e*SG	Sg	03 18 09.1	+0.5
FETI	Fethiye-Mugla	0.44	51	*e*Pg	Pg	03 18 02.1	-0.6
FETI				*e*Sg	Sg	03 18 09.1	+0.5
TURN	Turunc	0.47	353	*i* P	Pg	03 18 03.1	0.0
TURN				*i* S	Sg	03 18 10.5	+1.2
TURN	Turunc	0.47	353	P	Pg	03 18 03.1	0.0
TURN				S	Sg	03 18 10.5	+1.2
ARG	Arkhangelos	0.48	246	P	Pg	03 18 02.9	-0.5
ARG				S	Sb	03 18 12.2	+0.8
ARG				AML	AML	03 18 12.6	
comp=E,9988μm,0.2s							
ARG				AML	AML	03 18 14.4	
comp=N,5063μm,0.2s							
ARG	Arkhangelos	0.48	246	P	Pg	03 18 02.8	-0.5
ARG				S	Sb	03 18 12.2	+0.8
MRSB	Marmaris-Mugla	0.49	309	*e*PG	Pg	03 18 03.3	-0.2
MRSB				*e*SG	Sg	03 18 10.8	+0.8
MRSB	Marmaris-Mugla	0.49	309	*e*Pg	Pg	03 18 03.3	-0.2
MRSB				*e*Sg	Sg	03 18 10.8	+0.8
AKAS	Kas	0.78	103	*e*PG	Pg	03 18 09.4	+0.4
AKAS	Kas	0.78	103	*i* P	Pb	03 18 09.8	+0.3
AKAS				*i* S	Sn	03 18 22.7	+0.1
AKAS	Kas	0.78	103	*e*Pg	Pg	03 18 09.4	+0.4
AKAS	Kas	0.78	103	P	Pb	03 18 09.8	+0.3
AKAS				S	Sn	03 18 22.7	+0.1
KSL	Kastellorizon	0.78	109	P	Pb	03 18 10.0	+0.5
KSL				S	Sn	03 18 22.7	+0.1
KSL	Kastellorizon	0.78	109	P	Pb	03 18 09.6	+0.1
KSL				S	Sg	03 18 19.7	+0.4
KSL				AML	AML	03 18 26.1	
comp=N,3128μm,0.5s							
KSL				AML	AML	03 18 26.5	
comp=E,3417μm,0.5s							
DATC	Datca-Mugla	0.88	294	*e*PG	Pg	03 18 11.3	+0.3
DATC	Datca-Mugla	0.88	294	*e*Pg	Pg	03 18 11.3	+0.3
DAT	Datca	0.93	290	*e*PG	Pg	03 18 11.9	-0.1
DAT	Datca	0.93	290	*i* P	Pg	03 18 11.4	-0.6
DAT				*i* S	Sb	03 18 25.2	+0.6
DAT	Datca	0.93	290	P	Pg	03 18 11.4	-0.6
DAT	Datca	0.93	290	*e*Pg	Pg	03 18 11.9	-0.1
DAT				S	Sb	03 18 25.2	+0.6
GLHS	Glhisar (BURDU	1.00	42	*e*PG	Pg	03 18 11.9	-1.3
GLHS	Glhisar (BURDU	1.00	42	*e*Pg	Pg	03 18 11.9	-1.3
ELL	Elmali	1.05	71	*e*PG	Pg	03 18 14.0	-0.2
ELL	Elmali	1.05	71	*e*Pg	Pg	03 18 14.0	-0.2
TAVA	DENIZLI_Tavas	1.07	10	*i* P	Pg	03 18 13.6	-1.0
TAVA				*i* S	Sb	03 18 29.6	+1.0
TAVA	DENIZLI_Tavas	1.07	10	P	Pg	03 18 13.6	-1.0
TAVA				S	Sb	03 18 29.6	+1.0
GOLH	Golhisar	1.09	41	*i* P	Pg	03 18 14.0	-1.0
GOLH				*i* S	Sn	03 18 32.8	+2.4
GOLH	Golhisar	1.09	41	P	Pg	03 18 14.0	-1.0
GOLH				S	Sn	03 18 32.8	+2.4
MLSB	Milas	1.14	321	*e*PN	Pg	03 18 15.3	-0.4
MLSB	Milas	1.14	321	*e*Pn	Pg	03 18 15.4	-0.4
BDRM	Kayabasi	1.18	304	*i* P	Pg	03 18 16.6	-0.1
BDRM				*i* S	Sg	03 18 32.1	+0.1
BDRM	Kayabasi	1.18	304	P	Pg	03 18 16.6	-0.1
BDRM				S	Sg	03 18 32.1	+0.1
NIS1	Nisyros Isl.	1.22	280	*e*PN	Pg	03 18 17.5	+0.2
NIS1	Nisyros Isl.	1.22	280	P	Pg	03 18 17.3	0.0
NIS1				S	Sg	03 18 31.6	-1.6
NIS1				AML	AML	03 18 44.5	
comp=E,6444μm,0.4s							
NIS1				AML	AML	03 18 46.2	
comp=N,9239μm,0.7s							
NIS1	Nisyros Isl.	1.22	280	P	Pg	03 18 17.3	0.0
NIS1				S	Sg	03 18 31.6	-1.6
NISR	Nisiros	1.26	280	P	Pg	03 18 16.9	-1.2
NISR				S	Sb	03 18 35.0	+1.2
NISR				AML	AML	03 18 39.6	
comp=N,1623μm,0.7s							
NISR				AML	AML	03 18 41.0	
comp=E,2895μm,0.5s							
NISR	Nisiros	1.26	280	P	Pg	03 18 16.9	-1.2
NISR				S	Sb	03 18 35.0	+1.2
BODT	Bodrum	1.27	301	*e*PN	Pg	03 18 17.9	-0.5
BODT	Bodrum	1.27	301	*e*Pn	Pg	03 18 17.9	-0.5
DNZL	Cakiroluk	1.31	13	*i* P	Pg	03 18 18.2	-1.0
DNZL				*i* S	Sn	03 18 37.9	+1.9
DNZL	Cakiroluk	1.31	13	P	Pg	03 18 18.2	-1.0
DNZL				S	Sn	03 18 37.9	+1.9
AYDN	Tasoluk	1.40	333	*i* P	Pn	03 18 20.3	+0.9
AYDN				*i* S	Sn	03 18 39.4	+1.5
AYDN	Tasoluk	1.40	333	P	Pn	03 18 20.3	+0.9
AYDN				S	Sn	03 18 39.4	+1.5
KORT	Korkueli	1.47	66	*e*PN	Pn	03 18 21.6	+1.1
KORT	Korkueli	1.47	66	*i* P	Pg	03 18 22.3	0.0
KORT				*i* S	Sn	03 18 45.6	+5.7
KORT	Korkueli	1.47	66	*e*Pn	Pn	03 18 21.6	+1.1
KORT	Korkueli	1.47	66	P	Pg	03 18 22.3	0.0
KORT				S	Sn	03 18 45.6	+5.7
KARP	Karpathos	1.50	235	*e*PN	Pb	03 18 22.6	+0.9
KARP	Karpathos	1.50	235	P	Pn	03 18 21.7	+1.0
KARP				S	Sb	03 18 42.1	+1.4
KARP	Karpathos	1.50	235	P	Pn	03 18 21.5	+0.8
KARP				S	Sg	03 18 42.6	+0.5
KARP				AML	AML	03 18 49.3	
comp=N,1646μm,0.3s							
KARP				AML	AML	03 18 49.7	
comp=E,1425μm,0.5s							
KARP	Karpathos	1.50	235	P	Pn	03 18 21.7	+1.0
KARP	Karpathos	1.50	235	*e*Pn	Pb	03 18 22.6	+0.9
KARP				S	Sb	03 18 42.1	+1.4
AYDB	Zeytinkoy-Aydi	1.66	338	*e*PN	Pn	03 18 24.3	+1.3
AYDB	Zeytinkoy-Aydi	1.66	338	*e*Pn	Pn	03 18 24.3	+1.3
ANTB	Antalya	1.67	72	*e*PN	Pn	03 18 24.3	+1.3
ANTB	Antalya	1.67	72	*e*Pn	Pn	03 18 24.3	+1.3
BRDR	BURDUR-Merkez	1.70	41	*i* P	Pb	03 18 25.4	+0.2
BRDR				*i* S	Sg	03 18 49.9	+1.3
BRDR	BURDUR-Merkez	1.70	41	P	Pb	03 18 25.4	+0.2
BRDR				S	Sg	03 18 49.9	+1.3
GCAM	G?zelcaml?	1.73	319	*i* P	Pn	03 18 24.2	+0.4
GCAM				*i* S	Sn	03 18 47.5	+1.7
GCAM	G?zelcaml?	1.73	319	P	Pn	03 18 24.2	+0.4
GCAM				S	Sn	03 18 47.5	+1.7
BCK	Bucak	1.86	55	*e*PN	Pn	03 18 26.9	+1.1
BCK	Bucak	1.86	55	*e*Pn	Pn	03 18 26.9	+1.1
SMG	Samos	1.96	312	P	Pn	03 18 27.9	+0.9
SMG				S	Sn	03 18 53.5	+1.9
SMG	Samos	1.96	312	P	Pn	03 18 26.8	-0.3
SMG				S	Sn	03 18 51.3	-0.2
SMG				AML	AML	03 18 57.6	
comp=E,1206μm,0.3s							
SMG				AML	AML	03 18 57.8	
comp=N,1206μm,0.3s							
SMG	Samos	1.96	312	P	Pn	03 18 27.9	+0.9
SMG				S	Sn	03 18 53.5	+1.9
KHAL	Karahalli	2.06	18	*i* P	Pn	03 18 29.3	+0.7
KHAL				*i* S	Sn	03 18 55.2	+0.8
KHAL	Karahalli	2.06	18	P	Pn	03 18 29.3	+0.7
KHAL				S	Sn	03 18 55.2	+0.8
MANT	Manisa	2.08	358	*i* P	Pn	03 18 29.3	+0.4
MANT	Manisa	2.08	358	P	Pn	03 18 29.3	+0.4
KULA	Kula-Manisa	2.10	360	*e*PN	Pn	03 18 30.4	+1.3
KULA	Kula-Manisa	2.10	360	P	Pn	03 18 29.8	+0.7
KULA	Kula-Manisa	2.10	360	P	Pn	03 18 29.8	+0.7
KULA	Kula-Manisa	2.10	360	*e*Pn	Pn	03 18 30.4	+1.3
SUTC	Sutluce-Ispart	2.15	60	*e*PN	Pn	03 18 31.0	+1.2
SUTC	Sutluce-Ispart	2.15	60	*e*Pn	Pn	03 18 31.0	+1.2
DGB	˜zmir	2.17	320	*i* P	Pn	03 18 31.0	+1.0
DGB				*i* S	Sn	03 18 56.5	-0.4
KZIL	AFYON_Kizioren	2.19	32	*i* P	Pn	03 18 32.0	+1.7
KZIL	AFYON_Kizioren	2.19	32	P	Pn	03 18 32.0	+1.7
BAGO	Egridir - ISPA	2.31	46	*i* P	Pn	03 18 33.8	+1.7
ZKR	Zakros	2.38	238	P	Pn	03 18 34.7	+1.9
ZKR				S	Sn	03 19 03.7	+1.8
ZKR				AML	AML	03 19 14.9	
comp=E,411μm,0.4s							
ZKR				AML	AML	03 19 17.6	
comp=N,310μm,0.6s							
ZKR	Zakros	2.38	238	P	Pn	03 18 34.7	+1.9
ZKR				S	Sn	03 19 03.7	+1.8
ZEY	˜zmir	2.51	317	*i* P	Pn	03 18 36.0	+1.3
ZEY				*i* S	Sn	03 19 05.9	+0.7
URLA	Izmir	2.55	320	*e*PN	Pn	03 18 36.7	+1.5
URLA	Izmir	2.55	320	*i* P	Pn	03 18 37.0	+1.7
URLA				*i* S	Sn	03 19 07.6	+1.3
URLA	Izmir	2.55	320	*e*Pn	Pn	03 18 36.7	+1.5
URLA	Izmir	2.55	320	P	Pn	03 18 37.0	+1.7
URLA				S	Sn	03 19 07.6	+1.3
AKHS	Akhisar	2.56	345	*i* P	Pn	03 18 35.6	+0.3
AKHS				*i* S	Sn	03 19 06.4	0.0
AKHS	Akhisar	2.56	345	P	Pn	03 18 35.6	+0.3
AKHS				S	Sn	03 19 06.4	0.0
SANT	Santorini	2.59	270	P	Pn	03 18 36.1	+0.4
SANT	Santorini	2.59	270	P	Pn	03 18 36.2	+0.4
SAP2K	Karterados	2.60	271	P	Pn	03 18 36.9	+1.0
APE	Apeiranthos	2.60	286	P	Pn	03 18 36.0	0.0
APE				S	Sn	03 19 06.5	-1.1
APE				AML	AML	03 19 11.6	
comp=N,138μm,0.5s							
APE				AML	AML	03 19 11.9	
comp=E,84μm,0.5s							
APE	Apeiranthos	2.60	286	P	Pn	03 18 36.0	0.0
APE				S	Sn	03 19 06.5	-1.1
THR2	Thira island,	2.61	272	P	Pn	03 18 37.1	+1.1
THR2	Thira island,	2.61	272	P	Pn	03 18 37.1	+1.1
SHUT	Suhut-Afyon	2.61	34	*e*PN	Pn	03 18 37.4	+1.3
SHUT	Suhut-Afyon	2.61	34	*e*Pn	Pn	03 18 37.4	+1.3
THT1	Athinios (Pele	2.61	270	P	Pn	03 18 36.5	+0.4
THT1	Athinios (Pele	2.61	270	P	Pn	03 18 36.5	+0.4
THR7	Fira-Santorini	2.61	271	P	Pn	03 18 36.8	+0.7
THR7	Fira-Santorini	2.61	271	P	Pn	03 18 36.8	+0.7
DEMI	Demirci	2.63	1	*i* P	Pn	03 18 37.0	+0.6
DEMI	Demirci	2.63	1	P	Pn	03 18 37.0	+0.6
CMBO	Columbo, Santo	2.63	272	P	Pn	03 18 37.8	+1.5
CMBO	Columbo, Santo	2.63	272	P	Pn	03 18 36.5	+0.2
CMBO				P	Pn	03 18 37.1	+0.8
CMBO	Columbo, Santo	2.63	272	P	Pn	03 18 37.1	+0.8
THR3	Thira Island,	2.64	271	P	Pn	03 18 37.3	+0.9
THR3	Thira Island,	2.64	271	P	Pn	03 18 37.3	+0.9
THR6	Thira Island,	2.64	270	P	Pn	03 18 37.6	+1.2
THR6	Thira Island,	2.64	270	P	Pn	03 18 37.6	+1.2
THR6	Thira Island,	2.64	270	P	Pn	03 18 37.6	+1.2
SAP1	Santorini-Akro	2.64	270	P	Pn	03 18 37.4	+1.0
SAP1	Santorini-Akro	2.64	270	P	Pn	03 18 37.4	+1.0
THR5	Thira Island,	2.68	271	P	Pn	03 18 37.9	+0.9
THR5	Thira Island,	2.68	271	P	Pn	03 18 37.9	+0.9
NPS	Neapolis	2.73	246	P	Pn	03 18 39.3	+1.6
NPS	Neapolis	2.73	246	P	Pn	03 18 39.0	+1.2
NPS				S	Sn	03 19 13.3	+2.5
NPS				AML	AML	03 19 15.8	
comp=N,592μm

SERI	Serifos	3.44 284	P	Pn	03 18 48.1	+0.6
SERI	Serifos	3.44 284	P	Pn	03 18 48.1	+0.6
LADK	Ladik-KONYA	3.45 58	*e*PN	Pn	03 18 49.5	+1.9
LADK	Ladik-KONYA	3.45 58	*e*Pn	Pn	03 18 49.5	+1.9
MHLO	Agia Marina, M	3.45 276	P	Pn	03 18 48.8	+1.3
MHLO	Agia Marina, M	3.45 276	P	Pn	03 18 48.8	+1.3
SIGR	SIGRI	3.58 322	P	Pn	03 18 51.2	+1.9
SIGR	SIGRI	3.58 322	P	Pn	03 18 51.2	+1.9
TEKE	Tekeli-Mersin	3.60 93	*e*PN	Pn	03 18 51.2	+1.6
TEKE	Tekeli-Mersin	3.60 93	*e*Pn	Pn	03 18 51.2	+1.6
BERE	Bereket-Mersin	3.67 90	*e*PN	Pn	03 18 53.1	+2.3
BERE	Bereket-Mersin	3.67 90	*e*Pn	Pn	03 18 53.1	+2.3
BAYC	CANAKKALE_Bayr	3.72 334	*i* P	Pn	03 18 52.6	+1.3
BAYC			*i* S	Sn	03 19 35.2	0.0
BAYC	CANAKKALE_Bayr	3.72 334	P	Pn	03 18 52.6	+1.3
BAYC			S	Sn	03 19 35.2	0.0
VAM	Vamos	3.76 256	P	Pn	03 18 52.3	+0.4
VAM	Vamos	3.76 256	P	Pn	03 18 52.3	+0.4
SVRH	Sivrihisar-ESK	3.78 36	*e*PN	Pn	03 18 54.1	+1.9
SVRH	Sivrihisar-ESK	3.78 36	*e*Pn	Pn	03 18 54.1	+1.9
TEVE	Tevekalti-Mers	3.85 88	*e*PN	Pn	03 18 55.5	+2.4
TEVE	Tevekalti-Mers	3.85 88	*e*Pn	Pn	03 18 55.5	+2.4
IMMV	Iera Moni Meta	3.92 257	P	Pn	03 18 55.1	+1.1
IMMV	Iera Moni Meta	3.92 257	P	Pn	03 18 55.1	+1.1
IMMV	Iera Moni Meta	3.92 257	P	Pn	03 18 55.1	+1.1
GVD	Gavdhos	4.05 249	P	Pn	03 18 57.5	+1.7
GVD	Gavdhos	4.05 249	P	Pn	03 18 57.5	+1.7
ANKY	Antikythira Is	4.38 264	P	Pn	03 19 01.9	+1.7
ANKY	Antikythira Is	4.38 264	P	Pn	03 19 02.0	+1.7
LIA	Limnos Island	4.43 323	P	Pn	03 19 02.5	+1.4
LIA	Limnos Island	4.43 323	P	Pn	03 19 02.1	+1.0
LIA	Limnos Island	4.43 323	P	Pn	03 19 02.1	+1.0
KYTH	Kithira	4.54 270	P	Pn	03 19 05.1	+2.5
VILL	Villia	4.62 294	P	Pn	03 19 04.3	+0.7
VLI	Veliai	4.62 276	P	Pn	03 19 05.5	+1.8
VLI	Veliai	4.62 276	P	Pn	03 19 05.5	+1.8
VIL2	Platees	4.67 294	P	Pn	03 19 04.3	0.0
SMTH	Samothraki Isl	4.74 330	P	Pn	03 19 06.4	+1.0
SMTH	Samothraki Isl	4.74 330	P	Pn	03 19 06.4	+1.0
ALN	Alexandroupoli	4.93 336	P	Pn	03 19 09.6	+1.7
ALN	Alexandroupoli	4.93 336	P	Pn	03 19 09.6	+1.7
SKIA	Skiathos	4.96 305	P	Pn	03 19 09.6	+1.4
SKIA	Skiathos	4.96 305	P	Pn	03 19 09.6	+1.4
BRTR	Keskin Array B	5.13 48	Pn	Pn	03 19 12.5	+1.7
	comp=N,0.8nm,0.3s,baz=220,slow=15,SNR=19					
BRTR			Sn	Sn	03 20 11.6	+1.5
	comp=N,1.5nm,0.3s,baz=216,slow=26,SNR=15					
MATC	Matruh	5.19 194	P	Pn	03 19 11.1	-0.4
	baz=196					
XOR	Xorichti	5.24 306	P	Pn	03 19 12.3	+0.1
XOR	Xorichti	5.24 306	P	Pn	03 19 12.3	+0.1
TRIP	Tripoli	5.24 284	P	Pn	03 19 12.6	+0.3
TRIP	Tripoli	5.24 284	P	Pn	03 19 12.6	+0.3
FYTO	Fytoko, Volos	5.43 305	P	Pn	03 19 15.5	+0.7
FYTO	Fytoko, Volos	5.43 305	P	Pn	03 19 15.5	+0.7
KLV	Kalavryta, Ach	5.45 289	P	Pn	03 19 17.6	+2.5
KLV	Kalavryta, Ach	5.45 289	P	Pn	03 19 17.6	+2.5
ITM	Ithomi	5.46 280	P	Pn	03 19 17.6	+2.3
ITM	Ithomi	5.46 280	P	Pn	03 19 17.6	+2.3
KALE	Kalithea	5.56 293	P	Pn	03 19 18.6	+2.0
KALE	Kalithea	5.56 293	P	Pn	03 19 18.6	+2.0
TRIZ	Trizonia	5.60 292	P	Pn	03 19 18.9	+1.8
TRIZ	Trizonia	5.60 292	P	Pn	03 19 18.9	+1.8
LAKA	Lakka	5.64 291	P	Pn	03 19 20.8	+3.2
LAKA	Lakka	5.64 291	P	Pn	03 19 20.8	+3.2
AGG	Agios Georgios	5.66 299	P	Pn	03 19 18.7	+0.7
AGG	Agios Georgios	5.66 299	P	Pn	03 19 18.7	+0.7
SLUM	Salum	5.68 211	P	Pn	03 19 18.6	+0.3
	baz=215					
SLUM			AMP		03 20 00.0	
	comp=E,20μm,0.6s,logA/T=4.5,baz=215					
SLUM	Salum	5.68 211	P	Pn	03 19 18.6	+0.3
RLS	Riolos of Patr	5.98 288	P	Pn	03 19 24.2	+1.9
RLS	Riolos of Patr	5.98 288	P	Pn	03 19 24.2	+1.9
EVR	Evrytania	5.99 297	P	Pn	03 19 23.9	+1.3
EVR	Evrytania	5.99 297	P	Pn	03 19 23.9	+1.3
HORT	Hortiatis	6.04 315	P	Pn	03 19 23.4	+0.1
HORT	Hortiatis	6.04 315	P	Pn	03 19 23.4	+0.1
LIT	Litokhoron	6.10 309	P	Pn	03 19 24.9	+0.9
LIT	Litokhoron	6.10 309	P	Pn	03 19 24.9	+0.9
SRS	Serrai	6.15 321	P	Pn	03 19 25.7	+1.1
SRS	Serrai	6.15 321	P	Pn	03 19 25.7	+1.1
NVR	Nevrokopi	6.20 324	P	Pn	03 19 27.0	+1.7
NVR	Nevrokopi	6.20 324	P	Pn	03 19 27.0	+1.7
MMAI	Mount Meron Ar	6.50 119	Pn	Pn	03 19 28.3	-1.2
	comp=E,3.8nm,0.3s,baz=299,slow=12,SNR=21					
MMAI			Sn	Sn	03 20 38.5	-5.1
	comp=E,2.9nm,0.3s,baz=308,slow=26,SNR=7.0					
KNT	Kendrikon	6.54 318	P	Pn	03 19 30.3	+0.2
KNT	Kendrikon	6.54 318	P	Pn	03 19 30.3	+0.2
VLS	Valsamata	6.68 288	P	Pn	03 19 35.4	+3.5
VLS	Valsamata	6.68 288	P	Pn	03 19 35.4	+3.5
GRG	Griva	6.68 315	P	Pn	03 19 33.7	+1.7
GRG	Griva	6.68 315	P	Pn	03 19 33.7	+1.7
LKD2	Lefkada island	6.79 293	P	Pn	03 19 35.1	+1.6
LKD2	Lefkada island	6.79 293	P	Pn	03 19 35.1	+1.6
KOT	Kottamia	6.99 157	P	Pn	03 19 35.3	-0.9
	baz=156					
KOT			S	Sn	03 20 49.5	-6.1
	baz=156					
KOT	Kottamia	6.99 157	P	Pn	03 19 35.3	-0.9
HSAF	As Saff	7.19 160	P	Pn	03 19 38.3	-0.7
	baz=159					
HSAF	As Saff	7.19 160	P	Pn	03 19 38.3	-0.7
GLL	Jalalah	7.28 159	P	Pn	03 19 39.4	-0.8
	baz=158					
GLL	Jalalah	7.28 159	P	Pn	03 19 39.4	-0.8
SWA2		7.64 202	P	Pn	03 19 45.5	+0.4
	baz=204					
SWA2			S	Sn	03 21 07.3	-4.4
	baz=204					
SWA2		7.64 202	P	Pn	03 19 45.5	+0.4
KEK	Kerkira	7.73 298	P	Pn	03 19 49.5	+3.1
KEK	Kerkira	7.73 298	P	Pn	03 19 49.5	+3.1
HNKL	Nakhl	7.85 144	S	Sn	03 21 11.7	-5.2
	baz=142					
EIL	Elat	8.54 140	Pn	Pn	03 19 54.3	-3.2
	comp=E,0.5nm,0.3s,baz=358,slow=2.3,SNR=12					
EIL			Sn	Sn	03 21 25.4	-8.4
	comp=E,1.6nm,0.3s,baz=311,slow=19,SNR=9.6					
KBZ	Khabaz	13.11 52	Pn	Pn	03 20 56.3	-3.7
	comp=E,0.2nm,0.3s,baz=260,slow=6.1,SNR=3.0					
GERES	GERESS Array B	16.57 323	Pn	Pn	03 21 46.9	+0.7
	comp=E,0.1nm,0.3s,baz=149,slow=10,SNR=2.7					
FINES	FINESS Array B	25.11 357	P	P	03 23 17.1	-1.2
	comp=E,4.2nm,0.9s,baz=160,slow=12,SNR=6.1					
ESDC	Sonseca Array	25.83 287	P	P	03 23 24.6	-0.6
	comp=E,0.2nm,0.5s,baz=77,slow=10,SNR=3.1					
TORD	Torodi Ar. Bea	33.50 233	P	P	03 24 32.9	-0.6
	comp=E,0.3nm,0.5s,baz=45,slow=7.3,SNR=4.8					
MKAR	Makanchi Array	40.70 58	P	P	03 25 33.6	-0.7
	comp=E,0.3nm,0.5s,baz=276,slow=8.4,SNR=4.2					

MAN 07 03:27:22, 9°.65N×122°.21E, h27km, mb4.4, ML3.3, MS3.2, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	1.04	21	*e*P	Pn	03 27 39.5	-1.3
GUIM				*e*S	Sn	03 27 52.6	-1.8
PAGZ	Pagadian	2.14	147	*e*P	Pb	03 27 59.2	-0.9
MSLP	Maasin	2.65	79	*e*P	Pn	03 28 04.6	+1.6
MSLP				*e*S	Sb	03 28 45.7	+4.6
SJMP	San Jose	2.99	339	*e*P	Pn	03 28 09.4	+1.8
SJMP				*e*S	Sn	03 28 33.7	-8.9
BUSP	Coron	3.06	320	*e*P	Pn	03 28 09.6	+1.0
BUSP				*e*S	Sn	03 28 44.4	+0.1
ENPP	El Nido	3.14	300	*e*P	Pn	03 28 11.3	+1.5
ENPP				*e*S	Sn	03 28 43.0	-3.4
BUKP	Musuan	3.33	122	*e*P	Pb	03 28 16.8	-3.5

*IDC **07** 03:29:25.0±1.0, 27°.60N×87°.87E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.6/53, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=44.5km s-min=17.5km az=58.0*
*ISCJB **07** 03:29:30.4±0.6, 28°.15N±0°.07×88°.46E±0°.10, h35km, mb3.8/9, Error ellipse: s-maj=14.4km s-min=6.0km az=145.0*
*NDI **07** 03:29:32.0±1.5, 27°.93N×88°.10E, h34km±14km, ML3.6*
ISC 07 03:29:32.0±0.8, **28°.01N**±0°.10×**88°.3E**±0°.1, **h35**km, **n14, σ1$49/16, mb3.8/9, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	0.74	158	*e*P	Pn	03 29 47.6	+1.5
GTK				*e*S	Sn	03 29 57.3	+1.1
GTK				AML	AML	03 29 58.1	
	comp=N,4μm,0.3s						
GTK				AML	AML	03 29 58.1	
	comp=E,4μm,0.2s						
TURI	Tura	3.06	143	*e*P	Pn	03 30 18.1	+0.3
TURI				AML	AML	03 30 53.4	
	comp=N,243nm,0.3s						
TURI				AML	AML	03 30 53.4	
	comp=E,212nm,0.3s						
SHL	Shillong	4.03	126	*e*PN	Pn	03 30 32.5	+1.1
SHL				*e*SN	Sn	03 31 17.5	+0.1
KOHI	KOHIMA	5.67	112	*e*S	Sn	03 31 56.1	-1.8
KOHI				AML	AML	03 32 44.0	
	comp=E,48nm,0.6s						
KOHI				AML	AML	03 32 44.0	
	comp=N,40nm,0.2s						
MKAR	Makanchi Array	19.34	347	P	Pn	03 33 56.2	+0.7
	comp=N,0.4nm,0.3s,baz=170,slow=9.3,SNR=11						
KURBB	Kurchatov Arra	23.77	344	P	P	03 34 42.4	+1.3
	comp=N,2.0nm,0.6s,baz=166,slow=8.8,SNR=23						
SONM	Songino Array	24.30	31	P	P	03 34 48.8	+2.6
	comp=N,1.1nm,0.8s,baz=220,slow=8.4,SNR=5.8						
ZALV	Zalesovo Beam	26.04	355	P	P	03 35 02.9	+1.1
	comp=N,2.5nm,0.9s,baz=179,slow=13,SNR=5.4						
FINES	FINESS Array B	52.57	328	P	P	03 38 41.2	-0.6
	comp=N,3.4nm,0.9s,baz=134,slow=8.2,SNR=4.4						
ARCES	ARCESS Array B	54.58	337	P	P	03 38 56.1	-0.3
	comp=N,1.5nm,0.5s,baz=100,slow=7.4,SNR=5.6						
GERES	GERESS Array B	59.61	312	P	P	03 39 31.2	-1.2
	comp=N,0.3nm,0.5s,baz=65,slow=6.3,SNR=3.9						
NOA	NORSAR Array B	59.71	327	P	P	03 39 31.0	-1.8
	comp=N,0.9nm,0.7s,baz=103,slow=8.2,SNR=2.7						
WRA	Warramunga Arr	65.23	132	P	P	03 40 08.6	-1.7
	comp=N,0.5nm,0.6s,baz=325,slow=6.6,SNR=9.1						
ASAR	Alice Springs	67.63	135	P	P	03 40 24.1	-1.5
	comp=N,0.6nm,0.7s,baz=317,slow=5.5,SNR=8.5						

*ISCJB **07** 03:39:41.5±0.5, 49°.80N±0°.04×18°.51E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=2.7km az=9.2*
*IPEC **07** 03:39:42.1±0.2, 49°.79N×18°.59E, h0km, ML1.6/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **07** 03:39:42.3±0.2, 49°.79N×18°.51E, h2km, ML2.5/4, Error ellipse: s-maj=6.8km s-min=3.3km az=8.0*
*PRU **07** 03:39:43.1, 49°.84N×18°.52E, h0km*
ISC 07 03:39:41.9±0.8, **49°.78N**±0°.04×**18°.54E**±0°.02, **h0**km, **n25, σ0$62/38, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	282	*e*PG	Pg	03 39 47.6	+0.7
OKC				*e*SG	Sg	03 39 51.9	+1.6
	comp=Z,22nm,0.4s						
OKC	Ostrava-Krasne	0.26	282	Pg	Pg	03 39 47.6	+0.7
OKC				Sg	Sg	03 39 51.9	+1.6
	22nm,0.4s						
MORC	Moravsky Berou	0.65	270	*e*Pg	Pb	03 39 55.2	-0.9
MORC				*e*Sg	Sg	03 40 03.3	+0.6
	9.8nm,0.2s						
LANS	Liptovska Anna	0.88	136	*e*Pg	Pb	03 39 59.7	-0.3
LANS	Liptovska Anna	0.88	136	*e*PG	Pb	03 39 59.7	-0.3
OJC	Ojcow	0.92	61	*e*Pg	Pg	03 39 59.3	-0.3
OJC				*e*Sg	Sg	03 40 11.6	+0.1
OJC	Ojcow	0.92	61	*e*Pg	Pg	03 39 59.3	-0.3
OJC				*e*Sg	Sg	03 40 11.6	+0.1
KRLC	Kraliky	1.17	285	*e*SG	Sb	03 40 20.8	-0.1
KRLC	Kraliky	1.17	285	Sg	Sb	03 40 20.8	-0.1
NIE	Niedzica	1.20	107	*e*Pg	Pb	03 40 05.4	-0.1
NIE				*e*Sg	Sn	03 40 23.4	+0.4
NIE	Niedzica	1.20	107	*e*Pg	Pb	03 40 05.4	-0.1
NIE				*e*Sg	Sn	03 40 23.4	+0.4
VYHS	Vyhne	1.30	171	*e*Pg	Pg	03 40 07.0	+0.1
VYHS				*e*Sn	Sn	03 40 26.0	+0.5
VYHS	Vyhne	1.30	171	*e*PG	Pg	03 40 07.0	+0.1
VYHS				*e*SN	Sn	03 40 26.0	+0.5
VYHS				*e*LG	Lg	03 40 26.8	
VRAC	Vranov	1.35	250	*e*Pg	Pg	03 40 07.8	0.0
VRAC				*e*Sg	Sg	03 40 25.5	+0.1
	5.8nm,0.1s						
DPC	Dobruska-Polom	1.54	292	*e*PG	Pn	03 40 10.5	-0.1
DPC				*e*SG	Sb	03 40 31.0	-0.3
	comp=Z,4.9nm,0.5s						
DPC	Dobruska-Polom	1.54	292	Pg	Pn	03 40 10.5	-0.1
DPC				Sg	Sb	03 40 31.0	-0.3
	4.9nm,0.5s						
KRUC	Moravsky	1.58	244	*e*Pg	Pn	03 40 11.2	+0.1
KRUC				*e*Sg	Sg	03 40 32.4	-0.1
	6.1nm,0.2s						
UPC	Upice	1.78	295	*e*SG	Sg	03 40 39.0	-0.1
UPC	Upice	1.78	295	Sg	Sg	03 40 39.0	-0.1
STHS	Stebnicka Huta	1.80	101	*e*Pn	Pg	03 40 16.7	+0.4
STHS	Stebnicka Huta	1.80	101	*e*PN	Pg	03 40 16.7	+0.4
STHS				*e*LG	Lg	03 40 50.3	
KECS	Kecovo	1.82	135	*e*Sn	Sb	03 40 39.5	0.0
KECS	Kecovo	1.82	135	*e*SN	Sb	03 40 39.5	0.0
KECS				*e*LG	Lg	03 40 41.6	
KECS				*e*LG	Lg	03 40 43.1	
KHC	Kasperske Hory	3.30	260	*e*SG	Sg	03 41 26.5	-1.5
KHC	Kasperske Hory	3.30	260	Sg	Sg	03 41 26.5	-1.5

JMA 07 03:55:46.4±0.2, 38°.37N×144°.48E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.31	289	P	Pn	03 56 23.4	+1.4
OFUJ				S	Sn	03 56 50.5	+1.3
MIYJ	Miyakonagasawa	2.40	301	P	Pn	03 56 24.4	+1.2
MIYJ				*e*S	Sn	03 56 52.2	+0.9
JIO	Ouri	2.46	273	P	Pn	03 56 25.4	+1.4
JIO				S	Sn	03 56 53.6	+0.8
JMK	Ichinoseki	2.62	284	P	Pn	03 56 27.9	+1.7
JMK				*e*S	Sn	03 56 58.3	+1.6
JOM	Ohasama	2.72	295	P	Pn	03 56 29.4	+1.8
JFT	Otama	3.38	257	*e*S	Sn	03 57 17.7	+2.1

*IDC **07** 03:56:52.0±1.1, 33°.32N×137°.65E, h340km±11km, mb3.3/6, mb1 3.4/9, mb1mx3.0/41, mbtmp3.9/9, Error ellipse: s-maj=22.5km s-min=14.0km az=95.0*
*ISCJB **07** 03:56:52.2±0.6, 33°.39N±0°.07×137°.5E±0°.1, h352km, mb3.4/6, Error ellipse: s-maj=13.4km s-min=9.1km az=25.7*
*JMA **07** 03:56:52.4±0.2, 33°.50N×137°.32E, h360km±3km, M3.1*
ISC 07 03:56:53.1±0.9, **33°.47N**±0°.09×**137°.4E**±0°.1, **h352**km, **n26, σ0$92/31, mb3.3/6, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	TONANKAI O.B.S	0.39	356	P	Pn	03 57 38.3	+1.2
TTO4	TONANKAI O.B.S	0.54	9	P	Pn	03 57 38.0	+0.7
TK02	Tokai 2	0.55	30	P	Pn	03 57 38.2	+0.9
TTO1	TONANKAI O.B.S	0.56	286	P	Pn	03 57 38.0	+0.7
TTO5	TONANKAI O.B.S	0.81	17	P	Pn	03 57 39.0	+0.8
TK04	Tokai 4	0.98	22	P	Pn	03 57 39.8	+1.0
JIE	Ise	1.10	327	P	Pn	03 57 39.7	+0.3
JKN2	Miekihoku	1.23	309	P	Pn	03 57 40.0	0.0
JKN2				S	S	03 58 16.8	-0.9
JHMK	Hamakita	1.37	11	P	Pn	03 57 40.7	+0.2
HMMJ	Hamamatsu 2	1.40	10	P	Pn	03 57 41.1	+0.2
JAO	Obara	1.80	355	P	Pn	03 57 43.6	+0.4
JOD2	Odawara 2	2.25	37	P	Pn	03 57 46.4	0.0
JWT	Wachi	2.47	318	P	Pn	03 57 48.0	0.0
JAI	Aioi	2.51	278	P	Pn	03 57 48.0	-0.4
JRY	Ryogami san	2.81	25	P	Pn	03 57 51.1	+0.2
JRY				S	S	03 58 38.2	+0.7
MAT	Matsushiro	3.13	12	P	Pn	03 57 53.4	-0.3
MAT				S	S	03 58 41.6	-1.0
MAT	Matsushiro	3.13	12	P	Pn	03 57 53.3	-0.4
MAT				S	S	03 58 41.9	-0.7
MJAR	Matsushiro Arr	3.13	12	P	Pn	03 57 53.5	-0.3
	6.6nm,0.3s,baz=187,slow=9.6,SNR=58						
MJAR				S	S	03 58 41.6	-0.9
	0.5nm,0.3s,baz=190,slow=14,SNR=7.0						
KSRS	Korea Array	8.71	300	P	Pn	03 58 56.1	+0.4
	0.2nm,0.3s,baz=106,slow=12,SNR=3.7						
USRK	Ussuriysk Ar.	11.52	340	P	Pn	03 59 29.1	+0.1
	1.4nm,0.3s,baz=138,slow=11,SNR=12						
SONM	Songino Array	27.36	311	P	P	04 02 10.5	+3.3
	0.6nm,0.6s,baz=119,slow=12,SNR=2.8						
KDAK	Kodiak Island	51.92	40	P	P	04 05 26.5	-0.1
	10nm,1.0s,baz=321,slow=2.6,SNR=7.0						
WRA	Warramunga Arr	53.20	184	P	P	04 05 34.9	-1.5
	0.6nm,0.4s,baz=1.0,slow=7.7,SNR=20						
ILAR	Eielson Array	54.23	31	P	P	04 05 43.5	+0.2
	0.5nm,0.9s,baz=252,slow=5.9,SNR=4.8						
ASAR	Alice Springs	56.92	184	P	P	04 06 01.7	-1.0
	0.7nm,0.6s,baz=12,slow=12,SNR=12						
ARCES	ARCESS Array B	66.17	339	P	P	04 07 02.9	-0.5
	5.4nm,1.0s,baz=58,slow=9.2,SNR=4.2						

MEX 07 04:07:18.8±0.6, 15°.04N×92°.83W, h71km±32km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.77	331	*e*P	Pn	04 07 32.7	-1.8
CCIG	Comitan	1.41	28	*e*P	Pn	04 07 43.8	+1.0
CCIG				*e*P	Pn	04 07 43.8	+1.0

*NNC **07** 04:24:14.4±3.0, 45°.23N×73°.71E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=24.1km s-min=10.7km az=15.0*
*SOME **07** 04:24:14.0, 45°.10N×73°.77E, h5km*
ISC 07 04:24:16.0±1.1, **44°.98N**±0°.06×**73°.84E**±0°.05, **h0**km, **n10, σ0$97/21, 5C-5D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLS	Baital	0.16	66	*e*P	Pg	04 24 18.3	-0.7
	43nm,0.1s						
BTLS				*e*S	Sg	04 24 21.6	+0.5
	73nm,0.3s						
DGS	Degeres	2.22	141	*e*P	Pb	04 24 57.5	+0.4
	1.1nm,0.3s						
DGS				*e*S	Sg	04 25 28.3	+0.9
	9.7nm,0.2s						
MRKS	Merke	2.28	191	*e*P	Pb	04 24 57.0	-1.0
	3.1nm,0.4s						
MRKS				*e*S	Sb	04 25 27.4	+0.7
	7.4nm,0.3s						
AAK	Ala-Archa	2.39	168	⇓Pn	Pb	04 24 58.3	-1.6
	2.3nm,0.7s						
AAK				⇓Sn	Sg	04 25 33.1	+0.5
	3.1nm,0.6s						
TKM2	Tokmak 2	2.42	148	⇓Pn	Pb	04 24 59.1	-1.4
	0.5nm,0.2s						
TKM2				⇓Sn	Sg	04 25 33.3	-0.2
	2.4nm,0.4s						
KST	Kastek	2.47	141	*e*P	Pb	04 25 01.5	+0.3
	1.3nm,0.3s						
KST				*e*S	Sg	04 25 36.0	+0.8
	3.2nm,0.3s						
CHKK	Chushkaly	2.52	115	*e*P	Pb	04 25 02.2	+0.1
	1.7nm,0.2s						
CHKK				*e*S	Sg	04 25 37.0	+0.1
	8.2nm,0.2s						
MNAS	Manas	2.67	202	⇑Pn	Pn	04 25 00.5	+0.1
	1.1nm,0.6s						
MNAS				⇑Sn	Sb	04 25 39.5	+1.3
	1.1nm,0.3s						
KK31	Karatay Array	3.04	233	⇓Pn	Pn	04 25 04.8	-0.7
	0.1nm,0.2s,baz=53,slow=13,SNR=5.7						
KK31				⇑Pg	Pb	04 25 11.1	+0.1
	0.2nm,0.2s,baz=52,slow=15,SNR=8.4						
KK31				⇑Sn	Sn	04 25 43.8	+1.2
	0.4nm,0.3s,baz=52,slow=24						
KK31				⇑Lg	Lg	04 25 53.2	
	0.6nm,0.3s,baz=63,slow=24,SNR=4.3						
MNBS	Baschi	3.38	104	*e*P	Pg	04 25 19.6	-1.2
MNBS				*e*S	Sg	04 26 06.4	+1.7

*IDC **07** 04:29:34.7±0.7, 37°.21N×22°.11E, h0km, mb4.0/15, mb1 4.1/24, mb1mx4.0/52, mbtmp4.0/24, ML3.3/9, MS3.2/17, Ms1 3.3/17, ms1mx3.1/46, Error ellipse: s-maj=14.0km s-min=11.5km az=12.0*
*ATH **07** 04:29:36.0, 37°.22N×22°.06E, h12km±1km, ML3.8/17, Error ellipse: s-maj=1.4km s-min=0.8km az=271.0*
*NEIC **07** 04:29:36.5±0.0, 37°.23N×22°.06E, h0km, mb4.1/4, ML4.2(THE), After THE.*
*THE **07** 04:29:36.5, 37°.23N×22°.06E, h0km, ML3.9/18, Error ellipse: s-maj=0.7km s-min=0.3km az=174.0*
*CSEM **07** 04:29:36.3±0.1, 37°.22N×22°.05E, h5km, mb4.2/4, Error ellipse: s-maj=3.2km s-min=2.5km az=47.0*
*ISCJB **07** 04:29:36.0±0.3, 37°.19N±0°.02×21°.99E±0°.02, h12km±2km, mb4.0/17, MS3.3/10, Error ellipse: s-maj=2.9km s-min=2.6km az=135.3*
ISC 07 04:29:36.5±0.7, **37°.22N**±0°.02×**22°.06E**±0°.01, **h9**km±5km, **n277, σ1$35/328, mb4.2/17, MS3.3/10, 10C-4D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.12	249	P	Pg	04 29 38.7	-0.5
ITM				S	Sg	04 29 41.1	0.0
ITM	Ithomi	0.12	249	P	Pg	04 29 37.4	-1.8
ITM				S	Sg	04 29 42.5	+1.3
ITM				AML	AML	04 29 42.6	
ITM				AML	AML	04 29 42.8	
ITM	Ithomi	0.12	249	P	Pg	04 29 38.7	-0.5
ITM				S	Sg	04 29 41.1	0.0
ITM	Ithomi	0.12	249	P	Pg	04 29 38.7	-0.5
ITM				S	Sg	04 29 41.1	0.0
VLX	Vlachokerasia

VLI				AML	AML	04 30 18.4	
	comp=E,10994μm,1.0s						
VLI	**Veliai**	**0.86**	**125**	P	**Pg**	**04 29 52.6**	**-0.5**
VLI				S	**Sb**	**04 30 05.6**	**+0.4**
VLI	**Veliai**	**0.86**	**125**	P	**Pg**	**04 29 52.7**	**-0.4**
THAL	**Thalero**	**0.94**	**30**	P	**Pg**	**04 29 54.0**	**-0.6**
THAL	**Thalero**	**0.94**	**30**	P	**Pg**	**04 29 54.0**	**-0.6**
THAL				AML	AML	04 30 17.8	
	comp=N,20972μm,0.8s						
THAL				AML	AML	04 30 20.8	
	comp=E,33861μm,0.8s						
THAL	**Thalero**	**0.94**	**30**	P	**Pg**	**04 29 54.0**	**-0.6**
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**04 29 54.5**	**-0.4**
RLS				S	**Sb**	**04 30 08.5**	**+0.5**
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**04 29 54.0**	**-0.9**
RLS				AML	AML	04 30 17.7	
	comp=N,6564μm,1.0s						
RLS				AML	AML	04 30 24.6	
	comp=E,5842μm,0.9s						
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**04 29 54.5**	**-0.4**
RLS				S	**Sb**	**04 30 08.5**	**+0.5**
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**04 29 54.5**	**-0.4**
DID	**Didima**	**0.98**	**73**	P	**Pg**	**04 29 54.9**	**-0.4**
DID				S	**Sb**	**04 30 09.4**	**+0.8**
DID	**Didima**	**0.98**	**73**	P	**Pg**	**04 29 55.1**	**-0.2**
DID	**Didima**	**0.98**	**73**	P	**Pg**	**04 29 55.1**	**-0.2**
DID				S	**Sb**	**04 30 09.4**	**+0.8**
DID	**Didima**	**0.98**	**73**	P	**Pg**	**04 29 54.9**	**-0.4**
LAKA	**Lakka**	**1.02**	**356**	P	**Pg**	**04 29 55.3**	**-0.8**
LAKA				S	**Sb**	**04 30 10.2**	**+0.4**
LAKA	**Lakka**	**1.02**	**356**	P	**Pg**	**04 29 54.8**	**-1.3**
LAKA				AML	AML	04 30 17.1	
	comp=N,5534μm,1.4s						
LAKA				AML	AML	04 30 25.4	
	comp=E,5486μm,0.8s						
LAKA	**Lakka**	**1.02**	**356**	P	**Pg**	**04 29 55.3**	**-0.8**
LAKA				S	**Sb**	**04 30 10.2**	**+0.4**
LAKA	**Lakka**	**1.02**	**356**	P	**Pg**	**04 29 55.3**	**-0.8**
LOUT	**Loutraki**	**1.05**	**43**	P	**Pg**	**04 29 56.3**	**-0.4**
LOUT	**Loutraki**	**1.05**	**43**	P	**Pg**	**04 29 56.3**	**-0.4**
LOUT				AML	AML	04 30 19.5	
	comp=N,7591μm,1.0s						
LOUT				AML	AML	04 30 19.6	
	comp=E,13614μm,1.0s						
LOUT	**Loutraki**	**1.05**	**43**	P	**Pg**	**04 29 56.3**	**-0.4**
LTK	**Loutraki**	**1.08**	**42**	P	**Pg**	**04 29 56.4**	**-0.7**
LTK	**Loutraki**	**1.08**	**42**	P	**Pg**	**04 29 56.4**	**-0.7**
LTK	**Loutraki**	**1.08**	**42**	P	**Pg**	**04 29 56.4**	**-0.7**
UPR	**University Cam**	**1.08**	**348**	P	**Pb**	**04 29 57.5**	**+0.2**
UPR	**University Cam**	**1.08**	**348**	P	**Pb**	**04 29 57.5**	**+0.2**
AXS	**Araxos**	**1.11**	**331**	P	**Pg**	**04 29 56.6**	**-1.3**
AXS	**Araxos**	**1.11**	**331**	P	**Pg**	**04 29 56.8**	**-1.1**
TRIZ	**Trizonia**	**1.14**	**0**	P	**Pg**	**04 29 56.9**	**-1.5**
TRIZ	**Trizonia**	**1.14**	**0**	P	**Pg**	**04 29 56.9**	**-1.5**
KALE	**Kalithea**	**1.17**	**3**	P	**Pb**	**04 29 58.0**	**-0.9**
KALE	**Kalithea**	**1.17**	**3**	P	**Pb**	**04 29 58.0**	**-0.9**
KALE				AML	AML	04 30 27.3	
	comp=E,5621μm,0.6s						
KALE				AML	AML	04 30 29.6	
	comp=N,6135μm,0.7s						
KALE	**Kalithea**	**1.17**	**3**	P	**Pb**	**04 29 58.0**	**-0.9**
KALE	**Kalithea**	**1.17**	**3**	P	**Pb**	**04 29 58.0**	**-0.9**
SERG	**Sergoula**	**1.19**	**360**	P	**Pb**	**04 29 58.4**	**-0.8**
SERG	**Sergoula**	**1.19**	**360**	P	**Pb**	**04 29 58.4**	**-0.8**
EFP	**Efpalio**	**1.21**	**354**	P	**Pb**	**04 29 59.0**	**-0.5**
EFP				S	**Sn**	**04 30 17.0**	**+1.0**
EFP	**Efpalio**	**1.21**	**354**	P	**Pb**	**04 29 58.5**	**-1.0**
EFP				S	**Sb**	**04 30 13.7**	**-1.5**
EFP				AML	AML	04 30 28.4	
	comp=E,5426μm,1.2s						
EFP				AML	AML	04 30 31.4	
	comp=N,5358μm,0.9s						
EFP	**Efpalio**	**1.21**	**354**	P	**Pb**	**04 29 59.0**	**-0.5**
EFP				S	**Sb**	**04 30 13.7**	**-1.5**
PROD	**Prodromos**	**1.23**	**32**	P	**Pn**	**04 29 59.2**	**-0.6**
PROD				AML	AML	04 30 21.7	
	comp=N,4018μm,0.7s						
PROD				AML	AML	04 30 22.9	
	comp=E,6789μm,0.8s						
PROD	**Prodromos**	**1.23**	**32**	P	**Pn**	**04 29 59.2**	**-0.6**
KYTH	**Kithira**	**1.24**	**140**	P	**Pn**	**04 29 59.9**	**-0.1**
KYTH	**Kithira**	**1.24**	**140**	P	**Pn**	**04 29 59.4**	**-0.6**
KYTH				S	**Sb**	**04 30 15.1**	**-1.0**
DSF	**Desfina**	**1.24**	**17**	P	**Pn**	**04 29 59.5**	**-0.6**
DSF				S	**Sn**	**04 30 17.8**	**+0.8**
DSF	**Desfina**	**1.24**	**17**	P	**Pn**	**04 29 59.8**	**-0.2**
DSF				AML	AML	04 30 28.7	
	comp=E,3499μm,0.6s						
DSF				AML	AML	04 30 31.7	
	comp=N,3186μm,1.2s						
DSF	**Desfina**	**1.24**	**17**	P	**Pn**	**04 29 59.8**	**-0.2**
DSF				S	**Sn**	**04 30 17.8**	**+0.8**
DSF	**Desfina**	**1.24**	**17**	P	**Pn**	**04 29 59.5**	**-0.6**
KFL	**Anninata**	**1.34**	**312**	P	**Pb**	**04 30 01.7**	**-0.1**
KFL	**Anninata**	**1.34**	**312**	P	**Pg**	**04 30 02.2**	**0.0**
KFL	**Anninata**	**1.34**	**312**	P	**Pb**	**04 30 01.7**	**-0.1**
VILL	**Villia**	**1.37**	**46**	P	**Pb**	**04 30 02.0**	**-0.2**
VILL	**Villia**	**1.37**	**46**	P	**Pb**	**04 30 02.0**	**-0.2**
VILL				S	**Sn**	**04 30 20.0**	**0.0**
ANX	**Ano Chora**	**1.37**	**355**	P	**Pn**	**04 30 01.8**	**-0.1**
ANX				S	**Sg**	**04 30 22.1**	**+1.4**
ANX	**Ano Chora**	**1.37**	**355**	P	**Pn**	**04 30 01.3**	**-0.6**
ANX	**Ano Chora**	**1.37**	**355**	P	**Pn**	**04 30 01.8**	**-0.1**
ANX				S	**Sg**	**04 30 22.1**	**+1.4**
VIL2	**Platees**	**1.38**	**44**	P	**Pb**	**04 30 02.3**	**-0.1**
VIL2				S	**Sb**	**04 30 20.0**	**0.0**
VIL2				AML	AML	04 30 26.3	
	comp=E,6584μm,0.8s						
VIL2				AML	AML	04 30 32.5	
	comp=N,9686μm,0.7s						
PVO	**Paravola**	**1.46**	**343**	P	**Pb**	**04 30 03.8**	**+0.1**
PVO	**Paravola**	**1.46**	**343**	P	**Pb**	**04 30 03.8**	**+0.1**
VLS	**Valsamata**	**1.51**	**310**	P	**Pn**	**04 30 04.2**	**+0.5**
VLS				S	**Sg**	**04 30 25.2**	**+0.3**
VLS	**Valsamata**	**1.51**	**310**	P	**Pn**	**04 30 04.2**	**+0.5**
VLS				AML	AML	04 30 38.6	
	comp=E,2794μm,1.1s						
VLS				AML	AML	04 30 44.6	
	comp=N,4850μm,1.4s						
VLS	**Valsamata**	**1.51**	**310**	P	**Pn**	**04 30 04.2**	**+0.5**
VLS				S	**Sg**	**04 30 25.2**	**+0.3**
VLS	**Valsamata**	**1.51**	**310**	P	**Pn**	**04 30 04.2**	**+0.5**
ATH	**Athens Observa**	**1.51**	**60**	P	**Pb**	**04 30 04.8**	**+0.2**
ATH				S	**Sg**	**04 30 26.9**	**+1.8**
ATH				AML	AML	04 30 34.5	
	comp=E,8342μm,1.2s						
ATH				AML	AML	04 30 44.3	
	comp=N,4962μm,1.3s						
ATH	**Athens Observa**	**1.51**	**60**	P	**Pb**	**04 30 04.8**	**+0.2**
VLY	**Voula,Athens**	**1.52**	**65**	P	**Pn**	**04 30 04.1**	**+0.4**
VLY				S	**Sg**	**04 30 25.7**	**+0.5**
VLY	**Voula,Athens**	**1.52**	**65**	P	**Pn**	**04 30 03.6**	**-0.1**
VLY	**Voula,Athens**	**1.52**	**65**	P	**Pn**	**04 30 04.1**	**+0.4**
VLY				S	**Sg**	**04 30 25.7**	**+0.5**
VLY	**Voula,Athens**	**1.52**	**65**	P	**Pn**	**04 30 04.1**	**+0.4**
LKR	**Lokris**	**1.61**	**27**	P	**Pn**	**04 30 05.5**	**+0.5**
LKR				S	**Sg**	**04 30 27.5**	**-0.7**
LKR	**Lokris**	**1.61**	**27**	P	**Pn**	**04 30 05.2**	**+0.2**
LKR				S	**Sb**	**04 30 26.8**	**+0.1**
LKR	**Lokris**	**1.61**	**27**	P	**Pn**	**04 30 05.2**	**+0.2**
LKR				S	**Sb**	**04 30 26.8**	**+0.1**
LKR	**Lokris**	**1.61**	**27**	P	**Pn**	**04 30 05.5**	**+0.5**
PTL	**Penteli**	**1.65**	**59**	P	**Pn**	**04 30 05.5**	**-0.1**
PTL				S	**Sg**	**04 30 30.7**	**+1.1**
PTL				AML	AML	04 30 38.3	
	comp=E,5858μm,0.9s						
PTL				AML	AML	04 30 39.9	
	comp=N,4761μm,1.2s						
PTL	**Penteli**	**1.65**	**59**	P	**Pn**	**04 30 05.6**	**-0.1**
ANKY	**Antikythira Is**	**1.68**	**143**	P	**Pg**	**04 30 08.1**	**-0.6**
ANKY	**Antikythira Is**	**1.68**	**143**	P	**Pg**	**04 30 08.1**	**-0.6**
EVR	**Evrytania**	**1.70**	**353**	P	**Pn**	**04 30 06.4**	**0.0**
EVR				S	**Sb**	**04 30 30.1**	**+0.5**
EVR	**Evrytania**	**1.70**	**353**	P	**Pg**	**04 30 08.7**	**-0.4**
EVR				S	**Sg**	**04 30 30.5**	**-0.8**
EVR				AML	AML	04 30 46.8	
	comp=E,2984μm,1.1s						
EVR				AML	AML	04 30 49.0	
	comp=N,7011μm,1.0s						
EVR	**Evrytania**	**1.70**	**353**	P	**Pn**	**04 30 06.4**	**0.0**
EVR				S	**Sb**	**04 30 30.1**	**+0.5**
AGG	**Agios Georgios**	**1.81**	**7**	*e*PN	**Pb**	**04 30 09.1**	**-0.7**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pn**	**04 30 08.3**	**+0.5**
AGG				S	**Sb**	**04 30 32.7**	**+0.1**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pb**	**04 30 10.2**	**+0.5**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pn**	**04 30 08.3**	**+0.5**
AGG	**Agios Georgios**	**1.81**	**7**	*e*Pn	**Pb**	**04 30 09.1**	**-0.7**
AGG				S	**Sb**	**04 30 32.7**	**+0.1**
SMIA	**Simia**	**1.89**	**28**	P	**Pb**	**04 30 10.4**	**-0.7**
SMIA	**Simia**	**1.89**	**28**	P	**Pb**	**04 30 10.4**	**-0.7**
EREA	**Eretria**	**1.90**	**51**	P	**Pn**	**04 30 09.3**	**+0.2**
EREA	**Eretria**	**1.90**	**51**	P	**Pn**	**04 30 09.3**	**+0.2**
LKD2	**Lefkada island**	**1.92**	**325**	P	**Pn**	**04 30 09.3**	**0.0**
LKD2	**Lefkada island**	**1.92**	**325**	P	**Pb**	**04 30 12.1**	**+0.5**
LKD2	**Lefkada island**	**1.92**	**325**	P	**Pn**	**04 30 09.3**	**0.0**
SERI	**Serifos**	**1.94**	**91**	P	**Pn**	**04 30 09.3**	**-0.3**
SERI	**Serifos**	**1.94**	**91**	P	**Pn**	**04 30 09.3**	**-0.3**
MHLA	**Plaka, Milos I**	**1.95**	**103**	P	**Pb**	**04 30 12.1**	**0.0**
MHLA	**Plaka, Milos I**	**1.95**	**103**	P	**Pb**	**04 30 12.1**	**0.0**
KARY	**Karystos**	**2.05**	**66**	P	**Pb**	**04 30 12.6**	**-1.3**
KARY	**Karystos**	**2.05**	**66**	P	**Pb**	**04 30 12.6**	**-1.3**
SKIA	**Skiathos**	**2.23**	**29**	P	**Pn**	**04 30 14.6**	**+1.0**
SKIA	**Skiathos**	**2.23**	**29**	P	**Pn**	**04 30 14.6**	**+1.0**
NEO	**Neokhori**	**2.27**	**23**	P	**Pn**	**04 30 15.7**	**+1.4**
NEO	**Neokhori**	**2.27**	**23**	P	**Pn**	**04 30 15.6**	**+1.4**
XOR	**Xorichti**	**2.32**	**22**	P	**Pn**	**04 30 15.4**	**+0.6**
XOR	**Xorichti**	**2.32**	**22**	P	**Pn**	**04 30 16.1**	**+1.3**
XOR	**Xorichti**	**2.32**	**22**	P	**Pn**	**04 30 15.4**	**+0.6**
IMMV	**Iera Moni Meta**	**2.34**	**138**	P	**Pn**	**04 30 15.5**	**+0.4**
IMMV	**Iera Moni Meta**	**2.34**	**138**	P	**Pb**	**04 30 18.4**	**-0.4**
IMMV	**Iera Moni Meta**	**2.34**	**138**	P	**Pn**	**04 30 15.5**	**+0.4**
APE	**Apeiranthos**	**2.78**	**92**	*e*PN	**Pn**	**04 30 21.7**	**+0.6**
APE	**Apeiranthos**	**2.78**	**92**	||/P	**Pn**	**04 30 21.7**	**+0.6**
APE	**Apeiranthos**	**2.78**	**92**	P	**Pn**	**04 30 20.9**	**-0.2**
APE	**Apeiranthos**	**2.78**	**92**	P	**Pn**	**04 30 20.9**	**-0.2**
APE	**Apeiranthos**	**2.78**	**92**	*e*Pn	**Pn**	**04 30 21.7**	**+0.6**
SANT	**Santorini**	**2.86**	**106**	*e*Pn	**Pn**	**04 30 23.2**	**+1.0**
SANT				*e*Sg	**Sg**	**04 31 06.4**	**-1.8**
SANT	**Santorini**	**2.86**	**106**	*e*Pn	**Pn**	**04 30 23.2**	**+1.0**
SANT				*e*Sg	**Sg**	**04 31 06.4**	**-1.8**
IDI	**Anoyia**	**2.99**	**129**	Pn	**Pn**	**04 30 25.1**	**+1.0**
	comp=N,5.2nm,0.3s,baz=304,slow=10,SNR=21						
IDI				Lg	Lg	04 31 08.4	
	comp=N,12nm,0.3s,baz=310,slow=12,SNR=6.9						
IDI				LR	LR	04 31 47.2	
	comp=N,409nm,18.2s,baz=337,slow=45						
IDI	**Anoyia**	**2.99**	**129**	P	**Pn**	**04 30 24.5**	**+0.4**
IDI	**Anoyia**	**2.99**	**129**	P	**Pn**	**04 30 24.5**	**+0.4**
IDI	**Anoyia**	**2.99**	**129**	P	**Pn**	**04 30 24.5**	**+0.4**
LAST	**Lasithi**	**3.44**	**126**	P	**Pn**	**04 30 32.0**	**+1.7**
LAST	**Lasithi**	**3.44**	**126**	P	**Pn**	**04 30 32.0**	**+1.7**
SIGR	**SIGRI**	**3.59**	**55**	*e*PN	**Pn**	**04 30 32.5**	**+0.3**
SIGR	**SIGRI**	**3.59**	**55**	*e*Pn	**Pn**	**04 30 32.5**	**+0.3**
URLA	**Izmir**	**3.77**	**71**	*e*PN	**Pn**	**04 30 35.7**	**+1.0**
URLA	**Izmir**	**3.77**	**71**	*e*Pn	**Pn**	**04 30 35.7**	**+1.0**
BIA	**Bitola**	**3.84**	**352**	*i* Pn	**Pn**	**04 30 39.0**	**+3.3**
BIA	**Bitola**	**3.84**	**352**	*i* Pn	**Pn**	**04 30 39.0**	**+3.3**
OHR	**Ohrid**	**4.01**	**346**	*e*Pn	**Pn**	**04 30 41.3**	**+3.2**
OHR	**Ohrid**	**4.01**	**346**	*e*Pn	**Pn**	**04 30 41.2**	**+3.2**
VAY	**Valandovo**	**4.11**	**5**	*i* Pn	**Pn**	**04 30 42.7**	**+3.3**
VAY	**Valandovo**	**4.11**	**5**	*i* Pn	**Pn**	**04 30 42.7**	**+3.3**
NIS1	**Nisyros Isl.**	**4.15**	**97**	*e*PN	**Pn**	**04 30 42.6**	**+2.7**
NIS1	**Nisyros Isl.**	**4.15**	**97**	*e*Pn	**Pn**	**04 30 42.6**	**+2.7**
KRUS	**Krusevo**	**4.19**	**352**	*e*PN	**Pn**	**04 30 44.2**	**+3.6**
KRUS	**Krusevo**	**4.19**	**352**	*e*Pn	**Pn**	**04 30 44.2**	**+3.6**
BODT	**Bodrum**	**4.20**	**91**	*e*PN	**Pn**	**04 30 42.8**	**+2.2**
BODT	**Bodrum**	**4.20**	**91**	*e*Pn	**Pn**	**04 30 42.8**	**+2.2**
GADA	**Gvkgeada**	**4.22**	**44**	*e*PN	**Pn**	**04 30 41.4**	**+0.5**
GADA	**Gvkgeada**	**4.22**	**44**	*e*Pn	**Pn**	**04 30 41.4**	**+0.5**
EZN	**Ezine**	**4.24**	**51**	*e*PN	**Pn**	**04 30 41.6**	**+0.5**
EZN	**Ezine**	**4.24**	**51**	*e*Pn	**Pn**	**04 30 41.6**	**+0.5**
KARP	**Karpathos**	**4.44**	**111**	*e*PN	**Pn**	**04 30 48.2**	**+4.2**
KARP	**Karpathos**	**4.44**	**111**	*e*Pn	**Pn**	**04 30 48.2**	**+4.2**
DAT	**Datca**	**4.44**	**95**	*e*PN	**Pn**	**04 30 46.8**	**+2.7**
DAT	**Datca**	**4.44**	**95**	*e*Pn	**Pn**	**04 30 46.8**	**+2.7**
TIR	**Tirane**	**4.46**	**338**	*e*Pn	**Pn**	**04 30 44.0**	**-0.2**
TIR	**Tirane**	**4.46**	**338**	*e*Pg	**Pg**	**04 31 00.4**	**-1.5**
TIR	**Tirane**	**4.46**	**338**	*e*Pn	**Pn**	**04 30 44.0**	**-0.2**
TIR				*e*Pg	**Pg**	**04 31 00.4**	**-1.5**
TIR				*e*Sg	**Sg**	**04 31 54.7**	**-4.9**
MMB	**Musomiste**	**4.55**	**16**	P	**Pn**	**04 30 47.5**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**4.69**	**79**	*e*PN	**Pn**	**04 30 48.9**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**4.69**	**79**	*e*Pn	**Pn**	**04 30 48.9**	**+1.5**
KKB	**Krupnik**	**4.71**	**9**	P	**Pn**	**04 30 48.6**	**+1.0**
SKO	**Skopje**	**4.77**	**354**	*e*Pn	Pn	04 30 42.1	-6.3
RZN	**Rozhen**	**4.91**	**24**	P	**Pn**	**04 30 53.5**	**+2.9**
CEL	**Celeste**	**5.00**	**284**	*e*Pn	**Pn**	**04 30 51.5**	**-0.2**
CEL				*e*Sn	**Sn**	**04 31 49.9**	**+0.3**
CEL	**Celeste**	**5.00**	**284**	*e*Pn	**Pn**	**04 30 51.5**	**-0.2**
CEL				*e*Sn	**Sn**	**04 31 49.9**	**+0.3**
KDZ	**Kurdzhali**	**5.13**	**29**	P	**Pn**	**04 30 53.8**	**+0.4**
VTS	**Vitosha**	**5.43**	**9**	||/P	**Pn**	**04 31 00.4**	**+2.6**
VTS	**Vitosha**	**5.43**	**9**	P	**Pn**	**04 31 00.4**	**+2.6**
BARS	**Barje**	**5.59**	**358**	*e*Pn	**Pn**	**04 31 01.0**	**+1.2**
CUC	**Castrocucco**	**5.62**	**301**	*e*Pn	**Pn**	**04 31 01.8**	**+1.6**
	comp=N,20nm,0.6s						
CUC	**Castrocucco**	**5.62**	**301**	*e*Pn	**Pn**	**04 31 01.8**	**+1.6**
	comp=N,20nm,0.6s						
VAE	**Valguarnera**	**6.10**	**275**	Pn	**Pn**	**04 31 07.6**	**+0.8**
	comp=N,1.1nm,0.3s,baz=269,slow=2.6,SNR=5.5						
VAE				Sn	**Sn**	**04 32 21.7**	**+5.0**
	comp=N,2.3nm,0.3s,baz=238,slow=8.5,SNR=4.8						
VAE				LR	LR	04 33 40.6	
	comp=N,160nm,18.6s,baz=88,slow=40						
AKAS	**Kas**	**6.14**	**97**	*e*PN	**Pn**	**04 31 10.6**	**+3.2**
MPEP	**Malo Peshtene**	**6.26**	**11**	P	Pn	04 31 14.3	+5.4
BOVS	**Bovan**	**6.41**	**358**	*e*PN	**Pn**	**04 31 12.3**	**+1.3**
IVAS	**Ivanjica**	**6.51**	**348**	*e*Pn	**Pn**	**04 31 12.7**	**+0.2**
STON	**Ston**	**6.56**	**331**	*e*Pn	**Pn**	**04 31 13.5**	**+0.5**
STON				Sn	**Sn**	**04 32 22.3**	**-5.6**
STON	**Ston**	**6.56**	**331**	*e*Pn	**Pn**	**04 31 13.5**	**+0.5**
ZAGS	**Zajecar**	**6.58**	**1**	||/Pn	**Pn**	**04 31 15.2**	**+1.8**
BOLS	**Boljevac**	**6.60**	**359**	*e*Pn	**Pn**	**04 31 14.7**	**+1.1**
BBLS	**Lazići**	**6.94**	**344**	*e*Pn	**Pn**	**04 31 18.4**	**+0.1**
DIVS	**Divibare**	**7.05**	**348**	||/Pn	**Pn**	**04 31 18.5**	**-1.3**
CLTB	**Caltabellotta**	**7.05**	**276**	*e*Pn	**Pn**	**04 31 20.7**	**+0.8**
	comp=N,7.6nm,0.7s						
CLTB	**Caltabellotta**	**7.05**	**276**	*e*Pn	**Pn**	**04 31 20.7**	**+0.8**
	comp=N,7.6nm,0.7s						
PRD	**Provadia**	**7.23**	**33**	P	**Pn**	**04 31 23.4**	**+1.1**
TEKS	**Tekeris**	**7.57**	**346**	*e*Pn	**Pn**	**04 31 27.0**	**+0.1**
FGSL	**Fruska Gora**	**8.11**	**349**	*e*Pn	**Pn**	**04 31 34.5**	**+0.2**
LOT	**Lotru**	**8.32**	**8**	||/P	**Pn**	**04 31 40.8**	**+3.5**
ARR	**Arges**	**8.37**	**13**	||/P	**Pn**	**04 31 40.7**	**+2.8**
BZS	**Buzias**	**8.39**	**358**	||/P	**Pn**	**04 31 39.1**	**+0.9**
AQU	**L'Aquila**	**8.41**	**310**	*e*Pn	**Pn**	**04 31 39.0**	**+0.6**
AQU	**L'Aquila**	**8.41**	**310**	*e*Pn	**Pn**	**04 31 39.0**	**+0.6**
VOIR		**8.51**	**14**	||/P	**Pn**	**04 31 42.2**	**+2.3**
TLB	**Topalu**	**8.64**	**30**	||/P	**Pn**	**04 31 44.2**	**+2.7**
TIRR	**Tirgusor**	**8.68**	**32**	||/P	**Pn**	**04 31 45.1**	**+3.0**
TIRR	**Tirgusor**	**8.68**	**32**	*e*Pn	**Pn**	**04 31 41.6**	**-0.5**
	comp=N,7.6nm,0.8s						
TIRR	**Tirgusor**	**8.68**	**32**	*e*Pn	**Pn**	**04 31 41.6**	**-0.5**
	comp=N,7.6nm,0.8s						
MLR	**Muntele Rosu**	**8.76**	**18**	Pn	**Pn**	**04 31 45.6**	**+2.2**
	comp=N,0.0nm,0.3s,baz=196,slow=7.4,SNR=3.7						
MLR				LR	LR	04 35 49.9	
	comp=N,56nm,20.8s,baz=178,slow=43						
MLR	**Muntele Rosu**	**8.76**	**18**	||/P	**Pn**	**04 31 47.1**	**+3.7**
CFR	**Carcaliu**	**9.17**	**28**	||/P	**Pn**	**04 31 51.5**	**+2.7**
PLOR	**Plostina**	**9.28**	**20**	||/P	**Pn**	**04 31 54.6**	**+4.2**
VRI	**Vrincioaia**	**9.32**	**21**	||/P	**Pn**	**04 31 54.7**	**+3.8**
BRTR	**Keskin Array B**	**9.42**	**71**	Pn	**Pn**	**04 31 55.4**	**+3.0**
	comp=N,0.2nm,0.3s,baz=254,slow=13,SNR=15						
KEST	**Kesra**	**10.35**	**266**	Pn	**Pn**	**04 32 05.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=15,slow=5.3,SNR=4.4						
KEST				LR	LR	04 36 34.0	
	comp=N,125nm,21.8s,baz=318,slow=40						
PSZ	**Piszkesteto**	**10.81**	**352**	*e*Pn	**Pn**	**04 32 11.8**	**+0.5**
PSZ	**Piszkesteto**	**10.81**	**352**	*e*Pn	**Pn**	**04 32 11.8**	**+0.5**
VYHS	**Vyhne**	**11.51**	**349**	*e*Pn	**Pn**	**04 32 20.6**	**-0.3**
VYHS	**Vyhne**	**11.51**	**349**	*e*PN	**Pn**	**04 32 20.6**	**-0.3**
MMAI	**Mount Meron Ar**	**11.70**	**107**	Pn	**Pn**	**04 32 21.0**	**-2.7**
	comp=N,1.6nm,0.3s,baz=307,slow=14,SNR=4.7						
MMAI				LR	LR	04 38 12.9	
	comp=N,37nm,18.9s,baz=345,slow=44						
MORC	**Moravsky Berou**	**12.97**	**347**	*e*Pn	**Pn**	**04 32 41.2**	**+0.4**
MORC	**Moravsky Berou**	**12.97**	**347**	*e*Pn	**Pn**	**04 32 41.2**	**+0.4**
GERES	**GERESS Array B**	**13.12**	**335**	LR	LR	04 39 27.1	
	comp=N,100nm,19.8s,baz=142,slow=45						
EIL	**Elat**	**13.13**	**121**	Pn	**Pn**	**04 32 41.1**	**-1.9**
	comp=N,0.5nm,0.3s,baz=0.0,slow=14,SNR=4.4						
ASF	**Jabal al Asfar**	**13.20**	**108**	Pn	**Pn**	**04 32 42.8**	**-1.4**
	comp=N,0.2nm,0.3s,baz=297,slow=14,SNR=2.2						
KHC	**Kasperske Hory**	**13.40**	**335**	*e*P	**P**	**04 32 58.3**	**+1.9**
DPC	**Dobruska-Polom**	**13.76**	**344**	*e*P	**P**	**04 32 59.7**	**-0.6**
KIEV	**Kiev**	**14.41**	**19**	*e*Pn	**Pn**	**04 33 01.2**	**+0.8**
	comp=N,4.5nm,0.9s						
KIEV	**Kiev**	**14.41**	**19**	*e*Pn	**Pn**	**04 33 01.2**	**+0.8**
	comp=N,4.5nm,0.9s						
AKASG	**Malin Array Be**	**14.42**	**19**	Pn	**Pn**	**04 32 57.6**	**-3.0**
	comp=N,0.3nm,0.3s,baz=206,slow=12,SNR=3.2						
GRFO	**Grafenberg**	**14.72**	**331**	*e*Pn	**Pn**	**04 33 05.2**	**+0.5**
GRFO	**Grafenberg**	**14.72**	**331**	*e*Pn	**Pn**	**04 33 05.2**	**+0.5**
KVAR	**Kislovodsk Arr**	**17.03**	**60**	Pn	**P**	**04 33 39.0**	**+2.2**
	baz=159,slow=5.7,SNR=4.9						
KBZ	**Khabaz**	**17.11**	**61**	Pn	**P**	**04 33 40.8**	**+3.4**
	comp=N,0.1nm,0.3s,baz=268,slow=4.2,SNR=8.9						
KBZ				LR	LR	04 41 48.8	
	comp=N,113nm,18.1s,baz=274,slow=43						
GNI	**Garni**	**17.94**	**74**	Pn	**P**	**04 33 50.5**	**+3.6**
	comp=N,1.0nm,0.3s,baz=136,slow=8.7,SNR=6.2						
TAM	**Tamanrasset**	**20.25**	**229**	*e*P	Pn	04 34 14.7	+0.5
	comp=N,4.8nm,1.0s						
TAM	**Tamanrasset**	**20.25**	**229**	*e*P	Pn	04 34 14.7	+0.5
	comp=N,4.8nm,1.0s						
ESDC	**Sonseca Array**	**20.51**	**285**	P	**P**	**04 34 15.0**	**+0.2**
	comp=N,2.3nm,0.8s,baz=81,slow=12,SNR=10						
MDT	**Midelt**	**22.25**	**267**	P	**P**	**04 34 32.8**	**-1.0**
	comp=N,1.5nm,0.8s,baz=82,slow=16,SNR=3.6						
HFS	**Hagfors**	**23.55**	**349**	LR	LR	04 46 18.7	
	comp=N,93nm,19.3s,baz=176,slow=43						
RAYN	**Ar Rayn**	**24.32**	**118**	*e*P	**P**	**04 34 55.0**	**+0.5**
	comp=N,1.7nm,0.5s						
RAYN	**Ar Rayn**	**24.32**	**118**	*e*P	**P**	**04 34 55.0**	**+0.5**
	comp=N,1.7nm,0.5s						
FINES	**FINESS Array B**	**24.38**	**5**	P	**P**	**04 34 53.7**	**

*ISCJB **07** 04:59:06.4±0.4,20°.69S±0°.08×169°.37E±0°.06,h35km, mb4.6/23,MS3.5/14,Error ellipse: s-maj=12.2km s-min=7.9km az=164.9*
*NEIC **07** 04:59:08.3±1.8,20°.62S×169°.38E,h36km±16km,mb4.8/10, Error ellipse: s-maj=12.8km s-min=9.3km az=186.0*
*IDC **07** 04:59:08.1±8.5,20°.56S×169°.37E,h33km±61km,mb4.2/13, mb1 4.3/15,mb1mx4.2/27,mbtmp4.3/15,ML3.7/2,MS3.6/19, Ms1 3.6/19,ms1mx3.5/26,Error ellipse: s-maj=29.2km s-min=21.6km az=46.0*

ISC 07 04:59:08.4±0.5,20°.7S±0°.1×169°.30E±0°.07,h35km,n55, σ1§39/43,mb4.7/23,MS3.5/14,1C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.00**	**242**	Pn	**Pn**	**04 59 54.3**	**+0.7**
	4.4nm,0.3s,baz=51,slow=22,SNR=33						
DZM				Sn	**Sn**	**05 00 28.7**	**+0.5**
	45nm,0.3s,baz=54,slow=15,SNR=17						
DZM				LR	LR	05 01 01.7	
	comp=Z,699nm,19.5s,baz=82,slow=36						
DZM	**Mont Dzumac**	**3.00**	**242**	*e*Pn	**Pn**	**04 59 53.0**	**-0.5**
	78nm,0.2s						
DZM				*e*Sn	**Sn**	**05 00 25.8**	**-2.5**
	250nm,0.3s						
DZM				*e*LR	LR	05 00 30.9	
	1μm,24.9s						
DZM	**Mont Dzumac**	**3.00**	**242**	*e*Pn	**Pn**	**04 59 53.0**	**-0.5**
DZM				Sn	**Sn**	**05 00 28.7**	**+0.5**
MSVF	**Nonsavu**	**8.77**	**72**	*e*Pn	Pn	05 01 18.1	+5.2
	22nm,1.0s						
HNR	**Honiara**	**14.37**	**320**	LR	LR	05 07 07.9	
	comp=Z,193nm,20.8s,baz=122,slow=34						
RAO	**Raoul Island**	**14.38**	**129**	LR	LR	05 06 53.6	
	comp=Z,281nm,22.0s,baz=228,slow=32						
URZ	**Urewera**	**18.77**	**161**	P	**Pn**	**05 03 27.4**	**+2.2**
	0.4nm,0.3s,baz=24,slow=6.5,SNR=4.7						
URZ				LR	LR	05 09 36.9	
	comp=Z,200nm,18.6s,baz=330,slow=33						
AFI	**Afiamalu**	**19.27**	**73**	LR	LR	05 09 33.1	
	comp=Z,149nm,20.9s,baz=254,slow=33						
AFI	**Afiamalu**	**19.27**	**73**	*e*P	**P**	**05 03 29.0**	**-1.3**
	87nm,1.4s						
CTA	**Charters Tower**	**21.61**	**268**	P	**P**	**05 03 57.7**	**+2.2**
	11nm,0.7s,baz=95,slow=11,SNR=14						
CTAO	**Charters Tower**	**21.61**	**268**	*e*P	**P**	**05 03 57.0**	**+1.5**
	58nm,0.6s						
RPZ	**Rata Peaks**	**23.01**	**177**	LR	LR	05 12 07.3	
	comp=Z,319nm,19.9s,baz=9.5,slow=34						
PMG	**Port Moresby**	**24.11**	**294**	P	**P**	**05 04 21.6**	**+0.6**
	18nm,0.6s,baz=84,slow=4.8,SNR=9.1						
PMG				LR	LR	05 12 59.4	
	comp=Z,140nm,18.1s,baz=130,slow=34						
PMG	**Port Moresby**	**24.11**	**294**	*e*P	**P**	**05 04 21.4**	**+0.4**
	25nm,0.8s						
COEN	**Coen**	**25.80**	**281**	*e*P	**P**	**05 04 37.8**	**+1.4**
	27nm,1.4s						
STKA	**Stephens Creek**	**27.15**	**240**	P	**P**	**05 04 50.0**	**+1.6**
	3.2nm,0.7s,baz=67,slow=9.2,SNR=9.2						
STKA				LR	LR	05 15 19.3	
	comp=Z,133nm,18.1s,baz=38,slow=36						
RAR	**Rarotonga**	**28.87**	**97**	LR	LR	05 14 21.0	
	comp=Z,67nm,20.8s,baz=276,slow=32						
BBOO	**Buckleboo**	**31.91**	**241**	*e*P	**P**	**05 05 31.4**	**+0.7**
	7.8nm,1.0s						
WRAB	**Tennant Creek**	**32.75**	**265**	*e*P	**P**	**05 05 37.4**	**-0.8**
	8.4nm,1.1s						
WRA	**Warramunga Arr**	**32.76**	**265**	P	**P**	**05 05 37.4**	**-0.9**
	2.4nm,0.5s,baz=95,slow=8.4,SNR=38						
WRA				LR	LR	05 18 39.5	
	comp=Z,211nm,20.1s,baz=105,slow=36						
ASAR	**Alice Springs**	**32.86**	**258**	P	**P**	**05 05 39.1**	**0.0**
	10nm,0.8s,baz=80,slow=9.1,SNR=121						
ASAR				LR	LR	05 18 28.2	
	comp=Z,189nm,21.5s,baz=97,slow=35						
TBI	**Tubuai**	**38.24**	**102**	*e*LR	LR	05 17 05.5	
	224nm,29.8s						
PPT2	**Papeete2**	**38.90**	**93**	*e*LR	LR	05 17 40.5	
	306nm,27.2s						
PPT	**Papeete**	**38.91**	**93**	LR	LR	05 18 33.7	
	comp=Z,154nm,18.9s,baz=256,slow=30						
FITZ	**Fitzroy Crossi**	**41.17**	**266**	P	**P**	**05 06 50.5**	**+0.7**
	7.5nm,0.8s,baz=90,slow=7.2						
GUMO	**Guam**	**41.67**	**323**	LR	LR	05 23 30.9	
	comp=Z,61nm,18.6s,baz=167,slow=35						
SOEI	**Soe**	**44.65**	**277**	*e*P	**P**	**05 07 19.1**	**+0.9**
	25nm,1.0s						
NWAO	**Narrogin (SRO)**	**47.62**	**244**	P	**P**	**05 07 41.3**	**+0.1**
	6.3nm,0.7s,baz=23,slow=9.2,SNR=4.3						
TAOE	**Nuku Hiva Isla**	**50.09**	**84**	*e*S	**S**	**05 15 14.9**	**+5.0**
	54nm,26.6s						
TAOE				*e*LR	LR	05 22 39.3	
	164nm,26.8s						
KAPI	**Kappang**	**50.53**	**281**	*e*P	**P**	**05 08 04.5**	**+0.9**
	6.2nm,0.7s						
VNDA	**Vanda**	**57.00**	**182**	P	**P**	**05 08 50.1**	**+0.1**
	0.8nm,0.8s,baz=21,slow=5.9,SNR=3.9						
VNDA				LR	LR	05 29 26.6	
	comp=Z,44nm,21.7s,baz=349,slow=32						
KSM	**Kuching**	**61.75**	**283**	*e*P	**P**	**05 09 24.0**	**0.0**
	12nm,0.7s						
MJAR	**Matsushiro Arr**	**64.05**	**332**	LR	LR	05 39 50.9	
	comp=Z,12nm,18.0s,baz=270,slow=38						
QSPA	**South Pole Qui**	**69.38**	**180**	*e*P	**P**	**05 10 11.8**	**-0.7**
	56nm,0.8s						
KSRS	**Korea Array**	**69.73**	**326**	LR	LR	05 39 37.7	
	comp=Z,20nm,19.5s,baz=133,slow=35						
PETK	**Petropavlovsk-**	**74.17**	**353**	LR	LR	05 37 56.1	
	comp=Z,37nm,19.2s,baz=134,slow=31						
MAW	**Mawson**	**77.12**	**202**	P	**P**	**05 10 58.8**	**+0.9**
	2.7nm,0.8s,baz=116,slow=3.9,SNR=10						
CMAR	**Chiang Mai Arr**	**79.15**	**294**	P	**P**	**05 11 11.1**	**+1.0**
	1.2nm,0.6s,baz=146,slow=4.3,SNR=6.3						
SYO	**Syowa Base**	**83.57**	**196⇑**	*e*P	**P**	**05 11 30.6**	**-2.0**
SYO	**Syowa Base**	**83.57**	**196⇓**	*e*PcP	**PcP**	**05 11 35.2**	**-1.6**
PMSA	**Palmer Station**	**85.54**	**160**	*e*P	**P**	**05 11 41.9**	**-0.6**
SNAA	**Sanae**	**87.73**	**182**	*e*P	**P**	**05 11 51.6**	**-1.7**
	115nm,0.7s						
CMB	**Columbia Colle**	**88.07**	**48**	*e*P	**P**	**05 11 55.7**	**+0.3**
	9.7nm,0.6s						
VNA3	**Neumayer Olymp**	**88.31**	**180**	P	**P**	**05 11 54.9**	**-1.1**
SONM	**Songino Array**	**88.40**	**323**	P	**P**	**05 11 56.8**	**0.0**
	0.6nm,0.7s,baz=129,slow=4.4,SNR=3.5						
SONM				LR	LR	05 52 10.1	
	comp=Z,22nm,19.0s,baz=93,slow=36						
VNA2	**Neumayer--Watz**	**88.61**	**181**	P	**P**	**05 11 56.4**	**-1.0**
	baz=176,slow=4.2						
MCK	**McKinley**	**90.21**	**17**	*e*P	**P**	**05 12 03.9**	**-0.9**
	3.1nm,0.7s						
ILAR	**Eielson Array**	**91.59**	**17**	P	**P**	**05 12 09.0**	**-2.1**
	0.8nm,0.7s,baz=233,slow=5.1,SNR=11						
TXAR	**Lajitas Array**	**97.40**	**62**	P	**P**	**05 12 38.1**	**-0.7**
	0.7nm,0.9s,baz=224,slow=6.6,SNR=4.6						
PLCA	**Paso Flores**	**97.42**	**138**	LR	LR	05 46 46.0	
	comp=Z,16nm,21.3s,baz=158,slow=29						
BRG	**Berggiesshubel**	**144.18**	**333**	*e*P	PKPbc	05 18 38.4	-0.2
	5.3nm,0.8s						
KHC	**Kasperske Hory**	**145.63**	**331**	*e*PKP	**PKPab**	**05 18 43.2**	**-0.4**
KHC				*e*pPKP	pPKPab	05 18 54.2	-0.6
KHC	**Kasperske Hory**	**145.63**	**331**	*e*PKPbc	**PKPab**	**05 18 42.9**	**-0.7**
GERES	**GERESS Array B**	**145.78**	**331**	PKPbc	**PKPbc**	**05 18 43.3**	**-0.6**
	1.8nm,0.6s,baz=11,slow=2.0,SNR=11						
WLF	**Walferdange**	**148.12**	**339**	*e*PKPbc	**PKPbc**	**05 18 50.2**	**-0.1**

IDC 07 05:05:37.2±3.0,3°.15S×130°.55E,h0km,mb3.6/3, mb1 3.6/4,mb1mx3.4/34,mbtmp3.5/4,ML2.8/1,Error ellipse: s-maj=258.6km s-min=25.7km az=73.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.09**	**168**	P	P	05 09 39.1	-0.5
	0.0nm,0.3s,baz=350,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**20.65**	**171**	P	P	05 10 17.9	-0.8
	0.9nm,0.4s,baz=350,slow=9.7,SNR=6.4						
MKAR	**Makanchi Array**	**65.35**	**326**	P	P	05 16 21.2	-0.3
	0.3nm,0.6s,baz=121,slow=6.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**68.41**	**333**	P	P	05 16 41.0	+0.3
	0.4nm,0.3s,baz=99,slow=6.3,SNR=4.3						

IDC 07 05:08:59.4±4.1,3°.19S×130°.62E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.5/38,mbtmp3.7/3,ML3.3/1,Error ellipse: s-maj=307.1km s-min=29.2km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.05**	**168**	P	Pn	05 13 00.2	+0.8
	0.1nm,0.3s,baz=349,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**20.61**	**171**	P	P	05 13 40.0	-0.4
	4.8nm,0.6s,baz=352,slow=10,SNR=55						
MKAR	**Makanchi Array**	**65.42**	**326**	P	P	05 19 44.1	0.0
	0.5nm,0.6s,baz=140,slow=7.5,SNR=4.3						

*NIED **07** 05:19:00,40°.20N×142°.80E,h5km,Mw3.8 Best double couple: M0:6.48000×10^14 NP1:φ=263.00000°,δ=48.00000°, λ=-63.00000°. NP2:φ=46.00000°,δ=48.00000°, λ=-117.00000°.*
*ISCJB **07** 05:19:42.2±1.5,40°.25N±0°.06×142°.87E±0°.08,h16km±9km, mb3.6/7,MS3.0/1,Error ellipse: s-maj=10.0km s-min=9.6km az=168.5*
*JMA **07** 05:19:42.6±0.1,40°.24N×142°.85E,h24km±2km,M3.9*
*IDC **07** 05:19:45.9±5.8,40°.21N×143°.01E,h33km±45km,mb3.5/7, mb1 3.6/10,mb1mx3.4/41,mbtmp3.6/10,ML3.0/3,MS3.0/1, Ms1 3.2/1,ms1mx2.4/30,Error ellipse: s-maj=30.3km s-min=19.7km az=84.0*

ISC 07 05:19:44.9±2.2,40°.18N±0°.06×142°.73E±0°.08,h23km±15km, n25,σ1§61/25,mb3.8/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.71**	**250**	P	**Pb**	**05 19 57.9**	**-0.6**
JTH				*e*S	**Sb**	**05 20 08.8**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.93**	**230**	P	**Pn**	**05 20 01.1**	**-1.4**
MIYJ				*e*S	**Sb**	**05 20 14.7**	**+0.6**
JANG	**Nango**	**0.95**	**282**	P	**Pn**	**05 20 01.5**	**-1.3**
JANG				S	**Sb**	**05 20 14.4**	**-0.4**
JKZ	**Kuzumaki**	**1.09**	**260**	*e*S	**Sn**	**05 20 19.2**	**-0.1**
JOM	**Ohasama**	**1.31**	**238**	P	**Pn**	**05 20 07.5**	**-0.4**
JOM				S	**Sb**	**05 20 25.8**	**+0.5**
JTM	**Tenmabayashi**	**1.40**	**296**	P	**Pn**	**05 20 08.1**	**-1.0**
JTM				S	**Sn**	**05 20 26.9**	**0.0**
JAH	**Hinai**	**1.60**	**271**	P	**Pn**	**05 20 12.3**	**+0.5**
JAH				S	**Sb**	**05 20 33.6**	**0.0**
ASAJ	**Asahikawa**	**3.93**	**359**	Pn	**Pn**	**05 20 43.3**	**-0.6**
	1.2nm,0.3s,baz=240,slow=14,SNR=3.9						
MJAR	**Matsushiro Arr**	**5.08**	**226**	Pn	**Pn**	**05 21 03.2**	**+3.5**
	1.9nm,0.3s,baz=31,slow=13,SNR=38						
MAT	**Matsushiro**	**5.08**	**226**	P	**Pn**	**05 21 03.3**	**+3.6**
MAT				*e*S	**Sn**	**05 21 54.5**	**-3.2**
USRK	**Ussuriysk Ar.**	**8.93**	**300**	Pn	**Pn**	**05 21 53.1**	**+0.8**
	0.2nm,0.3s,baz=113,slow=14,SNR=2.8						
SONM	**Songino Array**	**27.03**	**299**	P	**P**	**05 25 28.3**	**+2.9**
	0.3nm,0.5s,baz=80,slow=10,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**29.06**	**127**	T	T	05 56 12.9	
	baz=319,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**29.07**	**127**	T	T	05 56 27.9	
	baz=319,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**29.07**	**127**	T	T	05 56 39.6	
	baz=319,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**29.88**	**129**	T	T	05 57 10.3	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**29.88**	**129**	T	T	05 57 14.5	
	baz=324,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.89**	**129**	T	T	05 57 11.7	
	baz=324,slow=74,SNR=8.0						
ZALV	**Zalesovo Beam**	**40.63**	**310**	P	**P**	**05 27 23.2**	**+0.4**
	1.1nm,0.5s,baz=87,slow=7.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**43.35**	**253**	LR	LR	05 45 37.6	
	comp=Z,19nm,18.4s,baz=120,slow=36						
MKAR	**Makanchi Array**	**43.39**	**300**	P	**P**	**05 27 45.6**	**0.0**
	1.2nm,0.7s,baz=84,slow=9.3,SNR=11						
ILAR	**Eielson Array**	**46.30**	**34**	P	**P**	**05 28 07.1**	**-1.3**
	0.4nm,0.8s,baz=272,slow=7.2,SNR=4.2						
BVAR	**Borovoye Array**	**49.27**	**311**	P	**P**	**05 28 32.1**	**+0.6**
	0.4nm,0.3s,baz=85,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**60.32**	**189**	P	**P**	**05 29 51.2**	**-0.6**
	0.9nm,0.8s,baz=8.3,slow=7.2,SNR=8.7						
ASAR	**Alice Springs**	**64.05**	**189**	P	**P**	**05 30 17.0**	**+0.1**
	0.1nm,0.5s,baz=18,slow=4.8,SNR=4.4						

*GUC **07** 05:29:39.0±0.4,36°.83S×73°.69W,h6km±2km,ML3.8*

ISC 07 05:29:39.7±2.2,36°.72S±0°.05×73°.55W±0°.10,h13km±12km, n18,σ1§62/27,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.37**	**109**	⇑*i*P	**Pg**	**05 29 47.4**	**+0.2**
CCSP				*i* S	**Sb**	**05 29 53.6**	**-0.3**
CCSP				IAML		05 29 55.9	
	comp=N,18μm,0.2s						
COCH	**Cobquecura**	**0.85**	**46**	*e*P	**Pn**	**05 29 56.8**	**-0.6**
COCH				*i* S	**Sn**	**05 30 10.3**	**+0.6**
COCH				IAML		05 30 15.4	
	comp=E,3μm,0.8s						
CCHI	**Chillan**	**1.19**	**85**	*e*P	**Pb**	**05 30 02.2**	**+0.1**
CCHI				*i* S	**Sg**	**05 30 18.9**	**+0.8**
CCHI				IAML		05 30 30.8	
	comp=N,3μm,0.3s						
LNCH	**Linares**	**1.80**	**61**	⇓*i*P	**Pb**	**05 30 11.6**	**-1.0**
LNCH				*i* S	**Sb**	**05 30 36.3**	**+1.4**
PSCH	**Puerto Saavedr**	**2.08**	**177**	*e*P	**Pn**	**05 30 14.5**	**+0.2**
PSCH				*i* S	**Sn**	**05 30 39.9**	**-0.1**
GO05	**HualaæØ**	**2.16**	**38**	*e*P	**Pb**	**05 30 17.4**	**-1.2**
GO05				*i* S	**Sb**	**05 30 46.7**	**+1.4**
GO05				IAML		05 31 04.6	
	comp=E,720nm,0.8s						
ROC1	**El Roble**	**4.28**	**30**	*e*P	**Pn**	**05 30 44.8**	**0.0**
ROC1				*e*S	**Sg**	**05 32 00.5**	**+3.3**
AAGR	**Agrelo**	**5.31**	**48**	*e*P	**Pn**	**05 31 01.0**	**+2.2**
AUSP	**Uspallata**	**5.65**	**39**	*e*P	**Pn**	**05 31 05.2**	**+1.5**
AUSP				*e*S	**Sg**	**05 32 40.0**	**-1.3**
ASAL	**Salagasta**	**5.66**	**45**	*e*P	**Pn**	**05 31 05.7**	**+2.0**
ASAL				*e*S	**Sg**	**05 32 38.0**	**-3.5**
RTCV	**Cerro Valdivia**	**6.38**	**42**	*e*P	**Pn**	**05 31 13.2**	**-0.3**
AMOG	**MOGNA**	**7.14**	**38**	*e*P	**Pn**	**05 31 23.7**	**-0.2**
ACDV	**Cuesta del Vie**	**7.51**	**31**	*e*P	**Pn**	**05 31 30.1**	**+1.0**
AVFE	**Valle Fertil**	**7.89**	**42**	*e*P	**Pn**	**05 31 33.1**	**-1.2**
AVFE				IAML		05 31 49.8	
	comp=Z,4.1nm,0.4s						
AGUA	**GUANDACOL**	**8.37**	**32**	*e*P	**Pn**	**05 31 41.3**	**+0.4**
APLL	**PUNTA DE LOS L**	**8.61**	**45**	*e*P	**Pn**	**05 31 42.0**	**-2.1**
ACLC	**CERRO LA CRUZ**	**9.14**	**39**	*e*P	**Pn**	**05 31 48.6**	**-2.9**
TCA	**Tanti**	**9.16**	**57**	*e*P	**Pn**	**05 31 51.4**	**-0.4**

*IDC **07** 06:19:41.8±0.6,2°.83S×101°.13E,h0km,mb4.6/22, mb1 4.7/22,mb1mx4.4/47,mbtmp4.6/22,MS3.4/4, Ms1 3.5/4,ms1mx3.1/45,Error ellipse: s-maj=25.6km s-min=12.4km az=49.0*
*KLM **07** 06:19:42.6,3°.49S×101°.08E,h158km,mb4.8*
*DJA **07** 06:19:47.8±0.8,3°.5±4°×10°.1E±°,h15km±6km,M5.0/13, mB5.9/2,mb5.3/2,MLv4.9/13,Mw(mB)5.5/2*
*BJI **07** 06:19:48.1,3°.00S×100°.90E,h53km,mb4.8/31,mB5.0/19, Ms4.7/11,Ms7 4.5/9*
*ISCJB **07** 06:19:48.5±0.6,2°.93S±0°.04×101°.06E±0°.05,h67km±4km, mb4.7/56,Error ellipse: s-maj=9.5km s-min=3.9km az=142.2*
*NEIC **07** 06:19:49.8±0.7,2°.94S×101°.06E,h64km±5km,mb4.7/24, Error ellipse: s-maj=9.9km s-min=3.7km az=58.0*
NEIC Felt [II] at Mukomuko.

ISC 07 06:19:49.7±1.0,3°.00S±0°.06×100°.95E±0°.06,h66km±8km, n157,σ1§58/171,mb4.8/56,2C-2D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.29**	**96**	P	**Pn**	**06 20 09.3**	**-2.5**
MASI				S	**Sn**	**06 20 27.4**	**-1.0**
SDSI	**Sungai Dareh**	**2.11**	**13**	P	**Pn**	**06 20 21.3**	**-1.4**
PDSI	**Padang**	**2.13**	**347**	P	**Pn**	**06 20 21.3**	**-1.8**
MNAI	**Manna**	**2.41**	**124**	*e*Pn	**Pn**	**06 20 26.0**	**-0.9**
SISI	**Saibi**	**2.50**	**312**	P	**Pn**	**06 20 27.8**	**-0.2**
RGRI	**Rengat**	**2.98**	**28**	P	**Pn**	**06 20 33.6**	**-0.9**
JMBI	**JAMBI**	**3.01**	**63**	P	**Pn**	**06 20 33.6**	**-1.4**
BKNI	**Bangkinang**	**3.31**	**2**	P	**Pn**	**06 20 37.9**	**-1.2**
BKNI	**Bangkinang**	**3.31**	**2**	*e*Pn	**Pn**	**06 20 39.3**	**+0.3**
MDSI	**Maura Dua**	**3.54**	**115**	P	**Pn**	**06 20 42.3**	**0.0**
LWLI	**Liwa**	**3.69**	**123**	P	**Pn**	**06 20 44.4**	**0.0**
PBSI	**Pulau Batu**	**3.96**	**318**	P	**Pn**	**06 20 48.1**	**+0.1**
MNSI	**Mandailing Nat**	**4.01**	**340**	P	**Pn**	**06 20 48.1**	**-0.6**
KLSI		**4.13**	**114**	P	**Pn**	**06 20 50.1**	**-0.2**
KASI	**Kota Agung**	**4.33**	**125**	P	**Pn**	**06 20 53.4**	**+0.3**
DSRI	**Dabo**	**4.41**	**55**	P	**Pn**	**06 20 52.3**	**-1.8**
TPRI	**Tanjung Pinang**	**5.29**	**43**	P	**Pn**	**06 21 04.7**	**-1.4**
GSI	**Gunungsitoli**	**5.45**	**322**	*e*Pn	**Pn**	**06 21 03.9**	**-4.4**
GSI				*e*Sn	**Sn**	**06 22 07.9**	**-1.8**
KGM	**Kluang**	**5.52**	**25**	⇓P	**Pn**	**06 21 08.6**	**-0.7**
MYKOM	**Kota Tinggi**	**5.57**	**31**	*e*Pn	**Pn**	**06 21 08.9**	**-1.1**
MYKOM	**Kota Tinggi**	**5.57**	**31**	⇑P	**Pn**	**06 21 09.1**	**-1.0**
CGJI	**Cibinong**	**5.93**	**127**	P	**Pn**	**06 21 15.2**	**+0.2**
PSI	**Prapat**	**6.11**	**341**	Pn	**Pn**	**06 21 15.4**	**-2.2**
	2.1nm,0.3s,baz=152,slow=8.0,SNR=6.8						
PSI				LR	LR	06 23 58.6	
	comp=Z,585nm,20.8s,baz=147,slow=43						
FRIM	**Kepong**	**6.23**	**6**	⇑P	**Pn**	**06 21 19.3**	**+0.2**
IPM	**Ipoh**	**7.43**	**1**	*e*Pn	**Pn**	**06 21 36.3**	**+0.8**
IPM	**Ipoh**	**7.43**	**1**	⇓P	**Pn**	**06 21 35.6**	**0.0**
CISI	**Cisompet, Garu**	**8.20**	**124**	*e*Pn	**Pn**	**06 21 44.5**	**-1.5**
KULM	**Kulim**	**8.24**	**358**	*e*Pn	**Pn**	**06 21 46.8**	**+0.2**
XMIS	**Christmas Isla**	**8.77**	**148**	*e*Pn	**Pn**	**06 21 53.7**	**-0.2**
SKLT	**Songkhla**	**10.11**	**358**	P	**Pn**	**06 22 13.6**	**+1.5**
	35nm,0.8s						
UGM	**Wanagama**	**10.70**	**118**	*e*Pn	**Pn**	**06 22 18.8**	**-1.5**
SBUM	**Sibu**	**12.50**	**64**	*e*Pn	**Pn**	**06 22 43.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.21**	**113**	*e*Pn	**Pn**	**06 23 06.0**	**-1.7**
PHET	**Kaeng Krachan**	**15.86**	**355**	P	**P**	**06 23 32.8**	**+1.2**
CHAI	**Chaiyaphum**	**18.81**	**3**	P	**P**	**06 24 03.9**	**-0.2**
	3.3nm,0.7s						
CM01	**Chiang Mai Arr**	**21.38**	**355**	*e*P	**P**	**06 24 29.2**	**-2.7**
CMAR	**Chiang Mai Arr**	**21.41**	**355**	P	**P**	**06 24 28.9**	**-3.4**
	5.0nm,0.9s,baz=184,slow=10,SNR=14						
CMAR				PcP	**PcP**	**06 28 34.4**	**+0.5**
	1.0nm,0.3s,baz=165,slow=1.9,SNR=4.3						
CMAR				LR	LR	06 32 35.5	
	comp=Z,99nm,18.9s,baz=165,slow=36						
CHTO	**Chiang Mai**	**21.77**	**355**	*e*P	**P**	**06 24 35.6**	**-0.5**
	4.9nm,1.0s						
QIZ	**Qiongzhong**	**23.58**	**21**	*e*P	**P**	**06 24 55.1**	**+0.4**
	7.7nm,0.9s						
SLVN	**Son La**	**24.36**	**7**	*e*P	**P**	**06 25 00.8**	**-1.0**
	7.2nm,0.8s						
MBWA	**Marble Bar**	**25.69**	**136**	*e*P	**P**	**06 25 15.1**	**+1.3**
	6.7nm,0.9s						
TGY	**Tagaytay City**	**26.11**	**49**	LR	LR	06 36 50.5	
	comp=Z,58nm,20.7s,baz=336,slow=40						
KMI	**Kunming**	**28.01**	**3**	P	**P**	**06 25 38.1**	**+3.2**
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
KMI				pmax	pmax		
	comp=Z,81nm,4.2s						
FITZ	**Fitzroy Crossi**	**28.47**	**124**	P	**P**	**06 25 38.2**	**-0.6**
	6.1nm,0.7s						
H08S2	**Diego Garcia H**	**28.70**	**260**	T	T	06 55 06.9	
	baz=84						
H08S3	**Diego Garcia H**	**28.71**	**260**	T	T	06 55 06.9	
	baz=84						
H08S1	**Diego Carcia H**	**28.72**	**260**	T	T	06 55 08.4	
	baz=84						
GYA	**Guiyang**	**29.80**	**10**	*e*P	**P**	**06 25 53.7**	**+3.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ODAN	**Odare**	**32.45**	**337**	*e*P	**P**	**06 26 14.7**	**+0.6**
	78nm,0.6s						
TAPN	**Taplejung**	**32.77**	**338**	*e*P	**P**	**06 26 17.9**	**+1.0**
	154nm,1.0s						
RAMN	**Ramite**	**32.84**	**336**	*e*P	**P**	**06 26 18.6**	**+1.0**
	30nm,0.5s						
JIRN	**Jiri**	**33.64**	**336**	*e*P	**P**	**06 26 25.5**	**+0.9**
	519nm,0.7s						
PKI	**Pulchoki**	**33.89**	**335**	*e*P	**P**	**06 26 27.2**	**+0.5**
	19nm,0.6s						
PKIN	**Phulchoki**	**33.90**	**335**	*e*P	**P**	**06 26 27.8**	**+1.0**
	16nm,0.5s						
GUN	**Gumba**	**33.99**	**336**	*e*P	**P**	**06 26 28.6**	**+1.0**
	111nm,0.4s						
DMN	**Daman**	**34.05**	**334**	*e*P	**P**	**06 26 29.1**	**+1.0**
	10nm,0.3s						
KKN	**Kakani**	**34.13**	**335**	*e*P	**P**	**06 26 29.4**	**+0.7**
	50nm,0.5s						
GKN	**Gorkha**	**34.59**	**334**	*e*P	**P**	**06 26 33.6**	**+0.9**
	39nm,0.4s						
KOLN	**Koldanda**	**34.86**	**332**	*e*P	**P**	**06 26 36.0**	**+1.0**
	22nm,0.6s						
PYUN	**Piuthan**	**35.42**	**332**	*e*P	**P**	**06 26 40.8**	**+0.9**
	22nm,0.4s						
WRA	**Warramunga Arr**	**36.67**	**120**	P	**P**	**06 26 49.9**	**-0.6**
	9.5nm,0.6s,baz=303,slow=8.9,SNR=138						
WRA				S	**S**	**06 32 26.7**	**-2.6**
	0.9nm,0.8s,baz=293,slow=16,SN

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
	8.3nm,0.8s						
AAK	**Ala-Archa**	51.34	335	P	**P**	06 28 48.9	+1.2
	3.4nm,0.8s,baz=169,slow=7.3,SNR=7.9						
AAK				LR	LR	06 53 39.9	
	comp=Z,31nm,18.9s,baz=149,slow=40						
AAK	**Ala-Archa**	51.34	335	*e*P	**P**	06 28 49.0	+1.2
	3.7nm,0.8s						
CN2	**Changchun**	51.53	23	*e*P	**P**	06 28 52.3	+3.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK01	**Makanchi Array**	52.22	344	*e*P	**P**	06 28 54.5	+0.5
MK31	**Makanchi Array**	52.24	344	*e*P	**P**	06 28 54.6	+0.4
MKAR	**Makanchi Array**	52.24	344	P	**P**	06 28 54.0	-0.2
	14nm,0.6s,baz=150,slow=8.1,SNR=122						
MKAR	**Makanchi Array**	52.24	344	*e*P	**P**	06 28 54.6	+0.4
	93nm,0.9s						
MAKZ	**Makanchi**	52.35	344	*e*P	**P**	06 28 55.0	+0.1
	9.9nm,1.1s						
MJAR	**Matsushiro Arr**	52.46	38	P	**P**	06 28 53.9	-2.1
	2.0nm,0.6s,baz=205,slow=6.7,SNR=6.5						
EIDS	**Eidsvold**	53.04	120	*e*P	**P**	06 29 00.9	+0.5
	8.2nm,0.8s						
KKAR	**Karatay Array**	53.47	332	*e*P	**P**	06 29 03.4	+0.1
	26nm,0.5s						
USRK	**Ussuriysk Ar.**	54.60	27	P	**P**	06 29 10.8	-0.6
	9.5nm,0.8s,baz=227,slow=6.6,SNR=14						
KURK	**Kurchatov**	56.83	343	*e*P	**P**	06 29 27.1	-0.2
	7.7nm,0.8s						
ZAA0	**Zalesovo Array**	58.32	349	*e*P	**P**	06 29 37.4	-0.3
ZALV	**Zalesovo Beam**	58.32	349	P	**P**	06 29 37.4	-0.4
	49nm,0.8s,baz=171,slow=5.2,SNR=109						
ASAJ	**Asahikawa**	59.91	34	*e*P	**P**	06 29 48.8	-0.1
	22nm,1.1s						
CRZF	**Crozet Islands**	60.67	217	*e*P	**P**	06 29 52.9	-1.1
	79nm,0.9s						
BVAR	**Borovoye Array**	61.45	340	P	**P**	06 29 58.5	-0.7
	4.5nm,0.5s,baz=145,slow=8.1,SNR=26						
BRVK	**Borovoye**	61.51	339	*e*P	**P**	06 29 59.2	-0.4
	9.4nm,1.1s						
ABKAR	**Akbulak array**	62.97	331	*e*P	**P**	06 30 09.4	0.0
	151nm,0.5s						
DZM	**Mont Dzumac**	66.19	113	*e*P	**P**	06 30 30.2	-0.9
	7μm,0.6s						
ARU	**Arti**	68.50	336	*e*P	**P**	06 30 44.6	-0.2
	12nm,1.1s						
KBZ	**Khabaz**	69.68	319	P	**P**	06 30 54.0	+1.5
	5.9nm,0.8s,baz=136,slow=6.3,SNR=11						
ASF	**Jabal al Asfar**	69.94	306	P	**P**	06 30 57.0	+2.5
	3.4nm,0.9s,baz=242,slow=1.5,SNR=3.8						
MMAI	**Mount Meron Ar**	71.39	306	P	**P**	06 31 05.6	+2.4
	3.1nm,0.6s,baz=106,slow=8.0,SNR=4.5						
NRIK	**Noril'sk**	72.77	355	P	**P**	06 31 09.8	-0.9
	5.3nm,0.5s,baz=152,slow=7.2,SNR=8.3						
PET	**Petropavlovsk**	73.69	32	*e*P	**P**	06 31 15.4	-0.9
	10nm,0.7s						
BR131	**Keskin Array S**	74.69	312	*e*P	**P**	06 31 22.3	-0.4
BRTR	**Keskin Array B**	74.69	312	P	**P**	06 31 22.9	+0.1
	2.8nm,0.6s,baz=122,slow=6.5,SNR=13						
BR231	**Keskin MP Arra**	75.36	312	*e*P	**P**	06 31 23.6	-2.9
BKZ	**Black Stump Fm**	76.91	129	*e*P	**P**	06 31 35.8	+0.5
	439nm,0.9s						
AKASG	**Malin Array Be**	80.85	322	P	**P**	06 31 56.8	+0.3
	0.3nm,0.3s,baz=81,slow=4.9,SNR=5.5						
LVZ	**Lovozero**	84.04	340	*e*P	**P**	06 32 13.2	+0.4
	16nm,1.0s						
FIA1	**FINESS Array S**	85.43	332	*e*P	**P**	06 32 21.4	+1.5
	18nm,1.1s						
FINES	**FINESS Array B**	85.43	332	P	**P**	06 32 20.8	+0.9
	4.4nm,0.9s,baz=120,slow=6.7,SNR=11						
ARA0	**ARCESS Array S**	87.73	340	*e*P	**P**	06 32 32.3	+1.3
ARCES	**ARCESS Array B**	87.73	340	P	**P**	06 32 31.6	+0.6
	2.5nm,0.5s,baz=102,slow=5.1,SNR=9.4						
DPC	**Dobruska-Polom**	88.86	320	*e*P	**P**	06 32 39.0	+2.2
UPC	**Upice**	89.07	320	*e*P	**P**	06 32 38.4	+0.7
GERES	**GERESS Array B**	90.42	319	P	**P**	06 32 45.6	+1.4
	0.8nm,0.5s,baz=108,slow=4.3,SNR=5.7						
NAO01	**NORSAR Array S**	92.63	331	*e*P	**P**	06 32 53.0	-1.0
EDM	**Edmonton**	122.52	24	*e*PKPdf	**PKPdf**	06 38 38.2	+0.5
HUMO	**Hull Mountain**	124.49	38	*e*PKPdf	**PKPdf**	06 38 42.6	+0.7
PDAR	**Pinedale Array**	131.97	30	PKP	**PKPdf**	06 38 57.0	+0.6
	0.8nm,0.9s,baz=152,slow=4.1,SNR=5.9						
K22A	**Casper**	133.53	28	*e*P	**PKPdf**	06 39 02.6	+3.3
RWWY	**Rawlins**	133.94	29	*e*PKPdf	**PKPdf**	06 38 59.1	-1.0
EYMN	**Ely**	133.96	12	*e*PKPdf	**PKPdf**	06 39 01.2	+1.6
CPUP	**Villa Florida**	144.06	214	PKP	**PKPdf**	06 39 18.7	0.0
	1.4nm,0.8s,baz=90,slow=3.0,SNR=4.1						
HHAR	**Hobbs**	144.14	21	*e*PKPdf	**PKPab**	06 39 16.2	-0.1
WCI	**Wyandotte Cave**	144.32	10	*e*PKPdf	PKPbc	06 39 17.1	-0.1
PBMO	**Poplar Bluff**	144.79	16	*e*PKPdf	**PKPab**	06 39 17.9	-0.7
TX31	**Lajitas Ar. Si**	144.89	39	*e*PKPbc	PKPbc	06 39 19.6	+0.1
SPFD	**Spotsylvania F**	145.00	358	*e*PKPbc	**PKPbc**	06 39 19.3	0.0
IP04	**Greensprings**	145.06	359	*e*PKPbc	**PKPab**	06 39 19.6	+0.1
CVRD	**Centerville Ro**	145.08	358	*e*PKPbc	**PKPbc**	06 39 19.5	-0.1
IP03	**Louisa**	145.13	359	*e*PKPbc	**PKPbc**	06 39 19.6	-0.2
IP01	**Cuckoo**	145.19	358	*e*PKPbc	**PKPbc**	06 39 19.8	-0.1
IP06	**Yanceyville**	145.22	359	*e*PKPbc	**PKPbc**	06 39 20.0	0.0
IP05	**Hopewell Churc**	145.32	358	*e*PKPbc	**PKPbc**	06 39 20.4	+0.1
JSRW	**J. Sargeant Re**	145.46	358	*e*PKPdf	**PKPdf**	06 39 20.5	-0.2
URVA	**University of**	145.57	358	*e*PKPdf	**PKPab**	06 39 21.3	-0.1
WHAR	**Wooly Hollow**	145.60	19	*e*PKPdf	**PKPdf**	06 39 21.2	+0.1
X301	**Greenbrier Sit**	145.61	20	*e*PKPdf	**PKPab**	06 39 21.8	+0.1
MIAR	**Mount Ida**	145.83	22	*e*PKPdf	**PKPab**	06 39 22.3	-0.2
WVT	**Waverly**	146.05	13	*e*PKPdf	**PKPdf**	06 39 22.1	+0.3
JCT	**Junction City**	146.35	34	*e*PKPdf	**PKPbc**	06 39 24.2	+0.4
TKL	**Tuckaleechee C**	147.21	7	*e*PKPbc	**PKPbc**	06 39 25.6	-0.5
SWET	**Sewanee**	147.31	10	*e*PKPbc	**PKPbc**	06 39 25.6	-0.8
CPCT	**Cooper Cave**	147.32	8	*e*PKPbc	**PKPbc**	06 39 26.1	-0.3
KMSC	**Kings Mountain**	147.95	4	*e*PKPbc	**PKPbc**	06 39 27.8	-0.3
BG3	**Lake Jocassee**	147.97	6	*e*PKPbc	**PKPbc**	06 39 28.2	+0.1
HODGE	**Hodges**	148.78	5	*e*PKPbc	**PKPbc**	06 39 30.0	-0.3
JSC	**Jenkinsville**	148.81	4	*e*PKPbc	**PKPbc**	06 39 30.6	+0.2
GOGA	**Godfrey**	149.47	7	*e*PKPbc	**PKPbc**	06 39 32.1	+0.1
LNIG	**Linares**	150.66	40	*e*PKPbc	**PKPbc**	06 39 34.7	-0.5

*IDC **07** 06:30:15.1±1.4,22°.13S×171°.35E,h81km±11km,mb4.9/24, mb1 5.0/28,mb1mx4.9/38,mbtmp5.2/28,MS4.3/24, Ms1 4.3/24,ms1mx4.2/34,Error ellipse: s-maj=13.1km s-min=11.5km az=69.0*

*ISCJB **07** 06:30:16.5±0.7,22°.20S±0°.02×171°.19E±0°.02,h102km±6km, mb5.3/190,Error ellipse: s-maj=4.2km s-min=3.4km az=19.6*

*MOS **07** 06:30:17.6±1.3,22°.11S×171°.18E,h107km,mb5.4/43, Error ellipse: s-maj=7.7km s-min=7.4km az=118.9*

*GCMT **07** 06:30:19.6±0.1,22°.28S×171°.19E,h100km±1km, MW5.6/134,Moment Tensor Solution. s113,c194; s134,c283; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}0.74±.03; $M_{\theta\theta}$-0.82±.04; $M_{\phi\phi}$0.08±.04; $M_{r\theta}$1.52±.02; $M_{\theta\phi}$1.89±.03; $M_{\phi r}$1.06±.02; Best double couple: $M_0$2.71700×10^{17} NP1:ϕ_s88.00000°,δ73.00000°, λ39.00000°. NP2:ϕ_s345.00000°,δ53.00000°,λ159.00000°. Principal axes: T 3.0000, Plg39.0000°, Azm313.0000°; N -0.5650, Plg49.0000°, Azm108.0000°; P -2.4340, Plg13.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **07** 06:30:19.6±0.7,22°.21S×171°.22E,h119km±6km, mb5.4/148 Error ellipse: s-maj=3.7km s-min=3.4km az=140.0*

*BJI **07** 06:30:19.0,21°.61S×171°.06E,h105km,mb5.2/59, mB5.3/48*

ISC 07 06:30:17.2±0.3,22°.22S±0°.04×171°.24E±0°.04,h100km±2km, h100km:pP-P,n795,σ1.92/4,851,mb5.3/189,68C-27D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RAO	**Raoul Island**	12.02	128	LR	LR	06 35 45.1	
	comp=Z,950nm,18.5s,baz=326,slow=28						
RAO	**Raoul Island**	12.02	128	*e*P	**Pn**	06 33 06.3	+1.2
RAO	**Raoul Island**	12.02	128	*e*Pn	**Pn**	06 33 06.3	+1.2
OUZ	**Omahuta**	13.11	171	*e*Pn	**Pn**	06 33 20.2	+0.7
OUZ				*e*Sn	**Sn**	06 35 42.0	-1.7
OUZ	**Omahuta**	13.11	171	PN	**Pn**	06 33 21.0	+1.5
OUZ				SN	**Sn**	06 35 35.9	-7.8
WCZ	**Waipu Caves**	13.93	169	PN	**Pn**	06 33 31.2	+1.0
WCZ				SN	**Sn**	06 35 57.0	-6.5
LHI	**Lord Howe Isla**	14.26	227	P	**Pn**	06 33 36.6	+2.1
	baz=14,SNR=6.7						
LHI	**Lord Howe Isla**	14.26	227	*e*Pn	**Pn**	06 33 34.7	+0.1
GRZ	**Great Barrier**	14.45	166	*e*PN	**P**	06 33 42.1	+1.3
MKAZ	**Moumakai**	15.21	168	PN	**Pn**	06 33 47.6	+1.0
FUNA	**Funafuti**	15.62	31	*e*P	**P**	06 33 55.3	+1.3
	206nm,1.0s						
MXZ	**Matakaoa Point**	16.46	160	*e*Pn	**P**	06 34 03.9	+0.8
	79nm,0.7s						
HAZ	**Te Kaha**	16.48	161	PN	**P**	06 34 04.9	+1.7
HIZ	**Hauiti**	16.53	170	*e*Pn	**P**	06 34 05.4	+1.6
	715nm,1.5s						
HNR	**Honiara**	16.71	318	P	**Pn**	06 34 05.1	-0.3
	38nm,0.3s,baz=214,slow=0.3,SNR=14						
HNR				LR	LR	06 39 41.9	
	comp=Z,1μm,21.9s,baz=154,slow=34						
HNR	**Honiara**	16.71	318	*e*P	**P**	06 34 06.0	0.0
HNR				pmax	pmax		
	comp=Z,1μm,1.5s						
HNR	**Honiara**	16.71	318	*e*Pn	**P**	06 34 06.0	0.0
	comp=Z,1μm,1.5s						
WMGZ	**Waiomatatini S**	16.73	160	PN	**P**	06 34 08.1	+2.1
URZ	**Urewera**	16.76	164	P	**P**	06 34 07.3	+1.0
	comp=Z,10nm,0.3s,baz=328,slow=4.3,SNR=115						
URZ	**Urewera**	16.76	164	*e*Pn	**P**	06 34 08.1	+1.7
	comp=Z,514nm,0.9s						
URZ	**Urewera**	16.76	164	*e*PN	**P**	06 34 07.6	+1.2
OTVZ	**Oturere**	17.30	168	*e*PN	**Pn**	06 34 14.8	+2.1
WHVZ	**Whangaehu Hut**	17.41	169	PN	**Pn**	06 34 16.3	+2.4
WNVZ	**Wahianoa**	17.45	169	*e*PN	**Pn**	06 34 16.3	+1.9
BKZ	**Black Stump Fm**	17.48	166	*e*P	**Pn**	06 34 15.4	+0.8
	comp=Z,439nm,0.9s						
BKZ	**Black Stump Fm**	17.48	166	PN	**Pn**	06 34 16.2	+1.6
KNZ	**Kokohu**	17.63	163	PN	**Pn**	06 34 16.7	+0.4
KWHZ	**Kaweka Forest**	17.71	167	*e*PN	**Pn**	06 34 18.7	+1.3
NIUE	**Niue**	17.90	83	P	**P**	06 34 18.7	-0.5
	baz=18,SNR=4.3						
AFI	**Afiamalu**	18.13	66	P	**P**	06 34 18.6	-3.1
	comp=Z,6.3nm,0.3s,baz=44,slow=4.3,SNR=11						
AFI				LR	LR	06 40 41.0	
	comp=Z,585nm,18.2s,baz=228,slow=35						
AFI	**Afiamalu**	18.13	66	*e*P	**P**	06 34 20.9	-0.8
AFI				pmax	pmax		
	comp=Z,185nm,1.1s						
AFI	**Afiamalu**	18.13	66	*e*P	**P**	06 34 20.9	-0.8
	comp=Z,185nm,1.1s						
KAHZ	**Kahuranaki**	18.16	166	*e*PN	**Pn**	06 34 23.0	+0.1
PXZ	**Pawanui**	18.38	166	PN	**Pn**	06 34 25.0	-0.5
QRZ	**Quartz Range**	18.58	177	*e*PN	**Pn**	06 34 28.6	+0.8
EIDS	**Eidsvold**	18.71	256	P	**Pn**	06 34 31.0	+1.6
	baz=19,SNR=44						
EIDS	**Eidsvold**	18.71	256	*e*P	**Pn**	06 34 31.1	+1.6
	comp=Z,116nm,0.8s						
MRZ	**Mangatainoka R**	18.74	170	PN	**P**	06 34 28.7	+0.5
OGWZ	**Otaki Gorge**	18.83	171	PN	**Pn**	06 34 30.2	-0.6
KIW	**Kapiti Island**	18.84	171	PN	**Pn**	06 34 30.3	-0.6
BFZ	**Birch Farm**	18.88	168	*e*P	**P**	06 34 30.3	+0.6
	comp=Z,950nm,1.6s						
TIWZ	**Tintock**	18.91	169	PN	**P**	06 34 30.2	+0.2
HOWZ	**Holdsworth Sta**	18.96	170	PN	**P**	06 34 30.9	+0.2
NNZ	**Nelson**	19.02	175	PN	**Pn**	06 34 33.0	0.0
NNZ				SN	**Sn**	06 38 04.2	-1.9
MTW	**Mount Morrison**	19.22	170	*e*PN	**P**	06 34 33.2	-0.1
TMWZ	**Te Maipa**	19.23	169	*e*PN	**P**	06 34 33.3	-0.2
SNZO	**South Karori**	19.25	172	*e*P	**Pn**	06 34 34.8	-0.9
	comp=Z,308nm,0.9s						
ARMA	**Armidale**	19.36	241	P	**Pn**	06 34 38.4	+1.2
	baz=19,SNR=45						
ARMA	**Armidale**	19.36	241	*e*P	**Pn**	06 34 37.9	+0.6
	comp=Z,496nm,1.8s						
BHW	**Baring Head**	19.37	172	*e*PN	**P**	06 34 35.1	+0.1
PAWZ	**Paruwai Farm**	19.42	170	*e*PN	**P**	06 34 35.4	-0.2
MSWZ	**Moikau Station**	19.43	171	*e*PN	**P**	06 34 35.6	-0.1
DSZ	**Denniston Nort**	19.47	179	PN	**Pn**	06 34 38.4	0.0
TRWZ	**Traveller**	19.48	170	*e*PN	**P**	06 34 35.9	-0.3
THZ	**Tophouse**	19.53	176	*e*P	**Pn**	06 34 38.3	-0.7
	comp=Z,194nm,0.9s						
THZ	**Tophouse**	19.53	176	PN	**P**	06 34 37.9	+1.1
PLWZ	**Palliser**	19.58	171	PN	**P**	06 34 37.0	-0.4
KHZ	**Kahutara**	20.23	175	*e*P	**P**	06 34 44.4	+0.2
	comp=Z,367nm,1.0s						
KHZ	**Kahutara**	20.23	175	PN	**P**	06 34 44.2	0.0
INZ	**Inchbonnie**	20.44	180	*e*PN	**P**	06 34 47.8	+1.3
LTZ	**Lake Taylor**	20.52	178	*e*P	**P**	06 34 48.5	+1.0
	comp=Z,388nm,0.8s						
LTZ	**Lake Taylor**	20.52	178	PN	**P**	06 34 48.6	+1.2
MGCD	**Mangrove Creek**	20.87	234	P	Pn	06 34 53.5	-1.2
	baz=21,SNR=24						
RMQ	**Roma**	20.91	254	P	Pn	06 34 55.0	-0.2
	baz=21,SNR=156						
OXZ	**Oxford**	21.05	178	*e*P	**P**	06 34 53.4	+0.3
	comp=Z,289nm,0.9s						
OXZ	**Oxford**	21.05	178	PN	**P**	06 34 53.3	+0.2
FOZ	**Fox Glacier**	21.28	183	*e*P	**P**	06 34 57.3	+1.8
	comp=Z,526nm,1.0s						
FOZ	**Fox Glacier**	21.28	183	*e*PN	**P**	06 34 56.8	+1.2
CRLZ	**Canterbury Las**	21.32	177	*e*P	**P**	06 34 56.2	+0.2
	comp=Z,322nm,1.3s						
RPZ	**Rata Peaks**	21.43	180	P	**P**	06 34 57.9	+0.7
	comp=Z,214nm,0.9s,baz=26,slow=2.4,SNR=82						
RPZ				pP	**pP**	06 35 18.6	+2.2
	comp=Z,284nm,0.8s,baz=304,slow=2.5,SNR=12						
RPZ				LR	LR	06 42 19.9	
	comp=Z,1μm,19.6s,baz=5.0,slow=34						
RPZ	**Rata Peaks**	21.43	180	*e*P	**P**	06 34 58.4	+1.1
	comp=Z,285nm,0.8s						
RPZ				pP	**pP**	06 35 18.6	+2.2
RPZ	**Rata Peaks**	21.43	180	PN	**P**	06 34 58.4	+1.1
MQZ	**McQueen's Vall**	21.46	177	*e*P	**P**	06 34 57.4	0.0
	comp=Z,236nm,1.4s						
MQZ	**McQueen's Vall**	21.46	177	PN	**P**	06 34 56.9	-0.5
JCZ	**Jackson Bay**	21.89	185	PN	**P**	06 35 03.5	+1.4
LBZ	**Lake Benmore**	22.12	182	*e*P	**P**	06 35 05.1	+0.6
	comp=Z,140nm,1.0s						
LBZ	**Lake Benmore**	22.12	182	PN	**P**	06 35 05.1	+0.6
WKZ	**Wanaka**	22.62	184	*e*P	**P**	06 35 11.4	+1.8
	comp=Z,403nm,1.3s						
WKZ	**Wanaka**	22.62	184	PN	**P**	06 35 10.8	+1.2
ODZ	**Otahua Downs**	22.77	181	*e*P	**P**	06 35 11.6	+0.4
	comp=Z,151nm,1.1s						
CNB	**Canberra Magne**	23.13	231	P	**P**	06 35 16.8	+1.9
	baz=23,SNR=68						
MLZ	**Mavora Lakes**	23.23	186	*e*P	**P**	06 35 17.0	+1.4
	comp=Z,135nm,0.9s						
MLZ	**Mavora Lakes**	23.23	186	PN	**P**	06 35 16.6	+1.0
CTA	**Charters Tower**	23.39	271	P	**P**	06 35 18.4	+1.1
	comp=Z,35nm,0.5s,baz=91,slow=10,SNR=66						
CTA				LR	LR	06 43 41.4	
	comp=Z,701nm,22.0s,baz=96,slow=34						
CTAO	**Charters Tower**	23.39	271	*e*P	**P**	06 35 18.5	+1.1
CTAO				pmax	pmax		
	comp=Z,450nm,1.5s						
CTAO	**Charters Tower**	23.39	271	*e*P	**P**	06 35 18.4	+1.1
	comp=Z,451nm,1.5s						
CAN	**Canberra**	23.39	231	*e*P	**P**	06 35 19.1	+1.8
CAN				pmax	pmax		
	comp=Z,180nm,1.4s						
CAN	**Canberra**	23.39	231	*e*P	**P**	06 35 19.1	+1.8
	comp=Z,175nm,1.4s						
DCZ	**Deep Cove**	23.42	187	*e*P	**P**	06 35 18.5	+1.2
	comp=Z,259nm,1.4s						
TARA	**Tarawa**	23.49	4	*e*P	**P**	06 35 18.3	0.0
	comp=Z,85nm,1.0s						
WHZ	**Wether Hill Ro**	23.76	186	*e*P	**P**	06 35 21.7	+1.3
	comp=Z,117nm,0.8s						
MILA	**Mila**	24.14	227	P	**P**	06 35 26.1	+2.0
	baz=24,SNR=16						
PYZ	**Puysegur Point**	24.17	188	*e*P	**P**	06 35 24.7	+0.6
	comp=Z,127nm,1.1s						
CMSA	**Cobar Meteorol**	24.55	242	P	**P**	06 35 29.3	+1.5
	baz=25,SNR=171						
QLP	**Quilpie**	24.95	255	P	**P**	06 35 32.4	+1.0
	baz=25,SNR=45						
MTSU	**Mount Surprise**	25.58	274	P	**P**	06 35 38.6	+1.3
	baz=26,SNR=499						
RABL	**Rabaul**	25.75	311	*e*P	**P**	06 35 38.4	-0.4
	comp=Z,151nm,0.4s						
PMG	**Port Moresby**	26.39	295	P	**P**	06 35 44.9	+0.4
	comp=Z,73nm,0.8s,baz=120,slow=5.6,SNR=20						
PMG				LR	LR	06 45 05.2	
	comp=Z,609nm,20.6s,baz=140,slow=34						
PMG	**Port Moresby**	26.39	295	*e*P	**P**	06 35 44.8	+0.4
PMG				pmax	pmax		
	comp=Z,275nm,0.8s						
PMG	**Port Moresby**	26.39	295	*e*P	**P**	06 35 44.9	+0.4
	comp=Z,66nm,0.7s						
RAR	**Rarotonga**	26.93	93	LR	LR	06 44 28.3	
	comp=Z,595nm,21.4s,baz=261,slow=32						
TOO	**Toolangi**	26.94	230	P	**P**	06 35 50.8	+1.5
	baz=27,SNR=10.0						
COEN	**Coen**	27.88	282	P	**P**	06 35 59.2	+1.4
	baz=28,SNR=53						
COEN	**Coen**	27.88	282	*e*P	**P**	06 35 59.2	+1.4
	comp=Z,186nm,1.4s						
STKA	**Stephens Creek**	28.02	244	P	**P**	06 36 00.3	+1.4
	comp=Z,28nm,0.7s,baz=86,slow=10,SNR=58						
STKA				PcP	**PcP**	06 39 12.4	+0.8
	comp=Z,8.4nm,0.7s,baz=81,slow=5.2,SNR=4.8						
STKA				ScP	**ScP**	06 42 47.4	+3.9
	comp=Z,4.6nm,0.9s,baz=76,slow=2.6,SNR=5.7						
STKA				LR	LR	06 46 25.2	
	comp=Z,313nm,18.4s,baz=70,slow=34						
STKA				PKiKP	**PKiKP**	06 46 45.8	-1.6
	comp=Z,0.6nm,0.4s,baz=179,slow=19,SNR=3.4						
STKA	**Stephens Creek**	28.02	244	*e*P	**P**	06 36 00.3	+1.4
	comp=Z,6.3nm,0.8s						
STKA				PcP	**PcP**	06 39 12.4	+0.8
STKA				ScP	**ScP**	06 42 47.4	+3.9
STKA				PKiKP	**PKiKP**	06 46 45.8	-1.6
MOO	**Moorlands**	28.45	219	P	**P**	06 36 04.2	+1.5
	baz=28,SNR=9.1						
TAU	**Tasmania Unive**	28.67	218	*e*P	**P**	06 36 05.7	+1.1
TAU				pmax	pmax		
	comp=Z,120nm,1.8s						
TAU	**Tasmania Unive**	28.67	218	*e*P	**P**	06 36 05.7	+1.1
	comp=Z,124nm,1.8s						
ARPS	**Mount Arapiles**	29.27	234	P	**P**	06 36 11.5	+1.6
	baz=29,SNR=22						
QIS	**Mount Isa**	29.48	267	P	**P**	06 36 12.3	+0.2
	baz=30,SNR=15						
HTT	**Hallett**	30.57	242	P	**P**	06 36 23.0	+1.4
	baz=31,SNR=24						
MANU	**Manus Island**	30.67	308	*e*P	**P**	06 36 22.9	+0.3
	comp=Z,296nm,1.7s						
BBOO	**Buckleboo**	32.80	244	P	**P**	06 36 41.9	+0.8
	baz=33,SNR=31						
BBOO	**Buckleboo**	32.80	244	*e*P	**P**	06 36 41.9	+0.8
	comp=Z,78nm,1.0s						
AS01	**Alice Springs**	34.31	260	*e*P	**P**	06 36 54.0	-0.3
AS31	**Alice Springs**	34.35	260	*e*P	**P**	06 36 54.7	0.0
	comp=Z,66nm,0.6s						
ASAR	**Alice Springs**	34.35	260	P	**P**	06 36 54.8	0.0
	comp=Z,138nm,0.7s,baz=85,slow=9.1,SNR=1516						
ASAR				PcP	**PcP**	06 39 28.7	0.0
	comp=Z,5.9nm,0.7s,baz=121,slow=2.5,SNR=4.2						
ASAR				S	**S**	06 42 14.5	-0.8
	comp=Z,1.8nm,1.0s,baz=83,slow=13,SNR=4.2						
ASAR				ScP	**ScP**	06 43 08.1	+3.3
	comp=Z,2.7nm,0.7s,baz=103,slow=3.9,SNR=7.2						
ASAR				PKiKP	**PKiKP**	06 46 50.6	-1.4
	comp=Z,0.8nm,0.7s,baz=78,slow=1.2,SNR=6.1						
ASAR				LR	LR	06 51 20.6	
	comp=Z,323nm,18.7s,baz=100,slow=37						
WB2	**Warramunga Arr**	34.44	267	*e*P	**P**	06 36 54.8	-0.7
	comp=Z,93nm,1.1s						
WRAB	**Tennant Creek**	34.44	267	*c i*P	**P**	06 36 54.6	-0.9
WRAB				pmax	pmax		
	comp=Z,317nm,1.7s						
WRAB	**Tennant Creek**	34.44

comp=Z,416nm,27.8s
RKT *e*LQ LQ 06 50 55.9
comp=Z,1μm,36.0s
RKT *e*LR LR 06 53 01.6
comp=Z,1μm,32.8s,baz=263
MORW Morawa 49.85 250 P **P 06 39 00.4 -0.1**
baz=50,SNR=20
BASI Baing, Sumba 49.87 275 P **P 06 39 02.7 +1.9**
KDI Kendari 50.44 284 P **P 06 39 05.6 +0.5**
KEKH Kekaha 52.27 35 *e*P **P 06 39 19.7 +1.1**
comp=Z,177nm,1.0s
GIRL Giralia 52.40 258 P **P 06 39 21.6 +1.9**
baz=52,SNR=5.6
KAPI Kappang 52.59 281 *e*P **P 06 39 21.9 +0.8**
comp=Z,243nm,1.5s
KIP Kipapa 52.74 37 *ce*P **P 06 39 22.0 0.0**
KIP pmax pmax
comp=Z,425nm,1.2s
PLAI Plampang 52.95 276 P **P 06 39 24.4 +0.6**
HPAH Hawaii Prepara 52.98 40 *e*P **P 06 39 24.9 +1.0**
comp=Z,88nm,0.9s
SPSI Sidrap Palu 53.01 282 P **P 06 39 23.7 -0.5**
TTSI Tana Toraja 53.35 283 P **P 06 39 27.6 +0.9**
TWSI Taliwang, Sumb 53.80 275 P **P 06 39 30.7 +0.7**
PCI Palu 54.27 286 P **P 06 39 36.2 +2.7**
IGBI Denpasar 55.38 275 P **P 06 39 42.5 +1.1**
VNDA Vanda 55.53 182 P **P 06 39 42.0 +0.4**
comp=Z,5.1nm,0.8s,baz=360,slow=8.0,SNR=32
VNDA Vanda 55.53 182 *e*P **P 06 39 42.1 +0.5**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 55.53 182 *e*P **P 06 39 42.0 +0.5**
comp=Z,8.0nm,0.9s
SBA Scott Base 55.72 181 *e*P **P 06 39 44.5 +1.6**
SBA pmax pmax
comp=Z,72nm,1.0s
SBA Scott Base 55.72 181 *e*P **P 06 39 44.5 +1.6**
comp=Z,72nm,0.9s
JAGI Jajag, Banyuwa 56.42 275 P **P 06 39 48.5 -0.4**
JAGI Jajag, Banyuwa 56.42 275 *e*P **P 06 39 48.2 -0.6**
comp=Z,82nm,0.7s
KMMI Kalianget 57.11 276 P **P 06 39 55.8 +2.1**
GMJI Gumukmas 57.14 274 P **P 06 39 56.7 +2.7**
MYLDM Lahad Datu 58.33 291 *e*P **P 06 40 03.4 +1.1**
comp=Z,61nm,0.9s
PCJI Pacitan 59.27 274 P **P 06 40 09.7 +0.9**
NGJI Ngawi 59.30 275 P P 06 40 20.6 +12
UGM Wanagama 59.97 274 P **P 06 40 14.6 +0.9**
UGM Wanagama 59.97 274 *e*P **P 06 40 14.3 +0.6**
comp=Z,129nm,0.7s
SMRI Semarang 60.36 275 *e*P **P 06 40 17.1 +0.8**
comp=Z,118nm,1.2s
KKM Kota Kinabalu 60.73 291 *e*P **P 06 40 19.8 +0.9**
comp=Z,102nm,0.8s
CMJI Cimerak 61.94 273 P **P 06 40 28.3 +1.4**
STKI Sintang 62.21 282 P **P 06 40 30.1 +1.3**
SBUM Sibu 62.58 285 *e*P **P 06 40 32.3 +1.1**
comp=Z,65nm,1.2s
CISI Cisompet, Garu 62.60 273 P **P 06 40 31.7 +0.2**
CISI Cisompet, Garu 62.60 273 *e*P **P 06 40 31.3 -0.2**
comp=Z,159nm,1.1s
CNJI Cibinong 63.33 273 P **P 06 40 36.6 +0.4**
KSM Kuching 63.87 283 *e*P **P 06 40 40.3 +0.6**
comp=Z,145nm,0.8s
DBJI Dramaga 63.95 274 P **P 06 40 40.9 +0.6**
CGJI Cibinong 64.91 273 P **P 06 40 46.2 -0.3**
INU Inuyama 65.81 330 *e*P **P 06 40 52.4 +0.6**
comp=Z,79nm,1.3s
MJAR Matsushiro Arr 66.25 331 P **P 06 40 54.2 -0.5**
comp=Z,19nm,0.8s,baz=163,slow=6.3,SNR=37
MJAR Matsushiro Arr 66.25 331 P **P 06 40 54.2 -0.5**
MJAR pmax pmax
comp=Z,26nm,1.0s
MAJO Matsushiro 66.26 331 *e*P **P 06 40 54.5 -0.2**
MAJO Matsushiro 66.26 331 *e*P **P 06 40 54.5 -0.2**
comp=Z,33nm,0.9s
MAT Matsushiro 66.26 331 P **P 06 40 54.2 -0.5**
MAT *e*S **S 06 49 40.0 +3.9**
MJB9 Matsu-Tunnel 66.26 331 *e*P **P 06 40 55.0 +0.2**
comp=Z,8.8nm,0.9s
NACB Ninganchiao 66.74 311 *e*P **P 06 40 57.5 -0.5**
comp=Z,93nm,1.2s
TPUB Ta-pu 66.88 309 *e*P **P 06 40 57.9 -1.1**
comp=Z,65nm,1.0s
SSLB Suanglung 66.95 310 *e*P **P 06 40 58.3 -1.1**
comp=Z,27nm,1.0s
JNU Nakatsue 67.17 324 *e*P **P 06 41 00.6 0.0**
comp=Z,56nm,1.3s
QSPA South Pole Qui 67.84 180 *e*P **P 06 41 04.9 +0.3**
comp=Z,62nm,0.9s
MNAI Manna 68.27 274 *e*P **P 06 41 06.8 -1.1**
comp=Z,296nm,0.7s
QZH Quanzhou 69.35 310⇑ *i*P **P 06 41 14.0 -0.3**
MYKOM Kota Tinggi 69.85 281 *e*P **P 06 41 18.7 +1.0**
comp=Z,89nm,1.1s
DLV T Lat 70.25 292 *e*P **P 06 41 21.5 +1.2**
comp=Z,109nm,1.4s
KUR Kuril'sk 70.43 343 ⇓ *i*P **P 06 41 21.1 +0.6**
ASAJ Asahikawa 71.04 339 *e*P **P 06 41 25.5 +1.3**
comp=Z,213nm,1.8s
BKNI Bangkinang 71.83 278 *e*P **P 06 41 30.3 +0.5**
comp=Z,518nm,1.8s
KSRS Korea Array 72.01 325 P **P 06 41 30.5 +0.3**
comp=Z,6.6nm,0.9s,baz=146,slow=5.9,SNR=12
KSRS PP **PP 06 44 08.9 -2.9**
comp=Z,0.5nm,0.4s,baz=157,slow=9.0,SNR=4.1
KSRS LR LR 07 10 53.6
comp=Z,100nm,20.7s,baz=129,slow=34
KSAR Wonju Array Be 72.03 325 P **P 06 41 30.5 +0.2**
KSAR 06 44 08.9
KSAR Wonju Array Be 72.03 325 P **P 06 41 30.5 +0.2**
KSAR PP **PP 06 44 08.9 -3.0**
KS01 Wonju Array Si 72.05 325 *e*P **P 06 41 30.6 +0.2**
QIZ Qiongzhong 72.67 300 P **P 06 41 35.1 +0.5**
QIZ pP **sP 06 42 07.1 -3.7**
QIZ PP **PP 06 44 18.6 +0.9**
QIZ S **S 06 50 53.4 +1.2**
QIZ pmax pmax
comp=Z,35nm,2.0s
QIZ LR LR
comp=Z,540nm,39.3s
INCN Inchon 72.73 324 *e*P **P 06 41 34.8 +0.3**
comp=Z,206nm,1.8s
YSS Yuzh-Sakhalins 73.50 340α *i*P **P 06 41 40.3 +1.5**
YSS *e* 06 41 54.4
YSS pmax pmax
comp=Z,150nm,0.9s
YSS Yuzh-Sakhalins 73.50 340 *e*P **P 06 41 40.4 +1.6**
comp=Z,145nm,0.9s
IPM Ipoh 73.53 282 *e*P **P 06 41 40.4 +0.6**
comp=Z,105nm,0.7s
NJ2 Nanjing 73.64 315 *e*P **P 06 41 40.2 +0.2**
NJ2 pmax pmax
comp=Z,30nm,0.6s
SKR Severo-Kuril's 73.81 350 *e*P P 06 41 29.9 -11
SKR *e*PPP PPP 06 46 07.0
SKR *e* 06 51 06.2
SKR *e*SSS SSS 06 59 09.1
SKR pmax pmax
comp=Z,30nm,1.4s
SKR pmax pmax
comp=Z,400nm,8.0s
SKR pmax pmax
comp=Z,200nm,6.6s
SKR MLR MLR
comp=Z,200nm,18.0s
SKR MLR MLR
comp=Z,200nm,19.0s
KULM Kulim 74.20 283 *e*P **P 06 41 44.2 +0.5**
comp=Z,68nm,0.7s
MSHR Mys Shultsa 74.33 330 *ce*P **P 06 41 45.1 +1.4**
UBPT Khong Chiam 74.42 294 P **P 06 41 47.4 +2.5**
comp=Z,25nm,1.8s
VLA Vladivostok 74.42 331 ⇓ *i*P **P 06 41 43.7 -0.6**
VLA *e**PP **pP 06 42 09.8 0.0**
VLA *i* *SP **sP 06 42 19.7 -0.9**
VLA pmax pmax
comp=Z,32nm,1.2s
ADK Adak 74.54 8 *e*P **P 06 41 44.7 0.0**
ADK Adak 74.54 8 *e*P **P 06 41 44.7 0.0**
comp=Z,68nm,1.2s
PSI Prapat 74.76 279 P **P 06 41 46.4 -0.7**
comp=Z,47nm,0.9s,baz=154,slow=4.6,SNR=38
PSI PP **PP 06 44 33.2 -2.5**
comp=Z,2.1nm,0.3s,baz=202,slow=11,SNR=4.9
ATKA Atka Island 75.19 9 *e*P **P 06 41 48.2 -0.2**
comp=Z,97nm,1.2s
USRK Ussuriysk Ar. 75.24 332 P **P 06 41 49.2 +0.3**
comp=Z,19nm,0.8s,baz=142,slow=4.1,SNR=31
USRK PKPPKP **P'P'df 07 09 12.9 +2.1**
comp=Z,3.1nm,0.8s,baz=22,slow=12,SNR=4.3
USRK LR LR 07 11 17.2
comp=Z,83nm,21.8s,baz=131,slow=33
PET Petropavlovsk 75.72 352 *e*P **P 06 41 51.3 -0.2**
PET *e**PP **pP 06 42 18.4 +1.3**
PET *e**SP **sP 06 42 31.5 +3.7**
PET *e* 06 44 41.1
PET *e*S **S 06 51 25.3 +0.4**
PET *e*SP **SPn 06 52 00.6 -0.2**
PET pmax pmax
comp=Z,300nm,6.7s
PET pmax pmax
comp=Z,34nm,1.4s
PET pmax pmax
comp=Z,200nm,11.8s
PET MLR MLR
comp=Z,200nm,14.0s
PET Petropavlovsk 75.72 352 *e*P **P 06 41 51.4 -0.2**
comp=Z,59nm,1.4s
WHN Wuhan 75.73 312 P **P 06 41 50.3 -1.8**
WHN S **S 06 51 30.0 +4.1**
WHN LR LR
comp=Z,920nm,27.6s
PEA0 Petropavlovsk- 75.93 352 *e*P **P 06 41 53.1 +0.4**
PEA0B Petropavlovsk- 75.93 352 *e*P **P 06 41 53.0 +0.3**
comp=Z,98nm,1.4s
PETK Petropavlovsk- 75.93 352 P **P 06 41 53.1 +0.3**
comp=Z,8.7nm,0.5s,baz=118,slow=5.9,SNR=6.4
PETK LR LR 07 09 50.8
comp=Z,367nm,21.9s,baz=161,slow=31
MAW Mawson 76.38 202 P **P 06 41 56.1 +0.9**
comp=Z,15nm,0.9s,baz=112,slow=7.3,SNR=48
MAW LR LR 07 12 53.7
comp=Z,190nm,18.4s,baz=80,slow=33
MAW Mawson 76.38 202 *e*P **P 06 41 56.4 +1.2**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 76.38 202 *e*P **P 06 41 56.4 +1.2**
comp=Z,3.3nm,0.8s
SKNT Sakolnakorn 76.48 295 P **P 06 41 57.6 +0.9**
comp=Z,91nm,1.4s
DL2 Dalian 76.51 322 P **P 06 41 56.8 +0.5**
DL2 pP **pP 06 42 23.8 +1.9**
DL2 S **S 06 51 35.9 +1.8**
DL2 pmax pmax
comp=Z,60nm,1.4s
DL2 pmax pmax
comp=Z,370nm,6.7s
MDJ Mudanjiang 76.63 331 P **P 06 41 57.0 +0.1**
MDJ pP pP 06 42 22.2 -0.3
MDJ sP sP 06 42 34.3 +1.1
MDJ S **S 06 51 38.9 +3.7**
MDJ pmax pmax
comp=Z,46nm,1.0s
MDJ pmax pmax
comp=Z,220nm,6.9s
MDJ LR LR
comp=Z,300nm,30.3s
MDJ LR LR
comp=Z,360nm,23.3s
MDJ LR LR
comp=Z,610nm,25.6s
MDJ Mudanjiang 76.63 331 *e*P **P 06 41 57.8 +0.9**
KRAB Krabi 76.74 285 P **P 06 41 59.0 +0.8**
comp=Z,65nm,0.7s,comp=Z,864nm
NIKH Nikolski High 76.86 12 *e*P **P 06 41 57.9 0.0**
comp=Z,134nm,0.8s
TYV Tymovskoe 77.01 342 *e*P **P 06 41 59.4 +0.6**
TYV pmax pmax
comp=Z,40nm,1.0s
KHON Khomkaen 77.17 294 P **P 06 42 02.4 +1.9**
comp=Z,24nm,1.1s,comp=Z,1μm
TIA Tai'an 77.41 318⇑P **P 06 42 01.5 +0.1**
TIA pmax pmax
comp=Z,60nm,1.0s
HABR Khabarovsk 77.47 336 *e*P **P 06 42 00.3 -1.1**
HABR *e* 06 42 10.2
HABR *e**PP **pP 06 42 26.1 -1.0**
HABR *e**SP **sP 06 42 37.2 -0.7**
HABR *e* 06 44 55.7
HABR *e*PPP PPP 06 46 43.2
HABR *e*S **S 06 51 42.9 -1.2**
HABR *e* 06 52 08.8
HABR *e**SS **sS 06 52 27.7 -0.4**
HABR *e*SS **SS 06 56 44.3 -1.4**
HABR *e*SSS SSS 07 00 09.3
HABR pmax pmax
comp=N,17nm,0.8s
HABR pmax pmax
comp=Z,63nm,0.8s
HABR pmax pmax
comp=E,23nm,0.8s
HABR MLR MLR
comp=Z,69nm,18.0s
SNY Shenyang 77.49 326 ⇓P **P 06 42 02.4 +0.7**
SNY pmax pmax
comp=Z,15nm,0.6s
SNY pmax pmax
comp=Z,270nm,5.7s
SNY LR LR
comp=Z,200nm,22.4s
SNY LR LR
comp=Z,240nm,23.8s
SNY LR LR
comp=Z,600nm,31.0s
NAYO Nakonayok 77.53 291 P **P 06 42 04.1 +1.6**
comp=Z,31nm,1.0s,comp=Z,809nm
LHMI Lhok Sumawe 77.54 281 *e*P **P 06 42 03.4 +0.7**
comp=Z,104nm,0.8s
CHAI Chaiyaphum 77.67 293 P **P 06 42 04.3 +1.0**
comp=Z,6.2nm,1.0s,comp=Z,96nm
CN2 Changchun 77.97 328⇑P **P 06 42 04.7 +0.3**
CN2 *e*sP sP 06 42 43.5 +2.7
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
PHET Kaeng Krachan 78.37 289 P **P 06 42 09.1 +1.9**
comp=Z,24nm,0.9s,comp=Z,215nm
SLVN Son La 78.64 299 *e*P **P 06 42 09.9 +1.2**
comp=Z,30nm,1.4s
PBKT Sadao Pong 78.85 293 P **P 06 42 11.2 +1.4**
comp=Z,32nm,1.5s
ENH Enshi 79.00 309 *e*P **P 06 42 10.3 -0.1**
comp=Z,57nm,0.9s
GYA Guiyang 79.05 304⇑ *i*P **P 06 42 11.1 +0.2**
GYA pP pP 06 42 40.2 +3.6
GYA sP sP 06 42 51.0 +3.6
GYA PP **PP 06 45 14.5 +3.0**
GYA S **S 06 52 02.0 -0.3**
GYA SKS **SKSac 06 52 14.8 -3.2**
GYA sS sS 06 52 49.2 +2.7
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,140nm,5.4s
UTHA Uthaitani 79.70 291 P **P 06 42 16.0 +1.6**
comp=Z,22nm,1.1s,comp=Z,202nm
UTTA Uttaradit 79.74 294 P **P 06 42 16.4 +1.8**
comp=Z,5.3nm,1.4s
BJT Baijiatuau 80.41 320 *e*P **P 06 42 17.8 0.0**
BJT pmax pmax
comp=Z,88nm,1.6s
BJT Baijiatuau 80.41 320 *e*P **P 06 42 17.8 0.0**
comp=Z,88nm,1.6s
BJI Beijing 80.42 320 P **P 06 42 18.0 +0.2**
BJI pP **pP 06 42 44.7 +1.1**
BJI sP **sP 06 42 55.4 +1.1**
BJI S **S 06 52 18.8 +3.0**
BJI sS **sS 06 52 59.3 -0.9**
BJI pmax pmax
comp=Z,32nm,1.4s
BJI pmax pmax
comp=Z,530nm,4.1s
BJI LR LR
comp=Z,260nm,25.6s
BJI LR LR
comp=Z,220nm,26.7s
UMPA Umpang Tak 80.49 292 P **P 06 42 20.0 +1.3**
comp=Z,19nm,1.1s
LAMP Lampang 80.87 294 P **P 06 42 22.8 +2.1**
comp=Z,13nm,1.0s,comp=Z,122nm
TIY Taiyuan 81.28 317 *e*P **P 06 42 23.1 +0.5**
TIY pmax pmax
comp=Z,310nm,5.7s
CM01 Chiang Mai Arr 81.39 294 *e*P **P 06 42 25.2 +1.7**
CM31 Chiang Mai Arr 81.42 294 *e*P **P 06 42 25.4 +1.7**
CMAR Chiang Mai Arr 81.42 294 P **P 06 42 25.4 +1.7**
comp=Z,15nm,0.8s,baz=134,slow=4.1,SNR=71
CMAR LR LR 07 21 09.9
comp=Z,91nm,20.0s,baz=131,slow=38
CMAR Chiang Mai Arr 81.42 294 P **P 06 42 25.4 +1.7**
CMAR pmax pmax
comp=Z,17nm,0.8s
CMAR MLR MLR
comp=Z,91nm,20.0s
KMI Kunming 81.43 301 P **P 06 42 25.6 +1.8**
KMI pmax pmax
comp=Z,52nm,0.9s
KMI pmax pmax
comp=Z,310nm,7.0s
XAN Xi'an 81.49 312 P **P 06 42 24.1 +0.4**
XAN pP pP 06 42 49.0 -0.6
XAN PP **PP 06 45 33.0 +1.4**
XAN S **S 06 52 24.8 -2.6**
XAN SKS **SKSac 06 52 30.1 -4.3**
XAN SS **SS 06 57 44.7 -2.0**
XAN pmax pmax
comp=Z,58nm,1.3s
XAN pmax pmax
comp=Z,370nm,14.2s
CHTO Chiang Mai 81.58 294 P **P 06 42 25.9 +1.4**
comp=Z,198nm,1.4s,comp=Z,3μm
CHTO Chiang Mai 81.58 294 *e*P **P 06 42 25.8 +1.3**
CHTO pmax pmax
comp=Z,40nm,1.0s
CHTO Chiang Mai 81.58 294 *e*P **P 06 42 25.8 +1.3**
comp=Z,40nm,1.0s
SYO Syowa Base 82.59 196⇓ *e*X **P 06 42 26.0 -2.9**
SYO Syowa Base 82.59 196⇓ *e*PcP **P 06 42 31.0 +2.1**
PMSA Palmer Station 83.47 159 P **P 06 42 33.6 +0.2**
comp=Z,20nm,1.0s,baz=302,slow=4.1,SNR=7.1
PMSA Palmer Station 83.47 159 *e*P **P 06 42 33.7 +0.2**
comp=Z,38nm,1.1s
CD2 Chengdu 83.52 307 P **P 06 42 35.1 +0.7**
CD2 sP sP 06 43 19.0 +8.0
CD2 PP **PP 06 45 49.2 +0.9**
CD2 S **S 06 52 48.0 -0.2**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,160nm,10.7s
CD2 LR LR
comp=Z,330nm,7.9s
CD2 LR LR
comp=Z,190nm,7.3s
HHC Hu-ho-hao-te 83.69 319 *e*P **P 06 42 36.0 +0.9**
HHC pP pP 06 43 05.9 +4.8
HHC S **S 06 52 48.2 -1.4**
HHC pmax pmax
comp=Z,41nm,1.4s
HHC pmax pmax
comp=Z,280nm,8.2s
OHAK Old Harbor 84.55 18 *e*P **P 06 42 39.3 +0.4**
comp=Z,51nm,0.9s
HIA Hailar 84.62 329 *e*P **P 06 42 39.9 +0.4**
HIA Hailar 84.62 329 *e*P **P 06 42 39.9 +0.4**
KDAK Kodiak Island 85.23 19 LR LR 07 12 44.4
comp=Z,313nm,21.9s,baz=158,slow=30
KDAK Kodiak Island 85.23 19 *i*P P 06 42 48.0 +5.8
LZH Lanzhou 86.10 311 *e*P **P 06 42 48.1 +0.8**
LZH pP pP 06 43 15.9 +2.4
LZH sP sP 06 43 27.1 +3.0
LZH PP **PP 06 46 09.5 +0.2**
LZH SKS **SKSac 06 52 59.2 -5.3**
LZH *e*S **SKKSac 06 53 09.4 -2.9**
LZH sS sS 06 53 59.1 +0.4
LZH SS **SS 06 58 49.1 -5.9**
LZH pmax pmax
comp=Z,64nm,1.0s
LZH pmax pmax
comp=Z,380nm,5.2s
LZH LR LR
comp=Z,1μm,14.3s
LZH LR LR
comp=Z,1μm,18.9s
LZH LR LR
comp=Z,2μm,19.7s
NVL N'lazarevskaya 86.14 187 *e*P **P 06 42 48.0 +1.3**
SEY Seymchan 86.17 351 P **P 06 42 46.5 -0.3**
comp=Z,8.8nm,0.8s,baz=152,slow=8.5,SNR=11
SEY Seymchan 86.17 351⇑ *i*P **P 06 42 45.4 -1.4**
SNAA Sanae 86.27 182 P **P 06 42 46.4 -1.1**
SNAA Sanae 86.27 182 *e*P **P 06 42 46.7 -0.8**
SNAA pmax pmax
comp=Z,29nm,1.2s
SNAA Sanae 86.27 182 *e*P **P 06 42 46.7 -0.8**
comp=Z,29nm,1.2s
PKM Mcpherson Peak 86.59 50 P **P 06 42 50.7 +0.9**
baz=240
SMMC Simmler 86.67 50 P **P 06 42 51.1 +1.1**
baz=240
KMRM Mail Ridge 86.71 44 *e*P **P 06 42 51.1 +1.0**
comp=Z,96nm,1.5s
VNA3 Neumayer Olymp 86.78 180 P **P 06 42 49.0 -0.9**
VNA2 Neumayer--Watz 87.10 180 P **P 06 42 50.9 -0.6**
baz=179,slow=4.9
FMP Fort Macarthur 87.11 52 P **P 06 42 52.7 +0.7**
baz=241
OSI Osito Audit: C 87.23 51 *e*P **P 06 42 53.6 +0.9**
comp=Z,78nm,1.6s
VNA1 Neumayer--Stat 87.38 180 P **P 06 42 52.4 -0.4**
ARVC Arvin 87.41 50 P **P 06 42 54.2 +0.7**
baz=240
VES Vestal, Richgr 87.58 50 P **P 06 42 54.3 0.0**
baz=240,SNR=5.2
WDC Whiskeytown Da 87.66 44 *e*P **P 06 42 55.6 +1.1**
WDC pmax pmax
comp=Z,61nm,1.7s
WDC Whiskeytown Da 87.66 44 *e*P **P 06 42 55.6 +1.1**
comp=Z,61nm,1.7s
RCTC Rector, Farmer 87.69 49 P **P 06 42 55.2 +0.4**
baz=240
N02D Trinity Center 87.76 44 P **P 06 42 56.3 +1.2**
baz=238,SNR=7.0
CMB Columbia Colle 87.77 47 *e*P **P 06 42 55.6 +0.4**
CMB pmax pmax
comp=Z,29nm,1.4s
CMB Columbia Colle 87.77 47 *e*P **P 06 42 55.6 +0.4**
comp=Z,29nm,1.4s
ORV Oroville 87.80 46 *e*P **P 06 42 55.8 +0.5**
ORV pmax pmax
comp=Z,20nm,1.1s
ORV Oroville 87.80 46 *e*P **P 06 42 55.8 +0.5**
comp=Z,20nm,1.1s
BFSC Mount Baldy Ra 87.82 52 P **P 06 42 55.9 +0.2**
baz=241
AFDM Forest Hills D 87.84 46 *e*P **P 06 42 56.2 +0.7**
comp=Z,30nm,1.2s
MURC Murrieta 87.86 52 P **P 06 42 56.0 +0.3**
baz=242
CLNS Chul'man 87.86 337 *e*P **P 06 42 54.0 -1.1**
CLNS pmax pmax
comp=Z,34nm,1.2s
CLNS pmax pmax
comp=N,21nm,1.4s
CLNS pmax pmax
comp=E,7.0nm,1.1s
M02C Callahan 87.89 43 P **P 06 42 57.1 +1.4**
baz=238,SNR=9.1
EDW2 Edwards Air Fo 87.89 51 P **P 06 42 56.3 +0.4**
baz=241,SNR=7.4
ISA Isabella, Lake 87.92 50 P **P 06 42 56.7 +0.7**
baz=241,SNR=9.1
ISA Isabella, Lake 87.92 50 *e*P **P 06 42 56.9 +0.9**
ISA pmax pmax
comp=Z,35nm,1.0s
ISA Isabella, Lake 87.92 50 *e*P **P 06 42 56.9 +0.9**
comp=Z,35nm,1.0s
O03D Paynes Creek 87.99 45 P **P 06 42 56.9 +0.6**
baz=238
MONP2 Monument Peak 88.09 53 P **P 06 42 57.7 +0.6**
baz=242
YBH Yreka Blue Hor 88.16 43 *e*P **P 06 42 58.1 +1.1**
YBH pmax pmax
comp=Z,10.0nm,0.8s

YBH Yreka Blue Hor 88.16 43 *eP* **P 06 42 58.1 +1.1**
comp=Z,9.5nm,0.8s
IKP In-Ko-Pah, Jac 88.21 54 P **P 06 42 58.1 +0.7**
baz=242
LRMC Laurel Mtn Rad 88.40 51 P **P 06 42 59.1 +0.7**
baz=241,SNR=7.4
PFO Pinyon Flats O 88.40 53 P **P 06 42 58.8 +0.3**
baz=242
HUMO Hull Mountain 88.47 42 *eP* **P 06 42 59.5 +1.1**
comp=Z,14nm,0.9s
CWC Cottonwood Cre 88.58 50 P **P 06 42 59.8 +0.6**
baz=241
SWSC Sam W. Stewart 88.58 54 P **P 06 42 59.8 +0.7**
baz=242
WAKR Walker 88.65 47 *eP* **P 06 43 00.7 +1.1**
comp=Z,34nm,1.1s
TT01 Tatalina 88.71 14 *eP* **P 06 42 58.8 -0.1**
BEKR Beckworth 88.72 46 *eP* **P 06 43 00.4 +0.6**
comp=Z,16nm,1.0s
M04C Macdoel 88.74 43 P **P 06 43 00.6 +0.8**
baz=238,SNR=6.5
TIN Tinemaha, Big 88.77 49 P **P 06 43 00.7 +0.6**
baz=241
I03D Drain, OR 88.81 41 P **P 06 43 00.5 +0.6**
baz=237
MPMC Manual Prospec 88.81 50 P **P 06 43 00.8 +0.4**
baz=241,SNR=8.2
PNTR Pine Nut 88.83 47 *eP* **P 06 43 01.4 +1.0**
comp=Z,28nm,0.9s
PNTR *epP* **pP 06 43 27.0 +0.3**
BELC Belle Mtn. Jos 88.92 53 P **P 06 43 01.6 +0.7**
baz=242,SNR=7.8
GSC Goldstone, Bar 88.94 51 P **P 06 43 01.2 +0.3**
baz=242
GSC Goldstone, Bar 88.94 51 *eP* **P 06 43 01.4 +0.5**
GSC pmax pmax
comp=Z,21nm,1.3s
GSC Goldstone, Bar 88.94 51 *eP* **P 06 43 01.4 +0.5**
comp=Z,21nm,1.3s
YERR Yerington 89.02 47 *eP* **P 06 43 01.9 +0.6**
comp=Z,29nm,1.2s
YERR *epP* **pP 06 43 26.4 -1.2**
TVH2 Borealis Mine 89.05 48 *eP* **P 06 43 01.9 +0.4**
comp=Z,43nm,0.3s
HEC Hector,Ludlow 89.06 52 P **P 06 43 01.7 +0.3**
baz=242,SNR=11
BC3 Big Chuckawall 89.17 53 P **P 06 43 02.5 +0.6**
baz=242
K04D Chiloquin, OR 89.23 43 P **P 06 43 02.7 +0.6**
baz=238
PAHR Pah Rah Range 89.28 46 *eP* **P 06 43 03.4 +0.9**
comp=Z,28nm,1.0s
J04D Umpqua Nationa 89.33 42 P **P 06 43 03.3 +0.7**
baz=238
GRAC Grapevine Rang 89.35 49 P **P 06 43 03.4 +0.8**
baz=241,SNR=9.7
GLA Glamis 89.36 54 P **P 06 43 03.8 +1.0**
baz=243,SNR=11
GLA Glamis 89.36 54 *eP* **P 06 43 04.4 +1.6**
GLA pmax pmax
comp=Z,36nm,0.9s
GLA Glamis 89.36 54 *eP* **P 06 43 04.4 +1.6**
comp=Z,36nm,0.9s
CIT Chita 89.40 329 *eP* **P 06 43 03.0 +0.4**
FURC Furnace Creek, 89.45 50 P **P 06 43 03.6 +0.5**
baz=242,SNR=9.1
GMRC Granite Mounta 89.53 52 P **P 06 43 04.3 +0.6**
baz=242
SHOC Shoshone, Teco 89.61 51 P **P 06 43 04.5 +0.6**
baz=242
TUQ Turquoise Moun 89.64 51 P **P 06 43 04.8 +0.5**
baz=242,SNR=9.1
MOD Modoc Plateau 89.78 44 *eP* **P 06 43 05.2 +0.4**
comp=Z,19nm,1.0s
Y12C Blythe 89.90 53 P **P 06 43 06.1 +0.9**
baz=243,SNR=7.6
Y12C Blythe 89.90 53 *eP* **P 06 43 05.9 +0.6**
comp=Z,19nm,1.0s
J05D Fort Rock, OR 89.90 42 P **P 06 43 06.3 +1.1**
baz=239
DIV Divide 89.99 19 *eP* **P 06 43 04.5 -0.6**
comp=Z,78nm,1.8s
113A Mohawk Valley, 90.03 54 *eP* **P 06 43 06.5 +0.6**
BILL Bilibino 90.07 358⇑*iP* **P 06 43 05.0 -0.2**
BILL *e*PP **pP 06 43 31.8 +0.3**
BILL *e* 06 46 42.4
BILL pmax pmax
comp=Z,18nm,1.2s
LDFC Landfair 90.07 52 *eP* **P 06 43 07.4 +1.2**
comp=Z,61nm,1.0s
CAST Castle Rocks 90.09 16 *eP* **P 06 43 03.6 -1.9**
comp=Z,6.5nm,0.8s
TPNV Topopah Spring 90.11 50 P **P 06 43 06.8 +0.4**
baz=242,SNR=15
TPNV Topopah Spring 90.11 50 *eP* **P 06 43 07.3 +0.9**
TPNV pmax pmax
comp=Z,27nm,1.0s
TPNV Topopah Spring 90.11 50 *eP* **P 06 43 07.2 +0.9**
comp=Z,26nm,1.0s
E03A Lebam 90.22 39 *eP* **P 06 43 07.4 +1.0**
comp=Z,33nm,0.8s
KLU Klutina 90.23 19 *eP* **P 06 43 05.7 -0.5**
comp=Z,43nm,1.6s
BMRM Bremner River 90.23 20 *eP* **P 06 43 05.5 -0.8**
comp=Z,127nm,1.8s
NEE2 Needles Airpor 90.29 52 P **P 06 43 07.9 +0.9**
baz=243
ULN Ulaanbaatar 90.36 323*c iP* **P 06 43 07.5 +0.2**
ULN pmax pmax
comp=Z,77nm,1.3s
ULN Ulaanbaatar 90.36 323 *eP* **P 06 43 07.8 +0.5**
comp=Z,57nm,1.1s
I05D Terrebonne, OR 90.38 41 P **P 06 43 08.3 +1.0**
baz=239
214A Organ Pipe Nat 90.39 56 P **P 06 43 08.4 +0.7**
baz=244
PDMCI Parker Dam,Lak 90.43 53 P **P 06 43 08.4 +0.7**
baz=243
NLWA Neilton Lookou 90.50 38 *eP* **P 06 43 09.1 +1.3**
comp=Z,83nm,1.8s
GTA Gaotai 90.52 313⇑P **P 06 43 08.7 +0.5**
GTA pP pP 06 43 33.2 -1.3
GTA SKS **SKSac 06 53 28.4 -2.3**
GTA S **S 06 53 53.5 -1.9**
GTA sS sS 06 54 39.6 -1.1
GTA pmax pmax
comp=Z,19nm,1.5s
GTA pmax pmax
comp=Z,160nm,5.6s
GTA LR LR
comp=Z,150nm,20.4s
GTA LR LR
comp=Z,210nm,23.8s
GTA LR LR
comp=Z,240nm,24.7s
F04A Amboy 90.56 40 *eP* **P 06 43 08.1 +0.1**
comp=Z,20nm,1.0s
TRF Thorofare Moun 90.57 16 *eP* **P 06 43 06.6 -1.3**
comp=Z,52nm,1.9s
HSIG 90.58 59 *eP* **P 06 43 09.6 +1.1**
comp=Z,24nm,0.9s
SHPR Sheep Range 90.69 51 *eP* **P 06 43 09.8 +0.8**
comp=Z,15nm,1.1s
SONM Songino Array 90.72 322 P **P 06 43 09.0 +0.1**
comp=Z,44nm,1.1s,baz=141,slow=4.6,SNR=75
SONM PKKP **PKKPdf 07 00 34.4 +1.2**
comp=Z,0.7nm,0.7s,baz=308,slow=3.7,SNR=4.3
SONA1 Songino Array 90.72 322 *eP* **P 06 43 09.5 +0.6**
RND Reindeer 90.91 17 *eP* **P 06 43 08.2 -1.1**
RND pmax pmax
comp=Z,19nm,1.2s
RND Reindeer 90.91 17 *eP* **P 06 43 08.2 -1.1**
comp=Z,19nm,1.2s
BBB Bella Bella 90.96 32 LR LR 07 14 18.5
comp=Z,259nm,21.8s,baz=261,slow=29
WVOR Wild Horse Val 91.12 44 *eP* **P 06 43 11.6 +0.7**
WVOR pmax pmax
comp=Z,10.0nm,0.9s
WVOR Wild Horse Val 91.12 44 *eP* **P 06 43 11.6 +0.7**
comp=Z,9.8nm,0.9s
R11A Troy Canyon, C 91.23 49 P **P 06 43 11.8 +0.2**
baz=242
LON Longmire 91.35 39 *eP* **P 06 43 12.0 +0.2**
LON pmax pmax
comp=Z,33nm,1.8s
LON Longmire 91.35 39 *eP* **P 06 43 12.0 +0.2**
comp=Z,32nm,1.8s

D05A Enumclaw 91.48 39 *eP* **P 06 43 12.4 +0.2**
comp=Z,33nm,1.2s
BESE Bessie Mountai 91.97 25 *eP* **P 06 43 15.6 +1.2**
comp=Z,23nm,1.1s
WRH Wood River Hil 91.97 16 *eP* **P 06 43 12.7 -1.4**
comp=Z,27nm,1.5s
TUC Tucson 92.10 56 P **P 06 43 16.5 +0.8**
baz=245
TUC Tucson 92.10 56 *eP* **P 06 43 16.9 +1.3**
TUC pmax pmax
comp=Z,11nm,0.9s
TUC Tucson 92.10 56 *eP* **P 06 43 16.9 +1.3**
comp=Z,11nm,0.9s
CCB Clear Creek Bu 92.19 16 *eP* **P 06 43 13.6 -1.5**
comp=Z,14nm,1.2s
HDA Harding Lake 92.22 17 *eP* **P 06 43 14.2 -1.1**
comp=Z,28nm,1.3s
LTY Liberty 92.28 39 *eP* **P 06 43 14.9 -1.2**
LTY *epP* **pP 06 43 40.3 -2.1**
LCMT Little Creek M 92.29 51 *eP* **P 06 43 17.6 +1.1**
comp=Z,14nm,0.9s
LCMT *epP* **pP 06 43 41.5 -1.3**
MDM Murphy Dome 92.33 16 *eP* **P 06 43 13.8 -2.0**
comp=Z,15nm,1.0s
COLA College 92.35 16 *eP* **P 06 43 15.9 0.0**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 92.35 16 *eP* **P 06 43 15.8 0.0**
comp=Z,10nm,0.8s
CCUT Cedar City 92.44 50 *eP* **P 06 43 18.6 +1.3**
comp=Z,16nm,1.1s
DOT Dot Lake 92.44 18 *eP* **P 06 43 15.5 -0.9**
comp=Z,38nm,1.0s
CRZF Crozet Islands 92.45 217 *eP* **P 06 43 16.1 -0.9**
comp=Z,215nm,1.4s
X16A Lo Mia Camp, P 92.49 54 *eP* **P 06 43 19.0 +1.5**
comp=Z,16nm,0.9s
HAWA Hanford 92.52 40 *eP* **P 06 43 17.5 +0.3**
comp=Z,9.1nm,0.9s
ILAR Eielson Array 92.53 17 P **P 06 43 14.8 -1.9**
comp=Z,6.4nm,0.9s,baz=236,slow=5.7,SNR=55
ILAR PKKP **PKKPdf 07 00 29.1 -1.2**
comp=Z,0.7nm,0.7s,baz=314,slow=2.0,SNR=7.0
ILAR PKPPKP **P'P'df 07 08 40.4 +2.0**
comp=Z,0.7nm,1.1s,baz=16,slow=5.2,SNR=4.9
ILAR LR LR 07 19 57.8
comp=Z,228nm,19.2s,baz=226,slow=32
ILB Eielson Array 92.53 17 *eP* **P 06 43 15.2 -1.5**
IL1 Eielson Array 92.53 17 *eP* **P 06 43 15.3 -1.4**
KNB Kanab 92.59 51 *eP* **P 06 43 19.2 +1.3**
KNB pmax pmax
comp=Z,11nm,0.9s
KNB Kanab 92.59 51 *eP* **P 06 43 19.2 +1.3**
comp=Z,11nm,0.9s
BOD Bodaibo 92.83 333 *eP* **P 06 43 16.6 -1.6**
BOD pmax pmax
comp=Z,13nm,1.8s
WUAZ Wupatki 93.01 53 *eP* **P 06 43 20.9 +1.0**
comp=Z,13nm,1.0s
PALK Pallekele 93.20 277 LR LR 07 24 28.2
comp=Z,181nm,21.6s,baz=116,slow=35
PALK Pallekele 93.20 277 *i P* **P 06 43 23.1 +2.0**
PALK Pallekele 93.20 277 *eP* **P 06 43 22.5 +1.4**
comp=Z,20nm,0.8s
D08A Wollman Farm, 93.22 40 *eP* **P 06 43 20.8 +0.5**
comp=Z,10nm,1.1s
MFID Camas Ranch 93.40 44 *eP* **P 06 43 22.3 +0.8**
comp=Z,3.7nm,0.9s
X18A Snowflake 93.66 54 *eP* **P 06 43 22.6 -0.3**
comp=Z,8.2nm,0.9s
COLD Coldfoot 93.69 14 *eP* **P 06 43 22.3 +0.3**
comp=Z,11nm,1.0s
MSU Marysvale 93.70 50 *eP* **P 06 43 25.7 +2.6**
MSU Marysvale 93.70 50 *eP* **P 06 43 25.7 +2.6**
ZAK Zakamensk 93.80 324 *eP* **P 06 43 22.3 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.4s
DLBC Dease Lake 93.83 27 LR LR 07 20 43.2
comp=Z,279nm,18.5s,baz=240,slow=32
EGAK Eagle 94.13 18 *eP* **P 06 43 23.3 -0.8**
comp=Z,17nm,0.9s
DAWY Dawson 94.15 20 *eP* **P 06 43 24.0 -0.3**
comp=Z,11nm,1.1s
TLY Talaya 94.27 325 *eP* **P 06 43 24.5 -0.6**
TLY *eS* **SKSac 06 53 45.1 -5.7**
TLY pmax pmax
comp=Z,27nm,1.1s
FYU Fort Yukon 94.36 16 *eP* **P 06 43 24.5 -0.5**
comp=Z,42nm,1.8s
HLID Hailey 94.39 45 P **P 06 43 26.9 +0.9**
baz=243
HLID Hailey 94.39 45 *eP* **P 06 43 26.6 +0.5**
comp=Z,3.7nm,0.8s
TAPN Taplejung 94.53 298 *eP* **P 06 43 27.1 -0.1**
comp=Z,21nm,0.9s
ODAN Odare 94.61 297 *eP* **P 06 43 27.2 -0.3**
NEW Newport 94.86 40 LR LR 07 17 51.9
comp=Z,242nm,21.9s,baz=248,slow=30
PLCA Paso Flores 95.07 138 P **P 06 43 29.7 +0.4**
comp=Z,8.5nm,0.8s,baz=248,slow=5.4,SNR=19
PLCA LR LR 07 15 31.3
comp=Z,110nm,21.0s,baz=254,slow=29
PLCA Paso Flores 95.07 138 *eP* **P 06 43 29.9 +0.6**
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 95.07 138 *eP* **P 06 43 29.9 +0.6**
comp=Z,14nm,0.9s
PLCA *epP* **pP 06 43 52.2 -3.4**
RAMN Ramite 95.29 297 *eP* **P 06 43 30.4 -0.2**
comp=Z,15nm,0.7s
JIRN Jiri 95.90 297 *eP* **P 06 43 33.0 -0.5**
comp=Z,113nm,0.7s
GUN Gumba 96.24 297 *eP* **P 06 43 34.6 -0.5**
ANMO Albuquerque 96.46 55*ceP* **P 06 43 38.2 +2.5**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
PKI Pulchoki 96.51 297 *eP* **P 06 43 35.8 -0.5**
comp=Z,11nm,0.5s
PKIN Phulchoki 96.52 297 *eP* **P 06 43 35.9 -0.3**
comp=Z,12nm,0.6s
TX31 Lajitas Ar. Si 96.55 61 *eP* **P 06 43 36.9 +0.8**
TXAR Lajitas Array 96.55 61 P **P 06 43 36.5 +0.4**
comp=Z,1.7nm,0.9s,baz=221,slow=5.3,SNR=5.4
TXAR PKKP **PKKPdf 07 00 21.2 -0.5**
comp=Z,0.7nm,0.5s,baz=96,slow=3.7,SNR=12
TXAR LR LR 07 18 58.2
comp=Z,138nm,20.9s,baz=0.0,slow=30
KKN Kakani 96.69 297 *eP* **P 06 43 36.7 -0.3**
comp=Z,14nm,0.7s
DMN Daman 96.77 297 *eP* **P 06 43 37.1 -0.3**
comp=Z,28nm,0.8s
S22A 4UR Ranch, Cre 97.25 52 P Pdif 06 43 39.6 +0.2
baz=248
PDAR Pinedale Array 97.27 47 P Pdif 06 43 40.1 +0.8
comp=Z,1.7nm,0.9s,baz=224,slow=4.1,SNR=6.2
PDAR PP **PP 06 47 35.9 -1.4**
comp=Z,0.9nm,0.9s,baz=243,slow=6.5,SNR=4.2
GKN Gorkha 97.30 297 *eP* **P 06 43 38.9 -0.7**
comp=Z,18nm,0.8s
KOLN Koldanda 98.08 297 *eP* **P 06 43 42.3 -0.9**
comp=Z,3.9nm,0.4s
PYUN Piuthan 98.70 297 *eP* **P 06 43 44.9 -1.1**
INK Inuvik 98.78 18 P **P 06 43 43.8 -1.2**
comp=Z,2.5nm,0.8s,baz=302,slow=8.6,SNR=3.8
INK LR LR 07 21 54.2
comp=Z,200nm,20.9s,baz=234,slow=31
WMQ Urumqi 100.61 313 P **Pdif 06 43 53.2 -0.7**
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,89nm,3.6s
WMQ LR LR
comp=Z,140nm,32.9s
WMQ LR LR
comp=Z,420nm,32.9s
WMQ LR LR
comp=Z,310nm,31.5s
MKAR Makanchi Array 105.16 315 Pdiff **Pdif 06 44 14.0 0.0**
comp=Z,1.1nm,0.5s,baz=96,slow=6.0,SNR=9.7
MKAR PKiKP **PKiKP 06 48 26.4 -1.6**
comp=Z,0.7nm,0.6s,baz=83,slow=1.1,SNR=7.2
MKAR PKKPbc **PKKPbc 06 59 54.0 -1.9**
comp=Z,1.7nm,0.8s,baz=297,slow=3.6,SNR=11
MKAR Makanchi Array 105.16 315 P **Pdif 06 44 14.0 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 105.61 322 Pdiff **Pdif 06 44 15.4 -0.4**

comp=Z,1.3nm,0.5s,baz=130,slow=4.6,SNR=4.6
KURK Kurchatov 108.49 318 PKiKP **PKiKP 06 48 32.8 -1.1**
KURK PP **PP 06 48 59.0 -1.7**
KURBB Kurchatov Arra 108.53 318 PKiKP **PKiKP 06 48 32.8 -1.2**
comp=Z,2.2nm,0.6s,baz=110,slow=2.0,SNR=16
KURBB PP **PP 06 48 59.0 -1.9**
comp=Z,0.3nm,0.3s,baz=108,slow=7.6,SNR=5.6
BVAR Borovoye Array 113.89 320 PKiKP **PKiKP 06 48 43.2 -0.9**
comp=Z,4.8nm,0.5s,baz=90,slow=1.9,SNR=15
BRVK Borovoye 113.96 320*c iP*KIKP **PKiKP 06 48 43.5 -0.7**
BRVK pmax pmax
comp=Z,45nm,2.5s
SUR Sutherland 118.78 208 *e*PKPdf **PKPdf 06 48 55.2 +0.7**
BOSA Boshof 119.74 215 PKP **PKPdf 06 48 56.9 +0.5**
comp=Z,6.9nm,0.5s,baz=138,slow=1.7,SNR=31
BOSA Boshof 119.74 215 *e*PKIKP **PKPdf 06 48 56.7 +0.3**
BOSA Boshof 119.74 215 *e*PKPdf **PKPdf 06 48 56.7 +0.3**
ABKAR Akbulak array 120.30 315 *e*PKPdf **PKPdf 06 48 56.0 -0.5**
ARU Arti 120.74 323 PKP **PKPdf 06 48 56.3 -0.8**
comp=Z,15nm,0.6s,baz=130,slow=1.2,SNR=23
ARU Arti 120.74 323 *i* PKIKP **PKPdf 06 48 56.2 -1.0**
ARU 06 50 23.6
ARU 06 55 58.7
ARU Arti 120.74 323 *e*PKPdf **PKPdf 06 48 56.4 -0.7**
UOSS Minazif 120.91 287 *e*PKPdf **PKPdf 06 48 57.8 -0.7**
GEYT Alibeck 121.19 302 PKP **PKPdf 06 48 58.5 -0.1**
comp=Z,9.1nm,0.7s,baz=262,slow=2.2,SNR=14
SOKR Solikamsk 121.25 327 *e*PKIKP **PKPdf 06 48 55.3 -2.7**
SOKR pmax pmax
comp=Z,19nm,0.7s
AKTO Aktyubinsk 121.52 316 PKP **PKPdf 06 48 58.2 -0.7**
comp=Z,12nm,0.6s,baz=103,slow=6.1,SNR=30
LBTB Lobatse 122.40 217 *e*PKIKP **PKPdf 06 49 02.1 +0.5**
LBTB Lobatse 122.40 217 *e*PKPdf **PKPdf 06 49 02.1 +0.5**
PTGA Pitinga 125.15 108 *e*PKPdf **PKPdf 06 49 06.2 -0.8**
HUMP Col San Antoni 126.52 83 *e*PKPdf **PKPdf 06 49 08.6 -0.8**
PQI Presque Isle 126.79 48 *e*PKPdf **PKPdf 06 49 07.3 -1.8**
LSZ Lusaka 128.04 227 *e*PKIKP **PKPdf 06 49 12.8 +0.2**
LSZ Lusaka 128.04 227 *e*PKPdf **PKPdf 06 49 12.8 +0.2**
ARA0 ARCESS Array S 128.41 345 *e*PKPdf **PKPdf 06 49 10.8 -0.7**
ARCES ARCESS Array B 128.41 345 PKP **PKPdf 06 49 10.8 -0.8**
comp=Z,1.5nm,0.3s,baz=78,slow=1.8,SNR=15
ARE0 ARCESS Array S 128.41 345 *e*PKPdf **PKPdf 06 49 11.0 -0.5**
KLMR Klimovskoe 129.03 332 *e*PKPdf **PKPdf 06 49 11.0 -1.9**
KLMR *e* 06 51 22.7
KLMR pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 129.50 249 PKP **PKPdf 06 49 16.9 +1.3**
comp=Z,4.5nm,0.6s,baz=41,slow=4.1,SNR=12
RAYN Ar Rayn 130.24 283 *e*PKPdf **PKPdf 06 49 16.9 +0.4**
GNI Garni 131.60 305*c i*PKIKP **PKPdf 06 49 20.2 +1.5**
GNI pmax pmax
comp=Z,84nm,1.7s
ZEI Tsey 131.93 308 *i* PKIKP **PKPdf 06 49 19.6 +0.3**
ZEI pmax pmax
comp=Z,21nm,1.3s
AKH Akhalkalaki 132.41 306⇑*iP* **PKPdf 06 49 21.9 +1.7**
KBZ Khabaz 132.51 310 PKP **PKPdf 06 49 20.7 +0.7**
comp=Z,1.1nm,0.6s,baz=50,slow=6.9,SNR=4.7
KBZ SKPbc **SKPab 06 52 38.9 -0.5**
comp=Z,1.4nm,0.6s,baz=56,slow=3.6,SNR=2.9
KIV Kislovodsk 132.62 310⇑*i*PKIKP **PKPdf 06 49 20.8 +0.4**
KIV *e* 06 51 45.8
KIV pmax pmax
comp=Z,11nm,1.2s
OBN Obninsk 133.00 326⇑*i*PKIKP **PKPdf 06 49 20.7 +0.1**
OBN *e* 06 51 44.2
OBN pmax pmax
comp=Z,10.0nm,0.5s
ARTV Artvin 133.61 306 *e*PKPdf **PKPdf 06 49 22.9 +0.4**
FIA1 FINESS Array S 134.04 338 *e*PKPpre PKPpre 06 49 16.4
FINES FINESS Array B 134.05 338 PKhKP PKPpre 06 49 15.7
comp=Z,1.9nm,0.4s,baz=48,slow=2.8,SNR=5.9
NOA NORSAR Array B 138.79 345 PKP **PKPdf 06 49 31.9 +0.6**
comp=Z,1.8nm,0.8s,baz=32,slow=1.9,SNR=3.7
AKASG Malin Array Be 138.99 323 PKhKP PKPpre 06 49 20.6
comp=Z,0.9nm,0.4s,baz=46,slow=3.7,SNR=7.8
AKASG PKP **PKPdf 06 49 31.2 -0.6**
comp=Z,2.2nm,0.5s,baz=53,slow=2.7,SNR=18
AKASG SKPbc **SKPbc 06 52 58.1 +0.2**
comp=Z,1.8nm,0.6s,baz=51,slow=3.8,SNR=10
AKBB Malin Array Si 138.99 323 *e*PKIKP **PKPdf 06 49 30.6 -1.3**
AKBB Malin Array Si 138.99 323 *e*PKPdf **PKPdf 06 49 30.6 -1.3**
KIEV Kiev 139.01 323 *e*PKIKP **PKPdf 06 49 31.2 -0.7**
KIEV Kiev 139.01 323 *e*PKPdf **PKPdf 06 49 31.2 -0.7**
AK11 Malin Array Si 139.04 323 *e*PKPpre PKPpre 06 49 23.0
AK11 *e*PKPdf **PKiKP 06 49 33.3 -0.9**
ILGA Ilgaz 139.72 308 *e*PKPdf **PKPdf 06 49 34.2 +0.3**
BR131 Keskin Array S 140.09 306 *e*PKPdf **PKPdf 06 49 34.1 -0.3**
BRTR Keskin Array B 140.09 306 PKhKP PKPpre 06 49 29.7
comp=Z,4.0nm,1.0s,baz=81,slow=3.9,SNR=8.8
BRTR PP **PP 06 52 33.2 +0.4**
comp=Z,0.3nm,0.3s,baz=94,slow=5.0,SNR=3.7
BRTR SKPbc **SKPbc 06 53 02.2 +0.6**
comp=Z,1.2nm,0.6s,baz=115,slow=2.0,SNR=4.6
ANTO Ankara 140.69 306 *e*PKIKP **PKPdf 06 49 34.8 -0.6**
ANTO Ankara 140.69 306 *e*PKPdf **PKPdf 06 49 34.8 -0.6**
BR231 Keskin MP Arra 140.71 306 *e*PKPpre PKPpre 06 49 30.9
BR231 *e*PKPdf **PKPdf 06 49 35.2 -0.4**
LVV L'vov 142.28 325 *e*PKIKP **PKPdf 06 49 35.5 -2.4**
TIRR Tirgusor 142.30 315⇓*iP* **PKPdf 06 49 34.5 -3.5**
TIRR Tirgusor 142.30 315⇓PKIKP **PKPdf 06 49 34.5 -3.5**
TLB Topalu 142.49 315⇓*iP* **PKPdf 06 49 35.8 -2.6**
TLB Topalu 142.49 315⇓PKIKP **PKPdf 06 49 35.8 -2.6**
TESR Tescani 142.52 319⇑*iP* **PKPdf 06 49 34.8 -3.6**
BEL Belsk 142.66 330 *e*PKP PKPpre 06 49 34.4
BEL Belsk 142.66 330 *e*PKHKP PKPpre 06 49 34.4
BSD Bornholm Skovb 142.69 338 *i P* **PKPdf 06 49 35.9 -2.5**
BSD Bornholm Skovb 142.69 338 *e*PKIKP **PKPdf 06 49 35.9 -2.5**
VRI Vrincioaia 142.77 318⇑*iP* **PKPdf 06 49 36.1 -2.8**
VRI Vrincioaia 142.77 318⇑PKIKP **PKPdf 06 49 36.1 -2.8**
BUR08 Bucovina Ar. S 142.82 321 *e*PKPpre PKPpre 06 49 36.5
PLOR Plostina 142.82 318⇑*iP* **PKPdf 06 49 36.1 -2.9**
PLOR Plostina 142.82 318⇑PKIKP **PKPdf 06 49 36.1 -2.9**
BURAR Bucovina Array 142.82 321⇑*iP* **PKPdf 06 49 36.9 -2.1**
BURAR Bucovina Array 142.82 321⇑PKIKP **PKPdf 06 49 36.9 -2.1**
KWP Kalwaria Pacla 143.09 326 *e*PKP PKPbc 06 49 35.9 -0.6
KWP Kalwaria Pacla 143.09 326 *e*PKIKP PKPbc 06 49 35.9 -0.6
MLR Muntele Rosu 143.43 318⇓*iP* PKPbc 06 49 37.9 +0.2
MLR Muntele Rosu 143.43 318⇓PKIKP PKPbc 06 49 37.9 +0.2
MLR Muntele Rosu 143.43 318 *e*PKPpre PKPbc 06 49 37.5 -0.2
PRD Provadia 143.47 314 P PKPbc 06 49 38.5 +0.8
DOPR Dopca 143.54 319⇓*iP* PKPbc 06 49 38.9 +1.0
SECR 143.56 317⇑*iP* PKPbc 06 49 38.9 +1.0
ARCR ARCALIA 143.60 321⇑*iP* **PKPdf 06 49 39.2 -1.1**
BMR Baia Mare 143.78 322⇓*iP* PKPbc 06 49 39.3 +0.9
BMR Baia Mare 143.78 322⇓PKIKP PKPbc 06 49 39.3 +0.9
UZH Uzhgorod 143.90 324 *e*PKIKP PKPab 06 49 37.8 -0.3
UZH *e* 06 50 04.2
AKAS Kas 143.97 301 *e*PKPdf PKPbc 06 49 39.6 0.0
STHS Stebnicka Huta 143.98 326 *e*PKIKP PKPbc 06 49 39.7 +0.7
STHS Stebnicka Huta 143.98 326 *e*PKP PKPbc 06 49 39.7 +0.7
VOIR 144.01 318⇓*iP* PKPbc 06 49 39.7 +0.4
VOIR 144.01 318⇓PKIKP PKPbc 06 49 39.7 +0.4
TRPA Tarpa 144.06 324⇑*e*PKPdf PKPbc 06 49 39.5 +0.3
MTUR Matau 144.10 318⇓*iP* PKPbc 06 49 39.7 +0.1
MTUR Matau 144.10 318⇓PKIKP PKPbc 06 49 39.7 +0.1
KULA Kula-Manisa 144.15 306 P PKPbc 06 49 39.8 -0.2
CRVS Cervenica-Dubn 144.18 325 *e*PKIKP PKPbc 06 49 40.1 +0.4
CRVS Cervenica-Dubn 144.18 325 *e*PKP PKPbc 06 49 40.1 +0.4
CRVS *e* 06 49 44.8
OJC Ojcow 144.19 328 *e*PKP PKPbc 06 49 39.5 -0.1
OJC Ojcow 144.19 328 *e*PKIKP **PKPab 06 49 39.4 +0.2**
OJC Ojcow 144.19 328 *e*PKPdf **PKPab 06 49 39.4 +0.2**
CJR Cluj-Napoca 144.24 321⇑*iP* **PKPdf 06 49 41.0 -0.4**
CJR Cluj-Napoca 144.24 321⇑PKIKP **PKPdf 06 49 41.1 -0.4**
ARR Arges 144.30 318⇓*iP* **PKPdf 06 49 41.4 -0.3**
SZH Strazhica 144.42 314 P PKPbc 06 49 40.7 +0.1
EDRB Edirne 144.44 312 P PKPbc 06 49 40.8 +0.1
NIE Niedzica 144.46 327 *e*PKP **PKPdf 06 49 41.5 -0.3**
NIE Niedzica 144.46 327 *e*PKIKP **PKPdf 06 49 41.5 -0.3**
HUMR Humele 144.48 317⇓*iP* PKPbc 06 49 41.0 +0.3
DRGR 144.71 322⇓*iP* **PKPdf 06 49 42.3 0.0**
DRGR 144.71 322⇓PKIKP **PKPdf 06 49 42.4 +0.1**
LOT Lotru 144.79 319⇑*iP* PKPbc 06 49 42.0 +0.2
PVL Pavlikeni 144.84 315 P **PKPdf 06 49 42.4 -0.1**
KECS Kecovo 144.95 326 *e*PKIKP **PKPdf 06 49 42.4 -0.2**
KECS Kecovo 144.95 326 *e*PKP **PKPdf 06 49 42.4 -0.2**
LANS Liptovska Anna 145.05 327 *e*PKIKP **PKPdf 06 49 43.5 +0.7**
LANS Liptovska Anna 145.05 327 *e*PKP **PKPdf 06 49 43.5 +0.7**
OKC Ostrava-Krasne 145.24 329 *i* PKP **PKPab 06 49 43.1 0.0**
OKC Ostrava-Krasne 145.24 329 *i* PKIKP **PKPab 06 49 43.1 0.0**

ENEZ	Enez	145.27 310	P	PKPbc	06 49 42.9	-0.4
ALN	Alexandroupoli	145.28 311	P	PKPbc	06 49 42.9	-0.4
ALN	Alexandroupoli	145.28 311	PKIKP	PKPbc	06 49 42.9	-0.4
ALN	Alexandroupoli	145.28 311	P	PKPbc	06 49 42.9	-0.4
KSP	Ksiaz	145.39 332	*e*PKP	PKPab	06 49 43.8	+0.2
KSP	Ksiaz	145.39 332	*e*PKIKP	PKPab	06 49 43.8	+0.2
KDZ	Kurdzhali	145.43 312	P	PKPdf	06 49 43.5	-0.2
SRE	Strehaia	145.53 318	⇓*i*P	PKPab	06 49 45.3	+0.9
SRE	Strehaia	145.53 318	⇓PKP2	PKPab	06 49 45.4	+1.0
RDO	Rodhopi	145.55 311	P	PKPdf	06 49 43.8	0.0
RDO	Rodhopi	145.55 311	P	PKPdf	06 49 43.8	0.0
BODT	Bodrum	145.57 304	P	PKPdf	06 49 44.1	+0.1
MORC	Moravsky Berou	145.57 329	⇑*i*P	PKPbc	06 49 44.2	+0.2
MORC	Moravsky Berou	145.57 329	⇑PKP2	PKPbc	06 49 44.2	+0.2
MORC	Moravsky Berou	145.57 329	*e*PKPdf	PKPdf	06 49 43.7	+0.1
SIRR	Siria	145.60 322	⇑*i*P	PKPab	06 49 45.0	+0.4
PSZ	Piszkesteto	145.61 325	⇓*i*P	PKPab	06 49 45.0	+0.3
PSZ	Piszkesteto	145.61 325	*e*PKP2	PKPbc	06 49 44.3	0.0
PSZ	Piszkesteto	145.61 325	⇑*e*PKPbc	PKPab	06 49 44.5	-0.2
PSZ	Piszkesteto	145.61 325	⇑*e*PKPbc	PKPab	06 49 44.5	-0.2
PSZ	Piszkesteto	145.61 325	*e*PKPdf	PKPbc	06 49 44.3	0.0
PRK	Paraskevi	145.70 308	P	PKPbc	06 49 44.6	-0.1
KRLC	Kraliky	145.72 330	*i* PKP	PKPbc	06 49 44.7	+0.2
KRLC	Kraliky	145.72 330	*i* PKP2	PKPbc	06 49 44.7	+0.2
DPC	Dobruska-Polom	145.73 331	*i* PKP	PKPab	06 49 44.8	-0.2
DPC	Dobruska-Polom	145.73 331	*i* PKP2	PKPab	06 49 44.8	-0.2
UPC	Upice	145.75 332	*i* PKP	PKPab	06 49 44.9	-0.1
UPC	Upice	145.75 332	*i* PKP2	PKPab	06 49 44.9	-0.1
VYHS	Vyhne	145.79 327	*e*PKP2	PKPab	06 49 45.3	0.0
VYHS	Vyhne	145.79 327	*e*PKP	PKPab	06 49 45.2	0.0
SMTH	Samothraki Isl	145.81 310	P	PKPdf	06 49 44.4	+0.1
SMTH	Samothraki Isl	145.81 310	P	PKPdf	06 49 44.4	+0.1
MPEP	Malo Peshtene	145.82 316	P	PKPbc	06 49 45.1	+0.1
PGB	Panagyurishte	145.90 314	P	PKPbc	06 49 45.2	-0.1
BZS	Buzias	145.99 321	⇓*i*P	PKPbc	06 49 45.2	-0.2
BZS	Buzias	145.99 321	⇓PKP2	PKPbc	06 49 45.2	-0.2
KARP	Karpathos	146.05 301	*e*PKPdf	PKPbc	06 49 46.1	+0.1
LIA	Limnos Island	146.26 309	P	PKPbc	06 49 46.1	-0.3
LIA	Limnos Island	146.26 309	P	PKPbc	06 49 46.1	-0.3
BUD	Budapest	146.34 325	⇑*e*PKPdf	PKPbc	06 49 46.2	-0.1
BUD	Budapest	146.34 325	⇑*e*PKPdf	PKPbc	06 49 46.2	-0.1
BRG	Berggiesshubel	146.36 334	*i* PKP	PKPbc	06 49 46.4	+0.1
	comp=Z,104nm,1.1s					
BRG			*i*		06 49 53.8	
	comp=Z,37nm,1.1s					
BRG	Berggiesshubel	146.36 334	*i* PKP2	PKPbc	06 49 46.4	+0.1
BRG			pmax	pmax		
	comp=Z,5.0nm,1.1s					
BRG			pmax	pmax		
	comp=Z,104nm,1.1s					
PVCC	Panska Ves	146.36 333	*i* PKP	PKPbc	06 49 46.6	+0.3
PVCC	Panska Ves	146.36 333	*i* PKP2	PKPbc	06 49 46.6	+0.3
MDVR	Moldovita	146.38 319	⇑*i*P	PKPab	06 49 47.5	-0.2
CLL	Collm	146.40 335	⇑*i*PKP2	PKPbc	06 49 46.2	-0.2
CLL			pmax	pmax		
	comp=Z,87nm,1.1s					
CLL	Collm	146.40 335	⇑*i*PKPbc	PKPbc	06 49 46.2	-0.2
	comp=Z,87nm,1.1s					
CLL			*i*		06 49 53.8	
CLL			*i*		06 50 25.7	
CLL			*e*PP	PP	06 53 12.0	+2.5
CLL			*e*		06 56 12.0	
CLL			*e*PSKS		07 03 24.0	
CLL			*e*		07 04 34.0	
CLL			*e*SS	SS	07 12 00.0	+1.7
CLL	Collm	146.40 335	*e*PKPdf	PKPbc	06 49 46.1	-0.2
SMOL	Smolenice	146.49 328	*e*PKP2	PKPab	06 49 47.9	0.0
SMOL	Smolenice	146.49 328	*e*PKP	PKPab	06 49 47.9	0.0
VTS	Vitosha	146.52 315	P	PKPbc	06 49 47.4	+0.2
VTS	Vitosha	146.52 315	⇑*i*P	PKPbc	06 49 47.7	+0.5
VTS	Vitosha	146.52 315	*e*PKIKP	PKPdf	06 49 45.1	-0.6
VTS			*e*		06 49 47.4	
VTS	Vitosha	146.52 315	P	PKPbc	06 49 46.7	-0.6
VTS	Vitosha	146.52 315	*e*PKPdf	PKPdf	06 49 45.0	-0.6
VTS			*e*PKPbc	PKPbc	06 49 47.4	+0.2
NVR	Nevrokopi	146.62 312	P	PKPbc	06 49 47.2	-0.2
NVR	Nevrokopi	146.62 312	P	PKPbc	06 49 47.2	-0.2
GOPC	GO Pecny, Ondr	146.72 332	*i* PKP	PKPbc	06 49 47.6	+0.2
GOPC	GO Pecny, Ondr	146.72 332	*i* PKP2	PKPbc	06 49 47.6	+0.2
PRA	Prague	146.76 332	*e*PKP	PKPbc	06 49 47.7	+0.2
PRA	Prague	146.76 332	*e*PKP2	PKPbc	06 49 47.7	+0.2
PRU	Pruhonice	146.78 332	*i* PKP	PKPbc	06 49 47.5	0.0
PRU			*e*pPKP	sPKPdf	06 50 21.7	-1.8
PRU			AMS	AMS	07 49 40.0	
	comp=Z,400nm,21.1s					
PRU	Pruhonice	146.78 332	*i* PKP2	PKPbc	06 49 47.5	0.0
PRU			MLR	MLR		
	comp=Z,400nm,21.1s					
CSKK	Cs‡kako	146.82 326	⇑*e*PKPdf	PKPbc	06 49 47.6	-0.1
CSKK	Cs‡kako	146.82 326	⇑*e*PKPdf	PKPbc	06 49 47.6	-0.1
TREC	Trest	146.86 331	*e*PKP	PKPbc	06 49 48.0	+0.2
TREC	Trest	146.86 331	*e*PKP2	PKPbc	06 49 48.0	+0.2
SRS	Serrai	146.90 312	P	PKPbc	06 49 47.2	-1.0
KKB	Krupnik	146.93 314	P	PKPbc	06 49 47.7	-0.6
APE	Apeiranthos	146.93 304	⇑*i*P	PKPdf	06 49 47.1	+0.7
APE	Apeiranthos	146.93 304	⇑PKIKP	PKPdf	06 49 47.1	+0.7
OUR	Ouranopolis	146.95 311	P	PKPbc	06 49 47.8	-0.5
OUR	Ouranopolis	146.95 311	PKP2	PKPbc	06 49 47.8	-0.5
OUR	Ouranopolis	146.95 311	P	PKPbc	06 49 47.8	-0.5
SANT	Santorini	147.18 303	*e*PKPdf	PKPdf	06 49 47.8	+1.0
KNT	Kendrikon	147.36 313	P	PKPbc	06 49 48.7	-0.8
NKC	Novy Kostel	147.46 334	*i* PKP	PKPbc	06 49 49.7	+0.2
NKC	Novy Kostel	147.46 334	*i* PKP2	PKPbc	06 49 49.7	+0.2
SOP	Sopron	147.48 327	⇑*e*PKPdf	PKPdf	06 49 42.9	-4.0
LAST	Lasithi	147.48 301	P	PKPbc	06 49 50.4	+0.3
VAY	Valandovo	147.51 313	*i* PKP	PKPbc	06 49 49.0	-0.9
CONA	Conrad Observa	147.65 328	*e*PKPbc	PKPbc	06 49 50.4	+0.2
	comp=Z,36nm,0.6s,SNR=16					
DIVS	Divibare	147.79 319	P	PKPbc	06 49 50.7	+0.1
KHC	Kasperske Hory	147.83 332	*e*PKP	PKPdf	06 49 47.1	-0.4
KHC			*ex*	x	06 49 50.6	
KHC			AMS	AMS	07 50 10.0	
	comp=Z,500nm,22.8s					
KHC	Kasperske Hory	147.83 332	*e*PKIKP	PKPdf	06 49 47.3	-0.2
KHC			*e*		06 49 50.8	
KHC	Kasperske Hory	147.83 332	*e*PKPdf	PKPdf	06 49 47.2	-0.2
KHC			*e*PKPbc	PKPbc	06 49 50.8	+0.3
XOR	Xorichti	147.89 309	P	PKPbc	06 49 49.9	-1.1
XOR	Xorichti	147.89 309	P	PKPbc	06 49 49.9	-1.1
IDI	Anoyia	147.92 301	P	PKPbc	06 49 51.5	+0.3
IDI	Anoyia	147.92 301	*e*PKPdf	PKPdf	06 49 48.1	0.0
IDI			*e*PKPbc	PKPbc	06 49 51.2	-0.1
ATHU	Athens Univers	147.97 307	P	PKPdf	06 49 49.5	+1.5
SKO	Skopje	147.97 315	*i* PKP	PKPbc	06 49 51.1	0.0
GEC2	GERESS Array S	147.99 332	*e*PKIKP	PKPdf	06 49 48.1	+0.2
GEC2			*e*		06 49 51.3	
GEC2			*e*PKPdf	PKPdf	06 49 48.0	+0.2
GEC2			*e*PKPbc	PKPbc	06 49 51.3	+0.2
GERES	GERESS Array B	147.99 332	PKP	PKPdf	06 49 47.3	-0.6
	comp=Z,54nm,0.9s,baz=48,slow=2.0,SNR=56					
GERES			PKPbc	PKPbc	06 49 51.0	-0.1
	comp=Z,54nm,0.9s,baz=42,slow=2.2,SNR=127					
GEA0	GERESS Array S	148.00 332	*e*PKPdf	PKPdf	06 49 47.0	-0.9
GEA0			*e*PKPbc	PKPbc	06 49 51.0	-0.1
SIVA	Sivas	148.05 301	P	PKPbc	06 49 52.0	+0.5
LIT	Litokhoron	148.09 311	P	PKPbc	06 49 50.6	-0.9
LIT	Litokhoron	148.09 311	PKP2	PKPbc	06 49 50.6	-0.9
LIT	Litokhoron	148.09 311	P	PKPbc	06 49 50.6	-0.9
BEHE	Becsehely	148.17 326	⇑*e*PKPdf	PKPbc	06 49 51.5	0.0
BEHE	Becsehely	148.17 326	⇑*e*PKPdf	PKPbc	06 49 51.5	0.0
VILL	Villia	148.25 307	P	PKPbc	06 49 50.9	-1.1
ARSA	Arzberg	148.29 328	*e*PKPbc	PKPbc	06 49 51.5	-0.3
	comp=Z,12nm,0.5s,SNR=8.2					
KRUS	Krusevo	148.38 314	*i* PKP	PKPbc	06 49 51.6	-0.7
KOGS	Kog	148.46 326	*i* PKPbc	PKPbc	06 49 51.8	-0.4
MOA	Molln	148.47 330	*e*PKPbc	PKPbc	06 49 51.1	-1.1
	comp=Z,24nm,0.5s,SNR=18					
IVA	Berane	148.51 318	⇑*i*PKP	PKPbc	06 49 52.2	-0.4
FNA	Florina	148.56 313	P	PKPbc	06 49 52.1	-0.6
PLE	Pljevlja	148.57 319	⇑*i*PKP	PKPbc	06 49 52.4	-0.4
PVY	Plav	148.61 317	⇑*i*PKP	PKPbc	06 49 52.4	-0.5
AGG	Agios Georgios	148.64 309	P	PKPbc	06 49 51.9	-1.1
AGG	Agios Georgios	148.64 309	*e*PKIKP	PKPdf	06 49 48.2	-0.9
AGG	Agios Georgios	148.64 309	*e*PKPdf	PKPdf	06 49 48.2	-0.9
AGG			*e*PKPbc	PKPbc	06 49 51.9	-1.1
DSF	Desfina	148.73 308	P	PKPbc	06 49 52.2	-1.0
DSF	Desfina	148.73 308	P	PKPbc	06 49 52.2	-1.0
KOME	Kolasin	148.75 318	⇑*i*PKP	PKPbc	06 49 52.8	-0.4
OHR	Ohrid	148.80 314	*i* PKP	PKPbc	06 49 52.9	-0.4
SOKA	Soboth	148.92 327	*e*PKPbc	PKPbc	06 49 53.0	-0.5
	comp=Z,90nm,1.2s,SNR=13					
KPRO	Kipourio	148.94 312	P	PKPbc	06 49 53.1	-0.6
UPM	Unac-Piva	148.94 319	⇑*i*PKP	PKPbc	06 49 52.9	-0.9
VLI	Veliai	149.02 305	P	PKPbc	06 49 52.6	-1.3
KALE	Kalithea	149.02 308	P	PKPbc	06 49 53.5	-0.5
KALE	Kalithea	149.02 308	P	PKPbc	06 49 53.5	-0.5
GUR	Goura	149.04 307	P	PKPbc	06 49 53.7	-0.4
GUR	Goura	149.04 307	P	PKPbc	06 49 53.7	-0.4
SERG	Sergoula	149.07 308	P	PKPbc	06 49 53.8	-0.3
NKY	Niksic	149.10 318	⇑*i*PKP	PKPbc	06 49 53.6	-0.5
ANX	Ano Chora	149.10 309	P	PKPbc	06 49 54.8	+0.6
PDG	Podgorica	149.14 317	⇑*i*PKP	PKPbc	06 49 53.7	-0.3
TTG	Podgorica	149.14 317	⇑*i*PKP	PKPbc	06 49 53.7	-0.3
KLV	Kalavryta, Ach	149.14 308	P	PKPbc	06 49 54.0	-0.3
KLV	Kalavryta, Ach	149.14 308	P	PKPbc	06 49 54.0	-0.3
NKME	Niksic	149.15 318	⇑*i*PKP	PKPbc	06 49 53.7	-0.4
GCIS	Gornji Cirnik	149.17 326	*i* PKPbc	PKPbc	06 49 54.0	0.0
EFP	Efpalio	149.18 309	P	PKPbc	06 49 54.9	+0.6
LAKA	Lakka	149.20 308	P	PKPbc	06 49 54.6	+0.2
LAKA	Lakka	149.20 308	P	PKPbc	06 49 54.6	+0.2
VLX	Vlachokerasia	149.22 306	P	PKPbc	06 49 54.1	-0.5
VLX	Vlachokerasia	149.22 306	P	PKPbc	06 49 54.1	-0.5
OBKA	Obir	149.28 328	*e*PKPbc	PKPbc	06 49 53.8	-0.6
	comp=Z,40nm,1.1s,SNR=6.2					
CEME	Cevo	149.29 318	⇑*i*PKP	PKPbc	06 49 53.8	-0.7
TIR	Tirane	149.30 315	⇑*i*P	PKPbc	06 49 55.1	+0.6
TIR	Tirane	149.30 315	⇑PKP2	PKPbc	06 49 55.1	+0.6
TIR	Tirane	149.30 315	*e*PKPbc	PKPbc	06 49 55.0	+0.5
DRME	Dracevica, Mon	149.31 317	⇑*i*PKP	PKPbc	06 49 54.3	-0.2
BRY	Bratogost	149.33 319	⇑*i*PKP	PKPbc	06 49 54.0	-0.7
PDKS	Podkum	149.36 327	*i* PKPbc	PKPbc	06 49 54.4	-0.2
ULC	Ulcinj	149.39 317	⇑*i*PKP	PKPbc	06 49 54.2	+0.5
MEM	Memmbach	149.40 341	PKPbc	PKPbc	06 49 54.1	-0.3
OZLJ	Ozalj	149.42 326	P	PKPbc	06 49 54.8	+0.2
BUM	Brajici-Budva	149.43 317	⇑*i*PKP	PKPbc	06 49 54.4	-0.5
KBA	Koelnbreinsper	149.46 330	*e*PKPbc	PKPbc	06 49 53.9	-1.0
	comp=Z,47nm,0.6s,SNR=7.1					
DRO	Drossia	149.50 308	P	PKPbc	06 49 55.8	+0.7
HCY	Herceg Novi	149.60 318	⇑*i*PKP	PKPbc	06 49 54.5	-0.7
BOJS	Bojanci	149.61 326	*i* PKPbc	PKPbc	06 49 55.3	+0.2
LJU	Ljubljana	149.62 327	*e*PKPdf	PKPdf	06 49 49.8	-0.7
LJU			*i* PKPbc	PKPbc	06 49 55.0	-0.1
LJU			*e*		06 50 33.8	
ITM	Ithomi	149.62 306	P	PKPbc	06 49 55.0	-0.5
ITM	Ithomi	149.62 306	P	PKPbc	06 49 55.0	-0.5
RLS	Riolos of Patr	149.64 308	P	PKPdf	06 49 52.1	+1.4
MYKA	Terra Mystica	149.64 329	*e*PKPbc	PKPbc	06 49 54.3	-1.0
	comp=Z,51nm,0.5s,SNR=15					
BCLA	Clavier	149.77 342	PKPbc	PKPbc	06 49 55.2	-0.2
STON	Ston	149.85 319	P	PKPbc	06 49 55.0	-0.8
PYL	PYLOS	149.86 306	P	PKPbc	06 49 55.2	-0.8
PYL	PYLOS	149.86 306	P	PKPbc	06 49 55.2	-0.8
CADS	Cadrg	149.88 328	*i* PKPbc	PKPbc	06 49 54.8	-1.0
STU	Stuttgart	149.90 336	*e*PKP2	PKPbc	06 49 55.6	-0.1
STU	Stuttgart	149.90 336	*e*PKPbc	PKPbc	06 49 55.6	-0.1
WATA	Walderalm	150.07 332	*e*PKPbc	PKPbc	06 49 55.9	-0.5
	comp=Z,24nm,0.4s,SNR=16					
ABTA	Abfaltersbach	150.09 330	*e*PKPbc	PKPbc	06 49 55.5	-0.9
	comp=Z,62nm,0.6s,SNR=15					
WTTA	Wattenberg	150.10 332	*i* PKPbc	PKPbc	06 49 56.1	-0.4
	comp=Z,86nm,1.2s,SNR=14					
WLF	Walferdange	150.19 340	PKPbc	PKPbc	06 49 57.3	+0.9
WLF	Walferdange	150.19 340	*e*PKIKP	PKPbc	06 49 57.1	+0.7
WLF	Walferdange	150.19 340	*e*PKPbc	PKPbc	06 49 57.1	+0.7
LANF	Langenberg	150.23 338	PKP	PKPbc	06 49 56.5	0.0
DOU	Dourbes	150.26 343	PKPbc	PKPbc	06 49 56.3	-0.2
MOTA	Moosalm	150.27 332	*e*PKPbc	PKPbc	06 49 56.1	-0.7
	comp=Z,50nm,0.6s,SNR=30					
RETA	Reutte	150.30 333	*e*PKPbc	PKPbc	06 49 56.4	-0.5
	comp=Z,29nm,0.7s,SNR=9.3					
NVLJ	Novalja	150.43 324	P	PKPbc	06 49 56.3	-0.8
BFO	Black Forest	150.59 336	*e*PKIKP	PKPbc	06 49 56.9	-0.5
BFO	Black Forest	150.59 336	*e*PKPbc	PKPbc	06 49 56.9	-0.5
FETA	Feichten	150.68 332	*e*PKPbc	PKPbc	06 49 57.6	-0.3
	comp=Z,57nm,0.8s,SNR=22					
DAVA	Damuels	150.83 333	*e*PKPbc	PKPbc	06 49 57.8	-0.4
	comp=Z,31nm,0.8s,SNR=10					
ECH	Echery	151.11 338	PKP	PKPbc	06 49 57.9	-0.7
FUORN	Ofenpass-Fuorn	151.19 332	*e*PKPbc	PKPbc	06 49 59.0	-0.1
MOF	Molkenrain	151.43 337	PKP	PKPbc	06 49 58.6	-0.9
THEF	They Montfort	151.50 339	PKP	PKPbc	06 49 58.9	-0.6
TUE	Stuetta	151.70 333	*e*PKPbc	PKPbc	06 49 59.9	-0.4
LOMF	Lomont	151.96 337	PKP	PKPbc	06 50 00.1	-0.6
SENIN	Lac Senin/Sane	152.61 335	*e*PKPbc	PKPbc	06 50 02.0	-0.3
CUC	Castrocucco	152.63 316	*e*PKPbc	PKPbc	06 50 00.8	-1.6
AQU	L'Aquila	152.69 322	*e*PKIKP	PKPbc	06 50 03.1	+0.6
AQU	L'Aquila	152.69 322	*e*PKPbc	PKPbc	06 50 03.1	+0.6
BNI	Bardonecchia	153.94 335	*e*PKIKP	PKPbc	06 50 05.1	-0.1
BNI	Bardonecchia	153.94 335	*e*PKPbc	PKPbc	06 50 05.1	-0.1
VSL	Villasalto	156.86 322	*e*PKPab	PKPab	06 50 31.6	+0.3
KEST	Kesra	159.26 314	PKP	PKPdf	06 50 04.2	0.0
	comp=Z,3.9nm,0.8s,baz=313,slow=8.6,SNR=3.7					
KEST			PKPab	PKPab	06 50 41.7	-0.2
	comp=Z,10nm,0.8s,baz=150,slow=5.8,SNR=7.0					
KEST	Kesra	159.26 314	PKP	PKPdf	06 50 04.2	0.0
KEST			*e*PKPab	sPKPdf	06 50 43.7	+1.6
ES19	SONSECA Array	162.09 348	*e*PKPab	PKPab	06 50 53.5	-0.5
ESDC	Sonseca Array	162.13 348	PKPab	PKPab	06 50 53.3	-0.8
	comp=Z,0.6nm,0.5s,baz=9.7,slow=4.5,SNR=5.5					
LIC	Lamto	163.69 193	*e*PKIKP	PKPdf	06 50 08.9	-0.5
	comp=Z,53nm,1.3s					
KIC	Kosan Boka	163.76 194	*e*PKIKP	PKPdf	06 50 08.9	-0.6
	comp=Z,28nm,1.0s					
DBIC	Dimbokro	164.08 194	PKP	PKPdf	06 50 09.3	-0.5
	comp=Z,6.5nm,0.7s,baz=76,slow=2.3,SNR=6.1					
DBIC			PKPab	PKPab	06 51 03.2	0.0
	comp=Z,5.6nm,0.7s,baz=217,slow=3.6,SNR=5.8					
TIC	Toumodi	164.09 194	*e*PKIKP	PKPdf	06 50 08.8	-1.0
TOA0	Torodi Ar. Sit	166.56 230	*e*PKPdf	PKPdf	06 50 11.2	-0.5
TOA0			*e*PKPab	PKPab	06 51 14.7	+0.4
TORD	Torodi Ar. Bea	166.56 230	PKP	PKPdf	06 50 11.2	-0.6
	comp=Z,11nm,0.9s,baz=354,slow=0.4,SNR=62					
TORD			PKPab	PKPab	06 51 14.6	+0.3
	comp=Z,16nm,1.0s,baz=125,slow=5.1,SNR=20					
TAM	Tamanrasset	166.78 275	*e*PKIKP	PKPdf	06 50 12.5	+0.6
TAM			*e*		06 51 16.8	
TAM	Tamanrasset	166.78 275	*e*PKPdf	PKPdf	06 50 12.5	+0.6
TAM			*e*PKPab	PKPab	06 51 16.8	+1.3

MEX 07 06:49:03.0±0.3, 18°.19N×97°.34W, h67km±3km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	Tehuac#an	0.23	356	*e*P	Pn	06 49 12.3	-1.4
TPIG				*e*S	Sn	06 49 19.6	-1.7
VHO	Vista Hermosa	1.26	152	*e*P	Pn	06 49 23.8	-1.1
VHO				*e*S	Sn	06 49 39.2	-2.0
TLIG	Tlapa	1.32	242	*e*P	Pn	06 49 24.2	-1.4
TLIG				*e*S	Sn	06 49 41.0	-1.5
PPM	Popocatepetl	1.50	306	*i* P	Pn	06 49 27.1	-1.2
YAIG	Yautepec	1.77	292	*e*P	Pn	06 49 30.2	-1.4
YAIG				*i* S	Sn	06 49 51.4	-1.8
PNIG	Pinotepa	1.94	203	*e*P	Pn	06 49 31.0	-2.8
PNIG				*i* S	Sn	06 49 50.7	-6.5
MEIG	Mezcala	2.18	263	*e*P	Pn	06 49 35.3	-1.8

ISCJB ***07*** *06:58:21.1±0.3, 5°.17S±0°.04×153°.01E±0°.05, h43km, mb4.6/58, MS4.3/21, Error ellipse: s-maj=7.3km s-min=5.5km az=30.7*

IDC ***07*** *06:58:23.3±3.5, 5°.13S×152°.92E, h49km±33km, mb4.1/15, mb1 4.2/17, mb1mx4.0/35, mbtmp4.4/17, ML3.1/2, MS4.2/21, Ms1 4.2/21, ms1mx4.0/32, Error ellipse: s-maj=25.8km s-min=16.2km az=87.0*

NEIC ***07*** *06:58:24.5±0.8, 5°.13S×152°.97E, h58km±7km, mb4.6/40, Error ellipse: s-maj=8.6km s-min=5.4km az=111.0*

GCMT ***07*** *06:58:24.5±0.3, 5°.40S×152°.76E, h31km±1km, MW5.0/64, Moment Tensor Solution. s30,c34; s64,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.15±.23; $M_{\theta\theta}$-2.90±.13; $M_{\phi\phi}$-0.25±.14; $M_{r\theta}$1.90±.14; $M_{\theta\phi}$0.16±.10; $M_{r\phi}$0.15±.17; Best double couple: $M_0$3.57900×10^{16} NP1:ϕ_s89.00000°, δ61.00000°, λ86.00000°. NP2: ϕ_s277.00000°, δ29.00000°, λ97.00000°. Principal axes: T 3.7060, Plg74.0000°, Azm350.0000°; N -0.2640, Plg3.0000°, Azm91.0000°; P -3.4510, Plg16.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 06:58:22.6±0.4, 5°.15S±0°.05×153°.02E±0°.07, h43km, n113, σ1§48/108, mb4.6/58, MS4.3/21, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.28	318	*e*Pn	Pn	06 58 44.3	+0.2
RABL				*e*Sn	Sn	06 59 01.4	+1.3
MANU	Manus Island	6.43	298	*e*Pn	Pn	06 59 58.1	+3.2
PMG	Port Moresby	7.19	234	P	Pn	07 00 05.7	+0.4
	4.1nm,0.3s,baz=46,slow=9.3,SNR=12						
PMG				S	Sn	07 01 21.8	-3.9
	5.8nm,0.3s,baz=142,slow=23,SNR=11						
PMG				LR	LR	07 02 06.1	
	comp=Z,414nm,20.9s,baz=44,slow=31						
PMG	Port Moresby	7.19	234	*e*Pn	Pn	07 00 06.1	+0.8
PMG				*e*Sn	Sn	07 01 25.2	-0.5
HNR	Honiara	8.08	122	LR	LR	07 03 47.7	
	comp=Z,2μm,21.5s,baz=296,slow=40						
PATS	Pohnpei	13.03	24	*e*Pn	Pn	07 01 26.7	+1.4
PATS				*e*Sn	Sn	07 03 47.6	-1.3
COEN	Coen	13.06	227	*e*Pn	Pn	07 01 27.0	+1.2
CTA	Charters Tower	16.24	203	P	Pn	07 02 07.8	-0.1
	0.2nm,0.3s,baz=16,slow=14,SNR=3.6						
CTA				LR	LR	07 08 20.1	
	comp=Z,988nm,18.2s,baz=32,slow=37						
CTAO	Charters Tower	16.24	203	*e*P	P	07 02 11.3	+0.9
	37nm,1.0s						
EIDS	Eidsvold	20.19	185	*e*P	P	07 02 54.2	+0.4
	7.2nm,0.9s						
DZM	Mont Dzumac	21.25	144	P	P	07 03 07.0	+1.6
	3.7nm,0.4s,baz=199,slow=11,SNR=8.6						
DZM				LR	LR	07 10 24.1	
	comp=Z,796nm,21.0s,baz=320,slow=34						
DZM	Mont Dzumac	21.25	144	*e*LQ	LQ	07 07 25.4	
	1μm,29.7s						
DZM				*e*LR	LR	07 08 20.4	
	2μm,26.0s						
DZM	Mont Dzumac	21.25	144	*e*P	P	07 03 05.9	+0.5
	20nm,1.1s						
WRAB	Tennant Creek	23.37	229	*e*P	P	07 03 29.0	+1.4
	13nm,0.8s						
WB2	Warramunga Arr	23.37	229	*e*P	P	07 03 30.5	+2.8
WRA	Warramunga Arr	23.38	229	P	P	07 03 27.0	-0.8
	2.6nm,0.4s,baz=53,slow=9.7,SNR=8.8						
ASAR	Alice Springs	26.04	223	LR	LR	07 13 32.9	
	comp=Z,570nm,21.5s,baz=38,slow=35						
STKA	Stephens Creek	28.66	201	P	P	07 04 14.7	-0.8
	2.2nm,0.7s,baz=18,slow=12,SNR=6.1						
STKA				LR	LR	07 16 12.7	
	comp=Z,778nm,18.2s,baz=19,slow=37						
STKA	Stephens Creek	28.66	201	*e*P	P	07 04 15.2	-0.3
	1.2nm,1.0s						
FITZ	Fitzroy Crossi	29.69	242	P	P	07 04 23.5	-1.2
	2.1nm,0.3s,baz=55,slow=8.8						
MBWA	Marble Bar	35.99	241	*e*P	P	07 05 22.0	+2.2
	12nm,1.1

comp=Z,15nm,1.1s
OHAK Old Harbor 75.76 27 *eP* **P 07 10 04.7 +1.0**
comp=Z,27nm,1.2s
SVW2 Sparrevohn 77.06 23 *eP* **P 07 10 13.1 +2.0**
comp=Z,9.2nm,1.2s
CNPM China Poot 77.94 26 *eP* **P 07 10 17.0 +0.9**
comp=Z,20nm,1.2s
TT01 Tatalina 78.00 21 *eP* **P 07 10 17.5 +1.2**
TTA Tatalina 78.02 21 *eP* **P 07 10 17.8 +1.4**
comp=Z,4.5nm,1.2s
BRLK Bradley Lake 78.21 25 *eP* **P 07 10 18.4 +0.9**
comp=Z,17nm,1.1s
SEW Seward 79.01 26 *eP* **P 07 10 23.1 +1.2**
comp=Z,10.0nm,1.0s
SUA Susitna One 79.19 24 *eP* **P 07 10 23.1 +0.1**
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 79.40 25 *eP* **P 07 10 24.2 +0.2**
comp=Z,15nm,1.2s
PPLA Purkeypile 79.41 22 *eP* **P 07 10 24.9 +0.7**
comp=Z,7.0nm,1.2s
CAST Castle Rocks 79.75 22 *eP* **P 07 10 26.0 +0.1**
comp=Z,5.8nm,1.2s
PMR Palmer 79.91 24 *eP* **P 07 10 27.1 +0.3**
comp=Z,8.1nm,1.2s
KTH Kantishna Hill 80.25 22 *eP* **P 07 10 28.1 -0.6**
comp=Z,4.8nm,0.8s
SML Sawmill 80.35 24 *eP* **P 07 10 29.9 +0.7**
comp=Z,11nm,0.9s
TRF Thorofare Moun 80.44 22 *eP* **P 07 10 29.9 +0.1**
comp=Z,4.4nm,1.0s
MK01 Makanchi Array 80.72 319 *eP* **P 07 10 32.3 +0.8**
MK31 Makanchi Array 80.73 319 *eP* **P 07 10 32.1 +0.5**
MKAR Makanchi Array 80.73 319 P **P 07 10 31.4 -0.2**
comp=Z,1.9nm,0.7s,baz=99,slow=5.5,SNR=10
MKAR Makanchi Array 80.73 319 *eP* **P 07 10 32.0 +0.4**
comp=Z,12nm,0.8s
MAKZ Makanchi 80.94 319 *eP* **P 07 10 32.3 -0.4**
comp=Z,3.3nm,1.1s
RND Reindeer 80.96 23 *eP* **P 07 10 32.5 0.0**
comp=Z,6.1nm,0.9s
DHY Denali Highway 81.37 23 *eP* **P 07 10 36.2 +1.5**
comp=Z,5.2nm,1.0s
ZAA0 Zalesovo Array 81.57 326 *eP* **P 07 10 35.0 -0.8**
ZALV Zalesovo Beam 81.57 326 P **P 07 10 34.7 -1.1**
comp=Z,1.9nm,0.3s,baz=111,slow=5.5,SNR=11
ZALV LR LR 07 47 11.4
comp=Z,100nm,21.1s,baz=68,slow=36
WRH Wood River Hil 81.80 22 *eP* **P 07 10 36.9 +0.1**
comp=Z,3.6nm,1.2s
CCB Clear Creek Bu 82.00 22 *eP* **P 07 10 37.4 -0.4**
comp=Z,2.1nm,0.9s
HDA Harding Lake 82.20 22 *eP* **P 07 10 39.0 +0.1**
comp=Z,1.5nm,0.8s
ILAR Eielson Array 82.40 22 P **P 07 10 38.7 -1.2**
comp=Z,1.3nm,0.6s,baz=246,slow=5.7,SNR=21
ILAR LR LR 07 45 28.1
comp=Z,189nm,19.4s,baz=228,slow=34
ILB Eielson Array 82.40 22 *eP* **P 07 10 39.2 -0.8**
IL1 Eielson Array 82.40 22 *eP* **P 07 10 39.3 -0.7**
DOT Dot Lake 82.96 24 *eP* **P 07 10 43.5 +0.6**
comp=Z,6.0nm,0.8s
KSH Kashi 83.33 311 P **P 07 10 47.6 +2.1**
KSH pP sP 07 11 01.1 -2.2
KSH sP pP 07 11 05.7 +7.3
KSH *e*PP **PP 07 14 01.7 +3.9**
KSH PcP **PKiKP 07 15 57.8 -5.5**
KSH Kashi 83.33 311 S **S 07 21 02.9 -0.6**
KSH Kashi 83.33 311 sS sS 07 21 26.4 +1.3
KSH Kashi 83.33 311 SS SS 07 26 33.0 +3.5
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,200nm,5.3s
KSH LR LR
comp=N,59nm,5.3s
KSH LR LR
comp=E,73nm,5.4s
KSH LR LR
comp=Z,130nm,6.8s
FYU Fort Yukon 83.87 21 *eP* **P 07 10 47.8 +0.4**
comp=Z,8.8nm,1.2s
KURK Kurchatov 84.18 322 *eP* **P 07 10 48.5 -0.9**
comp=Z,5.3nm,1.1s
MAW Mawson 85.33 203 P **P 07 10 54.9 0.0**
comp=Z,0.7nm,0.6s,baz=111,slow=7.0,SNR=3.8
MAW LR LR 07 46 12.4
comp=Z,176nm,20.7s,baz=62,slow=34
MAW Mawson 85.33 203 *eP* **P 07 10 55.2 +0.3**
comp=Z,0.7nm,1.0s
NRIK Noril'sk 86.37 341 P **P 07 10 59.8 -0.2**
comp=Z,2.0nm,0.3s,baz=342,slow=2.0,SNR=6.9
NRIK LR LR 07 49 08.4
comp=Z,124nm,20.3s,baz=89,slow=35
INK Inuvik 88.70 21 *eP* **P 07 11 12.3 +1.1**
comp=Z,2.2nm,0.9s
SYO Syowa Base 93.41 199⇑ *eP* **P 07 11 32.6 -0.5**
SYO Syowa Base 93.41 199⇑ *e*PcP **PcP 07 11 34.9 +1.3**
YKA Yellowknife Ar 95.63 28 LR LR 07 48 58.2
comp=Z,31nm,21.4s,baz=0.0,slow=32
HVU Hansel Valley 96.53 49 *eP* **P 07 11 47.2 -0.9**
comp=Z,5.4nm,1.1s
TCRU Three Creeks R 96.72 52 *eP* **P 07 11 46.8 -2.4**
comp=Z,6.6nm,0.5s
PDAR Pinedale Array 98.92 48 LR LR 07 53 47.2
comp=Z,338nm,18.4s,baz=295,slow=34
SCHQ Schefferville 121.01 26 *e*PKPdf **PKPdf 07 17 08.8 -1.7**
GERES GERESS Array B 124.47 329 PKP **PKPdf 07 17 17.7 +0.3**
comp=Z,0.9nm,0.5s,baz=82,slow=1.8,SNR=6.6
GEA0 GERESS Array S 124.47 329 *e*PKPdf **PKPdf 07 17 17.9 +0.5**
LPAZ La Paz 134.06 118 PKP **PKPdf 07 17 38.5 +1.2**
comp=Z,0.9nm,0.7s,baz=289,slow=2.0,SNR=4.6
LPAZ La Paz 134.06 118 *e*PKPdf **PKPdf 07 17 39.6 +2.4**
CPUP Villa Florida 137.05 138 *e*PKPdf **PKPdf 07 17 41.8 0.0**
SVB Belmont 145.26 74 *e*PKPbc **PKPdf 07 17 57.0 +0.2**
PTGA Pitinga 146.54 99 *e*PKPbc **PKPab 07 18 01.3 -0.3**
TOA0 Torodi Ar. Sit 150.62 288 *e*PKPbc **PKPbc 07 18 10.9 -0.2**
TORD Torodi Ar. Bea 150.62 288 PKPbc **PKPbc 07 18 10.3 -0.8**
comp=Z,2.3nm,0.4s,baz=71,slow=2.6,SNR=20

MEX 07 07:12:48.6±0.5, 13°.93N×92°.51W, h20km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.89**	**339**	*eP*		Pn		07 13 17.7	-2.1
CCIG	**Comitan**	**2.37**	**9**	*eP*		Pn		07 13 24.0	-2.5

*PRE **07** 07:23:37.3±3.1, 29°.09S×26°.16E, h5km, ML2.9*
ISC 07 07:23:37.3±0.9, 29°.12S±0°.04×26°.16E±0°.05, h10km, n20, σ2°.73/39, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**0.94**	**302**	*i P*		Pn		07 24 04.4	+7.7
BOSA				*i S*		**Sn**		**07 24 13.0**	**+2.7**
SEK	**Senekal**	**1.51**	**59**	*eP*		**Pg**		**07 24 07.5**	**+1.2**
SEK				*e*S		**Sn**		**07 24 25.0**	**+0.6**
SEK				AML		AML		07 24 40.1	
comp=Z,74nm,0.2s									
HVD	**Gariep Dam**	**1.59**	**201**	*eP*		**Pn**		**07 24 07.2**	**+1.5**
HVD				*e*S		**Sn**		**07 24 27.8**	**+1.3**
HVD				AML		AML		07 24 29.4	
comp=Z,33nm,0.4s									
SWZ	**Schweizer**	**2.06**	**339**	*eP*		**Pn**		**07 24 14.8**	**+2.6**
SWZ				*e*S		**Sn**		**07 24 38.3**	**+0.2**
SWZ				AML		AML		07 24 39.5	
comp=Z,60nm,0.1s									
TLEK	**Tau Lekoa**	**2.19**	**12**	*eP*		**Pn**		**07 24 14.5**	**+0.5**
TLEK				*e*S		**Sn**		**07 24 41.7**	**+0.4**
TLEK				AML		AML		07 24 44.8	
comp=Z,34nm,0.3s									
PRYS	**Parys**	**2.43**	**26**	*eP*		**Pn**		**07 24 20.1**	**+2.9**
PRYS				*e*S		**Sn**		**07 24 46.6**	**-0.4**
PRYS				AML		AML		07 24 47.5	
comp=Z,43nm,0.3s									
WDLM	**Western Deep L**	**2.91**	**23**	*eP*		**Pn**		**07 24 25.6**	**+1.7**
WDLM				*e*S		**Sn**		**07 24 57.8**	**-1.2**
WDLM				AML		AML		07 24 59.7	
comp=Z,80nm,0.1s									
KSR	**Koster**	**3.32**	**11**	*eP*		**Pn**		**07 24 31.9**	**+2.4**
KSR				*e*S		**Sn**		**07 25 07.9**	**-1.2**
KSR				AML		AML		07 25 09.5	
comp=Z,18nm,0.4s									
ERPM	**east rand prop**	**3.32**	**34**	*eP*		**Pn**		**07 24 31.1**	**+1.5**
ERPM				*e*S		**Sn**		**07 25 08.9**	**-0.3**
ERPM				AML		AML		07 25 10.3	
comp=Z,43nm,0.2s									
SOE	**Somerset East**	**3.62**	**188**	*eP*		**Pn**		**07 24 37.0**	**+3.5**
SOE				*e*S		**Sn**		**07 25 16.1**	**-0.3**
SLR	**Silverton**	**3.86**	**30**	*eP*		**Pn**		**07 24 38.9**	**+2.0**
SLR				*e*S		**Sn**		**07 25 20.7**	**-1.7**
SLR				AML		AML		07 25 23.3	
comp=Z,16nm,0.2s									
LBTB	**Lobatse**	**4.12**	**353**	*eP*		**Pn**		**07 24 42.6**	**+2.2**
LBTB				*e*S		**Sn**		**07 25 26.6**	**-2.1**
LBTB				AML		AML		07 25 30.1	
comp=Z,18nm,0.6s									
UPI	**Upington**	**4.38**	**279**	*eP*		**Pn**		**07 24 46.9**	**+2.9**
UPI				*e*S		**Sn**		**07 25 34.4**	**-0.7**
UPI				AML		AML		07 25 38.0	
comp=Z,14nm,0.3s									
KEIM	**Keimoes**	**4.57**	**274**	*eP*		**Pn**		**07 24 49.8**	**+3.2**
KEIM				*e*S		**Sn**		**07 25 38.2**	**-1.7**
KEIM				AML		AML		07 25 40.6	
comp=Z,18nm,0.3s									
SUR	**Sutherland**	**5.64**	**233**	*eP*		**Pn**		**07 25 03.0**	**+1.7**
SUR				*e*S		**Sn**		**07 26 03.7**	**-2.6**
CVNA	**Calvinia**	**6.02**	**245**	*eP*		**Pn**		**07 25 07.4**	**+0.9**
CVNA				*e*S		**Sn**		**07 26 13.4**	**-2.1**
CVNA				AML		AML		07 26 17.1	
comp=Z,11nm,0.3s									
KOMG	**Komaggas**	**7.60**	**263**	*eP*		**Pn**		**07 25 31.2**	**+3.0**
KOMG				*e*S		**Sn**		**07 26 51.3**	**-3.1**
KOMG				AML		AML		07 26 57.5	
comp=Z,4.7nm,0.4s									
ELIM	**Elim**	**7.72**	**223**	*eP*		**Pn**		**07 25 31.1**	**+1.3**
ELIM				*e*S		**Sn**		**07 26 53.4**	**-4.0**
ELIM				AML		AML		07 27 25.1	
comp=Z,6.2nm,0.7s									
MATP	**Matopo**	**8.91**	**14**	*i P*		**Pn**		**07 25 49.3**	**+3.0**
MATP				*i* S		**Sn**		**07 27 20.0**	**-6.9**
BLWY	**Bulawayo**	**9.21**	**15**	*i P*		**Pn**		**07 25 53.3**	**+2.8**
BLWY				*i* S		**Sn**		**07 27 26.6**	**-7.7**

*ISCJB **07** 07:42:04.9±1.2, 15°.1S±0°.2×170°.9E±0°.2, h650km, mb4.0/8, Error ellipse: s-maj=24.2km s-min=19.4km az=137.8*
*IDC **07** 07:42:07.0±2.6, 14°.95S×170°.80E, h662km±30km, mb3.3/8, mb1 3.5/10, mb1mx3.2/33, mbtmp4.6/10, Error ellipse: s-maj=29.4km s-min=18.4km az=47.0*
ISC 07 07:42:06.2±1.3, 14°.9S±0°.2×170°.9E±0°.2, h650km, n11, σ1°.16/11, mb4.3/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.29**	**210**	P		**P**		**07 44 11.8**	**+1.7**
4.1nm,0.3s,baz=49,slow=22,SNR=30									
HNR	**Honiara**	**12.03**	**296**	P		**P**		**07 44 46.1**	**+0.9**
15nm,0.3s,baz=168,slow=9.8,SNR=3.2									
CTA	**Charters Tower**	**24.07**	**254**	P		**P**		**07 46 33.8**	**-0.2**
3.4nm,0.8s,baz=84,slow=10,SNR=7.6									
RPZ	**Rata Peaks**	**28.71**	**180**	P		**P**		**07 47 13.1**	**-1.0**
5.4nm,0.4s,baz=5.9,slow=2.1,SNR=8.3									
STKA	**Stephens Creek**	**31.63**	**233**	P		**P**		**07 47 39.0**	**-0.2**
9.1nm,0.4s,baz=57,slow=8.8,SNR=33									
WRA	**Warramunga Arr**	**35.21**	**256**	P		**P**		**07 48 07.7**	**-1.6**
13nm,0.7s,baz=88,slow=9.1,SNR=177									
ASAR	**Alice Springs**	**35.92**	**250**	P		**P**		**07 48 13.7**	**-1.4**
16nm,0.5s,baz=76,slow=9.4,SNR=471									
FITZ	**Fitzroy Crossi**	**43.45**	**259**	P		**P**		**07 49 14.5**	**-0.3**
VNDA	**Vanda**	**62.79**	**182**	P		**P**		**07 51 29.6**	**-0.3**
0.8nm,0.5s,baz=1.8,slow=6.9,SNR=14									
MAW	**Mawson**	**83.03**	**202**	P		**P**		**07 53 26.1**	**+1.2**
0.2nm,0.3s,baz=72,slow=6.4,SNR=2.3									
ILAR	**Eielson Array**	**85.64**	**17**	P		**P**		**07 53 37.4**	**-0.2**
0.4nm,0.7s,baz=225,slow=5.3,SNR=5.1									

IDC 07 07:46:43.8±10.0, 14°.60S×170°.99E, h653km±61km, mb3.2/5, mb1 3.3/6, mb1mx2.9/32, mbtmp4.3/6, Error ellipse: s-maj=154.7km s-min=22.4km az=34.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.59**	**209**	P		P		07 48 51.9	+1.4
1.1nm,0.3s,baz=200,slow=5.4,SNR=10									
RPZ	**Rata Peaks**	**29.02**	**180**	P		P		07 51 53.4	-0.9
3.8nm,0.4s,baz=157,slow=1.2,SNR=7.3									
STKA	**Stephens Creek**	**31.87**	**232**	P		P		07 52 18.9	+0.1
1.6nm,0.3s,baz=61,slow=9.3,SNR=7.0									
WRA	**Warramunga Arr**	**35.35**	**256**	P		P		07 52 48.0	+0.1
3.2nm,0.5s,baz=88,slow=8.9,SNR=37									
ASAR	**Alice Springs**	**36.09**	**250**	P		P		07 52 53.9	-0.1
5.0nm,0.4s,baz=76,slow=9.5,SNR=80									
VNDA	**Vanda**	**63.10**	**182**	P		P		07 56 09.9	+0.6
0.5nm,0.5s,baz=358,slow=7.2,SNR=9.8									

*ISCJB **07** 07:49:25.0±1.0, 17°.2S±0°.5×179°.0W±0°.3, h533km, mb3.6/7, Error ellipse: s-maj=73.7km s-min=13.9km az=154.9*
*IDC **07** 07:49:25.7±2.1, 17°.27S×178°.88W, h530km±28km, mb3.2/7, mb1 3.4/8, mb1mx3.1/30, mbtmp4.1/8, Error ellipse: s-maj=76.2km s-min=14.0km az=152.0*
ISC 07 07:49:25.9±1.1, 17°.2S±0°.5×178°.9W±0°.3, h533km, n10, σ0°.50/10, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**65**	P		**P**		**07 51 19.4**	**0.0**
3.3nm,0.3s,baz=139,slow=4.5,SNR=7.2									
STKA	**Stephens Creek**	**38.56**	**240**	P		**P**		**07 56 02.6**	**-0.4**
2.2nm,0.4s,baz=88,slow=10,SNR=10									
WRA	**Warramunga Arr**	**44.30**	**259**	P		**P**		**07 56 48.4**	**-0.2**
0.8nm,0.5s,baz=91,slow=6.9,SNR=19									
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**		**07 56 50.2**	**-0.2**
9.5nm,0.5s,baz=89,slow=8.2,SNR=149									
FITZ	**Fitzroy Crossi**	**52.68**	**260**	P		**P**		**07 57 51.9**	**+0.9**
0.3nm,0.3s									
ILAR	**Eielson Array**	**85.33**	**13**	P		**P**		**08 01 06.0**	**-0.2**
0.3nm,0.4s,baz=223,slow=5.4,SNR=12									
TXAR	**Lajitas Array**	**86.03**	**58**	P		**P**		**08 01 10.9**	**+0.5**
0.7nm,0.7s,baz=220,slow=5.6,SNR=9.7									
PDAR	**Pinedale Array**	**87.18**	**44**	P		**P**		**08 01 15.4**	**-0.3**
0.5nm,0.6s,baz=236,slow=4.0,SNR=6.1									
BRTR	**Keskin Array B**	**143.97**	**315**	PKP		**PKPdf**		**08 08 00.6**	**-0.5**
0.9nm,0.9s,baz=42,slow=2.0,SNR=4.1									
GERES	**GERESS Array B**	**146.83**	**345**	PKPbc		**PKPbc**		**08 08 08.4**	**0.0**
0.8nm,0.4s,baz=338,slow=3.2,SNR=5.0									

*ISCJB **07** 08:03:58.9±0.5, 22°.42S±0°.09×179°.0W±0°.1, h450km, mb3.8/15, Error ellipse: s-maj=16.0km s-min=8.5km az=41.2*
*IDC **07** 08:03:58.1±2.3, 22°.36S×179°.16W, h420km±26km, mb3.5/15, mb1 3.7/17, mb1mx3.6/29, mbtmp4.3/17, Error ellipse: s-maj=16.9km s-min=12.1km az=126.0*
ISC 07 08:04:00.3±0.6, 22°.30S±0°.09×179°.20W±0°.09, h450km, n23, σ2°.34/27, mb3.8/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.92**	**41**	P		**P**		**08 06 27.1**	**-0.5**
3.6nm,0.3s,baz=286,slow=7.4,SNR=7.1									
AFI				S			**S**	**08 08 24.6**	**-4.5**
3.4nm,0.3s,baz=288,slow=20,SNR=6.7									
DZM	**Mont Dzumac**	**13.30**	**268**	P		**P**		**08 06 56.0**	**+2.5**
0.6nm,0.3s,baz=74,slow=18,SNR=12									
URZ	**Urewera**	**16.22**	**190**	P		**P**		**08 07 21.6**	**-2.6**
1.0nm,0.3s,baz=14,slow=12,SNR=9.6									
URZ				S			**S**	**08 10 13.7**	**+0.9**
0.5nm,0.3s,baz=344,slow=18,SNR=4.5									
RPZ	**Rata Peaks**	**22.84**	**198**	P		**P**		**08 08 26.0**	**-1.2**
6.9nm,0.7s,baz=236,slow=0.8,SNR=5.4									
CTA	**Charters Tower**	**32.25**	**267**	P		**P**		**08 09 50.9**	**+0.6**
8.0nm,0.7s,baz=102,slow=12,SNR=11									
STKA	**Stephens Creek**	**36.02**	**246**	P		**P**		**08 10 22.4**	**+0.3**
5.1nm,0.7s,baz=108,slow=11,SNR=16									
ASAR	**Alice Springs**	**43.05**	**259**	P		**P**		**08 11 18.9**	**-0.2**
7.1nm,0.7s,baz=92,slow=8.1,SNR=100									
ASAR				S			**S**	**08 17 07.0**	**-4.5**
0.8nm,0.8s,baz=95,slow=15,SNR=9.6									
WRA	**Warramunga Arr**	**43.28**	**264**	P		**P**		**08 11 20.3**	**-0.7**
2.4nm,0.6s,baz=96,slow=8.2,SNR=39									
WRA				S			**S**	**08 17 07.9**	**-6.8**
0.6nm,0.8s,baz=93,slow=13,SNR=4.5									
VNDA	**Vanda**	**56.03**	**185**	P		**P**		**08 12 54.7**	**+0.1**
0.7nm,0.7s,baz=2.3,slow=5.7,SNR=7.0									
MJAR	**Matsushiro Arr**	**71.01**	**325**	P		**P**		**08 14 31.6**	**+0.1**
1.6nm,0.7s,baz=155,slow=6.1,SNR=4.1									
KSRS	**Korea Array**	**77.50**	**319**	P		**P**		**08 15 10.4**	**+2.0**
0.4nm,0.2s,baz=126,slow=38,SNR=3.3									
PETK	**Petropavlovsk-**	**77.72**	**346**	P		**P**		**08 15 10.3**	**+1.1**
3.6nm,0.7s,baz=150,slow=6.2,SNR=5.4									
MAW	**Mawson**	**79.50**	**200**	P		**P**		**08 15 18.8**	**+0.2**
2.4nm,1.0s,baz=136,slow=9.0,SNR=6.7									
USRK	**Ussuriysk Ar.**	**79.83**	**327**	P		**P**		**08 15 22.6**	**+1.9**
1.3nm,0.6s,baz=108,slow=4.7,SNR=2.8									
TXAR	**Lajitas Array**	**88.96**	**58**	P		**P**		**08 16 08.5**	**+2.2**
0.8nm,0.8s,baz=205,slow=5.5,SNR=9.2									
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P		**P**		**08 16 11.1**	**+1.4**
1.0nm,0.3s,baz=121,slow=3.5,SNR=3.3									
ILAR	**Eielson Array**	**90.31**	**13**	P		**P**		**08 16 11.4**	**-0.1**
2.4nm,1.1s,baz=218,slow=5.3,SNR=10.0									
PDAR	**Pinedale Array**	**91.03**	**44**	P		**P**		**08 16 16.6**	**+0.9**
0.3nm,0.5s,baz=142,slow=4.6,SNR=3.0									
AKASG	**Malin Array Be**	**144.00**	**329**	PKP		**PKPdf**		**08 22 41.7**	**-1.7**
1.0nm,0.6s,baz=41,slow=4.6,SNR=6.0									
EKA	**Eskdalemuir Ar**	**146.88**	**4**	PKPbc		**PKPab**		**08 22 50.7**	**-2.7**
1.2nm,0.6s,baz=336,slow=1.8,SNR=3.6									
BRG	**Berggiesshubel**	**149.68**	**343**	*e*P		**PKPbc**		**08 22 58.6**	**+0.6**
8.8nm,0.9s									
GERES	**GERESS Array B**	**151.59**	**342**	PKPbc		**PKPbc**		**08 23 02.8**	**+0.1**
0.8nm,0.7s,baz=273,slow=8.9,SNR=5.1									
ESDC	**Sonseca Array**	**162.21**	**12**	PKPab		**PKPab**		**08 23 59.9**	**+0.7**
0.2nm,0.2s,baz=2.3,slow=3.7,SNR=4.1									

WEL 07 08:16:57.3±0.1, 38°.92S×178°.03E, h32km, ML3.5/56, 16C-8D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.12**	**271**	⇓P*		Pn		08 17 02.3	-0.6
PRGZ				S*		Sb		08 17 07.4	+0.4
PRGZ				AML		AML		08 17 07.8	
MHGZ	**Mahia Peninsul**	**0.25**	**203**	⇑P*		Pn		08 17 05.0	+0.2
MHGZ				AML		AML		08 17 12.5	
MHGZ				AML		AML		08 17 14.0	
KNZ	**Kokohu**	**0.29**	**251**	⇑P*		Pb		08 17 04.4	-0.5
KNZ				AML		AML		08 17 10.5	
KNZ				AML		AML		08 17 14.9	
RIGZ	**Rimuhau**	**0.30**	**316**	⇓P*		Pb		08 17 04.4	-0.6
RIGZ				S*		Sb		08 17 10.4	+0.1
RIGZ				AML		AML		08 17 12.5	
CNGZ	**Carnagh Statio**	**0.46**	**17**	⇓P*		Pn		08 17 07.9	+0.1
CNGZ				AML		AML		08 17 17.6	
CNGZ				AML		AML		08 17 18.3	
TKGZ	**Te Karaka**	**0.51**	**343**	⇑P*		Pb		08 17 07.5	-0.4
TKGZ				S*		Sn		08 17 15.7	-0.2
TKGZ				AML		AML		08 17 16.6	
SNGZ	**Shannon Statio**	**0.56**	**285**	⇑PN		Pb		08 17 08.2	-0.6
SNGZ				AML		AML		08 17 18.9	
SNGZ				AML		AML		08 17 21.7	
WHHZ	**Waihua**	**0.64**	**256**	⇓PN		Pb		08 17 09.8	-0.3
WHHZ				AML		AML		08 17 20.6	
WHHZ				AML		AML		08 17 21.8	
RAGZ	**Rawiri**	**0.64**	**311**	⇑PN		Pb		08 17 09.3	-0.9
RAGZ				AML		AML		08 17 19.5	
RAGZ				AML		AML		08 17 19.7	
MWZ	**Matawai**	**0.71**	**326**	⇑PN		Pn		08 17 10.3	-0.9
MWZ				AML		AML		08 17 20.4	
MWZ				AML		AML		08 17 21.5	
TWGZ	**Tauwhareparae**	**0.75**	**357**	⇑PN		Pn		08 17 11.4	-0.3
TWGZ				SN		Sn		08 17 22.3	+0.3
TWGZ				AML		AML		08 17 24.3	
PUZ	**Puketiti**	**0.87**	**12**	⇑PN		Pn		08 17 12.7	-0.7
PUZ				SN		Sn		08 17 24.0	-0.9
PUZ				AML		AML		08 17 29.7	
ARHZ	**Aropaoanui**	**0.87**	**247**	PN		Pn		08 17 13.2	-0.2
ARHZ				AML		AML		08 17 27.5	
ARHZ				AML		AML		08 17 29.0	
RTZ	**Ruatahuna**	**0.88**	**290**	⇑PN		Pn		08 17 12.7	-0.9
NMHZ	**Naumai**	**0.97**	**259**	⇓PN		Pn		08 17 14.5	-0.3
NMHZ				AML		AML		08 17 31.0	
NMHZ				AML		AML		08 17 34.3	
URZ	**Urewera**	**0.98**	**312**	PN		Pn		08 17 13.8	-1.0
URZ				AML		AML		08 17 30.5	
URZ				AML		AML		08 17 35.5	
RUGZ	**Raukumara Rang**	**1.00**	**344**	⇑PN		Pn		08 17 14.2	-1.0
PKGZ	**Pakihiroa**	**1.03**	**2**	⇑PN		Pn		08 17 15.3	-0.3
PKGZ				AML		AML		08 17 29.1	
PKGZ				AML		AML		08 17 33.4	
CKHZ	**Cape Kidnapper**	**1.04**	**225**	PN		Pn		08 17 15.7	0.0
CKHZ				AML		AML		08 17 32.0	
CKHZ				AML		AML		08 17 40.7	
MUGZ	**Murupara**	**1.08**	**294**	⇑PN		Pn		08 17 15.7	-0.6
WMGZ	**Waiomatatini S**	**1.14**	**15**	PN		Pn		08 17 16.7	-0.4
WMGZ				AML		AML		08 17 32.7	
WMGZ				AML		AML		08 17 33.8	
MCHZ	**McNeill Hill**	**1.16**	**243**	PN		Pn		08 17 17.2	-0.1
MCHZ				AML		AML		08 17 46.6	
MCHZ				AML		AML		08 17 49.9	
HAZ	**Te Kaha**	**1.18**	**350**	⇑PN		Pn		08 17 17.0	-0.6
HAZ				AML		AML		08 17 17.7	
HAZ				AML		AML		08 17 17.9	
HAZ				AML		AML		08 17 33.5	
HAZ				AML		AML		08 17 37.9	
BKZ	**Black Stump Fm**	**1.22**	**258**	⇑PN		Pn		08 17 17.7	-0.6
BKZ				AML		AML		08 17 34.6	
BKZ				AML		AML		08 17 36.4	
KAHZ	**Kahuranaki**	**1.25**	**225**	PN		Pn		08 17 18.2	-0.4
KAHZ				AML		AML		08 17 52.9	
KAHZ				AML		AML		08 18 06.2	
MRHZ	**Matea Rd**	**1.26**	**274**	PN		Pn		08 17 18.5	-0.3
MRHZ				AML		AML		08 17 40.0	
MRHZ				AML		AML		08 17

PRHZ	**Porangahau**	**1.72 218**	PN	Pn	08 17 23.9	-1.2
PRHZ			AML	AML	08 17 46.4	
PRHZ			AML	AML	08 17 48.1	
PNHZ	**Pukenui**	**1.73 235**	PN	Pn	08 17 24.2	-1.0
PNHZ			AML	AML	08 17 59.1	
KATZ	**Kakaramea**	**1.82 268**	PN	Pn	08 17 26.2	-0.4
KATZ			AML	AML	08 17 51.9	
KATZ			AML	AML	08 18 10.6	
MOVZ	**Moawhango**	**1.83 254**	PN	Pn	08 17 26.9	+0.2
MOVZ			AML	AML	08 17 50.1	
OTVZ	**Oturere**	**1.86 262**	PN	Pn	08 17 27.0	-0.1
OTVZ			AML	AML	08 18 14.3	
KRVZ	**Karewarewa**	**1.87 264**	PN	Pn	08 17 27.0	-0.2
TUVZ	**Tukino**	**1.88 259**	PN	Pn	08 17 27.5	+0.1
NGZ	**Ngauruhoe**	**1.91 262**	PN	Pn	08 17 27.5	-0.3
WTVZ	**West Tongariro**	**1.91 263**	PN	Pn	08 17 27.7	-0.1
WHVZ	**Whangaehu Hut**	**1.93 259**	PN	Pn	08 17 28.5	+0.3
WHVZ			AML	AML	08 17 51.1	
WHVZ			AML	AML	08 17 51.5	
WNVZ	**Wahianoa**	**1.94 257**	PN	Pn	08 17 27.9	-0.2
FWVZ	**Far West T-bar**	**1.96 259**	PN	Pn	08 17 28.5	0.0
FWVZ			AML	AML	08 17 52.7	
FWVZ			AML	AML	08 17 53.2	
TSZ	**Takapari Road**	**1.96 234**	PN	Pn	08 17 27.2	-1.2
DVHZ	**Dannevirke**	**1.99 226**	PN	Pn	08 17 27.4	-1.4
DVHZ			AML	AML	08 17 51.7	
DVHZ			AML	AML	08 17 51.8	
MTVZ	**Mangateitei**	**2.04 256**	PN	Pn	08 17 29.9	+0.4
MTVZ			AML	AML	08 17 56.0	
MTVZ			AML	AML	08 17 56.3	
PKVZ	**Pokaka**	**2.12 259**	PN	Pn	08 17 30.4	-0.2
BFZ	**Birch Farm**	**2.23 218**	PN	Pn	08 17 30.0	-2.0
BFZ			AML	AML	08 17 59.2	
PRWZ	**Pori Road**	**2.27 224**	PN	Pn	08 17 31.6	-1.1
PRWZ			AML	AML	08 18 00.0	
PRWZ			AML	AML	08 18 01.1	
POWZ	**Post Office Ro**	**2.28 229**	PN	Pn	08 17 32.0	-0.7
OHWZ	**Ohakea**	**2.46 238**	PN	Pn	08 17 35.5	+0.4
TIWZ	**Tintock**	**2.48 221**	PN	Pn	08 17 33.9	-1.7
TIWZ			AML	AML	08 18 05.1	
TIWZ			AML	AML	08 18 05.7	
WAZ	**Wanganui**	**2.50 250**	PN	Pn	08 17 36.6	+0.8
HIZ	**Hauiti**	**2.52 278**	PN	Pn	08 17 37.7	+1.7
VRZ	**Vera Road**	**2.56 264**	PN	Pn	08 17 36.9	+0.4
MRZ	**Mangatainoka R**	**2.56 227**	PN	Pn	08 17 34.9	-1.7
MRZ			AML	AML	08 18 04.9	
MRZ			AML	AML	08 18 05.9	
TMWZ	**Te Maipa**	**2.73 216**	PN	Pn	08 17 36.5	-2.4
TMWZ			AML	AML	08 18 09.7	
HOWZ	**Holdsworth Sta**	**2.76 224**	PN	Pn	08 17 37.5	-1.9
HOWZ			AML	AML	08 18 09.4	
HOWZ			AML	AML	08 18 10.2	
KUZ	**Kuaotunu**	**2.84 319**	PN	Pn	08 17 39.0	-1.4
MHEZ	**Mangahewa**	**2.89 266**	PN	Pn	08 17 42.8	+1.6
OGWZ	**Otaki Gorge**	**2.90 228**	PN	Pn	08 17 39.5	-1.8
OGWZ			AML	AML	08 18 20.3	
MTW	**Mount Morrison**	**2.96 220**	PN	Pn	08 17 39.3	-2.7
TRWZ	**Traveller**	**3.05 215**	PN	Pn	08 17 40.4	-3.0
NEZ	**North Egmont**	**3.08 262**	PN	Pn	08 17 45.4	+1.6
KIW	**Kapiti Island**	**3.08 230**	PN	Pn	08 17 41.7	-2.0
KHEZ	**Kahui Hut**	**3.15 262**	PN	Pn	08 17 46.3	+1.5
CAW	**Cannon Point**	**3.15 225**	PN	Pn	08 17 42.2	-2.5
PAWZ	**Paruwai Farm**	**3.16 218**	PN	Pn	08 17 42.3	-2.6
MSWZ	**Moikau Station**	**3.28 220**	PN	Pn	08 17 43.6	-2.8
PLWZ	**Palliser**	**3.39 218**	PN	Pn	08 17 44.7	-3.3
TCW	**Tory Channel**	**3.68 230**	PN	Pn	08 17 49.2	-2.8
DUWZ	**D'Urville Isla**	**3.68 230**	PN	Pn	08 17 49.4	-2.6
TUWZ	**Tuamarina**	**4.01 230**	PN	Pn	08 17 52.8	-3.6
BSWZ	**Blackbirch Sta**	**4.23 227**	PN	Pn	08 17 56.7	-2.8
NNZ	**Nelson**	**4.24 236**	PN	Pn	08 17 56.9	-2.8
QRZ	**Quartz Range**	**4.64 244**	‖PN	Pn	08 18 02.1	-3.1
THZ	**Tophouse**	**4.83 232**	PN	Pn	08 18 04.3	-3.6
KHZ	**Kahutara**	**4.88 223**	PN	Pn	08 18 06.6	-1.9
DSZ	**Denniston Nort**	**5.53 237**	PN	Pn	08 18 13.7	-3.7
LTZ	**Lake Taylor**	**5.82 227**	PN	Pn	08 18 17.8	-3.7
MQZ	**McQueen's Vall**	**6.26 219**	PN	Pn	08 18 23.4	-4.0
CTZ	**Chatham Island**	**6.27 142**	PN	Pn	08 18 28.0	+0.5
OXZ	**Oxford**	**6.31 224**	PN	Pn	08 18 24.2	-3.8
ODZ	**Otahua Downs**	**8.22 220**	PN	Pn	08 18 50.5	-3.9
ODZ			AML	AML	08 21 21.0	
TUZ	**Tuapeka**	**9.37 219**	PN	Pn	08 19 07.4	-2.7

NSSC 07 08:26:35.9±1.4, 34°.77N×36°.76E, h36km±7km, ML1.5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABH	**Abou Rabah**	**0.50**	**132**	*e*P	Pn	08 26 47.3	+0.7
RABH				*e*S	Sn	08 26 54.1	+0.1
RABH				AML	AML	08 27 04.8	
RABH				AML	AML	08 27 06.3	
	comp=N,13nm,0.5s						
ROOS	**tl_alroos**	**0.74**	**144**	*e*P	Pn	08 26 50.2	+0.2
ROOS				AML	AML	08 27 00.5	
	comp=E,20nm,0.5s						
ROOS				*e*S	Sn	08 27 00.6	+0.5
ROOS				AML	AML	08 27 00.8	
	comp=N,19nm,0.5s						
ARNB	**Al Arnab**	**1.26**	**330**	*e*P	Pn	08 26 56.4	-0.7
ARNB				*e*S	Sn	08 27 13.3	+0.4
ARNB				AML	AML	08 27 17.2	
	comp=N,13nm,0.3s						
ARNB				AML	AML	08 27 18.1	
	comp=E,15nm,0.2s						
BTCH	**Batrach**	**1.28**	**349**	*e*P	Pn	08 26 58.6	+1.3
BTCH				*e*S	Sn	08 27 12.8	-0.6
BTCH				AML	AML	08 27 15.8	
BTCH				AML	AML	08 27 16.5	
	comp=N,14nm,0.3s						

*ISCJB **07** 08:27:10.7±0.6, 39°.66N±0°.03×38°.71E±0°.04, h1km±9km, Error ellipse: s-maj=5.7km s-min=4.7km az=145.6*
*CSEM **07** 08:27:10.6±0.2, 39°.66N×38°.72E, h2km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.0km az=70.0*
*DDA **07** 08:27:10.2, 39°.66N×38°.73E, h7km, Md2.6*
*ISK **07** 08:27:11.1, 39°.63N×38°.71E, h5km, ML2.6*
ISC 07 08:27:10.9±1.1, 39°.67N±0°.02×38°.72E±0°.03, h6km±12km, n22, σ0°.51/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.43**	**204**	*i* P	**Pg**	**08 27 18.8**	**-0.5**
KEMA				*i* S	**Sg**	**08 27 25.5**	**+0.6**
KEMA	**Kemaliye**	**0.43**	**204**	P	**Pg**	**08 27 18.8**	**-0.5**
KEMA				S	**Sg**	**08 27 25.5**	**+0.6**
KELT	**Kelkit**	**0.64**	**40**	*i* P	**Pg**	**08 27 22.7**	**-0.4**
KELT				*i* S	**Sg**	**08 27 31.8**	**+0.4**
KELT	**Kelkit**	**0.64**	**40**	P	**Pg**	**08 27 22.7**	**-0.4**
KELT				S	**Sg**	**08 27 31.8**	**+0.4**
SUSE	**Susehri**	**0.67**	**324**	*i* P	**Pg**	**08 27 23.8**	**-0.1**
SUSE				*i* S	**Sb**	**08 27 34.2**	**-0.7**
SUSE	**Susehri**	**0.67**	**324**	P	**Pg**	**08 27 23.8**	**-0.1**
SUSE				S	**Sb**	**08 27 34.2**	**-0.7**
CUZAR	**Zara_SIVAS**	**0.77**	**287**	*i* P	**Pg**	**08 27 25.3**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.77**	**287**	P	**Pg**	**08 27 25.3**	**-0.3**
ERZN	**Erzincan**	**0.78**	**95**	*e*PG	**Pb**	**08 27 26.7**	**-0.2**
ERZN				*e*SG	**Sb**	**08 27 37.9**	**+0.1**
PTK	**Pertek**	**0.93**	**146**	*e*PG	**Pg**	**08 27 29.0**	**+0.3**
PTK				*e*SG	**Sb**	**08 27 41.7**	**-0.6**
PTK	**Pertek**	**0.93**	**146**	*e*Pg	**Pg**	**08 27 29.0**	**+0.3**
PTK				*e*Sg	**Sb**	**08 27 41.7**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.03**	**251**	*i* P	**Pg**	**08 27 29.9**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.03**	**251**	P	**Pg**	**08 27 29.9**	**-0.8**
ELZG	**Elazig**	**1.18**	**170**	*i* P	**Pg**	**08 27 32.7**	**-0.9**
ELZG				*i* S	**Sb**	**08 27 49.8**	**+0.3**
ELZG	**Elazig**	**1.18**	**170**	P	**Pg**	**08 27 32.7**	**-0.9**
ELZG				S	**Sb**	**08 27 49.8**	**+0.3**
SVSK	**Karacayir**	**1.35**	**281**	*e*PN	**Pb**	**08 27 36.7**	**+0.1**
SVSK	**Karacayir**	**1.35**	**281**	*e*Pn	**Pb**	**08 27 36.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*PN	**Pn**	**08 27 36.6**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*Pn	**Pn**	**08 27 36.6**	**-0.1**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*PN	**Pb**	**08 27 38.4**	**-0.1**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*Pn	**Pb**	**08 27 38.4**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.19**	**236**	*e*PN	**Pn**	**08 27 49.1**	**+1.1**

MAN 07 08:27:40, 10°.30N×125°.03E, h19km, mb3.9, ML2.6, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.23**	**226**	*e*P	Pg	08 27 48.6	+3.1
MSLP				*e*S	Sg	08 27 55.4	+6.0
SCPH	**Surigao**	**0.68**	**139**	‖*e*P	Pb	08 27 53.2	-0.1
BESP	**Borongan**	**1.35**	**17**	*e*P	Pn	08 28 04.0	+0.1
BESP				*e*S	Sb	08 28 22.0	+0.2

*ISCJB **07** 08:49:03.6±0.4, 37°.25N±0°.03×28°.18E±0°.03, h0km, Error ellipse: s-maj=4.3km s-min=3.2km az=26.5*
*CSEM **07** 08:49:03.9±0.1, 37°.25N×28°.18E, h2km, ML2.1, Error ellipse: s-maj=3.3km s-min=2.6km az=15.0, Suspected Mining explosion.*
*ISK **07** 08:49:03.7, 37°.25N×28°.15E, h8km, ML2.1*
*DDA **07** 08:49:03.3, 37°.22N×28°.16E, h7km, Md2.7, Suspected Mining explosion.*
ISC 07 08:49:02.4±0.8, 37°.25N±0°.03×28°.14E±0°.02, h0km, n35, σ0°.49/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.29**	**278**	*e*PG	**Pb**	**08 49 10.1**	**-0.4**
MLSB				*e*SG	**Sb**	**08 49 14.9**	**-1.1**
MLSB	**Milas**	**0.29**	**278**	*e*Pg	**Pb**	**08 49 10.1**	**-0.4**
MLSB				*e*Sg	**Sb**	**08 49 14.9**	**-1.1**
AYDN	**Tasoluk**	**0.46**	**333**	*i* P	**Pb**	**08 49 13.1**	**-0.3**
AYDN				*i* S	**Sb**	**08 49 20.6**	**-0.1**
AYDN	**Tasoluk**	**0.46**	**333**	P	**Pb**	**08 49 13.1**	**-0.3**
AYDN				S	**Sb**	**08 49 20.6**	**-0.1**
TURN	**Turunc**	**0.53**	**136**	*i* P	**Pg**	**08 49 12.1**	**-0.4**
TURN				*i* S	**Sg**	**08 49 19.3**	**0.0**
TURN	**Turunc**	**0.53**	**136**	P	**Pg**	**08 49 12.1**	**-0.4**
TURN				S	**Sg**	**08 49 19.3**	**0.0**
BDRM	**Kayabasi**	**0.59**	**252**	*i* P	**Pb**	**08 49 16.1**	**+0.6**
BDRM	**Kayabasi**	**0.59**	**252**	P	**Pb**	**08 49 16.1**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.60**	**137**	*e*PG	**Pb**	**08 49 15.2**	**-0.5**
DALY				*e*SG	**Sb**	**08 49 24.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.60**	**137**	*e*Pg	**Pb**	**08 49 15.2**	**-0.5**
DALY				*e*Sg	**Sb**	**08 49 24.6**	**-0.1**
DATC	**Datca-Mugla**	**0.62**	**218**	*e*PG	**Pb**	**08 49 16.2**	**+0.1**
DATC	**Datca-Mugla**	**0.62**	**218**	*e*Pg	**Pb**	**08 49 16.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.65**	**71**	*i* P	**Pb**	**08 49 15.9**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.65**	**71**	P	**Pb**	**08 49 15.9**	**-0.8**
BODT	**Bodrum**	**0.69**	**254**	*e*PG	**Pb**	**08 49 17.6**	**+0.3**
BODT				*e*SG	**Sb**	**08 49 27.6**	**+0.2**
BODT	**Bodrum**	**0.69**	**254**	*e*Pg	**Pb**	**08 49 17.6**	**+0.3**
BODT				*e*Sg	**Sb**	**08 49 27.6**	**+0.2**
DAT	**Datca**	**0.69**	**221**	*e*PG	**Pb**	**08 49 17.1**	**-0.3**
DAT				*e*SG	**Sb**	**08 49 27.6**	**+0.1**
DAT	**Datca**	**0.69**	**221**	*e*Pg	**Pb**	**08 49 17.1**	**-0.3**
DAT				*e*Sg	**Sb**	**08 49 27.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*PG	**Pb**	**08 49 18.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*Pg	**Pb**	**08 49 18.0**	**+0.1**
DNZL	**Cakiroluk**	**0.84**	**59**	*i* P	**Pb**	**08 49 19.9**	**-0.1**
DNZL	**Cakiroluk**	**0.84**	**59**	P	**Pb**	**08 49 19.9**	**-0.1**
GCAM	**G?zelcaml?**	**0.85**	**302**	*i* P	**Pb**	**08 49 20.4**	**+0.4**
GCAM	**G?zelcaml?**	**0.85**	**302**	P	**Pb**	**08 49 20.4**	**+0.4**
FETY	**Fethiye**	**0.97**	**129**	*e*PG	**Pn**	**08 49 23.1**	**-0.2**
FETY	**Fethiye**	**0.97**	**129**	*e*Pg	**Pn**	**08 49 23.1**	**-0.2**
NIS1	**Nisyros Isl.**	**1.01**	**230**	*e*PG	**Pn**	**08 49 23.6**	**-0.1**
NIS1	**Nisyros Isl.**	**1.01**	**230**	*e*Pg	**Pn**	**08 49 23.7**	**-0.1**
DGB	**¯zmir**	**1.28**	**309**	*i* P	**Pn**	**08 49 27.5**	**+0.1**
KULA	**Kula-Manisa**	**1.32**	**18**	*e*PN	**Pn**	**08 49 28.8**	**+0.6**
KULA	**Kula-Manisa**	**1.32**	**18**	*e*Pn	**Pn**	**08 49 28.8**	**+0.6**
ELL	**Elmali**	**1.50**	**109**	*e*PN	**Pb**	**08 49 32.4**	**+1.2**
ELL	**Elmali**	**1.50**	**109**	*e*Pn	**Pb**	**08 49 32.4**	**+1.2**
AKAS	**Kas**	**1.56**	**130**	*e*PN	**Pg**	**08 49 32.6**	**+0.4**
AKAS	**Kas**	**1.56**	**130**	*e*Pn	**Pg**	**08 49 32.6**	**+0.4**

*WAR **07** 08:51:26.5, 51°.53N×16°.13E, h1km, Mw2.4*
*CSEM **07** 08:51:26.1±0.7, 51°.50N×16°.14E, h2km, ML3.2/6, Error ellipse: s-maj=10.9km s-min=6.0km az=26.0*
*PRU **07** 08:51:27.3, 51°.48N×16°.15E, h0km*
ISC 07 08:51:27.5±1.9, 51°.46N±0°.09×16°.10E±0°.04, h0km, n24, σ0°.67/40, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pg**	**08 51 39.6**	**+0.1**
KSP				*e*Sg	**Sg**	**08 51 49.0**	**+1.4**
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pg**	**08 51 39.6**	**+0.1**
KSP				*e*Sg	**Sg**	**08 51 49.0**	**+1.4**
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pg**	**08 51 39.6**	**+0.1**
KSP				*e*Sg	**Sg**	**08 51 49.0**	**+1.4**
UPC	**Upice**	**0.95**	**183**	*e*PG	**Pg**	**08 51 45.7**	**0.0**
UPC				*e*SG	**Sg**	**08 51 59.0**	**+0.9**
	comp=Z,54nm,0.2s						
UPC	**Upice**	**0.95**	**183**	Pg	**Pg**	**08 51 45.7**	**0.0**
UPC				Sg	**Sg**	**08 51 59.0**	**+0.9**
	54nm,0.2s						
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**08 51 48.4**	**-0.5**
DPC				*e*SG	**Sb**	**08 52 04.3**	**-0.5**
	comp=Z,18nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg	**Pg**	**08 51 48.4**	**-0.5**
DPC				Sg	**Sb**	**08 52 04.3**	**-0.5**
	18nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	**Pg**	**08 51 52.8**	**-0.4**
PVCC				*e*SG	**Sb**	**08 52 11.8**	**+0.6**
	comp=Z,46nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	Pg	**Pg**	**08 51 52.8**	**-0.4**
PVCC				Sg	**Sb**	**08 52 11.8**	**+0.6**
	46nm,0.3s						
KRLC	**Kraliky**	**1.45**	**162**	*e*PG	**Pn**	**08 51 54.1**	**-0.9**
KRLC				*e*SG	**Sg**	**08 52 14.2**	**+0.2**
KRLC	**Kraliky**	**1.45**	**162**	Pg	**Pn**	**08 51 54.1**	**-0.9**
KRLC				Sg	**Sg**	**08 52 14.2**	**+0.2**
BRG	**Berggiesshubel**	**1.48**	**247**	PG	**Pn**	**08 51 54.9**	**-0.4**
BRG				SG	**Sn**	**08 52 15.4**	**+0.1**
	26nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	*e*SG	**Sg**	**08 52 24.1**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	Sg	**Sg**	**08 52 24.1**	**+0.2**
PRU	**Pruhonice**	**1.77**	**215**	*e*SG	**Sb**	**08 52 24.0**	**+0.4**
	comp=Z,14nm,0.3s						
PRU	**Pruhonice**	**1.77**	**215**	Sg	**Sb**	**08 52 24.0**	**+0.4**
	14nm,0.3s						
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*SG	**Sb**	**08 52 32.8**	**+0.3**
OKC	**Ostrava-Krasne**	**2.08**	**140**	Sg	**Sb**	**08 52 32.8**	**+0.3**
TREC	**Trest**	**2.20**	**190**	*e*SG	**Sg**	**08 52 37.7**	**-0.4**
	comp=Z,10nm,0.3s						
TREC	**Trest**	**2.20**	**190**	Sg	**Sg**	**08 52 37.7**	**-0.4**
	10nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**08 52 10.3**	**-0.7**
NKC				*e*PG	**Pg**	**08 52 18.0**	**+0.4**
NKC				*e*SG	**Sg**	**08 52 52.7**	**+1.1**
	comp=Z,16nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**243**	Pn	**Pn**	**08 52 10.3**	**-0.7**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PG	**Pb**	**08 52 19.3**	**+0.3**
KHC				*e*SG	**Sg**	**08 52 57.7**	**-0.8**
KHC	**Kasperske Hory**	**2.84**	**216**	Pg	**Pb**	**08 52 19.3**	**+0.3**
KHC				Sg	**Sg**	**08 52 57.7**	**-0.8**

*BJI **07** 08:58:27.3, 32°.45S×179°.05W, h30km, mb5.5/46, mB6.1/60, Ms5.9/72, Ms7 5.7/67*
*MOS **07** 08:58:28.1±0.9, 32°.25S×179°.00W, h33km, mb5.9/61, MS5.9/46, Error ellipse: s-maj=8.9km s-min=6.9km az=75.7*
*GCMT **07** 08:58:28.6±0.1, 32°.49S×178°.73W, h49km, MW6.1/143, Moment Tensor Solution. s138,c316; s143,c450; Duration: 28 Moment tensor: Scale 1018Nm; Mrr1.57±.01; Mθθ-0.26±.01; Mφφ-1.31±.01; Mrθ0.40±.01; Mrφ-0.69±.01; Mθφ0.71±.01; Best double couple: M0 1.80800×1018 NP1:φ=28.00000°, δ58.00000°, λ91.00000°. NP2:φ=205.00000°, δ32.00000°, λ88.00000°. Principal axes: T 1.7660, Plg77.0000°, Azm302.0000°; N 0.0860, Plg1.0000°, Azm207.0000°; P -1.8500, Plg13.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **07** 08:58:28.2±0.1, 32°.47S±0°.02×179°.04W±0°.02, h38km, mb5.8/299, MS5.8/469 Error ellipse: s-maj=3.5km s-min=1.7km az=34.8*
*NEIC **07** 08:58:28.9±0.1, 32°.51S×179°.04W, h36km, mb5.9/233, ME5.8, MS5.8/298, MW6.1, MW6.1, Error ellipse: s-maj=4.5km s-min=3.1km az=141.0 Broadband fault plane solution: P waves. NP1:φ=215.00000°, δ25.00000°, λ90.00000°. NP2:φ=35.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm305.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm125.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*NEIC **07** 08:58:29.0±0.0, 32°.19S×178°.80W, h50km, Moment Tensor Solution. s40 Moment tensor: Scale 1018Nm; Mrr1.48; Mθθ-0.15; Mφφ-1.33; Mrθ0.60; Mrφ-0.67; Mθφ0.92; Best double couple: M0 1.90000×1018 NP1:φ=30.00000°, δ63.00000°, λ95.00000°. NP2:φ=198.00000°, δ28.00000°, λ79.00000°. Principal axes: T 1.8400, Plg71.0000°, Azm312.0000°; N 0.1400, Plg4.0000°, Azm207.0000°; P -1.9800, Plg17.0000°, Azm115.0000°;*
*IDC **07** 08:58:31.1±1.1, 32°.27S×178°.87W, h53km±8km, mb5.1/34, mb1 5.1/34, mb1mx5.1/35, mbtmp5.3/34, MS5.6/31, Ms1 5.7/31, ms1mx5.6/36 Error ellipse: s-maj=10.6km s-min=9.7km az=115.0*
*NEIC **07** 08:58:50.2±0.0, 31°.92S×178°.99W, h52km, Moment Tensor Solution. s19 Moment tensor: Scale 1018Nm; Mrr1.97; Mθθ-0.41; Mφφ-1.56; Mrθ-0.10; Mrφ-0.70; Mθφ0.29; Best double couple: M0 2.00000×1018 NP1:φ=211.00000°, δ42.00000°, λ99.00000°. NP2:φ=19.00000°, δ49.00000°, λ82.00000°. Principal axes: T 2.0100, Plg83.0000°, Azm233.0000°; N -0.1000, Plg6.0000°, Azm24.0000°; P -1.9000, Plg3.0000°, Azm115.0000°;*
ISC 07 08:58:29.4±0.3, 32°.42S±0°.03×178°.80W±0°.03, h42km±2km, h42km:pP-P, n1570, σ1°.75/1462, mb5.9/262, MS5.8/481, 60C-23D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.25**	**14**	P	**Pn**	**08 59 16.9**	**-1.0**
	757nm,0.3s,baz=90,slow=12,SNR=41						
RAO				S	**Sn**	**08 59 52.6**	**-2.7**
	2μm,0.3s,baz=287,slow=19,SNR=4.6						
RAO				LR	LR	08 59 53.4	
	comp=Z,26μm,19.8s,baz=174,slow=26						
RAO	**Raoul Island**	**3.25**	**14**	*e*Pn	**Pn**	**08 59 17.1**	**-0.8**
RAO				*e*Sn	**Sn**	**08 59 56.5**	**+1.2**
MXZ	**Matakaoa Point**	**5.65**	**204**	*e*Pn	**Pn**	**08 59 51.6**	**+0.8**
MXZ				*e*Sn	**Sn**	**09 00 50.5**	**-3.9**
MXZ	**Matakaoa Point**	**5.65**	**204**	PN	**Pn**	**08 59 49.9**	**-0.8**
WMGZ	**Waiomatatini S**	**5.85**	**202**	PN	**Pn**	**08 59 52.9**	**-0.6**
WMGZ				SN	**Sn**	**09 01 01.7**	**+2.5**
HAZ	**Te Kaha**	**6.01**	**207**	PN	**Pn**	**08 59 55.3**	**-0.4**
HAZ				SN	**Sn**	**09 01 05.6**	**+2.4**
PKGZ	**Pakihiroa**	**6.02**	**204**	PN	**Pn**	**08 59 54.8**	**-1.2**
PKGZ				SN	**Sn**	**09 01 02.7**	**-1.0**
WIZ	**White Island**	**6.06**	**212**	PN	**Pn**	**08 59 58.9**	**+2.4**
GRZ	**Great Barrier**	**6.09**	**230**	PN	**Pn**	**09 00 00.8**	**+4.0**
PUZ	**Puketiti**	**6.13**	**202**	PN	**Pn**	**08 59 56.0**	**-1.4**
RUGZ	**Raukumara Rang**	**6.24**	**207**	PN	**Pn**	**08 59 58.3**	**-0.7**
KUZ	**Kuaotunu**	**6.25**	**225**	PN	**Pn**	**09 00 02.6**	**+3.7**
TWGZ	**Tauwhareparae**	**6.32**	**204**	PN	**Pn**	**08 59 58.6**	**-1.4**
WHRZ	**Whale Island**	**6.43**	**211**	PN	**Pn**	**09 00 03.3**	**+1.8**
CNGZ	**Carnagh Statio**	**6.52**	**201**	PN	**Pn**	**09 00 01.3**	**-1.5**
TKGZ	**Te Karaka**	**6.60**	**204**	PN	**Pn**	**09 00 01.7**	**-2.1**
OPRZ	**Ohinepanea**	**6.61**	**214**	PN	**Pn**	**09 00 04.9**	**+1.0**
MWZ	**Matawai**	**6.62**	**206**	PN	**Pn**	**09 00 01.8**	**-2.3**
WIAZ	**Waiheke Island**	**6.63**	**227**	PN	**Pn**	**09 00 08.0**	**+3.8**
TGRZ	**Tauranga**	**6.66**	**216**	PN	**Pn**	**09 00 07.0**	**+2.3**
MARZ	**Manawahe**	**6.67**	**212**	PN	**Pn**	**09 00 05.4**	**+0.5**
WCZ	**Waipu Caves**	**6.67**	**236**	PN	**Pn**	**09 00 09.3**	**+4.6**
ABAZ	**Army Bay**	**6.71**	**230**	*e*PN	**Pn**	**09 00 09.6**	**+4.4**
URZ	**Urewera**	**6.71**	**209**	P	**Pn**	**09 00 05.6**	**+0.2**
	18nm,0.3s,baz=51,slow=13,SNR=123						
URZ				S	**Sn**	**09 01 20.1**	**-0.4**
	574nm,0.3s,baz=141,slow=19,SNR=10						
URZ	**Urewera**	**6.71**	**209**	*e*Pn	**Pn**	**09 00 05.2**	**-0.2**
URZ				*e*Sn	**Sn**	**09 01 21.4**	**+0.9**
URZ	**Urewera**	**6.71**	**209**	PN	**Pn**	**09 00 03.5**	**-1.9**
EDRZ	**Edgecumbe**	**6.74**	**211**	PN	**Pn**	**09 00 06.3**	**+0.5**
MTAZ	**Motutapu**	**6.77**	**228**	PN	**Pn**	**09 00 10.5**	**+4.4**
RAGZ	**Rawiri**	**6.80**	**206**	PN	**Pn**	**09 00 05.0**	**-1.6**
MKAZ	**Moumakai**	**6.82**	**225**	PN	**Pn**	**09 00 10.6**	**+3.8**
ETAZ	**East Tamaki Re**	**6.86**	**227**	PN	Pn	09 00 12.6	+5.2
RIGZ	**Rimuhau

NMEZ	Namu Road	9.16 218	PN	Pn	09 00 40.3	+1.4
TIWZ	Tintock	9.37 206	PN	Pn	09 00 37.8	-3.9
CPWZ	Castlepoint	9.37 204	PN	Pn	09 00 38.8	-3.0
MRZ	Mangatainoka R	9.38 207	PN	Pn	09 00 36.7	-5.2
HOWZ	Holdsworth Sta	9.61 207	PN	Pn	09 00 39.9	-5.2
TMWZ	Te Maipa	9.65 205	PN	Pn	09 00 40.1	-5.6
OGWZ	Otaki Gorge	9.68 208	PN	Pn	09 00 41.0	-5.0
KIW	Kapiti Island	9.82 209	PN	Pn	09 00 42.8	-5.1
MTW	Mount Morrison	9.84 206	PN	Pn	09 00 42.4	-5.9
CAW	Cannon Point	9.96 208	PN	Pn	09 00 44.2	-5.7
TRWZ	Traveller	9.98 205	PN	Pn	09 00 45.1	-5.1
PAWZ	Paruwai Farm	10.06 206	PN	Pn	09 00 46.8	-4.5
MSWZ	Moikau Station	10.16 206	PN	Pn	09 00 48.1	-4.5
DUWZ	D'Urville Isla	10.20 213	PN	Pn	09 00 49.3	-3.9
WEL	Wellington	10.23 208	PN	Pn	09 00 49.2	-4.4
SNZO	South Karori	10.28 209	ePn	Pn	09 00 49.4	-4.8
PLWZ	Palliser	10.29 206	PN	Pn	09 00 48.7	-5.7
BHW	Baring Head	10.30 208	PN	Pn	09 00 49.1	-5.3
TCW	Tory Channel	10.38 210	PN	Pn	09 00 50.4	-5.1
TUWZ	Tuamarina	10.70 211	PN	Pn	09 00 54.9	-5.1
NNZ	Nelson	10.78 213	PN	Pn	09 00 56.6	-4.5
CMWZ	Cape Campbell	10.85 209	PN	Pn	09 01 00.1	-2.0
QRZ	Quartz Range	10.90 217	PN	Pn	09 00 58.2	-4.4
BSWZ	Blackbirch Sta	10.96 210	PN	Pn	09 00 58.6	-5.0
CTZ	Chatham Island	11.43 172	PN	Pn	09 01 07.3	-2.6
THZ	Tophouse	11.43 213	ePn	Pn	09 01 05.5	-4.5
THZ	Tophouse	11.43 213	PN	Pn	09 01 04.2	-5.8
KHZ	Kahutara	11.68 209	ePn	Pn	09 01 08.4	-5.0
KHZ	Kahutara	11.68 209	PN	Pn	09 01 07.5	-5.9
NFK	Norfolk Island baz=12,SNR=9.8	11.89 283	P	Pn	09 01 20.0	+3.6
DSZ	Denniston Nort	11.94 216	PN	Pn	09 01 11.7	-5.3
LTZ	Lake Taylor	12.52 212	ePn	Pn	09 01 18.9	-6.0
LTZ	Lake Taylor	12.52 212	PN	Pn	09 01 18.5	-6.4
INZ	Inchbonnie	12.86 214	PN	Pn	09 01 23.0	-6.5
CRLZ	Canterbury Las	13.02 209	ePn	Pn	09 01 25.4	-6.2
CRLZ	Canterbury Las	13.02 209	PN	Pn	09 01 25.0	-6.6
OXZ	Oxford	13.06 211	ePn	Pn	09 01 25.4	-6.8
OXZ	Oxford	13.06 211	PN	Pn	09 01 24.8	-7.4
MQZ	McQueen's Vall	13.11 208	ePn	Pn	09 01 25.7	-7.2
MQZ	McQueen's Vall	13.11 208	PN	Pn	09 01 25.1	-7.8
WVZ	Waitaha Valley	13.46 215	PN	Pn	09 01 32.4	-5.3
RPZ	Rata Peaks 7.6nm,0.3s,baz=53,slow=2.9,SNR=32	13.80 212	P	Pn	09 01 36.6	-5.8
RPZ			S	Sn	09 03 59.8	-14
	59nm,0.3s,baz=300,slow=20,SNR=12					
RPZ	Rata Peaks	13.80 212	ePn	Pn	09 01 35.3	-7.1
RPZ			S	Sn	09 03 59.8	-14
RPZ	Rata Peaks	13.80 212	PN	Pn	09 01 34.9	-7.5
FOZ	Fox Glacier	14.25 216	ePn	Pn	09 01 42.7	-5.8
FOZ	Fox Glacier	14.25 216	PN	Pn	09 01 41.8	-6.6
LBZ	Lake Benmore	14.72 213	ePn	Pn	09 01 48.7	-6.1
LBZ	Lake Benmore	14.72 213	PN	Pn	09 01 47.7	-7.0
MSVF	Nonsavu	14.90 348	eP	Pn	09 01 58.9	+1.6
MSVF	Nonsavu	14.90 348	ePn	Pn	09 01 58.9	+1.6
ODZ	Otahua Downs 112nm,0.8s	15.04 210	ePn	Pn	09 01 51.7	-7.2
ODZ	Otahua Downs	15.04 210	PN	Pn	09 01 51.5	-7.4
JCZ	Jackson Bay	15.16 216	PN	Pn	09 01 52.9	-7.7
NIUE	Niue baz=15,SNR=21	15.50 33	P	Pn	09 01 59.2	-5.8
WKZ	Wanaka 111nm,0.9s	15.60 214	ePn	Pn	09 01 59.9	-6.3
WKZ	Wanaka	15.60 214	PN	Pn	09 01 58.8	-7.5
EAZ	Earnscleugh	15.77 212	PN	Pn	09 02 00.6	-7.8
MSZ	Milford Sound	16.02 216	PN	Pn	09 02 05.2	-6.3
TUZ	Tuapeka	16.19 210	PN	Pn	09 02 08.3	-5.5
MLZ	Mavora Lakes 88nm,0.8s	16.43 214	ePn	Pn	09 02 11.5	-5.3
MLZ	Mavora Lakes	16.43 214	PN	Pn	09 02 10.7	-6.1
DZM	Mont Dzumac 1.5nm,0.3s,baz=109,slow=14,SNR=29	16.67 305	P	P	09 02 23.7	+1.7
DZM			LR	LR	09 07 34.3	
	comp=Z,107µm,19.8s,baz=140,slow=33					
DZM	Mont Dzumac 2µm,1.1s	16.67 305	eP	P	09 02 23.6	+1.7
DZM			eLR	LR	09 06 17.0	
	199µm,25.2s					
DZM	Mont Dzumac 845nm,1.2s	16.67 305	ePn	P	09 02 23.5	+1.5
SYZ	Scrubby Hill	16.86 210	PN	Pn	09 02 17.3	-4.9
WHZ	Wether Hill Ro 96nm,0.7s	16.90 213	ePn	Pn	09 02 17.9	-4.8
DCZ	Deep Cove 271nm,1.6s	16.97 216	ePn	Pn	09 02 18.2	-5.3
APZ	The Paps	17.59 211	PN	Pn	09 02 26.6	-4.7
PYZ	Puysegur Point 221nm,1.2s	17.70 215	ePn	Pn	09 02 30.0	-2.6
LHI	Lord Howe Isla 724nm,1.4s	18.80 267	eP	P	09 02 45.7	+0.3
AFI	Afiamalu 2.9nm,0.3s,baz=227,slow=4.5,SNR=14	19.51 21	P	P	09 02 50.0	-3.3
AFI			S	S	09 06 16.5	-15
	6.9nm,0.3s,baz=216,slow=22,SNR=6.2					
AFI	Afiamalu	19.51 21	eP	P	09 02 50.1	-3.2
AFI			pmax	pmax		
	comp=Z,570nm,1.2s					
AFI	Afiamalu comp=Z,568nm,1.3s	19.51 21	eP	P	09 02 50.1	-3.2
AFI			S	S	09 06 16.5	-15
RAR	Rarotonga comp=Z,76nm,0.8s,baz=227,slow=6.7,SNR=11	20.29 61	P	Pn	09 03 03.2	-0.7
RAR			S	S	09 06 33.5	-13
	comp=Z,155nm,1.2s,baz=87,slow=18,SNR=3.6					
RAR			LR	LR	09 11 21.9	
	comp=Z,7µm,18.2s,baz=258,slow=38					
RAR	Rarotonga	20.29 61	eP	Pn	09 03 03.3	-0.6
RAR			pmax	pmax		
	comp=Z,510nm,1.4s					
RAR	Rarotonga comp=Z,515nm,1.4s	20.29 61	eP	Pn	09 03 03.3	-0.5
RAR			S	S	09 06 33.5	-13
FUNA	Funafuti	23.85 355	PFAKE		09 03 50.0	+11
FUNA			LR	LR		
	comp=Z,23µm,18.0s					
MGCD	Mangrove Creek baz=26,SNR=31	25.26 260	P	P	09 03 55.3	+3.6
ARMA	Armidale baz=26,SNR=44	25.28 267	P	P	09 03 54.5	+2.5
ARMA	Armidale comp=Z,135nm,1.1s	25.28 267	eP	P	09 03 55.6	+3.6
ARMA			LR	LR		
	comp=Z,27µm,20.0s					
CNB	Canberra Magne baz=27,SNR=26	26.53 255	P	P	09 04 05.2	+2.0
MILA	Mila baz=27,SNR=25	26.66 251	P	P	09 04 06.6	+2.2
CAN	Canberra	26.83 255	eP	P	09 04 08.6	+2.7
CAN			pmax	pmax		
	comp=Z,140nm,1.4s					
CAN	Canberra comp=Z,136nm,1.4s	26.83 255	eP	P	09 04 08.6	+2.7
CAN			LR	LR		
	comp=Z,37µm,19.0s					
MCQ	Macquarie Isla	27.12 209	PFAKE		09 04 20.0	+12
MCQ			LR	LR		
	comp=Z,16µm,20.0s					
EIDS	Eidsvold baz=28,SNR=79	27.23 277	P	P	09 04 12.3	+2.8
EIDS	Eidsvold comp=Z,130nm,0.8s	27.23 277	eP	P	09 04 11.8	+2.3
EIDS			LR	LR		
	comp=Z,27µm,20.0s					
TBI	Tubuai comp=Z,315nm,1.1s	27.39 78	eP	P	09 04 12.4	+1.4
TBI			eS	S	09 08 46.7	-1.6
	comp=Z,8µm,30.0s					
TBI			eLR	LR	09 11 05.0	
	comp=Z,47µm,27.0s,baz=239					
TAU	Tasmania Unive	28.62 239	eP	P	09 04 23.1	+1.4
TAU			pmax	pmax		
	comp=Z,100nm,0.9s					
TAU	Tasmania Unive comp=Z,101nm,0.9s	28.62 239	eP	P	09 04 23.1	+1.4
TAU			LR	LR		
	comp=Z,28µm,20.0s					
MOO	Moorlands baz=29,SNR=19	28.63 240	P	P	09 04 23.0	+1.2
TOO	Toolangi baz=30,SNR=21	29.58 250	P	P	09 04 32.1	+1.7
CMSA	Cobar Meteorol baz=30,SNR=311	30.05 262	P	P	09 04 36.7	+2.2
PAE	Paea	30.16 68	eP	P	09 04 37.2	+1.7
PAE	Paea comp=Z,156nm,0.2s	30.16 68	eT	T	09 35 34.6	
HNR	Honiara comp=Z,351nm,0.8s,baz=172,slow=2.9,SNR=16	30.16 315	P	P	09 04 35.1	-0.5
HNR			LR	LR	09 15 47.7	
	comp=Z,11µm,18.2s,baz=158,slow=34					
HNR	Honiara	30.16 315	eP	P	09 04 36.0	+0.4
HNR			pmax	pmax		
	comp=Z,920nm,1.1s					
HNR	Honiara comp=Z,919nm,1.1s	30.16 315	eP	P	09 04 36.0	+0.4
PPT2	Papeete2 comp=Z,160nm,1.2s	30.20 68	eP	P	09 04 38.0	+2.0
PPT2			eS	S	09 09 31.2	-1.5
	comp=Z,8µm,26.8s					
PPT2			eLR	LR	09 12 18.0	
	comp=Z,37µm,26.0s,baz=232					
PPT2	Papeete2 comp=Z,241nm,0.4s	30.20 68	eT	T	09 35 39.4	
PPT	Papeete comp=Z,40nm,0.9s,baz=54,slow=18,SNR=3.9	30.21 68	P	P	09 04 37.8	+1.8
PPT			LR	LR	09 16 26.5	
	comp=Z,7µm,18.9s,baz=244,slow=36					
PPT	Papeete	30.21 68	P	P	09 04 37.8	+1.8
TVO	Taravao	30.35 68	eP	P	09 04 39.0	+1.7
TVO	Taravao comp=Z,24nm,0.4s	30.35 68	eT	T	09 35 50.5	
TIAR	Tiarei	30.40 68	eP	P	09 04 39.5	+1.8
TIAR	Tiarei comp=Z,36nm,0.3s	30.40 68	eT	T	09 35 54.5	
ARPS	Mount Arapiles baz=33,SNR=116	32.53 251	P	P	09 04 58.1	+1.8
QLP	Quilpie baz=33,SNR=105	32.58 271	P	P	09 04 58.6	+1.8
STKA	Stephens Creek comp=Z,58nm,0.9s,baz=110,slow=9.1,SNR=51	33.41 260	P	P	09 05 05.9	+1.8
STKA			ScP	ScP	09 11 24.3	-1.7
	comp=Z,9.7nm,0.8s,baz=90,slow=5.4,SNR=3.7					
STKA			PKiKP	PKiKP	09 15 10.2	0.0
	comp=Z,2.3nm,0.7s,baz=84,slow=4.0,SNR=3.9					
STKA			LR	LR	09 18 22.3	
	comp=Z,25µm,18.1s,baz=92,slow=36					
STKA	Stephens Creek	33.41 260	eP	P	09 05 05.9	+1.8
STKA			pmax	pmax		
	comp=Z,16nm,1.0s					
STKA	Stephens Creek comp=Z,16nm,1.0s	33.41 260	eP	P	09 05 05.9	+1.8
STKA			ScP	ScP	09 11 24.3	-1.7
STKA			PKiKP	PKiKP	09 15 10.2	0.0
CTA	Charters Tower comp=Z,176nm,0.6s,baz=111,slow=11,SNR=204	33.51 283	P	P	09 05 06.5	+1.4
CTA			LR	LR	09 17 06.2	
	comp=Z,15µm,19.1s,baz=114,slow=33					
CTA	Charters Tower	33.51 283	P	P	09 05 06.5	+1.4
CTAO	Charters Tower	33.51 283	eP	P	09 05 07.5	+2.4
CTAO			pmax	pmax		
	comp=Z,220nm,0.7s					
CTAO	Charters Tower comp=Z,221nm,0.6s	33.51 283	eP	P	09 05 07.5	+2.4
CTAO			LR	LR		
	comp=Z,19µm,22.0s					
TARA	Tarawa comp=Z,44nm,0.8s	34.49 345	eP	P	09 05 12.3	-1.2
TARA			LR	LR		
	comp=Z,17µm,22.0s					
HTT	Hallett baz=36,SNR=52	35.32 257	P	P	09 05 21.9	+1.2
MTSU	Mount Surprise baz=36,SNR=295	36.06 284	P	P	09 05 29.4	+2.3
BBOO	Buckleboo baz=38,SNR=67	37.80 257	P	P	09 05 41.6	-0.1
BBOO	Buckleboo comp=Z,49nm,0.8s	37.80 257	eP	P	09 05 41.7	-0.1
BBOO			LR	LR		
	comp=Z,21µm,19.0s					
QIS	Mount Isa baz=39,SNR=157	38.83 277	P	P	09 05 52.0	+1.4
PMG	Port Moresby comp=Z,360nm,1.0s,baz=114,slow=5.8,SNR=56	38.91 298	P	P	09 05 52.3	+1.1
PMG			LR	LR	09 19 51.9	
	comp=Z,14µm,20.1s,baz=126,slow=33					
PMG	Port Moresby	38.91 298	iP	P	09 05 52.5	+1.3
PMG			MLR	MLR		
	comp=Z,56µm,16.0s					
PMG	Port Moresby comp=Z,464nm,1.0s	38.91 298	eP	P	09 05 53.0	+1.8
RABL	Rabaul comp=Z,806nm,0.8s	39.08 310	eP	P	09 05 52.9	+0.3
RABL			LR	LR		
	comp=Z,17µm,22.0s					
COEN	Coen baz=40,SNR=180	39.22 289	P	P	09 05 55.4	+1.5
COEN	Coen comp=Z,299nm,1.0s	39.22 289	eP	P	09 05 55.4	+1.5
COEN			LR	LR		
	comp=Z,32µm,18.0s					
RKT	Rikitea comp=Z,8µm,28.8s	39.64 88	eS	S	09 11 58.2	+0.5
RKT			eLQ	LQ	09 15 07.5	
	comp=Z,9µm,22.5s					
RKT			eLR	LR	09 16 45.0	
	comp=Z,46µm,27.2s,baz=249					
RKT	Rikitea comp=Z,17nm,0.2s	39.64 88	eT	T	09 47 36.9	
XMAS	Kiritimati comp=Z,246nm,1.1s	39.80 35	eP	P	09 05 58.5	-0.1
XMAS			LR	LR		
	comp=Z,9µm,22.0s					
AS01	Alice Springs	42.32 270	eP	P	09 06 20.5	+1.1
AS31	Alice Springs comp=Z,107nm,0.7s	42.36 270	eP	P	09 06 20.4	+0.7
AS31			LR	LR		
	comp=Z,200nm,18.0s					
ASAR	Alice Springs comp=Z,332nm,0.7s,baz=107,slow=7.7,SNR=1916	42.36 270	P	P	09 06 19.2	-0.6
ASAR			ScP	ScP	09 11 57.3	-2.7
	comp=Z,2.4nm,0.9s,baz=117,slow=4.2,SNR=3.0					
ASAR			S	S	09 12 34.6	-3.7
	comp=Z,11nm,0.8s,baz=115,slow=14,SNR=7.8					
ASAR			PKiKP	PKiKP	09 15 16.6	-1.2
	comp=Z,2.1nm,0.9s,baz=110,slow=1.7,SNR=4.3					
ASAR			ScS	ScS	09 16 14.9	-3.5
	comp=Z,2.1nm,0.7s,baz=130,slow=5.5,SNR=5.1					
ASAR			LR	LR	09 23 45.0	
	comp=Z,12µm,18.4s,baz=121,slow=36					
ASAR			PKPPKP	P'P'df	09 38 22.0	-1.9
	comp=Z,1.1nm,1.1s,baz=295,slow=1.9,SNR=4.1					
ASAR	Alice Springs	42.36 270	P	P	09 06 19.1	-0.6
ASAR			ScP	ScP	09 11 57.3	-2.7
ASAR			S	S	09 12 34.6	-3.7
ASAR			PKiKP	PKiKP	09 15 16.6	-1.2
ASAR			ScS	ScS	09 16 14.9	-3.5
ASAR			P'P'		09 38 22.0	
TAOE	Nuku Hiva Isla comp=Z,255nm,1.5s	42.75 65	eP	P	09 06 24.2	+1.2
TAOE			eS	S	09 12 42.7	-1.5
	comp=Z,7µm,27.8s					
TAOE			eLR	LR	09 18 04.7	
	comp=Z,21µm,28.8s					
TAOE	Nuku Hiva Isla comp=Z,18nm,0.3s	42.75 65	eT	T	09 51 18.5	
KWAJ	Kwajalein Atol	42.99 340	PFAKE		09 06 40.0	+15
KWAJ			LR	LR		
	comp=Z,9µm,20.0s					
PTCN	Pitcairn Islan	43.03 93	PFAKE		09 06 40.0	+15
PTCN			LR	LR		
	comp=Z,13µm,22.0s					
WR0	Warramunga Arr	43.36 275	PFAKE		09 06 40.0	+12
WR0			LR	LR		
	comp=Z,17µm,21.0s					
WR9	Warramunga Arr	43.38 275	PFAKE		09 06 40.0	+12
WR9			LR	LR		
	comp=Z,16µm,21.0s					
WR8	Warramunga Arr	43.39 275	PFAKE		09 06 40.0	+12
WR8			LR	LR		
	comp=Z,17µm,21.0s					
WR7	Warramunga Arr	43.41 275	PFAKE		09 06 40.0	+12
WR7			LR	LR		
	comp=Z,16µm,21.0s					
WR6	Warramunga Arr	43.43 275	PFAKE		09 06 40.0	+12
WR6			LR	LR		
	comp=Z,16µm,21.0s					
WR5	Warramunga Arr	43.45 275	PFAKE		09 06 40.0	+11
WR5			LR	LR		
	comp=Z,16µm,21.0s					
WR4	Warramunga Arr	43.47 275	PFAKE		09 06 40.0	+11
WR4			LR	LR		
	comp=Z,16µm,21.0s					
WR3	Warramunga Arr	43.49 275	PFAKE		09 06 40.0	+11
WR3			LR	LR		
	comp=Z,16µm,21.0s					
WC3	Warramunga Arr	43.50 275	PFAKE		09 06 40.0	+11
WC3			LR	LR		
	comp=Z,17µm,21.0s					
WR2	Warramunga Arr	43.51 275	PFAKE		09 06 40.0	+11
WR2			LR	LR		
	comp=Z,16µm,22.0s					
WC2	Warramunga Arr	43.52 275	PFAKE		09 06 40.0	+11
WC2			LR	LR		
	comp=Z,19µm,22.0s					
WB2	Warramunga Arr comp=Z,832nm,1.1s	43.52 275	eP	P	09 06 29.4	+0.3
WB2			LR	LR		
	comp=Z,18µm,21.0s					
WC4	Warramunga Arr	43.52 275	PFAKE		09 06 40.0	+11
WC4			LR	LR		
	comp=Z,17µm,21.0s					
WB3	Warramunga Arr	43.53 275	PFAKE		09 06 40.0	+11
WB3			LR	LR		
	comp=Z,17µm,21.0s					
WRAB	Tennant Creek	43.53 275	iP	P	09 06 29.4	+0.2
WRAB			MLR	MLR		
	comp=Z,36µm,17.0s					
WRAB	Tennant Creek comp=Z,624nm,1.0s	43.53 275	eP	P	09 06 29.6	+0.4
WRAB			LR	LR		
	comp=Z,17µm,20.0s					
WR1	Warramunga Arr	43.53 275	PFAKE		09 06 40.0	+11
WR1			LR	LR		
	comp=Z,17µm,21.0s					
WRA	Warramunga Arr	43.53 275	P	P	09 06 28.3	-0.9
	comp=Z,643nm,0.9s,baz=114,slow=7.7,SNR=479					
WRA			ScP	ScP	09 12 01.7	-3.0
	comp=Z,9.7nm,0.9s,baz=118,slow=4.3,SNR=4.7					
WRA			S	S	09 12 51.9	-3.6
	comp=Z,15nm,1.0s,baz=120,slow=13,SNR=4.9					
WRA			PKiKP	PKiKP	09 15 17.7	-1.2
	comp=Z,2.8nm,0.9s,baz=107,slow=0.2,SNR=15					
WRA			LR	LR	09 23 07.4	
	comp=Z,17µm,21.2s,baz=110,slow=34					
WRA	Warramunga Arr	43.53 275	P	P	09 06 28.3	-0.9
WRA			ScP	ScP	09 12 01.7	-3.0
WRA			S	S	09 12 51.9	-3.6
WRA			PKiKP	PKiKP	09 15 17.7	-1.2
WB4	Warramunga Arr	43.53 275	PFAKE		09 06 40.0	+11
WB4			LR	LR		
	comp=Z,16µm,21.0s					
WB5	Warramunga Arr	43.54 275	PFAKE		09 06 40.0	+11
WB5			LR	LR		
	comp=Z,16µm,21.0s					
WC1	Warramunga Arr	43.54 275	PFAKE		09 06 40.0	+11
WC1			LR	LR		
	comp=Z,13µm,21.0s					
WB6	Warramunga Arr	43.55 275	PFAKE		09 06 40.0	+11
WB6			LR	LR		
	comp=Z,16µm,21.0s					
WB8	Warramunga Arr	43.55 275	PFAKE		09 06 40.0	+11
WB8			LR	LR		
	comp=Z,16µm,21.0s					
WB9	Warramunga Arr	43.56 275	PFAKE		09 06 40.0	+11
WB9			LR	LR		
	comp=Z,32µm,21.0s					
WB0	Warramunga Arr	43.57 275	PFAKE		09 06 40.0	+11
WB0			LR	LR		
	comp=Z,16µm,21.0s					
MANU	Manus Island comp=Z,750nm,1.6s	43.86 307	eP	P	09 06 32.2	+0.4
MANU			LR	LR		
	comp=Z,17µm,22.0s					
PATS	Pohnpei	44.72 327	PFAKE		09 06 50.0	+11
PATS			LR	LR		
	comp=Z,16µm,20.0s					
FORT	Forrest comp=Z,2µm,0.6s	44.90 257	eP	P	09 06 39.6	-0.4
SBA	Scott Base	45.98 184	PFAKE		09 07 00.0	+12
SBA			LR	LR		
	comp=Z,4µm,20.0s					
VNDA	Vanda comp=Z,7.5nm,0.7s,baz=12,slow=7.8,SNR=24	46.02 186	P	P	09 06 50.9	+2.7
VNDA			ScP	ScP	09 12 13.9	0.0
	comp=Z,12nm,0.9s,baz=304,slow=3.6,SNR=5.6					
VNDA			LR	LR	09 22 40.6	
	comp=Z,5µm,21.8s,baz=36,slow=31					
VNDA	Vanda comp=Z,82nm,1.4s	46.02 186	eP	P	09 06 51.0	+2.7
VNDA			ScP	ScP	09 12 13.9	0.0
WRKA	Warakurna baz=47,SNR=348	46.58 265	P	P	09 06 52.5	-0.9
JAY	Jayapura comp=Z,274nm,21.4s,baz=124,slow=34	48.26 300	LR	LR	09 25 34.6	
JAY	Jayapura comp=Z,269nm,1.1s,comp=Z,3µm	48.26 300	P	P	09 07 07.0	+0.5
JAY	Jayapura comp=Z,269nm,1.1s,comp=Z,3µm	48.26 300	P	P	09 07 07.0	+0.5
GENI	Genyem comp=Z,791nm,1.1s,comp=Z,9µmcomp=Z,16µm	48.60 299	P	P	09 07 09.8	+0.7
GENI	Genyem comp=Z,791nm,1.1s,comp=Z,9µmcomp=Z,15µm	48.60 299	P	P	09 07 09.4	+0.3
KDU	Kakadu baz=49,SNR=27	48.63 282	P	P	09 07 09.4	+0.1
MTN	Manton Dam baz=50,SNR=49	49.66 281	P	P	09 07 17.5	+0.4
MTN	Manton Dam comp=Z,946nm,1.5s	49.66 281	eP	P	09 07 17.1	-0.1
MTN			LR	LR		
	comp=Z,18µm,20.0s					
JOHN	Johnston Islan	49.67 12	PFAKE		09 07 30.0	+13
JOHN			LR	LR		
	comp=Z,8µm,22.0s					
KMBL	Kambalda baz=50,SNR=61	49.79 254	P	P	09 07 17.0	-1.1
KNRA	Kununurra baz=51,SNR=24	50.21 276	P	P	09 07 21.7	+0.3
FITZ	Fitzroy Crossi comp=Z,123nm,0.8s	51.70 272	P	P	09 07 32.7	+0.1
FITZ	Fitzroy Crossi	51.70 272	P	P	09 07 32.6	+0.1
SAUI	Saumlaki comp=Z,1µm,1.1s,comp=Z,12µm	52.18 286	P	P	09 07 37.9	+1.8
SAUI	Saumlaki comp=Z,1µm,1.1s,comp=Z,12µm	52.18 286	P	P	09 07 38.0	+1.8
SAUI	Saumlaki comp=Z,1µm,1.1s	52.18 286	eP	P	09 07 37.7	+1.5
SAUI			LR	LR		
	comp=Z,22µm,19.0s					
RKGY	Rocky Gully baz=53,SNR=5.3	52.77 249	P	P	09 07 39.8	-0.5
KMPI	Kaimana, Papua comp=Z,301nm,1.1s,comp=Z,4µm	52.83 293	P	P	09 07 43.3	+2.3
KMPI	Kaimana, Papua comp=Z,266nm,0.9s,comp=Z,4µm	52.83 293	P	P	09 07 41.3	+0.3
NWAO	Narrogin (SRO) comp=Z,39nm,0.8s,baz=344,slow=6.5,SNR=14	53.07 251	P	P	09 07 41.4	-1.1
NWAO			LR	LR	09 26 57.6	
	comp=Z,9µm,21.6s,baz=342,slow=32					
NWAO	Narrogin (SRO) comp=Z,141nm,1.4s	53.07 251	eP	P	09 07 41.2	-1.4
KLBR	Kellerberrin baz=53,SNR=42	53.07 253	P	P	09 07 41.0	-1.6
WAKE	Wake Island comp=Z,442nm,1.4s	53.26 343	eP	P	09 07 42.9	-1.0
WAKE			LR	LR		
	comp=Z,7µm,19.0s					
BLDU	Ballidu baz=55,SNR=22	54.24 254	P	P	09 07 49.7	-1.5
FAKI	Fak Fak comp=Z,368nm,1.2s,comp=Z,6µmcomp=Z,14µm	54.43 292	P	P	09 07 52.1	-0.6
FAKI	Fak Fak comp=Z,368nm,1.2s,comp=Z,6µmcomp=Z,14µm	54.43 292	P	P	09 07 51.9	-0.8
FAKI	Fak Fak comp=Z,320nm,1.0s	54.43 292	eP	P	09 07 51.9	-0.8
FAKI			LR	LR		
	comp=Z,10µm,21.0s					
BNDI	Bandanaira comp=Z,622nm,1.1s,comp=Z,7µm	55.32 289	P	P	09 07 58.4	-0.7
BNDI	Bandanaira comp=Z,622nm,1.1s,comp=Z,7µm	55.32 289	P	P	09 07 58.8	-0.3
MORW	Morawa baz=56,SNR=45	55.32 255	P	P	09 07 57.6	-1.4
MBWA	Marble Bar comp=Z,315nm,1.1s	55.35 265	eP	P	09 07 58.0	-1.3
MBWA			LR	LR		
	comp=Z,15µm,22.0s					
MWH	Moku'aweowe comp=Z,360nm,1.3s	56.19 27	eP	P	09 08 06.5	+0.7
SDHHI	Sand Hill	56.22 27	PFAKE		09 08 20.0	+14
SDHHI			LR	LR		

comp=Z,6μm,20.0s
RIM Rim 56.23 27 PFAKE 09 08 20.0 +14
RIM LR LR
comp=Z,6μm,21.0s
WRMHI West Rim 56.23 27 PFAKE 09 08 20.0 +14
WRMHI LR LR
comp=Z,6μm,22.0s
PUH Pauahi 56.23 27 *e*P **P 09 08 07.1 +1.5**
KKO Keanakako'i 56.24 27 *e*P **P 09 08 06.7 +1.1**
comp=Z,529nm,1.0s
KKO LR LR
comp=Z,6μm,22.0s
MLOA Mauna Loa Obse 56.24 27 *e*P **P 09 08 07.4 +1.3**
comp=Z,351nm,1.2s
UWE Uwekahuna 56.25 27 PFAKE 09 08 20.0 +14
UWE LR LR
comp=Z,7μm,22.0s
UWB Uwekahuna B 56.26 27 PFAKE 09 08 20.0 +14
UWB LR LR
comp=Z,7μm,20.0s
HATHI Halema'uma'u T 56.26 27 PFAKE 09 08 20.0 +14
HATHI LR LR
comp=Z,7μm,22.0s
SBLHI Steaming Bluff 56.26 27 PFAKE 09 08 20.0 +14
SBLHI LR LR
comp=Z,6μm,20.0s
MLH Mauna Loa 56.28 27 *e*P **P 09 08 07.6 +1.5**
MLH pmax pmax
comp=Z,260nm,0.9s
MLH Mauna Loa 56.28 27 *e*P **P 09 08 07.6 +1.5**
comp=Z,260nm,0.9s
MLH LR LR
comp=Z,7μm,22.0s
STCH Steam Cracks 56.28 27 *e*P **P 09 08 07.3 +1.4**
comp=Z,278nm,1.0s
STCH LR LR
comp=Z,6μm,22.0s
JCUZ Jacuzzi 56.29 27 *e*P **P 09 08 06.7 +0.7**
comp=Z,275nm,0.9s
NPOC North of Pu'u 56.29 27 *e*P **P 09 08 07.3 +1.4**
comp=Z,468nm,1.1s
POHA Pohakuloa 56.46 27 *e*P **P 09 08 08.5 +1.1**
comp=Z,453nm,1.2s
POHA LR LR
comp=Z,5μm,22.0s
HPAH Hawaii Prepara 56.65 26 *e*P **P 09 08 09.9 +1.4**
comp=Z,365nm,0.9s
HPAH LR LR
comp=Z,5μm,21.0s
MSAI Masohi 56.80 289 P **P 09 08 09.0 -0.7**
comp=Z,37nm,1.0s
MSAI Masohi 56.80 289 P **P 09 08 08.3 -1.4**
comp=Z,37nm,1.0s
SOEI Soe 56.99 280 P **P 09 08 12.5 +1.2**
comp=Z,864nm,1.1s,comp=Z,8μm
SOEI Soe 56.99 280 P **P 09 08 13.0 +1.7**
comp=Z,864nm,1.1s,comp=Z,8μm
SOEI Soe 56.99 280 *e*P **P 09 08 12.7 +1.4**
comp=Z,986nm,1.1s
SOEI LR LR
comp=Z,16μm,20.0s
HON Honolulu 57.03 23 *e*P **P 09 08 12.5 +1.5**
HON pmax pmax
comp=Z,800nm,1.4s
HON Honolulu 57.03 23 *e*P **P 09 08 12.5 +1.5**
comp=Z,805nm,1.4s
KEKH Kekaha 57.10 21 *e*P **P 09 08 12.0 +0.5**
comp=Z,604nm,1.4s
KIP Kipapa 57.12 23 *e*P **P 09 08 13.0 +1.3**
KIP pmax pmax
comp=Z,480nm,1.4s
KIP Kipapa 57.12 23 *e*P **P 09 08 13.0 +1.3**
comp=Z,484nm,1.4s
KIP LR LR
comp=Z,5μm,19.0s
AAI Ambon 57.18 288 P **P 09 08 11.7 -0.7**
comp=Z,134nm,1.9s,comp=Z,4μm
OPA Opana 57.36 23 *e*P **P 09 08 13.8 +0.4**
OPA pmax pmax
comp=Z,480nm,1.4s
OPA Opana 57.36 23 *e*P **P 09 08 13.8 +0.4**
comp=Z,485nm,1.4s
GUMO Guam 57.46 317 LR LR 09 30 35.2
comp=Z,6μm,20.9s,baz=98,slow=34
GUMO Guam 57.46 317 *e*P **P 09 08 12.9 -1.3**
GUMO pmax pmax
comp=Z,530nm,1.5s
GUMO Guam 57.46 317 *e*P **P 09 08 12.9 -1.3**
comp=Z,527nm,1.5s
QSPA South Pole Qui 57.69 180 *e*P **P 09 08 18.0 +2.5**
QSPA LR LR
comp=Z,8μm,22.0s
NLAI Namlea 58.33 288 P **P 09 08 19.9 -0.5**
comp=Z,206nm,2.0s,comp=Z,5μm
NLAI Namlea 58.33 288 P **P 09 08 19.6 -0.8**
comp=Z,206nm,2.0s,comp=Z,5μm
MMRI Maumere 59.28 280 P **P 09 08 27.0 -0.2**
comp=Z,851nm,1.1s,comp=Z,10μm
MMRI Maumere 59.28 280 P **P 09 08 26.8 -0.3**
comp=Z,851nm,1.1s,comp=Z,10μmcomp=Z,13μm
MMRI Maumere 59.28 280 *e*P **P 09 08 26.9 -0.2**
comp=Z,1μm,1.2s
MMRI LR LR
comp=Z,9μm,18.0s
GIRL Giralia 59.34 261 P **P 09 08 27.6 +0.2**
baz=60,SNR=31
LBMI Labuha 59.56 291 P **P 09 08 30.8 +1.8**
comp=Z,168nm,1.3s,comp=Z,3μm
LBMI Labuha 59.56 291 P **P 09 08 29.0 0.0**
comp=Z,169nm,1.3s,comp=Z,3μm
RPN Rapa Nui 59.58 105 PFAKE 09 08 40.0 +11
RPN LR LR
comp=Z,18μm,20.0s
EDFI Ende, Flores 59.68 279 P **P 09 08 29.7 -0.3**
BASI Baing, Sumba 59.84 277 P **P 09 08 31.4 +0.5**
comp=Z,754nm,1.1s,comp=Z,10μm
BASI Baing, Sumba 59.84 277 P **P 09 08 31.5 +0.5**
comp=Z,754nm,1.1s,comp=Z,10μm
MIR Mirnyy 60.02 208⇑*i*P **P 09 08 31.0 -0.4**
MIR *i*S **S 09 16 34.0 -6.7**
MIR *i* 09 18 20.0
MIR pmax pmax
comp=Z,34nm,1.8s
MIR pmax pmax
comp=Z,3μm,6.0s
MIR smax smax
comp=E,2μm,7.0s
MIDW Midway 60.32 1 PFAKE 09 08 50.0 +16
MIDW LR LR
comp=Z,14μm,22.0s
WSI Waingapu 60.36 278 P **P 09 08 34.5 0.0**
comp=Z,2μm,1.1s,comp=Z,17μm
WSI Waingapu 60.36 278 P **P 09 08 35.3 +0.8**
comp=Z,2μm,1.1s,comp=Z,17μm
BBSI Bau Bau 60.73 283 P **P 09 08 37.7 +0.7**
comp=Z,58nm,1.1s,comp=Z,802nm
KDI Kendari 61.55 284 P **P 09 08 42.5 -0.1**
KDI Kendari 61.55 284 P **P 09 08 41.7 -0.9**
comp=Z,163nm,1.1s,comp=Z,3μm
BSSI Bau Bau, Buton 62.09 281 P **P 09 08 44.1 -2.1**
comp=Z,103nm,1.0s,comp=Z,3μm
PLAI Plampang 62.91 277 P **P 09 08 51.3 -0.5**
comp=Z,425nm,1.1s,comp=Z,6μm
PLAI Plampang 62.91 277 P **P 09 08 51.1 -0.7**
comp=Z,425nm,1.1s,comp=Z,6μm
KAPI Kappang 63.32 282 *e*P **P 09 08 53.9 -0.5**
comp=Z,121nm,1.0s
KAPI LR LR
comp=Z,10μm,21.0s
TWSI Taliwang, Sumb 63.71 276 P **P 09 08 55.8 -1.2**
comp=Z,418nm,1.0s,comp=Z,4μm
TWSI Taliwang, Sumb 63.71 276 P **P 09 08 56.4 -0.6**
comp=Z,418nm,1.0s,comp=Z,4μm
SPSI Sidrap Palu 63.89 283 P **P 09 08 56.9 -1.3**
comp=Z,128nm,1.1s,comp=Z,4μm
TTSI Tana Toraja 64.36 284 P **P 09 09 00.2 -1.1**
comp=Z,119nm,1.1s,comp=Z,2μm
IGBI Denpasar 65.13 275 P **P 09 09 06.6 +0.3**
comp=Z,564nm,0.9s,comp=Z,6μm
IGBI Denpasar 65.13 275 P **P 09 09 06.7 +0.4**
comp=Z,564nm,1.1s,comp=Z,6μm
PCI Palu 65.56 285 P **P 09 09 09.6 +0.5**
comp=Z,513nm,1.1s,comp=Z,7μm
DAV Davao City (W) 65.87 296⇑*i*P **P 09 09 09.1 -2.0**
DAV Davao City (W) 65.87 296 PFAKE 09 09 20.0 +8.9
DAV LR LR
comp=Z,5μm,21.0s

JAGI Jajag, Banyuwa 66.15 275 P **P 09 09 10.7 -2.2**
comp=Z,304nm,1.1s,comp=Z,4μm
JAGI Jajag, Banyuwa 66.15 275 P **P 09 09 11.6 -1.3**
comp=Z,304nm,1.1s,comp=Z,4μm
JAGI Jajag, Banyuwa 66.15 275 *e*P **P 09 09 11.3 -1.6**
comp=Z,336nm,1.1s
JAGI LR LR
comp=Z,6μm,20.0s
ABJI Asem Bagus 66.43 276 P **P 09 09 14.7 0.0**
ABJI Asem Bagus 66.43 276 P **P 09 09 13.9 -0.8**
comp=Z,219nm,1.1s,comp=Z,4μm
GMJI Gumukmas 66.85 275 P **P 09 09 15.9 -1.4**
comp=Z,534nm,1.0s,comp=Z,4μm
GMJI Gumukmas 66.85 275 P **P 09 09 16.3 -1.0**
comp=Z,534nm,1.0s,comp=Z,4μm
PCJI Pacitan 68.80 274 P **P 09 09 29.2 -0.4**
comp=Z,829nm,1.0s,comp=Z,8μm
PCJI Pacitan 68.80 274 P **P 09 09 29.1 -0.5**
comp=Z,829nm,1.0s,comp=Z,8μm
TBJI Tambak Boyo 68.95 275 P **P 09 09 30.3 -0.3**
TBJI Tambak Boyo 68.95 275 P **P 09 09 30.6 0.0**
NGJI Ngawi 68.99 275 P **P 09 09 32.2 +1.4**
comp=Z,171nm,1.0s
UGM Wanagama 69.50 274 P **P 09 09 32.9 -1.1**
UGM Wanagama 69.50 274 P **P 09 09 32.8 -1.2**
comp=Z,246nm,1.1s
UGM Wanagama 69.50 274 *e*P **P 09 09 33.4 -0.7**
comp=Z,229nm,1.0s
UGM LR LR
comp=Z,13μm,21.0s
SMRI Semarang 70.02 274 P **P 09 09 36.8 -0.4**
SMRI Semarang 70.02 274 PFAKE 09 09 50.0 +13
SMRI LR LR
comp=Z,12μm,21.0s
MAW Mawson 70.18 201 P **P 09 09 37.6 +0.3**
comp=Z,108nm,1.0s,baz=123,slow=7.6,SNR=121
MAW PKPPKP **P'P'df 09 37 41.7 -3.0**
comp=Z,4.8nm,1.2s,baz=342,slow=10,SNR=4.4
MAW LR LR 09 39 10.4
comp=Z,7μm,21.0s,baz=112,slow=35
MAW Mawson 70.18 201 *e*P **P 09 09 37.7 +0.4**
MAW pmax pmax
comp=Z,24nm,1.0s
MAW Mawson 70.18 201 *e*P **P 09 09 37.7 +0.4**
comp=Z,24nm,1.0s
MAW P'P' 09 37 41.7
TSM Tawau 70.19 289⇓P **P 09 09 38.3 +0.1**
MYLDM Lahad Datu 70.21 290 *e*P **P 09 09 37.6 -0.7**
comp=Z,103nm,1.2s
PMSA Palmer Station 70.71 156 P **P 09 09 41.8 +1.2**
comp=Z,12nm,0.9s,baz=172,slow=2.0,SNR=4.4
PMSA Palmer Station 70.71 156 *e*P **P 09 09 41.4 +0.8**
comp=Z,106nm,1.3s
PMSA LR LR
comp=Z,4μm,19.0s
PBKI Pangkalan Bun 71.31 279 P **P 09 09 46.1 +1.1**
comp=Z,660nm,1.1s,comp=Z,7μm
CMJI Cimerak 71.32 273 P **P 09 09 45.1 0.0**
CISI Cisompet, Garu 71.97 272 P **P 09 09 49.2 +0.1**
CISI Cisompet, Garu 71.97 272 *e*P **P 09 09 47.5 -1.6**
comp=Z,229nm,1.0s
CISI LR LR
comp=Z,8μm,20.0s
XMIS Christmas Isla 72.30 269 PFAKE 09 10 00.0 +9.0
XMIS LR LR
comp=Z,15μm,21.0s
KKM Kota Kinabalu 72.55 289 *e*P **P 09 09 51.5 -1.0**
comp=Z,98nm,1.1s
KKM LR LR
comp=Z,4μm,20.0s
SBUM Sibu 73.71 284 *e*P **P 09 09 58.6 -0.7**
comp=Z,157nm,1.1s
SBUM LR LR
comp=Z,5μm,20.0s
SBUM Sibu 73.71 284⇑P **P 09 09 59.0 -0.3**
GO10 Punta Arenas 74.30 143 PFAKE 09 10 10.0 +7.8
GO10 LR LR
comp=Z,5μm,22.0s
USHA Ushuaia 74.64 146 P **P 09 10 05.7 +1.6**
comp=Z,23nm,0.8s,baz=180,slow=6.1,SNR=3.6
USHA Ushuaia 74.64 146 P **P 09 10 05.7 +1.6**
GO09 Cerro Castillo 74.66 141 *e*P **P 09 10 05.3 +1.0**
comp=Z,97nm,1.1s
GO09 LR LR
comp=Z,4μm,21.0s
KSM Kuching 74.74 282 *e*P **P 09 10 04.0 -1.3**
comp=Z,97nm,0.9s
KSM LR LR
comp=Z,7μm,22.0s
KSM Kuching 74.74 282⇓P **P 09 10 04.4 -0.9**
SYO Syowa Base 75.00 193⇓*i*P **P 09 10 04.4 -1.5**
JHJ Hachijo jima 2 75.99 325 P **P 09 10 11.5 -0.5**
comp=Z,101nm,0.8s,baz=222,slow=23,SNR=2.5
SNAA Sanae 76.16 179 P **P 09 10 13.6 +1.0**
SNAA Sanae 76.16 179*c i*P **P 09 10 13.6 +1.0**
SNAA Sanae 76.16 179 *e*P **P 09 10 13.2 +0.6**
comp=Z,251nm,1.0s
SNAA *e*S **S 09 19 56.4 +3.2**
SNAA LR LR
comp=Z,7μm,22.0s
VNA3 Neumayer Olymp 76.34 176 P **P 09 10 14.4 +0.8**
CHRN Cochrane 76.72 138 *e*P **P 09 10 17.9 +1.8**
comp=Z,14nm,1.0s
CHRN LR LR
comp=Z,100nm,19.0s
VNA2 Neumayer--Watz 76.76 177 P **P 09 10 17.1 +1.1**
baz=172,slow=4.8
NVL N'lazarevskaya 76.82 184 *e*P **P 09 10 20.1 +3.8**
NVL *e*S **S 09 20 03.8 +3.5**
NVL *e**SS **sS 09 20 21.4 +0.4**
NVL *e*SS **SS 09 24 56.4 +0.6**
NVL *e*SSS SSS 09 28 23.2
NVL MLR MLR
comp=Z,4μm,20.0s
VNA1 Neumayer--Stat 77.00 177 P **P 09 10 18.4 +1.2**
JOW Kunigami 77.52 313 *e*P **P 09 10 20.5 -0.3**
comp=Z,388nm,1.9s
JOW LR LR
comp=Z,5μm,22.0s
MNAI Manna 77.75 273 PFAKE 09 10 30.0 +7.5
MNAI LR LR
comp=Z,8μm,20.0s
PAF Port-aux-Franc 78.14 219 PFAKE 09 10 30.0 +6.0
PAF LR LR
comp=Z,9μm,21.0s
COCO West Island 78.86 263 PFAKE 09 10 40.0 +11
COCO LR LR
comp=Z,9μm,20.0s
INU Inuyama 79.14 325 *e*P **P 09 10 29.3 -0.2**
comp=Z,66nm,1.0s
INU LR LR
comp=Z,4μm,22.0s
YOJ Yonaguni jima 79.25 308 PFAKE 09 10 40.0 +10
YOJ LR LR
comp=Z,4μm,22.0s
TWG Pinlang 79.46 306 PFAKE 09 10 40.0 +8.4
TWG LR LR
comp=Z,9μm,21.0s
MJAR Matsushiro Arr 79.52 326 P **P 09 10 30.9 -0.7**
comp=Z,36nm,1.0s,baz=163,slow=5.5,SNR=27
MJAR LR LR 09 40 22.6
comp=Z,3μm,21.9s,baz=120,slow=32
MJAR Matsushiro Arr 79.52 326 P **P 09 10 30.9 -0.7**
MJAR pmax pmax
comp=Z,41nm,1.1s
MJAR Matsushiro Arr 79.52 326 P **P 09 10 30.9 -0.7**
MAJO Matsushiro 79.52 326⇓*i*P **P 09 10 30.9 -0.7**
MAJO MLR MLR
comp=Z,14μm,18.0s
MAJO Matsushiro 79.52 326 *e*P **P 09 10 31.2 -0.4**
comp=Z,92nm,1.2s
MAJO LR LR
comp=Z,4μm,21.0s
MAT Matsushiro 79.52 326 P **P 09 10 30.8 -0.8**
MAT S S 09 20 39.0 +8.9
MJB9 Matsu-Tunnel 79.53 326 *e*P **P 09 10 31.2 -0.4**
comp=Z,22nm,1.2s
MJB9 LR LR
comp=Z,1μm,20.0s
YULB Yu-li 79.69 306 PFAKE 09 10 40.0 +7.2
YULB LR LR
comp=Z,2μm,20.0s
NACB Ninganchiao 80.00 307 PFAKE 09 10 50.0 +15
NACB LR LR
comp=Z,2μm,19.0s
TPUB Ta-pu 80.08 306 PFAKE 09 10 50.0 +15

TPUB LR LR
comp=Z,3μm,20.0s
SSLB Suanglung 80.18 306 *e*P **P 09 10 33.2 -2.3**
comp=Z,38nm,1.0s
SSLB LR LR
comp=Z,3μm,20.0s
MYKOM Kota Tinggi 80.29 278 *e*P **P 09 10 35.6 -0.8**
comp=Z,66nm,1.1s
MYKOM LR LR
comp=Z,7μm,20.0s
MYKOM Kota Tinggi 80.29 278⇓P **P 09 10 35.9 -0.4**
YHNB Yeheng 80.48 307 PFAKE 09 10 50.0 +13
YHNB LR LR
comp=Z,4μm,22.0s
JNU Nakatsue 80.62 319 P **P 09 10 37.6 -0.1**
comp=Z,60nm,1.0s,baz=47,slow=2.8,SNR=15
JNU Nakatsue 80.62 319 *e*P **P 09 10 37.3 -0.3**
comp=Z,139nm,1.2s
KGM Kluang 80.86 278⇓P **P 09 10 38.8 -0.6**
EFI East Falkland 81.47 147⇑*i*P **P 09 10 42.6 +0.6**
EFI pmax pmax
comp=Z,62nm,1.2s
EFI MLR MLR
comp=Z,3μm,17.0s
EFI East Falkland 81.47 147 *e*P **P 09 10 42.9 +0.9**
comp=Z,90nm,0.9s
EFI LR LR
comp=Z,8μm,22.0s
PLCA Paso Flores 81.63 133 P **P 09 10 45.0 +1.8**
comp=Z,21nm,1.0s,baz=244,slow=5.0,SNR=22
PLCA LR LR 09 38 18.1
comp=Z,4μm,21.6s,baz=266,slow=29
PLCA Paso Flores 81.63 133 *e*P **P 09 10 44.9 +1.7**
PLCA pmax pmax
comp=Z,120nm,1.2s
PLCA Paso Flores 81.63 133 *e*P **P 09 10 44.9 +1.7**
comp=Z,116nm,1.3s
BKNI Bangkinang 81.86 276 PFAKE 09 11 00.0 +15
BKNI LR LR
comp=Z,6μm,20.0s
ERM Erimo 81.92 332 PFAKE 09 11 00.0 +16
ERM LR LR
comp=Z,8μm,20.0s
DLV T Lat 82.17 289 *e*P **P 09 10 46.0 -0.5**
comp=Z,139nm,1.3s
DLV LR LR
comp=Z,3μm,22.0s
QZH Quanzhou 82.56 306⇓*i*P **P 09 10 45.4 -2.6**
QZH PP **PP 09 13 59.4 +1.2**
QZH S **S 09 20 59.0 -3.1**
QZH pmax pmax
comp=Z,2μm,6.4s
QZH LR LR
comp=Z,5μm,20.8s
QZH LR LR
comp=Z,2μm,18.8s
QZH LR LR
comp=Z,9μm,25.8s
YUK Yuzh-Kuril'sk 82.64 335 *e*P P 09 10 40.1 -7.9
YUK *i* 09 10 57.9
YUK pmax pmax
comp=E,90nm,1.2s
YUK pmax pmax
comp=N,118nm,0.7s
YUK pmax pmax
comp=Z,914nm,1.4s
KTGM Kuala Trenggan 82.82 281⇓P **P 09 10 49.1 -0.6**
FRIM Kepong 82.94 278⇑P **P 09 10 49.1 -1.2**
KUR Kuril'sk 83.01 337⇑*i*P **P 09 10 49.2 -0.6**
KUR *i*S **S 09 21 07.4 +1.7**
KUR pmax pmax
comp=Z,2μm,6.1s
ASAJ Asahikawa 83.92 333 P **P 09 10 54.9 +0.3**
comp=Z,18nm,0.8s,baz=203,slow=5.6,SNR=9.5
ASAJ Asahikawa 83.92 333 *e*P **P 09 10 55.1 +0.5**
comp=Z,373nm,2.0s
ASAJ LR LR
comp=Z,10μm,20.0s
ADK Adak 83.97 1 *e*P **P 09 10 54.6 0.0**
ADK pmax pmax
comp=Z,150nm,1.0s
ADK Adak 83.97 1 *e*P **P 09 10 54.6 0.0**
comp=Z,155nm,1.0s
ADK LR LR
comp=Z,8μm,22.0s
GO05 HualaæØ 84.07 128 *e*P **P 09 10 55.8 -0.2**
comp=Z,265nm,1.5s
GO05 LR LR
comp=Z,7μm,20.0s
IPM Ipoh 84.12 279 *e*P **P 09 10 54.9 -1.5**
comp=Z,71nm,1.0s
IPM LR LR
comp=Z,6μm,20.0s
IPM Ipoh 84.12 279⇓P **P 09 10 55.0 -1.4**
ATKA Atka Island 84.36 3 *e*P **P 09 10 56.5 0.0**
comp=Z,215nm,1.3s
ATKA LR LR
comp=Z,11μm,22.0s
KULM Kulim 84.87 280 *e*P **P 09 10 58.8 -1.4**
comp=Z,82nm,1.1s
KULM LR LR
comp=Z,7μm,21.0s
KULM Kulim 84.87 280⇑P **P 09 10 58.6 -1.6**
SMY Shemya 85.02 356 *e*P **P 09 10 58.8 -1.1**
SMY pmax pmax
comp=Z,263nm,1.3s
SMY MLR MLR
comp=Z,10μm,22.0s
SMY Shemya 85.02 356 *e*P **P 09 10 58.8 -1.1**
comp=Z,263nm,1.3s
SMY LR LR
comp=Z,10μm,22.0s
GZH Guangzhou 85.09 301⇑*i*P **P 09 11 01.7 +0.7**
GZH PP **PP 09 14 18.2 -0.7**
GZH pmax pmax
comp=Z,2μm,7.1s
QIZ Qiongzhong 85.25 296 P **P 09 11 01.9 0.0**
QIZ pP **pP 09 11 14.5 0.0**
QIZ PP **PP 09 14 19.2 -1.1**
QIZ S **S 09 21 29.3 -0.1**
QIZ sS **pS 09 21 45.1 -0.2**
QIZ SS **SS 09 27 04.4 -0.4**
QIZ pmax pmax
comp=Z,1μm,14.8s
QIZ LR LR
comp=Z,1μm,26.5s
QIZ LR LR
comp=Z,2μm,28.9s
QIZ LR LR
comp=Z,4μm,40.7s
QIZ Qiongzhong 85.25 296 PFAKE 09 11 10.0 +8.1
QIZ LR LR
comp=Z,2μm,19.0s
KSRS Korea Array 85.45 320 P **P 09 11 02.2 -0.2**
comp=Z,14nm,0.7s,baz=141,slow=5.3,SNR=41
KSRS LR LR 09 47 08.4
comp=Z,2μm,19.1s,baz=144,slow=34
KS15 Wonju Array Si 85.46 320 *e*P **P 09 11 03.1 +0.6**
KSAR Wonju Array Be 85.46 320 P **P 09 11 02.3 -0.2**
KSAR Wonju Array Be 85.46 320 P **P 09 11 02.2 -0.2**
NIKH Nikolski High 85.48 6 *e*P **P 09 11 02.3 +0.1**
comp=Z,174nm,0.9s
NIKH LR LR
comp=Z,4μm,20.0s
KS01 Wonju Array Si 85.48 320 *e*P **P 09 11 01.4 -1.2**
SKR Severo-Kuril's 85.66 344 *e*P **P 09 11 00.0 -3.2**
SKR *e* 09 14 21.1
SKR *e*PS **PnS 09 22 36.9 +3.4**
SKR pmax pmax
comp=Z,1μm,19.5s
SKR pmax pmax
comp=Z,58nm,1.2s
SKR pmax pmax
comp=Z,2μm,19.4s
SKR pmax pmax
comp=Z,400nm,11.9s
ROC1 El Roble 85.88 127 *e*P **P 09 11 07.3 +2.0**
comp=Z,52nm,0.7s
SKLT Songkhla 85.92 281 P **P 09 11 05.1 -0.3**
comp=Z,62nm,1.1s
SNCC San Nicolas Is 85.93 46 P **P 09 11 06.8 +1.8**
baz=227
INCN Inchon 86.17 319 PFAKE 09 11 20.0 +14
INCN LR LR
comp=Z,2μm,20.0s
LPIG La Paz 86.18 58 LR LR 09 43 32.5

comp=Z,4μm,19.0s,baz=288,slow=31
SLBS Sierra La Lagu 86.19 59 *e*P **P 09 11 08.3 +1.7**
comp=Z,220nm,1.5s
SLBS LR LR
comp=Z,5μm,22.0s
YSS Yuzh-Sakhalins 86.27 335 *oe*P **P 09 11 05.9 -0.4**
YSS *e**SP **pP 09 11 20.0 +1.1**
YSS *e*S **S 09 21 35.0 -3.1**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,2μm,7.0s
YSS Yuzh-Sakhalins 86.27 335 *e*P **P 09 11 06.2 -0.1**
comp=Z,90nm,0.8s
YSS LR LR
comp=Z,2μm,20.0s
SCI2 San Clemente I 86.35 47 P **P 09 11 08.5 +1.4**
baz=227
SCZ2 Santa Cruz Isl 86.38 46 P **P 09 11 08.8 +1.6**
baz=227
UBPT Khong Chiam 86.48 290 P **P 09 11 10.5 +2.5**
comp=Z,45nm,2.5s
UNV Unalaska Valle 86.57 7 *e*P **P 09 11 07.9 +0.3**
comp=Z,60nm,1.1s
UNV LR LR
comp=Z,4μm,21.0s
SBC Santa Barbara 86.64 45 P **P 09 11 10.4 +2.0**
baz=227
CIS Catalina Islan 86.72 47 P **P 09 11 10.5 +1.6**
baz=227
BLG Laguna Peak, P 86.80 46 P **P 09 11 10.9 +1.6**
baz=227
PKM Mcpherson Peak 86.88 45 P **P 09 11 11.9 +2.0**
baz=226
AKUT Akutan 86.94 8 PFAKE 09 11 20.0 +11
AKUT LR LR
comp=Z,4μm,19.0s
FMP Fort Macarthur 87.00 47 P **P 09 11 11.9 +1.7**
baz=227
NJ2 Nanjing 87.05 311 *e*P **P 09 11 10.2 -0.2**
NJ2 S **S 09 21 52.8 +6.5**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,2μm,11.9s
NJ2 LR LR
comp=Z,3μm,24.9s
NJ2 LR LR
comp=Z,2μm,23.8s
NJ2 LR LR
comp=Z,4μm,23.9s
TRTT Trang 87.05 281 P P 09 11 19.2 +8.3
SMMC Simmler 87.07 44 P **P 09 11 12.7 +2.1**
baz=226
109C Camp Elliot, M 87.19 48 P **P 09 11 13.0 +1.9**
baz=228,SNR=9.3
PAGB Antelope Grade 87.20 44 *e*P **P 09 11 13.4 +2.2**
comp=Z,452nm,1.7s
PAGB LR LR
comp=Z,4μm,21.0s
PMPB Monarch Peak 87.22 43 *e*P **P 09 11 11.9 +0.6**
comp=Z,288nm,1.5s
PMPB LR LR
comp=Z,4μm,22.0s
SAO San Andreas Ge 87.23 43 *e*P **P 09 11 12.8 +1.6**
SAO pmax pmax
comp=Z,58nm,1.0s
SAO San Andreas Ge 87.23 43 *e*P **P 09 11 12.8 +1.6**
comp=Z,58nm,1.0s
SAO LR LR
comp=Z,5μm,22.0s
BAR Barrett 87.32 48 *e*P **P 09 11 14.2 +2.3**
comp=Z,157nm,1.4s
BAR LR LR
comp=Z,3μm,21.0s
PET Petropavlovsk 87.33 347 *α i*P **P 09 11 10.5 -0.8**
PET *e* 09 14 41.0
PET *e* 09 21 32.1
PET *e*S **S 09 21 48.2 +0.1**
PET *e*PS **PnS 09 22 49.0 -4.4**
PET *e*PPS PPS 09 23 14.8
PET *e* 09 31 11.0
PET pmax pmax
comp=Z,40nm,1.2s
PET pmax pmax
comp=Z,2μm,5.6s
PET pmax pmax
comp=Z,2μm,19.4s
PET Petropavlovsk 87.33 347 *e*P **P 09 11 10.6 -0.6**
comp=Z,49nm,1.2s
PET LR LR
comp=Z,6μm,22.0s
DECC Green Verdugo 87.34 46 P **P 09 11 13.4 +1.5**
baz=227
OSI Osito Audit: C 87.35 46 P **P 09 11 13.9 +2.0**
baz=227,SNR=5.6
OSI Osito Audit: C 87.35 46 *e*P **P 09 11 13.3 +1.3**
comp=Z,137nm,1.0s
OSI LR LR
comp=Z,3μm,19.0s
PASC Pasadena Art C 87.38 46 *e*P **P 09 11 14.1 +2.0**
comp=Z,135nm,1.3s
PASC LR LR
comp=Z,4μm,21.0s
MCCM Marconi Confer 87.39 41 *e*P **P 09 11 13.2 +1.2**
comp=Z,142nm,1.1s
MCCM LR LR
comp=Z,6μm,19.0s
PEA0 Petropavlovsk- 87.60 346 *e*P **P 09 11 11.8 -0.8**
PEA0B Petropavlovsk- 87.60 346 *e*P **P 09 11 12.5 -0.1**
comp=Z,134nm,1.1s
PEA0B LR LR
comp=Z,6μm,21.0s
PETK Petropavlovsk- 87.60 346 P **P 09 11 12.5 -0.1**
comp=Z,48nm,0.9s,baz=116,slow=6.8,SNR=36
PETK LR LR 09 44 04.4
comp=Z,5μm,21.3s,baz=166,slow=31
PETK Petropavlovsk- 87.60 346 P **P 09 11 12.5 -0.1**
MURC Murrieta 87.61 47 P **P 09 11 15.1 +1.9**
baz=228,SNR=31
MONP2 Monument Peak 87.62 48 P **P 09 11 15.6 +2.0**
baz=228,SNR=23
MSHR Mys Shultsa 87.62 325 *c i*P **P 09 11 13.1 +0.1**
ARVC Arvin 87.63 45 P **P 09 11 14.9 +1.7**
baz=227,SNR=27
IKP In-Ko-Pah, Jac 87.66 49 P **P 09 11 15.9 +2.3**
baz=229,SNR=19
VLA Vladivostok 87.69 326 *d i*P **P 09 11 13.6 +0.3**
VLA *i* *PP **pP 09 11 23.7 -2.2**
VLA *i* *SP **sP 09 11 28.2 -2.4**
VLA *e* 09 14 38.3
VLA *e*S **SKSac 09 21 36.5 -1.2**
VLA pmax pmax
comp=Z,45nm,1.1s
HOPE Hope Point 87.72 159 PFAKE 09 11 20.0 +6.5
HOPE LR LR
comp=Z,7μm,21.0s
BFSC Mount Baldy Ra 87.75 47 P **P 09 11 15.7 +1.7**
baz=228,SNR=37
HOPS Hopland Field 87.89 40 *e*P **P 09 11 16.7 +2.4**
comp=Z,216nm,1.5s
HOPS LR LR
comp=Z,8μm,19.0s
GDXM Geysers 87.91 40 *e*P **P 09 11 17.1 +2.6**
comp=Z,80nm,1.1s
GDXM LR LR
comp=Z,9μm,19.0s
FALS False Pass 87.93 9 *e*P **P 09 11 14.8 +0.8**
comp=Z,210nm,1.1s
FALS LR LR
comp=Z,6μm,20.0s
LHMI Lhok Sumawe 87.93 277 PFAKE 09 11 30.0 +15
LHMI LR LR
comp=Z,6μm,20.0s
VES Vestal, Richgr 87.97 45 P **P 09 11 16.1 +1.3**
baz=227,SNR=58
EDW2 Edwards Air Fo 87.97 46 P **P 09 11 16.8 +1.8**
baz=228,SNR=54
SWSC Sam W. Stewart 88.05 49 P **P 09 11 17.3 +2.1**
baz=229,SNR=10
PFO Pinyon Flats O 88.07 48 LR LR 09 45 22.3
comp=Z,5μm,18.8s,baz=242,slow=32
PFO Pinyon Flats O 88.07 48 P **P 09 11 17.3 +1.8**
baz=228,SNR=27
PFO Pinyon Flats O 88.07 48 *e*P **P 09 11 17.6 +2.1**
PFO pmax pmax
comp=Z,110nm,1.1s
PFO Pinyon Flats O 88.07 48 *e*P **P 09 11 17.6 +2.1**
comp=Z,111nm,1.1s
KCPM Cahto Peak 88.11 39 PFAKE 09 11 30.0 +14
KCPM LR LR
comp=Z,7μm,19.0s
RCTC Rector, Farmer 88.19 44 P **P 09 11 16.9 +1.1**
baz=227,SNR=11
ISA Isabella, Lake 88.21 45 P **P 09 11 18.0 +2.0**
baz=227,SNR=44
ISA Isabella, Lake 88.21 45 *e*P **P 09 11 18.1 +2.0**
ISA pmax pmax
comp=Z,170nm,1.0s
ISA Isabella, Lake 88.21 45 *e*P **P 09 11 18.1 +2.1**
comp=Z,166nm,1.0s
ISA LR LR
comp=Z,2μm,22.0s
PANO Nakornpanom 88.21 291 P **P 09 11 17.0 +0.6**
comp=Z,59nm,1.1s,comp=Z,2μm
BBRC Big Bear Solar 88.22 47 P **P 09 11 18.3 +1.9**
baz=228,SNR=6.2
PAYG Puerto Ayora 88.39 90 PFAKE 09 11 30.0 +13
PAYG LR LR
comp=Z,6μm,21.0s
KMRM Mail Ridge 88.43 39 *e*P **P 09 11 19.5 +2.5**
comp=Z,126nm,1.3s
KMRM LR LR
comp=Z,6μm,20.0s
LCO Las Campanas 88.44 124 *e*P **P 09 11 18.8 +1.0**
comp=Z,353nm,2.0s
LCO LR LR
comp=Z,7μm,20.0s
USRK Ussuriysk Ar. 88.47 327 P **P 09 11 16.7 -0.3**
comp=Z,26nm,0.9s,baz=138,slow=3.7,SNR=33
USRK LR LR 09 46 30.5
comp=Z,4μm,20.1s,baz=130,slow=33
TRQA Tornquist 88.49 135 *e*P **P 09 11 18.8 +1.2**
comp=Z,63nm,1.4s
TRQA LR LR
comp=Z,4μm,22.0s
LRMC Laurel Mtn Rad 88.56 46 P **P 09 11 19.7 +1.8**
baz=228,SNR=19
RRX Edison Barstow 88.58 46 P **P 09 11 19.5 +1.8**
baz=228
BELC Belle Mtn. Jos 88.62 48 P **P 09 11 20.4 +2.2**
baz=229,SNR=58
JCC Jacoby Creek, 88.69 38 PFAKE 09 11 30.0 +12
JCC LR LR
comp=Z,4μm,20.0s
CMB Columbia Colle 88.72 42 *e*P **P 09 11 19.6 +1.2**
CMB pmax pmax
comp=Z,82nm,1.0s
CMB Columbia Colle 88.72 42 *e*P **P 09 11 19.6 +1.2**
comp=Z,82nm,1.0s
CMB LR LR
comp=Z,3μm,22.0s
BC3 Big Chuckawall 88.73 48 P **P 09 11 21.2 +2.5**
baz=229,SNR=58
GLA Glamis 88.74 49 P **P 09 11 21.3 +2.7**
baz=229,SNR=38
GLA Glamis 88.74 49 *e*P **P 09 11 21.2 +2.7**
GLA pmax pmax
comp=Z,170nm,1.1s
GLA Glamis 88.74 49 *e*P **P 09 11 21.2 +2.6**
comp=Z,165nm,1.1s
HSIG 88.75 54 *e*P **P 09 11 20.1 +1.4**
comp=Z,145nm,1.6s
SDPT Sand Point 88.82 10 *e*P **P 09 11 19.2 +0.9**
comp=Z,667nm,1.4s
KHMM Horse Mountain 88.89 38 *e*P **P 09 11 20.8 +1.5**
comp=Z,67nm,1.2s
HEC Hector,Ludlow 88.95 47 P **P 09 11 21.6 +2.0**
baz=228,SNR=34
CWC Cottonwood Cre 88.97 45 P **P 09 11 21.4 +1.6**
baz=228
GSC Goldstone, Bar 88.98 46 P **P 09 11 21.6 +1.8**
baz=228,SNR=58
GSC Goldstone, Bar 88.98 46 *e*P **P 09 11 21.5 +1.8**
GSC pmax pmax
comp=Z,150nm,1.1s
GSC Goldstone, Bar 88.98 46 *e*P **P 09 11 21.5 +1.8**
comp=Z,150nm,1.1s
AFDM Forest Hills D 89.02 41 *e*P **P 09 11 20.9 +1.2**
comp=Z,80nm,1.2s
WHN Wuhan 89.02 307 ⇑P **P 09 11 19.4 -0.5**
WHN pmax pmax
comp=Z,2μm,5.8s
WHN LR LR
comp=Z,1μm,16.0s
WHN LR LR
comp=Z,3μm,18.8s
WHN LR LR
comp=Z,7μm,23.0s
MPMC Manual Prospec 89.07 45 P **P 09 11 22.0 +1.8**
baz=228,SNR=52
ORV Oroville 89.15 41 *e*P **P 09 11 21.4 +1.1**
ORV pmax pmax
comp=Z,55nm,1.2s
ORV Oroville 89.15 41 *e*P **P 09 11 21.4 +1.1**
comp=Z,55nm,1.2s
ORV LR LR
comp=Z,4μm,19.0s
KHON Khomkaen 89.17 290 P **P 09 11 22.1 +1.2**
comp=Z,26nm,1.1s
113A Mohawk Valley, 89.24 50 *e*P **P 09 11 23.3 +2.4**
comp=Z,141nm,1.4s
IRM Iron Mountain 89.25 48 P **P 09 11 23.5 +2.5**
baz=229,SNR=102
NAYO Nakonayok 89.26 287 P **P 09 11 21.5 +0.2**
comp=Z,18nm,1.0s,comp=Z,874nm
KRMB Red Mountain 89.26 38 PFAKE 09 11 30.0 +9.1
KRMB LR LR
comp=Z,4μm,19.0s
TIN Tinemaha, Big 89.30 44 P **P 09 11 22.8 +1.6**
baz=227
WDC Whiskeytown Da 89.31 39 *e*P **P 09 11 22.6 +1.6**
WDC pmax pmax
comp=Z,120nm,1.2s
WDC Whiskeytown Da 89.31 39 *e*P **P 09 11 22.6 +1.6**
comp=Z,124nm,1.3s
WDC LR LR
comp=Z,5μm,19.0s
MLAC Mammoth, Mammo 89.33 43 P **P 09 11 23.3 +1.8**
baz=227
214A Organ Pipe Nat 89.34 51 P **P 09 11 23.8 +2.3**
baz=230
GMRC Granite Mounta 89.34 47 P **P 09 11 23.5 +2.0**
baz=229,SNR=37
Y12C Blythe 89.38 49 P **P 09 11 24.1 +2.5**
baz=230,SNR=35
Y12C Blythe 89.38 49 *e*P **P 09 11 24.0 +2.5**
comp=Z,97nm,1.0s
Y12C LR LR
comp=Z,3μm,20.0s
N02D Trinity Center 89.50 39 P **P 09 11 24.0 +2.0**
baz=225,SNR=31
O03D Paynes Creek 89.51 40 P **P 09 11 23.1 +1.1**
baz=225
SPIA Saint Paul Isl 89.54 5 *e*P **P 09 11 23.3 +1.6**
comp=Z,639nm,1.2s
SPIA LR LR
comp=Z,8μm,21.0s
WAKR Walker 89.58 42 *e*P **P 09 11 24.2 +1.6**
comp=Z,142nm,1.2s
WAKR LR LR
comp=Z,3μm,19.0s
CHAI Chaiyaphum 89.60 289 P **P 09 11 23.5 +0.6**
comp=Z,14nm,0.9s,comp=Z,117nm
KBO Bosley Butte 89.60 37 PFAKE 09 11 30.0 +7.5
KBO LR LR
comp=Z,4μm,20.0s
TUQ Turquoise Moun 89.61 47 P **P 09 11 24.8 +2.0**
baz=229,SNR=8.2
TYV Tymovskoe 89.63 337 ⇑*i*P **P 09 11 22.7 +0.5**
TYV *e*S **S 09 22 06.8 -3.2**
TYV pmax pmax
comp=Z,67nm,1.1s
TYV pmax pmax
comp=Z,1μm,5.2s
TYV smax smax
comp=E,2μm,10.0s
TYV MLR MLR
comp=N,4μm,17.0s
TYV MLR MLR
comp=Z,4μm,19.0s
SHOC Shoshone, Teco 89.70 46 P **P 09 11 24.8 +1.8**
baz=229,SNR=12
FURC Furnace Creek, 89.72 45 P **P 09 11 24.8 +1.8**
baz=228,SNR=20
M02C Callahan 89.72 39 P **P 09 11 25.3 +2.2**
baz=224,SNR=22
GRAC Grapevine Rang 89.77 45 P **P 09 11 25.2 +1.8**
baz=228,SNR=52
PHET Kaeng Krachan 89.86 285 P **P 09 11 24.8 +0.6**
comp=Z,22nm,1.0s,comp=Z,168nm
LDFC Landfair 89.88 47 *e*P **P 09 11 26.6 +2.7**
comp=Z,428nm,1.2s
LDFC LR LR
comp=Z,4μm,19.0s
L02D Cave Junction, 89.88 38 P **P 09 11 25.7 +2.0**
baz=224
TVH2 Borealis Mine 89.89 43 *e*P **P 09 11 25.6 +1.5**
comp=Z,47nm,1.0s
TVH2 LR LR
comp=Z,2μm,19.0s
PNTR Pine Nut 89.89 42 *e*P **P 09 11 25.6 +1.6**
comp=Z,117nm,1.1s
PNTR LR LR
comp=Z,3μm,19.0s
MDJ Mudanjiang 89.91 326 P **P 09 11 24.5 +0.8**
MDJ pP pP 09 11 36.8 +0.4
MDJ sP sP 09 11 41.6 +0.5
MDJ pmax pmax
comp=Z,32nm,1.3s
MDJ pmax pmax
comp=Z,1μm,6.6s
MDJ LR LR
comp=Z,4μm,23.2s
MDJ LR LR
comp=Z,2μm,23.2s
MDJ LR LR
comp=Z,6μm,27.1s
MDJ Mudanjiang 89.91 326 *e*P **P 09 11 24.2 +0.5**
comp=Z,45nm,1.1s
MDJ LR LR
comp=Z,6μm,22.0s
DL2 Dalian 89.97 318 P **P 09 11 22.8 -1.3**
DL2 pP **pP 09 11 33.8 -3.0**
DL2 PP **PP 09 14 54.6 -3.3**
DL2 SKS **SKSac 09 21 47.5 -4.0**
DL2 S **S 09 22 09.7 -4.0**
DL2 pmax pmax
comp=Z,76nm,1.2s
DL2 pmax pmax
comp=Z,1μm,6.9s
DL2 LR LR
comp=Z,1μm,24.5s
DL2 LR LR
comp=Z,2μm,27.5s
DL2 LR LR
comp=Z,4μm,30.4s
NEE2 Needles Airpor 89.98 48 P **P 09 11 26.6 +2.3**
baz=230,SNR=21
PDMCI Parker Dam,Lak 89.98 48 P **P 09 11 26.5 +2.2**
baz=230,SNR=33
BEKR Beckworth 90.00 41 *e*P **P 09 11 25.6 +1.1**
comp=Z,71nm,1.3s
BEKR LR LR
comp=Z,5μm,22.0s
KEBM Edson Butte 90.02 37 *e*P **P 09 11 25.5 +1.1**
comp=Z,215nm,1.2s
KEBM LR LR
comp=Z,4μm,20.0s
YERR Yerington 90.02 42 *e*P **P 09 11 25.9 +1.3**
comp=Z,81nm,1.2s
YERR LR LR
comp=Z,4μm,22.0s
YBH Yreka Blue Hor 90.04 38 *e*P **P 09 11 26.1 +1.6**
YBH pmax pmax
comp=Z,63nm,1.2s
YBH Yreka Blue Hor 90.04 38 *e*P **P 09 11 26.1 +1.6**
comp=Z,63nm,1.3s
YBH LR LR
comp=Z,3μm,20.0s
CHGN Chignik 90.06 11 *e*P **P 09 11 24.6 +0.5**
comp=Z,262nm,1.0s
CHGN LR LR
comp=Z,5μm,21.0s
TPNV Topopah Spring 90.40 45 P **P 09 11 28.2 +1.8**
baz=229,SNR=51
TPNV Topopah Spring 90.40 45 *e*P **P 09 11 28.2 +1.8**
TPNV pmax pmax
comp=Z,82nm,1.1s
TPNV Topopah Spring 90.40 45 *e*P **P 09 11 28.2 +1.8**
comp=Z,82nm,1.1s
TPNV LR LR
comp=Z,3μm,19.0s
PAHR Pah Rah Range 90.43 42 *e*P **P 09 11 27.7 +1.2**
comp=Z,71nm,1.2s
PAHR LR LR
comp=Z,5μm,19.0s
MOIG Morelia 90.44 67 *e*P **P 09 11 28.7 +1.6**
comp=Z,72nm,1.0s
MOIG LR LR
comp=Z,4μm,19.0s
Y14A Wickenburg 90.47 49 *e*P **P 09 11 28.8 +2.0**
comp=Z,308nm,1.0s
Y14A LR LR
comp=Z,18μm,20.0s
HABR Khabarovsk 90.48 331 *e*P **P 09 11 25.0 -1.2**
HABR *e**PP **pP 09 11 35.5 -3.4**
HABR *e**SP **sP 09 11 39.7 -3.9**
HABR *e* 09 14 59.2
HABR *e*S **SKSac 09 21 52.9 -1.0**
HABR *e**SS **SKKSac 09 22 11.8 +3.7**
HABR *e*SS **SS 09 28 18.9 -1.3**
HABR *e*SSS SSS 09 31 56.3
HABR pmax pmax
comp=Z,500nm,3.8s
HABR MLR MLR
comp=Z,3μm,20.0s
HUMO Hull Mountain 90.53 38 *e*P **P 09 11 28.6 +1.9**
comp=Z,174nm,1.4s
HUMO LR LR
comp=Z,3μm,20.0s
M04C Macdoel 90.53 39 P **P 09 11 28.4 +1.5**
baz=225,SNR=23
W13A Hualapai Mount 90.65 48 *e*P **P 09 11 29.9 +2.1**
comp=Z,112nm,1.3s
W13A LR LR
comp=Z,3μm,20.0s
SHPR Sheep Range 90.77 46 *e*P **P 09 11 30.2 +2.0**
comp=Z,84nm,1.3s
SHPR LR LR
comp=Z,3μm,20.0s
PBKT Sadao Pong 90.78 289 P **P 09 11 28.6 +0.2**
comp=Z,122nm,1.1s
TIA Tai'an 90.85 313 ⇑P **P 09 11 28.3 0.0**
TIA SKS **SKSac 09 22 00.6 +3.9**
TIA S **S 09 22 19.8 -2.1**
TIA pmax pmax
comp=Z,70nm,1.4s
TIA pmax pmax
comp=Z,1μm,8.1s
TIA LR LR
comp=Z,2μm,20.1s
TIA LR LR
comp=Z,3μm,19.6s
TIA LR LR
comp=Z,3μm,19.2s
TUC Tucson 90.90 52 P **P 09 11 31.3 +2.4**
baz=232
TUC Tucson 90.90 52 *e*P **P 09 11 31.2 +2.4**
TUC pmax pmax
comp=Z,83nm,1.1s
TUC Tucson 90.90 52 *e*P **P 09 11 31.2 +2.4**
comp=Z,83nm,1.1s
TUC LR LR
comp=Z,2μm,19.0s
SNY Shenyang 90.92 321 ⇑P **P 09 11 26.3 -2.2**
SNY S **S 09 22 16.7 -5.5**
SNY SS **SS 09 28 32.5 +5.7**
SNY pmax pmax
comp=Z,40nm,0.7s
SNY pmax pmax
comp=Z,1μm,12.0s
SNY LR LR
comp=Z,2μm,26.0s
SNY LR LR
comp=Z,3μm,24.2s
SNY LR LR
comp=Z,5μm,26.0s
I03D Drain, OR 91.11 37 P **P 09 11 30.9 +1.5**
baz=224,SNR=14
SLVN Son La 91.12 295 PFAKE 09 11 40.0 +10
SLVN LR LR

comp=Z,3μm,21.0s
ZAIG Zacatecas 91.12 64 *e*P **P 09 11 33.0 +2.8**
comp=Z,69nm,1.6s
ZAIG LR LR
comp=Z,3μm,19.0s
K04D Chiloquin, OR 91.17 38 P **P 09 11 31.4 +1.5**
baz=225
HPIG 91.22 59 *e*P **P 09 11 31.8 +1.3**
comp=Z,33nm,1.2s
HPIG LR LR
comp=Z,6μm,19.0s
TLIG Tlapa 91.33 70 *e*P **P 09 11 32.5 +1.4**
comp=Z,255nm,1.9s
TLIG LR LR
comp=Z,4μm,22.0s
319A Douglas 91.34 53 *e*P **P 09 11 33.6 +2.8**
comp=Z,93nm,1.4s
319A LR LR
comp=Z,4μm,20.0s
CN2 Changchun 91.34 323 ⇑P **P 09 11 29.9 -0.5**
CN2 *ep*P pP 09 11 42.4 -0.7
CN2 *e*S **S 09 22 23.5 -2.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,1μm,7.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,3μm,23.0s
CMBY CAMPBELL BAY 91.42 277 *e*P **P 09 11 30.7 -0.8**
J04D Umpqua Nationa 91.42 38 P **P 09 11 32.7 +1.6**
baz=225,SNR=18
MOD Modoc Plateau 91.44 40 *e*P **P 09 11 32.1 +0.9**
comp=Z,74nm,1.1s
MOD LR LR
comp=Z,6μm,19.0s
UTHA Uthaitani 91.45 287 P **P 09 11 33.0 +1.4**
comp=Z,11nm,1.0s,comp=Z,91nm
JRQG Juriquilla Cam 91.59 67 *e*P **P 09 11 35.0 +2.6**
comp=Z,439nm,1.7s
JRQG LR LR
comp=Z,7μm,19.0s
R11A Troy Canyon, C 91.72 45 P **P 09 11 33.5 +0.9**
baz=229,SNR=14
R11A Troy Canyon, C 91.72 45 *e*P **P 09 11 33.5 +0.9**
comp=Z,11nm,1.0s
R11A LR LR
comp=Z,3μm,22.0s
UTTA Uttaradit 91.75 290 P **P 09 11 36.6 +3.7**
comp=Z,2.5nm,1.2s
COR Corvallis 91.78 36 *e*P **P 09 11 33.5 +1.1**
COR pmax pmax
comp=Z,110nm,1.2s
COR Corvallis 91.78 36 *e*P **P 09 11 33.5 +1.1**
comp=Z,114nm,1.2s
COR LR LR
comp=Z,6μm,20.0s
X16A Lo Mia Camp, P 91.78 50 *e*P **P 09 11 35.1 +2.2**
comp=Z,81nm,1.1s
X16A LR LR
comp=Z,4μm,20.0s
PB10 IPOC Station P 91.80 119 PFAKE 09 11 50.0 +17
PB10 LR LR
comp=Z,4μm,22.0s
OHAK Old Harbor 91.86 14 *e*P **P 09 11 33.1 +0.7**
comp=Z,96nm,1.0s
OHAK LR LR
comp=Z,5μm,20.0s
J05D Fort Rock, OR 91.91 38 P **P 09 11 34.9 +1.6**
baz=226,SNR=22
GYA Guiyang 91.97 300 ⇑*i*P **P 09 11 33.2 -0.7**
GYA pP pP 09 11 48.0 +1.4
GYA PP **PP 09 15 17.8 +3.7**
GYA S **S 09 22 32.0 -0.8**
GYA sS sS 09 22 52.8 -1.2
GYA SS **SS 09 28 45.4 +2.7**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,890nm,14.3s
GYA LR LR
comp=Z,1μm,25.2s
GYA LR LR
comp=Z,2μm,26.7s
GYA LR LR
comp=Z,2μm,24.6s
ENH Enshi 92.18 305 *e*P **P 09 11 34.8 +0.1**
comp=Z,154nm,1.6s
ENH LR LR
comp=Z,2μm,20.0s
G03D McMinnville, O 92.24 36 P **P 09 11 36.3 +1.8**
baz=224
UMPA Umpang Tak 92.27 288 P **P 09 11 36.4 +1.0**
comp=Z,7.1nm,0.9s,comp=Z,752nm
LCMT Little Creek M 92.28 47 *e*P **P 09 11 37.0 +1.9**
comp=Z,30nm,1.0s
LCMT LR LR
comp=Z,4μm,20.0s
U15A North Rim 92.50 48 *e*P **P 09 11 38.5 +2.1**
comp=Z,64nm,1.1s
U15A LR LR
comp=Z,3μm,21.0s
WUAZ Wupatki 92.51 49 P **P 09 11 38.1 +1.9**
baz=231
WUAZ Wupatki 92.51 49 *e*P **P 09 11 38.3 +2.0**
comp=Z,77nm,1.4s
WUAZ LR LR
comp=Z,3μm,20.0s
KDAK Kodiak Island 92.53 14 P **P 09 11 35.5 0.0**
comp=Z,52nm,1.2s,baz=102,slow=5.1,SNR=5.4
KDAK LR LR 09 49 05.3
comp=Z,2μm,19.1s,baz=212,slow=33
KDAK Kodiak Island 92.53 14 P **P 09 11 35.5 0.0**
KNB Kanab 92.54 47 *e*P **P 09 11 38.5 +2.1**
KNB pmax pmax
comp=Z,53nm,1.0s
KNB Kanab 92.54 47 *e*P **P 09 11 38.5 +2.1**
comp=Z,53nm,1.0s
KNB LR LR
comp=Z,3μm,19.0s
CCUT Cedar City 92.55 46 *e*P **P 09 11 38.6 +2.1**
comp=Z,78nm,1.4s
I05D Terrebonne, OR 92.59 37 P **P 09 11 37.8 +1.6**
baz=226
F03A Seaside 92.61 35 *e*P **P 09 11 35.9 -0.3**
comp=Z,248nm,1.5s
F03A LR LR
comp=Z,4μm,22.0s
WVOR Wild Horse Val 92.71 40 PFAKE 09 11 50.0 +13
WVOR LR LR
comp=Z,7μm,19.0s
SZCU Shurtz Canyon 92.74 46 *e*P **P 09 11 39.5 +2.1**
comp=Z,70nm,1.4s
SZCU LR LR
comp=Z,3μm,20.0s
PB04 IPOC Station P 92.80 119 PFAKE 09 11 50.0 +12
PB04 LR LR
comp=Z,3μm,22.0s
X18A Snowflake 92.82 50 *e*P **P 09 11 40.0 +2.2**
comp=Z,65nm,1.4s
LAMP Lampang 92.91 290 P P 09 11 44.8 +6.5
comp=Z,4.0nm,0.8s
F04D Rainier, OR 92.99 35 P **P 09 11 39.9 +1.9**
baz=224
121A Cookes Peak, D 93.05 53 P **P 09 11 40.8 +1.9**
baz=233
121A Cookes Peak, D 93.05 53 *e*P **P 09 11 40.4 +1.6**
comp=Z,26nm,1.3s
E03A Lebam 93.05 35 *e*P **P 09 11 40.3 +2.1**
comp=Z,77nm,1.2s
E03A *ep*P **pP 09 11 51.8 +0.8**
E03A LR LR
comp=Z,3μm,20.0s
PKCU Pink Cliffs 93.12 47 *e*P **P 09 11 42.3 +3.0**
comp=Z,59nm,1.2s
PKCU LR LR
comp=Z,4μm,20.0s
F04A Amboy 93.17 36 *e*P **P 09 11 40.4 +1.5**
comp=Z,49nm,1.0s
F04A LR LR
comp=Z,4μm,22.0s
G05D Wamic, OR 93.24 37 P **P 09 11 40.8 +1.6**
baz=226
W18A Petrified Fore 93.32 50 P **P 09 11 40.8 +2.0**
baz=232
W18A Petrified Fore 93.32 50 *e*P **P 09 11 41.6 +1.5**
comp=Z,54nm,1.3s
W18A LR LR
comp=Z,3μm,20.0s
CM01 Chiang Mai Arr 93.39 290 *e*P **P 09 11 40.2 -0.3**
CMAR Chiang Mai Arr 93.42 290 P **P 09 11 40.9 +0.2**
comp=Z,4.4nm,0.9s,baz=147,slow=3.5,SNR=19
CMAR PP **PP 09 15 24.5 -1.0**
comp=Z,6.9nm,0.8s,baz=122,slow=5.9,SNR=10
CMAR Chiang Mai Arr 93.42 290 P **P 09 11 40.9 +0.2**
CMAR PP **PP 09 15 24.5 -1.0**
NLWA Neilton Lookou 93.52 34 *e*P **P 09 11 41.7 +1.2**
comp=Z,38nm,1.2s
NLWA LR LR
comp=Z,4μm,22.0s
NNA Nana 93.52 106 P **P 09 11 42.0 +0.7**
comp=Z,3.5nm,0.3s,baz=349,slow=12,SNR=3.3
NNA Nana 93.52 106 P **P 09 11 42.0 +0.7**
NNA LR LR
comp=Z,7μm,22.0s
LVC Limon Verde 93.55 119 P **P 09 11 42.3 +0.6**
comp=Z,39nm,1.1s,baz=245,slow=4.9,SNR=8.1
LVC Limon Verde 93.55 119 *e*P **P 09 11 44.3 +2.5**
comp=Z,30nm,0.5s
LVC LR LR
comp=Z,4μm,21.0s
MTPU Mount Pierson 93.58 47 *e*P **P 09 11 43.9 +2.6**
comp=Z,77nm,1.4s
MTPU LR LR
comp=Z,4μm,19.0s
CHTO Chiang Mai 93.62 290 P **P 09 11 43.8 +2.3**
comp=Z,96nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 93.62 290 *e*P **P 09 11 41.4 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 93.62 290 *e*P **P 09 11 41.4 -0.1**
comp=Z,7.4nm,0.9s
CHTO LR LR
comp=Z,3μm,22.0s
BJT Baijiatuau 93.88 316 *e*P **P 09 11 42.2 0.0**
BJT pmax pmax
comp=Z,29nm,1.0s
BJT MLR MLR
comp=Z,5μm,21.0s
BJT Baijiatuau 93.88 316 *e*P **P 09 11 42.2 0.0**
comp=Z,29nm,1.0s
BJT LR LR
comp=Z,5μm,21.0s
MSU Marysvale 93.88 46 *e*P **P 09 11 44.7 +2.1**
MSU Marysvale 93.88 46 *e*P **P 09 11 44.7 +2.1**
BJI Beijing 93.89 316 P P 09 11 37.1 -5.1
BJI PP **PP 09 15 24.4 -4.4**
BJI Beijing 93.89 316 SKS **SKSac 09 22 03.5 -10**
BJI Beijing 93.89 316 S **S 09 22 51.6 +2.8**
BJI Beijing 93.89 316 sS sS 09 23 10.0 -0.2
BJI Beijing 93.89 316 SS SS 09 29 13.0 +3.5
BJI pmax pmax
comp=Z,29nm,1.4s
BJI pmax pmax
comp=Z,950nm,7.2s
BJI LR LR
comp=N,3μm,26.6s
BJI LR LR
comp=E,3μm,24.9s
BJI LR LR
comp=Z,9μm,27.5s
TX31 Lajitas Ar. Si 94.05 58 *e*P **P 09 11 44.8 +1.4**
LON Longmire 94.05 35 *e*P **P 09 11 44.0 +1.1**
LON pmax pmax
comp=Z,21nm,1.2s
LON Longmire 94.05 35 *e*P **P 09 11 44.0 +1.1**
comp=Z,21nm,1.3s
LON LR LR
comp=Z,4μm,22.0s
TXAR Lajitas Array 94.05 58 P **P 09 11 43.5 +0.1**
comp=Z,8.9nm,1.1s,baz=205,slow=5.5,SNR=47
TXAR PKKPbc **PKKPbc 09 28 46.9 +1.5**
comp=Z,1.2nm,0.9s,baz=76,slow=4.8,SNR=6.2
TXAR PKPPKP **P'P'df 09 37 01.8 +6.1**
comp=Z,1.1nm,1.1s,baz=116,slow=2.9,SNR=4.7
TXAR LR LR 09 48 47.5
comp=Z,3μm,18.8s,baz=0.0,slow=32
TXAR Lajitas Array 94.05 58 P **P 09 11 43.5 +0.1**
TXAR PKKPbc **PKKPbc 09 28 46.9 +1.5**
TXAR P'P' 09 37 01.8
PB01 IPOC Station P 94.06 118 *e*P **P 09 11 45.5 +1.7**
PB01 *ep*P **pP 09 11 56.3 -0.2**
PB01 LR LR
comp=Z,4μm,22.0s
KMI Kunming 94.12 297 P **P 09 11 43.7 -0.3**
KMI pP pP 09 11 58.3 +1.6
KMI sP sP 09 12 03.0 +1.6
KMI PP **PP 09 15 33.1 +1.9**
KMI S **S 09 22 47.8 -4.3**
KMI SS **SS 09 29 15.5 +1.6**
KMI pmax pmax
comp=Z,23nm,0.6s
KMI pmax pmax
comp=Z,530nm,7.1s
KMI LR LR
comp=Z,1μm,22.6s
KMI LR LR
comp=Z,2μm,22.8s
KMI LR LR
comp=Z,3μm,22.1s
MNTX Cornudas Mount 94.20 55 P **P 09 11 45.4 +1.4**
baz=234
MNTX Cornudas Mount 94.20 55 *e*P **P 09 11 45.2 +1.3**
comp=Z,16nm,1.2s
MNTX LR LR
comp=Z,2μm,21.0s
LVIG Laguna Verde 94.21 69 *e*P **P 09 11 46.0 +1.8**
comp=Z,60nm,1.4s
LVIG LR LR
comp=Z,2μm,22.0s
D05A Enumclaw 94.27 35 *e*P **P 09 11 46.0 +2.2**
comp=Z,96nm,1.2s
D05A LR LR
comp=Z,3μm,22.0s
DIB Dawson Inlet, 94.30 26 PFAKE 09 12 00.0 +16
DIB LR LR
comp=Z,2μm,20.0s
CNPM China Poot 94.41 14 *e*P **P 09 11 45.6 +1.4**
comp=Z,69nm,1.0s
CNPM LR LR
comp=Z,5μm,21.0s
HOM Homer 94.45 13 PFAKE 09 12 00.0 +16
HOM LR LR
comp=Z,5μm,20.0s
Y22D IRIS PASSCAL I 94.55 52 P **P 09 11 47.3 +1.7**
baz=234
Y22D IRIS PASSCAL I 94.55 52 PFAKE 09 12 00.0 +14
Y22D LR LR
comp=Z,3μm,19.0s
DUG Dugway, Tooele 94.55 45 P **P 09 11 46.8 +1.3**
baz=231
DUG Dugway, Tooele 94.55 45 *e*P **P 09 11 46.6 +1.1**
DUG pmax pmax
comp=Z,37nm,1.7s
DUG Dugway, Tooele 94.55 45 *e*P **P 09 11 46.6 +1.1**
comp=Z,37nm,1.7s
DUG LR LR
comp=Z,2μm,21.0s
LAZ Ladron 94.59 52 *e*P **P 09 11 47.7 +1.8**
PGC Sidney 94.62 33 PFAKE 09 12 00.0 +15
PGC LR LR
comp=Z,3μm,20.0s
LNIG Linares 94.66 64 *e*P **P 09 11 47.3 +1.1**
comp=Z,65nm,1.4s
LNIG LR LR
comp=Z,2μm,19.0s
BRLK Bradley Lake 94.70 14 PFAKE 09 12 00.0 +14
BRLK LR LR
comp=Z,5μm,21.0s
TIY Taiyuan 94.71 312 *e*P **P 09 11 46.3 +0.1**
TIY PP **PP 09 15 31.5 -3.9**
TIY S **S 09 23 01.1 +4.7**
TIY pmax pmax
comp=Z,500nm,6.3s
TIY LR LR
comp=Z,3μm,19.9s
TIY LR LR
comp=Z,2μm,24.8s
TIY LR LR
comp=Z,5μm,22.5s
BNM Barren Site 94.79 52 *e*P **P 09 11 48.8 +1.9**
XAN Xi'an 94.79 307 P **P 09 11 46.3 -0.3**
XAN sP sP 09 12 03.5 -0.5
XAN SKS **SKSac 09 22 17.4 -1.4**
XAN S **ScS 09 23 01.1 +2.9**
XAN pmax pmax
comp=Z,740nm,10.0s
XAN LR LR
comp=Z,540nm,25.7s
XAN LR LR
comp=Z,1μm,34.6s
XAN LR LR
comp=Z,3μm,27.3s
NLU North Lily Min 94.84 45 *e*P **P 09 11 48.0 +1.1**
comp=Z,25nm,1.5s
NLU LR LR
comp=Z,3μm,19.0s
PBA Port Blair 94.86 281 *e*p P 09 11 43.6 -3.7
E07A Sunnyside 94.88 36 *e*P **P 09 11 48.5 +1.8**
comp=Z,138nm,1.8s
E07A LR LR
comp=Z,5μm,20.0s
BGU Big Grassy Mou 94.89 44 *e*P **P 09 11 47.7 +0.7**
comp=Z,36nm,1.6s
BGU LR LR
comp=Z,4μm,22.0s
MFID Camas Ranch 94.90 41 *e*P **P 09 11 48.0 +1.0**
comp=Z,35nm,1.0s
MFID LR LR
comp=Z,3μm,20.0s
TUIG Tuzandepetl 94.90 72 PFAKE 09 12 00.0 +13
TUIG LR LR
comp=Z,5μm,19.0s
ATAH Atahualpa 94.92 102 P **P 09 11 48.6 +0.3**
comp=Z,4.5nm,0.7s,baz=346,slow=8.6,SNR=3.2
ATAH Atahualpa 94.92 102 P **P 09 11 48.6 +0.3**
HAWA Hanford 94.93 37 *e*P **P 09 11 48.5 +1.6**
comp=Z,38nm,1.2s
HAWA LR LR
comp=Z,5μm,20.0s
TMUT Trail Mountain 94.96 46 *e*P **P 09 11 49.0 +1.4**
comp=Z,23nm,1.1s
TMUT LR LR
comp=Z,3μm,20.0s
LTY Liberty 94.96 35 *e*P **P 09 11 47.8 +0.7**
comp=Z,19nm,1.1s
LTY LR LR
comp=Z,4μm,22.0s
B05A Bryant 94.98 34 P **P 09 11 48.4 +1.4**
baz=225
RSO Redoubt South 94.99 13 *e*P **P 09 11 46.8 -0.3**
A04D Lummi Island 95.01 33 P **P 09 11 48.6 +1.5**
baz=225
BMO Blue Mountains 95.05 39 *e*P **P 09 11 48.1 +0.5**
BMO pmax pmax
comp=Z,30nm,1.4s
BMO Blue Mountains 95.05 39 *e*P **P 09 11 48.1 +0.5**
comp=Z,30nm,1.4s
BMO LR LR
comp=Z,4μm,19.0s
MA2 Magadan 95.06 345 P **P 09 11 47.6 +0.4**
comp=Z,13nm,1.0s,baz=209,slow=15,SNR=3.0
MA2 LR LR 09 49 30.7
comp=Z,4μm,21.9s,baz=181,slow=32
MA2 Magadan 95.06 345 P **P 09 11 47.6 +0.4**
SVW2 Sparrevohn 95.09 11 *e*P **P 09 11 47.4 +0.1**
comp=Z,25nm,1.3s
SVW2 LR LR
comp=Z,4μm,21.0s
BBB Bella Bella 95.20 29 LR LR 09 50 57.3
comp=Z,3μm,18.2s,baz=227,slow=33
SRU San Rafael Swe 95.26 47 *e*P **P 09 11 50.5 +1.6**
SRU pmax pmax
comp=Z,23nm,1.0s
SRU San Rafael Swe 95.26 47 *e*P **P 09 11 50.5 +1.6**
comp=Z,23nm,1.0s
SRU LR LR
comp=Z,3μm,20.0s
SEW Seward 95.31 14 *e*P **P 09 11 49.9 +1.6**
comp=Z,103nm,1.7s
SEW LR LR
comp=Z,3μm,20.0s
C06D Leavenworth 95.31 35 P **P 09 11 50.1 +1.4**
baz=226
P17A Butcher Ranch, 95.35 46 *e*P **P 09 11 51.1 +1.8**
comp=Z,22nm,1.2s
P17A LR LR
comp=Z,4μm,20.0s
ANMO Albuquerque 95.37 52 LR LR 09 48 30.8
comp=Z,3μm,19.8s,baz=216,slow=32
ANMO Albuquerque 95.37 52 P **P 09 11 50.3 +0.8**
baz=234
ANMO Albuquerque 95.37 52⇑ *e*P **P 09 11 49.9 +0.4**
ANMO pmax pmax
comp=Z,31nm,2.5s
ANMO MLR MLR
comp=Z,771nm,19.0s
ANMO Albuquerque 95.37 52 *e*P **P 09 11 51.1 +1.6**
comp=Z,19nm,1.3s
MVCO Mesa Verde 95.38 49 P **P 09 11 50.3 +0.8**
baz=233
MVCO Mesa Verde 95.38 49 *e*P **P 09 11 50.5 +1.0**
comp=Z,27nm,1.4s
MVCO LR LR
comp=Z,4μm,19.0s
B06A Marblemount 95.45 34 PFAKE 09 12 00.0 +11
B06A LR LR
comp=Z,3μm,20.0s
SPUT South Promonto 95.47 44 PFAKE 09 12 00.0 +10
SPUT LR LR
comp=Z,4μm,22.0s
DGPR DIGLIPUR 95.51 282 *e*P **P 09 11 49.6 -0.6**
DGPR IAMs_20 IAMs_20 09 54 52.4
comp=Z,7μm,29.5s
HVU Hansel Valley 95.58 43 *e*P **P 09 11 51.9 +1.7**
HVU pmax pmax
comp=Z,35nm,1.0s
HVU Hansel Valley 95.58 43 *e*P **P 09 11 51.2 +1.0**
comp=Z,35nm,1.1s
HVU LR LR
comp=Z,4μm,22.0s
JLU Jordanelle 95.62 45 *e*P **P 09 11 51.2 +0.7**
comp=Z,40nm,1.8s
JLU LR LR
comp=Z,2μm,18.0s
D08A Wollman Farm, 95.69 36 *e*P **P 09 11 51.4 +1.0**
comp=Z,30nm,1.0s
D08A LR LR
comp=Z,5μm,20.0s
HLID Hailey 95.78 41 P **P 09 11 52.5 +1.4**
baz=230
HLID Hailey 95.78 41 *e*P **P 09 11 52.3 +1.2**
comp=Z,20nm,1.0s
HLID LR LR
comp=Z,3μm,22.0s
SPU Mount Spurr 95.79 13 *e*P **P 09 11 50.1 -0.4**
CCIG Comitan 95.82 75 PFAKE 09 12 00.0 +8.1
CCIG LR LR
comp=Z,2μm,19.0s
832A Faith Ranch, C 96.14 60 P **P 09 11 53.7 +0.8**
baz=236
RC01 Rabbit Creek A 96.15 14 *e*P **P 09 11 53.1 +1.0**
comp=Z,30nm,1.0s
RC01 LR LR
comp=Z,3μm,22.0s
HWUT Hardware Ranch 96.17 44 *e*P **P 09 11 54.1 +1.1**
comp=Z,12nm,1.0s
HWUT LR LR
comp=Z,4μm,22.0s
933A Laredo 96.29 61 P **P 09 11 54.9 +1.4**
baz=237
SUA Susitna One 96.30 13 *e*P **P 09 11 53.2 +0.3**
comp=Z,25nm,0.9s
SUA LR LR
comp=Z,5μm,20.0s
B08A Colville Reser 96.37 35 *e*P **P 09 11 53.7 +0.2**
comp=Z,10nm,1.0s
B08A LR LR
comp=Z,3μm,22.0s
034A Hebbronville 96.43 62 P **P 09 11 56.3 +2.1**
baz=237
GLI Glacier Island 96.51 15 PFAKE 09 12 10.0 +16
GLI LR LR
comp=Z,4μm,22.0s
EYAK Cordova Ski Ar 96.52 16 *e*P **P 09 11 54.3 +0.6**
comp=Z,280nm,1.8s
EYAK LR LR
comp=Z,5μm,21.0s

FID	**Port Fidalgo**	**96.53**	**15**	PFAKE		09 12 10.0	+16
FID				LR	LR		
	comp=Z,4μm,22.0s						
035Z	**Hargill**	**96.57**	**63**	P	**P**	**09 11 56.4**	**+1.6**
	baz=237						
CD2	**Chengdu**	**96.58**	**302**	⇑P	**P**	**09 11 55.5**	**+0.6**
CD2				sP	sP	09 12 10.6	-1.7
CD2				PP	**PP**	**09 15 50.2**	**+0.2**
CD2				SKS	**SKSac**	**09 22 29.3**	**+0.9**
CD2				S	**ScS**	**09 23 14.1**	**+0.8**
CD2				SS	**SS**	**09 29 50.6**	**+2.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,690nm,6.8s						
CD2				LR	LR		
	comp=Z,3μm,30.3s						
CD2				LR	LR		
	comp=Z,2μm,24.3s						
CD2				LR	LR		
	comp=Z,3μm,27.8s						
833A	**Chaparral WMA,**	**96.59**	**61**	P	**P**	**09 11 56.0**	**+1.1**
	baz=237						
RAGM	**Ragged Mountai**	**96.63**	**16**	PFAKE		09 12 10.0	+16
RAGM				LR	LR		
	comp=Z,6μm,21.0s						
LLLB	**Lillooet**	**96.73**	**33**	*e*P	**P**	**09 11 56.2**	**+1.2**
	comp=Z,20nm,1.3s						
LLLB				LR	LR		
	comp=Z,3μm,20.0s						
PMR	**Palmer**	**96.73**	**14**	*e*P	**P**	**09 11 54.9**	**+0.3**
PMR	**Palmer**	**96.73**	**14**	*e*P	**P**	**09 11 54.9**	**+0.3**
	comp=Z,46nm,1.3s						
PMR				LR	LR		
	comp=Z,3μm,20.0s						
TT01	**Tatalina**	**96.74**	**10**	*e*P	**P**	**09 11 55.0**	**+0.3**
TTA	**Tatalina**	**96.76**	**10**	*e*P	**P**	**09 11 55.0**	**+0.1**
TTA	**Tatalina**	**96.76**	**10**	*e*P	**P**	**09 11 55.0**	**+0.1**
	comp=Z,44nm,1.5s						
S22A	**4UR Ranch, Cre**	**96.76**	**49**	P	**P**	**09 11 56.9**	**+1.1**
	baz=234						
S22A	**4UR Ranch, Cre**	**96.76**	**49**	*e*P	**P**	**09 11 56.8**	**+0.9**
	comp=Z,17nm,1.3s						
S22A				LR	LR		
	comp=Z,4μm,20.0s						
934A	**Benavides**	**96.85**	**62**	P	**P**	**09 11 57.0**	**+0.9**
	baz=237						
733A	**Divot King Ran**	**96.88**	**60**	P	**P**	**09 11 57.0**	**+0.8**
	baz=237						
WRAK	**Wrangell Islan**	**96.88**	**24**	PFAKE		09 12 10.0	+15
WRAK				LR	LR		
	comp=Z,2μm,20.0s						
DIV	**Divide**	**97.03**	**15**	*e*P	Pdif	09 11 57.4	+1.1
	comp=Z,64nm,1.4s						
DIV				LR	LR		
	comp=Z,5μm,22.0s						
SML	**Sawmill**	**97.09**	**14**	PFAKE		09 12 10.0	+14
SML				LR	LR		
	comp=Z,3μm,20.0s						
834A	**Tilden**	**97.11**	**61**	P	Pdif	09 11 58.3	+0.9
	baz=237						
HHC	**Hu-ho-hao-te**	**97.14**	**314**	*e*P	**P**	**09 11 57.0**	**-0.3**
HHC				PP	**PP**	**09 15 52.9**	**-1.3**
HHC				SKS	**SKSac**	**09 22 31.4**	**+0.4**
HHC				S	**ScS**	**09 23 20.3**	**+2.6**
HHC				sS	sS	09 23 37.6	-1.2
HHC				pmax	pmax		
	comp=Z,15nm,1.5s						
HHC				pmax	pmax		
	comp=Z,470nm,8.0s						
HHC				LR	LR		
	comp=Z,2μm,19.8s						
HHC				LR	LR		
	comp=Z,2μm,18.0s						
HHC				LR	LR		
	comp=Z,3μm,19.9s						
BMRM	**Bremner River**	**97.16**	**16**	*e*P	Pdif	09 11 58.0	+1.2
	comp=Z,49nm,1.2s						
BMRM				LR	LR		
	comp=Z,4μm,22.0s						
DHAK	**Deception Hill**	**97.21**	**20**	PFAKE		09 12 10.0	+13
DHAK				LR	LR		
	comp=Z,4μm,21.0s						
O20A	**White River Ci**	**97.28**	**47**	P	Pdif	09 11 58.8	+0.7
	baz=234						
O20A	**White River Ci**	**97.28**	**47**	*e*P	Pdif	09 11 59.4	+1.2
	comp=Z,23nm,1.4s						
O20A				LR	LR		
	comp=Z,2μm,22.0s						
MSTX	**Muleshoe**	**97.30**	**54**	P	Pdif	09 11 58.9	+0.6
	baz=236						
MSTX	**Muleshoe**	**97.30**	**54**	*e*P	Pdif	09 11 59.2	+1.0
	comp=Z,67nm,1.9s						
MSTX				LR	LR		
	comp=Z,3μm,20.0s						
SCM	**Sheep Creek Mo**	**97.32**	**14**	*e*P	Pdif	09 11 58.7	+1.1
SCM	**Sheep Creek Mo**	**97.32**	**14**	*e*P	Pdif	09 11 58.7	+1.2
	comp=Z,91nm,1.4s						
SCM				LR	LR		
	comp=Z,3μm,22.0s						
KLU	**Klutina**	**97.32**	**15**	*e*P	Pdif	09 11 58.3	+0.7
	comp=Z,35nm,1.3s						
KLU				LR	LR		
	comp=Z,4μm,22.0s						
PPLA	**Purkeypile**	**97.35**	**12**	PFAKE		09 12 10.0	+12
PPLA				LR	LR		
	comp=Z,6μm,20.0s						
NEW	**Newport**	**97.41**	**36**	P	Pdif	09 11 59.9	+1.6
	comp=Z,2.9nm,0.9s,baz=245,slow=2.1,SNR=4.4						
NEW				LR	LR	09 48 10.4	
	comp=Z,3μm,21.9s,baz=222,slow=31						
NEW	**Newport**	**97.41**	**36**	P	Pdif	09 11 59.0	+0.8
	baz=229						
NEW	**Newport**	**97.41**	**36**	*e*P	Pdif	09 11 58.8	+0.5
	comp=Z,33nm,1.9s						
MCMT	**McKenzie Canyo**	**97.45**	**41**	*e*P	Pdif	09 12 00.5	+1.7
JCT	**Junction City**	**97.47**	**59**	P	Pdif	09 11 59.4	+0.4
	baz=237						
JCT	**Junction City**	**97.47**	**59**	*e*P	Pdif	09 11 59.8	+0.8
JCT	**Junction City**	**97.47**	**59**	*e*P	Pdif	09 11 59.8	+0.8
	comp=Z,29nm,1.6s						
JCT				LR	LR		
	comp=Z,5μm,20.0s						
PCA	**Pinnacle**	**97.49**	**18**	PFAKE		09 12 10.0	+12
PCA				LR	LR		
	comp=Z,5μm,20.0s						
734A	**La Parita Cree**	**97.49**	**61**	P	Pdif	09 11 59.8	+0.7
	baz=237						
SMCO	**Snowmass**	**97.51**	**48**	*e*P	Pdif	09 12 00.6	+1.2
	comp=Z,49nm,1.1s						
SMCO				LR	LR		
	comp=Z,3μm,19.0s						
SDCO	**Great Sand Dun**	**97.62**	**50**	P	Pdif	09 12 00.5	+0.7
	baz=235						
SDCO	**Great Sand Dun**	**97.62**	**50**	*e*P	Pdif	09 12 00.3	+0.5
	comp=Z,25nm,1.9s						
SDCO				LR	LR		
	comp=Z,3μm,22.0s						
REDW	**Red Top Meadow**	**97.67**	**43**	*e*P	Pdif	09 12 00.9	+1.1
	comp=Z,51nm,1.4s						
REDW				LR	LR		
	comp=Z,4μm,22.0s						
TPAW	**Teton Pass**	**97.69**	**43**	*e*P	Pdif	09 12 01.6	+1.6
	comp=Z,41nm,1.5s						
TPAW				LR	LR		
	comp=Z,3μm,22.0s						
835A	**Beeville**	**97.73**	**62**	P	Pdif	09 12 01.3	+1.2
	baz=237						
FXWY	**Fox Creek**	**97.74**	**43**	*e*P	Pdif	09 12 01.0	+0.9
	comp=Z,10nm,1.0s						
FXWY				LR	LR		
	comp=Z,3μm,22.0s						
SEY	**Seymchan**	**97.79**	**347**	P	**P**	**09 11 58.9**	**-0.6**
	comp=Z,14nm,1.1s,baz=190,slow=9.3,SNR=6.7						
SEY				PKKP	**PKKPdf**	**09 28 41.7**	**+2.1**
	comp=Z,7.7nm,0.9s,baz=344,slow=6.3,SNR=7.4						
SEY	**Seymchan**	**97.79**	**347**	P	**P**	**09 11 58.9**	**-0.6**
SEY				PKKP	**PKKPdf**	**09 28 41.7**	**+2.1**
BESE	**Bessie Mountai**	**97.79**	**22**	PFAKE		09 12 10.0	+10
BESE				LR	LR		
	comp=Z,3μm,20.0s						
SNOW	**Snow King Moun**	**97.79**	**43**	*e*P	Pdif	09 12 01.9	+1.6
	comp=Z,41nm,1.3s						
SNOW				LR	LR		
	comp=Z,3μm,19.0s						
CAST	**Castle Rocks**	**97.86**	**12**	*e*P	**P**	**09 11 58.9**	**-0.9**
	comp=Z,16nm,1.1s						
CAST				LR	LR		
	comp=Z,6μm,20.0s						
DLMT	**Dillon**	**97.92**	**41**	*e*P	Pdif	09 12 02.2	+1.5
	comp=Z,16nm,1.1s						
DLMT				LR	LR		
	comp=Z,3μm,19.0s						
LPAZ	**La Paz**	**97.93**	**115**	P	Pdif	09 12 03.6	+1.4
	comp=Z,1.8nm,0.8s,baz=273,slow=1.0,SNR=6.9						
LPAZ				PP	**PP**	**09 16 04.7**	**+4.0**
	comp=Z,3.0nm,1.1s,baz=285,slow=4.8,SNR=3.7						
LPAZ				LR	LR	09 46 45.4	
	comp=Z,3μm,21.8s,baz=218,slow=30						
LPAZ	**La Paz**	**97.93**	**115**	*e*P	Pdif	09 12 03.3	+1.1
	comp=Z,11nm,0.9s						
LPAZ				PP	**PP**	**09 16 04.7**	**+4.0**
IMW	**Indian Meadow**	**97.95**	**43**	*e*P	Pdif	09 12 02.3	+1.2
	comp=Z,13nm,1.1s						
IMW				LR	LR		
	comp=Z,2μm,19.0s						
HIA	**Hailar**	**97.96**	**324**	PFAKE		09 12 10.0	+9.4
HIA				LR	LR		
	comp=Z,3μm,22.0s						
LOHW	**Long Hollow**	**97.97**	**43**	*e*P	Pdif	09 12 02.5	+1.4
	comp=Z,15nm,1.2s						
MOOW	**Moose Ponds**	**97.97**	**43**	*e*P	Pdif	09 12 02.5	+1.4
	comp=Z,37nm,1.9s						
MOOW				LR	LR		
	comp=Z,3μm,22.0s						
T25A	**Trinidad**	**97.98**	**51**	Pdiff	Pdif	09 12 01.9	+0.6
	baz=235						
T25A	**Trinidad**	**97.98**	**51**	*e*P	Pdif	09 12 02.7	+1.4
	comp=Z,22nm,1.4s						
T25A				LR	LR		
	comp=Z,3μm,22.0s						
SCIG	**Sabancuy**	**98.00**	**73**	PFAKE		09 12 10.0	+8.5
SCIG				LR	LR		
	comp=Z,2μm,22.0s						
BW06	**Boulder Array**	**98.06**	**44**	Pdiff	Pdif	09 12 02.2	+0.6
	baz=233						
BW06	**Boulder Array**	**98.06**	**44**	*e*P	Pdif	09 12 02.4	+0.8
	comp=Z,11nm,1.1s						
BW06				LR	LR		
	comp=Z,4μm,22.0s						
PD31	**Pinedale Array**	**98.06**	**44**	*e*P	Pdif	09 12 02.3	+0.7
PDAR	**Pinedale Array**	**98.06**	**44**	P	Pdif	09 12 01.7	+0.1
	comp=Z,4.4nm,0.9s,baz=204,slow=3.3,SNR=23						
PDAR				PP	**PP**	**09 16 04.8**	**+3.4**
	comp=Z,1.6nm,1.1s,baz=224,slow=7.6,SNR=4.6						
PDAR				PKKPbc	**PKKPbc**	**09 28 34.1**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=75,slow=5.7,SNR=12						
PDAR				LR	LR	09 52 56.7	
	comp=Z,2μm,18.4s,baz=229,slow=33						
PDAR	**Pinedale Array**	**98.06**	**44**	P	Pdif	09 12 01.7	+0.1
PDAR				PP	**PP**	**09 16 04.8**	**+3.4**
PDAR				PKKPbc	**PKKPbc**	**09 28 34.1**	**-1.1**
MSO	**Missoula**	**98.12**	**39**	PFAKE		09 12 10.0	+8.5
MSO				LR	LR		
	comp=Z,5μm,19.0s						
KTH	**Kantishna Hill**	**98.18**	**12**	*e*P	**P**	**09 12 00.7**	**-0.6**
	comp=Z,21nm,0.9s						
KTH				LR	LR		
	comp=Z,7μm,20.0s						
TRF	**Thorofare Moun**	**98.20**	**13**	*e*P	**P**	**09 12 01.4**	**-0.1**
	comp=Z,25nm,1.0s						
TRF				LR	LR		
	comp=Z,8μm,20.0s						
QLMT	**Earthquake Lak**	**98.24**	**42**	*e*P	Pdif	09 12 04.2	+1.9
HARP	**HAARP**	**98.30**	**15**	PFAKE		09 12 10.0	+8.2
HARP				LR	LR		
	comp=Z,3μm,22.0s						
YHB	**Horse Butte**	**98.33**	**42**	PFAKE		09 12 20.0	+17
YHB				LR	LR		
	comp=Z,3μm,22.0s						
BSMT	**Bassoo Peak**	**98.33**	**38**	*e*P	Pdif	09 12 04.0	+1.5
YFT	**Old Faithful**	**98.35**	**42**	*e*P	Pdif	09 12 04.8	+2.0
	comp=Z,28nm,1.5s						
YFT				LR	LR		
	comp=Z,4μm,19.0s						
YMR	**Madison River**	**98.41**	**42**	*e*P	Pdif	09 12 05.3	+2.3
	comp=Z,54nm,1.6s						
YMR				LR	LR		
	comp=Z,3μm,22.0s						
DHY	**Denali Highway**	**98.43**	**14**	*e*P	Pdif	09 12 02.9	+0.3
	comp=Z,14nm,1.2s						
DHY				LR	LR		
	comp=Z,2μm,19.0s						
RND	**Reindeer**	**98.43**	**13**	*e*P	Pdif	09 12 02.8	+0.3
RND	**Reindeer**	**98.43**	**13**	*e*P	Pdif	09 12 02.8	+0.3
	comp=Z,37nm,1.1s						
RND				LR	LR		
	comp=Z,4μm,20.0s						
H17A	**Grant Village**	**98.46**	**42**	Pdiff	Pdif	09 12 04.3	+1.0
	baz=233						
H17A	**Grant Village**	**98.46**	**42**	*e*P	Pdif	09 12 05.2	+1.9
	comp=Z,14nm,1.0s						
H17A				LR	LR		
	comp=Z,4μm,22.0s						
YHH	**Holmes Hill**	**98.54**	**42**	*e*P	Pdif	09 12 06.0	+2.3
	comp=Z,21nm,1.3s						
YHH				LR	LR		
	comp=Z,3μm,22.0s						
Q24A	**Divide**	**98.55**	**49**	PFAKE		09 12 20.0	+16
Q24A				LR	LR		
	comp=Z,4μm,20.0s						
AMTX	**Amarillo**	**98.56**	**54**	PFAKE		09 12 20.0	+16
AMTX				LR	LR		
	comp=Z,3μm,20.0s						
YNR	**Norris Junctio**	**98.59**	**42**	PFAKE		09 12 20.0	+16
YNR				LR	LR		
	comp=Z,2μm,20.0s						
BOZ	**Bozeman (W)**	**98.60**	**41**	Pdiff	Pdif	09 12 05.0	+1.2
	baz=232						
BOZ	**Bozeman (W)**	**98.60**	**41**	*e*P	Pdif	09 12 05.3	+1.5
BOZ	**Bozeman (W)**	**98.60**	**41**	*e*P	Pdif	09 12 05.3	+1.5
	comp=Z,37nm,1.5s						
BOZ				LR	LR		
	comp=Z,3μm,22.0s						
736A	**Circle Diamond**	**98.65**	**61**	Pdiff	Pdif	09 12 04.4	+0.2
	baz=238						
LKWY	**Lake**	**98.66**	**42**	PFAKE		09 12 20.0	+16
LKWY				LR	LR		
	comp=Z,4μm,22.0s						
TGUH	**Tegucigalpa,Un**	**98.67**	**79**	PFAKE		09 12 20.0	+15
TGUH				LR	LR		
	comp=Z,3μm,21.0s						
MCK	**McKinley**	**98.71**	**13**	*e*P	Pdif	09 12 04.5	+0.8
MCK	**McKinley**	**98.71**	**13**	*e*P	Pdif	09 12 04.5	+0.8
	comp=Z,26nm,1.0s						
MCK				LR	LR		
	comp=Z,4μm,20.0s						
ISCO	**Idaho Springs**	**98.73**	**48**	Pdiff	Pdif	09 12 05.4	+0.7
	baz=235						
ISCO	**Idaho Springs**	**98.73**	**48**	PFAKE		09 12 20.0	+15
ISCO				LR	LR		
	comp=Z,3μm,20.0s						
PAX	**Paxson**	**98.73**	**15**	*e*P	Pdif	09 12 04.5	+0.7
PAX	**Paxson**	**98.73**	**15**	*e*P	Pdif	09 12 04.5	+0.7
	comp=Z,18nm,1.3s						
PAX				LR	LR		
	comp=Z,3μm,22.0s						
ABTX	**Abilene, Hawle**	**98.75**	**57**	PFAKE		09 12 20.0	+15
ABTX				LR	LR		
	comp=Z,4μm,20.0s						
RWWY	**Rawlins**	**98.83**	**46**	PFAKE		09 12 20.0	+15
RWWY				LR	LR		
	comp=Z,3μm,20.0s						
OTAV	**Otavalo**	**98.87**	**95**	*e*P	Pdif	09 12 09.3	+3.1
	comp=Z,26nm,1.5s						
OTAV				LR	LR		
	comp=Z,2μm,22.0s						
N23A	**Red Feather La**	**99.15**	**47**	PFAKE		09 12 20.0	+14
N23A				LR	LR		
	comp=Z,2μm,20.0s						
HDC	**Heredia**	**99.22**	**84**	PFAKE		09 12 20.0	+13
HDC				LR	LR		
	comp=Z,2μm,22.0s						
DLBC	**Dease Lake**	**99.24**	**24**	P	**Pdif**	**09 12 06.2**	**0.0**
	comp=Z,2.0nm,1.0s,baz=88,slow=17,SNR=1.9						
DLBC				PP	**PP**	**09 16 09.9**	**0.0**
	comp=Z,13nm,1.3s,baz=246,slow=6.7,SNR=5.1						
DLBC				PKiKP	**PKiKP**	**09 16 35.0**	**-0.8**
	comp=Z,5.1nm,1.1s,baz=249,slow=1.7,SNR=2.8						
DLBC	**Dease Lake**	**99.24**	**24**	P	**Pdif**	**09 12 06.2**	**0.0**
DLBC				PP	**PP**	**09 16 09.9**	**0.0**
DLBC				PKiKP	**PKiKP**	**09 16 35.0**	**-0.8**
CPUP	**Villa Florida**	**99.26**	**129**	P	**Pdif**	**09 12 09.7**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=204,slow=6.2,SNR=2.3						
CPUP				PKKP	**PKKPdf**	**09 28 33.2**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=91,slow=1.4,SNR=3.4						
CPUP				LR	LR	09 48 50.7	
	comp=Z,4μm,21.4s,baz=230,slow=30						
CPUP	**Villa Florida**	**99.26**	**129**	P	**Pdif**	**09 12 09.7**	**+2.5**
CPUP				PKKP	**PKKPdf**	**09 28 33.2**	**-0.3**
LZH	**Lanzhou**	**99.38**	**307**	*e*P	**Pdif**	**09 12 09.9**	**+2.4**
LZH				pP	pP	09 12 20.7	+0.5
LZH				sP	sP	09 12 24.9	0.0
LZH				PP	**PP**	**09 16 14.5**	**+3.0**
LZH				SKS	**SKSac**	**09 22 41.4**	**-1.3**
LZH				*e*S	**ScS**	**09 23 36.0**	**-0.7**
LZH				sS	sS	09 23 56.4	-1.7
LZH				SS	**SS**	**09 30 30.8**	**+3.1**
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,410nm,7.4s						
LZH				LR	LR		
	comp=Z,3μm,16.3s						
LZH				LR	LR		
	comp=Z,2μm,19.8s						
LZH				LR	LR		
	comp=Z,5μm,20.0s						
637A	**Eagle Lake**	**99.45**	**61**	Pdiff	**Pdif**	**09 12 08.4**	**+0.6**
	baz=238						
WHY	**Whitehorse**	**99.46**	**20**	PFAKE		09 12 20.0	+13
WHY				LR	LR		
	comp=Z,3μm,20.0s						
TUMC	**Tumaco**	**99.48**	**94**	PFAKE		09 12 20.0	+12
TUMC				LR	LR		
	comp=Z,3μm,20.0s						
WALA	**Waterton Lakes**	**99.54**	**37**	*e*Pdif	**Pdif**	**09 12 08.6**	**+0.7**
	comp=Z,22nm,1.3s						
WALA				LR	LR		
	comp=Z,3μm,20.0s						
WRH	**Wood River Hil**	**99.54**	**13**	*e*P	**Pdif**	**09 12 07.5**	**+0.2**
	comp=Z,50nm,1.3s						
WRH				LR	LR		
	comp=Z,2μm,19.0s						
DOT	**Dot Lake**	**99.63**	**15**	*e*Pdif	**Pdif**	**09 12 08.4**	**+0.6**
	comp=Z,38nm,1.0s						
DOT				LR	LR		
	comp=Z,7μm,21.0s						
RLMT	**Red Lodge**	**99.64**	**42**	Pdiff	**Pdif**	**09 12 09.5**	**+1.0**
	baz=234						
RLMT	**Red Lodge**	**99.64**	**42**	PFAKE		09 12 20.0	+12
RLMT				LR	LR		
	comp=Z,3μm,22.0s						
PHWY	**Pilot Hill**	**99.68**	**47**	PFAKE		09 12 20.0	+11
PHWY				LR	LR		
	comp=Z,2μm,21.0s						
HDA	**Harding Lake**	**99.71**	**13**	PFAKE		09 12 20.0	+12
HDA				LR	LR		
	comp=Z,3μm,21.0s						
CCB	**Clear Creek Bu**	**99.76**	**13**	*e*Pdif	**Pdif**	**09 12 08.1**	**-0.1**
	comp=Z,32nm,1.3s						
K22A	**Casper**	**99.80**	**45**	PFAKE		09 12 20.0	+11
K22A				LR	LR		
	comp=Z,4μm,22.0s						
COLA	**College**	**99.95**	**13**	*e*P	**Pdif**	**09 12 09.4**	**+0.4**
COLA				pmax	pmax		
	comp=Z,43nm,1.3s						
COLA				MLR	MLR		
	comp=Z,4μm,20.0s						
COLA	**College**	**99.95**	**13**	*e*Pdif	**Pdif**	**09 12 09.4**	**+0.4**
	comp=Z,43nm,1.3s						
COLA				LR	LR		
	comp=Z,4μm,20.0s						
MDM	**Murphy Dome**	**99.96**	**13**	*e*Pdif	**Pdif**	**09 12 09.0**	**-0.1**
	comp=Z,45nm,1.4s						
MDM				LR	LR		
	comp=Z,6μm,20.0s						
WHTX	**Lake Whitney,**	**99.97**	**59**	PFAKE		09 12 20.0	+10
WHTX				LR	LR		
	comp=Z,4μm,19.0s						
IL1	**Eielson Array**	**100.05**	**13**	*e*Pdif	**Pdif**	**09 12 08.4**	**-1.1**
ILAR	**Eielson Array**	**100.05**	**13**	P	**Pdif**	**09 12 09.4**	**-0.1**
	comp=Z,11nm,1.1s,baz=222,slow=5.8,SNR=19						
ILAR				PKiKP	**PKiKP**	**09 16 36.3**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=278,slow=2.5,SNR=14						
ILAR				PKKPbc	**PKKPbc**	**09 28 28.9**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=26,slow=2.5,SNR=14						
ILAR				LR	LR	09 51 15.3	
	comp=Z,2μm,21.3s,baz=224,slow=32						
ILAR	**Eielson Array**	**100.05**	**13**	P	**Pdif**	**09 12 09.4**	**-0.1**
ILAR				PKiKP	**PKiKP**	**09 16 36.3**	**-0.7**
ILAR				PKKPbc	**PKKPbc**	**09 28 28.9**	**-1.2**
ILB	**Eielson Array**	**100.05**	**13**	*e*Pdif	**Pdif**	**09 12 09.5**	**-0.1**
HKT	**Hockley**	**100.09**	**61**	PFAKE		09 12 20.0	+10
HKT				LR	LR		
	comp=Z,10μm,22.0s						
WMOK	**Wichita Mounta**	**100.48**	**56**	PFAKE		09 12 20.0	+7.7
WMOK				LR	LR		
	comp=Z,3μm,19.0s						
BILL	**Bilibino**	**100.78**	**354***c*	*i*P	**Pdif**	**09 12 11.9**	**-0.8**
BILL				*e*		09 16 18.5	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,3μm,20.0s						
DAWY	**Dawson**	**101.06**	**17**	*e*Pdif	**Pdif**	**09 12 14.5**	**+0.3**
	comp=Z,5.8nm,0.8s						
DAWY				LR	LR		
	comp=Z,4μm,22.0s						
EGMT	**Eagleton**	**101.10**	**40**	PFAKE		09 12 30.0	+15
EGMT				LR	LR		
	comp=Z,5μm,20.0s						
EGAK	**Eagle**	**101.25**	**15**	*e*Pdif	**Pdif**	**09 12 15.9**	**+1.0**
EGAK				LR	LR		
	comp=Z,3μm,22.0s						
DGAR	**Diego Garcia**	**101.61**	**253**	PFAKE		09 12 30.0	+12
DGAR				LR	LR		
	comp=Z,5μm,20.0s						
OGNE	**Ogallala**	**101.64**	**49**	PFAKE		09 12 30.0	+13
OGNE				LR	LR		
	comp=Z,4μm,20.0s						
COLD	**Coldfoot**	**101.68**	**11**	*e*Pdif	**Pdif**	**09 12 18.6**	**+1.9**
COLD				LR	LR		
	comp=Z,3μm,22.0s						
NATX	**Nacogdoches**	**101.89**	**60**	PFAKE		09 12 30.0	+11
NATX				LR	LR		
	comp=Z,2μm,21.0s						
FYU	**Fort Yukon**	**101.96**	**13**	PFAKE		09 12 30.0	+12
FYU				LR	LR		
	comp=Z,2μm,21.0s						
CBKS	**Cedar Bluff**	**101.99**	**52**	PFAKE		09 12 30.0	+11
CBKS				LR	LR		
	comp=Z,4μm,22.0s						
RSSD	**Black Hills**	**102.13**	**45**	Pdiff	**Pdif**	**09 12 20.7**	**+1.1**
	baz=237						
RSSD	**Black Hills**	**102.13**	**45**	*e*P	**Pdif**	**09 12 21.1**	**+1.5**
RSSD				MLR	MLR		
	comp=Z,4μm,22.0s						
RSSD	**Black Hills**	**102.13**	**45**	*e*Pdif	**Pdif**	**09 12 21.1**	**+1.5**
RSSD				LR	LR		
	comp=Z,4μm,22.0s						
340A	**Bronson**	**102.28**	**61**	Pdiff	**Pdif**	**09 12 21.2**	**+1.0**
	baz=239						
LAO	**LASA Array**	**102.28**	**42**	PFAKE		09 12 30.0	+10
LAO				LR	LR		
	comp=Z,3μm,22.0s						
BCIP	**Isla Barro Col**	**102.39**	**87**	PFAKE		09 12 30.0	+8.8
BCIP				LR	LR		
	comp=Z,8μm,22.0s						
EDM	**Edmonton**	**102.42**	**34**	*e*P	**Pdif**	**09 12 21.7**	**+1.3**
EDM				MLR	MLR		
	comp=Z,2μm,20.0s						
EDM	**Edmonton**	**102.42**	**34**	*e*Pdif	**Pdif**	**09 12 21.7**	**+1.3**
EDM				LR	LR		
	comp=Z,2μm,20.0s						
SHL	**Shillong**	**102.70**	**292**	*e*P	**Pdif**	**09 12 22.2**	**-0.3**
SHL				IAMs_20	IAMs_20	09 59 31.4	
	comp=Z,2μm,25.0s						
YAK	**Yakutsk**	**102.85**	**338**	PFAKE		09 12 30.0	+8.0

PRAC LR LR
comp=Z,3μm,21.0s
ULN Ulaanbaatar 103.82 318 PFAKE 09 12 40.0 +13
ULN LR LR
comp=Z,2μm,20.0s
MIAR Mount Ida 104.07 58 PFAKE 09 12 40.0 +12
MIAR LR LR
comp=Z,3μm,21.0s
SONM Songino Array 104.18 318 Pdiff **Pdif 09 12 27.6 -0.9**
comp=Z,0.8nm,0.4s,baz=137,slow=2.3,SNR=6.1
SONM PP **PKiKP 09 16 45.7 +0.5**
comp=Z,6.3nm,1.1s,baz=146,slow=5.8,SNR=5.7
SONM PKKP **PKKPdf 09 28 25.1 -2.1**
comp=Z,4.7nm,0.9s,baz=263,slow=2.4,SNR=11
SONM Songino Array 104.18 318 Pdif **Pdif 09 12 27.6 -0.9**
SONM PP **PKiKP 09 16 45.7 +0.5**
SONM PKKP **PKKPdf 09 28 25.1 -2.1**
SONA1 Songino Array 104.18 318 *e*Pdif **Pdif 09 12 27.9 -0.6**
KSU1 Kansas State U 104.23 53 PFAKE 09 12 40.0 +11
KSU1 LR LR
comp=Z,3μm,19.0s
BGNE Belgrade 104.37 50 PFAKE 09 12 40.0 +11
BGNE LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 104.41 41 PFAKE 09 12 40.0 +11
DGMT LR LR
comp=Z,2μm,22.0s
HELC Santa Helena 104.49 92 PFAKE 09 12 40.0 +9.0
HELC LR LR
comp=Z,3μm,20.0s
HHAR Hobbs 104.67 56 PFAKE 09 12 40.0 +9.2
HHAR LR LR
comp=Z,3μm,20.0s
ROSC El Rosal 104.80 94 PFAKE 09 12 40.0 +7.6
ROSC LR LR
comp=Z,2μm,21.0s
CCAR Cane Creek 105.06 59 PFAKE 09 17 00.0
CCAR LR LR
comp=Z,4μm,20.0s
VBMS Vicksburg 105.17 61 PFAKE 09 17 00.0
VBMS LR LR
comp=Z,2μm,21.0s
X301 Greenbrier Sit 105.25 58 PFAKE 09 17 00.0
X301 LR LR
comp=Z,5μm,22.0s
LSA Lhasa 105.29 296 PFAKE 09 17 00.0
LSA LR LR
comp=Z,3μm,21.0s
RER Riviere de l'E 105.45 232 PFAKE 09 17 00.0
RER LR LR
comp=Z,6μm,20.0s
CHLP Challavanipeta 105.55 282 *e*Pdif **Pdif 09 12 34.9 -0.2**
CHLP *e*PP **PP 09 16 54.9 -3.0**
CHLP IVMs_BB IVMs_BB 09 59 52.6
comp=Z,956nm,23.0s
VIS Vishakhapatnam 105.77 281 *e*P **Pdif 09 12 33.8 -2.3**
VIS IAMs_20 IAMs_20 09 56 21.2
comp=Z,5μm,23.3s
INK Inuvik 105.91 16 PKiKP **PKiKP 09 16 47.9 +0.4**
comp=Z,8.2nm,0.7s,baz=144,slow=3.9,SNR=17
INK PP **PP 09 16 56.9 -2.6**
comp=Z,8.9nm,0.9s,baz=215,slow=5.1,SNR=7.1
INK Inuvik 105.91 16 *e*Pdif **PKiKP 09 16 47.4 -0.2**
INK PP **PP 09 16 56.9 -2.6**
INK LR LR
comp=Z,4μm,20.0s
SAML Samuel 106.19 112 PFAKE 09 17 00.0
SAML LR LR
comp=Z,1μm,18.0s
RUSC La Rusia 106.40 93 PFAKE 09 17 00.0
RUSC LR LR
comp=Z,1μm,22.0s
TRD Trivandrum 106.51 270 *e*P **Pdif 09 12 37.4 -2.1**
ECSD EROS Data Cent 106.51 49 PFAKE 09 17 00.0
ECSD LR LR
comp=Z,3μm,20.0s
BOK Bokaro 106.61 288 *e*P **Pdif 09 12 38.8 -1.0**
BOK IAMs_20 IAMs_20 09 57 22.8
comp=Z,5μm,26.8s
MDND Maddock 106.72 44 PFAKE 09 17 00.0
MDND LR LR
comp=Z,3μm,20.0s
SKHT Srikalahasti 106.84 276 *e*PP PP 09 17 05.4 -1.9
PVM Polavaram 106.96 280 *e*PP PP 09 17 06.1 -2.1
MET Memphis--Engin 106.97 59 PFAKE 09 17 00.0
MET LR LR
comp=Z,4μm,20.0s
OXF Oxford 107.07 60 PFAKE 09 17 00.0
OXF LR LR
comp=Z,3μm,22.0s
PBMO Poplar Bluff 107.39 57 PFAKE 09 17 00.0
PBMO LR LR
comp=Z,5μm,19.0s
CCM Cathedral Cave 107.40 56 PFAKE 09 17 00.0
CCM LR LR
comp=Z,3μm,20.0s
SPB Sao Paulo 107.48 134 PFAKE 09 17 00.0
SPB LR LR
comp=Z,4μm,21.0s
YKA Yellowknife Ar 107.56 26 PKiKP **PKiKP 09 16 51.1 +0.3**
comp=Z,5.9nm,0.9s,baz=266,slow=1.4,SNR=6.6
YKA PKKPbc **PKKPbc 09 28 05.2 -2.1**
comp=Z,3.5nm,0.6s,baz=45,slow=3.1,SNR=7.5
YKA Yellowknife Ar 107.56 26 PKiKP **PKiKP 09 16 51.1 +0.3**
YKA PKKPbc **PKKPbc 09 28 05.2 -2.1**
ADKI Addanki 107.66 278 *e*PKiKP **PKiKP 09 16 49.0 -3.4**
ADKI IVMs_BB IVMs_BB 09 58 49.6
comp=Z,1μm,21.2s
TLY Talaya 107.70 320 PKiKP **PKiKP 09 16 50.2 -1.3**
comp=Z,1.4nm,0.4s,baz=163,slow=1.0,SNR=2.9
TLY Talaya 107.70 320 PKiKP **PKiKP 09 16 50.2 -1.3**
TLY LR LR
comp=Z,2μm,22.0s
PVMO Portageville 107.74 58 PFAKE 09 17 00.0
PVMO LR LR
comp=Z,4μm,19.0s
SLM Saint Louis 108.37 56 PFAKE 09 17 10.0
SLM LR LR
comp=Z,3μm,20.0s
NJS Nagarjunasagar 108.56 278 *e*Pdif **Pdif 09 12 48.6 +0.1**
NJS *e*PP **PP 09 17 18.2 -1.7**
NJS *e*SKSac **SKSac 09 23 24.5 -0.9**
NJS IVMs_BB IVMs_BB 10 04 42.6
comp=Z,1μm,17.1s
SRLM Srisailam 108.68 278 *e*Pdif **Pdif 09 12 49.8 +0.6**
SRLM *e*PP **PP 09 17 17.8 -3.1**
SRLM *e*SKSac **SKSac 09 23 26.5 +0.5**
SRLM IVMs_BB IVMs_BB 09 59 27.8
comp=Z,1μm,20.4s
MTDJ Mount Denham 108.84 80 PFAKE 09 17 10.0
MTDJ LR LR
comp=Z,4μm,22.0s
WVT Waverly 108.96 59 PFAKE 09 17 10.0
WVT LR LR
comp=Z,2μm,19.0s
F36A Milaca 109.45 48 PKiKP **PKiKP 09 16 55.4 +0.4**
baz=243
J39A Decorah 109.49 51 PKiKP **PKiKP 09 16 55.3 +0.3**
baz=244
URV Uravakonda 109.49 276 *e*Pdif **Pdif 09 12 51.5 -1.2**
URV *e*PP **PP 09 17 24.0 -2.8**
URV *e*SKSac **SKSac 09 23 31.2 +1.7**
URV IVMs_BB IVMs_BB 09 59 30.5
comp=Z,1μm,25.4s
HYB Hyderabad 109.60 279 *i* PKP PKiKP 09 17 12.5 +16
HYB *e*PP **PP 09 17 26.0 -1.6**
HYB *e*PPP PPP 09 19 46.0
HYB *e* 09 26 56.0
HYB Hyderabad 109.60 279 *e*P **Pdif 09 12 53.2 0.0**
HYB IAMs_20 IAMs_20 09 54 02.7
comp=Z,2μm,18.1s
HYBB Hyderabad (bro 109.61 279 *e*Pdif **Pdif 09 12 53.8 +0.5**
HYBB *e*PKiKP **PKiKP 09 16 54.2 -1.9**
HYBB *e*PP **PP 09 17 24.2 -3.4**
HYBB *e*SKSac **SKSac 09 23 25.2 -4.7**
HYBB IVMs_BB IVMs_BB 10 04 29.1
comp=Z,998nm,17.5s
RPR Rampur 109.67 280 *e*Pdif **Pdif 09 12 53.9 +0.5**
RPR *e*PKiKP **PKiKP 09 16 55.9 -0.3**
RPR *e*PP **PP 09 17 27.0 -1.0**
RPR *e*SKSac **SKSac 09 23 28.9 -1.1**
RPR IVMs_BB IVMs_BB 10 00 22.1
comp=Z,1μm,23.0s
TRIS Tristan da Cun 109.72 169 PFAKE 09 17 10.0
TRIS LR LR
comp=Z,4μm,21.0s
USIN University of 109.88 57 PFAKE 09 17 10.0
USIN LR LR
comp=Z,5μm,19.0s
OLIL Olney 109.91 56 PFAKE 09 17 10.0
OLIL LR LR
comp=Z,4μm,20.0s
SWET Sewanee 109.94 60 PFAKE 09 17 10.0
SWET LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 110.01 43 PKiKP **PKiKP 09 16 54.5 -1.3**
comp=Z,1.9nm,0.5s,baz=245,slow=1.1,SNR=4.9
ULM PKKPab **PKKPab 09 28 08.7 +1.6**
comp=Z,3.8nm,0.9s,baz=62,slow=9.4,SNR=2.9
ULM Lac du Bonnet 110.01 43 PKiKP **PKiKP 09 16 54.5 -1.3**
ULM PKKPab **PKKPab 09 28 08.7 +1.6**
ULM LR LR
comp=Z,2μm,18.0s
TIXI Tiksi 110.02 345 PKiKP **PKiKP 09 16 54.2 -1.0**
comp=Z,5.9nm,0.7s,baz=130,slow=2.4,SNR=3.8
TIXI Tiksi 110.02 345 PKiKP **PKiKP 09 16 54.2 -1.0**
TIXI LR LR
comp=Z,4μm,22.0s
SDV Santo Domingo 110.03 92 PFAKE 09 17 10.0
SDV LR LR
comp=Z,2μm,22.0s
TIGA Tifton 110.04 65 PFAKE 09 17 10.0
TIGA LR LR
comp=Z,2μm,22.0s
JFWS Jewell Farm 110.26 52 PFAKE 09 17 10.0
JFWS LR LR
comp=Z,3μm,22.0s
SRSP Sriramsagar 110.50 280 *e*Pdif **Pdif 09 12 58.1 +1.0**
SRSP *e*PP **PP 09 17 31.9 -2.1**
SRSP *e*SKSac **SKSac 09 23 31.5 -2.0**
SRSP IVMs_BB IVMs_BB 10 02 19.4
comp=Z,941nm,24.8s
F38A Pierce - Schro 110.53 48 PKiKP **PKiKP 09 16 57.5 +0.5**
baz=244
G39A Holcombe 110.69 49 PKiKP **PKiKP 09 16 57.8 +0.6**
baz=245
D37A Cotton 110.70 47 PKiKP **PKiKP 09 16 57.9 +0.6**
baz=244
C36A Pine Crest Far 110.71 46 PKiKP **PKiKP 09 16 57.8 +0.6**
baz=244
NGP Nagpur 110.95 282 *e*P **PKiKP 09 16 56.1 -2.4**
WCI Wyandotte Cave 110.97 57 *e*PKIKP **PKiKP 09 16 57.7 -0.4**
WCI MLR MLR
comp=Z,4μm,20.0s
WCI Wyandotte Cave 110.97 57 *e*PKPdf **PKiKP 09 16 57.7 -0.4**
WCI LR LR
comp=Z,4μm,20.0s
GOGA Godfrey 110.99 63 PFAKE 09 17 10.0
GOGA LR LR
comp=Z,2μm,21.0s
C37A Embarrass 111.10 46 PKiKP **PKiKP 09 16 58.1 +0.2**
baz=245
JBP Jabalpur 111.11 285 *e*P **PKiKP 09 16 58.7 0.0**
JBP *ex* x 09 26 30.2
F39A Loretta 111.11 48 PKiKP **PKiKP 09 16 58.2 +0.1**
baz=245
SFIN Lafayette 111.32 55 PFAKE 09 17 10.0
SFIN LR LR
comp=Z,3μm,19.0s
KLRI Killari 111.55 278 *e*Pdif **Pdif 09 13 00.8 -1.1**
KLRI *e*PP **PP 09 17 35.8 -5.9**
KLRI *e*SKSac **SKSac 09 23 36.4 -1.5**
KLRI IVMs_BB IVMs_BB 10 01 03.0
comp=Z,2μm,22.7s
I42A Draeger Farm, 111.56 51 PKiKP **PKiKP 09 16 59.4 +0.5**
baz=245
EYMN Ely 111.61 46 PKiKP **PKiKP 09 16 59.3 +0.3**
baz=245
EYMN Ely 111.61 46 *e*PKPdf **PKiKP 09 16 58.4 -0.6**
EYMN LR LR
comp=Z,4μm,22.0s
GTBY Guantanamo Bay 111.66 80 PFAKE 09 17 10.0
GTBY LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 111.72 61 PFAKE 09 17 10.0
TKL LR LR
comp=Z,4μm,20.0s
ABPO Ambohimpanom 112.50 227 PFAKE 09 17 10.0
ABPO LR LR
comp=Z,4μm,19.0s
GOA Goa 112.65 274 *e*P **PKiKP 09 17 00.6 -1.2**
G43A Wallace 112.91 50 PKiKP **PKiKP 09 17 02.2 +0.7**
baz=247
SUR Sutherland 112.94 198 PFAKE 09 17 10.0
SUR LR LR
comp=Z,4μm,20.0s
JSC Jenkinsville 113.02 63 PFAKE 09 17 10.0
JSC LR LR
comp=Z,2μm,20.0s
LGNH L0ogne 113.09 82 PFAKE 09 17 10.0
LGNH LR LR
comp=Z,2μm,21.0s
BHPL Bhopal 113.24 284 *e*P **PKiKP 09 17 00.7 -2.2**
BHPL IAmb IAmb 09 17 54.2
comp=Z,22nm,0.4s
BHPL IAMs_20 IAMs_20 09 56 30.1
comp=Z,2μm,29.4s
KMSC Kings Mountain 113.32 62 PKiKP **PKiKP 09 17 02.8 +0.2**
baz=246
KMSC Kings Mountain 113.32 62 PFAKE 09 17 20.0
KMSC LR LR
comp=Z,3μm,20.0s
NHSC New Hope 113.36 65 PFAKE 09 17 20.0
NHSC LR LR
comp=Z,2μm,19.0s
F43A Flat Rock, Esc 113.47 50 PKiKP **PKiKP 09 17 02.9 +0.4**
baz=247
PTGA Pitinga 113.65 107 PFAKE 09 17 20.0
PTGA LR LR
comp=Z,5μm,21.0s
E43A Lone Tree Farm 113.80 49 PKiKP **PKiKP 09 17 04.0 +0.9**
baz=248
WMQ Urumqi 113.93 308 PKP **PKiKP 09 17 03.2 -0.4**
WMQ PP **PP 09 17 56.9 -1.3**
WMQ SKS **SKSdf 09 24 11.1 -1.2**
WMQ SS **SS 09 33 49.1 +4.0**
WMQ AMB AMB
comp=Z,810nm,5.5s
WMQ LR LR
comp=Z,1μm,18.7s
WMQ LR LR
comp=Z,1μm,23.3s
WMQ LR LR
comp=Z,2μm,20.9s
F44A Big Bay de Noc 114.01 50 PKiKP **PKiKP 09 17 04.0 +0.5**
baz=248
POO Poona 114.07 277 *e*P PKPdf 09 17 04.4 -0.1
ACSO Alum Creek Sta 114.14 57 PFAKE 09 17 20.0 +16
ACSO LR LR
comp=Z,4μm,20.0s
SDDR Presa de Saban 114.42 82 *e*PKPdf PKPdf 09 17 04.0 -1.2
SDDR LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 114.46 54 PFAKE 09 17 20.0 +15
AAM LR LR
comp=Z,3μm,20.0s
BLA Blacksburg 114.82 60 PFAKE 09 17 20.0 +15
BLA LR LR
comp=Z,2μm,20.0s
BOSA Boshof 115.14 203 PKP **PKPdf 09 17 06.8 +0.2**
comp=Z,18nm,0.9s,baz=195,slow=1.2,SNR=14
BOSA PKKPab **PKKPab 09 27 47.3 -3.1**
comp=Z,4.3nm,0.7s,baz=318,slow=3.8,SNR=6.3
BOSA Boshof 115.14 203 PKP **PKPdf 09 17 06.8 +0.2**
BOSA PKKPab **PKKPab 09 27 47.3 -3.1**
GRTK Grand Turk 115.69 80 PFAKE 09 17 20.0 +13
GRTK LR LR
comp=Z,1μm,19.0s
DDI Dehra Dun 115.74 291 *e*P **PKPdf 09 17 07.7 +0.2**
DDI IAMs_20 IAMs_20 09 57 36.2
comp=Z,2μm,23.2s
N54A Moraine State 116.52 57 PKiKP **PKiKP 09 17 08.9 +0.3**
baz=249
MSEY Mahe Island 116.68 245 PFAKE 09 17 20.0 +10
MSEY LR LR
comp=Z,4μm,19.0s
SMLA Simla 116.77 291 *e*P **PKPdf 09 17 08.2 -1.1**
SMLA IAMs_20 IAMs_20 09 58 54.4
comp=Z,3μm,30.2s
ERPA Erie 116.93 56 *e*PKPdf **PKPdf 09 17 09.1 -0.2**
M54A Oil Creek Stat 116.95 56 PKiKP **PKiKP 09 17 09.6 +0.2**
baz=250
O56A Blue Knob Stat 117.29 58 PKiKP **PKiKP 09 17 10.4 +0.3**
baz=249
CBN Corbin Frederi 117.43 60 PFAKE 09 17 20.0 +10
CBN LR LR
comp=Z,3μm,19.0s
DHRM DHARAMSHALA 117.88 292 *e*P **PKPdf 09 17 12.0 +0.3**
DHRM IAMs_20 IAMs_20 10 01 51.1
comp=Z,3μm,22.4s
SSPA Standing Stone 117.91 58 *e*PKPdf **PKPdf 09 17 11.4 +0.2**
SDMD Soldier's Deli 118.24 59 *e*PKPdf **PKPdf 09 17 12.4 +0.5**
LBTB Lobatse 118.32 205 *e*PKiKP **PKiKP 09 17 13.2 +0.4**
LBTB Lobatse 118.32 205 *e*PKPdf **PKPdf 09 17 13.2 +0.4**
SJG San Juan 118.34 86 *e*PKiKP **PKPdf 09 17 12.4 -0.3**
SJG MLR MLR
comp=Z,2μm,22.0s
SJG San Juan 118.34 86 *e*PKPdf **PKPdf 09 17 12.4 -0.3**
SJG LR LR
comp=Z,2μm,22.0s
SADO Sadowa 118.40 53 *e*PKPdf **PKPdf 09 17 12.1 0.0**
MK01 Makanchi Array 118.52 309 *e*PKPdf **PKPdf 09 17 11.1 -1.2**
MK31 Makanchi Array 118.53 309 *e*PKiKP **PKPdf 09 17 11.0 -1.3**
MK31 Makanchi Array 118.53 309 *e*PKPdf **PKPdf 09 17 11.0 -1.3**
MKAR Makanchi Array 118.53 309 PKP **PKPdf 09 17 11.0 -1.3**
comp=Z,11nm,0.7s,baz=94,slow=1.7,SNR=35
MKAR PKKPab **PKKPab 09 27 30.0 -0.2**
comp=Z,1.6nm,0.8s,baz=285,slow=4.8,SNR=6.2
MKAR Makanchi Array 118.53 309 *e*PKPdf **PKPdf 09 17 11.0 -1.3**
MKAR PKKPab **PKKPab 09 27 30.0 -0.2**
HUMP Col San Antoni 118.60 86 *e*PKPdf **PKPdf 09 17 13.1 -0.1**
CBYP Canovanas 118.66 86 *e*PKPdf **PKPdf 09 17 13.5 +0.1**
MAKZ Makanchi 118.74 309 *e*PKiKP **PKPdf 09 17 11.0 -1.7**
MAKZ Makanchi 118.74 309 *e*PKPdf **PKPdf 09 17 11.0 -1.7**
ZALV Zalesovo Beam 119.07 318 PKP **PKPdf 09 17 12.6 -0.4**
comp=Z,5.5nm,0.5s,baz=123,slow=3.1,SNR=8.7
ZALV Zalesovo Beam 119.07 318 PKP **PKPdf 09 17 12.6 -0.4**
GRGR Grenville 119.26 94 PFAKE 09 17 30.0 +15
GRGR LR LR
comp=Z,2μm,22.0s
RES Resolute Bay 119.37 18 PKP **PKPdf 09 17 12.7 -0.3**
comp=Z,33nm,0.9s,baz=289,slow=3.7,SNR=3.9
RES Resolute Bay 119.37 18 PKP **PKPdf 09 17 12.7 -0.3**
N59A State Game Lan 119.52 58 PKiKP **PKiKP 09 17 14.6 +0.2**
baz=251
BHJ Bhuj 119.68 280 *e*P **PKPdf 09 17 14.0 -1.1**
BHJ IAMs_20 IAMs_20 10 02 04.9
comp=Z,2μm,24.0s
KSPA Keystone Colle 119.72 57 *e*PKPdf **PKPdf 09 17 15.3 +0.6**
PLVO Plevna 119.88 53 *e*PKPdf **PKPdf 09 17 15.1 +0.2**
VLDQ Val d'Or 120.50 50 *e*PKPdf **PKPdf 09 17 15.2 -0.8**
KSH Kashi 120.66 300 PKP **PKPdf 09 17 16.5 -0.2**
KSH sPKP 09 17 33.1
KSH PP **PP 09 18 50.7 +5.4**
KSH PKS **PKSdf 09 20 54.3 +0.8**
KSH SKS **SKSdf 09 24 27.4 +1.9**
KSH SKKS **SKKSac 09 25 40.0 -1.2**
KSH SS **SS 09 35 17.0 +4.0**
KSH AMB AMB
comp=Z,560nm,7.1s
KSH LR LR
comp=Z,370nm,13.9s
KSH LR LR
comp=Z,810nm,19.1s
KSH LR LR
comp=Z,2μm,33.6s
SMRT St. Maarten 120.91 87 *e*PKPdf **PKPdf 09 17 21.1 +3.5**
PCM Pelee Case Pet 120.96 92 *e*P **PKPdf 09 17 16.9 -0.9**
PCM Pelee Case Pet 120.96 92 *e*P **PKPdf 09 17 19.3 +1.5**
TRMF Trois Ilets 120.96 92 *e*P **PKPdf 09 17 20.4 +2.6**
FDF Fort de France 120.97 92 *e*P **PKPdf 09 17 17.9 0.0**
FDF Fort de France 120.97 92 PFAKE 09 17 30.0 +12
FDF LR LR
comp=Z,1μm,20.0s
ZAM Aeronautique 121.00 92 *e*P **PKPdf 09 17 18.5 +0.7**
AAA Alma-Ata 121.10 304 *e*PKiKP PKPdf 09 17 31.0 +14
AAA pmax pmax
comp=Z,500nm,5.4s
NRIK Noril'sk 121.19 336 PKP **PKPdf 09 17 16.0 -0.7**
comp=Z,14nm,0.6s,baz=106,slow=1.3,SNR=13
NRIK Noril'sk 121.19 336 PKiKP **PKPdf 09 17 16.0 -0.7**
NRIK pmax pmax
comp=Z,14nm,0.6s
LONY Lake Ozonia 121.46 54 *e*PKPdf **PKPdf 09 17 17.9 -0.1**
LONY LR LR
comp=Z,3μm,20.0s
NCB Newcomb 121.53 55 *e*PKPdf **PKPdf 09 17 18.4 +0.3**
BBGH Gun Hill 121.54 94 PFAKE 09 17 30.0 +11
BBGH LR LR
comp=Z,4μm,22.0s
ANWB Willy Bob 121.82 88 *e*P **PKPdf 09 17 24.4 +5.0**
ANWB Willy Bob 121.82 88 PFAKE 09 17 30.0 +11
ANWB LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 121.94 313 PKiKP **PKPdf 09 17 17.3 -1.3**
KURK pmax pmax
comp=Z,33nm,1.0s
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 121.94 313 *e*PKPdf **PKPdf 09 17 17.2 -1.4**
KURK PKKPbc **PKKPbc 09 27 18.5 +1.4**
KURK PKKP **PKKPdf 09 27 57.3 +4.1**
KURK LR LR
comp=Z,3μm,21.0s
KURBB Kurchatov Arra 121.97 313 PKP **PKPdf 09 17 17.3 -1.4**
comp=Z,33nm,1.0s,baz=109,slow=1.9,SNR=94
KURBB PKKPbc **PKKPbc 09 27 18.5 +1.6**
comp=Z,0.5nm,0.8s,baz=297,slow=0.8,SNR=3.6
KURBB PKKP **PKKPdf 09 27 57.3 +4.1**
comp=Z,1.2nm,0.7s,baz=292,slow=2.8,SNR=5.1
MDV Middlebury 122.26 55 *e*PKPdf **PKPdf 09 17 19.1 -0.4**
FRU Bishkek 122.62 303‖ *e*PKiKP **PKPdf 09 17 20.0 -0.3**
FRU *e* 09 19 00.0
FRU pmax pmax
comp=Z,60nm,1.8s
FRU MLR MLR
comp=E,2μm,22.0s
AAK Ala-Archa 122.65 303 PKP **PKPdf 09 17 20.0 -0.5**
comp=E,14nm,0.9s,baz=166,slow=2.4,SNR=16
AAK PKKPbc **PKKPbc 09 27 16.4 +2.0**
comp=E,2.4nm,0.7s,baz=233,slow=1.3,SNR=6.0
AAK Ala-Archa 122.65 303 PKiKP **PKPdf 09 17 20.0 -0.5**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 122.65 303 PKP **PKPdf 09 17 20.0 -0.5**
AAK PKKPbc **PKKPbc 09 27 16.4 +2.0**
AAK LR LR
comp=Z,3μm,21.0s
LBNH Lisbon 123.19 55 *e*PKiKP **PKPdf 09 17 22.2 +0.9**
LBNH Lisbon 123.19 55 *e*PKPdf **PKPdf 09 17 22.2 +0.9**
KBL Kabul 124.36 292 *e*PKiKP **PKPdf 09 17 23.4 -0.7**
KBL Kabul 124.36 292 *e*PKPdf **PKPdf 09 17 23.4 -0.7**
WVL Waterville 124.85 55 *e*PKPdf **PKPdf 09 17 24.6 +0.2**
LMQ La Malbaie 125.03 52 *e*PKPdf **PKPdf 09 17 24.7 0.0**
BBSR BB Station 125.21 71 PFAKE 09 17 40.0 +15
BBSR LR LR
comp=Z,3μm,22.0s
KK31 Karatay Array 125.60 303 PKiKP **PKPdf 09 17 24.1 -1.9**
KK31 pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 125.60 303 *e*PKiKP **PKPdf 09 17 25.3 -0.7**
KKAR Karatay Array 125.60 303 *e*PKPdf **PKPdf 09 17 25.3 -0.7**
LSZ Lusaka 125.99 213 *e*PKiKP **PKPdf 09 17 28.2 +0.5**
LSZ MLR MLR
comp=Z,3μm,22.0s
LSZ Lusaka 125.99 213 *e*PKPdf **PKPdf 09 17 28.2 +0.5**
LSZ LR LR
comp=Z,3μm,22.0s
GGN Saint George 126.92 55 *e*PKPdf **PKPdf 09 17 28.7 +0.4**
BVA0 Borovoye Array 127.35 315 PKiKP **PKPdf 09 17 27.1 -1.9**
BVA0 pmax pmax
comp=Z,56nm,1.3s
BVAR Borovoye Array 127.35 315 PKP **PKPdf 09 17 28.7 -0.2**
comp=Z,15nm,0.5s,baz=82,slow=3.3,SNR=14
BVAR Borovoye Array 127.35 315 PKP **PKPdf 09 17 28.7 -0.2**
BRVK Borovoye 127.42 315*c* *i* PKiKP **PKPdf 09 17 28.0 -1.1**
BRVK MLR MLR
comp=Z,5μm,19.0s
BRVK Borovoye 127.42 315 *e*PKPdf **PKPdf 09 17 28.1 -1.1**
BRVK LR LR
comp=Z,1μm,21.0s

RCBR Riachuelo 128.12 130 *e*PKPdf **PKPdf 09 17 31.8 0.0**
RCBR LR LR
comp=Z,4µm,22.0s
SCHQ Schefferville 128.19 43 PKP **PKPdf 09 17 30.8 +0.3**
comp=Z,34nm,1.0s,baz=278,slow=4.5,SNR=7.8
SCHQ SKP SKPbc 09 20 58.9
comp=Z,14nm,0.9s,baz=274,slow=4.0,SNR=4.8
SCHQ Schefferville 128.19 43 *e*PKPdf **PKPdf 09 17 30.4 -0.1**
SCHQ SKP 09 20 58.9
LMN Caledonia Moun 128.46 55 *e*PKPdf **PKPdf 09 17 31.4 +0.1**
WSAR Wadi Sarin 128.91 275 PKP **PKPdf 09 17 33.2 +0.4**
comp=Z,15nm,1.1s,baz=220,slow=7.0,SNR=4.9
WSAR Wadi Sarin 128.91 275 PKP **PKPdf 09 17 33.2 +0.4**
SHEL Horse Pasture 131.44 171 PFAKE 09 17 50.0 +12
SHEL LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 132.31 233 PKP **PKPdf 09 17 39.9 -0.1**
comp=Z,8.6nm,0.9s,baz=51,slow=2.8,SNR=12
KMBO SKPbc **SKPbc 09 21 02.0 -1.3**
comp=Z,30nm,0.9s,baz=102,slow=3.5,SNR=14
KMBO Kilima Mbogo 132.31 233 PKP **PKPdf 09 17 39.9 -0.1**
KMBO SKPbc **SKPbc 09 21 02.0 -1.3**
SVE Sverdlovsk 133.01 320 *i* PKIKP **PKPdf 09 17 38.9 -0.7**
SVE pmax pmax
comp=Z,35nm,1.1s
SVE MLR MLR
comp=Z,2µm,23.0s
ILULI Ilulissat 133.08 23 *i* P **PKPdf 09 17 40.1 +0.8**
ILULI Ilulissat 133.08 23 *i* PKIKP **PKPdf 09 17 40.1 +0.8**
KBS Kingsbay 133.17 357 *e*PKPdf **PKPdf 09 17 40.1 +0.8**
KBS *e*PP **PP 09 20 07.2 +0.7**
KBS *e*SKPdf **SKPdf 09 21 10.6 -0.5**
KBS Kingsbay 133.17 357 *e*PKIKP **PKPdf 09 17 40.3 +1.0**
KBS MLR MLR
comp=Z,2µm,22.0s
KBS Kingsbay 133.17 357 *e*PKPdf **PKPdf 09 17 40.3 +1.0**
KBS LR LR
comp=Z,2µm,22.0s
SPA0 Spitsbergen Ar 133.66 356 *e*PKPdf **PKPdf 09 17 40.5 +0.1**
SPA0 *e*PP **PP 09 20 09.3 -0.4**
SPA0 Spitsbergen Ar 133.66 356 *e*PKPdf **PKPdf 09 17 40.4 +0.1**
SPITS Spitsbergen Ar 133.66 356 PKP **PKPdf 09 17 40.0 -0.3**
comp=Z,57nm,0.8s,baz=88,slow=4.8,SNR=13
SPITS Spitsbergen Ar 133.66 356 PKIKP **PKPdf 09 17 40.0 -0.3**
SPITS pmax pmax
comp=Z,50nm,0.8s
SPITS Spitsbergen Ar 133.66 356 PKP **PKPdf 09 17 40.0 -0.3**
AB31 Akbulak array 133.68 309 PKIKP **PKPdf 09 17 38.8 -2.3**
AB31 pmax pmax
comp=Z,13nm,0.9s
ABKAR Akbulak array 133.68 309 *e*PKPpre PKPpre 09 17 36.1
GEYT Alibeck 133.76 293 PKP **PKPdf 09 17 40.6 -1.0**
comp=Z,12nm,0.9s,baz=259,slow=1.5,SNR=6.9
GEYT SKPbc **SKPbc 09 21 05.2 -2.0**
comp=Z,7.7nm,0.9s,baz=126,slow=3.9,SNR=3.7
SFJD Kangerlussuaq 134.12 25 SKPbc **SKPbc 09 21 06.6 -0.7**
comp=Z,27nm,1.1s,baz=312,slow=4.5,SNR=3.7
SFJD Kangerlussuaq 134.12 25 *e*PKIKP **PKPdf 09 17 40.7 -0.6**
SFJD MLR MLR
comp=Z,4µm,20.0s
SFJD Kangerlussuaq 134.12 25 *e*PKPdf **PKPdf 09 17 40.7 -0.6**
SFJD SKPbc **SKPbc 09 21 06.6 -0.7**
SFJD LR LR
comp=Z,4µm,20.0s
ARU Arti 134.19 319 PKP **PKPdf 09 17 41.5 -0.3**
comp=Z,15nm,0.5s,baz=70,slow=2.4,SNR=17
ARU SKPbc **SKPbc 09 21 06.1 -1.7**
comp=Z,11nm,0.6s,baz=213,slow=0.5,SNR=4.8
ARU Arti 134.19 319 *i* PKIKP **PKPdf 09 17 41.0 -0.8**
ARU MLR MLR
comp=Z,3µm,24.0s
ARU Arti 134.19 319 *e*PKPdf **PKPdf 09 17 41.5 -0.3**
ARU SKPbc **SKPbc 09 21 06.1 -1.7**
ARU LR LR
comp=Z,3µm,20.0s
DAG Danmarks Havn 134.62 6 *i* P **PKPdf 09 17 41.1 -1.0**
comp=Z,2µm,22.0s
DAG Danmarks Havn 134.62 6 *e*PKIKP **PKPdf 09 17 41.1 -1.0**
DAG MLR MLR
comp=Z,3µm,22.0s
SOKR Solikamsk 134.63 324 *i* PKIKP **PKPdf 09 17 40.2 -2.2**
SOKR pmax pmax
comp=Z,55nm,1.1s
SUMG Summit 134.83 16 *i* P **PKPdf 09 17 43.6 +0.5**
SUMG Summit 134.83 16 *e*PKIKP **PKPdf 09 17 43.6 +0.5**
SUMG Summit 134.83 16 *e*PKPdf **PKPdf 09 17 44.3 +1.3**
HSPB Hornsund (broa 134.85 355 *e*PKPdf **PKPdf 09 17 41.4 -1.0**
HSPB *e*PP **PP 09 20 17.9 +0.8**
AKTO Aktyubinsk 134.93 311 PKhKP PKPpre 09 17 32.5
comp=Z,0.9nm,0.4s,baz=66,slow=3.6,SNR=4.0
AKTO PKP **PKPdf 09 17 43.2 -0.2**
comp=Z,12nm,0.7s,baz=108,slow=4.9,SNR=18
AKTO SKPbc **SKPbc 09 21 09.5 -1.0**
comp=Z,12nm,1.0s,baz=103,slow=4.5,SNR=4.2
AKTO Aktyubinsk 134.93 311 PKPpre PKPpre 09 17 32.5
AKTO PKP **PKPdf 09 17 43.2 -0.2**
AKTO SKPbc **SKPbc 09 21 09.5 -1.0**
ATD Arta Tunnel 136.50 251 SKPbc **SKPbc 09 21 15.0 -1.6**
comp=Z,5.3nm,0.7s,baz=83,slow=8.1,SNR=2.6
ATD Arta Tunnel 136.50 251 SKPbc **SKPbc 09 21 15.0 -1.6**
ASCN Ascension 137.22 157 PFAKE 09 18 00.0 +11
ASCN LR LR
comp=Z,2µm,21.0s
LVZ Lovozero 139.55 341 *c* PKIKP **PKPdf 09 17 52.0 +0.6**
LVZ pmax pmax
comp=Z,35nm,1.0s
LVZ Lovozero 139.55 341 PFAKE 09 18 00.0 +8.6
LVZ LR LR
comp=Z,2µm,21.0s
HAMF Hammerfest 139.78 349 *e*PKPdf **PKPdf 09 17 48.2 -3.5**
KEV Kevo 139.93 346 PFAKE 09 18 00.0 +8.0
KEV LR LR
comp=Z,3µm,19.0s
RAYN Ar Rayn 140.11 269 *e*PKPpre PKPpre 09 17 49.2
RAYN LR LR
comp=Z,3µm,19.0s
APA Apatity 140.12 341 ⇓ *i* PKIKP **PKPdf 09 17 53.7 +1.3**
APA *i* 09 18 05.0
APA *i* PS 09 31 14.0
APA MLR MLR
comp=Z,3µm,25.0s
ARA0 ARCESS Array S 140.41 347 *e*PKPpre PKPpre 09 17 47.4
ARA0 *e*PKPdf **PKPdf 09 17 53.2 +0.3**
ARCES ARCESS Array B 140.41 347 PKhKP PKPpre 09 17 47.3
comp=Z,9.9nm,0.8s,baz=20,slow=1.9,SNR=37
ARCES PKP **PKPdf 09 17 52.4 -0.5**
comp=Z,13nm,0.6s,baz=11,slow=1.8,SNR=15
ARCES SKPbc **SKPbc 09 21 24.9 -0.9**
comp=Z,9.2nm,0.6s,baz=46,slow=3.5,SNR=4.7
ARCES ARCESS Array B 140.41 347 PKPpre PKPpre 09 17 47.3
ARCES PKP **PKPdf 09 17 52.4 -0.5**
ARCES SKPbc **SKPbc 09 21 24.9 -0.9**
ARE0 ARCESS Array S 140.41 347 *e* **PKPdf 09 17 47.5 -5.4**
ARE0 *e*PP **PP 09 20 53.0 +1.2**
ARE0 ARCESS Array S 140.41 347 *e*PKPdf **PKPdf 09 17 52.5 -0.4**
TRO Tromso 141.43 350 *e*P **PKPdf 09 17 53.0 -1.7**
TRO *e*PP **PP 09 20 56.8 -1.3**
KLMR Klimovskoe 142.19 330 *e*PKHKP PKPpre 09 17 50.5
KLMR pmax pmax
comp=Z,61nm,1.3s
MAK Makhachkala 142.30 300 *i* P **Pdif 09 15 21.7 +3.8**
MAK *i* 09 17 57.2
MAK pmax pmax
comp=Z,930nm,18.9s
STEI Steigen 143.52 351 *e*PKPdf PKPbc 09 17 56.4 +0.5
LOF Lofoten 143.54 352 *e*PKPdf **PKPdf 09 17 57.4 -1.2**
LOF IVmB_BB 09 18 11.4
comp=Z,7µm,4.3s
DGRG David-gareji 143.89 297 P PKPab 09 17 55.4 -1.8
GNI Garni 144.35 295 PKP **PKPdf 09 18 00.9 -0.1**
comp=Z,7.5nm,0.4s,baz=14,slow=2.7,SNR=15
GNI Garni 144.35 295 *c* PKIKP **PKPab 09 17 58.7 -0.5**
GNI Garni 144.35 295 *e*PKPdf PKPbc 09 18 00.3 +0.8
GNI LR LR
comp=Z,3µm,21.0s
TBLG Delisi 144.36 298 P **PKPab 09 17 57.6 -1.4**
GUDG Gudauri 144.54 299 P **PKPab 09 17 59.2 -0.7**
BORG Borgarnes 144.80 17 PKP **PKPdf 09 18 00.7 -0.1**
comp=Z,460nm,1.1s
BORG Borgarnes 144.80 17 *e*PKPdf **PKPdf 09 18 01.0 +0.2**
ZEI Tsey 144.95 300 *i* PKIKP **PKPab 09 17 59.7 -1.7**
ZEI pmax pmax
comp=Z,332nm,1.6s
NCK Nalchik 145.13 301 *i* PKIKP **PKPbc 09 18 01.5 -0.2**

KONS Konsvik 145.15 352 *e*PKPbc **PKPbc 09 18 00.8 -0.2**
MOR8 Moi Rana 145.29 351 *e*PKPbc **PKPbc 09 18 00.3 -1.2**
MOR8 IAmb IAmb 09 18 00.8
comp=Z,856nm,1.7s
MOR8 IVmB_BB 09 18 50.0
comp=Z,8µm,4.7s
ONI Oni 145.29 299 P **PKPbc 09 18 01.5 -0.8**
ONI Oni 145.29 299 PKP2 **PKPbc 09 18 01.5 -0.8**
AKH Akhalkalaki 145.30 297 P **PKPbc 09 18 01.6 -0.9**
AKH Akhalkalaki 145.30 297 ⇓ *i* P **PKPbc 09 18 02.2 -0.3**
AKH Akhalkalaki 145.30 297 PKP2 **PKPbc 09 18 01.6 -0.9**
STOK Stokkvaagen 145.32 352 *e*PKPbc **PKPbc 09 18 01.4 -0.1**
STOK *e*PKPbc **PKPab 09 18 01.7 0.0**
STOK IVmB_BB 09 18 04.0
comp=Z,5µm,1.1s
STOK IAmb IAmb 09 18 05.5
comp=N,175nm,0.7s
GOF Gofitskoye 145.38 304 ⇑ *i* PKP2 **PKPbc 09 18 01.6 -0.8**
GOF pmax pmax
comp=Z,326nm,1.0s
MOS Moscow 145.58 324 *e*PKHKP PKPpre 09 17 59.4
MOS pmax pmax
comp=Z,253nm,0.8s
MOS MLR MLR
comp=Z,2µm,22.0s
KBZ Khabaz 145.62 301 PKPbc **PKPdf 09 18 02.7 -0.2**
comp=Z,101nm,1.1s,baz=89,slow=3.2,SNR=63
KBZ Khabaz 145.62 301 PKPbc **PKPdf 09 18 02.7 -0.2**
KVAR Kislovodsk Arr 145.75 302 PKPbc **PKPab 09 18 04.8 +0.6**
comp=Z,72nm,1.1s,baz=331,slow=0.9,SNR=40
KVAR Kislovodsk Arr 145.75 302 PKPbc **PKPab 09 18 04.8 +0.6**
KIV Kislovodsk 145.75 302 *c* PKIKP **PKPdf 09 18 01.9 -1.4**
KIV *e* 09 21 21.7
KIV *e* 09 24 45.4
KIV pmax pmax
comp=Z,258nm,2.5s
KIV MLR MLR
comp=Z,2µm,22.0s
KIV Kislovodsk 145.75 302 *e*PKPdf **PKPdf 09 18 03.1 -0.2**
KIV LR LR
comp=Z,2µm,22.0s
LPSR Galich'ya Gora 146.18 318 *e*PKIKP **PKPdf 09 18 03.5 0.0**
LPSR pmax pmax
comp=Z,310nm,1.5s
VORR Voronezh 146.35 316 *e*PKIKP **PKPdf 09 18 02.0 -1.9**
VORR pmax pmax
comp=Z,700nm,1.0s
OBN Obninsk 146.40 323 PKPbc **PKPbc 09 18 05.0 -0.1**
comp=Z,110nm,0.5s,baz=55,slow=2.9,SNR=24
OBN Obninsk 146.40 323 ⇑ *i* PKIKP **PKPdf 09 18 03.8 0.0**
OBN *e*SS SS 09 40 25.9 +3.5
OBN pmax pmax
comp=Z,446nm,1.2s
OBN Obninsk 146.40 323 *e*PKPdf **PKPdf 09 18 04.2 +0.4**
OBN LR LR
comp=Z,2µm,20.0s
ARTV Artvin 146.49 297 *e*PKPdf **PKPdf 09 18 04.5 -0.2**
PUL Pulkovo 146.52 333 *c* PKP2 **PKPbc 09 18 05.6 +0.2**
PUL pmax pmax
comp=Z,1µm,1.2s
VSR Storozhevoye 146.53 315 *e*PKIKP **PKPdf 09 18 03.6 -0.6**
VSR pmax pmax
comp=Z,260nm,1.6s
FIA1 FINESS Array S 146.78 338 *e*PKPdf **PKPbc 09 18 05.5 -0.6**
FINES FINESS Array B 146.78 338 PKPbc **PKPbc 09 18 05.6 -0.5**
comp=Z,150nm,0.6s,baz=45,slow=4.3,SNR=233
FINES FINESS Array B 146.78 338 PKPbc **PKPbc 09 18 05.6 -0.5**
MZRK Al-Mazaregh 147.31 287 *e*P **PKPab 09 18 12.5 +2.1**
MARD Mardin 147.33 290 *e*PKPdf **PKPdf 09 18 06.0 -0.2**
MARD *e*PKPbc **PKPbc 09 18 09.0 +0.3**
KBSD Kabsdagh 147.50 289 *e*P **PKPbc 09 18 07.7 -1.2**
KOPT Kop Dagi 147.60 295 *e*PKPdf **PKPdf 09 18 07.1 +0.3**
SFNV Sufian 147.80 288 *e*P **PKPbc 09 18 10.1 +0.2**
SOC Sochi 147.93 302 *e*PKHKP PKPpre 09 18 05.1
SOC *i* 09 18 10.3
SOC *e* 09 21 33.1
SOC *e*PPP PPP 09 24 59.7
SOC pmax pmax
comp=Z,14nm,0.7s
SOC pmax pmax
comp=Z,95nm,0.9s
SOC MLR MLR
comp=Z,3µm,23.0s
TBLU Trondheim 148.62 352 *e*PKPdf **PKPdf 09 18 06.9 -0.4**
TBLU IVMs_BB IVMs_BB 10 21 45.9
comp=Z,5µm,4.9s
KSRV Kasrt alli 148.65 287 *e*P **PKPbc 09 18 11.8 -0.2**
VSU Vasula 148.76 334 *c* PKP2 **PKPbc 09 18 10.8 -0.7**
VSU pmax pmax
comp=Z,1µm,1.2s
JHLN Al Jahlan 149.09 286 *e*P **PKPbc 09 18 15.2 +2.0**
ANN Anapa 149.36 304 *i* PKHKP PKPpre 09 18 10.2
ANN pmax pmax
comp=Z,136nm,1.1s
SLMH Al Salmeh 149.55 287 *e*P **PKPbc 09 18 12.4 -1.8**
MOL Molde 149.56 354 *e*P **PKPdf 09 18 09.4 +0.6**
MOL *e*PKPbc **PKPbc 09 18 13.7 +0.3**
MOL IVmB_BB 09 18 16.2
comp=Z,4µm,2.5s
ROOS tl_alroos 149.88 283 *e*P **PKPbc 09 18 17.6 +2.3**
ASF Jabal al Asfar 149.91 279 PKPbc **PKPbc 09 18 15.5 +0.1**
comp=Z,37nm,1.1s,baz=73,slow=2.2,SNR=20
ASF Jabal al Asfar 149.91 279 PKPbc **PKPbc 09 18 15.5 +0.1**
DOMB Dombas 149.93 353 *e*PKPdf **PKPdf 09 18 09.8 +0.3**
DOMB *e*PKPbc **PKPbc 09 18 14.2 -0.2**
DOMB IVmB_BB 09 18 17.1
comp=Z,4µm,3.2s
DOMB IVMs_BB IVMs_BB 10 25 12.7
comp=Z,5µm,5.2s
RABH Abou Rabah 149.98 284 *e*P **PKPbc 09 18 17.5 +2.1**
AKN Aaknes 150.00 355 *e*P **PKPdf 09 18 10.3 +0.7**
AKN *e*PKPbc **PKiKP 09 18 15.1 -0.3**
AKN IVmB_BB 09 18 19.2
comp=Z,4µm,1.6s
NC303 NORSAR Array S 150.43 350 *e*PKPdf **PKPdf 09 18 10.1 -0.1**
NC303 *e*PKPbc **PKPbc 09 18 15.4 -0.2**
NC204 NORSAR Array S 150.47 351 *e*PKPbc **PKPbc 09 18 15.1 -0.7**
NC405 NORSAR Array S 150.49 350 *e*PKPbc **PKPbc 09 18 15.3 -0.5**
MARH Ras Al Marh 150.53 283 *e*P **PKPbc 09 18 19.8 +2.8**
DRWC Darouich 150.58 288 *e*P **PKPbc 09 18 16.4 -0.5**
NB201 NORSAR Array S 150.61 350 *e*PKPdf **PKPdf 09 18 10.8 +0.3**
NB201 *e*PKPbc **PKPbc 09 18 15.8 -0.2**
NB2 NORSAR Subarra 150.63 350 PKP **PKPbc 09 18 15.4 -0.7**
comp=Z,236nm,1.1s,baz=17,slow=2.6
NC204 NORSAR Array S 150.47 351 *e*PKPbc **PKPbc 09 18 15.1 -0.7**
NB2 NORSAR Subarra 150.63 350 PKP **PKPbc 09 18 15.4 -0.7**
baz=17,slow=2.6
NOA NORSAR Array B 150.63 350 PKP **PKPdf 09 18 10.8 +0.1**
comp=Z,25nm,1.1s,baz=27,slow=1.8,SNR=26
NOA PKPbc **PKPbc 09 18 15.9 -0.2**
comp=Z,28nm,0.8s,baz=49,slow=1.8,SNR=59
NOA NORSAR Array B 150.63 350 PKP **PKPdf 09 18 10.8 +0.1**
NOA PKPbc **PKPbc 09 18 15.9 -0.2**
NBO02 NORSAR Array S 150.67 350 *e*PKPdf **PKPdf 09 18 10.3 -0.4**
NBO02 *e*PKPbc **PKPbc 09 18 16.1 -0.1**
NBO00 NORSAR Array S 150.70 350 *e*PKPdf **PKPdf 09 18 11.3 +0.6**
NBO00 *e*PKPbc **PKPbc 09 18 16.2 0.0**
FOO Floro 150.70 356 *e*PKPbc **PKPbc 09 18 16.3 +0.1**
FOO IVmBBB 09 18 16.8
comp=Z,5µm,1.8s
BTCH Batrach 150.72 287 *e*P **PKPbc 09 18 18.1 +1.0**
IZAR Zarasai 150.85 331 *e*P **PKPbc 09 18 15.7 -1.0**
IZAR IAmb IAmb 09 18 18.1
comp=Z,71nm,1.0s
NAO01 NORSAR Array S 150.87 350 *e*PKPdf **PKPdf 09 18 11.6 +0.7**
NAO01 *e*PKPbc **PKPbc 09 18 16.6 0.0**
NC602 NORSAR Array S 150.87 350 *e*P **PKPdf 09 18 11.0 +0.1**
NC602 *e*PKPbc **PKPbc 09 18 16.2 -0.4**
NC602 NORSAR Array S 150.87 350 *e*PKPdf **PKPdf 09 18 10.7 -0.2**
NC602 *e*PKPbc **PKPbc 09 18 16.2 -0.4**
IDID Didziasalis 150.93 330 *e*P **PKPbc 09 18 15.5 -1.4**
IDID IAmb IAmb 09 18 18.3
comp=Z,80nm,1.1s
MICGM Minsk 150.95 327 ⇑ *e*P **PKPdf 09 18 12.0 +0.8**
MICGM PM 09 18 17.0
comp=Z,0.5nm,1.2s
MICGM *e*LR LR 10 13 28.0
MNK Minsk 150.95 327 ⇑ *e*PKIKP **PKPdf 09 18 12.0 +0.8**
MNK pmax pmax
comp=Z,520nm,12.0s
ISAL Salakas 151.02 330 *e*P **PKPbc 09 18 15.7 -1.4**
ISAL IAmb IAmb 09 18 18.5
comp=Z,59nm,1.1s
EIL Elat 151.02 274 PKPbc **PKPbc 09 18 17.5 -0.4**
comp=Z,46nm,0.8s,baz=67,slow=0.6,SNR=3.9

EIL Elat 151.02 274 PKPbc **PKPbc 09 18 17.5 -0.4**
HYA Hoyanger 151.06 355 *e*PKPbc **PKPbc 09 18 17.2 +0.3**
HFS Hagfors 151.07 347 PKP **PKPdf 09 18 11.3 0.0**
comp=Z,27nm,0.9s,baz=218,slow=1.6,SNR=9.2
HFS PKPbc **PKPbc 09 18 16.6 -0.5**
comp=Z,80nm,0.7s,baz=113,slow=3.3,SNR=111
HFS Hagfors 151.07 347 PKP **PKPdf 09 18 11.2 0.0**
HFS PKPbc **PKPbc 09 18 16.6 -0.5**
NACGM Naroch 151.18 329 *e*P **PKPdf 09 18 11.0 -0.6**
NACGM PM 09 18 18.0
comp=Z,0.6nm,0.9s
NACGM *e*LR LR 10 16 14.0
NACGM LRM MLR 10 21 08.0
comp=Z,4.7nm,24.0s
SUE Sulen 151.26 356 *e*PKPbc **PKPbc 09 18 17.8 +0.3**
SUE IVmBBB 09 18 20.4
comp=Z,9µm,3.8s
MMAI Mount Meron Ar 151.29 281 PKP **PKPdf 09 18 11.8 -0.7**
comp=Z,6.3nm,1.0s,baz=344,slow=5.6,SNR=4.7
MMAI PKPbc **PKPbc 09 18 18.0 -0.6**
comp=Z,76nm,0.7s,baz=76,slow=6.1,SNR=27
MMAI Mount Meron Ar 151.29 281 PKP **PKPdf 09 18 11.8 -0.7**
MMAI PKPbc **PKPbc 09 18 18.0 -0.6**
SACV Santiago Islan 151.52 122 *e*PKPdf **PKPdf 09 18 12.9 -0.4**
SACV LR LR
comp=Z,916nm,21.0s
SIM Simferopol' 151.62 306 *i* PKIKP **PKPdf 09 18 11.7 -0.9**
SIM *e*PPP PPP 09 25 27.0
SIM pmax pmax
comp=Z,11nm,0.7s
SIM pmax pmax
comp=Z,160nm,7.2s
SIM pmax pmax
comp=Z,600nm,16.2s
OSL Oslo 151.76 350 *e*PKPbc **PKPbc 09 18 19.1 +0.5**
OSL IVmB_BB 09 18 38.5
comp=Z,4µm,4.1s
ASK Askoy 151.81 356 *e*PKPbc **PKPbc 09 18 18.9 +0.2**
BER Bergen 151.90 356 *e*PKPbc **PKPbc 09 18 19.2 +0.3**
ODD1 Odda 152.27 354 *e*PKPbc **PKPbc 09 18 20.2 +0.3**
ODD1 IVmB_BB 09 18 22.9
comp=Z,3µm,1.8s
AKASG Malin Array Be 152.44 320 PKP **PKPdf 09 18 11.6 -2.0**
comp=Z,3.8nm,0.7s,baz=57,slow=1.7,SNR=17
AKASG PKPbc **PKPbc 09 18 20.0 -0.6**
comp=Z,16nm,0.5s,baz=46,slow=3.2,SNR=40
AKASG Malin Array Be 152.44 320 PKP **PKPdf 09 18 11.6 -2.0**
AKASG PKPbc **PKPbc 09 18 20.0 -0.6**
AKBB Malin Array Si 152.44 320 *e*PKIKP **PKPdf 09 18 12.7 -0.9**
AKBB *e* 09 18 19.5
AKBB Malin Array Si 152.44 320 *e*PKPdf **PKPdf 09 18 12.7 -0.9**
AKBB *e*PKPbc **PKPbc 09 18 19.5 -1.0**
KIEV Kiev 152.46 320 *e*PKIKP **PKPdf 09 18 12.3 -1.3**
KIEV *e* 09 18 19.5
KIEV MLR MLR
comp=Z,3µm,22.0s
KIEV Kiev 152.46 320 *e*PKPdf **PKPdf 09 18 12.3 -1.3**
KIEV *e*PKPbc **PKPbc 09 18 19.5 -1.0**
KIEV LR LR
comp=Z,3µm,22.0s
AK11 Malin Array Si 152.49 320 *e*PKPdf **PKPdf 09 18 12.4 -1.3**
AK11 *e*PKPbc **PKPbc 09 18 19.8 -0.8**
ILGA Ilgaz 152.68 298 *e*PKPdf **PKPdf 09 18 14.8 +0.2**
ILGA *e*PKPbc **PKPbc 09 18 21.4 -0.3**
BLS5 Blasjo 152.76 354 *e*PKPbc **PKPbc 09 18 21.5 +0.5**
BR131 Keskin Array S 152.89 295 *e*PKPdf **PKPdf 09 18 13.5 -1.4**
BR131 *e*PKPbc **PKPbc 09 18 21.6 -0.5**
BRTR Keskin Array B 152.89 295 PKP **PKPdf 09 18 13.3 -1.6**
comp=Z,5.9nm,1.1s,baz=139,slow=2.6,SNR=15
BRTR PKPbc **PKPbc 09 18 21.2 -0.9**
comp=Z,22nm,0.8s,baz=139,slow=3.3,SNR=28
BRTR Keskin Array B 152.89 295 PKP **PKPdf 09 18 13.3 -1.6**
BRTR PKPbc **PKPbc 09 18 21.2 -0.9**
KMY Karmoy 153.07 355 *e*PKPbc **PKPbc 09 18 21.9 +0.3**
KMY IVmB_BB 09 18 23.9
comp=Z,69nm,0.3s
CSS Mathiatis 153.20 284 *e*PKPbc **PKPbc 09 18 22.8 0.0**
CSS *e*PKPab **sPKPdf 09 18 32.8 -0.2**
CSS LR LR
comp=Z,1µm,21.0s
LIC Lamto 153.30 166 *e*PKP2 **PKPdf 09 18 15.6 -0.4**
comp=Z,498nm,0.9s
STAV Stavanger 153.31 355 *e*PKPbc **PKPbc 09 18 22.4 +0.2**
STAV IVmB_BB 09 18 27.7
comp=Z,5µm,3.4s
SUW Suwalki 153.33 331 *e*PKPdf **PKPbc 09 18 22.0 -0.4**
SUW *e*PKPab **pPKPbc 09 18 35.1 -0.3**
SUW Suwalki 153.33 331 *e*PKIKP **PKPbc 09 18 22.0 -0.4**
KIC Kosan Boka 153.49 167 *e*PKP2 **PKPdf 09 18 16.8 +0.5**
comp=Z,180nm,0.8s
ANTO Ankara 153.52 295 *e*PKIKP **PKPdf 09 18 15.0 -0.7**
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara 153.52 295 *e*PKPdf **PKPdf 09 18 15.0 -0.7**
ANTO LR LR
comp=Z,2µm,20.0s
BR231 Keskin MP Arra 153.54 295 *e*PKPdf **PKPdf 09 18 13.7 -2.0**
BR231 *e*PKPbc **PKPbc 09 18 22.4 -1.0**
HOMB Homborsund 153.68 351 *e*PKPbc **PKPbc 09 18 23.3 +0.4**
TIC Toumodi 153.71 166 *e*PKP2 **PKPdf 09 18 17.1 +0.5**
SNART Snartemo 153.76 353 *e*PKPbc **PKPbc 09 18 23.5 +0.3**
DBIC Dimbokro 153.76 166 PKP **PKPdf 09 18 15.6 -1.1**
comp=Z,20nm,0.9s,baz=121,slow=3.3,SNR=7.7
DBIC PKPbc **PKPbc 09 18 24.2 -0.3**
comp=Z,27nm,0.8s,baz=162,slow=2.0,SNR=14
DBIC Dimbokro 153.76 166 *e*PKIKP **PKPdf 09 18 17.3 +0.6**
DBIC 09 18 24.2
DBIC Dimbokro 153.76 166 *e*PKPdf **PKPdf 09 18 17.3 +0.6**
DBIC PKPbc **PKPbc 09 18 24.2 -0.3**
SORM Soroca 154.19 315 ⇑ *i* P **PKPdf 09 18 15.1 -1.1**
SORM Soroca 154.19 315 ⇑ PKIKP **PKPdf 09 18 15.1 -1.1**
KIS Kishinev 154.41 313 *e*PKP **PKPdf 09 18 16.0 -0.6**
KIS Kishinev 154.41 313 *e*PPS PPS 09 35 20.0
KIS *e*L L 10 14 00.0
KIS LRM MLR 10 25 52.0
comp=Z,2µm,23.0s
KIS Kishinev 154.41 313 *e*PKIKP **PKPdf 09 18 16.0 -0.6**
KIS *e* 09 18 18.0
KIS *e* 09 18 24.0
KIS *i* 09 18 39.0
KIS *e*PPP PPP 09 25 15.0
KIS *e*PPS PPS 09 35 20.0
LEOM Leova 154.99 312 ⇑ *i* P **PKPdf 09 18 21.4 +4.0**
LEOM Leova 154.99 312 ⇑ PKIKP **PKPdf 09 18 21.4 +4.0**
BSD Bornholm Skovb 155.34 341 *i* P **PKPdf 09 18 17.4 -0.1**
comp=Z,5µm,29.0s
BSD Bornholm Skovb 155.34 341 *e*PKIKP **PKPdf 09 18 17.4 -0.1**
BSD MLR MLR
comp=Z,5µm,29.0s
TIRR Tirgusor 155.65 307 ⇑ *i* P **PKPdf 09 18 17.8 -0.5**
TIRR Tirgusor 155.65 307 ⇑ PKIKP **PKPdf 09 18 17.8 -0.5**
TIRR Tirgusor 155.65 307 *e*PKPab **PKPab 09 18 47.2 +2.5**
LVV L'vov 155.70 322 *e*PKIKP **PKPdf 09 18 18.7 +0.4**
TLB Topalu 155.85 308 ⇑ *i* P **PKPdf 09 18 17.1 -1.5**
TLB Topalu 155.85 308 ⇑ PKIKP **PKPdf 09 18 17.2 -1.4**
HARR Harsova 155.89 308 ⇑ *i* P **PKPdf 09 18 16.5 -2.1**
HARR Harsova 155.89 308 ⇑ PKIKP **PKPdf 09 18 16.5 -2.1**
BEL Belsk 155.90 329 *e*PKPdf **PKPdf 09 18 20.3 +1.9**
BEL Belsk 155.90 329 *e*PKIKP **PKPdf 09 18 20.3 +1.9**
TESR Tescani 155.97 313 ⇑ *i* P **PKPdf 09 18 17.9 -0.8**
BBTS Babate 156.05 133 PKP **PKPdf 09 18 22.0 +2.3**
comp=Z,78nm,1.1s,baz=222,slow=1.3,SNR=7.8
BBTS Babate 156.05 133 PKP **PKPdf 09 18 22.0 +2.3**
GKP Gorka Klasztor 156.18 336 *e*PKPdf **PKPdf 09 18 19.5 +0.8**
GKP *e*PKPab **PKPab 09 18 45.4 -1.3**
GKP Gorka Klasztor 156.18 336 *e*PKIKP **PKPdf 09 18 19.5 +0.8**
VRI Vrincioaia 156.20 312 ⇑ *i* P **PKPdf 09 18 20.9 +1.8**
VRI Vrincioaia 156.20 312 ⇑ PKIKP **PKPdf 09 18 20.9 +1.8**
PLOR Plostina 156.26 312 ⇓ *i* P **PKPdf 09 18 20.3 +1.1**
PLOR Plostina 156.26 312 ⇓ PKIKP **PKPdf 09 18 20.3 +1.1**
BUR08 Bucovina Ar. S 156.28 317 *e*PKPdf **PKPdf 09 18 20.1 +0.8**
BURAR Bucovina Array 156.29 317 ⇑ *i* P **PKPdf 09 18 19.2 0.0**
BURAR Bucovina Array 156.29 317 ⇑ PKIKP **PKPdf 09 18 19.2 0.0**
KWP Kalwaria Pacla 156.49 323 *e*PKPdf **PKPdf 09 18 19.0 -0.3**
KWP Kalwaria Pacla 156.49 323 *e*PKIKP **PKPdf 09 18 19.0 -0.3**
MLR Muntele Rosu 156.86 311 PKP **PKPdf 09 18 20.2 +0.1**
comp=Z,7.7nm,1.2s,baz=1.0,slow=5.3,SNR=5.8
MLR PKPab **PKPab 09 18 51.0 +0.9**
comp=Z,6.5nm,1.1s,baz=8.2,slow=6.5,SNR=5.1
MLR Muntele Rosu 156.86 311 *e*PKPdf **PKPdf 09 18 18.9 -1.2**
MLR PKPab **PKPab 09 18 51.0 +0.9**
EKA Eskdalemuir Ar 156.89 6 PKP **PKPdf 09 18 19.2 -0.4**
comp=Z,3.6nm,0.8s,baz=337,slow=1.6,SNR=4.4

EKA				PKPab	PKPab	09 18 49.5	-0.1
	comp=Z,18nm,0.9s,baz=340,slow=4.0,SNR=8.9						
EKA	Eskdalemuir Ar	156.89	6	PKP	PKPdf	09 18 19.2	-0.4
EKA				PKPab	PKPab	09 18 49.5	-0.1
ESK	Eskdalemuir	156.90	6	ePKIKP	PKPdf	09 18 19.5	-0.1
ESK				MLR	MLR		
	comp=Z,4μm,20.0s						
ESK	Eskdalemuir	156.90	6	ePKPdf	PKPdf	09 18 19.5	-0.1
ESK				ePKPab	PKPab	09 18 50.9	+1.2
ESK				LR	LR		
	comp=Z,4μm,20.0s						
BMR	Baia Mare	157.24 318	⇑	iP	PKPdf	09 18 21.8	+1.5
BMR	Baia Mare	157.24 318	⇑	PKIKP	PKPdf	09 18 21.8	+1.5
UZH	Uzhgorod	157.33 322		ePKIKP	PKPdf	09 18 26.4	+6.0
UZH				e		09 18 35.0	
UZH				e		09 18 44.8	
STHS	Stebnicka Huta	157.36 324		ePKP2	PKPab	09 18 52.6	+0.7
STHS	Stebnicka Huta	157.36 324		ePKP	PKPab	09 18 52.6	+0.7
VOIR		157.45 312	⇑	iP	PKPdf	09 18 20.1	-0.7
VOIR		157.45 312	⇑	PKIKP	PKPdf	09 18 20.1	-0.7
OJC	Ojcow	157.50 328		ePKPdf	PKPdf	09 18 19.5	-1.1
OJC				ePKPab	PKPab	09 18 52.5	+0.1
OJC				ePP	PP	09 22 31.1	-0.4
OJC	Ojcow	157.50 328		ePKP2	PKPab	09 18 52.5	+0.1
OJC				e		09 22 31.1	
OJC	Ojcow	157.50 328		ePKPdf	PKPdf	09 18 19.6	-0.9
CMLA	Cha da Macela	157.53 69		PFAKE		09 18 30.0	+9.0
CMLA				LR	LR		
	comp=Z,3μm,19.0s						
MTUR	Matau	157.53 312	⇓	iP	PKPdf	09 18 22.1	+1.2
MTUR	Matau	157.53 312	⇓	PKIKP	PKPdf	09 18 22.1	+1.2
CRVS	Cervenica-Dubn	157.59 323		ePKP2	PKPab	09 18 52.7	-0.2
CRVS	Cervenica-Dubn	157.59 323		ePKP	PKPab	09 18 52.7	-0.2
ARR	Arges	157.74 312	⇑	iP	PKPdf	09 18 19.8	-1.3
NIE	Niedzica	157.82 326		ePKPdf	PKPdf	09 18 20.8	-0.2
NIE	Niedzica	157.82 326		ePKIKP	PKPdf	09 18 20.8	-0.2
BODT	Bodrum	158.08 289		P	PKPdf	09 18 19.0	-2.7
KARP	Karpathos	158.27 285		ePKPdf	PKPdf	09 18 21.2	-0.8
KARP				ePKPab	PKPab	09 18 55.3	-1.1
LANS	Liptovska Anna	158.40 326		ePKIKP	PKPdf	09 18 23.1	+1.3
LANS				e		09 18 57.4	
LANS	Liptovska Anna	158.40 326		ePKP	PKPdf	09 18 23.1	+1.3
LANS				e		09 18 57.4	
KSP	Ksiaz	158.49 333		ePKPdf	PKPdf	09 18 21.0	-0.8
KSP				ePKPab	PKPab	09 18 57.5	+0.8
KSP	Ksiaz	158.49 333		ePKP2	PKPab	09 18 57.5	+0.8
OKC	Ostrava-Krasne	158.51 329		iPKPDF	PKPdf	09 18 21.5	-0.3
OKC				ePKPAB	PKPab	09 18 55.9	-0.9
OKC				ex	x	09 22 28.5	
OKC				AMS	AMS	10 29 40.0	
	comp=Z,3μm,19.7s						
OKC	Ostrava-Krasne	158.51 329		iPKIKP	PKPdf	09 18 21.5	-0.3
OKC				e		09 18 55.9	
OKC				MLR	MLR		
	comp=Z,3μm,19.7s						
KDZ	Kurdzhali	158.64 302		P	PKPdf	09 18 20.0	-2.3
VAL	Valentia	158.78 20	⇓	iP	PKPdf	09 18 24.7	+2.7
VAL				ePP	PP	09 22 40.8	+2.6
MORC	Moravsky Berou	158.81 330	⇑	iP	PKPdf	09 18 21.4	-0.8
MORC	Moravsky Berou	158.81 330	⇑	PKIKP	PKPdf	09 18 21.4	-0.8
MORC	Moravsky Berou	158.81 330		ePKPdf	PKPdf	09 18 21.9	-0.3
UPC	Upice	158.86 333		iPKPDF	PKPdf	09 18 21.9	-0.3
UPC				ePKPAB	PKPab	09 18 57.6	-0.8
UPC				ex	x	09 22 26.4	
UPC				AMS	AMS	10 32 20.0	
	comp=Z,4μm,19.1s						
UPC	Upice	158.86 333		iPKIKP	PKPdf	09 18 21.9	-0.3
UPC				e		09 18 57.6	
UPC				MLR	MLR		
	comp=Z,4μm,19.1s						
DPC	Dobruska-Polom	158.87 332		iPKPDF	PKPdf	09 18 22.2	-0.1
DPC				ePKPAB	PKPab	09 18 56.6	-1.8
DPC				ex	x	09 22 28.5	
DPC				AMS	AMS	10 31 40.0	
	comp=Z,3μm,22.1s						
DPC	Dobruska-Polom	158.87 332		iPKIKP	PKPdf	09 18 22.2	-0.1
DPC				e		09 18 56.6	
DPC				MLR	MLR		
	comp=Z,3μm,22.1s						
KRLC	Kraliky	158.90 331		iPKPDF	PKPdf	09 18 22.2	-0.1
KRLC	Kraliky	158.90 331		iPKIKP	PKPdf	09 18 22.2	-0.1
PSZ	Piszkesteto	159.02 323		ePKIKP	PKPdf	09 18 21.3	-1.3
PSZ				MLR	MLR		
	comp=Z,3μm,20.0s						
PSZ	Piszkesteto	159.02 323	⇑	ePKPdf	PKPdf	09 18 21.3	-1.3
PSZ	Piszkesteto	159.02 323		ePKPdf	PKPdf	09 18 21.3	-1.3
PSZ				LR	LR		
	comp=Z,3μm,20.0s						
RZN	Rozhen	159.13 303		P	PKPdf	09 18 20.0	-3.1
VYHS	Vyhne	159.16 325		ePKIKP	PKPdf	09 18 21.7	-1.0
VYHS				e		09 18 58.7	
VYHS	Vyhne	159.16 325		ePKP	PKPdf	09 18 21.6	-1.1
VYHS				e		09 18 58.7	
MPEP	Malo Peshtene	159.19 308		P	PKPdf	09 18 20.0	-2.8
CLL	Collm	159.23 339	⇓	iPKIKP	PKPdf	09 18 21.2	-1.4
CLL				i		09 18 59.0	
CLL				e		09 22 43.0	
CLL				pmax	pmax		
	comp=Z,42nm,1.5s						
CLL				pmax	pmax		
	comp=Z,79nm,1.4s						
CLL	Collm	159.23 339		iPKPdf	PKPdf	09 18 21.2	-1.4
	comp=Z,42nm,1.5s						
CLL				e		09 18 37.0	
CLL			⇓	iPKPab	PKPab	09 18 59.0	-0.9
	comp=Z,79nm,1.4s						
CLL				i	pPKPab	pPKPab	09 19 11.3	-1.3
CLL				ePPk		09 22 35.0	
CLL				ePP	PP	09 22 43.0	+2.3
	comp=Z,900nm,23.9s						
CLL				ePPP	PPP	09 26 12.0	
CLL				ePPPP		09 28 40.0	
CLL				eSKKSacre		09 32 43.0	
CLL				ePSKS		09 33 05.0	
CLL				ePPS	PPS	09 36 06.0	
CLL				e		09 37 37.0	
CLL				e		09 39 03.0	
CLL				eSS	SS	09 42 36.0	-6.3
CLL				ePSPS		09 44 12.0	
CLL				e		09 47 26.0	
CLL				eSSS	SSS	09 49 12.0	
CLL				ePSSrev		09 51 00.0	
CLL				eSSSS		09 53 02.0	
CLL	Collm	159.23 339		ePKPdf	PKPdf	09 18 22.1	-0.5
CLL				ePKPab	PKPab	09 18 58.9	-1.0
BRG	Berggiesshubel	159.30 337		iPKP	PKPdf	09 18 22.0	-0.7
	comp=Z,81nm,1.7s						
BRG				i		09 18 58.0	
	comp=Z,100nm,1.6s						
BRG	Berggiesshubel	159.30 337		iPKIKP	PKPdf	09 18 22.0	-0.7
BRG				i		09 18 58.0	
BRG						09 22 39.0	
BRG				pmax	pmax		
	comp=Z,26nm,1.7s						
BRG				pmax	pmax		
	comp=Z,81nm,1.6s						
BRG				MLR	MLR		
	comp=N,9μm,21.9s						
BRG				MLR	MLR		
	comp=E,3μm,21.4s						
BRG				MLR	MLR		
	comp=Z,2μm,23.3s						
BRG	Berggiesshubel	159.30 337		PP	PP	09 22 39.0	-2.2
BRG				SS	SS	09 42 53.0	+10
PVCC	Panska Ves	159.38 335		iPKPDF	PKPdf	09 18 22.5	-0.3
PVCC				ePKPAB	PKPab	09 19 00.2	-0.4
PVCC				AMS	AMS	10 34 50.0	
	comp=Z,3μm,20.2s						
PVCC	Panska Ves	159.38 335		iPKIKP	PKPdf	09 18 22.5	-0.3
PVCC				e		09 19 00.2	
PVCC				MLR	MLR		
	comp=Z,3μm,20.2s						
BZS	Buzias	159.45 316	⇓	iP	PKPdf	09 18 20.8	-2.3
BZS	Buzias	159.45 316	⇓	PKIKP	PKPdf	09 18 20.8	-2.3
KAVA	Kavala	159.49 301		P	PKPdf	09 18 21.4	-1.8
VRAC	Vranov	159.57 330		PKP	PKPdf	09 18 22.8	-0.3
	comp=Z,13nm,1.0s,baz=194,slow=8.1,SNR=9.5						
VRAC				PKPab	PKPab	09 19 01.9	+0.4
	comp=Z,6.9nm,0.6s,baz=109,slow=3.8,SNR=3.0						
VRAC	Vranov	159.57 330		PKP	PKPdf	09 18 22.8	-0.3
VRAC				PKPab	PKPab	09 19 01.9	+0.4
SANT	Santorini	159.61 288		PFAKE		09 18 30.0	+6.4
SANT				LR	LR		
	comp=Z,2μm,22.0s						
CWF	Charnwood Fore	159.61	4	ePKPdf	PKPdf	09 18 23.4	+0.4
GOPC	GO Pecny, Ondr	159.81 334		iPKPDF	PKPdf	09 18 23.0	-0.4
GOPC				ePKPAB	PKPab	09 19 01.8	-0.7
GOPC				ePKS	PKSdf	09 21 59.6	+2.9
GOPC				AMS	AMS	10 33 30.0	
	comp=Z,3μm,18.3s						
GOPC	GO Pecny, Ondr	159.81 334		iPKIKP	PKPdf	09 18 23.0	-0.4
GOPC				e		09 19 01.8	
GOPC				MLR	MLR		
	comp=Z,3μm,18.3s						
PRA	Prague	159.81 335		AMS	AMS	10 31 20.0	
	comp=Z,4μm,23.8s						
MDVR	Moldovita	159.83 314	⇓	iP	PKPdf	09 18 22.1	-1.5
PRU	Pruhonice	159.84 334		iPKPDF	PKPdf	09 18 22.7	-0.7
PRU				ePKPAB	PKPab	09 19 02.5	-0.1
PRU				ePKS	PKSdf	09 22 00.4	+3.8
PRU				AMS	AMS	10 31 20.0	
	comp=Z,3μm,22.0s						
PRU	Pruhonice	159.84 334		iPKIKP	PKPdf	09 18 22.7	-0.7
PRU				e		09 19 02.5	
PRU				MLR	MLR		
	comp=Z,3μm,22.0s						
VTS	Vitosha	159.85 307	⇑	iP	PKPdf	09 18 22.2	-1.6
VTS	Vitosha	159.85 307	⇑	PKIKP	PKPdf	09 18 22.2	-1.6
VTS	Vitosha	159.85 307		P	PKPdf	09 18 20.0	-3.8
VTS	Vitosha	159.85 307		ePKPdf	PKPdf	09 18 23.8	0.0
MMB	Musomiste	159.86 303		P	PKPdf	09 18 20.0	-3.7
TREC	Trest	160.03 332		iPKPDF	PKPdf	09 18 23.2	-0.4
TREC				AMS	AMS	10 32 40.0	
	comp=Z,3μm,20.9s						
TREC	Trest	160.03 332		iPKIKP	PKPdf	09 18 23.2	-0.4
TREC				MLR	MLR		
	comp=Z,3μm,20.9s						
IDI	Anoyia	160.13 285		PKP	PKPdf	09 18 23.9	-0.4
	comp=Z,16nm,0.9s,baz=100,slow=2.4,SNR=15						
IDI				PKPab	PKPab	09 19 04.2	-0.3
	comp=Z,25nm,0.7s,baz=72,slow=8.3,SNR=8.5						
IDI	Anoyia	160.13 285		P	PKPdf	09 18 22.8	-1.5
IDI	Anoyia	160.13 285		ePKPdf	PKPdf	09 18 24.1	-0.2
IDI				ePKPab	PKPab	09 19 05.0	+0.5
NKC	Novy Kostel	160.34 338		AMS	AMS	10 30 30.0	
	comp=Z,4μm,22.4s						
VAY	Valandovo	160.77 304		iPKP	PKPdf	09 18 22.7	-1.9
TOA0	Torodi Ar. Sit	160.81 181		ePKPdf	PKPdf	09 18 25.3	-0.2
TOA0				ePKPab	PKPab	09 19 07.8	+0.2
TORD	Torodi Ar. Bea	160.81 181		PKP	PKPdf	09 18 25.3	-0.2
	comp=Z,17nm,1.1s,baz=224,slow=0.4,SNR=44						
TORD				PKPab	PKPab	09 19 08.3	+0.7
	comp=Z,50nm,0.7s,baz=174,slow=4.9,SNR=20						
TORD	Torodi Ar. Bea	160.81 181		PKP	PKPdf	09 18 25.3	-0.2
TORD				PKPab	PKPab	09 19 08.3	+0.7
KHC	Kasperske Hory	160.90 335		iPKPDF	PKPdf	09 18 24.3	-0.4
KHC				ePKPAB	PKPab	09 19 06.3	-1.0
KHC				ex	x	09 22 38.8	
KHC				AMS	AMS	10 41 10.0	
	comp=Z,3μm,21.0s						
KHC	Kasperske Hory	160.90 335		iPKIKP	PKPdf	09 18 24.3	-0.4
KHC				e		09 19 06.3	
KHC				MLR	MLR		
	comp=Z,3μm,21.0s						
KHC	Kasperske Hory	160.90 335		ePKPdf	PKPdf	09 18 24.2	-0.4
XOR	Xorichti	160.91 297		P	PKPdf	09 18 22.8	-2.1
CONA	Conrad Observa	160.94 329		iPKPdf	PKPdf	09 18 24.0	-0.8
	comp=Z,19nm,1.4s						
VILL	Villia	161.08 294		P	PKPdf	09 18 23.4	-1.8
GEC2	GERESS Array S	161.09 334		ePKIKP	PKPdf	09 18 24.4	-0.5
GEC2	GERESS Array S	161.09 334		ePKPdf	PKPdf	09 18 24.4	-0.5
GERES	GERESS Array B	161.09 334		PKP	PKPdf	09 18 24.5	-0.4
	comp=Z,14nm,1.1s,baz=90,slow=1.3,SNR=23						
GERES				PKPab	PKPab	09 19 08.2	0.0
	comp=Z,7.7nm,0.9s,baz=46,slow=3.9,SNR=5.9						
GERES	GERESS Array B	161.09 334		PKP	PKPdf	09 18 24.5	-0.5
GERES				PKPab	PKPab	09 19 08.2	0.0
GEA0	GERESS Array S	161.10 334		ePKPdf	PKPdf	09 18 24.3	-0.6
DIVS	Divibare	161.24 314		P	PKPdf	09 18 23.7	-1.5
SKO	Skopje	161.31 306		iPKP	PKPdf	09 18 23.7	-1.5
HGN	Heimansgroeve	161.34 351		ePP	PKPab	09 19 08.4	-0.7
	comp=Z,55nm,0.9s						
MEM	Membach	161.48 350		PKP	PKPdf	09 18 24.9	-0.2
MEM				PKPab	PKPab	09 19 09.1	-0.6
AGG	Agios Georgios	161.64 297		ePKIKP	PKPdf	09 18 25.4	-0.3
AGG	Agios Georgios	161.64 297		ePKPdf	PKPdf	09 18 25.4	-0.3
KRUS	Krusevo	161.68 305		iPKP	PKPdf	09 18 23.8	-2.0
THL	Klokotos Trika	161.73 299		P	PKPdf	09 18 23.6	-2.1
BIA	Bitola	161.76 304		ePKP	PKPdf	09 18 24.3	-1.5
BCLA	Clavier	161.76 352		PKP	PKPdf	09 18 26.1	+0.6
BCLA				PKPab	PKPab	09 19 10.2	-0.7
SNF	Seneffe	161.78 354		PKP	PKPdf	09 18 25.8	+0.4
SNF				PKPab	PKPab	09 19 10.4	-0.5
KOGS	Kog	161.84 325		ePKPdf	PKPdf	09 18 24.3	-1.4
ANX	Ano Chora	162.06 296		P	PKPdf	09 18 25.2	-1.1
OHR	Ohrid	162.09 304		iPKP	PKPdf	09 18 24.8	-1.3
LAKA	Lakka	162.09 295		P	PKPdf	09 18 25.3	-0.9
DOU	Dourbes	162.16 353		PKP	PKPdf	09 18 25.3	-0.5
DOU				PKPab	PKPab	09 19 11.9	-0.7
PERS	Pernice	162.24 327		ePKPdf	PKPdf	09 18 24.9	-1.2
SOKA	Soboth	162.25 327		iPKPdf	PKPdf	09 18 24.0	-2.2
	comp=Z,39nm,1.4s						
DRO	Drossia	162.36 294		P	PKPdf	09 18 25.4	-1.1
WLF	Walferdange	162.38 349		PKP	PKPdf	09 18 26.5	+0.5
WLF				PKPab	PKPab	09 19 13.6	-0.1
WLF	Walferdange	162.38 349		PFAKE		09 18 40.0	+14
WLF				LR	LR		
	comp=Z,4μm,22.0s						
PYL	PYLOS	162.53 290		P	PKPdf	09 18 24.7	-1.9
OBKA	Obir	162.59 328		iPKPdf	PKPdf	09 18 23.7	-2.8
	comp=Z,35nm,1.7s						
TIR	Tirane	162.64 306		PFAKE		09 18 40.0	+13
TIR				LR	LR		
	comp=Z,6μm,21.0s						
LANF	Langenberg	162.73 345		PKP	PKPdf	09 18 25.9	-0.6
BOJS	Bojanci	163.00 324		ePKPdf	PKPdf	09 18 26.2	-0.6
WATA	Walderalm	163.13 335		iPKPdf	PKPdf	09 18 26.5	-0.6
	comp=Z,28nm,1.3s						
WTTA	Wattenberg	163.17 335		iPKPdf	PKPdf	09 18 26.9	-0.3
	comp=Z,27nm,1.3s						
BFO	Black Forest	163.22 343		ePKP2	PKPab	09 19 16.1	-1.3
BFO				MLR	MLR		
	comp=Z,3μm,22.0s						
BFO	Black Forest	163.22 343		ePKPab	PKPab	09 19 16.1	-1.3
BFO				LR	LR		
	comp=Z,3μm,22.0s						
ABTA	Abfaltersbach	163.27 332		iPKPdf	PKPdf	09 18 26.3	-0.9
	comp=Z,23nm,1.4s						
RETA	Reutte	163.28 337		iPKPdf	PKPdf	09 18 26.2	-0.9
	comp=Z,25nm,1.4s						
MOTA	Moosalm	163.29 336		iPKPdf	PKPdf	09 18 25.0	-2.3
	comp=Z,15nm,0.8s,SNR=8.4						
KEK	Kerkira	163.31 301		P	PKPdf	09 18 26.3	-1.0
TRI	Trieste	163.56 327		ePKP2	PKPab	09 19 17.1	-1.9
TRI	Trieste	163.56 327		ePKPab	PKPab	09 19 17.1	-1.9
ECH	Echery	163.59 346		PKP	PKPdf	09 18 26.1	-1.2
FETA	Feichten	163.70 336		iPKPdf	PKPdf	09 18 27.3	-0.4
	comp=Z,45nm,1.2s,SNR=9.5						
DAVA	Damuels	163.74 338		iPKPdf	PKPdf	09 18 27.1	-0.6
	comp=Z,32nm,1.2s						
THEF	They Montfort	163.80 348		PKP	PKPdf	09 18 26.8	-0.7
MOF	Molkenrain	163.94 345		PKP	PKPdf	09 18 26.5	-1.3
FUORN	Ofenpass-Fuorn	164.21 336		ePKPdf	PKPdf	09 18 28.4	+0.1
FUORN				ePKPab	PKPab	09 19 22.4	+0.2
LOMF	Lomont	164.48 346		PKP	PKPdf	09 18 27.6	-0.7
PMOZ	Porto Moniz, M	164.49 84		ePKPdf	PKPdf	09 18 28.5	-0.3
PMOZ	Porto Moniz, M	164.49 84		ePP	PP	09 23 12.2	+1.7
TUE	Stuetta	164.63 338		ePKPdf	PKPdf	09 18 28.0	-0.6
TUE				ePKPab	PKPab	09 19 24.0	+0.1
TUE				LR	LR		
	comp=Z,4μm,22.0s						
PMAR	Madeira	164.72 84		ePKPdf	PKPdf	09 18 30.1	+1.0
PMAR	Madeira	164.72 84		ePP	PP	09 23 13.6	+1.8
FUL	Funchal	164.74 84		ePKPdf	PKPdf	09 18 31.1	+2.3
FUL	Funchal	164.74 84		ePP	PP	09 23 17.0	+5.3
PMPS	Porto Santo	165.23 83		ePKPdf	PKPdf	09 18 30.6	+1.4
SENIN	Lac Senin/Sane	165.31 343		ePKPdf	PKPdf	09 18 29.6	+0.5
SENIN				ePKPab	PKPab	09 19 26.9	-0.1
CUC	Castrocucco	166.00 307		PFAKE		09 18 40.0	+10
CUC				LR	LR		
	comp=Z,3μm,22.0s						
AQU	L'Aquila	166.14 319		PFAKE		09 18 40.0	+10
AQU				LR	LR		
	comp=Z,4μm,22.0s						
VLC	Villacollemand	166.25 331		PFAKE		09 18 40.0	+10
VLC				LR	LR		
	comp=Z,3μm,21.0s						
CEL	Celeste	166.67 300		PFAKE		09 18 40.0	+10
CEL				LR	LR		
	comp=Z,3μm,21.0s						
BNI	Bardonecchia	166.69 343		ePKIKP	PKPdf	09 18 29.8	-0.4
BNI				e		09 19 32.9	
BNI				MLR	MLR		
	comp=Z,5μm,22.0s						
BNI	Bardonecchia	166.69 343		ePKPdf	PKPdf	09 18 29.8	-0.4
BNI				ePKPab	PKPab	09 19 32.9	0.0
BNI				LR	LR		
	comp=Z,5μm,22.0s						
SSB	Saint Sauveur	166.90 350		ePKIKP	PKPdf	09 18 30.4	+0.1
SSB				e		09 19 32.7	
SSB				MLR	MLR		
	comp=Z,3μm,21.0s						
SSB	Saint Sauveur	166.90 350		ePKPdf	PKPdf	09 18 30.4	+0.1
SSB				ePKPab	PKPab	09 19 32.7	-1.0
SSB				LR	LR		
	comp=Z,3μm,21.0s						
PGAV	Gavieira, Arco	167.85 36		ePKPdf	PKPdf	09 18 29.4	-1.7
PGAV	Gavieira, Arco	167.85 36		ePP	PP	09 23 28.4	+1.7
PGAV	Gavieira, Arco	167.85 36		eLR	LR	10 15 54.8	
	comp=Z,2μm,20.0s						
WDD	Wied Dalam	168.44 291		PFAKE		09 18 40.0	+8.5
WDD				LR	LR		
	comp=Z,2μm,20.0s						
POLO	Lamas de Olo	168.53 36		ePKPdf	PKPdf	09 18 31.5	-0.1
POLO	Lamas de Olo	168.53 36		ePP	PP	09 23 33.4	+3.2
PBRG	Braganca	168.70 32		eLR	LR	10 17 36.8	
	comp=Z,3μm,22.0s						
CLTB	Caltabellotta	168.89 301		PFAKE		09 18 40.0	+8.1
CLTB				LR	LR		
	comp=Z,2μm,22.0s						
MVO	Moncorvo	169.07 35		ePKPdf	PKPdf	09 18 32.8	+0.9
MVO	Moncorvo	169.07 35		ePP	PP	09 23 33.9	+1.1
MVO	Moncorvo	169.07 35		eLR	LR	10 17 41.4	
	comp=Z,3μm,22.0s						
PCAS	Casmilo, Conde	169.08 43		ePKPdf	PKPdf	09 18 32.3	+0.4
PCAS	Casmilo, Conde	169.08 43		ePP	PP	09 23 35.3	+2.2
PCAS	Casmilo, Conde	169.08 43		eLR	LR	10 17 55.4	
	comp=Z,2μm,22.0s						
PMAFR	Mafra	169.27 50		ePKPdf	PKPdf	09 18 33.9	+1.9
PMAFR	Mafra	169.27 50		ePP	PP	09 23 37.0	+2.8
MTE	Manteigas	169.38 39		ePKPdf	PKPdf	09 18 35.5	+3.4
MTE	Manteigas	169.38 39		ePP	PP	09 23 38.4	+3.9
MTE	Manteigas	169.38 39		eLR	LR	10 17 12.1	
	comp=Z,3μm,20.0s						
MTE	Manteigas	169.38 39		ePKPdf	PKPdf	09 18 33.1	+1.0
MTE				LR	LR		
	comp=Z,3μm,21.0s						
PTOM	Tomar	169.42 45		ePKPdf	PKPdf	09 18 35.3	+3.2
PMST	Lisbon--Monsan	169.46 50		ePKPdf	PKPdf	09 18 32.8	+0.7
PMST	Lisbon--Monsan	169.46 50		ePP	PP	09 23 38.6	+3.4
LIS	Lisbon	169.49 50		eP	PKPdf	09 18 32.5	+0.3
LIS				ePP	PP	09 23 36.2	+0.9
LIS				AMS	AMS	10 44 43.5	
	comp=Z,3μm,18.2s						
LIS	Lisbon	169.49 50		ePKPdf	PKPdf	09 18 35.4	+3.3
LIS	Lisbon	169.49 50		ePP	PP	09 23 38.0	+2.7
LIS	Lisbon	169.49 50		ePKIKP	PKPdf	09 18 32.4	+0.3
LIS				e		09 23 36.2	
TAM	Tamanrasset	169.67 203		ePKIKP	PKPdf	09 18 33.8	+0.8
TAM				MLR	MLR		
	comp=Z,3μm,20.0s						
TAM	Tamanrasset	169.67 203		ePKPdf	PKPdf	09 18 33.8	+0.8
TAM				LR	LR		
	comp=Z,3μm,20.0s						
PCBR	Castelo Branco	169.81 41		ePKPdf	PKPdf	09 18 32.1	-0.2
PMRV	Marv??o	170.13 42		ePKPdf	PKPdf	09 18 29.1	-3.4
PMRV	Marv??o	170.13 42		ePP	PP	09 23 39.8	+1.5
PNCL	Nicolau / Gran	170.23 52		ePKPdf	PKPdf	09 18 32.3	-0.3
PNCL	Nicolau / Gran	170.23 52		ePP	PP	09 23 43.2	+4.1
VSL	Villasalto	170.32 319		ePKPdf	PKPdf	09 18 32.8	+0.2
VSL				LR	LR		
	comp=Z,3μm,21.0s						
EVO	Evora	170.33 48		ePKPdf	PKPdf	09 18 33.5	+0.9
EVO	Evora	170.33 48		ePP	PP	09 23 40.9	+1.4
PESTR	Estremoz	170.38 46		ePKPdf	PKPdf	09 18 34.3	+1.6
PESTR	Estremoz	170.38 46		ePP	PP	09 23 40.9	+1.2
PESTR	Estremoz	170.38 46		eLR	LR	10 17 13.6	
	comp=Z,3μm,20.0s						
PTEO	Sao Teotonio	170.39 55		ePKPdf	PKPdf	09 18 34.4	+1.7
PTEO	Sao Teotonio	170.39 55		ePP	PP	09 23 42.8	+2.8
PFVI	Vila Bisbo	170.51 58		ePKPdf	PKPdf	09 18 34.4	+1.6
PFVI	Vila Bisbo	170.51 58		ePP	PP	09 23 43.9	+3.2
PFVI	Vila Bisbo	170.51 58		eLR	LR	10 17 53.8	
	comp=Z,2μm,20.0s						
PFVI	Vila Bisbo	170.51 58		ePKPdf	PKPdf	09 18 34.1	+1.4
MORF	Marmelete	170.56 56		eP	PKPdf	09 18 33.1	+0.2
MORF				ePP	PP	09 23 41.5	+0.6
MORF				AMS	AMS	10 41 11.3	
	comp=Z,3μm,21.9s						
MORF	Marmelete	170.56 56		ePKPdf	PKPdf	09 18 35.5	+2.6
MORF	Marmelete	170.56 56		ePP	PP	09 23 42.3	+1.4
MORF	Marmelete	170.56 56		eLR	LR	10 18 26.6	
	comp=Z,3μm,20.0s						
MORF	Marmelete	170.56 56		ePKIKP	PKPdf	09 18 33.1	+0.2
MORF				e		09 23 41.5	
PB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.16**	**194**	*i* P	**Pg**	**08 58 43.9**	**-0.1**
GCAM				*i* S	**Sb**	**08 58 47.2**	**-0.9**
GCAM	**G?zelcaml?**	**0.16**	**194**	P	**Pg**	**08 58 43.9**	**-0.1**
GCAM				S	**Sb**	**08 58 47.2**	**-0.9**
GMLD	**Gumuldur**	**0.36**	**308**	*e*PG	**Pg**	**08 58 47.4**	**-0.2**
GMLD				*e*SG	**Sg**	**08 58 52.7**	**+0.1**
GMLD	**Gumuldur**	**0.36**	**308**	*e*Pg	**Pg**	**08 58 47.4**	**-0.2**
GMLD				*e*Sg	**Sg**	**08 58 52.7**	**+0.1**
DGB	**˜zmir**	**0.37**	**302**	*i* P	**Pg**	**08 58 47.2**	**-0.5**
DGB				*i* S	**Sg**	**08 58 52.3**	**-0.5**
SMG	**Samos**	**0.38**	**248**	P	**Pg**	**08 58 47.9**	**0.0**
SMG				S	**Sb**	**08 58 54.5**	**-0.1**
SMG	**Samos**	**0.38**	**248**	P	**Pg**	**08 58 47.7**	**-0.2**
SMG				S	**Sb**	**08 58 54.0**	**-0.6**
SMG				AML	AML	08 58 55.0	
	comp=E,26612μm,0.3s						
SMG				AML	AML	08 58 55.0	
	comp=N,22840μm,0.3s						
SMG	**Samos**	**0.38**	**248**	P	**Pg**	**08 58 47.9**	**0.0**
SMG				S	**Sb**	**08 58 54.0**	**-0.6**
DIDI	**Didim-Aydin**	**0.48**	**184**	*e*PG	**Pg**	**08 58 49.7**	**+0.1**
DIDI	**Didim-Aydin**	**0.48**	**184**	*e*Pg	**Pg**	**08 58 49.7**	**+0.1**
AYDN	**Tasoluk**	**0.51**	**112**	*i* P	**Pg**	**08 58 50.2**	**-0.1**
AYDN				*i* S	**Sg**	**08 58 56.8**	**-0.3**
AYDN	**Tasoluk**	**0.51**	**112**	P	**Pg**	**08 58 50.2**	**-0.1**
AYDN				S	**Sg**	**08 58 56.8**	**-0.3**
MLSB	**Milas**	**0.68**	**145**	*e*PG	**Pn**	**08 58 55.0**	**-0.6**
MLSB	**Milas**	**0.68**	**145**	*e*Pg	**Pn**	**08 58 55.0**	**-0.6**
ZEY	**˜zmir**	**0.72**	**302**	*i* P	**Pg**	**08 58 53.7**	**-0.6**
ZEY				*i* S	**Sg**	**08 59 03.6**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.73**	**180**	*e*PG	**Pb**	**08 58 54.4**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.73**	**180**	*e*Pg	**Pb**	**08 58 54.4**	**-0.3**
URLA	**Izmir**	**0.74**	**313**	*e*PG	**Pg**	**08 58 54.0**	**-0.6**
URLA	**Izmir**	**0.74**	**313**	*i* P	**Pg**	**08 58 54.0**	**-0.6**
URLA				*i* S	**Sg**	**08 59 04.0**	**-0.4**
URLA	**Izmir**	**0.74**	**313**	P	**Pg**	**08 58 54.0**	**-0.6**
URLA				S	**Sg**	**08 59 04.0**	**-0.4**
BODT	**Bodrum**	**0.79**	**178**	*e*PG	**Pb**	**08 58 55.9**	**+0.1**
BODT	**Bodrum**	**0.79**	**178**	P	**Pg**	**08 58 55.1**	**-0.4**
BODT	**Bodrum**	**0.79**	**178**	P	**Pg**	**08 58 55.1**	**-0.4**
BODT	**Bodrum**	**0.79**	**178**	*e*Pg	**Pb**	**08 58 55.9**	**+0.1**
BDRM	**Kayabasi**	**0.80**	**171**	*i* P	**Pg**	**08 58 55.1**	**-0.6**
BDRM				*i* S	**Sn**	**08 59 11.6**	**+2.8**
BDRM	**Kayabasi**	**0.80**	**171**	P	**Pg**	**08 58 55.1**	**-0.6**
CESE	**˜e˜me**	**0.91**	**302**	*e*PG	**Pg**	**08 58 57.8**	**0.0**
CESE	**˜e˜me**	**0.91**	**302**	*e*Pg	**Pg**	**08 58 57.8**	**0.0**
KRBN	**Karaburun**	**0.94**	**322**	*e*PG	**Pg**	**08 58 58.6**	**+0.4**
KRBN	**Karaburun**	**0.94**	**322**	*e*Pg	**Pg**	**08 58 58.7**	**+0.4**
FOCM	**Fo˜§a**	**0.96**	**333**	*e*PG	**Pn**	**08 58 59.7**	**+0.3**
FOCM	**Fo˜§a**	**0.96**	**333**	*e*Pg	**Pn**	**08 58 59.7**	**+0.3**
AKHS	**Akhisar**	**1.11**	**22**	*i* P	**Pb**	**08 58 59.7**	**-1.5**
AKHS	**Akhisar**	**1.11**	**22**	P	**Pb**	**08 58 59.7**	**-1.5**
DATC	**Datca-Mugla**	**1.13**	**164**	*e*PN	**Pg**	**08 59 02.6**	**+0.6**
DATC	**Datca-Mugla**	**1.13**	**164**	*e*Pn	**Pg**	**08 59 02.6**	**+0.6**
DAT	**Datca**	**1.15**	**168**	*e*PN	**Pg**	**08 59 02.7**	**+0.4**
DAT	**Datca**	**1.15**	**168**	*i* P	**Pb**	**08 59 01.1**	**-0.8**
DAT				*i* S	**Sn**	**08 59 19.9**	**+2.3**
DAT	**Datca**	**1.15**	**168**	P	**Pb**	**08 59 01.1**	**-0.8**
DAT	**Datca**	**1.15**	**168**	*e*Pn	**Pg**	**08 59 02.7**	**+0.4**
MANT	**Manisa**	**1.19**	**57**	*i* P	**Pn**	**08 59 01.8**	**-1.0**
MANT	**Manisa**	**1.19**	**57**	P	**Pn**	**08 59 01.8**	**-1.0**
NISR	**Nisiros**	**1.25**	**186**	P	**Pn**	**08 59 02.6**	**-0.7**
NISR	**Nisiros**	**1.25**	**186**	P	**Pg**	**08 59 04.2**	**0.0**
NISR	**Nisiros**	**1.25**	**186**	P	**Pg**	**08 59 04.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.25**	**184**	*e*PN	**Pg**	**08 59 04.0**	**-0.3**
NIS1	**Nisyros Isl.**	**1.25**	**184**	P	**Pn**	**08 59 02.4**	**-0.9**
NIS1				S	**Sg**	**08 59 20.1**	**-0.5**
NIS1	**Nisyros Isl.**	**1.25**	**184**	P	**Pn**	**08 59 02.5**	**-0.9**
NIS1	**Nisyros Isl.**	**1.25**	**184**	P	**Pn**	**08 59 02.5**	**-0.9**
NIS1	**Nisyros Isl.**	**1.25**	**184**	*e*Pn	**Pg**	**08 59 04.0**	**-0.3**
NIS1				S	**Sg**	**08 59 20.1**	**-0.5**
KULA	**Kula-Manisa**	**1.27**	**58**	P	**Pn**	**08 59 03.2**	**-0.5**
KULA				S	**Sb**	**08 59 20.7**	**+0.4**
KULA	**Kula-Manisa**	**1.27**	**58**	P	**Pn**	**08 59 03.2**	**-0.5**
KULA				S	**Sb**	**08 59 20.7**	**+0.4**
MRSB	**Marmaris-Mugla**	**1.35**	**147**	*e*PN	**Pg**	**08 59 07.0**	**+0.8**
MRSB	**Marmaris-Mugla**	**1.35**	**147**	*e*Pn	**Pg**	**08 59 07.0**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.35**	**106**	*i* P	**Pn**	**08 59 04.4**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.35**	**106**	P	**Pn**	**08 59 04.4**	**-0.4**
DNZL	**Cakiroluk**	**1.41**	**96**	*i* P	**Pn**	**08 59 05.3**	**-0.4**
DNZL	**Cakiroluk**	**1.41**	**96**	P	**Pn**	**08 59 05.3**	**-0.4**
TURN	**Turunc**	**1.44**	**133**	*i* P	**Pn**	**08 59 03.6**	**-2.3**
TURN				*i* S	**Sn**	**08 59 24.6**	**0.0**
TURN	**Turunc**	**1.44**	**133**	P	**Pn**	**08 59 03.6**	**-2.3**
TURN				S	**Sn**	**08 59 24.6**	**0.0**
DALY	**Dalyan (Mu˜la**	**1.51**	**133**	*e*PN	**Pg**	**08 59 09.8**	**+0.7**
DALY	**Dalyan (Mu˜la**	**1.51**	**133**	*i* P	**Pn**	**08 59 06.9**	**+0.1**
DALY	**Dalyan (Mu˜la**	**1.51**	**133**	P	**Pn**	**08 59 06.9**	**+0.1**
DALY	**Dalyan (Mu˜la**	**1.51**	**133**	*e*Pn	**Pg**	**08 59 09.8**	**+0.7**
AYVA	**Ayvalik**	**1.52**	**342**	*i* P	**Pb**	**08 59 08.7**	**+0.3**
AYVA				*i* S	**Sb**	**08 59 28.0**	**+0.5**
AYVA	**Ayvalik**	**1.52**	**342**	P	**Pb**	**08 59 08.6**	**+0.3**
AYVA				S	**Sb**	**08 59 28.0**	**+0.5**
CUND	**Cunda Adasi-Ba**	**1.56**	**342**	*e*PN	**Pg**	**08 59 10.2**	**+0.1**
CUND	**Cunda Adasi-Ba**	**1.56**	**342**	*e*Pn	**Pg**	**08 59 10.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.56**	**13**	*i* P	**Pn**	**08 59 08.2**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.56**	**13**	P	**Pn**	**08 59 08.1**	**+0.5**
APE	**Apeiranthos**	**1.60**	**241**	*e*PN	**Pb**	**08 59 08.9**	**-0.6**
APE	**Apeiranthos**	**1.60**	**241**	P	**Pn**	**08 59 08.5**	**+0.3**
APE				S	**Sb**	**08 59 30.1**	**+0.4**
APE	**Apeiranthos**	**1.60**	**241**	P	**Pn**	**08 59 07.7**	**-0.5**
APE				S	**Sg**	**08 59 33.4**	**+1.7**
APE				AML	AML	08 59 36.5	
	comp=N,686μm,0.4s						
APE				AML	AML	08 59 39.4	
	comp=E,697μm,0.3s						
APE	**Apeiranthos**	**1.60**	**241**	P	**Pn**	**08 59 08.5**	**+0.3**
APE	**Apeiranthos**	**1.60**	**241**	*e*Pn	**Pb**	**08 59 09.0**	**-0.6**
APE				S	**Sg**	**08 59 33.4**	**+1.7**
PRK	**Paraskevi**	**1.60**	**331**	P	**Pn**	**08 59 08.8**	**+0.7**
PRK				S	**Sb**	**08 59 30.8**	**+1.1**
PRK	**Paraskevi**	**1.60**	**331**	P	**Pb**	**08 59 09.3**	**-0.3**
PRK				S	**Sb**	**08 59 30.4**	**+0.7**
PRK				AML	AML	08 59 33.6	
	comp=N,3352μm,0.4s						
PRK				AML	AML	08 59 35.8	
	comp=E,3307μm,0.5s						
PRK	**Paraskevi**	**1.60**	**331**	P	**Pb**	**08 59 09.3**	**-0.3**
PRK				S	**Sb**	**08 59 30.4**	**+0.7**
DEMI	**Demirci**	**1.64**	**43**	*i* P	**Pb**	**08 59 10.0**	**-0.3**
DEMI	**Demirci**	**1.64**	**43**	P	**Pb**	**08 59 10.0**	**-0.3**
SIGR	**SIGRI**	**1.76**	**321**	*e*PN	**Pb**	**08 59 12.6**	**+0.3**
SIGR	**SIGRI**	**1.76**	**321**	P	**Pn**	**08 59 11.0**	**+0.7**
SIGR				S	**Sb**	**08 59 34.5**	**+0.3**
SIGR	**SIGRI**	**1.76**	**321**	P	**Pn**	**08 59 10.6**	**+0.2**
SIGR				S	**Sb**	**08 59 34.5**	**+0.3**
SIGR				AML	AML	08 59 36.4	
	comp=E,1092μm,0.5s						
SIGR				AML	AML	08 59 38.6	
	comp=N,1075μm,0.3s						
SIGR	**SIGRI**	**1.76**	**321**	P	**Pn**	**08 59 11.0**	**+0.7**
SIGR	**SIGRI**	**1.76**	**321**	*e*Pn	**Pb**	**08 59 12.6**	**+0.3**
SIGR				S	**Sb**	**08 59 34.6**	**+0.3**
ARG	**Arkhangelos**	**1.77**	**157**	P	**Pb**	**08 59 11.6**	**-0.8**
ARG				S	**Sb**	**08 59 34.4**	**-0.1**
ARG				AML	AML	08 59 46.6	
	comp=N,1341μm,0.9s						
ARG				AML	AML	08 59 46.6	
	comp=E,1172μm,0.6s						
ARG	**Arkhangelos**	**1.77**	**157**	P	**Pb**	**08 59 11.6**	**-0.8**
ARG				S	**Sb**	**08 59 34.4**	**-0.1**
KHAL	**Karahalli**	**1.82**	**73**	*i* P	**Pn**	**08 59 11.4**	**+0.1**
KHAL	**Karahalli**	**1.82**	**73**	P	**Pn**	**08 59 11.4**	**+0.1**
FETY	**Fethiye**	**1.88**	**130**	P	**Pn**	**08 59 11.2**	**-0.9**
FETY				S	**Sn**	**08 59 35.2**	**-0.5**
FETY	**Fethiye**	**1.88**	**130**	P	**Pn**	**08 59 12.4**	**+0.3**
FETY				S	**Sn**	**08 59 35.2**	**-0.5**
BALY	**Balya**	**1.90**	**8**	*i* P	**Pn**	**08 59 12.1**	**-0.3**
BALY	**Balya**	**1.90**	**8**	P	**Pn**	**08 59 12.1**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.97**	**343**	*i* P	**Pn**	**08 59 12.0**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**1.97**	**343**	P	**Pn**	**08 59 12.0**	**-1.3**
CMBO	**Columbo, Santo**	**2.04**	**228**	P	**Pb**	**08 59 17.1**	**0.0**
CMBO	**Columbo, Santo**	**2.04**	**228**	P	**Pb**	**08 59 17.1**	**0.0**
GEDZ	**Gediz**	**2.05**	**54**	*e*PN	**Pb**	**08 59 18.6**	**+1.3**
GEDZ	**Gediz**	**2.05**	**54**	*e*Pn	**Pb**	**08 59 18.6**	**+1.3**
SANT	**Santorini**	**2.08**	**225**	P	**Pb**	**08 59 18.4**	**+0.7**
SANT	**Santorini**	**2.08**	**225**	P	**Pb**	**08 59 18.4**	**+0.7**
EZN	**Ezine**	**2.11**	**340**	*e*PN	**Pb**	**08 59 17.9**	**-0.3**
EZN	**Ezine**	**2.11**	**340**	*e*Pn	**Pb**	**08 59 17.9**	**-0.3**
THR5	**Thira Island,**	**2.11**	**228**	P	**Pb**	**08 59 17.7**	**-0.6**
THR5	**Thira Island,**	**2.11**	**228**	P	**Pb**	**08 59 17.7**	**-0.6**
GDZ	**Gediz**	**2.12**	**54**	*i* P	**Pn**	**08 59 17.0**	**+1.5**
GDZ	**Gediz**	**2.12**	**54**	P	**Pn**	**08 59 17.0**	**+1.5**
THR6	**Thira Island,**	**2.12**	**226**	P	**Pn**	**08 59 15.7**	**+0.4**
THR6	**Thira Island,**	**2.12**	**226**	P	**Pb**	**08 59 17.9**	**-0.6**
THR6	**Thira Island,**	**2.12**	**226**	P	**Pb**	**08 59 17.9**	**-0.6**
BOZC	**Bozcaada**	**2.21**	**335**	*e*PN	**Pb**	**08 59 19.0**	**-0.9**
BOZC	**Bozcaada**	**2.21**	**335**	*e*Pn	**Pb**	**08 59 19.0**	**-0.9**
KARP	**Karpathos**	**2.30**	**182**	*e*PN	**Pb**	**08 59 19.7**	**-1.9**
KARP	**Karpathos**	**2.30**	**182**	P	**Pn**	**08 59 17.8**	**-0.1**
KARP	**Karpathos**	**2.30**	**182**	P	**Pn**	**08 59 17.8**	**-0.1**
KARP	**Karpathos**	**2.30**	**182**	*e*Pn	**Pb**	**08 59 19.7**	**-1.9**
TVSB	**Tavsanli**	**2.33**	**46**	*e*PN	**Pb**	**08 59 22.3**	**+0.1**
TVSB	**Tavsanli**	**2.33**	**46**	*e*Pn	**Pb**	**08 59 22.3**	**+0.1**
ELL	**Elmali**	**2.37**	**117**	*e*PN	**Pb**	**08 59 22.1**	**-0.6**
ELL	**Elmali**	**2.37**	**117**	*e*Pn	**Pb**	**08 59 22.1**	**-0.6**
AKAS	**Kas**	**2.46**	**130**	*e*PN	**Pb**	**08 59 23.4**	**-1.0**
AKAS	**Kas**	**2.46**	**130**	*e*Pn	**Pb**	**08 59 23.4**	**-1.0**
EDC	**Edincik**	**2.53**	**10**	*e*PN	**Pb**	**08 59 24.6**	**-0.9**
EDC	**Edincik**	**2.53**	**10**	*e*Pn	**Pb**	**08 59 24.6**	**-0.9**
MHLA	**Plaka, Milos I**	**2.53**	**245**	P	**Pb**	**08 59 24.5**	**-1.0**
MHLA				S	**Sb**	**08 59 56.0**	**-0.6**
MHLA				AML	AML	09 00 05.7	
	comp=E,814μm,0.7s						
MHLA				AML	AML	09 00 09.3	
	comp=N,921μm,0.7s						
MHLA	**Plaka, Milos I**	**2.53**	**245**	P	**Pb**	**08 59 24.5**	**-1.0**
MHLA				S	**Sb**	**08 59 56.0**	**-0.6**
KRBG	**Karabiga-Canak**	**2.54**	**0**	*e*PN	**Pb**	**08 59 25.2**	**-0.4**
KRBG	**Karabiga-Canak**	**2.54**	**0**	*e*Pn	**Pb**	**08 59 25.2**	**-0.4**
LPK	**Lapseki**	**2.55**	**351**	*e*PN	**Pb**	**08 59 24.8**	**-0.9**
LPK	**Lapseki**	**2.55**	**351**	*e*Pn	**Pb**	**08 59 24.8**	**-0.9**
KCTX	**Karacabey (Bur**	**2.55**	**19**	*e*PN	**Pb**	**08 59 25.0**	**-0.8**
KCTX	**Karacabey (Bur**	**2.55**	**19**	*e*Pn	**Pb**	**08 59 25.0**	**-0.8**
GADA	**Gvkgeada**	**2.57**	**336**	*e*PN	**Pb**	**08 59 24.3**	**-1.8**
GADA	**Gvkgeada**	**2.57**	**336**	*e*Pn	**Pb**	**08 59 24.3**	**-1.8**
MHLO	**Agia Marina, M**	**2.57**	**244**	P	**Pb**	**08 59 24.6**	**-1.6**
MHLO				S	**Sb**	**08 59 57.3**	**-0.4**
MHLO				AML	AML	09 00 05.4	
	comp=E,923μm,0.4s						
MHLO				AML	AML	09 00 08.3	
	comp=N,1288μm,0.6s						
MHLO	**Agia Marina, M**	**2.57**	**244**	P	**Pb**	**08 59 24.6**	**-1.6**
MHLO				S	**Sb**	**08 59 57.3**	**-0.4**
KORT	**Korkueli**	**2.59**	**108**	*e*PN	**Pb**	**08 59 25.8**	**-0.7**
KORT	**Korkueli**	**2.59**	**108**	*e*Pn	**Pb**	**08 59 25.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**2.62**	**346**	*e*PN	**Pb**	**08 59 25.9**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.62**	**346**	*e*Pn	**Pb**	**08 59 25.9**	**-1.0**
LIA	**Limnos Island**	**2.62**	**322**	P	**Pn**	**08 59 21.4**	**-0.7**
LIA				S	**Sb**	**08 59 56.5**	**-2.5**
LIA				AML	AML	09 00 06.6	
	comp=E,166μm,0.9s						
LIA				AML	AML	09 00 10.5	
	comp=N,141μm,0.6s						
LIA	**Limnos Island**	**2.62**	**322**	P	**Pn**	**08 59 21.4**	**-0.7**
LIA				S	**Sb**	**08 59 56.5**	**-2.5**
MRMT	**Marmara Adasi**	**2.76**	**5**	*e*PN	**Pb**	**08 59 27.6**	**-1.8**
MRMT	**Marmara Adasi**	**2.76**	**5**	*e*Pn	**Pb**	**08 59 27.6**	**-1.8**
MDNY	**Mudanya-Bursa**	**2.80**	**26**	*e*PN	**Pb**	**08 59 28.8**	**-1.3**
MDNY	**Mudanya-Bursa**	**2.80**	**26**	*e*Pn	**Pb**	**08 59 28.8**	**-1.3**
ERIK	**Erikli-Kesan**	**2.88**	**348**	*e*PN	**Pb**	**08 59 29.1**	**-2.2**
ERIK	**Erikli-Kesan**	**2.88**	**348**	*e*Pn	**Pb**	**08 59 29.1**	**-2.2**
SMTH	**Samothraki Isl**	**2.95**	**333**	P	**Pn**	**08 59 25.1**	**-1.6**
SMTH	**Samothraki Isl**	**2.95**	**333**	P	**Pn**	**08 59 25.1**	**-1.6**
ARMT	**Armutlu**	**2.97**	**24**	*e*PN	**Pb**	**08 59 31.6**	**-1.4**
ARMT	**Armutlu**	**2.97**	**24**	*e*Pn	**Pb**	**08 59 31.6**	**-1.4**
SBT5	**Esenkoy-Cinarc**	**3.04**	**24**	*e*PN	**Pb**	**08 59 32.1**	**-2.0**
SBT5	**Esenkoy-Cinarc**	**3.04**	**24**	*e*Pn	**Pb**	**08 59 32.1**	**-2.0**
SBT3	**Marmara-Eregli**	**3.07**	**10**	*e*PN	**Pb**	**08 59 32.7**	**-1.9**
SBT3	**Marmara-Eregli**	**3.07**	**10**	*e*Pn	**Pb**	**08 59 32.7**	**-1.9**
CAVI	**Cavuskoy**	**3.08**	**40**	*e*PN	**Pb**	**08 59 33.1**	**-1.7**
CAVI	**Cavuskoy**	**3.08**	**40**	*e*Pn	**Pb**	**08 59 33.1**	**-1.7**
SBT2	**Guzelce-Avcila**	**3.17**	**17**	*e*PN	**Pb**	**08 59 34.4**	**-1.9**
SBT2	**Guzelce-Avcila**	**3.17**	**17**	*e*Pn	**Pb**	**08 59 34.4**	**-1.9**
ALN	**Alexandroupoli**	**3.19**	**343**	*e*PN	**Pb**	**08 59 33.8**	**-2.9**
ALN	**Alexandroupoli**	**3.19**	**343**	P	**Pn**	**08 59 29.2**	**-0.8**
ALN	**Alexandroupoli**	**3.19**	**343**	P	**Pn**	**08 59 29.2**	**-0.8**
ALN	**Alexandroupoli**	**3.19**	**343**	*e*Pn	**Pb**	**08 59 33.8**	**-2.9**
ADVT	**Abdulvahap**	**3.21**	**36**	*e*PN	**Pb**	**08 59 34.6**	**-2.4**
ADVT	**Abdulvahap**	**3.21**	**36**	*e*Pn	**Pb**	**08 59 34.6**	**-2.4**
RDO	**Rodhopi**	**3.55**	**338**	P	**Pn**	**08 59 34.2**	**-0.8**
RDO	**Rodhopi**	**3.55**	**338**	P	**Pn**	**08 59 34.2**	**-0.8**
KLYT	**Kilyos**	**3.66**	**21**	*e*PN	**Pn**	**08 59 40.7**	**+4.3**
KLYT	**Kilyos**	**3.66**	**21**	*e*Pn	**Pn**	**08 59 40.7**	**+4.3**
CTYL	**Yalikoy Yolu**	**3.70**	**12**	*e*PN	**Pn**	**08 59 41.1**	**+4.1**
CTYL	**Yalikoy Yolu**	**3.70**	**12**	*e*Pn	**Pn**	**08 59 41.1**	**+4.1**
ANKY	**Antikythira Is**	**3.76**	**239**	P	**Pn**	**08 59 39.9**	**+2.0**
ANKY	**Antikythira Is**	**3.76**	**239**	P	**Pn**	**08 59 39.8**	**+2.0**
SILT	**Sile**	**3.77**	**28**	*e*PN	**Pb**	**08 59 42.5**	**-4.0**
SILT	**Sile**	**3.77**	**28**	*e*Pn	**Pb**	**08 59 42.5**	**-4.0**
EDRB	**Edirne**	**4.01**	**354**	*e*PN	**Pn**	**08 59 45.4**	**+4.1**
EDRB	**Edirne**	**4.01**	**354**	*e*Pn	**Pn**	**08 59 45.4**	**+4.1**

DDA 07 08:59:38.7, 37°.88N×27°.27E, h7km, Ml2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.18**	**189**	*i* P	Pg	08 59 42.7	+0.4
GCAM				*i* S	Sg	08 59 45.7	+1.0
DGB	**˜zmir**	**0.35**	**300**	*i* P	Pg	08 59 46.1	+0.6
DGB				*i* S	Sg	08 59 51.1	+0.9
AYDN	**Tasoluk**	**0.53**	**114**	*i* P	Pg	08 59 49.2	+0.2
AYDN				*i* S	Sg	08 59 55.5	-0.3
ZEY	**˜zmir**	**0.70**	**301**	*i* P	Pg	08 59 52.4	+0.2
ZEY				*i* S	Sb	09 00 02.7	-0.5
ZEY	**˜zmir**	**0.70**	**301**	*i* P	Sb	09 00 02.6	-0.6

DDA ***07*** *08:59:58.5, 37°.88N×27°.27E, h7km, Ml3.1*
ISK ***07*** *08:59:58.4, 37°.86N×27°.27E, h5km, ML3.2*
ISCJB ***07*** *08:59:59.2±0.5, 37°.86N±0°.03×27°.27E±0°.04, h4km±6km, Error ellipse: s-maj=6.7km s-min=3.0km az=149.6*
CSEM ***07*** *08:59:59.5±0.1, 37°.86N×27°.29E, h2km, ML3.1, Error ellipse: s-maj=3.7km s-min=2.1km az=74.0*
ISC 07 08:59:59.0±1.0, 37°.87N±0°.02×27°.28E±0°.03, h7km±10km, n73, σ0s99/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.17**	**192**	*i* P	**Pg**	**09 00 02.4**	**0.0**
GCAM				*i* S	**Sg**	**09 00 05.5**	**+0.6**
GCAM	**G?zelcaml?**	**0.17**	**192**	P	**Pg**	**09 00 02.4**	**0.0**
GCAM				S	**Sg**	**09 00 05.4**	**+0.6**
GMLD	**Gumuldur**	**0.35**	**306**	*e*PG	**Pg**	**09 00 05.8**	**-0.1**
GMLD	**Gumuldur**	**0.35**	**306**	*e*Pg	**Pg**	**09 00 05.8**	**-0.1**
DGB	**˜zmir**	**0.36**	**301**	*i* P	**Pg**	**09 00 05.7**	**-0.4**
DGB				*i* S	**Sg**	**09 00 10.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**81**	*e*PG	**Pb**	**09 00 09.1**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**81**	*e*Pg	**Pb**	**09 00 09.1**	**-1.0**
DIDI	**Didim-Aydin**	**0.49**	**184**	*e*PG	**Pb**	**09 00 09.0**	**-1.0**
DIDI	**Didim-Aydin**	**0.49**	**184**	*e*Pg	**Pb**	**09 00 09.0**	**-1.0**
AYDN	**Tasoluk**	**0.52**	**113**	*i* P	**Pg**	**09 00 08.8**	**-0.2**
AYDN	**Tasoluk**	**0.52**	**113**	P	**Pg**	**09 00 08.8**	**-0.2**
MLSB	**Milas**	**0.69**	**145**	*e*PG	**Pb**	**09 00 13.2**	**-0.3**
MLSB				*e*SG	**Sb**	**09 00 23.6**	**+0.3**
MLSB	**Milas**	**0.69**	**145**	*e*Pg	**Pb**	**09 00 13.2**	**-0.3**
MLSB				*e*Sg	**Sb**	**09 00 23.6**	**+0.3**
ZEY	**˜zmir**	**0.71**	**301**	*i* S	**Sg**	**09 00 22.3**	**+0.2**
URLA	**Izmir**	**0.73**	**313**	*e*PG	**Pb**	**09 00 13.5**	**-0.6**
URLA				*e*SG	**Sb**	**09 00 24.5**	**+0.2**
URLA	**Izmir**	**0.73**	**313**	*e*Pg	**Pb**	**09 00 13.5**	**-0.6**
URLA				*e*Sg	**Sb**	**09 00 24.5**	**+0.2**
YKAV	**Yalikavak-Bodr**	**0.74**	**180**	*e*PG	**Pb**	**09 00 13.8**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.74**	**180**	*e*Pg	**Pb**	**09 00 13.8**	**-0.4**
BODT	**Bodrum**	**0.81**	**178**	*e*PG	**Pb**	**09 00 14.9**	**-0.4**
BODT				*e*SG	**Sb**	**09 00 26.8**	**+0.4**
BODT	**Bodrum**	**0.81**	**178**	*e*Pg	**Pb**	**09 00 14.9**	**-0.4**
BODT				*e*Sg	**Sb**	**09 00 26.8**	**+0.4**
BDRM	**Kayabasi**	**0.81**	**171**	*i* P	**Pb**	**09 00 15.0**	**-0.4**
BDRM	**Kayabasi**	**0.81**	**171**	P	**Pb**	**09 00 15.0**	**-0.4**
DATC	**Datca-Mugla**	**1.15**	**164**	*e*PN	**Pn**	**09 00 21.5**	**0.0**
DATC	**Datca-Mugla**	**1.15**	**164**	*e*Pn	**Pn**	**09 00 21.5**	**0.0**
DAT	**Datca**	**1.16**	**168**	*e*PN	**Pn**	**09 00 21.6**	**-0.2**
DAT	**Datca**	**1.16**	**168**	*i* P	**Pb**	**09 00 21.2**	**-0.3**
DAT	**Datca**	**1.16**	**168**	P	**Pb**	**09 00 21.2**	**-0.3**
DAT	**Datca**	**1.16**	**168**	*e*Pn	**Pn**	**09 00 21.6**	**-0.2**
DKL	**Dikili**	**1.24**	**346**	*e*PN	**Pn**	**09 00 23.1**	**+0.4**
DKL	**Dikili**	**1.24**	**346**	*e*Pn	**Pn**	**09 00 23.1**	**+0.4**
NIS1	**Nisyros Isl.**	**1.27**	**184**	*e*PN	**Pn**	**09 00 23.6**	**+0.4**
NIS1	**Nisyros Isl.**	**1.27**	**184**	*e*Pn	**Pn**	**09 00 23.6**	**+0.4**
KULA	**Kula-Manisa**	**1.27**	**59**	*e*PN	**Pn**	**09 00 23.6**	**+0.4**
KULA	**Kula-Manisa**	**1.27**	**59**	*e*Pn	**Pn**	**09 00 23.6**	**+0.4**
MRSB	**Marmaris-Mugla**	**1.36**	**147**	*e*PN	**Pg**	**09 00 25.4**	**+0.3**
MRSB	**Marmaris-Mugla**	**1.36**	**147**	*e*Pn	**Pg**	**09 00 25.5**	**+0.3**
DNZL	**Cakiroluk**	**1.41**	**97**	*i* P	**Pb**	**09 00 25.6**	**-0.2**
DNZL	**Cakiroluk**	**1.41**	**97**	P	**Pb**	**09 00 25.6**	**-0.2**
TURN	**Turunc**	**1.45**	**133**	*i* P	**Pn**	**09 00 23.3**	**-2.3**
TURN				*i* S	**Sb**	**09 00 43.3**	**-1.6**
AYVA	**Ayvalik**	**1.51**	**342**	*i* P	**Pg**	**09 00 27.7**	**-0.3**
AYVA	**Ayvalik**	**1.51**	**342**	P	**Pg**	**09 00 27.7**	**-0.3**
DALY	**Dalyan (Mu˜la**	**1.52**	**133**	*e*PN	**Pg**	**09 00 27.8**	**-0.3**
DALY	**Dalyan (Mu˜la**	**1.52**	**133**	*i* P	**Pg**	**09 00 28.5**

YKAV	Yalikavak-Bodr	0.77	181	ePG	Pg	09	16	04.4 +0.3
YKAV	Yalikavak-Bodr	0.77	181	ePg	Pg	09	16	04.4 +0.3
BODT	Bodrum	0.83	179	ePG	Pg	09	16	04.9 -0.4
BODT	Bodrum	0.83	179	ePg	Pg	09	16	04.9 -0.4
BDRM	Kayabasi	0.84	172	i P	Pg	09	16	04.2 -1.2
BDRM	Kayabasi	0.84	172	P	Pg	09	16	04.2 -1.2
FOCM	Fo¨§a	0.93	332	ePG	Pg	09	16	06.9 -0.2
FOCM	Fo¨§a	0.93	332	ePg	Pg	09	16	06.9 -0.2
AKHS	Akhisar	1.06	22	i P	Pg	09	16	09.2 -0.5
AKHS	Akhisar	1.06	22	P	Pg	09	16	09.2 -0.5
CAND	Candarli	1.13	340	ePN	Pg	09	16	10.6 -0.2
MANT	Manisa	1.16	59	i P	Pb	09	16	11.6 0.0
MANT	Manisa	1.16	59	P	Pb	09	16	11.6 0.0
DATC	Datca-Mugla	1.17	165	ePN	Pn	09	16	12.4 +0.6
DATC	Datca-Mugla	1.17	165	ePn	Pn	09	16	12.4 +0.6
DAT	Datca	1.19	169	ePN	Pn	09	16	12.6 +0.5
DAT	Datca	1.19	169	i P	Pg	09	16	10.9 -1.1
DAT	Datca	1.19	169	P	Pg	09	16	10.9 -1.1
DAT	Datca	1.19	169	ePn	Pn	09	16	12.6 +0.5
DKL	Dikili	1.21	346	ePN	Pn	09	16	12.4 0.0
DKL	Dikili	1.21	346	ePn	Pn	09	16	12.4 0.0
KULA	Kula-Manisa	1.24	60	ePN	Pn	09	16	13.0 +0.1
KULA	Kula-Manisa	1.24	60	ePn	Pn	09	16	13.0 +0.1
NISR	Nisiros	1.29	186	P	Pn	09	16	13.0 -0.4
NISR	Nisiros	1.29	186	P	Pn	09	16	13.0 -0.4
NIS1	Nisyros Isl.	1.29	184	ePN	Pg	09	16	14.3 +0.2
NIS1	Nisyros Isl.	1.29	184	P	Pn	09	16	13.9 +0.4
NIS1	Nisyros Isl.	1.29	184	P	Pn	09	16	13.9 +0.4
NIS1	Nisyros Isl.	1.29	184	ePn	Pg	09	16	14.3 +0.2
TAVA	DENIZLI_Tavas	1.35	108	i P	Pn	09	16	13.6 -0.8
TAVA	DENIZLI_Tavas	1.35	108	P	Pn	09	16	13.6 -0.8
MRSB	Marmaris-Mugla	1.38	148	ePN	Pb	09	16	15.7 +0.5
MRSB	Marmaris-Mugla	1.38	148	ePn	Pb	09	16	15.7 +0.5
DNZL	Cakiroluk	1.40	98	i P	Pn	09	16	15.5 +0.3
DNZL	Cakiroluk	1.40	98	P	Pn	09	16	15.5 +0.3
TURN	Turunc	1.46	134	i P	Pn	09	16	12.8 -2.9
TURN	Turunc	1.46	134	P	Pn	09	16	12.8 -2.9
STEP	BALIKESIR_Sava	1.52	12	i P	Pn	09	16	16.4 -0.2
STEP	BALIKESIR_Sava	1.52	12	P	Pn	09	16	16.4 -0.2
DALY	Dalyan (Mu¨la	1.53	134	ePN	Pb	09	16	17.8 +0.1
DALY	Dalyan (Mu¨la	1.53	134	ePn	Pb	09	16	17.8 +0.1
PRK	Paraskevi	1.57	330	P	Pg	09	16	18.9 -0.5
PRK				S	Sg	09	16	39.3 -0.4
PRK				AML	AML	09	16	42.6
	comp=N,877μm,0.4s							
PRK				AML	AML	09	16	42.8
	comp=E,646μm,0.5s							
PRK	Paraskevi	1.57	330	P	Pg	09	16	18.9 -0.5
PRK				S	Sg	09	16	39.3 -0.4
DEMI	Demirci	1.60	44	i P	Pb	09	16	18.9 -0.1
DEMI	Demirci	1.60	44	P	Pb	09	16	18.9 -0.1
APE	Apeiranthos	1.63	240	ePN	Pb	09	16	19.0 -0.5
APE	Apeiranthos	1.63	240	P	Pn	09	16	18.3 +0.2
APE				S	Sg	09	16	42.5 +0.9
APE				AML	AML	09	16	45.7
	comp=N,124μm,0.4s							
APE				AML	AML	09	16	48.5
	comp=E,132μm,0.3s							
APE	Apeiranthos	1.63	240	P	Pn	09	16	18.3 +0.2
APE	Apeiranthos	1.63	240	ePn	Pb	09	16	19.0 -0.5
APE				S	Sg	09	16	42.5 +0.9
SIGR	SIGRI	1.73	320	ePN	Pn	09	16	20.1 +0.6
SIGR	SIGRI	1.73	320	P	Pg	09	16	22.2 -0.3
SIGR				S	Sb	09	16	43.3 +0.2
SIGR				AML	AML	09	16	45.8
	comp=N,315μm,0.5s							
SIGR				AML	AML	09	16	45.8
	comp=E,309μm,0.4s							
SIGR	SIGRI	1.73	320	ePn	Pn	09	16	20.1 +0.6
SIGR	SIGRI	1.73	320	P	Pg	09	16	22.2 -0.3
SIGR				S	Sb	09	16	43.3 +0.2
SIMA	Simav-Kutahya	1.78	48	ePN	Pn	09	16	21.0 +0.8
SIMA	Simav-Kutahya	1.78	48	ePn	Pn	09	16	21.0 +0.8
ARG	Arkhangelos	1.80	158	P	Pg	09	16	23.5 -0.3
ARG	Arkhangelos	1.80	158	P	Pg	09	16	23.5 -0.3
EZN	Ezine	2.07	339	ePN	Pn	09	16	25.3 +1.1
EZN	Ezine	2.07	339	ePn	Pn	09	16	25.3 +1.1
AKAS	Kas	2.48	131	ePN	Pn	09	16	31.4 +1.4
AKAS	Kas	2.48	131	ePn	Pn	09	16	31.4 +1.4

MEX 07 09:16:37.1±0.4, 16°21N×97°72W, h17km±172km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.43	295	i P	Pg	09 16 44.7	-1.2
PNIG				eS	Sg	09 16 50.3	-1.5
VHO	Vista Hermosa	1.28	48	eP	Pn	09 16 57.0	-3.3
VHO				eS	Sb	09 17 12.1	-4.9
TLIG	Tlapa	1.57	329	i P	Pn	09 17 01.1	-3.3
TLIG				i S	Sn	09 17 19.8	-4.5
HUIG	Huatulco	1.61	106	eP	Pn	09 17 01.3	-3.5
HUIG				eS	Sn	09 17 20.6	-4.6

*IASPEI **07** 09:18:49.0±0.8, 46°.40N±0°.02×13°.07E±0°.01, h12km±4km, Error ellipse: s-maj=2.7km s-min=2.0km az=14.3, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **07** 09:18:48.3±0.2, 46°.43N±0°.01×13°.05E±0°.01, h9km±2km, Error ellipse: s-maj=2.2km s-min=1.6km az=14.4*
*ROM **07** 09:18:48.9±0.2, 46°.38N×13°.09E, h9km±3km, Md2.6/12, Ml2.9/13, Error ellipse: s-maj=3.6km s-min=2.2km az=13.0*
*CSEM **07** 09:18:48.7±0.1, 46°.41N×13°.06E, h5km, ML3.3/28, Error ellipse: s-maj=2.0km s-min=1.5km az=10.0*
*VIE **07** 09:18:48.8±0.2, 46°.42N×13°.05E, h8km, mb2.5/12, ML3.1/18, Error ellipse: s-maj=2.0km s-min=1.2km az=8.0*
*BGR **07** 09:18:50.2±0.5, 46°.43N×13°.06E, h10km, ML2.8/11, Error ellipse: s-maj=5.6km s-min=3.3km az=10.0*
*PRU **07** 09:18:50.9, 46°.48N×13°.08E, h5km*

ISC 07 09:18:49.1±0.7, 46°.40N±0°.01×13°.08E±0°.01, h13km±3km, n128, σ0°93/209, 3C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	Fusea	0.05	283⇑	ePg	Pg	09 18 51.1	-0.6
FUSE				eSg	Sg	09 18 52.8	-0.7
FUSE	Fusea	0.05	283	ePg	Pg	09 18 51.1	-0.6
FUSE				eSg	Sg	09 18 52.8	-0.7
BOO	Bordano	0.08	168	⇓iPg	Pg	09 18 51.5	-0.5
BOO				i Sg	Sg	09 18 53.5	-0.5
BOO	Bordano	0.08	168	i Pg	Pg	09 18 51.5	-0.5
BOO				i Sg	Sg	09 18 53.5	-0.5
PLRO	Paularo	0.16	19	⇓ePg	Pg	09 18 52.9	-0.1
PLRO				eSg	Sg	09 18 55.7	0.0
PLRO	Paularo	0.16	19	ePg	Pg	09 18 52.9	-0.1
PLRO				eSg	Sg	09 18 55.7	0.0
MPRI	Monte Prat	0.17	201	⇓ePg	Pg	09 18 52.6	-0.6
MPRI				eSg	Sg	09 18 55.6	-0.4
MPRI	Monte Prat	0.17	201	ePg	Pg	09 18 52.6	-0.6
MPRI				eSg	Sg	09 18 55.6	-0.4
PTCC	Patocco-Chiusa	0.19	89	Pg	Pg	09 18 53.3	-0.2
PTCC				Sg	Sg	09 18 56.9	+0.4
	2μm,0.2s						
PTCC	Patocco-Chiusa	0.19	89	Pg	Pg	09 18 53.3	-0.2
PTCC				Sg	Sg	09 18 56.9	+0.4
	2μm,0.2s						
VINO	Villanova	0.20	136	⇓ePg	Pg	09 18 53.2	-0.5
VINO				eSg	Sg	09 18 56.6	-0.2
VINO	Villanova	0.20	136	ePg	Pg	09 18 53.2	-0.5
VINO				eSg	Sg	09 18 56.6	-0.2
STAL	STALIGIAL	0.29	241	Pg	Pg	09 18 54.3	-0.9
STAL				Sg	Sg	09 18 59.0	-0.2
	808nm,0.2s						
STAL	STALIGIAL	0.29	241	Pg	Pg	09 18 54.3	-0.9
STAL				Sg	Sg	09 18 59.0	-0.2
	808nm,0.2s						
CSMI	Casera Mimoias	0.31	291	⇓ePg	Pg	09 18 54.8	-0.8
CSMI				eSg	Sg	09 18 59.9	-0.1
CSMI	Casera Mimoias	0.31	291	ePg	Pg	09 18 54.8	-0.8
CSMI				eSg	Sg	09 18 59.9	-0.1
LSR	Lussari	0.32	77	⇓ePg	Pg	09 18 55.6	-0.2
LSR				eSg	Sg	09 19 01.1	+0.8
LSR	Lussari	0.32	77	ePg	Pg	09 18 55.6	-0.2
LSR				eSg	Sg	09 19 01.1	+0.8
ACOM	Acomizza, Ital	0.34	64	Pg	Pg	09 18 56.0	-0.1
ACOM				Sg	Sb	09 19 01.9	-0.6
	1μm,0.2s						
ACOM	Acomizza, Ital	0.34	64	⇓ePg	Pg	09 18 55.9	-0.1
ACOM				eSg	Sb	09 19 01.9	-0.6
ACOM	Acomizza, Ital	0.34	64	Pg	Pg	09 18 56.0	-0.1
ACOM				Sg	Sb	09 19 01.9	-0.6
	1μm,0.2s						
ROBS	Robic	0.34	118	i Pg	Pg	09 18 55.2	-0.8
ROBS				i Sg	Sg	09 19 00.6	0.0
	comp=Z,50nm,0.1s						
MYKA	Terra Mystica	0.45	60	Sg	Sg	09 19 04.7	+0.5
	comp=Z,55nm,0.2s						
DRE	Drenchia	0.46	120	⇑ePg	Pg	09 18 57.5	-0.7
DRE				eSg	Sg	09 19 05.0	+0.7
DRE	Drenchia	0.46	120	ePg	Pg	09 18 57.5	-0.7
DRE				eSg	Sg	09 19 05.0	+0.7
CADS	Cadrg	0.49	111	i Pg	Pg	09 18 57.9	-0.9
CADS				i Sg	Sg	09 19 05.9	+0.5
	comp=Z,142nm,0.2s						
ABTA	Abfaltersbach	0.52	312	Pg	Pg	09 18 58.8	-0.6
	comp=Z,29nm,0.1s,SNR=24						
ABTA				Sg	Sg	09 19 06.2	-0.1
	comp=Z,101nm,0.1s						
SABO	M.te Sabotino	0.56	139	Pg	Pg	09 18 59.5	-0.6
SABO				Sg	Sb	09 19 09.9	+1.2
	comp=Z,463nm,0.5s						
SABO	M.te Sabotino	0.56	139	ePg	Pg	09 18 59.9	-0.2
SABO	M.te Sabotino	0.56	139	Pg	Pg	09 18 59.5	-0.6
SABO				Sg	Sb	09 19 09.9	+1.2
	comp=Z,463nm,0.5s						
AFL	Alpe Faloria	0.63	282	⇓iPg	Pg	09 19 01.3	-0.2
AFL	Alpe Faloria	0.63	282	i Pg	Pg	09 19 01.3	-0.2
GORS	Gorjuse	0.64	97	i Pg	Pg	09 19 00.5	-1.2
GORS				eSg	Sb	09 19 11.0	-0.2
	comp=Z,98nm,0.2s						
GORS	Gorjuse	0.64	97	i Pg	Pg	09 19 00.5	-1.2
GORS				eSg	Sb	09 19 11.0	-0.2
	comp=Z,98nm,0.2s						
VOJS	Vojsko	0.67	123	ePg	Pg	09 19 01.0	-1.2
VOJS				i Sg	Sb	09 19 12.0	0.0
	comp=Z,37nm,0.1s						
VOJS	Vojsko	0.67	123	ePg	Pg	09 19 01.0	-1.2
VOJS				i Sg	Sb	09 19 12.0	0.0
	comp=Z,37nm,0.1s						
KBA	Koelnbreinsper	0.70	15	ePg	Pg	09 19 02.7	-0.1
KBA				eSg	Sg	09 19 12.1	0.0
KBA	Koelnbreinsper	0.70	15	Pg	Pg	09 19 02.7	-0.1
	comp=Z,20nm,0.1s,SNR=9.4						
KBA				Sg	Sg	09 19 11.9	-0.2
	comp=Z,115nm,0.2s,SNR=8.9						
AGOR	Agordo	0.72	261	Pg	Pb	09 19 03.4	-0.2
AGOR				Sg	Sb	09 19 13.6	+0.2
	comp=Z,162nm,0.3s						
AGOR	Agordo	0.72	261	ePg	Pg	09 19 02.9	-0.3
JAVS	Javornik	0.86	126	i Pg	Pg	09 19 04.1	-1.6
JAVS				i		09 19 07.3	
JAVS	Javornik	0.86	126	i Pg	Pg	09 19 04.1	-1.6
RISI	Rein	0.88	309	Pg	Pg	09 19 05.4	-0.7
RISI				Sg	Sg	09 19 17.1	-0.5
	comp=Z,413nm,0.4s						
RISI	Rein	0.88	309	Pg	Pg	09 19 05.4	-0.7
RISI				Sg	Sg	09 19 17.1	-0.5
	comp=Z,413nm,0.4s						
MTLO	Montello	0.90	229	ePg	Pb	09 19 06.8	+0.2
MTLO	Montello	0.90	229	ePg	Pb	09 19 06.8	+0.2
OBKA	Obir	1.02	83	ePg	Pb	09 19 08.8	0.0
OBKA				eSg	Sn	09 19 23.3	-0.3
OBKA	Obir	1.02	83	Pg	Pb	09 19 08.8	0.0
OBKA				Sg	Sn	09 19 23.3	-0.3
CGRP	Cima Grappa	1.03	240	⇑ePg	Pn	09 19 09.6	+0.2
CGRP				eSg	Sn	09 19 25.1	+1.3
CGRP	Cima Grappa	1.03	240	ePg	Pn	09 19 09.6	+0.2
CGRP				eSg	Sn	09 19 25.1	+1.3
CEY	Cerknica	1.15	125	i Pg	Pb	09 19 09.3	-1.6
CEY				e		09 19 12.1	
CEY	Cerknica	1.15	125	i Pg	Pb	09 19 09.3	-1.6
KOSI	Kohlern	1.18	274	Pg	Pb	09 19 11.3	-0.1
KOSI				Sg	Sn	09 19 27.5	+0.1
	comp=Z,143nm,0.3s						
KOSI	Kohlern	1.18	274	Pg	Pb	09 19 11.3	-0.1
KOSI				Sg	Sn	09 19 27.5	+0.1
	comp=Z,143nm,0.3s						
ABSI	Aberstueckl	1.25	286	Pg	Pn	09 19 12.4	-0.1
ABSI				Sg	Sg	09 19 29.6	0.0
	comp=Z,367nm,0.7s						
ABSI	Aberstueckl	1.25	286	Pg	Pn	09 19 12.4	-0.1
ABSI				Sg	Sg	09 19 29.6	0.0
	comp=Z,367nm,0.7s						
PANI	Panarotta	1.26	254	ePg	Pb	09 19 13.1	+0.2
PANI				eSg	Sg	09 19 31.3	+1.5
ROSI	Rosskopf	1.26	295	Pg	Pn	09 19 12.7	+0.1
ROSI				Sg	Sn	09 19 29.5	-0.1
	comp=Z,131nm,0.4s						
ROSI	Rosskopf	1.26	295	Pg	Pn	09 19 12.7	+0.1
ROSI				Sg	Sn	09 19 29.5	-0.1
	comp=Z,131nm,0.4s						
KNDS	Knezji Dol	1.26	133	i Pn	Pb	09 19 12.8	0.0
KNDS	Knezji Dol	1.26	133	i Pn	Pb	09 19 12.9	0.0
APPI	Appiano	1.28	274	Pg	Pb	09 19 13.1	0.0
	comp=Z,110nm,0.2s						
APPI	Appiano	1.28	274	Pg	Pb	09 19 13.1	0.0
	comp=Z,110nm,0.2s						
WTTA	Wattenberg	1.31	312	Pg	Pn	09 19 13.5	+0.2
	comp=Z,52nm,0.6s						
WTTA	Wattenberg	1.31	312	ePG	Pn	09 19 13.3	0.0
WTTA				eSG	Sn	09 19 30.8	0.0
WTTA	Wattenberg	1.31	312	ePg	Pb	09 19 13.6	-0.1
WTTA				eSg	Sg	09 19 31.1	-0.3
WTTA	Wattenberg	1.31	312	Pg	Pb	09 19 13.6	-0.1
WTTA				Sg	Sg	09 19 31.1	-0.3
	comp=Z,41nm,0.4s						
RJOB	Jochberg	1.35	352	ePg	Pb	09 19 14.6	+0.3
RJOB				eSg	Sg	09 19 32.2	-0.4
SOKA	Soboth	1.38	78	Pg	Pn	09 19 14.5	+0.3
	comp=Z,1.9nm,0.2s						
SOKA				Sg	Sg	09 19 33.4	-0.2
	comp=Z,16nm,0.3s						
WATA	Walderalm	1.39	313	Pg	Pb	09 19 15.1	+0.1
	comp=Z,9.0nm,0.3s,SNR=14						
OZOL	Ozolo	1.40	271	ePg	Pb	09 19 15.2	0.0
OZOL	Ozolo	1.40	271	ePg	Pb	09 19 15.2	0.0
TEOL	Teolo	1.43	224	ePg	Pb	09 19 15.5	-0.2
TEOL				eSg	Sb	09 19 34.3	+0.5
TEOL	Teolo	1.43	224	ePg	Pb	09 19 15.5	-0.2
TEOL				eSg	Sb	09 19 34.3	+0.5
GBRS	Gornja Briga	1.49	125	i Pn	Pb	09 19 17.0	+0.3
MARN	Marana (Italy)	1.51	240	ePg	Pb	09 19 17.0	0.0
MARN				eSg	Sg	09 19 37.2	-0.5
MARN	Marana (Italy)	1.51	240	ePg	Pb	09 19 17.0	0.0
MARN				eSg	Sg	09 19 37.2	-0.5
CARE	Lago del Cares	1.65	272	ePg	Pb	09 19 19.5	0.0
CARE				eSg	Sg	09 19 42.2	0.0
CARE	Lago del Cares	1.65	272	ePg	Pb	09 19 19.5	0.0
CARE				eSg	Sg	09 19 42.2	0.0
MOTA	Moosalm	1.65	306	Pn	Pb	09 19 19.5	0.0
	comp=Z,1.3nm,0.2s						
MOTA				Sg	Sg	09 19 42.7	+0.5
	comp=Z,37nm,0.4s						
MOA	Molin	1.66	29	ePg	Pb	09 19 20.3	+0.7
MOA				eSg	Sg	09 19 43.2	+0.6
MOA	Molin	1.66	29	Pg	Pb	09 19 20.3	+0.7
MOA				Sg	Sg	09 19 43.2	+0.6
FETA	Feichten	1.73	292	Pn	Pb	09 19 20.7	-0.1
	comp=Z,6.4nm,0.2s						
FETA				Sg	Sg	09 19 44.2	-0.6
	comp=Z,16nm,0.4s						
CRES	Cresnjev	1.75	108	i Pn	Pn	09 19 19.9	+0.7
CRES	Cresnjev	1.75	108	i Pn	Pn	09 19 20.0	+0.7
RNI	Roncone	1.75	257	ePg	Pb	09 19 21.2	-0.1
RNI				eSg	Sg	09 19 44.6	-1.0
MOSI	Grossmontoni	1.76	278	Pg	Pb	09 19 21.1	-0.2
	comp=Z,508nm,1.1s						
MOSI	Grossmontoni	1.76	278	Pg	Pb	09 19 21.1	-0.2
	comp=Z,508nm,1.1s						
BOJS	Bojanci	1.76	120	i Pn	Pn	09 19 20.3	+0.9
BOJS	Bojanci	1.76	120	i Pn	Pn	09 19 20.3	+0.9
MAGA	Magasa	1.81	251	Pg	Pb	09 19 21.8	-0.5
	comp=Z,316nm,0.4s						
MAGA	Magasa	1.81	251	Pg	Pb	09 19 21.8	-0.5
	comp=Z,316nm,0.4s						
OZLJ	Ozalj	1.84	114	ePn	Pb	09 19 21.7	-0.9
OZLJ				Sn	Sb	09 19 45.6	0.0
OZLJ	Ozalj	1.84	114	ePn	Pb	09 19 21.7	-0.9
OZLJ				Sn	Sb	09 19 45.6	0.0
ARSA	Arzberg	1.88	62	eSg	Sg	09 19 50.0	+0.3
ARSA	Arzberg	1.88	62	Pg	Pg	09 19 25.3	+0.1
	comp=Z,3.1nm,0.2s						
ARSA				Sg	Sg	09 19 50.0	+0.3
	comp=Z,5.2nm,0.3s						
RETA	Reutte	1.92	305	Pg	Pb	09 19 24.7	+0.7
	comp=Z,5.7nm,0.1s						
RETA				Sg	Sg	09 19 51.9	+1.0
	comp=Z,18nm,0.2s						
FUR	Furstenfeldbru	2.15	326	eSg	Sg	09 19 57.0	-1.1
FUR	Furstenfeldbru	2.15	326	Sg	Sg	09 19 57.0	-1.1
OBER	Oberstdorf	2.16	299	ePg	Pb	09 19 28.8	+0.7
OBER				eSg	Sg	09 19 58.5	+0.1
OBER	Oberstdorf	2.16	299	Pg	Pb	09 19 28.8	+0.7
OBER				Sg	Sg	09 19 58.5	+0.1
NVLJ	Novalja	2.23	145	i Pn	Pn	09 19 25.6	-0.1
NVLJ				Sn	Sn	09 19 54.1	+1.0
NVLJ	Novalja	2.23	145	i Pn	Pn	09 19 25.6	-0.1
NVLJ				Sn	Sn	09 19 54.1	+1.0
DAVA	Damuels	2.37	293	Sg	Sg	09 20 05.6	+0.5
	comp=Z,37nm,0.3s						
GEC2	GERESS Array S	2.48	10	ePn	Pn	09 19 30.7	+1.4
GEC2				eSg	Sg	09 20 07.8	-1.0
GEC2	GERESS Array S	2.48	10	Pn	Pn	09 19 30.7	+1.4
GEC2				Sg	Sg	09 20 07.8	-1.0
WET	Wettzell	2.75	357	eSg	Sg	09 20 16.3	-1.0
WET	Wettzell	2.75	357	Sg	Sg	09 20 16.3	-1.0
KHC	Kasperske Hory	2.75	7	ePN	Pn	09 19 34.2	+1.2
KHC				ePG	Pb	09 19 39.3	+1.1
KHC				eSN	Sn	09 20 08.0	+1.9
KHC				eSG	Sg	09 20 16.0	-1.5
	comp=Z,17nm,0.4s						
KHC	Kasperske Hory	2.75	7	Pn	Pn	09 19 34.2	+1.2
KHC	Kasperske Hory	2.75	7	Pg	Pb	09 19 39.3	+1.1
KHC				Sn	Sn	09 20 08.0	+1.9
KHC				Sg	Sg	09 20 16.0	-1.5
	comp=Z,17nm,0.4s						
ROTZ	Rotzenmuhle	3.42	351	ePn	Pn	09 19 42.8	+0.7
ROTZ				eSg	Sg	09 20 37.1	-1.7
ROTZ	Rotzenmuhle	3.42	351	Pn	Pn	09 19 42.8	+0.7
ROTZ				Sg	Sg	09 20 37.1	-1.7
GRA1	Grafenberg Arr	3.52	340	Sg	Sg	09 20 41.3	-0.8
GRF	Grafenberg Arr	3.52	340	eSg	Sg	09 20 41.3	-0.8
GOPC	GO Pecny, Ondr	3.70	17	eSG	Sg	09 20 45.2	-2.6
	comp=Z,10nm,0.3s						
GOPC	GO Pecny, Ondr	3.70	17	Sg	Sg	09 20 45.2	-2.6
	comp=Z,10nm,0.3s						
PRU	Pruhonice	3.72	15	eSG	Sg	09 20 46.6	-1.9
	comp=Z,17nm,0.9s						
PRU	Pruhonice	3.72	15	Sg	Sg	09 20 46.6	-1.9
	comp=Z,17nm,0.9s						
BFO	Black Forest	3.76	303	ePn	Pn	09 19 48.2	+1.4
BFO	Black Forest	3.76	303	Pn	Pn	09 19 48.2	+1.4
NKC	Novy Kostel	3.86	354	eSG	Sg	09 20 49.5	-3.4
	comp=Z,15nm,0.6s						
NKC	Novy Kostel	3.86	354	Sg	Sg	09 20 49.5	-3.4
	comp=Z,15nm,0.6s						
DPC	Dobruska-Polom	4.50	28	eSG	Sg	09 21 11.1	-2.6
	comp=Z,7.7nm,0.6s						
DPC	Dobruska-Polom	4.50	28	Sg	Sg	09 21 11.1	-2.6
	comp=Z,7.7nm,0.6s						
BRG	Berggiesshubel	4.51	7	SG	Sg	09 21 10.7	-3.2
	comp=Z,9.0nm,0.9s						
	comp=N,3μm,21.9s						
	comp=E,2μm,21.4s						
	comp=Z,5μm,23.3s						
UPC	Upice	4.55	24	eSG	Sg	09 21 12.4	-2.7
UPC	Upice	4.55	24	Sg	Sg	09 21 12.4	-2.7

*ISCJB **07** 09:21:14.9±0.4, 37°.88N±0°.03×27°.32E±0°.03, h6km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=24.0*
*DDA **07** 09:21:14.7, 37°.89N×27°.28E, h7km, Ml2.7*
*ISK **07** 09:21:14.9, 37°.85N×27°.36E, h4km, MD2.6*
*CSEM **07** 09:21:15.2±0.2, 37°.86N×27°.35E, h5km, MD2.6, Error ellipse: s-maj=4.2km s-min=3.5km az=26.0*

ISC 07 09:21:14.8±0.9, 37°.87N±0°.03×27°.33E±0°.02, h11km±6km, n32, σ0°62/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUSD	Kusadasi-Aydin	0.04	251	ePG	Pg	09 21 16.4	-0.3
KUSD	Kusadasi-Aydin	0.04	251	ePg	Pg	09 21 16.5	-0.3
GCAM	G?zelcaml?	0.19	204	i P	Pg	09 21 18.6	-0.2
GCAM				i S	Sg	09 21 22.1	+0.6
GCAM	G?zelcaml?	0.19	204	P	Pg	09 21 18.6	-0.2
GCAM				S	Sg	09 21 22.1	+0.6
GMLD	Gumuldur	0.39	302	ePG	Pb	09 21 23.8	+0.2
GMLD	Gumuldur	0.39	302

s-min=10.9km az=87.0

ISC 07 09:26:02.2±1.4, 36°79N±0°05×141°53E±0°05, h18km±6km, n55, σ2°26/60, mb4.2/23, MS4.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.66**	**298**	P	**Pn**	**09 26 16.4**	**-0.4**
ONAJ				eS	**Sn**	**09 26 27.8**	**+1.1**
JFK	**Kawauchi**	**0.77**	**318**	P	**Pn**	**09 26 17.6**	**-0.7**
JFT	**Otama**	**1.20**	**308**	P	**Pg**	**09 26 25.7**	**+0.3**
JFT				eS	**Sg**	**09 26 43.9**	**+2.9**
MJAR	**Matsushiro Arr**	**2.68**	**266**	P	**Pn**	**09 26 44.0**	**-0.5**
	3.2nm,0.3s,baz=87,slow=15,SNR=26						
MJAR				S	**Sn**	**09 27 16.3**	**-0.2**
	9.1nm,0.3s,baz=80,slow=18,SNR=6.7						
MAJO	**Matsushiro**	**2.68**	**266**	ePn	**Pn**	**09 26 44.5**	**0.0**
MAJO				eSn	**Sg**	**09 27 26.4**	**-2.1**
MAT	**Matsushiro**	**2.68**	**266**	P	**Pn**	**09 26 44.1**	**-0.4**
MAT				S	**Sb**	**09 27 22.4**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.69**	**266**	ePn	**Pn**	**09 26 44.5**	**-0.1**
MJB9				eSn	**Sg**	**09 27 26.8**	**-1.7**
JHJ	**Hachijo jima 2**	**3.94**	**202**	P	**Pn**	**09 27 04.1**	**+2.3**
	6.0nm,0.3s,baz=62,slow=23,SNR=5.0						
JHJ				S	**Sn**	**09 27 49.5**	**+2.0**
	10.0nm,0.3s,baz=93,slow=19,SNR=2.3						
ASAJ	**Asahikawa**	**7.36**	**6**	P	**Pn**	**09 27 49.5**	**+0.7**
	0.6nm,0.3s,baz=214,slow=10,SNR=5.9						
ASAJ				S	**Sn**	**09 29 09.8**	**-2.0**
	0.2nm,0.3s,baz=321,slow=31,SNR=2.2						
USRK	**Ussuriysk Ar.**	**10.36**	**318**	P	**Pn**	**09 28 31.3**	**+1.4**
	0.2nm,0.3s,baz=133,slow=14,SNR=4.8						
KSRS	**Korea Array**	**10.88**	**278**	P	**Pn**	**09 28 39.7**	**+2.6**
	0.3nm,0.3s,baz=91,slow=14,SNR=3.5						
MDJ	**Mudanjiang**	**11.95**	**315**	ePn	Pn	09 29 03.8	+12
CN2	**Changchun**	**14.12**	**305**	eP	**P**	**09 29 30.1**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**19.28**	**262**	eP	P	09 30 15.2	-11
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**19.85**	**30**	P	**Pn**	**09 30 34.9**	**+1.3**
	0.1nm,0.3s,baz=216,slow=7.1,SNR=2.7						
PETK	**Petropavlovsk-**	**19.85**	**30**	eP	**Pn**	**09 30 35.5**	**+1.9**
HHC	**Hu-ho-hao-te**	**23.64**	**289**	eP	**P**	**09 31 10.7**	**-1.8**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
ULN	**Ulaanbaatar**	**27.57**	**305**	eP	**P**	**09 31 48.1**	**-0.1**
	4.6nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	10 01 15.6	
	baz=314,slow=75,SNR=1736						
H11N1	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	10 01 14.8	
	baz=314,slow=75,SNR=2196						
H11N3	**WAKE ISLAND Hy**	**27.96**	**121**	T	T	10 01 15.5	
	baz=314,slow=75,SNR=1712						
SONA1	**Songino Array**	**27.99**	**304**	eP	**P**	**09 31 52.4**	**+0.4**
SONM	**Songino Array**	**28.00**	**304**	P	**P**	**09 31 52.3**	**+0.2**
	0.6nm,0.5s,baz=99,slow=9.2,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**28.65**	**123**	T	T	10 02 09.0	
	baz=315,slow=76,SNR=536						
H11S3	**WAKE ISLAND Hy**	**28.65**	**123**	T	T	10 02 09.9	
	baz=315,slow=76,SNR=314						
H11S2	**WAKE ISLAND Hy**	**28.67**	**123**	T	T	10 02 10.2	
	baz=315,slow=76,SNR=243						
LZH	**Lanzhou**	**30.20**	**280**	eP	P	09 32 06.3	-5.5
LZH				pP	pP	09 32 15.5	-1.8
LZH				sP	sP	09 32 20.5	+1.0
LZH				PP	**PnPn**	**09 33 08.4**	**-0.9**
LZH				eS	**S**	**09 37 06.2**	**-4.2**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,90nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,17.7s						
LZH				LR	LR		
	comp=E,2μm,16.8s						
LZH				LR	LR		
	comp=Z,4μm,19.4s						
CD2	**Chengdu**	**31.77**	**271**	P	P	09 32 15.5	-10
KMI	**Kunming**	**35.02**	**262**	P	P	09 32 42.9	-11
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI				pmax	pmax		
	comp=Z,400nm,8.6s						
WMQ	**Urumqi**	**41.03**	**297**	P	**P**	**09 33 42.0**	**-2.5**
WMQ				pP	sP	09 33 54.5	+2.3
WMQ				sP	pP	09 33 59.0	+9.0
WMQ				SS	SS	09 43 05.1	+7.0
WMQ				LR	LR		
	comp=N,420nm,15.7s						
WMQ				LR	LR		
	comp=E,760nm,19.7s						
WMQ				LR	LR		
	comp=Z,440nm,25.5s						
CMAR	**Chiang Mai Arr**	**41.53**	**256**	P	**P**	**09 33 49.4**	**+0.7**
	0.9nm,0.3s,baz=60,slow=5.5,SNR=3.3						
CMAR				LR	LR	09 52 35.2	
	comp=Z,937nm,21.3s,baz=130,slow=38						
ZALV	**Zalesovo Beam**	**42.14**	**313**	P	**P**	**09 33 52.0**	**-1.3**
	2.0nm,0.7s,baz=87,slow=7.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.14**	**313**	eP	**P**	**09 33 52.0**	**-1.3**
MK01	**Makanchi Array**	**44.32**	**302**	eP	**P**	**09 34 09.5**	**-1.5**
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**09 34 09.8**	**-1.4**
	0.8nm,0.6s,baz=87,slow=9.8,SNR=7.7						
MKAR	**Makanchi Array**	**44.32**	**302**	eP	**P**	**09 34 10.1**	**-1.0**
	10nm,0.8s						
KURK	**Kurchatov**	**46.15**	**308**	eP	**P**	**09 34 25.6**	**+0.1**
	3.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.22**	**308**	P	**P**	**09 34 24.6**	**-1.4**
	0.9nm,0.6s,baz=82,slow=8.1,SNR=6.4						
KDAK	**Kodiak Island**	**47.22**	**42**	P	**P**	**09 34 34.2**	**+0.5**
	3.5nm,0.7s,baz=259,slow=4.0,SNR=3.3						
IL1	**Eielson Array**	**49.65**	**32**	eP	**P**	**09 34 52.7**	**+0.3**
ILAR	**Eielson Array**	**49.65**	**32**	P	**P**	**09 34 52.8**	**+0.4**
	2.1nm,0.8s,baz=270,slow=6.5,SNR=25						
ILB	**Eielson Array**	**49.65**	**32**	eP	**P**	**09 34 52.5**	**+0.1**
KSH	**Kashi**	**50.59**	**294**	eP	**P**	**09 35 00.5**	**+0.5**
KSH				sP	sP	09 35 14.4	+6.5
KSH				PcP	**PcP**	**09 36 12.6**	**-5.0**
KSH				PP	**PP**	**09 36 58.8**	**+3.0**
KSH				PcS	**PcS**	**09 40 09.7**	**-5.3**
KSH				S	**S**	**09 42 20.1**	**+6.3**
KSH				ScS	**ScS**	**09 44 45.5**	**-4.8**
KSH				SS	**SS**	**09 45 54.9**	**+7.2**
KSH				pmax	pmax		
	comp=Z,170nm,5.7s						
KSH				LR	LR		
	comp=N,97nm,4.7s						
KSH				LR	LR		
	comp=E,140nm,5.9s						
KSH				LR	LR		
	comp=Z,510nm,15.2s						
BVAR	**Borovoye Array**	**50.80**	**312**	P	**P**	**09 35 00.1**	**-1.2**
	0.8nm,0.5s,baz=34,slow=11,SNR=3.8						
RAGM	**Ragged Mountai**	**51.03**	**38**	eP	**P**	**09 35 03.3**	**+0.3**
	284nm,0.9s						
INK	**Inuvik**	**54.56**	**27**	P	**P**	**09 35 29.0**	**+0.2**
	1.5nm,0.8s,baz=292,slow=5.9,SNR=3.3						
ARU	**Arti**	**56.60**	**319**	P	**P**	**09 35 42.9**	**-0.8**
	9.5nm,0.2s,baz=39,slow=1.9,SNR=5.1						
WRA	**Warramunga Arr**	**56.84**	**188**	P	**P**	**09 35 46.2**	**+0.5**
	1.3nm,0.5s,baz=5.8,slow=7.4,SNR=14						
ABKAR	**Akbulak array**	**58.16**	**310**	eP	**P**	**09 35 51.4**	**-3.5**
	15nm,0.6s						
AKTO	**Aktyubinsk**	**58.90**	**312**	P	**P**	**09 35 59.4**	**-0.5**
	1.3nm,0.7s,baz=71,slow=17,SNR=3.6						
ASAR	**Alice Springs**	**60.56**	**188**	P	**P**	**09 36 12.1**	**+0.4**
	0.8nm,0.8s,baz=11,slow=5.7,SNR=10						
AKASG	**Malin Array Be**	**74.54**	**322**	P	**P**	**09 37 37.9**	**-1.7**
	0.9nm,0.6s,baz=44,slow=6.0,SNR=3.7						
PDAR	**Pinedale Array**	**77.77**	**45**	P	**P**	**09 38 00.1**	**+1.6**
	0.2nm,0.5s,baz=316,slow=3.8,SNR=3.4						
TXAR	**Lajitas Array**	**90.19**	**52**	P	**P**	**09 39 03.2**	**+1.2**
	0.3nm,0.5s,baz=309,slow=4.1,SNR=7.3						
LPAZ	**La Paz**	**146.73**	**60**	PKPbc	**PKPab**	**09 45 45.0**	**-0.4**
	1.0nm,0.7s,baz=250,slow=1.3,SNR=5.8						

*IDC **07** 09:52:32.9±2.0, 38°42N×144°83E, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.4/44, mbtmp3.6/6, ML3.1/4, Error ellipse: s-maj=38.9km s-min=28.4km az=73.0*
*ISCJB **07** 09:52:34.2±0.8, 38°55N±0°05×144°74E±0°06, h29km,*

mb3.5/2, Error ellipse: s-maj=7.1km s-min=6.1km az=138.3
*JMA **07** 09:52:36.5±0.1, 38°57N×144°49E, h18km, M3.7*

ISC 07 09:52:36.0±1.5, 38°57N±0°06×144°73E±0°10, h29km, n18, σ2°03/31, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.45**	**283**	P	**Pn**	**09 53 14.0**	**0.0**
OFUJ				S	**Sn**	**09 53 42.0**	**-1.0**
MIYJ	**Miyakonagasawa**	**2.48**	**295**	P	**Pn**	**09 53 14.3**	**-0.2**
MIYJ				eS	**Sn**	**09 53 42.6**	**-1.2**
JMK	**Ichinoseki**	**2.77**	**279**	P	**Pn**	**09 53 18.9**	**+0.4**
JMK				eS	**Sn**	**09 53 50.3**	**-0.7**
JOM	**Ohasama**	**2.83**	**290**	P	**Pn**	**09 53 19.8**	**+0.5**
JOM				eS	**Sn**	**09 53 51.7**	**-0.7**
JOU	**Okura**	**3.20**	**268**	P	**Pn**	**09 53 24.9**	**+0.5**
JOU				eS	**Sn**	**09 54 01.1**	**-0.5**
JRG	**Rokugo**	**3.30**	**286**	eS	**Sn**	**09 54 04.3**	**+0.3**
JYK	**Kaneyama**	**3.44**	**277**	P	**Pn**	**09 53 28.7**	**+1.1**
JYK				eS	**Sn**	**09 54 08.0**	**+0.6**
JFT	**Otama**	**3.62**	**255**	P	**Pn**	**09 53 31.0**	**+0.8**
JFT				eS	**Sn**	**09 54 11.3**	**-0.8**
NEM2	**Nemuro 2**	**4.86**	**9**	P	**Pn**	**09 53 44.9**	**-2.2**
NEM2				eS	**Sn**	**09 54 36.5**	**-5.8**
JRY	**Ryogami san**	**5.30**	**243**	P	**Pn**	**09 53 53.3**	**0.0**
JRY				eS	**Sn**	**09 54 50.0**	**-3.4**
JOSM	**Okushiri--Mats**	**5.34**	**313**	P	**Pn**	**09 53 55.5**	**+1.8**
JTKR	**Abashiri--Toko**	**5.44**	**354**	P	**Pn**	**09 53 54.4**	**-0.6**
JTKR				S	**Sn**	**09 54 52.2**	**-4.4**
MJAR	**Matsushiro Arr**	**5.56**	**251**	Pn	**Pn**	**09 53 56.8**	**-0.1**
	0.6nm,0.3s,baz=52,slow=9.1,SNR=5.3						
MJAR				Sn	**Sn**	**09 55 01.5**	**+1.6**
	0.4nm,0.3s,baz=337,slow=26,SNR=2.8						
ASAJ	**Asahikawa**	**5.77**	**345**	Pn	**Pn**	**09 54 01.2**	**+1.5**
	0.5nm,0.3s,baz=159,slow=16,SNR=5.7						
ASAJ				Sn	**Sn**	**09 55 06.5**	**+1.6**
	0.8nm,0.3s,baz=126,slow=19,SNR=2.9						
JHJ	**Hachijo jima 2**	**6.76**	**218**	Pn	**Pn**	**09 54 12.2**	**-1.1**
	3.0nm,0.3s,baz=45,slow=17,SNR=3.3						
JHJ				Sn	**Sn**	**09 55 25.4**	**-3.9**
	4.9nm,0.3s,baz=52,slow=20,SNR=2.4						
USRK	**Ussuriysk Ar.**	**11.10**	**305**	Pn	**Pn**	**09 55 16.3**	**+3.5**
	0.2nm,0.3s,baz=119,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**59.01**	**191**	P	**P**	**10 02 33.4**	**+0.3**
	0.3nm,0.7s,baz=14,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**62.73**	**191**	P	**P**	**10 02 59.1**	**+0.6**
	0.2nm,0.6s,baz=8.4,slow=7.6,SNR=4.8						

*HEL **07** 09:55:05.5±0.2, 69°58N×30°00E, h0km, ML2.3, Suspected explosion*
*ISCJB **07** 09:55:07.1±1.2, 69°48N±0°07×29°5E±0°2, h0km, Error ellipse: s-maj=10.3km s-min=7.3km az=20.5*
*CSEM **07** 09:55:07.7±0.6, 69°44N×29°49E, h1km, ML1.8, Error ellipse: s-maj=14.7km s-min=7.8km az=28.0, Suspected Mining explosion.*
*BER **07** 09:55:08.2±2.6, 69°49N×29°67E, h0km, ML1.8, ML2.5(NAO), Suspected explosion*
*NAO **07** 09:55:08.8±1.3, 69°27N×29°46E, ML2.5*

ISC 07 09:55:07.4±1.6, 69°47N±0°09×29°56E±0°06, h0km, n21, σ0°80/28, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**0.94**	**289**	eP	**Pg**	**09 55 24.5**	**-0.9**
KEV	**Kevo**	**0.94**	**289**	eP	**Pg**	**09 55 24.3**	**-1.1**
KEV	**Kevo**	**0.94**	**289**	eP	**Pg**	**09 55 24.5**	**-0.9**
	SNR=90						
ARA0	**ARCESS Array S**	**1.43**	**275**	Pg	**Pg**	**09 55 34.0**	**-0.8**
	baz=87,slow=14						
ARA0				Lg	Lg	09 55 54.1	
	baz=82,slow=37						
ARA0	**ARCESS Array S**	**1.43**	**275**	Pg	**Pg**	**09 55 34.0**	**-0.8**
	baz=87,slow=14						
ARA0				Lg	Lg	09 55 54.1	
	baz=82,slow=37						
ARA0	**ARCESS Array S**	**1.43**	**275**	Pg	**Pg**	**09 55 34.0**	**-0.8**
	SNR=90						
ARA0				Lg	Lg	09 55 54.1	
	SNR=2.3						
ARE0	**ARCESS Array S**	**1.43**	**275**	eP	**Pg**	**09 55 33.7**	**-1.1**
ARE0				eS	**Sn**	**09 55 54.0**	**-0.1**
ARE0	**ARCESS Array S**	**1.43**	**275**	P	**Pg**	**09 55 33.7**	**-1.1**
ARE0				S	**Sn**	**09 55 54.0**	**-0.1**
APA0	**Apatity Array**	**2.26**	**144**	Pn	**Pn**	**09 55 46.5**	**+0.5**
	baz=336,slow=11						
APA0				Lg	Lg	09 56 16.3	
	baz=324,slow=37						
APA0	**Apatity Array**	**2.26**	**144**	Pn	**Pn**	**09 55 46.5**	**+0.5**
	baz=336,slow=11						
APA0				Lg	Lg	09 56 16.3	
	baz=324,slow=37						
APA0	**Apatity Array**	**2.26**	**144**	Pn	**Pn**	**09 55 46.5**	**+0.5**
	SNR=50						
APA0				Lg	Lg	09 56 16.3	
	SNR=1.5						
KTK1	**Kautokeino**	**2.30**	**261**	eP	**Pn**	**09 55 47.2**	**+0.7**
KTK1				eSg	**Sg**	**09 56 20.4**	**-0.8**
KTK1				IAML		09 56 22.6	
	comp=Z,10.0nm,0.3s						
KTK1	**Kautokeino**	**2.30**	**261**	eP	**Pn**	**09 55 47.2**	**+0.7**
	SNR=50						
KTK1				eSg	**Sg**	**09 56 20.4**	**-0.8**
	SNR=90						
SGF	**Sodankyl**	**2.32**	**210**	ePG	**Pb**	**09 55 50.3**	**+0.2**
SGF				eSB	**Sg**	**09 56 20.5**	**-1.4**
SGF	**Sodankyl**	**2.32**	**210**	Pg	**Pb**	**09 55 50.3**	**+0.2**
HEF	**Hetta**	**2.38**	**246**	eSG	**Sg**	**09 56 24.2**	**+0.4**
HEF				MSG		09 56 25.8	
	comp=Z,13nm,0.2s						
HEF	**Hetta**	**2.38**	**246**	Sg	**Sg**	**09 56 24.2**	**+0.4**
LANU	**Lannavaara**	**3.10**	**246**	eP	**Pn**	**09 55 58.0**	**+0.4**
LANU	**Lannavaara**	**3.10**	**246**	P	**Pn**	**09 55 58.0**	**+0.4**
KIF	**Kilpisjarvi**	**3.15**	**266**	eP	**Pn**	**09 55 58.8**	**+0.6**
KIF				eSB	**Sb**	**09 56 44.3**	**+1.1**
KIF				MSG		09 56 52.1	
	comp=Z,6.9nm,0.3s						
KIF	**Kilpisjarvi**	**3.15**	**266**	P	**Pn**	**09 55 58.8**	**+0.6**
KIF				Sb	**Sb**	**09 56 44.3**	**+1.1**

IDC 07 09:55:35.5±350.0, 53°79N×42°72E, h0km, Error ellipse: s-maj=150.5km s-min=90.1km az=140.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.30**	**315**	*i*		10 22 20.0	
	baz=131,slow=324,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**10.02**	**104**	*i*		10 58 20.0	
	baz=297,slow=317,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**24.57**	**72**	*i*		12 26 10.0	
	baz=284,slow=324,SNR=2.4						

*JMA **07** 10:04:25.8±0.5, 33°31N×126°98E, h0km, M3.1*
*ISCJB **07** 10:04:31.4±0.6, 33°38N±0°04×127°12E±0°04, h10km, Error ellipse: s-maj=6.7km s-min=3.9km az=22.9*

ISC 07 10:04:30.0±0.9, 33°35N±0°05×127°17E±0°04, h10km, n12, σ0°67/17, 5C-4D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSSP	**Seongsanpo**	**0.24**	**279**	↓P	**Pg**	**10 04 36.3**	**+1.2**
	SNR=49						
KSJJU	**Jeju**	**0.53**	**279**	↑P	**Pb**	**10 04 41.3**	**-0.1**
	SNR=116						
KSJJU				↓S	**Sb**	**10 04 48.6**	**-0.5**
KSWAN	**Wando**	**1.11**	**340**	↑P	**Pg**	**10 04 51.0**	**-0.3**
	SNR=48						
KSWAN				↑S	**Sb**	**10 05 05.9**	**+0.1**
KOHB	**KOHEUNG**	**1.27**	**4**	↑P	**Pn**	**10 04 53.4**	**-0.4**
	SNR=68						
KOHB				↓S	**Sg**	**10 05 10.4**	**-0.5**
KSJDO	**Jindo**	**1.32**	**328**	↓P	**Pn**	**10 04 54.5**	**-0.1**
	SNR=29						
JFU	**Fukue jima 2**	**1.50**	**117**	P	**Pn**	**10 04 56.0**	**-0.9**
JFU				eS	**Sn**	**10 05 16.2**	**-0.3**
KSYSU	**YEOSU**	**1.79**	**11**	↑P	**Pn**	**10 05 01.1**	**+0.2**
	SNR=31						
JII	**Iki**	**2.19**	**78**	P	**Pn**	**10 05 05.9**	**-0.5**
JII				eS	**Sb**	**10 05 37.8**	**+1.0**
JTU	**Tsushima**	**2.19**	**57**	S	**Sb**	**10 05 38.0**	**+1.0**
NGSJ	**Nagasakinomoza**	**2.32**	**107**	eS	**Sb**	**10 05 41.4**	**+0.7**
JUR	**Ureshino**	**2.34**	**95**	eS	**Sb**	**10 05 41.6**	**+0.3**
JSJ	**Shimokoshiki**	**2.72**	**127**	eS	**Sb**	**10 05 52.2**	**0.0**

IDC 07 10:19:44.8±1.1, 22°20S×63°91W, h535km±17km, mb3.5/1, mb1 3.2/5, mb1mx2.9/34, mbtmp4.0/5, Error ellipse: s-maj=27.8km s-min=24.2km az=30.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.65**	**264**	P	P	10 21 12.6	+1.4
	237nm,0.3s,baz=85,slow=5.9,SNR=23						
LVC				S	S	10 22 20.8	-0.8
	187nm,0.3s,baz=226,slow=8.5,SNR=33						
SIV	**San Ignacio**	**6.74**	**24**	P	P	10 21 29.8	0.0
	1.1nm,0.3s,baz=210,slow=10,SNR=11						
LPAZ	**La Paz**	**7.11**	**325**	P	P	10 21 35.7	+1.6
	1.0nm,0.3s,baz=119,slow=5.2,SNR=41						
LPAZ				S	S	10 23 02.1	-1.2
	0.1nm,0.3s,baz=96,slow=19,SNR=3.6						
CPUP	**Villa Florida**	**7.27**	**126**	P	P	10 21 34.4	-0.3
	0.3nm,0.3s,baz=314,slow=11,SNR=7.8						
TORD	**Torodi Ar. Bea**	**73.26**	**68**	P	P	10 30 22.0	-0.2
	1.5nm,0.5s,baz=257,slow=5.6,SNR=28						
MKAR	**Makanchi Array**	**143.33**	**40**	PKP	PKPdf	10 38 17.8	-0.4
	0.3nm,0.4s,baz=290,slow=4.2,SNR=4.0						

WEL 07 10:37:35.0±0.1, 43°59S×172°50E, h5km±1km, ML3.5/10, 3C-5D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**81**	↑PG	Pg	10 37 36.9	0.0
CRLZ				SG	Sg	10 37 38.3	0.0
CRLZ				AML	AML	10 37 38.7	
CRLZ				AML	AML	10 37 38.7	
CRLZ				AML	AML	10 37 38.7	
MQZ	**McQueen's Vall**	**0.16**	**136**	↓PG	Pg	10 37 38.3	+0.1
MQZ				SG	Sg	10 37 40.8	+0.4
MQZ				AML	AML	10 37 41.1	
OXZ	**Oxford**	**0.43**	**308**	↓PG	Pg	10 37 43.0	-0.2
OXZ				AML	AML	10 37 53.2	
OXZ				AML	AML	10 37 53.2	
OXZ				AML	AML	10 37 53.2	
OXZ				AML	AML	10 37 53.2	
LTZ	**Lake Taylor**	**0.82**	**348**	↓P*	Pg	10 37 51.0	+0.2
LTZ				S*	Sb	10 38 02.4	-0.8
LTZ				AML	AML	10 38 04.9	
RPZ	**Rata Peaks**	**1.06**	**263**	P*	Pg	10 37 54.8	-0.5
RPZ				AML	AML	10 38 15.7	
RPZ				AML	AML	10 38 17.1	
INZ	**Inchbonnie**	**1.16**	**318**	P*	Pg	10 37 56.5	-0.7
WVZ	**Waitaha Valley**	**1.39**	**291**	↑PN	Pn	10 38 00.7	-0.2
KHZ	**Kahutara**	**1.40**	**33**	↑PN	Pn	10 37 59.0	-2.1
THZ	**Tophouse**	**1.85**	**9**	↓PN	Pn	10 38 05.7	-1.7
THZ				AML	AML	10 38 39.2	
THZ				AML	AML	10 38 44.2	
LBZ	**Lake Benmore**	**1.85**	**244**	PN	Pn	10 38 06.0	-1.3
LBZ				AML	AML	10 38 36.1	
LBZ				AML	AML	10 38 38.9	
DSZ	**Denniston Nort**	**1.91**	**344**	PN	Pn	10 38 07.2	-1.0
DSZ				AML	AML	10 38 41.2	
DSZ				AML	AML	10 38 42.7	
FOZ	**Fox Glacier**	**1.95**	**271**	PN	Pn	10 38 08.9	+0.2
ODZ	**Otahua Downs**	**1.97**	**222**	↓PN	Pn	10 38 07.3	-1.7
ODZ				AML	AML	10 38 44.4	
ODZ				AML	AML	10 38 46.5	
ODZ				AML	AML	10 38 46.6	
ODZ				AML	AML	10 38 47.3	
BSWZ	**Blackbirch Sta**	**2.13**	**29**	PN	Pn	10 38 09.5	-1.6
JCZ	**Jackson Bay**	**2.73**	**259**	PN	Pn	10 38 19.1	-0.4

IDC 07 10:39:39.4±9.1, 55°58N×85°31E, h0km, Error ellipse: s-maj=51.8km s-min=28.1km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**190**	*i*		10 50 35.0	
	baz=9.7,slow=329,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.66**	**190**	Pg	Pn	10 40 09.6	0.0
	0.4nm,0.3s,baz=9.4,slow=16,SNR=3.4						
ZALV				Lg	Lg	10 40 31.6	
	0.5nm,0.3s,baz=9.4,slow=28,SNR=4.0						
ZALV				*i*		10 51 00.0	
	1.2nm,0.3s,baz=343,slow=38,SNR=7.0						
I34MN	**SONGINO INFRAS**	**15.18**	**112**	*i*		12 10 10.0	
	baz=310,slow=318,SNR=0.3						

*NIED **07** 10:48:00, 29°20N×130°60E, h20km, Mw4.9 Best double couple: M0=2.28000×10^16 NP1:φ=222.00000°, δ=11.00000°, λ=105.00000°. NP2:φ=27.00000°, δ=79.00000°, λ=87.00000°.*
*BJI **07** 10:48:28.0, 28°89N×130°84E, h37km, mb4.5/54, mB4.7/35, Ms4.6/48, Ms7 4.4/46*
*MOS **07** 10:48:30.9±0.9, 29°18N×130°40E, h31km, mb5.0/26, MS4.6/4, Error ellipse: s-maj=10.0km s-min=6.2km az=106.2*
*ISCJB **07** 10:48:32.9±0.3, 29°18N±0°02×130°47E±0°03, h48km±3km, mb4.7/68, MS4.5/18, Error ellipse: s-maj=5.2km s-min=2.6km az=29.0*
*JMA **07** 10:48:32.8±0.1, 29°21N×130°46E, h65km±5km, M4.5*
JMA Felt I J1.
*NEIC **07** 10:48:34.7±0.5, 29°18N×130°36E, h46km±5km, mb4.8/31, Error ellipse: s-maj=6.9km s-min=4.6km az=128.0*
NEIC Recorded [1 JMA] on Akuseki-jima.
*IDC **07** 10:48:34.5±2.0, 29°25N×130°40E, h46km±19km, mb4.2/26, mb1 4.3/31, mb1mx4.2/56, mbtmp4.5/31, ML3.8/5, MS4.2/11, Ms1 4.2/11, ms1mx3.8/55, Error ellipse: s-maj=17.6km s-min=12.7km az=69.0*

ISC 07 10:48:34.0±0.7, 29°20N±0°04×130°52E±0°04, h44km±5km, n198, σ1°70/237, mb4.8/68, MS4.5/20, 5C-5D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.85**	**319**	P	**Pn**	**10 48 48.5**	**-1.1**
JNN				eS

JKE	**Kume jima 2**	**4.38 230**	P	**Pn**	**10 49 36.6**	**-1.3**
JKE			*e*S	**Sn**	**10 50 25.3**	**-2.4**
YOJ	**Yonaguni jima**	**8.20 237**	*e*P	**Pn**	**10 50 28.2**	**-2.2**
YOJ	**Yonaguni jima**	**8.20 237**	*e*Pn	**Pn**	**10 50 28.2**	**-2.2**
INU	**Inuyama**	**8.23 40**	*e*Pn	**Pn**	**10 50 32.2**	**+1.3**
INU			*e*Sn	**Sn**	**10 51 58.3**	**-4.2**
KS15	**Wonju Array Si**	**8.51 346**	*e*Pn	**Pn**	**10 50 38.3**	**+3.7**
KSRS	**Korea Array**	**8.51 346**	P	**Pn**	**10 50 35.9**	**+1.2**
	0.6nm,0.3s,baz=157,slow=15,SNR=41					
KSRS			LR	LR	10 54 07.7	
	comp=Z,1μm,19.8s,baz=170,slow=40					
KS01	**Wonju Array Si**	**8.54 346**	*e*Pn	**Pn**	**10 50 38.6**	**+3.6**
KS01			*e*Sn	Sn	10 51 60.0	-10
JHJ	**Hachijo jima 2**	**8.85 61**	P	**Pn**	**10 50 39.8**	**+0.6**
	7.1nm,0.3s,baz=135,slow=19,SNR=4.6					
JHJ			LR	LR	10 53 46.2	
	comp=Z,633nm,19.9s,baz=302,slow=35					
JHJ2	**Mitsune**	**8.87 62**	*e*Pn	**Pn**	**10 50 43.1**	**+3.6**
INCN	**Inchon**	**8.88 340**	*e*Pn	**Pn**	**10 50 38.6**	**-1.1**
YHNB	**Yeheng**	**9.32 243**	*e*Pn	**Pn**	**10 50 45.9**	**0.0**
NACB	**Ninganchiao**	**9.42 240**	*e*Pn	**Pn**	**10 50 47.1**	**-0.1**
MAJO	**Matsushiro**	**9.76 39**	*e*P	**Pn**	**10 50 53.6**	**+1.8**
MAJO	**Matsushiro**	**9.76 39**	*e*Pn	**Pn**	**10 50 53.6**	**+1.8**
MJAR	**Matsushiro Arr**	**9.76 39**	P	**Pn**	**10 50 52.5**	**+0.7**
	0.8nm,0.3s,baz=252,slow=14,SNR=7.6					
MJB9	**Matsu-Tunnel**	**9.76 39**	*e*Pn	**Pn**	**10 50 53.4**	**+1.5**
YULB	**Yu-li**	**10.09 237**	*e*Pn	**Pn**	**10 50 52.0**	**-4.4**
SSLB	**Suanglung**	**10.12 240**	*e*Pn	**Pn**	**10 50 56.0**	**-0.8**
NJ2	**Nanjing**	**10.44 289**	*e*P	**Pn**	**10 51 02.1**	**+1.0**
NJ2			pP		10 51 10.5	
NJ2			S	**Sn**	**10 52 56.5**	**-0.3**
NJ2			pmax	pmax		
	comp=Z,29nm,0.9s					
NJ2			LR	LR		
	comp=N,1μm,13.0s					
NJ2			LR	LR		
	comp=E,2μm,15.2s					
NJ2			LR	LR		
	comp=Z,2μm,14.1s					
QZH	**Quanzhou**	**11.44 251**	*e*P	**Pn**	**10 51 10.7**	**-4.1**
QZH			*e*S	**Sn**	**10 53 21.4**	**+0.1**
QZH			LR	LR		
	comp=N,2μm,11.7s					
QZH			LR	LR		
	comp=E,1μm,10.8s					
QZH			LR	LR		
	comp=Z,2μm,10.9s					
DL2	**Dalian**	**12.16 325**	P	**P**	**10 51 40.1**	**+3.9**
DL2			S	**S**	**10 54 00.8**	**-5.0**
DL2			pmax	pmax		
	comp=Z,38nm,0.9s					
DL2			LR	LR		
	comp=N,2μm,14.8s					
DL2			LR	LR		
	comp=E,2μm,14.0s					
DL2			LR	LR		
	comp=Z,3μm,14.5s					
SNY	**Shenyang**	**13.80 338**	⇑P	P	10 52 05.6	+11
SNY			S	S	10 54 55.5	+16
SNY			pmax	pmax		
	comp=Z,18nm,0.5s					
SNY			LR	LR		
	comp=N,2μm,11.7s					
SNY			LR	LR		
	comp=E,1μm,12.1s					
SNY			LR	LR		
	comp=Z,3μm,12.8s					
VLA	**Vladivostok**	**13.93 4**	⇓*i*P	**Pn**	**10 51 50.2**	**+1.5**
VLA			*i* S	**Sn**	**10 54 25.3**	**+3.4**
VLA			pmax	pmax		
	comp=Z,10.0nm,0.7s					
WHN	**Wuhan**	**14.10 279**	P	**P**	**10 51 54.2**	**-3.5**
WHN			S	**Sn**	**10 54 30.4**	**+4.4**
WHN			LR	LR		
	comp=Z,2μm,13.9s					
WHN			LR	LR		
	comp=Z,3μm,16.5s					
WHN			LR	LR		
	comp=Z,2μm,15.6s					
SZP	**Santa**	**14.82 221**	*e*Pn	**Pn**	**10 51 59.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**15.02 4**	P	**P**	**10 52 06.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=190,slow=5.9,SNR=3.2					
CN2	**Changchun**	**15.13 346**	*e*P	**Pn**	**10 52 02.0**	**-2.6**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
BJT	**Baijiatuau**	**15.98 316**	*e*P	**Pn**	**10 52 14.7**	**-1.0**
BJT			pmax	pmax		
	comp=Z,45nm,1.3s					
BJT	**Baijiatuau**	**15.98 316**	*e*Pn	**Pn**	**10 52 14.7**	**-1.0**
	comp=Z,45nm,1.3s					
BJI	**Beijing**	**15.99 316**	P	**Pn**	**10 52 16.2**	**+0.4**
BJI			pmax	pmax		
	comp=Z,13nm,0.9s					
BJI			pmax	pmax		
	comp=Z,180nm,5.0s					
BJI			LR	LR		
	comp=Z,2μm,15.6s					
BJI			LR	LR		
	comp=Z,1μm,14.8s					
BJI			LR	LR		
	comp=Z,840nm,23.2s					
ASAJ	**Asahikawa**	**17.73 30**	P	**Pn**	**10 52 36.6**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=268,slow=18,SNR=5.1					
ASAJ			LR	LR	10 59 41.3	
	comp=Z,432nm,21.1s,baz=219,slow=38					
ASAJ	**Asahikawa**	**17.73 30**	*e*Pn	**Pn**	**10 52 37.4**	**-0.1**
	comp=Z,72nm,1.6s					
ENH	**Enshi**	**18.30 279**	*e*Pn	**P**	**10 52 43.0**	**-1.4**
	comp=Z,46nm,1.3s					
XAN	**Xi'an**	**19.01 290**	P	**P**	**10 52 51.0**	**-1.1**
XAN			sP	pP	10 53 04.0	+1.3
XAN			PP	**sP**	**10 53 06.8**	**-1.4**
XAN			pmax	pmax		
	comp=Z,22nm,0.9s					
XAN			pmax	pmax		
	comp=Z,450nm,12.6s					
XAN			LR	LR		
	comp=Z,300nm,9.9s					
XAN			LR	LR		
	comp=Z,740nm,11.5s					
XAN			LR	LR		
	comp=Z,1μm,12.4s					
HHC	**Hu-ho-hao-te**	**19.35 312**	*e*P	**Pn**	**10 52 58.9**	**+1.7**
HHC			S	**Sn**	**10 56 35.4**	**+2.0**
HHC			pmax	pmax		
	comp=Z,23nm,0.9s					
HHC			pmax	pmax		
	comp=Z,220nm,4.3s					
HHC			LR	LR		
	comp=Z,890nm,11.6s					
HHC			LR	LR		
	comp=Z,920nm,10.9s					
HHC			LR	LR		
	comp=Z,990nm,11.4s					
YSS	**Yuzh-Sakhalins**	**20.13 25**	⇓*e*P	**P**	**10 53 06.1**	**+2.0**
YSS			*e*		10 53 15.7	
YSS			*e*		10 53 35.2	
YSS			*e*S	**S**	**10 56 47.0**	**-0.7**
YSS			pmax	pmax		
	comp=Z,20nm,1.2s					
YSS			MLR	MLR		
	comp=Z,500nm,15.0s					
YSS	**Yuzh-Sakhalins**	**20.13 25**	*e*P	**P**	**10 53 05.7**	**+1.6**
	comp=Z,34nm,1.1s					
GUMO	**Guam**	**20.45 136**	LR	LR	10 59 29.2	
	comp=Z,290nm,20.7s,baz=335,slow=32					
GYA	**Guiyang**	**21.27 268**	⇑*i*P	**P**	**10 53 17.5**	**+0.7**
GYA			pP	pP	10 53 26.8	-0.7
GYA			S	**S**	**10 57 05.6**	**-5.3**
GYA			sS	Sn	10 57 22.0	+2.3
GYA			SS	**SnSn**	**10 57 40.4**	**+5.3**
GYA			pmax	pmax		
	comp=Z,20nm,0.9s					
GYA			pmax	pmax		
	comp=Z,110nm,4.8s					
GYA			LR	LR		
	comp=Z,1μm,15.2s					
GYA			LR	LR		
	comp=Z,1μm,16.7s					
GYA			LR	LR		
	comp=Z,1μm,14.6s					
QIZ	**Qiongzhong**	**21.39 246**	P	**P**	**10 53 17.9**	**-0.1**
QIZ			S	**S**	**10 57 14.1**	**+1.0**
QIZ			pmax	pmax		
	comp=Z,15nm,1.1s					
QIZ			LR	LR		
	comp=Z,610nm,17.9s					
QIZ			LR	LR		
	comp=Z,500nm,16.6s					
QIZ			LR	LR		
	comp=Z,750nm,16.4s					
CD2	**Chengdu**	**23.21 281**	P	**P**	**10 53 36.4**	**-0.8**
LZH	**Lanzhou**	**23.45 294**	*e*P	**P**	**10 53 40.6**	**+1.0**
LZH			pP	pP	10 53 49.5	-1.3
LZH			sP	sP	10 53 52.8	-3.4
LZH			*e*S	**S**	**10 57 48.4**	**-1.6**
LZH			pmax	pmax		
	comp=Z,34nm,1.2s					
LZH			pmax	pmax		
	comp=Z,190nm,4.0s					
LZH			LR	LR		
	comp=Z,260nm,13.7s					
LZH			LR	LR		
	comp=Z,1μm,14.6s					
LZH			LR	LR		
	comp=Z,1μm,16.3s					
TYV	**Tymovskoe**	**23.49 20**	*e*P	P	10 53 29.1	-11
TYV			pmax	pmax		
	comp=Z,8.0nm,1.5s					
KMI	**Kunming**	**25.02 267**	P	**P**	**10 53 54.6**	**+0.3**
KMI			pmax	pmax		
	comp=Z,29nm,0.9s					
KMI			pmax	pmax		
	comp=Z,110nm,5.5s					
SLVN	**Son La**	**25.27 258**	*e*P	**P**	**10 53 56.0**	**-0.4**
	comp=Z,9.1nm,1.1s					
ULN	**Ulaanbaatar**	**25.99 322**	*e*P	**P**	**10 54 03.1**	**+0.3**
ULN			pmax	pmax		
	comp=Z,9.0nm,0.9s					
ULN	**Ulaanbaatar**	**25.99 322**	*e*P	**P**	**10 54 03.1**	**+0.3**
	comp=Z,8.7nm,0.9s					
SONA0	**Songino Array**	**26.33 322**	*e*P	**P**	**10 54 04.8**	**-0.9**
	comp=Z,6.6nm,1.0s					
SONM	**Songino Array**	**26.33 322**	P	**P**	**10 54 04.8**	**-0.9**
	comp=Z,3.3nm,0.7s,baz=145,slow=10,SNR=9.6					
SONA1	**Songino Array**	**26.33 322**	*e*P	**P**	**10 54 04.9**	**-0.9**
GTA	**Gaotai**	**27.22 300**	*e*P	**P**	**10 54 15.4**	**+1.5**
GTA			pP	pP	10 54 24.7	-0.9
GTA			sP	sP	10 54 29.0	-1.9
GTA			S	**S**	**10 58 51.6**	**+1.7**
GTA			sS	sS	10 59 07.7	-1.9
GTA			SS	**SnSn**	**11 00 09.5**	**+9.0**
GTA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
GTA			pmax	pmax		
	comp=Z,77nm,4.7s					
GTA			LR	LR		
	comp=Z,570nm,15.2s					
GTA			LR	LR		
	comp=Z,840nm,14.7s					
GTA			LR	LR		
	comp=Z,1μm,16.6s					
CM31	**Chiang Mai Arr**	**30.71 257**	*e*P	**P**	**10 54 45.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.71 257**	P	**P**	**10 54 44.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=62,slow=5.3,SNR=7.8					
SEY	**Seymchan**	**36.60 17**	P	**P**	**10 55 35.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=249,slow=5.1,SNR=5.2					
WMQ	**Urumqi**	**36.96 305**	P	**P**	**10 55 40.9**	**+1.9**
WMQ			pP	pP	10 55 51.5	+0.5
WMQ			sP	sP	10 55 57.7	+1.5
WMQ			pmax	pmax		
	comp=Z,7.0nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,250nm,5.1s					
WMQ			LR	LR		
	comp=Z,630nm,12.3s					
WMQ			LR	LR		
	comp=Z,640nm,19.5s					
WMQ			LR	LR		
	comp=Z,700nm,22.5s					
TAPN	**Taplejung**	**37.60 278**	*e*P	**P**	**10 55 44.5**	**-0.4**
ODAN	**Odare**	**37.99 277**	*e*P	**P**	**10 55 47.4**	**-0.7**
	comp=Z,37nm,0.7s					
RAMN	**Ramite**	**38.65 278**	*e*P	**P**	**10 55 52.6**	**-1.1**
	comp=Z,14nm,0.6s					
JIRN	**Jiri**	**38.84 279**	*e*P	**P**	**10 55 54.8**	**-0.7**
	comp=Z,200nm,0.9s					
GUN	**Gumba**	**39.05 279**	*e*P	**P**	**10 55 57.2**	**0.0**
	comp=Z,77nm,0.8s					
PKI	**Pulchoki**	**39.54 279**	*e*P	**P**	**10 56 00.5**	**-0.7**
	comp=Z,54nm,0.9s					
PKIN	**Phulchoki**	**39.55 279**	*e*P	**P**	**10 56 01.1**	**-0.1**
	comp=Z,36nm,0.6s					
KKN	**Kakani**	**39.60 279**	*e*P	**P**	**10 56 01.4**	**-0.2**
DMN	**Daman**	**39.79 279**	*e*P	**P**	**10 56 02.4**	**-0.8**
	comp=Z,32nm,0.9s					
GKN	**Gorkha**	**40.10 280**	*e*P	**P**	**10 56 05.2**	**-0.5**
	comp=Z,48nm,1.0s					
DANN	**Dangsing**	**40.78 281**	*e*P	**P**	**10 56 11.7**	**+0.2**
KOLN	**Koldanda**	**41.05 280**	*e*P	**P**	**10 56 13.2**	**-0.4**
	comp=Z,31nm,0.9s					
MK01	**Makanchi Array**	**41.15 309**	*e*P	**P**	**10 56 14.0**	**0.0**
MK31	**Makanchi Array**	**41.16 309**	*e*P	**P**	**10 56 14.2**	**+0.1**
MK31	**Makanchi Array**	**41.16 309**	*e*P	**P**	**10 56 14.2**	**+0.1**
MK32	**Makanchi Array**	**41.16 309**	*e*P	**P**	**10 56 11.4**	**-2.6**
MK32			*e*PcP	**PcP**	**10 58 13.4**	**+0.8**
MKAR	**Makanchi Array**	**41.16 309**	P	**P**	**10 56 11.4**	**-2.6**
	comp=Z,3.9nm,0.7s,baz=94,slow=10,SNR=23					
MKAR			PcP	**PcP**	**10 58 13.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=113,slow=2.8,SNR=5.0					
MKAR	**Makanchi Array**	**41.16 309**	*e*P	**P**	**10 56 14.2**	**+0.1**
MKAR			pmax	pmax		
	comp=Z,19nm,0.8s					
MKAR	**Makanchi Array**	**41.16 309**	*e*P	**P**	**10 56 14.2**	**+0.1**
	comp=Z,19nm,0.8s					
ZAA0	**Zalesovo Array**	**41.20 320**	*e*P	**P**	**10 56 13.9**	**-0.2**
ZALV	**Zalesovo Beam**	**41.20 320**	P	**P**	**10 56 12.1**	**-2.1**
	comp=Z,2.9nm,0.6s,baz=114,slow=7.6,SNR=9.5					
ZALV			PcP	**PcP**	**10 58 12.9**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=108,slow=3.2,SNR=3.8					
ZALV	**Zalesovo Beam**	**41.20 320**	*e*P	**P**	**10 56 13.9**	**-0.3**
ZAA1	**Zalesovo Array**	**41.20 320**	*e*P	**P**	**10 56 12.1**	**-2.1**
ZAA1			*e*PcP	**PcP**	**10 58 12.9**	**+0.3**
MAKZ	**Makanchi**	**41.38 309**	*e*P	**P**	**10 56 15.9**	**+0.1**
MAKZ			pmax	pmax		
	comp=Z,2.0nm,0.6s					
MAKZ	**Makanchi**	**41.38 309**	*e*P	**P**	**10 56 15.9**	**+0.1**
	comp=Z,2.2nm,0.6s					
PYUN	**Piuthan**	**41.50 280**	*e*P	**P**	**10 56 17.2**	**-0.1**
	comp=Z,85nm,0.9s					
MTN	**Manton Dam**	**41.80 179**	*e*P	**P**	**10 56 19.6**	**+0.1**
	comp=Z,129nm,1.9s					
KURK	**Kurchatov**	**44.14 314**	*c e*P	**P**	**10 56 36.6**	**-1.5**
KURK			pmax	pmax		
	comp=Z,95nm,0.8s					
KURK	**Kurchatov**	**44.14 314**	*e*P	**P**	**10 56 37.6**	**-0.5**
KURBB	**Kurchatov Arra**	**44.18 314**	P	**P**	**10 56 37.2**	**-1.2**
	comp=Z,16nm,0.6s,baz=100,slow=8.9,SNR=14					
KSH	**Kashi**	**45.58 298**	*e*P	**P**	**10 56 52.2**	**+2.3**
KSH			pP	pP	10 57 03.2	+1.1
KSH			sP	sP	10 57 07.1	-0.2
KSH			PcP	**PcP**	**10 58 31.4**	**+3.6**
KSH			PP	**PP**	**10 58 40.4**	**+3.3**
KSH			PcS	**PcS**	**11 02 20.7**	**-1.4**
KSH			S	**S**	**11 03 30.3**	**+1.0**
KSH			ScS	**ScS**	**11 06 40.9**	**-1.8**
KSH			pmax	pmax		
	comp=Z,9.0nm,1.4s					
KSH			pmax	pmax		
	comp=Z,76nm,4.7s					
KSH			LR	LR		
	comp=Z,310nm,5.2s					
KSH			LR	LR		
	comp=Z,300nm,5.8s					
KSH			LR	LR		
	comp=Z,410nm,5.8s					
NRIK	**Noril'sk**	**47.09 341**	P	**P**	**10 57 00.1**	**-1.0**
	comp=Z,12nm,0.6s,baz=120,slow=9.6,SNR=7.3					
WRAB	**Tennant Creek**	**48.99 175**	*e*P	**P**	**10 57 17.0**	**+0.7**
WRAB			pmax	pmax		
	comp=Z,9.0nm,0.8s					
WRAB	**Tennant Creek**	**48.99 175**	*e*P	**P**	**10 57 16.9**	**+0.7**
	comp=Z,8.9nm,0.8s					
WR1	**Warramunga Arr**	**48.99 175**	*e*P	**P**	**10 57 16.7**	**+0.3**
	comp=Z,9.7nm,0.8s					
WRA	**Warramunga Arr**	**48.99 175**	P	**P**	**10 57 16.7**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=351,slow=8.3,SNR=12					
WB2	**Warramunga Arr**	**49.00 175**	*e*P	**P**	**10 57 17.0**	**+0.6**
	comp=Z,10nm,0.8s					
KK31	**Karatay Array**	**49.42 303**	*i* P	**P**	**10 57 18.8**	**-0.7**
KK31			pmax	pmax		
	comp=Z,5.0nm,0.8s					
KKAR	**Karatay Array**	**49.42 303**	*e*P	**P**	**10 57 19.5**	**0.0**
KKAR			pmax	pmax		
	comp=Z,51nm,0.8s					
KKAR	**Karatay Array**	**49.42 303**	*e*P	**P**	**10 57 19.5**	**0.0**
	comp=Z,51nm,0.8s					
BVA0	**Borovoye Array**	**49.47 316**	*i* P	**P**	**10 57 18.9**	**-0.8**
BVA0			pmax	pmax		
	comp=Z,18nm,0.8s					
BVAR	**Borovoye Array**	**49.47 316**	P	**P**	**10 57 18.9**	**-0.9**
	comp=Z,16nm,0.6s,baz=94,slow=9.4,SNR=62					
BRVK	**Borovoye**	**49.54 316**	*c e*P	**P**	**10 57 20.0**	**-0.2**
BRVK			pmax	pmax		
	comp=Z,120nm,1.2s					
BRVK	**Borovoye**	**49.54 316**	*e*P	**P**	**10 57 20.2**	**-0.1**
	comp=Z,29nm,0.8s					
ASAR	**Alice Springs**	**52.66 176**	P	**P**	**10 57 44.8**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=0.4,slow=6.5,SNR=11					
AS01	**Alice Springs**	**52.66 176**	*e*P	**P**	**10 57 45.1**	**+1.2**
SVE	**Sverdlovsk**	**55.20 321**	*e*P	**P**	**10 58 02.4**	**+0.3**
SVE			pmax	pmax		
	comp=Z,26nm,1.3s					
SVE			MLR	MLR		
	comp=Z,1μm,17.0s					
AB31	**Akbulak array**	**56.14 312**	*i* P	**P**	**10 58 08.3**	**-0.7**
AB31			pmax	pmax		
	comp=Z,19nm,0.6s					
ABKAR	**Akbulak array**	**56.14 312**	*e*P	**P**	**10 58 08.8**	**-0.2**
	comp=Z,239nm,0.6s					
ARU	**Arti**	**56.36 321**	P	**P**	**10 58 10.1**	**-0.4**
	comp=Z,7.0nm,0.7s,baz=93,slow=5.5,SNR=14					
ARU			LR	LR	11 24 52.7	
	comp=Z,637nm,18.6s,baz=149,slow=39					
ARU	**Arti**	**56.36 321**	*d i* P	**P**	**10 58 10.1**	**-0.4**
ARU					11 00 13.7	
ARU			S	**S**	**11 05 59.1**	**+1.5**
ARU			SS	**SS**	**11 09 43.4**	**-1.1**
ARU			pmax	pmax		
	comp=Z,26nm,1.2s					
ARU			MLR	MLR		
	comp=Z,829nm,17.0s					
ARU	**Arti**	**56.36 321**	*e*P	**P**	**10 58 10.0**	**-0.4**
	comp=Z,20nm,1.0s					
SOKR	**Solikamsk**	**57.15 324**	*e*P	**P**	**10 58 13.6**	**-2.3**
SOKR			pmax	pmax		
	comp=Z,31nm,1.2s					
AKTO	**Aktyubinsk**	**57.23 314**	P	**P**	**10 58 16.4**	**-0.4**
	comp=Z,12nm,0.8s,baz=100,slow=6.2,SNR=23					
AKTO			LR	LR	11 24 46.4	
	comp=Z,710nm,19.0s,baz=42,slow=38					
RND	**Reindeer**	**60.16 31**	*e*P	**P**	**10 58 38.2**	**+1.2**
RND			pmax	pmax		
	comp=Z,11nm,1.0s					
RND	**Reindeer**	**60.16 31**	*e*P	**P**	**10 58 38.2**	**+1.2**
	comp=Z,11nm,1.0s					
MDM	**Murphy Dome**	**60.28 29**	*e*P	**P**	**10 58 39.3**	**+1.6**
	comp=Z,10nm,1.0s					
COLA	**College**	**60.45 29**	*i* P	**P**	**10 58 40.6**	**+1.8**
COLA			pmax	pmax		
	comp=Z,3.0nm,0.7s					
IL1	**Eielson Array**	**60.87 29**	*e*P	**P**	**10 58 42.4**	**+0.7**
ILAR	**Eielson Array**	**60.87 29**	P	**P**	**10 58 42.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=264,slow=5.3,SNR=22					
ILAR	**Eielson Array**	**60.87 29**	P	**P**	**10 58 42.0**	**+0.3**
ILAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ILB	**Eielson Array**	**60.87 29**	*e*P	**P**	**10 58 42.8**	**+1.1**
HDA	**Harding Lake**	**60.88 30**	*e*P	**P**	**10 58 42.7**	**+0.8**
	comp=Z,5.8nm,1.0s					
STKA	**Stephens Creek**	**61.65 169**	P	**P**	**10 58 47.5**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=346,slow=16,SNR=3.0					
STKA	**Stephens Creek**	**61.65 169**	*e*P	**P**	**10 58 48.7**	**+1.4**
STKA			pmax	pmax		
	comp=Z,1.0nm,1.3s					
STKA	**Stephens Creek**	**61.65 169**	*e*P	**P**	**10 58 48.7**	**+1.4**
	comp=Z,1.2nm,1.3s					
DOT	**Dot Lake**	**62.26 30**	*e*P	**P**	**10 58 52.2**	**+1.1**
	comp=Z,15nm,0.9s					
ZEI	**Tsey**	**68.50 308**	*e*P	**P**	**10 59 28.7**	**-3.4**
ZEI			pmax	pmax		
	comp=Z,26nm,0.7s					
OBN	**Obninsk**	**68.74 322**	⇓*e*P	**P**	**10 59 30.9**	**-2.1**
OBN			*e*		10 59 52.7	
OBN			*e*		11 02 05.6	
OBN			*e*S	**SKiKP**	**11 09 26.7**	**+5.2**
OBN			pmax	pmax		
	comp=Z,7.0nm,0.9s					
OBN			MLR	MLR		
	comp=Z,394nm,18.0s					
GNI	**Garni**	**68.83 305**	P	**P**	**10 59 34.9**	**+0.8**
	comp=Z,11nm,0.7s,baz=44,slow=3.2,SNR=4.1					
KBZ	**Khabaz**	**68.86 309**	P	**P**	**10 59 34.4**	**+0.4**
	comp=Z,18nm,0.9s,baz=79,slow=3.2,SNR=25					
KVAR	**Kislovodsk Arr**	**68.92 309**	P	**P**	**10 59 35.2**	**+0.6**
	comp=Z,19nm,0.9s,baz=214,slow=1.8,SNR=15					
KVAR			LR	LR	11 32 29.4	
	comp=Z,195nm,19.2s,slow=38					
KIV	**Kislovodsk**	**68.92 309**	*d e*P	**P**	**10 59 34.9**	**+0.4**
KIV			*e*		10 59 51.2	
KIV			*e*		11 02 09.1	
KIV			pmax	pmax		
	comp=Z,45nm,1.2s					
KIV			MLR	MLR		
	comp=Z,156nm,18.0s					
KIV	**Kislovodsk**	**68.92 309**	*e*P	**P**	**10 59 35.0**	**+0.4**
	comp=Z,26nm,0.9s					
ARTV	**Artvin**	**70.45 307**	*e*P	**P**	**10 59 44.2**	**0.0**
	comp=Z,4.3nm,1.0s					
FIA0	**FINESS Array S**	**71.28 331**	*e*P	**P**	**10 59 47.3**	**-1.3**
FIA0	**FINESS Array S**	**71.28 331**	*e*P	**P**	**10 59 47.3**	**-1.3**
FINES	**FINESS Array B**	**71.28 331**	P	**P**	**10 59 47.3**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=69,slow=5.4,SNR=9.9					
FINES			LR	LR	11 34 24.0	
	comp=Z,278nm,20.2s,baz=50,slow=39					
FINES	**FINESS Array B**	**71.28 331**	*i* P	**P**	**10 59 48.2**	**-0.3**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.5s					
MARD	**Mardin**	**72.78 303**	*e*P	**P**	**10 59 59.1**	**+0.9**
	comp=Z,22nm,0.8s					
AKASG	**Malin Array Be**	**74.59 320**	P	**P**	**11 00 07.2**	**-1.1**
	comp=Z,5.4nm,0.5s,baz=58,slow=6.2,SNR=21					
AKASG	**Malin Array Be**	**74.59 320**	*i* P	**P**	**11 00 08.3**	**0.0**
AKASG			pmax	pmax		
	comp=Z,6.0nm,0.5s					
AKBB	**Malin Array Si**	**74.59 320**	*e*P	**P**	**11 00 08.0**	**-0.3**
AKBB			pmax	pmax		
	comp=Z,10.0nm,0.8s					
AKBB	**Malin Array Si**	**74.59 320**	*e*P	**P**	**11 00 08.0**	**-0.3**
	comp=Z,9.5nm,0.8s					
KIEV	**Kiev**	**74.60 320**	⇑*e*P	**P**	**11 00 07.6**	**-0.8**
KIEV			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KIEV	**Kiev**	**74.60 320**	*e*P	**P**	**11 00 07.9**	**-0.5**
	comp=Z,9.4nm,0.8s					
AK11	**Malin Array Si**	**74.64 320**	*e*P	**P**	**11 00 07.7**	**-0.9**
RAYN	**Ar Rayn**	**74.79 289**	*e*P	**P**	**11 00 10.4**	**+0.3**
	comp=Z,12nm,1.1s					
BR101	**Keskin Array S**	**76.81 308**	*e*P	**P**	**11 00 21.5**	**+0.1**
BRTR	**Keskin Array B**	**76.81 308**	P	**P**	**11 00 21.5**	**+0.1**
	comp=Z,6.2nm,0.7s,baz=106,slow=4.4,SNR=25					
HFS	**Hagfors**	**77.13 333**	P	**P**	**11 00 22.5**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=62,slow=3.7,SNR=4.6					
BR231	**Keskin MP Arra**	**77.35 309**	*e*P	**P**	**11 00 22.2**	**-2.2**
NB2	**NORSAR Subarra**	**77.54 334**	P	**P**	**11 00 23.6**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=48,slow=5.1					
NB200	**NORSAR Array S**	**77.54 334**	*e*P	**P**	**11 00 24.1**	**-0.9**
NOA	**NORSAR Array B**	**77.54 334**	P	**P**	**11 00 24.1**	**-0.9**
	comp=Z,1.6nm,0.7

CLL	Collm	82.86	326	eP		P	11 00 54.0 +0.2
CLL					pmax	pmax	
comp=Z,11nm,1.0s							
CLL	Collm	82.86	326	eP		P	11 00 54.0 +0.2
comp=Z,11nm,1.0s							
CLL					Lm	MLR	11 41 00.0
comp=N,300nm,18.0s							
CLL					Lm	MLR	11 41 00.0
comp=E,400nm,18.1s							
PRU	Pruhonice	82.91	324	eP		P	11 00 53.0 -1.0
PRU	Pruhonice	82.91	324	eP		P	11 00 53.0 -1.0
NKC	Novy Kostel	83.81	325		AMS	AMS	11 42 30.0
comp=E,800nm,16.1s							
BORG	Borgarnes	83.81	348	i P		P	11 00 54.5 -3.9
KHC	Kasperske Hory	83.93	324	eP		P	11 00 55.3 -4.1
KHC	Kasperske Hory	83.93	324	eP		P	11 00 55.3 -4.1
GERES	GERESS Array B	84.04	324	P		P	11 00 59.8 -0.2
comp=E,0.5nm,0.3s,baz=63,slow=3.3,SNR=8.5							
GEA0	GERESS Array S	84.05	324	eP		P	11 01 00.2 +0.2
IDI	Anoyia	85.04	308	P		P	11 01 06.1 +0.8
comp=E,5.3nm,0.9s,baz=220,slow=8.5,SNR=3.2							
IDI	Anoyia	85.04	308	eP		P	11 01 05.0 -0.3
comp=E,10nm,1.1s							
DLMT	Dillon	86.24	39	eP		P	11 01 12.0 +0.8
comp=E,8.0nm,1.1s							
HLID	Hailey	86.33	41	eP		P	11 01 13.7 +2.0
comp=E,4.4nm,1.0s							
PD31	Pinedale Array	89.59	40	eP		P	11 01 26.2 -1.1
PDAR	Pinedale Array	89.59	40	P		P	11 01 28.1 +0.8
comp=E,0.6nm,0.8s,baz=352,slow=3.0,SNR=6.1							
LPM	Los Pinos Moun	96.90	44	eP		P	11 02 02.1 +1.0
ESDC	Sonseca Array	99.45	326	LR		LR	11 52 28.2
comp=E,162nm,18.7s,baz=90,slow=39							
PTGA	Pitinga	149.97	21	PKPbc		PKPbc	11 08 20.5 +0.1
comp=E,4.0nm,0.7s,baz=346,slow=0.4,SNR=9.7							
PTGA	Pitinga	149.97	21	ePKPbc		PKPbc	11 08 21.2 +0.8

MEX 07 11:05:21.8±0.5, 14°16N×92°41W, h16km±91km, MD3.9, Near coast of Chipas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.72	333	eP	Pn	11 05 47.5	-3.6
PCIG				eS	Sn	11 06 08.1	-4.7
CCIG	Comitan	2.12	7	i P	Pn	11 05 56.6	-0.3
CCIG				i S	Sn	11 06 22.8	-0.2

IDC 07 11:13:32.4±2.2, 4°94S×152°85E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/34, mbtmp3.7/6, MS3.9/3, Ms1 3.9/3, ms1mx3.3/40, Error ellipse: s-maj=86.9km s-min=26.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.38	229	P	P	11 18 43.5	+0.5
0.4nm,0.6s,baz=53,slow=9.6,SNR=7.9							
ASAR	Alice Springs	26.07	223	P	P	11 19 07.6	-0.4
0.3nm,0.6s,baz=61,slow=8.8,SNR=7.3							
RAO	Raoul Island	36.74	134	LR	LR	11 32 14.1	
comp=Z,221nm,18.5s,baz=52,slow=30							
URZ	Urewera	39.84	150	LR	LR	11 33 50.2	
comp=Z,144nm,21.7s,baz=18,slow=31							
MKAR	Makanchi Array	80.46	319	P	P	11 25 47.7	+1.4
0.4nm,0.7s,baz=109,slow=3.8,SNR=2.6							
ZALV	Zalesovo Beam	81.30	326	P	P	11 25 50.0	-0.6
1.0nm,0.5s,baz=108,slow=4.7,SNR=3.5							
ILAR	Eielson Array	82.28	22	P	P	11 25 56.0	+0.4
0.3nm,0.7s,baz=247,slow=5.7,SNR=4.2							
BVAR	Borovoye Array	89.38	323	P	P	11 26 29.3	-1.8
0.9nm,0.7s,baz=110,slow=6.6,SNR=3.6							
AKTO	Aktyubinsk	96.86	320	LR	LR	12 10 02.8	
comp=Z,66nm,20.3s,slow=35							
TORD	Torodi Ar. Bea	150.39	288	PKPbc	PKPbc	11 33 26.7	-0.3
0.7nm,0.6s,baz=66,slow=2.8,SNR=5.7							

*IDC **07** 11:17:21.6±0.7, 34°67N×73°02E, h0km, mb4.1/14, mb1 4.2/20, mb1mx4.0/46, mbtmp4.1/20, ML4.0/6, Error ellipse: s-maj=17.5km s-min=14.3km az=54.0*
*ISCJB **07** 11:17:23.0±0.3, 34°70N±0°03×73°10E±0°05, h21km, mb4.2/24, Error ellipse: s-maj=6.1km s-min=3.1km az=152.1*
*NDI **07** 11:17:25.7±4.5, 34°71N×72°90E, h15km±468km, ML4.2, mb4.4(NEIC)*
*NEIC **07** 11:17:29.0±0.9, 34°76N×73°03E, h50km±7km, mb4.4/15, Error ellipse: s-maj=7.7km s-min=6.3km az=213.0*
*NNC **07** 11:17:32.6±2.2, 34°97N×73°14E, h83km±20km, mb3.8, mpv4.2, Error ellipse: s-maj=17.0km s-min=16.5km az=129.0*

ISC 07 11:17:25.1±0.5, 34°70N±0°05×73°03E±0°05, h21km, n88, σ1°85/104, mb4.3/24, 7C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.19	134	ex	Pn	11 18 14.0	0.0
THN				eS	Sn	11 18 54.6	+3.3
KBL	Kabul	3.29	268	ePn	Pn	11 18 18.6	+3.0
PONG	Pong	3.67	137	eP	Pn	11 18 23.0	+2.3
JWA	Jwalamukhi	3.96	135	eP	Pn	11 18 27.0	+2.4
JWA				eS	Sn	11 19 13.0	+2.7
BHK	Bhakra	4.34	138	eP	Pb	11 18 40.8	+0.1
BHK				eS	Sn	11 19 24.0	+4.2
SDNR	Sundarnagar	4.60	133	eP	Pn	11 18 34.6	+1.2
SDNR				eS	Sn	11 19 29.0	+2.8
JOSI	Joshimath	6.89	125	ex	Pn	11 19 09.6	+4.5
JOSI				eS	Sn	11 20 20.2	-2.7
JOSI				AML	AML	11 21 01.4	
comp=E,219nm,1.0s							
JOSI				AML	AML	11 21 03.1	
comp=N,249nm,0.8s							
NDI	New Delhi	6.98	148	eS	Sn	11 20 22.0	-2.9
KHET	Khetri	7.02	159	eP	Pn	11 19 07.0	+0.3
KHET				eS	Sn	11 20 23.3	-2.6
KALG	Kalgarh	7.10	135	eP	Pn	11 19 07.8	0.0
KALG				eS	Sn	11 20 21.9	-6.0
KUDL	Kundal	7.17	155	eP	Pn	11 19 09.3	+0.5
KUDL				eS	Sn	11 20 26.7	-2.9
SONA	Sohna	7.30	151	eP	Pn	11 19 11.0	+0.4
SONA				eS	Sn	11 20 31.3	-1.5
MNAS	Manas	7.79	357	⇓P	Pn	11 19 19.0	+1.6
comp=N,4.9nm,0.4s							
MNAS				⇑S	Sn	11 20 44.1	-0.8
comp=N,24nm,0.6s							
AAK	Ala-Archa	8.01	8	Pn	Pn	11 19 22.7	+2.3
comp=N,1.6nm,0.3s,baz=171,slow=8.2,SNR=16							
AAK				Sn	Sn	11 20 50.6	+0.2
comp=N,0.8nm,0.3s,baz=274,slow=17,SNR=4.2							
AAK	Ala-Archa	8.01	8	⇑P	Pn	11 19 24.1	+3.7
comp=N,4.7nm,0.5s							
AAK				⇓S	Sn	11 20 50.3	-0.1
comp=N,40nm,0.9s							
AAK	Ala-Archa	8.01	8	ePn	Pn	11 19 23.6	+3.2
AAK				eSn	Sn	11 20 48.7	-1.7
TKM2	Tokmak 2	8.45	13	⇓P	Pn	11 19 29.9	+3.4
comp=N,4.5nm,0.7s							
TKM2				⇑S	Sn	11 20 59.8	-1.5
comp=N,9.1nm,0.6s							
KK31	Karatay Array	8.62	348	P	Pn	11 19 30.0	+1.4
comp=N,11nm,0.4s,baz=159,slow=10,SNR=178							
KK31				⇑S	Sn	11 21 04.7	-0.4
comp=N,10nm,0.6s,baz=171,slow=23,SNR=9.2							
KKAR	Karatay Array	8.62	348	ePn	Pn	11 19 30.1	+1.5
KKAR				eSn	Sn	11 21 04.2	-0.9
PDGK	Podgornoye	9.97	28	⇓P	Pn	11 19 48.4	+1.1
comp=N,8.8nm,0.6s							
PDGK				⇑S	Sn	11 21 35.3	-3.4
comp=N,14nm,1.0s							
PYUN	Piuthan	10.76	125	eP	Pn	11 19 57.3	-0.8
comp=N,23nm,0.4s							
KOLN	Koldanda	11.38	124	eP	Pn	11 20 05.6	-1.1
comp=N,15nm,0.5s							
GKN	Gorkha	11.96	121	eP	Pn	11 20 12.8	-1.7
comp=N,18nm,0.3s							
GEYT	Alibeck	12.45	289	Pn	Pn	11 20 21.0	-0.1
comp=N,0.9nm,0.3s,baz=121,slow=14,SNR=2.4							
GEYT				Sn	Sn	11 22 42.6	+3.4
baz=120,slow=28,SNR=1.9							
DMN	Daman	12.52	121	eP	Pn	11 20 20.2	-2.2
comp=N,31nm,0.8s							
KKN	Kakani	12.54	120	eP	Pn	11 20 20.3	-2.2
comp=N,19nm,0.5s							
PKIN	Phulchoki	12.75	120	eP	Pn	11 20 23.0	-2.4
comp=N,31nm,0.5s							
PKI	Pulchoki	12.76	120	eP	Pn	11 20 23.1	-2.6
comp=N,12nm,0.3s							
JIRN	Jiri	13.27	118	eP	Pn	11 20 29.6	-3.0
comp=N,284nm,0.4s							
MAKZ	Makanchi	13.86	27	ePn	Pn	11 20 42.0	+1.7
MK01	Makanchi Array	13.95	27	ePn	Pn	11 20 44.3	+2.9
MK31	Makanchi Array	13.96	27	P	Pn	11 20 42.0	+0.3
comp=N,1.5nm,0.6s,baz=202,slow=14,SNR=6.1							
MK31	Makanchi Array	13.96	27	ePn	Pn	11 20 42.5	+0.8
MK32	Makanchi Array	13.96	27	ePn	Pn	11 20 41.6	-0.1
MKAR	Makanchi Array	13.96	27	Pn	Pn	11 20 41.6	-0.1
comp=N,0.2nm,0.3s,baz=204,slow=14,SNR=5.9							
MKAR	Makanchi Array	13.96	27	ePn	Pn	11 20 42.5	+0.8
RAMN	Ramite	13.98	120	eP	Pn	11 20 37.3	-4.9
comp=N,33nm,0.6s							
TAPN	Taplejung	14.56	116	eP	Pn	11 20 45.1	-5.1
ODAN	Odare	14.60	118	eP	Pn	11 20 44.5	-6.2
comp=N,25nm,0.6s							
KURBB	Kurchatov Arra	16.41	12	Pn	Pn	11 21 13.2	-0.9
comp=N,0.2nm,0.3s,baz=204,slow=10,SNR=5.8							
KURK	Kurchatov	16.52	13	ePn	P	11 21 17.5	-0.4
comp=N,4.9nm,0.9s							
AB31	Akbulak array	17.46	330	⇑P	Pn	11 21 27.4	+0.2
comp=N,1.8nm,0.5s,baz=148,slow=12,SNR=54							
ABKAR	Akbulak array	17.46	330	ePn	Pn	11 21 24.7	-2.5
comp=N,32nm,0.5s							
ABKAR				eSn	Sn	11 24 35.8	-5.0
BVA0	Borovoye Array	18.42	355	⇓P	Pn	11 21 39.0	+0.1
comp=N,6.7nm,1.1s,baz=295,slow=34,SNR=15							
BVAR	Borovoye Array	18.42	355	P	P	11 21 37.3	-1.6
comp=N,1.0nm,0.3s,baz=146,slow=11,SNR=16							
BRVK	Borovoye	18.46	355	eP	P	11 21 39.0	-0.3
comp=N,23nm,1.8s							
AKTO	Aktyubinsk	19.16	330	P	Pn	11 21 47.6	-0.4
comp=N,1.9nm,0.3s,baz=131,slow=11,SNR=19							
AKTO	Aktyubinsk	19.16	330	⇑P	P	11 21 47.2	+0.1
comp=N,9.9nm,0.6s							
ZAA0	Zalesovo Array	20.96	20	⇓P	P	11 22 05.6	-0.9
comp=N,2.4nm,0.8s							
ZAA0	Zalesovo Array	20.96	20	eP	P	11 22 06.3	-0.3
ZALV	Zalesovo Beam	20.96	20	P	P	11 22 06.2	-0.3
comp=N,13nm,0.6s,baz=208,slow=11,SNR=16							
ZALV	Zalesovo Beam	20.96	20	eP	P	11 22 06.0	-0.5
ZAA1	Zalesovo Array	20.96	20	eP	P	11 22 06.2	-0.3
ARU	Arti	23.88	340	P	P	11 22 37.2	+0.2
comp=N,3.7nm,0.4s,baz=57,slow=2.0,SNR=4.2							
CHTO	Chiang Mai	27.92	118	eP	P	11 23 17.4	+3.4
comp=N,4.8nm,0.8s							
SONA0	Songino Array	28.07	52	eP	P	11 23 16.1	+0.9
comp=N,8.5nm,1.9s							
SONM	Songino Array	28.07	52	P	P	11 23 16.1	+0.9
comp=N,0.6nm,0.7s,baz=246,slow=11,SNR=3.2							
CM31	Chiang Mai Arr	28.15	118	eP	P	11 23 16.6	+0.6
CMAR	Chiang Mai Arr	28.15	118	P	P	11 23 16.6	+0.6
comp=N,5.5nm,1.1s,baz=304,slow=10,SNR=10							
CM01	Chiang Mai Arr	28.18	118	eP	P	11 23 16.5	+0.2
FIA0	FINESS Array S	39.89	327	eP	P	11 24 58.0	+0.8
FINES	FINESS Array B	39.89	327	P	P	11 24 58.0	+0.8
comp=N,4.0nm,0.9s,baz=119,slow=14,SNR=3.6							
ARA0	ARCESS Array S	43.43	338	eP	P	11 25 26.4	+0.3
ARCES	ARCESS Array B	43.43	338	P	P	11 25 26.4	+0.3
comp=N,2.3nm,0.5s,baz=120,slow=7.2,SNR=7.8							
ARCES	ARCESS Array B	43.43	338	eP	P	11 25 26.2	+0.1
ARE0	ARCESS Array S	43.43	338	eP	P	11 25 26.4	+0.4
comp=N,62nm,1.5s							
NB200	NORSAR Array S	46.81	324	eP	P	11 25 52.8	-0.2
NOA	NORSAR Array B	46.81	324	P	P	11 25 52.8	-0.2
comp=N,1.4nm,0.8s,baz=97,slow=7.7,SNR=3.3							
SPB4	Spitsbergen Ar	49.62	347	eP	P	11 26 15.8	+1.3
MJAR	Matsushiro Ar	52.09	68	P	P	11 26 33.4	-0.3
comp=N,2.1nm,0.6s,baz=292,slow=9.0,SNR=5.7							
SUMG	Summit	63.29	342	eP	P	11 27 53.4	+1.0
TOA1	Torodi Ar. Sit	67.36	271	eP	P	11 28 18.5	-0.5
TOA0	Torodi Ar. Sit	67.36	271	eP	P	11 28 18.2	-0.8
comp=N,8.9nm,1.5s							
TORD	Torodi Ar. Bea	67.36	271	P	P	11 28 18.5	-0.5
comp=N,1.3nm,0.5s,baz=45,slow=5.9,SNR=12							
COLD	Coldfoot	73.25	16	eP	P	11 28 55.1	+0.8
comp=N,9.8nm,1.8s							
IMAR	Indian Mountai	73.38	18	eP	P	11 28 55.5	+0.4
INK	Inuvik	75.40	10	eP	P	11 29 07.2	+0.5
comp=N,12nm,1.5s							
ILAR	Eielson Array	76.05	16	P	P	11 29 09.8	-0.8
comp=N,0.8nm,1.0s,baz=312,slow=5.9,SNR=6.0							
ILB	Eielson Array	76.05	16	eP	P	11 29 09.8	-0.8
BOSA	Boshof	77.47	222	P	P	11 29 19.2	0.0
comp=N,4.9nm,1.1s,baz=12,slow=9.0,SNR=3.2							
DAWY	Dawson	78.28	14	eP	P	11 29 23.6	+0.4
comp=N,20nm,1.8s							
WR1	Warramunga Arr	79.63	123	eP	P	11 29 31.1	0.0
comp=N,20nm,1.9s							
WRA	Warramunga Arr	79.63	123	P	P	11 29 31.1	0.0
comp=N,0.7nm,0.7s,baz=324,slow=5.0,SNR=11							
WB2	Warramunga Arr	79.64	123	eP	P	11 29 31.6	+0.4
comp=N,20nm,2.0s							
WC3	Warramunga Arr	79.67	123	eP	P	11 29 31.5	+0.2
comp=N,5.0nm,1.3s							
AS31	Alice Springs	81.87	126	eP	P	11 29 42.7	-0.3
comp=N,1.6nm,1.4s							
ASAR	Alice Springs	81.87	126	P	P	11 29 42.9	-0.2
comp=N,0.6nm,0.6s,baz=310,slow=5.1,SNR=24							
YKA	Yellowknife Ar	82.95	4	P	P	11 29 46.5	-1.6
comp=N,1.5nm,0.6s,baz=349,slow=5.2,SNR=3.5							

*AZER **07** 11:25:27.9±1.8, 38°07N×48°51E, h2km, Error ellipse: s-maj=3.0km s-min=2.5km az=233.0*
*TEH **07** 11:25:28.5, 37°94N×48°57E, h7km, ML3.5*
*CSEM **07** 11:25:28.8±0.2, 37°89N×48°54E, h2km, ML3.5, Error ellipse: s-maj=5.8km s-min=4.1km az=77.0*

ISC 07 11:25:27.2±1.2, 37°89N±0°02×48°55E±0°03, h2km±10km, n56, σ1°82/82, 14C-15D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTR	Astara	0.70	16	⇑P	Pg	11 25 40.7	+0.1
SNR=134							
ASTR				⇓S	Sg	11 25 50.4	+0.7
ASTR	Astara	0.70	16	P	Pg	11 25 40.7	+0.1
SNR=134							
ASTR				S	Sg	11 25 50.4	+0.7
ISRB	Sarab	0.70	265	ePg	Pg	11 25 41.5	+0.8
ISRB				eAMB	AMB	11 25 42.0	
comp=Z,25μm,0.0s							
ISRB				eSg	Sg	11 25 51.2	+1.5
ISRB	Sarab	0.70	265	ePg	Pg	11 25 41.5	+0.8
ISRB				eSg	Sg	11 25 51.2	+1.5
LRK	Lerik	0.77	348	⇓P	Pg	11 25 41.9	-0.1
SNR=303							
LRK				⇓S	Sg	11 25 52.3	+0.2
LRK	Lerik	0.77	348	P	Pg	11 25 41.9	-0.1
SNR=303							
LRK				S	Sg	11 25 52.3	+0.2
LKRN	Lenkeran, Azer	0.84	12	⇓P	Pg	11 25 43.4	0.0
SNR=17							
LKRN				⇑S	Sb	11 25 54.9	-1.4
LKRN	Lenkeran, Azer	0.84	12	P	Pg	11 25 43.4	0.0
SNR=17							
LKRN				S	Sb	11 25 54.9	-1.4
ZNJK	Zanjan	1.22	175	eP	Pg	11 25 51.7	+1.1
ZNJK				eSg	Sn	11 26 09.6	+0.9
IHRS	Heris	1.26	290	ePg	Pn	11 25 51.1	-1.0
IHRS				eSg	Sb	11 26 07.9	-0.8
IHRS				eAMB	AMB	11 26 08.7	
comp=Z,15μm,0.1s							
IHRS	Heris	1.26	290	ePg	Pn	11 25 51.1	-1.0
IHRS				eSg	Sb	11 26 07.9	-0.8
IBST	Bostanabad	1.32	262	ePg	Pn	11 25 52.2	-0.8
IBST				eAMB	AMB	11 25 53.6	
comp=Z,6μm,0.0s							
IBST	Bostanabad	1.32	262	ePg	Pn	11 25 52.2	-0.8
GLBA	Clilabad	1.36	355	⇑P	Pb	11 25 52.9	-0.5
SNR=12							
GLBA				⇑S	Sg	11 26 12.0	+1.1
GLBA	Clilabad	1.36	355	P	Pb	11 25 52.9	-0.5
SNR=12							
GLBA				S	Sg	11 26 12.0	+1.1
ITBZ	Tabriz	1.93	281	ePn	Pb	11 26 02.4	-0.8
ITBZ				eAMB	AMB	11 26 31.1	
comp=Z,3μm,0.1s							
ITBZ	Tabriz	1.93	281	ePn	Pb	11 26 02.4	-0.8
IGZV	Ghazvin	2.01	138	ePn	Pn	11 26 02.9	+0.6
IGZV				eAMB	AMB	11 26 33.8	
comp=Z,4μm,0.2s							
IGZV	Ghazvin	2.01	138	ePn	Pn	11 26 02.9	+0.6
ALIB	Äli-Bayra	2.10	10	⇓Pn	Pb	11 26 04.8	-1.2
ALIB				⇓Sn	Sb	11 26 31.8	-0.7
ALIB	Äli-Bayra	2.10	10	Pn	Pb	11 26 04.8	-1.2
ALIB				Sn	Sb	11 26 31.8	-0.7
ISHB	Shabestar	2.35	281	eAMB	AMB	11 26 45.2	
comp=Z,2μm,0.3s							
ISHB				ePn	Pn	11 26 08.3	+1.3
ISHB				eAMB	AMB	11 26 47.4	
comp=E,4μm,0.1s							
IMRD	Marand	2.39	291	eAMB	AMB	11 26 48.1	
comp=Z,4μm,0.2s							
IMRD				ePn	Pb	11 26 09.3	-1.7
ZRD	Zardab	2.48	345	⇓Pn	Pb	11 26 10.6	-1.9
ZRD				⇓Sn	Sb	11 26 41.3	-2.2
ZRD	Zardab	2.48	345	Pn	Pb	11 26 10.6	-1.9
ZRD				Sn	Sb	11 26 41.3	-2.2
KDMR	Kurdemir	2.50	354	⇓Sn	Sb	11 26 44.0	-0.1
KDMR	Kurdemir	2.50	354	Sn	Sb	11 26 44.0	-0.1
BRDA	Brd	2.60	336	⇑Pn	Pb	11 26 13.4	-1.2
BRDA				⇑Sn	Sb	11 26 46.1	-0.9
BRDA	Brd	2.60	336	Pn	Pb	11 26 13.4	-1.2
BRDA				Sn	Sb	11 26 46.1	-0.9
GBS	Qobustan	2.66	6	⇑Sn	Sb	11 26 49.2	+0.4
IRAZ	Razeghan	2.71	155	ePn	Pn	11 26 13.7	+1.7
IRAZ				eAMB	AMB	11 27 01.6	
comp=Z,1μm,0.3s							
IRAZ	Razeghan	2.71	155	ePn	Pn	11 26 13.7	+1.7
NAX	Nakhchivan	2.72	299	⇑Pn	Pb	11 26 14.7	-1.9
SNR=3.9							
NAX				⇓Sn	Sb	11 26 51.7	+1.2
NAX	Nakhchivan	2.72	299	Pn	Pb	11 26 14.7	-1.9
SNR=3.9							
IMHD	Mahdasht	2.78	142	eAMB	AMB	11 26 20.4	
comp=Z,1μm,0.1s							
CHTH	Charan	2.86	133	eP	Pb	11 26 16.6	-2.5
IML	Ismayilli	2.92	355	⇑Sn	Sb	11 26 53.6	-2.5
IML	Ismayilli	2.92	355	Sn	Sb	11 26 53.6	-2.5
SNGE	Sanandaj	2.95	200	eP	Pb	11 26 18.3	-2.4
ATGJ	Altiaghaj	2.99	6	⇑Sn	Sb	11 26 54.5	-3.7
ATGJ	Altiaghaj	2.99	6	Sn	Sb	11 26 54.5	-3.7
SIZA	Siyzn	3.20	5	⇑Pn	Pn	11 26 20.6	+2.0
SIZA	Siyzn	3.20	5	Pn	Pn	11 26 20.6	+2.0
GANJ	Ganja	3.25	329	⇑Pn	Pn	11 26 21.7	+2.4
GANJ				⇓Sn	Sb	11 27 01.4	-4.4
GANJ	Ganja	3.25	329	Pn	Pn	11 26 21.7	+2.4
GANJ				Sn	Sb	11 27 01.4	-4.4
XNQ	Khinaliq	3.30	355	⇓Pn	Pn	11 26 21.7	+1.6
XNQ				⇑Sn	Sn	11 27 01.4	+1.5
XNQ	Khinaliq	3.30	355	Pn	Pn	11 26 21.7	+1.6
XNQ				Sn	Sn	11 27 01.4	+1.5
MAKU	Maku	3.36	297	eP	Pb	11 26 24.8	-2.9
IPRN	Peran	3.45	117	ePn	Pn	11 26 22.1	+0.1
IPRN				eAMB	AMB	11 27 06.0	
comp=Z,2μm,0.1s							
SEKA	Sheki	3.48	343	⇓Pn	Pn	11 26 24.2	+1.8
SEKA				⇑Sn	Sn	11 27 06.4	+2.2
SEKA	Sheki	3.48	343	Pn	Pn	11 26 24.2	+1.8
SEKA				Sn	Sn	11 27 06.4	+2.2
ASAO	Ashtian	3.54	160	eP	Pn	11 26 26.0	+2.6
GDB	GEDABAY	3.56	323	⇓Pn	Pn	11 26 26.3	+2.6
GDB				⇓Sn	Sb	11 27 11.1	-3.8
GDB	GEDABAY	3.56	323	Pn	Pn	11 26 26.3	+2.6
GDB				Sn	Sb	11 27 11.1	-3.8
IVRN	Varamin	3.86	137	eAMB	AMB	11 27 36.4	
comp=Z,355nm,0.1s							
IGLO	Ghaloghah	4.44	107	ePn	Pn	11 26 35.7	0.0
IGLO				eAMB	AMB	11 27 35.7	
comp=Z,388nm,0.1s							

*NEIC **07** 11:28:41.9±0.5, 33°39S×179°04W, h17km±3km, mb4.6/24, Error ellipse: s-maj=10.9km s-min=5.8km az=113.0*
*ISCJB **07** 11:28:44.9±0.4, 33°45S±0°03×179°25W±0°07, h48km, mb4.7/25, MS3.8/1, Error ellipse: s-maj=8.0km s-min=3.7km az=13.6*
*IDC **07** 11:28:46.2±1.6, 33°16S×179°28W, h44km±14km, mb4.2/8, mb1 4.4/11, mb1mx4.1/30, mbtmp4.5/11, ML4.2/3, MS3.8/2, Ms1 3.8/2, ms1mx3.0/28, Error ellipse: s-maj=19.2km s-min=10.2km az=110.0*

ISC 07 11:28:46.3±0.4, 33°34S±0°05×179°12W±0°07, h48km, n171, σ2°39/181, mb4.7/25, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.20	14	P	Pn	11 29 45.3	-2.5
77nm,0.3s,baz=172,slow=24,SNR=6.2							
RAO				S	Sn	11 30 33.1	-2.5
95nm,0.3s,baz=270,slow=20,SNR=3.9							
RAO	Raoul Island	4.20	14	ePn	Pn	11 29 47.2	-0.6
RAO				eSn	Sn	11 30 33.1	-2.5
MXZ	Matakaoa Point	4.71	206	ePn	Pn	11 29 55.3	+0.5
MXZ	Matakaoa Point	4.71	206	PN	Pn	11 29 54.3	-0.5
MXZ				SN	Sn	11 30 47.3	-0.8
WMGZ	Waiomatatini S	4.90	204	PN	Pn	11 29 57.4	0.0
WMGZ				SN	Sn	11 30 53.5	+0.6
HAZ	Te Kaha	5.08	209	PN	Pn	11 30 00.5	+0.6
HAZ				SN	Sn	11 30 59.0	+1.8
PKGZ	Pakihiroa	5.08	206	PN	Pn	11 29 59.9	-0.1
PUZ	Puketiti	5.18	204	PN	Pn	11 30 00.3	-1.0
RUGZ

HOWZ	Holdsworth Sta	8.68 208	PN	Pn	11 30 45.0	-4.2
TMWZ	Te Maipa	8.72 206	PN	Pn	11 30 45.2	-4.6
OGWZ	Otaki Gorge	8.75 210	PN	Pn	11 30 47.0	-3.2
KIW	Kapiti Island	8.89 211	PN	Pn	11 30 48.3	-3.9
MTW	Mount Morrison	8.91 207	PN	Pn	11 30 48.6	-3.7
CAW	Cannon Point	9.04 209	PN	Pn	11 30 49.5	-4.6
PAWZ	Paruwai Farm	9.13 207	PN	Pn	11 30 51.1	-4.3
DUWZ	D'Urville Isla	9.29 215	PN	Pn	11 30 54.3	-3.3
PLWZ	Palliser	9.35 207	PN	Pn	11 30 54.7	-3.8
SNZO	South Karori	9.35 210	ePn	Pn	11 30 54.0	-4.4
SNZO			eSn	Sn	11 32 35.0	-7.2
TCW	Tory Channel	9.46 212	PN	Pn	11 30 54.9	-4.9
TUWZ	Tuamarina	9.78 212	PN	Pn	11 31 00.3	-4.0
NNZ	Nelson	9.88 215	PN	Pn	11 31 01.5	-4.1
QRZ	Quartz Range	10.02 219	PN	Pn	11 31 03.6	-3.9
THZ	Tophouse	10.52 215	ePn	Pn	11 31 10.8	-3.7
THZ			eSn	Sn	11 33 05.8	-5.1
THZ	Tophouse	10.52 215	PN	Pn	11 31 10.1	-4.4
CTZ	Chatham Island	10.56 170	PN	Pn	11 31 15.0	0.0
KHZ	Kahutara	10.76 210	ePn	Pn	11 31 13.2	-4.4
KHZ			eSn	Sn	11 33 09.2	-7.3
KHZ	Kahutara	10.76 210	PN	Pn	11 31 13.5	-4.1
DSZ	Denniston Nort	11.06 218	PN	Pn	11 31 16.3	-5.4
LTZ	Lake Taylor	11.61 213	ePn	Pn	11 31 27.0	-2.3
LTZ			eSn	Sn	11 33 28.6	-8.9
LTZ	Lake Taylor	11.61 213	PN	Pn	11 31 25.1	-4.2
INZ	Inchbonnie	11.96 216	PN	Pn	11 31 29.6	-4.4
OXZ	Oxford	12.14 212	ePn	Pn	11 31 34.2	-2.3
OXZ			eSn	Sn	11 33 39.4	-11
OXZ	Oxford	12.14 212	PN	Pn	11 31 30.2	-6.4
MQZ	McQueen's Vall	12.19 209	ePn	Pn	11 31 31.4	-5.7
MQZ			eSn	Sn	11 33 38.5	-13
MQZ	McQueen's Vall	12.19 209	PN	Pn	11 31 29.7	-7.4
RPZ	Rata Peaks	12.89 214	P	Pn	11 31 40.1	-6.7
	1.0nm,0.3s,baz=143,slow=20,SNR=5.2					
RPZ			S	Sn	11 33 54.6	-14
	2.8nm,0.3s,baz=306,slow=21,SNR=8.2					
RPZ	Rata Peaks	12.89 214	ePn	Pn	11 31 41.2	-5.6
RPZ			eSn	Sn	11 33 54.6	-14
ODZ	Otahua Downs	14.12 211	ePn	Pn	11 31 58.9	-4.5
WKZ	Wanaka	14.70 215	ePn	Pn	11 32 07.8	-3.4
MLZ	Mavora Lakes	15.53 216	ePn	P	11 32 23.6	-1.9
	20nm,1.2s					
MSVF	Nonsavu	15.74 350	ePn	Pn	11 32 25.2	+0.2
	9.4nm,1.0s					
WHZ	Wether Hill Ro	15.99 215	ePn	P	11 32 29.5	-1.2
	21nm,1.2s					
DZM	Mont Dzumac	16.99 308	P	Pn	11 32 38.9	-1.8
	0.1nm,0.3s,baz=127,slow=20,SNR=2.3					
DZM			LR	LR	11 37 52.0	
	comp=Z,258nm,19.0s,baz=138,slow=32					
DZM	Mont Dzumac	16.99 308	ePn	Pn	11 32 38.7	-2.0
	14nm,1.1s					
LHI	Lord Howe Isla	18.51 270	eP	Pn	11 33 03.5	+4.3
	83nm,1.2s					
AFI	Afiamalu	20.46 21	eP	Pn	11 33 23.8	+1.2
	61nm,1.4s					
EIDS	Eidsvold	27.09 279	eP	P	11 34 26.1	+1.5
	15nm,1.4s					
STKA	Stephens Creek	33.00 262	P	P	11 35 16.8	-0.1
	1.4nm,0.7s,baz=96,slow=7.7,SNR=4.6					
STKA			LR	LR	11 47 27.7	
	comp=Z,199nm,19.9s,baz=234,slow=34					
CTA	Charters Tower	33.47 284	P	P	11 35 22.1	+1.1
	5.1nm,0.5s,baz=111,slow=10,SNR=16					
CTAO	Charters Tower	33.47 284	eP	P	11 35 22.7	+1.7
	6.3nm,0.6s					
BBOO	Buckleboo	37.34 258	eP	P	11 35 54.5	+0.3
	18nm,1.4s					
PMG	Port Moresby	39.12 300	P	P	11 36 08.8	-0.5
	13nm,0.7s,baz=173,slow=8.1,SNR=3.9					
PMG	Port Moresby	39.12 300	eP	P	11 36 10.3	+1.1
	11nm,0.7s					
COEN	Coen	39.28 290	eP	P	11 36 11.3	+0.7
	7.1nm,0.8s					
AS01	Alice Springs	42.06 271	eP	P	11 36 33.5	-0.1
AS31	Alice Springs	42.10 271	eP	P	11 36 33.5	-0.3
	3.4nm,0.3s					
ASAR	Alice Springs	42.10 271	P	P	11 36 33.4	-0.5
	3.7nm,0.4s,baz=108,slow=7.4,SNR=183					
WB2	Warramunga Arr	43.34 276	eP	P	11 36 43.7	-0.2
	13nm,0.5s					
WRAB	Tennant Creek	43.35 276	eP	P	11 36 43.7	-0.3
	10nm,0.6s					
WR1	Warramunga Arr	43.35 276	eP	P	11 36 43.5	-0.6
	11nm,0.6s					
WRA	Warramunga Arr	43.35 276	P	P	11 36 43.5	-0.6
	4.9nm,0.3s,baz=116,slow=6.5,SNR=83					
FORT	Forrest	44.45 258	eP	P	11 36 51.3	-1.4
	101nm,0.6s					
SBA	Scott Base	45.05 184	eP	P	11 37 01.6	+4.8
	3.3nm,0.9s					
VNDA	Vanda	45.09 186	P	P	11 37 00.1	+2.9
	1.2nm,0.8s,baz=6.7,slow=6.4,SNR=7.9					
VNDA	Vanda	45.09 186	eP	P	11 37 00.1	+2.9
VNDA			epP	P	11 37 00.8	+3.6
MTN	Manton Dam	49.58 282	eP	P	11 37 33.3	+0.4
	9.7nm,1.1s					
FAKI	Fak Fak	54.53 293	eP	P	11 38 08.6	-1.2
	9.5nm,1.0s					
QSPA	South Pole Qui	56.78 180	eP	P	11 38 28.4	+3.1
	7.4nm,0.8s					
MAW	Mawson	69.23 201	P	P	11 39 48.3	+0.6
	2.8nm,0.8s,baz=134,slow=7.1,SNR=12					
MAW	Mawson	69.23 201	eP	P	11 39 48.3	+0.6
	0.7nm,0.8s					
SYO	Syowa Base	74.05 194	eP	P	11 40 15.4	-1.2
GO09	Cerro Castillo	74.11 141	eP	P	11 40 20.5	+3.1
	17nm,1.1s					
SNAA	Sanae	75.25 179	P	P	11 40 25.0	+1.3
SNAA	Sanae	75.25 179	eP	P	11 40 24.9	+1.3
	5.6nm,1.0s					
VNA3	Neumayer Olymp	75.44 176	P	P	11 40 26.0	+1.3
VNA2	Neumayer--Watz	75.86 177	P	P	11 40 28.8	+1.7
	baz=173,slow=4.8					
VNA1	Neumayer--Stat	76.10 177	P	P	11 40 30.4	+2.0
PLCA	Paso Flores	81.20 133	P	P	11 41 00.1	+2.9
	17nm,1.4s,baz=246,slow=10.0,SNR=14					
PLCA	Paso Flores	81.20 133	eP	P	11 41 00.1	+2.9
	4.6nm,0.6s					
PTAM	Tassajara Cree	87.54 44	eP	P	11 41 29.1	0.0
PEA0B	Petropavlovsk-	88.42 346	eP	P	11 41 33.1	+0.4
	12nm,1.0s					
PETK	Petropavlovsk-	88.42 346	P	P	11 41 32.0	-0.7
	4.5nm,0.7s,baz=121,slow=6.7,SNR=6.6					
PETK	Petropavlovsk-	88.42 346	eP	P	11 41 33.1	+0.4
PEA1	Petropavlovsk-	88.43 346	eP	P	11 41 32.0	-0.7
SWSC	Sam W. Stewart	88.85 49	eP	P	11 41 34.5	-0.8
CHGN	Chignik	91.01 11	eP	P	11 41 45.5	+0.8
	56nm,1.4s					
TDH	Tom, Dick, Har	93.92 37	eP	P	11 41 58.1	-0.5
ILAR	Eielson Array	100.99 13	P	Pdif	11 42 28.8	-1.2
	0.4nm,0.8s,baz=211,slow=4.7,SNR=4.4					
MK01	Makanchi Array	118.89 309	ePKPdf	PKPdf	11 47 28.1	-1.0
MK32	Makanchi Array	118.91 309	ePKPdf	PKPdf	11 47 27.1	-2.0
MKAR	Makanchi Array	118.91 309	PKP	PKPdf	11 47 27.1	-2.0
	0.3nm,0.4s,baz=157,slow=1.3,SNR=4.8					
SPA0	Spitsbergen Ar	134.55 356	ePKPdf	PKPdf	11 47 59.0	+0.9
ARCES	ARCESS Array B	141.23 346	PKhKP	PKPpre	11 48 05.2	
	6.3nm,0.9s,baz=28,slow=3.3,SNR=6.0					
ARCES	ARCESS Array B	141.23 346	PKPpre	PKPpre	11 48 05.2	
ARCES			ePKPdf	PKiKP	11 48 13.2	-0.1
BORG	Borgarnes	145.75 17	ePKPdf	PKPab	11 48 20.4	+0.9
KBZ	Khabaz	145.86 300	PKPbc	PKPdf	11 48 18.6	-0.8
	2.0nm,0.6s,baz=350,slow=1.7,SNR=3.1					
FIA1	FINESS Array S	147.53 338	ePKPdf	PKPbc	11 48 23.4	-0.9
FIA0	FINESS Array S	147.53 338	ePKPdf	PKPbc	11 48 23.4	-0.9
FINES	FINESS Array B	147.53 338	PKPbc	PKPbc	11 48 23.4	-0.9
	8.1nm,0.4s,baz=44,slow=5.2,SNR=38					
NC303	NORSAR Array S	151.28 349	ePKPbc	PKPbc	11 48 33.4	-0.3
NC405	NORSAR Array S	151.33 349	ePKPbc	PKPbc	11 48 34.0	+0.2
NB201	NORSAR Array S	151.46 349	ePKPbc	PKPbc	11 48 33.8	-0.3
NB2	NORSAR Subarra	151.48 349	PKP	PKPbc	11 48 33.4	-0.8
	comp=Z,5.5nm,0.6s,baz=18,slow=2.6					
NB200	NORSAR Array S	151.48 349	ePKPbc	PKPbc	11 48 33.6	-0.6
NB200			ePKPab	PKPab	11 48 40.8	-2.0
NOA	NORSAR Array B	151.48 349	PKPbc	PKPbc	11 48 33.6	-0.6
	comp=Z,4.6nm,0.7s,baz=20,slow=4.7,SNR=21					
NOA			PKPab	PKPab	11 48 40.8	-2.0
	comp=Z,1.4nm,0.6s,baz=24,slow=4.3,SNR=3.9					
NBO02	NORSAR Array S	151.53 350	ePKPbc	PKPbc	11 48 34.0	-0.3
NBO00	NORSAR Array S	151.55 350	ePKPbc	PKPbc	11 48 34.1	-0.3
NC602	NORSAR Array S	151.72 349	epPKPdf	PKPbc	11 48 34.0	-0.8
LIC	Lamto	152.47 167	ePKP1	PKPbc	11 48 38.7	+0.8
	comp=Z,20nm,0.5s					
KIC	Kosan Boka	152.66 168	ePKP1	PKPbc	11 48 39.1	+0.8
	comp=Z,79nm,1.5s					
TIC	Toumodi	152.88 167	ePKP1	PKPbc	11 48 37.7	-1.1
DBIC	Dimbokro	152.94 167	PKPbc	PKPbc	11 48 39.8	+0.9
	comp=Z,2.5nm,0.5s,baz=159,slow=2.1,SNR=9.1					
DBIC	Dimbokro	152.94 167	ePKPbc	PKPbc	11 48 40.0	+1.1
AKASG	Malin Array Be	152.96 318	PKPbc	PKPbc	11 48 36.1	-1.7
	comp=Z,1.4nm,0.5s,baz=54,slow=2.4,SNR=7.0					
AKBB	Malin Array Si	152.96 318	epPKPdf	PKPbc	11 48 36.1	-1.7
AK11	Malin Array Si	153.00 318	epPKPdf	PKPbc	11 48 37.0	-0.9
BR101	Keskin Array S	153.02 293	epPKPdf	PKPbc	11 48 37.2	-1.3
BRTR	Keskin Array B	153.02 293	PKPbc	PKPbc	11 48 37.2	-1.3
	comp=Z,2.3nm,0.8s,baz=114,slow=3.0,SNR=8.4					
TORD	Torodi Ar. Bea	159.89 182	PKP	PKPdf	11 48 40.1	-0.5
	comp=Z,0.8nm,0.8s,baz=36,slow=0.7,SNR=5.4					
TORD			PKPab	PKPab	11 49 20.4	+0.6
	comp=Z,8.4nm,0.9s,baz=170,slow=3.9,SNR=23					
TOA1	Torodi Ar. Sit	159.89 182	ePKPdf	PKPdf	11 48 40.1	-0.5
TOA1			ePKPab	PKPab	11 49 20.4	+0.6

IDC ***07*** *11:32:09.6±0.9, 37°.22N×22°.03E, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.8/44, mbtmp3.7/15, ML2.9/5, Error ellipse: s-maj=19.4km s-min=16.4km az=178.0*
ISCJB ***07*** *11:32:10.8±0.4, 37°.19N±0°.02×22°.04E±0°.02, h7km±3km, mb3.8/9, Error ellipse: s-maj=3.2km s-min=2.8km az=144.5*
ATH ***07*** *11:32:10.7, 37°.20N×22°.05E, h12km±1km, ML3.5/11, Error ellipse: s-maj=1.4km s-min=0.8km az=273.0*
THE ***07*** *11:32:11.3, 37°.22N×22°.05E, h0km, ML3.5/18, Error ellipse: s-maj=0.7km s-min=0.2km az=166.0*
CSEM ***07*** *11:32:11.1±0.1, 37°.23N×22°.04E, h2km, ML3.5, Error ellipse: s-maj=2.8km s-min=2.0km az=56.0*

ISC 07 11:32:11.0±0.8, 37°.22N±0°.02×22°.05E±0°.02, h7km±5km, n165, σ0.95/2.13, mb3.9/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**248**	P	**Pg**	**11 32 13.3**	**-0.1**
ITM				S	**Sg**	**11 32 15.5**	**+0.5**
ITM	**Ithomi**	**0.10**	**248**	P	**Pg**	**11 32 12.6**	**-0.8**
ITM				S	**Sg**	**11 32 14.1**	**-1.0**
ITM				AML	AML	11 32 17.4	
ITM				AML	AML	11 32 17.5	
ITM	**Ithomi**	**0.10**	**248**	P	**Pg**	**11 32 13.3**	**-0.1**
ITM				S	**Sg**	**11 32 15.5**	**+0.5**
VLX	**Vlachokerasia**	**0.30**	**60**	P	**Pg**	**11 32 17.5**	**+0.4**
VLX				S	**Sg**	**11 32 21.8**	**+0.7**
VLX	**Vlachokerasia**	**0.30**	**60**	P	**Pg**	**11 32 17.8**	**+0.7**
VLX				S	**Sg**	**11 32 20.3**	**-0.8**
VLX				AML	AML	11 32 24.8	
	comp=N,33958µm,0.7s						
VLX				AML	AML	11 32 25.4	
	comp=E,38673µm,0.6s						
VLX	**Vlachokerasia**	**0.30**	**60**	P	**Pg**	**11 32 17.3**	**+0.2**
VLX				S	**Sg**	**11 32 20.3**	**-0.8**
TRIP	**Tripoli**	**0.36**	**30**	P	**Pg**	**11 32 18.7**	**+0.7**
TRIP				S	**Sg**	**11 32 24.0**	**+1.2**
TRIP	**Tripoli**	**0.36**	**30**	P	**Pg**	**11 32 18.5**	**+0.5**
TRIP				S	**Sg**	**11 32 24.0**	**+1.2**
PYL	**PYLOS**	**0.40**	**217**	P	**Pg**	**11 32 19.0**	**+0.1**
PYL				S	**Sg**	**11 32 25.6**	**+1.4**
PYL	**PYLOS**	**0.40**	**217**	P	**Pg**	**11 32 18.6**	**-0.3**
PYL				S	**Sb**	**11 32 25.8**	**-1.1**
PYL				AML	AML	11 32 29.2	
	comp=E,21965µm,1.2s						
PYL				AML	AML	11 32 30.3	
	comp=N,21163µm,0.6s						
PYL	**PYLOS**	**0.40**	**217**	P	**Pg**	**11 32 19.0**	**+0.1**
PYL				S	**Sg**	**11 32 24.5**	**+0.3**
AMT	**Artemida-Makis**	**0.41**	**319**	P	**Pg**	**11 32 19.2**	**+0.1**
AMT				S	**Sg**	**11 32 25.4**	**+0.9**
AMT	**Artemida-Makis**	**0.41**	**319**	P	**Pg**	**11 32 19.5**	**+0.4**
AMT				S	**Sb**	**11 32 26.4**	**-0.7**
AMT				AML	AML	11 32 37.4	
	comp=E,36045µm,1.1s						
AMT				AML	AML	11 32 37.8	
	comp=N,30176µm,0.8s						
AMT	**Artemida-Makis**	**0.41**	**319**	P	**Pg**	**11 32 19.2**	**+0.1**
AMT				S	**Sg**	**11 32 25.4**	**+0.9**
GUR	**Goura**	**0.75**	**18**	P	**Pg**	**11 32 25.2**	**-0.4**
GUR				S	**Sb**	**11 32 36.8**	**-0.3**
GUR	**Goura**	**0.75**	**18**	P	**Pg**	**11 32 25.0**	**-0.6**
GUR				S	**Sb**	**11 32 37.1**	**0.0**
GUR	**Goura**	**0.75**	**18**	P	**Pg**	**11 32 25.2**	**-0.4**
GUR				S	**Sb**	**11 32 36.8**	**-0.3**
DRO	**Drossia**	**0.78**	**340**	P	**Pg**	**11 32 26.1**	**+0.1**
DRO				S	**Sb**	**11 32 37.8**	**+0.1**
DRO	**Drossia**	**0.78**	**340**	P	**Pg**	**11 32 26.4**	**+0.3**
DRO				S	**Sb**	**11 32 38.6**	**+0.8**
DRO				AML	AML	11 32 45.5	
	comp=E,9796µm,0.6s						
DRO				AML	AML	11 32 45.7	
	comp=N,4885µm,0.6s						
DRO	**Drossia**	**0.78**	**340**	P	**Pg**	**11 32 25.9**	**-0.1**
DRO				S	**Sb**	**11 32 37.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.83**	**6**	P	**Pg**	**11 32 26.8**	**-0.2**
KLV				S	**Sb**	**11 32 39.2**	**0.0**
KLV	**Kalavryta, Ach**	**0.83**	**6**	P	**Pg**	**11 32 26.8**	**-0.2**
KLV				S	**Sb**	**11 32 40.1**	**+0.9**
KLV				AML	AML	11 32 40.8	
	comp=E,2653µm,0.7s						
KLV				AML	AML	11 32 48.6	
	comp=N,2945µm,0.7s						
KLV	**Kalavryta, Ach**	**0.83**	**6**	P	**Pg**	**11 32 26.8**	**-0.2**
KLV				S	**Sb**	**11 32 39.2**	**0.0**
VLI	**Veliai**	**0.87**	**125**	P	**Pg**	**11 32 27.6**	**-0.1**
VLI				S	**Sb**	**11 32 40.8**	**+0.5**
VLI	**Veliai**	**0.87**	**125**	P	**Pg**	**11 32 28.1**	**+0.4**
VLI				S	**Sg**	**11 32 38.2**	**-0.8**
VLI				AML	AML	11 32 45.3	
	comp=E,7487µm,0.6s						
VLI				AML	AML	11 32 48.0	
	comp=N,4720µm,0.8s						
VLI	**Veliai**	**0.87**	**125**	P	**Pg**	**11 32 28.1**	**+0.4**
VLI				S	**Sg**	**11 32 38.2**	**-0.8**
KRND	**KRANIDI**	**0.90**	**79**	P	**Pg**	**11 32 28.4**	**+0.2**
KRND				S	**Sb**	**11 32 41.4**	**+0.4**
KRND	**KRANIDI**	**0.90**	**79**	P	**Pb**	**11 32 28.8**	**0.0**
KRND	**KRANIDI**	**0.90**	**79**	P	**Pg**	**11 32 28.4**	**+0.2**
KRND				S	**Sb**	**11 32 41.4**	**+0.4**
THAL	**Thalero**	**0.95**	**31**	P	**Pg**	**11 32 29.1**	**-0.2**
THAL	**Thalero**	**0.95**	**31**	P	**Pg**	**11 32 29.3**	**0.0**
THAL	**Thalero**	**0.95**	**31**	P	**Pg**	**11 32 29.1**	**-0.2**
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**11 32 29.2**	**-0.2**
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**11 32 28.9**	**-0.5**
RLS				AML	AML	11 32 51.3	
	comp=N,3339µm,0.9s						
RLS				AML	AML	11 32 57.4	
	comp=E,2256µm,1.0s						
RLS	**Riolos of Patr**	**0.96**	**331**	P	**Pg**	**11 32 29.0**	**-0.4**
DID	**Didima**	**0.99**	**73**	P	**Pg**	**11 32 29.9**	**-0.1**
DID				S	**Sb**	**11 32 44.7**	**+0.9**
DID	**Didima**	**0.99**	**73**	P	**Pb**	**11 32 30.6**	**+0.1**
DID	**Didima**	**0.99**	**73**	P	**Pg**	**11 32 29.9**	**-0.1**
DID				S	**Sb**	**11 32 44.7**	**+0.9**
LAKA	**Lakka**	**1.02**	**357**	P	**Pg**	**11 32 30.2**	**-0.5**
LAKA				S	**Sb**	**11 32 45.6**	**+0.9**
LAKA	**Lakka**	**1.02**	**357**	P	**Pg**	**11 32 30.2**	**-0.5**
LAKA	**Lakka**	**1.02**	**357**	P	**Pg**	**11 32 30.2**	**-0.5**
LAKA				S	**Sb**	**11 32 45.6**	**+0.9**
LOUT	**Loutraki**	**1.06**	**43**	P	**Pg**	**11 32 31.3**	**-0.2**
LOUT	**Loutraki**	**1.06**	**43**	P	**Pn**	**11 32 32.7**	**+0.3**
LOUT	**Loutraki**	**1.06**	**43**	P	**Pg**	**11 32 31.3**	**-0.2**
UPR	**University Cam**	**1.08**	**349**	P	**Pg**	**11 32 30.4**	**-1.4**
UPR	**University Cam**	**1.08**	**349**	P	**Pg**	**11 32 30.4**	**-1.4**
LTK	**Loutraki**	**1.09**	**42**	P	**Pg**	**11 32 31.5**	**-0.4**
LTK				S	**Sn**	**11 32 47.7**	**-0.2**
LTK	**Loutraki**	**1.09**	**42**	P	**Pg**	**11 32 31.8**	**-0.1**
LTK	**Loutraki**	**1.09**	**42**	P	**Pg**	**11 32 31.8**	**-0.1**
LTK				S	**Sn**	**11 32 47.7**	**-0.2**
AXS	**Araxos**	**1.11**	**332**	P	**Pg**	**11 32 32.1**	**-0.3**
AXS				S	**Sn**	**11 32 48.5**	**0.0**
AXS	**Araxos**	**1.11**	**332**	P	**Pg**	**11 32 31.2**	**-1.2**
AXS	**Araxos**	**1.11**	**332**	P	**Pg**	**11 32 32.1**	**-0.3**
TRIZ	**Trizonia**	**1.15**	**1**	P	**Pg**	**11 32 31.5**	**-1.5**
TRIZ	**Trizonia**	**1.15**	**1**	P	**Pg**	**11 32 31.5**	**-1.5**
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**11 32 33.0**	**-0.6**
KALE				S	**Sn**	**11 32 50.3**	**+0.1**
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**11 32 32.2**	**-1.4**
KALE				AML	AML	11 32 58.9	
	comp=N,2903µm,0.6s						
KALE				AML	AML	11 33 01.4	
	comp=E,2619µm,0.6s						
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**11 32 33.0**	**-0.6**
SERG	**Sergoula**	**1.19**	**0**	P	**Pg**	**11 32 33.3**	**-0.6**
SERG				S	**Sn**	**11 32 51.0**	**+0.4**
SERG	**Sergoula**	**1.19**	**0**	P	**Pg**	**11 32 32.1**	**-1.8**
SERG	**Sergoula**	**1.19**	**0**	P	**Pg**	**11 32 33.3**	**-0.6**
EFP	**Efpalio**	**1.21**	**355**	P	**Pb**	**11 32 33.8**	**-0.5**
EFP				S	**Sn**	**11 32 51.5**	**+0.5**
EFP	**Efpalio**	**1.21**	**355**	P	**Pb**	**11 32 33.5**	**-0.8**
EFP	**Efpalio**	**1.21**	**355**	P	**Pb**	**11 32 33.8**	**-0.5**
EFP				S	**Sn**	**11 32 51.5**	**+0.5**
PROD	**Prodromos**	**1.24**	**33**	P	**Pb**	**11 32 34.5**	**-0.3**
PROD	**Prodromos**	**1.24**	**33**	P	**Pb**	**11 32 34.5**	**-0.3**
KYTH	**Kithira**	**1.25**	**140**	P	**Pn**	**11 32 34.5**	**-0.3**
KYTH	**Kithira**	**1.25**	**140**	P	**Pn**	**11 32 34.9**	**+0.1**
DSF	**Desfina**	**1.25**	**18**	P	**Pn**	**11 32 34.6**	**-0.4**
DSF				S	**Sn**	**11 32 53.1**	**+1.0**
DSF	**Desfina**	**1.25**	**18**	P	**Pn**	**11 32 34.9**	**-0.1**
DSF	**Desfina**	**1.25**	**18**	P	**Pn**	**11 32 34.6**	**-0.4**
DSF				S	**Sn**	**11 32 53.1**	**+1.0**
KFL	**Anninata**	**1.34**	**312**	P	**Pb**	**11 32 36.4**	**0.0**
KFL	**Anninata**	**1.34**	**312**	P	**Pg**	**11 32 38.0**	**+1.4**
KFL	**Anninata**	**1.34**	**312**	P	**Pb**	**11 32 36.4**	**0.0**
ANX	**Ano Chora**	**1.38**	**356**	P	**Pn**	**11 32 36.6**	**-0.1**
ANX				S	**Sg**	**11 32 56.9**	**+1.6**
ANX	**Ano Chora**	**1.38**	**356**	P	**Pn**	**11 32 36.6**	**-0.1**
ANX				S	**Sg**	**11 32 56.9**	**+1.6**
VILL	**Villia**	**1.38**	**46**	P	**Pb**	**11 32 37.1**	**0.0**
VILL	**Villia**	**1.38**	**46**	P	**Pb**	**11 32 37.1**	**0.0**
VIL2	**Platees**	**1.39**	**44**	P	**Pg**	**11 32 38.1**	**+0.5**
VIL2				AML	AML	11 33 01.5	
	comp=E,2981µm,0.8s						
VIL2				AML	AML	11 33 05.9	
	comp=N,3651µm,0.8s						
PVO	**Paravola**	**1.46**	**344**	P	**Pb**	**11 32 38.2**	**-0.2**
PVO	**Paravola**	**1.46**	**344**	P	**Pn**	**11 32 37.0**	**-0.7**
PVO	**Paravola**	**1.46**	**344**	P	**Pb**	**11 32 38.2**	**-0.2**
VLS	**Valsamata**	**1.50**	**310**	P	**Pn**	**11 32 38.7**	**+0.3**
VLS				S	**Sg**	**11 32 59.9**	**+0.6**
VLS	**Valsamata**	**1.50**	**310**	P	**Pn**	**11 32 38.2**	**-0.2**
VLS	**Valsamata**	**1.50**	**310**	P	**Pn**	**11 32 38.7**	**+0.3**
VLS				S	**Sg**	**11 32 59.9**	**+0.6**
ATH	**Athens Observa**	**1.52**	**60**	AML	AML	11 33 09.0	
	comp=N,3028µm,0.8s						
ATH				AML	AML	11 33 09.3	
	comp=E,4806µm,1.4s						
VLY	**Voula,Athens**	**1.53**	**65**	P	**Pb**	**11 32 39.3**	**-0.3**
VLY	**Voula,Athens**	**1.53**	**65**	P	**Pb**	**11 32 39.5**	**-0.1**
VLY	**Voula,Athens**	**1.53**	**65**	P	**Pb**	**11 32 39.3**	**-0.3**
ATHU	**Athens Univers**	**1.57**	**61**	P	**Pn**	**11 32 39.3**	**0.0**
ATHU	**Athens Univers**	**1.57**	**61**	P	**Pn**	**11 32 38.4**	**-0.8**
ATHU	**Athens Univers**	**1.57**	**61**	P	**Pn**	**11 32 39.3**	**0.0**
LKR	**Lokris**	**1.62**	**27**	P	**Pn**	**11 32 40.4**	**+0.5**
LKR	**Lokris**	**1.62**	**27**	P	**Pb**	**11 32 41.0**	**-0.2**
LKR	**Lokris**	**1.62**	**27**	P	**Pn**	**11 32 40.4**	**+0.5**
PTL	**Penteli**	**1.66**	**60**	P	**Pb**	**11 32 41.9**	**-0.1**
PTL	**Penteli**	**1.66**	**60**	P	**Pb**	**11 32 41.9**	**-0.1**
ANKY	**Antikythira Is**	**1.69**	**143**	P	**Pn**	**11 32 41.4**	**+0.6**
ANKY	**Antikythira Is**	**1.69**	**143**	P	**Pb**	**11 32 42.7**	**+0.4**
ANKY	**Antikythira Is**	**1.69**	**143**	P	**Pn**	**11 32 41.4**	**+0.6**
EVR	**Evrytania**	**1.71**	**354**	P	**Pn**	**11 32 41.8**	**+0.5**
EVR				S	**Sb**	**11 33 04.8**	**+0.3**
EVR	**Evrytania**	**1.71**	**354**	P	**Pn**	**11 32 41.8**	**+0.5**
EVR	**Evrytania**	**1.71**	**354**	P	**Pn**	**11 32 41.8**	**+0.5**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pn**	**11 32 43.1**	**+0.4**
AGG				S	**Sb**	**11 33 07.5**	**0.0**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pb**	**11 32 44.7**	**+0.1**
AGG	**Agios Georgios**	**1.81**	**7**	P	**Pn**	**11

PB09			*i* S	S	11 57 58.0	+2.2
PB09			IAML		11 57 59.2	
	comp=E,224nm,0.6s					
PB14	**IPOC Station P**	**2.81 254**	*i* P	Pn	11 57 21.4	+2.1
PB14			*i* S	S	11 58 01.7	+2.8
PB04	**IPOC Station P**	**2.93 301**	*i* P	Pn	11 57 22.9	+2.4
PB04			*e*S	S	11 58 03.4	+2.3
PB07	**IPOC Station P**	**3.11 313**	*i* S	S	11 58 05.7	+1.0
PB07			IAML		11 58 08.6	
	comp=N,157nm,0.1s					

*ISCJB **07** 11:58:57.5±0.5, 37°.89N±0°.03×38°.99E±0°.07, h6km, Error ellipse: s-maj=8.4km s-min=3.8km az=22.0*
*ISK **07** 11:58:57.2, 37°.87N×39°.05E, h11km, ML2.2*
*DDA **07** 11:58:57.5, 37°.89N×38°.94E, h6km, Ml2.8*
*CSEM **07** 11:58:57.4±0.3, 37°.87N×39°.04E, h2km, ML2.2, Error ellipse: s-maj=11.5km s-min=5.3km az=109.0*

ISC 07 11:58:57.5±0.8, 37°.87N±0°.03×38°.97E±0°.04, h6km, n26, σ0.973/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.44**	**196**	*e*PG	**Pg**	**11 59 06.8**	**+0.7**
URFA				*e*SG	**Sb**	**11 59 13.8**	**-0.8**
URFA	**Urfa**	**0.44**	**196**	*e*Pg	**Pg**	**11 59 06.8**	**+0.7**
URFA				*e*Sg	**Sb**	**11 59 13.8**	**-0.8**
SVRC	**Sivrice-ELAZID**	**0.58**	**27**	*e*PG	**Pg**	**11 59 07.8**	**-0.9**
SVRC				*e*SG	**Sg**	**11 59 16.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.58**	**27**	*e*Pg	**Pg**	**11 59 07.8**	**-0.9**
SVRC				*e*Sg	**Sg**	**11 59 16.7**	**+0.4**
ELZG	**Elazig**	**0.63**	**1**	*i* P	**Pg**	**11 59 09.0**	**-0.7**
ELZG	**Elazig**	**0.63**	**1**	P	**Pg**	**11 59 09.0**	**-0.7**
ATAB	**Bozova**	**0.67**	**234**	*i* P	**Pg**	**11 59 09.4**	**-0.9**
ATAB	**Bozova**	**0.67**	**234**	P	**Pg**	**11 59 09.4**	**-0.9**
SURC	**SANLIURFA_SURC**	**1.02**	**196**	*i* P	**Pg**	**11 59 17.6**	**+0.4**
SURC				*i* S	**Sn**	**11 59 32.8**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.02**	**196**	P	**Pg**	**11 59 17.6**	**+0.4**
SURC				S	**Sn**	**11 59 32.8**	**-0.4**
PTK	**Pertek**	**1.08**	**18**	*e*PG	**Pg**	**11 59 17.9**	**-0.4**
PTK	**Pertek**	**1.08**	**18**	*e*Pg	**Pg**	**11 59 17.9**	**-0.4**
GZT	**Gaziantep**	**1.23**	**246**	*i* P	**Pg**	**11 59 20.8**	**-0.3**
MAZI	**Mazidag**	**1.24**	**109**	*e*PN	**Pg**	**11 59 20.3**	**-1.0**
MAZI	**Mazidag**	**1.24**	**109**	*e*Pn	**Pg**	**11 59 20.3**	**-1.0**
TNCL	**Tunceli-Merkez**	**1.32**	**20**	*i* P	**Pg**	**11 59 23.3**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.32**	**20**	P	**Pg**	**11 59 23.3**	**+0.3**
DARE	**Darende-Malaty**	**1.37**	**301**	*e*PN	**Pb**	**11 59 23.4**	**-0.2**
DARE	**Darende-Malaty**	**1.37**	**301**	*e*Pn	**Pb**	**11 59 23.4**	**-0.2**
KEMA	**Kemaliye**	**1.45**	**345**	*i* P	**Pb**	**11 59 24.9**	**-0.1**
KEMA	**Kemaliye**	**1.45**	**345**	P	**Pb**	**11 59 24.9**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.08**	**286**	*e*PN	**Pn**	**11 59 34.1**	**+0.9**
KELT	**Kelkit**	**2.29**	**5**	*i* P	**Pg**	**11 59 41.4**	**0.0**
KOPT	**Kop Dagi**	**2.46**	**29**	*i* P	**Pg**	**11 59 46.4**	**+1.8**
GEVA	**Gevas**	**3.26**	**81**	*i* P	**Pn**	**11 59 49.9**	**+0.6**
GEVA	**Gevas**	**3.26**	**81**	P	**Pn**	**11 59 49.9**	**+0.6**

*IDC **07** 12:06:59.0±0.7, 13°.51S×166°.67E, h0km, mb4.5/15, mb1 4.5/18, mb1mx4.3/31, mbtmp4.5/18, ML2.1/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/31, Error ellipse: s-maj=22.3km s-min=14.7km az=90.0*
*ISCJB **07** 12:07:04.1±0.3, 13°.58S±0°.04×166°.39E±0°.05, h39km, mb4.7/46, MS4.2/2, Error ellipse: s-maj=6.8km s-min=5.5km az=165.0*
*NEIC **07** 12:07:10.7±1.0, 13°.54S×166°.42E, h85km±9km, mb4.7/35, Error ellipse: s-maj=6.6km s-min=5.9km az=120.0*

ISC 07 12:07:06.1±0.4, 13°.59S±0°.05×166°.43E±0°.07, h39km, n94, σ1.939/104, mb4.7/46, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.58**	**302**	Pn	**Pn**	**12 08 54.4**	**+0.4**
	12nm,0.3s,baz=113,slow=1.1,SNR=14						
HNR				Sn	**Sn**	**12 10 18.2**	**-0.5**
	22nm,0.3s,baz=141,slow=21,SNR=3.7						
HNR				LR	LR	12 11 35.7	
	comp=Z,738nm,20.1s,baz=141,slow=36						
HNR	**Honiara**	**7.58**	**302**	*e*Pn	**Pn**	**12 08 57.9**	**+3.9**
HNR				*e*Sn	**Sn**	**12 10 20.5**	**+1.8**
DZM	**Mont Dzumac**	**8.44**	**180**	Pn	**Pn**	**12 09 04.9**	**-1.1**
	2.3nm,0.3s,baz=320,slow=18,SNR=22						
DZM				Sn	**Sn**	**12 10 39.2**	**-0.8**
	1.4nm,0.3s,baz=311,slow=19,SNR=2.3						
DZM				LR	LR	12 11 58.9	
	comp=Z,759nm,21.5s,baz=20,slow=35						
DZM	**Mont Dzumac**	**8.44**	**180**	*e*Pn	**Pn**	**12 09 05.2**	**-0.7**
DZM				*e*Sn	**Sn**	**12 10 39.2**	**-0.8**
MSVF	**Nonsavu**	**11.93**	**112**	*e*Pn	**Pn**	**12 09 56.9**	**+3.2**
TARA	**Tarawa**	**16.18**	**24**	*e*Pn	**P**	**12 10 52.9**	**-0.6**
	73nm,0.8s						
EIDS	**Eidsvold**	**18.60**	**229**	*e*P	**Pn**	**12 11 23.5**	**+2.9**
	22nm,1.3s						
PMG	**Port Moresby**	**19.33**	**280**	P	**Pn**	**12 11 29.8**	**+0.3**
	0.2nm,0.3s,baz=97,slow=16,SNR=3.0						
PMG				LR	LR	12 18 10.1	
	comp=Z,189nm,19.4s,baz=120,slow=34						
CTA	**Charters Tower**	**20.35**	**249**	P	**P**	**12 11 40.0**	**+0.6**
	6.8nm,0.7s,baz=78,slow=11,SNR=8.7						
CTAO	**Charters Tower**	**20.35**	**249**	*e*P	Pn	12 11 41.3	-0.4
	33nm,1.3s						
AFI	**Afiamalu**	**21.18**	**93**	*e*P	**P**	**12 11 49.6**	**+1.3**
	26nm,0.9s						
ARMA	**Armidale**	**21.61**	**217**	*e*P	**P**	**12 11 54.1**	**+1.2**
	27nm,1.2s						
PATS	**Pohnpei**	**21.83**	**338**	*e*P	**P**	**12 11 56.2**	**+0.9**
	124nm,1.0s						
MANU	**Manus Island**	**22.07**	**300**	*e*P	**P**	**12 11 59.3**	**+1.4**
	20nm,0.8s						
BKZ	**Black Stump Fm**	**26.99**	**163**	*e*P	**P**	**12 12 47.4**	**+3.0**
	37nm,1.5s						
STKA	**Stephens Creek**	**29.14**	**227**	P	**P**	**12 13 04.6**	**+1.0**
	4.1nm,0.6s,baz=44,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**29.14**	**227**	*e*P	**P**	**12 13 04.7**	**+1.2**
	11nm,1.3s						
RPZ	**Rata Peaks**	**30.29**	**173**	P	**P**	**12 13 14.2**	**+0.6**
	3.6nm,0.7s,baz=11,slow=19,SNR=2.2						
RPZ				LR	LR	12 25 13.7	
	comp=Z,729nm,18.8s,baz=46,slow=36						
CRLZ	**Canterbury Las**	**30.36**	**171**	*e*P	**P**	**12 13 17.0**	**+2.9**
	30nm,1.2s						
WB2	**Warramunga Arr**	**31.32**	**254**	*e*P	**P**	**12 13 22.0**	**-1.0**
	7.6nm,1.0s						
WRAB	**Tennant Creek**	**31.32**	**254**	*e*P	**P**	**12 13 21.9**	**-1.1**
	9.3nm,1.1s						
WR1	**Warramunga Arr**	**31.33**	**254**	*e*P	**P**	**12 13 22.0**	**-1.1**
	9.4nm,1.0s						
WR1				*e*PcP	**PcP**	**12 16 15.1**	**-1.5**
WRA	**Warramunga Arr**	**31.33**	**254**	P	**P**	**12 13 22.0**	**-1.1**
	3.2nm,0.7s,baz=86,slow=9.3,SNR=29						
WRA				PcP	**PcP**	**12 16 15.1**	**-1.6**
	0.9nm,0.7s,baz=87,slow=4.3,SNR=5.7						
AS01	**Alice Springs**	**32.30**	**247**	*e*P	**P**	**12 13 31.2**	**-0.4**
AS31	**Alice Springs**	**32.34**	**247**	*e*P	**P**	**12 13 32.2**	**+0.3**
	1.1nm,0.9s						
ASAR	**Alice Springs**	**32.34**	**247**	P	**P**	**12 13 31.1**	**-0.9**
	1.9nm,0.7s,baz=70,slow=9.1,SNR=21						
ASAR				PcP	**PcP**	**12 16 18.1**	**-1.3**
	0.8nm,0.8s,baz=82,slow=3.3,SNR=4.1						
ASAR				ScP	**ScP**	**12 20 02.8**	**+2.5**
	1.0nm,0.9s,baz=88,slow=3.8,SNR=5.7						
BBOO	**Buckleboo**	**33.66**	**230**	*e*P	**P**	**12 13 43.9**	**+0.6**
	38nm,1.1s						
FORT	**Forrest**	**39.20**	**238**	*e*P	**P**	**12 14 30.7**	**+0.1**
	249nm,0.8s						
SBUM	**Sibu**	**56.06**	**282**	*e*P	**P**	**12 16 42.1**	**+0.3**
	12nm,1.1s						
MJAR	**Matsushiro Arr**	**56.52**	**333**	P	**P**	**12 16 42.7**	**-1.8**
	7.6nm,1.0s,baz=157,slow=7.6,SNR=10						
MAJO	**Matsushiro**	**56.52**	**333**	*e*P	**P**	**12 16 44.2**	**-0.4**
	34nm,1.4s						
MJB9	**Matsu-Tunnel**	**56.53**	**333**	*e*P	**P**	**12 16 44.0**	**-0.6**
	8.7nm,1.4s						
KSM	**Kuching**	**57.59**	**281**	*e*P	**P**	**12 16 51.9**	**-0.7**
	12nm,0.9s						
ASAJ	**Asahikawa**	**61.40**	**341**	*e*P	**P**	**12 17 18.6**	**+0.4**
	16nm,0.9s						
KSRS	**Korea Array**	**62.34**	**326**	P	**P**	**12 17 24.1**	**-0.6**
	2.6nm,0.9s,baz=140,slow=7.1,SNR=10						
KS15	**Wonju Array Si**	**62.35**	**326**	*e*P	**P**	**12 17 24.1**	**-0.7**
KSAR	**Wonju Array Be**	**62.35**	**326**	P	**P**	**12 17 24.1**	**-0.7**
KS01	**Wonju Array Si**	**62.37**	**326**	*e*P	**P**	**12 17 23.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**63.90**	**342**	*e*P	**P**	**12 17 35.2**	**+0.4**
	11nm,0.8s						
VNDA	**Vanda**	**63.98**	**181**	P	**P**	**12 17 34.3**	**-0.7**
	1.8nm,0.9s,baz=11,slow=4.9,SNR=9.5						
VNDA	**Vanda**	**63.98**	**181**	*e*P	**P**	**12 17 35.0**	**0.0**
	4.2nm,1.1s						
SBA	**Scott Base**	**64.27**	**180**	*e*P	**P**	**12 17 38.0**	**+1.1**
	7.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**65.50**	**333**	P	**P**	**12 17 45.9**	**+0.6**
	18nm,0.9s,baz=146,slow=5.7,SNR=22						
MDJ	**Mudanjiang**	**66.89**	**332**	*e*P	**P**	**12 17 54.9**	**+0.7**
	28nm,0.9s						
MNSI	**Mandailing Nat**	**67.72**	**277**	P	**P**	**12 18 00.0**	**-0.2**
CM01	**Chiang Mai Arr**	**73.71**	**294**	*e*P	**P**	**12 18 36.4**	**-0.2**
CM31	**Chiang Mai Arr**	**73.74**	**294**	*e*P	**P**	**12 18 37.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.74**	**294**	P	**P**	**12 18 37.3**	**+0.6**
	2.8nm,0.6s,baz=124,slow=4.6,SNR=18						
CHTO	**Chiang Mai**	**73.87**	**294**	*e*P	**P**	**12 18 37.9**	**+0.5**
	11nm,1.4s						
HIA	**Hailar**	**74.90**	**330**	*e*P	**P**	**12 18 42.6**	**-0.2**
	21nm,1.0s						
QSPA	**South Pole Qui**	**76.43**	**180**	*e*P	**P**	**12 18 50.7**	**-0.9**
QSPA				*e*PcP	**P**	**12 18 51.0**	**-0.5**
YAK	**Yakutsk**	**80.71**	**343**	LR	LR	12 50 02.6	
	comp=Z,63nm,20.4s,baz=270,slow=32						
ULN	**Ulaanbaatar**	**80.74**	**324**	*e*P	**P**	**12 19 15.7**	**+0.2**
	13nm,0.9s						
SONA0	**Songino Array**	**81.10**	**324**	*e*P	**P**	**12 19 17.3**	**-0.1**
	8.3nm,1.1s						
SONM	**Songino Array**	**81.10**	**324**	P	**P**	**12 19 17.3**	**-0.1**
	4.3nm,0.9s,baz=141,slow=5.8,SNR=18						
SONA1	**Songino Array**	**81.10**	**324**	*e*P	**P**	**12 19 17.3**	**-0.2**
TT01	**Tatalina**	**81.64**	**16**	*e*P	**P**	**12 19 19.3**	**-0.4**
MAW	**Mawson**	**82.63**	**202**	P	**P**	**12 19 24.5**	**-0.5**
	1.7nm,0.6s,baz=128,slow=5.6,SNR=8.7						
MAW	**Mawson**	**82.63**	**202**	*e*P	**P**	**12 19 24.5**	**-0.5**
	0.5nm,0.8s						
IMAR	**Indian Mountai**	**84.68**	**15**	*e*P	**P**	**12 19 34.4**	**-1.1**
WRH	**Wood River Hil**	**85.12**	**18**	*e*P	**P**	**12 19 35.6**	**-2.0**
	9.5nm,1.4s						
HDA	**Harding Lake**	**85.42**	**18**	*e*P	**P**	**12 19 37.1**	**-2.1**
	12nm,1.1s						
MDM	**Murphy Dome**	**85.43**	**18**	*e*P	**P**	**12 19 37.7**	**-1.5**
	6.8nm,1.2s						
COLA	**College**	**85.48**	**18**	*e*P	**P**	**12 19 37.5**	**-1.9**
	17nm,1.4s						
COLA				*e*pP	**sP**	**12 19 58.1**	**+2.3**
ILAR	**Eielson Array**	**85.70**	**18**	P	**P**	**12 19 37.5**	**-3.1**
	1.0nm,0.5s,baz=233,slow=4.2,SNR=20						
ILB	**Eielson Array**	**85.70**	**18**	*e*P	**P**	**12 19 39.3**	**-1.2**
IL1	**Eielson Array**	**85.70**	**18**	*e*P	**P**	**12 19 38.0**	**-2.6**
DOT	**Dot Lake**	**85.82**	**20**	*e*P	**P**	**12 19 39.7**	**-1.5**
	26nm,1.5s						
OBSR	**Observation Ro**	**87.78**	**41**	*e*P	**P**	**12 19 52.6**	**+1.2**
DLBC	**Dease Lake**	**88.32**	**28**	*e*P	**P**	**12 19 54.8**	**+1.3**
	3.7nm,1.2s						
SNAA	**Sanae**	**94.64**	**183**	P	**P**	**12 20 21.1**	**-1.7**
SNAA	**Sanae**	**94.64**	**183**	*e*P	**P**	**12 20 20.9**	**-1.8**
	11nm,1.3s						
VNA3	**Neumayer Olymp**	**95.33**	**181**	P	**P**	**12 20 24.1**	**-1.8**
VNA2	**Neumayer--Watz**	**95.59**	**182**	P	**P**	**12 20 25.5**	**-1.5**
	baz=150,slow=4.7						
MK01	**Makanchi Array**	**95.81**	**317**	*e*P	**P**	**12 20 27.3**	**-1.1**
MK32	**Makanchi Array**	**95.82**	**317**	*e*P	**P**	**12 20 26.8**	**-1.6**
MKAR	**Makanchi Array**	**95.82**	**317**	P	**P**	**12 20 26.8**	**-1.6**
	2.5nm,0.7s,baz=105,slow=6.9,SNR=12						
VNA1	**Neumayer--Stat**	**95.89**	**182**	P	**P**	**12 20 27.2**	**-1.1**
ZAA0	**Zalesovo Array**	**95.99**	**324**	*e*P	**P**	**12 20 27.7**	**-1.3**
ZALV	**Zalesovo Beam**	**95.99**	**324**	P	**P**	**12 20 27.5**	**-1.5**
	3.8nm,0.9s,baz=108,slow=4.8,SNR=11						
ZALV	**Zalesovo Beam**	**95.99**	**324**	*e*P	**P**	**12 20 27.9**	**-1.0**
ZAA1	**Zalesovo Array**	**95.99**	**324**	*e*P	**P**	**12 20 27.5**	**-1.5**
MAKZ	**Makanchi**	**96.03**	**317**	*e*P	**P**	**12 20 29.2**	**-0.2**
	6.9nm,1.1s						
ARCES	**ARCESS Array B**	**118.95**	**345**	PKP	**PKPdf**	**12 25 47.9**	**-2.1**
	4.7nm,0.8s,baz=38,slow=1.7,SNR=6.3						
FIA0	**FINESS Array S**	**124.36**	**338**	*e*PKPdf	**PKPdf**	**12 25 59.1**	**-1.4**
FINES	**FINESS Array B**	**124.36**	**338**	PKP	**PKPdf**	**12 25 59.1**	**-1.4**
	4.1nm,1.0s,baz=134,slow=5.5,SNR=3.0						
AKASG	**Malin Array Be**	**129.34**	**326**	PKP	**PKPdf**	**12 26 10.3**	**0.0**
	0.2nm,0.3s,baz=66,slow=2.2,SNR=4.2						
VSL	**Villasalto**	**147.21**	**326**	*e*PKPbc	**PKPbc**	**12 26 44.8**	**-0.8**
KEST	**Kesra**	**149.81**	**321**	PKPbc	**PKPbc**	**12 26 52.3**	**-0.2**
	16nm,0.9s,baz=51,slow=1.4,SNR=12						
KEST	**Kesra**	**149.81**	**321**	*e*PKPbc	**PKPbc**	**12 26 52.1**	**-0.5**
ES19	**SONSECA Array**	**152.63**	**344**	*e*PKPbc	**PKPbc**	**12 26 58.0**	**-0.9**
ESDC	**Sonseca Array**	**152.67**	**344**	PKPbc	**PKPbc**	**12 26 58.0**	**-1.0**
	0.6nm,0.6s,baz=20,slow=2.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**165.14**	**270**	PKP	**PKPdf**	**12 27 04.3**	**-2.8**
	1.5nm,1.0s,baz=5.5,slow=1.2,SNR=6.2						
TORD				PKPab	**PKPab**	**12 28 03.9**	**-0.5**
	0.6nm,0.9s,baz=70,slow=4.5,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**165.14**	**270**	*e*PKPdf	**PKPdf**	**12 27 04.3**	**-2.8**
TOA1				*e*PKPab	**PKPab**	**12 28 03.9**	**-0.5**

*BJI **07** 12:14:39.1, 32°.60S×178°.70W, h35km, mb5.2/17, mB5.4/11, Ms5.0/6, Ms7 4.8/6*
*MOS **07** 12:14:39.3±1.1, 32°.39S×179°.01W, h22km, mb5.4/25, Error ellipse: s-maj=11.4km s-min=9.0km az=77.0*
*GCMT **07** 12:14:40.2±0.4, 32°.42S×178°.74W, h52km±1km, MW5.1/62, Moment Tensor Solution. s52,c68; s62,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.20±.28; $M_{\theta\theta}$-1.78±.20; $M_{\phi\phi}$-3.42±.19; $M_{r\theta}$1.64±.16; $M_{\theta\phi}$-1.80±.13; $M_{\phi r}$1.53±.17; Best double couple: $M_0$5.37500×10^{16} NP1:ϕ_s208.00000°, δ33.00000°, λ82.00000°. Principal axes: T 5.7080, Plg77.0000°, Azm325.0000°; N -0.6650, Plg4.0000°, Azm215.0000°; P -5.0430, Plg12.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 12:14:40.2±2.1, 32°.57S×178°.93W, h21km±15km, mb5.0/66 Error ellipse: s-maj=8.5km s-min=6.7km az=137.0*
*ISCJB **07** 12:14:42.7±0.2, 32°.55S±0°.04×179°.05W±0°.04, h50km, mb5.0/89, MS4.2/15, Error ellipse: s-maj=5.8km s-min=3.5km az=148.4*
*IDC **07** 12:14:45.2±2.0, 32°.26S×178°.86W, h64km±17km, mb4.6/19, mb1 4.7/20, mb1mx4.5/27, mbtmp4.8/20, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=14.8km s-min=12.1km az=139.0*

ISC 07 12:14:44.4±0.3, 32°.42S±0°.04×178°.79W±0°.06, h61km, n322, σ1.989/310, mb5.1/87, 4C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.25**	**14**	P	**Pn**	**12 15 30.7**	**-2.2**
	299nm,0.3s,baz=50,slow=22,SNR=14						
RAO				S	**Sn**	**12 16 08.2**	**-2.1**
	537nm,0.3s,baz=308,slow=23,SNR=3.7						
RAO				LR	LR	12 16 41.7	
	comp=Z,2μm,21.6s,baz=154,slow=38						
RAO	**Raoul Island**	**3.25**	**14**	*e*P	**Pn**	**12 15 29.9**	**-3.0**
RAO				*e*		12 16 09.8	
RAO	**Raoul Island**	**3.25**	**14**	*e*Pn	**Pn**	**12 15 29.9**	**-3.0**
RAO				*e*Sn	**Sn**	**12 16 08.2**	**-2.1**
RAO				*e*Sn	Sn	12 16 09.8	-0.5
MXZ	**Matakaoa Point**	**5.66**	**204**	*e*Pn	**Pn**	**12 16 02.7**	**-3.1**
MXZ				*e*Sn	**Sn**	**12 17 08.1**	**-1.3**
URZ	**Urewera**	**6.72**	**209**	P	**Pn**	**12 16 17.0**	**-3.4**
	8.7nm,0.3s,baz=274,slow=4.2,SNR=71						
URZ				S	**Sn**	**12 17 33.3**	**-2.2**
	112nm,0.3s,baz=90,slow=16,SNR=11						
URZ	**Urewera**	**6.72**	**209**	*e*Pn	**Pn**	**12 16 17.0**	**-3.4**
URZ				*e*Sn	**Sn**	**12 17 29.2**	**-6.3**
OUZ	**Omahuta**	**6.92**	**244**	*e*Pn	**Pn**	**12 16 25.9**	**+2.7**
OUZ				*e*Sn	**Sn**	**12 17 44.4**	**+3.9**
BKZ	**Black Stump Fm**	**7.75**	**208**	*e*Pn	**Pn**	**12 16 31.1**	**-3.4**
HIZ	**Hauiti**	**7.99**	**219**	*e*Pn	**Pn**	**12 16 39.3**	**+1.5**
BFZ	**Birch Farm**	**9.16**	**204**	*e*Pn	Pn	12 16 48.9	-4.9
BFZ				*e*Sn	**Sn**	**12 18 28.6**	**-6.7**
SNZO	**South Karori**	**10.29**	**209**	*e*Pn	Pn	12 17 02.3	-6.9
SNZO				*e*Sn	Sn	12 18 52.6	-10
THZ	**Tophouse**	**11.44**	**213**	*e*Pn	Pn	12 17 19.1	-5.8
THZ				*e*Sn	Sn	12 19 21.9	-9.1
KHZ	**Kahutara**	**11.69**	**209**	*e*Pn	Pn	12 17 21.5	-6.8
KHZ				*e*Sn	Sn	12 19 25.9	-11
LTZ	**Lake Taylor**	**12.53**	**212**	*e*Pn	Pn	12 17 32.7	-7.1
LTZ				*e*Sn	Sn	12 19 45.2	-12
CRLZ	**Canterbury Las**	**13.02**	**209**	*e*Pn	Pn	12 17 39.6	-6.9
CRLZ				*e*Sn	Sn	12 19 54.6	-15
OXZ	**Oxford**	**13.07**	**211**	*e*P	Pn	12 17 38.7	-8.4
MQZ	**McQueen's Vall**	**13.12**	**208**	*e*P	Pn	12 17 38.5	-9.3
MQZ				*e*Sn	Sn	12 19 56.5	-16
RPZ	**Rata Peaks**	**13.81**	**212**	P	Pn	12 17 49.3	-7.9
	1.4nm,0.3s,baz=235,slow=3.0,SNR=8.1						
RPZ				S	Sn	12 20 12.9	-16
	8.2nm,0.3s,baz=75,slow=18,SNR=11						
MSVF	**Nonsavu**	**14.90**	**348**	*e*P	**Pn**	**12 18 11.6**	**0.0**
MSVF	**Nonsavu**	**14.90**	**348**	*e*Pn	**P**	**12 18 13.5**	**-2.5**
ODZ	**Otahua Downs**	**15.04**	**210**	*e*Pn	Pn	12 18 06.9	-6.4
ODZ				*e*Sn	Sn	12 20 44.8	-14
DZM	**Mont Dzumac**	**16.67**	**305**	P	**P**	**12 18 37.3**	**+1.6**
	0.3nm,0.3s,baz=101,slow=14,SNR=7.8						
DZM				LR	LR	12 23 35.3	
	comp=Z,3μm,21.7s,baz=160,slow=32						
DZM	**Mont Dzumac**	**16.67**	**305**	*e*P	**P**	**12 18 37.3**	**+1.6**
	132nm,1.3s						
DZM				*e*pP	**pP**	**12 18 50.7**	**+2.1**
	257nm,1.2s						
DZM				*e*LR	LR	12 22 26.6	
	4μm,25.1s						
DZM	**Mont Dzumac**	**16.67**	**305**	*e*Pn	**P**	**12 18 37.2**	**+1.6**
	30nm,1.0s						
AFI	**Afiamalu**	**19.51**	**21**	P	**P**	**12 19 05.2**	**-1.6**
	2.1nm,0.3s,baz=150,slow=6.0,SNR=5.5						
AFI	**Afiamalu**	**19.51**	**21**	*e*P	**P**	**12 19 02.9**	**-3.9**
	47nm,0.9s						
RAR	**Rarotonga**	**20.28**	**61**	*e*P	Pn	12 19 18.3	+0.8
RAR	**Rarotonga**	**20.28**	**61**	*e*P	Pn	12 19 18.3	+0.7
	7.2nm,0.9s						
MGCD	**Mangrove Creek**	**25.27**	**260**	P	**P**	**12 20 07.7**	**+2.6**
	baz=26,SNR=8.3						
ARMA	**Armidale**	**25.29**	**267**	P	**P**	**12 20 06.6**	**+1.3**
	baz=26,SNR=4.4						
ARMA	**Armidale**	**25.29**	**267**	*e*P	**P**	**12 20 06.5**	**+1.2**
	7.6nm,0.8s						
CNB	**Canberra Magne**	**26.54**	**255**	P	**P**	**12 20 18.7**	**+2.1**
	baz=27,SNR=7.3						
MCQ	**Macquarie Isla**	**27.13**	**209**	*e*P	**P**	**12 20 21.2**	**-0.3**
MCQ				pmax	pmax		
	comp=Z,67nm,1.0s						
MCQ	**Macquarie Isla**	**27.13**	**209**	*e*P	**P**	**12 20 21.2**	**-0.3**
	comp=Z,67nm,1.0s						
EIDS	**Eidsvold**	**27.24**	**277**	P	**P**	**12 20 24.7**	**+1.9**
	baz=28,SNR=11						
EIDS	**Eidsvold**	**27.24**	**277**	*e*P	**P**	**12 20 22.9**	**+0.1**
	comp=Z,24nm,0.8s						
TBI	**Tubuai**	**27.38**	**78**	*e*LQ	LQ	12 25 33.4	
	comp=Z,826nm,28.5s						
TBI				*e*LR	LR	12 27 28.8	
	comp=Z,990nm,27.5s,baz=236						
TAU	**Tasmania Unive**	**28.63**	**239**	*e*P	**P**	**12 20 34.3**	**-0.7**
TAU				pmax	pmax		
	comp=Z,24nm,0.8s						
TAU	**Tasmania Unive**	**28.63**	**239**	*e*P	**P**	**12 20 34.3**	**-0.7**
	comp=Z,24nm,0.8s						
MOO	**Moorlands**	**28.64**	**240**	P	**P**	**12 20 36.6**	**+1.4**
	baz=29,SNR=3.6						
RMQ	**Roma**	**28.80**	**273**	P	**P**	**12 20 40.0**	**+3.2**
	baz=29,SNR=37						
TOO	**Toolangi**	**29.59**	**250**	P	**P**	**12 20 45.4**	**+1.7**
	baz=30,SNR=3.7						
CMSA	**Cobar Meteorol**	**30.06**	**262**	P	**P**	**12 20 49.5**	**+1.7**
	baz=31,SNR=40						
PAE	**Paea**	**30.14**	**68**	*e*T	T	12 51 23.6	
	comp=Z,48nm,0.2s						
HNR	**Honiara**	**30.17**	**315**	P	**P**	**12 20 48.1**	**-0.8**
	comp=Z,60nm,0.7s,baz=211,slow=3.7,SNR=6.0						
HNR				LR	LR	12 31 50.0	
	comp=Z,263nm,18.8s,baz=166,slow=34						
PPT2	**Papeete2**	**30.19**	**68**	*e*LR	LR	12 28 26.2	
	comp=Z,1μm,28.2s,baz=230

WRKA	**Warakurna**	46.59	265	P		**P**	12 23 05.6 -0.9
	baz=47,SNR=82						
JAY	**Jayapura**	48.26	300	P		**P**	12 23 19.3 -0.3
	comp=Z,2.9nm,0.8s,baz=108,slow=22,SNR=11						
GENI	**Genyem**	48.61	299	P		**P**	12 23 22.7 +0.5
KDU	**Kakadu**	48.64	282	P		**P**	12 23 22.2 -0.2
	baz=49,SNR=5.9						
MTN	**Manton Dam**	49.67	281	P		**P**	12 23 30.2 -0.1
	baz=50,SNR=7.2						
MTN	**Manton Dam**	49.67	281	*e*P		**P**	12 23 29.9 -0.4
	comp=Z,55nm,1.0s						
KMBL	**Kambalda**	49.80	254	P		**P**	12 23 30.2 -1.0
	baz=50,SNR=8.9						
KNRA	**Kununurra**	50.22	276	P		**P**	12 23 34.7 +0.2
	baz=51,SNR=7.1						
FITZ	**Fitzroy Crossi**	51.71	272	P		**P**	12 23 45.7 0.0
NWAO	**Narrogin (SRO)**	53.08	251	LR		LR	12 42 11.8
	comp=Z,258nm,19.1s,baz=325,slow=31						
KLBR	**Kellerberrin**	53.08	253	P		**P**	12 23 54.1 -1.6
	baz=54,SNR=33						
BLDU	**Ballidu**	54.25	253	P		**P**	12 24 02.7 -1.6
	baz=55,SNR=7.0						
FAKI	**Fak Fak**	54.44	292	P		**P**	12 24 04.8 -1.0
FAKI	**Fak Fak**	54.44	292	*e*P		**P**	12 24 04.8 -1.0
	comp=Z,52nm,1.0s						
BNDI	**Bandanaira**	55.33	289	P		**P**	12 24 12.1 -0.1
MBWA	**Marble Bar**	55.36	265	*e*P		**P**	12 24 10.7 -1.7
	comp=Z,35nm,0.9s						
SIJI	**Sorong**	56.48	293	P		**P**	12 24 19.8 -0.7
	comp=Z,117nm,1.1s,baz=115,slow=5.9,SNR=11						
SIJI				LR		LR	12 46 46.4
	comp=Z,2μm,21.4s,baz=118,slow=34						
SOEI	**Soe**	57.00	280	P		**P**	12 24 25.3 +1.0
GUMO	**Guam**	57.46	317	LR		LR	12 46 25.9
	comp=Z,130nm,19.7s,baz=104,slow=33						
QSPA	**South Pole Qui**	57.70	180	*e*P		**P**	12 24 30.9 +2.4
	comp=Z,52nm,0.8s						
MMRI	**Maumere**	59.29	280	P		**P**	12 24 39.5 -0.7
MMRI	**Maumere**	59.29	280	*e*P		**P**	12 24 40.1 -0.1
	comp=Z,90nm,1.0s						
GIRL	**Giralia**	59.35	261	P		**P**	12 24 40.6 +0.2
	baz=60,SNR=3.2						
SANI	**Sanana**	59.93	288	P		**P**	12 24 43.5 -1.0
MIR	**Mirnyy**	60.02	208	*i* P		**P**	12 24 44.0 -0.4
MIR				pmax		pmax	
	comp=Z,6.0nm,1.3s						
PLAI	**Plampang**	62.92	277	P		**P**	12 25 04.6 -0.2
TWSI	**Taliwang, Sumb**	63.72	276	P		**P**	12 25 09.2 -0.8
SPSI	**Sidrap Palu**	63.90	283	P		**P**	12 25 10.1 -1.1
TTSI	**Tana Toraja**	64.37	284	P		**P**	12 25 14.2 -0.1
IGBI	**Denpasar**	65.14	275	P		**P**	12 25 20.3 +1.0
	comp=Z,105nm,1.0s						
PCI	**Palu**	65.57	285	P		**P**	12 25 23.3 +1.2
	comp=Z,78nm,1.1s,comp=Z,774nm						
JAGI	**Jajag, Banyuwa**	66.16	275	P		**P**	12 25 25.2 -0.7
	comp=Z,63nm,1.3s						
JAGI	**Jajag, Banyuwa**	66.16	275	*e*P		**P**	12 25 24.4 -1.5
	comp=Z,43nm,1.0s						
GMJI	**Gumukmas**	66.86	275	P		**P**	12 25 30.1 -0.2
	comp=Z,82nm,1.0s						
PCJI	**Pacitan**	68.81	274	P		**P**	12 25 42.9 +0.3
MAW	**Mawson**	70.19	201	P		**P**	12 25 50.9 +0.7
	comp=Z,17nm,1.0s,baz=134,slow=5.3,SNR=36						
MAW				LR		LR	12 55 00.1
	comp=Z,216nm,20.9s,baz=66,slow=34						
MAW	**Mawson**	70.19	201	*e*P		**P**	12 25 50.2 0.0
	comp=Z,3.7nm,0.9s						
STKI	**Sintang**	73.00	281	P		**P**	12 26 08.3 +0.3
SBUM	**Sibu**	73.72	284	*e*P		**P**	12 26 11.8 -0.4
	comp=Z,13nm,1.0s						
KSM	**Kuching**	74.75	282	*e*P		**P**	12 26 17.6 -0.7
	comp=Z,18nm,1.0s						
SYO	**Syowa Base**	75.00	193‖	*e*P		**P**	12 26 17.4 -1.4
SYO	**Syowa Base**	75.00	193‖	*e*pP		P	12 26 24.6 +5.8
KLSI		76.09	273	P		**P**	12 26 24.8 -1.2
SNAA	**Sanae**	76.16	179	P		**P**	12 26 26.6 +1.1
SNAA	**Sanae**	76.16	179	*e*P		**P**	12 26 26.4 +0.9
SNAA				pmax		pmax	
	comp=Z,37nm,1.0s						
SNAA	**Sanae**	76.16	179	*e*P		**P**	12 26 26.4 +0.9
	comp=Z,37nm,1.0s						
VNA3	**Neumayer Olymp**	76.34	176	P		**P**	12 26 27.3 +0.9
MDSI	**Maura Dua**	76.66	273	P		**P**	12 26 27.1 -2.1
VNA2	**Neumayer--Watz**	76.77	177	P		**P**	12 26 30.1 +1.3
	baz=172,slow=4.4						
NVL	**N'lazarevskaya**	76.83	184	*e*P		**P**	12 26 33.3 +4.1
VNA1	**Neumayer--Stat**	77.00	177	P		**P**	12 26 31.5 +1.3
MJAR	**Matsushiro Arr**	79.52	326	P		**P**	12 26 43.7 -0.8
	comp=Z,7.4nm,1.1s,baz=155,slow=6.3,SNR=6.2						
MAJO	**Matsushiro**	79.53	326	*i* P		**P**	12 26 43.4 -1.1
MAJO				pmax		pmax	
	comp=Z,218nm,2.5s						
PLCA	**Paso Flores**	81.62	133	P		**P**	12 26 56.7 +0.7
	comp=Z,5.7nm,1.0s,baz=244,slow=7.6,SNR=6.9						
PLCA				LR		LR	12 56 18.4
	comp=Z,73nm,18.2s,baz=256,slow=30						
PLCA	**Paso Flores**	81.62	133	*e*P		**P**	12 26 58.1 +2.1
PLCA				pmax		pmax	
	comp=Z,9.0nm,1.0s						
PLCA	**Paso Flores**	81.62	133	*e*P		**P**	12 26 58.1 +2.1
	comp=Z,8.5nm,1.0s						
KSRS	**Korea Array**	85.45	320	P		**P**	12 27 15.5 +0.2
	comp=Z,3.2nm,0.8s,baz=143,slow=5.7,SNR=14						
KS15	**Wonju Array Si**	85.47	320	*e*P		**P**	12 27 15.5 +0.2
KS01	**Wonju Array Si**	85.48	320	*e*P		**P**	12 27 15.8 +0.4
YSS	**Yuzh-Sakhalins**	86.27	335	*i* P		**P**	12 27 19.9 +0.8
YSS				pmax		pmax	
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	86.27	335	*e*P		**P**	12 27 19.5 +0.5
	comp=Z,21nm,1.0s						
SCZ2	**Santa Cruz Isl**	86.37	46	P		**P**	12 27 22.0 +2.1
	baz=226						
PKM	**Mcpherson Peak**	86.87	45	P		**P**	12 27 24.8 +2.1
	baz=226						
NJ2	**Nanjing**	87.05	311	*e*P		**P**	12 27 23.8 +0.5
NJ2				pmax		pmax	
	comp=Z,15nm,0.5s						
SMMC	**Simmler**	87.06	44	P		**P**	12 27 25.7 +2.4
	baz=226						
MWC	**Mount Wilson**	87.48	46	*e*P		**P**	12 27 27.9 +2.3
MWC				pmax		pmax	
	comp=Z,6.0nm,0.8s						
MWC	**Mount Wilson**	87.48	46	*e*P		**P**	12 27 27.9 +2.3
	comp=Z,6.1nm,0.8s						
MURC	**Murrieta**	87.60	47	P		**P**	12 27 28.2 +2.2
	baz=228,SNR=5.8						
PETK	**Petropavlovsk-**	87.60	346	P		**P**	12 27 25.5 +0.1
	comp=Z,8.4nm,0.9s,baz=112,slow=6.6,SNR=7.2						
PETK	**Petropavlovsk-**	87.60	346	*e*P		**P**	12 27 25.8 +0.4
PETK	**Petropavlovsk-**	87.60	346	*e*P		**P**	12 27 25.8 +0.4
PEA1	**Petropavlovsk-**	87.60	346	*e*P		**P**	12 27 25.5 0.0
MONP2	**Monument Peak**	87.61	48	P		**P**	12 27 28.6 +2.3
	baz=228,SNR=5.9						
ARVC	**Arvin**	87.62	45	P		**P**	12 27 28.2 +2.2
	baz=227						
IKP	**In-Ko-Pah, Jac**	87.65	49	P		**P**	12 27 28.7 +2.4
	baz=229,SNR=5.1						
BFSC	**Mount Baldy Ra**	87.74	47	P		**P**	12 27 28.7 +2.0
	baz=228,SNR=8.6						
VES	**Vestal, Richgr**	87.96	45	P		**P**	12 27 29.3 +1.8
	baz=227,SNR=11						
EDW2	**Edwards Air Fo**	87.96	46	P		**P**	12 27 29.7 +2.0
	baz=228,SNR=17						
SWSC	**Sam W. Stewart**	88.04	49	P		**P**	12 27 30.2 +2.2
	baz=229						
PFO	**Pinyon Flats O**	88.06	48	P		**P**	12 27 30.0 +1.7
	comp=Z,13nm,0.9s,baz=288,slow=4.0,SNR=9.6						
PFO	**Pinyon Flats O**	88.06	48	P		**P**	12 27 30.4 +2.2
	baz=228,SNR=6.4						
PFO	**Pinyon Flats O**	88.06	48	*e*P		**P**	12 27 30.5 +2.2
PFO				pmax		pmax	
	comp=Z,13nm,1.0s						
PFO	**Pinyon Flats O**	88.06	48	*e*P		**P**	12 27 30.5 +2.2
	comp=Z,13nm,1.0s						
XPFO	**Piæon Flat**	88.06	48	*e*P		**P**	12 27 30.4 +2.0
	comp=Z,14nm,1.0s						
ISA	**Isabella, Lake**	88.20	45	P		**P**	12 27 30.9 +2.1
	baz=227,SNR=8.5						
ISA	**Isabella, Lake**	88.20	45	*e*P		**P**	12 27 31.1 +2.3
ISA				pmax		pmax	
	comp=Z,32nm,1.0s						
ISA	**Isabella, Lake**	88.20	45	*e*P		**P**	12 27 31.1 +2.3
	comp=Z,32nm,1.0s						
USRK	**Ussurïysk Ar.**	88.47	327	P		**P**	12 27 29.8 0.0
	comp=Z,3.5nm,0.8s,baz=108,slow=4.5,SNR=6.6						
LRMC	**Laurel Mtn Rad**	88.55	46	P		**P**	12 27 32.7 +2.1
	baz=228						
RRX	**Edison Barstow**	88.57	46	P		**P**	12 27 32.5 +2.0
	baz=228						
BELC	**Belle Mtn. Jos**	88.61	48	P		**P**	12 27 33.3 +2.4
	baz=229,SNR=13						
BELC	**Belle Mtn. Jos**	88.61	48	*e*P		**P**	12 27 33.0 +2.1
CMB	**Columbia Colle**	88.71	42	*e*P		**P**	12 27 32.8 +1.7
CMB				pmax		pmax	
	comp=Z,15nm,1.0s						
CMB	**Columbia Colle**	88.71	42	*e*P		**P**	12 27 32.8 +1.7
	comp=Z,15nm,1.0s						
BC3	**Big Chuckawall**	88.72	48	P		**P**	12 27 34.1 +2.7
	baz=229,SNR=11						
GLA	**Glamis**	88.73	49	P		**P**	12 27 34.4 +3.1
	baz=229,SNR=8.9						
GLA	**Glamis**	88.73	49	*e*P		**P**	12 27 34.6 +3.3
GLA				pmax		pmax	
	comp=Z,28nm,0.9s						
GLA	**Glamis**	88.73	49	*e*P		**P**	12 27 34.6 +3.3
	comp=Z,28nm,0.9s						
HEC	**Hector,Ludlow**	88.94	47	P		**P**	12 27 34.6 +2.2
	baz=228,SNR=10.0						
CWC	**Cottonwood Cre**	88.96	45	P		**P**	12 27 34.2 +1.7
	baz=227						
GSC	**Goldstone, Bar**	88.97	46	P		**P**	12 27 34.8 +2.3
	baz=228,SNR=15						
GSC	**Goldstone, Bar**	88.97	46	*e*P		**P**	12 27 35.2 +2.7
GSC				pmax		pmax	
	comp=Z,14nm,0.9s						
GSC	**Goldstone, Bar**	88.97	46	*e*P		**P**	12 27 35.1 +2.7
	comp=Z,14nm,0.9s						
AFDM	**Forest Hills D**	89.01	41	*e*P		**P**	12 27 33.8 +1.3
	comp=Z,2.2nm,0.9s						
MPMC	**Manual Prospec**	89.06	45	P		**P**	12 27 35.1 +2.0
	baz=228,SNR=12						
ORV	**Oroville**	89.14	41	*e*P		**P**	12 27 35.0 +1.9
ORV				pmax		pmax	
	comp=Z,4.0nm,0.8s						
ORV	**Oroville**	89.14	41	*e*P		**P**	12 27 35.0 +1.9
	comp=Z,4.1nm,0.8s						
113A	**Mohawk Valley,**	89.23	50	*e*P		**P**	12 27 35.5 +1.9
	comp=Z,2.9nm,0.9s						
IRM	**Iron Mountain**	89.25	48	P		**P**	12 27 36.5 +2.7
	baz=229,SNR=21						
WDC	**Whiskeytown Da**	89.30	39	*e*P		**P**	12 27 35.7 +1.9
WDC				pmax		pmax	
	comp=Z,7.0nm,1.0s						
WDC	**Whiskeytown Da**	89.30	39	*e*P		**P**	12 27 35.7 +1.9
	comp=Z,6.5nm,1.0s						
MLAC	**Mammoth, Mammo**	89.32	43	P		**P**	12 27 36.5 +2.2
	baz=227						
214A	**Organ Pipe Nat**	89.33	51	P		**P**	12 27 36.7 +2.5
	baz=230						
GMRC	**Granite Mounta**	89.33	47	P		**P**	12 27 36.6 +2.4
	baz=229,SNR=7.9						
Y12C	**Blythe**	89.37	49	P		**P**	12 27 36.8 +2.5
	baz=230,SNR=6.9						
Y12C	**Blythe**	89.37	49	*e*P		**P**	12 27 35.7 +1.4
	comp=Z,17nm,0.8s						
N02D	**Trinity Center**	89.50	39	P		**P**	12 27 37.0 +2.2
	baz=224,SNR=5.2						
O03D	**Paynes Creek**	89.50	40	P		**P**	12 27 36.2 +1.4
	baz=225						
WAKR	**Walker**	89.57	42	*e*P		**P**	12 27 37.7 +2.4
	comp=Z,6.6nm,1.0s						
TUQ	**Turquoise Moun**	89.60	47	P		**P**	12 27 37.5 +2.0
	baz=229						
TYV	**Tymovskoe**	89.63	337	*e*P		P	12 27 27.2 -7.8
TYV				pmax		pmax	
	comp=Z,17nm,0.8s						
SHOC	**Shoshone, Teco**	89.69	46	P		**P**	12 27 36.7 +1.0
	baz=228						
FURC	**Furnace Creek,**	89.71	45	P		**P**	12 27 38.0 +2.2
	baz=228						
M02C	**Callahan**	89.71	39	P		**P**	12 27 38.1 +2.3
	baz=224						
GRAC	**Grapevine Rang**	89.76	45	P		**P**	12 27 38.3 +2.2
	baz=228,SNR=7.2						
LDFC	**Landfair**	89.87	47	*e*P		**P**	12 27 40.1 +3.4
	comp=Z,21nm,0.8s						
L02D	**Cave Junction,**	89.87	38	P		**P**	12 27 39.3 +2.8
	baz=224						
PNTR	**Pine Nut**	89.88	42	*e*P		**P**	12 27 38.7 +1.9
	comp=Z,11nm,0.9s						
NEE2	**Needles Airpor**	89.97	48	P		**P**	12 27 39.0 +1.9
	baz=229						
PDMCI	**Parker Dam,Lak**	89.97	48	P		**P**	12 27 39.3 +2.2
	baz=230,SNR=6.8						
BEKR	**Beckworth**	89.99	41	*e*P		**P**	12 27 38.7 +1.4
	comp=Z,1.5nm,0.7s						
YERR	**Yerington**	90.01	42	*e*P		**P**	12 27 39.0 +1.6
	comp=Z,9.9nm,1.0s						
YBH	**Yreka Blue Hor**	90.03	38	*e*P		**P**	12 27 39.4 +2.1
YBH				pmax		pmax	
	comp=Z,2.0nm,0.8s						
YBH	**Yreka Blue Hor**	90.03	38	*e*P		**P**	12 27 39.4 +2.1
	comp=Z,1.9nm,0.8s						
CHGN	**Chignik**	90.06	11	*e*P		**P**	12 27 38.0 +1.2
	comp=Z,35nm,1.0s						
TPNV	**Topopah Spring**	90.39	45	P		**P**	12 27 41.3 +2.1
	baz=228,SNR=9.6						
TPNV	**Topopah Spring**	90.39	45	*e*P		**P**	12 27 41.3 +2.1
TPNV				pmax		pmax	
	comp=Z,10.0nm,0.9s						
TPNV	**Topopah Spring**	90.39	45	*e*P		**P**	12 27 41.3 +2.1
	comp=Z,10nm,0.9s						
PAHR	**Pah Rah Range**	90.42	42	*e*P		**P**	12 27 40.8 +1.6
	comp=Z,3.8nm,1.0s						
HUMO	**Hull Mountain**	90.53	38	*e*P		**P**	12 27 41.5 +2.0
	comp=Z,5.4nm,0.9s						
M04C	**Macdoel**	90.53	39	P		**P**	12 27 41.7 +2.0
	baz=225						
W13A	**Hualapai Mount**	90.64	48	*e*P		**P**	12 27 43.1 +2.6
	comp=Z,9.1nm,1.0s						
SHPR	**Sheep Range**	90.76	46	*e*P		**P**	12 27 43.0 +2.0
	comp=Z,1.9nm,1.0s						
TIA	**Tai'an**	90.85	313	‖P		**P**	12 27 42.3 +1.2
TIA				pmax		pmax	
	comp=Z,10.0nm,1.4s						
TUC	**Tucson**	90.89	52	P		**P**	12 27 44.5 +2.9
	baz=232						
TUC	**Tucson**	90.89	52	*e*P		**P**	12 27 44.4 +2.9
TUC				pmax		pmax	
	comp=Z,13nm,1.0s						
TUC	**Tucson**	90.89	52	*e*P		**P**	12 27 44.4 +2.9
	comp=Z,13nm,1.0s						
CN2	**Changchun**	91.34	323	*e*P		**P**	12 27 44.0 +0.8
CN2				pmax		pmax	
	comp=Z,10.0nm,0.8s						
J04D	**Umpqua Nationa**	91.42	38	P		**P**	12 27 45.7 +1.9
	baz=225						
MOD	**Modoc Plateau**	91.43	40	*e*P		**P**	12 27 45.0 +1.2
	comp=Z,5.9nm,0.9s						
R11A	**Troy Canyon, C**	91.71	45	P		**P**	12 27 46.5 +1.2
	baz=229						
X16A	**Lo Mia Camp, P**	91.77	50	*e*P		**P**	12 27 48.0 +2.3
	comp=Z,8.9nm,1.0s						
J05D	**Fort Rock, OR**	91.90	38	P		**P**	12 27 47.6 +1.6
	baz=226						
GYA	**Guiyang**	91.97	300	*e*P		**P**	12 27 46.0 -0.7
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
G03D	**McMinnville, O**	92.23	36	P		**P**	12 27 49.9 +2.6
	baz=224						
LCMT	**Little Creek M**	92.27	47	*e*P		**P**	12 27 50.0 +2.2
	comp=Z,6.1nm,1.0s						
U15A	**North Rim**	92.49	48	*e*P		**P**	12 27 51.6 +2.5
	comp=Z,10nm,0.9s						
WUAZ	**Wupatki**	92.50	49	P		**P**	12 27 51.1 +2.1
	baz=231						
WUAZ	**Wupatki**	92.50	49	*e*P		**P**	12 27 51.5 +2.5
	comp=Z,5.5nm,0.9s						
CCUT	**Cedar City**	92.54	46	*e*P		**P**	12 27 51.7 +2.5
I05D	**Terrebonne, OR**	92.58	37	P		**P**	12 27 50.8 +1.7
	baz=225						
WVOR	**Wild Horse Val**	92.70	40	*e*P		**P**	12 27 45.7 -4.0
WVOR				pmax		pmax	
	comp=Z,29nm,0.7s						
WVOR	**Wild Horse Val**	92.70	40	*e*P		**P**	12 27 45.6 -4.0
	comp=Z,28nm,0.7s						
SZCU	**Shurtz Canyon**	92.73	46	*e*P		**P**	12 27 50.9 +0.8
	comp=Z,4.4nm,1.0s						
X18A	**Snowflake**	92.81	50	*e*P		**P**	12 27 50.9 +0.4
	comp=Z,2.6nm,0.9s						
CMAR	**Chiang Mai Arr**	93.43	290	P		**P**	12 27 53.6 +0.2
	comp=Z,0.5nm,0.5s,baz=116,slow=2.1,SNR=3.0						
CMAR				PP		**PP**	12 31 37.5 -1.2
	comp=Z,0.5nm,0.4s,baz=134,slow=6.3,SNR=7.2						
TX31	**Lajitas Ar. Si**	94.04	58	*e*P		**P**	12 27 57.4 +1.2
LTX	**Lajitas**	94.04	58	*e*P		**P**	12 27 56.8 +0.6
LTX	**Lajitas**	94.04	58	*e*P		**P**	12 27 56.8 +0.6
TXAR	**Lajitas Array**	94.04	58	P		**P**	12 27 56.8 +0.6
	comp=Z,2.3nm,1.1s,baz=214,slow=5.9,SNR=11						
TXAR				LR		LR	13 04 50.2
	comp=Z,88nm,18.9s,baz=0.0,slow=32						
MNTX	**Cornudas Mount**	94.19	55	P		**P**	12 27 57.7 +1.0
	baz=234						
MFID	**Camas Ranch**	94.89	41	*e*P		**P**	12 28 01.5 +1.7
	comp=Z,6.8nm,0.9s						
TMUT	**Trail Mountain**	94.95	46	*e*P		**P**	12 28 02.5 +2.2
	comp=Z,3.6nm,0.8s						
B05A	**Bryant**	94.97	34	P		**P**	12 28 02.0 +2.2
	baz=225						
A04D	**Lummi Island**	95.00	33	P		**P**	12 28 02.1 +2.2
	baz=225						
ANMO	**Albuquerque**	95.36	52	P		**P**	12 28 03.1 +0.9
	baz=234						
MVCO	**Mesa Verde**	95.37	49	P		**P**	12 28 03.4 +1.1
	baz=233						
HLID	**Hailey**	95.77	41	P		**P**	12 28 05.3 +1.5
	baz=230						
HLID	**Hailey**	95.77	41	*e*P		**P**	12 28 05.5 +1.7
	comp=Z,0.5nm,0.7s						
CD2	**Chengdu**	96.59	302	*e*P		**P**	12 28 09.0 +1.3
S22A	**4UR Ranch, Cre**	96.75	49	P		**P**	12 28 09.1 +0.5
	baz=234						
HHC	**Hu-ho-hao-te**	97.15	314	*e*P		**P**	12 28 09.4 -0.7
HHC				pmax		pmax	
	comp=Z,15nm,1.4s						
HHC				pmax		pmax	
	comp=Z,76nm,8.0s						
SDCO	**Great Sand Dun**	97.61	50	P		Pdif	12 28 13.2 +0.7
	baz=235						
REDW	**Red Top Meadow**	97.66	43	*e*P		Pdif	12 28 14.6 +2.1
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	97.92	115	LR		LR	13 04 20.7
	comp=Z,44nm,21.5s,baz=228,slow=30						
BW06	**Boulder Array**	98.05	44	P		Pdif	12 28 15.0 +0.7
	baz=233						
PD31	**Pinedale Array**	98.06	44	*e*P		Pdif	12 28 15.2 +0.9
PDAR	**Pinedale Array**	98.06	44	P		Pdif	12 28 14.8 +0.4
	comp=Z,0.9nm,0.8s,baz=180,slow=3.0,SNR=6.4						
PDAR				LR		LR	13 07 34.8
	comp=Z,59nm,18.1s,baz=279,slow=32						
BOZ	**Bozeman (W)**	98.59	41	P		Pdif	12 28 18.3 +1.8
	baz=232						
ISCO	**Idaho Springs**	98.72	48	P		**P**	12 28 17.4 0.0
	baz=235						
CPUP	**Villa Florida**	99.25	129	LR		LR	13 04 51.9
	comp=Z,88nm,21.1s,baz=228,slow=30						
ILAR	**Eielson Array**	100.04	13	P		**Pdif**	12 28 22.7 +0.4
	comp=Z,1.5nm,1.0s,baz=216,slow=5.3,SNR=7.8						
ILB	**Eielson Array**	100.04	13	*e*Pdif		**Pdif**	12 28 22.8 +0.6
WMQ	**Urumqi**	113.93	308	PKP		**PKiKP**	12 33 11.2 -5.1
WMQ				LR		LR	
	comp=Z,34nm,16.5s						
WMQ				LR		LR	
	comp=Z,29nm,15.3s						
WMQ				LR		LR	
	comp=Z,51nm,17.7s						
MK32	**Makanchi Array**	118.54	309	*e*PKPdf		**PKPdf**	12 33 24.1 -0.8
MKAR	**Makanchi Array**	118.54	309	PKP		**PKPdf**	12 33 24.1 -0.8
	comp=Z,1.6nm,0.7s,baz=96,slow=2.4,SNR=14						
ZALV	**Zalesovo Beam**	119.08	318	PKP		**PKPdf**	12 33 24.6 -1.1
	comp=Z,0.8nm,0.5s,baz=160,slow=4.7,SNR=4.1						
ZAA1	**Zalesovo Array**	119.08	318	*e*PKPdf		**PKPdf**	12 33 24.6 -1.1
KSH	**Kashi**	120.67	300	PKP		**PKPdf**	12 33 26.1 -3.3
KSH				sPKP			12 33 42.2
KSH				PKS		**PKSdf**	12 37 04.4 -1.8
KSH				SKS		**SKSdf**	12 40 35.7 -0.6
KSH				SKKS		**SKKSac**	12 41 55.1 +3.0
KSH				AMB		AMB	
	comp=Z,130nm,5.3s						
KSH				LR		LR	
	comp=Z,410nm,10.4s						
KSH				LR		LR	
	comp=Z,170nm,7.3s						
KSH				LR		LR	
	comp=Z,240nm,6.7s						
KURK	**Kurchatov**	121.94	313	*c i* PKIKP		**PKPdf**	12 33 29.6 -1.7
KURK				pmax		pmax	
	comp=Z,42nm,1.7s						
BRVK	**Borovoye**	127.43	315	*c i* PKIKP		**PKPdf**	12 33 41.8 0.0
BRVK				pmax		pmax	
	comp=Z,32nm,1.7s						
ARU	**Arti**	134.20	319	PKIKP		**PKPdf**	12 33 52.9 -1.6
ARCES	**ARCESS Array B**	140.41	347	PKhKP		PKPpre	12 33 59.2
	comp=Z,4.1nm,0.8s,baz=35,slow=2.2,SNR=4.4						
ARCES				PKP		**PKPdf**	12 34 05.9 +0.3
	comp=Z,4.6nm,0.6s,baz=71,slow=2.1,SNR=6.1						
KLMR	**Klimovskoe**	142.20	330	*e*PKHKP		PKPpre	12 34 04.0
KLMR				pmax		pmax	
	comp=Z,20nm,1.3s						
ZEI	**Tsey**	144.96	300	*e*PKIKP		**PKPab**	12 34 13.3 -0.9
ZEI				pmax		pmax	
	comp=Z,12nm,0.6s						
MOS	**Moscow**	145.58	324	*e*PKHKP		PKPpre	12 34 12.2
MOS				pmax		pmax	
	comp=Z,55nm,1.0s						
KBZ

*ISK **07** 12:15:05.3, 35°.61N×32°.36E, h26km, MD2.5*
*NIC **07** 12:15:06.7±0.3, 35°.65N×32°.41E, h45km, ML2.9*
*CSEM **07** 12:15:07.8±0.4, 35°.60N×32°.53E, h40km, ML2.9, Error ellipse: s-maj=13.7km s-min=4.8km az=103.0*
*DDA **07** 12:15:08.5, 35°.62N×32°.66E, h7km, Md2.4*

ISC 07 12:15:08.4±1.1, 35°.59N±0°.03×32°.56E±0°.06, h32km±10km, n39, σ1°05/51, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.43**	**176**	P	**Pb**	**12 15 17.8**	**-0.1**
ALFC				S	**Sn**	12 15 26.3	+1.0
ALFC	**Alefka**	**0.43**	**176**	P	**Pb**	**12 15 17.8**	**-0.1**
	baz=342						
ALFC				S	**Sn**	12 15 26.3	+1.0
LEF	**Lefka**	**0.54**	**150**	*e*PG	**Pb**	**12 15 18.6**	**-1.0**
LEF				*e*SG	**Sn**	12 15 28.1	+0.2
LEF	**Lefka**	**0.54**	**150**	P	**Pb**	**12 15 18.8**	**-0.8**
LEF				S	**Sb**	12 15 27.4	+0.2
LEF				*e*Sg	**Sn**	12 15 28.1	+0.2
AKMC	**Akamas**	**0.59**	**198**	P	**Pb**	**12 15 19.8**	**-0.6**
AKMC	**Akamas**	**0.59**	**198**	P	**Pb**	**12 15 19.8**	**-0.6**
	baz=6.0						
BOZY	**Bozyazi-Mersin**	**0.62**	**33**	*e*PG	**Pb**	**12 15 19.7**	**-1.1**
BOZY				*e*SG	**Sn**	12 15 30.3	+0.5
BOZY	**Bozyazi-Mersin**	**0.62**	**33**	*e*Pg	**Pb**	**12 15 19.7**	**-1.1**
MAMC	**Mammari**	**0.68**	**128**	P	**Pb**	**12 15 22.0**	**+0.1**
MAMC	**Mammari**	**0.68**	**128**	P	**Pb**	**12 15 22.0**	**+0.1**
	baz=305						
TEKE	**Tekeli-Mersin**	**0.71**	**39**	*e*PG	**Pn**	**12 15 21.2**	**-1.0**
TEKE				*e*SG	**Sn**	12 15 33.0	+0.9
TEKE	**Tekeli-Mersin**	**0.71**	**39**	*e*Pg	**Pn**	**12 15 21.2**	**-1.0**
PPCY	**Paphos**	**0.72**	**194**	P	**Pn**	**12 15 21.0**	**-1.4**
PPCY	**Paphos**	**0.72**	**194**	P	**Pn**	**12 15 21.0**	**-1.4**
	baz=3.0						
LFK	**Lefkose**	**0.85**	**111**	*e*PG	**Pn**	**12 15 24.0**	**-0.2**
LFK	**Lefkose**	**0.85**	**111**	*e*Pg	**Pn**	**12 15 24.0**	**-0.2**
SZAC	**Souni**	**0.87**	**162**	P	**Pn**	**12 15 23.7**	**-0.8**
SZAC				S	**Sb**	12 15 37.9	+1.4
SZAC	**Souni**	**0.87**	**162**	P	**Pn**	**12 15 23.7**	**-0.8**
	baz=336						
SZAC				S	**Sb**	12 15 37.9	+1.4
BERE	**Bereket-Mersin**	**0.93**	**35**	*e*PG	**Pn**	**12 15 24.3**	**-1.1**
BERE	**Bereket-Mersin**	**0.93**	**35**	*e*Pg	**Pn**	**12 15 24.3**	**-1.1**
AKKU	**Akkuyu-Mersin**	**0.99**	**55**	*e*PN	**Pn**	**12 15 25.6**	**-0.4**
AKKU	**Akkuyu-Mersin**	**0.99**	**55**	*e*Pn	**Pn**	**12 15 25.6**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.00**	**53**	*i* P	**Pn**	**12 15 25.4**	**-0.7**
GULN				*i* S	**Sn**	12 15 39.3	+0.2
GULN	**MERSIN_Gulnar**	**1.00**	**53**	P	**Pn**	**12 15 25.4**	**-0.7**
TEPE	**Tepekoy-Mersin**	**1.03**	**52**	*e*PN	**Pn**	**12 15 25.8**	**-0.9**
TEPE	**Tepekoy-Mersin**	**1.03**	**52**	*e*Pn	**Pn**	**12 15 25.8**	**-0.9**
ERMK	**Ermenek**	**1.09**	**15**	*i* P	**Pn**	**12 15 28.0**	**+0.4**
ERMK				*i* S	**Sb**	12 15 43.9	+1.1
ERMK	**Ermenek**	**1.09**	**15**	P	**Pn**	**12 15 28.0**	**+0.4**
ERMK				S	**Sb**	12 15 43.9	+1.1
TEVE	**Tevekalti-Mers**	**1.11**	**40**	*e*PN	**Pn**	**12 15 27.0**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.11**	**40**	*e*Pn	**Pn**	**12 15 27.0**	**-0.8**
IKL	**Isikli**	**1.12**	**54**	*e*PN	**Pn**	**12 15 27.3**	**-0.6**
IKL	**Isikli**	**1.12**	**54**	*e*Pn	**Pn**	**12 15 27.3**	**-0.6**
KEBE	**Keben-Mersin**	**1.27**	**47**	*e*PN	**Pn**	**12 15 29.5**	**-0.5**
KEBE	**Keben-Mersin**	**1.27**	**47**	*e*Pn	**Pn**	**12 15 29.5**	**-0.5**
KIZK	**Mersin**	**1.56**	**55**	*e*PN	**Pn**	**12 15 33.8**	**-0.1**
KIZK	**Mersin**	**1.56**	**55**	*i* P	**Pn**	**12 15 30.7**	**-3.2**
KIZK	**Mersin**	**1.56**	**55**	P	**Pn**	**12 15 30.7**	**-3.2**
KERG	**Konya-Eregli**	**2.22**	**34**	*i* P	**Pn**	**12 15 43.8**	**+0.7**
KERG	**Konya-Eregli**	**2.22**	**34**	P	**Pn**	**12 15 43.8**	**+0.7**

MEX 07 12:20:28.9±0.9, 14°.72N×94°.42W, h36km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.51**	**50**	*i* P	Pn	12 20 51.6	-1.8
PCIG				*e*S	Sn	12 21 09.3	-2.7
HUIG	**Huatulco**	**1.93**	**303**	*e*P	Pn	12 20 53.9	-5.3
HUIG				*e*S	Sn	12 21 13.4	-8.9
CCIG	**Comitan**	**2.69**	**55**	*e*P	Pn	12 21 10.5	+0.7
CCIG				*i* S	Sn	12 21 39.7	-1.6

MAN 07 12:21:21.13°.68N×120°.64E, h117km, mb4.1, ML2.8, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.35**	**120**	⇓*e*P	Pn	12 21 39.5	+1.7
PGP				*e*S	Sn	12 21 53.2	+2.7
LUBP	**Lubang**	**0.39**	**278**	*e*P	Pn	12 21 40.0	+2.0
LUBP				*e*S	Sn	12 21 54.2	+3.4
SJMP	**San Jose**	**1.30**	**159**	*e*P	Pn	12 21 47.3	+1.4
SJMP				*e*S	Sn	12 22 07.1	+2.3
BUSP	**Coron**	**1.72**	**195**	*e*P	Pn	12 21 51.9	+1.0
BUSP				*e*S	Sn	12 22 14.9	+1.2

*ISCJB **07** 12:29:01.0±0.4, 42°.96N±0°.03×46°.48E±0°.03, h1km±3km, Error ellipse: s-maj=5.1km s-min=2.3km az=30.3*
*TIF **07** 12:29:00.8, 42°.88N×46°.44E, h6km±1km*
*CSEM **07** 12:29:01.6±0.1, 42°.90N×46°.43E, h2km, mb4.0, Error ellipse: s-maj=4.9km s-min=2.0km az=25.0*
*MOS **07** 12:29:01.1±1.3, 42°.95N×46°.51E, h11km, mb4.0/1, Error ellipse: s-maj=7.4km s-min=4.6km az=37.4*

ISC 07 12:29:01.6±0.9, 42°.91N±0°.02×46°.45E±0°.01, h9km±6km, n86, σ1°50/152, 6C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.20**	**39**	⇓*i*PG	**Pg**	**12 29 05.4**	**-0.4**
DLMR				*e*S	**Sg**	12 29 10.0	+1.3
DLMR	**Dylym**	**0.20**	**39**	*i* Pg	**Pg**	**12 29 05.4**	**-0.4**
DLMR				*e*Sg	**Sg**	12 29 10.0	+1.3
DVE	**Vedeno**	**0.24**	**281**	⇑*i*PG	**Pg**	**12 29 05.0**	**-1.5**
DVE	**Vedeno**	**0.24**	**281**	*i* Pg	**Pg**	**12 29 05.0**	**-1.5**
UNCR	**Uncukul**	**0.32**	**128**	⇓*i*PG	**Pg**	**12 29 07.0**	**-0.9**
UNCR				*i* S	**Sg**	12 29 12.5	+0.3
UNCR	**Uncukul**	**0.32**	**128**	*i* Pg	**Pg**	**12 29 07.0**	**-0.9**
UNCR				*i* Sg	**Sg**	12 29 12.5	+0.3
KRNR	**Karanay**	**0.34**	**104**	*i* PG	**Pg**	**12 29 07.8**	**-0.6**
KRNR				*e*S	**Sg**	12 29 13.5	+0.5
KRNR	**Karanay**	**0.34**	**104**	*i* Pg	**Pg**	**12 29 07.8**	**-0.6**
KRNR				*e*Sg	**Sg**	12 29 13.5	+0.5
XNZR	**Khunzakh**	**0.41**	**153**	*e*PG	**Pg**	**12 29 08.8**	**-0.9**
XNZR				*e*S	**Sg**	12 29 15.2	0.0
XNZR	**Khunzakh**	**0.41**	**153**	*e*Pg	**Pg**	**12 29 08.8**	**-0.9**
XNZR				*e*Sg	**Sg**	12 29 15.2	0.0
BUJR	**Buynaksk**	**0.49**	**100**	*e*PG	**Pb**	**12 29 11.7**	**-0.7**
BUJR				*i* S	**Sb**	12 29 21.0	+1.3
BUJR	**Buynaksk**	**0.49**	**100**	*e*Pg	**Pb**	**12 29 11.7**	**-0.7**
BUJR				*i* Sg	**Sb**	12 29 21.0	+1.3
ARKR	**Arakani**	**0.50**	**128**	*i* PG	**Pg**	**12 29 10.8**	**-0.6**
ARKR				*i* S	**Sb**	12 29 19.0	-1.1
ARKR	**Arakani**	**0.50**	**128**	*i* Pg	**Pg**	**12 29 10.8**	**-0.6**
ARKR				*i* Sg	**Sb**	12 29 19.0	-1.1
GROC	**Groznyy**	**0.56**	**301**	⇑*i*PG	**Pg**	**12 29 12.4**	**-0.1**
GROC				*e*S	**Sb**	12 29 20.7	-1.1
GROC	**Groznyy**	**0.56**	**301**	*i* Pg	**Pg**	**12 29 12.4**	**-0.1**
GROC				*e*Sg	**Sb**	12 29 20.7	-1.1
GNBR	**Gunib**	**0.64**	**144**	⇑*i*PG	**Pg**	**12 29 13.7**	**-0.3**
GNBR				*e*S	**Sb**	12 29 23.3	-0.9
GNBR	**Gunib**	**0.64**	**144**	*i* Pg	**Pg**	**12 29 13.7**	**-0.3**
GNBR				*e*Sg	**Sb**	12 29 23.3	-0.9
MAK	**Makhachkala**	**0.77**	**86**	*e*PG	Pg	12 29 09.8	-6.7
MAK	**Makhachkala**	**0.77**	**86**	*e*Pg	Pg	12 29 09.8	-6.7
KMKR	**Kumukh**	**0.91**	**148**	*e*PG	**Pb**	**12 29 19.0**	**-0.7**
KMKR				*e*S	**Sg**	12 29 30.5	-0.6
KMKR	**Kumukh**	**0.91**	**148**	*e*Pg	**Pb**	**12 29 19.0**	**-0.7**
KMKR				*e*Sg	**Sg**	12 29 30.5	-0.6
URKR	**Urkarakh**	**1.15**	**130**	*i* PG	**Pb**	**12 29 23.6**	**-0.1**
URKR				*i* S	**Sn**	12 29 41.6	+1.7
URKR	**Urkarakh**	**1.15**	**130**	*i* Pg	**Pb**	**12 29 23.6**	**-0.1**
URKR				*i* Sg	**Sn**	12 29 41.6	+1.7
KMGR	**Komgaron**	**1.17**	**278**	*e*PG	**Pn**	**12 29 24.5**	**+0.2**
KMGR				*e*S	**Sn**	12 29 40.7	+0.3
KMGR	**Komgaron**	**1.17**	**278**	*e*Pg	**Pn**	**12 29 24.5**	**+0.2**
KMGR				*e*Sg	**Sn**	12 29 40.7	+0.3
VLKR	**Vladikavkaz**	**1.31**	**277**	*e*PG	**Pg**	**12 29 26.2**	**-0.5**
VLKR				*e*S	**Sn**	12 29 44.3	+0.5
VLKR	**Vladikavkaz**	**1.31**	**277**	*e*Pg	**Pg**	**12 29 26.2**	**-0.5**
VLKR				*e*Sg	**Sn**	12 29 44.3	+0.5
BTKR	**Batakoyurt**	**1.47**	**289**	⇑*i*PG	**Pg**	**12 29 29.4**	**-0.4**
BTKR				*e*S	**Sg**	12 29 50.4	+1.5
BTKR	**Batakoyurt**	**1.47**	**289**	*i* Pg	**Pg**	**12 29 29.4**	**-0.4**
BTKR				*e*Sg	**Sg**	12 29 50.4	+1.5
TRKR	**Terskaya**	**1.50**	**303**	*e*PG	**Pg**	**12 29 31.5**	**+1.2**
TRKR				*e*S	**Sg**	12 29 51.5	+1.8
TRKR	**Terskaya**	**1.50**	**303**	*e*Pg	**Pg**	**12 29 31.5**	**+1.2**
TRKR				*e*Sg	**Sg**	12 29 51.5	+1.8
GUDG	**Gudauri**	**1.52**	**254**	P	**Pn**	**12 29 29.0**	**-0.2**
GUDG				S	**Sg**	12 29 52.7	+2.1
LACR	**Lac**	**1.59**	**268**	⇓*i*PN	**Pn**	**12 29 29.9**	**-0.1**
LACR				*e*S	**Sg**	12 29 51.3	-1.3
LACR	**Lac**	**1.59**	**268**	*i* Pn	**Pn**	**12 29 29.9**	**-0.1**
LACR				*e*Sg	**Sg**	12 29 51.3	-1.3
ARNR	**Ardon**	**1.61**	**280**	*e*PN	**Pb**	**12 29 31.4**	**-0.1**
ARNR				*e*S	**Sg**	12 29 53.4	0.0
ARNR	**Ardon**	**1.61**	**280**	*e*Pn	**Pb**	**12 29 31.4**	**-0.1**
ARNR				*e*Sg	**Sg**	12 29 53.4	0.0
DRN	**Derbent**	**1.64**	**122**	*e*PN	**Pg**	**12 29 32.5**	**-0.6**
DRN				*e*S	**Sg**	12 29 54.8	+0.4
DRN	**Derbent**	**1.64**	**122**	*e*Pn	**Pg**	**12 29 32.5**	**-0.6**
DRN				*e*Sg	**Sg**	12 29 54.8	+0.4
AKT	**Akhty**	**1.72**	**146**	*e*PN	**Pb**	**12 29 32.8**	**-0.6**
AKT				*e*		12 29 56.0	
AKT				pmax	pmax		
	comp=Z,46nm,0.5s						
AKT				smax	smax		
	comp=E,119nm,0.5s						
AKT				smax	smax		
	comp=N,122nm,0.5s						
AKT				smax	smax		
	comp=E,151nm,0.5s						
AKT	**Akhty**	**1.72**	**146**	*e*Pn	**Pb**	**12 29 32.8**	**-0.6**
	comp=E,46nm,0.5s						
AKT				*e*Sg	**Sg**	12 29 56.0	-0.7
	comp=E,122nm,0.5s						
TBLG	**Delisi**	**1.73**	**228**	P	**Pg**	**12 29 35.5**	**+0.7**
TBLG				S	**Sg**	12 29 57.3	0.0
TBLG	**Delisi**	**1.73**	**228**	PN	**Pg**	**12 29 34.2**	**-0.6**
TBLG				S	**Sg**	12 30 01.7	+4.4
TBLG	**Delisi**	**1.73**	**228**	Pn	**Pg**	**12 29 34.2**	**-0.6**
TBLG				Sg	**Sg**	12 30 01.7	+4.4
KORR	**Kora**	**1.76**	**277**	*e*PN	**Pb**	**12 29 33.7**	**-0.3**
KORR				*e*S	**Sg**	12 29 57.5	-0.6
KORR	**Kora**	**1.76**	**277**	*e*Pn	**Pb**	**12 29 33.7**	**-0.3**
KORR				*e*Sg	**Sg**	12 29 57.5	-0.6
PRTR	**Priterechnaya**	**1.79**	**299**	*e*PN	**Pb**	**12 29 34.3**	**-0.3**
PRTR				*e*S	**Sg**	12 29 58.3	-0.9
PRTR	**Priterechnaya**	**1.79**	**299**	*e*Pn	**Pb**	**12 29 34.3**	**-0.3**
PRTR				*e*Sg	**Sg**	12 29 58.3	-0.9
KSMR	**Kasumkent**	**1.80**	**136**	*e*PN	**Pg**	**12 29 35.5**	**-0.7**
KSMR				*e*S	**Sg**	12 30 03.0	+3.4
KSMR	**Kasumkent**	**1.80**	**136**	*e*Pn	**Pg**	**12 29 35.5**	**-0.7**
KSMR				*e*Sg	**Sg**	12 30 03.0	+3.4
STDR	**Stavd-Durt**	**1.81**	**285**	*e*PN	**Pb**	**12 29 34.5**	**-0.4**
STDR				*e*S	**Sg**	12 29 58.8	-0.9
STDR	**Stavd-Durt**	**1.81**	**285**	*e*Pn	**Pb**	**12 29 34.5**	**-0.4**
STDR				*e*Sg	**Sg**	12 29 58.8	-0.9
ZEI	**Tsey**	**1.88**	**267**	*e*PN	**Pb**	**12 29 35.2**	**-1.0**
ZEI	**Tsey**	**1.88**	**267**	*e*Pn	**Pb**	**12 29 35.2**	**-1.0**
LSNR	**Lesken**	**1.96**	**282**	*e*PN	**Pb**	**12 29 37.3**	**-0.2**
LSNR				*e*S	**Sg**	12 30 03.5	-1.0
LSNR	**Lesken**	**1.96**	**282**	*e*Pn	**Pb**	**12 29 37.3**	**-0.2**
LSNR				*e*Sg	**Sg**	12 30 03.5	-1.0
DIGR	**Digorskoe uzhe**	**2.11**	**271**	*e*PN	**Pb**	**12 29 38.3**	**-1.8**
DIGR				*e*S	**Sb**	12 30 06.3	-0.2
DIGR	**Digorskoe uzhe**	**2.11**	**271**	*e*Pn	**Pb**	**12 29 38.3**	**-1.8**
DIGR				*e*Sb	**Sb**	12 30 06.3	-0.2
NCK	**Nalchik**	**2.17**	**287**	*i* PN	**Pn**	**12 29 37.8**	**-0.1**
NCK	**Nalchik**	**2.17**	**287**	*i* Pn	**Pn**	**12 29 37.8**	**-0.1**
ONI	**Oni**	**2.23**	**263**	P	**Pb**	**12 29 40.7**	**-1.4**
ONI				S	**Sg**	12 30 11.8	-1.6
ONI	**Oni**	**2.23**	**263**	PN	**Pb**	**12 29 40.9**	**-1.2**
ONI				S	**Sg**	12 30 11.7	-1.6
ONI	**Oni**	**2.23**	**263**	Pn	**Pb**	**12 29 40.9**	**-1.2**
ONI				Sn	**Sg**	12 30 11.7	-1.6
KBTC	**Kuba-Taba**	**2.40**	**293**	*e*PN	**Pg**	**12 29 50.1**	**+2.6**
KBTC				*e*S	**Sg**	12 30 19.8	+1.2
KBTC	**Kuba-Taba**	**2.40**	**293**	*e*Pn	**Pg**	**12 29 50.1**	**+2.6**
KBTC				*e*Sb	**Sg**	12 30 19.8	+1.2
NEY	**Neytrino**	**2.75**	**278**	*e*PN	**Pn**	**12 29 46.6**	**+0.5**
NEY				*i* S	**Sn**	12 30 20.3	+0.7
NEY	**Neytrino**	**2.75**	**278**	*e*Pn	**Pn**	**12 29 46.6**	**+0.5**
NEY				*i* Sn	**Sn**	12 30 20.3	+0.7
SHA1	**Shidzhatmaz**	**2.89**	**288**	*e*PN	**Pn**	**12 29 47.2**	**-0.8**
SHA1				*e*S	**Sn**	12 30 23.8	+0.8
SHA1	**Shidzhatmaz**	**2.89**	**288**	*e*Pn	**Pn**	**12 29 47.2**	**-0.8**
SHA1				*e*Sn	**Sn**	12 30 23.8	+0.8
KIV	**Kislovodsk**	**2.94**	**292**	⇑*e*PN	**Pn**	**12 29 47.7**	**-0.8**
KIV				*e*S	**Sn**	12 30 23.4	-0.5
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,44nm,14.0s						
KIV	**Kislovodsk**	**2.94**	**292**	*e*Pn	**Pn**	**12 29 47.7**	**-0.8**
	comp=Z,4.0nm,0.6s						
KIV				*e*Sn	**Sn**	12 30 23.4	-0.5
	comp=Z,44nm,14.0s						
GNI	**Garni**	**3.04**	**206**	*i* PN	**Pn**	**12 29 49.3**	**-0.8**
GNI	**Garni**	**3.04**	**206**	*i* Pn	**Pn**	**12 29 49.3**	**-0.8**
GOF	**Gofitskoye**	**3.27**	**312**	*e*PN	**Pg**	**12 30 05.4**	**+1.3**
GOF				*e*S	**Sg**	12 30 45.8	-0.6
GOF	**Gofitskoye**	**3.27**	**312**	*e*Pn	**Pg**	**12 30 05.4**	**+1.3**
GOF				*e*Sb	**Sg**	12 30 45.8	-0.6
ANN	**Anapa**	**6.79**	**289**	*e*P	**Pn**	**12 30 41.3**	**0.0**
ANN				*e*S	**Sn**	12 31 59.4	+0.7
ANN				pmax	pmax		
	comp=Z,14nm,0.8s						
ANN	**Anapa**	**6.79**	**289**	*e*P	**Pn**	**12 30 41.3**	**0.0**
	comp=Z,14nm,0.8s						
ANN				*e*S	**Sn**	12 31 59.4	+0.7
AKTO	**Aktyubinsk**	**10.93**	**43**	⇓Sn	**Sn**	**12 33 34.2**	**-6.3**
	comp=Z,3.8nm,1.4s						
AKTO	**Aktyubinsk**	**10.93**	**43**	Sn	**Sn**	**12 33 34.2**	**-6.3**
	comp=Z,3.8nm,1.4s						
AB31	**Akbulak array**	**11.31**	**51**	⇓Pn	**Pn**	**12 31 44.5**	**+1.3**
	comp=Z,0.1nm,0.2s,baz=239,slow=14						
AB31				⇑Sn	**Sn**	12 33 44.7	-4.9
	comp=Z,0.8nm,0.5s,baz=238,slow=23						
AB31	**Akbulak array**	**11.31**	**51**	P	**Pn**	**12 31 44.5**	**+1.3**
AB31	**Akbulak array**	**11.31**	**51**	Pn	**Pn**	**12 31 44.5**	**+1.3**
	comp=Z,0.1nm,0.2s						
AB31				Sn	**Sn**	12 33 44.7	-4.9
	comp=Z,0.8nm,0.5s						
KIEV	**Kiev**	**14.12**	**309**	*e*P	**Pn**	**12 32 21.2**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLMR	**Klimovskoe**	**18.45**	**349**	*e*P	**Pn**	**12 33 18.2**	**+0.9**
KLMR				pmax	pmax		
	comp=Z,13nm,1.3s						
KLMR	**Klimovskoe**	**18.45**	**349**	*e*P	**Pn**	**12 33 18.2**	**+0.9**
	comp=Z,13nm,1.3s						
KMBO	**Kilima Mbogo**	**44.62**	**193**	*i* P	**P**	**12 37 18.6**	**+4.0**

*ISK **07** 12:31:13.6, 40°.12N×29°.49E, h2km, MD2.2*
*CSEM **07** 12:31:14.7±0.2, 40°.15N×29°.49E, h8km, MD2.2, Error ellipse: s-maj=3.7km s-min=3.2km az=94.0*
*DDA **07** 12:31:14.4, 40°.20N×29°.45E, h7km, Md2.7*

ISC 07 12:31:14.4±1.1, 40°.14N±0°.03×29°.47E±0°.03, h6km±10km, n31, σ0°57/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.24**	**300**	*i* P	**Pg**	**12 31 18.6**	**-0.5**
IGD				*i* S	**Sg**	12 31 22.3	0.0
CAVI	**Cavuskoy**	**0.29**	**78**	*e*PG	**Pg**	**12 31 19.9**	**0.0**
CAVI				*e*SG	**Sg**	12 31 24.6	+0.8
CAVI	**Cavuskoy**	**0.29**	**78**	*e*Pg	**Pg**	**12 31 20.0**	**0.0**
CAVI				*e*Sg	**Sg**	12 31 24.6	+0.8
ADVT	**Abdulvahap**	**0.35**	**35**	*e*PG	**Pg**	**12 31 21.5**	**+0.3**
ADVT				*e*SG	**Sb**	12 31 27.4	-1.5
ADVT	**Abdulvahap**	**0.35**	**35**	*e*Pg	**Pg**	**12 31 21.5**	**+0.3**
ADVT				*e*Sg	**Sb**	12 31 27.4	-1.5
ARMT	**Armutlu**	**0.63**	**312**	*e*PG	**Pg**	**12 31 26.4**	**-0.1**
ARMT	**Armutlu**	**0.63**	**312**	*e*Pg	**Pg**	**12 31 26.4**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**0.67**	**317**	*e*PG	**Pg**	**12 31 27.4**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**0.67**	**317**	*e*Pg	**Pg**	**12 31 27.4**	**+0.3**
TVSB	**Tavsanli**	**0.69**	**181**	*e*PG	**Pg**	**12 31 27.4**	**-0.3**
TVSB	**Tavsanli**	**0.69**	**181**	*e*Pg	**Pg**	**12 31 27.4**	**-0.3**
GULT	**Gulveren**	**0.85**	**70**	*e*PG	**Pg**	**12 31 30.5**	**-0.1**
GULT	**Gulveren**	**0.85**	**70**	*e*Pg	**Pg**	**12 31 30.5**	**-0.1**
KCTX	**Karacabey (Bur**	**0.86**	**278**	*e*PG	**Pb**	**12 31 31.9**	**+0.1**
KCTX	**Karacabey (Bur**	**0.86**	**278**	*e*Pg	**Pb**	**12 31 31.9**	**+0.1**
KAVV	**Kandilli-Istan**	**0.97**	**341**	*e*PG	**Pb**	**12 31 33.5**	**-0.1**
KAVV	**Kandilli-Istan**	**0.97**	**341**	*e*Pg	**Pb**	**12 31 33.5**	**-0.1**
ISK	**Istanbul-Kandi**	**0.97**	**341**	*e*PG	**Pb**	**12 31 33.7**	**0.0**
ISK	**Istanbul-Kandi**	**0.97**	**341**	*e*Pg	**Pb**	**12 31 33.7**	**0.0**
SILT	**Sile**	**1.02**	**7**	*e*PG	**Pb**	**12 31 34.1**	**-0.3**
SILT	**Sile**	**1.02**	**7**	*e*Pg	**Pb**	**12 31 34.1**	**-0.3**
SBT2	**Guzelce-Avcila**	**1.04**	**315**	*e*PG	**Pb**	**12 31 34.8**	**+0.1**
SBT2	**Guzelce-Avcila**	**1.04**	**315**	*e*Pg	**Pb**	**12 31 34.8**	**+0.1**
GDZ	**Gediz**	**1.05**	**180**	*i* P	**Pn**	**12 31 35.6**	**-0.2**
GDZ				*i* S	**Sn**	12 31 51.6	+0.7
GDZ	**Gediz**	**1.05**	**180**	P	**Pn**	**12 31 35.6**	**-0.2**
GDZ				S	**Sn**	12 31 51.6	+0.7
KLYT	**Kilyos**	**1.16**	**344**	*e*PN	**Pn**	**12 31 37.2**	**+0.1**
KLYT	**Kilyos**	**1.16**	**344**	*e*Pn	**Pn**	**12 31 37.2**	**+0.1**
DEMI	**Demirci**	**1.25**	**208**	*i* P	**Pn**	**12 31 38.0**	**-0.4**
DEMI				*i* S	**Sn**	12 31 56.9	+1.3
DEMI	**Demirci**	**1.25**	**208**	P	**Pn**	**12 31 38.0**	**-0.4**
DEMI				S	**Sn**	12 31 56.9	+1.3
MRMT	**Marmara Adasi**	**1.51**	**288**	*e*PN	**Pb**	**12 31 42.8**	**0.0**
MRMT	**Marmara Adasi**	**1.51**	**288**	*e*Pn	**Pb**	**12 31 42.8**	**0.0**

IDC 07 12:31:20.8±2.0, 33°.17S×179°.01W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=44.9km s-min=36.0km az=99.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.97**	**211**	**Pn**	Pn	12 32 50.9	+0.4
	1.8nm,0.3s,baz=263,slow=3.6,SNR=20						
URZ				Sn	Sn	12 33 58.2	-1.4
	3.8nm,0.3s,baz=242,slow=21,SNR=9.4						
PMG	**Port Moresby**	**39.11**	**299**	LR	LR	12 53 57.8	
	comp=Z,59nm,18.7s,baz=239,slow=35						
ASAR	**Alice Springs**	**42.18**	**270**	P	P	12 39 16.1	+0.6
	0.4nm,0.4s,baz=110,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**43.42**	**276**	P	P	12 39 24.8	-0.7
	0.4nm,0.5s,baz=117,slow=8.3,SNR=5.9						
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc	PKPbc	12 51 04.6	-1.2
	3.5nm,0.9s,baz=48,slow=8.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**160.06**	**182**	PKPab	PKPab	12 52 01.9	-0.2
	0.4nm,0.6s,baz=161,slow=4.1,SNR=3.3						

*BEO **07** 12:33:20.9±0.8, 41°.17N×22°.76E, h5km±2km, M3.6/1*
*CSEM **07** 12:33:22.8±0.1, 41°.30N×22°.73E, h5km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.8km az=49.0*
*ISCJB **07** 12:33:22.1±0.3, 41°.32N±0°.01×22°.72E±0°.02, h3km±3km, Error ellipse: s-maj=2.6km s-min=2.0km az=43.8*
*ATH **07** 12:33:22.7, 41°.28N×22°.74E, h21km±1km, ML3.5/10, Error ellipse: s-maj=2.0km s-min=0.9km az=159.0*
*SKO **07** 12:33:22.1, 41°.28N×22°.72E, h15km, M2.7, ML3.4*
*THE **07** 12:33:

BIA			*e*Lg	Lg	12 34 00.9	
	comp=E,293nm,0.5s					
BIA	**Bitola**	**1.09 255**	⇑*i*Pg	**Pg**	**12 33 43.7**	**-0.5**
BIA	**Bitola**	**1.09 255**	P	**Pg**	**12 33 44.3**	**+0.1**
BIA			*i* Sg	**Sg**	**12 33 58.3**	**0.0**
BIA			S	**Sb**	**12 33 59.5**	**+0.8**
BIA			*e*Lg	Lg	12 34 00.5	
	comp=E,213nm,0.6s					
KRUS	**Krusevo**	**1.11 274**	⇑*i*Pg	**Pg**	**12 33 43.4**	**-1.2**
KRUS			*i* Sg	**Sg**	**12 33 58.6**	**-0.3**
KRUS			*e*Lg	Lg	12 34 00.3	
	comp=N,197nm,0.3s					
KRUS			*e*Lg	Lg	12 34 00.7	
	comp=E,130nm,0.4s					
KRUS	**Krusevo**	**1.11 274**	⇑*i*Pg	**Pg**	**12 33 43.3**	**-1.2**
KRUS			*i* Sg	**Sg**	**12 33 58.6**	**-0.3**
KRUS			*e*Lg	Lg	12 34 00.3	
	comp=E,197nm,0.3s					
FNA	**Florina**	**1.14 243**	P	**Pg**	**12 33 44.5**	**-0.6**
FNA	**Florina**	**1.14 243**	P	**Pg**	**12 33 44.8**	**-0.3**
FNA	**Florina**	**1.14 243**	P	**Pg**	**12 33 44.8**	**-0.3**
SKO	**Skopje**	**1.17 305**	P	**Pg**	**12 33 45.3**	**-0.4**
SKO			S	**Sg**	**12 34 00.2**	**-0.6**
SKO	**Skopje**	**1.17 305**	*e*Pg	**Pg**	**12 33 45.2**	**-0.5**
SKO			*i* Sg	**Sb**	**12 34 01.4**	**+0.6**
SKO			*e*Lg	Lg	12 34 02.9	
	comp=E,37nm,0.4s					
SKO			*e*Lg	Lg	12 34 03.4	
	comp=N,59nm,0.5s					
SKO	**Skopje**	**1.17 305**	*e*Pg	**Pg**	**12 33 45.3**	**-0.4**
SKO			*e*Sg	**Sg**	**12 34 00.9**	**+0.1**
SKO	**Skopje**	**1.17 305**	P	**Pg**	**12 33 45.3**	**-0.4**
SKO			S	**Sg**	**12 34 00.2**	**-0.6**
SKO			*e*Sg	**Sg**	**12 34 00.9**	**+0.1**
SKO			*e*Lg	Lg	12 34 02.8	
	comp=N,37nm,0.4s					
LIT	**Litokhoron**	**1.22 188**	P	**Pb**	**12 33 44.8**	**-1.6**
LIT			S	**Sg**	**12 34 02.8**	**+0.5**
LIT	**Litokhoron**	**1.22 188**	P	**Pb**	**12 33 44.6**	**-1.8**
LIT	**Litokhoron**	**1.22 188**	P	**Pb**	**12 33 44.8**	**-1.6**
LIT			S	**Sg**	**12 34 02.8**	**+0.5**
KZN	**Kozani**	**1.23 216**	P	**Pb**	**12 33 45.6**	**-1.1**
KZN			S	**Sn**	**12 34 04.1**	**+0.7**
KZN	**Kozani**	**1.23 216**	P	**Pb**	**12 33 45.6**	**-1.1**
KZN	**Kozani**	**1.23 216**	P	**Pb**	**12 33 45.6**	**-1.1**
KZN			S	**Sn**	**12 34 04.1**	**+0.7**
VTS	**Vitosha**	**1.34 16**	P	**Pn**	**12 33 48.4**	**+0.2**
VTS			S	**Sn**	**12 34 06.8**	**+0.6**
VTS	**Vitosha**	**1.34 16**	*e*Pg	**Pb**	**12 33 48.7**	**+0.1**
VTS			*e*Sg	**Sn**	**12 34 06.6**	**+0.4**
VTS	**Vitosha**	**1.34 16**	⇓*i*P	**Pn**	**12 33 48.4**	**+0.2**
VTS			S	**Sn**	**12 34 06.8**	**+0.6**
VTS	**Vitosha**	**1.34 16**	P	**Pn**	**12 33 48.4**	**+0.2**
VTS	**Vitosha**	**1.34 16**	*e*Pg	**Pb**	**12 33 48.7**	**+0.1**
VTS			*e*Sg	**Sn**	**12 34 06.6**	**+0.4**
OUR	**Ouranopolis**	**1.36 135**	P	**Pn**	**12 33 47.8**	**-0.6**
OUR			S	**Sg**	**12 34 07.7**	**+0.6**
OUR	**Ouranopolis**	**1.36 135**	P	**Pn**	**12 33 48.1**	**-0.3**
OUR			AML	AML	12 34 11.8	
	comp=E,4803μm,0.7s					
OUR			AML	AML	12 34 15.3	
	comp=N,3538μm,0.7s					
OUR	**Ouranopolis**	**1.36 135**	P	**Pn**	**12 33 48.1**	**-0.3**
OUR			S	**Sg**	**12 34 07.7**	**+0.6**
KAVA	**Kavala**	**1.39 102**	P	**Pn**	**12 33 48.6**	**-0.2**
KAVA			S	**Sg**	**12 34 07.9**	**-0.1**
KAVA	**Kavala**	**1.39 102**	P	**Pn**	**12 33 48.7**	**-0.2**
KAVA			AML	AML	12 34 08.8	
	comp=N,4391μm,0.6s					
KAVA			AML	AML	12 34 09.7	
	comp=E,3748μm,0.5s					
KAVA	**Kavala**	**1.39 102**	P	**Pn**	**12 33 48.6**	**-0.2**
KAVA			S	**Sg**	**12 34 07.9**	**-0.1**
OHR	**Ohrid**	**1.46 263**	⇓*i*Pg	**Pn**	**12 33 49.7**	**-0.1**
OHR			*i* Sg	**Sb**	**12 34 10.0**	**+0.7**
OHR			*e*Lg	Lg	12 34 11.9	
	comp=N,200nm,0.5s					
OHR			*e*Lg	Lg	12 34 12.1	
	comp=E,441nm,0.8s					
OHR	**Ohrid**	**1.46 263**	⇓*i*Pg	**Pn**	**12 33 49.7**	**-0.1**
OHR			*i* Sg	**Sb**	**12 34 10.0**	**+0.7**
OHR			*e*Lg	Lg	12 34 11.9	
	comp=E,200nm,0.5s					
KBN	**Korca**	**1.61 246**	*i* PN	**Pg**	**12 33 54.9**	**+0.7**
KBN	**Korca**	**1.61 246**	*i* Pn	**Pg**	**12 33 54.9**	**+0.7**
	SNR=40					
PENT	**Pentalofos**	**1.63 228**	P	**Pn**	**12 33 53.1**	**+0.8**
PENT	**Pentalofos**	**1.63 228**	P	**Pn**	**12 33 53.1**	**+0.8**
BARS	**Barje**	**1.65 336**	⇓*i*Pn	**Pn**	**12 33 52.1**	**-0.4**
BARS			*e*Sn	**Sb**	**12 34 15.1**	**+0.3**
BARS	**Barje**	**1.65 336**	⇓*i*Pn	**Pn**	**12 33 52.1**	**-0.4**
BARS			*e*Sn	**Sb**	**12 34 15.1**	**+0.3**
KPRO	**Kipourio**	**1.70 218**	P	**Pb**	**12 33 54.9**	**+0.2**
KPRO	**Kipourio**	**1.70 218**	P	**Pb**	**12 33 54.8**	**+0.2**
THL	**Klokotos Trika**	**1.82 197**	P	**Pn**	**12 33 54.6**	**-0.2**
THL			S	**Sn**	**12 34 18.2**	**+0.3**
THL	**Klokotos Trika**	**1.82 197**	P	**Pn**	**12 33 54.5**	**-0.2**
THL	**Klokotos Trika**	**1.82 197**	P	**Pn**	**12 33 54.5**	**-0.2**
THL			S	**Sn**	**12 34 18.2**	**+0.3**
FYTO	**Fytoko, Volos**	**1.90 175**	P	**Pn**	**12 33 54.9**	**-0.9**
FYTO	**Fytoko, Volos**	**1.90 175**	P	**Pn**	**12 33 54.9**	**-0.9**
ZAPS	**Zavoj**	**1.97 358**	⇓*e*Pn	**Pn**	**12 33 57.3**	**+0.5**
ZAPS			*e*Sn	**Sb**	**12 34 23.5**	**-0.4**
XOR	**Xorichti**	**1.97 169**	P	**Pn**	**12 33 56.0**	**-0.8**
XOR	**Xorichti**	**1.97 169**	P	**Pn**	**12 33 55.5**	**-1.3**
XOR	**Xorichti**	**1.97 169**	P	**Pn**	**12 33 56.0**	**-0.8**
NEO	**Neokhori**	**2.03 169**	P	**Pn**	**12 33 56.8**	**-0.9**
NEO	**Neokhori**	**2.03 169**	P	**Pn**	**12 33 56.1**	**-1.6**
NEO	**Neokhori**	**2.03 169**	P	**Pn**	**12 33 56.8**	**-0.9**
RDO	**Rodhopi**	**2.13 93**	P	**Pn**	**12 33 59.0**	**-0.1**
RDO			S	**Sn**	**12 34 25.6**	**0.0**
RDO	**Rodhopi**	**2.13 93**	P	**Pn**	**12 33 58.9**	**-0.1**
RDO	**Rodhopi**	**2.13 93**	P	**Pn**	**12 33 58.9**	**-0.1**
RDO			S	**Sn**	**12 34 25.6**	**0.0**
SKIA	**Skiathos**	**2.21 165**	P	**Pn**	**12 33 59.0**	**-1.1**
SKIA	**Skiathos**	**2.21 165**	P	**Pn**	**12 33 59.0**	**-1.1**
PUK	**Puka**	**2.24 290**	*i* PN	**Pg**	**12 34 05.4**	**-0.8**
BCI	**Bajram Curri**	**2.25 299**	*i* PN	**Pn**	**12 34 01.4**	**+0.8**
BCI	**Bajram Curri**	**2.25 299**	*i* Pn	**Pn**	**12 34 01.4**	**+0.8**
	SNR=40					
SELS	**Selova**	**2.25 329**	⇓*i*Pn	**Pn**	**12 34 00.0**	**-0.7**
SMTH	**Samothraki Isl**	**2.29 110**	P	**Pn**	**12 34 00.7**	**-0.5**
SMTH	**Samothraki Isl**	**2.29 110**	P	**Pn**	**12 34 00.4**	**-0.8**
SMTH	**Samothraki Isl**	**2.29 110**	P	**Pn**	**12 34 00.7**	**-0.5**
AGG	**Agios Georgios**	**2.30 188**	P	**Pn**	**12 34 00.9**	**-0.5**
AGG	**Agios Georgios**	**2.30 188**	P	**Pn**	**12 34 00.9**	**-0.5**
LIA	**Limnos Island**	**2.34 126**	P	**Pn**	**12 34 01.7**	**-0.2**
LIA			S	**Sn**	**12 34 31.0**	**+0.2**
LIA	**Limnos Island**	**2.34 126**	P	**Pn**	**12 34 01.4**	**-0.5**
LIA	**Limnos Island**	**2.34 126**	P	**Pn**	**12 34 01.7**	**-0.2**
LIA			S	**Sn**	**12 34 31.0**	**+0.2**
BOVS	**Bovan**	**2.45 343**	*e*Pn	**Pn**	**12 34 03.3**	**0.0**
BOVS			*e*Sn	**Sb**	**12 34 36.5**	**-1.1**
BOVS	**Bovan**	**2.45 343**	*e*Pn	**Pn**	**12 34 03.3**	**0.0**
BOVS			*e*Sn	**Sb**	**12 34 36.5**	**-1.1**
SMIA	**Simia**	**2.45 171**	P	**Pn**	**12 34 03.1**	**-0.3**
SMIA	**Simia**	**2.45 171**	P	**Pn**	**12 34 03.1**	**-0.3**
SRN	**Sarande**	**2.51 236**	*i* PN	**Pb**	**12 34 06.7**	**-1.8**
SRN	**Sarande**	**2.51 236**	*i* Pn	**Pb**	**12 34 06.7**	**-1.8**
	SNR=40					
ZAGS	**Zajecar**	**2.53 352**	⇓*i*Pn	**Pn**	**12 34 03.6**	**-0.9**
ZAGS			*e*Sn	**Sb**	**12 34 38.8**	**-1.3**
ZAGS	**Zajecar**	**2.53 352**	⇓*i*Pn	**Pn**	**12 34 03.6**	**-0.9**
ZAGS			*e*Sn	**Sb**	**12 34 38.8**	**-1.3**
ALN	**Alexandroupoli**	**2.55 98**	P	**Pn**	**12 34 04.8**	**+0.1**
ALN			S	**Sn**	**12 34 37.3**	**+1.5**
ALN	**Alexandroupoli**	**2.55 98**	P	**Pn**	**12 34 04.5**	**-0.2**
ALN	**Alexandroupoli**	**2.55 98**	P	**Pn**	**12 34 04.5**	**-0.2**
ALN			S	**Sn**	**12 34 37.3**	**+1.5**
BOLS	**Boljevac**	**2.58 348**	*e*Pn	**Pn**	**12 34 03.7**	**-1.6**
BOLS	**Boljevac**	**2.58 348**	*e*Pn	**Pn**	**12 34 03.7**	**-1.6**
ANX	**Ano Chora**	**2.78 193**	P	**Pn**	**12 34 08.1**	**+0.1**
ANX	**Ano Chora**	**2.78 193**	P	**Pn**	**12 34 08.1**	**+0.1**
PDG	**Podgorica**	**2.82 295**	⇑*i*P	**Pn**	**12 34 09.9**	**+1.4**
SJES	**Sjenica**	**2.82 315**	*e*Pn	**Pn**	**12 34 08.9**	**+0.3**
GRUS	**Gruza**	**2.98 331**	⇓*i*Pn	**Pn**	**12 34 10.3**	**-0.3**
GRUS	**Gruza**	**2.98 331**	⇓*i*Pn	**Pn**	**12 34 10.3**	**-0.3**
SIGR	**SIGRI**	**3.18 130**	P	**Pn**	**12 34 14.6**	**+1.1**
SIGR	**SIGRI**	**3.18 130**	P	**Pn**	**12 34 14.6**	**+1.1**
SRE	**Strehaia**	**3.38 6**	⇓*i*P	**Pn**	**12 34 16.6**	**+0.5**
TRUS	**Trudelj**	**3.38 331**	⇓*i*Pn	**Pn**	**12 34 15.7**	**-0.4**
TRUS	**Trudelj**	**3.38 331**	⇓*i*Pn	**Pn**	**12 34 15.7**	**-0.4**
DIVS	**Divibare**	**3.44 325**	⇓*i*Pn	**Pn**	**12 34 16.7**	**-0.4**
DIVS	**Divibare**	**3.44 325**	⇓*i*Pn	**Pn**	**12 34 16.7**	**-0.4**
BBLS	**Lazići**	**3.54 317**	*e*Pn	**Pn**	**12 34 18.6**	**+0.1**
BBLS	**Lazići**	**3.54 317**	*e*Pn	**Pn**	**12 34 18.6**	**+0.1**
MDVR	**Moldovita**	**3.55 348**	⇑*i*P	**Pn**	**12 34 18.0**	**-0.6**
MDVR	**Moldovita**	**3.55 348**	S	**Sg**	**12 35 16.1**	**-1.2**
HUMR	**Humele**	**3.62 27**	⇓*i*P	**Pn**	**12 34 19.4**	**-0.1**
TEKS	**Tekeris**	**4.00 325**	*i* Pn	**Pn**	**12 34 24.6**	**-0.1**
TEKS	**Tekeris**	**4.00 325**	*i* Pn	**Pn**	**12 34 24.6**	**-0.1**
BZS	**Buzias**	**4.38 350**	*i* Pn	**Pn**	**12 34 29.2**	**-0.8**
BZS	**Buzias**	**4.38 350**	⇑*i*P	**Pn**	**12 34 28.9**	**-1.1**
BZS	**Buzias**	**4.38 350**	S	**Sb**	**12 35 37.9**	**+4.5**
BZS	**Buzias**	**4.38 350**	*i* Pn	**Pn**	**12 34 29.2**	**-0.8**
FGSL	**Fruska Gora**	**4.40 332**	*e*Pn	**Pn**	**12 34 29.4**	**-0.8**
FRGS	**Fruska Gora**	**4.40 332**	*e*Pn	**Pn**	**12 34 29.4**	**-0.8**
VOIR		**4.47 22**	⇑*i*P	**Pn**	**12 34 31.4**	**+0.2**
ISR	**Istrita**	**4.73 35**	⇑*i*P	**Pn**	**12 34 36.5**	**+1.8**
MLR	**Muntele Rosu**	**4.80 28**	⇑*i*P	**Pn**	**12 34 36.1**	**+0.3**
TIRR	**Tirgusor**	**5.24 51**	⇑*i*P	**Pn**	**12 34 43.1**	**+1.4**
PLOR	**Plostina**	**5.37 31**	⇑*i*P	**Pn**	**12 34 45.4**	**+1.9**
VRI	**Vrincioaia**	**5.41 31**	⇑*i*P	**Pn**	**12 34 46.0**	**+1.9**
DRGR		**5.49 360**	⇑*i*P	**Pn**	**12 34 45.1**	**-0.1**
CFR	**Carcaliu**	**5.54 44**	⇑*i*P	**Pn**	**12 34 46.9**	**+1.1**
NVLJ	**Novalja**	**6.62 302**	P	**Pn**	**12 35 00.9**	**+0.3**
NVLJ	**Novalja**	**6.62 302**	*i* P	**Pn**	**12 35 00.9**	**+0.3**
SOKA	**Soboth**	**7.71 317**	*i* Pn	**Pn**	**12 35 17.3**	**+1.5**
	comp=E,0.8nm,0.3s					
SOKA	**Soboth**	**7.71 317**	Pn	**Pn**	**12 35 17.3**	**+1.5**
	comp=E,0.8nm,0.3s					
OBKA	**Obir**	**7.86 314**	*i* Pn	**Pn**	**12 35 19.7**	**+1.9**
	comp=E,1.8nm,0.2s					
OBKA	**Obir**	**7.86 314**	Pn	**Pn**	**12 35 19.7**	**+1.9**
	comp=E,1.8nm,0.2s					
ARSA	**Arzberg**	**7.87 321**	*i* Pn	**Pn**	**12 35 18.6**	**+0.8**
	comp=E,2.9nm,0.3s					
ARSA	**Arzberg**	**7.87 321**	Pn	**Pn**	**12 35 18.6**	**+0.8**
	comp=E,2.9nm,0.3s					
CONA	**Conrad Observa**	**8.23 326**	*i* Pn	**Pn**	**12 35 23.8**	**+1.0**
	comp=E,0.8nm,0.3s					
CONA	**Conrad Observa**	**8.23 326**	Pn	**Pn**	**12 35 23.8**	**+1.0**
	comp=E,0.8nm,0.3s					

IDC 07 12:40:18.4±10.0, 18°.48S×167°.56E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/35, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=168.3km s-min=38.5km az=73.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.72**	**196**	Pn	Pn	12 41 17.5	+0.2
	4.6nm,0.3s,baz=136,slow=22,SNR=58						
DZM				Sn	Sn	12 42 01.1	-0.8
	23nm,0.3s,baz=333,slow=23,SNR=16						
CTA	**Charters Tower**	**20.18**	**262**	P	P	12 44 55.4	+0.6
	3.8nm,0.8s,baz=70,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**26.94**	**235**	P	P	12 46 02.3	+0.6
	2.3nm,0.8s,baz=76,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**31.38**	**262**	P	P	12 46 40.5	-0.8
	0.5nm,0.8s,baz=92,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**31.78**	**255**	P	P	12 46 44.7	-0.1
	1.1nm,0.5s,baz=80,slow=8.0,SNR=18						

*NIED **07** 12:44:00.43°.10N×146°.90E, h71km, Mw4.7 Best double couple: M0=1.17000×10^16 NP1:φs=164.00000°, δ38.00000°, λ29.00000°. NP2:φs=50.00000°, δ73.00000°, λ124.00000°.*
*BJI **07** 12:44:02.9, 43°.20N×147°.27E, h35km, mb4.8/51, mB5.0/33, Ms4.5/17, Ms7 4.2/18*
*ISCJB **07** 12:44:08.6±0.3, 43°.16N±0°.02×146°.87E±0°.03, h69km±2km, mb4.8/208, Error ellipse: s-maj=4.4km s-min=2.6km az=151.4*
*MOS **07** 12:44:08.2±1.0, 43°.23N×146°.84E, h63km, mb5.2/72, Error ellipse: s-maj=6.9km s-min=4.0km az=106.8*
MOS Felt (IV) at Malokuril'skoye, (III) at Yuzhno-Kuril'sk.
*IDC **07** 12:44:09.2±1.7, 43°.21N×146°.96E, h63km±14km, mb4.6/33, mb1 4.7/40, mb1mx4.5/56, mbtmp4.9/40, MS3.6/11, Ms1 3.6/11, ms1mx3.3/35, Error ellipse: s-maj=10.8km s-min=9.4km az=118.0*
*JMA **07** 12:44:09.3±0.2, 43°.15N×146°.90E, h66km±2km, M4.8*
JMA Felt II J1.
*NEIC **07** 12:44:09.8±0.4, 43°.21N×146°.86E, h63km±4km, mb4.9/145, Error ellipse: s-maj=4.0km s-min=2.6km az=155.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*SKHL **07** 12:44:09.9±0.1, 43°.21N×146°.95E, h75km±2km, mb5.9/4*
SKHL Felt (IV) at Malokurilskoe,(III) at Yushno-Kurilsk.

ISC 07 12:44:07.9±0.4, 43°.21N±0°.04×146°.93E±0°.04, h50km±3km, h50km:pP-P, n506, σ1§57/577, mb4.9/208, MS3.8/14, 44C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.67**	**354**	*d* PN	**Pn**	**12 44 23.6**	**+2.4**
SHO				*i* S	**Sn**	**12 44 33.8**	**+3.0**
SHO				pmax	pmax		
	comp=N,8μm,0.3s						
SHO				pmax	pmax		
	comp=Z,23μm,0.3s						
SHO				pmax	pmax		
	comp=E,5μm,0.2s						
SHO				smax	smax		
	comp=N,224μm,0.5s						
SHO				smax	smax		
	comp=E,228μm,0.4s						
SHO	**Shikotan**	**0.67**	**354**	*i* P	**Pn**	**12 44 23.6**	**+2.4**
SHO				AMB	AMB	12 44 23.8	
	comp=E,23μm,0.3s						
SHO				*i* S	**Sn**	**12 44 33.8**	**+3.0**
SHO				A	A	12 44 34.7	
	comp=E,224μm,0.5s						
SHO				A	A	12 44 34.7	
	comp=E,228μm,0.5s						
NEM2	**Nemuro 2**	**0.88**	**281**	P	**Pn**	**12 44 26.1**	**+2.2**
NEM2				*e*S	**Sn**	**12 44 38.7**	**+3.0**
YUK	**Yuzh-Kuril'sk**	**1.13**	**317**	*d* PN	**Pn**	**12 44 29.3**	**+1.9**
YUK				*i* S	**Sn**	**12 44 43.8**	**+2.0**
YUK				pmax	pmax		
	comp=Z,10μm,0.3s						
YUK				pmax	pmax		
	comp=N,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,4μm,0.1s						
YUK				smax	smax		
	comp=N,34nm,0.4s						
YUK				smax	smax		
	comp=E,27μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.13**	**317**	*i* P	**Pn**	**12 44 29.3**	**+1.9**
YUK				AMB	AMB	12 44 31.0	
	comp=E,10μm,0.3s						
YUK				*i* S	**Sn**	**12 44 43.8**	**+2.0**
YUK				A	A	12 44 47.9	
	comp=E,34μm,0.4s						
YUK				A	A	12 44 47.9	
	comp=E,27μm,0.4s						
JRA	**Rausu**	**1.50**	**300**	P	**Pn**	**12 44 34.8**	**+2.4**
JRA				*e*S	**Sn**	**12 44 54.0**	**+3.2**
JAK	**Akkeshi**	**1.65**	**263**	P	**Pn**	**12 44 36.1**	**+1.8**
JAK				*e*S	**Sn**	**12 44 55.6**	**+1.3**
JNK	**Nakash**	**1.65**	**284**	P	**Pn**	**12 44 36.1**	**+1.7**
JNK				*e*S	**Sn**	**12 44 56.7**	**+2.2**
KUR	**Kuril'sk**	**2.14**	**18**	*c* PN	**Pn**	**12 44 42.8**	**+1.8**
KUR				*i* S	**Sn**	**12 45 07.6**	**+1.3**
KUR				pmax	pmax		
	comp=Z,3μm,1.2s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=E,367nm,0.1s						
KUR				pmax	pmax		
	comp=N,707nm,0.3s						
KUR				smax	smax		
	comp=N,6μm,1.3s						
KUR				smax	smax		
	comp=E,11μm,1.3s						
KUR				smax	smax		
	comp=E,6μm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR	**Kuril'sk**	**2.14**	**18**	*i* P	**Pn**	**12 44 42.8**	**+1.8**
KUR				AMB	AMB	12 44 43.7	
	comp=N,3μm,1.5s						
KUR				AMB	AMB	12 44 45.8	
	comp=N,1μm,0.4s						
KUR				*i* S	**Sn**	**12 45 07.6**	**+1.3**
KUR				A	A	12 45 10.1	
	comp=N,10μm,1.5s						
KUR				A	A	12 45 10.1	
	comp=N,6μm,1.5s						
KUR				A	A	12 45 10.9	
	comp=N,6μm,0.3s						
KUR				A	A	12 45 10.9	
	comp=N,2μm,0.3s						
JOB	**Onbets**	**2.29**	**263**	P	**Pn**	**12 44 45.0**	**+1.9**
JOB				*e*S	**Sn**	**12 45 11.2**	**+1.2**
JAR	**Ashorobuto**	**2.31**	**273**	P	**Pn**	**12 44 45.6**	**+2.2**
JAR				*e*S	**Sn**	**12 45 12.7**	**+2.1**
JTKR	**Abashiri--Toko**	**2.32**	**290**	P	**Pn**	**12 44 46.4**	**+2.8**
JCH	**Churui**	**2.68**	**258**	P	**Pn**	**12 44 50.0**	**+1.4**
JCH				*e*S	**Sn**	**12 45 21.4**	**+1.6**
JMP	**Maruseppu**	**2.71**	**288**	P	**Pn**	**12 44 51.9**	**+2.9**
HRK	**Horoka**	**2.78**	**277**	*e*P	**Pn**	**12 44 52.9**	**+2.9**
JEM	**Erimo**	**3.02**	**248**	P	**Pn**	**12 44 55.2**	**+2.0**
JEM				*e*S	**Sn**	**12 45 28.2**	**0.0**
ERM	**Erimo**	**3.03**	**248**	*c e*PN	**Pn**	**12 44 55.9**	**+2.7**
ERM				pmax	pmax		
	comp=Z,150nm,0.8s						
ERM	**Erimo**	**3.03**	**248**	*e*P	**Pn**	**12 44 55.0**	**+1.8**
ERM	**Erimo**	**3.03**	**248**	*e*Pn	**Pn**	**12 44 56.6**	**+3.4**
ERM				*e*Sn	**Sn**	**12 45 28.4**	**+0.2**
JKK2	**Kamakawa 2**	**3.11**	**284**	P	**Pn**	**12 44 57.6**	**+3.2**
JFR	**Furan**	**3.17**	**271**	P	**Pn**	**12 44 57.8**	**+2.6**
JFR				*e*S	**Sn**	**12 45 33.8**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.21**	**255**	P	**Pn**	**12 44 57.5**	**+1.7**
JNBK				*e*S	**Sn**	**12 45 33.7**	**+0.9**
ASAJ	**Asahikawa**	**3.27**	**288**	P	**Pn**	**12 45 00.1**	**+3.5**
	comp=Z,215nm,0.3s,baz=130,slow=9.1,SNR=1964						
ASAJ				S	**Sn**	**12 45 37.2**	**+3.0**
	baz=108,slow=20						
ASAJ	**Asahikawa**	**3.27**	**288**	P	**Pn**	**12 45 00.1**	**+3.5**
ASAJ	**Asahikawa**	**3.27**	**288**	*e*Pn	**Pn**	**12 45 00.1**	**+3.5**
ASAJ				*e*Sn	**Sn**	**12 45 27.6**	**-6.6**
JBT2	**Biratori 2**	**3.37**	**264**	P	**Pn**	**12 44 59.7**	**+1.7**
JAB	**Ashibetsu**	**3.44**	**277**	P	**Pn**	**12 45 02.9**	**+3.9**
YSS	**Yuzh-Sakhalins**	**4.77**	**323**	*c i*PN	**Pn**	**12 45 20.3**	**+3.1**
YSS				*e*S	**Sn**	**12 46 12.5**	**+1.4**
YSS				pmax	pmax		
	comp=Z,260nm,0.6s						
YSS				smax	smax		
	comp=N,150nm,1.6s						
YSS				smax	smax		
	comp=E,210nm,1.5s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.77**	**323**	*e*P	**Pn**	**12 45 20.3**	**+3.1**
YSS				AMB	AMB	12 45 21.3	
	comp=N,300nm,0.5s						
YSS				*e*S	**Sn**	**12 46 11.2**	**+0.1**
YSS				A	A	12 46 13.8	
	comp=N,200nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.77**	**323**	*e*Pn	**Pn**	**12 45 20.2**	**+3.1**
YSS				*e*Sn	**Sn**	**12 46 13.1**	**+2.1**
UGL	**Uglegorsk**	**6.77**	**332**	*e*PN	**Pn**	**12 45 44.6**	**0.0**
UGL				*e*S	**Sn**	**12 47 02.0**	**+1.8**
UGL	**Uglegorsk**	**6.77**	**332**	*e*P	**Pn**	**12 45 48.2**	**+3.6**
UGL				AMB	AMB	12 45 51.5	
	comp=N,48nm,0.7s						
UGL				*e*S	**Sn**	**12 47 01.4**	**+1.2**
UGL				A	A	12 47 08.0	
	comp=N,800nm,3.0s						
UGL				A	A	12 47 08.0	
	comp=N,1μm,3.0s						
TYV	**Tymovskoe**	**8.19**	**341**	*e*PN	**Pn**	**12 46 06.1**	**+2.1**
TYV				pmax	pmax		
	comp=Z,24nm,1.1s						
TYV	**Tymovskoe**	**8.19**	**341**	*e*P	**Pn**	**12 46 06.1**	**+2.1**
MJB9	**Matsu-Tunnel**	**9.44**	**228**	*e*Pn	**Pn**	**12 46 21.5**	**+0.2**
MJB9				*e*Sn	**Sn**	**12 48 05.0**	**-0.9**
MAJO	**Matsushiro**	**9.44**	**228**	⇓*e*PN	**Pn**	**12 46 20.6**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,142nm,0.8s						
MAJO	**Matsushiro**	**9.44**	**228**	*e*P	**Pn**	**12 46 22.0**	**+0.8**
MAJO	**Matsushiro**	**9.44**	**228**	*e*Pn	**Pn**	**12 46 21.6**	**+0.3**
MAJO				*e*Sn	**Sn**	**12 48 05.0**	**-0.9**
MAT	**Matsushiro**	**9.44**	**228**	P	**Pn**	**12 46 20.9**	**-0.3**
MAT				S	**Sn**	**12 48 05.9**	**0.0**
MJAR	**Matsushiro Arr**	**9.44**	**228**	P	**Pn**	**12 46 21.8**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=32,slow=12,SNR=21						
MJAR				S	**Sn**	**12 48 06.4**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=23,slow=24,SNR=6.0						
**S

comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
KS15 Wonju Array Si 15.61 255 *e*Pn **P 12 47 46.4 -1.5**
KS15 *e*Sn **Sn 12 50 34.2 -2.2**
JNU Nakatsue 16.12 237 *e*Pn **P 12 47 54.5 +0.8**
comp=Z,22nm,0.9s
MA2 Magadan 16.56 7 P **Pn 12 47 57.1 +0.7**
comp=Z,0.5nm,0.3s,baz=266,slow=2.5,SNR=4.3
MA2 LR LR 12 53 49.2
comp=Z,232nm,20.7s,baz=242,slow=35
SNY Shenyang 17.26 273 ⇑P **P 12 48 06.6 +0.5**
SNY pmax pmax
comp=Z,12nm,0.5s
SEY Seymchan 20.02 7 P **P 12 48 35.5 -0.7**
comp=Z,1.2nm,0.3s,baz=181,slow=8.4,SNR=16
SEY Seymchan 20.02 7 *c*eP **P 12 48 36.3 +0.1**
YAK Yakutsk 21.43 338 P **P 12 48 47.3 -4.2**
comp=Z,44nm,0.6s,baz=274,slow=1.0,SNR=16
YAK S **S 12 52 40.4 -5.9**
comp=Z,3.3nm,0.3s,baz=33,slow=23,SNR=7.8
YAK Yakutsk 21.43 338 *e*P **P 12 48 49.4 -2.0**
YAK *e* 12 49 11.1
YAK *e*S **S 12 52 42.3 -4.0**
YAK *e* 12 52 53.6
YAK *e**SS **sS 12 53 04.1 -0.8**
YAK *e* 13 00 03.7
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,14nm,1.1s
YAK smax smax
comp=N,81nm,1.6s
YAK Yakutsk 21.43 338 *e*P **P 12 48 51.6 +0.2**
YAK Yakutsk 21.43 338 *e*P **P 12 48 47.3 -4.2**
comp=N,61nm,0.7s
YAK *e*S **S 12 52 41.3 -5.0**
BJI Beijing 23.14 273 P **P 12 49 09.6 -0.1**
BJI pP **pP 12 49 19.2 -2.3**
BJI sP **sP 12 49 22.5 -5.2**
BJI S **S 12 53 09.9 -7.4**
BJI pmax pmax
comp=N,31nm,0.8s
BJI pmax pmax
comp=N,130nm,4.6s
BJT Baijiatuau 23.15 273 *e*P **P 12 49 09.7 -0.1**
BJT pmax pmax
comp=Z,28nm,0.9s
BJT Baijiatuau 23.15 273 *e*P **P 12 49 09.7 -0.1**
comp=Z,28nm,0.9s
TIA Tai'an 23.88 263 ⇑P **P 12 49 18.2 +1.4**
TIA pmax pmax
comp=Z,40nm,1.0s
NJ2 Nanjing 24.75 253 *e*P **P 12 49 21.9 -2.8**
NJ2 pmax pmax
comp=Z,17nm,0.5s
BOD Bodaibo 25.21 317 *e*P **P 12 49 25.4 -3.2**
BOD pmax pmax
comp=Z,15nm,1.3s
HHC Hu-ho-hao-te 26.25 277 *e*P **P 12 49 40.0 +1.6**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,90nm,4.0s
HHC LR LR
comp=Z,1μm,13.2s
HHC LR LR
comp=Z,1μm,13.1s
HHC LR LR
comp=Z,1μm,12.9s
BILL Bilibino 26.93 16⇑ *e*P **P 12 49 43.9 -0.1**
BILL *e* 12 50 25.8
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,131nm,22.0s
ULN Ulaanbaatar 28.09 294 *c i*P **P 12 49 55.8 +1.0**
ULN pmax pmax
comp=Z,26nm,0.8s
ULN Ulaanbaatar 28.09 294 *e*P **P 12 49 55.3 +0.4**
ULN Ulaanbaatar 28.09 294 *e*P **P 12 49 55.3 +0.4**
comp=Z,24nm,0.8s
NACB Ninganchiao 28.19 236 *e*P **P 12 49 54.2 -1.5**
comp=Z,26nm,1.0s
SONA1 Songino Array 28.53 294 *e*P **P 12 49 59.7 +1.0**
SONA0 Songino Array 28.53 294 *e*P **P 12 49 59.8 +1.1**
comp=Z,33nm,0.8s
SONM Songino Array 28.53 294 P **P 12 49 59.8 +1.1**
comp=Z,31nm,0.8s,baz=86,slow=8.5,SNR=112
SONM LR LR 13 02 11.1
comp=Z,173nm,21.1s,baz=72,slow=38
H11N2 WAKE ISLAND Hy 28.80 138 T T 13 21 11.0
baz=328,slow=75,SNR=197
H11N1 WAKE ISLAND Hy 28.81 138 T T 13 21 18.1
baz=328,slow=75,SNR=192
H11N3 WAKE ISLAND Hy 28.82 138 T T 13 21 12.4
baz=328,slow=75,SNR=203
H11S1 WAKE ISLAND Hy 29.75 140 T T 13 22 25.7
baz=329,slow=76,SNR=803
H11S3 WAKE ISLAND Hy 29.76 140 T T 13 22 12.0
baz=329,slow=76,SNR=354
H11S2 WAKE ISLAND Hy 29.77 140 T T 13 22 27.9
baz=329,slow=76,SNR=560
TIXI Tiksi 29.86 349 *e*P **P 12 50 11.9 +1.8**
TIXI pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 29.86 349 *e*P **P 12 50 11.9 +1.8**
comp=Z,20nm,1.5s
TLY Talaya 30.09 302 P **P 12 50 12.7 +0.3**
comp=Z,2.0nm,0.5s,baz=146,slow=3.1,SNR=3.5
ZAK Zakamensk 30.37 299 *e*P **P 12 50 15.3 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.0s
LZH Lanzhou 33.63 273 *e*P **P 12 50 44.5 +0.7**
LZH pP pP 12 50 52.3 -4.4
LZH sP sP 12 50 56.4 -6.2
LZH PP **PnPn 12 51 54.6 -2.1**
LZH *e*S **S 12 56 02.4 -0.7**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
GTA Gaotai 35.23 280 P **P 12 50 58.5 +1.0**
GTA pP pP 12 51 06.5 -4.0
GTA sP sP 12 51 11.0 -5.4
GTA PcP **PcP 12 53 28.9 +1.4**
GTA S **S 12 56 27.7 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,33nm,4.6s
GTA LR LR
comp=Z,79nm,13.3s
GTA LR LR
comp=Z,84nm,14.7s
GTA LR LR
comp=Z,140nm,15.2s
CD2 Chengdu 36.19 265 *e*P **P 12 51 06.2 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
TT01 Tatalina 37.95 39 *e*P **P 12 51 21.2 +0.9**
SVW2 Sparrevohn 38.08 42 *e*P **P 12 51 22.8 +1.4**
comp=Z,15nm,1.0s
IMAR Indian Mountai 39.19 34 *e*P **P 12 51 31.2 +0.6**
RSO Redoubt South 39.47 43 *e*P **P 12 51 34.4 +1.2**
PPLA Purkeypile 39.70 39 *e*P **P 12 51 36.5 +1.4**
comp=Z,58nm,1.5s
KDAK Kodiak Island 39.74 47 P **P 12 51 35.3 +0.1**
comp=Z,19nm,0.8s,baz=300,slow=4.0,SNR=33
KDAK Kodiak Island 39.74 47 *e*P **P 12 51 35.5 +0.3**
KDAK Kodiak Island 39.74 47 *e*P **P 12 51 35.3 +0.1**
comp=Z,118nm,1.8s
CAST Castle Rocks 39.76 38 *e*P **P 12 51 36.7 +1.3**
comp=Z,23nm,0.9s
SPU Mount Spurr 39.79 41 *e*P **P 12 51 37.0 +1.3**
KMI Kunming 40.24 258 P **P 12 51 41.6 +1.5**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI pmax pmax
comp=Z,100nm,6.2s
KTH Kantishna Hill 40.28 38 *e*P **P 12 51 41.4 +1.6**
comp=Z,42nm,1.0s
DGZ Jazzator, Alta 40.55 301 *i*P **P 12 51 43.9 +1.6**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
TRF Thorofare Moun 40.56 38 *e*P **P 12 51 43.6 +1.4**
comp=Z,11nm,1.0s
COLD Coldfoot 40.70 32 *e*P **P 12 51 43.9 +0.8**
comp=Z,23nm,1.1s
RC01 Rabbit Creek A 40.92 42 *e*P **P 12 51 45.5 +0.5**
comp=Z,25nm,0.9s
MCK McKinley 41.16 37 *e*P **P 12 51 47.7 +0.7**
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 41.16 37 *e*P **P 12 51 47.7 +0.7**
MCK McKinley 41.16 37 *e*P **P 12 51 47.7 +0.7**
comp=Z,18nm,0.9s
PMR Palmer 41.17 41 *e*P **P 12 51 47.7 +0.7**
PMR pmax pmax
comp=Z,21nm,1.1s
PMR Palmer 41.17 41 *e*P **P 12 51 47.0 0.0**
PMR Palmer 41.17 41 *e*P **P 12 51 47.7 +0.7**
comp=Z,21nm,1.1s
ZAA1 Zalesovo Array 41.20 308 *e*P **P 12 51 47.1 -0.2**
ZAA1 *e*PcP **PcP 12 53 45.7 +0.1**
ZAA0 Zalesovo Array 41.20 308 *e*P **P 12 51 47.6 +0.2**
ZAA0 *e*PcP **PcP 12 53 45.8 +0.2**
ZALV Zalesovo Beam 41.20 308 P **P 12 51 47.1 -0.2**
comp=Z,4.8nm,0.3s,baz=79,slow=7.7,SNR=22
ZALV PcP **PcP 12 53 45.7 +0.2**
comp=Z,5.0nm,0.7s,baz=79,slow=2.7,SNR=7.9
ZALV LR LR 13 09 11.6
comp=Z,87nm,18.2s,baz=69,slow=36
RND Reindeer 41.21 38 *e*P **P 12 51 47.9 +0.5**
RND pmax pmax
comp=Z,18nm,0.9s
RND Reindeer 41.21 38 *e*P **P 12 51 47.9 +0.5**
comp=Z,18nm,0.9s
MDM Murphy Dome 41.44 36 *e*P **P 12 51 50.3 +1.0**
comp=Z,22nm,0.8s
WRH Wood River Hil 41.51 36 *e*P **P 12 51 50.7 +0.9**
comp=Z,14nm,0.8s
SML Sawmill 41.54 40 *e*P **P 12 51 50.9 +0.8**
SML pmax pmax
comp=Z,35nm,1.0s
SML Sawmill 41.54 40 *e*P **P 12 51 50.9 +0.8**
comp=Z,35nm,1.0s
COLA College 41.61 36 *e*P **P 12 51 51.8 +1.3**
COLA pmax pmax
comp=Z,41nm,0.8s
COLA College 41.61 36 *e*P **P 12 51 51.5 +1.0**
COLA College 41.61 36 *e*P **P 12 51 51.8 +1.3**
comp=Z,41nm,0.8s
CCB Clear Creek Bu 41.63 36 *e*P **P 12 51 51.6 +0.8**
comp=Z,14nm,1.0s
DHY Denali Highway 41.90 38 *e*P **P 12 51 53.7 +0.5**
comp=Z,12nm,0.7s
DHY *e*PcP **PcP 12 53 49.3 +1.4**
NVS Novosibirsk 41.93 309 *e*P **P 12 51 53.2 -0.1**
NVS *e* 12 52 17.8
NVS *e*S **S 12 58 09.4 +1.5**
NVS pmax pmax
comp=Z,26nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,14nm,1.0s
NVS smax smax
comp=N,10.0nm,1.8s
NVS smax smax
comp=E,18nm,2.0s
HDA Harding Lake 42.01 36 *e*P **P 12 51 54.0 +0.1**
comp=E,19nm,0.9s
ILAR Eielson Array 42.02 36 P **P 12 51 54.0 0.0**
comp=E,17nm,1.0s,baz=257,slow=6.5,SNR=103
ILAR PcP **PcP 12 53 47.0 -1.1**
comp=E,1.5nm,0.6s,baz=282,slow=3.4,SNR=5.7
ILB Eielson Array 42.02 36 *e*P **P 12 51 54.4 +0.4**
ILB *e*PcP **PcP 12 53 47.0 -1.1**
IL1 Eielson Array 42.02 36 *e*P **P 12 51 53.7 -0.3**
WMQ Urumqi 42.14 292 P **P 12 51 56.1 +0.8**
WMQ pP pP 12 52 08.8 +0.2
WMQ S **S 12 58 15.6 +4.1**
WMQ pmax pmax
comp=E,20nm,0.8s
WMQ pmax pmax
comp=E,140nm,4.9s
WMQ LR LR
comp=E,130nm,20.3s
WMQ LR LR
comp=E,100nm,23.9s
FYU Fort Yukon 42.65 33 *e*P **P 12 52 00.6 +1.7**
comp=E,45nm,0.8s
KLU Klutina 42.71 41 *e*P **P 12 52 00.8 +1.1**
comp=E,30nm,1.0s
PAX Paxson 42.77 38 *e*P **P 12 52 02.0 +1.8**
PAX *e* 12 53 51.7
PAX pmax pmax
comp=Z,37nm,1.9s
PAX Paxson 42.77 38 *e*P **P 12 52 02.0 +1.8**
comp=Z,38nm,1.9s
PAX *e*PcP **PcP 12 53 51.7 +1.0**
DIV Divide 42.83 41 *e*P **P 12 52 01.8 +1.1**
DIV Divide 42.83 41 *e*P **P 12 52 01.8 +1.1**
comp=Z,40nm,1.2s
HARP HAARP 42.97 39 *e*P **P 12 52 03.7 +2.0**
comp=Z,28nm,1.0s
DOT Dot Lake 43.33 37 *e*P **P 12 52 04.5 -0.2**
comp=Z,31nm,0.8s
BMRM Bremner River 43.41 41 *e*P **P 12 52 06.5 +1.2**
comp=Z,26nm,0.9s
CRQM Cirque 44.16 41 *e*P **P 12 52 13.1 +1.7**
comp=Z,57nm,1.0s
EGAK Eagle 44.47 36 *e*P **P 12 52 13.8 +0.1**
comp=Z,35nm,1.3s
MK31 Makanchi Array 44.69 298 *e*P **P 12 52 16.2 +0.4**
MK31 Makanchi Array 44.69 298 *e*P **P 12 52 16.2 +0.4**
MK32 Makanchi Array 44.69 298 *e*P **P 12 52 16.2 +0.5**
MK32 *e*PcP **PcP 12 53 57.2 -0.2**
MKAR Makanchi Array 44.69 298 P **P 12 52 16.2 +0.5**
comp=Z,14nm,0.8s,baz=78,slow=8.7,SNR=132
MKAR PcP **PcP 12 53 57.2 -0.2**
comp=Z,2.8nm,0.8s,baz=64,slow=6.9,SNR=3.0
MKAR LR LR 13 12 22.1
comp=Z,51nm,19.0s,baz=77,slow=38
MKAR Makanchi Array 44.69 298 *e*P **P 12 52 16.2 +0.5**
comp=Z,116nm,0.8s
MK01 Makanchi Array 44.70 298 *e*P **P 12 52 16.2 +0.4**
MAKZ Makanchi 44.89 298 *e*P **P 12 52 17.8 +0.5**
MAKZ pmax pmax
comp=Z,24nm,0.9s
MAKZ Makanchi 44.89 298 *e*P **P 12 52 17.8 +0.5**
comp=Z,24nm,0.9s
MANU Manus Island 45.05 179 *e*P P 12 52 13.7 -5.0
comp=Z,169nm,0.1s
DAWY Dawson 45.33 36 *e*P **P 12 52 21.4 +0.8**
comp=Z,16nm,1.4s
KURK Kurchatov 45.70 304 *c i*P **P 12 52 22.9 -0.7**
KURK pmax pmax
comp=Z,226nm,1.7s
KURK Kurchatov 45.70 304 *e*P **P 12 52 23.7 +0.1**
KURK Kurchatov 45.70 304 *e*P **P 12 52 23.9 +0.3**
comp=Z,25nm,0.6s
INK Inuvik 46.95 30 P **P 12 52 33.6 +0.4**
comp=Z,46nm,0.8s,baz=296,slow=7.2,SNR=109
INK Inuvik 46.95 30 *e*P **P 12 52 34.2 +1.0**
INK pmax pmax
comp=Z,53nm,0.8s
INK Inuvik 46.95 30 *e*P **P 12 52 34.2 +1.0**
INK Inuvik 46.95 30 *e*P **P 12 52 34.2 +1.0**
comp=Z,53nm,0.8s
CM31 Chiang Mai Arr 47.22 254 *e*P **P 12 52 36.5 +0.6**
CMAR Chiang Mai Arr 47.22 254 P **P 12 52 36.5 +0.6**
comp=Z,0.7nm,0.4s,baz=46,slow=7.2,SNR=5.2
WHY Whitehorse 48.13 40 *e*P **P 12 52 43.7 +1.1**
comp=Z,11nm,0.9s
BVA0 Borovoye Array 49.72 310 P **P 12 52 54.1 -0.7**
BVA0 pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 49.77 310 *c i*P **P 12 52 55.3 +0.2**
BRVK pmax pmax
comp=Z,87nm,1.2s
BRVK Borovoye 49.77 310 *e*P **P 12 52 55.6 +0.5**
BRVK Borovoye 49.77 310 *e*P **P 12 52 55.6 +0.5**
comp=Z,23nm,1.0s
TAPN Taplejung 49.86 272 *e*P **P 12 52 57.1 +0.6**
comp=Z,6.7nm,0.4s
ODAN Odare 50.38 271 *e*P **P 12 53 01.0 +0.6**
JIRN Jiri 50.80 273 *e*P **P 12 53 04.3 +0.6**
comp=Z,201nm,1.0s
GUN Gumba 50.88 274 *e*P **P 12 53 04.7 +0.4**
comp=Z,45nm,0.8s
RAMN Ramite 50.90 272 *e*P **P 12 53 04.4 +0.1**
comp=Z,48nm,0.8s
KKN Kakani 51.39 274 *e*P **P 12 53 08.3 +0.4**
comp=Z,34nm,1.0s
PKIN Phulchoki 51.42 274 *e*P **P 12 53 08.9 +0.6**
comp=Z,17nm,0.8s
AAK Ala-Archa 51.44 296 *e*P **P 12 53 08.5 +0.4**
AAK pmax pmax
comp=Z,13nm,1.4s
AAK Ala-Archa 51.44 296 *e*P **P 12 53 08.5 +0.4**
comp=Z,13nm,1.4s
DMN Daman 51.62 274 *e*P **P 12 53 10.2 +0.5**
GKN Gorkha 51.74 274 *e*P **P 12 53 10.7 +0.2**
KSH Kashi 51.91 292 P **P 12 53 15.4 +3.8**
KSH pP pP 12 53 25.8 +0.7
KSH sP sP 12 53 28.9 -2.0
KSH PcP **PcP 12 54 25.3 +1.6**
KSH PP **PP 12 55 14.1 +4.5**
KSH PcS **PcS 12 58 23.2 +1.3**
KSH S **S 13 00 34.7 +3.9**
KSH ScS **ScS 13 02 58.5 +1.2**
KSH SS **SS 13 04 10.4 +2.7**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,200nm,5.3s
KSH LR LR
comp=Z,220nm,6.0s
DANN Dangsing 52.18 275 *e*P **P 12 53 15.3 +1.4**
KOLN Koldanda 52.62 275 *e*P **P 12 53 17.4 +0.3**
comp=Z,27nm,0.9s
MNAS Manas 52.82 297 P **P 12 53 18.3 0.0**
MNAS pmax pmax
comp=Z,6.0nm,0.8s
PYUN Piuthan 52.88 276 *e*P **P 12 53 19.5 +0.5**
SVE Sverdlovsk 53.42 317 *e*P **P 12 53 22.6 +0.3**
SVE pmax pmax
comp=Z,50nm,1.3s
KK31 Karatay Array 53.82 298 *i*P **P 12 53 25.5 0.0**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 53.82 298 *e*P **P 12 53 25.7 +0.2**
KKAR pmax pmax
comp=Z,67nm,0.6s
KKAR Karatay Array 53.82 298 *e*P **P 12 53 25.7 +0.2**
comp=Z,67nm,0.6s
SOKR Solikamsk 54.09 321 *e*P **P 12 53 25.5 -1.6**
SOKR pmax pmax
comp=Z,58nm,1.5s
ARU Arti 54.63 317 P **P 12 53 31.0 -0.1**
comp=Z,8.3nm,0.3s,baz=58,slow=5.9,SNR=20
ARU Arti 54.63 317 *c i*P **P 12 53 29.9 -1.2**
ARU *PP **pP 12 53 43.0 -1.8**
ARU 12 54 29.1
ARU 12 55 32.7
ARU S **S 13 01 06.2 -0.8**
ARU SS **SS 13 04 48.2 -1.5**
ARU pmax pmax
comp=Z,76nm,1.7s
ARU Arti 54.63 317 *e*P **P 12 53 30.8 -0.3**
ARU Arti 54.63 317 *e*P **P 12 53 30.8 -0.3**
comp=Z,98nm,1.5s
SPA0 Spitsbergen Ar 55.28 349 *e*P **P 12 53 34.8 -0.8**
SPITS Spitsbergen Ar 55.28 349 P **P 12 53 34.8 -0.8**
comp=Z,9.4nm,0.8s,baz=44,slow=8.5,SNR=12
RES Resolute Bay 55.53 17 P **P 12 53 37.4 0.0**
comp=Z,76nm,0.8s,baz=318,slow=7.2,SNR=9.2
RES Resolute Bay 55.53 17 *e*P **P 12 53 37.7 +0.3**
RES pmax pmax
comp=Z,84nm,0.8s
RES Resolute Bay 55.53 17 *e*P **P 12 53 37.7 +0.3**
RES Resolute Bay 55.53 17 *e*P **P 12 53 37.7 +0.3**
comp=Z,84nm,0.8s
YKA Yellowknife Ar 56.34 33 P **P 12 53 43.6 +0.3**
comp=Z,7.3nm,0.8s,baz=302,slow=6.8,SNR=8.9
YKB5 Yellowknife Ar 56.34 33 *e*P **P 12 53 43.6 +0.3**
AB31 Akbulak array 57.28 309 *i*P **P 12 53 50.1 0.0**
AB31 pmax pmax
comp=Z,8.0nm,0.5s
ABKAR Akbulak array 57.28 309 *e*P **P 12 53 50.6 +0.5**
comp=Z,205nm,0.4s
AKTO Aktyubinsk 57.77 311 P **P 12 53 53.8 +0.2**
comp=Z,11nm,0.6s,baz=63,slow=8.7,SNR=39
KBL Kabul 59.22 290 *e*P **P 12 54 03.7 -0.5**
KBL pmax pmax
comp=Z,16nm,0.6s
KBL Kabul 59.22 290 *e*P **P 12 54 03.7 -0.5**
comp=Z,16nm,0.6s
TMCR Tamitsa 59.37 331 *e*P **P 12 54 04.2 -0.3**
TMCR pmax pmax
comp=Z,42nm,0.4s
ARA0 ARCESS Array S 59.70 340 *e*P **P 12 54 06.3 -0.4**
ARCES ARCESS Array B 59.70 340 P **P 12 54 06.3 -0.4**
comp=Z,18nm,0.9s,baz=61,slow=6.4,SNR=14
DAG Danmarks Havn 59.95 356⇑ *i*P **P 12 54 07.6 -0.7**
comp=Z,20nm,0.8s
DAG Danmarks Havn 59.95 356⇑ *i*P **P 12 54 07.6 -0.7**
DAG pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 60.80 328 *e*P **P 12 54 12.7 -1.7**
KLMR pmax pmax
comp=Z,70nm,1.4s
F04A Amboy 61.14 53 *e*P **P 12 54 17.2 +0.3**
comp=Z,14nm,0.9s
B08A Colville Reser 61.54 49 *e*P **P 12 54 20.4 +0.7**
comp=Z,32nm,1.9s
D08A Wollman Farm, 62.51 50 *e*P **P 12 54 26.8 +0.7**
comp=Z,5.7nm,0.8s
HAWA Hanford 62.54 51 *e*P **P 12 54 27.5 +1.2**
comp=Z,14nm,1.4s
HYB Hyderabad 62.60 269 *i*P **P 12 54 27.0 -0.1**
NEW Newport 62.81 48 *e*P **P 12 54 28.5 +0.3**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 62.81 48 *e*P **P 12 54 28.9 +0.7**
NEW Newport 62.81 48 *e*P **P 12 54 28.5 +0.3**
comp=Z,10.0nm,1.0s
CTA Charters Tower 62.98 181 P **P 12 54 29.2 -0.2**
comp=Z,2.6nm,0.9s,baz=326,slow=9.3,SNR=3.7
WRAB Tennant Creek 63.88 193 *e*P **P 12 54 34.9 -0.5**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 63.88 193 *e*P **P 12 54 34.9 -0.5**
comp=Z,11nm,1.0s
WB2 Warramunga Arr 63.89 193 *e*P **P 12 54 35.0 -0.4**
WR1 Warramunga Arr 63.89 193 *e*P **P 12 54 34.6 -0.8**
comp=Z,19nm,1.3s
WRA Warramunga Arr 63.90 193 P **P 12 54 34.6 -0.8**
comp=Z,3.3nm,0.8s,baz=17,slow=7.1,SNR=19
WALA Waterton Lakes 64.07 46 *e*P **P 12 54 37.4 +0.8**
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 64.10 58 *e*P **P 12 54 38.2 +1.5**
WDC pmax pmax
comp=Z,6.0nm,0.9s
WDC Whiskeytown Da 64.10 58 *e*P **P 12 54 38.2 +1.5**
comp=Z,6.4nm,0.9s
SUMG Summit 64.46 2⇑ *i*P **P 12 54 39.4 +0.4**
comp=Z,37nm,0.7s
SUMG Summit 64.46 2⇑ *i*P **P 12 54 39.4 +0.4**
SUMG pmax pmax
comp=Z,37nm,0.7s
SUMG Summit 64.46 2 *e*P **P 12 54 39.3 +0.4**
comp=Z,41nm,0.7s
GEYT Alibeck 64.56 299 P **P 12 54 40.0 +0.2**
comp=Z,8.4nm,0.8s,baz=38,slow=2.6,SNR=13
GEYT LR LR 13 25 01.2
comp=Z,85nm,19.3s,baz=115,slow=38
MOD Modoc Plateau 64.69 56 *e*P **P 12 54 41.1 +0.4**
comp=Z,6.6nm,0.8s
MOS Moscow 64.79 324 *e*P **P 12 54 39.5 -1.4**
SWMT Swartz Lake 64.96 48 *e*P **P 12 54 43.1 +0.7**
FIA1 FINESS Array S 65.28 333 *e*P **P 12 54 43.6 -0.4**
FIA0 FINESS Array S 65.28 333 *e*P **P 12 54 43.7 -0.3**
FIA0 FINESS Array S 65.28 333 *e*P **P 12 54 43.7 -0.3**
FINES FINESS Array B 65.28 333 P **P 12 54 43.7 -0.3**
comp=Z,28nm,0.9s,baz=36,slow=7.1,SNR=26
ORV Oroville 65.34 58 *e*P **P 12 54 45.6 +0.7**
ORV pmax pmax
comp=Z,5.0nm,0.6s
ORV Oroville 65.34 58 *e*P **P 12 54 45.6 +0.7**

comp=Z,4.7nm,0.6s
SLMT Seeley Lake 65.39 48 eP P 12 54 46.1 +0.9
MSO Missoula 65.40 48 eP P 12 54 46.0 +0.8
comp=Z,10nm,0.9s
OBN Obninsk 65.66 324 P P 12 54 45.7 -0.8
comp=Z,37nm,0.5s,baz=135,slow=4.6,SNR=6.4
OBN Obninsk 65.66 324⇓iP P 12 54 46.3 -0.2
OBN eS S 13 03 20.7 -7.6
OBN pmax pmax
comp=Z,36nm,0.6s
OBN MLR MLR
comp=Z,73nm,15.0s
OBN Obninsk 65.66 324 eP P 12 54 46.4 -0.1
OBN Obninsk 65.66 324 eP P 12 54 45.7 -0.8
comp=Z,75nm,0.4s
BEKR Beckworth 65.86 57 eP P 12 54 49.4 +1.0
comp=Z,12nm,0.8s
AFDM Forest Hills D 66.03 59 eP P 12 54 49.6 +0.3
comp=Z,6.7nm,1.1s
FFC Flin Flon 66.23 36 eP P 12 54 51.0 +0.7
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 66.23 36 eP P 12 54 51.0 +0.7
FFC Flin Flon 66.23 36 eP P 12 54 51.0 +0.7
comp=Z,13nm,0.9s
LPSR Galich'ya Gora 66.25 321 eP P 12 54 50.3 -0.1
LPSR pmax pmax
comp=Z,60nm,0.8s
SCO Scoresbysund 66.33 356 iP P 12 54 51.2 +0.5
comp=Z,21nm,0.8s
SCO Scoresbysund 66.33 356 eP P 12 54 51.2 +0.5
SCO pmax pmax
comp=Z,21nm,0.8s
MFID Camas Ranch 66.42 52 eP P 12 54 52.9 +1.0
comp=Z,4.1nm,0.8s
PAHR Pah Rah Range 66.56 57 eP P 12 54 53.6 +0.7
comp=Z,11nm,0.9s
HRY Holter Researc 66.61 47 eP P 12 54 54.1 +1.0
PNTR Pine Nut 66.80 58 eP P 12 54 55.4 +0.9
comp=Z,14nm,0.8s
LRM Limekiln Ridge 66.83 48 eP P 12 54 54.9 +0.3
CMB Columbia Colle 66.95 59 eP P 12 54 56.4 +1.1
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 66.95 59 eP P 12 54 56.4 +1.1
comp=Z,7.4nm,0.8s
VSR Storozhevoye 67.04 319 eP P 12 54 53.7 -1.8
VSR pmax pmax
comp=Z,30nm,0.4s
DLMT Dillon 67.04 49 eP P 12 54 57.3 +1.5
comp=Z,8.9nm,1.0s
YERR Yerington 67.09 58 eP P 12 54 57.1 +0.8
comp=Z,18nm,0.9s
HLID Hailey 67.14 51 eP P 12 54 57.3 +0.7
HLID ePcP PcP 12 55 25.9 +1.6
VSU Vasula 67.23 330⇓iP P 12 54 55.6 -0.9
WAKR Walker 67.26 58 eP P 12 54 58.9 +1.5
comp=Z,9.9nm,0.9s
BOZ Bozeman (W) 67.42 48 eP P 12 54 59.0 +0.7
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ Bozeman (W) 67.42 48 eP P 12 54 59.0 +0.7
BOZ Bozeman (W) 67.42 48 eP P 12 54 59.0 +0.7
comp=Z,12nm,0.8s
AS01 Alice Springs 67.60 193 eP P 12 54 59.2 -0.1
AS31 Alice Springs 67.61 193 eP P 12 54 59.3 -0.1
AS31 ePcP sP 12 55 22.1 +3.1
ASAR Alice Springs 67.61 193 P P 12 54 59.6 +0.2
comp=Z,2.9nm,0.8s,baz=14,slow=5.6,SNR=36
YHH Holmes Hill 68.36 48 eP P 12 55 05.2 +0.8
comp=Z,6.9nm,0.9s
YMR Madison River 68.38 49 eP P 12 55 05.0 +0.7
comp=Z,7.6nm,0.9s
YFT Old Faithful 68.59 49 eP P 12 55 06.3 +0.7
comp=Z,15nm,1.2s
IMW Indian Meadow 68.89 49 eP P 12 55 09.2 +1.6
comp=Z,9.3nm,0.9s
FXWY Fox Creek 69.00 50 eP P 12 55 09.9 +1.6
comp=Z,6.6nm,0.9s
RLMT Red Lodge 69.01 47 eP P 12 55 13.3 +5.1
comp=Z,50nm,1.8s
MOOW Moose Ponds 69.09 49 eP P 12 55 10.3 +1.6
comp=Z,7.1nm,0.9s
GOF Gofitskoye 69.09 313⇑eP P 12 55 07.2 -1.3
TPAW Teton Pass 69.14 50 eP P 12 55 10.9 +1.7
comp=Z,10nm,0.8s
HVU Hansel Valley 69.20 52 eP P 12 55 09.8 +0.3
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 69.20 52 eP P 12 55 09.8 +0.3
comp=Z,6.9nm,0.9s
LOHW Long Hollow 69.25 49 eP P 12 55 11.3 +1.5
comp=Z,4.1nm,0.8s
SNOW Snow King Moun 69.27 50 eP P 12 55 11.8 +1.8
comp=Z,6.6nm,0.7s
REDW Red Top Meadow 69.28 50 eP P 12 55 10.8 +0.8
comp=Z,8.2nm,0.9s
SFJD Kangerlussuaq 69.31 7 iP P 12 55 09.3 -0.1
comp=Z,15nm,1.0s
SFJD Kangerlussuaq 69.31 7 eP P 12 55 09.3 -0.1
SFJD pmax pmax
comp=Z,15nm,1.0s
DGMT Dagmar 69.41 42 eP P 12 55 10.8 +0.4
comp=Z,20nm,1.1s
R11A Troy Canyon, C 69.72 56 eP P 12 55 13.3 +0.6
comp=Z,7.1nm,1.0s
FRB Frobisher Bay 69.75 16 P P 12 55 11.5 -0.6
comp=Z,9.6nm,0.3s,baz=326,slow=6.9,SNR=17
NACGM Naroch 69.83 328 eP P 12 55 13.0 +0.2
NACGM PM 12 55 14.0
comp=Z,0.2nm,0.7s
NC303 NORSAR Array S 69.85 339 eP P 12 55 13.0 +0.1
NC405 NORSAR Array S 69.86 339 eP P 12 55 12.9 0.0
NC204 NORSAR Array S 69.97 339 eP P 12 55 14.7 +1.0
KIV Kislovodsk 70.00 312c iP P 12 55 15.5 +1.3
KIV e 12 57 57.3
KIV eS S 13 04 10.6 -10
KIV pmax pmax
comp=Z,50nm,1.0s
KIV MLR MLR
comp=Z,117nm,17.0s
KIV Kislovodsk 70.00 312 eP P 12 55 15.8 +1.6
KIV Kislovodsk 70.00 312 eP P 12 55 15.6 +1.3
comp=Z,38nm,0.8s
KIV ePcP pP 12 55 31.8 +3.4
HWUT Hardware Ranch 70.01 51 eP P 12 55 15.1 +0.7
comp=Z,5.8nm,0.9s
NB201 NORSAR Array S 70.02 339 eP P 12 55 13.8 -0.2
KBZ Khabaz 70.04 312 P P 12 55 15.1 +0.8
comp=Z,20nm,0.8s,baz=52,slow=4.4,SNR=47
KBZ LR LR 13 30 23.3
comp=Z,77nm,20.3s,baz=40,slow=40
NB2 NORSAR Subarra 70.05 339 P P 12 55 13.8 -0.4
comp=Z,17nm,0.5s,baz=32,slow=6.5
NB2 NORSAR Subarra 70.05 339 P P 12 55 13.8 -0.4
baz=32,slow=6.5
NB200 NORSAR Array S 70.05 339 eP P 12 55 13.9 -0.2
NOA NORSAR Array B 70.05 339 P P 12 55 13.9 -0.2
comp=Z,23nm,0.7s,baz=34,slow=6.2,SNR=62
NOA LR LR 13 29 54.3
comp=Z,49nm,18.7s,baz=50,slow=39
ZEI Tsey 70.10 310 eP P 12 55 12.7 -2.3
ZEI e 12 55 31.1
ZEI pmax pmax
comp=Z,31nm,0.9s
HFS Hagfors 70.13 337 P P 12 55 14.3 -0.3
comp=Z,27nm,0.5s,baz=36,slow=6.4,SNR=80
NBO02 NORSAR Array S 70.14 339 eP P 12 55 14.4 -0.2
NBO00 NORSAR Array S 70.17 339 eP P 12 55 14.9 +0.1
DUG Dugway, Tooele 70.20 53 eP P 12 55 16.5 +0.9
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway, Tooele 70.20 53 eP P 12 55 16.5 +0.9
DUG Dugway, Tooele 70.20 53 eP P 12 55 16.5 +0.9
comp=Z,8.7nm,0.8s
TPNV Topopah Spring 70.20 58 eP P 12 55 16.3 +0.6
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 70.20 58 eP P 12 55 16.3 +0.6
comp=Z,12nm,0.9s
NAO01 NORSAR Array S 70.30 339 eP P 12 55 15.5 -0.1
BW06 Boulder Array 70.39 49 eP P 12 55 17.1 +0.3
comp=Z,5.8nm,0.9s
PD31 Pinedale Array 70.39 49 eP P 12 55 17.0 +0.2
PDAR Pinedale Array 70.39 49 P P 12 55 17.1 +0.4
comp=Z,3.5nm,0.7s,baz=261,slow=2.1,SNR=35

PDAR Pinedale Array 70.39 49 eP P 12 55 16.7 -0.1
JLU Jordanelle 70.73 52 eP P 12 55 20.1 +1.1
comp=Z,7.4nm,1.3s
NLU North Lily Min 70.78 53 eP P 12 55 19.6 +0.3
comp=Z,7.3nm,0.9s
GSC Goldstone, Bar 70.90 59 eP P 12 55 20.2 +0.3
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 70.90 59 eP P 12 55 20.2 +0.3
comp=Z,4.6nm,0.8s
MPU Maple Canyon 71.00 53 eP P 12 55 21.7 +1.2
comp=Z,7.7nm,0.8s
SHPR Sheep Range 71.16 57 eP P 12 55 22.3 +0.8
comp=Z,7.7nm,0.9s
CCUT Cedar City 71.58 56 eP P 12 55 25.5 +1.4
comp=Z,4.3nm,0.9s
SZCU Shurtz Canyon 71.72 55 eP P 12 55 26.1 +1.1
comp=Z,4.9nm,0.8s
TMUT Trail Mountain 71.72 53 eP P 12 55 25.9 +0.9
comp=Z,5.0nm,0.9s
SOC Sochi 71.85 313 eP P 12 55 24.2 -1.1
SOC eS S 13 04 41.9 -0.2
SOC pmax pmax
comp=Z,19nm,0.7s
P17A Butcher Ranch, 71.88 53 eP P 12 55 27.0 +1.2
comp=Z,11nm,0.9s
SUW Suwalki 71.88 329 eP P 12 55 25.2 -0.1
SUW Suwalki 71.88 329 eP P 12 55 25.2 -0.1
AKASG Malin Array Be 71.92 324 P P 12 55 25.3 -0.3
comp=Z,18nm,0.7s,baz=39,slow=6.1,SNR=73
AKASG Malin Array Be 71.92 324 iP P 12 55 25.2 -0.3
AKASG pmax pmax
comp=Z,21nm,0.7s
AKBB Malin Array Si 71.92 324 eP P 12 55 25.4 -0.2
AKBB pmax pmax
comp=Z,30nm,0.8s
AKBB Malin Array Si 71.92 324 eP P 12 55 25.4 -0.2
comp=Z,30nm,0.8s
KIEV Kiev 71.93 324⇓iP P 12 55 24.7 -0.9
KIEV pmax pmax
comp=Z,16nm,0.5s
KIEV Kiev 71.93 324 eP P 12 55 25.3 -0.3
KIEV Kiev 71.93 324 eP P 12 55 25.3 -0.3
comp=Z,30nm,0.8s
AK11 Malin Array Si 71.96 324 eP P 12 55 25.4 -0.5
LCMT Little Creek M 72.00 56 eP P 12 55 28.0 +1.5
comp=Z,10nm,0.8s
P18A Preston Nutter 72.06 52 eP P 12 55 28.2 +1.1
comp=Z,4.8nm,0.8s
ANN Anapa 72.22 315 eP P 12 55 26.1 -1.4
ANN e*PP pP 12 55 38.5 -3.1
ANN eS S 13 04 46.0 -0.2
ANN pmax pmax
comp=Z,29nm,1.2s
SRU San Rafael Swe 72.24 53 eP P 12 55 28.7 +0.7
SRU pmax pmax
comp=Z,16nm,0.9s
SRU San Rafael Swe 72.24 53 eP P 12 55 28.7 +0.7
comp=Z,16nm,0.9s
RSSD Black Hills 72.45 46 eP P 12 55 29.5 +0.3
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 72.45 46 eP P 12 55 29.5 +0.3
comp=Z,13nm,1.0s
O20A White River Ci 72.87 51 eP P 12 55 32.3 +0.5
comp=Z,17nm,1.4s
U15A North Rim 72.96 56 eP P 12 55 33.9 +1.5
comp=Z,11nm,0.8s
Y12C Blythe 73.34 59 eP P 12 55 35.2 +0.8
comp=Z,9.7nm,0.8s
N23A Red Feather La 73.64 49 eP P 12 55 37.5 +1.2
comp=Z,12nm,1.1s
WUAZ Wupatki 74.12 56 eP P 12 55 40.2 +1.1
comp=Z,7.5nm,0.8s
Y14A Wickenburg 74.17 58 eP P 12 55 40.5 +1.2
comp=Z,38nm,1.1s
SORM Soroca 74.20 322⇑iP P 12 55 38.8 -0.3
SORM Soroca 74.20 322 ⇑P P 12 55 38.8 -0.3
SMCO Snowmass 74.24 51 eP P 12 55 40.9 +0.8
comp=Z,5.4nm,0.8s
BEL Belsk 74.49 329 eP P 12 55 41.6 +0.9
BEL Belsk 74.49 329 eP P 12 55 41.6 +0.9
ISCO Idaho Springs 74.58 50 eP P 12 55 43.1 +1.2
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 74.58 50 eP P 12 55 43.1 +1.2
comp=Z,6.7nm,1.0s
MVCO Mesa Verde 74.70 53 eP P 12 55 43.5 +0.9
comp=Z,8.9nm,0.7s
LVV L'vov 74.78 326 eP P 12 55 44.4 +1.9
X16A Lo Mia Camp, P 74.81 57 eP P 12 55 43.4 +0.2
comp=Z,10.0nm,0.8s
STKA Stephens Creek 74.88 185 P P 12 55 43.4 +0.4
comp=Z,4.3nm,0.8s,baz=337,slow=6.3,SNR=14
STKA LR LR 13 29 32.7
comp=Z,19nm,19.0s,baz=25,slow=36
STKA Stephens Creek 74.88 185 eP P 12 55 43.8 +0.7
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 74.88 185 eP P 12 55 43.8 +0.7
comp=Z,1.1nm,0.8s
W18A Petrified Fore 75.38 56 eP P 12 55 47.7 +1.3
comp=Z,5.9nm,0.8s
Q24A Divide 75.42 50 eP P 12 55 47.5 +0.7
comp=Z,9.3nm,0.9s
KWP Kalwaria Pacla 75.47 326 eP P 12 55 47.5 +1.1
KWP Kalwaria Pacla 75.47 326 eP P 12 55 47.5 +1.1
MARD Mardin 75.54 308 eP P 12 55 48.9 +1.7
comp=Z,36nm,1.1s
X18A Snowflake 75.65 56 eP P 12 55 49.0 +1.0
comp=Z,7.4nm,1.0s
OGNE Ogallala 75.73 47 eP P 12 55 48.8 +0.6
comp=Z,41nm,0.8s
BUR08 Bucovina Ar. S 75.96 324 eP P 12 55 50.0 +0.6
BURAR Bucovina Array 75.97 324⇑iP P 12 55 49.9 +0.4
BURAR Bucovina Array 75.97 324 ⇑P P 12 55 49.9 +0.4
SDCO Great Sand Dun 76.06 51 eP P 12 55 51.3 +0.9
comp=Z,5.1nm,1.1s
OJC Ojcow 76.15 328 eP P 12 55 50.8 +0.4
OJC Ojcow 76.15 328 eP P 12 55 50.8 +0.4
OJC Ojcow 76.15 328 eP P 12 55 50.7 +0.4
OJC Ojcow 76.15 328 eP P 12 55 50.7 +0.4
comp=Z,35nm,1.1s
STHS Stebnicka Huta 76.22 327 eP P 12 55 52.0 +1.2
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 76.22 327 eP P 12 55 52.0 +1.2
UZH Uzhgorod 76.42 326⇓iP P 12 55 52.6 +0.8
UZH e 12 56 06.2
ECSD EROS Data Cent 76.48 42 eP P 12 55 52.4 0.0
comp=Z,16nm,1.0s
CFR Carcaliu 76.51 320⇑iP P 12 55 52.6 +0.2
CFR Carcaliu 76.51 320 ⇑P P 12 55 52.6 +0.2
CRVS Cervenica-Dubn 76.55 326 eP P 12 55 53.6 +1.0
CRVS Cervenica-Dubn 76.55 326 eP P 12 55 53.6 +1.0
NIE Niedzica 76.60 327 eP P 12 55 53.8 +0.9
NIE Niedzica 76.60 327 eP P 12 55 53.8 +0.9
VRI Vrincioaia 76.64 322⇑iP P 12 55 54.3 +1.1
VRI Vrincioaia 76.64 322 ⇑P P 12 55 54.3 +1.1
PLOR Plostina 76.69 322⇓iP P 12 55 54.0 +0.5
PLOR Plostina 76.69 322 ⇓P P 12 55 54.0 +0.5
ILGA Ilgaz 76.80 314 eP P 12 55 51.1 -3.3
comp=Z,17nm,0.9s
MHTCO State Highway 76.95 51 eP P 12 55 56.7 +1.3
comp=Z,18nm,1.4s
KSP Ksiaz 76.96 330 eP P 12 55 55.5 +0.7
KSP Ksiaz 76.96 330 eP P 12 55 55.5 +0.7
TLB Topalu 77.00 320⇑iP P 12 55 55.5 +0.3
TLB Topalu 77.00 320 ⇑P P 12 55 55.5 +0.3
T25A Trinidad 77.11 51 eP P 12 55 57.0 +0.7
comp=Z,8.2nm,0.8s
LANS Liptovska Anna 77.14 328 eP P 12 55 57.6 +1.6
LANS Liptovska Anna 77.14 328 eP P 12 55 57.6 +1.6
DOPR Dopca 77.17 322⇓iP P 12 55 57.6 +1.4
KECS Kecovo 77.27 327 eP P 12 55 57.2 +0.5
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 77.27 327 eP P 12 55 57.2 +0.5
MLR Muntele Rosu 77.28 322⇑iP P 12 55 58.0 +1.0
MLR Muntele Rosu 77.28 322 ⇑P P 12 55 58.0 +1.0
MLR Muntele Rosu 77.28 322 eP P 12 55 57.1 +0.2
comp=Z,11nm,0.8s
ISR Istrita 77.29 321⇑iP P 12 55 58.3 +1.4
ISR Istrita 77.29 321 ⇑P P 12 55 58.3 +1.4
UPC Upice 77.33 330 eP P 12 55 57.4 +0.4

UPC Upice 77.33 330 eP P 12 55 57.4 +0.4
DPC Dobruska-Polom 77.35 330 eP P 12 55 57.7 +0.6
DPC epP sP 12 56 15.2 -1.8
DPC esP pP 12 56 21.3 +10
DPC Dobruska-Polom 77.35 330 eP P 12 55 57.7 +0.6
DPC e 12 56 15.2
DPC e 12 56 21.3
MORC Moravsky Berou 77.37 329⇑iP P 12 55 57.8 +0.5
MORC Moravsky Berou 77.37 329 ⇑P P 12 55 57.8 +0.5
MORC Moravsky Berou 77.37 329 eP P 12 55 57.9 +0.7
comp=Z,38nm,0.9s
KRLC Kraliky 77.41 330 eP P 12 55 57.7 +0.2
KRLC Kraliky 77.41 330 eP P 12 55 57.7 +0.2
LAZ Ladron 77.43 55 eP P 12 55 59.5 +1.5
ANMO Albuquerque 77.45 54 eP P 12 55 58.7 +0.5
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO Albuquerque 77.45 54 eP P 12 55 58.7 +0.5
comp=Z,5.8nm,0.8s
DRGR 77.69 324⇑iP P 12 55 59.0 -0.1
DRGR 77.69 324 ⇑P P 12 55 59.0 -0.1
CLL Collm 77.72 332⇑iP P 12 55 58.7 -0.4
CLL i *PP pP 12 56 15.7 +2.3
CLL pmax pmax
comp=Z,25nm,1.1s
CLL Collm 77.72 332 eP P 12 55 58.8 -0.4
CLL Collm 77.72 332⇑iP P 12 55 58.7 -0.4
comp=Z,25nm,1.1s
CLL i pP pP 12 56 15.7 +2.3
CLL Collm 77.72 332 eP P 12 55 58.8 -0.4
comp=Z,16nm,0.8s
VOIR 77.73 322⇓iP P 12 56 00.3 +0.9
VOIR 77.73 322 ⇓P P 12 56 00.3 +0.9
BRG Berggiesshubel 77.76 332 eP P 12 55 59.2 -0.2
comp=Z,4.5nm,0.6s
BRG Berggiesshubel 77.76 332 eP P 12 55 59.2 -0.2
BRG pmax pmax
comp=Z,12nm,0.6s
BR101 Keskin Array S 77.80 314 eP P 12 55 59.9 -0.1
BRTR Keskin Array B 77.80 314 P P 12 55 59.9 -0.1
comp=Z,2.7nm,0.8s,baz=67,slow=3.2,SNR=14
BRTR Keskin Array B 77.80 314 iP P 12 56 00.6 +0.6
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BNM Barren Site 77.91 54 eP P 12 56 02.0 +1.3
VYHS Vyhne 77.92 328 eP P 12 56 00.4 +0.1
VYHS pmax pmax
comp=Z,32nm,2.3s
VYHS Vyhne 77.92 328 eP P 12 56 00.4 +0.1
PSZ Piszkesteto 77.96 327⇑iP P 12 56 01.3 +0.7
PSZ Piszkesteto 77.96 327 ⇑P P 12 56 01.3 +0.7
ARR Arges 77.97 322⇑iP P 12 56 02.0 +1.3
VRAC Vranov 78.11 329 P P 12 56 00.6 -0.7
comp=Z,6.7nm,0.8s,baz=16,slow=7.8,SNR=4.9
BR231 Keskin MP Arra 78.17 314 eP P 12 56 00.8 -1.2
319A Douglas 78.21 58 eP P 12 56 03.8 +1.4
comp=Z,13nm,0.8s
GOPC GO Pecny, Ondr 78.27 331 eP P 12 56 02.6 +0.4
GOPC GO Pecny, Ondr 78.27 331 eP P 12 56 02.6 +0.4
PRU Pruhonice 78.29 331 eP P 12 56 02.6 +0.3
PRU epP pP 12 56 20.1 +3.5
PRU Pruhonice 78.29 331 eP P 12 56 02.6 +0.3
PRU e 12 56 20.1
EKA Eskdalemuir Ar 78.59 343 P P 12 56 03.9 0.0
comp=Z,10nm,0.7s,baz=24,slow=4.9,SNR=16
BZS Buzias 79.09 324⇑iP P 12 56 06.6 -0.1
BZS Buzias 79.09 324 ⇑P P 12 56 06.6 -0.1
KHC Kasperske Hory 79.35 331 eP P 12 56 08.5 +0.3
KHC epP pP 12 56 26.0 +3.4
KHC Kasperske Hory 79.35 331 eP P 12 56 08.5 +0.3
KHC e 12 56 26.0
KHC Kasperske Hory 79.35 331 eP P 12 56 07.3 -0.9
KHC Kasperske Hory 79.35 331 eP P 12 56 07.2 -0.9
comp=Z,4.7nm,0.7s
GEC2 GERESS Array S 79.55 331 eP P 12 56 08.8 -0.6
GEC2 pmax pmax
comp=Z,29nm,1.8s
GEC2 GERESS Array S 79.55 331 eP P 12 56 08.8 -0.6
comp=Z,28nm,1.8s
GERES GERESS Array B 79.55 331 P P 12 56 08.8 -0.6
comp=Z,1.9nm,0.6s,baz=35,slow=4.9,SNR=11
MDVR Moldovita 79.71 324⇓iP P 12 56 09.9 -0.3
MNTX Cornudas Mount 80.37 55 eP P 12 56 14.6 +0.6
comp=Z,12nm,0.8s
VTS Vitosha 80.78 322⇑iP P 12 56 16.5 +0.4
VTS Vitosha 80.78 322 ⇑P P 12 56 16.5 +0.4
VTS Vitosha 80.78 322 eP P 12 56 16.9 +0.8
comp=Z,28nm,1.2s
BFO Black Forest 81.83 334 iP P 12 56 22.0 +0.5
TUL1 Leonard 82.75 47 eP P 12 56 26.9 +0.4
comp=Z,10nm,0.6s
TX31 Lajitas Ar. Si 83.09 56 eP P 12 56 29.0 +0.6
LTX Lajitas 83.09 56 eP P 12 56 29.0 +0.5
LTX Lajitas 83.09 56 eP P 12 56 29.0 +0.5
TXAR Lajitas Array 83.09 56 P P 12 56 29.0 +0.5
comp=Z,8.7nm,0.8s,baz=298,slow=3.9,SNR=104
TXAR Lajitas Array 83.09 56 P P 12 56 29.0 +0.5
TXAR pmax pmax
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 83.43 42 eP P 12 56 30.1 +0.1
CCM pmax pmax
comp=Z,25nm,1.3s
CCM Cathedral Cave 83.43 42 eP P 12 56 30.1 +0.1
comp=Z,25nm,1.3s
HHAR Hobbs 83.44 45 eP P 12 56 29.9 -0.2
comp=Z,14nm,1.2s
HPIG 83.56 59 eP P 12 56 31.9 +0.9
comp=Z,8.8nm,1.0s
PPT Papeete 83.88 121 LR LR 13 24 27.3
comp=Z,50nm,21.3s,baz=316,slow=29
JCT Junction City 84.55 53 eP P 12 56 36.3 +0.4
JCT pmax pmax
comp=Z,13nm,0.7s
JCT Junction City 84.55 53 eP P 12 56 36.3 +0.4
comp=Z,13nm,0.7s
W40A Ferguson Farm, 84.73 45 eP P 12 56 36.5 -0.1
comp=Z,18nm,0.8s
PBMO Poplar Bluff 84.83 43 eP P 12 56 37.9 +0.8
comp=Z,19nm,1.0s
MIAR Mount Ida 84.96 46 eP P 12 56 38.2 +0.5
MIAR pmax pmax
comp=Z,18nm,0.8s
MIAR Mount Ida 84.96 46 eP P 12 56 38.2 +0.5
comp=Z,18nm,0.8s
WHAR Wooly Hollow 85.06 45 eP P 12 56 38.3 0.0
comp=Z,22nm,0.8s
WVT Waverly 86.62 41 eP P 12 56 46.2 +0.2
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 86.62 41 eP P 12 56 46.2 +0.2
comp=Z,12nm,0.8s
SWET Sewanee 88.27 41 eP P 12 56 53.9 -0.1
comp=Z,17nm,0.8s
ES19 SONSECA Array 93.35 338 eP P 12 57 16.8 -0.7
ESDC Sonseca Array 93.39 338 P P 12 57 17.0 -0.8
comp=Z,2.1nm,0.8s,baz=19,slow=4.5,SNR=8.0
TOA1 Torodi Ar. Sit 115.52 322 ePKPdf PKPdf 13 02 43.0 -1.6
TOA1 ePP PP 13 03 39.1 -6.9
TORD Torodi Ar. Bea 115.52 322 PKP PKPdf 13 02 43.0 -1.6
comp=Z,0.5nm,0.3s,baz=29,slow=2.0,SNR=12
TORD PP PP 13 03 39.1 -7.0
comp=Z,1.1nm,0.9s,baz=21,slow=7.9,SNR=5.4
SNAA Sanae 147.89 197 PKP PKPbc 13 03 46.0 -0.2
VNA2 Neumayer--Watz 149.42 196 PKP PKPbc 13 03 50.3 +0.3
baz=95,slow=0.7
VNA1 Neumayer--Stat 149.81 196 PKP PKPbc 13 03 53.5 +2.5
PLCA Paso Flores 152.18 98 PKPbc PKPbc 13 03 57.4 -0.2
comp=Z,1.2nm,0.5s,baz=341,slow=2.7,SNR=8.9
PLCA Paso Flores 152.18 98 ePKPbc PKPbc 13 03 57.8 +0.2

DJA 07 12:52:50.5±1.1,0°S±3°×12°3E±°,h32km±16km,M4.3/13,
mB5.2/1,mb4.5/6,MLv4.2/13,Mw(mB)4.6/1,Minahassa
Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.46**	**301**	P	Pn	12 53 13.9	-0.8
MRSI				S	Sn	12 53 34.0	+1.2
SANI	**Sanana**	**3.30**	**122**	P	Pn	12 53 38.0	-2.0
MPSI	**Mapaga**	**3.35**	**281**	P	Pn	12 53 39.9	-0.8
PCI	**Palu**	**3.41**	**260**	P	Pn	12 53 40.7	-0.8
KDI	**Kendari**	**3.69**	**189**	P	Pn	12 53 45.5	+0.2
LBMI	**Labuha**	**4.32**	**95**	P	Pn	12 53 54.3	+0.2

LBMI			S	Sn	12 54 42.9	-0.6
TTSI	**Tana Toraja**	**4.34 231**	P	Pn	12 53 54.7	+0.4
TTSI			S	Sn	12 54 45.2	+1.4
NLAI	**Namlea**	**4.88 127**	P	Pn	12 54 01.5	-0.3
SPSI	**Sidrap Palu**	**5.00 223**	P	Pn	12 54 03.1	-0.3
BBSI	**Bau Bau**	**5.20 187**	P	Pn	12 54 06.2	+0.1
AAI	**Ambon**	**6.03 124**	P	Pn	12 54 18.6	+1.0
MSAI	**Masohi**	**6.49 118**	P	Pn	12 54 24.7	+0.8

*IDC **07** 13:27:03.7±2.2, 9°.17S×112°.97E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/30, mbtmp3.6/5, Error ellipse: s-maj=120.3km s-min=19.8km az=48.0*
*ISCJB **07** 13:27:16.8±0.7, 9°.02S±0°.09×113°.70E±0°.04, h73km, mb3.5/5, Error ellipse: s-maj=13.2km s-min=4.3km az=11.7*
*DJA **07** 13:27:18.7±0.4, 9°.S±11°×11°.4E±°, h56km±12km, M4.4/8, mb4.5/1, MLv4.3/8*

ISC 07 13:27:16.2±1.0, 8°.9S±0°.1×113°.69E±0°.05, h73km, n14, σ2°69/20, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.66**	**338**	P	**Pn**	**13 27 32.9**	**+2.0**
GMJI				S	**Sn**	**13 27 44.3**	**+2.6**
ABJI	**Asem Bagus**	**1.21**	**26**	P	**Pn**	**13 27 40.0**	**+2.5**
IGBI	**Denpasar**	**1.44**	**87**	P	**Pn**	**13 27 42.5**	**+2.0**
IGBI				S	**Sn**	**13 28 01.3**	**+2.6**
PCJI	**Pacitan**	**2.58**	**285**	P	**Pn**	**13 27 58.8**	**+3.0**
PCJI				S	**Sn**	**13 28 28.6**	**+2.5**
NGJI	**Ngawi**	**2.68**	**304**	P	**Pn**	**13 28 00.0**	**+2.9**
TWSI	**Taliwang, Sumb**	**3.16**	**88**	P	**Pn**	**13 28 05.8**	**+2.2**
TWSI				S	**Sn**	**13 28 41.2**	**+1.0**
UGM	**Wanagama**	**3.28**	**287**	P	**Pn**	**13 28 08.0**	**+2.7**
UGM				S	**Sn**	**13 28 46.4**	**+3.1**
PLAI	**Plampang**	**4.04**	**89**	P	**Pn**	**13 28 18.0**	**+2.4**
PLAI				S	**Sn**	**13 29 04.1**	**+2.4**
BSSI	**Bau Bau, Buton**	**7.27**	**68**	P	**Pn**	**13 29 02.1**	**+2.3**
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=294,slow=10,SNR=12	**22.79**	**121**	P	**P**	**13 32 11.8**	**-1.2**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=304,slow=9.2,SNR=16	**24.29**	**130**	P	**P**	**13 32 27.3**	**+0.4**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=169,slow=8.9,SNR=4.4	**30.83**	**332**	P	**P**	**13 33 22.9**	**-2.6**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=149,slow=6.4,SNR=7.4	**62.10**	**336**	P	**P**	**13 37 26.4**	**-3.0**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=144,slow=5.4,SNR=2.5	**67.19**	**342**	P	**P**	**13 37 58.4**	**-3.9**

*IDC **07** 13:54:47.3±1.2, 34°.54S×179°.12W, h0km, mb4.3/3, mb1 4.4/5, mb1mx3.9/23, mbtmp4.3/5, ML4.0/2, Error ellipse: s-maj=40.4km s-min=25.9km az=126.0*
*ISCJB **07** 13:54:49.0±1.1, 34°.67S±0°.06×178°.7W±0°.1, h33km, mb4.1/4, Error ellipse: s-maj=16.6km s-min=8.4km az=12.9*
*NEIC **07** 13:54:52.7±0.7, 34°.57S×179°.20W, h35km, mb4.1/1, Error ellipse: s-maj=21.8km s-min=11.4km az=118.0*

ISC 07 13:54:52.0±0.9, 34°.71S±0°.08×178°.8W±0°.1, h35km, n80, σ1°50/83, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.67**	**218**	PN	**Pn**	**13 55 47.8**	**+1.5**
MXZ				SN	**Sn**	**13 56 29.4**	**+0.9**
MXZ				T	T	13 58 45.5	
WMGZ	**Waiomatatini S**	**3.82**	**215**	PN	**Pn**	**13 55 50.7**	**+2.3**
PKGZ	**Pakihiroa**	**4.04**	**217**	PN	**Pn**	**13 55 52.4**	**+0.9**
HAZ	**Te Kaha**	**4.09**	**221**	PN	**Pn**	**13 55 54.0**	**+1.9**
PUZ	**Puketiti**	**4.10**	**214**	PN	**Pn**	**13 55 53.2**	**+1.0**
PUZ				SN	**Sn**	**13 56 40.4**	**+1.4**
RUGZ	**Raukumara Rang**	**4.30**	**220**	PN	**Pn**	**13 55 56.9**	**+1.8**
TWGZ	**Tauwhareparae**	**4.31**	**216**	PN	**Pn**	**13 55 56.6**	**+1.4**
CNGZ	**Carnagh Statio**	**4.46**	**212**	PN	**Pn**	**13 55 58.8**	**+1.7**
TKGZ	**Te Karaka**	**4.58**	**215**	PN	**Pn**	**13 56 00.8**	**+2.0**
MWZ	**Matawai**	**4.66**	**218**	PN	**Pn**	**13 56 00.7**	**+0.8**
URZ	**Urewera**	**4.83**	**222**	Pn	**Pn**	**13 56 02.5**	**+0.3**
URZ	12nm,0.3s,baz=260,slow=3.7,SNR=154			Sn	**Sn**	**13 56 56.4**	**-0.4**
	13nm,0.3s,baz=236,slow=22,SNR=12						
URZ	**Urewera**	**4.83**	**222**	PN	**Pn**	**13 56 02.8**	**+0.7**
RAGZ	**Rawiri**	**4.84**	**218**	PN	**Pn**	**13 56 03.8**	**+1.4**
RIGZ	**Rimuhau**	**4.84**	**214**	PN	**Pn**	**13 56 04.4**	**+2.0**
OPRZ	**Ohinepanea**	**4.87**	**229**	PN	**Pn**	**13 56 03.8**	**+1.0**
KUZ	**Kuaotunu**	**4.88**	**244**	PN	**Pn**	**13 56 03.6**	**+0.7**
MARZ	**Manawahe**	**4.89**	**227**	PN	**Pn**	**13 56 04.2**	**+1.1**
EDRZ	**Edgecumbe**	**4.93**	**225**	PN	**Pn**	**13 56 05.2**	**+1.6**
PRGZ	**Paritu Road**	**4.96**	**211**	PN	**Pn**	**13 56 05.6**	**+1.5**
SNGZ	**Shannon Statio**	**5.10**	**216**	PN	**Pn**	**13 56 07.8**	**+1.8**
KNZ	**Kokohu**	**5.14**	**212**	PN	**Pn**	**13 56 06.8**	**+0.4**
MHGZ	**Mahia Peninsul**	**5.15**	**210**	PN	**Pn**	**13 56 07.9**	**+1.3**
TARZ	**Mount Tarawera**	**5.15**	**226**	PN	**Pn**	**13 56 08.6**	**+1.8**
RTZ	**Ruatahuna**	**5.15**	**220**	PN	**Pn**	**13 56 07.4**	**+0.6**
MUGZ	**Murupara**	**5.17**	**222**	PN	**Pn**	**13 56 07.6**	**+0.7**
RRRZ	**Republican Roa**	**5.22**	**225**	PN	**Pn**	**13 56 08.9**	**+1.3**
WHHZ	**Waihua**	**5.38**	**215**	PN	**Pn**	**13 56 11.4**	**+1.6**
PRRZ	**Plateau Road**	**5.39**	**224**	PN	**Pn**	**13 56 11.2**	**+1.2**
MKAZ	**Moumakai**	**5.44**	**242**	PN	**Pn**	**13 56 12.0**	**+1.4**
ALRZ	**Allen Road**	**5.47**	**224**	PN	**Pn**	**13 56 12.2**	**+1.2**
TOZ	**Tahuroa Road**	**5.49**	**235**	PN	**Pn**	**13 56 13.2**	**+2.0**
NMHZ	**Naumai**	**5.61**	**217**	PN	**Pn**	**13 56 13.9**	**+0.9**
MRHZ	**Matea Rd**	**5.62**	**222**	PN	**Pn**	**13 56 13.7**	**+0.6**
ARHZ	**Aropaoanui**	**5.64**	**215**	PN	**Pn**	**13 56 14.7**	**+1.3**
WCZ	**Waipu Caves**	**5.72**	**256**	PN	**Pn**	**13 56 16.0**	**+1.5**
BKZ	**Black Stump Fm**	**5.82**	**219**	PN	**Pn**	**13 56 15.9**	**+0.1**
MCHZ	**McNeill Hill**	**5.93**	**216**	PN	**Pn**	**13 56 18.0**	**+0.7**
KWHZ	**Kaweka Forest**	**6.05**	**218**	PN	**Pn**	**13 56 19.9**	**+0.9**
KAHZ	**Kahuranaki**	**6.12**	**213**	PN	**Pn**	**13 56 19.3**	**-0.7**
KRHZ	**Kereru**	**6.24**	**217**	PN	**Pn**	**13 56 21.8**	**+0.2**
OUZ	**Omahuta**	**6.25**	**263**	PN	**Pn**	**13 56 21.5**	**-0.2**
BHHZ	**Black Hill Sta**	**6.28**	**219**	PN	**Pn**	**13 56 22.7**	**+0.5**
NGZ	**Ngauruhoe**	**6.31**	**223**	PN	**Pn**	**13 56 23.4**	**+0.7**
PXZ	**Pawanui**	**6.32**	**212**	PN	**Pn**	**13 56 21.5**	**-1.3**
TUVZ	**Tukino**	**6.34**	**223**	PN	**Pn**	**13 56 23.6**	**+0.4**
MOVZ	**Moawhango**	**6.39**	**221**	PN	**Pn**	**13 56 22.9**	**-0.8**
WHVZ	**Whangaehu Hut**	**6.39**	**223**	PN	**Pn**	**13 56 24.2**	**+0.4**
WNVZ	**Wahianoa**	**6.42**	**222**	PN	**Pn**	**13 56 23.8**	**-0.3**
PNHZ	**Pukenui**	**6.53**	**216**	PN	**Pn**	**13 56 25.0**	**-0.7**
TSZ	**Takapari Road**	**6.76**	**216**	PN	**Pn**	**13 56 27.4**	**-1.4**
DVHZ	**Dannevirke**	**6.85**	**214**	PN	**Pn**	**13 56 29.2**	**-0.9**
WAZ	**Wanganui**	**7.05**	**223**	PN	**Pn**	**13 56 32.2**	**-0.6**
BFZ	**Birch Farm**	**7.13**	**212**	PN	**Pn**	**13 56 32.1**	**-1.6**
TIWZ	**Tintock**	**7.36**	**213**	PN	**Pn**	**13 56 37.2**	**+0.1**
MRZ	**Mangatainoka R**	**7.41**	**215**	PN	**Pn**	**13 56 35.8**	**-1.9**
HOWZ	**Holdsworth Sta**	**7.63**	**214**	PN	**Pn**	**13 56 38.7**	**-1.9**
TMWZ	**Te Maipa**	**7.63**	**212**	PN	**Pn**	**13 56 39.0**	**-1.7**
OGWZ	**Otaki Gorge**	**7.73**	**216**	PN	**Pn**	**13 56 40.1**	**-1.9**
MTW	**Mount Morrison**	**7.84**	**213**	PN	**Pn**	**13 56 41.4**	**-2.2**
KIW	**Kapiti Island**	**7.89**	**217**	PN	**Pn**	**13 56 41.8**	**-2.5**
CAW	**Cannon Point**	**8.01**	**215**	PN	**Pn**	**13 56 43.3**	**-2.5**
TCW	**Tory Channel**	**8.47**	**218**	PN	**Pn**	**13 56 48.9**	**-3.3**
TUWZ	**Tuamarina**	**8.80**	**218**	PN	**Pn**	**13 56 54.0**	**-2.8**
NNZ	**Nelson**	**8.95**	**221**	PN	**Pn**	**13 56 55.9**	**-2.8**
THZ	**Tophouse**	**9.58**	**220**	PN	**Pn**	**13 57 03.9**	**-3.6**
KHZ	**Kahutara**	**9.74**	**216**	PN	**Pn**	**13 57 08.3**	**-1.2**
RPZ	**Rata Peaks** 0.6nm,0.3s,baz=72,slow=20,SNR=3.7	**11.93**	**218**	Pn	**Pn**	**13 57 38.9**	**-0.6**
ASAR	**Alice Springs** 2.5nm,0.7s,baz=112,slow=8.1,SNR=56	**42.38**	**272**	P	**P**	**14 02 41.4**	**-1.8**
WRAB	**Tennant Creek** 2.1nm,0.6s	**43.75**	**277**	*eP*	**P**	**14 02 51.9**	**-2.4**
WRA	**Warramunga Arr** 2.4nm,0.6s,baz=118,slow=7.6,SNR=30	**43.75**	**277**	P	**P**	**14 02 52.0**	**-2.2**
PETK	**Petropavlovsk-** 1.1nm,0.5s,baz=97,slow=7.7,SNR=5.1	**89.81**	**346**	P	**P**	**14 07 46.5**	**0.0**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=124,slow=0.8,SNR=4.4	**119.96**	**308**	PKP	**PKPdf**	**14 13 38.1**	**-0.4**
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=48,slow=2.2,SNR=6.5	**128.93**	**313**	PKP	**PKPdf**	**14 13 56.4**	**+1.0**
FINES	**FINESS Array B** 5.4nm,1.0s,baz=128,slow=25,SNR=3.8	**148.89**	**337**	PKPbc	**PKPbc**	**14 14 35.6**	**+0.4**
LIC	**Lamto** 86nm,1.7s	**151.08**	**167**	*e*PKIKP	**PKPab**	**14 14 51.7**	**+2.2**
KIC	**Kosan Boka** 156nm,2.1s	**151.26**	**168**	*e*PKIKP	**PKPab**	**14 14 52.1**	**+1.9**
TIC	**Toumodi**	**151.49**	**167**	*e*PKIKP	**PKPab**	**14 14 52.5**	**+1.3**
BRTR	**Keskin Array B** 1.4nm,0.6s,baz=140,slow=3.6,SNR=7.2	**153.76**	**291**	PKPbc	**PKPbc**	**14 14 46.9**	**-0.6**
AKASG	**Malin Array Be** 0.9nm,0.5s,baz=60,slow=2.3,SNR=5.7	**154.14**	**317**	PKPbc	**PKPbc**	**14 14 47.7**	**0.0**
TORD	**Torodi Ar. Bea**	**158.53**	**181**	PKPab	**PKPab**	**14 15 21.6**	**+0.6**

2011 OCT

0.6nm,1.0s,baz=194,slow=2.1,SNR=3.0

JMA 07 14:03:45.3±0.3, 36°.80N×143°.76E, h46km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.38**	**285**	*e*S	Sn	14 04 50.8	+1.1
ONAJ	**Iwakimizuishiy**	**2.39**	**278**	*e*S	Sn	14 04 51.3	+1.2
JIO	**Ouri**	**2.53**	**312**	*e*S	Sn	14 04 54.8	+1.4
JFT	**Otama**	**2.83**	**286**	S	Sn	14 05 03.3	+2.5
JOU	**Okura**	**2.91**	**303**	*e*S	Sn	14 05 05.1	+2.2
JMK	**Ichinoseki**	**2.94**	**318**	*e*S	Sn	14 05 04.9	+1.3
BSO1	**Boso 1**	**3.12**	**227**	P	Pn	14 04 33.4	+2.0
BSO1				*e*S	Sn	14 05 10.0	+2.9
JOM	**Ohasama**	**3.30**	**325**	S	Sn	14 05 13.7	+1.2
JAG	**Ashikaga**	**3.48**	**265**	*e*S	Sn	14 05 18.1	+1.1
JRY	**Ryogami san**	**4.00**	**260**	*e*S	Sn	14 05 29.7	+0.1
JOD2	**Odawara 2**	**4.08**	**249**	*e*S	Sn	14 05 33.1	+1.3
JCH	**Churui**	**5.81**	**357**	P	Pn	14 05 10.3	+1.4
JCH				*e*S	Sn	14 06 12.4	-1.9
NEM2	**Nemuro 2**	**6.73**	**12**	P	Pn	14 05 22.0	+0.5
NEM2				*e*S	Sn	14 06 31.3	-5.5

*PRU **07** 14:37:08.8, 42°.68N×18°.55E, h0km*
*ISCJB **07** 14:37:09.8±0.3, 43°.04N±0°.01×18°.72E±0°.02, h5km±2km, Error ellipse: s-maj=2.5km s-min=2.4km az=161.9*
*BEO **07** 14:37:10.5±0.3, 43°.01N×18°.68E, h5km±1km, M3.0/1*
*PDG **07** 14:37:10.6±0.7, 43°.00N×18°.79E, h9km±1km, MD3.2/7, ML3.2/11, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
*CSEM **07** 14:37:10.4±0.1, 43°.01N×18°.74E, h2km, ML3.2, Error ellipse: s-maj=2.9km s-min=2.3km az=78.0*

ISC 07 14:37:10.6±0.9, 43°.01N±0°.01×18°.75E±0°.01, h8km±7km, n97, σ1°22/164, 19C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**236**	⇓*i*Pg	**Pg**	**14 37 14.2**	**-0.3**
BRY				*e*Sg	**Sg**	**14 37 17.9**	**+0.7**
BRY	**Bratogost**	**0.19**	**236**	⇓*i*Pg	**Pg**	**14 37 14.2**	**-0.3**
BRY				*e*Sg	**Sg**	**14 37 16.8**	**-0.4**
UPM	**Unac-Piva**	**0.22**	**30**	⇓*i*Pg	**Pg**	**14 37 15.3**	**+0.1**
UPM				*e*Sg	**Sg**	**14 37 18.9**	**+0.6**
UPM	**Unac-Piva**	**0.22**	**30**	P	**Pg**	**14 37 15.4**	**+0.2**
UPM				*e*Sg	**Sg**	**14 37 18.9**	**+0.6**
NKY	**Niksic**	**0.26**	**138**	⇑*i*Pg	**Pg**	**14 37 15.8**	**0.0**
NKY				*e*Sg	**Sg**	**14 37 19.9**	**+0.5**
NKY	**Niksic**	**0.26**	**138**	⇑*i*Pg	**Pg**	**14 37 15.8**	**0.0**
NKY				*e*Sg	**Sg**	**14 37 19.9**	**+0.5**
NKME	**Niksic**	**0.28**	**149**	⇑*i*Pg	**Pg**	**14 37 15.9**	**-0.3**
NKME				*e*Sg	**Sg**	**14 37 20.6**	**+0.6**
NKME	**Niksic**	**0.28**	**149**	⇑*i*Pg	**Pg**	**14 37 15.9**	**-0.3**
NKME				*e*Sg	**Sg**	**14 37 20.6**	**+0.6**
TREB	**Trebinje**	**0.42**	**226**	⇓*i*Pg	**Pg**	**14 37 17.8**	**-0.9**
TREB	**Trebinje**	**0.42**	**226**	⇓*i*Pg	**Pg**	**14 37 17.8**	**-0.9**
TREB				*e*Sg	**Sg**	**14 37 24.8**	**+0.7**
CEME	**Cevo**	**0.48**	**165**	⇑*i*Pg	**Pg**	**14 37 19.0**	**-0.8**
CEME				*e*Sg	**Sg**	**14 37 26.8**	**+0.7**
CEME	**Cevo**	**0.48**	**165**	⇑*i*Pg	**Pg**	**14 37 19.0**	**-0.8**
CEME				*e*Sg	**Sg**	**14 37 26.8**	**+0.7**
PLE	**Pljevlja**	**0.56**	**55**	⇓*i*Pg	**Pg**	**14 37 21.1**	**-0.4**
PLE				*e*Sg	**Sg**	**14 37 29.9**	**+1.0**
PLE	**Pljevlja**	**0.56**	**55**	⇓*i*Pg	**Pg**	**14 37 21.1**	**-0.4**
PLE				*e*Sg	**Sg**	**14 37 29.9**	**+1.0**
KOME	**Kolasin**	**0.58**	**106**	⇑*i*Pg	**Pg**	**14 37 21.5**	**-0.3**
KOME				*e*Sg	**Sg**	**14 37 30.3**	**+0.9**
KOME	**Kolasin**	**0.58**	**106**	⇑*i*Pg	**Pg**	**14 37 21.5**	**-0.3**
KOME				*e*Sg	**Sg**	**14 37 30.3**	**+0.9**
HCY	**Herceg Novi**	**0.59**	**199**	⇓*i*Pg	**Pg**	**14 37 21.6**	**-0.4**
HCY				*e*Sg	**Sb**	**14 37 31.6**	**-0.1**
HCY	**Herceg Novi**	**0.59**	**199**	⇓*i*Pg	**Pg**	**14 37 21.6**	**-0.4**
HCY				*e*Sg	**Sg**	**14 37 30.2**	**+0.4**
PDG	**Podgorica**	**0.69**	**147**	⇑*i*Pg	**Pg**	**14 37 22.5**	**-1.3**
PDG				*e*Sg	**Sg**	**14 37 33.2**	**+0.5**
PDG	**Podgorica**	**0.69**	**147**	⇑*i*P	**Pg**	**14 37 22.5**	**-1.3**
PDG				S	**Sg**	**14 37 32.7**	**0.0**
PDG	**Podgorica**	**0.69**	**147**	⇑*i*Pg	**Pg**	**14 37 22.5**	**-1.3**
PDG				*e*Sg	**Sg**	**14 37 33.0**	**+0.3**
TTG	**Podgorica**	**0.69**	**147**	⇓*i*Pg	**Pg**	**14 37 22.4**	**-1.3**
TTG				*e*Sg	**Sg**	**14 37 33.0**	**+0.3**
BUM	**Brajici-Budva**	**0.71**	**172**	⇓*i*Pg	**Pg**	**14 37 23.6**	**-0.7**
BUM				*e*Sg	**Sb**	**14 37 35.3**	**0.0**
BUM	**Brajici-Budva**	**0.71**	**172**	⇓*i*Pg	**Pg**	**14 37 23.6**	**-0.7**
BUM				*e*Sg	**Sb**	**14 37 35.3**	**0.0**
STON	**Ston**	**0.79**	**260**	*e*Pg	**Pg**	**14 37 23.9**	**-1.8**
STON				Sg	**Sb**	**14 37 36.9**	**-0.4**
STON	**Ston**	**0.79**	**260**	*e*Pg	**Pg**	**14 37 23.9**	**-1.8**
STON				Sg	**Sb**	**14 37 36.8**	**-0.4**
BEY	**Berane**	**0.85**	**99**	⇑*i*Pg	**Pg**	**14 37 26.2**	**-0.7**
BEY	**Berane**	**0.85**	**99**	P	**Pg**	**14 37 27.1**	**+0.2**
BEY				*e*Sg	**Sb**	**14 37 39.0**	**-0.1**
IVA	**Berane**	**0.85**	**99**	⇑*i*Pg	**Pg**	**14 37 26.2**	**-0.7**
IVA				*e*Sg	**Sb**	**14 37 39.0**	**-0.1**
DRME	**Dracevica, Mon**	**0.88**	**159**	⇓*i*Pg	**Pg**	**14 37 26.8**	**-0.7**
DRME				*e*Sg	**Sb**	**14 37 40.9**	**+0.9**
DRME	**Dracevica, Mon**	**0.88**	**159**	⇓*i*Pg	**Pg**	**14 37 26.8**	**-0.7**
DRME				*e*Sg	**Sg**	**14 37 39.9**	**0.0**
SJES	**Sjenica**	**0.93**	**74**	⇓*i*Pg	**Pg**	**14 37 28.0**	**-0.4**
SJES				*e*Sg	**Sn**	**14 37 43.4**	**-0.2**
BBLS	**Lazići**	**0.98**	**29**	⇑*i*Pg	**Pg**	**14 37 29.1**	**-0.3**
BBLS				*e*Sn	**Sn**	**14 37 45.3**	**+0.5**
BBLS	**Lazići**	**0.98**	**29**	⇑*i*Pg	**Pg**	**14 37 29.2**	**-0.2**
BBLS				*e*Sg	**Sb**	**14 37 42.8**	**-0.1**
BBLS				*e*Sn	**Sn**	**14 37 45.3**	**+0.5**
PVY	**Plav**	**0.98**	**115**	⇑*i*Pg	**Pg**	**14 37 28.7**	**-0.7**
PVY				*e*Sg	**Sb**	**14 37 43.6**	**+0.7**
HAPS	**Han Pijesak,Bl**	**1.09**	**8**	⇓*i*Pg	**Pg**	**14 37 30.4**	**-1.0**
HAPS				*e*Sg	**Sg**	**14 37 45.0**	**-0.6**
ULC	**Ulcinj**	**1.11**	**161**	⇓*i*Pg	**Pg**	**14 37 30.6**	**-1.2**
ULC				*e*Sg	**Sn**	**14 37 48.6**	**+0.8**
ULC	**Ulcinj**	**1.11**	**161**	⇓*i*Pg	**Pg**	**14 37 30.6**	**-1.2**
ULC	**Ulcinj**	**1.11**	**161**	P	**Pg**	**14 37 30.9**	**-0.9**
ULC				*e*Sg	**Sn**	**14 37 48.6**	**+0.8**
IVAS	**Ivanjica**	**1.17**	**60**	*i*Pg	**Pg**	**14 37 32.0**	**-1.0**
IVAS				*e*Sg	**Sn**	**14 37 51.1**	**+1.7**
IVAS	**Ivanjica**	**1.17**	**60**	*i*Pg	**Pg**	**14 37 32.0**	**-1.0**
IVAS				*e*Sg	**Sn**	**14 37 51.1**	**+1.7**
PEJK	**Peje**	**1.18**	**108**	P	**Pb**	**14 37 33.3**	**+0.1**
PEJK				S	**Sn**	**14 37 50.7**	**+1.0**
DIVS	**Divibare**	**1.41**	**39**	⇓*i*Pn	**Pn**	**14 37 36.8**	**+0.1**
DIVS				*e*Sn	**Sg**	**14 37 57.1**	**+1.1**
DIVS	**Divibare**	**1.41**	**39**	⇓*i*Pn	**Pn**	**14 37 36.8**	**+0.1**
DIVS				*e*Sg	**Sg**	**14 37 56.6**	**+0.6**
DIVS				*e*Sn	**Sg**	**14 37 57.1**	**+1.1**
TEKS	**Tekeris**	**1.64**	**20**	*i*Pn	**Pn**	**14 37 39.9**	**+0.2**
TEKS				*e*Sn	**Sg**	**14 38 03.3**	**0.0**
TEKS	**Tekeris**	**1.64**	**20**	*e*Pn	**Pn**	**14 37 40.0**	**+0.2**
TEKS				*e*Sn	**Sb**	**14 38 02.1**	**+0.2**
GRUS	**Gruza**	**1.68**	**58**	⇑*i*Pn	**Pn**	**14 37 40.3**	**+0.1**
TRUS	**Trudelj**	**1.71**	**44**	⇓*i*Pn	**Pn**	**14 37 40.7**	**+0.1**
TRUS				*e*Sn	**Sn**	**14 38 03.1**	**+0.5**
TRUS	**Trudelj**	**1.71**	**44**	⇓*i*Pn	**Pn**	**14 37 40.7**	**+0.1**
TRUS				*e*Sn	**Sn**	**14 38 03.1**	**+0.5**
SELS	**Selova**	**1.75**	**82**	⇓*i*Pn	**Pn**	**14 37 41.4**	**+0.2**
SELS				*e*Sn	**Sb**	**14 38 05.4**	**+0.5**
SELS	**Selova**	**1.75**	**82**	⇓*i*Pn	**Pn**	**14 37 41.4**	**+0.2**
SELS				*e*Sn	**Sb**	**14 38 05.4**	**+0.5**
BLY	**Banja Luka**	**2.08**	**327**	*e*Pn	**Pn**	**14 37 46.6**	**+0.9**
BLY				*e*Sn	**Sn**	**14 38 12.3**	**+0.6**
SKO	**Skopje**	**2.24**	**117**	*e*Pn	**Pb**	**14 37 50.6**	**-0.6**
SKO	**Skopje**	**2.24**	**117**	*e*Pn	**Pb**	**14 37 50.6**	**-0.6**
BOVS	**Bovan**	**2.24**	**73**	*e*Pn	**Pb**	**14 37 50.5**	**-0.8**
BARS	**Barje**	**2.26**	**94**	⇓*i*Pn	**Pn**	**14 37 49.0**	**+0.8**
BARS	**Barje**	**2.26**	**94**	⇓*i*Pn	**Pn**	**14 37 49.0**	**+0.8**
OHR	**Ohrid**	**2.43**	**141**	*i*Pn	**Pb**	**14 37 55.4**	**+0.8**
OHR				*i*Sn	**Sg**	**14 38 28.2**	**-0.4**
BOLS	**Boljevac**	**2.47**	**70**	*e*Pn	**Pn**	**14 37 51.3**	**+0.2**
KRUS	**Krusevo**	**2.48**	**131**	*e*Pn	**Pb**	**14 37 53.9**	**-1.4**
KRUS				*e*Sn	**Sb**	**14 38 26.4**	**+0.4**
KRUS	**Krusevo**	**2.48**	**131**	*e*Pn	**Pb**	**14 37 53.9**	**-1.4**
KRUS				*e*Sn	**Sb**	**14 38 26.3**	**+0.4**
ZAGS	**Zajecar**	**2.66**	**71**	*i*Pn	**Pn**	**14 37 53.6**	**-0.1**
BIA	**Bitola**	**2.76**	**135**	*e*Pn	**Pg**	**14 38 02.6**	**-0.9**
BIA				*e*Sn	**Sb**	**14 38 34.4**	**+0.2**
MDVR	**Moldovita**	**2.78**	**49**	⇓*i*P	**Pn**	**14 37 54.5**	**-0.9**
MDVR	**Moldovita**	**2.78**	**49**	S	**Sn**	**14 38 28.3**	**-0.8**
ZAPS	**Zavoj**	**2.85**	**83**	*e*Pn	**Pn**	**14 37 57.6**	**+1.2**
ZAPS				*e*Sn	**Sn**	**14 38 33.5**	**+2.6**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn	**Pb**	**14 38 05.7**	**-2.1**
NVLJ				Sn	**Sb**	**14 38 45.4**	**-1.7**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn	**Pb**	**14 38 05.7**	**-2.1**
NVLJ				Sn	**Sb**	**14 38 45.3**	**-1.7**
VTS	**Vitosha**	**3.31**	**96**	⇓*i*P	**Pn**	**14 38 03.2**	**+0.5**
VTS	**Vitosha**	**3.31**	**96**	S	**Sn**	**14 38 44.3**	**+2.1**
BZS	**Buzias**	**3.32**	**37**	⇓*i*P	**Pn**	**14 38 01.7**	**-1.1**
BZS	**Buzias**	**3.32**	**37**	S	**Sn**	**14 38 40.9**	**-1.5**
OZLJ	**Ozalj**	**3.51**	**319**	*i*Pn	**Pn**	**14 38 08.7**	**+3.3**
OZLJ	**Ozalj**	**3.51**	**319**	*i*Pn	**Pn**	**14 38 08.7**	**+3.3**
SIRR	**Siria**	**3.86**	**31**	⇑*i*P	**Pn**	**14 38 08.4**	**-1.8**
SIRR	**Siria**	**3.86**	**31**	S	**Sn**	**14 38 55.0**	**-0.8**
SOKA	**Soboth** 1.8nm,0.2s	**4.52**	**325**	*i*Pn	**Pn**	**14 38 20.5**	**+1.1**
SOKA	2.8nm,0.4s			*e*Sn	**Sn**	**14 39 14.4**	**+2.2**
SOKA	**Soboth** 1.8nm,0.2s	**4.52**	**325**	Pn	**Pn**	**14 38 20.5**	**+1.1**
SOKA	2.8nm,0.4s			Sn	**Sn**	**14 39 14.4**	**+2.2**
DRGR		**4.71**	**35**	⇓*i*P	**Pn**	**14 38 20.4**	**-1.6**
DRGR		**4.71**	**35**	S	**Sn**	**14 39 14.9**	**-1.9**
ARSA	**Arzberg** 7.0nm,0.3s	**4.82**	**333**	*i*Pn	**Pn**	**14 38 24.4**	**+1.0**
ARSA	**Arzberg** 7.0nm,0.3s	**4.82**	**333**	Pn	**Pn**	**14 38 24.4**	**+1.0**
PSZ	**Piszkesteto**	**4.97**	**9**	*e*Pn	**Pn**	**14 38 25.3**	**-0.3**
PSZ				*e*Sn	**Sn**	**14 39 20.5**	**-2.8**
PSZ	**Piszkesteto**	**4.97**	**9**	*ex*	x	14 38 25.3	
PSZ				*ex*	x	14 39 20.5	
VOIR		**5.13**	**60**	⇑*i*P	**Pn**	**14 38 26.3**	**-1.5**
**V

*ISCJB **07** 15:12:52.3±0.9, 31°.97N×0°.03×116°.4W±0°.1, h11km±17km, Error ellipse: s-maj=20.9km s-min=4.6km az=175.9*
*ECX **07** 15:12:53.7±0.5, 31°.97N×116°.44W, h7km, MD1.6, ML1.8*
*MEX **07** 15:12:54.3±0.2, 32°.06N×116°.38W, h10km, MD3.4*

ISC 07 15:12:50.7±1.4, 32°.01N±0°.05×116°.42W±0°.06, h13km±13km, n8, σ1§06/17, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBX	**Punta Banda**	0.37	224⇑	eP	Pb	15 12 59.6	+0.5
PBX				eS	Sg	15 13 04.4	+1.4
CBX	**Cerro Bola**	0.37	327	i P	Pn	15 13 00.8	-1.1
CBX				eS	Sb	15 13 05.7	+0.8
CBX	**Cerro Bola**	0.37	327⇓	eP	Pn	15 13 00.9	-1.1
CBX				eS	Sb	15 13 06.3	+1.4
CBX				IAML		15 13 07.0	
	comp=N,171nm,0.2s						
ECNX	**Esteban Cantu**	0.38	203⇑	eP	Pb	15 12 59.9	+0.6
ECNX				eP	Pg	15 12 58.2	-0.1
ECNX				eS	Sg	15 13 01.6	-1.8
ECNX				eS	Sb	15 13 04.9	-0.3
TJIG	**Tijuana**	0.48	334	eP	Pn	15 13 02.5	-0.8
TJIG				i S	Sb	15 13 08.9	+1.0
RMX	**La Rumorosa**	0.66	26	eP	Pn	15 13 06.1	+0.1
RMX				eS	Sn	15 13 15.1	-1.3
RMX				e		15 13 15.7	
RMX				IAML		15 13 15.7	
	comp=E,41nm,0.1s						
RMX				IAML		15 13 16.0	
	comp=N,42nm,0.2s						
RMX				⇓e		15 13 16.0	
BAR	**Barrett**	0.70	343⇑	eP	Pn	15 13 06.5	+0.1
SPIG	**San Pedro Mart**	1.26	139	eP	Pn	15 13 14.9	+0.6
SPIG				eS	Sg	15 13 30.8	-0.6

*NNC **07** 15:21:59.8±6.3, 42°.85N×79°.48E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=45.5km s-min=27.1km az=26.0*
*SOME **07** 15:22:17.7, 43°.32N×79°.67E, h15km*

ISC 07 15:22:18.9±1.0, 43°.38N±0°.04×79°.55E±0°.04, h13km±8km, n17, σ0§95/32, 4C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	0.07	217	⇑P	Pg	15 22 21.5	-0.1
PDGK	2.9nm,0.2s						
				⇑S	Sg	15 22 24.3	+0.7
	34nm,0.2s						
SHLS	**Shalkode**	0.24	195	eP	Pg	15 22 23.0	-1.0
SHLS	17nm,0.2s						
				eS	Sg	15 22 26.9	-0.6
	221nm,0.2s						
UZB	**Uzynbulak**	0.45	238	eP	Pg	15 22 27.3	-0.6
UZB	5.1nm,0.1s						
				eS	Sg	15 22 33.9	0.0
	42nm,0.1s						
KPKS	**Kokpek**	0.63	278	eP	Pg	15 22 31.2	-0.2
KPKS	6.7nm,0.2s						
				eS	Sb	15 22 40.9	+0.1
	20nm,0.4s						
ZHN	**Zhinishke**	0.84	255	eP	Pg	15 22 34.1	-1.1
ZHN	2.3nm,0.1s						
				eS	Sg	15 22 46.0	-0.3
	20nm,0.2s						
SATY	**Saty**	0.90	249	eP	Pg	15 22 35.1	-1.2
SATY	8.9nm,0.1s						
				eS	Sg	15 22 47.7	-0.2
	80nm,0.2s						
DJR	**Jarkent**	0.96	10	eP	Pb	15 22 36.5	-1.1
DJR	3.9nm,0.1s						
				eS	Sb	15 22 50.5	+0.2
	7.3nm,0.2s						
MNBS	**Baschi**	1.08	310	eP	Pb	15 22 38.4	-1.2
MNBS	5.3nm,0.2s						
				eS	Sb	15 22 53.1	-0.7
	30nm,0.2s						
ARXS	**Arharly**	1.50	304	eP	Pg	15 22 47.4	-0.3
ARXS	1.5nm,0.1s						
				eS	Sg	15 23 08.5	+1.4
	14nm,0.1s						
KOTS	**Kotyrbulak**	1.78	266	eP	Pb	15 22 51.9	+0.3
KOTS				eS	Sg	15 23 16.9	+0.5
KAPS	**Kapalarasan**	1.91	356	eP	Pb	15 22 53.5	-0.1
KAPS	2.6nm,0.3s						
				eS	Sg	15 23 19.1	-1.1
	7.6nm,0.2s						
CHKK	**Chushkaly**	1.92	285	eP	Pb	15 22 54.2	+0.4
CHKK	1.7nm,0.1s						
				eS	Sg	15 23 20.1	-0.5
	8.9nm,0.3s						
TNSS	**Tian-Shan**	1.93	261	eP	Pb	15 22 53.1	-1.2
TNSS	1.9nm,0.4s						
				eS	Sb	15 23 19.2	+0.8
	6.6nm,0.3s						
IZV	**Izvestkoviy**	2.17	262	eP	Pb	15 22 59.0	+0.7
IZV	2.3nm,0.2s						
				eS	Sg	15 23 28.2	-0.6
	11nm,0.5s						
DGS	**Degeres**	2.76	268	eP	Pb	15 23 09.0	+0.8
DGS	1.1nm,0.3s						
				eS	Sg	15 23 45.1	-2.4
	5.3nm,0.4s						
MAKZ	**Makanchi**	3.83	26	⇑Pg	Pn	15 23 19.1	+1.4
MAKZ	1.2nm,0.8s						
				⇓Lg	Lg	15 24 18.1	
	0.6nm,0.8s						
MK31	**Makanchi Array**	3.92	29	⇑Pg	Pn	15 23 20.2	+1.3
MK31	0.1nm,0.3s,baz=206,slow=15,SNR=5.8						
				⇓Lg	Lg	15 24 19.5	
	0.2nm,0.4s,baz=208,slow=28,SNR=4.4						

IDC 07 15:41:46.3±1.9, 14°.97S×168°.12E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=52.1km s-min=27.6km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	7.24	192	Pn	Pn	15 43 34.1	+0.6
DZM	1.1nm,0.3s,baz=173,slow=15,SNR=14						
				Sn	Sn	15 44 54.7	-1.8
	baz=240,slow=20,SNR=2.2						
STKA	**Stephens Creek**	29.46	231	P	P	15 47 52.8	+0.6
STKA	1.3nm,0.9s,baz=79,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	32.56	256	P	P	15 48 18.8	-0.8
WRA	0.3nm,0.6s,baz=82,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	33.35	250	P	P	15 48 26.6	+0.1
ASAR	0.7nm,0.6s,baz=80,slow=8.9,SNR=17						
ILAR	**Eielson Array**	86.51	18	P	P	15 54 30.6	-0.1
ILAR	0.4nm,0.6s,baz=238,slow=5.3,SNR=6.0						

*NIED **07** 16:23:00, 36°.80N×141°.00E, h50km, Mw3.7 Best double couple: M0=4.45000×10^14 NP1:φ=146.00000°, δ=19.00000°, λ=39.00000°. NP2:φ=18.00000°, δ=78.00000°, λ=105.00000°.*
*ISCJB **07** 16:23:31.5±0.7, 36°.77N±0°.04×141°.11E±0°.07, h49km±5km, mb3.7/8, Error ellipse: s-maj=9.6km s-min=6.1km az=23.1*
*JMA **07** 16:23:32.8±0.1, 36°.79N×141°.00E, h49km±1km, M3.8*
JMA Felt II J1.
*IDC **07** 16:23:33.9±2.0, 36°.76N×141°.06E, h54km±19km, mb3.5/8, mb1 3.7/14, mb1mx3.5/39, mbtmp3.8/14, ML3.4/5, MS2.5/2, Ms1 2.5/2, ms1mx2.3/30, Error ellipse: s-maj=16.7km s-min=11.3km az=78.0*

ISC 07 16:23:32.6±1.2, 36°.80N±0°.05×141°.12E±0°.08, h41km±11km, n24, σ0§98/33, mb3.8/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.40	320	P	Pn	16 23 42.2	+0.1
ONAJ				S	Sn	16 23 48.5	-0.3
JHO	**Hitachi**	0.48	247	P	Pn	16 23 42.7	-0.4
JHO				S	Sn	16 23 49.4	-1.1
JFK	**Kawauchi**	0.60	341	P	Pn	16 23 44.7	-0.1
JFK				S	Sn	16 23 52.9	-0.5
JFT	**Otama**	0.95	319	P	Pn	16 23 49.8	+0.3
JFT				S	Sn	16 24 01.6	-0.4
JSB	**Shiboa**	0.98	280	P	Pn	16 23 49.3	-0.6
JMM	**Marumori**	1.10	346	P	Pn	16 23 51.5	0.0
JFY	**Yanaizu**	1.28	299	P	Pn	16 23 53.5	-0.6
JAG	**Ashikaga**	1.39	255	P	Pn	16 23 54.6	-0.9
JKT	**Katashina**	1.50	269	P	Pn	16 23 56.7	-0.4
JKT				eS	Sn	16 24 14.2	-1.3
MJAR	**Matsushiro Arr**	2.35	265	P	Pn	16 24 08.6	-0.1
MJAR	26nm,0.3s,baz=88,slow=15,SNR=228						
				S	Sn	16 24 37.5	+1.1
	16nm,0.3s,baz=103,slow=13,SNR=5.7						
MAT	**Matsushiro**	2.35	265	P	Pn	16 24 09.0	+0.2
MAT				S	Sn	16 24 37.0	+0.5
JHJ	**Hachijo jima 2**	3.83	197	P	Pn	16 24 29.7	+0.7
JHJ	14nm,0.3s,baz=335,slow=21,SNR=24						
				S	Sn	16 25 12.2	-0.6
	15nm,0.3s,baz=73,slow=19,SNR=5.2						
ASAJ	**Asahikawa**	7.40	8	P	Pn	16 25 18.2	+0.2
ASAJ	0.5nm,0.3s,baz=208,slow=11,SNR=9.1						
				S	Sn	16 26 38.5	-2.0
	0.4nm,0.3s,baz=294,slow=20,SNR=2.8						
JNU	**Nakatsue**	9.17	249	P	Pn	16 25 43.4	+1.1
JNU	0.2nm,0.3s,baz=315,slow=2.9,SNR=2.3						
				LR	LR	16 29 07.4	
	comp=Z,30nm,21.5s,baz=115,slow=37						
USRK	**Ussuriysk Ar.**	10.14	320	P	Pn	16 25 57.7	+2.1
USRK	0.2nm,0.3s,baz=129,slow=11,SNR=5.3						
KSRS	**Korea Array**	10.56	278	P	Pn	16 26 01.9	+0.6
KSRS	0.2nm,0.3s,baz=88,slow=14,SNR=3.5						
				LR	LR	16 29 41.0	
	comp=Z,30nm,21.1s,baz=83,slow=35						
ZALV	**Zalesovo Beam**	41.90	313	P	P	16 31 17.4	-1.4
ZALV	2.1nm,0.7s,baz=86,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	44.05	302	P	P	16 31 35.3	-1.0
MKAR	0.6nm,0.6s,baz=88,slow=10,SNR=8.5						
ILAR	**Eielson Array**	49.82	32	P	P	16 32 21.6	+0.5
ILAR	0.3nm,0.6s,baz=267,slow=5.4,SNR=3.7						
WRA	**Warramunga Arr**	56.79	188	P	P	16 33 12.3	-0.5
WRA	2.0nm,0.4s,baz=4.3,slow=7.2,SNR=39						
ASAR	**Alice Springs**	60.52	188	P	P	16 33 38.8	+0.2
ASAR	0.4nm,0.5s,baz=12,slow=7.6,SNR=12						
AKASG	**Malin Array Be**	74.34	322	P	P	16 35 04.0	-1.7
AKASG	0.4nm,0.4s,baz=46,slow=6.0,SNR=4.8						
PDAR	**Pinedale Array**	78.00	45	P	P	16 35 28.3	+1.2
PDAR	0.3nm,0.6s,baz=273,slow=1.7,SNR=3.3						
TXAR	**Lajitas Array**	90.45	52	P	P	16 36 31.7	+1.4
TXAR	0.3nm,0.7s,baz=327,slow=1.5,SNR=4.2						

JMA 07 16:26:21.4±0.3, 43°.10N×148°.48E, h11km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	2.02	278	P	Pn	16 26 56.1	+0.8
NEM2				eS	Sn	16 27 21.8	+1.3
JRA	**Rausu**	2.58	290	P	Pn	16 27 04.1	+1.0
JRA				eS	Sn	16 27 35.5	+1.0
JAK	**Akkeshi**	2.77	269	P	Pn	16 27 06.9	+1.2
JAK				eS	Sn	16 27 40.2	+1.0
JNK	**Nakash**	2.79	281	eS	Sn	16 27 40.0	+0.5
JAR	**Ashorobuto**	3.45	275	P	Pn	16 27 16.8	+1.8
JAR				eS	Sn	16 27 57.4	+1.5
JCH	**Churui**	3.79	264	P	Pn	16 27 21.3	+1.5
JCH				eS	Sn	16 28 05.6	+1.2
JKB	**Kayabe**	5.64	260	P	Pn	16 27 46.8	+1.7
JKB				eS	Sn	16 28 49.0	-0.8
JOT	**Ohata**	5.78	255	P	Pn	16 27 48.2	+1.2
JOT				eS	Sn	16 28 52.1	-1.1
JANG	**Nango**	5.88	245	P	Pn	16 27 48.2	-0.2
JANG				eS	Sn	16 28 53.0	-2.8

*ISCJB **07** 16:33:44.0±0.3, 43°.01N±0°.02×18°.74E±0°.02, h1km±4km, Error ellipse: s-maj=3.1km s-min=2.5km az=33.5*
*BEO **07** 16:33:43.6±0.9, 42°.92N×18°.65E, h8km±4km, M2.4/6*
*CSEM **07** 16:33:44.1±0.1, 43°.00N×18°.73E, h2km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.0km az=111.0*
*PDG **07** 16:33:44.4±0.1, 43°.00N×18°.75E, h9km±1km, MD2.5/4, ML2.5/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 07 16:33:44.1±0.8, 43°.00N±0°.02×18°.71E±0°.02, h12km±6km, n54, σ0§85/99, 11C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	0.16	231	⇓iPg	Pg	16 33 48.0	+0.1
BRY				eSg	Sg	16 33 51.1	+0.5
BRY	**Bratogost**	0.16	231	⇓iPg	Pg	16 33 48.0	+0.1
BRY				eSg	Sg	16 33 50.6	0.0
UPM	**Unac-Piva**	0.24	35	⇓iPg	Pg	16 33 49.1	-0.2
UPM				eSg	Sg	16 33 53.0	+0.1
UPM	**Unac-Piva**	0.24	35	⇓iPg	Pg	16 33 49.1	-0.2
UPM				eSg	Sg	16 33 53.0	+0.1
NKY	**Niksic**	0.28	133	⇑iPg	Pg	16 33 49.6	-0.3
NKY				eSg	Sg	16 33 53.9	+0.1
NKY	**Niksic**	0.28	133	⇑iPg	Pg	16 33 49.6	-0.3
NKY				eSg	Sg	16 33 53.9	+0.1
NKME	**Niksic**	0.30	143	⇑iPg	Pg	16 33 49.7	-0.4
NKME				eSg	Sg	16 33 54.4	+0.2
NKME	**Niksic**	0.30	143	⇑iPg	Pg	16 33 49.7	-0.4
NKME				eSg	Sg	16 33 54.4	+0.2
TREB	**Trebinje**	0.39	223	⇓iPg	Pg	16 33 51.5	-0.4
TREB				eSg	Sg	16 33 58.3	+1.2
CEME	**Cevo**	0.48	162	⇑iPg	Pg	16 33 52.8	-0.7
CEME				eSg	Sg	16 34 00.6	+0.7
CEME	**Cevo**	0.48	162	⇑iPg	Pg	16 33 52.8	-0.7
CEME				eSg	Sg	16 34 00.6	+0.7
HCY	**Herceg Novi**	0.58	196	⇓iPg	Pg	16 33 55.4	0.0
HCY				eSg	Sb	16 34 04.8	+0.5
HCY	**Herceg Novi**	0.58	196	⇓iPg	Pg	16 33 55.3	-0.1
HCY				eSg	Sg	16 34 03.2	+0.2
PLE	**Pljevlja**	0.59	56	⇑iPg	Pg	16 33 55.1	-0.6
PLE				eSg	Sg	16 34 04.0	+0.5
PLE	**Pljevlja**	0.59	56	⇑iPg	Pg	16 33 55.1	-0.6
PLE				eSg	Sg	16 34 04.0	+0.5
KOME	**Kolasin**	0.61	104	ePg	Pg	16 33 55.1	-0.9
KOME				eSg	Sb	16 34 04.7	-0.6
KOME	**Kolasin**	0.61	104	ePg	Pg	16 33 55.1	-0.9
KOME				eSg	Sb	16 34 04.7	-0.6
PDG	**Podgorica**	0.70	145	⇓iPg	Pg	16 33 56.5	-1.1
PDG				eSg	Sg	16 34 06.6	-0.2
TTG	**Podgorica**	0.70	145	⇓iPg	Pg	16 33 56.5	-1.1
TTG				eSg	Sb	16 34 07.5	-0.3
BUM	**Brajici-Budva**	0.71	169	⇑iPg	Pg	16 33 57.5	-0.4
BUM				eSg	Sb	16 34 08.7	+0.4
BUM	**Brajici-Budva**	0.71	169	⇑iPg	Pg	16 33 57.5	-0.4
BUM				eSg	Sb	16 34 08.7	+0.4
STON	**Ston**	0.76	260	ePg	Pg	16 33 58.2	-0.5
STON				Sg	Sb	16 34 10.1	+0.7
STON	**Ston**	0.76	260	ePg	Pg	16 33 58.1	-0.5
STON				Sg	Sb	16 34 10.1	+0.7
BEY	**Berane**	0.88	98	⇓iPg	Pg	16 34 00.2	-0.8
BEY				eSg	Sb	16 34 13.8	+0.7
IVA	**Berane**	0.88	98	⇓iPg	Pg	16 34 00.2	-0.8
IVA				eSg	Sb	16 34 13.8	+0.7
DRME	**Dracevica, Mon**	0.89	157	⇑iPg	Pg	16 34 00.6	-0.6
DRME				eSg	Sb	16 34 14.4	+1.1
DRME	**Dracevica, Mon**	0.89	157	ePg	Pg	16 34 00.6	-0.6
DRME				eSg	Sg	16 34 12.0	-0.8
SJES	**Sjenica**	0.96	74	ePg	Pg	16 34 02.3	-0.3
SJES				eSg	Sn	16 34 16.7	-0.5
BBLS	**Lazići**	1.00	30	ePg	Pg	16 34 03.4	+0.1
BBLS				eSg	Sn	16 34 19.1	+1.0
BBLS	**Lazići**	1.00	30	ePg	Pg	16 34 03.4	+0.1
BBLS				eSg	Sb	16 34 17.0	+0.4
PVY	**Plav**	1.00	114	⇓iPg	Pg	16 34 02.8	-0.7
PVY				eSg	Sn	16 34 18.1	-0.2
HAPS	**Han Pijesak,Bl**	1.10	9	ePg	Pg	16 34 04.7	-0.5
HAPS				eSg	Sb	16 34 20.7	+1.3
ULC	**Ulcinj**	1.11	159	⇓iPg	Pg	16 34 04.8	-0.7
ULC				eSg	Sn	16 34 21.9	+1.1
ULC	**Ulcinj**	1.11	159	⇓iPg	Pg	16 34 04.8	-0.7
ULC				eSg	Sn	16 34 21.9	+1.1
IVAS	**Ivanjica**	1.20	61	ePg	Pg	16 34 06.1	-1.0
IVAS				eSg	Sn	16 34 23.1	+0.1
IVAS	**Ivanjica**	1.20	61	ePg	Pg	16 34 06.1	-1.0
IVAS				eSg	Sn	16 34 23.1	+0.1
DIVS	**Divibare**	1.44	40	ePn	Pn	16 34 10.1	0.0
DIVS				eSn	Sg	16 34 32.3	+2.0
DIVS	**Divibare**	1.44	40	ePn	Pn	16 34 10.1	0.0
DIVS	**Divibare**	1.44	40	ePg	Pb	16 34 10.9	0.0
DIVS				eSg	Sg	16 34 30.8	+0.5
DIVS				eSn	Sg	16 34 32.3	+2.0
TEKS	**Tekeris**	1.66	21	ePn	Pn	16 34 13.8	+0.8
TEKS	**Tekeris**	1.66	21	ePn	Pn	16 34 14.1	+1.1
TEKS				eSn	Sg	16 34 36.8	-0.5
TRUS	**Trudelj**	1.73	45	ePn	Pn	16 34 14.3	+0.2
TRUS	**Trudelj**	1.73	45	ePn	Pn	16 34 14.3	+0.2
BLY	**Banja Luka**	2.06	328	ePn	Pb	16 34 20.7	-0.8
BLY				eSn	Sb	16 34 47.2	+0.1
BOVS	**Bovan**	2.27	73	ePn	Pb	16 34 23.6	-1.5
BOVS	**Bovan**	2.27	73	ePn	Pb	16 34 23.6	-1.5
BARS	**Barje**	2.29	94	ePn	Pn	16 34 22.7	+1.0
BARS	**Barje**	2.29	94	ePn	Pn	16 34 22.7	+1.0
ZAGS	**Zajecar**	2.69	71	ePn	Pn	16 34 28.0	+0.8
ZAGS	**Zajecar**	2.69	71	ePn	Pn	16 34 28.0	+0.8
ZAPS	**Zavoj**	2.88	83	ePn	Pn	16 34 31.5	+1.6
ZAPS				eSn	Sn	16 35 05.2	+0.7
ZAPS	**Zavoj**	2.88	83	ePn	Pn	16 34 31.5	+1.6
ZAPS				eSn	Sn	16 35 05.2	+0.7
NVLJ	**Novalja**	3.19	301	ePn	Pb	16 34 39.3	-1.3
NVLJ				Sn	Sb	16 35 17.0	-2.5
NVLJ	**Novalja**	3.19	301	ePn	Pb	16 34 39.3	-1.3
NVLJ				Sn	Sb	16 35 16.9	-2.5

*ISCJB **07** 16:42:14.0±0.3, 3°.84N±0°.03×76°.13W±0°.03, h175km±2km, mb4.1/14, Error ellipse: s-maj=6.2km s-min=3.8km az=29.9*
*NEIC **07** 16:42:13.8±0.6, 3°.75N×76°.11W, h180km±8km, mb4.6/5, Error ellipse: s-maj=12.1km s-min=8.3km az=115.0*
NEIC Felt at Armenia and Pereira.
*IDC **07** 16:42:16.5±1.2, 3°.82N×75°.99W, h182km±10km, mb3.7/11, mb1 3.9/16, mb1mx3.8/34, mbtmp4.3/16, Error ellipse: s-maj=17.2km s-min=11.6km az=86.0*
*RSNC **07** 16:42:16.3±1.0, 3°.87N×76°.16W, h157km±5km, ML4.2, Mw4.4*

ISC 07 16:42:14.7±0.6, 3°.83N±0°.03×76°.12W±0°.05, h166km±5km, n64, σ1§53/81, mb4.0/14, 2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos¯ del**	1.08	351	eP	Pn	16 42 42.1	+0.4
PLMC				eS	Sn	16 43 02.1	-0.5
TOLC	**Tolima**	1.09	47	eP	Pn	16 42 42.9	+0.8
TOLC				eS	Sn	16 43 02.8	-0.5
PRAC	**Prado**	1.24	95	eP	Pn	16 42 43.8	+0.8
PRAC				eS	Sn	16 43 04.9	+0.1
PRAC				i		16 43 09.2	
	comp=Z,2μm,0.2s						
PRAC	**Prado**	1.24	95	ePn	Pn	16 42 43.6	+0.5
BETC	**Betania**	1.33	149	i P	Pn	16 42 44.5	+0.6
POPC	**Popayan, Colom**	1.40	203	eP	Pn	16 42 45.2	+0.4
GUYC	**Guyana, Colomb**	1.56	28	i P	Pn	16 42 47.2	+0.5
GUYC				eS	Sn	16 43 10.9	-0.4
GUYC				i		16 43 14.7	
	comp=Z,3μm,0.5s						
ROSC	**El Rosal**	2.05	61	P	Pn	16 42 53.4	+1.5
	comp=Z,84nm,0.3s,baz=7.9,slow=2.9,SNR=109						
ROSC				S	Sn	16 43 22.9	+2.4
	comp=Z,24nm,0.3s,baz=337,slow=18,SNR=5.3						
ROSC	**El Rosal**	2.05	61	eP	Pn	16 42 53.3	+1.5
ROSC	**El Rosal**	2.05	61	ePn	Pn	16 42 53.3	+1.5
NORC	**Norcasia**	2.12	36	i P	Pn	16 42 52.6	+0.4
NORC				eS	Sn	16 43 20.5	-0.9
GRGC	**Isla de Gorgon**	2.20	248	eP	Pn	16 42 52.9	-0.2
GRGC				eS	Sn	16 43 21.9	-1.0
FLOC	**Florencia**	2.28	168	⇓iP	Pn	16 42 55.1	+1.0
FLOC				i		16 43 27.8	
	comp=Z,1μm,0.7s						
CRUC	**La Cruz**	2.40	200	eP	Pn	16 42 57.2	+1.4
CRUC				eS	Sn	16 43 28.6	+1.0
HELC	**Santa Helena**	2.41	14	eP	Pn	16 42 56.2	+0.2
HELC				i		16 42 57.6	
	comp=Z,911nm,0.3s						
HELC				eS	Sn	16 43 27.0	-1.0
HELC	**Santa Helena**	2.41	14	ePn	Pn	16 42 56.3	+0.3
VILC	**Villavicencio,**	2.44	83	eP	Pn	16 42 58.2	+2.2
CHIC	**Chingaza**	2.51	72	eP	Pn	16 42 57.9	+0.8
DBBC	**Dabeiba**	3.16	358	eP	Pn	16 43 06.1	+1.2
TUMC	**Tumaco**	3.28	233	eP	Pn	16 43 06.2	0.0
TUMC				eS	Sn	16 43 45.8	-0.5
TUMC	**Tumaco**	3.28	233	ePn	Pn	16 43 06.1	-0.1
CMBC	**Cumbal**	3.34	211	eP	Pn	16 43 08.8	+1.4
CMBC				eS	Sn	16 43 49.0	+0.6
CMBC				i		16 44 01.2	
	comp=Z,69nm,0.6s						
RUSC	**La Rusia**	3.65	56	i P	Pn	16 43 12.0	+0.6
RUSC	**La Rusia**	3.65	56	ePn	Pn	16 43 12.0	+0.6
ZARC	**Zaragoza, Cauc**	3.84	19	⇓iP	Pn	16 43 13.3	-0.1
ZARC				i		16 43 13.8	
	comp=Z,410nm,0.4s						
OTAV	**Otavalo**	4.26	213	ePn	Pn	16 43 17.2	-2.0
OTAV				eSn	Sn	16 44 07.3	-2.3
CAPC	**Capurgana**	4.92	346	eP	Pn	16 43 27.7	+0.3
BCIP	**Isla Barro Col**	6.46	325	ePn	Pn	16 43 47.9	+0.2
BCIP				eSn	Sn	16 45 01.9	+1.2
SDV	**Santo Domingo**	7.41	47	P	Pn	16 43 59.9	-0.5
SDV	comp=Z,11nm,0.3s,baz=36,slow=6.9,SNR=14						
				S	Sn	16 45 19.2	-4.5
	comp=Z,16nm,0.3s,baz=23,slow=16,SNR=23						
SDV	**Santo Domingo**	7.41	47	ePn	Pn	16 43 59.3	-1.1
ATAH	**Atahualpa**	11.13	192	P	Pn	16 44 50.9	+1.3
	comp=Z,1.4nm,0.3s,baz=67,slow=7.1,SNR=5.9						
MTDJ	**Mount Denham**	14.37	355	ePn	Pn	16 45 30.6	-0.2
NNA	**Nana**	15.73	183	P	P	16 45 49.0	+1.0
	comp=Z,1.0nm,0.3s,baz=12,slow=10.0,SNR=3.8						
PTGA	**Pitinga**	16.77	105	P	Pn	16 45 59.7	-0.4
	comp=Z,1.3nm,0.3s,baz=286,slow=15,SNR=18						
SJG	**San Juan**	17.22	34	P	Pn	16 46 05.3	-0.1
	comp=Z,4.6nm,0.3s,baz=354,slow=19,SNR=2.6						
SAML	**Samuel**	18.10	135	eP	P	16 46 11.8	-2.3
	comp=Z,8.4nm,0.8s						
STVI	**Saint Thomas**	18.10	36	eP	P	16 46 14.4	+0

ASAR	**Alice Springs**	**144.95**	**233**	PKPbc	PKPbc	17 01 32.3	-0.3
	comp=Z,1.7nm,0.7s,baz=117,slow=3.9,SNR=41						
ASAR				pPKPbc	pPKPdf	17 02 15.3	-1.4
	comp=Z,2.1nm,0.6s,baz=119,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**146.27**	**239**	PKPbc	**PKPbc**	**17 01 36.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=108,slow=2.7,SNR=9.8						
WRA				pPKPbc	**pPKPdf**	**17 02 19.1**	**0.0**
	comp=Z,1.6nm,0.9s,baz=115,slow=3.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**157.32**	**12**	PKPab	**PKPab**	**17 02 21.8**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=327,slow=4.5,SNR=3.2						

IDC 07 16:52:45.4±10.0, 30°.41S×179°.11W, h347km±101km, mb2.6/2, mb1 3.0/3, mb1mx2.8/18, mbtmp3.6/3, Error ellipse: s-maj=102.6km s-min=52.2km az=12.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.43**	**201**	P	Pn	16 54 44.5	0.0
	2.1nm,0.3s,baz=255,slow=3.0,SNR=41						
URZ				S	S	16 56 22.5	+0.7
	3.1nm,0.3s,baz=146,slow=19,SNR=12						
ASAR	**Alice Springs**	**42.15**	**267**	P	P	17 00 05.3	+0.1
	0.3nm,0.9s,baz=108,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**43.14**	**273**	P	P	17 00 12.7	-0.5
	0.4nm,0.4s,baz=112,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**144.81**	**339**	PKP	PKPbc	17 11 40.0	-0.5
	1.4nm,0.5s,baz=66,slow=4.7,SNR=11						

*ISK **07** 17:01:25.8, 39°.07N×29°.16E, h5km, MD2.4*
*ISCJB **07** 17:01:26.7±0.5, 39°.08N±0°.03×29°.12E±0°.04, h7km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=136.2*
*CSEM **07** 17:01:26.7±0.1, 39°.09N×29°.12E, h5km, MD2.4, Error ellipse: s-maj=2.7km s-min=2.0km az=123.0*
*DDA **07** 17:01:26.8, 39°.07N×29°.10E, h7km, Md2.5*
ISC 07 17:01:26.8±0.9, 39°.09N±0°.03×29°.11E±0°.02, h11km±6km, n27, σ0°.65/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**264**	*e*PG	**Pg**	**17 01 29.3**	**-0.3**
SIMA				*e*SG	**Sg**	**17 01 31.5**	**-0.1**
SIMA	**Simav-Kutahya**	**0.10**	**264**	*e*Pg	**Pg**	**17 01 29.3**	**-0.3**
SIMA				*e*Sg	**Sg**	**17 01 31.5**	**-0.1**
GDZ	**Gediz**	**0.29**	**91**	*i* P	**Pg**	**17 01 32.8**	**+0.1**
GDZ				*i* S	**Sg**	**17 01 37.0**	**+0.3**
GDZ	**Gediz**	**0.29**	**91**	P	**Pg**	**17 01 32.8**	**+0.1**
GDZ				S	**Sg**	**17 01 37.0**	**+0.3**
DEMI	**Demirci**	**0.31**	**261**	*i* P	**Pg**	**17 01 33.4**	**+0.2**
DEMI				*i* S	**Sg**	**17 01 37.8**	**+0.5**
DEMI	**Demirci**	**0.31**	**261**	P	**Pg**	**17 01 33.3**	**+0.2**
DEMI				S	**Sg**	**17 01 37.8**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**37**	*e*PG	**Pg**	**17 01 35.1**	**-0.5**
TVSB				*e*SG	**Sg**	**17 01 41.2**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**37**	*e*Pg	**Pg**	**17 01 35.1**	**-0.5**
TVSB				*e*Sg	**Sg**	**17 01 41.2**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*PG	**Pg**	**17 01 39.3**	**-0.6**
KULA				*e*SG	**Sb**	**17 01 49.1**	**-1.0**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*Pg	**Pg**	**17 01 39.3**	**-0.6**
KULA				*e*Sg	**Sb**	**17 01 49.1**	**-1.0**
MANT	**Manisa**	**0.74**	**216**	*i* P	**Pg**	**17 01 40.8**	**-0.4**
MANT				*i* S	**Sb**	**17 01 51.3**	**-0.8**
MANT	**Manisa**	**0.74**	**216**	P	**Pg**	**17 01 40.8**	**-0.4**
MANT				S	**Sb**	**17 01 51.3**	**-0.8**
KHAL	**Karahalli**	**0.78**	**157**	*i* P	**Pg**	**17 01 41.7**	**-0.2**
KHAL				*i* S	**Sb**	**17 01 52.6**	**-0.5**
KHAL	**Karahalli**	**0.78**	**157**	P	**Pg**	**17 01 41.7**	**-0.2**
KHAL				S	**Sb**	**17 01 52.6**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.12**	**285**	*i* P	**Pg**	**17 01 47.8**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.12**	**285**	P	**Pg**	**17 01 47.8**	**-0.5**
IGD	**Bursa**	**1.17**	**3**	*i* P	**Pn**	**17 01 50.0**	**+0.9**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pg**	**17 01 50.1**	**-0.6**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pg**	**17 01 50.1**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*PN	**Pn**	**17 01 51.5**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn	**Pn**	**17 01 51.5**	**+0.8**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*PN	**Pn**	**17 01 52.0**	**+0.9**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*Pn	**Pn**	**17 01 52.0**	**+0.9**
ARMT	**Armutlu**	**1.48**	**353**	*e*PN	**Pn**	**17 01 54.5**	**+1.0**
ARMT	**Armutlu**	**1.48**	**353**	*e*Pn	**Pn**	**17 01 54.5**	**+1.0**
SBT5	**Esenkoy-Cinarc**	**1.55**	**353**	*e*PN	**Pn**	**17 01 55.3**	**+1.0**
SBT5	**Esenkoy-Cinarc**	**1.55**	**353**	*e*Pn	**Pn**	**17 01 55.3**	**+1.0**

JMA 07 17:26:30.1, 36°.41N×140°.82E, h28km±1km, M2.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.28**	**315**	P	Pb	17 26 36.9	-0.3
JHO				S	Sb	17 26 41.4	-0.6
JYT	**Yasato**	**0.54**	**250**	P	Pb	17 26 40.8	-0.2
JYT				S	Sb	17 26 48.0	-0.5
ONAJ	**Iwakimizuishiy**	**0.69**	**359**	P	Pb	17 26 42.8	-0.9
ONAJ				S	Sb	17 26 51.4	-1.5
JFT	**Otama**	**1.17**	**341**	P	Pb	17 26 51.2	-0.5
JFT				S	Sn	17 27 05.8	+0.1
MAT	**Matsushiro**	**2.11**	**274**	P	Pn	17 27 04.7	+1.1
MAT				S	Sb	17 27 32.6	-0.9

*ISCJB **07** 17:54:53.9±0.3, 35°.37N±0°.01×92°.29W±0°.01, h3km±2km, Error ellipse: s-maj=2.0km s-min=1.9km az=139.5*
*IASPEI **07** 17:54:54.1±1.0, 35°.37N±0°.02×92°.28W±0°.02, h8km±7km, Error ellipse: s-maj=3.4km s-min=2.8km az=134.4, GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **07** 17:54:54.5±0.0, 35°.37N×92°.26W, h5km, MN3.2, After CERI.*
NEIC Felt [II] at Quitman. Also felt at Greenbrier and Shirley.
ISC 07 17:54:54.4±0.9, 35°.36N±0°.02×92°.28W±0°.02, h6km±6km, n90, σ1°.25/142, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.07**	**186**	*e*Pg	**Pg**	**17 54 56.2**	**0.0**
WHAR				*e*Sg	**Sg**	**17 54 57.4**	**0.0**
X301	**Greenbrier Sit**	**0.16**	**219**	*e*Pg	**Pg**	**17 54 57.6**	**0.0**
X301				*e*Sg	**Sg**	**17 54 59.6**	**-0.1**
W41B	**Gary Mavity, V**	**0.19**	**172**	P	**Pg**	**17 54 58.2**	**0.0**
	baz=356						
W41B				S	**Sg**	**17 55 01.0**	**+0.2**
	baz=356						
V41A	**Mountainview**	**0.43**	**13**	P	**Pg**	**17 55 02.5**	**-0.4**
	baz=192,SNR=553						
V41A				S	**Sg**	**17 55 08.6**	**0.0**
	baz=192						
UALR	**University of**	**0.59**	**185**	*e*Pg	**Pg**	**17 55 05.9**	**+0.1**
UALR				*e*Sg	**Sg**	**17 55 11.6**	**-1.8**
V40A	**Witts Springs**	**0.62**	**315**	P	**Pg**	**17 55 06.1**	**-0.4**
	baz=134,SNR=1000						
V40A				S	**Sg**	**17 55 14.7**	**+0.1**
	baz=134						
W42A	**Bald Knob**	**0.63**	**98**	P	**Pg**	**17 55 06.3**	**-0.2**
	baz=279,SNR=8.8						
W42A				S	**Sg**	**17 55 14.8**	**+0.1**
	baz=279						
W40A	**Ferguson Farm,**	**0.67**	**256**	P	**Pg**	**17 55 07.2**	**-0.1**
	baz=75,SNR=96						
W40A				S	**Sg**	**17 55 16.5**	**+0.6**
	baz=75						
W40A	**Ferguson Farm,**	**0.67**	**256**	*e*Pg	**Pg**	**17 55 07.4**	**+0.1**
W40A				*e*Sb	**Sg**	**17 55 15.1**	**-0.9**
V42A	**Cord**	**0.85**	**58**	P	**Pg**	**17 55 10.0**	**-0.8**
	baz=238,SNR=162						
V42A				S	**Sg**	**17 55 21.2**	**-0.6**
	baz=238						
X41A	**Kaden, Bauxite**	**0.89**	**193**	P	**Pg**	**17 55 11.2**	**-0.3**
	baz=13						
X41A				S	**Sg**	**17 55 23.4**	**+0.5**
	baz=13						
X42A	**Stuttgart**	**0.97**	**146**	P	**Pg**	**17 55 13.0**	**0.0**
	baz=327						
X42A				S	**Sb**	**17 55 26.4**	**-0.3**
	baz=327						
X40A	**Basin Creek Fa**	**0.98**	**208**	P	**Pg**	**17 55 13.1**	**-0.3**
	baz=28						
X40A				S	**Sg**	**17 55 26.5**	**+0.4**
	baz=28						
U41A	**Viola**	**1.02**	**16**	P	**Pg**	**17 55 13.3**	**-0.8**
	baz=196,SNR=112						
U41A				S	**Sg**	**17 55 26.9**	**-0.4**
	baz=196						
U40A	**Yellville**	**1.10**	**335**	P	**Pg**	**17 55 14.8**	**-0.7**
	baz=154,SNR=354						
U40A				S	**Sg**	**17 55 29.4**	**-0.3**
	baz=154						
W39A	**Magazine**	**1.24**	**263**	P	**Pg**	**17 55 17.6**	**-0.6**
	baz=82,SNR=102						
W39A				S	**Sg**	**17 55 34.5**	**+0.1**
	baz=82						
U42A	**Revenden**	**1.30**	**40**	P	**Pn**	**17 55 18.2**	**-1.0**
	baz=220,SNR=318						
U42A				S	**Sg**	**17 55 35.2**	**-1.1**
	baz=220						
W43A	**Forest City**	**1.32**	**102**	P	**Pn**	**17 55 18.7**	**-0.7**
	baz=283,SNR=12						
W43A				S	**Sb**	**17 55 36.7**	**+0.1**
	baz=283						
HBAR	**Harrisburg**	**1.34**	**81**	*e*Pn	**Pn**	**17 55 19.0**	**-0.7**
HBAR				*e*Sn	**Sg**	**17 55 36.6**	**-0.9**
MIAR	**Mount Ida**	**1.34**	**233**	P	**Pn**	**17 55 19.2**	**-0.5**
	baz=52						
MIAR				S	**Sb**	**17 55 37.4**	**+0.1**
	baz=52						
MIAR	**Mount Ida**	**1.34**	**233**	*e*Pn	**Pn**	**17 55 19.0**	**-0.7**
MIAR				*e*Sg	**Sb**	**17 55 36.3**	**-1.0**
U39A	**Green Forest**	**1.41**	**317**	P	**Pn**	**17 55 20.0**	**-0.7**
	baz=136,SNR=224						
U39A				S	**Sb**	**17 55 39.0**	**-0.4**
	baz=136						
X43A	**Marvell**	**1.43**	**126**	P	**Pn**	**17 55 20.5**	**-0.3**
	baz=307						
X43A				S	**Sg**	**17 55 40.4**	**+0.2**
	baz=307						
V43A	**Jonesboro**	**1.48**	**73**	S	**Sb**	**17 55 41.1**	**-0.2**
	baz=254						
CCAR	**Cane Creek**	**1.50**	**164**	*e*Pn	**Pn**	**17 55 22.0**	**+0.1**
CCAR				*e*Sn	**Sn**	**17 55 42.0**	**+0.2**
Y41A	**Eaglette Beard**	**1.50**	**191**	Pb	**Pn**	**17 55 22.5**	**+0.6**
	baz=11,SNR=20						
Y41A				S	**Sn**	**17 55 42.2**	**+0.4**
	baz=11						
Y42A	**Garnett, Star**	**1.57**	**165**	Pb	**Pn**	**17 55 23.5**	**+0.6**
	baz=346,SNR=15						
Y42A				Sb	**Sg**	**17 55 45.2**	**+0.2**
	baz=346						
Y40A	**Okolona**	**1.58**	**212**	Pb	**Pn**	**17 55 23.5**	**+0.6**
	baz=31,SNR=6.9						
Y40A				S	**Sn**	**17 55 44.2**	**+0.5**
	baz=31						
HHAR	**Hobbs**	**1.63**	**305**	*e*Pn	**Pn**	**17 55 23.9**	**+0.1**
HHAR				*e*Sn	**Sn**	**17 55 45.4**	**+0.4**
T41A	**Mountain View**	**1.73**	**14**	Pb	**Pn**	**17 55 25.4**	**+0.3**
	baz=194,SNR=119						
T41A				Sb	**Sb**	**17 55 48.5**	**-0.1**
	baz=194						
X39A	**Fountain Ranch**	**1.73**	**241**	Pb	**Pn**	**17 55 25.7**	**+0.7**
	baz=60,SNR=248						
T40A	**Mansfield**	**1.79**	**354**	Pb	**Pn**	**17 55 26.5**	**+0.6**
	baz=173,SNR=208						
T40A				Sb	**Sb**	**17 55 50.7**	**+0.2**
	baz=173						
V38A	**Canehill**	**1.80**	**287**	Pb	**Pn**	**17 55 26.6**	**+0.6**
	baz=105,SNR=54						
V38A				Sb	**Sb**	**17 55 51.1**	**+0.3**
	baz=105						
WLAR	**White Oak Lake**	**1.81**	**203**	*e*Pn	**Pn**	**17 55 26.2**	**+0.1**
WLAR				*e*Sn	**Sn**	**17 55 48.7**	**-0.6**
U43A	**Rector**	**1.82**	**56**	Pb	**Pn**	**17 55 27.1**	**+0.8**
	baz=237,SNR=31						
Y43A	**Makayla and Ka**	**1.83**	**142**	P	**Pn**	**17 55 26.6**	**+0.3**
	baz=323,SNR=5.1						
Y43A				Sb	**Sg**	**17 55 52.3**	**-0.8**
	baz=323						
SFTN	**Shelby Forest**	**1.85**	**89**	*e*Sn	**Sb**	**17 55 51.9**	**-0.1**
W38A	**Poteau**	**1.86**	**262**	Pb	**Pn**	**17 55 27.9**	**+1.1**
	baz=80,SNR=108						
W38A				Sb	**Sb**	**17 55 53.3**	**+1.1**
	baz=80						
T39A	**Clever**	**1.88**	**332**	Pb	**Pn**	**17 55 28.1**	**+1.0**
	baz=151,SNR=60						
MET	**Memphis--Engin**	**1.94**	**96**	*e*Pn	**Pn**	**17 55 28.3**	**+0.5**
MET				*e*Sn	**Sn**	**17 55 51.2**	**-1.3**
X44A	**Crenshaw**	**1.95**	**116**	Sb	**Sb**	**17 55 55.9**	**+0.9**
	baz=297						
PBMO	**Poplar Bluff**	**2.06**	**46**	*e*Pn	**Pn**	**17 55 30.8**	**+1.2**
PBMO				*e*Sn	**Sn**	**17 55 56.4**	**+0.8**
Z41A	**Richland Creek**	**2.14**	**192**	P	**Pn**	**17 55 30.7**	**0.0**
	baz=12,SNR=9.5						
X38A	**Whitesboro**	**2.20**	**252**	P	**Pn**	**17 55 33.3**	**+1.7**
	baz=71,SNR=55						
S40A	**Lebanon**	**2.24**	**355**	P	**Pn**	**17 55 33.2**	**+1.1**
	baz=175,SNR=68						
S41A	**Jillco Farms,**	**2.26**	**11**	P	**Pn**	**17 55 33.4**	**+1.0**
	baz=191,SNR=48						
T38A	**Diamond**	**2.33**	**316**	P	**Pn**	**17 55 34.2**	**+0.8**
	baz=135,SNR=27						
PVMO	**Portageville**	**2.34**	**63**	*e*Pn	**Pn**	**17 55 34.1**	**+0.6**
V37A	**Hulbert**	**2.39**	**283**	P	**Pn**	**17 55 34.8**	**+0.7**
	baz=102,SNR=28						
EBZ	**Ebenezer Churc**	**2.41**	**94**	*e*Sn	**Sn**	**17 56 05.1**	**+1.0**
PARMO	**Parma**	**2.43**	**57**	*e*Pn	**Pn**	**17 55 35.9**	**+1.2**
PARMO				*e*Sn	**Sn**	**17 56 06.2**	**+1.7**
HALT	**Halls**	**2.46**	**76**	*e*Pn	**Pn**	**17 55 35.0**	**0.0**
S39A	**Bolivar**	**2.47**	**340**	P	**Pn**	**17 55 36.0**	**+0.8**
	baz=160						
OXF	**Oxford**	**2.51**	**109**	*e*Pn	**Pn**	**17 55 35.4**	**-0.3**
OXF				*e*Sn	**Sn**	**17 56 07.0**	**+0.5**
U37A	**Salina**	**2.53**	**295**	P	**Pn**	**17 55 36.5**	**+0.5**
	baz=113,SNR=20						
W37B	**Quinton**	**2.59**	**266**	P	**Pn**	**17 55 37.8**	**+1.0**
	baz=84,SNR=7.5						
GLAT	**Glass**	**2.59**	**69**	*e*Pn	**Pn**	**17 55 38.5**	**+1.5**
GLAT				*e*Sn	**Sn**	**17 56 10.8**	**+2.0**
CCM	**Cathedral Cave**	**2.81**	**17**	*e*Pn	**Pn**	**17 55 41.7**	**+1.8**
CCM				*e*Sn	**Sn**	**17 56 15.1**	**+0.9**
TUL1	**Leonard**	**2.91**	**282**	*e*Pn	**Pn**	**17 55 41.9**	**+0.5**
TUL1				*e*Sn	**Sn**	**17 56 17.3**	**+0.7**
140A	**Cam and Jess,**	**2.92**	**202**	P	**Pn**	**17 55 42.2**	**+0.8**
	baz=21						
R40A	**Maddies Statio**	**2.92**	**0**	P	**Pn**	**17 55 41.8**	**+0.3**
	baz=180,SNR=15						
U36A	**Oologah**	**2.99**	**291**	P	**Pn**	**17 55 42.7**	**+0.4**
	baz=109						
V36A	**Jenks**	**3.02**	**279**	P	**Pn**	**17 55 43.2**	**+0.4**
	baz=97,SNR=6.8						
R42A	**Luebbering**	**3.15**	**22**	P	**Pn**	**17 55 45.0**	**+0.5**
	baz=202,SNR=11						
S37A	**Fort Scott**	**3.15**	**320**	P	**Pn**	**17 55 45.2**	**+0.6**
	baz=138,SNR=8.4						
W36A	**Wetumka**	**3.24**	**267**	P	**Pn**	**17 55 46.5**	**+0.7**
	baz=85						
T36A	**Boggs Farm, Ca**	**3.37**	**301**	P	**Pn**	**17 55 48.4**	**+0.8**
	baz=119,SNR=7.2						
SLM	**Saint Louis**	**3.66**	**26**	*e*Pn	**Pn**	**17 55 51.6**	**+0.1**
SLM				*e*Sn	**Sn**	**17 56 32.2**	**-2.7**
Q41A	**Truxton**	**3.68**	**13**	P	**Pn**	**17 55 52.7**	**+0.9**
	baz=193,SNR=8.6						
WVT	**Waverly**	**3.70**	**77**	*e*Pn	**Pn**	**17 55 53.3**	**+1.2**
WVT				*e*Sn	**Sn**	**17 56 33.6**	**-2.4**
W35A	**Tecumseh**	**3.77**	**268**	P	**Pn**	**17 55 53.5**	**+0.4**
	baz=85,SNR=10						
NATX	**Nacogdoches**	**4.11**	**210**	*e*Pn	**Pn**	**17 55 57.0**	**-0.7**
P40A	**Paris**	**4.17**	**2**	P	**Pn**	**17 55 59.3**	**+0.8**
	baz=182,SNR=7.8						
Z48A	**Northport**	**4.38**	**116**	P	**Pn**	**17 56 01.4**	**-0.1**
	baz=298,SNR=6.7						
Q36A	**Arnold C. Orve**	**4.40**	**326**	P	**Pn**	**17 56 03.0**	**+1.2**
	baz=144,SNR=5.5						
USIN	**University of**	**4.53**	**54**	*e*Pn	**Pn**	**17 56 05.7**	**+2.2**
Q35A	**Mercer Eighty,**	**4.60**	**320**	P	**Pn**	**17 56 05.4**	**+0.8**
	baz=138,SNR=11						
OLIL	**Olney**	**4.74**	**44**	*e*Pn	**Pn**	**17 56 09.7**	**+3.2**
P36A	**Good Intent, A**	**4.85**	**332**	P	**Pn**	**17 56 08.5**	**+0.7**
	baz=150,SNR=7.5						
R34A	**Isabella, Hill**	**4.95**	**308**	P	**Pn**	**17 56 09.7**	**+0.4**
	baz=125,SNR=5.3						
LRAL	**Lakeview Retre**	**4.95**	**116**	*e*Pn	**Pn**	**17 56 08.1**	**-1.2**
LRAL				*e*Sn	**Sn**	**17 57 03.2**	**-3.7**
LRAL				*e*Sb	**Sb**	**17 57 24.0**	**+2.6**
SWET	**Sewanee**	**5.19**	**90**	*e*Pn	**Pn**	**17 56 10.2**	**-2.6**
SWET				*e*Sn	**Sn**	**17 57 11.4**	**-1.6**
SWET				*e*Sg	**Sb**	**17 57 33.6**	**+5.2**
WMOK	**Wichita Mounta**	**5.37**	**265**	*e*Pn	**Pn**	**17 56 16.4**	**+1.3**
WMOK				*e*Sn	**Sn**	**17 57 15.4**	**-1.9**
WMOK				*e*Sg	**Sg**	**17 57 41.3**	**-5.6**
WHTX	**Lake Whitney,**	**5.47**	**234**	*e*Pn	**Pn**	**17 56 17.1**	**+0.6**
WCI	**Wyandotte Cave**	**5.59**	**57**	*e*Pn	**Pn**	**17 56 19.1**	**+0.9**
WCI				*e*Sn	**Sn**	**17 57 21.6**	**-1.1**
HDIL	**Hopedale**	**5.70**	**24**	*e*Pn	**Pn**	**17 56 20.2**	**+0.7**
HDIL				*e*Sn	**Sn**	**17 57 26.5**	**+1.3**
HDIL				*e*Sg	**Sg**	**17 57 55.1**	**-2.3**
HKT	**Hockley**	**6.17**	**210**	*e*Pn	**Pn**	**17 56 23.8**	**-2.3**
CPCT	**Cooper Cave**	**6.34**	**87**	*e*Pn	**Pn**	**17 56 24.9**	**-3.5**
ABTX	**Abilene, Hawle**	**6.70**	**248**	*e*Pn	**Pn**	**17 56 32.7**	**-0.7**
TKL	**Tuckaleechee C**	**6.94**	**85**	*e*Pn	**Pn**	**17 56 35.3**	**-1.4**

MEX 07 18:30:36.0±0.5, 16°.64N×96°.29W, h65km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXBJ	**Oaxaca**	**0.60**	**316**	*i* P	Pn	18 30 47.7	-1.9
OXBJ				*e*S	Sn	18 30 57.4	-2.1
VHO	**Vista Hermosa**	**0.60**	**315**	*i* P	Pn	18 30 48.2	-1.5
VHO				*i* S	Sn	18 30 58.0	-1.7
HUIG	**Huatulco**	**0.88**	**169**	*i* P	Pn	18 30 51.3	-1.5
HUIG				*i* S	Sn	18 31 03.5	-1.7
PNIG	**Pinotepa**	**1.78**	**262**	*e*P	Pn	18 31 03.0	-1.6
PNIG				*e*S	Sn	18 31 24.6	-1.7
TLIG	**Tlapa**	**2.36**	**293**	*e*P	Pn	18 31 11.0	-1.6
TLIG				*i* S	Sn	18 31 39.2	-1.4

MEX 07 18:36:18.5±0.8, 14°.07N×92°.42W, h16km±166km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.80**	**335**	*e*P	Pn	18 36 45.5	-3.3
CCIG	**Comitan**	**2.21**	**7**	*e*P	Pn	18 36 55.1	+0.3

*IDC **07** 18:38:29.1±3.2, 32°.69S×178°.25W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=72.5km s-min=37.0km az=115.0*
*ISCJB **07** 18:38:30.6±0.8, 32°.86S±0°.08×178°.0W±0°.1, h34km, mb5.1/9, Error ellipse: s-maj=19.1km s-min=7.3km az=29.2*
*NEIC **07** 18:38:34.6±1.5, 32°.85S×178°.10W, h51km±17km, mb4.6/3, Error ellipse: s-maj=21.8km s-min=10.1km az=160.0*
ISC 07 18:38:32.8±1.2, 32°.9S±0°.1×178°.0W±0°.2, h34km, n20, σ1°.41/24, mb4.6/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.55**	**212**	*e*Pn	**Pn**	**18 39 54.2**	**+1.3**
URZ	**Urewera**	**6.67**	**215**	Pn	**Pn**	**18 40 09.8**	**+1.5**
	1.1nm,0.3s,baz=29,slow=6.3,SNR=3.4						
URZ				Sn	**Sn**	**18 41 25.0**	**+2.0**
	3.5nm,0.3s,baz=343,slow=20,SNR=11						
URZ	**Urewera**	**6.67**	**215**	*e*Pn	**Pn**	**18 40 09.8**	**+1.5**
URZ				*e*Sn	**Sn**	**18 41 21.0**	**-2.0**
OUZ	**Omahuta**	**7.33**	**249**	*e*Pn	**Pn**	**18 40 19.6**	**+2.3**
BKZ	**Black Stump Fm**	**7.68**	**214**	*e*Pn	**Pn**	**18 40 24.1**	**+1.9**
BKZ				*e*Sn	**Sn**	**18 41 44.7**	**-3.3**
HIZ	**Hauiti**	**8.06**	**224**	*e*Pn	**Pn**	**18 40 28.5**	**+1.1**
BFZ	**Birch Farm**	**9.03**	**209**	*e*Pn	**Pn**	**18 40 41.9**	**+1.2**
BFZ				*e*Sn	**Sn**	**18 42 21.1**	**-0.1**
LHI	**Lord Howe Isla**	**19.43**	**268**	*e*P	**P**	**18 42 54.6**	**-1.6**
	71nm,1.0s						
AS01	**Alice Springs**	**42.97**	**270**	*e*P	**P**	**18 46 28.8**	**0.0**
AS31	**Alice Springs**	**43.01**	**270**	*e*P	**P**	**18 46 28.6**	**-0.6**
	0.7nm,1.0s						
ASAR	**Alice Springs**	**43.01**	**270**	P	**P**	**18 46 29.1**	**0.0**
	0.5nm,0.5s,baz=108,slow=7.5,SNR=13						
WB2	**Warramunga Arr**	**44.21**	**275**	*e*P	**P**	**18 46 38.0**	**-0.8**
	18nm,1.9s						
WR1	**Warramunga Arr**	**44.22**	**275**	*e*P	**P**	**18 46 38.5**	**-0.4**
	14nm,1.8s						
WRA	**Warramunga Arr**	**44.22**	**275**	P	**P**	**18 46 38.5**	**-0.4**
	0.6nm,0.3s,baz=112,slow=8.1,SNR=16						
UWE	**Uwekahuna**	**56.37**	**26**	*e*P	**P**	**18 48 10.9**	**0.0**
	684nm,1.2s						
BYL	**Byron's Ledge**	**56.38**	**26**	*e*P	**P**	**18 48 10.1**	**-0.7**
	1μm,1.7s						
UWB	**Uwekahuna B**	**56.38**	**26**	*e*P	**P**	**18 48 10.7**	**-0.2**
	2μm,1.9s						
HATHI	**Halema'uma'u T**	**56.38**	**26**	*e*P	**P**	**18 48 11.0**	**+0.1**
	787nm,1.3s						
FIA0	**FINESS Array S**	**147.45**	**339**	*e*PKPbc	**PKPbc**	**18 58 12.6**	**+0.3**
FINES	**FINESS Array B**	**147.45**	**339**	PKPbc	**PKPbc**	**18 58 12.6**	**+0.3**
	4.5nm,1.0s,baz=46,slow=4.0,SNR=4.2						

*ISCJB **07** 18:45:38.7±0.5, 37°.26N±0°.03×28°.22E±0°.03, h0km, Error ellipse: s-maj=4.1km s-min=3.5km az=179.9*
*CSEM **07** 18:45:38.9±0.2, 37°.26N×28°.21E, h1km, MD2.5, Error ellipse: s-maj=3.4km s-min=3.1km az=1.0, Suspected Mining explosion.*
*DDA **07** 18:45:38.1, 37°.24N×28°.23E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **07** 18:45:38.6, 37°.25N×28°.18E, h18

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.42**	**2**	Pn	**Pn**	**18 50 50.6**	**-1.7**
	33nm,0.3s,baz=197,slow=19,SNR=2.6						
RAO				Sn	**Sn**	**18 51 29.2**	**-3.1**
	42nm,0.3s,baz=17,slow=20,SNR=2.8						
URZ	**Urewera**	**6.84**	**214**	Pn	**Pn**	**18 51 40.3**	**+0.9**
	2.3nm,0.3s,baz=273,slow=2.4,SNR=11						
URZ				Sn	**Sn**	**18 52 55.8**	**-0.7**
	7.7nm,0.3s,baz=255,slow=19,SNR=12						
OUZ	**Omahuta**	**7.41**	**248**	*e*Pn	**Pn**	**18 51 50.4**	**+3.2**
BKZ	**Black Stump Fm**	**7.85**	**213**	*e*Pn	**Pn**	**18 51 52.9**	**-0.4**
BKZ				*e*Sn	**Sn**	**18 53 13.9**	**-7.8**
BFZ	**Birch Farm**	**9.21**	**208**	*e*Pn	**Pn**	**18 52 10.3**	**-1.7**
BFZ				*e*Sn	Sn	18 53 39.5	-16
SNZO	**South Karori**	**10.39**	**212**	*e*Pn	**Pn**	**18 52 29.7**	**+1.6**
SNZO				*e*Sn	Sn	18 54 13.3	-11
THZ	**Tophouse**	**11.59**	**216**	*e*Pn	**Pn**	**18 52 44.4**	**-0.1**
THZ				*e*Sn	Sn	18 54 42.9	-10
KHZ	**Kahutara**	**11.79**	**212**	*e*Pn	**Pn**	**18 52 45.7**	**-1.6**
CRLZ	**Canterbury Las**	**13.12**	**211**	*e*Pn	**Pn**	**18 53 06.4**	**+1.0**
MQZ	**McQueen's Vall**	**13.22**	**211**	*e*Pn	**Pn**	**18 53 05.9**	**-0.8**
ODZ	**Otahua Downs**	**15.16**	**212**	*e*Pn	**Pn**	**18 53 33.4**	**+0.3**
	43nm,1.3s						
MLZ	**Mavora Lakes**	**16.59**	**216**	*e*Pn	**P**	**18 53 54.5**	**+0.4**
	30nm,1.3s						
DZM	**Mont Dzumac**	**17.35**	**304**	LR	LR	18 59 46.4	
	comp=Z,208nm,18.3s,baz=129,slow=34						
LHI	**Lord Howe Isla**	**19.44**	**267**	*e*P	**P**	**18 54 25.3**	**-0.2**
	131nm,1.4s						
STKA	**Stephens Creek**	**34.01**	**260**	P	**P**	**18 56 44.4**	**+1.6**
	1.3nm,0.9s,baz=113,slow=15,SNR=2.5						
STKA				LR	LR	19 09 09.7	
	comp=Z,57nm,18.8s,baz=210,slow=34						
CTAO	**Charters Tower**	**34.20**	**283**	*e*P	**P**	**18 56 46.3**	**+1.6**
	7.2nm,1.0s						
AS01	**Alice Springs**	**42.98**	**269**	*e*P	**P**	**18 57 58.5**	**+0.2**
AS31	**Alice Springs**	**43.01**	**269**	*e*P	**P**	**18 57 58.8**	**+0.2**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**43.01**	**269**	P	**P**	**18 57 59.2**	**+0.6**
	2.0nm,0.6s,baz=109,slow=7.7,SNR=61						
WR1	**Warramunga Arr**	**44.21**	**274**	*e*P	**P**	**18 58 08.7**	**+0.4**
	10nm,1.3s						
WRA	**Warramunga Arr**	**44.21**	**274**	P	**P**	**18 58 08.7**	**+0.4**
	2.8nm,0.3s,baz=113,slow=8.1,SNR=55						
MTN	**Manton Dam**	**50.35**	**281**	*e*P	**P**	**18 58 55.2**	**-0.9**
	46nm,1.8s						
FIA0	**FINESS Array S**	**147.26**	**339**	*e*PKPbc	**PKPab**	**19 09 42.7**	**-0.5**
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	**PKPab**	**19 09 42.7**	**-0.5**
	2.0nm,0.6s,baz=54,slow=3.3,SNR=11						
BR101	**Keskin Array S**	**153.59**	**294**	*e*PKPbc	**PKPbc**	**19 09 59.2**	**+1.6**
BRTR	**Keskin Array B**	**153.59**	**294**	PKPbc	**PKPbc**	**19 09 59.2**	**+1.6**
	0.5nm,0.5s,baz=153,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**160.56**	**179**	PKPab	**PKPab**	**19 10 42.4**	**+2.0**
	0.6nm,1.1s,baz=197,slow=3.0,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**160.56**	**179**	*e*PKPab	**PKPab**	**19 10 42.4**	**+2.0**

*ISCJB **07** 19:49:36.4±0.7, 6°.71N±0°.03×73°.91W±0°.04, h98km±8km, Error ellipse: s-maj=6.6km s-min=4.8km az=40.7*
*RSNC **07** 19:49:37.8±1.0, 6°.67N×73°.92W, h85km±9km, ML3.4*
*IDC **07** 19:49:38.3±1.4, 6°.34N×73°.47W, h122km±14km, mb1 3.7/2, mb1mx3.1/37, mbtmp4.1/2, Error ellipse: s-maj=69.9km s-min=8.1km az=133.0*

ISC 07 19:49:36.0±1.0, 6.73N±0°.05×73°.90W±0°.04, h103km±9km, n17, σ1§52/29, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRRC	**Barranca, Sant**	**0.42**	**27**	⇓*i*P	**Pn**	**19 49 51.5**	**-0.1**
BRRC				*e*S	**Sn**	**19 50 02.5**	**-0.7**
BRRC				*i*		19 50 03.2	
	comp=Z,3μm,0.1s						
BARC	**Barichara**	**0.73**	**100**	*i*P	**Pn**	**19 49 54.3**	**+0.1**
BARC				*i*		19 49 54.6	
	comp=Z,2μm,0.2s						
BARC				*e*S	**Sn**	**19 50 06.5**	**-1.3**
GIRC	**Giron, Santand**	**0.79**	**64**	*i*P	**Pn**	**19 49 55.1**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.22**	**309**	*e*P	**Pn**	**19 49 59.3**	**+0.2**
ZARC				*e*S	**Sn**	**19 50 16.6**	**+0.1**
ZARC				*i*		19 50 18.8	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**1.34**	**63**	*e*P	**Pn**	**19 50 02.0**	**+1.0**
PAMC				*e*S	**Sn**	**19 50 20.9**	**+1.0**
PAMC				*i*		19 50 22.6	
	comp=Z,351nm,0.3s						
NORC	**Norcasia**	**1.50**	**220**	*e*P	**Pn**	**19 50 01.4**	**-1.1**
NORC				*i*		19 50 23.7	
	comp=Z,30nm,0.3s						
OCAC	**Ocana**	**1.61**	**21**	*e*P	**Pn**	**19 50 05.6**	**+1.6**
OCAC				*e*S	**Sn**	**19 50 25.9**	**+0.7**
OCAC				*i*		19 50 35.2	
	comp=Z,404nm,0.3s						
HELC	**Santa Helena**	**1.70**	**252**	*e*P	**Pn**	**19 50 05.2**	**0.0**
HELC				*e*S	**Sn**	**19 50 26.9**	**-0.6**
HELC				*i*		19 50 29.3	
	comp=Z,772nm,0.4s						
ROSC	**El Rosal**	**1.92**	**192**	P	**Pn**	**19 50 08.8**	**+0.8**
	comp=Z,12nm,0.3s,baz=8.5,slow=19,SNR=12						
ROSC				S	**Sn**	**19 50 31.9**	**-0.6**
	comp=Z,35nm,0.3s,baz=286,slow=18,SNR=24						
YOPC	**Yopal, Colombi**	**2.01**	**133**	*e*P	**Pn**	**19 50 10.0**	**+1.0**
YOPC				*e*S	**Sn**	**19 50 32.8**	**-1.2**
YOPC				*i*		19 50 42.0	
	comp=Z,139nm,0.5s						
CHIC	**Chingaza**	**2.09**	**175**	*e*P	**Pn**	**19 50 10.0**	**-0.3**
CHIC				*e*S	**Sn**	**19 50 36.4**	**0.0**
CHIC				*i*		19 50 47.3	
	comp=Z,99nm,0.6s						
GUYC	**Guyana, Colomb**	**2.10**	**225**	*e*P	**Pn**	**19 50 10.8**	**+0.4**
GUYC				*e*S	**Sn**	**19 50 35.7**	**-1.0**
GUYC				*i*		19 50 38.6	
	comp=Z,321nm,0.3s						
VILC	**Villavicencio,**	**2.61**	**175**	*e*P	**Pn**	**19 50 17.4**	**+0.7**
SDV	**Santo Domingo**	**3.89**	**56**	P	**Pn**	**19 50 36.4**	**+2.5**
	comp=Z,5.3nm,0.3s,baz=240,slow=8.1,SNR=9.5						
SDV				S	**Sn**	**19 51 19.6**	**+0.9**
	comp=Z,24nm,0.3s,baz=253,slow=14,SNR=10						
PCRV	**Puerto La Cruz**	**9.79**	**69**	P	**Pn**	**19 51 54.4**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=2.9,slow=4.5,SNR=4.8						
PCRV				S	**Sn**	**19 53 36.0**	**-6.0**
	comp=Z,1.9nm,0.3s,baz=41,slow=5.8,SNR=2.4						
ASAR	**Alice Springs**	**148.42**	**235**	PKPbc	**PKPbc**	**20 09 11.2**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=115,slow=3.2,SNR=3.0						
WRA	**Warramunga Arr**	**149.61**	**242**	PKPbc	**PKPbc**	**20 09 14.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.1,SNR=1.5						

*NIED **07** 19:49:00, 38°.00N×143°.80E, h11km, Mw3.4 Best double couple: M0 1.45000×10^14 NP1:φs 15.00000°, δ31.00000°, λ-104.00000°. NP2:φs 212.00000°, δ60.00000°, λ-81.00000°.*
*IDC **07** 19:49:47.1±1.4, 37°.74N×144°.11E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=38.6km s-min=22.7km az=122.0*
*ISCJB **07** 19:49:51.1±0.9, 38°.05N±0°.04×143°.92E±0°.07, h33km, mb3.5/2, Error ellipse: s-maj=7.7km s-min=5.8km az=22.2*
*JMA **07** 19:49:52.0±0.2, 37°.99N×143°.79E, h36km, M3.8*

ISC 07 19:49:51.6±1.3, 37°.93N±0°.05×143°.91E±0°.09, h35km, n23, σ1§99/35, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.09**	**285**	P	**Pn**	**19 50 24.3**	**+0.2**
JIO				S	**Sn**	**19 50 47.7**	**-1.1**
OFUJ	**Ofunato**	**2.10**	**304**	P	**Pn**	**19 50 24.4**	**+0.1**
MIYJ	**Miyakonagasawa**	**2.32**	**316**	P	**Pn**	**19 50 27.1**	**-0.2**
JMK	**Ichinoseki**	**2.35**	**297**	P	**Pn**	**19 50 28.1**	**+0.4**
JOM	**Ohasama**	**2.56**	**308**	P	**Pn**	**19 50 31.3**	**+0.6**
JOM				*e*S	**Sn**	**19 51 00.9**	**+0.3**
JOU	**Okura**	**2.60**	**281**	P	**Pn**	**19 50 32.1**	**+0.9**
JFT	**Otama**	**2.86**	**263**	P	**Pn**	**19 50 36.0**	**+1.2**
JFT				S	**Sn**	**19 51 08.1**	**0.0**
JRG	**Rokugo**	**2.96**	**301**	P	**Pn**	**19 50 37.2**	**+1.2**
JRG				*e*S	**Sn**	**19 51 11.0**	**+0.7**
JYK	**Kaneyama**	**2.96**	**291**	P	**Pn**	**19 50 37.2**	**+1.1**
JYK				*e*S	**Sn**	**19 51 11.0**	**+0.6**
JANG	**Nango**	**3.07**	**323**	P	**Pn**	**19 50 38.1**	**+0.5**
JANG				S	**Sn**	**19 51 11.5**	**-1.6**
JAH	**Hinai**	**3.41**	**313**	P	**Pn**	**19 50 44.4**	**+2.2**
JAH				*e*S	**Sn**	**19 51 21.2**	**-0.2**
JTM	**Tenmabayashi**	**3.61**	**323**	S	**Sn**	**19 51 24.8**	**-1.5**
JAG	**Ashikaga**	**3.86**	**248**	P	**Pn**	**19 50 49.2**	**+0.6**
JOT	**Ohata**	**4.09**	**328**	S	**Sn**	**19 51 36.4**	**-2.0**
JRY	**Ryogami san**	**4.44**	**246**	P	**Pn**	**19 50 57.3**	**+0.8**
JRY				*e*S	**Sn**	**19 51 44.4**	**-2.6**
JKB	**Kayabe**	**4.53**	**332**	S	**Sn**	**19 51 46.2**	**-2.9**
JCH	**Churui**	**4.70**	**355**	P	**Pn**	**19 50 59.6**	**-0.4**
JCH				S	**Sn**	**19 51 50.2**	**-3.0**
JOD2	**Odawara 2**	**4.71**	**237**	S	**Sn**	**19 51 50.5**	**-3.0**
MJAR	**Matsushiro Arr**	**4.76**	**255**	Pn	**Pn**	**19 51 02.8**	**+1.9**
	0.7nm,0.3s,baz=80,slow=15,SNR=7.3						
MJAR				Sn	**Sn**	**19 51 58.2**	**+3.4**
	0.6nm,0.3s,baz=43,slow=29,SNR=3.0						
JHJ	**Hachijo jima 2**	**5.86**	**216**	Pn	**Pn**	**19 51 13.5**	**-2.5**
	4.5nm,0.3s,baz=82,slow=15,SNR=4.6						
JHJ				Sn	**Sn**	**19 52 15.9**	**-6.1**
	4.8nm,0.3s,baz=270,slow=17,SNR=2.4						
ASAJ	**Asahikawa**	**6.26**	**351**	Pn	**Pn**	**19 51 22.0**	**+0.6**
	1.4nm,0.3s,baz=203,slow=11,SNR=13						
ASAJ				Sn	**Sn**	**19 52 28.9**	**-2.8**
	0.7nm,0.3s,baz=210,slow=20,SNR=3.7						
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**19 58 25.9**	**+1.7**
	0.4nm,0.7s,baz=269,slow=6.0,SNR=5.1						
WRA	**Warramunga Arr**	**58.26**	**191**	P	**P**	**19 59 42.1**	**-0.6**
	0.3nm,0.7s,baz=14,slow=7.1,SNR=2.0						

*IDC **07** 19:49:53.3±1.1, 46°.16S×75°.75W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.8/29, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=46.2km s-min=19.7km az=111.0*
*NEIC **07** 19:49:54.5±0.4, 46°.11S×75°.66W, h10km, mb4.8/20, Error ellipse: s-maj=13.7km s-min=8.2km az=74.0*
*ISCJB **07** 19:49:56.9±0.5, 46°.10S±0°.07×75°.4W±0°.1, h33km, mb4.7/23, Error ellipse: s-maj=14.1km s-min=9.7km az=157.6*

ISC 07 19:49:57.6±0.7, 46°.17S±0°.07×75°.8W±0°.1, h35km, n46, σ1§46/45, mb4.8/23, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**2.46**	**117**	*e*Pn	**Pn**	**19 50 33.5**	**-1.7**
GO09	**Cerro Castillo**	**5.59**	**157**	*e*Pn	**Pn**	**19 51 19.1**	**+0.9**
PLCA	**Paso Flores**	**6.65**	**37**	Pn	**Pn**	**19 51 31.8**	**-1.0**
	0.2nm,0.3s,baz=243,slow=14,SNR=7.4						
PLCA				Sn	**Sn**	**19 52 49.3**	**+2.0**
	0.1nm,0.3s,baz=266,slow=19,SNR=1.7						
PLCA				Lg	Lg	19 53 24.6	
	0.1nm,0.3s,baz=139,slow=17,SNR=1.5						
PLCA	**Paso Flores**	**6.65**	**37**	*e*Pn	**Pn**	**19 51 32.4**	**-0.4**
PLCA				*e*Sn	**Sn**	**19 52 49.7**	**+2.4**
PLCA				Lg	Lg	19 53 24.6	
GO10	**Punta Arenas**	**7.64**	**158**	*e*Pn	**Pn**	**19 51 43.6**	**-2.7**
GO05	**HualaæØ**	**11.53**	**16**	*e*Pn	Pn	19 52 34.2	-5.5
ROC1	**El Roble**	**13.68**	**17**	*e*Pn	**Pn**	**19 53 04.6**	**-4.7**
CPUP	**Villa Florida**	**24.67**	**43**	P	**P**	**19 55 14.5**	**-0.5**
	8.9nm,1.1s,baz=251,slow=12,SNR=5.8						
CPUP	**Villa Florida**	**24.67**	**43**	*e*P	**P**	**19 55 13.6**	**-1.5**
LPAZ	**La Paz**	**30.48**	**15**	P	**P**	**19 56 09.3**	**+1.5**
	1.1nm,0.9s,baz=210,slow=12,SNR=2.9						
SIV	**San Ignacio**	**32.51**	**27**	P	**P**	**19 56 24.9**	**-0.2**
	1.6nm,0.6s,baz=214,slow=7.7,SNR=4.1						
BDFB	**Brasilia**	**38.28**	**46**	*e*P	**P**	**19 57 14.4**	**-0.4**
SAML	**Samuel**	**38.64**	**20**	*e*P	**P**	**19 57 16.6**	**-1.0**
	8.1nm,1.4s						
SNAA	**Sanae**	**41.71**	**153**	P	**P**	**19 57 43.5**	**+0.9**
	2.4nm,0.9s,baz=208,slow=15,SNR=4.9						
SNAA	**Sanae**	**41.71**	**153**	*e*P	**P**	**19 57 43.3**	**+0.7**
	20nm,1.8s						
PRAC	**Prado**	**49.68**	**1**	*e*P	**P**	**19 58 46.9**	**+0.9**
	25nm,1.5s						
RUSC	**La Rusia**	**51.89**	**3**	*e*P	**P**	**19 59 02.3**	**-0.8**
	10nm,1.6s						
HELC	**Santa Helena**	**52.13**	**0**	*e*P	**P**	**19 59 03.4**	**-1.4**
	75nm,2.0s						
TBI	**Tubuai**	**62.41**	**264**	*e*LR	LR	20 18 39.2	
	91nm,26.2s						
PPT2	**Papeete2**	**66.34**	**269**	*e*LR	LR	20 20 26.0	
	73nm,26.2s						
TX31	**Lajitas Ar. Si**	**79.28**	**335**	*e*P	**P**	**20 02 00.4**	**+1.1**
JCT	**Junction City**	**79.33**	**339**	*e*P	**P**	**20 01 58.8**	**-0.6**
	7.3nm,0.8s						
WMOK	**Wichita Mounta**	**83.17**	**341**	*e*P	**P**	**20 02 20.0**	**+0.4**
	23nm,1.6s						
ANMO	**Albuquerque**	**85.35**	**335**	*e*P	**P**	**20 02 32.7**	**+1.8**
	8.3nm,1.3s						
X18A	**Snowflake**	**86.04**	**332**	*e*P	**P**	**20 02 36.7**	**+2.3**
	10nm,1.5s						
X16A	**Lo Mia Camp, P**	**86.43**	**331**	*e*P	**P**	**20 02 37.3**	**+1.0**
	12nm,1.6s						
T25A	**Trinidad**	**86.83**	**337**	*e*P	**P**	**20 02 39.8**	**+1.5**
	8.6nm,1.1s						
WUAZ	**Wupatki**	**87.41**	**332**	*e*P	**P**	**20 02 41.9**	**+0.9**
	9.9nm,1.3s						
XPFO	**Pigeon Flat**	**87.49**	**327**	*e*P	**P**	**20 02 42.3**	**+0.9**
	31nm,1.8s						
SDCO	**Great Sand Dun**	**87.70**	**337**	*e*P	**P**	**20 02 43.8**	**+1.3**
	7.7nm,1.5s						
W13A	**Hualapai Mount**	**87.89**	**330**	*e*P	**P**	**20 02 44.9**	**+1.5**
	3.3nm,0.7s						
S22A	**4UR Ranch, Cre**	**88.07**	**336**	*e*P	**P**	**20 02 45.9**	**+1.6**
	6.6nm,1.2s						
U15A	**North Rim**	**88.54**	**331**	*e*P	**P**	**20 02 47.6**	**+1.1**
	4.9nm,0.8s						
SMCO	**Snowmass**	**89.44**	**336**	*e*P	**P**	**20 02 52.3**	**+1.5**
	7.4nm,1.1s						
SHPR	**Sheep Range**	**89.60**	**329**	*e*P	**P**	**20 02 53.4**	**+2.1**
	9.4nm,1.4s						
RLMT	**Red Lodge**	**95.59**	**337**	*e*P	**P**	**20 03 18.2**	**-0.7**
	9.0nm,0.8s						
BR101	**Keskin Array S**	**129.51**	**70**	*e*PKPdf	**PKPdf**	**20 09 03.5**	**+1.2**
BRTR	**Keskin Array B**	**129.51**	**70**	PKP	**PKPdf**	**20 09 03.5**	**+1.2**
	1.0nm,1.1s,baz=211,slow=2.2,SNR=4.1						
GEYT	**Alibeck**	**145.22**	**87**	PKPbc	**PKPdf**	**20 09 31.6**	**+0.5**
	5.5nm,1.1s,baz=266,slow=3.9,SNR=9.8						
PETK	**Petropavlovsk-**	**145.38**	**301**	PKPbc	**PKPab**	**20 09 31.3**	**+0.3**
	5.6nm,1.0s,baz=104,slow=6.1,SNR=4.1						
PEA1	**Petropavlovsk-**	**145.38**	**301**	*e*PKPbc	**PKPab**	**20 09 31.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**152.02**	**169**	PKP	**PKPdf**	**20 09 43.9**	**+1.2**
	1.1nm,0.9s,baz=256,slow=2.7,SNR=4.7						
MK32	**Makanchi Array**	**164.90**	**80**	*e*PKPdf	**PKPdf**	**20 09 57.5**	**+0.4**
MKAR	**Makanchi Array**	**164.90**	**80**	PKP	**PKPdf**	**20 09 57.6**	**+0.4**
	0.7nm,1.1s,baz=20,slow=3.9,SNR=3.7						
ZAA1	**Zalesovo Array**	**165.35**	**51**	*e*PKPdf	**PKPdf**	**20 09 57.0**	**-0.3**
ZALV	**Zalesovo Beam**	**165.36**	**51**	PKP	**PKPdf**	**20 09 57.0**	**-0.3**
	0.6nm,0.6s,baz=259,slow=3.0,SNR=6.6						

GUC 07 19:51:47.1±0.3, 16°.64S×72°.50W, h113km±35km, ML4.8, 2C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**2.85**	**134**	⇓*i*P	Pn	19 52 32.6	+1.3
PB12				*i* S	Sn	19 53 07.1	+1.8
PB12				IAML		19 53 09.0	
	comp=N,2μm,0.2s						
PB13	**IPOC Station P**	**3.32**	**121**	*e*P	Pn	19 52 40.4	+2.4
PB13				*e*S	Sn	19 53 20.2	+3.0
PSGC	**Pisagua**	**3.71**	**143**	⇑*i*P	Pn	19 52 44.1	+1.4
PSGC				*e*S	Sn	19 53 28.0	+2.3
MNMC	**Minye Minye**	**3.71**	**132**	⇑*i*P	Pn	19 52 44.4	+1.5
MNMC				*e*S	Sn	19 53 28.1	+2.1
PB11	**IPOC Station P**	**4.11**	**139**	*e*P	Pn	19 52 49.5	+1.3
PB11				*e*S	Sn	19 53 37.4	+1.9
HMBC	**Humberstone**	**4.38**	**146**	⇓*e*P	Pn	19 52 52.7	+0.9
HMBC				*e*S	Sn	19 53 43.5	+1.6

MAN 07 19:52:32, 10°.07N×126°.06E, h18km, mb4.2, ML3.0, MS2.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.63**	**243**	⇓*e*P	Pn	19 52 45.4	-0.6
SCPH				*e*S	Sn	19 52 57.4	+1.8
BESP	**Borongan**	**1.64**	**338**	*e*P	Pn	19 53 00.4	+0.4
BESP				*e*S	Sg	19 53 25.6	+0.6
BUKP	**Musuan**	**2.39**	**204**	*e*P	Pn	19 53 12.4	+2.1
BUKP				*e*S	Sb	19 53 44.0	+0.3

*GUC **07** 19:53:54.3±0.5, 46°.10S×76°.06W, h5km±25km, ML4.1*
*IDC **07** 19:53:58.7±0.6, 46°.13S×75°.64W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.2/27, mbtmp4.3/12, ML3.4/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/27, Error ellipse: s-maj=26.3km s-min=13.9km az=100.0*

*ISCJB **07** 19:54:02.6±0.2, 46°.11S±0°.04×75°.31W±0°.07, h33km, mb5.0/70, MS3.8/10, Error ellipse: s-maj=7.3km s-min=5.2km az=163.7*
*NEIC **07** 19:54:03.4±2.1, 46°.09S×75°.36W, h30km±14km, mb5.0/62, Error ellipse: s-maj=10.3km s-min=4.9km az=79.0*

ISC 07 19:54:04.0±0.3, 46°.10S±0°.05×75°.56W±0°.08, h35km, n156, σ1§20/163, mb5.0/70, MS3.8/10, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**2.35**	**120**	*e*P	**Pn**	**19 54 36.8**	**-3.3**
CHRN				*i* S	**Sn**	**19 55 09.8**	**+2.2**
CHRN				IAML		19 55 25.1	
	comp=N,549nm,0.7s						
CHRN	**Cochrane**	**2.35**	**120**	*e*Pn	**Pn**	**19 54 38.0**	**-2.0**
COYC	**Coyhaique**	**2.49**	**79**	*e*P	**Pn**	**19 54 40.8**	**-1.2**
COYC				IAML		19 55 39.3	
	comp=N,662nm,1.4s						
GO08	**Villa O'Higgin**	**3.13**	**140**	*e*P	**Pn**	**19 54 48.4**	**-2.4**
GO08				IAML		19 55 15.8	
	comp=E,152nm,0.7s						
GO07	**Milladeo Hill,**	**3.28**	**25**	IAML		19 56 10.3	
	comp=E,1μm,1.1s						
GO09	**Cerro Castillo**	**5.60**	**159**	*e*Pn	Pn	19 55 29.8	+5.1
PLCA	**Paso Flores**	**6.49**	**36**	Pn	**Pn**	**19 55 37.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=233,slow=12,SNR=3.4						
PLCA				Sn	**Sn**	**19 56 52.0**	**+2.2**
	comp=E,0.1nm,0.3s,baz=221,slow=19,SNR=1.3						
PLCA				Lg	Lg	19 57 27.9	
	comp=E,0.1nm,0.3s,baz=323,slow=20,SNR=1.4						
PLCA				LR	LR	19 58 13.1	
	comp=E,896nm,21.4s,baz=224,slow=39						
PLCA	**Paso Flores**	**6.49**	**36**	*e*Pn	**Pn**	**19 55 36.6**	**-0.4**
PLCA				Sn	**Sn**	**19 56 52.0**	**+2.2**
PLCA				Lg	Lg	19 57 27.9	
GO10	**Punta Arenas**	**7.64**	**159**	*e*Pn	**Pn**	**19 55 52.1**	**-0.7**
USHA	**Ushuaia**	**9.85**	**155**	LR	LR	20 00 21.6	
	comp=E,854nm,20.3s,baz=247,slow=39						
GO05	**HualaæØ**	**11.41**	**15**	*e*Pn	**Pn**	**19 56 43.2**	**-1.3**
TRQA	**Tornquist**	**12.89**	**56**	*e*Pn	**Pn**	**19 57 02.1**	**-2.5**
ROC1	**El Roble**	**13.56**	**17**	*e*Pn	**Pn**	**19 57 11.4**	**-2.6**
PMSA	**Palmer Station**	**19.76**	**165**	*e*P	**P**	**19 58 28.9**	**-1.6**
	comp=E,32nm,1.4s						
PB10	**IPOC Station P**	**22.90**	**12**	*e*P	**P**	**19 59 04.4**	**-0.2**
	comp=E,41nm,1.1s						
LVC	**Limon Verde**	**24.05**	**15**	P	**P**	**19 59 16.0**	**-0.2**
	comp=E,21nm,0.8s,baz=205,slow=10,SNR=5.6						
LVC	**Limon Verde**	**24.05**	**15**	*e*P	**P**	**19 59 15.2**	**-1.0**
	comp=E,55nm,1.8s						
PB04	**IPOC Station P**	**24.11**	**12**	*e*P	**P**	**19 59 16.8**	**+0.2**
	comp=E,123nm,1.8s						
CPUP	**Villa Florida**	**24.50**	**43**	P	**P**	**19 59 20.1**	**+0.2**
	comp=E,16nm,1.0s,baz=220,slow=8.5,SNR=14						
CPUP				LR	LR	20 09 32.6	
	comp=E,278nm,20.0s,baz=216,slow=38						
CPUP	**Villa Florida**	**24.50**	**43**	*e*P	**P**	**19 59 19.2**	**-0.7**
PB01	**IPOC Station P**	**25.48**	**13**	*e*P	**P**	**19 59 28.6**	**-0.3**
	comp=E,20nm,1.2s						
MNMC	**Minye Minye**	**27.34**	**12**	*e*P	**P**	**19 59 46.0**	**0.0**
	comp=E,48nm,1.8s						
LPAZ	**La Paz**	**30.36**	**14**	P	**P**	**20 00 13.2**	**0.0**
	comp=E,1.5nm,0.9s,baz=188,slow=6.8,SNR=5.4						
LPAZ	**La Paz**	**30.36**	**14**	*e*P	**P**	**20 00 13.4**	**+0.2**
	comp=E,31nm,1.9s						
SPB	**Sao Paulo**	**31.92**	**55**	*e*P	**P**	**20 00 26.8**	**+0.6**
	comp=E,30nm,1.5s						
SIV	**San Ignacio**	**32.37**	**27**	P	**P**	**20 00 30.1**	**-0.1**
	comp=E,4.1nm,1.0s,baz=222,slow=12,SNR=5.8						
SAML	**Samuel**	**38.51**	**20**	*e*P	**P**	**20 01 21.4**	**-1.6**
	comp=E,12nm,1.3s						
ATAH	**Atahualpa**	**38.90**	**356**	P	**P**	**20 01 27.6**	**+1.0**
	comp=E,3.2nm,0.5s,baz=104,slow=4.2,SNR=2.9						
VNA3	**Neumayer Olymp**	**39.51**	**152**	P	**P**	**20 01 30.8**	**0.0**
VNA1	**Neumayer--Stat**	**39.95**	**151**	P	**P**	**20 01 35.8**	**+1.5**
VNA2	**Neumayer--Watz**	**40.24**	**152**	P	**P**	**20 01 36.8**

LAZ	Ladron	85.05	334	eP	P	20 06 36.5 +0.6
ANMO	Albuquerque	85.36	335	eP	P	20 06 38.0 +0.6
	comp=E,13nm,1.2s					
X18A	Snowflake	86.05	332	eP	P	20 06 42.6 +1.7
	comp=E,34nm,1.8s					
X16A	Lo Mia Camp, P	86.44	331	eP	P	20 06 43.3 +0.5
	comp=E,6.3nm,1.2s					
W18A	Petrified Fore	86.52	333	eP	P	20 06 44.2 +1.0
	comp=E,8.2nm,0.8s					
Y14A	Wickenburg	86.55	330	eP	P	20 06 43.8 +0.6
	comp=E,92nm,1.9s					
T25A	Trinidad	86.83	337	eP	P	20 06 45.1 +0.5
	comp=E,29nm,1.3s					
HGTCO	Madrid Canyon	86.87	337	eP	P	20 06 45.9 +1.0
	comp=E,25nm,0.5s					
MHTCO	State Highway	86.90	337	eP	P	20 06 46.0 +1.0
	comp=E,26nm,1.4s					
Y12C	Blythe	86.93	328	eP	P	20 06 46.3 +1.4
	comp=E,13nm,1.4s					
WUAZ	Wupatki	87.42	331	eP	P	20 06 49.0 +1.5
	comp=E,20nm,1.5s					
XPFO	Piæon Flat	87.52	327	eP	P	20 06 49.2 +1.2
	comp=E,18nm,1.4s					
PFO	Pinyon Flats O	87.52	327	eP	P	20 06 49.2 +1.2
	comp=E,17nm,1.4s					
SDCO	Great Sand Dun	87.70	337	eP	P	20 06 49.5 +0.6
	comp=E,6.5nm,1.2s					
W13A	Hualapai Mount	87.91	329	eP	P	20 06 51.0 +1.1
	comp=E,7.1nm,1.1s					
MVCO	Mesa Verde	88.06	334	eP	P	20 06 52.1 +1.5
	comp=E,18nm,1.5s					
S22A	4UR Ranch, Cre	88.07	336	eP	P	20 06 51.6 +0.9
	comp=E,17nm,1.3s					
KSCO	Kaye Shedlock'	88.14	339	eP	P	20 06 51.8 +1.0
	comp=E,29nm,1.3s					
LDFC	Landfair	88.33	329	eP	P	20 06 53.0 +1.2
	comp=E,45nm,0.4s					
U15A	North Rim	88.56	331	eP	P	20 06 54.2 +1.2
	comp=E,12nm,1.3s					
Q24A	Divide	88.74	337	eP	P	20 06 54.0 +0.1
	comp=E,17nm,1.4s					
EDW2	Edwards Air Fo	89.23	326	eP	P	20 06 54.5 -1.5
KNB	Kanab	89.27	331	eP	P	20 06 57.2 +0.9
	comp=E,19nm,1.4s					
LCMT	Little Creek M	89.41	331	eP	P	20 06 57.2 +0.4
	comp=E,55nm,0.3s					
SMCO	Snowmass	89.44	336	eP	P	20 06 58.4 +1.2
	comp=E,10nm,1.1s					
PKCU	Pink Cliffs	89.49	332	eP	P	20 06 57.6 +0.2
	comp=E,17nm,1.3s					
SHPR	Sheep Range	89.62	329	eP	P	20 06 59.0 +1.1
	comp=E,28nm,1.7s					
ISCO	Idaho Springs	89.65	337	eP	P	20 06 58.8 +0.7
	comp=E,4.9nm,0.9s					
SZCU	Shurtz Canyon	89.88	331	eP	P	20 07 00.7 +1.6
	comp=E,61nm,0.5s					
CCUT	Cedar City	89.94	331	eP	P	20 07 01.3 +1.9
	comp=E,18nm,0.4s					
TORD	Torodi Ar. Bea	90.73	72	LR	LR	20 46 52.1
	comp=E,30nm,18.2s,baz=240,slow=35					
PTAM	Tassajara Cree	90.75	325	eP	P	20 07 04.9 +1.9
TMUT	Trail Mountain	90.82	333	eP	P	20 07 05.0 +1.5
	comp=E,12nm,0.4s					
PANM	San Antonio Re	91.17	325	eP	P	20 07 07.4 +2.5
STKA	Stephens Creek	95.41	211	LR	LR	20 42 52.0
	comp=E,32nm,18.3s,baz=29,slow=31					
LMPM	Military Pass	96.59	327	eP	P	20 07 32.0 +2.1
GERES	GERESS Array B	122.23	51	PKP	PKPdf	20 12 53.7 -0.7
	comp=E,1.2nm,0.9s,baz=112,slow=3.6,SNR=5.2					
IL1	Eielson Array	123.60	331	ePKPdf	PKPdf	20 12 54.3 -2.1
ILAR	Eielson Array	123.60	331	PKP	PKPdf	20 12 55.7 -0.7
	comp=E,1.1nm,0.9s,baz=187,slow=2.2,SNR=7.6					
VYHS	Vyhne	124.87	54	ePKP	PKPdf	20 12 59.8 +0.4
IMAR	Indian Mountai	126.66	330	ePKPdf	PKPdf	20 13 02.1 -0.1
MLR	Muntele Rosu	127.45	60	ePKPpre	PKPpre	20 12 50.9
MLR				ePKPdf	PKPdf	20 13 04.9 +0.4
BR231	Keskin MP Arra	128.82	70	ePKPdf	PKPdf	20 13 07.7 +0.3
BR101	Keskin Array S	129.32	70	ePKPdf	PKPdf	20 13 09.1 +0.7
BRTR	Keskin Array B	129.32	70	PKP	PKPdf	20 13 09.1 +0.7
	comp=E,1.3nm,0.9s,baz=211,slow=2.2,SNR=6.8					
HYB	Hyderabad	144.23	135	i PKP	PKPbc	20 13 35.0 +0.4
GEYT	Alibeck	145.05	87	PKPbc	PKPab	20 13 36.8 +0.1
	comp=E,10nm,1.1s,baz=267,slow=5.9,SNR=21					
PETK	Petropavlovsk-	145.48	302	PKPbc	PKPdf	20 13 37.0 -0.3
	comp=E,9.2nm,1.0s,baz=134,slow=6.4,SNR=6.4					
PETK	Petropavlovsk-	145.48	302	ePKPdf	PKPdf	20 13 36.5 -0.9
PEA1	Petropavlovsk-	145.48	302	ePKPdf	PKPdf	20 13 37.0 -0.3
SEY	Seymchan	148.42	320	PKPbc	PKPbc	20 13 44.4 -1.2
	comp=E,12nm,1.1s,baz=73,slow=2.1,SNR=7.1					
ARU	Arti	150.03	53	ePKPbc	PKPbc	20 13 50.2 +0.5
ABKAR	Akbulak array	150.20	68	ePKPdf	PKPdf	20 13 45.2 0.0
ABKAR				ePKPbc	PKPbc	20 13 50.2 -0.1
CM01	Chiang Mai Arr	152.03	169	ePKPdf	PKPdf	20 13 48.7 -0.3
CM01				ePKPbc	PKPbc	20 13 54.8 -0.8
CM31	Chiang Mai Arr	152.06	169	ePKPdf	PKPdf	20 13 49.0 0.0
CM31				ePKPbc	PKPbc	20 13 54.9 -0.8
CMAR	Chiang Mai Arr	152.06	169	PKP	PKPdf	20 13 49.8 +0.7
	comp=E,1.4nm,1.0s,baz=231,slow=2.6,SNR=9.4					
CHTO	Chiang Mai	152.41	169	ePKPbc	PKPbc	20 13 56.0 -0.4
KSH	Kashi	158.18	97	ePKP	PKPdf	20 13 57.5 +0.5
KSH				PKPab	PKPab	20 14 30.4 -0.6
KSH				PKS	PKSdf	20 17 30.7 0.0
KSH				PP	PP	20 18 15.4 +3.8
KSH				SKS	SKSdf	20 21 02.1 +2.2
AAK	Ala-Archa	158.38	88	ePKPdf	PKPdf	20 13 57.4 +0.2
GYA	Guiyang	160.32	186	ePKPbc	PKPdf	20 14 00.2 +0.4
GYA				PKPab	PKPab	20 14 43.8 +3.4
GYA				PKS	PKSdf	20 17 32.0 -1.4
GYA				PP	PP	20 18 25.6 +3.7
GYA				AMB	AMB	
	comp=Z,120nm,7.9s					
KURK	Kurchatov	162.29	66	ePKPdf	PKPdf	20 14 01.2 +0.2
MAKZ	Makanchi	164.51	79	ePKPdf	PKPdf	20 14 02.6 -0.6
MAKZ				ePKPab	PKPab	20 14 58.1 -0.3
MK31	Makanchi Array	164.72	79	ePKPdf	PKPdf	20 14 03.1 -0.4
MK31				ePKPab	PKPab	20 14 58.7 -0.6
MK32	Makanchi Array	164.72	79	ePKPdf	PKPdf	20 14 02.8 -0.6
MK32				ePKPab	PKPab	20 14 59.3 -0.1
MKAR	Makanchi Array	164.72	79	PKP	PKPdf	20 14 02.8 -0.6
	comp=Z,1.2nm,1.0s,baz=336,slow=2.7,SNR=8.2					
MKAR				PKPab	PKPab	20 14 59.3 -0.1
	comp=Z,0.5nm,0.8s,baz=264,slow=2.3,SNR=4.0					
MKAR	Makanchi Array	164.72	79	ePKPdf	PKPdf	20 14 02.8 -0.6
MKAR				ePKPab	PKPab	20 14 58.7 -0.6
MK01	Makanchi Array	164.73	79	ePKPdf	PKPdf	20 14 03.1 -0.4
MK01				ePKPab	PKPab	20 14 58.6 -0.8
CD2	Chengdu	164.82	178	PKP	PKPdf	20 14 04.0 -0.1
CN2	Changchun	164.95	269	ePKP	PKPdf	20 14 02.6 -1.1
CN2				ePP	PP	20 18 50.8 +3.2
ZAA1	Zalesovo Array	165.18	51	ePKPdf	PKPdf	20 14 02.4 -1.1
ZAA0	Zalesovo Array	165.18	51	ePKPdf	PKPdf	20 14 02.1 -1.4
ZALV	Zalesovo Beam	165.18	51	PKP	PKPdf	20 14 02.4 -1.1
	comp=Z,3.0nm,1.0s,baz=264,slow=1.5,SNR=13					
ZALV	Zalesovo Beam	165.18	51	ePKPdf	PKPdf	20 14 02.1 -1.4
LZH	Lanzhou	169.99	177	ePKP	PKPdf	20 14 07.6 -0.2
LZH				pPKP	pPKPdf	20 14 15.5 -3.8
LZH				sPKP		20 14 19.1
LZH				PKP	PKPab	20 15 25.3 +2.5
LZH				LR	LR	
	comp=N,130nm,12.3s					
LZH				LR	LR	
	comp=E,180nm,13.4s					
LZH				LR	LR	
	comp=Z,180nm,14.4s					
GTA	Gaotai	172.50	151	PKP	PKPdf	20 14 09.5 +0.6
GTA				pPKP	pPKPdf	20 14 20.0 -0.4
GTA				sPKP		20 14 24.3
GTA				PKPab	PKPab	20 15 33.9 0.0
SONA1	Songino Array	177.79	323	ePKPdf	PKPdf	20 14 07.5 -2.6
SONA1				ePKPab	PKPab	20 15 56.9 -0.3
SONA0	Songino Array	177.81	323	ePKPab	PKPab	20 15 57.3 0.0
SONM	Songino Array	177.81	323	PKPab	PKPab	20 15 57.3 0.0
	comp=Z,1.5nm,1.0s,baz=25,slow=3.9,SNR=8.2					

*ROM **07** 19:59:45.7±0.6, 40°.61N×18°.92E, h10km, Md2.8/5, MI2.9/4, Error ellipse: s-maj=8.7km s-min=2.3km az=85.0*
*ISCJB **07** 19:59:47.0±1.0, 40°.65N±0°.07×18°.83E±0°.10, h10km, Error ellipse: s-maj=11.7km s-min=9.0km az=34.3*
*CSEM **07** 19:59:46.6±0.4, 40°.64N×18°.81E, h2km, MD2.8, Error ellipse: s-maj=10.3km s-min=7.4km az=108.0*

ISC 07 19:59:46.2±1.0, 40°.60N±0°.04×18°.91E±0°.06, h10km, n22, σ0°74/28, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCTE	Santa Cesarea	0.63	212	Pn	Pg	19 59 58.1	-0.2
SCTE				Sn	Sg	20 00 07.3	+0.8
SCTE	Santa Cesarea	0.63	212	Pn	Pg	19 59 58.1	-0.2
SCTE				Sn	Sg	20 00 07.3	+0.8
TAR1	Taranto	1.24	267	ePn	Pg	20 00 11.3	+1.4
MASS	Massafra	1.34	272	ePn	Pg	20 00 12.1	+0.2
NOCI	Noci	1.41	278	Pn	Pn	20 00 11.5	-0.4
	164nm,0.6s						
NOCI	Noci	1.41	278	Pn	Pn	20 00 11.5	-0.4
	164nm,0.6s						
BAI	Bari	1.62	289	ePn	Pg	20 00 16.6	-0.6
SG1	Sgolgore (BA)	1.71	279	ePn	Pg	20 00 19.6	+0.7
AMUR	Altamura	1.77	281	Pn	Pn	20 00 17.2	+0.3
	71nm,0.5s						
AMUR	Altamura	1.77	281	Pn	Pn	20 00 17.2	+0.3
	71nm,0.5s						
KRUS	Krusevo	1.93	66	i Pn	Pb	20 00 21.6	0.0
KRUS	Krusevo	1.93	66	i Pn	Pb	20 00 21.5	0.0
SALB	San Lorenzo Be	2.09	251	Pn	Pn	20 00 21.0	-0.3
SALB	San Lorenzo Be	2.09	251	Pn	Pn	20 00 21.0	-0.3
MRVN	Minervino Murg	2.11	283	Pn	Pn	20 00 21.6	+0.1
	49nm,0.6s						
MRVN	Minervino Murg	2.11	283	Pn	Pn	20 00 21.6	+0.1
	49nm,0.6s						
ACER	Acerenza	2.26	276	Pn	Pn	20 00 24.3	+0.7
	273nm,0.8s						
ACER	Acerenza	2.26	276	Pn	Pn	20 00 24.3	+0.7
	273nm,0.8s						
STON	Ston	2.44	339	ePn	Pn	20 00 27.0	+0.9
STON				Sn	Sn	20 00 55.4	-0.6
STON	Ston	2.44	339	ePn	Pn	20 00 26.9	+0.9
STON				Sn	Sn	20 00 55.3	-0.6
NVLJ	Novalja	4.95	324	ePn	Pn	20 01 00.7	+0.1
NVLJ				Sn	Sn	20 01 56.2	-1.7
NVLJ	Novalja	4.95	324	ePn	Pn	20 01 00.7	+0.1
NVLJ				Sn	Sn	20 01 56.2	-1.7

JMA 07 20:07:54.7, 36°.52N×137°.67E, h1km±1km, M1.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.36	108	P	Pg	20 08 02.1	+0.4
JNG				S	Sg	20 08 07.0	+0.6
JGN	Niukaw	0.41	224	P	Pg	20 08 03.1	+0.5
JGN				S	Sg	20 08 08.9	+1.0
MAT	Matsushiro	0.43	87	P	Pg	20 08 03.2	+0.2
MAT				S	Sg	20 08 09.1	+0.5
MAT	Matsushiro	0.43	87	P	Pg	20 08 03.1	+0.1
MAT				S	Sg	20 08 09.0	+0.4

*IDC **07** 20:28:16.9±2.0, 1°.66N×97°.06E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.5/43, mbtmp3.7/6, ML2.9/2, MS2.5/2, Ms1 2.7/2, ms1mx2.4/45, Error ellipse: s-maj=47.1km s-min=25.7km az=50.0*
*ISCJB **07** 20:28:18.8±0.9, 1°.7N±0°.1×97°.01E±0°.09, h28km, mb4.3/11, Error ellipse: s-maj=15.9km s-min=11.8km az=34.2*
*NEIC **07** 20:28:18.0±0.7, 1°.67N×96°.98E, h10km, mb4.8/7, Error ellipse: s-maj=13.3km s-min=9.6km az=217.0*

ISC 07 20:28:20.8±1.2, 1°.7N±0°.1×97°.04E±0°.09, h28km, n28, σ0°87/26, mb4.5/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.17	60	Pn	Pn	20 28 54.2	-1.1
	1.3nm,0.3s,baz=249,slow=8.6,SNR=3.4						
PSI				Sn	Sb	20 29 26.3	+0.1
	4.2nm,0.3s,baz=202,slow=10,SNR=6.9						
PSI				LR	LR	20 29 35.3	
	comp=Z,70nm,18.1s,baz=292,slow=37						
LHMI	Lhok Sumawe	3.50	358	ePn	Pn	20 29 13.8	+0.3
IPM	Ipoh	4.84	55	ePn	Pn	20 29 33.2	+1.3
KULM	Kulim	5.07	45	ePn	Pn	20 29 35.9	+1.0
CM31	Chiang Mai Arr	16.75	6	ePn	Pn	20 32 11.1	-2.5
CMAR	Chiang Mai Arr	16.75	6	Pn	Pn	20 32 12.8	-0.9
	0.0nm,0.3s,baz=196,slow=12,SNR=3.8						
CMAR				LR	LR	20 38 43.7	
	comp=Z,25nm,18.7s,baz=165,slow=37						
H08S2	Diego Garcia H	26.19	249	T	T	21 01 04.7	
	baz=69,slow=75,SNR=92						
H08S3	Diego Garcia H	26.19	249	T	T	21 01 07.0	
	baz=69,slow=75,SNR=75						
H08S1	Diego Garcia H	26.21	249	T	T	21 01 05.3	
	baz=69,slow=75,SNR=93						
WRA	Warramunga Arr	42.44	122	P	P	20 36 13.3	-0.3
	0.2nm,0.4s,baz=303,slow=9.0,SNR=3.6						
WR1	Warramunga Arr	42.44	122	eP	P	20 36 13.3	-0.3
	15nm,1.6s						
KSAR	Wonju Array Be	45.50	35	P	P	20 36 38.5	+0.7
KSRS	Korea Array	45.53	35	P	P	20 36 38.5	+0.4
	0.6nm,0.4s,baz=231,slow=7.7,SNR=4.2						
SONA0	Songino Array	46.66	9	eP	P	20 36 46.4	-0.7
	10nm,1.8s						
SONM	Songino Array	46.66	9	P	P	20 36 46.4	-0.7
	0.7nm,0.5s,baz=190,slow=10,SNR=3.8						
MK01	Makanchi Array	46.69	346	eP	P	20 36 47.6	+0.5
MK31	Makanchi Array	46.72	346	eP	P	20 36 48.1	+0.7
MK32	Makanchi Array	46.72	346	eP	P	20 36 48.3	+0.9
MKAR	Makanchi Array	46.72	346	P	P	20 36 48.3	+0.9
	2.4nm,0.7s,baz=160,slow=7.7,SNR=28						
MKAR	Makanchi Array	46.72	346	eP	P	20 36 48.0	+0.6
	12nm,0.7s						
MAKZ	Makanchi	46.81	346	eP	P	20 36 48.0	0.0
	1.7nm,0.9s						
ZAA0	Zalesovo Array	53.04	351	eP	P	20 37 35.7	+0.5
ZALV	Zalesovo Beam	53.04	351	P	P	20 37 36.0	+0.8
	1.9nm,0.5s,baz=179,slow=8.6,SNR=13						
ZALV	Zalesovo Beam	53.04	351	eP	P	20 37 35.3	+0.1
ZAA1	Zalesovo Array	53.04	351	eP	P	20 37 36.0	+0.8
ABKAR	Abkulak array	57.00	332	eP	P	20 38 04.0	0.0
	10.0nm,1.1s						
YSS	Yuzh-Sakhalins	60.03	34	eP	P	20 38 25.4	+0.3
	13nm,0.4s						
YAK	Yakutsk	64.99	16	eP	P	20 38 58.0	+0.1
	7.7nm,0.5s						

JMA 07 20:39:37.4±0.1, 36°.53N×137°.64E, h1km±1km, M0.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.26	287	P	Pg	20 39 43.1	+0.7
JTT				S	Sg	20 39 47.4	+1.7
JNG	Nsakai	0.39	108	P	Pg	20 39 45.4	+0.5
JNG				S	Sg	20 39 50.9	+0.9
JGN	Niukaw	0.40	221	P	Pg	20 39 45.4	+0.3
JGN				S	Sg	20 39 50.9	+0.6
MAT	Matsushiro	0.46	88	P	Pg	20 39 46.3	+0.1
MAT				S	Sg	20 39 52.5	+0.4
MAT	Matsushiro	0.46	88	P	Pg	20 39 46.3	+0.1
MAT				S	Sg	20 39 52.6	+0.5

*IDC **07** 20:42:03.0±3.2, 4°.36S×101°.57E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/37, mbtmp3.7/7, MS3.2/3, Ms1 3.2/3, ms1mx2.6/49, Error ellipse: s-maj=146.8km s-min=17.2km az=56.0*
*ISCJB **07** 20:42:09.0±0.7, 4°.33S±0°.07×101°.82E±0°.07, h30km, mb3.6/7, MS3.2/3, Error ellipse: s-maj=12.6km s-min=5.8km az=42.4*
*DJA **07** 20:42:10.5±1.3, 4°.S±3°.×10°.2E±°., h17km±11km, M3.8/9, MLv3.8/9*

ISC 07 20:42:08.3±0.8, 4°.31S±0°.08×101°.73E±0°.07, h30km, n20, σ1°87/19, mb3.6/7, MS3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	1.27	23	P	Pb	20 42 31.9	+0.2
MASI				S	Sn	20 42 44.5	-1.6
PPSI	Pulau Pagai	2.31	312	P	Pb	20 42 48.5	-0.8
PPSI				S	Sb	20 43 16.1	-1.4
LWLI	Liwa	2.42	107	P	Pn	20 42 48.4	+2.4
MDSI	Maura Dua	2.44	94	P	Pn	20 42 48.2	+2.0
KASI	Kota Agung	3.00	114	P	Pn	20 42 56.2	+2.3
KLSI		3.01	97	P	Pn	20 42 56.5	+2.5
PDSI	Padang	3.61	339	P	Pn	20 43 05.2	+2.9
SISI	Saibi	3.97	318	P	Pn	20 43 11.0	+3.8
CGJI	Cibinong	4.56	120	P	Pn	20 43 16.9	+1.6
CMAR	Chiang Mai Arr	22.79	353	P	P	20 47 08.6	-0.1
	0.3nm,0.5s,baz=182,slow=8.8,SNR=4.0						
FITZ	Fitzroy Crossi	27.11	122	P	P	20 47 48.8	-0.1
	1.2nm,0.8s,baz=320,slow=7.9						
WRA	Warramunga Arr	35.35	119	P	P	20 49 00.8	-0.6
	0.4nm,0.6s,baz=302,slow=8.8,SNR=6.5						
ASAR	Alice Springs	36.51	125	P	P	20 49 11.3	-0.1
	0.2nm,0.4s,baz=298,slow=7.4,SNR=6.4						
STKA	Stephens Creek	46.33	131	P	P	20 50 32.1	+0.3
	1.7nm,0.7s,baz=289,slow=5.9,SNR=8.1						
STKA				LR	LR	21 10 57.5	
	comp=Z,20nm,19.1s,baz=196,slow=37						
GUMO	Guam	46.36	67	LR	LR	21 10 56.7	
	comp=Z,35nm,20.7s,baz=170,slow=37						
MKAR	Makanchi Array	53.72	344	P	P	20 51 27.0	-0.6
	0.7nm,0.5s,baz=154,slow=8.9,SNR=13						
ZALV	Zalesovo Beam	59.76	349	P	P	20 52 08.7	-1.6
	0.9nm,0.4s,baz=148,slow=6.5,SNR=5.8						
ATD	Arta Tunnel	60.65	286	LR	LR	21 11 22.6	
	comp=Z,25nm,22.0s,baz=322,slow=29						
CPUP	Villa Florida	143.41	213	PKhKP	PKPpre	21 01 33.1	
	2.6nm,0.9s,baz=76,slow=6.2,SNR=3.0						
TXAR	Lajitas Array	145.38	41	PKPbc	PKPbc	21 01 43.2	-0.9
	0.7nm,0.6s,baz=263,slow=0.8,SNR=9.9						

*NEIC **07** 20:53:01.4±0.0, 35°.36N×92°.26W, h5km, MN2.8, After CERI.*
NEIC Felt [II] at Quitman. Also felt at Searcy.

ISC 07 20:53:01.2±1.0, 35°.38N±0°.02×92°.28W±0°.02, h4km±9km, n67, σ1°01/106, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	0.09	185	ePg	Pg	20 53 03.2	+0.1
WHAR				eSg	Sg	20 53 04.4	0.0
X301	Greenbrier Sit	0.17	214	ePg	Pg	20 53 04.6	-0.1
X301				eSg	Sg	20 53 06.4	-0.5
W41B	Gary Mavity, V	0.21	173	P	Pg	20 53 05.0	-0.3
	baz=357,SNR=226						
W41B				S	Sg	20 53 07.9	-0.1
	baz=357						
V41A	Mountainview	0.41	14	P	Pg	20 53 09.4	+0.2
	baz=191						
V41A				S	Sg	20 53 15.4	+0.8
	baz=191						
UALR	University of	0.61	185	ePg	Pg	20 53 12.9	0.0
UALR				eSg	Sg	20 53 20.7	-0.1
V40A	Witts Springs	0.61	314	P	Pg	20 53 13.1	+0.1
	baz=134						
V40A				S	Sg	20 53 21.5	+0.7
	baz=134						
W42A	Bald Knob	0.63	100	P	Pg	20 53 13.1	-0.2
	baz=279,SNR=18						
W42A				S	Sg	20 53 21.7	+0.3
	baz=279						
W40A	Ferguson Farm,	0.67	254	P	Pg	20 53 14.3	+0.2
	baz=75,SNR=93						
W40A				S	Sg	20 53 23.6	+0.8
	baz=75						
W40A	Ferguson Farm,	0.67	254	ePg	Pg	20 53 14.4	+0.2
W40A				eSg	Sg	20 53 23.7	+0.8
V42A	Cord	0.84	60	P	Pg	20 53 16.9	-0.4
	baz=238						
V42A				S	Sg	20 53 27.8	-0.4
	baz=238						
X41A	Kaden, Bauxite	0.91	192	P	Pg	20 53 18.1	-0.5
	baz=13,SNR=7.4						
X41A				S	Sg	20 53 30.4	0.0
	baz=13						
X42A	Stuttgart	0.99	147	P	Pg	20 53 19.6	-0.5
	baz=328,SNR=20						
U41A	Viola	1.00	17	P	Pg	20 53 20.1	-0.3
	baz=196						
U41A				S	Sg	20 53 33.8	+0.4
	baz=196						
X40A	Basin Creek Fa	1.00	207	P	Pg	20 53 19.9	-0.6
	baz=28,SNR=74						
X40A				S	Sg	20 53 33.4	-0.1
	baz=28						
U40A	Yellville	1.08	335	P	Pg	20 53 21.6	-0.3
	baz=154						
W39A	Magazine	1.25	262	P	Pg	20 53 24.5	-0.5
	baz=82,SNR=51						
W39A				S	Sg	20 53 41.5	+0.2
	baz=82						
U42A	Revenden	1.28	41	P	Pn	20 53 24.9	-1.0
	baz=220						
U42A				S	Sg	20 53 42.0	-0.5
	baz=220						
W43A	Forest City	1.32	102	S	Sn	20 53 43.9	-0.7
	baz=283						
HBAR	Harrisburg	1.33	82	ePg	Pn	20 53 25.8	-0.9
HBAR				eSg	Sg	20 53 43.3	-0.8
MIAR	Mount Ida	1.35	232	P	Pn	20 53 26.1	-0.9
	baz=52,SNR=76						
MIAR				S	Sb	20 53 44.6	-0.3
	baz=52						
MIAR	Mount Ida	1.35	232	ePn	Pn	20 53 26.0	-0.9
MIAR				eSg	Sb	20 53 44.7	-0.2
U39A	Green Forest	1.40	316	P	Pn	20 53 27.1	-0.5
	baz=136						
U39A				S	Sb	20 53 45.7	-0.4
	baz=136						
X43A	Marvell	1.44	127	P	Pn	20 53 27.5	-0.5
	baz=307						
X43A				S	Sg	20 53 47.4	0.0
	baz=307						
V43A	Jonesboro	1.47	74	P	Pn	20 53 28.4	-0.1
	baz=254						
V43A				S	Sb	20 53 47.9	-0.3
	baz=254						
CCAR	Cane Creek	1.52	164	ePn	Pn	20 53 29.1	-0.1
CCAR				eSn	Sg	20 53 50.6	+0.5
Y41A	Eaglette Beard	1.52	190	P	Pn	20 53 29.2	-0.1
	baz=11,SNR=6.9						
Y41A				S	Sg	20 53 50.1	-0.1
	baz=11						
Y42A	Garnett, Star	1.60	165	P	Pn	20 53 30.1	-0.2
	baz=346						
Y42A				Sb	Sg	20 53 52.9	+0.4
	baz=346						
Y40A	Okolona	1.60	211	P	Pn	20 53 30.0	-0.2
	baz=32,SNR=19						
Y40A				S	Sb	20 53 51.9	+0.1
	baz=32						
HHAR	Hobbs

T43A	Greenville	2.34	43	P	Pn	20 53 41.4	+0.9
	baz=223,SNR=44						
V37A	Hulbert	2.38	283	P	Pn	20 53 41.6	+0.5
	baz=102,SNR=10						
PARMO	Parma	2.41	57	ePn	Pn	20 53 43.2	+1.7
S39A	Bolivar	2.45	340	P	Pn	20 53 42.8	+0.8
	baz=160,SNR=18						
Y38A	Idabel	2.49	235	Pb	Pb	20 53 46.0	-0.5
	baz=54						
OXF	Oxford	2.51	109	ePn	Pn	20 53 42.9	0.0
OXF				eSn	Sn	20 54 13.7	-0.3
U37A	Salina	2.52	295	P	Pn	20 53 43.6	+0.6
	baz=113,SNR=9.8						
U44B	Burton Farm, H	2.56	67	P	Pn	20 53 44.3	+0.7
	baz=248,SNR=6.6						
W37B	Quinton	2.59	266	Pb	Pb	20 53 48.5	+0.3
	baz=84						
S38A	Stockton	2.60	330	P	Pn	20 53 44.8	+0.7
	baz=149,SNR=16						
V45A	Humboldt	2.73	82	P	Pn	20 53 45.6	-0.2
	baz=263						
CCM	Cathedral Cave	2.79	17	ePn	Pn	20 53 47.9	+1.2
CCM				eSn	Sb	20 54 26.0	-0.3
R40A	Maddies Statio	2.90	0	P	Pn	20 53 49.1	+0.9
	baz=180,SNR=7.5						
TUL1	Leonard	2.91	281	ePn	Pn	20 53 49.0	+0.7
TUL1				eSn	Sb	20 54 31.7	+2.1
R39A	Chumby, Stover	2.99	348	P	Pn	20 53 50.1	+0.7
	baz=168,SNR=6.9						
V36A	Jenks	3.01	279	P	Pn	20 53 50.1	+0.4
	baz=97						
W36A	Wetumka	3.24	267	P	Pn	20 53 53.3	+0.4
	baz=85						
WVT	Waverly	3.69	77	ePn	Pn	20 53 58.5	-0.6
WVT				eSn	Sn	20 54 41.2	-2.0
WVT				eSb	Sb	20 54 54.4	+2.1
LRAL	Lakeview Retre	4.96	117	ePn	Pn	20 54 17.8	+1.2
LRAL				eSb	Sb	20 55 31.9	+3.2
KSU1	Kansas State U	5.07	318	ePn	Pn	20 54 16.3	-1.7
KSU1				eSg	Sg	20 55 39.0	-5.0
SWET	Sewanee	5.19	90	eSb	Sb	20 55 39.9	+4.5

*IDC **07** 20:59:02.6±3.2, 36°.19N×71°.43E, h79km±27km, mb3.5/10, mb1 3.6/16, mb1mx3.4/50, mbtmp3.8/16, Error ellipse: s-maj=24.2km s-min=18.8km az=3.0*
*ISCJB **07** 20:59:03.2±0.6, 36°.17N±0°.05×71°.58E±0°.09, h114km, mb3.6/9, Error ellipse: s-maj=11.9km s-min=4.2km az=146.9*
*NNC **07** 20:59:11.2±3.6, 36°.75N×71°.30E, h130km±35km, mb2.9, mpv3.6, Error ellipse: s-maj=28.1km s-min=20.8km az=13.0*

ISC 07 20:59:04.0±0.6, 36°.23N±0°.06×71°.47E±0°.07, h114km, n37, σ3°.27/46, mb3.7/9, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.17	136	eP	Pn	21 00 18.0	-1.0
THN				eS	Sn	21 01 14.6	-2.9
MNAS	Manas	6.30	7	⇑P	Pn	21 00 35.1	+0.6
	3.3nm,0.4s						
MNAS				⇓S	Sn	21 01 41.5	-3.7
	16nm,0.6s						
SDNR	Sundarnagar	6.57	134	ex	x	21 01 16.0	
SDNR				eS	Sn	21 01 49.0	-2.6
AAK	Ala-Archa	6.81	19	P	Pn	21 00 41.6	+0.1
	1.3nm,0.3s,baz=167,slow=6.0,SNR=14						
AAK				S	Sn	21 01 53.0	-4.5
	0.9nm,0.3s,baz=332,slow=21,SNR=7.1						
AAK	Ala-Archa	6.81	19	P	Pn	21 00 42.2	+0.8
	1.9nm,0.5s						
AAK				S	Sn	21 01 55.1	-2.4
	15nm,1.1s						
KK31	Karatay Array	6.91	354	⇓P	Pn	21 00 42.2	-0.3
	3.4nm,0.4s,baz=178,slow=13						
KK31				⇓S	Sn	21 01 55.0	-4.6
	9.5nm,0.4s,baz=169,slow=21						
TKM2	Tokmak 2	7.40	24	⇑P	Pn	21 00 50.6	+1.1
	2.1nm,0.8s						
TKM2				⇑S	Sn	21 02 10.0	-1.9
	4.8nm,0.7s						
JOSI	Joshimath	8.81	128	eP	Pn	21 01 11.0	+2.3
JOSI				eS	Sn	21 02 44.4	-2.0
JOSI				IAML		21 02 47.3	
	comp=E,124nm,0.8s						
JOSI				IAML		21 02 50.7	
	comp=N,62nm,1.0s						
KHET	Khetri	8.92	154	eS	Sn	21 02 41.0	-7.7
KHET				IAML		21 02 46.9	
	comp=E,16nm,0.6s						
KHET				IAML		21 02 47.1	
	comp=N,11nm,0.3s						
KALG	Kalgarh	9.08	136	eS	Sn	21 02 46.4	-6.1
KUDL	Kundal	9.11	151	eS	Sn	21 02 45.9	-7.4
KUDL				IAML		21 02 52.4	
	comp=E,9.0nm,0.7s						
KUDL				IAML		21 02 55.6	
	comp=N,6.9nm,1.2s						
GEYT	Alibeck	10.80	283	P	Pn	21 01 32.6	-2.8
	comp=N,0.4nm,0.3s,baz=112,slow=9.6,SNR=7.9						
GEYT				S	Sn	21 03 26.6	-7.6
	comp=N,0.6nm,0.3s,baz=123,slow=10,SNR=6.4						
PYUN	Piuthan	12.68	126	eP	Pn	21 01 59.5	-0.9
	comp=N,6.4nm,0.3s						
MK31	Makanchi Array	13.29	34	P	P	21 02 12.0	-1.6
	comp=N,0.3nm,0.5s,baz=194,slow=8.1,SNR=4.3						
MKAR	Makanchi Array	13.29	34	P	Pn	21 02 07.9	-0.2
	comp=N,0.1nm,0.3s,baz=212,slow=15,SNR=5.0						
KOLN	Koldanda	13.30	126	eP	Pn	21 02 07.2	-1.3
	comp=N,5.0nm,0.4s						
GKN	Gorkha	13.84	123	eP	Pn	21 02 14.0	-1.4
	comp=N,4.5nm,0.3s						
KKN	Kakani	14.41	122	eP	Pn	21 02 21.3	-1.5
	comp=N,5.6nm,0.5s						
PKIN	Phulchoki	14.63	122	eP	Pn	21 02 23.8	-1.8
	comp=N,6.3nm,0.5s						
JIRN	Jiri	15.12	120	eP	Pn	21 02 30.2	-1.8
	comp=N,61nm,0.3s						
KURBB	Kurchatov Arra	15.26	17	P	P	21 02 35.9	+0.5
	comp=N,0.0nm,0.3s,baz=206,slow=11,SNR=9.5						
AB31	Akbulak array	15.50	331	⇓P	Pn	21 02 36.7	+0.5
	comp=N,0.4nm,0.3s						
AB31				⇓S	Sn	21 05 19.6	-8.1
	comp=N,0.8nm,0.5s						
RAMN	Ramite	15.85	121	eP	Pn	21 02 39.5	-1.4
	comp=N,5.1nm,0.4s						
BVAR	Borovoye Array	16.81	358	P	P	21 02 53.5	+1.0
	comp=N,0.3nm,0.3s,baz=150,slow=9.2,SNR=7.2						
AKTO	Aktyubinsk	17.20	330	P	P	21 02 57.4	+0.5
	comp=N,0.7nm,0.3s,baz=136,slow=7.8,SNR=11						
AKTO	Aktyubinsk	17.20	330	⇑P	Pn	21 02 58.7	+1.6
	comp=N,4.2nm,0.7s						
AKTO				⇓S	Sn	21 06 01.5	-7.0
	comp=N,1.8nm,0.7s						
ZAA0	Zalesovo Array	20.01	24	⇑P	P	21 03 28.5	+1.1
	comp=N,0.6nm,0.7s						
ZALV	Zalesovo Beam	20.01	24	P	Pn	21 03 28.9	-1.2
	comp=N,3.2nm,0.3s,baz=226,slow=11,SNR=19						
FINES	FINESS Array B	37.92	326	P	P	21 06 13.3	+3.5
	comp=N,3.5nm,1.0s,baz=118,slow=11,SNR=5.6						
NOA	NORSAR Array B	44.82	323	P	P	21 07 09.2	+2.9
	comp=N,0.8nm,0.5s,baz=98,slow=7.7,SNR=3.2						
USRK	Ussuriysk Ar.	45.97	61	P	P	21 07 17.5	+2.0
	comp=N,0.9nm,0.5s,baz=259,slow=7.9,SNR=3.3						
TORD	Torodi Ar. Bea	66.09	269	P	P	21 09 40.8	+1.7
	comp=N,0.3nm,0.5s,baz=45,slow=5.6,SNR=5.9						
INK	Inuvik	74.11	9	P	P	21 10 29.7	+2.6
	comp=N,0.5nm,0.4s,baz=31,slow=5.9,SNR=3.3						
ILAR	Eielson Array	74.93	16	P	P	21 10 33.8	+1.8
	comp=N,0.2nm,0.5s,baz=321,slow=7.0,SNR=4.0						
YKA	Yellowknife Ar	81.50	3	P	P	21 11 11.5	+3.4
	comp=N,1.8nm,0.7s,baz=353,slow=5.1,SNR=4.5						
WRA	Warramunga Arr	81.53	122	P	P	21 11 12.3	+3.3
	comp=N,0.4nm,0.5s,baz=327,slow=4.9,SNR=4.7						
ASAR	Alice Springs	83.79	125	P	P	21 11 23.9	+3.2
	comp=N,0.1nm,0.5s,baz=324,slow=4.6,SNR=2.9						

*NIED **07** 21:11:00, 33°.80N×135°.00E, h20km, Mw4.1 Best double couple: M0 1.59000×10^15 NP1:φs39.00000°, δ32.00000°, λ146.00000°. NP2:φs159.00000°, δ73.00000°, λ63.00000°.*
*IDC **07** 21:11:36.2±0.6, 33°.77N×135°.07E, h0km, mb4.0/18, mb1 4.1/22, mb1mx4.0/57, mbtmp3.9/22, ML3.7/4, MS3.2/7, Ms1 3.3/7, ms1mx2.9/55, Error ellipse: s-maj=14.5km s-min=13.8km az=13.0*
*ISCJB **07** 21:11:37.8±0.5, 33°.78N±0°.04×135°.03E±0°.03, h23km±4km, mb3.9/19, MS3.2/3, Error ellipse: s-maj=7.3km s-min=3.8km az=176.3*
*JMA **07** 21:11:38.7, 33°.84N×134°.99E, h13km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs149.00000°, δ79.00000°, λ77.00000°. NP2:φs20.00000°, δ17.00000°, λ139.00000°. Principal axes: T Plg54.0000°, Azm44.0000°; N Plg12.0000°, Azm152.0000°; P Plg33.0000°, Azm250.0000°;*
JMA Felt III J1.
*NEIC **07** 21:11:38.1±2.8, 33°.79N×135°.04E, h12km±18km, mb4.1/1 Error ellipse: s-maj=9.1km s-min=6.7km az=181.0*
NEIC Recorded [3 JMA] in Wakayama.

ISC 07 21:11:38.1±1.1, 33°.83N±0°.04×135°.02E±0°.03, h13km±7km, n45, σ1°.11/55, mb4.0/19, MS3.2/3, 2C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.28	87	⇓P	Pb	21 11 44.9	-0.1
JWM				S	Sb	21 11 48.9	-0.7
JAI	Aioi	0.47	265	⇓P	Pg	21 11 47.6	+0.2
JAI				S	Sg	21 11 53.5	-0.2
JAJ2	Tsuna	0.59	349	⇑P	Pg	21 11 50.3	+0.6
JAJ2				S	Sg	21 11 58.2	+0.6
JWY	Kouya	0.61	51	⇓P	Pb	21 11 50.7	0.0
JWY				S	Sg	21 11 59.0	+0.8
JMN	Monobe	0.95	264	P	Pg	21 11 56.0	-0.5
JMN				S	Sg	21 12 08.7	-0.3
JHE	Heguri	0.99	34	⇑P	Pg	21 11 56.6	-0.5
JHE				S	Sg	21 12 10.5	+0.4
JJS	Sakaide	1.05	301	⇓P	Pb	21 11 57.4	-0.8
JJS				S	Sb	21 12 11.5	-0.3
JNU	Nakatsue	3.53	260	Pn	Pn	21 12 32.7	0.0
	9.0nm,0.3s,baz=52,slow=4.8,SNR=100						
JNU				Pg	Pg	21 12 44.2	-1.6
	59nm,0.3s,baz=73,slow=8.7,SNR=58						
JNU				Lg	Lg	21 13 26.5	
	7.0nm,0.3s,baz=149,slow=18,SNR=1.9						
JNU	Nakatsue	3.53	260	ePn	Pn	21 12 33.0	+0.3
JNU				ePg	Pg	21 12 44.8	-1.0
JNU				eSg	Sg	21 13 31.6	+0.1
MAJO	Matsushiro	3.76	43	ePn	Pn	21 12 36.0	+0.2
MAJO				ePg	Pg	21 12 49.2	-0.9
MAJO				eSg	Sg	21 13 38.1	-0.7
MAT	Matsushiro	3.76	43	P	Pn	21 12 36.2	+0.4
MAT				S	Sb	21 13 26.0	-3.8
MJAR	Matsushiro Arr	3.76	43	Pn	Pn	21 12 36.3	+0.5
	10nm,0.3s,baz=39,slow=25,SNR=33						
MJAR				Lg	Lg	21 13 36.9	
	9.6nm,0.3s,baz=213,slow=28,SNR=5.4						
MJAR				LR	LR	21 14 23.9	
	comp=Z,352nm,18.3s,baz=235,slow=44						
JHJ	Hachijo jima 2	4.05	99	Pn	Pn	21 12 40.5	+0.8
	32nm,0.3s,baz=71,slow=18,SNR=10						
JHJ				Sn	Sn	21 13 26.1	-0.9
	29nm,0.3s,baz=41,slow=23,SNR=7.0						
JHJ				LR	LR	21 14 12.1	
	comp=Z,292nm,19.3s,baz=255,slow=39						
JHJ2	Mitsune	4.08	99	ePn	Pn	21 12 40.7	+0.6
JHJ2				eSn	Sn	21 13 25.7	-2.0
KSRS	Korea Array	6.81	304	Pn	Pn	21 13 17.5	-0.2
	0.2nm,0.3s,baz=123,slow=15,SNR=3.0						
KSRS				Sn	Sn	21 14 32.6	-2.5
	1.1nm,0.3s,baz=122,slow=24,SNR=5.9						
KSRS				Lg	Lg	21 15 24.1	
	baz=275,slow=39,SNR=2.5						
KSRS				LR	LR	21 16 09.9	
	comp=Z,182nm,18.1s,baz=112,slow=40						
KSAR	Wonju Array Be	6.83	304	Pn	Pn	21 13 17.5	-0.5
KSAR				Sn	Sn	21 14 32.6	-3.0
USRK	Ussuriysk Ar.	10.62	348	LR	LR	21 17 55.0	
	comp=Z,99nm,19.1s,baz=97,slow=36						
SONM	Songino Array	25.60	312	P	P	21 17 09.5	+2.3
	1.3nm,0.6s,baz=99,slow=8.9,SNR=3.7						
SONM				LR	LR	21 27 45.7	
	comp=Z,80nm,19.4s,baz=58,slow=38						
MA2	Magadan	27.78	17	LR	LR	21 30 14.8	
	comp=Z,37nm,18.5s,baz=338,slow=40						
H11N2	WAKE ISLAND Hy	31.59	108	T	T	21 50 36.9	
	baz=303,slow=74,SNR=18						
H11N1	WAKE ISLAND Hy	31.59	108	T	T	21 50 36.9	
	baz=303,slow=74,SNR=31						
H11N3	WAKE ISLAND Hy	31.61	108	T	T	21 50 38.0	
	baz=303,slow=74,SNR=26						
H11S3	WAKE ISLAND Hy	32.11	110	T	T	21 51 20.0	
	baz=304,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	32.11	110	T	T	21 51 17.3	
	baz=304,slow=75,SNR=42						
H11S2	WAKE ISLAND Hy	32.12	110	T	T	21 51 15.9	
	baz=304,slow=75,SNR=24						
CMAR	Chiang Mai Arr	35.61	254	P	P	21 18 37.2	+1.5
	0.3nm,0.3s,baz=46,slow=7.7,SNR=3.7						
CMAR				LR	LR	21 35 23.9	
	comp=Z,45nm,18.5s,baz=92,slow=40						
ZALV	Zalesovo Beam	40.36	315	P	P	21 19 15.6	+0.3
	0.4nm,0.4s,baz=96,slow=8.9,SNR=2.1						
ZALV				PcP	PcP	21 21 17.5	-0.9
	0.7nm,0.6s,baz=104,slow=3.0,SNR=3.2						
MKAR	Makanchi Array	41.49	304	P	P	21 19 24.9	+0.1
	1.0nm,0.7s,baz=86,slow=9.0,SNR=7.9						
KURK	Kurchatov	43.89	310	eP	P	21 19 45.3	+1.1
KURBB	Kurchatov Arra	43.95	310	P	P	21 19 45.0	+0.3
	1.9nm,1.0s,baz=95,slow=8.3,SNR=6.4						
BVAR	Borovoye Array	48.92	314	P	P	21 20 23.1	-0.6
	0.8nm,0.6s,baz=98,slow=9.1,SNR=6.2						
WRA	Warramunga Arr	53.48	181	P	P	21 20 57.7	-0.5
	2.6nm,0.7s,baz=354,slow=7.9,SNR=20						
ILAR	Eielson Array	54.95	31	P	P	21 21 08.7	+0.2
	1.1nm,0.8s,baz=274,slow=8.4,SNR=14						
ARU	Arti	55.31	319	P	P	21 21 11.7	+0.6
	1.3nm,0.5s,baz=101,slow=10,SNR=4.4						
ABKAR	Akbulak array	56.00	310	eP	P	21 21 16.9	+0.6
	0.8nm,0.4s						
AKTO	Aktyubinsk	56.92	312	P	P	21 21 23.6	+0.8
	1.3nm,0.7s,baz=81,slow=15,SNR=4.1						
ASAR	Alice Springs	57.19	181	P	P	21 21 24.0	-0.9
	1.3nm,0.8s,baz=12,slow=13,SNR=24						
GEYT	Alibeck	60.76	298	P	P	21 21 50.9	+1.1
	1.5nm,0.8s,baz=0.0,slow=2.0,SNR=4.9						
STKA	Stephens Creek	65.65	174	P	P	21 22 21.8	-0.1
	1.8nm,0.9s,baz=29,slow=5.7,SNR=4.1						
KBZ	Khabaz	68.94	309	P	P	21 22 44.2	+1.4
	1.5nm,0.8s,baz=123,slow=3.9,SNR=4.8						
FINES	FINESS Array B	69.13	331	P	P	21 22 43.9	+0.2
	9.4nm,1.2s,baz=270,slow=5.7,SNR=3.9						
BRTR	Keskin Array B	76.93	309	P	P	21 23 31.1	+0.5
	1.4nm,0.8s,baz=100,slow=6.1,SNR=10						
PDAR	Pinedale Array	83.58	42	P	P	21 24 06.3	-0.1
	0.5nm,0.7s,baz=347,slow=1.2,SNR=3.4						
TXAR	Lajitas Array	96.18	49	P	P	21 25 07.3	+1.0
	0.2nm,0.7s,baz=327,slow=4.8,SNR=3.2						
SAML	Samuel	150.10	38	ePKPbc	PKPbc	21 31 28.4	-0.8

*NIED **07** 21:17:00, 30°.00N×139°.60E, h380km, Mw4.2 Best double couple: M0 2.23000×10^15 NP1:φs145.00000°, δ36.00000°, λ-59.00000°. NP2:φs288.00000°, δ59.00000°, λ-111.00000°.*
*ISCJB **07** 21:17:38.1±0.4, 30°.00N±0°.04×139°.29E±0°.06, h393km±3km, mb3.9/43, Error ellipse: s-maj=8.4km s-min=5.9km az=177.2*
*JMA **07** 21:17:38.3±0.2, 30°.04N×139°.57E, h411km±4km, M4.2*
*NEIC **07** 21:17:39.0±0.4, 29°.99N×139°.16E, h385km±4km, mb4.0/10, Error ellipse: s-maj=9.5km s-min=5.7km az=74.0*
*IDC **07** 21:17:40.3±1.1, 30°.05N×139°.15E, h394km±10km, mb3.6/28, mb1 3.7/34, mb1mx3.6/55, mbtmp4.3/34, Error ellipse: s-maj=11.9km s-min=8.6km az=78.0*

ISC 07 21:17:38.6±0.6, 30°.02N±0°.05×139°.27E±0°.07, h380km±6km, n92, σ1°.15/114, mb3.9/43, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	3.08	8	P	Pn	21 18 43.1	+2.2
JHCJ				eS	S	21 19 32.2	+1.0
JHJ2	Mitsune	3.12	9	P	Pn	21 18 43.2	+2.0
JHJ2	Mitsune	3.12	9	ePn	Pn	21 18 42.4	+1.2
JHJ2				eS	S	21 19 32.6	+0.7
JHJ	Hachijo jima 2	3.12	8	P	Pn	21 18 43.4	+2.2
	104nm,0.3s,baz=142,slow=22,SNR=24						
JHJ				S	S	21 19 30.8	-1.1
	68nm,0.3s,baz=75,slow=24,SNR=9.6						
CBIJ	Chichi jima	3.88	138	P	Pn	21 18 48.8	+0.4
CBIJ				S	S	21 19 43.3	-1.5
CBIJ	Chichi jima	3.88	138	ePn	Pn	21 18 49.0	+0.6
BSO1	Boso 1	4.84	17	P	Pn	21 18 58.9	+1.6
BSO1				S	S	21 20 02.1	+0.8
JIE	Ise	4.87	334	P	Pn	21 19 01.4	+3.2
JOD2	Odawara 2	5.23	358	P	Pn	21 19 03.0	+0.9
JOD2				S	S	21 20 07.8	-2.1
JRY	Ryogami san	5.99	357	P	Pn	21 19 11.1	+0.8
JRY				S	S	21 20 25.5	+0.5
MJAR	Matsushiro Arr	6.57	353	P	Pn	21 19 17.0	+0.2
	6.7nm,0.3s,baz=169,slow=11,SNR=62						
MAJO	Matsushiro	6.57	353	ePn	P	21 19 17.6	-0.1
MAT	Matsushiro	6.57	353	P	Pn	21 19 17.1	+0.3
MAT				S	S	21 20 34.4	-2.4
MJB9	Matsu-Tunnel	6.57	352	ePn	P	21 19 17.8	0.0
JHS	Saijyo	7.19	315	P	P	21 19 26.6	+1.8
JNU	Nakatsue	7.80	296	P	P	21 19 33.4	+1.7
	0.2nm,0.3s,baz=138,slow=7.6,SNR=3.9						
JMK	Ichinoseki	9.06	10	P	P	21 19 46.4	+0.2
JMK				S	S	21 21 27.6	-1.9
JOW	Kunigami	10.18	255	ePn	Pn	21 19 58.4	-0.5
JKE	Kume jima 2	11.61	255	P	Pn	21 20 17.5	+2.0
JKB	Kayabe	11.93	6	P	Pn	21 20 19.4	+0.4
KSRS	Korea Array	12.00	311	P	Pn	21 20 20.1	+0.2
	1.0nm,0.3s,baz=124,slow=9.5,SNR=14						
ASAJ	Asahikawa	14.32	10	P	Pn	21 20 46.0	-0.6
	1.0nm,0.3s,baz=203,slow=15,SNR=7.4						
USRK	Ussuriysk Ar.	15.29	340	P	P	21 20 55.5	+0.7
	0.2nm,0.3s,baz=174,slow=12,SNR=7.5						
TIA	Tai'an	19.53	294	⇓P	P	21 21 38.9	-1.0
TIA				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC	Hu-ho-hao-te	24.93	303	eP	P	21 22 28.4	-0.7
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,84nm,3.9s						
XAN	Xi'an	25.99	287	P	P	21 22 37.7	-0.8
XAN				sP	sP	21 24 29.4	-2.6
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN				pmax	pmax		
	comp=Z,62nm,7.6s						
ULN	Ulaanbaatar	30.45	315	eP	P	21 23 17.0	-0.7
	comp=Z,4.1nm,1.0s						
MA2	Magadan	30.57	12	P	P	21 23 19.2	+0.8
	comp=Z,12nm,0.7s,baz=210,slow=6.3,SNR=4.6						
SONM	Songino Array	30.84	314	P	P	21 23 21.1	0.0
	comp=Z,0.8nm,0.4s,baz=130,slow=8.5,SNR=6.4						
GTA	Gaotai	33.53	297	eP	P	21 23 43.8	-0.7
GTA				pP	pP	21 24 56.2	+0.8
GTA				sP	sP	21 25 39.1	-0.4
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	38.20	262	eP	P	21 24 22.7	-0.9
	comp=Z,15nm,1.2s						
CMAR	Chiang Mai Arr	38.34	262	P	P	21 24 25.1	+0.2
	comp=Z,1.4nm,0.7s,baz=61,slow=6.1,SNR=14						
CMAR				PcP	PcP	21 26 30.3	+0.6
	comp=Z,0.1nm,0.3s,baz=43,slow=1.4,SNR=5.4						
CM01	Chiang Mai Arr	38.35	262	eP	P	21 24 24.0	-0.9
WMQ	Urumqi	42.81	303	eP	P	21 25 01.6	+0.9
WMQ				pmax	pmax		
	comp=Z,11nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.5s						
WMQ				LR	LR		
	comp=N,29nm,12.1s						
WMQ				LR	LR		
	comp=E,29nm,16.1s						
WMQ				LR	LR		
	comp=Z,20nm,17.3s						
TAPN	Taplejung	45.00	280	eP	P	21 25 18.2	-0.2
ODAN	Odare	45.41	279	eP	P	21 25 21.3	-0.3
	comp=Z,18nm,0.7s						
ZAA0	Zalesovo Array	45.61	318	eP	P	21 25 21.9	-0.4
ZAA0				ePcP	PcP	21 26 52.8	-0.5
ZALV	Zalesovo Beam	45.61	318	P	P	21 25 22.0	-0.4
	comp=Z,1.3nm,0.4s,baz=105,slow=7.4,SNR=7.2						
ZALV				PcP	PcP	21 26 52.8	-0.5
	comp=Z,1.9nm,0.4s,baz=115,slow=3.6,SNR=7.5						
ZALV				ScP	ScP	21 30 07.0	-2.2
	comp=Z,0.7nm,0.5s,baz=76,slow=6.3,SNR=4.8						
RAMN	Ramite	46.06	280	eP	P	21 25 26.3	-0.3
	comp=Z,34nm,0.6s						
JIRN	Jiri	46.21	281	eP	P	21 25 28.0	+0.1
	comp=Z,169nm,0.3s						
GUN	Gumba	46.41	281	eP	P	21 25 29.3	-0.1
MK01	Makanchi Array	46.65	308	eP	P	21 25 30.1	-0.5
MK01				ePcP	PcP	21 26 56.9	-0.3
MK31	Makanchi Array	46.65	308	eP	P	21 25 30.3	-0.3
MK31				ePcP	PcP	21 26 57.0	-0.3
MKAR	Makanchi Array	46.65	308	P	P	21 25 30.1	-0.4
	comp=Z,1.0nm,0.4s,baz=83,slow=11,SNR=34						
MKAR				ScP	ScP	21 30 11.7	-2.1
	comp=Z,0.7nm,0.8s,baz=86,slow=5.0,SNR=5.6						
MKAR	Makanchi Array	46.65	308	eP	P	21 25 29.8	-0.8
	comp=Z,13nm,0.7s						
MKAR				ePcP	PcP	21 26 57.0	-0.3
MAKZ	Makanchi	46.87	308	eP	P	21 25 31.9	-0.4
	comp=Z,10nm,1.6s						
PKIN	Phulchoki	46.91	281	eP	P	21 25 32.5	-0.6
KKN	Kakani	46.95	281	eP	P	21 25 33.2	-0.2
	comp=Z,6.5nm,0.3s						
GKN	Gorkha	47.44	282	eP	P	21 25 36.7	-0.3
	comp=Z,6.0nm,0.3s						
KOLN	Koldanda	48.38	282	eP	P	21 25 44.2	0.0
PYUN	Piuthan	48.81	282	eP	P	21 25 47.6	+0.2
	comp=Z,46nm,0.4s						
KURK	Kurchatov	49.12	313	eP	P	21 25 48.5	-0.6
	comp=Z,14nm,1.5s						
KURBB	Kurchatov Arra	49.17	313

comp=Z,4.6nm,0.5s,baz=88,slow=3.0,SNR=9.2
ABKAR **Akbulak array** 61.23 313 *eP* P 21 27 14.2 -0.4
comp=Z,64nm,0.4s
INK **Inuvik** 61.46 25 P P 21 27 16.3 +0.5
comp=Z,2.6nm,0.4s,baz=280,slow=5.9,SNR=7.0
STKA **Stephens Creek** 61.59 178 P P 21 27 17.3 +0.1
comp=Z,3.4nm,0.5s,baz=352,slow=7.0,SNR=21
STKA **Stephens Creek** 61.59 178 *eP* P 21 27 17.2 +0.1
comp=Z,1.0nm,0.8s
AKTO **Aktyubinsk** 62.16 314 P P 21 27 20.1 -0.7
comp=Z,2.5nm,0.5s,baz=82,slow=14,SNR=8.8
GEYT **Alibeck** 65.78 301 P P 21 27 43.8 -0.6
comp=Z,1.9nm,0.7s,baz=69,slow=8.3,SNR=4.4
ARCES **ARCESS Array B** 69.94 340 P P 21 28 09.5 +0.1
comp=Z,7.4nm,1.0s,baz=69,slow=10,SNR=5.7
KBZ **Khabaz** 74.15 312 P P 21 28 34.5 0.0
comp=Z,4.3nm,0.8s,baz=99,slow=5.4,SNR=14
FINES **FINESS Array B** 74.19 333 P P 21 28 34.3 -0.2
comp=Z,2.7nm,0.5s,baz=71,slow=4.8,SNR=20
AKASG **Malin Array Be** 78.75 322 P P 21 28 58.2 -1.7
comp=Z,0.9nm,0.3s,baz=50,slow=4.9,SNR=7.7
NB2 **NORSAR Subarra** 79.94 337 P P 21 29 05.7 -0.5
comp=Z,1.1nm,0.5s,baz=47,slow=5.1
NOA **NORSAR Array B** 79.94 337 P P 21 29 05.9 -0.3
comp=Z,0.5nm,0.5s,baz=60,slow=6.2,SNR=7.5
RAYN **Ar Rayn** 81.65 292 *eP* P 21 29 15.8 -0.1
comp=Z,3.6nm,0.8s
BR131 **Keskin Array S** 82.15 311 *eP* P 21 29 18.2 -0.1
BRTR **Keskin Array B** 82.15 311 P P 21 29 18.2 -0.1
comp=Z,3.3nm,0.6s,baz=108,slow=3.7,SNR=24
BR231 **Keskin MP Arra** 82.64 312 *eP* P 21 29 18.8 -1.9
BUR08 **Bucovina Ar. S** 82.67 322 *eP* P 21 29 20.9 +0.1
MLR **Muntele Rosu** 83.56 319 P P 21 29 24.9 -0.4
comp=Z,0.5nm,0.8s,baz=70,slow=12,SNR=3.2
ASF **Jabal al Asfar** 83.91 304 P P 21 29 26.8 -0.5
comp=Z,0.7nm,0.4s,baz=223,slow=9.0,SNR=5.5
MMAI **Mount Meron Ar** 84.53 305 P P 21 29 30.4 0.0
comp=Z,0.6nm,0.5s,baz=27,slow=3.5,SNR=5.2
GERES **GERESS Array B** 87.68 327 P P 21 29 44.2 -1.1
comp=Z,0.4nm,0.5s,baz=57,slow=7.2,SNR=3.9
TXAR **Lajitas Array** 95.86 51 P P 21 30 25.5 +2.3
comp=Z,0.2nm,0.7s,baz=308,slow=3.1,SNR=2.4
TORD **Torodi Ar. Bea** 120.74 310 PKP PKPdf 21 35 45.7 -1.0
comp=Z,0.6nm,0.7s,baz=92,slow=0.9,SNR=9.9
LPAZ **La Paz** 151.43 68 PKPbc PKPbc 21 36 50.9 +1.4
comp=Z,1.4nm,0.5s,baz=288,slow=2.3,SNR=8.4

TRN 07 21:23:41.9, 17°.17N×62°.25W, h13km, MD3.5, 8C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.40**	**108**	*eP*	Pb	21 23 52.0	+1.1
BPA				*eS*	Sn	21 23 59.2	-1.7
MLYT	**Lee's Yard**	**0.45**	**172**	*eP*	Pb	21 23 52.8	+1.1
MLYT				*eS*	Sn	21 24 01.2	-0.9
SKI	**Saint Kitts**	**0.49**	**289**	*eP*	Pn	21 23 54.9	+0.2
SKI				*eS*	Sn	21 24 02.4	-0.7
ANWB	**Willy Bob**	**0.67**	**42**	⇑*iP*	Pn	21 23 57.5	+0.4
SABA	**Saba**	**1.04**	**296**	*eP*	Pn	21 24 03.3	+1.0
SABA				*eS*	Sn	21 24 20.4	+3.5
SEG	**Port Louis**	**1.05**	**137**	⇑*iP*	Pn	21 24 03.0	+0.6
LZG	**Guadaloupe-1**	**1.12**	**156**	⇑*iP*	Pg	21 24 04.4	+0.9
SMRT	**St. Maarten**	**1.18**	**318**	*eP*	Pg	21 24 06.0	+1.4
SMRT	**St. Maarten**	**1.18**	**318**	*eP*	Pg	21 24 06.1	+1.6
SMRT				*eS*	Sn	21 24 22.5	+2.5
SSG	**Sans Toucher**	**1.21**	**153**	⇑*iP*	Pg	21 24 05.7	+0.5
MLG	**Mont-d'or**	**1.22**	**155**	⇑*eP*	Pg	21 24 06.0	+0.7
CRG	**Carmichael**	**1.25**	**153**	⇑*iP*	Pg	21 24 06.4	+0.5
ECG	**Echelle**	**1.26**	**153**	⇑*iP*	Pg	21 24 06.6	+0.4
DOG	**Dongo Capester**	**1.28**	**152**	*eP*	Pg	21 24 07.4	+0.7
PHG	**Guadaloupe-2**	**1.29**	**153**	⇓*iP*	Pg	21 24 07.2	+0.5
TBG	**Guadaloupe-3**	**1.43**	**156**	*eP*	Pg	21 24 09.4	0.0
MGG	**Marie-Galante**	**1.54**	**144**	⇑*iP*	Pg	21 24 11.2	-0.2
MGG				*eS*	Sg	21 24 33.0	+1.7
BBL	**Barber's Block**	**1.80**	**155**	*eP*	Pb	21 24 14.9	+0.1
BBL				*eS*	Sg	21 24 38.6	-1.2
DWS	**Wesley**	**1.83**	**150**	*eP*	Pb	21 24 15.4	+0.1
DWS				*eS*	Sg	21 24 39.6	-1.2

NEIC ***07*** *21:37:19.6±4.6, 30°.53S×177°.60W, h6km±28km, mb4.4/6, Error ellipse: s-maj=18.0km s-min=11.6km az=103.0*
IDC ***07*** *21:37:19.1±1.9, 30°.54S×177°.61W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/31, mbtmp4.0/4, ML3.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=48.5km s-min=25.0km az=114.0*
ISCJB ***07*** *21:37:22.3±1.0, 30°.56S±0°.06×177°.7W±0°.2, h33km, mb4.4/10, MS3.9/1, Error ellipse: s-maj=21.8km s-min=7.7km az=6.9*
ISC 07 21:37:23.3±1.0, 30°.48S±0°.06×177°.7W±0°.2, h33km, n19, σ2°60/22, mb4.3/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**350**	Pn	**Pn**	**21 37 44.6**	**+0.3**
187nm,0.3s,baz=75,slow=19,SNR=9.8							
RAO				Sn	**Sn**	**21 37 58.2**	**-1.7**
348nm,0.3s,baz=35,slow=23,SNR=9.6							
RAO	**Raoul Island**	**1.24**	**350**	Pn	**Pn**	**21 37 44.6**	**+0.3**
RAO				*e*Pg	**Pb**	**21 37 45.6**	**-0.6**
RAO				Sn	**Sn**	**21 37 58.2**	**-1.7**
RAO				*e*Sg	**Sb**	**21 38 01.2**	**-0.6**
URZ	**Urewera**	**8.88**	**208**	Pn	**Pn**	**21 39 27.9**	**-1.2**
0.2nm,0.3s,baz=270,slow=5.1,SNR=3.7							
URZ				Sn	**Sn**	**21 41 04.4**	**-3.6**
0.9nm,0.3s,baz=216,slow=18,SNR=4.4							
DZM	**Mont Dzumac**	**16.51**	**297**	LR	LR	21 46 13.5	
comp=Z,96nm,18.4s,baz=234,slow=32							
CTAO	**Charters Tower**	**34.09**	**279**	*eP*	**P**	**21 44 06.5**	**+1.6**
14nm,0.6s							
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**21 44 11.9**	**+1.5**
4.9nm,0.8s,baz=91,slow=11,SNR=8.5							
PMG	**Port Moresby**	**38.90**	**295**	*eP*	**P**	**21 44 44.8**	**-1.1**
3.1nm,0.5s							
ASAR	**Alice Springs**	**43.39**	**267**	P	**P**	**21 45 23.9**	**+1.0**
0.3nm,0.4s,baz=102,slow=7.4,SNR=6.4							
WRAB	**Tennant Creek**	**44.38**	**272**	*eP*	**P**	**21 45 32.4**	**+1.5**
0.7nm,0.6s							
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**21 45 31.4**	**+0.5**
0.9nm,0.4s,baz=111,slow=8.0,SNR=10							
KSM	**Kuching**	**75.31**	**281**	P	**P**	**21 49 03.6**	**-0.1**
1.6nm,0.5s							
SNAA	**Sanae**	**78.07**	**178**	*eP*	**P**	**21 49 18.3**	**-0.1**
6.5nm,0.4s							
COCO	**West Island**	**80.08**	**262**	P	**P**	**21 49 31.5**	**+1.3**
129nm,0.6s							
LPIG	**La Paz**	**84.34**	**58**	LR	LR	22 18 31.0	
comp=Z,46nm,20.6s,baz=333,slow=29							
ANMO	**Albuquerque**	**93.41**	**51**	P	**P**	**21 50 36.2**	**+0.7**
0.5nm,0.6s							
SUMG	**Summit**	**132.70**	**16**	*iP*	**Pdif**	**21 53 20.6**	**-10**
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	**PKPdf**	**21 56 57.8**	**+0.9**
2.1nm,0.4s,baz=51,slow=4.6,SNR=15							
AKASG	**Malin Array Be**	**151.53**	**323**	PKPbc	**PKPbc**	**21 57 15.0**	**+1.5**
1.1nm,0.4s,baz=40,slow=2.9,SNR=5.7							
BRTR	**Keskin Array B**	**152.88**	**298**	PKPbc	**PKPbc**	**21 57 17.6**	**+0.4**
0.3nm,0.6s,baz=67,slow=5.2,SNR=2.8							

ISCJB ***07*** *21:41:19.1±0.4, 34°.67N±0°.04×69°.61E±0°.05, h24km, mb3.7/10, MS3.1/1, Error ellipse: s-maj=6.2km s-min=4.2km az=138.3*
NNC ***07*** *21:41:25.9±2.8, 34°.91N×69°.15E, h34km±56km, mb4.1, mpv4.2, Error ellipse: s-maj=29.2km s-min=15.5km az=158.0*
IDC ***07*** *21:41:27.4±3.2, 34°.97N×69°.61E, h76km±30km, mb3.5/10, mb1 3.6/16, mb1mx3.4/62, mbtmp3.8/16, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=24.7km s-min=16.1km az=4.0*
ISC 07 21:41:21.5±0.7, 34°.70N±0°.07×69°.56E±0°.06, h24km, n35, σ2°01/43, mb3.7/10, 6C-5D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.62**	**112**	*eP*	**Pn**	**21 42 43.0**	**-0.5**
THN				*eS*	**Sn**	**21 43 49.6**	**+2.4**
MNAS	**Manas**	**8.11**	**16**	⇑P	**Pn**	**21 43 20.7**	**+2.8**
5.0nm,0.4s							
MNAS				⇓S	**Sn**	**21 44 48.9**	**0.0**
40nm,1.4s							
KK31	**Karatay Array**	**8.43**	**5**	⇑P	**Pn**	**21 43 23.4**	**+1.3**
2.5nm,0.3s,baz=187,slow=13							
KK31				⇓S	**Sn**	**21 44 56.9**	**+0.4**
29nm,1.0s,baz=190,slow=24							
AAK	**Ala-Archa**	**8.81**	**24**	P	**Pn**	**21 43 29.5**	**+2.0**
2.8nm,0.3s,baz=191,slow=6.7,SNR=18							
AAK				S	**Sn**	**21 45 07.4**	**+1.2**
0.5nm,0.3s,baz=311,slow=20,SNR=5.1							
AAK	**Ala-Archa**	**8.81**	**24**	⇓P	**Pn**	**21 43 29.5**	**+2.0**
7.7nm,0.5s							
AAK				⇑S	**Sn**	**21 45 08.7**	**+2.5**
15nm,0.6s							
TKM2	**Tokmak 2**	**9.46**	**28**	⇓P	**Pn**	**21 43 38.7**	**+2.1**
5.4nm,0.5s							
TKM2				⇓S	**Sn**	**21 45 25.7**	**+3.5**
4.4nm,0.7s							
GEYT	**Alibeck**	**9.78**	**293**	P	**Pn**	**21 43 42.5**	**+1.8**
0.2nm,0.3s,baz=104,slow=12,SNR=4.8							
GEYT				S	**Sn**	**21 45 33.6**	**+3.9**
0.1nm,0.3s,baz=101,slow=15,SNR=2.6							
PYUN	**Piuthan**	**13.22**	**116**	*eP*	**Pn**	**21 44 27.1**	**-0.8**
13nm,0.4s							
KOLN	**Koldanda**	**13.85**	**116**	*eP*	**Pn**	**21 44 35.5**	**-1.1**
8.9nm,0.4s							
GKN	**Gorkha**	**14.50**	**113**	*eP*	**Pn**	**21 44 43.5**	**-1.9**
14nm,0.6s							
DMN	**Daman**	**15.06**	**114**	*eP*	**Pn**	**21 44 50.8**	**-2.3**
15nm,0.5s							
KKN	**Kakani**	**15.10**	**113**	*eP*	**Pn**	**21 44 51.2**	**-2.3**
17nm,0.5s							
PKIN	**Phulchoki**	**15.30**	**113**	*eP*	**Pn**	**21 44 53.9**	**-2.3**
13nm,0.5s							
MK31	**Makanchi Array**	**15.44**	**35**	P	**P**	**21 45 01.0**	**-1.0**
1.7nm,0.8s,baz=205,slow=9.2,SNR=12							
MKAR	**Makanchi Array**	**15.44**	**35**	P	**Pn**	**21 44 58.5**	**+0.8**
0.1nm,0.3s,baz=218,slow=11,SNR=8.2							
JIRN	**Jiri**	**15.86**	**112**	*eP*	**Pn**	**21 45 01.8**	**-1.8**
AB31	**Akbulak array**	**16.19**	**337**	⇑P	**Pn**	**21 45 05.7**	**-1.6**
2.2nm,0.5s							
AB31				⇑S	**Sn**	**21 48 01.3**	**-4.8**
2.2nm,0.7s							
RAMN	**Ramite**	**16.54**	**113**	*eP*	**Pn**	**21 45 09.9**	**-2.2**
18nm,0.6s							
ODAN	**Odare**	**17.18**	**112**	*eP*	**Pn**	**21 45 18.6**	**-1.7**
9.2nm,0.5s							
KURBB	**Kurchatov Arra**	**17.21**	**20**	P	**Pn**	**21 45 18.1**	**-2.1**
0.1nm,0.3s,baz=210,slow=11,SNR=5.6							
AKTO	**Aktyubinsk**	**17.84**	**335**	P	**Pn**	**21 45 26.3**	**-1.7**
0.1nm,0.3s,baz=224,slow=18,SNR=2.5							
AKTO				S	**Sn**	**21 48 44.8**	**-1.3**
0.1nm,0.3s,baz=24,slow=20,SNR=3.0							
AKTO	**Aktyubinsk**	**17.84**	**335**	⇑P	**P**	**21 45 28.5**	**-0.1**
4.6nm,1.0s							
BVA0	**Borovoye Array**	**18.33**	**2**	P	**Pn**	**21 45 33.9**	**-0.1**
1.6nm,0.6s,baz=175,slow=10,SNR=8.7							
BVAR	**Borovoye Array**	**18.33**	**2**	P	**Pn**	**21 45 33.7**	**-0.3**
0.4nm,0.3s,baz=173,slow=8.3,SNR=7.2							
ZALV	**Zalesovo Beam**	**22.04**	**24**	P	**P**	**21 46 13.4**	**-0.8**
1.7nm,0.4s,baz=211,slow=10,SNR=9.7							
KBZ	**Khabaz**	**22.46**	**302**	P	**P**	**21 46 19.8**	**+1.0**
2.0nm,0.7s,baz=124,slow=11,SNR=5.0							
ARU	**Arti**	**23.00**	**344**	P	**P**	**21 46 22.9**	**-1.4**
1.1nm,0.5s,baz=166,slow=4.2,SNR=2.5							
BRTR	**Keskin Array B**	**28.92**	**291**	P	**P**	**21 47 20.4**	**+1.6**
0.4nm,0.7s,baz=65,slow=6.8,SNR=3.4							
SONM	**Songino Array**	**30.34**	**53**	LR	LR	22 01 28.2	
comp=Z,41nm,18.1s,baz=48,slow=40							
CMAR	**Chiang Mai Arr**	**30.71**	**114**	P	**P**	**21 47 35.8**	**+1.1**
0.2nm,0.4s,baz=282,slow=30,SNR=3.9							
AKASG	**Malin Array Be**	**33.20**	**311**	P	**P**	**21 47 56.2**	**-0.1**
0.3nm,0.3s,baz=109,slow=8.8,SNR=4.4							
FINES	**FINESS Array B**	**38.35**	**328**	P	**P**	**21 48 37.5**	**-2.8**
4.5nm,1.0s,baz=123,slow=10,SNR=2.2							
ARCES	**ARCESS Array B**	**42.38**	**339**	P	**P**	**21 49 09.9**	**-3.6**
3.2nm,0.8s,baz=111,slow=9.7,SNR=4.8							
NOA	**NORSAR Array B**	**45.13**	**324**	P	**P**	**21 49 35.3**	**-0.5**
0.7nm,0.7s,baz=102,slow=7.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**64.50**	**269**	P	**P**	**21 51 56.3**	**-0.3**
0.4nm,0.5s,baz=49,slow=6.1,SNR=7.3							

MEX 07 21:45:08.2±0.4, 14°.06N×92°.24W, h10km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.90**	**330**	*eP*	Pn	21 45 37.5	-3.2
CCIG	**Comitan**	**2.21**	**2**	*eP*	Pn	21 45 42.2	-3.0
TGIG		**2.84**	**343**	*eP*	Pn	21 45 55.4	+1.8

IDC ***07*** *21:54:33.8±4.1, 7°.34S×128°.40E, h86km±42km, mb3.7/11, mb1 3.9/13, mb1mx3.7/44, mbtmp4.1/13, Error ellipse: s-maj=34.7km s-min=18.4km az=56.0*
ISCJB ***07*** *21:54:38.5±0.4, 7°.52S±0°.06×128°.41E±0°.05, h151km, mb3.7/11, Error ellipse: s-maj=8.4km s-min=6.9km az=174.7*
DJA ***07*** *21:54:40.6±0.3, 8°.S±4°.×12°.8E±°., h135km±7km, M4.6/7, mB5.0/2, mb4.3/6, MLv4.8/7, Mw(mB)4.2/2*
ISC 07 21:54:39.8±0.6, 7°.56S±0°.08×128°.40E±0°.06, h151km, n20, σ1°54/22, mb3.7/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.90**	**99**	P	**Pn**	**21 55 26.4**	**+0.5**
SAUI				S	**Sn**	**21 56 03.2**	**+1.6**
SOEI	**Soe**	**4.63**	**242**	P	**Pn**	**21 55 47.8**	**-0.7**
SOEI				S	**Sn**	**21 56 42.4**	**+0.3**
FAKI	**Fak Fak**	**5.99**	**40**	P	**Pn**	**21 56 05.4**	**-1.0**
BBSI	**Bau Bau**	**6.15**	**289**	P	**Pn**	**21 56 10.2**	**+1.7**
7.1nm,1.0s,0.0nm							
MMRI	**Maumere**	**6.20**	**260**	P	**Pn**	**21 56 10.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**10.82**	**194**	P	**Pn**	**21 57 07.1**	**-3.5**
baz=15,slow=9.4							
WRA	**Warramunga Arr**	**13.59**	**156**	P	**Pn**	**21 57 44.3**	**-2.2**
1.4nm,0.3s,baz=339,slow=13,SNR=31							
WRA				S	Sn	22 00 07.3	-10
3.8nm,0.3s,baz=333,slow=22,SNR=11							
ASAR	**Alice Springs**	**16.86**	**162**	P	**Pn**	**21 58 28.7**	**+1.7**
1.9nm,0.3s,baz=342,slow=11,SNR=172							
ASAR				S	S	22 01 24.3	-10
0.4nm,0.3s,baz=340,slow=16,SNR=4.0							
CTA	**Charters Tower**	**21.32**	**128**	P	**P**	**21 59 15.3**	**+0.4**
3.2nm,0.6s,baz=308,slow=12,SNR=5.5							
STKA	**Stephens Creek**	**27.14**	**155**	P	**P**	**22 00 11.2**	**+2.4**
4.8nm,0.6s,baz=328,slow=8.7,SNR=14							
CMAR	**Chiang Mai Arr**	**38.90**	**312**	P	**P**	**22 01 51.0**	**+0.1**
0.5nm,0.4s,baz=144,slow=7.7,SNR=5.2							
KSRS	**Korea Array**	**44.78**	**359**	P	**P**	**22 02 38.6**	**+0.3**
0.5nm,0.4s,baz=180,slow=10,SNR=3.7							
MJAR	**Matsushiro Arr**	**44.82**	**11**	P	**P**	**22 02 36.8**	**-1.9**
1.8nm,0.9s,baz=190,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**22 05 21.8**	**+0.2**
0.8nm,0.6s,baz=123,slow=7.9,SNR=9.8							
ZALV	**Zalesovo Beam**	**71.39**	**335**	P	**P**	**22 05 42.4**	**-0.8**
1.9nm,0.9s,baz=123,slow=5.5,SNR=7.6							
KURBB	**Kurchatov Arra**	**72.17**	**329**	P	**P**	**22 05 47.9**	**0.0**
2.1nm,0.7s,baz=130,slow=5.0,SNR=26							
BVAR	**Borovoye Array**	**77.70**	**328**	P	**P**	**22 06 19.7**	**+0.1**
0.9nm,0.5s,baz=76,slow=6.3,SNR=3.8							
AKTO	**Aktyubinsk**	**83.55**	**323**	P	**P**	**22 06 50.9**	**0.0**
0.9nm,0.5s,baz=137,slow=4.5,SNR=3.8							
ILAR	**Eielson Array**	**94.52**	**25**	P	**P**	**22 07 41.4**	**-1.3**
0.3nm,0.8s,baz=265,slow=4.3,SNR=4.6							
TXAR	**Lajitas Array**	**126.57**	**59**	PKP	**PKPdf**	**22 13 28.1**	**+2.2**
0.3nm,0.6s,baz=224,slow=2.5,SNR=3.8							

ISCJB ***07*** *21:59:18.0±0.4, 42°.39N±0°.02×70°.42E±0°.04, h0km, Error ellipse: s-maj=3.9km s-min=2.6km az=0.8*
SOME ***07*** *21:59:18.0, 42°.37N×70°.38E, h5km*
NNC ***07*** *21:59:18.9±0.3, 42°.45N×70°.49E, h10km±8km, mb3.0, mpv2.1, Error ellipse: s-maj=6.7km s-min=2.7km az=120.0*
KRNET ***07*** *21:59:18.1±0.1, 42°.38N×70°.58E, mb2.1*
ISC 07 21:59:17.0±0.8, 42°.33N±0°.03×70°.47E±0°.03, h0km, n19, σ0°54/37, 25C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.37**	**241**	*eP*	**Pg**	**21 59 25.1**	**+1.1**
7.0nm,0.1s							
IUG				*e*S	**Sb**	**21 59 31.4**	**-1.5**
103nm,0.2s							
CHM	**Chimkent**	**0.64**	**269**	*eP*	**Pg**	**21 59 28.8**	**-0.4**
12nm,0.2s							
CHM				*e*S	**Sg**	**21 59 37.3**	**-0.3**
61nm,0.2s							
KK07	**Karatay Array**	**0.76**	**2**	⇑P	**Pg**	**21 59 32.0**	**+0.4**
KK07				⇑S	**Sg**	**21 59 41.4**	**0.0**
KK06	**Karatay Array**	**0.77**	**3**	⇑P	**Pg**	**21 59 32.1**	**+0.4**
KK06				⇓S	**Sg**	**21 59 41.5**	**-0.2**
KK03	**Karatay Array**	**0.77**	**2**	⇑P	**Pg**	**21 59 32.4**	**+0.5**
KK03				⇓S	**Sg**	**21 59 41.8**	**-0.1**
KK02	**Karatay Array**	**0.78**	**3**	⇑P	**Pg**	**21 59 32.4**	**+0.5**
KK02				⇑S	**Sg**	**21 59 41.7**	**-0.2**
KK31	**Karatay Array**	**0.78**	**3**	⇑P	**Pg**	**21 59 32.4**	**+0.5**
0.4nm,0.3s							
KK31				⇑S	**Sg**	**21 59 42.1**	**+0.1**
0.6nm,0.2s							
KK08	**Karatay Array**	**0.78**	**1**	⇑P	**Pg**	**21 59 32.3**	**+0.4**
KK08				⇑S	**Sg**	**21 59 41.8**	**-0.2**
KK01	**Karatay Array**	**0.78**	**2**	⇓P	**Pg**	**21 59 32.3**	**+0.4**
KK01				⇑S	**Sg**	**21 59 41.7**	**-0.3**
KK04	**Karatay Array**	**0.78**	**2**	⇑P	**Pg**	**21 59 32.4**	**+0.4**
KK04				⇑S	**Sg**	**21 59 42.1**	**0.0**
KK05	**Karatay Array**	**0.79**	**3**	⇓P	**Pg**	**21 59 32.4**	**+0.2**
KK05				⇑S	**Sg**	**21 59 42.2**	**-0.2**
KK09	**Karatay Array**	**0.79**	**2**	⇑P	**Pg**	**21 59 32.6**	**+0.4**
KK09				⇑S	**Sg**	**21 59 42.3**	**-0.3**
ARK	**Arkit**	**1.23**	**115**	⇑*iP*	**Pb**	**21 59 41.5**	**+0.2**
baz=119							
ARK				⇑*iS*	**Sn**	**21 59 58.8**	**-0.3**
baz=119							
MNAS	**Manas**	**1.52**	**83**	⇓*iP*	**Pn**	**21 59 45.8**	**+0.2**
baz=85							
MNAS				⇓*iS*	**Sg**	**22 00 05.9**	**+0.1**
baz=85							
MNAS	**Manas**	**1.52**	**83**	⇑P	**Pn**	**21 59 45.6**	**0.0**
1.3nm,0.5s							
MNAS				⇓S	**Sg**	**22 00 05.6**	**-0.2**
1.4nm,0.3s							
MRKS	**Merke**	**2.08**	**78**	*eP*	**Pb**	**21 59 56.3**	**+0.6**
1.5nm,0.2s							
MRKS				*e*S	**Sg**	**22 00 24.9**	**+1.0**
5.2nm,0.3s							
ARSB	**Arslanbob**	**2.13**	**117**	⇑*iP*	**Pb**	**21 59 56.2**	**-0.4**
baz=120							
ARSB				⇑*iS*	**Sb**	**22 00 23.9**	**+0.3**
baz=120							
BTK	**Batken**	**2.28**	**173**	⇑*iP*	**Pb**	**21 59 59.9**	**+0.8**
baz=175							
BTK				⇑*iS*	**Sg**	**22 00 30.4**	**0.0**
baz=175							
TKM2	**Tokmak 2**	**3.83**	**79**	⇑Pg	**Pg**	**22 00 29.2**	**-1.2**
2.9nm,1.4s							
TKM2				⇑Lg	Lg	22 01 17.5	
2.7nm,1.2s							

NEIC ***07*** *22:10:09.9±0.0, 36°.93N×117°.53W, h12km, mb4.1/1, ML3.9(REN), ML4.0(PAS), After REN.*
NEIC Felt at Death Valley.
ISCJB ***07*** *22:10:11.0±0.2, 36°.89N±0°.02×117°.52W±0°.02, h10km, mb4.1/7, MS3.5/12, Error ellipse: s-maj=2.4km s-min=2.3km az=36.4*
IDC ***07*** *22:10:11.4±0.8, 36°.90N×117°.34W, h0km, mb4.0/6, mb1 3.8/10, mb1mx3.7/58, mbtmp3.7/10, ML3.5/4, MS3.4/16, Ms1 3.4/16, ms1mx3.2/48, Error ellipse: s-maj=18.8km s-min=9.3km az=87.0*
ISC 07 22:10:11.5±0.5, 36°.92N±0°.02×117°.52W±0°.02, h10km, n118, σ1°82/116, mb4.1/6, MS3.5/12, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAC	**Grapevine Rang**	**0.14**	**59**	P	**Pg**	**22 10 13.6**	**-1.2**
baz=246,SNR=1000							
GRAC				S	**Sg**	**22 10 15.8**	**-1.3**
baz=246							
TIN	**Tinemaha, Big**	**0.58**	**283**	P	**Pg**	**22 10 21.4**	**-1.5**
baz=102,SNR=632							
TIN				S	**Sg**	**22 10 28.8**	**-1.9**
baz=102							
CWC	**Cottonwood Cre**	**0.66**	**223**	P	**Pg**	**22 10 23.0**	**-1.4**
baz=41							
CWC				Sb	**Sb**	**22 10 33.8**	**-0.8**
baz=41							
FURC	**Furnace Creek,**	**0.70**	**131**	P	**Pg**	**22 10 23.9**	**-1.1**
baz=311,SNR=1000							
FURC				Sb	**Sn**	**22 10 35.6**	**-2.7**
baz=311							
MPMC	**Manual Prospec**	**0.86**	**178**	P	**Pg**	**22 10 26.6**	**-1.6**
baz=358,SNR=1000							
MPMC				S	**Sb**	**22 10 39.5**	**-1.0**
baz=358							
TPNV	**Topopah Spring**	**1.02**	**88**	P	**Pb**	**22 10 29.9**	**-1.4**
baz=270,SNR=1000							
TPNV	**Topopah Spring**	**1.02**	**88**	*e*Pg	**Pg**	**22 10 29.5**	**-1.6**
MLAC	**Mammoth, Mammo**	**1.27**	**304**	P	**Pn**	**22 10 33.6**	**-1.9**
baz=123,SNR=77							
SHOC	**Shoshone, Teco**	**1.43**	**135**	P	**Pn**	**22 10 36.4**	**-1.1**
baz=316,SNR=264							
SHOC				S	**Sg**	**22 10 56.6**	**-1.0**
baz=316							
LRMC	**Laurel Mtn Rad**	**1.45**	**185**	P	**Pb**	**22 10 36.9**	**-1.8**
baz=4.7,SNR=1000					

AFDM	Forest Hills D	3.40	308	ePn	Pn	22 11 05.7	+1.1
PFO	Pinyon Flats O	3.42	165	Pn	Pn	22 11 05.2	+0.2
	4.0nm,0.3s,baz=352,slow=15,SNR=54						
PFO				Sn	Sn	22 11 45.7	0.0
	8.0nm,0.3s,baz=345,slow=13,SNR=2.6						
PFO				Lg	Lg	22 11 57.9	
	20nm,0.3s,baz=285,slow=17,SNR=7.7						
PFO				LR	LR	22 12 34.8	
	comp=Z,425nm,19.9s,baz=346,slow=43						
PFO	Pinyon Flats O	3.42	165	P	Pn	22 11 04.6	-0.4
	baz=346,SNR=19						
LCMT	Little Creek M	3.42	87	ePn	Pn	22 11 05.7	+0.6
W13A	Hualapai Mount	3.46	121	ePn	Pn	22 11 05.8	0.0
SZCU	Shurtz Canyon	3.60	78	ePn	Pn	22 11 08.0	+0.4
BC3	Big Chuckawall	3.67	152	P	Pn	22 11 07.6	-0.9
	baz=333,SNR=19						
KNB	Kanab	3.76	87	ePn	Pn	22 11 10.5	+0.7
PDMCI	Parker Dam,Lak	3.79	133	P	Pn	22 11 10.0	-0.1
	baz=315						
Y12C	Blythe	4.00	141	P	Pn	22 11 12.5	-0.4
	baz=323						
Y12C	Blythe	4.00	141	ePn	Pn	22 11 12.9	0.0
109C	Camp Elliot, M	4.04	175	P	Pn	22 11 14.0	+0.5
	baz=355						
ORV	Oroville	4.09	311	ePn	Pn	22 11 14.9	+0.7
MONP2	Monument Peak	4.12	167	P	Pn	22 11 15.0	+0.2
	baz=348						
PKCU	Pink Cliffs	4.19	81	ePn	Pn	22 11 18.7	+2.9
U15A	North Rim	4.23	95	ePn	Pn	22 11 17.9	+1.5
BAR	Barrett	4.29	170	ePn	Pn	22 11 18.6	+1.7
MTPU	Mount Pierson	4.39	74	ePn	Pn	22 11 22.0	+3.5
IKP	In-Ko-Pah, Jac	4.42	164	P	Pn	22 11 19.1	+0.4
	baz=345						
GLA	Glamis	4.45	149	P	Pn	22 11 18.3	-0.8
	baz=331						
GLA	Glamis	4.45	149	ePn	Pn	22 11 18.3	-0.8
MSU	Marysvale	4.52	68	ePn	Pn	22 11 22.4	+2.1
Y14A	Wickenburg	4.74	128	ePn	Pn	22 11 24.4	+1.3
WUAZ	Wupatki	5.16	104	ePn	Pn	22 11 31.4	+2.3
113A	Mohawk Valley,	5.17	142	ePg	Pg	22 11 47.4	-3.1
NLU	North Lily Min	5.24	53	ePn	Pn	22 11 34.4	+4.3
BGU	Big Grassy Mou	5.31	40	ePn	Pn	22 11 33.9	+2.8
WDC	Whiskeytown Da	5.36	314	ePn	Pn	22 11 34.5	+2.9
MOD	Modoc Plateau	5.42	337	ePn	Pn	22 11 35.3	+2.8
TMUT	Trail Mountain	5.51	63	ePn	Pn	22 11 37.1	+3.2
X16A	Lo Mia Camp, P	5.54	115	ePn	Pn	22 11 36.6	+2.3
WVOR	Wild Horse Val	5.57	351	ePg	Pg	22 11 55.8	-2.4
SPUT	South Promonto	5.89	40	ePg	Pg	22 12 00.5	-3.8
P17A	Butcher Ranch,	5.91	62	ePn	Pn	22 11 41.9	+2.6
SRU	San Rafael Swe	5.94	66	ePn	Pn	22 11 43.1	+3.4
HVU	Hansel Valley	6.08	36	ePn	Pn	22 11 45.0	+3.4
YBH	Yreka Blue Hor	6.26	322	ePn	Pn	22 11 47.2	+3.1
214A	Organ Pipe Nat	6.30	141	ePn	Pn	22 11 43.4	-1.1
214A				eSg	Sg	22 13 32.1	-1.6
HWUT	Hardware Ranch	6.57	43	ePn	Pn	22 11 51.9	+3.5
MFID	Camas Ranch	6.61	11	ePn	Pn	22 11 51.1	+2.2
HLID	Hailey	7.04	19	ePn	Pn	22 11 57.6	+2.8
TUC	Tucson	7.21	128	ePn	Pn	22 11 58.3	+1.2
O20A	White River Ci	7.95	63	ePn	Pn	22 12 11.4	+4.1
TPAW	Teton Pass	8.26	35	ePn	Pn	22 12 09.6	-2.0
BW06	Boulder Array	8.45	44	ePn	Pn	22 12 16.5	+2.2
PDAR	Pinedale Array	8.46	44	Pn	Pn	22 12 16.1	+1.9
	0.1nm,0.3s,baz=237,slow=14,SNR=6.7						
PDAR				Lg	Lg	22 14 34.2	
	0.3nm,0.3s,baz=196,slow=16,SNR=4.3						
PDAR				LR	LR	22 14 49.0	
	comp=Z,50nm,21.6s,baz=243,slow=33						
LOHW	Long Hollow	8.52	36	ePn	Pn	22 12 14.7	-0.4
MOOW	Moose Ponds	8.55	35	ePn	Pn	22 12 16.8	+1.2
319A	Douglas	8.79	127	ePn	Pn	22 12 21.4	+2.7
121A	Cookes Peak, D	9.13	116	ePn	Pn	22 12 23.3	-0.2
ANMO	Albuquerque	9.19	99	Pn	Pn	22 12 23.6	-0.6
	0.1nm,0.3s,baz=305,slow=12,SNR=2.5						
ANMO				Lg	Lg	22 14 58.6	
	0.1nm,0.3s,baz=30,slow=20,SNR=4.0						
ANMO				LR	LR	22 16 20.8	
	comp=Z,304nm,19.6s,baz=294,slow=41						
PHWY	Pilot Hill	10.34	61	ePn	Pn	22 12 36.7	-3.5
NEW	Newport	11.34	1	Pn	Pn	22 12 56.5	+3.0
	0.1nm,0.3s,baz=180,slow=14,SNR=2.3						
NEW				LR	LR	22 18 11.7	
	comp=Z,112nm,19.2s,baz=182,slow=42						
TXAR	Lajitas Array	13.85	119	LR	LR	22 19 35.7	
	comp=Z,112nm,18.3s,baz=0.0,slow=41						
BBB	Bella Bella	16.99	337	LR	LR	22 21 11.2	
	comp=Z,272nm,18.0s,baz=124,slow=39						
ULM	Lac du Bonnet	20.48	43	LR	LR	22 23 24.6	
	comp=Z,124nm,18.8s,baz=164,slow=39						
FFC	Flin Flon	20.75	26	eP	P	22 14 51.8	-0.4
	10nm,1.0s						
DLBC	Dease Lake	23.04	343	LR	LR	22 25 01.9	
	comp=Z,202nm,19.9s,baz=154,slow=38						
YKA	Yellowknife Ar	25.66	3	LR	LR	22 26 02.8	
	comp=Z,7.3nm,19.7s,baz=180,slow=37						
TKL	Tuckaleechee C	27.15	82	LR	LR	22 27 14.8	
	comp=Z,117nm,19.1s,baz=12,slow=38						
KDAK	Kodiak Island	31.08	323	P	P	22 16 30.5	+0.9
	8.0nm,1.0s,baz=118,slow=17,SNR=2.4						
ILAR	Eielson Array	32.88	337	P	P	22 16 46.9	+1.5
	0.6nm,0.9s,baz=143,slow=7.0,SNR=5.6						
ILAR				LR	LR	22 29 31.8	
	comp=Z,102nm,18.9s,baz=149,slow=35						
FRB	Frobisher Bay	39.67	32	LR	LR	22 34 39.2	
	comp=Z,100nm,20.3s,baz=200,slow=37						
JHJ	Hachijo jima 2	79.78	304	LR	LR	22 52 50.4	
	comp=Z,15nm,19.3s,baz=80,slow=32						
GERES	GERESS Array B	84.25	30	LR	LR	23 05 23.9	
	comp=Z,48nm,18.1s,baz=300,slow=39						
SONM	Songino Array	86.96	332	P	P	22 22 59.6	+2.7
	0.3nm,0.4s,baz=46,slow=6.2,SNR=2.6						
ZALV	Zalesovo Beam	87.46	347	P	P	22 23 00.4	+1.3
	0.4nm,0.3s,baz=2.3,slow=7.2,SNR=2.4						
ZALV				LR	LR	23 07 06.0	
	comp=Z,14nm,18.1s,baz=60,slow=39						
AKASG	Malin Array Be	87.96	20	P	P	22 23 03.5	+2.0
	0.2nm,0.3s,baz=342,slow=4.1,SNR=3.9						
PLCA	Paso Flores	88.47	146	LR	LR	22 56 04.9	
	comp=Z,17nm,18.0s,baz=322,slow=31						
WMQ	Urumqi	96.43	342	eP	P	22 23 42.1	+1.1
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,3.6s						
WMQ				LR	LR		
	comp=N,43nm,17.3s						
WMQ				LR	LR		
	comp=E,38nm,15.7s						
WMQ				LR	LR		
	comp=Z,35nm,15.7s						
BRTR	Keskin Array B	99.24	22	P	Pdif	22 23 55.3	+1.5
	comp=Z,0.3nm,0.7s,baz=350,slow=7.3,SNR=2.5						
BRTR				LR	LR	23 10 35.8	
	comp=Z,20nm,19.0s,baz=309,slow=36						
ASAR	Alice Springs	118.22	261	PKP	PKPdf	22 29 02.1	+2.8
	comp=Z,0.2nm,0.4s,baz=108,slow=3.0,SNR=3.0						

*CSEM **07** 22:18:27.6±0.2, 37°.87N×26°.48W, h10km, ML3.9, Error ellipse: s-maj=14.3km s-min=3.2km az=20.0*
*PDA **07** 22:18:31.9±1.5, 37°.97N×26°.37W, h9km±8km, MD4.0, ML3.9, Error ellipse: s-maj=7.0km s-min=3.9km az=29.0*
*NEIC **07** 22:18:31.0±0.0, 37°.97N×26°.35W, h8km, mb4.2/1, ML4.0(SVSA), After SVSA.*
*IDC **07** 22:18:34.5±3.7, 37°.94N×25°.38W, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/64, mbtmp3.6/5, ML4.5/1, MS2.9/2, Ms1 3.0/2, ms1mx2.5/40, Error ellipse: s-maj=96.5km s-min=43.8km az=70.0*

ISC 07 22:18:27.5±1.0, 37°.88N±0°.08×26°.48W±0°.05, h5km±7km, n48, σ2°.10/69, mb3.8/5, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	Sete Cidades	0.60	95	eP	Pg	22 18 40.4	+1.3
PSET				eS	Sg	22 18 47.8	+0.9
PSET				A	A	22 18 50.8	
	3μm,0.4s						
PSET	Sete Cidades	0.60	95	eP	Pg	22 18 40.4	+1.3
PSET				eS	Sg	22 18 47.8	+0.9
PDA	Ponta Delgada	0.66	101	eP	Pg	22 18 41.5	+1.4
PDA				eS	Sg	22 18 49.4	+0.7
PDA				A	A	22 18 50.6	
	2μm,0.3s						
PDA	Ponta Delgada	0.66	101	eP	Pg	22 18 41.5	+1.4
PDA				eS	Sg	22 18 49.4	+0.7
CMLA	Cha da Macela	0.77	98	eP	Pg	22 18 42.9	+0.8
CMLA				eS	Sg	22 18 51.9	-0.2
CMLA				A	A	22 18 57.8	
	2μm,0.6s						
CMLA	Cha da Macela	0.77	98	eP	Pg	22 18 42.9	+0.8
CMLA				eSg	Sg	22 18 49.6	-2.5
CMLA				eS	Sg	22 18 51.9	-0.2
CMLA	Cha da Macela	0.77	98	ePg	Pg	22 18 42.9	+0.8
CMLA				eSg	Sg	22 18 49.6	-2.5
PCALD	Caldeiras da R	0.79	96	eP	Pg	22 18 43.0	+0.4
PCALD				eS	Sg	22 18 52.3	-0.6
PCALD				A	A	22 18 52.7	
	1μm,0.2s						
PCALD	Caldeiras da R	0.79	96	eP	Pg	22 18 43.0	+0.4
PCALD				eS	Sg	22 18 52.3	-0.6
ADH	Angra Heroismo	0.98	323	eP	Pg	22 18 46.6	+0.4
ADH				eS	Sg	22 18 58.2	-0.7
ADH				A	A	22 18 59.7	
	2μm,0.3s						
ADH	Angra Heroismo	0.98	323	eP	Pg	22 18 46.6	+0.4
ADH				eS	Sg	22 18 58.2	-0.7
BART	Pico Bartolome	1.04	95	eP	Pg	22 18 46.6	-0.9
BART				eS	Sg	22 18 58.3	-2.7
BART				A	A	22 19 05.4	
	639nm,0.4s						
BART	Pico Bartolome	1.04	95	eP	Pg	22 18 46.6	-0.9
BART				eS	Sg	22 18 58.3	-2.7
PSMA	Santa Maria	1.39	129	eP	Pn	22 18 52.8	-0.7
PSMA				eS	Sb	22 19 08.3	-3.6
PSMA				A	A	22 19 11.4	
	150nm,0.2s						
PSMN	Pico do Norte,	1.43	127	eP	Pn	22 18 52.9	-1.1
PSMN				eS	Sb	22 19 08.8	-4.2
PSMN				A	A	22 19 11.9	
	90nm,0.2s						
PSMN	Pico do Norte,	1.43	127	eP	Pn	22 18 52.9	-1.1
PSMN				eS	Sb	22 19 08.8	-4.2
PMAN	Manadas	1.47	301	eP	Pn	22 18 54.9	+0.2
PMAN				eS	Sn	22 19 11.2	-3.1
PMAN				A	A	22 19 12.8	
	1μm,0.3s						
PMAN	Manadas	1.47	301	eP	Pn	22 18 54.9	+0.2
PMAN				eS	Sn	22 19 11.2	-3.1
ROSA	Rosais	1.62	302	eP	Pn	22 18 56.9	+0.2
ROSA				eS	Sn	22 19 15.1	-2.9
ROSA				A	A	22 19 16.7	
	658nm,0.2s						
ROSA	Rosais	1.62	302	eP	Pn	22 18 56.9	+0.2
ROSA				eS	Sn	22 19 15.1	-2.9
PGRA	Graciosa	1.65	315	eP	Pn	22 18 56.4	-0.7
PGRA				eS	Sn	22 19 14.6	-4.0
PGRA				A	A	22 19 21.3	
	412nm,0.6s						
PGRA	Graciosa	1.65	315	eP	Pn	22 18 56.4	-0.7
PGRA				eS	Sn	22 19 14.6	-4.0
PICO	Pico	1.66	293	eP	Pn	22 18 57.1	-0.1
PICO				eS	Sn	22 19 16.2	-2.7
PICO				A	A	22 19 19.2	
	2μm,0.3s						
PICO	Pico	1.66	293	eP	Pn	22 18 57.1	-0.1
PICO				eS	Sn	22 19 16.2	-2.7
PCAN	Candelaria	1.69	291	eP	Pn	22 18 58.3	+0.7
PCAN				eS	Sn	22 19 16.8	-2.8
PCAN				A	A	22 19 19.4	
	1μm,0.2s						
PCAN	Candelaria	1.69	291	eP	Pn	22 18 58.3	+0.7
PCAN				eS	Sn	22 19 16.8	-2.8
HOR	Horta	1.81	292	eP	Pn	22 18 59.5	+0.2
HOR				eS	Sn	22 19 19.9	-2.8
HOR				A	A	22 19 21.5	
	1μm,0.3s						
HOR	Horta	1.81	292	eP	Pn	22 18 59.5	+0.2
HOR				eS	Sn	22 19 19.9	-2.8
CALA	Caldeira	1.89	293	eP	Pn	22 19 01.2	+0.8
CALA				eS	Sn	22 19 21.8	-2.8
CALA	Caldeira	1.89	293	eP	Pn	22 19 01.2	+0.8
CALA				eS	Sn	22 19 21.8	-2.8
PCED	Cedros	1.90	294	eP	Pn	22 19 00.7	+0.1
PCED				eS	Sn	22 19 21.6	-3.3
PCED				A	A	22 19 23.6	
	521nm,0.2s						
PCED	Cedros	1.90	294	eP	Pn	22 19 00.7	+0.1
PCED				eS	Sn	22 19 21.6	-3.3
ESDC	Sonseca Array	17.64	77	Pn	Pn	22 22 30.6	-3.5
	0.4nm,0.3s,baz=267,slow=14,SNR=6.6						
NOA	NORSAR Array B	32.98	33	LR	LR	22 35 31.3	
	comp=Z,24nm,20.2s,baz=330,slow=31						
TORD	Torodi Ar. Bea	35.15	127	P	P	22 25 24.6	+2.4
	0.6nm,1.0s,baz=316,slow=10,SNR=3.0						
BRTR	Keskin Array B	46.11	68	LR	LR	22 45 09.5	
	comp=Z,13nm,18.9s,baz=278,slow=35						
H10N2	ASCENSION HYDR	46.83	164	T	T	23 17 29.8	
	baz=346,slow=75,SNR=22						
H10N3	ASCENSION HYDR	46.84	164	T	T	23 17 30.5	
	baz=346,slow=75,SNR=29						
H10N1	ASCENSION HYDR	46.85	164	T	T	23 17 31.2	
	baz=346,slow=75,SNR=26						
H10S1	ASCENSION HYDR	47.87	164	T	T	23 18 50.1	
	baz=347,slow=75,SNR=14						
H10S3	ASCENSION HYDR	47.88	164	T	T	23 18 27.9	
	baz=347,slow=75,SNR=7.4						
H10S2	ASCENSION HYDR	47.89	164	T	T	23 18 51.3	
	baz=347,slow=75,SNR=10						
KURK	Kurchatov	70.07	41	P	P	22 29 46.0	+5.7
KURBB	Kurchatov Arra	70.08	41	P	P	22 29 46.0	+5.7
	0.5nm,0.2s,baz=314,slow=6.6,SNR=2.5						
ZALV	Zalesovo Beam	71.14	36	P	P	22 29 52.0	+5.3
	0.2nm,0.3s,baz=302,slow=8.3,SNR=1.9						
MKAR	Makanchi Array	74.38	42	P	P	22 30 08.7	+2.5
	0.2nm,0.6s,baz=315,slow=2.9,SNR=3.6						
LSA	Lhasa	91.03	50	eP	P	22 31 38.3	+4.7
	0.6nm,0.5s						
WRA	Warramunga Arr	155.56	48	PKPab	PKPab	22 38 52.3	+3.9
	0.5nm,0.8s,baz=335,slow=3.7,SNR=2.7						

*ISCJB **07** 22:19:14.4±0.7, 16°.9S±0°.1×178°.4W±0°.1, h10km, mb4.3/12, Error ellipse: s-maj=18.5km s-min=15.1km az=4.4*
*IDC **07** 22:19:14.6±54.0, 16°.89S×178°.37W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/31, mbtmp4.4/3, Error ellipse: s-maj=984.3km s-min=155.4km az=78.0*
*NEIC **07** 22:19:16.1±0.5, 16°.86S×178°.42W, h10km, mb4.3/9, Error ellipse: s-maj=13.1km s-min=10.8km az=92.0*

ISC 07 22:19:16.0±0.1, 16°.9S±0°.1×178°.4W±0°.2, h10km, n13, σ0°.67/12, mb4.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	12.35	178	Pn	Pn	22 22 11.3	-0.6
HNR	Honiara	22.30	287	P	P	22 24 14.1	+0.3
	5.8nm,0.4s						
STKA	Stephens Creek	39.13	240	P	P	22 26 44.6	+0.6
	1.8nm,0.5s,baz=74,slow=16,SNR=5.5						
WRAB	Tennant Creek	44.81	259	eP	P	22 27 30.7	+0.2
	0.4nm,0.5s						
WRA	Warramunga Arr	44.82	258	P	P	22 27 30.8	+0.2
	1.4nm,0.4s,baz=92,slow=7.8,SNR=15						
ASAR	Alice Springs	45.07	253	P	P	22 27 32.9	+0.2
	9.9nm,0.6s,baz=94,slow=8.1,SNR=150						
GUMO	Guam	47.22	308	eP	P	22 27 48.1	-1.4
	7.0nm,0.4s						
SBA	Scott Base	61.46	184	eP	P	22 29 32.5	+0.2
	0.5nm,0.5s						
YSS	Yuzh-Sakhalins	72.47	333	eP	P	22 30 42.8	+0.1
	2.4nm,0.4s						
MCK	McKinley	83.52	13	eP	P	22 31 44.2	+0.4
	1.1nm,0.7s						
WALA	Waterton Lakes	86.90	36	P	P	22 32 00.6	-0.6
	2.1nm,1.0s						
RSSD	Black Hills	90.82	44	eP	P	22 32 20.7	+0.7
	1.4nm,0.8s						
LSA	Lhasa	98.53	298	P	Pdif	22 32 56.2	+0.3
	0.5nm,0.4s						

MEX 07 22:37:32.6±1.0, 14°.74N×93°.53W, h30km±16km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.01	17	i P	Pn	22 37 48.2	-2.5
PCIG				i S	Sn	22 38 01.3	-2.6
CCIG	Comitan	2.04	41	eP	Pn	22 38 04.8	-0.3
CCIG				eS	Sn	22 38 27.3	-2.4
TGIG		2.07	11	eP	Pn	22 38 03.1	-2.3
TGIG				eS	Sn	22 38 26.7	-3.5

IDC 07 22:40:37.5±3.2, 32°.38S×178°.78W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=70.7km s-min=36.8km az=109.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.76	209	Pn	Pn	22 42 18.6	+0.7
	0.4nm,0.3s,baz=13,slow=18,SNR=4.1						
URZ				Sn	Sn	22 43 35.0	-0.7
	0.5nm,0.3s,baz=143,slow=20,SNR=2.4						
ASAR	Alice Springs	42.38	269	P	P	22 48 33.8	0.0
	0.6nm,0.6s,baz=107,slow=7.2,SNR=9.3						
WRA	Warramunga Arr	43.55	275	P	P	22 48 43.1	-0.2
	0.9nm,0.3s,baz=115,slow=7.7,SNR=3.4						
FINES	FINESS Array B	146.75	338	PKPbc	PKPdf	23 00 19.7	+0.8
	3.2nm,0.9s,baz=59,slow=3.6,SNR=4.0						

*NIED **07** 22:50:00, 36°.70N×140°.70E, h5km, Mw3.5 Best double couple: M0:2.31000×10^14 NP1:φs=349.00000°, δ22.00000°, λ-84.00000°. NP2:φs=163.00000°, δ68.00000°, λ-92.00000°.*
*IDC **07** 22:50:24.6±1.0, 36°.80N×140°.67E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/35, mbtmp3.7/8, ML3.3/1, Error ellipse: s-maj=25.3km s-min=18.6km az=64.0*
*ISCJB **07** 22:50:25.2±0.8, 36°.66N±0°.03×140°.72E±0°.06, h12km±4km, mb3.5/7, Error ellipse: s-maj=8.7km s-min=4.5km az=23.1*
*JMA **07** 22:50:26.5, 36°.70N×140°.60E, h6km±1km, M3.6*
JMA Felt I J1.

ISC 07 22:50:25.7±1.2, 36°.74N±0°.05×140°.63E±0°.05, h6km±8km, n22, σ0°.79/24, mb3.6/7, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.14	200	⇓P	Pg	22 50 28.7	+0.1
JHO				S	Sg	22 50 30.2	-0.3
ONAJ	Iwakimizuishiy	0.38	21	⇑P	Pb	22 50 34.8	-0.1
ONAJ				S	Sb	22 50 40.7	-0.4
JSB	Shiboa	0.61	292	⇑P	Pb	22 50 38.8	0.0
JYT	Yasato	0.62	214	P	Pg	22 50 37.6	-0.1
JYT				S	Sg	22 50 45.2	-0.6
JFK	Kawauchi	0.65	17	⇓P	Pb	22 50 39.6	+0.1
JFK				S	Sb	22 50 49.0	+0.1
JFT	Otama	0.81	343	⇓P	Pb	22 50 42.5	+0.4
JFT				S	Sb	22 50 53.7	+0.4
MJAR	Matsushiro Arr	1.96	265	Pn	Pn	22 50 59.7	+0.3
	30nm,0.3s,baz=84,slow=14,SNR=259						
MJAR				Sn	Sn	22 51 25.2	+0.9
	39nm,0.3s,baz=98,slow=29,SNR=18						
MJAR				LR	LR	22 52 00.1	
	comp=Z,82nm,19.6s,baz=90,slow=49						
MAT	Matsushiro	1.96	265	P	Pn	22 51 00.1	+0.7
MAT				S	Sb	22 51 26.0	-0.4
JHJ	Hachijo jima 2	3.68	191	Pn	Pn	22 51 25.0	+1.9
	6.5nm,0.3s,baz=108,slow=20,SNR=2.6						
JHJ				Sn	Sn	22 52 05.5	-1.3
	5.2nm,0.3s,baz=90,slow=20,SNR=2.5						
SONM	Songino Array	27.43	305	P	P	22 56 10.5	-1.8
	0.3nm,0.4s,baz=98,slow=10,SNR=3.5						
H11N2	WAKE ISLAND Hy	28.55	119	T	T	23 26 06.3	
	baz=313,slow=75,SNR=25						
H11N1	WAKE ISLAND Hy	28.55	119	T	T	23 26 07.9	
	baz=313,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	28.57	119	T	T	23 26 08.6	
	baz=313,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	29.24	121	T	T	23 26 57.3	
	baz=314,slow=76,SNR=82						
H11S3	WAKE ISLAND Hy	29.24	121	T	T	23 26 57.6	
	baz=314,slow=76,SNR=65						
H11S2	WAKE ISLAND Hy	29.25	121	T	T	23 26 59.4	
	baz=314,slow=76,SNR=50						
ZALV	Zalesovo Beam	41.65	313	P	P	22 58 14.2	-0.3
	0.6nm,0.3s,baz=79,slow=7.7,SNR=4.5						
MKAR	Makanchi Array	43.74	302	P	P	22 58 32.7	+1.0
	0.5nm,1.0s,baz=90,slow=9.1,SNR=3.7						
ILAR	Eielson Array	50.08	32	P	P	22 59 20.6	-0.3
	0.4nm,0.8s,baz=263,slow=6.2,SNR=4.0						
WRA	Warramunga Arr	56.69	187	P	P	23 00 10.7	+0.7
	0.5nm,0.6s,baz=9.9,slow=7.3,SNR=2.8						
ASAR	Alice Springs	60.42	187	P	P	23 00 35.7	-0.3
	0.4nm,0.8s,baz=24,slow=9.6,SNR=5.0						
STKA	Stephens Creek	68.27	179	P	P	23 01 27.0	-0.2
	1.3nm,1.0s,baz=344,slow=18,SNR=2.7						

*ISCJB **07** 23:23:51.7±0.6, 24°.1S±0°.1×69°.6E±0°.2, h10km, mb3.9/14, MS3.3/5, Error ellipse: s-maj=21.4km s-min=17.0km az=165.4*
*IDC **07** 23:23:52.0±0.7, 24°.07S×69°.60E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.8/46, mbtmp3.9/13, MS3.3/5, Ms1 3.3/5, ms1mx3.0/35, Error ellipse: s-maj=24.8km s-min=19.1km az=75.0*
*NEIC **07** 23:23:53.7±0.4, 24°.08S×69°.61E, h10km, mb4.4/1, Error ellipse: s-maj=15.0km s-min=11.7km az=74.0*

ISC 07 23:23:53.7±0.7, 24°.1S±0°.1×69°.6E±0°.2, h10km, n24, σ0°.48/15, mb4.0/14, MS3.2/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	16.57	10	T	T	23 44 39.4	
	baz=190,slow=76,SNR=25						
H08S2	Diego Garcia H	16.57	10	T	T	23 44 44.2	
	baz=190,slow=76,SNR=24						
H08S3	Diego Garcia H	16.59	10	T	T	23 44 41.5	
	baz=190,slow=76,SNR=21						
PALK	Pallekele	32.99	21	LR	LR	23 40 56.4	
	comp=Z,49nm,18.3s,baz=117,slow=31						
PSI	Prapat	39.08	51	LR	LR	23 43 30.2	
	comp=Z,36nm,18.9s,baz=232,slow=30						
BOSA	Boshof	39.83	254	LR	LR	23 45 43.5	
	comp=Z,80nm,18.1s,baz=133,slow=33						
H01W2	Cape Leeuwin H	39.95	116	T	T	00 13 50.9	
	baz=272						
H01W3	Cape Leeuwin

H08S1	Diego Garcia H	16.45	10	T	T	23 47 28.6	
	baz=190,slow=76,SNR=19						
H08S2	Diego Garcia H	16.45	10	T	T	23 47 31.5	
	baz=190,slow=76,SNR=26						
H08S3	Diego Garcia H	16.47	10	T	T	23 47 30.1	
	baz=190,slow=76,SNR=25						
ASAR	Alice Springs	58.27	104	P	P	23 36 36.9	-0.1
	0.8nm,0.6s,baz=252,slow=6.6,SNR=8.7						
WRA	Warramunga Arr	59.65	100	P	P	23 36 46.6	0.0
	1.0nm,0.8s,baz=252,slow=6.7,SNR=3.9						
MKAR	Makanchi Array	71.34	9	P	P	23 38 01.9	+0.3
	1.0nm,0.8s,baz=190,slow=6.2,SNR=8.6						
TORD	Torodi Ar. Bea	75.95	291	P	P	23 38 29.4	+0.1
	0.6nm,1.0s,baz=112,slow=6.5,SNR=2.5						
ZALV	Zalesovo Beam	78.69	9	P	P	23 38 43.3	-0.5
	0.4nm,0.3s,baz=182,slow=5.3,SNR=3.6						

IDC 07 23:31:29.9±1.4, 23°32S×69°84E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/39, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=63.8km s-min=27.7km az=25.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	15.79	10	T	T	23 51 05.7	
	baz=190						
H08S2	Diego Garcia H	15.79	10	T	T	23 51 04.3	
	baz=190						
H08S3	Diego Garcia H	15.80	10	T	T	23 51 06.8	
	baz=190						
OPO	Ambohidratompo	21.66	278	LR	LR	23 42 14.8	
	comp=Z,89nm,21.8s,baz=340,slow=30						
ASAR	Alice Springs	58.29	104	P	P	23 41 26.6	-0.2
	0.5nm,0.7s,baz=253,slow=6.0,SNR=7.9						
WRA	Warramunga Arr	59.62	100	P	P	23 41 36.3	+0.2
	0.6nm,0.7s,baz=256,slow=6.8,SNR=2.4						
MKAR	Makanchi Array	70.68	9	P	P	23 42 47.4	0.0
	0.3nm,0.7s,baz=190,slow=6.6,SNR=3.8						
TORD	Torodi Ar. Bea	75.85	291	P	P	23 43 18.7	+0.1
	0.2nm,0.6s,baz=104,slow=5.8,SNR=2.8						

IDC 07 23:50:01.6±0.9, 26°44S×177°81W, h0km, mb4.3/6, mb1 4.6/7, mb1mx4.2/21, mbtmp4.3/7, ML4.3/1, MS3.4/12, Ms1 3.4/12, ms1mx3.2/29, Error ellipse: s-maj=27.9km s-min=23.8km az=135.0
NEIC 07 23:50:08.6±1.7, 26°55S×177°87W, h49km±15km, mb4.7/13, Error ellipse: s-maj=13.4km s-min=9.3km az=178.0
ISCJB 07 23:50:21.5±0.5, 26°7S±0°1×178°1W±0°1, h174km, mb4.4/20, Error ellipse: s-maj=15.3km s-min=13.3km az=175.2
ISC 07 23:50:22.7±0.6, 26°6S±0°1×178°0W±0°1, h174km, n54, σ1°10/31, mb4.2/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.61	178	Pn	Pn	23 50 49.0	-17
	44nm,0.3s,baz=90,slow=20,SNR=2.5						
RAO				Sn	Sn	23 51 24.7	-16
	33nm,0.3s,baz=90,slow=20,SNR=3.1						
RAO				LR	LR	23 51 45.0	
	comp=Z,769nm,18.3s,baz=360,slow=37						
RAO	Raoul Island	2.61	178	ePn	Pn	23 50 49.4	-17
RAO					Sn	23 51 24.7	-16
URZ	Urewera	12.30	198	LR	LR	23 57 15.1	
	comp=Z,259nm,21.2s,baz=24,slow=35						
DZM	Mont Dzumac	14.88	284	LR	LR	23 58 13.5	
	comp=Z,211nm,19.8s,baz=102,slow=33						
DZM	Mont Dzumac	14.88	284	eLR	LR	23 57 00.0	
	565nm,26.8s						
RAR	Rarotonga	17.51	76	LR	LR	23 58 52.7	
	comp=Z,137nm,20.7s,baz=243,slow=31						
TBI	Tubuai	26.05	89	eLR	LR	00 02 00.2	
	190nm,27.2s						
HNR	Honiara	26.98	305	LR	LR	00 05 24.9	
	comp=Z,94nm,18.3s,baz=158,slow=34						
PAE	Paea	27.75	77	eT	T	00 24 18.2	
	3.9nm,0.3s						
PPT2	Papeete2	27.78	77	eLR	LR	00 02 42.5	
	210nm,27.5s						
PPT	Papeete	27.79	77	LR	LR	00 03 49.7	
	comp=Z,43nm,20.2s,baz=228,slow=30						
TVO	Taravao	27.98	78	eT	T	00 24 36.3	
	3.2nm,0.3s						
CTAO	Charters Tower	33.38	274	eP	P	23 56 43.9	-0.9
	31nm,1.1s						
STKA	Stephens Creek	35.49	252	P	P	23 57 01.3	-1.4
	3.6nm,0.9s,baz=88,slow=8.2,SNR=6.0						
STKA				LR	LR	00 11 31.7	
	comp=Z,84nm,18.1s,baz=28,slow=36						
RKT	Rikitea	39.06	94	eT	T	00 38 23.6	
	2.6nm,0.2s						
ASAR	Alice Springs	43.44	263	P	P	23 58 08.1	-0.6
	7.2nm,1.1s,baz=110,slow=8.2,SNR=42						
ASAR				LR	LR	00 14 55.9	
	comp=Z,72nm,18.9s,baz=104,slow=34						
WRAB	Tennant Creek	44.08	268	eP	P	23 58 12.9	-0.8
	6.6nm,0.9s						
WRA	Warramunga Arr	44.08	268	P	P	23 58 13.0	-0.7
	8.4nm,0.9s,baz=105,slow=8.0,SNR=22						
SBA	Scott Base	51.78	184	eP	P	23 59 12.8	+0.9
	38nm,2.1s						
VNDA	Vanda	51.83	185	LR	LR	00 18 13.6	
	comp=Z,30nm,19.6s,baz=78,slow=32						
MBWA	Marble Bar	56.72	261	eP	P	23 59 48.5	0.0
	40nm,1.1s						
QSPA	South Pole Qui	63.46	180	eP	P	00 00 33.5	-0.3
	43nm,1.0s						
KSM	Kuching	74.35	280	eP	P	00 01 42.4	+0.7
	2.6nm,0.5s						
MJAR	Matsushiro Arr	75.17	325	LR	LR	00 30 16.1	
	comp=Z,9.3nm,20.8s,baz=240,slow=32						
TATO	Taipei	77.72	306	eP	P	00 02 00.5	0.0
	4.8nm,0.4s						
COCO	West Island	80.37	261	eP	P	00 02 15.7	+0.5
	156nm,1.0s						
KSRS	Korea Array	81.50	319	LR	LR	00 37 07.6	
	comp=Z,9.9nm,18.1s,baz=195,slow=35						
SNAA	Sanae	81.90	178	P	P	00 02 22.3	0.0
VNA3	Neumayer Olymp	82.05	176	P	P	00 02 22.8	-0.3
PETK	Petropavlovsk-	82.18	345	LR	LR	00 31 00.4	
	comp=Z,16nm,20.3s,baz=92,slow=30						
VNA2	Neumayer--Watz	82.48	177	P	P	00 02 25.0	-0.3
	baz=185,slow=3.3						
VNA1	Neumayer--Stat	82.71	177	P	P	00 02 26.9	+0.5
CMB	Columbia Colle	83.97	42	eP	P	00 02 33.1	-0.2
	3.2nm,0.7s						
KULM	Kulim	84.65	279	P	P	00 02 38.0	+0.7
	0.9nm,0.3s						
MDJ	Mudanjiang	85.53	325	eP	P	00 02 41.7	+0.8
	3.0nm,0.2s						
TXAR	Lajitas Array	90.36	57	P	P	00 03 03.3	-1.1
	1.2nm,1.0s,baz=217,slow=5.8,SNR=5.7						
CMAR	Chiang Mai Arr	92.16	289	P	P	00 03 14.8	+2.0
	1.0nm,0.3s,baz=134,slow=2.6,SNR=7.1						
CHTO	Chiang Mai	92.32	290	eP	P	00 03 14.6	+1.0
	0.8nm,0.5s						
MCK	McKinley	92.94	13	eP	P	00 03 15.4	+0.1
	1.1nm,0.7s						
PDAR	Pinedale Array	93.41	43	P	P	00 03 18.8	+0.4
	0.4nm,0.5s,baz=259,slow=3.0,SNR=4.2						
RSSD	Black Hills	97.55	44	eP	Pdif	00 03 36.8	-0.4
	0.5nm,0.5s						
RES	Resolute Bay	113.66	17	ePKP	PKiKP	00 08 36.3	-3.0
H10S3	ASCENSION HYDR	141.10	153	T	T	02 47 27.0	
	baz=205,slow=74,SNR=30						
H10S2	ASCENSION HYDR	141.10	153	T	T	02 47 23.5	
	baz=205,slow=74,SNR=38						
H10S1	ASCENSION HYDR	141.12	153	T	T	02 47 26.6	
	baz=205,slow=74,SNR=32						
FINES	FINESS Array B	141.60	342	PKP	PKPdf	00 09 34.6	+2.1
	2.4nm,0.8s,baz=261,slow=11,SNR=3.5						
H10N3	ASCENSION HYDR	142.17	153	T	T	02 48 51.2	
	baz=204,slow=75,SNR=54						
H10N1	ASCENSION HYDR	142.18	153	T	T	02 48 55.5	
	baz=204,slow=75,SNR=51						
H10N2	ASCENSION HYDR	142.19	153	T	T	02 48 40.3	
	baz=204,slow=75,SNR=47						
NB2	NORSAR Subarra	145.04	352	PKP	PKPdf	00 09 39.8	+1.1
	comp=Z,3.2nm,0.8s,baz=18,slow=3.5						
NOA	NORSAR Array B	145.04	352	PKP	PKPdf	00 09 38.2	-0.4
	comp=Z,2.4nm,0.9s,baz=16,slow=2.4,SNR=10						
AKASG	Malin Array Be	148.24	326	PKPbc	PKPab	00 09 49.4	-2.0
	comp=Z,1.9nm,0.7s,baz=41,slow=3.3,SNR=7.2						
BRTR	Keskin Array B	150.64	304	PKPbc	PKPbc	00 09 54.7	+0.4
	comp=Z,1.3nm,1.0s,baz=134,slow=3.6,SNR=6.2						
BRTR				PKPab	PKPab	00 10 02.9	+1.1
	comp=Z,1.6nm,0.9s,baz=108,slow=2.7,SNR=7.2						
TORD	Torodi Ar. Bea	166.58	179	PKPab	PKPab	00 11 11.0	+0.2
	comp=Z,1.4nm,0.9s,baz=184,slow=2.9,SNR=6.1						

TIF 08 00:00:34.8, 42°56N×42°98E, h10km±1km
DDA 08 00:00:36.1, 42°26N×40°49E, h5km, Md2.7
ISC 08 00:00:30.5±3.3, 42°9N±0°2×42°98E±0°07, h15km±16km, n6, σ0°76/12, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.48	132	P	Pn	00 00 42.4	-0.4
ONI				S	Sb	00 00 48.3	+0.9
BGD	Bogdanovka	1.71	164	P	Pb	00 01 01.9	+0.1
BGD				S	Sn	00 01 20.8	-0.8
DBOC	Borcka	1.84	212	*i* P	Pb	00 01 03.5	-0.4
DBOC				*i* S	Sn	00 01 25.4	+0.8
ARTV	Artvin	1.90	205	*i* P	Pb	00 01 04.6	-0.3
ARTV				*i* S	Sn	00 01 25.7	-0.5
DAGI	Agillar	2.00	204	*i* P	Pb	00 01 06.3	-0.2
DAGI				*i* S	Sn	00 01 29.3	+0.8
DGRG	David-gareji	2.30	129	P	Pg	00 01 15.3	+0.6
DGRG				S	Sg	00 01 43.6	-0.9

ISK 08 00:24:28.3, 36°99N×29°15E, h5km, MD2.5
CSEM 08 00:24:29.5±0.1, 36°99N×29°16E, h5km, MD2.5, Error ellipse: s-maj=3.5km s-min=2.9km az=123.0
DDA 08 00:24:29.2, 37°00N×29°13E, h7km, Ml2.5
ISC 08 00:24:29.7±1.0, 37°01N±0°02×29°17E±0°02, h6km±9km, n44, σ0°89/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	Glhisar (BURDU	0.31	61	*e*PG	Pg	00 24 35.6	0.0
GLHS				*e*SG	Sg	00 24 41.3	+1.5
GLHS	Glhisar (BURDU	0.31	61	*e*Pg	Pg	00 24 35.7	0.0
GLHS				*e*Sg	Sg	00 24 41.3	+1.5
FETI	Fethiye-Mugla	0.32	190	*e*PG	Pg	00 24 35.6	-0.3
FETI				*e*SG	Sg	00 24 40.7	+0.6
FETI	Fethiye-Mugla	0.32	190	*e*Pg	Pg	00 24 35.6	-0.3
FETI				*e*Sg	Sg	00 24 40.7	+0.6
FETY	Fethiye	0.38	190	*e*PG	Pg	00 24 36.5	-0.4
FETY				*e*SG	Sg	00 24 42.5	+0.7
FETY	Fethiye	0.38	190	P	Pg	00 24 35.1	-1.8
FETY	Fethiye	0.38	190	*e*Pg	Pg	00 24 36.5	-0.4
FETY				*e*Sg	Sg	00 24 42.5	+0.7
FETY				S	Sb	00 24 43.2	-1.7
GOLH	Golhisar	0.39	54	*i* P	Pg	00 24 37.4	+0.1
GOLH				*i* S	Sb	00 24 44.8	-0.7
GOLH	Golhisar	0.39	54	P	Pg	00 24 37.4	+0.1
GOLH				S	Sb	00 24 44.8	-0.7
DALY	Dalyan (Mu¨la	0.45	246	*e*PG	Pg	00 24 37.9	-0.5
DALY				*e*SG	Sb	00 24 44.9	-2.1
DALY	Dalyan (Mu¨la	0.45	246	*i* P	Pg	00 24 37.8	-0.5
DALY				*i* S	Sg	00 24 44.6	+0.4
DALY	Dalyan (Mu¨la	0.45	246	*e*Pg	Pg	00 24 37.9	-0.5
DALY				S	Sg	00 24 44.6	+0.4
TURN	Turunc	0.47	254	*i* P	Pn	00 24 42.8	-0.1
TURN	Turunc	0.47	254	P	Pn	00 24 42.8	-0.1
TAVA	DENIZLI_Tavas	0.50	336	*i* P	Pg	00 24 38.9	-0.5
TAVA	DENIZLI_Tavas	0.50	336	P	Pg	00 24 38.9	-0.5
ELL	Elmali	0.65	113	*e*PG	Pg	00 24 42.1	-0.1
ELL				*e*SG	Sb	00 24 52.1	-0.8
ELL	Elmali	0.65	113	*e*Pg	Pg	00 24 42.1	-0.1
ELL				*e*Sg	Sb	00 24 52.1	-0.8
DNZL	Cakiroluk	0.69	352	*i* P	Pg	00 24 42.2	-0.8
DNZL				*i* S	Sg	00 24 52.7	+0.7
DNZL	Cakiroluk	0.69	352	P	Pg	00 24 42.2	-0.8
DNZL				S	Sg	00 24 52.7	+0.7
AKAS	Kas	0.85	155	*e*PG	Pg	00 24 45.5	-0.4
AKAS	Kas	0.85	155	*i* P	Pg	00 24 44.9	-1.0
AKAS	Kas	0.85	155	P	Pg	00 24 44.9	-1.0
AKAS	Kas	0.85	155	*e*Pg	Pg	00 24 45.5	-0.4
KORT	Korkueli	0.95	90	*e*PG	Pg	00 24 47.3	-0.6
KORT	Korkueli	0.95	90	*e*Pg	Pg	00 24 47.3	-0.6
BRDR	BURDUR-Merkez	0.99	46	*i* P	Pn	00 24 50.1	-0.2
BRDR				*i* S	Sn	00 25 04.2	-0.5
BRDR	BURDUR-Merkez	0.99	46	P	Pn	00 24 50.1	-0.2
BRDR				S	Sn	00 25 04.2	-0.5
MLSB	Milas	1.15	285	*e*PN	Pg	00 24 51.2	-0.4
MLSB	Milas	1.15	285	*e*Pn	Pg	00 24 51.2	-0.4
AYDN	Tasoluk	1.22	303	*i* P	Pg	00 24 52.0	-1.0
DAT	Datca	1.30	258	*e*PN	Pb	00 24 54.6	0.0
DAT	Datca	1.30	258	*i* P	Pb	00 24 54.6	0.0
DAT				*i* S	Sn	00 25 14.6	+2.3
DAT	Datca	1.30	258	*e*Pn	Pb	00 24 54.6	0.0
DAT				S	Sn	00 25 14.6	+2.3
BDRM	Kayabasi	1.38	273	*i* P	Pg	00 24 56.0	-0.1
BDRM				*i* S	Sn	00 25 16.3	+2.2
BDRM	Kayabasi	1.38	273	P	Pg	00 24 56.0	-0.1
BDRM				S	Sn	00 25 16.3	+2.2
AYDB	Zeytinkoy-Aydi	1.38	313	*e*PN	Pb	00 24 55.5	-0.5
AYDB	Zeytinkoy-Aydi	1.38	313	*e*Pn	Pb	00 24 55.5	-0.5
KHAL	Karahalli	1.39	11	*i* P	Pn	00 24 55.5	-0.2
KHAL				*i* S	Sg	00 25 14.3	0.0
KHAL	Karahalli	1.39	11	P	Pn	00 24 55.5	-0.2
KHAL				S	Sg	00 25 14.3	0.0
BODT	Bodrum	1.48	273	*e*PN	Pg	00 24 57.6	-0.5
BODT	Bodrum	1.48	273	*e*Pn	Pg	00 24 57.6	-0.5
KARP	Karpathos	2.18	229	*e*PN	Pn	00 25 07.0	+0.5
KARP	Karpathos	2.18	229	*e*Pn	Pn	00 25 07.0	+0.5

ISCJB 08 00:44:17.2±0.5, 42°9S±0°1×83°8E±0°2, h10km, mb4.3/12, MS4.0/17, Error ellipse: s-maj=18.1km s-min=14.1km az=19.1
IDC 08 00:44:17.7±1.0, 42°82S×83°84E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.1/32, mbtmp4.2/10, MS4.0/17, Ms1 4.0/17, ms1mx3.8/27, Error ellipse: s-maj=33.1km s-min=23.3km az=45.0
NEIC 08 00:44:19.0±0.6, 42°85S×83°78E, h10km, mb4.5/2, Error ellipse: s-maj=21.0km s-min=17.9km az=71.0
ISC 08 00:44:18.8±0.7, 42°9S±0°1×83°7E±0°2, h10km, n35, σ0°74/22, mb4.4/12, MS4.0/17, 1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	24.86	82	T	T	01 15 31.2	
	baz=242,slow=75,SNR=197						
H01W3	Cape Leeuwin H	24.87	81	T	T	01 15 30.6	
	baz=242,slow=75,SNR=240						
H01W1	Cape Leeuwin H	24.88	82	T	T	01 15 29.6	
	baz=242,slow=75,SNR=195						
MAW	Mawson	27.20	197	LR	LR	00 58 29.7	
	comp=Z,259nm,20.1s,baz=60,slow=31						
NWAO	Narrogin (SRO)	28.07	80	LR	LR	00 58 44.9	
	comp=Z,487nm,21.4s,baz=132,slow=31						
SYO	Syowa Base	34.67	206	‖ *e*P	P	00 51 17.4	+9.4
H08S2	Diego Garcia H	36.46	341	T	T	01 29 33.6	
	baz=166,slow=76,SNR=156						
H08S1	Diego Garcia H	36.46	341	T	T	01 29 34.0	
	baz=166,slow=76,SNR=140						
H08S3	Diego Garcia H	36.48	341	T	T	01 29 38.3	
	baz=166,slow=76,SNR=202						
ASAR	Alice Springs	45.38	82	P	P	00 52 37.2	-0.3
	3.1nm,1.0s,baz=224,slow=7.3,SNR=18						
ASAR				PcP	PcP	00 54 16.1	-0.8
	0.9nm,0.8s,baz=222,slow=3.0,SNR=5.7						
ASAR				LR	LR	01 09 11.7	
	comp=Z,587nm,21.5s,baz=240,slow=33						
VNDA	Vanda	46.00	163	P	P	00 52 42.4	+0.7
	0.6nm,0.5s,baz=284,slow=10,SNR=4.4						
VNDA				LR	LR	01 10 20.9	
	comp=Z,292nm,20.2s,baz=272,slow=34						
STKA	Stephens Creek	46.45	96	P	P	00 52 46.0	+0.2
	1.4nm,0.8s,baz=279,slow=8.8,SNR=3.0						
STKA				LR	LR	01 09 32.3	
	comp=Z,299nm,19.0s,baz=209,slow=33						
QSPA	South Pole Qui	47.28	180	eP	P	00 52 52.6	+0.5
	2.3nm,0.6s						
WRA	Warramunga Arr	48.02	78	P	P	00 52 58.2	0.0
	7.3nm,0.8s,baz=230,slow=7.2,SNR=31						
WRA				LR	LR	01 10 47.9	
	comp=Z,247nm,21.7s,baz=235,slow=33						
WRAB	Tennant Creek	48.04	78	eP	P	00 52 58.7	+0.4
	5.5nm,0.9s						
BOSA	Boshof	48.64	267	LR	LR	01 08 50.0	
	comp=Z,321nm,22.0s,baz=147,slow=30						
VNA2	Neumayer--Watz	50.55	205	P	P	00 53 15.5	-1.4
	baz=102,slow=7.9						
VNA3	Neumayer Olymp	51.15	204	P	P	00 53 21.3	-0.1
CMAR	Chiang Mai Arr	62.61	16	P	P	00 54 43.3	+0.1
	2.9nm,0.8s,baz=208,slow=6.8,SNR=12						
CMAR				LR	LR	01 17 47.1	
	comp=Z,67nm,20.9s,baz=208,slow=32						
GEYT	Alibeck	83.73	340	P	P	00 56 48.4	+0.7
	2.8nm,0.9s,baz=224,slow=8.2,SNR=7.0						
GEYT				LR	LR	01 30 18.8	
	comp=Z,43nm,18.1s,baz=270,slow=33						
MKAR	Makanchi Array	89.29	359	P	P	00 57 13.4	-1.2
	1.3nm,1.0s,baz=165,slow=5.0,SNR=6.0						
MKAR				LR	LR	01 35 36.6	
	comp=Z,63nm,18.3s,baz=192,slow=34						
KSAR	Wonju Array Be	89.46	34	P	P	00 57 15.3	-0.2
KSRS	Korea Array	89.48	34	P	P	00 57 15.3	-0.3
	0.5nm,0.3s,baz=217,slow=4.9,SNR=5.0						
TORD	Torodi Ar. Bea	93.10	285	LR	LR	01 36 12.3	
	comp=Z,127nm,21.7s,baz=135,slow=33						
DBIC	Dimbokro	93.46	276	LR	LR	01 35 45.3	
	comp=Z,52nm,18.2s,baz=124,slow=33						
PLCA	Paso Flores	93.60	199	LR	LR	01 38 01.1	
	comp=Z,49nm,21.4s,baz=164,slow=34						
KBZ	Khabaz	93.66	332	P	P	00 57 36.5	+1.7
	2.4nm,0.9s,baz=187,slow=4.9,SNR=5.5						
KBZ				LR	LR	01 36 59.3	
	comp=Z,39nm,18.1s,baz=176,slow=34						
BRTR	Keskin Array B	93.89	324	P	P	00 57 36.5	+0.2
	1.4nm,0.9s,baz=158,slow=7.7,SNR=7.8						
BRTR				LR	LR	01 35 22.0	
	comp=Z,35nm,18.8s,baz=120,slow=33						
ZALV	Zalesovo Beam	96.45	1	LR	LR	01 39 50.6	
	comp=Z,45nm,18.5s,baz=255,slow=35						
USRK	Ussuriysk Ar.	96.83	33	LR	LR	01 40 25.4	
	comp=Z,29nm,20.1s,baz=239,slow=35						
ILAR	Eielson Array	144.33	35	PKP	PKPab	01 03 51.7	-0.3
	0.7nm,0.7s,baz=280,slow=4.1,SNR=7.3						
PAX	Paxson	145.33	37	*e*PKPbc	PKPab	01 03 56.9	+1.0
INK	Inuvik	147.87	25	PKPbc	PKPab	01 04 04.9	-0.5
	5.1nm,0.8s,baz=321,slow=6.3,SNR=9.5						
INK	Inuvik	147.87	25	PKPbc	PKPab	01 04 04.9	-0.5
INK				*e*PKPab	pPKPbc	01 04 06.0	-0.2
TXAR	Lajitas Array	165.23	154	PKP	PKPdf	01 04 22.8	-0.7
	0.2nm,0.8s,baz=207,slow=3.0,SNR=2.2						

IDC 08 00:50:44.1±2.1, 3°07N×128°94E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/33, mbtmp3.6/3, Error ellipse: s-maj=150.8km s-min=24.1km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.48	167	P	P	00 55 55.6	0.0
	0.7nm,0.3s,baz=346,slow=10,SNR=8.4						
ASAR	Alice Springs	27.02	170	P	P	00 56 28.7	+0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=4.3						
MKAR	Makanchi Array	59.36	325	P	P	01 00 49.5	+1.3
	0.8nm,0.5s,baz=120,slow=8.5,SNR=14						
TORD	Torodi Ar. Bea	125.22	288	PKP	PKPdf	01 09 45.3	-2.6
	0.3nm,0.8s,baz=55,slow=1.1,SNR=3.8						

ISK 08 01:13:23.6, 38°72N×30°20E, h5km, MD2.9
DDA 08 01:13:23.2, 38°78N×30°24E, h6km, Ml2.8
CSEM 08 01:13:23.9±0.1, 38°75N×30°23E, h2km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.5km az=22.0
ISC 08 01:13:23.8±1.0, 38°78N±0°02×30°24E±0°02, h6km±10km, n61, σ0°66/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.34	133	*e*PG	Pg	01 13 30.5	+0.1
SHUT				*e*SG	Sg	01 13 35.1	+0.3
SHUT	Suhut-Afyon	0.34	133	*e*Pg	Pg	01 13 30.5	+0.1
SHUT				*e*Sg	Sg	01 13 35.1	+0.3
KZIL	AFYON_Kizioren	0.53	188	*i* P	Pg	01 13 33.4	-0.6
KZIL				*i* S	Sg	01 13 41.0	+0.1
KZIL	AFYON_Kizioren	0.53	188	P	Pg	01 13 33.4	-0.6
KZIL				S	Sg	01 13 41.0	+0.1
BOLV	Bolvadin	0.56	96	*i* P	Pg	01 13 34.5	-0.2
BOLV				*i* S	Sg	01 13 42.4	+0.3
BOLV	Bolvadin	0.56	96	P	Pg	01 13 34.5	-0.2
BOLV				S	Sg	01 13 42.3	+0.3
GDZ	Gediz	0.66	298	*i* P	Pg	01 13 36.6	0.0
GDZ				*i* S	Sg	01 13 44.9	-0.4
GDZ	Gediz	0.66	298	P	Pg	01 13 36.6	0.0
GDZ				S	Sg	01 13 44.9	-0.4
GEDZ	Gediz	0.70	292	*e*PG	Pg	01 13 37.5	+0.3
GEDZ				*e*SG	Sg	01 13 46.9	+0.7
GEDZ	Gediz	0.70	292	*e*Pg	Pg	01 13 37.5	+0.3
GEDZ				*e*Sg	Sg	01 13 46.9	+0.7
KHAL	Karahalli	0.71	235	*i* P	Pg	01 13 36.6	-0.9
KHAL	Karahalli	0.71	235	P	Pg	01 13 36.6	-0.9
ESKT	Eskisehir	0.88	33	*i* P	Pg	01 13 39.8	-0.9
ESKT				*i* S	Sg	01 13 52.4	+0.3
SEYT	Eskypehyr	0.88	33	P	Pg	01 13 39.8	-0.9
SEYT				S	Sg	01 13 52.4	+0.3
TVSB	Tavsanli	0.90	318	*e*PG	Pb	01 13 42.3	+0.4
TVSB	Tavsanli	0.90	318	*e*Pg	Pb	01 13 42.3	+0.4
BAGO	Egridir - ISPA	0.90	151	*i* P	Pg	01 13 41.0	-0.1
BAGO				*i* S	Sb	01 13 53.6	-0.5
SIMA	Simav-Kutahya	1.02	288	*e*PG	Pb	01 13 43.9	-0.1
SIMA				*e*SG	Sg	01 13 57.2	+0.4
SIMA

mb1 3.4/2, mb1mx3.2/28, mbtmp3.2/2, ML3.1/1, Error ellipse: s-maj=178.1km s-min=47.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**225**	P	P	01 23 19.2	-0.7
	0.1nm,0.3s,baz=50,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.78**	**218**	P	P	01 23 51.7	+0.3
	0.2nm,0.5s,baz=53,slow=9.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**146.69**	**283**	PKPbc	PKPbc	01 38 41.9	-0.8
	0.5nm,0.9s,baz=86,slow=1.7,SNR=3.6						

*DDA **08** 01:20:08.9, 38°.76N×30°.21E, 7^km, Md2.5*
*CSEM **08** 01:20:09.8±0.4, 38°.72N×30°.25E, h10^km, MD2.4, Error ellipse: s-maj=12.6km s-min=6.9km az=13.0*
*ISK **08** 01:20:09.0, 38°.47N×30°.17E, h21^km, MD2.4*
*ISCJB **08** 01:20:10.4±0.6, 38°.67N±0°.09×30°.27E±0°.06, h24^km±11^km, Error ellipse: s-maj=16.1km s-min=6.9km az=161.8*

ISC 08 01:20:09.4±1.4, 38°.69N±0°.06×30°.26E±0°.03, h13^km±12^km, n20, σ0^s87/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.27**	**120**	*e*PG	**Pb**	**01 20 16.2**	**0.0**
SHUT				*e*SG	**Sb**	01 20 21.4	+0.7
SHUT	**Suhut-Afyon**	**0.27**	**120**	*e*Pg	**Pb**	**01 20 16.2**	**0.0**
SHUT				*e*Sg	**Sb**	01 20 21.4	+0.7
KZIL	**AFYON_Kizioren**	**0.44**	**192**	*i* P	**Pb**	**01 20 19.3**	**+0.2**
KZIL	**AFYON_Kizioren**	**0.44**	**192**	P	**Pb**	**01 20 19.3**	**+0.2**
BOLV	**Bolvadin**	**0.55**	**87**	*i* P	**Pg**	**01 20 19.8**	**-0.3**
BOLV				*i* S	**Sb**	01 20 28.9	+0.2
BOLV	**Bolvadin**	**0.55**	**87**	P	**Pg**	**01 20 19.8**	**-0.3**
BOLV				S	**Sb**	01 20 28.9	+0.2
KHAL	**Karahalli**	**0.68**	**242**	*i* P	**Pb**	**01 20 23.4**	**+0.3**
KHAL				*i* S	**Sb**	01 20 32.1	-0.4
KHAL	**Karahalli**	**0.68**	**242**	P	**Pb**	**01 20 23.4**	**+0.3**
KHAL				S	**Sb**	01 20 32.1	-0.4
GEDZ	**Gediz**	**0.75**	**299**	*e*PG	**Pn**	**01 20 25.6**	**-0.2**
GEDZ	**Gediz**	**0.75**	**299**	*e*Pg	**Pn**	**01 20 25.6**	**-0.2**
TVSB	**Tavsanli**	**0.98**	**321**	*e*PN	**Pn**	**01 20 29.6**	**+0.7**
TVSB	**Tavsanli**	**0.98**	**321**	*e*Pn	**Pn**	**01 20 29.7**	**+0.7**
SIMA	**Simav-Kutahya**	**1.07**	**292**	*e*PN	**Pn**	**01 20 30.1**	**-0.1**
SIMA	**Simav-Kutahya**	**1.07**	**292**	*e*Pn	**Pn**	**01 20 30.1**	**-0.1**
DEMI	**Demirci**	**1.25**	**287**	*i* P	**Pg**	**01 20 32.6**	**-0.9**
DEMI				*i* S	**Sn**	01 20 48.7	-0.8
DEMI	**Demirci**	**1.25**	**287**	P	**Pg**	**01 20 32.6**	**-0.9**
DEMI				S	**Sn**	01 20 48.7	-0.8
KULA	**Kula-Manisa**	**1.26**	**263**	*e*PN	**Pn**	**01 20 30.9**	**-1.9**
KULA	**Kula-Manisa**	**1.26**	**263**	*e*Pn	**Pn**	**01 20 30.9**	**-1.9**
MANT	**Manisa**	**1.34**	**262**	*i* P	**Pg**	**01 20 36.9**	**+1.6**
MANT				*i* S	**Sn**	01 20 52.7	+0.8
MANT	**Manisa**	**1.34**	**262**	P	**Pg**	**01 20 36.9**	**+1.6**
MANT				S	**Sn**	01 20 52.7	+0.8

*CSEM **08** 01:23:00.9±0.2, 38°.74N×30°.23E, h0^km±3^km, MD2.7, Error ellipse: s-maj=5.2km s-min=3.0km az=17.0*
*DDA **08** 01:23:00.0, 38°.76N×30°.20E, h7^km, Md2.7*
*ISK **08** 01:23:00.1, 38°.70N×30°.24E, h2^km, MD2.7*

ISC 08 01:23:00.6±1.0, 38°.76N±0°.03×30°.21E±0°.02, h6^km±12^km, n35, σ0^s49/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.34**	**127**	*e*PG	**Pg**	**01 23 07.2**	**0.0**
SHUT				*e*SG	**Sg**	01 23 11.5	-0.1
SHUT	**Suhut-Afyon**	**0.34**	**127**	*e*Pg	**Pg**	**01 23 07.2**	**0.0**
SHUT				*e*Sg	**Sg**	01 23 11.5	-0.1
KZIL	**AFYON_Kizioren**	**0.50**	**186**	*i* P	**Pg**	**01 23 10.2**	**0.0**
KZIL	**AFYON_Kizioren**	**0.50**	**186**	P	**Pg**	**01 23 10.2**	**0.0**
BOLV	**Bolvadin**	**0.58**	**94**	*i* P	**Pg**	**01 23 11.5**	**-0.2**
BOLV				*i* S	**Sg**	01 23 19.6	+0.3
BOLV	**Bolvadin**	**0.58**	**94**	P	**Pg**	**01 23 11.5**	**-0.2**
BOLV				S	**Sg**	01 23 19.6	+0.3
GDZ	**Gediz**	**0.66**	**300**	*i* P	**Pg**	**01 23 13.3**	**+0.1**
GDZ				*i* S	**Sg**	01 23 21.7	-0.2
GDZ	**Gediz**	**0.66**	**300**	P	**Pg**	**01 23 13.3**	**+0.1**
GDZ				S	**Sg**	01 23 21.7	-0.2
KHAL	**Karahalli**	**0.68**	**236**	*i* P	**Pg**	**01 23 13.9**	**+0.2**
KHAL				*i* S	**Sg**	01 23 22.8	+0.2
KHAL	**Karahalli**	**0.68**	**236**	P	**Pg**	**01 23 13.9**	**+0.2**
KHAL				S	**Sg**	01 23 22.8	+0.2
GEDZ	**Gediz**	**0.69**	**295**	*e*PG	**Pb**	**01 23 14.5**	**-0.5**
GEDZ	**Gediz**	**0.69**	**295**	*e*Pg	**Pb**	**01 23 14.5**	**-0.5**
BAGO	**Egridir - ISPA**	**0.89**	**149**	*i* P	**Pg**	**01 23 16.6**	**-1.0**
BAGO				*i* S	**Sb**	01 23 31.0	+0.4
TVSB	**Tavsanli**	**0.90**	**320**	*e*PG	**Pn**	**01 23 19.7**	**-0.2**
TVSB	**Tavsanli**	**0.90**	**320**	*e*Pg	**Pn**	**01 23 19.7**	**-0.2**
SIMA	**Simav-Kutahya**	**1.01**	**289**	*e*PG	**Pn**	**01 23 21.4**	**0.0**
SIMA	**Simav-Kutahya**	**1.01**	**289**	*e*Pg	**Pn**	**01 23 21.4**	**0.0**
DEMI	**Demirci**	**1.20**	**284**	*i* P	**Pb**	**01 23 23.9**	**+0.1**
DEMI				*i* S	**Sg**	01 23 38.9	-0.3
DEMI	**Demirci**	**1.20**	**284**	P	**Pb**	**01 23 23.9**	**+0.1**
DEMI				S	**Sg**	01 23 38.9	-0.3
SVRH	**Sivrihisar-ESK**	**1.23**	**56**	*e*PN	**Pn**	**01 23 24.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.23**	**56**	*e*Pn	**Pn**	**01 23 24.4**	**0.0**
KULA	**Kula-Manisa**	**1.24**	**259**	*e*PN	**Pb**	**01 23 24.5**	**+0.1**
KULA	**Kula-Manisa**	**1.24**	**259**	*e*Pn	**Pb**	**01 23 24.5**	**+0.1**
DOGA	**KONYA_Doganhis**	**1.32**	**119**	*i* P	**Pn**	**01 23 25.5**	**-0.1**
DOGA				*i* S	**Sb**	01 23 42.7	-0.2
DOGA	**KONYA_Doganhis**	**1.32**	**119**	P	**Pn**	**01 23 25.5**	**-0.1**
DOGA				S	**Sb**	01 23 42.7	-0.2
MANT	**Manisa**	**1.32**	**259**	*i* P	**Pb**	**01 23 27.7**	**+1.8**
MANT				*i* S	**Sg**	01 23 42.7	-0.4
MANT	**Manisa**	**1.32**	**259**	P	**Pb**	**01 23 27.7**	**+1.8**
MANT				S	**Sg**	01 23 42.7	-0.4
GOLH	**Golhisar**	**1.60**	**199**	*i* P	**Pg**	**01 23 31.2**	**-0.1**
GOLH	**Golhisar**	**1.60**	**199**	P	**Pg**	**01 23 31.2**	**-0.1**
GULT	**Gulveren**	**1.69**	**8**	*e*PN	**Pg**	**01 23 33.2**	**+0.3**
GULT	**Gulveren**	**1.69**	**8**	*e*Pn	**Pg**	**01 23 33.2**	**+0.3**
KONT	**Konya--Tatoy**	**1.88**	**115**	*e*PN	**Pn**	**01 23 33.8**	**+0.6**
KONT	**Konya--Tatoy**	**1.88**	**115**	*e*Pn	**Pn**	**01 23 33.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.00**	**247**	*e*PN	**Pb**	**01 23 36.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.00**	**247**	*e*Pn	**Pb**	**01 23 36.7**	**-0.6**

*NIED **08** 01:26:00, 37°.60N×141°.70E, h53^km, Mw3.9 Best double couple: M0^7.27000×10^14 NP1:φ0^s203.00000°, δ44.00000°, λ127.00000°. NP2:φ0^s336.00000°, δ56.00000°, λ60.00000°.*
*ISCJB **08** 01:26:40.9±1.0, 37°.57N±0°.04×141°.81E±0°.09, h48^km±9^km, mb3.7/6, Error ellipse: s-maj=12.5km s-min=5.7km az=13.2*
*JMA **08** 01:26:42.6, 37°.62N×141°.70E, h45^km±2^km, M4.1*
JMA Felt II J1.
*IDC **08** 01:26:43.1±0.7, 37°.61N×141°.89E, h54^km±6^km, mb3.5/6, mb1 3.8/11, mb1mx3.6/35, mbtmp3.8/11, MS2.7/3, Ms1 2.7/3, ms1mx2.5/31, Error ellipse: s-maj=19.3km s-min=15.2km az=118.0*

ISC 08 01:26:42.8±0.8, 37°.61N±0°.04×141°.80E±0°.07, h49^km±7^km, n29, σ1^s63/36, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.78**	**252**	P	**Pn**	**01 26 56.2**	**-1.3**
JFK				*e*S	**Sn**	01 27 05.6	-2.6
JMM	**Marumori**	**0.84**	**288**	P	**Pn**	**01 26 57.1**	**-1.2**
JMM				S	**Sn**	01 27 07.3	-2.3
JIO	**Ouri**	**0.91**	**337**	P	**Pn**	**01 26 58.7**	**-0.6**
JIO				*e*S	**Sn**	01 27 09.8	-1.6
ONAJ	**Iwakimizuishiy**	**0.94**	**238**	P	**Pn**	**01 26 58.6**	**-1.2**
ONAJ				*e*S	**Sn**	01 27 09.5	-2.8
JFT	**Otama**	**1.17**	**266**	P	**Pn**	**01 27 02.2**	**-0.5**
JFT				*e*S	**Sn**	01 27 16.0	-1.5
JOU	**Okura**	**1.17**	**310**	P	**Pn**	**01 27 02.0**	**-0.8**
JOU				*e*S	**Sn**	01 27 16.1	-1.6
JMK	**Ichinoseki**	**1.41**	**341**	P	**Pn**	**01 27 06.1**	**0.0**
JMK				*e*S	**Sn**	01 27 23.2	-0.4
JFY	**Yanaizu**	**1.68**	**264**	P	**Pn**	**01 27 09.1**	**-0.6**
JYK	**Kaneyama**	**1.73**	**319**	P	**Pn**	**01 27 10.2**	**-0.2**
MJAR	**Matsushiro Arr**	**3.06**	**251**	P	**Pn**	**01 27 27.9**	**-0.8**
	7.7nm,0.3s,baz=79,slow=18,SNR=41						
MJAR				S	**Sn**	**01 28 09.1**	**+5.0**
	11nm,0.3s,baz=27,slow=20,SNR=6.0						
MJAR				LR	LR	01 29 00.4	
	comp=Z,118nm,19.2s,baz=75,slow=44						
MAT	**Matsushiro**	**3.06**	**251**	P	**Pn**	**01 27 29.1**	**+0.4**
MAT				S	**Sn**	**01 28 04.1**	**0.0**
JHJ	**Hachijo jima 2**	**4.78**	**201**	P	**Pn**	**01 27 51.7**	**-0.5**
	20nm,0.3s,baz=328,slow=19,SNR=11						
JHJ				S	**Sn**	**01 28 44.5**	**-1.7**
	22nm,0.3s,baz=121,slow=23,SNR=6.2						
JHJ				LR	LR	01 29 57.1	
	comp=Z,66nm,19.5s,baz=299,slow=40						
USRK	**Ussuriysk Ar.**	**9.92**	**315**	P	**Pn**	**01 29 03.9**	**+1.3**
	0.4nm,0.3s,baz=132,slow=13,SNR=5.3						
JNU	**Nakatsue**	**9.98**	**247**	P	**Pn**	**01 29 06.4**	**+2.9**
	0.4nm,0.3s,baz=56,slow=14,SNR=4.6						
JNU				LR	LR	01 33 01.9	
	comp=Z,60nm,20.4s,baz=106,slow=38						
KSRS	**Korea Array**	**11.02**	**273**	P	**Pn**	**01 29 19.8**	**+2.1**
	0.2nm,0.3s,baz=79,slow=12,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	02 02 46.9	
	baz=315,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	02 02 50.9	
	baz=315,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	02 02 48.2	
	baz=315,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	02 03 41.1	
	baz=316,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	02 03 41.2	
	baz=316,slow=76,SNR=87						
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	02 03 43.0	
	baz=316,slow=76,SNR=71						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**01 34 27.3**	**+0.3**
	1.3nm,0.6s,baz=79,slow=9.2,SNR=5.3						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**01 34 45.9**	**0.0**
	0.5nm,0.5s,baz=88,slow=10,SNR=6.4						
ILAR	**Eielson Array**	**48.84**	**33**	P	**P**	**01 35 21.3**	**-1.7**
	0.3nm,0.9s,baz=275,slow=5.2,SNR=3.2						
ILAR				pP	**pP**	**01 35 36.2**	**-0.1**
	0.8nm,0.8s,baz=294,slow=4.8,SNR=6.6						
WRA	**Warramunga Arr**	**57.67**	**188**	P	**P**	**01 36 27.2**	**-1.1**
	1.4nm,0.6s,baz=6.2,slow=7.2,SNR=13						
WRA				pP	**pP**	**01 36 43.6**	**+1.7**
	1.0nm,0.7s,baz=178,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**61.40**	**188**	P	**P**	**01 36 54.0**	**+0.1**
	0.9nm,0.8s,baz=11,slow=6.5,SNR=11						
PDAR	**Pinedale Array**	**77.04**	**46**	pP	pP	01 38 44.6	-0.4
	0.3nm,0.5s,baz=295,slow=4.7,SNR=1.9						
TXAR	**Lajitas Array**	**89.53**	**53**	P	**P**	**01 39 35.5**	**+0.4**
	0.3nm,0.8s,baz=302,slow=2.0,SNR=3.1						
TXAR				pP	**pP**	**01 39 50.3**	**+0.8**
	0.3nm,0.6s,baz=291,slow=2.8,SNR=3.1						
LPAZ	**La Paz**	**146.14**	**59**	PKPbc	**PKPdf**	**01 46 17.9**	**+0.2**
	0.3nm,0.3s,baz=153,slow=2.3,SNR=3.1						
LPAZ				pPKPbc	**pPKPdf**	**01 46 33.1**	**+0.5**
	0.5nm,0.5s,baz=270,slow=4.0,SNR=2.4						

*ISCJB **08** 01:30:11.2±0.7, 50°.39N±0°.04×18°.83E±0°.04, h0^km, Error ellipse: s-maj=6.1km s-min=2.8km az=17.2*
*CSEM **08** 01:30:11.5±0.4, 50°.46N×18°.85E, h2^km, ML2.6/5, Error ellipse: s-maj=10.0km s-min=4.5km az=14.0*
*IPEC **08** 01:30:12.3±0.2, 50°.41N×18°.92E, h0^km, ML1.7/3, Error ellipse: s-maj=2.5km s-min=1.2km az=172.0*
*PRU **08** 01:30:12.9, 50°.38N×18°.86E, h0^km*
*WAR **08** 01:30:13.4, 50°.36N×18°.93E, h1^km, Mw2.3*

ISC 08 01:30:13.0±0.8, 50°.29N±0°.05×18°.85E±0°.02, h0^km, n28, σ0^s54/53, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**96**	*e*Pg	**Pg**	**01 30 24.3**	**-0.4**
OJC				*e*Sg	**Sg**	01 30 32.8	+0.1
OJC	**Ojcow**	**0.61**	**96**	*e*Pg	**Pg**	**01 30 24.3**	**-0.4**
OJC				*e*Sg	**Sg**	01 30 32.8	+0.1
OJC	**Ojcow**	**0.61**	**96**	*e*Pg	**Pg**	**01 30 24.3**	**-0.4**
OJC				*e*Sg	**Sg**	01 30 32.8	+0.1
OKC	**Ostrava-Krasne**	**0.64**	**225**	*e*PG	**Pb**	**01 30 26.8**	**-0.2**
OKC				*e*SG	**Sb**	01 30 36.9	+0.4
	comp=Z,8.0nm,0.3s						
OKC	**Ostrava-Krasne**	**0.64**	**225**	Pg	**Pb**	**01 30 26.8**	**-0.2**
OKC				Sg	**Sb**	01 30 36.9	+0.4
	8.0nm,0.3s						
MORC	**Moravsky Berou**	**0.99**	**239**	*e*Pg	**Pb**	**01 30 32.7**	**-0.3**
MORC				*e*Sg	**Sb**	01 30 46.9	+0.3
	13nm,0.3s						
LANS	**Liptovska Anna**	**1.21**	**160**	*e*PG	**Pn**	**01 30 37.2**	**0.0**
LANS				*e*SG	**Sn**	01 30 53.7	-0.6
NIE	**Niedzica**	**1.28**	**132**	*e*Pg	**Pn**	**01 30 38.5**	**+0.3**
NIE				*e*Sg	**Sn**	01 30 56.0	-0.1
NIE	**Niedzica**	**1.28**	**132**	*e*Pg	**Pn**	**01 30 38.5**	**+0.3**
NIE				*e*Sg	**Sn**	01 30 56.0	-0.1
NIE	**Niedzica**	**1.28**	**132**	*e*Pg	**Pn**	**01 30 38.5**	**+0.3**
NIE				*e*Sg	**Sn**	01 30 56.0	-0.1
KRLC	**Kraliky**	**1.35**	**262**	*e*PG	**Pg**	**01 30 38.1**	**-0.7**
KRLC				*e*SG	**Sg**	01 30 56.4	+0.2
KRLC	**Kraliky**	**1.35**	**262**	Pg	**Pg**	**01 30 38.1**	**-0.7**
KRLC				Sg	**Sg**	01 30 56.4	+0.2
DPC	**Dobruska-Polom**	**1.62**	**273**	*e*PG	**Pn**	**01 30 42.4**	**-0.5**
DPC				*e*SG	**Sb**	01 31 04.8	0.0
	comp=Z,4.5nm,0.2s						
DPC	**Dobruska-Polom**	**1.62**	**273**	Pg	**Pn**	**01 30 42.4**	**-0.5**
DPC				Sg	**Sb**	01 31 04.8	0.0
	4.5nm,0.2s						
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pn**	**01 30 44.2**	**0.0**
KSP				*e*Sg	**Sg**	01 31 08.8	+0.5
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pn**	**01 30 44.2**	**0.0**
KSP				*e*Sg	**Sg**	01 31 08.8	+0.5
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pn**	**01 30 44.2**	**0.0**
KSP				*e*Sg	**Sg**	01 31 08.8	+0.5
VRAC	**Vranov**	**1.76**	**237**	*e*Pn	**Pn**	**01 30 44.9**	**+0.1**
VRAC				*e*Sg	**Sg**	01 31 10.4	+0.9
	5.8nm,0.3s						
VYHS	**Vyhne**	**1.80**	**180**	*e*Pn	**Pn**	**01 30 45.3**	**0.0**
VYHS				*e*Sn	**Sn**	01 31 08.2	-0.6
VYHS	**Vyhne**	**1.80**	**180**	*e*PN	**Pn**	**01 30 45.3**	**0.0**
VYHS				*e*SN	**Sn**	01 31 08.2	-0.6
UPC	**Upice**	**1.83**	**278**	*e*PG	**Pn**	**01 30 46.2**	**+0.5**
UPC	**Upice**	**1.83**	**278**	Pg	**Pn**	**01 30 46.2**	**+0.5**
KRUC	**Moravsky**	**2.01**	**233**	*e*Pn	**Pn**	**01 30 49.1**	**+0.9**
KRUC				*e*Sn	**Sg**	01 31 17.7	+0.1
	2.6nm,0.2s						
PRU	**Pruhonice**	**2.79**	**265**	*e*PG	**Pb**	**01 31 03.5**	**-0.1**
PRU				*e*SG	**Sg**	01 31 41.3	-1.2
PRU	**Pruhonice**	**2.79**	**265**	Pg	**Pb**	**01 31 03.5**	**-0.1**
PRU				Sg	**Sg**	01 31 41.3	-1.2
BRG	**Berggiesshubel**	**3.18**	**282**	SG	**Sg**	**01 31 55.3**	**+0.2**
	2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.61**	**253**	*e*PN	**Pn**	**01 31 10.9**	**+0.7**
KHC				*e*PG	**Pb**	**01 31 19.5**	**+1.8**
KHC				*e*SG	**Sg**	01 32 09.6	+0.6
KHC	**Kasperske Hory**	**3.61**	**253**	Pn	**Pn**	**01 31 10.9**	**+0.7**

IDC 08 02:04:47.8±2.0, 1°.61N×111°.29E, h0^km, mb3.7/5, mb1 3.9/5, mb1mx3.6/38, mbtmp3.8/5, MS2.9/2, Ms1 3.0/2, ms1mx2.5/68, Error ellipse: s-maj=235.1km s-min=21.4km az=57.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.67**	**325**	P	P	02 09 30.0	+0.6
	1.3nm,0.3s,baz=154,slow=11,SNR=7.0						
CMAR				LR	LR	02 18 11.1	
	comp=Z,18nm,19.1s,baz=5.0,slow=39						
ASAR	**Alice Springs**	**33.39**	**140**	P	P	02 11 28.1	-0.2
	0.4nm,0.7s,baz=313,slow=8.2,SNR=5.2						
STKA	**Stephens Creek**	**43.98**	**142**	P	P	02 12 57.1	+0.1
	1.2nm,0.8s,baz=314,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**51.62**	**335**	P	P	02 13 55.9	-0.2
	0.5nm,0.8s,baz=145,slow=7.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**56.54**	**342**	P	P	02 14 31.4	-0.4
	1.2nm,0.6s,baz=145,slow=5.3,SNR=4.1						
KVAR	**Kislovodsk Arr**	**73.58**	**315**	LR	LR	02 55 38.0	
	comp=Z,14nm,18.3s,slow=42						

IDC 08 02:07:06.0±2.4, 1°.65N×127°.21E, h0^km, mb3.4/3, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=204.4km s-min=25.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**162**	P	P	02 12 07.7	-0.4
	0.5nm,0.4s,baz=341,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.99**	**166**	P	P	02 12 41.0	+0.3
	0.3nm,0.3s,baz=347,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	02 17 11.3	0.0
	0.2nm,0.3s,baz=116,slow=7.6,SNR=3.3						

*DDA **08** 02:22:29.0, 37°.90N×27°.29E, h7^km, Md2.6*
*ISCJB **08** 02:22:29.5±0.4, 37°.88N±0°.03×27°.29E±0°.03, h8^km±4^km, Error ellipse: s-maj=5.8km s-min=3.7km az=31.5*
*ISK **08** 02:22:29.5, 37°.91N×27°.32E, h6^km, MD2.3*
*CSEM **08** 02:22:29.7±0.1, 37°.89N×27°.31E, h5^km, MD2.3, Error ellipse: s-maj=3.6km s-min=3.0km az=51.0*

ISC 08 02:22:29.7±0.8, 37°.89N±0°.02×27°.30E±0°.02, h9^km±5^km, n31, σ0^s49/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUSD	**Kusadasi-Aydin**	**0.03**	**191**	*e*PG	**Pg**	**02 22 31.3**	**-0.1**
KUSD				*e*SG	**Sg**	02 22 32.6	0.0
KUSD	**Kusadasi-Aydin**	**0.03**	**191**	*e*Pg	**Pg**	**02 22 31.3**	**-0.1**
KUSD				*e*Sg	**Sg**	02 22 32.6	0.0
GCAM	**G?zelcaml?**	**0.20**	**194**	*i* P	**Pg**	**02 22 33.4**	**-0.4**
GCAM				*i* S	**Sg**	02 22 36.7	+0.2
GCAM	**G?zelcaml?**	**0.20**	**194**	P	**Pg**	**02 22 33.4**	**-0.4**
GCAM				S	**Sg**	02 22 36.7	+0.2
GMLD	**Gumuldur**	**0.35**	**301**	*e*PG	**Pb**	**02 22 37.5**	**-0.6**
GMLD				*e*SG	**Sg**	02 22 41.9	+0.6
GMLD	**Gumuldur**	**0.35**	**301**	*e*Pg	**Pb**	**02 22 37.5**	**-0.6**
GMLD				*e*Sg	**Sg**	02 22 41.9	+0.6
DGB	**˜zmir**	**0.36**	**296**	*i* P	**Pg**	**02 22 36.6**	**-0.2**
DGB				*i* S	**Sg**	02 22 41.5	-0.2
AYDB	**Zeytinkoy-Aydi**	**0.47**	**83**	*e*PG	**Pg**	**02 22 38.8**	**-0.2**
AYDB				*e*SG	**Sg**	02 22 45.3	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.47**	**83**	*e*Pg	**Pg**	**02 22 38.8**	**-0.2**
AYDB				*e*Sg	**Sg**	02 22 45.3	+0.1
AYDN	**Tasoluk**	**0.52**	**116**	*i* P	**Pg**	**02 22 39.9**	**+0.1**
AYDN				*i* S	**Sg**	02 22 46.2	-0.4
AYDN	**Tasoluk**	**0.52**	**116**	P	**Pg**	**02 22 39.8**	**+0.1**
AYDN				S	**Sg**	02 22 46.2	-0.4
MLSB	**Milas**	**0.71**	**147**	*e*PG	**Pb**	**02 22 44.0**	**-0.2**
MLSB	**Milas**	**0.71**	**147**	*e*Pg	**Pb**	**02 22 44.0**	**-0.2**
ZEY	**˜zmir**	**0.71**	**299**	*i* P	**Pg**	**02 22 41.9**	**-1.6**
ZEY				*i* S	**Sg**	02 22 52.5	-0.2
URLA	**Izmir**	**0.72**	**310**	*e*PG	**Pg**	**02 22 43.9**	**+0.2**
URLA	**Izmir**	**0.72**	**310**	*i* P	**Pg**	**02 22 44.0**	**+0.3**
URLA	**Izmir**	**0.72**	**310**	P	**Pg**	**02 22 44.0**	**+0.3**
BODT	**Bodrum**	**0.83**	**179**	*e*PG	**Pg**	**02 22 45.6**	**-0.1**
BODT	**Bodrum**	**0.83**	**179**	*e*Pg	**Pg**	**02 22 45.6**	**-0.1**
BDRM	**Kayabasi**	**0.83**	**172**	*i* P	**Pg**	**02 22 45.3**	**-0.5**
BDRM	**Kayabasi**	**0.83**	**172**	P	**Pg**	**02 22 45.3**	**-0.5**
AKHS	**Akhisar**	**1.06**	**22**	*i* P	**Pg**	**02 22 49.0**	**-1.2**
AKHS				*i* S	**Sb**	02 23 05.0	+0.6
AKHS	**Akhisar**	**1.06**	**22**	P	**Pg**	**02 22 49.0**	**-1.2**
AKHS				S	**Sb**	02 23 05.0	+0.6
CHOS	**Chios island**	**1.09**	**297**	*e*PN	**Pn**	**02 22 51.9**	**+0.6**
CHOS	**Chios island**	**1.09**	**297**	*e*Pn	**Pn**	**02 22 51.9**	**+0.6**
DAT	**Datca**	**1.18**	**169**	*e*PN	**Pn**	**02 22 52.6**	**+0.1**
DAT	**Datca**	**1.18**	**169**	*e*Pn	**Pn**	**02 22 52.6**	**+0.1**
KULA	**Kula-Manisa**	**1.24**	**60**	*e*PN	**Pb**	**02 22 53.2**	**-0.2**
KULA	**Kula-Manisa**	**1.24**	**60**	*e*Pn	**Pb**	**02 22 53.2**	**-0.2**
DEMI	**Demirci**	**1.60**	**44**	*i* P	**Pb**	**02 22 59.6**	**+0.1**
DEMI	**Demirci**	**1.60**	**44**	P	**Pb**	**02 22 59.6**	**+0.1**

*ISK **08** 02:24:36.2, 39°.40N×32°.96E, h5^km, MD2.6*
*ISCJB **08** 02:24:37.4±0.5, 39°.44N±0°.03×33°.04E±0°.05, h9^km±4^km, Error ellipse: s-maj=7.4km s-min=5.1km az=28.2*
*CSEM **08** 02:24:37.0±0.2, 39°.43N×33°.04E, h8^km, MD2.6, Error ell

comp=N,452nm,0.3s
GUN Gumba 8.48 301 *e*Pn **Pn 03 02 32.9 +1.8**
GUN *e*Sn **Sn 03 04 04.5 -0.9**
comp=N,75nm,0.4s
PKI Pulchoki 8.71 298 *e*Pn **Pn 03 02 36.7 +2.5**
PKIN Phulchoki 8.72 298 *e*Pn **Pn 03 02 36.4 +2.1**
PKIN *e*Sn **Sn 03 04 09.8 -1.4**
comp=N,23nm,0.3s
KKN Kakani 8.90 299 *e*Pn **Pn 03 02 38.8 +2.0**
KKN *e*Sn **Sn 03 04 14.3 -1.3**
comp=N,21nm,0.2s
DMN Daman 8.97 297 *e*Pn **Pn 03 02 39.6 +1.9**
GKN Gorkha 9.51 298 *e*Pn **Pn 03 02 46.9 +1.9**
GKN *e*Sn **Sn 03 04 27.3 -3.0**
comp=N,56nm,0.4s
KOLN Koldanda 10.27 295 *e*Pn **Pn 03 02 56.3 +0.9**
KOLN *e*Sn **Sn 03 04 45.7 -3.3**
comp=N,31nm,0.4s
PYUN Piuthan 10.89 296 *e*Pn **Pn 03 03 04.1 +0.2**
PYUN *e*Sn **Sn 03 04 59.5 -4.7**
comp=N,21nm,0.4s
MKAR Makanchi Array 24.87 340 P **P 03 05 48.0 +1.5**
comp=N,3.8nm,0.7s,baz=146,slow=9.8,SNR=28
KURBB Kurchatov Arra 29.43 340 P **P 03 06 27.6 +0.4**
comp=N,0.3nm,0.4s,baz=155,slow=7.6,SNR=6.9
ZALV Zalesovo Beam 30.95 349 P **P 03 06 40.8 +0.2**
comp=N,0.6nm,0.4s,baz=180,slow=10.0,SNR=2.9
MLR Muntele Rosu 58.36 310 LR LR 03 38 48.2
comp=N,19nm,19.0s,baz=146,slow=39
WRA Warramunga Arr 58.52 135 P **P 03 10 18.3 -1.5**
comp=N,0.2nm,0.3s,baz=321,slow=7.4,SNR=6.6
ASAR Alice Springs 60.95 138 P **P 03 10 34.8 -1.6**
comp=N,0.3nm,0.5s,baz=321,slow=7.0,SNR=8.2
GERES GERESS Array B 66.32 315 LR LR 03 46 00.2
comp=N,53nm,18.6s,baz=113,slow=41
MATP Matopo 77.52 241 LR LR 03 44 44.6
comp=N,23nm,18.0s,baz=192,slow=34

*IDC **08** 03:16:32.0±3.0, 35°.72S×179°.98E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/41, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=73.0km s-min=43.9km az=129.0*
*NEIC **08** 03:16:35.6±0.0, 35°.80S×179°.96E, h115km, MG4.1(WEL), After WEL.*
ISC 08 03:16:32.9±2.0, 35°.9S±0°.1×179°.9W±0°.2, h10km, n28, σ0°81/33, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.21**	**219**	PN	**Pn**	**03 17 10.3**	**+0.6**
MXZ				SN	**Sn**	**03 17 37.0**	**-0.1**
WMGZ	**Waiomatatini S**	**2.36**	**214**	Pn	**Pn**	**03 17 13.1**	**+1.3**
WMGZ	**Waiomatatini S**	**2.36**	**214**	PN	**Pn**	**03 17 13.1**	**+1.3**
PKGZ	**Pakihiroa**	**2.58**	**218**	PN	**Pn**	**03 17 15.6**	**+0.8**
PKGZ				SN	**Sn**	**03 17 46.2**	**0.0**
HAZ	**Te Kaha**	**2.64**	**223**	PN	**Pn**	**03 17 17.6**	**+2.1**
PUZ	**Puketiti**	**2.64**	**213**	Pn	**Pn**	**03 17 16.2**	**+0.6**
PUZ				Sn	**Sn**	**03 17 47.6**	**-0.2**
PUZ	**Puketiti**	**2.64**	**213**	PN	**Pn**	**03 17 15.8**	**+0.2**
PUZ				SN	**Sn**	**03 17 47.6**	**-0.2**
RUGZ	**Raukumara Rang**	**2.84**	**222**	PN	**Pn**	**03 17 19.7**	**+1.2**
TWGZ	**Tauwhareparae**	**2.85**	**215**	Pn	**Pn**	**03 17 19.5**	**+1.0**
TWGZ	**Tauwhareparae**	**2.85**	**215**	PN	**Pn**	**03 17 19.4**	**+0.9**
CNGZ	**Carnagh Statio**	**3.01**	**209**	Pn	**Pn**	**03 17 21.9**	**+1.2**
CNGZ	**Carnagh Statio**	**3.01**	**209**	PN	**Pn**	**03 17 21.4**	**+0.7**
MWZ	**Matawai**	**3.20**	**219**	Pn	**Pn**	**03 17 23.7**	**+0.4**
MWZ	**Matawai**	**3.20**	**219**	PN	**Pn**	**03 17 23.5**	**+0.2**
URZ	**Urewera**	**3.37**	**224**	Pn	**Pn**	**03 17 26.2**	**+0.6**
	9.3nm,0.3s,baz=269,slow=3.2,SNR=42						
URZ				Sn	**Sn**	**03 18 04.9**	**-0.7**
	3.3nm,0.3s,baz=185,slow=17,SNR=3.5						
URZ	**Urewera**	**3.37**	**224**	PN	**Pn**	**03 17 26.0**	**+0.4**
RIGZ	**Rimuhau**	**3.38**	**212**	*e*PN	**Pn**	**03 17 25.9**	**+0.1**
KNZ	**Kokohu**	**3.69**	**210**	Pn	**Pn**	**03 17 30.1**	**+0.2**
KNZ	**Kokohu**	**3.69**	**210**	PN	**Pn**	**03 17 30.1**	**+0.2**
ARHZ	**Aropaoanui**	**4.18**	**215**	Pn	**Pn**	**03 17 37.0**	**+0.1**
ARHZ	**Aropaoanui**	**4.18**	**215**	PN	**Pn**	**03 17 34.8**	**-2.0**
MCHZ	**McNeill Hill**	**4.47**	**216**	Pn	**Pn**	**03 17 40.6**	**-0.1**
MCHZ	**McNeill Hill**	**4.47**	**216**	PN	**Pn**	**03 17 40.3**	**-0.4**
KWHZ	**Kaweka Forest**	**4.59**	**218**	PN	**Pn**	**03 17 42.2**	**-0.2**
WNVZ	**Wahianoa**	**4.96**	**224**	PN	**Pn**	**03 17 47.0**	**-0.6**
ASAR	**Alice Springs**	**41.53**	**274**	P	**P**	**03 24 20.6**	**-0.1**
	0.7nm,0.7s,baz=120,slow=7.9,SNR=8.3						
WRA	**Warramunga Arr**	**43.01**	**279**	P	**P**	**03 24 32.6**	**-0.2**
	0.7nm,0.5s,baz=119,slow=7.8,SNR=9.3						
FINES	**FINESS Array B**	**149.57**	**335**	PKPbc	**PKPbc**	**03 36 21.6**	**-0.1**
	3.4nm,0.9s,baz=37,slow=3.5,SNR=6.9						

*ISCJB **08** 03:17:45.4±0.7, 43°.70S±0°.03×172°.95E±0°.04, h6km±4km, mb4.2/7, MS3.8/8, Error ellipse: s-maj=5.6km s-min=3.1km az=141.1*
*IDC **08** 03:17:47.0±0.8, 43°.53S×172°.84E, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/39, mbtmp4.2/6, ML4.3/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/22, Error ellipse: s-maj=29.1km s-min=14.6km az=170.0*
*NEIC **08** 03:17:47.5±0.0, 43°.70S×172°.85E, h8km, mb4.7/2, ML4.8(WEL), After WEL.*
NEIC Felt in Canterbury.
*WEL **08** 03:17:48.2±0.1, 43°.68S×172°.81E, h7km, ML4.8/75, Mw4.6, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 6.
ISC 08 03:17:46.9±1.6, 43°.67S±0°.04×172°.93E±0°.05, h2km±9km, n191, σ1°23/169, mb4.3/7, MS3.8/8, 2C, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**259**	Pn	**Pg**	**03 17 51.0**	**+0.2**
MQZ	**McQueen's Vall**	**0.20**	**259**	⇑PG	**Pg**	**03 17 51.0**	**+0.2**
MQZ				SG	**Sg**	**03 17 53.2**	**-0.2**
MQZ				AML	AML	03 17 54.0	
MQZ				AML	AML	03 17 55.1	
CRLZ	**Canterbury Las**	**0.24**	**293**	Pn	**Pg**	**03 17 51.7**	**+0.2**
CRLZ				Sn	**Sg**	**03 17 54.4**	**-0.2**
CRLZ	**Canterbury Las**	**0.24**	**293**	⇑PG	**Pg**	**03 17 51.7**	**+0.2**
CRLZ				SG	**Sg**	**03 17 54.3**	**-0.2**
CRLZ				AML	AML	03 17 58.8	
CRLZ				AML	AML	03 17 59.5	
CRLZ				AML	AML	03 17 59.5	
OXZ	**Oxford**	**0.73**	**298**	Pn	**Pg**	**03 18 00.6**	**-0.2**
OXZ				Sn	**Sg**	**03 18 10.2**	**-0.2**
OXZ	**Oxford**	**0.73**	**298**	P*	**Pg**	**03 18 00.8**	**-0.1**
OXZ				S*	**Sg**	**03 18 10.0**	**-0.3**
OXZ				AML	AML	03 18 12.7	
OXZ				AML	AML	03 18 13.1	
OXZ				AML	AML	03 18 13.2	
LTZ	**Lake Taylor**	**1.01**	**331**	Pn	**Pg**	**03 18 06.5**	**+0.4**
LTZ				Sn	**Sb**	**03 18 20.4**	**-0.3**
LTZ	**Lake Taylor**	**1.01**	**331**	P*	**Pg**	**03 18 06.5**	**+0.4**
LTZ				S*	**Sb**	**03 18 20.4**	**-0.3**
LTZ				AML	AML	03 18 24.6	
KHZ	**Kahutara**	**1.33**	**20**	Pn	**Pn**	**03 18 11.6**	**-0.7**
KHZ	**Kahutara**	**1.33**	**20**	PN	**Pn**	**03 18 11.3**	**-1.1**
KHZ				AML	AML	03 18 42.7	
KHZ				AML	AML	03 18 42.7	
KHZ				AML	AML	03 18 50.9	
KHZ				AML	AML	03 18 50.9	
RPZ	**Rata Peaks**	**1.36**	**267**	Pg	**Pn**	**03 18 11.0**	**-1.9**
	384nm,0.3s,baz=108,slow=1.9,SNR=682						
RPZ				Lg	Lg	03 18 29.2	
	2μm,0.3s,baz=344,slow=20,SNR=41						
RPZ	**Rata Peaks**	**1.36**	**267**	P*	**Pn**	**03 18 10.9**	**-1.9**
RPZ				AML	AML	03 18 33.2	
RPZ				AML	AML	03 18 33.5	
INZ	**Inchbonnie**	**1.44**	**311**	PN	**Pn**	**03 18 12.4**	**-1.5**
WVZ	**Waitaha Valley**	**1.70**	**290**	Pn	**Pn**	**03 18 16.7**	**-0.9**
WVZ	**Waitaha Valley**	**1.70**	**290**	PN	**Pn**	**03 18 16.5**	**-1.0**
WVZ				AML	AML	03 18 51.1	
THZ	**Tophouse**	**1.91**	**360**	Pn	**Pn**	**03 18 19.3**	**-1.1**
THZ	**Tophouse**	**1.91**	**360**	PN	**Pn**	**03 18 19.4**	**-0.9**
THZ				AML	AML	03 19 00.3	
THZ				AML	AML	03 19 00.5	
BSWZ	**Blackbirch Sta**	**2.07**	**20**	Pn	**Pn**	**03 18 22.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**2.07**	**20**	PN	**Pn**	**03 18 22.3**	**-0.3**
BSWZ				AML	AML	03 19 18.0	
BSWZ				AML	AML	03 19 28.2	
DSZ	**Denniston Nort**	**2.09**	**336**	Pn	**Pn**	**03 18 22.8**	**-0.2**
DSZ	**Denniston Nort**	**2.09**	**336**	PN	**Pn**	**03 18 22.8**	**-0.2**
DSZ				AML	AML	03 19 01.3	
DSZ				AML	AML	03 19 01.3	
DSZ				AML	AML	03 19 01.4	
DSZ				AML	AML	03 19 01.7	
LBZ	**Lake Benmore**	**2.10**	**249**	Pn	**Pn**	**03 18 22.0**	**-1.1**
LBZ	**Lake Benmore**	**2.10**	**249**	PN	**Pn**	**03 18 22.0**	**-1.1**
LBZ				AML	AML	03 19 01.1	
LBZ				AML	AML	03 19 01.1	
LBZ				AML	AML	03 19 01.2	
LBZ				AML	AML	03 19 01.2	
ODZ	**Otahua Downs**	**2.14**	**229**	Pn	**Pn**	**03 18 22.2**	**-1.3**
ODZ	**Otahua Downs**	**2.14**	**229**	PN	**Pn**	**03 18 22.1**	**-1.4**
ODZ				AML	AML	03 19 04.1	
ODZ				AML	AML	03 19 04.1	
ODZ				AML	AML	03 19 04.8	
ODZ				AML	AML	03 19 04.8	
FOZ	**Fox Glacier**	**2.27**	**272**	Pn	**Pn**	**03 18 25.3**	**+0.1**
FOZ	**Fox Glacier**	**2.27**	**272**	*e*PN	**Pn**	**03 18 25.0**	**-0.2**
FOZ				AML	AML	03 19 03.1	
FOZ				AML	AML	03 19 03.1	
FOZ				AML	AML	03 19 10.1	
FOZ				AML	AML	03 19 10.1	
TUWZ	**Tuamarina**	**2.36**	**19**	Pn	**Pn**	**03 18 25.9**	**-0.6**
TUWZ	**Tuamarina**	**2.36**	**19**	PN	**Pn**	**03 18 25.7**	**-0.8**
TUWZ				AML	AML	03 19 23.4	
TUWZ				AML	AML	03 19 24.2	
NNZ	**Nelson**	**2.47**	**8**	Pn	**Pn**	**03 18 27.8**	**-0.3**
NNZ	**Nelson**	**2.47**	**8**	PN	**Pn**	**03 18 27.4**	**-0.7**
NNZ				AML	AML	03 19 27.0	
NNZ				AML	AML	03 19 27.0	
NNZ				AML	AML	03 19 37.4	
NNZ				AML	AML	03 19 37.5	
TCW	**Tory Channel**	**2.65**	**23**	Pn	**Pn**	**03 18 29.8**	**-0.8**
TCW	**Tory Channel**	**2.65**	**23**	PN	**Pn**	**03 18 29.8**	**-0.8**
TCW				AML	AML	03 19 06.8	
TCW				AML	AML	03 19 09.1	
BHW	**Baring Head**	**2.68**	**33**	Pn	**Pn**	**03 18 29.9**	**-1.0**
BHW	**Baring Head**	**2.68**	**33**	PN	**Pn**	**03 18 29.9**	**-1.0**
BHW				AML	AML	03 19 49.3	
BHW				AML	AML	03 19 58.1	
SNZO	**South Karori**	**2.70**	**30**	*e*Pn	**Pn**	**03 18 30.2**	**-0.9**
PLWZ	**Palliser**	**2.71**	**40**	Pn	**Pn**	**03 18 30.4**	**-1.1**
PLWZ	**Palliser**	**2.71**	**40**	PN	**Pn**	**03 18 30.4**	**-1.1**
PLWZ				AML	AML	03 19 56.7	
PLWZ				AML	AML	03 20 12.5	
WEL	**Wellington**	**2.75**	**30**	Pn	**Pn**	**03 18 31.1**	**-0.8**
WEL	**Wellington**	**2.75**	**30**	PN	**Pn**	**03 18 31.0**	**-0.8**
WEL				AML	AML	03 19 07.7	
WEL				AML	AML	03 19 07.7	
WEL				AML	AML	03 19 08.7	
WEL				AML	AML	03 19 08.7	
HHSZ	**Highcliff Hill**	**2.77**	**216**	Pn	**Pn**	**03 18 31.0**	**-1.2**
HHSZ	**Highcliff Hill**	**2.77**	**216**	PN	**Pn**	**03 18 30.8**	**-1.4**
HHSZ				AML	AML	03 19 23.6	
HHSZ				AML	AML	03 19 26.0	
MSWZ	**Moikau Station**	**2.83**	**38**	Pn	**Pn**	**03 18 32.2**	**-0.8**
MSWZ	**Moikau Station**	**2.83**	**38**	PN	**Pn**	**03 18 32.2**	**-0.8**
MSWZ				AML	AML	03 19 09.7	
MSWZ				AML	AML	03 19 09.8	
QRZ	**Quartz Range**	**2.86**	**354**	Pn	**Pn**	**03 18 33.0**	**-0.4**
QRZ	**Quartz Range**	**2.86**	**354**	PN	**Pn**	**03 18 33.0**	**-0.4**
QRZ				AML	AML	03 19 25.8	
QRZ				AML	AML	03 19 25.8	
QRZ				AML	AML	03 19 27.8	
QRZ				AML	AML	03 19 27.8	
PAWZ	**Paruwai Farm**	**2.94**	**40**	Pn	**Pn**	**03 18 33.4**	**-1.1**
PAWZ	**Paruwai Farm**	**2.94**	**40**	PN	**Pn**	**03 18 33.4**	**-1.1**
PAWZ				AML	AML	03 20 00.1	
PAWZ				AML	AML	03 20 20.4	
DUWZ	**D'Urville Isla**	**2.96**	**15**	Pn	**Pn**	**03 18 34.9**	**0.0**
DUWZ	**D'Urville Isla**	**2.96**	**15**	PN	**Pn**	**03 18 34.6**	**-0.2**
DUWZ				AML	AML	03 19 28.5	
DUWZ				AML	AML	03 19 37.3	
CAW	**Cannon Point**	**3.01**	**32**	Pn	**Pn**	**03 18 34.5**	**-1.0**
CAW	**Cannon Point**	**3.01**	**32**	PN	**Pn**	**03 18 34.5**	**-1.0**
CAW				AML	AML	03 19 16.3	
CAW				AML	AML	03 19 17.1	
JCZ	**Jackson Bay**	**3.02**	**261**	Pn	**Pn**	**03 18 35.4**	**-0.4**
JCZ	**Jackson Bay**	**3.02**	**261**	PN	**Pn**	**03 18 35.4**	**-0.4**
JCZ				AML	AML	03 19 29.8	
JCZ				AML	AML	03 19 35.0	
EAZ	**Earnscleugh**	**3.03**	**238**	Pn	**Pn**	**03 18 34.6**	**-1.1**
EAZ	**Earnscleugh**	**3.03**	**238**	PN	**Pn**	**03 18 34.6**	**-1.1**
EAZ				AML	AML	03 19 33.3	
EAZ				AML	AML	03 19 33.3	
EAZ				AML	AML	03 19 34.9	
EAZ				AML	AML	03 19 35.0	
WKZ	**Wanaka**	**3.04**	**246**	Pn	**Pn**	**03 18 34.7**	**-1.2**
WKZ	**Wanaka**	**3.04**	**246**	PN	**Pn**	**03 18 34.7**	**-1.2**
WKZ				AML	AML	03 19 38.4	
WKZ				AML	AML	03 19 38.4	
WKZ				AML	AML	03 19 41.5	
WKZ				AML	AML	03 19 41.5	
TRWZ	**Traveller**	**3.05**	**43**	Pn	**Pn**	**03 18 34.8**	**-1.3**
TRWZ	**Traveller**	**3.05**	**43**	PN	**Pn**	**03 18 34.3**	**-1.7**
TRWZ				AML	AML	03 19 58.7	
TRWZ				AML	AML	03 20 10.3	
MTW	**Mount Morrison**	**3.15**	**38**	Pn	**Pn**	**03 18 36.0**	**-1.5**
MTW	**Mount Morrison**	**3.15**	**38**	PN	**Pn**	**03 18 36.0**	**-1.5**
MTW				AML	AML	03 19 18.7	
MTW				AML	AML	03 19 19.1	
KIW	**Kapiti Island**	**3.17**	**28**	Pn	**Pn**	**03 18 37.1**	**-0.6**
KIW	**Kapiti Island**	**3.17**	**28**	PN	**Pn**	**03 18 37.1**	**-0.6**
KIW				AML	AML	03 19 19.3	
KIW				AML	AML	03 19 53.2	
TUZ	**Tuapeka**	**3.27**	**225**	Pn	**Pn**	**03 18 38.2**	**-1.0**
TUZ	**Tuapeka**	**3.27**	**225**	PN	**Pn**	**03 18 38.2**	**-1.0**
TUZ				AML	AML	03 19 37.5	
TUZ				AML	AML	03 19 37.5	
TUZ				AML	AML	03 19 42.8	
TUZ				AML	AML	03 19 42.9	
HOWZ	**Holdsworth Sta**	**3.37**	**36**	Pn	**Pn**	**03 18 39.1**	**-1.4**
HOWZ	**Holdsworth Sta**	**3.37**	**36**	PN	**Pn**	**03 18 39.1**	**-1.4**
HOWZ				AML	AML	03 19 22.8	
HOWZ				AML	AML	03 20 12.9	
TMWZ	**Te Maipa**	**3.37**	**42**	Pn	**Pn**	**03 18 40.7**	**+0.2**
TMWZ	**Te Maipa**	**3.37**	**42**	AML	AML	03 19 20.1	
TMWZ				AML	AML	03 19 24.0	
MRZ	**Mangatainoka R**	**3.59**	**34**	Pn	**Pn**	**03 18 42.3**	**-1.3**
MRZ	**Mangatainoka R**	**3.59**	**34**	PN	**Pn**	**03 18 42.3**	**-1.3**
MRZ				AML	AML	03 19 32.1	
MRZ				AML	AML	03 19 32.3	
MSZ	**Milford Sound**	**3.74**	**253**	*e*PN	**Pn**	**03 18 44.5**	**-0.9**
MSZ				AML	AML	03 19 50.3	
MSZ				AML	AML	03 19 51.4	
MLZ	**Mavora Lakes**	**3.83**	**242**	Pn	**Pn**	**03 18 45.3**	**-1.6**
MLZ	**Mavora Lakes**	**3.83**	**242**	PN	**Pn**	**03 18 45.3**	**-1.6**
MLZ				AML	AML	03 19 58.2	
MLZ				AML	AML	03 20 03.4	
PRWZ	**Pori Road**	**3.85**	**37**	Pn	**Pn**	**03 18 45.8**	**-1.2**
PRWZ	**Pori Road**	**3.85**	**37**	PN	**Pn**	**03 18 45.5**	**-1.5**
PRWZ				AML	AML	03 19 37.0	
PRWZ				AML	AML	03 19 39.8	
BFZ	**Birch Farm**	**3.87**	**41**	Pn	**Pn**	**03 18 45.9**	**-1.5**
BFZ	**Birch Farm**	**3.87**	**41**	PN	**Pn**	**03 18 45.9**	**-1.5**
BFZ				AML	AML	03 19 32.0	
BFZ				AML	AML	03 19 32.2	
BFZ				AML	AML	03 19 32.6	
BFZ				AML	AML	03 19 32.7	
POWZ	**Post Office Ro**	**3.90**	**34**	Pn	**Pn**	**03 18 46.9**	**-0.8**
POWZ	**Post Office Ro**	**3.90**	**34**	AML	AML	03 20 18.7	
POWZ				AML	AML	03 20 23.6	
SYZ	**Scrubby Hill**	**3.93**	**222**	Pn	**Pn**	**03 18 47.3**	**-0.7**
SYZ	**Scrubby Hill**	**3.93**	**222**	PN	**Pn**	**03 18 47.3**	**-0.7**
SYZ				AML	AML	03 19 56.1	
SYZ				AML	AML	03 19 56.1	
SYZ				AML	AML	03 20 05.8	
SYZ				AML	AML	03 20 05.8	
ANWZ	**Angora Road**	**4.15**	**41**	PN	**Pn**	**03 18 50.3**	**-1.0**
ANWZ				AML	AML	03 19 44.6	
ANWZ				AML	AML	03 19 46.7	
WHZ	**Wether Hill Ro**	**4.18**	**236**	Pn	**Pn**	**03 18 49.8**	**-1.9**
WHZ	**Wether Hill Ro**	**4.18**	**236**	PN	**Pn**	**03 18 49.8**	**-1.9**
WHZ				AML	AML	03 20 11.4	
WHZ				AML	AML	03 20 19.2	
WAZ	**Wanganui**	**4.20**	**22**	Pn	**Pn**	**03 18 53.8**	**+1.9**
WAZ	**Wanganui**	**4.20**	**22**	*e*PN	**Pn**	**03 18 52.7**	**+0.8**
WAZ				AML	AML	03 19 57.3	
WAZ				AML	AML	03 20 27.3	
NMEZ	**Namu Road**	**4.31**	**10**	Pn	**Pn**	**03 18 54.7**	**+1.3**
LREZ	**Lake Rotokare**	**4.35**	**15**	AML	AML	03 20 12.6	
LREZ				AML	AML	03 20 22.4	
PREZ	**Palmer Road**	**4.42**	**12**	Pn	**Pn**	**03 18 56.6**	**+1.7**
PREZ	**Palmer Road**	**4.42**	**12**	PN	**Pn**	**03 18 56.6**	**+1.7**
PREZ				AML	AML	03 19 57.2	
PREZ				AML	AML	03 19 58.0	
KHEZ	**Kahui Hut**	**4.45**	**11**	Pn	**Pn**	**03 18 56.9**	**+1.6**
KHEZ	**Kahui Hut**	**4.45**	**11**	PN	**Pn**	**03 18 56.9**	**+1.6**
PNHZ	**Pukenui**	**4.48**	**34**	Pn	**Pn**	**03 18 55.3**	**-0.5**
PNHZ	**Pukenui**	**4.48**	**34**	AML	AML	03 19 50.0	
PNHZ				AML	AML	03 19 53.3	
NEZ	**North Egmont**	**4.48**	**12**	Pn	**Pn**	**03 18 56.8**	**+1.0**
NEZ	**North Egmont**	**4.48**	**12**	PN	**Pn**	**03 18 56.8**	**+1.0**
DCZ	**Deep Cove**	**4.50**	**244**	Pn	**Pn**	**03 18 54.6**	**-1.3**
DCZ	**Deep Cove**	**4.50**	**244**	PN	**Pn**	**03 18 54.6**	**-1.3**
DCZ				AML	AML	03 20 22.2	
DCZ				AML	AML	03 20 23.2	
PKE	**Pukeiti**	**4.54**	**10**	Pn	**Pn**	**03 18 57.6**	**+1.0**
PKE	**Pukeiti**	**4.54**	**10**	PN	**Pn**	**03 18 57.6**	**+1.0**
PKE				AML	AML	03 19 53.0	
PKE				AML	AML	03 20 34.0	
DREZ	**Durham Road**	**4.58**	**13**	Pn	**Pn**	**03 18 58.3**	**+1.3**
DREZ	**Durham Road**	**4.58**	**13**	*e*PN	**Pn**	**03 18 57.4**	**+0.4**
APZ	**The Paps**	**4.71**	**226**	Pn	**Pn**	**03 18 57.6**	**-1.2**
APZ	**The Paps**	**4.71**	**226**	PN	**Pn**	**03 18 57.6**	**-1.2**
APZ				AML	AML	03 20 24.4	
APZ				AML	AML	03 20 33.7	
MHEZ	**Mangahewa**	**4.71**	**13**	Pn	**Pn**	**03 19 00.5**	**+1.6**
MHEZ	**Mangahewa**	**4.71**	**13**	PN	**Pn**	**03 19 00.5**	**+1.6**
VRZ	**Vera Road**	**4.74**	**17**	Pn	**Pn**	**03 18 60.0**	**+0.6**
VRZ	**Vera Road**	**4.74**	**17**	PN	**Pn**	**03 18 60.0**	**+0.6**
VRZ				AML	AML	03 20 18.1	
VRZ				AML	AML	03 20 55.5	
MOVZ	**Moawhango**	**4.76**	**27**	Pn	**Pn**	**03 18 59.2**	**-0.4**
MOVZ	**Moawhango**	**4.76**	**27**	PN	**Pn**	**03 18 59.2**	**-0.4**
MOVZ				AML	AML	03 19 57.7	
MOVZ				AML	AML	03 20 53.0	
KRHZ	**Kereru**	**4.78**	**34**	AML	AML	03 19 59.9	
KRHZ				AML	AML	03 20 01.4	
WNVZ	**Wahianoa**	**4.78**	**26**	PN	**Pn**	**03 18 59.7**	**-0.2**
BHHZ	**Black Hill Sta**	**4.79**	**30**	AML	AML	03 19 56.2	
BHHZ				AML	AML	03 19 58.1	
WHVZ	**Whangaehu Hut**	**4.82**	**25**	Pn	**Pn**	**03 19 01.0**	**+0.5**
WHVZ	**Whangaehu Hut**	**4.82**	**25**	PN	**Pn**	**03 19 01.0**	**+0.5**
WHVZ				AML	AML	03 20 01.1	
WHVZ				AML	AML	03 20 04.4	
FWVZ	**Far West T-bar**	**4.83**	**25**	Pn	**Pn**	**03 19 00.9**	**+0.2**
FWVZ	**Far West T-bar**	**4.83**	**25**	AML	AML	03 19 60.0	
FWVZ				AML	AML	03 20 01.7	
KAHZ	**Kahuranaki**	**4.87**	**39**	Pn	**Pn**	**03 19 00.8**	**-0.3**
KAHZ	**Kahuranaki**	**4.87**	**39**	*e*PN	**Pn**	**03 18 58.7**	**-2.4**
KAHZ				AML	AML	03 20 00.1	
KAHZ				AML	AML	03 20 02.2	
NGZ	**Ngauruhoe**	**4.92**	**25**	Pn	**Pn**	**03 19 02.4**	**+0.5**
NGZ	**Ngauruhoe**	**4.92**	**25**	AML	AML	03 20 53.4	
NGZ				AML	AML	03 21 11.1	
OTVZ	**Oturere**	**4.95**	**25**	Pn	**Pn**	**03 19 02.8**	**+0.4**
OTVZ	**Oturere**	**4.95**	**25**	PN	**Pn**	**03 19 02.8**	**+0.4**
OTVZ				AML	AML	03 20 44.3	
OTVZ				AML	AML	03 20 60.0	
TWVZ	**Taurewa**	**4.97**	**23**	Pn	**Pn**	**03 19 02.6**	**+0.1**
TWVZ	**Taurewa**	**4.97**	**23**	PN	**Pn**	**03 19 02.6**	**+0.1**
TWVZ				AML	AML	03 20 47.3	
TWVZ				AML	AML	03 21 03.6	
WTVZ	**West Tongariro**	**4.97**	**25**	Pn	**Pn**	**03 19 02.8**	**+0.3**
WTVZ	**West Tongariro**	**4.97**	**25**	PN	**Pn**	**03 19 02.8**	**+0.3**
WTVZ				AML	AML	03 20 03.5	
WTVZ				AML	AML	03 20 12.3	
KWHZ	**Kaweka Forest**	**4.99**	**33**	AML	AML	03 20 08.8	
KWHZ				AML	AML	03 20 10.7	
KRVZ	**Karewarewa**	**5.00**	**25**	Pn	**Pn**	**03 19 03.6**	**+0.5**
KRVZ	**Karewarewa**	**5.00**	**25**	PN	**Pn**	**03 19 03.6**	**+0.5**
KRVZ				AML	AML	03 20 07.6	
KRVZ				AML	AML	03 20 12.7	
MCHZ	**McNeill Hill**	**5.08**	**35**	AML	AML	03 21 03.3	
MCHZ				AML	AML	03 21 33.9	
PYZ	**Puysegur Point**	**5.09**	**238**	AML	AML	03 20 26.6	
PYZ				AML	AML	03 20 31.1	
BKZ	**Black Stump Fm**	**5.24**	**32**	Pn	**Pn**	**03 19 04.9**	**-1.3**
BKZ	**Black Stump Fm**	**5.24**	**32**	*e*PN	**Pn**	**03 19 04.6**	**-1.6**
BKZ				AML	AML	03 21 15.7	
BKZ				AML	AML	03 21 20.5	
HIZ	**Hauiti**	**5.35**	**16**	Pn	**Pn**	**03 19 09.2**	**+1.5**
HIZ	**Hauiti**	**5.35**	**16**	PN	**Pn**	**03 19 08.6**	**+0.9**
HIZ				AML	AML	03 20 14.6	
HIZ				AML	AML	03 21 02.7	
ARHZ	**Aropaoanui**	**5.36**	**36**	*e*PN	**Pn**	**03 19 06.6**	**-1.2**
ARHZ				AML	A

baz=170,slow=6.2
VNA1 Neumayer--Stat 65.99 180 P **P 03 28 36.4 +2.4**
KKM Kota Kinabalu 71.09 299 *e*P **P 03 29 05.7 -1.1**
5.4nm,0.3s
KSRS Korea Array 90.48 326 P **P 03 30 50.9 +1.2**
2.2nm,1.0s,baz=145,slow=5.2,SNR=5.2
KSAR Wonju Array Be 90.48 326 P **P 03 30 50.9 +1.1**
LPAZ La Paz 98.36 122 LR LR 04 06 04.7
comp=Z,38nm,20.2s,baz=192,slow=29
MKAR Makanchi Array 120.36 307 PKP **PKPdf 03 36 38.0 -1.1**
0.3nm,0.5s,baz=48,slow=1.8,SNR=4.0
KURK Kurchatov 124.46 310 PKP **PKPdf 03 36 45.4 -1.3**
KURBB Kurchatov Arra 124.46 310 PKP **PKPdf 03 36 45.4 -1.3**
0.6nm,0.8s,baz=126,slow=1.7,SNR=5.3
BVAR Borovoye Array 130.05 310 PKP **PKPdf 03 36 58.7 +1.3**
0.8nm,0.8s,baz=191,slow=1.5,SNR=3.5
BRVK Borovoye 130.13 310 *e*PKPdf **PKPdf 03 36 58.3 +0.9**
TORD Torodi Ar. Bea 148.66 197 PKPbc **PKPbc 03 37 35.9 +0.1**
3.8nm,0.8s,baz=170,slow=2.1,SNR=21
ARCES ARCESS Array B 149.22 338 PKPbc **PKPbc 03 37 35.8 +0.1**
6.5nm,0.9s,baz=35,slow=4.4,SNR=7.4
BRTR Keskin Array B 149.56 277 PKPbc **PKPbc 03 37 36.7 -0.9**
0.8nm,0.7s,baz=143,slow=4.3,SNR=5.1
FINES FINESS Array B 153.55 324 PKPbc **PKPbc 03 37 45.5 -0.3**
4.2nm,0.9s,baz=69,slow=6.3,SNR=6.0
FINES PKPab **PKPab 03 37 58.1 -0.3**
4.1nm,1.0s,baz=33,slow=4.4,SNR=4.9

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*NSSC **08** 03:24:43.2±4.6, 40.°33N×44.°07E, h0km±840km, ML3.5*
*ISN **08** 03:25:06.0±0.4, 39.°50N×40.°71E, h36km±80km, ML3.9*
*DDA **08** 03:25:18.7, 39.°37N×40.°67E, h5km, Ml3.8*
*NEIC **08** 03:25:19.0±0.0, 39.°35N×40.°69E, h5km, mb3.9/5, ML4.0(ISK), After ISK.*
*ISK **08** 03:25:19.0, 39.°36N×40.°69E, h5km, ML4.0*
*IDC **08** 03:25:20.6±0.8, 39.°37N×40.°63E, h0km, mb3.8/8, mb1 3.7/16, mb1mx3.6/55, mbtmp3.7/16, ML3.0/7, MS3.5/21, Ms1 3.5/21, ms1mx3.4/47, Error ellipse: s-maj=15.9km s-min=9.0km az=165.0*
*CSEM **08** 03:25:20.9±0.1, 39.°36N×40.°68E, h2km, mb4.0/8, Error ellipse: s-maj=3.9km s-min=3.1km az=168.0*
*MOS **08** 03:25:22.3±1.4, 39.°31N×40.°57E, h23km, mb4.1/9, Error ellipse: s-maj=11.1km s-min=6.1km az=66.5*
ISC 08 03:25:20.4±1.1, 39.°34N±0.°02×40.°71E±0.°01, h0km±8km, n232, σ1§89/261, mb3.9/13, MS3.4/14, 6C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.16**	**309**	*e*PG	**Pg**	**03 25 22.0**	**-1.5**
YEDI	**Yedisu-Bingol**	**0.16**	**309**	*e*Pg	**Pg**	**03 25 22.0**	**-1.5**
ECAT	**Cat-ERZURUM**	**0.34**	**38**	*i* P	**Pg**	**03 25 25.5**	**-1.4**
ECAT	**Cat-ERZURUM**	**0.34**	**38**	P	**Pg**	**03 25 25.5**	**-1.4**
BNGB	**Bing¶ll**	**0.35**	**183**	*e*PG	**Pg**	**03 25 27.1**	**+0.1**
BINT	**Bingol**	**0.49**	**200**	*e*Pg	**Pg**	**03 25 27.2**	**-2.6**
BNGL	**BINGOL**	**0.52**	**138**	*i* P	**Pg**	**03 25 30.2**	**0.0**
BNGL				*i* S	**Sb**	**03 25 40.5**	**-0.1**
VRTB	**Varto-Mus**	**0.61**	**107**	*e*PG	**Pg**	**03 25 32.1**	**+0.1**
VRTB				*e*SG	**Sb**	**03 25 41.9**	**-1.3**
VRTB	**Varto-Mus**	**0.61**	**107**	*i* P	**Pg**	**03 25 32.2**	**+0.1**
VRTB	**Varto-Mus**	**0.61**	**107**	P	**Pg**	**03 25 32.2**	**+0.1**
VRTB				*e*Sg	**Sb**	**03 25 41.9**	**-1.3**
KOPT	**Kop Dagi**	**0.70**	**347**	*i* P	**Pg**	**03 25 32.5**	**-1.3**
KOPT	**Kop Dagi**	**0.70**	**347**	P	**Pg**	**03 25 32.5**	**-1.3**
ERZM	**Erzurum**	**0.76**	**42**	*i* P	**Pg**	**03 25 33.6**	**-1.4**
ERZM	**Erzurum**	**0.76**	**42**	P	**Pg**	**03 25 33.6**	**-1.4**
ERZN	**Erzincan**	**0.80**	**288**	*e*PG	**Pg**	**03 25 34.4**	**-1.4**
ERZN				*e*SG	**Sb**	**03 25 47.1**	**-1.6**
EUZM	**Uzumlu**	**0.86**	**296**	*i* P	**Pg**	**03 25 34.9**	**-2.0**
EUZM	**Uzumlu**	**0.86**	**296**	P	**Pg**	**03 25 34.9**	**-2.0**
TNCL	**Tunceli-Merkez**	**0.93**	**257**	*i* P	**Pg**	**03 25 36.8**	**-1.4**
TNCL				*i* S	**Sb**	**03 25 51.3**	**-1.1**
TNCL	**Tunceli-Merkez**	**0.93**	**257**	P	**Pg**	**03 25 36.8**	**-1.4**
TNCL				S	**Sb**	**03 25 51.3**	**-1.1**
EKAR	**Karacoban**	**1.06**	**94**	*i* P	**Pg**	**03 25 40.0**	**-0.7**
EKAR				*i* S	**Sn**	**03 25 56.9**	**-1.3**
EKAR	**Karacoban**	**1.06**	**94**	P	**Pg**	**03 25 40.0**	**-0.7**
EKAR				S	**Sn**	**03 25 56.9**	**-1.3**
PTK	**Pertek**	**1.11**	**247**	*e*PN	**Pg**	**03 25 41.4**	**-0.3**
PTK				*e*SN	**Sn**	**03 25 57.8**	**-1.8**
PTK	**Pertek**	**1.11**	**247**	*e*Pn	**Pg**	**03 25 41.4**	**-0.3**
PTK				*e*Sn	**Sn**	**03 25 57.8**	**-1.8**
EZC	**Erzincan**	**1.12**	**292**	*e*Pg	Pg	03 25 34.4	-7.6
EZC				*e*Sg	Sg	03 25 47.1	-9.4
HOMI	**Horasan**	**1.16**	**52**	*i* P	**Pb**	**03 25 42.3**	**-1.2**
HOMI				*i* S	**Sn**	**03 26 00.1**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.25**	**162**	*e*PN	**Pn**	**03 25 44.0**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.25**	**162**	*i* P	**Pn**	**03 25 43.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.25**	**162**	P	**Pn**	**03 25 43.9**	**-1.2**
KELT	**Kelkit**	**1.38**	**306**	*i* P	**Pn**	**03 25 43.9**	**-3.2**
KELT	**Kelkit**	**1.38**	**306**	P	**Pn**	**03 25 43.9**	**-3.2**
SVRC	**Sivrice-ELAZID**	**1.45**	**229**	*e*PN	**Pb**	**03 25 47.8**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.45**	**229**	*e*Pn	**Pb**	**03 25 47.8**	**-0.6**
TATV	**Tatvan**	**1.47**	**124**	*i* P	**Pn**	**03 25 45.4**	**-3.0**
TATV	**Tatvan**	**1.47**	**124**	P	**Pn**	**03 25 45.4**	**-3.0**
EATA	**Eleskirt**	**1.48**	**69**	*i* P	**Pn**	**03 25 47.5**	**-1.0**
EATA				*i* S	**Sg**	**03 26 10.6**	**+2.8**
EATA	**Eleskirt**	**1.48**	**69**	P	**Pn**	**03 25 47.5**	**-1.0**
EATA				S	**Sg**	**03 26 10.6**	**+2.8**
DIYA	**Diyarbakir**	**1.48**	**198**	*i* P	**Pb**	**03 25 48.2**	**-0.7**
DIYA	**Diyarbakir**	**1.48**	**198**	P	**Pb**	**03 25 48.2**	**-0.7**
REFA	**Refahiye_ERZ¨**	**1.51**	**273**	*i* P	**Pn**	**03 25 48.0**	**-0.8**
REFA				*i* S	**Sg**	**03 26 13.2**	**+4.4**
REFA	**Refahiye_ERZ¨**	**1.51**	**273**	P	**Pn**	**03 25 48.0**	**-0.8**
REFA				S	**Sg**	**03 26 13.2**	**+4.4**
BTMN	**Batman**	**1.51**	**163**	*i* P	**Pb**	**03 25 48.8**	**-0.6**
BTMN				*i* S	**Sg**	**03 26 10.9**	**+2.0**
BTMN	**Batman**	**1.51**	**163**	P	**Pb**	**03 25 48.8**	**-0.6**
BTMN				S	**Sg**	**03 26 10.9**	**+2.0**
ELZG	**Elazig**	**1.58**	**239**	*i* P	**Pn**	**03 25 47.2**	**-2.7**
ELZG	**Elazig**	**1.58**	**239**	P	**Pn**	**03 25 47.2**	**-2.7**
TUTA	**Tutak**	**1.64**	**87**	*i* P	**Pn**	**03 25 49.6**	**-1.0**
TUTA				*i* S	**Sg**	**03 26 13.7**	**+0.8**
TUTA	**Tutak**	**1.64**	**87**	P	**Pn**	**03 25 49.6**	**-1.0**
TUTA				S	**Sg**	**03 26 13.7**	**+0.8**
KEMA	**Kemaliye**	**1.72**	**268**	*i* P	**Pn**	**03 25 51.1**	**-0.5**
KEMA	**Kemaliye**	**1.72**	**268**	P	**Pn**	**03 25 51.1**	**-0.5**
DDEM	**Demirkent**	**1.75**	**27**	*i* P	**Pn**	**03 25 50.7**	**-1.4**
DDEM	**Demirkent**	**1.75**	**27**	P	**Pn**	**03 25 50.7**	**-1.4**
MACK	**Trabzon**	**1.76**	**336**	*i* P	**Pn**	**03 25 51.5**	**-0.6**
MACK	**Trabzon**	**1.76**	**336**	P	**Pn**	**03 25 51.5**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.76**	**45**	*e*PN	**Pn**	**03 25 52.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.76**	**45**	*e*Pn	**Pn**	**03 25 52.0**	**-0.3**
AGRB	**Hanur-Agry**	**1.79**	**82**	*e*PN	**Pn**	**03 25 52.1**	**-0.6**
AGRB	**Hanur-Agry**	**1.79**	**82**	*e*Pn	**Pn**	**03 25 52.1**	**-0.6**
KTUT	**Trabzon**	**1.80**	**337**	*e*PN	**Pn**	**03 25 52.1**	**-0.5**
KTUT	**Trabzon**	**1.80**	**337**	*e*Pn	**Pn**	**03 25 52.1**	**-0.5**
MAZI	**Mazidag**	**1.89**	**186**	*e*PN	**Pn**	**03 25 53.8**	**-0.2**
MAZI	**Mazidag**	**1.89**	**186**	*e*Pn	**Pn**	**03 25 53.8**	**-0.2**
MARD	**Mardin**	**2.02**	**178**	*i* P	**Pb**	**03 25 57.1**	**-0.9**
MARD				*i* S	**Sg**	**03 26 24.3**	**-1.0**
ARTV	**Artvin**	**2.07**	**26**	*i* P	**Pn**	**03 25 56.0**	**-0.6**
ARTV	**Artvin**	**2.07**	**26**	P	**Pn**	**03 25 56.0**	**-0.6**
GEVA	**Gevas**	**2.10**	**118**	*i* P	**Pb**	**03 25 58.2**	**-1.3**
GEVA	**Gevas**	**2.10**	**118**	P	**Pb**	**03 25 58.2**	**-1.3**
SUSE	**Susehri**	**2.12**	**295**	*i* P	**Pn**	**03 25 57.3**	**+0.1**
SUSE	**Susehri**	**2.12**	**295**	P	**Pn**	**03 25 57.3**	**+0.1**
DBOC	**Borcka**	**2.14**	**20**	*i* P	**Pn**	**03 25 56.7**	**-0.6**
DBOC				*i* S	**Sn**	**03 26 24.6**	**0.0**
DBOC	**Borcka**	**2.14**	**20**	P	**Pn**	**03 25 56.7**	**-0.6**
DBOC				S	**Sn**	**03 26 24.6**	**0.0**
VMUR	**Van-Muradiye**	**2.25**	**98**	*i* P	**Pb**	**03 26 01.4**	**-0.6**
VMUR				*i* S	**Sg**	**03 26 33.3**	**+0.4**
VMUR	**Van-Muradiye**	**2.25**	**98**	P	**Pb**	**03 26 01.5**	**-0.6**
TVAN	**Van**	**2.26**	**110**	*i* P	**Pb**	**03 26 01.5**	**-0.6**
TVAN	**Van**	**2.26**	**110**	P	**Pb**	**03 26 01.5**	**-0.6**
SIRN	**S¨–rnak**	**2.28**	**143**	*i* P	**Pb**	**03 26 00.9**	**-1.5**
SIRN				*i* S	**Sg**	**03 26 33.5**	**0.0**
SIRN	**S¨–rnak**	**2.28**	**143**	P	**Pb**	**03 26 00.9**	**-1.5**
DIGO	**Kars**	**2.32**	**62**	*i* P	**Pn**	**03 26 00.8**	**+0.8**
DIGO				*i* S	**Sg**	**03 26 38.6**	**+3.7**
DIGO	**Kars**	**2.32**	**62**	P	**Pn**	**03 26 00.8**	**+0.8**
DYDN	**Diyadin**	**2.32**	**84**	*i* P	**Pb**	**03 26 02.2**	**-1.0**
DYDN				*i* S	**Sb**	**03 26 32.4**	**-0.1**
DYDN	**Diyadin**	**2.32**	**84**	P	**Pb**	**03 26 02.2**	**-1.0**
DYDN				S	**Sb**	**03 26 32.4**	**-0.1**
CUZAR	**Zara_SIVAS**	**2.33**	**285**	*i* P	**Pn**	**03 26 00.7**	**+0.6**
CUZAR	**Zara_SIVAS**	**2.33**	**285**	P	**Pn**	**03 26 00.7**	**+0.6**
URFA	**Urfa**	**2.40**	**219**	*e*PN	**Pn**	**03 26 00.9**	**-0.2**
URFA	**Urfa**	**2.40**	**219**	*e*Pn	**Pn**	**03 26 00.9**	**-0.2**
GRSN	**GIRESUNGRSN**	**2.45**	**311**	*i* P	**Pn**	**03 26 02.2**	**+0.6**
GRSN	**GIRESUNGRSN**	**2.45**	**311**	P	**Pn**	**03 26 02.2**	**+0.6**
CUKAN	**kangal_SIVAS**	**2.51**	**271**	*i* P	**Pn**	**03 26 03.6**	**+1.0**
CUKAN	**kangal_SIVAS**	**2.51**	**271**	P	**Pn**	**03 26 03.6**	**+1.0**
EAK	**Akyaka**	**2.60**	**58**	*i* P	**Pb**	**03 26 05.8**	**-2.2**
EAK	**Akyaka**	**2.60**	**58**	P	**Pb**	**03 26 05.8**	**-2.2**
DARE	**Darende-Malaty**	**2.63**	**254**	*e*PN	**Pn**	**03 26 04.2**	**0.0**
DARE	**Darende-Malaty**	**2.63**	**254**	*e*Pn	**Pn**	**03 26 04.2**	**0.0**
ORDU	**Ordu-Boztepe**	**2.74**	**308**	*i* P	**Pb**	**03 26 07.8**	**-2.4**
ORDU				*i* S	**Sg**	**03 26 47.2**	**-1.2**
ORDU	**Ordu-Boztepe**	**2.74**	**308**	P	**Pb**	**03 26 07.8**	**-2.4**
RSDY	**Resadiye-TOKAT**	**2.81**	**293**	*e*PN	**Pn**	**03 26 07.4**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.81**	**293**	*e*Pn	**Pn**	**03 26 07.4**	**+0.8**
SCER	**sogukcermik**	**2.81**	**282**	*i* P	**Pb**	**03 26 11.7**	**+0.1**
SCER	**sogukcermik**	**2.81**	**282**	P	**Pb**	**03 26 11.6**	**+0.1**
SVSK	**Karacayir**	**2.92**	**283**	*e*PN	**Pn**	**03 26 09.2**	**+1.1**
SVSK	**Karacayir**	**2.92**	**283**	*e*Pn	**Pn**	**03 26 09.2**	**+1.1**
BGD	**Bogdanovka**	**2.93**	**48**	P	**Pn**	**03 26 08.7**	**+0.2**
BGD				S	**Sg**	**03 26 57.0**	**+2.4**
HAKT	**HAKKARI**	**2.95**	**126**	*i* P	**Pb**	**03 26 12.1**	**-1.9**
HAKT	**HAKKARI**	**2.95**	**126**	P	**Pb**	**03 26 12.1**	**-1.9**
SURC	**SANLIURFA_SURC**	**2.96**	**215**	*i* P	**Pn**	**03 26 09.1**	**+0.5**
SURC	**SANLIURFA_SURC**	**2.96**	**215**	P	**Pn**	**03 26 09.1**	**+0.5**
AKH	**Akhalkalaki**	**2.97**	**45**	*e*PN	**Pn**	**03 26 09.6**	**+0.7**
AKH	**Akhalkalaki**	**2.97**	**45**	P	**Pn**	**03 26 10.1**	**+1.1**
AKH				S	**Sg**	**03 26 58.6**	**+2.8**
AKH	**Akhalkalaki**	**2.97**	**45**	P	**Pn**	**03 26 10.0**	**+1.1**
AKH	**Akhalkalaki**	**2.97**	**45**	*e*Pn	**Pn**	**03 26 09.6**	**+0.7**
AKH	**Akhalkalaki**	**2.97**	**45**	P	**Pn**	**03 26 10.0**	**+1.1**
CUKT	**Cukurca**	**3.09**	**132**	*e*PN	**Pn**	**03 26 11.3**	**+0.8**
CUKT	**Cukurca**	**3.09**	**132**	*i* P	**Pb**	**03 26 15.5**	**-0.8**
CUKT	**Cukurca**	**3.09**	**132**	*e*Pn	**Pn**	**03 26 11.4**	**+0.8**
CUKT	**Cukurca**	**3.09**	**132**	P	**Pb**	**03 26 15.5**	**-0.8**
GNI	**Garni**	**3.21**	**74**	Pn	**Pn**	**03 26 14.2**	**+2.0**
1.3nm,0.3s,baz=290,slow=3.0,SNR=9.8							
GNI				Pg	**Pb**	**03 26 20.3**	**+1.8**
9.4nm,0.3s,baz=261,slow=3.5,SNR=55							
GNI				Lg	Lg	03 27 07.7	
6.6nm,0.3s,baz=31,slow=19,SNR=3.4							
GNI	**Garni**	**3.21**	**74**	*ce*P	**Pn**	**03 26 13.8**	**+1.5**
GNI				pmax	pmax		
comp=Z,1μm,0.7s							
GNI	**Garni**	**3.21**	**74**	*e*Pn	**Pn**	**03 26 12.0**	**-0.3**
GNI	**Garni**	**3.21**	**74**	*e*P	**Pn**	**03 26 13.8**	**+1.5**
comp=Z,1μm,0.7s							
GNI	**Garni**	**3.21**	**74**	*e*Pg	**Pg**	**03 26 20.7**	**-1.3**
GNI	**Garni**	**3.21**	**74**	*e*Pn	**Pn**	**03 26 12.0**	**-0.3**
GNI				*e*Pg	**Pg**	**03 26 20.7**	**-1.3**
GNI				Lg	Lg	03 27 07.7	
SARI	**SarD1z-Kayseri**	**3.47**	**256**	*e*PN	**Pn**	**03 26 16.3**	**+0.5**
GAZ	**Gaziantep**	**3.50**	**233**	*e*PN	**Pn**	**03 26 17.0**	**+0.9**
GAZ	**Gaziantep**	**3.50**	**233**	*e*Pn	**Pn**	**03 26 17.0**	**+0.9**
KMRS	**Kahramanmaras**	**3.50**	**240**	*e*PN	**Pn**	**03 26 16.7**	**+0.5**
KMRS	**Kahramanmaras**	**3.50**	**240**	*e*Pn	**Pn**	**03 26 16.7**	**+0.5**
KSRV	**Kasrt alli**	**3.72**	**202**	*e*P	**Pn**	**03 26 19.6**	**+0.5**
KSRV				AML	AML	03 27 23.8	
comp=E,168nm,0.6s							
KSRV				AML	AML	03 27 26.9	
comp=Z,103nm,0.5s							
KSRV				AML	AML	03 27 30.1	
comp=N,177nm,0.7s							
BNN	**Bunyan**	**3.81**	**264**	*e*PN	**Pn**	**03 26 21.6**	**+1.2**
BNN	**Bunyan**	**3.81**	**264**	*e*Pn	**Pn**	**03 26 21.7**	**+1.2**
SLMH	**Al Salmeh**	**3.82**	**216**	*e*P	**Pn**	**03 26 18.7**	**-1.7**
SLMH				*e*S	**Sg**	**03 27 23.7**	**+0.7**
SLMH				AML	AML	03 27 32.0	
comp=E,275nm,0.6s							
SLMH				AML	AML	03 27 35.5	
comp=N,244nm,0.6s							
SLMH				AML	AML	03 27 50.0	
comp=Z,165nm,0.6s							
ANDN	**Andirin**	**3.85**	**244**	*i* P	**Pg**	**03 26 32.0**	**-2.1**
ONI	**Oni**	**3.86**	**32**	P	**Pb**	**03 26 25.9**	**-3.4**
ONI				S	**Sg**	**03 27 23.6**	**-0.7**
ONI	**Oni**	**3.86**	**32**	P	**Pb**	**03 26 25.9**	**-3.4**
ONI	**Oni**	**3.86**	**32**	P	**Pb**	**03 26 25.9**	**-3.4**
TBLG	**Delisi**	**3.89**	**51**	*e*PN	**Pn**	**03 26 21.6**	**+0.1**
TBLG	**Delisi**	**3.89**	**51**	P	**Pn**	**03 26 21.0**	**-0.5**
TBLG				S	**Sg**	**03 27 28.1**	**+2.7**
TBLG	**Delisi**	**3.89**	**51**	P	**Pn**	**03 26 21.0**	**-0.5**
TBLG	**Delisi**	**3.89**	**51**	P	**Pn**	**03 26 21.0**	**-0.5**
TBLG	**Delisi**	**3.89**	**51**	*e*Pn	**Pn**	**03 26 21.6**	**+0.1**
KVT	**Kavak**	**3.97**	**297**	*e*PN	**Pn**	**03 26 23.3**	**+0.8**
KVT	**Kavak**	**3.97**	**297**	*e*Pn	**Pn**	**03 26 23.3**	**+0.8**
SAMS	**Samsun-Alacam**	**4.00**	**302**	*i* P	**Pb**	**03 26 33.4**	**+1.6**
JHLN	**Al Jahlan**	**4.08**	**207**	*e*P	Pn	03 26 17.9	-6.1
JHLN				*e*S	**Sg**	**03 27 28.5**	**-2.9**
JHLN				AML	AML	03 27 54.5	
comp=E,198nm,0.7s							
JHLN				AML	AML	03 28 05.5	
comp=Z,102nm,0.6s							
JHLN				AML	AML	03 28 24.3	
comp=N,132nm,0.6s							
DRWC	**Darouich**	**4.19**	**231**	*e*P	**Pn**	**03 26 24.7**	**-0.9**
DRWC				*e*S	**Sg**	**03 27 42.9**	**+7.9**
DRWC				AML	AML	03 27 48.6	
comp=E,50nm,0.5s							
DRWC				AML	AML	03 28 02.7	
comp=Z,34nm,0.7s							
DRWC				AML	AML	03 28 13.4	
comp=N,68nm,0.8s							
NEY	**Neytrino**	**4.19**	**21**	*ce*P	**Pn**	**03 26 27.2**	**+1.5**
NEY				pmax	pmax		
comp=Z,112nm,0.8s							
NEY	**Neytrino**	**4.19**	**21**	*e*P	**Pn**	**03 26 27.2**	**+1.5**
comp=Z,112nm,0.8s							
ZEI	**Tsey**	**4.21**	**34**	*e*P	**Pn**	**03 26 26.4**	**+0.4**
ZEI				pmax	pmax		
comp=Z,164nm,0.9s							
KOZT	**Kozan**	**4.26**	**246**	*e*PN	**Pn**	**03 26 27.6**	**+1.1**
KOZT	**Kozan**	**4.26**	**246**	*e*Pn	**Pn**	**03 26 27.6**	**+1.1**
SOC	**Sochi**	**4.31**	**350**	*e*P	**Pn**	**03 26 26.1**	**-1.0**
SOC				*e*		03 27 16.6	
SOC				pmax	pmax		
comp=Z,26nm,0.5s							
SOC				smax	smax		
comp=N,67nm,0.8s							
SOC				smax	smax		
comp=E,55nm,0.9s							
SOC				MLR	MLR		
comp=Z,457nm,11.0s							
SOC	**Sochi**	**4.31**	**350**	*e*P	**Pn**	**03 26 26.1**	**-1.0**
comp=Z,26nm,0.5s							
SOC				*e*S	**Sn**	**03 27 16.6**	**-1.4**
comp=Z,457nm,11.0s							
TAHT	**Tahtakopru-Hat**	**4.64**	**232**	*e*PN	**Pn**	**03 26 32.6**	**+0.9**
TAHT	**Tahtakopru-Hat**	**4.64**	**232**	*e*Pn	**Pn**	**03 26 32.6**	**+0.9**
KBZ	**Khabaz**	**4.69**	**20**	Pn	**Pn**	**03 26 34.2**	**+1.9**
comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=8.0							
KBZ				LR	LR	03 27 48.6	
comp=Z,64nm,21.2s,baz=172,slow=32							
NCK	**Nalchik**	**4.69**	**27**	*ce*P	**Pn**	**03 26 33.6**	**+1.2**
NCK	**Nalchik**	**4.69**	**27**	*e*P	**Pn**	**03 26 33.6**	**+1.2**
BTCH	**Batrach**	**4.71**	**227**	*e*P	**Pn**	**03 26 33.2**	**+0.4**
BTCH				*e*S	**Sg**	**03 27 53.6**	**+1.9**
BTCH				AML	AML	03 28 06.8	
comp=Z,186nm,0.7s							
BTCH				AML	AML	03 28 10.2	
comp=N,70nm,0.5s							
BTCH				AML	AML	03 28 10.9	
comp=E,171nm,0.6s							
YURE	**YUREGIR**	**4.72**	**240**	*i* P	**Pg**	**03 26 53.2**	**+2.3**
CORM	**Corum**	**4.76**	**282**	*e*PN	**Pn**	**03 26 34.9**	**+1.5**
CORM	**Corum**	**4.76**	**282**	*e*Pn	**Pn**	**03 26 34.9**	**+1.5**
KIV	**Kislovodsk**	**4.85**	**17**	*ce*P	**Pn**	**03 26 36.5**	**+1.9**
KIV				pmax	pmax		
comp=Z,48nm,1.2s							
KIV				MLR	MLR		
comp=Z,491nm,13.0s							
KIV	**Kislovodsk**	**4.85**	**17**	*e*Pn	**Pn**	**03 26 33.8**	**-0.8**
KIV	**Kislovodsk**	**4.85**	**17**	*e*P	**Pn**	**03 26 36.5**	**+1.9**
comp=Z,491nm,13.0s							
KIV	**Kislovodsk**	**4.85**	**17**	*e*Pn	**Pn**	**03 26 33.8**	**-0.8**
KIV				*e*Pg	**Pb**	**03 26 48.0**	**+1.9**
KVAR	**Kislovodsk Arr**	**4.85**	**17**	Pn	**Pn**	**03 26 36.3**	**+1.7**
baz=220,slow=4.5,SNR=4.0							
KVAR				LR	LR	03 28 45.0	
comp=Z,652nm,19.3s,baz=168,slow=42							
ARNB	**Al Arnab**	**5.12**	**229**	*e*P	**Pn**	**03 26 38.1**	**-0.3**
ARNB				*e*S	**Sg**	**03 28 03.8**	**-0.9**
ARNB				AML	AML	03 28 35.2	
comp=N,48nm,0.7s							
ARNB				AML	AML	03 28 40.1	
comp=E,46nm,0.7s							
ARNB				AML	AML	03 28 42.0	
comp=Z,24nm,0.8s							
AKSY	**AKSARAY - Alti**	**5.45**	**265**	*i* P	**Pn**	**03 26 44.4**	**+1.4**
AKSY	**AKSARAY - Alti**	**5.45**	**265**	P	**Pn**	**03 26 44.4**	**+1.4**
BRTR	**Keskin Array B**	**5.48**	**276**	Pn	**Pn**	**03 26 43.4**	**0.0**
comp=Z,0.1nm,0.3s,baz=104,slow=15,SNR=7.4							
BRTR	**Keskin Array B**	**5.48**	**276**	*e*P	**Pn**	**03 26 43.9**	**+0.5**
BRTR	**Keskin Array B**	**5.48**	**276**	*e*P	**Pn**	**03 26 43.9**	**+0.5**
ROOS	**tl_alroos**	**5.84**	**209**	*e*P	**Pn**	**03 26 46.8**	**-1.5**
ROOS				*e*S	**Sb**	**03 28 12.5**	**-1.2**
ROOS				AML	AML	03 28 34.3	
comp=E,88nm,0.6s							
ROOS				AML	AML	03 28 37.2	
comp=Z,88nm,0.7s							
ROOS				AML	AML	03 28 59.3	
comp=N,57nm,0.7s							
ANTO	**Ankara**	**6.13**	**277**	*e*P	**Pn**	**03 26 50.4**	**-1.9**
ANTO				pmax	pmax		
comp=Z,186nm,1.4s							
ANTO	**Ankara**	**6.13**	**277**	*e*Pn	**Pn**	**03 26 50.4**	**-1.9**
comp=Z,186nm,1.4s							
ANTO				*e*Pg	**Pb**	**03 27 11.3**	**+3.2**
ANTO				*e*Sg	**Sg**	**03 28 30.5**	**-6.9**
MAK	**Makhachkala**	**6.28**	**53**	*e*P	Pn	03 27 01.3	+7.1
MAK				*e*S	**Sb**	**03 28 17.2**	**-8.9**
MAK				pmax	pmax		
comp=Z,158nm,1.6s							
MAK				MLR	MLR		
comp=Z,629nm,7.0s							
MARH	**Ras Al Marh**	**6.29**	**214**	*e*P	**Pn**	**03 26 54.3**	**-0.4**
MARH				AML	AML	03 28 53.2	
comp=Z,62nm,0.6s							
MARH				AML	AML	03 29 07.7	
comp=E,19nm,0.7s							
MARH				AML	AML	03 29 10.4	
comp=N,50nm,0.7s							
TOTH	**TOTAH**	**6.89**	**211**	*e*P	**Pn**	**03 27 00.7**	**-2.0**
TOTH				*e*S	**Sb**	**03 28 36.8**	**-7.0**
TOTH				AML	AML	03 29 13.1	
comp=Z,27nm,0.7s							
TOTH				AML	AML	03 29 23.0	
comp=E,20nm,0.8s							
TOTH				AML	AML	03 29 47.1	
comp=N,20nm,0.7s							
BRBR	**Barbar**	**7.05**	**214**	*e*P	**Pn**	**03 27 01.0**	**-4.0**
BRBR				*e*S	**Sb**	**03 28 41.6**	**-6.9**
BRBR				AML	AML	03 29 22.0	
comp=Z,24nm,0.7s							
BRBR				AML	AML	03 29 25.0	
comp=N,28nm,0.7s							
BRBR				AML	AML	03 29 27.8	
comp=E,34nm,0.7s							
SALA	**Sala**	**7.35**	**207**	*e*P	**Pn**	**03 27 05.1**	**-4.0**
SALA				*e*S	**Sb**	**03 28 49.7**	**-7.6**
SALA				AML	AML	03 29 26.9	
comp=Z,18nm,0.7s							
SALA				AML	AML	03 29 28.4	
comp=N,28nm,0.

KURK	Kurchatov	28.80	54	P	P	03 31 20.3	+0.4
MKAR	Makanchi Array	30.99	62	P	P	03 31 40.5	+1.2
	comp=Z,0.9nm,0.7s,baz=282,slow=6.1,SNR=6.4						
MKAR				LR	LR	03 47 34.6	
	comp=Z,43nm,18.1s,baz=254,slow=43						
ARCES	ARCESS Array B	31.33	350	LR	LR	03 44 33.5	
	comp=Z,96nm,19.6s,baz=113,slow=37						
ZALV	Zalesovo Beam	33.03	49	LR	LR	03 46 40.1	
	comp=Z,64nm,20.1s,baz=250,slow=39						
NRIK	Noril'sk	38.88	24	LR	LR	03 50 54.6	
	comp=Z,113nm,18.2s,baz=203,slow=40						
KMBO	Kilima Mbogo	40.39	185	LR	LR	03 47 55.9	
	comp=Z,43nm,21.1s,baz=282,slow=34						
TORD	Torodi Ar. Bea	43.14	244	P	P	03 33 22.1	-0.6
	comp=Z,1.3nm,1.1s,baz=66,slow=7.3,SNR=5.3						
SONM	Songino Array	47.03	57	LR	LR	03 55 59.8	
	comp=Z,296nm,19.6s,baz=348,slow=39						
KSRS	Korea Array	65.65	61	LR	LR	04 07 50.4	
	comp=Z,84nm,20.4s,baz=296,slow=39						
MJAR	Matsushiro Arr	72.98	57	LR	LR	04 12 21.8	
	comp=Z,30nm,18.1s,baz=285,slow=39						
PETK	Petropavlovsk-	73.05	34	LR	LR	04 15 41.6	
	comp=Z,41nm,18.2s,baz=111,slow=41						

WEL 08 03:27:18.6±0.1, 43°.65S×172°.82E, h8km, ML3.6/18, 1D, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.13	246	PG	Pg	03 27 21.5	+0.1
MQZ				SG	Sg	03 27 23.5	+0.2
MQZ				AML	AML	03 27 23.7	
MQZ				AML	AML	03 27 23.8	
CRLZ	Canterbury Las	0.16	298	PG	Pg	03 27 22.0	+0.1
CRLZ				SG	Sg	03 27 24.5	+0.3
CRLZ				AML	AML	03 27 24.7	
OXZ	Oxford	0.66	299	⇓P*	Pg	03 27 31.3	+0.1
OXZ				AML	AML	03 27 42.7	
OXZ				AML	AML	03 27 42.7	
OXZ				AML	AML	03 27 43.2	
OXZ				AML	AML	03 27 43.2	
LTZ	Lake Taylor	0.96	335	P*	Pg	03 27 36.9	0.0
LTZ				AML	AML	03 27 54.1	
RPZ	Rata Peaks	1.28	267	P*	Pn	03 27 41.2	-1.6
RPZ				AML	AML	03 28 00.7	
RPZ				AML	AML	03 28 01.8	
KHZ	Kahutara	1.34	23	PN	Pn	03 27 42.2	-1.4
KHZ				AML	AML	03 28 12.7	
KHZ				AML	AML	03 28 12.7	
KHZ				AML	AML	03 28 14.4	
KHZ				AML	AML	03 28 14.4	
INZ	Inchbonnie	1.37	312	PN	Pn	03 27 43.4	-0.6
WVZ	Waitaha Valley	1.63	290	PN	Pn	03 27 46.9	-0.6
WVZ				AML	AML	03 28 12.5	
THZ	Tophouse	1.89	2	PN	Pn	03 27 49.9	-1.3
THZ				AML	AML	03 28 30.8	
THZ				AML	AML	03 28 32.2	
LBZ	Lake Benmore	2.04	248	PN	Pn	03 27 52.3	-0.9
LBZ				AML	AML	03 28 29.2	
LBZ				AML	AML	03 28 29.9	
DSZ	Denniston Nort	2.05	338	PN	Pn	03 27 53.2	-0.2
DSZ				AML	AML	03 28 24.5	
DSZ				AML	AML	03 28 30.6	
DSZ				AML	AML	03 28 31.8	
DSZ				AML	AML	03 28 31.8	
BSWZ	Blackbirch Sta	2.08	22	AML	AML	03 28 50.9	
ODZ	Otahua Downs	2.09	228	AML	AML	03 28 28.6	
ODZ				AML	AML	03 28 33.2	
ODZ				AML	AML	03 28 33.2	
ODZ				AML	AML	03 28 38.6	
FOZ	Fox Glacier	2.19	272	PN	Pn	03 27 56.1	+0.9
TCW	Tory Channel	2.67	24	AML	AML	03 28 37.9	
QRZ	Quartz Range	2.83	356	PN	Pn	03 28 03.6	-0.5
QRZ				AML	AML	03 28 42.3	
JCZ	Jackson Bay	2.95	260	PN	Pn	03 28 06.9	+1.0
EAZ	Earnscleugh	2.97	237	PN	Pn	03 28 05.2	-0.9
EAZ				AML	AML	03 28 57.7	
EAZ				AML	AML	03 29 07.8	
WKZ	Wanaka	2.98	245	AML	AML	03 29 04.7	
CAW	Cannon Point	3.04	34	AML	AML	03 28 47.2	
TUZ	Tuapeka	3.23	223	PN	Pn	03 28 08.6	-1.1
TUZ				AML	AML	03 29 04.3	
TUZ				AML	AML	03 29 05.8	

*VIE **08** 03:29:37.5±0.6, 46°.44N×13°.55E, h6km±9km, ML0.3/1, Error ellipse: s-maj=9.0km s-min=1.9km az=103.0*
*LJU **08** 03:29:37.7, 46°.45N×13°.57E, h4km, ML0.7*
CSEM 08 03:29:27.9±0.8, 46°.88N×14°.17E, h5km, ML0.3, 3C, Error ellipse: s-maj=46.4km s-min=14.0km az=135.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.44	236	Sg	Sb	03 29 44.5	-0.5
	0.8nm,0.1s						
ACOM	Acomizza, Ital	0.56	234	⇑ePg	Pb	03 29 40.1	-0.1
ACOM				eSg	Sg	03 29 42.0	-3.9
ACOM	Acomizza, Ital	0.56	234	ePg	Pb	03 29 40.2	-0.1
LSR	Lussari	0.59	228	⇑ePg	Pg	03 29 38.8	-0.6
LSR				eSg	Sg	03 29 39.8	-7.3
LSR	Lussari	0.59	228	ePg	Pg	03 29 38.8	-0.6
CADS	Cadrg	0.71	205	iPg	Pb	03 29 42.5	-0.3
CADS				iSg	Sg	03 29 46.3	-4.5
	comp=Z,9.0nm,0.2s						
CADS	Cadrg	0.71	205	iPg	Pb	03 29 42.5	-0.3
ROBS	Robic	0.78	216	iPg	Pg	03 29 41.5	-1.3
ROBS				iSg	Sg	03 29 45.1	-7.8
ROBS	Robic	0.78	216	iPg	Pg	03 29 41.5	-1.3
DRE	Drenchia	0.79	207	ePg	Pg	03 29 43.3	+0.2
DRE				eSg	Sg	03 29 47.5	-5.8
DRE	Drenchia	0.79	207	ePg	Pg	03 29 43.3	+0.2
VINO	Villanova	0.87	225	⇑ePg	Pg	03 29 43.0	-1.6
VINO				eSg	Sg	03 29 47.9	-7.9
VINO	Villanova	0.87	225	ePg	Pg	03 29 43.0	-1.6

WEL 08 03:32:17.4±0.1, 43°.66S×172°.80E, h5km, ML3.2/8, 1D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.12	247	PG	Pg	03 32 20.0	+0.2
MQZ				SG	Sg	03 32 22.1	+0.6
MQZ				AML	AML	03 32 22.3	
MQZ				AML	AML	03 32 22.4	
CRLZ	Canterbury Las	0.16	303	⇓PG	Pg	03 32 20.7	+0.2
CRLZ				SG	Sg	03 32 23.2	+0.6
CRLZ				AML	AML	03 32 28.4	
OXZ	Oxford	0.65	301	P*	Pg	03 32 29.9	0.0
OXZ				SG	Sb	03 32 40.7	+0.1
OXZ				AML	AML	03 32 42.0	
OXZ				AML	AML	03 32 42.1	
OXZ				AML	AML	03 32 42.1	
LTZ	Lake Taylor	0.96	336	P*	Pg	03 32 35.8	0.0
LTZ				S*	Sb	03 32 49.4	-0.2
LTZ				AML	AML	03 32 53.0	
RPZ	Rata Peaks	1.27	267	eP*	Pg	03 32 40.8	-1.0
RPZ				AML	AML	03 33 00.4	
RPZ				AML	AML	03 33 04.5	
KHZ	Kahutara	1.35	24	PN	Pn	03 32 40.7	-2.2
INZ	Inchbonnie	1.36	313	PN	Pn	03 32 42.2	-0.9
WVZ	Waitaha Valley	1.62	291	ePN	Pn	03 32 45.6	-1.0
THZ	Tophouse	1.90	2	ePN	Pn	03 32 48.1	-2.4
ODZ	Otahua Downs	2.08	227	PN	Pn	03 32 51.8	-1.1
ODZ				AML	AML	03 33 31.9	
FOZ	Fox Glacier	2.17	272	PN	Pb	03 32 56.2	-1.0
TCW	Tory Channel	2.68	24	AML	AML	03 34 07.8	
EAZ	Earnscleugh	2.96	237	PN	Pn	03 33 04.0	-1.0

*NNC **08** 03:42:31.7±4.4, 44°.15N×83°.30E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=41.5km s-min=12.5km az=118.0*
*SOME **08** 03:42:35.5, 44°.23N×83°.23E, h10km*
ISC 08 03:42:37.8±2.8, 44°.1N±0°.1×83°.4E±0°.1, h20km, n7, σ1§85/11, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	2.58	276	eP	Pn	03 43 21.4	+2.9
	10nm,0.4s						
DJR				eS	Sb	03 43 54.9	+0.3
	10nm,0.4s						
MK31	Makanchi Array	2.77	345	⇑Pg	Pn	03 43 21.2	+0.1
	0.6nm,0.5s,baz=157,slow=16,SNR=32						
MK31				⇑Lg	Lg	03 43 58.0	
	0.8nm,0.3s,baz=161,slow=29,SNR=9.9						
MAKZ	Makanchi	2.85	340	⇑Pg	Pn	03 43 24.5	+2.2
	1.0nm,0.6s						
MAKZ				⇑Lg	Lg	03 43 59.9	
	3.7nm,0.6s						
PDGK	Podgornoye	2.92	255	⇑Pg	Pn	03 43 23.8	+0.6
	0.8nm,0.5s						
PDGK				⇑Lg	Lg	03 44 04.0	
	11nm,0.9s						
KAPS	Kapalarasan	3.08	293	eP	Pb	03 43 30.1	-1.8
	1.5nm,0.2s						
KAPS				eS	Sb	03 44 09.6	+0.4
	5.3nm,0.4s						
KPKS	Kokpek	3.45	261	eP	Pb	03 43 37.0	-1.2
	2.6nm,0.2s						
KPKS				eS	Sb	03 44 21.1	+1.3
	7.5nm,0.3s						
MNBS	Baschi	3.58	271	eP	Pb	03 43 37.9	-2.5
	2.6nm,0.3s						
MNBS				eS	Sb	03 44 22.8	-0.6
	5.1nm,0.2s						

*CSEM **08** 03:45:26.5±0.2, 39°.32N×40°.64E, h2km, MD2.4, Error ellipse: s-maj=6.1km s-min=5.1km az=97.0*
*ISK **08** 03:45:26.8, 39°.37N×40°.69E, h5km, MD2.4*
*DDA **08** 03:45:27.1, 39°.38N×40°.70E, h7km, Md2.5*
ISC 08 03:45:27.0±1.1, 39°.34N±0°.03×40°.66E±0°.03, h1km±11km, n21, σ1§41/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.13	318	ePG	Pg	03 45 30.0	+0.4
YEDI				eSG	Sg	03 45 32.3	+1.0
YEDI	Yedisu-Bingol	0.13	318	ePg	Pg	03 45 30.0	+0.4
YEDI				eSg	Sg	03 45 32.3	+1.0
BNGB	Bing¨¶l	0.35	178	ePG	Pg	03 45 34.5	+0.9
BNGB				eSG	Sg	03 45 40.6	+2.5
ECAT	Cat-ERZURUM	0.36	42	iP	Pg	03 45 32.9	-1.0
ECAT				iS	Sg	03 45 38.2	-0.4
ECAT	Cat-ERZURUM	0.36	42	P	Pg	03 45 32.9	-1.0
ECAT				S	Sg	03 45 38.2	-0.4
BINT	Bingol	0.48	196	ePg	Pg	03 45 34.5	-1.7
BINT				eSg	Sg	03 45 40.6	-1.8
BNGL	BINGOL	0.54	135	iP	Pb	03 45 38.6	-0.8
KOPT	Kop Dagi	0.69	350	iP	Pg	03 45 40.2	0.0
KOPT				iS	Sb	03 45 50.7	-1.4
KOPT	Kop Dagi	0.69	350	P	Pg	03 45 40.2	0.0
KOPT				S	Sb	03 45 50.7	-1.4
ERZM	Erzurum	0.79	44	iP	Pg	03 45 41.7	-0.3
ERZM	Erzurum	0.79	44	P	Pg	03 45 41.7	-0.3
PTK	Pertek	1.08	246	ePN	Pb	03 45 48.8	+0.2
PTK	Pertek	1.08	246	ePn	Pb	03 45 48.8	+0.2
EKAR	Karacoban	1.09	94	iP	Pn	03 45 48.7	-0.9
EKAR				iS	Sn	03 46 07.3	+1.8
EKAR	Karacoban	1.09	94	P	Pn	03 45 48.7	-0.9
SVAN	Silvan-Diyarba	1.26	160	ePN	Pb	03 45 52.1	+0.6
SVAN	Silvan-Diyarba	1.26	160	ePn	Pb	03 45 52.1	+0.6
KELT	Kelkit	1.35	307	iP	Pn	03 45 51.8	-1.4
KELT				iS	Sn	03 46 13.7	+1.8
KELT	Kelkit	1.35	307	P	Pn	03 45 51.8	-1.4
KELT				S	Sn	03 46 13.7	+1.8
EATA	Eleskirt	1.51	69	iP	Pg	03 45 55.8	-0.1
EATA				iS	Sg	03 46 19.8	+4.4
EATA	Eleskirt	1.51	69	P	Pg	03 45 55.8	-0.1

*ISCJB **08** 03:48:37.7±0.9, 43°.74S±0°.03×172°.95E±0°.04, h5km±6km, mb3.2/2, Error ellipse: s-maj=6.9km s-min=4.1km az=138.9*
*NEIC **08** 03:48:40.0±0.0, 43°.68S×172°.85E, h8km, ML4.1(WEL), After WEL.*
NEIC Felt at Christchurch and on the Banks Peninsula.
*WEL **08** 03:48:40.4±0.2, 43°.68S×172°.83E, h6km±1km, ML4.1/31, Mw3.8, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 5.
*IDC **08** 03:48:40.4±1.9, 43°.38S×172°.73E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=50.9km s-min=16.9km az=155.0*
ISC 08 03:48:39.0±1.3, 43°.69S±0°.04×172°.92E±0°.05, h10km±7km, n80, σ1§07/82, 4C-4D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.20	265	Pg	Pg	03 48 43.4	+0.3
MQZ				Sg	Sg	03 48 45.3	-0.6
MQZ	McQueen's Vall	0.20	265	⇑PG	Pg	03 48 43.4	+0.3
MQZ				SG	Sg	03 48 45.5	-0.3
MQZ				AML	AML	03 48 47.3	
MQZ				AML	AML	03 48 49.4	
CRLZ	Canterbury Las	0.24	298	Pg	Pg	03 48 44.1	+0.1
CRLZ				Sg	Sg	03 48 46.6	-0.8
CRLZ	Canterbury Las	0.24	298	PG	Pg	03 48 44.1	+0.1
CRLZ				SG	Sg	03 48 46.6	-0.8
CRLZ				AML	AML	03 48 50.1	
CRLZ				AML	AML	03 48 50.1	
CRLZ				AML	AML	03 48 50.8	
OXZ	Oxford	0.74	299	P*	Pg	03 48 53.3	0.0
OXZ				S*	Sg	03 49 01.9	-1.0
OXZ	Oxford	0.74	299	P*	Pg	03 48 53.3	0.0
OXZ				S*	Sg	03 49 01.8	-1.0
OXZ				AML	AML	03 49 05.0	
OXZ				AML	AML	03 49 05.4	
OXZ				AML	AML	03 49 05.4	
LTZ	Lake Taylor	1.02	332	P*	Pb	03 48 59.0	+0.1
LTZ				S*	Sn	03 49 13.1	-0.9
LTZ	Lake Taylor	1.02	332	P*	Pb	03 48 59.0	+0.1
LTZ				S*	Sn	03 49 13.1	-0.9
KHZ	Kahutara	1.35	20	Pn	Pn	03 49 04.2	+0.3
KHZ	Kahutara	1.35	20	⇓PN	Pn	03 49 04.2	+0.3
KHZ				AML	AML	03 49 28.9	
KHZ				AML	AML	03 49 28.9	
KHZ				AML	AML	03 49 36.0	
RPZ	Rata Peaks	1.35	268	Pg	Pn	03 49 03.5	-0.5
	99nm,0.3s,baz=110,slow=1.1,SNR=137						
RPZ				Lg	Lg	03 49 21.0	
	280nm,0.3s,baz=16,slow=19,SNR=48						
RPZ	Rata Peaks	1.35	268	Pn	Pn	03 49 03.4	-0.6
RPZ	Rata Peaks	1.35	268	⇓P*	Pn	03 49 03.4	-0.6
RPZ				S*	Sg	03 49 22.5	-0.1
RPZ				AML	AML	03 49 23.9	
INZ	Inchbonnie	1.45	311	PN	Pn	03 49 04.8	-0.5
WVZ	Waitaha Valley	1.71	290	Pn	Pn	03 49 09.0	+0.2
WVZ	Waitaha Valley	1.71	290	⇑Pn	Pn	03 49 09.0	+0.2
WVZ				AML	AML	03 49 35.4	
THZ	Tophouse	1.93	360	Pn	Pn	03 49 11.9	0.0
THZ	Tophouse	1.93	360	⇑PN	Pn	03 49 11.9	0.0
THZ				AML	AML	03 49 58.8	
THZ				AML	AML	03 50 02.8	
LBZ	Lake Benmore	2.09	250	Pn	Pn	03 49 14.4	+0.2
LBZ	Lake Benmore	2.09	250	⇑PN	Pn	03 49 14.4	+0.2
LBZ				AML	AML	03 49 53.4	
LBZ				AML	AML	03 49 53.4	
LBZ				AML	AML	03 49 55.3	
LBZ				AML	AML	03 49 55.3	
BSWZ	Blackbirch Sta	2.10	20	Pn	Pn	03 49 14.9	+0.7
BSWZ	Blackbirch Sta	2.10	20	PN	Pn	03 49 14.9	+0.7
BSWZ				AML	AML	03 50 09.3	
BSWZ				AML	AML	03 50 10.5	
DSZ	Denniston Nort	2.11	337	Pn	Pn	03 49 15.3	+0.9
DSZ	Denniston Nort	2.11	337	⇓PN	Pn	03 49 15.3	+0.9
DSZ				AML	AML	03 49 45.2	
DSZ				AML	AML	03 49 45.2	
DSZ				AML	AML	03 49 52.0	
DSZ				AML	AML	03 49 58.7	
ODZ	Otahua Downs	2.12	230	Pn	Pn	03 49 14.5	0.0
ODZ	Otahua Downs	2.12	230	PN	Pn	03 49 14.5	0.0
ODZ				AML	AML	03 49 55.7	
ODZ				AML	AML	03 49 55.7	
ODZ				AML	AML	03 50 02.5	
ODZ				AML	AML	03 50 02.5	
FOZ	Fox Glacier	2.26	273	Pn	Pn	03 49 17.6	+1.2
FOZ	Fox Glacier	2.26	273	PN	Pn	03 49 17.6	+1.2
FOZ				AML	AML	03 49 56.2	
FOZ				AML	AML	03 49 56.2	
FOZ				AML	AML	03 50 00.1	
FOZ				AML	AML	03 50 00.4	
TUWZ	Tuamarina	2.38	19	AML	AML	03 50 13.7	
TUWZ				AML	AML	03 50 15.6	
NNZ	Nelson	2.50	8	Pn	Pn	03 49 20.5	+0.9
NNZ	Nelson	2.50	8	⇓PN	Pn	03 49 20.5	+0.9
NNZ				AML	AML	03 50 19.6	
NNZ				AML	AML	03 50 30.1	
TCW	Tory Channel	2.67	22	Pn	Pn	03 49 22.4	+0.3
TCW	Tory Channel	2.67	22	AML	AML	03 49 55.9	
TCW				AML	AML	03 50 02.2	
PLWZ	Palliser	2.73	40	Pn	Pn	03 49 22.6	-0.3
HHSZ	Highcliff Hill	2.75	216	Pn	Pn	03 49 23.2	+0.1
HHSZ	Highcliff Hill	2.75	216	AML	AML	03 50 17.2	
HHSZ				AML	AML	03 50 23.6	
QRZ	Quartz Range	2.88	354	Pn	Pn	03 49 25.5	+0.6
QRZ	Quartz Range	2.88	354	PN	Pn	03 49 25.5	+0.6
QRZ				AML	AML	03 50 14.0	
QRZ				AML	AML	03 50 19.2	
QRZ				AML	AML	03 50 24.9	
QRZ				AML	AML	03 50 24.9	
DUWZ	D'Urville Isla	2.98	15	Pn	Pn	03 49 28.4	+2.0
DUWZ	D'Urville Isla	2.98	15	AML	AML	03 50 24.9	
DUWZ				AML	AML	03 50 38.1	
EAZ	Earnscleugh	3.01	238	Pn	Pn	03 49 26.9	+0.1
EAZ	Earnscleugh	3.01	238	PN	Pn	03 49 26.8	+0.1
EAZ				AML	AML	03 50 22.9	
EAZ				AML	AML	03 50 24.4	
EAZ				AML	AML	03 50 24.5	
EAZ				AML	AML	03 50 24.5	
JCZ	Jackson Bay	3.02	261	Pn	Pn	03 49 27.8	+0.9
JCZ	Jackson Bay	3.02	261	PN	Pn	03 49 27.8	+0.9
JCZ				AML	AML	03 50 24.8	
JCZ				AML	AML	03 50 25.9	
WKZ	Wanaka	3.03	247	AML	AML	03 50 26.8	
WKZ				AML	AML	03 50 30.8	
CAW	Cannon Point	3.03	32	Pn	Pn	03 49 26.8	-0.3
CAW	Cannon Point	3.03	32	PN	Pn	03 49 26.7	-0.3
CAW				AML	AML	03 50 05.7	
CAW				AML	AML	03 50 09.7	
MTW	Mount Morrison	3.17	38	AML	AML	03 50 08.9	
KIW	Kapiti Island	3.19	28	Pn	Pn	03 49 29.9	+0.7
TUZ	Tuapeka	3.26	225	Pn	Pn	03 49 30.4	+0.3
TUZ	Tuapeka	3.26	225	PN	Pn	03 49 30.4	+0.3
TUZ				AML	AML	03 50 35.2	
TUZ				AML	AML	03 50 35.2	
TUZ				AML	AML	03 50 39.5	
TUZ				AML	AML	03 50 39.5	
HOWZ	Holdsworth Sta	3.39	35	Pn	Pn	03 49 33.5	+1.5
MRZ	Mangatainoka R	3.62	34	AML	AML	03 50 20.6	
MRZ				AML	AML	03 50 24.3	
MLZ	Mavora Lakes	3.82	242	Pn	Pn	03 49 37.8	-0.2
MLZ	Mavora Lakes	3.82	242	PN	Pn	03 49 37.8	-0.2
MLZ				AML	AML	03 50 55.1	
MLZ				AML	AML	03 51 00.9	
BFZ	Birch Farm	3.89	41	Pn	Pn	03 49 38.4	-0.5
SYZ	Scrubby Hill	3.91	222	Pn	Pn	03 49 39.7	+0.7
SYZ	Scrubby Hill	3.91	222	PN	Pn	03 49 39.7	+0.7
SYZ				AML	AML	03 50 58.6	
SYZ				AML	AML	03 50 59.0	
WHZ	Wether Hill Ro	4.17	236	Pn	Pn	03 49 42.1	-0.6
WHZ	Wether Hill Ro	4.17	236	PN	Pn	03 49 42.1	-0.6
WHZ				AML	AML	03 51 04.2	
WHZ				AML	AML	03 51 10.5	
KHEZ	Kahui Hut	4.47	11	Pn	Pn	03 49 49.6	+2.7
DCZ	Deep Cove	4.49	245	AML	AML	03 51 08.2	
DCZ				AML	AML	03 51 16.6	
APZ	The Paps	4.69	226	Pn	Pn	03 49 50.3	+0.5
APZ	The Paps	4.69	226	PN	Pn	03 49 50.3	+0.5
VRZ	Vera Road	4.77	17	Pn	Pn	03 49 53.5	+2.7
VRZ	Vera Road	4.77	17	PN	Pn	03 49 53.1	+2.3
WNVZ	Wahianoa	4.80	26	Pn	Pn	03 49 52.9	+1.3
WNVZ	Wahianoa	4.80	26	PN	Pn	03 49 52.9	+1.3
WHVZ	Whangaehu Hut	4.84	25	Pn	Pn	03 49 53.6	+1.5
WHVZ	Whangaehu Hut	4.84	25	ePN	Pn	03 49 52.9	+0.8
FWVZ	Far West T-bar	4.85	25	Pn	Pn	03 49 54.0	+1.7
FWVZ	Far West T-bar	4.85	25	PN	Pn	03 49 54.0	+1.7
FWVZ				AML	AML	03 50 52.0	
TWVZ	Taurewa	4.99	23	Pn	Pn	03 49 55.1	+1.1
TWVZ	Taurewa	4.99	23	ePN	Pn	03 49 55.1	+1.1
HIZ	Hauiti	5.38	16	Pn	Pn	03 50 01.4	+2.1
URZ	Urewera	6.28	32	Pn	Pn	03 50 09.9	-1.8
	0.6nm,0.3s,baz=222,slow=7.7,SNR=4.3						
URZ				Sn	Sn	03 51 19.3	-4.3
	1.3nm,0.3s,baz=42,slow=16,SNR=4.2						
MWZ	Matawai	6.38	35	Pn	Pn	03 50 12.3	-0.8
ASAR	Alice Springs	37.67	289	P	P	03 55 56.0	+1.4
	0.2nm,0.5s,baz=128,slow=6.8,SNR=5.3						
WRA	Warramunga Arr	39.93	294	P	P	03 56 14.4	+1.0
	0.4nm,0.7s,baz=138,slow=7.5,SNR=10.0						
TORD	Torodi Ar. Bea	148.64	197	PKPbc	PKPab	04 08 30.1	0.0
	0.4nm,0.7s,baz=164,slow=2.8,SNR=5.0						

DJA 08 03:57:03.0±0.6, 8°S±6°×12°4E±°, h65km±33km, M4.0/7, MLv4.0/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.40	250	P	Pn	03 57 26.4	-0.1
MMRI				S	Sn	03 57 45.0	+0.7
SOEI	Soe	1.74	157	P	Pn	03 57 32.3	+1.1
SOEI				S	Sn	03 57 52.0	-0.4
BBSI	Bau Bau	2.83	339	P	Pn	03 57 45.4	-0.4
BBSI				S	Sn	03 58 17.2	-1.5
BSSI	Bau Bau, Buton	3.65	303	P	Pn	03 57 57.1	0.0
KDI	Kendari	4.27	347	P	Pn	03 58 05.0	-0.6
SPSI	Sidrap Palu	5.62	318	P	Pn	03 58 32.4	+8.4
SPSI				S	Sn	03 59 33.7	+6.5
PLAI	Plampang	5.77	263	P	Pn	03 58 32.6	+6.5
TTSI	Tana Toraja	6.30	323	P	Pn	03 58 41.1	+7.8

*ISCJB **08** 03:57:21.2±0.8, 2°.8N±0°.1×128°.6E±0°.4, h150km, mb3.8/7, Error ellipse: s-maj=53.8km s-min=15.4km az=164.8*
*IDC **08** 03:57:23.6±10.0, 2°.81N×128°.69E, h156km±107km, mb3.6/7, mb1 3.7/7, mb1mx3.3/46, mbtmp4.0/7, Error ellipse: s-maj=64.6km s-min=18.0km az=79.0*
ISC 08 03:57:23.0±1.1, 2°.8N±0°.2×128°.7E±0°.4, h150km, n8, σ0§68/8, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.28	166	P	P	04 02 16.9	-0.6
	0.9nm,0.5s,baz=346,slow=11,SNR=5.8						
ASAR	Alice Springs	26.80	169	P	P	04 02 50.0	+0.7
	0.3

APC	**Apacha**	**2.06**	**343**	*e*P	Pn	04 16 49.6	+2.6
APC				*e*S	Sn	04 17 13.8	+2.4
PET	**Petropavlovsk**	**2.08**	**8**	*e*P	Pn	04 16 49.7	+2.3
PET				*e*S	Sn	04 17 14.0	+1.9
DALK	**Dalny**	**2.10**	**10**	*e*P	Pn	04 16 49.5	+1.9
DALK				*e*S	Sn	04 17 14.3	+1.8
UGLR	**Uglovaya**	**2.28**	**10**	*e*P	Pn	04 16 53.9	+3.6
AVH	**Avacha**	**2.33**	**9**	*e*P	Pn	04 16 54.6	+3.7
AVH				*e*S	Sn	04 17 22.8	+4.5
KOK	**Koryaka**	**2.35**	**7**	*e*P	Pn	04 16 55.1	+4.0
KOK				*e*S	Sn	04 17 23.6	+4.8
SDLR	**Sedlovina**	**2.36**	**11**	*e*P	Pn	04 16 53.7	+2.4
KRER	**Koryakskii**	**2.37**	**9**	*e*P	Pn	04 16 55.2	+3.7
KRER				*e*S	Sn	04 17 23.6	+4.1
KRX	**Arik**	**2.42**	**7**	*e*P	Pn	04 16 55.5	+3.4
KRX				*e*S	Sn	04 17 24.7	+4.2
SPN	**Mys Shipunski**	**2.43**	**28**	*e*P	Pn	04 16 54.8	+2.7
SPN				*e*S	Sn	04 17 23.0	+2.5
GNL	**Ganaly**	**2.74**	**357**	*e*P	Pn	04 16 59.5	+3.0
MKZ	**Mys Kozlova**	**4.20**	**30**	*e*P	Pn	04 17 19.2	+2.8
KBTR	**Krutoberegovo**	**5.94**	**26**	*e*P	Pn	04 17 43.5	+3.2

IDC ***08*** *04:19:38.0±1.5, 38°.09N×142°.15E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/48, mbtmp3.1/4, ML2.7/1, Error ellipse: s-maj=39.0km s-min=29.9km az=119.0*
ISCJB ***08*** *04:19:44.3±0.9, 38°.15N±0°.04×141°.82E±0°.10, h58km±8km, mb3.1/3, Error ellipse: s-maj=13.9km s-min=5.5km az=20.8*
JMA ***08*** *04:19:45.3, 38°.16N×141°.75E, h56km±1km, M3.5*
JMA Felt I J1.
ISC 08 04:19:44.9±1.5, 38°.14N±0°.05×141°.9E±0°.1, h48km±13km, n16, σ0°61/27, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.50**	**309**	P	**Pn**	04 19 56.3	+0.4
JIO				S	**Sn**	04 20 03.9	0.0
JMM	**Marumori**	**0.88**	**252**	P	**Pn**	04 20 00.5	-0.3
JMM				S	**Sn**	04 20 11.8	-0.7
JMK	**Ichinoseki**	**0.94**	**329**	P	**Pn**	04 20 02.1	+0.3
JMK				S	**Sn**	04 20 13.9	-0.3
OFUJ	**Ofunato**	**0.95**	**352**	P	**Pn**	04 20 02.1	+0.3
OFUJ				S	**Sn**	04 20 14.3	+0.1
JOU	**Okura**	**0.96**	**284**	P	**Pn**	04 20 01.9	0.0
JOU				S	**Sn**	04 20 13.9	-0.6
JFK	**Kawauchi**	**1.09**	**225**	P	**Pn**	04 20 03.9	+0.1
JFK				*e*S	**Sn**	04 20 17.6	-0.2
JFT	**Otama**	**1.35**	**243**	P	**Pn**	04 20 07.6	+0.3
JFT				*e*S	**Sn**	04 20 24.0	0.0
JOM	**Ohasama**	**1.40**	**342**	P	**Pn**	04 20 08.5	+0.6
JOM				S	**Sn**	04 20 25.5	+0.3
JYK	**Kaneyama**	**1.40**	**304**	P	**Pn**	04 20 07.9	-0.1
JYK				*e*S	**Sn**	04 20 24.7	-0.6
JRG	**Rokugo**	**1.57**	**323**	P	**Pn**	04 20 10.9	+0.6
JRG				*e*S	**Sn**	04 20 29.6	+0.2
JYA	**Atsumi**	**1.73**	**286**	P	**Pn**	04 20 12.5	0.0
MJAR	**Matsushiro Arr**	**3.31**	**242**	Pn	**Pn**	04 20 35.5	+1.3
	0.8nm,0.3s,baz=60,slow=10,SNR=6.6						
MAT	**Matsushiro**	**3.31**	**242**	P	**Pn**	04 20 34.9	+0.7
MAT				*e*S	**Sn**	04 21 13.8	+1.5
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	04 27 46.7	+0.6
	0.1nm,0.4s,baz=91,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**48.38**	**33**	P	**P**	04 28 21.1	-0.5
	0.2nm,0.7s,baz=280,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**58.20**	**188**	P	**P**	04 29 33.3	-0.8
	0.1nm,0.3s,baz=6.6,slow=7.0,SNR=6.1						

IDC ***08*** *04:26:49.3±1.2, 8°.19S×123°.37E, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.8/49, mbtmp4.1/6, ML3.9/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=72.1km s-min=26.3km az=63.0*
ISCJB ***08*** *04:26:54.1±0.7, 8°.12S±0°.04×123°.60E±0°.05, h41km±8km, mb4.4/13, MS3.2/3, Error ellipse: s-maj=9.7km s-min=4.5km az=144.4*
NEIC ***08*** *04:26:56.4±0.9, 8°.10S×123°.52E, h41km±10km, mb4.4/12, Error ellipse: s-maj=14.5km s-min=5.9km az=220.0*
DJA ***08*** *04:26:56.6±0.4, 8°.5S±4°×12°.4E±°, h55km±32km, M4.4/7, mB5.1/1, mb4.7/3, MLv4.2/7, Mw(mB)4.5/1*
ISC 08 04:26:54.9±1.7, 8°.17S±0°.04×123°.57E±0°.05, h28km±13km, n42, σ1°64/51, mb4.4/13, MS3.1/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.39**	**251**	P	**Pn**	04 27 18.3	-0.2
MMRI				S	**Sn**	04 27 37.2	+1.2
MMRI	**Maumere**	**1.39**	**251**	*e*Pn	**Pn**	04 27 18.4	-0.2
MMRI				*e*Sn	**Sn**	04 27 34.8	-1.2
SOEI	**Soe**	**1.72**	**156**	P	**Pb**	04 27 25.6	-0.4
SOEI				S	**Sn**	04 27 43.4	-0.9
SOEI	**Soe**	**1.72**	**156**	*e*Pn	**Pb**	04 27 25.5	-0.4
SOEI				*e*Sn	**Sn**	04 27 45.9	+1.7
BBSI	**Bau Bau**	**2.84**	**340**	P	**Pn**	04 27 39.9	+1.4
BBSI				S	**Sn**	04 28 09.0	-2.8
WSI	**Waingapu**	**3.56**	**245**	P	**Pn**	04 27 48.7	+0.4
BASI	**Baing, Sumba**	**3.58**	**235**	P	**Pn**	04 27 50.1	+1.4
BSSI	**Bau Bau, Buton**	**3.66**	**303**	P	**Pn**	04 27 50.1	+0.4
BSSI				S	**Sn**	04 28 32.1	+0.2
KDI	**Kendari**	**4.29**	**347**	P	**Pn**	04 27 58.3	-0.1
KAPI	**Kappang**	**4.92**	**309**	*e*Pn	**Pn**	04 28 07.0	0.0
KAPI				*e*Sn	**Sn**	04 29 01.9	-1.1
SPSI	**Sidrap Palu**	**5.63**	**318**	P	**Pn**	04 28 18.0	+1.2
	32nm,0.7s,2μm0.1nm						
TTSI	**Tana Toraja**	**6.31**	**324**	P	**Pn**	04 28 27.0	+0.8
	34nm,0.7s,0.2nm						
MTN	**Manton Dam**	**8.77**	**123**	*e*Pn	**Pn**	04 29 01.0	+1.0
MTN				*e*Sn	**Sn**	04 30 34.8	-3.1
JAGI	**Jajag, Banyuwa**	**9.32**	**268**	*e*Pn	**Pn**	04 29 08.4	+0.9
WRA	**Warramunga Arr**	**15.68**	**139**	Pn	**Pn**	04 30 31.6	-2.4
	0.4nm,0.3s,baz=317,slow=13,SNR=23						
WRA				Sn	Sn	04 33 16.9	-10
	0.5nm,0.3s,baz=315,slow=25,SNR=11						
WRA				LR	LR	04 36 46.1	
	comp=Z,65nm,20.0s,baz=125,slow=38						
WRAB	**Tennant Creek**	**15.68**	**139**	*e*Pn	**Pn**	04 30 31.9	-2.2
	14nm,0.6s						
WB2	**Warramunga Arr**	**15.69**	**139**	*e*Pn	**Pn**	04 30 32.3	-1.9
WB2				*e*Sn	Sn	04 33 17.1	-10
AS31	**Alice Springs**	**18.32**	**148**	*e*P	**Pn**	04 31 08.3	+1.1
	2.3nm,0.8s						
ASAR	**Alice Springs**	**18.32**	**148**	P	**P**	04 31 06.7	-0.4
	0.4nm,0.3s,baz=323,slow=12,SNR=31						
ASAR				S	**Sn**	04 34 26.0	-5.1
	0.2nm,0.3s,baz=315,slow=20,SNR=9.0						
ASAR				LR	LR	04 38 54.3	
	comp=Z,59nm,20.3s,baz=352,slow=39						
AS01	**Alice Springs**	**18.34**	**148**	*e*P	**Pn**	04 31 09.7	+2.3
COEN	**Coen**	**20.08**	**108**	*e*P	**P**	04 31 27.2	+0.8
	17nm,1.2s						
CTAO	**Charters Tower**	**24.95**	**121**	*e*P	**P**	04 32 18.5	+2.3
	21nm,0.8s						
BBOO	**Buckleboo**	**27.11**	**156**	*e*P	**P**	04 32 36.4	+0.8
	4.1nm,0.6s						
STKA	**Stephens Creek**	**28.94**	**147**	LR	LR	04 46 42.5	
	comp=Z,45nm,20.1s,baz=7.2,slow=41						
CMAR	**Chiang Mai Arr**	**35.92**	**318**	LR	LR	04 49 31.1	
	comp=Z,17nm,19.0s,baz=152,slow=38						
HHC	**Hu-ho-hao-te**	**50.02**	**348**	*e*P	**P**	04 35 50.4	+3.4
HHC				pP	sP	04 36 00.3	+1.3
HHC				sP	pP	04 36 04.3	+8.7
HHC				PcS	**PcS**	04 41 05.2	+1.5
HHC				S	**S**	04 42 58.5	+2.2
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,39nm,6.4s						
HHC				LR	LR		
	comp=N,120nm,18.7s						
HHC				LR	LR		
	comp=E,120nm,18.7s						
HHC				LR	LR		
	comp=Z,50nm,18.7s						
ULN	**Ulaanbaatar**	**57.67**	**347**	*e*P	**P**	04 36 42.6	-0.4
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**57.80**	**346**	P	**P**	04 36 41.1	-2.7
	comp=Z,1.2nm,0.7s,baz=161,slow=9.9,SNR=5.5						
WMQ	**Urumqi**	**61.10**	**331**	P	**P**	04 37 08.2	+1.5
WMQ				pP	sP	04 37 18.9	+0.2
WMQ				sP	pP	04 37 23.1	+7.7

MK01	**Makanchi Array**	**65.86**	**330**	*e*P	**P**	04 37 37.6	-0.4
MK31	**Makanchi Array**	**65.88**	**330**	*e*P	**P**	04 37 38.5	+0.3
MKAR	**Makanchi Array**	**65.88**	**330**	P	**P**	04 37 36.7	-1.5
	comp=Z,0.8nm,0.6s,baz=132,slow=7.3,SNR=9.1						
MKAR	**Makanchi Array**	**65.88**	**330**	*e*P	**P**	04 37 37.2	-0.9
	comp=Z,14nm,0.9s						
AAK	**Ala-Archa**	**67.46**	**323**	*e*P	**P**	04 37 48.7	+0.2
	comp=Z,2.6nm,0.8s						
ZAA0	**Zalesovo Array**	**69.97**	**337**	*e*P	**P**	04 38 02.6	-1.0
ZALV	**Zalesovo Beam**	**69.97**	**337**	P	**P**	04 38 02.5	-1.2
	comp=Z,0.7nm,0.3s,baz=116,slow=6.8,SNR=4.0						
KURK	**Kurchatov**	**70.34**	**332**	*e*P	**P**	04 38 04.9	-1.1
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**74.26**	**13**	P	**P**	04 38 28.8	-0.4
	comp=Z,4.5nm,0.6s,baz=207,slow=14,SNR=12						
BRVK	**Borovoye**	**75.84**	**330**	*e*P	**P**	04 38 38.2	-0.3
	comp=Z,6.0nm,0.6s						
ABKAR	**Akbulak array**	**79.54**	**323**	*e*P	**P**	04 38 58.6	-0.6
	comp=Z,0.2nm,0.3s						
RAYN	**Ar Rayn**	**82.42**	**295**	*e*P	**P**	04 39 14.7	-0.5
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.76**	**280**	PKP	**PKPdf**	04 45 47.6	-1.7
	comp=Z,0.3nm,0.7s,baz=74,slow=3.1,SNR=2.2						

NIED ***08*** *04:31:00, 38°.30N×144°.50E, h5km, Mw4.0 Best double couple: M0=1.01000×10^15 NP1:φs=1.00000°, δ26.00000°, λ-95.00000°. NP2:φs=187.00000°, δ65.00000°, λ-88.00000°.*
IDC ***08*** *04:31:13.2±0.8, 38°.12N×144°.82E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.8/67, mbtmp3.8/12, ML3.5/4, MS2.9/6, Ms1 2.9/6, ms1mx2.7/36, Error ellipse: s-maj=22.4km s-min=18.1km az=103.0*
ISCJB ***08*** *04:31:15.6±0.5, 38°.31N±0°.03×144°.61E±0°.04, h26km, mb4.1/13, MS2.9/2, Error ellipse: s-maj=5.2km s-min=4.4km az=139.7*
NEIC ***08*** *04:31:15.2±4.2, 38°.19N×144°.80E, h14km±25km, mb4.4/4, Error ellipse: s-maj=13.4km s-min=6.8km az=115.0*
JMA ***08*** *04:31:17.8±0.2, 38°.27N×144°.51E, h44km, M4.4*
ISC 08 04:31:17.3±0.7, 38°.29N±0°.05×144°.64E±0°.07, h26km, n45, σ2°09/59, mb4.1/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**290**	P	**Pn**	04 31 55.4	-0.3
OFUJ				S	**Sn**	04 32 23.0	-1.8
MIYJ	**Miyakonagasawa**	**2.55**	**301**	P	**Pn**	04 31 56.7	-0.2
MIYJ				S	**Sn**	04 32 25.4	-1.7
JIO	**Ouri**	**2.59**	**275**	P	**Pn**	04 31 57.3	-0.2
JIO				S	**Sn**	04 32 26.4	-1.8
JMK	**Ichinoseki**	**2.76**	**285**	P	**Pn**	04 31 59.9	+0.1
JMK				S	**Sn**	04 32 31.2	-1.1
JOM	**Ohasama**	**2.87**	**295**	P	**Pn**	04 32 01.5	+0.2
JOM				S	**Sn**	04 32 34.5	-0.5
JANG	**Nango**	**3.19**	**312**	P	**Pn**	04 32 06.8	+1.0
JYK	**Kaneyama**	**3.41**	**282**	P	**Pn**	04 32 09.9	+1.1
JYK				*e*S	**Sn**	04 32 48.2	-0.2
JFT	**Otama**	**3.49**	**259**	P	**Pn**	04 32 10.2	+0.3
JFT				S	**Sn**	04 32 49.3	-1.1
ERM	**Erimo**	**3.89**	**343**	*e*Pn	**Pn**	04 32 15.6	+0.2
ERM				*e*Sn	**Sn**	04 32 57.7	-2.5
JOT	**Ohata**	**4.14**	**319**	P	**Pn**	04 32 19.3	+0.5
JOT				S	**Sn**	04 33 04.0	-2.4
JCH	**Churui**	**4.43**	**348**	P	**Pn**	04 32 22.2	-0.5
JCH				*e*S	**Sn**	04 33 09.9	-3.5
JKB	**Kayabe**	**4.53**	**324**	P	**Pn**	04 32 24.5	+0.3
JKB				S	**Sn**	04 33 14.8	-1.2
BSO1	**Boso 1**	**4.68**	**220**	P	**Pn**	04 32 23.9	-1.8
BSO1				*e*S	**Sn**	04 33 16.2	-2.7
JRY	**Ryogami san**	**5.12**	**245**	P	**Pn**	04 32 31.7	-0.6
JRY				S	**Sn**	04 33 26.9	-3.6
NEM2	**Nemuro 2**	**5.14**	**9**	P	**Pn**	04 32 30.0	-2.5
NEM2				*e*S	**Sn**	04 33 23.6	-7.2
JOD2	**Odawara 2**	**5.39**	**238**	P	**Pn**	04 32 35.4	-0.6
JOD2				*e*S	**Sn**	04 33 32.3	-4.8
MJAR	**Matsushiro Arr**	**5.41**	**253**	Pn	**Pn**	04 32 37.2	+0.9
	2.7nm,0.3s,baz=79,slow=15,SNR=33						
MJAR				Sn	**Sn**	04 33 39.5	+1.8
	2.2nm,0.3s,baz=96,slow=25,SNR=4.3						
MJAR				LR	LR	04 34 58.7	
	comp=Z,96nm,21.4s,baz=70,slow=41						
MAJO	**Matsushiro**	**5.41**	**253**	*e*Pn	**Pn**	04 32 37.1	+0.8
	30nm,0.6s						
MAT	**Matsushiro**	**5.41**	**253**	P	**Pn**	04 32 37.3	+1.0
MAT				S	**Sn**	04 33 36.4	-1.4
ASAJ	**Asahikawa**	**6.02**	**346**	Pn	**Pn**	04 32 45.0	+0.4
	1.9nm,0.3s,baz=205,slow=13,SNR=6.8						
ASAJ				Sn	**Sn**	04 33 52.0	-0.7
	1.5nm,0.3s,baz=322,slow=16,SNR=4.7						
JHJ	**Hachijo jima 2**	**6.50**	**219**	Sn	**Sn**	04 33 57.7	-6.9
	28nm,0.3s,baz=229,slow=20,SNR=5.6						
USRK	**Ussuriysk Ar.**	**11.20**	**306**	Pn	**Pn**	04 33 56.4	+0.7
	0.5nm,0.3s,baz=106,slow=14,SNR=5.8						
JNU	**Nakatsue**	**12.32**	**249**	LR	LR	04 39 09.0	
	comp=Z,69nm,20.3s,baz=108,slow=38						
JNU	**Nakatsue**	**12.32**	**249**	*e*Pn	**Pn**	04 34 11.8	+0.8
KSRS	**Korea Array**	**13.24**	**272**	Pn	**Pn**	04 34 25.3	+1.8
	0.2nm,0.3s,baz=80,slow=14,SNR=3.8						
KSRS				LR	LR	04 38 49.2	
	comp=Z,56nm,21.0s,baz=64,slow=34						
KSAR	**Wonju Array Be**	**13.27**	**272**	Pn	**Pn**	04 34 25.3	+1.4
PETK	**Petropavlovsk-**	**17.35**	**27**	LR	LR	04 41 44.5	
	comp=Z,31nm,21.6s,baz=117,slow=36						
SEY	**Seymchan**	**25.12**	**8**	P	**P**	04 36 41.1	+1.4
	4.8nm,0.7s,baz=172,slow=7.9,SNR=8.8						
ZALV	**Zalesovo Beam**	**42.98**	**311**	P	**P**	04 39 15.4	+1.4
	1.1nm,0.5s,baz=86,slow=7.5,SNR=3.2						
ZALV				LR	LR	04 58 04.9	
	comp=Z,16nm,18.4s,baz=29,slow=37						
CMAR	**Chiang Mai Arr**	**44.29**	**257**	LR	LR	04 59 26.1	
	comp=Z,12nm,19.2s,baz=265,slow=38						
MKAR	**Makanchi Array**	**45.63**	**302**	P	**P**	04 39 37.0	+1.6
	1.3nm,0.7s,baz=88,slow=9.0,SNR=7.9						
ILAR	**Eielson Array**	**47.05**	**33**	P	**P**	04 39 46.5	+0.3
	0.5nm,0.8s,baz=261,slow=6.3,SNR=4.3						
KURK	**Kurchatov**	**47.18**	**308**	*e*P	**P**	04 39 48.2	+0.7
	21nm,0.6s						
BRVK	**Borovoye**	**51.68**	**312**	*e*P	**P**	04 40 21.8	+0.1
	2.5nm,0.3s						
WRAB	**Tennant Creek**	**58.72**	**191**	*e*P	**P**	04 41 11.6	-1.2
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**58.73**	**191**	P	**P**	04 41 11.2	-1.6
	1.8nm,0.7s,baz=12,slow=7.3,SNR=17						
ABKAR	**Akbulak array**	**59.08**	**310**	*e*P	**P**	04 41 15.8	+0.7
	1.2nm,0.7s						
ASAR	**Alice Springs**	**62.45**	**191**	P	**P**	04 41 37.4	-0.9
	0.9nm,0.8s,baz=14,slow=5.9,SNR=8.9						
FFC	**Fiji Fion**	**71.24**	**34**	*e*P	**P**	04 42 33.9	0.0
	1.8nm,0.6s						
PDAR	**Pinedale Array**	**74.95**	**47**	P	**P**	04 42 56.2	-0.1
	0.3nm,0.6s,baz=338,slow=1.6,SNR=3.5						
TXAR	**Lajitas Array**	**87.31**	**54**	P	**P**	04 44 02.5	+0.4
	0.2nm,0.6s,baz=250,slow=1.8,SNR=2.6						
SNAA	**Sanae**	**142.69**	**196**	P	**PKPdf**	04 50 51.3	+4.4
VNA2	**Neumayer--Watz**	**144.22**	**195**	P	**PKPdf**	04 50 48.0	-1.7
	baz=135,slow=4.5						
VNA3	**Neumayer Olymp**	**144.42**	**194**	P	PKPbc	04 50 48.2	-0.4
VNA1	**Neumayer--Stat**	**144.62**	**195**	P	**PKPdf**	04 50 49.3	-1.0

NNC 08 05:07:10.2±4.3, 48°.84N×77°.55E, h0km, mb3.5, mpv3.1, 6C-4D, Error ellipse: s-maj=51.8km s-min=16.4km az=81.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.90**	**19**	⇑Pn	Pb	05 07 45.0	-0.8
	12nm,0.4s						
KURBB				⇑Sn	Sn	05 08 09.1	+0.5
	39nm,0.4s						
KURK	**Kurchatov**	**2.01**	**20**	⇑Pn	Pb	05 07 46.6	-0.9
	10nm,0.5s						
KURK				⇑Sn	Sn	05 08 11.4	+0.2
	15nm,0.3s						
MAKZ	**Makanchi**	**3.61**	**123**	⇓Pg	Pb	05 08 14.9	0.0
	0.9nm,0.3s						
MAKZ				⇓Lg	Lg	05 09 04.0	
	4.3nm,0.4s						
MK31	**Makanchi Array**	**3.79**	**121**	⇑Pg	Pg	05 08 20.7	-2.2
	2.8nm,0.6s,baz=296,slow=13,SNR=31						
MK31				⇓Lg	Lg	05 09 08.4	
	7.5nm,0.5s,baz=295,slow=28,SNR=17						
PDGK	**Podgornoye**	**5.67**	**165**	⇓Pg	Pg	05 08 54.8	-4.0
	2.3nm,0.7s						
PDGK				⇑Lg	Lg	05 10 11.2	
	5.6nm,0.5s						

ISK ***08*** *05:09:15.9, 39°.20N×28°.33E, h12km, MD2.6*
ISCJB ***08*** *05:09:16.5±0.4, 39°.21N±0°.03×28°.35E±0°.03, h8km±5km, Error ellipse: s-maj=4.4km s-min=3.4km az=26.4*
CSEM ***08*** *05:09:16.6±0.1, 39°.21N×28°.35E, h10km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.2km az=33.0*
DDA ***08*** *05:09:16.3, 39°.24N×28°.36E, h7km, Md2.7*
ISC 08 05:09:16.5±1.0, 39°.21N±0°.03×28°.33E±0°.02, h13km±10km, n27, σ0°38/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.50**	**289**	*i* P	**Pg**	05 09 26.2	-0.2
STEP				*i* S	**Sb**	05 09 34.5	-0.1
STEP	**BALIKESIR_Sava**	**0.50**	**289**	P	**Pg**	05 09 26.2	-0.2
STEP				S	**Sb**	05 09 34.5	-0.1
AKHS	**Akhisar**	**0.52**	**231**	*i* P	**Pg**	05 09 26.9	+0.1
AKHS				*i* S	**Sb**	05 09 34.8	-0.2
AKHS	**Akhisar**	**0.52**	**231**	P	**Pg**	05 09 26.9	+0.1
AKHS				S	**Sb**	05 09 34.8	-0.2
SIMA	**Simav-Kutahya**	**0.52**	**104**	*e*PG	**Pg**	05 09 26.5	-0.3
SIMA				*e*SG	**Sg**	05 09 34.1	+0.4
SIMA	**Simav-Kutahya**	**0.52**	**104**	*e*Pg	**Pg**	05 09 26.5	-0.3
SIMA				*e*Sg	**Sg**	05 09 34.1	+0.4
BALB	**Balikesir**	**0.55**	**321**	*e*PG	**Pg**	05 09 27.7	+0.3
BALB				*e*SG	**Sb**	05 09 36.2	+0.3
BALB	**Balikesir**	**0.55**	**321**	*e*Pg	**Pg**	05 09 27.7	+0.3
BALB				*e*Sg	**Sb**	05 09 36.2	+0.3
MANT	**Manisa**	**0.74**	**166**	*i* P	**Pb**	05 09 31.0	-0.4
MANT	**Manisa**	**0.74**	**166**	P	**Pb**	05 09 31.0	-0.4
KULA	**Kula-Manisa**	**0.74**	**160**	*e*PG	**Pg**	05 09 30.9	0.0
KULA				*e*SG	**Sg**	05 09 40.8	+0.2
KULA	**Kula-Manisa**	**0.74**	**160**	*e*Pg	**Pg**	05 09 30.9	0.0
KULA				*e*Sg	**Sg**	05 09 40.8	+0.2
BALY	**Balya**	**0.76**	**314**	*i* P	**Pb**	05 09 31.6	-0.1
BALY				*i* S	**Sb**	05 09 42.0	0.0
BALY	**Balya**	**0.76**	**314**	P	**Pb**	05 09 31.6	-0.1
BALY				S	**Sb**	05 09 42.0	0.0
GDZ	**Gediz**	**0.90**	**97**	*i* P	**Pg**	05 09 33.6	-0.4
GDZ				*i* S	**Sg**	05 09 45.5	-0.3
GDZ	**Gediz**	**0.90**	**97**	P	**Pg**	05 09 33.6	-0.4
GDZ				S	**Sg**	05 09 45.5	-0.3
TVSB	**Tavsanli**	**0.91**	**74**	*e*PG	**Pb**	05 09 34.0	-0.2
TVSB				*e*SG	**Sb**	05 09 47.0	+0.7
TVSB	**Tavsanli**	**0.91**	**74**	*e*Pg	**Pb**	05 09 34.0	-0.2
TVSB				*e*Sg	**Sb**	05 09 47.0	+0.7
KCTX	**Karacabey (Bur**	**1.05**	**1**	*e*PG	**Pb**	05 09 36.2	-0.4
KCTX				*e*SG	**Sn**	05 09 51.6	0.0
KCTX	**Karacabey (Bur**	**1.05**	**1**	*e*Pg	**Pb**	05 09 36.2	-0.4
KCTX				*e*Sg	**Sn**	05 09 51.6	0.0
KHAL	**Karahalli**	**1.23**	**132**	*i* P	**Pg**	05 09 41.2	+0.9
KHAL	**Karahalli**	**1.23**	**132**	P	**Pg**	05 09 41.2	+0.9
IGD	**Bursa**	**1.25**	**32**	*i* P	**Pn**	05 09 39.6	-0.1
IGD				*i* S	**Sb**	05 09 55.8	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.31**	**195**	*e*PN	**Pn**	05 09 40.4	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.31**	**195**	*e*Pn	**Pn**	05 09 40.4	-0.2
BAYC	**CANAKKALE_Bayr**	**1.48**	**292**	*i* P	**Pb**	05 09 43.9	0.0
BAYC				*i* S	**Sb**	05 10 03.4	+0.8
BAYC	**CANAKKALE_Bayr**	**1.48**	**292**	P	**Pb**	05 09 43.9	0.0
BAYC				S	**Sb**	05 10 03.4	+0.8

IDC ***08*** *05:38:53.1±0.4, 4°.69S×134°.11E, h0km, mb4.8/25, mb1 4.9/28, mb1mx4.8/39, mbtmp4.9/28, ML3.2/2, MS5.1/22, Ms1 5.2/22, ms1mx4.9/35, Error ellipse: s-maj=15.9km s-min=10.2km az=71.0*
BJI ***08*** *05:38:53.1, 4°.97S×134°.40E, h24km, mb5.0/62, mB5.3/49, Ms5.3/68, Ms7 5.0/63*
NEIC ***08*** *05:38:54.0±0.0, 4°.79S×134°.12E, h11km, Moment Tensor Solution. s14 Moment tensor: Scale 10^17Nm; Mrr-1.83; Mθθ-0.93; Mφφ2.77; Mrθ2.97; Mrφ-0.02; Mθφ0.13; Best double couple: M0 3.80000×10^17 NP1:φs214.00000°, δ60.00000°, λ-41.00000°. NP2:φs328.00000°, δ55.00000°, λ-142.00000°. Principal axes: T 2.7700, Plg2.0000°, Azm271.0000°; N 1.6100, Plg40.0000°, Azm4.0000°; P -4.3900, Plg49.0000°, Azm178.0000°;*
NEIC

KAPI	Kappang	14.40	268	ePn	Pn	05 42 19.7 0.0
	comp=Z,108nm,1.1s					
SPSI	Sidrap Palu	14.42	273	P	P	05 42 24.5 -1.9
TTSI	Tana Toraja	14.46	276	P	P	05 42 25.6 -1.2
BASI	Baing, Sumba	14.55	247	P	Pn	05 42 22.2 +0.6
DAV	Davao City (W)	14.59	324⇑	eP	P	05 42 27.9 -0.4
PCI	Palu	14.86	285	P	Pn	05 42 26.0 +0.2
WRAB	Tennant Creek	15.06	179	⇓P	Pn	05 42 24.5 -4.0
WRAB	Tennant Creek	15.06	179	ePn	Pn	05 42 25.1 -3.4
	comp=Z,374nm,0.6s					
WB2	Warramunga Arr	15.07	179	ePn	Pn	05 42 25.1 -3.6
	comp=Z,373nm,0.6s					
WRA	Warramunga Arr	15.07	180	Pn	Pn	05 42 22.3 -6.4
	comp=Z,1.2nm,0.3s,baz=358,slow=13,SNR=80					
WRA				Sn	Sn	05 45 10.4 -4.4
	comp=Z,12nm,0.3s,baz=7.5,slow=22,SNR=7.3					
WRA				LR	LR	05 48 59.9
	comp=Z,18μm,18.9s,baz=355,slow=40					
QIS	Mount Isa	16.54	162	P	Pn	05 42 45.0 -2.6
	baz=17,SNR=30					
MTSU	Mount Surprise	16.55	144	P	Pn	05 42 46.3 -1.5
	baz=17,SNR=22					
PLAI	Plampang	16.80	255	P	Pn	05 42 48.8 -2.1
BKB	Balikpapan	17.63	281	P	P	05 43 07.3 +5.2
TWSI	Taliwang, Sumb	17.64	256	P	Pn	05 42 57.5 -4.0
RABL	Rabaul	17.91	89	ePn	Pn	05 43 04.3 -0.5
	comp=Z,270nm,1.2s					
MYLDM	Lahad Datu	18.55	302	⇓P	Pn	05 43 14.6 +2.1
TSM	Tawau	18.64	299	⇑P	P	05 43 13.4 +0.2
AS01	Alice Springs	18.78	181	eP	P	05 43 15.1 +0.4
AS31	Alice Springs	18.78	181	eP	P	05 43 14.8 +0.1
	comp=Z,139nm,1.0s					
ASAR	Alice Springs	18.78	181	P	P	05 43 14.1 -0.7
	comp=Z,4.3nm,0.3s,baz=2.9,slow=12,SNR=204					
ASAR				S	Sn	05 46 35.0 -10
	comp=Z,2.1nm,0.3s,baz=2.2,slow=27,SNR=3.9					
ASAR				LR	LR	05 51 16.2
	comp=Z,20μm,19.0s,baz=2.5,slow=39					
CTA	Charters Tower	19.21	143	P	Pn	05 43 21.2 +0.6
	comp=Z,6.4nm,0.3s,baz=322,slow=13,SNR=132					
CTAO	Charters Tower	19.21	143	eP	Pn	05 43 21.6 +1.1
CTAO				pmax	pmax	
	comp=Z,200nm,0.9s					
CTAO	Charters Tower	19.21	143	eP	Pn	05 43 21.6 +1.1
	comp=Z,195nm,0.8s					
DNP	Denpasar	19.25	257	P	P	05 43 19.8 -0.2
RCP	Roxas	19.84	325⇑	eP	Pn	05 43 28.3 +0.3
ABJI	Asem Bagus	20.07	260	P	Pn	05 43 31.6 +0.8
	comp=Z,209nm,1.6s,comp=Z,8μm					
JAGI	Jajag, Banyuwa	20.25	259	P	Pn	05 43 41.0 +8.1
JAGI	Jajag, Banyuwa	20.25	259	eP	P	05 43 29.4 -1.5
	comp=Z,171nm,1.2s					
JAGI				LR	LR	
	comp=Z,5μm,20.0s					
KMMI	Kalianget	20.26	263	P	P	05 43 31.4 +0.5
	comp=Z,499nm,1.1s,comp=Z,8μm					
GMJI	Gumukmas	20.91	259	P	P	05 43 38.5 +0.5
WRKA	Warakurna	20.93	195	P	P	05 43 38.1 0.0
	baz=21,SNR=352					
KKM	Kota Kinabalu	20.94	301	eP	P	05 43 36.4 -2.0
	comp=Z,146nm,1.1s					
KKM				LR	LR	
	comp=Z,6μm,22.0s					
KKM	Kota Kinabalu	20.94	301	⇓P	P	05 43 38.1 -0.3
GUMO	Guam	21.10	30	P	P	05 43 39.8 -0.2
	comp=Z,217nm,1.1s,baz=234,slow=3.1,SNR=4.5					
GUMO				LR	LR	05 52 42.9
	comp=Z,3μm,18.6s,baz=208,slow=39					
GUMO	Guam	21.10	30	eP	P	05 43 39.8 -0.2
GUMO				pmax	pmax	
	comp=Z,340nm,1.1s					
GUMO	Guam	21.10	30	eP	P	05 43 39.8 -0.2
	comp=Z,343nm,1.1s					
MBWA	Marble Bar	21.51	220	eP	P	05 43 44.5 +0.1
	comp=Z,311nm,1.3s					
MBWA				LR	LR	
	comp=Z,7μm,20.0s					
SJMP	San Jose	21.51	323	eP	P	05 43 43.0 -1.4
ENPP	El Nido	21.65	317	eP	P	05 43 50.9 +5.0
BUSP	Coron	21.73	320	eP	P	05 43 46.4 -0.4
BTM	Bintulu	22.54	290	⇑P	P	05 43 57.2 +1.6
LUBP	Lubang	23.03	323	eP	P	05 43 58.5 -2.0
SBUM	Sibu	23.11	288	eP	P	05 44 01.6 +0.1
	comp=Z,171nm,1.5s					
SBUM	Sibu	23.11	288	⇑P	P	05 44 02.5 +1.0
STKI	Sintang	23.21	281	P	P	05 44 04.0 +1.5
	comp=Z,87nm,1.4s,comp=Z,19μm					
QLP	Quilpie	23.70	157	P	P	05 44 07.3 +0.2
	baz=24,SNR=41					
UGM	Wanagama	23.74	261	P	P	05 44 08.8 +1.1
	comp=Z,111nm,1.1s					
UGM	Wanagama	23.74	261	PFAKE		05 44 20.0 +12
UGM				LR	LR	
	comp=Z,2μm,22.0s					
SMRI	Semarang	23.75	263	eP	P	05 44 10.1 +2.4
	comp=Z,107nm,1.0s					
SMRI				LR	LR	
	comp=Z,7μm,22.0s					
KSM	Kuching	24.67	284	eP	P	05 44 14.8 -1.5
	comp=Z,165nm,1.2s					
KSM				LR	LR	
	comp=Z,2μm,19.0s					
KSM	Kuching	24.67	284	⇓P	P	05 44 17.3 +1.0
SCZP	Santa Cruz	24.85	326	eP	P	05 44 14.6 -3.1
RMQ	Roma	25.68	149	P	P	05 44 26.2 +0.9
	baz=26,SNR=15					
HNR	Honiara	25.95	102	P	P	05 44 29.9 +2.1
	comp=Z,54nm,0.5s,baz=155,slow=4.9,SNR=6.3					
HNR	Honiara	25.95	102	eP	P	05 44 26.0 -1.8
HNR	Honiara	25.95	102	eP	P	05 44 28.8 +1.0
HNR				pmax	pmax	
	comp=Z,240nm,0.9s					
HNR	Honiara	25.95	102	eP	P	05 44 28.8 +1.0
	comp=Z,238nm,0.8s					
HNR				LR	LR	
	comp=Z,7μm,20.0s					
EIDS	Eidsvold	26.10	143	P	P	05 44 29.3 +0.2
	baz=26,SNR=3.4					
EIDS	Eidsvold	26.10	143	eP	P	05 44 31.3 +2.2
	comp=Z,41nm,0.8s					
EIDS				LR	LR	
	comp=Z,17μm,20.0s					
GIRL	Giralia	26.24	226	P	P	05 44 31.9 +1.6
	baz=26,SNR=9.2					
CISI	Cisompet, Garu	26.38	263	P	P	05 44 33.1 +1.3
	comp=Z,204nm,0.9s,comp=Z,3μm					
CISI	Cisompet, Garu	26.38	263	eP	P	05 44 30.5 -1.3
	comp=Z,170nm,0.9s					
CISI				LR	LR	
	comp=Z,3μm,19.0s					
FORT	Forrest	26.50	192	eP	P	05 44 33.1 +0.5
	comp=Z,2μm,0.8s					
PATS	Pohnpei	26.68	65	PFAKE		05 44 50.0 +16
PATS				LR	LR	
	comp=Z,4μm,20.0s					
CNJI	Cibinong	27.04	263	P	P	05 44 38.3 +0.6
	comp=Z,238nm,1.4s,comp=Z,3μm					
STKA	Stephens Creek	27.83	166	P	P	05 44 45.3 +0.7
	comp=Z,14nm,0.8s,baz=347,slow=8.3,SNR=30					
STKA				LR	LR	05 56 37.0
	comp=Z,9μm,19.8s,baz=343,slow=38					
STKA	Stephens Creek	27.83	166	eP	P	05 44 45.1 +0.6
	comp=Z,14nm,0.9s					
BBOO	Buckleboo	27.94	177	P	P	05 44 45.8 +0.2
	baz=28,SNR=61					
BBOO	Buckleboo	27.94	177	eP	P	05 44 45.8 +0.2
	comp=Z,74nm,0.8s					
BBOO				LR	LR	
	comp=Z,13μm,21.0s					
CGJI	Cibinong	28.43	265	P	P	05 44 50.9 +0.8
	comp=Z,37nm,0.7s,comp=Z,8μm					
CMSA	Cobar Meteorol	28.72	159	P	P	05 44 52.8 +0.2
	baz=29,SNR=13					
HTT	Hallett	28.84	172	P	P	05 44 54.9 +1.2
	baz=29,SNR=5.0					
KMBL	Kambalda	28.87	202	P	P	05 44 54.1 +0.2
	baz=29,SNR=15					
KLSI		29.38	269	P	P	05 44 58.8 +0.2
	comp=Z,23nm,1.9s,comp=Z,949nm					
KASI	Kota Agung	29.60	267	P	P	05 45 09.1 +8.6
MDSI	Maura Dua	29.93	269	P	P	05 45 04.2 +0.7
	comp=Z,27nm,1.4s					
TWG	Pinlang	30.29	335	eP	P	05 45 04.4 -2.1
	comp=Z,139nm,1.2s					
TWG				LR	LR	
	comp=Z,11μm,18.0s					
ARMA	Armidale	30.34	149	P	P	05 45 07.9 +0.9
	baz=30,SNR=9.9					
ARMA	Armidale	30.34	149	eP	P	05 45 07.9 +0.9
	comp=Z,55nm,1.2s					
ARMA				LR	LR	
	comp=Z,12μm,19.0s					
BLDU	Ballidu	30.53	211	P	P	05 45 09.4 +0.8
	baz=31,SNR=25					
YULB	Yu-li	30.71	336	PFAKE		05 45 20.0 +10
YULB				LR	LR	
	comp=Z,3μm,21.0s					
KLBR	Kellerberrin	30.82	208	P	P	05 45 11.8 +0.7
	baz=31,SNR=34					
TPUB	Ta-pu	30.90	335	eP	P	05 45 09.9 -1.9
	comp=Z,106nm,1.6s					
TPUB				LR	LR	
	comp=Z,3μm,20.0s					
MYKOM	Kota Tinggi	31.02	281	⇓P	P	05 45 12.8 -0.3
YOJ	Yonaguni jima	31.04	340	PFAKE		05 45 20.0 +6.9
YOJ				LR	LR	
	comp=Z,4μm,19.0s					
MNAI	Manna	31.15	269	PFAKE		05 45 30.0 +16
MNAI				LR	LR	
	comp=Z,4μm,19.0s					
SSLB	Suanglung	31.20	336	PFAKE		05 45 30.0 +15
SSLB				LR	LR	
	comp=Z,3μm,22.0s					
NACB	Ninganchiao	31.29	337	PFAKE		05 45 30.0 +15
NACB				LR	LR	
	comp=Z,4μm,19.0s					
KGM	Kluang	31.59	282	⇑P	P	05 45 17.5 -0.6
YHNB	Yeheng	31.82	337	PFAKE		05 45 30.0 +10
YHNB				LR	LR	
	comp=Z,4μm,19.0s					
JOW	Kunigami	31.95	350	PFAKE		05 45 30.0 +8.9
JOW				LR	LR	
	comp=Z,5μm,20.0s					
TATO	Taipei	32.06	338	PFAKE		05 45 30.0 +8.0
TATO				LR	LR	
	comp=Z,3μm,19.0s					
NWAO	Narrogin (SRO)	32.18	207	P	P	05 45 23.8 +0.8
	comp=Z,23nm,0.8s,baz=264,slow=9.1,SNR=11					
NWAO	Narrogin (SRO)	32.18	207	eP	P	05 45 23.9 +0.8
NWAO				pmax	pmax	
	comp=Z,270nm,2.0s					
NWAO	Narrogin (SRO)	32.18	207	eP	P	05 45 23.9 +0.8
	comp=Z,272nm,2.0s					
NWAO				LR	LR	
	comp=Z,9μm,20.0s					
ARPS	Mount Arapiles	32.60	169	P	P	05 45 28.0 +1.3
	baz=33,SNR=24					
CBIJ	Chichi jima	32.61	13	PFAKE		05 45 40.0 +13
CBIJ				LR	LR	
	comp=Z,3μm,20.0s					
KTGM	Kuala Trenggan	32.62	288	⇑P	P	05 45 27.0 -0.1
SDSI	Sungai Dareh	32.95	276	P	P	05 45 40.2 +10
QZH	Quanzhou	33.22	334	P	P	05 45 31.8 -0.4
QZH				S	S	05 50 56.0 +5.4
QZH				LR	LR	
	comp=Z,3μm,12.7s					
QZH				LR	LR	
	comp=Z,2μm,16.4s					
QZH				LR	LR	
	comp=Z,6μm,23.6s					
CAN	Canberra	33.32	158	eP	P	05 45 34.0 +0.9
CAN				pmax	pmax	
	comp=Z,32nm,1.3s					
CAN	Canberra	33.32	158	eP	P	05 45 34.0 +0.9
	comp=Z,32nm,1.3s					
CAN				LR	LR	
	comp=Z,11μm,18.0s					
BKNI	Bangkinang	33.52	278	PFAKE		05 45 50.0 +15
BKNI				LR	LR	
	comp=Z,3μm,20.0s					
QIZ	Qiongzhong	33.70	315	P	P	05 45 46.1 +10
QIZ				S	S	05 51 10.0 +12
QIZ				SS	SS	05 53 23.0 -1.5
QIZ				pmax	pmax	
	comp=Z,36nm,1.2s					
QIZ				pmax	pmax	
	comp=Z,340nm,15.1s					
QIZ				LR	LR	
	comp=N,2μm,21.4s					
QIZ				LR	LR	
	comp=E,2μm,18.8s					
QIZ				LR	LR	
	comp=Z,2μm,17.2s					
QIZ	Qiongzhong	33.70	315	PFAKE		05 45 50.0 +14
QIZ				LR	LR	
	comp=Z,2μm,18.0s					
RKGY	Rocky Gully	33.70	206	P	P	05 45 37.6 +1.2
	baz=34,SNR=14					
PDSI	Padang	33.91	275	P	P	05 45 37.6 -0.9
	comp=Z,30nm,0.8s					
TOO	Toolangi	34.23	164	P	P	05 45 42.5 +1.6
	baz=34,SNR=9.5					
IPM	Ipoh	34.40	285	eP	P	05 45 41.9 -0.8
	comp=Z,40nm,0.9s					
IPM				LR	LR	
	comp=Z,2μm,20.0s					
IPM	Ipoh	34.40	285	⇓P	P	05 45 42.4 -0.3
KULM	Kulim	34.97	286	PFAKE		05 46 00.0 +12
KULM				LR	LR	
	comp=Z,2μm,19.0s					
SISI	Saibi	35.23	274	P	P	05 45 50.1 +0.2
	comp=Z,94nm,1.1s,comp=Z,2μm					
LHI	Lord Howe Isla	35.38	142	PFAKE		05 46 00.0 +9.1
LHI				LR	LR	
	comp=Z,9μm,20.0s					
SKLT	Songkhla	35.56	289	P	P	05 45 53.6 +0.9
	comp=Z,27nm,0.8s					
DZM	Mont Dzumac	35.63	122	P	P	05 45 53.3 0.0
	comp=Z,17nm,0.9s,baz=310,slow=3.6,SNR=8.2					
DZM	Mont Dzumac	35.63	122	eP	P	05 45 52.8 -0.5
	comp=Z,113nm,1.1s					
DZM				eS	S	05 51 27.6 -0.5
	comp=Z,2μm,28.1s					
DZM				eLR	LR	05 55 32.0
	comp=Z,11μm,24.9s					
KWAJ	Kwajalein Atol	35.94	68	PFAKE		05 46 10.0 +14
KWAJ				LR	LR	
	comp=Z,4μm,20.0s					
PSI	Prapat	36.05	281	P	P	05 45 55.0 -2.0
	comp=Z,9.9nm,0.8s,baz=124,slow=3.7,SNR=7.3					
PANO	Nakornpanom	36.46	307	P	P	05 46 01.5 +1.2
	comp=Z,61nm,1.1s,comp=Z,2μm					
SKNT	Sakolnakorn	36.87	307	P	P	05 46 05.1 +1.3
	comp=Z,80nm,1.0s					
KHON	Khomkaen	37.47	305	P	P	05 46 09.1 +0.2
	comp=Z,39nm,1.1s					
COCO	West Island	37.65	256	PFAKE		05 46 20.0 +9.5
COCO				LR	LR	
	comp=Z,2μm,19.0s					
SSE	Sheshan	37.78	342	P	P	05 46 10.8 -0.5
SSE				S	S	05 52 01.8 +1.4
SSE				sS	ScP	05 52 17.2 +3.6
SSE				pmax	pmax	
	comp=Z,12nm,0.5s					
SSE				pmax	pmax	
	comp=Z,58nm,3.4s					
SSE				LR	LR	
	comp=Z,2μm,27.1s					
SSE				LR	LR	
	comp=Z,2μm,27.1s					
SSE				LR	LR	
	comp=Z,3μm,19.7s					
JNU	Nakatsue	37.83	355	P	P	05 46 11.8 0.0
	comp=Z,7.7nm,0.8s,baz=166,slow=6.3,SNR=5.6					
JNU				LR	LR	06 02 51.5
	comp=Z,2μm,18.8s,baz=177,slow=38					
JNU	Nakatsue	37.83	355	eP	P	05 46 10.6 -1.2
	comp=Z,74nm,1.2s					
CHAI	Chaiyaphum	37.94	303	P	P	05 46 12.3 -0.6
	comp=Z,16nm,1.0s,comp=Z,137nm					
JHJ2	Mitsune	38.06	8	PFAKE		05 46 20.0 +6.3
JHJ2				LR	LR	
	comp=Z,6μm,20.0s					
JHJ	Hachijo jima 2	38.06	8	LR	LR	06 01 05.4
	comp=Z,6μm,19.6s,baz=189,slow=35					
LHMI	Lhok Sumawe	38.52	284	PFAKE		05 46 30.0 +12
LHMI				LR	LR	
	comp=Z,3μm,22.0s					
TARA	Tarawa	39.16	82	PFAKE		05 46 40.0 +17
TARA				LR	LR	
	comp=Z,3μm,18.0s					
MOO	Moorlands	39.24	165	P	P	05 46 26.6 +3.1
	baz=39,SNR=4.5					
NJ2	Nanjing	39.44	339	eP	P	05 46 24.4 -0.8
NJ2				S	S	05 52 26.6 +1.2
NJ2				pmax	pmax	
	comp=Z,20nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,210nm,4.5s					
NJ2				LR	LR	
	comp=Z,2μm,17.9s					
NJ2				LR	LR	
	comp=Z,2μm,19.0s					
NJ2				LR	LR	
	comp=Z,3μm,21.7s					
SLVN	Son La	39.45	312	eP	P	05 46 24.1 -1.5
	comp=Z,17nm,1.1s					
TAU	Tasmania Unive	39.71	165	eP	P	05 46 29.3 +1.9
TAU				pmax	pmax	
	comp=Z,63nm,1.1s					
TAU	Tasmania Unive	39.71	165	eP	P	05 46 29.3 +1.9
	comp=Z,63nm,1.1s					
TAU				LR	LR	
	comp=Z,12μm,19.0s					
PHIT	Phitsanulok	39.88	304	P	P	05 46 31.4 +2.2
	comp=Z,60nm,1.0s,comp=Z,1μm					
WAKE	Wake Island	39.90	52	PFAKE		05 46 40.0 +11
WAKE				LR	LR	
	comp=Z,2μm,22.0s					
UTHA	Uthaitani	39.91	301	P	P	05 46 29.3 -0.2
	comp=Z,13nm,1.1s,comp=Z,96nm					
WHN	Wuhan	39.93	333	⇓P	P	05 46 28.9 -0.5
WHN				LR	LR	
	comp=Z,2μm,14.5s					
WHN				LR	LR	
	comp=Z,14μm,32.6s					
WHN				LR	LR	
	comp=Z,4μm,22.5s					
INU	Inuyama	40.00	4	PFAKE		05 46 40.0 +10
INU				LR	LR	
	comp=Z,5μm,20.0s					
UTTA	Uttaradit	40.05	305	P	P	05 46 30.5 -0.1
	comp=Z,8.9nm,1.0s,comp=Z,81nm					
UMPA	Umpang Tak	40.71	302	P	P	05 46 36.4 +0.3
	comp=Z,11nm,1.1s					
GYA	Guiyang	40.94	321⇑	iP	P	05 46 37.4 -0.6
GYA				PP	PnPn	05 48 17.0 -0.1
GYA				PcP	PcP	05 48 40.2 +2.0
GYA				S	S	05 52 49.0 +0.7
GYA				SS	SS	05 55 45.5 -5.3
GYA				pmax	pmax	
	comp=Z,30nm,0.9s					
GYA				pmax	pmax	
	comp=Z,140nm,6.0s					
GYA				LR	LR	
	comp=Z,5μm,18.2s					
GYA				LR	LR	
	comp=Z,4μm,19.7s					
GYA				LR	LR	
	comp=Z,5μm,18.6s					
LAMP	Lampang	41.20	305	P	P	05 46 40.5 +0.4
	comp=Z,12nm,1.0s,comp=Z,132nm					
MAJO	Matsushiro	41.28	5	PFAKE		05 46 50.0 +10
MAJO				LR	LR	
	comp=Z,4μm,19.0s					
MJAR	Matsushiro Arr	41.28	5	P	P	05 46 40.1 -0.3
	comp=Z,1.6nm,0.7s,baz=179,slow=9.7,SNR=4.0					
MJAR				LR	LR	06 02 59.8
	comp=Z,4μm,19.0s,baz=190,slow=35					
MJB9	Matsu-Tunnel	41.28	5	PFAKE		05 46 50.0 +10
MJB9				LR	LR	
	comp=Z,1μm,19.0s					
CM01	Chiang Mai Arr	41.70	305	eP	P	05 46 42.6 -1.5
CM31	Chiang Mai Arr	41.73	305	eP	P	05 46 43.2 -1.2
CMAR	Chiang Mai Arr	41.73	305	P	P	05 46 43.4 -1.0
	comp=Z,18nm,1.0s,baz=131,slow=6.5,SNR=42					
CMAR				LR	LR	06 06 19.2
	comp=Z,781nm,20.1s,baz=145,slow=40					
CHTO	Chiang Mai	41.91	305	P	P	05 46 45.7 -0.2
	comp=Z,182nm,1.1s,comp=Z,2μm					
CHTO	Chiang Mai	41.91	305	eP	P	05 46 44.6 -1.3
CHTO				pmax	pmax	
	comp=Z,31nm,1.0s					
CHTO	Chiang Mai	41.91	305	PFAKE		05 47 00.0 +14
CHTO				LR	LR	
	comp=Z,1μm,20.0s					
ENH	Enshi	42.13	327	PFAKE		05 47 00.0 +12
ENH				LR	LR	
	comp=Z,2μm,20.0s					
KSAR	Wonju Array Be	42.42	353	P	P	05 46 49.4 -0.3
KSAR	Wonju Array Be	42.42	353	P	P	05 46 49.4 -0.3
KSRS	Korea Array	42.42	353	P	P	05 46 49.4 -0.3
	comp=Z,3.0nm,0.8s,baz=175,slow=9.8,SNR=11					
KSRS				LR	LR	06 04 26.8
	comp=Z,2μm,20.2s,baz=170,slow=36					
INCN	Inchon	42.63	351	PFAKE		05 47 00.0 +8.5
INCN				LR	LR	
	comp=Z,2μm,19.0s					
KMI	Kunming	42.64	316	P	P	05 46 52.1 0.0
KMI				pP	pP	05 46 58.3 -2.2
KMI				sP	sP	05 47 00.4 -3.5
KMI				PP	PP	05 48 34.9 +3.6
KMI				S	S	05 53 12.4 -1.5
KMI				pmax	pmax	
	comp=Z,36nm,1.2s					
KMI				pmax	pmax	
	comp=Z,340nm,5.7s					
KMI				LR	LR	
	comp=Z,2μm,19.0s					
KMI				LR	LR	
	comp=Z,1μm,19.0s					
KMI				LR	LR	
	comp=Z,2μm,23.6s					
TIA	Tai'an	43.80	340	eP	P	05 47 03.9 +2.9
TIA				S	S	05 53 32.5 +2.4
TIA				pmax	pmax	
	comp=Z,20nm,1.0s					
TIA				LR	LR	
	comp=Z,3μm,19.2s					
TIA				LR	LR	
	comp=Z,2μm,17.9s					
TIA				LR	LR	
	comp=Z,2μm,19.3s					
MSVF	Nonsavu	44.76	110	eP	P	05 47 10.3 +1.3
MSVF				pmax	pmax	
	comp=Z,110nm,1.3s					
MSVF	Nonsavu	44.76	110	eP	P	05 47 10.3 +1.3
	comp=Z,106nm,1.3s					
MSVF				LR	LR	
	comp=Z,4μm,20.0s					
FUNA	Funafuti	44.82	97	PFAKE		05 47 20.0 +10
FUNA				LR	LR	
	comp=Z,5μm,21.0s					
DL2	Dalian	45.00	346	eP	P	05 47 19.9 +9.4
DL2				S	S	05 54 01.1 +14
DL2				pmax	pmax	
	comp=Z,35nm,1.1s					
DL2				pmax	pmax	
	comp=Z,330nm,5.9s					
DL2				LR	LR	
	comp=N,3μm,19.6s					
DL2				LR	LR	
	comp=E,7μm,19.3s					
DL2				LR	LR	
	comp=Z,3μm,18.3s					
XAN	Xi'an	45.40	330	P	P	05 47 11.8 -2.1
XAN				S	S	05 53 47.4 -6.1
XAN				pmax	pmax	
	comp=Z,8.0nm,1.0s					
XAN				pmax	pmax	
	comp=Z,120nm,9.0s					
XAN				LR	LR	
	comp=Z,1μm,18.7s					
XAN				LR	LR	
	comp=Z,850nm,19.0s					
XAN				LR	LR	
	comp=Z,2μm,21.0s					
CD2	Chengdu	45.88	323	P	P	05 47 17.8 +0.1
CD2				PP	PP	05 49 05.5 -0.1
CD2				PcS	PcS	05 52 49.1 0.0
CD2				S	S	05 54 05.3 +4.7
CD2				pmax	pmax	
	comp=Z,50nm,0.8s					
CD2				pmax	pmax	
	comp=Z,440nm,4.2s					
CD2				LR	LR	
	comp=Z,2μm,19.9s					
CD2				LR	LR	
	comp=Z,2μm,17.4s					
CD2				LR	LR	

comp=Z,3μm,14.9s
ERM Erimo 47.28 9 PFAKE 05 47 40.0 +12
ERM LR LR
comp=Z,4μm,21.0s
OUZ Omahuta 47.30 135 PFAKE 05 47 40.0 +11
OUZ LR LR
comp=Z,10μm,18.0s
SNY Shenyang 47.39 349 ⇑P P 05 47 36.0 +6.8
SNY S S 05 54 33.9 +12
SNY Shenyang 47.39 349 SS SS 05 57 41.5 -8.1
SNY pmax pmax
comp=Z,31nm,2.0s
SNY pmax pmax
comp=Z,380nm,3.7s
SNY LR LR
comp=N,2μm,19.8s
SNY LR LR
comp=E,1μm,18.2s
SNY LR LR
comp=Z,2μm,22.0s
BJT Baijiatuau 47.57 341 *e*P **P 05 47 33.3 +2.6**
BJT pmax pmax
comp=Z,76nm,1.0s
BJT Baijiatuau 47.57 341 *e*P **P 05 47 33.3 +2.6**
comp=Z,76nm,1.0s
BJI Beijing 47.59 341 P **P 05 47 30.3 -0.5**
BJI S **S 05 54 26.0 +1.6**
BJI pmax pmax
comp=Z,26nm,1.2s
BJI pmax pmax
comp=Z,120nm,3.9s
BJI LR LR
comp=Z,1μm,18.8s
BJI LR LR
comp=Z,3μm,19.6s
BJI LR LR
comp=Z,2μm,21.1s
VLA Vladivostok 47.72 358 *c*eP **P 05 47 29.8 -2.0**
VLA *i* *PP **pP 05 47 39.1 -1.2**
VLA *i* *SP **sP 05 47 43.5 -0.2**
VLA *e* 05 48 56.0
VLA *i* 05 49 19.8
VLA *e*S **S 05 54 27.8 +1.6**
VLA pmax pmax
comp=Z,34nm,0.9s
USRK Ussuriysk Ar. 48.80 358 P **P 05 47 39.4 -0.7**
comp=Z,3.4nm,0.5s,baz=173,slow=7.7,SNR=7.0
USRK LR LR 06 06 54.9
comp=Z,1μm,20.4s,baz=166,slow=34
CN2 Changchun 49.00 352 *e*P **P 05 47 44.9 +3.2**
CN2 *e*sP sP 05 47 52.0 -1.6
CN2 *e*S **S 05 54 48.4 +4.1**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
ASAJ Asahikawa 49.26 8 P **P 05 47 42.9 -0.7**
comp=Z,6.4nm,0.7s,baz=214,slow=9.6,SNR=6.7
ASAJ LR LR 06 09 04.5
comp=Z,1μm,18.9s,baz=198,slow=37
ASAJ Asahikawa 49.26 8 *e*P **P 05 47 43.7 +0.1**
comp=Z,49nm,1.5s
MDJ Mudanjiang 49.35 356 P **P 05 47 43.6 -0.7**
MDJ S **S 05 54 52.1 +2.9**
MDJ ScS **ScS 05 57 35.0 +0.7**
MDJ SS **SS 05 58 21.4 +0.1**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,88nm,4.2s
MDJ LR LR
comp=Z,860nm,18.3s
MDJ LR LR
comp=Z,2μm,25.4s
MDJ LR LR
comp=Z,2μm,19.3s
MDJ Mudanjiang 49.35 356 *e*P **P 05 47 43.9 -0.4**
comp=Z,58nm,1.0s
LZH Lanzhou 49.61 327 *e*P **P 05 47 51.0 +4.3**
LZH pP sP 05 47 58.0 -0.6
LZH sP pP 05 48 00.7 +5.4
LZH PP **PP 05 49 44.4 +3.0**
LZH *e*S **S 05 54 57.0 +3.5**
LZH sS sS 05 55 04.7 -2.9
LZH SS **SS 05 58 22.6 -3.6**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,270nm,5.2s
LZH LR LR
comp=Z,2μm,14.5s
LZH LR LR
comp=Z,2μm,14.5s
LZH LR LR
comp=Z,3μm,18.0s
DCZ Deep Cove 49.66 150 *e*P **P 05 47 47.8 +1.0**
comp=Z,82nm,1.3s
DCZ LR LR
comp=Z,7μm,19.0s
YUK Yuzh-Kuril'sk 49.71 11 *c i*P **P 05 47 43.5 -3.6**
YUK *i* 05 49 37.6
YUK *i* S **S 05 54 50.8 -3.5**
FOZ Fox Glacier 49.75 146 PFAKE 05 48 00.0 +13
FOZ LR LR
comp=Z,5μm,20.0s
HIZ Hauiti 49.87 138 PFAKE 05 48 00.0 +12
HIZ LR LR
comp=Z,6μm,19.0s
PYZ Puysegur Point 49.92 151 PFAKE 05 48 00.0 +11
PYZ LR LR
comp=Z,5μm,18.0s
HHC Hu-ho-hao-te 49.92 338 *e*P **P 05 47 49.3 +0.4**
HHC PcP **PcP 05 49 09.1 +0.1**
HHC ScP **ScP 05 53 02.8 -0.1**
HHC PcS **PcS 05 53 04.9 -1.0**
HHC S **S 05 54 59.1 +1.5**
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,100nm,6.5s
HHC LR LR
comp=Z,1μm,18.8s
HHC LR LR
comp=Z,1μm,16.7s
HHC LR LR
comp=Z,1μm,20.2s
MLZ Mavora Lakes 50.08 149 PFAKE 05 48 00.0 +10
MLZ LR LR
comp=Z,9μm,19.0s
WKZ Wanaka 50.18 148 PFAKE 05 48 00.0 +9.3
WKZ LR LR
comp=Z,7μm,20.0s
WHZ Wether Hill Ro 50.35 150 *e*P **P 05 47 53.1 +1.1**
comp=Z,135nm,1.8s
WHZ LR LR
comp=Z,7μm,20.0s
THZ Tophouse 50.45 143 PFAKE 05 48 10.0 +17
THZ LR LR
comp=Z,7μm,20.0s
LBZ Lake Benmore 50.51 147 *e*P **P 05 47 54.2 +1.0**
comp=Z,131nm,1.5s
LBZ LR LR
comp=Z,6μm,19.0s
RPZ Rata Peaks 50.56 146 P **P 05 47 54.2 +0.6**
comp=Z,22nm,0.9s,baz=359,slow=6.7,SNR=5.3
RPZ Rata Peaks 50.56 146 P **P 05 47 54.2 +0.6**
RPZ LR LR
comp=Z,7μm,21.0s
LTZ Lake Taylor 50.68 144 PFAKE 05 48 10.0 +15
LTZ LR LR
comp=Z,8μm,20.0s
OXZ Oxford 50.88 145 PFAKE 05 48 10.0 +14
OXZ LR LR
comp=Z,7μm,20.0s
ODZ Otahua Downs 51.19 147 *e*P **P 05 48 00.3 +2.0**
comp=Z,110nm,1.8s
ODZ LR LR
comp=Z,6μm,19.0s
KHZ Kahutara 51.21 143 PFAKE 05 48 10.0 +11
KHZ LR LR
comp=Z,8μm,20.0s
URZ Urewera 51.27 137 PFAKE 05 48 10.0 +11
URZ LR LR
comp=Z,5μm,22.0s
SNZO South Karori 51.29 141 PFAKE 05 48 10.0 +11
SNZO LR LR
comp=Z,12μm,20.0s
BKZ Black Stump Fm 51.30 138 *e*P **P 05 48 00.0 +0.6**
comp=Z,44nm,1.4s
BKZ LR LR
comp=Z,7μm,20.0s
RAO Raoul Island 51.36 124 PFAKE 05 48 10.0 +10
RAO LR LR
comp=Z,4μm,22.0s
CRLZ Canterbury Las 51.37 145 PFAKE 05 48 10.0 +10
CRLZ LR LR
comp=Z,5μm,21.0s
MQZ McQueen's Vall 51.46 145 *e*P **P 05 48 02.2 +1.9**
comp=Z,134nm,1.6s
MQZ LR LR
comp=Z,4μm,18.0s
MXZ Matakaoa Point 51.76 135 PFAKE 05 48 20.0 +17
MXZ LR LR
comp=Z,12μm,19.0s
BFZ Birch Farm 51.93 140 PFAKE 05 48 20.0 +16
BFZ LR LR
comp=Z,9μm,20.0s
YSS Yuzh-Sakhalins 52.06 7 *e*P **P 05 48 04.1 -0.6**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 52.06 7 PFAKE 05 48 20.0 +15
YSS LR LR
comp=Z,1μm,19.0s
HABR Khabarovsk 53.04 1 *e*P **P 05 48 10.6 -1.3**
HABR *e**PP **sP 05 48 20.4 -3.5**
HABR *e**SP **pP 05 48 24.7 +4.2**
HABR *e* 05 49 18.0
HABR *e* 05 50 10.8
HABR *e*PPP PPP 05 51 16.9
HABR *e**SS **sS 05 55 57.0 +2.8**
HABR *e* 05 57 56.8
HABR *e*SS **SS 05 59 21.1 +1.4**
HABR pmax pmax
comp=Z,57nm,2.2s
HABR pmax pmax
comp=N,18nm,1.1s
HABR pmax pmax
comp=E,13nm,1.1s
HABR MLR MLR
comp=Z,1μm,16.0s
MCQ Macquarie Isla 53.48 162 *e*P **P 05 48 16.6 +1.5**
MCQ pmax pmax
comp=Z,250nm,1.5s
MCQ Macquarie Isla 53.48 162 *e*P **P 05 48 16.6 +1.5**
comp=Z,246nm,1.5s
MCQ LR LR
comp=Z,7μm,20.0s
LSA Lhasa 53.65 312 P **P 05 48 18.1 +0.7**
LSA pmax pmax
comp=Z,9.0nm,0.9s
LSA Lhasa 53.65 312 *e*P **P 05 48 19.0 +1.6**
LSA pmax pmax
comp=Z,46nm,1.2s
LSA Lhasa 53.65 312 *e*P **P 05 48 19.0 +1.6**
comp=Z,46nm,1.2s
AFI Afiamalu 53.96 104 PFAKE 05 48 30.0 +11
AFI LR LR
comp=Z,2μm,21.0s
GTA Gaotai 54.22 327 *e*P **P 05 48 25.0 +4.1**
GTA pP sP 05 48 31.0 -1.9
GTA sP pP 05 48 33.9 +4.3
GTA S S 05 56 06.0 +9.3
GTA sS sS 05 56 16.0 +5.1
GTA pmax pmax
comp=Z,20nm,1.3s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=Z,930nm,19.5s
GTA LR LR
comp=Z,1μm,19.0s
GTA LR LR
comp=Z,1μm,20.0s
PALK Pallekele 54.72 282 *i* P **P 05 48 27.0 +2.1**
PALK Pallekele 54.72 282 PFAKE 05 48 40.0 +15
PALK LR LR
comp=Z,2μm,22.0s
TAPN Taplejung 55.08 308 *e*P **P 05 48 27.3 -0.4**
ODAN Odare 55.11 307 *e*P **P 05 48 27.6 -0.2**
comp=Z,133nm,1.2s
RAMN Ramite 55.77 307 *e*P **P 05 48 31.4 -1.2**
comp=Z,206nm,1.1s
JIRN Jiri 56.42 308 *e*P **P 05 48 36.2 -1.2**
comp=Z,689nm,1.1s
GUN Gumba 56.78 308 *e*P **P 05 48 39.7 -0.2**
comp=Z,106nm,1.0s
MIDW Midway 57.00 52 PFAKE 05 48 50.0 +9.1
MIDW LR LR
comp=Z,2μm,19.0s
PKI Pulchoki 57.00 307 *e*P **P 05 48 41.0 -0.4**
PKIN Phulchoki 57.01 307 *e*P **P 05 48 41.4 0.0**
KKN Kakani 57.20 307 *e*P **P 05 48 42.7 0.0**
DMN Daman 57.26 307 *e*P **P 05 48 42.1 -1.1**
comp=Z,119nm,1.1s
ULN Ulaanbaatar 57.60 339 PFAKE 05 49 00.0 +15
ULN LR LR
comp=Z,1μm,20.0s
GKN Gorkha 57.80 307 *e*P **P 05 48 45.6 -1.3**
comp=Z,64nm,0.9s
SONM Songino Array 57.81 338 P **P 05 48 46.3 -0.2**
comp=Z,2.0nm,0.5s,baz=152,slow=16,SNR=3.2
SONM LR LR 06 13 51.9
comp=Z,1μm,20.1s,baz=150,slow=36
NKL Nikolayevsk 57.97 5 *e*P **P 05 48 43.0 -4.3**
KOLN Koldanda 58.53 307 *e*P **P 05 48 50.9 -1.1**
DANN Dangsing 58.65 307 *e*P **P 05 48 52.3 -0.7**
PYUN Piuthan 59.16 307 *e*P **P 05 48 55.6 -0.8**
comp=Z,180nm,0.9s
HYB Hyderabad 59.19 293 *i* P **P 05 48 56.0 -0.6**
HYB *e*S **S 05 57 02.0 -1.0**
JOHN Johnston Islan 59.56 68 PFAKE 05 49 10.0 +11
JOHN LR LR
comp=Z,146nm,19.0s
PETK Petropavlovsk- 60.99 16 P **P 05 49 08.4 +0.2**
comp=Z,4.9nm,0.8s,baz=160,slow=4.7,SNR=4.5
PETK LR LR 06 13 17.0
comp=Z,728nm,21.0s,baz=195,slow=34
ZAK Zakamensk 61.07 338 *e*P **P 05 49 06.1 -2.8**
ZAK pmax pmax
comp=Z,16nm,1.3s
PET Petropavlovsk 61.18 17 *e*P P 05 49 21.5 +12
PET *e*S S 05 57 36.8 +10
PET pmax pmax
comp=Z,200nm,13.1s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,500nm,17.0s
PET Petropavlovsk 61.18 17 PFAKE 05 49 20.0 +11
PET LR LR
comp=Z,700nm,20.0s
DGAR Diego Garcia 61.42 264 PFAKE 05 49 20.0 +8.1
DGAR LR LR
comp=Z,2μm,21.0s
CLNS Chul'man 61.88 354 *e*P P 05 49 24.5 +10
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,0.6s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS MLR MLR
comp=Z,838nm,18.0s
CLNS MLR MLR
comp=N,567nm,14.0s
CLNS MLR MLR
comp=E,231nm,18.0s
TLY Talaya 62.00 339 *e*P **P 05 49 16.0 +0.9**
TLY *e*S **S 05 57 38.6 +0.9**
TLY pmax pmax
comp=Z,17nm,1.1s
TLY MLR MLR
comp=Z,1μm,21.0s
TLY Talaya 62.00 339 PFAKE 05 49 30.0 +15
TLY LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 62.24 340 *e*P **P 05 49 16.4 -0.3**
IRK pmax pmax
comp=E,100nm,2.9s
WMQ Urumqi 63.94 324 P **P 05 49 29.9 +1.7**
WMQ sP pP 05 49 35.5 -1.5
WMQ ScP 05 54 02.5
WMQ S **S 05 58 09.6 +7.2**
WMQ ScS **SKSac 05 59 16.5 -3.7**
WMQ pmax pmax
comp=E,51nm,0.9s
WMQ pmax pmax
comp=E,120nm,3.8s
WMQ LR LR
comp=E,2μm,17.9s
WMQ LR LR
comp=E,570nm,24.3s
WMQ LR LR
comp=E,550nm,24.3s
BOD Bodaibo 64.50 348 *e*P **P 05 49 33.1 +1.7**
BOD pmax pmax
comp=Z,34nm,2.2s
RAR Rarotonga 65.94 111 PFAKE 05 49 50.0 +8.4
RAR LR LR
comp=Z,2μm,20.0s
SMY Shemya 66.47 25 PFAKE 05 50 00.0 +16
SMY LR LR
comp=Z,3μm,22.0s
YAK Yakutsk 66.71 358 *e*P **P 05 49 45.0 -0.6**
YAK *e**PP **sP 05 49 54.9 -2.9**
YAK *e* 05 50 11.3
YAK *e* 05 52 13.3
YAK *e*S **S 05 58 39.0 +3.5**
YAK *e* 05 59 32.5
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=Z,170nm,3.3s
YAK pmax pmax
comp=N,23nm,1.6s
YAK smax smax
comp=N,132nm,4.7s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,917nm,16.0s
YAK Yakutsk 66.71 358 *e*P **P 05 49 45.5 -0.1**
comp=N,90nm,1.0s
YAK LR LR
comp=Z,1μm,21.0s
DGZ Jazzator, Alta 67.65 329 ⇓P **P 05 49 50.5 -1.6**
MIR Mirnyy 67.92 197 *i* P **P 05 49 54.5 +1.2**
MIR pmax pmax
comp=Z,6.0nm,2.0s
PDGK Podgornoye 68.69 320 P **P 05 49 58.1 -0.6**
PDGK pmax pmax
comp=Z,87nm,1.2s
MK01 Makanchi Array 68.75 325 *e*P **P 05 49 58.6 -0.3**
MK31 Makanchi Array 68.77 325 *i* P **P 05 49 58.4 -0.6**
MK31 pmax pmax
comp=Z,66nm,0.9s
MK31 Makanchi Array 68.77 325 *e*P **P 05 49 58.6 -0.4**
MKAR Makanchi Array 68.77 325 P **P 05 49 58.6 -0.4**
comp=Z,5.9nm,0.4s,baz=113,slow=8.4,SNR=38
MKAR LR LR 06 22 32.9
comp=Z,814nm,19.4s,baz=112,slow=38
MKAR Makanchi Array 68.77 325 *e*P **P 05 49 58.9 -0.1**
comp=Z,299nm,0.8s
SEY Seymchan 68.93 9 ⇑*i*P **P 05 50 00.0 +0.4**
MAKZ Makanchi 68.95 324 *e*P **P 05 49 59.7 -0.5**
MAKZ Makanchi 68.95 324 *e*P **P 05 49 59.7 -0.5**
MAKZ *e*pP **P 05 49 59.9 -0.3**
MAKZ LR LR
comp=Z,1μm,19.0s
KSH Kashi 69.31 315 P **P 05 50 03.1 +0.4**
KSH pP pP 05 50 09.1 -2.4
KSH sP sP 05 50 12.1 -2.7
KSH PcP **PcP 05 50 26.6 +0.5**
KSH PP **PP 05 52 38.7 +2.6**
KSH S **S 05 59 05.9 -1.8**
KSH ScS **SKSac 05 59 58.1 -3.1**
KSH SS **SS 06 03 35.2 +0.1**
KSH pmax pmax
comp=Z,43nm,0.9s
KSH pmax pmax
comp=Z,310nm,5.1s
KSH LR LR
comp=Z,370nm,14.7s
KSH LR LR
comp=Z,370nm,13.4s
KSH LR LR
comp=Z,200nm,7.2s
ADK Adak 70.16 30 PFAKE 05 50 20.0 +13
ADK LR LR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 71.03 318 P **P 05 50 12.9 -0.3**
TKM2 pmax pmax
comp=Z,54nm,1.2s
ZALV Zalesovo Beam 71.54 332 P **P 05 50 14.7 -1.1**
comp=Z,6.3nm,0.3s,baz=107,slow=5.0,SNR=2.1
ATKA Atka Island 71.59 31 PFAKE 05 50 30.0 +14
ATKA LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 71.64 318 P **P 05 50 16.4 -0.5**
comp=Z,19nm,1.2s,baz=117,slow=5.6,SNR=18
AAK Ala-Archa 71.64 318 ⇑*i*P **P 05 50 17.3 +0.4**
AAK *e**PP **sP 05 50 27.3 -1.8**
AAK *i* *SP **pP 05 50 30.0 +4.2**
AAK *i* 05 50 34.7
AAK pmax pmax
comp=Z,41nm,1.1s
AAK Ala-Archa 71.64 318 *e*P **P 05 50 15.9 -1.0**
comp=Z,57nm,1.2s
AAK LR LR
comp=Z,1μm,22.0s
FRU Bishkek 71.64 318 *e*P **P 05 50 18.0 +1.3**
FRU pmax pmax
comp=Z,42nm,1.6s
FRU MLR MLR
comp=E,1μm,19.0s
KBL Kabul 72.61 308 *e*P **P 05 50 22.2 -0.7**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 72.61 308 *e*P **P 05 50 22.2 -0.7**
comp=Z,15nm,0.8s
NVS Novosibirsk 72.81 332 ⇓*i*P **P 05 50 22.0 -1.4**
NVS pmax pmax
comp=Z,53nm,1.8s
NVS pmax pmax
comp=N,17nm,1.6s
NVS pmax pmax
comp=E,26nm,1.6s
KURK Kurchatov 72.89 327 ⇑*i*P **P 05 50 23.5 -0.5**
KURK *i* *PP **sP 05 50 34.5 -1.6**
KURK *i* *SP **PcP 05 50 36.9 -4.0**
KURK *i* 05 50 41.4
KURK pmax pmax
comp=Z,108nm,1.7s
KURK Kurchatov 72.89 327 *e*P **P 05 50 23.1 -0.8**
comp=Z,74nm,1.1s
KURK LR LR
comp=Z,900nm,19.0s
MNAS Manas 72.92 317 P **P 05 50 24.5 0.0**
MNAS pmax pmax
comp=Z,74nm,1.2s
POHA Pohakuloa 73.19 68 PFAKE 05 50 40.0 +13
POHA LR LR
comp=Z,2μm,20.0s
UWE Uwekahuna 73.35 68 *e*P **P 05 50 27.4 -0.1**
comp=Z,2μm,1.5s
OBL Observatory Le 73.35 68 PFAKE 05 50 40.0 +13
OBL LR LR
comp=Z,2μm,19.0s
VNDA Vanda 74.17 174 P **P 05 50 31.3 +0.3**
comp=Z,11nm,0.8s,baz=317,slow=5.8,SNR=43
VNDA LR LR 06 22 02.2
comp=Z,4μm,20.5s,baz=354,slow=35
VNDA Vanda 74.17 174 *e*P **P 05 50 31.4 +0.3**
VNDA pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 74.17 174 *e*P **P 05 50 31.4 +0.3**
comp=Z,13nm,0.9s
KK31 Karatay Array 74.51 317 *i* P **P 05 50 32.8 -0.9**
KK31 pmax pmax
comp=Z,24nm,0.8s
KKAR Karatay Array 74.51 317 *e*P **P 05 50 33.1 -0.6**

KKAR pmax pmax
comp=Z,200nm,0.8s
KKAR Karatay Array 74.51 317 *e*P **P 05 50 33.1 -0.6**
comp=Z,203nm,0.8s
NIKH Nikolski High 74.76 32 PFAKE 05 50 50.0 +15
NIKH LR LR
comp=Z,700nm,22.0s
SBA Scott Base 75.00 173 *e*P **P 05 50 37.3 +1.4**
SBA pmax pmax
comp=Z,33nm,1.3s
SBA Scott Base 75.00 173 *e*P **P 05 50 37.3 +1.4**
comp=Z,33nm,1.4s
SBA LR LR
comp=Z,3μm,20.0s
PPT Papeete 75.44 107 LR LR 06 22 16.3
comp=Z,1μm,20.1s,baz=265,slow=34
PPT2 Papeete2 75.44 107 *e*S **S 06 00 16.6 -2.0**
comp=Z,724nm,26.5s
PPT2 *e*SS **SS 06 05 09.4 -0.2**
comp=Z,868nm,27.2s
PPT2 *e*LQ LQ 06 10 48.3
comp=Z,3μm,36.5s
PPT2 *e*LR LR 06 14 01.8
comp=Z,2μm,22.0s,baz=277
TBI Tubuai 75.58 113 *e*S **S 06 00 15.9 -3.9**
comp=Z,550nm,26.5s
TBI *e*SS **SS 06 05 11.4 +0.1**
comp=Z,437nm,26.2s
TBI *e*LQ LQ 06 10 51.8
comp=Z,2μm,32.0s
TBI *e*LR LR 06 13 58.1
comp=Z,3μm,25.8s,baz=284
SPIA Saint Paul Isl 76.25 28 PFAKE 05 51 00.0 +17
SPIA LR LR
comp=Z,2μm,22.0s
TIXI Tiksi 76.36 358 P **P 05 50 43.4 -0.3**
comp=Z,5.3nm,0.4s,baz=119,slow=19,SNR=2.7
TIXI LR LR 06 25 52.2
comp=Z,873nm,18.4s,baz=186,slow=37
UNV Unalaska Valle 76.42 32 PFAKE 05 51 00.0 +16
UNV LR LR
comp=Z,2μm,21.0s
AKUT Akutan 76.93 32 PFAKE 05 51 00.0 +13
AKUT LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 78.41 266 PFAKE 05 51 10.0 +14
MSEY LR LR
comp=Z,1μm,20.0s
BVA0 Borovoye Array 78.48 326 *i*P **P 05 50 54.9 -1.0**
BVA0 pmax pmax
comp=Z,48nm,1.1s
FALS False Pass 78.49 32 PFAKE 05 51 10.0 +14
FALS LR LR
comp=Z,2μm,20.0s
MAW Mawson 78.54 202 P **P 05 50 57.1 +1.1**
comp=Z,35nm,1.0s,baz=64,slow=6.2,SNR=46
MAW LR LR 06 23 31.3
comp=Z,5μm,19.4s,baz=74,slow=34
MAW Mawson 78.54 202 *e*P **P 05 50 57.5 +1.6**
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 78.54 202 *e*P **P 05 50 57.5 +1.6**
comp=Z,9.8nm,1.0s
BRVK Borovoye 78.56 326⇓ *i*P **P 05 50 55.9 -0.4**
BRVK pmax pmax
comp=Z,62nm,1.7s
BRVK Borovoye 78.56 326 *e*P **P 05 50 55.6 -0.7**
comp=Z,35nm,0.9s
BRVK LR LR
comp=Z,558nm,20.0s
SDPT Sand Point 80.23 32 PFAKE 05 51 20.0 +15
SDPT LR LR
comp=Z,2μm,20.0s
NRIK Noril'sk 80.48 345 P **P 05 51 04.8 -1.7**
comp=Z,13nm,1.1s,baz=116,slow=4.5,SNR=5.8
NRIK LR LR 06 29 16.8
comp=Z,2μm,19.5s,baz=138,slow=38
UOSS Minazif 81.18 296 *e*P **P 05 51 10.8 -0.4**
comp=Z,29nm,1.2s
UOSS LR LR
comp=Z,300nm,21.0s
GEYT Alibeck 82.02 309 P **P 05 51 14.0 -1.4**
comp=Z,18nm,0.9s,baz=116,slow=3.4,SNR=14
AB31 Akbulak array 83.42 321 P **P 05 51 20.7 -1.6**
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 83.42 321 *e*P **P 05 51 21.4 -1.0**
comp=Z,112nm,0.8s
OHAK Old Harbor 84.64 31 *e*P **P 05 51 29.8 +1.4**
comp=Z,33nm,1.1s
SVW2 Sparrevohn 84.75 27 *e*P **P 05 51 29.5 +0.6**
comp=Z,10nm,1.0s
AKTO Aktyubinsk 84.92 321 LR LR 06 31 13.0
comp=Z,488nm,20.8s,slow=37
AKTO Aktyubinsk 84.92 321 P **P 05 51 28.9 -1.1**
AKTO pmax pmax
comp=Z,50nm,1.4s
TAOE Nuku Hiva Isla 84.98 98 *e*S **S 06 01 54.4 -4.7**
comp=Z,605nm,27.2s
TAOE *e*SS **SS 06 07 29.8 -2.8**
comp=Z,402nm,26.5s
TAOE *e*LQ LQ 06 14 45.2
comp=Z,1μm,34.8s
TAOE *e*LR LR 06 18 25.0
comp=Z,3μm,26.0s,baz=279
SVE Sverdlovsk 85.08 328 *e*P **P 05 51 32.4 +1.8**
SVE pmax pmax
comp=Z,46nm,1.5s
KDAK Kodiak Island 85.16 31 *e*P **P 05 51 31.8 +0.8**
KDAK pmax pmax
comp=Z,22nm,0.9s
KDAK Kodiak Island 85.16 31 *e*P **P 05 51 31.8 +0.8**
comp=Z,22nm,0.9s
KDAK LR LR
comp=Z,1μm,20.0s
TT01 Tatalina 85.17 26 *e*P **P 05 51 31.1 +0.1**
QSPA South Pole Qui 85.18 180 *e*P **P 05 51 30.7 -0.4**
comp=Z,62nm,1.5s
QSPA LR LR
comp=Z,7μm,20.0s
TTA Tatalina 85.18 26 *e*P **P 05 51 31.6 +0.5**
TTA pmax pmax
comp=Z,15nm,1.2s
TTA Tatalina 85.18 26 *e*P **P 05 51 31.6 +0.5**
comp=Z,15nm,1.2s
ABPO Ambohimpanom 85.61 251 PFAKE 05 51 50.0 +16
ABPO LR LR
comp=Z,329nm,20.0s
ARU Arti 86.08 327 *c i*P **P 05 51 37.4 +1.8**
ARU 05 55 00.4
ARU S **S 06 02 00.9 -7.1**
ARU SS **SS 06 07 48.9 +2.2**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 86.08 327 *e*P **P 05 51 34.5 -1.1**
comp=Z,11nm,1.0s
ARU LR LR
comp=Z,894nm,20.0s
PPLA Purkeypile 86.83 26 *e*P **P 05 51 39.8 +0.4**
comp=Z,99nm,1.8s
CAST Castle Rocks 87.03 26 *e*P **P 05 51 40.2 +0.1**
comp=Z,46nm,1.9s
SUA Susitna One 87.09 28 *e*P **P 05 51 41.0 +0.4**
comp=Z,35nm,1.2s
SYO Syowa Base 87.23 201⇓ *e*P **P 05 51 41.0 0.0**
SYO Syowa Base 87.23 201⇑ *e*pP pP 05 51 46.4 -3.6
SEW Seward 87.35 29 *e*P **P 05 51 42.6 +0.9**
comp=Z,24nm,1.0s
RC01 Rabbit Creek A 87.46 28 *e*P **P 05 51 43.1 +0.9**
comp=Z,31nm,1.1s
KTH Kantishna Hill 87.57 26 *e*P **P 05 51 43.0 +0.2**
comp=Z,18nm,1.1s
SOKR Solikamsk 87.76 330 *e*P P 05 51 37.1 -6.5
SOKR S **S 06 02 27.0 +3.0**
SOKR pmax pmax
comp=Z,7.0nm,0.6s
SOKR MLR MLR
comp=Z,688nm,22.0s
TRF Thorofare Moun 87.81 26 *e*P **P 05 51 44.0 -0.1**
comp=Z,54nm,1.9s
PMR Palmer 87.87 28 *e*P **P 05 51 43.8 -0.3**
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 87.87 28 *e*P **P 05 51 43.8 -0.3**
comp=Z,18nm,1.0s
SML Sawmill 88.29 28 *e*P **P 05 51 46.8 +0.6**
SML pmax pmax
comp=Z,36nm,1.0s
SML Sawmill 88.29 28 *e*P **P 05 51 46.8 +0.6**
comp=Z,36nm,1.0s
RND Reindeer 88.43 26 *e*P **P 05 51 46.8 -0.1**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 88.43 26 *e*P **P 05 51 46.8 -0.1**
comp=Z,13nm,0.8s
MCK McKinley 88.47 26 *e*P **P 05 51 47.8 +0.7**
MCK pmax pmax
comp=Z,33nm,1.4s
MCK McKinley 88.47 26 *e*P **P 05 51 47.8 +0.7**
comp=Z,33nm,1.4s
SCM Sheep Creek Mo 88.76 28 *e*P **P 05 51 49.9 +1.4**
SCM pmax pmax
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 88.76 28 *e*P **P 05 51 49.9 +1.4**
comp=Z,35nm,1.1s
COLD Coldfoot 88.84 22 *e*P **P 05 51 49.4 +0.8**
comp=Z,9.3nm,1.0s
RKT Rikitea 88.90 113 *e*S **S 06 02 29.5 -7.0**
comp=Z,296nm,28.8s
RKT *e*SS **SS 06 08 27.0 -2.3**
comp=Z,514nm,27.2s
RKT *e*LQ LQ 06 16 29.0
comp=Z,791nm,36.0s
RKT *e*LR LR 06 20 15.5
comp=Z,2μm,26.2s,baz=288
WRH Wood River Hil 89.00 25 *e*P **P 05 51 49.5 0.0**
comp=Z,11nm,1.1s
DHY Denali Highway 89.01 26 *e*P **P 05 51 51.0 +1.3**
comp=Z,19nm,1.1s
CCB Clear Creek Bu 89.17 25 *e*P **P 05 51 50.4 +0.1**
comp=Z,9.2nm,1.0s
COLA College 89.20 25⇓ *i*P **P 05 51 50.6 +0.3**
COLA pmax pmax
comp=Z,3.0nm,1.1s
COLA College 89.20 25 PFAKE 05 52 00.0 +10
COLA LR LR
comp=Z,1μm,22.0s
DIV Divide 89.34 29 *e*P **P 05 51 52.2 +1.0**
comp=Z,48nm,1.1s
IL1 Eielson Array 89.58 25 *e*P **P 05 51 52.0 -0.2**
ILAR Eielson Array 89.58 25 P **P 05 51 50.5 -1.6**
comp=Z,2.3nm,0.9s,baz=263,slow=4.7,SNR=15
ILAR LR LR 06 32 08.0
comp=Z,466nm,18.3s,baz=252,slow=36
ILB Eielson Array 89.58 25 *e*P **P 05 51 51.8 -0.4**
PAX Paxson 89.83 27 *e*P **P 05 51 54.5 +1.0**
PAX pmax pmax
comp=Z,20nm,1.5s
PAX Paxson 89.83 27 *e*P **P 05 51 54.5 +1.0**
comp=Z,20nm,1.5s
BMRM Bremner River 89.88 29 *e*P **P 05 51 54.1 +0.4**
comp=Z,50nm,1.4s
DOT Dot Lake 90.58 26 *e*P **P 05 51 57.7 +0.8**
comp=Z,14nm,1.0s
RAYN Ar Rayn 90.70 293 *e*P **P 05 51 58.2 -0.2**
comp=Z,32nm,1.4s
RAYN LR LR
comp=Z,975nm,21.0s
EGAK Eagle 92.00 25 *e*P **P 05 52 04.3 +0.9**
comp=Z,18nm,1.4s
GNI Garni 92.64 310 PFAKE 05 52 20.0 +13
GNI LR LR
comp=Z,716nm,21.0s
ZEI Tsey 93.44 312 *e*P P 05 52 06.4 -4.4
ZEI pmax pmax
comp=Z,37nm,1.4s
KIV Kislovodsk 94.38 314 *e*P **P 05 52 14.6 -0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,432nm,19.0s
KIV Kislovodsk 94.38 314 PFAKE 05 52 30.0 +15
KIV LR LR
comp=Z,595nm,21.0s
INK Inuvik 95.25 22 P **P 05 52 17.1 -1.2**
comp=Z,2.5nm,1.0s,baz=238,slow=16,SNR=4.2
KLMR Klimovskoe 96.43 331 *e*P **P 05 52 20.3 -3.5**
KLMR pmax pmax
comp=Z,24nm,1.4s
KMBO Kilima Mbogo 96.84 268 LR LR 06 33 20.6
comp=Z,784nm,21.5s,baz=92,slow=34
LVZ Lovozero 98.00 338 PFAKE 05 52 40.0 +9.1
LVZ LR LR
comp=Z,1μm,19.0s
OBN Obninsk 98.27 325 *e*P **P 05 52 30.7 -1.5**
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,545nm,18.0s
OBN Obninsk 98.27 325 PFAKE 05 52 40.0 +7.7
OBN LR LR
comp=Z,908nm,21.0s
APA Apatity 98.52 338⇓ *i*P P 05 52 25.5 -7.6
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,2μm,16.0s
SNAA Sanae 98.76 193⇑ *e*P **P 05 52 33.9 -0.4**
SNAA Sanae 98.76 193 *e*P Pdif 05 52 36.2 +1.9
comp=Z,10nm,1.2s
KEV Kevo 100.38 340 PFAKE 05 52 50.0 +8.6
KEV LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 100.61 350 PFAKE 05 52 50.0 +7.8
KBS LR LR
comp=Z,1μm,22.0s
ARCES ARCESS Array B 100.94 340 P **Pdif 05 52 41.6 -2.3**
comp=Z,17nm,1.2s,baz=44,slow=14,SNR=3.0
BRTR Keskin Array B 101.17 309 P **Pdif 05 52 45.5 -0.3**
comp=Z,0.4nm,0.5s,baz=121,slow=5.4,SNR=2.4
BRTR PP **PP 05 56 54.5 -0.2**
comp=Z,0.4nm,0.3s,baz=123,slow=9.0,SNR=3.9
CSS Mathiatis 101.63 305 PFAKE 05 53 00.0 +12
CSS LR LR
comp=Z,120nm,22.0s
ANTO Ankara 101.81 310 PFAKE 05 53 00.0 +11
ANTO LR LR
comp=Z,387nm,20.0s
KIEV Kiev 103.17 321 PFAKE 05 53 10.0 +16
KIEV LR LR
comp=Z,1μm,22.0s
LSZ Lusaka 104.11 253 PFAKE 05 53 10.0 +11
LSZ LR LR
comp=Z,1μm,21.0s
BMO Blue Mountains 106.44 45 PFAKE 05 57 30.0
BMO LR LR
comp=Z,782nm,21.0s
SUR Sutherland 106.90 234 PFAKE 05 57 30.0
SUR LR LR
comp=Z,2μm,19.0s
SANT Santorini 107.90 307 PFAKE 05 57 30.0
SANT LR LR
comp=Z,316nm,21.0s
PFO Pinyon Flats O 108.72 56 PFAKE 05 57 40.0
PFO LR LR
comp=Z,1μm,19.0s
PMSA Palmer Station 109.32 172 PFAKE 05 57 40.0
PMSA LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 109.71 319 PFAKE 05 57 40.0
PSZ LR LR
comp=Z,923nm,19.0s
BOZ Bozeman (W) 110.20 43 PFAKE 05 57 40.0
BOZ LR LR
comp=Z,935nm,22.0s
HWUT Hardware Ranch 111.19 47 PFAKE 05 57 40.0
HWUT LR LR
comp=Z,992nm,20.0s
LKWY Lake 111.31 44 PFAKE 05 57 40.0
LKWY LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 111.94 43 PFAKE 05 57 40.0
RLMT LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 112.36 46 PFAKE 05 57 40.0
BW06 LR LR
comp=Z,831nm,20.0s
PDAR Pinedale Array 112.36 46 PKKPbc PKKPbc 06 08 29.6 +6.7
comp=Z,0.7nm,0.6s,baz=103,slow=4.0,SNR=6.7
CLL Collm 112.86 324 *e*PP PP 05 58 24.0 +4.1
CLL *e*PS **PS 06 07 56.0 +0.7**
CLL *e*SS SS 06 14 06.0 +5.1
CLL LmH 06 41 00.0
comp=N,2μm,18.6s
CLL LmH 06 41 00.0
comp=E,1μm,18.2s
CLL LmV 06 51 00.0
comp=Z,1μm,19.7s
FFC Flin Flon 112.90 32 PFAKE 05 57 40.0
FFC LR LR
comp=Z,1μm,20.0s
GERES GERESS Array B 113.35 322 PKiKP **PKiKP 05 57 32.5 -0.5**
comp=Z,0.7nm,0.7s,baz=31,slow=6.2,SNR=4.7
TUC Tucson 113.63 57 PFAKE 05 57 50.0
TUC LR LR
comp=Z,1μm,19.0s
ANMO Albuquerque 116.64 53 PFAKE 05 57 50.0 +10
ANMO LR LR
comp=Z,791nm,20.0s
SDCO Great Sand Dun 116.68 50 PFAKE 05 57 50.0 +10
SDCO LR LR
comp=Z,977nm,20.0s
BFO Black Forest 116.83 323 PFAKE 05 57 50.0 +10
BFO LR LR
comp=Z,705nm,20.0s
WLF Walferdange 117.52 325 PFAKE 05 57 50.0 +9.2
WLF LR LR
comp=Z,990nm,22.0s
MNTX Cornudas Mount 118.25 57 PFAKE 05 57 50.0 +7.2
MNTX LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 119.17 334 PFAKE 05 58 00.0 +16
ESK LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 119.26 36 PFAKE 05 58 00.0 +16
AGMN LR LR
comp=Z,2μm,22.0s
TXAR Lajitas Array 120.20 59 PKP **PKPdf 05 57 46.5 -0.2**
comp=Z,0.3nm,0.7s,baz=298,slow=1.9,SNR=2.8
TXAR PKKPbc **PKKPab 06 07 55.7 0.0**
comp=Z,0.6nm,0.7s,baz=130,slow=4.0,SNR=4.5
SSB Saint Sauveur 120.51 321 PFAKE 05 58 00.0 +13
SSB LR LR
comp=Z,587nm,20.0s
HOPE Hope Point 120.64 186 PFAKE 05 58 00.0 +13
HOPE LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 120.66 47 PFAKE 05 58 00.0 +13
CBKS LR LR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 120.89 41 PFAKE 05 58 00.0 +12
ECSD LR LR
comp=Z,1μm,20.0s
EFI East Falkland 122.79 171 PFAKE 05 58 00.0 +9.1
EFI LR LR
comp=Z,2μm,22.0s
SCIA State Center 123.94 41 PFAKE 05 58 10.0 +17
SCIA LR LR
comp=Z,1μm,19.0s
TAM Tamanrasset 127.35 295 PFAKE 05 58 10.0 +9.3
TAM LR LR
comp=Z,384nm,20.0s
ESDC Sonseca Array 128.74 319 PP PP 06 00 19.5 +11
comp=Z,0.8nm,0.7s,baz=43,slow=8.2,SNR=4.6
PAB San Pablo 129.06 319 PFAKE 05 58 20.0 +17
PAB LR LR
comp=Z,787nm,19.0s
PLCA Paso Flores 129.34 156 PKP **PKPdf 05 58 05.3 +1.4**
comp=Z,4.9nm,1.2s,baz=228,slow=4.6,SNR=3.6
MTE Manteigas 130.63 321 PFAKE 05 58 20.0 +14
MTE LR LR
comp=Z,877nm,20.0s
ACSO Alum Creek Sta 131.38 38 PFAKE 05 58 20.0 +12
ACSO LR LR
comp=Z,921nm,20.0s
PLVO Plevna 131.47 29 *e*PKPdf **PKPdf 05 58 09.5 +1.8**
TRQ Mont Tremblant 131.77 27 *e*PKPdf **PKPdf 05 58 10.0 +1.7**
TOA0 Torodi Ar. Sit 132.43 283 *e*PKPdf **PKPdf 05 58 09.7 -0.6**
TORD Torodi Ar. Bea 132.43 283 PKP **PKPdf 05 58 08.1 -2.2**
comp=Z,1.7nm,0.9s,baz=26,slow=3.1,SNR=8.8
TORD PP **PP 06 00 37.0 +3.2**
comp=Z,2.9nm,1.2s,baz=70,slow=6.3,SNR=4.0
LONY Lake Ozonia 132.97 28 PFAKE 05 58 20.0 +9.4
LONY LR LR
comp=Z,1μm,20.0s
BRAL Brewton 133.22 51 PFAKE 05 58 20.0 +8.6
BRAL LR LR
comp=Z,643nm,20.0s
PFVI Vila Bisbo 133.32 319 *e*PKPdf **PKPdf 05 58 12.3 +0.9**
BINY Binghamton 134.06 31 PFAKE 05 58 20.0 +7.3
BINY LR LR
comp=Z,2μm,21.0s
PKME Peaks-Kenny Pk 134.75 23 PFAKE 05 58 30.0 +16
PKME LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 134.79 40 PFAKE 05 58 30.0 +16
BLA LR LR
comp=Z,946nm,21.0s
TRQA Tornquist 134.81 162 PFAKE 05 58 30.0 +16
TRQA LR LR
comp=Z,2μm,20.0s
GOGA Godfrey 134.84 46 PFAKE 05 58 30.0 +16
GOGA LR LR
comp=Z,1μm,20.0s
PAYG Puerto Ayora 135.22 96 PFAKE 05 58 30.0 +14
PAYG LR LR
comp=Z,844nm,20.0s
SHEL Horse Pasture 135.34 242 *e*PKIKP **PKPdf 05 58 14.6 -1.2**
SHEL Horse Pasture 135.34 242 *e*PKPdf **PKPdf 05 58 14.6 -1.2**
PSUB Penn St. - Bra 135.96 33 *e*PKPdf **PKPdf 05 58 16.4 +0.1**
CBN Corbin Frederi 136.04 36 PFAKE 05 58 30.0 +14
CBN LR LR
comp=Z,2μm,22.0s
NHSC New Hope 137.33 44 PFAKE 05 58 30.0 +11
NHSC LR LR
comp=Z,1μm,19.0s
DBIC Dimbokro 139.23 275 *e*PKIKP **PKPdf 05 58 23.7 +0.7**
DBIC Dimbokro 139.23 275 *e*PKPdf **PKPdf 05 58 23.7 +0.7**
PB04 IPOC Station P 144.03 139 *e*PKPdf **PKPdf 05 58 32.1 +0.5**
LVC Limon Verde 144.62 141 *e*PKPdf PKPbc 05 58 32.3 +0.7
LVC LR LR
comp=Z,1μm,21.0s
NNA Nana 144.92 119 *i* PKIKP **PKPdf 05 58 37.4 +4.2**
NNA Nana 144.92 119 PFAKE 05 58 50.0 +17
NNA LR LR
comp=Z,860nm,20.0s
PB01 IPOC Station P 145.38 139 *e*PKPdf **PKPdf 05 58 34.9 +1.0**
BCIP Isla Barro Col 145.94 81 PFAKE 05 58 50.0 +14
BCIP LR LR
comp=Z,936nm,20.0s
ASCN Ascension 146.19 248 PFAKE 05 58 50.0 +13
ASCN LR LR
comp=Z,1μm,20.0s
MTDJ Mount Denham 146.23 64 PFAKE 05 58 50.0 +13
MTDJ LR LR
comp=Z,444nm,20.0s
OTAV Otavalo 147.07 97 PFAKE 05 58 50.0 +8.9
OTAV LR LR
comp=Z,597nm,19.0s
CPUP Villa Florida 147.12 161 PKPbc **PKPbc 05 58 38.6 0.0**
comp=Z,12nm,0.9s,baz=231,slow=4.0,SNR=8.7
CPUP Villa Florida 147.12 161 *e*PKP2 **PKPbc 05 58 39.9 +1.3**
CPUP Villa Florida 147.12 161 *e*PKPbc **PKPbc 05 58 39.9 +1.3**
BBSR BB Station 147.35 31 PFAKE 05 58 50.0 +9.1
BBSR LR LR
comp=Z,1μm,19.0s
GTBY Guantanamo Bay 147.74 60 PFAKE 05 58 50.0 +7.1
GTBY LR LR
comp=Z,576nm,20.0s
LPAZ La Paz 149.56 134 PKPbc **PKPbc 05 58 47.9 +1.7**
comp=Z,13nm,0.9s,baz=69,slow=0.8,SNR=25
FLOC Florencia 150.02 95 *e*P **PKPbc 05 58 47.3 +0.7**
MOTC Monteria, Cord 150.08 81 *e*P **PKPbc 05 58 46.2 -0.5**
GRTK Grand Turk 150.33 54 PFAKE 05 58 50.0 +2.9
GRTK LR LR
comp=Z,1μm,21.0s
HELC Santa Helena 150.37 86 *e*P **PKPbc 05 58 49.0 +1.2**
HELC Santa Helena 150.37 86 *e*PKPbc **PKPbc 05 58 48.2 +0.3**
SJCC San Jacinto, C 150.43 78 *e*P **PKPdf 05 58 44.5 +2.2**
GUYC Guyana, Colomb 150.51 88 *e*P **PKPbc 05 58 49.6 +1.2**
PRAC Prado 150.97 91 *e*P **PKPbc 05 58 49.0 +0.1**
PRAC Prado 150.97 91 *e*PKPbc **PKPbc 05 58 49.0 +0.1**
ZARC Zaragoza, Cauc 150.98 83 *e*P **PKPbc 05 58 49.6 +0.7**
SDDR Presa de Saban 151.40 58 PFAKE 05 59 00.0 +2.1
SDDR LR LR
comp=Z,553nm,20.0s
ROSC El Rosal 151.57 89 PKPbc **PKPbc 05 58 51.2 +0.4**
comp=Z,19nm,0.9s,baz=105,slow=5.5,SNR=11

ROSC	El Rosal	151.57	89	eP	PKPbc	05 58 53.0	+2.2
ROSC	El Rosal	151.57	89	ePKPbc	PKPbc	05 58 52.2	+1.4
SPB	Sao Paulo	151.75	177	PFAKE		05 59 00.0	+1.0
SPB				LR	LR		
	comp=Z,2μm,21.0s						
CHIC	Chingaza	152.16	89	eP	PKPbc	05 58 51.3	-0.8
BARC	Barichara	152.69	85	eP	PKPbc	05 58 54.1	+1.1
RUSC	La Rusia	152.81	86	eP	PKPbc	05 58 52.4	-1.2
RUSC	La Rusia	152.81	86	ePKPbc	PKPbc	05 58 53.8	+0.1
SDV	Santo Domingo	155.01	79	PFAKE		05 59 00.0	+11
SDV				LR	LR		
	comp=Z,896nm,20.0s						
AGP	Aguadilla	155.13	55	ePKPdf	PKPdf	05 58 47.4	-1.6
SACV	Santiago Islan	155.94	296	PFAKE		05 59 00.0	+10
SACV				LR	LR		
	comp=Z,425nm,20.0s						
SJG	San Juan	156.09	55	PFAKE		05 59 00.0	+10
SJG				LR	LR		
	comp=Z,548nm,20.0s						
SAML	Samuel	157.94	128	PFAKE		05 59 00.0	+7.2
SAML				LR	LR		
	comp=Z,1μm,20.0s						
ANWB	Willy Bob	159.78	49	PFAKE		05 59 10.0	+15
ANWB				LR	LR		
	comp=Z,702nm,20.0s						
FDF	Fort de France	161.94	56	PFAKE		05 59 10.0	+13
FDF				LR	LR		
	comp=Z,822nm,22.0s						
GRGR	Grenville	162.70	64	PFAKE		05 59 10.0	+12
GRGR				LR	LR		
	comp=Z,846nm,20.0s						
BBGH	Gun Hill	164.07	58	PFAKE		05 59 10.0	+11
BBGH				LR	LR		
	comp=Z,1μm,20.0s						
RCBR	Riachuelo	165.56	223	PFAKE		05 59 10.0	+9.3
RCBR				LR	LR		
	comp=Z,1μm,21.0s						

OBM 08 05:44:39.0±0.1, 44°.87N×103°.41E, h0km±1km, MI3.6/2, 4C-2D, Error ellipse: s-maj=2.1km s-min=0.6km az=178.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTS	Tsetserleg	2.95	333	ePg	Pb	05 45 33.5	+1.0
TTS				eSg	Sg	05 46 12.2	-1.5
	191nm,0.4s						
SONB4	Songino Array	3.60	33	eSg	Sg	05 46 32.0	-2.6
	171nm,0.3s						
SONA0	Songino Array	3.61	34	⇓iPn	Pn	05 45 38.5	+2.2
SONA0				eSg	Sg	05 46 31.7	-3.3
SONB5	Songino Array	3.62	33	eSg	Sg	05 46 32.2	-3.0
	155nm,0.3s						
SONB3	Songino Array	3.62	34	eSg	Sg	05 46 32.5	-2.8
	115nm,0.3s						
SONA4	Songino Array	3.62	34	eSg	Sg	05 46 32.4	-2.9
	145nm,0.4s						
SONA1	Songino Array	3.62	34	⇑iPn	Pn	05 45 38.6	+2.1
SONA2	Songino Array	3.63	34	eSg	Sb	05 46 31.8	+3.2
	96nm,0.3s						
SONB2	Songino Ar. Si	3.63	34	eSg	Sg	05 46 32.8	-2.9
	125nm,0.2s						
SONB1	Songino Array	3.64	34	eSg	Sg	05 46 33.0	-2.9
	82nm,0.2s						
SEMM		3.66	41	⇑iPn	Pn	05 45 39.2	+2.2
SEMM				eSg	Sg	05 46 33.3	-3.1
UB5M		3.76	37	⇓iPn	Pn	05 45 40.4	+2.0
UB5M				eSg	Sb	05 46 36.0	+3.6
	57nm,0.2s						
UB1M		3.76	35	⇑iPn	Pn	05 45 40.6	+2.2
UB1M				eSg	Sg	05 46 36.4	-3.4
	72nm,0.2s						
ALFM		3.89	36	⇑iPn	Pn	05 45 42.4	+2.2
ALFM		3.89	36	ePg	Pg	05 45 51.6	-2.0
ALFM				eSg	Sg	05 46 40.8	-3.2
	84nm,0.3s						
UGDM		3.91	44	ePn	Pn	05 45 42.5	+2.0
UGDM		3.91	44	ePg	Pb	05 45 50.6	+1.6
UGDM				eSg	Sb	05 46 40.4	+3.5
	88nm,0.3s						
BLGM	Bulgan	3.92	1	ePn	Pn	05 45 41.7	+1.1
BLGM	Bulgan	3.92	1	ePg	Pb	05 45 50.7	+1.6
BLGM				eSg	Sg	05 46 41.5	-3.4
	106nm,0.3s						
ARTM		4.06	40	ePn	Pn	05 45 44.5	+2.0
ARTM		4.06	40	ePg	Pg	05 45 54.6	-2.2
ARTM				eSg	Sg	05 46 45.7	-3.7
	167nm,0.4s						
TSC	Tosontsengel	5.27	320	eSg	Sg	05 47 24.9	-3.3
HTG	Hatgal	6.00	340	eSg	Sg	05 47 48.4	-3.4

SOME ***08*** *06:04:24.1, 44°.73N×82°.18E, h15km*
NNC ***08*** *06:04:24.5±2.2, 44°.66N×82°.00E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=34.3km s-min=6.9km az=116.0*
ISC 08 06:04:23.8±3.3, 44°.68N±0°.07×82°.2E±0°.1, h2km±22km, n8, σ0°.81/15, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.75	259	eP	Pb	06 04 56.9	+0.1
	6.1nm,0.2s						
DJR				eS	Sg	06 05 20.4	+0.4
	4.9nm,0.2s						
KAPS	Kapalarasan	2.10	288	eP	Pb	06 05 01.9	-0.8
	2.4nm,0.1s						
KAPS				eS	Sb	06 05 28.7	-0.5
	8.0nm,0.1s						
MK31	Makanchi Array	2.12	2	⇓Pn	Pb	06 05 02.3	-0.6
	2.5nm,0.3s,baz=182,slow=13,SNR=96						
MK31				⇓Sn	Sb	06 05 30.2	+0.5
	3.2nm,0.6s,baz=185,slow=27,SNR=9.8						
MAKZ	Makanchi	2.14	356	⇑Pn	Pn	06 05 01.3	+0.7
	0.3nm,0.3s						
MAKZ				⇑Sn	Sb	06 05 29.8	-0.5
	1.9nm,0.3s						
PDGK	Podgornoye	2.37	236	⇑Pg	Pn	06 05 04.8	+1.0
	1.3nm,0.5s						
PDGK				⇑Lg	Lg	06 05 37.9	
	7.4nm,0.6s						
SHLS	Shalkode	2.49	233	eP	Pn	06 05 06.3	+0.8
	1.5nm,0.2s						
SHLS				eS	Sn	06 05 36.0	-0.5
	8.3nm,0.2s						
MNBS	Baschi	2.78	259	eP	Pb	06 05 13.9	-0.4
	2.9nm,0.2s						
MNBS				eS	Sb	06 05 49.7	+0.8
	7.9nm,0.2s						
SATY	Saty	3.18	241	eP	Pb	06 05 19.9	-1.2
	3.5nm,0.2s						
SATY				eS	Sb	06 05 59.5	-0.8
	5.8nm,0.2s						

NEIC ***08*** *06:29:40.1±0.0, 36°.63S×176°.61E, h230km, mb4.2/3, After WEL.*
WEL 08 06:29:40.6±0.5, 36°.71S×176°.76E, h238km±7km, ML4.1/45, 17C-4D, Error ellipse: s-maj=10.1km s-min=8.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.33	142	⇑PN	Pn	06 30 16.4	+0.1
HAZ				SN	S	06 30 44.3	-0.1
HAZ				AML	AML	06 30 52.7	
HAZ				AML	AML	06 30 53.1	
HAZ				AML	AML	06 30 54.0	
RUGZ	Raukumara Rang	1.45	150	PN	Pn	06 30 17.1	-0.4
RUGZ				SN	S	06 30 45.3	-1.1
MXZ	Matakaoa Point	1.50	125	ePn	Pn	06 30 17.8	+0.2
MXZ				eS	S	06 30 51.0	+4.2
MXZ	Matakaoa Point	1.50	125	⇑PN	Pn	06 30 17.8	+0.2
MXZ				SN	S	06 30 46.8	0.0
MXZ				AML	AML	06 30 49.0	
TARZ	Mount Tarawera	1.54	187	Pn	Pn	06 30 19.6	+1.5
TARZ	Mount Tarawera	1.54	187	PN	Pn	06 30 19.6	+1.5
URZ	Urewera	1.57	170	ePn	Pn	06 30 18.2	0.0
URZ				eS	S	06 30 55.6	+7.7
URZ	Urewera	1.57	170	⇑PN	Pn	06 30 18.2	0.0
URZ				SN	S	06 30 48.4	+0.5
URZ				AML	AML	06 30 53.7	
PKGZ	Pakihiroa	1.58	139	⇑PN	Pn	06 30 18.7	+0.4
PKGZ				AML	AML	06 30 50.8	
PKGZ				AML	AML	06 30 52.6	
WMGZ	Waiomatatini S	1.73	131	Pn	Pn	06 30 19.6	+0.1
WMGZ				Sn	S	06 30 50.1	0.0
WMGZ	Waiomatatini S	1.73	131	PN	Pn	06 30 19.6	+0.1
WMGZ				SN	S	06 30 50.1	0.0
WMGZ				AML	AML	06 30 53.5	
MWZ	Matawai	1.73	160	ePn	Pn	06 30 19.5	-0.2
MWZ				eS	S	06 31 04.3	+14
MWZ	Matawai	1.73	160	⇑PN	Pn	06 30 19.5	-0.2
MWZ				SN	S	06 30 49.9	-0.5
MWZ				AML	AML	06 31 03.5	
TWGZ	Tauwhareparae	1.76	147	Pn	Pn	06 30 20.4	+0.5
TWGZ	Tauwhareparae	1.76	147	⇑PN	Pn	06 30 20.4	+0.5
TWGZ				SN	S	06 30 51.5	+0.7
TWGZ				AML	AML	06 30 58.3	
MUGZ	Murupara	1.77	180	PN	Pn	06 30 20.0	+0.1
PUZ	Puketiti	1.81	139	Pn	Pn	06 30 20.2	-0.1
PUZ				Sn	S	06 30 50.1	-1.4
PUZ	Puketiti	1.81	139	⇑PN	Pn	06 30 20.2	-0.1
PUZ				SN	S	06 30 50.1	-1.4
PUZ				AML	AML	06 30 56.7	
RAGZ	Rawiri	1.86	164	Pn	Pn	06 30 21.2	+0.4
RAGZ	Rawiri	1.86	164	PN	Pn	06 30 21.2	+0.4
RAGZ				AML	AML	06 30 56.5	
RAGZ				AML	AML	06 31 04.4	
RTZ	Ruatahuna	1.91	175	PN	Pn	06 30 21.1	-0.2
TKGZ	Te Karaka	1.93	154	Pn	Pn	06 30 21.3	-0.1
TKGZ	Te Karaka	1.93	154	⇑PN	Pn	06 30 21.3	-0.1
TKGZ				AML	AML	06 30 56.0	
TKGZ				AML	AML	06 30 56.6	
CNGZ	Carnagh Statio	2.11	147	Pn	Pn	06 30 23.3	+0.2
CNGZ	Carnagh Statio	2.11	147	PN	Pn	06 30 23.3	+0.2
SNGZ	Shannon Statio	2.12	168	Pn	Pn	06 30 23.2	0.0
SNGZ	Shannon Statio	2.12	168	PN	Pn	06 30 23.2	0.0
SNGZ				AML	AML	06 30 58.4	
SNGZ				AML	AML	06 31 01.8	
RIGZ	Rimuhau	2.15	159	⇓PN	Pn	06 30 23.5	+0.1
RIGZ				AML	AML	06 31 00.7	
RIGZ				AML	AML	06 31 04.1	
HIZ	Hauiti	2.35	219	ePn	Pn	06 30 29.4	+4.0
PRGZ	Paritu Road	2.38	158	Pn	Pn	06 30 25.4	-0.4
PRGZ	Paritu Road	2.38	158	PN	Pn	06 30 25.4	-0.4
PRGZ				AML	AML	06 31 09.4	
PRGZ				AML	AML	06 31 09.8	
NMHZ	Naumai	2.39	179	Pn	Pn	06 30 26.1	+0.2
NMHZ	Naumai	2.39	179	PN	Pn	06 30 26.1	+0.2
NMHZ				AML	AML	06 31 06.5	
NMHZ				AML	AML	06 31 06.6	
WHHZ	Waihua	2.40	171	PN	Pn	06 30 25.7	-0.1
WHHZ				AML	AML	06 30 27.4	
WHHZ				AML	AML	06 31 05.8	
KNZ	Kokohu	2.42	163	ePn	Pn	06 30 25.3	-0.8
KNZ	Kokohu	2.42	163	⇑PN	Pn	06 30 25.3	-0.8
BKZ	Black Stump Fm	2.46	185	ePn	Pn	06 30 25.8	-0.8
BKZ				eS	S	06 31 03.8	+0.9
BKZ	Black Stump Fm	2.46	185	⇑PN	Pn	06 30 25.8	-0.8
BKZ				AML	AML	06 31 03.8	
BKZ				AML	AML	06 31 06.3	
KRVZ	Karewarewa	2.54	200	Pn	Pn	06 30 27.9	+0.4
KRVZ	Karewarewa	2.54	200	PN	Pn	06 30 27.9	+0.4
ARHZ	Aropaoanui	2.56	176	Pn	Pn	06 30 27.3	-0.2
ARHZ	Aropaoanui	2.56	176	⇑PN	Pn	06 30 27.3	-0.2
ARHZ				AML	AML	06 30 28.4	
ARHZ				AML	AML	06 31 05.7	
WTVZ	West Tongariro	2.58	201	ePn	Pn	06 30 28.2	+0.4
WTVZ	West Tongariro	2.58	201	PN	Pn	06 30 28.2	+0.4
OTVZ	Oturere	2.60	199	ePn	Pn	06 30 28.5	+0.4
OTVZ	Oturere	2.60	199	PN	Pn	06 30 28.5	+0.4
MHGZ	Mahia Peninsul	2.60	160	Pn	Pn	06 30 27.3	-0.7
MHGZ	Mahia Peninsul	2.60	160	PN	Pn	06 30 27.3	-0.7
NGZ	Ngauruhoe	2.63	200	ePn	Pn	06 30 28.9	+0.5
NGZ	Ngauruhoe	2.63	200	PN	Pn	06 30 28.9	+0.5
TUVZ	Tukino	2.70	199	ePn	Pn	06 30 29.2	0.0
TUVZ	Tukino	2.70	199	PN	Pn	06 30 29.2	0.0
FWVZ	Far West T-bar	2.72	200	ePn	Pn	06 30 29.4	-0.1
FWVZ	Far West T-bar	2.72	200	PN	Pn	06 30 29.4	-0.1
KWHZ	Kaweka Forest	2.73	186	⇑PN	Pn	06 30 28.8	-0.5
KWHZ				AML	AML	06 30 29.5	
KWHZ				AML	AML	06 31 10.1	
MCHZ	McNeill Hill	2.73	181	Pn	Pn	06 30 29.1	-0.3
MCHZ	McNeill Hill	2.73	181	⇑PN	Pn	06 30 29.1	-0.3
MCHZ				AML	AML	06 30 29.9	
MCHZ				AML	AML	06 31 16.7	
WHVZ	Whangaehu Hut	2.73	199	Pn	Pn	06 30 29.6	0.0
WHVZ	Whangaehu Hut	2.73	199	⇑PN	Pn	06 30 29.6	0.0
TRVZ	Turoa	2.76	200	ePn	Pn	06 30 29.8	0.0
TRVZ	Turoa	2.76	200	PN	Pn	06 30 29.8	0.0
WNVZ	Wahianoa	2.77	199	ePn	Pn	06 30 29.7	-0.2
WNVZ	Wahianoa	2.77	199	PN	Pn	06 30 29.7	-0.2
MOVZ	Moawhango	2.81	196	ePn	Pn	06 30 29.5	-0.8
MOVZ	Moawhango	2.81	196	PN	Pn	06 30 29.5	-0.8
BHHZ	Black Hill Sta	2.83	191	Pn	Pn	06 30 29.6	-0.9
BHHZ	Black Hill Sta	2.83	191	⇑PN	Pn	06 30 29.6	-0.9
BHHZ				AML	AML	06 30 30.0	
BHHZ				AML	AML	06 31 13.6	
VRZ	Vera Road	2.89	213	Pn	Pn	06 30 32.5	+1.5
VRZ	Vera Road	2.89	213	⇑PN	Pn	06 30 32.5	+1.5
KRHZ	Kereru	2.95	186	⇑PN	Pn	06 30 30.5	-1.2
KRHZ				AML	AML	06 31 14.2	
KRHZ				AML	AML	06 31 14.5	
CKHZ	Cape Kidnapper	2.96	175	Pn	Pn	06 30 30.7	-1.1
CKHZ	Cape Kidnapper	2.96	175	PN	Pn	06 30 30.7	-1.1
CKHZ				AML	AML	06 31 15.6	
CKHZ				AML	AML	06 31 15.7	
OUZ	Omahuta	2.96	299	ePn	Pn	06 30 35.0	+3.1
KAHZ	Kahuranaki	3.08	178	Pn	Pn	06 30 32.1	-1.1
KAHZ	Kahuranaki	3.08	178	PN	Pn	06 30 32.1	-1.1
KAHZ				AML	AML	06 31 15.8	
KAHZ				AML	AML	06 31 17.7	
PNHZ	Pukenui	3.23	188	Pn	Pn	06 30 33.2	-1.7
PNHZ	Pukenui	3.23	188	PN	Pn	06 30 33.2	-1.7
PNHZ				AML	AML	06 31 20.1	
PNHZ				AML	AML	06 31 20.3	
PXZ	Pawanui	3.32	179	ePn	Pn	06 30 33.9	-1.9
PXZ				eS	S	06 31 17.3	-2.2
PXZ				e		06 31 20.2	
PXZ	Pawanui	3.32	179	PN	Pn	06 30 33.9	-1.9
PXZ				AML	AML	06 31 17.3	
PXZ				AML	AML	06 31 17.3	
PXZ				AML	AML	06 31 20.2	
PXZ				AML	AML	06 31 20.2	
WAZ	Wanganui	3.35	204	Pn	Pn	06 30 35.7	-0.4
WAZ	Wanganui	3.35	204	⇓PN	Pn	06 30 35.7	-0.4
WPHZ	Waipukurau	3.36	184	Pn	Pn	06 30 34.6	-1.8
WPHZ	Waipukurau	3.36	184	PN	Pn	06 30 34.6	-1.8
WPHZ				AML	AML	06 31 22.3	
WPHZ				AML	AML	06 31 22.6	
TSZ	Takapari Road	3.41	190	Pn	Pn	06 30 35.0	-1.9
TSZ	Takapari Road	3.41	190	PN	Pn	06 30 35.0	-1.9
TSZ				AML	AML	06 31 23.1	
TSZ				AML	AML	06 31 51.9	
PRHZ	Porangahau	3.56	182	Pn	Pn	06 30 36.6	-2.0
PRHZ	Porangahau	3.56	182	PN	Pn	06 30 36.6	-2.0
PRHZ				AML	AML	06 31 25.6	
PRHZ				AML	AML	06 31 26.8	
DVHZ	Dannevirke	3.62	187	AML	AML	06 31 27.8	
DVHZ				AML	AML	06 31 30.5	
OHWZ	Ohakea	3.67	198	PN	Pn	06 30 38.9	-1.0
ANWZ	Angora Road	3.75	183	ePn	Pn	06 30 37.5	-3.3
ANWZ				AML	AML	06 31 28.6	
ANWZ				AML	AML	06 31 31.8	
POWZ	Post Office Ro	3.76	192	Pn	Pn	06 30 38.9	-2.0
POWZ	Post Office Ro	3.76	192	PN	Pn	06 30 38.9	-2.0
POWZ				AML	AML	06 31 30.0	
POWZ				AML	AML	06 31 42.7	
PRWZ	Pori Road	3.89	189	Pn	Pn	06 30 40.7	-1.8
PRWZ	Pori Road	3.89	189	PN	Pn	06 30 40.7	-1.8
PRWZ				AML	AML	06 31 30.7	
PRWZ				AML	AML	06 31 34.6	
BFZ	Birch Farm	3.99	186	ePn	Pn	06 30 41.0	-2.7
BFZ				eS	S	06 31 30.6	-3.0
BFZ	Birch Farm	3.99	186	PN	Pn	06 30 40.9	-2.7
MRZ	Mangatainoka R	4.05	193	ePn	Pn	06 30 41.5	-3.0
MRZ	Mangatainoka R	4.05	193	PN	Pn	06 30 41.4	-3.0
MRZ				AML	AML	06 31 34.6	
MRZ				AML	AML	06 31 34.7	
TIWZ	Tintock	4.12	189	Pn	Pn	06 30 43.0	-2.3
TIWZ	Tintock	4.12	189	PN	Pn	06 30 42.9	-2.3
TIWZ				AML	AML	06 31 37.1	
TIWZ				AML	AML	06 31 38.6	
OGWZ	Otaki Gorge	4.29	196	Pn	Pn	06 30 44.1	-3.1
OGWZ	Otaki Gorge	4.29	196	PN	Pn	06 30 44.1	-3.1
OGWZ				AML	AML	06 31 38.9	
OGWZ				AML	AML	06 31 40.1	
HOWZ	Holdsworth Sta	4.30	193	Pn	Pn	06 30 44.2	-3.1
HOWZ	Holdsworth Sta	4.30	193	PN	Pn	06 30 44.2	-3.1
HOWZ				AML	AML	06 31 38.6	
HOWZ				AML	AML	06 31 40.2	
KIW	Kapiti Island	4.39	199	ePn	Pn	06 30 45.5	-3.0
KIW				eS	S	06 31 40.3	-2.0
KIW	Kapiti Island	4.39	199	PN	Pn	06 30 45.5	-3.0
KIW				AML	AML	06 31 40.3	
TMWZ	Te Maipa	4.45	189	Pn	Pn	06 30 46.9	-2.3
TMWZ	Te Maipa	4.45	189	PN	Pn	06 30 46.9	-2.3
TMWZ				AML	AML	06 31 45.9	
MTW	Mount Morrison	4.55	192	ePn	Pn	06 30 46.6	-3.8
MTW	Mount Morrison	4.55	192	PN	Pn	06 30 46.6	-3.8
CAW	Cannon Point	4.59	196	ePn	Pn	06 30 47.5	-3.4
CAW				eS	S	06 31 46.1	-0.6
CAW	Cannon Point	4.59	196	PN	Pn	06 30 47.4	-3.4
CAW				AML	AML	06 31 44.1	
CAW				AML	AML	06 31 46.1	
DUWZ	D'Urville Isla	4.65	208	ePn	Pn	06 30 48.8	-2.9
DUWZ	D'Urville Isla	4.65	208	⇓PN	Pn	06 30 48.8	-2.9
TRWZ	Traveller	4.76	190	ePn	Pn	06 30 49.4	-3.5
TRWZ	Traveller	4.76	190	PN	Pn	06 30 49.4	-3.5
TRWZ				AML	AML	06 31 31.3	
PAWZ	Paruwai Farm	4.78	192	ePn	Pn	06 30 49.1	-4.1
PAWZ	Paruwai Farm	4.78	192	PN	Pn	06 30 49.1	-4.1
WEL	Wellington	4.83	198	Pn	Pn	06 30 50.5	-3.2
WEL	Wellington	4.83	198	PN	Pn	06 30 50.5	-3.2
WEL				AML	AML	06 31 47.1	
WEL				AML	AML	06 31 49.2	
WEL				AML	AML	06 31 55.2	
MSWZ	Moikau Station	4.85	194	Pn	Pn	06 30 50.3	-3.8
MSWZ	Moikau Station	4.85	194	PN	Pn	06 30 50.3	-3.8
MSWZ				AML	AML	06 31 48.6	
MSWZ				AML	AML	06 31 51.3	
SNZO	South Karori	4.87	199	ePn	Pn	06 30 50.8	-3.4
SNZO				eS	S	06 31 49.3	-3.5
TCW	Tory Channel	4.90	203	ePn	Pn	06 30 52.9	-1.8
TCW				eS	S	06 31 51.7	-1.8
TCW	Tory Channel	4.90	203	PN	Pn	06 30 51.4	-3.2
TCW				AML	AML	06 30 52.8	
TCW				AML	AML	06 31 51.7	
PLWZ	Palliser	4.99	193	Pn	Pn	06 30 51.8	-4.1
PLWZ	Palliser	4.99	193	PN	Pn	06 30 51.8	-4.1
PLWZ				AML	AML	06 31 54.9	
TUWZ	Tuamarina	5.20	204	ePn	Pn	06 30 56.0	-2.4
TUWZ	Tuamarina	5.20	204	PN	Pn	06 30 54.8	-3.5
TUWZ				AML	AML	06 30 55.9	
TUWZ				AML	AML	06 30 56.0	
NNZ	Nelson	5.22	209	Pn	Pn	06 30 55.2	-3.4
NNZ	Nelson	5.22	209	PN	Pn	06 30 55.2	-3.4
QRZ	Quartz Range	5.28	218	ePn	Pn	06 30 56.1	-3.2
QRZ	Quartz Range	5.28	218	⇓PN	Pn	06 30 56.1	-3.2
BSWZ	Blackbirch Sta	5.48	203	Pn	Pn	06 30 58.6	-3.3
BSWZ	Blackbirch Sta	5.48	203	PN	Pn	06 30 58.6	-3.3
THZ	Tophouse	5.87	209	ePn	Pn	06 31 03.1	-3.7
THZ				eS	S	06 32 10.6	-4.9
THZ	Tophouse	5.87	209	PN	Pn	06 31 02.9	-3.9
KHZ	Kahutara	6.22	203	ePn	Pn	06 31 07.7	-3.4
KHZ				eS	S	06 32 18.2	-5.2
KHZ	Kahutara	6.22	203	PN	Pn	06 31 07.5	-3.6
DSZ	Denniston Nort	6.33	216	ePn	Pn	06 31 08.2	-4.4
DSZ	Denniston Nort	6.33	216	PN	Pn	06 31 08.2	-4.4
LTZ	Lake Taylor	6.98	208	ePn	Pn	06 31 16.3	-4.5
LTZ	Lake Taylor	6.98	208	PN	Pn	06 31 16.3	-4.5
INZ	Inchbonnie	7.27	213	PN	Pn	06 31 20.2	-4.3
OXZ	Oxford	7.54	207	ePn	Pn	06 31 23.4	-4.5
OXZ				eS	S	06 32 46.0	-7.9
OXZ	Oxford	7.54	207	PN	Pn	06 31 22.7	-5.2
MQZ	McQueen's Vall	7.66	203	ePn	Pn	06 31 24.1	-5.4
MQZ				eS	S	06 32 47.4	-9.3
MQZ	McQueen's Vall	7.66	203	PN	Pn	06 31 24.1	-5.4
FOZ	Fox Glacier	8.64	216	ePn	Pn	06 31 37.2	-4.7
ODZ	Otahua Downs	9.53	207	ePn	Pn	06 31 48.9	-4.2
ODZ	Otahua Downs	9.53	207	PN	Pn	06 31 48.9	-4.2
JCZ	Jackson Bay	9.54	217	ePn	Pn	06 31 49.2	-4.3
JCZ	Jackson Bay	9.54	217	PN	Pn	06 31 49.2	-4.3
WB2	Warramunga Arr	40.54	283	eP	P	06 36 53.7	-3.3
	7.1nm,1.4s						
WRAB	Tennant Creek	40.54	283	eP	P	06 36 47.5	-10
	15nm,1.7s						
QSPA	South Pole Qui	53.41	180	eP	P	06 38 32.2	-3.6
	23nm,1.9s						

IDC 08 06:55:30.8±6.1, 4°.90S×134°.03E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, ML3.5/2, MS3.6/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=343.6km s-min=31.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.96	179	Pn	Pn	06 59 02.1	-1.6
	0.2nm,0.3s,baz=356,slow=13,SNR=10.0						
WRA				Sn	Sn	07 01 40.9	-9.4
	0.2nm,0.3s,baz=360,slow=22,SNR=5.8						
ASAR	Alice Springs	18.66	180	P	Pn	06 59 51.0	+0.3
	0.3nm,0.3s,baz=8.8,slow=11,SNR=33						
ASAR				S	Sn	07 03 09.4	-11
	0.1nm,0.3s,baz=359,slow=27,SNR=3.0						
ASAR				LR	LR	07 08 00.5	
	comp=Z,154nm,20.2s,baz=298,slow=40						
MKAR	Makanchi Array	68.76	325	P	P	07 06 36.7	0.0
	1.0nm,0.8s,baz=123,slow=5.3,SNR=7.7						
KBZ	Khabaz	94.17	313	LR	LR	07 57 48

THZ			AML	AML	07 33 07.3	
LBZ	**Lake Benmore**	**2.03 248**	⇓PN	Pn	07 32 25.3	-0.8
LBZ			AML	AML	07 33 01.7	
LBZ			AML	AML	07 33 05.1	
DSZ	**Denniston Nort**	**2.06 338**	PN	Pn	07 32 25.8	-0.7
DSZ			AML	AML	07 32 54.0	
ODZ	**Otahua Downs**	**2.08 228**	⇓PN	Pn	07 32 25.4	-1.3
ODZ			AML	AML	07 33 07.2	
ODZ			AML	AML	07 33 07.2	
ODZ			AML	AML	07 33 10.1	
ODZ			AML	AML	07 33 10.4	
FOZ	**Fox Glacier**	**2.18 273**	PN	Pn	07 32 28.4	+0.3
NNZ	**Nelson**	**2.48 10**	PN	Pn	07 32 31.5	-0.8
QRZ	**Quartz Range**	**2.85 356**	PN	Pn	07 32 36.9	-0.4
QRZ			AML	AML	07 32 55.8	
QRZ			AML	AML	07 34 20.3	
JCZ	**Jackson Bay**	**2.94 261**	PN	Pn	07 32 39.2	+0.5
EAZ	**Earnscleugh**	**2.96 237**	PN	Pn	07 32 37.8	-1.0
CAW	**Cannon Point**	**3.05 34**	PN	Pn	07 32 37.7	-2.4
KIW	**Kapiti Island**	**3.21 30**	PN	Pn	07 32 41.0	-1.3
TUZ	**Tuapeka**	**3.22 224**	PN	Pn	07 32 41.3	-1.0
TUZ			AML	AML	07 33 40.1	
TUZ			AML	AML	07 33 45.8	
MRZ	**Mangatainoka R**	**3.64 35**	PN	Pn	07 32 46.0	-2.1
BFZ	**Birch Farm**	**3.92 42**	PN	Pn	07 32 49.3	-2.8

*DDA **08** 07:38:06.9, 39°.09N×29°.03E, h7km, Md2.6*
*ISK **08** 07:38:06.4, 39°.13N×29°.00E, h9km, MD2.1*
*ISCJB **08** 07:38:07.3±0.5, 39°.10N±0°.03×29°.04E±0°.04, h8km±5km, Error ellipse: s-maj=6.2km s-min=4.6km az=44.2*
*CSEM **08** 07:38:07.1±0.1, 39°.12N×29°.02E, h8km, MD2.1, Error ellipse: s-maj=1.7km s-min=1.1km az=136.0*

ISC 08 07:38:06.7±0.9, 39°.12N±0°.03×29°.00E±0°.03, h11km±5km, n18, σ0.9 72/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.04 198**		*e*PG	**Pg**	**07 38 08.9**	**+0.1**
SIMA				*e*SG	**Sg**	**07 38 10.2**	**-0.2**
SIMA	**Simav-Kutahya**	**0.04 198**		*e*Pg	**Pg**	**07 38 09.0**	**+0.1**
SIMA				*e*Sg	**Sg**	**07 38 10.2**	**-0.2**
DEMI	**Demirci**	**0.23 250**		*i* P	**Pb**	**07 38 12.8**	**-0.2**
DEMI				*i* S	**Sg**	**07 38 16.2**	**+1.3**
DEMI	**Demirci**	**0.23 250**		P	**Pg**	**07 38 12.8**	**-0.2**
DEMI				S	**Sg**	**07 38 16.2**	**+1.3**
GEDZ	**Gediz**	**0.33 104**		*e*PG	**Pg**	**07 38 13.7**	**+0.4**
GEDZ	**Gediz**	**0.33 104**		*e*Pg	**Pg**	**07 38 13.7**	**+0.4**
GDZ	**Gediz**	**0.38 95**		*i* P	**Pg**	**07 38 14.4**	**+0.2**
GDZ				*i* S	**Sg**	**07 38 19.4**	**+0.2**
GDZ	**Gediz**	**0.38 95**		P	**Pg**	**07 38 14.4**	**+0.2**
GDZ				S	**Sg**	**07 38 19.4**	**+0.2**
TVSB	**Tavsanli**	**0.48 48**		*e*PG	**Pg**	**07 38 16.4**	**+0.2**
TVSB				*e*SG	**Sg**	**07 38 22.8**	**+0.2**
TVSB	**Tavsanli**	**0.48 48**		*e*Pg	**Pg**	**07 38 16.4**	**+0.2**
TVSB				*e*Sg	**Sg**	**07 38 22.8**	**+0.2**
KULA	**Kula-Manisa**	**0.66 204**		*e*PG	**Pg**	**07 38 19.9**	**+0.4**
KULA				*e*SG	**Sg**	**07 38 29.0**	**+0.7**
KULA	**Kula-Manisa**	**0.66 204**		*e*Pg	**Pg**	**07 38 20.0**	**+0.4**
KULA				*e*Sg	**Sg**	**07 38 29.0**	**+0.7**
KHAL	**Karahalli**	**0.84 153**		*i* P	**Pb**	**07 38 23.5**	**0.0**
KHAL				*i* S	**Sg**	**07 38 33.6**	**-0.4**
KHAL	**Karahalli**	**0.84 153**		P	**Pb**	**07 38 23.5**	**0.0**
KHAL				S	**Sg**	**07 38 33.6**	**-0.4**
IGD	**Bursa**	**1.15 8**		*i* P	**Pn**	**07 38 29.5**	**+0.8**
IGD				*i* S	**Sn**	**07 38 45.3**	**+0.9**
CAVI	**Cavuskoy**	**1.26 31**		*e*PN	**Pg**	**07 38 31.1**	**+0.3**
CAVI	**Cavuskoy**	**1.26 31**		*e*Pn	**Pg**	**07 38 31.1**	**+0.3**
KNL	**Baĭ¯–kesir**	**1.61 316**		*i* P	**Pn**	**07 38 32.5**	**-2.6**

MEX 08 07:44:08.3±0.4, 16°.93N×100°.07W, h28km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21 105**		*e*P	Pb	07 44 12.2	-2.3
ACX				*e*S	Sb	07 44 15.6	-3.1
CAIG	**El Cayaco**	**0.22 303**		*i* P	Pb	07 44 13.2	-1.4
CAIG				*e*S	Sb	07 44 17.5	-1.5
MEIG	**Mezcala**	**1.08 23**		*i* P	Pn	07 44 25.4	-2.3
MEIG				*e*S	Sn	07 44 38.2	-3.6
ARIG	**Puente Sto Nin**	**1.37 349**		*e*P	Pn	07 44 29.5	-2.1
ZIIG	**Zihuatanejo**	**1.50 297**		*e*P	Pn	07 44 30.8	-2.5
ZIIG				*e*S	Sn	07 44 49.3	-2.5
PLIG	**Platanillo**	**1.56 20**		*e*P	Pn	07 44 32.3	-1.9
TLIG	**Tlapa**	**1.57 66**		*e*P	Pn	07 44 32.9	-1.6

*ISCJB **08** 07:52:32.8±0.7, 37°.92N±0°.05×139°.56E±0°.09, h178km±5km, mb3.3/2, Error ellipse: s-maj=12.2km s-min=7.0km az=28.5*
*IDC **08** 07:52:32.6±1.7, 37°.93N×139°.87E, h161km±15km, mb3.0/2, mb1 3.3/4, mb1mx3.0/34, mbtmp3.8/4, Error ellipse: s-maj=33.2km s-min=17.8km az=100.0*
*JMA **08** 07:52:34.5±0.1, 37°.93N×139°.50E, h170km±1km, M3.1*

ISC 08 07:52:33.7±1.2, 37°.94N±0°.06×139°.55E±0°.07, h175km±8km, n21, σ0.9 79/33, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.22 238**		P	**Pn**	**07 52 57.0**	**0.0**
JNS				S	**Sn**	**07 53 14.3**	**-0.5**
JYS	**Shiratake**	**0.49 55**		P	**Pn**	**07 52 58.5**	**+0.7**
JFY	**Yanaizu**	**0.54 167**		P	**Pn**	**07 52 58.5**	**+0.4**
JAW	**Awa shima**	**0.57 335**		P	**Pn**	**07 52 58.4**	**+0.2**
JAW				S	**Sn**	**07 53 16.3**	**-0.8**
JYA	**Atsumi**	**0.67 11**		P	**Pn**	**07 52 59.3**	**+0.6**
JYA				S	**Sn**	**07 53 17.8**	**-0.3**
JFT	**Otama**	**0.75 124**		P	**Pn**	**07 52 59.6**	**+0.4**
JFT				*e*S	**Sn**	**07 53 18.5**	**-0.2**
JIZZ	**Izumozaki**	**0.78 239**		P	**Pn**	**07 52 59.7**	**+0.4**
JIZZ				*e*S	**Sn**	**07 53 18.9**	**-0.1**
JHK	**Hiroka**	**0.81 212**		P	**Pn**	**07 52 59.8**	**+0.3**
JHK				S	**Sn**	**07 53 19.3**	**-0.1**
JSD	**Sado**	**1.03 276**		P	**Pn**	**07 53 01.1**	**+0.1**
JSD				S	**Sn**	**07 53 21.0**	**-1.1**
JYK	**Kaneyama**	**1.17 33**		P	**Pn**	**07 53 02.8**	**+0.6**
JYK				*e*S	**Sn**	**07 53 24.0**	**-0.3**
JAG	**Ashikaga**	**1.51 183**		P	**Pn**	**07 53 05.4**	**+0.1**
JMK	**Ichinoseki**	**1.66 52**		P	**Pn**	**07 53 07.1**	**+0.4**
MJAR	**Matsushiro Arr**	**1.76 218**		P	**Pn**	**07 53 08.1**	**+0.2**
	9.9nm,0.3s,baz=29,slow=9.7,SNR=104						
MJAR				S	**Sn**	**07 53 34.5**	**+0.3**
	0.2nm,0.3s,baz=220,slow=28,SNR=6.0						
MAT	**Matsushiro**	**1.76 218**		P	**Pn**	**07 53 08.2**	**+0.4**
MAT				S	**Sn**	**07 53 34.2**	**0.0**
MAT	**Matsushiro**	**1.76 218**		P	**Pn**	**07 53 08.2**	**+0.4**
MAT				S	**Sn**	**07 53 34.3**	**0.0**
JSZ	**Suzu**	**1.80 255**		P	**Pn**	**07 53 08.6**	**+0.4**
JRY	**Ryogami san**	**1.98 195**		P	**Pn**	**07 53 10.5**	**+0.2**
JHJ	**Hachijo jima 2**	**4.81 178**		P	**Pn**	**07 53 44.0**	**-1.1**
	22nm,0.3s,baz=48,slow=18,SNR=10						
JHJ				S	**Sn**	**07 54 38.9**	**-2.1**
	21nm,0.3s,baz=28,slow=23,SNR=5.6						
ASAJ	**Asahikawa**	**6.59 19**		P	**Pn**	**07 54 05.7**	**-2.6**
	2.3nm,0.3s,baz=192,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**57.78 186**		P	**P**	**08 02 06.9**	**+0.3**
	0.5nm,0.8s,baz=2.1,slow=7.3,SNR=5.0						
ASAR	**Alice Springs**	**61.50 186**		P	**P**	**08 02 32.5**	**+0.5**
	0.3nm,0.7s,baz=4.3,slow=4.9,SNR=5.8						

WEL 08 08:01:08.6±0.6, 36°.09S×177°.54E, h207km±7km, ML3.7/4, Error ellipse: s-maj=9.0km s-min=7.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.59 158**		PN	Pn	08 01 43.5	-0.1
MXZ				SN	S	08 02 09.9	-0.8
HAZ	**Te Kaha**	**1.67 173**		PN	Pn	08 01 44.8	+0.4
HAZ				SN	S	08 02 11.7	-0.3
PKGZ	**Pakihiroa**	**1.84 167**		PN	Pn	08 01 46.3	+0.3
PKGZ				AML	AML	08 02 15.6	
PKGZ				AML	AML	08 02 15.8	
WMGZ	**Waiomatatini S**	**1.86 158**		PN	Pn	08 01 46.3	+0.2
WMGZ				AML	AML	08 02 16.6	
WMGZ				AML	AML	08 02 17.6	
RUGZ	**Raukumara Rang**	**1.87 177**		PN	Pn	08 01 46.2	-0.2
PUZ	**Puketiti**	**2.06 164**		PN	Pn	08 01 47.9	-0.2
TWGZ	**Tauwhareparae**	**2.11 171**		PN	Pn	08 01 49.4	+0.7
TWGZ				SN	S	08 02 20.6	+0.8
TWGZ				AML	AML	08 02 23.1	
URZ	**Urewera**	**2.19 189**		PN	Pn	08 01 50.0	+0.6
URZ				SN	S	08 02 21.6	+0.5
MWZ	**Matawai**	**2.24 180**		PN	Pn	08 01 50.3	+0.3
CNGZ	**Carnagh Statio**	**2.44 168**		PN	Pn	08 01 52.1	-0.1
RTZ	**Ruatahuna**	**2.56 190**		PN	Pn	08 01 53.4	-0.1
RIGZ	**Rimuhau**	**2.61 176**		PN	Pn	08 01 53.8	-0.4
RIGZ				SN	S	08 02 28.9	-0.5
RIGZ				AML	AML	08 02 32.0	
BKZ	**Black Stump Fm**	**3.18 195**		PN	Pn	08 02 00.1	-0.6
MCHZ	**McNeill Hill**	**3.41 191**		PN	Pn	08 02 02.8	-0.5
KWHZ	**Kaweka Forest**	**3.44 195**		PN	Pn	08 02 03.3	-0.5
WNVZ	**Wahianoa**	**3.58 205**		PN	Pn	08 02 05.3	-0.2
BHHZ	**Black Hill Sta**	**3.59 199**		PN	Pn	08 02 04.7	-0.8
KRHZ	**Kereru**	**3.66 194**		PN	Pn	08 02 05.3	-1.1
KAHZ	**Kahuranaki**	**3.73 188**		PN	Pn	08 02 06.2	-1.1
PNHZ	**Pukenui**	**3.96 195**		PN	Pn	08 02 08.3	-1.7
TSZ	**Takapari Road**	**4.15 197**		*e*PN	Pn	08 02 10.2	-2.2
WAZ	**Wanganui**	**4.18 208**		PN	Pn	08 02 12.2	-0.5
BFZ	**Birch Farm**	**4.69 192**		PN	Pn	08 02 16.9	-2.2
MRZ	**Mangatainoka R**	**4.81 198**		PN	Pn	08 02 17.9	-2.7
TIWZ	**Tintock**	**4.85 195**		PN	Pn	08 02 18.5	-2.7
HOWZ	**Holdsworth Sta**	**5.05 198**		PN	Pn	08 02 20.4	-3.3
OGWZ	**Otaki Gorge**	**5.07 201**		PN	Pn	08 02 21.1	-2.8
MTW	**Mount Morrison**	**5.30 197**		PN	Pn	08 02 23.2	-3.6
CAW	**Cannon Point**	**5.37 200**		PN	Pn	08 02 24.2	-3.6
TCW	**Tory Channel**	**5.71 206**		PN	Pn	08 02 29.0	-3.1
TUWZ	**Tuamarina**	**6.02 207**		PN	Pn	08 02 32.8	-3.3
THZ	**Tophouse**	**6.71 211**		*e*PN	Pn	08 02 42.4	-2.7
KHZ	**Kahutara**	**7.04 205**		PN	Pn	08 02 45.4	-3.7

WEL 08 08:04:55.7±0.2, 43°.67S×172°.82E, h7km±1km, ML3.9/27, Mw3.6, 4C-3D, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.12 251**		⇑PG	Pg	08 04 58.5	+0.2
MQZ				SG	Sg	08 05 00.7	+0.5
MQZ				AML	AML	08 05 00.7	
CRLZ	**Canterbury Las**	**0.17 303**		PG	Pg	08 04 59.1	0.0
CRLZ				AML	AML	08 05 02.2	
CRLZ				AML	AML	08 05 03.7	
OXZ	**Oxford**	**0.66 301**		⇓P*	Pg	08 05 08.3	-0.1
OXZ				AML	AML	08 05 20.0	
OXZ				AML	AML	08 05 20.1	
OXZ				AML	AML	08 05 22.1	
OXZ				AML	AML	08 05 22.1	
LTZ	**Lake Taylor**	**0.97 336**		P*	Pg	08 05 13.9	-0.4
LTZ				AML	AML	08 05 31.4	
RPZ	**Rata Peaks**	**1.28 267**		⇑P*	Pn	08 05 18.6	-1.5
RPZ				AML	AML	08 05 38.8	
RPZ				AML	AML	08 05 43.4	
KHZ	**Kahutara**	**1.36 23**		PN	Pn	08 05 19.0	-2.0
KHZ				AML	AML	08 05 46.8	
KHZ				AML	AML	08 05 46.8	
KHZ				AML	AML	08 05 51.4	
KHZ				AML	AML	08 05 51.4	
INZ	**Inchbonnie**	**1.38 313**		PN	Pn	08 05 20.1	-1.2
WVZ	**Waitaha Valley**	**1.63 291**		PN	Pn	08 05 24.0	-0.8
WVZ				AML	AML	08 05 53.6	
THZ	**Tophouse**	**1.90 2**		⇑PN	Pn	08 05 26.9	-1.8
THZ				AML	AML	08 06 07.8	
THZ				AML	AML	08 06 08.9	
LBZ	**Lake Benmore**	**2.03 248**		⇓PN	Pn	08 05 29.5	-0.9
LBZ				AML	AML	08 06 08.5	
LBZ				AML	AML	08 06 08.5	
LBZ				AML	AML	08 06 13.3	
LBZ				AML	AML	08 06 13.3	
DSZ	**Denniston Nort**	**2.06 338**		PN	Pn	08 05 30.1	-0.6
DSZ				AML	AML	08 05 39.4	
DSZ				AML	AML	08 05 39.4	
DSZ				AML	AML	08 06 08.2	
DSZ				AML	AML	08 06 08.2	
ODZ	**Otahua Downs**	**2.08 228**		⇓PN	Pn	08 05 29.7	-1.3
ODZ				AML	AML	08 06 10.5	
ODZ				AML	AML	08 06 11.2	
ODZ				AML	AML	08 06 11.3	
ODZ				AML	AML	08 06 11.3	
BSWZ	**Blackbirch Sta**	**2.10 22**		PN	Pn	08 05 29.9	-1.4
BSWZ				AML	AML	08 06 00.7	
BSWZ				AML	AML	08 06 13.5	
FOZ	**Fox Glacier**	**2.18 272**		PN	Pn	08 05 32.7	+0.2
FOZ				AML	AML	08 06 15.6	
FOZ				AML	AML	08 06 17.4	
TUWZ	**Tuamarina**	**2.38 21**		PN	Pn	08 05 33.5	-1.7
TUWZ				AML	AML	08 06 34.2	
TCW	**Tory Channel**	**2.68 24**		AML	AML	08 06 14.3	
HHSZ	**Highcliff Hill**	**2.72 215**		PN	Pn	08 05 38.3	-1.6
HHSZ				AML	AML	08 06 31.0	
HHSZ				AML	AML	08 06 44.4	
WEL	**Wellington**	**2.78 32**		AML	AML	08 06 12.4	
WEL				AML	AML	08 06 15.2	
JCZ	**Jackson Bay**	**2.94 261**		PN	Pn	08 05 42.9	-0.1
JCZ				AML	AML	08 06 34.5	
JCZ				AML	AML	08 06 36.3	
EAZ	**Earnscleugh**	**2.96 237**		PN	Pn	08 05 42.2	-0.9
EAZ				AML	AML	08 06 36.6	
EAZ				AML	AML	08 06 36.6	
EAZ				AML	AML	08 06 43.3	
EAZ				AML	AML	08 06 43.3	
WKZ	**Wanaka**	**2.97 246**		PN	Pn	08 05 42.3	-0.9
WKZ				AML	AML	08 06 43.9	
WKZ				AML	AML	08 06 47.7	
CAW	**Cannon Point**	**3.05 34**		PN	Pn	08 05 41.9	-2.5
CAW				AML	AML	08 06 21.7	
CAW				AML	AML	08 06 24.4	
MTW	**Mount Morrison**	**3.20 39**		PN	Pn	08 05 43.4	-3.0
MTW				AML	AML	08 06 23.9	
MTW				AML	AML	08 06 26.3	
KIW	**Kapiti Island**	**3.20 30**		*e*PN	Pn	08 05 44.7	-1.8
TUZ	**Tuapeka**	**3.22 224**		⇑PN	Pn	08 05 45.6	-1.1
TUZ				AML	AML	08 06 44.4	
TUZ				AML	AML	08 06 49.7	
TUZ				AML	AML	08 06 52.7	
TUZ				AML	AML	08 06 52.8	
OGWZ	**Otaki Gorge**	**3.34 32**		PN	Pn	08 05 46.0	-2.4
OGWZ				AML	AML	08 06 27.4	
OGWZ				AML	AML	08 06 29.6	
HOWZ	**Holdsworth Sta**	**3.41 37**		*e*PN	Pn	08 05 47.3	-2.1
MRZ	**Mangatainoka R**	**3.64 35**		PN	Pn	08 05 49.6	-2.9
MRZ				SN	Sn	08 06 31.0	-4.6
MRZ				AML	AML	08 06 38.0	
MSZ	**Milford Sound**	**3.66 252**		AML	AML	08 06 55.2	
MSZ				AML	AML	08 07 02.3	
MLZ	**Mavora Lakes**	**3.77 242**		PN	Pn	08 05 53.0	-1.2
SYZ	**Scrubby Hill**	**3.88 221**		PN	Pn	08 05 54.7	-1.0
BFZ	**Birch Farm**	**3.92 42**		*e*PN	Pn	08 05 53.9	-2.4
BFZ				SN	Sn	08 06 37.1	-5.6
WHZ	**Wether Hill Ro**	**4.12 236**		AML	AML	08 07 24.2	
APZ	**The Paps**	**4.65 225**		PN	Pn	08 06 05.6	-0.8
VRZ	**Vera Road**	**4.77 18**		*e*PN	Pn	08 06 06.6	-1.3
WNVZ	**Wahianoa**	**4.81 27**		*e*PN	Pn	08 06 07.1	-1.7
WHVZ	**Whangaehu Hut**	**4.85 26**		*e*PN	Pn	08 06 08.4	-0.9
HIZ	**Hauiti**	**5.37 17**		PN	Pn	08 06 16.8	+0.5

*SCB **08** 08:13:00.8±0.9, 24°.26S×64°.13W, h35km, Ml4.2/2, Error ellipse: s-maj=20.1km s-min=10.0km az=167.0*
*BJI **08** 08:13:06.6, 24°.10S×64°.00W, h18km, mB5.4/5, Ms5.4/3, Ms7 5.3/4*
*SJA **08** 08:13:06.0±0.5, 24°.19S×64°.42W, h21km±8km, ML4.6, MW4.5*
*ISCJB **08** 08:13:07.0±0.2, 24°.08S±0°.03×64°.08W±0°.04, h33km, mb4.8/60, MS3.5/5, Error ellipse: s-maj=5.8km s-min=4.3km az=145.6*
*NEIC **08** 08:13:08.3±1.3, 24°.16S×64°.11W, h30km±8km, mb4.9/50, MD4.6(SJA), Error ellipse: s-maj=6.4km s-min=4.2km az=66.0*
NEIC Felt [III] at Salta.
*IDC **08** 08:13:08.5±2.7, 24°.17S×64°.20W, h35km±21km, mb4.1/11, mb1 4.3/17, mb1mx4.2/33, mbtmp4.3/17, ML4.1/5, MS3.6/10, Ms1 3.6/10, ms1mx3.4/34, Error ellipse: s-maj=16.8km s-min=12.7km az=63.0*

ISC 08 08:13:08.0±0.3, 24°.23S±0°.05×64°.28W±0°.06, h35km, n323, σ1.9 70/377, mb4.9/60, MS3.5/5, 6D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.72 270**		*e*P	**Pn**	**08 13 18.3**	**-3.6**
AZAP				*e*S	**Sn**	**08 13 28.1**	**-3.8**
SLA	**San Lorenzo**	**1.22 246**		*e*P	**Pn**	**08 13 28.0**	**-0.7**
SLA				IAML		08 13 44.9	
	comp=Z,40μm,0.4s						
HJA	**Humahuaca**	**1.45 314**		*e*P	**Pn**	**08 13 32.4**	**+0.3**
HJA				*e*S	**Sn**	**08 13 51.5**	**+1.4**
HJA				IAML		08 13 56.0	
	comp=Z,7μm,0.4s						
YJA	**Yavi**	**2.34 331**		*e*P	**Pn**	**08 13 45.5**	**+1.2**
YJA				IAML		08 14 19.5	
	comp=Z,1μm,0.4s						
MOCB	**Mochara**	**3.22 337**		*e*Pn	**Pn**	**08 13 57.5**	**+1.1**
MOCB				*e*Sn	**Sn**	**08 14 37.4**	**+3.6**
	comp=Z,308nm,0.2s						
LVC	**Limon Verde**	**4.55 290**		Pn	**Pn**	**08 14 16.3**	**+1.6**
	comp=Z,230nm,0.3s,baz=104,slow=8.7,SNR=31						
LVC	**Limon Verde**	**4.55 290**		*e*Pn	**Pn**	**08 14 16.7**	**+2.1**
PB04	**IPOC Station P**	**5.72 288**		*e*Pn	**Pn**	**08 14 31.9**	**+1.3**
PB01	**IPOC Station P**	**5.76 302**		*e*Pn	**Pn**	**08 14 32.6**	**+1.5**
PB10	**IPOC Station P**	**5.79 276**		*e*Pn	Pn	08 14 34.6	+3.2
CPUP	**Villa Florida**	**6.63 110**		Pn	**Pn**	**08 14 42.9**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=274,slow=12,SNR=35						
CPUP				Lg	Lg	08 16 37.6	
	comp=Z,24nm,0.3s,baz=198,slow=20,SNR=4.8						
CPUP				LR	LR	08 17 37.1	
	comp=Z,747nm,21.8s,baz=327,slow=41						
CPUP	**Villa Florida**	**6.63 110**		*e*P	**Pn**	**08 14 42.8**	**-0.1**
LCO	**Las Campanas**	**7.46 229**		*e*Pn	**Pn**	**08 14 56.1**	**+1.5**
BBOJ	**La Paz, Jacaqu**	**8.09 332**		⇓*i*Pn	**Pn**	**08 15 05.2**	**+1.7**
BBOE	**La Paz, Chanca**	**8.15 334**		⇓*i*Pn	**Pn**	**08 15 06.0**	**+1.6**
BBOD	**La Paz, Gloria**	**8.57 331**		⇓*i*Pn	**Pn**	**08 15 11.2**	**+1.1**
LPAZ	**La Paz**	**8.69 335**		Pn	**Pn**	**08 15 13.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=168,slow=9.5,SNR=24						
LPAZ				Sn	**Sn**	**08 16 48.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=292,slow=18,SNR=2.6						
LPAZ				LR	LR	08 19 04.9	
	comp=Z,292nm,21.7s,baz=218,slow=41						
LPAZ	**La Paz**	**8.69 335**		⇓*i*Pn	**Pn**	**08 15 13.0**	**+1.3**
LPAZ	**La Paz**	**8.69 335**		*e*Pn	**Pn**	**08 15 13.4**	**+1.7**
LPAZ				Sn	**Sn**	**08 16 48.6**	**-0.2**
SIV	**San Ignacio**	**8.73 21**		Pn	**Pn**	**08 15 11.9**	**+0.1**
	comp=Z,2.5nm,0.3s,baz=240,slow=8.4,SNR=42						
SIV				Sn	**Sn**	**08 16 47.5**	**-1.6**
	comp=Z,5.3nm,0.3s,baz=198,slow=20,SNR=2.1						
SIV				Lg	Lg	08 17 44.1	
	comp=Z,4.2nm,0.3s,baz=303,slow=21,SNR=2.5						
SIV				LR	LR	08 19 28.7	
	comp=Z,199nm,19.5s,baz=244,slow=44						
SIV	**San Ignacio**	**8.73 21**		⇓*i*Pn	**Pn**	**08 15 11.5**	**-0.3**
SIV				*e*Sn	**Sn**	**08 16 47.5**	**-1.6**
	comp=Z,7.3nm,0.4s						
BBOB	**La Paz, Bander**	**8.82 335**		⇓*i*Pn	**Pn**	**08 15 14.4**	**+0.9**
GO05	**HualaæØ**	**12.63 210**		*e*Pn	P	08 16 10.4	-5.7
TRQA	**Tornquist**	**13.93 172**		*e*Pn	**Pn**	**08 16 23.0**	**+0.2**
SAML	**Samuel**	**15.23 4**		*e*Pn	**Pn**	**08 16 36.9**	**-3.6**
	comp=Z,25nm,1.4s						
NNA	**Nana**	**17.04 313**		P	**P**	**08 17 03.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=145,slow=9.3,SNR=5.1						
NNA				LR	LR	08 25 03.7	
	comp=Z,130nm,18.3s,baz=126,slow=42						
PLCA	**Paso Flores**	**17.28 196**		P	**P**	**08 17 08.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=3.4						
PLCA				Lg	Lg	08 22 19.6	
	comp=Z,0.1nm,0.3s,baz=127,slow=12,SNR=3.1						
PLCA				LR	LR	08 23 56.2	
	comp=Z,245nm,18.6s,baz=352,slow=37						
PLCA	**Paso Flores**	**17.28 196**		*e*Pn	**P**	**08 17 09.7**	**+2.0**
	comp=Z,10.0nm,1.0s						
PLCA				Lg	Lg	08 22 19.6	
ATAH	**Atahualpa**	**21.73 319**		P	**P**	**08 17 57.3**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=166,slow=12,SNR=2.4						
ATAH				LR	LR	08 27 39.6	
	comp=Z,211nm,19.4s,baz=138,slow=40						
PTGA	**Pitinga**	**23.73 11**		P	**P**	**08 18 16.8**	**-0.2**
	comp=Z,6.7nm,0.9s,baz=193,slow=10,SNR=7.7						
PTGA				LR	LR	08 28 52.3	
	comp=Z,126nm,19.8s,baz=184,slow=40						
PTGA	**Pitinga**	**23.73 11**		*e*P	**P**	**08 18 15.4**	**-1.6**
	comp=Z,12nm,1.0s						
CHRN	**Cochrane**	**23.91 194**		*e*P	**P**	**08 18 20.4**	**+1.9**
	comp=Z,5.2nm,0.8s						
ROSC	**El Rosal**	**30.50 340**		LR	LR	08 33 39.4	
	comp=Z,150nm,19.0s,baz=210,slow=40						
RUSC	**La Rusia**	**31.14 343**		*e*P	**P**	**08 19 24.6**	**+0.4**
	comp=Z,4.3nm,1.2s						
HELC	**Santa Helena**	**32.16 339**		*e*P	**P**	**08 19 33.0**	**0.0**
	comp=Z,11nm,0.9s						
RCBR	**Riachuelo**	**32.83 61**		LR	LR	08 33 44.6	
	comp

	baz=146					
X40A	Basin Creek Fa	64.38	334	P	P	08 23 42.1 +1.7
	baz=151					
Y39A	Lockesburg	64.42	333	P	P	08 23 42.3 +1.7
	baz=150					
Z37A	Pogue Cattle C	64.44	331	P	P	08 23 42.1 +1.3
	baz=148					
U45A	Rockin P Farm,	64.53	338	P	P	08 23 42.9 +1.5
	baz=155					
Y38A	Idabel	64.68	332	P	P	08 23 43.0 +0.7
	baz=149					
U44B	Burton Farm, H	64.73	338	P	P	08 23 42.4 -0.2
	baz=155					
MIAR	Mount Ida	64.73	333	P	P	08 23 42.4 -0.3
	baz=150					
Z36A	Blue Ridge	64.87	330	P	P	08 23 44.5 +0.9
	baz=148					
X39A	Fountain Ranch	64.92	333	P	P	08 23 44.2 +0.2
	baz=150					
U44A	Portageville	64.99	338	P	P	08 23 44.8 +0.5
	baz=154					
W40A	Ferguson Farm,	65.09	334	P	P	08 23 45.6 +0.6
	baz=151					
Y37A	Hugo	65.11	332	P	P	08 23 46.1 +1.0
	baz=148					
LIC	Lamto	65.16	70	eP	P	08 23 46.3 +0.4
	comp=Z,8.0nm,0.2s					
Y36A	Durant	65.33	331	P	P	08 23 48.3 +1.7
	baz=148					
TXAR	Lajitas Array	65.34	322	P	P	08 23 47.1 +0.2
	comp=Z,1.1nm,0.8s,baz=153,slow=9.2,SNR=11					
TX31	Lajitas Ar. Si	65.34	322	eP	P	08 23 47.4 +0.5
X38A	Whitesboro	65.36	333	P	P	08 23 47.6 +0.9
	baz=149					
TIC	Toumodi	65.38	70	eP	P	08 23 47.6 +0.2
W39A	Magazine	65.38	334	P	P	08 23 48.4 +1.5
	baz=150					
KIC	Kosan Boka	65.47	70	eP	P	08 23 48.4 +0.4
	comp=Z,32nm,0.9s					
PBMO	Poplar Bluff	65.50	337	eP	P	08 23 47.1 -0.5
	comp=Z,10nm,0.8s					
X37A	Clayton	65.52	332	P	P	08 23 49.2 +1.4
	baz=149					
DBIC	Dimbokro	65.53	70	P	P	08 23 48.5 +0.2
	comp=Z,11nm,0.8s,baz=221,slow=9.4,SNR=9.7					
O56A	Blue Knob Stat	65.53	348	P	P	08 23 48.4 +0.6
	baz=166					
W38A	Poteau	65.57	333	P	P	08 23 48.4 +0.3
	baz=150					
U41A	Viola	65.66	336	P	P	08 23 48.5 -0.1
	baz=152					
N59A	State Game Lan	65.69	350	P	P	08 23 48.6 -0.2
	baz=168					
T43A	Greenville	65.72	337	P	P	08 23 49.0 -0.1
	baz=154					
V39A	Pettigrew	65.88	334	P	P	08 23 50.1 -0.1
	baz=151					
X36A	Centrahoma	65.93	331	P	P	08 23 50.8 +0.4
	baz=148					
QSPA	South Pole Qui	65.98	180	eP	P	08 23 51.4 +0.8
	comp=Z,12nm,1.0s					
W37B	Quinton	66.02	332	P	P	08 23 51.8 +0.8
	baz=149					
U40A	Yellville	66.03	335	P	P	08 23 50.6 -0.5
	baz=151					
X35A	Drake	66.06	331	P	P	08 23 51.2 -0.1
	baz=147					
V38A	Canehill	66.21	334	P	P	08 23 52.3 +0.1
	baz=150					
U39A	Green Forest	66.29	335	P	P	08 23 52.5 -0.3
	baz=151					
W36A	Wetumka	66.36	332	P	P	08 23 52.8 -0.4
	baz=148,SNR=5.5					
ACSO	Alum Creek Sta	66.45	344	eP	P	08 23 53.5 -0.2
	comp=Z,18nm,0.9s					
N54A	Moraine State	66.48	347	P	P	08 23 54.6 +0.7
	baz=164					
V37A	Hulbert	66.53	333	P	P	08 23 54.6 +0.4
	baz=149					
S41A	Jillco Farms,	66.69	336	P	P	08 23 54.9 -0.4
	baz=153					
V36A	Jenks	66.78	332	P	P	08 23 56.4 +0.6
	baz=148					
TUL1	Leonard	66.83	333	P	P	08 23 57.9 +1.8
	baz=149					
M54A	Oil Creek Stat	66.94	347	P	P	08 23 56.9 +0.1
	baz=165					
U37A	Salina	66.97	333	P	P	08 23 56.8 -0.3
	baz=149					
BINY	Binghamton	66.97	351	eP	P	08 23 57.7 +0.7
	comp=Z,14nm,0.9s					
S40A	Lebanon	66.98	336	P	P	08 23 57.1 -0.1
	baz=152					
V35A	Meyer Ranch, C	67.15	332	P	P	08 23 58.5 +0.2
	baz=148					
WMOK	Wichita Mounta	67.16	330	P	P	08 23 58.3 -0.1
	baz=146					
ALLY	Alegheny Colle	67.17	347	eP	P	08 23 58.6 +0.4
	comp=Z,26nm,0.9s					
T38A	Diamond	67.18	334	P	P	08 23 58.4 0.0
	baz=150					
R41A	Rosebud	67.19	337	P	P	08 23 57.9 -0.6
	baz=153					
S39A	Bolivar	67.37	335	P	P	08 23 59.4 -0.2
	baz=151,SNR=5.9					
T37A	Cheneyville 18	67.50	334	P	P	08 24 00.8 +0.4
	baz=150,SNR=7.7					
R40A	Maddies Statio	67.51	336	P	P	08 23 59.9 -0.6
	baz=152					
S38A	Stockton	67.55	335	P	P	08 24 00.7 0.0
	baz=151					
ERPA	Erie	67.59	347	eP	P	08 24 01.0 +0.1
	comp=Z,43nm,0.8s					
U35A	Pawnee	67.61	332	P	P	08 24 01.2 0.0
	baz=148,SNR=5.3					
Q41A	Truxton	67.73	338	P	P	08 24 02.0 +0.2
	baz=153					
MMNY	Mt. Morris Dam	67.80	349	eP	P	08 24 02.5 +0.3
R39A	Chumby, Stover	67.81	336	P	P	08 24 02.5 +0.1
	baz=152					
T36A	Boggs Farm, Ca	67.84	333	P	P	08 24 03.1 +0.5
	baz=149					
T35A	Sooner Cattle	67.98	333	P	P	08 24 03.9 +0.4
	baz=148					
S37A	Fort Scott	68.02	334	P	P	08 24 04.2 +0.5
	baz=150					
R38A	Fenwick Farm,	68.03	335	P	P	08 24 03.7 0.0
	baz=151,SNR=6.8					
MNTX	Cornudas Mount	68.10	323	P	P	08 24 04.4 +0.1
	baz=140					
MNTX	Cornudas Mount	68.10	323	eP	P	08 24 04.2 -0.1
	comp=Z,8.3nm,1.0s					
S36A	Lake Cedric, C	68.29	334	P	P	08 24 05.9 +0.5
	baz=149					
Q39A	Willow Grove F	68.43	336	P	P	08 24 05.8 -0.4
	baz=152					
MSTX	Muleshoe	68.48	326	P	P	08 24 06.8 +0.1
	baz=142					
R37A	Teagarden Farm	68.50	335	P	P	08 24 06.6 -0.1
	baz=150					
S35A	Otter Creek Ra	68.56	333	P	P	08 24 07.1 0.0
	baz=149					
Q38A	Cooks Store, C	68.60	336	P	P	08 24 08.4 +1.1
	baz=151					
AMTX	Amarillo	68.66	328	P	P	08 24 08.7 +0.8
	baz=143					
P39B	Salisbury	68.74	337	P	P	08 24 09.0 +0.9
	baz=152					
Q37A	Longview Farm,	68.84	335	P	P	08 24 08.9 +0.1
	baz=150					
S34A	Willow Spring	68.90	333	P	P	08 24 08.7 -0.5
	baz=148					
P38A	Dawn	69.15	336	P	P	08 24 10.7 0.0
	baz=151					
P37A	Lathrop	69.42	336	P	P	08 24 12.4 0.0
	baz=151					
R34A	Isabella, Hill	69.47	333	P	P	08 24 13.6 +0.9
	baz=148					
P36A	Good Intent, A	69.78	335	P	P	08 24 14.5 -0.1
	baz=150					
L43A	Garden Prairie	69.84	341	P	P	08 24 14.8 -0.1
	baz=156					
121A	Cookes Peak, D	70.07	322	P	P	08 24 18.2 +1.4
	baz=138					
121A	Cookes Peak, D	70.07	322	eP	P	08 24 18.3 +1.5
	comp=Z,2.4nm,0.8s					
121A				epP	pP	08 24 23.4 -4.2
P34A	Walnut Farm, R	70.35	334	P	P	08 24 18.6 +0.5
	baz=148					
M38A	Pleasantville	70.61	337	P	P	08 24 19.3 -0.3
	baz=152					
BNM	Barren Site	70.64	324	eP	P	08 24 22.0 +1.8
M37A	Trindle Farm,	70.90	337	P	P	08 24 21.8 +0.4
	baz=151					
CBKS	Cedar Bluff	70.96	331	P	P	08 24 23.0 +1.1
	baz=146					
K40A	Colesburg	71.06	339	P	P	08 24 22.2 -0.1
	baz=154					
LAZ	Ladron	71.11	324	eP	P	08 24 23.7 +0.6
ANMO	Albuquerque	71.15	324	P	P	08 24 24.5 +1.2
	baz=140					
ANMO	Albuquerque	71.15	324	eP	P	08 24 24.4 +1.1
	comp=Z,12nm,1.0s					
K39A	Oelwein	71.30	339	P	P	08 24 23.6 -0.2
	baz=153					
TUC	Tucson	71.64	320	P	P	08 24 28.0 +1.9
	baz=136					
TUC	Tucson	71.64	320	eP	P	08 24 28.1 +1.9
	comp=Z,8.3nm,1.3s					
T25A	Trinidad	71.79	327	P	P	08 24 28.7 +1.5
	baz=142,SNR=7.1					
T25A	Trinidad	71.79	327	eP	P	08 24 28.7 +1.5
	comp=Z,66nm,1.9s					
214A	Organ Pipe Nat	72.61	318	P	P	08 24 33.6 +1.7
	baz=134					
X18A	Snowflake	72.76	322	eP	P	08 24 34.8 +1.8
	comp=Z,12nm,1.1s					
SDCO	Great Sand Dun	72.81	327	P	P	08 24 34.7 +1.3
	baz=141,SNR=14					
SDCO	Great Sand Dun	72.81	327	eP	P	08 24 34.6 +1.3
	comp=Z,12nm,1.0s					
W18A	Petrified Fore	73.07	322	P	P	08 24 36.7 +1.9
	baz=137					
W18A	Petrified Fore	73.07	322	eP	P	08 24 36.5 +1.7
	comp=Z,17nm,1.0s					
F41A	Three Lakes	73.20	342	P	P	08 24 36.7 +1.6
	baz=156					
S22A	4UR Ranch, Cre	73.48	326	P	P	08 24 39.0 +1.7
	baz=140					
S22A	4UR Ranch, Cre	73.48	326	eP	P	08 24 38.8 +1.5
	comp=Z,4.7nm,1.0s					
X16A	Lo Mia Camp, P	73.53	321	eP	P	08 24 39.4 +1.9
	comp=Z,13nm,1.1s					
Q24A	Divide	73.58	328	P	P	08 24 39.4 +1.5
	baz=141,SNR=8.7					
Q24A	Divide	73.58	328	eP	P	08 24 39.5 +1.6
	comp=Z,14nm,0.9s					
F40A	Park Falls	73.66	342	P	P	08 24 38.2 +0.5
	baz=155					
ECSD	EROS Data Cent	73.86	336	P	P	08 24 38.8 -0.2
	baz=149					
MVCO	Mesa Verde	73.94	325	P	P	08 24 41.4 +1.5
	baz=138,SNR=10					
MVCO	Mesa Verde	73.94	325	eP	P	08 24 40.4 +0.5
	comp=Z,41nm,1.4s					
H35A	Sunnyside Ranc	74.06	338	P	P	08 24 41.5 +1.4
	baz=151					
WUAZ	Wupatki	74.28	322	P	P	08 24 43.9 +2.1
	baz=136,SNR=11					
WUAZ	Wupatki	74.28	322	eP	P	08 24 43.8 +2.0
	comp=Z,15nm,0.9s					
J31A	Geddes	74.29	335	P	P	08 24 42.1 +0.5
	baz=148					
TOA0	Torodi Ar. Sit	74.34	68	eP	P	08 24 42.8 +0.3
	comp=Z,15nm,0.8s					
TORD	Torodi Ar. Bea	74.34	68	P	P	08 24 42.6 +0.2
	comp=Z,11nm,0.8s,baz=250,slow=5.5,SNR=55					
ISCO	Idaho Springs	74.46	328	P	P	08 24 44.5 +1.5
	baz=141,SNR=10					
ISCO	Idaho Springs	74.46	328	eP	P	08 24 44.2 +1.3
	comp=Z,8.6nm,1.0s					
GLA	Glamis	74.59	318	P	P	08 24 45.5 +1.9
	baz=133					
SMCO	Snowmass	74.65	327	eP	P	08 24 46.1 +1.9
SMCO				epP	pP	08 24 51.7 -3.5
F36A	Milaca	74.65	339	P	P	08 24 45.0 +1.4
	baz=152					
H33A	Prehn Over Nor	74.72	337	P	P	08 24 44.4 +0.3
	baz=149					
H32A	Carlson Farm,	74.82	336	P	P	08 24 44.3 -0.4
	baz=149					
Y12C	Blythe	74.88	318	P	P	08 24 47.2 +2.0
	baz=133					
Y12C	Blythe	74.88	318	eP	P	08 24 47.6 +2.5
	comp=Z,14nm,1.1s					
VNDA	Vanda	74.89	189	P	P	08 24 46.5 +1.9
	comp=Z,1.0nm,0.8s,baz=140,slow=5.6,SNR=5.7					
IKP	In-Ko-Pah, Jac	75.12	317	P	P	08 24 48.4 +1.8
	baz=132					
SWSC	Sam W. Stewart	75.12	317	P	P	08 24 48.3 +1.8
	baz=132					
BC3	Big Chuckawall	75.39	318	P	P	08 24 49.8 +1.6
	baz=133					
W13A	Hualapai Mount	75.43	320	eP	P	08 24 49.8 +1.2
W13A				epP	pP	08 24 56.5 -3.1
U15A	North Rim	75.45	322	eP	P	08 24 50.9 +2.2
U15A				epP	pP	08 24 56.7 -3.0
N23A	Red Feather La	75.47	329	P	P	08 24 50.3 +1.5
	baz=141					
N23A	Red Feather La	75.47	329	eP	P	08 24 50.5 +1.7
	comp=Z,12nm,0.9s					
N23A				epP	pP	08 24 56.3 -3.4
IRM	Iron Mountain	75.54	318	P	P	08 24 50.9 +1.9
	baz=133					
PHWY	Pilot Hill	75.56	329	eP	P	08 24 50.4 +1.2
	comp=Z,14nm,1.2s					
BELC	Belle Mtn. Jos	75.95	318	P	P	08 24 53.3 +1.8
	baz=132					
TPFO	Pinon Flats	75.97	317	P	P	08 24 53.4 +1.8
	baz=132					
PFO	Pinyon Flats O	75.98	317	P	P	08 24 53.3 +1.7
	baz=132					
O20A	White River Ci	76.01	327	P	P	08 24 53.7 +2.0
	baz=139,SNR=15					
O20A	White River Ci	76.01	327	eP	P	08 24 53.3 +1.5
O20A				epP	pP	08 24 59.3 -3.4
LDFC	Landfair	76.14	319	eP	P	08 24 55.3 +2.7
	comp=Z,18nm,1.1s					
KNB	Kanab	76.16	322	eP	P	08 24 55.1 +2.4
KNB				epP	pP	08 25 00.8 -2.8
GMRC	Granite Mounta	76.28	319	P	P	08 24 55.4 +2.0
	baz=133,SNR=5.5					
LCMT	Little Creek M	76.40	322	eP	P	08 24 56.0 +2.0
LCMT				epP	pP	08 25 01.6 -3.3
SRU	San Rafael Swe	76.42	325	eP	P	08 24 55.7 +1.6
SRU				epP	pP	08 25 01.1 -3.9
P18A	Preston Nutter	76.65	325	eP	P	08 24 57.5 +2.0
P18A				epP	pP	08 25 03.1 -3.4
RWWY	Rawlins	76.69	328	eP	P	08 24 57.3 +1.6
RWWY				epP	pP	08 25 03.1 -3.5
HEC	Hector,Ludlow	76.72	318	P	P	08 24 57.9 +2.1
	baz=132					
SZCU	Shurtz Canyon	76.72	322	eP	P	08 24 57.3 +1.4
	comp=Z,25nm,1.8s					
P17A	Butcher Ranch,	76.80	325	eP	P	08 24 58.0 +1.8
P17A				epP	pP	08 25 03.6 -3.5
CCUT	Cedar City	76.85	322	eP	P	08 24 59.1 +2.4
CCUT				epP	pP	08 25 04.8 -2.8
MSU	Marysvale	76.87	323	eP	P	08 24 58.8 +2.1
MSU				epP	pP	08 25 04.9 -2.8
TUQ	Turquoise Moun	76.88	319	P	P	08 24 58.8 +2.1
	baz=133					
K22A	Casper	77.11	329	P	P	08 24 59.7 +1.8
	baz=141					
BFSC	Mount Baldy Ra	77.14	317	P	P	08 25 00.2 +2.0
	baz=131					
SHPR	Sheep Range	77.15	320	eP	P	08 25 00.2 +1.9
SHPR				epP	PcP	08 25 05.9 -3.0
RSSD	Black Hills	77.15	332	P	P	08 24 59.1 +1.0
	baz=143					
RSSD	Black Hills	77.15	332	eP	P	08 24 58.2 0.0
	comp=Z,3.9nm,0.8s					
RSSD				epP	PcP	08 25 04.3 -4.5
GSC	Goldstone, Bar	77.32	318	P	P	08 25 01.3 +2.2
	baz=132					
GSC	Goldstone, Bar	77.32	318	eP	P	08 25 01.1 +2.0
	comp=Z,11nm,1.0s					
SHOC	Shoshone, Teco	77.40	319	P	P	08 25 00.7 +1.2
	baz=132					
MPU	Maple Canyon	77.67	325	eP	P	08 25 02.9 +1.8
MPU				epP	PcP	08 25 08.3 -2.8
EDW2	Edwards Air Fo	77.77	317	P	P	08 25 01.5 -0.1
	baz=131					
NLU	North Lily Min	77.86	324	eP	P	08 25 04.6 +2.4
NLU				epP	PcP	08 25 09.8 -2.1
B32A	Ashes, Strandq	77.86	339	P	P	08 25 02.3 +0.6
	baz=150					
LRMC	Laurel Mtn Rad	77.97	318	P	P	08 25 04.6 +1.7
	baz=131,SNR=5.2					
JLU	Jordanelle	78.00	325	eP	P	08 25 04.7 +1.7
JLU				epP	PcP	08 25 10.0 -2.6
TPNV	Topopah Spring	78.09	320	P	P	08 25 05.3 +1.8
	baz=133,SNR=15					
TPNV	Topopah Spring	78.09	320	eP	P	08 25 05.6 +2.1
TPNV				epP	PcP	08 25 11.4 -1.6
FURC	Furnace Creek,	78.13	319	P	P	08 25 05.3 +1.8
	baz=132					
MPMC	Manual Prospec	78.24	318	P	P	08 25 06.0 +1.7
	baz=132					
BOSA	Boshof	78.41	116	P	P	08 25 05.9 +0.3
	comp=Z,5.4nm,0.9s,baz=244,slow=4.6,SNR=7.5					
DUG	Dugway, Tooele	78.42	324	P	P	08 25 07.2 +2.0
	baz=136,SNR=6.9					
DUG	Dugway, Tooele	78.42	324	eP	P	08 25 06.9 +1.7
DUG				epP	PcP	08 25 12.7 -1.7
ISA	Isabella, Lake	78.58	318	P	P	08 25 08.0 +1.9
	baz=131					
BW06	Boulder Array	78.64	328	P	P	08 25 07.7 +1.1
	baz=138					
BW06	Boulder Array	78.64	328	eP	P	08 25 07.6 +1.1
BW06				epP	PcP	08 25 12.8 -2.5
PD31	Pinedale Array	78.64	328	eP	P	08 25 07.8 +1.3
PD31				epP	PcP	08 25 13.0 -2.4
PDAR	Pinedale Array	78.64	328	P	P	08 25 07.5 +1.0
	comp=Z,0.7nm,0.7s,baz=159,slow=4.5,SNR=8.2					
R11A	Troy Canyon, C	78.66	321	P	P	08 25 08.5 +1.9
	baz=133,SNR=15					
R11A	Troy Canyon, C	78.66	321	eP	P	08 25 08.7 +2.0
R11A				epP	PcP	08 25 14.2 -1.3
GRAC	Grapevine Rang	78.79	319	P	P	08 25 09.0 +1.8
	baz=132					
HWUT	Hardware Ranch	78.79	326	eP	P	08 25 08.6 +1.3
HWUT				epP	PcP	08 25 14.5 -1.5
CWC	Cottonwood Cre	78.85	318	P	P	08 25 09.7 +2.0
	baz=131					
PKM	Mcpherson Peak	78.91	316	P	P	08 25 10.0 +1.9
	baz=130					
BGU	Big Grassy Mou	79.06	325	eP	P	08 25 09.8 +1.1
BGU				epP	PcP	08 25 15.9 -1.3
VES	Vestal, Richgr	79.07	317	P	P	08 25 10.5 +1.8
	baz=130					
RCTC	Rector, Farmer	79.47	318	P	P	08 25 12.7 +1.8
	baz=130					
HVU	Hansel Valley	79.54	325	eP	P	08 25 12.6 +1.3
	comp=Z,10nm,0.9s					
HVU				epP	PcP	08 25 18.8 -0.4
REDW	Red Top Meadow	79.72	327	eP	P	08 25 13.7 +1.4
REDW				epP	PcP	08 25 19.2 -0.9
SNOW	Snow King Moun	79.74	328	eP	P	08 25 14.0 +1.5
SNOW				epP	PcP	08 25 19.4 -0.7
LOHW	Long Hollow	79.78	328	eP	P	08 25 14.1 +1.4
LOHW				epP	PcP	08 25 19.6 -0.7
TPAW	Teton Pass	79.86	327	eP	P	08 25 14.6 +1.4
	comp=Z,12nm,1.3s					
MOOW	Moose Ponds	79.95	328	eP	P	08 25 14.9 +1.3
MOOW				epP	PcP	08 25 19.8 -1.2
FXWY	Fox Creek	80.01	328	eP	P	08 25 15.2 +1.3
FXWY				epP	PcP	08 25 20.7 -0.5
IMW	Indian Meadow	80.15	328	eP	P	08 25 16.2 +1.4
IMW				epP	PcP	08 25 22.1 +0.1
RLMT	Red Lodge	80.28	329	P	P	08 25 17.1 +1.8
	baz=139					
MAW	Mawson	80.46	162	P	P	08 25 16.3 +0.5
	comp=Z,1.0nm,0.7s,baz=207,slow=9.0,SNR=3.9					
DGMT	Dagmar	80.71	334	P	P	08 25 18.5 +1.2
	baz=144					
DGMT	Dagmar	80.71	334	eP	P	08 25 18.9 +1.6
	comp=Z,19nm,0.8s					
DGMT				epP	pP	08 25 24.9 -3.5
YMR	Madison River	80.74	328	eP	P	08 25 19.9 +2.1
YMR				epP	pP	08 25 25.4 -3.4
YHH	Holmes Hill	80.77	328	eP	P	08 25 19.8 +1.7
YHH				epP	pP	08 25 25.6 -3.5
WAKR	Walker	81.01	319	eP	P	08 25 21.9 +2.5
	comp=Z,10nm,1.1s					
WAKR				epP	pP	08 25 27.5 -3.0
YERR	Yerington	81.21	320	eP	P	08 25 22.7 +2.3
YERR				epP	pP	08 25 28.0 -3.4
PNTR	Pine Nut	81.49	320	eP	P	08 25 24.3 +2.3
PNTR				epP	pP	08 25 29.6 -3.3
HLID	Hailey	81.65	326	P	P	08 25 24.3 +1.6
	baz=135					
HLID	Hailey	81.65	326	eP	P	08 25 24.6 +1.9
HLID				epP	pP	08 25 30.2 -3.5
BOZ	Bozeman (W)	81.74	329	P	P	08 25 25.2 +2.1
	baz=137					
PAHR	Pah Rah Range	81.77	320	eP	P	08 25 25.2 +1.9
PAHR				epP	pP	08 25 30.9 -3.5
MCMT	McKenzie Canyo	81.77	327	eP	P	08 25 25.2 +1.8
MCMT				epP	pP	08 25 30.5 -3.8
DLMT	Dillon	82.03	328	eP	P	08 25 26.1 +1.5
	comp=Z,37nm,2.0s					
MFID	Camas Ranch	82.29	325	eP	P	08 25 27.0 +1.1
	comp=Z,21nm,1.5s					
MFID				epP	pP	08 25 32.5 -4.4
BEKR	Beckworth	82.44	320	eP	P	08 25 28.9 +2.0
	comp=Z,8.7nm,1.0s					
BEKR				epP	pP	08 25 34.3 -3.6
ORV	Oroville	82.92	319	eP	P	08 25 30.4 +1.3
	comp=Z,11nm,1.0s					
O03D	Paynes Creek	83.56	320	P	P	08 25 33.5 +1.0
	baz=129					
MOD	Modoc Plateau	83.72	321	eP	P	08 25 36.1 +2.6
	comp=Z,6.0nm,0.9s					
MOD				epP	pP	08 25 39.5 -5.0
BMO	Blue Mountains	84.05	325	eP	P	08 25 36.6 +1.7
BMO				epP	pP	08 25 42.1 -3.9
ESDC	Sonseca Array	84.87	42	P	P	08 25 39.2 +0.1
	comp=Z,1.6nm,0.8s,baz=231,slow=4.4,SNR=6.9					
ES19	SONSECA Array	84.92	42	eP	P	08 25 40.5 +1.0
I05D	Terrebonne, OR	85.87	323	P	P	08 25 44.6 +0.5
	baz=130					
LSZ	Lusaka	86.05	105	eP	P	08 25 47.5 +1.7
	comp=Z,12nm,1.1s					
HAWA	Hanford	86.24	325	eP	P	08 25 47.5 +1.7
HAWA				epP	pP	08 25 52.5 -4.3
D08A	Wollman Farm,	86.36	326	eP	P	08 25 47.7 +1.3
	comp=Z,8.6nm,1.0s					
AS01	Alice Springs	129.21	202	ePKPdf	PKPdf	08 32 13.1 -0.2
ASAR	Alice Springs	129.23	202	PKP	PKPdf	08 32 13.0 -0.3
	comp=Z,3.0nm,0.7s,baz=144,slow=2.0,SNR=32					
AS31	Alice Springs	129.23	202	ePKPdf	PKPdf	08 32 13.7 +0.4
WB2	Warramunga Arr	132.49	204	ePKPdf	PKPdf	08 32 19.9 +0.3
WB2				epPKPdf	pPKPdf	08 32 25.5 -5.4
WRA	Warramunga Arr	132.50	204	PKP	PKPdf	08 32 19.6 +0.1
	comp=Z,2.0nm,0.6s,baz=168,slow=1.6,SNR=18					
WRAB	Tennant Creek	132.50	204	ePKPdf	PKPdf	08 32 19.6 +0.1
ZALV	Zalesovo Beam	142.39	30	PKP	PKPdf	08 32 36.9 +0.3
	comp=Z,0.7nm,0.3s,baz=298,slow=3.1,SNR=2.9					
KSH	Kashi	143.28	56	PKP	PKPbc	08 32 35.4 -0.5
KSH				pPKP	pPKPdf	08 32 46.0 -4.3
KSH				sPKP		08 32 50.8
KSH				PP	PP	08 35 50.1 0.0
KSH				PKS	PKSdf	08 36 11.4 -3.2
KSH				SKS	SKSdf	08 39 42.4 -3.6
KSH				AMB	AMB	
	comp=Z,160nm,5.5s					
KSH				LR	LR	
	comp=Z,130nm,7.5s					
KSH				LR	LR	
	comp=Z,90nm,5.2s					
KSH				LR	LR	
	comp=Z,190nm,7.1s					
HYB	Hyderabad	144.68	94	i PKP	PKPdf	08 32 42.0 +0.2
HYB				e		08 32 47.0
MAKZ	Makanchi	144.89	42	ePKPdf	PKPdf	08 32 41.3 +0.1
MK31	Makanchi Array	145.08	41	ePKPdf	PKPdf	08 32 41.9 +0.3
MKAR	Makanchi Array	145.08	41	PKP	PKPdf	08 32 41.6 0.0
	comp=Z,6.9nm,0.8s,baz=316,slow=3.3,SNR=49					
MKAR	Makanchi Array	145.08	41	ePKPdf	PKPdf	08 32 41.9 +0.3
MK01	Makanchi Array	145.10	41	ePKPdf	PKPdf	08 32 42.1 +0.5
SOEI	Soe	145.21

LZH				LR	LR		
	comp=Z,240nm,18.0s						
LZH				LR	LR		
	comp=Z,270nm,17.0s						
LZH				LR	LR		
	comp=Z,370nm,18.2s						
GYA	**Guiyang**	**171.51**	**73**	*e*PKP	**PKPdf**	**08 33 13.2**	**-0.3**
GYA				PKPab	**PKPab**	**08 34 36.0**	**+1.4**
GYA				PP	**PP**	**08 38 27.9**	**+2.0**
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
NJ2	**Nanjing**	**171.73**	**341**	*e*PKP	**PKPdf**	**08 33 15.1**	**+1.9**

IDC 08 08:24:18.8±1.4,53.02S×142.46E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.7/20,mbtmp3.6/4,MS3.6/2,Ms1 3.6/2, ms1mx3.1/19,Error ellipse: s-maj=126.2km s-min=22.0km az=81.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**21.03**	**75**	LR	LR	08 35 31.0	
	comp=Z,131nm,20.9s,baz=195,slow=32						
STKA	**Stephens Creek**	**21.14**	**358**	P	P	08 29 06.8	+1.7
	1.0nm,0.6s,baz=160,slow=12,SNR=5.3						
VNDA	**Vanda**	**25.61**	**170**	P	P	08 29 48.9	-0.3
	0.6nm,0.3s,baz=34,slow=3.6,SNR=13						
H01W1	**Cape Leeuwin H**	**27.00**	**301**	T	T	08 56 33.8	
	baz=141,slow=75,SNR=39						
H01W2	**Cape Leeuwin H**	**27.00**	**301**	T	T	08 56 33.3	
	baz=141,slow=75,SNR=32						
H01W3	**Cape Leeuwin H**	**27.02**	**301**	T	T	08 56 35.1	
	baz=141,slow=75,SNR=35						
ASAR	**Alice Springs**	**30.02**	**344**	P	P	08 30 28.3	-1.0
	0.7nm,0.7s,baz=167,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**33.61**	**346**	P	P	08 31 00.0	-0.7
	0.5nm,0.7s,baz=169,slow=7.7,SNR=6.7						
MAW	**Mawson**	**38.93**	**217**	LR	LR	08 46 05.8	
	comp=Z,119nm,18.8s,baz=234,slow=34						
H08N1	**Diego Garcia H**	**73.83**	**281**	T	T	09 55 38.1	
	baz=139,slow=76,SNR=5.5						
H08N3	**Diego Garcia H**	**73.84**	**281**	T	T	09 55 33.3	
	baz=139						
H08N2	**Diego Garcia H**	**73.85**	**281**	T	T	09 55 35.6	
	baz=139,slow=76,SNR=5.2						
GERES	**GERESS Array B**	**148.00**	**284**	PKPbc	PKPbc	08 44 05.9	+0.6
	0.7nm,0.8s,baz=228,slow=3.4,SNR=3.9						

*IDC **08** 08:44:47.0±1.3,3.56N×95.60E,h0km,mb3.9/5,mb1 4.1/7, mb1mx3.7/73,mbtmp4.0/7,ML4.1/2,MS3.2/2,Ms1 3.3/2, ms1mx3.2/52,Error ellipse: s-maj=49.1km s-min=17.4km az=44.0*

*DJA **08** 08:44:50.6±2.6,5.1N±15.9E±2.2,h60km±23km,M4.3/4, MLv4.3/4*

*ISCJB **08** 08:44:53.7±1.2,4.41N±0.08×96.7E±0.2,h33km,mb3.8/5, Error ellipse: s-maj=21.8km s-min=11.8km az=5.6*

ISC 08 08:44:54.1±1.1,4.44N±0.08×96.5E±0.1,h33km,n14, σ2.66/12,mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.88**	**28**	P	**Pn**	**08 45 08.0**	**-2.2**
LHMI				S	**Sb**	**08 45 21.4**	**-1.1**
PSI	**Prapat**	**2.89**	**124**	Pn	**Pb**	**08 45 41.9**	**-3.2**
	7.2nm,0.3s,baz=308,slow=17,SNR=14						
PSI				Sn	**Sb**	**08 46 23.1**	**+3.2**
	15nm,0.3s,baz=336,slow=18,SNR=6.4						
SKLT	**Songkhla**	**4.88**	**56**	P	**Pn**	**08 46 05.6**	**+0.3**
SURT	**Suratani**	**5.02**	**26**	P	**Pn**	**08 46 06.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**14.13**	**9**	Pn	**P**	**08 48 22.5**	**+3.3**
	0.6nm,0.3s,baz=198,slow=11,SNR=20						
CMAR				LR	LR	08 54 15.2	
	comp=Z,100nm,18.8s,baz=192,slow=38						
PALK	**Pallekele**	**16.00**	**281**	LR	LR	08 54 27.1	
	comp=Z,79nm,18.3s,baz=116,slow=38						
H08S2	**Diego Garcia H**	**26.83**	**243**	T	T	09 17 48.6	
	baz=61,slow=75,SNR=6.7						
H08S3	**Diego Garcia H**	**26.83**	**244**	T	T	09 17 45.3	
	baz=61,slow=75,SNR=5.7						
H08S1	**Diego Carcia H**	**26.84**	**244**	T	T	09 17 47.7	
	baz=61,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**43.96**	**346**	P	**P**	**08 53 01.2**	**+3.2**
	0.4nm,0.5s,baz=156,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**44.35**	**124**	P	**P**	**08 53 01.7**	**0.0**
	2.3nm,0.5s,baz=301,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**45.91**	**129**	P	**P**	**08 53 13.3**	**-0.7**
	0.6nm,0.4s,baz=302,slow=7.2,SNR=20						
KURBB	**Kurchatov Arra**	**48.45**	**345**	P	**P**	**08 53 35.7**	**+2.4**
	0.4nm,0.4s,baz=162,slow=7.1,SNR=3.6						
BRTR	**Keskin Array B**	**66.47**	**312**	P	**P**	**08 55 37.6**	**-3.1**
	0.6nm,0.7s,baz=119,slow=8.2,SNR=2.9						

*ISCJB **08** 08:53:10.0±1.1,20.64S±0.02×173.18W±0.02,h2km±7km, mb5.9/384,MS5.6/296,Error ellipse: s-maj=4.1km s-min=2.5km az=141.8*

*IDC **08** 08:53:11.0±0.3,20.62S×173.24W,h0km,mb5.5/36, mb1 5.6/38,mb1mx5.6/38,mbtmp5.5/38,ML5.7/3,MS5.3/30, Ms1 5.3/30,ms1mx5.2/36,Error ellipse: s-maj=10.0km s-min=7.8km az=170.0*

*NEIC **08** 08:53:12.0±0.1,20.60S×173.22W,h6km,mb6.1/299, ME6.0,MS5.6/215,MW5.9,MW5.9,Error ellipse: s-maj=4.0km s-min=2.4km az=136.0,Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr=4.14; Mθθ2.88; Mφφ1.26; Mrθ1.45; Mθφ2.79; Mφr7.96; Best double couple: M0=9.30000×10^17 NP1:φs=75.00000°, δ22.00000°,λ-35.00000°. NP2:φs=199.00000°,δ78.00000°, λ-108.00000°. Principal axes: T 8.6400, Plg30.0000°, Azm303.0000°; N 1.2200, Plg18.0000°, Azm203.0000°; P -9.8600, Plg54.0000°, Azm86.0000°; Broadband fault plane solution: P waves. NP1:φs=25.00000°,δ15.00000°, λ-90.00000°. NP2:φs=205.00000°,δ75.00000°, λ-90.00000°. Principal axes: T Plg30.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm115.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Neiafu, Nuku'alofa and Vaini.

*GCMT **08** 08:53:12.0±0.1,20.75S×172.79W,h12km,MW5.9/143, Moment Tensor Solution. s129,c278; s143,c487; Duration: 2s3 Moment tensor: Scale 1018Nm; Mrr=0.86±.01; Mθθ0.02±.01; Mφφ0.83±.01; Mrθ0.17±.01; Mθφ0.35±.00; Mφr0.39±.01; Best double couple: M0=1.00500×10^18 NP1:φs=202.00000°,δ57.00000°, λ-89.00000°. NP2:φs=19.00000°,δ33.00000°,λ-92.00000°. Principal axes: T 1.0590, Plg12.0000°, Azm291.0000°; N -0.1090, Plg1.0000°, Azm21.0000°; P -0.9500, Plg77.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **08** 08:53:13.4,20.40S×173.30W,h20km,mb5.7/39, mB6.3/71,Ms5.8/78,Ms7 5.5/73*

*NEIC **08** 08:53:14.0±0.0,20.52S×173.12W,h15km,Moment Tensor Solution. s32 Moment tensor: Scale 1017Nm; Mrr=8.38; Mθθ0.09; Mφφ8.29; Mrθ2.15; Mθφ4.29; Mφr2.20; Best double couple: M0=9.90000×10^17 NP1:φs=211.00000°, δ54.00000°,λ-79.00000°. NP2:φs=14.00000°,δ37.00000°, λ-104.00000°. Principal axes: T 10.6000, Plg8.0000°, Azm293.0000°; N -1.6000, Plg8.0000°, Azm25.0000°; P -9.0000, Plg77.0000°, Azm158.0000°;*

*MOS **08** 08:53:15.9±0.9,20.51S×173.11W,h35km,mb6.1/91, MS5.6/56 Error ellipse: s-maj=8.2km s-min=6.2km az=76.4*

ISC 08 08:53:15.5±0.4,20.70S±0.03×173.16W±0.03,h29km±2km, h30km:pP-P,n1851,σ1.41/1882,mb6.0/381,MS5.6/298, 55C-63D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.88**	**11**	Pn	Pn	08 54 45.0	-9.4
	54nm,0.3s,baz=198,slow=11,SNR=46						
AFI				Sn	Sn	08 55 58.2	-14
	218nm,0.3s,baz=18,slow=19,SNR=4.1						
AFI				LR	LR	08 56 59.4	
	comp=Z,7μm,21.8s,baz=201,slow=34						
AFI	**Afiamalu**	**6.88**	**11**	*e*P	Pn	08 54 46.0	-8.5
AFI	**Afiamalu**	**6.88**	**11**	*e*Pn	Pn	08 54 46.0	-8.5
AFI				*e*Sn	Sn	08 55 58.3	-14
MSVF	**Nonsavu**	**8.81**	**288**	*e*P	**Pn**	**08 55 24.7**	**+3.7**
MSVF	**Nonsavu**	**8.81**	**288**	*e*Pn	**Pn**	**08 55 24.7**	**+3.7**
RAO	**Raoul Island**	**9.54**	**206**	Pn	**Pn**	**08 55 29.6**	**-1.3**
	310nm,0.3s,baz=45,slow=20,SNR=22						
RAO				Sn	**Sn**	**08 57 10.9**	**-6.3**
	238nm,0.3s,baz=278,slow=22,SNR=12						
RAO	**Raoul Island**	**9.54**	**206**	*e*P	**Pn**	**08 55 29.7**	**-1.2**
RAO	**Raoul Island**	**9.54**	**206**	*e*Pn	**Pn**	**08 55 29.7**	**-1.2**
RAO				*e*Sn	**Sn**	**08 57 10.4**	**-6.8**
RAR	**Rarotonga**	**12.52**	**95**	Pn	Pn	08 56 03.7	-8.0
	118nm,0.3s,baz=268,slow=10,SNR=220						
RAR				Sn	Sn	08 58 12.0	-18
	42nm,0.3s,baz=62,slow=18,SNR=3.4						
RAR	**Rarotonga**	**12.52**	**95**	*e*Pn	Pn	08 56 03.6	-8.1
RAR				*e*Sn	Sn	08 58 10.3	-20
FUNA	**Funafuti**	**14.17**	**328**	*e*Pn	**Pn**	**08 56 32.7**	**-1.6**
MXZ	**Matakaoa Point**	**18.37**	**202**	*e*P	**Pn**	**08 57 29.4**	**+1.4**
	196nm,1.3s						
WMGZ	**Waiomatatini S**	**18.56**	**201**	*e*P*	**Pn**	**08 57 31.9**	**+1.7**
OUZ	**Omahuta**	**18.57**	**216**	*e*P	**Pn**	**08 57 32.5**	**+2.0**
	1μm,2.0s						
OUZ	**Omahuta**	**18.57**	**216**	P*	**Pn**	**08 57 32.1**	**+1.6**
KUZ	**Kuaotunu**	**18.70**	**209**	P*	**Pn**	**08 57 33.6**	**+1.6**
WCZ	**Waipu Caves**	**18.72**	**213**	*e*P*	**Pn**	**08 57 33.0**	**+0.8**
HAZ	**Te Kaha**	**18.73**	**203**	P*	**P**	**08 57 26.3**	**-5.5**
PUZ	**Puketiti**	**18.84**	**201**	*e*P*	**P**	**08 57 26.6**	**-6.5**
PUZ				SN	Sn	09 00 46.4	-17
WIAZ	**Waiheke Island**	**19.01**	**210**	P*	**Pn**	**08 57 36.9**	**+1.2**
DZM	**Mont Dzumac**	**19.04**	**262**	P	**P**	**08 57 35.7**	**+0.2**
	11nm,0.3s,baz=91,slow=13,SNR=85						
DZM				S	**Sn**	**09 01 09.3**	**+0.4**
	0.3nm,0.3s,baz=159,slow=17,SNR=2.5						
DZM				LR	LR	09 04 25.2	
	comp=Z,28μm,18.2s,baz=94,slow=36						
DZM	**Mont Dzumac**	**19.04**	**262**	*e*P	**P**	**08 57 34.6**	**-0.9**
	2μm,1.6s						
DZM				*e*LQ	LQ	09 01 12.2	
	39μm,25.0s						
DZM				*e*LR	LR	09 01 59.5	
	33μm,26.9s						
MTAZ	**Motutapu**	**19.11**	**210**	P*	**Pn**	**08 57 38.7**	**+1.7**
MKAZ	**Moumakai**	**19.25**	**209**	P*	**Pn**	**08 57 40.2**	**+1.6**
TKGZ	**Te Karaka**	**19.31**	**202**	SN	S	09 00 58.9	-16
MWZ	**Matawai**	**19.33**	**203**	*e*P*	**P**	**08 57 34.8**	**-3.7**
URZ	**Urewera**	**19.42**	**204**	P	**P**	**08 57 40.0**	**+0.7**
	12nm,0.3s,baz=22,slow=11,SNR=43						
URZ				S	S	09 01 00.3	-17
	2.1nm,0.3s,baz=53,slow=6.3,SNR=3.1						
URZ	**Urewera**	**19.42**	**204**	*e*P	**P**	**08 57 39.2**	**-0.1**
	421nm,1.3s						
URZ				S	S	09 01 00.3	-17
URZ	**Urewera**	**19.42**	**204**	P*	**P**	**08 57 38.8**	**-0.5**
AWAZ	**Awhitu Peninsu**	**19.46**	**210**	*e*P*	**Pn**	**08 57 41.7**	**+0.6**
RIGZ	**Rimuhau**	**19.58**	**202**	P*	**Pn**	**08 57 43.4**	**+0.7**
TOZ	**Tahuroa Road**	**19.62**	**208**	P*	**Pn**	**08 57 43.1**	**+0.1**
KNZ	**Kokohu**	**19.89**	**201**	P*	**Pn**	**08 57 47.3**	**+1.1**
BKZ	**Black Stump Fm**	**20.45**	**204**	*e*P	**P**	**08 57 51.3**	**+0.7**
	120nm,0.8s						
BKZ				LR	LR		
	comp=Z,9μm,18.0s						
BKZ	**Black Stump Fm**	**20.45**	**204**	P*	**P**	**08 57 49.9**	**-0.7**
HIZ	**Hauiti**	**20.55**	**208**	*e*P	Pn	08 57 54.3	+0.3
	comp=Z,495nm,0.9s						
HIZ				LR	LR		
	comp=Z,10μm,19.0s						
KAHZ	**Kahuranaki**	**20.86**	**202**	P*	Pn	08 57 57.0	-0.6
BHHZ	**Black Hill Sta**	**20.89**	**204**	P*	**P**	**08 57 55.5**	**+0.1**
WHVZ	**Whangaehu Hut**	**20.89**	**205**	P*	**P**	**08 57 55.5**	**-0.2**
WNVZ	**Wahianoa**	**20.93**	**205**	P*	**P**	**08 57 55.2**	**-0.7**
PXZ	**Pawanui**	**21.08**	**202**	P*	**P**	**08 57 58.8**	**+1.4**
VRZ	**Vera Road**	**21.10**	**207**	P*	**P**	**08 57 57.8**	**+0.2**
TSZ	**Takapari Road**	**21.42**	**203**	P*	**P**	**08 58 00.9**	**-0.2**
BFZ	**Birch Farm**	**21.87**	**202**	*e*P	**P**	**08 58 07.5**	**+1.6**
	comp=Z,1μm,1.6s						
BFZ				*e*S	**S**	**09 02 06.3**	**+0.3**
BFZ				LR	LR		
	comp=Z,5μm,19.0s						
BFZ	**Birch Farm**	**21.87**	**202**	P*	**P**	**08 58 07.3**	**+1.5**
MRZ	**Mangatainoka R**	**22.09**	**203**	P*	**P**	**08 58 07.2**	**-1.1**
MRZ				*e*S*	S	09 01 56.7	-14
TBI	**Tubuai**	**22.13**	**101**	*e*P	**P**	**08 58 07.1**	**-1.7**
	comp=Z,1μm,1.4s						
TBI				*e*S	**S**	**09 02 05.9**	**-5.2**
	comp=Z,15μm,26.1s						
TBI				*e*LQ	LQ	09 02 22.8	
	comp=Z,19μm,28.8s						
TBI				*e*LR	LR	09 02 59.8	
	comp=Z,43μm,31.0s						
TBI	**Tubuai**	**22.13**	**101**	*e*T	T	09 20 35.6	
	comp=Z,16nm,0.3s						
PAE	**Paea**	**22.47**	**86**	*e*P	**P**	**08 58 11.6**	**-0.9**
	comp=Z,78nm,1.2s						
PAE	**Paea**	**22.47**	**86**	*e*T	T	09 21 07.0	
	comp=Z,17nm,0.3s						
PPT2	**Papeete2**	**22.49**	**86**	*e*P	**P**	**08 58 12.0**	**-0.8**
	comp=Z,479nm,1.3s						
PPT2				*e*LQ	LQ	09 02 26.4	
	comp=Z,56μm,26.0s						
PPT2				*e*LR	LR	09 03 04.9	
	comp=Z,44μm,30.0s						
PPT2	**Papeete2**	**22.49**	**86**	*e*T	T	09 21 09.2	
	comp=Z,17nm,0.3s						
PPT	**Papeete**	**22.50**	**86**	P	**P**	**08 58 12.8**	**0.0**
	comp=Z,292nm,1.1s,baz=270,slow=6.1,SNR=34						
PPT				S	**S**	**09 02 22.8**	**+4.7**
	comp=Z,18nm,0.8s,baz=234,slow=19,SNR=2.7						
PPT				LR	LR	09 06 20.9	
	comp=Z,13μm,18.0s,baz=252,slow=35						
MTW	**Mount Morrison**	**22.55**	**203**	S*	**S**	**09 02 09.2**	**-10**
TRWZ	**Traveller**	**22.70**	**202**	P*	**P**	**08 58 16.3**	**+1.5**
TRWZ				S*	**S**	**09 02 15.6**	**-5.7**
TIAR	**Tiarei**	**22.71**	**86**	*e*P	**P**	**08 58 13.0**	**-2.1**
	comp=Z,115nm,1.0s						
TIAR	**Tiarei**	**22.71**	**86**	*e*T	T	09 21 24.5	
	comp=Z,3.0nm,0.3s						
TVO	**Taravao**	**22.76**	**87**	*e*P	**P**	**08 58 13.7**	**-1.9**
	comp=Z,42nm,0.8s						
TVO	**Taravao**	**22.76**	**87**	*e*T	T	09 21 28.4	
	comp=Z,2.3nm,0.3s						
PAWZ	**Paruwai Farm**	**22.78**	**203**	S*	**S**	**09 02 15.0**	**-7.7**
DUWZ	**D'Urville Isla**	**22.86**	**206**	P*	**P**	**08 58 14.2**	**-2.2**
SNZO	**South Karori**	**22.98**	**204**	*e*P	**P**	**08 58 19.0**	**+1.4**
	comp=Z,656nm,1.3s						
SNZO				*e*S	**S**	**09 02 25.4**	**-0.7**
SNZO				LR	LR		
	comp=Z,10μm,19.0s						
PLWZ	**Palliser**	**23.00**	**203**	*e*P*	**P**	**08 58 18.3**	**+0.4**
PLWZ				S*	**S**	**09 02 18.1**	**-8.5**
CTZ	**Chatham Island**	**23.15**	**186**	S*	**S**	**09 02 26.1**	**-2.9**
TUWZ	**Tuamarina**	**23.38**	**205**	P*	**P**	**08 58 19.4**	**-2.2**
NNZ	**Nelson**	**23.43**	**206**	P*	**P**	**08 58 19.7**	**-2.4**
QRZ	**Quartz Range**	**23.47**	**208**	P*	**P**	**08 58 22.6**	**0.0**
THZ	**Tophouse**	**24.08**	**206**	*e*P	**P**	**08 58 28.2**	**-0.2**
	comp=Z,85nm,0.6s						
THZ				*e*S	**S**	**09 02 46.9**	**+2.8**
THZ				LR	LR		
	comp=Z,13μm,18.0s						
THZ	**Tophouse**	**24.08**	**206**	P*	**P**	**08 58 27.6**	**-0.8**
THZ				S*	**S**	**09 02 45.3**	**+1.2**
KHZ	**Kahutara**	**24.38**	**204**	*e*P	**P**	**08 58 32.4**	**+1.4**
	comp=Z,1μm,1.8s						
KHZ				LR	LR		
	comp=Z,10μm,19.0s						
KHZ	**Kahutara**	**24.38**	**204**	P*	**P**	**08 58 31.9**	**+0.9**
DSZ	**Denniston Nort**	**24.54**	**208**	P*	**P**	**08 58 31.5**	**-1.0**
PMOR	**Pomariorio Ree**	**24.70**	**81**	*e*P	**P**	**08 58 31.6**	**-2.6**
	comp=Z,381nm,1.5s						
PMOR	**Pomariorio Ree**	**24.70**	**81**	*e*T	T	09 23 55.1	
	comp=Z,2.7nm,0.3s						
VAH	**Vaihoa**	**24.88**	**82**	*e*P	**P**	**08 58 33.9**	**-1.9**
	comp=Z,191nm,1.3s						
LTZ	**Lake Taylor**	**25.19**	**206**	*e*P	**P**	**08 58 38.3**	**-0.2**
	comp=Z,148nm,0.7s						
LTZ				LR	LR		
	comp=Z,10μm,19.0s						
INZ	**Inchbonnie**	**25.49**	**207**	P*	**P**	**08 58 40.4**	**-0.6**
CRLZ	**Canterbury Las**	**25.72**	**204**	*e*P	**P**	**08 58 44.8**	**+1.7**
	comp=Z,706nm,1.5s						
CRLZ				LR	LR		
	comp=Z,7μm,19.0s						
OXZ	**Oxford**	**25.74**	**205**	*e*P	**P**	**08 58 43.3**	**-0.1**
	comp=Z,206nm,0.6s						
OXZ				LR	LR		
	comp=Z,8μm,18.0s						
OXZ	**Oxford**	**25.74**	**205**	P*	**P**	**08 58 43.1**	**-0.3**
TARA	**Tarawa**	**25.81**	**326**	*e*P	**P**	**08 58 42.1**	**-2.2**
	comp=Z,130nm,1.5s						
TARA				LR	LR		
	comp=Z,12μm,19.0s						
MQZ	**McQueen's Vall**	**25.82**	**204**	*e*P	**P**	**08 58 45.5**	**+1.4**
	comp=Z,135nm,1.2s						
MQZ				LR	LR		
	comp=Z,7μm,19.0s						
WVZ	**Waitaha Valley**	**26.07**	**208**	P*	**P**	**08 58 45.9**	**-0.5**
RPZ	**Rata Peaks**	**26.46**	**206**	P	**P**	**08 58 49.7**	**-0.2**
	comp=Z,67nm,0.8s,baz=52,slow=4.1,SNR=19						
RPZ				S	**S**	**09 03 30.3**	**+8.4**
	comp=Z,54nm,1.0s,baz=209,slow=14,SNR=3.1						
RPZ	**Rata Peaks**	**26.46**	**206**	*e*P	**P**	**08 58 50.6**	**+0.7**
	comp=Z,133nm,0.7s						
RPZ				S	**S**	**09 03 30.4**	**+8.4**
RPZ				LR	LR		
	comp=Z,13μm,18.0s						
RPZ	**Rata Peaks**	**26.46**	**206**	P*	**P**	**08 58 49.7**	**-0.2**
FOZ	**Fox Glacier**	**26.84**	**208**	*e*P	**P**	**08 58 54.5**	**+1.2**
	comp=Z,329nm,0.8s						
FOZ				*e*S	**S**	**09 03 37.3**	**+9.4**
FOZ				LR	LR		
	comp=Z,16μm,18.0s						
FOZ	**Fox Glacier**	**26.84**	**208**	P*	**P**	**08 58 52.5**	**-0.9**
LHI	**Lord Howe Isla**	**27.10**	**241**	*e*P	**P**	**08 58 57.7**	**+1.9**
	comp=Z,388nm,1.3s						
LHI				LR	LR		
	comp=Z,7μm,19.0s						
XMAS	**Kiritimati**	**27.35**	**36**	*e*P	**P**	**08 58 56.7**	**-1.5**
XMAS				LR	LR		
	comp=Z,17μm,20.0s						
LBZ	**Lake Benmore**	**27.37**	**207**	*e*P	**P**	**08 58 58.0**	**-0.1**
	comp=Z,136nm,1.1s						
LBZ				*e*S	**S**	**09 03 45.2**	**+8.9**
LBZ				LR	LR		
	comp=Z,14μm,18.0s						
LBZ	**Lake Benmore**	**27.37**	**207**	P*	**P**	**08 58 57.4**	**-0.8**
ODZ	**Otahua Downs**	**27.72**	**205**	*e*P	**P**	**08 59 02.4**	**+1.2**
	comp=Z,540nm,1.7s						
ODZ				LR	LR		
	comp=Z,10μm,18.0s						
ODZ	**Otahua Downs**	**27.72**	**205**	P*	**P**	**08 59 01.9**	**+0.7**
JCZ	**Jackson Bay**	**27.73**	**209**	P*	**P**	**08 59 00.3**	**-1.1**
WKZ	**Wanaka**	**28.22**	**207**	*e*P	**P**	**08 59 05.0**	**-0.7**
	comp=Z,266nm,1.2s						
WKZ				LR	LR		
	comp=Z,13μm,18.0s						
HNR	**Honiara**	**28.23**	**289**	P	**P**	**08 59 03.4**	**-2.6**
	comp=Z,41nm,0.5s,baz=88,slow=5.1,SNR=19						
HNR				S	**S**	**09 03 49.7**	**-0.6**
	comp=Z,16nm,0.3s,baz=139,slow=19,SNR=2.4						
HNR				LR	LR	09 09 33.3	
	comp=Z,6μm,18.1s,baz=136,slow=35						
HNR	**Honiara**	**28.23**	**289**	*e*P	**P**	**08 59 03.0**	**-3.1**
HNR	**Honiara**	**28.23**	**289**	*e*P	**P**	**08 59 03.4**	**-2.6**
HNR				pmax	pmax		
	comp=Z,290nm,1.0s						
HNR	**Honiara**	**28.23**	**289**	*e*P	**P**	**08 59 03.4**	**-2.6**
	comp=Z,294nm,1.0s						
HNR				S	**S**	**09 03 49.7**	**-0.6**
TUZ	**Tuapeka**	**28.88**	**205**	P*	**P**	**08 59 13.2**	**+1.7**
MLZ	**Mavora Lakes**	**29.04**	**208**	*e*P	**P**	**08 59 13.2**	**+0.2**
	comp=Z,109nm,0.8s						
MLZ				LR	LR		
	comp=Z,9μm,20.0s						
MLZ	**Mavora Lakes**	**29.04**	**208**	P*	**P**	**08 59 14.8**	**+1.8**
WHZ	**Wether Hill Ro**	**29.53**	**207**	*e*P	**P**	**08 59 17.7**	**+0.4**
	comp=Z,95nm,0.7s						
WHZ				LR	LR		
	comp=Z,11μm,18.0s						
WHZ	**Wether Hill Ro**	**29.53**	**207**	P*	**P**	**08 59 17.3**	**0.0**
DCZ	**Deep Cove**	**29.54**	**209**	*e*P	**P**	**08 59 18.0**	**+0.6**
	comp=Z,456nm,2.0s						
DCZ				LR	LR		
	comp=Z,6μm,18.0s						
PYZ	**Puysegur Point**	**30.29**	**208**	PFAKE		08 59 40.0	+16
PYZ				LR	LR		
	comp=Z,7μm,18.0s						
ARMA	**Armidale**	**33.09**	**246**	*e*P	**P**	**08 59 49.2**	**+0.2**
	comp=Z,74nm,1.0s						
ARMA				LR	LR		
	comp=Z,8μm,18.0s						
EIDS	**Eidsvold**	**33.17**	**255**	*e*P	**P**	**08 59 49.2**	**-0.5**
	comp=Z,252nm,1.4s						
EIDS				*e*S	**S**	**09 05 06.4**	**-1.1**
EIDS				LR	LR		
	comp=Z,8μm,19.0s						
TAOE	**Nuku Hiva Isla**	**33.95**	**75**	*e*P	**P**	**08 59 55.3**	**-1.3**
	comp=Z,251nm,1.3s						
TAOE				*e*S	**S**	**09 05 18.1**	**-1.8**
	comp=Z,3μm,25.7s						
TAOE				*e*LR	LR	09 08 17.9	
	comp=Z,19μm,30.6s,baz=252						
TAOE	**Nuku Hiva Isla**	**33.95**	**75**	*e*T	T	09 35 31.7	
	comp=Z,32nm,0.2s						
KWAJ	**Kwajalein Atol**	**34.88**	**325**	PFAKE		09 00 20.0	+16
KWAJ				LR	LR		
	comp=Z,10μm,19.0s						
RKT	**Rikitea**	**35.45**	**101**	*e*P	**P**	**09 00 08.2**	**-1.2**
	comp=Z,219nm,1.2s						
RKT				*e*S	**S**	**09 05 41.7**	**-1.1**
	comp=Z,2μm,27.2s						
RKT				*e*LQ	LQ	09 08 04.9	
	comp=Z,2μm,28.8s						
RKT				*e*LR	LR	09 09 10.0	
	comp=Z,31μm,29.8s,baz=270						
RKT	**Rikitea**	**35.45**	**101**	*e*T	T	09 37 12.4	
	comp=Z,8.2nm,0.2s						
CAN	**Canberra**	**36.21**	**238**	*e*P	**P**	**09 00 16.4**	**+0.5**
CAN				pmax	pmax		
	comp=Z,290nm,1.2s						
CAN	**Canberra**	**36.21**	**238**	*e*P	**P**	**09 00 16.4**	**+0.5**
	comp=Z,292nm,1.2s						
CAN				LR	LR		
	comp=Z,7μm,18.0s						
MILA	**Mila**	**36.53**	**235**	P	**P**	**09 00 19.7**	**+1.1**
	baz=36,SNR=19						
JOHN	**Johnston Islan**	**37.37**	**6**	PFAKE		09 00 40.0	+14
JOHN				LR	LR		
	comp=Z,9μm,20.0

comp=Z,690nm,1.5s
MCQ Macquarie Isla 39.81 205 *e*P **P 09 00 48.9 +3.0**
comp=Z,690nm,1.5s
PMG Port Moresby 39.82 280 P **P 09 00 45.1 -1.4**
comp=Z,109nm,0.8s,baz=101,slow=8.3,SNR=39
PMG S **S 09 06 45.7 -3.6**
comp=Z,3.0nm,0.3s,baz=274,slow=19,SNR=5.9
PMG LR LR 09 16 44.5
comp=Z,7μm,18.1s,baz=101,slow=36
PMG Port Moresby 39.82 280 *e*P **P 09 00 45.4 -1.1**
comp=Z,314nm,1.1s
PMG S **S 09 06 45.7 -3.6**
MTSU Mount Surprise 40.10 266 P **P 09 00 47.7 -1.1**
baz=40,SNR=108
STKA Stephens Creek 41.80 245 P **P 09 01 02.4 -0.2**
comp=Z,37nm,0.8s,baz=90,slow=10,SNR=89
STKA S **S 09 07 15.9 -2.5**
comp=Z,12nm,1.3s,baz=202,slow=19,SNR=2.1
STKA LR LR 09 16 51.4
comp=Z,6μm,19.0s,baz=77,slow=34
STKA Stephens Creek 41.80 245 *e*P **P 09 01 02.5 -0.1**
comp=Z,68nm,1.8s
STKA *e*S **S 09 07 20.7 +2.3**
COEN Coen 42.12 272 P **P 09 01 04.3 -1.1**
baz=42,SNR=22
COEN Coen 42.12 272 *e*P **P 09 01 04.2 -1.1**
comp=Z,73nm,0.8s
COEN LR LR
comp=Z,7μm,18.0s
ARPS Mount Arapiles 42.18 238 P **P 09 01 06.1 +0.4**
baz=42,SNR=24
MANU Manus Island 42.72 291 *e*P **P 09 01 09.9 -0.4**
comp=Z,1μm,1.9s
MANU LR LR
comp=Z,8μm,18.0s
HLP Hilina Pali 43.42 25 PFAKE 09 01 30.0 +14
HLP LR LR
comp=Z,6μm,18.0s
AIN Ainahou 43.43 25 PFAKE 09 01 30.0 +14
AIN LR LR
comp=Z,6μm,20.0s
MWH Moku'aweowe 43.48 24 PFAKE 09 01 30.0 +13
MWH LR LR
comp=Z,5μm,18.0s
SDHHI Sand Hill 43.51 25 PFAKE 09 01 30.0 +13
SDHHI LR LR
comp=Z,5μm,20.0s
RIM Rim 43.53 25 PFAKE 09 01 30.0 +13
RIM LR LR
comp=Z,5μm,18.0s
WRMHI West Rim 43.53 25 PFAKE 09 01 30.0 +13
WRMHI LR LR
comp=Z,5μm,20.0s
KKO Keanakako'i 43.53 25 PFAKE 09 01 30.0 +13
KKO LR LR
comp=Z,6μm,21.0s
MLOA Mauna Loa Obse 43.54 24 PFAKE 09 01 30.0 +13
MLOA LR LR
comp=Z,5μm,18.0s
OBL Observatory Le 43.54 25 PFAKE 09 01 30.0 +13
OBL LR LR
comp=Z,7μm,22.0s
UWE Uwekahuna 43.54 25 PFAKE 09 01 30.0 +13
UWE LR LR
comp=Z,5μm,18.0s
HATHI Halema'uma'u T 43.56 25 PFAKE 09 01 30.0 +13
HATHI LR LR
comp=Z,6μm,20.0s
SBLHI Steaming Bluff 43.56 25 PFAKE 09 01 30.0 +13
SBLHI LR LR
comp=Z,6μm,20.0s
MLH Mauna Loa 43.57 25 *e*P **P 09 01 16.9 -0.4**
MLH pmax pmax
comp=Z,510nm,1.5s
MLH MLR MLR
comp=Z,5μm,19.0s
MLH Mauna Loa 43.57 25 *e*P **P 09 01 16.9 -0.4**
comp=Z,510nm,1.5s
MLH LR LR
comp=Z,5μm,19.0s
STCH Steam Cracks 43.58 25 PFAKE 09 01 30.0 +13
STCH LR LR
comp=Z,5μm,20.0s
JCUZ Jacuzzi 43.59 25 PFAKE 09 01 30.0 +13
JCUZ LR LR
comp=Z,6μm,18.0s
NPOC North of Pu'u 43.59 25 PFAKE 09 01 30.0 +13
NPOC LR LR
comp=Z,9μm,21.0s
H11S2 WAKE ISLAND Hy 43.66 332 T T 09 49 16.6
baz=148,slow=76,SNR=29
H11S3 WAKE ISLAND Hy 43.67 332 T T 09 49 19.5
baz=148,slow=76,SNR=34
H11S1 WAKE ISLAND Hy 43.68 332 T T 09 49 17.8
baz=148,slow=76,SNR=34
POHA Pohakuloa 43.75 24 *e*P **P 09 01 17.9 -0.9**
comp=Z,169nm,1.0s
POHA LR LR
comp=Z,5μm,18.0s
HPAH Hawaii Prepara 43.94 24 *e*P **P 09 01 18.9 -1.1**
comp=Z,314nm,1.0s
HPAH LR LR
comp=Z,5μm,18.0s
HTT Hallett 44.16 243 P **P 09 01 21.6 -0.2**
baz=44,SNR=39
WAKE Wake Island 44.38 332 *e*P **P 09 01 22.8 -0.6**
comp=Z,352nm,1.0s
WAKE LR LR
comp=Z,6μm,18.0s
HLK Haleakala 44.40 23 *e*P **P 09 01 23.2 -0.7**
comp=Z,883nm,1.9s
KIP Kipapa 44.40 20 ⇑*i*P **P 09 01 23.4 -0.2**
KIP pmax pmax
comp=Z,3μm,1.7s
KIP Kipapa 44.40 20 *e*P **P 09 01 23.2 -0.5**
comp=Z,278nm,1.1s
KIP LR LR
comp=Z,7μm,19.0s
KEKH Kekaha 44.41 18 *e*P **P 09 01 21.7 -1.9**
comp=Z,500nm,1.5s
BBOO Buckleboo 46.53 244 P **P 09 01 39.7 -0.8**
baz=46,SNR=46
BBOO Buckleboo 46.53 244 *e*P **P 09 01 39.8 -0.8**
comp=Z,151nm,1.3s
BBOO LR LR
comp=Z,8μm,20.0s
JAY Jayapura 48.43 286 P **P 09 01 55.1 -0.5**
comp=Z,52nm,0.6s,baz=126,slow=21,SNR=387
JAY S **S 09 08 54.8 0.0**
comp=Z,0.5nm,0.8s,baz=60,slow=24,SNR=13
JAY Jayapura 48.43 286 P **P 09 01 55.2 -0.4**
comp=Z,624nm,0.7s,comp=Z,6μm
MIDW Midway 48.80 355 PFAKE 09 02 10.0 +12
MIDW LR LR
comp=Z,5μm,20.0s
AS01 Alice Springs 48.84 256 *e*P **P 09 01 56.9 -1.7**
WR0 Warramunga Arr 48.87 261 PFAKE 09 02 10.0 +11
WR0 LR LR
comp=Z,10μm,18.0s
AS31 Alice Springs 48.88 256 *e*P **P 09 01 57.9 -1.0**
comp=Z,26nm,0.8s
AS31 *e*S **S 09 08 58.6 -2.3**
AS31 LR LR
comp=Z,100nm,18.0s
ASAR Alice Springs 48.88 256 P **P 09 01 58.1 -0.8**
comp=Z,49nm,0.6s,baz=101,slow=7.9,SNR=479
ASAR PcP **PcP 09 03 23.3 +0.1**
comp=Z,19nm,0.9s,baz=104,slow=3.9,SNR=4.3
ASAR S **S 09 08 55.7 -5.3**
comp=Z,4.1nm,0.8s,baz=95,slow=15,SNR=9.7
ASAR LR LR 09 22 03.6
comp=Z,7μm,18.2s,baz=98,slow=36
ASAR Alice Springs 48.88 256 P **P 09 01 58.1 -0.8**
ASAR 09 03 23.3
ASAR S **S 09 08 55.7 -5.3**
ASAR pmax pmax
comp=Z,48nm,0.6s
ASAR pmax pmax
comp=Z,19nm,0.9s
ASAR smax smax
comp=N,4.0nm,0.8s
ASAR MLR MLR
comp=Z,7μm,18.2s
GENI Genyem 48.88 285 P **P 09 01 59.2 +0.2**
WR9 Warramunga Arr 48.89 261 PFAKE 09 02 10.0 +11
WR9 LR LR
comp=Z,9μm,18.0s
WR8 Warramunga Arr 48.90 261 PFAKE 09 02 10.0 +11
WR8 LR LR
comp=Z,9μm,18.0s
WR7 Warramunga Arr 48.92 261 PFAKE 09 02 10.0 +11
WR7 LR LR
comp=Z,10μm,18.0s
WR6 Warramunga Arr 48.95 261 PFAKE 09 02 10.0 +11
WR6 LR LR
comp=Z,9μm,18.0s
WR5 Warramunga Arr 48.97 261 PFAKE 09 02 10.0 +10
WR5 LR LR
comp=Z,9μm,18.0s
WR4 Warramunga Arr 48.99 261 PFAKE 09 02 10.0 +10
WR4 LR LR
comp=Z,9μm,18.0s
WC3 Warramunga Arr 49.02 261 PFAKE 09 02 10.0 +10
WC3 LR LR
comp=Z,9μm,18.0s
WR2 Warramunga Arr 49.03 261 PFAKE 09 02 10.0 +10
WR2 LR LR
comp=Z,9μm,18.0s
WC2 Warramunga Arr 49.03 261 PFAKE 09 02 10.0 +10
WC2 LR LR
comp=Z,10μm,18.0s
WB0 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB0 LR LR
comp=Z,8μm,18.0s
WB8 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB8 LR LR
comp=Z,8μm,18.0s
WB9 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB9 LR LR
comp=Z,17μm,18.0s
WB5 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB5 LR LR
comp=Z,8μm,18.0s
WB3 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB3 LR LR
comp=Z,7μm,18.0s
WB2 Warramunga Arr 49.04 261 *e*P **P 09 01 58.7 -1.5**
comp=Z,247nm,1.2s
WB2 LR LR
comp=Z,9μm,18.0s
WB4 Warramunga Arr 49.04 261 PFAKE 09 02 10.0 +10
WB4 LR LR
comp=Z,7μm,18.0s
WRAB Tennant Creek 49.05 261 ⇓*i*P **P 09 01 59.4 -0.8**
WRAB *i* 09 03 25.1
WRAB MLR MLR
comp=Z,26μm,17.0s
WRAB Tennant Creek 49.05 261 *e*P **P 09 01 59.1 -1.2**
comp=Z,242nm,1.3s
WRAB LR LR
comp=Z,9μm,18.0s
WC4 Warramunga Arr 49.05 261 PFAKE 09 02 10.0 +10
WC4 LR LR
comp=Z,9μm,18.0s
WR1 Warramunga Arr 49.05 261 PFAKE 09 02 10.0 +10
WR1 LR LR
comp=Z,9μm,18.0s
WRA Warramunga Arr 49.05 261 P **P 09 01 58.6 -1.7**
comp=Z,88nm,0.9s,baz=98,slow=7.5,SNR=94
WRA PcP **PcP 09 03 24.1 +0.2**
comp=Z,18nm,0.9s,baz=99,slow=3.0,SNR=3.8
WRA S **S 09 08 59.3 -4.2**
comp=Z,1.8nm,0.7s,baz=96,slow=13,SNR=13
WRA LR LR 09 20 50.8
comp=Z,2μm,21.3s,baz=100,slow=34
WC1 Warramunga Arr 49.06 261 PFAKE 09 02 10.0 +10
WC1 LR LR
comp=Z,7μm,18.0s
KDU Kakadu 52.48 270 P **P 09 02 25.1 -1.0**
baz=52,SNR=9.4
FORT Forrest 53.37 247 *e*P **P 09 02 32.0 -0.6**
comp=Z,2μm,0.8s
GUMO Guam 53.50 306 P **P 09 02 32.7 -0.8**
comp=Z,94nm,0.6s,baz=112,slow=5.4,SNR=6.9
GUMO LR LR 09 23 24.2
comp=Z,3μm,19.2s,baz=133,slow=34
GUMO Guam 53.50 306 *e*P **P 09 02 33.6 +0.1**
GUMO pmax pmax
comp=Z,222nm,0.8s
GUMO Guam 53.50 306 *e*P **P 09 02 33.6 +0.1**
comp=Z,222nm,0.8s
MTN Manton Dam 53.69 269 P **P 09 02 33.9 -1.1**
baz=53,SNR=32
MTN Manton Dam 53.69 269 *e*P **P 09 02 34.0 -1.1**
comp=Z,99nm,1.0s
MTN *e*S **S 09 10 05.2 -2.4**
MTN LR LR
comp=Z,4μm,18.0s
WRKA Warakurna 53.76 254 P **P 09 02 34.7 -0.8**
baz=53,SNR=215
SAUI Saumlaki 55.03 275 P **P 09 02 45.9 +1.1**
KNRA Kununurra 55.16 265 P **P 09 02 45.4 -0.3**
baz=55,SNR=31
FAKI Fak Fak 55.97 281 P **P 09 02 51.5 -0.1**
FAKI Fak Fak 55.97 281 *e*P **P 09 02 50.8 -0.9**
comp=Z,438nm,1.7s
FAKI *e*S **S 09 10 38.5 +0.2**
FAKI LR LR
comp=Z,3μm,18.0s
BNDI Bandanaira 57.53 278 P **P 09 03 03.1 +0.4**
SBA Scott Base 58.02 185 *e*P **P 09 03 08.3 +3.2**
SBA pmax pmax
comp=Z,1μm,1.9s
SBA Scott Base 58.02 185 *e*P **P 09 03 08.3 +3.2**
comp=Z,1μm,1.9s
SBA LR LR
comp=Z,5μm,18.0s
VNDA Vanda 58.16 186 P **P 09 03 08.1 +1.9**
comp=Z,38nm,1.2s,baz=15,slow=6.5,SNR=101
VNDA LR LR 09 25 16.3
comp=Z,2μm,18.4s,baz=30,slow=33
VNDA Vanda 58.16 186 *e*P **P 09 03 08.4 +2.3**
VNDA pmax pmax
comp=Z,340nm,1.6s
VNDA Vanda 58.16 186 *e*P **P 09 03 08.4 +2.3**
comp=Z,336nm,1.6s
RPN Rapa Nui 58.17 110 *e*P **P 09 03 08.6 +1.6**
RPN pmax pmax
comp=Z,400nm,1.4s
RPN Rapa Nui 58.17 110 *e*P **P 09 03 08.6 +1.6**
comp=Z,399nm,1.4s
RPN LR LR
comp=Z,13μm,18.0s
KMBL Kambalda 58.60 245 P **P 09 03 10.6 +0.7**
baz=58,SNR=12
MSAI Masohi 58.87 279 P **P 09 03 14.0 +1.9**
comp=Z,46nm,1.4s,comp=Z,2μm
AAI Ambon 59.43 278 P **P 09 03 14.6 -1.3**
NLAI Namlea 60.61 278 P **P 09 03 25.8 +1.8**
SOEI Soe 61.03 270 P **P 09 03 28.3 +1.2**
SOEI Soe 61.03 270 *e*P **P 09 03 27.5 +0.4**
comp=Z,319nm,0.8s
SOEI LR LR
comp=Z,3μm,20.0s
LBMI Labuha 61.23 281 P **P 09 03 31.8 +3.6**
KLBR Kellerberrin 62.07 244 P **P 09 03 34.5 +0.8**
baz=62,SNR=29
MBWA Marble Bar 62.22 256 *e*P **P 09 03 34.5 -0.4**
comp=Z,50nm,0.6s
MBWA LR LR
comp=Z,10μm,18.0s
RKGY Rocky Gully 62.32 241 P **P 09 03 36.6 +1.3**
baz=62,SNR=6.1
NWAO Narrogin (SRO) 62.32 243 P **P 09 03 35.7 +0.3**
comp=Z,52nm,1.0s,baz=342,slow=6.1,SNR=23
NWAO Narrogin (SRO) 62.32 243 *e*P **P 09 03 36.4 +1.1**
NWAO Narrogin (SRO) 62.32 243 *e*P **P 09 03 36.4 +1.1**
comp=Z,182nm,1.3s
NWAO LR LR
comp=Z,5μm,18.0s
NWAO Narrogin (SRO) 62.32 243 P **P 09 03 34.9 -0.5**
SNR=6.5
NWAO P **P 09 03 34.9 -0.5**
SNR=6.5
BLDU Ballidu 63.10 245 P **P 09 03 41.2 +0.6**
baz=62,SNR=46
MMRI Maumere 63.29 271 P **P 09 03 41.4 -0.6**
MMRI Maumere 63.29 271 *e*P **P 09 03 41.5 -0.5**
comp=Z,589nm,1.8s
MMRI LR LR
comp=Z,3μm,18.0s
MORW Morawa 63.93 247 P **P 09 03 46.7 +0.6**
baz=63,SNR=25
KDI Kendari 64.51 276 P **P 09 03 49.3 -0.8**
DAV Davao City (W) 66.18 288 ⇓*i*P **P 09 04 00.3 -0.6**
DAV Davao City (W) 66.18 288 PFAKE 09 04 10.0 +9.1
DAV LR LR
comp=Z,4μm,18.0s
KAPI Kappang 66.82 273 *e*P **P 09 04 04.8 -0.2**
comp=Z,52nm,1.1s
KAPI LR LR
comp=Z,1μm,19.0s
SPSI Sidrap Palu 67.17 274 P **P 09 04 06.4 -0.8**
PLAI Plampang 67.40 269 P **P 09 04 08.7 0.0**
TTSI Tana Toraja 67.44 275 P **P 09 04 09.6 +0.6**
PCI Palu 68.20 278 P **P 09 04 17.1 +3.3**
TWSI Taliwang, Sumb 68.27 269 P **P 09 04 14.5 +0.3**
QSPA South Pole Qui 69.38 180 *e*P **P 09 04 21.7 +1.3**
JHJ2 Mitsune 69.84 319 *e*P **P 09 04 24.1 +0.6**
comp=Z,519nm,0.7s
JHJ2 LR LR
comp=Z,3μm,18.0s
JHJ Hachijo jima 2 69.86 319 P **P 09 04 23.6 0.0**
comp=Z,475nm,0.7s,baz=162,slow=7.0,SNR=6.4
JHJ LR LR 09 35 03.0
comp=Z,954nm,18.1s,baz=166,slow=36
IGBI Denpasar 69.87 268 P P 09 04 29.9 +5.8
JAGI Jajag, Banyuwa 70.91 268 P **P 09 04 31.3 +0.8**
JAGI Jajag, Banyuwa 70.91 268 *e*P **P 09 04 29.9 -0.5**
comp=Z,196nm,1.0s
TSM Tawau 72.00 282 ⇑P **P 09 04 38.5 +1.4**
ADK Adak 72.33 358 PFAKE 09 04 50.0 +12
ADK LR LR
comp=Z,2μm,21.0s
ATKA Atka Island 72.59 359 *e*P **P 09 04 39.1 -0.5**
comp=Z,204nm,1.2s
MIR Mirnyy 72.72 205 ⇓*i*P **P 09 04 42.0 +1.6**
MIR *i* 09 07 26.0
MIR *i* S **S 09 14 07.0 +3.4**
MIR pmax pmax
comp=Z,42nm,2.0s
MIR pmax pmax
comp=Z,4μm,6.0s
MIR smax smax
comp=N,2μm,7.0s
INU Inuyama 73.06 319 *e*P **P 09 04 42.2 -0.6**
comp=N,178nm,1.7s
MJAR Matsushiro Arr 73.14 321 P **P 09 04 43.1 -0.2**
comp=N,30nm,0.7s,baz=153,slow=6.1,SNR=37
MJAR S **S 09 14 03.7 -5.6**
comp=N,0.8nm,0.8s,baz=157,slow=7.8,SNR=3.7
MJAR LR LR 09 36 17.3
comp=N,598nm,18.1s,baz=135,slow=35
MAJO Matsushiro 73.14 321 ⇓*i*P **P 09 04 43.1 -0.2**
MAJO pmax pmax
comp=Z,8μm,18.0s
MAJO MLR MLR
comp=Z,9μm,17.0s
MAJO Matsushiro 73.14 321 *e*P **P 09 04 42.7 -0.6**
comp=Z,109nm,1.1s
MAJO LR LR
comp=Z,2μm,18.0s
MAT Matsushiro 73.14 321 P **P 09 04 43.0 -0.3**
MAT S **S 09 14 09.4 +0.1**
MJB9 Matsu-Tunnel 73.14 321 *e*P **P 09 04 43.6 +0.3**
comp=Z,28nm,1.1s
TGY Tagaytay City 73.39 292 P **P 09 04 48.3 +3.0**
comp=Z,190nm,0.3s,baz=132,slow=5.4,SNR=5.4
JOW Kunigami 73.82 307 *e*P **P 09 04 47.2 -0.3**
comp=Z,464nm,2.0s
SMY Shemya 73.95 352 *e*P **P 09 04 47.2 -0.5**
SMY Shemya 73.95 352 *e*P **P 09 04 47.2 -0.5**
comp=Z,336nm,1.4s
SNCC San Nicolas Is 74.13 45 P **P 09 04 49.6 +0.4**
baz=232
KKM Kota Kinabalu 74.20 283 *e*P **P 09 04 50.9 +0.7**
comp=Z,262nm,1.5s
KKM LR LR
comp=Z,774nm,20.0s
ERM Erimo 74.32 328 ⇓*i*P **P 09 04 52.6 +2.5**
ERM pmax pmax
comp=Z,26nm,0.8s
ERM Erimo 74.32 328 PFAKE 09 05 00.0 +10
ERM LR LR
comp=Z,3μm,19.0s
UNV Unalaska Valle 74.46 4 *e*P **P 09 04 49.4 -1.2**
comp=Z,192nm,2.0s
UGM Wanagama 74.48 267 *e*P **P 09 04 52.1 +0.4**
comp=Z,522nm,1.5s
SCZ2 Santa Cruz Isl 74.53 44 P **P 09 04 51.9 +0.4**
baz=231,SNR=9.3
YUK Yuzh-Kuril'sk 74.55 331 *d i*P **P 09 04 52.5 +1.2**
YUK 09 07 40.2
YUK *i* S **S 09 14 29.2 +4.5**
YUK pmax pmax
comp=Z,416nm,1.8s
YUK pmax pmax
comp=E,19nm,0.8s
YUK pmax pmax
comp=N,316nm,1.6s
YUK pmax pmax
comp=Z,1μm,4.7s
KUR Kuril'sk 74.59 333 *d i*P **P 09 04 51.0 -0.6**
KUR *i* S **S 09 14 27.4 +2.3**
KUR pmax pmax
comp=Z,390nm,1.4s
KUR pmax pmax
comp=Z,2μm,7.6s
KUR MLR MLR
comp=Z,2μm,14.0s
KUR MLR MLR
comp=E,625nm,13.0s
KUR MLR MLR
comp=N,910nm,14.0s
SCI2 San Clemente I 74.61 45 P **P 09 04 52.2 +0.2**
baz=232,SNR=12
SBC Santa Barbara 74.75 43 P **P 09 04 53.1 +0.3**
baz=231
AKUT Akutan 74.79 4 *e*P **P 09 04 52.1 -0.4**
comp=N,458nm,1.9s
CIS Catalina Islan 74.96 45 P **P 09 04 54.1 0.0**
baz=232,SNR=14
BLG Laguna Peak, P 74.97 44 P **P 09 04 54.3 +0.3**
baz=232
PKM Mcpherson Peak 74.97 43 P **P 09 04 54.6 +0.3**
baz=231,SNR=14
SMMC Simmler 75.12 43 P **P 09 04 55.5 +0.6**
baz=231,SNR=12
SAO San Andreas Ge 75.14 41 *e*P **P 09 04 56.0 +1.0**
SAO San Andreas Ge 75.14 41 *e*P **P 09 04 56.0 +1.0**
comp=N,319nm,1.6s
PMPB Monarch Peak 75.19 41 *e*P **P 09 04 56.5 +1.1**
comp=N,787nm,2.0s
PAGB Antelope Grade 75.22 42 *e*P **P 09 04 56.3 +0.8**
comp=N,435nm,1.7s
FMP Fort Macarthur 75.23 45 P **P 09 04 55.8 +0.3**
baz=232
OSI Osito Audit: C 75.50 44 P **P 09 04 57.2 0.0**
baz=232
OSI Osito Audit: C 75.50 44 *e*P **P 09 04 57.5 +0.3**
comp=N,256nm,1.4s
109C Camp Elliot, M 75.53 46 P **P 09 04 57.4 +0.1**
baz=233,SNR=5.6
DECC Green Verdugo 75.53 44 P **P 09 04 57.6 +0.2**
baz=232,SNR=7.8
PASC Pasadena Art C 75.58 45 *e*P **P 09 04 57.6 0.0**
comp=N,194nm,1.4s
JNU Nakatsue 75.60 314 P **P 09 04 57.8 0.0**
comp=N,86nm,1.0s,baz=112,slow=4.3,SNR=20
JNU S **S 09 14 38.9 +1.9**
comp=N,2.8nm,0.9s,baz=127,slow=20,SNR=2.5
JNU LR LR 09 37 12.4
comp=N,568nm,18.2s,baz=126,slow=35
JNU Nakatsue 75.60 314 *e*P **P 09 04 57.9 +0.2**
comp=N,256nm,1.3s
JNU S **S 09 14 38.9 +1.9**
HOPS Hopland Field 75.65 38 *e*P **P 09 04 58.7 +0.8**
comp=N,252nm,1.5s
GDXM Geysers 75.68 38 *e*P **P 09 04 59.8 +1.6**
comp=N,208nm,1.8s
BAR Barrett 75.69 47 *e*P **P 09 04 58.6 +0.3**
comp=N,121nm,1.6s
MWC Mount Wilson 75.69 45 *e*P **P 09 04 58.5 0.0**
MWC Mount Wilson 75.69 45 *e*P **P 09 04 58.5 0.0**
comp=N,148nm,1.2s
ARVC Arvin 75.75 43 P **P 09 04 58.8 +0.3**
baz=232,SNR=14
KCPM Cahto Peak 75.82 37 *e*P **P 09 05 00.1 +1.1**
comp=N,361nm,1.7s
MURC Murrieta 75.89 45 P **P 09 04 59.6 +0.2**

baz=233,SNR=33
BFSC Mount Baldy Ra 75.97 45 P P 09 04 59.8 -0.2
baz=233,SNR=22
MONP2 Monument Peak 75.99 46 P P 09 05 00.4 +0.2
baz=234,SNR=33
VES Vestal, Richgr 76.03 43 P P 09 05 00.3 +0.3
baz=231,SNR=45
SKR Severo-Kuril's 76.06 340 eP P 09 04 59.8 -0.1
SKR e 09 07 47.1
SKR ePPP PPP 09 09 39.0
SKR eS S **09 14 43.2 +2.0**
SKR pmax pmax
comp=Z,2μm,5.1s
SKR pmax pmax
comp=Z,1μm,5.4s
SKR pmax pmax
comp=Z,194nm,1.0s
SKR MLR MLR
comp=Z,3μm,19.0s
IKP In-Ko-Pah, Jac 76.06 47 P P 09 05 00.7 +0.2
baz=234,SNR=25
KMRM Mail Ridge 76.11 37 eP P 09 05 01.5 +0.9
comp=Z,548nm,1.7s
EDW2 Edwards Air Fo 76.14 44 P P 09 05 00.8 0.0
baz=232,SNR=70
ASAJ Asahikawa 76.15 329 P P 09 05 01.4 +0.9
comp=Z,42nm,0.8s,baz=232,slow=3.0,SNR=20
ASAJ S **S 09 14 46.8 +4.2**
comp=Z,1.0nm,0.3s,baz=153,slow=14,SNR=3.6
ASAJ LR LR 09 30 50.7
comp=Z,2μm,20.4s,baz=178,slow=30
ASAJ Asahikawa 76.15 329 eP P 09 05 01.8 +1.3
comp=Z,119nm,1.1s
ASAJ S **S 09 14 46.8 +4.2**
RCTC Rector, Farmer 76.22 42 P P 09 05 01.3 +0.1
baz=231,SNR=10
ISA Isabella, Lake 76.31 43 P P 09 05 02.0 +0.2
baz=232,SNR=20
ISA Isabella, Lake 76.31 43 eP P 09 05 02.4 +0.6
ISA Isabella, Lake 76.31 43 eP P 09 05 02.4 +0.6
comp=Z,196nm,1.3s
JCC Jacoby Creek, 76.34 36 eP P 09 05 02.8 +1.0
comp=Z,227nm,1.6s
PFO Pinyon Flats O 76.39 46 P P 09 05 02.3 -0.1
baz=234,SNR=41
PFO Pinyon Flats O 76.39 46 eP P 09 05 02.4 0.0
PFO Pinyon Flats O 76.39 46 eP P 09 05 02.4 0.0
comp=Z,142nm,1.3s
PFO LR LR
comp=Z,3μm,20.0s
TPFO Pinon Flats 76.39 46 P P 09 05 02.3 0.0
baz=234,SNR=40
SWSC Sam W. Stewart 76.44 47 P P 09 05 02.6 0.0
baz=234,SNR=17
BBRC Big Bear Solar 76.47 45 P P 09 05 03.0 0.0
baz=233
SDPT Sand Point 76.51 7 eP P 09 05 00.7 -1.6
comp=Z,102nm,1.0s
SBUM Sibu 76.51 278 eP P 09 05 03.7 +0.3
comp=Z,256nm,1.8s
KHMM Horse Mountain 76.55 36 eP P 09 05 04.3 +1.2
comp=Z,245nm,1.7s
CMB Columbia Colle 76.61 40 eP P 09 05 03.5 +0.1
CMB Columbia Colle 76.61 40 eP P 09 05 03.5 +0.1
comp=Z,278nm,1.7s
LRMC Laurel Mtn Rad 76.70 44 P P 09 05 04.0 -0.1
baz=232,SNR=65
RRX Edison Barstow 76.78 45 P P 09 05 04.7 +0.2
baz=233,SNR=7.9
AFDM Forest Hills D 76.85 39 eP P 09 05 04.8 +0.1
comp=Z,111nm,1.3s
KRMB Red Mountain 76.89 36 eP P 09 05 06.2 +1.2
comp=Z,401nm,1.9s
BELC Belle Mtn. Jos 76.93 46 P P 09 05 05.5 +0.1
baz=234,SNR=59
ORV Oroville 76.93 39 eP P 09 05 05.2 +0.1
ORV Oroville 76.93 39 eP P 09 05 05.2 +0.1
comp=Z,204nm,1.6s
WDC Whiskeytown Da 77.01 37 eP P 09 05 05.9 +0.4
WDC Whiskeytown Da 77.01 37 eP P 09 05 05.9 +0.4
comp=Z,268nm,1.6s
CWC Cottonwood Cre 77.04 43 P P 09 05 06.3 +0.3
baz=232
BC3 Big Chuckawall 77.09 46 P P 09 05 06.1 -0.2
baz=234,SNR=55
CISI Cisompet, Garu 77.13 267 eP P 09 05 06.5 -0.5
comp=Z,762nm,1.4s
GSC Goldstone, Bar 77.17 44 P P 09 05 06.7 +0.1
baz=233,SNR=61
GSC Goldstone, Bar 77.17 44 eP P 09 05 06.8 +0.1
GSC Goldstone, Bar 77.17 44 eP P 09 05 06.8 +0.1
comp=Z,192nm,1.4s
GLA Glamis 77.17 47 P P 09 05 06.9 +0.2
baz=235,SNR=26
GLA Glamis 77.17 47 eP P 09 05 07.2 +0.5
GLA Glamis 77.17 47 eP P 09 05 07.2 +0.5
comp=Z,215nm,1.4s
MPMC Manual Prospec 77.18 43 P P 09 05 07.2 +0.3
baz=232,SNR=96
N02D Trinity Center 77.19 37 P P 09 05 07.2 +0.6
baz=228,SNR=29
KBO Bosley Butte 77.19 35 eP P 09 05 07.4 +0.7
comp=Z,380nm,1.7s
HEC Hector,Ludlow 77.19 45 P P 09 05 06.7 -0.1
baz=234,SNR=66
O03D Paynes Creek 77.24 38 P P 09 05 07.2 +0.2
baz=229,SNR=43
O03D Paynes Creek 77.24 38 P P 09 05 06.7 -0.3
MLAC Mammoth, Mammo 77.30 41 P P 09 05 08.0 +0.5
baz=231
TIN Tinemaha, Big 77.32 42 P P 09 05 08.0 +0.5
baz=232
TWG Pinlang 77.34 300 eP P 09 05 10.3 +2.5
comp=Z,211nm,0.9s
PET Petropavlovsk 77.38 343 eP P 09 05 05.8 -1.5
PET eS **S 09 14 58.0 +2.5**
PET ePS **PnS 09 15 38.0 0.0**
PET ePPS PPS 09 15 52.5
PET eSS **SS 09 20 00.5 +5.4**
PET pmax pmax
comp=Z,2μm,7.8s
PET pmax pmax
comp=Z,117nm,1.4s
PET pmax pmax
comp=Z,1μm,13.7s
PET Petropavlovsk 77.38 343 eP P 09 05 08.5 +1.2
comp=Z,176nm,1.3s
PET LR LR
comp=Z,2μm,21.0s
M02C Callahan 77.38 36 P P 09 05 08.5 +0.7
baz=228,SNR=41
YULB Yu-li 77.44 301 eP P 09 05 08.8 +0.4
comp=Z,290nm,2.0s
WAKR Walker 77.48 40 eP P 09 05 09.1 +0.6
comp=Z,446nm,1.6s
L02D Cave Junction, 77.49 35 P P 09 05 09.0 +0.8
baz=227,SNR=10
NACB Ninganchiao 77.58 302 eP P 09 05 09.1 0.0
comp=Z,188nm,1.2s
KEBM Edson Butte 77.59 35 eP P 09 05 09.2 +0.4
comp=Z,521nm,2.0s
IRM Iron Mountain 77.59 46 P P 09 05 09.3 +0.2
baz=234,SNR=117
GMRC Granite Mounta 77.61 45 P P 09 05 09.5 +0.2
baz=234,SNR=61
YBH Yreka Blue Hor 77.69 36 eP P 09 05 10.0 +0.6
YBH Yreka Blue Hor 77.69 36 eP P 09 05 10.0 +0.6
comp=Z,339nm,1.8s
CHGN Chignik 77.70 8 eP P 09 05 08.4 -0.6
comp=Z,199nm,1.4s
PEA0 Petropavlovsk- 77.72 343 eP P 09 05 09.3 0.0
PEA0B Petropavlovsk- 77.72 343 eP P 09 05 09.5 +0.3
comp=Z,517nm,1.5s
PETK Petropavlovsk- 77.72 343 P P 09 05 09.1 -0.1
comp=Z,83nm,0.8s,baz=105,slow=7.7,SNR=45
PETK S **S 09 15 02.5 +3.2**
comp=Z,0.9nm,0.5s,baz=102,slow=21,SNR=3.0
PETK LR LR 09 33 29.0
comp=Z,2μm,21.4s,baz=151,slow=31
PETK Petropavlovsk- 77.72 343 P P 09 05 09.1 -0.1
PETK S **S 09 15 02.5 +3.2**
PETK pmax pmax
comp=Z,79nm,0.9s
PETK smax smax
comp=N,1.0nm,0.5s
HSIG 77.72 52 eP P 09 05 09.4 -0.4
comp=N,78nm,1.1s

113A Mohawk Valley, 77.74 48 eP P 09 05 09.8 0.0
comp=N,202nm,1.5s
PNTR Pine Nut 77.75 40 eP P 09 05 10.5 +0.4
comp=N,447nm,1.5s
Y12C Blythe 77.78 47 P P 09 05 10.5 +0.5
baz=235,SNR=24
Y12C Blythe 77.78 47 eP P 09 05 09.7 -0.3
comp=N,152nm,1.3s
BEKR Beckworth 77.80 39 eP P 09 05 10.4 +0.2
comp=N,195nm,1.3s
TVH2 Borealis Mine 77.82 41 eP P 09 05 10.5 +0.1
comp=N,255nm,1.8s
TUQ Turquoise Moun 77.82 45 P P 09 05 10.5 +0.1
baz=234,SNR=71
GRAC Grapevine Rang 77.83 43 P P 09 05 10.9 +0.6
baz=232,SNR=116
FURC Furnace Creek, 77.83 43 P P 09 05 10.6 +0.4
baz=233,SNR=26
SHOC Shoshone, Teco 77.87 44 P P 09 05 10.8 +0.3
baz=233,SNR=33
YERR Yerington 77.90 40 eP P 09 05 11.1 +0.3
comp=N,354nm,1.5s
SSLB Suanglung 77.91 301 eP P 09 05 11.2 +0.3
comp=N,45nm,0.7s
KSM Kuching 77.93 276 eP P 09 05 12.1 +0.8
comp=N,1μm,2.0s
KSM LR LR
comp=Z,1μm,19.0s
TPUB Ta-pu 77.93 301 eP P 09 05 11.6 +0.4
comp=Z,134nm,0.9s
214A Organ Pipe Nat 77.96 49 P P 09 05 11.3 +0.2
baz=236
214A Organ Pipe Nat 77.96 49 eP P 09 05 11.2 +0.1
comp=Z,348nm,1.2s
YHNB Yeheng 78.00 302 PFAKE 09 05 20.0 +8.5
YHNB LR LR
comp=Z,2μm,20.0s
TATO Taipei 78.06 303 PFAKE 09 05 20.0 +8.3
TATO LR LR
comp=Z,2μm,19.0s
HUMO Hull Mountain 78.15 35 eP P 09 05 12.6 +0.8
comp=Z,392nm,1.9s
LDFC Landfair 78.15 45 eP P 09 05 12.9 +0.7
comp=Z,377nm,1.4s
YSS Yuzh-Sakhalins 78.19 331 κ*eP* **P 09 05 13.0 +1.1**
YSS *e* 09 08 10.9
YSS *e*S S 09 14 55.0 -9.5
YSS *e* 09 20 07.0
YSS pmax pmax
comp=Z,2μm,6.0s
YSS Yuzh-Sakhalins 78.19 331 eP P 09 05 12.6 +0.7
comp=Z,178nm,0.9s
YSS LR LR
comp=Z,702nm,19.0s
XMIS Christmas Isla 78.19 263 eP P 09 05 14.3 +1.5
comp=Z,473nm,1.6s
M04C Macdoel 78.21 37 P P 09 05 12.8 +0.4
baz=228,SNR=39
PAHR Pah Rah Range 78.28 39 eP P 09 05 13.1 +0.3
comp=Z,574nm,1.5s
NEE2 Needles Airpor 78.30 46 P P 09 05 13.4 +0.5
baz=235,SNR=7.5
PDMCI Parker Dam,Lak 78.36 46 P P 09 05 13.7 +0.5
baz=235,SNR=40
TPNV Topopah Spring 78.51 43 P P 09 05 14.6 +0.4
baz=233,SNR=48
TPNV Topopah Spring 78.51 43 eP P 09 05 14.4 +0.2
TPNV Topopah Spring 78.51 43 eP P 09 05 14.4 +0.2
comp=Z,298nm,1.8s
SII Sitkinak Islan 78.61 11 eP P 09 05 14.6 +0.5
comp=Z,191nm,1.2s
I03D Drain, OR 78.68 34 P P 09 05 15.2 +0.5
baz=227,SNR=9.5
K04D Chiloquin, OR 78.82 36 P P 09 05 16.0 +0.3
baz=228
Y14A Wickenburg 78.93 47 eP P 09 05 16.6 +0.2
comp=Z,446nm,1.0s
SHPR Sheep Range 78.95 44 eP P 09 05 17.4 +0.7
comp=Z,520nm,1.9s
W13A Hualapai Mount 78.98 46 eP P 09 05 17.2 +0.3
comp=Z,131nm,1.4s
J04D Umpqua Nationa 79.03 35 P P 09 05 17.3 +0.3
baz=228,SNR=19
MOD Modoc Plateau 79.15 37 eP P 09 05 17.7 +0.1
comp=Z,297nm,1.5s
PMSA Palmer Station 79.28 156 eP P 09 05 18.6 +0.8
comp=Z,323nm,1.7s
PMSA LR LR
comp=Z,3μm,19.0s
COR Corvallis 79.31 34 eP P 09 05 18.5 +0.3
COR pmax pmax
comp=Z,244nm,1.6s
COR Corvallis 79.31 34 eP P 09 05 18.5 +0.3
comp=Z,244nm,1.6s
OHAK Old Harbor 79.39 11 eP P 09 05 17.6 -0.7
comp=Z,344nm,1.8s
J05D Fort Rock, OR 79.54 36 P P 09 05 20.2 +0.5
baz=229,SNR=68
TUC Tucson 79.59 50 P P 09 05 20.6 +0.5
baz=238
TUC Tucson 79.59 50 eP P 09 05 20.7 +0.5
TUC Tucson 79.59 50 eP P 09 05 20.7 +0.5
comp=Z,136nm,1.1s
TUC LR LR
comp=Z,6μm,19.0s
G03D McMinnville, O 79.76 33 P P 09 05 21.0 +0.3
baz=227,SNR=6.9
R11A Troy Canyon, C 79.77 42 P P 09 05 21.4 +0.3
baz=233,SNR=68
R11A Troy Canyon, C 79.77 42 eP P 09 05 21.1 0.0
comp=Z,97nm,1.4s
KDAK Kodiak Island 80.05 11 P P 09 05 21.7 -0.1
comp=Z,28nm,0.8s,baz=212,slow=5.0,SNR=21
KDAK S **S 09 15 20.6 -3.2**
comp=Z,8.4nm,1.2s,baz=101,slow=17,SNR=2.2
KDAK Kodiak Island 80.05 11 eP P 09 05 21.6 -0.3
comp=Z,316nm,1.8s
KDAK S **S 09 15 20.6 -3.2**
KDAK LR LR
comp=Z,1μm,20.0s
KSRS Korea Array 80.10 316 P P 09 05 24.0 +1.3
comp=Z,50nm,0.9s,baz=130,slow=6.1,SNR=41
KSRS S **S 09 15 28.1 +2.8**
comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=3.2
KSRS LR LR 09 39 10.7
comp=Z,316nm,18.3s,baz=126,slow=34
F03A Seaside 80.11 33 eP P 09 05 23.0 +0.5
comp=Z,417nm,1.8s
KS15 Wonju Array Si 80.12 316 eP P 09 05 24.6 +1.9
KSAR Wonju Array Be 80.12 316 P P 09 05 24.0 +1.2
KSAR S **S 09 15 28.1 +2.6**
KSAR Wonju Array Be 80.12 316 P P 09 05 24.0 +1.2
KSAR S **S 09 15 28.1 +2.6**
KS01 Wonju Array Si 80.13 316 eP P 09 05 23.3 +0.5
I05D Terrebonne, OR 80.18 35 P P 09 05 23.5 +0.4
baz=228,SNR=28
319A Douglas 80.18 51 eP P 09 05 23.9 +0.5
comp=Z,146nm,1.0s
X16A Lo Mia Camp, P 80.27 48 eP P 09 05 24.8 +0.8
comp=Z,128nm,1.2s
QZH Quanzhou 80.35 301 ⇑*iP* **P 09 05 26.2 +2.0**
QZH S **S 09 15 26.7 -1.7**
QZH pmax pmax
comp=Z,5μm,8.4s
QZH LR LR
comp=Z,3μm,17.1s
QZH LR LR
comp=Z,4μm,21.2s
QZH LR LR
comp=Z,3μm,16.7s
WVOR Wild Horse Val 80.44 38 eP P 09 05 24.7 +0.1
WVOR Wild Horse Val 80.44 38 eP P 09 05 24.7 +0.1
comp=Z,199nm,1.4s
WVOR LR LR
comp=Z,3μm,20.0s
F04D Rainier, OR 80.49 33 P P 09 05 25.1 +0.6
baz=227
LCMT Little Creek M 80.50 45 eP P 09 05 25.6 +0.6
comp=Z,309nm,1.8s
E03A Lebam 80.53 32 eP P 09 05 25.5 +0.8
comp=Z,187nm,1.4s
GO09 Cerro Castillo 80.62 141 eP P 09 05 26.8 +1.4
comp=Z,213nm,1.4s
GO10 Punta Arenas 80.67 143 eP P 09 05 27.8 +2.1
comp=Z,239nm,1.2s
F04A Amboy 80.69 33 eP P 09 05 25.5 -0.1
comp=Z,446nm,1.8s

HPIG 80.70 57 eP P 09 05 26.7 +0.3
comp=Z,116nm,1.4s
CCUT Cedar City 80.73 44 eP P 09 05 27.2 +0.8
comp=Z,189nm,1.8s
VFP Flag Point 80.77 34 P P 09 05 26.1 -0.2
KNB Kanab 80.78 45 eP P 09 05 27.4 +0.8
KNB pmax pmax
comp=Z,665nm,1.9s
KNB Kanab 80.78 45 eP P 09 05 27.4 +0.8
comp=Z,665nm,1.9s
G05D Wamic, OR 80.80 34 P P 09 05 26.6 +0.3
baz=228,SNR=15
U15A North Rim 80.80 46 eP P 09 05 27.6 +0.8
comp=Z,282nm,1.5s
WUAZ Wupatki 80.92 47 P P 09 05 27.8 +0.4
baz=237
WUAZ Wupatki 80.92 47 eP P 09 05 28.0 +0.7
comp=Z,200nm,1.4s
WUAZ LR LR
comp=Z,2μm,20.0s
SZCU Shurtz Canyon 80.94 44 eP P 09 05 28.2 +0.8
comp=Z,572nm,2.0s
INCN Inchon 80.96 316 eP P 09 05 26.9 -0.4
comp=Z,179nm,1.4s
INCN LR LR
comp=Z,36nm,21.0s
NLWA Neilton Lookou 80.96 31 eP P 09 05 27.9 +0.8
comp=Z,84nm,1.5s
NLWA LR LR
comp=Z,6μm,19.0s
PSUT Pine Spring 80.98 43 eP P 09 05 26.4 -1.2
comp=Z,185nm,1.8s
MOIG Morelia 81.06 65 eP P 09 05 28.2 -0.3
comp=Z,156nm,1.4s
TDL Tradedollar La 81.07 33 P P 09 05 28.3 +0.4
VLA Vladivostok 81.12 323 κ*iP* **P 09 05 26.6 -1.3**
VLA *i* 09 05 33.0
VLA *i* *SP **sP 09 05 41.1 +0.3**
VLA *e* 09 08 31.6
VLA *e*S **S 09 15 36.8 +1.1**
VLA pmax pmax
comp=Z,52nm,1.4s
TYV Tymovskoe 81.16 333 ⇑*iP* **P 09 05 28.3 +0.3**
TYV *e*S **S 09 15 34.1 -1.7**
TYV pmax pmax
comp=Z,2μm,6.5s
TYV pmax pmax
comp=Z,117nm,1.5s
TYV MLR MLR
comp=N,2μm,16.0s
MSHR Mys Shultsa 81.20 322 *diP* **P 09 05 30.1 +1.7**
ZAIG Zacatecas 81.26 62 eP P 09 05 29.8 +0.2
comp=N,70nm,2.0s
SSE Sheshan 81.34 308 P P 09 05 29.6 +0.2
SSE S **S 09 15 42.7 +4.2**
SSE sS **sS 09 15 54.2 +0.1**
SSE SS **SS 09 20 57.4 +2.0**
SSE pmax pmax
comp=N,59nm,0.7s
SSE pmax pmax
comp=N,780nm,5.4s
SSE LR LR
comp=N,1μm,38.6s
SSE LR LR
comp=N,2μm,38.6s
SSE LR LR
comp=N,3μm,35.1s
PKCU Pink Cliffs 81.36 45 eP P 09 05 30.9 +1.1
comp=N,421nm,1.8s
X18A Snowflake 81.37 48 eP P 09 05 30.3 +0.6
comp=N,184nm,1.6s
LON Longmire 81.55 33 eP P 09 05 30.0 -0.3
LON pmax pmax
comp=Z,255nm,2.0s
LON Longmire 81.55 33 eP P 09 05 30.0 -0.3
comp=Z,255nm,2.0s
DIB Dawson Inlet, 81.58 23 eP P 09 05 29.6 -0.5
comp=Z,102nm,1.3s
USRK Ussuriysk Ar. 81.74 324 P P 09 05 32.0 +0.8
comp=Z,8.6nm,0.7s,baz=119,slow=2.4,SNR=29
USRK S **S 09 15 44.7 +2.5**
comp=Z,0.5nm,0.4s,baz=139,slow=13,SNR=2.2
USRK LR LR 09 40 45.4
comp=Z,3μm,18.2s,baz=121,slow=35
D05A Enumclaw 81.75 32 eP P 09 05 32.4 +1.2
comp=Z,751nm,1.8s
MTPU Mount Pierson 81.78 44 eP P 09 05 33.8 +1.7
comp=Z,379nm,1.5s
W18A Petrified Fore 81.83 48 P P 09 05 32.5 +0.3
baz=238
W18A Petrified Fore 81.83 48 eP P 09 05 32.8 +0.6
comp=Z,340nm,1.8s
121A Cookes Peak, D 81.87 51 P P 09 05 33.1 +0.6
baz=239,SNR=34
121A Cookes Peak, D 81.87 51 eP P 09 05 33.0 +0.5
comp=Z,332nm,1.7s
TRW Toppenish Ridg 81.90 34 P P 09 05 32.2 +0.1
CNPM China Poot 81.93 11 eP P 09 05 31.6 -0.3
comp=Z,169nm,1.3s
CHRN Cochrane 81.94 137 eP P 09 05 34.0 +1.5
comp=Z,29nm,1.4s
PGC Sidney 82.04 31 eP P 09 05 32.8 +0.1
comp=Z,480nm,1.9s
MSU Marysvale 82.05 44 eP P 09 05 34.4 +1.1
MSU Marysvale 82.05 44 eP P 09 05 34.4 +1.1
JRQG Juriquilla Cam 82.13 64 eP P 09 05 33.5 -0.6
BRLK Bradley Lake 82.22 11 eP P 09 05 32.9 -0.5
comp=Z,383nm,1.8s
TLIG Tlapa 82.42 68 eP P 09 05 36.1 +0.6
comp=Z,194nm,1.5s
B05A Bryant 82.43 32 P P 09 05 35.1 +0.4
baz=227,SNR=36
B05A Bryant 82.43 32 P P 09 05 35.0 +0.3
E07A Sunnyside 82.43 34 P P 09 05 35.2 +0.4
A04D Lummi Island 82.44 31 P P 09 05 35.4 +0.6
baz=227,SNR=9.4
LTY Liberty 82.47 33 eP P 09 05 34.9 -0.2
comp=Z,429nm,1.9s
BENWA Benson Ranch 82.48 34 P P 09 05 34.6 -0.4
HAWA Hanford 82.49 34 eP P 09 05 35.5 +0.3
comp=Z,540nm,1.8s
HAWA S **S 09 15 28.1 +2.8**
LR LR
comp=Z,9μm,19.0s
BBB Bella Bella 82.51 26 P P 09 05 35.2 +0.1
comp=Z,44nm,0.8s,baz=218,slow=5.8,SNR=16
BBB Bella Bella 82.51 26 eP P 09 05 35.6 +0.6
comp=Z,110nm,1.1s
RSO Redoubt South 82.55 10 eP P 09 05 34.8 -0.6
DUG Dugway, Tooele 82.59 42 P P 09 05 36.2 +0.2
baz=235
DUG Dugway, Tooele 82.59 42 eP P 09 05 36.2 +0.2
DUG pmax pmax
comp=Z,239nm,1.8s
DUG MLR MLR
comp=Z,4μm,20.0s
DUG Dugway, Tooele 82.59 42 eP P 09 05 36.2 +0.2
comp=Z,239nm,1.8s
DUG LR LR
comp=Z,4μm,20.0s
MFID Camas Ranch 82.67 38 eP P 09 05 36.3 0.0
comp=Z,340nm,1.7s
BMO Blue Mountains 82.72 36 eP P 09 05 36.3 -0.2
BMO pmax pmax
comp=Z,478nm,1.8s
BMO MLR MLR
comp=Z,5μm,19.0s
BMO Blue Mountains 82.72 36 eP P 09 05 36.3 -0.2
comp=Z,478nm,1.8s
BMO LR LR
comp=Z,5μm,19.0s
SVW2 Sparrevohn 82.73 9 eP P 09 05 35.6 -0.4
comp=Z,35nm,1.1s
MNAI Manna 82.76 268 eP P 09 05 37.6 +0.3
comp=Z,1μm,1.6s
C06D Leavenworth 82.80 32 P P 09 05 36.4 -0.3
baz=228,SNR=7.1
SEW Seward 82.80 12 eP P 09 05 35.8 -0.6
comp=Z,71nm,1.0s
ETW Entiat 82.87 33 P P 09 05 37.3 0.0
MAW Mawson 82.87 199 P P 09 05 37.7 +0.8
comp=Z,61nm,1.1s,baz=132,slow=5.6,SNR=89
MAW S **S 09 15 56.4 +3.2**
comp=Z,1.4nm,1.0s,baz=328,slow=13,SNR=2.8
MAW LR LR 09 44 09.7
comp=Z,1μm,19.2s,baz=120,slow=37
MAW Mawson 82.87 199 eP P 09 05 38.2 +1.3
comp=Z,53nm,1.4s

MAW				S	S	09 15 56.4	+3.2
BGU	**Big Grassy Mou**	**82.88**	**41**	*e*P	**P**	**09 05 37.9**	**+0.4**
	comp=Z,274nm,2.0s						
B06A	**Marblemount**	**82.90**	**32**	P	**P**	**09 05 36.9**	**-0.3**
NLU	**North Lily Min**	**82.92**	**43**	*e*P	**P**	**09 05 38.3**	**+0.5**
	comp=Z,166nm,1.7s						
HABR	**Khabarovsk**	**82.93**	**328**	*de*P	**P**	**09 05 36.5**	**-0.8**
HABR				*e**PP	**pP**	**09 05 47.0**	**+0.3**
HABR				*e**SP	**sP**	**09 05 51.0**	**+0.9**
HABR				*e*		09 08 47.0	
HABR				*e*PPP	PPP	09 10 38.4	
HABR				*e*S	**S**	**09 15 53.1**	**-1.0**
HABR				*e*SS	**SS**	**09 21 16.8**	**-1.5**
HABR				SSS	SSS	09 24 46.3	
HABR				pmax	pmax		
	comp=E,15nm,1.3s						
HABR				pmax	pmax		
	comp=Z,104nm,1.3s						
HABR				pmax	pmax		
	comp=N,12nm,1.3s						
HABR				pmax	pmax		
	comp=Z,586nm,1.8s						
HABR				MLR	MLR		
	comp=Z,701nm,20.0s						
PAYG	**Puerto Ayora**	**83.10**	**88**	PFAKE		09 05 50.0	+11
PAYG				LR	LR		
	comp=Z,5µm,20.0s						
TMUT	**Trail Mountain**	**83.11**	**44**	*e*P	**P**	**09 05 40.1**	**+1.1**
	comp=Z,432nm,1.4s						
WTV	**Waterville**	**83.13**	**33**	P	**P**	**09 05 38.2**	**-0.3**
CRAG	**Craig**	**83.15**	**22**	*e*P	**P**	**09 05 38.8**	**+0.5**
	comp=Z,81nm,1.0s						
NLW	**Nelson Butte**	**83.18**	**33**	P	**P**	**09 05 38.6**	**-0.2**
MNTX	**Cornudas Mount**	**83.22**	**53**	P	**P**	**09 05 39.6**	**+0.2**
	baz=241						
MNTX	**Cornudas Mount**	**83.22**	**53**	*e*P	**P**	**09 05 39.5**	**+0.2**
	comp=Z,183nm,1.5s						
MNTX				LR	LR		
	comp=Z,3µm,20.0s						
D08A	**Wollman Farm,**	**83.24**	**34**	P	**P**	**09 05 39.3**	**+0.3**
Y22D	**IRIS PASSCAL I**	**83.27**	**50**	P	**P**	**09 05 40.2**	**+0.5**
	baz=240,SNR=13						
Y22D	**IRIS PASSCAL I**	**83.27**	**50**	*e*P	**P**	**09 05 40.7**	**+1.0**
	comp=Z,73nm,0.9s						
LAZ	**Ladron**	**83.28**	**50**	*e*P	**P**	**09 05 40.5**	**+0.7**
MDJ	**Mudanjiang**	**83.35**	**323**	P	**P**	**09 05 40.7**	**+1.1**
MDJ				S	**S**	**09 16 02.9**	**+4.3**
MDJ				pmax	pmax		
	comp=Z,2µm,5.6s						
MDJ				LR	LR		
	comp=Z,2µm,25.1s						
MDJ				LR	LR		
	comp=Z,2µm,31.7s						
MDJ				LR	LR		
	comp=Z,4µm,34.3s						
MDJ	**Mudanjiang**	**83.35**	**323**	*e*P	**P**	**09 05 41.4**	**+1.8**
	comp=Z,120nm,1.1s						
MDJ				LR	LR		
	comp=Z,2µm,19.0s						
SPU	**Mount Spurr**	**83.35**	**10**	*e*P	**P**	**09 05 37.9**	**-1.4**
TX31	**Lajitas Ar. Si**	**83.39**	**55**	*e*P	**P**	**09 05 40.7**	**+0.4**
TXAR	**Lajitas Array**	**83.39**	**55**	P	**P**	**09 05 40.5**	**+0.2**
	comp=Z,28nm,0.9s,baz=215,slow=6.5,SNR=119						
TXAR				S	**S**	**09 16 03.1**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=278,slow=6.3,SNR=2.0						
TXAR				LR	LR	09 36 10.3	
	comp=Z,3µm,19.6s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**83.39**	**55**	P	**P**	**09 05 40.6**	**+0.2**
TXAR				S	**S**	**09 16 03.1**	**+3.2**
TXAR				pmax	pmax		
	comp=Z,29nm,0.9s						
SAW	**Saint Andrews**	**83.41**	**33**	P	**P**	**09 05 39.9**	**-0.1**
SRU	**San Rafael Swe**	**83.45**	**44**	*e*P	**P**	**09 05 41.1**	**+0.5**
SRU				pmax	pmax		
	comp=Z,656nm,1.7s						
SRU	**San Rafael Swe**	**83.45**	**44**	*e*P	**P**	**09 05 41.1**	**+0.5**
	comp=Z,656nm,1.7s						
SPUT	**South Promonto**	**83.46**	**41**	*e*P	**P**	**09 05 40.7**	**+0.2**
	comp=Z,412nm,1.6s						
P17A	**Butcher Ranch,**	**83.51**	**44**	*e*P	**P**	**09 05 41.6**	**+0.8**
	comp=Z,298nm,1.2s						
BNM	**Barren Site**	**83.52**	**50**	*e*P	**P**	**09 05 41.6**	**+0.5**
HVU	**Hansel Valley**	**83.52**	**41**	*e*P	**P**	**09 05 41.1**	**+0.3**
HVU				pmax	pmax		
	comp=Z,392nm,1.7s						
HVU	**Hansel Valley**	**83.52**	**41**	*e*P	**P**	**09 05 41.1**	**+0.3**
	comp=Z,392nm,1.7s						
DLV	**T Lat**	**83.53**	**285**	*e*P	**P**	**09 05 41.0**	**-0.4**
	comp=Z,313nm,1.8s						
NJ2	**Nanjing**	**83.54**	**308**	*e*P	**P**	**09 05 42.2**	**+1.3**
NJ2				S	**S**	**09 16 05.0**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,70nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,3µm,7.0s						
NJ2				LR	LR		
	comp=Z,2µm,20.6s						
NJ2				LR	LR		
	comp=Z,2µm,20.6s						
NJ2				LR	LR		
	comp=Z,2µm,21.7s						
HLID	**Hailey**	**83.58**	**39**	P	**P**	**09 05 41.6**	**+0.5**
	baz=234						
HLID	**Hailey**	**83.58**	**39**	*e*P	**P**	**09 05 41.6**	**+0.5**
	comp=Z,237nm,1.3s						
HLID				LR	LR		
	comp=Z,2µm,20.0s						
RC01	**Rabbit Creek A**	**83.66**	**11**	*e*P	**P**	**09 05 40.5**	**-0.4**
	comp=Z,387nm,1.8s						
NKL	**Nikolayevsk**	**83.68**	**334**	*e*P	**P**	**09 05 40.5**	**-0.5**
NKL				pmax	pmax		
	comp=N,200nm,2.0s						
NKL				pmax	pmax		
	comp=Z,700nm,2.0s						
NKL				pmax	pmax		
	comp=E,2µm,8.0s						
NKL				pmax	pmax		
	comp=Z,5µm,8.0s						
NKL				MLR	MLR		
	comp=N,2µm,18.0s						
NKL				MLR	MLR		
	comp=Z,7µm,18.0s						
JLU	**Jordanelle**	**83.68**	**42**	*e*P	**P**	**09 05 42.1**	**+0.3**
	comp=Z,505nm,1.9s						
MVCO	**Mesa Verde**	**83.78**	**47**	P	**P**	**09 05 42.8**	**+0.4**
	baz=238,SNR=24						
MVCO	**Mesa Verde**	**83.78**	**47**	*e*P	**P**	**09 05 42.8**	**+0.4**
	comp=Z,191nm,1.7s						
MVCO				LR	LR		
	comp=Z,2µm,20.0s						
GZH	**Guangzhou**	**83.80**	**297**	P	**P**	**09 05 41.3**	**-1.1**
GZH				PP	**PP**	**09 08 53.9**	**-2.2**
GZH				S	**S**	**09 16 03.2**	**-0.8**
GZH				pmax	pmax		
	comp=Z,4µm,7.4s						
SUA	**Susitna One**	**83.83**	**11**	*e*P	**P**	**09 05 41.4**	**-0.5**
	comp=Z,242nm,1.8s						
B08A	**Colville Reser**	**83.87**	**33**	*e*P	**P**	**09 05 42.0**	**-0.3**
	comp=Z,357nm,1.8s						
P18A	**Preston Nutter**	**83.92**	**44**	*e*P	**P**	**09 05 43.9**	**+0.9**
	comp=Z,452nm,1.7s						
EYAK	**Cordova Ski Ar**	**83.96**	**13**	*e*P	**P**	**09 05 42.3**	**0.0**
	comp=Z,114nm,1.2s						
GLI	**Glacier Island**	**83.98**	**12**	*e*P	**P**	**09 05 42.2**	**-0.3**
	comp=Z,170nm,1.3s						
ANMO	**Albuquerque**	**84.04**	**49**	P	**P**	**09 05 44.1**	**+0.5**
	baz=240						
ANMO	**Albuquerque**	**84.04**	**49**	*d i*P	**P**	**09 05 44.6**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,253nm,1.7s						
ANMO	**Albuquerque**	**84.04**	**49**	*e*P	**P**	**09 05 44.2**	**+0.5**
	comp=Z,429nm,1.7s						
ANMO				LR	LR		
	comp=Z,3µm,19.0s						
MYKOM	**Kota Tinggi**	**84.07**	**274**	*e*P	**P**	**09 05 45.1**	**+1.1**
	comp=Z,266nm,1.5s						
LLLB	**Lillooet**	**84.13**	**30**	*e*P	**P**	**09 05 43.5**	**0.0**
	comp=Z,211nm,1.5s						
WRAK	**Wrangell Islan**	**84.17**	**21**	*e*P	**P**	**09 05 44.4**	**+0.9**
	comp=Z,154nm,1.4s						
WRAK				LR	LR		
	comp=Z,1µm,19.0s						
HWUT	**Hardware Ranch**	**84.17**	**42**	*e*P	**P**	**09 05 44.0**	**-0.1**
	comp=Z,256nm,1.8s						
HWUT				LR	LR		
	comp=Z,5µm,19.0s						
GAMB	**Gambell**	**84.20**	**1**	*e*P	**P**	**09 05 44.0**	**+0.6**
	comp=Z,190nm,1.2s						
PMR	**Palmer**	**84.24**	**11**	*e*P	**P**	**09 05 43.2**	**-0.6**
PMR				pmax	pmax		
	comp=Z,201nm,1.6s						
PMR	**Palmer**	**84.24**	**11**	*e*P	**P**	**09 05 43.2**	**-0.6**
	comp=Z,201nm,1.6s						
TT01	**Tatalina**	**84.42**	**8**	*e*P	**P**	**09 05 45.3**	**+0.6**
TTA	**Tatalina**	**84.44**	**8**	*e*P	**P**	**09 05 45.1**	**+0.2**
TTA				pmax	pmax		
	comp=Z,185nm,1.8s						
TTA	**Tatalina**	**84.44**	**8**	*e*P	**P**	**09 05 45.1**	**+0.2**
	comp=Z,185nm,1.8s						
DIV	**Divide**	**84.48**	**13**	*e*P	**P**	**09 05 44.7**	**-0.4**
	comp=Z,105nm,1.0s						
BMRM	**Bremner River**	**84.58**	**14**	*e*P	**P**	**09 05 45.4**	**-0.2**
	comp=Z,127nm,1.0s						
SML	**Sawmill**	**84.59**	**12**	*e*P	**P**	**09 05 45.5**	**-0.1**
SML				pmax	pmax		
	comp=Z,248nm,2.0s						
SML	**Sawmill**	**84.59**	**12**	*e*P	**P**	**09 05 45.5**	**-0.1**
	comp=Z,248nm,2.0s						
CRQM	**Cirque**	**84.72**	**14**	*e*P	**P**	**09 05 46.4**	**-0.1**
	comp=Z,102nm,1.0s						
LNIG	**Linares**	**84.75**	**61**	*e*P	**P**	**09 05 46.6**	**-0.7**
	comp=Z,112nm,0.9s						
KLU	**Klutina**	**84.78**	**13**	*e*P	**P**	**09 05 46.6**	**0.0**
	comp=Z,83nm,1.2s						
SCM	**Sheep Creek Mo**	**84.80**	**12**	*e*P	**P**	**09 05 46.5**	**-0.2**
SCM				pmax	pmax		
	comp=Z,124nm,1.0s						
SCM	**Sheep Creek Mo**	**84.80**	**12**	*e*P	**P**	**09 05 46.5**	**-0.2**
	comp=Z,124nm,1.0s						
PPLA	**Purkeypile**	**84.95**	**9**	*e*P	**P**	**09 05 47.2**	**-0.3**
	comp=Z,66nm,1.5s						
NEW	**Newport**	**84.95**	**34**	P	**P**	**09 05 47.2**	**-0.5**
	comp=Z,13nm,0.7s,baz=233,slow=5.5,SNR=39						
NEW	**Newport**	**84.95**	**34**	P	**P**	**09 05 47.4**	**-0.3**
	baz=231,SNR=34						
NEW	**Newport**	**84.95**	**34**	*e*P	**P**	**09 05 47.2**	**-0.5**
	comp=Z,310nm,2.0s						
NEW				LR	LR		
	comp=Z,9µm,19.0s						
DL2	**Dalian**	**85.04**	**315**	⇓*i*P	**P**	**09 05 49.5**	**+1.2**
DL2				SKS	**S**	**09 16 10.9**	**-4.8**
DL2				S	**SKKSac**	**09 16 17.7**	**+0.6**
DL2				pmax	pmax		
	comp=Z,120nm,0.8s						
DL2				pmax	pmax		
	comp=Z,2µm,7.7s						
DL2				LR	LR		
	comp=Z,1µm,18.7s						
DL2				LR	LR		
	comp=Z,840nm,17.7s						
DL2				LR	LR		
	comp=Z,2µm,17.5s						
BESE	**Bessie Mountai**	**85.09**	**19**	*e*P	**P**	**09 05 48.5**	**+0.3**
	comp=Z,154nm,1.4s						
QIZ	**Qiongzhong**	**85.10**	**292**	P	**P**	**09 05 50.9**	**+1.8**
QIZ				S	**S**	**09 16 15.8**	**-1.3**
QIZ				SS	**SS**	**09 21 49.7**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,1µm,6.5s						
QIZ				LR	LR		
	comp=Z,1µm,19.5s						
QIZ				LR	LR		
	comp=Z,2µm,41.4s						
QIZ	**Qiongzhong**	**85.10**	**292**	PFAKE		09 06 00.0	+11
QIZ				LR	LR		
	comp=Z,1µm,19.0s						
LVIG	**Laguna Verde**	**85.16**	**67**	*e*P	**P**	**09 05 49.4**	**0.0**
	comp=Z,142nm,1.0s						
S22A	**4UR Ranch, Cre**	**85.20**	**47**	P	**P**	**09 05 49.6**	**+0.1**
	baz=239,SNR=131						
S22A	**4UR Ranch, Cre**	**85.20**	**47**	*e*P	**P**	**09 05 50.4**	**+0.8**
	comp=Z,474nm,1.7s						
MCMT	**McKenzie Canyo**	**85.23**	**38**	*e*P	**P**	**09 05 49.8**	**+0.3**
MA2	**Magadan**	**85.26**	**343**	P	**P**	**09 05 48.2**	**-0.7**
	comp=Z,38nm,0.9s,baz=130,slow=4.7,SNR=9.6						
MA2				S	**S**	**09 16 12.7**	**-4.3**
	comp=Z,3.5nm,0.6s,baz=156,slow=20,SNR=2.4						
MA2				LR	LR	09 38 03.7	
	comp=Z,2µm,21.8s,baz=160,slow=32						
MA2	**Magadan**	**85.26**	**343**	*c i*P	**P**	**09 05 49.7**	**+0.8**
CN2	**Changchun**	**85.28**	**320**	⇓P	**P**	**09 05 50.1**	**+0.7**
CN2				*ep*P	PcP	09 05 53.7	+1.2
CN2				*e*PP	**PP**	**09 09 09.3**	**+1.5**
CN2				*e*S	**S**	**09 16 20.6**	**+2.7**
CN2				*e*SS	**SS**	**09 21 55.7**	**+2.4**
CN2				pmax	pmax		
	comp=Z,90nm,1.2s						
CN2				pmax	pmax		
	comp=Z,2µm,4.0s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,700nm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
SNY	**Shenyang**	**85.33**	**318**	⇓P	**P**	**09 05 50.7**	**+1.0**
SNY				PP	**PP**	**09 09 06.5**	**-1.7**
SNY				SKS	**S**	**09 16 13.7**	**-4.8**
SNY				SS	**SS**	**09 21 51.3**	**-2.8**
SNY				LR	LR		
	comp=Z,960nm,17.7s						
SNY				LR	LR		
	comp=Z,500nm,13.9s						
SNY				LR	LR		
	comp=Z,2µm,17.6s						
CAST	**Castle Rocks**	**85.46**	**9**	*e*P	**P**	**09 05 48.3**	**-1.6**
	comp=Z,68nm,1.3s						
O20A	**White River Ci**	**85.49**	**44**	P	**P**	**09 05 51.0**	**+0.1**
	baz=238,SNR=24						
O20A	**White River Ci**	**85.49**	**44**	*e*P	**P**	**09 05 50.9**	**+0.1**
	comp=Z,443nm,1.9s						
REDW	**Red Top Meadow**	**85.59**	**40**	*e*P	**P**	**09 05 51.5**	**+0.2**
	comp=Z,320nm,1.6s						
TPAW	**Teton Pass**	**85.60**	**40**	*e*P	**P**	**09 05 51.6**	**+0.2**
	comp=Z,286nm,1.6s						
FXWY	**Fox Creek**	**85.64**	**40**	*e*P	**P**	**09 05 51.6**	**+0.1**
	comp=Z,194nm,1.6s						
SKAG	**Skagway**	**85.67**	**18**	*e*P	**P**	**09 05 51.8**	**+0.8**
	comp=Z,336nm,1.5s						
DLMT	**Dillon**	**85.69**	**38**	*e*P	**P**	**09 05 51.9**	**+0.2**
	comp=Z,229nm,1.5s						
SNOW	**Snow King Moun**	**85.70**	**40**	*e*P	**P**	**09 05 52.1**	**+0.2**
	comp=Z,243nm,1.4s						
HARP	**HAARP**	**85.76**	**13**	*e*P	**P**	**09 05 51.8**	**+0.4**
	comp=Z,114nm,1.2s						
KTH	**Kantishna Hill**	**85.76**	**10**	*e*P	**P**	**09 05 50.2**	**-1.3**
	comp=Z,265nm,1.8s						
TRF	**Thorofare Moun**	**85.77**	**10**	*e*P	**P**	**09 05 50.7**	**-0.9**
	comp=Z,164nm,1.2s						
COCO	**West Island**	**85.77**	**259**	*e*P	**P**	**09 05 55.0**	**+2.4**
COCO				pmax	pmax		
	comp=Z,734nm,1.3s						
COCO				MLR	MLR		
	comp=Z,4µm,19.0s						
COCO	**West Island**	**85.77**	**259**	*e*P	**P**	**09 05 55.0**	**+2.4**
	comp=Z,734nm,1.3s						
COCO				LR	LR		
	comp=Z,4µm,19.0s						
MSO	**Missoula**	**85.78**	**36**	P	**P**	**09 05 51.4**	**-0.6**
	baz=234,SNR=39						
MSO	**Missoula**	**85.78**	**36**	*e*P	**P**	**09 05 51.3**	**-0.7**
	comp=Z,153nm,1.5s						
832A	**Faith Ranch, C**	**85.80**	**58**	P	**P**	**09 05 52.0**	**-0.4**
	baz=244,SNR=51						
PLCA	**Paso Flores**	**85.81**	**132**	P	**P**	**09 05 52.7**	**+0.2**
	comp=Z,44nm,1.1s,baz=277,slow=5.2,SNR=29						
PLCA				S	**S**	**09 16 26.8**	**+3.0**
	comp=Z,1.3nm,0.9s,baz=336,slow=18,SNR=1.9						
PLCA				LR	LR	09 36 33.8	
	comp=Z,4µm,20.0s,baz=278,slow=30						
PLCA	**Paso Flores**	**85.81**	**132**	*e*P	**P**	**09 05 53.0**	**+0.5**
	comp=Z,263nm,1.5s						
PLCA				S	**S**	**09 16 26.8**	**+3.0**
SMCO	**Snowmass**	**85.83**	**45**	*e*P	**P**	**09 05 52.8**	**0.0**
	comp=Z,315nm,1.9s						
IMW	**Indian Meadow**	**85.83**	**40**	*e*P	**P**	**09 05 52.8**	**+0.2**
	comp=Z,337nm,1.8s						
MOOW	**Moose Ponds**	**85.87**	**40**	*e*P	**P**	**09 05 52.5**	**-0.2**
	comp=Z,249nm,1.8s						
LOHW	**Long Hollow**	**85.88**	**40**	*e*P	**P**	**09 05 52.7**	**-0.1**
	comp=Z,270nm,1.8s						
BSMT	**Bassoo Peak**	**85.93**	**35**	*e*P	**P**	**09 05 52.2**	**-0.6**
DHY	**Denali Highway**	**85.93**	**11**	*e*P	**P**	**09 05 51.9**	**-0.5**
	comp=Z,131nm,1.5s						
RND	**Reindeer**	**85.97**	**11**	*e*P	**P**	**09 05 52.1**	**-0.4**
RND				pmax	pmax		
	comp=Z,266nm,1.4s						
RND	**Reindeer**	**85.97**	**11**	*e*P	**P**	**09 05 52.1**	**-0.4**
	comp=Z,266nm,1.4s						
LRM	**Limekiln Ridge**	**86.04**	**38**	*e*P	**P**	**09 05 53.3**	**-0.2**
BW06	**Boulder Array**	**86.06**	**41**	P	**P**	**09 05 53.4**	**-0.3**
	baz=237,SNR=35						
BW06	**Boulder Array**	**86.06**	**41**	*e*P	**P**	**09 05 53.1**	**-0.6**
	comp=Z,97nm,1.5s						
BW06				LR	LR		
	comp=Z,4µm,19.0s						
PD31	**Pinedale Array**	**86.06**	**41**	*e*P	**P**	**09 05 53.2**	**-0.5**
PDAR	**Pinedale Array**	**86.06**	**41**	P	**P**	**09 05 53.1**	**-0.5**
	comp=Z,12nm,0.8s,baz=209,slow=2.5,SNR=70						
PDAR				S	**S**	**09 16 20.3**	**-5.8**
	comp=Z,0.2nm,0.6s,baz=344,slow=6.1,SNR=2.2						
PDAR				PKKPbc	**PKKPbc**	**09 23 54.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=69,slow=3.3,SNR=5.6						
PDAR				LR	LR	09 39 09.8	
	comp=Z,3µm,19.1s,baz=248,slow=32						
QLMT	**Earthquake Lak**	**86.06**	**39**	*e*P	**P**	**09 05 54.3**	**+0.7**
933A	**Laredo**	**86.07**	**59**	P	**P**	**09 05 53.4**	**-0.3**
	baz=244,SNR=32						
SDCO	**Great Sand Dun**	**86.11**	**47**	P	**P**	**09 05 53.9**	**-0.2**
	baz=240,SNR=48						
SDCO	**Great Sand Dun**	**86.11**	**47**	*e*P	**P**	**09 05 54.0**	**-0.1**
	comp=Z,251nm,1.8s						
SDCO				LR	LR		
	comp=Z,2µm,19.0s						
JTMT	**Jette**	**86.14**	**35**	*e*P	**P**	**09 05 53.5**	**-0.4**
SWMT	**Swartz Lake**	**86.16**	**36**	*e*P	**P**	**09 05 52.8**	**-1.1**
YHB	**Horse Butte**	**86.16**	**39**	*e*P	**P**	**09 05 54.8**	**+0.7**
	comp=Z,447nm,2.0s						
PAX	**Paxson**	**86.20**	**12**	*e*P	**P**	**09 05 53.0**	**-0.7**
PAX				pmax	pmax		
	comp=Z,125nm,1.5s						
PAX	**Paxson**	**86.20**	**12**	*e*P	**P**	**09 05 53.0**	**-0.7**
	comp=Z,125nm,1.5s						
YFT	**Old Faithful**	**86.20**	**39**	*e*P	**P**	**09 05 53.7**	**-0.7**
	comp=Z,228nm,1.9s						
CHMT	**Chamberlain Mo**	**86.22**	**36**	*e*P	**P**	**09 05 53.7**	**-0.7**
MSTX	**Muleshoe**	**86.23**	**52**	P	**P**	**09 05 54.5**	**-0.1**
	baz=242						
MSTX	**Muleshoe**	**86.23**	**52**	*e*P	**P**	**09 05 55.0**	**+0.4**
	comp=Z,2µm,2.0s						
YMR	**Madison River**	**86.25**	**39**	*e*P	**P**	**09 05 55.3**	**+0.7**
	comp=Z,439nm,1.8s						
WHN	**Wuhan**	**86.25**	**304**	⇑P	**P**	**09 05 56.1**	**+1.5**
WHN				LR	LR		
	comp=Z,4µm,17.4s						
WHN				LR	LR		
	comp=Z,1µm,15.1s						
WHN				LR	LR		
	comp=Z,4µm,17.8s						
BLMT	**Blacktail Moun**	**86.26**	**35**	*e*P	**P**	**09 05 54.2**	**-0.3**
MCK	**McKinley**	**86.26**	**11**	*e*P	**P**	**09 05 53.3**	**-0.6**
MCK				pmax	pmax		
	comp=Z,197nm,1.2s						
MCK	**McKinley**	**86.26**	**11**	*e*P	**P**	**09 05 53.3**	**-0.6**
	comp=Z,197nm,1.2s						
SLMT	**Seeley Lake**	**86.28**	**36**	*e*P	**P**	**09 05 54.2**	**-0.4**
833A	**Chaparral WMA,**	**86.28**	**58**	P	**P**	**09 05 54.4**	**-0.4**
	baz=244,SNR=28						
034A	**Hebbronville**	**86.31**	**59**	P	**P**	**09 05 55.6**	**+0.7**
	baz=245,SNR=17						
H17A	**Grant Village**	**86.33**	**40**	P	**P**	**09 05 55.5**	**+0.5**
	baz=236,SNR=14						
H17A	**Grant Village**	**86.33**	**40**	*e*P	**P**	**09 05 55.2**	**+0.2**
	comp=Z,222nm,1.9s						
YBMT	**Yellow Bay**	**86.36**	**35**	*e*P	**P**	**09 05 54.7**	**-0.2**
BOZ	**Bozeman (W)**	**86.38**	**38**	P	**P**	**09 05 55.3**	**+0.3**
	baz=236,SNR=94						
BOZ	**Bozeman (W)**	**86.38**	**38**	*e*P	**P**	**09 05 55.0**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,181nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,3µm,20.0s						
BOZ	**Bozeman (W)**	**86.38**	**38**	*e*P	**P**	**09 05 55.0**	**-0.1**
	comp=Z,181nm,1.4s						
BOZ				LR	LR		
	comp=Z,3µm,20.0s						
YHH	**Holmes Hill**	**86.38**	**39**	*e*P	**P**	**09 05 55.9**	**+0.6**
	comp=Z,373nm,2.0s						
YNR	**Norris Junctio**	**86.44**	**39**	*e*P	**P**	**09 05 55.6**	**+0.1**
	comp=Z,151nm,1.6s						
LKWY	**Lake**	**86.53**	**40**	*e*P	**P**	**09 05 55.3**	**-0.7**
LKWY				pmax	pmax		
	comp=Z,218nm,1.8s						
LKWY				MLR	MLR		
	comp=Z,5µm,19.0s						
LKWY	**Lake**	**86.53**	**40**	*e*P	**P**	**09 05 55.3**	**-0.7**
	comp=Z,218nm,1.8s						
LKWY				LR	LR		
	comp=Z,5µm,19.0s						
DLBC	**Dease Lake**	**86.53**	**21**	P	**P**	**09 05 55.6**	**+0.2**
	comp=Z,27nm,0.8s,baz=213,slow=5.0,SNR=55						
DLBC	**Dease Lake**	**86.53**	**21**	*e*P	**P**	**09 05 55.8**	**+0.5**
	comp=Z,340nm,2.0s						
733A	**Divot King Ran**	**86.53**	**58**	P	**P**	**09 05 55.8**	**-0.2**
	baz=244,SNR=14						
035Z	**Hargill**	**86.55**	**60**	P	**P**	**09 05 56.5**	**+0.4**
	baz=245						
T25A	**Trinidad**	**86.56**	**48**	P	**P**	**09 05 56.2**	**-0.1**
	baz=241,SNR=26						
T25A	**Trinidad**	**86.56**	**48**	*e*P	**P**	**09 05 56.7**	**+0.4**
	comp=Z,145nm,1.4s						
FRIM	**Kepong**	**86.66**	**275**	⇑P	**P**	**09 05 58.5**	**+1.6**
934A	**Benavides**	**86.67**	**59**	P	**P**	**09 05 56.7**	**0.0**
	baz=245,SNR=8.4						
035A	**Encino**	**86.72**	**60**	P	**P**	**09 05 57.0**	**+0.1**
	baz=245						
WHY	**Whitehorse**	**86.78**	**18**	*e*P	**P**	**09 05 57.0**	**+0.3**
	comp=Z,282nm,1.8s						
TIA	**Tai'an**	**86.80**	**311**	⇓P	**P**	**09 05 58.2**	**+1.1**
TIA				SKS	S	09 16 24.0	-9.1
TIA				pmax	pmax		
	comp=Z,40nm,0.7s						
TIA				pmax	pmax		
	comp=Z,3µm,6.0s						
TIA				LR	LR		
	comp=Z,1µm,16.8s						
TIA				LR	LR		
	comp=Z,2µm,17.0s						
TIA				LR	LR		
	comp=Z,2µm,16.6s						
834A	**Tilden**	**86.87**	**59**	P	**P**	**09 05 57.6**	**0.0**
	baz=245,SNR=25						
HRY	**Holter Researc**	**86.90**	**37**	*e*P	**P**	**09 05 57.5**	**0.0**
JCT	**Junction City**	**86.90**	**56**	P	**P**	**09 05 57.3**	**-0.6**
	baz=244,SNR=18						
JCT	**Junction City**	**86.90**	**56**	*e*P	**P**	**09 05 57.0**	**-0.8**
JCT				pmax	pmax		
	comp=Z,370nm,1.8s						
JCT				MLR	MLR		
	comp=Z,5µm,19.0s						
JCT

KVTX	Kingsville	87.15	59	PFAKE			09 06 10.0 +11
KVTX				LR	LR		
	comp=Z,2µm,20.0s						
734A	La Parita Cree	87.17	58	P	P		09 05 59.1 0.0
	baz=245,SNR=9.2						
HDA	Harding Lake	87.23	11	eP	P		09 05 58.1 -0.5
	comp=Z,386nm,1.8s						
CCB	Clear Creek Bu	87.30	11	eP	P		09 05 58.1 -0.8
	comp=Z,348nm,1.7s						
N23A	Red Feather La	87.38	44	P	P		09 06 00.3 +0.1
	baz=240,SNR=6.9						
N23A	Red Feather La	87.38	44	eP	P		09 06 00.6 +0.3
	comp=Z,28nm,1.1s						
AMTX	Amarillo	87.45	51	P	P		09 06 00.6 +0.1
	baz=243						
AMTX	Amarillo	87.45	51	eP	P		09 06 00.6 +0.1
	comp=Z,157nm,1.0s						
SYO	Syowa Base	87.48	191⇑	eP	P		09 05 58.6 -1.3
COLA	College	87.50	11	eP	P		09 05 59.4 -0.4
COLA				pmax	pmax		
	comp=Z,184nm,1.1s						
COLA				MLR	MLR		
	comp=Z,3µm,21.0s						
COLA	College	87.50	11	eP	P		09 05 59.4 -0.4
	comp=Z,184nm,1.1s						
COLA				LR	LR		
	comp=Z,3µm,21.0s						
RLMT	Red Lodge	87.51	40	P	P		09 06 00.8 +0.1
	baz=237,SNR=13						
RLMT	Red Lodge	87.51	40	eP	P		09 06 00.8 +0.1
	comp=Z,26nm,1.5s						
RLMT				LR	LR		
	comp=Z,3µm,19.0s						
835A	Beeville	87.51	59	P	P		09 06 00.8 0.0
	baz=245,SNR=5.6						
MDM	Murphy Dome	87.51	10	eP	P		09 05 59.2 -0.7
	comp=Z,511nm,1.8s						
634A	China Grove, S	87.56	57	P	P		09 06 01.0 0.0
	baz=245						
CCIG	Comitan	87.57	72	eP	P		09 06 01.8 +0.3
	comp=Z,264nm,1.7s						
ILAR	Eielson Array	87.57	11	P	P		09 05 59.5 -0.7
	comp=Z,12nm,0.8s,baz=215,slow=5.3,SNR=86						
ILAR				S	S		09 16 27.9 -11
	comp=Z,0.4nm,1.0s,baz=157,slow=4.8,SNR=3.3						
ILAR				PKKP	PKKPdf		09 23 46.8 +0.3
	comp=Z,1.4nm,1.1s,baz=333,slow=2.3,SNR=5.1						
ILAR				LR	LR		09 43 41.8
	comp=Z,1µm,18.0s,baz=212,slow=35						
ILAR	Eielson Array	87.57	11	P	P		09 05 59.5 -0.7
ILAR				S	S		09 16 27.9 -11
ILAR				pmax	pmax		
	comp=Z,12nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR				MLR	MLR		
	comp=Z,1µm,18.0s						
ILB	Eielson Array	87.57	11	eP	P		09 06 00.1 -0.1
IL1	Eielson Array	87.57	11	eP	P		09 06 00.1 -0.1
VNA3	Neumayer Olymp	87.59	175	P	P		09 06 00.1 -0.4
GCMT	Greycliff	87.63	39	eP	P		09 06 01.2 +0.1
SNAA	Sanae	87.63	177	P	P		09 06 00.4 -0.4
SNAA	Sanae	87.63	177	S	S		09 16 32.0 -8.3
	comp=Z,0.8nm,0.9s,baz=354,slow=19,SNR=2.4						
SNAA	Sanae	87.63	177	d iP	P		09 06 00.8 +0.1
SNAA				pmax	pmax		
	comp=Z,4µm,1.2s						
SNAA	Sanae	87.63	177	eP	P		09 06 01.1 +0.4
	comp=Z,185nm,1.4s						
SNAA				S	S		09 16 32.0 -8.3
IPM	Ipoh	87.66	276	eP	P		09 06 01.5 -0.4
	comp=Z,370nm,1.7s						
SEY	Seymchan	87.67	345	P	P		09 06 00.7 +0.1
	comp=Z,107nm,0.9s,baz=148,slow=5.6,SNR=88						
SEY				S	S		09 16 29.9 -10
	comp=Z,1.4nm,0.9s,baz=180,slow=20,SNR=2.1						
SEY	Seymchan	87.67	345	d iP	P		09 06 01.1 +0.4
735A	Kenedy	87.77	58	P	P		09 06 02.6 +0.6
	baz=245,SNR=6.4						
K22A	Casper	87.90	43	P	P		09 06 02.3 -0.2
	baz=239,SNR=15						
K22A	Casper	87.90	43	eP	P		09 06 02.1 -0.5
	comp=Z,216nm,1.8s						
PHWY	Pilot Hill	87.90	44	eP	P		09 06 02.5 -0.2
	comp=Z,76nm,1.8s						
ABTX	Abilene, Hawle	87.96	54	P	P		09 06 02.8 -0.1
	baz=244,SNR=22						
ABTX	Abilene, Hawle	87.96	54	eP	P		09 06 03.4 +0.5
	comp=Z,266nm,1.3s						
635A	Leesville	88.02	58	P	P		09 06 03.3 +0.2
	baz=245,SNR=16						
VNA2	Neumayer--Watz	88.08	175	P	P		09 06 02.3 -0.5
	baz=194,slow=3.4						
VNA1	Neumayer--Stat	88.28	175	P	P		09 06 04.5 +0.8
KULM	Kulim	88.29	276	eP	P		09 06 05.8 +1.0
	comp=Z,89nm,1.1s						
KULM				LR	LR		
	comp=Z,1µm,20.0s						
736A	Circle Diamond	88.40	58	P	P		09 06 05.3 +0.3
	baz=245,SNR=8.5						
EFI	East Falkland	88.42	146	d iP	P		09 06 05.1 +0.4
EFI				pmax	pmax		
	comp=Z,160nm,1.2s						
EFI	East Falkland	88.42	146	eP	P		09 06 05.5 +0.7
	comp=Z,365nm,1.4s						
EFI				LR	LR		
	comp=Z,2µm,19.0s						
DAWY	Dawson	88.47	14	eP	P		09 06 05.6 +1.0
	comp=Z,206nm,1.4s						
ROC1	El Roble	88.58	125	eP	P		09 06 07.5 +1.2
	comp=Z,18nm,0.8s						
636A	Smothers Creek	88.63	58	P	P		09 06 06.2 +0.2
	baz=245,SNR=7.4						
KSCO	Kaye Shedlock'	88.69	47	P	P		09 06 06.4 +0.1
	baz=242						
KSCO	Kaye Shedlock'	88.69	47	eP	P		09 06 06.4 +0.1
	comp=Z,327nm,1.9s						
EGAK	Eagle	88.70	13	eP	P		09 06 05.6 +0.1
	comp=Z,205nm,1.4s						
EGAK				LR	LR		
	comp=Z,3µm,20.0s						
NVL	N'lazarevskaya	88.72	182	eP	P		09 06 08.8 +3.0
NVL				MLR	MLR		
	comp=Z,3µm,17.0s						
435B	Jarrell	88.75	56	P	P		09 06 06.6 0.0
	baz=245,SNR=9.8						
EGMT	Eagleton	88.80	37	P	P		09 06 06.7 +0.2
	baz=237						
EGMT	Eagleton	88.80	37	eP	P		09 06 07.0 +0.5
	comp=Z,56nm,1.3s						
EGMT				LR	LR		
	comp=Z,4µm,20.0s						
737A	Port Lavaca	88.82	59	P	P		09 06 06.5 -0.4
	baz=246						
536A	Bastrop	88.87	57	P	P		09 06 07.1 -0.1
	baz=245						
PANO	Nakornpanom	88.96	289	P	P		09 06 11.2 +3.3
	comp=Z,50nm,1.6s						
PSI	Prapat	89.03	273	P	P		09 06 08.3 -0.2
	comp=Z,51nm,1.0s,baz=114,slow=2.2,SNR=16						
637A	Eagle Lake	89.18	58	P	P		09 06 08.8 +0.2
	baz=246,SNR=6.4						
BJT	Baijiatuau	89.26	314	eP	P		09 06 09.6 +0.9
BJT				pmax	pmax		
	comp=Z,403nm,1.7s						
BJT				MLR	MLR		
	comp=Z,2µm,19.0s						
BJT	Baijiatuau	89.26	314	eP	P		09 06 09.6 +0.9
	comp=Z,402nm,1.7s						
BJT				LR	LR		
	comp=Z,2µm,19.0s						
BJI	Beijing	89.26	314	P	P		09 06 09.9 +1.1
BJI				PP	PP		09 09 39.6 -0.3
BJI				SKS	SKSac		09 16 38.2 +1.5
BJI				SS	SS		09 22 47.5 -4.2
BJI				pmax	pmax		
	comp=Z,3µm,4.9s						
BJI				LR	LR		
	comp=Z,510nm,17.5s						
BJI				LR	LR		
	comp=Z,1µm,21.7s						
BJI				LR	LR		
	comp=Z,2µm,26.0s						
COLD	Coldfoot	89.31	9	eP	P		09 06 09.4 +1.0
	comp=Z,122nm,1.5s						
WHTX	Lake Whitney,	89.36	55	P	P		09 06 09.6 -0.2
	baz=245,SNR=14						
WHTX	Lake Whitney,	89.36	55	eP	P		09 06 09.4 0.0
	comp=Z,387nm,1.8s						
436A	Wall Ranch, Ga	89.36	57	P	P		09 06 09.6 +0.1
	baz=246,SNR=15						
537A	Green Hill Far	89.46	58	P	P		09 06 09.6 -0.3
	baz=246						
FYU	Fort Yukon	89.50	11	eP	P		09 06 10.0 +0.8
	comp=Z,194nm,1.9s						
WMOK	Wichita Mounta	89.53	52	P	P		09 06 09.9 -0.3
	baz=244,SNR=19						
WMOK	Wichita Mounta	89.53	52	eP	P		09 06 10.0 -0.2
WMOK				pmax	pmax		
	comp=Z,196nm,1.9s						
WMOK				MLR	MLR		
	comp=Z,2µm,19.0s						
WMOK	Wichita Mounta	89.53	52	eP	P		09 06 10.0 -0.2
	comp=Z,196nm,1.9s						
WMOK				LR	LR		
	comp=Z,2µm,19.0s						
336A	Riesel	89.58	56	P	P		09 06 10.4 -0.1
	baz=246,SNR=8.2						
BILL	Bilibino	89.76	352	d iP	P		09 06 10.5 0.0
BILL				i			09 09 45.7
BILL				eS	S		09 16 51.8 -8.1
BILL				i SS	SS		09 22 57.7 -0.1
BILL				pmax	pmax		
	comp=Z,136nm,1.6s						
HKT	Hockley	89.79	58	eP	P		09 06 11.6 +0.2
HKT				pmax	pmax		
	comp=Z,312nm,1.7s						
HKT	Hockley	89.79	58	eP	P		09 06 11.6 +0.2
	comp=Z,312nm,1.7s						
EDM	Edmonton	89.87	31	eP	P		09 06 11.2 -0.2
EDM				pmax	pmax		
	comp=Z,894nm,1.7s						
EDM	Edmonton	89.87	31	eP	P		09 06 11.2 -0.2
	comp=Z,894nm,1.7s						
638A	Rosharon	89.88	58	P	P		09 06 11.7 -0.2
	baz=246						
437A	Phantom Ranch,	89.91	57	P	P		09 06 12.0 0.0
	baz=246						
ENH	Enshi	89.93	302	eP	P		09 06 13.7 +1.4
	comp=Z,382nm,1.5s						
ENH				LR	LR		
	comp=Z,1µm,19.0s						
OGNE	Ogallala	90.00	46	P	P		09 06 11.7 -0.6
	baz=242						
OGNE	Ogallala	90.00	46	PFAKE			09 06 20.0 +7.6
OGNE				LR	LR		
	comp=Z,2µm,20.0s						
U32A	Winter Ranch,	90.07	51	P	P		09 06 13.1 +0.4
	baz=244						
236A	Katherine and	90.08	56	P	P		09 06 12.6 -0.2
	baz=246,SNR=15						
LAO	LASA Array	90.14	39	P	P		09 06 13.3 +0.5
	baz=240						
LAO	LASA Array	90.14	39	eP	P		09 06 14.1 +1.2
	comp=Z,341nm,1.6s						
LAO				LR	LR		
	comp=Z,1µm,20.0s						
538A	Harpers Horsep	90.17	58	P	P		09 06 14.3 +1.1
	baz=246						
RSSD	Black Hills	90.20	42	P	P		09 06 13.2 -0.2
	baz=241						
RSSD	Black Hills	90.20	42	eP	P		09 06 12.1 -1.3
RSSD				pmax	pmax		
	comp=Z,147nm,1.6s						
RSSD	Black Hills	90.20	42	eP	P		09 06 12.1 -1.3
	comp=Z,147nm,1.6s						
KHON	Khomkaen	90.26	287	P	P		09 06 17.3 +3.3
	comp=Z,24nm,1.4s						
136A	Ennis	90.28	55	P	P		09 06 13.4 -0.3
	baz=246,SNR=25						
337A	Centerville	90.30	57	P	P		09 06 13.9 0.0
	baz=246,SNR=7.4						
438A	Sam Houston St	90.39	57	P	P		09 06 14.3 0.0
	baz=246,SNR=7.4						
LCO	Las Campanas	90.43	121	eP	P		09 06 15.4 +0.4
	comp=Z,321nm,1.4s						
LCO				LR	LR		
	comp=Z,4µm,20.0s						
Y35A	Marietta	90.48	54	P	P		09 06 14.6 0.0
	baz=245,SNR=12						
CBKS	Cedar Bluff	90.61	48	P	P		09 06 15.0 -0.2
	baz=244						
CBKS	Cedar Bluff	90.61	48	eP	P		09 06 15.4 +0.2
CBKS				pmax	pmax		
	comp=Z,195nm,1.7s						
CBKS				MLR	MLR		
	comp=Z,2µm,19.0s						
CBKS	Cedar Bluff	90.61	48	eP	P		09 06 15.4 +0.2
	comp=Z,195nm,1.7s						
CBKS				LR	LR		
	comp=Z,2µm,19.0s						
237A	Washetta, Mont	90.64	56	P	P		09 06 15.3 -0.1
	baz=246,SNR=13						
Z36A	Blue Ridge	90.67	55	P	P		09 06 15.7 +0.1
	baz=246,SNR=13						
GYA	Guiyang	90.71	298⇑	iP	P		09 06 17.2 +1.1
GYA				PP	PP		09 09 54.6 +2.7
GYA				SKS	SKSac		09 16 47.7 +1.6
GYA				S	S		09 17 11.3 +0.6
GYA				SS	SS		09 23 16.5 +3.0
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,1µm,8.7s						
GYA				LR	LR		
	comp=Z,1µm,23.0s						
GYA				LR	LR		
	comp=Z,680nm,22.0s						
GYA				LR	LR		
	comp=Z,2µm,24.0s						
TOLK	Toolik Lake Re	90.72	8	P	P		09 06 15.5 +0.5
	baz=202						
X35A	Drake	90.73	53	P	P		09 06 15.5 -0.3
	baz=245,SNR=23						
338A	Crockett	90.77	57	P	P		09 06 16.1 +0.1
	baz=246,SNR=5.8						
TIY	Taiyuan	90.82	310	eP	P		09 06 17.5 +1.3
TIY				PP	PP		09 09 54.0 +1.5
TIY				pmax	pmax		
	comp=Z,36nm,0.5s						
TIY				pmax	pmax		
	comp=Z,1µm,4.2s						
TIY				LR	LR		
	comp=Z,2µm,17.4s						
TIY				LR	LR		
	comp=Z,630nm,14.9s						
TIY				LR	LR		
	comp=Z,1µm,21.2s						
CHAI	Chaiyaphum	90.85	287	P	P		09 06 19.4 +2.7
	comp=Z,10nm,1.1s,comp=Z,137nm						
137A	Heron Place, G	90.92	55	P	P		09 06 17.0 +0.3
	baz=246						
439A	Center Grove,	90.97	57	P	P		09 06 16.9 -0.1
	baz=246						
Y36A	Durant	91.05	54	P	P		09 06 17.2 -0.1
	baz=246,SNR=30						
W35A	Tecumseh	91.12	53	P	P		09 06 17.6 0.0
	baz=246,SNR=33						
SLVN	Son La	91.13	292	eP	P		09 06 20.0 +2.0
	comp=Z,171nm,1.6s						
TGUH	Tegucigalpa,Un	91.13	75	eP	P		09 06 18.5 +0.5
	comp=Z,164nm,0.9s						
238A	Jacksonville	91.17	56	P	P		09 06 18.0 +0.1
	baz=246,SNR=6.1						
Z37A	Pogue Cattle C	91.27	55	P	P		09 06 18.4 0.0
	baz=246						
X36A	Centrahoma	91.27	53	P	P		09 06 18.0 -0.3
	baz=246,SNR=9.2						
339A	Huntington	91.35	57	P	P		09 06 18.7 0.0
	baz=247						
540A	Vidor	91.36	58	P	P		09 06 18.9 +0.1
	baz=247						
V35A	Meyer Ranch, C	91.40	52	P	P		09 06 18.7 -0.2
	baz=246,SNR=14						
NATX	Nacogdoches	91.44	57	P	P		09 06 19.3 +0.2
	baz=247						
NATX	Nacogdoches	91.44	57	eP	P		09 06 19.6 +0.4
	comp=Z,240nm,1.7s						
NATX				LR	LR		
	comp=Z,4µm,19.0s						
138A	Matatall Enter	91.46	56	P	P		09 06 19.5 +0.3
	baz=246,SNR=5.1						
HIA	Hailar	91.53	323	PFAKE			09 06 30.0 +11
HIA				LR	LR		
	comp=Z,2µm,19.0s						
Y37A	Hugo	91.58	54	P	P		09 06 19.6 -0.2
	baz=246,SNR=25						
440A	Kirbyville	91.59	58	P	P		09 06 19.7 -0.2
	baz=247						
W36A	Wetumka	91.60	53	P	P		09 06 19.8 0.0
	baz=246,SNR=12						
NNA	Nana	91.62	103	PFAKE			09 06 30.0 +9.5
NNA				LR	LR		
	comp=Z,2µm,19.0s						
T34A	McClaskey Farm	91.67	51	P	P		09 06 20.0 -0.1
	baz=245,SNR=17						
239A	Gary	91.69	56	P	P		09 06 20.3 0.0
	baz=247						
U35A	Pawnee	91.73	52	P	P		09 06 20.3 -0.1
	baz=246,SNR=14						
Z38A	Mt. Pleasant	91.78	55	P	P		09 06 20.8 +0.1
	baz=246						
XAN	Xi'an	91.89	306	P	P		09 06 22.5 +1.2
XAN				sP	pP		09 06 31.6 +0.8
XAN				PP	PP		09 10 03.7 +2.7
XAN				SKS	SKSac		09 16 52.2 -0.1
XAN				S	S		09 17 20.3 -0.7
XAN				SS	SS		09 23 29.7 -0.4
XAN				pmax	pmax		
	comp=Z,1µm,9.5s						
XAN				LR	LR		
	comp=Z,580nm,25.1s						
XAN				LR	LR		
	comp=Z,1µm,37.3s						
XAN				LR	LR		
	comp=Z,3µm,40.2s						
340A	Bronson	91.91	57	P	P		09 06 21.4 +0.1
	baz=247						
S34A	Willow Spring	92.00	50	P	P		09 06 21.5 -0.1
	baz=245,SNR=12						
139A	Bunkhouse Ranc	92.01	56	P	P		09 06 21.8 0.0
	baz=247						
X37A	Clayton	92.02	54	P	P		09 06 21.5 -0.3
	baz=246,SNR=14						
V36A	Jenks	92.07	53	P	P		09 06 21.9 -0.1
	baz=246,SNR=6.8						
T35A	Sooner Cattle	92.11	51	P	P		09 06 22.2 0.0
	baz=246,SNR=28						
R34A	Isabella, Hill	92.16	50	P	P		09 06 22.3 -0.1
	baz=245,SNR=14						
W37B	Quinton	92.19	53	P	P		09 06 22.3 -0.3
	baz=246,SNR=13						
441A	DeRidder	92.20	58	P	P		09 06 22.7 0.0
	baz=247						
DGMT	Dagmar	92.21	38	P	P		09 06 22.9 +0.5
	baz=241,SNR=34						
DGMT	Dagmar	92.21	38	eP	P		09 06 22.8 +0.5
	comp=Z,585nm,1.5s						
DGMT				LR	LR		
	comp=Z,3µm,20.0s						
TUL1	Leonard	92.23	52	P	P		09 06 22.7 0.0
	baz=246,SNR=9.6						
TUL1	Leonard	92.23	52	eP	P		09 06 23.0 +0.3
	comp=Z,262nm,1.8s						
Y38A	Idabel	92.24	55	P	P		09 06 22.4 -0.4
	baz=247,SNR=26						
Z39A	Irene McRaven,	92.39	55	P	P		09 06 23.6 +0.1
	baz=247						
341A	Kurthwood	92.44	58	P	P		09 06 23.6 -0.2
	baz=247						
X38A	Whitesboro	92.46	54	P	P		09 06 23.4 -0.4
	baz=247,SNR=30						
U36A	Oologah	92.47	52	P	P		09 06 23.5 -0.3
	baz=246,SNR=20						
S35A	Otter Creek Ra	92.57	51	P	P		09 06 24.2 0.0
	baz=246,SNR=20						
HDC	Heredia	92.60	80	eP	P		09 06 26.0 +0.9
	comp=Z,708nm,1.8s						
140A	Cam and Jess,	92.63	56	P	P		09 06 24.9 +0.3
	baz=247,SNR=8.4						
Q34A	Chapman	92.63	49	P	P		09 06 24.7 +0.2
	baz=246,SNR=21						
T36A	Boggs Farm, Ca	92.64	51	P	P		09 06 24.6 0.0
	baz=246,SNR=22						
O33A	Hebron	92.66	48	P	P		09 06 24.1 -0.5
	baz=245,SNR=7.7						
V37A	Hulbert	92.71	53	P	P		09 06 24.9 0.0
	baz=246,SNR=32						
PHIT	Phitsanulok	92.71	287	P	P		09 06 31.5 +6.2
	comp=Z,61nm,0.8s						
Y39A	Lockesburg	92.73	55	P	P		09 06 24.9 -0.1
	baz=247						
HHC	Hu-ho-hao-te	92.77	313	eP	P		09 06 25.5 +0.3
HHC				SKS	SKSac		09 16 57.0 -0.1
HHC				S	S		09 17 27.7 -1.0
HHC				sS	ScS		09 17 35.6 +5.0
HHC				pmax	pmax		
	comp=Z,130nm,1.3s						
HHC				LR	LR		
	comp=Z,430nm,17.7s						
HHC				LR	LR		
	comp=Z,590nm,22.3s						
HHC				LR	LR		
	comp=Z,350nm,24.7s						
UTTA	Uttaradit	92.78	288	P	P		09 06 27.6 +2.0
	comp=Z,18nm,1.1s,comp=Z,188nm						
442A	Mamou	92.79	58	P	P		09 06 25.2 -0.2
	baz=248						
BGNE	Belgrade	92.83	47	P	P		09 06 25.2 -0.2
	baz=245						
BGNE	Belgrade	92.83	47	eP	P		09 06 25.8 +0.4
	comp=Z,391nm,1.6s						
W38A	Poteau	92.85	54	P	P		09 06 25.7 +0.1
	baz=247,SNR=14						
241A	Mo Tay, Goldon	92.90	57	P	P		09 06 26.3 +0.4
	baz=248						
R35A	Emporia Munici	92.92	50	P	P		09 06 26.1 +0.3
	baz=246						
U37A	Salina	92.94	52	P	P		09 06 26.1 +0.2
	baz=246,SNR=18						
X39A	Fountain Ranch	92.94	54	P	P		09 06 25.9 -0.2
	baz=247,SNR=16						
KSU1	Kansas State U	92.94	49	P	P		09 06 25.9 0.0
	baz=246,SNR=5.6						
KSU1	Kansas State U	92.94	49	eP	P		09 06 26.1 +0.2
	comp=Z,189nm,1.5s						
KSU1				LR	LR		
	comp=Z,4µm,19.0s						
K31A	O'Neill	92.94	45	P	P		09 06 26.0 +0.1
	baz=245						
TRQA	Tornquist	92.95	133	PFAKE			09 06 40.0 +14
TRQA				LR	LR		
	comp=Z,2µm,19.0s						
CLNS	Chul'man	92.95	331	eP	P		09 06 26.4 +0.8
CLNS				e*PP	sP		09 06 39.5 +1.0
CLNS				e			09 10 08.6
CLNS				ePPP	PPP		09 12 05.9
CLNS				eS	SKSac		09 16 56.5 -0.7
CLNS				eSSS	SSS		09 27 21.4
CLNS				pmax	pmax		
	comp=Z,22nm,1.0s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				smax	smax		
	comp=N,288nm,12.5s						
CLNS				smax	smax		
	comp=E,346nm,10.3s						
CLNS				MLR	MLR		
	comp=E,505nm,18.0s						
CLNS				MLR	MLR		
	comp=N,536nm,17.0s						
CLNS				MLR	MLR		
	comp=Z,576nm,14.0s						
P34A	Walnut Farm, R	92.97	49	P	P		09 06 26.3 +0.3
	baz=246,SNR=15						
Z40A	Long Farm, Mag	93.00	56	P	P		09 06 26.7 +0.3
	baz=247						
UTHA	Uthaitani	93.02	285	P	P		09 06 28.8 +2.0
	comp=Z,20nm,0.8s,comp=Z,187nm						
NANT	Nan	93.03	289	P	P		09 06 28.4 +1.6
	comp=Z,20nm,0.9s						
N33A	J Bar K, Exete	93.03	48	P	P		09 06 26.2 -0.1
	baz=245						

S36A	Lake Cedric, C	93.11	51	P	P	09 06 26.6	-0.1
	baz=246,SNR=16						
342A	Flagon Creek P	93.13	58	P	P	09 06 27.3	+0.4
	baz=248						
141A	Papa Simpson,	93.14	56	P	P	09 06 26.9	0.0
	baz=248						
L32A	Elgin	93.18	46	P	P	09 06 27.4	+0.4
	baz=245						
J31A	Geddes	93.24	45	P	P	09 06 27.3	0.0
	baz=245						
V38A	Canehill	93.25	53	P	P	09 06 27.4	0.0
	baz=247,SNR=29						
Q35A	Mercer Eighty,	93.25	50	P	P	09 06 27.4	0.0
	baz=246,SNR=16						
O34A	Beatrice	93.33	48	P	P	09 06 27.7	0.0
	baz=246,SNR=8.7						
INK	Inuvik	93.33	14	eP	P	09 06 26.8	-0.2
INK				pmax	pmax		
	comp=Z,312nm,1.9s						
INK	Inuvik	93.33	14	eP	P	09 06 26.8	-0.2
	comp=Z,312nm,1.9s						
MIAR	Mount Ida	93.36	54	P	P	09 06 27.7	-0.4
	baz=247,SNR=13						
MIAR	Mount Ida	93.36	54	eP	P	09 06 27.6	-0.4
MIAR				pmax	pmax		
	comp=Z,195nm,1.9s						
MIAR				MLR	MLR		
	comp=Z,4μm,20.0s						
MIAR	Mount Ida	93.36	54	eP	P	09 06 27.6	-0.4
	comp=Z,195nm,1.9s						
MIAR				LR	LR		
	comp=Z,4μm,20.0s						
T37A	Cheneyville 18	93.36	52	P	P	09 06 27.9	-0.1
	baz=247,SNR=38						
Y40A	Okolona	93.38	55	P	P	09 06 28.1	0.0
	baz=247,SNR=11						
WLAR	White Oak Lake	93.39	55	eP	P	09 06 28.6	+0.5
	comp=Z,256nm,1.8s						
R36A	Gordon, Harris	93.42	50	P	P	09 06 28.2	0.0
	baz=246,SNR=8.7						
W39A	Magazine	93.46	54	P	P	09 06 28.3	0.0
	baz=247,SNR=12						
Z41A	Richland Creek	93.46	56	P	P	09 06 28.6	+0.1
	baz=248						
K32A	Verdigre	93.48	46	P	P	09 06 28.2	-0.1
	baz=245,SNR=10						
U38A	Gravette	93.49	52	P	P	09 06 28.3	-0.2
	baz=247,SNR=16						
KMI	Kunming	93.50	295	P	P	09 06 29.9	+0.8
KMI				pP	PcP	09 06 32.1	+2.4
KMI				PP	PP	09 10 15.5	+1.4
KMI				S	S	09 17 35.3	-0.7
KMI				sS	pS	09 17 43.3	-4.9
KMI				SS	SS	09 23 53.7	-0.2
KMI				pmax	pmax		
	comp=Z,46nm,1.2s						
KMI				pmax	pmax		
	comp=Z,1μm,7.1s						
KMI				LR	LR		
	comp=Z,910nm,18.7s						
KMI				LR	LR		
	comp=Z,2μm,17.8s						
KMI				LR	LR		
	comp=Z,2μm,19.6s						
P35A	Duane Minner,	93.53	49	P	P	09 06 29.0	+0.3
	baz=246,SNR=9.2						
M33A	Taylor Creek F	93.55	47	P	P	09 06 28.6	-0.1
	baz=246,SNR=13						
PB04	IPOC Station P	93.58	115	eP	P	09 06 30.9	+1.3
	comp=Z,320nm,1.7s						
S37A	Fort Scott	93.68	51	P	P	09 06 29.1	-0.3
	baz=247,SNR=18						
Q36A	Arnold C. Orve	93.70	50	P	P	09 06 29.5	+0.1
	baz=246						
N34A	Lincoln	93.73	48	P	P	09 06 29.4	-0.2
	baz=246,SNR=6.5						
BTO	Baotou	93.74	312	eP	P	09 06 31.2	+1.5
L33A	Hoskins	93.75	46	P	P	09 06 29.7	+0.1
	baz=246						
UMPA	Umpang Tak	93.77	286	P	P	09 06 33.4	+3.1
	comp=Z,13nm,1.1s,comp=Z,813nm						
T38A	Diamond	93.79	52	P	P	09 06 29.7	-0.2
	baz=247,SNR=18						
V39A	Pettigrew	93.81	53	P	P	09 06 29.6	-0.5
	baz=247,SNR=21						
Y41A	Eaglette Beard	93.85	55	P	P	09 06 29.9	-0.3
	baz=248,SNR=9.9						
J32A	Parkston	93.86	45	P	P	09 06 30.1	0.0
	baz=245,SNR=12						
LAMP	Lampang	93.88	288	P	P	09 06 33.9	+3.2
	comp=Z,20nm,1.0s,comp=Z,203nm						
R37A	Teagarden Farm	93.90	51	P	P	09 06 30.4	0.0
	baz=247,SNR=16						
X40A	Basin Creek Fa	93.91	55	P	P	09 06 30.1	-0.4
	baz=248						
O35A	Humboldt	93.91	48	P	P	09 06 30.3	-0.1
	baz=246,SNR=5.1						
W40A	Ferguson Farm,	94.00	54	P	P	09 06 30.6	-0.2
	baz=248						
YAK	Yakutsk	94.04	337	P	P	09 06 29.2	-1.2
	comp=Z,25nm,0.6s,baz=49,slow=3.1,SNR=6.0						
YAK				LR	LR	09 44 39.9	
	comp=Z,622nm,20.4s,baz=184,slow=33						
YAK	Yakutsk	94.04	337	*d*/*P*	P	09 06 29.3	-1.1
YAK				*e*?PP	sP	09 06 42.4	-0.9
YAK				*e*		09 10 19.6	
YAK				*e*S	SKSac	09 17 01.9	-0.9
YAK				*e*		09 17 36.9	
YAK				*e*SSS	SSS	09 27 37.3	
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,656nm,4.9s						
YAK				pmax	pmax		
	comp=N,139nm,4.4s						
YAK				smax	smax		
	comp=N,490nm,5.2s						
K33A	Hardington	94.11	46	P	P	09 06 31.4	+0.1
	baz=246						
Z42A	Norrel Spur, H	94.13	56	P	P	09 06 31.7	+0.1
	baz=248						
444A	Pine Grove	94.14	59	P	P	09 06 31.3	-0.3
	baz=248						
U39A	Green Forest	94.14	53	P	P	09 06 31.3	-0.2
	baz=248,SNR=15						
P36A	Good Intent, A	94.14	49	P	P	09 06 31.4	-0.1
	baz=247,SNR=14						
X41A	Kaden, Bauxite	94.15	55	P	P	09 06 31.4	-0.2
	baz=248,SNR=6.2						
L34A	Svendsen Farm,	94.27	47	P	P	09 06 32.5	+0.5
	baz=246						
S38A	Stockton	94.30	51	P	P	09 06 31.9	-0.3
	baz=247,SNR=19						
N35A	Tabor	94.33	48	P	P	09 06 32.5	+0.2
	baz=246,SNR=8.0						
143A	Socs Landing,	94.35	57	P	P	09 06 32.3	-0.2
	baz=248						
I32A	Karley and Nic	94.39	45	P	P	09 06 32.6	+0.1
	baz=246,SNR=15						
UALR	University of	94.39	55	eP	P	09 06 34.1	+1.4
	comp=N,52nm,1.3s						
Q37A	Longview Farm,	94.39	50	P	P	09 06 32.5	-0.1
	baz=247,SNR=13						
G31A	Conde	94.41	43	P	P	09 06 33.0	+0.5
	baz=245,SNR=7.5						
V40A	Witts Springs	94.41	53	P	P	09 06 32.7	-0.2
	baz=248,SNR=9.2						
344A	Westbrook Farm	94.42	58	P	P	09 06 33.4	+0.5
	baz=249						
J33A	Davis	94.42	45	P	P	09 06 32.9	+0.3
	baz=246,SNR=24						
CM01	Chiang Mai Arr	94.44	288	eP	P	09 06 34.6	+1.3
T39A	Clever	94.46	52	P	P	09 06 32.6	-0.4
	baz=248,SNR=19						
Y42A	Garnett, Star	94.47	56	P	P	09 06 33.0	-0.1
	baz=248						
CM31	Chiang Mai Arr	94.47	288	eP	P	09 06 35.3	+1.9
CMAR	Chiang Mai Arr	94.47	288	P	P	09 06 35.0	+1.6
	comp=N,20nm,1.0s,baz=123,slow=2.4,SNR=25						
CMAR				S	SKSac	09 17 10.8	+3.7
	comp=N,0.8nm,0.4s,baz=226,slow=25,SNR=2.5						
CMAR				PKKPbc	PKKPbc	09 23 32.6	+0.3
	comp=N,1.8nm,0.5s,baz=287,slow=4.5,SNR=6.9						
CMAR				LR	LR	09 50 12.7	
	comp=N,756nm,18.5s,baz=132,slow=36						
CMAR	Chiang Mai Arr	94.47	288	P	P	09 06 35.0	+1.6
CMAR				S	SKSac	09 17 10.8	+3.7
CMAR				pmax	pmax		
	comp=Z,18nm,0.9s						
CMAR				smax	smax		
	comp=N,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,756nm,18.5s						
445A	Amite	94.47	59	P	P	09 06 33.1	0.0
	baz=249						
646A	Port Sulphur	94.47	60	P	P	09 06 33.1	-0.1
	baz=249						
OTAV	Otavalo	94.50	91	eP	P	09 06 35.7	+1.5
	comp=Z,36nm,1.8s						
OTAV				LR	LR		
	comp=Z,4μm,20.0s						
CCAR	Cane Creek	94.51	56	eP	P	09 06 33.7	+0.5
	comp=Z,203nm,1.8s						
LVC	Limon Verde	94.51	116	eP	P	09 06 35.1	+1.0
	comp=Z,278nm,1.7s						
LVC				LR	LR		
	comp=Z,5μm,20.0s						
O36A	Bolckow	94.52	49	P	P	09 06 33.1	0.0
	baz=247,SNR=8.0						
R38A	Fenwick Farm,	94.52	51	P	P	09 06 32.9	-0.3
	baz=247,SNR=34						
X301	Greenbrier Sit	94.52	54	eP	P	09 06 34.1	+0.8
	comp=Z,72nm,1.5s						
M35A	Neola	94.54	47	P	P	09 06 33.0	-0.2
	baz=246						
CHTO	Chiang Mai	94.59	288	P	P	09 06 35.9	+2.0
	comp=Z,223nm,1.7s,comp=Z,5μm						
CHTO	Chiang Mai	94.59	288	eP	P	09 06 36.0	+2.0
CHTO				pmax	pmax		
	comp=Z,77nm,1.3s						
CHTO				MLR	MLR		
	comp=Z,746nm,20.0s						
CHTO	Chiang Mai	94.59	288	eP	P	09 06 36.0	+2.0
	comp=Z,77nm,1.3s						
CHTO				LR	LR		
	comp=Z,746nm,20.0s						
CHTO	Chiang Mai	94.59	288	P	P	09 06 35.7	+1.7
	SNR=30						
U40A	Yellville	94.60	53	P	P	09 06 33.3	-0.3
	baz=248,SNR=15						
H32A	Carlson Farm,	94.61	44	P	P	09 06 33.6	+0.1
	baz=246,SNR=19						
W41B	Gary Mavity, V	94.61	54	P	P	09 06 33.5	-0.2
	baz=248,SNR=6.6						
WHAR	Wooly Hollow	94.62	54	eP	P	09 06 34.5	+0.8
	comp=Z,135nm,1.7s						
F31A	Hecla	94.65	43	P	P	09 06 33.6	0.0
	baz=245,SNR=12						
Z43A	Armstrong Fami	94.66	56	P	P	09 06 34.0	+0.1
	baz=248						
MDND	Maddock	94.66	40	P	P	09 06 34.5	+0.9
	baz=244						
MDND	Maddock	94.66	40	eP	P	09 06 35.0	+1.3
	comp=Z,300nm,1.4s						
PB01	IPOC Station P	94.67	114	eP	P	09 06 35.4	+0.9
	comp=Z,165nm,1.5s						
244A	Avery, Jackson	94.67	58	P	P	09 06 34.1	0.0
	baz=249						
CD2	Chengdu	94.74	301	P	P	09 06 34.2	-0.3
CD2				sP	pP	09 06 43.3	-0.7
CD2				PP	PP	09 10 22.5	-0.9
CD2				SKS	SKSac	09 17 10.2	+2.0
CD2				S	ScS	09 17 50.0	+2.7
CD2				SS	SS	09 24 11.8	+0.8
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,1μm,6.2s						
CD2				LR	LR		
	comp=Z,2μm,15.7s						
CD2				LR	LR		
	comp=Z,900nm,18.1s						
CD2				LR	LR		
	comp=Z,1μm,17.1s						
P37A	Lathrop	94.74	50	P	P	09 06 33.9	-0.3
	baz=247,SNR=23						
K34A	Le Mars	94.75	46	P	P	09 06 34.4	+0.2
	baz=246,SNR=5.9						
S39A	Bolivar	94.76	52	P	P	09 06 34.0	-0.4
	baz=248,SNR=23						
N36A	Muff Farm, Cla	94.79	48	P	P	09 06 34.5	+0.1
	baz=247						
ECSD	EROS Data Cent	94.83	45	P	P	09 06 34.2	-0.3
	baz=246,SNR=71						
ECSD	EROS Data Cent	94.83	45	eP	P	09 06 33.9	-0.6
	comp=Z,496nm,1.8s						
ECSD				LR	LR		
	comp=Z,2μm,20.0s						
I33A	Coleman	94.83	45	P	P	09 06 34.4	-0.1
	baz=246,SNR=17						
YKA	Yellowknife Ar	94.84	23	P	P	09 06 34.0	-0.1
	comp=Z,15nm,0.8s,baz=237,slow=4.2,SNR=20						
YKA				LR	LR	09 43 01.9	
	comp=Z,160nm,20.6s,baz=180,slow=32						
YKB5	Yellowknife Ar	94.84	23	eP	P	09 06 33.0	-1.1
X42A	Stuttgart	94.86	55	P	P	09 06 34.8	0.0
	baz=248						
G32A	Webster	94.88	43	P	P	09 06 34.5	-0.2
	baz=246,SNR=13						
YKW3	Yellowknife Ar	94.88	23	eP	P	09 06 34.0	-0.2
	comp=Z,41nm,1.1s						
L35A	Bielow Farm, R	94.90	47	P	P	09 06 34.7	-0.2
	baz=247						
V41A	Mountainview	94.91	54	P	P	09 06 34.9	-0.2
	baz=248,SNR=6.4						
345A	Thompson Farm,	94.93	59	P	P	09 06 35.4	+0.1
	baz=249						
Q38A	Cooks Store, C	95.02	50	P	P	09 06 34.9	-0.6
	baz=248,SNR=21						
J34A	George	95.08	46	P	P	09 06 35.3	-0.4
	baz=246,SNR=10						
144A	Alexander Plac	95.09	57	P	P	09 06 36.0	+0.1
	baz=249						
O37A	Wolven Farm, M	95.11	49	P	P	09 06 35.3	-0.6
	baz=247						
H33A	Prehn Over Nor	95.13	44	P	P	09 06 35.4	-0.5
	baz=246,SNR=29						
T40A	Mansfield	95.14	52	P	P	09 06 35.5	-0.6
	baz=248,SNR=12						
M36A	Felix, Anita	95.15	48	P	P	09 06 35.7	-0.3
	baz=247						
Y43A	Makayla and Ka	95.16	56	P	P	09 06 35.9	-0.3
	baz=249						
E31A	Nome	95.17	42	P	P	09 06 35.6	-0.4
	baz=245,SNR=10						
R39A	Chumby, Stover	95.20	51	P	P	09 06 36.2	-0.2
	baz=248						
446A	Poplarville	95.28	59	P	P	09 06 37.0	+0.1
	baz=249						
245A	Little AP, Sta	95.29	58	P	P	09 06 37.0	+0.1
	baz=249						
N37A	Lee Faris, Mou	95.29	48	P	P	09 06 36.6	-0.1
	baz=247						
U41A	Viola	95.29	53	P	P	09 06 37.1	+0.3
	baz=248,SNR=7.6						
Z44A	Pea Ridge, Bel	95.32	57	P	P	09 06 37.0	+0.1
	baz=249						
S40A	Lebanon	95.33	52	P	P	09 06 36.5	-0.4
	baz=248,SNR=21						
P38A	Dawn	95.34	50	P	P	09 06 36.4	-0.6
	baz=248,SNR=14						
K35A	Storm Lake	95.35	46	P	P	09 06 36.9	-0.1
	baz=247						
346A	Big Creek Wild	95.41	59	P	P	09 06 37.5	+0.1
	baz=249						
X43A	Marvell	95.42	55	P	P	09 06 37.6	+0.2
	baz=249						
I34A	Hadley	95.45	45	P	P	09 06 37.5	+0.2
	baz=247						
145A	Houston Renfro	95.47	57	P	P	09 06 37.9	+0.2
	baz=249						
D31A	Mcclaflin, Tow	95.47	42	P	P	09 06 37.5	+0.1
	baz=246						
L36A	Harm Buss Farm	95.49	47	P	P	09 06 37.6	0.0
	baz=247						
V42A	Cord	95.50	54	P	P	09 06 37.7	0.0
	baz=249						
Q39A	Willow Grove F	95.52	50	P	P	09 06 37.4	-0.4
	baz=248						
G33A	Ortonville	95.53	44	P	P	09 06 37.1	-0.6
	baz=246,SNR=14						
O38A	Galt	95.57	49	P	P	09 06 37.7	-0.3
	baz=248,SNR=7.8						
J35A	Milford	95.62	46	P	P	09 06 38.1	-0.1
	baz=247						
M37A	Trindle Farm,	95.65	48	P	P	09 06 37.7	-0.6
	baz=248,SNR=9.0						
T41A	Mountain View	95.67	53	P	P	09 06 37.9	-0.6
	baz=248,SNR=15						
E32A	Braaten, Kindr	95.70	42	P	P	09 06 38.0	-0.4
	baz=246						
Y44A	Strider, Charl	95.73	56	P	P	09 06 38.7	-0.1
	baz=249						
R40A	Maddies Statio	95.75	51	P	P	09 06 38.1	-0.7
	baz=248,SNR=20						
H34A	Spellman Lake,	95.75	44	P	P	09 06 38.4	-0.3
	baz=247,SNR=15						
W43A	Forest City	95.75	55	P	P	09 06 38.8	-0.1
	baz=249						
C31A	Landman Farms,	95.78	41	P	P	09 06 38.2	-0.5
	baz=246,SNR=11						
U42A	Revenden	95.81	53	P	P	09 06 38.4	-0.7
	baz=249						
P39B	Salisbury	95.84	50	P	P	09 06 38.4	-0.8
	baz=248,SNR=23						
K36A	Gilmore City	95.85	47	P	P	09 06 38.9	-0.3
	baz=247,SNR=5.3						
S41A	Jillco Farms,	95.88	52	P	P	09 06 38.7	-0.7
	baz=249,SNR=16						
F33A	5 Mile Ranch,	95.89	43	P	P	09 06 38.9	-0.4
	baz=246,SNR=18						
Z45A	Winona	95.93	57	P	P	09 06 39.6	-0.2
	baz=249						
D32A	Dogwood Acres,	95.95	42	P	P	09 06 39.4	-0.1
	baz=246						
I35A	Creekview Farm	95.96	45	P	P	09 06 39.7	0.0
	baz=247						
N38A	Joes South For	95.99	49	P	P	09 06 39.4	-0.4
	baz=248,SNR=5.5						
G34A	Benson	96.07	44	P	P	09 06 39.7	-0.4
	baz=247,SNR=11						
B31A	Greenbush Farm	96.09	40	P	P	09 06 39.7	-0.4
	baz=246,SNR=9.0						
L37A	Phoenix Point,	96.13	47	P	P	09 06 40.7	+0.2
	baz=248						
347A	Saraland	96.15	59	P	P	09 06 40.9	+0.1
	baz=250						
Q40A	Laux Farm, Aux	96.15	51	P	P	09 06 40.1	-0.6
	baz=248,SNR=18						
146A	Union	96.17	58	P	P	09 06 40.8	-0.1
	baz=250						
J36A	Seneca 1, Swea	96.19	46	P	P	09 06 40.8	+0.1
	baz=248,SNR=10						
M38A	Pleasantville	96.25	48	P	P	09 06 40.7	-0.3
	baz=248,SNR=16						
BCIP	Isla Barro Col	96.27	83	PFAKE		09 06 50.0	+8.2
BCIP				LR	LR		
	comp=Z,752nm,21.0s						
O39A	Kirksville	96.28	49	P	P	09 06 41.2	0.0
	baz=248,SNR=5.8						
E33A	Westby DABS, E	96.33	43	P	P	09 06 41.4	+0.1
	baz=247						
P40A	Paris	96.37	50	P	P	09 06 41.7	+0.1
	baz=249,SNR=12						
FFC	Flin Flon	96.38	34	eP	P	09 06 41.6	+0.4
FFC				pmax	pmax		
	comp=Z,238nm,2.0s						
FFC				MLR	MLR		
	comp=Z,5μm,20.0s						
FFC	Flin Flon	96.38	34	eP	P	09 06 41.6	+0.4
	comp=Z,238nm,2.0s						
FFC				LR	LR		
	comp=Z,5μm,20.0s						
H35A	Sunnyside Ranc	96.39	45	P	P	09 06 41.9	+0.3
	baz=247,SNR=11						
R41A	Rosebud	96.41	52	P	P	09 06 41.7	-0.2
	baz=249,SNR=9.4						
CCM	Cathedral Cave	96.42	52	eP	P	09 06 40.3	-1.6
CCM				pmax	pmax		
	comp=Z,26nm,1.3s						
CCM	Cathedral Cave	96.42	52	eP	P	09 06 40.3	-1.6
	comp=Z,26nm,1.3s						
SCIA	State Center	96.42	48	eP	P	09 06 42.9	+1.1
	comp=Z,182nm,1.9s						
SCIA				LR	LR		
	comp=Z,2μm,19.0s						
K37A	Belmond	96.45	47	P	P	09 06 41.7	-0.3
	baz=248						
Z46A	Louisville	96.45	57	P	P	09 06 42.1	-0.1
	baz=250						
LZH	Lanzhou	96.52	306	eP	P	09 06 44.8	+2.2
LZH				pP	pP	09 06 48.3	-3.8
LZH				sP	sP	09 06 51.0	-4.5
LZH				PP	PP	09 10 37.4	+0.1
LZH				SKS	SKSac	09 17 19.5	+1.9
LZH				eS	ScS	09 18 03.3	+1.1
LZH				SS	SS	09 24 36.4	+0.1
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,83nm,4.6s						
LZH				LR	LR		
	comp=Z,460nm,13.4s						
LZH				LR	LR		
	comp=Z,1μm,17.3s						
LZH				LR	LR		
	comp=Z,2μm,19.7s						
X45A	UM Field Stati	96.53	56	P	P	09 06 42.3	-0.2
	baz=250						
F34A	Alexandria	96.53	44	P	P	09 06 42.9	+0.6
	baz=247,SNR=7.8						
N39A	Derby Farms, D	96.54	49	P	P	09 06 42.2	-0.2
	baz=248,SNR=10						
PBMO	Poplar Bluff	96.57	53	eP	P	09 06 43.1	+0.5
	comp=Z,42nm,1.6s						
HOPE	Hope Point	96.59	156	PFAKE		09 06 50.0	+7.6
HOPE				LR	LR		
	comp=Z,2μm,20.0s						
S42A	Caledonia	96.65	52	P	P	09 06 43.0	+0.1
	baz=249,SNR=5.7						
348A	Jackson	96.67	59	P	P	09 06 42.7	-0.4
	baz=250						
I36A	Fitzsimmons Fa	96.67	46	P	P	09 06 43.1	+0.2
	baz=248,SNR=5.3						
L38A	Oak Wood Farm,	96.68	48	P	P	09 06 43.3	+0.3
	baz=248,SNR=5.4						
D33A	AnnSam, Waubun	96.69	42	P	P	09 06 42.9	0.0
	baz=247						
O40A	La Belle	96.71	50	P	P	09 06 43.3	+0.1
	baz=249,SNR=10.0						
J37A	Redenius Farm,	96.71	46	P	P	09 06 43.3	+0.2
	baz=248						
Q41A	Truxton	96.75	51	P	P	09 06 43.1	-0.2
	baz=249,SNR=9.9						
B32A	Ashes, Strandq	96.75	41	P	P	09 06 43.1	0.0
	baz=247,SNR=25						
Y46A	Houston	96.76	56	P	P	09 06 43.4	-0.1
	baz=250						
T43A	Greenville	96.78	53	P	P	09 06 43.5	0.0
	baz=249						
147A	Livingston	96.81	58	P	P	09 06 43.8	+0.1
	baz=250						
G35A	Watkins	96.81	44	P	P	09 06 43.7	+0.1
	baz=248,SNR=16						
R42A	Luebbering	96.83	52	P	P	09 06 44.0	+0.3
	baz=249						
E34A	Wadena	96.87	43	P	P	09 06 43.9	+0.2
	baz=247,SNR=7.9						
H36A	Jessenland, He	96.94	45	P	P	09 06 44.4	+0.4
	baz=248						
W45A	Hickory Valley	96.94	55	P	P	09 06 44.2	-0.2
	baz=250						
C33A	Trail	96.97	42	P	P	09 06 44.4	+0.2
	baz=247						
A32A	Rocking H Ranc	96.99	40	P	P	09 06 44.0	-0.1
	baz=247,SNR=16						
M39A	Webster	96.99	48	P	P	09 06 44.7	+0.3
	baz=249,SNR=6.4						
F35A	Swanville	97.00	44	P	P	09 06 44.4	+0.1
	baz=248,SNR=21						
K38A	Parkersburg	97.00	47	P	P	09 06 44.6	+0.2
	baz=248						
U44A	Portageville	97.03	54	P	P	09 06 44.7	0.0
	baz=250						
D34A	Park Rapids	97.07	42	P	Pdif	09 06 45.1	+0.3
	baz=247						
I37A	Lemond, Waseca	97.08	46	P	P	09 06 44.5	-0.2
	baz=248,SNR=5.1						
S43A	Fulton Ridge,	97.11	53	P	P	09 06 44.3	-0.7

	baz=250							
AGMN	**Agassiz Nation**	**97.13**	**41**	P	**P**	**09 06 44.1**	**-0.8**
	baz=247,SNR=17						
AGMN	**Agassiz Nation**	**97.13**	**41**	*e*P	**P**	**09 06 44.1**	**-0.8**
	comp=Z,196nm,1.6s						
AGMN				LR	LR		
	comp=Z,2μm,19.0s						
P41A	**Barry, Barry**	**97.13**	**50**	P	**P**	**09 06 44.6**	**-0.5**
	baz=249,SNR=17						
Z47A	**Carrollton**	**97.14**	**57**	P	**P**	**09 06 45.2**	**0.0**
	baz=250						
N40A	**Mertquake, Sal**	**97.19**	**49**	P	**P**	**09 06 44.9**	**-0.4**
	baz=249						
U44B	**Burton Farm, H**	**97.23**	**54**	P	**P**	**09 06 45.5**	**-0.1**
	baz=250						
Q42A	**Golden Eagle**	**97.24**	**51**	P	**P**	**09 06 45.3**	**-0.3**
	baz=249,SNR=5.6						
BRAL	**Brewton**	**97.27**	**60**	PFAKE		09 07 00.0	+14
BRAL				LR	LR		
	comp=Z,3μm,19.0s						
B33A	**Robert and Kas**	**97.29**	**41**	P	**P**	**09 06 45.5**	**0.0**
	baz=247,SNR=13						
G36A	**St. Michael**	**97.30**	**44**	P	Pdif	09 06 45.8	0.0
	baz=248,SNR=6.5						
T44A	**Benton**	**97.31**	**53**	P	**P**	**09 06 45.9**	**0.0**
	baz=250						
V45A	**Humboldt**	**97.32**	**55**	P	**P**	**09 06 45.9**	**-0.1**
	baz=250						
L39A	**Vinton**	**97.34**	**48**	P	**P**	**09 06 45.8**	**-0.2**
	baz=249,SNR=6.8						
E35A	**Pequot Lakes**	**97.37**	**43**	P	**P**	**09 06 46.0**	**-0.1**
	baz=248,SNR=8.9						
O41A	**Passleys Farm,**	**97.42**	**50**	P	**P**	**09 06 46.0**	**-0.3**
	baz=249,SNR=12						
M40A	**Post Highland**	**97.43**	**49**	P	**P**	**09 06 46.0**	**-0.4**
	baz=249,SNR=8.1						
J38A	**Wedel Dairy, R**	**97.45**	**47**	P	Pdif	09 06 46.5	0.0
	baz=249						
R43A	**Red Bud**	**97.47**	**52**	P	**P**	**09 06 46.6**	**0.0**
	baz=250						
C34A	**RKJ Ranch, Bem**	**97.47**	**42**	P	**P**	**09 06 46.0**	**-0.4**
	baz=248						
Y47A	**UCPARC, Winfie**	**97.55**	**57**	P	**P**	**09 06 46.8**	**-0.3**
	baz=250						
Z48A	**Northport**	**97.61**	**57**	P	**P**	**09 06 46.7**	**-0.7**
	baz=250						
H37A	**Dierke Farm, C**	**97.61**	**45**	P	**P**	**09 06 46.9**	**-0.3**
	baz=249						
P42A	**Winchester**	**97.62**	**51**	P	Pdif	09 06 47.3	0.0
	baz=250,SNR=11						
K39A	**Oelwein**	**97.63**	**47**	P	Pdif	09 06 47.3	0.0
	baz=249						
N41A	**Harden Midland**	**97.64**	**49**	P	**P**	**09 06 47.2**	**-0.2**
	baz=249						
A33A	**Warroad**	**97.67**	**41**	P	**P**	**09 06 46.9**	**-0.4**
	baz=247,SNR=13						
U45A	**Rockin P Farm,**	**97.68**	**54**	P	Pdif	09 06 47.7	0.0
	baz=250						
F36A	**Milaca**	**97.68**	**44**	P	**P**	**09 06 47.2**	**-0.2**
	baz=248,SNR=15						
LPAZ	**La Paz**	**97.78**	**111**	P	Pdif	09 06 50.5	+1.1
	comp=Z,6.7nm,0.9s,baz=261,slow=2.7,SNR=19						
LPAZ				PKKPbc	**PKKPbc**	**09 23 24.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=37,slow=3.9,SNR=6.4						
LPAZ				LR	LR	09 42 21.0	
	comp=Z,3μm,20.5s,baz=262,slow=30						
LPAZ	**La Paz**	**97.78**	**111**	*e*P	Pdif	09 06 50.8	+1.4
	comp=Z,64nm,1.8s						
LPAZ				PKKPbc	**PKKPbc**	**09 23 24.4**	**+0.6**
D35A	**Remer**	**97.80**	**43**	P	**P**	**09 06 47.5**	**-0.4**
	baz=248,SNR=8.2						
I38A	**Scanlan Farm,**	**97.81**	**46**	P	**P**	**09 06 47.6**	**-0.4**
	baz=249,SNR=5.2						
L40A	**Anamosa**	**97.86**	**48**	P	**P**	**09 06 48.0**	**-0.3**
	baz=249						
Q43A	**New Douglas**	**97.86**	**51**	P	Pdif	09 06 48.7	+0.2
	baz=250						
ULM	**Lac du Bonnet**	**97.88**	**39**	P	**P**	**09 06 47.0**	**-1.2**
	comp=Z,18nm,0.9s,baz=239,slow=3.8,SNR=14						
ULM				LR	LR	09 47 15.9	
	comp=Z,3μm,19.0s,baz=252,slow=33						
ULM	**Lac du Bonnet**	**97.88**	**39**	*e*P	**P**	**09 06 47.2**	**-1.0**
ULM				pmax	pmax		
	comp=Z,141nm,1.5s						
ULM	**Lac du Bonnet**	**97.88**	**39**	*e*P	**P**	**09 06 47.2**	**-1.0**
	comp=Z,141nm,1.5s						
SPMN	**Marine on St.**	**97.92**	**45**	P	**P**	**09 06 48.5**	**0.0**
	baz=249,SNR=7.2						
SPMN	**Marine on St.**	**97.92**	**45**	*e*P	Pdif	09 06 48.8	+0.3
	comp=Z,158nm,1.9s						
B34A	**Aery, Baudette**	**97.95**	**41**	P	Pdif	09 06 48.6	0.0
	baz=248,SNR=10						
J39A	**Decorah**	**97.98**	**47**	P	**P**	**09 06 48.6**	**-0.2**
	baz=249,SNR=8.1						
O42A	**Bath**	**98.02**	**50**	P	Pdif	09 06 49.2	+0.1
	baz=250						
H38A	**Maiden Rock**	**98.07**	**45**	P	**P**	**09 06 49.0**	**-0.2**
	baz=249						
C35A	**Jirik Farms, M**	**98.07**	**42**	P	Pdif	09 06 49.2	0.0
	baz=248,SNR=11						
E36A	**McGregor**	**98.10**	**43**	P	**P**	**09 06 49.0**	**-0.3**
	baz=249,SNR=10						
M41A	**Milan**	**98.10**	**49**	P	Pdif	09 06 49.5	+0.1
	baz=250						
F37A	**Hinrichs Farm,**	**98.22**	**44**	P	Pdif	09 06 50.0	+0.2
	baz=249						
P43A	**Skaggs, Pawnee**	**98.23**	**51**	P	Pdif	09 06 50.1	0.0
	baz=250						
I39A	**Houston**	**98.28**	**46**	P	Pdif	09 06 50.5	+0.2
	baz=249						
Q44A	**Meyer Farm, Va**	**98.35**	**52**	P	Pdif	09 06 50.8	+0.2
	baz=250						
L41A	**Preston**	**98.37**	**48**	P	**P**	**09 06 50.4**	**-0.2**
	baz=250						
D36A	**Goodland**	**98.39**	**43**	P	**P**	**09 06 50.6**	**0.0**
	baz=249,SNR=11						
B35A	**Bob, Littlefor**	**98.47**	**42**	P	Pdif	09 06 51.0	+0.1
	baz=249,SNR=7.0						
ULN	**Ulaanbaatar**	**98.51**	**318**	⇑*e*P	Pdif	09 06 51.9	+0.6
ULN				*i*		09 10 51.1	
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**98.51**	**318**	*e*P	Pdif	09 06 52.8	+1.5
	comp=Z,8.9nm,1.1s						
ULN				LR	LR		
	comp=Z,1μm,19.0s						
ULN	**Ulaanbaatar**	**98.51**	**318**	P	Pdif	09 06 51.6	+0.3
	SNR=7.0						
ULN				P	Pdif	09 06 51.6	+0.3
	SNR=7.0						
G38A	**Ridgeland**	**98.53**	**45**	P	**P**	**09 06 51.2**	**0.0**
	baz=249,SNR=9.4						
J40A	**Soldiers Grove**	**98.66**	**47**	P	**P**	**09 06 51.8**	**-0.1**
	baz=250,SNR=6.7						
K41A	**Shullsburg**	**98.69**	**48**	P	Pdif	09 06 52.2	+0.2
	baz=250						
HDIL	**Hopedale**	**98.71**	**50**	PFAKE		09 07 00.0	+7.9
HDIL				LR	LR		
	comp=Z,5μm,19.0s						
F38A	**Pierce - Schro**	**98.79**	**44**	P	Pdif	09 06 52.8	+0.4
	baz=250,SNR=7.6						
C36A	**Pine Crest Far**	**98.81**	**42**	P	Pdif	09 06 52.6	+0.2
	baz=249,SNR=6.0						
P44A	**Sand Creek, Wi**	**98.83**	**51**	P	**P**	**09 06 52.4**	**-0.3**
	baz=251						
JFWS	**Jewell Farm**	**98.83**	**48**	*e*P	Pdif	09 06 53.0	+0.3
JFWS				pmax	pmax		
	comp=Z,86nm,1.7s						
JFWS				MLR	MLR		
	comp=Z,2μm,20.0s						
JFWS	**Jewell Farm**	**98.83**	**48**	*e*P	Pdif	09 06 53.0	+0.3
	comp=Z,86nm,1.7s						
JFWS				LR	LR		
	comp=Z,2μm,20.0s						
D37A	**Cotton**	**98.86**	**43**	P	Pdif	09 06 52.9	+0.2
	baz=249,SNR=16						
SONA1	**Songino Array**	**98.91**	**318**	*e*P	Pdif	09 06 53.2	+0.2
SONM	**Songino Array**	**98.91**	**318**	P	Pdif	09 06 53.6	+0.5
	comp=Z,2.2nm,0.9s,baz=116,slow=3.3,SNR=7.0						
SONM				PP	PP	09 10 42.6	-13
	comp=Z,1.4nm,1.0s,baz=113,slow=6.7,SNR=3.7						
SONM				LR	LR	09 53 41.0	
	comp=Z,832nm,18.2s,baz=116,slow=37						
SONM	**Songino Array**	**98.91**	**318**	P	Pdif	09 06 53.6	+0.5
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,832nm,18.2s						
I40A	**Norwalk**	**98.91**	**47**	P	**P**	**09 06 52.9**	**0.0**
	baz=250						
G39A	**Holcombe**	**99.02**	**45**	P	**Pdif**	**09 06 53.7**	**+0.3**
	baz=250,SNR=6.2						
J41A	**Loganville**	**99.15**	**47**	P	**Pdif**	**09 06 53.9**	**-0.1**
	baz=250						
C37A	**Embarrass**	**99.21**	**42**	P	**Pdif**	**09 06 54.4**	**+0.2**
	baz=250						
E38A	**The Farm, Brul**	**99.22**	**44**	P	**Pdif**	**09 06 54.6**	**+0.3**
	baz=250						
H40A	**Chili**	**99.31**	**46**	P	**Pdif**	**09 06 54.7**	**-0.1**
	baz=250						
F39A	**Loretta**	**99.40**	**45**	P	**Pdif**	**09 06 55.2**	**+0.1**
	baz=250						
I41A	**Arkdale**	**99.48**	**47**	P	**Pdif**	**09 06 55.2**	**-0.3**
	baz=251						
L43A	**Garden Prairie**	**99.64**	**49**	P	**Pdif**	**09 06 56.4**	**+0.1**
	baz=251						
G40A	**Rib Lake**	**99.66**	**45**	P	**Pdif**	**09 06 56.3**	**0.0**
	baz=250						
EYMN	**Ely**	**99.72**	**42**	P	**Pdif**	**09 06 56.5**	**0.0**
	baz=250						
EYMN	**Ely**	**99.72**	**42**	PFAKE		09 07 10.0	+13
EYMN				LR	LR		
	comp=Z,4μm,20.0s						
C38A	**Sawbill Land.**	**99.79**	**43**	P	**Pdif**	**09 06 56.7**	**-0.1**
	baz=250						
H41A	**Junction City**	**99.81**	**46**	P	**Pdif**	**09 06 56.8**	**-0.2**
	baz=251						
F40A	**Park Falls**	**99.93**	**45**	P	**Pdif**	**09 06 57.7**	**+0.2**
	baz=251						
I42A	**Draeger Farm,**	**100.07**	**47**	P	**Pdif**	**09 06 58.1**	**-0.1**
	baz=251						
TIXI	**Tiksi**	**100.14**	**344**	PFAKE		09 07 10.0	+12
TIXI				LR	LR		
	comp=Z,1μm,20.0s						
E40A	**Wakefield**	**100.25**	**44**	P	**Pdif**	**09 06 59.2**	**+0.3**
	baz=251						
G41A	**Antigo**	**100.32**	**46**	P	**Pdif**	**09 06 59.5**	**+0.3**
	baz=251						
F41A	**Three Lakes**	**100.54**	**45**	P	**Pdif**	**09 07 00.2**	**-0.1**
	baz=251						
GTA	**Gaotai**	**100.63**	**308**	*e*P	**Pdif**	**09 07 02.0**	**+1.1**
GTA				pP	pPdif	09 07 08.1	-2.3
GTA				sP	pP	09 07 11.2	+0.7
GTA				PP	**PP**	**09 11 12.7**	**+4.1**
GTA				SKS	**SKSac**	**09 17 37.9**	**-0.2**
GTA				S	**Sdif**	**09 18 35.3**	**-1.0**
GTA				pmax	pmax		
	comp=Z,420nm,4.3s						
GTA				LR	LR		
	comp=Z,550nm,19.5s						
GTA				LR	LR		
	comp=Z,1μm,22.8s						
GTA				LR	LR		
	comp=Z,2μm,24.7s						
GOGA	**Godfrey**	**100.86**	**58**	PFAKE		09 07 10.0	+8.1
GOGA				LR	LR		
	comp=Z,4μm,19.0s						
E41A	**Kenton**	**100.86**	**44**	P	**Pdif**	**09 07 01.6**	**0.0**
	baz=252						
MTDJ	**Mount Denham**	**101.33**	**75**	PFAKE		09 07 20.0	+16
MTDJ				LR	LR		
	comp=Z,2μm,20.0s						
ZAK	**Zakamensk**	**101.69**	**319**	*e*P	**Pdif**	**09 07 07.8**	**+2.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TLY	**Talaya**	**101.88**	**321**	*e*P	**Pdif**	**09 07 12.1**	**+6.1**
TLY				*e*		09 11 14.6	
TLY				*e*PS	**PS**	**09 20 17.6**	**-5.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,1μm,20.0s						
TLY	**Talaya**	**101.88**	**321**	PFAKE		09 07 20.0	+14
TLY				LR	LR		
	comp=Z,1μm,19.0s						
ACSO	**Alum Creek Sta**	**103.20**	**52**	PFAKE		09 07 20.0	+7.9
ACSO				LR	LR		
	comp=Z,4μm,20.0s						
NHSC	**New Hope**	**103.41**	**60**	PFAKE		09 07 20.0	+6.8
NHSC				LR	LR		
	comp=Z,2μm,19.0s						
GTBY	**Guantanamo Bay**	**104.03**	**74**	PFAKE		09 07 30.0	+14
GTBY				LR	LR		
	comp=Z,1μm,19.0s						
BLA	**Blacksburg**	**104.32**	**55**	PFAKE		09 07 30.0	+13
BLA				LR	LR		
	comp=Z,3μm,20.0s						
LSA	**Lhasa**	**104.71**	**296**	PFAKE		09 07 30.0	+10
LSA				LR	LR		
	comp=Z,810nm,19.0s						
SDV	**Santo Domingo**	**104.75**	**86**	PFAKE		09 07 30.0	+10
SDV				LR	LR		
	comp=Z,1μm,20.0s						
SAML	**Samuel**	**105.17**	**106**	PFAKE		09 11 50.0	
SAML				LR	LR		
	comp=Z,2μm,21.0s						
CNNC	**Cliffs of the**	**105.80**	**58**	PFAKE		09 11 50.0	
CNNC				LR	LR		
	comp=Z,2μm,20.0s						
CBN	**Corbin Frederi**	**106.91**	**55**	PFAKE		09 11 50.0	
CBN				LR	LR		
	comp=Z,3μm,20.0s						
SDDR	**Presa de Saban**	**107.21**	**76**	PFAKE		09 11 50.0	
SDDR				LR	LR		
	comp=Z,2μm,21.0s						
CHLP	**Challavanipeta**	**107.90**	**283**	*e*PKiKP	**PKiKP**	**09 11 40.4**	**-0.4**
CHLP				*e*PP	**PP**	**09 12 00.7**	**-2.3**
CHLP				*e*SKSac	**SKSac**	**09 18 14.8**	**+2.9**
CHLP				IVMs_BB	IVMs_BB	09 47 20.2	
	comp=Z,408nm,42.8s						
GRTK	**Grand Turk**	**108.05**	**73**	PFAKE		09 11 50.0	
GRTK				LR	LR		
	comp=Z,1μm,20.0s						
DGAR	**Diego Garcia**	**109.77**	**254**	PFAKE		09 12 00.0	
DGAR				LR	LR		
	comp=Z,2μm,20.0s						
PVM	**Polavaram**	**109.77**	**282**	*e*PKiKP	**PKiKP**	**09 11 44.2**	**-0.2**
PVM				*e*PP	**PP**	**09 12 15.2**	**-1.4**
LONY	**Lake Ozonia**	**110.22**	**49**	PFAKE		09 12 00.0	
LONY				LR	LR		
	comp=Z,3μm,19.0s						
WMQ	**Urumqi**	**110.49**	**310**	PKP	**PKiKP**	**09 11 45.3**	**+0.1**
WMQ				PP	**PP**	**09 12 22.5**	**+1.2**
WMQ				PKS	**PKSdf**	**09 15 16.8**	**-4.9**
WMQ				AMB	AMB		
	comp=Z,740nm,7.9s						
WMQ				LR	LR		
	comp=Z,990nm,24.9s						
WMQ				LR	LR		
	comp=Z,1μm,27.5s						
WMQ				LR	LR		
	comp=Z,1μm,24.9s						
SKHT	**Srikalahasti**	**110.54**	**277**	*e*PKiKP	**PKiKP**	**09 11 45.7**	**-0.2**
SKHT				*e*PP	**PP**	**09 12 21.5**	**-0.7**
ADKI	**Addanki**	**110.91**	**280**	*e*PKiKP	**PKiKP**	**09 11 46.6**	**+0.1**
ADKI				*e*PP	**PP**	**09 12 21.1**	**-3.7**
SPB	**Sao Paulo**	**111.21**	**127**	PFAKE		09 12 00.0	
SPB				LR	LR		
	comp=Z,4μm,20.0s						
SJG	**San Juan**	**111.66**	**78**	PFAKE		09 12 00.0	
SJG				LR	LR		
	comp=Z,1μm,19.0s						
NJS	**Nagarjunasagar**	**111.71**	**280**	*e*Pdif	**Pdif**	**09 07 48.3**	**-2.2**
NJS				*e*PKiKP	**PKiKP**	**09 11 47.2**	**-0.9**
NJS				*e*PP	**PP**	**09 12 29.6**	**-1.1**
NJS				*e*SKSac	**SKSac**	**09 18 28.0**	**0.0**
NJS				IVMs_BB	IVMs_BB	09 49 37.6	
	comp=Z,454nm,37.0s						
SRLM	**Srisailam**	**111.97**	**280**	*e*Pdif	**Pdif**	**09 07 50.9**	**-0.8**
SRLM				*e*PKiKP	**PKiKP**	**09 11 47.5**	**-1.2**
SRLM				*e*PP	**PP**	**09 12 31.1**	**-1.4**
SRLM				*e*SKSac	**SKSac**	**09 18 30.9**	**+1.8**
SRLM				IVMs_BB	IVMs_BB	09 53 17.2	
	comp=Z,394nm,27.5s						
RPR	**Rampur**	**112.34**	**283**	*e*Pdif	**Pdif**	**09 07 52.3**	**-0.9**
RPR				*e*PKiKP	**PKiKP**	**09 11 49.0**	**-0.2**
RPR				*e*PP	**PP**	**09 12 32.7**	**-2.4**
RPR				*e*SKSac	**SKSac**	**09 18 29.7**	**-0.7**
RPR				IVMs_BB	IVMs_BB	09 49 27.6	
	comp=Z,472nm,45.1s						
HYB	**Hyderabad**	**112.64**	**281**	*i* PKP	**PKiKP**	**09 11 49.5**	**-0.4**
HYBB	**Hyderabad (bro**	**112.64**	**281**	*e*Pdif	**Pdif**	**09 07 52.9**	**-1.8**
HYBB				*e*PKiKP	**PKiKP**	**09 11 48.1**	**-1.9**
HYBB				*e*PP	**PP**	**09 12 37.5**	**+0.2**
HYBB				*e*SKSac	**SKSac**	**09 18 33.5**	**+1.8**
HYBB				IVMs_BB	IVMs_BB	09 50 01.7	
	comp=Z,504nm,40.1s						
URV	**Uravakonda**	**113.16**	**278**	*e*Pdif	**Pdif**	**09 07 55.5**	**-1.6**
URV				*e*PKiKP	**PKiKP**	**09 11 49.8**	**-1.1**
URV				*e*PP	**PP**	**09 12 40.0**	**-1.0**
URV				*e*SKSac	**SKSac**	**09 18 35.5**	**+1.7**
URV				IVMs_BB	IVMs_BB	09 50 11.3	
	comp=Z,626nm,41.8s						
SRSP	**Sriramsagar**	**113.23**	**282**	*e*Pdif	**Pdif**	**09 07 56.2**	**-1.0**
SRSP				*e*PKiKP	**PKiKP**	**09 11 50.7**	**-0.3**
SRSP				*e*PP	**PP**	**09 12 39.0**	**-2.4**
SRSP				*e*SKSac	**SKSac**	**09 18 34.3**	**+0.4**
SRSP				IVMs_BB	IVMs_BB	09 50 12.5	
	comp=Z,539nm,45.1s						
ZALV	**Zalesovo Beam**	**113.49**	**321**	PKiKP	**PKiKP**	**09 11 49.7**	**-0.7**
	comp=Z,6.5nm,0.7s,baz=108,slow=1.0,SNR=16						
ZALV				PP	**PP**	**09 12 36.5**	**-5.9**
	comp=Z,1.4nm,0.5s,baz=116,slow=6.6,SNR=2.6						
ZALV				PKKPbc	**PKKPbc**	**09 22 35.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=267,slow=11,SNR=3.5						
PKME	**Peaks-Kenny Pk**	**114.03**	**49**	PFAKE		09 12 00.0	+8.3
PKME				LR	LR		
	comp=Z,4μm,19.0s						
GRGR	**Grenville**	**114.15**	**86**	PFAKE		09 12 00.0	+7.2
GRGR				LR	LR		
	comp=Z,1μm,22.0s						
NVS	**Novosibirsk**	**114.45**	**322**	*i* PKIKP	PKPdf	09 11 50.4	-1.8
NVS				*i* PS	**PKKPbc**	**09 22 30.8**	**-2.1**
NVS				pmax	pmax		
	comp=Z,43nm,1.8s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,17nm,1.8s						
KLRI	**Killari**	**114.61**	**281**	*e*Pdif	**Pdif**	**09 08 02.6**	**-0.9**
KLRI				*e*PKPdf	PKPdf	09 11 52.7	-1.0
KLRI				*e*PP	**PP**	**09 12 44.7**	**-6.6**
KLRI				*e*SKSac	**SKSac**	**09 18 39.4**	**-0.1**
KLRI				IVMs_BB	IVMs_BB	09 51 07.9	
	comp=Z,779nm,50.2s						
MK31	**Makanchi Array**	**114.64**	**313**	*i* PKIKP	PKPdf	09 11 51.7	-1.2
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**114.64**	**313**	Pdiff	**Pdif**	**09 08 06.7**	**+3.8**
	comp=Z,0.4nm,0.6s,baz=91,slow=7.2,SNR=3.1						
MKAR				PKP	PKPdf	09 11 52.2	-0.7
	comp=Z,7.0nm,0.6s,baz=72,slow=1.3,SNR=54						
MKAR				PKKPbc	**PKKPbc**	**09 22 31.2**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=281,slow=3.3,SNR=17						
MAKZ	**Makanchi**	**114.85**	**313**	PKIKP	PKPdf	09 11 52.0	-1.3
MAKZ				pmax	pmax		
	comp=Z,33nm,1.5s						
FDF	**Fort de France**	**115.36**	**83**	PFAKE		09 12 10.0	+15
FDF				LR	LR		
	comp=Z,1μm,19.0s						
ANWB	**Willy Bob**	**115.55**	**80**	PFAKE		09 12 10.0	+15
ANWB				LR	LR		
	comp=Z,907nm,20.0s						
BBSR	**BB Station**	**115.99**	**63**	PFAKE		09 12 10.0	+14
BBSR				LR	LR		
	comp=Z,1μm,19.0s						
PDGK	**Podgornoye**	**116.36**	**309**	PKIKP	**PKPdf**	**09 11 55.5**	**-1.0**
PDGK				pmax	pmax		
	comp=Z,23nm,1.3s						
BBGH	**Gun Hill**	**116.40**	**85**	PFAKE		09 12 10.0	+13
BBGH				LR	LR		
	comp=Z,2μm,22.0s						
RER	**Riviere de l'E**	**116.63**	**232**	PFAKE		09 12 10.0	+12
RER				LR	LR		
	comp=Z,4μm,19.0s						
KURK	**Kurchatov**	**117.21**	**317**	*c i* PKIKP	**PKPdf**	**09 11 57.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,105nm,1.2s						
KURK	**Kurchatov**	**117.21**	**317**	*e*PKPdf	**PKPdf**	**09 11 57.2**	**-0.4**
KURK				PKKPbc	**PKKPbc**	**09 22 21.4**	**-1.7**
KURK				LR	LR		
	comp=Z,2μm,19.0s						
KURK	**Kurchatov**	**117.21**	**317**	P	**PKPdf**	**09 11 57.2**	**-0.4**
	SNR=12						
KURK	**Kurchatov**	**117.21**	**317**	PKPdf	**PKPdf**	**09 11 57.2**	**-0.4**
	SNR=12						
LMN	**Caledonia Moun**	**117.22**	**48**	*e*PKPdf	**PKPdf**	**09 11 57.4**	**-0.4**
KURBB	**Kurchatov Arra**	**117.27**	**317**	PKKPbc	PKKPbc	09 22 21.4	-1.5
	comp=Z,4.6nm,1.0s,baz=273,slow=4.2,SNR=23						
KSH	**Kashi**	**118.72**	**304**	PKP	**PKPdf**	**09 12 02.7**	**+1.6**
KSH				PP	**PP**	**09 13 24.2**	**+4.5**
KSH				PKS	**PKSdf**	**09 15 37.1**	**-0.8**
KSH				SKS	**SKSdf**	**09 19 14.2**	**+2.9**
KSH				AMB	AMB		
	comp=Z,960nm,8.2s						
KSH				LR	LR		
	comp=Z,120nm,5.2s						
KSH				LR	LR		
	comp=Z,190nm,8.9s						
KSH				LR	LR		
	comp=Z,260nm,17.5s						
TKM2	**Tokmak 2**	**119.18**	**308**	PKIKP	**PKPdf**	**09 12 00.9**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.7s						
FRU	**Bishkek**	**119.90**	**308**	*i* PKIKP	**PKPdf**	**09 12 03.0**	**-0.2**
FRU				*e*		09 13 25.5	
FRU				pmax	pmax		
	comp=Z,100nm,1.9s						
AAK	**Ala-Archa**	**119.98**	**308**	PKKPbc	PKKPbc	09 22 12.0	-1.0
	comp=Z,3.2nm,0.7s,baz=229,slow=5.8,SNR=9.9						
AAK	**Ala-Archa**	**119.98**	**308**	⇑*i* PKIKP	**PKPdf**	**09 12 03.5**	**0.0**
AAK	**Ala-Archa**	**119.98**	**308**	*e*PKPdf	**PKPdf**	**09 12 03.5**	**0.0**
AAK				PKKPbc	**PKKPab**	**09 22 12.0**	**-0.9**
AAK				LR	LR		
	comp=Z,865nm,19.0s						
AAK	**Ala-Archa**	**119.98**	**308**	P	**PKPdf**	**09 12 03.6**	**+0.1**
	SNR=9.8						
AAK	**Ala-Archa**	**119.98**	**308**	PKPdf	**PKPdf**	**09 12 03.6**	**+0.1**
	SNR=9.8						
ILULI	**Ilulissat**	**120.37**	**21**	*i* P	**PKPdf**	**09 12 02.2**	**-1.0**
	comp=Z,28nm,0.6s						
ILULI	**Ilulissat**	**120.37**	**21**	*i* PKIKP	**PKPdf**	**09 12 02.2**	**-1.0**
ILULI				pmax	pmax		
	comp=Z,28nm,0.6s						
SFJD	**Kangerlussuaq**	**121.40**	**23**	*e*PKIKP	**PKPdf**	**09 12 04.2**	**-1.0**
SFJD	**Kangerlussuaq**	**121.40**	**23**	*e*PKPdf	**PKPdf**	**09 12 04.2**	**-1.0**
MNAS	**Manas**	**121.45**	**308**	PKIKP	**PKPdf**	**09 12 05.1**	**-1.2**
MNAS				pmax	pmax		
	comp=Z,71nm,1.5s						
KBS	**Kingsbay**	**121.67**	**359**	*e*PKIKP	**PKPdf**	**09 12 06.0**	**+0.5**
KBS				MLR	MLR

KKAR	Karatay Array	122.91	309	ePKPdf	PKPdf	09 12 08.8	-0.1
KBL	Kabul	123.97	298	ePKIKP	PKPdf	09 12 10.5	-1.0
KBL	Kabul	123.97	298	ePKPdf	PKPdf	09 12 10.5	-1.0
ABPO	Ambohimpanom	124.11	228	ePKIKP	PKPdf	09 12 13.1	+0.9
ABPO				MLR	MLR		
	comp=Z,663nm,22.0s						
ABPO	Ambohimpanom	124.11	228	ePKPdf	PKPdf	09 12 13.1	+0.9
ABPO				LR	LR		
	comp=Z,663nm,22.0s						
DZET	Dzherino	124.25	303	PKIKP	PKPdf	09 12 11.5	-0.3
DZET				pmax	pmax		
	comp=Z,61nm,1.2s						
SUR	Sutherland	125.56	195	ePKPdf	PKPdf	09 12 15.4	+0.7
NRS	Narsarsuaq	125.81	28	*i* P	PKPdf	09 12 13.7	-0.1
	comp=Z,32nm,0.8s						
NRS	Narsarsuaq	125.81	28	*i* PKIKP	PKPdf	09 12 13.7	-0.1
NRS				pmax	pmax		
	comp=Z,32nm,0.8s						
MSEY	Mahe Island	126.03	248	PFAKE		09 12 30.0	+14
MSEY				LR	LR		
	comp=Z,2μm,19.0s						
SVE	Sverdlovsk	126.69	326	⇓*i* PKIKP	PKPdf	09 12 16.0	+0.3
SVE				pmax	pmax		
	comp=Z,71nm,1.6s						
SOKR	Solikamsk	127.51	331	*c i* PKIKP	PKPdf	09 12 15.9	-1.2
SOKR				pmax	pmax		
	comp=Z,79nm,1.4s						
BOSA	Boshof	127.85	201	PKP	PKPdf	09 12 20.0	+0.9
	comp=Z,15nm,0.7s,baz=143,slow=2.4,SNR=27						
BOSA	Boshof	127.85	201	*e*PKPpre	PKPpre	09 12 14.4	
BOSA				*e*PKPdf	PKiKP	09 12 20.3	+0.7
ARU	Arti	127.90	326	*i* PKIKP	PKPdf	09 12 17.7	-0.3
ARU						09 14 19.3	
ARU						09 19 26.0	
ARU				SP	SP	09 24 16.4	-6.3
ARU	Arti	127.90	326	*e*PKPdf	PKPdf	09 12 17.9	-0.1
ARU				LR	LR		
	comp=Z,2μm,22.0s						
AB31	Akbulak array	129.32	317	*i* PKIKP	PKPdf	09 12 20.0	-0.9
AB31				pmax	pmax		
	comp=Z,46nm,1.5s						
ABKAR	Akbulak array	129.32	317	*e*PKPdf	PKPdf	09 12 21.8	+0.8
KEV	Kevo	129.44	351	*e*PKIKP	PKPdf	09 12 21.3	+0.7
KEV				MLR	MLR		
	comp=Z,922nm,19.0s						
KEV	Kevo	129.44	351	*e*PKPdf	PKPdf	09 12 21.3	+0.7
KEV				LR	LR		
	comp=Z,922nm,19.0s						
LVZ	Lovozero	129.69	347	PFAKE		09 12 30.0	+8.8
LVZ				LR	LR		
	comp=Z,2μm,19.0s						
ARA0	ARCESS Array S	129.86	352	*e*PKPdf	PKPdf	09 12 21.4	0.0
ARCES	ARCESS Array B	129.86	352	PKP	PKPdf	09 12 21.3	-0.1
	comp=Z,17nm,0.7s,baz=8.1,slow=1.9,SNR=26						
ARE0	ARCESS Array S	129.86	352	*e*PKPdf	PKPdf	09 12 21.6	+0.2
AKTO	Aktyubinsk	130.20	319	PKIKP	PKPdf	09 12 21.6	-1.0
AKTO				pmax	pmax		
	comp=Z,71nm,1.9s						
APA	Apatity	130.23	347	⇑*i* PKIKP	PKPdf	09 12 21.6	-0.5
APA				*i*		09 14 43.0	
APA				*i*		09 19 34.0	
APA				*i* PPS	PPS	09 26 20.0	
APA				MLR	MLR		
	comp=Z,2μm,17.0s						
RCBR	Riachuelo	130.44	117	PFAKE		09 12 40.0	+16
RCBR				LR	LR		
	comp=Z,2μm,20.0s						
LBTB	Lobatse	131.04	203	*e*PKIKP	PKPdf	09 12 26.2	+1.0
LBTB	Lobatse	131.04	203	*e*PKPdf	PKPdf	09 12 26.2	+1.0
BIDO	Bidbid	132.60	283	P	PKPdf	09 12 28.0	+0.1
	SNR=10						
BIDO	Bidbid	132.60	283	PKPdf	PKPdf	09 12 28.0	+0.1
	SNR=10						
GEYT	Alibeck	132.70	303	PKP	PKPdf	09 12 26.6	-1.2
	comp=Z,9.9nm,0.8s,baz=270,slow=1.3,SNR=14						
GEYT				PP	PP	09 14 51.4	-1.2
	comp=Z,1.0nm,0.3s,baz=25,slow=4.8,SNR=2.8						
KLMR	Klimovskoe	133.80	339	*e*PKIKP	PKPdf	09 12 24.4	-4.6
KLMR				pmax	pmax		
	comp=Z,85nm,1.5s						
UOSS	Minazif	134.49	285	*e*PKPdf	PKPdf	09 12 32.1	+0.7
HATD	Hatta, Dubai	134.55	285	P	PKPdf	09 12 31.0	-0.6
	SNR=6.6						
HATD	Hatta, Dubai	134.55	285	PKPdf	PKPdf	09 12 31.0	-0.6
	SNR=6.6						
ASHO	Ashiyiah	134.60	285	P	PKPdf	09 12 30.9	-0.8
	SNR=6.7						
ASHO	Ashiyiah	134.60	285	PKPdf	PKPdf	09 12 30.9	-0.8
	SNR=6.7						
NAZ	Nazwa, Dubai	134.99	285	P	PKPdf	09 12 31.6	-0.8
	SNR=9.6						
NAZ	Nazwa, Dubai	134.99	285	PKPdf	PKPdf	09 12 31.6	-0.8
	SNR=9.6						
FAQ	Al Faqa, Dubai	135.03	285	P	PKPdf	09 12 31.6	-0.9
	SNR=6.5						
FAQ	Al Faqa, Dubai	135.03	285	PKPdf	PKPdf	09 12 31.6	-0.9
	SNR=6.5						
FIA1	FINESS Array S	137.13	347	*e*PKPpre	PKPpre	09 12 24.8	
FINES	FINESS Array B	137.13	347	PKhKP	PKPpre	09 12 22.5	
	comp=Z,2.5nm,0.7s,baz=90,slow=3.8,SNR=8.0						
MOS	Moscow	138.13	334	*e*PKIKP	PKPdf	09 12 33.6	-3.6
LSZ	Lusaka	138.55	212	*e*PKIKP	PKPdf	09 12 40.7	+1.2
LSZ				MLR	MLR		
	comp=Z,2μm,20.0s						
LSZ	Lusaka	138.55	212	*e*PKPdf	PKPdf	09 12 40.7	+1.2
LSZ				LR	LR		
	comp=Z,2μm,20.0s						
LSZ	Lusaka	138.55	212	P	PKPdf	09 12 39.8	+0.4
	SNR=14						
LSZ	Lusaka	138.55	212	PKPdf	PKPdf	09 12 39.8	+0.4
	SNR=14						
OBN	Obninsk	139.00	334	*e*PKIKP	PKPdf	09 12 41.8	+3.0
OBN				*i*		09 15 32.8	
OBN				*e*		09 19 47.8	
OBN				pmax	pmax		
	comp=Z,121nm,1.5s						
OBN	Obninsk	139.00	334	PFAKE		09 12 50.0	+11
OBN				LR	LR		
	comp=Z,2μm,21.0s						
NC303	NORSAR Array S	139.38	357	*e*PKPpre	PKPpre	09 12 30.4	
MAK	Makhachkala	139.46	313	*e*P	Pdif	09 09 51.0	-2.3
MAK				*i*		09 12 41.5	
MAK				*e*		09 15 32.2	
MAK				*e*PPP	PPP	09 18 37.1	
MAK				*e*SS	SS	09 33 46.4	-5.5
MAK				pmax	pmax		
	comp=Z,241nm,1.7s						
NC405	NORSAR Array S	139.47	356	*e*PKPpre	PKPpre	09 12 30.1	
NB201	NORSAR Array S	139.56	357	*e*PKPpre	PKPpre	09 12 30.9	
NB2	NORSAR Subarra	139.58	357	PKP	PKPpre	09 12 30.6	
	comp=Z,179nm,2.0s,baz=17,slow=2.6						
NB2	NORSAR Subarra	139.58	357	PKP	PKPpre	09 12 30.6	
	baz=17,slow=2.6						
NOA	NORSAR Array B	139.58	357	PKhKP	PKPpre	09 12 31.4	
	comp=Z,4.1nm,0.7s,baz=32,slow=2.2,SNR=9.3						
NBO02	NORSAR Array S	139.59	357	*e*PKPpre	PKPpre	09 12 32.8	
NBO00	NORSAR Array S	139.61	357	*e*PKPpre	PKPpre	09 12 33.1	
VSU	Vasula	139.61	344	⇑*i* PKIKP	PKPdf	09 12 41.3	+1.5
LPSR	Galich'ya Gora	139.66	330	*e*PKIKP	PKPpre	09 12 35.9	
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
NC602	NORSAR Array S	139.86	356	*e*PKPpre	PKPpre	09 12 33.5	
VSR	Storozhevoye	140.42	328	*e*PKIKP	PKPpre	09 12 38.0	
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
SHEL	Horse Pasture	141.53	160	PFAKE		09 13 00.0	+15
SHEL				LR	LR		
	comp=Z,536nm,22.0s						
GOF	Gofitskoye	141.56	318	⇑*e*PKIKP	PKPdf	09 12 44.9	+1.0
GOF				pmax	pmax		
	comp=Z,79nm,1.3s						
GUDG	Gudauri	141.71	313	P	PKPpre	09 12 40.0	
TBLG	Delisi	141.81	312	P	PKPpre	09 12 39.4	
TBLG	Delisi	141.81	312	PKHKP	PKPpre	09 12 39.4	
ZEI	Tsey	141.98	314	*i* PKHKP	PKPpre	09 12 38.9	
ZEI				pmax	pmax		
	comp=Z,260nm,2.3s						
IZAR	Zarasai	142.10	342	*e*P	PKPpre	09 12 37.9	
IZAR				IAmb	IAmb	09 12 49.6	
	comp=Z,15nm,0.8s						
KAC	Achnashellach	142.18	11	*e*P	PKPpre	09 12 40.0	
KBZ	Khabaz	142.25	316	PKhKP	PKPpre	09 12 39.2	
	comp=Z,3.0nm,0.8s,baz=51,slow=1.2,SNR=6.1						
KPL	Plockton	142.27	11	*e*P	PKPpre	09 12 40.7	
ISAL	Salakas	142.29	342	*e*P	PKPpre	09 12 37.9	
ISAL				IAmb	IAmb	09 12 50.1	
	comp=Z,24nm,1.1s						
KIV	Kislovodsk	142.29	316	⇓⇓PKIKP	PKPdf	09 12 45.5	+0.2
KIV				*i*		09 15 53.3	
KIV				pmax	pmax		
	comp=Z,32nm,1.7s						
KIV				pmax	pmax		
	comp=Z,62nm,1.3s						
KIV	Kislovodsk	142.29	316	PFAKE		09 13 00.0	+15
KIV				LR	LR		
	comp=Z,1μm,20.0s						
KIV	Kislovodsk	142.29	316	P	PKPpre	09 12 39.0	
	SNR=8.7						
KIV	Kislovodsk	142.29	316	PKPdf	PKPpre	09 12 39.0	
	SNR=8.7						
IDID	Didziasalis	142.33	341	*e*P	PKPpre	09 12 39.0	
IDID				IAmb	IAmb	09 12 50.1	
	comp=Z,24nm,1.3s						
ONI	Oni	142.36	314	P	PKPpre	09 12 38.0	
ONI	Oni	142.36	314	PKHKP	PKPpre	09 12 38.0	
GNI	Garni	142.36	310	*de*PKIKP	PKPdf	09 12 44.6	-1.1
GNI	Garni	142.36	310	*e*PKPdf	PKPdf	09 12 43.6	-2.0
GNI				LR	LR		
	comp=Z,1μm,22.0s						
GNI	Garni	142.36	310	P	PKPpre	09 12 40.4	
	SNR=28						
GNI	Garni	142.36	310	PKPdf	PKPpre	09 12 40.4	
	SNR=28						
NEY	Neytrino	142.57	315	*c i* PKIKP	PKPdf	09 12 46.6	+0.6
NACGM	Naroch	142.67	341	*e*	PKPpre	09 12 41.0	
NACGM				*e*LQ	LQ	10 06 06.0	
NACGM				*e*LR	LR	10 10 34.0	
AKH	Akhalkalaki	142.80	312	P	PKPpre	09 12 42.3	
AKH	Akhalkalaki	142.80	312	⇓*i* P	PKPdf	09 12 44.1	-2.3
AKH	Akhalkalaki	142.80	312	PKHKP	PKPpre	09 12 42.2	
KMBO	Kilima Mbogo	143.17	238	PKP	PKPbc	09 12 45.8	+0.9
	comp=Z,16nm,0.9s,baz=111,slow=4.4,SNR=23						
DRUM	Mains of Drumt	143.18	9	*e*P	PKPab	09 12 42.5	+0.6
EDU	Dundee	143.46	9	*e*P	PKPab	09 12 43.5	+0.5
EAB	Aberfoyle	143.59	11	*e*P	PKPab	09 12 43.9	+0.3
DAMY	Dhamar	143.75	267	*e*PKPdf	PKPdf	09 12 49.1	+0.2
PGBU	Glenifferbraes	143.93	11	*e*P	PKPab	09 12 44.3	-0.6
PGBU				AMS	AMS	10 19 32.5	
	comp=Z,2μm,18.5s						
ARTV	Artvin	143.97	312	*e*PKPdf	PKPbc	09 12 47.5	+1.1
ESY	Stoneypath	144.13	9	*e*P	PKPab	09 12 44.9	-0.7
RAYN	Ar Rayn	144.14	282	*e*PKPdf	PKPdf	09 12 48.3	-0.9
RAYN				LR	LR		
	comp=Z,1μm,19.0s						
GMK	Mull of Kintyr	144.16	12	*e*P	PKPab	09 12 45.1	-0.6
MUD	Monsted U'grnd	144.25	358	⇓*i* P	PKPab	09 12 46.1	0.0
	comp=Z,789nm,1.6s						
MUD	Monsted U'grnd	144.25	358	⇓⇓*i* PKIKP	PKPab	09 12 46.1	0.0
MUD				pmax	pmax		
	comp=Z,790nm,1.6s						
SOC	Sochi	144.36	317	*i* PKIKP	PKPbc	09 12 47.2	-0.1
SOC				*e*		09 13 00.1	
SOC				*e*		09 16 02.3	
SOC				*e*SS	SS	09 34 46.5	-2.1
SOC				*e*SSS	SSS	09 40 16.4	
SOC				pmax	pmax		
	comp=Z,118nm,1.5s						
SUW	Suwalki	144.48	343	*e*PKPdf	PKPbc	09 12 47.2	0.0
SUW	Suwalki	144.48	343	⇓*e*PKIKP	PKPbc	09 12 47.2	0.0
PCED	Cedros	144.60	52	*e*PKPdf	PKPab	09 12 47.9	-0.1
ESK	Eskdalemuir	144.61	10	*e*P	PKPab	09 12 46.2	-1.3
ESK	Eskdalemuir	144.61	10	*e*PKIKP	PKPbc	09 12 47.6	-0.1
ESK				MLR	MLR		
	comp=Z,2μm,20.0s						
ESK	Eskdalemuir	144.61	10	*e*PKPdf	PKPbc	09 12 47.6	0.0
ESK				LR	LR		
	comp=Z,2μm,20.0s						
KLNR	Kaliningrad	144.66	347	⇑*i* PKIKP	PKPbc	09 12 48.0	+0.2
KLNR				*i*		09 12 52.9	
ASCN	Ascension	144.74	142	*e*PKPdf	PKPdf	09 12 50.0	-0.4
ASCN				LR	LR		
	comp=Z,2μm,19.0s						
COP	Copenhagen	144.81	355	*i* P	PKPdf	09 12 49.3	+0.1
	comp=Z,364nm,1.4s						
COP	Copenhagen	144.81	355	*e*PKIKP	PKPdf	09 12 49.3	+0.1
COP				pmax	pmax		
	comp=Z,360nm,1.4s						
PCAN	Candelaria	144.82	52	*e*PKPdf	PKPab	09 12 47.2	-1.6
BHH	Howats Hill	144.83	10	*e*P	PKPab	09 12 48.0	-0.3
PICO	Pico	144.85	52	*e*PKPdf	PKPab	09 12 49.0	0.0
ROSA	Rosais	144.91	51	*e*PKPdf	PKPab	09 12 48.4	-0.7
ROSA	Rosais	144.91	51	*e*PKPdf	PKPbc	09 12 49.3	+0.1
PGRA	Graciosa	144.99	51	*e*PKPdf	PKPbc	09 12 49.0	-0.4
IGLA	Glengowla, Co	145.04	17	*e*P	PKPbc	09 12 48.8	-0.3
PMAN	Manadas	145.05	52	*e*PKPdf	PKPbc	09 12 49.3	-0.3
BSD	Bornholm Skovb	145.10	352	⇓*i* P	PKPbc	09 12 48.9	-0.3
	comp=Z,268nm,0.9s						
BSD	Bornholm Skovb	145.10	352	⇓*i* PKIKP	PKPbc	09 12 48.9	-0.3
BSD				pmax	pmax		
	comp=Z,270nm,0.9s						
GMM	Mts of Mourne	145.12	13	*e*P	PKPbc	09 12 49.3	0.0
ANN	Anapa	145.13	321	*d i* PKIKP	PKPbc	09 12 49.5	-0.1
ANN				*e*		09 16 07.7	
ANN				*e*PPP	PPP	09 19 20.1	
ANN				*e*		09 19 59.2	
ANN				pmax	pmax		
	comp=Z,662nm,1.7s						
ANN				pmax	pmax		
	comp=Z,715nm,1.6s						
BBO1	Bothel	145.16	10	*e*P	PKPbc	09 12 49.0	-0.5
LLD	Lille Linde	145.18	355	*i* P	PKPab	09 12 49.5	0.0
	comp=Z,2μm,1.7s						
LLD	Lille Linde	145.18	355	*i* PKIKP	PKPab	09 12 49.5	0.0
LLD				pmax	pmax		
	comp=Z,2μm,1.7s						
AKASG	Malin Array Be	145.25	335	PKPbc	PKPbc	09 12 49.3	-0.5
	comp=Z,157nm,0.8s,baz=39,slow=4.3,SNR=186						
AKBB	Malin Array Si	145.25	335	*e*PKIKP	PKPbc	09 12 49.9	+0.1
AKBB	Malin Array Si	145.25	335	*e*PKPbc	PKPbc	09 12 49.9	+0.1
KIEV	Kiev	145.26	335	⇑*i* PKIKP	PKPdf	09 12 50.1	0.0
KIEV	Kiev	145.26	335	*e*PKPbc	PKPbc	09 12 49.6	-0.2
KIEV				LR	LR		
	comp=Z,1μm,19.0s						
EDMD	Edmundbyers	145.27	9	*e*P	PKPbc	09 12 48.1	-1.7
AK11	Malin Array Si	145.29	335	*e*PKPbc	PKPbc	09 12 49.9	-0.1
KESW	Keswick, Cumbr	145.33	10	*e*P	PKPbc	09 12 48.4	-1.6
KOPT	Kop Dagi	145.44	311	*e*PKPbc	PKPbc	09 12 50.7	-0.5
DSB	Dublin	145.95	14	*e*PKPdf	PKPbc	09 12 52.0	0.0
VAL	Valentia	146.09	19	*e*P	PKPbc	09 12 52.2	-0.2
WPS	Cemaes, Angles	146.21	12	*e*P	PKPbc	09 12 52.9	+0.2
WPS				AMS	AMS	10 21 32.7	
	comp=Z,2μm,19.2s						
MARD	Mardin	146.24	307	*e*PKPdf	PKPab	09 12 54.8	+0.5
WME	Myndd Eilian	146.25	12	*e*P	PKPdf	09 12 52.2	+0.5
WLF1	Llynfaes	146.34	12	*e*P	PKPdf	09 12 52.5	+0.6
WLF1				AMS	AMS	10 21 45.8	
	comp=Z,4μm,19.0s						
WPM1	Penmaenmawr	146.46	12	*e*P	PKPdf	09 12 52.5	+0.4
GKP	Gorka Klasztor	146.51	349	*e*PKP	PKPbc	09 12 53.8	+0.2
GKP	Gorka Klasztor	146.51	349	*e*PKP2	PKPbc	09 12 53.8	+0.2
KBSD	Kabsdagh	146.52	306	*e*P	PKPdf	09 12 52.7	-0.1
MZRK	Al-Mazaregh	146.81	304	*e*P	PKPbc	09 12 55.2	+0.1
LLW	Llanuwychllyn	146.90	12	*e*P	PKPbc	09 12 53.9	-0.9
STNC	Stoke	146.92	10	*e*P	PKPbc	09 12 54.6	-0.2
FOEL	Foel Wylfa	146.94	11	*e*P	PKPdf	09 12 53.7	+0.7
FOEL				AMS	AMS	10 22 09.8	
	comp=Z,2μm,17.7s						
SFNV	Sufian	147.04	306	*e*P	PKPdf	09 12 53.2	-0.5
BEL	Belsk	147.07	344	*e*PKP	PKPbc	09 12 54.6	-0.7
BEL	Belsk	147.07	344	*e*PKP2	PKPbc	09 12 54.6	-0.7
PSET	Sete Cidades	147.08	52	*e*PKPdf	PKPbc	09 12 55.8	-0.1
CMLA	Cha da Macela	147.25	52	*e*PKP2	PKPbc	09 12 56.4	+0.1
CMLA				MLR	MLR		
	comp=Z,3μm,20.0s						
CMLA	Cha da Macela	147.25	52	*e*PKPdf	PKPbc	09 12 55.5	-0.8
CMLA	Cha da Macela	147.25	52	*e*PKPbc	PKPbc	09 12 56.4	+0.1
CMLA				LR	LR		
	comp=Z,3μm,20.0s						
PCALD	Caldeiras da R	147.26	52	*e*PKPdf	PKPbc	09 12 56.0	-0.3
HLM1	Long Mynd	147.35	11	*e*P	PKPbc	09 12 55.3	-0.8
HLM1				AMS	AMS	10 23 03.2	
	comp=Z,2μm,18.7s						
CWF	Charnwood Fore	147.40	9	*e*P	PKPdf	09 12 54.0	+0.3
CWF				AMS	AMS	10 21 11.5	
	comp=Z,2μm,18.5s						
CWF	Charnwood Fore	147.40	9	*e*PKPbc	PKPbc	09 12 56.4	+0.2
BART	Pico Bartolome	147.50	51	*e*PKPdf	PKPdf	09 12 54.7	+0.2
LPW	Lampeter	147.51	13	*e*P	PKPbc	09 12 56.0	-0.5
LPW				AMS	AMS	10 24 26.8	
	comp=Z,2μm,16.0s						
SORM	Soroca	147.60	333	⇓*i* P	PKPbc	09 12 56.7	-0.2
SORM	Soroca	147.60	333	⇓⇓PKP2	PKPbc	09 12 56.7	-0.2
WACR	West Acre	147.67	7	*e*P	PKPbc	09 12 56.0	-0.9
WACR				AMS	AMS	10 23 20.7	
	comp=Z,2μm,18.5s						
PSMA	Santa Maria	147.83	53	*e*PKPdf	PKPbc	09 12 57.2	-0.7
MCH1	Michaelchurch	147.83	11	*e*P	PKPbc	09 12 56.6	-0.8
MCH1				AMS	AMS	10 21 40.5	
	comp=Z,2μm,18.0s						
PSMN	Pico do Norte,	147.87	53	*e*PKPdf	PKPdf	09 12 55.2	+0.2
LVV	L'vov	147.89	339	*e*PKIKP	PKPdf	09 12 56.1	+1.5
MONM	Monmouth	148.02	11	*e*P	PKPbc	09 12 56.9	-1.0
MONM				AMS	AMS	10 23 14.1	
	comp=Z,2μm,17.1s						
SSW	Stow on the Wo	148.06	10	*e*P	PKPbc	09 12 57.6	-0.4
KSRV	Kasrt alli	148.07	305	*e*P	PKPdf	09 12 55.2	-0.2
STRD	Stroud	148.19	11	*e*P	PKPbc	09 12 57.3	-1.0
STRD				AMS	AMS	10 24 03.9	
	comp=Z,2μm,18.3s						
HGH	Gray Hill	148.21	11	*e*P	PKPbc	09 12 57.2	-1.2
KIS	Kishinev	148.25	331	⇓*i* PKP	PKPbc	09 12 58.0	-0.7
KIS				M	M	09 12 59.0	
	comp=Z,2μm,2.5s						
KIS	Kishinev	148.25	331	*e*PP	PP	09 15 04.0	-83
KIS				*i* SKKS		09 21 04.0	
KIS	Kishinev	148.25	331	*e*PS		09 27 12.0	
KIS				LRM	MLR	10 13 28.0	
	comp=Z,2μm,24.0s						
KIS	Kishinev	148.25	331	*k i* PKP2	PKPbc	09 12 58.0	-0.7
KIS				pmax	pmax		
	comp=Z,2μm,2.5s						
KIS				pmax	pmax		
	comp=Z,3μm,4.0s						
KIS				pmax	pmax		
	comp=Z,3μm,10.0s						
KWP	Kalwaria Pacla	148.49	340	*e*PKPdf	PKPbc	09 12 59.6	+0.4
KWP	Kalwaria Pacla	148.49	340	⇓*e*PKP2	PKPbc	09 12 59.6	+0.4
SLMH	Al Salmeh	148.76	306	*e*P	PKPdf	09 12 53.5	-3.1
WTSB	Winterswijk	148.79	0	*e*PKPdf	PKPdf	09 12 56.8	+0.8
WOL	Wolverton	148.80	10	*e*P	PKPbc	09 12 58.9	-1.0
WOL				AMS	AMS	10 24 54.1	
	comp=Z,2μm,18.0s						
OJC	Ojcow	148.80	344	*e*PKP	PKPdf	09 12 56.3	+0.2
OJC	Ojcow	148.80	344	*e*PKIKP	PKPdf	09 12 56.3	+0.2
OJC	Ojcow	148.80	344	*e*PKPbc	PKPbc	09 13 00.0	0.0
KSP	Ksiaz	149.01	348	*e*PKP	PKPdf	09 12 56.9	+0.5
KSP	Ksiaz	149.01	348	*e*PKIKP	PKPdf	09 12 56.9	+0.5
CLL	Collm	149.07	352	⇓*e*PKIKP	PKPdf	09 12 57.0	+0.5
CLL				*i*		09 13 00.9	
CLL				*i*		09 13 05.5	
CLL				pmax	pmax		
	comp=Z,97nm,1.8s						
CLL				pmax	pmax		
	comp=Z,430nm,1.5s						
CLL				pmax	pmax		
	comp=Z,290nm,1.1s						
CLL				MLR	MLR		
	comp=Z,2μm,19.8s						
CLL	Collm	149.07	352	*e*PKPdf	PKPdf	09 12 57.0	+0.5
	comp=Z,97nm,1.8s						
CLL				⇓*i* PKPbc	PKPbc	09 13 00.9	+0.3
	comp=Z,430nm,1.5s						
CLL				*e*PKPlp		09 13 02.0	
	comp=Z,900nm,20.3s						
CLL				⇑*i* PKPab	PKPab	09 13 05.5	+0.7
	comp=Z,290nm,1.1s						
CLL				*e*PP	PP	09 16 31.0	-0.1
CLL				*e*		09 23 12.0	
CLL				*e*PSKS		09 26 53.0	
CLL				*e*		09 27 56.0	
CLL				*e*PPS	PPS	09 29 18.0	
CLL				*e*		09 31 48.0	
CLL				*e*SSS	SSS	09 41 18.0	
CLL				Lm	MLR	10 26 00.0	
	comp=N,900nm,19.0s						
CLL				Lm	MLR	10 26 00.0	
	comp=E,1μm,20.9s						
CLL				Lm	MLR	10 26 00.0	
	comp=Z,2μm,19.8s						
CLL	Collm	149.07	352	*e*PKPbc	PKPbc	09 13 01.4	+0.7
STHS	Stebnicka Huta	149.12	342	*e*PKP2	PKPbc	09 13 02.1	+1.2
STHS	Stebnicka Huta	149.12	342	*e*PKP	PKPbc	09 13 02.1	+1.2
STHS				*e*		09 13 06.2	
DYA	Yadsworthy	149.13	13	*e*P	PKPbc	09 12 59.8	-1.0
BUR08	Bucovina Ar. S	149.28	335	*e*PKPbc	PKPbc	09 13 02.7	+1.2
BURAR	Bucovina Array	149.30	335	⇑*i* P	PKPdf	09 12 58.2	+1.0
BURAR	Bucovina Array	149.30	335	⇑PKIKP	PKPdf	09 12 58.2	+1.0
RAC	Raciborz	149.32	346	*e*PKIKP	PKPdf	09 12 56.6	-0.3
BRG	Berggiesshubel	149.37	351	*i* PKP	PKPdf	09 12 57.1	+0.1
	comp=Z,94nm,1.6s						
BRG				*i*		09 13 02.1	
	comp=Z,596nm,1.8s						
BRG				*e*		09 13 29.6	
	comp=Z,56nm,1.2s						
BRG				*e*		09 14 32.9

CFR	Carcaliu	149.92 329	⇑	iP	PKPbc	09 13 03.2	+0.3
CFR	Carcaliu	149.92 329	⇑	PKP2	PKPbc	09 13 03.2	+0.3
RABH	Abou Rabah	149.93 303		eP	PKPdf	09 12 57.9	-0.6
BTCH	Batrach	149.93 307		eP	PKPbc	09 13 02.4	-1.0
BEBN	Eben Emael	149.95 1		PKPbc	PKPbc	09 13 03.8	+1.0
ROOS	tl_alroos	149.95 303		eP	PKPdf	09 12 59.7	+1.1
HGN	Heimansgroeve	149.99 1		ePKPdf	PKPbc	09 13 00.9	-2.0
VRI	Vrincioaia	150.06 332	⇑	iP	PKPdf	09 12 57.4	-0.9
VRI	Vrincioaia	150.06 332	⇑	PKIKP	PKPdf	09 12 57.4	-0.9
ARCR	ARCALIA	150.07 336	⇑	iP	PKPbc	09 13 02.3	-1.0
PRA	Prague	150.08 350	⇑	ePKP	PKPbc	09 13 03.6	+0.5
PRA				AMS	AMS	10 27 40.0	
	comp=Z,3μm,18.0s						
PRA	Prague	150.08 350		ePKP2	PKPbc	09 13 03.6	+0.5
PRA				MLR	MLR		
	comp=Z,3μm,18.0s						
PLOR	Plostina	150.10 332	⇑	iP	PKPdf	09 12 57.9	-0.5
PLOR	Plostina	150.10 332	⇑	PKIKP	PKPdf	09 12 57.9	-0.5
PRU	Pruhonice	150.14 350		ePKPDF	PKPdf	09 12 58.7	+0.4
PRU			⇑	ePKP	PKPbc	09 13 03.6	+0.3
PRU				AMS	AMS	10 27 40.0	
	comp=Z,2μm,17.8s						
MEM	Membach	150.14 1		PKP	PKPdf	09 12 58.3	+0.1
MEM				PKPbc	PKPbc	09 13 03.5	+0.2
MEM				PKPab	pPKPdf	09 13 08.1	0.0
GOPC	GO Pecny, Ondr	150.17 350		ePKPDF	PKPdf	09 12 59.9	+1.6
GOPC			⇑	ePKP	PKPbc	09 13 03.7	+0.3
GOPC				ePKP	pPKPbc	09 13 12.7	-0.5
GOPC				AMS	AMS	10 28 00.0	
	comp=Z,2μm,16.8s						
SNF	Seneffe	150.18 3		PKP	PKPdf	09 12 58.5	+0.2
SNF				PKPbc	PKPbc	09 13 03.7	+0.3
SNF				PKPab	pPKPdf	09 13 08.2	+0.2
KECS	Kecovo	150.18 342		ePKIKP	PKPdf	09 12 58.9	+0.5
KECS				e		09 13 04.2	
KECS				e		09 13 10.5	
KECS	Kecovo	150.18 342		ePKP	PKPdf	09 12 58.9	+0.5
KECS				e		09 13 04.2	
KECS				e		09 13 10.5	
NKC	Novy Kostel	150.19 353		ePKPDF	PKPdf	09 12 58.5	+0.1
NKC			⇑	ePKP	PKiKP	09 13 04.1	-0.2
NKC				ex	x	09 13 13.4	
NKC				AMS	AMS	10 27 10.0	
	comp=Z,2μm,16.0s						
NKC	Novy Kostel	150.19 353		ePKIKP	PKPdf	09 12 58.5	+0.1
NKC				e		09 13 04.1	
NKC				e		09 13 13.4	
NKC				MLR	MLR		
	comp=Z,2μm,16.0s						
BR131	Keskin Array S	150.24 316		ePKPbc	PKPbc	09 13 04.6	+0.5
BRTR	Keskin Array B	150.24 316		PKP	PKPdf	09 12 58.5	-0.4
	comp=Z,2.7nm,0.9s,baz=131,slow=3.4,SNR=15						
BRTR				PKPbc	PKPbc	09 13 03.9	-0.2
	comp=Z,28nm,0.8s,baz=128,slow=3.0,SNR=72						
TIRR	Tirgusor	150.31 328	⇑	iP	PKPbc	09 13 04.2	+0.3
TIRR	Tirgusor	150.31 328	⇑	PKIKP	PKPbc	09 13 04.2	+0.3
TIRR	Tirgusor	150.31 328		ePKPbc	PKPbc	09 13 04.7	+0.8
BCLA	Clavier	150.31 2		PKP	PKPdf	09 12 59.7	+1.2
BCLA				PKPbc	PKPbc	09 13 03.0	-0.7
BCLA				PKPab	pPKPdf	09 13 08.3	0.0
ARNB	Al Arnab	150.37 307		eP	PKPdf	09 12 59.2	0.0
HARR	Harsova	150.38 329	⇓	iP	PKPbc	09 13 04.5	+0.5
HARR	Harsova	150.38 329	⇓	PKIKP	PKPbc	09 13 04.5	+0.5
TLB	Topalu	150.40 328	⇑	iP	PKPbc	09 13 04.6	+0.5
TLB	Topalu	150.40 328	⇑	PKIKP	PKPbc	09 13 04.6	+0.5
SACV	Santiago Islan	150.49 96		ePKPbc	PKPbc	09 13 03.3	-1.9
SACV				LR	LR		
	comp=Z,1μm,19.0s						
DOPR	Dopca	150.56 333	⇓	iP	PKPdf	09 12 59.4	+0.3
DOU	Dourbes	150.61 3		PKP	PKPdf	09 12 59.0	0.0
DOU				PKPbc	PKiKP	09 13 04.8	-0.3
DOU				PKPab	pPKPdf	09 13 09.4	+0.7
MARH	Ras Al Marh	150.63 303		eP	PKPbc	09 13 05.6	+0.2
VYHS	Vyhne	150.64 344		ePKIKP	PKPdf	09 12 59.7	+0.6
VYHS				e		09 13 05.0	
VYHS				e		09 16 36.5	
VYHS	Vyhne	150.64 344		ePKP	PKPdf	09 12 59.6	+0.5
VYHS				e		09 13 05.0	
VYHS				ePP	PP	09 16 36.4	-3.9
TREC	Trest	150.64 348		ePKPDF	PKPdf	09 12 59.4	+0.3
TREC			⇑	ePKP	PKiKP	09 13 05.1	-0.2
TREC				AMS	AMS	10 28 40.0	
	comp=Z,3μm,17.5s						
TREC	Trest	150.64 348		ePKIKP	PKPdf	09 12 59.4	+0.3
TREC				e		09 13 05.1	
TREC				MLR	MLR		
	comp=Z,3μm,17.5s						
CJR	Cluj-Napoca	150.67 336	⇓	iP	PKPdf	09 12 59.2	-0.1
CJR	Cluj-Napoca	150.67 336	⇓	PKIKP	PKPdf	09 12 59.2	-0.1
JSA	Saint Aubin	150.67 12		eP	PKPbc	09 13 04.4	-0.2
JSA				AMS	AMS	10 18 49.7	
	comp=Z,2μm,17.3s						
JRS	Jersey	150.69 12		eP	PKPbc	09 13 04.3	-0.3
MLR	Muntele Rosu	150.69 332	⇓	iP	PKPdf	09 12 58.7	-0.7
MLR	Muntele Rosu	150.69 332	⇓	PKIKP	PKPdf	09 12 58.7	-0.7
MLR	Muntele Rosu	150.69 332		ePKPdf	PKPdf	09 12 58.8	-0.7
MLR				ePKPbc	PKiKP	09 13 05.9	+0.2
ANTO	Ankara	150.72 316		ePKIKP	PKPdf	09 13 00.9	+1.3
ANTO				e		09 13 06.4	
ANTO				MLR	MLR		
	comp=Z,1μm,20.0s						
ANTO	Ankara	150.72 316		ePKPdf	PKPdf	09 13 00.9	+1.3
ANTO				ePKPbc	PKiKP	09 13 06.4	+0.6
ANTO				LR	LR		
	comp=Z,1μm,20.0s						
ANTO	Ankara	150.72 316		P	PKPdf	09 12 59.4	-0.2
	SNR=69						
ANTO	Ankara	150.72 316		PKPdf	PKPdf	09 12 59.4	-0.2
	SNR=69						
BR231	Keskin MP Arra	150.74 316		ePKPdf	PKPdf	09 12 58.8	-0.9
BR231				ePKPbc	PKPbc	09 13 05.4	+0.2
GRFO	Grafenberg	150.86 354		ePKIKP	PKPdf	09 13 00.1	+0.7
GRFO				e		09 13 06.3	
GRFO	Grafenberg	150.86 354		ePKPdf	PKPdf	09 13 00.1	+0.7
GRFO				ePKPbc	PKiKP	09 13 06.3	+0.6
PSZ	Piszkesteto	150.87 342	⇑	iP	PKPdf	09 12 59.3	-0.3
PSZ	Piszkesteto	150.87 342	⇑	PKIKP	PKPdf	09 12 59.3	-0.3
PSZ	Piszkesteto	150.87 342	⇓	ePKPdf	PKPdf	09 12 59.4	-0.2
PSZ				ex	x	09 13 06.1	
PSZ	Piszkesteto	150.87 342	⇓	ePKPdf	PKPdf	09 12 59.4	-0.2
PSZ				ex	x	09 13 06.1	
PSZ	Piszkesteto	150.87 342		ePKPdf	PKPdf	09 12 59.9	+0.3
PSZ				ePKPbc	PKiKP	09 13 05.9	+0.1
PSZ				LR	LR		
	comp=Z,2μm,19.0s						
TOTH	TOTAH	150.89 302		eP	PKPbc	09 13 06.0	+0.3
DRGR		150.93 337	⇓	iP	PKPdf	09 12 58.5	-1.2
DRGR		150.93 337	⇓	PKIKP	PKPdf	09 12 58.5	-1.2
SMOL	Smolenice	150.97 345		ePKIKP	PKPbc	09 13 06.7	+1.4
SMOL	Smolenice	150.97 345		ePKP	PKPbc	09 13 06.7	+1.4
WLF	Walferdange	151.09 1		PKPbc	PKPbc	09 13 04.4	-1.2
WLF				APKPbc		09 13 07.9	
WLF				PKPab	sPKPdf	09 13 11.5	-1.4
WLF	Walferdange	151.09 1		ePKIKP	PKPdf	09 13 00.5	+0.7
WLF				e		09 13 07.0	
WLF				MLR	MLR		
	comp=Z,2μm,21.0s						
WLF	Walferdange	151.09 1		ePKPdf	PKPdf	09 13 00.5	+0.7
WLF				ePKPbc	PKiKP	09 13 07.0	+0.9
WLF				LR	LR		
	comp=Z,2μm,21.0s						
KHC	Kasperske Hory	151.12 351		ePKPDF	PKPdf	09 12 59.9	0.0
KHC			⇑	ePKP	PKiKP	09 13 06.1	-0.2
KHC				ePP	PP	09 16 41.2	-1.8
KHC				AMS	AMS	10 28 00.0	
	comp=Z,2μm,17.2s						
KHC	Kasperske Hory	151.12 351		ePKIKP	PKPdf	09 12 59.9	0.0
KHC				e		09 13 06.1	
KHC				e		09 16 41.2	
KHC				MLR	MLR		
	comp=Z,2μm,17.2s						
KHC	Kasperske Hory	151.12 351		ePKPdf	PKPdf	09 13 00.4	+0.5
KHC				ePKPbc	PKiKP	09 13 06.5	+0.2
VOIR		151.12 333	⇑	iP	PKPdf	09 13 00.0	-0.1
VOIR		151.12 333	⇑	PKIKP	PKPdf	09 13 00.0	-0.1
BRBR	Barbar	151.25 302		eP	PKPdf	09 12 57.2	-3.6
BHL	Bhannes	151.32 303		eP	PKPdf	09 13 00.3	-0.4
ARR	Arges	151.36 333	⇑	iP	PKPdf	09 13 00.6	+0.2
GEC2	GERESS Array S	151.38 351		ePKIKP	PKPdf	09 13 00.3	-0.1
GEC2				e		09 13 07.1	
GEC2	GERESS Array S	151.38 351		ePKPdf	PKPdf	09 13 00.3	-0.1
GEC2				ePKPbc	PKiKP	09 13 07.1	+0.2
GERES	GERESS Array B	151.38 351		PKP	PKPdf	09 13 00.5	+0.1
	comp=Z,3.5nm,0.8s,baz=31,slow=0.8,SNR=17						
GERES				PKPbc	PKPbc	09 13 06.3	-0.1
	comp=Z,18nm,0.7s,baz=12,slow=2.4,SNR=65						
GERES	GERESS Array B	151.38 351		PKIKP	PKPdf	09 13 00.5	+0.1
GERES						09 13 06.4	
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,18nm,0.7s						
GEA0	GERESS Array S	151.39 351		ePKPdf	PKPdf	09 12 59.1	-1.2
GEA0				ePKPbc	PKiKP	09 13 07.1	+0.2
DQRL	Deir Qamar	151.45 303		eP	PKPdf	09 13 01.8	+0.8
TCHB	Talchebab	151.47 301		eP	PKPbc	09 13 05.0	-2.1
BUD	Budapest	151.51 343	⇓	ePKPdf	PKPdf	09 12 59.4	-1.0
BUD				ex	x	09 13 08.0	
BUD	Budapest	151.51 343	⇓	ePKPdf	PKPdf	09 12 59.4	-1.0
BUD				ex	x	09 13 08.0	
LOT	Lotru	151.65 334	⇑	iP	PKPdf	09 13 00.9	0.0
PRD	Provadia	151.72 327		P	PKPdf	09 13 00.7	-0.2
SIRR	Siria	151.75 338	⇑	iP	PKPdf	09 13 00.7	-0.2
LANF	Langenberg	151.77 359		PKP	PKPdf	09 13 02.0	+1.2
CSKK	Cs‡kako	151.83 343	⇓	ePKPdf	PKPdf	09 12 59.9	-1.0
CSKK	Cs‡kako	151.83 343	⇓	ePKPdf	PKPdf	09 12 59.9	-1.0
CONA	Conrad Observa	151.87 347		iPKPdf	PKPdf	09 13 01.2	+0.1
	comp=Z,39nm,1.5s,SNR=18						
CONA				iPKiKP	PKiKP	09 13 08.2	+0.3
	comp=Z,186nm,1.5s						
KDHN	Kadinhani	151.88 315		iP	PKPbc	09 13 06.9	-1.1
STU	Stuttgart	151.93 357		ePKIKP	PKPdf	09 13 03.4	+2.3
STU	Stuttgart	151.93 357		ePKPdf	PKPdf	09 13 03.4	+2.3
SOP	Sopron	151.95 346		ePKPdf	PKPdf	09 12 59.7	-1.4
SOP				ePKPdf	PKPbc	09 13 06.6	-1.0
KMER	Konya-Meram	152.10 313		iP	PKPbc	09 13 08.5	+0.1
MOA	Molln	152.25 349		iPKPdf	PKPdf	09 13 01.4	-0.3
	comp=Z,22nm,1.7s						
MOA				iPKiKP	PKPbc	09 13 08.5	+0.1
	comp=Z,132nm,1.4s						
ERMK	Ermenek	152.27 311		iP	PKPbc	09 13 09.9	+0.9
ISK	Istanbul-Kandi	152.28 322		P	PKPdf	09 12 59.9	-1.9
ISK	Istanbul-Kandi	152.28 322		PKIKP	PKPdf	09 12 59.9	-1.9
ISK	Istanbul-Kandi	152.28 322		P	PKPdf	09 12 59.9	-1.9
BZS	Buzias	152.33 337	⇓	iP	PKPdf	09 13 01.1	-0.6
BZS	Buzias	152.33 337	⇓	PKIKP	PKPdf	09 13 01.1	-0.6
BFO	Black Forest	152.41 358		ePKIKP	PKPdf	09 13 02.0	+0.2
BFO				e		09 13 08.8	
BFO				MLR	MLR		
	comp=Z,1μm,19.0s						
BFO	Black Forest	152.41 358		ePKPdf	PKPdf	09 13 02.0	+0.2
BFO				ePKPbc	PKPbc	09 13 08.8	+0.1
BFO				LR	LR		
	comp=Z,1μm,19.0s						
THEF	They Montfort	152.53 1		PKP	PKPdf	09 13 02.9	+0.9
BOLV	Bolvadin	152.54 316		iP	PKPbc	09 13 10.0	+0.6
BOLV	Bolvadin	152.54 316		ePKPbc	PKPbc	09 13 10.1	+0.7
ECH	Echery	152.54 360		PKP	PKPdf	09 13 02.5	+0.5
ARSA	Arzberg	152.59 347		iPKPdf	PKPdf	09 13 01.9	-0.3
	comp=Z,30nm,1.7s,SNR=9.6						
ARSA				iPKPbc	PKPbc	09 13 08.9	-0.2
	comp=Z,76nm,1.6s						
CSS	Mathiatis	152.70 307		P	PKPdf	09 13 01.2	-1.5
CSS	Mathiatis	152.70 307		ePKPdf	PKPdf	09 13 02.7	+0.1
CSS				ePKPbc	PKiKP	09 13 09.9	0.0
CSS				LR	LR		
	comp=Z,328nm,20.0s						
BANR	Banloc	152.70 338	⇓	iP	PKPdf	09 13 02.1	-0.2
MOF	Molkenrain	152.91 360		PKP	PKPdf	09 13 03.3	+0.6
MDVR	Moldovita	153.01 336	⇑	iP	PKPdf	09 13 02.5	-0.3
EDRB	Edirne	153.03 326		P	PKPdf	09 13 01.7	-1.2
EDRB	Edirne	153.03 326		P	PKPdf	09 13 01.7	-1.2
EDRB	Edirne	153.03 326		P	PKPdf	09 13 01.7	-1.2
BEHE	Becsehely	153.04 345	⇓	ePKPdf	PKPdf	09 13 02.8	0.0
BEHE	Becsehely	153.04 345	⇓	ePKPdf	PKPdf	09 13 02.8	0.0
BAGO	Egridir - ISPA	153.05 315		iP	PKPbc	09 13 10.7	+0.2
RETA	Reutte	153.09 354		iPKPdf	PKPdf	09 13 02.3	-0.6
	comp=Z,26nm,1.8s,SNR=6.8						
RETA				ePKiKP	PKPbc	09 13 10.2	-0.1
	comp=Z,67nm,1.2s						
WATA	Walderalm	153.15 353		iPKPdf	PKPdf	09 13 03.2	+0.1
	comp=Z,20nm,1.5s						
WATA				iPKiKP	PKiKP	09 13 10.6	0.0
	comp=Z,24nm,0.7s						
KBA	Koelnbreinsper	153.16 350		ePKPdf	PKPdf	09 13 02.3	-0.9
	comp=Z,51nm,2.1s						
KBA				iPKPbc	PKPbc	09 13 10.1	-0.5
	comp=Z,40nm,0.8s						
KOGS	Kog	153.19 345		ePKPdf	PKPdf	09 13 02.4	-0.6
KOGS				ePKPab	PKPab	09 13 22.3	+0.3
MOTA	Moosalm	153.19 354		ePKPdf	PKPdf	09 13 03.1	0.0
	SNR=10.0						
MOTA				i pPKPbc	PKiKP	09 13 11.5	+0.8
	comp=Z,72nm,1.1s						
WTTA	Wattenberg	153.21 353		iPKPdf	PKPdf	09 13 02.9	-0.3
	comp=Z,39nm,1.8s,SNR=6.8						
WTTA				iPKiKP	PKPbc	09 13 10.8	+0.1
	comp=Z,63nm,0.8s						
SOKA	Soboth	153.23 347		ePKPdf	PKPdf	09 13 02.4	-0.8
	comp=Z,38nm,1.5s,SNR=15						
SOKA				ePKPbc	PKPbc	09 13 10.3	-0.3
	comp=Z,53nm,1.0s						
KZIL	AFYON_Kizioren	153.33 316		iP	PKPbc	09 13 11.6	+0.4
MPEP	Malo Peshtene	153.35 332		P	PKPdf	09 13 03.0	-0.3
DAVA	Damuels	153.36 355		iPKPdf	PKPdf	09 13 02.7	-0.7
	comp=Z,31nm,2.0s,SNR=7.1						
DAVA				ePKiKP	PKiKP	09 13 11.2	+0.1
	comp=Z,109nm,1.3s						
LOMF	Lomont	153.41 0		PKP	PKPdf	09 13 04.2	+0.8
OBKA	Obir	153.49 348		ePKPdf	PKPdf	09 13 02.7	-0.8
	comp=Z,17nm,1.7s						
OBKA				ePKiKP	PKPbc	09 13 11.1	-0.1
	comp=Z,21nm,0.8s						
MYKA	Terra Mystica	153.54 349		ePKPdf	PKPdf	09 13 02.7	-0.9
	comp=Z,26nm,1.6s,SNR=7.2						
MYKA				iPKiKP	PKPbc	09 13 11.1	-0.2
	comp=Z,40nm,1.0s						
FETA	Feichten	153.55 354		ePKPdf	PKPdf	09 13 03.7	0.0
	comp=Z,32nm,1.4s,SNR=12						
FETA				iPKiKP	PKPbc	09 13 11.5	0.0
	comp=Z,78nm,1.4s						
ABTA	Abfaltersbach	153.60 351		iPKPdf	PKPdf	09 13 02.8	-0.9
	comp=Z,31nm,1.2s,SNR=13						
ABTA				iPKPbc	PKPbc	09 13 10.8	-0.6
	comp=Z,68nm,1.0s						
KDZ	Kurdzhali	153.86 327		P	PKPdf	09 13 03.0	-1.1
CADS	Cadrg	153.91 349		iPKPdf	PKPdf	09 13 03.2	-0.9
LJU	Ljubljana	153.94 348		ePKPdf	PKPdf	09 13 04.0	-0.1
LJU				ePKPab	PKPab	09 13 24.0	-1.3
FUORN	Ofenpass-Fuorn	153.99 355		ePKPdf	PKPdf	09 13 05.0	+0.5
FUORN				ePKPbc	PKiKP	09 13 13.5	+0.9
ALN	Alexandroupoli	154.07 325		P	PKPdf	09 13 02.3	-2.1
ALN	Alexandroupoli	154.07 325		PKIKP	PKPdf	09 13 02.3	-2.1
ALN	Alexandroupoli	154.07 325		P	PKPdf	09 13 02.3	-2.1
VISS	Visnje	154.11 347		iPKPdf	PKPdf	09 13 04.1	-0.2
VISS				e		09 13 12.5	
KULA	Kula-Manisa	154.12 318		P	PKPdf	09 13 03.5	-1.2
KULA	Kula-Manisa	154.12 318		P	PKPdf	09 13 03.5	-1.2
RDO	Rodhopi	154.16 326		P	PKPdf	09 13 04.0	-0.5
RDO	Rodhopi	154.16 326		P	PKPdf	09 13 04.0	-0.5
RDO	Rodhopi	154.16 326		P	PKPdf	09 13 04.0	-0.5
JAVS	Javornik	154.18 348		iPKPdf	PKPdf	09 13 04.4	-0.2
JAVS				i		09 13 12.4	
VTS	Vitosha	154.19 331	⇑	iP	PKPdf	09 13 04.0	-0.8
VTS	Vitosha	154.19 331	⇑	PKIKP	PKPdf	09 13 04.0	-0.8
VTS	Vitosha	154.19 331		P	PKPdf	09 13 04.0	-0.8
DIVS	Divibare	154.22 338		P	PKPdf	09 13 03.1	-1.6
BOJS	Bojanci	154.31 346		iPKPdf	PKPdf	09 13 04.6	0.0
BOJS				e		09 13 13.3	
SENIN	Lac Senin/Sane	154.40 359		ePKPdf	PKPdf	09 13 06.7	+1.7
SENIN				ePKPbc	pPKPdf	09 13 14.6	-0.2
AGO	Saint Agoulin	154.53 6		PKP	PKPdf	09 13 05.9	+1.0
GADA	Gvkgeada	154.65 324		P	PKPdf	09 13 03.4	-1.8
GADA	Gvkgeada	154.65 324		P	PKPdf	09 13 03.4	-1.8
SMTH	Samothraki Isl	154.65 325		P	PKPdf	09 13 02.3	-3.0
SMTH	Samothraki Isl	154.65 325		P	PKPdf	09 13 02.3	-3.0
PLDF	La Plantade	154.66 5		PKP	PKPdf	09 13 05.3	+0.1
MMB	Musomiste	154.74 329		P	PKPdf	09 13 04.0	-1.4
KAVA	Kavala	154.80 327		P	PKPdf	09 13 04.1	-1.3
KAVA	Kavala	154.80 327		P	PKPdf	09 13 04.1	-1.3
KAVA	Kavala	154.80 327		P	PKPdf	09 13 04.1	-1.3
PYM	Petit Puy Mans	154.81 6		PKP	PKPdf	09 13 06.9	+1.5
NVR	Nevrokopi	154.85 329		P	PKPdf	09 13 04.0	-1.6
NVR	Nevrokopi	154.85 329		P	PKPdf	09 13 04.0	-1.6
FETY	Fethiye	154.93 314		P	PKPdf	09 13 04.6	-1.2
FETY	Fethiye	154.93 314		P	PKPdf	09 13 04.6	-1.2
PRK	Paraskevi	155.09 322		P	PKPdf	09 13 04.1	-1.8
PRK	Paraskevi	155.09 322		PKIKP	PKPdf	09 13 04.1	-1.8
PRK	Paraskevi	155.09 322		P	PKPdf	09 13 04.1	-1.8
SRS	Serrai	155.16 329		P	PKPdf	09 13 03.7	-2.3
SRS	Serrai	155.16 329		PKIKP	PKPdf	09 13 03.7	-2.3
SRS	Serrai	155.16 329		P	PKPdf	09 13 03.7	-2.3
LIA	Limnos Island	155.25 325		P	PKPdf	09 13 05.0	-1.1
LIA	Limnos Island	155.25 325		P	PKPdf	09 13 05.0	-1.1
PGAV	Gavieira, Arco	155.25 28		ePKPdf	PKPdf	09 13 06.3	+0.1
PGAV	Gavieira, Arco	155.25 28		ePP	PP	09 17 10.0	+3.1
PGAV	Gavieira, Arco	155.25 28		eSS	SS	09 36 56.4	+7.2
PGAV	Gavieira, Arco	155.25 28		eLR	LR	10 14 06.4	
	comp=Z,3μm,20.0s						
LBL	Lubilhac	155.35 6		PKP	PKPdf	09 13 06.6	+0.4
SIGR	SIGRI	155.35 323		P	PKPdf	09 13 04.6	-1.6
SIGR	SIGRI	155.35 323		P	PKPdf	09 13 04.6	-1.6
SSB	Saint Sauveur	155.41 4		ePKIKP	PKPdf	09 13 07.6	+1.4
SSB				e		09 13 16.4	
SSB				MLR	MLR		
	comp=Z,2μm,20.0s						
SSB	Saint Sauveur	155.41 4		ePKPdf	PKPdf	09 13 07.6	+1.4
SSB				ePKPbc	pPKPdf	09 13 16.4	+0.4
SSB				LR	LR		
	comp=Z,2μm,20.0s						
PMOZ	Porto Moniz, M	155.44 56		ePKPdf	PKPdf	09 13 12.4	+5.7
PMOZ	Porto Moniz, M	155.44 56		ePP	PP	09 17 17.6	+8.6
PMOZ				eS		09 25 09.9	
PMOZ	Porto Moniz, M	155.44 56		eLR	LR	10 15 06.5	
	comp=Z,2μm,20.0s						
SKO	Skopje	155.46 333		P	PKPdf	09 13 05.0	-1.3
SKO	Skopje	155.46 333		iPKP	PKPdf	09 13 06.8	+0.4
SKO	Skopje	155.46 333		PKIKP	PKPdf	09 13 05.0	-1.3
SKO	Skopje	155.46 333		P	PKPdf	09 13 05.0	-1.3
VAY	Valandovo	155.49 331		iPKP	PKPdf	09 13 06.2	-0.1
DGB	¨zmir	155.51 319		iP	PKPab	09 13 36.7	+4.4
SOH	Sokhos	155.51 329		P	PKPdf	09 13 04.5	-2.0
SOH	Sokhos	155.51 329		PKIKP	PKPdf	09 13 04.5	-2.0
SOH	Sokhos	155.51 329		P	PKPdf	09 13 04.5	-2.0
OUR	Ouranopolis	155.56 327		P	PKPdf	09 13 04.6	-1.9
OUR	Ouranopolis	155.56 327		PKIKP	PKPdf	09 13 04.6	-1.9
OUR	Ouranopolis	155.56 327		P	PKPdf	09 13 04.6	-1.9
OUR	Ouranopolis	155.56 327		P	PKPdf	09 13 04.6	-1.9
PCAB	Cabril	155.57 28		ePKPdf	PKPdf	09 13 07.8	+1.3
PCAB	Cabril	155.57 28		ePKPab	PKPab	09 13 32.6	+0.2
PMAR	Madeira	155.70 56		ePKPdf	PKPdf	09 13 07.8	+0.6
PMAR	Madeira	155.70 56		ePKPab	PKPab	09 13 33.4	-0.1
FUL	Funchal	155.75 56		ePKPdf	PKPdf	09 13 13.5	+6.5
CHOS	Chios island	155.79 321		P	PKPdf	09 13 04.8	-2.2
CHOS	Chios island	155.79 321		P	PKPdf	09 13 04.8	-2.2
HORT	Hortiatis	155.80 329		P	PKPdf	09 13 05.0	-1.9
HORT	Hortiatis	155.80 329		P	PKPdf	09 13 05.0	-1.9
PLG	Polygyros	155.80 328		P	PKPdf	09 13 05.1	-1.8
PLG	Polygyros	155.80 328		PKIKP	PKPdf	09 13 05.1	-1.8
PLG	Polygyros	155.80 328		P	PKPdf	09 13 05.1	-1.8
PLG	Polygyros	155.80 328		P	PKPdf	09 13 05.1	-1.8
THE	Thessaloniki	155.84 329		P	PKPdf	09 13 04.9	-1.9
THE	Thessaloniki	155.84 329		PKIKP	PKPdf	09 13 04.9	-1.9
THE	Thessaloniki	155.84 329		P	PKPdf	09 13 04.9	-1.9
BODT	Bodrum	155.85 317		P	PKPdf	09 13 04.8	-2.2
BODT	Bodrum	155.85 317		P	PKPdf	09 13 04.8	-2.2
GRG	Griva	155.85 330		P	PKPdf	09 13 05.8	-1.1
GRG	Griva	155.85 330		PKIKP	PKPdf	09 13 05.8	-1.1
GRG	Griva	155.85 330		P	PKPdf	09 13 05.8	-1.1
POLO	Lamas de Olo	155.94 28		ePKPdf	PKPdf	09 13 07.6

ANX	Ano Chora	157.92 327	P	PKPdf	09 13 07.8	-1.9
SGD	Sagiada	157.92 332	P	PKPdf	09 13 08.3	-1.2
THAL	Thalero	157.95 325	P	PKPdf	09 13 08.3	-1.3
KALE	Kalithea	157.96 326	P	PKPdf	09 13 08.5	-1.2
KALE	Kalithea	157.96 326	P	PKPdf	09 13 08.5	-1.2
KALE	Kalithea	157.96 326	P	PKPdf	09 13 08.5	-1.2
SERG	Sergoula	157.99 327	P	PKPdf	09 13 08.8	-0.9
SERG	Sergoula	157.99 327	P	PKPdf	09 13 08.8	-0.9
DID	Didima	158.01 323	P	PKPdf	09 13 06.4	-3.4
DID	Didima	158.01 323	P	PKPdf	09 13 06.4	-3.4
NPS	Neapolis	158.02 315	P	PKPdf	09 13 08.6	-1.2
NPS	Neapolis	158.02 315	PKIKP	PKPdf	09 13 08.6	-1.2
NPS	Neapolis	158.02 315	P	PKPdf	09 13 08.6	-1.2
KEK	Kerkira	158.03 332	P	PKPdf	09 13 08.1	-1.6
KEK	Kerkira	158.03 332	P	PKPdf	09 13 08.1	-1.6
PESTR	Estremoz	158.04 31	ePKPdf	PKPdf	09 13 10.5	+0.7
PESTR	Estremoz	158.04 31	ePKPab	PKPab	09 13 41.7	-1.4
EFP	Efpalio	158.05 327	P	PKPdf	09 13 08.4	-1.3
EFP	Efpalio	158.05 327	P	PKPdf	09 13 08.4	-1.3
EVO	Evora	158.09 33	ePKPdf	PKPdf	09 13 09.5	-0.3
EVO	Evora	158.09 33	ePKPab	PKPab	09 13 41.5	-1.8
PNCL	Nicolau / Gran	158.14 34	ePKPdf	PKPdf	09 13 10.4	+0.6
PNCL	Nicolau / Gran	158.14 34	ePKPab	PKPab	09 13 43.5	0.0
KRND	KRANIDI	158.15 323	P	PKPdf	09 13 07.8	-2.1
LAKA	Lakka	158.16 326	P	PKPdf	09 13 09.2	-0.7
LAKA	Lakka	158.16 326	P	PKPdf	09 13 09.2	-0.7
LAKA	Lakka	158.16 326	P	PKPdf	09 13 09.2	-0.7
LAST	Lasithi	158.17 315	P	PKPdf	09 13 08.8	-1.3
LAST	Lasithi	158.17 315	P	PKPdf	09 13 08.8	-1.3
GUR	Goura	158.19 325	P	PKPdf	09 13 08.9	-1.2
GUR	Goura	158.19 325	P	PKPdf	09 13 08.9	-1.2
GUR	Goura	158.19 325	P	PKPdf	09 13 08.9	-1.2
KLV	Kalavryta, Ach	158.22 326	P	PKPdf	09 13 08.1	-2.0
KLV	Kalavryta, Ach	158.22 326	P	PKPdf	09 13 08.1	-2.0
KLV	Kalavryta, Ach	158.22 326	P	PKPdf	09 13 08.1	-2.0
LKD2	Lefkada island	158.39 330	P	PKPdf	09 13 08.7	-1.5
LKD2	Lefkada island	158.39 330	P	PKPdf	09 13 08.7	-1.5
PTEO	Sao Teotonio	158.45 35	ePKPdf	PKPdf	09 13 12.0	+1.8
PTEO	Sao Teotonio	158.45 35	ePKPab	PKPab	09 13 45.4	+0.5
IDI	Anoyia	158.48 316	P	PKPdf	09 13 09.5	-1.0
IDI	Anoyia	158.48 316	P	PKPdf	09 13 09.5	-1.0
DRO	Drossia	158.51 326	P	PKPdf	09 13 09.9	-0.5
DRO	Drossia	158.51 326	P	PKPdf	09 13 09.9	-0.5
PBEJ	Beja	158.54 33	ePKPdf	PKPdf	09 13 12.0	+1.6
PBEJ	Beja	158.54 33	ePKPab	PKPab	09 13 43.7	-1.6
VLX	Vlachokerasia	158.59 324	P	PKPdf	09 13 09.3	-1.3
VLX	Vlachokerasia	158.59 324	P	PKPdf	09 13 09.3	-1.3
VLX	Vlachokerasia	158.59 324	P	PKPdf	09 13 09.3	-1.3
MORF	Marmelete	158.66 36	eP	PKPdf	09 13 09.5	-1.1
MORF			ePP	PP	09 17 25.6	-0.4
MORF			AMS	AMS	10 19 58.2	
	comp=Z,1μm,19.0s					
MORF	Marmelete	158.66 36	ePKPdf	PKPdf	09 13 12.0	+1.4
MORF	Marmelete	158.66 36	ePKPab	PKPab	09 13 45.1	-0.8
MORF	Marmelete	158.66 36	ePKIKP	PKPdf	09 13 09.5	-1.1
MORF			e		09 17 25.5	
PFVI	Vila Bisbo	158.69 36	ePKPdf	PKPdf	09 13 11.7	+1.1
PFVI	Vila Bisbo	158.69 36	ePKPab	PKPab	09 13 46.5	+0.5
SIVA	Sivas	158.69 316	P	PKPdf	09 13 10.5	-0.1
SIVA	Sivas	158.69 316	P	PKPdf	09 13 10.5	-0.1
VLI	Veliai	158.74 322	P	PKPdf	09 13 08.0	-2.6
VLI	Veliai	158.74 322	P	PKPdf	09 13 08.0	-2.6
PCVE	Castro Verde	158.75 34	ePKPdf	PKPdf	09 13 11.7	+1.1
PCVE	Castro Verde	158.75 34	ePKPab	PKPab	09 13 46.9	+0.7
PBAR	Barrancos	158.85 32	ePKPdf	PKPdf	09 13 11.4	+0.7
PBAR	Barrancos	158.85 32	ePKPab	PKPab	09 13 46.6	0.0
VAM	Vamos	158.85 318	P	PKPdf	09 13 10.2	-0.6
VAM	Vamos	158.85 318	PKIKP	PKPdf	09 13 10.2	-0.6
VAM	Vamos	158.85 318	P	PKPdf	09 13 10.2	-0.6
PAB	San Pablo	158.90 25	ePKIKP	PKPdf	09 13 11.4	+0.5
PAB			e		09 13 47.5	
PAB			MLR	MLR		
	comp=Z,3μm,20.0s					
PAB	San Pablo	158.90 25	ePKPdf	PKPdf	09 13 11.4	+0.5
PAB			ePKPab	PKPab	09 13 47.5	+0.6
PAB			LR	LR		
	comp=Z,3μm,20.0s					
ESDC	Sonseca Array	158.94 24	PKP	PKPdf	09 13 11.0	+0.1
	comp=Z,0.5nm,0.3s,baz=344,slow=3.0,SNR=14					
ESDC			PKPab	PKPab	09 13 47.1	+0.1
	comp=Z,10nm,0.7s,baz=319,slow=4.3,SNR=24					
ESLA	Sonseca Array	158.94 24	ePKPdf	PKPdf	09 13 12.1	+1.3
ESLA			ePKPab	PKPab	09 13 47.6	+0.6
ES19	SONSECA Array	158.94 24	ePKPdf	PKPdf	09 13 11.2	+0.3
ES19			ePKPab	PKPab	09 13 47.5	+0.5
ITM	Ithomi	158.97 325	P	PKPdf	09 13 09.6	-1.3
ITM	Ithomi	158.97 325	P	PKPdf	09 13 09.6	-1.3
ITM	Ithomi	158.97 325	P	PKPdf	09 13 09.6	-1.3
PVAQ	Vaqueiros	159.09 34	ePKPdf	PKPdf	09 13 12.9	+1.9
PVAQ	Vaqueiros	159.09 34	ePKPab	PKPab	09 13 48.8	+1.1
PVAQ	Vaqueiros	159.09 34	ePP	PP	09 17 30.9	+2.8
PVAQ			eS		09 20 10.8	
PVAQ	Vaqueiros	159.09 34	eLR	LR	10 11 30.1	
	comp=Z,2μm,18.0s					
PBDV	Barranco-do-Ve	159.10 35	ePKPdf	PKPdf	09 13 11.9	+0.8
PBDV	Barranco-do-Ve	159.10 35	ePKPab	PKPab	09 13 46.0	-1.8
ANKY	Antikythira Is	159.10 320	P	PKPdf	09 13 10.2	-0.9
ANKY	Antikythira Is	159.10 320	P	PKPdf	09 13 10.2	-0.9
LIC	Lamto	161.58 140	ePKIKP	PKPdf	09 13 13.2	-1.3
	comp=Z,245nm,2.0s					
KIC	Kosan Boka	161.86 140	ePKIKP	PKPdf	09 13 13.4	-1.4
	comp=Z,180nm,1.6s					
TIC	Toumodi	161.91 139	ePKIKP	PKPdf	09 13 13.7	-1.1
DBIC	Dimbokro	162.03 139	PKP	PKPdf	09 13 14.4	-0.6
	comp=Z,14nm,1.1s,baz=216,slow=3.7,SNR=6.8					
DBIC			PKPab	PKPab	09 14 00.7	-0.4
	comp=Z,9.7nm,1.1s,baz=272,slow=4.7,SNR=4.1					
DBIC	Dimbokro	162.03 139	ePKPdf	PKPdf	09 13 14.7	-0.2
DBIC			PKPab	PKPab	09 14 00.7	-0.4
KEST	Kesra	164.86 352	PKPab	PKPab	09 14 13.3	+0.3
	comp=Z,9.6nm,0.8s,baz=15,slow=3.9,SNR=3.6					
TOA0	Torodi Ar. Sit	171.03 146	ePKPdf	PKPdf	09 13 20.5	-1.3
TOA0			ePKPab	PKPab	09 14 41.6	+0.9
TORD	Torodi Ar. Bea	171.03 146	PKP	PKPdf	09 13 20.3	-1.5
	comp=Z,9.3nm,1.0s,baz=296,slow=0.5,SNR=33					
TORD			PKPab	PKPab	09 14 40.7	0.0
	comp=Z,10.0nm,0.9s,baz=226,slow=1.8,SNR=14					
TORD			PP	PP	09 18 21.7	-8.6
	comp=Z,4.6nm,1.2s,baz=187,slow=4.5,SNR=3.5					
TAM	Tamanrasset	177.58 30	ePKIKP	PKPdf	09 13 24.6	+0.6
TAM			e		09 15 11.0	
TAM			MLR	MLR		
	comp=Z,2μm,19.0s					
TAM	Tamanrasset	177.58 30	ePKPdf	PKPdf	09 13 24.6	+0.6
TAM			ePKPab	PKPab	09 15 11.0	+1.2
TAM			LR	LR		
	comp=Z,2μm,19.0s					

IDC 08 08:54:39.9±1.9, 5°.13S×133°.77E, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.6/48, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=67.1km s-min=27.6km az=72.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.73	178	Pn	Pn	08 58 07.7	-2.1
	0.2nm,0.3s,baz=355,slow=13,SNR=7.7						
WRA				Sn	Sn	09 00 48.6	-5.3
	0.1nm,0.3s,baz=353,slow=24,SNR=4.8						
FITZ	Fitzroy Crossi	15.14	211	Pn	Pn	08 58 16.2	+0.9
	baz=90,slow=8.9						
ASAR	Alice Springs	18.43	180	P	P	08 58 57.2	+0.1
	0.3nm,0.3s,baz=6.3,slow=12,SNR=28						
CTA	Charters Tower	19.20	142	P	P	08 59 05.9	+0.3
	0.1nm,0.3s,baz=320,slow=10,SNR=3.6						
MKAR	Makanchi Array	68.80	325	P	P	09 05 46.0	0.0
	1.0nm,0.8s,baz=129,slow=8.0,SNR=4.7						

*CSEM **08** 08:56:28.0, 37°.24N×28°.17E, h7km, MD2.6, Suspected Mining explosion.*

DDA 08 08:56:28.0, 37°.24N×28°.17E, h7km, Md2.6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.48	331	iP	Pg	08 56 37.7	+0.3
AYDN				iS	Sg	08 56 44.9	+1.2
AYDN	Tasoluk	0.48	331	P	Pg	08 56 37.7	+0.3
AYDN				S	Sg	08 56 44.9	+1.2
TURN	Turunc	0.50	137	iP	Pg	08 56 36.9	-0.8
TURN				iS	Sg	08 56 44.7	+0.4
TURN	Turunc	0.50	137	P	Pg	08 56 36.9	-0.8
TURN				S	Sg	08 56 44.7	+0.5
BDRM	Kayabasi	0.61	254	iP	Pg	08 56 39.3	-0.5
BDRM	Kayabasi	0.61	254	P	Pg	08 56 39.3	-0.4
TAVA	DENIZLI_Tavas	0.63	69	iP	Pg	08 56 40.2	+0.1
TAVA	DENIZLI_Tavas	0.63	69	P	Pg	08 56 40.2	0.0
DAT	Datca	0.70	223	iP	Pg	08 56 41.8	+0.3
DAT				iS	Sn	08 56 54.0	-1.5
DAT	Datca	0.70	223	P	Pg	08 56 41.8	+0.3
DAT				S	Sn	08 56 54.0	-1.5

*ISCJB **08** 09:05:25.6±0.8, 48°.4N±0°.1×153°.4E±0°.2, h150km, mb3.4/7, Error ellipse: s-maj=26.6km s-min=12.1km az=136.5*
*IDC **08** 09:05:28.8±2.4, 48°.46N×153°.21E, h170km±23km, mb3.2/7, mb1 3.4/9, mb1mx3.2/44, mbtmp3.7/9, MS3.7/1, Ms1 3.7/1, ms1mx3.1/25, Error ellipse: s-maj=25.4km s-min=15.0km az=134.0*

ISC 08 09:05:27.2±1.0, 48°.4N±0°.2×153°.3E±0°.2, h150km, n16, σ1°.09/9, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.46	29	P	Pn	09 06 47.8	+1.3
	baz=192,slow=10,SNR=2.2						
ASAJ	Asahikawa	8.57	244	P	Pn	09 07 29.6	+1.5
	baz=58,slow=13						
YAK	Yakutsk	19.00	325	LR	LR	09 18 36.9	
	comp=Z,232nm,18.8s,baz=3.0,slow=42						
KSRS	Korea Array	21.47	249	P	P	09 10 03.8	+0.1
	0.7nm,0.5s,baz=47,slow=9.8,SNR=4.5						
H11N2	WAKE ISLAND Hy 30.66	154		T	T	09 43 44.9	
	baz=342,slow=76,SNR=8.1						
H11N1	WAKE ISLAND Hy 30.68	154		T	T	09 43 46.5	
	baz=342,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy 30.68	154		T	T	09 43 37.0	
	baz=342,slow=76,SNR=7.2						
H11S1	WAKE ISLAND Hy 31.77	155		T	T	09 45 04.4	
	baz=344,slow=76,SNR=6.9						
H11S3	WAKE ISLAND Hy 31.77	155		T	T	09 45 03.4	
	baz=344,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy 31.78	155		T	T	09 45 07.6	
	baz=344,slow=76,SNR=14						
ILAR	Eielson Array	35.17	40	P	P	09 12 06.3	+0.1
	0.4nm,0.6s,baz=271,slow=5.0,SNR=4.6						
MKAR	Makanchi Array	46.30	296	P	P	09 13 36.8	-0.8
	0.7nm,0.5s,baz=74,slow=8.1,SNR=2.9						
FINES	FINESS Array B	62.58	334	P	P	09 15 33.3	-1.3
	3.2nm,0.8s,baz=44,slow=7.4,SNR=5.1						
WRA	Warramunga Arr	70.14	199	P	P	09 16 22.4	-0.7
	0.5nm,0.7s,baz=28,slow=8.1,SNR=3.4						
ASAR	Alice Springs	73.84	198	P	P	09 16 44.7	-0.4
	0.1nm,0.4s,baz=30,slow=5.8,SNR=2.7						
TXAR	Lajitas Array	76.57	61	P	P	09 17 00.9	-0.1
	0.3nm,0.4s,baz=296,slow=4.8,SNR=7.1						

*ISK **08** 09:11:53.8, 37°.25N×28°.18E, h5km, MD2.4*
*ISCJB **08** 09:11:54.6±0.5, 37°.26N±0°.03×28°.21E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=3.7km az=169.7*
*CSEM **08** 09:11:54.6±0.2, 37°.27N×28°.18E, h1km, MD2.4, Error ellipse: s-maj=5.7km s-min=4.1km az=25.0, Suspected Mining explosion.*
*DDA **08** 09:11:54.2, 37°.23N×28°.19E, h7km, Ml2.6, Suspected Mining explosion.*

ISC 08 09:11:53.0±0.8, 37°.20N±0°.03×28°.11E±0°.03, h0km, n33, σ0°.76/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.29	290	ePG	Pb	09 12 01.3	+0.2
MLSB	Milas	0.29	290	ePg	Pb	09 12 01.3	+0.2
TURN	Turunc	0.51	129	iP	Pg	09 12 03.0	+0.3
TURN				iS	Sg	09 12 10.3	+1.0
TURN	Turunc	0.51	129	P	Pg	09 12 03.0	+0.3
TURN				S	Sg	09 12 10.3	+1.0
DALY	Dalyan (Mu¨la	0.57	131	ePG	Pb	09 12 06.0	+0.1
DALY				eSG	Sb	09 12 15.2	+0.5
DALY	Dalyan (Mu¨la	0.57	131	iP	Pb	09 12 05.0	-0.9
DALY				iS	Sb	09 12 14.6	-0.1
DALY	Dalyan (Mu¨la	0.57	131	P	Pb	09 12 05.0	-0.9
DALY	Dalyan (Mu¨la	0.57	131	ePg	Pb	09 12 06.0	+0.1
DALY				S	Sb	09 12 14.6	-0.1
DALY				eSg	Sb	09 12 15.2	+0.5
DAT	Datca	0.63	223	ePG	Pn	09 12 08.7	-0.7
DAT				eSG	Sn	09 12 19.4	-0.8
DAT	Datca	0.63	223	ePg	Pn	09 12 08.7	-0.7
DAT				eSg	Sn	09 12 19.4	-0.8
BODT	Bodrum	0.66	258	ePG	Pn	09 12 08.9	-0.7
BODT				eSG	Sn	09 12 19.8	-0.8
BODT	Bodrum	0.66	258	ePg	Pn	09 12 08.9	-0.7
BODT				eSg	Sn	09 12 19.8	-0.8
TAVA	DENIZLI_Tavas	0.69	67	iP	Pg	09 12 06.4	+0.1
TAVA				iS	Sg	09 12 15.2	-0.1
TAVA	DENIZLI_Tavas	0.69	67	P	Pg	09 12 06.4	+0.1
TAVA				S	Sg	09 12 15.2	-0.1
AYDB	Zeytinkoy-Aydi	0.77	347	ePG	Pb	09 12 09.2	-0.2
AYDB	Zeytinkoy-Aydi	0.77	347	ePg	Pb	09 12 09.2	-0.2
FETY	Fethiye	0.96	125	ePG	Pn	09 12 13.4	-0.4
FETY	Fethiye	0.96	125	P	Pg	09 12 09.6	-1.8
FETY	Fethiye	0.96	125	ePg	Pn	09 12 13.4	-0.4
GOLH	Golhisar	1.16	88	iP	Pb	09 12 15.9	-0.1
GOLH	Golhisar	1.16	88	P	Pb	09 12 15.9	-0.1
MANT	Manisa	1.34	15	iP	Pg	09 12 19.1	+0.3
MANT	Manisa	1.34	15	P	Pg	09 12 19.1	+0.3
KULA	Kula-Manisa	1.39	18	ePN	Pb	09 12 20.3	+0.4
KULA	Kula-Manisa	1.39	18	ePn	Pb	09 12 20.3	+0.4
AKAS	Kas	1.54	128	ePN	Pg	09 12 23.5	+1.0
AKAS	Kas	1.54	128	iP	Pg	09 12 24.3	+1.8
AKAS	Kas	1.54	128	ePn	Pg	09 12 23.5	+1.0
AKAS	Kas	1.54	128	P	Pg	09 12 24.3	+1.8
KHAL	Karahalli	1.60	43	iP	Pn	09 12 22.8	0.0
KHAL	Karahalli	1.60	43	P	Pn	09 12 22.8	0.0
KARP	Karpathos	1.82	205	ePN	Pg	09 12 28.9	+1.0
KARP	Karpathos	1.82	205	ePn	Pg	09 12 28.9	+1.0

*ISCJB **08** 09:35:39.7±0.5, 2°.83S±0°.05×129°.66E±0°.05, h10km, mb4.1/11, Error ellipse: s-maj=7.9km s-min=6.2km az=31.4*
*IDC **08** 09:35:40.0±0.8, 2°.99S×129°.14E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/41, mbtmp4.1/10, ML3.9/1, Error ellipse: s-maj=53.5km s-min=16.2km az=71.0*
*DJA **08** 09:35:42.5±0.5, 3°.5±3°.×13°.0E±°., h10km, M4.2/6, MLv4.2/6*
*NEIC **08** 09:35:44.1±3.6, 2°.95S×129°.51E, h27km±27km, mb4.4/5, Error ellipse: s-maj=13.8km s-min=10.9km az=48.0*

ISC 08 09:35:41.4±0.6, 2°.79S±0°.05×129°.62E±0°.04, h10km, n26, σ3°.30/35, mb4.2/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.89	231	P	Pb	09 35 59.8	+0.9
MSAI				S	Sn	09 36 15.2	+2.3
AAI	Ambon	1.68	238	P	Pn	09 36 12.4	+1.5
BNDI	Bandanaira	1.75	171	P	Pg	09 36 15.5	+0.5
BNDI				S	Sg	09 36 45.2	+7.5
NLAI	Namlea	2.56	260	P	Pn	09 36 23.9	+0.9
NLAI				S	Sn	09 36 55.7	+1.5
FAKI	Fak Fak	2.63	93	P	Pn	09 36 25.8	+1.8
FAKI				S	Sn	09 36 54.7	-1.3
FAKI	Fak Fak	2.63	93	ePn	Pn	09 36 25.8	+1.8
FAKI				eSn	Sb	09 37 03.4	+2.4
LBMI	Labuha	3.01	315	P	Pn	09 36 28.6	-0.6
LBMI				S	Sn	09 37 03.9	-1.5
KAPI	Kappang	10.09	257	ePn	Pn	09 38 07.2	+0.7
	33nm,1.1s						
FITZ	Fitzroy Crossi	15.71	194	Pn	Pn	09 39 20.6	-2.5
	baz=0.0,slow=15						
WRAB	Tennant Creek	17.66	165	eP	Pn	09 39 45.4	-2.3
	29nm,1.2s						
WRAB				eS	Sn	09 42 56.4	-8.2
WRA	Warramunga Arr	17.66	165	P	Pn	09 39 45.5	-2.3
	0.4nm,0.3s,baz=347,slow=12,SNR=18						
WRA				S	Sn	09 42 56.4	-8.3
	0.2nm,0.3s,baz=347,slow=20,SNR=3.5						
KSM	Kuching	19.77	282	P	P	09 40 08.3	-3.6
	21nm,1.1s						
ASAR	Alice Springs	21.17	169	P	P	09 40 26.4	-0.6
	13nm,0.6s,baz=345,slow=10,SNR=89						
ASAR				S	S	09 44 15.6	-7.0
	1.8nm,0.8s,baz=347,slow=21,SNR=6.7						
CTA	Charters Tower	23.65	138	P	P	09 40 54.9	+1.7
	8.5nm,1.0s,baz=319,slow=10,SNR=4.0						
CTAO	Charters Tower	23.65	138	eP	P	09 40 54.5	+1.2
	35nm,0.8s						
STKA	Stephens Creek	31.05	160	P	P	09 41 59.5	-0.3
	4.4nm,1.1s,baz=338,slow=14,SNR=4.0						
KSAR	Wonju Array Be	40.06	358	P	P	09 43 19.2	+2.3
KSRS	Korea Array	40.07	358	P	P	09 43 19.2	+2.2
	0.2nm,0.3s,baz=180,slow=7.4,SNR=3.3						
MKAR	Makanchi Array	64.53	326	P	P	09 46 18.1	-0.6
	1.3nm,0.7s,baz=120,slow=7.1,SNR=11						
ZALV	Zalesovo Beam	67.67	333	P	P	09 46 38.2	-0.5
	1.0nm,0.3s,baz=163,slow=5.4,SNR=3.6						
VNDA	Vanda	76.65	173	P	P	09 47 31.2	-0.8
	0.9nm,0.9s,baz=311,slow=5.9,SNR=3.6						
ABKAR	Akbulak array	79.00	321	eP	P	09 47 46.2	+0.6
	1.1nm,0.6s						
AKTO	Aktyubinsk	80.54	322	P	P	09 47 53.3	-0.7
	1.2nm,0.7s,baz=80,slow=4.9,SNR=2.8						
RAYN	Ar Rayn	85.71	294	eP	P	09 48 19.6	-1.8
	5.0nm,0.9s						
ILAR	Eielson Array	89.72	25	P	P	09 48 41.6	+1.9
	0.5nm,0.9s,baz=287,slow=4.3,SNR=3.7						
CPUP	Villa Florida	150.28	167	PKPbc	PKPdf	09 55 33.6	+5.0
	1.3nm,0.5s,baz=218,slow=2.1,SNR=3.5						

IDC 08 09:39:39.9±6.2, 36°.89S×78°.10E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/35, mbtmp3.9/4, Error ellipse: s-maj=200.4km s-min=40.7km az=39.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	29.15	97	T	T	10 15 53.6	
	baz=254,slow=75,SNR=95						
H01W3	Cape Leeuwin H	29.16	97	T	T	10 15 54.1	
	baz=254,slow=75,SNR=102						
H01W1	Cape Leeuwin H	29.17	97	T	T	10 15 54.9	
	baz=254,slow=75,SNR=103						
H08S2	Diego Garcia H	29.55	349	T	T	10 17 15.1	
	baz=171,slow=76,SNR=122						
H08S1	Diego Carcia H	29.55	349	T	T	10 17 15.5	
	baz=171,slow=76,SNR=144						
H08S3	Diego Garcia H	29.57	349	T	T	10 17 16.6	
	baz=171,slow=76,SNR=136						
ASAR	Alice Springs	49.33	91	P	P	09 48 30.1	-0.9
	1.2nm,1.0s,baz=240,slow=6.6,SNR=6.5						
WRA	Warramunga Arr	51.55	87	P	P	09 48 48.3	+0.5
	1.5nm,0.6s,baz=238,slow=7.4,SNR=9.9						
STKA	Stephens Creek	51.79	104	P	P	09 48 49.6	+0.1
	1.9nm,0.9s,baz=251,slow=8.8,SNR=3.5						
MKAR	Makanchi Array	83.39	3	P	P	09 52 08.5	0.0
	0.4nm,0.6s,baz=180,slow=5.3,SNR=3.2						

*ISCJB **08** 09:47:34.4±1.1, 32°.84S±0°.06×71°.22W±0°.08, h84km±8km, Error ellipse: s-maj=12.0km s-min=9.2km az=28.6*
*SJA **08** 09:47:35.0±0.9, 32°.72S×71°.16W, h74km±5km, ML3.1, MW3.2*
*GUC **08** 09:47:36.3±0.6, 32°.76S×70°.86W, h63km±4km, ML3.4*

ISC 08 09:47:35.6±2.6, 32°.85S±0°.07×71°.2W±0°.1, h77km±14km, n18, σ0°.69/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	El Roble	0.18	131	iP	Pn	09 47 47.9	+0.6
ROC1				iS	Sn	09 47 56.4	+0.4
ROCH	El Roble	0.18	130	eP	Pn	09 47 47.9	+0.6
ROCH				eS	Sn	09 47 56.3	+0.3
ROCH				IAML		09 47 56.6	
	comp=N,7μm,0.2s						
PEL	Peldehue	0.51	125	eP	Pn	09 47 48.1	-1.1
PEL				eS	Sn	09 47 57.8	-1.4
PEL				IAML		09 47 58.7	
	comp=E,5μm,0.2s						
RCDM	Rinconada Maip	0.71	154	eP	Pn	09 47 51.3	+0.1
RCDM				eS	Sn	09 48 03.0	+0.2
CLCH	Cerro Calan	0.76	135	eP	Pn	09 47 51.8	0.0
CLCH				eS	Sn	09 48 03.5	-0.4
CLCH				IAML		09 48 03.9	
	comp=E,2μm,0.6s						
ANTU	Antumapu	0.85	147	eP	Pn	09 47 53.2	+0.5
ANTU				eS	Sn	09 48 06.0	+0.5
ANTU				IAML		09 48 06.8	
	comp=N,2μm,0.2s						
FCH	Farellones	0.88	123	eP	Pn	09 47 52.9	-0.5
FCH				eS	Sn	09 48 05.3	-1.4
AUSP	Uspallata	1.64	68	iP	Pn	09 48 03.3	+0.4
AUSP				iS	Sn	09 48 24.3	+0.7
ARCO	CERRO ARCO	1.89	90	iP	Pn	09 48 06.8	+0.6
ARCO				IAML		09 48 07.5	
	comp=Z,114nm,0.6s						
ARCO				iS	Sn	09 48 30.6	+1.3
RTLS	Leoncito	1.91	57	iP	Pn	09 48 07.0	+0.5
RTLS				iS	Sn	09 48 29.5	-0.5
ASAL	Salagasta	1.99	83	iP	Pn	09 48 07.9	+0.5
ASAL				iS	Sn	09 48 32.6	+1.0
RTCV	Cerro Valdivia	2.44	67	iP	Pn	09 48 13.6	+0.2
RTCV				iS	Sn	09 48 42.4	0.0
AMOG	MOGNA	2.98	51	iP

0.3nm,0.7s,baz=5.5,slow=7.0,SNR=4.0

*ROM **08** 09:57:13.6±0.1, 43°.93N×11°.88E, h8km, Md2.4/16, Ml2.0/12, Error ellipse: s-maj=2.0km s-min=1.0km az=31.0*
*ISCJB **08** 09:57:14.0±0.5, 43°.92N±0°.04×11°.90E±0°.04, h8km±6km, Error ellipse: s-maj=7.6km s-min=3.8km az=30.6*
*CSEM **08** 09:57:14.4±0.1, 43°.91N×11°.89E, h5km, ML2.8/4, Error ellipse: s-maj=3.5km s-min=2.0km az=23.0*
ISC 08 09:57:14.2±0.9, 43°.92N±0°.03×11°.90E±0°.03, h6km±6km, n36, σ0°61/52, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.04**	**244**	Pg	**Pg**	**09 57 15.5**	**-0.1**
SFI				Sg	**Sg**	**09 57 16.6**	**0.0**
	12μm,0.4s						
SFI	**Santa Sofia**	**0.04**	**244**	Pg	**Pg**	**09 57 15.5**	**-0.1**
SFI				Sg	**Sg**	**09 57 16.6**	**0.0**
	12μm,0.4s						
ASQU	**Asqua**	**0.15**	**212**	Pg	**Pg**	**09 57 17.6**	**+0.3**
ASQU				Sg	**Sg**	**09 57 20.5**	**+1.1**
	1μm,0.2s						
ASQU	**Asqua**	**0.15**	**212**	Pg	**Pg**	**09 57 17.6**	**+0.3**
ASQU				Sg	**Sg**	**09 57 20.5**	**+1.1**
	1μm,0.2s						
VMG	**Vicchio**	**0.26**	**279**	Pg	**Pg**	**09 57 19.4**	**+0.1**
VMG				Sg	**Sg**	**09 57 23.7**	**+0.9**
VMG	**Vicchio**	**0.26**	**279**	Pg	**Pg**	**09 57 19.4**	**+0.1**
VMG				Sg	**Sg**	**09 57 23.7**	**+0.9**
CPGN	**Carpegna, Ital**	**0.33**	**112**	Pg	**Pb**	**09 57 21.8**	**-0.8**
	8μm,7.4s						
CPGN	**Carpegna, Ital**	**0.33**	**112**	Pg	**Pb**	**09 57 21.8**	**-0.8**
	8μm,7.4s						
SEI	**Scarperia**	**0.41**	**289**	Pg	**Pg**	**09 57 21.9**	**-0.4**
SEI				Sg	**Sg**	**09 57 28.6**	**+0.9**
SEI	**Scarperia**	**0.41**	**289**	Pg	**Pg**	**09 57 21.9**	**-0.4**
SEI				Sg	**Sg**	**09 57 28.6**	**+0.9**
IMOL	**Imola, Italy**	**0.45**	**345**	Pg	**Pb**	**09 57 23.8**	**-0.8**
	28μm,20.0s						
IMOL	**Imola, Italy**	**0.45**	**345**	Pg	**Pb**	**09 57 23.8**	**-0.8**
	28μm,20.0s						
ATMC	**Monte Cedrone**	**0.52**	**156**	Pg	**Pg**	**09 57 24.3**	**0.0**
	102nm,0.3s						
ATMC	**Monte Cedrone**	**0.52**	**156**	Pg	**Pg**	**09 57 24.3**	**0.0**
	102nm,0.3s						
CAFI	**Castiglion Fio**	**0.60**	**175**	Pg	**Pg**	**09 57 25.7**	**0.0**
CAFI				Sg	**Sb**	**09 57 34.6**	**-1.1**
	55nm,0.5s						
CAFI	**Castiglion Fio**	**0.60**	**175**	Pg	**Pg**	**09 57 25.7**	**0.0**
CAFI				Sg	**Sb**	**09 57 34.6**	**-1.1**
	55nm,0.5s						
ATPC	**Poggio Castell**	**0.60**	**137**	Pg	**Pg**	**09 57 25.4**	**-0.4**
	88nm,0.4s						
ATPC	**Poggio Castell**	**0.60**	**137**	Pg	**Pg**	**09 57 25.4**	**-0.4**
	88nm,0.4s						
PIEI	**Pieia**	**0.60**	**130**	Pg	**Pg**	**09 57 25.8**	**0.0**
PIEI				Sg	**Sb**	**09 57 35.6**	**-0.3**
	72nm,1.2s						
PIEI	**Pieia**	**0.60**	**130**	Pg	**Pg**	**09 57 25.8**	**0.0**
PIEI				Sg	**Sb**	**09 57 35.6**	**-0.3**
	72nm,1.2s						
PTF	**Prato**	**0.60**	**274**	Pg	**Pg**	**09 57 25.4**	**-0.4**
PTF				Sg	**Sg**	**09 57 34.1**	**+0.5**
PTF	**Prato**	**0.60**	**274**	Pg	**Pg**	**09 57 25.4**	**-0.4**
PTF				Sg	**Sg**	**09 57 34.1**	**+0.5**
CSNT	**Castellina Chi**	**0.63**	**225**	Pg	**Pb**	**09 57 26.7**	**-1.0**
	54nm,0.6s						
CSNT	**Castellina Chi**	**0.63**	**225**	Pg	**Pb**	**09 57 26.7**	**-1.0**
	54nm,0.6s						
ATVO	**AVT- Monte Val**	**0.65**	**146**	Pg	**Pg**	**09 57 26.6**	**-0.2**
	100nm,0.7s						
ATVO	**AVT- Monte Val**	**0.65**	**146**	Pg	**Pg**	**09 57 26.6**	**-0.2**
	100nm,0.7s						
FSSB	**Fossombrone**	**0.68**	**110**	Pg	**Pg**	**09 57 26.7**	**-0.5**
	59nm,0.3s						
FSSB	**Fossombrone**	**0.68**	**110**	Pg	**Pg**	**09 57 26.7**	**-0.5**
	59nm,0.3s						
CRMI	**Carmignano**	**0.69**	**259**	Pg	**Pg**	**09 57 27.0**	**-0.4**
CRMI	**Carmignano**	**0.69**	**259**	Pg	**Pg**	**09 57 27.0**	**-0.4**
MURB	**Monte Urbino**	**0.80**	**145**	Pg	**Pg**	**09 57 29.5**	**-0.1**
	121nm,0.3s						
MURB	**Monte Urbino**	**0.80**	**145**	Pg	**Pg**	**09 57 29.5**	**-0.1**
	121nm,0.3s						
SSFR	**Montelago di S**	**0.80**	**127**	Pg	**Pg**	**09 57 29.5**	**-0.2**
	63nm,0.2s						
SSFR	**Montelago di S**	**0.80**	**127**	Pg	**Pg**	**09 57 29.5**	**-0.2**
	63nm,0.2s						
NVLJ	**Novalja**	**2.23**	**72**	*e*Pn	**Pn**	**09 57 52.8**	**+1.2**
NVLJ				Sn	**Sn**	**09 58 19.6**	**+0.1**
NVLJ	**Novalja**	**2.23**	**72**	*e*Pn	**Pn**	**09 57 52.8**	**+1.2**
NVLJ				Sn	**Sn**	**09 58 19.6**	**+0.1**

KRSC 08 10:00:22.4±1.8, 50°.11N×158°.67E, h54km±38km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.73**	**290**	*e*P	Pn	10 00 50.7	+0.6
SKR				*e*S	Sn	10 01 11.6	+0.6
PAU	**Pauzhetka**	**1.80**	**320**	*e*S	Sn	10 01 14.1	+1.4
ASAK	**Asacha**	**2.33**	**348**	*e*P	Pn	10 01 02.1	+3.8
RUS	**Russkaya**	**2.33**	**358**	*e*P	Pn	10 01 00.9	+2.6
RUS				*e*S	Sn	10 01 28.4	+2.7
MTVR	**Mutnovka**	**2.40**	**353**	*e*S	Sn	10 01 31.2	+3.6
KRMR	**Karymshinskiy**	**2.75**	**353**	*e*P	Pn	10 01 07.6	+3.6
KRMR				*e*S	Sn	10 01 40.4	+4.5
PET	**Petropavlovsk**	**2.92**	**360**	*e*P	Pn	10 01 09.5	+3.2
PET				*e*S	Sn	10 01 43.5	+3.3
DALK	**Dalny**	**2.93**	**1**	*e*P	Pn	10 01 09.4	+3.0
DALK				*e*S	Sn	10 01 43.3	+3.0
UGLR	**Uglovaya**	**3.11**	**2**	*e*P	Pn	10 01 13.2	+4.2
SPN	**Mys Shipunski**	**3.11**	**15**	*e*P	Pn	10 01 11.8	+2.8
SPN				*e*S	Sn	10 01 47.7	+2.8
AVH	**Avacha**	**3.16**	**1**	*e*P	Pn	10 01 14.1	+4.4
AVH				*e*P	Pn	10 01 14.3	+4.6
AVH				*e*S	Sn	10 01 51.4	+5.2
SDLR	**Sedlovina**	**3.18**	**2**	*e*P	Pn	10 01 12.6	+2.6
KRX	**Arik**	**3.26**	**360**	*e*P	Pn	10 01 14.4	+3.3
GNL	**Ganaly**	**3.62**	**353**	*e*P	Pn	10 01 20.4	+4.3
MKZ	**Mys Kozlova**	**4.83**	**22**	*e*P	Pn	10 01 34.8	+2.3

IDC 08 10:20:29.3±954.0, 48°.96N×53°.29E, h0km, Error ellipse: s-maj=444.2km s-min=75.6km az=63.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**3.41**	**63**	*i*		10 41 25.0	
	baz=247,slow=317,SNR=3.1						
I46RU	**ZALESOVO INFRA**	**20.17**	**64**	*i*		12 26 50.0	
	baz=265,slow=319,SNR=1.5						
I34MN	**SONGINO INFRAS**	**34.71**	**71**	*i*		13 53 20.0	
	baz=290,slow=326,SNR=0.4						

*CSEM **08** 10:24:44.6, 43°.94N×11°.89E, h8km, MD2.0/4*
ROM 08 10:24:44.6±0.1, 43°.94N×11°.89E, h8km±1km, Md2.0/4, Ml1.7/1, Error ellipse: s-maj=1.7km s-min=1.0km az=29.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.05**	**222**	Pg	Pg	10 24 46.6	+0.3
SFI				Sg	Sg	10 24 47.7	+0.2
SFI	**Santa Sofia**	**0.05**	**222**	Pg	Pg	10 24 46.6	+0.3
SFI				Sg	Sg	10 24 47.7	+0.2
ASQU	**Asqua**	**0.17**	**207**	Pg	Pg	10 24 48.7	+0.7
ASQU				Sg	Sg	10 24 51.5	+1.1
ASQU	**Asqua**	**0.17**	**207**	Pg	Pg	10 24 48.7	+0.7
ASQU				Sg	Sg	10 24 51.5	+1.1
VMG	**Vicchio**	**0.25**	**274**	Pg	Pg	10 24 50.5	+0.9
VMG				Sg	Sb	10 24 54.9	-1.2
VMG	**Vicchio**	**0.25**	**274**	Pg	Pg	10 24 50.5	+0.9
VMG				Sg	Sb	10 24 54.9	-1.2
CPGN	**Carpegna, Ital**	**0.34**	**115**	Pg	Pb	10 24 52.4	-0.6
	797μm,41.0s						
CPGN	**Carpegna, Ital**	**0.34**	**115**	Pg	Pb	10 24 52.4	-0.6
	797μm,41.0s						
SEI	**Scarperia**	**0.40**	**286**	Pg	Pg	10 24 53.1	+0.6
SEI				Sg	Sb	10 24 59.7	-0.7
SEI	**Scarperia**	**0.40**	**286**	Pg	Pg	10 24 53.1	+0.6
SEI				Sg	Sb	10 24 59.7	-0.7

*MOS **08** 10:44:32.1±1.0, 52°.00N×171°.91W, h33km, mb5.0/64, MS4.1/10, Error ellipse: s-maj=7.5km s-min=6.0km az=76.7*
*NEIC **08** 10:44:34.9±0.0, 51°.99N×171°.86W, h40km, mb4.8/140, ML4.7(AEIC), After AEIC.*
*IDC **08** 10:44:34.2±1.4, 52°.06N×171°.89W, h40km±10km, mb4.3/29, mb1 4.5/30, mb1mx4.4/37, mbtmp4.6/30, ML4.7/1, MS4.2/27, Ms1 4.2/27, ms1mx4.0/53, Error ellipse: s-maj=15.3km s-min=10.5km az=166.0*
*ISCJB **08** 10:44:35.4±0.3, 51°.97N±0°.03×171°.84W±0°.02, h69km±2km, mb4.8/194, Error ellipse: s-maj=4.9km s-min=1.9km az=173.2*
*BJI **08** 10:44:36.8, 52°.40N×172°.45W, h58km, mb4.9/38, mB5.2/24, Ms4.9/18, Ms7 4.6/18*
ISC 08 10:44:35.8±0.6, 51°.92N±0°.05×171°.84W±0°.03, h55km±4km, n827, σ1°08/857, mb4.8/194, MS4.4/28, 18C-11D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.43**	**288**	P	**Pn**	**10 44 59.5**	**0.0**
KOFP	**Korovin Flat P**	**1.44**	**285**	P	**Pn**	**10 44 59.3**	**-0.3**
ATKA	**Atka Island**	**1.48**	**282**	P	**Pn**	**10 44 58.5**	**-1.6**
ATKA				S	**Sn**	**10 45 17.7**	**-0.8**
KONE	**Korovin Northe**	**1.49**	**290**	P	**Pn**	**10 45 00.2**	**0.0**
KOKL	**Mount Kliuchef**	**1.51**	**287**	P	**Pn**	**10 45 00.8**	**+0.2**
NIKH	**Nikolski High**	**2.11**	**59**	P	**Pn**	**10 45 08.1**	**-0.6**
NIKH				S	**Sn**	**10 45 32.6**	**-1.1**
GSTR	**Great Sitkin T**	**2.62**	**276**	*e*Pn	**Pn**	**10 45 18.2**	**+2.6**
GSTR				*e*Sn	**Sn**	**10 45 48.0**	**+1.8**
OKSO	**Okmok South**	**2.66**	**56**	P	**Pn**	**10 45 16.2**	**0.0**
OKSO				S	**Sn**	**10 45 49.2**	**+1.9**
GSTD	**Great Sitkin T**	**2.67**	**275**	P	**Pn**	**10 45 16.3**	**0.0**
GSTD				S	**Sn**	**10 45 48.2**	**+0.7**
GSCK	**Great Sitkin C**	**2.68**	**274**	P	**Pn**	**10 45 15.9**	**-0.6**
OKCE	**Okmok Cone E**	**2.70**	**54**	P	**Pn**	**10 45 17.2**	**+0.5**
OKNC	**Okmok New Cone**	**2.73**	**54**	P	**Pn**	**10 45 17.9**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**2.74**	**56**	P	**Pn**	**10 45 18.0**	**+0.7**
OKFG	**Magazine Ridge**	**2.82**	**56**	P	**Pn**	**10 45 18.4**	**+0.1**
ETKA	**Kagalaska Isla**	**2.83**	**271**	P	**Pn**	**10 45 18.2**	**-0.4**
ADAG	**Mount Adagdak**	**2.95**	**273**	P	**Pn**	**10 45 20.4**	**+0.2**
ADK	**Adak**	**3.00**	**271**	P	**Pn**	**10 45 20.3**	**-0.5**
ADK				S	**Sn**	**10 45 55.6**	**0.0**
ADK	**Adak**	**3.00**	**271**	P	**Pn**	**10 45 20.3**	**-0.5**
ADK				S	**Sn**	**10 45 55.7**	**0.0**
KIKV	**Kanaga Island**	**3.31**	**271**	P	**Pn**	**10 45 25.0**	**0.0**
KICM	**Kanaga Island**	**3.32**	**272**	P	**Pn**	**10 45 25.2**	**0.0**
MGOD	**Makushin Gods**	**3.55**	**56**	P	**Pn**	**10 45 28.5**	**+0.1**
MSW	**Makushin Switc**	**3.66**	**55**	P	**Pn**	**10 45 29.7**	**-0.1**
MSW				S	**Sn**	**10 46 12.7**	**+1.1**
MTBL	**Makushin Table**	**3.74**	**55**	P	**Pn**	**10 45 31.0**	**+0.1**
TAFL	**Tanaga Flats**	**3.76**	**270**	P	**Pn**	**10 45 31.4**	**+0.1**
UNV	**Unalaska Valle**	**3.77**	**57**	P	**Pn**	**10 45 31.1**	**-0.2**
UNV				S	**Sn**	**10 46 16.2**	**+2.0**
TAFP	**Tanaga Falls P**	**3.81**	**272**	P	**Pn**	**10 45 32.0**	**+0.1**
TAFP				S	**Sn**	**10 46 17.2**	**+1.8**
AKRB	**Akutan Reef Bi**	**4.13**	**55**	P	**Pn**	**10 45 36.7**	**+0.4**
AKMO	**Akutan Morgan**	**4.14**	**56**	P	**Pn**	**10 45 37.4**	**+1.0**
AKGG	**Akutan Green G**	**4.20**	**55**	P	**Pn**	**10 45 38.2**	**+0.9**
AKLV	**Akutan Long Va**	**4.20**	**55**	P	**Pn**	**10 45 38.4**	**+1.1**
AKUT	**Akutan**	**4.28**	**56**	P	**Pn**	**10 45 39.7**	**+1.4**
AKSA	**Akutan Strait**	**4.32**	**57**	P	**Pn**	**10 45 40.1**	**+1.2**
WESP	**Westdahl Peak**	**4.99**	**56**	P	**Pn**	**10 45 49.0**	**+0.8**
WESN	**West Dahl Nort**	**5.10**	**56**	P	**Pn**	**10 45 51.5**	**+1.9**
SPIA	**Saint Paul Isl**	**5.35**	**9**	P	**Pn**	**10 45 54.3**	**+1.3**
SPIA				S	**Sn**	**10 46 54.1**	**+0.9**
SSLW	**Shishaldin Wes**	**5.43**	**55**	P	**Pn**	**10 45 56.0**	**+1.9**
ISLZ	**Isanotski Laza**	**5.62**	**57**	P	**Pn**	**10 45 57.7**	**+0.9**
FALS	**False Pass**	**5.83**	**56**	P	**Pn**	**10 45 59.9**	**+0.3**
DT1	**Dutton Round H**	**6.53**	**57**	P	**Pn**	**10 46 10.8**	**+1.7**
DTNA	**Dutton South F**	**6.57**	**57**	P	**Pn**	**10 46 10.9**	**+1.3**
SDPT	**Sand Point**	**7.58**	**59**	P	**Pn**	**10 46 23.0**	**-0.4**
VNNF	**Veniaminof 3**	**8.55**	**54**	P	**Pn**	**10 46 39.6**	**+2.6**
SMY	**Shemya**	**8.66**	**281**	P	**Pn**	**10 46 39.2**	**+0.9**
SMY	**Shemya**	**8.66**	**281**	P	**Pn**	**10 46 39.1**	**+0.9**
CHGN	**Chignik**	**9.02**	**56**	*e*Pn	**Pn**	**10 46 43.3**	**+0.2**
GAMB	**Gambell**	**11.89**	**0**	*e*Pn	**Pn**	**10 47 24.6**	**+2.2**
OHAK	**Old Harbor**	**11.99**	**56**	*e*Pn	**Pn**	**10 47 23.7**	**+0.1**
KDAK	**Kodiak Island**	**12.53**	**55**	Pn	**Pn**	**10 47 27.8**	**-3.3**
	1.3nm,0.3s,baz=177,slow=4.6,SNR=41						
KDAK				Sn	**Sn**	**10 49 40.4**	**-8.4**
	0.8nm,0.3s,baz=155,slow=19,SNR=1.7						
KDAK				LR	LR	10 52 44.8	
	comp=Z,1μm,21.9s,baz=248,slow=39						
SVW2	**Sparrevohn**	**12.81**	**38**	*e*Pn	**Pn**	**10 47 37.2**	**+2.2**
RSO	**Redoubt South**	**13.60**	**44**	*e*Pn	**Pn**	**10 47 47.2**	**+1.4**
HOM	**Homer**	**13.71**	**48**	*e*P	**P**	**10 47 57.3**	**+3.2**
CNPM	**China Poot**	**13.84**	**49**	*e*P	**Pn**	**10 47 49.6**	**+0.7**
TT01	**Tatalina**	**13.88**	**31**	*e*Pn	**Pn**	**10 47 49.9**	**+0.6**
TTA	**Tatalina**	**13.89**	**31**	*e*P	**Pn**	**10 47 50.1**	**+0.4**
TTA	**Tatalina**	**13.89**	**31**	*e*Pn	**Pn**	**10 47 50.1**	**+0.4**
BRLK	**Bradley Lake**	**14.10**	**48**	*e*Pn	**Pn**	**10 47 54.7**	**+2.2**
SPU	**Mount Spurr**	**14.26**	**42**	*e*Pn	**Pn**	**10 47 56.8**	**+2.2**
SEW	**Seward**	**14.90**	**48**	*e*Pn	**Pn**	**10 48 02.0**	**-0.8**
SUA	**Susitna One**	**14.95**	**42**	*e*Pn	**P**	**10 48 06.0**	**-2.1**
SUA				*ep*P	**Pn**	**10 48 07.1**	**+3.5**
PPLA	**Purkeypile**	**15.19**	**36**	*e*Pn	**P**	**10 48 10.3**	**-0.4**
PPLA				*ep*P	**Pn**	**10 48 11.2**	**+4.5**
RC01	**Rabbit Creek A**	**15.20**	**44**	*e*Pn	**Pn**	**10 48 06.7**	**0.0**
	138nm,1.6s						
CAST	**Castle Rocks**	**15.55**	**35**	*e*Pn	**Pn**	**10 48 10.8**	**-0.5**
CAST				*ep*P	**P**	**10 48 14.8**	**+0.2**
PMR	**Palmer**	**15.69**	**43**	*e*P	**P**	**10 48 16.7**	**+0.6**
PMR				pmax	pmax		
	comp=Z,24nm,0.9s						
PMR	**Palmer**	**15.69**	**43**	*e*Pn	**P**	**10 48 16.7**	**+0.6**
	comp=Z,24nm,0.9s						
KTH	**Kantishna Hill**	**16.04**	**35**	*e*P	**P**	**10 48 19.8**	**-0.3**
	comp=Z,109nm,1.4s						
SML	**Sawmill**	**16.13**	**43**	*e*P	**Pn**	**10 48 19.3**	**+0.7**
SML				pmax	pmax		
	comp=Z,44nm,1.1s						
SML	**Sawmill**	**16.13**	**43**	*e*Pn	**Pn**	**10 48 19.3**	**+0.7**
	comp=Z,44nm,1.1s						
TRF	**Thorofare Moun**	**16.21**	**36**	*e*Pn	**Pn**	**10 48 19.9**	**+0.1**
FID	**Port Fidalgo**	**16.51**	**48**	*e*Pn	**Pn**	**10 48 23.4**	**+0.1**
	comp=Z,43nm,0.9s						
SCM	**Sheep Creek Mo**	**16.56**	**44**	*e*P	**Pn**	**10 48 24.8**	**+0.7**
SCM	**Sheep Creek Mo**	**16.56**	**44**	*e*Pn	**Pn**	**10 48 24.8**	**+0.7**
RND	**Reindeer**	**16.72**	**38**	*e*P	**P**	**10 48 27.8**	**+0.2**
RND	**Reindeer**	**16.72**	**38**	*e*P	**P**	**10 48 27.8**	**+0.2**
MCK	**McKinley**	**16.87**	**37**	*e*P	**P**	**10 48 30.0**	**+0.8**
MCK				pmax	pmax		
	comp=Z,55nm,1.2s						
MCK	**McKinley**	**16.87**	**37**	*e*P	**P**	**10 48 30.0**	**+0.8**
	comp=Z,55nm,1.2s						
DIV	**Divide**	**16.97**	**47**	*e*P	**Pn**	**10 48 29.0**	**-0.2**
	comp=Z,31nm,0.8s						
KLU	**Klutina**	**17.04**	**46**	*e*P	**Pn**	**10 48 29.4**	**-0.6**
KLU				*e*Sn	**Sn**	**10 51 37.6**	**-0.7**
DHY	**Denali Highway**	**17.12**	**40**	*e*P	**P**	**10 48 32.4**	**+0.3**
BMRM	**Bremner River**	**17.45**	**48**	*e*P	**Pn**	**10 48 35.2**	**+0.1**
	comp=Z,53nm,1.0s						
WRH	**Wood River Hil**	**17.59**	**35**	*e*P	**P**	**10 48 37.1**	**0.0**
HARP	**HAARP**	**17.73**	**43**	*e*Pn	**P**	**10 48 39.3**	**+0.5**
	comp=Z,80nm,1.3s						
CCB	**Clear Creek Bu**	**17.79**	**35**	*e*Pn	**Pn**	**10 48 37.1**	**-2.1**
	comp=Z,20nm,0.8s						
MDM	**Murphy Dome**	**17.83**	**34**	*e*P	**P**	**10 48 40.9**	**+1.1**
PAX	**Paxson**	**17.84**	**41**	*e*P	**P**	**10 48 40.1**	**+0.1**
PAX				*e*S	**S**	**10 52 03.0**	**+1.2**
PAX	**Paxson**	**17.84**	**41**	*e*Pn	**P**	**10 48 40.0**	**+0.1**
PAX				*e*S	**S**	**10 52 03.0**	**+1.2**
COLA	**College**	**17.91**	**34**	*e*P	**Pn**	**10 48 40.3**	**-0.2**
COLA				pmax	pmax		
	comp=Z,25nm,0.9s						
COLA	**College**	**17.91**	**34**	*e*Pn	**Pn**	**10 48 40.3**	**-0.2**
	comp=Z,25nm,0.9s						
HDA	**Harding Lake**	**17.97**	**36**	*e*P	**Pn**	**10 48 41.6**	**+0.2**
	comp=Z,43nm,1.1s						
IL1	**Eielson Array**	**18.19**	**35**	*e*P	**P**	**10 48 43.3**	**-0.5**
ILAR	**Eielson Array**	**18.19**	**35**	P	**P**	**10 48 41.1**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=225,slow=8.9,SNR=51						
ILAR				LR	LR	10 56 15.1	
	comp=Z,610nm,19.7s,baz=248,slow=39						
ILAR				ScP	**ScP**	**10 56 45.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=264,slow=3.0,SNR=10.0						
ILB	**Eielson Array**	**18.19**	**35**	*e*P	**P**	**10 48 43.1**	**-0.6**
PEA0	**Petropavlovsk-**	**18.52**	**286**	*e*P	**Pn**	**10 48 48.9**	**+0.8**
PEA0B	**Petropavlovsk-**	**18.52**	**286**	*e*P	**P**	**10 48 46.6**	**-0.8**
	comp=Z,59nm,1.3s						
PETK	**Petropavlovsk-**	**18.52**	**286**	P	**Pn**	**10 48 48.5**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=88,slow=14,SNR=10						
PETK				LR	LR	10 56 34.1	
	comp=Z,222nm,18.1s,baz=83,slow=39						
PETK				ScP	**ScP**	**10 56 46.5**	**+1.1**
	baz=135,slow=4.0,SNR=4.1						
COLD	**Coldfoot**	**18.68**	**27**	*e*P	**Pn**	**10 48 50.4**	**+0.4**
	comp=Z,46nm,1.2s						
DOT	**Dot Lake**	**18.71**	**40**	*e*P	**P**	**10 48 49.6**	**+0.1**
	comp=Z,48nm,0.9s						
BILL	**Bilibino**	**19.33**	**335**	‖*e*P	**Pn**	**10 48 57.0**	**-0.7**
BILL				pmax	pmax		
	comp=Z,40nm,1.4s						
BILL				MLR	MLR		
	comp=Z,499nm,16.0s						
FYU	**Fort Yukon**	**19.77**	**32**	*e*P	**P**	**10 49 01.5**	**+0.6**
	comp=Z,111nm,1.2s						
TOLK	**Toolik Lake Re**	**19.86**	**24**	P	**P**	**10 49 02.8**	**+0.7**
	baz=224,SNR=63						
DHAK	**Deception Hill**	**20.18**	**56**	*e*P	Pn	10 49 08.0	+0.3
	comp=Z,100nm,0.7s						
EGAK	**Eagle**	**20.34**	**39**	*e*P	**P**	**10 49 06.5**	**-0.6**
	comp=Z,22nm,0.6s						
DAWY	**Dawson**	**20.78**	**42**	*e*P	**P**	**10 49 11.3**	**-0.7**
	comp=Z,33nm,1.1s						
SKAG	**Skagway**	**21.68**	**55**	*e*P	**P**	**10 49 22.0**	**+0.4**
	comp=Z,56nm,0.7s						
SEY	**Seymchan**	**21.88**	**314**	P	**P**	**10 49 24.7**	**+1.0**
	comp=Z,11nm,0.8s,baz=152,slow=9.3,SNR=21						
SEY				PcP	**PcP**	**10 53 21.4**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=141,slow=1.6,SNR=4.2						
SEY				ScP	**ScP**	**10 56 54.4**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=38,slow=3.1,SNR=5.5						
SEY	**Seymchan**	**21.88**	**314**	‖*i*P	**P**	**10 49 25.2**	**+1.6**
BESE	**Bessie Mountai**	**21.88**	**58**	*e*P	**P**	**10 49 23.3**	**-0.5**
	comp=Z,40nm,1.1s						
WHY	**Whitehorse**	**22.02**	**52**	*e*P	**P**	**10 49 26.1**	**+0.7**
	comp=Z,43nm,0.9s						
MA2	**Magadan**	**22.14**	**305**	P	**P**	**10 49 28.3**	**+1.8**
	comp=Z,4.1nm,0.5s,baz=106,slow=15,SNR=3.3						
MA2				LR	LR	10 57 41.4	
	comp=Z,497nm,19.6s,baz=106,slow=36						
CRAG	**Craig**	**22.99**	**66**	*e*P	**P**	**10 49 35.8**	**+0.4**
	comp=Z,250nm,1.9s						
H02S1	**DAWSON INLET T**	**23.76**	**71**	T	T	11 14 31.2	
	SNR=4.7						
DLBC	**Dease Lake**	**24.42**	**58**	P	**P**	**10 49 51.0**	**+2.1**
	comp=Z,45nm,0.8s,baz=249,slow=6.8,SNR=64						
DLBC	**Dease Lake**	**24.42**	**58**	*e*P	**P**	**10 49 51.0**	**+2.1**
	comp=Z,80nm,1.0s						
INK	**Inuvik**	**24.56**	**34**	P	**P**	**10 49 49.0**	**-1.0**
	comp=Z,14nm,0.4s,baz=241,slow=8.0,SNR=119						
INK				PcP	**PcP**	**10 53 26.8**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=322,slow=0.5,SNR=6.0						
INK				ScP	**ScP**	**10 56 59.6**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=294,slow=2.1,SNR=8.4						
BBB	**Bella Bella**	**26.59**	**72**	P	**P**	**10 50 09.9**	**+1.4**
	comp=Z,7.3nm,0.7s,baz=322,slow=7.6,SNR=4.9						
LLLB	**Lillooet**	**30.79**	**72**	*e*P	**P**	**10 50 47.9**	**+1.9**
	comp=Z,9.1nm,0.6s						
ASAJ	**Asahikawa**	**31.03**	**274**	*e*P	**P**	**10 50 48.4**	**+0.4**
	comp=Z,13nm,0.8s						
B05A	**Bryant**	**31.62**	**77**	P	**P**	**10 50 54.4**	**+1.2**
	baz=296,SNR=7.4						
YKA	**Yellowknife Ar**	**31.68**	**48**	P	**P**	**10 50 53.1**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=275,slow=7.3,SNR=26						
YKA				LR	LR	11 04 26.8	
	comp=Z,100nm,21.7s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**31.68**	**48**	*ce*P	**P**	**10 50 53.7**	**+0.2**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
D05A	**Enumclaw**	**32.16**	**78**	*e*P	**P**	**10 51 00.

WVOR	Wild Horse Val	36.63	83	eP	P	10 51 38.3	+1.5
WVOR				pmax	pmax		
	comp=Z,13nm,0.8s						
WVOR	Wild Horse Val	36.63	83	eP	P	10 51 38.3	+1.5
	comp=Z,13nm,0.8s						
SWMT	Swartz Lake	36.81	73	eP	P	10 51 38.7	+0.5
BEKR	Beckworth	37.04	88	eP	P	10 51 41.6	+1.2
	comp=Z,11nm,1.2s						
MSO	Missoula	37.17	74	P	P	10 51 41.9	+0.6
	baz=300,SNR=5.9						
MSO	Missoula	37.17	74	eP	P	10 51 42.1	+0.7
	comp=Z,44nm,1.6s						
MSO				ePcP	PcP	10 54 01.1	+0.8
AFDM	Forest Hills D	37.22	90	eP	P	10 51 37.4	-4.3
	comp=Z,7.6nm,1.2s						
SLMT	Seeley Lake	37.24	73	eP	P	10 51 42.6	+0.7
H11S1	WAKE ISLAND Hy	37.37	215	T	T	11 31 31.8	
	baz=22,slow=76,SNR=188						
H11S2	WAKE ISLAND Hy	37.39	215	T	T	11 31 34.5	
	baz=22,slow=76,SNR=209						
H11S3	WAKE ISLAND Hy	37.39	215	T	T	11 31 38.9	
	baz=22,slow=76,SNR=144						
USRK	Ussuriysk Ar.	37.49	281	P	P	10 51 44.0	+0.1
	comp=Z,2.8nm,0.5s,baz=68,slow=11,SNR=3.6						
CHMT	Chamberlain Mo	37.54	74	eP	P	10 51 45.0	+0.4
PAHR	Pah Rah Range	37.74	88	eP	P	10 51 48.1	+1.8
	comp=Z,32nm,0.8s						
MFID	Camas Ranch	37.81	80	eP	P	10 51 47.9	+1.1
	comp=Z,6.6nm,0.9s						
PNTR	Pine Nut	37.98	89	eP	P	10 51 50.6	+2.2
	comp=Z,29nm,0.8s						
MJAR	Matsushiro Arr	38.16	266	P	P	10 51 49.5	-0.1
	comp=Z,8.3nm,1.0s,baz=46,slow=7.3,SNR=17						
MJAR				PcP	PcP	10 54 03.4	+0.1
	comp=Z,2.1nm,0.7s,baz=79,slow=2.4,SNR=5.2						
MJAR	Matsushiro Arr	38.16	266	P	P	10 51 49.5	-0.1
MJAR						10 54 03.4	
MJAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAJO	Matsushiro	38.16	266	⇑iP	P	10 51 50.1	+0.5
MAJO	Matsushiro	38.16	266	eP	P	10 51 50.1	+0.5
	comp=Z,30nm,1.0s						
MAT	Matsushiro	38.16	266	P	P	10 51 49.4	-0.2
MJB9	Matsu-Tunnel	38.16	266	eP	P	10 51 50.4	+0.7
	comp=Z,7.7nm,1.0s						
YERR	Yerington	38.27	88	eP	P	10 51 52.0	+1.2
	comp=Z,17nm,0.8s						
WAKR	Walker	38.44	89	eP	P	10 51 53.8	+1.6
	comp=Z,13nm,0.7s						
HRY	Holter Researc	38.49	73	eP	P	10 51 53.2	+0.8
LRM	Limekiln Ridge	38.57	75	eP	P	10 51 53.8	+0.5
LRM				epP	pP	10 52 05.2	-2.2
HLID	Hailey	38.59	79	P	P	10 51 54.2	+0.7
	baz=303,SNR=8.0						
DLMT	Dillon	38.73	76	eP	P	10 51 55.6	+1.1
	comp=Z,23nm,1.5s						
MCMT	McKenzie Canyo	38.86	76	eP	P	10 51 56.5	+0.8
MSHR	Mys Shultsa	38.89	279	⇓iP	P	10 51 55.9	+0.3
EGMT	Eagleton	39.05	70	P	P	10 51 57.8	+0.7
	baz=300,SNR=12						
EGMT	Eagleton	39.05	70	eP	P	10 51 58.4	+1.3
	comp=Z,24nm,0.8s						
BOZ	Bozeman (W)	39.18	75	P	P	10 51 58.7	+0.5
	baz=302,SNR=17						
BOZ	Bozeman (W)	39.18	75	eP	P	10 51 58.8	+0.5
BOZ				eS	S	10 57 52.3	-2.1
BOZ				pmax	pmax		
	comp=Z,17nm,1.2s						
BOZ	Bozeman (W)	39.18	75	eP	P	10 51 58.8	+0.5
	comp=Z,17nm,1.2s						
BOZ				eS	S	10 57 52.2	-2.1
INU	Inuyama	39.66	266	eP	P	10 52 05.5	+3.3
	comp=Z,18nm,1.2s						
PAGB	Antelope Grade	39.69	93	eP	P	10 52 04.3	+1.9
	comp=Z,13nm,0.7s						
RCTC	Rector, Farmer	39.94	92	P	P	10 52 05.7	+1.3
	baz=310						
SMMC	Simmler	40.11	94	P	P	10 52 06.9	+0.9
	baz=311						
GCMT	Greycliff	40.25	73	eP	P	10 52 08.2	+1.1
FFC	Flin Flon	40.25	57	eP	P	10 52 07.8	+0.9
FFC				pmax	pmax		
	comp=Z,12nm,0.6s						
FFC	Flin Flon	40.25	57	eP	P	10 52 07.8	+0.9
	comp=Z,12nm,0.6s						
VES	Vestal, Richgr	40.33	92	P	P	10 52 08.6	+0.8
	baz=311,SNR=6.9						
H17A	Grant Village	40.46	76	P	P	10 52 09.1	+0.1
	baz=303						
LKWY	Lake	40.47	75	eP	P	10 52 08.6	-0.5
LKWY				pmax	pmax		
	comp=Z,13nm,0.8s						
LKWY	Lake	40.47	75	eP	P	10 52 08.6	-0.5
	comp=Z,12nm,0.8s						
PKM	Mcpherson Peak	40.50	94	P	P	10 52 10.2	+0.8
	baz=312						
IMW	Indian Meadow	40.51	76	eP	P	10 52 10.6	+1.1
	comp=Z,7.6nm,0.9s						
FLWY	Flagg Ranch	40.56	76	eP	P	10 52 11.0	+1.2
	comp=Z,78nm,1.8s						
CWC	Cottonwood Cre	40.57	91	P	P	10 52 10.7	+0.8
	baz=310						
FXWY	Fox Creek	40.60	77	eP	P	10 52 10.7	+0.5
	comp=Z,24nm,1.9s						
GRAC	Grapevine Rang	40.66	89	P	P	10 52 11.4	+0.9
	baz=310						
MOOW	Moose Ponds	40.71	77	eP	P	10 52 12.5	+1.4
	comp=Z,13nm,1.7s						
TPAW	Teton Pass	40.73	77	eP	P	10 52 13.8	+2.5
	comp=Z,27nm,1.7s						
RLMT	Red Lodge	40.84	74	P	P	10 52 12.5	+0.3
	baz=303,SNR=17						
RLMT	Red Lodge	40.84	74	eP	P	10 52 13.0	+0.9
	comp=Z,20nm,1.0s						
REDW	Red Top Meadow	40.87	77	eP	P	10 52 14.2	+1.9
	comp=Z,19nm,1.3s						
SNOW	Snow King Moun	40.87	77	eP	P	10 52 13.6	+1.2
	comp=Z,0.7nm,0.4s						
LOHW	Long Hollow	40.87	77	eP	P	10 52 13.5	+1.1
	comp=Z,20nm,1.8s						
R11A	Troy Canyon, C	40.92	87	P	P	10 52 13.4	+0.7
	baz=308,SNR=7.8						
R11A	Troy Canyon, C	40.92	87	eP	P	10 52 14.0	+1.2
	comp=Z,9.9nm,1.1s						
BOD	Bodaibo	41.09	308	eP	P	10 52 13.4	-0.3
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MPMC	Manual Prospec	41.18	91	P	P	10 52 15.6	+0.6
	baz=310,SNR=7.4						
FURC	Furnace Creek,	41.31	90	P	P	10 52 16.8	+1.1
	baz=310,SNR=9.7						
TPNV	Topopah Spring	41.38	89	P	P	10 52 17.1	+0.5
	baz=310,SNR=8.5						
TPNV	Topopah Spring	41.38	89	eP	P	10 52 17.9	+1.3
TPNV				pmax	pmax		
	comp=Z,22nm,1.0s						
TPNV	Topopah Spring	41.38	89	eP	P	10 52 17.9	+1.3
	comp=Z,22nm,1.0s						
HWUT	Hardware Ranch	41.44	80	eP	P	10 52 21.2	+4.2
	comp=Z,19nm,1.6s						
LRMC	Laurel Mtn Rad	41.44	92	P	P	10 52 17.7	+0.7
	baz=311,SNR=5.0						
DUG	Dugway, Tooele	41.51	82	P	P	10 52 18.1	+0.6
	baz=307,SNR=7.5						
DUG	Dugway, Tooele	41.51	82	eP	P	10 52 18.9	+1.4
DUG				pmax	pmax		
	comp=Z,21nm,1.3s						
DUG	Dugway, Tooele	41.51	82	eP	P	10 52 18.9	+1.4
	comp=Z,21nm,1.3s						
EDW2	Edwards Air Fo	41.63	92	P	P	10 52 18.3	-0.2
	baz=311						
CN2	Changchun	41.66	285	eP	P	10 52 18.0	-0.6
LAO	LASA Array	41.80	70	P	P	10 52 20.2	+0.5
	baz=302						
BW06	Boulder Array	41.98	77	P	P	10 52 21.8	+0.3
	baz=305,SNR=14						
BW06	Boulder Array	41.98	77	eP	P	10 52 22.0	+0.5
	comp=Z,27nm,1.3s						
PD31	Pinedale Array	41.98	77	eP	P	10 52 22.3	+0.8
PDAR	Pinedale Array	41.98	77	P	P	10 52 21.9	+0.4
	comp=Z,7.7nm,0.7s,baz=299,slow=3.3,SNR=65						
PDAR				ScP	ScP	10 58 01.6	+0.4
	comp=Z,1.8nm,1.0s,baz=11,slow=1.5,SNR=7.3						
DGMT	Dagmar	42.03	67	P	P	10 52 21.6	0.0
	baz=301						
DGMT	Dagmar	42.03	67	eP	P	10 52 22.2	+0.7
	comp=Z,68nm,1.8s						
MWC	Mount Wilson	42.03	93	eP	P	10 52 23.4	+1.5
MWC				pmax	pmax		
	comp=Z,23nm,1.3s						
MWC	Mount Wilson	42.03	93	eP	P	10 52 23.4	+1.5
	comp=Z,23nm,1.3s						
GSC	Goldstone, Bar	42.09	91	P	P	10 52 23.3	+1.0
	baz=311,SNR=24						
GSC	Goldstone, Bar	42.09	91	eP	P	10 52 23.6	+1.3
GSC				pmax	pmax		
	comp=Z,21nm,0.9s						
GSC	Goldstone, Bar	42.09	91	eP	P	10 52 23.6	+1.3
	comp=Z,21nm,0.9s						
BFSC	Mount Baldy Ra	42.27	93	P	P	10 52 24.6	+0.8
	baz=312,SNR=8.2						
CBIJ	Chichi jima	42.32	252	eP	P	10 52 21.5	-2.6
	comp=Z,405nm,0.5s						
SHPR	Sheep Range	42.34	88	eP	P	10 52 25.6	+1.2
	comp=Z,9.1nm,1.2s						
CIS	Catalina Islan	42.36	94	P	P	10 52 24.4	0.0
	baz=313						
TUQ	Turquoise Moun	42.55	90	P	P	10 52 26.9	+0.8
	baz=311						
SCI2	San Clemente I	42.56	95	P	P	10 52 27.3	+1.2
	baz=313						
HEC	Hector,Ludlow	42.70	91	P	P	10 52 28.0	+0.8
	baz=311,SNR=8.8						
MURC	Murrieta	42.98	93	P	P	10 52 30.3	+0.8
	baz=312						
GMRC	Granite Mounta	43.14	91	P	P	10 52 31.6	+0.7
	baz=311,SNR=13						
LDFC	Landfair	43.29	90	eP	P	10 52 32.7	+0.7
	comp=Z,21nm,0.8s						
PFO	Pinyon Flats O	43.43	93	P	P	10 52 33.9	+0.8
	baz=312,SNR=5.5						
PFO	Pinyon Flats O	43.43	93	eP	P	10 52 34.3	+1.1
PFO				pmax	pmax		
	comp=Z,12nm,1.3s						
PFO	Pinyon Flats O	43.43	93	eP	P	10 52 34.3	+1.1
	comp=Z,12nm,1.3s						
TPFO	Pinon Flats	43.43	93	P	P	10 52 33.9	+0.7
	baz=312,SNR=5.1						
BELC	Belle Mtn. Jos	43.45	92	P	P	10 52 34.0	+0.6
	baz=312,SNR=8.6						
109C	Camp Elliot, M	43.51	94	P	P	10 52 34.6	+0.9
	baz=313						
K22A	Casper	43.88	75	P	P	10 52 36.4	-0.4
	baz=306						
IRM	Iron Mountain	43.88	91	P	P	10 52 37.4	+0.8
	baz=312,SNR=6.7						
BAR	Barrett	43.92	94	eP	P	10 52 38.5	+1.4
	comp=Z,20nm,1.3s						
MONP2	Monument Peak	43.93	93	P	P	10 52 37.9	+0.5
	baz=313,SNR=5.1						
KSRS	Korea Array	43.94	275	P	P	10 52 37.5	+0.4
	comp=Z,9.2nm,0.6s,baz=55,slow=7.6,SNR=65						
KSRS				PcP	PcP	10 54 22.7	+0.6
	comp=Z,1.7nm,0.6s,baz=66,slow=3.8,SNR=6.5						
KSRS				ScP	ScP	10 58 10.6	+1.7
	comp=Z,0.9nm,0.8s,baz=60,slow=4.6,SNR=3.8						
KS01	Wonju Array Si	43.94	275	eP	P	10 52 37.0	-0.1
KS15	Wonju Array Si	43.97	275	eP	P	10 52 37.8	+0.5
KSAR	Wonju Array Be	43.97	275	P	P	10 52 37.5	+0.2
KSAR						10 54 22.7	
KSAR	Wonju Array Be	43.97	275	P	P	10 52 37.5	+0.2
KSAR				PcP	PcP	10 54 22.7	+0.5
KSAR				ScP	ScP	10 58 10.6	+1.6
BC3	Big Chuckawall	44.02	92	P	P	10 52 38.3	+0.4
	baz=312						
W13A	Hualapai Mount	44.04	89	eP	P	10 52 35.9	-2.3
	comp=Z,11nm,0.9s						
U15A	North Rim	44.16	86	eP	P	10 52 40.5	+1.2
	comp=Z,11nm,0.6s						
IKP	In-Ko-Pah, Jac	44.29	93	P	P	10 52 40.4	+0.3
	baz=313,SNR=5.4						
O20A	White River Ci	44.34	79	P	P	10 52 40.8	+0.3
	baz=308,SNR=14						
PDMCI	Parker Dam,Lak	44.40	90	P	P	10 52 41.6	+0.8
	baz=312,SNR=5.6						
RSSD	Black Hills	44.50	72	P	P	10 52 41.8	0.0
	baz=305						
RSSD	Black Hills	44.50	72	eP	P	10 52 42.1	+0.3
RSSD				pmax	pmax		
	comp=Z,11nm,0.6s						
RSSD	Black Hills	44.50	72	eP	P	10 52 42.1	+0.3
	comp=Z,10nm,0.6s						
Y12C	Blythe	44.53	91	P	P	10 52 42.7	+0.8
	baz=312,SNR=11						
Y12C	Blythe	44.53	91	eP	P	10 52 43.1	+1.3
	comp=Z,13nm,0.8s						
GLA	Glamis	44.81	92	P	P	10 52 45.1	+0.9
	baz=313,SNR=5.6						
GLA	Glamis	44.81	92	eP	P	10 52 45.5	+1.3
GLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GLA	Glamis	44.81	92	eP	P	10 52 45.5	+1.3
	comp=Z,8.2nm,0.8s						
JNU	Nakatsue	44.94	268	eP	P	10 52 45.7	+0.5
	comp=Z,28nm,1.0s						
N23A	Red Feather La	45.27	77	P	P	10 52 48.2	+0.2
	baz=308						
N23A	Red Feather La	45.27	77	eP	P	10 52 48.8	+0.8
	comp=Z,10nm,0.8s						
WUAZ	Wupatki	45.32	87	P	P	10 52 48.6	+0.3
	baz=311,SNR=9.6						
WUAZ	Wupatki	45.32	87	eP	P	10 52 49.8	+1.5
	comp=Z,14nm,0.8s						
Y14A	Wickenburg	45.35	89	eP	P	10 52 49.1	+0.7
	comp=Z,31nm,0.8s						
SMCO	Snowmass	45.70	79	eP	P	10 52 51.8	+0.3
	comp=Z,16nm,1.5s						
ULM	Lac du Bonnet	45.70	60	P	P	10 52 50.5	-0.4
	comp=Z,6.9nm,0.6s,baz=310,slow=7.7,SNR=11						
ULM				LR	LR	11 12 16.8	
	comp=Z,296nm,18.8s,baz=78,slow=36						
ULM	Lac du Bonnet	45.70	60	eP	P	10 52 51.1	+0.2
ULM				pmax	pmax		
	comp=Z,25nm,1.3s						
ULM	Lac du Bonnet	45.70	60	eP	P	10 52 51.1	+0.2
	comp=Z,25nm,1.3s						
B31A	Greenbush Farm	45.73	64	P	P	10 52 51.3	+0.1
	baz=304						
X16A	Lo Mia Camp, P	46.00	88	eP	P	10 52 55.4	+1.6
	comp=Z,7.9nm,0.9s						
MVCO	Mesa Verde	46.00	83	P	P	10 52 54.1	+0.3
	baz=310,SNR=7.3						
MVCO	Mesa Verde	46.00	83	eP	P	10 52 54.4	+0.6
	comp=Z,23nm,1.5s						
C31A	Landman Farms,	46.04	64	P	P	10 52 53.5	-0.1
	baz=304						
NRIK	Noril'sk	46.09	331	P	P	10 52 53.3	-0.5
	comp=Z,4.4nm,0.5s,baz=93,slow=7.5,SNR=3.6						
NRIK				LR	LR	11 16 03.3	
	comp=Z,674nm,18.2s,baz=328,slow=41						
A32A	Rocking H Ranc	46.10	62	P	P	10 52 54.1	0.0
	baz=304,SNR=5.6						
ISCO	Idaho Springs	46.14	78	P	P	10 52 55.0	+0.2
	baz=308						
ISCO	Idaho Springs	46.14	78	eP	P	10 52 56.5	+1.6
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ISCO	Idaho Springs	46.14	78	eP	P	10 52 56.5	+1.6
	comp=Z,7.2nm,1.1s						
B32A	Ashes, Strandq	46.37	63	P	P	10 52 56.2	0.0
	baz=304,SNR=7.2						
W18A	Petrified Fore	46.59	86	P	P	10 52 58.3	0.0
	baz=311						
E31A	Nome	46.65	66	P	P	10 52 58.3	-0.2
	baz=305						
S22A	4UR Ranch, Cre	46.68	81	P	P	10 52 59.0	-0.2
	baz=310,SNR=9.7						
S22A	4UR Ranch, Cre	46.68	81	eP	P	10 53 00.5	+1.4
	comp=Z,27nm,1.6s						
A33A	Warroad	46.69	62	P	P	10 52 58.3	-0.4
	baz=304						
AGMN	Agassiz Nation	46.79	63	P	P	10 52 59.0	-0.5
	baz=305,SNR=6.6						
AGMN	Agassiz Nation	46.79	63	eP	P	10 52 59.9	+0.4
	comp=Z,16nm,0.9s						
214A	Organ Pipe Nat	46.80	91	P	P	10 53 00.2	+0.3
	baz=314						
214A	Organ Pipe Nat	46.80	91	eP	P	10 53 00.2	+0.3
	comp=Z,29nm,0.8s						
X18A	Snowflake	46.85	87	eP	P	10 53 01.5	+1.1
	comp=Z,17nm,1.4s						
F31A	Hecla	46.85	67	P	P	10 52 59.6	-0.5
	baz=306						
B33A	Robert and Kas	46.96	63	P	P	10 53 00.6	-0.2
	baz=305,SNR=5.9						
C33A	Trail	47.15	63	P	P	10 53 02.0	-0.4
	baz=305						
G31A	Conde	47.25	67	P	P	10 53 02.7	-0.4
	baz=306						
SUSD	Miller	47.28	69	P	P	10 53 03.1	-0.3
	baz=306,SNR=7.0						
B34A	Aery, Baudette	47.35	62	P	P	10 53 03.5	-0.3
	baz=305,SNR=12						
D33A	AnnSam, Waubun	47.46	64	P	P	10 53 04.6	-0.2
	baz=306,SNR=6.5						
F32A	Veblen	47.48	66	P	P	10 53 04.3	-0.7
	baz=306						
SDCO	Great Sand Dun	47.49	80	P	P	10 53 05.5	0.0
	baz=310,SNR=7.8						
OGNE	Ogallala	47.58	74	P	P	10 53 05.4	-0.5
	baz=308						
G32A	Webster	47.63	67	P	P	10 53 05.7	-0.4
	baz=306						
C34A	RKJ Ranch, Bem	47.69	63	P	P	10 53 06.0	-0.5
	baz=306						
E33A	Westby DABS, E	47.74	65	P	P	10 53 06.4	-0.6
	baz=306						
I31A	Royce, Wessing	47.77	69	P	P	10 53 07.0	-0.2
	baz=307						
TUC	Tucson	47.82	89	P	P	10 53 08.3	+0.5
	baz=313						
TUC	Tucson	47.82	89	eP	P	10 53 08.5	+0.7
TUC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TUC	Tucson	47.82	89	eP	P	10 53 08.5	+0.7
	comp=Z,10.0nm,0.8s						
D34A	Park Rapids	47.86	64	P	P	10 53 07.6	-0.2
	baz=306,SNR=10.0						
B35A	Bob, Littlefor	47.92	62	P	P	10 53 08.0	-0.3
	baz=305						
F33A	5 Mile Ranch,	47.97	66	P	P	10 53 08.0	-0.7
	baz=306						
J31A	Geddes	48.09	70	P	P	10 53 09.4	-0.3
	baz=307,SNR=12						
H32A	Carlson Farm,	48.12	68	P	P	10 53 09.5	-0.4
	baz=307,SNR=7.7						
C35A	Jirik Farms, M	48.17	62	P	P	10 53 09.6	-0.6
	baz=306						
E34A	Wadena	48.21	64	P	P	10 53 09.5	-1.0
	baz=306						
G33A	Ortonville	48.27	66	P	P	10 53 10.4	-0.7
	baz=307,SNR=7.4						
I32A	Karley and Nic	48.39	68	P	P	10 53 11.4	-0.5
	baz=307,SNR=5.4						
H33A	Prehn Over Nor	48.41	67	P	P	10 53 11.6	-0.5
	baz=307,SNR=7.1						
KSCO	Kaye Shedlock'	48.43	77	P	P	10 53 12.5	0.0
	baz=310						
KSCO	Kaye Shedlock'	48.43	77	eP	P	10 53 13.7	+1.2
	comp=Z,49nm,1.4s						
K31A	O'Neill	48.49	71	P	P	10 53 12.7	-0.1
	baz=308						
D35A	Remer	48.49	63	P	P	10 53 12.4	-0.4
	baz=306,SNR=8.8						
T25A	Trinidad	48.55	80	P	P	10 53 13.6	+0.1
	baz=310,SNR=8.7						
T25A	Trinidad	48.55	80	eP	P	10 53 14.8	+1.2
	comp=Z,23nm,1.1s						
J32A	Parkston	48.56	69	P	P	10 53 12.8	-0.5
	baz=308,SNR=9.5						
F34A	Alexandria	48.58	65	P	P	10 53 13.0	-0.5
	baz=307						
E35A	Pequot Lakes	48.61	64	P	P	10 53 13.4	-0.2
	baz=306,SNR=13						
LAZ	Ladron	48.67	85	eP	P	10 53 16.0	+1.5
ANMO	Albuquerque	48.73	84	P	P	10 53 15.0	+0.1
	baz=312						
ANMO	Albuquerque	48.73	84	⇑iP	P	10 53 16.1	+1.2
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ANMO	Albuquerque	48.73	84	eP	P	10 53 15.7	+0.8
	comp=Z,8.0nm,1.3s						
I33A	Coleman	48.76	68	P	P	10 53 14.2	-0.6
	baz=308,SNR=5.6						
C36A	Pine Crest Far	48.76	62	P	P	10 53 14.4	-0.4
	baz=306						
K32A	Verdigre	48.92	70	P	P	10 53 15.5	-0.6
	baz=308						
D36A	Goodland	48.92	63	P	P	10 53 14.9	-1.2
	baz=306						
F35A	Swanville	48.93	65	P	P	10 53 15.1	-1.0
	baz=307,SNR=6.1						
H34A	Spellman Lake,	48.97	67	P	P	10 53 16.0	-0.3
	baz=307						
ECSD	EROS Data Cent	49.05	68	P	P	10 53 16.5	-0.6
	baz=308,SNR=11						
ECSD	EROS Data Cent	49.05	68	eP	P	10 53 16.2	-0.8
	comp=Z,10nm,0.6s						
J33A	Davis	49.10	69	P	P	10 53 17.1	-0.3
	baz=308,SNR=5.8						
C37A	Embarrass	49.13	61	P	P	10 53 17.1	-0.6
	baz=306						
BNM	Barren Site	49.15	84	eP	P	10 53 19.2	+1.0
E36A	McGregor	49.27	63	P	P	10 53 18.2	-0.4
	baz=307,SNR=5.4						
L32A	Elgin	49.31	71	P	P	10 53 18.1	-1.0
	baz=308						
D37A	Cotton	49.34	62	P	P	10 53 18.7	-0.5
	baz=307						
G35A	Watkins	49.36	65	P	P	10 53 19.1	-0.3
	baz=307						
EYMN	Ely	49.38	61	P	P	10 53 18.9	-0.6
	baz=307						
EYMN	Ely	49.38	61	eP	P	10 53 19.7	+0.2
	comp=Z,20nm,0.9s						
H35A	Sunnyside Ranc	49.48	66	P	P	10 53 19.9	-0.4
	baz=308						
F36A	Milaca	49.51	64	P	P	10 53 20.1	-0.5
	baz=307						
K33A	Hardington	49.52	70	P	P	10 53 20.5	-0.2
	baz=308						
121A	Cookes Peak, D	49.52	87	P	P	10 53 21.2	+0.2
	baz=313,SNR=6.4						
121A	Cookes Peak, D	49.52	87	eP	P	10 53 21.1	0.0
	comp=Z,7.2nm,0.7s						
BGNE	Belgrade	49.59	71	P	P	10 53 20.7	-0.5
	baz=309						
C38A	Sawbill Land.	49.63	61	P	P	10 53 20.9	-0.6
	baz=307						
L33A	Hoskins	49.64	70	P	P	10 53 20.9	-0.7
	baz=309						
G36A	St. Michael	49.77	65	P	P	10 53 21.9	-0.6
	baz=308						
ULN	Ulaanbaatar	49.84	299	⇑P	P	10 53 23.6	+0.4
ULN				pmax	pmax		
	comp=Z,8.0nm,2.5s						
K34A	Le Mars	49.99	69	P	P	10 53 24.0	-0.3
	baz=309,SNR=8.5						
M33A	Taylor Creek F	50.05	71	P	P	10 53 24.3	-0.5
	baz=309						
H36A	Jessenland, He	50.07	66	P	P	10 53 24.6	-0.2
	baz=308,SNR=8.3						
SPITS	Spitsbergen Ar	50.07	358	LR	LR	11 13 54.7	
	comp=Z,511nm,19.2s,baz=65,slow=35						
J35A	Milford	50.09	68	P	P	10 53 24.5	-0.4
	baz=308						
F37A	Hinrichs Farm,	50.09	64	P	P	10 53 24.5	-0.5
	baz=308						
E38A

CBKS	Cedar Bluff	50.30	75	P	P	10 53 26.6	0.0
	baz=310						
SPMN	Marine on St.	50.30	64	P	P	10 53 26.3	-0.2
	baz=308,SNR=6.0						
SPMN	Marine on St.	50.30	64	eP	P	10 53 26.4	-0.1
	comp=Z,10nm,0.6s						
ZAK	Zakamensk	50.32	304	eP	P	10 53 26.4	-0.3
ZAK				e		10 54 42.1	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
I36A	Fitzsimmons Fa	50.36	66	P	P	10 53 26.7	-0.3
	baz=308						
F38A	Pierce - Schro	50.37	63	P	P	10 53 26.8	-0.2
	baz=308,SNR=7.0						
N33A	J Bar K, Exete	50.43	72	P	P	10 53 27.5	0.0
	baz=310						
M34A	Aspy Farms, Fr	50.45	70	P	P	10 53 27.5	-0.2
	baz=309						
DAG	Danmarks Havn	50.45	8	i P	P	10 53 25.5	-1.7
	comp=Z,5.2nm,0.8s						
DAG	Danmarks Havn	50.45	8	i P	P	10 53 25.5	-1.7
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H37A	Dierke Farm, C	50.63	65	P	P	10 53 28.8	-0.2
	baz=308						
L35A	Bielow Farm, R	50.67	69	P	P	10 53 29.1	-0.3
	baz=309						
I37A	Lemond, Waseca	50.71	66	P	P	10 53 29.2	-0.4
	baz=309						
O33A	Hebron	50.77	72	P	P	10 53 29.8	-0.3
	baz=310,SNR=6.3						
E39A	Mellen	50.84	62	P	P	10 53 30.0	-0.5
	baz=308						
G38A	Ridgeland	50.87	64	P	P	10 53 30.2	-0.6
	baz=308						
N34A	Lincoln	50.92	71	P	P	10 53 30.7	-0.5
	baz=310						
F39A	Loretta	50.92	63	P	P	10 53 30.3	-0.9
	baz=308						
H38A	Maiden Rock	50.93	65	P	P	10 53 31.0	-0.3
	baz=308,SNR=6.4						
K36A	Gilmore City	50.97	68	P	P	10 53 30.9	-0.7
	baz=309						
M35A	Neola	50.99	70	P	P	10 53 31.5	-0.3
	baz=310						
J37A	Redenius Farm,	51.06	67	P	P	10 53 32.0	-0.3
	baz=309						
E40A	Wakefield	51.15	62	P	P	10 53 32.7	-0.2
	baz=308						
G39A	Holcombe	51.17	63	P	P	10 53 32.6	-0.4
	baz=308						
O34A	Beatrice	51.23	72	P	P	10 53 33.3	-0.3
	baz=310,SNR=5.7						
I38A	Scanlan Farm,	51.30	65	P	P	10 53 33.7	-0.4
	baz=309						
TIA	Tai'an	51.35	282	⇓P	P	10 53 34.5	0.0
TIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
F40A	Park Falls	51.36	62	P	P	10 53 33.5	-1.0
	baz=308						
K37A	Belmond	51.36	67	P	P	10 53 34.2	-0.3
	baz=309						
N35A	Tabor	51.41	70	P	P	10 53 34.7	-0.2
	baz=310,SNR=6.1						
H39A	Augusta	51.49	64	P	P	10 53 35.0	-0.4
	baz=309						
P34A	Walnut Farm, R	51.55	72	P	P	10 53 35.7	-0.4
	baz=310						
GUMO	Guam	51.56	238	LR	LR	11 13 29.8	
	comp=Z,90nm,19.6s,baz=77,slow=34						
MNTX	Cornudas Mount	51.58	86	P	P	10 53 36.5	+0.2
	baz=314,SNR=8.1						
MNTX	Cornudas Mount	51.58	86	eP	P	10 53 37.1	+0.8
	comp=Z,22nm,1.5s						
O35A	Humboldt	51.63	71	P	P	10 53 36.4	-0.2
	baz=310						
MSTX	Muleshoe	51.64	82	P	P	10 53 36.6	-0.3
	baz=313,SNR=5.6						
E41A	Kenton	51.65	61	P	P	10 53 36.3	-0.4
	baz=309						
SUMG	Summit	51.65	16	i P	P	10 53 36.2	-0.5
	comp=Z,23nm,1.1s						
SUMG	Summit	51.65	16	eP	P	10 53 36.4	-0.3
SUMG				pmax	pmax		
	comp=Z,72nm,1.6s						
SUMG	Summit	51.65	16	eP	P	10 53 36.4	-0.3
	comp=Z,72nm,1.6s						
HHC	Hu-ho-hao-te	51.65	290	eP	P	10 53 36.2	-0.7
HHC				pP	pP	10 53 51.8	+0.3
HHC				sP	sP	10 53 58.9	+1.1
HHC				PcS	PcS	10 58 46.4	-1.5
HHC				S	S	11 00 49.6	-4.4
HHC				ScS	ScS	11 03 17.8	-4.2
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
HHC				LR	LR		
	comp=Z,200nm,17.4s						
HHC				LR	LR		
	comp=Z,240nm,20.6s						
HHC				LR	LR		
	comp=Z,340nm,18.0s						
J38A	Wedel Dairy, R	51.67	66	P	P	10 53 36.5	-0.3
	baz=309						
AMTX	Amarillo	51.70	80	P	P	10 53 37.2	0.0
	baz=312						
L37A	Phoenix Point,	51.70	68	P	P	10 53 36.7	-0.4
	baz=310,SNR=7.6						
G40A	Rib Lake	51.72	63	P	P	10 53 36.6	-0.6
	baz=309						
N36A	Muff Farm, Cla	51.84	70	P	P	10 53 37.7	-0.4
	baz=310						
I39A	Houston	51.87	65	P	P	10 53 38.1	-0.2
	baz=309,SNR=11						
Q34A	Chapman	51.89	73	P	P	10 53 38.2	-0.3
	baz=311						
K38A	Parkersburg	51.93	67	P	P	10 53 38.3	-0.4
	baz=310						
KSU1	Kansas State U	51.97	73	P	P	10 53 38.7	-0.4
	baz=311						
M37A	Trindle Farm,	51.98	69	P	P	10 53 39.1	0.0
	baz=310,SNR=7.8						
H40A	Chili	52.02	64	P	P	10 53 38.9	-0.5
	baz=309						
F41A	Three Lakes	52.03	62	P	P	10 53 39.1	-0.3
	baz=309						
P35A	Duane Minner,	52.04	72	P	P	10 53 39.2	-0.5
	baz=311						
J39A	Decorah	52.10	66	P	P	10 53 39.3	-0.7
	baz=310,SNR=18						
R34A	Isabella, Hill	52.11	74	P	P	10 53 40.0	-0.2
	baz=311						
L38A	Oak Wood Farm,	52.14	68	P	P	10 53 39.9	-0.4
	baz=310,SNR=8.4						
SCIA	State Center	52.15	68	eP	P	10 53 40.8	+0.5
	comp=Z,21nm,0.5s						
E42A	Champion	52.24	60	P	P	10 53 40.6	-0.5
	baz=309						
O36A	Bolckow	52.27	71	P	P	10 53 40.5	-0.9
	baz=310						
N37A	Lee Faris, Mou	52.31	70	P	P	10 53 40.6	-1.0
	baz=310,SNR=6.6						
G41A	Antigo	52.31	62	P	P	10 53 40.7	-0.9
	baz=309						
I40A	Norwalk	52.35	64	P	P	10 53 41.2	-0.7
	baz=310						
K39A	Oelwein	52.39	66	P	P	10 53 41.2	-1.0
	baz=310,SNR=8.3						
H41A	Junction City	52.43	63	P	P	10 53 41.6	-0.9
	baz=310						
P36A	Good Intent, A	52.46	71	P	P	10 53 42.2	-0.5
	baz=311,SNR=6.5						
Q35A	Mercer Eighty,	52.47	73	P	P	10 53 42.0	-0.8
	baz=311						
M38A	Pleasantville	52.47	68	P	P	10 53 42.3	-0.5
	baz=310,SNR=6.5						
F42A	Maple Grove Fa	52.54	61	P	P	10 53 42.3	-1.0
	baz=309						
S34A	Willow Spring	52.59	74	P	P	10 53 43.0	-0.8
	baz=311						
J40A	Soldiers Grove	52.60	65	P	P	10 53 42.7	-1.0
	baz=310						
I41A	Arkdale	52.66	64	P	P	10 53 43.2	-1.0
	baz=310						
L39A	Vinton	52.70	67	P	P	10 53 43.9	-0.6
	baz=310,SNR=6.8						
G42A	Mountain	52.71	62	P	P	10 53 43.3	-1.1
	baz=310						
O37A	Wolven Farm, M	52.73	70	P	P	10 53 44.3	-0.4
	baz=311,SNR=8.3						
E43A	Lone Tree Farm	52.77	60	P	P	10 53 43.9	-1.0
	baz=309						
K40A	Colesburg	52.82	66	P	P	10 53 44.4	-0.9
	baz=310						
N38A	Joes South For	52.85	69	P	P	10 53 45.1	-0.5
	baz=311,SNR=7.4						
P37A	Lathrop	52.98	71	P	P	10 53 45.8	-0.8
	baz=311,SNR=9.7						
T34A	McClaskey Farm	52.99	75	P	P	10 53 46.2	-0.5
	baz=312,SNR=6.0						
F43A	Flat Rock, Esc	53.02	61	P	P	10 53 45.3	-1.4
	baz=310						
M39A	Webster	53.02	68	P	P	10 53 46.4	-0.4
	baz=310,SNR=17						
J41A	Loganville	53.03	65	P	P	10 53 46.2	-0.6
	baz=310,SNR=9.2						
S35A	Otter Creek Ra	53.07	74	P	P	10 53 46.8	-0.4
	baz=312						
NJ2	Nanjing	53.10	277	eP	P	10 53 47.6	+0.1
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
G43A	Wallace	53.10	61	P	P	10 53 46.3	-1.1
	baz=310						
H42A	Shiocton	53.12	63	P	P	10 53 46.4	-1.1
	baz=310						
R36A	Gordon, Harris	53.13	73	P	P	10 53 47.0	-0.7
	baz=311,SNR=9.1						
O38A	Galt	53.15	70	P	P	10 53 47.1	-0.7
	baz=311,SNR=8.4						
L40A	Anamosa	53.18	67	P	P	10 53 47.2	-0.9
	baz=310						
JFWS	Jewell Farm	53.19	65	eP	P	10 53 47.2	-0.9
JFWS				pmax	pmax		
	comp=Z,13nm,0.6s						
JFWS	Jewell Farm	53.19	65	eP	P	10 53 47.2	-0.9
	comp=Z,13nm,0.6s						
N39A	Derby Farms, D	53.22	68	P	P	10 53 47.8	-0.5
	baz=311,SNR=14						
I42A	Draeger Farm,	53.30	63	P	P	10 53 48.2	-0.7
	baz=310						
K41A	Shullsburg	53.35	66	P	P	10 53 48.3	-1.0
	baz=310,SNR=8.4						
P38A	Dawn	53.44	70	P	P	10 53 49.1	-0.9
	baz=311,SNR=12						
M40A	Post Highland	53.44	67	P	P	10 53 49.1	-0.9
	baz=311,SNR=6.5						
T35A	Sooner Cattle	53.47	75	P	P	10 53 49.2	-0.9
	baz=312						
S36A	Lake Cedric, C	53.48	73	P	P	10 53 49.4	-0.8
	baz=312						
R37A	Teagarden Farm	53.54	72	P	P	10 53 49.6	-1.1
	baz=312						
WMOK	Wichita Mounta	53.56	78	P	P	10 53 50.2	-0.8
	baz=313						
WMOK	Wichita Mounta	53.56	78	eP	P	10 53 50.5	-0.4
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMOK	Wichita Mounta	53.56	78	eP	P	10 53 50.5	-0.4
	comp=Z,6.5nm,0.8s						
L41A	Preston	53.59	66	P	P	10 53 50.0	-1.0
	baz=311,SNR=5.5						
O39A	Kirksville	53.60	69	P	P	10 53 50.5	-0.6
	baz=311						
U35A	Pawnee	53.70	75	P	P	10 53 50.9	-0.9
	baz=312						
N40A	Mertquake, Sal	53.74	68	P	P	10 53 51.2	-0.9
	baz=311						
T36A	Boggs Farm, Ca	53.75	74	P	P	10 53 51.4	-0.9
	baz=312						
Q38A	Cooks Store, C	53.82	71	P	P	10 53 51.6	-1.1
	baz=312,SNR=6.2						
S37A	Fort Scott	53.91	73	P	P	10 53 52.5	-0.9
	baz=312,SNR=11						
P39B	Salisbury	53.98	70	P	P	10 53 53.1	-0.8
	baz=311,SNR=8.8						
M41A	Milan	54.02	67	P	P	10 53 53.2	-0.9
	baz=311,SNR=8.0						
V35A	Meyer Ranch, C	54.04	76	P	P	10 53 53.7	-0.7
	baz=313						
O40A	La Belle	54.08	69	P	P	10 53 53.7	-0.8
	baz=311,SNR=9.9						
Q39A	Willow Grove F	54.14	71	P	P	10 53 54.0	-1.1
	baz=312						
R38A	Fenwick Farm,	54.17	72	P	P	10 53 53.9	-1.4
	baz=312,SNR=6.2						
T37A	Cheneyville 18	54.28	74	P	P	10 53 55.4	-0.7
	baz=312,SNR=7.7						
TXAR	Lajitas Array	54.28	87	P	P	10 53 56.6	+0.2
	comp=Z,8.1nm,0.7s,baz=300,slow=5.4,SNR=72						
TXAR				PcP	PcP	10 55 00.5	+0.5
	comp=Z,1.3nm,0.5s,baz=226,slow=0.9,SNR=6.9						
TXAR				ScP	ScP	10 58 54.8	+1.6
	comp=Z,1.4nm,0.7s,baz=283,slow=2.8,SNR=8.8						
P40A	Paris	54.36	69	P	P	10 53 55.9	-0.8
	baz=312,SNR=21						
W35A	Tecumseh	54.43	77	P	P	10 53 56.5	-0.7
	baz=313						
ABTX	Abilene, Hawle	54.47	81	P	P	10 53 56.9	-0.7
	baz=314						
L43A	Garden Prairie	54.51	65	P	P	10 53 56.6	-1.1
	baz=311						
S38A	Stockton	54.54	72	P	P	10 53 56.5	-1.4
	baz=312,SNR=9.6						
V36A	Jenks	54.56	75	P	P	10 53 57.5	-0.7
	baz=313						
TUL1	Leonard	54.57	75	P	P	10 53 57.4	-0.8
	baz=313						
R39A	Chumby, Stover	54.59	71	P	P	10 53 57.3	-1.1
	baz=312						
U37A	Salina	54.64	74	P	P	10 53 58.0	-0.7
	baz=313,SNR=9.7						
O41A	Passleys Farm,	54.65	68	P	P	10 53 57.9	-0.8
	baz=312,SNR=11						
N42A	Yates City	54.66	67	P	P	10 53 57.7	-1.2
	baz=312						
Q40A	Laux Farm, Aux	54.70	70	P	P	10 53 58.3	-0.9
	baz=312,SNR=10						
T38A	Diamond	54.71	73	P	P	10 53 58.3	-1.0
	baz=312						
W36A	Wetumka	54.83	76	P	P	10 53 59.4	-0.7
	baz=313						
P41A	Barry, Barry	54.84	69	P	P	10 53 59.3	-0.8
	baz=312,SNR=6.1						
S39A	Bolivar	54.84	72	P	P	10 53 58.3	-1.9
	baz=312						
X35A	Drake	54.88	77	P	P	10 53 59.8	-0.7
	baz=313,SNR=5.2						
V37A	Hulbert	54.98	75	P	P	10 54 00.6	-0.6
	baz=313,SNR=6.3						
U38A	Gravette	55.05	74	P	P	10 54 00.8	-0.9
	baz=313,SNR=5.3						
R40A	Maddies Statio	55.06	71	P	P	10 54 00.2	-1.5
	baz=312,SNR=9.0						
X36A	Centrahoma	55.14	77	P	P	10 54 01.7	-0.7
	baz=313						
Y35A	Marietta	55.18	78	P	P	10 54 02.0	-0.6
	baz=314						
Q41A	Truxton	55.22	69	P	P	10 54 02.0	-0.9
	baz=312,SNR=5.8						
T39A	Clever	55.26	73	P	P	10 54 01.9	-1.3
	baz=313,SNR=8.5						
HDIL	Hopedale	55.27	67	P	P	10 54 02.2	-1.0
	baz=312,SNR=6.2						
HDIL	Hopedale	55.27	67	eP	P	10 54 02.8	-0.4
	comp=Z,26nm,0.6s						
W37B	Quinton	55.31	76	P	P	10 54 02.7	-0.9
	baz=313,SNR=5.2						
P42A	Winchester	55.31	68	P	P	10 54 02.5	-1.0
	baz=312,SNR=5.8						
S40A	Lebanon	55.39	72	P	P	10 54 03.0	-1.1
	baz=312						
HHAR	Hobbs	55.42	74	eP	P	10 54 03.5	-1.0
	comp=Z,34nm,1.9s						
V38A	Canehill	55.43	74	P	P	10 54 03.7	-0.8
	baz=313,SNR=6.0						
R41A	Rosebud	55.57	70	P	P	10 54 04.3	-1.2
	baz=312,SNR=6.9						
U39A	Green Forest	55.63	73	P	P	10 54 04.8	-1.1
	baz=313						
Y36A	Durant	55.64	77	P	P	10 54 05.2	-0.8
	baz=314						
Q42A	Golden Eagle	55.65	69	P	P	10 54 05.1	-0.8
	baz=312,SNR=14						
T40A	Mansfield	55.68	72	P	P	10 54 04.8	-1.4
	baz=313,SNR=5.4						
X37A	Clayton	55.72	76	P	P	10 54 05.7	-0.8
	baz=313						
P43A	Skaggs, Pawnee	55.75	68	P	P	10 54 05.5	-1.1
	baz=312						
CCM	Cathedral Cave	55.81	70	eP	P	10 54 05.8	-1.3
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCM	Cathedral Cave	55.81	70	eP	P	10 54 05.8	-1.3
	comp=Z,6.5nm,0.8s						
S41A	Jillco Farms,	55.84	71	P	P	10 54 05.9	-1.4
	baz=313,SNR=9.7						
JCT	Junction City	55.86	83	P	P	10 54 07.1	-0.5
	baz=315						
JCT	Junction City	55.86	83	eP	P	10 54 07.3	-0.4
JCT				pmax	pmax		
	comp=Z,11nm,1.0s						
JCT	Junction City	55.86	83	eP	P	10 54 07.3	-0.4
	comp=Z,11nm,1.0s						
V39A	Pettigrew	55.90	74	P	P	10 54 07.1	-0.8
	baz=313,SNR=5.1						
W38A	Poteau	55.90	75	P	P	10 54 07.5	-0.3
	baz=313,SNR=7.9						
R42A	Luebbering	55.92	70	P	P	10 54 07.2	-0.8
	baz=313						
Z36A	Blue Ridge	55.98	78	P	P	10 54 07.8	-0.6
	baz=314						
X38A	Whitesboro	55.99	76	P	P	10 54 07.6	-0.9
	baz=314						
U40A	Yellville	56.02	73	P	P	10 54 07.5	-1.2
	baz=313,SNR=6.9						
Q43A	New Douglas	56.12	69	P	P	10 54 08.5	-0.8
	baz=313						
T41A	Mountain View	56.19	72	P	P	10 54 08.7	-1.2
	baz=313						
WHTX	Lake Whitney,	56.24	80	P	P	10 54 09.5	-0.8
	baz=314						
W39A	Magazine	56.25	74	P	P	10 54 09.7	-0.6
	baz=313						
S42A	Caledonia	56.27	70	P	P	10 54 09.2	-1.2
	baz=313						
P44A	Sand Creek, Wi	56.38	67	P	P	10 54 10.2	-1.0
	baz=313,SNR=8.6						
V40A	Witts Springs	56.41	73	P	P	10 54 10.4	-1.1
	baz=313,SNR=8.2						
R43A	Red Bud	56.43	69	P	P	10 54 10.5	-1.0
	baz=313,SNR=11						
136A	Ennis	56.47	79	P	P	10 54 11.4	-0.5
	baz=314						
X39A	Fountain Ranch	56.53	75	P	P	10 54 11.9	-0.4
	baz=314,SNR=6.1						
Q44A	Meyer Farm, Va	56.53	68	P	P	10 54 11.5	-0.8
	baz=313						
VLDQ	Val d'Or	56.56	53	eP	P	10 54 10.9	-1.4
	comp=Z,24nm,1.1s						
U41A	Viola	56.58	72	P	P	10 54 11.8	-0.8
	baz=313						
W40A	Ferguson Farm,	56.68	74	P	P	10 54 12.6	-0.8
	baz=314						
ZALV	Zalesovo Beam	56.72	317	P	P	10 54 12.9	-0.5
	comp=Z,0.9nm,0.3s,baz=57,slow=5.3,SNR=1.6						
ZALV				PcP	PcP	10 55 08.9	+0.1
	comp=Z,2.4nm,0.5s,baz=37,slow=2.5,SNR=4.7						
ZALV				ScP	ScP	10 59 05.0	+1.7
	comp=Z,2.7nm,0.6s,baz=39,slow=4.8,SNR=9.0						
SCHQ	Schefferville	56.80	42	P	P	10 54 13.3	-0.7
	comp=Z,12nm,0.8s,baz=310,slow=9.2,SNR=6.6						
SCHQ				LR	LR	11 19 15.8	
	comp=Z,340nm,18.7s,baz=338,slow=37						
SCHQ	Schefferville	56.80	42	eP	P	10 54 13.8	-0.1
	comp=Z,26nm,1.1s						
236A	Katherine and	56.80	79	P	P	10 54 13.7	-0.6
	baz=314						
V41A	Mountainview	56.82	73	P	P	10 54 13.3	-1.0
	baz=314,SNR=5.2						
S43A	Fulton Ridge,	56.82	70	P	P	10 54 13.6	-0.8
	baz=313,SNR=9.3						
MIAR	Mount Ida	56.82	75	P	P	10 54 13.6	-0.8
	baz=314,SNR=6.6						
MIAR	Mount Ida	56.82	75	eP	P	10 54 14.6	+0.2
MIAR				pmax	pmax		
	comp=Z,17nm,1.0s						
MIAR	Mount Ida	56.82	75	eP	P	10 54 14.6	+0.2
	comp=Z,17nm,1.0s						
R44A	Waltonville	56.94	69	P	P	10 54 14.2	-1.0
	baz=313						
633A	Saathoff Ranch	56.97	83	P	P	10 54 14.8	-0.7
	baz=315						
U42A	Revenden	56.97	72	P	P	10 54 14.1	-1.4
	baz=313						
T43A	Greenville	57.03	71	P	P	10 54 14.8	-1.0
	baz=313,SNR=18						
X301	Greenbrier Sit	57.05	74	eP	P	10 54 15.6	-0.4
	comp=Z,50nm,1.7s						
OLIL	Olney	57.17	68	eP	P	10 54 16.5	-0.3
	comp=Z,22nm,0.6s						
W41B	Gary Mavity, V	57.18	73	P	P	10 54 16.0	-0.9
	baz=314						
S44A	Carbondale	57.22	69	P	P	10 54 16.3	-0.8
	baz=313						
832A	Faith Ranch, C	57.31	85	P	P	10 54 17.6	-0.3
	baz=316						
X40A	Basin Creek Fa	57.31	74	P	P	10 54 17.1	-0.7
	baz=314						
Y40A	Okolona	57.37	75	P	P	10 54 17.7	-0.6
	baz=314						
U43A	Rector	57.45	71	P	P	10 54 17.9	-0.8
	baz=314						
X41A	Kaden, Bauxite	57.49	74	P	P	10 54 18.4	-0.7
	baz=314						
436A	Wall Ranch, Ga	57.50	80	P	P	10 54 18.5	-0.7
	baz=315						
W42A	Bald Knob	57.55	73	P	P	10 54 18.7	-0.7
	baz=314						
S45A	Carrier Mills	57.62	69	P	P	10 54 19.0	-0.9
	baz=314						
PARMO	Parma	57.63	71	eP	P	10 54 19.9	-0.2
833A	Chaparral WMA,	57.64	84	P	P	10 54 19.9	-0.3
	baz=316						
WLAR	White Oak Lake	57.70	75	eP	P	10 54 20.9	+0.4
	comp=Z,37nm,1.0s						
V43A	Jonesboro	57.77	72	P	P	10 54 20.1	-0.9
	baz=314						
BLO	Bloomington	57.77	66	eP	P	10 54 20.5	-0.5
BLO				pmax	pmax		
	comp=Z,19nm,1.1s						
BLO	Bloomington	57.77	66	eP	P	10 54 20.5	-0.5
	comp=Z,19nm,1.1s						
734A	La Parita Cree	57.78	83	P	P	10 54 20.8	-0.3
	baz=316						
Y41A	Eaglette Beard	57.86	75	P	P	10 54 21.5	-0.2
	baz=314,SNR=5.7						
USIN	University of	57.95	68	eP	P	10 54 21.9	-0.3
	comp=Z,35nm,0.6s						
SADO	Sadowa	57.97	57	eP	P	10 54 22.7	+0.3
	comp=Z,9.5nm,0.8s						
X42A	Stuttgart	57.98	74	P	P	10 54 22.0	-0.6
	baz=314						
239A	Gary	58.04	78	P	P	10 54 22.8	-0.2
	baz=315						
U44B	Burton Farm, H	58.09	71	P	P	10 54 22.8	-0.5
	baz=314						
V44A	Blytheville	58.12	71	P	P	10 54 22.8	-0.7
	baz=314						
ARCES	ARCESS Array B	58.20	353	P	P	10 54 21.6	-1.9
	comp=Z,1.5nm,0.4s,baz=14,slow=9.3,SNR=15						
ARCES				PcP	PcP	10 55 13.4	-1.0
	comp=Z,5.8nm,0.9s,baz=353,slow=5.1,SNR=4.7						
ARCES				LR	LR	11 21 02.2	
	comp=Z,182nm,18.2s,baz=324,slow=38						
933A	Laredo	58.22	85	P	P	10 54 24.1	-0.2
	baz=316						
735A	Kenedy	58.23	83	P	P	10 54 23.8	-0.6
	baz=316						
636A	Smothers Creek	58.25	82	P	P	10 54 23.9	-0.5
	baz=316						
DGZ	Jazzator, Alta	58.52	312	⇑i P	P	10 54 26.9	+0.6
WCI	Wyandotte Cave	58.55	67	eP	P	10 54 26.2	-0.3
WCI				pmax	pmax		
	comp=Z,16nm,1.0s						
WCI	Wyandotte Cave	58.55	67	eP	P	10 54 26.2	-0.3
	comp=Z,16nm,1.0s						
736A	Circle Diamond	58.62	82	P	P	10 54 26.6	-0.5
	baz=316						
835A	Beeville	58.63	83	P	P	10 54 26.6	-0.5
	baz=316						
HKT	Hockley	58.67	80	P	P	10 54 27.7	+0.4

HKT pmax pmax
comp=Z,29nm,1.5s
934A Benavides 58.69 84 P **P 10 54 26.9 -0.7**
baz=316
439A Center Grove, 58.72 79 P **P 10 54 27.1 -0.7**
baz=315
340A Bronson 58.81 78 P **P 10 54 27.8 -0.5**
baz=315
PLVO Plevna 58.85 56 *e*P **P 10 54 29.2 +0.8**
comp=Z,69nm,1.8s
X44A Crenshaw 58.90 73 P **P 10 54 28.3 -0.6**
baz=314
034A Hebbronville 58.98 85 P **P 10 54 29.7 +0.1**
baz=316
W45A Hickory Valley 59.00 71 P **P 10 54 28.9 -0.7**
baz=314
ACSO Alum Creek Sta 59.03 63 *e*P **P 10 54 29.8 0.0**
comp=Z,10nm,0.6s
WVT Waverly 59.12 70 *e*P **P 10 54 30.5 +0.1**
WVT pmax pmax
comp=Z,17nm,1.3s
WVT Waverly 59.12 70 *e*P **P 10 54 30.5 +0.1**
comp=Z,17nm,1.3s
TRQ Mont Tremblant 59.30 53 *e*P **P 10 54 31.3 -0.3**
GTA Gaotai 59.32 296 *e*P **P 10 54 30.9 -1.1**
GTA pP pP 10 54 47.7 +0.8
GTA sP sP 10 54 54.9 +1.8
GTA S **S 11 02 31.5 -4.7**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,86nm,5.3s
GTA LR LR
comp=Z,360nm,17.6s
GTA LR LR
comp=Z,310nm,18.0s
GTA LR LR
comp=Z,500nm,17.6s
OXF Oxford 59.32 72 *e*P **P 10 54 31.6 -0.2**
OXF pmax pmax
comp=Z,34nm,0.8s
OXF Oxford 59.32 72 *e*P **P 10 54 31.6 -0.2**
comp=Z,34nm,0.8s
LZH Lanzhou 59.33 290 *e*P **P 10 54 32.4 +0.3**
LZH pP pP 10 54 48.1 +1.1
LZH sP sP 10 54 54.7 +1.4
LZH PP **PP 10 56 46.8 +3.5**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.9s
LZH LR LR
comp=Z,310nm,15.4s
LZH LR LR
comp=Z,450nm,15.5s
LZH LR LR
comp=Z,390nm,16.1s
X45A UM Field Stati 59.39 72 P **P 10 54 32.0 -0.3**
baz=315
ALLY Alegheny Colle 59.60 60 *e*P **P 10 54 34.0 +0.4**
comp=Z,36nm,0.9s
M54A Oil Creek Stat 59.95 60 P **P 10 54 35.5 -0.6**
baz=315
Y46A Houston 60.09 72 P **P 10 54 36.8 -0.3**
baz=315
N54A Moraine State 60.16 61 P **P 10 54 36.9 -0.7**
baz=315
541A Lake Charles 60.20 78 P **P 10 54 37.6 -0.3**
baz=316
343A Vidalia 60.28 76 P **P 10 54 37.9 -0.6**
baz=316
244A Avery, Jackson 60.30 75 P **P 10 54 37.9 -0.7**
baz=315
145A Houston Renfro 60.35 74 P **P 10 54 38.3 -0.7**
baz=315
344A Westbrook Farm 60.69 76 P **P 10 54 40.7 -0.6**
baz=316
245A Little AP, Sta 60.78 74 P **P 10 54 41.1 -0.7**
baz=316
146A Union 60.85 73 P **P 10 54 41.6 -0.7**
baz=316
Z47A Carrollton 61.04 72 P **P 10 54 42.8 -0.8**
baz=316
Z48A Northport 61.21 72 P **P 10 54 43.9 -0.8**
baz=316
147A Livingston 61.29 73 P **P 10 54 44.9 -0.4**
baz=316
O56A Blue Knob Stat 61.42 60 P **P 10 54 44.6 -1.5**
baz=315
346A Big Creek Wild 61.49 75 P **P 10 54 46.4 -0.3**
baz=316
SSPA Standing Stone 61.52 60 *e*P **P 10 54 47.0 +0.2**
comp=Z,15nm,0.9s
KURK Kurchatov 61.69 317 P **P 10 54 47.9 +0.2**
KURK pmax pmax
comp=Z,4.0nm,0.4s
KURK pmax pmax
comp=N,3.0nm,0.8s
KURK Kurchatov 61.69 317 *e*P **P 10 54 47.5 -0.2**
comp=N,13nm,1.0s
KURK ScP **ScP 10 59 26.9 +1.6**
KURBB Kurchatov Arra 61.79 317 P **P 10 54 47.9 -0.5**
comp=N,3.6nm,0.4s,baz=40,slow=7.4,SNR=8.2
KURBB ScP **ScP 10 59 26.9 +1.1**
comp=N,3.1nm,0.8s,baz=39,slow=4.4,SNR=6.4
248A Dixon Mills 62.02 73 P **P 10 54 50.0 -0.2**
baz=316
347A Saraland 62.04 74 P **P 10 54 49.8 -0.6**
baz=316
SOKR Solikamsk 62.11 334 *e*P **P 10 54 46.9 -3.5**
SOKR pmax pmax
comp=Z,11nm,0.9s
PQI Presque Isle 62.13 49 *e*P **P 10 54 52.8 +2.1**
comp=Z,26nm,0.8s
348A Jackson 62.41 74 P **P 10 54 52.5 -0.3**
baz=316
N59A State Game Lan 62.44 58 P **P 10 54 52.5 -0.5**
baz=316
BLA Blacksburg 62.58 64 *e*P **P 10 54 54.4 +0.4**
BLA pmax pmax
comp=Z,20nm,0.8s
BLA Blacksburg 62.58 64 *e*P **P 10 54 54.4 +0.4**
comp=Z,20nm,0.8s
WMQ Urumqi 62.60 307 P **P 10 54 55.9 +1.9**
WMQ pP pP 10 55 11.4 +2.3
WMQ sP sP 10 55 17.9 +2.6
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ LR LR
comp=Z,290nm,23.9s
WMQ LR LR
comp=Z,360nm,22.1s
WMQ LR LR
comp=Z,260nm,23.9s
LUPA Lehigh Univers 62.88 58 *e*P **P 10 54 56.8 +0.9**
comp=Z,20nm,0.9s
SDMD Soldier's Deli 62.96 60 *e*P **P 10 54 56.8 +0.4**
comp=Z,7.1nm,0.8s
MK31 Makanchi Array 63.00 312 *e*P **P 10 54 55.7 -0.9**
MK31 Makanchi Array 63.00 312 *e*P **P 10 54 55.7 -0.9**
MKAR Makanchi Array 63.00 312 P **P 10 54 55.6 -1.0**
comp=Z,2.6nm,0.4s,baz=43,slow=6.6,SNR=60
MKAR Makanchi Array 63.00 312 *e*P **P 10 54 55.7 -1.0**
comp=Z,24nm,0.4s
MK01 Makanchi Array 63.01 312 *e*P **P 10 54 55.0 -1.7**
MAKZ Makanchi 63.13 312 *e*P **P 10 54 56.5 -1.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 63.13 312 *e*P **P 10 54 56.5 -1.0**
comp=Z,6.0nm,1.1s
BVA0 Borovoye Array 63.17 323 *i*P **P 10 54 57.4 -0.2**
BVA0 pmax pmax
comp=Z,6.0nm,0.5s
BVAR Borovoye Array 63.17 323 P **P 10 54 57.6 0.0**
baz=51,slow=5.7
BVAR ScP 10 59 33.5
comp=Z,1.3nm,0.7s,baz=20,slow=5.4,SNR=4.4
BVAR LR LR 11 24 09.4
comp=Z,273nm,19.3s,baz=69,slow=38
BRVK Borovoye 63.18 323 *d*i*P* **P 10 54 58.0 +0.3**
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK Borovoye 63.18 323 *e*P **P 10 54 57.7 +0.1**
comp=Z,14nm,1.2s
SVE Sverdlovsk 63.36 331 *e*P **P 10 54 58.6 -0.2**
SVE pmax pmax
comp=Z,13nm,1.0s
KMSC Kings Mountain 63.55 66 P **P 10 55 00.1 -0.2**
baz=316
WES Weston 63.67 54 *e*P **P 10 55 01.8 +0.8**
WES pmax pmax
comp=Z,119nm,1.5s
WES Weston 63.67 54 *e*P **P 10 55 01.8 +0.8**
comp=Z,119nm,1.5s
LMN Caledonia Moun 64.23 48 *e*P **P 10 55 05.0 +0.3**
comp=Z,37nm,0.8s
ARU Arti 64.31 332 *d*i*P* **P 10 55 04.8 -0.2**
ARU 10 55 39.3
ARU S **S 11 03 42.0 +3.5**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU Arti 64.31 332 *e*P **P 10 55 04.4 -0.7**
comp=Z,23nm,0.3s
GYA Guiyang 64.53 281 *e*P **P 10 55 07.2 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 64.81 344 *e*P **P 10 55 06.8 -1.4**
KLMR *e* 10 55 39.2
KLMR pmax pmax
comp=Z,21nm,1.5s
TIGA Tifton 64.93 71 P **P 10 55 08.5 -1.0**
baz=317
FINES FINESS Array B 66.09 351 P **P 10 55 14.3 -2.1**
comp=Z,5.5nm,0.8s,baz=10,slow=5.7,SNR=13
FINES LR LR 11 25 24.6
comp=Z,193nm,20.6s,baz=358,slow=37
FINES FINESS Array B 66.09 351 *i*P **P 10 55 15.5 -0.9**
FINES pmax pmax
comp=Z,6.0nm,0.8s
TAOE Nuku Hiva Isla 66.37 145 *e*LR LR 11 15 17.4
comp=Z,482nm,22.9s
TAOE Nuku Hiva Isla 66.37 145 *e*T T 12 07 47.8
comp=Z,26nm,0.2s
NB2 NORSAR Subarra 67.37 358 P **P 10 55 23.5 -1.2**
comp=Z,1.3nm,0.5s,baz=8,slow=6.5
NOA NORSAR Array B 67.37 358 P **P 10 55 23.5 -1.2**
comp=Z,1.3nm,0.5s,baz=3.7,slow=6.5,SNR=7.5
NOA LR LR 11 24 17.3
comp=Z,84nm,20.9s,baz=350,slow=35
KMI Kunming 67.90 283 P **P 10 55 28.9 +0.1**
KMI pmax pmax
comp=Z,21nm,0.6s
KMI pmax pmax
comp=Z,140nm,4.6s
FRU Bishkek 69.53 314 *e*P **P 10 55 39.0 +0.6**
AKTO Aktyubinsk 69.62 329 LR LR 11 28 51.3
comp=Z,150nm,18.5s,baz=21,slow=38
AAK Ala-Archa 69.73 314⇓*i*P **P 10 55 40.0 +0.1**
AAK pmax pmax
comp=Z,19nm,1.0s
AAK Ala-Archa 69.73 314 *e*P **P 10 55 40.0 +0.1**
comp=Z,10.0nm,1.1s
PMOR Pomariorio Ree 69.81 155 *e*T T 12 12 03.8
comp=Z,4.4nm,0.3s
AB31 Akbulak array 70.00 327 *e*P **P 10 55 40.8 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.4s
SLVN Son La 70.02 279 *e*P **P 10 55 42.5 +0.8**
comp=Z,9.9nm,0.8s
PMG Port Moresby 70.50 223 *c*e*P* **P 10 55 44.9 +0.3**
PMG pmax pmax
comp=Z,38nm,1.0s
KK31 Karatay Array 71.09 317 *i*P **P 10 55 47.1 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 71.09 317 *e*P **P 10 55 47.4 -0.6**
KKAR pmax pmax
comp=Z,36nm,0.8s
KKAR Karatay Array 71.09 317 *e*P **P 10 55 47.4 -0.6**
comp=Z,36nm,0.8s
LSA Lhasa 71.27 294 P **P 10 55 51.2 +1.4**
LSA pmax pmax
comp=Z,15nm,1.0s
KSH Kashi 71.54 311 P **P 10 55 53.7 +2.8**
KSH pP PcP 10 56 10.1 +0.1
KSH PcP **sP 10 56 12.2 -0.1**
KSH sP pP 10 56 15.9 +10
KSH PP **PP 10 58 34.2 +4.6**
KSH S **S 11 05 05.7 +0.1**
KSH sS sS 11 05 34.4 +3.1
KSH SKS **SKSac 11 05 46.4 -3.1**
KSH ScS **SKKSac 11 05 50.1 +0.5**
KSH SS **SS 11 09 43.0 +2.5**
KSH pmax pmax
comp=Z,13nm,1.0s
KSH pmax pmax
comp=Z,160nm,6.1s
KSH LR LR
comp=Z,210nm,5.6s
KSH LR LR
comp=Z,96nm,5.4s
KSH LR LR
comp=Z,170nm,8.7s
PPT Papeete 71.86 158 LR LR 11 19 59.6
comp=Z,190nm,19.6s,baz=344,slow=30
PPT2 Papeete2 71.88 158 *e*LR LR 11 17 42.4
comp=Z,300nm,22.8s,baz=342
PPT2 Papeete2 71.88 158 *e*T T 12 14 39.0
comp=Z,2.4nm,0.3s
TIAR Tiarei 71.91 157 *e*T T 12 14 40.4
comp=Z,3.3nm,0.3s
CHTO Chiang Mai 74.95 281 *e*P **P 10 56 11.3 +0.2**
CHTO pmax pmax
comp=Z,14nm,1.4s
CHTO Chiang Mai 74.95 281 *e*P **P 10 56 11.3 +0.2**
comp=Z,14nm,1.4s
TAPN Taplejung 75.00 295 *e*P **P 10 56 12.2 +0.5**
comp=Z,20nm,0.5s
CMAR Chiang Mai Arr 75.22 281 P **P 10 56 12.6 -0.1**
comp=Z,7.8nm,0.7s,baz=27,slow=6.8,SNR=41
CMAR Chiang Mai Arr 75.22 281 *c*e*P* **P 10 56 13.0 +0.3**
CMAR *e* 10 59 02.2
CMAR pmax pmax
comp=Z,8.0nm,0.7s
CM01 Chiang Mai Arr 75.24 281 *e*P **P 10 56 12.8 0.0**
ODAN Odare 75.56 295 *e*P **P 10 56 13.5 -1.3**
comp=Z,12nm,0.5s
GUN Gumba 75.58 297 *e*P **P 10 56 15.1 0.0**
comp=Z,37nm,0.4s
JIRN Jiri 75.61 296 *e*P **P 10 56 15.4 +0.2**
comp=Z,204nm,0.4s
RAMN Ramite 75.93 296 *e*P **P 10 56 16.9 0.0**
KKN Kakani 76.01 297 *e*P **P 10 56 17.5 +0.2**
comp=Z,18nm,0.4s
DZM Mont Dzumac 76.09 201 *e*P **P 10 56 15.0 -2.4**
comp=Z,40nm,1.4s
DZM Mont Dzumac 76.09 201 *e*LR LR 11 19 57.5
comp=Z,444nm,21.6s
PKI Pulchoki 76.11 297 *e*P **P 10 56 18.1 +0.1**
comp=Z,14nm,0.5s
PKIN Phulchoki 76.11 297 *e*P **P 10 56 17.6 -0.4**
comp=Z,11nm,0.5s
GKN Gorkha 76.20 298 *e*P **P 10 56 18.0 -0.3**
comp=Z,30nm,0.4s
AKASG Malin Array Be 76.21 346 P **P 10 56 15.7 -2.1**
comp=Z,0.8nm,0.3s,baz=13,slow=5.4,SNR=6.1
AKASG LR LR 11 31 27.0
comp=Z,235nm,21.9s,baz=185,slow=37
AKASG Malin Array Be 76.21 346 *c*e*P* **P 10 56 16.3 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 76.22 346⇓*i*P **P 10 56 17.8 0.0**
DMN Daman 76.25 297 *e*P **P 10 56 18.8 +0.1**
comp=Z,17nm,0.7s
DANN Dangsing 76.41 299 *e*P **P 10 56 20.5 +0.8**
comp=Z,4.5nm,0.9s
KOLN Koldanda 76.95 298 *e*P **P 10 56 22.4 -0.2**
comp=Z,11nm,0.5s
PYUN Piuthan 77.02 299 *e*P **P 10 56 22.8 -0.2**
comp=Z,19nm,0.6s
CLL Collm 77.07 357 *e*P **P 10 56 22.0 -0.6**
CLL Collm 77.07 357 *e*P **P 10 56 22.0 -0.6**
TBI Tubuai 77.47 159 *e*LR LR 11 20 24.0
comp=Z,364nm,26.0s,baz=335
TBI Tubuai 77.47 159 *e*T T 12 21 36.7
comp=Z,14nm,0.3s
BRG Berggiesshubel 77.47 356 *e*P **P 10 56 24.4 -0.5**
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 77.47 356 *e*P **P 10 56 24.4 -0.5**
BRG pmax pmax
comp=Z,2.0nm,0.9s
UPC Upice 77.73 355 *e*P **P 10 56 26.8 +0.4**
UPC Upice 77.73 355 *e*P **P 10 56 26.8 +0.4**
DPC Dobruska-Polom 77.88 355 *e*P **P 10 56 26.4 -0.8**
DPC Dobruska-Polom 77.88 355 *e*P **P 10 56 26.4 -0.8**
KRLC Kraliky 78.12 354 *e*P **P 10 56 28.0 -0.6**
KRLC Kraliky 78.12 354 *e*P **P 10 56 28.0 -0.6**
NKC Novy Kostel 78.16 357 *e*P **P 10 56 28.5 -0.3**
NKC Novy Kostel 78.16 357 *e*P **P 10 56 28.5 -0.3**
PRU Pruhonice 78.33 356 *e*P **P 10 56 28.6 -1.1**
PRU Pruhonice 78.33 356 *e*P **P 10 56 28.6 -1.1**
MORC Moravsky Berou 78.37 354⇑*i*P **P 10 56 29.9 -0.1**
KBL Kabul 78.80 313 *e*P **P 10 56 32.3 -0.5**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 78.80 313 *e*P **P 10 56 32.3 -0.5**
comp=Z,9.9nm,0.8s
GOF Gofitskoye 78.83 336⇑*e*P **P 10 56 33.0 +0.5**
GOF pmax pmax
comp=Z,75nm,1.4s
KHC Kasperske Hory 79.22 356 *e*P **P 10 56 34.9 +0.2**
KHC Kasperske Hory 79.22 356 *e*P **P 10 56 34.9 +0.2**
KHC Kasperske Hory 79.22 356 *e*P **P 10 56 34.7 0.0**
comp=Z,5.0nm,1.4s
GERES GERESS Array B 79.50 356 P **P 10 56 35.3 -1.0**
comp=Z,1.5nm,0.6s,baz=19,slow=5.7,SNR=7.8
GEA0 GERESS Array S 79.51 356 *e*P **P 10 56 35.5 -0.8**
VYHS Vyhne 79.55 353 *e*P **P 10 56 35.7 -0.7**
VYHS Vyhne 79.55 353 *e*P **P 10 56 35.7 -0.7**
BUR08 Bucovina Ar. S 79.75 348 *e*P **P 10 56 37.3 -0.4**
BURAR Bucovina Array 79.78 348⇑*i*P **P 10 56 36.6 -1.2**
KVAR Kislovodsk Arr 79.95 335 LR LR 11 35 41.1
comp=Z,154nm,20.4s,baz=22,slow=38
KBZ Khabaz 80.11 335 P **P 10 56 39.2 -0.2**
comp=Z,2.9nm,0.9s,baz=64,slow=7.5,SNR=4.3
KBZ LR LR 11 36 10.4
comp=Z,176nm,20.7s,baz=11,slow=39
CONA Conrad Observa 80.32 355 *i*P **P 10 56 40.6 -0.1**
comp=Z,8.2nm,1.1s
MOA Molln 80.47 356 *i*P **P 10 56 42.3 +0.9**
comp=Z,7.5nm,1.2s
GEYT Alibeck 80.48 322 P **P 10 56 40.4 -1.2**
comp=Z,3.4nm,0.7s,baz=310,slow=5.6,SNR=6.0
GEYT LR LR 11 35 41.4
comp=Z,210nm,18.1s,baz=30,slow=38
CTA Charters Tower 80.49 220 P **P 10 56 41.4 -0.3**
comp=Z,9.7nm,0.9s,baz=12,slow=10
CTAO Charters Tower 80.49 220 *e*P **P 10 56 41.9 +0.2**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 80.49 220 *e*P **P 10 56 41.9 +0.2**
comp=Z,9.7nm,0.8s
ZEI Tsey 80.72 334 *e*P P 10 56 36.0 -7.1
ZEI pmax pmax
comp=Z,23nm,1.1s
DRGR 80.88 350⇑*i*P **P 10 56 42.8 -0.9**
ARSA Arzberg 81.01 355 *i*P **P 10 56 43.4 -0.9**
comp=Z,5.6nm,1.8s
MTN Manton Dam 81.06 236 *e*P **P 10 56 44.8 0.0**
comp=Z,24nm,0.8s
MOTA Moosalm 81.09 358 *i*P **P 10 56 44.4 -0.4**
comp=Z,4.1nm,0.8s
VRI Vrincioaia 81.29 347⇑*i*P P 10 56 51.5 +5.7
RKT Rikitea 81.39 146 *e*T T 12 26 32.9
comp=Z,2.0nm,0.2s
FETA Feichten 81.42 358 *i*P **P 10 56 47.0 +0.4**
comp=Z,6.3nm,1.0s
SOKA Soboth 81.61 355 *e*P **P 10 56 48.1 +0.5**
comp=Z,11nm,1.4s
ABTA Abfaltersbach 81.64 357 *e*P **P 10 56 48.1 +0.4**
comp=Z,6.9nm,1.0s
VOIR 81.94 348⇓*i*P **P 10 56 51.3 +2.0**
VOIR 81.94 348⇓*i*P **P 10 56 51.7 +2.4**
TIRR Tirgusor 82.42 346⇑*i*P **P 10 56 53.8 +2.1**
GNI Garni 82.94 333 LR LR 11 41 15.0
comp=Z,69nm,18.1s,baz=350,slow=41
MDVR Moldovita 82.97 350⇓*i*P **P 10 56 58.3 +3.6**
VTS Vitosha 84.97 349⇑*i*P **P 10 57 03.3 -1.7**
WRAB Tennant Creek 85.53 230 *c*e*P* **P 10 57 07.5 -0.2**
WRAB pmax pmax
comp=Z,45nm,1.7s
WRAB Tennant Creek 85.53 230 *e*P **P 10 57 06.9 -0.8**
comp=Z,19nm,1.4s
WRA Warramunga Arr 85.54 230 P **P 10 57 06.5 -1.3**
comp=Z,4.1nm,0.8s,baz=34,slow=5.9,SNR=28
WRA Warramunga Arr 85.54 230 *c*e*P* **P 10 57 06.9 -0.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 86.07 341 P **P 10 57 10.2 -0.3**
comp=Z,1.2nm,0.6s,baz=58,slow=0.6,SNR=5.4
BRTR PKKPbc **PKKPbc 11 15 07.5 +0.1**
comp=Z,0.3nm,0.4s,baz=170,slow=4.7,SNR=3.9
BR231 Keskin MP Arra 86.13 341 *e*P **P 10 57 10.5 -0.3**
HYB Hyderabad 87.99 296 *i*P **P 10 57 20.0 0.0**
ES19 SONSECA Array 88.15 9 *e*P **P 10 57 19.9 -0.5**
ESDC Sonseca Array 88.17 9 P **P 10 57 19.4 -1.2**
comp=Z,1.1nm,0.6s,baz=350,slow=4.3,SNR=8.7
ESDC LR LR 11 35 11.1
comp=Z,46nm,21.6s,baz=140,slow=34
AS01 Alice Springs 88.93 228 *e*P **P 10 57 24.0 -0.1**
AS31 Alice Springs 88.95 228 *e*P **P 10 57 24.3 +0.1**
comp=Z,5.2nm,0.7s
ASAR Alice Springs 88.95 228 P **P 10 57 24.2 0.0**
comp=Z,16nm,0.7s,baz=33,slow=4.7,SNR=141
GIRC Giron, Santand 89.78 79 *e*P **P 10 57 27.7 -0.9**
GUYC Guyana, Colomb 89.90 82 *e*P **P 10 57 30.4 +0.9**
NORC Norcasia 89.95 81 *e*P **P 10 57 29.7 +0.4**
BARC Barichara 90.17 79 *e*P **P 10 57 30.9 +0.4**
URZ Urewera 90.32 189 LR LR 11 30 45.9
comp=Z,183nm,21.2s,baz=24,slow=31
RUSC La Rusia 90.78 80 *e*P **P 10 57 33.0 -0.7**
RUSC La Rusia 90.78 80 *e*P **P 10 57 34.3 +0.6**
comp=Z,9.3nm,1.3s
OTAV Otavalo 91.91 87 *e*P **P 10 57 40.0 +1.2**
comp=Z,3.3nm,0.7s
STKA Stephens Creek 92.89 218 P **P 10 57 42.3 +0.1**
comp=Z,3.0nm,0.6s,baz=3.1,slow=6.8,SNR=9.7
STKA LR LR 11 33 48.0
comp=Z,312nm,21.8s,baz=14,slow=32
STKA Stephens Creek 92.89 218 *e*P **P 10 57 42.7 +0.4**
STKA pmax pmax
comp=Z,5.0nm,1.6s
STKA Stephens Creek 92.89 218 *e*P **P 10 57 42.7 +0.4**
comp=Z,5.2nm,1.6s
TORD Torodi Ar. Bea 114.97 7 PKP PKPdf 11 03 09.6 -1.0
comp=Z,0.7nm,0.5s,baz=336,slow=2.0,SNR=6.6
TORD SKP 11 06 43.4
comp=Z,0.4nm,0.8s,baz=5.6,slow=1.2,SNR=3.6
TORD PKKPbc **PKKPbc 11 13 44.2 -0.5**
comp=Z,1.1nm,0.9s,baz=178,slow=2.7,SNR=4.9
DBIC Dimbokro 120.59 15 PKP **PKPdf 11 03 21.0 -0.4**
comp=Z,6.0nm,1.2s,baz=342,slow=2.1,SNR=4.1
CPUP Villa Florida 125.23 89 PKP **PKPdf 11 03 29.3 -0.6**
comp=Z,2.6nm,0.8s,baz=226,slow=2.7,SNR=4.2
PLCA Paso Flores 127.04 111 PKP **PKPdf 11 03 33.1 +0.1**
comp=Z,6.6nm,1.0s,baz=332,slow=1.6,SNR=7.5
VNDA Vanda 130.20 187 PKP **PKPdf 11 03 38.6 +0.8**
comp=Z,0.6nm,0.6s,baz=3.8,slow=1.6,SNR=5.1
MAW Mawson 149.58 218 PKPbc **PKPbc 11 04 17.8 +0.4**
comp=Z,16nm,0.7s,baz=104,slow=2.2,SNR=69
BOSA Boshof 153.45 325 PKPbc **PKPbc 11 04 28.0 +0.2**
comp=Z,4.2nm,0.5s,baz=8.0,slow=2.6,SNR=15
BOSA PKPab **PKPab 11 04 40.1 0.0**
comp=Z,9.1nm,1.0s,baz=124,slow=2.4,SNR=5.5

IDC 08 10:46:19.7±8.5, 52.07N×172.14W, h371km±92km, mb3.4/4, mb1 3.6/6, mb1mx3.1/47, mbtmp4.2/6, Error ellipse: s-maj=78.7km s-min=17.3km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array** baz=231,slow=9.2,SNR=2.4	**18.18**	**36**	P	P	10 50 06.9	-0.1
PETK	**Petropavlovsk-** 1.2nm,0.3s,baz=80,slow=13,SNR=2.8	**18.30**	**285**	P	P	10 50 08.6	+0.2
MA2	**Magadan** 6.0nm,0.8s,baz=109,slow=15,SNR=2.7	**21.90**	**305**	P	P	10 50 43.0	0.0
YKA	**Yellowknife Ar** 1.0nm,0.4s,baz=276,slow=8.6,SNR=4.8	**31.72**	**48**	P	P	10 52 10.0	0.0
MJAR	**Matsushiro Arr** 2.3nm,0.7s,baz=43,slow=8.0,SNR=4.2	**37.98**	**266**	P	P	10 53 02.9	-0.3
KSRS	**Korea Array** 3.0nm,0.9s,baz=55,slow=7.6,SNR=3.1	**43.74**	**275**	P	P	10 53 49.7	+0.1

*DDA **08** 11:03:14.2, 39°.31N×28°.15E, h8km, Md2.7*
*ISCJB **08** 11:03:15.1±0.4, 39°.30N±0°.02×28°.13E±0°.02, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=9.2*
*ISK **08** 11:03:15.0, 39°.34N×28°.11E, h7km, MD2.7*
*CSEM **08** 11:03:15.3±0.1, 39°.30N×28°.12E, h8km, MD2.7, Error ellipse: s-maj=2.4km s-min=2.2km az=23.0*

ISC 08 11:03:15.2±0.9, 39°.30N±0°.02×28°.12E±0°.02, h11km±8km, n76, σ0^{s}57/100, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.32**	**284**	*i* P	**Pg**	**11 03 21.7**	**0.0**
STEP				*i* S	**Sg**	**11 03 26.5**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.32**	**284**	P	**Pg**	**11 03 21.7**	**0.0**
STEP				S	**Sg**	**11 03 26.5**	**+0.4**
BALB	**Balikesir**	**0.39**	**331**	*e*PG	**Pg**	**11 03 22.9**	**+0.1**
BALB				*e*SG	**Sg**	**11 03 28.3**	**+0.3**
BALB	**Balikesir**	**0.39**	**331**	*e*Pg	**Pg**	**11 03 22.9**	**+0.1**
BALB				*e*Sg	**Sg**	**11 03 28.3**	**+0.3**
AKHS	**Akhisar**	**0.49**	**210**	*i* P	**Pg**	**11 03 24.5**	**-0.2**
AKHS				*i* S	**Sb**	**11 03 32.4**	**-0.5**
AKHS	**Akhisar**	**0.49**	**210**	P	**Pg**	**11 03 24.5**	**-0.2**
AKHS				S	**Sb**	**11 03 32.4**	**-0.5**
DEMI	**Demirci**	**0.53**	**119**	*i* P	**Pg**	**11 03 25.6**	**+0.1**
DEMI				*i* S	**Sg**	**11 03 32.9**	**+0.4**
DEMI	**Demirci**	**0.53**	**119**	P	**Pg**	**11 03 25.6**	**+0.1**
DEMI				S	**Sg**	**11 03 32.9**	**+0.4**
BALY	**Balya**	**0.59**	**318**	*i* P	**Pg**	**11 03 26.2**	**-0.4**
BALY	**Balya**	**0.59**	**318**	P	**Pg**	**11 03 26.2**	**-0.4**
SIMA	**Simav-Kutahya**	**0.70**	**108**	*e*PG	**Pb**	**11 03 29.7**	**+0.2**
SIMA				*e*SG	**Sb**	**11 03 39.7**	**+0.5**
SIMA	**Simav-Kutahya**	**0.70**	**108**	*e*Pg	**Pb**	**11 03 29.7**	**+0.2**
SIMA				*e*Sg	**Sb**	**11 03 39.7**	**+0.5**
MANT	**Manisa**	**0.88**	**157**	*i* P	**Pb**	**11 03 32.4**	**-0.1**
MANT				*i* S	**Sg**	**11 03 42.5**	**-1.1**
MANT	**Manisa**	**0.88**	**157**	P	**Pb**	**11 03 32.4**	**-0.1**
MANT				S	**Sg**	**11 03 42.5**	**-1.1**
KULA	**Kula-Manisa**	**0.89**	**152**	*e*PG	**Pb**	**11 03 33.0**	**+0.3**
KULA	**Kula-Manisa**	**0.89**	**152**	*e*Pg	**Pb**	**11 03 33.0**	**+0.3**
DKL	**Dikili**	**0.97**	**257**	*e*PG	**Pg**	**11 03 33.9**	**-0.1**
DKL				*e*SG	**Sb**	**11 03 48.0**	**+1.1**
DKL	**Dikili**	**0.97**	**257**	*e*Pg	**Pg**	**11 03 33.9**	**-0.1**
DKL				*e*Sg	**Sb**	**11 03 48.0**	**+1.1**
KCTX	**Karacabey (Bur**	**0.98**	**10**	*e*PG	**Pg**	**11 03 33.7**	**-0.4**
KCTX	**Karacabey (Bur**	**0.98**	**10**	*e*Pg	**Pg**	**11 03 33.7**	**-0.4**
GEDZ	**Gediz**	**1.03**	**104**	*e*PG	**Pn**	**11 03 35.8**	**+0.1**
GEDZ	**Gediz**	**1.03**	**104**	*e*Pg	**Pn**	**11 03 35.8**	**+0.1**
TVSB	**Tavsanli**	**1.05**	**81**	*e*PG	**Pg**	**11 03 35.2**	**-0.2**
TVSB	**Tavsanli**	**1.05**	**81**	*e*Pg	**Pg**	**11 03 35.2**	**-0.2**
EDC	**Edincik**	**1.06**	**349**	*e*PG	**Pg**	**11 03 35.0**	**-0.6**
EDC	**Edincik**	**1.06**	**349**	*e*Pg	**Pg**	**11 03 35.0**	**-0.6**
GDZ	**Gediz**	**1.08**	**101**	*i* P	**Pg**	**11 03 35.3**	**-0.6**
GDZ				*i* S	**Sg**	**11 03 49.3**	**-0.6**
GDZ	**Gediz**	**1.08**	**101**	P	**Pg**	**11 03 35.3**	**-0.6**
GDZ				S	**Sg**	**11 03 49.3**	**-0.6**
AYVA	**Ayvalik**	**1.11**	**271**	*i* P	**Pn**	**11 03 36.9**	**+0.1**
AYVA				*i* S	**Sb**	**11 03 51.5**	**+0.6**
AYVA	**Ayvalik**	**1.11**	**271**	P	**Pn**	**11 03 36.8**	**+0.1**
AYVA				S	**Sb**	**11 03 51.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.22**	**29**	*e*PN	**Pb**	**11 03 37.3**	**-0.9**
MDNY				*e*SN	**Sn**	**11 03 55.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.22**	**29**	*e*Pn	**Pb**	**11 03 37.3**	**-0.9**
MDNY				*e*Sn	**Sn**	**11 03 55.1**	**+0.5**
IGD	**Bursa**	**1.27**	**40**	*i* P	**Pn**	**11 03 38.1**	**-0.7**
IGD				*i* S	**Sb**	**11 03 55.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.30**	**290**	*i* P	**Pn**	**11 03 39.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.30**	**290**	P	**Pn**	**11 03 39.2**	**0.0**
MRMT	**Marmara Adasi**	**1.36**	**343**	*e*PN	**Pn**	**11 03 40.1**	**-0.1**
MRMT	**Marmara Adasi**	**1.36**	**343**	*e*Pn	**Pn**	**11 03 40.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**188**	*e*PN	**Pb**	**11 03 41.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**188**	*e*Pn	**Pb**	**11 03 41.1**	**+0.3**
ARMT	**Armutlu**	**1.38**	**24**	*e*PN	**Pn**	**11 03 40.1**	**-0.4**
ARMT	**Armutlu**	**1.38**	**24**	*e*Pn	**Pn**	**11 03 40.1**	**-0.4**
KHAL	**Karahalli**	**1.42**	**131**	*i* P	**Pn**	**11 03 40.3**	**-0.7**
KHAL				*i* S	**Sb**	**11 03 59.7**	**-0.1**
KHAL	**Karahalli**	**1.42**	**131**	P	**Pn**	**11 03 40.3**	**-0.7**
KHAL				S	**Sb**	**11 03 59.7**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.45**	**23**	*e*PN	**Pn**	**11 03 41.2**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.45**	**23**	*e*Pn	**Pn**	**11 03 41.2**	**-0.1**
EZN	**Ezine**	**1.49**	**291**	*e*PN	**Pg**	**11 03 43.3**	**-0.4**
EZN	**Ezine**	**1.49**	**291**	*e*Pn	**Pg**	**11 03 43.3**	**-0.4**
URLA	**Izmir**	**1.52**	**232**	*i* P	**Pn**	**11 03 42.1**	**-0.2**
URLA	**Izmir**	**1.52**	**232**	P	**Pn**	**11 03 42.1**	**-0.2**
DGB	**¨zmir**	**1.58**	**218**	*i* P	**Pn**	**11 03 43.9**	**+0.8**
DGB				*i* S	**Sn**	**11 04 03.1**	**-0.5**
SBT3	**Marmara-Eregli**	**1.58**	**356**	*e*PN	**Pb**	**11 03 43.8**	**-0.6**
SBT3	**Marmara-Eregli**	**1.58**	**356**	*e*Pn	**Pb**	**11 03 43.8**	**-0.6**
CAVI	**Cavuskoy**	**1.60**	**55**	*e*PN	**Pb**	**11 03 44.6**	**-0.2**
CAVI	**Cavuskoy**	**1.60**	**55**	*e*Pn	**Pb**	**11 03 44.6**	**-0.2**
SBT2	**Guzelce-Avcila**	**1.60**	**11**	*e*PN	**Pn**	**11 03 43.8**	**+0.4**
SBT2	**Guzelce-Avcila**	**1.60**	**11**	*e*Pn	**Pn**	**11 03 43.8**	**+0.4**
AYDN	**Tasoluk**	**1.65**	**187**	*i* P	**Pn**	**11 03 44.8**	**+0.6**
AYDN	**Tasoluk**	**1.65**	**187**	P	**Pn**	**11 03 44.8**	**+0.6**
ADVT	**Abdulvahap**	**1.68**	**47**	*e*PN	**Pb**	**11 03 46.1**	**0.0**
ADVT	**Abdulvahap**	**1.68**	**47**	*e*Pn	**Pb**	**11 03 46.1**	**0.0**
BOZC	**Bozcaada**	**1.69**	**289**	*e*PN	**Pb**	**11 03 45.6**	**-0.7**
BOZC	**Bozcaada**	**1.69**	**289**	*e*Pn	**Pb**	**11 03 45.6**	**-0.7**
GCAM	**G?zelcaml?**	**1.75**	**204**	*i* P	**Pn**	**11 03 45.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.75**	**204**	P	**Pn**	**11 03 45.0**	**-0.4**
SIGR	**SIGRI**	**1.76**	**268**	*e*PN	**Pb**	**11 03 47.0**	**-0.5**
SIGR	**SIGRI**	**1.76**	**268**	*e*Pn	**Pb**	**11 03 47.0**	**-0.5**
CHOS	**Chios island**	**1.86**	**241**	*e*PN	**Pn**	**11 03 47.4**	**+0.4**
CHOS	**Chios island**	**1.86**	**241**	*e*Pn	**Pn**	**11 03 47.4**	**+0.4**
KAVV	**Kandilli-Istan**	**1.90**	**22**	*e*PN	**Pn**	**11 03 48.2**	**+0.7**
KAVV	**Kandilli-Istan**	**1.90**	**22**	*e*Pn	**Pn**	**11 03 48.2**	**+0.7**
HRT	**Hereke**	**1.93**	**37**	*e*PN	**Pn**	**11 03 49.0**	**+1.1**
HRT	**Hereke**	**1.93**	**37**	*e*Pn	**Pn**	**11 03 49.0**	**+1.1**
KLYT	**Kilyos**	**2.07**	**20**	*e*PN	**Pn**	**11 03 51.1**	**+1.3**
KLYT	**Kilyos**	**2.07**	**20**	*e*Pn	**Pn**	**11 03 51.2**	**+1.3**
GULT	**Gulveren**	**2.16**	**58**	*e*PN	**Pn**	**11 03 52.6**	**+1.4**
GULT	**Gulveren**	**2.16**	**58**	*e*Pn	**Pn**	**11 03 52.6**	**+1.4**

IDC 08 11:03:35.6±6.2, 4°.84S×134°.24E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.3/46, mbtmp3.4/3, ML3.3/2, MS4.2/1, Ms1 4.2/1, ms1mx2.8/41, Error ellipse: s-maj=345.9km s-min=31.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.01**	**180**	Pn	Pn	11 07 07.8	-1.5
	0.1nm,0.3s,baz=359,slow=13,SNR=3.8						
WRA				Sn	Sn	11 09 45.8	-11
	0.1nm,0.3s,baz=358,slow=23,SNR=5.3						
ASAR	**Alice Springs**	**18.72**	**181**	P	Pn	11 07 56.5	+0.2
	0.1nm,0.3s,baz=3.7,slow=12,SNR=13						
ASAR				S	Sn	11 11 15.7	-11
	baz=359,slow=27,SNR=4.5						
DZM	**Mont Dzumac**	**35.57**	**122**	LR	LR	11 24 02.7	
	comp=Z,372nm,20.1s,baz=24,slow=34						
MKAR	**Makanchi Array**	**68.83**	**325**	P	P	11 14 41.9	0.0
	0.6nm,0.7s,baz=123,slow=7.1,SNR=3.8						

*IDC **08** 11:15:07.5±1.7, 52°.54N×169°.57W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/59, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=59.0km s-min=30.3km az=140.0*
*NEIC **08** 11:15:09.9±0.0, 52°.54N×169°.14W, h8km, ML3.3(AEIC), After AEIC.*
*ISCJB **08** 11:15:10.6±1.7, 52°.5N±0°.1×169°.2W±0°.1, h31km±11km, mb3.5/3, Error ellipse: s-maj=22.0km s-min=7.1km az=150.2*

ISC 08 11:15:10.3±1.7, 52°.54N±0°.10×169°.12W±0°.09, h15km±10km, n30, σ1^{s}53/32, mb3.7/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.46**	**20**	P	**Pg**	**11 15 19.8**	**+0.3**
NIKH				S	**Sb**	**11 15 27.4**	**+0.6**
OKSO	**Okmok South**	**1.00**	**35**	P	**Pg**	**11 15 29.0**	**-0.8**
OKSO				S	**Sg**	**11 15 43.2**	**+0.3**
OKCE	**Okmok Cone E**	**1.06**	**33**	P	**Pg**	**11 15 29.9**	**-0.9**
OKCE				S	**Sn**	**11 15 46.6**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.07**	**37**	P	**Pg**	**11 15 30.5**	**-0.5**
OKNC	**Okmok New Cone**	**1.10**	**33**	P	**Pb**	**11 15 30.9**	**-0.1**
OKNC				S	**Sn**	**11 15 48.3**	**+2.2**
OKFG	**Magazine Ridge**	**1.14**	**39**	P	**Pb**	**11 15 31.1**	**-0.6**
OKFG				S	**Sb**	**11 15 47.1**	**+0.9**
MGOD	**Makushin Gods**	**1.85**	**46**	P	**Pn**	**11 15 41.4**	**-0.1**
MSW	**Makushin Switc**	**1.97**	**45**	P	**Pn**	**11 15 43.3**	**+0.3**
MSW				S	**Sn**	**11 16 07.7**	**+0.3**
MNAT	**Makushin Natee**	**1.99**	**46**	P	**Pn**	**11 15 43.6**	**+0.2**
UNV	**Unalaska Valle**	**2.05**	**49**	P	**Pn**	**11 15 44.1**	**0.0**
UNV				S	**Sn**	**11 16 10.2**	**+0.9**
MTBL	**Makushin Table**	**2.05**	**45**	P	**Pn**	**11 15 44.8**	**+0.5**
AKGG	**Akutan Green G**	**2.51**	**47**	P	**Pn**	**11 15 51.4**	**+1.0**
AKSA	**Akutan Strait**	**2.60**	**51**	P	**Pn**	**11 15 52.7**	**+0.9**
ATKA	**Atka Island**	**3.13**	**266**	P	**Pn**	**11 15 58.9**	**-0.1**
WESP	**Westdahl Peak**	**3.27**	**52**	P	**Pn**	**11 16 02.3**	**+1.2**
FALS	**False Pass**	**4.11**	**53**	P	**Pn**	**11 16 13.0**	**+0.6**
SPIA	**Saint Paul Isl**	**4.69**	**352**	P	**Pn**	**11 16 20.6**	**+0.1**
ADK	**Adak**	**4.70**	**265**	P	**Pn**	**11 16 20.5**	**0.0**
SDPT	**Sand Point**	**5.83**	**58**	P	**Pn**	**11 16 36.8**	**+0.8**
KDAK	**Kodiak Island**	**10.81**	**54**	Pn	**Pn**	**11 17 44.0**	**-0.2**
	0.2nm,0.3s,baz=262,slow=14,SNR=11						
KDAK				Sn	**Sn**	**11 19 38.3**	**-6.4**
	0.0nm,0.3s,baz=270,slow=20,SNR=1.9						
ILAR	**Eielson Array**	**16.73**	**34**	Pn	**Pn**	**11 19 02.5**	**-1.2**
	0.0nm,0.3s,baz=240,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**37.68**	**219**	T	T	12 02 21.7	
	baz=24,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**37.69**	**219**	T	T	12 02 22.9	
	baz=24,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**37.70**	**219**	T	T	12 02 23.7	
	baz=24,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	12 03 49.7	
	baz=23,slow=76,SNR=482						
H11S2	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	12 03 50.5	
	baz=23,slow=76,SNR=430						
H11S3	**WAKE ISLAND Hy**	**38.89**	**218**	T	T	12 03 50.8	
	baz=23,slow=76,SNR=369						
PDAR	**Pinedale Array**	**40.22**	**79**	P	**P**	**11 22 48.3**	**+2.0**
	0.2nm,0.6s,baz=297,slow=4.8,SNR=3.1						
TXAR	**Lajitas Array**	**52.59**	**89**	P	**P**	**11 24 24.5**	**+1.1**
	0.7nm,0.7s,baz=309,slow=5.7,SNR=6.3						
ASAR	**Alice Springs**	**90.62**	**230**	P	**P**	**11 28 10.7**	**-1.2**
	0.3nm,0.8s,baz=32,slow=5.5,SNR=6.1						

WEL 08 11:20:41.1±0.2, 45°.32S×167°.26E, h62km±1km, ML3.5/16, 8D, Error ellipse: s-maj=2.0km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.16**	**206**	||PN	Pn	11 20 50.5	-0.2
DCZ				SN	Sn	11 20 57.5	0.0
DCZ				SN		11 20 57.6	
DCZ				AML	AML	11 20 59.5	
DCZ				AML	AML	11 20 59.6	
MLZ	**Mavora Lakes**	**0.61**	**95**	PN	Pn	11 20 54.2	-0.3
MLZ				SN	Sn	11 21 04.1	-0.1
MLZ				AML	AML	11 21 05.1	
WHZ	**Wether Hill Ro**	**0.75**	**140**	PN	Pn	11 20 55.9	-0.2
WHZ				SN	Sn	11 21 07.3	+0.1
WHZ				AML	AML	11 21 08.1	
MSZ	**Milford Sound**	**0.80**	**37**	PN	Pn	11 20 56.1	-0.6
MSZ				SN	Sn	11 21 08.4	+0.3
MSZ				AML	AML	11 21 10.8	
MSZ				AML	AML	11 21 10.8	
MSZ				AML	AML	11 21 11.6	
PYZ	**Puysegur Point**	**0.94**	**205**	PN	Pn	11 20 59.1	+0.6
PYZ				AML	AML	11 21 16.2	
PYZ				AML	AML	11 21 16.2	
PYZ				AML	AML	11 21 16.3	
PYZ				AML	AML	11 21 16.3	
WKZ	**Wanaka**	**1.34**	**69**	PN	Pn	11 21 03.8	0.0
WKZ				SN	Sn	11 21 20.4	-0.4
WKZ				AML	AML	11 21 21.9	
WKZ				AML	AML	11 21 21.9	
WKZ				AML	AML	11 21 23.8	
EAZ	**Earnscleugh**	**1.45**	**87**	||PN	Pn	11 21 05.1	-0.1
EAZ				AML	AML	11 21 22.4	
EAZ				AML	AML	11 21 22.4	
EAZ				AML	AML	11 21 23.6	
EAZ				AML	AML	11 21 23.8	
APZ	**The Paps**	**1.60**	**162**	||PN	Pn	11 21 06.9	-0.3
APZ				AML	AML	11 21 27.5	
APZ				AML	AML	11 21 30.4	
JCZ	**Jackson Bay**	**1.65**	**42**	PN	Pn	11 21 07.8	-0.2
JCZ				AML	AML	11 21 33.7	
JCZ				AML	AML	11 21 36.1	
TUZ	**Tuapeka**	**1.78**	**112**	||PN	Pn	11 21 09.0	-0.7
TUZ				SN	Sn	11 21 29.3	-2.0
TUZ				AML	AML	11 21 29.7	
TUZ				AML	AML	11 21 30.2	
TUZ				AML	AML	11 21 31.0	
SYZ	**Scrubby Hill**	**1.79**	**134**	||PN	Pn	11 21 09.3	-0.5
LBZ	**Lake Benmore**	**2.28**	**67**	||PN	Pn	11 21 15.0	-1.5
LBZ				AML	AML	11 21 41.2	
ODZ	**Otahua Downs**	**2.41**	**85**	||PN	Pn	11 21 16.9	-1.3
ODZ				SN	Sn	11 21 42.6	-4.0
ODZ				AML	AML	11 21 44.4	
ODZ				AML	AML	11 21 44.6	
ODZ				AML	AML	11 21 44.6	
HHSZ	**Highcliff Hill**	**2.41**	**105**	||PN	Pn	11 21 17.8	-0.5
HHSZ				SN	Sn	11 21 43.5	-3.1
FOZ	**Fox Glacier**	**2.56**	**47**	PN	Pn	11 21 18.6	-1.6
FOZ				AML	AML	11 21 59.8	
FOZ				AML	AML	11 22 01.0	
RPZ	**Rata Peaks**	**3.15**	**61**	PN	Pn	11 21 25.8	-2.6
RPZ				AML	AML	11 22 10.6	
WVZ	**Waitaha Valley**	**3.36**	**49**	*e*PN	Pn	11 21 28.6	-2.5
OXZ	**Oxford**	**3.97**	**62**	PN	Pn	11 21 36.1	-3.4
MQZ	**McQueen's Vall**	**4.18**	**69**	PN	Pn	11 21 39.7	-2.7
DSZ	**Denniston Nort**	**4.87**	**44**	PN	Pn	11 21 50.4	-1.5
THZ	**Tophouse**	**5.43**	**51**	AML	AML	11 23 07.8	
QRZ	**Quartz Range**	**5.92**	**43**	PN	Pn	11 22 04.6	-1.7
QRZ				AML	AML	11 24 15.7	
QRZ				AML	AML	11 24 35.9	

*ISCJB **08** 11:22:31.5±0.3, 24°.12S±0°.03×67°.04W±0°.04, h197km±4km, mb3.6/8, Error ellipse: s-maj=6.1km s-min=4.1km az=155.3*
*SJA **08** 11:22:31.0±0.7, 24°.24S×66°.26W, h237km±7km, ML3.3, MW3.5*
*IDC **08** 11:22:33.4±1.5, 23°.94S×66°.85W, h196km±14km, mb3.5/8, mb1 3.6/12, mb1mx3.5/30, mbtmp4.0/12, MS3.5/1, Ms1 3.5/1, ms1mx3.0/10, Error ellipse: s-maj=21.8km s-min=14.1km az=83.0*
*GUC **08** 11:22:34.2±0.4, 24°.12S×67°.33W, h193km±13km, ML4.5*

ISC 08 11:22:32.0±0.7, 24°.12S±0°.04×67°.00W±0°.04, h189km±6km, n37, σ1^{s}87/56, mb3.8/8, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**114**	*e*P	**Pn**	**11 23 06.4**	**+1.5**
SLA				*e*S	**Sn**	**11 23 31.6**	**+1.2**
FSA	**Cafayete**	**2.19**	**155**	*i* P	**Pn**	**11 23 12.6**	**+0.7**
FSA				IAML		11 23 15.7	
	comp=Z,38nm,0.2s						
FSA				*i* S	**Sn**	**11 23 42.0**	**-1.2**
LVC	**Limon Verde**	**2.31**	**310**	P	**Pn**	**11 23 14.9**	**+1.4**
	comp=Z,848nm,0.3s,baz=150,slow=6.8,SNR=480						
LVC				S	**Sn**	**11 23 46.0**	**+0.3**
	comp=Z,2μm,0.3s,baz=276,slow=22,SNR=54						
LVC	**Limon Verde**	**2.31**	**310**	*e*P	**Pn**	**11 23 14.9**	**+1.4**
LVC				*i* S	**Sn**	**11 23 45.5**	**-0.2**
YJA	**Yavi**	**2.37**	**36**	*i* P	**Pn**	**11 23 15.6**	**+1.3**
YJA				*i* S	**Sn**	**11 23 48.3**	**+1.2**
PB06	**IPOC Station P**	**2.75**	**300**	*e*P	**Pn**	**11 23 19.5**	**+1.2**
PB06				*i* S	**Sn**	**11 23 53.7**	**-0.6**
PB06				IAML		11 23 55.9	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**3.10**	**318**	*e*P	**Pn**	**11 23 23.9**	**+1.4**
PB09				*e*S	**Sn**	**11 24 02.2**	**+0.4**
PB09				IAML		11 24 08.4	
	comp=N,1μm,0.5s						
PB14	**IPOC Station P**	**3.14**	**260**	*e*P	**Pn**	**11 23 23.8**	**+0.7**
PB14				*e*S	**Sn**	**11 24 01.6**	**-1.4**
PB14				IAML		11 24 02.6	
	comp=E,580nm,0.5s						
ANCH	**Antofagasta**	**3.15**	**277**	||*i* P	**Pn**	**11 23 25.6**	**+2.8**
ANCH				*i* S	**Sn**	**11 24 02.9**	**+0.4**
PB10	**IPOC Station P**	**3.31**	**280**	*e*P	**Pn**	**11 23 25.8**	**+0.9**
PB10				*e*S	**Sn**	**11 24 04.5**	**-1.6**
PB10				IAML		11 24 10.2	
	comp=N,1μm,0.7s						
PB04	**IPOC Station P**	**3.40**	**301**	*e*P	**Pn**	**11 23 27.0**	**+0.9**
PB04				*e*S	**Sn**	**11 24 06.5**	**-1.8**
PB07	**IPOC Station P**	**3.57**	**311**	*e*P	**Pn**	**11 23 28.8**	**+0.6**
PB07				*e*S	**Sn**	**11 24 10.2**	**-2.0**
PB01	**IPOC Station P**	**3.83**	**323**	*e*P	**Pn**	**11 23 31.6**	**+0.2**
PB01				*i* S	**Sn**	**11 24 15.8**	**-2.0**
VCA	**Vinchina**	**4.72**	**193**	*i* P	**Pn**	**11 23 44.6**	**+1.9**
VCA				IAML		11 23 45.6	
	comp=Z,15nm,0.5s						
VCA				*i* S	**Sn**	**11 24 39.4**	**+1.0**
ACLC	**CERRO LA CRUZ**	**5.29**	**180**	*i* P	**Pn**	**11 23 49.8**	**-0.2**
ACLC				*i* S	**Sn**	**11 24 47.8**	**-3.7**
AGUA	**GUANDACOL**	**5.51**	**194**	*i* P	**Pn**	**11 23 54.0**	**+1.2**
AGUA				*i* S	**Sn**	**11 24 56.2**	**-0.4**
APLL	**PUNTA DE LOS L**	**6.27**	**176**	*i* P	**Pn**	**11 24 01.6**	**-1.1**
APLL				*i* S	**Sn**	**11 25 07.6**	**-6.7**
AVFE	**Valle Fertil**	**6.53**	**183**	*i* P	**Pn**	**11 24 05.3**	**-0.8**
AVFE				*i* S	**Sn**	**11 25 16.0**	**-4.5**
AVFE				IAML		11 25 18.5	
	comp=Z,15nm,0.4s						
AMOG	**MOGNA**	**6.92**	**191**	*i* P	**Pn**	**11 24 11.0**	**-0.2**
AMOG				*i* S	**Sn**	**11 25 26.2**	**-3.6**
LPAZ	**La Paz**	**7.86**	**352**	P	**Pn**	**11 24 24.4**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=154,slow=8.9,SNR=62						
LPAZ				S	**Sn**	**11 25 48.4**	**-4.6**
	baz=246,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**9.03**	**106**	P	Pn	11 24 45.5	+6.6
	comp=Z,0.5nm,0.3s,baz=285,slow=11,SNR=6.2						
SIV	**San Ignacio**	**9.82**	**36**	P	**Pn**	**11 24 47.5**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=238,slow=6.6,SNR=6.5						
SIV				S	Sn	11 26 25.8	-13
	comp=Z,0.1nm,0.3s,baz=238,slow=16,SNR=2.4						
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**11 26 19.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=2.9						
PTGA	**Pitinga**	**24.23**	**17**	P	**P**	**11 27 30.5**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=163,slow=19,SNR=3.4						
ROSC	**El Rosal**	**29.65**	**345**	LR	LR	11 40 57.2	
	comp=Z,95nm,18.9s,baz=340,slow=37						
SNAA	**Sanae**	**59.24**	**161**	P	**P**	**11 32 14.2**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=277,slow=9.0,SNR=7.5						
SNAA				PcP	**PcP**	**11 33 00.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=260,slow=4.8,SNR=4.6						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**11 32 44.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=126,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	**P**	**11 34 01.4**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=252,slow=5.3,SNR=14						
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**11 34 05.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=153,slow=7.1,SNR=3.2						
ULM	**Lac du Bonnet**	**78.34**	**342**	P	**P**	**11 34 10.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=137,slow=7.2,SNR=3.8						
BOSA	**Boshof**	**80.68**	**117**	P	**P**	**11 34 24.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=254,slow=6.3,SNR=4.2						
MAW	**Mawson**	**81.32**	**163**	P	**P**	**11 34 28.2**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=199,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**128.35**	**205**	PKP	**PKPdf**	**11 41 17.4**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=158,slow=1.7,SNR=11						
WRA	**Warramunga Arr**	**131.52**	**207**	PKP	**PKPdf**	**11 41 23.6**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=154,slow=1.8,SNR=9.5						
GEYT	**Alibeck**	**131.64**	**60**	PKP	**PKPdf**	**11 41 21.7**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=298,slow=3.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**143.50**	**28**	PKP	**PKPdf**	**11 41 42

BCAM	Yenicaga	1.09	287	P		Pg	11 33 17.6	-0.9
BCAM				S		Sb	11 33 33.6	0.0
AFSR	Af´ar-Bala (A	1.10	195	*e*PG		Pg	11 33 18.9	+0.1
AFSR				*e*SG		Sb	11 33 34.2	+0.2
AFSR	Af´ar-Bala (A	1.10	195	*e*Pg		Pg	11 33 18.9	+0.1
AFSR				*e*Sg		Sb	11 33 34.2	+0.2
CDAG	Cicekdag	1.14	141	*i* P		Pg	11 33 18.5	-0.9
CDAG				*i* S		Sb	11 33 34.7	-0.3
CDAG	Cicekdag	1.14	141	P		Pg	11 33 18.5	-0.9
CDAG				S		Sb	11 33 34.7	-0.3
COAL	Corum-Alaca	1.21	102	*i* P		Pb	11 33 19.9	-1.1
COAL				*i* S		Sg	11 33 36.7	+0.4
COAL	Corum-Alaca	1.21	102	P		Pb	11 33 19.9	-1.1
COAL				S		Sg	11 33 36.7	+0.4
KKUL	Konya-Kulu	1.40	197	*i* P		Pb	11 33 24.1	-0.2
KKUL				*i* S		Sg	11 33 43.5	+0.9
KKUL	Konya-Kulu	1.40	197	P		Pb	11 33 24.1	-0.2
KKUL				S		Sg	11 33 43.5	+0.9
BOYT	Boyabat	1.43	50	*i* P		Pn	11 33 24.2	-0.1
BOYT	Boyabat	1.43	50	P		Pn	11 33 24.2	-0.1
BZK	Bozkurt	1.50	16	*e*PN		Pg	11 33 26.5	+0.1
BZK	Bozkurt	1.50	16	*e*Pn		Pg	11 33 26.5	+0.1
SERE	Sereflikochisa	1.57	177	*e*PN		Pn	11 33 25.9	-0.3
SERE				*e*SN		Sg	11 33 48.2	+0.2
SERE	Sereflikochisa	1.57	177	*e*Pn		Pn	11 33 25.9	-0.3
SERE				*e*Sn		Sg	11 33 48.2	+0.2
MDUB	Mudurnu	1.71	269	*e*PN		Pn	11 33 28.6	+0.4
MDUB	Mudurnu	1.71	269	*e*Pn		Pn	11 33 28.6	+0.4
DIKM	Dikmen	1.78	50	*e*PN		Pb	11 33 30.2	-0.5
DIKM	Dikmen	1.78	50	*e*Pn		Pb	11 33 30.2	-0.5
HAVZ	Havza	1.81	71	*i* P		Pb	11 33 30.7	-0.6
HAVZ				*i* S		Sg	11 33 56.1	+0.2
HAVZ	Havza	1.81	71	P		Pb	11 33 30.7	-0.6
HAVZ				S		Sg	11 33 56.1	+0.2
SVRH	Sivrihisar-ESK	1.82	235	*e*PN		Pn	11 33 30.2	+0.5
SVRH	Sivrihisar-ESK	1.82	235	*e*Pn		Pn	11 33 30.2	+0.5
BTAS	Taskesti	1.86	273	*i* P		Pb	11 33 31.3	-0.9
BTAS	Taskesti	1.86	273	P		Pb	11 33 31.3	-0.9
AKSY	AKSARAY - Alti	1.88	172	*i* P		Pn	11 33 30.6	+0.2
AKSY				*i* S		Sb	11 33 56.5	+0.3
AKSY	AKSARAY - Alti	1.88	172	P		Pn	11 33 30.6	+0.2
AKSY				S		Sb	11 33 56.5	+0.3
CHBY	Cihanbeyli	1.98	193	*e*PN		Pn	11 33 32.2	+0.4
CHBY	Cihanbeyli	1.98	193	*e*Pn		Pn	11 33 32.2	+0.4
SAHE	Sakarya_HENDEK	2.00	281	*i* P		Pb	11 33 34.2	-0.3
SAHE	Sakarya_HENDEK	2.00	281	P		Pb	11 33 34.2	-0.3
SNOP	Sinop	2.01	41	*e*PN		Pb	11 33 33.9	-0.7
SNOP	Sinop	2.01	41	*e*Pn		Pb	11 33 33.9	-0.7
AVNS	Nevsehir-Avano	2.02	147	*i* P		Pn	11 33 33.5	+1.1
AVNS	Nevsehir-Avano	2.02	147	P		Pn	11 33 33.5	+1.1
KVT	Kavak	2.06	73	*e*PN		Pn	11 33 33.9	+1.0
KVT	Kavak	2.06	73	*e*Pn		Pn	11 33 33.9	+1.0
GULT	Gulveren	2.24	269	*e*PN		Pn	11 33 35.6	+0.2
GULT	Gulveren	2.24	269	*e*Pn		Pn	11 33 35.6	+0.2
KDHN	Kadinhani	2.24	208	*i* P		Pn	11 33 36.4	+1.0
KDHN	Kadinhani	2.24	208	P		Pn	11 33 36.4	+1.0
SAMS	Samsun-Alacam	2.24	67	*i* P		Pn	11 33 35.6	+0.2
SAMS	Samsun-Alacam	2.24	67	P		Pn	11 33 35.6	+0.2
SULT	Sultanhani-AKS	2.31	179	*e*PN		Pn	11 33 37.2	+0.8
SULT	Sultanhani-AKS	2.31	179	*e*Pn		Pn	11 33 37.3	+0.8
CUSAR	Sarkisla-SIVAS	2.41	116	*i* P		Pn	11 33 38.9	+1.0
CUSAR	Sarkisla-SIVAS	2.41	116	P		Pn	11 33 38.9	+1.0
LADK	Ladik-KONYA	2.46	200	*e*PN		Pn	11 33 38.7	+0.2
LADK	Ladik-KONYA	2.46	200	*e*Pn		Pn	11 33 38.7	+0.2
BNN	Bunyan	2.49	131	*e*PN		Pb	11 33 40.9	-2.0
BNN	Bunyan	2.49	131	*e*Pn		Pb	11 33 40.9	-2.0
BOLV	Bolvadin	2.63	228	*i* P		Pn	11 33 41.3	+0.4
BOLV	Bolvadin	2.63	228	P		Pn	11 33 41.3	+0.4
KONT	Konya--Tatoy	2.70	199	*e*PN		Pn	11 33 42.6	+0.9
KONT	Konya--Tatoy	2.70	199	*i* P		Pn	11 33 41.7	0.0
KONT	Konya--Tatoy	2.70	199	*e*Pn		Pn	11 33 42.6	+0.9
CAVI	Cavuskoy	2.77	265	*e*PN		Pn	11 33 42.8	+0.2
CAVI	Cavuskoy	2.77	265	*e*Pn		Pn	11 33 42.8	+0.2
ADVT	Abdulvahap	2.83	270	*e*PN		Pn	11 33 43.2	-0.2
ADVT	Abdulvahap	2.83	270	*e*Pn		Pn	11 33 43.2	-0.2
CUALT	Altinyayla-SIV	2.83	115	*i* P		Pn	11 33 45.5	+1.8
CUALT	Altinyayla-SIV	2.83	115	P		Pn	11 33 45.5	+1.8
HRT	Hereke	2.89	277	*e*PN		Pn	11 33 44.6	+0.3
HRT	Hereke	2.89	277	*e*Pn		Pn	11 33 44.6	+0.3
SILT	Sile	2.95	284	*e*PN		Pn	11 33 46.2	+1.0
SILT	Sile	2.95	284	*e*Pn		Pn	11 33 46.2	+1.0
RSDY	Resadiye-TOKAT	2.96	91	*e*PN		Pn	11 33 46.6	+1.2
RSDY	Resadiye-TOKAT	2.96	91	*e*Pn		Pn	11 33 46.6	+1.2
SARI	SarD1z-Kayseri	3.12	131	*e*PN		Pn	11 33 49.6	+2.0
SARI	SarD1z-Kayseri	3.12	131	*e*Pn		Pn	11 33 49.6	+2.0
TVSB	Tavsanli	3.24	252	*e*PN		Pn	11 33 49.3	+0.1
TVSB	Tavsanli	3.24	252	*e*Pn		Pn	11 33 49.3	+0.1
BUY	Buyukada	3.31	277	*e*PN		Pn	11 33 50.7	+0.7
BUY	Buyukada	3.31	277	*e*Pn		Pn	11 33 50.7	+0.7
KOZT	Kozan	3.55	148	*e*PN		Pn	11 33 55.4	+2.0
KOZT	Kozan	3.55	148	*e*Pn		Pn	11 33 55.4	+2.0
TIRR	Tirgusor	5.42	318 ⇑	*i* P		Pn	11 34 23.4	+4.4
TLB	Topalu	5.70	317 ⇓	*i* P		Pn	11 34 27.4	+4.5
TLCR		5.78	325 ⇓	*i* P		Pn	11 34 22.2	-1.7
HARR	Harsova	5.83	318 ⇓	*i* P		Pn	11 34 28.7	+4.1
CFR	Carcaliu	6.08	322 ⇓	*i* P		Pn	11 34 28.3	+0.2
PLOR	Plostina	7.29	319 ⇓	*i* P		Pn	11 34 45.7	+1.0
MMAI	Mount Meron Ar	7.65	168	Pn		Pn	11 34 51.7	+2.0
	0.8nm,0.3s,baz=344,slow=15,SNR=2.9							
TESR	Tescani	7.76	323 ⇓	*i* P		Pn	11 34 50.3	-0.9
SORM	Soroca	8.45	336 ⇓	*i* P		Pn	11 34 59.3	-1.3
BURAR	Bucovina Array	9.24	323 ⇑	*i* P		Pn	11 35 19.9	-0.7
AKASG	Malin Array Be	10.61	345	Pn		Pn	11 35 28.3	-1.9
	0.7nm,0.3s,baz=162,slow=13,SNR=3.0							
AKTO	Aktyubinsk	19.80	52	P		Pn	11 37 29.6	-0.6
	0.1nm,0.3s,baz=270,slow=13,SNR=5.6							
MKAR	Makanchi Array	35.42	63	P		P	11 39 55.4	+1.0
	0.3nm,0.6s,baz=283,slow=7.0,SNR=3.2							
TORD	Torodi Ar. Bea	38.94	235	P		P	11 40 24.7	+0.1
	0.8nm,0.8s,baz=35,slow=9.3,SNR=6.1							

NIED ***08*** *11:39:00,23.°80N×121.°60E,h20km,Mw3.9 Best double couple: M0=8.72000×10^14 NP1:φs=255.00000°,δ=25.00000°, λ=148.00000°. NP2:φs=15.00000°,δ=77.00000°,λ=68.00000°.*
IDC ***08*** *11:39:12.7±0.8,23.°61N×121.°49E,h0km,mb3.6/9, mb1 3.7/10,mb1mx3.6/43,mbtmp3.6/10,ML3.4/1,MS3.5/2, Ms1 3.6/2,ms1mx2.8/35,Error ellipse: s-maj=31.9km s-min=16.6km az=67.0*
NEIC ***08*** *11:39:15.8±1.1,23.°75N×121.°67E,h27km±10km, ML4.2(TAP), Error ellipse: s-maj=15.8km s-min=7.9km az=119.0*
NEIC Recorded [3 TAP] in Hualien and [2 TAP] in Nantou.
TAP ***08*** *11:39:16.8,23.°81N×121.°60E,h28km,ML4.3,B*
ISCJB ***08*** *11:39:16.7±0.2,23.°80N±0.°01×121.°65E±0.°01,h26km±2km, mb3.5/9,MS3.4/2,Error ellipse: s-maj=2.8km s-min=1.8km az=141.6*
JMA ***08*** *11:39:16.0,23.°79N×121.°61E,h27km±2km,M3.8*
ISC 08 11:39:17.2±0.7,23.°79N±0.°02×121.°62E±0.°02,h28km±5km, n108,σ0=94/159,mb3.6/9,12C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.11	221	*e*P	Pn	11 39 23.1	0.0
	baz=203						
ESF	Shoufeng Towns	0.13	307	*e*P	Pb	11 39 22.9	+0.5
	baz=307						
ESL	Shilin	0.17	277 ⇑	*i* P	Pb	11 39 22.4	-0.4
	baz=271						
ESL				S	Sb	11 39 25.9	-0.7
	baz=271						
HWA	Hwalien	0.18	356 ⇓	*i* P	Pb	11 39 22.6	-0.3
	baz=13						
HWA				S	Sb	11 39 27.6	+0.7
	baz=13						
TWD	Chiawan	0.29	356 ⇓	*i* P	Pb	11 39 23.8	-0.4
	baz=352						
TWD				*i* S	Sb	11 39 29.8	+0.7
	baz=352						
NACB	Ninganchiao	0.38	357	*e*Pn	Pb	11 39 24.9	-0.8
NACB				*e*Sn	Sb	11 39 31.6	+0.2
EHY	Hungye	0.39	224 ⇓	*i* P	Pb	11 39 25.1	-0.7
	baz=226						
WHF	Hehuan Shan	0.48	317 ⇑	*i* P	Pb	11 39 26.5	-1.0
	baz=317						
WHF				*i* S	Sb	11 39 33.1	-1.3
	baz=317						
YULB	Yu-li	0.50	217	*e*Pn	Pb	11 39 26.2	-1.2
YULB				*e*Sn	Sb	11 39 34.7	+0.3
EHP	Heping Village	0.53	12	*e*P	Pb	11 39 26.6	-1.4
	baz=16						
TWF1	Yuli	0.53	214 ⇓	*i* P	Pb	11 39 27.1	-0.8
	baz=222						
SSLB	Suanglung	0.61	270	*e*Pn	Pb	11 39 28.3	-1.1
SSLB				*e*Sn	Sb	11 39 36.6	-1.0
TWT	Tachien	0.61	319 ⇑	*i* P	Pb	11 39 29.0	-0.5
	baz=312						
TWT				*i* S	Sb	11 39 37.0	-0.9
	baz=312						
ENA	Nanau	0.64	10 ⇑	P	Pb	11 39 29.1	-0.7
	baz=4.0						
SMLT	Sun Moon Lake	0.67	278 ⇑	*i* P	Pb	11 39 29.8	-0.5
	baz=281						
SMLT				*i* S	Sb	11 39 38.1	-1.1
	baz=281						
YUS	Yu-Shan	0.68	244 ⇓	P	Pb	11 39 30.6	-0.2
	baz=242						
YUS				*i* S	Sb	11 39 39.5	-0.6
	baz=242						
NNS	Nan Shan	0.68	341 ⇑	P	Pb	11 39 29.7	-1.0
	baz=342						
NNS				*e*S	Sb	11 39 38.2	-1.6
	baz=342						
TYC	Yuchr	0.71	279 ⇑	*i* P	Pb	11 39 30.2	-0.7
	baz=282						
TYC				*e*S	Sb	11 39 38.8	-1.5
	baz=282						
CHKT	Chengkung	0.73	199 ⇑	*e*P	Pb	11 39 30.7	-0.6
	baz=210						
CHKT				*e*S	Sn	11 39 42.7	+0.9
	baz=210						
ALS	Alishan	0.80	250 ⇓	*i* P	Pn	11 39 32.5	-0.4
	baz=249						
ALS				*e*S	Sb	11 39 42.3	-0.9
	baz=249						
ELDTW	Lidau	0.82	223 ⇓	*i* P	Pn	11 39 31.4	-1.5
	baz=211						
TWC	Suao	0.84	14	*e*P	Pn	11 39 32.2	-0.9
	baz=359						
TWC				*e*S	Sb	11 39 43.8	-0.4
	baz=359						
ENTT	Nioudou	0.84	357	*e*P	Pn	11 39 32.1	-1.1
	baz=358						
WNT	Mingjian	0.86	276	P	Pb	11 39 33.8	+0.3
	baz=275						
WNT				S	Sb	11 39 45.3	+0.6
	baz=275						
CHN5	Tsauling	0.89	257 ⇓	*i* P	Pn	11 39 34.1	+0.2
	baz=257						
CHN5				*e*S	Sb	11 39 46.0	+0.5
	baz=257						
YHNB	Yeheng	0.90	346	*e*Pn	Pn	11 39 33.0	-1.1
YHNB				*e*Sn	Sn	11 39 44.8	-1.5
NSK	Sanguang	0.91	345 ⇑	*i* P	Pn	11 39 33.5	-0.8
	baz=355						
NSK				S	Sn	11 39 44.2	-2.3
	baz=355						
TWE	Neicheng	0.93	3	*e*P	Pn	11 39 33.6	-0.8
	baz=354						
TWE				*e*S	Sb	11 39 47.9	+1.3
	baz=354						
TCU	Taichung	0.93	292	*e*P	Pb	11 39 35.2	+0.5
	baz=291						
TWQ1	Liyutan	0.95	306 ⇑	*i* P	Pb	11 39 35.3	+0.2
	baz=304						
TWQ1				*i* S	Sn	11 39 47.5	+0.2
	baz=304						
WGK	Gukeng	0.97	264	*e*P	Pn	11 39 35.2	+0.2
	baz=263						
WGK				*e*S	Sb	11 39 48.7	+0.8
	baz=263						
NSY	Sanyi	1.00	309 ⇑	*i* P	Pb	11 39 36.1	+0.2
	baz=307						
NSY				S	Sn	11 39 48.4	-0.2
	baz=307						
NSTT	Nanjuang	1.01	326 ⇑	*i* P	Pn	11 39 35.6	+0.1
	baz=319						
NSTT				S	Sn	11 39 48.0	-0.8
	baz=319						
STYT	Tauyuan	1.01	232 ⇓	*i* P	Pn	11 39 35.5	0.0
	baz=225						
STYT				S	Sn	11 39 48.8	-0.1
	baz=225						
TPUB	Ta-pu	1.03	242	*e*Pn	Pn	11 39 36.0	+0.2
TPUB				*e*Sn	Sb	11 39 50.5	+0.9
CHN4	Tsaushan	1.04	245 ⇓	*i* P	Pb	11 39 36.4	-0.1
	baz=245						
CHN4				S	Sb	11 39 50.7	+0.9
	baz=245						
WTP	Ta-pu	1.07	240 ⇓	*i* P	Pn	11 39 36.8	+0.4
	baz=246						
WTP				*e*S	Sn	11 39 49.9	-0.5
	baz=246						
CHN2	Minshiung	1.08	256	*e*P	Pn	11 39 36.4	-0.1
	baz=256						
CHN2				*e*S	Sb	11 39 52.0	+1.1
	baz=256						
TWG	Pinlang	1.09	208 ⇓	*e*P	Pn	11 39 34.6	-2.0
	baz=192						
TWG	Pinlang	1.09	208	*e*Pn	Pn	11 39 34.7	-2.0
TWG				*e*Sn	Sb	11 39 51.7	+0.4
TTN	Taitung	1.12	203	*e*P	Pn	11 39 35.0	-2.1
	baz=201						
CHY	Chiayi	1.14	255	*e*P	Pn	11 39 37.8	+0.5
	baz=255						
CHY				*e*S	Sb	11 39 52.8	+0.3
	baz=255						
TWK	Hsinying	1.16	243	*e*P	Pn	11 39 38.2	+0.6
	baz=243						
TWK				*e*S	Sb	11 39 54.6	+1.2
	baz=243						
HSN	Hsinchu	1.17	330	*e*P	Pb	11 39 39.1	+0.4
	baz=316						
HSN				*e*S	Sb	11 39 54.7	+1.3
	baz=316						
CHN1	Nanshi	1.17	239 ⇓	*i* P	Pn	11 39 38.4	+0.6
	baz=240						
CHN1				S	Sb	11 39 54.5	+0.9
	baz=240						
TWA	Mucha	1.18	358	*e*P	Pn	11 39 37.7	-0.2
	baz=9.0						
TATO	Taipei	1.18	354	*e*Pn	Pn	11 39 38.2	+0.3
TATO				*e*Sn	Sb	11 39 54.1	+0.2
SGST	Jiashian	1.19	234 ⇓	P	Pb	11 39 38.7	-0.3
	baz=225						
SGST				*e*S	Sb	11 39 55.1	+1.1
	baz=225						
WTCT	Ta-ch'eng	1.23	274	*e*P	Pn	11 39 38.9	+0.4
	baz=273						
WTCT				*e*S	Sb	11 39 55.6	+0.5
	baz=273						
NCU	National Centr	1.24	342	*e*P	Pn	11 39 39.2	+0.5
	baz=339						
NCU				S	Sb	11 39 56.0	+0.6
	baz=339						
TAP1	Taipei	1.24	356	*e*P	Pn	11 39 39.4	+0.7
	baz=356						
TAP	Taipei	1.25	355	*e*P	Pb	11 39 40.8	+0.7
	baz=356						
TWB1	Santiao Chiao	1.26	15	*e*P	Pn	11 39 39.2	+0.3
	baz=2.0						
NWF	Wu-fen Shan	1.28	7	*e*P	Pn	11 39 39.2	-0.2
	baz=7.0						
WSF	Szhu	1.29	263	*e*P	Pn	11 39 40.0	+0.7
	baz=263						
WSF				*e*S	Sb	11 39 56.7	-0.2
	baz=263						
TWS1	Kuangyinshan	1.32	352	*e*P	Pn	11 39 39.7	0.0
	baz=352						
ECL	Taimali	1.34	207	*e*P	Pn	11 39 38.2	-1.8
	baz=195						
CHN3	Shinhua	1.35	238	*e*P	Pb	11 39 41.8	-0.1
	baz=238						
CHN8	Yiju	1.37	251	*e*P	Pn	11 39 40.6	+0.2
	baz=252						
CHN8				*e*S	Sb	11 39 59.4	+0.3
	baz=252						
JYNG	Yonagunijimaku	1.38	61	P	Pn	11 39 40.5	-0.1
JYNG				S	Sn	11 39 58.1	+0.2
SSD	Sandimen	1.38	221	*e*P	Pn	11 39 40.6	0.0
	baz=222						
SSD				*e*S	Sb	11 40 01.0	+1.4
	baz=222						
YOJ	Yonaguni jima	1.44	62	*e*P	Pn	11 39 41.0	-0.4
	baz=61						
YOJ				*e*S	Sn	11 39 59.0	-0.3
	baz=61						
YOJ	Yonaguni jima	1.44	62	P	Pn	11 39 41.5	+0.1
YOJ				*e*S	Sn	11 39 58.9	-0.4
YOJ	Yonaguni jima	1.44	62	*e*Pn	Pn	11 39 39.5	-1.8
SCLT	Jiali	1.45	245	*e*P	Pb	11 39 43.1	-0.3
	baz=246						
SCLT				*e*S	Sb	11 40 02.2	+0.7
	baz=246						
TWM1	Shoushan	1.46	229	*e*P	Pb	11 39 44.3	+0.6
	baz=241						
TWY	Chenhua	1.48	359	*e*P	Pb	11 39 43.3	-0.7
	baz=360						
TAI1	Yung-k'ang	1.48	240	*e*P	Pn	11 39 42.9	+0.9
	baz=239						
SGLT	Jiouru	1.48	225	*e*P	Pb	11 39 43.9	-0.2
	baz=214						
SGLT				*e*S	Sb	11 40 06.0	+3.5
	baz=214						
EAST	Anshuo	1.57	207	*e*P	Pn	11 39 41.9	-1.4
	baz=196						
TAW	Tawu	1.58	205	*e*P	Pn	11 39 44.3	+1.0
	baz=193						
SCZT	Fangliau	1.69	213	*e*P	Pn	11 39 45.5	+0.7
	baz=213						
LAY	Lan-yu	1.75	182	*e*P	Pn	11 39 43.5	-2.1
	baz=181						
TWP	Hsiaoliuchiu	1.85	219	*e*P	Pb	11 39 49.2	-1.1
	baz=219						
WDGT	Dungji	1.88	254	*e*P	Pn	11 39 46.9	-0.5
	baz=253						
PNG	Penghu	1.91	264 ⇓	*i* P	Pn	11 39 47.9	+0.1
	baz=264						
PNG				*e*S	Sn	11 40 11.1	+0.2
	baz=264						
HEN	Hengchun	1.96	205	*e*P	Pb	11 39 51.0	-1.1
	baz=195						
TWK1	Hengchun	1.99	202	*e*P	Pn	11 39 50.2	+1.3
	baz=191						
TSEB	Hengchuen, Pin	2.00	200	*e*P	Pn	11 39 49.7	+0.6
	baz=190						
IRIF	Iriomote-Funau	2.00	74	P	Pn	11 39 49.4	+0.2
IRIF				S	Sn	11 40 13.9	+0.6
HATJ	Hateruma jima	2.02	82	P	Pn	11 39 49.5	+0.1
HATJ				S	Sn	11 40 13.5	-0.2
JKRS	Kuro-shima	2.23	78	P	Pn	11 39 52.8	+0.5
JKRS				S	Sn	11 40 19.7	+0.8
JIJ	Ishigaki jima	2.38	76	P	Pn	11 39 54.1	-0.2
JIJ				S	Sn	11 40 22.1	-0.4
JISG	Ishigakijimahi	2.58	72	P	Pn	11 39 57.0	-0.1
JISG				S	Sn	11 40 26.4	-1.2
JTJ	Tarama	2.94	73	P	Pn	11 40 02.2	+0.2
JTJ				S	Sn	11 40 37.0	+0.6
KNM	Kinmen	2.98	283	*e*P	Pn	11 40 02.5	0.0
	baz=280						
JIRB	Irabujima	3.40	72	P	Pn	11 40 08.8	+0.4
JIRB				S	Sn	11 40 48.6	+0.7
JIKM	Ikemajima	3.50	70	P	Pn	11 40 10.2	+0.5
JIKM				S	Sn	11 40 50.4	+0.2
JMJ	Miyako jima 2	3.50	72	P	Pn	11 40 10.5	+0.7
JOGS	Gusukube	3.59	74	P	Pn	11 40 12.2	+1.2
JOGS				S	Sn	11 40 53.0	+0.6
JKE	Kume jima 2	5.32	61	P	Pn	11 40 34.6	-0.2
KSRS	Korea Array	14.65	20	Pn	Pn	11 42 45.5	+2.9
	0.1nm,0.3s,baz=199,slow=11,SNR=8.7						
CMAR	Chiang Mai Arr	21.80	260	P	P	11 44 06.0	-1.2
	0.5nm,0.4s,baz=64,slow=8.1,SNR=3.4						
CMAR				LR	LR	11 53 16.1	
	comp=Z,40nm,18.9s,baz=300,slow=39						
SONM	Songino Array	26.88	337	P	P	11 44 58.3	+2.6
	0.2nm,0.4s,baz=145,slow=10,SNR=2.8						
MKAR	Makanchi Array	38.90	316	P	P	11 46 40.0	-0.3
	0.7nm,0.7s,baz=109,slow=10,SNR=4.4						
MKAR				PcP	PcP	11 48 49.9	-0.9
	0.2nm,0.4s,baz=114,slow=3.6,SNR=2.8						
ZALV	Zalesovo Beam	40.79	327	P	P	11 46 55.3	-0.6
	1.0nm,0.3s,baz=120,slow=8.6,SNR=2.6						
H11N1	WAKE ISLAND Hy 42.11	86	T	T		12 32 16.3	
	baz=283,slow=75,SNR=9.4						
H11N2	WAKE ISLAND Hy 42.11	86	T	T		12 32 16.0	
	baz=283,slow=75,SNR=8.4						
H11N3	WAKE ISLAND Hy 42.13	86	T	T		12 32 17.6	
	baz=283,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy 42.23	88	T	T		12 32 15.3	
	baz=284,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy 42.24	88	T	T		12 32 22.1	
	baz=284,slow=75,SNR=7.7						
H11S2	WAKE ISLAND Hy 42.25	88	T	T		12 32 18.5	
	baz=284,slow=75,SNR=7.3						
WRA	Warramunga Arr	45.20	163	P	P	11 47 30.1	-1.8
	0.5nm,0.7s,baz=343,slow=8.7,SNR=4.3						
BVAR	Borovoye Array	48.23	321	P	P	11 47 55.5	+0.2
	0.4nm,0.5s,baz=113,slow=6.8,SNR=2.7						
BVAR				PcP	PcP	11 49 20.8	-1.4
	0.5nm,0.5s,baz=100,slow=4.7,SNR=3.6						
ASAR	Alice Springs	48.66	165	P	P	11 47 58.0	-1.0
	0.5nm,0.7s,baz=340,slow=6.7,SNR=6.4						
STKA	Stephens Creek	58.56	160	P	P	11 49 10.4	-1.0
	1.1nm,0.6s,baz=337,slow=7.7,SNR=3.4						
ILAR	Eielson Array	69.38	27	P	P	11 50 23.4	+1.3
	0.2nm,0.7s,baz=285,slow=5.7,SNR=5.8						
FINES	FINESS Array B	71.98	330	LR	LR	12 26 37.6	
	comp=Z,78nm,18.3s,baz=37,slow=40						

NIED ***08*** *11:44:00,39.°10N×142.°40E,h35km,Mw4.4 Best double couple: M0=4.08000×10^15 NP1:φs=303.00000°,δ=30.00000°, λ=-137.00000°. NP2:φs=173.00000°,δ=70.00000°, λ=-67.00000°.*
MOS ***08*** *11:44:59.3±1.1,39.°08N×142.°53E,h45km,mb4.4/24,Error ellipse: s-maj=9.8km s-min=6.7km az=78.2*
JMA ***08*** *11:44:59.2±0.1,39.°11N×142

YUK	**Yuzh-Kuril'sk**	**5.55**	**25**	P	**Pn**	**11 46 20.5**	**+1.5**
YUK				*i* S	**Sn**	**11 47 20.5**	**-2.0**
YUK				pmax	pmax		
	comp=Z,103nm,0.3s						
YUK				pmax	pmax		
	comp=E,13nm,0.2s						
YUK				pmax	pmax		
	comp=N,67nm,0.3s						
YUK				smax	smax		
	comp=N,195nm,0.4s						
YUK				smax	smax		
	comp=E,47nm,0.3s						
SHO	**Shikotan**	**5.77**	**32**	⇓*i*P	**Pn**	**11 46 21.3**	**-0.8**
SHO				*i* S	**Sn**	**11 47 22.5**	**-5.6**
SHO				pmax	pmax		
	comp=N,7.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,11nm,0.3s						
SHO				pmax	pmax		
	comp=Z,14nm,0.3s						
SHO				smax	smax		
	comp=N,78nm,0.4s						
SHO				smax	smax		
	comp=E,158nm,0.4s						
JHJ2	**Mitsune**	**6.34**	**201**	*e*Pn	**Pn**	**11 46 31.2**	**+1.4**
JHJ2				*e*Sn	**Sn**	**11 47 40.1**	**-2.0**
JHJ	**Hachijo jima 2**	**6.34**	**202**	P	**Pn**	**11 46 31.0**	**+1.1**
	comp=E,30nm,0.3s,baz=331,slow=23,SNR=16						
JHJ				S	**Sn**	**11 47 38.4**	**-3.8**
	comp=E,23nm,0.3s,baz=73,slow=20,SNR=8.7						
KUR	**Kuril'sk**	**7.32**	**31**	*e*P	**Pn**	**11 46 44.8**	**+1.6**
KUR				*e*S	**Sn**	**11 48 04.0**	**-2.0**
KUR				pmax	pmax		
	comp=Z,33nm,0.6s						
KUR				smax	smax		
	comp=E,54nm,0.7s						
KUR				smax	smax		
	comp=N,35nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.88**	**1**	*e*P	**Pn**	**11 46 53.7**	**+2.7**
YSS	**Yuzh-Sakhalins**	**7.88**	**1**	*e*Pn	**Pn**	**11 46 53.6**	**+2.7**
USRK	**Ussuriysk Ar.**	**9.42**	**306**	P	**Pn**	**11 47 15.0**	**+2.9**
	comp=N,0.4nm,0.3s,baz=108,slow=18,SNR=9.4						
USRK				LR	LR	11 50 33.5	
	comp=N,376nm,20.3s,baz=121,slow=35						
MDJ	**Mudanjiang**	**11.14**	**304**	Pn	**Pn**	**11 47 39.4**	**+3.7**
	comp=N,7.9nm,0.8s						
JNU	**Nakatsue**	**11.15**	**241**	P	**Pn**	**11 47 38.0**	**+2.1**
	comp=N,0.9nm,0.3s,baz=51,slow=13,SNR=11						
KSRS	**Korea Array**	**11.62**	**267**	P	**Pn**	**11 47 45.8**	**+3.7**
	comp=N,0.3nm,0.3s,baz=79,slow=14,SNR=11						
KSRS				S	**Sn**	**11 49 52.0**	**+0.4**
	comp=N,0.1nm,0.3s,baz=73,slow=24,SNR=2.2						
KSRS				LR	LR	11 51 48.7	
	comp=N,279nm,18.5s,baz=44,slow=35						
KSAR	**Wonju Array Be**	**11.65**	**267**	P	**Pn**	**11 47 45.8**	**+3.2**
KSAR				S	**Sn**	**11 49 52.0**	**-0.5**
KSAR	**Wonju Array Be**	**11.65**	**267**	P	**Pn**	**11 47 45.8**	**+3.2**
KSAR				S	**Sn**	**11 49 52.0**	**-0.5**
PETK	**Petropavlovsk-**	**17.48**	**32**	LR	LR	11 56 59.5	
	comp=N,85nm,18.2s,baz=204,slow=41						
BJT	**Baijiatuau**	**20.35**	**281**	*e*P	**P**	**11 49 33.2**	**+0.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJT	**Baijiatuau**	**20.35**	**281**	*e*P	**P**	**11 49 33.2**	**+0.4**
	comp=Z,9.7nm,1.0s						
MA2	**Magadan**	**21.18**	**12**	P	**P**	**11 49 42.1**	**+0.6**
	comp=Z,13nm,1.0s,baz=182,slow=17,SNR=3.3						
SEY	**Seymchan**	**24.63**	**11**	P	**P**	**11 50 18.4**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=194,slow=8.3,SNR=10.0						
ULN	**Ulaanbaatar**	**27.03**	**301**	⇑P	**P**	**11 50 38.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**27.46**	**300**	P	**P**	**11 50 42.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=103,slow=8.9,SNR=5.2						
SONM				LR	LR	12 01 09.6	
	comp=Z,146nm,19.7s,baz=102,slow=35						
SONM	**Songino Array**	**27.46**	**300**	*e*P	**P**	**11 50 42.9**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ENH	**Enshi**	**28.45**	**262**	*e*P	**P**	**11 50 50.5**	**-0.8**
	comp=Z,12nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.50**	**126**	T	T	12 21 18.6	
	baz=318,slow=75,SNR=680						
H11N1	**WAKE ISLAND Hy**	**28.51**	**126**	T	T	12 21 19.9	
	baz=318,slow=75,SNR=567						
H11N3	**WAKE ISLAND Hy**	**28.52**	**126**	T	T	12 21 23.5	
	baz=318,slow=75,SNR=595						
H11S1	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	12 22 15.2	
	baz=319,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**29.30**	**128**	T	T	12 22 13.6	
	baz=319,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	**29.31**	**128**	T	T	12 22 18.9	
	baz=319,slow=76,SNR=86						
TLY	**Talaya**	**29.73**	**308**	LR	LR	12 03 29.4	
	comp=Z,153nm,18.6s,baz=170,slow=37						
ZAK	**Zakamensk**	**29.77**	**305**	*e*P	**P**	**11 51 03.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DGZ	**Jazzator, Alta**	**39.97**	**304**	⇓*i*P	**P**	**11 52 31.9**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.24**	**311**	P	**P**	**11 52 41.4**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=102,slow=9.0,SNR=2.4						
ZALV				LR	LR	12 09 01.9	
	comp=Z,31nm,18.4s,baz=72,slow=35						
CHTO	**Chiang Mai**	**42.68**	**255**	*e*P	**P**	**11 52 53.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**42.68**	**255**	*e*P	**P**	**11 52 53.5**	**+0.2**
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.90**	**254**	P	**P**	**11 52 54.9**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=46,slow=6.6,SNR=10						
CMAR				LR	LR	12 11 43.9	
	comp=Z,35nm,18.2s,baz=25,slow=37						
CMAR	**Chiang Mai Arr**	**42.90**	**254**	*e*P	**P**	**11 52 55.4**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**11 53 02.2**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=83,slow=9.9,SNR=21						
MKAR				LR	LR	12 11 53.0	
	comp=Z,78nm,21.4s,baz=66,slow=37						
KDAK	**Kodiak Island**	**45.00**	**43**	P	**P**	**11 53 12.5**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=257,slow=6.8,SNR=3.4						
KURK	**Kurchatov**	**45.41**	**307**	⇓*i*P	**P**	**11 53 14.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,30nm,1.2s						
KURK	**Kurchatov**	**45.41**	**307**	P	**P**	**11 53 14.8**	**-0.1**
	comp=Z,2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**45.49**	**307**	P	**P**	**11 53 14.8**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=81,slow=8.3,SNR=30						
COLA	**College**	**46.88**	**33**	⇑*e*P	**P**	**11 53 30.8**	**+4.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**47.30**	**33**	P	**P**	**11 53 31.2**	**+1.7**
	comp=Z,2.4nm,0.7s,baz=265,slow=6.0,SNR=33						
GUN	**Gumba**	**47.87**	**274**	*e*P	**P**	**11 53 36.3**	**+1.4**
	comp=Z,21nm,0.6s						
KKN	**Kakani**	**48.40**	**275**	*e*P	**P**	**11 53 38.9**	**+0.1**
	comp=Z,23nm,0.6s						
PKI	**Pulchoki**	**48.40**	**274**	*e*P	**P**	**11 53 39.2**	**+0.2**
DMN	**Daman**	**48.62**	**275**	*e*P	**P**	**11 53 41.3**	**+0.8**
	comp=Z,4.6nm,0.3s						
GKN	**Gorkha**	**48.79**	**275**	*e*P	**P**	**11 53 42.6**	**+0.8**
	comp=Z,16nm,0.7s						
DANN	**Dangsing**	**49.31**	**276**	*e*P	**P**	**11 53 46.4**	**+0.5**
	comp=Z,4.4nm,0.8s						
KOLN	**Koldanda**	**49.71**	**276**	*e*P	**P**	**11 53 48.6**	**-0.2**
	comp=Z,8.6nm,0.6s						
BVAR	**Borovoye Array**	**49.89**	**311**	P	**P**	**11 53 48.9**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=72,slow=8.1,SNR=8.9						
BRVK	**Borovoye**	**49.94**	**311**	⇑*i*P	**P**	**11 53 51.0**	**+1.0**
BRVK				*i* *PP	sP	11 54 03.9	+7.9
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PYUN	**Piuthan**	**50.02**	**276**	*e*P	**P**	**11 53 51.5**	**+0.3**
	comp=Z,50nm,1.0s						
AAK	**Ala-Archa**	**50.34**	**297**	P	**P**	**11 53 53.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=85,slow=6.7,SNR=3.2						
AAK	**Ala-Archa**	**50.34**	**297**	⇑*i*P	**P**	**11 53 52.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**52.17**	**28**	P	**P**	**11 54 07.8**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=310,slow=10,SNR=6.6						
ARU	**Arti**	**55.45**	**318**	P	**P**	**11 54 30.8**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=100,slow=6.4,SNR=3.0						
ARU	**Arti**	**55.45**	**318***c*	*i*P	**P**	**11 54 30.7**	**0.0**
ARU						11 55 30.5	
ARU						11 56 30.8	
ARU				S	**S**	**12 02 12.8**	**-2.1**
ARU				SS	**SS**	**12 05 59.1**	**+0.1**
ARU				pmax	pmax		
	comp=Z,11nm,1.4s						
ABKAR	**Akbulak array**	**57.33**	**309**	*e*P	**P**	**11 54 44.3**	**+0.1**
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**58.00**	**311**	P	**P**	**11 54 50.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.0,SNR=3.1						
WRAB	**Tennant Creek**	**59.19**	**189**	⇑*i*P	**P**	**11 54 57.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**59.19**	**189**	*e*P	**P**	**11 54 56.8**	**-0.6**
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**11 54 57.2**	**-0.2**
	comp=Z,6.1nm,0.5s,baz=6.4,slow=7.1,SNR=172						
ASAR	**Alice Springs**	**62.93**	**189**	P	**P**	**11 55 22.8**	**0.0**
	comp=Z,2.2nm,0.7s,baz=7.2,slow=5.5,SNR=46						
ASAR	**Alice Springs**	**62.93**	**189**	*e*P	**P**	**11 55 23.1**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**67.44**	**332**	P	**P**	**11 55 51.2**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=64,slow=7.4,SNR=4.7						
FINES	**FINESS Array B**	**67.44**	**332**	*e*P	**P**	**11 55 55.2**	**+3.6**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
STKA	**Stephens Creek**	**70.59**	**181**	P	**P**	**11 56 11.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=330,slow=6.7,SNR=4.6						
NOA	**NORSAR Array B**	**72.66**	**337**	P	**P**	**11 56 23.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=39,slow=5.2,SNR=2.9						
AKASG	**Malin Array Be**	**73.24**	**322**	P	**P**	**11 56 26.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=44,slow=6.7,SNR=8.4						
AKASG	**Malin Array Be**	**73.24**	**322**	*e*P	**P**	**11 56 27.0**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**75.61**	**46**	P	**P**	**11 56 42.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=308,slow=3.3,SNR=9.3						
GERES	**GERESS Array B**	**81.45**	**329**	LR	LR	12 34 54.4	
	comp=Z,41nm,18.6s,baz=330,slow=37						
TXAR	**Lajitas Array**	**88.18**	**53**	P	**P**	**11 57 48.5**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=297,slow=3.9,SNR=4.5						
MSEY	**Mahe Island**	**90.64**	**265**	*i* P	**P**	**11 57 56.9**	**-2.5**
SNAA	**Sanae**	**142.95**	**197**	P	**PKPdf**	**12 04 24.1**	**-4.9**
VNA2	**Neumayer--Watz**	**144.52**	**196**	P	**PKPab**	**12 04 29.4**	**-0.7**
	baz=130,slow=3.2						
VNA3	**Neumayer Olymp**	**144.76**	**195**	P	**PKPab**	**12 04 30.9**	**-0.1**
LPAZ	**La Paz**	**144.88**	**58**	PKP	PKPbc	12 04 34.6	+0.9
	comp=Z,0.6nm,0.5s,baz=12,slow=2.4,SNR=3.7						
VNA1	**Neumayer--Stat**	**144.92**	**196**	P	**PKPab**	**12 04 32.2**	**+0.7**

WEL 08 11:50:17.7±0.1, 43°.66S×172°.80E, h5km, ML3.5/13, 1C-1D, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.12**	**246**	P	PG	Pg	11 50 20.2	+0.2
MQZ					SG	Sg	11 50 22.5	+0.8
MQZ					AML	AML	11 50 25.1	
CRLZ	**Canterbury Las**	**0.15**	**303**	P	PG	Pg	11 50 20.7	-0.1
CRLZ					AML	AML	11 50 27.8	
CRLZ					AML	AML	11 50 28.7	
OXZ	**Oxford**	**0.65**	**301**	⇓P*		Pg	11 50 30.1	0.0
OXZ					SG	Sg	11 50 39.5	+1.0
OXZ					AML	AML	11 50 41.7	
OXZ					AML	AML	11 50 41.7	
OXZ					AML	AML	11 50 41.7	
LTZ	**Lake Taylor**	**0.96**	**336**	P*		Pg	11 50 36.0	-0.1
LTZ				S*		Sg	11 50 49.3	-0.5
LTZ					AML	AML	11 50 49.9	
RPZ	**Rata Peaks**	**1.27**	**267**	P*		Pg	11 50 40.4	-1.6
RPZ					AML	AML	11 50 59.9	
RPZ					AML	AML	11 51 01.4	
KHZ	**Kahutara**	**1.35**	**24**	⇑PN		Pn	11 50 41.1	-2.1
INZ	**Inchbonnie**	**1.36**	**313**	PN		Pn	11 50 42.1	-1.2
WVZ	**Waitaha Valley**	**1.61**	**291**	PN		Pn	11 50 45.8	-1.0
WVZ					AML	AML	11 51 10.1	
THZ	**Tophouse**	**1.90**	**2**	PN		Pn	11 50 48.4	-2.4
THZ					AML	AML	11 51 18.2	
THZ					AML	AML	11 51 32.3	
LBZ	**Lake Benmore**	**2.02**	**248**	PN		Pn	11 50 51.7	-0.7
LBZ					AML	AML	11 51 28.6	
LBZ					AML	AML	11 51 30.8	
DSZ	**Denniston Nort**	**2.05**	**339**	PN		Pn	11 50 52.9	0.0
DSZ					AML	AML	11 51 58.5	
DSZ					AML	AML	11 53 24.2	
ODZ	**Otahua Downs**	**2.08**	**227**	PN		Pn	11 50 51.8	-1.3
ODZ					AML	AML	11 51 35.5	
ODZ					AML	AML	11 51 36.6	
FOZ	**Fox Glacier**	**2.17**	**272**	PN		Pn	11 50 55.0	+0.5
QRZ	**Quartz Range**	**2.84**	**356**	AML		AML	11 51 57.4	
QRZ					AML	AML	11 52 22.9	
EAZ	**Earnscleugh**	**2.95**	**237**	PN		Pn	11 51 04.2	-1.0
EAZ					AML	AML	11 52 02.8	
EAZ					AML	AML	11 52 04.3	
TUZ	**Tuapeka**	**3.22**	**223**	PN		Pn	11 51 07.9	-1.0
TUZ					AML	AML	11 52 08.7	
TUZ					AML	AML	11 52 11.9	

*ISCJB **08** 11:50:31.5±0.4, 37°.30N±0°.03×28°.02E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=3.5km az=16.1*
*CSEM **08** 11:50:31.6±0.2, 37°.28N×28°.00E, h1km, MD2.5, Error ellipse: s-maj=5.2km s-min=4.5km az=23.0, Suspected Mining explosion.*
*DDA **08** 11:50:31.9, 37°.31N×28°.00E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **08** 11:50:31.2, 37°.26N×27°.94E, h16km, MD2.5*
ISC 08 11:50:31.4±0.9, 37°.27N±0°.02×28°.02E±0°.02, h0km, n33, σ0°76/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.20**	**278**	*e*P	G	**Pg**	**11 50 35.4**	**+0.2**
MLSB				*e*S	G	**Sg**	**11 50 38.4**	**+0.6**
MLSB	**Milas**	**0.20**	**278**	*e*Pg		**Pg**	**11 50 35.4**	**+0.2**
MLSB				*e*Sg		**Sg**	**11 50 38.4**	**+0.6**
AYDN	**Tasoluk**	**0.41**	**344**	*i* P		**Pg**	**11 50 39.8**	**+0.5**
AYDN				*i* S		**Sg**	**11 50 44.7**	**+0.1**
AYDN	**Tasoluk**	**0.41**	**344**	P		**Pg**	**11 50 39.8**	**+0.5**
AYDN				S		**Sg**	**11 50 44.7**	**+0.1**
BDRM	**Kayabasi**	**0.50**	**247**	*i* P		**Pg**	**11 50 41.3**	**+0.2**
BDRM				*i* S		**Sg**	**11 50 49.1**	**+1.5**
BDRM	**Kayabasi**	**0.50**	**247**	P		**Pg**	**11 50 41.3**	**+0.2**
BDRM				S		**Sg**	**11 50 49.1**	**+1.5**
MRSB	**Marmaris-Mugla**	**0.57**	**166**	*e*PG		**Pg**	**11 50 42.5**	**+0.2**
MRSB				*e*SG		**Sb**	**11 50 51.8**	**-1.1**
MRSB	**Marmaris-Mugla**	**0.57**	**166**	*e*Pg		**Pg**	**11 50 42.5**	**+0.2**
MRSB				*e*Sg		**Sb**	**11 50 51.8**	**-1.1**
BODT	**Bodrum**	**0.60**	**250**	*e*PG		**Pg**	**11 50 42.5**	**-0.5**
BODT	**Bodrum**	**0.60**	**250**	*e*Pg		**Pg**	**11 50 42.5**	**-0.5**
TURN	**Turunc**	**0.61**	**130**	*i* P		**Pg**	**11 50 41.8**	**-1.3**
TURN	**Turunc**	**0.61**	**130**	P		**Pg**	**11 50 41.8**	**-1.3**
YKAV	**Yalikavak-Bodr**	**0.61**	**257**	*e*PG		**Pg**	**11 50 42.5**	**-0.6**
YKAV	**Yalikavak-Bodr**	**0.61**	**257**	*e*Pg		**Pg**	**11 50 42.5**	**-0.6**
DAT	**Datca**	**0.65**	**214**	*e*PG		**Pg**	**11 50 43.3**	**-0.5**
DAT	**Datca**	**0.65**	**214**	*i* P		**Pg**	**11 50 44.6**	**+0.9**
DAT				*i* S		**Sb**	**11 50 55.7**	**+0.5**
DAT	**Datca**	**0.65**	**214**	*e*Pg		**Pg**	**11 50 43.3**	**-0.5**
DAT	**Datca**	**0.65**	**214**	P		**Pg**	**11 50 44.7**	**+0.9**
DAT				S		**Sb**	**11 50 55.7**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.68**	**132**	*e*PG		**Pb**	**11 50 46.2**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.68**	**132**	*i* P		**Pb**	**11 50 46.3**	**+0.1**
DALY				*i* S		**Sb**	**11 50 56.0**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.68**	**132**	*e*Pg		**Pb**	**11 50 46.2**	**+0.1**
DALY				S		**Sb**	**11 50 56.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**351**	*e*PG		**Pg**	**11 50 44.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**351**	*e*Pg		**Pg**	**11 50 44.9**	**+0.3**
TAVA	**DENIZLI_Tavas**	**0.74**	**74**	*i* P		**Pg**	**11 50 46.2**	**+0.6**
TAVA				*i* S		**Sg**	**11 50 56.1**	**+1.1**
TAVA	**DENIZLI_Tavas**	**0.74**	**74**	P		**Pg**	**11 50 46.2**	**+0.6**
TAVA				S		**Sg**	**11 50 56.2**	**+1.1**
GCAM	**G?zelcaml?**	**0.76**	**305**	*i* P		**Pg**	**11 50 46.0**	**0.0**
GCAM	**G?zelcaml?**	**0.76**	**305**	P		**Pg**	**11 50 46.0**	**0.0**
KULA	**Kula-Manisa**	**1.34**	**22**	*e*PN		**Pg**	**11 50 56.6**	**-0.6**
KULA	**Kula-Manisa**	**1.34**	**22**	*e*Pn		**Pg**	**11 50 56.6**	**-0.6**
AKAS	**Kas**	**1.64**	**129**	*e*PN		**Pn**	**11 51 00.6**	**-1.0**
AKAS	**Kas**	**1.64**	**129**	*i* P		**Pg**	**11 51 04.2**	**+1.4**
AKAS	**Kas**	**1.64**	**129**	*e*Pn		**Pn**	**11 51 00.6**	**-1.0**
AKAS	**Kas**	**1.64**	**129**	P		**Pg**	**11 51 04.2**	**+1.4**

PGC 08 11:56:53.2±0.5, 59°.06N×138°.01W, h10km, ML2.3/3, 88km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.93**	**64**	P		Pg	11 57 09.6	-1.6
PLBC				S		Sg	11 57 22.2	-1.1
PNL	**Peninsula**	**0.94**	**311**	P		Pg	11 57 10.1	-1.2
PNL				S		Sg	11 57 22.7	-0.9
BESE	**Bessie Mountai**	**1.71**	**105**	P		Pn	11 57 22.5	-0.6
BESE				Sn		Sn	11 57 44.3	-0.7
WHY	**Whitehorse**	**2.25**	**43**	Pn		Pn	11 57 30.4	-0.2
CTGM	**Chitina Glacie**	**2.54**	**320**	Pn		Pn	11 57 34.2	-0.4
CTGM				Sn		Sn	11 58 05.3	-0.4
DLBC	**Dease Lake**	**4.20**	**95**	Pn		Pn	11 57 58.0	+0.7
DLBC				Sn		Sn	11 58 44.0	-2.5

*NNC **08** 12:06:03.7±1.2, 43°.24N×74°.75E, h1km±8km, mb2.6, mpv2.2, Error ellipse: s-maj=12.2km s-min=2.9km az=158.0*
*KRNET **08** 12:06:04.3±0.1, 43°.24N×74°.73E, h18km, mb2.2*
*SOME **08** 12:06:05.1, 43°.27N×74°.63E, h15km*
ISC 08 12:06:04.1±0.9, 43°.26N±0°.03×74°.72E±0°.02, h14km±7km, n26, σ0°66/51, 23C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.16**	**274**	⇑*i*P		**Pg**	**12 06 08.1**	**-0.1**
USP	baz=279							
				⇑*i*S		**Sg**	**12 06 11.0**	**+0.1**
CHMS	**Chumysh**	**0.26**	**176**	⇑*i*P		**Pg**	**12 06 09.6**	**-0.1**
CHMS	baz=176							
				⇑*i*S		**Sg**	**12 06 13.2**	**-0.2**
KBK	**Karagaybulak**	**0.62**	**165**	⇓*i*P		**Pb**	**12 06 16.6**	**-0.3**
KBK	baz=165							
				⇓*i*S		**Sg**	**12 06 24.6**	**0.0**
AAK	**Ala-Archa**	**0.64**	**195**	⇑*i*P		**Pg**	**12 06 16.9**	**+0.2**
AAK	baz=196							
				⇑*i*S		**Sb**	**12 06 25.7**	**-0.4**
AAK	**Ala-Archa**	**0.64**	**195**	⇑P		**Pg**	**12 06 16.9**	**+0.2**
AAK	3.6nm,0.4s							
				⇑S		**Sg**	**12 06 25.1**	**-0.1**
TKM2	**Tokmak 2**	**0.72**	**117**	⇑*i*P		**Pg**	**12 06 18.1**	**-0.1**
TKM2	baz=116							
				⇑*i*S		**Sg**	**12 06 27.8**	**0.0**
TKM2	**Tokmak 2**	**0.72**	**117**	⇑P		**Pg**	**12 06 17.2**	**-1.0**
TKM2	1.4nm,0.3s							
				⇑S		**Sg**	**12 06 27.4**	**-0.3**
DGS	**Degeres**	**0.77**	**91**	*e*P		**Pb**	**12 06 19.5**	**+0.2**
DGS	8.2nm,0.6s							
				*e*S		**Sb**	**12 06 30.0**	**+0.3**
EKS2	**Erkin-Say**	**0.92**	**230**	⇑*e*P		**Pg**	**12 06 21.6**	**-0.2**
EKS2	baz=231							
				⇑*i*S		**Sb**	**12 06 34.0**	**0.0**
KST	**Kastek**	**0.93**	**103**	*e*P		**Pn**	**12 06 22.7**	**-0.3**
KST	3.6nm,0.4s							
				*e*S		**Sb**	**12 06 34.6**	**+0.2**
BOOM	**Boomskoye usch**	**1.18**	**130**	⇑*i*P		**Pg**	**12 06 26.8**	**0.0**
BOOM	baz=130							
				⇑*e*S		**Sn**	**12 06 42.5**	**+0.2**
MRKS	**Merke**	**1.21**	**246**	*e*P		**Pb**	**12 06 27.2**	**+0.2**
MRKS	3.4nm,0.1s							
				*e*S		**Sn**	**12 06 42.9**	**-0.2**
KUU	**Kurty**	**1.33**	**61**	*e*P		**Pg**	**12 06 29.8**	**0.0**
KUU	4.4nm,0.3s							
				*e*S		**Sg**	**12 06 47.3**	**+0.1**
IZV	**Izvestkoviy**	**1.40**	**98**	*e*P		**Pg**	**12 06 32.1**	**+1.0**
IZV	3.0nm,0.1s							
				*e*S		**Sg**	**12 06 51.5**	**+2.2**
ULHL	**Ulahol**	**1.51**	**132**	⇑*i*P		**Pb**	**12 06 32.1**	**+0.1**
ULHL	baz=132							
				⇑*i*S		**Sg**	**12 06 53.1**	**+0.4**
TNSS	**Tian-Shan**	**1.64**	**97**	*e*P		**Pg**	**12 06 35.4**	**-0.3**
TNSS	5.1nm,0.2s							
				*e*S		**Sg**	**12 06 57.1**	**0.0**
MDOK	**Medeo**	**1.70**	**92**	*e*P		**Pg**	**12 06 36.4**	**-0.4**
MDOK	13nm,0.4s							
				*e*S		**Sg**	**12 06 58.6**	**-0.3**
KOTS	**Kotyrbulak**	**1.75**	**90**	*e*P		**Pg**	**12 06 38.5**	**+0.9**
KOTS				*e*S		**Sg**	**12 07 02.2**	**+1.9**
CHKK	**Chushkaly**	**1.75**	**69**	*e*P		**Pb**	**12 06 37.0**	**+0.9**
CHKK	12nm,0.5s							
				*

*GUC **08** 12:29:26.9±0.3, 16.′16S×70.′95W, h233km±11km, ML5.4*
*IDC **08** 12:29:27.7±0.7, 15.′45S×70.′56W, h185km±5km, mb4.2/18, mb1 4.3/23, mb1mx4.1/39, mbtmp4.6/23, MS3.4/3, Ms1 3.5/3, ms1mx2.9/22, Error ellipse: s-maj=13.2km s-min=9.3km az=61.0*
ISC 08 12:29:26.5±0.5, **15.′62S**±0.′04×**70.′79W**±0.′05, **h186**km±4km, **h186**km:**pP-P, n496**, σ1970/531, **mb4.5**/101, **13C-2D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.08**	**219**	⇑*i*P		**Pn**	**12 29 54.2**	**-1.6**
ARE				*e*S		**Sn**	**12 30 18.0**	**-0.5**
BBOD	**La Paz, Gloria**	**2.34**	**116**	⇑*i*Pn		**Pn**	**12 30 09.4**	**+1.1**
BBOD				⇑*i*Sn		**Sn**	**12 30 42.3**	**+1.5**
	592nm,0.6s							
BBOB	**La Paz, Bander**	**2.61**	**102**	⇑*i*Pn		**Pn**	**12 30 11.8**	**+0.4**
BBOB				⇑*i*Sn		**Sn**	**12 30 46.4**	**+0.2**
	349nm,0.5s							
LPAZ	**La Paz**	**2.65**	**105**	P		**Pn**	**12 30 12.3**	**+0.4**
	51nm,0.3s,baz=286,slow=10,SNR=908							
LPAZ				S		**Sn**	**12 30 46.4**	**-0.7**
	29nm,0.3s,baz=217,slow=25,SNR=19							
LPAZ	**La Paz**	**2.65**	**105**	⇓*i*P		**Pn**	**12 30 12.6**	**+0.7**
LPAZ				*i* S		**Sn**	**12 30 47.1**	**0.0**
LPAZ	**La Paz**	**2.65**	**105**	⇑*i*Pn		**Pn**	**12 30 12.5**	**+0.7**
LPAZ				*e*Sn		**Sn**	**12 30 46.8**	**-0.3**
LPAZ	**La Paz**	**2.65**	**105**	*e*Pn		**Pn**	**12 30 12.6**	**+0.7**
LPAZ				*e*Sn		**Sn**	**12 30 44.7**	**-2.4**
BBOJ	**La Paz, Jacaqu**	**2.84**	**119**	⇑*i*Pn		**Pn**	**12 30 16.0**	**+1.9**
BBOJ				⇑*i*Sn		**Sn**	**12 30 52.1**	**+1.0**
	434nm,0.7s							
BBOE	**La Paz, Chanca**	**2.95**	**114**	⇑*i*Pn		**Pn**	**12 30 17.2**	**+1.8**
PB13	**IPOC Station P**	**2.97**	**156**	*e*P		**Pn**	**12 30 17.0**	**+1.3**
PB13				*e*S		**Sn**	**12 30 54.4**	**+0.3**
PB13				IAML			12 30 58.2	
	comp=E,9μm,0.5s							
PB12	**IPOC Station P**	**3.02**	**172**	*e*P		**Pn**	**12 30 14.8**	**-0.9**
PB12				*e*S		**Sn**	**12 30 51.5**	**-2.8**
PB12				IAML			12 30 53.4	
	comp=E,6μm,0.4s							
MNMC	**Minye Minye**	**3.68**	**162**	*e*P		**Pn**	**12 30 24.3**	**+0.2**
MNMC				*i* S		**Sn**	**12 31 07.2**	**-2.0**
PSGC	**Pisagua**	**4.01**	**171**	⇓*i*P		**Pn**	**12 30 26.6**	**-1.5**
PSGC				*e*S		**Sn**	**12 31 12.1**	**-4.3**
HMBC	**Humberstone**	**4.72**	**170**	⇑*i*P		**Pn**	**12 30 35.5**	**-1.6**
PB08	**IPOC Station P**	**4.76**	**161**	⇑*i*P		**Pn**	**12 30 37.4**	**-0.5**
PB08				*e*S		**Sn**	**12 31 31.3**	**-2.8**
PB01	**IPOC Station P**	**5.54**	**167**	*e*Pn		**Pn**	**12 30 46.3**	**-1.4**
PB01				*e*Sn		**Sn**	**12 31 45.8**	**-5.9**
PB07	**IPOC Station P**	**6.14**	**172**	*e*P		**Pn**	**12 30 54.5**	**-1.1**
PB04	**IPOC Station P**	**6.71**	**175**	*e*Pn		**Pn**	**12 31 02.1**	**-0.9**
PB04				*e*Sn		**Sn**	**12 32 11.2**	**-8.2**
NNA	**Nana**	**6.89**	**301**	P		**Pn**	**12 31 04.9**	**-0.5**
	comp=E,7.9nm,0.3s,baz=148,slow=8.2,SNR=10							
NNA				S		**Sn**	**12 32 18.9**	**-4.7**
	comp=E,25nm,0.3s,baz=225,slow=19,SNR=7.6							
NNA	**Nana**	**6.89**	**301**	*e*Pn		**Pn**	**12 31 05.3**	**-0.1**
NNA				*e*Sn		**Sn**	**12 32 19.6**	**-4.1**
LVC	**Limon Verde**	**7.18**	**166**	P		**Pn**	**12 31 08.9**	**-0.5**
	comp=E,2μm,0.3s,baz=354,slow=8.9,SNR=386							
LVC				S		**Sn**	**12 32 25.5**	**-5.3**
	comp=E,2μm,0.3s,baz=232,slow=19,SNR=23							
LVC	**Limon Verde**	**7.18**	**166**	*e*Pn		**Pn**	**12 31 09.4**	**0.0**
LVC				*e*Sn		**Sn**	**12 32 26.3**	**-4.5**
MOCB	**Mochara**	**7.44**	**140**	⇑*i*P		**Pn**	**12 31 13.7**	**+0.8**
PB10	**IPOC Station P**	**7.86**	**178**	*e*Pn		**Pn**	**12 31 17.0**	**-1.0**
PB10				*e*Sn		**Sn**	**12 32 40.3**	**-6.1**
SIV	**San Ignacio**	**9.36**	**94**	P		**Pn**	**12 31 35.3**	**-2.5**
	comp=E,1.6nm,0.3s,baz=292,slow=10,SNR=15							
SIV				S		**Sn**	**12 33 18.3**	**-4.1**
	comp=E,1.1nm,0.3s,baz=226,slow=11,SNR=6.6							
SIV	**San Ignacio**	**9.36**	**94**	*e*P		**Pn**	**12 31 35.2**	**-2.5**
SAML	**Samuel**	**9.96**	**49**	*e*Pn		**Pn**	**12 31 42.6**	**-2.9**
SAML				*e*Sn		Sn	12 33 24.7	-12
ATAH	**Atahualpa**	**11.25**	**318**	P		**Pn**	**12 32 03.5**	**+0.9**
	comp=E,0.4nm,0.3s,baz=151,slow=17,SNR=2.3							
LCO	**Las Campanas**	**13.33**	**180**	*e*Pn		**Pn**	**12 32 29.4**	**+0.5**
CPUP	**Villa Florida**	**16.47**	**133**	P		**Pn**	**12 33 07.3**	**+0.2**
	comp=E,0.7nm,0.3s,baz=315,slow=12,SNR=12							
CPUP	**Villa Florida**	**16.47**	**133**	*e*P		**Pn**	**12 33 07.8**	**+0.6**
ROC1	**El Roble**	**17.29**	**181**	*e*P		**Pn**	**12 33 19.6**	**+2.4**
	comp=E,18nm,0.6s							
OTAV	**Otavalo**	**17.48**	**334**	*e*P		**P**	**12 33 17.3**	**-0.9**
	comp=E,77nm,1.1s							
FLOC	**Florencia**	**17.75**	**344**	*e*P		**P**	**12 33 20.2**	**-0.5**
CMBC	**Cumbal**	**17.86**	**336**	*e*P		**Pn**	**12 33 24.7**	**+0.5**
CRUC	**La Cruz**	**18.13**	**340**	*e*P		**Pn**	**12 33 28.3**	**+1.0**
PTGA	**Pitinga**	**18.25**	**37**	P		**P**	**12 33 25.4**	**-0.7**
	comp=E,22nm,0.3s,baz=210,slow=13,SNR=277							
PTGA				S		**S**	**12 36 40.4**	**-4.9**
	baz=273,slow=16,SNR=5.6							
POPC	**Popayan, Colom**	**18.95**	**342**	*e*P		**Pn**	**12 33 36.0**	**-0.9**
TUMC	**Tumaco**	**19.02**	**335**	*e*P		**Pn**	**12 33 36.0**	**-1.4**
PRAC	**Prado**	**19.63**	**348**	*e*P		**Pn**	**12 33 43.2**	**-1.5**
PRAC	**Prado**	**19.63**	**348**	*e*P		**Pn**	**12 33 44.9**	**+0.2**
	comp=E,21nm,0.9s							
VILC	**Villavicencio,**	**19.81**	**351**	*e*P		**P**	**12 33 43.9**	**+0.8**
GRGC	**Isla de Gorgon**	**19.89**	**338**	*e*P		**P**	**12 33 44.3**	**+0.5**
CHIC	**Chingaza**	**20.32**	**352**	*e*P		**P**	**12 33 48.7**	**-0.2**
TOLC	**Tolima**	**20.57**	**347**	*e*P		Pn	12 33 53.9	-2.6
ROSC	**El Rosal**	**20.62**	**350**	P		Pn	12 33 56.5	-0.7
	comp=E,13nm,0.5s,baz=169,slow=16,SNR=5.0							
ROSC				LR		LR	12 43 28.7	
	comp=E,72nm,21.9s,baz=232,slow=41							
ROSC	**El Rosal**	**20.62**	**350**	P		Pn	12 33 56.5	-0.7
	comp=E,10nm,0.5s							
GUYC	**Guyana, Colomb**	**21.20**	**347**	*e*P		**P**	**12 33 58.9**	**+0.6**
NORC	**Norcasia**	**21.43**	**349**	*e*P		**P**	**12 33 56.1**	**-4.1**
RUSC	**La Rusia**	**21.49**	**354**	*e*P		**P**	**12 33 58.0**	**-3.3**
RUSC	**La Rusia**	**21.49**	**354**	*e*P		**P**	**12 33 58.7**	**-2.7**
	comp=E,20nm,0.5s							
RUSC				*e*S		**S**	**12 37 47.5**	**-0.7**
HELC	**Santa Helena**	**22.17**	**347**	*e*P		**P**	**12 34 06.0**	**-2.0**
HELC	**Santa Helena**	**22.17**	**347**	*e*P		**P**	**12 34 05.9**	**-2.1**
	comp=E,46nm,0.5s							
HELC				*e*S		**S**	**12 37 56.4**	**-2.5**
BARC	**Barichara**	**22.19**	**354**	*e*P		**P**	**12 34 04.4**	**-3.8**
SOLC	**Bahia Solano**	**22.67**	**343**	*e*P		**P**	**12 34 10.4**	**-1.8**
PAMC	**Pamplona, Colo**	**22.89**	**355**	*e*P		**P**	**12 34 12.6**	**-2.1**
ZARC	**Zaragoza, Cauc**	**23.31**	**350**	*e*P		**P**	**12 34 13.2**	**-4.9**
SPB	**Sao Paulo**	**23.37**	**114**	*e*P		**P**	**12 34 19.2**	**+0.6**
	comp=E,45nm,1.5s							
OCAC	**Ocana**	**23.83**	**354**	*e*P		**P**	**12 34 20.3**	**-2.6**
SDV	**Santo Domingo**	**24.34**	**0**	P		**P**	**12 34 27.1**	**-0.6**
	comp=E,9.4nm,0.5s,baz=185,slow=13,SNR=12							
SDV	**Santo Domingo**	**24.34**	**0**	*e*P		**P**	**12 34 25.2**	**-2.5**
	comp=E,29nm,1.1s							
MOTC	**Monteria, Cord**	**24.71**	**348**	*e*P		**P**	**12 34 28.8**	**-1.9**
CAPC	**Capurgana**	**24.96**	**344**	*e*P		**P**	**12 34 30.5**	**-2.5**
PLCA	**Paso Flores**	**25.03**	**180**	P		**P**	**12 34 35.5**	**+2.0**
	comp=E,7.9nm,0.6s,baz=19,slow=8.8,SNR=31							
PLCA	**Paso Flores**	**25.03**	**180**	*e*P		**P**	**12 34 34.2**	**+0.7**
	comp=E,11nm,0.6s							
SJCC	**San Jacinto, C**	**25.72**	**350**	*e*P		**P**	**12 34 37.9**	**-2.0**
BCIP	**Isla Barro Col**	**26.20**	**339**	*e*P		**P**	**12 34 46.0**	**+1.8**
	comp=E,38nm,0.7s							
PCRV	**Puerto La Cruz**	**26.34**	**14**	P		**P**	**12 34 45.3**	**-0.2**
	comp=E,2.9nm,0.4s,baz=201,slow=9.9,SNR=3.6							
GRGR	**Grenville**	**29.02**	**19**	*e*P		**P**	**12 35 07.2**	**-2.0**
CHRN	**Cochrane**	**31.58**	**182**	*e*P		**P**	**12 35 34.0**	**+2.5**
	comp=E,6.3nm,0.7s							
CELP	**Cerrillos**	**33.73**	**7**	*e*P		**P**	**12 35 50.1**	**-0.4**
CBYP	**Canovanas**	**34.02**	**8**	*e*P		**P**	**12 35 50.7**	**-2.3**
	comp=E,41nm,1.0s							
CBYP				*e*PcP		**PcP**	**12 38 25.5**	**-1.2**
SMRT	**St. Maarten**	**34.31**	**13**	*e*P		**P**	**12 35 52.0**	**-3.4**
	comp=E,45nm,0.7s							
RCBR	**Riachuelo**	**35.58**	**78**	P		**P**	**12 36 06.8**	**+0.3**
	comp=E,8.6nm,0.7s,baz=234,slow=9.7,SNR=3.6							
USHA	**Ushuaia**	**39.18**	**178**	P		**P**	**12 36 38.5**	**+2.4**
	comp=E,43nm,0.6s,baz=350,slow=6.9,SNR=9.2							
CMIG	**Matias Romero**	**40.26**	**323**	P		**P**	**12 36 47.3**	**+1.8**
	comp=E,3.0nm,0.6s,baz=291,slow=23,SNR=7.1							
LNIG	**Linares**	**49.03**	**325**	*e*P		**P**	**12 37 56.1**	**+1.4**
	comp=E,16nm,1.4s							
448A	**Bay Minette**	**49.10**	**341**	P		**P**	**12 37 55.5**	**+0.3**
	baz=158							
446A	**Poplarville**	**49.48**	**339**	P		**P**	**12 37 59.6**	**+1.5**
	baz=156							
347A	**Saraland**	**49.76**	**340**	P		**P**	**12 38 00.2**	**0.0**
	baz=157							
346A	**Big Creek Wild**	**50.06**	**339**	P		**P**	**12 38 02.5**	**+0.2**
	baz=156							
542A	**Morse**	**50.08**	**335**	P		**P**	**12 38 03.2**	**+0.7**
	baz=152							
248A	**Dixon Mills**	**50.14**	**341**	P		**P**	**12 38 02.8**	**-0.2**
	baz=158,SNR=11							
345A	**Thompson Farm,**	**50.18**	**338**	P		**P**	**12 38 03.6**	**+0.3**
	baz=155							
034A	**Hebbronville**	**50.33**	**327**	P		**P**	**12 38 05.8**	**+1.2**
	baz=144							
247A	**Quitman**	**50.38**	**340**	P		**P**	**12 38 04.7**	**-0.1**
	baz=157,SNR=6.8							
246A	**Jackson Lee, B**	**50.52**	**340**	P		**P**	**12 38 05.7**	**-0.1**
	baz=157							
344A	**Westbrook Farm**	**50.56**	**338**	P		**P**	**12 38 06.6**	**+0.4**
	baz=155							
540A	**Vidor**	**50.74**	**334**	P		**P**	**12 38 08.9**	**+1.3**
	baz=150							
245A	**Little AP, Sta**	**50.79**	**339**	P		**P**	**12 38 08.2**	**+0.3**
	baz=156,SNR=10							
LRAL	**Lakeview Retre**	**50.80**	**342**	*e*P		**P**	**12 38 07.2**	**-0.7**
	comp=E,23nm,1.3s							
147A	**Livingston**	**50.85**	**341**	P		**P**	**12 38 08.4**	**+0.2**
	baz=158							
146A	**Union**	**51.06**	**340**	P		**P**	**12 38 09.9**	**0.0**
	baz=157,SNR=7.3							
342A	**Flagon Creek P**	**51.09**	**336**	P		**P**	**12 38 11.7**	**+1.6**
	baz=153							
VBMS	**Vicksburg**	**51.18**	**338**	P		**P**	**12 38 11.5**	**+0.7**
	baz=155							
243A	**Waterproof**	**51.23**	**337**	P		**P**	**12 38 12.2**	**+1.1**
	baz=154							
Z47A	**Carrollton**	**51.27**	**341**	P		**P**	**12 38 10.9**	**-0.5**
	baz=158,SNR=6.9							
Z48A	**Northport**	**51.28**	**342**	P		**P**	**12 38 10.8**	**-0.7**
	baz=159,SNR=9.3							
145A	**Houston Renfro**	**51.33**	**339**	P		**P**	**12 38 12.2**	**+0.4**
	baz=156							
KMSC	**Kings Mountain**	**51.46**	**349**	P		**P**	**12 38 12.1**	**-0.7**
	baz=167							
Z46A	**Louisville**	**51.54**	**341**	P		**P**	**12 38 13.6**	**+0.2**
	baz=157							
439A	**Center Grove,**	**51.59**	**333**	P		**P**	**12 38 15.7**	**+1.9**
	baz=150							
242A	**Grayson**	**51.64**	**337**	P		**P**	**12 38 15.4**	**+1.3**
	baz=153							
340A	**Bronson**	**51.76**	**335**	P		**P**	**12 38 16.0**	**+0.9**
	baz=151							
Y47A	**UCPARC, Winfie**	**51.86**	**342**	P		**P**	**12 38 15.2**	**-0.5**
	baz=159,SNR=7.2							
Z45A	**Winona**	**51.95**	**340**	P		**P**	**12 38 16.7**	**+0.2**
	baz=156							
339A	**Huntington**	**51.96**	**334**	P		**P**	**12 38 17.9**	**+1.3**
	baz=150							
Z44A	**Pea Ridge, Bel**	**52.11**	**339**	P		**P**	**12 38 18.7**	**+1.1**
	baz=156							
338A	**Crockett**	**52.30**	**333**	P		**P**	**12 38 21.5**	**+2.4**
	baz=150							
141A	**Papa Simpson,**	**52.41**	**336**	P		**P**	**12 38 21.6**	**+1.8**
	baz=153							
633A	**Saathoff Ranch**	**52.52**	**329**	P		**P**	**12 38 22.0**	**+1.2**
	baz=145,SNR=5.4							
SWET	**Sewanee**	**52.55**	**344**	*e*P		**P**	**12 38 20.1**	**-0.8**
	comp=E,3.7nm,0.5s							
Z42A	**Norrel Spur, H**	**52.65**	**338**	P		**P**	**12 38 22.5**	**+0.9**
	baz=154							
X45A	**UM Field Stati**	**52.82**	**341**	P		**P**	**12 38 22.1**	**-0.7**
	baz=157							
139A	**Bunkhouse Ranc**	**53.07**	**335**	P		**P**	**12 38 26.5**	**+1.8**
	baz=151							
237A	**Washetta, Mont**	**53.07**	**333**	P		**P**	**12 38 27.3**	**+2.5**
	baz=149							
Y42A	**Garnett, Star**	**53.09**	**338**	P		**P**	**12 38 25.6**	**+0.7**
	baz=154							
X44A	**Crenshaw**	**53.13**	**340**	P		**P**	**12 38 25.9**	**+0.8**
	baz=156							
Z40A	**Long Farm, Mag**	**53.18**	**336**	P		**P**	**12 38 26.9**	**+1.4**
	baz=152							
138A	**Matatall Enter**	**53.34**	**334**	P		**P**	**12 38 29.0**	**+2.4**
	baz=150,SNR=5.8							
WLAR	**White Oak Lake**	**53.45**	**337**	*e*P		**P**	**12 38 28.9**	**+1.5**
	comp=E,45nm,1.1s							
WHTX	**Lake Whitney,**	**53.80**	**332**	P		**P**	**12 38 31.3**	**+1.2**
	baz=147							
Y40A	**Okolona**	**53.80**	**337**	P		**P**	**12 38 30.5**	**+0.4**
	baz=153							
WVT	**Waverly**	**53.93**	**343**	*e*P		**P**	**12 38 29.3**	**-1.6**
	comp=E,8.2nm,0.7s							
X41A	**Kaden, Bauxite**	**53.95**	**338**	P		**P**	**12 38 32.3**	**+1.3**
	baz=154							
Y39A	**Lockesburg**	**54.05**	**336**	P		**P**	**12 38 33.2**	**+1.4**
	baz=152,SNR=5.4							
UALR	**University of**	**54.14**	**338**	*e*P		**P**	**12 38 32.6**	**+0.2**
	comp=E,67nm,1.4s							
Y38A	**Idabel**	**54.29**	**335**	P		**P**	**12 38 34.5**	**+0.9**
	baz=151,SNR=5.3							
W42A	**Bald Knob**	**54.30**	**339**	P		**P**	**12 38 33.5**	**-0.1**
	baz=155							
MIAR	**Mount Ida**	**54.39**	**337**	P		**P**	**12 38 34.5**	**+0.3**
	baz=152,SNR=6.6							
MIAR	**Mount Ida**	**54.39**	**337**	*e*P		**P**	**12 38 34.6**	**+0.3**
	comp=E,38nm,1.4s							
Z36A	**Blue Ridge**	**54.43**	**334**	P		**P**	**12 38 35.5**	**+0.9**
	baz=149							
W41B	**Gary Mavity, V**	**54.46**	**338**	P		**P**	**12 38 34.6**	**-0.1**
	baz=154,SNR=6.3							
X39A	**Fountain Ranch**	**54.56**	**336**	P		**P**	**12 38 36.7**	**+1.2**
	baz=152,SNR=12							
X301	**Greenbrier Sit**	**54.57**	**338**	*e*P		**P**	**12 38 35.7**	**+0.2**
	comp=E,14nm,0.7s							
WHAR	**Wooly Hollow**	**54.58**	**338**	*e*P		**P**	**12 38 35.6**	**0.0**
	comp=E,23nm,1.0s							
Y37A	**Hugo**	**54.70**	**335**	P		**P**	**12 38 38.5**	**+1.9**
	baz=150,SNR=23							
V42A	**Cord**	**54.74**	**339**	P		**P**	**12 38 36.5**	**-0.3**
	baz=155							
W40A	**Ferguson Farm,**	**54.77**	**338**	P		**P**	**12 38 37.6**	**+0.6**
	baz=153,SNR=5.0							
TXAR	**Lajitas Array**	**54.81**	**325**	P		**P**	**12 38 38.4**	**+0.8**
	comp=E,0.9nm,0.6s,baz=150,slow=8.5,SNR=11							
TXAR				pP		**pP**	**12 39 21.2**	**+1.4**
	comp=E,0.8nm,0.8s,baz=157,slow=6.7,SNR=2.4							
TX31	**Lajitas Ar. Si**	**54.81**	**325**	*e*P		**P**	**12 38 38.8**	**+1.2**
Y36A	**Durant**	**54.91**	**334**	P		**P**	**12 38 38.6**	**+0.6**
	baz=149							
U43A	**Rector**	**54.93**	**341**	P		**P**	**12 38 37.4**	**-0.7**
	baz=156							
V41A	**Mountainview**	**54.98**	**339**	P		**P**	**12 38 37.8**	**-0.7**
	baz=154,SNR=19							
X38A	**Whitesboro**	**54.98**	**336**	P		**P**	**12 38 39.3**	**+0.7**
	baz=151,SNR=13							
W39A	**Magazine**	**55.04**	**337**	P		**P**	**12 38 40.1**	**+1.2**
	baz=152,SNR=8.8							
X37A	**Clayton**	**55.13**	**335**	P		**P**	**12 38 41.0**	**+1.4**
	baz=151,SNR=9.3							
U42A	**Revenden**	**55.18**	**340**	P		**P**	**12 38 39.1**	**-0.8**
	baz=156,SNR=21							
W38A	**Poteau**	**55.21**	**336**	P		**P**	**12 38 40.9**	**+0.7**
	baz=152,SNR=8.3							
V40A	**Witts Springs**	**55.23**	**338**	P		**P**	**12 38 40.0**	**-0.3**
	baz=154,SNR=8.9							
Y35A	**Marietta**	**55.23**	**333**	P		**P**	**12 38 41.9**	**+1.6**
	baz=149							
PBMO	**Poplar Bluff**	**55.31**	**341**	*e*P		**P**	**12 38 40.3**	**-0.5**
	comp=E,50nm,0.6s							
ABTX	**Abilene, Hawle**	**55.34**	**330**	P		**P**	**12 38 41.4**	**+0.2**
	baz=145							
ABTX	**Abilene, Hawle**	**55.34**	**330**	*e*P		**P**	**12 38 42.8**	**+1.6**
	comp=E,23nm,1.2s							
U41A	**Viola**	**55.40**	**339**	P		**P**	**12 38 40.7**	**-0.9**
	baz=155,SNR=22							
WCI	**Wyandotte Cave**	**55.50**	**345**	*e*P		**P**	**12 38 41.0**	**-1.2**
	comp=E,14nm,0.6s							
X36A	**Centrahoma**	**55.51**	**334**	P		**P**	**12 38 42.4**	**0.0**
	baz=150							
T43A	**Greenville**	**55.55**	**341**	P		**P**	**12 38 41.7**	**-0.8**
	baz=157,SNR=18							
V39A	**Pettigrew**	**55.56**	**338**	P		**P**	**12 38 42.6**	**-0.2**
	baz=153,SNR=15							
S45A	**Carrier Mills**	**55.59**	**343**	P		**P**	**12 38 41.8**	**-1.0**
	baz=159,SNR=5.7							
X35A	**Drake**	**55.63**	**334**	P		**P**	**12 38 44.1**	**+1.0**
	baz=149							
W37B	**Quinton**	**55.63**	**336**	P		**P**	**12 38 43.8**	**+0.6**
	baz=151,SNR=6.9							
U40A	**Yellville**	**55.74**	**338**	P		**P**	**12 38 43.6**	**-0.4**
	baz=154,SNR=11							
S44A	**Carbondale**	**55.80**	**342**	P		**P**	**12 38 43.7**	**-0.6**
	baz=158,SNR=25							
V38A	**Canehill**	**55.87**	**337**	P		**P**	**12 38 45.2**	**+0.3**
	baz=152,SNR=10.0							
S43A	**Fulton Ridge,**	**55.93**	**342**	P		**P**	**12 38 44.5**	**-0.7**
	baz=157,SNR=14							
W36A	**Wetumka**	**55.95**	**335**	P		**P**	**12 38 45.8**	**+0.4**
	baz=150,SNR=13							
T41A	**Mountain View**	**55.98**	**340**	P		**P**	**12 38 45.0**	**-0.6**
	baz=155,SNR=11							
U39A	**Green Forest**	**55.99**	**338**	P		**P**	**12 38 45.7**	**0.0**
	baz=153,SNR=7.4							
HHAR	**Hobbs**	**56.06**	**337**	*e*P		**P**	**12 38 46.3**	**+0.1**
	comp=E,32nm,1.3s							
O56A	**Blue Knob Stat**	**56.06**	**353**	P		**P**	**12 38 46.0**	**-0.2**
	baz=171							
V37A	**Hulbert**	**56.17**	**336**	P		**P**	**12 38 47.8**	**+0.8**
	baz=151,SNR=16							
W35A	**Tecumseh**	**56.23**	**334**	P		**P**	**12 38 49.1**	**+1.7**
	baz=149							
R44A	**Waltonville**	**56.26**	**343**	P		**P**	**12 38 47.9**	**+0.4**
	baz=158							
S42A	**Caledonia**	**56.33**	**341**	P		**P**	**12 38 47.2**	**-0.9**
	baz=156,SNR=11							
T40A	**Mansfield**	**56.34**	**339**	P		**P**	**12 38 47.5**	**-0.7**
	baz=154,SNR=12							
U38A	**Gravette**	**56.37**	**337**	P		**P**	**12 38 48.2**	**-0.2**
	baz=152							
V36A	**Jenks**	**56.40**	**335**	P		**P**	**12 38 48.8**	**+0.2**
	baz=150							
N59A	**State Game Lan**	**56.43**	**355**	P		**P**	**12 38 49.1**	**+0.3**
	baz=174							
TUL1	**Leonard**	**56.45**	**336**	P		**P**	**12 38 49.5**	**+0.6**
	baz=151,SNR=5.5							
TUL1	**Leonard**	**56.45**	**336**	*e*P		**P**	**12 38 50.0**	**+1.1**
	comp=E,60nm,1.5s							
S41A	**Jillco Farms,**	**56.47**	**340**	P		**P**	**12 38 48.2**	**-0.9**
	baz=155,SNR=6.7							
T39A	**Clever**	**56.52**	**338**	P		**P**	**12 38 48.9**	**-0.5**
	baz=154,SNR=7.3							
R43A	**Red Bud**	**56.53**	**342**	P		**P**	**12 38 48.7**	**-0.8**
	baz=158,SNR=13							
U37A	**Salina**	**56.62**	**337**	P		**P**	**12 38 51.0**	**+0.9**
	baz=151,SNR=7.5							
WMOK	**Wichita Mounta**	**56.70**	**332**	P		**P**	**12 38 52.6**	**+1.8**
	baz=147							
WMOK	**Wichita Mounta**	**56.70**	**332**	*e*P		**P**	**12 38 52.7**	**+1.9**
	comp=E,2.9nm,0.5s							
ACSO	**Alum Creek Sta**	**56.71**	**349**	*e*P		**P**	**12 38 49.6**	**-1.0**
	comp=E,16nm,0.8s							
S40A	**Lebanon**	**56.73**	**339**	P		**P**	**12 38 50.4**	**-0.5**
	baz=155,SNR=15							
CCM	**Cathedral Cave**	**56.74**	**341**	*e*P		**P**	**12 38 50.0**	**-1.0**
	comp=E,52nm,1.3s							
V35A	**Meyer Ranch, C**	**56.74**	**335**	P		**P**	**12 38 51.1**	**+0.1**
	baz=149							
R42A	**Luebbering**	**56.80**	**341**	P		**P**	**12 38 50.7**	**-0.7**
	baz=157,SNR=24							
U36A	**Oologah**	**56.84**	**336**	P		**P**	**12 38 52.3**	**+0.6**
	baz=151,SNR=6.7							
Q44A	**Meyer Farm, Va**	**56.85**	**343**	P		**P**	**12 38 50.5**	**-1.2**
	baz=159							
T38A	**Diamond**	**56.86**	**338**	P		**P**	**12 38 51.7**	**-0.2**
	baz=152,SNR=15							
N54A	**Moraine State**	**56.93**	**352**	P		**P**	**12 38 51.6**	**-0.7**
	baz=169							
R41A	**Rosebud**	**57.00**	**341**	P		**P**	**12 38 52.2**	**-0.6**
	baz=156,SNR=43							
Q43A	**New Douglas**	**57.08**	**342**	P		**P**	**12 38 52.5**	**-0.8**
	baz=158							
S39A	**Bolivar**	**57.10**	**339**	P		**P**	**12 38 53.1**	**-0.4**
	baz=154,SNR=30							
T37A	**Cheneyville 18**	**57.17**	**337**	P		**P**	**12 38 54.1**	**0.0**
	baz=152,SNR=22							
S38A	**Stockton**	**57.25**	**338**	P		**

KSU1	Kansas State U	59.54	337	eP	P	12 39 10.7	+0.3
	comp=E,32nm,1.1s						
M41A	Milan	59.58	343	P	P	12 39 09.4	-1.2
	baz=158						
O37A	Wolven Farm, M	59.60	339	P	P	12 39 10.5	-0.3
	baz=154						
P35A	Duane Minner,	59.70	338	P	P	12 39 11.3	-0.2
	baz=151,SNR=6.1						
N39A	Derby Farms, D	59.71	341	P	P	12 39 10.4	-1.1
	baz=155,SNR=5.8						
L43A	Garden Prairie	59.85	345	P	P	12 39 11.0	-1.4
	baz=160						
M40A	Post Highland	59.89	342	P	P	12 39 11.3	-1.4
	baz=157						
P34A	Walnut Farm, R	60.02	337	P	P	12 39 14.0	+0.4
	baz=151,SNR=15						
N37A	Lee Faris, Mou	60.15	340	P	P	12 39 13.9	-0.7
	baz=154,SNR=5.6						
Y22D	IRIS PASSCAL I	60.21	326	P	P	12 39 16.1	+0.8
	baz=139						
L41A	Preston	60.21	343	P	P	12 39 13.5	-1.4
	baz=158						
O35A	Humboldt	60.31	338	P	P	12 39 15.5	-0.1
	baz=152						
L40A	Anamosa	60.41	343	P	P	12 39 16.0	-0.2
	baz=157						
N36A	Muff Farm, Cla	60.46	339	P	P	12 39 17.0	+0.4
	baz=153						
O34A	Beatrice	60.52	337	P	P	12 39 17.3	+0.3
	baz=151						
CBKS	Cedar Bluff	60.55	334	P	P	12 39 18.1	+0.9
	baz=147						
CBKS	Cedar Bluff	60.55	334	eP	P	12 39 19.4	+2.1
	comp=E,18nm,0.8s						
LAZ	Ladron	60.58	326	eP	P	12 39 20.1	+2.3
ANMO	Albuquerque	60.62	327	P	P	12 39 19.4	+1.3
	baz=140						
ANMO	Albuquerque	60.62	327	eP	P	12 39 19.8	+1.8
	comp=E,2.0nm,0.7s						
K41A	Shullsburg	60.66	344	P	P	12 39 17.1	-0.8
	baz=158						
M37A	Trindle Farm,	60.68	340	P	P	12 39 17.2	-0.9
	baz=154						
L39A	Vinton	60.69	342	P	P	12 39 16.9	-1.2
	baz=156						
N35A	Tabor	60.74	339	P	P	12 39 18.3	-0.2
	baz=152						
O33A	Hebron	60.76	337	P	P	12 39 19.1	+0.4
	baz=150,SNR=11						
SCIA	State Center	60.87	341	eP	P	12 39 19.0	-0.3
	comp=E,28nm,1.0s						
JFWS	Jewell Farm	60.92	344	eP	P	12 39 18.9	-0.8
	comp=E,13nm,0.6s						
K40A	Colesburg	60.97	343	P	P	12 39 18.9	-1.1
	baz=157						
M36A	Felix, Anita	60.98	340	P	P	12 39 20.0	0.0
	baz=153						
L38A	Oak Wood Farm,	61.00	341	P	P	12 39 19.5	-0.7
	baz=155,SNR=5.0						
TUC	Tucson	61.13	322	P	P	12 39 22.6	+1.2
	baz=135						
K39A	Oelwein	61.19	342	P	P	12 39 20.4	-1.0
	baz=156						
J41A	Loganville	61.28	344	P	P	12 39 21.2	-0.9
	baz=159						
N33A	J Bar K, Exete	61.29	337	P	P	12 39 22.6	+0.4
	baz=150						
T25A	Trinidad	61.29	330	P	P	12 39 22.2	-0.4
	baz=142						
T25A	Trinidad	61.29	330	eP	P	12 39 24.9	+2.3
	comp=E,11nm,1.1s						
M35A	Neola	61.29	339	P	P	12 39 22.4	+0.2
	baz=152						
J40A	Soldiers Grove	61.51	344	P	P	12 39 22.7	-0.9
	baz=158,SNR=6.2						
M34A	Aspy Farms, Fr	61.64	338	P	P	12 39 24.5	0.0
	baz=151,SNR=6.3						
J39A	Decorah	61.72	343	P	P	12 39 23.8	-1.2
	baz=157,SNR=7.7						
L35A	Bielow Farm, R	61.81	339	P	P	12 39 25.5	-0.2
	baz=153,SNR=14						
I41A	Arkdale	61.89	345	P	P	12 39 25.3	-0.8
	baz=159						
K36A	Gilmore City	61.92	340	P	P	12 39 25.9	-0.5
	baz=154,SNR=5.1						
M33A	Taylor Creek F	61.92	338	P	P	12 39 26.7	+0.3
	baz=151,SNR=5.7						
I40A	Norwalk	61.93	344	P	P	12 39 25.8	-0.6
	baz=158						
BGNE	Belgrade	62.13	337	P	P	12 39 28.6	+0.8
	baz=150,SNR=8.8						
BGNE	Belgrade	62.13	337	eP	P	12 39 28.7	+0.8
	comp=E,45nm,0.4s						
I39A	Houston	62.15	343	P	P	12 39 26.8	-1.1
	baz=157,SNR=7.3						
J37A	Redenius Farm,	62.24	341	P	P	12 39 27.8	-0.7
	baz=155						
K35A	Storm Lake	62.25	340	P	P	12 39 28.1	-0.5
	baz=153						
SDCO	Great Sand Dun	62.30	329	P	P	12 39 31.1	+1.7
	baz=142,SNR=10						
SDCO	Great Sand Dun	62.30	329	eP	P	12 39 31.2	+1.9
	comp=E,3.0nm,0.5s						
J36A	Seneca 1, Swea	62.51	341	P	P	12 39 29.6	-0.7
	baz=154						
K34A	Le Mars	62.51	339	P	P	12 39 30.3	0.0
	baz=152,SNR=5.8						
I38A	Scanlan Farm,	62.55	343	P	P	12 39 30.0	-0.5
	baz=156,SNR=6.4						
H40A	Chili	62.55	344	P	P	12 39 29.8	-0.7
	baz=158						
L32A	Elgin	62.59	337	P	P	12 39 31.2	+0.3
	baz=150,SNR=5.6						
K33A	Hardington	62.75	338	P	P	12 39 32.7	+0.8
	baz=151						
J35A	Milford	62.82	340	P	P	12 39 31.9	-0.4
	baz=153						
I37A	Lemond, Waseca	62.84	342	P	P	12 39 31.9	-0.5
	baz=155						
S22A	4UR Ranch, Cre	62.96	328	P	P	12 39 35.8	+2.0
	baz=140						
S22A	4UR Ranch, Cre	62.96	328	eP	P	12 39 36.2	+2.5
	comp=E,4.4nm,1.3s						
J34A	George	62.99	340	P	P	12 39 33.9	+0.4
	baz=152,SNR=7.0						
H38A	Maiden Rock	63.11	343	P	P	12 39 34.2	0.0
	baz=156						
K32A	Verdigre	63.15	338	P	P	12 39 34.9	+0.3
	baz=150						
I35A	Creekview Farm	63.18	341	P	P	12 39 34.4	-0.4
	baz=154						
H37A	Dierke Farm, C	63.21	342	P	P	12 39 34.0	-0.8
	baz=156						
F41A	Three Lakes	63.28	346	P	P	12 39 34.5	-0.8
	baz=160						
OGNE	Ogallala	63.29	334	eP	P	12 39 37.5	+1.9
	comp=E,16nm,0.5s						
J33A	Davis	63.37	339	P	P	12 39 36.2	+0.2
	baz=151,SNR=19						
G39A	Holcombe	63.37	344	P	P	12 39 35.4	-0.5
	baz=158						
K31A	O'Neill	63.41	337	P	P	12 39 37.1	+0.9
	baz=150						
MVCO	Mesa Verde	63.41	327	P	P	12 39 39.3	+2.6
	baz=139						
MVCO	Mesa Verde	63.41	327	eP	P	12 39 39.0	+2.3
	comp=E,11nm,1.3s						
G38A	Ridgeland	63.45	343	P	P	12 39 35.5	-0.9
	baz=157						
H36A	Jessenland, He	63.51	342	P	P	12 39 36.7	-0.1
	baz=155						
ECSD	EROS Data Cent	63.61	339	P	P	12 39 37.6	0.0
	baz=152,SNR=14						
ECSD	EROS Data Cent	63.61	339	eP	P	12 39 37.6	0.0
	comp=E,35nm,1.2s						
I34A	Hadley	63.63	340	P	P	12 39 37.7	0.0
	baz=153,SNR=5.9						
F40A	Park Falls	63.69	345	P	P	12 39 37.2	-0.8
	baz=159						
WUAZ	Wupatki	63.75	324	P	P	12 39 41.0	+2.1
	baz=136						
WUAZ	Wupatki	63.75	324	eP	P	12 39 43.7	+4.8
	comp=E,5.4nm,1.1s						
SPMN	Marine on St.	63.77	343	P	P	12 39 38.1	-0.4
	baz=156						
SPMN	Marine on St.	63.77	343	eP	P	12 39 38.0	-0.4
	comp=E,23nm,1.4s						
I33A	Coleman	63.95	339	P	P	12 39 40.2	+0.4
	baz=152,SNR=28						
ISCO	Idaho Springs	63.97	331	P	P	12 39 41.7	+1.3
	baz=142						
ISCO	Idaho Springs	63.97	331	eP	P	12 39 42.3	+2.0
	comp=E,5.5nm,1.1s						
J31A	Geddes	63.98	338	P	P	12 39 40.6	+0.6
	baz=150						
E40A	Wakefield	64.13	345	P	P	12 39 40.2	-0.6
	baz=159						
SMCO	Snowmass	64.14	329	eP	P	12 39 43.6	+2.0
	comp=E,13nm,1.5s						
I32A	Karley and Nic	64.16	339	P	P	12 39 42.2	+1.1
	baz=151						
H34A	Spellman Lake,	64.16	340	P	P	12 39 41.2	+0.1
	baz=153,SNR=15						
F37A	Hinrichs Farm,	64.17	343	P	P	12 39 41.3	+0.1
	baz=156						
F38A	Pierce - Schro	64.18	344	P	P	12 39 41.4	+0.2
	baz=157						
E39A	Mellen	64.23	345	P	P	12 39 40.9	-0.6
	baz=159						
G35A	Watkins	64.26	342	P	P	12 39 41.8	+0.1
	baz=154						
H33A	Prehn Over Nor	64.49	340	P	P	12 39 43.5	+0.2
	baz=152,SNR=12						
I31A	Royce, Wessing	64.54	338	P	P	12 39 43.9	+0.3
	baz=150,SNR=5.6						
F36A	Milaca	64.55	343	P	P	12 39 43.3	-0.3
	baz=156,SNR=6.9						
H32A	Carlson Farm,	64.57	339	P	P	12 39 44.2	+0.4
	baz=151,SNR=10						
G34A	Benson	64.63	341	P	P	12 39 43.7	-0.4
	baz=153,SNR=5.4						
G33A	Ortonville	64.85	340	P	P	12 39 45.4	-0.1
	baz=152,SNR=7.8						
F35A	Swanville	64.86	342	P	P	12 39 45.5	0.0
	baz=154,SNR=5.6						
U15A	North Rim	64.92	324	eP	P	12 39 49.0	+2.5
	comp=E,5.8nm,1.2s						
N23A	Red Feather La	64.99	331	P	P	12 39 48.7	+1.8
	baz=142						
N23A	Red Feather La	64.99	331	eP	P	12 39 50.5	+3.6
	comp=E,9.5nm,1.3s						
F34A	Alexandria	65.01	341	P	P	12 39 46.7	+0.2
	baz=154						
IRM	Iron Mountain	65.05	320	P	P	12 39 48.3	+1.2
	baz=132						
SUSD	Miller	65.05	338	P	P	12 39 47.8	+0.9
	baz=150						
E36A	McGregor	65.08	343	P	P	12 39 46.9	0.0
	baz=156						
G32A	Webster	65.25	340	P	P	12 39 48.3	+0.1
	baz=151						
F33A	5 Mile Ranch,	65.38	341	P	P	12 39 48.9	0.0
	baz=153,SNR=9.0						
D37A	Cotton	65.44	344	P	P	12 39 49.0	-0.3
	baz=157						
E35A	Pequot Lakes	65.44	342	P	P	12 39 49.2	-0.1
	baz=155						
G31A	Conde	65.47	339	P	P	12 39 50.0	+0.5
	baz=151						
O20A	White River Ci	65.50	329	P	P	12 39 51.7	+1.6
	baz=140						
TPFO	Pinon Flats	65.50	319	P	P	12 39 51.8	+1.7
	baz=131						
PFO	Pinyon Flats O	65.51	319	P	P	12 39 51.0	+0.8
	baz=131						
E34A	Wadena	65.63	342	P	P	12 39 50.7	+0.2
	baz=154						
KNB	Kanab	65.64	324	eP	P	12 39 53.9	+2.8
	comp=E,20nm,1.5s						
F32A	Veblen	65.67	340	P	P	12 39 50.9	+0.1
	baz=152,SNR=10.0						
GMRC	Granite Mounta	65.78	320	P	P	12 39 53.7	+1.7
	baz=132						
D35A	Remer	65.81	343	P	P	12 39 52.1	+0.4
	baz=155						
LCMT	Little Creek M	65.88	324	eP	P	12 39 55.4	+2.9
	comp=E,4.9nm,1.3s						
E33A	Westby DABS, E	65.88	341	P	P	12 39 51.5	-0.6
	baz=153						
SRU	San Rafael Swe	65.89	327	eP	P	12 39 54.7	+2.1
	comp=E,2.9nm,0.8s						
C37A	Embarrass	65.90	344	P	P	12 39 51.9	-0.3
	baz=157						
EYMN	Ely	65.92	345	P	P	12 39 52.0	-0.4
	baz=158						
EYMN	Ely	65.92	345	P	P	12 39 51.6	-0.8
	comp=E,4.7nm,0.6s						
F31A	Hecla	66.04	339	P	P	12 39 53.5	+0.3
	baz=151,SNR=11						
C36A	Pine Crest Far	66.10	344	P	P	12 39 53.2	-0.2
	baz=156						
D34A	Park Rapids	66.15	342	P	P	12 39 53.4	-0.5
	baz=154						
P17A	Butcher Ranch,	66.27	327	eP	P	12 39 57.2	+2.2
	comp=E,9.7nm,1.2s						
E32A	Braaten, Kindr	66.29	341	P	P	12 39 54.7	0.0
	baz=152						
CCUT	Cedar City	66.32	324	eP	P	12 39 58.4	+3.0
	comp=E,3.7nm,1.0s						
C35A	Jirik Farms, M	66.36	343	P	P	12 39 54.6	-0.6
	baz=155						
D33A	AnnSam, Waubun	66.40	342	P	P	12 39 55.4	0.0
	baz=153						
E31A	Nome	66.53	340	P	P	12 39 56.8	+0.5
	baz=151,SNR=12						
C34A	RKJ Ranch, Bem	66.58	342	P	P	12 39 56.3	-0.2
	baz=154,SNR=7.1						
SHPR	Sheep Range	66.64	322	eP	P	12 40 00.3	+2.9
	comp=E,3.7nm,1.0s						
K22A	Casper	66.64	332	P	P	12 39 59.0	+1.7
	baz=142						
K22A	Casper	66.64	332	eP	P	12 39 59.2	+1.9
	comp=E,13nm,1.4s						
RSSD	Black Hills	66.75	335	P	P	12 40 00.0	+2.1
	baz=145						
RSSD	Black Hills	66.75	335	eP	P	12 39 59.7	+1.7
	comp=E,9.4nm,0.5s						
B35A	Bob, Littlefor	66.89	344	P	P	12 39 58.0	-0.5
	baz=156						
C33A	Trail	66.93	342	P	P	12 39 58.8	+0.1
	baz=154						
SNCC	San Nicolas Is	67.26	317	P	P	12 40 02.4	+1.2
	baz=128						
B34A	Aery, Baudette	67.26	343	P	P	12 40 00.5	-0.4
	baz=155						
EDW2	Edwards Air Fo	67.30	319	P	P	12 40 03.2	+1.7
	baz=130						
AGMN	Agassiz Nation	67.44	342	P	P	12 40 02.0	+0.1
	baz=154,SNR=9.6						
AGMN	Agassiz Nation	67.44	342	eP	P	12 40 02.0	+0.1
	comp=E,15nm,0.6s						
JLU	Jordanelle	67.47	328	eP	P	12 40 06.2	+3.5
	comp=E,11nm,1.5s						
C31A	Landman Farms,	67.56	341	P	P	12 40 03.0	+0.3
	baz=152,SNR=11						
TPNV	Topopah Spring	67.58	322	P	P	12 40 04.3	+0.9
	baz=132						
TPNV	Topopah Spring	67.58	322	eP	P	12 40 06.0	+2.7
	comp=E,4.2nm,0.8s						
FURC	Furnace Creek,	67.63	321	P	P	12 40 05.7	+2.3
	baz=131						
B32A	Ashes, Strandq	67.73	342	P	P	12 40 03.7	-0.1
	baz=153,SNR=5.0						
A33A	Warroad	67.88	343	P	P	12 40 04.8	+0.1
	baz=154,SNR=6.6						
DUG	Dugway, Tooele	67.89	326	P	P	12 40 07.1	+1.9
	baz=136						
R11A	Troy Canyon, C	68.14	323	P	P	12 40 09.1	+2.3
	baz=133						
R11A	Troy Canyon, C	68.14	323	eP	P	12 40 09.8	+3.0
	comp=E,3.6nm,1.3s						
BW06	Boulder Array	68.14	330	P	P	12 40 08.5	+1.7
	baz=139						
BW06	Boulder Array	68.14	330	eP	P	12 40 09.3	+2.5
PD31	Pinedale Array	68.14	330	eP	P	12 40 09.4	+2.7
PDAR	Pinedale Array	68.14	330	P	P	12 40 07.2	+0.4
	comp=E,1.3nm,0.5s,baz=110,slow=6.5,SNR=15						
MDND	Maddock	68.22	340	P	P	12 40 08.2	+1.3
	baz=150,SNR=5.0						
MDND	Maddock	68.22	340	eP	P	12 40 08.4	+1.5
	comp=E,49nm,0.5s						
HWUT	Hardware Ranch	68.27	328	eP	P	12 40 10.3	+2.7
	comp=E,3.6nm,0.7s						
CWC	Cottonwood Cre	68.36	320	P	P	12 40 10.5	+2.3
	baz=130						
SNAA	Sanae	68.39	162	eP	P	12 40 09.2	+1.4
	comp=E,11nm,0.6s						
VES	Vestal, Richgr	68.60	319	P	P	12 40 11.6	+2.2
	baz=129						
LIC	Lamto	68.63	77	eP	P	12 40 08.9	-1.2
	comp=E,70nm,1.6s						
TIC	Toumodi	68.77	76	eP	P	12 40 09.4	-1.6
DBIC	Dimbokro	68.94	76	P	P	12 40 10.9	-1.1
	comp=E,8.1nm,0.5s,baz=241,slow=6.8,SNR=19						
KIC	Kosan Boka	68.94	77	eP	P	12 40 10.3	-1.8
	comp=E,23nm,0.6s						
ULM	Lac du Bonnet	69.20	343	P	P	12 40 12.1	-0.7
	comp=E,16nm,0.6s,baz=156,slow=5.8,SNR=41						
ULM	Lac du Bonnet	69.20	343	eP	P	12 40 12.6	-0.2
	comp=E,17nm,0.6s						
LOHW	Long Hollow	69.28	330	eP	P	12 40 15.5	+1.7
	comp=E,2.1nm,0.6s						
TPAW	Teton Pass	69.36	330	eP	P	12 40 16.4	+2.1
	comp=E,2.5nm,0.7s						
FXWY	Fox Creek	69.51	330	eP	P	12 40 16.9	+1.7
	comp=E,1.9nm,0.9s						
MLAC	Mammoth, Mammo	69.59	321	P	P	12 40 18.0	+2.2
	baz=130						
IMW	Indian Meadow	69.66	330	eP	P	12 40 18.0	+1.8
	comp=E,4.7nm,0.8s						
LAO	LASA Array	69.73	335	P	P	12 40 18.5	+2.3
	baz=143						
LAO	LASA Array	69.73	335	eP	P	12 40 18.6	+2.4
	comp=E,11nm,0.6s						
RLMT	Red Lodge	69.81	332	P	P	12 40 18.4	+1.4
	baz=140						
RLMT	Red Lodge	69.81	332	eP	P	12 40 19.1	+2.1
	comp=E,14nm,1.4s						
YMR	Madison River	70.25	331	eP	P	12 40 24.1	+4.4
	comp=E,8.8nm,1.2s						
YHH	Holmes Hill	70.29	331	eP	P	12 40 23.2	+3.2
	comp=E,11nm,1.3s						
DGMT	Dagmar	70.39	337	P	P	12 40 22.2	+2.0
	baz=146,SNR=5.7						
DGMT	Dagmar	70.39	337	eP	P	12 40 22.1	+2.0
	comp=E,16nm,0.6s						
YHB	Horse Butte	70.42	331	eP	P	12 40 23.6	+2.9
	comp=E,6.9nm,1.1s						
GCMT	Greycliff	70.50	332	eP	P	12 40 23.9	+2.8
HLID	Hailey	71.13	328	P	P	12 40 26.5	+1.5
	baz=135						
HLID	Hailey	71.13	328	eP	P	12 40 27.6	+2.7
	comp=E,3.8nm,1.3s						
PAHR	Pah Rah Range	71.25	322	eP	P	12 40 29.0	+3.2
	comp=E,11nm,1.0s						
BOZ	Bozeman (W)	71.26	331	P	P	12 40 27.4	+1.8
	baz=138						
BOZ	Bozeman (W)	71.26	331	eP	P	12 40 27.4	+1.8
	comp=E,6.3nm,1.3s						
MFID	Camas Ranch	71.76	327	eP	P	12 40 31.1	+2.4
	comp=E,3.7nm,0.8s						
EGMT	Eagleton	72.26	334	P	P	12 40 33.2	+1.7
	baz=140						
EGMT	Eagleton	72.26	334	eP	P	12 40 33.7	+2.2
	comp=E,30nm,1.4s						
ORV	Oroville	72.42	321	eP	P	12 40 35.7	+3.2
	comp=E,9.3nm,1.3s						
O03D	Paynes Creek	73.06	322	P	P	12 40 38.1	+1.8
	baz=128						
MOD	Modoc Plateau	73.20	324	eP	P	12 40 39.6	+2.4
	comp=E,2.8nm,0.6s						
MSO	Missoula	73.25	331	P	P	12 40 39.0	+1.7
	baz=136						
MSO	Missoula	73.25	331	eP	P	12 40 41.5	+4.1
	comp=E,9.0nm,1.4s						
BMO	Blue Mountains	73.52	327	eP	P	12 40 41.1	+2.1
	comp=E,1.6nm,0.6s						
M04C	Macdoel	74.01	323	P	P	12 40 43.5	+1.5
	baz=129						
N02D	Trinity Center	74.02	322	P	P	12 40 43.7	+1.7
	baz=128						
M02C	Callahan	74.36	322	P	P	12 40 45.4	+1.5
	baz=128						
J04D	Umpqua Nationa	75.08	324	P	P	12 40 49.6	+1.4
	baz=129						
I05D	Terrebonne, OR	75.34	325	P	P	12 40 50.6	+1.1
	baz=130						
TORD	Torodi Ar. Bea	77.17	72	P	P	12 40 59.1	-1.2
	comp=E,12nm,0.4s,baz=272,slow=4.8,SNR=153						
TORD				pP	pP	12 41 45.1	-0.2
	comp=E,3.5nm,0.9s,baz=253,slow=5.4,SNR=1.9						
TORD				LR	LR	13 15 04.5	
	comp=E,44nm,18.3s,baz=175,slow=36						
EDM	Edmonton	77.70	335	eP	P	12 41 03.1	+0.6
	comp=E,10nm,0.4s						
B05A	Bryant	78.26	328	P	P	12 41 06.6	+1.1
	baz=130						
SBA	Scott Base	81.26	190	eP	P	12 41 24.8	+3.4
	comp=E,16nm,1.4s						
VNDA	Vanda	82.30	190	P	P	12 41 29.8	+3.0
	comp=E,1.7nm,0.7s,baz=130,slow=5.6,SNR=5.4						
VNDA	Vanda	82.30	190	eP	P	12 41 30.1	+3.3
	comp=E,5.7nm,1.1s						
SYO	Syowa Base	82.61	160⇑	eP	P	12 41 29.0	+0.5
ESDC	Sonseca Array	82.96	46	P	P	12 41 31.1	+0.2
	comp=E,0.2nm,0.4s,baz=248,slow=4.0,SNR=5.1						
ES19	SONSECA Array	83.02	46	eP	P	12 41 31.8	+0.6
YKA	Yellowknife Ar	85.07	341	P	P	12 41 41.6	+0.8
	comp=E,3.6nm,0.5s,baz=132,slow=5.2,SNR=25						
BOSA	Boshof	87.81	119	P	P	12 41 55.3	0.0
	comp=E,2.3nm,0.9s,baz=222,slow=5.3,SNR=3.1						
DLBC	Dease Lake	88.18	333	P	P	12 41 58.0	+1.9
	comp=E,2.6nm,0.7s,baz=163,slow=6.4,SNR=5.8						
MAW	Mawson	90.45	164	P	P	12 42 08.7	+2.1
	comp=E,4.9nm,0.6s,baz=219,slow=5.6,SNR=28						
MAW	Mawson	90.45	164	eP	P	12 42 08.7	+2.1
	comp=E,3.8nm,1.2s						
INK	Inuvik	94.83	341	P	P	12 42 27.5	+0.9
	comp=E,1.8nm,0.5s,baz=88,slow=3.2,SNR=13						
ILAR	Eielson Array	98.19	335	PP	PP	12 46 39.5	-4.6
	comp=E,0.6nm,0.9s,baz=120,slow=5.6,SNR=4.2						
NOA	NORSAR Array B	99.70	29	LR	LR	13 23 12.5	
	comp=E,16nm,21.5s,baz=275,slow=32						
STKA	Stephens Creek	123.48	213	PKP	PKPdf	12 48 03.1	+0.9
	comp=E,1.2nm,0.5s,baz=101,slow=5.9,SNR=4.9						
ABKAR	Akbulak array	127.88	39	ePKPdf	PKPdf	12 48 11.8	+1.8
GEYT	Alibeck	129.97	53	SKPab	SKPbc	12 51 22.0	+2.4
	comp=E,9.8nm,0.9s,baz=274,slow=4.3,SNR=15						
WSAR	Wadi Sarin	131.90	73	SKPbc	SKPab	12 51 28.1	0.0
	comp=E,12nm,1.0s,baz=271,slow=3.2,SNR=9.3						
ASAR	Alice Springs	134.10	212	PKhKP	PKPpre	12 48 08.8	
	comp=E,0.2nm,0.5s,baz=137,slow=2.6,SNR=9.5						
ASAR				PKP	PKiKP	12 48 23.6	-0.4
	comp=E,0.7nm,0.6s,baz=126,slow=1.6,SNR=14						
ASAR				SKPbc	SKPbc	12 51 36.0	+1.4
	comp=E,1.8nm,1.0s,baz=139,slow=3.6,SNR=7.4						
WRA	Warramunga Arr	136.88	216	PKhKP	PKPpre	12 48 15.6	
	comp=E,0.4nm,0.6s,baz=144,slow=2.6,SNR=8.6						
WRA				PKP	PKiKP	12 48 29.2	-0.6
	comp=E,1.9nm,0.5s,baz=144,slow=1.8,SNR=9.1						
WRA				SKPbc	SKPbc	12 51 45.1	+1.7
	comp=E,3.5nm,1.0s,baz=139,slow=2.5,SNR=12						
ZALV	Zalesovo Beam	137.26	21	PKP	PKPdf	12 48 26.9	-0.6
	comp=E,7.1nm,0.6s,baz=294,slow=3.0,SNR=25						
ZALV				SKP	SKPbc	12 51 45.8	+2.4
	comp=E,18nm,0.9s,baz=318,slow=4.1,SNR=42						
MKAR	Makanchi Array	141.69	30	PKhKP	PKPpre	12 48 31.6	
	comp=E,0.5nm,0.4s,baz=323,slow=3.2,SNR=8.3						
MKAR				PKP	PKPdf	12 48 36.6	+0.7
	comp=E,1.1nm,0.6s,baz=314,slow=2.0,SNR=8.1						
MKAR				SKPbc	SKPbc	12 51 56.2	+0.5
	comp=E,6.0nm,

KSRS	**Korea Array**	**152.66**	**326**	PKP	**PKPdf**	**12 48 56.1**	**+1.9**
	comp=E,1.6nm,0.8s,baz=52,slow=1.2,SNR=9.9						
KSRS				PKPbc	**PKiKP**	**12 49 02.2**	**+0.7**
	comp=E,4.8nm,1.0s,baz=27,slow=1.2,SNR=17						
KSRS				pPKPbc	**pPKPbc**	**12 49 51.8**	**+2.1**
	comp=E,1.3nm,0.8s,baz=38,slow=2.0,SNR=2.2						
KSAR	**Wonju Array Be**	**152.68**	**326**	PKP	**PKPdf**	**12 48 56.1**	**+1.9**
KSAR				PKPbc	**PKiKP**	**12 49 02.2**	**+0.6**
KSAR				pPKPbc	**pPKPbc**	**12 49 51.8**	**+2.0**
LZH	**Lanzhou**	**159.06**	**12**	ePKP	**PKPdf**	**12 49 08.7**	**+5.8**
LZH				PKP	**pPKPdf**	**12 49 48.0**	**-3.7**
LZH				pPKP	PKPab	12 49 53.1	+13
LZH				sPKP		12 50 11.0	
LZH				LR	LR		
	comp=N,290nm,19.0s						
LZH				LR	LR		
	comp=E,270nm,17.0s						
LZH				LR	LR		
	comp=Z,370nm,20.2s						

*NSSC **08** 12:33:46.6±3.8, 35°.02N×34°.82E, h40km±115km, ML2.3*
*ISCJB **08** 12:34:10.6±0.7, 33°.88N±0°.04×35°.91E±0°.05, h10km, Error ellipse: s-maj=6.9km s-min=5.3km az=137.4*
*CSEM **08** 12:34:12.4, 33°.88N×35°.84E, h0km, ML2.9*
*GRAL **08** 12:34:12.4±0.3, 33°.88N×35°.84E, h0km±32km, MD2.9*

ISC 08 12:34:12.2±1.1, 33°.87N±0°.03×35°.95E±0°.03, h10km, n15, σ3°12/21, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.25**	**279**	*eP*	**Pg**	**12 34 15.2**	**-2.1**
BHL	**Bhannes**	**0.25**	**279**	*eP*	**Pg**	**12 34 15.2**	**-2.1**
DQRL	**Deir Qamar**	**0.35**	**243**	*eP*	**Pg**	**12 34 17.5**	**-1.7**
DQRL				*eS*	**Sg**	**12 34 21.2**	**-2.7**
DQRL	**Deir Qamar**	**0.35**	**243**	*eP*	**Pg**	**12 34 17.5**	**-1.7**
DQRL				*eS*	**Sg**	**12 34 21.2**	**-2.7**
BEYL	**Beirut**	**0.38**	**271**	*eP*	**Pg**	**12 34 17.6**	**-2.1**
BEYL	**Beirut**	**0.38**	**271**	*eP*	**Pg**	**12 34 17.5**	**-2.1**
RCY	**Rachaya**	**0.38**	**194**	*eP*	**Pg**	**12 34 19.2**	**-0.5**
RCY				*eS*	**Sg**	**12 34 24.2**	**-0.6**
HWQ	**Hawqa**	**0.41**	**360**	*eP*	**Pg**	**12 34 19.8**	**-0.5**
HWQ	**Hawqa**	**0.41**	**360**	*eP*	**Pg**	**12 34 19.8**	**-0.5**
BRBR	**Barbar**	**0.45**	**180**	*eP*	Pg	12 34 15.8	-5.4
BRBR				AML	AML	12 34 32.7	
	comp=E,100nm,0.6s						
BRBR				AML	AML	12 34 33.1	
	comp=N,112nm,0.3s						
BRBR				*eS*	**Sb**	**12 34 36.2**	**+6.9**
BRBR	**Barbar**	**0.45**	**180**	*eP*	**Pg**	**12 34 18.7**	**-2.4**
BRBR				*eS*	**Sb**	**12 34 28.8**	**-0.5**
BRBR				AML	AML	12 34 32.7	
	comp=E,100nm,0.6s						
BRBR				AML	AML	12 34 33.1	
	comp=N,112nm,0.3s						
MARH	**Ras Al Marh**	**0.47**	**70**	*eP*	Pg	12 34 14.8	-6.7
MARH				*eS*	**Sb**	**12 34 33.7**	**+3.8**
MARH				AML	AML	12 34 34.4	
	comp=N,85nm,0.3s						
MARH				AML	AML	12 34 35.5	
	comp=E,55nm,0.3s						
MARH	**Ras Al Marh**	**0.47**	**70**	*eP*	**Pg**	**12 34 17.5**	**-4.0**
MARH				*eS*	**Sb**	**12 34 33.5**	**+3.6**
MARH				AML	AML	12 34 34.4	
	comp=N,85nm,0.3s						
MARH				AML	AML	12 34 35.5	
	comp=E,55nm,0.3s						
TOTH	**TOTAH**	**0.64**	**141**	*eP*	**Pg**	**12 34 21.0**	**-3.7**
TOTH				*eS*	**Sn**	**12 34 42.5**	**+4.8**
TOTH				AML	AML	12 34 45.4	
	comp=E,32nm,0.8s						
TOTH				AML	AML	12 34 45.8	
	comp=N,31nm,0.5s						
ROOS	**tl_alroos**	**1.15**	**74**	*eP*	Pb	12 34 24.3	-10
ROOS				*eS*	**Sb**	**12 34 47.7**	**-1.7**
ROOS				AML	AML	12 35 00.8	
	comp=E,27nm,0.6s						
ROOS				AML	AML	12 35 04.7	
	comp=N,20nm,0.5s						

IDC 08 12:34:57.6±3.4, 28°.27N×97°.26E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/60, mbtmp3.2/3, Error ellipse: s-maj=522.5km s-min=30.8km az=57.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.90**	**332**	P	P	12 39 52.3	0.0
	0.3nm,0.7s,baz=138,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**59.85**	**139**	P	P	12 45 05.1	-0.1
	0.5nm,0.8s,baz=328,slow=7.3,SNR=7.0						
ASAR	**Alice Springs**	**62.56**	**142**	P	P	12 45 23.6	+0.1
	0.2nm,0.8s,baz=323,slow=6.5,SNR=4.2						

IDC 08 12:36:01.7±9.1, 55°.58N×85°.20E, h0km, Error ellipse: s-maj=51.9km s-min=25.8km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**188**	*i*		12 47 00.0	
	baz=8.7,slow=328,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.65**	**188**	Pg	Pn	12 36 31.8	-0.1
	0.4nm,0.3s,baz=3.8,slow=18,SNR=3.4						
ZALV				Lg	Lg	12 36 53.6	
	0.5nm,0.3s,baz=7.2,slow=29,SNR=6.3						
I34MN	**SONGINO INFRAS**	**15.24**	**112**	*i*		14 04 20.0	
	baz=310,slow=327,SNR=0.7						

*CSEM **08** 12:47:12.2, 34°.03N×36°.14E, h44km, ML2.8*
*GRAL **08** 12:47:12.2±0.3, 34°.03N×36°.14E, h45km±4km, MD2.8*
*ISCJB **08** 12:47:13.6±0.6, 33°.96N±0°.03×36°.14E±0°.05, h9km±8km, Error ellipse: s-maj=7.2km s-min=5.0km az=32.3*
*NSSC **08** 12:47:13.5±2.3, 33°.95N×36°.15E, h0km±12km, ML1.7*

ISC 08 12:47:12.9±1.2, 34°.00N±0°.05×36°.15E±0°.04, h10km±12km, n11, σ0°80/18, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.27**	**84**	*eP*	**Pg**	**12 47 18.5**	**-0.1**
MARH				*eS*	**Sb**	**12 47 23.9**	**-1.1**
MARH				AML	AML	12 47 24.9	
	comp=E,156nm,0.3s						
MARH				AML	AML	12 47 25.3	
	comp=N,262nm,0.2s						
HWQ	**Hawqa**	**0.33**	**329**	*eP*	**Pb**	**12 47 20.4**	**-0.5**
HWQ				*eS*	**Sb**	**12 47 26.6**	**+0.2**
HWQ	**Hawqa**	**0.33**	**329**	*eP*	**Pb**	**12 47 20.5**	**-0.5**
HWQ				*eS*	**Sb**	**12 47 26.6**	**+0.2**
BHL	**Bhannes**	**0.42**	**258**	*eP*	**Pb**	**12 47 21.7**	**-0.9**
BHL	**Bhannes**	**0.42**	**258**	*eP*	**Pb**	**12 47 21.7**	**-0.9**
RCY	**Rachaya**	**0.56**	**208**	*eP*	**Pg**	**12 47 23.8**	**-0.2**
RCY				*eS*	**Sg**	**12 47 32.4**	**+0.9**
DQRL	**Deir Qamar**	**0.57**	**239**	*eP*	**Pg**	**12 47 23.6**	**-0.3**
DQRL	**Deir Qamar**	**0.57**	**239**	*eP*	**Pg**	**12 47 23.6**	**-0.3**
BRBR	**Barbar**	**0.61**	**196**	*eP*	**Pg**	**12 47 24.9**	**+0.1**
BRBR				*eS*	**Sg**	**12 47 34.3**	**+1.5**
BRBR				AML	AML	12 47 36.2	
	comp=N,39nm,0.3s						
BRBR				AML	AML	12 47 40.2	
	comp=E,56nm,0.5s						
TOTH	**TOTAH**	**0.68**	**160**	*eP*	**Pg**	**12 47 25.7**	**-0.3**
TOTH				*eS*	**Sg**	**12 47 34.9**	**+0.1**
TOTH				AML	AML	12 47 42.3	
	comp=N,31nm,0.5s						
TOTH				AML	AML	12 47 42.7	
	comp=E,31nm,0.4s						
ROOS	**tl_alroos**	**0.96**	**79**	*eP*	**Pn**	**12 47 32.4**	**-0.1**
ROOS				*eS*	**Sn**	**12 47 47.7**	**+1.5**
ROOS				AML	AML	12 47 54.9	
	comp=E,24nm,0.6s						
ROOS				AML	AML	12 47 59.8	
	comp=N,21nm,0.5s						

*TRN **08** 12:52:28.8, 18°.63N×65°.00W, h108km, MD4.2*
*ISCJB **08** 12:52:30.8±0.6, 18°.38N±0°.09×65°.01W±0°.03, h107km±5km, Error ellipse: s-maj=14.6km s-min=3.3km az=10.9*
*NEIC **08** 12:52:32.7±0.0, 18°.35N×65°.03W, h99km, MD3.8(RSPR), After RSPR.*
*RSPR **08** 12:52:32.7, 18°.35N×65°.03W, h99km±1km, MD3.8/16*

ISC 08 12:52:31.0±1.4, 18°.47N±0°.09×65°.01W±0°.03, h105km±7km, n72, σ0°64/97, 23C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.13**	**157**	*eP*	**Pn**	**12 52 46.2**	**+0.6**
STVI	**Saint Thomas**	**0.13**	**157**	*eS*	**Sn**	**12 52 56.5**	**0.0**
STVI	**Saint Thomas**	**0.13**	**157**	*eP*	**Pn**	**12 52 46.2**	**+0.6**
STVI				*eS*	**Sn**	**12 52 56.5**	**0.0**
CULB	**Culebra**	**0.32**	**243**	*eP*	**Pn**	**12 52 46.6**	**+0.3**
MTP	**Monte Pirata**	**0.64**	**234**	*eP*	**Pn**	**12 52 48.8**	**+0.4**
MTP	**Monte Pirata**	**0.64**	**234**	*eS*	**Sn**	**12 53 00.6**	**-0.7**
MTP	**Monte Pirata**	**0.64**	**234**	*eP*	**Pn**	**12 52 48.8**	**+0.4**
MTP				*eS*	**Sn**	**12 53 00.6**	**-0.7**
CDVI	**St. Croix**	**0.75**	**162**	*eP*	**Pn**	**12 52 49.3**	**-0.1**
CDVI	**St. Croix**	**0.75**	**162**	*eS*	**Sn**	**12 53 02.0**	**-1.1**
CDVI	**St. Croix**	**0.75**	**162**	*eP*	**Pn**	**12 52 49.3**	**-0.1**
CDVI				*eS*	**Sn**	**12 53 02.0**	**-1.1**
CBYP	**Canovanas**	**0.83**	**256**	*eP*	**Pn**	**12 52 50.3**	**+0.1**
CBYP	**Canovanas**	**0.83**	**256**	*eS*	**Sn**	**12 53 04.1**	**-0.4**
CBYP	**Canovanas**	**0.83**	**256**	*eP*	**Pn**	**12 52 50.3**	**+0.1**
CBYP				*eS*	**Sn**	**12 53 04.1**	**-0.4**
HUMP	**Col San Antoni**	**0.87**	**248**	*eP*	**Pn**	**12 52 50.7**	**+0.3**
HUMP	**Col San Antoni**	**0.87**	**248**	*eS*	**Sn**	**12 53 04.8**	**-0.2**
HUMP	**Col San Antoni**	**0.87**	**248**	*eP*	**Pn**	**12 52 50.7**	**+0.3**
HUMP				*eS*	**Sn**	**12 53 04.8**	**-0.2**
SJG	**San Juan**	**1.14**	**252**	*eP*	**Pn**	**12 52 53.6**	**+0.3**
SJG	**San Juan**	**1.14**	**252**	*eS*	**Sn**	**12 53 10.6**	**+0.3**
SJG	**San Juan**	**1.14**	**252**	*eP*	**Pn**	**12 52 53.6**	**+0.3**
SJG				*eS*	**Sn**	**12 53 10.6**	**+0.3**
ICMP	**Isla Caja de M**	**1.56**	**248**	*eP*	**Pn**	**12 52 58.6**	**+0.3**
ICMP	**Isla Caja de M**	**1.56**	**248**	*eS*	**Sn**	**12 53 18.2**	**-0.7**
ICMP	**Isla Caja de M**	**1.56**	**248**	*eP*	**Pn**	**12 52 58.6**	**+0.3**
ICMP				*eS*	**Sn**	**12 53 18.2**	**-0.7**
OBIP	**Obispado Ponce**	**1.58**	**255**	*eP*	**Pn**	**12 52 58.9**	**+0.4**
OBIP	**Obispado Ponce**	**1.58**	**255**	*eS*	**Sn**	**12 53 19.4**	**0.0**
OBIP	**Obispado Ponce**	**1.58**	**255**	*eP*	**Pn**	**12 52 58.9**	**+0.4**
OBIP				*eS*	**Sn**	**12 53 19.4**	**0.0**
AOPR	**Arecibo Observ**	**1.66**	**266**	*eP*	**Pn**	**12 52 59.8**	**+0.3**
AOPR	**Arecibo Observ**	**1.66**	**266**	*eS*	**Sn**	**12 53 21.8**	**+0.5**
AOPR	**Arecibo Observ**	**1.66**	**266**	*eP*	**Pn**	**12 52 59.8**	**+0.3**
AOPR				*eS*	**Sn**	**12 53 21.8**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.85**	**255**	*eP*	**Pn**	**12 53 02.3**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.85**	**255**	*eS*	**Sn**	**12 53 25.1**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.85**	**255**	*eP*	**Pn**	**12 53 02.3**	**+0.5**
GBPR				*eS*	**Sn**	**12 53 25.1**	**-0.2**
SABA	**Saba**	**1.88**	**117**	*eP*	**Pn**	**12 53 02.9**	**+0.7**
SABA	**Saba**	**1.88**	**117**	*eS*	**Sn**	**12 53 26.3**	**+0.2**
SABA	**Saba**	**1.88**	**117**	*iP*	**Pn**	**12 53 02.8**	**+0.5**
SABA				*eS*	**Sn**	**12 53 26.5**	**+0.4**
SABA	**Saba**	**1.88**	**117**	*eP*	**Pn**	**12 53 02.9**	**+0.7**
SABA				*eS*	**Sn**	**12 53 26.3**	**+0.2**
SMRT	**St. Maarten**	**1.88**	**103**	*eP*	**Pn**	**12 53 02.9**	**+0.6**
SMRT	**St. Maarten**	**1.88**	**103**	*iP*	**Pn**	**12 53 02.9**	**+0.6**
SMRT				*eS*	**Sn**	**12 53 25.6**	**-0.6**
SMRT	**St. Maarten**	**1.88**	**103**	*eP*	**Pn**	**12 53 02.9**	**+0.6**
SMRT				*eS*	**Sn**	**12 53 25.6**	**-0.6**
LSP	**Las Mesas**	**2.00**	**262**	*eP*	**Pn**	**12 53 04.3**	**+0.6**
LSP	**Las Mesas**	**2.00**	**262**	*eP*	**Pn**	**12 53 04.3**	**+0.6**
AGPR	**Aguadilla, PR**	**2.00**	**270**	*eP*	**Pn**	**12 53 03.8**	**0.0**
AGPR	**Aguadilla, PR**	**2.00**	**270**	*eP*	**Pn**	**12 53 03.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.05**	**257**	*eS*	**Sn**	**12 53 28.7**	**-1.3**
CRPR	**Cabo Rojo, PR**	**2.05**	**257**	*eP*	**Pn**	**12 53 04.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.05**	**257**	*eP*	**Pn**	**12 53 04.8**	**+0.4**
CRPR				*eS*	**Sn**	**12 53 28.7**	**-1.3**
SKI	**Saint Kitts**	**2.44**	**117**	*iP*	**Pn**	**12 53 10.1**	**+0.6**
SKI				*eS*	**Sn**	**12 53 40.3**	**+1.3**
SKI	**Saint Kitts**	**2.44**	**117**	*i P*	**Pn**	**12 53 10.1**	**+0.6**
SKI				*eS*	**Sn**	**12 53 40.3**	**+1.3**
ANWB	**Willy Bob**	**3.17**	**104**	*eP*	**Pn**	**12 53 18.4**	**-0.7**
ANWB				*eS*	**Sn**	**12 53 55.3**	**-0.9**
ANWB	**Willy Bob**	**3.17**	**104**	*eP*	**Pn**	**12 53 18.4**	**-0.7**
ANWB				*eS*	**Sn**	**12 53 53.8**	**-2.4**
MLYT	**Lee's Yard**	**3.20**	**123**	*eP*	**Pn**	**12 53 19.7**	**+0.1**
MLYT				*eS*	**Sn**	**12 53 56.5**	**-0.6**
BPA	**Boggy Peak**	**3.32**	**115**	*eP*	**Pn**	**12 53 22.2**	**+1.0**
BPA				*eS*	**Sn**	**12 53 60.0**	**0.0**
BPA	**Boggy Peak**	**3.32**	**115**	*eP*	**Pn**	**12 53 22.2**	**+1.0**
BPA				*eS*	**Sn**	**12 53 60.0**	**0.0**
GDHS	**Morne Mazeau,**	**3.79**	**125**	*i P*	**Pn**	**12 53 28.1**	**+0.6**
GDHS				*eS*	**Sn**	**12 54 11.3**	**0.0**
LZG	**Guadaloupe-1**	**3.86**	**126**	*iP*	**Pn**	**12 53 29.1**	**+0.7**
SEG	**Port Louis**	**3.92**	**121**	*eP*	**Pn**	**12 53 29.4**	**+0.2**
SSG	**Sans Toucher**	**3.96**	**126**	*eP*	**Pn**	**12 53 30.4**	**+0.4**
TBG	**Guadaloupe-3**	**4.14**	**129**	*iP*	**Pn**	**12 53 32.5**	**+0.3**
TBG	**Guadaloupe-3**	**4.14**	**129**	*eS*	**Sn**	**12 54 19.2**	**-0.3**
DEG	**La Desirade**	**4.34**	**119**	*eP*	**Pn**	**12 53 34.1**	**-0.8**
DEG	**La Desirade**	**4.34**	**119**	*eS*	**Sn**	**12 54 23.1**	**-1.4**
DEG	**La Desirade**	**4.34**	**119**	*eP*	**Pn**	**12 53 34.1**	**-0.8**
DEG				*eS*	**Sn**	**12 54 23.1**	**-1.4**
MGG	**Marie-Galante**	**4.34**	**125**	*eP*	**Pn**	**12 53 35.6**	**+0.6**
MGG	**Marie-Galante**	**4.34**	**125**	*eS*	**Sn**	**12 54 24.9**	**+0.2**
MGG	**Marie-Galante**	**4.34**	**125**	*eP*	**Pn**	**12 53 35.6**	**+0.6**
MGG				*eS*	**Sn**	**12 54 24.9**	**+0.2**
BBL	**Barber's Block**	**4.47**	**130**	*eP*	**Pn**	**12 53 37.1**	**+0.3**
BBL	**Barber's Block**	**4.47**	**130**	*eP*	**Pn**	**12 53 37.1**	**+0.3**
PCM	**Pelee Case Pet**	**5.14**	**134**	*eP*	**Pn**	**12 53 45.9**	**+0.1**
PCM	**Pelee Case Pet**	**5.14**	**134**	*eP*	**Pn**	**12 53 46.7**	**+0.9**
BAMF	**Morne Balai**	**5.18**	**134**	*eP*	**Pn**	**12 53 46.5**	**+0.1**
GBMF	**Grand Be**	**5.19**	**134**	*eP*	**Pn**	**12 53 46.6**	**+0.1**
TRMF	**Trois Ilets**	**5.45**	**135**	*eP*	**Pn**	**12 53 49.9**	**0.0**
SDDR	**Presa de Saban**	**5.97**	**276**	*e*Pn	**Pn**	**12 53 57.3**	**+0.2**
	36nm,0.6s						

*IDC **08** 12:58:54.0±1.9, 2°.01N×126°.39E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.5/3, Error ellipse: s-maj=195.3km s-min=24.3km az=66.0*
*DJA **08** 12:58:59.2±1.8, 2°N±5°×12°7E±°, h33km±27km, M3.5/2, MLv3.5/2*

ISC 08 12:59:00.5±1.9, 2°.2N±0°.4×126°.6E±0°.7, h53km, n5, σ1°14/8, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.81**	**323**	P	**Pn**	**12 59 28.8**	**-0.5**
SGSI				S	**Sn**	**12 59 51.4**	**+0.2**
LBMI	**Labuha**	**2.98**	**163**	P	**Pn**	**12 59 45.1**	**-0.2**
LBMI				S	**Sn**	**13 00 20.6**	**+0.8**
WRA	**Warramunga Arr**	**23.30**	**161**	P	**P**	**13 04 01.9**	**-1.9**
	1.0nm,0.4s,baz=339,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.69**	**165**	P	**P**	**13 04 34.4**	**-0.4**
	0.4nm,0.3s,baz=345,slow=11,SNR=12						
ASAR				PcP	**PcP**	**13 07 57.7**	**+0.1**
	1.0nm,1.1s,baz=351,slow=2.2,SNR=4.1						
MKAR	**Makanchi Array**	**58.73**	**326**	P	**P**	**13 08 54.1**	**+1.2**
	0.3nm,0.6s,baz=120,slow=7.7,SNR=3.2						

*IDC **08** 13:20:01.3±4.9, 22°.10S×179°.53W, h559km±57km, mb3.2/6, mb1 3.4/8, mb1mx3.1/22, mbtmp4.1/8, Error ellipse: s-maj=36.4km s-min=31.8km az=174.0*
*ISCJB **08** 13:20:02.0±1.1, 22°.2S±0°.1×179°.6W±0°.2, h579km, mb3.7/6, Error ellipse: s-maj=22.4km s-min=14.0km az=176.8*

ISC 08 13:20:02.9±1.2, 22°.3S±0°.1×179°.6W±0°.2, h579km, n9, σ1°11/9, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.96**	**268**	P	**P**	**13 22 51.1**	**-0.4**
	0.7nm,0.3s,baz=96,slow=18,SNR=7.9						
URZ	**Urewera**	**16.14**	**189**	P	**P**	**13 23 21.7**	**-0.6**
	0.5nm,0.3s,baz=26,slow=18,SNR=5.0						
URZ				S	**S**	**13 26 04.0**	**-0.8**
	0.1nm,0.3s,baz=54,slow=19,SNR=2.1						
STKA	**Stephens Creek**	**35.70**	**246**	P	**P**	**13 26 15.2**	**+1.4**
	2.0nm,0.6s,baz=89,slow=9.6,SNR=9.6						
ASAR	**Alice Springs**	**42.70**	**259**	P	**P**	**13 27 10.4**	**+0.2**
	5.0nm,0.8s,baz=96,slow=8.2,SNR=78						
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**13 27 11.3**	**-0.7**
	2.7nm,0.6s,baz=97,slow=7.8,SNR=55						
MJAR	**Matsushiro Arr**	**70.83**	**325**	P	**P**	**13 30 20.6**	**-1.5**
	0.6nm,0.5s,baz=152,slow=8.3,SNR=3.8						
TXAR	**Lajitas Array**	**89.26**	**58**	P	**P**	**13 31 58.9**	**+0.5**
	0.3nm,0.5s,baz=242,slow=5.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**13 32 00.1**	**+1.1**
	0.8nm,0.8s,baz=152,slow=3.4,SNR=6.5						
AKASG	**Malin Array Be**	**143.85**	**329**	PKP	PKPbc	13 38 30.6	-1.4
	0.3nm,0.4s,baz=62,slow=4.1,SNR=3.5						

*IDC **08** 13:33:59.0±2.5, 2°.54S×130°.37E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/30, Error ellipse: s-maj=151.2km s-min=28.1km az=71.0*
*DJA **08** 13:34:03.9±0.7, 3°S±8°×13°0E±°, h10km, M3.2/7, MLv3.2/7*
*ISCJB **08** 13:34:05.0±1.1, 2°.6S±0°.1×129°.62E±0°.08, h33km, mb3.6/2, MS3.7/1, Error ellipse: s-maj=17.1km s-min=10.4km az=154.9*

ISC 08 13:34:05.8±1.3, 2°.8S±0°.1×129°.65E±0°.07, h35km, n9, σ1°94/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.93**	**231**	P	**Pn**	**13 34 21.6**	**-0.8**
MSAI				S	**Sn**	**13 34 36.5**	**+2.1**
AAI	**Ambon**	**1.72**	**237**	P	**Pn**	**13 34 34.3**	**+1.0**
BNDI	**Bandanaira**	**1.77**	**172**	P	**Pn**	**13 34 36.1**	**+2.1**
NLAI	**Namlea**	**2.59**	**259**	P	**Pn**	**13 34 46.1**	**+0.9**
FAKI	**Fak Fak**	**2.60**	**94**	P	**Pn**	**13 34 46.4**	**+0.9**
WRA	**Warramunga Arr**	**17.68**	**165**	P	**Pn**	**13 38 06.6**	**-3.0**
	0.2nm,0.3s,baz=347,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.19**	**169**	P	**P**	**13 38 47.1**	**-1.3**
	1.7nm,0.6s,baz=348,slow=10.0,SNR=39						
DZM	**Mont Dzumac**	**40.55**	**121**	LR	LR	13 58 20.6	
	comp=Z,102nm,18.3s,baz=33,slow=36						
MKAR	**Makanchi Array**	**64.52**	**326**	P	**P**	**13 44 39.7**	**+0.4**
	0.5nm,0.8s,baz=129,slow=5.7,SNR=4.1						

IDC 08 13:37:37.2±3.1, 9°.15S×153°.81E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.5/28, Error ellipse: s-maj=91.9km s-min=30.0km az=115.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**238**	P	P	13 42 28.6	-1.0
	0.7nm,0.8s,baz=62,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**23.88**	**230**	P	P	13 42 53.5	+0.8
	0.5nm,0.5s,baz=61,slow=9.7,SNR=14						
RAO	**Raoul Island**	**33.20**	**131**	LR	LR	13 54 50.5	
	comp=Z,68nm,20.5s,baz=188,slow=31						
RPZ	**Rata Peaks**	**37.57**	**159**	LR	LR	13 58 11.9	
	comp=Z,46nm,20.8s,baz=21,slow=33						
CMAR	**Chiang Mai Arr**	**60.68**	**297**	P	P	13 47 50.8	0.0
	0.5nm,0.8s,baz=115,slow=4.1,SNR=3.8						
SONM	**Songino Array**	**70.52**	**328**	P	P	13 48 54.8	+0.8
	0.8nm,0.6s,baz=142,slow=6.3,SNR=4.1						
MKAR	**Makanchi Array**	**84.25**	**319**	P	P	13 50 10.8	0.0
	0.7nm,0.8s,baz=123,slow=5.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**85.31**	**326**	P	P	13 50 15.1	-0.9
	0.8nm,0.5s,baz=124,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**152.36**	**281**	PKPbc	PKPbc	13 57 36.1	-0.2
	0.3nm,0.5s,baz=75,slow=2.2,SNR=2.3						

*IDC **08** 13:58:13.2±2.0, 17°.95S×178°.46W, h537km±25km, mb3.4/7, mb1 3.6/8, mb1mx3.1/36, mbtmp4.3/8, Error ellipse: s-maj=28.9km s-min=14.0km az=145.0*
*ISCJB **08** 13:58:14.4±0.8, 18°.1S±0°.2×178°.3W±0°.2, h579km, mb3.8/6, Error ellipse: s-maj=32.6km s-min=15.8km az=141.5*

ISC 08 13:58:15.8±0.8, 18°.1S±0°.2×178°.3W±0°.2, h579km, n9, σ1°84/10, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**58**	P	**P**	**14 00 06.8**	**-2.9**
	1.6nm,0.3s,baz=198,slow=20,SNR=2.5						
URZ	**Urewera**	**20.53**	**190**	P	**P**	**14 02 14.4**	**-0.7**
	7.7nm,0.5s,baz=282,slow=1.8,SNR=14						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**14 04 51.3**	**+0.4**
	2.5nm,0.5s,baz=88,slow=10.0,SNR=9.5						
WRA	**Warramunga Arr**	**44.72**	**260**	P	**P**	**14 05 37.0**	**-1.7**
	1.3nm,0.7s,baz=91,slow=6.9,SNR=35						
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**14 05 39.2**	**-0.6**
	10nm,0.6s,baz=89,slow=8.2,SNR=251						
ASAR				PcP	**PcP**	**14 07 09.6**	**+0.7**
	0.1nm,0.3s,baz=106,slow=4.0,SNR=3.0						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**14 09 59.0**	**+3.0**
	1.6nm,0.8s,baz=210,slow=6.3,SNR=17						
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**14 09 54.6**	**-0.5**
	0.6nm,0.5s,baz=224,slow=5.0,SNR=13						
PDAR

TWF1 *e*S **Sn** **14 05 42.6 -0.3**
baz=235
NWF Wu-fen Shan 1.22 332 P **Pb** **14 05 27.9 -0.6**
baz=330
NWF *e*S **Sn** **14 05 45.5 +2.2**
baz=330
TWA Mucha 1.24 323 *e*P **Pb** **14 05 28.7 -0.1**
baz=321
TWA *e*S **Sb** **14 05 45.4 +1.1**
baz=321
IRIF Iriomote-Funau 1.25 74 P **Pb** **14 05 29.0 0.0**
IRIF S **Sb** **14 05 45.7 +1.0**
HATJ Hateruma jima 1.28 87 P **Pn** **14 05 29.1 +0.8**
HATJ *e*S **Sb** **14 05 46.2 +0.8**
CHKT Chengkung 1.31 227 *e*P **Pn** **14 05 28.0 -0.8**
baz=225
CHKT *e*S **Sn** **14 05 43.6 -1.8**
baz=225
TAP1 Taipei 1.32 322 *e*P **Pb** **14 05 30.4 +0.3**
baz=319
TAP1 *e*S **Sb** **14 05 47.8 +1.2**
baz=319
TAP Taipei 1.33 322 *e*P **Pb** **14 05 30.6 +0.3**
baz=319
TAP *e*S **Sb** **14 05 48.2 +1.3**
baz=319
SMLT Sun Moon Lake 1.39 266 P **Pn** **14 05 30.5 +0.5**
baz=253
SMLT *e*S **Sn** **14 05 47.7 +0.2**
baz=253
TYC Yuchr 1.42 267 ⇓ *i*P **Pn** **14 05 30.9 +0.5**
baz=264
TYC *e*S **Sb** **14 05 50.0 +0.3**
baz=264
TWS1 Kuangyinshan 1.43 321 *e*P **Pb** **14 05 31.5 -0.5**
baz=336
YUS Yu-Shan 1.43 250 *e*P **Pn** **14 05 31.4 +0.5**
baz=247
YUS *e*S **Sn** **14 05 48.5 -0.6**
baz=247
NSTT Nanjuang 1.43 297 P **Pb** **14 05 31.9 -0.3**
baz=294
NSTT S **Sb** **14 05 50.2 +0.3**
baz=294
TWY Chenhua 1.48 330 *e*P **Pb** **14 05 32.6 -0.2**
baz=327
NCU National Centr 1.48 311 *e*P **Pb** **14 05 32.3 -0.6**
baz=307
JKRS Kuro-shima 1.48 80 P **Pn** **14 05 32.1 +1.0**
JKRS *e*S **Sb** **14 05 51.1 -0.2**
ELDTW Lidau 1.51 238 P **Pn** **14 05 31.5 -0.1**
baz=236
ELDTW *e*S **Sn** **14 05 49.5 -1.0**
baz=236
TWQ1 Liyutan 1.54 284 P **Pb** **14 05 33.8 -0.1**
baz=269
TWQ1 *e*S **Sb** **14 05 53.8 +0.9**
baz=269
ALS Alishan 1.55 252 P **Pn** **14 05 33.2 +0.9**
baz=250
ALS *e*S **Sn** **14 05 52.4 +0.7**
baz=250
NSY Sanyi 1.56 286 *e*P **Pb** **14 05 34.5 +0.1**
baz=271
NSY *e*S **Sb** **14 05 55.0 +1.3**
baz=271
WNT Mingjian 1.58 266 *e*P **Pb** **14 05 34.6 -0.1**
baz=264
WNT *e*S **Sb** **14 05 54.7 +0.5**
baz=264
TCU Taichung 1.59 276 *e*P **Pb** **14 05 34.6 -0.2**
baz=273
TCU *e*S **Sb** **14 05 55.2 +0.7**
baz=273
JIJ Ishigaki jima 1.62 77 P **Pn** **14 05 33.5 +0.4**
JIJ S **Sb** **14 05 55.1 -0.3**
CHN5 Tsauling 1.64 256 P **Pn** **14 05 34.7 +1.4**
baz=243
CHN5 *e*S **Sb** **14 05 55.7 -0.1**
baz=243
PCYT Pengchaiyu 1.66 349 *e*P **Pn** **14 05 33.7 +0.1**
baz=347
PCYT *e*S **Sn** **14 05 51.5 -2.6**
baz=347
TTN Taitung 1.69 224 *e*P **Pn** **14 05 35.4 +1.4**
baz=221
TTN *e*S **Sn** **14 05 54.6 -0.3**
baz=221
TWG Pinlang 1.69 227 *e*P **Pn** **14 05 34.1 0.0**
baz=237
TWG *e*S **Sn** **14 05 54.1 -0.9**
baz=237
WGK Gukeng 1.72 260 *e*P **Pb** **14 05 36.3 -0.7**
baz=258
WGK *e*S **Sb** **14 05 58.7 +0.5**
baz=258
STYT Tauyuan 1.73 242 *e*P **Pn** **14 05 35.5 +0.9**
baz=230
STYT *e*S **Sn** **14 05 56.5 +0.7**
baz=230
CHN4 Tsaushan 1.78 249 *e*P **Pn** **14 05 37.1 +1.8**
baz=248
CHN4 *e*S **Sb** **14 06 00.9 +0.9**
baz=248
WTP Ta-pu 1.81 246 P **Pn** **14 05 37.5 +1.8**
baz=244
WTP *e*S **Sb** **14 06 00.3 -0.4**
baz=244
CHN2 Minshiung 1.83 256 *e*P **Pb** **14 05 38.3 -0.6**
baz=254
CHN2 S **Sb** **14 06 02.5 +1.1**
baz=254
JISG Ishigakijimahi 1.83 71 P **Pn** **14 05 36.3 +0.3**
JISG *e*S **Sn** **14 05 58.2 -0.2**
CHY Chiayi 1.89 255 *e*P **Pb** **14 05 39.6 -0.2**
baz=253
CHY *e*S **Sb** **14 06 03.0 +0.1**
baz=253
CHN1 Nanshi 1.91 245 P **Pb** **14 05 39.3 -0.9**
baz=244
CHN1 S **Sb** **14 06 03.9 +0.4**
baz=244
TWK Hsinying 1.91 248 P **Pb** **14 05 39.3 -0.9**
baz=246
TWK S **Sb** **14 06 03.3 -0.3**
baz=246
SGST Jiashian 1.91 242 P **Pb** **14 05 39.8 -0.4**
baz=230
SGST S **Sb** **14 06 03.5 0.0**
baz=230
ECL Taimali 1.93 224 *e*P **Pn** **14 05 36.8 -0.6**
baz=222
ECL *e*S **Sn** **14 05 58.9 -1.8**
baz=222
WTCT Ta-ch'eng 1.95 267 *e*S **Sb** **14 06 05.0 +0.1**
baz=265
WSF Szhu 2.04 260 *e*P **Pb** **14 05 41.0 -1.3**
baz=259
WSF *e*S **Sb** **14 06 06.9 -0.4**
baz=259
SSD Sandimen 2.05 233 *e*P **Pn** **14 05 40.8 +1.8**
baz=225
SSD *e*S **Sb** **14 06 07.2 -0.6**
baz=225
CHN3 Shinhua 2.09 244 *e*P **Pb** **14 05 43.5 +0.3**
baz=243
CHN3 *e*S **Sb** **14 06 09.4 +0.6**
baz=243
LAY Lan-yu 2.10 202 *e*P **Pn** **14 05 38.6 -1.1**
baz=200
CHN8 Yiju 2.12 253 *e*P **Pn** **14 05 41.7 +1.8**
baz=252
CHN8 *e*S **Sb** **14 06 08.2 -1.4**
baz=252
TAW Tawu 2.14 221 *e*P **Pn** **14 05 41.8 +1.5**
baz=230
TAW *e*S **Sn** **14 06 05.1 -0.9**
baz=230
EAST Anshuo 2.15 222 *e*P **Pn** **14 05 40.2 -0.2**
baz=220
EAST *e*S **Sn** **14 06 06.0 -0.4**
baz=220
TWM1 Shoushan 2.17 238 *e*P **Pb** **14 05 44.6 0.0**
baz=235
TWM1 *e*S **Sb** **14 06 14.2 +3.2**
baz=235
SGLT Jiouru 2.17 235 *e*P **Pb** **14 05 43.5 -1.1**
baz=233

JTJ Tarama 2.19 72 P **Pn** **14 05 42.7 +1.8**
JTJ *e*S **Sb** **14 06 09.7 -1.9**
SCLT Jiali 2.19 249 *e*S **Sb** **14 06 10.7 -1.0**
baz=248
TAI1 Yung-k'ang 2.22 245 *e*S **Sb** **14 06 11.2 -1.3**
baz=243
SCZT Fangliau 2.31 226 *e*P **Pn** **14 05 44.4 +1.9**
baz=224
KAU Kaohsiung 2.40 234 *e*S **Sb** **14 06 18.1 +0.5**
baz=233
TWP Hsiaoliuchiu 2.50 229 *e*P **Pb** **14 05 50.0 -0.2**
baz=216
TWP *e*S **Sb** **14 06 21.2 +0.7**
baz=216
TSEB Hengchuen, Pin 2.50 214 *e*P **Pn** **14 05 46.9 +1.7**
baz=213
TSEB *e*S **Sn** **14 06 17.3 +2.3**
baz=213
HEN Hengchun 2.51 218 *e*P **Pn** **14 05 48.3 +3.1**
baz=216
HEN *e*S **Sn** **14 06 16.4 +1.4**
baz=216
TWK1 Hengchun 2.52 216 *e*P **Pn** **14 05 46.2 +0.8**
baz=214
TWK1 *e*S **Sn** **14 06 16.4 +1.0**
baz=214
WDGT Dungji 2.62 254 *e*P **Pn** **14 05 48.0 +1.1**
baz=242
WDGT *e*S **Sn** **14 06 18.0 +0.1**
baz=242
PNG Penghu 2.65 261 *e*P **Pn** **14 05 48.3 +1.1**
baz=260
PNG *e*S **Sn** **14 06 19.8 +1.3**
baz=260
JIRB Irabujima 2.65 71 P **Pn** **14 05 48.7 +1.5**
JIRB *e*S **Sn** **14 06 19.4 +0.8**
JIKM Ikemajima 2.75 70 P **Pn** **14 05 49.0 +0.5**
JIKM S **Sn** **14 06 22.7 +1.7**
JMJ Miyako jima 2 2.75 72 *e*S **Sn** **14 06 22.4 +1.3**
JOGS Gusukube 2.84 74 P **Pn** **14 05 51.1 +1.3**
KNM Kinmen 3.66 277 *e*P **Pn** **14 06 02.5 +1.4**
baz=273
JKE Kume jima 2 4.59 59 P **Pn** **14 06 14.8 +0.8**
JNU Nakatsue 11.75 37 LR LR 14 12 32.1
comp=Z,66nm,18.1s,baz=160,slow=39
KSRS Korea Array 14.23 18 P **Pn** **14 08 26.2 +0.3**
0.1nm,0.3s,baz=199,slow=12,SNR=4.2
KSRS LR LR 14 14 16.6
comp=Z,68nm,19.1s,baz=190,slow=39
CMAR Chiang Mai Arr 22.55 260 P **P** **14 10 07.2 +2.7**
0.4nm,0.4s,baz=61,slow=9.4,SNR=3.1
CMAR LR LR 14 20 29.4
comp=Z,28nm,18.6s,baz=225,slow=40
SONM Songino Array 26.99 336 P **P** **14 10 44.6 -1.4**
3.0nm,0.8s,baz=153,slow=9.3,SNR=16
SONM LR LR 14 22 54.7
comp=Z,144nm,18.0s,baz=159,slow=40
MKAR Makanchi Array 39.26 316 P **P** **14 12 32.0 -0.6**
3.4nm,0.8s,baz=104,slow=11,SNR=28
MKAR LR LR 14 30 25.1
comp=Z,39nm,19.4s,baz=75,slow=39
ZALV Zalesovo Beam 41.02 327 P **P** **14 12 45.0 -2.1**
4.4nm,0.6s,baz=117,slow=7.8,SNR=20
ZALV PcP **PcP** **14 14 45.2 -1.5**
0.4nm,0.3s,baz=102,slow=2.9,SNR=3.0
ZALV LR LR 14 31 04.6
comp=Z,53nm,18.3s,baz=70,slow=38
WRA Warramunga Arr 45.19 164 P **P** **14 13 21.2 +0.1**
1.9nm,0.8s,baz=347,slow=8.8,SNR=12
ASAR Alice Springs 48.67 166 P **P** **14 13 49.4 +1.0**
0.5nm,0.4s,baz=346,slow=6.7,SNR=13
GEYT Alibeck 55.86 301 P **P** **14 14 42.5 +0.7**
2.8nm,0.7s,baz=45,slow=0.2,SNR=5.2
KBZ Khabaz 66.47 309 P **P** **14 15 53.8 +0.3**
1.5nm,0.8s,baz=29,slow=6.1,SNR=4.6
FINES FINESS Array B 72.17 330 P **P** **14 16 27.6 -0.9**
2.8nm,0.8s,baz=48,slow=5.7,SNR=7.9
FINES LR LR 14 51 56.9
comp=Z,82nm,18.1s,baz=32,slow=39
BRTR Keskin Array B 74.19 307 P **P** **14 16 40.8 -0.2**
2.4nm,0.9s,baz=99,slow=6.9,SNR=12
NOA NORSAR Array B 78.91 332 P **P** **14 17 05.8 -1.4**
0.9nm,0.8s,baz=54,slow=6.2,SNR=2.6

*IDC **08** 14:07:57.0±1.1, 30°.49S×177°.47W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/21, mbtmp4.2/4, ML3.7/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/28, Error ellipse: s-maj=33.1km s-min=24.7km az=108.0*
ISC 08 14:08:01.9±1.1, 30°.61S±0°.07×177°.7W±0°.2, h33km, n30, σ2ˢ45/31, mb4.4/3, MS3.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.36**	**353**	Pn	**Pn**	**14 08 23.1**	**-1.5**
	782nm,0.3s,baz=109,slow=7.4,SNR=49						
RAO				Sn	**Sn**	**14 08 39.2**	**-2.4**
	2μm,0.3s,baz=90,slow=20,SNR=20						
WMGZ	**Waiomatatini S**	**7.86**	**203**	*e*PN	**Pn**	**14 09 53.4**	**-0.5**
HAZ	**Te Kaha**	**8.04**	**206**	PN	**Pn**	**14 09 55.3**	**-0.9**
HAZ				SN	**Sn**	**14 11 28.7**	**+2.8**
PKGZ	**Pakihiroa**	**8.04**	**204**	PN	**Pn**	**14 09 54.7**	**-1.8**
RUGZ	**Raukumara Rang**	**8.26**	**206**	PN	**Pn**	**14 09 58.2**	**-1.3**
RUGZ				SN	**Sn**	**14 11 35.6**	**+3.9**
TWGZ	**Tauwhareparae**	**8.34**	**204**	SN	**Sn**	**14 11 33.8**	**+0.4**
CNGZ	**Carnagh Statio**	**8.54**	**202**	PN	**Pn**	**14 10 01.2**	**-2.0**
MWZ	**Matawai**	**8.64**	**206**	*e*PN	**Pn**	**14 10 01.8**	**-2.8**
MWZ				SN	**Sn**	**14 11 41.5**	**+0.6**
URZ	**Urewera**	**8.73**	**208**	Pn	**Pn**	**14 10 04.3**	**-1.5**
	0.8nm,0.3s,baz=90,slow=15,SNR=8.0						
URZ				Sn	**Sn**	**14 11 41.9**	**-1.3**
	4.7nm,0.3s,baz=76,slow=20,SNR=15						
URZ	**Urewera**	**8.73**	**208**	*e*PN	**Pn**	**14 10 04.1**	**-1.7**
RIGZ	**Rimuhau**	**8.88**	**203**	SN	**Sn**	**14 11 47.9**	**+1.0**
BFZ	**Birch Farm**	**11.17**	**204**	SN	**Sn**	**14 12 38.3**	**-4.7**
MRZ	**Mangatainoka R**	**11.40**	**207**	PN	Pn	14 10 37.1	-5.3
MRZ				SN	**Sn**	**14 12 43.1**	**-5.5**
NNZ	**Nelson**	**12.79**	**212**	SN	**Sn**	**14 13 16.8**	**-5.7**
RPZ	**Rata Peaks**	**15.82**	**211**	Pn	**Pn**	**14 11 42.6**	**+0.5**
	0.3nm,0.3s,baz=5.3,slow=10,SNR=2.2						
RPZ				Sn	Sn	14 14 23.4	-13
	0.4nm,0.3s,baz=36,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**16.52**	**297**	LR	LR	14 16 57.8	
	comp=Z,158nm,19.2s,baz=40,slow=32						
PPT	**Papeete**	**28.70**	**70**	LR	LR	14 22 15.8	
	comp=Z,30nm,19.9s,baz=219,slow=30						
HNR	**Honiara**	**29.61**	**311**	LR	LR	14 24 15.7	
	comp=Z,31nm,21.0s,baz=172,slow=33						
STKA	**Stephens Creek**	**34.66**	**257**	P	**P**	**14 14 52.2**	**+3.9**
	4.5nm,0.8s,baz=105,slow=8.9,SNR=6.3						
STKA				LR	LR	14 27 24.5	
	comp=Z,49nm,19.9s,baz=24,slow=34						
ASAR	**Alice Springs**	**43.33**	**267**	P	**P**	**14 16 02.1**	**+1.0**
	0.9nm,0.4s,baz=106,slow=7.2,SNR=23						
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**14 16 10.3**	**+1.1**
	3.2nm,0.5s,baz=110,slow=8.1,SNR=39						
MJAR	**Matsushiro Arr**	**78.55**	**325**	LR	LR	14 47 42.2	
	comp=Z,11nm,20.0s,baz=35,slow=30						
MA2	**Magadan**	**93.56**	**345**	LR	LR	15 04 43.1	
	comp=Z,12nm,19.2s,baz=118,slow=36						
MKAR	**Makanchi Array**	**118.08**	**310**	PKP	**PKPdf**	**14 26 43.6**	**-1.6**
	0.3nm,0.8s,baz=132,slow=2.1,SNR=2.8						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	**PKPab**	**14 27 36.0**	**+0.1**
	2.6nm,0.4s,baz=48,slow=4.1,SNR=67						
NB2	**NORSAR Subarra**	**148.99**	**352**	PKP	**PKPbc**	**14 27 47.1**	**+1.3**
	comp=Z,3.5nm,1.1s,baz=18,slow=3.0						
NOA	**NORSAR Array B**	**148.99**	**352**	PKPbc	**PKPbc**	**14 27 45.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=15,slow=4.2,SNR=3.2						
AKASG	**Malin Array Be**	**151.61**	**323**	PKPbc	**PKPbc**	**14 27 53.0**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=45,slow=2.5,SNR=4.9						
AKASG				PKPab	**sPKPdf**	**14 28 00.4**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=49,slow=3.0,SNR=7.0						
BRTR	**Keskin Array B**	**152.90**	**298**	PKPbc	**PKPbc**	**14 27 56.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=112,slow=2.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**162.61**	**178**	PKPab	**PKPab**	**14 28 50.8**	**+1.7**
	comp=Z,0.7nm,1.1s,baz=167,slow=3.3,SNR=2.5						

*MDD **08** 14:13:15.8±4.0, 32°.28N×7°.34W, h0km, mb3.6/3, Error ellipse: s-maj=97.8km s-min=34.5km az=94.0, PRXIMO*
*INMG **08** 14:13:17.1±0.6, 32°.17N×8°.00W, h50km±8km, ML2.3, Error ellipse: s-maj=8.7km s-min=4.1km az=76.0*
CSEM 08 14:13:19.5±0.3, 32°.55N×7°.32W, h10km, mb3.6, Error ellipse: s-maj=16.3km s-min=6.3km az=93.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**4.71**	**354**	*e*P	Pn	14 14 30.9	+0.3
PBDV	**Barranco-do-Ve**	**4.71**	**354**	P	Pn	14 14 30.9	+0.3
PBDV	**Barranco-do-Ve**	**4.71**	**354**	P	Pn	14 14 30.9	+0.3
PFVI	**Vila Bisbo**	**4.74**	**345**	*e*P	Pn	14 14 31.1	+0.1
PFVI	**Vila Bisbo**	**4.74**	**345**	P	Pn	14 14 30.9	-0.1
	0.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.74**	**345**	P	Pn	14 14 30.9	-0.1
	0.8nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.85**	**356**	*e*P	Pn	14 14 32.5	-0.1
PVAQ				*e*S	Sn	14 15 28.9	+0.1
PVAQ				A	A	14 15 29.6	
	2.4nm,0.5s						
PVAQ	**Vaqueiros**	**4.85**	**356**	P	Pn	14 14 32.5	-0.1
PVAQ				S	Sn	14 15 28.9	+0.1
	2.4nm,0.5s						
PVAQ	**Vaqueiros**	**4.85**	**356**	P	Pn	14 14 32.5	-0.1
PVAQ				*e*S	Sn	14 15 28.9	+0.1
	2.4nm,0.5s						
EGRO	**El Granado**	**4.97**	**358**	P	Pn	14 14 33.9	-0.3
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 15 31.5	-0.2
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.97**	**358**	P	Pn	14 14 33.9	-0.3
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 15 31.5	-0.3
	0.2nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.10**	**354**	*e*P	Pn	14 14 36.0	0.0
PCVE				*e*S	Sn	14 15 34.9	-0.1
PCVE	**Castro Verde**	**5.10**	**354**	P	Pn	14 14 36.0	0.0
PCVE				S	Sn	14 15 34.9	-0.1
PCVE	**Castro Verde**	**5.10**	**354**	P	Pn	14 14 36.0	0.0
PCVE				S	Sn	14 15 34.9	-0.1
EMIN	**Mina Concepcio**	**5.23**	**6**	P	Pn	14 14 37.5	-0.3
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 15 38.4	+0.3
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.23**	**6**	P	Pn	14 14 37.5	-0.3
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 15 38.4	+0.3
	0.1nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**5.62**	**2**	*e*P	Pn	14 14 43.5	+0.5
PBAR				*e*S	Sn	14 15 47.6	0.0
PBAR	**Barrancos**	**5.62**	**2**	P	Pn	14 14 43.5	+0.5
PBAR				S	Sn	14 15 47.6	0.0
PBAR	**Barrancos**	**5.62**	**2**	P	Pn	14 14 43.5	+0.5
PBAR				S	Sn	14 15 47.6	0.0

MAN 08 14:22:03.9±59N×122°.61E, h54km, mb3.9, ML2.7, MS2.3, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.67**	**111** ⇓	*i*P	Pn	14 22 19.8	+3.2
SNPH				*i* S	Sn	14 22 30.0	+3.6
GUIM	**Jordan**	**1.03**	**359**	*e*P	Pn	14 22 23.1	+1.7
GUIM				*e*S	Sn	14 22 35.9	+1.0
DCPH	**Dipolog City**	**1.24**	**144** ⇑	*e*P	Pn	14 22 25.5	+1.4

*ISCJB **08** 14:22:46.0±0.6, 6°.83N±0°.03×73°.13W±0°.06, h160km±4km, mb3.3/4, Error ellipse: s-maj=9.5km s-min=5.5km az=8.9*
*IDC **08** 14:22:47.6±4.1, 6°.77N×73°.18W, h172km±28km, mb3.1/4, mb1 3.5/5, mb1mx3.2/31, mbtmp3.7/5, Error ellipse: s-maj=77.2km s-min=25.7km az=84.0*
*RSNC **08** 14:22:48.9±0.9, 6°.78N×73°.16W, h141km±5km, ML3.6*
ISC 08 14:22:46.7±0.8, 6°.82N±0°.04×73°.13W±0°.06, h153km±6km, n25, σ1ˢ14/37, mb3.3/4, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**194**	*i* P	**Pn**	**14 23 08.0**	**+0.3**
BARC				*e*S	**Sn**	**14 23 22.9**	**-0.9**
BARC				*i*		14 23 26.1	
	comp=Z,719nm,0.3s						
GIRC	**Giron, Santand**	**0.27**	**345**	*e*P	**Pn**	**14 23 08.1**	**+0.5**
GIRC				*e*S	**Sn**	**14 23 23.0**	**-0.7**
BRRC	**Barranca, Sant**	**0.65**	**296** ⇑	*i*P	**Pn**	**14 23 09.9**	**+0.8**
BRRC				*i*		14 23 30.2	
	comp=Z,905nm,0.2s						
PAMC	**Pamplona, Colo**	**0.67**	**39**	*e*P	**Pn**	**14 23 10.8**	**+1.0**
PAMC				*e*S	**Sn**	**14 23 28.1**	**+0.5**
RUSC	**La Rusia**	**0.92**	**177** ⇓	*i*P	**Pn**	**14 23 11.8**	**+0.1**
RUSC				*i*		14 23 13.6	
	comp=Z,186nm,0.5s						
RUSC				*e*S	**Sn**	**14 23 30.2**	**-0.6**
CBRI	**Barrientos, No**	**0.95**	**20**	*i* P	**Pn**	**14 23 12.6**	**+1.1**
OCAC	**Ocana**	**1.42**	**352**	*e*P	**Pn**	**14 23 16.8**	**+0.9**
OCAC				*e*S	**Sn**	**14 23 38.8**	**+0.5**
OCAC				*i*		14 23 45.3	
	comp=Z,376nm,0.4s						
YOPC	**Yopal, Colombi**	**1.62**	**154**	*e*P	**Pn**	**14 23 18.5**	**+0.6**
YOPC				*e*S	**Sn**	**14 23 42.1**	**+0.3**
YOPC				*i*		14 23 51.8	
	comp=Z,150nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**14 23 20.3**	**+0.1**
ZARC				*e*S	**Sn**	**14 23 46.1**	**+0.1**
ZARC				*i*		14 23 52.0	
	comp=Z,534nm,0.4s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	**Pn**	**14 23 23.4**	**-0.2**
NORC				*e*S	**Sn**	**14 23 51.1**	**-1.0**
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**14 23 26.0**	**+0.5**
CHIC				*e*S	**Sn**	**14 23 54.6**	**-0.7**
CHIC				*i*		14 24 05.0	
	comp=Z,230nm,0.5s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**14 23 27.6**	**+1.7**
	comp=Z,38nm,0.3s,baz=328,slow=19,SNR=38						
ROSC				S	**Sn**	**14 23 58.0**	**+1.9**
	comp=Z,67nm,0.3s,baz=97,slow=17,SNR=8.3						
ROSC	**El Rosal**	**2.30**	**211**	*e*P	**Pn**	**14 23 27.5**	**+1.6**
ROSC				*i*		14 24 02.0	
	comp=Z,336nm,0.4s						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**14 23 29.0**	**+1.0**
HELC				*i*		14 24 06.8	
	comp=Z,266nm,0.3s						
VILC	**Villavicencio,**	**2.75**	**192**	*e*P	**Pn**	**14 23 31.1**	**-0.2**
VILC				*e*S	**Sn**	**14 24 05.2**	**-0.4**
VILC				*i*		14 24 09.8	
	comp=Z,136nm,0.4s						
GUYC	**Guyana, Colomb**	**2.75**	**235**	*e*P	**Pn**	**14 23 32.5**	**+0.9**
GUYC				*i*		14 24 14.6	
	comp=Z,422nm,0.4s						
DBBC	**Dabeiba**	**3.07**	**274**	*e*P	**Pn**	**14 23 36.3**	**+1.2**
TOLC	**Tolima**	**3.12**	**225**	*e*P	**Pn**	**14 23 37.3**	**+1.3**
PRAC	**Prado**	**3.55**	**210**	*e*P	**Pn**	**14 23 41.3**	**0.0**
PRAC				*e*S	**Sn**	**14 24 23.6**	**-0.1**
PRAC				*i*		14 24 27.4	
	comp=Z,624nm,0.3s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**14 29 36.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=135,slow=9.0,SNR=5.0						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**14 31 03.4**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=141,slow=6.5,SNR=3.8						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**14 31 09.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=136,slow=8.2,SNR=4.9						
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**14 34 21.5**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=91,slow=5.4,SNR=3.3						
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPdf**	**14 42 15.8**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=124,slow=3.2,SNR=4.1						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPdf**	**14 42 19.0**	**+3.4**
	comp=Z,0.3nm,0.5s,baz=108,slow=2.5,SNR=6.2						

*NIED **08** 14:24:00, 38°.60N×144°.50E, h8km, Mw3.5 Best double couple: M0 1.96000×10^14 NP1:φs 345.00000°, δ42.00000°, λ-71.00000°. NP2:φs 139.00000°, δ51.00000°, λ-107.00000°.*
*IDC **08** 14:24:38.9±2.1, 38°.45N×144°.78E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/37, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=50.6km s-min=32.6km az=87.0*
*ISCJB **08** 14:24:40.3±0.8, 38°.56N±0°.04×144°.66E±0°.06, h29km, mb3.5/2, Error ellipse: s-maj=7.5km s-min=5.2km az=32.7*
*JMA **08** 14:24:43.3±0.2, 38°.55N×144°.46E, h33km, M3.8*
ISC 08 14:24:42.1±1.5, 38°.57N±0°.06×144°.6E±0°.1, h29km, n20, σ2ˢ02/34, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.36**	**283**	P	**Pn**	**14 25 19.7**	**+0.8**
MIYJ	**Miyakonagasawa**	**2.40**	**296**	P	**Pn**	**14 25 20.1**	**+0.6**
MIYJ				*e*S	**Sn**	**14 25 47.4**	**-0.5**
JIO	**Ouri**	**2.57**	**269**	P	**Pn**	**14 25 22.3**	**+0.5**

JIO				*e*S	**Sn**	**14 25 50.8**	**-1.2**
JMK	**Ichinoseki**	**2.69**	**279**	P	**Pn**	**14 25 24.4**	**+1.0**
JOM	**Ohasama**	**2.75**	**290**	P	**Pn**	**14 25 25.4**	**+1.2**
JOM				*e*S	**Sn**	**14 25 56.3**	**-0.1**
JANG	**Nango**	**3.00**	**308**	P	**Pn**	**14 25 28.8**	**+1.0**
JYK	**Kaneyama**	**3.35**	**277**	P	**Pn**	**14 25 34.2**	**+1.7**
JYK				*e*S	**Sn**	**14 26 12.4**	**+1.0**
JFT	**Otama**	**3.54**	**254**	P	**Pn**	**14 25 36.6**	**+1.4**
JFT				*e*S	**Sn**	**14 26 15.7**	**-0.4**
JCH	**Churui**	**4.16**	**347**	P	**Pn**	**14 25 43.6**	**0.0**
JCH				*e*S	**Sn**	**14 26 28.9**	**-2.2**
NEM2	**Nemuro 2**	**4.87**	**10**	P	**Pn**	**14 25 51.9**	**-1.5**
NEM2				*e*S	**Sn**	**14 26 43.9**	**-4.8**
BSO1	**Boso 1**	**4.88**	**218**	P	**Pn**	**14 25 52.4**	**-0.7**
BSO1				S	**Sn**	**14 26 46.5**	**-1.9**
JRY	**Ryogami san**	**5.22**	**243**	P	**Pn**	**14 25 58.6**	**+0.3**
JRY				*e*S	**Sn**	**14 26 55.3**	**-2.3**
JOSM	**Okushiri--Mats**	**5.27**	**313**	P	**Pn**	**14 26 01.8**	**+2.9**
JTKR	**Abashiri--Toko**	**5.42**	**355**	P	**Pn**	**14 26 01.3**	**+0.3**
JTKR				*e*S	**Sn**	**14 26 59.7**	**-2.7**
MJAR	**Matsushiro Arr**	**5.48**	**250**	Pn	**Pn**	**14 26 03.3**	**+1.5**
	2.1nm,0.3s,baz=59,slow=9.5,SNR=35						
MJAR				Sn	**Sn**	**14 27 05.0**	**+1.1**
	1.3nm,0.3s,baz=75,slow=23,SNR=5.6						
MAT	**Matsushiro**	**5.48**	**250**	P	**Pn**	**14 26 03.6**	**+1.7**
MAT				S	**Sn**	**14 27 05.5**	**+1.6**
ASAJ	**Asahikawa**	**5.75**	**345**	Pn	**Pn**	**14 26 07.2**	**+1.8**
	0.6nm,0.3s,baz=205,slow=18,SNR=7.9						
ASAJ				Sn	**Sn**	**14 27 10.4**	**-0.1**
	0.6nm,0.3s,baz=131,slow=20,SNR=2.6						
JHJ	**Hachijo jima 2**	**6.71**	**217**	Pn	**Pn**	**14 26 16.9**	**-1.7**
	15nm,0.3s,baz=113,slow=21,SNR=13						
JHJ				Sn	**Sn**	**14 27 27.5**	**-6.5**
	22nm,0.3s,baz=71,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**58.99**	**191**	P	**P**	**14 34 39.4**	**+0.2**
	0.5nm,0.7s,baz=9.2,slow=7.0,SNR=5.2						
ASAR	**Alice Springs**	**62.72**	**191**	P	**P**	**14 35 05.5**	**+1.0**
	0.2nm,0.8s,baz=10,slow=5.7,SNR=3.8						

NIED ***08*** *14:29:00,35°.70N×137°.80E,h8km,Mw3.3 Best double couple: M₀1.14000×10¹⁴ NP1:φs229.00000°,δ54.00000°, λ-157.00000°. NP2:φs125.00000°,δ72.00000°, λ-39.00000°.*

JMA 08 14:29:11.6,35°.72N×137°.84E,h14km,M3.8,3C-3D Broadband fault plane solution: P waves. NP1: φs131.00000°,δ80.00000°,λ-25.00000°. **NP2:** φs226.00000°,δ65.00000°,λ-169.00000°. **Principal axes:** T Plg10.0000°, Azm181.0000°; N Plg63.0000°, Azm291.0000°; P Plg25.0000°, Azm86.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.29**	**57**	⇓P	Pg	14 29 17.5	-0.2
JNT				S	Sg	14 29 21.5	-0.3
JNY	**Yasuok**	**0.36**	**177**	⇑P	Pg	14 29 18.8	-0.2
JNY				S	Sg	14 29 24.0	+0.1
JYN	**Shimob**	**0.61**	**111**	⇓P	Pg	14 29 23.6	-0.1
JYN				S	Sg	14 29 32.1	+0.3
SHZ3	**Shizuoka 3**	**0.72**	**155**	⇑P	Pg	14 29 24.9	-0.7
SHZ3				S	Sg	14 29 34.7	-0.4
MAT	**Matsushiro**	**0.87**	**20**	P	Pg	14 29 27.7	-0.8
MAT				S	Sg	14 29 39.0	-1.0
MAT	**Matsushiro**	**0.87**	**20**	P	Pg	14 29 27.7	-0.8
MAT				S	Sg	14 29 39.1	-0.9
JRY	**Ryogami san**	**0.91**	**71**	⇓P	Pb	14 29 28.4	-0.8
JRY				S	Sg	14 29 39.9	-1.3
JTT	**Ttatey**	**0.97**	**335**	⇑P	Pg	14 29 30.5	+0.1

JMA 08 14:47:47.2,40°.04N×140°.54E,h7km±2km,M0.5,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.17**	**26**	*e*S	Sg	14 47 53.3	+0.4

ISCJB ***08*** *15:02:05.5±1.1,35°.4N±0°.1×26°.8E±0°.1,h28km,Error ellipse: s-maj=23.4km s-min=5.4km az=149.8*
CSEM ***08*** *15:02:05.6±0.2,35°.48N×26°.73E,h10km,ML2.2,Error ellipse: s-maj=9.8km s-min=3.7km az=158.0*
ATH ***08*** *15:02:05.2,35°.36N×26°.80E,h20km±3km,ML2.2/2,Error ellipse: s-maj=11.1km s-min=1.1km az=152.0*
ISK ***08*** *15:02:05.0,35°.54N×26°.72E,h9km,MD3.0*

ISC 08 15:02:05.5±1.1,35°.4N±0°.1×26°.80E±0°.06,h28km,n18, σ0.90/24,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.34**	**61**	*e*PG	**Pb**	**15 02 12.7**	**-0.7**
KARP				*e*SG	**Sb**	**15 02 18.1**	**-0.6**
KARP	**Karpathos**	**0.34**	**61**	P	**Pb**	**15 02 13.0**	**-0.4**
KARP				S	**Sb**	**15 02 17.6**	**-1.1**
KARP				AML	AML	15 02 18.5	
	comp=N,1627μm,0.2s						
KARP				AML	AML	15 02 18.6	
	comp=E,1960μm,0.2s						
KARP	**Karpathos**	**0.34**	**61**	*e*Pg	**Pb**	**15 02 12.7**	**-0.7**
KARP	**Karpathos**	**0.34**	**61**	P	**Pb**	**15 02 13.0**	**-0.4**
KARP				S	**Sb**	**15 02 17.6**	**-1.1**
KARP				*e*Sg	**Sb**	**15 02 18.1**	**-0.6**
ZKR	**Zakros**	**0.55**	**241**	P	**Pb**	**15 02 15.4**	**-1.2**
ZKR				S	**Sb**	**15 02 24.2**	**+0.1**
ZKR				AML	AML	15 02 25.0	
	comp=E,574μm,0.2s						
ZKR				AML	AML	15 02 25.0	
	comp=N,143μm,0.3s						
ZKR	**Zakros**	**0.55**	**241**	P	**Pb**	**15 02 15.4**	**-1.2**
ZKR				S	**Sb**	**15 02 24.2**	**+0.1**
NPS	**Neapolis**	**0.98**	**263**	P	**Pn**	**15 02 24.2**	**+0.8**
NPS	**Neapolis**	**0.98**	**263**	P	**Pn**	**15 02 24.2**	**+0.8**
LAST	**Lasithi**	**1.10**	**259**	P	**Pn**	**15 02 25.8**	**+0.7**
LAST	**Lasithi**	**1.10**	**259**	P	**Pn**	**15 02 25.8**	**+0.7**
DAT	**Datca**	**1.48**	**25**	*e*PN	**Pn**	**15 02 31.1**	**+0.7**
DAT	**Datca**	**1.48**	**25**	*e*Pn	**Pn**	**15 02 31.1**	**+0.7**
IDI	**Anoyia**	**1.56**	**267**	P	**Pb**	**15 02 34.0**	**+0.2**
IDI	**Anoyia**	**1.56**	**267**	P	**Pb**	**15 02 34.0**	**+0.2**
APE	**Apeiranthos**	**1.97**	**329**	*e*PN	**Pn**	**15 02 37.0**	**+0.1**
APE	**Apeiranthos**	**1.97**	**329**	*e*Pn	**Pn**	**15 02 37.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**2.07**	**46**	*e*PN	**Pn**	**15 02 40.2**	**+1.8**
DALY	**Dalyan (Mu¨la**	**2.07**	**46**	*e*Pn	**Pn**	**15 02 40.2**	**+1.8**

IDC 08 15:05:28.1±4.3,22°.26S×174°.63W,h232km±10km, mb3.8/4,mb1 3.9/5,mb1mx3.3/36,mbtmp4.4/5,Error ellipse: s-maj=114.3km s-min=26.6km az=128.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.73**	**19**	P	Pn	15 07 30.5	-0.4
	4.3nm,0.3s,baz=272,slow=3.9,SNR=7.9						
CTA	**Charters Tower**	**36.47**	**266**	P	P	15 12 11.2	-0.1
	7.0nm,0.3s,baz=119,slow=10,SNR=26						
STKA	**Stephens Creek**	**39.91**	**247**	P	P	15 12 38.7	-1.1
	0.9nm,0.4s,baz=95,slow=9.0,SNR=8.7						
STKA				pP	pP	15 13 28.9	+0.8
	1.6nm,0.9s,baz=95,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**47.20**	**258**	P	P	15 13 37.9	-0.2
	1.8nm,0.4s,baz=97,slow=7.5,SNR=94						
ASAR				pP	pP	15 14 27.4	-0.4
	0.6nm,0.6s,baz=95,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**47.48**	**263**	P	P	15 13 39.8	-0.5
	1.5nm,0.3s,baz=102,slow=8.2,SNR=118						
WRA				pP	pP	15 14 29.7	-0.4
	0.7nm,0.7s,baz=97,slow=8.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**55.91**	**263**	P	P	15 14 43.7	+1.3
	baz=13,slow=0.9						

MOS ***08*** *15:08:30.5±1.2,17°.82S×178°.63W,h558km,mb4.4/13, Error ellipse: s-maj=12.2km s-min=9.3km az=147.0*
IDC ***08*** *15:08:30.6±1.3,17°.95S×178°.44W,h563km±14km, mb4.0/22,mb1 4.1/24,mb1mx4.1/33,mbtmp4.9/24,Error ellipse: s-maj=12.0km s-min=9.9km az=122.0*
NEIC ***08*** *15:08:33.4±0.7,17°.91S×178°.61W,h592km±8km,mb4.5/66, Error ellipse: s-maj=9.0km s-min=5.3km az=150.0*

ISC 08 15:08:31.5±0.3,18°.01S±0°.06×178°.37W±0°.06,h579km,

n347,σ1.45/366,mb4.4/92,27C-24D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**274**	*e*P	**P**	**15 09 53.6**	**+2.0**
MSVF	**Nonsavu**	**3.42**	**274**	*e*P	**P**	**15 09 53.6**	**+2.0**
MSVF				*e*S	**S**	**15 10 59.5**	**+2.6**
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**15 10 25.0**	**-0.9**
	14nm,0.3s,baz=146,slow=1.4,SNR=17						
AFI				S	**S**	**15 11 56.1**	**-3.4**
	5.6nm,0.3s,baz=258,slow=19,SNR=3.7						
AFI	**Afiamalu**	**7.54**	**58**	*e*P	**P**	**15 10 24.5**	**-1.4**
AFI				S	**S**	**15 11 56.1**	**-3.4**
AFI	**Afiamalu**	**7.54**	**58**	*e*P	**P**	**15 10 24.5**	**-1.4**
AFI				S	**S**	**15 11 56.1**	**-3.4**
NIUE	**Niue**	**8.08**	**99**	P	**P**	**15 10 32.2**	**+1.4**
	baz=8.1,SNR=3.6						
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**15 11 38.4**	**-0.4**
	6.1nm,0.3s,baz=31,slow=12,SNR=38						
DZM				S	**S**	**15 14 12.6**	**+0.4**
	0.1nm,0.3s,baz=11,slow=19,SNR=2.8						
OUZ	**Omahuta**	**18.57**	**201**	*e*P	**P**	**15 12 16.4**	**+3.4**
	23nm,0.7s						
URZ	**Urewera**	**20.56**	**190**	P	**P**	**15 12 30.5**	**-0.4**
	18nm,0.6s,baz=18,slow=5.8,SNR=9.7						
URZ				S	**S**	**15 15 38.6**	**-5.9**
	10nm,0.9s,baz=36,slow=19,SNR=5.4						
URZ	**Urewera**	**20.56**	**190**	*e*P	**P**	**15 12 30.6**	**-0.4**
	35nm,1.0s						
URZ				S	**S**	**15 15 38.6**	**-5.9**
TARA	**Tarawa**	**21.07**	**335**	*e*P	**P**	**15 12 33.7**	**-2.2**
	63nm,1.4s						
HNR	**Honiara**	**22.70**	**289**	P	**P**	**15 12 48.6**	**-1.9**
	50nm,0.7s,baz=137,slow=18,SNR=5.6						
RPZ	**Rata Peaks**	**27.13**	**197**	P	**P**	**15 13 28.5**	**-0.8**
	7.7nm,0.9s,baz=84,slow=19,SNR=2.5						
EIDS	**Eidsvold**	**29.27**	**250**	P	**P**	**15 13 47.7**	**-0.4**
	baz=29,SNR=24						
EIDS	**Eidsvold**	**29.27**	**250**	*e*P	**P**	**15 13 47.7**	**-0.4**
	46nm,0.7s						
ARMA	**Armidale**	**29.92**	**240**	P	**P**	**15 13 54.6**	**+0.8**
	baz=30,SNR=100						
ARMA	**Armidale**	**29.92**	**240**	*e*P	**P**	**15 13 54.6**	**+0.8**
	59nm,0.7s						
MGCD	**Mangrove Creek**	**31.26**	**235**	P	**P**	**15 14 06.2**	**+1.1**
	baz=31,SNR=48						
RMQ	**Roma**	**31.50**	**249**	P	**P**	**15 14 07.8**	**+0.6**
	baz=32,SNR=44						
RABL	**Rabaul**	**31.94**	**292**	*e*P	**P**	**15 14 09.2**	**-1.9**
	50nm,0.6s						
CNB	**Canberra Magne**	**33.39**	**232**	P	**P**	**15 14 24.4**	**+1.2**
	baz=34,SNR=166						
CTA	**Charters Tower**	**33.47**	**261**	P	**P**	**15 14 23.6**	**-0.4**
	40nm,0.6s,baz=82,slow=9.0,SNR=64						
CTA				PcP	**PcP**	**15 16 48.3**	**+0.5**
	3.0nm,0.6s,baz=165,slow=2.5,SNR=4.5						
CTAO	**Charters Tower**	**33.47**	**261**	*e*P	**P**	**15 14 23.4**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,44nm,0.8s						
CTAO	**Charters Tower**	**33.47**	**261**	*e*P	**P**	**15 14 23.4**	**-0.6**
	comp=Z,44nm,0.8s						
CAN	**Canberra**	**33.67**	**233**	*e*P	**P**	**15 14 25.9**	**+0.4**
CAN				pmax	pmax		
	comp=Z,45nm,0.7s						
CAN	**Canberra**	**33.67**	**233**	*e*P	**P**	**15 14 25.9**	**+0.4**
	comp=Z,45nm,0.7s						
MILA	**Mila**	**34.24**	**230**	P	**P**	**15 14 31.3**	**+1.0**
	baz=34,SNR=18						
PMG	**Port Moresby**	**34.51**	**280**	P	**P**	**15 14 33.1**	**+0.4**
	comp=Z,118nm,0.8s,baz=98,slow=7.3,SNR=43						
PMG	**Port Moresby**	**34.51**	**280**	*e*P	**P**	**15 14 32.9**	**+0.2**
PMG	**Port Moresby**	**34.51**	**280**	*e*P	**P**	**15 14 32.9**	**+0.2**
	comp=Z,120nm,0.9s						
CMSA	**Cobar Meteorol**	**35.13**	**241**	P	**P**	**15 14 38.2**	**+0.5**
	baz=35,SNR=367						
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**15 14 39.8**	**-0.6**
	baz=35,SNR=44						
QLP	**Quilpie**	**35.53**	**249**	P	**P**	**15 14 41.0**	**0.0**
	baz=36,SNR=121						
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**15 14 55.0**	**+0.9**
	baz=37,SNR=51						
COEN	**Coen**	**37.14**	**271**	P	**P**	**15 14 54.6**	**+0.2**
	baz=37,SNR=169						
COEN	**Coen**	**37.14**	**271**	*e*P	**P**	**15 14 54.5**	**0.0**
	comp=Z,72nm,0.8s						
MANU	**Manus Island**	**37.17**	**291**	*e*P	**P**	**15 14 54.6**	**-0.1**
	comp=Z,63nm,0.9s						
MOO	**Moorlands**	**38.04**	**223**	P	**P**	**15 15 02.6**	**+1.2**
	baz=38,SNR=4.9						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**15 15 07.0**	**+0.9**
	comp=Z,71nm,0.5s,baz=87,slow=9.9,SNR=410						
STKA				PcP	**PcP**	**15 17 04.2**	**+0.9**
	comp=Z,7.1nm,0.6s,baz=51,slow=6.5,SNR=3.4						
STKA	**Stephens Creek**	**38.61**	**241**	*e*P	**P**	**15 15 07.0**	**+0.9**
STKA						15 17 04.3	
STKA				pmax	pmax		
	comp=Z,24nm,1.0s						
STKA	**Stephens Creek**	**38.61**	**241**	*e*P	**P**	**15 15 07.0**	**+0.9**
	comp=Z,24nm,1.0s						
STKA				PcP	**PcP**	**15 17 04.2**	**+0.9**
ARPS	**Mount Arapiles**	**39.62**	**234**	P	**P**	**15 15 14.7**	**+0.6**
	baz=40,SNR=14						
QIS	**Mount Isa**	**39.67**	**259**	P	**P**	**15 15 13.9**	**-1.0**
	baz=40,SNR=20						
HTT	**Hallett**	**41.12**	**240**	P	**P**	**15 15 26.8**	**+0.5**
	baz=41,SNR=100						
JAY	**Jayapura**	**42.97**	**286**	P	**P**	**15 15 40.8**	**-0.2**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**15 15 44.0**	**+0.1**
	baz=44,SNR=68						
BBOO	**Buckleboo**	**43.39**	**241**	*e*P	**P**	**15 15 44.3**	**+0.4**
	comp=Z,111nm,0.9s						
GENI	**Geneyem**	**43.43**	**286**	P	**P**	**15 15 45.3**	**+0.8**
KIP	**Kipapa**	**43.97**	**28**	‖*e*P	**P**	**15 15 48.9**	**+0.4**
WB2	**Warramunga Arr**	**44.64**	**260**	*e*P	**P**	**15 15 52.8**	**-0.9**
WRAB	**Tennant Creek**	**44.64**	**260**	*d i*P	**P**	**15 15 52.7**	**-1.1**
WRAB	**Tennant Creek**	**44.64**	**260**	*e*P	**P**	**15 15 52.5**	**-1.3**
	comp=Z,55nm,0.6s						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**15 15 52.4**	**-1.4**
	comp=Z,38nm,0.4s,baz=95,slow=7.0,SNR=569						
WRA				PcP	**PcP**	**15 17 24.1**	**+0.2**
	comp=Z,8.2nm,0.7s,baz=90,slow=4.0,SNR=6.7						
WRA				ScP	**ScP**	**15 20 23.2**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=95,slow=4.4,SNR=2.8						
WRA				S	**S**	**15 21 44.9**	**-4.0**
	comp=Z,0.7nm,0.7s,baz=100,slow=13,SNR=3.2						
AS01	**Alice Springs**	**44.76**	**254**	*e*P	**P**	**15 15 54.3**	**-0.4**
AS31	**Alice Springs**	**44.80**	**254**	*e*P	**P**	**15 15 54.8**	**-0.2**
	comp=Z,96nm,0.8s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**15 15 54.8**	**-0.2**
	comp=Z,324nm,0.6s,baz=88,slow=8.6,SNR=3147						
ASAR				PcP	**PcP**	**15 17 24.3**	**-0.1**
	comp=Z,9.0nm,0.5s,baz=117,slow=3.5,SNR=5.9						
ASAR				ScP	**ScP**	**15 20 24.1**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=85,slow=3.4,SNR=4.7						
ASAR				S	**S**	**15 21 47.1**	**-3.9**
	comp=Z,1.8nm,1.0s,baz=90,slow=15,SNR=7.4						
KDU	**Kakadu**	**47.59**	**269**	P	**P**	**15 16 15.2**	**-1.0**
	baz=48,SNR=20						
MTN	**Manton Dam**	**48.83**	**269**	P	**P**	**15 16 24.2**	**-1.1**
	baz=49,SNR=84						
MTN	**Manton Dam**	**48.83**	**269**	*e*P	**P**	**15 16 24.3**	**-1.1**
	comp=Z,61nm,0.7s						
WRKA	**Warakurna**	**49.85**	**252**	P	**P**	**15 16 32.6**	**-0.2**
	baz=50,SNR=181						
KNRA	**Kununurra**	**50.51**	**264**	P	**P**	**15 16 36.9**	**-0.7**
	baz=50,SNR=42						
FAKI	**Fak Fak**	**50.63**	**281**	*e*P	**P**	**15 16 37.8**	**-0.8**
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**15 16 55.6**	**-0.2**
	baz=162,slow=3.2						
MSAI	**Masohi**	**53.59**	**279**	P	**P**	**15 17 01.1**	**+1.3**
AAI	**Ambon**	**54.17**	**279**	P	**P**	**15 17 03.4**	**-0.4**
KMBL	**Kambalda**	**55.30**	**244**	P	**P**	**15 17 10.6**	**-0.9**
	baz=55,SNR=22						
NLAI	**Namlea**	**55.35**	**279**	P	**P**	**15 17 11.7**	**-0.3**
LBMI	**Labuha**	**55.88**	**282**	P	**P**	**15 17 15.8**	**+0.1**
SOEI	**Soe**	**56.11**	**270**	P	**P**	**15 17 18.3**	**+0.9**
SOEI	**Soe**	**56.11**	**270**	*e*P	**P**	**15 17 18.2**	**+0.8**
	comp=Z,120nm,0.8s						
MBWA	**Marble Bar**	**58.08**	**256**	*e*P	**P**	**15 17 30.0**	**-0.7**
	comp=Z,35nm,0.6s						
MMRI	**Maumere**	**58.34**	**271**	P	**P**	**15 17 32.5**	**+0.1**
MMRI	**Maumere**	**58.34**	**271**	*e*P	**P**	**15 17 31.4**	**-1.1**
	comp=Z,56nm,0.9s						
KLBR	**Kellerberrin**	**58.81**	**244**	P	**P**	**15 17 34.8**	**-0.6**
	baz=59,SNR=64						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**15 17 37.6**	**-0.3**
	comp=Z,25nm,0.6s,baz=327,slow=4.9,SNR=26						
RKGY	**Rocky Gully**	**59.35**	**240**	P	**P**	**15 17 39.3**	**+0.4**
	baz=59,SNR=11						
BLDU	**Ballidu**	**59.77**	**245**	P	**P**	**15 17 41.2**	**-0.6**
	baz=60,SNR=65						
SBA	**Scott Base**	**60.32**	**184**	*e*P	**P**	**15 17 48.0**	**+3.5**
SBA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SBA	**Scott Base**	**60.32**	**184**	*e*P	**P**	**15 17 48.0**	**+3.5**
	comp=Z,6.6nm,0.8s						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**15 17 46.6**	**+1.9**
	comp=Z,2.5nm,0.8s,baz=11,slow=5.8,SNR=10						
VNDA	**Vanda**	**60.34**	**185**	*e*P	**P**	**15 17 46.8**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,12nm,1.5s						
VNDA	**Vanda**	**60.34**	**185**	*e*P	**P**	**15 17 46.8**	**+2.1**
	comp=Z,12nm,1.5s						
MORW	**Morawa**	**60.47**	**246**	P	**P**	**15 17 45.9**	**-0.6**
	baz=60,SNR=12						
SPSI	**Sidrap Palu**	**62.04**	**275**	P	**P**	**15 17 56.1**	**-0.8**
TTSI	**Tana Toraja**	**62.28**	**276**	P	**P**	**15 18 02.8**	**+4.3**
PLAI	**Plampang**	**62.53**	**269**	P	**P**	**15 17 59.5**	**-0.6**
GIRL	**Giralia**	**62.90**	**253**	P	**P**	**15 18 03.0**	**+0.7**
	baz=63,SNR=14						
PCI	**Palu**	**62.96**	**278**	P	**P**	**15 18 04.1**	**+1.2**
TWSI	**Taliwang, Sumb**	**63.40**	**269**	P	**P**	**15 18 05.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**66.07**	**269**	P	**P**	**15 18 20.8**	**-1.7**
JAGI	**Jajag, Banyuwa**	**66.07**	**269**	*e*P	**P**	**15 18 20.9**	**-1.6**
	comp=Z,79nm,0.8s						
MJAR	**Matsushiro Arr**	**68.01**	**323**	P	**P**	**15 18 33.2**	**-0.7**
	comp=Z,2.9nm,0.5s,baz=152,slow=5.9,SNR=7.8						
MAJO	**Matsushiro**	**68.01**	**323**	*d i*P	**P**	**15 18 33.1**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,36nm,0.9s						
KKM	**Kota Kinabalu**	**68.80**	**284**	*e*P	**P**	**15 18 38.9**	**-0.4**
	comp=Z,22nm,0.5s						
UGM	**Wanagama**	**69.68**	**268**	*e*P	**P**	**15 18 44.0**	**-0.5**
	comp=Z,145nm,0.5s						
PBKI	**Pangkalan Bun**	**70.11**	**274**	P	**P**	**15 18 48.8**	**+1.8**
STKI	**Sintang**	**71.17**	**276**	P	**P**	**15 18 54.0**	**+0.8**
SBUM	**Sibu**	**71.26**	**279**	*e*P	**P**	**15 18 54.0**	**+0.3**
	comp=Z,11nm,0.7s						
SKR	**Severo-Kuril's**	**71.99**	**343**	*e*P	**PcP**	**15 19 11.6**	**+0.1**
SKR				pmax	pmax		
	comp=Z,79nm,1.5s						
SKR				MLR	MLR		
	comp=Z,100nm,22.0s						
CISI	**Cisompet, Garu**	**72.35**	**268**	P	**P**	**15 18 59.2**	**-0.9**
CISI	**Cisompet, Garu**	**72.35**	**268**	*e*P	**P**	**15 18 58.1**	**-2.0**
	comp=Z,62nm,0.8s						
KSM	**Kuching**	**72.73**	**277**	*e*P	**P**	**15 19 02.5**	**+0.3**
	comp=Z,62nm,0.8s						
YSS	**Yuzh-Sakhalins**	**73.53**	**333**	⇑P	**P**	**15 19 05.9**	**0.0**
YSS				pmax	pmax		
	comp=Z,16nm,1.2s						
DBJI	**Dramaga**	**73.65**	**268**	P	**P**	**15 19 07.1**	**-0.4**
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**	**15 19 07.0**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=116,slow=6.2,SNR=10						
CGJI	**Cibinong**	**74.64**	**268**	P	**P**	**15 19 11.8**	**-1.2**
KSRS	**Korea Array**	**74.80**	**318**	P	**P**	**15 19 13.9**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=130,slow=6.4,SNR=11						
KSAR	**Wonju Array Be**	**74.82**	**318**	P	**P**	**15 19 14.0**	**+0.5**
KSAR	**Wonju Array Be**	**74.82**	**318**	P	**P**	**15 19 13.9**	**+0.5**
KASI	**Kota Agung**	**76.09**	**269**	P	**P**	**15 19 19.8**	**-1.3**
LWLI	**Liwa**	**76.66**	**269**	P	**P**	**15 19 25.0**	**+0.7**
MDSI	**Maura Dua**	**76.70**	**270**	P	**P**	**15 19 22.8**	**-1.6**
USRK	**Ussuriysk Ar.**	**76.72**	**326**	P	**P**	**15 19 24.6**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=99,slow=8.9,SNR=3.4						
KMRM	**Mail Ridge**	**77.07**	**40**	*e*P	**P**	**15 19 28.2**	**+2.3**
	comp=Z,17nm,0.8s						
CMB	**Columbia Colle**	**77.89**	**43**	*e*P	**P**	**15 19 31.7**	**+1.3**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMB	**Columbia Colle**	**77.89**	**43**	*e*P	**P**	**15 19 31.7**	**+1.3**
	comp=Z,8.6nm,1.0s						
AFDM	**Forest Hills D**	**78.03**	**42**	*e*P	**P**	**15 19 32.5**	**+1.4**
	comp=Z,5.8nm,1.0s						
NJ2	**Nanjing**	**78.03**	**309**	*e*P	**P**	**15 19 31.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ORV	**Oroville**	**78.05**	**41**	*e*P	**P**	**15 19 32.6**	**+1.5**
ORV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ORV	**Oroville**	**78.05**	**41**	*e*P	**P**	**15 19 32.6**	**+1.5**
	comp=Z,5.8nm,1.0s						
MDJ	**Mudanjiang**	**78.29**	**325**	P	**P**	**15 19 33.1**	**+0.8**
MDJ				pP	pP	15 21 35.7	+1.8
MDJ				sP	PP	15 22 36.8	-3.6
MDJ			

comp=Z,2.2nm,0.6s
BJI Beijing 83.88 315 P **P 15 19 58.7 -2.4**
BJI pmax pmax
comp=Z,11nm,0.6s
D08A Wollman Farm, 83.89 36 *e*P **P 15 20 02.5 +1.5**
comp=Z,13nm,1.1s
PSI Prapat 83.93 275 P **P 15 20 01.2 -0.9**
comp=Z,14nm,0.5s,baz=50,slow=4.3,SNR=8.4
ENH Enshi 84.36 304 *e*P **P 15 20 04.4 +0.6**
comp=Z,25nm,0.8s
B08A Colville Reser 84.40 35 *e*P **P 15 20 03.7 +0.2**
comp=Z,5.4nm,0.8s
HLID Hailey 84.68 41 *e*P **P 15 20 06.5 +1.3**
comp=Z,3.3nm,0.8s
SRU San Rafael Swe 85.06 46 *e*P **P 15 20 08.6 +1.4**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 85.06 46 *e*P **P 15 20 08.6 +1.4**
comp=Z,3.7nm,0.8s
NEW Newport 85.57 36 P **P 15 20 09.4 +0.2**
comp=Z,2.9nm,0.6s,baz=221,slow=4.4,SNR=6.5
IL1 Eielson Array 85.98 13 *e*P **P 15 20 09.2 -1.5**
ILAR Eielson Array 85.98 13 P **P 15 20 09.8 -0.9**
comp=Z,2.0nm,0.4s,baz=220,slow=5.1,SNR=26
ILAR PP **PP 15 23 43.6 +1.6**
comp=Z,0.9nm,0.9s,baz=212,slow=8.0,SNR=4.3
ILB Eielson Array 85.98 13 *e*P **P 15 20 09.8 -0.9**
TX31 Lajitas Ar. Si 86.02 58 *e*P **P 15 20 14.6 +2.7**
TXAR Lajitas Array 86.02 58 P **P 15 20 14.4 +2.6**
comp=Z,3.2nm,0.7s,baz=218,slow=6.2,SNR=42
ANMO Albuquerque 86.13 52 ⇑*i*P **P 15 20 13.7 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
MCMT McKenzie Canyo 86.29 40 *e*P **P 15 20 12.3 -0.6**
XAN Xi'an 86.35 307 P **P 15 20 14.1 +0.9**
XAN pP pP 15 22 20.3 +2.2
XAN sP sP 15 23 20.2 +3.9
XAN pmax pmax
comp=Z,22nm,1.0s
XAN pmax pmax
comp=Z,190nm,7.3s
REDW Red Top Meadow 86.84 42 *e*P **P 15 20 16.7 +1.1**
comp=Z,5.2nm,0.9s
FXWY Fox Creek 86.86 42 *e*P **P 15 20 17.4 +1.7**
comp=Z,2.3nm,0.8s
IMW Indian Meadow 87.04 42 *e*P **P 15 20 17.6 +1.0**
comp=Z,6.0nm,0.8s
YHB Horse Butte 87.28 41 *e*P **P 15 20 19.6 +2.0**
comp=Z,6.3nm,1.1s
HHC Hu-ho-hao-te 87.37 314 *e*P **P 15 20 18.2 +0.3**
HHC pmax pmax
comp=Z,12nm,0.9s
BW06 Boulder Array 87.40 43 *e*P **P 15 20 19.4 +1.1**
PD31 Pinedale Array 87.40 43 *e*P **P 15 20 19.3 +1.1**
PDAR Pinedale Array 87.40 43 P **P 15 20 19.3 +1.1**
comp=Z,2.5nm,0.6s,baz=222,slow=3.2,SNR=24
UTHA Uthaitani 87.55 287 P **P 15 20 21.3 +2.2**
comp=Z,2.8nm,0.7s
LAMP Lampang 88.36 290 P **P 15 20 24.3 +1.4**
RLMT Red Lodge 88.67 41 *e*P **P 15 20 25.5 +1.5**
comp=Z,4.8nm,1.0s
CM01 Chiang Mai Arr 88.93 290 *e*P **P 15 20 25.7 +0.2**
CM31 Chiang Mai Arr 88.95 290 *e*P **P 15 20 27.0 +1.3**
CMAR Chiang Mai Arr 88.95 290 P **P 15 20 26.6 +0.9**
comp=Z,6.0nm,0.9s,baz=108,slow=2.9,SNR=40
CMAR PP **PP 15 24 10.2 +3.8**
comp=Z,0.2nm,0.5s,baz=127,slow=5.7,SNR=4.3
SYO Syowa Base 89.06 193 ⇓*i*P **P 15 20 24.0 -1.2**
SYO Syowa Base 89.06 193 ⇓*e*PcP **PcP 15 20 27.0 +0.9**
CHTO Chiang Mai 89.07 290 *e*P **P 15 20 26.4 +0.2**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 89.07 290 *e*P **P 15 20 26.4 +0.2**
comp=Z,7.0nm,0.8s
YAK Yakutsk 89.69 338⇑*e*P **P 15 20 28.2 +0.2**
YAK pmax pmax
comp=Z,3.0nm,0.6s
SNAA Sanae 90.49 179 P **P 15 20 32.2 +0.4**
comp=Z,4.9nm,0.6s,baz=207,slow=7.2,SNR=63
SNAA Sanae 90.49 179 *d i*P **P 15 20 32.0 +0.2**
SNAA Sanae 90.49 179 *e*P **P 15 20 32.1 +0.2**
comp=Z,19nm,1.4s
HKT Hockley 92.60 59 ⇓P **P 15 20 43.8 +1.6**
ULN Ulaanbaatar 93.26 319 ⇓*e*P **P 15 20 45.3 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 93.65 319 P **P 15 20 47.4 +0.6**
comp=Z,0.5nm,0.6s,baz=163,slow=4.3,SNR=5.5
ZALV Zalesovo Beam 108.34 322 PKiKP **PKiKP 15 25 53.2 -1.1**
comp=Z,1.6nm,0.6s,baz=157,slow=1.0,SNR=7.9
MKAR Makanchi Array 109.23 314 PKiKP **PKiKP 15 25 55.3 -1.0**
comp=Z,1.7nm,0.5s,baz=168,slow=0.5,SNR=33
KSH Kashi 113.17 306 *e*PKP **PKiKP 15 26 04.1 -0.1**
KSH PP **PP 15 27 12.6 +7.1**
KSH sPKP 15 29 20.7
KSH PKS **PKSdf 15 29 40.3 -0.7**
KSH SKS **SKSdf 15 32 20.4 -1.6**
KSH SKKS **SKKSac 15 33 02.5 -4.6**
KSH Kashi 113.17 306 SS SS 15 42 11.4 +3.7
KSH AMB AMB
comp=Z,26nm,4.1s
KSH LR LR
comp=N,47nm,4.6s
KSH LR LR
comp=E,39nm,4.5s
KSH LR LR
comp=Z,120nm,5.2s
KKAR Karatay Array 117.41 310 *e*PKiKP **PKPdf 15 26 11.5 -0.6**
KKAR Karatay Array 117.41 310 *e*PKPdf **PKPdf 15 26 11.5 -0.6**
ARU Arti 122.96 326 *i*PKiKP **PKPdf 15 26 21.8 -0.5**
ARU 15 28 08.4
ARU 15 32 38.5
ARU PS **SP 15 37 15.6 +5.8**
ARU Arti 122.96 326 *e*PKPdf **PKPdf 15 26 22.1 -0.1**
ABKAR Akbulak array 124.03 318 *e*PKPdf **PKPdf 15 26 24.2 -0.3**
ARCES ARCESS Array B 126.42 350 PKP **PKPdf 15 26 28.3 -0.3**
comp=Z,4.3nm,0.8s,baz=328,slow=1.5,SNR=6.0
ARCES ARCESS Array B 126.42 350 *e*PKiKP **PKPdf 15 26 28.5 -0.1**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 127.13 304 PKP **PKPdf 15 26 30.6 -0.4**
comp=Z,3.0nm,0.7s,baz=300,slow=2.9,SNR=9.5
FINES FINESS Array B 133.30 344 PKP **PKPdf 15 26 41.8 0.0**
comp=Z,1.6nm,0.6s,baz=81,slow=3.3,SNR=6.7
FINES PP **PP 15 29 17.9 +0.5**
comp=Z,1.6nm,0.7s,baz=107,slow=6.4,SNR=5.1
OBN Obninsk 134.41 333 *e*P **Pdif 15 23 42.0 -5.9**
OBN pmax pmax
comp=Z,30nm,1.9s
AKASG Malin Array Be 140.67 332 PKhKP PKPpre 15 26 49.3
comp=Z,0.8nm,0.4s,baz=44,slow=4.1,SNR=7.2
AKASG PKP **PKiKP 15 26 57.8 -0.7**
comp=Z,1.1nm,0.3s,baz=42,slow=3.1,SNR=11
AK11 Malin Array Si 140.71 332 *e*PKPdf **PKPdf 15 26 55.4 -0.4**
KBSD Kabsdagh 140.98 307 *e*P **PKPdf 15 26 51.6 -5.2**
MZRK Al-Mazaregh 141.25 305 *e*P **PKPdf 15 26 52.0 -5.2**
KSRV Kasrt alli 142.52 306 *e*P **PKPdf 15 26 56.9 -2.6**
SORM Soroca 142.90 330 ⇑*i*P **PKPdf 15 26 56.8 -2.9**
JHLN Al Jahlan 143.01 306 *e*P PKPab 15 26 52.1 -6.0
DRWC Darouich 144.03 308 *e*P PKPbc 15 27 01.9 +0.1
TLCR 144.68 326 ⇓*i*P **PKPab 15 27 03.7 -0.4**
TLCR 144.68 326 ⇓PKiKP **PKPab 15 27 03.7 -0.4**
BUR08 Bucovina Ar. S 144.71 332 *e*PKPdf **PKPab 15 27 04.7 +0.4**
BURAR Bucovina Array 144.72 332 ⇑*i*P **PKPab 15 27 04.6 +0.3**
BURAR Bucovina Array 144.72 332 ⇑PKiKP **PKPab 15 27 04.6 +0.3**
SLNF Slenfeh 144.74 307 *e*P **PKPdf 15 27 03.1 -0.4**
ARNB Al Arnab 144.84 307 *e*P PKPbc 15 27 04.1 -0.1
TESR Tescani 144.87 329 ⇑*i*P **PKPdf 15 27 02.8 -0.4**
BR131 Keskin Array S 144.88 315 *e*PKPdf PKPbc 15 27 04.1 -0.2
BRTR Keskin Array B 144.88 315 PKP **PKPdf 15 27 03.1 -0.5**
comp=Z,9.1nm,0.7s,baz=134,slow=3.6,SNR=38
BRTR Keskin Array B 144.88 315 *e*PKiKP PKPbc 15 27 04.0 -0.3
BRTR pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 144.90 338 *e*PKiKP **PKPab 15 27 04.7 -0.1**
STHS Stebnicka Huta 144.90 338 *e*PKP **PKPab 15 27 04.7 -0.1**
CFR Carcaliu 145.04 327 ⇑*i*P **PKPbc 15 27 04.7 +0.3**
CFR Carcaliu 145.04 327 ⇑PKiKP **PKPbc 15 27 04.7 +0.3**
MARH Ras Al Marh 145.06 304 *e*P **PKPdf 15 26 59.4 -5.0**
UZH Uzhgorod 145.15 336 ⇑*i*PKiKP **PKPdf 15 27 03.8 +0.2**
KSP Ksiaz 145.22 344 *e*PKP **PKPab 15 27 05.4 -0.6**
KSP Ksiaz 145.22 344 *e*PKiKP **PKPab 15 27 05.4 -0.6**
NIE Niedzica 145.24 338 *e*PKP **PKPab 15 27 05.6 -0.5**
NIE Niedzica 145.24 338 *e*PKiKP **PKPab 15 27 05.6 -0.5**
CRVS Cervenica-Dubn 145.25 337 *e*PKiKP **PKPbc 15 27 05.5 +0.5**
CRVS Cervenica-Dubn 145.25 337 *e*PKP **PKPbc 15 27 05.5 +0.5**
SALA Sala 145.25 302 *e*P **PKPdf 15 27 04.5 -0.1**
VRI Vrincioaia 145.29 329 ⇑*i*P **PKPdf 15 27 04.5 +0.5**
VRI Vrincioaia 145.29 329 ⇑PKiKP **PKPdf 15 27 04.5 +0.5**
PLOR Plostina 145.34 329 ⇓*i*P **PKPbc 15 27 05.3 0.0**
PLOR Plostina 145.34 329 ⇓PKiKP **PKPbc 15 27 05.3 0.0**
ANTO Ankara 145.38 315 *e*PKiKP **PKPbc 15 27 06.3 +0.6**
ANTO Ankara 145.38 315 *e*PKPdf **PKPbc 15 27 06.3 +0.6**
BR231 Keskin MP Arra 145.40 315 *e*PKPdf **PKPdf 15 27 04.1 -0.4**
HARR Harsova 145.48 326 ⇑*i*P **PKPbc 15 27 05.9 +0.2**
HARR Harsova 145.48 326 ⇑PKiKP **PKPbc 15 27 05.9 +0.2**
TLB Topalu 145.49 326 ⇑*i*P **PKPbc 15 27 06.1 +0.4**
TLB Topalu 145.49 326 ⇑PKiKP **PKPbc 15 27 06.1 +0.4**
GRER 145.50 328 ⇑*i*P **PKPab 15 27 08.6 +1.3**
ARCR ARCALIA 145.51 332 ⇓*i*P **PKPbc 15 27 06.4 +0.7**
CLL Collm 145.57 347 *e*PKiKP **PKPbc 15 27 05.9 +0.1**
CLL Collm 145.57 347 ⇓*i*PKPbc **PKPbc 15 27 05.9 +0.1**
comp=Z,20nm,1.1s
CLL *i* PKPab **PKPab 15 27 07.0 -0.3**
comp=Z,8.0nm,0.7s
CLL Collm 145.57 347 *e*PKPdf **PKPbc 15 27 05.9 +0.1**
OKC Ostrava-Krasne 145.58 341 *e*PKP **PKPbc 15 27 05.9 0.0**
OKC Ostrava-Krasne 145.58 341 *e*PKiKP **PKPbc 15 27 05.9 0.0**
UPC Upice 145.60 344 *e*PKP **PKPbc 15 27 05.8 -0.1**
UPC *ex* x 15 27 08.2
UPC Upice 145.60 344 *e*PKiKP **PKPbc 15 27 05.8 -0.1**
UPC *e* 15 27 08.2
DPC Dobruska-Polom 145.66 343 *i* PKP **PKPbc 15 27 06.7 +0.6**
DPC Dobruska-Polom 145.66 343 *i* PKiKP **PKPbc 15 27 06.7 +0.6**
LANS Liptovska Anna 145.75 339 *e*PKP2 **PKPab 15 27 07.7 -0.5**
LANS Liptovska Anna 145.75 339 *e*PKP **PKPab 15 27 07.7 -0.5**
BRG Berggiesshubel 145.78 346 *i* PKP **PKPbc 15 27 06.6 +0.2**
comp=Z,14nm,1.2s
BRG Berggiesshubel 145.78 346 *i* PKiKP **PKPbc 15 27 06.6 +0.2**
BRG pmax pmax
comp=Z,3.0nm,1.3s
KRLC Kraliky 145.78 343 *e*PKP **PKPbc 15 27 07.0 +0.5**
KRLC Kraliky 145.78 343 *e*PKiKP **PKPbc 15 27 07.0 +0.5**
MORC Moravsky Berou 145.82 342 ⇑*i*P **PKPbc 15 27 05.8 -0.8**
MORC Moravsky Berou 145.82 342 ⇑PKiKP **PKPbc 15 27 05.8 -0.8**
MORC Moravsky Berou 145.82 342 *e*PKPdf **PKPbc 15 27 06.7 +0.1**
DOPR Dopca 145.87 330 ⇓*i*P **PKPab 15 27 07.9 -0.8**
TCHB Talchebab 145.88 302 *e*P PKPdf 15 26 55.2 -10
MLR Muntele Rosu 145.94 329 ⇓*i*P **PKPab 15 27 08.4 -0.8**
MLR Muntele Rosu 145.94 329 ⇓PKP2 **PKPab 15 27 08.4 -0.8**
PVCC Panska Ves 145.95 345 *i* PKP **PKPbc 15 27 07.4 +0.5**
PVCC Panska Ves 145.95 345 *i* PKiKP **PKPbc 15 27 07.4 +0.5**
KECS Kecovo 145.96 337 *e*PKiKP **PKPbc 15 27 07.6 +0.6**
KECS Kecovo 145.96 337 *e*PKP **PKPbc 15 27 07.6 +0.6**
CJR Cluj-Napoca 146.12 332 ⇓*i*P **PKPbc 15 27 08.2 +0.6**
CJR Cluj-Napoca 146.12 332 ⇓PKP2 **PKPbc 15 27 08.2 +0.6**
SECR 146.20 328 ⇑*i*P **PKPbc 15 27 08.3 +0.5**
PRA Prague 146.41 345 *e*PKP **PKPbc 15 27 08.7 +0.6**
PRA Prague 146.41 345 *e*PKiKP **PKPbc 15 27 08.7 +0.6**
VOIR 146.41 330 ⇑*i*P **PKPbc 15 27 08.6 +0.2**
VOIR 146.41 330 ⇑PKiKP **PKPbc 15 27 08.6 +0.2**
DRGR 146.45 333 ⇑*i*P **PKPbc 15 27 08.8 +0.3**
DRGR 146.45 333 ⇑PKiKP **PKPbc 15 27 08.8 +0.3**
PRU Pruhonice 146.46 345 *i* PKP **PKPbc 15 27 08.6 +0.3**
PRU Pruhonice 146.46 345 *i* PKiKP **PKPbc 15 27 08.6 +0.3**
GOPC GO Pecny, Ondr 146.46 345 *e*PKP **PKPbc 15 27 08.9 +0.6**
GOPC *ex* x 15 27 12.2
GOPC GO Pecny, Ondr 146.46 345 *e*PKiKP **PKPbc 15 27 08.9 +0.6**
GOPC *e* 15 27 12.2
VYHS Vyhne 146.53 339 *e*PKiKP **PKPbc 15 27 09.0 +0.4**
VYHS Vyhne 146.53 339 *e*PKP **PKPbc 15 27 09.0 +0.4**
PSZ Piszkesteto 146.65 337 ⇓*i*P **PKPbc 15 27 09.3 +0.3**
PSZ Piszkesteto 146.65 337 ⇓PKiKP **PKPbc 15 27 09.3 +0.3**
PSZ Piszkesteto 146.65 337 *e*PKPdf **PKPbc 15 27 09.2 +0.2**
ARR Arges 146.66 330 ⇓*i*P **PKPbc 15 27 10.0 +0.9**
NKC Novy Kostel 146.70 347 *e*PKP **PKPbc 15 27 09.3 +0.3**
NKC Novy Kostel 146.70 347 *e*PKiKP **PKPbc 15 27 09.3 +0.3**
LOT Lotru 147.01 331 ⇑*i*P **PKPab 15 27 13.7 +0.2**
BEBN Eben Emael 147.13 355 PKPab **PKPab 15 27 15.7 +2.2**
MEM Membach 147.29 355 PKPbc **PKPbc 15 27 10.3 -0.1**
SIRR Siria 147.31 334 ⇓*i*P **PKPbc 15 27 11.2 +0.5**
KHC Kasperske Hory 147.49 345 *i* PKP **PKPbc 15 27 11.5 +0.4**
KHC Kasperske Hory 147.49 345 *i* PKiKP **PKPbc 15 27 11.5 +0.4**
KHC Kasperske Hory 147.49 345 *e*PKPbc **PKPbc 15 27 11.6 +0.4**
GEC2 GERESS Array S 147.72 345 *e*PKiKP **PKPbc 15 27 12.0 +0.2**
GEC2 GERESS Array S 147.72 345 *e*PKP **PKPbc 15 27 12.0 +0.2**
GERES GERESS Array B 147.72 345 PKPbc **PKPbc 15 27 11.9 +0.2**
comp=Z,6.0nm,0.5s,baz=23,slow=3.1,SNR=49
GEA0 GERESS Array S 147.73 345 *e*PKPbc **PKPbc 15 27 11.8 0.0**
BZS Buzias 147.84 333 ⇑*i*P **PKPbc 15 27 11.7 -0.4**
BZS Buzias 147.84 333 ⇑PKiKP **PKPbc 15 27 11.7 -0.4**
DOU Dourbes 147.90 356 PKPbc **PKPbc 15 27 12.4 +0.4**
CONA Conrad Observa 147.97 342 *i* PKPbc **PKPbc 15 27 12.7 +0.3**
comp=Z,7.3nm,0.6s
WLF Walferdange 148.22 354 PKPbc **PKPbc 15 27 14.0 +1.1**
WLF Walferdange 148.22 354 *e*PKPbc **PKPbc 15 27 12.9 0.0**
MDVR Moldovita 148.46 332 ⇓*i*P **PKPbc 15 27 13.5 -0.2**
MOA Molln 148.50 344 *i* PKPbc **PKPbc 15 27 13.9 +0.2**
comp=Z,2.8nm,0.7s
BFO Black Forest 149.27 351 *e*PKPbc **PKPbc 15 27 15.7 +0.2**
SOKA Soboth 149.34 342 *i* PKPbc **PKPbc 15 27 15.3 -0.5**
comp=Z,6.5nm,0.8s
KBA Koelnbreinsper 149.45 344 *e*PKPbc **PKPbc 15 27 15.4 -0.8**
comp=Z,6.4nm,0.6s
WATA Walderalm 149.63 347 *i* PKPbc **PKPbc 15 27 16.3 -0.3**
comp=Z,5.4nm,0.6s
RETA Reutte 149.66 348 *i* PKPbc **PKPbc 15 27 16.5 -0.1**
comp=Z,3.3nm,0.5s
WTTA Wattenberg 149.69 346 *i* PKPbc **PKPbc 15 27 16.7 0.0**
comp=Z,10nm,0.6s
MOTA Moosalm 149.73 347 *i* PKPbc **PKPbc 15 27 16.6 -0.2**
comp=Z,11nm,1.0s
MYKA Terra Mystica 149.78 343 *i* PKPbc **PKPbc 15 27 16.4 -0.5**
comp=Z,7.0nm,0.6s
PDKS Podkum 149.91 341 *i* PKPbc **PKPbc 15 27 16.9 -0.2**
ABTA Abfaltersbach 149.97 345 *i* PKPbc **PKPbc 15 27 16.7 -0.6**
comp=Z,13nm,0.6s,SNR=6.2
DAVA Dameuls 150.03 349 *i* PKPbc **PKPbc 15 27 17.5 -0.1**
comp=Z,19nm,1.3s
CRNS Crni Vrh 150.11 342 *i* PKPbc **PKPbc 15 27 17.2 -0.4**
FETA Feichten 150.11 347 *i* PKPbc **PKPbc 15 27 17.8 +0.1**
comp=Z,11nm,1.0s
VISS Visnje 150.19 341 *i* PKPbc **PKPbc 15 27 17.7 0.0**
BOJS Bojanci 150.33 340 *i* PKPbc **PKPbc 15 27 18.3 +0.2**
JAVS Javornik 150.34 342 *i* PKPbc **PKPbc 15 27 17.9 -0.3**
FUORN Ofenpass-Fuorn 150.59 348 *e*PKPbc **PKPbc 15 27 19.4 +0.4**
SKO Skopje 150.74 329 *i* PKP **PKPbc 15 27 19.2 +0.1**
KRUS Krusevo 151.28 328 *i* PKP **PKPbc 15 27 19.9 -0.6**
OHR Ohrid 151.70 328 *i* PKP **PKPbc 15 27 20.9 -0.5**
ESDC Sonseca Array 157.88 12 PKPab **PKPab 15 27 58.6 -0.9**
comp=Z,0.3nm,0.4s,baz=343,slow=5.9,SNR=3.5
TOA0 Torodi Ar. Sit 175.16 181 *e*PKPdf **PKPdf 15 27 35.9 -0.5**
TORD Torodi Ar. Bea 175.16 181 PKP **PKPdf 15 27 35.7 -0.7**
comp=Z,1.2nm,0.8s,baz=298,slow=0.9,SNR=7.5
TORD PKPab **PKPab 15 29 16.3 +0.1**
comp=Z,0.9nm,0.6s,baz=179,slow=3.7,SNR=5.0

*ISCJB **08** 15:18:21.4±1.5, 63°.6S±0°.2×169°.4W±0°.5, h10km, mb4.0/3, MS3.6/8, Error ellipse: s-maj=35.5km s-min=20.8km az=147.8*
*IDC **08** 15:18:21.9±1.3, 63°.66S×169°.36W, h0km, mb4.1/3, mb1 4.0/4, mb1mx3.9/14, mbtmp3.9/4, ML3.2/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/17, Error ellipse: s-maj=61.0km s-min=27.0km az=40.0*
ISC 08 15:18:23.3±1.4, 63°.7S±0°.2×169°.3W±0°.2, h10km, n16, σ0§41/6, mb3.9/3, MS3.7/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.56**	**202**	Pn	**Pn**		**15 22 15.2**	**+0.1**
	0.1nm,0.3s,baz=56,slow=15,SNR=3.2							
VNDA				LR	LR		15 27 11.1	
	comp=Z,139nm,18.6s,baz=126,slow=32							
PMSA	**Palmer Station**	**40.70**	**141**	P	**P**		**15 26 03.4**	**+0.1**
	14nm,0.9s,baz=174,slow=10,SNR=4.0							
MAW	**Mawson**	**43.80**	**206**	LR			15 43 32.6	
	comp=Z,85nm,18.3s,baz=241,slow=34							
STKA	**Stephens Creek**	**44.02**	**292**	LR			15 40 32.7	
	comp=Z,142nm,21.8s,baz=204,slow=30							
DZM	**Mont Dzumac**	**44.61**	**327**	*e*LR			15 39 10.1	
	177nm,22.4s							
PPT2	**Papeete2**	**47.98**	**26**	*e*LR			15 40 34.7	
	74nm,24.0s							
PPT	**Papeete**	**48.00**	**26**	LR			15 43 12.5	
	comp=Z,31nm,18.4s,baz=226,slow=31							
ASAR	**Alice Springs**	**54.44**	**290**	P	**P**		**15 27 50.5**	**-0.1**
	1.2nm,1.0s,baz=154,slow=9.7,SNR=6.8							
ASAR				LR	LR		15 48 11.0	
	comp=Z,41nm,21.0s,baz=142,slow=33							
WRA	**Warramunga Arr**	**57.57**	**292**	P	**P**		**15 28 13.4**	**+0.4**
	0.8nm,0.9s,baz=155,slow=5.6,SNR=5.3							
PLCA	**Paso Flores**	**58.00**	**118**	LR	LR		15 47 38.6	
	comp=Z,58nm,18.3s,baz=301,slow=30							
TAOE	**Nuku Hiva Isla**	**58.55**	**34**	*e*LR	LR		15 45 30.9	
	94nm,26.5s							
CPUP	**Villa Florida**	**75.84**	**121**	LR	LR		15 59 07.8	
	comp=Z,63nm,20.0s,baz=201,slow=32							
LPAZ	**La Paz**	**80.44**	**107**	LR	LR		16 00 05.0	
	comp=Z,23nm,18.5s,baz=145,slow=31							
ATAH	**Atahualpa**	**84.08**	**94**	LR	LR		16 02 12.8	
	comp=Z,27nm,19.0s,baz=245,slow=31							
ILAR	**Eielson Array**	**129.18**	**12**	PKP	**PKPdf**		**15 37 29.9**	**0.0**
	0.1nm,0.5s,baz=174,slow=2.4,SNR=5.0							
BRTR	**Keskin Array B**	**152.44**	**221**	PKPbc	**PKPbc**		**15 38 18.3**	**-0.5**
	0.4nm,0.5s,baz=160,slow=4.6,SNR=4.6							

*DDA **08** 15:25:04.0, 40°.51N×43°.04E, h7km, Md2.7, Suspected Mining explosion.*
*ISK **08** 15:25:03.9, 40°.54N×43°.04E, h5km, MD2.8*
*ISCJB **08** 15:25:04.4±0.4, 40°.52N±0°.03×43°.02E±0°.04, h0km, Error ellipse: s-maj=4.2km s-min=3.5km az=27.1*
*CSEM **08** 15:25:04.4±0.3, 40°.50N×43°.03E, h2km, MD2.7, Error ellipse: s-maj=6.1km s-min=5.6km az=138.0, Suspected Mining explosion.*
*TIF **08** 15:25:04.2, 40°.52N×43°.07E, h14km±2km*
ISC 08 15:25:02.7±0.8, 40°.51N±0°.03×43°.06E±0°.03, h0km, n26, σ0§44/38, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DIGO	**Kars**	**0.26**	**110**	*i* P	**Pb**		**15 25 09.7**	**-0.7**
DIGO	**Kars**	**0.26**	**110**	P	**Pb**		**15 25 09.7**	**-0.7**
EAK	**Akyaka**	**0.46**	**66**	*i* P	**Pb**		**15 25 13.1**	**-0.6**
EAK	**Akyaka**	**0.46**	**66**	P	**Pb**		**15 25 13.1**	**-0.6**
SENK	**Senkaya-Erzuru**	**0.54**	**276**	*e*PG	**Pb**		**15 25 14.8**	**-0.4**
SENK				*e*SG	**Sb**		**15 25 23.9**	**+0.3**
SENK	**Senkaya-Erzuru**	**0.54**	**276**	*e*Pg	**Pb**		**15 25 14.8**	**-0.4**
SENK				*e*Sg	**Sb**		**15 25 23.9**	**+0.3**
EATA	**Eleskirt**	**0.78**	**214**	*i* P	**Pb**		**15 25 18.9**	**-0.4**
EATA				*i* S	**Sb**		**15 25 29.8**	**-0.6**
EATA	**Eleskirt**	**0.78**	**214**	P	**Pb**		**15 25 18.9**	**-0.4**
EATA				S	**Sb**		**15 25 29.8**	**-0.6**
AGRB	**Hanur-Agry**	**0.93**	**183**	*e*PG	**Pn**		**15 25 23.3**	**+0.1**
AGRB				*e*SG	**Sn**		**15 25 38.1**	**+0.7**
AGRB	**Hanur-Agry**	**0.93**	**183**	*e*Pg	**Pn**		**15 25 23.3**	**+0.1**
AGRB				*e*Sg	**Sn**		**15 25 38.1**	**+0.7**
AKH	**Akhalkalaki**	**0.96**	**20**	*e*PG	**Pn**		**15 25 23.4**	**-0.2**
AKH	**Akhalkalaki**	**0.96**	**20**	P	**Pb**		**15 25 22.7**	**+0.3**
AKH				S	**Sb**		**15 25 35.7**	**0.0**
AKH	**Akhalkalaki**	**0.96**	**20**	*e*Pg	**Pn**		**15 25 23.5**	**-0.2**
HOMI	**Horasan**	**0.99**	**243**	*i* P	**Pb**		**15 25 22.9**	**0.0**
DAGI	**Agillar**	**1.04**	**304**	*i* P	**Pb**		**15 25 23.7**	**0.0**
DAGI				*i* S	**Sb**		**15 25 37.8**	**-0.1**
ARTV	**Artvin**	**1.09**	**309**	*i* P	**Pn**		**15 25 25.2**	**-0.3**
ARTV				*i* S	**Sn**		**15 25 40.7**	**-0.7**
ARTV	**Artvin**	**1.09**	**309**	P	**Pn**		**15 25 25.2**	**-0.3**
ARTV				S	**Sn**		**15 25 40.7**	**-0.7**
TUTA	**Tutak**	**1.12**	**190**	*i* P	**Pn**		**15 25 25.8**	**-0.1**
TUTA	**Tutak**	**1.12**	**190**	P	**Pn**		**15 25 25.8**	**-0.1**
DBOC	**Borcka**	**1.35**	**309**	*i* P	**Pb**		**15 25 28.6**	**-0.3**
DBOC	**Borcka**	**1.35**	**309**	P	**Pb**		**15 25 28.6**	**-0.3**
ERZM	**Erzurum**	**1.43**	**246**	*i* P	**Pb**		**15 25 30.4**	**0.0**
ERZM	**Erzurum**	**1.43**	**246**	P	**Pb**		**15 25 30.4**	**0.0**
DGRG	**David-gareji**	**1.99**	**61**	P	**Pg**		**15 25 41.1**	**+0.3**
DGRG				S	**Sg**		**15 26 07.4**	**+0.7**
DGRG	**David-gareji**	**1.99**	**61**	P	**Pg**		**15 25 41.2**	**+0.3**
ONI	**Oni**	**2.10**	**8**	P	**Pb**		**15 25 41.8**	**0.0**
ONI				S	**Sb**		**15 26 08.7**	**+0.2**

*SJA **08** 15:46:15.4±0.3, 22°.78S×65°.74W, h281km±5km, ML3.1, MW2.7*
*ISCJB **08** 15:46:16.9±0.5, 22°.73S±0°.04×66°.21W±0°.05, h251km, mb3.6/1, Error ellipse: s-maj=7.3km s-min=5.3km az=141.4*
*IDC **08** 15:46:17.2±1.8, 22°.67S×66°.15W, h244km±23km, mb3.4/1, mb1 3.4/4, mb1mx3.1/33, mbtmp3.9/4, Error ellipse: s-maj=39.1km s-min=20.3km az=118.0*
*GUC **08** 15:46:18.0±0.3, 22°.61S×66°.55W, h266km±12km, ML4.1*
ISC 08 15:46:16.8±1.0, 22°.70S±0°.07×66°.20W±0°.06, h251km, n20, σ1§35/31, 6C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.82**	**51**	*e*P	**Pn**		**15 46 53.2**	**+1.5**
YJA				*e*S	**S**		**15 47 16.1**	**-2.8**
HJA	**Humahuaca**	**0.89**	**125**	*e*P	**Pn**		**15 46 52.9**	**+1.0**
HJA				IAML			15 46 54.1	
	comp=Z,14nm,0.3s							
HJA				*e*S	**S**		**15 47 20.4**	**+1.0**
LVC	**Limon Verde**	**2.51**	**271**	P	**Pn**		**15 47 05.8**	**+1.1**
	comp=Z,678nm,0.3s,baz=92,slow=11,SNR=131							
LVC				S	**S**		**15 47 42.5**	**+0.1**
	comp=Z,208nm,0.3s,baz=242,slow=20,SNR=9.6							
LVC	**Limon Verde**	**2.51**	**271**	*e*P	**Pn**		**15 47 05.9**	**+1.3**
LVC				*i* S	**S**		**15 47 42.0**	**-0.3**
PB09	**IPOC Station P**	**2.96**	**287**	⇑*i*P	**Pn**		**15 47 10.9**	**+1.7**
PB09				IAML			15 47 55.4	
	comp=E,218nm,0.2s							
PB06	**IPOC Station P**	**3.12**	**269**	⇓*i*P	**Pn**		**15 47 11.9**	**+1.1**
PB06				*i* S	**S**		**15 47 53.1**	**-0.4**
PB06				IAML			15 47 55.1	
	comp=E,240nm,0.2s							
PB01	**IPOC Station P**	**3.47**	**298**	⇑*i*P	**Pn**		**15 47 15.7**	**+0.9**
PB01				*i* S	**S**	

BBB				S	Sn	16 04 29.5	-4.8
SNB	**Saturna Island**	**3.65**	**88**	S	Sn	16 04 37.5	-1.9
WSLR	**Whistler**	**4.01**	**68**	P	Pn	16 04 02.1	+0.9
LLLB	**Lillooet**	**4.79**	**65**	P	Pn	16 04 12.6	+0.6

DDA ***08*** *16:06:47.9, 42°.24N×26°.35E, h16km, Md2.8*
CSEM ***08*** *16:06:48.8±0.1, 42°.22N×26°.20E, h2km, ML2.7, Error ellipse: s-maj=3.8km s-min=2.1km az=25.0*
SOF ***08*** *16:06:49.0, 42°.25N×26°.16E, h2km, MD2.9*
BEO ***08*** *16:06:49.1±1.0, 42°.35N×26°.22E, h0km, M2.9/8*
ISK ***08*** *16:06:50.7, 42°.09N×26°.38E, h4km, ML2.7*
ATH ***08*** *16:06:50.5, 42°.07N×26°.29E, h24km±1km, ML2.6/2, Error ellipse: s-maj=4.1km s-min=1.8km az=114.0*
THE ***08*** *16:06:52.3, 42°.00N×26°.29E, h0km±2km, ML2.8/6, Error ellipse: s-maj=2.3km s-min=0.9km az=7.0*

ISC 08 16:06:49.1±0.9, 42°.18N±0°.01×26°.27E±0°.02, h17km±8km, n128, σ1§49/169, 7C-10D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.37**	**39**	*i* Pg	**Pg**	**16 06 56.1**	**-0.7**
EDRB	**Edirne**	**0.49**	**133**	*e*PG	**Pg**	**16 06 58.7**	**-0.2**
EDRB	**Edirne**	**0.49**	**133**	P	**Pg**	**16 06 58.7**	**-0.2**
EDRB				S	**Sg**	**16 07 05.5**	**0.0**
EDRB	**Edirne**	**0.49**	**133**	P	**Pg**	**16 06 58.7**	**-0.2**
EDRB				S	**Sg**	**16 07 05.5**	**0.0**
DIM	**Dimitrovgrad**	**0.56**	**257**	*i* Pg	**Pb**	**16 06 59.2**	**-1.4**
KDZ	**Kurdzhali**	**0.83**	**230**	*i* Pg	**Pn**	**16 07 06.5**	**+0.4**
PHSR	**Pinarhisar**	**1.09**	**120**	*e*PG	**Pn**	**16 07 09.3**	**-0.3**
PHSR				*e*SG	**Sn**	**16 07 23.8**	**-0.5**
PHSR	**Pinarhisar**	**1.09**	**120**	*e*Pg	**Pn**	**16 07 09.3**	**-0.3**
PHSR				*e*Sg	**Sn**	**16 07 23.8**	**-0.5**
SZH	**Strazhica**	**1.11**	**347**	*i* Pg	**Pg**	**16 07 10.3**	**-0.4**
PLD	**Plovdiv**	**1.17**	**267**	⇓*i* Pg	**Pn**	**16 07 10.1**	**-0.6**
PLD				*e*Sg	**Sb**	**16 07 25.2**	**-0.5**
PLD	**Plovdiv**	**1.17**	**267**	Pg	**Pn**	**16 07 09.1**	**-1.6**
PLD	**Plovdiv**	**1.17**	**267**	⇓*i* Pg	**Pn**	**16 07 10.1**	**-0.6**
PLD				*e*Sg	**Sb**	**16 07 25.2**	**-0.5**
RDO	**Rodhopi**	**1.17**	**208**	P	**Pb**	**16 07 11.0**	**+0.1**
RDO				S	**Sn**	**16 07 26.4**	**+0.1**
RDO	**Rodhopi**	**1.17**	**208**	P	**Pb**	**16 07 11.1**	**+0.1**
RDO				S	**Sn**	**16 07 26.6**	**+0.3**
RDO				AML	AML	16 07 29.9	
	comp=N,978μm,0.5s						
RDO				AML	AML	16 07 30.4	
	comp=E,864μm,0.5s						
RDO	**Rodhopi**	**1.17**	**208**	P	**Pb**	**16 07 11.1**	**+0.1**
RDO				S	**Sn**	**16 07 26.4**	**+0.1**
RZN	**Rozhen**	**1.26**	**247**	*i* Pg	**Pb**	**16 07 12.6**	**0.0**
ALN	**Alexandroupoli**	**1.29**	**188**	*e*PN	**Pg**	**16 07 14.3**	**+0.2**
ALN				*e*SN	**Sg**	**16 07 31.8**	**+0.8**
ALN	**Alexandroupoli**	**1.29**	**188**	P	**Pb**	**16 07 13.4**	**+0.4**
ALN				S	**Sb**	**16 07 30.4**	**+1.1**
ALN	**Alexandroupoli**	**1.29**	**188**	P	**Pb**	**16 07 13.6**	**+0.6**
ALN				S	**Sb**	**16 07 29.6**	**+0.3**
ALN				AML	AML	16 07 34.0	
	comp=N,324μm,0.5s						
ALN				AML	AML	16 07 35.6	
	comp=E,380μm,0.4s						
ALN	**Alexandroupoli**	**1.29**	**188**	P	**Pb**	**16 07 13.6**	**+0.6**
ALN	**Alexandroupoli**	**1.29**	**188**	*e*Pn	**Pg**	**16 07 14.3**	**+0.2**
ALN				S	**Sb**	**16 07 30.4**	**+1.1**
ALN				*e*Sn	**Sg**	**16 07 31.8**	**+0.8**
PRD	**Provadia**	**1.32**	**39**	*i* P	**Pg**	**16 07 13.8**	**-0.7**
KESN	**Edirne-Kesan**	**1.39**	**167**	*i* P	**Pg**	**16 07 15.8**	**-0.2**
KESN				*i* S	**Sg**	**16 07 34.8**	**+0.7**
KESN	**Edirne-Kesan**	**1.39**	**167**	P	**Pg**	**16 07 15.8**	**-0.2**
KESN				S	**Sg**	**16 07 34.8**	**+0.7**
ENEZ	**Enez**	**1.45**	**183**	*e*PN	**Pg**	**16 07 16.9**	**-0.1**
ENEZ	**Enez**	**1.45**	**183**	*e*Pn	**Pg**	**16 07 16.9**	**-0.1**
ERIK	**Erikli-Kesan**	**1.52**	**173**	*e*PN	**Pg**	**16 07 17.9**	**-0.5**
ERIK				*e*SN	**Sg**	**16 07 37.7**	**-0.5**
ERIK	**Erikli-Kesan**	**1.52**	**173**	*e*Pn	**Pg**	**16 07 17.9**	**-0.5**
ERIK				*e*Sn	**Sg**	**16 07 37.7**	**-0.5**
CTYL	**Yalikoy Yolu**	**1.67**	**114**	*e*PN	**Pb**	**16 07 19.7**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.67**	**114**	*e*Pn	**Pb**	**16 07 19.7**	**+0.3**
SLVT	**Silivri**	**1.74**	**123**	*e*PN	**Pb**	**16 07 20.9**	**+0.3**
SLVT	**Silivri**	**1.74**	**123**	*e*Pn	**Pb**	**16 07 20.9**	**+0.3**
KAVA	**Kavala**	**1.77**	**229**	P	**Pb**	**16 07 21.5**	**+0.4**
KAVA				S	**Sb**	**16 07 44.5**	**+1.4**
KAVA	**Kavala**	**1.77**	**229**	P	**Pb**	**16 07 20.5**	**-0.7**
KAVA				S	**Sb**	**16 07 44.2**	**+1.1**
KAVA	**Kavala**	**1.77**	**229**	P	**Pb**	**16 07 20.5**	**-0.7**
KAVA				S	**Sb**	**16 07 44.2**	**+1.1**
GELI	**Tayfur-Gelibol**	**1.79**	**175**	*e*PN	**Pb**	**16 07 21.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.79**	**175**	*e*Pn	**Pb**	**16 07 21.6**	**+0.2**
SMTH	**Samothraki Isl**	**1.80**	**198**	P	**Pb**	**16 07 21.1**	**-0.5**
SMTH				S	**Sb**	**16 07 43.4**	**-0.5**
SMTH	**Samothraki Isl**	**1.80**	**198**	P	**Pb**	**16 07 21.8**	**+0.2**
SMTH				S	**Sn**	**16 07 42.7**	**+0.9**
SMTH	**Samothraki Isl**	**1.80**	**198**	P	**Pb**	**16 07 21.1**	**-0.5**
SMTH				S	**Sb**	**16 07 43.4**	**-0.5**
SBT3	**Marmara-Eregli**	**1.82**	**135**	*e*PN	**Pb**	**16 07 21.9**	**0.0**
SBT3	**Marmara-Eregli**	**1.82**	**135**	*e*Pn	**Pb**	**16 07 21.9**	**0.0**
LPK	**Lapseki**	**1.84**	**168**	*e*PN	**Pb**	**16 07 22.4**	**0.0**
LPK	**Lapseki**	**1.84**	**168**	*e*Pn	**Pb**	**16 07 22.4**	**0.0**
MRMT	**Marmara Adasi**	**1.87**	**147**	*e*PN	**Pb**	**16 07 22.8**	**0.0**
MRMT	**Marmara Adasi**	**1.87**	**147**	*e*Pn	**Pb**	**16 07 22.8**	**0.0**
ELBA	**Catalca**	**1.92**	**122**	*i* P	**Pb**	**16 07 23.5**	**-0.2**
ELBA				*i* S	**Sb**	**16 07 48.2**	**+0.7**
ELBA	**Catalca**	**1.92**	**122**	P	**Pb**	**16 07 23.5**	**-0.2**
ELBA				S	**Sb**	**16 07 48.2**	**+0.7**
CTKS	**Kestanelik-??a**	**1.92**	**119**	*e*PN	**Pb**	**16 07 23.3**	**-0.5**
CTKS	**Kestanelik-??a**	**1.92**	**119**	*e*Pn	**Pb**	**16 07 23.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.95**	**156**	*e*PN	**Pb**	**16 07 23.7**	**-0.5**
KRBG	**Karabiga-Canak**	**1.95**	**156**	*e*Pn	**Pb**	**16 07 23.7**	**-0.5**
NVR	**Nevrokopi**	**1.98**	**246**	P	**Pb**	**16 07 26.0**	**+1.2**
NVR				S	**Sg**	**16 07 51.6**	**-1.4**
NVR	**Nevrokopi**	**1.98**	**246**	P	**Pb**	**16 07 25.5**	**+0.7**
NVR	**Nevrokopi**	**1.98**	**246**	P	**Pb**	**16 07 25.5**	**+0.7**
NVR				S	**Sg**	**16 07 51.6**	**-1.4**
GADA	**Gvkgeada**	**2.01**	**188**	*e*PN	**Pb**	**16 07 25.3**	**+0.1**
GADA	**Gvkgeada**	**2.01**	**188**	*e*Pn	**Pb**	**16 07 25.3**	**+0.1**
SBT2	**Guzelce-Avcila**	**2.13**	**127**	*e*PN	**Pb**	**16 07 26.1**	**-1.1**
SBT2	**Guzelce-Avcila**	**2.13**	**127**	*e*Pn	**Pb**	**16 07 26.1**	**-1.1**
EDC	**Edincik**	**2.19**	**146**	*e*PN	**Pb**	**16 07 26.9**	**-1.4**
EDC	**Edincik**	**2.19**	**146**	*e*Pn	**Pb**	**16 07 26.9**	**-1.4**
MPEP	**Malo Peshtene**	**2.20**	**303**	P	**Pb**	**16 07 27.7**	**-0.8**
SRS	**Serrai**	**2.27**	**243**	P	**Pb**	**16 07 30.0**	**+0.3**
SRS				S	**Sb**	**16 07 59.2**	**+1.7**
SRS	**Serrai**	**2.27**	**243**	P	**Pb**	**16 07 30.0**	**+0.3**
SRS				S	**Sb**	**16 07 59.2**	**+1.7**
KLYT	**Kilyos**	**2.27**	**113**	*e*PN	**Pb**	**16 07 28.9**	**-0.9**
KLYT	**Kilyos**	**2.27**	**113**	*e*Pn	**Pb**	**16 07 28.9**	**-0.9**
VTS	**Vitosha**	**2.30**	**281**	⇓*i* Pn	**Pn**	**16 07 27.1**	**+0.6**
VTS				*e*Sn	**Sn**	**16 07 56.0**	**+1.4**
VTS	**Vitosha**	**2.30**	**281**	⇑*i* P	**Pn**	**16 07 26.0**	**-0.5**
VTS	**Vitosha**	**2.30**	**281**	S	**Sn**	**16 07 56.0**	**+1.4**
VTS	**Vitosha**	**2.30**	**281**	⇓*i* Pn	**Pn**	**16 07 27.1**	**+0.6**
VTS				*e*Sn	**Sn**	**16 07 56.0**	**+1.4**
BOZC	**Bozcaada**	**2.34**	**184**	*e*PN	**Pb**	**16 07 30.2**	**-0.6**
BOZC	**Bozcaada**	**2.34**	**184**	*e*Pn	**Pb**	**16 07 30.3**	**-0.6**
ISK	**Istanbul-Kandi**	**2.37**	**117**	P	**Pb**	**16 07 29.6**	**-1.8**
ISK				S	**Sb**	**16 08 00.9**	**+0.6**
ISK	**Istanbul-Kandi**	**2.37**	**117**	P	**Pb**	**16 07 29.6**	**-1.8**
ISK				S	**Sb**	**16 08 00.9**	**+0.6**
KAVV	**Kandilli-Istan**	**2.37**	**117**	*e*PN	**Pb**	**16 07 29.7**	**-1.7**
KAVV	**Kandilli-Istan**	**2.37**	**117**	*e*Pn	**Pb**	**16 07 29.7**	**-1.7**
BAYC	**CANAKKALE_Bayr**	**2.45**	**175**	*i* P	**Pn**	**16 07 30.0**	**+1.7**
BAYC				*i* S	**Sn**	**16 07 55.9**	**-1.9**
BAYC	**CANAKKALE_Bayr**	**2.45**	**175**	P	**Pn**	**16 07 30.0**	**+1.7**
BAYC				S	**Sn**	**16 07 55.9**	**-1.9**
KCTX	**Karacabey (Bur**	**2.48**	**140**	*e*PN	**Pb**	**16 07 31.4**	**-1.9**
KCTX	**Karacabey (Bur**	**2.48**	**140**	*e*Pn	**Pb**	**16 07 31.4**	**-1.9**
SBT5	**Esenkoy-Cinarc**	**2.50**	**127**	*e*PN	**Pb**	**16 07 31.6**	**-1.9**
SBT5	**Esenkoy-Cinarc**	**2.50**	**127**	*e*Pn	**Pb**	**16 07 31.7**	**-1.9**
BUY	**Buyukada**	**2.52**	**121**	*e*PN	**Pb**	**16 07 31.3**	**-2.6**
BUY	**Buyukada**	**2.52**	**121**	*e*Pn	**Pb**	**16 07 31.3**	**-2.6**
HUMR	**Humele**	**2.53**	**339**	S	**Sg**	**16 08 15.3**	**+4.9**
ARMT	**Armutlu**	**2.53**	**129**	*e*PN	**Pb**	**16 07 32.2**	**-2.0**
ARMT	**Armutlu**	**2.53**	**129**	*e*Pn	**Pb**	**16 07 32.2**	**-2.0**
BALY	**Balya**	**2.64**	**157**	*i* P	**Pn**	**16 07 32.6**	**+1.5**
BALY				*i* S	**Sg**	**16 08 12.8**	**-1.3**
BALY	**Balya**	**2.64**	**157**	P	**Pn**	**16 07 32.6**	**+1.5**
SILT	**Sile**	**2.73**	**111**	*e*PN	**Pb**	**16 07 35.3**	**-2.2**
SILT	**Sile**	**2.73**	**111**	*e*Pn	**Pb**	**16 07 35.3**	**-2.2**
TLB	**Topalu**	**2.73**	**28**	⇑*i* P	**Pg**	**16 07 40.3**	**-1.2**
TLB	**Topalu**	**2.73**	**28**	S	**Sg**	**16 08 22.1**	**+5.3**
TIRR	**Tirgusor**	**2.76**	**34**	⇓*i* P	**Pg**	**16 07 41.0**	**-1.1**
TIRR	**Tirgusor**	**2.76**	**34**	S	**Sg**	**16 08 22.8**	**+4.9**
HRT	**Hereke**	**2.89**	**117**	*e*PN	**Pb**	**16 07 37.2**	**-3.0**
HRT	**Hereke**	**2.89**	**117**	*e*Pn	**Pb**	**16 07 37.3**	**-3.0**
ZAPS	**Zavoj**	**2.89**	**293**	*e*Pn	**Pn**	**16 07 36.0**	**+1.5**
ZAPS				*e*Sn	**Sn**	**16 08 10.3**	**+1.4**
ISR	**Istrita**	**2.94**	**4**	⇓*i* P	**Pg**	**16 07 44.5**	**-1.1**
ISR	**Istrita**	**2.94**	**4**	S	**Sg**	**16 08 28.5**	**+4.8**
CFR	**Carcaliu**	**3.29**	**24**	⇓*i* P	**Pg**	**16 07 49.2**	**-2.9**
CFR	**Carcaliu**	**3.29**	**24**	S	**Sg**	**16 08 36.9**	**+2.2**
MLR	**Muntele Rosu**	**3.32**	**356**	⇑*i* P	**Pb**	**16 07 49.7**	**+2.1**
MLR	**Muntele Rosu**	**3.32**	**356**	S	**Sg**	**16 08 38.0**	**+2.3**
BARS	**Barje**	**3.35**	**282**	*e*Pn	**Pn**	**16 07 41.0**	**+0.2**
BARS				*e*Sn	**Sn**	**16 08 21.6**	**+1.4**
BARS	**Barje**	**3.35**	**282**	*e*Pn	**Pn**	**16 07 41.0**	**+0.2**
BARS				*e*Sn	**Sn**	**16 08 21.6**	**+1.4**
VOIR		**3.37**	**345**	⇓*i* P	**Pb**	**16 07 49.3**	**+0.8**
VOIR		**3.37**	**345**	S	**Sg**	**16 08 38.2**	**+0.8**
ZAGS	**Zajecar**	**3.38**	**300**	*e*Pn	**Pn**	**16 07 39.8**	**-1.3**
ZAGS	**Zajecar**	**3.38**	**300**	*e*Pn	**Pn**	**16 07 39.8**	**-1.3**
ARR	**Arges**	**3.40**	**340**	S	**Sg**	**16 08 36.9**	**-1.4**
TLCR		**3.53**	**31**	S	**Sg**	**16 08 41.9**	**-0.5**
BOVS	**Bovan**	**3.65**	**295**	*e*Pn	**Pn**	**16 07 46.2**	**+1.3**
BOVS				*e*Sn	**Sn**	**16 08 26.3**	**-1.3**
BOVS	**Bovan**	**3.65**	**295**	*e*Pn	**Pn**	**16 07 46.2**	**+1.3**
BOVS				*e*Sn	**Sn**	**16 08 26.3**	**-1.3**
VRI	**Vrincioaia**	**3.70**	**5**	⇑*i* P	**Pb**	**16 07 54.8**	**+0.8**
VRI	**Vrincioaia**	**3.70**	**5**	S	**Sg**	**16 08 46.9**	**-1.0**
LOT	**Lotru**	**3.73**	**332**	⇓*i* P	**Pb**	**16 07 53.0**	**-1.7**
LOT	**Lotru**	**3.73**	**332**	S	**Sg**	**16 08 44.0**	**-5.0**
SELS	**Selova**	**3.94**	**287**	*e*Pn	**Pn**	**16 07 49.0**	**+0.2**
SELS	**Selova**	**3.94**	**287**	*e*Pn	**Pn**	**16 07 49.0**	**+0.2**
MDVR	**Moldovita**	**4.21**	**310**	⇑*i* P	**Pn**	**16 07 55.9**	**+3.3**
MDVR	**Moldovita**	**4.21**	**310**	S	**Sb**	**16 08 50.0**	**-3.4**
GRUS	**Gruza**	**4.41**	**295**	⇑*i* Pn	**Pn**	**16 07 56.4**	**+1.0**
GRUS	**Gruza**	**4.41**	**295**	⇑*i* Pn	**Pn**	**16 07 56.4**	**+1.0**
BZS	**Buzias**	**4.80**	**317**	⇓*i* P	Pn	16 08 05.5	+4.8
BZS	**Buzias**	**4.80**	**317**	S	**Sb**	**16 09 06.5**	**-3.9**
DIVS	**Divibare**	**4.98**	**295**	*e*Pn	**Pn**	**16 08 03.0**	**-0.2**
DIVS	**Divibare**	**4.98**	**295**	*e*Pn	**Pn**	**16 08 03.0**	**-0.2**

JMA 08 16:08:01.7, 36°.69N×140°.63E, h6km±1km, M0.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.09**	**212**	P	Pg	16 08 03.8	0.0
JHO				S	Sg	16 08 05.1	-0.1

NIED ***08*** *16:08:00, 36°.00N×140°.20E, h59km, Mw4.5 Best double couple: M0=5.52000×10^15 NP1:φs=173.00000°, δ23.00000°, λ107.00000°. NP2:φs=335.00000°, δ68.00000°, λ83.00000°.*
BJI ***08*** *16:08:43.7, 35°.88N×140°.36E, h65km, mb4.6/48, mB4.8/32, Ms4.7/13, Ms7 4.4/14*
MOS ***08*** *16:08:44.8±1.2, 35°.93N×140°.34E, h60km, mb4.6/31, Error ellipse: s-maj=9.0km s-min=6.3km az=104.6*
ISCJB ***08*** *16:08:45.8±0.4, 35°.92N±0°.03×140°.29E±0°.04, h71km±2km, mb4.4/51, Error ellipse: s-maj=5.5km s-min=4.5km az=179.7*
NEIC ***08*** *16:08:46.8±0.7, 35°.89N×140°.22E, h65km±6km, mb4.7/15, Error ellipse: s-maj=8.2km s-min=6.5km az=104.0*
NEIC Felt at Chiba, Musashino, Tachikawa, Tama and Yachimata. Recorded [2 JMA] in Chiba, Ibaraki and Tochigi.
JMA ***08*** *16:08:48.0±0.1, 35°.97N×140°.15E, h60km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs=351.00000°, δ84.00000°, λ86.00000°. NP2: φs=207.00000°, δ7.00000°, λ126.00000°. Principal axes: T Plg51.0000°, Azm256.0000°; N Plg4.0000°, Azm351.0000°; P Plg39.0000°, Azm85.0000°;*
JMA Felt II J1.
IDC ***08*** *16:08:49.1±1.7, 35°.87N×140°.07E, h79km±14km, mb4.0/23, mb1 4.1/26, mb1mx4.0/35, mbtmp4.3/26, MS3.3/11, Ms1 3.3/11, ms1mx3.1/39 Error ellipse: s-maj=15.2km s-min=11.0km az=88.0*

ISC 08 16:08:46.9±0.5, 35°.92N±0°.04×140°.25E±0°.04, h61km±4km, n153, σ2§16/184, mb4.4/51, 8C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**351**	⇑P	**Pn**	**16 08 58.0**	**+0.8**
JYT				S	**Sn**	**16 09 05.4**	**+0.7**
I30JP	**ISUMI INFRASON**	**0.61**	**175**	P	**Pn**	**16 09 03.1**	**+3.0**
	baz=358,slow=11,SNR=0.7						
I30JP				S	**Sn**	**16 09 16.5**	**+6.8**
	baz=33,slow=423						
JAG	**Ashikaga**	**0.82**	**308**	⇓P	**Pn**	**16 09 02.8**	**+0.1**
JAG				S	**Sn**	**16 09 14.0**	**-0.3**
JRY	**Ryogami san**	**1.10**	**276**	⇓P	**Pn**	**16 09 06.7**	**+0.4**
JOD2	**Odawara 2**	**1.15**	**236**	⇓P	**Pn**	**16 09 07.4**	**+0.5**
JOD2				S	**Sn**	**16 09 21.3**	**-0.6**
JKT	**Katashina**	**1.17**	**317**	P	**Pn**	**16 09 07.4**	**+0.1**
JKT				S	**Sn**	**16 09 22.5**	**0.0**
JIM2	**Oshima 3**	**1.37**	**210**	P	**Pn**	**16 09 09.7**	**-0.2**
MJAR	**Matsushiro Arr**	**1.77**	**291**	P	**Pn**	**16 09 15.7**	**+0.5**
	84nm,0.3s,baz=96,slow=8.8,SNR=1578						
MJAR				S	**Sn**	**16 09 36.6**	**-0.1**
	61nm,0.3s,baz=136,slow=14,SNR=10						
MJAR				LR	LR	16 10 06.2	
	comp=Z,596nm,19.8s,baz=130,slow=48						
MAJO	**Matsushiro**	**1.77**	**291**	*d i* P	**Pn**	**16 09 16.2**	**+1.0**
MAJO	**Matsushiro**	**1.77**	**291**	*e*Pn	**Pn**	**16 09 15.7**	**+0.5**
MAJO				*e*Sn	**Sn**	**16 09 37.8**	**+1.1**
MAT	**Matsushiro**	**1.77**	**291**	P	**Pn**	**16 09 15.4**	**+0.2**
MAT				*e*S	**Sn**	**16 09 37.3**	**+0.6**
MJB9	**Matsu-Tunnel**	**1.77**	**291**	*e*Pn	**Pn**	**16 09 15.6**	**+0.4**
INU	**Inuyama**	**2.69**	**259**	*e*Pn	**Pn**	**16 09 28.6**	**+0.9**
JHJ	**Hachijo jima 2**	**2.82**	**188**	P	**Pn**	**16 09 30.6**	**+1.1**
	210nm,0.3s,baz=328,slow=2.9,SNR=82						
JHJ				S	**Sn**	**16 10 05.3**	**+3.1**
	264nm,0.3s,baz=238,slow=23,SNR=9.7						
JHJ				LR	LR	16 10 53.8	
	comp=Z,370nm,20.1s,baz=58,slow=45						
JHJ2	**Mitsune**	**2.82**	**187**	*e*Pn	**Pn**	**16 09 30.3**	**+0.8**
JHJ2				*e*Sn	**Sn**	**16 10 02.8**	**+0.5**
ERM	**Erimo**	**6.50**	**19**	*c i* P	**Pn**	**16 10 19.0**	**-0.8**
ERM				pmax	pmax		
	comp=Z,27nm,0.7s						
ERM	**Erimo**	**6.50**	**19**	*e*Pn	**Pn**	**16 10 18.8**	**-1.0**
ERM				*e*Sn	**Sn**	**16 11 29.0**	**-3.4**
JNU	**Nakatsue**	**8.22**	**253**	P	**Pn**	**16 10 45.0**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=28,slow=7.1,SNR=17						
JNU				LR	LR	16 14 14.6	
	comp=Z,350nm,18.9s,baz=57,slow=40						
JNU	**Nakatsue**	**8.22**	**253**	*e*Pn	**Pn**	**16 10 42.1**	**-1.4**
ASAJ	**Asahikawa**	**8.39**	**12**	P	**Pn**	**16 10 44.1**	**-1.5**
	comp=Z,6.9nm,0.3s,baz=223,slow=12,SNR=91						
ASAJ				S	**Sn**	**16 12 14.6**	**-4.2**
	comp=Z,1.3nm,0.3s,baz=303,slow=17,SNR=3.1						
ASAJ	**Asahikawa**	**8.39**	**12**	*e*Pn	**Pn**	**16 10 43.1**	**-2.5**
ASAJ				S	**Sn**	**16 12 14.6**	**-4.2**
CBIJ	**Chichi jima**	**8.95**	**169**	*e*Pn	**Pn**	**16 10 51.0**	**-2.3**
CBIJ				*e*Sn	**Sn**	**16 12 26.4**	**-6.2**
SHO	**Shikotan**	**9.41**	**30**	*i* P	**Pn**	**16 10 57.7**	**-1.9**
SHO				*i* S	**Sn**	**16 12 37.1**	**-6.8**
SHO				pmax	pmax		
	comp=Z,20nm,0.4s						
SHO				pmax	pmax		
	comp=E,35nm,0.6s						
SHO				pmax	pmax		
	comp=N,6.0nm,0.2s						
SHO				smax	smax		
	comp=E,39nm,0.3s						
SHO				smax	smax		
	comp=N,11nm,0.4s						
VLA	**Vladivostok**	**9.67**	**321**	⇑*i* P	**Pn**	**16 11 07.2**	**+4.1**
VLA				*i* S	**Sn**	**16 12 57.8**	**+7.7**
VLA				pmax	pmax		
	comp=Z,34nm,1.2s						
KSRS	**Korea Array**	**10.02**	**282**	P	**Pn**	**16 11 11.5**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=96,slow=14,SNR=33						
KSRS				LR	LR	16 14 51.8	
	comp=Z,141nm,19.9s,baz=110,slow=37						
KS01	**Wonju Array Si**	**10.05**	**283**	*e*Pn	**Pn**	**16 11 10.6**	**+2.2**
KS15	**Wonju Array Si**	**10.05**	**282**	*e*Pn	**Pn**	**16 11 10.7**	**+2.3**
KSAR	**Wonju Array Be**	**10.05**	**282**	P	**Pn**	**16 11 11.5**	**+3.1**
KSAR	**Wonju Array Be**	**10.05**	**282**	P	**Pn**	**16 11 11.5**	**+3.1**
USRK	**Ussuriysk Ar.**	**10.41**	**325**	P	**Pn**	**16 11 16.0**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=14,SNR=8.7						
USRK				LR	LR	16 15 11.2	
	comp=Z,59nm,19.0s,baz=174,slow=37						
KUR	**Kuril'sk**	**10.96**	**30**	*e*P	**Pn**	**16 11 20.3**	**-0.4**
KUR				*i* S	**Sn**	**16 13 16.6**	**-5.0**
KUR				pmax	pmax		
	comp=Z,41nm,0.6s						
KUR				pmax	pmax		
	comp=E,14nm,0.5s						
KUR				pmax	pmax		
	comp=N,9.0nm,0.3s						
KUR				smax	smax		
	comp=E,35nm,0.6s						
KUR				smax	smax		
	comp=N,21nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.19**	**9**	*e*P	**Pn**	**16 11 23.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**11.19**	**9**	*e*Pn	**Pn**	**16 11 22.1**	**-1.7**
MDJ	**Mudanjiang**	**11.90**	**320**	P	**Pn**	**16 11 31.1**	**-2.5**
MDJ				S	**Sn**	**16 13 41.8**	**-2.8**
MDJ				ScP	**ScP**	**16 20 42.0**	**-1.7**
MDJ				PcS	**PcS**	**16 20 50.0**	**-0.1**
MDJ				pmax	pmax		
	comp=N,4.0nm,1.3s						
MDJ				pmax	pmax		
	comp=N,41nm,4.0s						
CN2	**Changchun**	**13.82**	**309**	*e*P	**Pn**	**16 12 01.2**	**+1.5**
NJ2	**Nanjing**	**18.15**	**264**	*e*P	**P**	**16 12 53.9**	**-0.3**
NJ2				pmax	pmax		
	comp=N,15nm,0.5s						
SKR	**Severo-Kuril's**	**18.68**	**33**	*e*P	**Pn**	**16 13 01.2**	**+0.4**
SKR				pmax	pmax		
	comp=Z,400nm,6.5s						
BJI	**Beijing**	**19.40**	**289**	P	**P**	**16 13 07.9**	**0.0**
BJI				S	**Sn**	**16 16 48.3**	**+1.8**
BJI				pmax	pmax		
	comp=Z,16nm,0.9s						
PETK	**Petropavlovsk-**	**21.12**	**30**	P	**P**	**16 13 33.1**	**+6.7**
	comp=Z,3.1nm,0.8s,baz=255,slow=5.5,SNR=3.1						
PETK				LR	LR	16 20 58.3	
	comp=Z,82nm,21.0s,baz=224,slow=34						
PETK	**Petropavlovsk-**	**21.12**	**30**	P	**P**	**16 13 33.1**	**+6.7**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK				MLR	MLR		
	comp=Z,82nm,21.0s						
TPUB	**Ta-pu**	**21.14**	**239**	*e*P	**P**	**16 13 25.3**	**-1.6**
WHN	**Wuhan**	**22.29**	**264**	⇑P	**P**	**16 13 38.6**	**-0.5**
WHN				LR	LR		
	comp=Z,480nm,12.8s						
HHC	**Hu-ho-hao-te**	**22.97**	**291**	*e*P	**P**	**16 13 45.6**	**-0.7**
HHC				S	**S**	**16 17 45.0**	**-6.9**
HHC				sS	Sn	16 18 13.4	+1.3
HHC				ScP	**ScP**	**16 21 05.7**	**-1.1**
HHC				PcS	**PcS**	**16 21 14.0**	**+0.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,73nm,6.7s						
HHC				LR	LR		
	comp=Z,1μm,13.1s

LSA Lhasa 41.38 276 *eP* **P 16 16 27.7 0.0**
comp=Z,18nm,1.2s
ZAA0 Zalesovo Array 41.99 313 *eP* **P 16 16 31.2 -0.5**
ZALV Zalesovo Beam 41.99 313 P **P 16 16 31.5 -0.2**
comp=Z,8.5nm,0.9s,baz=93,slow=6.2,SNR=26
ZALV PcP **PcP 16 18 25.5 -0.3**
comp=Z,1.1nm,0.6s,baz=69,slow=3.2,SNR=3.6
NVS Novosibirsk 42.95 315 *eP* **P 16 16 39.3 -0.2**
NRIK Noril'sk 43.90 336 LR LR 16 38 08.5
comp=Z,32nm,18.5s,baz=112,slow=40
MK01 Makanchi Array 43.92 303 *eP* **P 16 16 46.4 -1.2**
MKAR Makanchi Array 43.93 303 P **P 16 16 47.2 -0.4**
comp=Z,6.0nm,0.9s,baz=87,slow=9.1,SNR=19
MKAR LR LR 16 35 52.3
comp=Z,24nm,18.9s,baz=92,slow=37
MKAR Makanchi Array 43.93 303 *eP* **P 16 16 47.7 +0.1**
MKAR pmax pmax
comp=Z,69nm,1.1s
MKAR Makanchi Array 43.93 303 *eP* **P 16 16 47.7 +0.1**
comp=Z,68nm,1.1s
TAPN Taplejung 45.09 274 *eP* **P 16 16 57.3 -0.1**
comp=Z,5.7nm,0.4s
ODAN Odare 45.55 274 *eP* **P 16 16 59.8 -1.2**
comp=Z,5.3nm,0.5s
KURK Kurchatov 45.89 309 ⇓ *iP* **P 16 17 02.9 -0.2**
KURK *i* *PP **pP 16 17 17.7 -1.0**
KURK pmax pmax
comp=Z,79nm,0.8s
KURK Kurchatov 45.89 309 *eP* **P 16 17 02.9 -0.2**
RAMN Ramite 46.15 275 *eP* **P 16 17 05.2 -0.6**
comp=Z,31nm,0.7s
JIRN Jiri 46.19 276 *eP* **P 16 17 06.2 0.0**
comp=Z,207nm,0.8s
GUN Gumba 46.34 276 *eP* **P 16 17 07.6 +0.3**
comp=Z,19nm,0.7s
PKI Pulchoki 46.86 276 *eP* **P 16 17 11.8 +0.4**
PKIN Phulchoki 46.87 276 *eP* **P 16 17 10.5 -0.8**
comp=Z,9.0nm,0.7s
KKN Kakani 46.87 276 *eP* **P 16 17 11.0 -0.3**
comp=Z,15nm,0.8s
DMN Daman 47.09 276 *eP* **P 16 17 13.2 +0.1**
comp=Z,10nm,0.9s
GKN Gorkha 47.30 277 *eP* **P 16 17 14.1 -0.5**
comp=Z,34nm,0.9s
DANN Dangsing 47.87 278 *eP* **P 16 17 19.5 +0.3**
comp=Z,5.4nm,0.9s
KOLN Koldanda 48.23 277 *eP* **P 16 17 21.8 -0.1**
comp=Z,8.4nm,0.6s
KDAK Kodiak Island 48.55 41 P **P 16 17 24.9 +1.2**
comp=Z,4.5nm,0.6s,baz=299,slow=3.5,SNR=11
PYUN Piuthan 48.59 278 *eP* **P 16 17 24.6 0.0**
comp=Z,57nm,0.9s
MTN Manton Dam 49.26 192 *eP* **P 16 17 28.5 -0.9**
comp=Z,28nm,1.3s
KSH Kashi 50.01 295 *eP* **P 16 17 36.5 +1.3**
KSH pP sP 16 17 55.2 -2.9
KSH sP pP 16 18 05.2 +14
KSH PcP **PcP 16 18 57.2 +2.8**
KSH PP **PP 16 19 34.0 +3.5**
KSH PcS **PcS 16 22 49.3 -2.2**
KSH S **S 16 24 40.3 -1.4**
KSH sS sS 16 25 13.9 +5.4
KSH ScS **ScS 16 27 17.8 -3.3**
KSH SS **SS 16 28 12.1 -2.9**
KSH pmax pmax
comp=Z,5.0nm,0.4s
KSH LR LR
comp=Z,140nm,5.9s
KSH LR LR
comp=Z,130nm,5.4s
KSH LR LR
comp=Z,130nm,4.8s
AAK Ala-Archa 50.20 299 ⇓ *eP* **P 16 17 37.2 +0.5**
AAK pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 50.20 299 *eP* **P 16 17 36.7 +0.1**
comp=Z,4.3nm,1.0s
BRVK Borovoye 50.70 313 *c iP* **P 16 17 42.5 +2.5**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 50.70 313 *eP* **P 16 17 40.1 +0.1**
comp=Z,5.9nm,0.9s
IL1 Eielson Array 50.94 32 *eP* **P 16 17 42.0 +0.3**
ILAR Eielson Array 50.94 32 P **P 16 17 42.6 +1.0**
comp=Z,1.0nm,0.8s,baz=274,slow=6.5,SNR=4.0
ILAR Eielson Array 50.94 32 P **P 16 17 42.6 +1.0**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILB Eielson Array 50.94 32 *eP* **P 16 17 41.9 +0.2**
KKAR Karatay Array 52.88 300 *eP* **P 16 17 56.2 -0.3**
KKAR Karatay Array 52.88 300 *eP* **P 16 17 56.2 -0.3**
comp=Z,43nm,0.9s
KIP Kipapa 55.23 87 P **P 16 18 16.7 +2.9**
INK Inuvik 55.80 27 P **P 16 18 19.2 +2.0**
comp=Z,1.7nm,0.7s,baz=322,slow=6.5,SNR=6.8
WRAB Tennant Creek 55.82 187 ⇓ *iP* **P 16 18 17.9 0.0**
WRAB *i* *SP **sP 16 18 40.3 -0.6**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 55.82 187 *eP* **P 16 18 17.1 -0.8**
comp=Z,27nm,1.6s
WB2 Warramunga Arr 55.83 187 *eP* **P 16 18 16.9 -1.1**
WRA Warramunga Arr 55.84 187 P **P 16 18 17.4 -0.6**
comp=Z,5.1nm,0.4s,baz=1.8,slow=7.5,SNR=193
ARU Arti 56.58 319 *d iP* **P 16 18 22.8 -0.2**
ARU 16 19 14.6
ARU 16 20 28.9
ARU S **S 16 26 12.7 +2.7**
ARU SS **SS 16 30 01.2 +3.5**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 56.58 319 *eP* **P 16 18 22.4 -0.5**
comp=Z,6.6nm,0.6s
ABKAR Akbulak array 57.95 310 *eP* **P 16 18 30.8 -2.0**
AS01 Alice Springs 59.56 187 *eP* **P 16 18 43.5 -0.6**
AS31 Alice Springs 59.56 187 *eP* **P 16 18 43.4 -0.8**
comp=Z,1.3nm,0.6s
ASAR Alice Springs 59.56 187 P **P 16 18 43.8 -0.4**
comp=Z,0.9nm,0.5s,baz=17,slow=12,SNR=46
ASAR PcP **PcP 16 19 30.6 -0.3**
comp=Z,0.4nm,0.4s,baz=358,slow=3.8,SNR=2.5
DLBC Dease Lake 60.08 37 LR LR 16 46 08.8
comp=Z,36nm,19.0s,baz=287,slow=37
GEYT Alibeck 63.56 299 P **P 16 19 11.3 +0.2**
comp=Z,2.7nm,0.7s,baz=48,slow=4.4,SNR=7.5
KLMR Klimovskoe 64.20 328 *eP* **P 16 19 13.0 -1.8**
KLMR pmax pmax
comp=Z,16nm,1.5s
ARCES ARCESS Array B 64.71 339 P **P 16 19 18.1 0.0**
comp=Z,3.7nm,0.8s,baz=39,slow=7.8,SNR=4.1
STKA Stephens Creek 67.45 179 P **P 16 19 36.5 +0.5**
comp=Z,3.8nm,0.6s,baz=345,slow=8.1,SNR=8.2
OBN Obninsk 68.43 323 ⇓ *iP* **P 16 19 41.8 -0.2**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,52nm,17.0s
FINES FINESS Array B 69.36 332 P **P 16 19 47.5 -0.1**
comp=Z,2.4nm,0.7s,baz=82,slow=6.9,SNR=10.0
KBZ Khabaz 70.92 310 P **P 16 19 57.9 +0.4**
comp=Z,4.8nm,0.9s,baz=127,slow=2.2,SNR=9.0
KIV Kislovodsk 70.93 311 *c iP* **P 16 19 59.0 +1.3**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,22nm,14.0s
GNI Garni 71.62 306 ⇓ P **P 16 20 03.0 +0.9**
AKASG Malin Array Be 74.60 322 P **P 16 20 18.5 -0.8**
comp=Z,2.8nm,0.6s,baz=50,slow=5.9,SNR=9.8
KIEV Kiev 74.62 322 ⇑ *iP* **P 16 20 19.2 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 74.62 322 *eP* **P 16 20 18.7 -0.6**
comp=Z,6.3nm,0.8s
NB2 NORSAR Subarra 74.85 337 P **P 16 20 20.2 -0.3**
comp=Z,2.0nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 74.85 337 P **P 16 20 20.4 -0.2**
comp=Z,1.9nm,0.6s,baz=54,slow=7.7,SNR=6.4
BUR08 Bucovina Ar. S 78.59 321 *eP* **P 16 20 41.9 -0.1**
BRTR Keskin Array B 78.89 311 P **P 16 20 44.0 +0.2**
comp=Z,1.4nm,0.6s,baz=130,slow=4.0,SNR=8.9
BRTR Keskin Array B 78.89 311 P **P 16 20 44.0 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 79.12 45 P **P 16 20 45.5 +0.4**
comp=Z,0.3nm,0.4s,baz=317,slow=3.0,SNR=3.5
BR231 Keskin MP Arra 79.34 312 *eP* **P 16 20 44.4 -1.8**
RAYN Ar Rayn 80.21 292 *eP* **P 16 20 50.5 -0.6**
comp=Z,3.2nm,0.8s
RAR Rarotonga 80.28 125 LR LR 16 50 20.0
comp=Z,35nm,19.4s,baz=220,slow=31
DPC Dobruska-Polom 80.90 327 *eP* **P 16 20 54.0 -0.3**
DPC Dobruska-Polom 80.90 327 *eP* **P 16 20 54.0 -0.3**
KHC Kasperske Hory 83.00 328 *eP* **P 16 21 05.5 +0.1**
KHC Kasperske Hory 83.00 328 *eP* **P 16 21 05.5 +0.1**
GERES GERESS Array B 83.16 328 P **P 16 21 06.0 -0.3**
comp=Z,0.3nm,0.2s,baz=76,slow=4.1,SNR=2.9
TXAR Lajitas Array 91.55 52 P **P 16 21 47.8 +0.5**
comp=Z,0.2nm,0.6s,baz=291,slow=2.5,SNR=3.5
TORD Torodi Ar. Bea 117.44 313 PKP **PKPdf 16 27 25.7 -0.5**
comp=Z,0.2nm,0.5s,baz=67,slow=0.2,SNR=3.4
LPAZ La Paz 148.06 60 PKPbc **PKPbc 16 28 27.8 +1.0**
comp=Z,0.7nm,0.5s,baz=292,slow=5.4,SNR=4.9

MAN 08 16:31:13,8°.65N×126°.15E,h11km,mb4.0,ML2.8,MS2.4,
1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.51**	**155**	⇓ *iP*		Pg	16 31 22.6	-0.3
BIPH				*i* S		Sg	16 31 29.5	-0.1
SCPH	**Surigao**	**1.30**	**330**	⇑ *eP*		Pn	16 31 36.5	-0.6
BUKP	**Musuan**	**1.32**	**235**	*eP*		Pn	16 31 36.1	-1.3
BUKP				*e*S		Sg	16 31 55.8	+0.3
MATI	**Mati**	**1.69**	**176**	*eP*		Pn	16 31 42.2	-0.3
MATI				*e*S		Sn	16 32 04.5	+0.2

MAN 08 16:32:30,8°.71N×126°.10E,h12km,mb4.0,ML2.8,MS2.5,
2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**154**	⇓ *eP*		Pg	16 32 41.0	-0.5
BIPH				*e*S		Sg	16 32 47.4	-1.8
SCPH	**Surigao**	**1.22**	**331**	⇓ *eP*		Pn	16 32 52.9	-0.1
BUKP	**Musuan**	**1.32**	**231**	*eP*		Pn	16 32 54.4	+0.1
BUKP				*e*S		Sg	16 33 13.1	+0.6

NIED ***08*** *16:33:00,39°.90N×143°.50E,h17km,Mw4.2 Best double couple: M₀2.28000×10¹⁵ NP1:φ₁193.00000°,δ23.00000°, λ72.00000°. NP2:φ₂32.00000°,δ68.00000°,λ97.00000°.*
ISCJB ***08*** *16:33:55.7±0.4,39°.80N±0°.04×143°.53E±0°.05,h6km, mb4.1/28,MS3.5/9,Error ellipse: s-maj=6.9km s-min=3.7km az=41.4*
IDC ***08*** *16:33:56.6±0.8,39°.77N×143°.34E,h0km,mb4.0/18, mb1 4.2/21,mb1mx4.0/51,mbtmp4.1/21,ML3.3/3,MS3.4/15, Ms1 3.4/15,ms1mx3.2/37,Error ellipse: s-maj=21.3km s-min=14.9km az=108.0*
JMA ***08*** *16:33:57.5±0.3,39°.87N×143°.48E,h22km,M4.2*
MOS ***08*** *16:33:59.6±0.9,39°.84N×143°.50E,h33km,mb4.4/18,Error ellipse: s-maj=10.1km s-min=6.4km az=83.0*
NEIC ***08*** *16:34:01.7±0.7,39°.85N×143°.42E,h35km,mb4.4/5,Error ellipse: s-maj=16.4km s-min=7.8km az=125.0*

ISC 08 16:33:57.6±0.6,39°.89N±0°.05×143°.39E±0°.05,h6km,n82,
σ2°.02/86,mb4.2/28,MS3.6/9,4C-6D,Off east coast of
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.17**	**273**	P		**Pg**	**16 34 19.7**	**-0.4**
JTH				S		**Sn**	**16 34 37.1**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.25**	**256**	P		**Pg**	**16 34 20.9**	**-0.6**
MIYJ				S		**Sg**	**16 34 37.5**	**-0.2**
JANG	**Nango**	**1.51**	**289**	P		**Pn**	**16 34 24.8**	**-0.4**
JOM	**Ohasama**	**1.67**	**256**	P		**Pn**	**16 34 27.7**	**+0.3**
JMK	**Ichinoseki**	**1.92**	**241**	P		**Pn**	**16 34 30.5**	**-0.3**
JTM	**Tenmabayashi**	**1.98**	**297**	P		**Pn**	**16 34 32.3**	**+0.6**
ERM	**Erimo**	**2.13**	**355**	*d iP*		**Pb**	**16 34 36.0**	**-0.5**
ERM	**Erimo**	**2.13**	**355**	*e*Pn		**Pn**	**16 34 33.8**	**+0.1**
ERM				*e*Sn		**Sb**	**16 35 03.3**	**+0.2**
JIO	**Ouri**	**2.14**	**228**	P		**Pn**	**16 34 32.6**	**-1.2**
JOT	**Ohata**	**2.32**	**311**	P		**Pn**	**16 34 37.4**	**+1.1**
JNBK	**Urakawa-nobuka**	**2.43**	**349**	P		**Pb**	**16 34 39.9**	**-1.8**
ASAJ	**Asahikawa**	**4.26**	**352**	Pn		**Pn**	**16 35 05.2**	**+2.2**
	1.8nm,0.3s,baz=200,slow=15,SNR=49							
ASAJ				Sn		**Sn**	**16 35 54.0**	**+1.0**
	4.1nm,0.3s,baz=157,slow=31,SNR=6.1							
ASAJ	**Asahikawa**	**4.26**	**352**	*e*Pn		**Pn**	**16 35 05.0**	**+2.0**
ASAJ				*e*Sn		**Sn**	**16 35 53.5**	**+0.5**
ASAJ				Sn		**Sn**	**16 35 54.0**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**4.53**	**23**	*eP*		**Pn**	**16 35 06.8**	**+0.1**
YUK				*e*S		**Sn**	**16 35 56.4**	**-3.2**
YUK				pmax		pmax		
	comp=E,46nm,0.4s							
YUK				pmax		pmax		
	comp=Z,148nm,0.4s							
YUK				pmax		pmax		
	comp=N,64nm,0.5s							
YUK				smax		smax		
	comp=E,335nm,0.3s							
YUK				smax		smax		
	comp=N,157nm,0.2s							
SHO	**Shikotan**	**4.73**	**32**	*i* P		**Pn**	**16 35 09.1**	**-0.4**
SHO				*i* S		**Sn**	**16 35 59.7**	**-4.9**
SHO				pmax		pmax		
	comp=N,66nm,0.5s							
SHO				pmax		pmax		
	comp=E,51nm,0.5s							
SHO				pmax		pmax		
	comp=Z,58nm,0.5s							
SHO				smax		smax		
	comp=N,373nm,0.4s							
SHO				smax		smax		
	comp=E,453nm,0.4s							
MJA0	**Matsu Arr-Jizo**	**5.25**	**232**	*eP*		**Pn**	**16 35 18.0**	**+1.4**
MJA0				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**5.27**	**232**	Pn		**Pn**	**16 35 18.0**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=35,slow=13,SNR=39							
MJAR				Sn		**Sn**	**16 36 23.4**	**+5.4**
	baz=36,slow=14,SNR=2.0							
MJAR				LR		LR	16 37 31.0	
	comp=Z,233nm,19.8s,baz=50,slow=42							
MAJO	**Matsushiro**	**5.27**	**232**	*c iP*		**Pn**	**16 35 18.5**	**+1.5**
MAJO	**Matsushiro**	**5.27**	**232**	*e*Pn		**Pn**	**16 35 15.9**	**-1.0**
MAJO				*e*Sn		**Sn**	**16 36 19.5**	**+1.5**
MAT	**Matsushiro**	**5.27**	**232**	P		**Pn**	**16 35 17.8**	**+0.8**
MAT				*e*S		**Sn**	**16 36 15.0**	**-3.1**
KUR	**Kuril'sk**	**6.28**	**30**	*d iP*		**Pn**	**16 35 32.0**	**+1.3**
KUR				*i* S		**Sn**	**16 36 40.3**	**-2.4**
KUR				pmax		pmax		
	comp=Z,85nm,0.5s							
KUR				pmax		pmax		
	comp=N,26nm,0.3s							
KUR				pmax		pmax		
	comp=E,19nm,0.5s							
KUR				smax		smax		
	comp=N,119nm,0.3s							
KUR				smax		smax		
	comp=E,135nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.07**	**356**	*eP*		**Pn**	**16 35 44.0**	**+2.4**
YSS				MLR		MLR		
	comp=Z,500nm,17.0s							
JHJ	**Hachijo jima 2**	**7.36**	**204**	Pn		**Pn**	**16 35 43.0**	**-2.5**
	comp=Z,8.8nm,0.3s,baz=77,slow=18,SNR=5.7							
JHJ				Sn		Sn	16 36 59.8	-9.5
	comp=Z,9.0nm,0.3s,baz=253,slow=19,SNR=3.1							
JHJ				LR		LR	16 38 51.3	
	comp=Z,123nm,18.6s,baz=72,slow=41							
USRK	**Ussuriysk Ar.**	**9.51**	**301**	Pn		**Pn**	**16 36 18.3**	**+3.3**
	comp=Z,0.4nm,0.3s,baz=95,slow=12,SNR=12							
USRK				LR		LR	16 39 58.1	
	comp=Z,299nm,18.3s,baz=85,slow=38							
HABR	**Khabarovsk**	**10.45**	**328**	*eP*		Pn	16 36 40.2	+12
HABR				*e*S		**Sn**	**16 38 25.0**	**-0.3**
HABR				pmax		pmax		
	comp=N,19nm,1.8s							
HABR				pmax		pmax		
	comp=E,17nm,1.8s							
HABR				pmax		pmax		
	comp=Z,10.0nm,1.8s							
HABR				MLR		MLR		
	comp=Z,168nm,13.0s							
MDJ	**Mudanjiang**	**11.26**	**299**	Pn		**Pn**	**16 36 36.3**	**-2.7**
	comp=Z,11nm,1.0s							
JNU	**Nakatsue**	**12.12**	**240**	Pn		**Pn**	**16 36 54.5**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=146,slow=7.3,SNR=2.4							
JNU				LR		LR	16 41 48.2	
	comp=Z,296nm,18.9s,baz=82,slow=39							
KSRS	**Korea Array**	**12.33**	**264**	Pn		**Pn**	**16 36 57.7**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=78,slow=15,SNR=7.5							
KSRS				Sn		**Sn**	**16 39 08.2**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=67,slow=19,SNR=2.6							
KSRS				LR		LR	16 41 21.5	
	comp=Z,211nm,18.7s,baz=78,slow=36							
KSAR	**Wonju Array Be**	**12.36**	**264**	P		**Pn**	**16 36 57.7**	**+3.6**
KSAR							16 39 08.2	
KSAR	**Wonju Array Be**	**12.36**	**264**	Pn		**Pn**	**16 36 57.7**	**+3.6**
KSAR				Sn		**Sn**	**16 39 08.2**	**-3.9**
PETK	**Petropavlovsk-**	**16.44**	**32**	Pn		**Pn**	**16 37 49.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=233,slow=12,SNR=3.0							
PETK				LR		LR	16 43 43.3	
	comp=Z,46nm,21.4s,baz=202,slow=35							
MA2	**Magadan**	**20.25**	**11**	P		Pn	16 38 35.7	+0.4
	comp=Z,13nm,0.8s,baz=184,slow=9.1,SNR=5.4							
MA2				LR		LR	16 45 56.4	
	comp=Z,70nm,21.2s,baz=192,slow=35							
MA2	**Magadan**	**20.25**	**11**	P		Pn	16 38 35.7	+0.4
MA2				pmax		pmax		
	comp=Z,11nm,0.8s							
MA2				MLR		MLR		
	comp=Z,70nm,21.3s							
YAK	**Yakutsk**	**23.69**	**344**	P		**P**	**16 39 08.1**	**-1.6**
	comp=Z,6.5nm,0.5s,baz=128,slow=1.7,SNR=8.8							
YAK	**Yakutsk**	**23.69**	**344**	*eP*		**P**	**16 39 08.8**	**-0.9**
YAK				pmax		pmax		
	comp=Z,13nm,0.9s							
YAK				pmax		pmax		
	comp=N,2.0nm,1.4s							
YAK	**Yakutsk**	**23.69**	**344**	*eP*		**P**	**16 39 06.2**	**-3.5**
	comp=N,14nm,0.8s							
SEY	**Seymchan**	**23.70**	**10**	P		**P**	**16 39 10.5**	**+0.6**
	comp=N,5.5nm,0.8s,baz=163,slow=8.1,SNR=9.6							
SEY	**Seymchan**	**23.70**	**10**	⇑ *iP*		**P**	**16 39 12.9**	**+3.1**
SEY	*i* *PP					sP	16 39 21.6	+9.2
BOD	**Bodaibo**	**26.05**	**323**	*eP*		**P**	**16 39 30.0**	**-1.4**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.2s							
ULN	**Ulaanbaatar**	**27.17**	**299**	⇑ *iP*		**P**	**16 39 41.9**	**0.0**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
ULN	**Ulaanbaatar**	**27.17**	**299**	*eP*		**P**	**16 39 41.8**	**-0.1**
	comp=Z,1.9nm,0.6s							
SONM	**Songino Array**	**27.61**	**299**	P		**P**	**16 39 46.6**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=96,slow=7.9,SNR=15							
SONM				LR		LR	16 51 23.7	
	comp=Z,195nm,18.8s,baz=88,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.48**	**128**	T		T	17 09 52.5	
	baz=322							
H11N1	**WAKE ISLAND Hy**	**28.49**	**128**	T		T	17 10 58.2	
	baz=322,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.50**	**128**	T		T	17 10 57.3	
	baz=322,slow=74							
ENH	**Enshi**	**29.21**	**261**	*eP*		**P**	**16 39 57.7**	**-2.4**
	comp=Z,7.6nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**29.31**	**130**	T		T	17 10 43.7	
	baz=322,slow=76,SNR=7.6							
H11S3	**WAKE ISLAND Hy**	**29.31**	**130**	T		T	17 10 53.7	
	baz=322,slow=76,SNR=6.3							
H11S2	**WAKE ISLAND Hy**	**29.32**	**130**	T		T	17 10 45.2	
	baz=322,slow=76,SNR=7.3							
DGZ	**Jazzator, Alta**	**40.05**	**303**	*i* P		**P**	**16 41 35.0**	**+1.5**
ZALV	**Zalesovo Beam**	**41.20**	**310**	P		**P**	**16 41 43.3**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=90,slow=7.8,SNR=14							
NRIK	**Noril'sk**	**41.36**	**334**	LR		LR	17 00 25.3	
	comp=Z,81nm,18.0s,baz=132,slow=38							
CMAR	**Chiang Mai Arr**	**43.75**	**254**	P		**P**	**16 42 03.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=45,slow=6.3,SNR=6.4							
CMAR				LR		LR	16 59 07.8	
	comp=Z,23nm,21.9s,baz=113,slow=35							
MKAR	**Makanchi Array**	**43.97**	**300**	P		**P**	**16 42 05.9**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=83,slow=8.2,SNR=11							
KURK	**Kurchatov**	**45.44**	**306**	*ceP*		**P**	**16 42 17.4**	**+0.3**
KURK	*i* *PP					**sP**	**16 42 27.4**	**+7.7**
KURK				pmax		pmax		
	comp=Z,17nm,0.8s							
KURK	**Kurchatov**	**45.44**	**306**	*eP*		**P**	**16 42 16.8**	**-0.3**
	comp=Z,45nm,0.9s							
KURBB	**Kurchatov Arra**	**45.52**	**306**	P		**P**	**16 42 17.8**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=80,slow=8.3,SNR=39							
ILAR	**Eielson Array**	**46.26**	**34**	P		**P**	**16 42 24.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=261,slow=6.2,SNR=13							
BRVK	**Borovoye**	**49.89**	**311**	⇓ *iP*		**P**	**16 42 52.9**	**+1.3**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
AAK	**Ala-Archa**	**50.54**	**297**	P		**P**	**16 42 57.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=170,slow=12,SNR=4.4							
AAK	**Ala-Archa**	**50.54**	**297**	⇓ *iP*		**P**	**16 42 57.1**	**+0.2**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
INK	**Inuvik**	**51.14**	**28**	P		**P**	**16 43 01.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=342,slow=4.8,SNR=3.6							
ARU	**Arti**	**55.27**	**318**	*d iP*		**P**	**16 43 31.2**	**-0.2**
ARU							16 45 31.0	
ARU				S		**S**	**16 51 14.3**	**-1.0**
ARU				SS		**SS**	**16 54 58.1**	**-0.8**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ABKAR	**Akbulak array**	**57.30**	**309**	*eP*		**P**	**16 43 44.5**	**-1.5**
	comp=Z,1.6nm,0.6s							
WRA	**Warramunga Arr**	**60.12**	**190**	P		**P**	**16 44 04.2**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=7.6,slow=7.3,SNR=7.8							
WRA	**Warramunga Arr**	**60.12**	**190**	*eP*		**P**	**16 44 06.0**	**+0.2**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**61.87**	**339**	LR		LR	17 14 12.6	
	comp=Z,30nm,21.8s,baz=78,slow=39							
GEYT	**Alibeck**	**63.82**	**299**	P		**P**	**16 44 30.2**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=28,slow=6.5,SNR=3.5							
ASAR	**Alice Springs**	**63.85**	**190**	P		**P**	**16 44 30.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=8.9,slow=6.6,SNR=2.4							
OBN	**Obninsk**	**66.73**	**323**	*eP*		**P**	**16 44 51.4**	**+2.1**
OBN				pmax		pmax		
	comp=Z,2.0nm,1.0s							
FINES	**FINESS Array B**	**67.01**	**332**	P		**P**	**16 44 51.1**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=46,slow=6.0,SNR=4.4							
FINES				LR		LR	17 17 20.8	
	comp=Z,67nm,18.3s,baz=38,slow=39							
KIV	**Kislovodsk**	**70.20**	**311**	⇓ *eP*		**P**	**16 45 13.3**	**+2.0**
KIV				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KBZ	**Khabaz**	**70.21**	**311**	P		**P**	**16 45 10.4**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=359,slow=1.6,SNR=6.8							
NB2	**NORSAR Subarra**	**72.14**	**338**	P		**P**	**16 45 22.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.9							
NOA	**NORSAR Array B**	**72.14**	**338**	P		**P**	**16 45 23.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=38,slow=6.0,SNR=4.1							
NOA				LR		LR	17 21 09.5	
	comp=Z,27nm,18.7s,baz=300,slow=39							
AKASG	**Malin Array Be**	**72.98**	**323**	P		**P**	**16 45 27.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=6.6,SNR=3.8							
CLL	**Collm**	**79.37**	**331**	*eP*		**P**	**16 46 04.0**	**-0.2**
CLL	**Collm**	**79.37**	**331**	*eP*		**P**	**16 46 04.0**	**-0.2**
GERES	**GERESS Array B**	**81.08**	**329**	P		**P**	**16 46 14.2**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=20,slow=4.3,SNR=4.0							
SCHQ	**Schefferville**	**82.16**	**17**	LR		LR	17 25 31.9	
	comp=Z,24nm,18.9s,baz=344,slow=38							
PPT	**Papeete**	**84.57**	**118**	LR		LR	17 16 27.2	

mb1 3.6/8, mb1mx3.2/48, mbtmp3.8/8, Error ellipse: s-maj=94.4km s-min=14.9km az=63.0

ISC 08 16:36:50.6±0.8, 12°.81N±0°.05×124°.32E±0°.06, h120km±8km, n21, σ1§16/29, mb3.8/7, 2C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.79	348	eP	Pn	16 37 10.7	-0.1
PVCP				eS	Sn	16 37 26.2	+0.2
BESP	Borongan	1.63	138	eP	Pn	16 37 19.9	+0.3
BESP				eS	Sn	16 37 42.1	+0.5
PLP	Palo	1.76	158	iP	Pn	16 37 20.7	-0.5
PLP				i S	Sn	16 37 44.0	-0.4
OCLP	Ormoc	1.77	171	eP	Pn	16 37 22.1	+0.7
RCP	Roxas	1.98	231	iP	Pn	16 37 23.9	+0.1
GQP	Guinayangan	2.12	301	eP	Pn	16 37 25.2	-0.4
GQP				i S	Sn	16 37 51.3	-1.1
OTRP	Odiongan	2.29	259	eP	Pn	16 37 27.4	-0.3
BOAC	Boac	2.50	285	eP	Pn	16 37 30.5	+0.2
BOAC				eS	Sn	16 38 00.9	0.0
SJMP	San Jose	3.14	264	eP	Pn	16 37 39.4	+0.6
SCPH	Surigao	3.22	159	eP	Pn	16 37 40.2	+0.4
TGY	Tagaytay City	3.53	292	P	Pn	16 37 43.2	-0.8
	11nm,0.3s,baz=214,slow=3.6,SNR=2.1						
TGY				S	Sn	16 38 26.5	+1.3
	10nm,0.3s,baz=152,slow=19,SNR=3.1						
CAUP	Cauayan	4.76	330	eP	Pn	16 38 00.1	-0.3
CAUP				eS	Sn	16 38 52.7	-1.9
SGCP	Mt. Cagua	5.83	338	eP	Pn	16 38 14.8	+0.1
ABRA	Dolores	5.94	325	eP	Pn	16 38 16.6	+0.5
ABRA				eS	Sn	16 39 22.3	-0.7
FITZ	Fitzroy Crossi	30.75	178	P	P	16 42 52.7	-1.9
	1.4nm,0.8s,baz=0.0,slow=11,SNR=1.6						
WRA	Warramunga Arr	34.01	163	P	P	16 43 21.4	-1.8
	1.0nm,0.6s,baz=342,slow=8.8,SNR=16						
ASAR	Alice Springs	37.45	165	P	P	16 43 52.1	-0.3
	2.2nm,0.5s,baz=344,slow=7.1,SNR=85						
STKA	Stephens Creek	47.42	160	P	P	16 45 13.2	+0.1
	2.6nm,1.0s,baz=336,slow=12,SNR=3.3						
MKAR	Makanchi Array	48.86	322	P	P	16 45 26.7	+2.7
	0.3nm,0.6s,baz=142,slow=10,SNR=1.8						
ZALV	Zalesovo Beam	51.49	331	P	P	16 45 46.2	+2.5
	0.4nm,0.3s,baz=98,slow=7.0,SNR=2.3						
KURBB	Kurchatov Arra	52.91	325	P	P	16 45 55.9	+1.7
	0.4nm,0.6s,baz=124,slow=7.7,SNR=4.1						

*IDC **08** 16:41:42.3±1.0, 2°.83S×129°.53E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.8/35, mbtmp4.0/9, ML4.0/2, MS3.0/5, Ms1 3.0/5, ms1mx2.8/28, Error ellipse: s-maj=48.2km s-min=19.0km az=75.0*

*ISCJB **08** 16:41:44.7±0.5, 2°.78S±0°.05×129°.54E±0°.04, h28km, mb3.9/7, MS3.4/3, Error ellipse: s-maj=7.6km s-min=5.1km az=31.8*

*NEIC **08** 16:41:47.4±0.7, 2°.91S×129°.57E, h35km, mb4.1/2, Error ellipse: s-maj=22.4km s-min=11.0km az=72.0*

*DJA **08** 16:41:47.8±1.3, 3°.5±5°.×12°.9E±°, h24km±13km, M4.0/7, MLv4.0/7*

ISC 08 16:41:45.7±0.7, 2°.84S±0°.06×129°.50E±0°.05, h28km, n23, σ2§61/24, mb4.0/7, MS3.3/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.76	229	P	Pn	16 42 02.8	+2.2
AAI	Ambon	1.55	237	P	Pb	16 42 15.0	+1.2
BNDI	Bandanaira	1.72	166	P	Pb	16 42 18.3	+1.6
NLAI	Namlea	2.43	261	P	Pb	16 42 26.4	-2.3
FAKI	Fak Fak	2.75	92	P	Pn	16 42 28.6	+0.6
FAKI				S	Sn	16 43 00.3	0.0
LBMI	Labuha	2.96	318	P	Pn	16 42 31.4	+0.5
LBMI				S	Sn	16 43 05.4	-0.2
SANI	Sanana	3.59	283	P	Pn	16 42 39.8	+0.2
SANI				S	Sn	16 43 21.0	-0.2
FITZ	Fitzroy Crossi	15.63	194	Pn	P	16 45 25.1	-3.0
	0.3nm,0.3s,baz=30,slow=11,SNR=6.2						
FITZ				Sn	Sn	16 48 20.7	+4.0
	0.1nm,0.3s,baz=162,slow=20,SNR=1.8						
COEN	Coen	17.45	130	eP	P	16 45 47.1	-1.2
	18nm,1.4s						
WRAB	Tennant Creek	17.64	165	eP	Pn	16 45 48.1	-1.4
	21nm,1.4s						
WRA	Warramunga Arr	17.64	165	P	Pn	16 45 48.3	-1.4
	0.7nm,0.3s,baz=346,slow=12,SNR=23						
WRA				S	Sn	16 48 56.2	-9.3
	0.1nm,0.3s,baz=347,slow=22,SNR=2.8						
PMG	Port Moresby	18.72	111	LR	LR	16 54 30.3	
	comp=Z,41nm,18.6s,baz=305,slow=41						
TGY	Tagaytay City	18.85	333	LR	LR	16 55 02.0	
	comp=Z,8.5nm,21.0s,baz=143,slow=42						
ASAR	Alice Springs	21.14	169	P	P	16 46 29.4	+0.7
	8.6nm,0.6s,baz=345,slow=10,SNR=115						
ASAR				S	S	16 50 20.8	-1.8
	1.2nm,0.8s,baz=349,slow=22,SNR=6.6						
CTA	Charters Tower	23.69	138	P	P	16 46 55.4	0.0
	1.7nm,0.8s,baz=285,slow=11,SNR=2.1						
STKA	Stephens Creek	31.05	160	P	P	16 48 02.2	+0.8
	1.4nm,0.8s,baz=328,slow=9.5,SNR=3.9						
KSRS	Korea Array	40.12	358	LR	LR	17 06 43.6	
	comp=Z,13nm,19.0s,baz=130,slow=37						
SONM	Songino Array	54.37	341	LR	LR	17 16 46.7	
	comp=Z,27nm,20.4s,baz=106,slow=39						
MKAR	Makanchi Array	64.51	326	P	P	16 52 20.9	+0.9
	1.0nm,0.7s,baz=117,slow=9.2,SNR=3.8						
ZALV	Zalesovo Beam	67.66	333	P	P	16 52 40.4	+0.2
	0.5nm,0.3s,baz=127,slow=9.2,SNR=3.2						
MAW	Mawson	78.62	201	P	P	16 53 46.0	+1.3
	0.8nm,0.4s,baz=54,slow=7.1,SNR=10.0						
KDAK	Kodiak Island	85.96	32	LR	LR	17 27 34.9	
	comp=Z,60nm,20.7s,baz=349,slow=32						
ILAR	Eielson Array	89.82	25	P	P	16 54 43.4	+1.8
	0.6nm,1.0s,baz=265,slow=6.2,SNR=3.3						

*MAN **08** 17:13:00, 11°.19N×127°.16E, h47km, mb5.4, ML4.4, MS4.7*

*IDC **08** 17:13:00.6±0.5, 11°.01N×126°.89E, h0km, mb4.3/23, mb1 4.4/23, mb1mx4.3/36, mbtmp4.3/23, MS3.2/15, Ms1 3.2/15, ms1mx3.1/38, Error ellipse: s-maj=23.2km s-min=11.7km az=82.0*

*ISCJB **08** 17:13:04.5±0.7, 11°.05N±0°.03×126°.87E±0°.04, h39km±6km, mb4.6/61, MS3.2/13, Error ellipse: s-maj=6.2km s-min=4.2km az=163.7*

*NEIC **08** 17:13:07.7±0.9, 11°.04N×126°.85E, h53km±9km, mb4.6/42, Error ellipse: s-maj=5.9km s-min=4.0km az=75.0*

ISC 08 17:13:06.2±0.6, 11°.08N±0°.04×126°.88E±0°.06, h37km±2km, n123, σ1§24/129, mb4.6/61, MS3.2/13, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.51	290	eP	Pn	17 13 27.7	-2.9
BESP				eS	Sn	17 13 50.5	+1.5
PLP	Palo	1.87	273	eP	Pn	17 13 32.9	-2.7
PLP				eS	Sn	17 13 54.6	-3.3
SCPH	Surigao	1.88	227	eP	Pn	17 13 34.2	-1.5
SCPH				eS	Sn	17 13 56.5	-1.7
OCLP	Ormoc	2.23	270	eP	Pn	17 13 40.8	+0.2
OCLP				eS	Sn	17 14 10.0	+3.1
BIPH	Bislig	2.92	190	iP	Pn	17 13 49.0	-1.1
BIPH				i S	Sn	17 14 22.5	-1.4
LLP	Lapu-Lapu	2.96	256	eP	Pn	17 13 50.5	-0.1
LLP				eS	Sn	17 14 24.8	-0.2
TBP	Tagbilaran	3.27	245	eP	Pn	17 13 56.5	+1.6
TBP				eS	Sn	17 14 33.9	+1.3
BUKP	Musuan	3.65	210	eP	Pn	17 14 00.4	+0.3
BUKP				eS	Sn	17 14 43.0	+1.1
PVCP	Virac	3.66	314	eP	Pn	17 13 57.3	-2.9
PVCP				eS	Sn	17 14 41.7	-0.4
SNPH	Sibulan	3.98	245	eP	Pn	17 14 05.1	+0.4
SNPH				eS	Sn	17 14 49.9	-0.2
RCP	Roxas	4.08	277	eP	Pn	17 14 06.1	0.0
DAV	Davao City (W)	4.18	198	ePn	Pn	17 14 08.0	+0.5
GUIM	Jordan	4.24	264	eP	Pn	17 14 08.1	-0.1
BOAC	Boac	5.46	296	eP	Pn	17 14 23.8	-1.3
TGY	Tagaytay City	6.53	298	Pn	Pn	17 14 42.3	+2.4
	13nm,0.3s,baz=174,slow=19,SNR=3.5						
TGY				LR	LR	17 16 43.4	
	comp=Z,64nm,21.4s,baz=152,slow=34						
JOW	Kunigami	15.73	5	ePn	Pn	17 16 46.4	+1.3
	42nm,1.1s						
SBUM	Sibu	16.88	241	ePn	Pn	17 17 00.7	+0.9
	36nm,1.5s						
GUMO	Guam	17.75	80	LR	LR	17 22 52.6	
	comp=Z,100nm,18.6s,baz=246,slow=33						
DLV	T Lat	18.04	275	ePn	Pn	17 17 13.6	-0.9
	26nm,1.3s						
KSM	Kuching	19.02	241	eP	Pn	17 17 26.8	+0.8
	13nm,0.9s						
MMRI	Maumere	20.12	193	eP	P	17 17 37.2	+0.1
	61nm,1.1s						
SOEI	Soe	20.86	187	eP	Pn	17 17 47.8	-0.1
	59nm,1.0s						
JNU	Nakatsue	22.25	9	P	P	17 17 59.9	-0.1
	5.1nm,1.0s,baz=191,slow=11,SNR=3.7						
JNU	Nakatsue	22.25	9	eP	P	17 17 59.5	-0.5
	15nm,1.2s						
MTN	Manton Dam	24.14	170	eP	P	17 18 18.0	-0.9
	22nm,1.0s						
SLVN	Son La	24.27	298	eP	P	17 18 19.3	-0.9
	8.3nm,1.1s						
SMRI	Semarang	24.33	223	eP	P	17 18 20.6	-0.1
	180nm,1.7s						
JHJ	Hachijo jima 2	24.94	26	LR	LR	17 26 55.2	
	comp=Z,80nm,21.5s,baz=246,slow=33						
JHJ2	Mitsune	24.95	26	eP	P	17 18 27.7	+1.6
	525nm,1.7s						
ENH	Enshi	25.03	322	eP	P	17 18 25.7	-1.2
	16nm,1.1s						
INU	Inuyama	25.86	19	eP	P	17 18 33.9	-0.5
	12nm,1.0s						
KSAR	Wonju Array Be	26.27	2	P	P	17 18 38.6	+0.5
KSRS	Korea Array	26.28	2	P	P	17 18 38.6	+0.4
	1.8nm,0.8s,baz=182,slow=9.9,SNR=7.1						
KSRS				LR	LR	17 30 06.4	
	comp=Z,73nm,18.6s,baz=176,slow=39						
KS01	Wonju Array Si	26.30	2	eP	P	17 18 38.9	+0.5
IPM	Ipoh	26.43	258	eP	P	17 18 39.7	-0.1
	47nm,1.5s						
TIA	Tai'an	26.54	342	eP	P	17 18 41.5	+1.0
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KULM	Kulim	26.58	260	eP	P	17 18 41.6	+0.5
	comp=Z,51nm,1.4s						
MJAR	Matsushiro Arr	27.34	20	P	P	17 18 47.0	-0.8
	comp=Z,3.7nm,1.0s,baz=190,slow=9.3,SNR=7.2						
MJAR				LR	LR	17 29 07.8	
	comp=Z,62nm,20.3s,baz=190,slow=35						
CM01	Chiang Mai Arr	27.94	288	eP	P	17 18 51.9	-1.5
CM31	Chiang Mai Arr	27.96	289	eP	P	17 18 51.9	-1.6
CMAR	Chiang Mai Arr	27.96	289	P	P	17 18 52.4	-1.1
	comp=Z,2.5nm,0.9s,baz=96,slow=7.7,SNR=16						
CMAR				PcP	PcP	17 22 10.1	+1.7
	comp=Z,0.6nm,0.8s,baz=104,slow=3.8,SNR=4.7						
CMAR				LR	LR	17 29 18.0	
	comp=Z,28nm,21.9s,baz=86,slow=35						
CHTO	Chiang Mai	28.04	289	eP	P	17 18 53.0	-1.2
	comp=Z,2.4nm,0.8s						
PMG	Port Moresby	28.65	134	P	P	17 19 01.0	+1.4
	comp=Z,6.6nm,0.8s,baz=122,slow=2.0,SNR=3.2						
PMG	Port Moresby	28.65	134	eP	P	17 19 01.0	+1.4
	comp=Z,9.6nm,0.9s						
FITZ	Fitzroy Crossi	29.02	182	P	P	17 19 01.7	-1.2
	comp=Z,2.8nm,0.9s,baz=0.9,slow=13						
COEN	Coen	29.66	147	eP	P	17 19 07.4	-1.2
	comp=Z,14nm,1.3s						
XMIS	Christmas Isla	30.07	225	eP	P	17 19 10.8	-1.5
	comp=Z,118nm,1.4s						
WR1	Warramunga Arr	31.69	167	eP	P	17 19 24.6	-1.9
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	31.69	167	P	P	17 19 24.6	-1.9
	comp=Z,1.4nm,0.8s,baz=347,slow=8.9,SNR=9.4						
USRK	Ussuriysk Ar.	33.30	7	P	P	17 19 40.9	+0.6
	comp=Z,2.6nm,0.7s,baz=198,slow=12,SNR=5.5						
USRK				LR	LR	17 31 35.7	
	comp=Z,42nm,21.1s,baz=1.9,slow=33						
AS31	Alice Springs	35.20	169	eP	P	17 19 56.1	-1.0
	comp=Z,1.2nm,0.6s						
ASAR	Alice Springs	35.20	169	P	P	17 19 56.2	-0.9
	comp=Z,1.2nm,0.5s,baz=352,slow=7.5,SNR=73						
ASAR				LR	LR	17 41 25.1	
	comp=Z,18nm,18.3s,baz=32,slow=48						
AS01	Alice Springs	35.21	169	eP	P	17 19 56.0	-1.1
GTA	Gaotai	37.07	324	eP	P	17 20 14.4	+1.3
GTA				pP	pP	17 20 19.4	-4.2
GTA				sP	sP	17 20 22.6	-5.4
GTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LSA	Lhasa	38.06	304	eP	P	17 20 20.2	-1.7
	comp=Z,3.4nm,0.8s						
KWAJ	Kwajalein Atol	40.17	89	eP	P	17 20 39.2	0.0
	comp=Z,341nm,1.3s						
TAPN	Taplejung	40.17	299	eP	P	17 20 38.8	-0.6
	comp=Z,8.7nm,0.5s						
ULN	Ulaanbaatar	40.28	339	eP	P	17 20 39.4	-0.4
	comp=Z,8.7nm,1.3s						
ODAN	Odare	40.31	299	eP	P	17 20 40.1	-0.5
	comp=Z,40nm,0.8s						
SONA0	Songino Array	40.48	339	eP	P	17 20 42.7	+1.2
	comp=Z,6.0nm,1.2s						
SONM	Songino Array	40.48	339	P	P	17 20 42.7	+1.2
	comp=Z,3.8nm,1.0s,baz=158,slow=8.3,SNR=12						
SONM				LR	LR	17 39 02.1	
	comp=Z,32nm,18.7s,baz=142,slow=38						
SONA1	Songino Array	40.49	339	eP	P	17 20 41.9	+0.2
RAMN	Ramite	41.02	298	eP	P	17 20 46.3	-0.1
	comp=Z,26nm,0.7s						
JIRN	Jiri	41.55	299	eP	P	17 20 50.5	-0.4
	comp=Z,165nm,0.5s						
FORT	Forrest	41.63	178	eP	P	17 20 51.1	+0.2
	comp=Z,264nm,1.0s						
GUN	Gumba	41.88	300	eP	P	17 20 53.6	0.0
	comp=Z,51nm,0.9s						
PKIN	Phulchoki	42.21	299	eP	P	17 20 55.0	-1.2
	comp=Z,9.2nm,0.7s						
KKN	Kakani	42.37	299	eP	P	17 20 56.4	-1.0
	comp=Z,14nm,0.9s						
DMN	Daman	42.47	299	eP	P	17 20 58.0	-0.3
	comp=Z,21nm,0.9s						
GKN	Gorkha	42.97	299	eP	P	17 21 01.4	-0.8
	comp=Z,15nm,1.0s						
KOLN	Koldanda	43.80	299	eP	P	17 21 08.6	-0.4
	comp=Z,19nm,0.9s						
DANN	Dangsing	43.80	300	eP	P	17 21 09.5	+0.4
	comp=Z,2.7nm,0.9s						
PYUN	Piuthan	44.41	299	eP	P	17 21 13.7	-0.1
	comp=Z,19nm,0.7s						
BBOO	Buckleboo	44.51	169	eP	P	17 21 13.7	-0.5
	comp=Z,24nm,1.1s						
STKA	Stephens Creek	44.97	162	P	P	17 21 17.8	-0.1
	comp=Z,1.2nm,0.3s,baz=338,slow=7.2,SNR=10						
STKA	Stephens Creek	44.97	162	eP	P	17 21 17.2	-0.8
	comp=Z,7.5nm,1.8s						
TARA	Tarawa	46.71	99	eP	P	17 21 31.4	-0.7
	comp=Z,66nm,1.3s						
PETK	Petropavlovsk-	48.66	24	P	P	17 21 47.3	+0.7
	comp=Z,2.3nm,0.7s,baz=195,slow=4.8,SNR=4.0						
PETK				LR	LR	17 43 24.9	
	comp=Z,22nm,18.9s,baz=212,slow=37						
PEA1	Petropavlovsk-	48.67	24	eP	P	17 21 47.3	+0.7
CAN	Canberra	50.67	157	eP	P	17 22 02.7	+0.6
	comp=Z,31nm,1.6s						
YAK	Yakutsk	50.91	2	eP	P	17 22 03.7	+0.3
	comp=Z,8.3nm,0.6s						
MK01	Makanchi Array	51.74	322	eP	P	17 22 10.8	+0.8
MK31	Makanchi Array	51.76	322	eP	P	17 22 11.2	+1.1
MK32	Makanchi Array	51.76	322	eP	P	17 22 11.2	+1.0
MKAR	Makanchi Array	51.76	322	P	P	17 22 11.2	+1.0
	comp=Z,7.7nm,0.8s,baz=115,slow=8.4,SNR=48						
MKAR	Makanchi Array	51.76	322	eP	P	17 22 11.1	+0.9
	comp=Z,54nm,0.9s						
MAKZ	Makanchi	51.95	322	eP	P	17 22 12.0	+0.4
	comp=Z,8.6nm,0.9s						
KSH	Kashi	53.15	311	SS	SKiKP	17 33 29.1	-7.0
KSH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,150nm,5.5s						
KSH				LR	LR		
	comp=N,130nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,5.2s						
KSH				LR	LR		
	comp=Z,110nm,6.1s						
ZAA0	Zalesovo Array	54.22	331	eP	P	17 22 27.9	-0.2
ZALV	Zalesovo Beam	54.22	331	P	P	17 22 28.4	+0.3
	comp=Z,2.4nm,0.8s,baz=136,slow=6.4,SNR=7.9						
ZALV				LR	LR	17 48 22.1	
	comp=Z,29nm,18.1s,baz=70,slow=39						
ZALV	Zalesovo Beam	54.22	331	eP	P	17 22 27.2	-0.9
ZAA1	Zalesovo Array	54.22	331	eP	P	17 22 28.4	+0.3
AAK	Ala-Archa	55.19	315	LR	LR	17 47 58.7	
	comp=Z,24nm,19.3s,baz=66,slow=38						
KURK	Kurchatov	55.75	325	eP	P	17 22 39.7	+0.5
	comp=Z,23nm,0.9s						
KBL	Kabul	57.38	304	eP	P	17 22 51.4	0.0
	comp=Z,9.1nm,1.0s						
KKAR	Karatay Array	58.12	314	eP	P	17 22 56.6	+0.4
	comp=Z,28nm,0.8s						
BRVK	Borovoye	61.42	325	eP	P	17 23 19.2	+0.5
	comp=Z,7.6nm,0.8s						
JOHN	Johnston Islan	61.77	77	eP	P	17 23 21.7	0.0
	comp=Z,222nm,1.2s						
NRIK	Noril'sk	63.39	345	P	P	17 23 32.2	+0.7
	comp=Z,2.5nm,0.4s,baz=148,slow=7.5,SNR=2.8						
GEYT	Alibeck	66.55	307	P	P	17 23 53.5	+0.7
	comp=Z,4.5nm,1.0s,baz=126,slow=2.6,SNR=8.6						
GEYT				LR	LR	17 56 15.4	
	comp=Z,30nm,18.0s,baz=75,slow=39						
ABKAR	Akbulak array	66.66	319	eP	P	17 23 52.9	-0.3
	comp=Z,18nm,0.8s						
OXZ	Oxford	68.00	146	eP	P	17 24 02.5	+0.8
	comp=Z,77nm,1.7s						
ARU	Arti	68.89	326	eP	P	17 24 06.5	-0.5
	comp=Z,8.7nm,1.3s						
OPA	Opana	72.26	71	eP	P	17 24 27.3	-1.0
	comp=Z,100nm,1.1s						
TT01	Tatalina	74.33	28	eP	P	17 24 40.5	+0.7
SVW2	Sparrevohn	74.35	30	eP	P	17 24 41.1	+1.2
	comp=Z,7.7nm,1.1s						
RAYN	Ar Rayn	77.83	292	eP	P	17 24 59.8	-0.7
	comp=Z,4.3nm,1.0s						
ILAR	Eielson Array	78.46	26	P	P	17 25 02.5	-0.6
	comp=Z,1.1nm,0.8s,baz=246,slow=5.8,SNR=8.8						
ARA0	ARCESS Array B	83.65	340	eP	P	17 25 30.8	+0.1
ARCES	ARCESS Array B	83.65	340	P	P	17 25 30.8	+0.1
	comp=Z,10nm,1.0s,baz=49,slow=5.6,SNR=5.0						
FIA0	FINESS Array S	85.47	332	eP	P	17 25 39.2	-0.8
FINES	FINESS Array B	85.47	332	P	P	17 25 39.2	-0.8
	comp=Z,4.8nm,1.0s,baz=35,slow=5.1,SNR=3.9						
FINES				LR	LR	18 06 29.5	
	comp=Z,27nm,20.2s,baz=340,slow=38						
BR101	Keskin Array S	85.48	309	eP	P	17 25 39.9	-0.8
BRTR	Keskin Array B	85.49	309	P	P	17 25 39.9	-0.8
	comp=Z,0.9nm,0.7s,baz=107,slow=3.0,SNR=6.7						
AKASG	Malin Array Be	86.32	321	P	P	17 25 43.9	-0.5
	comp=Z,0.3nm,0.4s,baz=61,slow=4.5,SNR=5.5						
KMBO	Kilima Mbogo	89.85	269	P	P	17 26 02.6	+0.3
	comp=Z,0.9nm,0.3s,baz=72,slow=9.6,SNR=3.0						
VNDA	Vanda	90.65	173	P	P	17 26 04.5	+0.1
	comp=Z,3.2nm,1.1s,baz=312,slow=5.7,SNR=6.5						
VNDA	Vanda	90.65	173	eP	P	17 26 04.7	+0.4
	comp=Z,4.1nm,1.1s						
MAW	Mawson	90.66	200	P	P	17 26 04.5	0.0
	comp=Z,0.7nm,0.4s,baz=7.2,slow=11,SNR=5.8						
MAW	Mawson	90.66	200	eP	P	17 26 04.1	-0.3
	comp=Z,2.2nm,1.3s						
CRVS	Cervenica-Dubn	91.65	320	eP	P	17 26 10.5	+0.8
NOA	NORSAR Array B	92.30	334	LR	LR	18 15 02.9	
	comp=Z,12nm,18.2s,baz=205,slow=40						
JPC	Peters Creek,	99.46	49	eP	Pdif	17 26 46.5	+1.0

*NIED **08** 17:19:00, 36°.90N×142°.30E, h14km, Mw3.4 Best double couple: M0 1.28000×10^14 NP1:φ0=35.00000°, δ56.00000°, λ160.00000°. NP2:φ0=136.00000°, δ73.00000°, λ35.00000°.*

*ISCJB **08** 17:19:13.6±1.7, 36°.90N±0°.05×142°.31E±0°.06, h3km±12km, mb3.4/4, Error ellipse: s-maj=7.9km s-min=7.6km az=161.7*

*JMA **08** 17:19:13.5±0.3, 36°.88N×142°.31E, h6km±3km, M3.9*

*IDC **08** 17:19:15.8±1.3, 36°.88N×142°.30E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/34, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=29.8km s-min=21.8km az=105.0*

ISC 08 17:19:15.3±2.9, 36°.92N±0°.05×142°.18E±0°.07, h1km±17km, n23, σ1§17/26, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.12	280	P	Pb	17 19 36.8	-0.7
ONAJ				eS	Sn	17 19 53.7	-0.6
JFK	Kawauchi	1.13	294	P	Pb	17 19 36.9	-0.8
JFK				eS	Sn	17 19 53.7	-0.9
JHO	Hitachi	1.33	257	P	Pn	17 19 39.8	-1.2
JMM	Marumori	1.45	311	P	Pn	17 19 41.8	-0.9
JMM				eS	Sg	17 20 02.7	+0.8
JFT	Otama	1.59	293	P	Pb	17 19 44.6	-0.9
JFT				eS	Sg	17 20 07.1	+0.8
JIO	Ouri	1.67	337	P	Pn	17 19 44.5	-1.2
JIO				eS	Sn	17 20 06.7	-1.0
JMK	Ichinoseki	2.16	340	P	Pn	17 19 52.4	-0.1
JAG	Ashikaga	2.25	258	P	Pn	17 19 53.9	+0.2
JRY	Ryogami san	2.79	252	P	Pn	17 20 01.2	0.0
JRY				eS	Sn	17 20 35.8	+0.3
MJAR	Matsushiro Arr	3.21	264	Pn	Pn	17 20 08.1	+1.1
	5.8nm,0.3s,baz=90,slow=15,SNR=82						
MJAR				Sn	Sb	17 20 50.8	-2.0
	1.1nm,0.3s,baz=85,slow=30,SNR=1.8						
MAT	Matsushiro	3.21	264	P	Pn	17 20 08.0	+1.0
MAT				eS	Sn	17 20 47.3	+1.4
JHJ	Hachijo jima 2	4.27	208	Pn	Pn	17 20 21.4	-0.1
	6.2nm,0.3s,baz=322,slow=22,SNR=6.3						
JHJ				Sn	Sn	17 21 09.1	-2.9
	7.0nm,0.3s,baz=253,slow=19,SNR=1.5						
ASAJ	Asahikawa	7.20	2	Pn	Pn	17 21 01.3	-0.4
	0.7nm,0.3s,baz=210,slow=16,SNR=12						
H11N2	WAKE ISLAND Hy	27.57	122	T	T	17 54 06.9	

MJAR Matsushiro Arr 7.52 335 Pn **Pn 17 26 19.0 +0.2**
1.5nm,0.3s,baz=152,slow=11,SNR=26
MJAR Sn **Sn 17 27 42.7 -0.4**
0.5nm,0.3s,baz=200,slow=36,SNR=3.0
MAJO Matsushiro 7.52 335 *e*Pn **Pn 17 26 20.4 +1.5**
MJB9 Matsu-Tunnel 7.53 335 *e*Pn **Pn 17 26 20.4 +1.5**
ERM Erimo 12.28 4 *e*Pn **Pn 17 27 23.1 -0.9**
KSRS Korea Array 14.07 307 Pn **P 17 27 52.7 -3.2**
0.1nm,0.3s,baz=112,slow=12,SNR=8.0
KS15 Wonju Array Si 14.09 307 *e*Pn **P 17 27 52.5 -3.7**
KSAR Wonju Array Be 14.09 307 Pn **P 17 27 52.7 -3.4**
ASAJ Asahikawa 14.36 2 Pn **Pn 17 27 49.2 -3.2**
0.6nm,0.3s,baz=213,slow=8.9,SNR=12
ASAJ Asahikawa 14.36 2 *e*Pn **Pn 17 27 48.9 -3.5**
INCN Inchon 14.99 305 *e*Pn **Pn 17 27 57.5 -3.6**
13nm,0.4s
YSS Yuzh-Sakhalins 17.20 2 *e*Pn **Pn 17 28 28.8 -0.4**
76nm,1.9s
SONA1 Songino Array 32.79 314 *e*P **P 17 31 00.7 -1.1**
SONA0 Songino Array 32.79 313 *e*P **P 17 31 02.2 +0.4**
2.6nm,1.1s
SONM Songino Array 32.79 313 P **P 17 31 02.2 +0.4**
1.4nm,0.8s,baz=111,slow=7.3,SNR=4.5
SEY Seymchan 33.87 8 P **P 17 31 12.1 +1.2**
1.2nm,0.7s,baz=162,slow=15,SNR=3.0
TLY Talaya 35.87 319 LR LR 17 46 24.3
comp=Z,27nm,18.0s,baz=171,slow=37
GSTR Great Sitkin T 38.00 42 *e*P **P 17 31 45.2 -1.3**
CHTO Chiang Mai 40.59 264 *e*P **P 17 32 07.9 -0.5**
15nm,2.0s
CMAR Chiang Mai Arr 40.73 264 P **P 17 32 09.9 +0.3**
0.2nm,0.4s,baz=73,slow=5.0,SNR=3.9
CMAR LR LR 17 49 58.2
comp=Z,21nm,18.1s,baz=100,slow=38
CM31 Chiang Mai Arr 40.73 264 *e*P **P 17 32 10.8 +1.2**
CM01 Chiang Mai Arr 40.73 264 *e*P **P 17 32 09.8 +0.2**
MTN Manton Dam 43.63 196 *e*P **P 17 32 33.3 +0.2**
53nm,1.9s
ZAA0 Zalesovo Array 47.46 318 *e*P **P 17 33 04.2 +1.1**
ZALV Zalesovo Beam 47.46 318 PcP **PcP 17 34 33.8 +0.7**
0.5nm,0.4s,baz=100,slow=2.6,SNR=2.7
ZAA1 Zalesovo Array 47.46 318 *e*PcP **PcP 17 34 33.8 +0.7**
SMRI Semarang 47.56 225 *e*P **P 17 33 06.6 +2.4**
86nm,1.3s
MK32 Makanchi Array 48.75 308 *e*P **P 17 33 14.1 +0.8**
MKAR Makanchi Array 48.75 308 P **P 17 33 14.1 +0.8**
0.3nm,0.3s,baz=82,slow=9.1,SNR=5.3
WB2 Warramunga Arr 49.95 190 *e*P **P 17 33 20.9 -1.7**
WR1 Warramunga Arr 49.95 190 *e*P **P 17 33 22.5 0.0**
4.1nm,0.8s
WRA Warramunga Arr 49.95 190 P **P 17 33 22.5 0.0**
3.1nm,0.7s,baz=7.7,slow=7.9,SNR=41
KURK Kurchatov 51.09 313 *e*P **P 17 33 30.4 -0.4**
3.4nm,0.8s
SVW2 Sparrevohn 51.14 34 *e*P **P 17 33 32.2 +1.2**
14nm,1.7s
KDAK Kodiak Island 52.33 38 LR LR 17 52 21.7
comp=Z,45nm,20.3s,baz=224,slow=32
AS01 Alice Springs 53.67 189 *e*P **P 17 33 49.7 -0.6**
AS31 Alice Springs 53.67 189 *e*P **P 17 33 50.4 +0.1**
ASAR Alice Springs 53.67 189 P **P 17 33 50.2 -0.1**
0.6nm,0.6s,baz=358,slow=4.5,SNR=18
ASAR LR LR 17 56 56.5
comp=Z,41nm,18.8s,baz=122,slow=36
BRVK Borovoye 56.12 316 *e*P **P 17 34 08.4 +0.8**
2.6nm,0.9s
KKAR Karatay Array 57.49 305 *e*P **P 17 34 18.4 +0.8**
31nm,0.5s
FORT Forrest 61.64 194 *e*P **P 17 34 46.5 +0.3**
253nm,1.0s
ABKAR Akbulak array 63.20 313 *e*P **P 17 34 56.1 -0.5**
16nm,0.6s
GEYT Alibeck 68.01 302 P **P 17 35 29.6 +1.8**
0.6nm,0.5s,baz=38,slow=2.6,SNR=3.6
FIA0 FINESS Array S 75.55 334 *e*P **P 17 36 13.2 +0.6**
FINES FINESS Array B 75.55 334 P **P 17 36 13.2 +0.6**
1.5nm,0.9s,baz=59,slow=7.4,SNR=5.2
KBZ Khabaz 76.15 313 P **P 17 36 17.6 +1.3**
2.1nm,0.9s,baz=48,slow=1.2,SNR=5.3
NB200 NORSAR Array S 81.13 338 *e*P **P 17 36 43.5 -0.1**
NOA NORSAR Array B 81.13 338 P **P 17 36 43.5 -0.1**
0.9nm,0.7s,baz=42,slow=5.3,SNR=3.6
PDAR Pinedale Array 82.41 45 LR LR 18 07 25.1
comp=Z,47nm,21.6s,baz=296,slow=31
BR101 Keskin Array S 84.14 313 *e*P **P 17 37 00.3 +0.6**
BRTR Keskin Array B 84.14 313 P **P 17 37 00.3 +0.6**
1.8nm,0.7s,baz=115,slow=2.6,SNR=9.5
LTX Lajitas 94.10 53 *e*P **P 17 37 48.9 +1.6**
TXAR Lajitas Array 94.10 53 P **P 17 37 48.9 +1.6**
0.4nm,0.8s,baz=329,slow=1.1,SNR=4.4

*IDC **08** 17:31:59.2±1.1,29°.79N×142°.46E,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.6/49,mbtmp3.7/11,ML3.3/3,Error ellipse: s-maj=36.4km s-min=18.1km az=74.0*
*ISCJB **08** 17:32:02.0±0.7,29°.91N±0°.05×142°.3E±0°.2,h26km, mb3.7/8,Error ellipse: s-maj=20.4km s-min=6.1km az=166.5*
*JMA **08** 17:32:02.9±0.2,29°.80N×142°.00E,h31km,M3.9*
ISC 08 17:32:03.2±0.9,29°.81N±0°.06×142°.4E±0°.2,h26km,n18, σ1§74/22,mb3.7/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.71**	**184**	P	**Pn**	**17 32 45.8**	**+0.7**
CBIJ				S	**Sn**	**17 33 14.3**	**-2.8**
JHJ	**Hachijo jima 2**	**3.97**	**327**	Pn	**Pn**	**17 33 02.0**	**-0.4**
	4.2nm,0.3s,baz=295,slow=14,SNR=10						
JHJ				Sn	**Sn**	**17 33 44.1**	**-4.0**
	12nm,0.3s,baz=253,slow=23,SNR=5.6						
BSO1	**Boso 1**	**4.97**	**347**	P	**Pn**	**17 33 15.5**	**-0.1**
BSO1				S	**Sn**	**17 34 11.6**	**-0.4**
BSO3	**Boso 3**	**5.22**	**343**	P	**Pn**	**17 33 20.9**	**+1.6**
JOD2	**Odawara 2**	**6.10**	**334**	P	**Pn**	**17 33 32.0**	**+0.3**
JHU	**Hanno**	**6.56**	**337**	P	**Pn**	**17 33 38.9**	**+0.9**
JHU				S	**Sn**	**17 34 48.9**	**-3.1**
MJAR	**Matsushiro Arr**	**7.56**	**334**	Pn	**Pn**	**17 33 51.2**	**-0.6**
	1.3nm,0.3s,baz=161,slow=11,SNR=22						
MJAR				Sn	**Sn**	**17 35 14.8**	**-1.9**
	0.3nm,0.3s,baz=181,slow=12,SNR=3.2						
KSRS	**Korea Array**	**14.24**	**306**	Pn	**Pn**	**17 35 26.5**	**+3.4**
	0.1nm,0.3s,baz=108,slow=12,SNR=5.4						
ASAJ	**Asahikawa**	**14.28**	**1**	Pn	**Pn**	**17 35 22.1**	**-1.6**
	0.2nm,0.3s,baz=225,slow=16,SNR=3.8						
SONM	**Songino Array**	**32.93**	**313**	P	**P**	**17 38 36.1**	**+0.6**
	0.7nm,0.8s,baz=138,slow=9.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**41.00**	**264**	P	**P**	**17 39 44.7**	**+0.4**
	0.3nm,0.6s,baz=53,slow=9.1,SNR=3.3						
MKAR	**Makanchi Array**	**48.91**	**308**	P	**P**	**17 40 47.1**	**+0.1**
	0.4nm,0.6s,baz=82,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**50.07**	**190**	P	**P**	**17 40 55.9**	**0.0**
	1.6nm,0.7s,baz=8.2,slow=7.9,SNR=18						
KURBB	**Kurchatov Arra**	**51.29**	**313**	P	**P**	**17 41 05.3**	**+0.4**
	1.0nm,0.6s,baz=90,slow=7.4,SNR=7.1						
ASAR	**Alice Springs**	**53.79**	**190**	P	**P**	**17 41 23.3**	**-0.3**
	0.2nm,0.5s,baz=1.3,slow=5.0,SNR=15						
BRTR	**Keskin Array B**	**84.29**	**313**	P	**P**	**17 44 34.4**	**+1.3**
	1.1nm,0.8s,baz=104,slow=3.1,SNR=6.5						
TXAR	**Lajitas Array**	**93.84**	**53**	P	**P**	**17 45 18.7**	**0.0**
	0.3nm,0.7s,baz=337,slow=3.9,SNR=3.9						
H06E1	**SOCORRO T-PHAS**	**94.49**	**66**	T	T	19 30 45.1	

*IDC **08** 17:46:10.8±0.9,1°.53N×128°.69E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.7/36,mbtmp3.9/7,ML3.7/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/40,Error ellipse: s-maj=58.6km s-min=16.6km az=80.0*
*ISCJB **08** 17:46:16.8±0.3,1°.44N±0°.06×128°.64E±0°.08,h61km, mb4.3/18,Error ellipse: s-maj=13.4km s-min=5.8km az=152.2*
*NEIC **08** 17:46:17.9±1.2,1°.44N×128°.62E,h56km±13km,mb4.3/11, Error ellipse: s-maj=12.9km s-min=5.8km az=63.0*
ISC 08 17:46:18.0±0.6,1°.37N±0°.08×128°.67E±0°.10,h61km,n44, σ1§10/39,mb4.3/17,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.56**	**140**	*e*Pn	**Pn**	**17 47 39.1**	**+0.9**
FAKI				*e*Sn	**Sn**	**17 48 37.2**	**-3.7**
MYLDM	**Lahad Datu**	**10.84**	**291**	*e*Pn	**Pn**	**17 48 50.9**	**+0.4**
KAPI	**Kappang**	**10.94**	**235**	*e*Pn	**Pn**	**17 48 50.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.58**	**189**	P	**P**	**17 50 42.0**	**+0.8**
	0.2nm,0.3s,baz=10,slow=11,SNR=5.6						
COEN	**Coen**	**20.94**	**137**	*e*P	Pn	17 50 59.1	-0.1
	10nm,1.5s						
WRAB	**Tennant Creek**	**21.89**	**166**	*e*P	**P**	**17 51 06.2**	**0.0**
	6.3nm,1.1s						
WR1	**Warramunga Arr**	**21.89**	**166**	*e*P	**P**	**17 51 07.8**	**+1.6**
	5.8nm,1.0s						
WRA	**Warramunga Arr**	**21.89**	**166**	P	**P**	**17 51 07.8**	**+1.6**
	5.4nm,1.1s,baz=344,slow=12,SNR=21						
WB2	**Warramunga Arr**	**21.90**	**166**	*e*P	**P**	**17 51 07.0**	**+0.8**
YOJ	**Yonaguni jima**	**23.60**	**347**	*e*P	**P**	**17 51 23.3**	**-0.3**
	626nm,1.8s						
YHNB	**Yeheng**	**24.22**	**344**	*e*P	**P**	**17 51 29.6**	**+0.4**
	117nm,1.6s						
AS31	**Alice Springs**	**25.40**	**169**	*e*P	**P**	**17 51 42.5**	**+2.5**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**25.40**	**169**	P	**P**	**17 51 41.5**	**+1.5**
	1.3nm,0.9s,baz=349,slow=6.6,SNR=14						
AS01	**Alice Springs**	**25.41**	**169**	*e*P	**P**	**17 51 41.3**	**+1.3**
STKA	**Stephens Creek**	**35.26**	**161**	P	**P**	**17 53 08.4**	**+1.4**
	1.9nm,0.8s,baz=338,slow=8.3,SNR=2.9						
STKA	**Stephens Creek**	**35.26**	**161**	*e*P	**P**	**17 53 06.8**	**-0.2**
	2.0nm,1.4s						
KSRS	**Korea Array**	**35.92**	**359**	LR	LR	18 05 10.9	
	comp=Z,14nm,20.0s,baz=208,slow=32						
MJAR	**Matsushiro Arr**	**36.10**	**13**	P	**P**	**17 53 12.6**	**-1.5**
	1.6nm,0.8s,baz=188,slow=10.0,SNR=6.6						
MAJO	**Matsushiro**	**36.10**	**13**	*e*P	**P**	**17 53 13.4**	**-0.8**
	5.0nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**41.59**	**61**	T	T	18 38 23.9	
	baz=248,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**41.60**	**61**	T	T	18 38 29.1	
	baz=248,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**41.61**	**61**	T	T	18 38 26.5	
	baz=248,slow=75,SNR=11						
LSA	**Lhasa**	**45.45**	**312**	*e*P	**P**	**17 54 33.0**	**+1.2**
	3.4nm,0.5s						
TAPN	**Taplejung**	**46.98**	**307**	*e*P	**P**	**17 54 43.8**	**+0.2**
	2.8nm,0.3s						
ODAN	**Odare**	**47.02**	**306**	*e*P	**P**	**17 54 44.1**	**+0.2**
	11nm,0.6s						
RAMN	**Ramite**	**47.69**	**306**	*e*P	**P**	**17 54 49.7**	**+0.5**
	17nm,0.6s						
JIRN	**Jiri**	**48.33**	**307**	*e*P	**P**	**17 54 54.4**	**+0.2**
	76nm,0.5s						
GUN	**Gumba**	**48.68**	**307**	*e*P	**P**	**17 54 57.0**	**+0.1**
	18nm,0.7s						
PKIN	**Phulchoki**	**48.93**	**306**	*e*P	**P**	**17 54 58.2**	**-0.5**
	1.4nm,0.3s						
KKN	**Kakani**	**49.11**	**306**	*e*P	**P**	**17 54 59.6**	**-0.4**
DMN	**Daman**	**49.18**	**306**	*e*P	**P**	**17 55 00.5**	**-0.1**
ULN	**Ulaanbaatar**	**49.96**	**341**	*e*P	**P**	**17 55 05.8**	**-0.2**
	9.8nm,1.7s						
SONA0	**Songino Array**	**50.15**	**341**	*e*P	**P**	**17 55 07.5**	**0.0**
	8.1nm,1.8s						
SONM	**Songino Array**	**50.15**	**341**	P	**P**	**17 55 07.5**	**0.0**
	0.4nm,0.6s,baz=153,slow=9.7,SNR=3.6						
SONA1	**Songino Array**	**50.16**	**341**	*e*P	**P**	**17 55 07.0**	**-0.5**
KOLN	**Koldanda**	**50.46**	**306**	*e*P	**P**	**17 55 10.5**	**+0.2**
	14nm,0.5s						
PYUN	**Piuthan**	**51.09**	**306**	*e*P	**P**	**17 55 14.8**	**-0.2**
	13nm,0.5s						
FUNA	**Funafuti**	**51.31**	**102**	*e*P	**P**	**17 55 17.6**	**+1.0**
	83nm,1.1s						
MK32	**Makanchi Array**	**60.59**	**325**	*e*P	**P**	**17 56 22.3**	**-0.2**
MKAR	**Makanchi Array**	**60.59**	**325**	P	**P**	**17 56 22.3**	**-0.2**
	1.1nm,0.4s,baz=117,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**60.59**	**325**	*e*P	**P**	**17 56 21.9**	**-0.5**
	12nm,0.8s						
KURK	**Kurchatov**	**64.76**	**327**	*e*P	**P**	**17 56 49.2**	**-0.8**
	2.8nm,0.8s						
DLBC	**Dease Lake**	**94.75**	**31**	LR	LR	18 38 09.6	
	comp=Z,34nm,20.1s,baz=186,slow=33						
YKA	**Yellowknife Ar**	**100.82**	**25**	P	**Pdif**	**18 00 00.9**	**+0.9**
	1.8nm,0.8s,baz=286,slow=4.9,SNR=3.4						

*ISCJB **08** 17:53:51.6±0.4,37°.31N±0°.03×28°.66E±0°.02,h0km,Error ellipse: s-maj=3.7km s-min=2.8km az=177.4*
*DDA **08** 17:53:51.6,37°.30N×28°.69E,h7km,Md2.7,Suspected Mining explosion.*
*ISK **08** 17:53:51.4,37°.30N×28°.63E,h8km,MD2.7*
*CSEM **08** 17:53:51.5±0.2,37°.30N×28°.67E,h1km,MD2.7,Error ellipse: s-maj=4.0km s-min=3.4km az=4.0,Suspected Mining explosion.*
ISC 08 17:53:51.9±0.9,37°.32N±0°.02×28°.65E±0°.02,h0km,n39, σ0§94/57,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.26**	**56**	*i* P	**Pg**	**17 53 57.0**	**+0.2**
TAVA				*i* S	**Sg**	**17 54 00.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.26**	**56**	P	**Pg**	**17 53 57.0**	**+0.2**
TAVA				S	**Sg**	**17 54 00.8**	**+0.7**
TURN	**Turunc**	**0.45**	**185**	*i* P	**Pb**	**17 54 03.4**	**+0.7**
TURN				*i* S	**Sb**	**17 54 15.0**	**+5.1**
DNZL	**Cakiroluk**	**0.48**	**41**	*i* P	**Pg**	**17 54 01.4**	**+0.2**
DNZL	**Cakiroluk**	**0.48**	**41**	P	**Pg**	**17 54 01.4**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.50**	**180**	*e*PG	**Pg**	**17 54 01.0**	**-0.6**
DALY				*e*SG	**Sg**	**17 54 08.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.50**	**180**	*i* P	**Pg**	**17 54 00.8**	**-0.8**
DALY				*i* S	**Sg**	**17 54 08.6**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.50**	**180**	*e*Pg	**Pg**	**17 54 01.0**	**-0.6**
DALY				S	**Sg**	**17 54 08.6**	**+0.5**
MLSB	**Milas**	**0.70**	**268**	*e*PG	**Pg**	**17 54 05.0**	**-0.3**
MLSB				*e*SG	**Sg**	**17 54 14.8**	**+0.5**
MLSB	**Milas**	**0.70**	**268**	*e*Pg	**Pg**	**17 54 05.0**	**-0.3**
MLSB				*e*Sg	**Sg**	**17 54 14.8**	**+0.5**
GLHS	**Gihisar (BURDU**	**0.70**	**103**	*e*PG	**Pg**	**17 54 05.5**	**+0.2**
GLHS				*e*SG	**Sb**	**17 54 15.9**	**-1.4**
GLHS	**Gihisar (BURDU**	**0.70**	**103**	*e*Pg	**Pg**	**17 54 05.5**	**+0.2**
GLHS				*e*Sg	**Sb**	**17 54 15.9**	**-1.4**
AYDN	**Tasoluk**	**0.70**	**299**	*i* P	**Pb**	**17 54 07.0**	**0.0**
AYDN				*i* S	**Sb**	**17 54 16.3**	**-1.0**
AYDN	**Tasoluk**	**0.70**	**299**	P	**Pb**	**17 54 07.0**	**0.0**
AYDN				S	**Sb**	**17 54 16.3**	**-1.0**
GOLH	**Golhisar**	**0.73**	**96**	*i* P	**Pg**	**17 54 04.7**	**-1.3**
GOLH				*i* S	**Sg**	**17 54 15.9**	**+0.4**
GOLH	**Golhisar**	**0.73**	**96**	P	**Pg**	**17 54 04.7**	**-1.3**
GOLH				S	**Sg**	**17 54 15.9**	**+0.4**
FETY	**Fethiye**	**0.77**	**153**	*e*PG	**Pg**	**17 54 06.1**	**-0.5**
FETY	**Fethiye**	**0.77**	**153**	P	**Pg**	**17 54 04.7**	**-1.9**
FETY	**Fethiye**	**0.77**	**153**	*e*Pg	**Pg**	**17 54 06.1**	**-0.5**
FETY				S	**Sg**	**17 54 16.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**316**	*e*PG	**Pg**	**17 54 08.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**316**	*e*Pg	**Pg**	**17 54 08.6**	**0.0**
BDRM	**Kayabasi**	**0.99**	**255**	*i* S	**Sb**	**17 54 25.4**	**-0.3**
BDRM	**Kayabasi**	**0.99**	**255**	S	**Sb**	**17 54 25.4**	**-0.3**
DAT	**Datca**	**1.04**	**236**	*e*PG	**Pg**	**17 54 11.2**	**-0.7**
DAT	**Datca**	**1.04**	**236**	*i* P	**Pb**	**17 54 12.4**	**-0.5**
DAT				*i* S	**Sn**	**17 54 29.3**	**+0.1**
DAT	**Datca**	**1.04**	**236**	*e*Pg	**Pg**	**17 54 11.2**	**-0.7**
DAT	**Datca**	**1.04**	**236**	P	**Pb**	**17 54 12.4**	**-0.5**
BODT	**Bodrum**	**1.10**	**257**	*e*PN	**Pg**	**17 54 12.8**	**-0.2**
BODT	**Bodrum**	**1.10**	**257**	*e*Pn	**Pg**	**17 54 12.8**	**-0.2**
ELL	**Elmali**	**1.16**	**119**	*e*PN	**Pg**	**17 54 14.0**	**-0.1**
ELL	**Elmali**	**1.16**	**119**	*e*Pn	**Pg**	**17 54 14.0**	**-0.1**
KULA	**Kula-Manisa**	**1.19**	**0**	*e*PN	**Pg**	**17 54 14.5**	**-0.3**
KULA	**Kula-Manisa**	**1.19**	**0**	*e*Pn	**Pg**	**17 54 14.5**	**-0.3**
KHAL	**Karahalli**	**1.24**	**32**	*i* P	**Pg**	**17 54 15.0**	**-0.7**
KHAL				*i* S	**Sb**	**17 54 33.2**	**+0.3**
KHAL	**Karahalli**	**1.24**	**32**	P	**Pg**	**17 54 15.0**	**-0.7**
KHAL				S	**Sb**	**17 54 33.2**	**+0.3**
AKAS	**Kas**	**1.33**	**144**	*e*PN	**Pg**	**17 54 16.8**	**-0.6**
AKAS	**Kas**	**1.33**	**144**	*e*Pn	**Pg**	**17 54 16.8**	**-0.6**
KORT	**Korkueli**	**1.40**	**103**	*e*PN	**Pg**	**17 54 18.3**	**-0.4**
KORT	**Korkueli**	**1.40**	**103**	*e*Pn	**Pg**	**17 54 18.3**	**-0.4**

*IDC **08** 18:07:10.6±2.7,38°.12S×177°.97E,h51km±18km,mb4.2/6, mb1 4.4/7,mb1mx4.0/32,mbtmp4.5/7,ML4.7/1,MS3.4/13, Ms1 3.4/13,ms1mx3.3/26,Error ellipse: s-maj=39.4km s-min=29.9km az=41.0*
*ISCJB **08** 18:07:11.8±0.3,37°.95S±0°.02×177°.53E±0°.03,h33km, mb4.6/17,MS3.4/11,Error ellipse: s-maj=3.3km s-min=2.9km az=28.3*
*WEL **08** 18:07:13.8±0.1,37°.81S×177°.58E,h42km±1km,ML5.1/55, Mw4.5,Error ellipse: s-maj=1.0km s-min=0.9km az=0.0*
WEL Felt from Waikato to Gisborne, maximum reported intensity MM 5.
*NEIC **08** 18:07:13.7±0.0,37°.81S×177°.58E,h42km,mb4.5/10, ML5.0(WEL),After WEL.*
NEIC Felt in the Bay of Plenty area.

ISC 08 18:07:10.7±0.5,37°.86S±0°.04×177°.51E±0°.03,h36km±1km, n242,σ2§74/225,mb4.6/17,MS3.5/11,15C-50D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**0.17**	**127**	⇑P*	**Pn**	**18 07 20.3**	**+1.0**
HAZ	**Te Kaha**	**0.24**	**64**	P*	**Pn**	**18 07 20.6**	**+2.0**
HAZ				S*	**Sn**	**18 07 26.1**	**+0.9**
HAZ				AML	AML	18 07 26.5	
HAZ				AML	AML	18 07 26.5	
HAZ				AML	AML	18 07 26.6	
WIZ	**White Island**	**0.42**	**323**	⇑P*	**Pn**	**18 07 23.2**	**+3.1**
WHRZ	**Whale Island**	**0.42**	**271**	⇓P*	**Pn**	**18 07 24.5**	**+4.3**
PKGZ	**Pakihiroa**	**0.45**	**93**	⇑PN	**Pn**	**18 07 22.8**	**+2.2**
PKGZ				AML	AML	18 07 34.3	
PKGZ				AML	AML	18 07 34.9	
MWZ	**Matawai**	**0.47**	**178**	*e*Sn	**Sn**	**18 07 32.6**	**+4.5**
MWZ	**Matawai**	**0.47**	**178**	⇑P*	**Pn**	**18 07 24.3**	**+3.3**
MWZ				S*	**Sn**	**18 07 32.6**	**+4.5**
MWZ				AML	AML	18 07 33.4	
TWGZ	**Tauwhareparae**	**0.49**	**130**	⇑PN	**Pn**	**18 07 24.7**	**+3.5**
TWGZ				AML	AML	18 07 37.3	
TWGZ				AML	AML	18 07 38.2	
URZ	**Urewera**	**0.51**	**218**	P	**Pn**	**18 07 25.0**	**+3.6**
	934nm,0.3s,baz=0.6,slow=2.1,SNR=4852						
URZ				S	**Sn**	**18 07 34.1**	**+5.3**
	3μm,0.3s,baz=143,slow=20,SNR=70						
URZ				LR	LR	18 07 59.3	
	comp=Z,2μm,20.0s,baz=344,slow=70						
URZ	**Urewera**	**0.51**	**218**	P*	**Pn**	**18 07 25.1**	**+3.8**
URZ				AML	AML	18 07 34.5	
URZ				AML	AML	18 07 36.1	
PUZ	**Puketiti**	**0.63**	**110**	⇑PN	**Pn**	**18 07 25.9**	**+2.7**
PUZ				AML	AML	18 07 37.3	
PUZ				AML	AML	18 07 38.1	
TKGZ	**Te Karaka**	**0.64**	**155**	⇓PN	**Pn**	**18 07 27.1**	**+3.8**
TKGZ				AML	AML	18 07 41.0	
TKGZ				AML	AML	18 07 41.6	
RAGZ	**Rawiri**	**0.64**	**187**	⇓P*	**Pn**	**18 07 27.0**	**+3.7**
RAGZ				AML	AML	18 07 42.8	
RAGZ				AML	AML	18 07 43.0	
EDRZ	**Edgecumbe**	**0.66**	**248**	⇓P*	**Pn**	**18 07 27.5**	**+3.9**
MARZ	**Manawahe**	**0.67**	**259**	⇓P*	**Pn**	**18 07 27.3**	**+3.5**
MXZ	**Matakaoa Point**	**0.70**	**65**	*e*Pn	**Pn**	**18 07 25.9**	**+1.9**
MXZ				*e*Sn	**Sn**	**18 07 38.8**	**+5.2**
MXZ	**Matakaoa Point**	**0.70**	**65**	⇑P*	**Pn**	**18 07 26.0**	**+1.9**
MXZ				AML	AML	18 07 40.3	
MXZ				AML	AML	18 07 40.7	
WMGZ	**Waiomatatini S**	**0.72**	**87**	⇓PN	**Pn**	**18 07 27.0**	**+2.7**
WMGZ				AML	AML	18 07 40.5	
WMGZ				AML	AML	18 07 40.5	
OPRZ	**Ohinepanea**	**0.76**	**271**	⇑P*	**Pn**	**18 07 28.1**	**+3.3**
CNGZ	**Carnagh Statio**	**0.83**	**139**	⇓PN	**Pn**	**18 07 29.1**	**+3.2**
CNGZ				AML	AML	18 08 01.2	
CNGZ				AML	AML	18 08 03.9	
MUGZ	**Murupara**	**0.84**	**223**	⇓P*	**Pn**	**18 07 29.6**	**+3.5**
RTZ	**Ruatahuna**	**0.86**	**209**	⇓P*	**Pn**	**18 07 29.7**	**+3.3**
RIGZ	**Rimuhau**	**0.86**	**167**	⇓PN	**Pn**	**18 07 29.8**	**+3.4**
RIGZ				AML	AML	18 07 51.5	
RIGZ				AML	AML	18 07 54.6	
MKRZ	**Makatiti**	**0.87**	**251**	⇓P*	**Pn**	**18 07 30.4**	**+4.0**
TARZ	**Mount Tarawera**	**0.88**	**245**	⇓P*	**Pn**	**18 07 30.5**	**+3.9**
LIRZ	**Lichensteins R**	**0.90**	**261**	⇓P*	**Pn**	**18 07 30.7**	**+3.9**
RRRZ	**Republican Roa**	**0.92**	**238**	⇓P*	**Pn**	**18 07 30.8**	**+3.7**
SNGZ	**Shannon Statio**	**0.93**	**188**	⇓PN	Pn	18 07 31.7	+4.4
SNGZ				AML	AML	18 07 54.8	
SNGZ				AML	AML	18 07 56.6	
OMRZ	**Omania**	**0.93**	**255**	⇓P*	**Pn**	**18 07 31.0**	**+3.7**
HLRZ	**Highlands Stat**	**0.99**	**247**	⇓P*	**Pn**	**18 07 32.0**	**+3.9**
TGRZ	**Tauranga**	**1.00**	**277**	⇓P*	**Pn**	**18 07 31.4**	**+3.2**
KARZ	**Kaharoa**	**1.01**	**261**	P*	**Pn**	**18 07 32.0**	**+3.6**
PRRZ	**Plateau Road**	**1.08**	**234**	⇓P*	**Pn**	**18 07 33.0**	**+3.7**
UTU	**Utuhina**	**1.08**	**253**	P*	**Pn**	**18 07 33.6**	**+4.3**
HSRZ	**Hossack Road**	**1.09**	**245**	⇓P*	**Pn**	**18 07 33.6**	**+4.1**
PRGZ	**Paritu Road**	**1.10**	**165**	PN	**Pn**	**18 07 32.2**	**+2.6**
PRGZ				AML	AML	18 08 05.3	
PRGZ				AML	AML	18 08 06.5	
HRRZ	**Handcock Road**	**1.10**	**241**	⇑P*	**Pn**	**18 07 33.6**	**+4.0**
ALRZ	**Allen Road**	**1.15**	**232**	⇓P*	**Pn**	**18 07 34.0**	**+3.6**
GRRZ	**Galatos Road**	**1.21**	**246**	⇓P*	**Pn**	**18 07 35.1**	**+4.1**
WHHZ	**Waihua**	**1.23**	**190**	PN	**Pn**	**18 07 35.5**	**+4.1**
WHHZ				AML	AML	18 08 01.2	
WHHZ				AML	AML	18 08 02.8	
KMRZ	**Kaimai**	**1.24**	**270**	⇓P*	**Pn**	**18 07 34.

PXZ			AML	AML	18 08 15.3	
PXZ			AML	AML	18 08 15.5	
PXZ			AML	AML	18 08 15.5	
ETAZ	**East Tamaki Re**	**2.25 293**	⇓PN	**Pn**	**18 07 48.8**	**+3.5**
PNHZ	**Pukenui**	**2.29 206**	PN	**Pn**	**18 07 48.4**	**+2.5**
PNHZ			AML	AML	18 08 30.9	
PNHZ			AML	AML	18 08 31.6	
GRZ	**Great Barrier**	**2.30 314**	⇓PN	**Pn**	**18 07 48.7**	**+2.7**
MTAZ	**Motutapu**	**2.34 297**	⇓PN	**Pn**	**18 07 50.0**	**+3.5**
WPHZ	**Waipukurau**	**2.35 200**	PN	**Pn**	**18 07 49.2**	**+2.4**
WPHZ			AML	AML	18 08 41.1	
WPHZ			AML	AML	18 09 00.7	
AWAZ	**Awhitu Peninsu**	**2.42 288**	⇓PN	**Pn**	**18 07 51.3**	**+3.6**
HBAZ	**Herne Bay Bore**	**2.43 294**	⇓PN	**Pn**	**18 07 51.7**	**+3.9**
ABAZ	**Army Bay**	**2.48 300**	⇓PN	**Pn**	**18 07 52.0**	**+3.5**
PRHZ	**Porangahau**	**2.50 196**	PN	**Pn**	**18 07 50.4**	**+1.7**
PRHZ			AML	AML	18 08 21.7	
PRHZ			AML	AML	18 08 25.8	
VRZ	**Vera Road**	**2.50 239**	P*	**Pn**	**18 07 53.3**	**+4.5**
TSZ	**Takapari Road**	**2.50 208**	PN	**Pn**	**18 07 51.1**	**+2.2**
TSZ			AML	AML	18 08 34.9	
TSZ			AML	AML	18 08 40.4	
WTAZ	**Waiatarua**	**2.52 291**	PN	**Pn**	**18 07 52.9**	**+3.8**
RVAZ	**Riverhead Bore**	**2.58 294**	⇓PN	**Pn**	**18 07 53.6**	**+3.8**
ANWZ	**Angora Road**	**2.71 197**	PN	**Pn**	**18 07 53.8**	**+2.1**
ANWZ			AML	AML	18 08 30.4	
ANWZ			AML	AML	18 08 33.7	
WAZ	**Wanganui**	**2.73 225**	⇓PN	**Pn**	**18 07 56.5**	**+4.5**
MHEZ	**Mangahewa**	**2.78 243**	PN	Pn	18 07 58.5	+5.9
POWZ	**Post Office Ro**	**2.87 208**	*e*Pn	**Pn**	**18 07 55.7**	**+1.8**
POWZ			AML	AML	18 08 46.4	
POWZ			AML	AML	18 08 49.2	
OHWZ	**Ohakea**	**2.90 215**	PN	**Pn**	**18 07 58.0**	**+3.8**
LREZ	**Lake Rotokare**	**2.91 236**	PN	Pn	18 07 59.9	+5.5
DREZ	**Durham Road**	**2.91 242**	PN	Pn	18 08 00.5	+6.0
PRWZ	**Pori Road**	**2.94 203**	PN	**Pn**	**18 07 56.3**	**+1.4**
PRWZ			AML	AML	18 08 33.9	
PRWZ			AML	AML	18 08 34.9	
BFZ	**Birch Farm**	**2.98 199**	*e*Pn	**Pn**	**18 07 56.4**	**+1.0**
BFZ	**Birch Farm**	**2.98 199**	PN	**Pn**	**18 07 56.4**	**+1.0**
BFZ			AML	AML	18 08 32.4	
BFZ			AML	AML	18 08 32.4	
BFZ			AML	AML	18 08 33.0	
BFZ			AML	AML	18 08 33.0	
PREZ	**Palmer Road**	**3.01 240**	PN	Pn	18 08 02.5	+6.6
NEZ	**North Egmont**	**3.02 241**	PN	Pn	18 08 02.1	+6.0
PKE	**Pukeiti**	**3.06 243**	*e*Pn	Pn	18 08 02.2	+5.6
PKE	**Pukeiti**	**3.06 243**	PN	Pn	18 08 02.2	+5.6
KHEZ	**Kahui Hut**	**3.09 241**	PN	Pn	18 08 02.9	+5.9
MRZ	**Mangatainoka R**	**3.17 208**	PN	**Pn**	**18 07 59.2**	**+1.1**
MRZ			AML	AML	18 08 40.5	
MRZ			AML	AML	18 08 41.6	
TIWZ	**Tintock**	**3.17 203**	PN	**Pn**	**18 07 59.1**	**+1.0**
TIWZ			AML	AML	18 08 39.6	
TIWZ			AML	AML	18 08 40.2	
WCZ	**Waipu Caves**	**3.18 306**	PN	**Pn**	**18 08 01.2**	**+3.1**
NWEZ	**Newall Road**	**3.18 243**	PN	Pn	18 08 05.0	+6.8
CPWZ	**Castlepoint**	**3.21 198**	*e*PN	**Pn**	**18 08 00.0**	**+1.5**
CPWZ			AML	AML	18 08 38.7	
CPWZ			AML	AML	18 09 10.5	
NMEZ	**Namu Road**	**3.24 240**	PN	Pn	18 08 05.5	+6.6
HOWZ	**Holdsworth Sta**	**3.40 206**	PN	**Pn**	**18 08 01.7**	**+0.5**
HOWZ			AML	AML	18 08 43.2	
HOWZ			AML	AML	18 08 43.3	
OGWZ	**Otaki Gorge**	**3.46 211**	PN	**Pn**	**18 08 03.3**	**+1.2**
OGWZ			AML	AML	18 09 01.5	
OGWZ			AML	AML	18 09 01.6	
TMWZ	**Te Maipa**	**3.47 201**	PN	**Pn**	**18 08 02.6**	**+0.4**
TMWZ			AML	AML	18 08 44.5	
TMWZ			AML	AML	18 08 44.7	
KIW	**Kapiti Island**	**3.61 213**	PN	**Pn**	**18 08 05.3**	**+1.3**
KIW			AML	AML	18 09 03.5	
KIW			AML	AML	18 09 05.1	
MTW	**Mount Morrison**	**3.64 205**	*e*Pn	**Pn**	**18 08 04.7**	**+0.2**
MTW	**Mount Morrison**	**3.64 205**	PN	**Pn**	**18 08 04.7**	**+0.2**
MTW			AML	AML	18 08 47.9	
MTW			AML	AML	18 08 52.8	
CAW	**Cannon Point**	**3.75 209**	*e*Pn	**Pn**	**18 08 06.3**	**+0.3**
CAW	**Cannon Point**	**3.75 209**	PN	**Pn**	**18 08 06.3**	**+0.3**
CAW			AML	AML	18 09 12.5	
CAW			AML	AML	18 09 22.0	
TRWZ	**Traveller**	**3.80 201**	PN	**Pn**	**18 08 06.9**	**+0.2**
TRWZ			AML	AML	18 08 51.7	
TRWZ			AML	AML	18 08 53.7	
PAWZ	**Paruwai Farm**	**3.86 204**	*e*Pn	**Pn**	**18 08 08.0**	**+0.4**
PAWZ	**Paruwai Farm**	**3.86 204**	PN	**Pn**	**18 08 08.0**	**+0.4**
PAWZ			AML	AML	18 08 53.7	
PAWZ			AML	AML	18 08 54.2	
MSWZ	**Moikau Station**	**3.95 205**	AML	AML	18 09 30.8	
MSWZ			AML	AML	18 09 32.1	
WEL	**Wellington**	**4.02 211**	PN	**Pn**	**18 08 10.4**	**+0.7**
WEL			AML	AML	18 09 03.0	
WEL			AML	AML	18 09 20.1	
WEL			AML	AML	18 09 20.1	
WEL			AML	AML	18 09 23.7	
DUWZ	**D'Urville Isla**	**4.04 222**	*e*Pn	**Pn**	**18 08 11.6**	**+1.6**
DUWZ	**D'Urville Isla**	**4.04 222**	PN	**Pn**	**18 08 11.6**	**+1.6**
SNZO	**South Karori**	**4.07 211**	*e*Pn	**Pn**	**18 08 10.6**	**+0.3**
BHW	**Baring Head**	**4.08 209**	*e*Pn	**Pn**	**18 08 10.8**	**+0.2**
BHW			*e*Sn	**Sn**	**18 08 58.2**	**+1.1**
BHW			*e*		18 09 28.4	
BHW	**Baring Head**	**4.08 209**	PN	**Pn**	**18 08 10.8**	**+0.2**
BHW			AML	AML	18 08 58.2	
BHW			AML	AML	18 09 28.4	
PLWZ	**Palliser**	**4.09 204**	PN	**Pn**	**18 08 10.5**	**-0.2**
PLWZ			AML	AML	18 08 58.5	
PLWZ			AML	AML	18 08 58.6	
OUZ	**Omahuta**	**4.11 309**	*e*Pn	**Pn**	**18 08 14.7**	**+3.8**
OUZ	**Omahuta**	**4.11 309**	PN	**Pn**	**18 08 14.5**	**+3.6**
TCW	**Tory Channel**	**4.17 216**	*e*Pn	**Pn**	**18 08 12.4**	**+0.6**
TCW	**Tory Channel**	**4.17 216**	PN	**Pn**	**18 08 12.4**	**+0.6**
TCW			AML	AML	18 09 04.6	
TCW			AML	AML	18 09 20.7	
TUWZ	**Tuamarina**	**4.50 217**	PN	**Pn**	**18 08 16.9**	**+0.6**
TUWZ			AML	AML	18 09 27.8	
TUWZ			AML	AML	18 09 28.5	
CMWZ	**Cape Campbell**	**4.64 212**	PN	**Pn**	**18 08 20.0**	**+1.8**
CMWZ			AML	AML	18 09 45.6	
CMWZ			AML	AML	18 09 48.8	
BSWZ	**Blackbirch Sta**	**4.76 215**	PN	**Pn**	**18 08 20.0**	**+0.2**
BSWZ			AML	AML	18 09 39.5	
BSWZ			AML	AML	18 09 53.8	
QRZ	**Quartz Range**	**4.86 231**	*e*Pn	**Pn**	**18 08 22.9**	**+1.6**
QRZ	**Quartz Range**	**4.86 231**	PN	**Pn**	**18 08 22.9**	**+1.6**
THZ	**Tophouse**	**5.27 221**	*e*Pn	**Pn**	**18 08 27.6**	**+0.7**
THZ	**Tophouse**	**5.27 221**	⇓PN	**Pn**	**18 08 27.5**	**+0.7**
KHZ	**Kahutara**	**5.47 213**	*e*Pn	**Pn**	**18 08 29.1**	**-0.5**
KHZ	**Kahutara**	**5.47 213**	*e*PN	**Pn**	**18 08 28.8**	**-0.7**
KHZ			AML	AML	18 09 36.5	
KHZ			AML	AML	18 09 36.5	
KHZ			AML	AML	18 09 37.4	
KHZ			AML	AML	18 09 37.4	
DSZ	**Denniston Nort**	**5.86 227**	*e*Pn	**Pn**	**18 08 35.1**	**+0.1**
DSZ	**Denniston Nort**	**5.86 227**	PN	**Pn**	**18 08 35.1**	**+0.1**
LTZ	**Lake Taylor**	**6.34 218**	*e*Pn	**Pn**	**18 08 40.8**	**-0.8**
INZ	**Inchbonnie**	**6.71 222**	PN	**Pn**	**18 08 46.2**	**-0.4**
CRLZ	**Canterbury Las**	**6.80 211**	*e*Pn	**Pn**	**18 08 46.7**	**-1.2**
CRLZ			*e*Sn	Sn	18 09 54.0	-10
CRLZ	**Canterbury Las**	**6.80 211**	PN	**Pn**	**18 08 46.7**	**-1.2**
OXZ	**Oxford**	**6.86 216**	*e*Pn	**Pn**	**18 08 48.0**	**-0.8**
OXZ			*e*Sn	**Sn**	**18 10 03.0**	**-2.6**
OXZ	**Oxford**	**6.86 216**	PN	**Pn**	**18 08 47.1**	**-1.7**
MQZ	**McQueen's Vall**	**6.90 211**	*e*Pn	**Pn**	**18 08 47.6**	**-1.6**
MQZ	**McQueen's Vall**	**6.90 211**	⇑PN	**Pn**	**18 08 47.5**	**-1.7**
WVZ	**Waitaha Valley**	**7.33 223**	PN	**Pn**	**18 08 56.4**	**+1.3**
CTZ	**Chatham Island**	**7.37 145**	⇓PN	**Pn**	**18 08 56.7**	**+1.1**
RPZ	**Rata Peaks**	**7.62 218**	P	**Pn**	**18 08 58.7**	**-0.5**
RPZ	12nm,0.3s,baz=292,slow=2.2,SNR=20		S	**Sn**	**18 10 19.7**	**-4.5**
RPZ	14nm,0.3s,baz=308,slow=22,SNR=18		LR	LR	18 12 32.4	
RPZ	comp=Z,748nm,20.5s,baz=50,slow=42 **Rata Peaks**	**7.62 218**	PN	**Pn**	**18 08 58.5**	**-0.7**
FOZ	**Fox Glacier**	**8.13 223**	*e*Pn	**Pn**	**18 09 05.5**	**-0.7**
FOZ	**Fox Glacier**	**8.13 223**	PN	**Pn**	**18 09 04.8**	**-1.3**
LBZ	**Lake Benmore**	**8.54 218**	*e*Pn	**Pn**	**18 09 11.5**	**-0.2**
LBZ	**Lake Benmore**	**8.54 218**	PN	**Pn**	**18 09 11.5**	**-0.2**
ODZ	**Otahua Downs**	**8.83 214**	*e*Pn	**Pn**	**18 09 14.0**	**-1.7**
ODZ			*e*Sn	**Sn**	**18 10 49.1**	**-4.8**
ODZ	**Otahua Downs**	**8.83 214**	⇑PN	**Pn**	**18 09 14.0**	**-1.7**
JCZ	**Jackson Bay**	**9.05 224**	PN	**Pn**	**18 09 17.9**	**-1.0**
WKZ	**Wanaka**	**9.44 220**	*e*Pn	**Pn**	**18 09 21.6**	**-2.4**
EAZ	**Earnscleugh**	**9.59 217**	PN	**Pn**	**18 09 24.9**	**-1.2**
MLZ	**Mavora Lakes**	**10.27 220**	*e*Pn	**Pn**	**18 09 34.5**	**-1.0**
SYZ	**Scrubby Hill**	**10.65 213**	*e*PN	**Pn**	**18 09 40.3**	**-0.3**
WHZ	**Wether Hill Ro**	**10.72 219**	*e*Pn	**Pn**	**18 09 39.7**	**-2.0**
WHZ	**Wether Hill Ro**	**10.72 219**	*e*PN	**Pn**	**18 09 39.6**	**-2.0**
DCZ	**Deep Cove**	**10.84 222**	*e*Pn	**Pn**	**18 09 43.6**	**+0.4**
APZ	**The Paps**	**11.39 215**	*e*PN	**Pn**	**18 09 48.8**	**-2.0**
DZM	**Mont Dzumac**	**18.40 326**	LR	LR	18 17 01.5	
DZM	comp=Z,101nm,20.4s,baz=183,slow=31 **Mont Dzumac**	**18.40 326**	*e*LR	LR	18 15 57.0	
ARMA	290nm,27.1s **Armidale**	**22.62 281**	*e*P	**P**	**18 12 06.1**	**-2.5**
RAR	28nm,1.8s **Rarotonga**	**25.70 56**	LR	LR	18 22 32.0	
STKA	comp=Z,118nm,18.5s,baz=264,slow=36 **Stephens Creek**	**29.94 271**	P	**P**	**18 13 18.9**	**+3.5**
STKA	3.6nm,0.9s,baz=108,slow=12,SNR=6.9		LR	LR	18 24 24.2	
STKA	comp=Z,57nm,19.5s,baz=40,slow=34 **Stephens Creek**	**29.94 271**	*e*P	**P**	**18 13 14.9**	**-0.5**
TBI	2.7nm,1.4s **Tubuai**	**31.71 72**	*e*LR	LR	18 21 53.8	
CTA	219nm,26.8s,baz=240 **Charters Tower**	**32.37 294**	P	**P**	**18 13 40.8**	**+3.8**
HNR	2.5nm,0.2s,baz=105,slow=12,SNR=2.7 **Honiara**	**32.43 326**	LR	LR	18 24 37.6	
BBOO	comp=Z,50nm,20.3s,baz=168,slow=32 **Buckleboo**	**33.98 266**	*e*P	**P**	**18 13 51.7**	**+0.8**
PPT2	23nm,1.4s **Papeete2**	**35.18 64**	*e*LR	LR	18 23 29.7	
PPT	297nm,26.5s **Papeete**	**35.20 64**	LR	LR	18 25 54.5	
COEN	comp=Z,53nm,18.9s,baz=207,slow=32 **Coen**	**38.65 299**	*e*P	**P**	**18 14 32.0**	**+1.2**
AS01	13nm,1.0s **Alice Springs**	**39.66 278**	*e*P	**P**	**18 14 39.6**	**+0.2**
AS31	**Alice Springs**	**39.70 278**	*e*P	**P**	**18 14 39.9**	**+0.3**
ASAR	2.1nm,0.8s **Alice Springs**	**39.70 278**	P	**P**	**18 14 40.3**	**+0.7**
ASAR	3.6nm,0.6s,baz=119,slow=7.6,SNR=31		LR	LR	18 30 46.2	
VNDA	comp=Z,92nm,19.4s,baz=136,slow=35 **Vanda**	**40.33 185**	*e*P	**P**	**18 14 44.0**	**-0.2**
FORT	7.7nm,1.8s **Forrest**	**41.06 265**	*e*P	**P**	**18 14 51.2**	**+0.4**
WB2	232nm,0.9s **Warramunga Arr**	**41.38 283**	*e*P	**P**	**18 14 54.5**	**+1.0**
WRAB	12nm,1.0s **Tennant Creek**	**41.38 283**	*e*P	**P**	**18 14 53.9**	**+0.3**
WR1	9.2nm,0.8s **Warramunga Arr**	**41.38 283**	*e*P	**P**	**18 14 53.7**	**+0.2**
WR1	11nm,0.9s		*e*		18 33 11.1	
WRA	**Warramunga Arr**	**41.38 283**	P	**P**	**18 14 53.7**	**+0.2**
WRA	8.2nm,0.8s,baz=124,slow=7.5,SNR=44		LR	LR	18 33 11.1	
KWAJ	comp=Z,67nm,18.1s,baz=105,slow=37 **Kwajalein Atol**	**47.33 347**	*e*P	**P**	**18 15 40.1**	**-0.9**
TAOE	560nm,1.6s **Nuku Hiva Isla**	**47.81 64**	*e*LR	LR	18 29 19.0	
MBWA	167nm,29.1s **Marble Bar**	**52.18 271**	*e*P	**P**	**18 16 16.4**	**-1.6**
QSPA	12nm,1.0s **South Pole Qui**	**52.26 180**	*e*P	**P**	**18 16 18.5**	**+0.3**
SARN	**Sarigan**	**61.93 325**	*e*P	**P**	**18 17 25.4**	**-1.5**
HPO	**Honuapo**	**62.06 29**	*e*P	P	18 17 25.7	-1.9
SYO	**Syowa Base**	**68.99 195**	⇓*e*P	**P**	**18 18 11.4**	**-0.5**
SNAA	**Sanae**	**70.77 180**	P	P	18 18 29.3	+6.4
VNA3	**Neumayer Olymp**	**71.08 178**	P	**P**	**18 18 25.5**	**+0.8**
VNA2	**Neumayer--Watz**	**71.46 178**	P	**P**	**18 18 26.6**	**-0.3**
VNA1	baz=179,slow=4.2 **Neumayer--Stat**	**71.71 178**	P	**P**	**18 18 26.1**	**-2.3**
MJAR	**Matsushiro Arr**	**82.48 329**	LR	LR	18 52 47.3	
KSRS	comp=Z,6.4nm,21.6s,baz=255,slow=33 **Korea Array**	**87.81 323**	P	**P**	**18 19 57.0**	**+1.1**
KSRS	1.6nm,0.9s,baz=137,slow=6.1,SNR=6.9		LR	LR	18 54 44.4	
KS15	comp=Z,18nm,19.1s,baz=216,slow=32 **Wonju Array Si**	**87.82 323**	*e*P	**P**	**18 19 56.3**	**+0.3**
KSAR	**Wonju Array Be**	**87.82 323**	P	**P**	**18 19 57.0**	**+1.0**
KS01	**Wonju Array Si**	**87.84 323**	*e*P	**P**	**18 19 56.4**	**+0.3**
CM01	**Chiang Mai Arr**	**92.45 291**	*e*P	**P**	**18 20 17.6**	**-0.5**
CM31	**Chiang Mai Arr**	**92.49 291**	*e*P	**P**	**18 20 17.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**92.49 291**	P	**P**	**18 20 18.6**	**+0.4**
CMAR	1.8nm,0.8s,baz=144,slow=3.4,SNR=17		LR	LR	19 06 31.8	
NNA	comp=Z,22nm,18.1s,baz=166,slow=38 **Nana**	**94.75 109**	LR	LR	18 50 05.2	
MA2	comp=Z,9.9nm,21.7s,baz=208,slow=27 **Magadan**	**99.58 347**	LR	LR	19 01 45.1	
ARCES	comp=Z,16nm,18.6s,baz=140,slow=33 **ARCESS Array B**	**144.88 343**	PKPbc	**PKPab**	**18 26 39.9**	**-2.1**
KBZ	3.3nm,0.9s,baz=29,slow=4.1,SNR=7.0 **Khabaz**	**145.48 294**	PKPbc	**PKPdf**	**18 26 44.1**	**-0.4**
MMAI	3.0nm,0.9s,baz=158,slow=5.4,SNR=4.2 **Mount Meron Ar**	**148.90 273**	PKPbc	**PKPbc**	**18 26 53.5**	**-1.2**
FIA0	0.4nm,0.3s,baz=102,slow=4.9,SNR=4.3 **FINESS Array S**	**150.46 332**	*e*PKPbc	**PKPbc**	**18 26 55.7**	**-1.8**
FIA0			*e*PKPab	**pPKPdf**	**18 27 02.6**	**-1.1**
FINES	**FINESS Array B**	**150.46 332**	PKPbc	**PKPbc**	**18 26 55.7**	**-1.8**
FINES	3.9nm,1.1s,baz=39,slow=5.3,SNR=9.5		PKPab	**pPKPdf**	**18 27 02.6**	**-1.1**
BR101	1.8nm,0.3s,baz=61,slow=4.3,SNR=13 **Keskin Array S**	**151.89 285**	*e*PKPbc	**PKPbc**	**18 26 59.8**	**-2.0**
BR101			*e*PKPab	**pPKPdf**	**18 27 09.5**	**+2.5**
BRTR	**Keskin Array B**	**151.89 285**	PKPbc	**PKPbc**	**18 26 59.8**	**-2.0**
BRTR	1.6nm,0.9s,baz=139,slow=3.2,SNR=6.6		PKPab	**pPKPdf**	**18 27 09.5**	**+2.5**
BR231	1.5nm,0.9s,baz=104,slow=5.2,SNR=4.0 **Keskin MP Arra**	**152.57 285**	*e*PKPbc	**PKPdf**	**18 27 00.1**	**+3.8**
AKASG	**Malin Array Be**	**154.14 310**	PKPab	**PKPab**	**18 27 19.1**	**-0.9**
TORD	0.2nm,0.3s,baz=66,slow=3.0,SNR=5.1 **Torodi Ar. Bea**	**155.10 190**	PKPbc	PKPdf	18 27 08.7	+8.3
TORD	0.3nm,0.3s,baz=174,slow=5.3,SNR=13		PKPab	pPKPbc	18 27 20.7	-0.1
TOA1	0.6nm,0.8s,baz=139,slow=4.1,SNR=4.6 **Torodi Ar. Sit**	**155.11 190**	*e*PKPbc	PKPdf	18 27 08.7	+8.3
TOA1			*e*PKPab	pPKPbc	18 27 20.7	-0.1

*ISCJB **08** 18:12:31.9±0.9, 30°.95S±0°.03×71°.78W±0°.09, h79km±19km, Error ellipse: s-maj=13.5km s-min=4.4km az=5.2*
*SJA **08** 18:12:31.7±1.4, 30°.94S×71°.66W, h54km±25km, ML3.6, MW3.5*
*GUC **08** 18:12:33.2±0.7, 30°.92S×71°.03W, h95km±11km, ML3.8*
ISC 08 18:12:33.0±1.5,**30°.93S**±0°.03×**71°.72W**±0°.09,**h53**km±47km, **n28**,σ1§**84**/37,**3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.09**	**46**	⇓*i*P	**Pn**	**18 12 52.5**	**+0.3**
TLL				*i* S	**Sn**	**18 13 06.5**	**-0.1**
TLL	comp=N,7μm,0.3s			IAML		18 13 08.0	
LCO	**Las Campanas**	**2.10**	**25**	⇑*i*P	**Pn**	**18 13 06.6**	**+0.6**
LCO				*i* S	**Sn**	**18 13 31.1**	**-0.1**
LCO	comp=N,788nm,0.3s			IAML		18 13 32.5	
LCO	**Las Campanas**	**2.10**	**25**	*e*P	**Pn**	**18 13 06.7**	**+0.6**
LCO				*e*S	**Sn**	**18 13 31.5**	**+0.3**
ROCH	**El Roble**	**2.12**	**164**	IAML		18 13 33.2	
ROC1	comp=N,707nm,0.2s **El Roble**	**2.12**	**164**	*e*P	**Pn**	**18 13 06.6**	**+0.3**
ROC1				*i* S	**Sn**	**18 13 31.5**	**-0.1**
RTLS	**Leoncito**	**2.24**	**113**	*e*P	**Pn**	**18 13 09.5**	**+1.5**
RTLS				*e*S	**Sn**	**18 13 35.1**	**+0.5**
AUSP	**Uspallata**	**2.37**	**124**	*e*P	**Pn**	**18 13 11.2**	**+1.5**
PEL	**Peldehue**	**2.37**	**159**	⇑*i*P	**Pn**	**18 13 09.7**	**+0.2**
PEL				*i* S	**Sn**	**18 13 37.6**	**+0.1**
PEL	comp=N,398nm,0.5s			IAML		18 13 40.0	
VACH	**Vallenar**	**2.49**	**20**	*e*P	**Pn**	**18 13 14.4**	**+3.3**
VACH				*i* S	**Sn**	**18 13 43.1**	**+2.9**
CLCH	**Cerro Calan**	**2.65**	**158**	⇑*i*P	**Pn**	**18 13 13.9**	**+0.5**
CLCH				*i* S	**Sn**	**18 13 44.2**	**-0.2**
CLCH	comp=E,508nm,0.6s			IAML		18 14 07.4	
FCH	**Farellones**	**2.68**	**154**	⇓*i*P	**Pn**	**18 13 14.6**	**+0.7**
FCH				*i* S	**Sn**	**18 13 46.3**	**+0.9**
AMOG	**MOGNA**	**2.77**	**91**	*e*P	**Pn**	**18 13 16.6**	**+1.7**
ANTU	**Antumapu**	**2.79**	**161**	*e*P	**Pn**	**18 13 15.8**	**+0.6**
ANTU				*i* S	**Sn**	**18 13 46.9**	**-0.7**
ANTU	comp=E,535nm,0.4s			IAML		18 13 49.1	
RTLL	**Cerro Villicun**	**2.81**	**99**	*e*P	**Pn**	**18 13 16.0**	**+0.6**
RTCV	**Cerro Valdivia**	**2.87**	**110**	*i* P	**Pn**	**18 13 16.3**	**0.0**
ASAL	**Salagasta**	**2.96**	**125**	*e*P	**Pn**	**18 13 19.5**	**+2.0**
ARCO	**CERRO ARCO**	**3.04**	**130**	IAML		18 13 43.9	
AGUA	comp=Z,212nm,0.5s **GUANDACOL**	**3.14**	**64**	*e*P	**Pn**	**18 13 22.6**	**+2.6**
AAGR	**Agrelo**	**3.26**	**132**	*e*P	**Pn**	**18 13 24.2**	**+2.5**
AAGR				*e*S	Sn	18 13 45.9	-13
AVFE	**Valle Fertil**	**3.67**	**87**	*i* P	**Pn**	**18 13 27.6**	**+0.2**
AVFE				IAML		18 14 15.6	
VCA	comp=Z,80nm,0.3s **Vinchina**	**3.75**	**55**	*e*P	**Pn**	**18 13 30.2**	**+1.7**
VCA				IAML		18 14 16.0	
GO05	comp=Z,143nm,0.2s **HualaæØ**	**4.07**	**182**	*e*P	**Pn**	**18 13 32.1**	**-0.7**
GO05				*e*S	**Sn**	**18 14 16.5**	**-2.7**
ACLC	**CERRO LA CRUZ**	**4.39**	**71**	*e*P	**Pn**	**18 13 37.8**	**+0.5**
APLL	**PUNTA DE LOS L**	**4.50**	**85**	*e*P	**Pn**	**18 13 38.3**	**-0.4**
CYA	**Choya**	**5.71**	**66**	*e*P	**Pn**	**18 13 54.5**	**-0.8**
PB14	**IPOC Station P**	**6.39**	**11**	*e*P	**Pn**	**18 14 02.2**	**-2.6**
PB14				*e*S	**Sn**	**18 15 10.7**	**-5.8**
FSA	**Cafayete**	**6.96**	**48**	*e*P	Pn	18 14 19.8	+7.2
LVC	**Limon Verde**	**8.66**	**17**	*e*P	**Pn**	**18 14 32.6**	**-3.4**

IDC 08 18:43:19.2±2.4,**2°.93S**×**130°.00E**,**h0**km,**mb3.6**/2, **mb1 3.9**/3,**mb1mx3.4**/41,**mbtmp3.7**/3,**ML3.4**/1,**Error ellipse: s-maj=133.0km s-min=29.7km az=70.0**,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.43**	**166**	P	Pn	18 47 22.9	-1.1
ASAR	0.1nm,0.3s,baz=346,slow=10,SNR=14 **Alice Springs**	**20.95**	**170**	P	P	18 48 04.5	+0.5
ASAR	1.9nm,0.5s,baz=345,slow=10,SNR=50			S	S	18 51 53.9	-4.6
MKAR	0.3nm,0.7s,baz=351,slow=23,SNR=2.6 **Makanchi Array**	**64.86**	**326**	P	P	18 54 00.3	0.0
	0.7nm,1.0s,baz=124,slow=6.9,SNR=2.5						

*ISCJB **08** 18:45:16.4±0.8, 24°.16S±0°.06×67°.17W±0°.06, h181km, mb3.4/1, Error ellipse: s-maj=8.1km s-min=7.7km az=144.5*
*IDC **08** 18:45:17.0±2.7, 24°.08S×66°.97W, h168km±33km, mb3.3/1, mb1 3.4/5, mb1mx3.2/22, mbtmp3.8/5, Error ellipse: s-maj=43.2km s-min=24.4km az=114.0*
*GUC **08** 18:45:19.0±0.4, 24°.22S×67°.36W, h156km±34km, ML4.4*
ISC 08 18:45:16.8±1.1,**24°.15S**±0°.08×**67°.16W**±0°.08,**h181**km,**n13**, σ1§**48**/20,**1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.22**	**313**	P	**Pn**	**18 45 58.4**	**+1.7**
LVC	708nm,0.3s,baz=133,slow=7.6,SNR=256			S	**Sn**	**18 46 28.0**	**+0.3**
PB06	2μm,0.3s,baz=17,slow=21,SNR=37 **IPOC Station P**	**2.64**	**302**	*e*P	**Pn**	**18 46 02.2**	**+0.9**
PB06				*e*S	**Sn**	**18 46 35.3**	**-0.7**
PB06	comp=N,1μm,0.1s			IAML		18 46 37.6	
PB14	**IPOC Station P**	**3.00**	**260**	*e*P	**Pn**	**18 46 05.9**	**+0.2**
PB14				*e*S	**Sn**	**18 46 41.6**	**-2.2**
ANCH	**Antofagasta**	**3.01**	**278**	⇓*i*P	**Pn**	**18 46 08.0**	**+2.4**
ANCH				*i* S	**Sn**	**18 46 43.5**	**-0.2**
PB09	**IPOC Station P**	**3.03**	**320**	⇑*i*P	**Pn**	**18 46 07.8**	**+1.8**
PB09				*e*S	**Sn**	**18 46 44.8**	**+0.5**
PB09	comp=N,739nm,0.5s			IAML		18 46 46.6	
PB10	**IPOC Station P**	**3.17**	**281**	*e*P	**Pn**	**18 46 08.4**	**+0.8**
PB10				*e*S	**Sn**	**18 46 45.2**	**-2.0**
PB10	comp=E,972nm,0.3s			IAML		18 46 50.6	
PB04	**IPOC Station P**	**3.29**	**303**	IAML		18 46 50.8	
PB07	comp=E,457nm,0.2s **IPOC Station P**	**3.48**	**313**	*e*P	**Pn**	**18 46 12.3**	**+0.7**
PB07				*e*S	**Sn**	**18 46 52.3**	**-2.1**
LPAZ	**La Paz**	**7.87**	**353**	P	**Pn**	**18 47 10.4**	**+1.4**
LPAZ	comp=E,1.6nm,0.3s,baz=170,slow=8.2,SNR=39			S	**Sn**	**18 48 35.5**	**-2.3**
SIV	comp=E,0.1nm,0.3s,baz=341,slow=18,SNR=4.9 **San Ignacio**	**9.92**	**36**	P	**Pn**	**18 47 34.0**	**-1.4**
PLCA	comp=E,0.3n

comp=N,6μm,0.5s
SVKR Severomuysk 1.92 78 *e*PN **Pb 18 46 15.1 0.0**
SVKR *e* 18 46 40.8
SVKR pmax pmax
comp=Z,652nm,0.6s
SVKR smax smax
comp=N,6μm,0.6s
UKT Uakit 1.96 97⇓*i*Pg **Pb 18 46 15.7 -0.2**
UKT comp=N,35nm,0.8s
UKT ⇑*i*Pg **Pb 18 46 15.7 -0.2**
UKT comp=N,85nm,0.8s
UKT ⇑*i*Pg **Pb 18 46 15.7 -0.2**
UKT comp=N,114nm,0.8s
UKT Pmax 18 46 16.7
UKT comp=N,701nm,0.9s
UKT *e*Sg **Sg 18 46 42.6 +0.1**
UKT Smax 18 46 43.2
UKT comp=N,2μm,0.6s
UKT Uakit 1.96 97⇑*i*PN **Pb 18 46 15.6 -0.3**
UKT *e* 18 46 40.2
UKT pmax pmax
UKT comp=Z,703nm,0.9s
UKT smax smax
UKT comp=N,2μm,0.6s
SYVR Suvo 2.11 183 *e*Pn **Pn 18 46 16.5 +0.8**
SYVR ⇑*i*Pg **Pb 18 46 18.4 0.0**
SYVR Pmax 18 46 19.0
SYVR comp=N,547nm,0.6s
SYVR *i* Sg **Sg 18 46 46.4 -1.1**
SYVR Smax 18 46 48.9
SYVR comp=N,5μm,0.7s
SYVR Suvo 2.11 183 *e*PN **Pb 18 46 18.5 0.0**
SYVR *e* 18 46 46.9
SYVR pmax pmax
SYVR comp=Z,555nm,0.6s
SYVR smax smax
SYVR comp=E,5μm,0.8s
OGRR Ongureny 2.61 217⇓*i*Pn **Pn 18 46 24.2 +1.7**
OGRR *e*Pg **Pb 18 46 26.3 -0.6**
OGRR *e* 18 46 28.8
OGRR max 18 46 34.9
OGRR comp=E,104nm,0.3s
OGRR *e*Sn **Sn 18 46 56.2 +1.6**
OGRR *e*Sg **Sg 18 47 01.4 -2.0**
OGRR Smax 18 47 04.6
OGRR comp=E,734nm,0.5s
OGRR Ongureny 2.61 217 *e*PN **Pn 18 46 24.2 +1.7**
OGRR *e* 18 46 27.1
MXMB Maximikha 2.65 199 *e*Pn **Pn 18 46 24.5 +1.5**
MXMB *e*Pg **Pb 18 46 27.7 +0.2**
MXMB *e*Sg **Sg 18 47 04.1 -0.5**
BOD Bodaibo 2.93 44 *e*Pn **Pn 18 46 28.9 +2.0**
BOD *e*Pg **Pb 18 46 32.7 +0.3**
BOD Pmax 18 46 36.2
BOD comp=E,61nm,1.0s
BOD *e*Sn **Sn 18 47 03.9 +1.3**
BOD *i* Sg **Sg 18 47 12.2 -1.5**
BOD *e* 18 47 15.4
BOD max 18 47 22.0
BOD comp=E,417nm,0.8s
BOD Bodaibo 2.93 44 *e*PN **Pn 18 46 28.6 +1.7**
BOD *e* 18 46 34.4
BOD *e*S **Sn 18 47 05.7 +3.1**
BOD *e* 18 47 11.6
BOD pmax pmax
BOD comp=Z,49nm,0.3s
BOD smax smax
BOD comp=N,366nm,0.7s
NLYR Nelyaty 3.16 74 *e*Pn **Pn 18 46 31.8 +1.6**
NLYR Pg **Pb 18 46 38.3 +2.0**
NLYR Pmax 18 46 43.7
NLYR comp=N,179nm,0.8s
NLYR *e*Sg **Sg 18 47 19.2 -1.9**
NLYR *e* 18 47 27.6
NLYR max 18 47 31.5
NLYR comp=N,717nm,1.1s
NLYR Nelyaty 3.16 74 *e*PN **Pn 18 46 31.7 +1.6**
NLYR *e* 18 46 38.3
NLYR *e*S **Sn 18 47 09.6 +1.4**
NLYR *e* 18 47 18.6
NLYR pmax pmax
NLYR comp=Z,178nm,0.8s
NLYR smax smax
NLYR comp=N,717nm,1.3s
KELR Kotokel 3.26 203 *e*Pn **Pn 18 46 33.1 +1.7**
KELR *e* 18 46 34.5
KELR *e*Pg **Pb 18 46 37.9 0.0**
KELR *e*Sg **Sb 18 47 20.3 +2.4**
KELR *e* 18 47 23.9
ZRHB Zarechye 3.68 210 *e*Pn **Pn 18 46 38.9 +1.6**
ZRHB *e*Pg **Pb 18 46 46.6 +1.4**
ZRHB Pmax 18 46 52.3
ZRHB comp=N,245nm,0.8s
ZRHB *e*Sn **Sn 18 47 20.7 -0.4**
ZRHB *e*Sg **Sg 18 47 34.7 -3.1**
ZRHB Smax 18 47 42.7
ZRHB comp=N,1μm,0.9s
TRG Tyrgan 3.77 219⇓*i*Pn **Pn 18 46 39.9 +1.5**
TRG max 18 46 45.5
TRG comp=N,100nm,0.5s
TRG Pg **Pb 18 46 46.4 -0.2**
TRG *e*Sn **Sn 18 47 23.5 +0.4**
TRG *e*Sg **Sb 18 47 36.3 +3.7**
TRG *e* 18 47 40.5
TRG max 18 47 47.2
TRG comp=N,580nm,0.7s
TRG Tyrgan 3.77 219 *e*PN **Pn 18 46 40.1 +1.7**
TRG *e* 18 46 48.8
TRG *e*S **Sn 18 47 23.6 +0.4**
TRG *e* 18 47 36.3
TRG pmax pmax
TRG comp=Z,89nm,0.4s
TRG smax smax
TRG comp=E,406nm,0.3s
TRTB Turuntaevo 3.85 204 *e*Pn **Pn 18 46 41.1 +1.5**
TRTB Pg **Pb 18 46 49.8 +1.7**
TRTB Pmax 18 46 57.8
TRTB comp=E,57nm,1.0s
TRTB *e*Sn **Sn 18 47 24.7 -0.6**
TRTB *e*Sg **Sg 18 47 39.2 -4.1**
TRTB Smax 18 47 50.6
TRTB comp=E,224nm,1.1s
VTMR Vitim 3.90 18 *e*Pn **Pn 18 46 44.5 +4.4**
VTMR *e*Pg **Pg 18 46 52.4 -1.8**
VTMR *e*Sg **Sg 18 47 45.0 +0.4**
UUDB Ulan-Yde 4.19 202 *e* **Pn 18 46 43.5 -0.7**
UUDB *e*Pg **Pb 18 46 55.0 +1.2**
UUDB Pmax 18 47 02.4
UUDB comp=E,81nm,0.9s
UUDB *e* 18 47 26.1
UUDB *e*Sg **Sg 18 47 49.9 -4.0**
UUDB Smax 18 48 01.6
UUDB comp=E,381nm,1.0s
CIT Chita 4.24 151 *e*Pn **Pn 18 46 46.0 +1.1**
CIT *e*Pg **Pb 18 46 56.5 +1.8**
CIT Pmax 18 46 57.4
CIT comp=E,238nm,0.7s
CIT *e* 18 47 50.3
CIT *e*Sg **Sg 18 47 52.6 -3.1**
CIT *e* 18 47 57.0
CIT max 18 47 59.2
CIT comp=E,408nm,0.2s
CIT Chita 4.24 151 *e*PN **Pn 18 46 44.8 -0.1**
CIT *e* 18 46 56.6
CIT *e*S **Sn 18 47 33.4 -1.5**
CIT *e* 18 47 52.3
CIT pmax pmax
CIT comp=Z,238nm,0.7s
CIT smax smax
CIT comp=E,410nm,0.2s
STDB Stepnoy Dvoret 4.26 214 *e* **Pn 18 46 48.7 +3.6**
STDB *e* 18 46 55.8
STDB *e*Sg **Sg 18 47 52.5 -3.7**
KAB Kabansk 4.27 211 *e*Sg **Sg 18 47 53.5 -3.2**
KAB *e* 18 47 58.7
KAB max 18 48 10.3
KAB comp=E,853nm,1.0s
HRMR Khuramsha 4.57 206 *e*Pn **Pn 18 46 51.0 +1.5**
HRMR *e*Pg **Pb 18 47 01.9 +1.6**
HRMR *e* 18 47 05.8
HRMR max 18 47 08.8
HRMR comp=E,134nm,0.4s
HRMR *e*Sg **Sg 18 48 01.3 -5.0**
HRMR Smax 18 48 13.0
comp=E,1μm,0.7s
CRS Chara 4.63 72 *e*Pn **Pn 18 46 52.2 +1.9**
CRS *e*Pg **Pb 18 47 04.8 +3.5**
CRS Pmax 18 47 09.6
CRS comp=E,148nm,1.1s
CRS *e* 18 47 15.7
CRS *e*Sg **Sg 18 48 05.9 -2.2**
CRS Smax 18 48 15.2
CRS comp=E,242nm,1.0s
CRS *e* 18 48 22.2
CRS Chara 4.63 72 *e*PN **Pn 18 46 52.5 +2.2**
CRS *e* 18 47 05.2
CRS *e* 18 48 04.4
CRS pmax pmax
CRS comp=Z,148nm,0.7s
CRS smax smax
CRS comp=E,241nm,1.1s
BGT Bolshoye Golou 4.68 219 *e*Pn **Pn 18 46 52.9 +1.9**
BGT max 18 46 57.9
BGT comp=E,63nm,0.8s
BGT *e*Pg **Pb 18 47 04.6 +2.4**
BGT *e*Sn **Sn 18 47 45.5 -0.2**
BGT *e*Sg **Sg 18 48 04.9 -5.0**
BGT Smax 18 48 11.9
BGT comp=E,339nm,0.6s
IRK Irkutsk 4.97 227 *e*Pg **Pb 18 47 08.6 +1.5**
IRK Pmax 18 47 16.4
IRK comp=E,77nm,0.3s
IRK *e*Sn **Sn 18 47 51.6 -1.2**
IRK *e*Sg **Sg 18 48 13.5 -5.6**
IRK Smax 18 48 24.6
IRK comp=E,792nm,0.4s
IRK Irkutsk 4.97 227 *e*PN **Pn 18 46 54.9 0.0**
IRK *e* 18 47 09.1
IRK *e*S **Sn 18 47 52.3 -0.5**
IRK *e* 18 48 13.9
IRK pmax pmax
IRK comp=Z,78nm,0.4s
IRK smax smax
IRK comp=E,759nm,0.4s
LSTR Listvyanka 5.04 221 *e*Pn **Pn 18 46 56.5 +0.6**
LSTR *e* 18 47 00.9
LSTR *e*Pg **Pb 18 47 10.3 +2.1**
LSTR Pmax 18 47 13.2
LSTR comp=E,24nm,0.8s
LSTR *e*Sn **Sn 18 47 53.7 -0.7**
LSTR *e*Sg **Sg 18 48 15.7 -5.5**
LSTR Smax 18 48 27.0
LSTR comp=E,218nm,1.4s
IVK Ivanovka 5.25 223 *e*Pn **Pn 18 46 59.4 +0.6**
IVK *e* 18 47 04.5
IVK *e* 18 47 12.6
IVK max 18 47 12.9
IVK comp=E,14nm,0.5s
IVK *e*Sn **Sn 18 47 57.5 -2.2**
IVK *e*Sg **Sg 18 48 21.5 -6.6**
IVK Smax 18 48 35.2
IVK comp=E,283nm,1.1s
KHNR Khani 5.56 74 Pg **Pb 18 47 20.2 +3.1**
KHNR *e*Sg **Sg 18 48 33.6 -4.3**
TLY Talaya 5.65 226 Pn **Pn 18 47 04.7 +0.4**
comp=E,0.1nm,0.3s,baz=355,slow=8.8,SNR=11
TLY Sn **Sn 18 48 07.5 -2.0**
comp=E,0.1nm,0.3s,baz=332,slow=12,SNR=7.1
TLY Lg Lg 18 48 33.3
comp=E,0.2nm,0.3s,baz=270,slow=20,SNR=6.3
TLY Talaya 5.65 226 *e*Pn **Pn 18 47 04.3 0.0**
TLY *e*Pg **Pb 18 47 19.2 +0.5**
TLY Pmax 18 47 28.7
TLY comp=E,34nm,0.8s
TLY *e*Sn **Sn 18 48 07.0 -2.5**
TLY *e*Sg **Sb 18 48 32.2 +5.5**
TLY Smax 18 48 41.7
TLY comp=E,248nm,1.0s
TLY Talaya 5.65 226 *e*PN **Pn 18 47 04.6 +0.3**
TLY *e* 18 47 19.3
TLY *e*S **Sn 18 48 07.7 -1.8**
TLY *e* 18 48 31.7
TLY pmax pmax
TLY comp=Z,16nm,0.5s
TLY smax smax
TLY comp=E,125nm,0.6s
TUP Tupik 5.75 99 *e*Pn **Pn 18 47 06.2 +0.5**
TUP *e* 18 47 09.5
TUP *e*Pg **Pb 18 47 24.2 +3.7**
TUP Pmax 18 47 26.1
TUP comp=E,34nm,0.6s
TUP *e*Sn **Sn 18 48 10.2 -2.0**
TUP *e*Sg **Sg 18 48 40.6 -3.7**
TUP Smax 18 48 42.9
TUP comp=E,460nm,0.8s
TUP Tupik 5.75 99 *e*PN **Pn 18 47 06.5 +0.8**
TUP *e* 18 47 24.2
TUP *e*S **Sn 18 48 10.1 -2.1**
TUP *e* 18 48 38.5
TUP pmax pmax
TUP comp=Z,33nm,0.6s
TUP smax smax
TUP comp=N,470nm,0.9s
ARS Arshan 6.00 233⇓*i*Pn **Pn 18 47 09.7 +0.5**
ARS max 18 47 09.8
ARS comp=N,180nm,0.6s
ARS *e*Sn **Sn 18 48 15.6 -2.7**
ARS *e*Sg **Sg 18 48 44.7 -7.5**
ARS Smax 18 48 52.5
ARS comp=N,939nm,0.7s
KPC Khapcheranga 6.21 167 *e*Pn **Pn 18 47 11.7 -0.4**
KPC *e*Pg **Pb 18 47 31.2 +2.9**
KPC Pmax 18 47 34.2
KPC comp=N,43nm,0.6s
KPC *e*Sg **Sg 18 48 51.6 -7.3**
KPC *e* 18 49 00.7
KPC max 18 49 02.0
KPC comp=N,300nm,1.4s
KPC Khapcheranga 6.21 167 *e*PN **Pn 18 47 13.0 +0.9**
KPC *e* 18 47 31.5
KPC *e* 18 48 51.6
KPC pmax pmax
KPC comp=Z,43nm,0.6s
KPC smax smax
KPC comp=E,299nm,1.2s
ZAK Zakamensk 6.81 221 *e*Pn **Pn 18 47 20.8 +0.4**
ZAK max 18 47 27.6
ZAK comp=E,15nm,0.6s
ZAK *e*Sg **Sg 18 49 10.9 -7.4**
ZAK Smax 18 49 15.4
ZAK comp=E,171nm,1.3s
ZAK Zakamensk 6.81 221 *e*PN **Pn 18 47 21.6 +1.2**
ZAK *e*S **Sn 18 48 39.7 +1.3**
ZAK *e* 18 49 10.6
ZAK pmax pmax
ZAK comp=Z,13nm,0.5s
ZAK smax smax
ZAK comp=E,172nm,1.1s
MOY Mondy 6.84 237⇑*i*Pn **Pn 18 47 23.3 +2.7**
MOY max 18 47 23.7
MOY comp=E,119nm,0.8s
MOY *e* 18 47 31.4
MOY *e*Sn **Sn 18 48 37.4 -1.5**
MOY *e*Sg **Sg 18 49 11.7 -7.2**
MOY Smax 18 49 16.2
MOY comp=E,299nm,1.3s
MOY Mondy 6.84 237 *e*PN **Pn 18 47 23.0 +2.4**
MOY *e* 18 47 44.9
MOY *e*S **Sn 18 48 38.0 -0.9**
MOY *e* 18 49 10.9
ORL Orlik 6.91 246⇓*i*Pn **Pn 18 47 23.6 +2.0**
ORL max 18 47 24.8
ORL comp=E,50nm,0.7s
ORL *e*Sn **Sn 18 48 37.5 -3.2**
ORL *e*Sg **Sg 18 49 14.3 -6.9**
ORL Smax 18 49 18.9
ORL comp=E,145nm,0.8s
ULN Ulaanbaatar 8.15 195 ⇓PN **Pn 18 47 39.0 +0.3**
CLNS Chul'man 8.24 76 *e*Sg **Sg 18 49 57.6 -6.3**
CLNS Chul'man 8.24 76 *e*PG **Pb 18 48 05.5 +2.8**
CLNS pmax pmax
CLNS comp=E,6.0nm,0.9s
CLNS pmax pmax
CLNS comp=N,4.0nm,0.7s
CLNS pmax pmax
CLNS comp=Z,9.0nm,0.9s
TNDR Tynda 8.28 88 *e*Sg **Sg 18 49 57.7 -7.3**
SONM Songino Array 8.28 198 Pn **Pn 18 47 43.1 +2.6**
comp=Z,0.9nm,0.3s,baz=6.8,slow=14,SNR=8.8
SONM Sn Sb 18 49 28.8 -14
comp=Z,0.9nm,0.3s,baz=9.9,slow=18,SNR=3.7
SONM Lg Lg 18 49 59.9
comp=Z,7.4nm,0.3s,baz=12,slow=29,SNR=15
YAK Yakutsk 11.83 50 Pn **Pn 18 48 27.1 -1.8**
comp=Z,0.0nm,0.3s,baz=97,slow=2.6,SNR=4.6
YAK Sn **Sn 18 50 34.1 -7.1**
comp=Z,0.0nm,0.3s,baz=119,slow=19,SNR=5.2
YAK Lg Lg 18 51 45.6
comp=Z,0.0nm,0.3s,baz=73,slow=19,SNR=3.4
YAK Yakutsk 11.83 50 *e*P **Pn 18 48 27.7 -1.2**
YAK *e*S **Sn 18 50 36.3 -4.9**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK smax smax
comp=N,42nm,2.3s
YAK pmax pmax
comp=N,59nm,1.2s
ZALV Zalesovo Beam 14.71 273 Pn **Pn 18 49 07.5 -0.7**
comp=N,0.2nm,0.3s,baz=80,slow=11,SNR=11
ZALV Lg Lg 18 53 18.6
comp=N,0.2nm,0.3s,baz=77,slow=26,SNR=3.2
DGZ Jazzator, Alta 15.04 256⇓*i*P **Pn 18 49 14.2 +1.4**
NVS Novosibirsk 15.36 278 *e*P **Pn 18 49 13.7 -3.1**
HABR Khabarovsk 16.85 105 *e*P **Pn 18 49 35.2 -0.8**
HABR *e*S **Sn 18 52 43.3 -0.1**
HABR MLR MLR
comp=Z,17nm,12.0s
NRIK Noril'sk 16.99 332 Sn Sn 18 52 30.1 -16
comp=Z,0.3nm,0.3s,baz=309,slow=6.5,SNR=1.7
NRIK Lg Lg 18 54 27.5
comp=Z,0.4nm,0.3s,baz=202,slow=16,SNR=2.0
TIXI Tiksi 17.81 19 P **P 18 49 48.7 +0.1**
comp=Z,0.9nm,0.3s,baz=239,slow=3.5,SNR=4.4
TIXI S Sn 18 52 49.3 -17
baz=299,slow=19,SNR=2.0
TIXI Lg Lg 18 54 55.4
comp=Z,0.2nm,0.3s,baz=306,slow=18,SNR=3.9
KURK Kurchatov 19.46 268*c i*P **Pn 18 50 07.9 -0.2**
KURK pmax pmax
comp=Z,27nm,0.9s
MKAR Makanchi Array 19.52 254 P **Pn 18 50 08.4 -0.5**
comp=Z,0.7nm,0.3s,baz=60,slow=7.7,SNR=25
MKAR Makanchi Array 19.52 254 *e*P **Pn 18 50 09.1 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
KURBB Kurchatov Arra 19.55 268 P **Pn 18 50 08.9 -0.4**
comp=Z,0.4nm,0.3s,baz=67,slow=12,SNR=21
KURBB Lg Lg 18 55 53.5
comp=Z,0.0nm,0.3s,baz=62,slow=30,SNR=2.7
UGL Uglegorsk 20.41 96 *e*P **P 18 50 17.2 -0.2**
UGL *e*S **S 18 54 07.3 +1.1**
UGL *e*SS **SnSn 18 54 27.0 +3.2**
UGL *e* 19 01 47.9
BVAR Borovoye Array 23.12 280 P **P 18 50 47.1 +0.7**
comp=Z,4.8nm,0.8s,baz=72,slow=9.5,SNR=17
BVAR S **S 18 54 59.8 +1.8**
comp=Z,0.3nm,0.4s,baz=291,slow=37,SNR=3.4
BRVK Borovoye 23.17 280⇓*i*P **P 18 50 48.0 +1.2**
BRVK *i* *PP **sP 18 50 49.7 +1.1**
BRVK *i* *SP **pP 18 50 50.9 +2.9**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 37.76 325 P **P 18 52 56.3 +0.3**
comp=Z,5.4nm,1.0s,baz=64,slow=9.2,SNR=5.3
ARCES ARCESS Array B 37.76 325 *e*P **P 18 52 56.6 +0.6**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 41.30 314 P **P 18 53 26.0 +0.4**
comp=Z,1.5nm,0.5s,baz=70,slow=7.7,SNR=17
AKASG Malin Array Be 46.13 299 P **P 18 54 03.1 -1.5**
comp=Z,0.3nm,0.3s,baz=44,slow=8.9,SNR=3.3
ILAR Eielson Array 46.27 35 P **P 18 54 05.2 -0.3**
comp=Z,0.3nm,0.6s,baz=312,slow=6.8,SNR=5.1
ILAR Eielson Array 46.27 35 *e*P **P 18 54 06.7 +1.2**
NB2 NORSAR Subarra 47.34 319 P **P 18 54 14.2 +0.2**
comp=Z,1.5nm,0.8s,baz=50,slow=7.9
NOA NORSAR Array B 47.34 319 P **P 18 54 13.3 -0.7**
comp=Z,0.8nm,0.6s,baz=38,slow=9.1,SNR=3.0
BRTR Keskin Array B 51.22 286 P **P 18 54 46.1 +2.1**
comp=Z,0.5nm,0.8s,baz=17,slow=10,SNR=3.1
GERES GERESS Array B 54.76 307 P **P 18 55 10.7 +0.7**
comp=Z,0.5nm,0.8s,baz=41,slow=6.5,SNR=2.7
WRA Warramunga Arr 78.14 157 P **P 18 57 40.1 +0.5**
comp=Z,0.6nm,1.0s,baz=349,slow=6.3,SNR=3.1
ASAR Alice Springs 81.65 158 P **P 18 57 59.1 +0.5**
comp=Z,0.5nm,1.1s,baz=356,slow=7.4,SNR=3.3
TORD Torodi Ar. Bea 89.33 293 P **P 18 58 38.0 +0.7**
comp=Z,0.7nm,1.0s,baz=11,slow=2.9,SNR=3.3

CSEM ***08*** *19:03:20.8s 0.2, 36°.42N×25°.42E, h5km±1km, ML2.0, Error ellipse: s-maj=10.2km s-min=7.1km az=84.0*
THE ***08*** *19:03:21.1, 36°.43N×25°.42E, h4km±1km, ML1.9/5, Error ellipse: s-maj=1.4km s-min=0.4km az=76.0*
ATH 08 19:03:21.3, 36°.42N×25°.42E, h4km±4km, ML1.6/3, Error ellipse: s-maj=4.1km s-min=1.0km az=73.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR7	**Fira-Santorini**	**0.01**	**91**	P	Pg	19 03 22.0	0.0
THR7	**Fira-Santorini**	**0.01**	**91**	P	Pg	19 03 22.1	+0.2
THR7	**Fira-Santorini**	**0.01**	**91**	P	Pg	19 03 22.2	+0.3
THR7	**Fira-Santorini**	**0.01**	**91**	P	Pg	19 03 22.0	0.0
THR3	**Thira Island,**	**0.02**	**227**	P	Pg	19 03 22.0	0.0
THR3	**Thira Island,**	**0.02**	**227**	P	Pg	19 03 21.8	-0.2
THR3				S	Sg	19 03 23.5	+1.0
THR3	**Thira Island,**	**0.02**	**227**	P	Pg	19 03 21.9	-0.1
THR3	**Thira Island,**	**0.02**	**227**	P	Pg	19 03 22.0	0.0
THR3				S	Sg	19 03 23.5	+1.0
SAP2K	**Karterados**	**0.03**	**118**	P	Pg	19 03 22.2	+0.2
SAP2K				AML	AML	19 03 23.5	
	comp=N,10952μm,0.2s						
SAP2K				AML	AML	19 03 23.7	
	comp=E,15050μm,0.1s						
SAP2K				S	Sg	19 03 23.8	+1.2
THR2	**Thira island,**	**0.03**	**29**	P	Pg	19 03 22.1	0.0
THR2	**Thira island,**	**0.03**	**29**	P	Pg	19 03 22.0	-0.1
THR2	**Thira island,**	**0.03**	**29**	P	Pg	19 03 22.2	+0.1
THR2	**Thira island,**	**0.03**	**29**	P	Pg	19 03 22.0	-0.1
THT1	**Athinios (Pele**	**0.04**	**166**	P	Pg	19 03 22.1	-0.1
THT1				S	Sg	19 03 23.0	+0.2
THT1	**Athinios (Pele**	**0.04**	**166**	P	Pg	19 03 21.9	-0.3
THT1				S	Sg	19 03 22.4	-0.4
THT1	**Athinios (Pele**	**0.04**	**166**	P	Pg	19 03 21.9	-0.2
THT1				S	Sg	19 03 22.9	+0.1
THT1				AML	AML	19 03 23.0	
	comp=N,1360μm,0.1s						
THT1				AML	AML	19 03 23.0	
	comp=E,1913μm,0.2s						
THT1	**Athinios (Pele**	**0.04**	**166**	P	Pg	19 03 22.1	-0.1
THT1				S	Sg	19 03 23.0	+0.2
CMBO	**Columbo, Santo**	**0.05**	**348**	P	Pg	19 03 22.3	-0.1
CMBO				S	Sg	19 03 23.4	+0.2
CMBO	**Columbo, Santo**	**0.05**	**348**	P	Pg	19 03 22.4	0.0
CMBO				S	Sg	19 03 23.6	+0.4
CMBO				AML	AML	19 03 23.9	
	comp=N,5230μm,0.5s						
CMBO				AML	AML	19 03 24.4	
	comp=E,3389μm,0.4s						
CMBO	**Columbo, Santo**	**0.05**	**348**	P	Pg	19 03 22.3	-0.1
CMBO				S	Sg	19 03 23.4	+0.2
CMBO				AML	AML	19 03 23.9	
	comp=N,5230μm,0.5s						
CMBO				AML	AML	19 03 24.4	
	comp=E,3389μm,0.4s						
CMBO	**Columbo, Santo**	**0.05**	**348**	P	Pg	19 03 22.4	0.0
CMBO				S	Sg	19 03 23.6	+0.4
THR8	**Santorini-Mono**	**0.05**	**108**	P	Pg	19 03 22.5	+0.1
THR8	**Santorini-Mono**	**0.05**	**108**	P	Pg	19 03 22.5	+0.1
THR5	**Thira Island,**	**0.06**	**265**	P	Pg	19 03 22.7	+0.2
THR5	**Thira Island,**	**0.06**	**265**	P	Pg	19 03 22.6	+0.1
THR5	**Thira Island,**	**0.06**	**265**	P	Pg	19 03 22.7	+0.2
THR5	**Thira Island,**	**0.06**	**265**	P	Pg	19 03 22.7	+0.2
SANT	**Santorini**	**0.06**	**147**	P	Pg	19 03 22.7	+0.1
SANT				S	Sg	19 03 23.7	+0.2
SANT	**Santorini**	**0.06**	**147**	P	Pg	19 03 22.7	+0.1
SANT				S	Sg	19 03 23.7	+0.2
SANT				AML	AML	19 03 24.1	
	comp=N,1728μm,0.2s						
SANT				AML	AML	19 03 24.2	
	comp=E,3983μm,0.2s						

SANT	**Santorini**	**0.06 147**	P	Pg	19 03 22.7 +0.1
SANT			S	Sg	19 03 23.9 +0.4
SANT			AML	AML	19 03 24.1
	comp=E,3983μm,0.2s				
SANT			AML	AML	19 03 24.1
	comp=N,1728μm,0.2s				
SANT	**Santorini**	**0.06 147**	P	Pg	19 03 22.7 +0.1
SANT			S	Sg	19 03 23.7 +0.2
SAP1	**Santorini-Akro**	**0.07 196**	P	Pg	19 03 23.0 +0.4
SAP1			S	Sg	19 03 25.0 +1.3
SAP1	**Santorini-Akro**	**0.07 196**	P	Pg	19 03 22.9 +0.2
SAP1			S	Sg	19 03 24.3 +0.7
THR6	**Thira Island,**	**0.07 194**	P	Pg	19 03 23.0 +0.3
THR6	**Thira Island,**	**0.07 194**	P	Pg	19 03 23.0 +0.3
THR6	**Thira Island,**	**0.07 194**	P	Pg	19 03 23.0 +0.3
THR6	**Thira Island,**	**0.07 194**	P	Pg	19 03 23.0 +0.3

*CSEM **08** 19:03:33.8, 36°.57N×25°.58E, h1km, ML2.5/3*
THE 08 19:03:33.8, 36°.57N×25°.58E, h1km±1km, ML2.5/3, Error ellipse: s-maj=3.1km s-min=0.7km az=95.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.17**	**224**	P	Pg	19 03 37.9	+0.8
THR2	**Thira island,**	**0.17**	**224**	P	Pg	19 03 37.9	+0.8
CMBO	**Columbo, Santo**	**0.17**	**235**	P	Pg	19 03 37.5	+0.4
CMBO				S	Sg	19 03 40.5	+1.2
CMBO	**Columbo, Santo**	**0.17**	**235**	P	Pg	19 03 37.5	+0.4
CMBO				S	Sg	19 03 40.5	+1.2
THR7	**Fira-Santorini**	**0.19**	**220**	P	Pg	19 03 37.9	+0.4
THR7	**Fira-Santorini**	**0.19**	**220**	P	Pg	19 03 37.9	+0.4
THR3	**Thira Island,**	**0.22**	**222**	P	Pg	19 03 37.9	0.0
THR3	**Thira Island,**	**0.22**	**222**	P	Pg	19 03 37.9	0.0
THT1	**Athinios (Pele**	**0.22**	**214**	P	Pg	19 03 38.8	+0.8
THT1				S	Sg	19 03 41.4	+0.6
THT1	**Athinios (Pele**	**0.22**	**214**	P	Pg	19 03 38.8	+0.8
THT1				S	Sg	19 03 41.4	+0.6
SANT	**Santorini**	**0.22**	**207**	P	Pg	19 03 38.1	+0.1
SANT				S	Sg	19 03 42.2	+1.3
SANT	**Santorini**	**0.22**	**207**	P	Pg	19 03 38.1	+0.1
SANT				S	Sg	19 03 42.2	+1.3
THR5	**Thira Island,**	**0.24**	**231**	P	Pg	19 03 38.5	+0.1
THR5	**Thira Island,**	**0.24**	**231**	P	Pg	19 03 38.5	+0.1
SAP1	**Santorini-Akro**	**0.26**	**216**	P	Pg	19 03 39.4	+0.7
SAP1				S	Sg	19 03 43.4	+1.3
THR6	**Thira Island,**	**0.26**	**215**	P	Pg	19 03 38.9	+0.1
THR6	**Thira Island,**	**0.26**	**215**	P	Pg	19 03 38.9	+0.1
APE	**Apeiranthos**	**0.50**	**355**	P	Pg	19 03 43.8	+0.4
APE	**Apeiranthos**	**0.50**	**355**	P	Pg	19 03 43.8	+0.4

*IDC **08** 19:06:20.7±16.0, 17°.80S×179°.84W, h642km±168km, mb3.0/4, mb1 3.2/4, mb1mx2.8/28, mbtmp4.1/4, Error ellipse: s-maj=121.3km s-min=50.4km az=78.0*
ISC 08 19:06:20.7±1.5, 17°.8S±0°.3×179°.8W±0°.3, h650km, n8, σ0°42/9, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.56**	**241**	P	**P**	**19 12 42.8**	**+0.1**
	0.8nm,0.4s,baz=90,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**43.39**	**260**	P	**P**	**19 13 28.4**	**-0.5**
	0.6nm,0.6s,baz=96,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**43.59**	**254**	P	**P**	**19 13 30.4**	**0.0**
	4.0nm,0.4s,baz=90,slow=7.8,SNR=150						
ASAR				PcP	**PcP**	**19 15 03.2**	**+0.5**
	0.5nm,0.6s,baz=104,slow=3.7,SNR=5.5						
MAW	**Mawson**	**83.51**	**200**	P	**P**	**19 17 42.3**	**+0.4**
	1.3nm,0.6s,baz=122,slow=6.5,SNR=6.7						
VNA3	**Neumayer Olymp**	**90.91**	**177**	P	**P**	**19 18 16.1**	**-0.5**
VNA2	**Neumayer--Watz**	**91.33**	**177**	P	**P**	**19 18 18.4**	**-0.2**
	baz=198,slow=2.9						
BRTR	**Keskin Array B**	**143.81**	**314**	PKP	**PKPdf**	**19 24 43.9**	**-0.2**
	0.3nm,0.5s,baz=106,slow=4.7,SNR=2.2						
GERES	**GERESS Array B**	**147.18**	**344**	PKPbc	**PKPbc**	**19 24 53.0**	**+0.2**
	0.4nm,0.5s,baz=26,slow=3.4,SNR=5.0						

*IDC **08** 19:49:14.2±4.4, 13°.19N×124°.59E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/38, mbtmp3.4/3, Error ellipse: s-maj=246.5km s-min=35.0km az=91.0*
*ISCJB **08** 19:50:26.7±0.9, 5°.88N±0°.08×125°.96E±0°.07, h88km±13km, mb3.3/2, Error ellipse: s-maj=14.0km s-min=10.1km az=143.7*
*MAN **08** 19:50:27, 5°.98N×125°.88E, h115km, mb4.7, ML3.6, MS3.6*
ISC 08 19:50:27.9±1.3, 5°.90N±0°.10×125°.95E±0°.08, h80km±16km, n9, σ0°77/15, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.01**	**280**	⇑*i* P	**Pn**	**19 50 47.6**	**+0.4**
GSPH				*i* S	**Sn**	**19 51 02.6**	**+0.9**
MATI	**Mati**	**1.08**	**16**	*e* P	**Pn**	**19 50 47.7**	**-0.3**
MATI				*e* S	**Sn**	**19 51 01.8**	**-1.2**
KCP	**Kidapawan**	**1.39**	**322**	⇑*i* P	**Pn**	**19 50 52.0**	**+0.1**
KCP				*i* S	**Sn**	**19 51 09.6**	**-0.4**
CTBH	**Cotabato--PC H**	**2.14**	**308**	⇓*i* P	**Pn**	**19 51 02.0**	**+0.3**
CTBH				*i* S	**Sn**	**19 51 26.6**	**-0.9**
BUKP	**Musuan**	**2.15**	**336**	*e* P	**Pn**	**19 51 01.8**	**-0.1**
BUKP				*e* S	**Sn**	**19 51 28.2**	**+0.3**
BIPH	**Bislig**	**2.30**	**10**	⇑*i* P	**Pn**	**19 51 04.9**	**+1.0**
BIPH				*i* S	**Sn**	**19 51 32.6**	**+1.2**
PAGZ	**Pagadian**	**3.20**	**307**	*e* P	**Pn**	**19 51 15.8**	**-0.2**
WRA	**Warramunga Arr**	**26.98**	**162**	P	**P**	**19 56 01.8**	**-0.5**
	0.3nm,0.3s,baz=344,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**30.40**	**165**	P	**P**	**19 56 32.5**	**-0.1**
	0.2nm,0.3s,baz=343,slow=6.7,SNR=2.3						

*JMA **08** 19:50:48.7±0.3, 33°.60N×138°.42E, h283km±4km, M3.0*
*ISCJB **08** 19:50:49.3±0.6, 33°.66N±0°.07×138°.50E±0°.07, h278km±5km, mb3.1/4, Error ellipse: s-maj=11.7km s-min=8.8km az=159.1*
*IDC **08** 19:50:51.0±0.9, 33°.80N×138°.84E, h290km±9km, mb2.9/4, mb1 3.2/4, mb1mx2.7/41, mbtmp3.6/4, Error ellipse: s-maj=43.1km s-min=14.1km az=73.0*
ISC 08 19:50:50.3±0.9, 33°.71N±0°.07×138°.47E±0°.06, h276km±7km, n25, σ1°10/33, mb3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.73**	**49**	P	**Pn**	**19 51 27.1**	**+0.2**
TK01	**Tokai 1**	**0.73**	**274**	*e* S	**S**	**19 51 54.6**	**-0.7**
JHMK	**Hamakita**	**1.25**	**332**	P	**Pn**	**19 51 29.3**	**0.0**
JHJ	**Hachijo jima 2**	**1.25**	**118**	P	**Pn**	**19 51 29.4**	**-0.2**
	23nm,0.3s,baz=312,slow=23,SNR=4.4						
JHJ				S	**S**	**19 52 03.3**	**+2.7**
	15nm,0.3s,baz=90,slow=22,SNR=1.9						
JHJ2	**Mitsune**	**1.28**	**118**	P	**Pn**	**19 51 29.1**	**-0.6**
HMMJ	**Hamamatsu 2**	**1.30**	**332**	P	**Pn**	**19 51 29.8**	**0.0**
HMMJ				*e* S	**S**	**19 52 00.5**	**-0.5**
JIE	**Ise**	**1.61**	**295**	P	**Pn**	**19 51 31.3**	**-0.6**
JOD2	**Odawara 2**	**1.63**	**18**	P	**Pn**	**19 51 32.9**	**+0.9**
JNY	**Yasuok**	**1.71**	**343**	P	**Pn**	**19 51 33.5**	**+0.7**
JAO	**Obara**	**1.84**	**328**	P	**Pn**	**19 51 34.0**	**+0.3**
JKN2	**Miekihoku**	**1.90**	**287**	P	**Pn**	**19 51 33.0**	**-1.1**
BSO4	**Boso 4**	**2.00**	**50**	*e* S	**S**	**19 52 10.7**	**+0.5**
BSO3	**Boso 3**	**2.01**	**57**	P	**Pn**	**19 51 34.3**	**-0.4**
BSO3				*e* S	**S**	**19 52 10.1**	**+0.1**
JHU	**Hanno**	**2.24**	**17**	P	**Pn**	**19 51 37.9**	**+0.9**
JHU				*e* S	**S**	**19 52 13.7**	**-0.4**
BSO1	**Boso 1**	**2.28**	**65**	P	**Pn**	**19 51 36.1**	**-0.7**
BSO1				*e* S	**S**	**19 52 13.3**	**-0.5**
JWY	**Kouya**	**2.44**	**283**	P	**Pn**	**19 51 38.2**	**-0.8**
JAG	**Ashikaga**	**2.82**	**16**	P	**Pn**	**19 51 43.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.83**	**356**	P	**Pn**	**19 51 43.1**	**+0.4**
	0.3nm,0.3s,baz=151,slow=10.0,SNR=2.8						
MJAR				S	**S**	**19 52 25.5**	**+1.1**
	0.1nm,0.3s,baz=166,slow=16,SNR=1.6						
JYT	**Yasato**	**2.88**	**29**	P	**Pn**	**19 51 42.7**	**-0.4**
JYT				*e* S	**S**	**19 52 22.2**	**-3.0**
JWT	**Wachi**	**2.98**	**303**	P	**Pn**	**19 51 43.7**	**-0.5**
JHO	**Hitachi**	**3.36**	**30**	P	**Pn**	**19 51 47.8**	**-0.4**
JHO				*e* S	**S**	**19 52 31.9**	**-2.5**
MKAR	**Makanchi Array**	**43.93**	**305**	P	**P**	**19 58 30.8**	**+0.6**
	0.4nm,0.4s,baz=99,slow=8.0,SNR=3.5						
WRA	**Warramunga Arr**	**53.50**	**185**	P	**P**	**19 59 41.6**	**-1.2**
	0.1nm,0.3s,baz=0.4,slow=7.6,SNR=1.2						
FINES	**FINESS Array B**	**70.61**	**332**	P	**P**	**20 01 36.5**	**+1.0**
	0.8nm,0.5s,baz=48,slow=5.7,SNR=1.9						
GERES	**GERESS Array B**	**84.22**	**327**	P	**P**	**20 02 51.5**	**+0.5**
	0.3nm,0.5s,baz=27,slow=6.6,SNR=2.5						

IDC 08 20:09:22.9±10.0, 47°.70S×125°.86E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.7/4, ML3.6/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/20, Error ellipse: s-maj=219.9km s-min=55.3km az=162.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.50**	**321**	T	T	20 30 02.1	
	baz=148,slow=74,SNR=7.7						
H01W2	**Cape Leeuwin H**	**15.51**	**321**	T	T	20 29 57.2	
	baz=148,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**15.52**	**321**	T	T	20 29 55.9	
	baz=148,slow=74,SNR=8.4						
NWAO	**Narrogin (SRO)**	**16.14**	**333**	LR	LR	20 17 46.8	
	comp=Z,95nm,21.3s,baz=302,slow=31						
STKA	**Stephens Creek**	**19.84**	**43**	P	P	20 13 55.1	-0.1
	0.1nm,0.3s,baz=198,slow=9.6,SNR=4.4						
STKA				LR	LR	20 20 52.3	
	comp=Z,59nm,18.0s,baz=201,slow=35						
ASAR	**Alice Springs**	**24.83**	**18**	P	P	20 14 47.2	+0.4
	2.3nm,0.7s,baz=190,slow=8.9,SNR=28						
ASAR				LR	LR	20 24 47.9	
	comp=Z,42nm,18.9s,baz=191,slow=37						
WRA	**Warramunga Arr**	**28.53**	**17**	P	P	20 15 19.8	-0.4
	0.6nm,0.8s,baz=192,slow=7.6,SNR=3.7						
VNDA	**Vanda**	**33.01**	**166**	LR	LR	20 27 29.8	
	comp=Z,75nm,19.0s,baz=296,slow=33						
CMAR	**Chiang Mai Arr**	**70.14**	**333**	P	P	20 20 37.1	0.0
	0.3nm,0.5s,baz=184,slow=5.4,SNR=2.3						
CMAR				LR	LR	20 51 26.1	
	comp=Z,11nm,19.5s,baz=185,slow=36						

*IDC **08** 20:20:38.3±1.6, 30°.46S×71°.25W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.8/4, ML4.9/1, Error ellipse: s-maj=50.8km s-min=47.1km az=45.0*
*SJA **08** 20:20:42.0±0.7, 29°.91S×72°.03W, h40km, ML4.0, MW3.8*
*GUC **08** 20:20:46.9±0.5, 29°.97S×70°.33W, h52km±9km, ML4.2*
*NEIC **08** 20:20:47.0±0.0, 29°.96S×70°.46W, h63km, MG4.2(GUC), After GUC.*
NEIC Felt [III] at Coquimbo, La Higuera and La Serena; [II] at Andacollo and Hurtado.
ISC 08 20:20:40.6±1.6, 30°.14S±0°.03×71°.57W±0°.06, h8km±10km, n32, σ2°19/40, mb3.6/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.66**	**93**	*e* P	**Pn**	**20 20 60.0**	**+3.6**
TLL				*i* S	**Sn**	**20 21 08.5**	**+1.4**
LCO	**Las Campanas**	**1.35**	**34**	⇓*i* P	**Pg**	**20 21 06.8**	**+0.2**
LCO				*i* S	**Sb**	**20 21 21.4**	**-2.4**
LCO	**Las Campanas**	**1.35**	**34**	*e* Pn	**Pn**	**20 21 06.1**	**+0.2**
LCO				*e* Sn	**Sb**	**20 21 21.6**	**-2.2**
VACH	**Vallenar**	**1.71**	**25**	*e* P	**Pg**	**20 21 13.6**	**+0.3**
VACH				*i* S	**Sn**	**20 21 33.0**	**+0.3**
AGUA	**GUANDACOL**	**2.75**	**77**	*i* P	**Pb**	**20 21 31.2**	**+1.2**
AGUA				*i* S	**Sg**	**20 22 08.9**	**0.0**
AMOG	**MOGNA**	**2.77**	**108**	*i* P	**Pg**	**20 21 32.6**	**-1.0**
AUSP	**Uspallata**	**2.79**	**139**	*i* P	**Pg**	**20 21 33.9**	**-0.3**
AUSP				*i* S	**Sg**	**20 22 11.6**	**+1.2**
ROCH	**El Roble**	**2.87**	**171**	IAML		20 22 22.8	
	comp=N,508nm,0.5s						
ROC1	**El Roble**	**2.87**	**171**	*i* P	**Pb**	**20 21 32.0**	**-0.2**
ROC1				*i* S	**Sb**	**20 22 09.1**	**+1.6**
RTLL	**Cerro Villicun**	**2.91**	**115**	*i* P	**Pb**	**20 21 34.4**	**+1.6**
RTLL				*i* S	**Sg**	**20 22 13.8**	**-0.4**
RTLL				IAML		20 22 28.0	
	comp=N,366nm,0.4s						
PEL	**Peldehue**	**3.09**	**166**	⇑*i* P	**Pb**	**20 21 36.2**	**+0.4**
PEL				*i* S	**Sb**	**20 22 14.2**	**+0.6**
PEL				IAML		20 22 28.6	
	comp=E,381nm,1.2s						
RTCV	**Cerro Valdivia**	**3.12**	**124**	*i* P	**Pb**	**20 21 37.0**	**+0.8**
RTCV				*i* S	**Sg**	**20 22 18.2**	**-2.4**
FCH	**Farellones**	**3.36**	**161**	IAML		20 22 25.5	
	comp=E,532nm,0.2s						
CLCH	**Cerro Calan**	**3.37**	**165**	*e* P	**Pb**	**20 21 39.9**	**-0.6**
CLCH				*e* S	**Sb**	**20 22 19.9**	**-1.7**
CLCH				IAML		20 22 41.2	
	comp=E,402nm,0.5s						
ANTU	**Antumapu**	**3.51**	**167**	IAML		20 22 27.9	
	comp=N,341nm,0.2s						
ACLC	**CERRO LA CRUZ**	**4.07**	**81**	*i* P	**Pn**	**20 21 47.9**	**+4.5**
APLL	**PUNTA DE LOS L**	**4.37**	**95**	*e* P	Pn	20 21 52.1	+4.9
LVC	**Limon Verde**	**7.87**	**18**	Pn	**Pn**	**20 22 39.4**	**+3.8**
	comp=N,14nm,0.3s,baz=224,slow=2.5,SNR=1.6						
LVC				Sn	Sn	20 24 17.8	+13
	comp=N,34nm,0.3s,baz=318,slow=22,SNR=1.9						
LVC				Lg	Lg	20 24 39.9	
	comp=N,73nm,0.3s,baz=246,slow=23,SNR=5.1						
LVC	**Limon Verde**	**7.87**	**18**	*e* Pn	**Pn**	**20 22 37.9**	**+2.3**
LVC				Pn	**Pn**	**20 22 39.4**	**+3.8**
LVC				Sn	Sn	20 24 17.8	+13
LVC				Lg	Lg	20 24 39.9	
TRQA	**Tornquist**	**11.20**	**137**	*e* Pn	**Pn**	**20 23 17.1**	**-3.9**
SDV	**Santo Domingo**	**38.81**	**1**	P	**P**	**20 28 10.1**	**+3.9**
BCIP	**Isla Barro Col**	**39.88**	**347**	P	**P**	**20 28 17.0**	**+2.1**
FDF	**Fort de France**	**45.73**	**14**	P	**P**	**20 28 58.1**	**-4.2**
SJG	**San Juan**	**48.25**	**7**	P	**P**	**20 29 21.3**	**-0.8**
SNAA	**Sanae**	**55.02**	**159**	*e* P	**P**	**20 30 13.2**	**+1.0**
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**20 30 49.6**	**+1.6**
OXF	**Oxford**	**66.47**	**344**	P	**P**	**20 31 28.4**	**-2.0**
TXAR	**Lajitas Array**	**66.59**	**330**	P	**P**	**20 31 32.0**	**+0.6**
	comp=N,0.1nm,0.4s,baz=156,slow=6.9,SNR=1.4						
DBIC	**Dimbokro**	**73.58**	**72**	P	**P**	**20 32 11.4**	**-3.2**
	comp=N,4.2nm,0.9s,baz=202,slow=5.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**82.52**	**70**	P	**P**	**20 33 03.0**	**-1.2**
	comp=N,0.2nm,0.4s,baz=242,slow=3.1,SNR=1.8						
WRA	**Warramunga Arr**	**124.31**	**210**	PKP	**PKPdf**	**20 39 40.2**	**-0.5**
	comp=N,0.2nm,0.5s,baz=161,slow=1.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**150.71**	**29**	PKPbc	**PKPbc**	**20 40 32.8**	**0.0**
	comp=N,1.0nm,0.5s,baz=305,slow=2.2,SNR=4.5						

*ISCJB **08** 20:34:31.4±0.5, 39°.10N±0°.04×29°.11E±0°.04, h5km±8km, Error ellipse: s-maj=7.0km s-min=4.2km az=146.7*
*DDA **08** 20:34:31.4, 39°.09N×29°.10E, h7km, Ml2.5*
*ISK **08** 20:34:31.4, 39°.13N×29°.15E, h5km, MD2.7*
*CSEM **08** 20:34:31.5±0.1, 39°.12N×29°.11E, h5km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.3km az=143.0*
ISC 08 20:34:31.7±1.0, 39°.12N±0°.03×29°.11E±0°.02, h9km±11km, n24, σ0°37/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.25**	**107**	*e*PG	**Pg**	**20 34 36.2**	**-0.5**
GEDZ	**Gediz**	**0.25**	**107**	*e*Pg	**Pg**	**20 34 36.2**	**-0.5**
GDZ	**Gediz**	**0.29**	**95**	*i* P	**Pg**	**20 34 37.5**	**-0.1**
GDZ				*i* S	**Sg**	**20 34 41.8**	**+0.3**
GDZ	**Gediz**	**0.29**	**95**	P	**Pg**	**20 34 37.5**	**-0.1**
GDZ				S	**Sg**	**20 34 41.8**	**+0.3**
DEMI	**Demirci**	**0.31**	**257**	*i* P	**Pg**	**20 34 38.1**	**+0.2**
DEMI				*i* S	**Sg**	**20 34 42.4**	**+0.4**
DEMI	**Demirci**	**0.31**	**257**	P	**Pg**	**20 34 38.1**	**+0.2**
DEMI				S	**Sg**	**20 34 42.4**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**40**	*e*PG	**Pg**	**20 34 39.6**	**-0.5**
TVSB				*e*SG	**Sg**	**20 34 45.6**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg	**Pg**	**20 34 39.6**	**-0.5**
TVSB				*e*Sg	**Sg**	**20 34 45.6**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*PG	**Pb**	**20 34 45.9**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pb**	**20 34 45.9**	**-0.1**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**20 34 45.8**	**-0.4**
MANT				*i* S	**Sg**	**20 34 55.8**	**-0.3**
MANT	**Manisa**	**0.76**	**215**	P	**Pg**	**20 34 45.8**	**-0.4**
MANT				S	**Sg**	**20 34 55.8**	**-0.3**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pg**	**20 34 47.2**	**+0.1**
KHAL				*i* S	**Sg**	**20 34 57.6**	**0.0**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pg**	**20 34 47.2**	**+0.1**
KHAL				S	**Sg**	**20 34 57.6**	**0.0**
AKHS	**Akhisar**	**1.03**	**257**	*i* P	**Pg**	**20 34 50.7**	**-0.8**
AKHS				*i* S	**Sb**	**20 35 05.3**	**-0.1**
AKHS	**Akhisar**	**1.03**	**257**	P	**Pg**	**20 34 50.7**	**-0.8**
AKHS				S	**Sb**	**20 35 05.3**	**-0.1**
BALB	**Balikesir**	**1.08**	**299**	*e*PN	**Pn**	**20 34 53.2**	**+0.2**
BALB	**Balikesir**	**1.08**	**299**	*e*Pn	**Pn**	**20 34 53.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pb**	**20 34 56.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pb**	**20 34 56.4**	**+0.3**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pb**	**20 34 59.2**	**+0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pb**	**20 34 59.2**	**+0.2**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pn**	**20 35 02.0**	**+0.3**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**20 35 02.0**	**+0.3**

*CSEM **08** 20:34:46.8±0.7, 27°.87N×17°.69W, h10km, ML4.4, Error ellipse: s-maj=29.9km s-min=9.1km az=131.0*
*INMG **08** 20:34:49.7±3.3, 27°.60N×18°.00W, h10km, ML3.7, Error ellipse: s-maj=32.7km s-min=14.6km az=54.0*
ISC 08 20:34:46.7±1.6, 27°.9N±0°.1×17°.71W±0°.09, h15km±15km, n15, σ1°96/27, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIG	**El Hierro**	**0.20**	**250**	P	**Pb**	**20 34 52.3**	**+0.3**
	SNR=18						
CTIG				S	**Sb**	**20 34 55.1**	**-0.4**
	28μm,0.3s,SNR=7.9						
CHIE	**El Hierro**	**0.25**	**240**	P	**Pg**	**20 34 51.4**	**-0.9**
	SNR=18						
FUL	**Funchal**	**4.83**	**8**	*e*Pn	**Pn**	**20 36 00.7**	**+1.9**
FUL				*e*Sn	**Sn**	**20 36 53.5**	**-0.9**
FUL				A	A	20 37 11.1	
	550nm,0.1s						
PMAR	**Madeira**	**4.90**	**8**	*e*Pn	**Pn**	**20 36 01.3**	**+1.3**
PMAR				*e*Sn	**Sn**	**20 36 54.5**	**-2.0**
PMAR				A	A	20 37 03.3	
	91nm,0.5s						
PMAR	**Madeira**	**4.90**	**8**	*e*Pn	**Pn**	**20 36 01.3**	**+1.3**
PMAR				*e*Sn	**Sn**	**20 36 54.5**	**-2.0**
	91nm,0.5s						
PMPS	**Porto Santo**	**5.32**	**13**	*e*Pn	**Pn**	**20 36 07.2**	**+1.7**
PMPS				*e*Sn	**Sn**	**20 37 06.1**	**-0.4**
PMPS				A	A	20 37 06.8	
	26nm,0.4s						
PMPS	**Porto Santo**	**5.32**	**13**	*e*Pn	**Pn**	**20 36 07.2**	**+1.7**
PMPS				*e*Sn	**Sn**	**20 37 06.1**	**-0.4**
	26nm,0.4s						
PBDV	**Barranco-do-Ve**	**12.47**	**39**	*e*Pn	**Pn**	**20 37 44.2**	**+0.6**
PBDV				*e*Sn	**Sn**	**20 40 00.9**	**-1.4**
PBDV	**Barranco-do-Ve**	**12.47**	**39**	*e*Pn	**Pn**	**20 37 44.2**	**+0.6**
PBDV				*e*Sn	**Sn**	**20 40 00.9**	**-1.4**
PCVE	**Castro Verde**	**12.69**	**37**	*e*Sn	**Sn**	**20 40 05.9**	**-1.8**
PCVE	**Castro Verde**	**12.69**	**37**	*e*Sn	**Sn**	**20 40 05.9**	**-1.8**
PVAQ	**Vaqueiros**	**12.70**	**39**	*e*Pn	**Pn**	**20 37 47.7**	**+0.9**
PVAQ				*e*Sn	**Sn**	**20 40 06.4**	**-1.5**
PVAQ	**Vaqueiros**	**12.70**	**39**	*e*Pn	**Pn**	**20 37 47.7**	**+0.9**
PVAQ				*e*Sn	**Sn**	**20 40 06.4**	**-1.5**
PNCL	**Nicolau / Gran**	**12.80**	**35**	*e*Pn	**Pn**	**20 37 52.3**	**+4.2**
PNCL				*e*Sn	**Sn**	**20 40 07.7**	**-2.5**
PNCL	**Nicolau / Gran**	**12.80**	**35**	*e*Pn	**Pn**	**20 37 52.3**	**+4.2**
PNCL				*e*Sn	**Sn**	**20 40 07.7**	**-2.5**

*ISCJB **08** 20:38:37.5±0.9, 38°.62N±0°.06×39°.76E±0°.10, h9km, Error ellipse: s-maj=12.5km s-min=6.1km az=149.1*
*CSEM **08** 20:38:37.0±0.2, 38°.62N×39°.80E, h2km, MD2.6, Error ellipse: s-maj=6.4km s-min=3.7km az=54.0*
*ISK **08** 20:38:37.3, 38°.61N×39°.75E, h1km, MD2.6*
*DDA **08** 20:38:37.6, 38°.62N×39°.69E, h7km, Ml2.3*
ISC 08 20:38:37.7±1.1, 38°.63N±0°.04×39°.78E±0°.06, h9km, n10, σ0°60/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.40**	**311**	*e*PG	**Pg**	**20 38 45.4**	**-0.3**
PTK				*e*SG	**Sg**	**20 38 51.6**	**+0.6**
PTK	**Pertek**	**0.40**	**311**	*e*Pg	**Pg**	**20 38 45.4**	**-0.3**
PTK				*e*Sg	**Sg**	**20 38 51.6**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.45**	**236**	*e*PG	**Pg**	**20 38 45.9**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.45**	**236**	*e*Pg	**Pg**	**20 38 45.9**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.52**	**339**	*i* P	**Pg**	**20 38 47.0**	**-0.8**
TNCL				*i* S	**Sg**	**20 38 55.4**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.52**	**339**	P	**Pg**	**20 38 47.0**	**-0.8**
TNCL				S	**Sg**	**20 38 55.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.21**	**113**	*e*PN	**Pn**	**20 39 00.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.21**	**113**	*e*Pn	**Pn**	**20 39 00.9**	**0.0**
MAZI	**Mazidag**	**1.28**	**

DEMI	**Demirci**	**0.30**	**253**	*i* P	**Pg**	**20 44 28.3**	**-0.2**
DEMI				*i* S	**Sg**	**20 44 32.8**	**+0.4**
DEMI	**Demirci**	**0.30**	**253**	P	**Pg**	**20 44 28.3**	**-0.2**
DEMI				S	**Sg**	**20 44 32.8**	**+0.4**
GDZ	**Gediz**	**0.31**	**98**	*i* P	**Pg**	**20 44 28.3**	**-0.4**
GDZ				*i* S	**Sg**	**20 44 32.7**	**-0.2**
GDZ	**Gediz**	**0.31**	**98**	P	**Pg**	**20 44 28.3**	**-0.4**
GDZ				S	**Sg**	**20 44 32.7**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**43**	*e*PG	**Pg**	**20 44 30.6**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**43**	*e*Pg	**Pg**	**20 44 30.6**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**208**	*e*PG	**Pg**	**20 44 36.1**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**208**	*e*Pg	**Pg**	**20 44 36.1**	**0.0**
MANT	**Manisa**	**0.76**	**213**	*i* P	**Pg**	**20 44 36.8**	**-0.5**
MANT				*i* S	**Sg**	**20 44 46.9**	**-0.3**
MANT	**Manisa**	**0.76**	**213**	P	**Pg**	**20 44 36.8**	**-0.5**
MANT				S	**Sg**	**20 44 46.9**	**-0.3**
KHAL	**Karahalli**	**0.83**	**157**	*i* P	**Pg**	**20 44 38.4**	**-0.2**
KHAL				*i* S	**Sg**	**20 44 49.7**	**+0.5**
KHAL	**Karahalli**	**0.83**	**157**	P	**Pg**	**20 44 38.3**	**-0.2**
KHAL				S	**Sg**	**20 44 49.7**	**+0.5**
AKHS	**Akhisar**	**1.02**	**256**	*i* P	**Pg**	**20 44 42.1**	**-0.1**
AKHS				*i* S	**Sg**	**20 44 55.4**	**-0.1**
AKHS	**Akhisar**	**1.02**	**256**	P	**Pg**	**20 44 42.1**	**-0.1**
AKHS				S	**Sg**	**20 44 55.4**	**-0.1**
BALB	**Balikesir**	**1.06**	**299**	*e*PN	**Pb**	**20 44 43.9**	**+0.3**
BALB	**Balikesir**	**1.06**	**299**	*e*Pn	**Pb**	**20 44 43.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.09**	**283**	*i* P	**Pg**	**20 44 43.1**	**-0.4**
STEP				*i* S	**Sb**	**20 44 58.4**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.09**	**283**	P	**Pg**	**20 44 43.1**	**-0.4**
STEP				S	**Sb**	**20 44 58.4**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*PN	**Pg**	**20 44 45.7**	**-0.3**
CAVI				*e*SN	**Sn**	**20 45 03.2**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*Pn	**Pg**	**20 44 45.7**	**-0.3**
CAVI				*e*Sn	**Sn**	**20 45 03.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*PN	**Pg**	**20 44 46.5**	**0.0**
MDNY				*e*SN	**Sn**	**20 45 04.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*Pn	**Pg**	**20 44 46.5**	**0.0**
MDNY				*e*Sn	**Sn**	**20 45 04.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*PN	**Pg**	**20 44 47.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn	**Pg**	**20 44 47.0**	**+0.1**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*PN	**Pb**	**20 44 47.1**	**-0.3**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn	**Pb**	**20 44 47.2**	**-0.3**
BALY	**Balya**	**1.29**	**299**	*i* P	**Pg**	**20 44 46.7**	**-0.6**
BALY	**Balya**	**1.29**	**299**	P	**Pg**	**20 44 46.7**	**-0.6**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*PN	**Pn**	**20 44 48.9**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*Pn	**Pn**	**20 44 48.9**	**0.0**
ARMT	**Armutlu**	**1.44**	**353**	*e*PN	**Pn**	**20 44 49.7**	**+0.1**
ARMT	**Armutlu**	**1.44**	**353**	*e*Pn	**Pn**	**20 44 49.7**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**1.50**	**354**	*e*PN	**Pn**	**20 44 50.7**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.50**	**354**	*e*Pn	**Pn**	**20 44 50.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	*e*PN	**Pg**	**20 44 51.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	*e*Pn	**Pg**	**20 44 51.4**	**-0.2**
EDC	**Edincik**	**1.53**	**323**	*e*PN	**Pn**	**20 44 51.1**	**+0.3**
EDC	**Edincik**	**1.53**	**323**	*e*Pn	**Pn**	**20 44 51.1**	**+0.3**
DKL	**Dikili**	**1.70**	**269**	*e*PN	**Pb**	**20 44 54.0**	**-0.4**
DKL	**Dikili**	**1.70**	**269**	*e*Pn	**Pb**	**20 44 54.0**	**-0.4**
GULT	**Gulveren**	**1.70**	**40**	*e*PN	**Pn**	**20 44 53.2**	**0.0**
GULT	**Gulveren**	**1.70**	**40**	*e*Pn	**Pn**	**20 44 53.2**	**0.0**
BUY	**Buyukada**	**1.72**	**1**	*e*PN	**Pn**	**20 44 53.5**	**+0.2**
BUY	**Buyukada**	**1.72**	**1**	*e*Pn	**Pn**	**20 44 53.5**	**+0.2**
HRT	**Hereke**	**1.75**	**15**	*e*PN	**Pn**	**20 44 53.9**	**+0.2**
HRT	**Hereke**	**1.75**	**15**	*e*Pn	**Pn**	**20 44 53.9**	**+0.2**
SBT2	**Guzelce-Avcila**	**1.80**	**346**	*e*PN	**Pn**	**20 44 55.1**	**+0.9**
SBT2	**Guzelce-Avcila**	**1.80**	**346**	*e*Pn	**Pn**	**20 44 55.2**	**+0.9**
MRMT	**Marmara Adasi**	**1.86**	**323**	*e*PN	**Pn**	**20 44 56.3**	**+0.9**
MRMT	**Marmara Adasi**	**1.86**	**323**	*e*Pn	**Pn**	**20 44 56.3**	**+0.9**
KRBG	**Karabiga-Canak**	**1.86**	**313**	*e*PN	**Pb**	**20 44 56.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.86**	**313**	*e*Pn	**Pb**	**20 44 56.6**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*PN	**Pn**	**20 44 56.3**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*Pn	**Pn**	**20 44 56.3**	**+0.1**
KAVV	**Kandilli-Istan**	**1.93**	**359**	*e*PN	**Pn**	**20 44 56.5**	**+0.4**
KAVV	**Kandilli-Istan**	**1.93**	**359**	*e*Pn	**Pn**	**20 44 56.6**	**+0.4**
SBT3	**Marmara-Eregli**	**1.94**	**334**	*e*PN	**Pn**	**20 44 56.8**	**+0.5**
SBT3	**Marmara-Eregli**	**1.94**	**334**	*e*Pn	**Pn**	**20 44 56.8**	**+0.5**
SILT	**Sile**	**2.06**	**12**	*e*PN	**Pn**	**20 44 58.5**	**+0.4**
SILT	**Sile**	**2.06**	**12**	*e*Pn	**Pn**	**20 44 58.5**	**+0.4**
KLYT	**Kilyos**	**2.12**	**359**	*e*PN	**Pn**	**20 44 59.6**	**+0.8**
KLYT	**Kilyos**	**2.12**	**359**	*e*Pn	**Pn**	**20 44 59.6**	**+0.8**
CTKS	**Kestanelik-??a**	**2.15**	**348**	*e*PN	**Pn**	**20 44 59.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.15**	**348**	*e*Pn	**Pn**	**20 44 59.9**	**+0.7**

IDC 08 20:45:58.0±7.4, 15°.56S×173°.16W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/40, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=349.9km s-min=24.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**39**	Pn	Pn	20 46 32.7	-2.1
	11nm,0.3s,baz=50,slow=2.2,SNR=13						
AFI				Sn	Sn	20 46 53.2	-8.7
	48nm,0.3s,baz=22,slow=23,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	21 34 17.2	
	baz=149,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	21 34 14.9	
	baz=149,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**39.24**	**329**	T	T	21 34 23.8	
	baz=149,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.17**	**330**	T	T	21 35 31.6	
	baz=150,slow=76,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**40.17**	**330**	T	T	21 35 36.2	
	baz=150,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**40.18**	**330**	T	T	21 35 32.4	
	baz=150,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**50.04**	**257**	P	P	20 54 54.2	-0.6
	0.3nm,0.5s,baz=92,slow=6.9,SNR=6.4						
ASAR	**Alice Springs**	**50.28**	**252**	P	P	20 54 56.0	-0.7
	1.5nm,0.6s,baz=87,slow=8.0,SNR=30						
ILAR	**Eielson Array**	**82.56**	**11**	P	P	20 58 23.6	+1.1
	0.4nm,0.9s,baz=223,slow=5.9,SNR=2.3						
BRTR	**Keskin Array B**	**146.43**	**321**	PKPbc	PKPab	21 05 42.0	-0.4
	0.8nm,0.7s,baz=56,slow=2.2,SNR=7.0						

IDC 08 20:49:29.5±10.0, 12°.19S×166°.64E, h273km±118km, mb3.1/4, mb1 3.3/5, mb1mx3.0/40, mbtmp3.7/5, Error ellipse: s-maj=100.5km s-min=53.8km az=173.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.83**	**181**	P	Pn	20 51 45.8	0.0
	1.3nm,0.3s,baz=299,slow=23,SNR=2.4						
WRA	**Warramunga Arr**	**31.94**	**252**	P	P	20 55 30.2	-0.1
	0.1nm,0.4s,baz=83,slow=8.8,SNR=1.0						
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P	P	21 00 32.5	+0.3
	0.6nm,0.7s,baz=128,slow=4.9,SNR=4.0						
SONM	**Songino Array**	**80.10**	**324**	P	P	21 01 09.5	+0.2
	0.3nm,0.5s,baz=116,slow=3.4,SNR=2.2						
MKAR	**Makanchi Array**	**94.95**	**317**	P	P	21 02 20.1	-0.9
	0.6nm,0.5s,baz=104,slow=6.1,SNR=3.2						
ARCES	**ARCESS Array B**	**117.65**	**346**	PKP	PKPdf	21 07 42.5	0.0
	2.8nm,0.9s,baz=40,slow=3.5,SNR=1.3						

IDC 08 20:51:07.0±2.1, 57°.96N×124°.38E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.3/39, mbtmp3.6/5, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=60.4km s-min=34.0km az=62.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**14.80**	**235**	Pn	Pn	20 54 37.0	-0.5
	0.2nm,0.3s,baz=51,slow=11,SNR=2.5						
MJAR	**Matsushiro Arr**	**23.30**	**151**	LR	LR	21 04 39.3	
	comp=Z,17nm,20.3s,baz=70,slow=35						
BVAR	**Borovoye Array**	**30.28**	**284**	P	P	20 57 19.5	+0.1
	0.9nm,0.4s,baz=95,slow=7.1,SNR=6.5						
FINES	**FINESS Array B**	**45.17**	**318**	P	P	20 59 24.6	-0.2
	3.5nm,1.1s,baz=65,slow=6.7,SNR=1.5						
NOA	**NORSAR Array B**	**50.43**	**325**	P	P	21 00 05.6	-0.1
	0.6nm,0.8s,baz=32,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**78.05**	**170**	P	P	21 03 07.2	+0.1
	0.4nm,0.9s,baz=350,slow=5.0,SNR=2.3						

*CSEM **08** 20:59:00.4±0.4, 38°.36N×19°.71E, h5km, ML2.7, Error ellipse: s-maj=7.8km s-min=3.7km az=42.0*
*ATH **08** 20:59:00.0, 38°.35N×19°.74E, h18km±1km, ML2.5/6, Error ellipse: s-maj=3.1km s-min=1.4km az=52.0*
*THE **08** 20:59:01.5, 38°.39N×19°.81E, h4km±1km, ML2.7/5, Error ellipse: s-maj=2.7km s-min=1.0km az=200.0*

ISC 08 20:58:58.1±1.7, 38°.32N±0°.05×19°.62E±0°.05, h4km±11km, n50, σ1s29/81, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.77**	**100**	P	**Pg**	**20 59 13.0**	**+0.1**
VLS				S	**Sb**	**20 59 24.0**	**-1.1**
VLS	**Valsamata**	**0.77**	**100**	P	**Pg**	**20 59 12.6**	**-0.3**
VLS				S	**Sb**	**20 59 25.0**	**-0.1**
VLS				AML	AML	20 59 27.6	
	comp=N,1148μm,0.3s						
VLS				AML	AML	20 59 30.1	
	comp=E,1040μm,0.3s						
VLS	**Valsamata**	**0.77**	**100**	P	**Pg**	**20 59 13.0**	**+0.1**
VLS				S	**Sb**	**20 59 24.0**	**-1.1**
LKD2	**Lefkada island**	**0.94**	**59**	P	**Pg**	**20 59 16.2**	**+0.1**
LKD2				S	**Sg**	**20 59 27.3**	**-1.0**
LKD2	**Lefkada island**	**0.94**	**59**	P	**Pg**	**20 59 16.3**	**+0.1**
LKD2				S	**Sb**	**20 59 29.0**	**-0.8**
LKD2				AML	AML	20 59 30.1	
	comp=E,1072μm,0.2s						
LKD2				AML	AML	20 59 34.5	
	comp=N,675μm,0.2s						
LKD2	**Lefkada island**	**0.94**	**59**	P	**Pg**	**20 59 16.3**	**+0.1**
LKD2				S	**Sg**	**20 59 27.3**	**-1.0**
KFL	**Anninata**	**0.94**	**102**	P	**Pg**	**20 59 16.5**	**+0.4**
KFL				S	**Sb**	**20 59 29.0**	**-0.9**
KFL	**Anninata**	**0.94**	**102**	P	**Pg**	**20 59 14.9**	**-1.3**
KFL				S	**Sb**	**20 59 28.9**	**-0.9**
KFL	**Anninata**	**0.94**	**102**	P	**Pg**	**20 59 16.5**	**+0.4**
KFL				S	**Sb**	**20 59 28.9**	**-0.9**
SGD	**Sagiada**	**1.38**	**20**	P	**Pn**	**20 59 25.1**	**+0.9**
SGD				S	**Sn**	**20 59 43.8**	**+0.9**
SGD	**Sagiada**	**1.38**	**20**	P	**Pn**	**20 59 24.8**	**+0.7**
SGD	**Sagiada**	**1.38**	**20**	P	**Pn**	**20 59 25.1**	**+0.9**
SGD				S	**Sn**	**20 59 43.8**	**+0.9**
AXS	**Araxos**	**1.39**	**94**	P	**Pg**	**20 59 26.2**	**+1.5**
AXS	**Araxos**	**1.39**	**94**	P	**Pg**	**20 59 26.2**	**+1.5**
KEK	**Kerkira**	**1.40**	**6**	P	**Pn**	**20 59 25.3**	**+0.8**
KEK				S	**Sn**	**20 59 44.7**	**+1.2**
KEK	**Kerkira**	**1.40**	**6**	P	**Pn**	**20 59 24.3**	**-0.2**
KEK				S	**Sn**	**20 59 46.0**	**+2.5**
KEK				AML	AML	20 59 49.1	
	comp=E,298μm,0.2s						
KEK				AML	AML	20 59 53.9	
	comp=N,215μm,0.3s						
KEK	**Kerkira**	**1.40**	**6**	P	**Pn**	**20 59 25.3**	**+0.8**
KEK				S	**Sn**	**20 59 44.7**	**+1.2**
DSL	**Palaion Diasel**	**1.41**	**54**	P	**Pg**	**20 59 25.7**	**+0.5**
DSL				S	**Sg**	**20 59 42.1**	**-1.4**
DSL	**Palaion Diasel**	**1.41**	**54**	P	**Pg**	**20 59 25.7**	**+0.5**
DSL				S	**Sg**	**20 59 42.1**	**-1.4**
RLS	**Riolos of Patr**	**1.48**	**99**	P	**Pg**	**20 59 27.5**	**+1.1**
RLS				S	**Sb**	**20 59 43.6**	**-1.6**
RLS				AML	AML	20 59 54.6	
	comp=N,196μm,0.3s						
RLS				AML	AML	20 59 56.0	
	comp=E,135μm,0.3s						
RLS	**Riolos of Patr**	**1.48**	**99**	P	**Pg**	**20 59 27.5**	**+1.1**
RLS				S	**Sb**	**20 59 43.6**	**-1.6**
PVO	**Paravola**	**1.52**	**78**	P	**Pn**	**20 59 26.9**	**+0.7**
PVO				S	**Sb**	**20 59 45.9**	**-0.8**
PVO	**Paravola**	**1.52**	**78**	P	**Pn**	**20 59 26.6**	**+0.5**
PVO				S	**Sb**	**20 59 45.8**	**-0.8**
PVO				AML	AML	20 59 50.2	
	comp=N,400μm,0.4s						
PVO				AML	AML	20 59 55.9	
	comp=E,353μm,0.4s						
PVO	**Paravola**	**1.52**	**78**	P	**Pn**	**20 59 26.9**	**+0.7**
PVO				S	**Sb**	**20 59 45.9**	**-0.8**
DRO	**Drossia**	**1.69**	**102**	P	**Pb**	**20 59 30.0**	**+0.3**
DRO	**Drossia**	**1.69**	**102**	P	**Pb**	**20 59 30.0**	**+0.3**
EVR	**Evrytania**	**1.82**	**70**	P	**Pb**	**20 59 32.5**	**+0.5**
EVR	**Evrytania**	**1.82**	**70**	P	**Pb**	**20 59 32.5**	**+0.5**
LAKA	**Lakka**	**1.86**	**92**	P	**Pn**	**20 59 32.0**	**+1.2**
LAKA	**Lakka**	**1.86**	**92**	P	**Pn**	**20 59 32.0**	**+1.2**
TRIZ	**Trizonia**	**1.93**	**88**	P	**Pb**	**20 59 33.7**	**-0.1**
TRIZ				S	**Sn**	**20 59 56.8**	**+0.4**
TRIZ	**Trizonia**	**1.93**	**88**	P	**Pb**	**20 59 33.7**	**-0.1**
TRIZ				S	**Sn**	**20 59 56.8**	**+0.4**
KALE	**Kalithea**	**1.98**	**87**	P	**Pn**	**20 59 34.0**	**+1.5**
KALE				S	**Sn**	**20 59 57.4**	**-0.4**
KALE	**Kalithea**	**1.98**	**87**	P	**Pn**	**20 59 34.0**	**+1.5**
KALE				S	**Sn**	**20 59 57.4**	**-0.4**
KLV	**Kalavryta, Ach**	**2.01**	**97**	P	**Pn**	**20 59 33.2**	**+0.3**
KLV	**Kalavryta, Ach**	**2.01**	**97**	P	**Pn**	**20 59 33.2**	**+0.3**
PENT	**Pentalofos**	**2.22**	**32**	P	**Pn**	**20 59 37.9**	**+2.1**
PENT	**Pentalofos**	**2.22**	**32**	P	**Pn**	**20 59 37.9**	**+2.1**
AGG	**Agios Georgios**	**2.23**	**71**	P	**Pn**	**20 59 37.7**	**+1.7**
AGG	**Agios Georgios**	**2.23**	**71**	P	**Pn**	**20 59 37.7**	**+1.7**
THL	**Klokotos Trika**	**2.25**	**55**	P	**Pn**	**20 59 37.5**	**+1.4**
THL	**Klokotos Trika**	**2.25**	**55**	P	**Pn**	**20 59 37.5**	**+1.4**
FNA	**Florina**	**2.81**	**28**	P	**Pn**	**20 59 44.4**	**+0.4**
FNA				S	**Sn**	**21 00 17.5**	**-0.9**
FNA				AML	AML	21 00 25.7	
	comp=E,50μm,0.4s						
FNA				AML	AML	21 00 26.6	
	comp=N,40μm,0.7s						
FNA	**Florina**	**2.81**	**28**	P	**Pn**	**20 59 44.4**	**+0.4**
FNA				S	**Sn**	**21 00 17.5**	**-0.9**
STON	**Ston**	**4.78**	**343**	*e*Pn	**Pn**	**21 00 11.7**	**+0.7**
STON				Sn	**Sn**	**21 01 04.8**	**-2.0**
STON	**Ston**	**4.78**	**343**	*e*Pn	**Pn**	**21 00 11.6**	**+0.7**
STON				Sn	**Sn**	**21 01 04.7**	**-2.0**
UDBI	**Udbina**	**6.85**	**336**	*e*Pn	**Pn**	**21 00 42.3**	**+2.9**
UDBI				Sn	**Sn**	**21 01 56.7**	**-1.2**
UDBI	**Udbina**	**6.85**	**336**	*e*Pn	**Pn**	**21 00 42.3**	**+2.9**
NVLJ	**Novalja**	**7.19**	**332**	*e*Pn	**Pn**	**21 00 45.8**	**+1.8**
NVLJ				Sn	**Sn**	**21 02 01.6**	**-4.4**
NVLJ	**Novalja**	**7.19**	**332**	*e*Pn	**Pn**	**21 00 45.7**	**+1.8**

*ISCJB **08** 21:15:37.3±0.2, 43°.91N±0°.02×11°.87E±0°.02, h13km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=43.8*
*ROM **08** 21:15:37.0±0.1, 43°.94N×11°.88E, h7km, Ml2.4/26, Error ellipse: s-maj=1.4km s-min=0.9km az=36.0*
*CSEM **08** 21:15:37.7±0.1, 43°.92N×11°.89E, h5km, ML3.1/17, Error ellipse: s-maj=2.7km s-min=2.0km az=64.0*
*LDG **08** 21:15:37.0±0.1, 43°.92N×11°.84E, h20km, Ml2.8/6, Error ellipse: s-maj=2.8km s-min=2.4km az=29.0*

ISC 08 21:15:37.5±0.8, 43°.91N±0°.02×11°.84E±0°.02, h11km±4km, n120, σ1s54/178, 1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.01**	**133**	Pg	**Pg**	**21 15 38.8**	**-0.7**
SFI				Sg	**Sg**	**21 15 39.9**	**-0.9**
	35μm,0.4s						
SFI	**Santa Sofia**	**0.01**	**133**	Pg	**Pg**	**21 15 38.8**	**-0.7**
SFI				Sg	**Sg**	**21 15 39.9**	**-0.9**
	35μm,0.4s						
ASQU	**Asqua**	**0.12**	**198**	Pg	**Pg**	**21 15 40.9**	**+0.4**
ASQU				Sg	**Sg**	**21 15 43.8**	**+1.1**
	3μm,0.2s						
ASQU	**Asqua**	**0.12**	**198**	Pg	**Pg**	**21 15 40.9**	**+0.4**
ASQU				Sg	**Sg**	**21 15 43.8**	**+1.1**
	3μm,0.2s						
VMG	**Vicchio**	**0.22**	**284**	Pg	**Pg**	**21 15 42.7**	**+0.5**
VMG				Sg	**Sg**	**21 15 47.1**	**+1.8**
VMG	**Vicchio**	**0.22**	**284**	Pg	**Pg**	**21 15 42.7**	**+0.5**
VMG				Sg	**Sg**	**21 15 47.1**	**+1.8**
CPGN	**Carpegna, Ital**	**0.36**	**107**	Pg	**Pb**	**21 15 45.3**	**-0.8**
	31μm,7.9s						
CPGN	**Carpegna, Ital**	**0.36**	**107**	Pg	**Pb**	**21 15 45.3**	**-0.8**
	31μm,7.9s						
SEI	**Scarperia**	**0.38**	**293**	Pg	**Pg**	**21 15 45.2**	**+0.1**
SEI				Sg	**Sb**	**21 15 51.9**	**-0.3**
SEI	**Scarperia**	**0.38**	**293**	Pg	**Pg**	**21 15 45.2**	**+0.1**
SEI				Sg	**Sb**	**21 15 51.9**	**-0.3**
IMOL	**Imola, Italy**	**0.46**	**351**	Pg	**Pb**	**21 15 47.3**	**-0.3**
IMOL				Sg	**Sb**	**21 15 53.4**	**-1.0**
	242μm,38.0s						
IMOL	**Imola, Italy**	**0.46**	**351**	Pg	**Pb**	**21 15 47.3**	**-0.3**
IMOL				Sg	**Sb**	**21 15 53.4**	**-1.0**
	242μm,38.0s						
BADI	**Badiali**	**0.49**	**144**	Pg	**Pg**	**21 15 46.9**	**-0.3**
BADI				Sg	**Sb**	**21 15 54.9**	**-0.6**
	285nm,0.3s						
BADI	**Badiali**	**0.49**	**144**	Pg	**Pg**	**21 15 46.9**	**-0.3**
BADI				Sg	**Sb**	**21 15 54.9**	**-0.6**
	285nm,0.3s						
ATMC	**Monte Cedrone**	**0.53**	**151**	Pg	**Pg**	**21 15 47.6**	**-0.2**
ATMC				Sg	**Sb**	**21 15 56.3**	**-0.2**
	356nm,0.4s						
ATMC	**Monte Cedrone**	**0.53**	**151**	Pg	**Pg**	**21 15 47.6**	**-0.2**
ATMC				Sg	**Sb**	**21 15 56.3**	**-0.2**
	356nm,0.4s						
CAFI	**Castiglion Fio**	**0.59**	**171**	Pg	**Pb**	**21 15 49.1**	**-0.8**
CAFI				Sg	**Sb**	**21 15 58.0**	**-0.2**
	160nm,0.4s						
CAFI	**Castiglion Fio**	**0.59**	**171**	Pg	**Pb**	**21 15 49.1**	**-0.8**
CAFI				Sg	**Sb**	**21 15 58.0**	**-0.2**
	160nm,0.4s						
CSNT	**Castellina Chi**	**0.59**	**223**	Pg	**Pg**	**21 15 49.4**	**+0.4**
CSNT				Sg	**Sb**	**21 15 59.7**	**+1.4**
	140nm,0.5s						
CSNT	**Castellina Chi**	**0.59**	**223**	Pg	**Pg**	**21 15 49.4**	**+0.4**
CSNT				Sg	**Sb**	**21 15 59.7**	**+1.4**
	140nm,0.5s						
ATPC	**Poggio Castell**	**0.62**	**134**	Pg	**Pg**	**21 15 49.1**	**-0.5**
ATPC				Sg	**Sb**	**21 15 59.1**	**0.0**
	237nm,0.4s						
ATPC	**Poggio Castell**	**0.62**	**134**	Pg	**Pg**	**21 15 49.1**	**-0.5**
ATPC				Sg	**Sb**	**21 15 59.1**	**0.0**
	237nm,0.4s						
PIEI	**Pieia**	**0.63**	**126**	Pg	**Pg**	**21 15 48.9**	**-0.8**
PIEI				Sg	**Sb**	**21 15 58.9**	**-0.5**
	73nm,0.4s						
PIEI	**Pieia**	**0.63**	**126**	Pg	**Pg**	**21 15 48.9**	**-0.8**
PIEI				Sg	**Sb**	**21 15 58.9**	**-0.5**
	73nm,0.4s						
CRMI	**Carmignano**	**0.64**	**260**	Pg	**Pg**	**21 15 50.1**	**+0.1**
CRMI				Sg	**Sb**	**21 16 00.2**	**+0.4**
	381nm,1.1s						
CRMI	**Carmignano**	**0.64**	**260**	Pg	**Pg**	**21 15 50.1**	**+0.1**
CRMI				Sg	**Sb**	**21 16 00.2**	**+0.4**
	381nm,1.1s						
ATVO	**AVT- Monte Val**	**0.67**	**142**	Pg	**Pg**	**21 15 50.0**	**-0.5**
ATVO				Sg	**Sb**	**21 16 01.1**	**+0.5**
	337nm,0.7s						
ATVO	**AVT- Monte Val**	**0.67**	**142**	Pg	**Pg**	**21 15 50.0**	**-0.5**
ATVO				Sg	**Sb**	**21 16 01.1**	**+0.5**
	337nm,0.7s						
FSSB	**Fossombrone**	**0.71**	**107**	Pg	**Pg**	**21 15 50.6**	**-0.7**
FSSB				Sg	**Sb**	**21 16 01.4**	**-0.4**
	185nm,0.4s						
FSSB	**Fossombrone**	**0.71**	**107**	Pg	**Pg**	**21 15 50.6**	**-0.7**
FSSB				Sg	**Sb**	**21 16 01.4**	**-0.4**
	185nm,0.4s						
MPAG	**Monte Paganucc**	**0.72**	**112**	Pg	**Pg**	**21 15 50.8**	**-0.7**
	96nm,0.7s						
MPAG	**Monte Paganucc**	**0.72**	**112**	Pg	**Pg**	**21 15 50.8**	**-0.7**
	96nm,0.7s						
FRON	**Frontone**	**0.75**	**121**	Pg	**Pg**	**21 15 51.5**	**-0.6**
	87nm,0.6s						
FRON	**Frontone**	**0.75**	**121**	Pg	**Pg**	**21 15 51.5**	**-0.6**
	87nm,0.6s						
ATTE	**AVT- Monte Tez**	**0.80**	**152**	Pg	**Pb**	**21 15 53.2**	**-0.4**
	139nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.80**	**152**	Pg	**Pb**	**21 15 53.2**	**-0.4**
	139nm,0.4s						
MURB	**Monte Urbino**	**0.81**	**142**	Pg	**Pb**	**21 15 53.1**	**-0.7**
	338nm,0.3s						
MURB	**Monte Urbino**	**0.81**	**142**	Pg	**Pb**	**21 15 53.1**	**-0.7**
	338nm,0.3s						
SSFR	**Montelago di S**	**0.83**	**124**	Pg	**Pg**	**21 15 52.8**	**-0.8**
SSFR				Sg	**Sb**	**21 16 05.5**	**+0.2**
	143nm,0.2s						
SSFR	**Montelago di S**	**0.83**	**124**	Pg	**Pg**	**21 15 52.8**	**-

WATA	Walderalm	3.43	357	*i* Pn	Pn	21 16 33.2	+2.1
	1.1nm,0.2s						
WATA	Walderalm	3.43	357	Pn	Pn	21 16 33.2	+2.1
	1.1nm,0.2s						
MOTA	Moosalm	3.48	352	*i* Pn	Pn	21 16 34.0	+2.3
	1.8nm,0.3s,SNR=9.1						
MOTA	Moosalm	3.48	352	Pn	Pn	21 16 34.0	+2.3
	1.8nm,0.3s,SNR=9.1						
DAVA	Damuels	3.65	339	*i* Pn	Pn	21 16 37.3	+3.2
	1.6nm,0.2s						
DAVA				*e*Sn	Sn	21 17 17.1	-0.1
	8.6nm,0.5s						
DAVA	Damuels	3.65	339	Pn	Pn	21 16 37.3	+3.2
	1.6nm,0.2s						
DAVA				Sn	Sn	21 17 17.1	-0.1
	8.6nm,0.5s						
RETA	Reutte	3.66	348	*i* Pn	Pn	21 16 35.9	+1.8
	1.0nm,0.2s						
RETA				*i* Sn	Sn	21 17 16.4	-0.9
	1.5nm,0.2s						
RETA	Reutte	3.66	348	Pn	Pn	21 16 35.9	+1.8
	1.0nm,0.2s						
RETA				Sn	Sn	21 17 16.4	-0.9
	1.5nm,0.2s						
LPL	La Plagne	3.98	296	*e*P	Pn	21 16 42.5	+3.8
LPL				*e*Sn	Sn	21 17 18.4	-7.1
	3.9nm,0.6s						
LPL	La Plagne	3.98	296	*e*P	Pn	21 16 42.5	+3.8
MOA	Molln	4.29	22	*i* Pn	Pn	21 16 43.5	+0.7
	0.5nm,0.2s						
MOA				*i* Sn	Sn	21 17 33.5	+0.7
	0.8nm,0.2s						
MOA	Molln	4.29	22	Pn	Pn	21 16 43.5	+0.7
	0.5nm,0.2s						
MOA				Sn	Sn	21 17 33.5	+0.7
	0.8nm,0.2s						
STON	Ston	4.39	102	*e*Pn	Pn	21 16 45.4	+1.2
STON				Sn	Sn	21 17 37.2	+1.9
STON	Ston	4.39	102	*e*Pn	Pn	21 16 45.4	+1.2
STON				Sn	Sn	21 17 37.2	+1.9
CONA	Conrad Observa	4.90	34	*i* Pn	Pn	21 16 51.7	+0.4
	0.3nm,0.1s						
CONA				*e*Sn	Sn	21 17 48.3	+0.3
	0.5nm,0.2s						
CONA	Conrad Observa	4.90	34	Pn	Pn	21 16 51.7	+0.4
	0.3nm,0.1s						
CONA				Sn	Sn	21 17 48.3	+0.3
	0.5nm,0.2s						
HINF	Hinteralfeld	5.23	320	*e*P	Pn	21 16 56.0	+0.2
HINF				*e*Sn	Sn	21 17 47.7	-8.4
	6.1nm,0.5s						
HINF	Hinteralfeld	5.23	320	*e*P	Pn	21 16 56.0	+0.2
CDF	Champ du Feu	5.51	326	*e*P	Pn	21 17 00.3	+0.7
CDF				*e*Sn	Sn	21 17 54.1	-8.8
	4.1nm,0.5s						
CDF				*e*Sg	Sg	21 18 28.0	-6.2
	1.3nm,0.3s						
CDF	Champ du Feu	5.51	326	*e*P	Pn	21 17 00.3	+0.7
SMF	Signal de Mont	6.27	299	*e*P	Pn	21 17 11.3	+1.3
SMF	Signal de Mont	6.27	299	*e*P	Pn	21 17 11.3	+1.3
LOR	Lormes	6.53	304	*e*P	Pn	21 17 14.5	+1.0
LOR				*e*Sn	Sn	21 18 19.0	-9.0
	7.0nm,0.6s						
LOR	Lormes	6.53	304	*e*P	Pn	21 17 14.5	+1.0
MTLF	Montolieu	7.01	269	*e*P	Pn	21 17 21.3	+1.2
MTLF	Montolieu	7.01	269	*e*P	Pn	21 17 21.3	+1.2

CSEM ***08*** *21:16:05.6, 43°.95N×11°.91E, h8km, MD1.7/4*
ROM 08 21:16:05.6±0.2, 43°.95N×11°.91E, h8km±1km, Md1.7/4, Error ellipse: s-maj=2.9km s-min=1.7km az=46.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	Santa Sofia	0.06	225	Pg	Pg	21 16 07.9	+0.5
SFI				Sg	Sg	21 16 08.9	+0.2
SFI	Santa Sofia	0.06	225	Pg	Pg	21 16 07.9	+0.5
SFI				Sg	Sg	21 16 08.9	+0.2
ASQU	Asqua	0.17	209	Pg	Pg	21 16 09.9	+0.7
ASQU				Sg	Sg	21 16 12.9	+1.3
ASQU	Asqua	0.17	209	Pg	Pg	21 16 09.9	+0.7
ASQU				Sg	Sg	21 16 12.9	+1.3
VMG	Vicchio	0.26	273	Pg	Pb	21 16 11.8	-0.8
VMG				Sg	Sb	21 16 16.2	-1.1
VMG	Vicchio	0.26	273	Pg	Pb	21 16 11.8	-0.8
VMG				Sg	Sb	21 16 16.2	-1.1
SEI	Scarperia	0.41	285	Pg	Pg	21 16 14.3	+0.7
SEI				Sg	Sb	21 16 21.0	-0.6
SEI	Scarperia	0.41	285	Pg	Pg	21 16 14.3	+0.7
SEI				Sg	Sb	21 16 21.0	-0.6

ISCJB ***08*** *21:27:29.5±1.0, 29°.95N±0°.10×138°.6E±0°.1, h500km, mb3.0/3, Error ellipse: s-maj=17.7km s-min=10.1km az=34.2.*
IDC ***08*** *21:27:29.6±1.4, 29°.79N×138°.49E, h475km±28km, mb2.6/3, mb1 2.8/8, mb1mx2.6/45, mbtmp3.6/8, Error ellipse: s-maj=42.7km s-min=26.4km az=56.0*
JMA ***08*** *21:27:31.5±0.5, 30°.00N×138°.58E, h488km, M3.2*
ISC 08 21:27:30.6±1.2, 30°.0N±0°.1×138°.5E±0°.1, h500km, n17, σ1ᵩ89/18, mb3.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.29	19	P	P	21 28 44.1	+0.7
	10nm,0.3s,baz=113,slow=23,SNR=11						
JHJ				S	S	21 29 40.5	-2.3
	9.6nm,0.3s,baz=62,slow=23,SNR=1.7						
JHJ2	Mitsune	3.29	19	P	P	21 28 44.0	+0.6
BSO1	Boso 1	5.08	23	P	P	21 28 58.7	+1.2
BSO4	Boso 4	5.20	17	*e*S	S	21 30 11.6	0.0
JAO	Obara	5.35	349	P	P	21 29 02.6	+1.9
JTO	Tosashimizu	5.66	302	P	P	21 29 04.3	+0.7
JHU	Hanno	5.87	6	*e*S	S	21 30 19.1	-4.1
JRY	Ryogami san	6.00	3	P	P	21 29 07.9	+1.1
JAG	Ashikaga	6.45	7	*e*S	S	21 30 30.0	-3.6
MJAR	Matsushiro Arr	6.53	358	P	P	21 29 12.0	+0.1
	0.3nm,0.3s,baz=179,slow=11,SNR=7.2						
JHS	Saijyo	6.76	319	P	P	21 29 15.7	+1.4
JNU	Nakatsue	7.23	297	P	P	21 29 18.1	-1.0
	0.2nm,0.3s,baz=68,slow=7.3,SNR=4.4						
KSRS	Korea Array	11.53	313	P	P	21 30 04.8	+0.7
	0.3nm,0.3s,baz=128,slow=10,SNR=8.1						
USRK	Ussuriysk Ar.	15.09	342	P	P	21 30 43.8	+2.3
	0.3nm,0.3s,baz=144,slow=9.7,SNR=4.1						
CMAR	Chiang Mai Arr	37.71	261	P	P	21 34 03.0	0.0
	0.4nm,0.5s,baz=67,slow=6.1,SNR=4.8						
MKAR	Makanchi Array	46.15	308	P	P	21 35 10.6	+1.2
	0.5nm,0.8s,baz=84,slow=8.7,SNR=2.5						
WRA	Warramunga Arr	49.82	185	P	P	21 35 36.1	-1.1
	0.3nm,0.5s,baz=359,slow=7.5,SNR=2.2						

IDC 08 21:28:08.2±5.0, 10°.33S×119°.80E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/38, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=239.8km s-min=33.0km az=56.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.97	126	Pn	Pn	21 32 05.2	-2.0
	0.0nm,0.3s,baz=302,slow=14,SNR=2.1						
ASAR	Alice Springs	18.89	136	P	Pn	21 32 31.4	+0.4
	0.1nm,0.3s,baz=308,slow=9.6,SNR=3.7						
SONM	Songino Array	59.12	350	P	P	21 38 10.6	0.0
	0.3nm,0.6s,baz=165,slow=6.0,SNR=2.0						

WEL 08 21:30:35.5±0.1, 38°.40S×177°.72E, h61km±1km, ML3.7/44, 10C-20D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKGZ	Te Karaka	0.11	111	⇑PN	Pn	21 30 44.2	-0.4
TKGZ				SN	Sn	21 30 50.8	-0.4
TKGZ				AML	AML	21 30 51.2	
MWZ	Matawai	0.16	294	⇓PN	Pn	21 30 44.2	-0.7
MWZ				SN	Sn	21 30 50.7	-1.0
MWZ				AML	AML	21 30 51.2	
RAGZ	Rawiri	0.26	248	⇓PN	Pn	21 30 45.2	-0.3
RAGZ				AML	AML	21 30 53.8	
RAGZ				AML	AML	21 30 55.5	
TWGZ	Tauwhareparae	0.30	43	⇑PN	Pn	21 30 45.8	0.0
TWGZ				AML	AML	21 30 54.7	
TWGZ				AML	AML	21 30 54.8	
RIGZ	Rimuhau	0.31	173	⇑PN	Pn	21 30 45.6	-0.2
RIGZ				AML	AML	21 30 54.6	
RIGZ				AML	AML	21 30 55.0	
CNGZ	Carnagh Statio	0.40	103	⇑PN	Pn	21 30 46.7	+0.2
CNGZ				AML	AML	21 30 48.6	
CNGZ				AML	AML	21 30 48.7	
RUGZ	Raukumara Rang	0.43	356	PN	Pn	21 30 46.6	-0.4
SNGZ	Shannon Statio	0.48	218	⇓PN	Pn	21 30 47.3	-0.1
SNGZ				AML	AML	21 30 57.5	
SNGZ				AML	AML	21 30 58.1	
URZ	Urewera	0.50	286	⇓PN	Pn	21 30 47.3	-0.2
URZ				AML	AML	21 30 56.4	
URZ				AML	AML	21 30 57.0	
PUZ	Puketiti	0.54	53	⇑PN	Pn	21 30 47.6	-0.3
PUZ				AML	AML	21 30 58.2	
PUZ				AML	AML	21 30 58.6	
PRGZ	Paritu Road	0.54	166	PN	Pn	21 30 47.5	-0.5
PRGZ				AML	AML	21 30 59.9	
PRGZ				AML	AML	21 31 00.4	
PKGZ	Pakihiroa	0.58	29	⇓PN	Pn	21 30 48.5	0.0
PKGZ				AML	AML	21 30 59.5	
PKGZ				AML	AML	21 31 00.3	
RTZ	Ruatahuna	0.62	249	PN	Pn	21 30 48.8	0.0
HAZ	Te Kaha	0.64	5	⇓PN	Pn	21 30 49.3	+0.2
HAZ				AML	AML	21 31 00.1	
HAZ				AML	AML	21 31 00.2	
HAZ				AML	AML	21 31 00.7	
HAZ				AML	AML	21 31 00.7	
MUGZ	Murupara	0.75	264	PN	Pn	21 30 50.0	-0.3
MHGZ	Mahia Peninsul	0.77	169	PN	Pn	21 30 50.4	-0.2
MHGZ				AML	AML	21 31 03.1	
MHGZ				AML	AML	21 31 11.3	
WHHZ	Waihua	0.78	209	PN	Pn	21 30 50.7	0.0
WHHZ				AML	AML	21 31 03.4	
WHHZ				AML	AML	21 31 04.4	
WHRZ	Whale Island	0.80	313	PN	Pn	21 30 51.1	+0.1
WMGZ	Waiomatatini S	0.80	44	⇓PN	Pn	21 30 51.0	0.0
WMGZ				AML	AML	21 31 03.4	
WMGZ				AML	AML	21 31 03.6	
EDRZ	Edgecumbe	0.82	290	⇑PN	Pn	21 30 51.2	-0.1
MARZ	Manawahe	0.92	296	PN	Pn	21 30 52.2	-0.4
RRRZ	Republican Roa	0.95	273	PN	Pn	21 30 52.7	-0.2
MXZ	Matakaoa Point	0.96	29	⇓PN	Pn	21 30 53.1	+0.1
MXZ				AML	AML	21 31 07.5	
MXZ				AML	AML	21 31 07.8	
TARZ	Mount Tarawera	0.97	279	⇑PN	Pn	21 30 53.2	0.0
NMHZ	Naumai	1.00	225	⇓PN	Pn	21 30 53.8	+0.2
NMHZ				SN	Sn	21 31 08.0	+1.0
NMHZ				AML	AML	21 31 09.7	
ARHZ	Aropaoanui	1.03	213	⇓PN	Pn	21 30 54.1	+0.1
ARHZ				AML	AML	21 31 09.6	
ARHZ				AML	AML	21 31 10.3	
PRRZ	Plateau Road	1.04	264	PN	Pn	21 30 53.9	-0.2
OPRZ	Ohinepanea	1.07	301	⇑PN	Pn	21 30 53.7	-0.7
ALRZ	Allen Road	1.09	261	PN	Pn	21 30 54.6	-0.1
MRHZ	Matea Rd	1.11	247	⇓PN	Pn	21 30 54.8	-0.1
MRHZ				AML	AML	21 31 10.2	
MRHZ				AML	AML	21 31 11.5	
BKZ	Black Stump Fm	1.23	231	⇓PN	Pn	21 30 56.5	0.0
BKZ				AML	AML	21 31 14.1	
BKZ				AML	AML	21 31 14.2	
MCHZ	McNeill Hill	1.31	217	⇓PN	Pn	21 30 57.5	-0.1
MCHZ				AML	AML	21 31 17.2	
MCHZ				AML	AML	21 31 17.6	
TGRZ	Tauranga	1.33	300	PN	Pn	21 30 57.3	-0.6
CKHZ	Cape Kidnapper	1.35	201	PN	Pn	21 30 57.3	-0.9
CKHZ				AML	AML	21 31 15.6	
CKHZ				AML	AML	21 31 16.3	
KWHZ	Kaweka Forest	1.44	224	⇓PN	Pn	21 30 58.9	-0.5
KWHZ				SN	Sn	21 31 17.7	+0.3
KWHZ				AML	AML	21 31 18.5	
KAHZ	Kahuranaki	1.54	205	PN	Pn	21 30 59.9	-0.8
KAHZ				AML	AML	21 31 21.3	
KAHZ				AML	AML	21 31 21.5	
KRHZ	Kereru	1.63	220	⇓PN	Pn	21 31 00.9	-1.1
KRHZ				AML	AML	21 31 22.9	
KRHZ				AML	AML	21 31 23.2	
KATZ	Kakaramea	1.68	249	PN	Pn	21 31 02.6	-0.2
BHHZ	Black Hill Sta	1.69	229	⇓PN	Pn	21 31 02.3	-0.4
BHHZ				AML	AML	21 31 24.4	
BHHZ				AML	AML	21 31 24.5	
PXZ	Pawanui	1.76	202	AML	AML	21 31 24.6	
PXZ				AML	AML	21 31 24.6	
PXZ				AML	AML	21 31 25.7	
PXZ				AML	AML	21 31 25.7	
KRVZ	Karewarewa	1.77	246	PN	Pn	21 31 03.0	-0.9
OTVZ	Oturere	1.78	244	PN	Pn	21 31 03.6	-0.4
NGZ	Ngauruhoe	1.83	244	⇑PN	Pn	21 31 04.4	-0.3
TUVZ	Tukino	1.83	241	PN	Pn	21 31 04.4	-0.4
MOVZ	Moawhango	1.83	236	PN	Pn	21 31 04.0	-0.7
TOZ	Tahuroa Road	1.87	290	PN	Pn	21 31 04.7	-0.5
WHVZ	Whangaehu Hut	1.88	241	⇓PN	Pn	21 31 05.0	-0.5
WNVZ	Wahianoa	1.90	240	⇓PN	Pn	21 31 05.2	-0.5
TWVZ	Taurewa	1.90	249	PN	Pn	21 31 05.4	-0.4
PNHZ	Pukenui	1.92	217	⇓PN	Pn	21 31 04.3	-1.6
PNHZ				AML	AML	21 31 29.0	
PNHZ				AML	AML	21 31 29.0	
WPHZ	Waipukurau	1.94	210	PN	Pn	21 31 04.5	-1.5
WPHZ				AML	AML	21 31 29.5	
MTVZ	Mangateitei	2.01	240	PN	Pn	21 31 06.6	-0.5
PRHZ	Porangahau	2.04	204	PN	Pn	21 31 05.6	-2.0
PRHZ				AML	AML	21 31 31.7	
PRHZ				AML	AML	21 31 33.7	
TSZ	Takapari Road	2.15	219	PN	Pn	21 31 07.1	-1.9
TSZ				AML	AML	21 31 34.8	
DVHZ	Dannevirke	2.25	212	AML	AML	21 31 35.5	
DVHZ				AML	AML	21 31 38.2	
KUZ	Kuaotunu	2.29	316	PN	Pn	21 31 09.7	-1.1
MKAZ	Moumakai	2.40	302	PN	Pn	21 31 12.2	-0.2
POWZ	Post Office Ro	2.50	217	PN	Pn	21 31 11.6	-2.2
POWZ				AML	AML	21 31 43.4	
POWZ				AML	AML	21 31 46.9	
WAZ	Wanganui	2.52	237	PN	Pn	21 31 14.0	0.0
PRWZ	Pori Road	2.54	212	PN	Pn	21 31 12.3	-2.0
PRWZ				AML	AML	21 31 43.5	
PRWZ				AML	AML	21 31 44.9	
BFZ	Birch Farm	2.55	206	PN	Pn	21 31 11.8	-2.6
BFZ				AML	AML	21 31 42.4	
OHWZ	Ohakea	2.59	225	PN	Pn	21 31 14.3	-0.7
MRZ	Mangatainoka R	2.80	216	⇓PN	Pn	21 31 14.9	-2.9
MRZ				AML	AML	21 31 49.0	
MRZ				AML	AML	21 31 49.8	
GRZ	Great Barrier	2.80	319	PN	Pn	21 31 17.2	-0.6
HOWZ	Holdsworth Sta	3.02	214	PN	Pn	21 31 17.7	-3.1
HOWZ				AML	AML	21 31 53.1	
HOWZ				AML	AML	21 31 53.6	
TMWZ	Te Maipa	3.05	207	PN	Pn	21 31 18.0	-3.2
TMWZ				AML	AML	21 31 54.2	
OGWZ	Otaki Gorge	3.11	218	PN	Pn	21 31 19.1	-3.1
OGWZ				AML	AML	21 31 55.9	
OGWZ				AML	AML	21 31 56.2	
MTW	Mount Morrison	3.24	211	PN	Pn	21 31 20.3	-3.6
MTW				AML	AML	21 31 58.1	
MTW				AML	AML	21 31 58.1	
KIW	Kapiti Island	3.28	221	⇑PN	Pn	21 31 21.5	-2.9
TRWZ	Traveller	3.38	207	PN	Pn	21 31 22.0	-3.7
CAW	Cannon Point	3.39	216	PN	Pn	21 31 22.2	-3.7
PAWZ	Paruwai Farm	3.46	210	PN	Pn	21 31 23.2	-3.7
PAWZ				AML	AML	21 32 03.3	
PLWZ	Palliser	3.69	210	PN	Pn	21 31 25.7	-4.3
PLWZ				AML	AML	21 32 08.1	
DUWZ	D'Urville Isla	3.79	230	PN	Pn	21 31 28.4	-2.9
TCW	Tory Channel	3.86	222	AML	AML	21 32 13.5	
TCW				AML	AML	21 32 16.4	
TUWZ	Tuamarina	4.19	223	PN	Pn	21 31 33.2	-3.6
TUWZ				AML	AML	21 32 24.5	
NNZ	Nelson	4.37	229	PN	Pn	21 31 35.7	-3.6
QRZ	Quartz Range	4.68	237	PN	Pn	21 31 40.2	-3.3
THZ	Tophouse	4.99	226	PN	Pn	21 31 43.8	-4.1
KHZ	Kahutara	5.12	217	PN	Pn	21 31 45.5	-4.1
LTZ	Lake Taylor	6.03	222	PN	Pn	21 31 56.7	-5.3
INZ	Inchbonnie	6.44	226	PN	Pn	21 32 02.1	-5.5
MQZ	McQueen's Vall	6.54	214	PN	Pn	21 32 02.9	-6.0
CTZ	Chatham Island	6.84	143	PN	Pn	21 32 12.6	-0.5
ODZ	Otahua Downs	8.48	216	*e*PN	Pn	21 32 29.0	-6.6

IDC 08 21:53:41.3±4.2, 9°.49S×117°.16E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/32, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=310.8km s-min=30.5km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.57	124	P	P	21 58 11.0	0.0
	0.1nm,0.3s,baz=298,slow=12,SNR=2.1						
ASAR	Alice Springs	21.32	133	P	P	21 58 30.1	+0.1
	0.3nm,0.5s,baz=310,slow=10,SNR=3.9						
MKAR	Makanchi Array	64.08	334	P	P	22 04 17.1	0.0
	0.6nm,0.8s,baz=145,slow=5.3,SNR=2.5						

ISCJB ***08*** *22:10:53.7±0.4, 39°.01N±0°.01×28°.06E±0°.02, h12km±3km, Error ellipse: s-maj=2.5km s-min=2.1km az=143.8*
ATH ***08*** *22:10:53.4, 38°.95N×27°.99E, h20km±1km, ML3.2/10, Error ellipse: s-maj=2.3km s-min=1.2km az=237.0*
DDA ***08*** *22:10:53.2, 39°.01N×28°.06E, h25km, Ml4.0*
CSEM ***08*** *22:10:54.2±0.1, 38°.99N×28°.06E, h10km, ML4.0, Error ellipse: s-maj=2.6km s-min=2.0km az=41.0*
THE ***08*** *22:10:55.4, 38°.95N×28°.11E, h18km±3km, ML3.6/4, Error ellipse: s-maj=3.0km s-min=0.8km az=99.0*
ISC 08 22:10:54.1±0.9, 38°.99N±0°.02×28°.06E±0°.02, h10km±7km, n156, σ0ᵩ92/222, 18C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.23	240	⇑*i*P	Pg	22 10 58.8	0.0
AKHS				*i* S	Sg	22 11 02.3	+0.3
AKHS	Akhisar	0.23	240	P	Pg	22 10 58.8	0.0
AKHS				S	Sg	22 11 02.3	+0.3
STEP	BALIKESIR_Sava	0.47	325	⇑*i*P	Pg	22 11 02.6	-0.6
STEP				*i* S	Sg	22 11 09.8	+0.3
STEP	BALIKESIR_Sava	0.47	325	P	Pg	22 11 02.7	-0.6
STEP				S	Sg	22 11 09.8	+0.3
DEMI	Demirci	0.51	84	⇓*i*P	Pb	22 11 04.3	-0.9
DEMI				*i* S	Sg	22 11 10.4	-0.4
DEMI	Demirci	0.51	84	P	Pb	22 11 04.3	-0.9
DEMI				S	Sg	22 11 10.4	-0.4
MANT	Manisa	0.63	142	⇑*i*P	Pg	22 11 06.4	0.0
MANT				*i* S	Sb	22 11 15.4	-0.9
MANT	Manisa	0.63	142	P	Pg	22 11 06.4	0.0
MANT				S	Sb	22 11 15.4	-0.9
KULA	Kula-Manisa	0.67	135	P	Pg	22 11 07.1	+0.1
KULA				S	Sg	22 11 16.0	+0.2
KULA	Kula-Manisa	0.67	135	P	Pg	22 11 07.1	+0.1
KULA				S	Sg	22 11 16.0	+0.2
BALY	Balya	0.82	335	⇑*i*P	Pg	22 11 09.4	-0.6
BALY				*i* S	Sb	22 11 21.1	-0.5
BALY	Balya	0.82	335	P	Pg	22 11 09.4	-0.6
BALY				S	Sb	22 11 21.1	-0.5
GDZ	Gediz	1.11	85	⇓*i*P	Pb	22 11 15.3	-0.1
GDZ				*e*S	Sb	22 11 30.3	+0.4
GDZ	Gediz	1.11	85	P	Pb	22 11 15.3	-0.1
GDZ				S	Sb	22 11 30.3	+0.4
AYVA	Ayvalik	1.11	287	⇑*i*P	Pg	22 11 15.2	-0.3
AYVA				*i* S	Sb	22 11 30.6	+0.7
AYVA	Ayvalik	1.11	287	P	Pg	22 11 15.2	-0.3
AYVA				S	Sb	22 11 30.6	+0.7
KHAL	Karahalli	1.28	119	⇓*i*P	Pb	22 11 18.4	+0.2
KHAL				*i* S	Sg	22 11 34.0	-1.2
KHAL	Karahalli	1.28	119	P	Pb	22 11 18.4	+0.2
KHAL				S	Sg	22 11 34.0	-1.2
URLA	Izmir	1.31	242	⇑*i*P	Pn	22 11 17.8	-0.6
URLA				*i* S	Sn	22 11 37.1	+1.1
URLA	Izmir	1.31	242	P	Pn	22 11 17.8	-0.6
URLA				S	Sn	22 11 37.1	+1.1
DGB	˜zmir	1.32	225	⇑*i*P	Pn	22 11 17.7	-0.8
DGB				*i* S	Sb	22 11 36.2	+0.4
AYDN	Tasoluk	1.34	186	*e*P	Pn	22 11 18.4	-0.4
AYDN				*e*S	Sb	22 11 36.2	-0.2
AYDN	Tasoluk	1.34	186	P	Pn	22 11 18.4	-0.4
AYDN				S	Sb	22 11 36.2	-0.2
KNL	Bal¨–kesir	1.34	342	⇑*i*P	Pn	22 11 18.5	-0.4
KNL				*i* S	Sn	22 11 37.4	+0.6
BAYC	CANAKKALE_Bayr	1.39	303	*e*P	Pn	22 11 19.8	+0.2
BAYC				*e*S	Sb	22 11 36.8	-1.2
BAYC	CANAKKALE_Bayr	1.39	303	P	Pn	22 11 19.8	+0.2
BAYC				S	Sb	22 11 36.8	-1.2
PRK	Paraskevi	1.42	281	P	Pn	22 11 19.6	-0.2
PRK				S	Sb	22 11 37.8	-0.9
PRK	Paraskevi	1.42	281	P	Pb	22 11 20.7	+0.2
PRK				S	Sb	22 11 37.5	-1.2
PRK				AML	AML	22 11 48.3	
	comp=N,2120μm,0.6s						
PRK				AML	AML	22 11 54.4	
	comp=E,2779μm,0.8s						
PRK	Paraskevi	1.42	281	P	Pn	22 11 19.6	-0.2
PRK				S	Sb	22 11 37.8	-0.9
ZEY	˜zmir	1.44	239	*i* P	Pn	22 11 19.5	-0.6
ZEY				*i* S	Sn	22 11 38.4	-0.5
GCAM	G?zelcaml?	1.45	207	*i* P	Pn	22 11 19.2	-1.0
GCAM				*i* S	Sn	22 11 39.6	+0.4
GCAM	G?zelcaml?	1.45	207	P	Pn	22 11 19.2	-1.0
GCAM				S	Sn	22 11 39.6	+0.4
DNZL	Cakiroluk	1.51	149	⇑*i*P	Pn	22 11 21.4	0.0
DNZL				*i* S	Sg	22 11 44.5	+1.8
DNZL	Cakiroluk	1.51	149	P	Pn	22 11 21.4	0.0
IGD	Bursa	1.54	34	⇑*i*P	Pn	22 11 21.1	-0.5
IGD				*e*S	Sn	22 11 40.6	-1.1
EZN	Ezine	1.58	302	P	Pn	22 11 22.2	+0.1
EZN				S	Sn	22 11 42.9	+0.3
EZN	Ezine	1.58	302	P	Pn	22 11 22.2	+0.1
EZN				S	Sn	22 11 42.9	+0.3
TAVA	DENIZLI_Tavas	1.66	156	⇑*i*P	Pn	22 11 23.2	-0.2
TAVA				*i* S	Sg	22 11 48.5	+0.9
TAVA	DENIZLI_Tavas	1.66	156	P	Pn	22 11 23.2	-0.2
CHOS	Chios island	1.69	250	P

DALY	Dalyan (Mu˘la	2.22	168	P	Pn	22 11 31.3 +0.4
ESKT	Eskisehir	2.23	75	*i* P	Pg	22 11 36.1 -0.7
ESKT				*i* S	Sg	22 12 06.1 +0.4
BOLV	Bolvadin	2.27	96	*i* P	Pn	22 11 32.9 +1.2
BOLV	Bolvadin	2.27	96	P	Pn	22 11 32.9 +1.2
DAT	Datca	2.29	190	*i* P	Pn	22 11 31.5 -0.5
DAT	Datca	2.29	190	P	Pn	22 11 31.5 -0.5
BAGO	Egridir - ISPA	2.36	114	*i* P	Pn	22 11 32.0 -0.9
LIA	Limnos Island	2.41	293	P	Pn	22 11 34.7 +1.3
LIA				S	Sn	22 12 02.5 -0.4
LIA				AML	AML	22 12 12.2
	comp=N,826μm,0.4s					
LIA				AML	AML	22 12 15.5
	comp=E,790μm,0.6s					
LIA	Limnos Island	2.41	293	P	Pn	22 11 34.7 +1.3
LIA				S	Sn	22 12 02.5 -0.4
SMTH	Samothraki Isl	2.45	308	P	Pn	22 11 34.5 +0.4
SMTH	Samothraki Isl	2.45	308	P	Pn	22 11 34.0 -0.1
SMTH				S	Sn	22 12 05.0 +1.0
SMTH				AML	AML	22 12 13.5
	comp=N,388μm,0.5s					
SMTH				AML	AML	22 12 15.3
	comp=E,418μm,0.3s					
SMTH	Samothraki Isl	2.45	308	P	Pn	22 11 34.0 -0.1
SMTH				S	Sn	22 12 05.0 +1.0
ALN	Alexandroupoli	2.46	321	P	Pn	22 11 34.5 +0.4
ALN				S	Sn	22 12 04.0 -0.1
ALN	Alexandroupoli	2.46	321	P	Pn	22 11 34.2 +0.1
ALN				S	Sn	22 12 06.2 +2.0
ALN	Alexandroupoli	2.46	321	P	Pn	22 11 34.2 +0.1
ALN				S	Sn	22 12 04.0 -0.1
FETY	Fethiye	2.49	161	P	Pn	22 11 35.6 +1.0
KAND	Kocaeli-Kandir	2.66	37	*i* P	Pn	22 11 37.0 +0.1
KAND	Kocaeli-Kandir	2.66	37	P	Pn	22 11 37.0 +0.1
KORT	Korkueli	2.69	137	*i* P	Pn	22 11 39.0 +1.5
KORT	Korkueli	2.69	137	P	Pn	22 11 39.0 +1.5
BTAS	Taskesti	2.76	54	*i* P	Pn	22 11 38.6 +0.3
BTAS	Taskesti	2.76	54	P	Pn	22 11 38.6 +0.3
ARG	Arkhangelos	2.77	179	P	Pn	22 11 37.3 -1.2
ARG				AML	AML	22 12 31.9
	comp=E,262μm,1.0s					
ARG				AML	AML	22 12 33.0
	comp=N,298μm,0.9s					
ARG	Arkhangelos	2.77	179	P	Pn	22 11 37.3 -1.2
APE	Apeiranthos	2.77	227	⇑*i* P	Pb	22 11 42.9 -0.8
APE	Apeiranthos	2.77	227	P	Pn	22 11 37.2 -1.4
APE	Apeiranthos	2.77	227	P	Pn	22 11 37.2 -1.4
SAHE	Sakarya_HENDEK	2.84	48	*i* P	Pn	22 11 39.3 -0.1
SAHE	Sakarya_HENDEK	2.84	48	P	Pn	22 11 39.3 -0.1
RDO	Rodhopi	2.90	319	P	Pn	22 11 41.0 +0.8
RDO				AML	AML	22 12 26.2
	comp=E,224μm,0.6s					
RDO				AML	AML	22 12 27.3
	comp=N,239μm,0.4s					
RDO	Rodhopi	2.90	319	P	Pn	22 11 41.0 +0.8
EDRB	Edirne	3.02	341	P	Pn	22 11 41.7 -0.3
EDRB	Edirne	3.02	341	P	Pn	22 11 41.7 -0.3
KSL	Kastellorizon	3.08	156	P	Pn	22 11 45.4 +2.7
KSL				AML	AML	22 12 50.3
	comp=N,121μm,1.1s					
KSL				AML	AML	22 12 52.4
	comp=E,135μm,2.0s					
SANT	Santorini	3.33	219	P	Pn	22 11 46.1 -0.2
SANT	Santorini	3.33	219	P	Pn	22 11 46.1 -0.2
KAVA	Kavala	3.38	307	P	Pn	22 11 46.8 -0.1
KAVA				S	Sn	22 12 26.1 -0.9
KAVA				AML	AML	22 12 48.0
	comp=E,105μm,0.9s					
KAVA				AML	AML	22 12 49.0
	comp=N,116μm,1.0s					
KAVA	Kavala	3.38	307	P	Pn	22 11 46.8 -0.1
KAVA				S	Sn	22 12 26.1 -0.9
OUR	Ouranopolis	3.42	294	P	Pn	22 11 48.0 +0.5
OUR	Ouranopolis	3.42	294	P	Pn	22 11 48.0 +0.5
PTL	Penteli	3.43	255	P	Pn	22 11 49.1 +1.7
PTL	Penteli	3.43	255	P	Pn	22 11 49.2 +1.7
KARP	Karpathos	3.51	192	P	Pn	22 11 47.8 -0.9
KARP				S	Sn	22 12 29.8 -0.6
KARP	Karpathos	3.51	192	P	Pn	22 11 47.8 -0.9
KARP				S	Sn	22 12 29.8 -0.6
BCAM	Yenicaga	3.58	58	*i* P	Pn	22 11 50.9 +1.2
BCAM	Yenicaga	3.58	58	P	Pn	22 11 50.8 +1.2
CMDR	Camlidere-ANKA	3.72	65	*i* P	Pn	22 11 51.3 -0.3
CMDR	Camlidere-ANKA	3.72	65	P	Pn	22 11 51.3 -0.3
KKUL	Konya-Kulu	3.78	86	*i* P	Pn	22 11 54.5 +2.0
KKUL	Konya-Kulu	3.78	86	P	Pn	22 11 54.5 +2.0
XOR	Xorichti	3.81	277	P	Pn	22 11 54.0 +1.3
XOR	Xorichti	3.81	277	P	Pn	22 11 54.0 +1.3
VILL	Villia	3.81	259	P	Pn	22 11 53.9 +1.0
VIL2	Platees	3.84	260	P	Pn	22 11 53.9 +0.7
NVR	Nevrokopi	3.99	308	P	Pn	22 11 54.5 -0.7
NVR	Nevrokopi	3.99	308	P	Pn	22 11 54.5 -0.7
SRS	Serrai	4.04	303	P	Pn	22 11 55.7 -0.2
SRS				S	Sn	22 12 42.9 -0.3
SRS				AML	AML	22 13 06.9
	comp=E,81μm,1.0s					
SRS				AML	AML	22 13 12.6
	comp=N,68μm,0.6s					
SRS	Serrai	4.04	303	P	Pn	22 11 55.7 -0.2
SRS				S	Sn	22 12 42.8 -0.3
SOH	Sokhos	4.06	298	P	Pn	22 11 56.8 +0.6
SOH	Sokhos	4.06	298	P	Pn	22 11 56.8 +0.6
DID	Didima	4.08	250	P	Pn	22 11 57.9 +1.4
DID	Didima	4.08	250	P	Pn	22 11 57.9 +1.4
LAST	Lasithi	4.35	209	P	Pn	22 11 59.8 -0.4
LAST	Lasithi	4.35	209	P	Pn	22 11 59.8 -0.4
GUR	Goura	4.61	259	P	Pn	22 12 05.5 +1.5
GUR	Goura	4.61	259	P	Pn	22 12 05.4 +1.5
KALE	Kalithea	4.67	264	P	Pn	22 12 06.3 +1.6
THL	Klokotos Trika	4.73	279	P	Pn	22 12 07.4 +2.0
THL	Klokotos Trika	4.73	279	P	Pn	22 12 07.4 +2.0
KLV	Kalavryta, Ach	4.73	260	P	Pn	22 12 06.2 +0.6
GRG	Griva	4.77	296	P	Pn	22 12 08.1 +2.1
VTS	Vitosha	5.15	316	⇓*i* P	Pn	22 12 11.1 -0.2
TIRR	Tirgusor	5.47	3	⇓*i* P	Pn	22 12 17.9 +2.4
TLB	Topalu	5.59	360	⇓*i* P	Pn	22 12 18.4 +1.2
BARS	Barje	6.08	311	⇓*i* Pn	Pn	22 12 25.2 +1.2
TLCR		6.21	5	⇓*i* P	Pn	22 12 27.2 +1.4
ZAGS	Zajecar	6.51	320	*e* Pn	Pn	22 12 29.4 -0.5
BOVS	Bovan	6.66	316	*e* Pn	Pn	22 12 33.3 +1.3
MLR	Muntele Rosu	6.68	347	⇓*i* P	Pn	22 12 33.4 +1.1
VOIR		6.82	342	⇑*i* P	Pn	22 12 35.0 +0.9
ARR	Arges	6.86	339	⇑*i* P	Pn	22 12 35.2 +0.5
PLOR	Plostina	6.93	352	⇑*i* P	Pn	22 12 37.5 +1.8
VRI	Vrincioaia	6.94	352	⇓*i* Pn	Pn	22 12 37.7 +1.9
LOT	Lotru	7.20	335	⇓*i* P	Pn	22 12 39.7 +0.3
GRUS	Gruza	7.38	314	⇓*i* Pn	Pn	22 12 42.8 +1.1
MDVR	Moldovita	7.48	323	⇑*i* P	Pn	22 12 44.1 +1.0
TESR	Tescani	7.59	353	⇑*i* P	Pn	22 12 45.5 +0.9
MILM	Milestii Mici	7.94	4	⇓*i* P	Pn	22 12 51.3 +1.8
BZS	Buzias	8.16	326	⇓*i* P	Pn	22 12 52.7 +0.2
BURAR	Bucovina Array	8.87	347	⇑*i* P	Pn	22 13 04.6 +2.4

*ISCJB **08** 22:28:16.4±0.4, 43°.93N±0°.03×11°.89E±0°.04, h10km±5km, Error ellipse: s-maj=6.5km s-min=3.2km az=34.9*
*CSEM **08** 22:28:16.7±0.1, 43°.91N×11°.88E, h8km, ML2.9/7, Error ellipse: s-maj=3.2km s-min=2.1km az=29.0*
*ROM **08** 22:28:16.1±0.1, 43°.93N×11°.88E, h8km, Ml2.1/16, Error ellipse: s-maj=1.8km s-min=0.9km az=35.0*

ISC 08 22:28:16.3±0.8, **43°.94N**±0°.03×**11°.90E**±0°.02, **h7**km±5km, **n48**, σ0**°84**/71, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.05**	**227**	Pg	**Pg**	**22 28 17.8**	**-0.1**
SFI				Sg	**Sg**	**22 28 18.9**	**-0.1**
	14μm,0.3s						
SFI	**Santa Sofia**	**0.05**	**227**	Pg	**Pg**	**22 28 17.8**	**-0.1**
SFI				Sg	**Sg**	**22 28 18.9**	**-0.1**
	14μm,0.3s						
ASQU	**Asqua**	**0.16**	**209**	Pg	**Pg**	**22 28 19.9**	**+0.3**
ASQU				Sg	**Sg**	**22 28 22.9**	**+1.0**
	1μm,0.2s						
ASQU	**Asqua**	**0.16**	**209**	Pg	**Pg**	**22 28 19.9**	**+0.3**
ASQU				Sg	**Sg**	**22 28 22.9**	**+1.0**
	1μm,0.2s						
VMG	**Vicchio**	**0.26**	**276**	Pg	**Pg**	**22 28 21.8**	**+0.4**
VMG				Sg	**Sg**	**22 28 26.2**	**+1.4**
VMG	**Vicchio**	**0.26**	**276**	Pg	**Pg**	**22 28 21.8**	**+0.4**
VMG				Sg	**Sg**	**22 28 26.2**	**+1.4**
CPGN	**Carpegna, Ital**	**0.34**	**114**	Pg	**Pb**	**22 28 24.2**	**-0.6**
	37μm,13.0s						
CPGN	**Carpegna, Ital**	**0.34**	**114**	Pg	**Pb**	**22 28 24.2**	**-0.6**
	37μm,13.0s						
SEI	**Scarperia**	**0.41**	**287**	Pg	**Pg**	**22 28 24.2**	**0.0**
SEI				Sg	**Sb**	**22 28 30.9**	**-1.4**
SEI	**Scarperia**	**0.41**	**287**	Pg	**Pg**	**22 28 24.2**	**0.0**
SEI				Sg	**Sb**	**22 28 30.9**	**-1.4**
IMOL	**Imola, Italy**	**0.44**	**345**	Pg	**Pb**	**22 28 26.1**	**-0.3**
	148μm,31.0s						
IMOL	**Imola, Italy**	**0.44**	**345**	Pg	**Pb**	**22 28 26.1**	**-0.3**
	148μm,31.0s						
BADI	**Badiali**	**0.50**	**149**	Pg	**Pg**	**22 28 25.9**	**0.0**
BADI				Sg	**Sb**	**22 28 34.1**	**-0.8**
	140nm,0.2s						
BADI	**Badiali**	**0.50**	**149**	Pg	**Pg**	**22 28 25.9**	**0.0**
BADI				Sg	**Sb**	**22 28 34.1**	**-0.8**
	140nm,0.2s						
ATMC	**Monte Cedrone**	**0.54**	**156**	Pg	**Pg**	**22 28 26.6**	**-0.1**
ATMC				Sg	**Sb**	**22 28 35.1**	**-1.0**
	132nm,0.3s						
ATMC	**Monte Cedrone**	**0.54**	**156**	Pg	**Pg**	**22 28 26.6**	**-0.1**
ATMC				Sg	**Sb**	**22 28 35.1**	**-1.0**
	132nm,0.3s						
PTF	**Prato**	**0.60**	**272**	Pg	**Pg**	**22 28 27.7**	**-0.1**
PTF	**Prato**	**0.60**	**272**	Pg	**Pg**	**22 28 27.7**	**-0.1**
CAFI	**Castiglion Fio**	**0.61**	**175**	Pg	**Pg**	**22 28 28.1**	**0.0**
CAFI				Sg	**Sb**	**22 28 37.2**	**-1.0**
	81nm,0.5s						
CAFI	**Castiglion Fio**	**0.61**	**175**	Pg	**Pg**	**22 28 28.1**	**0.0**
CAFI				Sg	**Sb**	**22 28 37.2**	**-1.0**
	81nm,0.5s						
ATPC	**Poggio Castell**	**0.61**	**138**	Pg	**Pg**	**22 28 28.2**	**+0.1**
	103nm,0.4s						
ATPC	**Poggio Castell**	**0.61**	**138**	Pg	**Pg**	**22 28 28.2**	**+0.1**
	103nm,0.4s						
PIEI	**Pieia**	**0.61**	**131**	Pg	**Pg**	**22 28 28.0**	**-0.1**
PIEI				Sg	**Sb**	**22 28 38.0**	**-0.3**
	32nm,0.4s						
PIEI	**Pieia**	**0.61**	**131**	Pg	**Pg**	**22 28 28.0**	**-0.1**
PIEI				Sg	**Sb**	**22 28 38.0**	**-0.3**
	32nm,0.4s						
CSNT	**Castellina Chi**	**0.64**	**223**	Pg	**Pg**	**22 28 28.3**	**-0.3**
	68nm,0.5s						
CSNT	**Castellina Chi**	**0.64**	**223**	Pg	**Pg**	**22 28 28.3**	**-0.3**
	68nm,0.5s						
ATVO	**AVT- Monte Val**	**0.67**	**146**	Pg	**Pg**	**22 28 29.0**	**-0.2**
ATVO				Sg	**Sb**	**22 28 39.7**	**-0.1**
	119nm,0.6s						
ATVO	**AVT- Monte Val**	**0.67**	**146**	Pg	**Pg**	**22 28 29.0**	**-0.2**
ATVO				Sg	**Sb**	**22 28 39.7**	**-0.1**
	119nm,0.6s						
FSSB	**Fossombrone**	**0.68**	**111**	Pg	**Pg**	**22 28 29.8**	**+0.3**
	79nm,0.3s						
FSSB	**Fossombrone**	**0.68**	**111**	Pg	**Pg**	**22 28 29.8**	**+0.3**
	79nm,0.3s						
CRMI	**Carmignano**	**0.69**	**258**	Pg	**Pg**	**22 28 29.4**	**-0.1**
CRMI				Sg	**Sb**	**22 28 39.2**	**-1.1**
CRMI	**Carmignano**	**0.69**	**258**	Pg	**Pg**	**22 28 29.4**	**-0.1**
CRMI				Sg	**Sb**	**22 28 39.2**	**-1.1**
FRON	**Frontone**	**0.73**	**125**	Pg	**Pg**	**22 28 30.6**	**+0.2**
	43nm,0.3s						
FRON	**Frontone**	**0.73**	**125**	Pg	**Pg**	**22 28 30.6**	**+0.2**
	43nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.81**	**156**	Pg	**Pg**	**22 28 32.2**	**+0.3**
	59nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.81**	**156**	Pg	**Pg**	**22 28 32.2**	**+0.3**
	59nm,0.4s						
FROS	**Frosini**	**0.90**	**217**	Pg	**Pb**	**22 28 33.8**	**-0.6**
	118nm,1.1s						
FROS	**Frosini**	**0.90**	**217**	Pg	**Pb**	**22 28 33.8**	**-0.6**
	118nm,1.1s						
ATCC	**AVT- Casa Cast**	**0.93**	**144**	Pg	**Pg**	**22 28 34.1**	**0.0**
	68nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.93**	**144**	Pg	**Pg**	**22 28 34.1**	**0.0**
	68nm,0.3s						
MGAB	**Montegabbione**	**1.04**	**171**	Pg	**Pg**	**22 28 36.0**	**-0.2**
	60nm,0.5s						
MGAB	**Montegabbione**	**1.04**	**171**	Pg	**Pg**	**22 28 36.0**	**-0.2**
	60nm,0.5s						
NVLJ	**Novalja**	**2.23**	**73**	*e* Pn	**Pn**	**22 28 53.4**	**-0.3**
NVLJ				Sn	**Sn**	**22 29 22.9**	**+1.5**
NVLJ	**Novalja**	**2.23**	**73**	*e* Pn	**Pn**	**22 28 53.4**	**-0.3**
NVLJ				Sn	**Sn**	**22 29 22.9**	**+1.5**
UDBI	**Udbina**	**2.84**	**77**	Sn	**Sn**	**22 29 35.7**	**-1.0**
UDBI	**Udbina**	**2.84**	**77**	Sn	**Sn**	**22 29 35.7**	**-1.0**
MOTA	**Moosalm**	**3.45**	**351**	*i* Pn	**Pn**	**22 29 12.6**	**+1.9**
	0.3nm,0.1s						
MOTA				*i* Sn	**Sb**	**22 29 56.6**	**-3.5**
	1.7nm,0.6s						
MOTA	**Moosalm**	**3.45**	**351**	Pn	**Pn**	**22 29 12.6**	**+1.9**
	0.3nm,0.1s						

*ISCJB **08** 22:39:51.1±0.4, 45°.79N±0°.03×107°.06W±0°.05, h0km, Error ellipse: s-maj=5.1km s-min=3.5km az=34.9*
*IDC **08** 22:39:51.5±1.4, 45°.56N×106°.92W, h0km, mb1 3.3/3, mb1mx3.2/36, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=42.6km s-min=8.8km az=133.0*
*NEIC **08** 22:39:51.8±0.4, 45°.79N×107°.02W, h0km, ML2.8, Error ellipse: s-maj=7.8km s-min=5.0km az=136.0, Suspected Mining explosion.*
NEIC 33 km [20 miles] WSW of Colstrip.

ISC 08 22:39:51.1±0.8, **45°.80N**±0°.03×**107°.03W**±0°.03, **h0**km, **n22**, σ0**°91**/42, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.05**	**32**	*e* Pg	**Pg**	**22 40 11.3**	**+0.1**
LAO				*e* Sg	**Sb**	**22 40 25.8**	**-0.7**
RLMT	**Red Lodge**	**1.72**	**247**	*e* Pn	**Pn**	**22 40 22.3**	**-0.1**
RLMT				*e* Sg	**Sg**	**22 40 47.1**	**+0.9**
LKWY	**Lake**	**2.69**	**244**	*e* Pn	**Pn**	**22 40 36.2**	**+0.4**
LKWY				*e* Sg	**Sb**	**22 41 14.7**	**+1.0**
RSSD	**Black Hills**	**2.71**	**127**	*e* Pn	**Pn**	**22 40 36.2**	**+0.2**
H17A	**Grant Village**	**2.88**	**242**	*e* Pn	**Pn**	**22 40 38.8**	**+0.3**
H17A				*e* Pb	**Pb**	**22 40 43.4**	**0.0**
H17A				*e* Sn	**Sn**	**22 41 13.7**	**-0.2**
H17A				*e* Sb	**Sb**	**22 41 19.8**	**+0.5**
EGMT	**Eagleton**	**2.90**	**321**	*e* Pn	**Pn**	**22 40 40.3**	**+1.6**
EGMT				*e* Sb	**Sb**	**22 41 20.0**	**+0.1**
K22A	**Casper**	**3.17**	**173**	*e* Pn	**Pn**	**22 40 42.3**	**-0.1**
K22A				*e* Pb	**Pb**	**22 40 48.8**	**+0.4**
K22A				*e* Sn	**Sn**	**22 41 22.1**	**+1.1**
BOZ	**Bozeman (W)**	**3.23**	**268**	*e* Pn	**Pn**	**22 40 43.1**	**-0.1**
BOZ				S	**Sb**	**22 41 28.9**	**-0.4**
DGMT	**Dagmar**	**3.30**	**35**	*e* Pn	**Pn**	**22 40 46.2**	**+2.2**
DGMT				*e* Pb	**Pg**	**22 40 53.5**	**-0.7**
DGMT				*e* Sn	**Sb**	**22 41 30.0**	**-1.1**
MOOW	**Moose Ponds**	**3.35**	**234**	*e* Pn	**Pn**	**22 40 46.4**	**+1.5**
LOHW	**Long Hollow**	**3.36**	**231**	*e* Pn	**Pn**	**22 40 45.3**	**+0.3**
IMW	**Indian Meadow**	**3.37**	**237**	*e* Pn	**Pn**	**22 40 47.2**	**+1.9**
BW06	**Boulder Array**	**3.54**	**212**	*e* Pn	**Pn**	**22 40 48.7**	**+1.2**
BW06				*e* Pb	**Pb**	**22 40 55.6**	**+0.9**
BW06				*e* Sn	**Sn**	**22 41 30.6**	**+0.5**
BW06				*e* Sb	**Sb**	**22 41 38.2**	**0.0**
PDAR	**Pinedale Array**	**3.54**	**212**	Pn	**Pn**	**22 40 48.7**	**+1.2**
	0.8nm,0.3s,baz=45,slow=13,SNR=20						
PDAR				Pg	**Pb**	**22 40 55.0**	**+0.3**
	2.6nm,0.3s,baz=40,slow=19,SNR=34						
PDAR				Lg	Lg	22 41 36.1	
	1.8nm,0.3s,baz=38,slow=28,SNR=4.2						
SNOW	**Snow King Moun**	**3.54**	**230**	*e* Pn	**Pn**	**22 40 46.8**	**-0.8**
SNOW				*e* Pb	**Pb**	**22 40 53.2**	**-1.6**
SNOW				*e* Sn	**Sn**	**22 41 29.8**	**-0.5**
TPAW	**Teton Pass**	**3.63**	**232**	*e* Pn	**Pn**	**22 40 48.9**	**+0.1**
TPAW				*e* Pg	**Pg**	**22 41 00.1**	**-0.6**
REDW	**Red Top Meadow**	**3.66**	**230**	*e* Pn	**Pn**	**22 40 48.7**	**-0.5**
DLMT	**Dillon**	**3.93**	**266**	*e* Pn	**Pn**	**22 40 53.0**	**+0.1**
DLMT				*e* Sg	**Sg**	**22 41 57.4**	**-0.1**
RWWY	**Rawlins**	**4.11**	**182**	*e* Pn	**Pn**	**22 40 56.5**	**+1.0**
RWWY				*e* Pb	**Pb**	**22 41 05.3**	**+0.8**
I10CA	**LAC DU BONNET**	**8.59**	**55**	*i*		23 27 50.0	
	baz=239,slow=320,SNR=1.0						
ULM	**Lac du Bonnet**	**8.70**	**55**	Pn	**Pn**	**22 41 57.8**	**-0.3**
	0.5nm,0.3s,baz=238,slow=13,SNR=4.5						
ULM				Lg	Lg	22 44 19.9	
	0.5nm,0.3s,baz=323,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**16.65**	**170**	Pn	**Pn**	**22 43 44.2**	**-1.7**
	0.0nm,0.3s,baz=0.4,slow=13,SNR=3.0						

*ISCJB **08** 23:28:53.5±1.5, 36°.7N±0°.1×70°.6E±0°.1, h200km, mb3.1/1, Error ellipse: s-maj=19.7km s-min=10.5km az=135.0*
*IDC **08** 23:28:53.6±7.8, 36°.60N×70°.49E, h213km±52km, mb2.9/1, mb1 2.9/6, mb1mx2.7/42, mbtmp3.5/6, Error ellipse: s-maj=120.6km s-min=22.3km az=148.0*
*NNC **08** 23:28:59.6±5.3, 37°.53N×70°.44E, h384km±215km, mb1.8, mpv3.3, Error ellipse: s-maj=146.7km s-min=40.5km az=175.0*

ISC 08 23:28:51.5±1.7, **36°.5N**±0°.1×**70°.7E**±0°.1, **h200**km, **n11**, σ2**°10**/15, **3C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.18**	**12**	⇓P	**Pn**	**23 30 22.8**	**+1.7**
	2.2nm,0.6s						
MNAS				⇑S	**Sn**	**23 31 30.8**	**-1.3**
	17nm,0.6s						
KK31	**Karatay Array**	**6.64**	**359**	P	**Pn**	**23 30 28.7**	**+1.7**
	0.7nm,0.3s,baz=179,slow=12,SNR=30						
KK31				⇑S	**Sn**	**23 31 38.8**	**-3.9**
	4.0nm,0.4s,baz=185,slow=24,SNR=10						
AAK	**Ala-Archa**	**6.82**	**24**	P	**Pn**	**23 30 31.5**	**+2.0**
	0.8nm,0.3s,baz=188,slow=7.5,SNR=5.8						
AAK				S	**Sn**	**23 31 46.8**	**-0.4**
	1.4nm,0.3s,baz=322,slow=23,SNR=5.4						
AAK	**Ala-Archa**	**6.82**	**24**	⇓P	**Pn**	**23 30 31.5**	**+2.0**
	2.9nm,0.7s						
AAK				⇓S	**Sn**	**23 31 46.3**	**-1.0**
	12nm,0.7s						
TKM2	**Tokmak 2**	**7.46**	**29**	⇓P	**Pn**	**23 30 37.8**	**-0.1**
	3.3nm,1.1s						
TKM2				⇑S	**Sn**	**23 32 00.6**	**-1.9**
	3.4nm,0.9s						
GEYT	**Alibeck**	**10.17**	**282**	P	**Pn**	**23 31 12.9**	**-0.1**
	0.1nm,0.3s,baz=120,slow=13,SNR=1.8						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**P**	**23 31 55.6**	**-1.5**
	0.1nm,0.3s,baz=210,slow=10.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**15.23**	**19**	P	**P**	**23 32 16.9**	**+0.2**
	0.1nm,0.3s,baz=210,slow=9.9,SNR=5.6						
BVAR	**Borovoye Array**	**16.57**	**359**	P	**Pn**	**23 32 35.9**	**+3.5**
	0.2nm,0.3s,baz=171,slow=9.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**20.05**	**25**	P	Pn	23 33 11.1	-2.5
	0.6nm,0.3s,baz=217,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P	**P**	**23 39 12.2**	**-1.4**
	0.2nm,0.4s,baz=64,slow=4.7,SNR=2.5						

*IDC **08** 23:36:52.5±2.5, 37°.72N×140°.98E, h74km±23km, mb3.2/4, mb1 3.4/7, mb1mx3.2/42, mbtmp3.6/7, Error ellipse: s-maj=30.0km s-min=13.5km az=116.0*
*ISCJB **08** 23:36:53.1±0.6, 37°.76N±0°.04×140°.79E±0°.05, h92km±4km, mb3.4/4, Error ellipse: s-maj=7.7km s-min=4.8km az=34.1*
*JMA **08** 23:36:54.2, 37°.76N×140°.75E, h85km±1km, M3.4*
Broadband fault plane solution: P waves. NP1: φs328.00000°, δ83.00000°, λ17.00000°. NP2: φs236.00000°, δ73.00000°, λ173.00000°. Principal axes: T Plg17.0000°, Azm193.0000°; N Plg72.0000°, Azm349.0000°; P Plg7.0000°, Azm101.0000°;
JMA Felt I J1.

ISC 08 23:36:54.3±0.9, **37°.76N**±0°.04×**140°.78E**±0°.05, **h86**km±6km, **n28**, σ0**°67**/38, **mb3.4/4, 7C-7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.10**	**6**	⇑P	**Pn**	**23 37 06.3**	**-0.3**
JMM				S	**Sn**	**23 37 15.4**	**-0.3**
JFK	**Kawauchi**	**0.40**	**169**	⇑P	**Pn**	**23 37 07.9**	**-0.1**
JFK				S	**Sn**	**23 37 18.0**	**-0.1**
JFT	**Otama**	**0.43**	**235**	⇓P	**Pn**	**23 37 07.7**	**-0.5**
JFT				S	**Sn**	**23 37 17.8**	**-0.6**
JOU	**Okura**	**0.61**	**351**	⇑P	**Pn**	**23 37 09.8**	**+0.1**
JOU				*e* S	**Sn**	**23 37 21.7**	**+0.6**
JYS	**Shiratake**	**0.73**	**309**	⇓P	**Pn**	**23 37 10.5**	**-0.3**
JYS				S	**Sn**	**23 37 22.8**	**-0.2**
JIO	**Ouri**	**0.82**	**33**	⇑P	**Pn**	**23 37 11.7**	**-0.1**
JIO				S	**Sn**	**23 37 24.5**	**-0.3**
JFY	**Yanaizu**	**0.93**	**248**	⇓P	**Pn**	**23 37 12.5**	**-0.4**
JFY				S	**Sn**	**23 37 26.1**	**-0.8**
JNS	**Sasagawa**	**1.16**	**273**	⇓P	**Pn**	**23 37 15.2**	**-0.4**
JNS				*e* S	**Sn**	**23 37 31.1**	**-0.6**
JYA	**Atsumi**	**1.18**	**315**	⇓P	**Pn**	**23 37 15.8**	**-0.1**
JYA				*e* S	**Sn**	**23 37 32.0**	**-0.1**
JYK	**Kaneyama**	**1.20**	**344**	⇑P	**Pn**	**23 37 16.2**	**0.0**
JYK				S	**Sn**	**23 37 32.7**	**+0.2**
JMK	**Ichinoseki**	**1.24**	**16**	⇑P	**Pn**	**23 37 16.8**	**+0.2**
JMK				*e* S	**Sn**	**23 37 33.8**	**+0.5**
JAW	**Awa shima**

	comp=E,2μm,0.3s						
SHO				A	A	23 48 21.5	
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.61**	**230**	*d iPN*	**Pn**	**23 48 03.7**	**+0.5**
YUK				*i* S	**Sn**	**23 48 22.4**	**+0.5**
YUK				pmax	pmax		
	comp=Z,205nm,0.4s						
YUK				pmax	pmax		
	comp=E,198nm,0.3s						
YUK				pmax	pmax		
	comp=N,184nm,0.5s						
YUK				smax	smax		
	comp=E,558nm,0.5s						
YUK				smax	smax		
	comp=N,809nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.61**	**230**	*eP*	**Pn**	**23 48 03.7**	**+0.5**
YUK				AMB	AMB	23 48 08.4	
	comp=N,210nm,0.3s						
YUK				*i* S	**Sn**	**23 48 21.8**	**-0.1**
YUK				A	A	23 48 25.2	
	comp=N,560nm,0.4s						
YUK				A	A	23 48 25.2	
	comp=N,810nm,0.4s						
JRA	**Rausu**	**1.11**	**244**	P	**Pn**	**23 48 06.8**	**+0.2**
JRA				*eS*	**Sn**	**23 48 27.9**	**-0.1**
NEM2	**Nemuro 2**	**1.20**	**208**	P	**Pn**	**23 48 07.4**	**0.0**
NEM2				*eS*	**Sn**	**23 48 28.3**	**-1.0**
KUR	**Kuril'sk**	**1.25**	**50**	*d iPN*	**Pn**	**23 48 07.4**	**-0.4**
KUR				*eS*	**Sn**	**23 48 36.1**	**+5.9**
KUR				pmax	pmax		
	comp=Z,257nm,0.4s						
KUR				pmax	pmax		
	comp=E,69nm,0.3s						
KUR				pmax	pmax		
	comp=N,56nm,0.2s						
KUR				pmax	pmax		
	comp=Z,452nm,1.2s						
KUR				smax	smax		
	comp=E,69nm,0.3s						
KUR				smax	smax		
	comp=N,33nm,0.2s						
KUR	**Kuril'sk**	**1.25**	**50**	*eP*	**Pn**	**23 48 06.8**	**-1.0**
KUR				AMB	AMB	23 48 07.8	
	comp=N,260nm,0.4s						
KUR				*eS*	**Sn**	**23 48 26.8**	**-3.4**
KUR				A	A	23 48 39.3	
	comp=N,32nm,0.2s						
KUR				A	A	23 48 39.3	
	comp=N,72nm,0.2s						
JNK	**Nakash**	**1.54**	**238**	P	**Pn**	**23 48 11.1**	**+0.5**
JTKR	**Abashiri--Toko**	**1.93**	**257**	P	**Pn**	**23 48 14.8**	**+0.3**
JTKR				*eS*	**Sn**	**23 48 41.9**	**-0.2**
JAK	**Akkeshi**	**1.94**	**223**	P	**Pn**	**23 48 15.3**	**+0.6**
JAK				*eS*	**Sn**	**23 48 41.7**	**-0.8**
JAR	**Ashorobuto**	**2.29**	**241**	P	**Pn**	**23 48 20.0**	**+1.5**
JOB	**Onbets**	**2.47**	**233**	P	**Pn**	**23 48 21.8**	**+1.1**
JOB				*eS*	**Sn**	**23 48 53.0**	**-0.2**
HRK	**Horoka**	**2.63**	**250**	*eP*	**Pn**	**23 48 23.8**	**+1.2**
JKK2	**Kamakawa 2**	**2.77**	**260**	P	**Pn**	**23 48 25.2**	**+1.0**
JKK2				*eS*	**Sn**	**23 49 00.5**	**+1.0**
ASAJ	**Asahikawa**	**2.83**	**265**	P	**Pn**	**23 48 25.9**	**+0.9**
	comp=N,2.8nm,0.3s,baz=73,slow=12,SNR=18						
ASAJ				S	**Sn**	**23 49 01.2**	**+0.4**
	comp=N,0.6nm,0.3s,baz=287,slow=15,SNR=3.7						
JSE	**Soyaes**	**2.85**	**282**	P	**Pn**	**23 48 25.0**	**-0.2**
JCH	**Churui**	**2.92**	**233**	P	**Pn**	**23 48 26.8**	**+0.7**
JCH				*eS*	**Sn**	**23 49 01.5**	**-1.4**
ERM	**Erimo**	**3.44**	**227**	*d iPN*	**Pn**	**23 48 34.4**	**+1.9**
JNBK	**Urakawa-nobuka**	**3.48**	**233**	P	**Pn**	**23 48 33.0**	**-0.1**
JNBK				*eS*	**Sn**	**23 49 11.9**	**-3.5**
YSS	**Yuzh-Sakhalins**	**3.65**	**315**	⇑ *iPN*	**Pn**	**23 48 33.8**	**-1.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**3.65**	**315**	*eP*	**Pn**	**23 48 37.1**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.42**	**274**	P	**Pn**	**23 50 02.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=15,SNR=4.6						
YAK	**Yakutsk**	**20.20**	**337**	⇓ *iP*	P	23 51 52.9	-6.9
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ILAR	**Eielson Array**	**41.22**	**37**	P	**P**	**23 55 07.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=259,slow=6.0,SNR=7.3						
ILAR	**Eielson Array**	**41.22**	**37**	P	**P**	**23 55 07.0**	**+0.8**
INK	**Inuvik**	**46.05**	**31**	P	**P**	**23 55 44.2**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=307,slow=8.8,SNR=5.6						
FINES	**FINESS Array B**	**64.06**	**333**	P	**P**	**23 57 51.7**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=57,slow=5.1,SNR=4.1						
WRA	**Warramunga Arr**	**65.02**	**193**	P	**P**	**23 58 02.2**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=8.8,slow=6.7,SNR=5.9						

*SJA **08** 23:49:14.2±1.0, 34°.27S×73°.26W, h46km±25km, ML3.6, MW3.4*
*IDC **08** 23:49:15.4±1.2, 34°.02S×73°.27W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/27, mbtmp3.9/7, ML3.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/40, Error ellipse: s-maj=44.1km s-min=22.6km az=83.0*
*GUC **08** 23:49:18.6±0.4, 33°.76S×73°.05W, h28km±3km, ML3.9*
*NEIC **08** 23:49:18.0±0.0, 33°.76S×73°.05W, h28km, mb4.0/5, ML3.9(GUC), After GUC.*

ISC 08 23:49:16.6±2.9, 33°.85S±0°.07×72°.98W±0°.07, h4km±17km, n36, σ1§92/42, mb4.1/9, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.86**	**63**	*eP*	**Pb**	**23 49 50.9**	**-0.5**
ROC1				⇓ *eS*	**Sg**	**23 50 16.6**	**+0.2**
ROCH	**El Roble**	**1.87**	**63**	*eP*	**Pb**	**23 49 50.9**	**-0.5**
ROCH				*eS*	**Sb**	**23 50 15.7**	**+0.5**
ROCH				IAML		23 50 22.4	
	comp=N,674nm,0.4s						
PEL	**Peldehue**	**2.04**	**70**	*eP*	**Pb**	**23 49 54.2**	**-0.2**
PEL				*eS*	**Sb**	**23 50 20.7**	**+0.5**
PEL				IAML		23 50 22.7	
	comp=E,802nm,0.3s						
CLCH	**Cerro Calan**	**2.09**	**78**	*eP*	**Pb**	**23 49 54.7**	**-0.5**
CLCH				*eS*	**Sb**	**23 50 21.8**	**+0.3**
CLCH				IAML		23 50 23.7	
	comp=E,562nm,0.4s						
FCH	**Farellones**	**2.31**	**78**	*eP*	**Pb**	**23 49 57.8**	**-1.2**
FCH				*i* S	**Sb**	**23 50 28.0**	**0.0**
FCH				IAML		23 50 28.3	
	comp=N,1μm,0.3s						
AUSP	**Uspallata**	**3.43**	**63**	*eP*	**Pb**	**23 50 15.4**	**-2.7**
ARCO	**CERRO ARCO**	**3.54**	**75**	*eP*	**Pb**	**23 50 18.1**	**-1.8**
ASAL	**Salagasta**	**3.70**	**71**	*eP*	**Pb**	**23 50 19.5**	**-3.1**
RTLS	**Leoncito**	**3.72**	**58**	*eP*	**Pb**	**23 50 19.4**	**-3.6**
RTLS				*eS*	**Sb**	**23 51 06.4**	**-2.1**
RTLS				IAML		23 51 08.1	
	comp=Z,75nm,0.7s						
TLL	**Tololo Astrono**	**4.11**	**27**	*eP*	**Pn**	**23 50 21.3**	**+0.8**
TLL				*eS*	**Sn**	**23 51 08.8**	**-0.4**
TLL				IAML		23 51 11.9	
	comp=N,311nm,0.8s						
RTCV	**Cerro Valdivia**	**4.23**	**63**	*eP*	**Pn**	**23 50 25.9**	**+4.0**
AMOG	**MOGNA**	**4.78**	**54**	*eP*	**Pn**	**23 50 33.0**	**+3.4**
ACAN	**Cantantal**	**5.11**	**74**	*eP*	**Pn**	**23 50 37.6**	**+3.5**
LCO	**Las Campanas**	**5.20**	**23**	*ePn*	**Pn**	**23 50 35.9**	**+0.4**
AVFE	**Valle Fertil**	**5.66**	**57**	*eP*	**Pn**	**23 50 44.4**	**+2.8**
AGUA	**GUANDACOL**	**5.79**	**43**	*eP*	**Pn**	**23 50 46.3**	**+2.8**
APLL	**PUNTA DE LOS L**	**6.47**	**60**	*eP*	**Pn**	**23 50 54.3**	**+1.6**
VCA	**Vinchina**	**6.53**	**40**	*eP*	**Pn**	**23 50 56.4**	**+2.7**
ACLC	**CERRO LA CRUZ**	**6.77**	**51**	*eP*	**Pn**	**23 50 58.6**	**+1.6**
PLCA	**Paso Flores**	**7.14**	**165**	Pn	**Pn**	**23 51 00.5**	**-1.4**
	comp=N,0.4nm,0.3s,baz=356,slow=13,SNR=6.4						
PLCA				Sn	Sn	23 52 13.2	-10
	baz=37,slow=12,SNR=1.3						
PLCA				LR	LR	23 53 40.0	
	comp=N,66nm,19.2s,baz=176,slow=38						
TCA	**Tanti**	**7.51**	**73**	*eP*	**Pn**	**23 51 08.1**	**+1.1**
TCA				⇓ *eS*	**Sn**	**23 52 29.5**	**-3.2**
CPUP	**Villa Florida**	**15.47**	**65**	LR	LR	23 58 29.1	
	comp=N,52nm,18.2s,baz=240,slow=35						
LPAZ	**La Paz**	**18.03**	**15**	P	**P**	**23 53 31.9**	**+2.5**
	comp=N,0.2nm,0.3s,baz=187,slow=6.9,SNR=13						
SIV	**San Ignacio**	**20.77**	**34**	P	Pn	23 54 02.4	+1.3
	comp=N,2.7nm,0.8s,baz=228,slow=11,SNR=7.6						
NNA	**Nana**	**22.05**	**350**	*eP*	**P**	**23 54 13.0**	**+0.5**
	comp=N,4.6nm,0.3s						
SAML	**Samuel**	**26.37**	**22**	*eP*	**P**	**23 54 56.1**	**+2.0**
	comp=N,0.8nm,0.6s						
SDV	**Santo Domingo**	**42.56**	**3**	*eP*	**P**	**23 57 14.8**	**+1.0**
	comp=N,2.0nm,0.5s						
SNAA	**Sanae**	**52.02**	**158**	P	**P**	**23 58 26.3**	**-0.6**
	comp=N,1.8nm,0.8s,baz=311,slow=8.7,SNR=12						
TXAR	**Lajitas Array**	**69.22**	**332**	P	**P**	**00 00 24.7**	**-0.1**
	comp=N,0.4nm,0.6s,baz=158,slow=7.9,SNR=7.2						
OXF	**Oxford**	**69.73**	**346**	P	**P**	**00 00 26.0**	**-1.6**
	comp=N,5.2nm,0.8s						
KSU1	**Kansas State U**	**75.82**	**341**	P	**P**	**00 01 02.7**	**-1.1**
DBIC	**Dimbokro**	**75.88**	**72**	P	**P**	**00 01 05.2**	**+0.5**
	comp=N,4.5nm,0.9s,baz=230,slow=8.5,SNR=4.6						
SDCO	**Great Sand Dun**	**77.39**	**334**	*eP*	**P**	**00 01 13.2**	**+0.1**
	comp=N,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**84.90**	**71**	P	**P**	**00 01 53.4**	**+0.2**
	comp=N,0.7nm,0.7s,baz=253,slow=4.1,SNR=6.7						
KMBO	**Kilima Mbogo**	**106.08**	**102**	*ePKP*	**PKiKP**	**00 07 43.3**	**+0.2**
ZALV	**Zalesovo Beam**	**154.51**	**31**	PKPbc	**PKPbc**	**00 09 16.6**	**-1.4**
	comp=N,0.8nm,0.6s,baz=262,slow=3.0,SNR=4.1						

*IDC **08** 23:54:55.1±1.3, 27°.76N×141°.34E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.5/42, mbtmp3.8/5, ML3.1/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/71, Error ellipse: s-maj=90.4km s-min=25.0km az=97.0*
*ISCJB **08** 23:54:57.6±0.7, 27°.83N±0°.08×141°.3E±0°.1, h33km, mb4.0/5, Error ellipse: s-maj=19.1km s-min=10.1km az=159.8*
*NEIC **08** 23:54:57.3±1.6, 27°.77N×141°.35E, h15km±12km, mb4.3/3, Error ellipse: s-maj=17.6km s-min=7.7km az=75.0*

ISC 08 23:54:59.9±0.8, 27°.8N±0°.1×141°.4E±0°.2, h35km, n12, σ0§69/10, mb4.1/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.99**	**134**	*ePg*	**Pn**	**23 55 16.8**	**-0.6**
MJAR	**Matsushiro Arr**	**9.13**	**344**	Pn	**Pn**	**23 57 08.0**	**-1.2**
	0.2nm,0.3s,baz=163,slow=12,SNR=2.1						
MAJO	**Matsushiro**	**9.13**	**344**	Pn	**Pn**	**23 57 09.1**	**-0.1**
JNU	**Nakatsue**	**10.51**	**303**	LR	LR	00 00 10.7	
	comp=Z,32nm,19.6s,baz=128,slow=30						
KSRS	**Korea Array**	**14.87**	**314**	LR	LR	00 03 53.9	
	comp=Z,15nm,18.6s,baz=345,slow=36						
TPUB	**Ta-pu**	**19.25**	**261**	*eP*	**P**	**23 59 21.1**	**-0.3**
	68nm,1.6s						
MDJ	**Mudanjiang**	**19.27**	**334**	P	**P**	**23 59 21.8**	**+0.3**
	2.7nm,0.3s						
WRA	**Warramunga Arr**	**47.94**	**189**	P	**P**	**00 03 35.0**	**-0.1**
	5.5nm,0.7s,baz=10,slow=8.4,SNR=34						
ASAR	**Alice Springs**	**51.66**	**189**	P	**P**	**00 04 03.0**	**-0.4**
	0.3nm,0.4s,baz=11,slow=7.4,SNR=3.9						
KURK	**Kurchatov**	**51.99**	**314**	P	**P**	**00 04 05.8**	**+0.2**
	2.6nm,0.6s						
ILAR	**Eielson Array**	**57.45**	**29**	P	**P**	**00 04 45.6**	**+0.7**
	0.5nm,0.9s,baz=263,slow=7.2,SNR=3.1						
STKA	**Stephens Creek**	**59.34**	**180**	P	**P**	**00 04 59.2**	**+0.8**
	1.3nm,0.8s,baz=336,slow=12,SNR=1.8						

*IDC **09** 00:12:03.8±12.0, 40°.28N×141°.24E, h0km, mb3.4/3, mb1 3.3/4, mb1mx3.1/79, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=253.2km s-min=40.8km az=92.0*
*ISCJB **09** 00:12:05.6±0.8, 39°.78N±0°.04×141°.86E±0°.09, h66km±4km, mb3.3/3, Error ellipse: s-maj=11.5km s-min=6.2km az=4.9*
*JMA **09** 00:12:06.6, 39°.76N×141°.84E, h59km±1km, M3.1*

ISC 09 00:12:06.3±1.3, 39°.78N±0°.04×141°.87E±0°.09, h60km±8km, n21, σ0§67/25, mb3.5/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.16**	**359**	P	**Pn**	**00 12 16.0**	**+0.4**
JTH				S	**Sn**	**00 12 22.6**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.20**	**191**	P	**Pn**	**00 12 16.1**	**+0.3**
MIYJ				*eS*	**Sn**	**00 12 22.6**	**0.0**
JKZ	**Kuzumaki**	**0.46**	**297**	P	**Pn**	**00 12 18.2**	**+0.3**
JKZ				*eS*	**Sn**	**00 12 26.2**	**-0.2**
JOM	**Ohasama**	**0.54**	**236**	P	**Pn**	**00 12 18.6**	**-0.1**
JOM				S	**Sn**	**00 12 27.2**	**-0.5**
JANG	**Nango**	**0.65**	**336**	P	**Pn**	**00 12 20.2**	**+0.2**
JANG				*eS*	**Sn**	**00 12 29.8**	**-0.2**
JMK	**Ichinoseki**	**0.97**	**212**	P	**Pn**	**00 12 23.8**	**-0.1**
JMK				*eS*	**Sn**	**00 12 36.6**	**-0.3**
JRG	**Rokugo**	**1.03**	**249**	P	**Pn**	**00 12 24.5**	**-0.2**
JRG				*eS*	**Sn**	**00 12 38.4**	**+0.1**
JAH	**Hinai**	**1.03**	**294**	P	**Pn**	**00 12 25.0**	**+0.2**
JAH				*eS*	**Sn**	**00 12 38.9**	**+0.5**
JTM	**Tenmabayashi**	**1.18**	**329**	P	**Pn**	**00 12 27.0**	**+0.3**
JTM				*eS*	**Sn**	**00 12 42.2**	**+0.3**
JIO	**Ouri**	**1.38**	**197**	P	**Pn**	**00 12 29.2**	**-0.2**
JYK	**Kaneyama**	**1.45**	**234**	P	**Pn**	**00 12 30.3**	**0.0**
JYK				*eS*	**Sn**	**00 12 48.2**	**-0.2**
MJAR	**Matsushiro Arr**	**4.33**	**223**	Pn	**Pn**	**00 13 12.3**	**+2.7**
	0.2nm,0.3s,baz=32,slow=13,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	00 48 42.4	
	baz=318,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	00 48 38.0	
	baz=318,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	00 48 38.6	
	baz=318,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	00 49 46.5	
	baz=327,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.15**	**128**	T	T	00 49 46.4	
	baz=327,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.16**	**128**	T	T	00 49 43.6	
	baz=327						
ZALV	**Zalesovo Beam**	**40.38**	**310**	P	**P**	**00 19 37.4**	**-0.7**
	0.4nm,0.4s,baz=106,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**43.02**	**300**	P	**P**	**00 19 59.3**	**-0.5**
	0.1nm,0.4s,baz=81,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**44.64**	**306**	P	**P**	**00 20 12.2**	**-0.5**
	0.4nm,0.5s,baz=84,slow=8.3,SNR=4.4						

GUC 09 00:13:40.8±0.5, 19°.76S×69°.23W, h98km±3km, ML3.6, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.39**	**169**	*eP*	Pn	00 13 56.6	+0.5
PB08				*eS*	Sn	00 14 08.4	+0.9
PB08				IAML		00 14 08.9	
	comp=E,3μm,0.2s						
PB11	**IPOC Station P**	**0.40**	**269**	⇑ *iP*	Pn	00 13 55.9	+0.1
PB11				*eS*	Sn	00 14 07.7	+0.6
MNMC	**Minye Minye**	**0.71**	**331**	⇓ *iP*	Pn	00 13 58.7	+0.3
MNMC				*eS*	Sn	00 14 12.4	+0.8
MNMC				IAML		00 14 13.2	
	comp=E,4μm,0.2s						
HMBC	**Humberstone**	**0.80**	**230**	*eP*	Pn	00 13 59.3	+0.1
HMBC				*eS*	Sn	00 14 13.9	+1.0
PSGC	**Pisagua**	**0.85**	**281**	*eP*	Pn	00 13 59.6	0.0
PSGC				*eS*	Sn	00 14 14.3	+0.6
PB01	**IPOC Station P**	**1.30**	**190**	*eP*	Pn	00 14 05.2	+0.5
PB01				*eS*	Sn	00 14 23.8	+1.1
PB01				IAML		00 14 25.3	
	comp=E,1μm,0.3s						

*KRSC **09** 00:14:24.7±1.0, 52°.65N×158°.13E, h143km±7km, ML3.6*
*ISCJB **09** 00:14:25.5±0.5, 52°.64N±0°.06×158°.1E±0°.1, h141km±3km, mb3.3/4, Error ellipse: s-maj=12.5km s-min=7.8km az=138.7*
*IDC **09** 00:14:26.4±1.8, 52°.65N×158°.00E, h132km±17km, mb3.0/4, mb1 3.4/5, mb1mx2.9/84, mbtmp3.5/5, Error ellipse: s-maj=84.5km s-min=18.7km az=145.0*

ISC 09 00:14:26.5±0.8, 52°.65N±0°.07×158°.10E±0°.07, h139km±6km, n28, σ1§01/42, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVR	**Mutnovka**	**0.17**	**164**	*eP*	**Pn**	**00 14 45.3**	**-0.3**
KRMR	**Karymshinskiy**	**0.18**	**5**	*eP*	**Pn**	**00 14 45.0**	**-0.4**
KRMR				*eS*	**Sn**	**00 14 59.6**	**-0.2**
ASAK	**Asacha**	**0.29**	**205**	*eP*	**Pn**	**00 14 45.8**	**-0.1**
ASAK				*eS*	**Sn**	**00 15 01.1**	**+0.6**
RUS	**Russkaya**	**0.33**	**131**	*eP*	**Pn**	**00 14 45.3**	**-0.5**
RUS				*eS*	**Sn**	**00 15 00.2**	**-0.3**
PET	**Petropavlovsk**	**0.50**	**41**	*eP*	**Pn**	**00 14 46.3**	**-0.3**
PET				*eS*	**Sn**	**00 15 01.4**	**-0.5**
PETK	**Petropavlovsk-**	**0.52**	**332**	P	**Pn**	**00 14 46.3**	**-0.5**
	40nm,0.3s,baz=115,slow=8.1,SNR=753						
PETK				S	**Sn**	**00 15 01.8**	**-0.4**
	7.2nm,0.3s,baz=142,slow=7.5,SNR=9.4						
DALK	**Dalny**	**0.55**	**46**	*eP*	**Pn**	**00 14 46.6**	**-0.2**
DALK				*eS*	**Sn**	**00 15 02.4**	**+0.1**
APC	**Apacha**	**0.64**	**296**	*eP*	**Pn**	**00 14 47.0**	**-0.4**
APC				*eS*	**Sn**	**00 15 02.8**	**-0.5**
UGLR	**Uglovaya**	**0.71**	**38**	*eP*	**Pn**	**00 14 48.3**	**+0.3**
UGLR				*eS*	**Sn**	**00 15 05.2**	**+0.8**
KOK	**Koryaka**	**0.72**	**26**	*eP*	**Pn**	**00 14 48.4**	**+0.3**
KOK				*eS*	**Sn**	**00 15 05.2**	**+0.6**
AVH	**Avacha**	**0.73**	**32**	*eP*	**Pn**	**00 14 48.2**	**+0.1**
AVH				*eS*	**Sn**	**00 15 06.1**	**+1.5**
KRER	**Koryakskii**	**0.76**	**31**	*eP*	**Pn**	**00 14 48.8**	**+0.3**
KRER				*eS*	**Sn**	**00 15 05.9**	**+0.6**
KRX	**Arik**	**0.78**	**25**	*eP*	**Pn**	**00 14 48.6**	**0.0**
KRX				*eS*	**Sn**	**00 15 05.6**	**+0.1**
SDLR	**Sedlovina**	**0.79**	**37**	*eP*	**Pn**	**00 14 48.4**	**-0.2**
SDLR				*eS*	**Sn**	**00 15 05.7**	**+0.2**
NLC	**Nalytchevo**	**0.92**	**55**	*eP*	**Pn**	**00 14 48.8**	**-0.7**
GNL	**Ganaly**	**1.05**	**355**	*eP*	**Pn**	**00 14 50.2**	**-0.6**
GNL				*eS*	**Sn**	**00 15 08.7**	**-0.7**
SPN	**Mys Shipunski**	**1.25**	**68**	*eP*	**Pn**	**00 14 51.8**	**-0.8**
SPN				*eS*	**Sn**	**00 15 11.5**	**-0.9**
MKZ	**Mys Kozlova**	**2.88**	**47**	*eP*	**Pn**	**00 15 11.4**	**-0.4**
MKZ				*eS*	**Sn**	**00 15 44.6**	**-2.3**
ZLN	**Zelenaya**	**3.73**	**24**	*eP*	**Pn**	**00 15 24.5**	**+1.6**
KBTR	**Krutoberegovo**	**4.50**	**36**	*eP*	**Pn**	**00 15 32.8**	**-0.2**
KBTR				S	**Sn**	**00 16 21.2**	**-3.6**
USRK	**Ussuriysk Ar.**	**19.20**	**254**	P	**Pn**	**00 18 39.7**	**-2.1**
	0.2nm,0.3s,baz=74,slow=11,SNR=2.3						
MJAR	**Matsushiro Arr**	**21.34**	**229**	P	**P**	**00 19 01.6**	**-0.8**
	0.3nm,0.4s,baz=12,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**29.98**	**45**	P	**P**	**00 20 21.5**	**+0.2**
	0.4nm,0.6s,baz=265,slow=7.1,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**33.56**	**165**	T	T	00 56 51.3	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**33.58**	**165**	T	T	00 56 53.8	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**33.58**	**165**	T	T	00 56 49.2	
	baz=353						
PDAR	**Pinedale Array**	**58.79**	**59**	P	**P**	**00 24 11.5**	**+1.4**
	0.2nm,0.5s,baz=318,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**71.92**	**65**	P	**P**	**00 25 36.0**	**+1.5**
	0.5nm,0.4s,baz=292,slow=4.9,SNR=12						

MAN 09 00:21:37,10°.93N×126°.34E, h16km, mb4.5, ML3.3, MS3.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.11**	**307**	*eP*	Pb	00 21 57.7	-0.1
BESP				*eS*	Sg	00 22 15.8	+2.8
SCPH	**Surigao**	**1.42**	**216**	*eP*	Pn	00 22 01.5	-0.6
SCPH				*eS*	Sb	00 22 21.7	+0.8
MSLP	**Maasin**	**1.66**	**242**	*eP*	Pg	00 22 08.6	-0.4
CNP	**Catarman**	**2.27**	**314**	*eP*	Pn	00 22 14.8	+0.9
CNP				*eS*	Sn	00 22 43.3	+1.7

CASC 09 00:27:32.7±2.0, 11°.37N×86°.32W, h69km±20km, MD3.8, ML3.6, 1C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.64**	**15**	*eP*	Pn	00 27 47.5	+0.6
CONN	**Concepcion**	**0.70**	**74**	*eP*	Pn	00 27 46.8	-0.8
CRZ1	**La Cruz**	**0.73**	**114**	⇓ *iP*	Pn	00 27 46.9	-1.0
TISN	**Laguna Tiscapa**	**0.77**	**3**	*eP*	Pn	00 27 48.5	0.0
XAVN	**Gruta Xavier**	**0.78**	**359**	*eP*	Pn	00 27 48.6	+0.1
MGAN	**Managua**	**0.78**	**5**	*eP*	Pn	00 27 48.6	+0.2
MGAN				*eS*	Sn	00 28 00.3	+0.2
MGAN				AML	AML	00 28 01.5	
	comp=N,1μm,0.6s						
COPN	**Copaltepe**	**0.85**	**341**	*eP*	Pn	00 27 48.9	-0.4
GB1A	**Borinquen Arri**	**1.05**	**121**	*eP*	Pn	00 27 51.1	-0.8
GB1A				*eS*	Sn	00 28 04.3	-1.9
BUEV	**Buena Vista**	**1.05**	**122**	*eP*	Pn	00 27 51.0	-0.9
MOMN	**Momotombo**	**1.06**	**348**	*eP*	Pn	00 27 52.1	+0.2
GPS3	**Bodega del ICE**	**1.11**	**123**	⇑ *eP*	Pn	00 27 52.3	-0.4
CNGN	**Cerro Negro**	**1.19**	**342**	*eP*	Pn	00 27 53.7	+0.1
LIM1	**Limonal**	**1.24**	**122**	⇓ *iP*	Pn	00 27 53.9	-0.4
LIM1				*eS*	Sn	00 28 11.1	+0.7
BOAB	**BOACO BROADBAN**	**1.25**	**30**	*eP*	Pn	00 27 54.3	0.0
MESS	**Mesas**	**1.26**	**119**	*eP*	Pn	00 27 54.3	-0.3
MESS				*eS*	Sn	00 28 12.1	+1.1
COLC	**Colonia**	**1.29**	**122**	⇓ *eP*	Pn	00 27 54.8	-0.2
COLC				*eS*	Sn	00 28 12.8	+1.2
BRAN	**Las Pilas**	**1.34**	**359**	*eP*	Pn	00 27 48.7	-6.9
CHPA	**Chiripa**	**1.66**	**123**	*eP*	Pn	00 27 54.3	-5.6
CHPA				*eS*	Sn	00 28 11.8	-8.7
ESTN	**Estel**	**1.73**	**358**	*eP*	Pn	00 28 01.0	+0.2
ARE1	**Arenal 1**	**1.81**	**120**	*eP*

comp=N,18μm,0.5s
PB01 IPOC Station P 0.85 90 *e*P **Pn 00 51 00.3 0.0**
PB01 *e*S **Sn 00 51 11.1 -0.9**
PB01 IAML 00 51 12.0
comp=E,34μm,0.2s
PB01 IPOC Station P 0.85 90 *e*Pn **Pn 00 51 00.3 0.0**
HMBC Humberstone 0.90 32 *e*P **Pn 00 51 01.3 +0.4**
HMBC ⇓*i*P **Pn 00 51 01.4 +0.4**
HMBC *e*S **Sn 00 51 13.1 -0.1**
HMBC IAML 00 51 16.6
comp=N,18μm,0.5s
PB04 IPOC Station P 1.30 170 *e*P **Pn 00 51 06.7 +0.3**
PB04 *e*S **Sn 00 51 22.7 -0.1**
PB04 IPOC Station P 1.30 170 *e*Pn **Pn 00 51 03.7 -2.6**
PB09 IPOC Station P 1.31 125 *e*P **Pn 00 51 06.8 +0.3**
PB09 *e*S **Sn 00 51 22.7 -0.3**
PB11 IPOC Station P 1.45 29 *e*P **Pn 00 51 08.7 +0.3**
PB11 IPOC Station P 1.45 29 *e*Pn **Pn 00 51 08.6 +0.3**
PB08 IPOC Station P 1.47 53 *e*P **Pn 00 51 09.1 +0.3**
PB08 *e*S **Sn 00 51 26.7 -0.5**
PB08 IAML 00 51 28.2
comp=N,15μm,0.4s
PB08 ⇑*e* 00 51 28.2
PB06 IPOC Station P 1.82 155 *e*P **Pn 00 51 13.1 -0.2**
LVC Limon Verde 2.08 139 P **Pn 00 51 18.1 +1.0**
comp=N,4μm,0.3s,baz=316,slow=9.8,SNR=200
LVC S **Sn 00 51 42.3 +0.2**
comp=N,18μm,0.3s,baz=84,slow=19,SNR=53
LVC LR LR 00 51 53.6
comp=N,251nm,18.7s,baz=282,slow=34
PB10 IPOC Station P 2.46 183 *e*Pn **Pn 00 51 21.5 -0.4**
LPAZ La Paz 5.20 25 P **Pn 00 52 03.3 +3.3**
comp=N,2.8nm,0.3s,baz=206,slow=4.4,SNR=48
LPAZ LR LR 00 53 45.2
comp=N,64nm,19.4s,baz=202,slow=36
SIV San Ignacio 10.17 62 P **Pn 00 53 05.0 -2.6**
comp=N,3.2nm,0.3s,baz=286,slow=8.5,SNR=27
NNA Nana 10.92 325 S **Sn 00 55 15.1 -3.5**
comp=N,1.0nm,0.3s,baz=290,slow=12,SNR=2.9
CPUP Villa Florida 13.08 116 P **Pn 00 53 45.9 -1.3**
comp=N,0.1nm,0.3s,baz=288,slow=9.6,SNR=2.5
CPUP LR LR 00 59 25.1
comp=N,65nm,21.9s,baz=298,slow=40
SAML Samuel 13.89 31 *e*Pn **Pn 00 53 55.0 -3.4**
PLCA Paso Flores 19.63 180 P **P 00 55 09.1 +0.9**
comp=N,0.3nm,0.3s,baz=11,slow=9.6,SNR=7.8
PTGA Pitinga 22.61 28 P **P 00 55 38.5 -1.9**
comp=N,6.4nm,0.4s,baz=196,slow=15,SNR=24
PTGA LR LR 01 06 03.4
comp=N,40nm,18.6s,baz=208,slow=41
PTGA Pitinga 22.61 28 *e*P **P 00 55 40.2 -0.2**
comp=N,11nm,0.6s
RUSC La Rusia 26.90 354 *e*P **P 00 56 21.4 +0.7**
comp=N,3.6nm,1.1s
RCBR Riachuelo 36.69 71 P **P 00 57 43.2 -2.8**
comp=N,19nm,1.1s,baz=228,slow=14,SNR=4.4
RCBR LR LR 01 13 24.2
comp=N,60nm,18.9s,baz=191,slow=37
WLAR White Oak Lake 58.58 338 *e*P **P 01 00 36.2 +1.0**
comp=N,19nm,0.7s
TXAR Lajitas Array 59.47 326 P **P 01 00 41.7 +0.1**
comp=N,0.4nm,0.6s,baz=145,slow=7.4,SNR=4.0
VNA3 Neumayer Olymp 60.95 161 P **P 01 00 51.4 +0.3**
VNA2 Neumayer~Watz 61.54 161 P **P 01 00 55.3 +0.2**
baz=272,slow=8.5
SNAA Sanae 63.16 161 P **P 01 01 04.4 -1.6**
ANMO Albuquerque 65.37 328 P **P 01 01 20.3 -0.8**
comp=N,1.2nm,0.7s,baz=138,slow=7.9,SNR=4.3
SADO Sadowa 65.98 353 P **P 01 01 23.2 -1.3**
comp=N,2.1nm,0.5s,baz=252,slow=6.4,SNR=3.9
QSPA South Pole Qui 69.14 180 *e*P **P 01 01 45.9 +1.4**
CCUT Cedar City 70.94 325 *e*P **P 01 01 57.5 +1.6**
comp=N,3.3nm,1.0s
PDAR Pinedale Array 73.03 331 P **P 01 02 08.1 -0.3**
comp=N,0.3nm,0.5s,baz=118,slow=6.6,SNR=3.6
PAHR Pah Rah Range 75.78 323 *e*P **P 01 02 25.4 +1.1**
comp=N,8.5nm,0.9s
TOA0 Torodi Ar. Sit 78.52 71 *e*P **P 01 02 41.9 +1.9**
TORD Torodi Ar. Bea 78.52 71 P **P 01 02 37.7 -2.3**
comp=N,0.3nm,0.6s,baz=266,slow=3.9,SNR=6.0
TSUM Tsumeb 81.50 107 P **P 01 02 55.1 -1.2**
comp=N,1.0nm,0.6s,baz=263,slow=23,SNR=3.8
TSUM pP **pP 01 03 13.8 +1.6**
comp=N,1.4nm,0.7s,baz=331,slow=6.2,SNR=3.3
MAW Mawson 85.16 164 P **P 01 03 11.8 -2.1**
ESDC Sonseca Array 86.49 45 pP pP 01 03 36.5 -0.6
comp=N,0.3nm,0.5s,baz=242,slow=5.2,SNR=2.5
YKA Yellowknife Ar 90.30 341 P **P 01 03 38.3 -0.1**
comp=N,1.5nm,0.8s,baz=139,slow=4.8,SNR=4.1
RAO Raoul Island 94.14 237 LR LR 01 37 10.7
comp=N,86nm,20.0s,baz=154,slow=30
H11S2 WAKE ISLAND Hyl 26.44 278 T T 03 29 03.3
baz=102
H11S1 WAKE ISLAND Hyl 26.45 278 T T 03 29 07.6
baz=102
H11S3 WAKE ISLAND Hyl 26.46 278 T T 03 29 08.3
baz=102
H11N3 WAKE ISLAND Hyl 26.52 279 T T 03 29 11.5
baz=106
H11N2 WAKE ISLAND Hyl 26.53 279 T T 03 29 15.6
baz=106
H11N1 WAKE ISLAND Hyl 26.53 279 T T 03 29 12.8
baz=106
ASAR Alice Springs 129.65 209 PKP **PKPdf 01 09 47.8 +0.1**
comp=N,0.5nm,0.8s,baz=138,slow=3.3,SNR=4.8
WRA Warramunga Arr 132.62 212 PKP **PKPdf 01 09 53.5 +0.1**
comp=N,0.8nm,0.7s,baz=152,slow=1.9,SNR=6.4
ZALV Zalesovo Beam 142.12 24 PKP **PKPdf 01 10 09.1 -0.7**
comp=N,0.6nm,0.4s,baz=299,slow=2.5,SNR=4.8
ZALV pPKP **pPKPdf 01 10 27.4 +0.9**
comp=N,0.4nm,0.4s,baz=316,slow=4.1,SNR=3.1
KSH Kashi 145.88 50 *e*PKPbc **PKPab 01 10 18.4 +0.2**
KSH pPKP pPKPdf 01 10 30.4 -3.4
KSH sPKP 01 10 34.2
KSH PP **PP 01 13 45.5 +6.2**
KSH PKS **PKSdf 01 13 52.7 +0.2**
KSH SKS **SKSdf 01 17 22.9 +1.4**
MKAR Makanchi Array 146.06 34 PKPbc **PKPdf 01 10 17.3 +0.3**
comp=N,1.0nm,0.7s,baz=320,slow=3.6,SNR=5.5
MKAR pPKPbc pPKPbc 01 10 35.0 +0.6
comp=N,1.8nm,0.8s,baz=325,slow=2.4,SNR=6.4
USRK Ussuriysk Ar. 150.37 326 pPKPbc pPKPbc 01 10 47.7 +1.7
comp=N,1.7nm,0.6s,baz=294,slow=1.4,SNR=3.1
MJAR Matsushiro Arr 150.70 308 PKPbc **PKPbc 01 10 29.7 -0.7**
comp=N,1.8nm,0.8s,baz=109,slow=2.6,SNR=3.6
MJAR pPKPbc **sPKPdf 01 10 48.4 +0.7**
comp=N,1.0nm,0.7s,baz=189,slow=1.2,SNR=2.6
SONM Songino Array 153.15 5 PKPbc **PKPbc 01 10 35.5 -0.2**
comp=N,0.5nm,0.4s,baz=318,slow=1.9,SNR=3.1
SONM pPKPbc **pPKPbc 01 10 53.4 +1.0**
comp=N,0.7nm,0.6s,baz=317,slow=2.2,SNR=3.5
LZH Lanzhou 164.19 17 *e*PKP **PKPdf 01 10 44.3 +2.5**
LZH pPKP pPKPdf 01 10 52.0 -6.6
LZH sPKP 01 10 54.3
LZH PKP **PKPab 01 11 38.0 +2.5**
LZH LR LR
comp=N,240nm,18.0s
LZH LR LR
comp=E,270nm,17.0s
LZH LR LR
comp=Z,270nm,20.2s

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*CSEM **09** 01:16:30.4, 33.°89N×35.°99E, h3km, ML3.2*
*NSSC **09** 01:16:30.4±0.7, 33.°86N×36.°04E, h13km±2km, MD1.4, ML1.8*
*GRAL **09** 01:16:30.4±0.2, 33.°89N×35.°99E, h3km±9km, MD3.2*
ISC 09 01:16:28.8±1.1, 33.°91N±0.°03×35.°96E±0.°04, h23km±13km, n15, σ0s47/28, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.26**	**269**	*e*P		**Pb**	**01 16 35.5**	**+0.3**
BHL				*e*S		**Sb**	**01 16 39.3**	**-0.2**
BHL	**Bhannes**	**0.26**	**269**	*e*P		**Pb**	**01 16 35.5**	**+0.3**
BHL				*e*S		**Sb**	**01 16 39.3**	**-0.2**
HWQ	**Hawqa**	**0.37**	**358**	*e*P		**Pb**	**01 16 37.3**	**+0.4**
HWQ	**Hawqa**	**0.37**	**358**	*e*P		**Pb**	**01 16 37.3**	**+0.4**
DQRL	**Deir Qamar**	**0.38**	**239**	*e*P		**Pb**	**01 16 37.5**	**+0.4**
DQRL				*e*S		**Sb**	**01 16 42.9**	**+0.2**
DQRL	**Deir Qamar**	**0.38**	**239**	*e*P		**Pb**	**01 16 37.5**	**+0.4**
DQRL				*e*S		**Sb**	**01 16 42.9**	**+0.2**
RCY	**Rachaya**	**0.42**	**195**	*e*P		**Pb**	**01 16 37.8**	**0.0**
RCY				*e*S		**Sb**	**01 16 43.4**	**-0.4**
MARH	**Ras Al Marh**	**0.45**	**74**	*e*P		**Pb**	**01 16 38.5**	**+0.2**
MARH				*e*S		**Sb**	**01 16 45.1**	**+0.4**
MARH				AML		AML	01 16 46.5	
	comp=E,88nm,0.4s							
MARH				AML		AML	01 16 48.5	
	comp=N,165nm,0.2s							
QASN	**Qassioun**	**0.46**	**145**	*e*P		**Pb**	**01 16 38.3**	**0.0**
QASN				*e*S		**Sb**	**01 16 43.8**	**-0.9**
QASN				AML		AML	01 16 46.8	
	comp=E,213nm,0.2s							
QASN				AML		AML	01 16 49.4	
	comp=N,128nm,0.2s							
FKH	**Fakeheh**	**0.50**	**48**	*e*P		**Pb**	**01 16 39.3**	**+0.2**
FKH				*e*S		**Sb**	**01 16 45.8**	**-0.3**
TOTH	**TOTAH**	**0.67**	**144**	*e*P		**Pn**	**01 16 42.5**	**-0.4**
TOTH				*e*S		**Sb**	**01 16 50.5**	**-0.3**
TOTH				AML		AML	01 16 56.6	
	comp=N,29nm,0.3s							
TOTH				AML		AML	01 17 01.2	
	comp=E,32nm,0.5s							
ROOS	**tl_alroos**	**1.13**	**76**	*e*P		**Pb**	**01 16 50.5**	**+0.8**
ROOS				*e*S		**Sb**	**01 17 04.9**	**+0.8**
ROOS				AML		AML	01 17 11.2	
	comp=E,57nm,0.5s							
ROOS				AML		AML	01 17 11.3	
	comp=N,28nm,0.8s							
TCHB	**Talchebab**	**1.23**	**180**	*e*P		**Pb**	**01 16 52.3**	**+0.8**
TCHB				*e*S		**Sb**	**01 17 07.1**	**+0.1**
TCHB				AML		AML	01 17 10.7	
	comp=N,42nm,0.5s							
TCHB				AML		AML	01 17 16.8	
	comp=E,18nm,0.4s							
SALA	**Sala**	**1.35**	**151**	*e*P		**Pb**	**01 16 54.1**	**+0.5**
SALA				*e*S		**Sb**	**01 17 10.1**	**-0.5**
SALA				AML		AML	01 17 13.5	
	comp=N,22nm,0.2s							
SALA				AML		AML	01 17 16.5	
	comp=E,1.6nm,0.5s							
BTCH	**Batrach**	**2.16**	**11**	*e*P		**Pb**	**01 17 07.2**	**-0.1**
BTCH				*e*S		**Sb**	**01 17 33.2**	**-0.6**
BTCH				AML		AML	01 17 42.6	
	comp=E,22nm,0.5s							
BTCH				AML		AML	01 17 43.8	
	comp=N,19nm,0.8s							

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*IDC **09** 01:26:58.1±1.5, 26.°99N×87.°56E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.3/38, mbtmp3.5/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/37, Error ellipse: s-maj=109.0km s-min=21.1km az=57.0*
ISC 09 01:27:01.3±1.0, 27.°64N±0.°07×88.°6E±0.°1, h10km, n9, σ2s12/11, mb3.8/5, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.32**	**172**	*e*P		**Pg**	**01 27 08.6**	**+0.8**
GTK				*e*S		**Sg**	**01 27 13.1**	**+1.0**
GTK				*e*S		**Sg**	**01 27 13.1**	**+1.0**
GTK				AML		AML	01 27 14.0	
	comp=E,416nm,0.1s							
GTK				AML		AML	01 27 14.0	
	comp=N,1μm,0.2s							
SHL	**Shillong**	**3.62**	**124**	*e*P		**Pb**	**01 28 02.5**	**-3.1**
SHL				*e*S		**Sg**	**01 29 01.0**	**+3.2**
MKAR	**Makanchi Array**	**19.75**	**347**	P		**P**	**01 31 34.0**	**+2.7**
	comp=N,0.4nm,0.4s,baz=164,slow=9.1,SNR=7.0							
KURBB	**Kurchatov Arra**	**24.19**	**344**	P		**P**	**01 32 19.8**	**+1.9**
	comp=N,0.2nm,0.3s,baz=164,slow=9.5,SNR=2.5							
ASF	**Jabal al Asfar**	**44.66**	**289**	LR		LR	01 56 58.2	
	comp=N,83nm,21.8s,slow=41							
FINES	**FINESS Array B**	**53.01**	**328**	P		**P**	**01 36 17.2**	**-0.8**
	comp=N,1.5nm,0.9s,baz=113,slow=11,SNR=5.1							
NOA	**NORSAR Array B**	**60.15**	**327**	P		**P**	**01 37 07.6**	**-1.3**
	comp=N,0.7nm,0.8s,baz=102,slow=8.1,SNR=2.6							
WRA	**Warramunga Arr**	**64.81**	**132**	P		**P**	**01 37 40.4**	**-0.2**
	comp=N,0.3nm,0.5s,baz=322,slow=6.7,SNR=6.7							
ASAR	**Alice Springs**	**67.20**	**135**	P		**P**	**01 37 55.6**	**-0.3**
	comp=N,0.2nm,0.7s,baz=315,slow=6.3,SNR=3.4							

MEX 09 01:36:00.0±0.6, 18.°80N×102.°11W, h58km±19km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.23**	**44**	*i*P		Pn	01 36 19.5	-1.9
MOIG				*e*S		Sn	01 36 35.4	-1.8
MMIG	**Aquila**	**1.28**	**247**	*e*P		Pn	01 36 19.8	-1.9
MMIG				*e*S		Sn	01 36 36.4	-1.4
ZIIG	**Zihuatanejo**	**1.33**	**153**	*e*P		Pn	01 36 20.9	-1.5
ZIIG				*e*S		Sn	01 36 36.8	-2.3
ARIG	**Puente Sto Nin**	**1.75**	**107**	*e*P		Pn	01 36 27.1	-0.9
R15V		**1.81**	**282**	*e*P		Pn	01 36 28.3	-0.7
IGIG	**Irapuato, Guan**	**2.08**	**21**	*e*P		Pn	01 36 30.8	-2.0
ATVM	**ATLACOMULCO**	**2.35**	**65**	*e*P		Pn	01 36 35.3	-1.1
CAIG	**El Cayaco**	**2.47**	**134**	*e*P		Pn	01 36 36.5	-1.3
PLIG	**Platanillo**	**2.50**	**99**	*e*P		Pn	01 36 37.0	-1.4
CJM	**Chamela**	**2.86**	**285**	*e*P		Pn	01 36 42.0	-1.2
CJM				*e*S		Sn	01 37 14.9	-1.6

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*IDC **09** 01:45:22.3±1.7, 37.°27N×77.°46E, h0km, mb3.8/5, mb1 3.8/9, mb1mx3.5/44, mbtmp3.7/9, ML3.1/4, MS3.8/1, Ms1 3.8/1, ms1mx2.4/49, Error ellipse: s-maj=28.9km s-min=23.6km az=124.0*
*NEIC **09** 01:45:26.7±1.3, 37.°20N×77.°59E, h35km, mb4.0/2, Error ellipse: s-maj=20.0km s-min=13.9km az=150.0*
*NNC **09** 01:45:28.6±5.8, 37.°51N×77.°20E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=49.6km s-min=45.7km az=60.0*
ISC 09 01:45:24.8±1.7, 37.°3N±0.°1×77.°6E±0.°1, h10km, n23, σ1s62/22, mb3.8/7, 7C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.79**	**346**	⇑Pn		**Pn**	**01 46 53.0**	**+2.1**
	4.2nm,1.3s							
TKM2				⇓Lg		Lg	01 48 24.0	
	8.3nm,0.8s							
AAK	**Ala-Archa**	**5.81**	**337**	Pn		**Pn**	**01 46 53.6**	**+2.5**
	1.2nm,0.3s,baz=113,slow=6.9,SNR=9.8							
AAK				Lg		Lg	01 48 26.3	
	0.4nm,0.3s,baz=313,slow=18,SNR=2.5							
AAK				LR		LR	01 49 28.4	
	comp=Z,25nm,21.2s,baz=63,slow=42							
AAK	**Ala-Archa**	**5.81**	**337**	⇑Pn		**Pn**	**01 46 53.1**	**+2.0**
	6.3nm,1.0s							
AAK				⇓Lg		Lg	01 48 27.5	
	33nm,1.1s							
MDOK	**Medeo**	**5.85**	**356**	⇓Pg		Pb	01 47 13.8	+6.9
MDOK				⇑Lg		Lg	01 48 28.4	
MNAS	**Manas**	**6.46**	**325**	⇓Pg		**Pb**	**01 47 17.5**	**+0.2**
	2.0nm,0.8s							
MNAS				⇓Lg		Lg	01 48 47.9	
	9.6nm,1.5s							
KK31	**Karatay Array**	**7.90**	**319**	⇓Pn		**Pn**	**01 47 18.4**	**-1.3**
	0.5nm,0.5s,baz=123,slow=13,SNR=7.1							
KK31				⇑Pg		Pb	01 47 37.5	-4.2
	0.4nm,0.4s,baz=130,slow=24,SNR=4.1							
KK31				⇑Sn		**Sn**	**01 48 47.1**	**-2.0**
	0.6nm,0.5s,baz=130,slow=24							
MK31	**Makanchi Array**	**10.09**	**19**	⇑Pg		**Pn**	**01 47 49.7**	**0.0**
	0.6nm,0.6s,baz=202,slow=13,SNR=5.0							
MK31				⇑Lg		Lg	01 49 40.1	
	2.7nm,0.8s,baz=196,slow=27,SNR=3.8							
MKAR	**Makanchi Array**	**10.09**	**19**	Pn		**Pn**	**01 47 50.4**	**+0.7**
	0.2nm,0.3s,baz=202,slow=13,SNR=5.8							
MKAR				Sn		**Sn**	**01 49 43.1**	**+0.1**
	0.2nm,0.3s,baz=184,slow=17,SNR=4.3							
KURBB	**Kurchatov Arra**	**13.31**	**3**	Pn		**Pn**	**01 48 33.2**	**-0.5**
	0.1nm,0.3s,baz=190,slow=14,SNR=3.0							
KURK	**Kurchatov**	**13.41**	**3**	*e*Pn		**Pn**	**01 48 36.5**	**+1.5**
GEYT	**Alibeck**	**15.43**	**278**	Pn		**Pn**	**01 49 04.3**	**+1.8**
	0.3nm,0.3s,baz=118,slow=15,SNR=3.4							
BVAR	**Borovoye Array**	**16.48**	**345**	Pn		**Pn**	**01 49 20.2**	**+4.3**
	0.3nm,0.3s,baz=143,slow=11,SNR=8.5							
BRVK	**Borovoye**	**16.54**	**344**	*e*Pn		**Pn**	**01 49 16.9**	**+0.3**
ZALV	**Zalesovo Beam**	**17.36**	**14**	P		**Pn**	**01 49 25.5**	**-1.6**
	0.2nm,0.3s,baz=207,slow=9.2,SNR=3.5							
ABKAR	**Akbulak array**	**17.46**	**319**	*e*Pn		**Pn**	**01 49 28.2**	**-0.1**
ARU	**Arti**	**22.97**	**332**	*e*P		**P**	**01 50 28.9**	**-0.3**
	4.6nm,1.0s							
SONM	**Songino Array**	**23.55**	**54**	P		**P**	**01 50 35.6**	**+0.2**
	0.2nm,0.3s,baz=259,slow=6.9,SNR=2.9							
PSI	**Prapat**	**39.57**	**145**	LR		LR	02 11 49.4	
	comp=Z,125nm,20.0s,baz=208,slow=40							
FINES	**FINESS Array B**	**39.83**	**324**	P		**P**	**01 52 57.5**	**-0.4**
	0.9nm,0.5s,baz=106,slow=10,SNR=9.8							
ARCES	**ARCESS Array B**	**42.48**	**336**	P		**P**	**01 53 19.7**	**+0.1**
	10nm,1.1s,baz=108,slow=8.0,SNR=8.6							
PSZ	**Piszkesteto**	**42.82**	**303**	*e*P		**P**	**01 53 21.7**	**-1.1**
	2.6nm,0.7s							
NOA	**NORSAR Array B**	**46.92**	**322**	P		**P**	**01 53 54.5**	**-0.7**
	0.6nm,0.7s,baz=91,slow=7.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**70.97**	**272**	P		P	01 56 40.5	-2.3
	0.3nm,0.6s,baz=49,slow=5.7,SNR=4.6							

IDC 09 01:50:19.5±1.9, 31.°49S×76.°69E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/37, mbtmp3.7/7, Error ellipse: s-maj=73.0km s-min=28.3km az=24.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**24.04**	**350**	T		T	02 20 31.7	
	baz=172,slow=76							
H08S1	**Diego Garcia H**	**24.04**	**350**	T		T	02 20 33.8	
	baz=172,slow=76							
H08S3	**Diego Garcia H**	**24.06**	**350**	T		T	02 20 33.0	
	baz=172,slow=76							
H01W2	**Cape Leeuwin H**	**31.40**	**106**	T		T	02 29 33.7	
	baz=262,slow=74							
H01W3	**Cape Leeuwin H**	**31.41**	**106**	T		T	02 29 31.8	
	baz=262,slow=74							
H01W1	**Cape Leeuwin H**	**31.42**	**106**	T		T	02 29 29.2	
	baz=262							
ASAR	**Alice Springs**	**50.83**	**96**	P		P	01 59 22.0	-0.1
	0.5nm,0.8s,baz=239,slow=6.9,SNR=4.9							
WRA	**Warramunga Arr**	**52.68**	**92**	P		P	01 59 35.8	-0.2
	0.8nm,1.0s,baz=238,slow=7.8,SNR=3.1							
MKAR	**Makanchi Array**	**78.08**	**4**	P		P	02 02 19.7	-0.1
	0.7nm,0.9s,baz=189,slow=7.3,SNR=4.6							
BRTR	**Keskin Array B**	**81.34**	**328**	P		P	02 02 37.7	-0.2
	0.5nm,0.8s,baz=149,slow=8.2,SNR=4.9							
SONM	**Songino Array**	**83.34**	**20**	P		P	02 02 48.6	+0.4
	0.8nm,0.9s,baz=201,slow=6.0,SNR=3.9							
TORD	**Torodi Ar. Bea**	**84.38**	**289**	P		P	02 02 54.2	+0.2
	0.5nm,0.7s,baz=108,slow=5.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**85.37**	**5**	P		P	02 02 58.1	0.0
	1.2nm,0.7s,baz=221,slow=5.9,SNR=5.0							

IDC 09 01:51:17.9±1.7, 31.°45S×76.°65E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/37, mbtmp3.6/7, Error ellipse: s-maj=63.8km s-min=26.4km az=23.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**24.00**	**350**	T		T	02 21 29.8	
	baz=166,slow=76,SNR=5.7							
H08S1	**Diego Garcia H**	**24.00**	**350**	T		T	02 21 31.1	
	baz=166,slow=76,SNR=7.3							
H08S3	**Diego Garcia H**	**24.02**	**350**	T		T	02 21 31.4	
	baz=166,slow=76,SNR=5.4							
H08N1	**Diego Garcia H**	**25.53**	**347**	T		T	02 23 11.5	
	baz=173							
H08N3	**Diego Garcia H**	**25.53**	**347**	T		T	02 23 10.8	
	baz=173							
H08N2	**Diego Garcia H**	**25.55**	**347**	T		T	02 23 07.5	
	baz=173							
H01W2	**Cape Leeuwin H**	**31.44**	**106**	T		T	02 30 28.2	
	baz=261							
H01W3	**Cape Leeuwin H**	**31.45**	**106**	T		T	02 30 33.4	
	baz=261,slow=74							
H01W1	**Cape Leeuwin H**	**31.46**	**106**	T		T	02 30 33.6	
	baz=261,slow=74							
ASAR	**Alice Springs**	**50.87**	**96**	P		P	02 00 20.0	-0.8
	0.3nm,0.6s,baz=252,slow=5.7,SNR=4.1							
WRA	**Warramunga Arr**	**52.71**	**92**	P		P	02 00 35.1	+0.5
	0.5nm,0.6s,baz=249,slow=7.3,SNR=2.5							
MKAR	**Makanchi Array**	**78.05**	**4**	P		P	02 03 17.1	-0.9
	0.6nm,0.8s,baz=197,slow=3.9,SNR=2.6							
BRTR	**Keskin Array B**	**81.29**	**328**	P		P	02 03 36.5	+0.5
	0.5nm,0.8s,baz=154,slow=5.7,SNR=2.7							
SONM	**Songino Array**	**83.32**	**20**	P		P	02 03 47.3	+0.9
	0.3nm,0.5s,baz=179,slow=5.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**84.33**	**289**	P		P	02 03 52.1	-0.1
	0.4nm,0.7s,baz=109,slow=6.2,SNR=2.5							
ZALV	**Zalesovo Beam**	**85.34**	**5**	P		P	02 03 56.3	0.0
	0.8nm,0.5s,baz=198,slow=4.2,SNR=3.3							

IDC 09 02:00:04.0±1.7, 31.°43S×76.°82E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/35, mbtmp3.7/7, Error ellipse: s-maj=66.1km s-min=26.9km az=21.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**24.01**	**349**	T		T	02 30 14.5	
	baz=172,slow=76,SNR=70							
H08S1	**Diego Garcia H**	**24.01**	**349**	T		T	02 30 15.8	
	baz=172,slow=76,SNR=85							
H08S3	**Diego Garcia H**	**24.03**	**349**	T		T	02 30 16.0	
	baz=172,slow=76,SNR=99							
H08N1	**Diego Garcia H**	**25.54**	**347**	T		T	02 32 47.3	
	baz=178							
H08N3	**Diego Garcia H**	**25.55**	**346**	T		T	02 32 43.2	
	baz=178							
H08N2	**Diego Garcia H**	**25.56**	**346**	T		T	02 32 48.5	
	baz=178							
H01W2	**Cape Leeuwin H**	**31.31**	**107**	T		T	02 39 15.5	
	baz=265,slow=74,SNR=24							
H01W3	**Cape Leeuwin H**	**31.31**	**106**	T		T	02 39 16.4	
	baz=265,slow=74,SNR=33							
H01W1	**Cape Leeuwin H**	**31.33**	**106**	T		T	02 39 18.4	
	baz=265,slow=74,SNR=26							
ASAR	**Alice Springs**	**50.73**	**96**	P		P	02 09 06.1	+0.2
	0.4nm,0.4s,baz=251,slow=5.8,SNR=6.1							
WRA	**Warramunga Arr**	**52.57**	**92**	P		P	02 09 19.7	0.0
	0.9nm,1.1s,baz=247,slow=7.6,SNR=3.3							
MKAR	**Makanchi Array**	**78.02**	**4**	P		P	02 12 04.0	-0.1
	0.5nm,0.6s,baz=183,slow=5.5,SNR=4.4							
BRTR	**Keskin Array B**	**81.35**	**328**	P		P	02 12 24.0	+1.5
	0.7nm,0.9s,baz=157,slow=4.4,SNR=3.4							
SONM	**Songino Array**	**83.26**	**20**	P		P	02 12 31.0	-1.3
	0.3nm,0.4s,baz=220,slow=3.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**84.46**	**289**	P		P	02 12 38.2	-0.8
	0.3nm,0.8s,baz=104,slow=4.9,SNR=3.2							
ZALV	**Zalesovo Beam**	**85.31**	**5**	P		P	02 12 42.6	+0.3
	1.4nm,0.7s,baz=197,slow=4.4,SNR=4.3							

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*TIF **09** 02:03:07.9, 42.°55N×43.°00E, h7km*
*CSEM **09** 02:03:08.7±0.7,

DGRG	David-gareji	2.07	120	P		Pb	02 03 46.3	-0.5

DHMR 09 02:05:39.0±1.4, 11°.61N×42°.27E, h10km±17km, ML4.3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	2.42	48	i P		Pb	02 06 21.1	-1.6
TRBA				i S		Sb	02 06 53.9	+1.1
TRBA				AML		AML	02 07 02.3	
	comp=N,2μm,0.6s							
UDYN	Al 'Udayn	2.87	35	i P		Pn	02 06 27.5	+2.6
UDYN				i S		Sb	02 07 05.3	-0.4
UDYN				AML		AML	02 07 16.2	
	comp=N,2μm,0.6s							
DHBB	Dhamar BB	3.60	35	i P		Pn	02 06 37.2	+2.1
LBOS		3.67	52	i P		Pn	02 06 39.0	+2.9
LBOS				i S		Sb	02 07 24.6	-4.3
BDHA	Al Bayda'	3.98	53	i P		Pn	02 06 42.6	+2.2
BDHA				i S		Sb	02 07 33.5	-4.4
HAJJ	Hajjah	4.27	17	i P		Pn	02 06 46.9	+2.7
HAJJ				i S		Sn	02 07 39.5	+5.3
HAJJ				AML		AML	02 08 03.1	
	comp=Z,860nm,0.6s							

*ISCJB **09** 02:08:29.2±0.5, 31°.55S±0°.10×76°.7E±0°.1, h10km, mb4.2/15, MS4.0/17, Error ellipse: s-maj=15.8km s-min=13.9km az=171.7*
*IDC **09** 02:08:29.3±1.8, 31°.49S×76°.66E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.6/40, mbtmp3.9/7, MS3.9/17, Ms1 3.9/17, ms1mx3.8/31, Error ellipse: s-maj=69.1km s-min=27.9km az=23.0*
*NEIC **09** 02:08:31.3±0.5, 31°.43S×76°.74E, h10km, mb4.4/5, Error ellipse: s-maj=16.9km s-min=11.5km az=209.0*
*GCMT **09** 02:08:31.3±0.4, 31°.71S×76°.66E, h12km, MW4.7/69, Moment Tensor Solution. s9,c11; s69,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.02±.07; Mθθ-1.16±.07; Mφφ 1.18±.06; Mrθ-0.14±.21; Mθφ-0.93±.06; Mφr0.24±.20; Best double couple: M0 1.51900×10^16 NP1:φs295.00000°, δ85.00000°, λ171.00000°. NP2: φs26.00000°, δ81.00000°, λ6.00000°. Principal axes: T 1.5520, Plg10.0000°, Azm251.0000°; N -0.0640, Plg80.0000°, Azm83.0000°; P -1.4850, Plg2.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 02:08:31.1±0.7, 31°.55S±0°.1×76°.7E±0°.2, h10km, n42, σ0§90/20, mb4.0/15, MS4.0/17, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	24.04	350	T	T	02 38 43.4	
	baz=172,slow=76,SNR=357						
H08S1	Diego Garcia H	24.05	350	T	T	02 38 43.6	
	baz=172,slow=76,SNR=323						
H08S3	Diego Garcia H	24.06	350	T	T	02 38 44.9	
	baz=172,slow=76,SNR=402						
H08N1	Diego Garcia H	25.58	347	T	T	02 41 25.2	
	baz=162,SNR=6.0						
H08N3	Diego Garcia H	25.58	347	T	T	02 41 27.1	
	baz=162,SNR=6.9						
H08N2	Diego Garcia H	25.60	347	T	T	02 41 12.5	
	baz=162,SNR=6.5						
OPO	Ambohidratompo	29.58	289	LR	LR	02 23 21.7	
	comp=Z,196nm,19.6s,baz=164,slow=30						
H01W2	Cape Leeuwin H	31.38	106	T	T	02 47 44.2	
	baz=266,slow=74,SNR=54						
H01W3	Cape Leeuwin H	31.38	106	T	T	02 47 40.3	
	baz=266,slow=74,SNR=93						
H01W1	Cape Leeuwin H	31.39	106	T	T	02 47 41.1	
	baz=266,slow=74,SNR=63						
PSI	Prapat	40.11	36	LR	LR	02 28 48.5	
	comp=Z,258nm,20.6s,baz=211,slow=30						
BOSA	Boshof	44.31	260	LR	LR	02 30 54.5	
	comp=Z,192nm,21.5s,baz=109,slow=30						
LSZ	Lusaka	46.99	279	eP	P	02 17 03.8	+0.9
	3.2nm,0.8s						
ASAR	Alice Springs	50.80	96	P	P	02 17 31.9	-0.1
	0.5nm,0.6s,baz=245,slow=6.2,SNR=5.4						
ASAR				LR	LR	02 36 48.4	
	comp=Z,88nm,21.7s,baz=271,slow=33						
WRA	Warramunga Arr	52.65	92	P	P	02 17 45.9	+0.1
	0.8nm,0.9s,baz=248,slow=8.0,SNR=3.2						
WRA				LR	LR	02 37 41.6	
	comp=Z,394nm,20.8s,baz=250,slow=33						
WRAB	Tennant Creek	52.67	92	eP	P	02 17 45.8	-0.1
	1.8nm,0.8s						
CMAR	Chiang Mai Arr	54.05	26	LR	LR	02 38 18.8	
	comp=Z,56nm,19.2s,baz=188,slow=33						
STKA	Stephens Creek	54.43	109	LR	LR	02 38 44.1	
	comp=Z,114nm,19.1s,baz=210,slow=33						
SNAA	Sanae	57.18	202	P	P	02 18 24.7	+6.9
VNDA	Vanda	58.46	165	LR	LR	02 41 11.6	
	comp=Z,424nm,18.1s,baz=258,slow=34						
QSPA	South Pole Qui	58.66	180	eP	P	02 18 29.4	+1.0
	45nm,1.4s						
VNA2	Neumayer--Watz	58.69	203	P	P	02 18 27.7	-0.7
	baz=85,slow=8.2						
VNA1	Neumayer--Stat	59.01	203	P	P	02 18 31.4	+0.8
VNA3	Neumayer Olymp	59.39	202	P	P	02 18 31.0	-2.3
RAYN	Ar Rayn	62.33	328	eP	P	02 18 53.6	-0.2
	4.9nm,1.3s						
GEYT	Alibeck	71.21	345	LR	LR	02 48 04.7	
	comp=Z,60nm,18.0s,baz=170,slow=33						
KKAR	Karatay Array	74.44	355	eP	P	02 20 10.6	+1.4
	5.1nm,0.9s						
GNI	Garni	77.19	335	eP	P	02 20 23.9	-1.4
	38nm,1.1s						
MKAR	Makanchi Array	78.08	4	P	P	02 20 29.4	-0.5
	1.4nm,0.9s,baz=182,slow=6.3,SNR=5.7						
MKAR				LR	LR	02 52 28.6	
	comp=Z,86nm,21.2s,baz=200,slow=34						
KBZ	Khabaz	80.99	336	LR	LR	02 54 00.4	
	comp=Z,59nm,20.8s,baz=180,slow=34						
BRTR	Keskin Array B	81.35	328	P	P	02 20 47.3	-0.6
	0.6nm,0.8s,baz=142,slow=6.3,SNR=4.2						
BRTR				LR	LR	02 54 43.0	
	comp=Z,56nm,18.2s,baz=128,slow=34						
ABKAR	Akbulak array	81.76	349	eP	P	02 20 49.5	-0.2
	0.7nm,0.7s						
KURK	Kurchatov	81.86	1	eP	P	02 20 50.3	+0.2
SONM	Songino Array	83.33	20	P	P	02 20 58.3	+0.2
	0.6nm,0.5s,baz=186,slow=5.6,SNR=4.4						
KSRS	Korea Array	83.61	39	LR	LR	02 57 59.4	
	comp=Z,39nm,18.7s,baz=212,slow=36						
BRVK	Borovoye	84.37	356	eP	P	02 21 03.7	+0.6
	6.4nm,0.7s						
TORD	Torodi Ar. Bea	84.40	289	P	P	02 21 03.8	-0.3
	0.5nm,0.7s,baz=101,slow=4.3,SNR=4.7						
TORD				LR	LR	02 56 39.2	
	comp=Z,91nm,19.5s,baz=130,slow=34						
ZALV	Zalesovo Beam	85.37	5	P	P	02 21 08.3	+0.3
	2.2nm,0.7s,baz=186,slow=5.1,SNR=6.5						
DBIC	Dimbokro	86.31	280	LR	LR	02 57 06.0	
	comp=Z,89nm,19.5s,baz=113,slow=34						
USRK	Ussuriysk Ar.	90.63	36	LR	LR	03 02 46.5	
	comp=Z,56nm,19.0s,baz=205,slow=36						
AKASG	Malin Array Be	91.95	332	LR	LR	03 01 13.0	
	comp=Z,39nm,21.3s,baz=255,slow=34						
YKA	Yellowknife Ar	148.13	10	PKPbc	PKPbc	02 28 15.7	-0.7
	1.2nm,0.8s,baz=327,slow=3.8,SNR=3.9						

*IDC **09** 02:14:20.7±2.9, 26°.99N×144°.29E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/41, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=84.0km s-min=24.6km az=66.0*
*ISCJB **09** 02:14:21.8±2.1, 27°.2N±0°.2×144°.6E±0°.5, h33km, mb3.8/5, Error ellipse: s-maj=68.8km s-min=16.2km az=161.3*

ISC 09 02:14:24.9±2.2, 27°.1N±0°.2×144°.5E±0°.5, h35km, n6, σ1§12/6, mb4.1/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.76	332	Pn	Pn	02 16 55.8	-0.7
	0.4nm,0.3s,baz=158,slow=11,SNR=6.3						
CMAR	Chiang Mai Arr	42.64	268	P	P	02 22 18.2	0.0
	1.2nm,0.3s,baz=76,slow=7.5,SNR=3.3						
CTA	Charters Tower	46.98	178	P	P	02 22 53.3	+0.7
	2.3nm,0.9s,baz=22,slow=5.4,SNR=3.1						
WRA	Warramunga Arr	47.82	193	P	P	02 22 58.0	-1.1
	1.4nm,0.7s,baz=13,slow=8.6,SNR=9.2						
ASAR	Alice Springs	51.53	192	P	P	02 23 26.8	-0.6
	0.2nm,0.5s,baz=18,slow=6.3,SNR=4.2						
MKAR	Makanchi Array	52.00	310	P	P	02 23 31.9	+1.1
	0.2nm,0.3s,baz=92,slow=8.5,SNR=2.9						

*IDC **09** 02:20:32.5±1.0, 2°.69N×128°.54E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/35, mbtmp3.9/7, MS3.5/3, Ms1 3.5/3, ms1mx2.9/36, Error ellipse: s-maj=67.7km s-min=17.0km az=82.0*
*ISCJB **09** 02:20:35.8±0.6, 2°.71N±0°.07×128°.6E±0°.1, h33km, mb3.9/9, MS3.5/3, Error ellipse: s-maj=19.1km s-min=9.9km az=176.0*
*NEIC **09** 02:20:38.5±1.8, 2°.70N×128°.64E, h43km±18km, mb4.2/2, Error ellipse: s-maj=18.4km s-min=11.8km az=78.0*

ISC 09 02:20:37.9±0.8, 2.73N±0°.10×128.7E±0°.2, h35km, n20, σ1§00/12, mb4.0/9, MS3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	6.66	147	ePn	Pn	02 22 13.7	+0.3
KAPI	Kappang	11.76	229	ePn	Pn	02 23 23.6	+0.3
WRAB	Tennant Creek	23.20	166	eP	P	02 25 42.5	+0.5
	3.2nm,0.6s						
WRA	Warramunga Arr	23.21	166	P	P	02 25 39.9	-2.1
	2.2nm,0.4s,baz=344,slow=10,SNR=20						
MBWA	Marble Bar	25.30	200	eP	P	02 26 00.9	-0.5
	5.7nm,0.4s						
ASAR	Alice Springs	26.73	169	P	P	02 26 14.4	+0.1
	0.5nm,0.3s,baz=353,slow=7.7,SNR=7.1						
KSAR	Wonju Array Be	34.55	359	P	P	02 27 24.4	+1.1
KSRS	Korea Array	34.57	359	P	P	02 27 24.4	+1.0
	2.3nm,0.7s,baz=174,slow=9.8,SNR=8.7						
MJAR	Matsushiro Arr	34.79	14	P	P	02 27 24.6	-0.6
	0.7nm,0.6s,baz=177,slow=9.0,SNR=3.2						
MJAR				LR	LR	02 41 12.7	
	comp=Z,20nm,19.9s,baz=240,slow=36						
STKA	Stephens Creek	36.55	161	P	P	02 27 40.9	+0.4
	1.2nm,0.4s,baz=311,slow=10,SNR=5.7						
H11S3	WAKE ISLAND Hy	40.40	64	T	T	03 11 31.2	
	baz=252,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	40.42	64	T	T	03 11 36.6	
	baz=252,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	40.42	64	T	T	03 11 31.4	
	baz=252,slow=75,SNR=7.0						
H11N1	WAKE ISLAND Hy	40.98	63	T	T	03 12 07.3	
	baz=250,slow=75,SNR=15						
H11N2	WAKE ISLAND Hy	40.99	63	T	T	03 12 07.5	
	baz=250,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	40.99	63	T	T	03 12 08.2	
	baz=250,slow=75,SNR=15						
MKAR	Makanchi Array	59.47	325	P	P	02 30 36.6	-0.9
	0.6nm,0.5s,baz=106,slow=9.2,SNR=4.4						
NRIK	Noril'sk	71.86	346	LR	LR	03 06 41.7	
	comp=Z,37nm,20.7s,baz=182,slow=38						
PPT	Papeete	82.98	108	LR	LR	03 06 53.6	
	comp=Z,70nm,21.2s,baz=192,slow=34						
ILAR	Eielson Array	85.18	25	P	P	02 33 10.6	+0.1
	0.2nm,0.6s,baz=256,slow=3.6,SNR=3.6						

IDC 09 02:33:55.7±9.8, 5°.14S×151°.64E, h127km±65km, mb3.4/2, mb1 3.4/3, mb1mx3.1/31, mbtmp3.8/3, Error ellipse: s-maj=121.4km s-min=34.2km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.14	226	P	Pn	02 35 24.4	+0.3
	1.6nm,0.3s,baz=26,slow=6.8,SNR=3.5						
PMG				S	Sn	02 36 33.3	+0.2
	5.6nm,0.3s,baz=40,slow=22,SNR=14						
ASAR	Alice Springs	25.12	221	P	P	02 39 09.5	+0.4
	0.6nm,0.3s,baz=57,slow=8.9,SNR=9.6						
SONM	Songino Array	66.00	328	P	P	02 44 28.9	+0.1
	0.4nm,0.4s,baz=146,slow=5.9,SNR=2.5						
TORD	Torodi Ar. Bea	149.30	287	PKPbc	PKPbc	02 53 29.7	-1.0
	0.4nm,0.9s,baz=60,slow=2.0,SNR=4.6						

KRSC 09 02:33:58.9±2.3, 50°.55N×157°.74E, h102km±28km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.04	278	eP	Pn	02 34 21.2	+1.3
SKR				eS	Sn	02 34 36.9	+1.1
ASAK	Asacha	1.83	3	eP	Pn	02 34 31.6	+2.1
RUS	Russkaya	1.94	14	eP	Pn	02 34 33.7	+3.0
RUS				eS	Sn	02 34 58.2	+3.1
DALK	Dalny	2.56	14	eP	Pn	02 34 41.2	+2.5
DALK				eS	Sn	02 35 11.3	+1.9
AVH	Avacha	2.78	12	eP	Pn	02 34 44.6	+2.8
AVH				eP	Pn	02 34 44.7	+2.9
KOK	Koryaka	2.80	11	eS	Sn	02 35 16.7	+1.5
SDLR	Sedlovina	2.82	14	eP	Pn	02 34 44.5	+2.2
SDLR				eS	Sn	02 35 16.5	+0.8
KRER	Koryakskii	2.82	12	eP	Pn	02 34 44.9	+2.4
KRX	Arik	2.87	11	eP	Pn	02 34 45.1	+2.1
SPN	Mys Shipunski	2.91	28	eP	Pn	02 34 47.1	+3.6
SPN				eS	Sn	02 35 20.3	+2.5
GNL	Ganaly	3.15	2	eP	Pn	02 34 46.3	-0.4
BKI	Bering	6.82	44	eS	Sn	02 36 49.7	-2.4

IDC 09 02:39:34.0±1.5, 0°.34S×125°.42E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/40, mbtmp3.5/4, MS2.9/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=168.4km s-min=22.7km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.35	156	P	P	02 44 22.6	-0.4
	0.6nm,0.5s,baz=335,slow=11,SNR=6.6						
ASAR	Alice Springs	24.61	161	P	P	02 44 56.8	+0.7
	0.7nm,1.0s,baz=339,slow=9.9,SNR=5.6						
CMAR	Chiang Mai Arr	32.03	307	LR	LR	03 01 06.7	
	comp=Z,18nm,18.0s,baz=158,slow=40						
MKAR	Makanchi Array	60.19	327	P	P	02 49 44.2	+0.4
	0.5nm,0.5s,baz=121,slow=7.7,SNR=5.9						
KURBB	Kurchatov Arra	64.49	329	P	P	02 50 12.4	0.0
	0.2nm,0.4s,baz=138,slow=6.4,SNR=5.8						
TORD	Torodi Ar. Bea	122.83	285	PKP	PKPdf	02 58 32.2	-1.0
	0.3nm,0.8s,baz=83,slow=1.8,SNR=3.2						

*IDC **09** 02:44:11.6±4.4, 26°.96N×144°.39E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/37, mbtmp3.4/7, ML3.5/2, MS4.3/1, Ms1 4.3/1, ms1mx2.4/26, Error ellipse: s-maj=167.2km s-min=20.8km az=73.0*

ISC 09 02:44:15.4±4.0, 27°.1N±0°.3×144°.7E±0°.9, h35km, n8, σ1§41/7, mb3.4/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.87	331	Pn	Pn	02 46 47.2	-1.3
	0.4nm,0.3s,baz=160,slow=12,SNR=5.3						
KSRS	Korea Array	17.48	310	P	P	02 48 17.5	+0.2
	0.2nm,0.3s,baz=113,slow=12,SNR=3.6						
TLY	Talaya	39.33	320	LR	LR	03 08 54.8	
	comp=Z,467nm,20.9s,baz=170,slow=38						
WRA	Warramunga Arr	47.87	193	P	P	02 52 50.1	0.0
	0.8nm,0.7s,baz=12,slow=8.5,SNR=8.9						
ASAR	Alice Springs	51.58	193	P	P	02 53 17.2	-1.1
	0.1nm,0.3s,baz=24,slow=7.2,SNR=3.7						
MKAR	Makanchi Array	52.16	310	P	P	02 53 22.3	-0.2
	0.2nm,0.5s,baz=95,slow=8.9,SNR=3.2						
KURBB	Kurchatov Arra	54.60	314	P	P	02 53 41.3	+1.0
	0.2nm,0.5s,baz=90,slow=8.2,SNR=4.5						
BVAR	Borovoye Array	59.51	318	P	P	02 54 17.1	+2.0
	0.3nm,0.4s,baz=79,slow=7.5,SNR=3.2						

MEX 09 03:12:00.1±0.5, 17°.68N×97°.43W, h59km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	Tehuac#an	0.73	5	i P	Pn	03 12 13.3	-1.7
TPIG				i S	Sn	03 12 24.1	-1.7
VHO	Vista Hermosa	0.90	132	eP	Pn	03 12 15.7	-1.3
VHO				i S	Sn	03 12 28.0	-1.5
TLIG	Tlapa	1.09	264	eP	Pn	03 12 18.1	-1.4
TLIG				eS	Sn	03 12 32.2	-1.7
PNIG	Pinotepa	1.45	208	eP	Pn	03 12 21.2	-2.9
PPM	Popocatepetl	1.79	321	eP	Pn	03 12 27.2	-1.9
YAIG	Yautepec	1.95	307	eP	Pn	03 12 30.0	-1.1
MEIG	Mezcala	2.10	277	i P	Pn	03 12 32.0	-1.1
MEIG				eS	Sn	03 12 55.5	-2.7
HUIG	Huatulco	2.28	146	eP	Pn	03 12 34.3	-1.2
ARIG	Puente Sto Nin	2.84	283	eP	Pn	03 12 42.4	-0.8
ARIG				i S	Sn	03 13 13.8	-2.4

*IDC **09** 03:14:22.2±1.6, 6°.90S×132°.38E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/26, mbtmp3.8/5, ML3.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=48.3km s-min=26.6km az=78.0*
*ISCJB **09** 03:14:24.5±0.7, 6°.84S±0°.05×132°.51E±0°.07, h33km, mb3.6/2, MS3.0/1, Error ellipse: s-maj=11.0km s-min=6.9km az=156.3*
*DJA **09** 03:14:29.4±0.5, 7°.S±3°.×13°.2E±°, h77km±26km, M4.7/7, mb4.7/6, mB5.0/3, MLv4.7/7, Mw(mB)4.3/3*

ISC 09 03:14:25.2±0.8, 6°.90S±0°.05×132°.58E±0°.07, h35km, n14, σ4§00/17, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.66	230	P	Pn	03 14 56.1	+4.2
KMPI	Kaimana, Papua	3.41	19	P	Pn	03 15 20.0	+4.1
BNDI	Bandanaira	3.56	311	P	Pn	03 15 19.3	+1.3
BNDI				S	Sn	03 15 57.1	-1.8
FAKI	Fak Fak	3.97	355	P	Pn	03 15 25.7	+2.1
FAKI				S	Sn	03 16 06.5	-2.5
MSAI	Masohi	5.07	314	S	Sn	03 16 30.9	-5.3
LBMI	Labuha	8.03	321	P	Pn	03 16 19.4	0.0
SANI	Sanana	8.15	306	P	Pn	03 16 22.1	+1.0
SOEI	Soe	8.70	250	P	Pn	03 16 30.6	+1.8
JAY	Jayapura	9.19	62	Pn	Pn	03 16 38.6	+3.2
	0.1nm,0.3s,baz=241,slow=23,SNR=3.7						
JAY				Sn	Sn	03 18 14.4	-3.3
	0.5nm,0.3s,baz=180,slow=20,SNR=2.1						
JAY				LR	LR	03 20 43.5	
	comp=Z,64nm,21.5s,baz=233,slow=41						
WRA	Warramunga Arr	13.07	173	Pn	Pn	03 17 30.2	+1.7
	0.5nm,0.3s,baz=352,slow=14,SNR=16						
WRA				Sn	Sn	03 19 45.6	-7.2
	1.0nm,0.3s,baz=354,slow=23,SNR=11						
ASAR	Alice Springs	16.72	176	Pn	P	03 18 18.4	-0.4
	0.4nm,0.3s,baz=349,slow=13,SNR=17						
ASAR				Sn	Sn	03 21 12.9	-8.6
	0.5nm,0.3s,baz=354,slow=28,SNR=8.2						
STKA	Stephens Creek	26.23	162	P	P	03 19 59.3	+2.3
	0.7nm,0.4s,baz=342,slow=18,SNR=2.5						
TLY	Talaya	63.41	340	LR	LR	03 56 55.0	
	comp=Z,9.5nm,18.4s,baz=346,slow=40						
MKAR	Makanchi Array	69.57	326	P	P	03 25 32.5	+1.8
	0.3nm,0.4s,baz=131,slow=5.9,SNR=4.1						

MAN 09 03:15:29, 13°.73N×121°.49E, h7km, mb4.1, ML2.9, MS2.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	Boac	0.43	127	eP	Pb	03 15 38.4	-0.6
BOAC				eS	Sb	03 15 44.6	-1.1
PGP	Puerto Galera	0.57	247	eP	Pb	03 15 41.1	-0.2
PGP				i S	Sb	03 15 48.6	-1.0
LUBP	Lubang	1.21	271	eP	Pn	03 15 52.5	+0.2
LUBP				eS	Sn	03 16 09.0	+0.1
SJMP	San Jose	1.31	196	eP	Pn	03 15 53.1	-0.6
SJMP				eS	Sn	03 16 12.5	+1.1

*ISCJB **09** 03:32:01.6±0.5, 39°.66N±0°.03×38°.70E±0°.04, h8km±7km, Error ellipse: s-maj=5.8km s-min=4.5km az=159.9*
*DDA **09** 03:32:01.2, 39°.65N×38°.73E, h7km, Md2.8*
*CSEM **09** 03:32:01.3±0.2, 39°.66N×38°.72E, h10km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.7km az=61.0*
*ISK **09** 03:32:01.0, 39°.63N×38°.64E, h6km, MD2.6*

ISC 09 03:32:01.4±1.1, 39°.65N±0°.03×38°.70E±0°.03, h11km±9km, n19, σ0§60/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	Refahiye_ERZ	0.26	168	i P	Pg	03 32 06.9	0.0
REFA	Refahiye_ERZ	0.26	168	P	Pg	03 32 06.9	0.0
KEMA	Kemaliye	0.41	203	i P	Pg	03 32 09.9	+0.3
KEMA				i S	Sb	03 32 16.1	-1.0
KEMA	Kemaliye	0.41	203	P	Pg	03 32 09.9	+0.3
KEMA				S	Sb	03 32 16.1	-1.0
KELT	Kelkit	0.66	40	i P	Pg	03 32 14.0	-0.3
KELT				i S	Sg	03 32 23.0	0.0
KELT	Kelkit	0.66	40	P	Pg	03 32 14.0	-0.3
KELT				S	Sg	03 32 23.0	0.0
SUSE	Susehri	0.68	326	i P	Pg	03 32 14.3	-0.3
SUSE				i S	Sb	03 32 24.7	-0.1
SUSE	Susehri	0.68	326	P	Pg	03 32 14.3	-0.3
SUSE				S	Sb	03 32 24.7	-0.1
CUZAR	Zara_SIVAS	0.75	289	i P	Pg	03 32 15.0	-1.1
CUZAR				i S	Sb	03 32 27.6	+0.6
CUZAR	Zara_SIVAS	0.75	289	P	Pg	03 32 15.0	-1.1
CUZAR				S	Sb	03 32 27.6	+0.6
ERZN	Erzincan	0.79	94	ePG	Pb	03 32 17.5	+0.2
ERZN				eSG	Sb	03 32 29.7	-0.9
PTK	Pertek	0.93	144	ePG	Pb	03 32 19.8	+0.1
PTK				eSG	Sb	03 32 32.8	+0.7
PTK	Pertek	0.93	144	ePg	Pb	03 32 19.8	+0.1
PTK				eSg	Sb	03 32 32.8	+0.7
CUKAN	kangal_SIVAS	1.01	251	i P	Pn	03 32 21.9	+0.2
CUKAN	kangal_SIVAS	1.01	251	P	Pn	03 32 21.9	+0.2
ELZG	Elazig	1.17	169	i P	Pg	03 32 23.1	-1.0
ELZG				i S	Sn	03 32 39.9	-0.1
ELZG	Elazig	1.17	169	P	Pg	03 32 23.0	-1.0
ELZG				S	Sn	03 32 39.9	-0.1
SVSK	Karacayir	1.34	282	ePN	Pn	03 32 26.1	+0.2
SVSK				eSN	Sn	03 32 44.6	+0.8
SVSK	Karacayir	1.34	282	ePn	Pn	03 32 26.2	+0.2
SVSK				eSn	Sn	03 32 44.6	+0.8

IDC 09 03:55:48.6±2.3, 4°.35N×127°.26E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/31, Error ellipse: s-maj=176.0km s-min=25.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.12	164	P	P	04 01 14.8	-0.6
	1.3nm,0.9s,baz=344,slow=10,SNR=8.0						
ASAR	Alice Springs	28.59	167	P	P	04 01 47.2	+0.5
	0.1nm,0.4s,baz=340,slow=8.2,SNR=2.7						
TLY	Talaya	51.11	341	LR	LR	04 26 31.6	
	comp=Z,12nm,20.9s,baz=180,slow=36						
MK

JOW				eS	Sn	04 14 26.9	+0.8
JIH	**Iheya**	**1.98**	**249**	P	Pn	04 14 06.7	+0.5
JIH				S	Sn	04 14 29.5	-0.3
JNN	**Nakanoshima**	**2.06**	**356**	P	Pn	04 14 07.5	+0.1
JNN				S	Sn	04 14 32.2	+0.3
JNTH	**Nagotoyohara**	**2.19**	**236**	P	Pn	04 14 09.5	+0.4
JNTH				eS	Sn	04 14 35.2	+0.3
JMZ	**Minamidaito 2**	**2.22**	**151**	P	Pn	04 14 09.4	-0.1
JMZ				eS	Sn	04 14 34.2	-1.5
JYAK	**Yakushimahirau**	**2.49**	**10**	P	Pn	04 14 14.0	+0.8
JYAK				S	Sn	04 14 42.5	+0.1
JJT2	**Tamagusuku 2**	**2.61**	**232**	P	Pn	04 14 15.5	+0.6
JJT2				eS	Sn	04 14 46.6	+1.2
JKC	**Kuchinoerabu**	**2.68**	**3**	P	Pn	04 14 16.7	+0.8
JKC				eS	Sn	04 14 47.6	+0.5
JAGN	**Aguni-jima**	**2.75**	**245**	P	Pn	04 14 17.4	+0.5
JAGN				eS	Sn	04 14 49.3	+0.4
JTN	**Tanegashima 3**	**2.98**	**16**	P	Pn	04 14 20.9	+0.8
JTN				S	Sn	04 14 55.6	+1.0
JKE	**Kume jima 2**	**3.24**	**244**	P	Pn	04 14 23.7	+0.2
JKE				eS	Sn	04 14 59.7	-1.1
JSJ	**Shimokoshiki**	**3.90**	**356**	P	Pn	04 14 33.2	+0.6
JSJ				eS	Sn	04 15 17.5	+0.3
JNU	**Nakatsue**	**5.38**	**8**	Pn	Pn	04 14 54.9	+1.9
	1.4nm,0.3s,baz=326,slow=3.6,SNR=14						
JNU				Sn	Sn	04 15 51.6	-2.1
	0.8nm,0.3s,baz=75,slow=20,SNR=3.6						
MKAR	**Makanchi Array**	**41.74**	**310**	P	P	04 21 18.4	-1.9
	0.9nm,0.3s,baz=99,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**47.62**	**175**	P	P	04 22 21.3	+14
	0.4nm,0.6s,baz=355,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**51.28**	**175**	P	P	04 22 49.9	+15
	0.3nm,0.7s,baz=7.5,slow=13,SNR=5.9						
FINES	**FINESS Array B**	**72.31**	**331**	P	P	04 24 56.5	+0.3
	0.8nm,0.3s,baz=60,slow=4.7,SNR=9.8						
AKASG	**Malin Array Be**	**75.40**	**320**	P	P	04 25 15.5	+1.0
	0.4nm,0.4s,baz=59,slow=5.7,SNR=2.1						

*IDC **09** 04:31:40.5±2.6, 13°.74N×92°.08W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/33, mbtmp3.8/8, ML3.6/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=66.4km s-min=32.4km az=29.0*
*NEIC **09** 04:31:44.3±4.2, 13°.88N×92°.11W, h16km±27km, mb4.1/17, Error ellipse: s-maj=26.0km s-min=8.9km az=214.0*
*MEX **09** 04:31:47.0±0.7, 13°.85N×92°.53W, h21km±104km, MD4.1*
ISC 09 04:31:48.0±1.3,**13°.9N**±0°.2×**92°.2W**±0°.1,**h54**km,**n34,**
σ1**96**/32,**mb4.0**/22,**MS3.2**/5,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.02**	**332**	eP	**Pn**	**04 32 16.6**	**-3.1**
PCIG				eS	**Sn**	**04 32 39.2**	**-4.5**
CCIG	**Comitan**	**2.36**	**2**	eP	**Pn**	**04 32 25.0**	**+0.5**
TGIG		**2.98**	**343**	eP	**Pn**	**04 32 29.8**	**-3.0**
CMIG	**Matias Romero**	**4.06**	**321**	Pn	**Pn**	**04 32 45.4**	**-2.3**
	1.0nm,0.3s,baz=132,slow=9.8,SNR=13						
CMIG				Sn	**Sn**	**04 33 32.9**	**-1.1**
	3.2nm,0.3s,baz=106,slow=11,SNR=5.3						
BCIP	**Isla Barro Col**	**13.03**	**110**	ePn	**Pn**	**04 34 47.5**	**-3.0**
TXAR	**Lajitas Array**	**18.65**	**327**	P	**Pn**	**04 36 03.6**	**+1.3**
	0.1nm,0.3s,baz=153,slow=11,SNR=5.8						
MNTX	**Cornudas Mount**	**21.42**	**328**	eP	**P**	**04 36 32.6**	**+1.1**
	5.0nm,1.0s						
WMOK	**Wichita Mounta**	**21.57**	**345**	eP	**P**	**04 36 34.0**	**+1.0**
	2.4nm,0.8s						
SDV	**Santo Domingo**	**21.75**	**101**	LR	LR	04 44 57.9	
	comp=Z,23nm,22.0s,baz=64,slow=37						
MSTX	**Muleshoe**	**22.14**	**336**	eP	**P**	**04 36 40.2**	**+0.9**
	7.1nm,0.8s						
AMTX	**Amarillo**	**22.56**	**339**	eP	**P**	**04 36 44.3**	**+0.6**
	19nm,0.8s						
TKL	**Tuckaleechee C**	**22.96**	**18**	P	**P**	**04 36 48.9**	**+1.0**
	3.5nm,0.7s,baz=160,slow=7.1,SNR=4.2						
TKL				LR	LR	04 47 37.7	
	comp=Z,93nm,19.7s,baz=220,slow=42						
ANMO	**Albuquerque**	**24.57**	**331**	P	**P**	**04 37 05.8**	**+2.7**
	0.4nm,0.2s,baz=146,slow=7.2,SNR=5.0						
ANMO	**Albuquerque**	**24.57**	**331**	eP	**P**	**04 37 05.3**	**+2.2**
	2.1nm,1.1s						
WCI	**Wyandotte Cave**	**24.79**	**11**	eP	**P**	**04 37 04.6**	**-0.3**
	36nm,0.8s						
SJG	**San Juan**	**25.41**	**77**	LR	LR	04 48 10.1	
	comp=Z,90nm,18.0s,baz=256,slow=39						
CBKS	**Cedar Bluff**	**25.68**	**346**	eP	**P**	**04 37 13.9**	**+0.9**
	9.2nm,0.7s						
SDCO	**Great Sand Dun**	**26.51**	**336**	eP	**P**	**04 37 21.9**	**+1.1**
	1.0nm,0.8s						
MVCO	**Mesa Verde**	**27.37**	**331**	eP	**P**	**04 37 30.1**	**+1.7**
	4.1nm,0.9s						
NNA	**Nana**	**29.92**	**149**	LR	LR	04 47 47.5	
	comp=Z,30nm,20.2s,baz=289,slow=33						
DUG	**Dugway, Tooele**	**31.80**	**329**	eP	**P**	**04 38 09.2**	**+1.6**
	1.2nm,0.8s						
BW06	**Boulder Array**	**32.41**	**336**	eP	**P**	**04 38 14.6**	**+1.6**
	2.3nm,1.1s						
PDAR	**Pinedale Array**	**32.41**	**336**	P	**P**	**04 38 12.9**	**-0.1**
	0.3nm,0.6s,baz=139,slow=8.2,SNR=2.8						
SNOW	**Snow King Moun**	**33.47**	**335**	eP	**P**	**04 38 24.4**	**+2.1**
	14nm,0.9s						
LOHW	**Long Hollow**	**33.53**	**336**	eP	**P**	**04 38 24.6**	**+1.8**
	8.4nm,1.5s						
TPAW	**Teton Pass**	**33.57**	**335**	eP	**P**	**04 38 25.0**	**+1.8**
	5.4nm,1.1s						
MOOW	**Moose Ponds**	**33.70**	**336**	eP	**P**	**04 38 26.1**	**+1.8**
	2.2nm,1.1s						
HLID	**Hailey**	**35.14**	**332**	eP	**P**	**04 38 38.6**	**+2.0**
	2.6nm,0.9s						
WVOR	**Wild Horse Val**	**36.44**	**326**	eP	**P**	**04 38 50.4**	**+2.6**
	1.4nm,0.7s						
YKA	**Yellowknife Ar**	**51.06**	**347**	P	**P**	**04 40 45.5**	**+0.9**
	2.9nm,0.7s,baz=149,slow=7.4,SNR=9.9						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**04 42 09.2**	**+1.3**
	1.3nm,0.9s,baz=129,slow=4.8,SNR=10						
ESDC	**Sonseca Array**	**79.95**	**52**	P	**P**	**04 43 51.1**	**-0.6**
	1.2nm,0.9s,baz=273,slow=7.8,SNR=3.8						
ARCES	**ARCESS Array B**	**86.30**	**18**	LR	LR	05 23 14.5	
	comp=Z,23nm,18.4s,baz=302,slow=36						
CMAR	**Chiang Mai Arr**	**146.00**	**341**	PKPbc	**PKPab**	**04 51 23.9**	**+0.8**
	1.4nm,0.3s,baz=340,slow=4.6,SNR=11						

*LDG **09** 04:33:42.6±0.2, 53°.28N×3°.74E, h3km, Ml2.8/12, Error ellipse: s-maj=4.9km s-min=2.5km az=29.0*
*CSEM **09** 04:33:42.7±0.2, 53°.20N×3°.89E, h10km, ML2.7, Error ellipse: s-maj=6.1km s-min=3.3km az=173.0*
*BGS **09** 04:33:43.6±0.7, 53°.28N×4°.09E, h10km, ML2.7*
ISC 09 04:33:43.5±1.2,**53°.16N**±0°.03×**3°.88E**±0°.02,**h18**km±7km,
n82,σ1**66**/130,**North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMH4	**Warmenhuizen**	**0.69**	**131**	ePg	**Pn**	**04 33 58.3**	**-0.1**
	baz=316						
WMH4				eSg	**Sn**	**04 34 09.9**	**+1.2**
PPB4	**Philisteinsche**	**0.70**	**137**	ePg	**Pn**	**04 33 58.8**	**+0.4**
	baz=321						
PPB4				eSg	**Sn**	**04 34 11.2**	**+2.4**
PPB4	**Philisteinsche**	**0.70**	**137**	ePg	**Pn**	**04 33 58.8**	**+0.4**
OTL4	**Oterleek**	**0.78**	**133**	ePg	**Pn**	**04 34 00.5**	**+0.9**
	baz=318						
OTL4				eSg	**Sn**	**04 34 13.8**	**+3.0**
OTL4	**Oterleek**	**0.78**	**133**	ePg	**Pn**	**04 34 00.5**	**+0.9**
WYN4	**Wijnaldum**	**0.95**	**87**	ePg	**Pn**	**04 34 02.0**	**+0.1**
	baz=274						
WYN4				eSg	**Sn**	**04 34 15.8**	**+0.9**
WYN4	**Wijnaldum**	**0.95**	**87**	ePg	**Pn**	**04 34 02.0**	**+0.1**
WYN4				eSg	**Sn**	**04 34 15.8**	**+0.9**
FDG4	**Firdgum**	**1.01**	**84**	ePg	**Pb**	**04 34 02.6**	**+0.3**
	baz=270						
FDG4				eSg	**Sn**	**04 34 16.6**	**+0.3**
FDG4	**Firdgum**	**1.01**	**84**	ePg	**Pb**	**04 34 02.6**	**+0.3**
FDG4				eSg	**Sn**	**04 34 16.6**	**+0.3**
ZWE4	**Zweins**	**1.04**	**88**	ePg	**Pn**	**04 34 03.4**	**+0.3**
	baz=274						
ZWE4				eSg	**Sn**	**04 34 18.7**	**+1.6**
ZWE4	**Zweins**	**1.04**	**88**	ePg	**Pn**	**04 34 03.4**	**+0.3**
ZWE4				eSg	**Sn**	**04 34 18.7**	**+1.6**
HWF4	**Haulerwijk**	**1.49**	**93**	ePg	**Pn**	**04 34 09.4**	**+0.1**
	baz=278						
HWF4				eSg	**Sn**	**04 34 29.3**	**+1.0**
HWF4	**Haulerwijk**	**1.49**	**93**	ePg	**Pn**	**04 34 09.4**	**+0.1**
HWF4				eSg	**Sn**	**04 34 29.3**	**+1.0**
ENV4	**Elp / Enerveen**	**1.68**	**98**	ePg	**Pg**	**04 34 14.9**	**-0.9**
	baz=283						
ENV4				eSg	**Sb**	**04 34 35.1**	**+0.4**
ENV4	**Elp / Enerveen**	**1.68**	**98**	ePg	**Pg**	**04 34 14.9**	**-0.9**
ENV4				eSg	**Sb**	**04 34 35.1**	**+0.4**
WDB4	**Woudbloem 4**	**1.72**	**87**	eSg	**Sg**	**04 34 41.1**	**+2.3**
WDB4	**Woudbloem 4**	**1.72**	**87**	eSg	**Sg**	**04 34 41.1**	**+2.3**
ZL24	**Zuidlaardervee**	**1.73**	**91**	ePg	**Pb**	**04 34 15.3**	**+0.6**
	baz=276						
ZL24				eSg	**Sg**	**04 34 39.1**	**-0.1**
ZL24	**Zuidlaardervee**	**1.73**	**91**	ePg	**Pb**	**04 34 15.3**	**+0.6**
ZL24				eSg	**Sg**	**04 34 39.1**	**-0.1**
ZLV4	**Zuidlaardervee**	**1.73**	**91**	ePg	**Pb**	**04 34 15.2**	**+0.5**
	baz=276						
ZLV4				eSg	**Sg**	**04 34 39.0**	**-0.2**
ZLV4	**Zuidlaardervee**	**1.73**	**91**	ePg	**Pb**	**04 34 15.2**	**+0.5**
ZLV4				eSg	**Sg**	**04 34 39.0**	**-0.2**
VBG4	**Venebrugge (Br**	**1.80**	**109**	eSg	**Sg**	**04 34 42.3**	**+0.9**
VBG4	**Venebrugge (Br**	**1.80**	**109**	eSg	**Sg**	**04 34 42.3**	**+0.9**
FSW4	**Finsterwolde 4**	**1.95**	**87**	ePg	**Pb**	**04 34 19.0**	**+0.6**
	baz=272						
FSW4				eSg	**Sg**	**04 34 46.0**	**-0.2**
FSW4	**Finsterwolde 4**	**1.95**	**87**	ePg	**Pb**	**04 34 19.0**	**+0.6**
FSW4				eSg	**Sg**	**04 34 46.0**	**-0.2**
WACR	**West Acre**	**2.02**	**259**	eP	**Pn**	**04 34 17.9**	**+1.3**
WACR				eS	**Sn**	**04 34 43.1**	**+1.8**
	comp=N,30nm,0.2s						
WACR	**West Acre**	**2.02**	**259**	eP	**Pn**	**04 34 17.9**	**+1.3**
WACR				eS	**Sn**	**04 34 43.1**	**+1.8**
	comp=N,30nm,0.2s						
LMK	**Market Rasen**	**2.54**	**278**	eP	**Pn**	**04 34 24.9**	**+1.1**
LMK				eS	**Sn**	**04 34 55.1**	**+0.8**
LMK				AML	AML	04 35 06.9	
	comp=N,89nm,0.3s						
LMK				AML	AML	04 35 08.9	
	comp=E,63nm,0.4s						
LMK	**Market Rasen**	**2.54**	**278**	eP	**Pn**	**04 34 24.9**	**+1.1**
LMK				eS	**Sn**	**04 34 55.1**	**+0.8**
	comp=E,63nm,0.4s						
DOU	**Dourbes**	**3.10**	**172**	eP	**Pn**	**04 34 32.6**	**+1.1**
DOU	**Dourbes**	**3.10**	**172**	eP	**Pn**	**04 34 32.6**	**+1.1**
BAIF	**Baives**	**3.12**	**176**	ePn	**Pn**	**04 34 33.2**	**+1.5**
BAIF				eSn	**Sn**	**04 35 08.9**	**+0.5**
BAIF				eSg	**Sg**	**04 35 25.0**	**+1.5**
	comp=E,6.2nm,0.5s						
BAIF	**Baives**	**3.12**	**176**	ePn	**Pn**	**04 34 33.2**	**+1.5**
BAIF				eSn	**Sn**	**04 35 08.9**	**+0.5**
BAIF				eSg	**Sg**	**04 35 25.0**	**+1.5**
	comp=E,3.1nm,0.5s						
GIVF	**Givet**	**3.12**	**169**	ePn	**Pn**	**04 34 32.2**	**+0.4**
GIVF	**Givet**	**3.12**	**169**	ePg	**Pg**	**04 34 41.9**	**-1.3**
GIVF				eSn	**Sn**	**04 35 08.9**	**+0.3**
GIVF				eSg	**Sg**	**04 35 23.7**	**0.0**
	comp=E,4.1nm,0.2s						
GIVF	**Givet**	**3.12**	**169**	ePn	**Pn**	**04 34 32.2**	**+0.4**
GIVF				eSn	**Sn**	**04 35 08.9**	**+0.3**
GIVF				eSg	**Sg**	**04 35 23.7**	**0.0**
	comp=E,2.0nm,0.2s						
CWF	**Charnwood Fore**	**3.17**	**264**	eP	**Pn**	**04 34 33.3**	**+0.9**
CWF	**Charnwood Fore**	**3.17**	**264**	eP	**Pn**	**04 34 33.3**	**+0.9**
STRD	**Stroud**	**3.95**	**252**	eP	**Pn**	**04 34 44.1**	**+1.0**
STRD	**Stroud**	**3.95**	**252**	eP	**Pn**	**04 34 44.1**	**+1.0**
HLM1	**Long Mynd**	**4.15**	**264**	eP	**Pn**	**04 34 47.1**	**+1.2**
HLM1	**Long Mynd**	**4.15**	**264**	eP	**Pn**	**04 34 47.1**	**+1.2**
MONM	**Monmouth**	**4.30**	**255**	eP	**Pn**	**04 34 48.9**	**+0.9**
MONM				AML	AML	04 35 38.8	
	comp=N,12nm,0.3s						
MONM				AML	AML	04 35 38.8	
	comp=E,11nm,0.3s						
MONM	**Monmouth**	**4.30**	**255**	eP	**Pn**	**04 34 48.8**	**+0.9**
	comp=E,11nm,0.3s						
MCH1	**Michaelchurch**	**4.36**	**257**	eP	**Pn**	**04 34 49.3**	**+0.6**
MCH1				eS	**Sn**	**04 35 38.4**	**-0.6**
MCH1				AML	AML	04 35 39.3	
	comp=N,5.8nm,0.3s						
MCH1				AML	AML	04 35 39.6	
	comp=E,4.9nm,0.4s						
MCH1	**Michaelchurch**	**4.36**	**257**	eP	**Pn**	**04 34 49.3**	**+0.6**
MCH1				eS	**Sn**	**04 35 38.4**	**-0.6**
	comp=E,4.9nm,0.4s						
KESW	**Keswick, Cumbr**	**4.38**	**292**	eP	**Pn**	**04 34 49.8**	**+0.8**
KESW	**Keswick, Cumbr**	**4.38**	**292**	eP	**Pn**	**04 34 49.8**	**+0.8**
MEZF	**Maizieres J'vi**	**4.73**	**171**	ePn	**Pn**	**04 34 54.0**	**+0.2**
MEZF	**Maizieres J'vi**	**4.73**	**171**	ePn	**Pn**	**04 34 54.0**	**+0.2**
PAGF	**Fort de Pagny**	**4.76**	**165**	ePn	**Pn**	**04 34 54.9**	**+0.6**
	baz=352						
PAGF				eSn	**Sn**	**04 35 47.4**	**-1.6**
	comp=E,0.8nm,0.4s						
PAGF	**Fort de Pagny**	**4.76**	**165**	ePn	**Pn**	**04 34 54.9**	**+0.6**
PAGF				eSn	**Sn**	**04 35 47.4**	**-1.6**
	comp=E,0.4nm,0.4s						
SFTF	**Sexfontaines**	**5.02**	**171**	eSn	**Sn**	**04 35 53.5**	**-1.9**
	comp=E,1.9nm,0.3s						
SFTF	**Sexfontaines**	**5.02**	**171**	eSn	**Sn**	**04 35 53.5**	**-1.9**
	comp=E,0.9nm,0.3s						
FLN	**La Foliniere**	**5.20**	**214**	ePn	**Pn**	**04 35 00.0**	**-0.3**
	baz=34						
FLN				eSn	**Sn**	**04 35 57.2**	**-2.5**
	comp=E,2.8nm,0.4s						
FLN	**La Foliniere**	**5.20**	**214**	ePn	**Pn**	**04 35 00.0**	**-0.3**
FLN				eSn	**Sn**	**04 35 57.2**	**-2.5**
	comp=E,1.4nm,0.4s						
LDF	**La Druitiere**	**5.23**	**211**	ePn	**Pn**	**04 35 01.9**	**+1.2**
LDF				eSn	**Sn**	**04 35 58.9**	**-1.7**
SNART	**Snartemo**	**5.52**	**19**	*i* P	**Pn**	**04 35 00.9**	**-3.7**
	SNR=46						
SNART				eS	**Sn**	**04 36 00.5**	**-7.0**
	SNR=46						
GRR	**Gorron**	**5.65**	**214**	ePn	**Pn**	**04 35 05.8**	**-0.7**
GRR				eSn	**Sn**	**04 36 07.9**	**-2.9**
	comp=E,1.5nm,0.2s						
HINF	**Hinteralfeld**	**5.68**	**159**	eP	**Pn**	**04 35 11.4**	**+4.5**
HOMB	**Homborsund**	**5.75**	**25**	*i* P	**Pn**	**04 35 05.9**	**-1.8**
	SNR=46						
HOMB				*i* S	**Sn**	**04 36 06.1**	**-7.0**
	SNR=46						
LOR	**Lormes**	**5.90**	**180**	ePn	**Pn**	**04 35 09.3**	**-0.7**
	baz=1.3						
LOR				eSn	**Sn**	**04 36 15.0**	**-2.1**
	comp=E,1.6nm,0.3s						
LOR	**Lormes**	**5.90**	**180**	ePn	**Pn**	**04 35 09.3**	**-0.7**
LOR				eSn	**Sn**	**04 36 15.0**	**-2.1**
	comp=E,0.8nm,0.3s						
SSF	**Saint Saulge**	**6.11**	**182**	ePn	**Pn**	**04 35 13.6**	**+0.7**
SSF	**Saint Saulge**	**6.11**	**182**	eP	**Pn**	**04 35 17.4**	**+4.5**
SSF				eSn	**Sn**	**04 36 20.2**	**-2.1**
	comp=E,1.2nm,0.3s						
SSF	**Saint Saulge**	**6.11**	**182**	ePn	**Pn**	**04 35 13.6**	**+0.7**
SSF				eSn	**Sn**	**04 36 20.2**	**-2.1**
	comp=E,0.6nm,0.3s						
SGMF	**Saint Gilles**	**6.39**	**222**	ePn	**Pn**	**04 35 16.3**	**-0.4**
SMF	**Signal de Mont**	**6.53**	**180**	ePn	**Pn**	**04 35 18.5**	**0.0**
SMF				eSn	**Sn**	**04 36 29.4**	**-3.1**
	comp=E,1.2nm,0.4s						
SMF	**Signal de Mont**	**6.53**	**180**	ePn	**Pn**	**04 35 18.5**	**0.0**
ROSF	**Rostrenen**	**6.63**	**226**	eSn	**Sn**	**04 36 30.7**	**-4.3**
	comp=E,2.4nm,0.3s						
BGF	**Bois d'Agland**	**6.65**	**186**	ePn	**Pn**	**04 35 20.9**	**+0.7**
BGF				eSn	**Sn**	**04 36 33.9**	**-1.6**
	comp=E,3.5nm,0.4s						
BGF	**Bois d'Agland**	**6.65**	**186**	ePn	**Pn**	**04 35 20.9**	**+0.7**
BGF				eSn	**Sn**	**04 36 33.9**	**-1.6**
	comp=E,1.8nm,0.4s						
CABF	**La Chapelle**	**6.71**	**167**	ePn	**Pn**	**04 35 21.5**	**+0.3**
CABF	**La Chapelle**	**6.71**	**167**	ePn	**Pn**	**04 35 21.5**	**+0.3**
BSD	**Bornholm Skovb**	**6.77**	**69**	*i* P	**Pn**	**04 35 20.1**	**-1.7**
BSD	**Bornholm Skovb**	**6.77**	**69**	eP	**Pn**	**04 35 20.1**	**-1.7**
	SNR=46						
MFF	**Saint Martin d**	**7.06**	**203**	ePn	**Pn**	**04 35 24.7**	**-1.2**
MFF	**Saint Martin d**	**7.06**	**203**	ePn	**Pn**	**04 35 24.7**	**-1.2**
LPL	**La Plagne**	**7.88**	**165**	ePn	**Pn**	**04 35 38.8**	**+1.5**
LPL	**La Plagne**	**7.88**	**165**	ePn	**Pn**	**04 35 38.8**	**+1.5**
CAF	**Calviac**	**8.33**	**189**	ePn	**Pn**	**04 35 43.4**	**+0.1**
CAF	**Calviac**	**8.33**	**189**	ePn	**Pn**	**04 35 43.4**	**+0.1**

*ISCJB **09** 04:34:42.8±0.9, 51°.46N±0°.04×16°.12E±0°.05, h0km, Error ellipse: s-maj=6.1km s-min=3.4km az=31.1*
*CSEM **09** 04:34:43.3±0.6, 51°.51N×16°.16E, h2km, ML2.7/9, Error ellipse: s-maj=8.6km s-min=5.3km az=25.0*
*WAR **09** 04:34:44.1, 51°.53N×16°.13E, h1km, Mw2.1*
*VIE **09** 04:34:44.5±0.9, 51°.39N×16°.03E, h0km, mb2.1/2, ML2.1/5, Error ellipse: s-maj=5.3km s-min=3.5km az=1.0, Suspected Mining induced.*
*PRU **09** 04:34:44.3, 51°.50N×16°.16E, h0km*
ISC 09 04:34:43.5±1.6,**51°.53N**±0°.07×**16°.17E**±0°.04,**h0**km,**n27,**
σ0**64**/49,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**173**	ePg	**Pg**	**04 34 57.1**	**+0.3**
KSP				eSg	**Sg**	**04 35 06.1**	**+0.3**
KSP	**Ksiaz**	**0.69**	**173**	ePg	**Pg**	**04 34 57.1**	**+0.3**
KSP				eSg	**Sg**	**04 35 06.1**	**+0.3**
KSP	**Ksiaz**	**0.69**	**173**	ePg	**Pg**	**04 34 57.1**	**+0.3**
KSP				eSg	**Sg**	**04 35 06.1**	**+0.3**
UPC	**Upice**	**1.03**	**186**	ePG	**Pg**	**04 35 03.3**	**+0.1**
UPC				eSG	**Sg**	**04 35 16.7**	**+0.1**
	comp=Z,14nm,0.2s						
UPC	**Upice**	**1.03**	**186**	Pg	**Pg**	**04 35 03.3**	**+0.1**
UPC				Sg	**Sg**	**04 35 16.7**	**+0.1**
	14nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**175**	ePG	**Pg**	**04 35 05.9**	**-0.3**
DPC				eSG	**Sg**	**04 35 21.1**	**-0.5**
	comp=Z,6.5nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg	**Pg**	**04 35 05.9**	**-0.3**
DPC				Sg	**Sg**	**04 35 21.1**	**-0.5**
	6.5nm,0.4s						
PVCC	**Panska Ves**	**1.43**	**226**	ePG	**Pn**	**04 35 10.8**	**+0.2**
PVCC				eSG	**Sg**	**04 35 29.2**	**0.0**
	comp=Z,24nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**226**	Pg	**Pn**	**04 35 10.8**	**+0.2**
PVCC				Sg	**Sg**	**04 35 29.2**	**0.0**
	24nm,0.3s						
KRLC	**Kraliky**	**1.51**	**165**	ePG	**Pn**	**04 35 11.8**	**0.0**
KRLC				eSG	**Sg**	**04 35 31.1**	**-0.8**
KRLC	**Kraliky**	**1.51**	**165**	Pg	**Pn**	**04 35 11.8**	**0.0**
KRLC				Sg	**Sg**	**04 35 31.1**	**-0.8**
BRG	**Berggiesshubel**	**1.55**	**246**	PG	**Pn**	**04 35 12.7**	**+0.4**
BRG				SG	**Sn**	**04 35 33.2**	**+0.1**
	17nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	ePG	**Pb**	**04 35 17.8**	**-0.3**
GOPC				eSG	**Sb**	**04 35 41.8**	**+0.2**
	comp=Z,4.1nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	Pg	**Pb**	**04 35 17.8**	**-0.3**
GOPC				Sg	**Sb**	**04 35 41.8**	**+0.2**
	4.1nm,0.3s						
PRU	**Pruhonice**	**1.86**	**214**	eSG	**Sb**	**04 35 42.0**	**-0.1**
	comp=Z,7.4nm,0.3s						
PRU	**Pruhonice**	**1.86**	**214**	Sg	**Sb**	**04 35 42.0**	**-0.1**
	7.4nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**153**	ePn	**Pn**	**04 35 17.6**	**-0.5**
MORC				eSg	**Sb**	**04 35 45.6**	**+0.5**
CLL	**Collm**	**2.00**	**265**	ePn	**Pn**	**04 35 17.0**	**-1.4**
CLL				ePg	**Pb**	**04 35 21.0**	**+0.4**
CLL				eSg	**Sb**	**04 35 47.0**	**+1.0**
	comp=Z,5.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.11**	**143**	eSG	**Sb**	**04 35 50.2**	**+0.8**
OKC	**Ostrava-Krasne**	**2.11**	**143**	Sg	**Sb**	**04 35 50.2**	**+0.8**
NKC	**Novy Kostel**	**2.69**	**243**	ePN	**Pn**	**04 35 27.9**	**-0.2**
NKC				ePG	**Pg**	**04 35 34.6**	**-0.4**
NKC				eSG	**Sg**	**04 36 11.2**	**+1.3**
	comp=Z,9.7nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**243**	Pn	**Pn**	**04 35 27.9**	**-0.2**
KHC	**Kasperske Hory**	**2.92**	**216**	ePN	**Pn**	**04 35 31.8**	**+0.6**
KHC				ePG	**Pb**	**04 35 36.9**	**+0.5**
KHC				eSG	**Sg**	**04 36 15.3**	**-2.0**
KHC	**Kasperske Hory**	**2.92**	**216**	Pn	**Pn**	**04 35 31.8**	**+0.6**
CONA	**Conrad Observa**	**3.61**	**183**	Pg	**Pg**	**04 35 51.0**	**-1.7**
	comp=Z,0.5nm,0.3s						
CONA				Sg	**Sg**	**04 36 39.6**	**+0.1**
	comp=Z,1.1nm,0.3s						
MOA	**Molln**	**3.89**	**199**	Sg	**Sg**	**04 36 48.3**	**0.0**
	comp=Z,0.2nm,0.1s						
ARSA	**Arzberg**	**4.31**	**186**	Sg	**Sg**	**04 37 02.6**	**+0.8**
	comp=Z,0.1nm,0.1s						

*IDC **09** 05:13:36.7±0.5, 13°.87N×147°.53E, h0km, mb4.5/28, mb1 4.5/30, mb1mx4.4/56, mbtmp4.5/30, ML4.3/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/38, Error ellipse: s-maj=16.5km s-min=10.2km az=84.0*
*GCMT **09** 05:13:38.3±0.2, 13°.82N×147°.66E, h15km, MW5.0/99, Moment Tensor Solution.

comp=Z,198nm,20.6s,baz=140,slow=35
MAJO Matsushiro 24.12 341 *d iP* **P 05 18 52.2 -2.3**
MAJO pmax pmax
comp=Z,35nm,0.9s
MAJO Matsushiro 24.12 341 *eP* **P 05 18 52.4 -2.1**
comp=Z,19nm,0.8s
MAT Matsushiro 24.12 341 P **P 05 18 50.3 -4.2**
MAT S **S 05 23 08.0 -2.0**
MJB9 Matsu-Tunnel 24.12 341 *eP* **P 05 18 53.6 -0.9**
comp=Z,4.7nm,0.8s
JNU Nakatsue 24.49 324 P **P 05 18 55.6 -2.4**
comp=Z,15nm,0.8s,baz=135,slow=2.1,SNR=9.7
JNU Nakatsue 24.49 324 *eP* **P 05 18 57.6 -0.3**
comp=Z,44nm,1.1s
HNR Honiara 26.18 151 LR LR 05 27 39.0
comp=Z,839nm,21.9s,baz=329,slow=32
YULB Yu-li 26.61 295 *eP* **P 05 19 16.8 -0.4**
comp=Z,96nm,1.8s
TWG Pinlang 26.66 293 *eP* **P 05 19 17.5 -0.2**
comp=Z,92nm,0.6s
YHNB Yeheng 26.93 298 *eP* **P 05 19 18.7 -1.5**
SSLB Suanglung 27.02 295 *eP* **P 05 19 21.1 +0.1**
comp=Z,165nm,2.0s
SAUI Saumlaki 27.03 218 *eP* **P 05 19 22.7 +1.7**
comp=Z,303nm,1.1s
COEN Coen 27.95 189 *eP* **P 05 19 29.1 -0.1**
comp=Z,46nm,1.6s
KSRS Korea Array 29.32 327 P **P 05 19 39.7 -1.5**
comp=Z,5.5nm,0.7s,baz=144,slow=9.1,SNR=25
KSRS LR LR 05 30 30.5
comp=Z,371nm,21.1s,baz=126,slow=35
KS15 Wonju Array Si 29.33 327 *eP* **P 05 19 39.5 -1.8**
KSAR Wonju Array Be 29.33 327 P **P 05 19 39.7 -1.7**
KSAR Wonju Array Be 29.33 327 P **P 05 19 39.7 -1.7**
KS01 Wonju Array Si 29.35 327 *eP* **P 05 19 39.2 -2.3**
KS01 *e*pP **P 05 19 39.5 -2.0**
ASAJ Asahikawa 30.48 353 P **P 05 19 52.5 +1.1**
comp=Z,6.8nm,0.7s,baz=32,slow=15,SNR=3.0
ASAJ LR LR 05 31 13.5
comp=Z,342nm,21.0s,baz=111,slow=35
MTN Manton Dam 31.11 212 *eP* **P 05 19 56.4 -0.8**
comp=Z,29nm,1.0s
NJ2 Nanjing 31.91 309 *eP* **P 05 20 03.8 -0.4**
SOEI Soe 32.92 226 P **P 05 20 14.6 +1.2**
SOEI Soe 32.92 226 *eP* **P 05 20 12.3 -1.0**
comp=Z,97nm,0.9s
USRK Ussuriysk Ar. 33.07 339 P **P 05 20 12.9 -1.3**
comp=Z,1.8nm,0.7s,baz=144,slow=5.4,SNR=3.6
USRK LR LR 05 34 27.0
comp=Z,231nm,18.5s,baz=132,slow=38
CTA Charters Tower 33.73 182 P **P 05 20 21.4 +1.1**
comp=Z,3.0nm,0.7s,baz=352,slow=16,SNR=3.1
SNY Shenyang 34.80 328 ⇓P **P 05 20 28.6 -0.7**
SNY S **S 05 26 00.5 +2.9**
SNY pmax pmax
comp=Z,110nm,5.5s
SNY LR LR
comp=Z,620nm,18.2s
SNY LR LR
comp=Z,410nm,17.1s
SNY LR LR
comp=Z,790nm,24.9s
TIA Tai'an 35.22 315 *eP* **P 05 20 30.8 -2.2**
TIA S **S 05 26 10.1 +5.9**
TIA pmax pmax
comp=Z,10.0nm,0.4s
TIA LR LR
comp=Z,390nm,17.9s
TIA LR LR
comp=Z,230nm,24.6s
TIA LR LR
comp=Z,510nm,25.3s
WRAB Tennant Creek 35.99 201 *d iP* **P 05 20 39.5 -0.2**
WRAB pmax pmax
comp=Z,126nm,0.9s
WRAB Tennant Creek 35.99 201 *eP* **P 05 20 38.8 -0.9**
comp=Z,53nm,0.8s
WB2 Warramunga Arr 36.00 201 *eP* **P 05 20 39.5 -0.3**
WRA Warramunga Arr 36.00 201 P **P 05 20 39.5 -0.4**
comp=Z,42nm,0.8s,baz=23,slow=9.5,SNR=168
WRA LR LR 05 34 06.6
comp=Z,297nm,21.0s,baz=30,slow=34
QIZ Qiongzhong 36.50 283 P **P 05 20 43.4 -0.8**
QIZ S **S 05 26 24.2 -0.1**
QIZ pmax pmax
comp=Z,36nm,2.0s
QIZ LR LR
comp=Z,240nm,4.5s
QIZ LR LR
comp=Z,180nm,5.9s
QIZ LR LR
comp=Z,480nm,26.9s
SBUM Sibu 36.71 255 *eP* **P 05 20 46.6 +0.5**
comp=Z,20nm,1.1s
BJI Beijing 37.93 319 P **P 05 20 55.6 -0.4**
BJI sP **pP 05 21 04.6 -1.6**
BJI PP **PnPn 05 22 23.8 -0.7**
BJI S **S 05 26 46.9 +1.5**
BJI sS **ScP 05 26 57.8 +1.2**
BJI pmax pmax
comp=Z,21nm,1.6s
BJI pmax pmax
comp=Z,190nm,4.0s
BJI LR LR
comp=Z,400nm,20.6s
BJI LR LR
comp=Z,200nm,21.7s
BJI LR LR
comp=Z,660nm,29.8s
ENH Enshi 38.68 301 *eP* **P 05 21 02.0 -0.5**
comp=Z,17nm,0.9s
KSM Kuching 38.84 255 *eP* **P 05 21 02.2 -1.8**
comp=Z,18nm,1.1s
AS01 Alice Springs 39.58 200 *eP* **P 05 21 09.5 -0.5**
AS31 Alice Springs 39.59 200 *eP* **P 05 21 09.8 -0.4**
comp=Z,3.1nm,0.8s
ASAR Alice Springs 39.59 200 P **P 05 21 09.9 -0.3**
comp=Z,10.0nm,0.8s,baz=22,slow=6.2,SNR=99
ASAR LR LR 05 36 19.0
comp=Z,358nm,21.0s,baz=32,slow=34
PETK Petropavlovsk- 40.00 9 P **P 05 21 13.8 +0.7**
comp=Z,8.4nm,1.1s,baz=177,slow=5.2,SNR=1.9
PETK LR LR 05 35 17.3
comp=Z,396nm,21.4s,baz=197,slow=32
PET Petropavlovsk 40.08 10 *eP* **P 05 21 14.2 +0.4**
PET *e*S **S 05 27 20.0 +2.6**
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,500nm,18.0s
DZM Mont Dzumac 40.20 152 P **P 05 21 16.3 +1.0**
comp=Z,3.8nm,0.3s,baz=340,slow=24,SNR=22
DZM Mont Dzumac 40.20 152 *e*LR LR 05 32 15.9
comp=Z,863nm,24.9s
GYA Guiyang 40.23 295 *eP* **P 05 21 16.0 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
XAN Xi'an 40.33 307 P **P 05 21 16.8 +0.5**
XAN PP **PP 05 22 48.4 -1.0**
XAN S **S 05 27 18.7 -3.2**
XAN pmax pmax
comp=Z,15nm,0.7s
XAN pmax pmax
comp=Z,130nm,4.7s
XAN LR LR
comp=Z,210nm,21.9s
XAN LR LR
comp=Z,270nm,25.1s
XAN LR LR
comp=Z,400nm,17.8s
HHC Hu-ho-hao-te 41.33 318 *eP* **P 05 21 25.1 +0.6**
HHC S **S 05 27 38.3 +1.6**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,140nm,8.4s
HHC LR LR
comp=Z,2μm,14.1s
HHC LR LR
comp=Z,2μm,18.2s
HHC LR LR
comp=Z,2μm,17.6s
SLVN Son La 42.18 287 *eP* **P 05 21 32.9 +1.3**
comp=Z,13nm,1.0s
KMI Kunming 43.55 292 P **P 05 21 45.3 +2.4**
KMI pP pP 05 21 51.2 -2.0
KMI sP sP 05 21 53.0 -4.4
KMI PP **PcP 05 23 27.5 -2.9**
KMI S **S 05 28 11.8 +1.7**
KMI sS sS 05 28 21.1 -6.0
KMI SS **SS 05 31 18.1 -7.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI LR LR
comp=Z,230nm,16.3s
KMI LR LR
comp=Z,240nm,23.4s
KMI LR LR
comp=Z,410nm,25.4s
CD2 Chengdu 43.62 300 *eP* **P 05 21 41.8 -1.4**
CD2 sP pP 05 21 52.7 -0.8
CD2 PcS **PcS 05 27 21.9 -1.3**
CD2 S **S 05 28 10.2 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,360nm,16.9s
CD2 LR LR
comp=Z,330nm,22.8s
CD2 LR LR
comp=Z,380nm,22.3s
CHAI Chaiyaphum 44.04 279 P **P 05 21 47.9 +1.2**
comp=Z,8.3nm,0.7s
MBWA Marble Bar 44.24 219 *eP* **P 05 21 47.8 -0.3**
comp=Z,26nm,1.0s
MYKOM Kota Tinggi 44.84 258 *eP* **P 05 21 53.3 +0.2**
comp=Z,28nm,1.0s
LZH Lanzhou 44.93 308 *eP* **P 05 21 54.6 +0.8**
LZH pP pP 05 22 00.5 -3.6
LZH sP sP 05 22 03.0 -5.3
LZH PcP **PP 05 23 38.5 -0.6**
LZH PP PcP 05 23 42.8 +8.0
LZH *e*S **S 05 28 28.7 -1.1**
LZH sS sS 05 28 33.3 -14
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.2s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,1μm,16.8s
PBKT Sadao Pong 44.98 280 P **P 05 21 57.0 +2.9**
comp=Z,15nm,1.0s,comp=Z,572nm
UTTA Uttaradit 45.32 281 P **P 05 21 59.2 +2.3**
comp=Z,3.8nm,0.6s
MA2 Magadan 45.72 2 P **P 05 22 00.8 +1.3**
comp=Z,3.0nm,0.5s,baz=168,slow=13,SNR=4.2
MA2 LR LR 05 44 10.0
comp=Z,135nm,18.2s,baz=187,slow=40
MA2 Magadan 45.72 2 ⇑P **P 05 22 01.6 +2.2**
STKA Stephens Creek 45.81 187 P **P 05 21 59.3 -1.1**
comp=Z,4.8nm,0.8s,baz=306,slow=19,SNR=5.8
STKA LR LR 05 41 01.0
comp=Z,328nm,19.8s,baz=8.2,slow=36
UTHA Uthaitani 46.51 278 P **P 05 22 10.2 +4.0**
comp=Z,4.6nm,0.9s
CM01 Chiang Mai Arr 46.81 282 *eP* **P 05 22 09.5 +0.8**
CHTO Chiang Mai 46.82 283 P P 05 22 14.1 +5.4
comp=Z,28nm,1.5s,comp=Z,999nm
CMAR Chiang Mai Arr 46.83 282 P **P 05 22 09.7 +0.9**
comp=Z,3.8nm,0.5s,baz=80,slow=6.2,SNR=17
CMAR LR LR 05 40 54.2
comp=Z,175nm,20.0s,baz=96,slow=35
UMPA Umpang Tak 47.02 279 P P 05 22 15.2 +4.9
comp=Z,4.7nm,1.1s,comp=Z,1μm
BBOO Buckleboo 47.67 193 *eP* **P 05 22 13.7 -1.3**
comp=Z,27nm,0.8s
ULN Ulaanbaatar 47.71 324 ⇓*iP* **P 05 22 15.0 -0.4**
ULN pmax pmax
comp=Z,12nm,1.4s
ULN Ulaanbaatar 47.71 324 *eP* **P 05 22 14.9 -0.4**
comp=Z,11nm,1.2s
SURT Suratani 48.00 270 P P 05 22 23.9 +6.0
SONM Songino Array 48.07 323 P **P 05 22 17.8 -0.4**
comp=Z,3.4nm,0.5s,baz=137,slow=7.2,SNR=19
SONM LR LR 05 42 14.9
comp=Z,402nm,21.4s,baz=110,slow=36
SONA1 Songino Array 48.08 323 *eP* **P 05 22 17.8 -0.4**
GTA Gaotai 48.99 311 P **P 05 22 25.8 +0.4**
GTA pP pP 05 22 31.9 -3.9
GTA sP sP 05 22 34.9 -5.1
GTA S **S 05 29 28.4 +0.8**
GTA sS sS 05 29 37.9 -6.9
GTA SS **SS 05 32 54.9 -3.9**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,94nm,5.1s
GTA LR LR
comp=Z,190nm,16.6s
GTA LR LR
comp=Z,320nm,18.1s
GTA LR LR
comp=Z,300nm,16.2s
SEY Seymchan 49.15 3 P **P 05 22 26.8 +0.8**
comp=Z,2.6nm,0.6s,baz=137,slow=9.6,SNR=7.6
SEY LR LR 05 44 47.4
comp=Z,228nm,18.8s,baz=150,slow=38
ZAK Zakamensk 51.12 325 *eP* **P 05 22 40.4 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 51.57 327 P **P 05 22 44.0 -0.6**
comp=Z,2.2nm,0.5s,baz=144,slow=19,SNR=2.6
TLY Talaya 51.57 327 *e*S **S 05 30 06.3 +3.4**
TLY pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 54.23 297 P **P 05 23 06.3 +1.2**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 54.23 297 *eP* **P 05 23 06.7 +1.6**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 54.23 297 *eP* **P 05 23 06.7 +1.6**
comp=Z,20nm,0.6s
TAPN Taplejung 57.15 294 *eP* **P 05 23 26.5 +0.6**
comp=Z,18nm,0.5s
ODAN Odare 57.43 293 *eP* **P 05 23 28.2 +0.4**
comp=Z,15nm,0.7s
RAMN Ramite 58.14 293 *eP* **P 05 23 33.2 +0.4**
JIRN Jiri 58.51 294 *eP* **P 05 23 36.0 +0.5**
comp=Z,192nm,0.7s
GUN Gumba 58.78 294 *eP* **P 05 23 38.0 +0.6**
comp=Z,30nm,0.6s
WMQ Urumqi 58.88 313 P **P 05 23 38.6 +1.1**
WMQ pP pP 05 23 46.0 -2.1
WMQ ScP **ScP 05 28 25.2 +0.5**
WMQ S **S 05 31 42.3 +1.2**
WMQ pmax pmax
comp=Z,14nm,0.5s
WMQ pmax pmax
comp=Z,89nm,3.6s
WMQ LR LR
comp=Z,220nm,22.7s
WMQ LR LR
comp=Z,270nm,25.1s
WMQ LR LR
comp=Z,310nm,25.1s
PKIN Phulchoki 59.21 294 *eP* **P 05 23 40.3 0.0**
KKN Kakani 59.31 294 *eP* **P 05 23 40.9 0.0**
DMN Daman 59.47 294 *eP* **P 05 23 42.4 +0.4**
comp=Z,13nm,0.5s
GKN Gorkha 59.88 294 *eP* **P 05 23 45.0 +0.2**
comp=Z,19nm,0.4s
DANN Dangsing 60.65 295 *eP* **P 05 23 50.9 +0.7**
PYUN Piuthan 61.34 295 *eP* **P 05 23 54.8 0.0**
comp=Z,17nm,0.5s
KDAK Kodiak Island 62.48 31 P **P 05 24 02.1 +0.5**
comp=Z,3.3nm,0.7s,baz=237,slow=4.2,SNR=14
ZALV Zalesovo Beam 62.97 324 P **P 05 24 04.0 -0.9**
comp=Z,1.3nm,0.3s,baz=119,slow=6.2,SNR=3.6
ZALV LR LR 05 52 23.4
comp=Z,156nm,19.1s,baz=70,slow=37
MK01 Makanchi Array 63.13 316 *eP* **P 05 24 06.6 +0.3**
MK31 Makanchi Array 63.15 316 *i P* **P 05 24 06.7 +0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 63.15 316 *eP* **P 05 24 06.8 +0.5**
MKAR Makanchi Array 63.15 316 P **P 05 24 06.7 +0.5**
comp=Z,3.0nm,0.5s,baz=93,slow=7.6,SNR=24
MKAR LR LR 05 52 18.7
comp=Z,106nm,19.1s,baz=86,slow=37
MKAR Makanchi Array 63.15 316 *i P* **P 05 24 06.6 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 63.15 316 *eP* **P 05 24 06.8 +0.5**
comp=Z,38nm,0.5s
MAKZ Makanchi 63.36 316 *eP* **P 05 24 07.3 -0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 63.36 316 *eP* **P 05 24 07.3 -0.4**
comp=Z,7.7nm,0.8s
NVS Novosibirsk 64.08 325 *eP* **P 05 24 12.5 +0.3**
NVS pmax pmax
comp=Z,10.0nm,0.6s
NVS pmax pmax
comp=E,9.0nm,0.6s
PDGK Podgornoye 64.72 312 P **P 05 24 16.3 -0.6**
PDGK pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 65.33 28 *eP* **P 05 24 19.8 -0.5**
PMR pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 65.33 28 *eP* **P 05 24 19.8 -0.5**
comp=Z,6.2nm,0.8s
KURK Kurchatov 66.10 320 ⇑*iP* **P 05 24 25.2 -0.2**
KURK *i* *PP **pP 05 24 32.9 -3.3**
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 66.10 320 *eP* **P 05 24 25.2 -0.2**
comp=Z,66nm,1.7s
KURBB Kurchatov Arra 66.14 319 P **P 05 24 25.4 -0.3**
comp=Z,9.6nm,0.6s,baz=99,slow=7.0,SNR=12
HYB Hyderabad 66.25 283 *i P* **P 05 24 28.0 +0.9**
NRIK Noril'sk 66.77 340 LR LR 05 54 22.6
comp=Z,259nm,19.4s,baz=112,slow=37
KSH Kashi 67.18 307 P **P 05 24 35.9 +3.1**
KSH pP pP 05 24 42.2 -1.4
KSH sP sP 05 24 45.1 -2.6
KSH PcP **PcP 05 25 03.4 +2.7**
KSH PP **PP 05 27 06.3 +5.3**
KSH PcS 05 29 06.1
KSH S **S 05 33 28.4 +3.2**
KSH sS pS 05 33 39.3 +0.9
KSH ScS **SKiKP 05 34 30.1 -0.2**
KSH SS **SS 05 37 51.6 +6.8**
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH pmax pmax
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,100nm,5.9s
KSH LR LR
comp=Z,86nm,4.7s
KSH LR LR
comp=Z,140nm,6.7s
IL1 Eielson Array 67.23 25 *eP* **P 05 24 31.1 -1.4**
ILAR Eielson Array 67.23 25 P **P 05 24 31.4 -1.0**
comp=Z,2.8nm,0.4s,baz=252,slow=5.7,SNR=90
ILAR LR LR 05 52 11.0
comp=Z,116nm,20.4s,baz=278,slow=34
ILB Eielson Array 67.23 25 *eP* **P 05 24 31.5 -1.0**
AAK Ala-Archa 68.35 311 P **P 05 24 40.7 +0.6**
comp=Z,0.8nm,0.4s,baz=105,slow=20,SNR=3.7
PPT2 Papeete2 69.43 115 *e*S **S 05 33 49.6 -2.8**
comp=Z,99nm,23.8s
PPT2 Papeete2 69.43 115 *e*LR LR 05 45 49.6
comp=Z,596nm,24.0s
EGAK Eagle 69.61 26 *eP* **P 05 24 48.0 +0.6**
comp=Z,34nm,1.7s
KK31 Karatay Array 71.27 311 *eP* **P 05 24 57.1 -0.8**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 71.27 311 *eP* **P 05 24 57.9 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 71.27 311 *eP* **P 05 24 57.9 0.0**
comp=Z,1.9nm,0.3s
BVAR Borovoye Array 71.37 322 P **P 05 24 57.9 -0.3**
comp=Z,4.7nm,0.5s,baz=106,slow=7.4,SNR=26
BRVK Borovoye 71.43 322 ⇓*iP* **P 05 24 57.8 -0.8**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 71.43 322 *eP* **P 05 24 59.1 +0.4**
comp=Z,6.0nm,0.8s
TBI Tubuai 71.81 120 *e*S **S 05 34 19.7 -0.1**
comp=Z,94nm,25.2s
TBI Tubuai 71.81 120 *e*LR LR 05 46 28.6
comp=Z,382nm,32.0s
TAOE Nuku Hiva Isla 75.18 103 *e*S **S 05 34 55.6 -2.8**
comp=Z,77nm,29.3s
TAOE Nuku Hiva Isla 75.18 103 *e*LR LR 05 48 17.6
comp=Z,276nm,22.2s
ARU Arti 78.06 325 P **P 05 25 36.8 -0.2**
comp=Z,2.8nm,0.4s,baz=108,slow=4.9,SNR=6.4
ARU Arti 78.06 325 *d iP* **P 05 25 39.5 +2.6**
ARU 05 28 30.4
ARU S **S 05 35 31.0 +2.6**
ARU SS **SS 05 40 26.2 -3.6**
ARU pmax pmax
comp=Z,16nm,2.5s
ARU Arti 78.06 325 *eP* **P 05 25 39.1 +2.2**
AB31 Akbulak array 78.12 318 *i P* **P 05 25 36.9 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 78.12 318 *eP* **P 05 25 37.2 -0.2**
comp=Z,1.4nm,0.4s
GEYT Alibeck 81.21 307 P **P 05 25 55.8 +1.3**
comp=Z,1.8nm,0.4s,baz=358,slow=3.3,SNR=2.8
GEYT LR LR 06 04 38.9
comp=Z,70nm,20.6s,baz=100,slow=38
YKA Yellowknife Ar 81.43 28 P **P 05 25 55.2 +0.2**
comp=Z,2.0nm,0.6s,baz=284,slow=5.3,SNR=8.6
YKA LR LR 06 02 56.2
comp=Z,9.6nm,18.7s,baz=0.0,slow=36
CMB Columbia Colle 83.20 53 *eP* **P 05 26 07.6 +2.7**
CMB Columbia Colle 83.20 53 *eP* **P 05 26 07.6 +2.7**
BMO Blue Mountains 83.95 45 *eP* **P 05 26 09.2 +0.4**
BMO Blue Mountains 83.95 45 *eP* **P 05 26 09.2 +0.4**
RKT Rikitea 84.18 115 *e*LR LR 05 52 22.0
comp=Z,727nm,34.0s
MFID Camas Ranch 85.33 47 *eP* **P 05 26 16.8 +1.0**
ARCES ARCESS Array B 87.65 343 P **P 05 26 27.4 +1.0**
comp=Z,7.1nm,1.0s,baz=56,slow=4.9,SNR=4.8
DUG Dugway, Tooele 88.37 49 *eP* **P 05 26 31.8 +1.1**
DUG Dugway, Tooele 88.37 49 *eP* **P 05 26 31.8 +1.1**
CCUT Cedar City 88.71 52 *eP* **P 05 26 34.4 +1.9**
KNB Kanab 89.27 52 *eP* **P 05 26 36.9 +1.9**
KNB Kanab 89.27 52 *eP* **P 05 26 36.9 +1.9**
PDAR Pinedale Array 89.92 46 P **P 05 26 37.6 -0.4**
comp=Z,0.2nm,0.6s,baz=325,slow=1.4,SNR=3.1
PDAR LR LR 06 01 26.5
comp=Z,107nm,18.8s,baz=298,slow=32
WUAZ Wupatki 90.83 53 *eP* **P 05 26 44.0 +1.7**
KBZ Khabaz 90.84 315 LR LR 06 11 59.7
comp=Z,58nm,18.2s,baz=62,slow=39
KIV Kislovodsk 90.91 316 *eP* **P 05 26 41.1 -1.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 91.56 177 LR LR 06 04 25.7
comp=Z,26nm,18.1s,baz=330,slow=33
FINES FINESS Array B 92.03 336 P **P 05 26 46.0 -1.1**
comp=Z,4.0nm,0.6s,baz=68,slow=4.5,SNR=13
FINES LR LR 06 11 24.0
comp=Z,86nm,20.0s,baz=58,slow=38
FINES FINESS Array B 92.03 336 P **P 05 26 46.0 -1.1**
NOA NORSAR Array B 97.73 340 LR LR 06 13 40.1
comp=Z,77nm,21.5s,baz=45,slow=37
BRTR Keskin Array B 98.78 314 LR LR 06 15 37.3
comp=Z,29nm,21.7s,baz=40,slow=38
TXAR Lajitas Array 99.03 57 LR LR 06 04 29.7
comp=Z,86nm,21.3s,baz=0.0,slow=31
CLL Collm 104.06 333 *e*PP PP 05 32 01.0 +2.4
SYO Syowa Base 109.25 201 ⇑*e*Pdiff **Pdif 05 28 03.4 -0.7**
SNAA Sanae 119.51 190 PKP **PKPdf 05 32 26.5 -0.9**
VNA2 Neumayer--Watz 120.91 189 PKP **PKPdf 05 32 29.8 -0.2**
baz=144,slow=1.8
VNA3 Neumayer Olymp 120.97 188 PKP **PKPdf 05 32 29.5 -0.6**
VNA1 Neumayer--Stat 121.29 189 PKP **PKPdf 05 32 29.8 -0.9**
LVC Limon Verde 144.34 110 PKP **PKPdf 05 33 15.4 -0.2**
comp=Z,14nm,0.4s,baz=270,slow=4.0,SNR=3.3
LPAZ La Paz 145.47 99 PKPbc **PKPab 05 33 18.9 +0.6**
comp=Z,1.2nm,0.4s,baz=16,slow=4.5,SNR=13
DBIC Dimbokro 145.88 305 PKPbc **PKPdf 05 33 18.2 +0.2**

comp=Z,3.9nm,0.7s,baz=42,slow=3.2,SNR=6.0
KIC Kosan Boka 145.97 304 *e*P **PKPdf 05 33 18.4 +0.2**
comp=Z,164nm,2.0s
TIC Toumodi 146.03 305 *e*P **PKPbc 05 33 18.9 -0.2**
LIC Lamto 146.28 304 *e*P **PKPab 05 33 20.6 0.0**
comp=Z,62nm,1.5s
SAML Samuel 149.48 84 *e*PKPdf **PKPdf 05 33 22.8 -1.2**
SIV San Ignacio 152.25 98 PKPbc **PKPbc 05 33 33.5 -1.5**
comp=Z,1.7nm,0.7s,baz=280,slow=6.1,SNR=5.5

NIED ***09*** *05:14:00,34°.80N×142°.70E,h5km,Mw3.8 Best double couple: M₀5.97000×10¹⁴ NP1:φ₀25.00000°,δ24.00000°, λ-98.00000°. NP2:φ₀214.00000°,δ66.00000°, λ-86.00000°.*
IDC ***09*** *05:14:04.5±0.9,34°.58N×142°.67E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.8/57,mbtmp3.9/11,ML3.7/2,Error ellipse: s-maj=21.6km s-min=18.4km az=110.0*
ISCJB ***09*** *05:14:08.8±0.6,34°.68N±0°.05×142°.62E±0°.05,h42km, mb3.9/10,Error ellipse: s-maj=6.9km s-min=5.4km az=9.5*
JMA ***09*** *05:14:08.7±0.3,34°.75N×142°.68E,h58km,M3.8*
ISC 09 05:14:10.2±0.9,34°.72N±0°.06×142°.63E±0°.07,h42km,n29, σ1§36/37,mb3.9/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.36**	**268**	P	**Pn**	**05 14 32.1**	**-0.2**
BSO1				*e*S	**Sn**	05 14 50.5	+1.6
BSO2	**Boso 2**	**1.55**	**272**	*e*S	**Sn**	05 14 54.8	+1.1
BSO3	**Boso 3**	**1.75**	**273**	P	**Pn**	05 14 38.3	+0.5
CHOJ	**Chosi**	**1.75**	**304**	P	**Pn**	05 14 37.8	-0.3
CHOJ				*e*S	**Sn**	05 14 59.3	+0.2
BSO4	**Boso 4**	**1.91**	**279**	P	**Pn**	05 14 40.8	+0.7
JCN	**Nagara**	**2.11**	**290**	*e*S	**Sn**	05 15 09.0	+1.0
JIM2	**Oshima 3**	**2.64**	**271**	*e*S	**Sn**	05 15 20.0	-1.0
JHJ2	**Mitsune**	**2.84**	**236**	*e*S	**Sn**	05 15 24.2	-1.8
JHJ	**Hachijo jima 2**	**2.86**	**237**	Pn	Pn	05 14 48.4	-4.9
	45nm,0.3s,baz=68,slow=19,SNR=2.8						
JHJ				Sn	**Sn**	**05 15 24.1**	**-2.4**
	127nm,0.3s,baz=47,slow=20,SNR=9.0						
JOD2	**Odawara 2**	**2.96**	**281**	P	**Pn**	05 14 54.0	-0.7
JOD2				*e*S	**Sn**	05 15 27.8	-1.2
JAG	**Ashikaga**	**3.10**	**304**	P	**Pn**	05 14 56.0	-0.6
JAG				S	**Sn**	05 15 32.3	-0.1
JRY	**Ryogami san**	**3.31**	**294**	P	**Pn**	05 14 59.9	+0.4
JRY				*e*S	**Sn**	05 15 38.0	+0.4
JFT	**Otama**	**3.35**	**327**	P	**Pn**	05 14 58.7	-1.4
JFT				*e*S	**Sn**	05 15 35.7	-2.9
JYN	**Shimob**	**3.44**	**284**	P	**Pn**	05 15 01.3	0.0
JYN				*e*S	**Sn**	05 15 41.5	+0.6
MJAR	**Matsushiro Arr**	**4.03**	**298**	Pn	**Pn**	**05 15 08.4**	**-1.1**
	3.4nm,0.3s,baz=297,slow=16,SNR=34						
MJAR				Sn	**Sn**	**05 15 57.1**	**+1.7**
	3.8nm,0.3s,baz=128,slow=9.6,SNR=6.4						
MAT	**Matsushiro**	**4.04**	**298**	P	**Pn**	05 15 10.0	+0.5
MAT				*e*S	**Sn**	05 15 55.6	+0.1
MAT	**Matsushiro**	**4.04**	**298**	P	**Pn**	05 15 11.0	+1.5
MAT				*e*S	**Sn**	05 15 55.4	-0.1
JNS	**Sasagawa**	**4.09**	**320**	*e*S	**Sn**	05 15 55.7	-1.0
ASAJ	**Asahikawa**	**9.38**	**360**	Pn	**Pn**	**05 16 18.4**	**-4.4**
	1.6nm,0.3s,baz=218,slow=8.9,SNR=7.2						
ASAJ				Sn	Sn	05 17 57.0	-10
	0.2nm,0.3s,baz=252,slow=19,SNR=1.7						
SONM	**Songino Array**	**29.93**	**307**	P	P	05 20 18.4	+4.2
	0.4nm,0.5s,baz=109,slow=7.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**44.22**	**314**	P	P	05 22 17.2	+2.2
	3.2nm,0.3s,baz=105,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**46.21**	**304**	P	**P**	**05 22 32.1**	**+1.1**
	0.8nm,0.4s,baz=93,slow=7.2,SNR=4.0						
KDAK	**Kodiak Island**	**48.18**	**41**	P	**P**	**05 22 46.4**	**+0.3**
	2.3nm,0.5s,baz=271,slow=4.2,SNR=10						
KURBB	**Kurchatov Arra**	**48.22**	**310**	P	**P**	**05 22 47.6**	**+1.1**
	0.6nm,0.5s,baz=91,slow=7.4,SNR=7.0						
ILAR	**Eielson Array**	**50.93**	**31**	P	**P**	**05 23 07.5**	**+0.6**
	0.5nm,0.6s,baz=260,slow=5.8,SNR=6.9						
WRA	**Warramunga Arr**	**54.93**	**190**	P	**P**	**05 23 37.1**	**+0.2**
	2.4nm,0.8s,baz=9.4,slow=7.7,SNR=4.8						
ASAR	**Alice Springs**	**58.66**	**189**	P	**P**	**05 24 02.3**	**-1.0**
	1.0nm,0.7s,baz=19,slow=8.8,SNR=2.8						
NOA	**NORSAR Array B**	**76.69**	**338**	P	**P**	**05 25 57.3**	**+0.7**
	0.8nm,0.8s,baz=38,slow=5.7,SNR=3.3						
GERES	**GERESS Array B**	**85.19**	**329**	P	**P**	**05 26 43.7**	**+1.5**
	0.2nm,0.5s,baz=13,slow=6.0,SNR=3.2						

IDC ***09*** *05:15:01.7±3.5,13°.97N×91°.97W,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.8/42,mbtmp3.6/7,ML3.2/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/35,Error ellipse: s-maj=111.9km s-min=34.0km az=35.0*
MEX ***09*** *05:15:04.6±0.5,13°.60N×92°.42W,h16km±262km,MD4.1*
CASC ***09*** *05:15:05.7±1.2,13°.67N×92°.15W,h130km±66km,ML3.4, mb4.4(NEIC)*
NEIC ***09*** *05:15:06.8±2.1,13°.93N×92°.09W,h35km,mb4.4/3, MD4.1(MEX),Error ellipse: s-maj=61.4km s-min=21.9km az=219.0*
ISC 09 05:15:02.6±4.7,13°.8N±0°.2×92°.30W±0°.09,h5km±26km,n25, σ1§03/30,mb4.1/8,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.08**	**335**	*e*P	**Pn**	**05 15 37.7**	**-0.5**
CUS1	**Cusmapa**	**2.29**	**87**	*e*P	**Pn**	05 15 41.6	+0.4
CUS1				*e*S	**Sn**	05 15 47.0	+0.9
CCIG	**Comitan**	**2.46**	**4**	*e*P	**Pb**	05 15 46.7	-0.8
RBDL	**Robledal**	**2.56**	**83**	*e*P	**Pn**	05 15 45.6	+0.7
RBDL				*e*S	**Sn**	05 16 17.6	+1.0
MONT	**Ecomontaæa**	**2.58**	**89**	*e*P	**Pn**	05 15 46.4	+1.1
MONT				*e*S	**Sn**	05 16 17.0	-0.3
RTR	**El Retiro**	**2.58**	**88**	*e*P	**Pn**	05 15 45.7	+0.5
RTR				*e*S	**Sn**	05 16 16.7	-0.5
SBLS	**San Blas**	**2.60**	**89**	*e*P	**Pn**	05 15 46.9	+1.2
SBLS				*e*S	**Sn**	05 16 18.3	+0.5
SNJE	**San Jose**	**2.62**	**88**	*e*P	**Pn**	05 15 47.1	+1.3
SNJE				*e*S	**Sn**	05 16 19.4	+1.2
UEES	**San Salvador**	**2.97**	**91**	AML	AML	05 16 31.3	
	comp=Z,309nm,0.2s						
SNET	**Serv Nac Est T**	**2.99**	**92**	AML	AML	05 16 32.6	
	comp=Z,183nm,0.3s						
TGIG		**3.06**	**345**	*e*P	**Pn**	05 15 52.8	+1.1
LBRS	**Las Brisas**	**3.17**	**91**	*e*P	**Pn**	05 15 53.4	+0.1
LBRS				*e*S	**Sn**	05 16 30.4	-1.2
CMIG	**Matias Romero**	**4.10**	**323**	Pn	**Pn**	05 16 06.5	+0.5
	comp=Z,0.7nm,0.3s,baz=154,slow=12,SNR=8.4						
CMIG				Sn	**Sn**	05 16 55.4	+0.9
	comp=Z,2.1nm,0.3s,baz=100,slow=9.3,SNR=5.2						
JCT	**Junction City**	**17.98**	**339**	*e*P	**Pn**	05 19 12.7	-0.8
TXAR	**Lajitas Array**	**18.70**	**328**	P	**Pn**	05 19 23.9	+1.5
	comp=Z,0.0nm,0.3s,baz=149,slow=13,SNR=4.5						
MSTX	**Muleshoe**	**22.21**	**336**	*e*P	**P**	05 20 00.7	+0.6
	comp=Z,8.1nm,1.1s						
AMTX	**Amarillo**	**22.63**	**340**	*e*P	**P**	05 20 04.8	+0.2
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**23.07**	**18**	LR	LR	05 29 38.1	
	comp=Z,67nm,18.1s,baz=232,slow=38						
ANMO	**Albuquerque**	**24.62**	**331**	P	**P**	**05 20 23.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=144,slow=14,SNR=2.8						
PDAR	**Pinedale Array**	**32.47**	**336**	P	**P**	**05 21 33.9**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=150,slow=3.8,SNR=2.7						
SNOW	**Snow King Moun**	**33.53**	**335**	*e*P	**P**	**05 21 45.4**	**+1.8**
	comp=Z,6.9nm,1.0s						
YKA	**Yellowknife Ar**	**51.14**	**347**	P	**P**	**05 24 06.4**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=152,slow=7.4,SNR=7.2						
ILAR	**Eielson Array**	**62.90**	**337**	P	**P**	**05 25 30.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=125,slow=7.8,SNR=5.1						
EKA	**Eskdalemuir Ar**	**78.29**	**36**	P	**P**	**05 27 01.2**	**-2.4**
	comp=Z,1.3nm,0.7s,baz=271,slow=6.1,SNR=3.4						
CMAR	**Chiang Mai Arr**	**146.07**	**341**	PKPbc	**PKPdf**	**05 34 43.4**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=342,slow=3.6,SNR=11						

ISK ***09*** *05:30:44.2,37°.26N×28°.46E,h2km,ML2.8*
ISCJB ***09*** *05:30:46.2±0.4,37°.21N±0°.02×28°.42E±0°.02,h0km,Error ellipse: s-maj=3.5km s-min=2.9km az=176.8*
DDA ***09*** *05:30:46.7,37°.18N×28°.43E,h7km,Md2.6,Suspected Mining explosion.*
CSEM ***09*** *05:30:46.3±0.2,37°.22N×28°.43E,h1km,MD2.6,Error ellipse: s-maj=5.0km s-min=4.0km az=178.0,Suspected Mining explosion.*
ISC 09 05:30:45.7±0.8,37°.23N±0°.02×28°.44E±0°.02,h0km,n42, σ0§96/63,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.38**	**160**	*i*P	**Pb**	**05 30 54.8**	**-0.5**
TURN				*i*S	**Sb**	05 31 02.2	+0.5
TURN	**Turunc**	**0.38**	**160**	P	**Pb**	05 30 54.8	-0.5
TAVA	**DENIZLI_Tavas**	**0.44**	**58**	*i*P	**Pb**	05 30 56.1	-0.4
TAVA				*i*S	**Sb**	05 31 03.3	-0.4
TAVA	**DENIZLI_Tavas**	**0.44**	**58**	P	**Pb**	05 30 56.1	-0.4
TAVA				S	**Sb**	05 31 03.3	-0.4
DALY	**Dalyan (Mu¨la**	**0.45**	**158**	PG	**Pg**	05 30 54.2	-0.1
DALY	**Dalyan (Mu¨la**	**0.45**	**158**	*i*P	**Pb**	05 30 55.0	-1.5
DALY				*i*S	**Sb**	05 31 01.9	-1.7
DALY	**Dalyan (Mu¨la**	**0.45**	**158**	*i*Pg	**Pg**	05 30 54.2	-0.1
DALY	**Dalyan (Mu¨la**	**0.45**	**158**	P	**Pb**	05 30 55.0	-1.5
DALY				S	**Sb**	05 31 01.9	-1.7
MLSB	**Milas**	**0.54**	**277**	*e*PG	**Pg**	05 30 55.7	-0.3
MLSB				*e*SG	**Sg**	05 31 04.2	+1.3
MLSB	**Milas**	**0.54**	**277**	*e*Pg	**Pg**	05 30 55.7	-0.3
MLSB				*e*Sg	**Sg**	05 31 04.2	+1.3
AYDN	**Tasoluk**	**0.62**	**314**	*i*P	**Pb**	05 30 59.1	-0.3
AYDN				*i*S	**Sb**	05 31 07.2	-1.6
AYDN	**Tasoluk**	**0.62**	**314**	P	**Pb**	05 30 59.2	-0.3
AYDN				S	**Sb**	05 31 07.2	-1.6
DNZL	**Cakiroluk**	**0.67**	**46**	*i*P	**Pb**	05 31 00.6	+0.3
DNZL				*i*S	**Sb**	05 31 10.6	+0.4
DNZL	**Cakiroluk**	**0.67**	**46**	P	**Pb**	05 31 00.6	+0.3
DNZL				S	**Sb**	05 31 10.6	+0.4
DATC	**Datca-Mugla**	**0.78**	**233**	*e*PG	**Pg**	05 31 00.3	-0.4
DATC	**Datca-Mugla**	**0.78**	**233**	*e*Pg	**Pg**	05 31 00.3	-0.4
FETY	**Fethiye**	**0.79**	**139**	*e*PG	**Pg**	05 31 00.3	-0.5
FETY				*e*SG	**Sb**	05 31 12.2	-1.3
FETY	**Fethiye**	**0.79**	**139**	*e*Pg	**Pg**	05 31 00.3	-0.5
FETY				S	**Sb**	05 31 12.0	-1.5
BDRM	**Kayabasi**	**0.81**	**259**	*i*P	**Pb**	05 31 02.7	-0.1
BDRM				*i*S	**Sg**	05 31 12.3	+0.4
BDRM	**Kayabasi**	**0.81**	**259**	P	**Pb**	05 31 02.7	-0.1
BDRM				S	**Sg**	05 31 12.3	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.84**	**329**	*e*PG	**Pg**	05 31 00.6	-1.2
AYDB	**Zeytinkoy-Aydi**	**0.84**	**329**	*e*Pg	**Pg**	05 31 00.6	-1.2
GLHS	**Glhisar (BURDU**	**0.85**	**95**	*e*PG	**Pg**	05 31 00.8	-1.1
GLHS	**Glhisar (BURDU**	**0.85**	**95**	*e*Pg	**Pg**	05 31 00.8	-1.1
DAT	**Datca**	**0.85**	**234**	*e*PG	**Pb**	05 31 02.7	-0.8
DAT	**Datca**	**0.85**	**234**	*i*P	**Pb**	05 31 03.0	-0.5
DAT				*i*S	**Sb**	05 31 15.5	0.0
DAT	**Datca**	**0.85**	**234**	*e*Pg	**Pb**	05 31 02.7	-0.8
DAT	**Datca**	**0.85**	**234**	P	**Pb**	05 31 03.0	-0.5
DAT				S	**Sb**	05 31 15.5	0.0
GOLH	**Golhisar**	**0.89**	**89**	*i*P	**Pn**	05 31 05.7	0.0
GOLH				*i*S	**Sn**	05 31 21.7	+2.3
GOLH	**Golhisar**	**0.89**	**89**	P	**Pn**	05 31 05.7	0.0
BODT	**Bodrum**	**0.92**	**260**	*e*PG	**Pg**	05 31 03.3	0.0
BODT	**Bodrum**	**0.92**	**260**	*e*Pg	**Pg**	05 31 03.3	0.0
ELL	**Elmali**	**1.27**	**112**	*e*PN	**Pn**	05 31 10.2	-0.6
ELL	**Elmali**	**1.27**	**112**	*e*Pn	**Pn**	05 31 10.2	-0.6
AKAS	**Kas**	**1.36**	**136**	*e*PN	**Pb**	05 31 11.8	-0.4
AKAS	**Kas**	**1.36**	**136**	*i*P	**Pb**	05 31 12.7	+0.4
AKAS				*i*S	**Sn**	05 31 34.9	+3.9
AKAS	**Kas**	**1.36**	**136**	*e*Pn	**Pb**	05 31 11.8	-0.4
AKAS	**Kas**	**1.36**	**136**	P	**Pb**	05 31 12.6	+0.4
KHAL	**Karahalli**	**1.41**	**36**	*i*P	**Pb**	05 31 13.2	+0.2
KHAL				*i*S	**Sn**	05 31 32.5	+0.4
KHAL	**Karahalli**	**1.41**	**36**	P	**Pb**	05 31 13.2	+0.2
KHAL				S	**Sn**	05 31 32.5	+0.4
SUTC	**Sutluce-Ispart**	**2.05**	**82**	*e*PN	**Pn**	05 31 21.2	-0.4
SUTC	**Sutluce-Ispart**	**2.05**	**82**	*e*Pn	**Pn**	05 31 21.2	-0.4

JMA 09 05:36:14.2±0.2,37°.92N×144°.28E,h45km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.35**	**300**	P	Pn	05 36 51.5	+1.2
OFUJ				S	Sn	05 37 19.3	+1.3
JIO	**Ouri**	**2.37**	**284**	P	Pn	05 36 52.0	+1.4
JIO				S	Sn	05 37 19.5	+1.1
MIYJ	**Miyakonagasawa**	**2.54**	**311**	P	Pn	05 36 53.7	+0.8
MIYJ				*e*S	Sn	05 37 23.4	+0.9
JMK	**Ichinoseki**	**2.62**	**294**	P	Pn	05 36 55.5	+1.6
JMK				*e*S	Sn	05 37 26.4	+2.0
JOM	**Ohasama**	**2.81**	**304**	P	Pn	05 36 58.2	+1.7
JOM				*e*S	Sn	05 37 31.0	+1.9
JFT	**Otama**	**3.15**	**264**	P	Pn	05 37 02.7	+1.4
JFT				*e*S	Sn	05 37 39.4	+1.7
JYK	**Kaneyama**	**3.24**	**289**	P	Pn	05 37 04.4	+1.9
JYK				*e*S	Sn	05 37 41.3	+1.5
JANG	**Nango**	**3.26**	**320**	P	Pn	05 37 04.5	+1.7
JANG				*e*S	Sn	05 37 41.0	+0.7
BSO1	**Boso 1**	**4.21**	**220**	P	Pn	05 37 14.8	-0.6
BSO1				*e*S	Sn	05 38 02.5	-0.5
JOT	**Ohata**	**4.26**	**325**	P	Pn	05 37 18.4	+1.9
JOT				*e*S	Sn	05 38 06.0	+1.0
JRY	**Ryogami san**	**4.71**	**248**	P	Pn	05 37 23.6	+0.9
JRY				*e*S	Sn	05 38 15.0	-1.0
JCH	**Churui**	**4.74**	**352**	P	Pn	05 37 23.3	+0.2
JCH				*e*S	Sn	05 38 14.2	-2.6
JOD2	**Odawara 2**	**4.95**	**239**	*e*S	Sn	05 38 20.2	-1.7
NEM2	**Nemuro 2**	**5.55**	**11**	P	Pn	05 37 32.1	-2.1
NEM2				*e*S	Sn	05 38 30.5	-6.2
JTKR	**Abashiri--Toko**	**6.05**	**357**	P	Pn	05 37 41.1	0.0
JTKR				*e*S	Sn	05 38 46.2	-2.8

SJA ***09*** *05:47:55.5±1.2,30°.18S×70°.43W,h115km±9km,ML3.6, MW3.6*
ISCJB ***09*** *05:47:56.1±0.8,30°.22S±0°.03×70°.49W±0°.05,h112km±7km, Error ellipse: s-maj=7.0km s-min=5.3km az=5.0*
GUC ***09*** *05:47:56.6±0.5,30°.19S×70°.69W,h106km±3km,ML3.7*
ISC 09 05:47:57.1±1.7,30°.24S±0°.04×70°.51W±0°.06, h101km±13km,n25,σ1§21/43,27D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.26**	**285**	*e*P	**Pn**	**05 48 11.4**	**-0.6**
TLL				*e*S	**Sn**	05 48 22.6	-0.5
TLL				IAML		05 48 23.2	
	comp=N,4μm,0.3s						
ACDV	**Cuesta del Vie**	**1.21**	**87**	↓*e*P	**Pn**	05 48 20.4	+0.3
ACDV				↓*e*S	**Sn**	05 48 37.9	+0.4
LCO	**Las Campanas**	**1.23**	**352**	*e*P	**Pn**	05 48 19.8	-0.8
LCO				*e*S	**Sn**	05 48 37.5	-0.7
LCO				IAML		05 48 38.7	
	comp=E,1μm,0.4s						
LCO	**Las Campanas**	**1.23**	**352**	↓*e*P	**Pn**	05 48 20.4	-0.2
LCO				↓*e*S	**Sn**	05 48 38.2	0.0
RTLS	**Leoncito**	**1.87**	**147**	↓*e*P	**Pn**	05 48 28.9	+0.5
RTLS				↓*e*S	**Sn**	05 48 52.2	0.0
RTLS				IAML		05 48 57.0	
	comp=Z,277nm,0.4s						
AMOG	**MOGNA**	**1.88**	**112**	↓*e*P	**Pn**	05 48 28.9	+0.7
AMOG				*e*S	**Sn**	05 48 51.9	0.0
AGUA	**GUANDACOL**	**1.91**	**67**	↓*e*P	**Pn**	05 48 30.1	+1.4
AGUA				↓*e*S	**Sn**	05 48 54.6	+2.0
RTLL	**Cerro Villicun**	**2.06**	**122**	*e*P	**Pn**	05 48 29.9	-0.7
RTLL				↓*e*S	**Sn**	05 48 55.4	-0.7
AUSP	**Uspallata**	**2.20**	**154**	↓*e*P	**Pn**	05 48 33.6	+1.0
AUSP				↓*e*S	**Sn**	05 49 01.0	+1.3
RTCV	**Cerro Valdivia**	**2.34**	**134**	↓*e*P	**Pn**	05 48 34.3	+0.1
RTCV				↓*e*S	**Sn**	05 49 03.3	+0.6
VCA	**Vinchina**	**2.50**	**54**	*e*P	**Pn**	05 48 37.4	+0.9
VCA				*e*S	**Sn**	05 49 09.1	+2.4
VCA	**Vinchina**	**2.50**	**54**	↓*e*P	**Pn**	05 48 38.2	+1.7
VCA				↓*e*S	**Sn**	05 49 09.0	+2.4
VCA				IAML		05 49 14.2	
	comp=Z,597nm,0.5s						
AVFE	**Valle Fertil**	**2.67**	**100**	↓*e*P	**Pn**	05 48 37.6	-1.0
AVFE				↓*e*S	**Sn**	05 49 08.5	-1.9
AVFE				IAML		05 49 13.0	
	comp=Z,94nm,0.4s						
ASAL	**Salagasta**	**2.75**	**149**	↓*e*P	**Pn**	05 48 40.3	+0.7
ASAL				↓*e*S	**Sn**	05 49 12.8	+0.5
ROC1	**El Roble**	**2.76**	**189**	*e*P	**Pn**	05 48 38.9	-1.1
ARCO	**CERRO ARCO**	**2.92**	**153**	↓*e*P	**Pn**	05 48 43.4	+1.3
ARCO				*e*S	**Sn**	05 49 16.1	-0.5
ARCO				IAML		05 49 24.2	
	comp=Z,146nm,0.3s						
FCH	**Farellones**	**3.09**	**177**	*e*P	**Pn**	05 48 45.1	+0.8
FCH				*e*S	**Sn**	05 49 22.2	+1.5
CLCH	**Cerro Calan**	**3.15**	**180**	*e*P	**Pn**	05 48 45.5	+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH				IAML		05 49 48.2	
	comp=E,195nm,1.0s						
AAGR	**Agrelo**	**3.18**	**154**	↓*e*P	**Pn**	**05 48 46.7**	**+1.3**
ACLC	**CERRO LA CRUZ**	**3.20**	**76**	*e*P	**Pn**	05 48 45.1	-0.6
ACLC				*e*S	**Sn**	05 49 22.4	-0.7
ACHE	**Chepes**	**3.44**	**106**	↓*e*P	**Pn**	05 48 48.0	-0.9
APLL	**PUNTA DE LOS L**	**3.45**	**94**	↓*e*P	**Pn**	05 48 48.1	-0.9
ACAN	**Cantantal**	**3.50**	**126**	↓*e*P	**Pn**	05 48 49.1	-0.5
CYA	**Choya**	**4.48**	**68**	*e*P	**Pn**	05 49 01.5	-1.4
MRA	**San Martin**	**4.64**	**119**	↓*e*P	**Pn**	05 49 03.6	-1.4
MRA				↓*e*S	**Sn**	05 49 54.9	-3.0

NIED ***09*** *05:52:00,34°.80N×142°.60E,h8km,Mw3.8 Best double couple: M₀6.65000×10¹⁴ NP1:φ₀33.00000°,δ32.00000°, λ-87.00000°. NP2:φ₀210.00000°,δ58.00000°, λ-92.00000°.*
ISCJB ***09*** *05:52:56.2±0.7,34°.90N±0°.05×142°.76E±0°.06,h10km, mb3.6/5,MS3.6/1,Error ellipse: s-maj=7.7km s-min=6.5km az=23.5*
IDC ***09*** *05:52:56.0±1.2,34°.67N×142°.85E,h0km,mb3.6/5, mb1 3.7/7,mb1mx3.6/47,mbtmp3.6/7,ML3.5/2,MS2.9/5, Ms1 2.9/5,ms1mx2.6/34,Error ellipse: s-maj=31.2km s-min=21.8km az=78.0*
JMA ***09*** *05:52:59.2±0.5,34°.77N×142°.61E,h21km,M3.6*
ISC 09 05:52:57.0±1.1,34°.81N±0°.06×142°.79E±0°.08,h10km,n30, σ1§66/32,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.50**	**265**	P	**Pn**	**05 53 23.0**	**-0.4**
CHOJ	**Chosi**	**1.82**	**300**	P	**Pn**	05 53 28.9	+0.6
CHOJ				*e*S	**Sn**	05 53 50.5	-0.9
BSO3	**Boso 3**	**1.88**	**271**	P	**Pn**	05 53 29.5	+0.6
BSO4	**Boso 4**	**2.02**	**276**	P	**Pn**	05 53 31.7	+0.7
BSO4				*e*S	**Sn**	05 53 56.1	-0.2
JHJ	**Hachijo jima 2**	**3.01**	**237**	Pn	**Pn**	**05 53 43.5**	**-1.2**
	42nm,0.3s,baz=72,slow=19,SNR=2.3						
JHJ				Sn	**Sn**	**05 54 17.2**	**-3.7**
	15nm,0.3s,baz=60,slow=20,SNR=2.8						
JOD2	**Odawara 2**	**3.07**	**280**	P	**Pn**	**05 53 45.1**	**-0.5**
JOD2				*e*S	**Sn**	05 54 19.2	-3.2
JAG	**Ashikaga**	**3.16**	**302**	P	**Pn**	05 53 47.0	+0.2
JAG				*e*S	**Sn**	05 54 22.8	-1.8
JFT	**Otama**	**3.36**	**324**	P	**Pn**	05 53 48.8	-0.7
JFT				*e*S	**Sn**	05 54 26.7	-2.7
JRY	**Ryogami san**	**3.40**	**292**	P	**Pn**	05 53 50.8	+0.7
JRY				*e*S	**Sn**	05 54 29.2	-1.3
JYN	**Shimob**	**3.55**	**282**	P	**Pn**	05 53 52.4	+0.2
JYN				*e*S	**Sn**	05 54 31.3	-2.9
MJAR	**Matsushiro Arr**	**4.11**	**296**	Pn	**Pn**	**05 54 01.3**	**+1.5**
	1.0nm,0.3s,baz=127,slow=8.9,SNR=12						
MJAR				Sn	**Sn**	**05 54 47.5**	**-0.6**
	1.2nm,0.3s,baz=132,slow=8.7,SNR=6.7						
MJAR				LR	LR	05 56 06.7	
	comp=Z,99nm,19.5s,baz=180,slow=46						
MAT	**Matsushiro**	**4.11**	**296**	P	**Pn**	**05 54 01.4**	**+1.5**
MAT				*e*S	**Sn**	05 54 46.7	-1.4
MAT	**Matsushiro**	**4.11**	**296**	P	**Pn**	05 54 01.6	+1.7
JMK	**Ichinoseki**	**4.33**	**344**	P	**Pn**	05 54 02.0	-0.8
JMK				S	**Sn**	05 54 50.3	-3.0
ASAJ	**Asahikawa**	**9.30**	**359**	Pn	**Pn**	**05 55 09.8**	**-1.3**
	1.1nm,0.3s,baz=184,slow=13,SNR=5.1						
JNU	**Nakatsue**	**10.04**	**264**	LR	LR	05 58 50.8	
	comp=Z,38nm,20.3s,baz=16,slow=35						
KSRS	**Korea Array**	**12.31**	**287**	LR	LR	06 00 48.5	
	comp=Z,38nm,18.3s,baz=66,slow=38						
USRK	**Ussuriysk Ar.**	**12.54**	**322**	LR	LR	06 01 18.9	
	comp=Z

baz=282,slow=20
WRA Warramunga Arr 18.34 125 P **P 06 12 56.6 -1.1**
0.2nm,0.3s,baz=295,slow=14,SNR=5.0
WRA S Sn 06 16 07.8 -14
0.1nm,0.3s,baz=293,slow=21,SNR=5.3
ASAR Alice Springs 20.19 135 P **P 06 13 18.2 +0.3**
0.2nm,0.3s,baz=323,slow=12,SNR=14
ASAR S **S 06 16 58.7 -4.1**
0.1nm,0.3s,baz=309,slow=24,SNR=5.0
SONM Songino Array 58.38 350 P P 06 18 48.1 +10
0.4nm,0.6s,baz=162,slow=8.9,SNR=4.2

IDC 09 06:19:26.6±9.1, 55°.57N×85°.18E, h0km, Error ellipse: s-maj=52.1km s-min=26.3km az=7.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**187**	*i*		06 30 20.0	
	baz=8.3,slow=326,SNR=12						
ZALV	**Zalesovo Beam**	**1.64**	**187**	Pg	Pn	06 19 56.5	-0.1
	0.4nm,0.3s,baz=5.9,slow=18,SNR=3.8						
ZALV				Lg	Lg	06 20 18.2	
	0.4nm,0.3s,baz=5.0,slow=29,SNR=5.0						
I34MN	**SONGINO INFRAS**	**15.25**	**112**	*i*		07 50 20.0	
	baz=311,slow=326,SNR=0.2						

IDC 09 06:20:12.8±3.6, 6°.73S×150°.92E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/20, mbtmp3.2/2, Error ellipse: s-maj=148.8km s-min=46.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.78**	**229**	P	P	06 24 54.4	-1.3
	0.5nm,0.5s,baz=54,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**23.48**	**222**	P	P	06 25 24.6	+0.2
	0.3nm,0.4s,baz=56,slow=8.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.05**	**284**	PKPbc	PKPbc	06 40 04.0	-0.1
	0.5nm,0.8s,baz=69,slow=1.5,SNR=3.2						

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*ISK **09** 06:22:34.3, 41°.62N×32°.43E, h6km, MD3.3*
*DDA **09** 06:22:35.0, 41°.54N×32°.44E, h7km, Ml3.4*
*CSEM **09** 06:22:35.1±0.1, 41°.60N×32°.45E, h5km, MD3.3, Error ellipse: s-maj=3.8km s-min=3.0km az=170.0*
ISC 09 06:22:35.3±0.9, 41°.62N±0°.02×32°.45E±0°.03, h13km±5km, n70, σ1§07/87, 7C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASR	**Amasra-Bartin**	**0.14**	**6**	PG	**Pg**	**06 22 37.8**	**-1.0**
MASR				*e*SG	**Sg**	**06 22 40.4**	**-0.9**
MASR	**Amasra-Bartin**	**0.14**	**6**	*i* Pg	**Pg**	**06 22 37.8**	**-1.0**
MASR				*e*Sg	**Sg**	**06 22 40.4**	**-0.9**
BTIN	**Bart¨–n**	**0.15**	**276**	*i* P	**Pg**	**06 22 39.1**	**+0.1**
BTIN				*i* S	**Sg**	**06 22 42.5**	**+1.0**
BTIN	**Bart¨–n**	**0.15**	**276**	P	**Pg**	**06 22 39.1**	**+0.1**
BTIN				S	**Sg**	**06 22 42.5**	**+1.0**
BCAM	**Yenicaga**	**0.85**	**200**	*i* P	**Pg**	**06 22 50.2**	**-1.6**
BCAM				*i* S	**Sg**	**06 23 02.1**	**-1.0**
BCAM	**Yenicaga**	**0.85**	**200**	P	**Pg**	**06 22 50.2**	**-1.6**
BCAM				S	**Sg**	**06 23 02.1**	**-1.0**
ILGA	**Ilgaz**	**1.11**	**120**	*i* P	**Pg**	**06 22 55.1**	**-1.6**
ILGA				*i* S	**Sb**	**06 23 12.1**	**+1.2**
ILGA	**Ilgaz**	**1.11**	**120**	P	**Pg**	**06 22 55.1**	**-1.6**
ILGA				S	**Sb**	**06 23 12.1**	**+1.2**
CMDR	**Camlidere-ANKA**	**1.13**	**179**	*i* P	**Pg**	**06 22 56.0**	**-1.0**
CMDR				*i* S	**Sb**	**06 23 11.9**	**+0.6**
CMDR	**Camlidere-ANKA**	**1.13**	**179**	P	**Pg**	**06 22 56.0**	**-1.0**
CMDR				S	**Sb**	**06 23 11.9**	**+0.6**
BZK	**Bozkurt**	**1.21**	**73**	PN	**Pg**	**06 22 58.1**	**-0.5**
BZK	**Bozkurt**	**1.21**	**73**	*i* Pn	**Pg**	**06 22 58.1**	**-0.5**
CANT	**Cankiri**	**1.34**	**139**	PN	**Pg**	**06 23 00.6**	**-0.6**
CANT				*e*SN	**Sn**	**06 23 19.0**	**+1.4**
SAHE	**Sakarya_HENDEK**	**1.43**	**238**	*i* P	**Pn**	**06 23 00.4**	**-0.5**
SAHE				*i* S	**Sn**	**06 23 20.1**	**+0.5**
SAHE	**Sakarya_HENDEK**	**1.43**	**238**	P	**Pn**	**06 23 00.4**	**-0.5**
SAHE				S	**Sn**	**06 23 20.1**	**+0.5**
MDUB	**Mudurnu**	**1.49**	**220**	PN	**Pn**	**06 23 01.7**	**-0.2**
MDUB	**Mudurnu**	**1.49**	**220**	*i* Pn	**Pn**	**06 23 01.7**	**-0.2**
BTAS	**Taskesti**	**1.52**	**227**	*i* P	**Pn**	**06 23 02.4**	**+0.2**
BTAS				*i* S	**Sg**	**06 23 23.8**	**-0.4**
BTAS	**Taskesti**	**1.52**	**227**	P	**Pn**	**06 23 02.4**	**+0.2**
BTAS				S	**Sg**	**06 23 23.8**	**-0.4**
LOD	**Lodumlu**	**1.75**	**172**	*e*PN	**Pn**	**06 23 06.0**	**+0.6**
LOD	**Lodumlu**	**1.75**	**172**	*e*Pn	**Pn**	**06 23 06.0**	**+0.6**
KAND	**Kocaeli-Kandir**	**1.78**	**254**	*i* P	**Pn**	**06 23 06.4**	**+0.7**
KAND				*i* S	**Sn**	**06 23 29.0**	**+0.8**
KAND	**Kocaeli-Kandir**	**1.78**	**254**	P	**Pn**	**06 23 06.4**	**+0.7**
KAND				S	**Sn**	**06 23 29.0**	**+0.8**
GULT	**Gulveren**	**1.89**	**232**	*e*PN	**Pn**	**06 23 07.7**	**+0.4**
GULT	**Gulveren**	**1.89**	**232**	*e*Pn	**Pn**	**06 23 07.7**	**+0.4**
SNOP	**Sinop**	**2.10**	**78**	*e*PN	**Pn**	**06 23 11.7**	**+1.6**
SNOP	**Sinop**	**2.10**	**78**	*e*Pn	**Pn**	**06 23 11.7**	**+1.6**
DIKM	**Dikmen**	**2.10**	**88**	*e*PN	**Pn**	**06 23 11.7**	**+1.5**
DIKM	**Dikmen**	**2.10**	**88**	*e*Pn	**Pn**	**06 23 11.7**	**+1.5**
SILT	**Sile**	**2.16**	**258**	*e*PN	**Pn**	**06 23 12.2**	**+1.2**
SILT	**Sile**	**2.16**	**258**	*e*Pn	**Pn**	**06 23 12.2**	**+1.2**
CORM	**Corum**	**2.19**	**130**	*e*PN	**Pn**	**06 23 13.1**	**+1.5**
CORM	**Corum**	**2.19**	**130**	*e*Pn	**Pn**	**06 23 13.1**	**+1.5**
AFSR	**Af¨ar-Bala (A**	**2.22**	**168**	*e*PN	**Pn**	**06 23 12.2**	**+0.3**
AFSR	**Af¨ar-Bala (A**	**2.22**	**168**	*e*Pn	**Pn**	**06 23 12.2**	**+0.3**
HRT	**Hereke**	**2.25**	**250**	*e*PN	**Pn**	**06 23 13.1**	**+0.9**
HRT	**Hereke**	**2.25**	**250**	*e*Pn	**Pn**	**06 23 13.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.28**	**198**	*e*PN	**Pn**	**06 23 13.7**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.28**	**198**	*e*Pn	**Pn**	**06 23 13.7**	**+0.9**
ADVT	**Abdulvahap**	**2.37**	**241**	*e*PN	**Pn**	**06 23 15.4**	**+1.5**
ADVT	**Abdulvahap**	**2.37**	**241**	*e*Pn	**Pn**	**06 23 15.4**	**+1.5**
CAVI	**Cavuskoy**	**2.43**	**235**	*e*PN	**Pn**	**06 23 16.2**	**+1.4**
CAVI	**Cavuskoy**	**2.43**	**235**	*e*Pn	**Pn**	**06 23 16.2**	**+1.4**
KLYT	**Kilyos**	**2.59**	**263**	*e*PN	**Pn**	**06 23 18.2**	**+1.4**
KLYT	**Kilyos**	**2.59**	**263**	*e*Pn	**Pn**	**06 23 18.2**	**+1.4**
KAVV	**Kandilli-Istan**	**2.61**	**259**	*e*PN	**Pn**	**06 23 17.6**	**+0.5**
KAVV	**Kandilli-Istan**	**2.61**	**259**	*e*Pn	**Pn**	**06 23 17.7**	**+0.5**
ISK	**Istanbul-Kandi**	**2.61**	**259**	*e*PN	**Pn**	**06 23 17.3**	**+0.1**
ISK	**Istanbul-Kandi**	**2.61**	**259**	*e*Pn	**Pn**	**06 23 17.3**	**+0.1**
BUY	**Buyukada**	**2.63**	**254**	*e*PN	**Pn**	**06 23 17.9**	**+0.5**
BUY	**Buyukada**	**2.63**	**254**	*e*Pn	**Pn**	**06 23 17.9**	**+0.5**
MANR	**Mangalia**	**3.59**	**309**	⇓*i*P	**Pn**	**06 23 31.5**	**+0.8**
MANR	**Mangalia**	**3.59**	**309**	S	**Sn**	**06 24 13.1**	**+0.2**
TIRR	**Tirgusor**	**4.10**	**315**	⇑*i*P	**Pn**	**06 23 37.7**	**+0.1**
TIRR	**Tirgusor**	**4.10**	**315**	S	**Sn**	**06 24 25.2**	**-0.2**
TLB	**Topalu**	**4.38**	**314**	⇑*i*P	**Pn**	**06 23 41.6**	**+0.1**
TLB	**Topalu**	**4.38**	**314**	S	**Sn**	**06 24 30.9**	**-1.5**
TLCR		**4.44**	**325**	⇓*i*P	**Pn**	**06 23 41.8**	**-0.5**
CFR	**Carcaliu**	**4.75**	**320**	⇑*i*P	**Pn**	**06 23 45.7**	**-0.8**
CFR	**Carcaliu**	**4.75**	**320**	S	**Sn**	**06 24 39.7**	**-1.6**
TESR	**Tescani**	**6.43**	**321**	⇓*i*P	**Pn**	**06 24 10.7**	**+1.0**
TESR	**Tescani**	**6.43**	**321**	S	**Sn**	**06 25 23.5**	**+0.6**
VOIR		**6.59**	**308**	⇑*i*P	**Pn**	**06 24 12.7**	**+0.7**
VOIR		**6.59**	**308**	S	**Sn**	**06 25 25.3**	**-1.7**
DOPR	**Dopca**	**6.71**	**313**	⇑*i*P	**Pn**	**06 24 14.7**	**+1.2**
DOPR	**Dopca**	**6.71**	**313**	S	**Sn**	**06 25 28.8**	**-0.9**
ARR	**Arges**	**6.81**	**306**	⇑*i*P	**Pn**	**06 24 15.5**	**+0.6**
SORM	**Soroca**	**7.13**	**337**	⇑*i*P	**Pn**	**06 24 18.6**	**-0.7**
BURAR	**Bucovina Array**	**7.91**	**322**	⇓*i*P	**Pn**	**06 24 26.1**	**-3.9**
BURAR	**Bucovina Array**	**7.91**	**322**	S	**Sn**	**06 26 00.5**	**+1.2**

WEL 09 06:35:45.1±0.3, 38°.47S×178°.67E, h26km±2km, ML3.5/17, 4C-1D, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.37**	**268**	P*	Pb	06 35 53.5	+0.3
CNGZ				AML	AML	06 36 11.1	
CNGZ				AML	AML	06 36 24.6	
PUZ	**Puketiti**	**0.52**	**320**	⇑P*	Pb	06 35 55.2	-0.5
PUZ				*e*S*	Sb	06 36 01.9	-0.9
PUZ				AML	AML	06 36 17.0	
TWGZ	**Tauwhareparae**	**0.62**	**298**	⇑P*	Pb	06 35 57.4	0.0
TWGZ				AML	AML	06 36 09.8	
TWGZ				AML	AML	06 36 13.7	
TKGZ	**Te Karaka**	**0.65**	**273**	P*	Pb	06 35 57.8	-0.1
TKGZ				AML	AML	06 36 09.8	
TKGZ				AML	AML	06 36 10.4	
WMGZ	**Waiomatatini S**	**0.68**	**343**	⇑P*	Pb	06 35 58.5	0.0
WMGZ				AML	AML	06 36 11.5	
WMGZ				AML	AML	06 36 11.7	
PKGZ	**Pakihiroa**	**0.75**	**321**	P*	Pb	06 35 59.3	-0.3
PKGZ				*e*S*	Sb	06 36 09.9	+0.5
PKGZ				AML	AML	06 36 12.8	
RIGZ	**Rimuhau**	**0.75**	**252**	*e*P*	Pb	06 35 59.5	-0.1
RIGZ				AML	AML	06 36 15.7	
RIGZ				AML	AML	06 36 26.1	
PRGZ	**Paritu Road**	**0.77**	**234**	P*	Pb	06 35 59.7	-0.1
PRGZ				AML	AML	06 36 23.0	
PRGZ				AML	AML	06 36 29.9	
MHGZ	**Mahia Peninsul**	**0.91**	**221**	PN	Pb	06 36 01.5	-0.7
MHGZ				AML	AML	06 36 40.0	
MHGZ				AML	AML	06 36 52.9	
MWZ	**Matawai**	**0.91**	**278**	⇓PN	Pb	06 36 01.5	-0.8
MWZ				*e*SN	Sn	06 36 14.7	+0.1
MWZ				AML	AML	06 36 27.5	
RUGZ	**Raukumara Rang**	**0.93**	**302**	⇑PN	Pn	06 36 01.9	-0.8
MXZ	**Matakaoa Point**	**0.95**	**342**	PN	Pn	06 36 02.6	-0.2
MXZ				AML	AML	06 36 18.4	
MXZ				AML	AML	06 36 18.6	
KNZ	**Kokohu**	**0.96**	**235**	PN	Pn	06 36 02.0	-0.8
KNZ				AML	AML	06 36 28.9	
KNZ				AML	AML	06 36 40.6	
RAGZ	**Rawiri**	**0.99**	**268**	PN	Pn	06 36 03.0	-0.4
RAGZ				AML	AML	06 36 19.4	
RAGZ				AML	AML	06 36 19.4	
HAZ	**Te Kaha**	**1.00**	**315**	PN	Pn	06 36 02.9	-0.6
HAZ				*e*SN	Sb	06 36 16.5	0.0
HAZ				AML	AML	06 36 20.5	
HAZ				AML	AML	06 36 20.7	
HAZ				AML	AML	06 36 20.7	
URZ	**Urewera**	**1.25**	**279**	PN	Pn	06 36 06.8	-0.1
URZ				AML	AML	06 36 30.6	
URZ				AML	AML	06 36 40.8	
RTZ	**Ruatahuna**	**1.33**	**263**	PN	Pb	06 36 09.0	-0.5
ARHZ	**Aropaoanui**	**1.53**	**238**	PN	Pn	06 36 11.5	+0.7
ARHZ				AML	AML	06 36 42.7	
MCHZ	**McNeill Hill**	**1.82**	**237**	PN	Pn	06 36 15.0	+0.2
BKZ	**Black Stump Fm**	**1.84**	**247**	PN	Pn	06 36 15.4	+0.3
KWHZ	**Kaweka Forest**	**2.00**	**241**	AML	AML	06 36 43.5	
KWHZ				AML	AML	06 36 44.1	
BHHZ	**Black Hill Sta**	**2.27**	**243**	PN	Pn	06 36 20.7	-0.4
PRHZ	**Porangahau**	**2.39**	**221**	PN	Pn	06 36 20.8	-1.8
PNHZ	**Pukenui**	**2.40**	**232**	PN	Pn	06 36 21.6	-1.2
WNVZ	**Wahianoa**	**2.55**	**249**	PN	Pn	06 36 24.9	0.0
BFZ	**Birch Farm**	**2.90**	**220**	PN	Pn	06 36 27.0	-2.6
BFZ				*e*SN	Sn	06 37 00.8	-2.8
MRZ	**Mangatainoka R**	**3.24**	**227**	*e*PN	Pn	06 36 31.6	-2.8
CAW	**Cannon Point**	**3.83**	**225**	PN	Pn	06 36 39.7	-2.7

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*ISCJB **09** 06:35:45.9±1.3, 15°.9S±0°.5×173°.6W±0°.4, h10km, mb3.8/6, MS3.1/2, Error ellipse: s-maj=82.4km s-min=13.4km az=143.8*
*IDC **09** 06:35:45.8±1.5, 16°.13S×173°.41W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/30, mbtmp3.8/7, ML3.6/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/40, Error ellipse: s-maj=86.9km s-min=18.8km az=144.0*
ISC 09 06:35:47.9±1.4, 15°.7S±0°.4×173°.6W±0°.3, h10km, n30, σ1§41/19, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.47**	**44**	Pn	**Pn**	**06 36 28.8**	**+0.5**
	10nm,0.3s,baz=190,slow=3.6,SNR=18						
AFI				Sn	**Sn**	**06 36 55.4**	**-3.2**
	77nm,0.3s,baz=42,slow=19,SNR=11						
AFI				LR	LR	06 37 01.2	
	comp=Z,41nm,21.7s,baz=260,slow=28						
DZM	**Mont Dzumac**	**19.95**	**248**	LR	LR	06 46 42.5	
	comp=Z,123nm,18.1s,baz=28,slow=33						
DZM	**Mont Dzumac**	**19.95**	**248**	*e*LR	LR	06 45 39.3	
	117nm,25.5s						
PPT	**Papeete**	**23.04**	**98**	LR	LR	06 47 04.3	
	comp=Z,36nm,21.2s,baz=60,slow=30						
PPT2	**Papeete2**	**23.04**	**98**	*e*LR	LR	06 46 08.1	
	62nm,24.8s						
TBI	**Tubuai**	**23.92**	**112**	*e*LR	LR	06 46 28.5	
	91nm,24.0s						
HNR	**Honiara**	**26.59**	**280**	LR	LR	06 50 41.9	
	comp=Z,142nm,20.6s,baz=159,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	07 25 21.2	
	baz=153						
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	07 25 05.1	
	baz=153						
H11S1	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	07 25 26.7	
	baz=153,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**40.10**	**331**	T	T	07 26 11.9	
	baz=150,slow=76,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**40.10**	**331**	T	T	07 26 13.0	
	baz=150,slow=76,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**40.12**	**331**	T	T	07 26 12.2	
	baz=150,slow=76,SNR=7.1						
STKA	**Stephens Creek**	**43.76**	**240**	P	**P**	**06 43 52.1**	**-1.8**
	1.2nm,0.6s,baz=99,slow=10.0,SNR=3.0						
WRA	**Warramunga Arr**	**49.64**	**257**	P	**P**	**06 44 39.1**	**-1.0**
	0.5nm,0.5s,baz=92,slow=6.8,SNR=8.0						
ASAR	**Alice Springs**	**49.88**	**252**	P	**P**	**06 44 40.9**	**-1.1**
	1.4nm,0.5s,baz=90,slow=8.4,SNR=29						
TXAR	**Lajitas Array**	**80.90**	**56**	P	**P**	**06 48 02.9**	**+0.1**
	0.3nm,0.8s,baz=280,slow=6.3,SNR=3.0						
PDAR	**Pinedale Array**	**82.58**	**42**	P	**P**	**06 48 12.4**	**+0.8**
	0.8nm,0.8s,baz=224,slow=4.1,SNR=7.0						
ILAR	**Eielson Array**	**82.77**	**11**	P	**P**	**06 48 13.1**	**+1.3**
	0.4nm,0.6s,baz=226,slow=6.4,SNR=10						
DPC	**Dobruska-Polom**	**144.53**	**349**	*e*PKP	**PKPdf**	**06 55 25.5**	**+0.8**
PRU	**Pruhonice**	**145.18**	**351**	*e*PKP	**PKPab**	**06 55 27.3**	**+1.9**
GOPC	**GO Pecny, Ondr**	**145.21**	**351**	*e*PKP	**PKPab**	**06 55 27.4**	**+1.9**
KHC	**Kasperske Hory**	**146.15**	**352**	*e*PKP	**PKPab**	**06 55 30.3**	**+1.2**
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc	**PKPab**	**06 55 31.1**	**+1.0**
	1.8nm,0.7s,baz=113,slow=1.9,SNR=8.7						
GERES	**GERESS Array B**	**146.41**	**351**	PKPbc	**PKPab**	**06 55 30.3**	**+0.1**
	1.3nm,0.7s,baz=24,slow=3.6,SNR=11						
CONA	**Conrad Observa**	**146.94**	**348**	*i* PKPab	**PKPab**	**06 55 32.7**	**+0.5**
	1.8nm,0.6s						
MOA	**Molln**	**147.30**	**350**	*i* PKPab	**PKPab**	**06 55 33.4**	**-0.1**
	0.1nm,0.1s						
WTTA	**Wattenberg**	**148.23**	**353**	*i* PKPbc	**PKPab**	**06 55 35.9**	**-1.6**
FETA	**Feichten**	**148.57**	**354**	*i* PKPbc	**PKPbc**	**06 55 35.6**	**+0.1**
	0.6nm,0.5s						
ABTA	**Abfaltersbach**	**148.63**	**352**	*i* PKPbc	**PKPbc**	**06 55 36.0**	**+0.5**
	3.7nm,0.8s						

MEX 09 06:48:54.2±0.5, 13°.61N×92°.38W, h18km±260km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.23**	**339**	*e*P	Pn	06 49 27.3	-3.0
CCIG	**Comitan**	**2.66**	**5**	*e*P	Pn	06 49 35.9	-0.6
TGIG		**3.23**	**347**	*e*P	Pn	06 49 41.1	-3.0

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*ISCJB **09** 06:53:02.3±0.8, 12°.95N±0°.08×145°.0E±0°.2, h57km, mb4.0/8, Error ellipse: s-maj=31.4km s-min=10.8km az=176.2*
*IDC **09** 06:53:02.5±1.9, 12°.97N×145°.07E, h42km±15km, mb3.8/8, mb1 4.0/8, mb1mx3.6/35, mbtmp4.0/8, Error ellipse: s-maj=38.8km s-min=16.0km az=100.0*
ISC 09 06:53:04.3±0.9, 13°.0N±0°.1×144°.9E±0°.3, h57km, n18, σ1§03/13, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.57**	**353**	P	**Pn**	**06 53 15.6**	**-1.2**
	373nm,0.3s,baz=163,slow=23,SNR=465						
GUMO				S	**Sn**	**06 53 26.1**	**+0.3**
	1μm,0.3s,baz=18,slow=20,SNR=31						
H11S3	**WAKE ISLAND Hy**	**21.61**	**73**	T	T	07 20 30.4	
	baz=260,slow=74,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**21.63**	**73**	T	T	07 20 30.6	
	baz=260,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**21.63**	**73**	T	T	07 20 30.8	
	baz=260,slow=74,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**22.07**	**70**	T	T	07 21 05.8	
	baz=256,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**22.08**	**70**	T	T	07 20 55.6	
	baz=256,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**22.09**	**70**	T	T	07 21 01.7	
	baz=256,slow=75,SNR=11						
WRA	**Warramunga Arr**	**34.38**	**198**	P	**P**	**06 59 45.3**	**-0.9**
	1.2nm,0.7s,baz=21,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**38.03**	**197**	P	**P**	**07 00 17.0**	**-0.3**
	0.7nm,0.5s,baz=23,slow=11,SNR=20						
SONM	**Songino Array**	**47.23**	**325**	PcP	**PcP**	**07 03 03.1**	**+0.7**
	0.4nm,0.4s,baz=143,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**61.95**	**316**	P	**P**	**07 03 18.6**	**+0.3**
	0.2nm,0.4s,baz=92,slow=9.2,SNR=6.3						
KDAK	**Kodiak Island**	**64.51**	**32**	P	**P**	**07 03 35.1**	**+0.1**
	0.6nm,0.3s,baz=304,slow=6.9,SNR=7.3						
ILAR	**Eielson Array**	**69.04**	**25**	P	**P**	**07 04 02.9**	**-0.9**
	0.7nm,0.4s,baz=248,slow=5.8,SNR=16						
YKA	**Yellowknife Ar**	**83.32**	**27**	P	**P**	**07 05 25.3**	**+0.5**
	0.4nm,0.4s,baz=285,slow=5.2,SNR=5.2						
ARCES	**ARCESS Array B**	**87.64**	**342**	P	**P**	**07 05 47.0**	**+0.8**
	6.1nm,1.0s,baz=66,slow=7.0,SNR=3.3						
FINES	**FINESS Array B**	**91.70**	**335**	P	**P**	**07 06 05.1**	**-0.3**
	1.6nm,0.8s,baz=53,slow=4.2,SNR=14						
TORD	**Torodi Ar. Bea**	**135.24**	**304**	PKP	**PKPdf**	**07 12 20.9**	**+2.3**
	0.3nm,0.5s,baz=95,slow=1.5,SNR=5.1						
DBIC	**Dimbokro**	**144.18**	**301**	PKP	**PKPdf**	**07 12 34.0**	**-0.8**
	1.2nm,0.4s,baz=66,slow=5.1,SNR=6.9						

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*ISCJB **09** 07:08:25.7±0.6, 12°.96N±0°.06×145°.0E±0°.2, h57km, mb4.1/15, MS3.1/4, Error ellipse: s-maj=23.3km s-min=8.8km az=176.0*
*IDC **09** 07:08:25.9±1.4, 13°.00N×145°.10E, h41km±10km, mb3.9/14, mb1 4.0/14, mb1mx3.8/51, mbtmp4.1/14, MS3.2/4, Ms1 3.3/4, ms1mx2.8/38, Error ellipse: s-maj=24.6km s-min=13.8km az=92.0*
*NEIC **09** 07:08:26.1±1.5, 12°.98N×145°.08E, h44km±12km, mb4.2/1, Error ellipse: s-maj=20.1km s-min=9.7km az=92.0*
ISC 09 07:08:27.8±0.7, 13°.04N±0°.09×145°.0E±0°.2, h57km, n29, σ0§98/23, mb4.2/15, MS3.0/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.57**	**344**	P	**Pn**	**07 08 38.7**	**-1.6**
	555nm,0.3s,baz=163,slow=23,SNR=462						
GUMO				S	**Sn**	**07 08 49.3**	**-0.1**
	2μm,0.3s,baz=30,slow=20,SNR=34						
H11N1	**WAKE ISLAND Hy**	**21.98**	**70**	T	T	07 36 17.2	
	baz=257,slow=75,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**21.99**	**70**	T	T	07 36 18.9	
	baz=257,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**22.00**	**70**	T	T	07 36 18.6	
	baz=257,slow=75,SNR=7.9						
JNU	**Nakatsue**	**23.80**	**329**	LR	LR	07 21 20.8	
	comp=Z,67nm,21.9s,baz=120,slow=32						
MJAR	**Matsushiro Arr**	**24.19**	**346**	P	**P**	**07 13 39.6**	**+0.6**
	0.5nm,0.4s,baz=293,slow=7.9,SNR=5.2						
MJAR				LR	LR	07 20 45.7	
	comp=Z,45nm,21.9s,baz=185,slow=30						
WRAB	**Tennant Creek**	**34.41**	**198**	*e*P	**P**	**07 15 08.2**	**-1.7**
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**34.43**	**198**	P	**P**	**07 15 08.6**	**-1.4**
	1.6nm,0.7s,baz=21,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**38.07**	**197**	P	**P**	**07 15 40.1**	**-1.0**
	0.7nm,0.5s,baz=21,slow=12,SNR=18						
CMAR	**Chiang Mai Arr**	**44.60**	**283**	P	**P**	**07 16 35.2**	**+0.5**
	1.8nm,0.5s,baz=83,slow=6.3,SNR=6.9						
CMAR				LR	LR	07 33 13.3	
	comp=Z,14nm,21.1s,baz=345,slow=33						
STKA	**Stephens Creek**	**44.78**	**184**	P	**P**	**07 16 36.9**	**+0.9**
	3.5nm,0.9s,baz=321,slow=6.3,SNR=4.0						
SONM	**Songino Array**	**47.27**	**325**	P	**P**	**07 16 55.9**	**+0.3**
	0.4nm,0.4s,baz=119,slow=4.3,SNR=3.0						
SONM				PcP	**PcP**	**07 18 27.3**	**+1.4**
	0.9nm,0.5s,baz=143,slow=4.0,SNR=5.8						
AFI	**Afiamalu**	**50.48**	**121**	LR	LR	07 35 29.0	
	comp=Z,70nm,19.4s,baz=289,slow=32						
MKAR	**Makanchi Array**	**61.99**	**316**	P	**P**	**07 18 42.0**	**-0.2**
	0.5nm,0.4s,baz=93,slow=9.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**62.16**	**325**	PcP	**PcP**	**07 19 23.3**	**+0.6**
	1.2nm,0.5s,baz=149,slow=1.6,SNR=4.4						
KDAK	**Kodiak Island**	**64.45**	**32**	P	**P**	**07 18 58.8**	**+0.8**
	1.3nm,0.4s,baz=315,slow=3.4,SNR=8.3	

ULHL ⇓*i*S **Sn** **07 11 37.9 +1.6**
baz=31
BOOM Boomskoye usch 3.45 26⇑*i*P Pn 07 10 52.5 -5.1
baz=22
BOOM ⇑*i*S **Sn** **07 11 32.9 -5.8**
baz=22
TKM2 Tokmak 2 3.74 20 ⇑Pg **Pb** **07 11 08.3 -1.6**
2.1nm,0.4s,baz=146,slow=26
TKM2 ⇓Lg Lg 07 11 54.4
11nm,1.4s,baz=146,slow=26
DZET Dzherino 3.97 263 ⇓Pg **Pb** **07 11 12.5 -1.2**
6.9nm,0.5s,baz=146,slow=26
DZET ⇑Lg Lg 07 12 09.3
27nm,0.7s,baz=146,slow=26
KK31 Karatay Array 4.48 327 ⇑Pn **Pn** **07 11 11.3 -0.3**
0.7nm,0.4s,baz=146,slow=26,SNR=10
KK31 ⇑Pg **Pb** **07 11 19.7 -2.6**
0.8nm,0.3s,baz=138,slow=16,SNR=6.3
KK31 ⇓Sn **Sn** **07 12 03.8 +0.2**
1.9nm,0.4s,baz=147,slow=26,SNR=4.5

ISCJB ***09*** *07:14:06.8±0.5,53°.50N±0°.05×159°.47E±0°.09, h121km±4km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=5.4km az=38.6*
KRSC ***09*** *07:14:06.2±0.8,53°.50N×159°.57E, h118km±8km, ML3.9*
MOS ***09*** *07:14:06.8±0.5,53°.48N×159°.47E, h114km, mb4.3/4, Error ellipse: s-maj=17.9km s-min=6.1km az=76.4*
IDC ***09*** *07:14:08.3±0.8,53°.20N×158°.63E, h150km±12km, mb3.5/4, mb1 3.6/5, mb1mx3.1/59, mbtmp3.9/5, Error ellipse: s-maj=42.5km s-min=21.9km az=52.0*
ISC 09 07:14:07.0±0.8, 53°.52N±0°.05×159°.48E±0°.04, h118km±6km, n68, σ1§10/98, mb3.8/5, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.36**	**193**	PN	**Pn**	**07 14 24.1**	**+0.2**
NLC				S	**Sn**	**07 14 36.9**	**+0.3**
NLC	**Nalytchevo**	**0.36**	**193**	*e*P	**Pn**	**07 14 24.1**	**+0.2**
NLC				*e*S	**Sn**	**07 14 36.9**	**+0.3**
SDLR	**Sedlovina**	**0.43**	**236**	PN	**Pn**	**07 14 24.6**	**+0.1**
SDLR				S	**Sn**	**07 14 37.8**	**+0.2**
SDLR	**Sedlovina**	**0.43**	**236**	*e*P	**Pn**	**07 14 24.6**	**+0.1**
SDLR				*e*S	**Sn**	**07 14 37.8**	**+0.2**
KRER	**Koryakskii**	**0.49**	**244**	PN	**Pn**	**07 14 25.3**	**+0.4**
KRER				S	**Sn**	**07 14 38.9**	**+0.5**
KRER	**Koryakskii**	**0.49**	**244**	*e*P	**Pn**	**07 14 25.3**	**+0.4**
KRER				*e*S	**Sn**	**07 14 38.9**	**+0.5**
UGLR	**Uglovaya**	**0.50**	**232**	PN	**Pn**	**07 14 25.4**	**+0.5**
UGLR				S	**Sn**	**07 14 38.8**	**+0.5**
UGLR	**Uglovaya**	**0.50**	**232**	*e*P	**Pn**	**07 14 25.4**	**+0.5**
UGLR				*e*S	**Sn**	**07 14 38.8**	**+0.5**
AVH	**Avacha**	**0.51**	**241**	PN	**Pn**	**07 14 25.2**	**+0.3**
AVH				S	**Sn**	**07 14 39.2**	**+0.8**
AVH	**Avacha**	**0.51**	**241**	*e*P	**Pn**	**07 14 25.2**	**+0.3**
AVH				*e*P	**Pn**	**07 14 25.4**	**+0.5**
AVH				*e*S	**Sn**	**07 14 39.2**	**+0.8**
KRX	**Arik**	**0.52**	**253**	PN	**Pn**	**07 14 25.0**	**-0.1**
KRX				S	**Sn**	**07 14 38.5**	**-0.1**
KRX	**Arik**	**0.52**	**253**	*e*P	**Pn**	**07 14 25.0**	**-0.1**
KRX				*e*S	**Sn**	**07 14 38.5**	**-0.1**
SPN	**Mys Shipunski**	**0.53**	**142**	PN	**Pn**	**07 14 25.1**	**+0.2**
SPN				S	**Sn**	**07 14 38.5**	**+0.1**
SPN	**Mys Shipunski**	**0.53**	**142**	*e*P	**Pn**	**07 14 25.1**	**+0.2**
SPN				*e*S	**Sn**	**07 14 38.5**	**+0.1**
KOK	**Koryaka**	**0.55**	**246**	PN	**Pn**	**07 14 25.5**	**+0.3**
KOK				S	**Sn**	**07 14 39.2**	**+0.3**
KOK	**Koryaka**	**0.55**	**246**	*e*P	**Pn**	**07 14 25.5**	**+0.3**
KOK				*e*S	**Sn**	**07 14 39.2**	**+0.3**
DALK	**Dalny**	**0.65**	**222**	PN	**Pn**	**07 14 25.9**	**+0.1**
DALK				S	**Sn**	**07 14 39.4**	**-0.5**
DALK	**Dalny**	**0.65**	**222**	*e*P	**Pn**	**07 14 25.9**	**+0.1**
DALK				*e*S	**Sn**	**07 14 39.4**	**-0.5**
PET	**Petropavlovsk**	**0.70**	**226**	⇓*i*PN	**Pn**	**07 14 26.1**	**0.0**
PET				*e*S	**Sn**	**07 14 40.2**	**-0.3**
PET				pmax	pmax		
comp=Z,240nm,0.5s
PET smax smax
comp=N,708nm,0.5s
PET smax smax
comp=E,852nm,0.4s
PET	**Petropavlovsk**	**0.70**	**226**	*e*P	**Pn**	**07 14 26.2**	**+0.1**
PET				*e*S	**Sn**	**07 14 40.2**	**-0.3**
GNL	**Ganaly**	**0.93**	**282**	PN	**Pn**	**07 14 27.8**	**-0.5**
GNL	**Ganaly**	**0.93**	**282**	*e*P	**Pn**	**07 14 27.8**	**-0.5**
KRMR	**Karymshinskiy**	**1.06**	**230**	PN	**Pn**	**07 14 29.7**	**+0.2**
KRMR				S	**Sn**	**07 14 46.4**	**-0.1**
KRMR	**Karymshinskiy**	**1.06**	**230**	*e*P	**Pn**	**07 14 29.7**	**+0.2**
KRMR				*e*S	**Sn**	**07 14 46.4**	**-0.1**
PETK	**Petropavlovsk-**	**1.15**	**250**	P	**Pn**	**07 14 30.3**	**-0.1**
comp=E,33nm,0.3s,baz=83,slow=15,SNR=501
PETK				S	**Sn**	**07 14 47.8**	**-0.3**
comp=E,6.8nm,0.3s,baz=20,slow=42,SNR=5.5
RUS	**Russkaya**	**1.23**	**209**	PN	**Pn**	**07 14 31.2**	**-0.1**
RUS				S	**Sn**	**07 14 49.0**	**-0.6**
RUS	**Russkaya**	**1.23**	**209**	*e*P	**Pn**	**07 14 31.2**	**-0.1**
RUS				*e*S	**Sn**	**07 14 49.0**	**-0.6**
MTVR	**Mutnovka**	**1.30**	**218**	PN	**Pn**	**07 14 32.9**	**+0.7**
MTVR				S	**Sn**	**07 14 52.1**	**+0.9**
MTVR	**Mutnovka**	**1.30**	**218**	*e*P	**Pn**	**07 14 32.9**	**+0.7**
MTVR				*e*S	**Sn**	**07 14 52.1**	**+0.9**
ASAK	**Asacha**	**1.48**	**221**	PN	**Pn**	**07 14 35.1**	**+0.9**
ASAK				S	**Sn**	**07 14 55.9**	**+1.0**
ASAK	**Asacha**	**1.48**	**221**	*e*P	**Pn**	**07 14 35.1**	**+0.9**
ASAK				*e*S	**Sn**	**07 14 55.9**	**+1.0**
APC	**Apacha**	**1.52**	**248**	PN	**Pn**	**07 14 35.0**	**+0.5**
APC	**Apacha**	**1.52**	**248**	*e*P	**Pn**	**07 14 35.0**	**+0.5**
MKZ	**Mys Kozlova**	**1.69**	**51**	PN	**Pn**	**07 14 37.0**	**+0.6**
MKZ				S	**Sn**	**07 14 58.6**	**-0.3**
MKZ	**Mys Kozlova**	**1.69**	**51**	*e*P	**Pn**	**07 14 37.0**	**+0.6**
MKZ				*e*S	**Sn**	**07 14 58.6**	**-0.3**
TUMR	**Tumrok**	**1.81**	**12**	PN	**Pn**	**07 14 39.6**	**+1.5**
TUMR	**Tumrok**	**1.81**	**12**	*e*P	**Pn**	**07 14 39.6**	**+1.5**
KMNR	**Kamenistaya**	**2.29**	**11**	PN	**Pn**	**07 14 45.3**	**+1.3**
KMNR	**Kamenistaya**	**2.29**	**11**	*e*P	**Pn**	**07 14 45.3**	**+1.3**
ESO	**Esso**	**2.46**	**350**	PN	**Pn**	**07 14 46.3**	**+0.2**
ESO	**Esso**	**2.46**	**350**	*e*P	**Pn**	**07 14 46.3**	**+0.2**
KPT	**Kopyto**	**2.49**	**10**	PN	**Pn**	**07 14 47.7**	**+1.1**
KPT	**Kopyto**	**2.49**	**10**	*e*P	**Pn**	**07 14 47.7**	**+1.1**
BZMR	**Bezymyannaya**	**2.49**	**13**	PN	**Pn**	**07 14 47.1**	**+0.4**
BZMR	**Bezymyannaya**	**2.49**	**13**	*e*P	**Pn**	**07 14 47.1**	**+0.4**
KOZ	**Kozyrevsk**	**2.56**	**5**	PN	**Pn**	**07 14 48.3**	**+0.9**
KOZ	**Kozyrevsk**	**2.56**	**5**	*e*P	**Pn**	**07 14 48.3**	**+0.9**
ZLN	**Zelenaya**	**2.62**	**16**	PN	**Pn**	**07 14 51.0**	**+2.7**
ZLN	**Zelenaya**	**2.62**	**16**	*e*P	**Pn**	**07 14 51.0**	**+2.7**
CIRR	**Tsirk**	**2.71**	**15**	PN	**Pn**	**07 14 50.8**	**+1.3**
CIRR	**Tsirk**	**2.71**	**15**	*e*P	**Pn**	**07 14 50.8**	**+1.3**
SMKR	**Semkarok**	**3.28**	**20**	PN	**Pn**	**07 14 58.8**	**+1.9**
SMKR	**Semkarok**	**3.28**	**20**	*e*P	**Pn**	**07 14 58.8**	**+1.9**
SRKR	**Sorokina**	**3.29**	**16**	PN	**Pn**	**07 14 59.3**	**+2.3**
SRKR	**Sorokina**	**3.29**	**16**	*e*P	**Pn**	**07 14 59.3**	**+2.3**
BKI	**Bering**	**4.16**	**63**	PN	**Pn**	**07 15 08.2**	**-0.3**
BKI				S	**Sn**	**07 15 53.4**	**-2.8**
BKI	**Bering**	**4.16**	**63**	*e*P	**Pn**	**07 15 08.2**	**-0.3**
BKI				*e*S	**Sn**	**07 15 53.4**	**-2.8**
MA2	**Magadan**	**7.75**	**325**	P	**Pn**	**07 15 56.6**	**-0.2**
comp=E,0.4nm,0.3s,baz=155,slow=8.8,SNR=5.4
TIXI	**Tiksi**	**22.54**	**335**⇑*e*P	**P**	**07 18 51.8**	**-4.9**
TIXI				pmax	pmax		
comp=Z,2.0nm,1.0s
H11N2	**WAKE ISLAND Hy**	**34.21**	**168**	T	T	07 56 52.3	
baz=352,SNR=8.2
H11N3	**WAKE ISLAND Hy**	**34.22**	**167**	T	T	07 56 35.5	
baz=352,slow=74,SNR=7.9
H11N1	**WAKE ISLAND Hy**	**34.22**	**168**	T	T	07 56 57.8	
baz=352,slow=74,SNR=9.2
PDAR	**Pinedale Array**	**57.64**	**61**	P	**P**	**07 23 46.9**	**+2.1**
comp=Z,0.7nm,0.6s,baz=289,slow=2.0,SNR=6.5
CMAR	**Chiang Mai Arr**	**57.91**	**257**	*i*P	P	07 23 56.2	+9.5
CMAR				pmax	pmax		
comp=Z,2.0nm,0.5s
FINES	**FINESS Array B**	**59.58**	**336**	P	**P**	**07 23 56.4**	**-1.2**
comp=Z,1.5nm,0.7s,baz=25,slow=11,SNR=5.6
HFS	**Hagfors**	**63.43**	**342**	P	**P**	**07 24 22.2**	**-1.3**
comp=Z,2.6nm,0.9s,baz=38,slow=7.5,SNR=4.6
TXAR	**Lajitas Array**	**70.81**	**67**	P	**P**	**07 25 12.1**	**+1.3**
comp=Z,0.4nm,0.5s,baz=303,slow=5.0,SNR=6.1
TXAR	**Lajitas Array**	**70.81**	**67**	*e*P	**P**	**07 25 12.8**	**+2.1**

DDA ***09*** *07:17:06.9, 40°.19N×46°.57E, h26km, Md3.6*
NSSP ***09*** *07:17:07.1, 40°.10N×46°.18E, h8km, Ms3.7*
IDC ***09*** *07:17:07.8±1.2, 40°.11N×46°.11E, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/45, mbtmp3.7/11, ML3.2/5, MS2.9/10, Ms1 2.9/10, ms1mx2.7/38, Error ellipse: s-maj=19.3km s-min=7.9km az=172.0*
THR ***09*** *07:17:08.8±0.5, 40°.13N×46°.18E, h14km±5km, ML3.7*
AZER ***09*** *07:17:08.4±2.4, 40°.24N×46°.09E, h11km, Error ellipse: s-maj=2.3km s-min=1.8km az=264.0*
MOS ***09*** *07:17:09.9±1.2, 40°.05N×46°.23E, h13km, mb4.1/6, Error ellipse: s-maj=8.0km s-min=4.3km az=91.6*
CSEM ***09*** *07:17:10.9±0.2, 40°.06N×46°.24E, h10km, ML3.7, Error ellipse: s-maj=3.9km s-min=3.8km az=170.0*
TEH ***09*** *07:17:12.0, 40°.00N×46°.16E, h2km, ML3.7*
ISC 09 07:17:08.4±1.1, 40°.12N±0°.01×46°.20E±0°.01, h0km±8km, n184, σ1§51/276, mb3.8/7, MS2.8/5, 41C-29D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VADZ	**Vardenis**	**0.35**	**279**	*e*P	**Pg**	**07 17 16.0**	**+0.9**
VADZ				*e*S	**Sb**	**07 17 25.0**	**+1.3**
VADZ	**Vardenis**	**0.35**	**279**	P	**Pg**	**07 17 16.0**	**+0.9**
VADZ				S	**Sb**	**07 17 25.0**	**+1.3**
GANJ	**Ganja**	**0.53**	**10**	⇑P	**Pg**	**07 17 18.5**	**-0.1**
GANJ				⇓S	**Sg**	**07 17 25.9**	**+0.4**
GANJ	**Ganja**	**0.53**	**10**	PG	**Pg**	**07 17 18.5**	**-0.1**
GANJ	**Ganja**	**0.53**	**10**	P	**Pg**	**07 17 18.5**	**-0.1**
GANJ				S	**Sg**	**07 17 25.9**	**+0.4**
GRS	**Goris**	**0.63**	**170**	⇑*i*P	**Pg**	**07 17 20.0**	**-0.4**
GRS				⇑*i*S	**Sg**	**07 17 28.0**	**-0.5**
GRS	**Goris**	**0.63**	**170**	⇑P	**Pg**	**07 17 20.0**	**-0.4**
GRS				S	**Sg**	**07 17 28.0**	**-0.5**
GDB	**GEDABAY**	**0.69**	**331**	⇑P	**Pg**	**07 17 20.9**	**-0.7**
GDB				⇑S	**Sg**	**07 17 30.4**	**-0.1**
GDB	**GEDABAY**	**0.69**	**331**	P	**Pg**	**07 17 20.9**	**-0.7**
BRDA	**Brd**	**0.77**	**79**	⇑P	**Pn**	**07 17 25.4**	**-1.0**
BRDA				⇑S	**Sn**	**07 17 39.5**	**+0.9**
BRDA	**Brd**	**0.77**	**79**	P	**Pn**	**07 17 25.4**	**-1.0**
BRDA				S	**Sn**	**07 17 39.5**	**+0.9**
MNGR	**Mingechevir, A**	**0.94**	**46**	⇑P	**Pn**	**07 17 27.9**	**-0.9**
MNGR				⇓S	**Sn**	**07 17 42.7**	**-0.2**
MNGR	**Mingechevir, A**	**0.94**	**46**	PG	**Pn**	**07 17 27.7**	**-1.1**
MNGR	**Mingechevir, A**	**0.94**	**46**	P	**Pn**	**07 17 27.9**	**-0.9**
MNGR				S	**Sn**	**07 17 42.7**	**-0.2**
NAX	**Nakhchivan**	**1.09**	**210**	⇑P	**Pn**	**07 17 30.7**	**-0.3**
NAX				⇑S	**Sn**	**07 17 46.2**	**-0.5**
NAX	**Nakhchivan**	**1.09**	**210**	PG	**Pn**	**07 17 30.6**	**-0.3**
NAX	**Nakhchivan**	**1.09**	**210**	P	**Pn**	**07 17 30.7**	**-0.3**
NAX				S	**Sn**	**07 17 46.2**	**-0.5**
GNI	**Garni**	**1.12**	**272**	Pg	**Pg**	**07 17 29.5**	**-0.3**
168nm,0.3s,baz=86,slow=1.1,SNR=235
GNI				Lg	Lg	07 17 44.9	
485nm,0.3s,baz=102,slow=22,SNR=18
GNI	**Garni**	**1.12**	**272**	*e*PG	**Pg**	**07 17 29.3**	**-0.4**
GNI	**Garni**	**1.12**	**272**	*i*Pg	**Pg**	**07 17 29.3**	**-0.4**
QZX	**Qazax, Azerbai**	**1.13**	**326**	⇓P	**Pb**	**07 17 29.0**	**-1.7**
QZX				⇑S	**Sg**	**07 17 44.9**	**+0.3**
QZX	**Qazax, Azerbai**	**1.13**	**326**	P	**Pb**	**07 17 29.0**	**-1.7**
QZX				S	**Sg**	**07 17 44.9**	**+0.3**
ZRD	**Zardab**	**1.15**	**82**	⇑P	**Pn**	**07 17 31.4**	**-0.3**
ZRD				⇑S	**Sn**	**07 17 49.4**	**+1.2**
ZRD	**Zardab**	**1.15**	**82**	P	**Pn**	**07 17 31.4**	**-0.3**
ZRD				S	**Sn**	**07 17 49.3**	**+1.2**
SEKA	**Sheki**	**1.33**	**35**	⇓P	**Pn**	**07 17 33.4**	**-0.8**
SEKA				⇑S	**Sg**	**07 17 51.7**	**+0.7**
SEKA	**Sheki**	**1.33**	**35**	PG	**Pn**	**07 17 33.5**	**-0.7**
SEKA	**Sheki**	**1.33**	**35**	P	**Pn**	**07 17 33.4**	**-0.8**
SEKA				S	**Sg**	**07 17 51.7**	**+0.7**
MAKU	**Maku**	**1.40**	**237**	*e*Pg	**Pn**	**07 17 34.4**	**-0.8**
MAKU				*e*Sg	**Sn**	**07 17 53.2**	**-1.2**
MAKU				AML	AML	07 17 54.8	
comp=N,2μm,0.2s
MAKU	**Maku**	**1.40**	**237**	*e*Pg	**Pn**	**07 17 34.4**	**-0.8**
MAKU				*e*Sg	**Sn**	**07 17 53.2**	**-1.2**
CKLZ	**Chkalov**	**1.43**	**305**	⇑*i*P	**Pn**	**07 17 34.6**	**-1.1**
CKLZ				⇑*i*S	**Sn**	**07 17 53.1**	**-2.2**
CKLZ	**Chkalov**	**1.43**	**305**	⇑P	**Pn**	**07 17 34.6**	**-1.1**
CKLZ				S	**Sn**	**07 17 53.1**	**-2.2**
IMRD	**Marand**	**1.46**	**195**	*e*Pg	**Pb**	**07 17 36.0**	**-0.4**
IMRD				*e*AMB	AMB	07 18 08.0	
comp=Z,27μm,0.4s
IMRD	**Marand**	**1.46**	**195**	*e*Pg	**Pb**	**07 17 36.0**	**-0.4**
DGRG	**David-gareji**	**1.47**	**335**	P	**Pb**	**07 17 35.9**	**-0.6**
DGRG	**David-gareji**	**1.47**	**335**	PG	**Pb**	**07 17 35.9**	**-0.6**
DGRG	**David-gareji**	**1.47**	**335**	Pg	**Pb**	**07 17 35.9**	**-0.6**
DGRG	**David-gareji**	**1.47**	**335**	P	**Pb**	**07 17 36.2**	**-0.4**
DGRG				S	**Sg**	**07 17 56.7**	**+1.2**
QBL	**Gabala**	**1.50**	**56**	⇓P	**Pb**	**07 17 36.8**	**-0.2**
QBL				⇓S	**Sg**	**07 17 58.1**	**+1.6**
QBL	**Gabala**	**1.50**	**56**	P	**Pb**	**07 17 36.8**	**-0.2**
QBL				S	**Sg**	**07 17 58.1**	**+1.6**
KDMR	**Kurdemir**	**1.54**	**80**	⇓Pn	**Pb**	**07 17 37.7**	**-0.1**
KDMR				⇑Sn	**Sg**	**07 17 59.6**	**+1.7**
KDMR	**Kurdemir**	**1.54**	**80**	Pn	**Pb**	**07 17 37.7**	**-0.1**
KDMR				Sn	**Sg**	**07 17 59.6**	**+1.7**
ZKTA	**Zakatala**	**1.55**	**12**	⇓P	**Pn**	**07 17 36.5**	**-0.7**
ZKTA				⇑S	**Sb**	**07 17 57.3**	**-0.8**
ZKTA	**Zakatala**	**1.55**	**12**	PG	**Pb**	**07 17 37.0**	**-0.9**
ZKTA	**Zakatala**	**1.55**	**12**	Pg	**Pb**	**07 17 37.0**	**-0.9**
STEZ	**Stepenevan**	**1.63**	**303**	⇑*i*P	**Pn**	**07 17 36.6**	**-1.8**
STEZ				⇑*i*S	**Sn**	**07 17 58.6**	**-1.5**
SPIZ	**Spitak**	**1.63**	**296**	⇓*i*P	**Pn**	**07 17 36.9**	**-1.5**
SPIZ				⇓*i*S	**Sn**	**07 17 59.1**	**-1.1**
SPIZ	**Spitak**	**1.63**	**296**	⇓P	**Pn**	**07 17 36.9**	**-1.5**
SPIZ				S	**Sn**	**07 17 59.1**	**-1.1**
STE	**Stepanavan**	**1.65**	**303**	⇑P	**Pn**	**07 17 36.6**	**-2.0**
STE				S	**Sn**	**07 17 58.6**	**-1.9**
IML	**Ismayilli**	**1.66**	**65**	⇓Pn	**Pb**	**07 17 38.9**	**-0.9**
IML				⇓Sn	**Sg**	**07 18 03.0**	**+1.4**
IML	**Ismayilli**	**1.66**	**65**	Pn	**Pb**	**07 17 38.9**	**-0.9**
IML				Sn	**Sg**	**07 18 03.0**	**+1.4**
SAAT	**Saatly**	**1.73**	**98**	⇓Sn	**Sb**	**07 18 02.3**	**-0.9**
SAAT	**Saatly**	**1.73**	**98**	Sn	**Sb**	**07 18 02.3**	**-0.9**
AKT	**Akhty**	**1.79**	**40**	*e*PN	**Pb**	**07 17 41.1**	**-1.0**
AKT				pmax	pmax		
comp=Z,152nm,1.0s
AKT	**Akhty**	**1.79**	**40**	*e*Pn	**Pb**	**07 17 41.1**	**-1.0**
comp=Z,152nm,1.0s
XNQ	**Khinaliq**	**1.81**	**54**	⇓Pn	**Pn**	**07 17 41.0**	**0.0**
XNQ				⇑Sn	**Sg**	**07 18 07.2**	**+0.6**
XNQ	**Khinaliq**	**1.81**	**54**	Pn	**Pn**	**07 17 41.0**	**0.0**
XNQ				Sn	**Sg**	**07 18 07.2**	**+0.6**
GRMI	**Germi**	**1.86**	**134**	*e*Pg	**Pb**	**07 17 42.7**	**-0.5**
GRMI				*e*Sg	**Sg**	**07 18 07.8**	**-0.2**
GRMI				AML	AML	07 18 11.9	
comp=N,362nm,0.4s
GRMI	**Germi**	**1.86**	**134**	*e*Pg	**Pb**	**07 17 42.7**	**-0.5**
GRMI				*e*Sg	**Sg**	**07 18 07.8**	**-0.2**
ITBZ	**Tabriz**	**1.89**	**181**	*e*Pn	**Pb**	**07 17 43.3**	**-0.4**
ITBZ				*e*AMB	AMB	07 17 51.4	
comp=Z,4μm,0.2s
ITBZ	**Tabriz**	**1.89**	**181**	*e*Pn	**Pb**	**07 17 43.3**	**-0.4**
ISHB	**Shabestar**	**1.89**	**194**	*e*Pn	**Pb**	**07 17 43.8**	**0.0**
ISHB				*e*AMB	AMB	07 17 53.8	
comp=Z,6μm,0.2s
GLBA	**Clilabad**	**1.91**	**117**	⇑Pn	**Pb**	**07 17 43.4**	**-0.6**
GLBA				⇓Sn	**Sg**	**07 18 09.3**	**-0.4**
GLBA	**Clilabad**	**1.91**	**117**	Pn	**Pb**	**07 17 43.4**	**-0.6**
GLBA				Sn	**Sg**	**07 18 09.3**	**-0.4**
IHRS	**Heris**	**1.92**	**160**	*e*Pn	**Pb**	**07 17 43.3**	**-1.0**
IHRS				*e*Sg	**Sb**	**07 18 08.6**	**-0.2**
IHRS				*e*AMB	AMB	07 18 11.9	
comp=Z,9μm,0.1s
IHRS	**Heris**	**1.92**	**160**	*e*Pn	**Pb**	**07 17 43.3**	**-1.0**
IHRS				*e*Sg	**Sb**	**07 18 08.6**	**-0.2**
PQL	**Pirkuli**	**1.95**	**69**	⇓Pn	**Pb**	**07 17 43.4**	**-1.4**
PQL				⇓Sn	**Sg**	**07 18 11.4**	**+0.5**
PQL	**Pirkuli**	**1.95**	**69**	Pn	**Pb**	**07 17 43.4**	**-1.4**
PQL				Sn	**Sg**	**07 18 11.4**	**+0.5**
TBLG	**Delisi**	**1.95**	**326**	P	**Pn**	**07 17 42.9**	**+0.1**
TBLG				S	**Sb**	**07 18 08.5**	**-1.2**
TBLG	**Delisi**	**1.95**	**326**	PN	**Pn**	**07 17 42.8**	**+0.1**
TBLG	**Delisi**	**1.95**	**326**	P	**Pn**	**07 17 42.8**	**+0.1**
TBLG				S	**Sb**	**07 18 08.3**	**-1.4**
SEAG	**Tbilisi Sea**	**1.95**	**328**	P	**Pn**	**07 17 43.1**	**+0.4**
SEAG				S	**Sb**	**07 18 09.8**	**+0.1**
DYDN	**Diyadin**	**2.02**	**254**	*i*P	**Pb**	**07 17 45.9**	**-0.1**
DYDN				*i*S	**Sg**	**07 18 13.2**	**+0.1**
DYDN	**Diyadin**	**2.02**	**254**	P	**Pb**	**07 17 45.9**	**-0.1**
DYDN				S	**Sg**	**07 18 13.2**	**+0.1**
EAK	**Akyaka**	**2.06**	**287**	*i*P	**Pb**	**07 17 45.5**	**-1.2**
EAK				*i*S	**Sg**	**07 18 13.5**	**-0.9**
EAK	**Akyaka**	**2.06**	**287**	P	**Pb**	**07 17 45.5**	**-1.2**
EAK				S	**Sg**	**07 18 13.5**	**-0.9**
KSMR	**Kasumkent**	**2.08**	**44**	*i*PN	**Pb**	**07 17 46.5**	**-0.5**
KSMR				*e*S	**Sg**	**07 18 16.0**	**+0.7**
KSMR				pmax	pmax		
comp=Z,244nm,0.3s
KSMR	**Kasumkent**	**2.08**	**44**	*i*Pn	**Pb**	**07 17 46.5**	**-0.5**
comp=Z,244nm,0.3s
KSMR				*e*Sb	**Sg**	**07 18 16.0**	**+0.7**
QSAR	**Qusar**	**2.10**	**48**	⇑Pn	**Pn**	**07 17 44.7**	**0.0**
QSAR				⇓Sn	**Sb**	**07 18 14.1**	**+0.2**
QSAR	**Qusar**	**2.10**	**48**	Pn	**Pn**	**07 17 44.7**	**0.0**
QSAR				Sn	**Sb**	**07 18 14.1**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.14**	**54**	⇑Sn	**Sb**	**07 18 14.1**	**-0.9**
QUBA	**Quba, Azerbaij**	**2.14**	**54**	Sn	**Sb**	**07 18 14.1**	**-0.9**
GBS	**Qobustan**	**2.14**	**78**	⇓Pn	**Pb**	**07 17 47.2**	**-0.8**
GBS				⇑Sn	**Sg**	**07 18 15.9**	**-1.2**
GBS	**Qobustan**	**2.14**	**78**	Pn	**Pb**	**07 17 47.2**	**-0.8**
GBS				Sn	**Sg**	**07 18 15.9**	**-1.2**
ALIB	**Äli-Bayra**	**2.16**	**93**	⇑Pn	**Pb**	**07 17 48.1**	**-0.2**
ALIB				⇑Sn	**Sg**	**07 18 17.8**	**0.0**
ALIB	**Äli-Bayra**	**2.16**	**93**	Pn	**Pb**	**07 17 48.1**	**-0.2**
ALIB				Sn	**Sg**	**07 18 17.8**	**0.0**
DIGO	**Kars**	**2.18**	**279**	*i*P	**Pb**	**07 17 47.2**	**-1.6**
DIGO				*i*S	**Sb**	**07 18 16.1**	**-0.3**
DIGO	**Kars**	**2.18**	**279**	P	**Pb**	**07 17 47.2**	**-1.6**
DIGO				S	**Sb**	**07 18 16.1**	**-0.3**
ATGJ	**Altiaghaj**	**2.22**	**70**	⇑Pn	**Pb**	**07 17 48.6**	**-0.8**
ATGJ				⇑Sn	**Sb**	**07 18 18.0**	**+0.6**
ATGJ	**Altiaghaj**	**2.22**	**70**	Pn	**Pb**	**07 17 48.6**	**-0.8**
ATGJ				Sn	**Sb**	**07 18 18.0**	**+0.6**
LRK	**Lerik**	**2.22**	**131**	⇓Pn	**Pb**	**07 17 48.4**	**-1.1**
LRK				⇓Sn	**Sg**	**07 18 19.0**	**-0.7**
LRK	**Lerik**	**2.22**	**131**	Pn	**Pb**	**07 17 48.4**	**-1.1**
LRK				Sn	**Sg**	**07 18 19.0**	**-0.7**
SIZA	**Siyzn**	**2.27**	**64**	⇓Pn	**Pb**	**07 17 48.3**	**-1.9**
SIZA				⇑Sn	**Sb**	**07 18 16.8**	**-2.0**
SIZA	**Siyzn**	**2.27**	**64**	Pn	**Pb**	**07 17 48.3**	**-1.9**
SIZA				Sn	**Sb**	**07 18 16.8**	**-2.0**
BGD	**Bogdanovka**	**2.28**	**301**	P	**Pb**	**07 17 49.9**	**-0.6**
BGD				S	**Sg**	**07 18 21.2**	**-0.5**
URKR	**Urkarakh**	**2.31**	**28**	*i*PN	**Pb**	**07 17 50.5**	**-0.5**
URKR				*i*S	**Sb**	**07 18 20.5**	**+0.3**
URKR	**Urkarakh**	**2.31**	**28**	*i*Pn	**Pb**	**07 17 50.5**	**-0.5**
URKR				*i*Sn	**Sb**	**07 18 20.5**	**+0.3**
VMUR	**Van-Muradiye**	**2.32**	**242**	*i*P	**Pb**	**07 17 50.7**	**-0.5**
VMUR				*i*S	**Sg**	**07 18 24.3**	**+1.3**
VMUR	**Van-Muradiye**	**2.32**	**242**	P	**Pb**	**07 17 50.7**	**-0.5**
GNBR	**Gunib**	**2.34**	**14**	*e*PN	**Pb**	**07 17 50.7**	**-0.7**
GNBR				*e*		07 18 21.5	
GNBR				pmax	pmax		
comp=Z,104nm,0.6s
GNBR				smax	smax		
comp=E,228nm,0.3s
GNBR	**Gunib**	**2.34**	**14**	*e*Pn	**Pb**	**07 17 50.7**	**-0.7**
comp=E,104nm,0.6s
GNBR				*e*Sn	**Sb**	**07 18 21.5**	**+0.7**
AKH	**Akhalkalaki**	**2.42**	**303**	P	**Pb**	**07 17 52.5**	**-0.4**
AKH				S	**Sb**	**07

NEY	**Neytrino**	**4.07**	**321**⇑	*e*PN	**Pn**	**07 18 15.5**	**+3.6**
NEY	**Neytrino**	**4.07**	**321**	*e*Pn	**Pn**	**07 18 15.5**	**+3.6**
KBZ	**Khabaz**	**4.37**	**327**	Pn	**Pn**	**07 18 18.7**	**+2.9**
	comp=Z,1.3nm,0.3s,baz=167,slow=7.2,SNR=12						
KBZ				Lg	Lg	07 19 24.6	
	comp=Z,2.0nm,0.3s,baz=187,slow=17,SNR=3.6						
KBZ				LR	LR	07 20 28.2	
	comp=Z,47nm,19.7s,baz=138,slow=46						
KVAR	**Kislovodsk Arr**	**4.63**	**327**	Pn	**Pn**	**07 18 21.2**	**+1.5**
	baz=326,slow=3.6,SNR=2.8						
KVAR				Lg	Lg	07 19 31.8	
	baz=213,slow=7.0,SNR=6.3						
KVAR				LR	LR	07 20 36.2	
	comp=Z,74nm,19.3s,baz=148,slow=45						
KIV	**Kislovodsk**	**4.64**	**327**	*e*PN	Pb	07 18 24.9	-5.7
KIV				*e*S	**Sb**	**07 19 23.8**	**-3.2**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KIV				MLR	MLR		
	comp=Z,10.0nm,7.0s						
KIV	**Kislovodsk**	**4.64**	**327**	*e*Pn	Pb	07 18 24.9	-5.7
	comp=Z,19nm,1.0s						
CHTH	**Charan**	**5.73**	**136**	*e*Pn	**Pn**	**07 18 36.2**	**+1.3**
CHTH	**Charan**	**5.73**	**136**	*e*Pn	**Pn**	**07 18 36.2**	**+1.3**
GEYT	**Alibeck**	**9.53**	**99**	Pn	**Pn**	**07 19 25.3**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=305,slow=14,SNR=3.5						
BRTR	**Keskin Array B**	**9.66**	**272**	Pn	**Pn**	**07 19 30.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=71,slow=14,SNR=2.2						
BRTR				LR	LR	07 23 48.6	
	comp=Z,91nm,19.3s,baz=80,slow=42						
AKTO	**Aktyubinsk**	**13.23**	**35**	Pn	**Pn**	**07 20 15.3**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=217,slow=9.5,SNR=7.1						
AKTO				LR	LR	07 25 44.2	
	comp=Z,46nm,20.7s,baz=231,slow=39						
KIEV	**Kiev**	**15.90**	**317**⇓	*e*P	**P**	**07 20 56.1**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**16.32**	**340**⇑	*e*P	**P**	**07 21 02.5**	**+0.8**
OBN				*e*S	**S**	**07 24 05.9**	**-7.3**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.3s						
OBN				MLR	MLR		
	comp=Z,33nm,16.0s						
OBN	**Obninsk**	**16.32**	**340**	*e*P	**P**	**07 21 02.5**	**+0.8**
	comp=Z,33nm,16.0s						
IDI	**Anoyia**	**17.53**	**261**	LR	LR	07 29 08.5	
	comp=Z,42nm,19.2s,baz=337,slow=41						
ARU	**Arti**	**18.23**	**22**	*d i* P	**P**	**07 21 26.0**	**+3.2**
ARU				S	**S**	**07 24 54.9**	**+2.8**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
ARU	**Arti**	**18.23**	**22**	*i* P	**P**	**07 21 26.0**	**+3.2**
	comp=Z,12nm,2.5s						
ARU				S	**S**	**07 24 54.9**	**+2.8**
SVE	**Sverdlovsk**	**19.20**	**25**	*e*P	**Pn**	**07 21 34.1**	**-0.2**
SVE				pmax	pmax		
	comp=Z,11nm,1.0s						
SVE	**Sverdlovsk**	**19.20**	**25**	*e*P	**Pn**	**07 21 34.1**	**-0.2**
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**20.89**	**44**⇑	*e*P	Pn	07 21 52.3	-2.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**20.89**	**44**	*e*P	Pn	07 21 52.3	-2.0
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	**20.93**	**44**	P	Pn	07 21 53.0	-1.8
	comp=Z,0.8nm,0.4s,baz=228,slow=13,SNR=7.0						
KLMR	**Klimovskoe**	**21.17**	**351**	*e*P	**P**	**07 21 52.0**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,17nm,1.1s						
AAK	**Ala-Archa**	**21.34**	**74**	P	**P**	**07 21 57.4**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=285,slow=16,SNR=3.3						
AAK	**Ala-Archa**	**21.34**	**74**⇓	*e*P	**P**	**07 21 54.6**	**-2.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KLNR	**Kaliningrad**	**22.62**	**318**⇑	*e*P	**P**	**07 22 14.0**	**+3.5**
KLNR	**Kaliningrad**	**22.62**	**318**	*e*P	**P**	**07 22 14.0**	**+3.5**
VRAC	**Vranov**	**22.83**	**304**	LR	LR	07 32 33.5	
	comp=Z,25nm,18.4s,baz=112,slow=41						
GERES	**GERESS Array B**	**24.61**	**302**	P	**P**	**07 22 29.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=106,slow=8.4,SNR=5.3						
FINES	**FINESS Array B**	**24.65**	**337**	P	**P**	**07 22 28.4**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=153,slow=7.1,SNR=2.8						
FINES				LR	LR	07 33 27.8	
	comp=Z,41nm,19.5s,baz=193,slow=40						
KURBB	**Kurchatov Arra**	**24.84**	**54**	P	**P**	**07 22 33.6**	**+1.4**
	comp=Z,1.6nm,0.2s,baz=259,slow=8.6,SNR=1.0						
KURK	**Kurchatov**	**24.91**	**54**	P	**P**	**07 22 33.6**	**+0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KURK	**Kurchatov**	**24.91**	**54**	P	**P**	**07 22 33.6**	**+0.8**
	comp=Z,2.0nm,0.2s						
MKAR	**Makanchi Array**	**26.86**	**64**	P	**P**	**07 22 51.2**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=273,slow=7.6,SNR=6.5						
NOA	**NORSAR Array B**	**29.95**	**326**	LR	LR	07 35 10.5	
	comp=Z,22nm,18.8s,baz=350,slow=36						
NRIK	**Noril'sk**	**36.45**	**23**	LR	LR	07 42 19.5	
	comp=Z,40nm,18.6s,baz=264,slow=41						
CMAR	**Chiang Mai Arr**	**50.02**	**100**	LR	LR	07 50 11.3	
	comp=Z,8.9nm,19.7s,baz=180,slow=40						

NIED ***09*** *07:18:00, 34.°50N×135.°50E, h11km, Mw3.7 Best double couple: M0 3.69000×10^14 NP1:φs22.00000°, δ78.00000°, λ180.00000°. NP2:φs112.00000°, δ90.00000°, λ12.00000°.*
ISCJB ***09*** *07:18:25.5±0.6, 34.°50N±0.°03×135.°49E±0.°03, h14km±4km, mb3.3/4, Error ellipse: s-maj=4.5km s-min=4.1km az=175.8*
JMA ***09*** *07:18:25.9, 34.°50N×135.°49E, h12km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs109.00000°, δ86.00000°, λ17.00000°. NP2:φs17.00000°, δ73.00000°, λ176.00000°. Principal axes: T Plg15.0000°, Azm334.0000°; N Plg72.0000°, Azm122.0000°; P Plg9.0000°, Azm242.0000°;*
JMA Felt III J1.
IDC ***09*** *07:18:25.3±1.1, 34.°28N×135.°56E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/59, mbtmp3.4/6, ML3.2/3 Error ellipse: s-maj=24.6km s-min=20.6km az=116.0*

ISC 09 07:18:25.9±1.1, 34.°49N±0.°03×135.°52E±0.°03, h5km±8km, n20, σ1§49/29, mb3.2/4, 5C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.21**	**39**	⇓P	**Pg**	**07 18 30.7**	**+0.6**
JHE				S	**Sg**	**07 18 34.1**	**+1.2**
JWY	**Kouya**	**0.27**	**168**	⇑P	**Pg**	**07 18 32.0**	**+0.8**
JWY				S	**Sg**	**07 18 36.0**	**+1.1**
JAJ2	**Tsuna**	**0.53**	**263**	⇓P	**Pg**	**07 18 35.5**	**-0.6**
JAJ2				S	**Sg**	**07 18 42.6**	**-0.4**
JWM	**Minabe**	**0.65**	**192**	⇑P	**Pb**	**07 18 39.0**	**-0.7**
JWM				S	**Sb**	**07 18 47.6**	**-1.5**
JKN2	**Miekihoku**	**0.67**	**112**	⇑P	**Pb**	**07 18 39.2**	**-0.8**
JKN2				S	**Sb**	**07 18 48.1**	**-1.5**
JKS	**Kasai**	**0.75**	**312**	⇑P	**Pg**	**07 18 39.5**	**-0.7**
JKS				S	**Sg**	**07 18 49.2**	**-0.7**
TSUJ	**Tsu 2**	**0.77**	**73**	⇓P	**Pb**	**07 18 40.3**	**-1.5**
TSUJ				S	**Sb**	**07 18 50.7**	**-1.9**
JWT	**Wachi**	**0.80**	**353**	⇑P	**Pg**	**07 18 40.9**	**-0.3**
JWT				S	**Sg**	**07 18 51.0**	**-0.6**
JIE	**Ise**	**0.98**	**95**	⇓P	**Pb**	**07 18 44.2**	**-1.2**
JIE				S	**Sn**	**07 18 57.9**	**-2.7**
MAT	**Matsushiro**	**3.00**	**46**	P	**Pn**	**07 19 14.4**	**+0.3**
MAT				*e*S	**Sn**	**07 19 50.5**	**0.0**
MJAR	**Matsushiro Arr**	**3.00**	**46**	Pn	**Pn**	**07 19 14.6**	**+0.5**
	8.1nm,0.3s,baz=234,slow=13,SNR=70						
MJAR				Pg	**Pg**	**07 19 23.2**	**-0.2**
	14nm,0.3s,baz=226,slow=16,SNR=54						
MJAR				Lg	Lg	07 19 59.8	
	8.2nm,0.3s,baz=233,slow=18,SNR=3.9						
JNU	**Nakatsue**	**4.10**	**252**	Pn	**Pn**	**07 19 28.6**	**-0.7**
	1.3nm,0.3s,baz=97,slow=1.4,SNR=13						
JNU				Lg	Lg	07 20 32.9	
	0.9nm,0.3s,baz=359,slow=2.9,SNR=2.7						
KSRS	**Korea Array**	**6.84**	**298**	Pn	**Pn**	**07 20 07.2**	**+0.4**
	0.5nm,0.3s,baz=120,slow=14,SNR=3.2						
KSRS				Sn	**Sn**	**07 21 24.4**	**-0.6**
	0.4nm,0.3s,baz=120,slow=23,SNR=6.1						
SONM	**Songino Array**	**25.49**	**310**	P	**P**	**07 23 57.5**	**+2.4**
	0.5nm,0.7s,baz=116,slow=10,SNR=2.8						
H11S3	**WAKE ISLAND Hy 31.95**	**112**		T	T	07 57 58.2	
	baz=305,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 31.96**	**112**		T	T	07 57 57.5	
	baz=305,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy 31.97**	**112**		T	T	07 57 57.0	
	baz=305,slow=75,SNR=12						
MKAR	**Makanchi Array**	**41.48**	**304**	P	**P**	**07 26 18.1**	**+4.4**
	0.3nm,0.7s,baz=78,slow=9.2,SNR=2.5						
WRA	**Warramunga Arr**	**54.14**	**181**	P	**P**	**07 27 51.1**	**-0.9**
	1.1nm,0.7s,baz=358,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**57.85**	**182**	P	**P**	**07 28 16.9**	**-1.7**
	0.2nm,0.9s,baz=14,slow=12,SNR=2.6						

IDC 09 07:22:50.8±22.0, 22.°31S×179.°12W, h301km±201km, mb3.8/4, mb1 3.9/5, mb1mx3.4/30, mbtmp4.5/5, Error ellipse: s-maj=121.3km s-min=34.1km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.23**	**191**	P	Pn	07 26 22.4	-1.0
	0.9nm,0.3s,baz=42,slow=1.5,SNR=6.6						
URZ				S	S	07 28 57.2	-19
	0.2nm,0.3s,baz=0.0,slow=20,SNR=5.7						
RPZ	**Rata Peaks**	**22.85**	**199**	P	P	07 27 27.4	-1.0
	3.6nm,0.4s,baz=328,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**36.09**	**246**	P	P	07 29 24.3	-0.3
	1.6nm,0.4s,baz=91,slow=9.6,SNR=5.2						
ASAR	**Alice Springs**	**43.12**	**259**	P	P	07 30 22.2	-0.2
	5.1nm,0.8s,baz=98,slow=7.0,SNR=48						
WRA	**Warramunga Arr**	**43.35**	**264**	P	P	07 30 24.4	+0.1
	3.8nm,0.3s,baz=92,slow=8.5,SNR=122						
AKASG	**Malin Array Be**	**144.05**	**329**	PKP	PKPdf	07 41 50.0	-0.5
	0.7nm,0.4s,baz=43,slow=4.5,SNR=5.3						
BRTR	**Keskin Array B**	**147.23**	**310**	PKPbc	PKPbc	07 41 58.5	-0.6
	0.5nm,0.4s,baz=134,slow=6.4,SNR=2.6						

ISCJB ***09*** *07:34:37.6±0.6, 43.°62S±0.°03×173.°02E±0.°03, h6km±4km, mb4.8/20, MS4.1/20, Error ellipse: s-maj=5.2km s-min=2.5km az=143.2*
NEIC ***09*** *07:34:38.2±0.6, 43.°65S×173.°03E, h1km±4km, mb4.7/8, Error ellipse: s-maj=4.5km s-min=1.7km az=140.0*
NEIC Felt [V] at Christchurch. Also felt at Ashburton, Kaiapoi, Lincoln, Rangiora, Timaru, Waikuku and Waimate.
GCMT ***09*** *07:34:38.2±0.4, 43.°56S×172.°70E, h12km, MW4.9/73, Moment Tensor Solution. s22,c26; s73,c101; Duration: 0 Moment tensor: Scale 10^16Nm; M0 71±.10; Mθθ 1.25±.10; Mφφ -1.96±.08; Mrθ 0.39±.26; Mθφ -1.81±.08; Mφr 0.94±.26; Best double couple: M0 2.55800×10^16 NP1:φs158.00000°, δ81.00000°, λ-12.00000°. NP2: φs250.00000°, δ78.00000°, λ-170.00000°. Principal axes: T 2.0650, Plg2.0000°, Azm205.0000°; N 0.9840, Plg75.0000°, Azm301.0000°; P -3.0500, Plg15.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***09*** *07:34:39.5±0.8, 43.°41S×172.°75E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/26, mbtmp4.5/12, ML4.1/1, MS4.1/20, Ms1 4.1/20, ms1mx4.1/25 Error ellipse: s-maj=26.1km s-min=12.5km az=162.0*
WEL ***09*** *07:34:41.0±0.1, 43.°57S×172.°84E, h8km, ML5.4/14, Mw4.9, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0*
WEL Felt from Fiordland to Canterbury, maximum reported intensity MM 8.

ISC 09 07:34:40.5±0.9, 43.°57S±0.°03×172.°92E±0.°04, h14km±5km, n201, σ1§60/186, mb4.6/20, MS4.1/20, 3C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.21**	**269**	*e*Pg	**Pg**	**07 34 44.4**	**-0.8**
CRLZ				*e*Sg	**Sg**	**07 34 47.1**	**-1.3**
CRLZ	**Canterbury Las**	**0.21**	**269**	⇓PG	**Pg**	**07 34 44.3**	**-1.0**
CRLZ				SG	**Sg**	**07 34 46.8**	**-1.6**
CRLZ				AML	AML	07 34 47.3	
CRLZ				AML	AML	07 34 47.9	
MQZ	**McQueen's Vall**	**0.23**	**235**	*e*Pg	**Pg**	**07 34 45.1**	**-0.5**
MQZ				*e*Sg	**Sg**	**07 34 48.4**	**-0.7**
MQZ	**McQueen's Vall**	**0.23**	**235**	⇑PG	**Pg**	**07 34 45.0**	**-0.6**
MQZ				SG	**Sg**	**07 34 48.0**	**-1.0**
OXZ	**Oxford**	**0.69**	**291**	*e*Pg	**Pg**	**07 34 53.2**	**-0.6**
OXZ				*e*Pn	Pn	07 35 02.7	+6.9
OXZ	**Oxford**	**0.69**	**291**	⇓P*	**Pg**	**07 34 52.9**	**-0.9**
OXZ				S*	**Sg**	**07 35 02.1**	**-0.8**
OXZ				AML	AML	07 35 03.2	
OXZ				AML	AML	07 35 03.5	
OXZ				AML	AML	07 35 03.5	
LTZ	**Lake Taylor**	**0.92**	**329**	*e*Pg	**Pg**	**07 34 58.4**	**+0.1**
LTZ				*e*Sg	**Sb**	**07 35 10.7**	**+0.4**
LTZ	**Lake Taylor**	**0.92**	**329**	⇑P*	**Pb**	**07 34 57.9**	**-0.3**
LTZ				S*	**Sg**	**07 35 10.1**	**-0.2**
LTZ				AML	AML	07 35 11.1	
KHZ	**Kahutara**	**1.24**	**22**	*e*Pn	**Pn**	**07 35 03.2**	**-0.2**
KHZ	**Kahutara**	**1.24**	**22**	*e*P*	**Pn**	**07 35 02.9**	**-0.5**
KHZ				AML	AML	07 35 30.8	
KHZ				AML	AML	07 35 31.3	
KHZ				AML	AML	07 35 36.7	
KHZ				AML	AML	07 35 36.7	
RPZ	**Rata Peaks**	**1.36**	**263**	Pg	**Pn**	**07 35 03.9**	**-1.2**
	2μm,0.3s,baz=140,slow=2.8,SNR=1616						
RPZ				Lg	Lg	07 35 20.3	
	4μm,0.3s,baz=351,slow=18,SNR=33						
RPZ	**Rata Peaks**	**1.36**	**263**	*e*Pn	**Pn**	**07 35 04.6**	**-0.5**
RPZ				*e*Sn	**Sg**	**07 35 24.4**	**0.0**
RPZ	**Rata Peaks**	**1.36**	**263**	⇓P*	**Pn**	**07 35 03.9**	**-1.2**
RPZ				AML	AML	07 35 25.3	
RPZ				AML	AML	07 35 30.4	
INZ	**Inchbonnie**	**1.37**	**308**	*e*PN	**Pn**	**07 35 04.0**	**-1.2**
WVZ	**Waitaha Valley**	**1.67**	**287**	Pn	**Pn**	**07 35 08.6**	**-0.8**
WVZ	**Waitaha Valley**	**1.67**	**287**	*e*PN	**Pn**	**07 35 08.5**	**-0.8**
THZ	**Tophouse**	**1.81**	**360**	*e*Pn	**Pn**	**07 35 11.0**	**-0.3**
THZ	**Tophouse**	**1.81**	**360**	PN	**Pn**	**07 35 10.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.98**	**21**	Pn	**Pn**	**07 35 13.8**	**+0.2**
DSZ	**Denniston Nort**	**2.00**	**335**	Pn	**Pn**	**07 35 13.7**	**-0.2**
LBZ	**Lake Benmore**	**2.13**	**247**	*e*Pn	**Pn**	**07 35 15.3**	**-0.4**
LBZ	**Lake Benmore**	**2.13**	**247**	*e*PN	**Pn**	**07 35 14.9**	**-0.8**
ODZ	**Otahua Downs**	**2.20**	**227**	*e*Pn	**Pn**	**07 35 15.9**	**-0.6**
ODZ	**Otahua Downs**	**2.20**	**227**	PN	**Pn**	**07 35 15.4**	**-1.1**
ODZ				AML	AML	07 35 42.5	
ODZ				AML	AML	07 35 43.8	
FOZ	**Fox Glacier**	**2.26**	**270**	*e*Pn	**Pn**	**07 35 18.1**	**+0.8**
FOZ	**Fox Glacier**	**2.26**	**270**	*e*PN	**Pn**	**07 35 17.5**	**+0.2**
TUWZ	**Tuamarina**	**2.27**	**20**	Pn	**Pn**	**07 35 17.2**	**-0.3**
NNZ	**Nelson**	**2.38**	**8**	Pn	**Pn**	**07 35 19.1**	**+0.1**
TCW	**Tory Channel**	**2.56**	**24**	Pn	**Pn**	**07 35 21.1**	**-0.6**
BHW	**Baring Head**	**2.60**	**34**	Pn	**Pn**	**07 35 21.7**	**-0.4**
SNZO	**South Karori**	**2.62**	**31**	*e*Pn	**Pn**	**07 35 22.0**	**-0.4**
PLWZ	**Palliser**	**2.64**	**42**	Pn	**Pn**	**07 35 22.2**	**-0.6**
WEL	**Wellington**	**2.66**	**32**	Pn	**Pn**	**07 35 22.9**	**-0.1**
MSWZ	**Moikau Station**	**2.76**	**39**	Pn	**Pn**	**07 35 23.6**	**-0.7**
QRZ	**Quartz Range**	**2.76**	**354**	Pn	**Pn**	**07 35 24.2**	**-0.1**
HHSZ	**Highcliff Hill**	**2.84**	**215**	Pn	**Pn**	**07 35 24.6**	**-0.9**
HHSZ	**Highcliff Hill**	**2.84**	**215**	*e*PN	**Pn**	**07 35 24.4**	**-1.0**
DUWZ	**D'Urville Isla**	**2.87**	**15**	Pn	**Pn**	**07 35 25.8**	**0.0**
PAWZ	**Paruwai Farm**	**2.87**	**41**	Pn	**Pn**	**07 35 25.0**	**-0.9**
CAW	**Cannon Point**	**2.93**	**34**	Pn	**Pn**	**07 35 26.1**	**-0.6**
TRWZ	**Traveller**	**2.98**	**44**	*e*Pn	**Pn**	**07 35 26.9**	**-0.6**
JCZ	**Jackson Bay**	**3.03**	**259**	Pn	**Pn**	**07 35 27.5**	**-0.6**
JCZ	**Jackson Bay**	**3.03**	**259**	AML	AML	07 36 17.8	
JCZ				AML	AML	07 36 24.5	
EAZ	**Earnscleugh**	**3.07**	**236**	AML	AML	07 36 17.4	
EAZ				AML	AML	07 36 21.7	
WKZ	**Wanaka**	**3.07**	**245**	*e*Pn	**Pn**	**07 35 28.4**	**-0.3**
WKZ	**Wanaka**	**3.07**	**245**	AML	AML	07 36 22.0	
WKZ				AML	AML	07 36 24.4	
MTW	**Mount Morrison**	**3.08**	**39**	Pn	**Pn**	**07 35 27.6**	**-1.1**
KIW	**Kapiti Island**	**3.08**	**29**	Pn	**Pn**	**07 35 28.4**	**-0.3**
OGWZ	**Otaki Gorge**	**3.22**	**32**	Pn	**Pn**	**07 35 29.9**	**-0.7**
HOWZ	**Holdsworth Sta**	**3.29**	**37**	Pn	**Pn**	**07 35 30.8**	**-0.9**
TMWZ	**Te Maipa**	**3.30**	**43**	*e*Pn	**Pn**	**07 35 31.0**	**-0.8**
TUZ	**Tuapeka**	**3.34**	**223**	Pn	**Pn**	**07 35 31.5**	**-0.8**
MRZ	**Mangatainoka R**	**3.52**	**35**	Pn	**Pn**	**07 35 33.7**	**-1.0**
TIWZ	**Tintock**	**3.56**	**39**	Pn	**Pn**	**07 35 34.0**	**-1.3**
MSZ	**Milford Sound**	**3.76**	**251**	AML	AML	07 36 41.3	
MSZ				AML	AML	07 36 41.3	
BFZ	**Birch Farm**	**3.80**	**42**	*e*Pn	**Pn**	**07 35 37.4**	**-1.3**
POWZ	**Post Office Ro**	**3.82**	**35**	Pn	**Pn**	**07 35 38.4**	**-0.5**
MLZ	**Mavora Lakes**	**3.88**	**241**	*e*Pn	**Pn**	**07 35 38.9**	**-0.8**
SYZ	**Scrubby Hill**	**4.00**	**221**	Pn	**Pn**	**07 35 40.8**	**-0.4**
DVHZ	**Dannevirke**	**4.07**	**38**	Pn	**Pn**	**07 35 40.8**	**-1.5**
WAZ	**Wanganui**	**4.12**	**23**	Pn	**Pn**	**07 35 44.0**	**+1.0**
TSZ	**Takapari Road**	**4.18**	**34**	Pn	**Pn**	**07 35 42.6**	**-1.3**
NMEZ	**Namu Road**	**4.22**	**10**	Pn	**Pn**	**07 35 45.7**	**+1.4**
WHZ	**Wether Hill Ro**	**4.24**	**235**	*e*Pn	**Pn**	**07 35 43.0**	**-1.5**
WHZ	**Wether Hill Ro**	**4.24**	**235**	AML	AML	07 37 00.5	
WHZ				AML	AML	07 37 02.8	
PRHZ	**Porangahau**	**4.31**	**41**	Pn	**Pn**	**07 35 45.1**	**-0.5**
PREZ	**Palmer Road**	**4.33**	**13**	Pn	**Pn**	**07 35 47.1**	**+1.2**
KHEZ	**Kahui Hut**	**4.35**	**11**	Pn	**Pn**	**07 35 47.3**	**+1.0**
NWEZ	**Newall Road**	**4.35**	**10**	Pn	**Pn**	**07 35 47.5**	**+1.4**
WPHZ	**Waipukurau**	**4.38**	**38**	Pn	**Pn**	**07 35 46.2**	**-0.4**
NEZ	**North Egmont**	**4.39**	**12**	Pn	**Pn**	**07 35 47.9**	**+1.1**
PNHZ	**Pukenui**	**4.40**	**35**	Pn	**Pn**	**07 35 45.4**	**-1.5**
PKE	**Pukeiti**	**4.45**	**11**	Pn	**Pn**	**07 35 48.6**	**+1.0**
DREZ	**Durham Road**	**4.48**	**13**	Pn	**Pn**	**07 35 49.2**	**+1.2**
DCZ	**Deep Cove**	**4.54**	**243**	*e*Pn	**Pn**	**07 35 48.3**	**-0.4**
DCZ	**Deep Cove**	**4.54**	**243**	AML	AML	07 37 06.5	
DCZ				AML	AML	07 37 06.7	
PXZ	**Pawanui**	**4.60**	**41**	Pn	**Pn**	**07 35 47.7**	**-2.0**
MHEZ	**Mangahewa**	**4.61**	**14**	Pn	**Pn**	**07 35 51.3**	**+1.5**
PKVZ	**Pokaka**	**4.65**	**24**	Pn	**Pn**	**07 35 51.0**	**+0.6**
VRZ	**Vera Road**	**4.65**	**18**	Pn	**Pn**	**07 35 51.0**	**+0.7**
MOVZ	**Moawhango**	**4.67**	**28**	Pn	**Pn**	**07 35 50.2**	**-0.5**
WNVZ	**Wahianoa**	**4.69**	**26**	Pn	**Pn**	**07 35 51.1**	**+0.1**
TRVZ	**Turoa**	**4.70**	**26**	Pn	**Pn**	**07 35 51.3**	**+0.1**
BHHZ	**Black Hill Sta**	**4.71**	**31**	Pn	**Pn**	**07 35 50.1**	**-1.1**
DRZ	**Dome Shelter**	**4.73**	**26**	Pn	**Pn**	**07 35 52.0**	**+0.4**
WHVZ	**Whangaehu Hut**	**4.73**	**26**	Pn	**Pn**	**07 35 51.7**	**+0.1**
FWVZ	**Far West T-bar**	**4.75**	**26**	Pn	**Pn**	**07 35 51.8**	**0.0**
TUVZ	**Tukino**	**4.76**	**26**	Pn	**Pn**	**07 35 52.0**	**0.0**
APZ	**The Paps**	**4.77**	**225**	Pn	**Pn**	**07 35 51.2**	**-0.7**
KAHZ	**Kahuranaki**	**4.80**	**39**	Pn	**Pn**	**07 35 50.6**	**-1.8**
NGZ	**Ngauruhoe**	**4.83**	**26**	Pn	**Pn**	**07 35 52.8**	**-0.1**
OTVZ	**Oturere**	**4.86**	**26**	Pn	**Pn**	**07 35 53.2**	**-0.1**
TWVZ	**Taurewa**	**4.88**	**24**	Pn	**Pn**	**07 35 53.3**	**-0.3**
WTVZ	**West Tongariro**	**4.88**	**25**	Pn	**Pn**	**07 35 53.2**	**-0.4**
KRVZ	**Karewarewa**	**4.92**	**26**	Pn	**Pn**	**07 35 53.8**	**-0.3**
MCHZ	**McNeill Hill**	**5.00**	**36**	Pn	**Pn**	**07 35 55.0**	**-0.2**
KATZ	**Kakaramea**	**5.04**	**25**	Pn	**Pn**	**07 35 56.7**	**+0.9**
RITZ	**Rihia Road**	**5.09**	**27**	Pn	**Pn**	**07 35 56.7**	**+0.3**
PYZ	**Puysegur Point**	**5.14**	**237**	*e*Pn	**Pn**	**07 35 56.2**	**-0.7**
PYZ	**Puysegur Point**	**5.14**	**237**	AML	AML	07 36 53.6	
PYZ				AML	AML	07 36 56.9	
BKZ	**Black Stump Fm**	**5.16**	**33**	*e*Pn	**Pn**	**07 35 57.0**	**-0.3**
HIZ	**Hauiti**	**5.26**	**17**	*e*Pn	**Pn**	**07 35 59.4**	**+0.7**
ARHZ	**Aropaoanui**	**5.28**	**37**	Pn	**Pn**	**07 35 58.4**	**-0.6**
NMHZ	**Naumai**	**5.34**	**35**	Pn	**Pn**	**07 35 59.5**	**-0.4**
TLZ	**Tolley Road**	**5.60**	**22**	Pn	**Pn**	**07 36 02.8**	**-0.6**
ALRZ	**Allen Road**	**5.63**	**28**	Pn	**Pn**	**07 36 02.9**	**-0.9**
PRRZ	**Plateau Road**	**5.71**	**29**	Pn	**Pn**	**07 36 03.9**	**-0.9**
MHGZ	**Mahia Peninsul**	**5.79**	**42**	Pn	**Pn**	**07 36 05.3**	**-0.7**
PRGZ	**Paritu Road**	**5.96**	**41**	Pn	**Pn**	**07 36 06.6**	**-1.8**
RAGZ	**Rawiri**	**6.10**	**35**	Pn	**Pn**	**07 36 08.5**	**-1.8**
TOZ	**Tahuroa Road**	**6.16**	**19**	Pn	**Pn**	**07 36 10.5**	**-0.4**
URZ	**Urewera**	**6.18**	**32**	Pn	**Pn**	**07 36 09.4**	**-1.9**
	4.8nm,0.3s,baz=240,slow=9.0,SNR=33						
URZ				Sn	**Sn**	**07 37 17.4**	**-4.4**
	28nm,0.3s,baz=67,slow=17,SNR=9.6						
URZ	**Urewera**	**6.18**	**32**	*e*Pn	**Pn**	**07 36 10.0**	**

VNA1	Neumayer--Stat	66.09 180	P	P	07 45 28.8	+2.3
USHA	Ushuaia	68.99 147	LR	LR	08 12 04.7	
	comp=Z,690nm,18.1s,baz=222,slow=32					
PLCA	Paso Flores	78.48 136	LR	LR	08 13 51.6	
	comp=Z,97nm,19.9s,baz=204,slow=30					
QIZ	Qiongzhong	84.91 302	P	P	07 47 17.3	+2.3
QIZ	Qiongzhong	84.91 302	S	S	07 57 48.2	+4.9
QIZ	Qiongzhong	84.91 302	SS	SS	08 03 22.6	+6.0
QIZ			pmax	pmax		
	comp=Z,190nm,3.7s					
MJAR	Matsushiro Arr	85.75 333	P	P	07 47 18.9	0.0
	comp=Z,1.7nm,1.0s,baz=187,slow=9.5,SNR=4.8					
MJAR			LR	LR	08 25 17.5	
	comp=Z,23nm,18.5s,baz=205,slow=36					
KSRS	Korea Array	90.39 326	P	P	07 47 43.4	+2.4
	comp=Z,3.4nm,0.9s,baz=143,slow=5.9,SNR=13					
KSRS			LR	LR	08 24 03.8	
	comp=Z,44nm,20.1s,baz=166,slow=33					
KSAR	Wonju Array Be	90.40 326	P	P	07 47 43.4	+2.4
KS01	Wonju Array Si	90.42 326	eP	P	07 47 42.9	+1.8
CMAR	Chiang Mai Arr	91.47 294	P	P	07 47 48.5	+1.9
	comp=Z,1.0nm,0.3s,baz=132,slow=2.1,SNR=4.3					
CMAR			LR	LR	08 35 36.9	
	comp=Z,36nm,18.0s,baz=176,slow=40					
KMI	Kunming	93.82 301	P	P	07 47 58.7	+1.2
KMI			pmax	pmax		
	comp=Z,9.0nm,0.7s					
USRK	Ussuriysk Ar.	94.72 332	LR	LR	08 27 24.4	
	comp=Z,36nm,20.9s,baz=142,slow=34					
CPUP	Villa Florida	96.55 136	LR	LR	08 26 19.3	
	comp=Z,75nm,19.4s,baz=208,slow=32					
PETK	Petropavlovsk-	97.19 351	LR	LR	08 30 41.7	
	comp=Z,58nm,18.0s,baz=152,slow=35					
LPAZ	La Paz	98.42 122	LR	LR	08 24 33.0	
	comp=Z,47nm,19.2s,baz=212,slow=30					
HHC	Hu-ho-hao-te	100.55 317	eP	Pdif	07 48 30.4	+3.0
HHC			pmax	pmax		
	comp=Z,24nm,1.0s					
HHC			pmax	pmax		
	comp=Z,160nm,9.9s					
LZH	Lanzhou	101.10 310	eP	Pdif	07 48 30.3	+0.3
LZH			pP	pPdif	07 48 33.3	-1.3
LZH			sP	sPdif	07 48 35.3	-1.0
LZH			pmax	pmax		
	comp=Z,23nm,1.2s					
LZH			pmax	pmax		
	comp=Z,140nm,4.8s					
KSH	Kashi	120.22 297	PKP	PKPdf	07 53 27.1	-3.7
KSH			sPKP		07 53 41.4	
KSH			PP	PP	07 54 58.1	+1.1
KSH			PKS	PKSdf	07 57 01.0	-6.5
KSH			SKS	SKSdf	08 00 33.5	-8.9
KSH			SKKS	SKKSac	08 01 46.7	-9.1
KSH	Kashi	120.22 297	SS	SS	08 11 24.3	-0.1
KSH			AMB	AMB		
	comp=Z,130nm,4.8s					
KSH			LR	LR		
	comp=N,77nm,4.5s					
KSH			LR	LR		
	comp=E,91nm,6.9s					
KSH			LR	LR		
	comp=Z,170nm,5.9s					
MKAR	Makanchi Array	120.30 307	PKP	PKPdf	07 53 30.7	+0.1
	comp=Z,1.1nm,0.7s,baz=139,slow=2.6,SNR=6.0					
YKA	Yellowknife Ar	120.44 31	PKP	PKPdf	07 53 30.4	+0.1
	comp=Z,1.5nm,0.9s,baz=225,slow=1.7,SNR=3.6					
ZALV	Zalesovo Beam	122.67 315	PKP	PKPdf	07 53 35.0	+0.2
	comp=Z,0.9nm,0.5s,baz=132,slow=4.1,SNR=3.1					
KKAR	Karatay Array	125.59 298	ePKPdf	PKPdf	07 53 40.7	-0.2
NRIK	Noril'sk	128.41 333	PKP	PKPdf	07 53 46.3	+0.9
	comp=Z,1.5nm,0.3s,baz=62,slow=5.0,SNR=3.8					
DBIC	Dimbokro	143.20 184	PKP	PKPdf	07 54 14.1	-0.4
	comp=Z,5.7nm,1.2s,baz=297,slow=4.5,SNR=3.3					
KBZ	Khabaz	144.28 288	PKP	PKPdf	07 54 15.6	+0.1
	comp=Z,2.3nm,0.7s,baz=180,slow=4.0,SNR=3.3					
TORD	Torodi Ar. Bea	148.76 197	PKPbc	PKPbc	07 54 28.9	+1.2
	comp=Z,2.6nm,0.9s,baz=139,slow=2.2,SNR=13					
ARCES	ARCESS Array B	149.13 338	PKPbc	PKPbc	07 54 28.1	+1.0
	comp=Z,10nm,0.8s,baz=100,slow=2.7,SNR=14					
BRTR	Keskin Array B	149.55 277	PKPbc	PKPbc	07 54 30.1	+0.8
	comp=Z,3.6nm,0.7s,baz=135,slow=5.4,SNR=11					
FINES	FINESS Array B	153.47 324	PKPbc	PKPbc	07 54 38.1	+0.8
	comp=Z,2.9nm,0.6s,baz=98,slow=4.3,SNR=9.6					
AKASG	Malin Array Be	154.49 299	PKPbc	PKPbc	07 54 40.2	+0.3
	comp=Z,1.8nm,0.7s,baz=69,slow=2.8,SNR=6.7					
AKASG			PKPab	PKPab	07 54 54.0	-0.4
	comp=Z,1.3nm,0.7s,baz=71,slow=4.1,SNR=5.2					
NB2	NORSAR Subarra	159.37 334	P	PKPab	07 55 14.5	-0.7
	comp=Z,15nm,1.4s,baz=41,slow=5.1					
NOA	NORSAR Array B	159.37 334	PKPab	PKPab	07 55 14.8	-0.3
	comp=Z,1.4nm,0.7s,baz=40,slow=4.3,SNR=5.3					
CLL	Collm	164.40 307	ePKPab	PKPab	07 55 38.0	+0.5

NDI ***09*** *07:34:51.7±3.0, 29°.95N×80°.75E, h10km, ML3.2*
ISCJB ***09*** *07:34:52.0±1.5, 29°.88N±0°.07×80°.70E±0°.10, h23km, mb3.7/2, Error ellipse: s-maj=13.2km s-min=7.9km az=32.1*
IDC ***09*** *07:35:18.6±17.0, 32°.73N×76°.45E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.2/39, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=315.0km s-min=56.5km az=145.0*

ISC 09 07:34:53.7±1.6, 29°.99N±0°.05×80°.54E±0°.09, h23km, n14, σ3°10/18, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	Pithoragarh	0.52	213	eP	Pb	07 35 01.5	-2.9
PTH				eS	Sb	07 35 10.5	-1.1
JOSI	Joshimath	1.02	304	eP	Pb	07 35 08.0	-4.8
JOSI				AML	AML	07 35 21.6	
	comp=N,769nm,0.5s						
JOSI				eS	Sb	07 35 21.8	-4.2
JOSI				AML	AML	07 35 27.8	
	comp=E,1μm,0.5s						
KALG	Kalgarh	1.63	253	eP	Pn	07 35 17.3	-3.7
KALG				eS	Sb	07 35 42.4	-0.8
DDI	Dehra Dun	2.18	279	eP	Pn	07 35 29.8	+1.2
DDI				eS	Sb	07 36 00.2	+1.1
AYAN	Aya Nagar	3.34	244	eS	Sn	07 36 26.1	+2.6
SDNR	Sundarnagar	3.42	297	eS	Sn	07 36 29.0	+3.4
SONA	Sohna	3.49	241	eS	Sn	07 36 30.0	+2.8
SONA				IAML		07 36 52.9	
	comp=E,90nm,0.3s						
SONA				IAML		07 36 53.2	
	comp=N,69nm,0.5s						
BHK	Bhakra	3.83	293	ex	Pb	07 35 58.5	-2.1
KUDL	Kundal	4.00	244	eP	Pn	07 35 55.7	+2.1
KUDL				eS	Sn	07 36 42.5	+2.9
KUDL				AML	AML	07 37 03.0	
	comp=E,43nm,0.6s						
KUDL				AML	AML	07 37 03.8	
	comp=N,44nm,0.3s						
KHET	Khetri	4.56	246	eP	Pn	07 36 02.8	+1.3
KHET				eS	Sn	07 36 54.7	+0.9
KHET				IAML		07 37 21.0	
	comp=N,26nm,0.1s						
KHET				IAML		07 37 27.0	
	comp=E,21nm,0.3s						
MKAR	Makanchi Array	16.83	4	Pn	P	07 38 49.3	-0.5
	comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=2.7						
KURBB	Kurchatov Arra	20.66	356	P	P	07 39 28.6	-3.1
	baz=185,slow=10.0,SNR=3.0						
ZALV	Zalesovo Beam	24.14	6	P	P	07 40 14.4	+6.6
	comp=E,0.7nm,0.5s,baz=190,slow=7.2,SNR=2.5						
FINES	FINESS Array B	47.28	328	P	P	07 43 20.1	-4.8
	comp=E,2.3nm,0.9s,baz=99,slow=9.1,SNR=3.7						

ISCJB ***09*** *07:47:05.9±1.1, 25°.12N±0°.08×122°.68E±0°.03, h173km±8km, Error ellipse: s-maj=13.6km s-min=3.9km az=170.1*
TAP ***09*** *07:47:05.1, 25°.17N×122°.78E, h178km, ML3.6, D*
JMA ***09*** *07:47:05.1±0.3, 25°.18N×122°.60E, h177km±5km, M2.9*

ISC 09 07:47:05.0±2.4, 25°.2N±0°.1×122°.66E±0°.04, h180km±15km, n29, σ0°75/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.63	254	eP	Pn	07 47 30.9	+0.4
	baz=257						
JYNG	Yonagunijimaku	0.77	160	P	Pn	07 47 31.3	+0.1
JYNG				eS	Sn	07 47 51.9	+0.5
YOJ	Yonaguni jima	0.79	156	P	Pn	07 47 31.5	+0.2
YOJ				eS	Sn	07 47 51.6	+0.1
TWC	Suao	0.93	232	eP	Pn	07 47 32.4	+0.1
	baz=236						
TWC				eS	Sn	07 47 52.6	-0.6
	baz=236						
TWY	Chenhua	0.96	276	P	Pn	07 47 33.0	+0.6
	baz=275						
ENA	Nanau	1.12	228	eS	Sn	07 47 55.4	-0.3
	baz=231						
ENTT	Nioudou	1.13	242	eP	Pn	07 47 33.9	+0.2
	baz=244						
ENTT				eS	Sn	07 47 56.1	+0.2
	baz=244						
NSK	Sanguang	1.28	247	eS	Sn	07 47 57.4	-0.9
	baz=249						
IRIF	Iriomote-Funau	1.29	131	P	Pn	07 47 35.3	+0.2
IRIF				S	Sn	07 47 58.5	+0.3
NNS	Nan Shan	1.38	238	P	Pn	07 47 36.6	+0.6
	baz=240						
NNS				eS	Sn	07 47 59.7	-0.3
	baz=240						
HATJ	Hateruma jima	1.53	137	P	Pn	07 47 38.4	+1.1
HATJ				eS	Sn	07 48 01.8	-0.4
JKRS	Kuro-shima	1.55	127	P	Pn	07 47 38.1	+0.7
JKRS				S	Sn	07 48 02.5	0.0
JIJ	Ishigaki jima	1.58	121	P	Pn	07 47 37.9	+0.2
JIJ				S	Sn	07 48 01.9	-1.1
JISG	Ishigakijimahi	1.61	111	P	Pn	07 47 38.3	+0.2
JISG				S	Sn	07 48 03.4	-0.2
TWT	Tachien	1.64	236	eP	Pn	07 47 39.1	+0.5
	baz=238						
TWT				eS	Sn	07 48 04.8	+0.4
	baz=238						
WHF	Hehuan Shan	1.64	231	eP	Pn	07 47 39.5	+0.7
	baz=233						
WHF				eS	Sn	07 48 04.1	-0.8
	baz=233						
ESL	Shilin	1.76	220	eS	Sn	07 48 04.1	-2.3
	baz=222						
JTJ	Tarama	1.93	106	P	Pn	07 47 42.0	+0.7
JTJ				S	Sn	07 48 09.5	0.0
WDT	Danda	1.99	225	P	Pn	07 47 42.8	+0.5
	baz=226						
WDT				S	Sn	07 48 10.2	-1.0
	baz=226						
SMLT	Sun Moon Lake	2.06	231	eS	Sn	07 48 10.8	-1.4
	baz=233						
TYC	Yuchr	2.08	233	S	Sn	07 48 12.1	-0.2
	baz=234						
TWF1	Yuli	2.21	215	eS	Sn	07 48 14.4	-0.5
	baz=216						
JIRB	Irabujima	2.31	98	S	Sn	07 48 16.5	-0.4
JIKM	Ikemajima	2.36	96	eS	Sn	07 48 16.0	-2.0
ALS	Alishan	2.37	226	eP	Pn	07 47 47.1	+0.5
	baz=227						
ALS				eS	Sn	07 48 19.4	+0.6
	baz=227						
CHN5	Tsauling	2.40	229	eS	Sn	07 48 18.4	-0.6
	baz=230						
JMJ	Miyako jima 2	2.42	98	eS	Sn	07 48 18.5	-0.7
ELDTW	Lidau	2.49	217	eS	Sn	07 48 20.1	-0.8
	baz=219						
CHN4	Tsaushan	2.62	226	S	Sn	07 48 23.4	-0.2
	baz=227						

IDC 09 08:13:46.8±1.9, 3°.11N×125°.29E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.7/3, Error ellipse: s-maj=133.2km s-min=25.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.08	179	P	P	08 18 33.3	+0.5
	14789μm,0.7s,baz=266,slow=0.0						
WRA	Warramunga Arr	24.57	159	P	P	08 19 08.9	+0.2
	0.6nm,0.3s,baz=337,slow=9.6,SNR=21						
ASAR	Alice Springs	27.91	163	P	P	08 19 38.2	-0.5
	0.4nm,0.5s,baz=342,slow=7.6,SNR=10						
MKAR	Makanchi Array	57.25	326	P	P	08 23 36.1	0.0
	0.5nm,0.5s,baz=121,slow=8.1,SNR=4.6						

SJA 09 08:18:24.6±1.3, 32°.01S×67°.37W, h130km±5km, ML3.5, MW3.5, 1C-19D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	Cantantal	0.31	150	⇓eS	Sn	08 18 57.4	+0.8
RTCV	Cerro Valdivia	1.00	278	⇓eP	Pn	08 18 48.6	+1.0
RTCV				⇓eS	Sn	08 19 05.9	+0.9
ACHE	Chepes	1.04	36	eP	Pn	08 18 49.1	+1.1
SJA	San Juan	1.12	295	⇓eP	Pn	08 18 49.7	+1.0
SJA				eS	Sn	08 19 07.3	+0.4
RTLL	Cerro Villicun	1.16	305	⇑eP	Pn	08 18 49.9	+0.8
RTLL				eS	Sn	08 19 08.1	+0.4
RTLL				⇓eS	Sn	08 19 08.1	+0.4
AVFE	Valle Fertil	1.35	357	⇓eP	Pn	08 18 51.9	+0.8
AVFE				⇓eS	Sn	08 19 11.5	+0.3
ASAL	Salagasta	1.37	244	eP	Pn	08 18 52.6	+1.3
ASAL				⇓eS	Sn	08 19 13.3	+1.6
AMOG	MOGNA	1.43	318	eP	Pn	08 18 53.0	+1.0
AMOG				⇓eS	Sn	08 19 13.4	+0.5
MRA	San Martin	1.46	107	⇓eP	Pn	08 18 53.2	+0.9
MRA				⇓eS	Sn	08 19 13.8	+0.4
ARCO	CERRO ARCO	1.56	237	eP	Pn	08 18 54.8	+1.3
ARCO				⇓eS	Sn	08 19 17.9	+2.3
ARCO				IAML		08 19 20.0	
	comp=Z,382nm,0.5s						
AAGR	Agrelo	1.63	229	eP	Pn	08 18 55.8	+1.5
RTLS	Leoncito	1.65	277	⇓eP	Pn	08 18 55.6	+0.9
AUSP	Uspallata	1.72	262	eP	Pn	08 18 56.5	+1.0
AUSP				⇓eS	Sn	08 19 19.9	+0.8
APLL	PUNTA DE LOS L	1.76	24	eS	Sn	08 19 20.1	+0.5
ACDV	Cuesta del Vie	2.37	320	eP	Pn	08 19 04.2	+1.0
TCA	Tanti	2.46	75	⇓eP	Pn	08 19 04.9	+0.5
TCA				IAML		08 19 05.3	
	comp=Z,193nm,0.4s						
TCA				eS	Sn	08 19 32.8	-2.1
AGUA	GUANDACOL	2.69	339	⇓eP	Pn	08 19 08.8	+1.5
AGUA				eS	Sn	08 19 41.5	+1.3
ROC1	El Roble	3.23	252	⇓eP	Pn	08 19 14.1	-0.2
ROC1				⇓eS	Sn	08 19 47.0	-5.9
VCA	Vinchina	3.34	347	⇓eP	Pn	08 19 17.2	+1.4

IDC ***09*** *08:22:14.4±2.1, 27°.97N×87°.80E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/39, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=80.4km s-min=22.8km az=70.0*
ISCJB ***09*** *08:22:22.2±0.7, 28°.09N±0°.06×87°.94E±0°.07, h71km, mb3.2/4, Error ellipse: s-maj=10.4km s-min=6.2km az=41.9*
NDI ***09*** *08:22:22.1±1.9, 28°.15N×87°.71E, h38km±25km, ML3.6*

ISC 09 08:22:22.9±1.1, 28°.06N±0°.08×87°.82E±0°.06, h71km, n14, σ1°69/24, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	1.01	137	eP	Pn	08 22 43.4	+1.6
GTK				eS	Sn	08 22 57.7	+1.9
GTK				eS	Sn	08 22 57.8	+1.9
GTK				AML	AML	08 22 59.0	
	comp=E,1μm,0.2s						
GTK				AML	AML	08 22 59.1	
	comp=N,2μm,0.1s						
DHUB	DHUBRI	2.81	136	eP	Pn	08 23 07.0	+1.4
DHUB				eS	Sn	08 23 38.9	+0.6
DHUB				AML	AML	08 23 41.7	
	comp=E,548nm,0.2s						
DHUB				AML	AML	08 23 41.8	
	comp=N,386nm,0.2s						
TURI	Tura	3.36	137	eP	Pn	08 23 13.5	+0.4
TURI				eS	Sn	08 23 50.0	-1.8
TURI				AML	AML	08 23 52.5	
	comp=E,452nm,0.2s						
TURI				AML	AML	08 23 52.7	
	comp=N,444nm,0.3s						
GUWA	GUWAHATI	3.92	117	eP	Pn	08 23 20.9	+0.3
GUWA				eS	Sn	08 24 04.4	-1.1
GUWA				AML	AML	08 24 09.2	
	comp=E,110nm,0.4s						
SHL	Shillong	4.40	123	eP	Pn	08 23 27.1	-0.3
SHL				eS	Sn	08 24 15.8	-1.7
SHL				AML	AML	08 24 17.6	
	comp=E,92nm,0.3s						
SHL				AML	AML	08 24 18.1	
	comp=N,100nm,0.3s						
BOK	Bokaro	4.59	203	eP	Pn	08 23 29.8	-0.1
BOK				eS	Sn	08 24 18.1	-3.8
TEZP	TEZPUR	4.66	107	eP	Pn	08 23 30.3	-0.4
TEZP				eS	Sn	08 24 21.4	-2.1
TEZP				AML	AML	08 24 26.5	
	comp=E,119nm,0.2s						
TEZP				AML	AML	08 24 26.9	
	comp=N,134nm,0.1s						
ZIRO	ZIRO	5.37	94	eP	Pn	08 23 40.8	+0.1
ZIRO				eS	Sn	08 24 39.2	-2.0
KOHI	KOHIMA	6.08	111	eP	Pn	08 23 50.1	-0.3
KOHI				eS	Sn	08 24 54.6	-4.0
MKAR	Makanchi Array	19.20	348	P	P	08 26 41.1	+0.1
	comp=N,0.1nm,0.3s,baz=173,slow=11,SNR=2.6						
KURBB	Kurchatov Arra	23.61	345	P	P	08 27 27.6	+0.3
	comp=N,0.4nm,0.5s,baz=164,slow=8.7,SNR=5.6						
SONM	Songino Array	24.47	31	P	P	08 27 36.1	+0.8
	comp=N,0.6nm,0.3s,baz=206,slow=11,SNR=3.5						
WRA	Warramunga Arr	65.58	131	P	P	08 32 59.9	+0.4
	comp=N,0.2nm,0.5s,baz=324,slow=6.3,SNR=5.8						
ASAR	Alice Springs	67.96	135	P	P	08 33 15.2	+0.6
	comp=N,0.3nm,0.7s,baz=318,slow=6.2,SNR=6.6						

IDC 09 08:33:07.5±1.7, 22°.19N×96°.14E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/42, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=43.1km s-min=19.8km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.55	144	Pn	Pn	08 34 16.4	-1.4
	1.3nm,0.3s,baz=320,slow=13,SNR=18						
CMAR				Pg	Pg	08 34 32.4	-2.5
	3.6nm,0.3s,baz=321,slow=17,SNR=39						
CMAR				Lg	Lg	08 35 30.9	
	4.4nm,0.3s,baz=318,slow=16,SNR=5.8						
MKAR	Makanchi Array	26.98	339	P	P	08 38 50.7	-0.3
	0.4nm,0.5s,baz=163,slow=8.6,SNR=3.7						
WRA	Warramunga Arr	56.09	135	P	P	08 42 49.2	+0.3
	0.5nm,0.9s,baz=326,slow=7.4,SNR=3.1						

NSSP ***09*** *08:34:22.7, 38°.42N×45°.53E, h5km, Ms3.2*
TEH ***09*** *08:34:23.7, 38°.33N×45°.42E, h5km, ML2.9*
CSEM ***09*** *08:34:24.8±1.1, 38°.42N×45°.59E, h2km, ML2.9, Error ellipse: s-maj=23.5km s-min=8.5km az=63.0*
ISCJB ***09*** *08:34:25.4±1.0, 38°.39N±0°.04×45°.64E±0°.08, h5km±8km, Error ellipse: s-maj=11.1km s-min=6.3km az=156.0*

ISC 09 08:34:25.6±1.4, 38°.44N±0°.03×45°.65E±0°.06, h4km±11km, n14, σ0°98/22, 2C-4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.16	189	ePg	Pg	08 34 28.2	-0.6
ISHB				eAMB	AMB	08 34 32.2	
	comp=Z,46μm,0.1s						
IMRD	Marand	0.28	9	ePg	Pg	08 34 31.4	+0.4
IMRD				eSg	Sb	08 34 37.2	-1.2
IMRD				eAMB	AMB	08 34 37.6	
	comp=Z,47μm,0.1s						
IMRD	Marand	0.28	9	ePg	Pg	08 34 31.4	+0.4
IMRD				eSg	Sb	08 34 37.2	-1.2
ITBZ	Tabriz	0.44	117	⇓ePg	Pg	08 34 34.4	+0.3
ITBZ				eAMB	AMB	08 34 42.7	
	comp=Z,20μm,0.1s						
ITBZ	Tabriz	0.44	117	⇓ePg	Pg	08 34 34.4	+0.3
IHRS	Heris	1.10	96	ePg	Pg	08 34 46.7	0.0
IHRS				eSg	Sn	08 35 04.3	+0.5
IHRS				eAMB	AMB	08 35 05.0	
	comp=Z,4μm,0.2s						
IHRS	Heris	1.10	96	ePg	Pg	08 34 46.7	0.0
IHRS				eSg	Sn	08 35 04.3	+0.5
GRS	Goris	1.19	27	⇑iP	Pg	08 34 46.8	-1.6
GRS				⇓iS	Sg	08 35 03.6	-0.2
GRS	Goris	1.19	27	⇑P	Pg	08 34 46.8	-1.6
GRS				S	Sg	08 35 03.6	-0.2
IBST	Bostanabad	1.23	127	eAMB	AMB	08 34 48.1	
	comp=Z,3μm,0.1s						
IBST				eSg	Sg	08 35 03.9	-1.2
ISRB	Sarab	1.71	110	ePn	Pn	08 34 56.9	+0.6
ISRB				eAMB	AMB	08 35 27.4	
	comp=Z,1μm,0.2s						
ISRB	Sarab	1.71	110	ePn	Pn	08 34 56.9	+0.6
VADZ	Vardenis	1.73	2	eP	Pn	08 34 57.0	+0.3
VADZ				⇓S	Sg	08 35 23.0	+1.7
VADZ	Vardenis	1.73	2	P	Pn	08 34 57.0	+0.3
VADZ				S	Sg	08 35 23.0	+1.7

CSEM ***09*** *08:49:58.2±0.5, 35°.91N×45°.83E, h5km, ML2.8, Error ellipse: s-maj=12.4km s-min=10.8km az=47.0*
ISN ***09*** *08:49:58.9±3.8, 35°.98N×45°.92E, h5km±63km, ML2.8*

TEH 09 08:50:00.3, 35°.91N×46°.07E, h5km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIN	Lien	1.23	143	ePg	Pg	08 50 22.4	-1.5
ILIN				eAMB	AMB	08 50 49.3	
	comp=Z,2μm,0.2s						
ILIN	Lien	1.23	143	ePg	Pg	08 50 22.4	-1.5
IDHR	Dehrash	1.24	168	eSg	Sg	08 50 39.5	-0.6
IDHR				eAMB	AMB	08 50 42.6	
	comp=Z,3μm,0.1s						
IDHR	Dehrash	1.24	168	eSg	Sg	08 50 39.5	-0.6
IVIS	Veis	1.52	155	ePn	Pn	08 50 28.6	+0.3
IVIS				eAMB	AMB	08 50 59.5	
	comp=Z,1μm,0.2s						
IVIS	Veis	1.52	155	ePn	Pn	08 50 28.6	+0.3
IGHG	Ghaleghazi	1.63	165	ePn	Pn	08 50 29.5	-0.4
IGHG				eAMB	AMB	08 51 05.2	
	comp=Z,1μm,0.2s						
IGHG	Ghaleghazi	1.63	165	ePn	Pn	08 50 29.5	-0.4
IBST	Bostanabad	1.90	20	ePn	Pn	08 50 33.2	-0.5
IBST				eSg	Sb	08 50 59.5	-0.3
IBST				eAMB	AMB	08 51 03.5	
	comp=Z,575nm,0.2s						
IBST	Bostanabad	1.90	20	ePn	Pn	08 50 33.2	-0.5
IBST				eSg	Sb	08 50 59.5	-0.3
ISHB	Shabestar	2.39	351	ePn	Pn	08 50 40.2	-0.2
ISHB				eAMB	AMB	08 51 19.5	
	comp=E,2μm,0.3s						
IHRS	Heris	2.52	18	ePn	Pn	08 50 42.5	+0.3
IHRS				eAMB	AMB	08 51 32.0	
	comp=E,219nm,0.2s						
IHRS	Heris	2.52	18	ePn	Pn	08 50 42.5	+0.3

MEX 09 08:57:54.0±0.5, 16°.85N×99°.29W, h16km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.55	272	eP	Pg	08 58 00.9	-4.0
ACX				eS	Sg	08 58 08.2	-4.1
CAIG	El Cayaco	0.96	282	iP	Pb	08 58 08.8	-3.5
CAIG				eS	Sb	08 58 21.2	-3.5
TLIG	Tlapa	0.99	44	eP	Pb	08 58 09.4	-3.4
TLIG				eS	Sb	08 58 21.1	-4.5
MEIG	Mezcala	1.12	343	eP	Pb	08 58 11.0	-4.0
MEIG				eS	Sb	08 58 25.1	-4.3
PN

PKGZ	**Pakihiroa**	**0.39 100**	⇑PN	Pn	09 03 02.6	-0.5
PKGZ			AML	AML	09 03 13.9	
PKGZ			AML	AML	09 03 13.9	
WIZ	**White Island**	**0.43 313**	⇓P*	Pn	09 03 03.0	-0.5
TWGZ	**Tauwhareparae**	**0.47 139**	⇑PN	Pn	09 03 04.4	+0.4
TWGZ			SN	Sn	09 03 11.1	-0.3
TWGZ			AML	AML	09 03 18.4	
WHRZ	**Whale Island**	**0.49 266**	⇓P*	Pn	09 03 04.2	0.0
MWZ	**Matawai**	**0.51 185**	⇓P*	Pn	09 03 04.1	-0.5
MWZ			S*	Sn	09 03 12.2	-0.1
MWZ			AML	AML	09 03 12.8	
URZ	**Urewera**	**0.58 221**	⇓P*	Pn	09 03 04.9	-0.5
URZ			AML	AML	09 03 14.0	
URZ			AML	AML	09 03 15.2	
PUZ	**Puketiti**	**0.58 115**	⇓PN	Pn	09 03 05.7	+0.2
PUZ			AML	AML	09 03 18.0	
PUZ			AML	AML	09 03 18.7	
MXZ	**Matakaoa Point**	**0.63 66**	⇑P*	Pn	09 03 06.0	-0.1
MXZ			AML	AML	09 03 19.3	
MXZ			AML	AML	09 03 19.9	
TKGZ	**Te Karaka**	**0.65 162**	⇓PN	Pn	09 03 06.8	+0.5
TKGZ			AML	AML	09 03 20.4	
TKGZ			AML	AML	09 03 20.9	
WMGZ	**Waiomatatini S**	**0.66 90**	⇓PN	Pn	09 03 06.8	+0.4
WMGZ			AML	AML	09 03 20.2	
WMGZ			AML	AML	09 03 20.4	
RAGZ	**Rawiri**	**0.69 191**	⇓P*	Pn	09 03 06.8	-0.2
RAGZ			AML	AML	09 03 22.7	
RAGZ			AML	AML	09 03 22.7	
EDRZ	**Edgecumbe**	**0.73 247**	⇓P*	Pn	09 03 07.3	-0.2
EDRZ			S*	Sn	09 03 18.0	+0.5
MARZ	**Manawahe**	**0.74 257**	⇓P*	Pn	09 03 07.0	-0.6
OPRZ	**Ohinepanea**	**0.82 268**	P*	Pn	09 03 07.9	-0.7
CNGZ	**Carnagh Statio**	**0.82 144**	⇓PN	Pn	09 03 08.9	+0.2
CNGZ			AML	AML	09 03 09.8	
CNGZ			AML	AML	09 03 10.3	
MUGZ	**Murupara**	**0.92 224**	⇓P*	Pn	09 03 09.4	-0.7
RTZ	**Ruatahuna**	**0.92 211**	P*	Pn	09 03 09.3	-0.8
TARZ	**Mount Tarawera**	**0.95 244**	P*	Pn	09 03 10.3	-0.3
LIRZ	**Lichensteins R**	**0.97 259**	⇓P*	Pn	09 03 10.5	-0.2
SNGZ	**Shannon Statio**	**0.98 191**	⇓PN	Pn	09 03 11.4	+0.6
SNGZ			AML	AML	09 03 31.1	
SNGZ			AML	AML	09 03 37.1	
RRRZ	**Republican Roa**	**0.99 238**	⇓P*	Pn	09 03 10.6	-0.5
OMRZ	**Omania**	**1.00 253**	P*	Pn	09 03 10.8	-0.4
TGRZ	**Tauranga**	**1.06 275**	⇓P*	Pn	09 03 11.1	-0.7
HLRZ	**Highlands Stat**	**1.07 246**	P*	Pn	09 03 11.9	-0.2
KARZ	**Kaharoa**	**1.08 259**	⇓P*	Pn	09 03 11.8	-0.4
PRGZ	**Paritu Road**	**1.12 168**	PN	Pn	09 03 12.0	-0.8
PRGZ			AML	AML	09 03 45.7	
PRGZ			AML	AML	09 03 46.1	
PRRZ	**Plateau Road**	**1.16 234**	⇓P*	Pn	09 03 12.8	-0.5
HSRZ	**Hossack Road**	**1.17 245**	P*	Pn	09 03 13.4	-0.1
HRRZ	**Handcock Road**	**1.17 241**	P*	Pn	09 03 13.1	-0.5
KNZ	**Kokohu**	**1.20 177**	PN	Pn	09 03 13.0	-0.8
KNZ			AML	AML	09 03 44.6	
KNZ			AML	AML	09 04 04.8	
ALRZ	**Allen Road**	**1.23 233**	P*	Pn	09 03 13.8	-0.5
WHHZ	**Waihua**	**1.28 192**	PN	Pn	09 03 15.3	+0.3
WHHZ			AML	AML	09 03 41.2	
WHHZ			AML	AML	09 03 42.0	
WPRZ	**Whakapapatarin**	**1.32 238**	⇑P*	Pn	09 03 15.3	-0.2
MHGZ	**Mahia Peninsul**	**1.35 169**	PN	Pn	09 03 15.2	-0.8
MHGZ			AML	AML	09 03 55.5	
MRHZ	**Matea Rd**	**1.37 222**	P*	Pn	09 03 15.5	-0.7
MRHZ			AML	AML	09 03 37.3	
MRHZ			AML	AML	09 03 37.9	
NMHZ	**Naumai**	**1.41 206**	PN	Pn	09 03 17.1	+0.2
NMHZ			AML	AML	09 03 43.5	
NMHZ			AML	AML	09 03 46.2	
ARHZ	**Aropaoanui**	**1.51 198**	PN	Pn	09 03 18.3	+0.1
ARHZ			AML	AML	09 03 46.9	
ARHZ			AML	AML	09 03 49.1	
KUTZ	**Kaahu Road**	**1.54 244**	P*	Pn	09 03 18.2	-0.4
BKZ	**Black Stump Fm**	**1.59 212**	⇓P*	Pn	09 03 18.6	-0.7
BKZ			AML	AML	09 03 46.9	
BKZ			AML	AML	09 03 47.2	
TOZ	**Tahuroa Road**	**1.66 273**	P*	Pn	09 03 19.4	-0.7
TLZ	**Tolley Road**	**1.69 252**	⇓P*	Pn	09 03 20.2	-0.5
MCHZ	**McNeill Hill**	**1.76 203**	PN	Pn	09 03 21.8	+0.2
MCHZ			AML	AML	09 03 56.3	
MCHZ			AML	AML	09 04 07.1	
KUZ	**Kuaotunu**	**1.84 305**	⇓PN	Pn	09 03 21.5	-1.1
KWHZ	**Kaweka Forest**	**1.84 209**	P*	Pn	09 03 22.8	+0.1
KWHZ			AML	AML	09 03 55.1	
KWHZ			AML	AML	09 03 57.4	
CKHZ	**Cape Kidnapper**	**1.88 192**	PN	Pn	09 03 22.0	-1.2
CKHZ			AML	AML	09 03 46.5	
CKHZ			AML	AML	09 03 46.7	
KATZ	**Kakaramea**	**1.88 232**	⇑P*	Pn	09 03 23.5	+0.1
KRVZ	**Karewarewa**	**1.99 230**	⇓P*	Pn	09 03 24.6	-0.2
OTVZ	**Oturere**	**2.02 228**	⇓P*	Pn	09 03 24.9	-0.3
WTVZ	**West Tongariro**	**2.03 230**	P*	Pn	09 03 25.3	-0.1
KAHZ	**Kahuranaki**	**2.04 196**	PN	Pn	09 03 24.5	-1.1
KAHZ			AML	AML	09 03 52.2	
KAHZ			AML	AML	09 04 12.1	
BHHZ	**Black Hill Sta**	**2.05 215**	P*	Pn	09 03 25.1	-0.5
BHHZ			AML	AML	09 04 00.6	
BHHZ			AML	AML	09 04 01.5	
KRHZ	**Kereru**	**2.05 207**	PN	Pn	09 03 25.1	-0.5
KRHZ			AML	AML	09 03 52.2	
KRHZ			AML	AML	09 04 01.0	
MKAZ	**Moumakai**	**2.06 290**	PN	Pn	09 03 25.1	-0.6
NGZ	**Ngauruhoe**	**2.06 228**	P*	Pn	09 03 25.6	-0.3
TUVZ	**Tukino**	**2.09 226**	P*	Pn	09 03 25.9	-0.4
TWVZ	**Taurewa**	**2.10 233**	P*	Pn	09 03 27.0	+0.7
MOVZ	**Moawhango**	**2.14 222**	P*	Pn	09 03 26.0	-0.8
WHVZ	**Whangaehu Hut**	**2.14 226**	⇓P*	Pn	09 03 26.5	-0.5
FWVZ	**Far West T-bar**	**2.14 228**	P*	Pn	09 03 26.5	-0.5
WNVZ	**Wahianoa**	**2.17 225**	⇓P*	Pn	09 03 26.7	-0.6
WIAZ	**Waiheke Island**	**2.21 297**	PN	Pn	09 03 27.2	-0.5
HIZ	**Hauiti**	**2.26 251**	⇓PN	Pn	09 03 30.0	+1.5
KBAZ	**Karaka Road Bo**	**2.27 288**	⇓PN	Pn	09 03 28.7	+0.2
PXZ	**Pawanui**	**2.28 194**	PN	Pn	09 03 26.4	-2.3
PXZ			AML	AML	09 03 55.4	
PXZ			AML	AML	09 03 55.4	
PXZ			AML	AML	09 03 55.8	
PXZ			AML	AML	09 03 55.8	
MTVZ	**Mangateitei**	**2.28 226**	P*	Pn	09 03 28.3	-0.4
PKVZ	**Pokaka**	**2.29 230**	P*	Pn	09 03 29.3	+0.5
ETAZ	**East Tamaki Re**	**2.29 291**	⇓PN	Pn	09 03 28.6	-0.3
GRZ	**Great Barrier**	**2.32 312**	⇓PN	Pn	09 03 28.5	-0.7
PNHZ	**Pukenui**	**2.35 207**	PN	Pn	09 03 28.4	-1.3
PNHZ			AML	AML	09 04 10.1	
PNHZ			AML	AML	09 04 11.3	
WPHZ	**Waipukurau**	**2.41 201**	PN	Pn	09 03 29.5	-1.0
AWAZ	**Awhitu Peninsu**	**2.46 287**	PN	Pn	09 03 31.2	0.0
PRHZ	**Porangahau**	**2.55 197**	PN	Pn	09 03 30.1	-2.3
PRHZ			AML	AML	09 04 01.4	
PRHZ			AML	AML	09 04 02.2	
TSZ	**Takapari Road**	**2.57 209**	PN	Pn	09 03 31.0	-1.6
TSZ			AML	AML	09 04 14.6	
TSZ			AML	AML	09 04 20.4	
VRZ	**Vera Road**	**2.57 239**	P*	Pn	09 03 33.3	+0.5
RVAZ	**Riverhead Bore**	**2.62 293**	⇓PN	Pn	09 03 33.4	0.0
DVHZ	**Dannevirke**	**2.71 204**	PN	Pn	09 03 32.7	-1.9
DVHZ			AML	AML	09 04 06.4	
DVHZ			AML	AML	09 04 08.1	
ANWZ	**Angora Road**	**2.77 198**	PN	Pn	09 03 33.6	-1.9
ANWZ			AML	AML	09 04 07.4	
ANWZ			AML	AML	09 04 10.3	
WAZ	**Wanganui**	**2.80 226**	⇑PN	Pn	09 03 36.3	+0.4
MHEZ	**Mangahewa**	**2.85 243**	PN	Pn	09 03 38.9	+2.4
POWZ	**Post Office Ro**	**2.93 208**	PN	Pn	09 03 36.4	-1.2
POWZ			AML	AML	09 04 29.2	
POWZ			AML	AML	09 04 39.3	
OHWZ	**Ohakea**	**2.96 216**	PN	Pn	09 03 37.9	-0.2
PRWZ	**Pori Road**	**3.00 204**	PN	Pn	09 03 37.6	-1.1
BFZ	**Birch Farm**	**3.04 200**	PN	Pn	09 03 36.4	-2.7
NEZ	**North Egmont**	**3.10 241**	PN	Pn	09 03 42.0	+2.0
WCZ	**Waipu Caves**	**3.21 305**	⇓PN	Pn	09 03 41.3	-0.1
TIWZ	**Tintock**	**3.23 204**	PN	Pn	09 03 39.4	-2.4
TIWZ			AML	AML	09 04 19.4	
TIWZ			AML	AML	09 04 24.2	
MRZ	**Mangatainoka R**	**3.23 208**	PN	Pn	09 03 38.9	-3.0
MRZ			AML	AML	09 04 17.6	
MRZ			AML	AML	09 04 21.2	
HOWZ	**Holdsworth Sta**	**3.46 207**	PN	Pn	09 03 41.8	-3.2
OGWZ	**Otaki Gorge**	**3.53 211**	PN	Pn	09 03 43.4	-2.4
OGWZ			AML	AML	09 04 43.5	
OGWZ			AML	AML	09 04 47.5	
TMWZ	**Te Maipa**	**3.53 201**	PN	Pn	09 03 42.8	-3.1
TMWZ			AML	AML	09 04 24.5	
TMWZ			AML	AML	09 04 25.9	
KIW	**Kapiti Island**	**3.68 214**	PN	Pn	09 03 45.5	-2.4
MTW	**Mount Morrison**	**3.70 205**	PN	Pn	09 03 45.1	-3.1
CAW	**Cannon Point**	**3.82 210**	PN	Pn	09 03 46.0	-3.8
CAW			AML	AML	09 04 53.5	
PAWZ	**Paruwai Farm**	**3.93 204**	PN	Pn	09 03 47.9	-3.5
WEL	**Wellington**	**4.09 211**	AML	AML	09 04 38.2	
DUWZ	**D'Urville Isla**	**4.12 223**	PN	Pn	09 03 51.6	-2.4
OUZ	**Omahuta**	**4.13 308**	PN	Pn	09 03 54.4	+0.3
PLWZ	**Palliser**	**4.15 205**	PN	Pn	09 03 50.3	-4.2
PLWZ			AML	AML	09 04 38.1	
PLWZ			AML	AML	09 04 38.4	
TCW	**Tory Channel**	**4.24 216**	PN	Pn	09 03 52.1	-3.5
TCW			AML	AML	09 04 43.5	
TCW			AML	AML	09 04 44.7	
TUWZ	**Tuamarina**	**4.57 217**	PN	Pn	09 03 57.1	-3.0
NNZ	**Nelson**	**4.70 223**	PN	Pn	09 03 58.7	-3.2
BSWZ	**Blackbirch Sta**	**4.83 215**	PN	Pn	09 04 00.5	-3.2
QRZ	**Quartz Range**	**4.94 231**	PN	Pn	09 04 03.1	-2.0
THZ	**Tophouse**	**5.34 221**	PN	Pn	09 04 07.3	-3.4
KHZ	**Kahutara**	**5.54 213**	PN	Pn	09 04 09.4	-4.0
DSZ	**Denniston Nort**	**5.93 227**	PN	Pn	09 04 15.1	-3.7
LTZ	**Lake Taylor**	**6.41 218**	PN	Pn	09 04 20.6	-4.8
INZ	**Inchbonnie**	**6.78 222**	PN	Pn	09 04 28.8	-1.8
OXZ	**Oxford**	**6.93 216**	PN	Pn	09 04 28.0	-4.6
MQZ	**McQueen's Vall**	**6.97 211**	PN	Pn	09 04 27.6	-5.4
CTZ	**Chatham Island**	**7.36 145**	PN	Pn	09 04 36.0	-2.4
WVZ	**Waitaha Valley**	**7.40 223**	PN	Pn	09 04 38.0	-0.9
RPZ	**Rata Peaks**	**7.69 218**	PN	Pn	09 04 39.4	-3.6
FOZ	**Fox Glacier**	**8.21 224**	PN	Pn	09 04 47.8	-2.2
ODZ	**Otahua Downs**	**8.90 214**	PN	Pn	09 04 54.2	-5.3
TUZ	**Tuapeka**	**10.05 214**	PN	Pn	09 05 10.8	-4.5

IDC 09 09:06:04.8±2.2, **23°.47S**×**179°.28W, h556**km±55km, **mb3.2**/5, **mb1 3.3**/8, **mb1mx3.1**/26, **mbtmp4.3**/8, **Error ellipse: s-maj=34.8km s-min=21.6km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.87**	**38**	P	P	09 08 42.8	+0.6
	5.2nm,0.3s,baz=224,slow=0.5,SNR=12						
AFI				S	S	09 10 51.5	-0.1
	1.4nm,0.3s,baz=73,slow=19,SNR=2.9						
DZM	**Mont Dzumac**	**13.24**	**273**	P	P	09 08 56.8	+0.4
	0.3nm,0.3s,baz=77,slow=19,SNR=6.2						
URZ	**Urewera**	**15.06**	**191**	P	P	09 09 12.7	-1.9
	1.4nm,0.3s,baz=249,slow=3.2,SNR=9.7						
URZ				S	S	09 11 47.7	-3.0
	0.3nm,0.3s,baz=252,slow=19,SNR=5.1						
RPZ	**Rata Peaks**	**21.71**	**199**	P	P	09 10 16.0	+0.2
	20nm,0.6s,baz=8.1,slow=1.9,SNR=15						
CTA	**Charters Tower**	**32.14**	**269**	P	P	09 11 47.6	+0.2
	3.0nm,0.3s,baz=97,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**35.49**	**248**	P	P	09 12 15.7	+0.3
	1.6nm,0.6s,baz=92,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**42.76**	**260**	P	P	09 13 13.9	-0.2
	0.3nm,0.3s,baz=89,slow=7.9,SNR=6.8						
WRA	**Warramunga Arr**	**43.09**	**265**	P	P	09 13 16.0	-0.7
	0.2nm,0.3s,baz=96,slow=8.4,SNR=12						

IDC 09 09:06:41.1±9.2, **55°.59N**×**85°.12E, h0**km, **Error ellipse: s-maj=52.3km s-min=28.2km az=6.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**186**	*i*		09 18 10.0	
	baz=6.8,slow=327,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.65**	**186**	Pg	Pn	09 07 11.5	+0.1
	0.3nm,0.3s,baz=7.0,slow=18,SNR=2.9						
ZALV				Lg	Lg	09 07 33.1	
	0.4nm,0.3s,baz=3.3,slow=29,SNR=5.7						
I34MN	**SONGINO INFRAS**	**15.28**	**112**	*i*		10 35 00.0	
	baz=312,slow=330,SNR=0.3						

IDC 09 09:23:33.1±515.0, **54°.27N**×**83°.93E, h0**km, **Error ellipse: s-maj=217.0km s-min=14.5km az=121.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.62**	**121**	*i*		09 27 10.0	
	baz=302,slow=327,SNR=9.2						
ZALV	**Zalesovo Beam**	**0.62**	**121**	*i*		09 28 40.0	
	1.9nm,0.3s,baz=305,slow=32,SNR=13						
I34MN	**SONGINO INFRAS**	**15.52**	**105**	*i*		10 52 40.0	
	baz=308,slow=328,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**16.25**	**267**	*i*		11 08 00.0	
	baz=65,slow=316,SNR=0.4						

IDC 09 09:23:38.6±4.1, **17°.78S**×**176°.94W, h0**km, **mb4.1**/4, **mb1 4.3**/4, **mb1mx3.8**/29, **mbtmp4.1**/4, **Error ellipse: s-maj=177.1km s-min=34.3km az=138.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.92**	**241**	P	P	09 31 15.2	+0.6
	1.0nm,0.3s,baz=79,slow=9.4,SNR=7.8						
WRA	**Warramunga Arr**	**46.03**	**259**	P	P	09 32 04.1	-0.4
	2.5nm,0.5s,baz=97,slow=7.3,SNR=52						
ASAR	**Alice Springs**	**46.17**	**254**	P	P	09 32 04.9	-0.6
	2.9nm,0.7s,baz=87,slow=8.0,SNR=76						
ILAR	**Eielson Array**	**85.46**	**12**	P	P	09 36 17.9	0.0
	0.2nm,0.4s,baz=216,slow=4.9,SNR=5.6						

IDC ***09*** *09:53:07.1*±*0.9, 37°.23S*×*179°.72E, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.1/45, mbtmp4.4/9, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/41, Error ellipse: s-maj=28.0km s-min=22.3km az=7.0*

WEL ***09*** *09:53:09.5*±*0.3, 37°.40S*×*179°.89E, h12km, ML4.5/80, Error ellipse: s-maj=3.3km s-min=2.8km az=0.0*

NEIC ***09*** *09:53:09.5*±*0.0, 37°.32S*×*179°.98E, h75km, mb4.7/9, ML4.8(WEL), After WEL.*

ISCJB ***09*** *09:53:14.9*±*0.8, 37°.87S*±*0°.03*×*179°.52E*±*0°.08, h84km*±*4km, mb4.6/14, Error ellipse: s-maj=10.6km s-min=5.4km az=177.5*

ISC 09 09:53:16.2±1.8, **37°.73S**±**0°.06**×**179°.6E**±**0°.1, h70**km±12km, **n165,** σ**2**§**27**/184, **mb4.5**/14, **9C-14D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.92**	**264**	⇓P*	**Pn**	**09 53 32.0**	**-1.7**
WMGZ				AML	AML	09 53 50.2	
WMGZ				AML	AML	09 53 50.6	
MXZ	**Matakaoa Point**	**1.02**	**279**	*e*Pn	**Pn**	**09 53 31.6**	**-3.3**
MXZ				*e*Sn	**Sn**	**09 53 48.8**	**-0.1**
PUZ	**Puketiti**	**1.10**	**251**	⇑PN	**Pn**	**09 53 34.9**	**-1.1**
PUZ				AML	AML	09 53 55.7	
PUZ				AML	AML	09 53 56.0	
PKGZ	**Pakihiroa**	**1.20**	**262**	⇓PN	**Pn**	**09 53 35.5**	**-1.8**
PKGZ				AML	AML	09 53 56.3	
PKGZ				AML	AML	09 53 56.6	
CNGZ	**Carnagh Statio**	**1.32**	**235**	⇓PN	**Pn**	**09 53 39.0**	**+0.3**
CNGZ				AML	AML	09 54 13.8	
CNGZ				AML	AML	09 54 18.1	
TWGZ	**Tauwhareparae**	**1.34**	**250**	⇓PN	**Pn**	**09 53 38.4**	**-0.7**
TWGZ				SN	**Sn**	**09 53 59.9**	**+3.7**
TWGZ				AML	AML	09 54 03.5	
HAZ	**Te Kaha**	**1.42**	**268**	⇓PN	**Pn**	**09 53 38.5**	**-1.5**
HAZ				SN	**Sn**	**09 54 00.1**	**+2.1**
HAZ				AML	AML	09 54 01.4	
HAZ				AML	AML	09 54 01.4	
HAZ				AML	AML	09 54 02.9	
RUGZ	**Raukumara Rang**	**1.52**	**260**	⇓PN	**Pn**	**09 53 40.0**	**-1.5**
TKGZ	**Te Karaka**	**1.54**	**242**	⇑PN	**Pn**	**09 53 41.5**	**-0.1**
TKGZ				SN	**Sn**	**09 54 05.1**	**+4.3**
TKGZ				AML	AML	09 54 06.9	
MWZ	**Matawai**	**1.73**	**249**	PN	**Pn**	**09 53 43.1**	**-1.1**
MWZ				AML	AML	09 54 19.9	
MWZ				AML	AML	09 54 22.7	
RIGZ	**Rimuhau**	**1.73**	**235**	PN	**Pn**	**09 53 44.1**	**-0.1**
RIGZ				AML	AML	09 54 13.2	
RIGZ				AML	AML	09 54 13.9	
PRGZ	**Paritu Road**	**1.79**	**228**	PN	**Pn**	**09 53 45.1**	**+0.1**
PRGZ				AML	AML	09 54 15.0	
PRGZ				AML	AML	09 54 16.0	
RAGZ	**Rawiri**	**1.87**	**245**	⇓PN	**Pn**	**09 53 45.4**	**-0.7**
RAGZ				AML	AML	09 54 20.7	
RAGZ				AML	AML	09 54 24.2	
MHGZ	**Mahia Peninsul**	**1.93**	**222**	PN	**Pn**	**09 53 46.9**	**0.0**
MHGZ				AML	AML	09 54 19.8	
MHGZ				AML	AML	09 54 24.8	
KNZ	**Kokohu**	**1.98**	**229**	PN	**Pn**	**09 53 47.0**	**-0.4**
URZ	**Urewera**	**2.02**	**254**	Pn	**Pn**	**09 53 47.3**	**-0.7**
	310nm,0.3s,baz=58,slow=2.5,SNR=1718						
URZ				Sn	**Sn**	**09 54 15.5**	**+3.2**
	202nm,0.3s,baz=217,slow=22,SNR=21						
URZ	**Urewera**	**2.02**	**254**	*e*Pn	**Pn**	**09 53 47.7**	**-0.3**
URZ				Sn	**Sn**	**09 54 15.5**	**+3.2**
URZ	**Urewera**	**2.02**	**254**	PN	**Pn**	**09 53 47.5**	**-0.6**
URZ				SN	**Sn**	**09 54 15.2**	**+2.9**
URZ				AML	AML	09 54 20.2	
SNGZ	**Shannon Statio**	**2.05**	**238**	PN	**Pn**	**09 53 48.2**	**-0.3**
SNGZ				AML	AML	09 54 21.0	
SNGZ				AML	AML	09 54 22.4	
RTZ	**Ruatahuna**	**2.23**	**246**	PN	**Pn**	**09 53 50.6**	**-0.4**
EDRZ	**Edgecumbe**	**2.27**	**260**	PN	**Pn**	**09 53 50.5**	**-1.1**
EDRZ				AML	AML	09 54 33.0	
EDRZ				AML	AML	09 54 33.4	
WHHZ	**Waihua**	**2.28**	**233**	PN	**Pn**	**09 53 51.7**	**+0.1**
WHHZ				AML	AML	09 54 25.8	
WHHZ				AML	AML	09 54 26.4	
MARZ	**Manawahe**	**2.31**	**263**	PN	**Pn**	**09 53 50.4**	**-1.7**
MARZ				AML	AML	09 54 22.9	
MARZ				AML	AML	09 54 24.8	
MUGZ	**Murupara**	**2.34**	**250**	PN	**Pn**	**09 53 51.7**	**-0.6**
OPRZ	**Ohinepanea**	**2.40**	**266**	PN	**Pn**	**09 53 51.0**	**-2.2**
OPRZ				AML	AML	09 54 23.3	
OPRZ				AML	AML	09 54 30.7	
TARZ	**Mount Tarawera**	**2.48**	**257**	PN	**Pn**	**09 53 53.6**	**-0.8**
TARZ				AML	AML	09 54 32.6	
TARZ				AML	AML	09 54 37.9	
RRRZ	**Republican Roa**	**2.49**	**255**	PN	**Pn**	**09 53 53.8**	**-0.7**
RRRZ				AML	AML	09 54 21.0	
RRRZ				AML	AML	09 54 28.3	
ARHZ	**Aropaoanui**	**2.54**	**232**	PN	**Pn**	**09 53 55.1**	**0.0**
ARHZ				AML	AML	09 54 32.1	
ARHZ				AML	AML	09 54 32.5	
OMRZ	**Omania**	**2.56**	**261**	AML	AML	09 54 29.0	
NMHZ	**Naumai**	**2.57**	**237**	⇓PN	**Pn**	**09 53 55.6**	**0.0**
NMHZ				AML	AML	09 54 34.7	
NMHZ				AML	AML	09 54 36.2	
HLRZ	**Highlands Stat**	**2.60**	**257**	PN	**Pn**	**09 53 55.1**	**-0.9**
HLRZ				AML	AML	09 54 36.2	
HLRZ				AML	AML	09 54 47.4	
PRRZ	**Plateau Road**	**2.62**	**252**	PN	**Pn**	**09 53 55.6**	**-0.7**
PRRZ				AML	AML	09 54 45.1	
PRRZ				AML	AML	09 54 54.7	
TGRZ	**Tauranga**	**2.63**	**269**	⇓PN	**Pn**	**09 53 54.1**	**-2.2**
TGRZ				AML	AML	09 54 38.0	
TGRZ				AML	AML	09 54 46.5	
KARZ	**Kaharoa**	**2.65**	**263**	PN	**Pn**	**09 53 55.0**	**-1.7**
KARZ				AML	AML	09 54 15.6	
KARZ				AML	AML	09 54 30.6	
ALRZ	**Allen Road**	**2.68**	**251**	PN	**Pn**	**09 53 56.5**	**-0.6**
ALRZ				AML	AML	09 54 35.4	
ALRZ				AML	AML	09 54 39.6	
MRHZ	**Matea Rd**	**2.72**	**245**	⇑PN	**Pn**	**09 53 57.1**	**-0.5**
MRHZ				AML	AML	09 54 33.9	
MRHZ				AML	AML	09 54 35.6	
CKHZ	**Cape Kidnapper**	**2.74**	**225**	PN	**Pn**	**09 53 57.4**	**-0.5**
CKHZ				AML	AML	09 54 37.1	
CKHZ				AML	AML	09 54 40.3	
BKZ	**Black Stump Fm**	**2.81**	**238**	*e*Pn	**Pn**	**09 53 58.8**	**-0.1**
BKZ	**Black Stump Fm**	**2.81**	**238**	PN	**Pn**	**09 53 58.6**	**-0.3**
BKZ				AML	AML	09 54 36.3	
BKZ				AML	AML	09 54 39.4	
MCHZ	**McNeill Hill**	**2.83**	**232**	PN	**Pn**	**09 53 59.0**	**-0.1**
MCHZ				AML	AML	09 54 41.4	
MCHZ				AML	AML	09 54 41.7	
KAHZ	**Kahuranaki**	**2.95**	**225**	PN	**Pn**	**09 54 00.0**	**-0.7**
KAHZ				AML	AML	09 54 45.8	
KAHZ				AML	AML	09 54 48.9	
KWHZ	**Kaweka Forest**	**3.00**	**235**	PN	**Pn**	**09 54 00.8**	**-0.6**
KWHZ				AML	AML	09 54 44.1	
KWHZ				AML	AML	09 54 44.5	
KUTZ	**Kaahu Road**	**3.06**	**254**	PN	**Pn**	**09 54 01.4**	**-0.7**
PXZ	**Pawanui**	**3.12**	**222**	⇑PN	**Pn**	**09 54 01.6**	**-1.4**
PXZ				AML	AML	09 54 49.6	
PXZ				AML	AML	09 54 49.7	
PXZ				AML	AML	09 54 58.6	
PXZ				AML	AML	09 54 58.6	
KRHZ	**Kereru**	**3.15**	**232**	PN	**Pn**	**09 54 02.7**	**-0.8**
KRHZ				AML	AML	09 54 45.3	
KRHZ				AML	AML	09 54 46.2	
KUZ	**Kua

DVHZ Dannevirke 3.69 225 PN **Pn 09 54 09.2 -1.6**
DVHZ AML AML 09 54 58.2
DVHZ AML AML 09 54 58.4
ETAZ East Tamaki Re 3.78 280 ⇓PN **Pn 09 54 09.7 -2.3**
KBAZ Karaka Road Bo 3.79 278 PN **Pn 09 54 10.3 -1.8**
HIZ Hauiti 3.80 257 *e*Pn **Pn 09 54 13.4 +1.1**
HIZ *e*Sn Sn 09 55 05.9 +10
HIZ Hauiti 3.80 257 PN **Pn 09 54 13.1 +0.8**
BFZ Birch Farm 3.92 220 *e*Pn **Pn 09 54 11.8 -2.1**
BFZ *e*Sn **Sn 09 54 59.8 +1.0**
BFZ Birch Farm 3.92 220 PN **Pn 09 54 11.6 -2.4**
BFZ AML AML 09 55 04.5
BFZ AML AML 09 55 06.2
PRWZ Pori Road 3.98 224 PN **Pn 09 54 13.2 -1.4**
PRWZ AML AML 09 55 08.3
PRWZ AML AML 09 55 09.6
POWZ Post Office Ro 3.98 227 PN **Pn 09 54 13.5 -1.2**
POWZ AML AML 09 55 10.3
POWZ AML AML 09 55 11.4
AWAZ Awhitu Peninsu 3.98 278 PN **Pn 09 54 13.0 -1.7**
WTAZ Waiatarua 4.07 280 PN **Pn 09 54 13.1 -2.8**
RVAZ Riverhead Bore 4.10 282 ⇑PN **Pn 09 54 14.3 -2.0**
WAZ Wanganui 4.12 239 ⇑PN **Pn 09 54 16.4 -0.3**
WAZ AML AML 09 55 14.9
WAZ AML AML 09 55 15.1
TIWZ Tintock 4.18 222 PN **Pn 09 54 15.7 -1.7**
TIWZ AML AML 09 55 12.7
TIWZ AML AML 09 55 16.2
MRZ Mangatainoka R 4.27 225 PN **Pn 09 54 16.5 -2.1**
MRZ AML AML 09 55 11.4
MRZ AML AML 09 55 11.6
TMWZ Te Maipa 4.42 219 PN **Pn 09 54 18.1 -2.6**
TMWZ AML AML 09 55 15.7
TMWZ AML AML 09 55 16.2
HOWZ Holdsworth Sta 4.46 224 PN **Pn 09 54 19.2 -2.1**
HOWZ AML AML 09 55 16.2
HOWZ AML AML 09 55 17.2
PREZ Palmer Road 4.54 248 AML AML 09 54 47.1
PREZ AML AML 09 55 33.7
WCZ Waipu Caves 4.56 291 PN **Pn 09 54 19.2 -3.4**
WCZ AML AML 09 54 20.2
WCZ AML AML 09 54 20.7
NEZ North Egmont 4.57 249 PN **Pn 09 54 24.0 +1.2**
OGWZ Otaki Gorge 4.60 227 PN **Pn 09 54 20.9 -2.3**
OGWZ AML AML 09 55 18.2
OGWZ AML AML 09 55 20.0
MTW Mount Morrison 4.66 221 PN **Pn 09 54 21.4 -2.5**
MTW AML AML 09 55 18.7
MTW AML AML 09 55 20.6
TRWZ Traveller 4.74 218 *e*PN **Pn 09 54 21.5 -3.6**
TRWZ AML AML 09 55 22.9
TRWZ AML AML 09 55 25.5
KIW Kapiti Island 4.78 228 PN **Pn 09 54 23.4 -2.3**
KIW AML AML 09 55 24.6
KIW AML AML 09 55 25.8
CAW Cannon Point 4.86 225 PN **Pn 09 54 24.1 -2.5**
CAW AML AML 09 55 25.6
CAW AML AML 09 55 28.0
PAWZ Paruwai Farm 4.86 220 *e*PN **Pn 09 54 23.4 -3.4**
PAWZ AML AML 09 55 25.3
PAWZ AML AML 09 55 26.2
MSWZ Moikau Station 4.97 221 ⇓PN **Pn 09 54 25.2 -3.1**
MSWZ AML AML 09 55 30.2
MSWZ AML AML 09 55 38.1
PLWZ Palliser 5.08 220 PN **Pn 09 54 26.4 -3.4**
PLWZ AML AML 09 55 31.2
PLWZ AML AML 09 55 31.5
SNZO South Karori 5.19 225 *e*Pn **Pn 09 54 28.5 -2.7**
SNZO *e*Sn **Sn 09 55 33.4 +3.6**
TCW Tory Channel 5.38 228 PN **Pn 09 54 31.2 -2.6**
TCW AML AML 09 55 36.5
TCW AML AML 09 55 39.2
OUZ Omahuta 5.43 296 *e*Pn **Pn 09 54 31.4 -3.1**
OUZ Omahuta 5.43 296 PN **Pn 09 54 31.0 -3.5**
NNZ Nelson 5.92 232 PN **Pn 09 54 38.1 -3.2**
BSWZ Blackbirch Sta 5.93 226 *e*PN **Pn 09 54 38.1 -3.3**
QRZ Quartz Range 6.28 238 PN **Pn 09 54 43.1 -3.0**
QRZ AML AML 09 55 57.8
QRZ AML AML 09 55 57.8
QRZ AML AML 09 56 00.7
THZ Tophouse 6.53 230 *e*Pn **Pn 09 54 46.5 -3.1**
THZ *e*Sn **Sn 09 56 04.3 +1.7**
THZ Tophouse 6.53 230 PN **Pn 09 54 46.4 -3.1**
THZ AML AML 09 56 06.1
THZ AML AML 09 56 14.2
KHZ Kahutara 6.58 223 *e*Pn **Pn 09 54 46.9 -3.3**
KHZ *e*Sn **Sn 09 56 03.3 -0.5**
CTZ Chatham Island 6.66 155 PN **Pn 09 54 50.6 -0.7**
DSZ Dennistoun Nort 7.21 234 AML AML 09 56 19.4
LTZ Lake Taylor 7.53 226 *e*Pn **Pn 09 54 59.3 -3.9**
LTZ Lake Taylor 7.53 226 PN **Pn 09 54 58.8 -4.4**
CRLZ Canterbury Las 7.87 220 *e*Pn **Pn 09 55 04.5 -3.3**
CRLZ *e*Sn **Sn 09 56 30.8 -4.6**
MQZ McQueen's Vall 7.95 219 *e*Pn **Pn 09 55 05.4 -3.5**
MQZ *e*Sn **Sn 09 56 33.5 -3.8**
MQZ McQueen's Vall 7.95 219 ⇓PN **Pn 09 55 05.7 -3.3**
INZ Inchbonnie 7.97 229 *e*PN **Pn 09 55 05.0 -4.2**
OXZ Oxford 8.01 223 *e*Pn **Pn 09 55 07.9 -1.9**
OXZ *e*Sn **Sn 09 56 40.0 +1.3**
OXZ Oxford 8.01 223 *e*PN **Pn 09 55 06.0 -3.8**
WVZ Waitaha Valley 8.60 229 *e*PN **Pn 09 55 15.7 -2.1**
RPZ Rata Peaks 8.81 225 Pn **Pn 09 55 17.7 -3.0**
4.9nm,0.3s,baz=100,slow=2.0,SNR=16
RPZ Sn **Sn 09 56 52.9 -5.3**
3.5nm,0.3s,baz=312,slow=21,SNR=16
RPZ Rata Peaks 8.81 225 *e*Pn **Pn 09 55 18.6 -2.0**
RPZ *e*Sn **Sn 09 56 56.5 -1.8**
RPZ Rata Peaks 8.81 225 *e*PN **Pn 09 55 17.7 -3.0**
FOZ Fox Glacier 9.41 229 *e*Pn **Pn 09 55 27.4 -1.5**
FOZ *e*Sn **Sn 09 57 08.7 -4.3**
LBZ Lake Benmore 9.72 224 *e*Pn **Pn 09 55 30.4 -2.7**
LBZ *e*Sn **Sn 09 57 18.1 -2.5**
ODZ Otahua Downs 9.92 220 *e*Pn **Pn 09 55 32.3 -3.5**
ODZ *e*Sn **Sn 09 57 21.0 -4.4**
ODZ Otahua Downs 9.92 220 ⇑PN **Pn 09 55 32.7 -3.1**
WKZ Wanaka 10.64 225 *e*Pn **Pn 09 55 43.4 -2.4**
WKZ *e*Sn **Sn 09 57 38.8 -4.3**
TUZ Tuapeka 11.06 219 *e*PN **Pn 09 55 48.4 -2.9**
MLZ Mavora Lakes 11.48 225 *e*Pn **Pn 09 55 55.2 -1.9**
MLZ *e*Sn **Sn 09 57 58.6 -4.9**
WHZ Wether Hill Ro 11.90 223 *e*Pn **Pn 09 56 01.8 -1.0**
DZM Mont Dzumac 19.28 320 P **P 09 57 30.8 -4.6**
0.1nm,0.3s,baz=323,slow=20,SNR=2.1
DZM LR LR 10 02 54.2
comp=Z,98nm,19.1s,baz=34,slow=31
RAR Rarotonga 24.29 53 LR 10 06 52.4
comp=Z,112nm,18.7s,baz=282,slow=34
STKA Stephens Creek 31.57 269 P **P 09 59 32.6 +0.5**
3.6nm,0.8s,baz=102,slow=10,SNR=7.5
STKA LR LR 10 12 16.8
comp=Z,62nm,18.2s,baz=198,slow=36
STKA Stephens Creek 31.57 269 *e*P **P 09 59 32.5 +0.5**
1.0nm,0.9s
HNR Honiara 33.27 323 *e*P **P 09 59 43.4 -3.6**
239nm,0.9s
CTA Charters Tower 33.82 292 P **P 09 59 51.3 -0.4**
5.7nm,1.0s,baz=172,slow=7.1,SNR=4.9
CTAO Charters Tower 33.82 292 *e*P **P 09 59 51.4 -0.4**
5.3nm,1.0s
COEN Coen 40.04 296 *e*P **P 10 00 43.2 -1.3**
15nm,0.5s
AS01 Alice Springs 41.27 276 *e*P **P 10 00 54.6 -0.1**
AS31 Alice Springs 41.30 276 *e*P **P 10 00 54.8 -0.2**
3.0nm,0.8s
ASAR Alice Springs 41.30 276 P **P 10 00 54.5 -0.5**
8.1nm,0.7s,baz=123,slow=8.1,SNR=98
WB2 Warramunga Arr 42.95 281 *e*P **P 10 01 07.5 -0.8**
5.2nm,0.6s
WRAB Tennant Creek 42.95 281 *e*P **P 10 01 06.9 -1.4**
4.9nm,0.6s
WRA Warramunga Arr 42.96 281 P **P 10 01 07.7 -0.8**
3.5nm,0.6s,baz=120,slow=7.8,SNR=52
WRA PcP **PcP 10 02 59.2 +1.3**
1.8nm,0.8s,baz=125,slow=3.3,SNR=6.5
NWAO Narrogin (SRO) 50.27 256 P **P 10 02 06.0 +0.5**
6.3nm,0.5s,baz=202,slow=5.4,SNR=8.9
NWAO Narrogin (SRO) 50.27 256 *e*P **P 10 02 05.8 +0.4**
12nm,0.8s
MBWA Marble Bar 53.81 270 *e*P **P 10 02 31.4 -0.5**
5.2nm,0.6s
SNAA Sanae 70.89 179 P P 10 04 30.2 +5.0
SNAA Sanae 70.89 179 P **P 10 04 29.7 +4.4**
1.5nm,1.0s,baz=185,slow=12,SNR=4.0
VNA3 Neumayer Olymp 71.13 177 P **P 10 04 30.0 +3.4**
VNA2 Neumayer--Watz 71.53 178 P **P 10 04 33.0 +3.9**
baz=193,slow=13
VNA1 Neumayer--Stat 71.78 177 P **P 10 04 32.1 +1.6**
CMAR Chiang Mai Arr 93.97 290 P **P 10 06 26.4 -0.1**
0.6nm,0.3s,baz=167,slow=4.2,SNR=5.7
KMI Kunming 95.37 298 P **P 10 06 34.7 +1.6**
KMI pmax pmax
comp=Z,9.0nm,0.6s
HHC Hu-ho-hao-te 99.89 314 *e*P **Pdif 10 06 53.0 +0.1**
MKAR Makanchi Array 120.79 308 PKP **PKPdf 10 11 59.8 +0.1**
comp=Z,0.2nm,0.3s,baz=124,slow=4.4,SNR=2.5
KSH Kashi 122.03 298 *e*PKP **PKPdf 10 12 02.1 -0.4**
KSH sPKP 10 12 16.3
KSH PP **PP 10 13 44.5 +6.1**
KSH PKS **PKSdf 10 15 37.7 -1.5**
KSH SKS **SKSdf 10 19 08.1 -0.2**
KSH SKKS **SKKSac 10 20 33.7 +3.2**
KSH Kashi 122.03 298 SS SS 10 30 22.8 +11
KSH AMB AMB
comp=Z,64nm,5.3s
KSH LR LR
comp=N,69nm,4.6s
KSH LR LR
comp=E,96nm,5.7s
KSH LR LR
comp=Z,86nm,6.3s
KURK Kurchatov 124.48 311 PKP **PKPdf 10 12 06.8 +0.2**
KURBB Kurchatov Arra 124.51 311 PKP **PKPdf 10 12 06.8 +0.2**
comp=Z,1.1nm,0.7s,baz=120,slow=1.7,SNR=8.0
ARCES ARCESS Array B 145.21 344 PKP **PKPdf 10 12 44.7 +0.2**
comp=Z,4.0nm,0.6s,baz=32,slow=1.9,SNR=30
KBZ Khabaz 146.92 294 PKPbc **PKPbc 10 12 50.6 +0.4**
comp=Z,1.3nm,0.4s,baz=165,slow=4.7,SNR=4.0
DBIC Dimbokro 148.82 171 PKPbc **PKPbc 10 12 57.0 +0.8**
comp=Z,2.4nm,0.9s,baz=135,slow=2.9,SNR=3.2
FINES FINESS Array B 151.09 334 PKPbc **PKPbc 10 12 59.4 -0.8**
comp=Z,1.8nm,0.5s,baz=44,slow=2.5,SNR=11
BRTR Keskin Array B 153.44 285 PKPbc **PKPbc 10 13 07.0 +0.5**
comp=Z,0.8nm,0.7s,baz=136,slow=3.4,SNR=3.4
AKASG Malin Array Be 155.29 311 PKPbc PKPdf 10 13 10.3 +10
comp=Z,1.0nm,0.6s,baz=58,slow=2.7,SNR=5.1
TORD Torodi Ar. Bea 155.45 185 PKPab **PKPab 10 13 29.9 +2.1**
comp=Z,1.0nm,0.7s,baz=173,slow=5.2,SNR=5.7

SCB ***09*** *09:55:14.0±0.4, 18°.54S×69°.62W, h98km, MI3.8/3, Error ellipse: s-maj=11.7km s-min=3.8km az=82.0*
ISCJB ***09*** *09:55:16.9±0.2, 18°.61S±0°.02×69°.49W±0°.04, h124km±2km, mb4.4/96, Error ellipse: s-maj=5.9km s-min=3.5km az=7.6*
GUC ***09*** *09:55:16.9±0.5, 18°.62S×69°.53W, h117km±3km, ML4.2*
NEIC ***09*** *09:55:16.0±0.0, 18°.62S×69°.53W, h117km, mb4.5/90, After GUC.*
IDC ***09*** *09:55:18.2±1.6, 18°.51S×69°.21W, h122km±14km, mb3.8/12, mb1 4.1/17, mb1mx3.8/48, mbtmp4.3/17, MS2.6/1, Ms1 2.7/1, ms1mx2.4/41, Error ellipse: s-maj=16.9km s-min=13.1km az=71.0*
ISC 09 09:55:16.9±0.6, 18°.58S±0°.03×69°.53W±0°.05, h113km±5km, n166, σ1§49/186, mb4.4/96, 11C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.56**	**187**	*e*P	**Pn**	**Pn**	**09 55 35.3**	**+0.5**
MNMC				*e*S	**Sn**	**Sn**	**09 55 48.7**	**+0.4**
PB12	**IPOC Station P**	**0.76**	**267**	*e*P	**Pn**	**Pn**	**09 55 36.9**	**+0.6**
PB12				*e*S	**Sn**	**Sn**	**09 55 51.8**	**+1.1**
PSGC	**Pisagua**	**1.16**	**209**	*e*P	**Pn**	**Pn**	**09 55 40.6**	**+0.3**
PSGC				*e*S	**Sn**	**Sn**	**09 55 58.7**	**+0.8**
PSGC				IAML			09 56 00.1	
comp=N,6μm,0.3s								
PB08	**IPOC Station P**	**1.60**	**167**	*e*P	**Pn**	**Pn**	**09 55 46.4**	**+0.9**
PB08				*e*S	**Sn**	**Sn**	**09 56 08.3**	**+1.2**
PB08				IAML			09 56 09.8	
comp=E,2μm,0.2s								
HMBC	**Humberstone**	**1.73**	**191**	*e*P	**Pn**	**Pn**	**09 55 46.9**	**0.0**
HMBC				*e*S	**Sn**	**Sn**	**09 56 10.2**	**+0.6**
HMBC				IAML			09 56 15.5	
comp=N,4μm,0.5s								
BBOJ	**La Paz, Jacaqu**	**2.04**	**39**	⇑*i*Pn	**Pn**	**Pn**	**09 55 52.6**	**+1.5**
BBOJ				⇑*i*Sn	**Sn**	**Sn**	**09 56 19.6**	**+2.5**
comp=N,233nm,0.8s								
BBOD	**La Paz, Gloria**	**2.12**	**25**	⇑*i*Pn	**Pn**	**Pn**	**09 55 53.0**	**+0.8**
BBOD				⇑*i*Sn	**Sn**	**Sn**	**09 56 21.2**	**+2.2**
comp=N,346nm,0.7s								
BBOE	**La Paz, Chanca**	**2.29**	**40**	⇑*i*Pn	**Pn**	**Pn**	**09 55 55.7**	**+1.4**
BBOE				⇑*i*Sn	**Sn**	**Sn**	**09 56 24.7**	**+1.9**
PB01	**IPOC Station P**	**2.46**	**179**	*e*P	**Pn**	**Pn**	**09 55 56.3**	**+0.3**
PB01				*e*S	**Sn**	**Sn**	**09 56 25.9**	**-0.1**
PB01				IAML			09 56 33.9	
comp=N,2μm,0.3s								
PB01	**IPOC Station P**	**2.46**	**179**	*e*Pn	**Pn**	**Pn**	**09 55 57.2**	**+1.2**
PB01				*e*Sn	**Sn**	**Sn**	**09 56 28.1**	**+2.1**
LPAZ	**La Paz**	**2.64**	**31**	P	**Pn**	**Pn**	**09 55 59.9**	**+1.0**
comp=N,14nm,0.3s,baz=262,slow=3.3,SNR=721								
LPAZ				S	**Sn**	**Sn**	**09 56 31.3**	**+0.4**
comp=N,5.7nm,0.3s,baz=241,slow=18,SNR=3.7								
LPAZ				LR	LR	LR	09 57 00.4	
comp=N,122nm,20.8s,baz=86,slow=42								
LPAZ	**La Paz**	**2.64**	**31**	⇑*i*Pn	**Pn**	**Pn**	**09 55 59.7**	**+0.8**
BBOB	**La Paz, Bander**	**2.76**	**29**	⇑*i*Pn	**Pn**	**Pn**	**09 56 01.1**	**+0.7**
BBOB				⇑*i*Sn	**Sn**	**Sn**	**09 56 35.5**	**+1.7**
comp=N,130nm,0.5s								
PB07	**IPOC Station P**	**3.15**	**186**	*i* P	**Pn**	**Pn**	**09 56 05.9**	**+0.7**
PB09	**IPOC Station P**	**3.22**	**175**	*e*P	**Pn**	**Pn**	**09 56 07.2**	**+1.2**
PB04	**IPOC Station P**	**3.79**	**189**	*e*Pn	**Pn**	**Pn**	**09 56 14.3**	**+0.6**
PB04				*e*Sn	Sn	Sn	09 56 46.5	-11
LVC	**Limon Verde**	**4.06**	**172**	P	**Pn**	**Pn**	**09 56 18.6**	**+1.1**
comp=N,598nm,0.3s,baz=343,slow=8.4,SNR=70								
LVC				S	**Sn**	**Sn**	**09 57 03.1**	**-1.2**
comp=N,1μm,0.3s,baz=81,slow=23,SNR=9.9								
MOCB	**Mochara**	**4.52**	**127**	⇑*i*Pn	**Pn**	**Pn**	**09 56 26.2**	**+2.4**
MOCB				⇑*i*Sn	**Sn**	**Sn**	**09 57 19.2**	**+3.5**
PB10	**IPOC Station P**	**5.01**	**191**	*e*Pn	**Pn**	**Pn**	**09 56 28.7**	**-1.2**
YJA	**Yavi**	**5.20**	**134**	*e*P	**Pn**	**Pn**	**09 56 33.9**	**+1.1**
YJA				IAML			09 56 35.0	
comp=Z,26nm,0.7s								
YJA				*e*S	**Sn**	**Sn**	**09 57 36.0**	**+4.2**
HJA	**Humahuaca**	**6.00**	**141**	*e*P	**Pn**	**Pn**	**09 56 45.1**	**+1.3**
HJA				IAML			09 56 46.9	
comp=Z,72nm,0.5s								
HJA				*e*S	**Sn**	**Sn**	**09 57 52.8**	**+1.4**
AZAP	**Zapla**	**6.99**	**144**	*e*P	**Pn**	**Pn**	**09 56 55.9**	**-1.1**
SIV	**San Ignacio**	**8.47**	**74**	P	**Pn**	**Pn**	**09 57 13.3**	**-3.7**
comp=Z,10.0nm,0.3s,baz=273,slow=11,SNR=68								
SIV	**San Ignacio**	**8.47**	**74**	*e*P	**Pn**	**Pn**	**09 57 12.9**	**-4.0**
NNA	**Nana**	**9.63**	**312**	P	**Pn**	**Pn**	**09 57 31.9**	**-0.7**
comp=Z,3.4nm,0.3s,baz=130,slow=14,SNR=8.1								
NNA	**Nana**	**9.63**	**312**	*e*Pn	**Pn**	**Pn**	**09 57 32.1**	**-0.5**
SAML	**Samuel**	**11.38**	**34**	*e*Pn	**Pn**	**Pn**	**09 57 51.8**	**-4.4**
CPUP	**Villa Florida**	**13.66**	**127**	P	**Pn**	**Pn**	**09 58 23.6**	**-2.4**
comp=Z,0.5nm,0.3s,baz=314,slow=11,SNR=12								
ROC1	**El Roble**	**14.40**	**185**	*e*Pn	**Pn**	**Pn**	**09 58 35.5**	**-0.3**
PTGA	**Pitinga**	**20.06**	**29**	P	**P**	**P**	**09 59 38.9**	**-2.5**
comp=Z,8.4nm,0.3s,baz=317,slow=23,SNR=125								
PTGA	**Pitinga**	**20.06**	**29**	*e*P	**P**	**P**	**09 59 38.9**	**-2.5**
comp=Z,25nm,0.3s								
TRQA	**Tornquist**	**20.50**	**163**	*e*P	**P**	**P**	**09 59 46.4**	**+0.4**
comp=Z,12nm,0.8s								
OTAV	**Otavalo**	**20.65**	**334**	*e*P	Pn	Pn	09 59 50.8	-0.8
comp=Z,6.1nm,1.3s								
FLOC	**Florencia**	**20.92**	**343**	*e*P	**P**	**P**	**09 59 50.5**	**-0.2**
PLCA	**Paso Flores**	**22.10**	**182**	P	**P**	**P**	**10 00 04.6**	**+1.5**
comp=Z,4.3nm,0.9s,baz=26,slow=12,SNR=7.1								
PLCA	**Paso Flores**	**22.10**	**182**	*e*P	**P**	**P**	**10 00 05.5**	**+2.5**
comp=Z,6.1nm,0.9s								
POPC	**Popayan, Colom**	**22.13**	**341**	*e*P	**P**	**P**	**10 00 02.9**	**-0.8**
RUSC	**La Rusia**	**24.56**	**351**	*e*P	**P**	**P**	**10 00 25.5**	**-1.5**
RUSC	**La Rusia**	**24.56**	**351**	*e*P	**P**	**P**	**10 00 26.3**	**-0.7**
comp=Z,2.1nm,0.6s								
BARC	**Barichara**	**25.27**	**351**	*e*P	**P**	**P**	**10 00 30.6**	**-2.5**
SDV	**Santo Domingo**	**27.31**	**358**	P	**P**	**P**	**10 00 49.4**	**-2.0**
comp=Z,2.0nm,0.4s,baz=328,slow=9.1,SNR=3.6								
RCBR	**Riachuelo**	**35.14**	**73**	P	**P**	**P**	**10 01 58.3**	**-1.8**
comp=Z,18nm,1.1s,baz=263,slow=12,SNR=2.9								
CELP	**Cerrillos**	**36.54**	**5**	*e*P	**P**	**P**	**10 02 10.2**	**-1.6**
SJG	**San Juan**	**36.61**	**5**	*e*P	**P**	**P**	**10 02 12.6**	**+0.3**
comp=Z,34nm,1.3s								
HUMP	**Col San Antoni**	**36.67**	**6**	*e*P	**P**	**P**	**10 02 13.0**	**+0.1**
comp=Z,30nm,1.3s								
CMIG	**Matias Romero**	**43.34**	**323**	P	**P**	**P**	**10 03 09.5**	**+1.4**
comp=Z,2.2nm,0.7s,baz=112,slow=10,SNR=3.4								
KMSC	**Kings Mountain**	**54.59**	**348**	*e*P	**P**	**P**	**10 04 33.3**	**-0.3**
comp=Z,19nm,1.3s								
CPCT	**Cooper Cave**	**55.58**	**345**	*e*P	**P**	**P**	**10 04 40.5**	**-0.3**
comp=Z,12nm,1.4s								
SWET	**Sewanee**	**55.72**	**344**	*e*P	**P**	**P**	**10 04 41.3**	**-0.5**
comp=Z,7.4nm,1.3s								
VWCC	**Virginia Weste**	**56.39**	**350**	*e*P	**P**	**P**	**10 04 46.7**	**+0.2**
BLA	**Blacksburg**	**56.43**	**350**	*e*P	**P**	**P**	**10 04 47.7**	**+0.8**
comp=Z,30nm,1.4s								
IP03	**Louisa**	**56.86**	**352**	*e*P	**P**	**P**	**10 04 49.8**	**0.0**
comp=Z,25nm,1.4s								
WVT	**Waverly**	**57.10**	**342**	*e*P	**P**	**P**	**10 04 50.9**	**-0.6**
comp=Z,22nm,1.5s								
MIAR	**Mount Ida**	**57.57**	**337**	*e*P	**P**	**P**	**10 04 55.2**	**+0.3**
X301	**Greenbrier Sit**	**57.76**	**338**	*e*P	**P**	**P**	**10 04 56.1**	**0.0**
comp=Z,12nm,1.3s								
TXAR	**Lajitas Array**	**57.91**	**325**	P	**P**	**P**	**10 04 58.0**	**+0.5**
comp=Z,0.5nm,0.5s,baz=152,slow=8.8,SNR=5.4								
TX31	**Lajitas Ar. Si**	**57.91**	**325**	*e*P	**P**	**P**	**10 04 58.4**	**+0.9**
PBMO	**Poplar Bluff**	**58.49**	**340**	*e*P	**P**	**P**	**10 05 00.6**	**-0.6**
comp=Z,8.3nm,1.0s								
ABTX	**Abilene, Hawle**	**58.50**	**330**	*e*P	**P**	**P**	**10 05 02.2**	**+0.8**
comp=Z,5.5nm,0.8s								
MVL	**Millersville**	**58.62**	**354**	*e*P	**P**	**P**	**10 05 02.0**	**-0.1**
comp=Z,14nm,1.3s								
WCI	**Wyandotte Cave**	**58.66**	**345**	*e*P	**P**	**P**	**10 05 01.8**	**-0.6**
comp=Z,24nm,1.5s								
MCWV	**Mont Chateau**	**58.73**	**351**	*e*P	**P**	**P**	**10 05 03.1**	**+0.2**
comp=Z,12nm,1.4s								
SSPA	**Standing Stone**	**59.42**	**353**	*e*P	**P**	**P**	**10 05 07.3**	**-0.3**
comp=Z,19nm,1.4s								
ODNJ	**Ogdensburg**	**59.54**	**356**	*e*P	**P**	**P**	**10 05 08.0**	**-0.4**
comp=Z,17nm,1.5s								
CCM	**Cathedral Cave**	**59.91**	**340**	*e*P	**P**	**P**	**10 05 12.0**	**+0.9**
comp=Z,6.5nm,1.0s								
BRYW	**Bryant College**	**60.22**	**358**	*e*P	**P**	**P**	**10 05 12.5**	**-0.5**
comp=Z,52nm,1.4s								
MNTX	**Cornudas Mount**	**60.68**	**325**	*e*P	**P**	**P**	**10 05 16.6**	**+0.2**
comp=Z,4.4nm,1.1s								
BINY	**Binghamton**	**60.76**	**355**	*e*P	**P**	**P**	**10 05 17.0**	**+0.3**
comp=Z,16nm,1.4s								
MSTX	**Muleshoe**	**61.11**	**329**	*e*P	**P**	**P**	**10 05 20.1**	**+0.7**
comp=Z,6.3nm,0.9s								
MMNY	**Mt. Morris Dam**	**61.49**	**353**	*e*P	**P**	**P**	**10 05 21.7**	**+0.1**
HDIL	**Hopedale**	**61.64**	**343**	*e*P	**P**	**P**	**10 05 21.8**	**-0.8**
comp=Z,12nm,0.6s								
319A	**Douglas**	**62.63**	**322**	*e*P	**P**	**P**	**10 05 31.5**	**+1.8**
comp=Z,7.4nm,0.8s								
GGN	**Saint George**	**63.43**	**2**	*e*P	**P**	**P**	**10 05 34.8**	**+0.3**
comp=Z,26nm,1.4s								
PKME	**Peaks-Kenny Pk**	**63.53**	**0**	*e*P	**P**	**P**	**10 05 35.1**	**0.0**
comp=Z,19nm,1.3s								
PLVO	**Plevna**	**63.68**	**354**	*e*P	**P**	**P**	**10 05 36.2**	**0.0**
comp=Z,14nm,1.5s								
ANMO	**Albuquerque**	**63.75**	**327**	P	**P**	**P**	**10 05 38.2**	**+1.2**
comp=Z,1.5nm,0.7s,baz=138,slow=7.1,SNR=7.7								
ANMO	**Albuquerque**	**63.75**	**327**	*e*P	**P**	**P**	**10 05 38.3**	**+1.2**
comp=Z,3.7nm,1.4s								
JFWS	**Jewell Farm**	**64.09**	**343**	*e*P	**P**	**P**	**10 05 38.6**	**-0.2**
comp=Z,6.4nm,0.6s								
SNAA	**Sanae**	**65.22**	**161**	P	**P**	**P**	**10 05 46.1**	**+0.1**
comp=Z,0.7nm,0.6s,baz=278,slow=9.4,SNR=6.1								
SNAA	**Sanae**	**65.22**	**161**	*e*P	**P**	**P**	**10 05 46.7**	**+0.7**
comp=Z,6.9nm,1.4s								
BGNE	**Belgrade**	**65.31**	**337**	*e*P	**P**	**P**	**10 05 47.1**	**+0.2**
comp=Z,24nm,0.6s								
SDCO	**Great Sand Dun**	**65.45**	**329**	*e*P	**P**	**P**	**10 05 49.4**	**+1.2**
comp=Z,3.5nm,0.8s								
S22A	**4UR Ranch, Cre**	**66.10**	**328**	*e*P	**P**	**P**	**10 05 53.8**	**+1.4**
comp=Z,2.2nm,0.9s								
MVCO	**Mesa Verde**	**66.54**	**327**	*e*P	**P**	**P**	**10 05 55.8**	**+0.7**
comp=Z,2.5nm,0.7s								
ECSD	**EROS Data Cent**	**66.79**	**339**	*e*P	**P**	**P**	**10 05 56.2**	**-0.1**
comp=Z,12nm,1.5s								
SPMN	**Marine on St.**	**66.94**	**342**	*e*P	**P**	**P**	**10 05 57.7**	**+0.6**
comp=Z,18nm,1.4s								
ISCO	**Idaho Springs**	**67.13**	**330**	*e*P	**P**	**P**	**10 06 00.1**	**+1.2**
comp=Z,5.3nm,1.4s								
SMCO	**Snowmass**	**67.29**	**329**	*e*P	**P**	**P**	**10 06 01.7**	**+1.7**
comp=Z,3.8nm,0.7s								
W13A	**Hualapai Mount**	**67.98**	**322**	*e*P	**P**	**P**	**10 06 06.3**	**+2.1**
comp=Z,1.9nm,0.8s								
U15A	**North Rim**	**68.01**	**324**	*e*P	**P**	**P**	**10 06 06.7**	**+2.2**
N23A	**Red Feather La**	**68.15**	**331**	*e*P	**P**	**P**	**10 06 06.6**	**+1.4**
comp=Z,8.4nm,1.3s								
LIC	**Lamto**	**68.17**	**75**	*e*PKIKP	**P**	**P**	**10 06 05.1**	**-0.5**
TIC	**Toumodi**	**68.34**	**75**	*e*PKIKP	**P**	**P**	**10 06 05.9**	**-0.8**
KIC	**Kosan Boka**	**68.48**	**75**	*e*PKIKP	**P**	**P**	**10 06 05.3**	**-2.2**
comp=Z,16nm,0.7s								
DBIC	**Dimbokro**	**68.50**	**75**	P	**P**	**P**	**10 06 06.2**	**-1.4**
comp=Z,6.0nm,0.6s,baz=237,slow=7.6,SNR=8.7								
DBIC	**Dimbokro**	**68.50**	**75**	*e*P	**P**	**P**	**10 06 05.8**	**-1.8**
comp=Z,26nm,1.4s								
KNB	**Kanab**	**68.73**	**324**	*e*P	**P**	**P**	**10 06 11.3**	**+2.5**
comp=Z,5.8nm,0.8s								
LCMT	**Little Creek M**	**68.96**	**324**	*e*P	**P**	**P**	**10 06 11.4**	**+1.2**
comp=Z,2.4nm,0.8s								
SRU	**San Rafael Swe**	**69.02**	**327**	*e*P	**P**	**P**	**10 06 12.2**	**+1.6**
comp=Z,3.8nm,0.7s								
EYMN	**Ely**	**69.08**	**344**	*e*P	**P**	**P**	**10 06 10.3**	**-0.2**
comp=Z,19nm,1.5s								

comp=Z,9.5nm,1.5s
MFID Camas Ranch 74.89 327 *e*P **P 10 06 47.5 +2.0**
comp=Z,4.2nm,0.9s
EGMT Eagleton 75.44 333 *e*P **P 10 06 49.7 +1.2**
comp=Z,16nm,1.5s
BMO Blue Mountains 76.66 327 *e*P **P 10 06 57.1 +1.7**
comp=Z,3.2nm,0.8s
SWMT Swartz Lake 76.93 331 *e*P **P 10 06 59.1 +2.1**
TOA0 Torodi Ar. Sit 76.94 71 *e*P **P 10 06 55.6 -2.0**
comp=Z,3.9nm,0.9s
TORD Torodi Ar. Bea 76.94 71 P **P 10 06 55.3 -2.3**
comp=Z,2.0nm,0.4s,baz=252,slow=5.3,SNR=31
TORD pP **pP 10 07 27.0 +0.8**
comp=Z,3.2nm,0.8s,baz=252,slow=5.3,SNR=9.9
KRMB Red Mountain 78.13 321 *e*P **P 10 07 05.8 +2.0**
comp=Z,25nm,1.5s
LTY Liberty 80.01 327 *e*P **P 10 07 15.4 +1.6**
comp=Z,10nm,1.5s
LON Longmire 80.26 327 *e*P **P 10 07 16.0 +0.8**
comp=Z,7.8nm,1.4s
D05A Enumclaw 80.64 327 *e*P **P 10 07 18.3 +1.2**
comp=Z,28nm,1.4s
PAB San Pablo 83.85 45 *e*P **P 10 07 33.6 -0.6**
comp=Z,14nm,1.4s
ESDC Sonseca Array 84.17 45 P **P 10 07 35.6 -0.1**
comp=Z,0.5nm,0.6s,baz=241,slow=4.6,SNR=3.9
YKA Yellowknife Ar 88.25 341 P **P 10 07 55.3 +0.3**
comp=Z,3.5nm,0.5s,baz=132,slow=4.8,SNR=30
AS01 Alice Springs 132.17 210 *e*PKPdf **PKPdf 10 14 18.7 +0.3**
AS31 Alice Springs 132.19 209 *e*PKPdf **PKPdf 10 14 18.8 +0.4**
ASAR Alice Springs 132.19 209 PKP **PKPdf 10 14 18.6 +0.2**
comp=Z,0.4nm,0.5s,baz=140,slow=1.8,SNR=13
WB2 Warramunga Arr 135.12 213 *e*PKPdf **PKPdf 10 14 24.4 +0.5**
WRA Warramunga Arr 135.13 213 PKP **PKPdf 10 14 24.6 +0.6**
comp=Z,0.7nm,0.5s,baz=141,slow=1.6,SNR=11
WRAB Tennant Creek 135.13 213 *e*PKPdf **PKPdf 10 14 24.5 +0.6**
ZALV Zalesovo Beam 139.53 23 PKP **PKPdf 10 14 31.5 +0.6**
comp=Z,1.2nm,0.5s,baz=306,slow=2.0,SNR=5.0
MKAR Makanchi Array 143.56 33 PKP **PKPdf 10 14 37.5 -1.0**
comp=Z,0.2nm,0.3s,baz=337,slow=3.3,SNR=2.3
KSH Kashi 143.64 48 *e*PKP **PKPdf 10 14 39.7 +0.7**
KSH pPKP pPKPdf 10 15 06.1 -3.6
KSH sPKP 10 15 16.7
KSH PP **PP 10 17 55.0 +2.6**
KSH PKS **PKSdf 10 18 14.3 -0.4**
KSH SKS **SKSdf 10 21 38.2 -0.2**
KSH SKKS **SKKSac 10 24 34.2 -0.4**
ANA2 Anatahan 146.34 272 *e*PKPdf **PKPdf 10 14 42.2 -1.9**
USRK Ussuriysk Ar. 148.72 329 PKPbc **PKPbc 10 14 50.6 -0.5**
comp=Z,3.8nm,0.7s,baz=39,slow=6.4,SNR=6.1
FAKI Fak Fak 149.74 227 *e*PKPbc **PKPbc 10 14 56.1 +1.5**
MJAR Matsushiro Arr 149.75 312 PKPbc **PKPbc 10 14 54.7 +0.8**
comp=Z,1.7nm,0.6s,baz=80,slow=1.4,SNR=11
MAJO Matsushiro 149.75 312 *e*PKPbc **PKPbc 10 14 54.4 +0.5**
MJB9 Matsu-Tunnel 149.75 312 *e*PKPbc **PKPbc 10 14 54.3 +0.4**
SONA1 Songino Array 150.62 6 *e*PKPbc **PKPbc 10 14 56.5 +0.7**
SONM Songino Array 150.63 6 PKPbc **PKPbc 10 14 56.4 +0.5**
comp=Z,1.7nm,0.6s,baz=308,slow=1.6,SNR=9.1

*ATH **09** 10:03:47.0, 36.89N×27.65E, h31km±1km, ML3.1/3, Error ellipse: s-maj=2.9km s-min=1.3km az=203.0*
*ISCJB **09** 10:03:47.7±0.3, 36.90N±0.02×27.63E±0.03, h10km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=3.5*
*DDA **09** 10:03:47.7, 36.90N×27.63E, h7km, Ml3.5*
*ISK **09** 10:03:47.0, 36.93N×27.63E, h8km, MD3.0*
*CSEM **09** 10:03:47.6±0.1, 36.91N×27.63E, h10km, MD3.0, Error ellipse: s-maj=2.1km s-min=2.0km az=105.0*
ISC 09 10:03:47.7±0.8, 36.90N±0.02×27.64E±0.02, h12km±6km, n58, σ1.01/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.14**	**173**	PG	**Pg**	**10 03 51.0**	**-0.1**
DATC	**Datca-Mugla**	**0.14**	**173**	*i* Pg	**Pg**	**10 03 51.0**	**-0.1**
DAT	**Datca**	**0.18**	**196**	PG	**Pg**	**10 03 51.6**	**-0.2**
DAT				*e*SG	**Sg**	**10 03 54.9**	**+0.3**
DAT	**Datca**	**0.18**	**196**	*i* P	**Pg**	**10 03 51.7**	**-0.1**
DAT	**Datca**	**0.18**	**196**	*i* Pg	**Pg**	**10 03 51.6**	**-0.2**
DAT				*e*Sg	**Sg**	**10 03 54.9**	**+0.3**
BDRM	**Kayabasi**	**0.23**	**317**	*i* P	**Pg**	**10 03 52.6**	**0.0**
BDRM				*i* S	**Sg**	**10 03 56.7**	**+0.8**
BDRM	**Kayabasi**	**0.23**	**317**	P	**Pg**	**10 03 52.6**	**0.0**
BDRM				S	**Sg**	**10 03 56.7**	**+0.8**
BODT	**Bodrum**	**0.31**	**302**	PG	**Pg**	**10 03 53.3**	**-0.8**
BODT	**Bodrum**	**0.31**	**302**	*i* Pg	**Pg**	**10 03 53.3**	**-0.8**
YKAV	**Yalikavak-Bodr**	**0.36**	**308**	*e*PG	**Pg**	**10 03 54.3**	**-0.7**
YKAV				*e*SG	**Sg**	**10 03 59.5**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.36**	**308**	*e*Pg	**Pg**	**10 03 54.3**	**-0.7**
YKAV				*e*Sg	**Sg**	**10 03 59.5**	**-0.4**
MLSB	**Milas**	**0.41**	**15**	*e*PG	**Pg**	**10 03 55.2**	**-0.7**
MLSB				*e*SG	**Sg**	**10 04 01.2**	**-0.2**
MLSB	**Milas**	**0.41**	**15**	*e*Pg	**Pg**	**10 03 55.2**	**-0.7**
MLSB				*e*Sg	**Sg**	**10 04 01.2**	**-0.2**
NIS1	**Nisyros Isl.**	**0.47**	**231**	*e*PG	**Pg**	**10 03 57.1**	**+0.1**
NIS1	**Nisyros Isl.**	**0.47**	**231**	P	**Pg**	**10 03 57.1**	**+0.1**
NIS1				S	**Sb**	**10 04 05.8**	**+0.9**
NIS1				AML	AML	10 04 07.3	
NIS1	comp=E,7521μm,0.3s			AML	AML	10 04 08.0	
NIS1	comp=N,7513μm,0.3s **Nisyros Isl.**	**0.47**	**231**	P	**Pg**	**10 03 57.1**	**+0.1**
NIS1				S	**Sb**	**10 04 05.8**	**+0.9**
MRSB	**Marmaris-Mugla**	**0.48**	**112**	*e*PG	**Pg**	**10 03 57.1**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.48**	**112**	*e*Pg	**Pg**	**10 03 57.1**	**-0.1**
NISR	**Nisiros**	**0.50**	**235**	P	**Pg**	**10 03 57.6**	**+0.1**
NISR				S	**Sb**	**10 04 05.0**	**-0.6**
NISR				AML	AML	10 04 07.0	
NISR	comp=N,3217μm,0.2s			AML	AML	10 04 07.0	
NISR	comp=E,8616μm,0.2s **Nisiros**	**0.50**	**235**	P	**Pg**	**10 03 57.6**	**+0.1**
NISR				S	**Sb**	**10 04 05.0**	**-0.6**
TURN	**Turunc**	**0.77**	**92**	*i* P	Pg	10 03 57.2	-5.5
TURN				*i* S	**Sg**	**10 04 05.9**	**-6.9**
AYDN	**Tasoluk**	**0.78**	**14**	*i* P	**Pg**	**10 04 02.8**	**-0.1**
AYDN				*i* S	**Sb**	**10 04 14.0**	**+0.1**
AYDN	**Tasoluk**	**0.78**	**14**	P	**Pg**	**10 04 02.8**	**-0.1**
AYDN				S	**Sb**	**10 04 14.0**	**+0.1**
ARG	**Arkhangelos**	**0.79**	**150**	P	**Pg**	**10 04 02.8**	**-0.1**
ARG				S	**Sg**	**10 04 13.5**	**+0.3**
ARG				AML	AML	10 04 16.7	
ARG	comp=N,1530μm,0.4s			AML	AML	10 04 18.3	
ARG	comp=E,1508μm,0.4s **Arkhangelos**	**0.79**	**150**	P	**Pg**	**10 04 02.8**	**-0.1**
ARG				S	**Sg**	**10 04 13.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.82**	**95**	*e*PG	**Pg**	**10 04 03.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.82**	**95**	*i* P	**Pg**	**10 04 03.1**	**-0.4**
DALY				*i* S	**Sn**	**10 04 17.2**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.82**	**95**	P	**Pg**	**10 04 03.1**	**-0.4**
DALY				S	**Sn**	**10 04 17.2**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.16**	**61**	*i* P	**Pb**	**10 04 09.3**	**-0.5**
TAVA				*i* S	**Sn**	**10 04 28.1**	**+2.4**
TAVA	**DENIZLI_Tavas**	**1.16**	**61**	P	**Pb**	**10 04 09.3**	**-0.5**
TAVA				S	**Sn**	**10 04 28.1**	**+2.4**
FETY	**Fethiye**	**1.19**	**102**	*e*PN	**Pg**	**10 04 10.6**	**0.0**
FETY	**Fethiye**	**1.19**	**102**	*e*Pn	**Pg**	**10 04 10.6**	**0.0**
GMLD	**Gumuldur**	**1.31**	**334**	*e*PN	**Pn**	**10 04 11.7**	**-0.1**
GMLD	**Gumuldur**	**1.31**	**334**	*e*Pn	**Pn**	**10 04 11.7**	**-0.1**
DNZL	**Cakiroluk**	**1.37**	**54**	*i* P	**Pg**	**10 04 13.8**	**-0.3**
DNZL				*i* S	**Sg**	**10 04 33.4**	**+1.4**
DNZL	**Cakiroluk**	**1.37**	**54**	P	**Pg**	**10 04 13.8**	**-0.3**
DNZL				S	**Sg**	**10 04 33.4**	**+1.4**
KARP	**Karpathos**	**1.40**	**196**	*e*PN	**Pn**	**10 04 13.1**	**0.0**
KARP	**Karpathos**	**1.40**	**196**	P	**Pn**	**10 04 12.8**	**-0.3**
KARP				S	**Sn**	**10 04 30.6**	**-0.9**
KARP	**Karpathos**	**1.40**	**196**	P	**Pn**	**10 04 12.8**	**-0.3**
KARP	**Karpathos**	**1.40**	**196**	*e*Pn	**Pn**	**10 04 13.1**	**0.0**
KARP				S	**Sn**	**10 04 30.6**	**-0.9**
GLHS	**Glhisar (BURDU**	**1.51**	**80**	*e*PN	**Pn**	**10 04 15.3**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.51**	**80**	*e*Pn	**Pn**	**10 04 15.4**	**+0.8**
URLA	**Izmir**	**1.68**	**331**	*e*PN	**Pn**	**10 04 17.2**	**+0.3**
URLA	**Izmir**	**1.68**	**331**	*e*Pn	**Pn**	**10 04 17.2**	**+0.3**
APE	**Apeiranthos**	**1.70**	**276**	*e*PN	**Pn**	**10 04 17.6**	**+0.5**
APE	**Apeiranthos**	**1.70**	**276**	*e*Pn	**Pn**	**10 04 17.6**	**+0.5**
AKAS	**Kas**	**1.72**	**112**	*e*PN	**Pn**	**10 04 18.2**	**+0.7**
AKAS	**Kas**	**1.72**	**112**	*e*Pn	**Pn**	**10 04 18.2**	**+0.7**
KULA	**Kula-Manisa**	**1.81**	**26**	*e*PN	**Pn**	**10 04 18.4**	**-0.2**
KULA	**Kula-Manisa**	**1.81**	**26**	*e*Pn	**Pn**	**10 04 18.4**	**-0.2**
ELL	**Elmali**	**1.83**	**94**	*e*PN	**Pn**	**10 04 20.0**	**+1.0**
ELL	**Elmali**	**1.83**	**94**	*e*Pn	**Pn**	**10 04 20.0**	**+1.0**
CHOS	**Chios island**	**1.95**	**320**	*e*PN	**Pn**	**10 04 20.6**	**0.0**
CHOS	**Chios island**	**1.95**	**320**	P	**Pn**	**10 04 20.0**	**-0.6**
CHOS	**Chios island**	**1.95**	**320**	P	**Pn**	**10 04 20.0**	**-0.6**
CHOS	**Chios island**	**1.95**	**320**	*e*Pn	**Pn**	**10 04 20.6**	**0.0**
KORT	**Korkueli**	**2.17**	**87**	*e*PN	**Pn**	**10 04 24.0**	**+0.2**
KORT	**Korkueli**	**2.17**	**87**	*e*Pn	**Pn**	**10 04 24.0**	**+0.2**

*TIR **09** 10:09:59.4±0.9, 41.97N×20.71E, h0km±999km*
*SKO **09** 10:10:01.1, 41.94N×20.83E, h20km, M1.2, ML2.3*
*CSEM **09** 10:10:01.6±0.1, 41.94N×20.82E, h2km, ML2.3, Error ellipse: s-maj=3.2km s-min=2.7km az=71.0*
*BEO **09** 10:10:02.1±0.4, 41.93N×20.81E, h1km±2km, M1.9/1*
ISC 09 10:10:01.4±1.1, 41.94N±0.02×20.81E±0.02, h2km±10km, n35, σ0.71/62, 8C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.38**	**227**	*i* PG	**Pg**	**10 10 08.5**	**-0.2**
PHP				*i* SG	**Sg**	**10 10 13.9**	**+0.3**
PHP	**Peshkopia**	**0.38**	**227**	*i* Pg	**Pg**	**10 10 08.5**	**-0.2**
PHP	SNR=91			*i* Sg	**Sg**	**10 10 13.9**	**+0.3**
SKO	**Skopje**	**0.47**	**86**	↑*i*Pg	**Pg**	**10 10 10.7**	**+0.2**
SKO				*i* Sg	**Sg**	**10 10 18.0**	**+1.4**
SKO				*e*Lg	Lg	10 10 18.5	
SKO	comp=E,5.6nm,0.2s			*e*Lg	Lg	10 10 18.5	
SKO	comp=N,7.0nm,0.3s **Skopje**	**0.47**	**86**	*e*Pg	**Pg**	**10 10 10.3**	**-0.1**
SKO				*e*Sg	**Sg**	**10 10 17.9**	**+1.4**
SKO	**Skopje**	**0.47**	**86**	↑*i*Pg	**Pg**	**10 10 10.6**	**+0.2**
SKO				*i* Sg	**Sg**	**10 10 17.9**	**+1.4**
SKO				*e*Lg	Lg	10 10 18.5	
KRUS	comp=N,7.0nm,0.3s **Krusevo**	**0.66**	**150**	↑*i*Pg	**Pg**	**10 10 14.2**	**+0.1**
KRUS				*i* Sg	**Sb**	**10 10 24.1**	**-1.3**
KRUS				*e*Lg	Lg	10 10 24.4	
KRUS	comp=N,31nm,0.2s			*e*Lg	Lg	10 10 24.5	
KRUS	comp=E,38nm,0.2s						
KRUS	**Krusevo**	**0.66**	**150**	↑*i*Pg	**Pg**	**10 10 14.2**	**+0.1**
KRUS				*i* Sg	**Sb**	**10 10 24.1**	**-1.3**
KRUS				*e*Lg	Lg	10 10 24.4	
KRUS	comp=E,31nm,0.2s						
PUK	**Puka**	**0.69**	**278**	*i* PG	**Pg**	**10 10 14.1**	**-0.5**
PUK				*i* SG	**Sb**	**10 10 25.6**	**-0.7**
PUK	**Puka**	**0.69**	**278**	*i* Pg	**Pg**	**10 10 14.1**	**-0.6**
PUK	SNR=91			*i* Sg	**Sb**	**10 10 25.6**	**-0.7**
BCI	**Bajram Curri**	**0.70**	**308**	*i* PG	**Pg**	**10 10 14.3**	**-0.5**
BCI	**Bajram Curri**	**0.70**	**308**	*i* Pg	**Pg**	**10 10 14.3**	**-0.4**
OHR	SNR=90 **Ohrid**	**0.83**	**181**	↑*i*Pg	**Pg**	**10 10 17.8**	**+0.5**
OHR				*i* Sg	**Sb**	**10 10 29.9**	**-0.4**
OHR				*e*Lg	Lg	10 10 30.4	
OHR	comp=E,94nm,0.5s			*e*Lg	Lg	10 10 30.5	
OHR	comp=N,38nm,0.4s **Ohrid**	**0.83**	**181**	↑*i*Pg	**Pg**	**10 10 17.8**	**+0.5**
OHR				*i* Sg	**Sb**	**10 10 29.9**	**-0.4**
OHR				*e*Lg	Lg	10 10 30.3	
BIA	comp=N,94nm,0.5s **Bitola**	**1.00**	**157**	↑*i*Pg	**Pg**	**10 10 20.9**	**+0.3**
BIA				*i* Sg	**Sb**	**10 10 35.1**	**-0.1**
BIA				*e*Lg	Lg	10 10 36.0	
BIA	comp=E,41nm,0.3s			*e*Lg	Lg	10 10 36.1	
BIA	comp=N,34nm,0.3s **Bitola**	**1.00**	**157**	↑*i*Pg	**Pg**	**10 10 20.9**	**+0.3**
BIA				*i* Sg	**Sb**	**10 10 35.0**	**-0.1**
BIA				*e*Lg	Lg	10 10 36.0	
BIA	comp=N,34nm,0.3s						
BARS	**Barje**	**1.15**	**40**	*e*Pg	**Pg**	**10 10 23.1**	**-0.3**
BARS				*e*Sg	**Sb**	**10 10 39.3**	**0.0**
BARS	**Barje**	**1.15**	**40**	*e*Pg	**Pg**	**10 10 23.1**	**-0.3**
BARS				*e*Sg	**Sb**	**10 10 39.3**	**0.0**
SELS	**Selova**	**1.29**	**10**	*e*Pg	**Pg**	**10 10 25.3**	**-0.9**
SELS				*e*Sg	**Sg**	**10 10 42.9**	**-0.1**
SJES	**Sjenica**	**1.45**	**335**	*e*Pn	**Pn**	**10 10 29.2**	**+0.4**
SJES				*e*Sn	**Sn**	**10 10 50.7**	**+2.1**
VAY	**Valandovo**	**1.46**	**115**	*e*Pg	**Pn**	**10 10 27.9**	**-0.9**
VAY				*e*Sg	**Sg**	**10 10 48.1**	**-0.1**
VAY	**Valandovo**	**1.46**	**115**	*e*Pg	**Pn**	**10 10 27.9**	**-0.9**
VAY				*e*Sg	**Sg**	**10 10 48.1**	**-0.1**
IVAS	**Ivanjica**	**1.70**	**344**	*e*Pn	**Pn**	**10 10 32.7**	**+0.5**
IVAS				*e*Sn	**Sg**	**10 10 56.9**	**+0.8**
IVAS	**Ivanjica**	**1.70**	**344**	*e*Pn	**Pn**	**10 10 32.7**	**+0.5**
IVAS				*e*Sn	**Sg**	**10 10 56.9**	**+0.8**
BOVS	**Bovan**	**1.81**	**21**	*e*Pn	**Pn**	**10 10 34.1**	**+0.4**
BOVS				*e*Sn	**Sb**	**10 10 58.6**	**+0.1**
BOVS	**Bovan**	**1.81**	**21**	*e*Pn	**Pn**	**10 10 34.1**	**+0.4**
BOVS				*e*Sn	**Sb**	**10 10 58.6**	**+0.1**
ZAPS	**Zavoj**	**1.89**	**45**	*e*Pn	**Pn**	**10 10 34.7**	**-0.1**
ZAPS	**Zavoj**	**1.89**	**45**	*e*Pn	**Pn**	**10 10 34.7**	**-0.1**
GRUS	**Gruza**	**1.94**	**358**	*e*Pn	**Pn**	**10 10 35.0**	**-0.5**
GRUS	**Gruza**	**1.94**	**358**	*e*Pn	**Pn**	**10 10 35.0**	**-0.5**
TREB	**Trebinje**	**1.98**	**294**	*e*Pn	**Pn**	**10 10 37.2**	**+1.2**
TREB				*e*Sg	**Sg**	**10 11 05.7**	**+0.7**
TREB	**Trebinje**	**1.98**	**294**	*e*Pn	**Pn**	**10 10 37.2**	**+1.2**
TREB				*e*Sg	**Sg**	**10 11 05.7**	**+0.7**
ZAGS	**Zajecar**	**2.14**	**29**	*e*Pn	**Pb**	**10 10 39.9**	**-1.0**
ZAGS				*e*Sn	**Sn**	**10 11 05.6**	**+0.3**
ZAGS	**Zajecar**	**2.14**	**29**	*e*Pn	**Pb**	**10 10 39.9**	**-1.0**
ZAGS				*e*Sn	**Sn**	**10 11 05.6**	**+0.3**
DIVS	**Divibare**	**2.23**	**345**	*e*Pn	**Pn**	**10 10 39.4**	**-0.2**
DIVS	**Divibare**	**2.23**	**345**	*e*Pn	**Pn**	**10 10 39.4**	**-0.2**

*NIED **09** 10:34:00, 39.00N×142.70E, h41km, Mw3.9 Best double couple: M0 7.06000×10^14 NP1:φ0=192.00000°, δ43.00000°, λ76.00000°; NP2:φ0=31.00000°, δ48.00000°, λ102.00000°.*
*ISCJB **09** 10:34:12.4±1.0, 39.01N±0.04×142.75E±0.08, h41km±9km, mb3.8/13, MS2.9/2, Error ellipse: s-maj=10.4km s-min=6.1km az=15.4*
*JMA **09** 10:34:12.8±0.1, 39.04N×142.70E, h35km±1km, M3.9*
*IDC **09** 10:34:14.6±0.7, 38.92N×142.80E, h49km±7km, mb3.5/13, mb1 3.7/18, mb1mx3.5/77, mbtmp3.8/18, MS2.8/5, Ms1 2.8/5, ms1mx2.6/40, Error ellipse: s-maj=17.1km s-min=12.8km az=110.0*
ISC 09 10:34:14.1±0.8, 39.00N±0.04×142.77E±0.07, h42km±8km, n40, σ1.92/45, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.86**	**276**	P	**Pn**	**10 34 27.9**	**-1.9**
OFUJ				S	**Sn**	**10 34 38.5**	**-2.7**
MIYJ	**Miyakonagasawa**	**0.94**	**308**	P	**Pn**	**10 34 28.7**	**-2.1**
MIYJ				S	**Sn**	**10 34 40.2**	**-2.8**
JTH	**Tanohata**	**1.17**	**324**	P	**Pn**	**10 34 32.3**	**-1.7**
JTH				S	**Sn**	**10 34 46.4**	**-2.4**
JMK	**Ichinoseki**	**1.21**	**268**	P	**Pn**	**10 34 33.1**	**-1.4**
JMK				S	**Sn**	**10 34 47.6**	**-2.1**
JIO	**Ouri**	**1.24**	**244**	P	**Pn**	**10 34 33.3**	**-1.6**
JIO				S	**Sn**	**10 34 48.0**	**-2.4**
JOM	**Ohasama**	**1.24**	**293**	P	**Pn**	**10 34 33.5**	**-1.5**
JOM				S	**Sn**	**10 34 48.7**	**-1.8**
JANG	**Nango**	**1.68**	**325**	P	**Pn**	**10 34 39.1**	**-1.9**
JRG	**Rokugo**	**1.71**	**284**	P	**Pn**	**10 34 40.4**	**-0.9**
JOU	**Okura**	**1.77**	**250**	P	**Pn**	**10 34 41.3**	**-0.9**
JOU				*e*S	**Sn**	**10 35 03.0**	**-0.4**
JYK	**Kaneyama**	**1.88**	**268**	P	**Pn**	**10 34 43.0**	**-0.7**
JMM	**Marumori**	**1.92**	**235**	P	**Pn**	**10 34 43.3**	**-1.0**
JMM				*e*S	**Sn**	**10 35 06.3**	**-0.9**
JAH	**Hinai**	**2.03**	**306**	P	**Pn**	**10 34 45.1**	**-0.7**
JAH				*e*S	**Sn**	**10 35 08.6**	**-1.4**
MJAR	**Matsushiro Arr**	**4.37**	**237**	P	**Pn**	**10 35 19.2**	**+1.2**
MJAR	3.5nm,0.3s,baz=46,slow=11,SNR=31			LR	LR	10 37 13.4	
MAT	comp=Z,104nm,19.3s,baz=75,slow=41 **Matsushiro**	**4.37**	**237**	P	**Pn**	**10 35 19.2**	**+1.3**
MAT				*e*S	**Sn**	**10 36 11.9**	**+4.3**
ASAJ	**Asahikawa**	**5.12**	**359**	P	**Pn**	**10 35 27.9**	**-0.2**
JHJ	1.5nm,0.3s,baz=209,slow=9.4,SNR=14 **Hachijo jima 2**	**6.35**	**203**	P	**Pn**	**10 35 43.0**	**-2.1**
JHJ	4.4nm,0.3s,baz=323,slow=20,SNR=5.7			S	**Sn**	**10 36 50.1**	**-6.2**
	16nm,0.3s,baz=47,slow=18,SNR=4.2						
USRK	**Ussuriysk Ar.**	**9.60**	**306**	P	**Pn**	**10 36 32.8**	**+3.2**
JNU	0.3nm,0.3s,baz=125,slow=12,SNR=3.7 **Nakatsue**	**11.27**	**242**	LR	LR	10 41 33.4	
KSRS	comp=Z,67nm,18.7s,baz=22,slow=39 **Korea Array**	**11.78**	**267**	P	**Pn**	**10 37 01.9**	**+2.5**
KSRS	0.1nm,0.3s,baz=90,slow=13,SNR=3.4			LR	LR	10 41 11.1	
MA2	comp=Z,22nm,19.3s,baz=80,slow=35 **Magadan**	**21.22**	**11**	P	**P**	**10 38 55.7**	**-0.3**
SEY	4.3nm,0.7s,baz=77,slow=2.4,SNR=4.9 **Seymchan**	**24.66**	**11**	P	**P**	**10 39 31.7**	**+1.1**
GUMO	1.1nm,0.5s,baz=180,slow=11,SNR=5.5 **Guam**	**25.38**	**175**	LR	LR	10 51 37.6	
SONM	comp=Z,26nm,18.3s,baz=84,slow=41 **Songino Array**	**27.64**	**301**	P	**P**	**10 39 58.5**	**+0.7**
H11N2	0.4nm,0.5s,baz=108,slow=9.3,SNR=2.9 **WAKE ISLAND Hy**	**28.33**	**126**	T	T	11 10 53.9	
H11N1	baz=318,slow=76,SNR=135 **WAKE ISLAND Hy**	**28.34**	**126**	T	T	11 10 51.3	
H11N3	baz=318,slow=76,SNR=110 **WAKE ISLAND Hy**	**28.35**	**126**	T	T	11 10 53.0	
H11S1	baz=318,slow=76,SNR=152 **WAKE ISLAND Hy**	**29.12**	**128**	T	T	11 11 48.4	
H11S3	baz=319,slow=76,SNR=17 **WAKE ISLAND Hy**	**29.12**	**128**	T	T	11 11 38.3	
H11S2	baz=319,slow=76,SNR=16 **WAKE ISLAND Hy**	**29.14**	**128**	T	T	11 11 42.5	
TLY	baz=319,slow=76,SNR=11 **Talaya**	**29.91**	**308**	LR	LR	10 52 31.6	
MKAR	comp=Z,34nm,20.5s,baz=182,slow=37 **Makanchi Array**	**44.01**	**301**	P	**P**	**10 42 17.1**	**-0.2**
KDAK	0.4nm,0.3s,baz=85,slow=11,SNR=5.6 **Kodiak Island**	**44.93**	**43**	P	**P**	**10 42 24.5**	**+0.1**
KDAK	3.6nm,1.1s,baz=246,slow=12,SNR=3.0			pP	**pP**	**10 42 37.8**	**+1.6**
KURBB	0.6nm,0.4s,baz=322,slow=2.6,SNR=1.2 **Kurchatov Arra**	**45.66**	**307**	P	**P**	**10 42 29.6**	**-0.8**
ILAR	1.1nm,0.3s,baz=77,slow=8.2,SNR=4.9 **Eielson Array**	**47.27**	**33**	P	**P**	**10 42 43.2**	**+0.5**
BVAR	1.0nm,0.7s,baz=270,slow=6.4,SNR=14 **Borovoye Array**	**50.06**	**311**	P	**P**	**10 43 04.1**	**-0.4**
WRA	0.5nm,0.4s,baz=76,slow=7.9,SNR=3.2 **Warramunga Arr**	**59.16**	**189**	P	**P**	**10 44 09.6**	**-1.1**
WRA	0.9nm,0.4s,baz=7.0,slow=7.0,SNR=18			pP	**pP**	**10 44 23.1**	**+0.4**
ASAR	1.7nm,0.5s,baz=6.8,slow=6.9,SNR=8.7 **Alice Springs**	**62.89**	**189**	P	**P**	**10 44 35.2**	**-0.7**
ASAR	0.3nm,0.7s,baz=7.2,slow=5.3,SNR=7.2			pP	**pP**	**10 44 48.9**	**+0.8**
FINES	0.4nm,0.6s,baz=360,slow=5.1,SNR=5.4 **FINESS Array B**	**67.58**	**332**	P	**P**	**10 45 06.6**	**+0.8**
PDAR	1.4nm,0.8s,baz=6.3,slow=14,SNR=2.4 **Pinedale Array**	**75.53**	**46**	P	**P**	**10 45 54.7**	**+0.3**
GERES	0.2nm,0.6s,baz=224,slow=2.5,SNR=3.4 **GERESS Array B**	**81.60**	**329**	P	**P**	**10 46 27.2**	**-0.3**
	0.2nm,0.5s,baz=352,slow=6.0,SNR=2.5						

IDC 09 10:56:46.5±2.0, 44.N×99.73E, h119km±114km, mb3.1/2, mb1 3.4/3, mb1mx3.0/35, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=326.6km s-min=42.1km az=72.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.57**	**329**	P	Pn	10 57 13.8	-1.1
PSI	7.5nm,0.3s,baz=334,slow=15,SNR=29			S	Sn	10 57 34.5	-1.9
CMAR	2.2nm,0.3s,baz=278,slow=19,SNR=7.5 **Chiang Mai Arr**	**16.93**	**357**	P	P	11 00 36.3	+0.1
WRA	0.2nm,0.3s,baz=183,slow=12,SNR=2.3 **Warramunga Arr**	**40.05**	**124**	P	P	11 04 10.6	+0.3
ASAR	0.5nm,0.3s,baz=309,slow=8.8,SNR=11 **Alice Springs**	**41.56**	**129**	P	P	11 04 22.1	-0.6
	0.2nm,0.3s,baz=297,slow=7.5,SNR=3.8						

*MOS **09** 10:57:14.1±2.0, 54.84N×162.44E, h41km, mb4.2/1, Error ellipse: s-maj=9.1km s-min=5.7km az=88.4*
KRSC 09 10:57:14.1±0.8, 54.84N×162.44E, h41km±14km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.50**	**236**	PN	Pn	10 57 25.8	+1.0
MKZ				S	Sn	10 57 32.7	+0.3
MKZ	**Mys Kozlova**	**0.50**	**236**	*e*P	Pn	10 57 25.8	+1.0
MKZ				*e*S	Sn	10 57 32.7	+0.3
TUMD	**Tumrok D**	**1.23**	**288**	*e*P	Pn	10 57 35.4	+0.5
TUMD				*e*S	Sn	10 57 50.7	+0.4
KZV	**Kizimen**	**1.27**	**284**	PN	Pn	10 57 36.2	+0.7
KZV				S	Sn	10 57 51.9	+0.5

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRER	Koryakskii	2.66	236	eP	Pn		10 57 57.8	+3.2
UGLR	Uglovaya	2.69	234	PN	Pn		10 57 58.0	+3.1
UGLR	Uglovaya	2.69	234	eP	Pn		10 57 58.0	+3.1
AVH	Avacha	2.69	236	PN	Pn		10 57 58.9	+4.0
AVH				S	Sn		10 58 31.4	+5.1
AVH	Avacha	2.69	236	eP	Pn		10 57 58.9	+4.0
AVH				eS	Sn		10 58 31.4	+5.1
KOK	Koryaka	2.72	237	PN	Pn		10 57 58.7	+3.3
KOK	Koryaka	2.72	237	eP	Pn		10 57 58.7	+3.3
DALK	Dalny	2.83	232	PN	Pn		10 57 59.7	+2.9
DALK				S	Sn		10 58 32.6	+3.0
DALK	Dalny	2.83	232	eP	Pn		10 57 59.7	+2.9
DALK				eS	Sn		10 58 32.6	+3.0
GNL	Ganaly	2.88	248	PN	Pn		10 58 00.5	+3.0
GNL	Ganaly	2.88	248	eP	Pn		10 58 00.5	+3.0
PET	Petropavlovsk	2.88	233	ePN	Pn		10 58 02.0	+4.6
PET				eS	Sn		10 58 33.9	+3.1
PET				pmax	pmax			
	comp=Z,39nm,0.4s							
PET				smax	smax			
	comp=E,145nm,0.3s							
PET				smax	smax			
	comp=N,149nm,0.6s							
PET	Petropavlovsk	2.88	233	eP	Pn		10 58 00.8	+3.4
PET				eS	Sn		10 58 34.4	+3.6
KRMR	Karymshinskiy	3.25	234	PN	Pn		10 58 06.7	+4.2
KRMR				S	Sn		10 58 44.4	+4.5
KRMR	Karymshinskiy	3.25	234	eP	Pn		10 58 06.7	+4.2
KRMR				eS	Sn		10 58 44.4	+4.5
RUS	Russkaya	3.36	226	PN	Pn		10 58 07.1	+3.2
RUS				S	Sn		10 58 46.3	+3.8
RUS	Russkaya	3.36	226	eP	Pn		10 58 07.1	+3.2
RUS				eS	Sn		10 58 46.3	+3.8
APC	Apacha	3.67	241	eS	Sn		10 58 54.6	+4.5
OSSR	Ossora	4.44	4	PN	Pn		10 58 23.7	+4.9
OSSR	Ossora	4.44	4	eP	Pn		10 58 23.7	+4.9

*IDC **09** 11:05:18.6±9.0, 23°.77S×179°.79W, h497km±109km, mb3.4/4, mb1 3.6/5, mb1mx3.2/21, mbtmp4.2/5, Error ellipse: s-maj=71.8km s-min=28.6km az=7.0*
*ISCJB **09** 11:05:19.5±1.3, 23°.7S±0°.1×179°.9W±0°.2, h518km, mb3.8/4, Error ellipse: s-maj=26.4km s-min=16.5km az=178.9*

ISC 09 11:05:20.2±1.3, 23°.9S±0°.1×179°.8W±0°.2, h518km, n6, σ0.72/7, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.56	190	P		P	11 08 25.0	-0.3
	0.4nm,0.3s,baz=112,slow=14,SNR=3.3							
URZ				S		S	11 10 58.1	+0.1
	0.4nm,0.3s,baz=75,slow=22,SNR=9.0							
STKA	Stephens Creek	34.92	248	P		P	11 11 29.2	+0.9
	0.8nm,0.4s,baz=100,slow=10,SNR=4.6							
ASAR	Alice Springs	42.24	261	P		P	11 12 27.9	-0.1
	2.4nm,0.6s,baz=96,slow=7.5,SNR=59							
WRA	Warramunga Arr	42.62	266	P		P	11 12 30.1	-0.8
	2.2nm,0.3s,baz=102,slow=8.3,SNR=102							
TXAR	Lajitas Array	90.25	58	P		P	11 17 26.2	+0.4
	0.8nm,0.7s,baz=222,slow=6.7,SNR=7.6							
AKASG	Malin Array Be	145.09	327	PKP		PKPdf	11 23 57.5	-0.7
	0.7nm,0.6s,baz=46,slow=4.5,SNR=4.1							

*ISCJB **09** 11:18:54.7±0.4, 85°.35N±0°.05×14°.9E±0°.9, h10km, mb4.0/21, MS3.0/8, Error ellipse: s-maj=10.6km s-min=6.4km az=157.6*
*IDC **09** 11:18:54.2±0.9, 85°.47N×14°.13E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.6/50, mbtmp3.8/10, ML3.9/1, MS2.9/9, Ms1 2.9/9, ms1mx2.7/43, Error ellipse: s-maj=31.9km s-min=16.2km az=61.0*
*CSEM **09** 11:18:54.8±0.2, 85°.42N×14°.05E, h2km, mb4.4/12, Error ellipse: s-maj=12.6km s-min=7.4km az=73.0*
*NEIC **09** 11:18:56.6±0.4, 85°.36N×14°.45E, h10km, mb4.3/15, Error ellipse: s-maj=13.1km s-min=7.0km az=71.0*

ISC 09 11:18:56.4±0.6, 85°.28N±0°.07×14°.06E±0°.10, h10km, n74, σ1.50/68, mb4.3/21, MS3.0/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	6.40	184	ePn		Pn	11 20 30.2	-0.4
KBS	Kingsbay	6.40	184	ePn		Pn	11 20 30.2	-0.4
KBS				eSn		Sn	11 21 41.5	-2.0
SUMG	Summit	15.11	247	i P		Pn	11 22 29.6	-0.2
	24nm,1.1s							
SUMG	Summit	15.11	247	ePn		Pn	11 22 29.7	-0.1
	9.4nm,1.0s							
SUMG	Summit	15.11	247	ePn		Pn	11 22 29.7	-0.1
	9.4nm,1.0s							
KEV	Kevo	15.77	163	ePn		Pn	11 22 37.4	-0.8
	30nm,1.3s							
ARA0	ARCESS Array S	15.96	165	ePn		Pn	11 22 39.5	-1.2
ARCES	ARCESS Array B	15.96	165	Pn		Pn	11 22 37.8	-2.8
	0.7nm,0.3s,baz=356,slow=11,SNR=24							
ARCES				Sn		Sn	11 25 26.4	-11
	0.3nm,0.3s,baz=9.1,slow=19,SNR=3.3							
ARCES				LR		LR	11 27 54.4	
	comp=Z,48nm,18.6s,baz=292,slow=34							
ARE0	ARCESS Array S	15.96	165	ePn		Pn	11 22 39.5	-1.1
	22nm,1.1s							
NRIK	Noril'sk	19.94	94	LR		LR	11 31 48.0	
	comp=Z,30nm,19.1s,baz=174,slow=39							
FIA1	FINESS Array S	24.09	166	eP		P	11 24 13.7	+2.2
FIA1	FINESS Array S	24.09	166	eP		P	11 24 13.7	+2.2
FIA0	FINESS Array S	24.09	166	eP		P	11 24 12.8	+1.2
FIA0	FINESS Array S	24.09	166	eP		P	11 24 12.8	+1.2
FINES	FINESS Array B	24.09	166	P		P	11 24 12.8	+1.2
	0.9nm,0.8s,baz=359,slow=14,SNR=2.8							
FINES				LR		LR	11 34 44.1	
	comp=Z,21nm,18.9s,baz=28,slow=39							
NC405	NORSAR Array S	24.30	183	eP		P	11 24 14.7	+1.1
NC405	NORSAR Array S	24.30	183	eP		P	11 24 14.7	+1.1
NB2	NORSAR Subarra	24.38	183	P		P	11 24 16.0	+1.7
	comp=Z,12nm,1.2s,baz=0.6,slow=9.3							
NB2	NORSAR Subarra	24.38	183	P		P	11 24 16.0	+1.7
	comp=Z,12nm,1.2s,baz=0.6,slow=9.1,SNR=4.3							
NB200	NORSAR Array S	24.38	183	eP		P	11 24 15.9	+1.7
NB200	NORSAR Array S	24.38	183	eP		P	11 24 15.9	+1.7
NOA	NORSAR Array B	24.38	183	P		P	11 24 15.9	+1.7
	comp=Z,5.1nm,1.0s,baz=2.6,slow=9.9,SNR=4.5							
NOA				LR		LR	11 33 19.3	
	comp=Z,9.9nm,19.1s,baz=230,slow=35							
NBO00	NORSAR Array S	24.39	184	eP		P	11 24 17.4	+3.0
NBO00	NORSAR Array S	24.39	184	eP		P	11 24 17.4	+3.0
NC602	NORSAR Array S	24.68	183	eP		P	11 24 20.0	+3.0
NC602	NORSAR Array S	24.68	183	eP		P	11 24 20.0	+3.0
HFS	Hagfors	25.28	180	P		P	11 24 24.9	+2.6
	comp=Z,2.0nm,0.7s,baz=352,slow=8.7,SNR=4.1							
ILAR	Eielson Array	29.91	344	P		P	11 25 02.3	-1.5
	comp=Z,0.8nm,0.8s,baz=356,slow=8.1,SNR=9.2							
ILB	Eielson Array	29.91	344	eP		P	11 25 01.4	-2.3
ILB	Eielson Array	29.91	344	eP		P	11 25 01.4	-2.3
YKA	Yellowknife Ar	30.84	315	LR		LR	11 37 05.1	
	comp=Z,5.8nm,18.2s,baz=180,slow=36							
TTA	Tatalina	31.91	351	eP		P	11 25 20.3	-1.2
	comp=Z,5.0nm,1.3s							
TTA	Tatalina	31.91	351	eP		P	11 25 20.3	-1.2
	comp=Z,5.0nm,1.3s							
BVAR	Borovoye Array	34.72	118	P		P	11 25 46.4	+0.5
	comp=Z,0.5nm,0.5s,baz=331,slow=12,SNR=3.6							
ZALV	Zalesovo Beam	34.92	103	LR		LR	11 42 28.5	
	comp=Z,20nm,19.7s,baz=68,slow=40							
AKASG	Malin Array Be	34.92	163	LR		LR	11 39 00.0	
	comp=Z,34nm,18.2s,baz=310,slow=34							
KDAK	Kodiak Island	37.03	348	eP		P	11 26 05.5	-0.1
	comp=Z,4.9nm,0.9s							
KDAK	Kodiak Island	37.03	348	eP		P	11 26 05.5	-0.1
	comp=Z,4.9nm,0.9s							
OHAK	Old Harbor	37.60	349	eP		P	11 26 10.7	+0.2
	comp=Z,7.3nm,1.0s							
OHAK	Old Harbor	37.60	349	eP		P	11 26 10.7	+0.2
	comp=Z,7.3nm,1.0s							
KURK	Kurchatov	37.64	110	eP		P	11 26 10.5	-0.4
KURK	Kurchatov	37.64	110	eP		P	11 26 10.5	-0.4
KURBB	Kurchatov Arra	37.72	110	P		P	11 26 10.5	-1.1
	comp=Z,0.2nm,0.3s,baz=355,slow=7.7,SNR=4.3							
MKAR	Makanchi Array	41.82	107	LR		LR	11 46 29.5	
	comp=Z,31nm,19.9s,baz=352,slow=40							
TRQ	Mont Tremblant	44.06	274	eP		P	11 27 04.3	+0.4
TRQ	Mont Tremblant	44.06	274	eP		P	11 27 04.3	+0.4
WALA	Waterton Lakes	44.19	312	eP		P	11 27 05.8	+0.8
	comp=Z,12nm,1.4s							
WALA	Waterton Lakes	44.19	312	eP		P	11 27 05.8	+0.8
	comp=Z,12nm,1.4s							
LONY	Lake Ozonia	45.65	273	eP		P	11 27 16.3	-0.3
	comp=Z,7.7nm,1.4s							
LONY	Lake Ozonia	45.65	273	eP		P	11 27 16.3	-0.3
	comp=Z,7.7nm,1.4s							
YHH	Holmes Hill	48.25	308	eP		P	11 27 39.0	+1.8
	comp=Z,3.8nm,1.3s							
YHH	Holmes Hill	48.25	308	eP		P	11 27 39.0	+1.8
	comp=Z,3.8nm,1.3s							
GEYT	Alibeck	48.92	133	LR		LR	11 52 16.1	
	comp=Z,22nm,18.6s,baz=165,slow=41							
BW06	Boulder Array	50.17	307	eP		P	11 27 52.3	+0.4
BW06	Boulder Array	50.17	307	eP		P	11 27 52.3	+0.4
PDAR	Pinedale Array	50.17	307	P		P	11 27 49.4	-2.5
	comp=Z,1.0nm,0.9s,baz=28,slow=6.7,SNR=6.1							
SMCO	Snowmass	53.57	304	eP		P	11 28 19.5	+2.0
	comp=Z,3.0nm,1.4s							
S22A	4UR Ranch, Cre	54.98	304	eP		P	11 28 29.5	+1.9
	comp=Z,6.1nm,1.3s							
S22A	4UR Ranch, Cre	54.98	304	eP		P	11 28 29.5	+1.9
	comp=Z,6.1nm,1.3s							
MJB9	Matsu-Tunnel	56.40	53	eP		P	11 28 37.3	-0.2
	comp=Z,0.8nm,1.0s							
MJB9	Matsu-Tunnel	56.40	53	eP		P	11 28 37.3	-0.2
	comp=Z,0.8nm,1.0s							
MAJO	Matsushiro	56.40	53	eP		P	11 28 37.2	-0.3
	comp=Z,4.5nm,1.2s							
MAJO	Matsushiro	56.40	53	eP		P	11 28 37.2	-0.3
	comp=Z,4.5nm,1.2s							
RAYN	Ar Rayn	62.59	147	eP		P	11 29 21.7	+1.4
	comp=Z,1.4nm,0.4s							
RAYN	Ar Rayn	62.59	147	eP		P	11 29 21.7	+1.4
	comp=Z,1.4nm,0.4s							
LTX	Lajitas	63.12	300	eP		P	11 29 22.5	-1.4
LTX	Lajitas	63.12	300	eP		P	11 29 22.5	-1.4
TXAR	Lajitas Array	63.12	300	P		P	11 29 22.5	-1.4
	comp=Z,0.3nm,0.6s,baz=15,slow=3.7,SNR=3.0							
CMAR	Chiang Mai Arr	71.30	94	LR		LR	12 01 53.6	
	comp=Z,82nm,19.9s,baz=186,slow=36							
TOA1	Torodi Ar. Sit	72.29	193	eP		P	11 30 21.6	-0.1
TOA1	Torodi Ar. Sit	72.29	193	eP		P	11 30 21.6	-0.1
TOA0	Torodi Ar. Sit	72.30	193	eP		P	11 30 22.8	+1.0
	comp=Z,7.3nm,1.5s							
TOA0	Torodi Ar. Sit	72.30	193	eP		P	11 30 22.8	+1.0
	comp=Z,7.3nm,1.5s							
TORD	Torodi Ar. Bea	72.30	193	P		P	11 30 21.6	-0.2
	comp=Z,1.5nm,0.7s,baz=357,slow=6.6,SNR=12							

IDC 09 11:19:17.9±4.3, 26°.97N×144°.29E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/47, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=166.7km s-min=20.7km az=73.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.86	333	Pn	Pn		11 21 53.7	-0.9
	0.5nm,0.3s,baz=160,slow=11,SNR=14							
KSRS	Korea Array	17.33	311	P	Pn		11 23 21.4	+0.1
	0.1nm,0.3s,baz=119,slow=13,SNR=4.9							
WRA	Warramunga Arr	47.62	193	P		P	11 27 56.1	+0.3
	2.3nm,0.8s,baz=15,slow=8.6,SNR=12							
ASAR	Alice Springs	51.33	192	P		P	11 28 23.6	-0.6
	0.3nm,0.6s,baz=3.9,slow=5.5,SNR=6.8							
MKAR	Makanchi Array	52.01	310	P		P	11 28 28.7	-0.4
	0.5nm,0.4s,baz=88,slow=9.2,SNR=4.8							
KURBB	Kurchatov Arra	54.47	314	P		P	11 28 46.9	-0.3
	0.8nm,0.5s,baz=91,slow=8.3,SNR=7.9							
BVAR	Borovoye Array	59.41	318	P		P	11 29 22.8	+0.6
	0.3nm,0.3s,baz=93,slow=7.2,SNR=3.3							

*IDC **09** 11:28:41.2±1.1, 26°.97N×144°.39E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/43, mbtmp3.9/9, ML3.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/42, Error ellipse: s-maj=38.0km s-min=18.5km az=79.0*
*NEIC **09** 11:28:43.4±0.4, 26°.96N×144°.13E, h10km, mb4.6/11, Error ellipse: s-maj=10.3km s-min=6.3km az=70.0*
*ISCJB **09** 11:28:44.9±0.4, 27°.01N±0°.05×143°.98E±0°.05, h33km, mb4.4/19, MS2.9/1, Error ellipse: s-maj=7.5km s-min=6.1km az=141.4*
*JMA **09** 11:28:46.2±0.2, 27°.12N×143°.82E, h38km*

ISC 09 11:28:47.2±0.7, 27°.05N±0°.07×143°.94E±0°.08, h35km, n42, σ1.66/45, mb4.4/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.56	272	P		Pn	11 29 10.9	-1.6
CBIJ				eS		Sn	11 29 29.6	-2.0
CBIJ	Chichi jima	1.56	272	ePn		Pn	11 29 11.2	-1.3
CBIJ				eSn		Sn	11 29 30.2	-1.3
JHHJ	Haha-jima-NKT	1.63	256	P		Pn	11 29 12.1	-1.2
JOD2	Odawara 2	9.18	334	P		Pn	11 30 57.1	-0.1
JHU	Hanno	9.63	337	P		Pn	11 31 03.7	+0.3
JHU				eS		Sn	11 32 45.2	-5.2
JRY	Ryogami san	9.92	336	P		Pn	11 31 06.9	-0.4
JRY				eS		Sn	11 32 55.0	-2.4
MJAR	Matsushiro Arr	10.64	334	Pn		Pn	11 31 17.0	-0.2
	2.0nm,0.3s,baz=166,slow=12,SNR=45							
MJAR				Sn		Sn	11 33 12.9	-2.3
	0.3nm,0.3s,baz=147,slow=13,SNR=4.0							
MAJO	Matsushiro	10.65	334	ePn		Pn	11 31 17.9	+0.7
MJB9	Matsu-Tunnel	10.65	334	ePn		Pn	11 31 17.9	+0.6
GUMO	Guam	13.42	179	LR		LR	11 35 58.2	
	comp=Z,21nm,20.5s,baz=60,slow=33							
KSRS	Korea Array	17.04	311	Pn		P	11 32 46.0	+1.7
	0.2nm,0.3s,baz=122,slow=11,SNR=11							
KSAR	Wonju Array Be	17.06	311	Pn		P	11 32 46.0	+1.5
YHNB	Yeheng	20.44	268	eP		P	11 33 21.9	+0.2
	12nm,0.8s							
SSLB	Suanglung	21.01	266	eP		P	11 33 29.3	+1.5
	18nm,1.0s							
WAKE	Wake Island	22.25	106	eP		P	11 33 39.7	-1.4
	103nm,0.9s							
TGY	Tagaytay City	25.04	244	LR		LR	11 41 55.5	
	comp=Z,44nm,20.9s,baz=136,slow=31							
SONA0	Songino Array	35.84	315	eP		P	11 35 45.3	+1.8
	1.0nm,0.7s							
SONM	Songino Array	35.84	315	P		P	11 35 45.3	+1.8
	0.7nm,0.6s,baz=116,slow=6.8,SNR=4.4							
COEN	Coen	40.77	181	eP		P	11 36 23.9	-1.2
	3.6nm,1.0s							
MTN	Manton Dam	41.56	199	eP		P	11 36 30.9	-0.7
	6.7nm,0.9s							
WRAB	Tennant Creek	47.62	192	eP		P	11 37 19.4	-0.5
	6.2nm,0.8s							
WB2	Warramunga Arr	47.63	192	eP		P	11 37 19.8	-0.2
	8.9nm,0.9s							
WR1	Warramunga Arr	47.63	192	eP		P	11 37 19.4	-0.6
	8.7nm,0.8s							
WRA	Warramunga Arr	47.63	192	P		P	11 37 19.4	-0.6
	6.5nm,0.8s,baz=12,slow=8.3,SNR=35							
AS01	Alice Springs	51.33	192	eP		P	11 37 47.7	-0.5
AS31	Alice Springs	51.34	192	eP		P	11 37 48.2	-0.1
	0.5nm,0.9s							
ASAR	Alice Springs	51.34	192	P		P	11 37 47.1	-1.2
	0.7nm,0.7s,baz=10,slow=5.6,SNR=22							
MK01	Makanchi Array	51.70	310	eP		P	11 37 52.4	+1.5
MK31	Makanchi Array	51.71	310	eP		P	11 37 52.9	+2.0
MK32	Makanchi Array	51.71	310	eP		P	11 37 52.0	+1.1
MKAR	Makanchi Array	51.71	310	P		P	11 37 52.0	+1.1
	0.8nm,0.4s,baz=88,slow=10,SNR=12							
MKAR	Makanchi Array	51.71	310	eP		P	11 37 52.8	+1.9
	10.0nm,0.8s							
KURK	Kurchatov	54.13	315	eP		P	11 38 10.9	+2.2
KURBB	Kurchatov Arra	54.19	314	P		P	11 38 10.9	+1.8
	baz=89,slow=7.8							
ILAR	Eielson Array	57.01	29	P		P	11 38 27.1	-2.0
	0.5nm,0.9s,baz=252,slow=6.4,SNR=3.2							
ILB	Eielson Array	57.01	29	eP		P	11 38 27.1	-2.0
BVAR	Borovoye Array	59.13	318	P		P	11 38 45.8	+1.6
	1.2nm,0.5s,baz=97,slow=7.6,SNR=7.5							
BBOO	Buckleboo	60.00	188	eP		P	11 38 49.7	-0.5
	2.9nm,0.7s							
KKAR	Karatay Array	60.38	306	eP		P	11 38 55.0	+2.1
	32nm,0.6s							
FIA0	FINESS Array S	78.67	334	eP		P	11 40 47.5	+2.0
FINES	FINESS Array B	78.67	334	P		P	11 40 47.5	+2.0
	1.3nm,0.8s,baz=56,slow=5.2,SNR=5.3							
HBAR	Harrisburg	99.18	42	eP		Pdif	11 42 23.9	-1.5
	56nm,0.4s							

GUC 09 11:32:59.1±0.6, 18°.21S×70°.04W, h104km±4km, ML3.5, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB12	IPOC Station P	0.48	214	⇑iP		Pn	11 33 15.8	+0.5
PB12				eS		Sn	11 33 27.9	+0.3
MNMC	Minye Minye	1.01	155	eP		Pn	11 33 20.9	+0.6
MNMC				eS		Sn	11 33 37.0	+0.8
MNMC				IAML			11 33 37.7	
	comp=N,2μm,0.2s							
PSGC	Pisagua	1.38	183	eP		Pn	11 33 24.8	+0.5
PSGC				eS		Sn	11 33 44.6	+1.2
PSGC				IAML			11 33 49.9	
	comp=N,648nm,0.5s							
HMBC	Humberstone	2.06	176	eP		Pn	11 33 33.4	+0.7
HMBC				eS		Sn	11 33 59.8	+1.3
HMBC				IAML			11 34 03.2	
	comp=N,498nm,0.6s							
PB08	IPOC Station P	2.10	157	eP		Pn	11 33 34.8	+1.3
PB08				eS		Sn	11 34 01.4	+1.8
LPAZ	La Paz	2.65	44	eP		Pn	11 33 42.5	+1.6

*ISCJB **09** 11:43:20.9±0.3, 8°.42S±0°.03×105°.35E±0°.03, h10km, mb4.7/46, MS3.7/15, Error ellipse: s-maj=5.4km s-min=3.7km az=42.0*
*BJI **09** 11:43:21.0, 8°.40S×105°.30E, h10km, mb4.8/36, mB5.0/24, Ms4.5/16, Ms7 4.2/15*
*DJA **09** 11:43:21.4±0.5, 8°.5±4°.×10°.5E±°., h10km, M4.7/12, mb5.0/4, mB5.5/3, MLv4.4/12, Mw(mB)5.0/3*
*NEIC **09** 11:43:22.9±2.1, 8°.40S×105°.33E, h11km±13km, mb4.7/19, Error ellipse: s-maj=7.5km s-min=5.1km az=49.0*
*IDC **09** 11:43:22.8±0.9, 8°.01S×105°.71E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.1/51, mbtmp4.3/17, MS3.5/10, Ms1 3.5/10, ms1mx3.2/42, Error ellipse: s-maj=30.1km s-min=14.3km az=43.0*

ISC 09 11:43:22.3±0.4, 8°.41S±0°.05×105°.31E±0°.05, h10km, n147, σ1.74/146, mb4.8/46, MS3.7/15, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.82	12	P		Pn	11 43 52.5	-1.2
XMIS	Christmas Isla	2.09	171	ePn		Pn	11 43 56.0	-1.5
XMIS				eSn		Sn	11 44 20.5	-3.0
CNJI	Cibinong	2.10	59	P		Pn	11 43 56.4	-1.2
DBJI	Dramaga	2.33	38	P		Pn	11 44 00.0	-0.7
TNG	Tangerang	2.58	31	P		Pb	11 44 07.7	-1.1
CISI	Cisompet, Garu	2.62	71	P		Pn	11 44 03.8	-1.0
CISI				S		Sn	11 44 34.2	-2.5
CISI	Cisompet, Garu	2.62	71	ePn		Pn	11 44 04.2	-0.6
CISI				eSn		Sn	11 44 35.0	-1.7
KASI	Kota Agung	2.98	344	P		Pn	11 44 08.2	-1.4
BLSI	Bandar Lampung	3.02	359	P		Pn	11 44 09.6	-0.7
CMJI	Cimerak	3.17	79	P		Pn	11 44 11.1	-1.2
LWLI	Liwa	3.59	340	P		Pn	11 44 19.7	+1.5
KLSI		3.74	351	P		Pn	11 44 19.9	-0.2
MDSI	Maura Dua	4.05	344	P		Pn	11 44 23.7	-0.8
MDSI				S		Pb	11 44 33.5	-0.4
MNAI	Manna	4.65	330	P		Pn	11 44 31.8	-0.9
MNAI	Manna	4.65	330	ePn		Pn	11 44 32.0	-0.7
UGM	Wanagama	5.18	85	P		Pn	11 44 40.1	+0.1
UGM	Wanagama	5.18	85	ePn		Pn	11 44 39.8	-0.3
SMRI	Semarang	5.26	76	ePn		Pn	11 44 42.6	+1.6
NGJI	Ngawi	6.18	81	P		Pb	11 45 04.3	-5.8
GMJI	Gumukmas	8.05	90	P		Pn	11 45 22.6	+3.2
JAGI	Jajag, Banyuwa	8.74	91	P		Pn	11 45 30.1	+1.1
JAGI	Jajag, Banyuwa	8.74	91	ePn		Pn	11 45 30.1	+1.1
ABJI	Asem Bagus	8.85	87	P		Pn	11 45 33.8	+3.3
COCO	West Island	9.15	245	ePn		Pn	11 45 35.7	+1.1
TWSI	Taliwang, Sumb	11.45	93	P		Pn	11 46 09.7	+3.7
PLAI	Plampang	12.33	93	P		Pn	11 46 17.4	-0.7
GSI	Gunungsitoli	12.35	321	ePn		Pn	11 46 23.4	+5.0
SBUM	Sibu	12.79	33	ePn		Pn	11 46 25.2	+0.7
KULM	Kulim	14.38	341	ePn		Pn	11 46 49.1	+3.0
KAPI	Kappang	14.73	78	ePn		Pn	11 46 51.2	+0.2
MMRI	Maumere	16.74	92	ePn		Pn	11 47 17.8	+0.6
	34nm,0.7s							
KKM	Kota Kinabalu	18.01	37	ePn		Pn	11 47 32.2	-0.8
	50nm,1.1s							
SOEI	Soe	18.77	96	eP		P	11 47 40.8	-1.2
	56nm,0.9s							
MBWA	Marble Bar	18.82	134	eP		Pn	11 47 43.2	+0.3
	22nm,1.3s							
MYLDM	Lahad Datu	18.84	45	eP		Pn	11 47 44.1	+0.9
	29nm,0.9s							
SRDT	SRDT	23.43	345	P		P	11 48 32.9	+1.0
	32nm,0.9s							
CHAI	Chaiyaphum	24.37	352	P		P	11 48 40.8	-0.1
	17nm,0.7s,147nm							
UTHA	Uthaitani	24.51	346	P		P	11 48 43.5	+1.4
	3.2nm,0.8s							
KHON	Khomkaen	24.71	354	P

JIRN	Jiri	40.35	333	eP	P	11 51 01.8	+1.0
	297nm,0.7s						
PKIN	Phulchoki	40.64	332	eP	P	11 51 03.8	+0.7
GUN	Gumba	40.70	333	eP	P	11 51 04.6	+0.9
	24nm,0.4s						
DMN	Daman	40.80	332	eP	P	11 51 04.9	+0.5
	26nm,0.8s						
KKN	Kakani	40.87	332	eP	P	11 51 05.6	+0.6
STKA	Stephens Creek	40.99	130	P	P	11 51 07.3	+1.6
	3.3nm,0.6s,baz=294,slow=7.5,SNR=7.6						
GKN	Gorkha	41.35	332	eP	P	11 51 09.5	+0.6
KOLN	Koldanda	41.65	330	eP	P	11 51 12.2	+0.8
	24nm,0.8s						
DANN	Dangsing	42.06	331	eP	P	11 51 15.7	+0.9
PYUN	Piuthan	42.22	330	eP	P	11 51 16.7	+0.6
NJ2	Nanjing	42.26	17	eP	P	11 51 16.5	+0.5
XAN	Xi'an	42.35	4	P	P	11 51 16.2	-0.6
XAN				pP	sP	11 51 25.4	+4.3
XAN				S	S	11 57 38.7	+0.6
XAN				pmax	pmax		
	comp=Z,20nm,0.7s						
XAN				LR	LR		
	comp=N,86nm,14.7s						
XAN				LR	LR		
	comp=E,120nm,15.2s						
XAN				LR	LR		
	comp=Z,220nm,14.1s						
LZH	Lanzhou	44.27	358	eP	P	11 51 33.2	+0.7
LZH				pP	sP	11 51 38.3	+1.5
LZH				sP	pP	11 51 41.0	+5.4
LZH				pmax	pmax		
	comp=Z,48nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,4.8s						
GTA	Gaotai	47.84	354	eP	P	11 52 01.6	+1.1
GTA				pP	sP	11 52 10.8	+5.9
GTA				sP	pP	11 52 14.7	+11
GTA				S	S	11 58 58.3	+0.6
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				pmax	pmax		
	comp=Z,45nm,4.3s						
GTA				LR	LR		
	comp=N,140nm,16.6s						
GTA				LR	LR		
	comp=E,200nm,15.7s						
GTA				LR	LR		
	comp=Z,130nm,15.7s						
JNU	Nakatsue	47.93	29	P	P	11 51 59.3	-1.9
	baz=298,slow=4.2						
BJI	Beijing	49.24	11	P	P	11 52 10.8	-0.2
BJI				S	S	11 59 16.8	-0.2
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
BJI				LR	LR		
	comp=N,130nm,5.9s						
BJI				LR	LR		
	comp=E,160nm,5.9s						
BJI				LR	LR		
	comp=Z,70nm,16.1s						
HHC	Hu-ho-hao-te	49.35	6	eP	P	11 52 16.2	+4.2
HHC				pmax	pmax		
	comp=Z,26nm,1.1s						
HHC				pmax	pmax		
	comp=Z,89nm,8.6s						
KS15	Wonju Array Si	50.26	23	eP	P	11 52 19.6	+0.7
KSAR	Wonju Array Be	50.26	23	P	P	11 52 17.4	-1.5
KSRS	Korea Array	50.29	23	P	P	11 52 17.4	-1.7
	4.9nm,0.7s,baz=218,slow=8.2,SNR=29						
KS01	Wonju Array Si	50.30	23	eP	P	11 52 19.3	+0.1
MAT	Matsushiro	54.34	33	P	P	11 52 47.0	-2.3
MJAR	Matsushiro Arr	54.34	33	P	P	11 52 45.8	-3.5
	2.4nm,0.7s,baz=210,slow=7.6,SNR=13						
KSH	Kashi	54.89	332	eP	P	11 52 52.7	-0.7
KSH				pP	sP	11 53 00.7	+2.9
KSH				sP	pP	11 53 04.2	+7.6
KSH				PcP	PcP	11 53 54.1	-1.3
KSH				PP	PP	11 54 58.7	+2.2
KSH				PcS	PcS	11 57 48.4	-6.9
KSH				S	S	12 00 27.7	-7.3
KSH				sS	sS	12 00 40.4	+0.1
KSH				SS	SS	12 04 10.4	-8.4
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,130nm,4.5s						
KSH				LR	LR		
	comp=N,110nm,7.3s						
KSH				LR	LR		
	comp=E,120nm,6.7s						
CN2	Changchun	55.08	18	eP	P	11 52 52.9	-1.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SONM	Songino Array	56.00	1	P	P	11 53 01.2	0.0
	6.1nm,0.7s,baz=173,slow=8.7,SNR=30						
SONA1	Songino Array	56.01	1	eP	P	11 53 02.0	+0.7
ULN	Ulaanbaatar	56.04	1	eP	P	11 53 02.1	+0.5
	6.9nm,0.8s						
USRK	Ussuriysk Ar.	57.66	22	P	P	11 53 11.3	-1.5
	9.9nm,0.8s,baz=213,slow=7.2,SNR=12						
MK01	Makanchi Array	58.63	342	eP	P	11 53 20.1	+0.4
MK31	Makanchi Array	58.66	342	eP	P	11 53 20.4	+0.5
MKAR	Makanchi Array	58.66	342	P	P	11 53 20.1	+0.2
	5.1nm,0.7s,baz=147,slow=7.8,SNR=44						
MKAR	Makanchi Array	58.66	342	eP	P	11 53 20.4	+0.5
	39nm,0.6s						
KURBB	Kurchatov Arra	63.21	341	P	P	11 53 50.9	+0.2
	5.6nm,0.7s,baz=154,slow=6.1,SNR=26						
KURK	Kurchatov	63.27	341	eP	P	11 53 51.6	+0.5
	7.7nm,0.7s						
GEYT	Alibeck	63.72	320	P	P	11 53 56.4	+2.0
	1.3nm,0.6s,baz=122,slow=5.4,SNR=3.1						
ZAA0	Zalesovo Array	64.49	347	eP	P	11 53 58.9	-0.2
ZALV	Zalesovo Beam	64.49	347	P	P	11 53 58.8	-0.3
	3.5nm,0.4s,baz=145,slow=3.7,SNR=28						
ZALV				LR	LR	12 24 54.2	
	comp=Z,42nm,19.0s,baz=72,slow=39						
BVAR	Borovoye Array	68.02	338	P	P	11 54 22.1	+0.3
	2.2nm,0.5s,baz=153,slow=10.0,SNR=14						
ABKAR	Akbulak array	69.78	330	eP	P	11 54 33.0	+0.3
	119nm,0.6s						
AKTO	Aktyubinsk	71.49	330	P	P	11 54 45.3	+2.1
	1.0nm,0.5s,baz=117,slow=6.0,SNR=3.2						
YAK	Yakutsk	72.73	12	eP	P	11 54 50.0	-0.4
	28nm,0.7s						
KVAR	Kislovodsk Arr	76.81	319	LR	LR	12 34 31.9	
	comp=Z,17nm,18.6s,slow=40						
EIL	Elat	77.42	303	LR	LR	12 30 34.6	
	comp=Z,30nm,18.0s,baz=302,slow=36						
SEY	Seymchan	79.68	20	LR	LR	12 32 32.2	
	comp=Z,56nm,19.9s,baz=329,slow=37						
TIXI	Tiksi	81.40	7	eP	P	11 55 38.6	-0.3
	4.6nm,0.8s						
BRTR	Keskin Array B	81.52	312	P	P	11 55 41.0	+0.5
	0.7nm,0.7s,baz=65,slow=5.8,SNR=2.8						
OBN	Obninsk	85.00	327	LR	LR	12 38 04.9	
	comp=Z,28nm,19.5s,baz=90,slow=39						
IDI	Anoyia	87.07	306	LR	LR	12 35 41.1	
	comp=Z,38nm,21.5s,baz=132,slow=36						
SNAA	Sanae	87.69	198	eP	P	11 56 11.7	+0.7
	7.2nm,1.5s						
FINES	FINESS Array B	92.21	332	P	P	11 56 34.0	+1.8
	4.2nm,1.1s,baz=142,slow=6.9,SNR=4.0						
KEKH	Kekaha	97.68	69	eP	P	11 56 56.0	-2.0
	264nm,1.4s						
NOA	NORSAR Array B	99.28	331	LR	LR	12 47 56.6	
	comp=Z,18nm,18.4s,baz=285,slow=39						
DLMT	Dillon	130.79	35	ePKPdf	PKPdf	12 02 36.5	+2.1
NCB	Newcomb	144.57	359	ePKPdf	PKPdf	12 02 59.1	-0.4
ACCN	Adirondack Com	145.15	359	ePKPbc	PKPdf	12 03 00.8	+0.3
MMNY	Mt. Morris Dam	145.69	4	ePKPdf	PKPab	12 03 01.9	-0.1
TX31	Lajitas Ar. Si	145.74	49	ePKPdf	PKPbc	12 03 02.5	0.0
TXAR	Lajitas Array	145.74	49	PKPbc	PKPab	12 03 04.0	+1.2
	3.0nm,0.8s,baz=290,slow=2.5,SNR=18						
HRV	Adam Dziewonsk	145.92	356	ePKPdf	PKPab	12 03 02.8	-0.1
ERPA	Erie	146.10	7	ePKPdf	PKPab	12 03 03.5	-0.1
QUA2	Belchertown	146.20	357	ePKPdf	PKPab	12 03 04.6	+0.7
ACSO	Alum Creek Sta	147.45	12	ePKPbc	PKPbc	12 03 07.5	+0.6
ODNJ	Ogdensburg	147.46	360	ePKPbc	PKPbc	12 03 07.6	+0.7
SSPA	Standing Stone	147.78	5	ePKPbc	PKPbc	12 03 08.3	+0.5
JCT	Junction City	147.85	44	ePKPbc	PKPab	12 03 09.8	-1.0
USIN	University of	148.32	20	ePKPbc	PKPbc	12 03 10.7	+1.3
PBMO	Poplar Bluff	148.34	25	ePKPbc	PKPbc	12 03 09.7	+0.3
MVL	Millersville	148.50	2	ePKPbc	PKPbc	12 03 09.9	+0.1
WCI	Wyandotte Cave	148.51	18	ePKPbc	PKPbc	12 03 10.5	+0.6
MCWV	Mont Chateau	148.54	8	ePKPbc	PKPbc	12 03 10.9	+1.0
WVT	Waverly	149.91	22	ePKPbc	PKPbc	12 03 14.4	+0.9
SWET	Sewanee	151.39	19	ePKPbc	PKPbc	12 03 16.2	-0.9
CPCT	Cooper Cave	151.62	17	ePKPbc	PKPbc	12 03 18.5	+1.0
TKL	Tuckaleechee C	151.63	16	ePKPbc	PKPbc	12 03 17.9	+0.3
SAML	Samuel	159.30	214	ePKPdf	PKPdf	12 03 20.2	-2.0
SCIG	Sabancuy	160.86	55	ePKPdf	PKPdf	12 03 22.6	-1.2

*GRAL **09** 12:04:28.1±0.3,34°.42N×36°.81E,h0km±2km,MD3.0*
*ISCJB **09** 12:04:30.0±1.1,34°.34N±0°.04×36°.71E±0°.09,h20km±10km, Error ellipse: s-maj=12.7km s-min=6.0km az=179.5*
*NSSC **09** 12:04:30.4±1.7,34°.33N×36°.26E,h14km±7km,MD1.4, ML2.2*

ISC 09 12:04:27.6±1.4,34°.37N±0°.03×36°.75E±0°.08,h11km±11km, n11,σ0§62/20,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	Fakeheh	0.31	246	eP	Pb	12 04 34.6	-0.6
MARH	Ras Al Marh	0.41	213	eP	Pb	12 04 36.8	-0.3
MARH				eS	Sb	12 04 43.5	+0.1
MARH				AML	AML	12 04 44.7	
	comp=E,310nm,0.4s						
MARH				AML	AML	12 04 51.2	
	comp=N,228nm,0.3s						
HWQ	Hawqa	0.67	262	eP	Pb	12 04 41.2	-0.2
HWQ				eS	Sb	12 04 50.7	-0.1
BHL	Bhannes	1.02	243	eP	Pb	12 04 47.5	+0.2
TOTH	TOTAH	1.04	195	eP	Pn	12 04 49.0	+0.7
TOTH				eS	Sg	12 05 01.1	-0.1
TOTH				AML	AML	12 05 11.8	
	comp=N,24nm,0.4s						
TOTH				AML	AML	12 05 14.2	
	comp=E,21nm,0.6s						
RCY	Rachaya	1.16	221	eP	Pg	12 04 50.0	+0.2
RCY				eS	Sn	12 05 06.4	+0.6
DQRL	Deir Qamar	1.19	236	eP	Pg	12 04 50.5	+0.1
DQRL				eS	Sn	12 05 07.0	+0.6
ARNB	Al Arnab	1.62	337	eP	Pb	12 04 57.7	+0.2
ARNB				eS	Sb	12 05 17.6	-0.4
ARNB				AML	AML	12 05 22.3	
	comp=N,156nm,0.2s						
ARNB				AML	AML	12 05 22.3	
	comp=E,148nm,0.3s						
BTCH	Batrach	1.68	352	eP	Pg	12 04 59.8	0.0
BTCH				eS	Sg	12 05 21.3	-0.4
BTCH				AML	AML	12 05 25.8	
	comp=N,51nm,0.3s						
BTCH				AML	AML	12 05 30.8	
	comp=E,69nm,0.4s						
TCHB	Talchebab	1.82	201	eP	Pb	12 05 00.7	-0.2
TCHB				eS	Sn	12 05 20.2	-1.8
TCHB				AML	AML	12 05 32.2	
	comp=N,62nm,0.4s						
TCHB				AML	AML	12 05 35.2	
	comp=E,32nm,0.3s						
DRWC	Darouich	2.25	358	eP	Pb	12 05 08.7	+0.4
DRWC				eS	Sb	12 05 35.3	-0.8
DRWC				AML	AML	12 05 43.7	
	comp=E,46nm,0.5s						
DRWC				AML	AML	12 05 51.0	
	comp=N,19nm,0.5s						

*IDC **09** 12:05:02.9±6.5,29°.21N×53°.34E,h0km,mb3.8/2, mb1 3.6/3,mb1mx3.3/39,mbtmp3.6/3,ML3.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.5/41,Error ellipse: s-maj=127.7km s-min=49.5km az=113.0*
*ISCJB **09** 12:05:11.2±0.4,29°.36N±0°.03×52°.55E±0°.04,h15km, mb3.9/2,MS3.0/2,Error ellipse: s-maj=4.8km s-min=4.2km az=143.9*
*CSEM **09** 12:05:11.6±0.2,29°.41N×52°.56E,h2km,ML3.1,Error ellipse: s-maj=5.2km s-min=4.1km az=74.0*
*OMAN **09** 12:05:12.7,29°.43N×52°.55E,h5km*
*TEH **09** 12:05:12.7,29°.43N×52°.55E,h5km,ML3.1*

ISC 09 12:05:11.2±0.7,29°.44N±0°.03×52°.55E±0°.03,h15km,n33, σ1§68/38,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	Shiraz	0.21	351	ePg	Pg	12 05 15.5	-0.7
SHI				eSg	Sg	12 05 19.3	-0.2
SHI				eAMB	AMB	12 05 20.1	
	comp=N,82μm,0.1s						
SHI	Shiraz	0.21	351	ePg	Pg	12 05 15.5	-0.7
SHI				eSg	Sg	12 05 19.3	-0.2
ISRV	Sarvestan	0.49	96	ePg	Pg	12 05 21.1	0.0
ISRV				eSg	Sg	12 05 28.7	+0.9
ISRV				eAMB	AMB	12 05 40.5	
	comp=Z,52μm,0.2s						
ISRV	Sarvestan	0.49	96	ePg	Pg	12 05 21.1	0.0
ISRV				eSg	Sg	12 05 28.7	+0.9
IPAR	Pars	0.59	47	ePg	Pg	12 05 22.8	-0.2
IPAR				eAMB	AMB	12 05 33.9	
	comp=Z,7μm,0.2s						
IPAR	Pars	0.59	47	ePg	Pg	12 05 22.8	-0.2
GHIR	Ghir-Karzin	1.21	162	ePg	Pg	12 05 35.2	+0.6
AHBU	AHRAM	1.24	243	ePg	Pg	12 05 35.3	+0.2
AHBU				eSg	Sg	12 05 52.0	+0.7
IRAM	Ramesheh	2.37	356	ePn	Pn	12 05 52.5	+2.7
IRAM				eAMB	AMB	12 06 37.8	
	comp=Z,1μm,0.3s						
IRAM	Ramesheh	2.37	356	ePn	Pn	12 05 52.5	+2.7
IMEH	Mehriz	2.64	42	ePn	Pb	12 05 57.2	-1.2
IMEH				eAMB	AMB	12 06 03.7	
	comp=Z,1μm,0.1s						
IMEH	Mehriz	2.64	42	ePn	Pb	12 05 57.2	-1.2
ISAD	Sadrabad	2.66	21	ePn	Pn	12 05 56.6	+2.8
ISAD	Sadrabad	2.66	21	ePn	Pn	12 05 56.6	+2.8
IGAR	Gharneh	2.99	352	ePn	Pn	12 06 01.4	+3.1
IGAR				eAMB	AMB	12 06 26.9	
	comp=Z,508nm,0.2s						
ICHK	Chekchek	3.22	29	ePn	Pn	12 06 04.5	+3.0
ICHK	Chekchek	3.22	29	ePn	Pn	12 06 04.5	+3.0
NASN	Na'in	3.36	4	ePn	Pn	12 06 05.8	+2.3
IBAF	Bafgh	3.37	50	eAMB	AMB	12 06 19.7	
	comp=Z,579nm,0.2s						
IZEF	Zefreh	3.45	357	eAMB	AMB	12 06 49.7	
	comp=Z,256nm,0.2s						
IZEF				ePn	Pn	12 06 07.4	+2.7
IPIR	Pirpir	3.54	337	eAMB	AMB	12 06 54.7	
	comp=Z,318nm,0.1s						
IPIR				ePn	Pn	12 06 07.8	+1.9
BNDS	Bandar-Abbas	3.78	122	ePn	Pn	12 06 10.4	+1.3
BANOM	Banah	4.83	136	P	Pn	12 06 24.7	+1.3
	SNR=13						
BANOM				S	Sn	12 07 19.0	-0.1
BANOM	Banah	4.83	136	Pn	Pn	12 06 24.7	+1.3
	SNR=13						
BANOM	Banah	4.83	136	P	Pn	12 06 24.7	+1.3
	SNR=13						
BANOM				S	Sn	12 07 19.0	-0.1
ASHO	Ashiyiah	5.67	146	P	Pn	12 06 36.2	+1.2
	SNR=14						
ASHO	Ashiyiah	5.67	146	Pn	Pn	12 06 36.2	+1.2
	SNR=14						
ASHO	Ashiyiah	5.67	146	P	Pn	12 06 36.2	+1.2
	SNR=14						
ASHO				S	Sn	12 07 39.3	-0.6
BRTR	Keskin Array B	18.62	308	P	Pn	12 09 29.6	+1.1
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=2.6						
VRAC	Vranov	33.71	316	LR	LR	12 28 58.5	
	comp=Z,28nm,18.2s,baz=53,slow=42						
FINES	FINESS Array B	36.49	339	P	P	12 12 13.2	-2.3
	comp=Z,1.3nm,0.8s,baz=145,slow=8.8,SNR=6.9						
TORD	Torodi Ar. Bea	49.69	262	P	P	12 14 01.8	-1.1
	comp=Z,0.6nm,0.5s,baz=59,slow=7.8,SNR=5.4						
JMIC	Jan Mayen	53.11	339	LR	LR	12 39 00.5	
	comp=Z,16nm,21.1s,baz=240,slow=38						

WEL 09 12:09:43.2±0.2,37°.82S×177°.56E,h37km±2km,ML3.5/23, 6C-16D,Error ellipse: s-maj=1.4km s-min=1.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	Raukumara Rang	0.17	146	⇑P*	Pn	12 09 49.3	-4.2
RUGZ				S*	Sn	12 09 54.7	-9.1
HAZ	Te Kaha	0.19	70	⇑P*	Pn	12 09 49.6	-3.1
HAZ				S*	Sn	12 09 55.2	-6.9
HAZ				AML	AML	12 09 55.3	
HAZ				AML	AML	12 09 55.7	
HAZ				AML	AML	12 09 55.7	
PKGZ	Pakihiroa	0.42	99	⇑PN	Pn	12 09 51.9	-0.6
PKGZ				AML	AML	12 10 03.1	
PKGZ				AML	AML	12 10 03.2	
WIZ	White Island	0.42	315	P*	Pn	12 09 52.4	0.0
WHRZ	Whale Island	0.46	266	P*	Pn	12 09 53.6	+0.4
TWGZ	Tauwhareparae	0.49	137	⇑PN	Pn	12 09 53.7	+0.1
TWGZ				AML	AML	12 10 07.1	
TWGZ				AML	AML	12 10 08.3	
MWZ	Matawai	0.51	183	⇓P*	Pn	12 09 53.2	-0.8
MWZ				AML	AML	12 10 02.0	
MWZ				AML	AML	12 10 02.0	
URZ	Urewera	0.56	219	⇑P*	Pn	12 09 54.1	-0.7
URZ				AML	AML	12 10 03.2	
URZ				AML	AML	12 10 03.3	
PUZ	Puketiti	0.61	114	PN	Pn	12 09 55.0	-0.5
PUZ				AML	AML	12 10 06.5	
PUZ				AML	AML	12 10 08.3	
MXZ	Matakaoa Point	0.65	67	⇑P*	Pn	12 09 55.2	-0.7
MXZ				AML	AML	12 10 09.6	
MXZ				AML	AML	12 10 10.3	
TKGZ	Te Karaka	0.66	160	⇓PN	Pn	12 09 56.1	+0.1
TKGZ				AML	AML	12 10 09.6	
TKGZ				AML	AML	12 10 10.1	
WMGZ	Waiomatatini S	0.68	90	⇓PN	Pn	12 09 56.2	-0.1
WMGZ				AML	AML	12 10 10.3	
WMGZ				AML	AML	12 10 11.4	
RAGZ	Rawiri	0.68	189	P*	Pn	12 09 56.0	-0.5
RAGZ				AML	AML	12 10 11.9	
RAGZ				AML	AML	12 10 13.0	
EDRZ	Edgecumbe	0.71	246	P*	Pn	12 09 56.5	-0.2
MARZ	Manawahe	0.72	257	⇓P*	Pn	12 09 56.3	-0.5
OPRZ	Ohinepanea	0.79	268	P*	Pn	12 09 57.2	-0.6
CNGZ	Carnagh Statio	0.84	142	⇓PN	Pn	12 09 58.2	-0.2
CNGZ				AML	AML	12 10 21.2	
CNGZ				AML	AML	12 10 22.7	
RIGZ	Rimuhau	0.90	170	PN	Pn	12 09 59.3	0.0
RIGZ				AML	AML	12 10 22.5	
RIGZ				AML	AML	12 10 26.2	
MUGZ	Murupara	0.90	223	⇓P*	Pn	12 09 58.6	-0.7
RTZ	Ruatahuna	0.91	210	⇓P*	Pn	12 09 58.7	-0.9
TARZ	Mount Tarawera	0.93	243	P*	Pn	12 09 59.5	-0.3
RRRZ	Republican Roa	0.97	238	⇓P*	Pn	12 09 59.8	-0.5
SNGZ	Shannon Statio	0.97	190	PN	Pn	12 10 00.8	+0.4
SNGZ				AML	AML	12 10 20.1	
SNGZ				AML	AML	12 10 25.6	
TGRZ	Tauranga	1.03	275	⇓P*	Pn	12 10 00.4	-0.7
KARZ	Kaharoa	1.06	259	⇓P*	Pn	12 10 01.1	-0.3
PRGZ	Paritu Road	1.13	167	AML	AML	12 10 35.3	
PRGZ				AML	AML	12 10 44.8	
PRRZ	Plateau Road	1.14	233	⇓P*	Pn	12 10 02.0	-0.5
KNZ	Kokohu	1.20	176	PN	Pn	12 10 03.6	+0.2
ALRZ	Allen Road	1.21	232	P*	Pn	12 10 03.0	-0.5
MRHZ	Matea Rd	1.35	221	⇓P*	Pn	12 10 04.8	-0.8
MRHZ				AML	AML	12 10 25.0	
MRHZ				AML	AML	12 10 26.7	
NMHZ	Naumai	1.40	205	PN	Pn	12 10 06.3	0.0
NMHZ				AML	AML	12 10 32.8	
NMHZ				AML	AML	12 10 34.5	
ARHZ	Aropaoanui	1.50	197	PN	Pn	12 10 07.8	+0.2
ARHZ				AML	AML	12 10 37.8	
ARHZ				AML	AML	12 10 42.1	
BKZ	Black Stump Fm	1.58	212	P*	Pn	12 10 08.0	-0.7
BKZ				AML	AML	12 10 35.2	
BKZ				AML	AML	12 10 36.1	
TOZ	Tahuroa Road	1.63	273	⇓P*	Pn	12 10 08.7	-0.6
MCHZ	McNeill Hill	1.75	202	PN	Pn	12 10 11.8	+0.8
MCHZ				AML	AML	12 10 53.1	
MCHZ				AML	AML	12 11 04.2	
KUZ	Kuaotunu	1.82	306	PN	Pn	12 10 10.7	-1.1
KWHZ	Kaweka Forest	1.83	209	P*	Pn	12 10 12.1	-0.1
KWHZ				AML	AML	12 10 44.3	
KWHZ				AML	AML	12 10 45.1	
OTVZ	Oturere	2.00	227	P*	Pn	12 10 14.3	-0.3
BHHZ	Black Hill Sta	2.03	215	P*	Pn	12 10 15.0	+0.1
BHHZ				AML	AML	12 10 50.6	
MKAZ	Moumakai	2.04	290	⇓PN	Pn	12 10 14.4	-0.5
KAHZ	Kahuranaki	2.04	195	PN	Pn	12 10 14.1	-0.9
KRHZ	Kereru	2.04	207	AML	AML	12 10 50.3	
KRHZ				AML	AML	12 10 52.1	
MOVZ	Moawhango	2.12	221	P*	Pn	12 10 15.3	-0.9
WNVZ	Wahianoa	2.15	225	P*	Pn	12 10 16.0	-0.6
HIZ	Hauiti	2.24	251	ePN	Pn	12 10 19.2	+1.6
ETAZ	East Tamaki Re	2.27	292	⇓PN	Pn	12 10 17.9	-0.2
PXZ	Pawanui	2.27	194	PN	Pn	12 10 16.8	-1.4
GRZ	Great Barrier	2.30	312	⇓PN	Pn	12 10 17.8	-0.7
PNHZ	Pukenui	2.34	206	AML	AML	12 11 00.5	
RVAZ	Riverhead Bore	2.60	293	PN	Pn	12 10 22.7	+0.1
BFZ	Birch Farm	3.03	199	PN	Pn	12 10 26.3	-2.3
MRZ	Mangatainoka R	3.22	208	PN	Pn	12 10 28.2	-3.0
KIW	Kapiti Island	3.66	213	PN	Pn	12 10 34.7	-2.6
LTZ	Lake Taylor	6.39	218	PN	Pn	12 11 12.1	-2.7
MQZ	McQueen's Vall	6.96	211	ePN	Pn	12 11 16.9	-5.5
ODZ	Otahua Downs	8.88	214	PN	Pn	12 11 44.0	-5.0

*SOME **09** 12:23:04.7,44°.65N×82°.28E,h25km*
*NNC **09** 12:23:06.6±3.0,44°.80N×81°.74E,h0km,mb3.2,mpv2.7, Error ellipse: s-maj=57.5km s-min=9.7km az=117.0*
*ISCJB **09** 12:23:07.4±1.6,44°.72N±0°.10×82°.2E±0°.1,h10km,Error ellipse: s-maj=16.8km s-min=10.2km az=138.6*

ISC 09 12:23:04.3±1.7,44°.72N±0°.07×82°.19E±0°.09,h10km,n10, σ1§19/17,5C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.76	258	eP	Pg	12 23 37.1	-1.0
	3.3nm,0.1s						
DJR				eS	Sg	12 24 00.6	-0.3
	9.3nm,0.3s						
MK31	Makanchi Array	2.08	2	⇑Pn	Pg	12 23 43.2	-0.9
	5.4nm,0.3s,baz=182,slow=13,SNR=65						
MK31				⇑Lg	Lg	12 24 10.6	
	1.5nm,0.2s,baz=183,slow=26,SNR=15						
KAPS	Kapalarasan	2.09	287	eP	Pb	12 23 42.2	-0.1
	1.0nm,0.1s						
KAPS				eS	Sb	12 24 09.1	+0.8
	7.0nm,0.3s						
MAKZ	Makanchi	2.10	356	⇑Pg	Pb	12 23 42.4	0.0
	2.4nm,0.5s						
MAKZ				⇑Lg	Lg	12 24 10.5	
	1.5nm,0.3s						
PDGK	Podgornoye	2.39	235	⇓Pg	Pb	12 23 46.0	-

RTLS				*e*S	**Sn**	**12 24 46.0**	**-0.2**
RTLS				IAML		12 24 47.2	
	comp=Z,3μm,0.2s						
AUSP	**Uspallata**	**0.67**	**186**	⇓*e*P	**Pn**	**12 24 37.2**	**0.0**
RTCV	**Cerro Valdivia**	**0.72**	**116**	⇓*e*P	**Pn**	**12 24 37.5**	**+0.1**
RTCV				⇓*e*S	**Sn**	**12 24 50.1**	**-0.9**
RTLL	**Cerro Villicun**	**0.74**	**73**	⇓*i*P	**Pn**	**12 24 37.2**	**-0.3**
RTLL				*i* S	**Sn**	**12 24 51.2**	**-0.2**
RTLL				IAML		12 24 53.1	
	comp=N,3μm,0.3s						
RTLL	**Cerro Villicun**	**0.74**	**73**	⇓*e*P	**Pn**	**12 24 37.2**	**-0.3**
RTLL				⇓*e*S	**Sn**	**12 24 51.1**	**-0.3**
AMOG	**MOGNA**	**0.93**	**49**	⇓*e*P	**Pn**	**12 24 39.4**	**+0.1**
AMOG				⇓*e*S	**Sn**	**12 24 54.0**	**-0.5**
ASAL	**Salagasta**	**1.11**	**159**	⇓*e*P	**Pn**	**12 24 41.5**	**+0.2**
ASAL				*e*S	**Sn**	**12 24 59.2**	**+1.2**
ARCO	**CERRO ARCO**	**1.32**	**166**	*e*P	**Pn**	**12 24 44.0**	**+0.2**
ARCO				IAML		12 24 44.6	
	comp=Z,2μm,0.2s						
ARCO				⇓*e*S	**Sn**	**12 25 03.4**	**+1.0**
ACDV	**Cuesta del Vie**	**1.39**	**7**	⇓*e*P	**Pn**	**12 24 45.0**	**+0.5**
ACDV				*e*S	**Sn**	**12 25 05.3**	**+1.6**
AAGR	**Agrelo**	**1.58**	**165**	*e*P	**Pn**	**12 24 46.8**	**0.0**
AAGR				⇓*e*S	**Sn**	**12 25 08.1**	**+0.3**
AVFE	**Valle Fertil**	**1.82**	**61**	⇓*e*P	**Pn**	**12 24 49.4**	**-0.3**
AVFE				*e*S	**Sn**	**12 25 12.7**	**-0.3**
AVFE				IAML		12 25 15.3	
	comp=Z,295nm,0.4s						
TLL	**Tololo Astrono**	**1.89**	**317**	⇑*i*P	**Pn**	**12 24 50.4**	**-0.4**
TLL				*i* S	**Sn**	**12 25 14.8**	**-0.1**
TLL				IAML		12 25 22.1	
	comp=E,483nm,0.6s						
ACAN	**Cantantal**	**1.94**	**112**	⇓*e*P	**Pn**	**12 24 51.1**	**0.0**
FCH	**Farellones**	**1.96**	**205**	*e*P	**Pn**	**12 24 52.3**	**+0.6**
FCH				*i* S	**Sn**	**12 25 18.0**	**+1.5**
FCH				IAML		12 25 23.3	
	comp=E,416nm,0.3s						
PEL	**Peldehue**	**1.97**	**216**	⇑*i*P	**Pn**	**12 24 51.1**	**-0.5**
PEL				*i* S	**Sn**	**12 25 16.6**	**+0.2**
PEL				IAML		12 25 17.9	
	comp=N,391nm,0.3s						
ROCH	**El Roble**	**2.02**	**225**	*e*P	**Pn**	**12 24 51.8**	**-0.6**
ROCH				*i* S	**Sn**	**12 25 17.4**	**-0.5**
ROCH				IAML		12 25 19.4	
	comp=E,456nm,0.3s						
ROC1	**El Roble**	**2.03**	**225**	⇓*e*P	**Pn**	**12 24 51.9**	**-0.7**
ROC1				⇓*e*S	**Sn**	**12 25 17.1**	**-1.0**
CLCH	**Cerro Calan**	**2.11**	**209**	⇑*i*P	**Pn**	**12 24 53.4**	**0.0**
CLCH				*i* S	**Sn**	**12 25 19.7**	**0.0**
CLCH				IAML		12 25 28.4	
	comp=E,459nm,0.4s						
AGUA	**GUANDACOL**	**2.17**	**19**	*e*P	**Pn**	**12 24 55.2**	**+0.9**
AGUA				*e*S	**Sn**	**12 25 22.6**	**+1.4**
ACHE	**Chepes**	**2.29**	**81**	⇓*e*P	**Pn**	**12 24 55.6**	**-0.2**
ANTU	**Antumapu**	**2.30**	**209**	IAML		12 25 28.2	
	comp=N,300nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.65**	**65**	*e*P	**Pn**	**12 24 59.9**	**-0.5**
APLL				⇓*e*S	**Sn**	**12 25 30.9**	**-1.2**
LCO	**Las Campanas**	**2.81**	**334**	⇑*i*P	**Pn**	**12 25 02.1**	**-0.6**
LCO				*i* S	**Sn**	**12 25 36.1**	**-0.1**
LCO				IAML		12 25 38.9	
	comp=E,233nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.93**	**44**	⇓*e*P	**Pn**	**12 25 04.0**	**-0.4**
VCA	**Vinchina**	**2.96**	**19**	*e*P	**Pn**	**12 25 05.2**	**+0.5**

*ISCJB **09** 12:33:53.0±0.3, 4°.51N±0°.04×122°.98E±0°.05, h572km±5km, mb4.4/52, Error ellipse: s-maj=8.3km s-min=5.0km az=146.2*
*KLM **09** 12:33:53.2, 4°.62N×123°.11E, h564km, mb4.5*
*NEIC **09** 12:33:54.5±0.5, 4°.49N×122°.92E, h577km±7km, mb4.6/35, Error ellipse: s-maj=10.0km s-min=5.4km az=65.0*
*DJA **09** 12:33:54.3±1.4, 4°.N±9°×12°.3E±°, h555km±20km, M4.7/6, mb4.5/4, mB5.0/5, MLv5.0/6, Mw(mB)4.3/5*
*IDC **09** 12:33:55.1±1.4, 4°.45N×122°.96E, h592km±17km, mb3.4/16, mb1 3.5/16, mb1mx3.3/32, mbtmp4.4/16, Error ellipse: s-maj=17.5km s-min=7.4km az=72.0*

ISC 09 12:33:54.3±0.6, 4°.48N±0°.05×122°.90E±0°.07, h579km±7km, n130, σ1°36/146, mb4.3/52, 4C-2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.73**	**107**	P	**P**	**12 35 07.2**	**-3.1**
KMSI	**Cibinong**	**4.03**	**164**	P	**P**	**12 35 16.7**	**-1.8**
MRSI	**Marisa**	**4.09**	**194**	P	**P**	**12 35 17.6**	**-1.4**
MYLDM	**Lahad Datu**	**4.44**	**279**	*e*P	**P**	**12 35 22.4**	**+0.8**
MYLDM	**Lahad Datu**	**4.44**	**279**	⇓P	**P**	**12 35 22.6**	**+1.0**
TSM	**Tawau**	**5.02**	**268**	⇑P	**P**	**12 35 25.6**	**-0.5**
MPSI	**Mapaga**	**5.09**	**216**	P	**P**	**12 35 24.9**	**-1.8**
PCI	**Palu**	**6.16**	**210**	P	**P**	**12 35 34.9**	**-1.0**
KDM	**Kudat**	**6.51**	**292**	⇑P	**P**	**12 35 36.9**	**-2.1**
KKM	**Kota Kinabalu**	**6.84**	**283**	*e*P	**P**	**12 35 41.7**	**-0.4**
KKM	**Kota Kinabalu**	**6.84**	**283**	⇑P	**P**	**12 35 41.7**	**-0.4**
LBMI	**Labuha**	**6.85**	**138**	P	**P**	**12 35 41.0**	**-1.2**
SANI	**Sanana**	**7.18**	**155**	P	**P**	**12 35 42.4**	**-2.8**
TTSI	**Tana Toraja**	**8.08**	**202**	P	**P**	**12 35 55.0**	**+1.2**
BTM	**Bintulu**	**9.88**	**263**	⇓P	**P**	**12 36 12.6**	**+1.0**
SBUM	**Sibu**	**10.85**	**260**	*e*P	**P**	**12 36 22.4**	**+1.0**
SBUM	**Sibu**	**10.85**	**260**	⇑P	**P**	**12 36 22.7**	**+1.3**
FAKI	**Fak Fak**	**11.88**	**128**	*e*P	**P**	**12 36 31.8**	**-0.1**
SOEI	**Soe**	**14.21**	**175**	*e*P	**P**	**12 36 54.9**	**-0.8**
UGM	**Wanagama** 298nm,1.8s	**17.44**	**225**	*e*P	**P**	**12 37 24.9**	**-0.9**
TWG	**Pinlang** 453nm,1.8s	**18.32**	**355**	*e*P	**P**	**12 37 33.8**	**0.0**
TPUB	**Ta-pu** 242nm,2.0s	**18.84**	**354**	*e*P	**P**	**12 37 38.9**	**+0.4**
YULB	**Yu-li** 22nm,1.2s	**18.87**	**355**	*e*P	**P**	**12 37 38.9**	**+0.2**
MTN	**Manton Dam** 16nm,0.5s	**19.05**	**155**	*e*P	**P**	**12 37 40.4**	**-0.1**
YHNB	**Yeheng** 143nm,1.8s	**20.13**	**356**	*e*P	**P**	**12 37 50.6**	**+0.3**
WRAB	**Tennant Creek** 26nm,0.3s	**26.74**	**155**	*e*P	**P**	**12 38 48.7**	**-0.3**
WRA	**Warramunga Arr** 15nm,0.3s,baz=334,slow=9.7,SNR=357	**26.75**	**156**	P	**P**	**12 38 48.5**	**-0.5**
WRA	0.8nm,0.5s,baz=334,slow=16,SNR=5.2			S	**S**	**12 42 41.2**	**-3.9**
WRA	1.7nm,0.7s,baz=341,slow=3.1,SNR=11			ScP	**ScP**	**12 44 38.6**	**+0.1**
WB2	**Warramunga Arr** 19nm,0.6s	**26.75**	**155**	*e*P	**P**	**12 38 48.6**	**-0.5**
GYA	**Guiyang**	**26.82**	**326**	*e*P	**P**	**12 38 51.0**	**+1.3**
GYA				sP	sP	12 41 30.0	+0.4
GYA				S	**S**	**12 42 49.2**	**+2.9**
GYA				ScP	**ScP**	**12 44 40.0**	**+1.2**
GYA				ScS	**ScS**	**12 48 30.8**	**-0.3**
GYA	comp=Z,10.0nm,0.7s			pmax	pmax		
COEN	**Coen** comp=Z,3.9nm,0.9s	**27.20**	**133**	*e*P	**P**	**12 38 52.1**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.7s,baz=126,slow=8.1,SNR=9.2	**27.23**	**303**	P	**P**	**12 38 53.2**	**0.0**
CHTO	**Chiang Mai** comp=Z,3.2nm,0.8s	**27.39**	**303**	*e*P	**P**	**12 38 56.3**	**+1.6**
NJ2	**Nanjing**	**27.69**	**353**	*e*P	**P**	**12 38 57.2**	**+0.1**
NJ2	comp=Z,14nm,0.6s			pmax	pmax		
KMI	**Kunming**	**28.22**	**319**	P	**P**	**12 39 02.2**	**+0.1**
KMI	comp=Z,10.0nm,0.5s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,5.7nm,0.3s,baz=339,slow=7.2,SNR=463	**29.96**	**159**	P	**P**	**12 39 17.4**	**+0.4**
ASAR	comp=Z,2.6nm,0.9s,baz=350,slow=21,SNR=13			S	**S**	**12 43 33.3**	**-1.6**
ASAR	comp=Z,2.3nm,0.6s,baz=340,slow=2.9,SNR=25			ScP	**ScP**	**12 44 48.7**	**-0.1**
AS01	**Alice Springs**	**29.98**	**159**	*e*P	**P**	**12 39 17.6**	**+0.5**
AS01				*e*PcP	**PcP**	**12 42 01.3**	**+0.4**
RABL	**Rabaul** comp=Z,29nm,0.6s	**30.48**	**106**	*e*P	**P**	**12 39 22.8**	**+1.2**
KSRS	**Korea Array** comp=Z,1.2nm,0.6s,baz=187,slow=9.7,SNR=7.2	**33.14**	**7**	P	**P**	**12 39 44.3**	**+0.6**
KS01	**Wonju Array Si**	**33.16**	**7**	*e*PcP	**PcP**	**12 42 10.3**	**+0.9**
INU	**Inuyama** comp=Z,7.7nm,1.0s	**33.38**	**21**	*e*P	**P**	**12 39 45.5**	**-0.3**
MAJO	**Matsushiro** comp=Z,16nm,1.7s	**34.88**	**22**	*e*P	**P**	**12 39 57.5**	**-0.9**
MAT	**Matsushiro**	**34.88**	**22**	P	**P**	**12 39 57.1**	**-1.2**
MJAR	**Matsushiro Arr** comp=Z,2.7nm,0.5s,baz=192,slow=9.3,SNR=20	**34.88**	**22**	P	**P**	**12 39 57.3**	**-1.0**
MJB9	**Matsu-Tunnel** comp=Z,4.1nm,1.7s	**34.88**	**22**	*e*P	**P**	**12 39 57.4**	**-1.0**
PATS	**Pohnpei**	**35.31**	**85**	*e*PcP	**PcP**	**12 42 14.9**	**-1.3**
LZH	**Lanzhou**	**36.02**	**333**	*e*P	**P**	**12 40 08.9**	**+0.9**
LZH				pP	pP	12 41 47.0	+1.8
LZH				sP	sP	12 42 55.8	+4.1
LZH	comp=Z,16nm,1.0s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,143nm,2.0s	**37.59**	**188**	*e*P	**P**	**12 40 21.3**	**+0.7**
HHC	**Hu-ho-hao-te**	**37.62**	**346**	*e*P	**P**	**12 40 21.7**	**+0.8**
HHC	comp=Z,20nm,0.8s			pmax	pmax		
HHC	comp=Z,93nm,8.6s			pmax	pmax		
BBOO	**Buckleboo** comp=Z,84nm,1.8s	**39.13**	**162**	*e*P	**P**	**12 40 33.7**	**+0.6**
STKA	**Stephens Creek** comp=Z,3.7nm,0.3s,baz=335,slow=7.6,SNR=27	**40.30**	**155**	P	**P**	**12 40 43.4**	**+1.0**
EIDS	**Eidsvold** comp=Z,7.4nm,1.1s	**40.36**	**139**	*e*P	**P**	**12 40 43.5**	**+0.5**
USRK	**Ussuriysk Ar.** comp=Z,4.3nm,0.6s,baz=208,slow=7.5,SNR=7.7	**40.36**	**10**	P	**P**	**12 40 43.1**	**+0.4**
MDJ	**Mudanjiang**	**40.41**	**7**	P	**P**	**12 40 43.5**	**+0.4**
MDJ	comp=Z,13nm,0.7s			pmax	pmax		
MDJ	comp=Z,51nm,4.5s			pmax	pmax		
TAPN	**Taplejung** comp=Z,7.6nm,0.4s	**40.52**	**308**	*e*P	**P**	**12 40 45.3**	**+0.6**
TAPN	**Taplejung** comp=Z,7.6nm,0.4s	**40.52**	**308**	*e*P	**P**	**12 40 45.6**	**+0.9**
ODAN	**Odare** comp=Z,7.2nm,0.4s	**40.55**	**307**	*e*P	**P**	**12 40 45.9**	**+1.0**
ODAN	**Odare**	**40.55**	**307**	*e*P	**P**	**12 40 45.9**	**+1.0**
GTA	**Gaotai**	**40.58**	**332**	*e*P	**P**	**12 40 46.1**	**+1.4**
GTA	comp=Z,8.0nm,0.8s			pmax	pmax		
RAMN	**Ramite** comp=Z,24nm,0.6s	**41.22**	**307**	*e*P	**P**	**12 40 51.2**	**+1.1**
RAMN	**Ramite** comp=Z,24nm,0.6s	**41.22**	**307**	*e*P	**P**	**12 40 51.3**	**+1.1**
JIRN	**Jiri** comp=Z,134nm,0.5s	**41.86**	**307**	*e*P	**P**	**12 40 56.3**	**+0.9**
JIRN	**Jiri** comp=Z,134nm,0.5s	**41.86**	**307**	*e*P	**P**	**12 40 56.3**	**+0.9**
GUN	**Gumba** comp=Z,41nm,0.5s	**42.22**	**308**	*e*P	**P**	**12 40 59.0**	**+0.9**
GUN	**Gumba** comp=Z,63nm,0.7s	**42.22**	**308**	*e*P	**P**	**12 40 59.1**	**+0.9**
PKI	**Pulchoki** comp=Z,8.1nm,0.3s	**42.45**	**307**	*e*P	**P**	**12 41 00.4**	**+0.6**
PKI	**Pulchoki**	**42.45**	**307**	*e*P	**P**	**12 41 00.5**	**+0.6**
PKIN	**Phulchoki** comp=Z,6.0nm,0.3s	**42.46**	**307**	*e*P	**P**	**12 41 00.2**	**+0.3**
PKIN	**Phulchoki**	**42.46**	**307**	*e*P	**P**	**12 41 00.9**	**+1.0**
KKN	**Kakani** comp=Z,14nm,0.5s	**42.64**	**307**	*e*P	**P**	**12 41 01.8**	**+0.5**
KKN	**Kakani** comp=Z,14nm,0.5s	**42.64**	**307**	*e*P	**P**	**12 41 01.8**	**+0.5**
DMN	**Daman** comp=Z,7.1nm,0.4s	**42.70**	**307**	*e*P	**P**	**12 41 02.6**	**+0.8**
DMN	**Daman**	**42.70**	**307**	*e*P	**P**	**12 41 02.6**	**+0.8**
ASAJ	**Asahikawa** comp=Z,5.4nm,0.5s,baz=219,slow=9.0,SNR=21	**43.12**	**21**	P	**P**	**12 41 04.6**	**+0.1**
ASAJ	**Asahikawa** comp=Z,47nm,1.3s	**43.12**	**21**	*e*P	**P**	**12 41 05.1**	**+0.6**
GKN	**Gorkha** comp=Z,8.4nm,0.4s	**43.25**	**307**	*e*P	**P**	**12 41 06.5**	**+0.6**
GKN	**Gorkha** comp=Z,8.4nm,0.4s	**43.25**	**307**	*e*P	**P**	**12 41 06.5**	**+0.6**
KOLN	**Koldanda** comp=Z,50nm,0.5s	**43.98**	**306**	*e*P	**P**	**12 41 12.6**	**+0.9**
KOLN	**Koldanda** comp=Z,50nm,0.5s	**43.98**	**306**	*e*P	**P**	**12 41 12.6**	**+0.9**
DANN	**Dangsing** comp=Z,1.7nm,0.6s	**44.10**	**307**	*e*P	**P**	**12 41 13.7**	**+1.0**
DANN	**Dangsing**	**44.10**	**307**	*e*P	**P**	**12 41 13.7**	**+1.0**
ARMA	**Armidale** comp=Z,10nm,1.1s	**44.26**	**143**	*e*P	**P**	**12 41 16.3**	**+2.6**
PYUN	**Piuthan** comp=Z,42nm,0.6s	**44.61**	**306**	*e*P	**P**	**12 41 17.6**	**+1.1**
PYUN	**Piuthan** comp=Z,42nm,0.6s	**44.61**	**306**	*e*P	**P**	**12 41 17.7**	**+1.2**
SONM	**Songino Array** comp=Z,1.0nm,0.5s,baz=162,slow=8.1,SNR=7.1	**45.47**	**344**	P	**P**	**12 41 22.9**	**+0.3**
SONA1	**Songino Array**	**45.47**	**344**	*e*P	**P**	**12 41 23.0**	**+0.3**
SONA1				*e*PcP	**PcP**	**12 42 49.3**	**+0.1**
CAN	**Canberra** comp=Z,92nm,2.0s	**46.56**	**150**	*e*P	**P**	**12 41 33.2**	**+2.2**
MK01	**Makanchi Array**	**54.78**	**327**	*e*P	**P**	**12 42 31.0**	**+0.6**
MK01				*e*PcP	**PcP**	**12 43 23.6**	**-0.2**
MK31	**Makanchi Array**	**54.80**	**327**	*e*P	**P**	**12 42 31.4**	**+0.8**
MK31				*e*PcP	**PcP**	**12 43 23.7**	**-0.2**
MKAR	**Makanchi Array** comp=Z,3.9nm,0.5s,baz=123,slow=8.8,SNR=45	**54.80**	**327**	P	**P**	**12 42 31.4**	**+0.8**
MKAR	comp=Z,2.6nm,0.6s,baz=130,slow=4.1,SNR=15			PcP	**PcP**	**12 43 23.6**	**-0.4**
MKAR	**Makanchi Array** comp=Z,31nm,0.8s	**54.80**	**327**	*e*P	**P**	**12 42 31.4**	**+0.8**
MKAR				*e*PcP	**PcP**	**12 43 23.7**	**-0.3**
KSH	**Kashi**	**54.84**	**316**	P	**P**	**12 42 30.6**	**-0.5**
KSH				PcP	**PcP**	**12 43 23.4**	**-1.0**
KSH				pP	pP	12 44 23.4	+2.4
KSH				PP	**PP**	**12 44 44.5**	**+1.7**
KSH				sP	sP	12 45 27.6	+4.0
KSH				PcS	**PcS**	**12 47 18.6**	**-6.7**
KSH				S	**S**	**12 49 23.6**	**-5.8**
KSH	**Kashi**	**54.84**	**316**	sS	sS	12 52 45.5	-1.3
KSH	**Kashi**	**54.84**	**316**	SS	**SS**	**12 53 21.6**	**-3.3**
KSH	comp=Z,3.0nm,0.5s			pmax	pmax		
KSH	comp=Z,78nm,7.7s			pmax	pmax		
KSH	comp=N,140nm,5.2s			LR	LR		
KSH	comp=E,190nm,5.2s			LR	LR		
KSH	comp=Z,140nm,6.1s			LR	LR		
MAKZ	**Makanchi** comp=Z,18nm,1.6s	**54.98**	**327**	*e*P	**P**	**12 42 32.5**	**+0.7**
MAKZ				*e*PcP	**PcP**	**12 43 24.4**	**-0.2**
PEA0	**Petropavlovsk-**	**56.26**	**24**	*e*P	**P**	**12 42 41.0**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.5s,baz=204,slow=5.6,SNR=8.7	**56.26**	**24**	P	**P**	**12 42 40.7**	**+0.2**
YAK	**Yakutsk** comp=Z,17nm,1.0s	**57.65**	**4**	*e*P	**P**	**12 42 49.8**	**+0.1**
ZAA0	**Zalesovo Array**	**58.24**	**335**	*e*P	**P**	**12 42 56.6**	**+2.7**
KURK	**Kurchatov** comp=Z,9.3nm,0.8s	**59.09**	**329**	*e*P	**P**	**12 43 00.2**	**+0.5**
BRVK	**Borovoye** comp=Z,5.5nm,1.0s	**64.71**	**328**	*e*P	**P**	**12 43 36.4**	**+0.3**
BKZ	**Black Stump Fm** comp=Z,59nm,1.8s	**65.72**	**137**	*e*P	**P**	**12 43 43.2**	**+0.5**
RAO	**Raoul Island** comp=Z,390nm,1.4s	**65.88**	**125**	*e*P	**P**	**12 43 43.8**	**-0.1**
TIXI	**Tiksi** comp=Z,4.3nm,0.6s	**67.19**	**2**	*e*P	**P**	**12 43 50.6**	**-0.5**
GEYT	**Alibeck** comp=Z,2.0nm,0.6s,baz=132,slow=6.2,SNR=6.0	**67.46**	**309**	P	**P**	**12 43 53.2**	**-0.3**
ABKAR	**Akbulak array** comp=Z,29nm,0.8s	**69.17**	**321**	*e*P	**P**	**12 44 03.5**	**0.0**
AKTO	**Aktyubinsk** comp=Z,2.4nm,0.3s,baz=112,slow=8.0,SNR=9.8	**70.72**	**322**	P	**P**	**12 44 13.0**	**+0.3**
ARU	**Arti** comp=Z,30nm,1.9s	**72.28**	**328**	*e*P	**P**	**12 44 21.5**	**-0.2**
RAYN	**Ar Rayn** comp=Z,4.1nm,1.0s	**76.68**	**293**	*e*P	**P**	**12 44 46.9**	**-0.2**
RAR	**Rarotonga** comp=Z,60nm,2.0s	**79.85**	**112**	*e*P	**P**	**12 45 05.6**	**+1.6**
TT01	**Tatalina**	**81.97**	**27**	*e*P	**P**	**12 45 15.7**	**+1.7**
TTA	**Tatalina** comp=Z,6.6nm,1.0s	**81.97**	**27**	*e*P	**P**	**12 45 15.8**	**+1.6**
OHAK	**Old Harbor** comp=Z,17nm,1.4s	**82.90**	**33**	*e*P	**P**	**12 45 19.8**	**+0.9**
KDAK	**Kodiak Island** comp=Z,50nm,2.0s	**83.31**	**32**	*e*P	**P**	**12 45 21.4**	**+0.6**
IL1	**Eielson Array**	**86.07**	**25**	*e*P	**P**	**12 45 33.6**	**-0.5**
ILAR	**Eielson Array** comp=Z,0.5nm,0.6s,baz=245,slow=5.0,SNR=14	**86.07**	**25**	P	**P**	**12 45 32.6**	**-1.5**
ILB	**Eielson Array**	**86.07**	**25**	*e*P	**P**	**12 45 33.6**	**-0.6**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.7s,baz=81,slow=5.6,SNR=5.0	**88.43**	**340**	P	**P**	**12 45 44.0**	**-1.1**
FIA1	**FINESS Array S** comp=Z,60nm,1.8s	**89.36**	**332**	*e*P	**P**	**12 45 48.5**	**-1.1**
FINES	**FINESS Array B** comp=Z,2.6nm,0.6s,baz=40,slow=4.7,SNR=16	**89.36**	**332**	P	**P**	**12 45 48.2**	**-1.4**
BUR08	**Bucovina Ar. S**	**91.90**	**318**	*e*P	**P**	**12 46 01.8**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.3s,baz=61,slow=1.6,SNR=8.7	**119.06**	**288**	PKP	**PKPdf**	**12 51 38.4**	**-0.6**
Y22D	**IRIS PASSCAL I**	**119.38**	**47**	*e*PKPdf	**PKPdf**	**12 51 36.8**	**-2.5**
EYMN	**Ely**	**119.71**	**26**	*e*PKPdf	**PKPdf**	**12 51 39.6**	**+0.3**
ECSD	**EROS Data Cent**	**120.27**	**32**	*e*PKPdf	**PKPdf**	**12 51 40.8**	**+0.2**
HALT	**Halls**	**129.74**	**34**	*e*PKPpre	PKPpre	12 51 50.1	
SSPA	**Standing Stone**	**131.22**	**21**	*e*PKPdf	**PKPdf**	**12 52 02.9**	**+1.3**
ODNJ	**Ogdensburg**	**131.91**	**18**	*e*PKPdf	**PKPdf**	**12 52 04.9**	**+2.0**
CPNY	**Central Park**	**132.37**	**17**	*e*PKPdf	**PKPdf**	**12 52 03.5**	**-0.2**
CPCT	**Cooper Cave**	**132.67**	**31**	*e*PKPdf	**PKPdf**	**12 52 03.7**	**-0.8**
IP01	**Cuckoo**	**133.56**	**23**	*e*PKPdf	**PKPdf**	**12 52 08.1**	**+2.0**

*NNC **09** 12:39:15.5±4.2, 40°.54N×77°.39E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=31.6km s-min=17.2km az=168.0*
*SOME **09** 12:39:16.9, 40°.58N×77°.32E, h10km*
*KRNET **09** 12:39:18.8±0.1, 40°.54N×77°.34E, mb3.0*

ISC 09 12:39:17.1±2.0, 40°.62N±0°.09×77°.24E±0°.03, h10km, n27, σ1°55/49, 20C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay** baz=356	**1.51**	**358**	⇓*i*P	**Pg**	**12 39 46.8**	**+0.8**
KDJ	baz=356			⇓*i*S	**Sg**	**12 40 08.0**	**+2.4**
ULHL	**Ulahol** baz=334	**1.79**	**336**	⇑*i*P	**Pg**	**12 39 51.9**	**+0.6**
ULHL	baz=334			⇑*i*S	**Sg**	**12 40 15.1**	**+0.6**
KZA	**Kyzart** baz=315	**2.09**	**315**	⇑*i*P	**Pg**	**12 39 57.1**	**0.0**
KZA	baz=315			⇑*i*S	**Sg**	**12 40 24.3**	**+0.1**
BOOM	**Boomskoye usch** baz=332	**2.10**	**333**	⇑*e*P	**Pg**	**12 39 56.8**	**-0.6**
BOOM	baz=332			⇑*i*S	**Sg**	**12 40 24.3**	**-0.4**
ANVS	**Anan'yevo** baz=6.0	**2.18**	**8**	⇑*i*P	**Pb**	**12 39 56.5**	**-0.3**
ANVS	baz=6.0			⇑*i*S	**Sb**	**12 40 24.5**	**+0.5**
TNSS	**Tian-Shan** 4.1nm,0.5s	**2.42**	**355**	*e*P	**Pg**	**12 40 02.9**	**-0.6**
TNSS	31nm,0.6s			*e*S	**Sg**	**12 40 36.2**	**+1.3**
IZV	**Izvestkoviy** 10nm,0.5s	**2.46**	**349**	*e*P	**Pg**	**12 40 02.3**	**-1.8**
IZV	65nm,0.6s			*e*S	**Sg**	**12 40 35.3**	**-0.7**
MDOK	**Medeo**	**2.54**	**357**	Pg	**Pb**	**12 40 02.1**	**-0.7**
MDOK				Lg	Lg	12 40 38.8	
MDOK	**Medeo** 1.2nm,0.4s	**2.54**	**357**	*e*P	**Pg**	**12 40 04.3**	**-1.5**
MDOK	16nm,0.7s			*e*S	**Sg**	**12 40 38.5**	**-0.3**
KST	**Kastek** 1.6nm,0.3s	**2.60**	**339**	*e*P	**Pg**	**12 40 05.8**	**-1.1**
KST	6.2nm,0.6s			*e*S	**Sg**	**12 40 40.9**	**+0.3**
TKM2	**Tokmak 2** 3.5nm,0.7s	**2.60**	**332**	⇑Pg	**Pg**	**12 40 06.3**	**-0.6**
TKM2	12nm,0.8s			⇑Lg	Lg	12 40 41.8	
KBK	**Karagaybulak** baz=320	**2.66**	**321**	⇑*i*P	**Pb**	**12 40 05.8**	**+0.9**
KBK	baz=320			⇑*i*S	**Sb**	**12 40 37.9**	**+0.3**
DGS	**Degeres** 2.5nm,0.4s	**2.84**	**338**	*e*P	**Pb**	**12 40 08.9**	**+1.1**
DGS	9.4nm,0.4s			*e*S	**Sg**	**12 40 46.7**	**-1.5**
UZB	**Uzynbulak** 1.9nm,0.5s	**2.85**	**27**	*e*P	**Pg**	**12 40 10.0**	**-1.8**
UZB	13nm,0.6s			*e*S	**Sg**	**12 40 47.8**	**-0.9**
AAK	**Ala-Archa** baz=315	**2.88**	**315**	⇑*i*P	**Pb**	**12 40 08.7**	**+0.1**
AAK	baz=315			⇑*i*S	**Sb**	**12 40 43.7**	**-0.2**
AAK	**Ala-Archa** 3.5nm,0.6s	**2.88**	**315**	⇑Pg	**Pg**	**12 40 10.5**	**-1.7**
AAK	4.7nm,0.6s			Lg	Lg	12 40 55.8	
SHLS	**Shalkode** 4.2nm,0.3s	**3.03**	**33**	*e*P	**Pg**	**12 40 15.4**	**+0.3**
SHLS	9.6nm,0.5s			*e*S	**Sg**	**12 40 57.2**	**+2.8**
KPKS	**Kokpek** 5.4nm,0.2s	**3.04**	**20**	*e*P	**Pg**	**12 40 13.3**	**-2.0**
KPKS	42nm,0.6s			*e*S	**Sg**	**12 40 53.6**	**-1.0**
PDGK	**Podgornoye** baz=29	**3.19**	**31**	⇑*i*P	**Pn**	**12 40 09.2**	**+1.9**
PDGK	baz=29			⇑*e*S	**Sn**	**12 40 45.9**	**+0.5**
PDGK	**Podgornoye** 3.1nm,0.6s	**3.19**	**31**	⇑Pg	**Pb**	**12 40 14.9**	**+1.1**
PDGK	15nm,1.0s			⇓Lg	Lg	12 40 57.8	
KUU	**Kurty** 0.9nm,0.1s	**3.34**	**349**	*e*P	**Pg**	**12 40 18.4**	**-2.6**
KUU	15nm,0.6s			*e*S	**Sg**	**12 41 02.6**	**-1.6**
MNBS	**Baschi** 2.3nm,0.6s	**3.56**	**14**	*e*P	**Pb**	**12 40 19.6**	**-0.6**
MNBS	5.6nm,0.2s			*e*S	**Sb**	**12 41 04.9**	**+1.3**
ARXS	**Arharly** 1.7nm,0.1s	**3.62**	**7**	*e*P	**Pb**	**12 40 23.0**	**+1.9**
ARXS	5.8nm,0.1s			*e*S	**Sg**	**12 41 10.9**	**-2.2**
MRKS	**Merke** 2.5nm,0.7s	**3.68**	**307**	*e*P	**Pg**	**12 40 25.4**	**-2.0**
MRKS	2.4nm,0.

MDNY				*e*SG		**Sg**	12 59 06.5	+0.6
MDNY	**Mudanya-Bursa**	**1.13**	**310**	*e*Pg		**Pn**	12 58 51.8	-0.1
MDNY				*e*Sg		**Sg**	12 59 06.5	+0.6
DEMI	**Demirci**	**1.17**	**239**	*i* P		**Pg**	12 58 51.5	-0.6
DEMI				*i* S		**Sg**	12 59 07.2	-0.1
DEMI	**Demirci**	**1.17**	**239**	P		**Pg**	12 58 51.5	-0.6
DEMI				S		**Sg**	12 59 07.2	-0.1
ARMT	**Armutlu**	**1.27**	**316**	*e*PN		**Pg**	12 58 54.3	+0.3
ARMT				*e*SN		**Sn**	12 59 11.3	-0.1
ARMT	**Armutlu**	**1.27**	**316**	*e*Pn		**Pg**	12 58 54.3	+0.3
ARMT				*e*Sn		**Sn**	12 59 11.3	-0.1
BUY	**Buyukada**	**1.38**	**331**	*e*PN		**Pg**	12 58 56.1	0.0
BUY	**Buyukada**	**1.38**	**331**	*e*Pn		**Pg**	12 58 56.1	0.0
KCTX	**Karacabey (Bur**	**1.41**	**296**	*e*PN		**Pn**	12 58 55.3	-0.6
KCTX	**Karacabey (Bur**	**1.41**	**296**	*e*Pn		**Pn**	12 58 55.3	-0.6
BALB	**Balikesir**	**1.65**	**270**	*e*PN		**Pn**	12 58 58.7	-0.4
BALB	**Balikesir**	**1.65**	**270**	*e*Pn		**Pn**	12 58 58.7	-0.4

*IDC **09** 13:16:01.8±0.7, 48°.31S×87°.37W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/28, mbtmp4.2/9, MS3.7/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=33.6km s-min=17.5km az=103.0*

*ISCJB **09** 13:16:02.1±0.7, 48°.33S±0°.10×87°.2W±0°.3, h10km, mb4.3/10, MS3.7/5, Error ellipse: s-maj=29.1km s-min=12.7km az=13.6*

*NEIC **09** 13:16:03.0±0.5, 48°.30S×87°.44W, h10km, mb4.6/1, Error ellipse: s-maj=24.3km s-min=11.7km az=105.0*

ISC 09 13:16:03.2±0.6, 48°.3S±0°.1×87°.3W±0°.2, h10km, n24, σ0.95/21, mb4.0/9, MS3.8/5, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**13.43**	**126**	LR	LR	13 23 26.3	
	comp=Z,570nm,21.3s,baz=256,slow=33						
PLCA	**Paso Flores**	**14.15**	**64**	LR	LR	13 23 51.1	
	comp=Z,145nm,19.8s,baz=324,slow=33						
LVC	**Limon Verde**	**29.55**	**36**	P	**P**	**13 22 09.3**	**+1.0**
	23nm,0.9s,baz=223,slow=9.8,SNR=3.3						
CPUP	**Villa Florida**	**32.08**	**58**	P	**P**	**13 22 30.3**	**+0.1**
	1.5nm,0.9s,baz=244,slow=11,SNR=2.2						
CPUP				LR	LR	13 35 05.3	
	comp=Z,92nm,18.3s,baz=201,slow=36						
LPAZ	**La Paz**	**35.60**	**33**	P	**P**	**13 23 02.3**	**+0.6**
	2.5nm,1.1s,baz=211,slow=10,SNR=6.3						
QSPA	**South Pole Qui**	**41.94**	**180**	*e*P	**P**	**13 23 54.1**	**+0.3**
QSPA				*e*PcP	**PcP**	**13 25 49.2**	**+0.3**
SNAA	**Sanae**	**43.41**	**153**	P	**P**	**13 24 05.5**	**-0.1**
	2.1nm,0.7s,baz=228,slow=7.0,SNR=13						
SNAA	**Sanae**	**43.41**	**153**	*e*P	**P**	**13 24 04.9**	**-0.7**
	622nm,1.4s						
VNDA	**Vanda**	**47.55**	**196**	P	**P**	**13 24 40.0**	**+1.8**
	0.7nm,0.7s,baz=115,slow=7.4,SNR=7.6						
VNDA				LR	LR	13 41 44.7	
	comp=Z,57nm,19.5s,baz=190,slow=32						
OTAV	**Otavalo**	**48.96**	**12**	*e*P	**P**	**13 24 50.0**	**-0.2**
	8.7nm,1.3s						
PPT	**Papeete**	**58.67**	**279**	LR	LR	13 46 12.0	
	comp=Z,68nm,19.4s,baz=134,slow=31						
MAW	**Mawson**	**62.26**	**168**	P	**P**	**13 26 24.6**	**0.0**
	4.0nm,0.8s,baz=200,slow=8.8,SNR=10						
TXAR	**Lajitas Array**	**78.66**	**346**	P	**P**	**13 28 06.2**	**+1.0**
	1.1nm,0.7s,baz=165,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**88.97**	**220**	LR	LR	14 00 45.3	
	comp=Z,60nm,19.2s,baz=205,slow=30						
PDAR	**Pinedale Array**	**92.78**	**344**	P	**P**	**13 29 15.4**	**-0.1**
	0.4nm,0.6s,baz=148,slow=5.3,SNR=3.8						
ASAR	**Alice Springs**	**99.39**	**218**	P	**Pdif**	**13 29 45.1**	**-1.0**
	0.4nm,0.9s,baz=144,slow=3.3,SNR=3.5						
ASAR				LR	LR	14 12 29.0	
	comp=Z,26nm,18.1s,baz=151,slow=34						
ILAR	**Eielson Array**	**121.84**	**334**	PKP	**PKPdf**	**13 34 55.7**	**-0.5**
	0.5nm,0.6s,baz=180,slow=2.0,SNR=11						
GERES	**GERESS Array B**	**130.04**	**58**	PKP	**PKPdf**	**13 35 12.1**	**-0.4**
	0.1nm,0.3s,baz=260,slow=1.7,SNR=4.2						
BRTR	**Keskin Array B**	**137.64**	**79**	PKP	**PKPdf**	**13 35 26.9**	**-0.2**
	0.8nm,0.6s,baz=242,slow=3.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**144.87**	**268**	PKP	**PKPab**	**13 35 39.0**	**-0.1**
	1.3nm,0.7s,baz=141,slow=4.5,SNR=9.0						
MAJO	**Matsushiro**	**144.88**	**268**	*e*PKPdf	**PKPab**	**13 35 38.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**149.80**	**192**	PKPbc	**PKPbc**	**13 35 53.0**	**-0.4**
	3.5nm,1.1s,baz=204,slow=3.1,SNR=15						
CHTO	**Chiang Mai**	**150.15**	**192**	*e*PKPbc	**PKPbc**	**13 35 52.7**	**-1.6**
ZALV	**Zalesovo Beam**	**172.50**	**38**	PKP	**PKPdf**	**13 36 09.0**	**-2.3**
	0.5nm,0.4s,baz=222,slow=4.0,SNR=4.3						

*MAN **09** 13:25:32, 16°.48N×120°.88E, h1km, mb5.2, ML4.1, MS4.3*

MAN INTENSITY IV - LA TRINIDAD BENGUET; INTENSITY II - BAGUIO CITY.

*ISCJB **09** 13:25:34.6±0.4, 16°.49N±0°.02×121°.04E±0°.04, h37km±4km, mb4.4/29, MS3.2/9, Error ellipse: s-maj=5.7km s-min=3.9km az=179.1*

*NEIC **09** 13:25:36.3±0.5, 16°.49N×121°.14E, h43km±5km, mb4.6/10, Error ellipse: s-maj=8.0km s-min=4.6km az=89.0*

NEIC Felt [IV PIVS] at La Trinidad and [II PIVS] at Baguio. Also felt at San Fernando.

*BJI **09** 13:25:37.3, 16°.59N×120°.93E, h43km, mb4.3/31, mB4.7/16, Ms4.1/12, Ms7 3.8/10*

*IDC **09** 13:25:38.4±2.6, 16°.42N×121°.13E, h63km±25km, mb3.8/15, mb1 4.0/16, mb1mx3.8/42, mbtmp4.1/16, ML3.7/2, MS3.1/7, Ms1 3.2/7, ms1mx2.9/40, Error ellipse: s-maj=22.4km s-min=14.1km az=75.0*

ISC 09 13:25:33.6±1.0, 16°.46N±0°.02×120°.93E±0°.04, h18km±6km, n82, σ2.90/101, mb4.5/29, MS3.1/9, 5C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.91**	**170**	⇓*e*P	**Pg**	**13 25 49.2**	**-2.0**
PCPH				*e*S	**Sg**	**13 26 02.1**	**-1.1**
BOLP	**Bolinao**	**0.98**	**266**	*e*P	**Pn**	**13 25 51.7**	**-0.8**
BOLP				*e*S	**Sn**	**13 26 06.7**	**+0.7**
CAUP	**Cauayan**	**0.98**	**60**	*e*P	**Pn**	**13 25 52.1**	**-0.4**
CAUP				*e*S	**Sn**	**13 26 08.3**	**+2.3**
SZP	**Santa**	**1.18**	**337**	*e*Pn	**Pn**	**13 25 54.8**	**-0.5**
SCZP	**Santa Cruz**	**1.19**	**235**	*e*P	**Pg**	**13 25 55.0**	**-1.7**
SCZP				*e*S	**Sn**	**13 26 12.5**	**+1.3**
ABRA	**Dolores**	**1.20**	**350**	*e*P	**Pg**	**13 25 55.0**	**-1.9**
ABRA				*e*S	**Sn**	**13 26 13.4**	**+1.9**
SGCP	**Mt. Cagua**	**2.07**	**31**	*e*P	**Pb**	**13 26 08.9**	**-1.8**
SGCP				*e*S	**Sg**	**13 26 39.6**	**-0.7**
TGY	**Tagaytay City**	**2.34**	**180**	P	**Pb**	**13 26 13.6**	**-1.8**
	145nm,0.3s,baz=314,slow=1.6,SNR=15						
TGY				S	**Sg**	**13 26 46.6**	**-2.4**
	230nm,0.3s,baz=313,slow=0.9,SNR=3.5						
TGY	**Tagaytay City**	**2.34**	**180**	*e*P	**Pb**	**13 26 14.4**	**-1.0**
TGY				*e*S	**Sg**	**13 26 47.2**	**-1.9**
LQP	**Lukban**	**2.41**	**166**	⇑*e*P	**Pb**	**13 26 16.6**	**0.0**
LUBP	**Lubang**	**2.79**	**194**	*e*P	**Pn**	**13 26 18.8**	**+1.3**
LUBP				*e*S	**Sb**	**13 26 54.4**	**-2.4**
GQP	**Guinayangan**	**2.93**	**150**	⇑*e*P	**Pn**	**13 26 21.4**	**+2.0**
GQP				*i* S	**Sb**	**13 27 02.0**	**+1.1**
BOAC	**Boac**	**3.11**	**163**	*e*P	**Pb**	**13 26 26.3**	**-2.2**
BOAC				*e*S	**Sg**	**13 27 12.6**	**-1.1**
AUQP	**San Andres**	**3.54**	**151**	*e*P	**Pn**	**13 26 30.9**	**+3.1**
AUQP				*e*S	Sg	13 27 40.0	+12
SJMP	**San Jose**	**3.98**	**177**	*e*P	**Pn**	**13 26 37.0**	**+3.2**
OTRP	**Odiongan**	**4.21**	**165**	*e*P	**Pn**	**13 26 40.7**	**+3.7**
PVCP	**Virac**	**4.22**	**132**	*e*P	**Pn**	**13 26 37.4**	**+0.3**
PVCP				*e*S	**Sn**	**13 27 30.8**	**+4.8**
BUSP	**Coron**	**4.49**	**189**	*e*P	**Pn**	**13 26 41.2**	**+0.4**
BUSP				*e*S	**Sn**	**13 27 34.1**	**+1.5**
ENPP	**El Nido**	**5.42**	**196**	*e*P	**Pn**	**13 26 55.0**	**+1.3**
TWG	**Pinlang**	**6.33**	**1**	*e*Pn	**Pn**	**13 27 04.8**	**-1.4**
TPUB	**Ta-pu**	**6.81**	**358**	*e*Pn	**Pn**	**13 27 11.9**	**-0.9**
YULB	**Yu-li**	**6.91**	**3**	*e*Pn	**Pn**	**13 27 16.1**	**+2.0**
SSLB	**Suanglung**	**7.29**	**0**	*e*Pn	**Pn**	**13 27 20.3**	**+0.9**
NACB	**Ninganchiao**	**7.70**	**5**	*e*Pn	**Pn**	**13 27 25.7**	**+0.7**
YHNB	**Yeheng**	**8.18**	**3**	*e*Pn	**Pn**	**13 27 31.7**	**+0.1**
YOJ	**Yonaguni jima**	**8.20**	**13**	*e*Pn	**Pn**	**13 27 32.0**	**+0.2**
QIZ	**Qiongzhong**	**10.87**	**285**	P	**Pn**	**13 28 11.8**	**+3.3**
QIZ				S	**Sn**	**13 30 15.0**	**+5.2**
QIZ				LR	LR		
	comp=Z,210nm,5.3s						
MYLDM	**Lahad Datu**	**11.46**	**192**	*e*Pn	**Pn**	**13 28 19.2**	**+2.7**
DLV	**T Lat**	**12.87**	**251**	*e*Pn	Pn	13 28 40.4	+4.3
NJ2	**Nanjing**	**15.64**	**353**	*e*P	**Pn**	**13 29 12.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
GYA	**Guiyang**	**16.58**	**309**	*e*P	**P**	**13 29 27.9**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JNU	**Nakatsue**	**18.87**	**27**	P	**Pn**	**13 29 53.2**	**-0.5**
	0.1nm,0.3s,baz=166,slow=8.3,SNR=2.2						
KMI	**Kunming**	**19.05**	**300**	P	**Pn**	**13 29 58.5**	**+2.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
XAN	**Xi'an**	**20.57**	**331**	P	Pn	13 30 13.9	0.0
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				LR	LR		
	comp=N,68nm,10.4s						
XAN				LR	LR		
	comp=E,74nm,10.1s						
XAN				LR	LR		
	comp=Z,160nm,6.6s						
CM01	**Chiang Mai Arr**	**21.05**	**279**	*e*P	**P**	**13 30 19.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**21.07**	**279**	P	**P**	**13 30 20.6**	**+3.5**
	2.7nm,0.7s,baz=105,slow=7.6,SNR=19						
CMAR				LR	LR	13 38 20.9	
	comp=Z,42nm,19.3s,baz=130,slow=36						
CHTO	**Chiang Mai**	**21.08**	**280**	*e*P	**P**	**13 30 19.4**	**+2.2**
	10nm,1.6s						
KSAR	**Wonju Array Be**	**21.79**	**15**	P	**P**	**13 30 24.5**	**-0.1**
KSRS	**Korea Array**	**21.81**	**15**	P	**P**	**13 30 24.5**	**-0.3**
	2.7nm,0.6s,baz=197,slow=11,SNR=13						
KSRS				LR	LR	13 39 01.8	
	comp=Z,23nm,19.6s,baz=148,slow=37						
GUMO	**Guam**	**23.29**	**94**	LR	LR	13 37 41.7	
	comp=Z,29nm,21.9s,baz=175,slow=31						
BJI	**Beijing**	**23.86**	**351**	P	**P**	**13 30 45.6**	**-0.4**
BJI				S	**S**	**13 34 58.6**	**-2.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**24.76**	**325**	*e*P	**P**	**13 30 56.9**	**+2.3**
LZH				pP	sP	13 31 06.5	+4.3
LZH				sP	pP	13 31 11.8	+12
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,4.8s						
HHC	**Hu-ho-hao-te**	**25.62**	**343**	*e*P	**P**	**13 31 03.7**	**+1.4**
HHC				pmax	pmax		
	comp=Z,33nm,0.9s						
HHC				pmax	pmax		
	comp=Z,90nm,8.6s						
SONM	**Songino Array**	**33.50**	**342**	P	**P**	**13 32 12.8**	**+0.6**
	1.6nm,0.6s,baz=160,slow=10,SNR=8.6						
SONM				LR	LR	13 46 27.4	
	comp=Z,41nm,19.7s,baz=164,slow=37						
WRAB	**Tennant Creek**	**38.49**	**159**	*e*P	**P**	**13 32 53.7**	**-1.4**
	5.8nm,0.8s						
WRA	**Warramunga Arr**	**38.50**	**159**	P	**P**	**13 32 53.5**	**-1.6**
	3.8nm,0.8s,baz=338,slow=9.3,SNR=27						
WB2	**Warramunga Arr**	**38.50**	**159**	*e*P	**P**	**13 32 54.0**	**-1.1**
	6.6nm,0.8s						
WMQ	**Urumqi**	**39.18**	**321**	P	**P**	**13 33 02.1**	**+1.4**
WMQ				pP	sP	13 33 14.4	+6.1
WMQ				sP	pP	13 33 20.0	+14
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,65nm,3.8s						
WMQ				LR	LR		
	comp=N,84nm,21.1s						
WMQ				LR	LR		
	comp=E,50nm,24.3s						
AS31	**Alice Springs**	**41.84**	**162**	*e*P	**P**	**13 33 21.6**	**-1.2**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**41.85**	**162**	P	**P**	**13 33 22.1**	**-0.8**
	2.8nm,0.8s,baz=340,slow=7.0,SNR=37						
AS01	**Alice Springs**	**41.86**	**162**	*e*P	**P**	**13 33 21.4**	**-1.6**
MK01	**Makanchi Array**	**43.97**	**322**	*e*P	**P**	**13 33 40.2**	**+0.3**
MK31	**Makanchi Array**	**43.98**	**322**	*e*P	**P**	**13 33 40.7**	**+0.7**
MKAR	**Makanchi Array**	**43.98**	**322**	P	**P**	**13 33 41.0**	**+1.0**
	1.9nm,0.7s,baz=120,slow=9.3,SNR=18						
MKAR				PcP	**PcP**	**13 35 24.8**	**-0.7**
	1.2nm,0.7s,baz=109,slow=3.6,SNR=6.3						
MKAR				LR	LR	13 52 60.0	
	comp=Z,24nm,20.0s,baz=20,slow=37						
MKAR	**Makanchi Array**	**43.98**	**322**	*e*P	**P**	**13 33 40.6**	**+0.6**
	15nm,0.6s						
MKAR				PcP	**PcP**	**13 35 24.8**	**-0.7**
KSH	**Kashi**	**45.28**	**310**	*e*P	**P**	**13 33 52.1**	**+1.5**
KSH				pP	sP	13 34 05.1	+6.9
KSH				sP	pP	13 34 10.3	+14
KSH				PcP	**PcP**	**13 35 31.3**	**+1.0**
KSH				PP	**PP**	**13 35 40.6**	**+4.1**
KSH				PcS	**PcS**	**13 39 22.3**	**-2.0**
KSH				S	**S**	**13 40 28.8**	**-1.6**
KSH				sS	sS	13 40 50.2	+11
KSH				ScS	**ScS**	**13 43 40.4**	**-6.6**
KSH				SS	**SS**	**13 43 44.8**	**-8.5**
KSH				pmax	pmax		
	comp=Z,63nm,4.5s						
KSH				LR	LR		
	comp=N,170nm,4.6s						
KSH				LR	LR		
	comp=E,110nm,4.6s						
KSH				LR	LR		
	comp=Z,210nm,4.9s						
PETK	**Petropavlovsk-**	**46.52**	**30**	P	**P**	**13 34 00.1**	**+0.1**
	5.6nm,0.8s,baz=238,slow=5.1,SNR=4.3						
ZAA0	**Zalesovo Array**	**46.74**	**331**	*e*P	**P**	**13 34 01.0**	**-0.7**
ZALV	**Zalesovo Beam**	**46.74**	**331**	P	**P**	**13 34 01.4**	**-0.3**
	1.3nm,0.6s,baz=122,slow=5.6,SNR=4.8						
KURK	**Kurchatov**	**48.05**	**325**	*e*P	**P**	**13 34 12.1**	**+0.2**
	6.9nm,0.7s						
KKAR	**Karatay Array**	**50.25**	**313**	*e*P	**P**	**13 34 29.5**	**+0.6**
	25nm,0.6s						
BRVK	**Borovoye**	**53.72**	**325**	*e*P	**P**	**13 34 55.0**	**+0.4**
	15nm,1.6s						
GEYT	**Alibeck**	**58.73**	**305**	P	**P**	**13 35 31.4**	**+0.7**
	1.3nm,0.6s,baz=101,slow=7.7,SNR=4.6						
ABKAR	**Akbulak array**	**58.83**	**318**	*e*P	**P**	**13 35 31.1**	**0.0**
	100nm,0.4s						
AKTO	**Aktyubinsk**	**60.27**	**319**	LR	LR	14 02 51.3	
	comp=Z,40nm,18.3s,baz=79,slow=37						
ARU	**Arti**	**61.23**	**326**	*e*P	**P**	**13 35 46.7**	**-0.8**
	11nm,0.5s						
RAYN	**Ar Rayn**	**70.53**	**290**	*e*P	**P**	**13 36 47.6**	**-0.5**
	3.9nm,1.1s						
ILAR	**Eielson Array**	**76.19**	**26**	P	**P**	**13 37 19.0**	**-1.6**
	0.4nm,0.8s,baz=234,slow=6.9,SNR=5.7						
ARCES	**ARCESS Array B**	**76.60**	**339**	P	**P**	**13 37 22.4**	**-0.5**
	3.5nm,0.8s,baz=76,slow=6.0,SNR=7.8						
ARCES				LR	LR	14 13 10.5	
	comp=Z,22nm,19.4s,baz=256,slow=37						
FINES	**FINESS Array B**	**78.00**	**331**	P	**P**	**13 37 30.4**	**-0.4**
	3.5nm,0.6s,baz=60,slow=5.7,SNR=18						
AKASG	**Malin Array Be**	**78.51**	**320**	P	**P**	**13 37 32.9**	**-0.9**
	2.4nm,0.6s,baz=66,slow=5.6,SNR=7.9						
BURAR	**Bucovina Array**	**81.80**	**317**	⇓*i*P	**P**	**13 37 52.1**	**+0.3**
VOIR		**82.49**	**315**	⇑*i*P	**P**	**13 37 56.0**	**+0.5**
DRGR		**83.67**	**317**	⇓*i*P	**P**	**13 38 01.8**	**+0.3**
OJC	**Ojcow**	**84.45**	**321**	*e*P	**P**	**13 38 05.8**	**+0.4**
VTS	**Vitosha**	**84.57**	**313**	⇑*i*P	**P**	**13 38 07.6**	**+1.3**
NC405	**NORSAR Array S**	**84.68**	**333**	*e*P	**P**	**13 38 05.4**	**-0.9**
NB2	**NORSAR Subarra**	**84.93**	**333**	P	**P**	**13 38 06.8**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=70,slow=5.9						
NOA	**NORSAR Array B**	**84.93**	**333**	P	**P**	**13 38 06.8**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=65,slow=5.0,SNR=9.2						
VYHS	**Vyhne**	**85.61**	**319**	*e*P	**P**	**13 38 11.8**	**+0.6**
MORC	**Moravsky Berou**	**85.97**	**321**	⇑*i*P	**P**	**13 38 13.0**	**0.0**
GERES	**GERESS Array B**	**88.65**	**321**	P	**P**	**13 38 25.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=69,slow=4.4,SNR=9.1						

*NNC **09** 13:35:57.9±5.2, 38°.59N×69°.10E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=53.1km s-min=32.8km az=143.0*

KRNET 09 13:36:00.8±0.1, 39°.35N×68°.70E, mb2.8, 4C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.78**	**66**	⇓*i*P	Pn	13 36 32.4	-0.5
	baz=66						
BTK				⇓*i*S	Sn	13 36 55.7	-0.6
	baz=66						
ARK	**Arkit**	**3.48**	**44**	⇓*e*P	Pn	13 36 56.7	+0.3
	baz=45						
ARK				⇓*i*S	Sn	13 37 36.6	-1.8
	baz=45						
ARSB	**Arslanbob**	**3.82**	**58**	⇓*e*P	Pn	13 37 01.1	+0.1
	baz=57						
ARSB				⇓*i*S	Sn	13 37 44.7	-2.0
	baz=57						
KK31	**Karatay Array**	**3.99**	**19**	Pn	Pb	13 37 09.8	-2.1
	0.3nm,0.2s,baz=201,slow=16,SNR=35						
KK31				⇓Pg	Pg	13 37 24.4	+7.2
	1.2nm,0.4s,baz=191,slow=17,SNR=8.3						
KK31				⇓Lg	Lg	13 38 23.0	
	4.8nm,0.4s,baz=198,slow=30,SNR=8.3						
MNAS	**Manas**	**4.26**	**41**	⇓*e*P	Pn	13 37 07.5	+0.5
	baz=41						
MNAS				⇓*i*S	Sn	13 37 55.1	-2.4
	baz=41						
MNAS	**Manas**	**4.26**	**41**	⇓Pg	Pg	13 37 20.6	-1.8
	2.2nm,0.5s						
MNAS				⇑Sn	Sb	13 38 06.0	-2.6
	5.1nm,0.6s						
MNAS				⇑Lg	Lg	13 38 23.0	
	24nm,1.2s						
AAK	**Ala-Archa**	**5.48**	**51**	⇑Pn	Pn	13 37 23.2	-0.6
	1.7nm,0.5s						
AAK				Sn	Sn	13 38 34.9	+7.3
	5.2nm,0.8s						
AAK				⇑Lg	Lg	13 39 00.7	
	10nm,1.2s						

*IDC **09** 13:42:55.7±1.3, 35°.71N×23°.51E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.2/33, mbtmp3.4/4, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/39, Error ellipse: s-maj=26.6km s-min=13.1km az=28.0*

*ISCJB **09** 13:42:57.8±0.5, 35°.71N±0°.03×23°.59E±0°.04, h10km±4km, mb3.4/3, MS2.9/1, Error ellipse: s-maj=7.7km s-min=2.9km az=44.9*

*ATH **09** 13:42:57.8, 35°.72N×23°.59E, h22km±1km, ML3.3/6, Error ellipse: s-maj=2.7km s-min=0.8km az=221.0*

*THE **09** 13:42:58.0, 35°.72N×23°.61E, h4km±1km, ML3.3/12, Error ellipse: s-maj=1.5km s-min=0.4km az=227.0*

*CSEM **09** 13:42:58.1±0.2, 35°.71N×23°.62E, h8km, ML3.3, Error ellipse: s-maj=5.7km s-min=2.4km az=47.0*

ISC 09 13:42:57.9±0.9, 35°.70N±0°.03×23°.60E±0°.03, h13km±7km, n75, σ0.63/101, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.29**	**304**	P	**Pg**	**13 43 04.0**	**0.0**
ANKY				S	**Sg**	**13 43 07.9**	**-0.2**
ANKY	**Antikythira Is**	**0.29**	**304**	P	**Pg**	**13 43 03.8**	**-0.2**
ANKY				S	**Sg**	**13 43 08.4**	**+0.4**
ANKY				AML	AML	13 43 09.2	
	comp=E,15825μm,0.4s						
ANKY				AML	AML	13 43 10.0	
	comp=N,16471μm,0.3s						
ANKY	**Antikythira Is**	**0.29**	**304**	P	**Pg**	**13 43 03.8**	**-0.2**
ANKY				S	**Sg**	**13 43 07.9**	**-0.2**
IMMV	**Iera Moni Meta**	**0.39**	**128**	P	**Pg**	**13 43 05.6**	**-0.2**
IMMV				S	**Sg**	**13 43 11.7**	**+0.7**
IMMV	**Iera Moni Meta**	**0.39**	**128**	P	**Pg**	**13 43 05.4**	**-0.3**
IMMV				AML	AML	13 43 12.9	
	comp=E,25947μm,0.4s						
IMMV				S	**Sb**	**13 43 13.1**	**+0.4**
IMMV				AML	AML	13 43 13.2	
	comp=N,22563μm,0.4s						
IMMV	**Iera Moni Meta**	**0.39**	**128**	P	**Pg**	**13 43 05.6**	**-0.2**
IMMV				S	**Sg**	**13 43 11.7**	**+0.7**
VAM	**Vamos**	**0.57**	**121**	P	**Pg**	**13 43 08.9**	**-0.2**
VAM				S	**Sg**	**13 43 17.2**	**+0.6**
VAM	**Vamos**	**0.57**	**121**	P	**Pb**	**13 43 09.6**	**-0.1**
VAM				S	**Sb**	**13 43 18.3**	**+0.5**
VAM				AML	AML	13 43 19.4	
	comp=E,10864μm,0.4s						
VAM				AML	AML	13 43 20.5	
	comp=N,9651μm,0.2s						
VAM	**Vamos**	**0.57**	**121**	P	**Pg**	**13 43 08.9**	**-0.2**
VAM				S	**Sg**	**13 43 17.2**	**+0.6**
KYTH	**Kithira**	**0.72**	**322**	P	**Pg**	**13 43 11.8**	**-0.1**
KYTH				S	**Sb**	**13 43 21.9**	**-0.3**
KYTH	**Kithira**	**0.72**	**322**	P	**Pg**	**13 43 12.0**	**+0.1**
GVD	**Gavdhos**	**0.95**	**155**	P	**Pg**	**13 43 15.6**	**-0.6**
GVD				S	**Sb**	**13 43 29.4**	**+0.7**
GVD	**Gavdhos**	**0.95**	**155**	P	**Pg**	**13 43 15.3**	**-0.9**
GVD				AML	AML	13 43 35.6	
	comp=N,2321μm,0.5s						
GVD				AML	AML	13 43 35.8	
	comp=E,2030μm,0.3s						
GVD	**Gavdhos**	**0.95**	**155**	P	**Pg**	**13 43 15.6**	**-0.6**
GVD				S	**Sb**	**13 43 29.4**	**+0.7**
IDI	**Anoyia**	**1.13**	**111**	Pg	**Pb**	**13 43 19.3**	**-0.1**
	comp=E,21nm,0.3s,baz=287,slow=15,SNR=122						
IDI				Lg	Lg	13 43 35.0	
	comp=E,97nm,0.3s,baz=49,slow=20,SNR=21						
IDI	**Anoyia**	**1.13**	**111**	P	**Pb**	**13 43 18.8**	**-0.6**
IDI	**Anoyia**	**1.13**	**111**	P	**Pb**	**13 43 19.5**	**+0.2**
IDI	**Anoyia**	**1.13**	**111**	P	**Pb**	**13 43 19.5**	**+0.2**
VLI	**Veliai**	**1.15**	**332**	P	**Pb**	**13 43 19.1**	**-0.5**
VLI		

KLV	**Kalavryta, Ach**	**2.61**	**334**	P	**Pn**	**13 43 41.3 +1.4**
EREA	**Eretria**	**2.73**	**5**	P	**Pn**	**13 43 43.3 +1.9**
EREA	**Eretria**	**2.73**	**5**	P	**Pn**	**13 43 43.3 +1.9**
KARP	**Karpathos**	**2.91**	**92**	P	**Pn**	**13 43 44.1 +0.3**
KARP	**Karpathos**	**2.91**	**92**	P	**Pn**	**13 43 44.2 +0.3**
GERES	**GERESS Array B**	**15.02**	**334**	Pn	**Pn**	**13 46 29.7 -0.2**
	comp=E,0.1nm,0.3s,baz=149,slow=9.8,SNR=2.1					
HFS	**Hagfors**	**25.28**	**348**	P	**P**	**13 48 23.4 -0.2**
	comp=E,0.9nm,0.5s,baz=161,slow=11,SNR=8.7					
TORD	**Torodi Ar. Bea**	**29.90**	**227**	P	**P**	**13 49 04.9 -0.6**
	comp=E,0.4nm,0.6s,baz=32,slow=7.2,SNR=5.5					
TORD				LR	LR	14 00 56.5
	comp=E,32nm,21.6s,baz=130,slow=36					
MKAR	**Makanchi Array**	**44.54**	**57**	P	**P**	**13 51 08.7 -0.6**
	comp=E,0.2nm,0.5s,baz=273,slow=7.3,SNR=5.3					

MEX 09 13:45:30.5±0.4, 14°.46N×93°.36W, h56km±19km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**6**	*e*P	Pn	13 45 50.2	-1.5
PCIG				*i* S	Sn	13 46 05.5	-1.9
CCIG	**Comitan**	**2.16**	**33**	*e*P	Pn	13 46 03.3	-1.1
CCIG				*i* S	Sn	13 46 28.3	-1.8
TGIG		**2.32**	**6**	*e*P	Pn	13 46 04.8	-1.6
TGIG				*i* S	Sn	13 46 31.6	-2.1

MAN 09 13:45:48, 8°.97N×126°.14E, h149km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.81**	**164**	⇑*i*P	Pn	13 46 14.0	+2.8
BIPH				*i* S	Sn	13 46 30.5	+1.6
SCPH	**Surigao**	**1.03**	**322**	*e*P	Pn	13 46 14.2	+1.2
SCPH				*e*S	Sn	13 46 33.3	+1.3
MATI	**Mati**	**2.02**	**177**	*e*P	Pn	13 46 24.4	+1.1
MATI				*e*S	Sn	13 46 51.3	+0.9
BESP	**Borongan**	**2.70**	**345**	*e*P	Pn	13 46 32.9	+1.3
BESP				*e*S	Sn	13 47 05.6	+0.3

GUC 09 13:52:49.2±0.5, 22°.12S×68°.61W, h108km±3km, ML3.8, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.56**	**210**	*i* P	Pn	13 53 07.1	+0.3
LVC				*e*S	Sn	13 53 20.6	+0.7
PB09	**IPOC Station P**	**0.67**	**299**	*e*P	Pn	13 53 08.5	+1.1
PB09				*e*S	Sn	13 53 22.7	+1.6
PB09				IAML		13 53 23.5	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**1.06**	**237**	⇑*i*P	Pn	13 53 11.6	+0.5
PB06				*e*S	Sn	13 53 29.0	+1.3
PB06				IAML		13 53 31.4	
	comp=N,2μm,0.1s						
PB07	**IPOC Station P**	**1.25**	**288**	⇑*i*P	Pn	13 53 13.8	+0.7
PB07				*e*S	Sn	13 53 32.2	+0.9
PB07				IAML		13 53 34.2	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.35**	**322**	⇓*i*P	Pn	13 53 14.8	+0.5
PB01				*e*S	Sn	13 53 34.2	+1.0
PB01				IAML		13 53 35.4	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.44**	**261**	⇑*i*P	Pn	13 53 15.8	+0.3
PB04				*i* S	Sn	13 53 36.6	+1.3
PB04				IAML		13 53 41.1	
	comp=N,1μm,0.2s						
PB08	**IPOC Station P**	**2.04**	**345**	*e*P	Pn	13 53 24.3	+1.3
PB08				*e*S	Sn	13 53 50.6	+1.9

TAP ***09*** *14:30:24.8, 24°.49N×122°.53E, h49km±1km, ML3.4, D*
JMA ***09*** *14:30:24.4±0.1, 24°.42N×122°.49E, h65km±2km, M2.7*
ISC 09 14:30:23.4±1.1, 24°.45N±0°.03×122°.51E±0°.02, h15km±9km, n43, σ0°91/75, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.39**	**90**	P	**Pn**	**14 30 36.1**	**+1.5**
JYNG				S	**Sn**	**14 30 44.4**	**+2.6**
YOJ	**Yonaguni jima**	**0.45**	**88**	P	**Pn**	**14 30 36.6**	**+1.2**
YOJ				S	**Sn**	**14 30 45.3**	**+2.0**
TWC	**Suao**	**0.63**	**285**	P	**Pn**	**14 30 38.0**	**+0.2**
	baz=281						
TWC				*e*S	**Sn**	**14 30 47.4**	**-0.2**
	baz=281						
ENA	**Nanau**	**0.70**	**268**	P	**Pn**	**14 30 39.7**	**+0.8**
	baz=264						
ENA				*e*S	**Sn**	**14 30 50.4**	**+0.9**
	baz=264						
TWB1	**Santiao Chiao**	**0.73**	**320**	*e*S	**Sn**	**14 30 48.9**	**-1.3**
	baz=316						
ILA	**Ilan**	**0.77**	**295**	*e*P	**Pn**	**14 30 40.3**	**+0.6**
	baz=291						
ILA				*e*S	**Sn**	**14 30 51.4**	**+0.5**
	baz=291						
ENTT	**Nioudou**	**0.88**	**283**	P	**Pn**	**14 30 42.0**	**+0.6**
	baz=279						
ENTT				*e*S	**Sn**	**14 30 54.6**	**+0.7**
	baz=279						
NWF	**Wu-fen Shan**	**0.91**	**313**	P	**Pn**	**14 30 41.8**	**0.0**
	baz=310						
NWF				*e*S	**Sn**	**14 30 53.7**	**-1.0**
	baz=310						
TWD	**Chiawan**	**0.91**	**247**	P	**Pn**	**14 30 41.7**	**-0.1**
	baz=244						
TWD				*e*S	**Sg**	**14 30 53.9**	**+0.8**
	baz=244						
TWA	**Mucha**	**1.00**	**302**	*e*P	**Pn**	**14 30 43.3**	**+0.4**
	baz=299						
TWA				*e*S	**Sn**	**14 30 56.2**	**-0.5**
	baz=299						
NNS	**Nan Shan**	**1.04**	**270**	*e*P	**Pg**	**14 30 43.7**	**+0.2**
	baz=267						
NNS				*e*S	**Sg**	**14 30 57.1**	**-0.1**
	baz=267						
NSK	**Sanguang**	**1.08**	**282**	P	**Pg**	**14 30 44.2**	**0.0**
	baz=279						
NSK				*e*S	**Sg**	**14 30 58.4**	**+0.1**
	baz=279						
IRIF	**Iriomote-Funau**	**1.11**	**96**	P	**Pn**	**14 30 44.5**	**0.0**
IRIF				S	**Sn**	**14 30 59.4**	**-0.2**
TWY	**Chenhua**	**1.17**	**315**	*e*P	**Pb**	**14 30 45.3**	**0.0**
	baz=313						
ESL	**Shilin**	**1.17**	**238**	*e*P	**Pn**	**14 30 44.9**	**-0.4**
	baz=235						
ESL				*e*S	**Sb**	**14 30 59.8**	**-0.6**
	baz=235						
TWS1	**Kuangyinshan**	**1.19**	**303**	*e*P	**Pb**	**14 30 45.6**	**-0.1**
	baz=301						
TWS1				*e*S	**Sb**	**14 31 00.5**	**-0.4**
	baz=301						
TWT	**Tachien**	**1.23**	**261**	P	**Pg**	**14 30 47.2**	**0.0**
	baz=259						
TWT				*e*S	**Sb**	**14 31 02.6**	**+0.2**
	baz=259						
HATJ	**Hateruma jima**	**1.24**	**108**	P	**Pg**	**14 30 47.1**	**-0.3**
JKRS	**Kuro-shima**	**1.38**	**98**	P	**Pb**	**14 30 48.5**	**-0.4**
JKRS				S	**Sb**	**14 31 06.2**	**-0.2**
NSTT	**Nanjuang**	**1.39**	**278**	P	**Pn**	**14 30 48.4**	**+0.1**
	baz=275						
NSTT				*e*S	**Sn**	**14 31 06.2**	**-0.2**
	baz=275						
EHY	**Hungye**	**1.44**	**230**	*e*P	**Pn**	**14 30 48.9**	**-0.1**
	baz=228						
EHY				*e*S	**Sn**	**14 31 06.7**	**-0.9**
	baz=228						
JIJ	**Ishigaki jima**	**1.49**	**93**	P	**Pn**	**14 30 49.3**	**-0.3**
JIJ				S	**Sn**	**14 31 07.4**	**-1.4**
TWF1	**Yuli**	**1.56**	**226**	*e*P	**Pn**	**14 30 49.9**	**-0.7**
	baz=224						
TWF1				*e*S	**Sn**	**14 31 08.6**	**-2.0**
	baz=224						
SMLT	**Sun Moon Lake**	**1.58**	**249**	*e*P	**Pb**	**14 30 52.5**	**+0.2**
	baz=247						
SMLT				*e*S	**Sn**	**14 31 11.1**	**-0.1**
	baz=247						
TWQ1	**Liyutan**	**1.59**	**267**	*e*P	**Pb**	**14 30 52.4**	**-0.1**
	baz=264						
TWQ1				*e*S	**Sn**	**14 31 10.9**	**-0.4**
	baz=264						
TYC	**Yuchr**	**1.61**	**251**	*e*P	**Pb**	**14 30 52.7**	**-0.1**
	baz=249						
TYC				*e*S	**Sn**	**14 31 11.3**	**-0.5**
	baz=249						
JISG	**Ishigakijimahi**	**1.64**	**85**	P	**Pn**	**14 30 51.2**	**-0.6**
JISG				*e*S	**Sn**	**14 31 11.1**	**-1.5**
ALS	**Alishan**	**1.82**	**239**	*e*S	**Sn**	**14 31 16.9**	**-0.5**
	baz=238						
ELDTW	**Lidau**	**1.86**	**228**	*e*P	**Pn**	**14 30 54.6**	**-0.2**
	baz=226						
ELDTW				*e*S	**Sn**	**14 31 16.6**	**-1.6**
	baz=226						
CHN5	**Tsauling**	**1.88**	**244**	*e*P	**Pb**	**14 30 56.9**	**-0.6**
	baz=242						
CHN5				*e*S	**Sn**	**14 31 19.7**	**+1.1**
	baz=242						
WGK	**Gukeng**	**1.94**	**247**	*e*S	**Sn**	**14 31 21.3**	**+1.3**
	baz=245						
JTJ	**Tarama**	**2.00**	**84**	P	**Pn**	**14 30 56.9**	**+0.2**
JTJ				*e*S	**Sn**	**14 31 21.1**	**-0.4**
STYT	**Tauyuan**	**2.06**	**232**	*e*P	**Pn**	**14 30 58.1**	**+0.6**
	baz=230						
STYT				*e*S	**Sn**	**14 31 22.5**	**-0.4**
	baz=230						
CHN4	**Tsaushan**	**2.07**	**239**	*e*P	**Pb**	**14 30 59.4**	**-1.3**
	baz=237						
CHN4				*e*S	**Sn**	**14 31 24.4**	**+1.2**
	baz=237						
CHN2	**Minshiung**	**2.08**	**244**	*e*S	**Sn**	**14 31 24.8**	**+1.5**
	baz=243						
TWG	**Pinlang**	**2.09**	**219**	*e*P	**Pn**	**14 30 57.9**	**-0.1**
	baz=218						
WTP	**Ta-pu**	**2.11**	**236**	*e*P	**Pn**	**14 30 59.6**	**+1.3**
	baz=234						
WTP				*e*S	**Sn**	**14 31 25.4**	**+1.1**
	baz=234						
TWK	**Hsinying**	**2.20**	**238**	*e*S	**Sn**	**14 31 27.5**	**+1.1**
	baz=236						
CHN1	**Nanshi**	**2.21**	**236**	*e*P	**Pn**	**14 31 01.4**	**+1.8**
	baz=234						
CHN1				*e*S	**Sn**	**14 31 27.9**	**+1.2**
	baz=234						
SGST	**Jiashian**	**2.23**	**233**	*e*S	**Sn**	**14 31 28.6**	**+1.4**
	baz=231						
SSD	**Sandimen**	**2.42**	**226**	*e*S	**Sn**	**14 31 33.0**	**+1.2**
	baz=224						
JIRB	**Irabujima**	**2.45**	**81**	P	**Pn**	**14 31 03.5**	**+0.6**
JIRB				S	**Sn**	**14 31 32.3**	**-0.2**
JIKM	**Ikemajima**	**2.53**	**79**	*e*S	**Sn**	**14 31 34.3**	**-0.3**

NIED ***09*** *14:38:00, 37°.70N×142°.30E, h26km, Mw3.7 Best double couple: M0:3.61000×10^14 NP1:φs=153.00000°, δ10.00000°, λ-167.00000°. NP2:φs=50.00000°, δ88.00000°, λ-80.00000°.*
IDC ***09*** *14:38:30.6±1.3, 37°.73N×142°.64E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/37, mbtmp3.9/10, ML3.3/4, MS2.4/1, Ms1 2.4/1, ms1mx2.0/37, Error ellipse: s-maj=32.0km s-min=16.8km az=81.0*
ISCJB ***09*** *14:38:34.3±1.0, 37°.72N±0°.04×142°.50E±0°.07, h37km±9km, mb3.7/6, Error ellipse: s-maj=9.1km s-min=6.1km az=19.9*
JMA ***09*** *14:38:35.4±0.2, 37°.72N×142°.30E, h31km±3km, M4.2*
JMA Felt I J1.
ISC 09 14:38:36.9±1.3, 37°.73N±0°.06×142°.4E±0°.1, h37km±3km, n30, σ1°64/39, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.08**	**313**	P	**Pn**	**14 38 54.4**	**-1.0**
JIO				S	**Sn**	**14 39 07.4**	**-1.7**
JFK	**Kawauchi**	**1.24**	**254**	P	**Pn**	**14 38 56.1**	**-1.5**
JFK				S	**Sn**	**14 39 10.6**	**-2.4**
JMM	**Marumori**	**1.25**	**277**	P	**Pn**	**14 38 56.4**	**-1.4**
JMM				*e*S	**Sn**	**14 39 11.3**	**-2.0**
JOU	**Okura**	**1.48**	**296**	P	**Pn**	**14 39 00.5**	**-0.5**
JOU				*e*S	**Sn**	**14 39 18.6**	**-0.6**
JMK	**Ichinoseki**	**1.52**	**324**	P	**Pn**	**14 39 01.1**	**-0.3**
JMK				S	**Sn**	**14 39 19.4**	**-0.5**
JFT	**Otama**	**1.62**	**263**	P	**Pn**	**14 39 02.6**	**-0.3**
JFT				*e*S	**Sn**	**14 39 22.2**	**-0.3**
JYS	**Shirataka**	**1.88**	**286**	P	**Pn**	**14 39 06.5**	**+0.1**
JYS				*e*S	**Sn**	**14 39 30.7**	**+1.8**
JOM	**Ohasama**	**1.93**	**335**	P	**Pn**	**14 39 07.2**	**0.0**
JOM				*e*S	**Sn**	**14 39 31.1**	**+0.9**
JYK	**Kaneyama**	**1.97**	**308**	P	**Pn**	**14 39 07.7**	**0.0**
JYK				*e*S	**Sn**	**14 39 32.4**	**+1.2**
JFY	**Yanaizu**	**2.13**	**262**	P	**Pn**	**14 39 10.1**	**+0.1**
JFY				*e*S	**Sn**	**14 39 36.3**	**+1.1**
JRG	**Rokugo**	**2.15**	**321**	P	**Pn**	**14 39 10.5**	**+0.4**
JYA	**Atsumi**	**2.26**	**293**	P	**Pn**	**14 39 11.9**	**+0.3**
JYA				*e*S	**Sn**	**14 39 39.9**	**+1.7**
JAW	**Awa shima**	**2.56**	**287**	P	**Pn**	**14 39 16.7**	**+0.9**
MJAR	**Matsushiro Arr**	**3.52**	**252**	Pn	**Pn**	**14 39 30.8**	**+1.7**
	1.5nm,0.3s,baz=24,slow=12,SNR=25						
MJAR					Sn	**14 40 14.2**	**+4.7**
	3.4nm,0.3s,baz=52,slow=24,SNR=6.4						
MAT	**Matsushiro**	**3.52**	**252**	P	**Pn**	**14 39 31.1**	**+2.0**
MAT				*e*S	**Sn**	**14 40 12.4**	**+2.9**
JHJ	**Hachijo jima 2**	**5.06**	**205**	Pn	**Pn**	**14 39 48.4**	**-1.7**
	9.3nm,0.3s,baz=140,slow=23,SNR=6.5						
JHJ					Sn	**14 40 42.9**	**-4.4**
	9.0nm,0.3s,baz=73,slow=19,SNR=4.1						
JHJ					LR	LR	14 41 58.6
	comp=Z,39nm,18.6s,baz=278,slow=40						
ASAJ	**Asahikawa**	**6.39**	**2**	Pn	**Pn**	**14 40 07.8**	**-0.5**
	1.2nm,0.3s,baz=199,slow=13,SNR=28						
ASAJ					Sn	**14 41 19.5**	**-0.4**
	0.4nm,0.3s,baz=150,slow=20,SNR=2.7						
USRK	**Ussuriysk Ar.**	**10.16**	**313**	Pn	**Pn**	**14 41 01.8**	**+1.7**
	0.4nm,0.3s,baz=131,slow=14,SNR=12						
H11N2	**WAKE ISLAND Hy**	**27.87**	**123**	T	T	15 13 31.8	
	baz=316,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.88**	**123**	T	T	15 13 44.6	
	baz=316,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.89**	**123**	T	T	15 13 46.1	
	baz=316,slow=75						
SONM	**Songino Array**	**28.04**	**303**	P	**P**	**14 44 24.7**	**+0.2**
	1.4nm,0.7s,baz=105,slow=9.0,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	15 14 38.9	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	15 14 42.2	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	15 14 29.2	
	baz=318						
ZALV	**Zalesovo Beam**	**42.01**	**312**	P	**P**	**14 46 23.9**	**-0.3**
	0.6nm,0.4s,baz=90,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**44.40**	**302**	P	**P**	**14 46 43.6**	**-0.1**
	0.4nm,0.5s,baz=82,slow=10,SNR=9.0						
WRA	**Warramunga Arr**	**57.86**	**189**	P	**P**	**14 48 24.2**	**-0.6**
	1.6nm,0.7s,baz=6.3,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**61.58**	**189**	P	**P**	**14 48 50.2**	**-0.3**
	0.8nm,0.7s,baz=12,slow=6.1,SNR=11						
FINES	**FINESS Array B**	**68.55**	**332**	P	**P**	**14 49 35.2**	**-0.1**
	0.8nm,0.8s,baz=34,slow=10,SNR=3.2						

NIED ***09*** *14:44:00, 38°.30N×144°.50E, h5km, Mw3.8 Best double couple: M0:6.17000×10^14 NP1:φs=13.00000°, δ25.00000°, λ-87.00000°. NP2:φs=190.00000°, δ65.00000°, λ-91.00000°.*
IDC ***09*** *14:44:32.9±0.9, 38°.17N×144°.84E, h0km, mb4.0/10, mb1 4.0/14, mb1mx3.8/38, mbtmp4.0/14, ML4.0/3, MS2.7/3, Ms1 2.8/3, ms1mx2.5/36, Error ellipse: s-maj=22.2km s-min=16.2km az=110.0*
NEIC ***09*** *14:44:34.4±0.5, 38°.19N×144°.87E, h10km, mb4.3/3, Error ellipse: s-maj=11.5km s-min=8.1km az=118.0*
JMA ***09*** *14:44:37.4±0.1, 38°.35N×144°.51E, h31km, M4.4*
ISC 09 14:44:37.8±1.8, 38°.35N±0°.03×144°.66E±0°.04, h28km±14km, n48, σ1°43/53, mb4.1/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.45**	**288**	P	**Pn**	**14 45 15.1**	**-0.7**
OFUJ				*e*S	**Sn**	**14 45 43.3**	**-1.5**
MIYJ	**Miyakonagasawa**	**2.53**	**300**	P	**Pn**	**14 45 16.3**	**-0.6**
MIYJ				S	**Sn**	**14 45 45.1**	**-1.7**
JIO	**Ouri**	**2.60**	**273**	P	Pn	14 45 17.0	-0.9
JIO				S	**Sn**	**14 45 46.3**	**-2.3**
JMK	**Ichinoseki**	**2.76**	**284**	P	**Pn**	**14 45 19.7**	**-0.4**
JMK				*e*S	**Sn**	**14 45 50.9**	**-1.5**
JOM	**Ohasama**	**2.85**	**294**	P	**Pn**	**14 45 21.2**	**-0.2**
JOM				*e*S	**Sn**	**14 45 54.0**	**-0.8**
JOU	**Okura**	**3.14**	**271**	P	**Pn**	**14 45 25.1**	**-0.2**
JOU				*e*S	**Sn**	**14 46 00.6**	**-1.3**
JANG	**Nango**	**3.17**	**311**	P	Pn	14 45 25.0	-0.7
JANG				*e*S	**Sn**	**14 46 01.1**	**-1.4**
JRG	**Rokugo**	**3.31**	**290**	P	**Pn**	**14 45 28.0**	**+0.3**
JRG				*e*S	**Sn**	**14 46 05.8**	**-0.3**
JYK	**Kaneyama**	**3.42**	**281**	P	**Pn**	**14 45 29.1**	**0.0**
JYK				*e*S	**Sn**	**14 46 07.9**	**-0.7**
JFT	**Otama**	**3.52**	**258**	P	**Pn**	**14 45 30.1**	**-0.4**
JFT				S	**Sn**	**14 46 09.4**	**-1.8**
JAH	**Hinai**	**3.62**	**302**	P	**Pn**	**14 45 32.4**	**+0.5**
JAH				S	**Sn**	**14 46 13.5**	**-0.2**
JTM	**Tenmabayashi**	**3.69**	**312**	P	**Pn**	**14 45 32.8**	**-0.1**
JTM				S	**Sn**	**14 46 14.2**	**-1.2**
JOT	**Ohata**	**4.11**	**319**	P	**Pn**	**14 45 38.3**	**-0.3**
JOT				*e*S	**Sn**	**14 46 23.6**	**-2.1**
JCH	**Churui**	**4.37**	**347**	P	Pn	14 45 40.9	-1.3
JCH				*e*S	**Sn**	**14 46 29.2**	**-3.0**
JKB	**Kayabe**	**4.50**	**323**	P	Pn	14 45 42.5	-1.4
JKB				*e*S	**Sn**	**14 46 32.7**	**-2.5**
BSO1	**Boso 1**	**4.73**	**220**	P	Pn	14 45 43.9	-2.8
BSO1				*e*S	**Sn**	**14 46 36.7**	**-3.7**
NEM2	**Nemuro 2**	**5.08**	**9**	P	Pn	14 45 49.1	-2.8
NEM2				*e*S	Sn	14 46 43.5	-6.0
JRY	**Ryogami san**	**5.15**	**245**	P	Pn	14 45 51.6	-1.4
JRY				*e*S	Sn	14 46 46.3	-5.3
JOD2	**Odawara 2**	**5.43**	**237**	P	Pn	14 45 54.9	-1.9
JOD2				*e*S	Sn	14 46 51.9	-6.4
MJAR	**Matsushiro Arr**	**5.44**	**253**	Pn	**Pn**	**14 45 57.3**	**+0.3**
	3.9nm,0.3s,baz=177,slow=9.1,SNR=46						
MJAR					Sn	**14 46 59.8**	**+1.2**
	2.0nm,0.3s,baz=44,slow=25,SNR=3.8						
MAJO	**Matsushiro**	**5.44**	**253**	*e*Pn	**Pn**	**14 45 57.5**	**+0.5**
	19nm,0.6s						
MAT	**Matsushiro**	**5.44**	**253**	P	**Pn**	**14 45 57.3**	**+0.3**
MAT				*e*S	**Sn**	**14 46 58.0**	**-0.7**
JOSM	**Okushiri--Mats**	**5.44**	**315**	P	**Pn**	**14 45 57.4**	**+0.5**
JTKR	**Abashiri--Toko**	**5.64**	**354**	P	Pn	14 45 58.5	-1.2
JTKR				*e*S	**Sn**	**14 46 59.7**	**-3.8**
JHR	**Hokuryu**	**5.83**	**339**	P	**Pn**	**14 46 03.7**	**+1.5**
JHR				*e*S	**Sn**	**14 47 07.6**	**-0.4**
ASAJ	**Asahikawa**	**5.97**	**346**	Pn	**Pn**	**14 46 03.8**	**-0.3**
	3.9nm,0.3s,baz=193,slow=13,SNR=47						
ASAJ					Sn	**14 47 09.8**	**-1.6**
	0.7nm,0.3s,baz=336,slow=20,SNR=2.7						
JHJ2	**Mitsune**	**6.54**	**218**	P	Pn	14 46 09.6	-2.5
JHJ2				*e*S	Sn	14 47 17.0	-8.8
JHJ	**Hachijo jima 2**	**6.55**	**219**	Pn	Pn	14 46 09.5	-2.8
	9.6nm,0.3s,baz=148,slow=23,SNR=6.4						
JHJ					Sn	14 47 17.7	-8.4
	19nm,0.3s,baz=72,slow=24,SNR=7.4						
USRK	**Ussuriysk Ar.**	**11.18**	**306**	Pn	**Pn**	**14 47 16.0**	**+0.4**
	baz=130,slow=10,SNR=4.3						
JNU	**Nakatsue**	**12.35**	**249**	LR	LR	14 52 28.6	
	comp=Z,38nm,19.4s,baz=152,slow=38						
KSRS	**Korea Array**	**13.25**	**271**	LR	LR	14 52 22.2	
	comp=Z,29nm,18.5s,baz=67,slow=35						
SEY	**Seymchan**	**25.06**	**8**	P	**P**	**14 50 01.1**	**+1.8**
	4.1nm,0.7s,baz=199,slow=8.3,SNR=18						
YAK	**Yakutsk**	**25.44**	**344**	P	**P**	**14 50 04.1**	**+1.3**
	12nm,0.7s,baz=84,slow=0.8,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**26.76**	**128**	T	T	15 17 55.8	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	15 18 00.0	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	15 17 59.7	
	baz=320						
ZALV	**Zalesovo Beam**	**42.95**	**311**	P	**P**	**14 52 35.3**	**+1.3**
	0.8nm,0.4s,baz=75,slow=6.4,SNR=4.4						
ZALV				PcP	**PcP**	**14 54 24.4**	**+0.3**
	0.6nm,0.5s,baz=116,slow=3.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**44.31**	**257**	LR	LR	15 14 09.4	
	comp=Z,10nm,18.2s,baz=195,slow=40						
KDAK	**Kodiak Island**	**44.39**	**43**	P	**P**	**14 52 44.4**	**-1.0**
	2.6nm,0.9s,baz=298,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**45.61**	**302**	P	**P**	**14 52 56.6**	**+1.2**
	0.7nm,0.6s,baz=86,slow=9.5,SNR=10						
ILAR	**Eielson Array**	**47.00**	**33**	P	**P**	**14 53 05.9**	**-0.1**
	0.4nm,0.8s,baz=252,slow=7.8,SNR=4.4						
KURK	**Kurchatov**	**47.16**	**308**	*e*P	**P**	**14 53 08.1**	**+0.7**
	23nm,1.1s						
KURBB	**Kurchatov Arra**	**47.23**	**307**	P	**P**	**14 53 08.6**	**+0.6**
	2.2nm,0.5s,baz=82,slow=8.3,SNR=9.9						
WRAB	**Tennant Creek**	**58.78**	**191**	*e*P	**P**	**14 54 31.4**	**-1.9**
	2.6nm,1.1s						
WRA	**Warramunga Arr**	**58.79**	**191**	P	**P**	**14 54 31.7**	**-1.7**
	0.7nm,0.6s,baz=12,slow=7.4,SNR=6.2						
ABKAR	**Akbulak array**	**59.05**	**310**	*e*P	**P**	**14 54 36.0**	**+1.0**
	0.8nm,0.7s						
ASAR	**Alice Springs**	**62.51**	**191**	P	**P**	**14 54 57.1**	**-1.6**
	0.4nm,0.9s,baz=7.7,slow=6.1,SNR=5.6						
FINES	**FINESS Array B**	**68.83**	**333**	P	**P**	**14 55 40.2**	**+1.1**
	1.1nm,0.7s,baz=26,slow=9.5,SNR=2.6						

BJI ***09*** *14:47:15.8, 27°.23S×38°.82E, h5km, mb5.1/31, mB5.2/21, Ms4.9/9, Ms7 4.6/8*
GCMT ***09*** *14:47:16.8±0.4, 26°.89S×38°.88E, h31km±1km, MW4.9/51, Moment Tensor Solution. s34,c40; s51,c65; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.12±.22; Mθθ1.37±.15; Mφφ1.76±.15; Mrθ0.28±.20; Mrφ1.59±.09; Mθφ0.52±.17; Best double couple: M0:3.19700×10^16 NP1:φs=219.00000°, δ50.00000°, λ-93.00000°. NP2: φs=44.00000°, δ40.00000°, λ-86.00000°. Principal axes: T 3.2180, Plg5.0000°, Azm311.0000°; N -0.0310, Plg2.0000°, Azm221.0000°; P -3.1770, Plg84.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***09*** *14:47:16.8±0.4, 26°.95S×38°.66E, h0km, mb4.6/26, mb1 4.7/29, mb1mx4.7/34, mbtmp4.6/29, ML4.1/3, MS4.0/16, Ms1 4.0/16, ms1mx3.

LSZ pmax pmax
comp=Z,142nm,0.7s
LSZ Lusaka 14.92 319 *e*Pn **Pn 14 50 50.8 +1.4**
comp=Z,142nm,0.7s
LSZ Sn **Sn 14 53 28.1 -6.8**
SUR Sutherland 16.21 246 Pn **Pn 14 51 06.8 +0.6**
comp=Z,0.1nm,0.3s,baz=76,slow=14,SNR=15
SUR Sn **Sn 14 54 01.8 -4.4**
comp=Z,0.2nm,0.3s,baz=66,slow=16,SNR=3.1
SUR LR LR 14 57 14.8
comp=Z,59nm,18.8s,baz=78,slow=36
SUR Sutherland 16.21 246 *e*Pn **P 14 51 08.7 -0.8**
comp=Z,41nm,0.8s
SUR Sn **Sn 14 54 01.8 -4.4**
TSUM Tsumeb 20.56 287 P Pn 14 52 01.0 +1.4
comp=Z,54nm,1.0s,baz=132,slow=11,SNR=78
TSUM LR LR 15 00 14.8
comp=Z,1μm,18.1s,baz=148,slow=37
KMBO Kilima Mbogo 25.61 357 P **P 14 52 50.3 +2.2**
comp=Z,6.2nm,0.8s,baz=182,slow=7.6,SNR=12
KMBO LR LR 15 02 32.7
comp=Z,249nm,20.6s,baz=91,slow=36
KMBO Kilima Mbogo 25.61 357 *e*P **P 14 52 48.8 +0.7**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 25.61 357 *e*P **P 14 52 48.8 +0.7**
comp=Z,6.6nm,0.8s
ATD Arta Tunnel 38.41 7 P **P 14 54 41.6 +1.5**
comp=Z,3.3nm,0.3s,baz=108,slow=7.8,SNR=3.9
SYO Syowa Base 42.17 179⇑*e*P **P 14 55 08.2 -2.4**
SYO Syowa Base 42.17 179⇓*e*pP **P 14 55 11.4 +0.8**
MAW Mawson 43.40 167 P **P 14 55 19.8 -0.7**
comp=Z,7.1nm,0.8s,baz=335,slow=9.4,SNR=18
MAW LR LR 15 08 30.3
comp=Z,133nm,21.6s,baz=54,slow=29
MAW Mawson 43.40 167 *e*P **P 14 55 19.1 -1.4**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 43.40 167 *e*P **P 14 55 19.1 -1.4**
comp=Z,1.8nm,0.8s
SNAA Sanae 50.28 196 P **P 14 56 14.7 +0.2**
SNAA Sanae 50.28 196 P **P 14 56 14.5 +0.1**
comp=Z,3.6nm,0.8s,baz=261,slow=5.0,SNR=19
SNAA Sanae 50.28 196⇓*e*P **P 14 56 14.3 -0.1**
SNAA Sanae 50.28 196 *e*P **P 14 56 14.2 -0.3**
comp=Z,6.4nm,1.0s
RAYN Ar Rayn 50.57 9 *e*P **P 14 56 18.5 +1.4**
comp=Z,15nm,1.3s
VNA2 Neumayer–Watz 50.99 198 P **P 14 56 20.1 +0.3**
baz=48,slow=7.3
VNA1 Neumayer–Stat 51.08 198 P **P 14 56 21.0 +0.7**
VNA3 Neumayer Olymp 51.79 198 P **P 14 56 25.6 -0.1**
KIC Kosan Boka 53.21 302 *e*P **P 14 56 39.0 +2.0**
comp=Z,28nm,0.9s
PALK Pallekele 53.24 57 P **P 14 56 37.5 +0.2**
PALK Pallekele 53.24 57 *i*P **P 14 56 38.4 +1.1**
PALK Pallekele 53.24 57 *e*P **P 14 56 37.2 0.0**
comp=Z,22nm,0.8s
LIC Lamto 53.34 302 *e*P **P 14 56 38.8 +0.8**
comp=Z,48nm,1.2s
TOA0 Torodi Ar. Sit 53.38 314 *e*P **P 14 56 39.6 +1.4**
comp=Z,9.8nm,0.9s
TORD Torodi Ar. Bea 53.38 314 P **P 14 56 40.0 +1.7**
comp=Z,8.1nm,0.6s,baz=126,slow=6.7,SNR=60
TORD LR LR 15 20 08.4
comp=Z,330nm,18.5s,baz=155,slow=37
DBIC Dimbokro 53.50 302 P **P 14 56 41.1 +2.0**
comp=Z,6.8nm,0.9s,baz=116,slow=6.5,SNR=5.3
DBIC LR LR 15 18 45.5
comp=Z,268nm,19.6s,baz=110,slow=35
TIC Toumodi 53.61 302 *e*P **P 14 56 42.0 +2.1**
FAQ Al Faqa, Dubai 53.94 19 *i*P **P 14 56 43.3 +1.2**
SNR=6.8
ASHO Ashiyiah 54.02 20 *i*P **P 14 56 43.7 +0.9**
SNR=7.3
HATD Hatta, Dubai 54.18 20 *i*P **P 14 56 45.0 +1.2**
SNR=6.6
NAZ Nazwa, Dubai 54.19 19 P **P 14 56 45.0 +1.1**
UOSS Minazif 54.31 20 *e*P **P 14 56 45.1 +0.2**
comp=Z,35nm,1.1s
BANOM Banah 55.26 20 P **P 14 56 52.0 +0.3**
TAM Tamanrasset 58.70 324 *e*P **P 14 57 18.6 +2.3**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 58.70 324 *e*P **P 14 57 18.6 +2.3**
comp=Z,4.1nm,0.8s
HYB Hyderabad 58.82 46 *i*P **P 14 57 16.0 -1.1**
BR131 Keskin Array S 66.39 356 *e*P **P 14 58 08.0 +0.6**
BRTR Keskin Array B 66.39 356 P **P 14 58 08.3 +0.9**
comp=Z,3.4nm,0.8s,baz=175,slow=9.5,SNR=17
MDSI Maura Dua 66.44 83 P **P 14 58 07.6 -0.6**
comp=Z,13nm,0.9s,comp=Z,749nm
BR231 Keskin MP Arra 66.57 355 *e*P **P 14 58 08.2 -0.3**
GEYT Alibeck 67.07 17 P **P 14 58 11.3 -0.4**
comp=Z,1.1nm,0.5s,baz=197,slow=4.0,SNR=5.2
GEYT LR LR 15 27 13.1
comp=Z,35nm,18.9s,baz=80,slow=36
KBL Kabul 67.64 27 *e*P **P 14 58 15.8 +0.3**
KBL pmax pmax
comp=Z,43nm,1.8s
KBL Kabul 67.64 27 *e*P **P 14 58 15.8 +0.3**
comp=Z,43nm,1.8s
AKH Akhalkalaki 68.10 4⇑*i*P **P 14 58 20.4 +2.2**
PYUN Piuthan 69.45 42 *e*P **P 14 58 26.5 -0.5**
comp=Z,88nm,0.9s
ZEI Tsey 69.50 4 *e*P **P 14 58 26.8 -0.1**
ZEI pmax pmax
comp=Z,28nm,0.9s
KOLN Koldanda 69.58 42 *e*P **P 14 58 27.1 -0.7**
comp=Z,34nm,0.9s
NEY Neytrino 69.88 3⇓*e*P **P 14 58 29.1 -0.2**
DANN Dangsing 70.10 42 *e*P **P 14 58 30.7 -0.4**
comp=Z,5.0nm,1.1s
NCK Nalchik 70.18 4⇑*e*P **P 14 58 31.1 +0.2**
NCK pmax pmax
comp=Z,5.0nm,0.7s
GKN Gorkha 70.37 43 *e*P **P 14 58 31.7 -0.9**
comp=Z,79nm,1.1s
DMN Daman 70.37 43 *e*P **P 14 58 32.1 -0.6**
comp=Z,55nm,1.1s
KBZ Khabaz 70.37 3 P **P 14 58 32.9 +0.9**
comp=Z,4.7nm,0.8s,baz=201,slow=3.2,SNR=8.0
PKIN Phulchoki 70.53 44 *e*P **P 14 58 32.7 -1.0**
comp=Z,39nm,0.9s
PKI Pulchoki 70.53 44 *e*P **P 14 58 32.9 -0.9**
comp=Z,64nm,1.0s
KIV Kislovodsk 70.59 3 *e*P **P 14 58 34.9 +1.4**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,39nm,18.0s
KKN Kakani 70.61 43 *e*P **P 14 58 33.5 -0.6**
VNDA Vanda 70.64 169 P **P 14 58 33.0 -0.4**
comp=Z,3.4nm,0.5s,baz=257,slow=5.6,SNR=28
VNDA LR LR 15 27 29.7
comp=Z,38nm,19.1s,baz=254,slow=34
VNDA Vanda 70.64 169 *e*P **P 14 58 32.6 -0.8**
VNDA pmax pmax
comp=Z,14nm,1.3s
VNDA Vanda 70.64 169 *e*P **P 14 58 32.6 -0.8**
comp=Z,14nm,1.3s
RAMN Ramite 70.83 45 *e*P **P 14 58 35.0 -0.5**
comp=Z,61nm,1.1s
GUN Gumba 71.06 44 *e*P **P 14 58 36.7 -0.4**
comp=Z,105nm,1.0s
JIRN Jiri 71.08 44 *e*P **P 14 58 36.5 -0.7**
comp=Z,281nm,0.9s
ODAN Odare 71.27 45 *e*P **P 14 58 37.6 -0.6**
comp=Z,74nm,1.0s
ANN Anapa 71.32 359 *e*P **P 14 58 36.9 -0.9**
ANN pmax pmax
comp=Z,105nm,2.5s
GOF Gofitskoye 71.70 3⇑*e*P **P 14 58 41.6 +1.5**
GOF pmax pmax
comp=Z,37nm,0.9s
TAPN Taplejung 71.81 45 *e*P **P 14 58 41.0 -0.5**
comp=Z,48nm,1.2s
CFR Carcaliu 72.30 352⇓*i*P **P 14 58 45.1 +1.5**
UMPA Umpang Tak 72.67 61 P **P 14 58 45.8 -0.7**
comp=Z,7.0nm,0.9s,comp=Z,71nm
MLR Muntele Rosu 72.89 351⇓*i*P **P 14 58 48.7 +1.3**
MDVR Moldovita 72.91 348⇑*i*P **P 14 58 49.3 +1.9**
ARR Arges 72.97 350⇓*i*P **P 14 58 49.3 +1.6**
VOIR 72.97 350⇑*i*P **P 14 58 49.2 +1.4**
PLOR Plostina 73.15 351⇑*i*P **P 14 58 50.3 +1.5**
VRI Vrincioaia 73.15 352⇑*i*P **P 14 58 50.8 +2.0**

JAGI Jajag, Banyuwa 73.58 91 P **P 14 58 51.1 -1.0**
comp=Z,47nm,1.3s
JAGI Jajag, Banyuwa 73.58 91 *e*P **P 14 58 50.2 -1.9**
comp=Z,123nm,1.6s
BZS Buzias 73.73 348⇓*i*P **P 14 58 54.0 +1.9**
CM01 Chiang Mai Arr 74.03 59 *e*P **P 14 58 53.0 -1.5**
CM31 Chiang Mai Arr 74.04 59 *e*P **P 14 58 53.8 -0.8**
CMAR Chiang Mai Arr 74.04 59 P **P 14 58 54.0 -0.6**
comp=Z,12nm,1.0s,baz=237,slow=7.4,SNR=68
CHTO Chiang Mai 74.25 59 *e*P **P 14 58 54.9 -0.9**
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO Chiang Mai 74.25 59 *e*P **P 14 58 54.9 -0.9**
comp=Z,14nm,1.0s
LAMP Lampang 74.61 60 P **P 14 58 57.6 -0.3**
comp=Z,6.0nm,0.9s
KSH Kashi 74.78 29 P **P 14 58 56.4 -2.2**
KSH pP pP 14 59 01.1 -0.8
KSH sP sP 14 59 03.1 0.0
KSH PcP **PcP 14 59 10.4 -2.2**
KSH PP **PP 15 01 45.4 -0.9**
KSH S **SKiKP 15 08 27.2 +3.2**
KSH SKS SKSac 15 08 56.4 -11
KSH ScS **SKKSac 15 09 01.8 -5.8**
KSH SS **SS 15 13 16.7 -7.1**
KSH pmax pmax
comp=Z,18nm,1.0s
KSH pmax pmax
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,70nm,5.1s
KSH LR LR
comp=Z,94nm,4.6s
KSH LR LR
comp=Z,140nm,6.4s
CHAI Chaiyaphum 74.97 63 P **P 14 58 59.4 -0.6**
comp=Z,5.6nm,0.8s
BURAR Bucovina Array 75.07 351⇓*i*P **P 14 59 02.2 +2.2**
SORM Soroca 75.19 353⇑*i*P **P 14 59 01.2 +0.6**
LSA Lhasa 75.62 46 P **P 14 59 04.7 +0.6**
LSA pmax pmax
comp=Z,49nm,0.7s
LSA Lhasa 75.62 46 *e*P **P 14 59 04.3 +0.2**
LSA pmax pmax
comp=Z,33nm,0.7s
LSA Lhasa 75.62 46 *e*P **P 14 59 04.2 +0.2**
comp=Z,33nm,0.7s
KKAR Karatay Array 75.65 24 *e*P **P 14 59 03.7 +0.3**
KKAR pmax pmax
comp=Z,77nm,0.8s
KKAR Karatay Array 75.65 24 *e*P **P 14 59 03.7 +0.3**
comp=Z,76nm,0.8s
KHON Khomkaen 75.88 63 P **P 14 59 05.4 +0.2**
comp=Z,8.7nm,0.8s,comp=Z,1μm
TWSI Taliwang, Sumb 75.91 93 P **P 14 59 05.1 -0.4**
comp=Z,54nm,1.0s
OBKA Obir 76.15 343 *i*PcP **PcP 14 59 20.7 +2.4**
comp=Z,14nm,1.4s
PSZ Piszkesteto 76.27 347⇑*i*P **P 14 59 08.0 +1.1**
ARSA Arzberg 76.60 344 *i*PcP **PcP 14 59 19.1 -1.0**
comp=Z,5.6nm,1.6s
AAK Ala-Archa 76.76 27⇓*e*P **P 14 59 10.6 +0.7**
AAK pmax pmax
comp=Z,40nm,1.5s
AAK Ala-Archa 76.76 27 *e*P **P 14 59 10.6 +0.7**
comp=Z,20nm,1.3s
VYHS Vyhne 77.03 347 *e*P **P 14 59 12.5 +1.4**
VYHS Vyhne 77.03 347 *e*P **P 14 59 12.5 +1.4**
ES19 SONSECA Array 77.05 328 *e*P **P 14 59 13.5 +2.1**
ESDC Sonseca Array 77.06 328 P **P 14 59 13.4 +1.9**
comp=Z,3.0nm,0.7s,baz=146,slow=5.3,SNR=24
CONA Conrad Observa 77.15 345 *i*P **P 14 59 14.2 +2.3**
comp=Z,6.3nm,1.4s
MOA Molln 77.47 344 *i*P **P 14 59 14.0 +0.4**
comp=Z,8.2nm,1.1s
LANS Liptovska Anna 77.53 347 *e*P **P 14 59 16.0 +2.1**
LANS Liptovska Anna 77.53 347 *e*P **P 14 59 16.0 +2.1**
AK11 Malin Array Si 77.63 354 *e*P **P 14 59 14.1 -0.3**
KIEV Kiev 77.64 354⇑*e*P **P 14 59 14.7 +0.3**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 77.65 354 P **P 14 59 14.7 +0.3**
comp=Z,4.0nm,0.7s,baz=174,slow=5.0,SNR=13
FETA Feichten 77.66 341 *i*P **P 14 59 15.0 +0.2**
comp=Z,9.8nm,1.1s
WATA Waldcralm 77.71 342 *i*P **P 14 59 17.9 +2.9**
comp=Z,3.4nm,0.8s
PANO Nakornpanom 77.75 64 P **P 14 59 16.0 +0.2**
comp=Z,124nm,1.0s,comp=Z,9μm
MOTA Moosalm 77.85 341 *i*P **P 14 59 18.2 +2.3**
comp=Z,5.3nm,1.1s
RETA Reutte 78.08 341 *i*P **P 14 59 19.7 +2.7**
comp=Z,9.1nm,1.4s
DAVA Damuels 78.15 341 *i*P P 14 59 23.5 +6.0
comp=Z,8.2nm,1.4s
ABKAR Akbulak array 78.19 14 *e*P **P 14 59 17.6 +0.1**
comp=Z,114nm,1.1s
MORC Moravsky Berou 78.52 346⇑*i*P **P 14 59 20.8 +1.4**
GERES GERESS Array B 78.53 344 P **P 14 59 20.2 +0.7**
comp=Z,0.6nm,0.6s,baz=134,slow=3.9,SNR=6.2
KHC Kasperske Hory 78.83 344 *e*P **P 14 59 21.9 +0.8**
KHC Kasperske Hory 78.83 344 *e*P **P 14 59 21.9 +0.8**
LPSR Galich'ya Gora 79.13 0 *e*P **P 14 59 22.8 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
DPC Dobruska-Polom 79.32 346 *e*P **P 14 59 24.7 +0.9**
DPC *ex* x 14 59 38.6
DPC Dobruska-Polom 79.32 346 *e*P **P 14 59 24.7 +0.9**
DPC *e* 14 59 38.6
SLVN Son La 79.51 60 *e*P **P 14 59 25.1 -0.4**
comp=Z,23nm,1.0s
MMRI Maumere 80.72 95 P **P 14 59 31.3 -0.9**
comp=Z,88nm,1.5s,comp=Z,1μm
MMRI Maumere 80.72 95 *e*P **P 14 59 31.1 -1.1**
comp=Z,73nm,0.9s
KMI Kunming 80.78 56 P **P 14 59 32.0 -0.5**
KMI pmax pmax
comp=Z,14nm,1.1s
CLL Collm 80.98 344 *e*P **P 14 59 35.0 +2.4**
CLL Collm 80.98 344 *e*P **P 14 59 35.0 +2.4**
CLL *e* 14 59 55.0
CLL LmV 15 38 00.0
comp=Z,100nm,18.2s
OBN Obninsk 81.66 359⇑*i*P **P 14 59 37.2 +1.1**
OBN *e* 15 02 38.8
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,50nm,14.0s
CPUP Villa Florida 83.17 244 P **P 14 59 45.9 +1.0**
comp=Z,7.0nm,1.0s,baz=79,slow=4.0,SNR=7.6
CPUP Villa Florida 83.17 244 *e*P **P 14 59 46.3 +1.4**
CPUP Villa Florida 83.17 244 *e*P **P 14 59 46.3 +1.4**
MAKZ Makanchi 83.25 29 *e*P **P 14 59 44.5 -0.2**
MAKZ pmax pmax
comp=Z,12nm,1.0s
MAKZ Makanchi 83.25 29 *e*P **P 14 59 44.5 -0.2**
comp=Z,12nm,1.0s
MK01 Makanchi Array 83.36 29 *e*P **P 14 59 44.9 -0.4**
MKAR Makanchi Array 83.38 29 P **P 14 59 45.3 -0.1**
comp=Z,4.8nm,0.8s,baz=213,slow=5.0,SNR=23
MYLDM Lahad Datu 83.57 81 *e*P **P 14 59 46.5 -0.6**
comp=Z,26nm,1.0s
WMQ Urumqi 83.62 34 P **P 14 59 46.0 -0.7**
WMQ pP sP 14 59 51.9 +0.6
WMQ sP PcP 14 59 54.1 +3.2
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,120nm,4.1s
ASAR Alice Springs 84.25 113 P **P 14 59 49.3 -1.3**
comp=Z,6.9nm,0.8s,baz=221,slow=5.1,SNR=90
ASAR PKKPbc **PKKPbc 15 18 03.6 +1.0**
comp=Z,0.3nm,0.7s,baz=75,slow=2.4,SNR=5.2
AS31 Alice Springs 84.25 113 *e*P **P 14 59 49.1 -1.5**
comp=Z,2.6nm,0.6s
AS01 Alice Springs 84.29 113 *e*P **P 14 59 49.1 -1.6**
BRVK Borovoye 84.31 19⇑*e*P **P 14 59 50.6 +0.7**
BRVK pmax pmax
comp=Z,11nm,0.8s
GYA Guiyang 84.45 57⇓*i*P P 14 59 57.0 +5.6
GYA PP **PP 15 03 10.2 +3.3**
ARU Arti 84.72 11 *d i*P **P 14 59 51.9 0.0**
ARU 15 03 02.7
ARU S **S 15 10 14.2 -5.1**

ARU SS **SS 15 15 50.6 -1.3**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU Arti 84.72 11 *e*P **P 14 59 52.1 +0.2**
comp=Z,42nm,1.4s
CD2 Chengdu 84.85 52 P **P 14 59 53.5 +0.2**
KURK Kurchatov 85.05 24 *d i*P **P 14 59 54.1 +0.4**
KURK pmax pmax
comp=Z,73nm,1.2s
KURK Kurchatov 85.05 24 *e*P **P 14 59 54.0 +0.4**
comp=Z,13nm,0.8s
SVE Sverdlovsk 85.47 12 *e*P **P 14 59 56.3 +0.6**
SVE pmax pmax
comp=Z,22nm,1.2s
VSU Vasula 85.56 354 *ce*P **P 14 59 57.5 +1.5**
VSU pmax pmax
comp=Z,34nm,1.2s
PLCA Paso Flores 85.86 226 LR LR 15 38 56.4
comp=Z,42nm,18.3s,baz=184,slow=36
WRA Warramunga Arr 86.28 110 P **P 14 59 59.0 -1.7**
comp=Z,1.8nm,0.5s,baz=233,slow=3.2,SNR=37
WRA PKKPbc **PKKPbc 15 17 59.3 +1.5**
comp=Z,0.6nm,0.7s,baz=69,slow=2.9,SNR=5.8
WRA LR LR 15 33 37.9
comp=Z,119nm,20.1s,baz=255,slow=32
WB2 Warramunga Arr 86.30 110 *e*P **P 14 59 59.4 -1.4**
comp=Z,5.8nm,1.1s
WRAB Tennant Creek 86.30 110⇑*e*P **P 14 59 59.1 -1.7**
WRAB pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 86.44 124 P **P 15 00 00.3 -1.0**
comp=Z,6.0nm,0.5s,baz=219,slow=1.3,SNR=26
STKA LR LR 15 30 52.4
comp=Z,84nm,20.1s,baz=206,slow=30
STKA Stephens Creek 86.44 124 *e*P **P 15 00 00.1 -1.2**
STKA pmax pmax
comp=Z,6.0nm,1.4s
STKA Stephens Creek 86.44 124 *e*P **P 15 00 00.1 -1.2**
comp=Z,6.3nm,1.4s
GTA Gaotai 87.34 43 P **P 15 00 05.7 +0.2**
GTA pP sP 15 00 10.4 +0.4
GTA sP pP 15 00 12.7 +3.9
GTA SKS **SKSac 15 10 29.9 -3.4**
GTA S **S 15 10 45.1 -0.9**
GTA pmax pmax
comp=Z,15nm,0.7s
GTA pmax pmax
comp=Z,210nm,5.1s
GTA LR LR
comp=Z,110nm,18.1s
GTA LR LR
comp=Z,100nm,18.1s
GTA LR LR
comp=Z,160nm,18.5s
KLMR Klimovskoe 87.41 1 *e*P **P 15 00 03.8 -1.3**
KLMR pmax pmax
comp=Z,36nm,1.3s
SOKR Solikamsk 87.48 9 *e*P **P 15 00 04.8 -0.6**
SOKR pmax pmax
comp=Z,29nm,0.8s
LZH Lanzhou 87.90 48 *e*P **P 15 00 08.8 +0.5**
LZH pP sP 15 00 12.8 -0.1
LZH sP pP 15 00 16.3 +4.6
LZH pmax pmax
comp=Z,53nm,1.5s
LZH pmax pmax
comp=Z,200nm,4.5s
FINES FINESS Array B 88.56 354 P **P 15 00 10.7 +0.2**
comp=Z,4.2nm,0.9s,baz=153,slow=6.4,SNR=7.4
FINES FINESS Array B 88.56 354 *i*P **P 15 00 11.6 +1.1**
FINES pmax pmax
comp=Z,4.0nm,0.9s
ZAA0 Zalesovo Array 89.93 25 *e*P **P 15 00 16.7 -0.5**
ZALV Zalesovo Beam 89.93 25 P **P 15 00 17.1 -0.1**
comp=Z,3.6nm,0.5s,baz=238,slow=4.2,SNR=20
NVS Novosibirsk 90.03 24 *e*P **P 15 00 17.4 -0.2**
NVS pmax pmax
comp=Z,12nm,1.2s
SIV San Ignacio 91.01 252 P **P 15 00 25.5 +2.2**
comp=Z,1.8nm,0.6s,baz=115,slow=6.3,SNR=3.2
HHC Hu-ho-hao-te 95.57 47 *e*P **P 15 00 44.4 +0.7**
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,98nm,8.6s
SONM Songino Array 96.15 39 P **P 15 00 44.3 -1.9**
comp=Z,0.3nm,0.4s,baz=235,slow=5.2,SNR=3.6
NJ2 Nanjing 96.44 57 *e*P **P 15 00 48.0 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ULN Ulaanbaatar 96.53 39⇓*e*P **P 15 00 47.0 -1.0**
ULN pmax pmax
comp=Z,1.0nm,1.0s
LPAZ La Paz 96.79 248 P **P 15 00 52.7 +2.1**
comp=Z,1.2nm,0.9s,baz=62,slow=0.8,SNR=3.6
LPAZ LR LR 15 41 01.5
comp=Z,111nm,20.0s,baz=120,slow=33
PTGA Pitinga 97.10 266 P Pdif 15 00 53.3 +2.0
comp=Z,1.5nm,0.6s,baz=148,slow=6.8,SNR=4.1
KSAR Wonju Array Be 105.44 56 P **Pdif 15 01 26.2 -1.6**
KSAR Wonju Array Be 105.44 56 Pdif **Pdif 15 01 26.2 -1.6**
KSRS Korea Array 105.48 56 Pdiff **Pdif 15 01 26.2 -1.7**
comp=Z,0.6nm,0.6s,baz=264,slow=4.7,SNR=4.8
SEY Seymchan 124.48 30⇑*i*PKIKP **PKPdf 15 06 17.0 +0.1**
BILL Bilibino 128.53 22⇑*i*PKIKP **PKPdf 15 06 24.8 +0.2**
BILL *e* 15 08 38.9
BILL pmax pmax
comp=Z,8.0nm,1.0s
COLA College 141.78 4⇑*e*PKIKP **PKPdf 15 06 51.9 +2.6**
IL1 Eielson Array 141.94 4 *e*PKPpre PKPpre 15 06 43.8
ILAR Eielson Array 141.94 4 PKhKP PKPpre 15 06 44.0
comp=Z,1.0nm,0.6s,baz=338,slow=3.4,SNR=24
ILAR PKP **PKiKP 15 06 51.4 -1.2**
comp=Z,2.2nm,0.8s,baz=342,slow=2.9,SNR=15
ILAR Eielson Array 141.94 4 PKHKP PKPpre 15 06 44.0
ILB Eielson Array 141.94 4 *e*PKPpre PKPpre 15 06 43.5
EGAK Eagle 142.08 360 *e*PKPpre PKPpre 15 06 44.7
WMOK Wichita Mounta 142.58 293 *e*PKPpre PKPpre 15 06 48.4
ABTX Abilene, Hawle 143.26 289 *e*PKPdf **PKPdf 15 06 51.8 -1.2**
JCT Junction City 143.26 286 *e*PKIKP **PKPdf 15 06 52.1 -1.0**
JCT Junction City 143.26 286 *e*PKPdf **PKPdf 15 06 52.1 -1.0**
DGMT Dagmar 143.85 317 *e*PKPdf **PKPdf 15 06 53.0 -0.6**
ZAIG Zacatecas 144.39 272 *e*PKPdf **PKPdf 15 06 55.0 -0.6**
SVW2 Sparrevohn 144.50 12 *e*PKPdf **PKPdf 15 06 54.0 -0.3**
OGNE Ogallala 144.56 304 *e*PKPdf **PKPdf 15 06 55.0 -0.1**
PMR Palmer 144.92 6 *e*PKIKP **PKPdf 15 06 54.8 -0.1**
PMR Palmer 144.92 6 *e*PKPbc **PKPdf 15 06 54.8 -0.1**
AMTX Amarillo 144.96 293 *e*PKPbc **PKPbc 15 06 55.4 +0.1**
SPU Mount Spurr 144.97 9 *e*PKPbc **PKPbc 15 06 54.3 -0.1**
RSSD Black Hills 145.24 310 *e*PKIKP **PKPdf 15 06 56.4 0.0**
RSSD Black Hills 145.24 310 *e*PKPdf **PKPdf 15 06 56.4 0.0**
KSCO Kaye Shedlock' 145.34 300 *e*PKPdf **PKPab 15 06 58.2 +1.7**
RSO Redoubt South 145.56 10 *e*PKPdf **PKPdf 15 06 54.2 -2.2**
MSTX Muleshoe 145.89 292 *e*PKPdf **PKPab 15 06 59.2 +0.5**
WHY Whitehorse 145.90 354 *e*PKPdf **PKPdf 15 06 56.9 +0.1**
TX31 Lajitas Ar. Si 146.50 283 *e*PKPdf **PKPbc 15 06 59.7 -0.6**
TX31 *e*PKPdf **PKPdf 15 06 59.8 +1.0**
TXAR Lajitas Array 146.50 283 PKPbc **PKPab 15 07 01.1 -0.1**
comp=Z,18nm,0.7s,baz=112,slow=4.0,SNR=60
PHWY Pilot Hill 147.01 305 *e*PKPdf **PKPbc 15 07 01.6 +0.1**
SKAG Skagway 147.13 354 *e*PKPbc **PKPbc 15 07 01.8 +0.9**
Q24A Divide 147.28 301 *e*PKPbc **PKPbc 15 07 03.3 +0.9**
EGMT Eagleton 147.38 319 *e*PKPdf **PKPbc 15 07 01.6 -0.6**
K22A Casper 147.40 308 *e*PKPdf **PKPbc 15 07 01.8 -0.6**
N23A Red Feather La 147.47 305 *e*PKPbc **PKPbc 15 07 03.6 +0.8**
ISCO Idaho Springs 147.47 303 *e*PKP2 **PKPab 15 07 04.2 -0.8**
ISCO Idaho Springs 147.47 303 *e*PKPbc **PKPab 15 07 04.2 -0.8**
SDCO Great Sand Dun 147.76 299 *e*PKPdf **PKPdf 15 07 00.8 -0.2**
SDCO *e*PKPbc **PKPbc 15 07 05.0 +1.2**
HPIG 147.98 278 *e*PKPbc **PKPbc 15 07 05.7 +1.2**
MNTX Cornudas Mount 148.10 287 *e*PKPdf **PKPdf 15 07 01.7 +0.4**
MNTX *e*PKPbc **PKPbc 15 07 05.2 +0.7**
KDAK Kodiak Island 148.15 11 *i*PKP2 **PKPbc 15 07 04.0 +0.3**
KDAK Kodiak Island 148.15 11 *e*PKPbc **PKPbc 15 07 03.8 +0.1**
RWWY Rawlins 148.17 307 *e*PKPbc **PKPbc 15 07 05.5 +0.8**
GCMT Greycliff 148.35 315 *e*PKPbc **PKPbc 15 07 06.2 +1.3**
RLMT Red Lodge 148.38 314 *e*PKPbc **PKPbc 15 07 06.0 +1.0**
OHAK Old Harbor 148.55 12 *e*PKPbc **PKPbc 15 07 04.5 -0.3**
SMCO Snowmass 148.63 302 *e*PKPbc **PKPbc 15 07 07.2 +1.0**
S22A 4UR Ranch, Cre 148.80 299 *e*PKPbc **PKPbc 15 07 07.6 +1.1**
ANMO Albuquerque 148.88 294 PKPbc **PKPbc 15 07 08.0 +1.4**
comp=Z,8.4nm,0.8s,baz=97,slow=5.1,SNR=4.0
ANMO Albuquerque 148.88 294⇓*i*PKIKP **PKPdf 15 07 04.3 +1.6**
ANMO pmax pmax

	comp=Z,16nm,1.2s					
ANMO	Albuquerque	148.88 294	*e*PKPbc	PKPbc	15 07 07.7	+1.1
BNM	Barren Site	149.08 292	*e*PKPbc	PKPbc	15 07 08.7	+1.5
HRY	Holter Researc	149.26 318	*e*PKPdf	PKPdf	15 07 02.4	-0.4
O20A	White River Ci	149.35 304	*e*PKPbc	PKPbc	15 07 08.2	+0.5
BW06	Boulder Array	149.48 310	*e*PKPdf	PKPdf	15 07 02.7	-0.8
BW06			*e*PKPdf	PKPdf	15 07 03.5	0.0
BW06			*e*PKPbc	PKPbc	15 07 07.7	-0.3
PD31	Pinedale Array	149.48 310	*e*PKPdf	PKPdf	15 07 03.4	-0.1
PD31			*e*PKPbc	PKPbc	15 07 07.8	-0.1
PDAR	Pinedale Array	149.48 310	PKP	PKP	15 07 03.3	
	comp=Z,4.4nm,0.8s,baz=106,slow=3.2,SNR=17					
PDAR			PKPbc	PKPbc	15 07 08.1	+0.1
	comp=Z,7.7nm,0.9s,baz=81,slow=4.7,SNR=24					
YHH	Holmes Hill	149.54 314	*e*PKPdf	PKPdf	15 07 05.5	+1.9
YMR	Madison River	149.67 314	*e*PKPdf	PKPdf	15 07 04.3	+0.6
BOZ	Bozeman (W)	149.67 316	*e*PKPdf	PKPdf	15 07 05.3	+1.8
YHB	Horse Butte	149.78 314	*e*PKPdf	PKPdf	15 07 05.5	+1.6
LOHW	Long Hollow	149.87 312	*e*PKPdf	PKPdf	15 07 04.8	+0.7
MOOW	Moose Ponds	149.91 312	*e*PKPdf	PKPdf	15 07 04.5	+0.4
SLMT	Seeley Lake	149.96 320	*e*PKPdf	PKPdf	15 07 04.4	+0.4
IMW	Indian Meadow	149.97 312	*e*PKPdf	PKPdf	15 07 05.5	+1.2
LRM	Limekiln Ridge	150.07 317	*e*PKPdf	PKPdf	15 07 04.2	-0.2
PV01	Paradox Valley	150.08 300	*e*PKPdf	PKPdf	15 07 04.8	+0.2
SWMT	Swartz Lake	150.10 321	*e*PKPdf	PKPdf	15 07 04.8	+0.6
JTMT	Jette	150.12 321	*e*PKPdf	PKPdf	15 07 04.8	+0.6
121A	Cookes Peak, D	150.13 289	*e*PKPdf	PKPdf	15 07 06.1	+1.3
REDW	Red Top Meadow	150.13 311	*e*PKPdf	PKPdf	15 07 04.8	+0.4
FXWY	Fox Creek	150.14 312	*e*PKPdf	PKPdf	15 07 05.2	+0.7
TPAW	Teton Pass	150.15 312	*e*PKPdf	PKPdf	15 07 05.2	+0.6
MVCO	Mesa Verde	150.20 299	*e*PKPdf	PKPdf	15 07 03.4	-1.4
PV04	Paradox Valley	150.28 301	*e*PKPdf	PKPdf	15 07 05.2	+0.4
PV04			*e*PKPbc	PKiKP	15 07 10.9	+0.2
DLMT	Dillon	150.38 316	*e*PKPdf	PKPdf	15 07 04.5	-0.2
MCMT	McKenzie Canyo	150.79 315	*e*PKPdf	PKPdf	15 07 05.2	-0.3
HWUT	Hardware Ranch	151.29 309	*e*PKPdf	PKPdf	15 07 06.0	-0.2
HVU	Hansel Valley	152.06 310	*e*PKIKP	PKPdf	15 07 07.7	+0.3
HVU	Hansel Valley	152.06 310	*e*PKPdf	PKPdf	15 07 07.7	+0.3
B08A	Colville Reser	152.39 327	*e*PKPdf	PKPdf	15 07 08.4	+0.9
DUG	Dugway, Tooele	152.67 306	*e*PKIKP	PKPdf	15 07 09.5	+1.1
DUG	Dugway, Tooele	152.67 306	*e*PKPdf	PKPdf	15 07 09.5	+1.1
MSU	Marysvale	152.73 303	*e*PKIKP	PKPdf	15 07 08.8	+0.2
MSU	Marysvale	152.73 303	*e*PKPdf	PKPdf	15 07 08.8	+0.2
WUAZ	Wupatki	152.79 296	*e*PKPdf	PKPdf	15 07 10.0	+1.3
MFID	Camas Ranch	153.35 315	*e*PKPdf	PKPdf	15 07 11.2	+2.0
R11A	Troy Canyon, C	155.32 304	*e*PKPab	PKPab	15 07 39.6	+2.2

*JMA **09** 15:00:46.6±0.1, 24°.00N×121°.46E, h50km±1km, M2.9*
*TAP **09** 15:00:47.9, 24°.05N×121°.59E, h48km±1km, ML3.5, C*
*ISCJB **09** 15:00:48.1±0.3, 24°.05N±0°.02×121°.59E±0°.02, h47km±3km, Error ellipse: s-maj=3.4km s-min=2.2km az=140.6*

ISC 09 15:00:48.6±1.2, 24°.04N±0°.02×121°.57E±0°.02, h43km±5km, n54, σ1°19/102, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.04	31	P	Pn	15 00 55.2	-0.2
	baz=19						
TWD				*e*S	Sn	15 01 00.5	+0.4
	baz=19						
HWA	Hwalien	0.07	154	*e*S	Sn	15 01 03.5	+3.2
	baz=165						
ESF	Shoufeng Towns	0.18	199	*e*S	Sn	15 01 01.9	+0.7
	baz=203						
ESL	Shilin	0.26	209	P	Pn	15 00 55.7	-1.0
	baz=210						
ESL				*e*S	Sn	15 01 01.7	-0.7
	baz=210						
WHF	Hehuan Shan	0.30	290	P	Pn	15 00 57.0	-0.6
	baz=287						
WHF				*e*S	Sn	15 01 03.7	-0.1
	baz=287						
TEGC	Jichi Village	0.33	185	*e*S	Sn	15 01 05.3	+1.7
	baz=186						
ENA	Nanau	0.42	22	*e*P	Pn	15 00 57.8	-0.6
	baz=20						
ENA				*e*S	Sn	15 01 05.1	-0.3
	baz=20						
TWT	Tachien	0.42	300	P	Pn	15 00 58.1	-0.5
	baz=296						
TWT				*e*S	Sn	15 01 05.2	-0.4
	baz=296						
NNS	Nan Shan	0.44	336	P	Pn	15 00 58.3	-0.5
	baz=333						
NNS				*e*S	Sn	15 01 05.5	-0.5
	baz=333						
EHY	Hungye	0.58	203	P	Pn	15 00 58.6	-2.0
	baz=204						
EHY				*e*S	Sn	15 01 07.2	-1.8
	baz=204						
ENTT	Nioudou	0.60	360	P	Pn	15 01 00.1	-0.6
	baz=358						
ENTT				*e*S	Sn	15 01 09.6	+0.2
	baz=358						
TWC	Suao	0.62	24	*e*P	Pn	15 01 00.7	-0.4
	baz=23						
TWC				*e*S	Sn	15 01 13.0	+3.1
	baz=23						
SMLT	Sun Moon Lake	0.63	256	*e*P	Pn	15 01 00.8	-0.6
	baz=254						
SMLT				*e*S	Sn	15 01 10.2	-0.2
	baz=254						
NSK	Sanguang	0.66	343	P	Pn	15 01 00.9	-0.8
	baz=341						
NSK				*e*S	Sn	15 01 10.3	-0.8
	baz=341						
TYC	Yuchr	0.67	258	P	Pn	15 01 01.2	-0.5
	baz=257						
TYC				*e*S	Sn	15 01 10.6	-0.4
	baz=257						
TWF1	Yuli	0.73	200	*e*P	Pn	15 01 00.3	-2.2
	baz=200						
TWF1				*e*S	Sn	15 01 12.5	-0.1
	baz=200						
NSTT	Nanjuang	0.78	319	P	Pn	15 01 02.5	-0.8
	baz=317						
NSTT				*e*S	Sn	15 01 14.0	+0.1
	baz=317						
YUS	Yu-Shan	0.79	226	*e*P	Pn	15 01 03.1	-0.7
	baz=226						
YUS				*e*S	Sn	15 01 14.5	-0.2
	baz=226						
TWQ1	Liyutan	0.79	293	*e*P	Pn	15 01 02.6	-0.7
	baz=291						
TWQ1				*e*S	Sn	15 01 13.4	-0.6
	baz=291						
TCU	Taichung	0.82	278	P	Pn	15 01 03.3	-0.5
	baz=276						
TCU				*e*S	Sn	15 01 14.6	-0.2
	baz=276						
WNT	Mingjian	0.83	259	*e*P	Pn	15 01 04.0	+0.1
	baz=258						
WNT				*e*S	Sn	15 01 15.9	+1.0
	baz=258						
NSY	Sanyi	0.83	297	*e*P	Pn	15 01 04.6	+0.7
	baz=295						
NSY				*e*S	Sn	15 01 14.5	-0.5
	baz=295						
ALS	Alishan	0.88	233	*e*P	Pn	15 01 04.8	-0.1
	baz=232						
ALS				*e*S	Sn	15 01 16.9	+0.3
	baz=232						
CHN5	Tsauling	0.93	242	P	Pn	15 01 05.1	-0.2
	baz=241						
CHN5				*e*S	Sn	15 01 18.4	+0.8
	baz=241						
TWA	Mucha	0.94	1	*e*P	Pn	15 01 04.9	-0.5
	baz=359						
TWA				*e*S	Sn	15 01 17.1	-0.5
	baz=359						
CHKT	Chengkung	0.96	191	*e*P	Pn	15 01 04.4	-1.2
	baz=192						
CHKT				*e*S	Sn	15 01 17.8	-0.2
	baz=192						
ELDTW	Lidau	0.99	211	P	Pn	15 01 04.5	-1.7
	baz=211						
WGK	Gukeng	0.99	249	*e*P	Pn	15 01 06.0	-0.1
	baz=248						
WGK				*e*S	Sn	15 01 20.2	+1.3
	baz=248						
TWB1	Santiao Chiao	1.04	21	*e*P	Pn	15 01 06.2	-0.5
	baz=21						
TWB1				*e*S	Sn	15 01 20.4	+0.4
	baz=21						
NWF	Wu-fen Shan	1.04	11	P	Pn	15 01 06.3	-0.6
	baz=9.0						
NWF				*e*S	Sn	15 01 19.9	-0.4
	baz=9.0						
TWS1	Kuangyinshan	1.06	353	*e*P	Pn	15 01 06.2	-0.9
	baz=351						
TWS1				*e*S	Sn	15 01 22.1	+1.4
	baz=351						
CHN2	Minshiung	1.12	243	P	Pn	15 01 08.3	+0.5
	baz=243						
CHN2				*e*S	Sn	15 01 25.1	+2.9
	baz=243						
CHN4	Tsaushan	1.13	233	P	Pn	15 01 08.4	+0.5
	baz=232						
CHN4				*e*S	Sn	15 01 24.5	+2.2
	baz=232						
STYT	Tauyuan	1.15	221	P	Pn	15 01 08.5	+0.2
	baz=220						
STYT				*e*S	Sn	15 01 24.7	+1.8
	baz=220						
CHY	Chiayi	1.18	243	*e*P	Pn	15 01 09.1	+0.4
	baz=242						
CHY				*e*S	Sn	15 01 25.4	+1.9
	baz=242						
WTP	Ta-pu	1.18	228	*e*P	Pn	15 01 09.2	+0.4
	baz=227						
WTP				*e*S	Sn	15 01 25.4	+1.8
	baz=227						
WTCT	Ta-ch'eng	1.19	262	*e*P	Pn	15 01 07.7	-1.1
	baz=261						
WTCT				*e*S	Sn	15 01 24.8	+1.0
	baz=261						
TWK	Hsinying	1.26	232	P	Pn	15 01 10.0	+0.2
	baz=231						
TWK				*e*S	Sn	15 01 27.0	+1.4
	baz=231						
CHN1	Nanshi	1.28	228	*e*P	Pn	15 01 10.3	+0.2
	baz=228						
CHN1				*e*S	Sn	15 01 27.8	+1.7
	baz=228						
TWG	Pinlang	1.30	201	*e*P	Pn	15 01 08.2	-2.1
	baz=200						
TWG				*e*S	Sn	15 01 23.5	-3.0
	baz=200						
WSF	Szhu	1.30	252	*e*S	Sn	15 01 28.4	+1.9
	baz=251						
SGST	Jiashian	1.32	224	P	Pn	15 01 11.4	+0.8
	baz=223						
SGST				*e*S	Sn	15 01 29.0	+2.0
	baz=223						
JYNG	Yonagunijimaku	1.32	72	P	Pn	15 01 10.3	-0.3
JYNG				*e*S	Sn	15 01 27.5	+0.5
YOJ	Yonaguni jima	1.38	72	P	Pn	15 01 11.1	-0.3
YOJ				S	Sn	15 01 29.0	+0.5
ECL	Taimali	1.54	202	*e*P	Pn	15 01 12.6	-1.1
	baz=201						
ECL				*e*S	Sn	15 01 30.1	-2.4
	baz=201						
SSD	Sandimen	1.55	214	*e*P	Pn	15 01 14.5	+0.8
	baz=213						
SSD				*e*S	Sn	15 01 35.3	+2.6
	baz=213						
SCZT	Fangliau	1.88	208	*e*P	Pn	15 01 18.5	+0.2
	baz=207						
SCZT				*e*S	Sn	15 01 42.5	+1.7
	baz=207						
PNG	Penghu	1.91	256	*e*P	Pn	15 01 16.6	-2.0
	baz=255						
PNG				*e*S	Sn	15 01 41.0	-0.4
	baz=255						
IRIF	Iriomote-Funau	1.99	81	P	Pn	15 01 19.5	-0.3
IRIF				*e*S	Sn	15 01 43.8	+0.2
HATJ	Hateruma jima	2.04	89	P	Pn	15 01 20.9	+0.4
HATJ				*e*S	Sn	15 01 45.8	+1.0
JKRS	Kuro-shima	2.24	84	P	Pn	15 01 23.5	+0.3
JKRS				S	Sn	15 01 51.3	+1.7
JIJ	Ishigaki jima	2.37	82	P	Pn	15 01 24.6	-0.4
JIJ				*e*S	Sn	15 01 51.9	-1.0
JISG	Ishigakijimahi	2.56	77	P	Pn	15 01 26.9	-0.7
JISG				*e*S	Sn	15 01 56.9	-0.6
JTJ	Tarama	2.92	78	P	Pn	15 01 32.5	0.0

*IDC **09** 15:06:32.9±2.0, 18°.94S×168°.10E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=56.2km s-min=26.4km az=129.0*
*ISCJB **09** 15:06:34.8±1.4, 18°.98S±0°.08×168°.0E±0°.2, h20km, mb3.9/7, MS3.6/2, Error ellipse: s-maj=28.7km s-min=10.4km az=13.3*
*NEIC **09** 15:06:37.4±8.0, 19°.06S×168°.08E, h31km±56km, mb4.5/2, Error ellipse: s-maj=26.5km s-min=21.8km az=48.0*

ISC 09 15:06:35.9±1.6, 19°.0S±0°.1×168°.1E±0°.2, h20km, n14, σ0°79/13, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.42	207	Pn	Pn	15 07 28.3	+0.1
	6.3nm,0.3s,baz=79,slow=6.3,SNR=126						
DZM				Sn	Sn	15 08 08.6	+0.3
	38nm,0.3s,baz=132,slow=23,SNR=16						
DZM				LR	LR	15 08 21.4	
	comp=Z,45nm,18.1s,baz=30,slow=31						
ARMA	Armidale	18.76	230	P	P	15 10 52.9	-1.0
AFI	Afiamalu	19.94	78	LR	LR	15 17 17.1	
	comp=Z,123nm,20.1s,baz=142,slow=32						
CTA	Charters Tower	20.62	263	P	P	15 11 14.8	+0.5
	5.5nm,0.9s,baz=85,slow=11,SNR=5.1						
CTAO	Charters Tower	20.62	263	*e*P	P	15 11 13.6	-0.7
	108nm,1.3s						
PMG	Port Moresby	22.42	292	P	P	15 11 34.0	+0.5
STKA	Stephens Creek	27.07	237	P	P	15 12 18.3	+1.0
	4.0nm,0.9s,baz=64,slow=7.1,SNR=6.7						
WRAB	Tennant Creek	31.81	263	*e*P	P	15 12 58.5	-1.0
	1.7nm,0.9s						
WRA	Warramunga Arr	31.82	263	P	P	15 12 58.5	-1.1
	0.6nm,0.7s,baz=80,slow=6.0,SNR=9.7						
ASAR	Alice Springs	32.15	256	P	P	15 13 02.3	-0.1
	11nm,0.7s,baz=84,slow=8.3,SNR=251						
CMAR	Chiang Mai Arr	77.44	295	P	P	15 18 30.7	+0.4
	0.5nm,0.6s,baz=136,slow=5.0,SNR=4.2						
SONM	Songino Array	86.40	324	P	P	15 19 17.6	+0.6
	0.3nm,0.4s,baz=139,slow=4.4,SNR=3.6						
PFO	Pinyon Flats O	88.85	54	LR	LR	15 50 41.6	
	comp=Z,60nm,19.4s,baz=200,slow=30						
ILAR	Eielson Array	90.34	18	P	P	15 19 34.6	-0.5
	0.3nm,0.7s,baz=224,slow=4.9,SNR=6.7						

*ISCJB **09** 15:19:39.6±0.6, 40°.77N±0°.05×37°.02E±0°.06, h8km, Error ellipse: s-maj=9.0km s-min=4.2km az=35.8*
*CSEM **09** 15:19:39.3±0.3, 40°.77N×37°.03E, h2km, MD2.5, Error ellipse: s-maj=8.8km s-min=5.1km az=38.0*
*DDA **09** 15:19:39.9, 40°.71N×37°.09E, h7km, Md2.6*
*ISK **09** 15:19:39.2, 40°.71N×37°.02E, h21km, MD2.5*

ISC 09 15:19:39.3±0.9, 40°.73N±0°.04×37°.04E±0°.03, h8km, n24, σ0°62/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	Resadiye-TOKAT	0.40	147	*e*PG	Pb	15 19 47.9	-0.7
RSDY				*e*SG	Sb	15 19 54.0	-0.8
RSDY	Resadiye-TOKAT	0.40	147	*e*Pg	Pb	15 19 47.9	-0.7
RSDY				*e*Sg	Sb	15 19 54.0	-0.8
ORDU	Ordu-Boztepe	0.67	67	*i* P	Pg	15 19 52.6	+0.4
ORDU	Ordu-Boztepe	0.67	67	P	Pg	15 19 52.6	+0.4
SVSK	Karacayir	0.81	182	*e*PG	Pg	15 19 55.1	+0.2
SVSK	Karacayir	0.81	182	*e*Pg	Pg	15 19 55.1	+0.2
KVT	Kavak	0.83	295	*e*PG	Pg	15 19 55.7	+0.3
KVT				*e*SG	Sb	15 20 07.8	+0.4
KVT	Kavak	0.83	295	*e*Pg	Pg	15 19 55.7	+0.3
KVT				*e*Sg	Sb	15 20 07.8	+0.4
CUZAR	Zara_SIVAS	1.01	146	*i* P	Pb	15 19 59.1	0.0
CUZAR	Zara_SIVAS	1.01	146	P	Pb	15 19 59.1	0.0
SUSE	Susehri	1.02	120	*i* P	Pg	15 19 58.8	-0.2
SUSE	Susehri	1.02	120	P	Pg	15 19 58.8	-0.2
CUSAR	Sarkisla-SIVAS	1.44	205	*i* P	Pg	15 20 07.3	+0.3
CUSAR	Sarkisla-SIVAS	1.44	205	P	Pg	15 20 07.3	+0.3
CUKAN	kangal_SIVAS	1.45	167	*i* P	Pb	15 20 06.7	+0.1
CUKAN	kangal_SIVAS	1.45	167	P	Pb	15 20 06.7	+0.1
DIKM	Dikmen	1.63	305	*e*PN	Pn	15 20 07.3	-1.0
DIKM	Dikmen	1.63	305	*e*Pn	Pn	15 20 07.3	-1.0
KELT	Kelkit	1.79	108	*i* P	Pb	15 20 12.0	-0.4
KELT				*i* S	Sb	15 20 35.9	+0.9
KELT	Kelkit	1.79	108	P	Pb	15 20 12.0	-0.4
KELT				S	Sb	15 20 35.9	+0.9
KEMA	Kemaliye	1.83	142	*i* P	Pb	15 20 13.7	+0.6
KEMA				*i* S	Sg	15 20 39.2	+1.0
KEMA	Kemaliye	1.83	142	P	Pb	15 20 13.7	+0.6
KEMA				S	Sg	15 20 39.2	+1.0
SNOP	Sinop	1.89	314	*e*PN	Pn	15 20 11.2	-0.7
SNOP	Sinop	1.89	314	*e*Pn	Pn	15 20 11.2	-0.7

*ISCJB **09** 15:39:02.6±0.5, 37°.85N±0°.02×26°.33E±0°.03, h0km±4km, Error ellipse: s-maj=4.3km s-min=3.3km az=175.1*
*CSEM **09** 15:39:03.2±0.2, 37°.86N×26°.30E, h10km, MD2.9, Error ellipse: s-maj=4.2km s-min=3.1km az=77.0*
*ISK **09** 15:39:03.0, 37°.88N×26°.36E, h10km, MD2.9*
*DDA **09** 15:39:04.5, 37°.92N×26°.46E, h18km, Md2.9*
*ATH **09** 15:39:05.6, 38°.03N×25°.66E, h17km±3km, ML2.5/4, Error ellipse: s-maj=4.8km s-min=1.3km az=101.0*

ISC 09 15:39:03.2±1.0, 37°.89N±0°.02×26°.34E±0°.02, h13km±8km, n77, σ0°73/103, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	˜zmir	0.38	20	*i* P	Pg	15 39 11.1	+0.2
ZEY				*i* S	Sg	15 39 16.2	+0.3
CESE	˜e˜me	0.45	356	*e*PG	Pb	15 39 12.5	-0.5
CESE				*e*SG	Sb	15 39 19.3	-0.3
CESE	˜e˜me	0.45	356	*e*Pg	Pb	15 39 12.5	-0.5
CESE				*e*Sg	Sb	15 39 19.3	-0.3
DGB	˜zmir	0.46	69	*i* P	Pg	15 39 12.1	-0.2
DGB				*i* S	Sg	15 39 18.2	-0.3
GMLD	Gumuldur	0.49	67	*e*PG	Pb	15 39 13.1	-0.7
GMLD	Gumuldur	0.49	67	*e*Pg	Pb	15 39 13.1	-0.7
URLA	Izmir	0.52	23	*e*PG	Pb	15 39 13.8	-0.4
URLA				*e*SG	Sb	15 39 21.0	-0.6
URLA	Izmir	0.52	23	*i* P	Pg	15 39 13.3	0.0
URLA				*i* S	Sg	15 39 20.6	+0.3
URLA	Izmir	0.52	23	P	Pg	15 39 13.4	0.0
URLA	Izmir	0.52	23	*e*Pg	Pb	15 39 13.8	-0.4
URLA				S	Sg	15 39 20.6	+0.3
URLA				*e*Sg	Sb	15 39 21.0	-0.6
CHOS	Chios island	0.55	336	*e*PG	Pb	15 39 14.4	-0.3
CHOS	Chios island	0.55	336	P	Pb	15 39 15.0	+0.2
CHOS				S	Sb	15 39 22.8	+0.2
CHOS				AML	AML	15 39 28.8	
	comp=N,1012μm,0.2s						
CHOS				AML	AML	15 39 28.8	
	comp=E,1484μm,0.2s						
CHOS	Chios island	0.55	336	*e*Pg	Pb	15 39 14.5	-0.3
CHOS	Chios island	0.55	336	P	Pb	15 39 15.0	+0.2
CHOS				S	Sb	15 39 22.8	+0.2
KRBN	Karaburun	0.73	13	*e*PG	Pb	15 39 17.6	-0.2
KRBN	Karaburun	0.73	13	*e*Pg	Pb	15 39 17.6	-0.2
KUSD	Kusadasi-Aydin	0.75	92	*e*PG	Pb	15 39 17.6	-0.6
KUSD	Kusadasi-Aydin	0.75	92	*e*Pg	Pb	15 39 17.6	-0.6
DIDI	Didim-Aydin	0.88	125	*e*PG	Pb	15 39 20.2	-0.1
DIDI	Didim-Aydin	0.88	125	*e*Pg	Pb	15 39 20.2	-0.1
FOCM	Fo˜§a	0.88	20	*e*PG	Pb	15 39 20.3	-0.1
FOCM	Fo˜§a	0.88	20	*e*Pg	Pb	15 39 20.3	-0.1
APE	Apeiranthos	1.04	218	*e*PG	Pn	15 39 23.5	0.0
APE	Apeiranthos	1.04	218	P	Pg	15 39 22.5	-0.7
APE				S	Sn	15 39 38.0	+0.1
APE				AML	AML	15 39 41.3	
	comp=N,441μm,0.1s						
APE				AML	AML	15 39 44.1	
	comp=E,356μm,0.2s						
APE	Apeiranthos	1.04	218	P	Pg	15 39 22.5	-0.7
APE	Apeiranthos	1.04	218	*e*Pg	Pn	15 39 23.5	0.0
APE				S	Sn	15 39 38.0	+0.1
YKAV	Yalikavak-Bodr	1.07	135	*e*PG	Pn	15 39 23.5	-0.4
YKAV	Yalikavak-Bodr	1.07	135	*e*Pg	Pn	15 39 23.5	-0.4
BODT	Bodrum	1.13	136	*e*PN	Pb	15 39 24.4	-0.2
BODT	Bodrum	1.13	136	*e*Pn	Pb	15 39 24.4	-0.2
CAND	Candarli	1.13	19	*e*PN	Pb	15 39 24.8	+0.1
BDRM	Kayabasi	1.20	133	*i* P	Pn	15 39 26.2	+0.5
BDRM				*i* S	Sn	15 39 42.3	+0.4
BDRM	Kayabasi	1.20	133	P	Pn	15 39 26.2	+0.5
BDRM				S	Sn	15 39 42.3	+0.4
AYDN	Tasoluk	1.24	100	*i* P	Pg	15 39 27.0	-0.1
AYDN				*i* S	Sg	15 39 42.5	-0.8
AYDN	Tasoluk	1.24	100	P	Pg	15 39 27.0	-0.1
AYDN				S	Sg	15 39 42.5	-0.8
DKL	Dikili	1.27	20	*e*PN	Pg	15 39 27.2	-0.4
DKL	Dikili	1.27	20	*e*Pn	Pg	15 39 27.2	-0.4
MLSB	Milas	1.29	117	*e*PN	Pg	15 39 27.5	-0.5
MLSB	Milas	1.29	117	*e*Pn	Pg	15 39 27.5	-0.5
PRK	Paraskevi	1.36	358	P	Pg	15 39 29.3	-0.1
PRK				S	Sg	15 39 49.5	+2.4
PRK				AML	AML	15 39 51.6	
	comp=N,706μm,0.5s						
PRK				AML	AML	15 39 52.0	
	comp=E,828μm,0.6s						
PRK	Paraskevi	1.36	358	P	Pg	15 39 29.3	-0.1
PRK				S	Sg	15 39 49.5	+2.4
SIGR	SIGRI	1.38	344	*e*PN	Pb	15 39 28.8	-0.1
SIGR	SIGRI	1.38	344	P	Pn	15 39 27.0	-1.2
SIGR				AML	AML	15 39 53.6	
	comp=N,269μm,0.3s						
SIGR				AML	AML	15 39 53.6	
	comp=E,231μm,0.4s						
SIGR	SIGRI	1.38	344	P	Pn	15 39 27.0	-1.2
SIGR	SIGRI	1.38	344	*e*Pn	Pb	15 39 28.8	-0.1
NIS1	Nisyros Isl.	1.45	152	*e*PN	Pb	15 39 29.7	-0.3
NIS1	Nisyros Isl.	1.45	152	*e*Pn	Pb	15 39 29.7	-0.3
AYVA	Ayvalik	1.45	11	*i* P	Pb	15 39 30.3	+0.2
AYVA				*i* S	Sg	15 39 51.2	+1.3
AYVA	Ayvalik	1.45	11	P	Pb	15 39 30.3	+0.2
AYVA				S	Sg	15 39 51.2	+1.3
DAT	Datca	1.52	139	*e*PN	Pn	15 39 30.3	+0.1
DAT	Datca	1.52	139	*i* P	Pn	15 39 30.0	-0.2
DAT	Datca	1.52	139	P	Pn	15 39 30.0	-0.2
DAT	Datca	1.52	139	*e*Pn	Pn	15 39 30.3	+0.1
AKHS	Akhisar	1.53	49	*i* P	Pg	15 39 32.2	-0.3
AKHS				*i* S	Sg	15 39 51.7	-0.7
AKHS	Akhisar	1.53	49	P	Pg	15 39 32.2	-0.3
AKHS				S	Sg	15 39 51.7	-0.7
GPNR	Gulpinar-Canak	1.58	354	*e*PN	Pb	15 39 32.5	+0.2
GPNR	Gulpinar-Canak	1.58	354	*e*Pn	Pb

*JMA **09** 15:54:23.0, 22.°49N×120.°93E, h31km, M4.4*
*ISCJB **09** 15:54:23.7±0.4, 22.°36N±0.°02×121.°15E±0.°02, h18km±2km, mb4.1/24, MS3.4/10, Error ellipse: s-maj=3.4km s-min=3.0km az=146.8*
*TAP **09** 15:54:25.7, 22.°51N×120.°98E, h16km, ML4.6, B*
ISC 09 15:54:25.2±0.8, 22.°50N±0.°02×121.°08E±0.°02, h14km±5km, n139, σ1§25/189, mb4.1/24, MS3.2/10, 27C-14D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.15**	**311**	⇓*iP*	**Pg**	**15 54 29.2**	**+0.2**
	baz=347						
ECL				*eS*	**Sg**	**15 54 31.3**	**-0.3**
	baz=347						
TAW	**Tawu**	**0.22**	**230**	⇓*iP*	**Pg**	**15 54 30.3**	**+0.2**
	baz=205						
TAW				*i* S	**Sg**	**15 54 33.4**	**0.0**
	baz=205						
EAST	**Anshuo**	**0.24**	**241**	⇓*iP*	**Pg**	**15 54 30.4**	**-0.1**
	baz=221						
EAST				*eS*	**Sg**	**15 54 33.5**	**-0.6**
	baz=221						
TTN	**Taitung**	**0.26**	**14**	⇓*iP*	**Pb**	**15 54 32.8**	**+1.0**
	baz=35						
TTN				*eS*	**Sb**	**15 54 38.5**	**+2.3**
	baz=35						
TWG	**Pinlang**	**0.32**	**359**	⇓*iP*	**Pb**	**15 54 32.3**	**-0.4**
	baz=13						
TWG				S	**Sg**	**15 54 36.8**	**+0.4**
	baz=13						
TWG	**Pinlang**	**0.32**	**359**	*e*Pg	**Pg**	**15 54 31.9**	**+0.1**
SCZT	**Fangliau**	**0.44**	**253**	⇓*iP*	**Pg**	**15 54 33.5**	**-0.6**
	baz=250						
SCZT				S	**Sg**	**15 54 38.6**	**-1.4**
	baz=250						
SSD	**Sandimen**	**0.48**	**301**	⇑*iP*	**Pg**	**15 54 33.9**	**-0.9**
	baz=307						
SSD				*eS*	**Sg**	**15 54 39.0**	**-2.2**
	baz=307						
HEN	**Hengchun**	**0.58**	**213**	⇑*iP*	**Pg**	**15 54 37.1**	**+0.4**
	baz=201						
HEN				*eS*	**Sb**	**15 54 45.7**	**+0.4**
	baz=201						
SGLT	**Jiouru**	**0.59**	**293**	*e*P	**Pg**	**15 54 36.7**	**-0.1**
	baz=295						
SGLT				*eS*	**Sg**	**15 54 44.1**	**-0.5**
	baz=295						
TWK1	**Hengchun**	**0.61**	**204**	⇑*iP*	**Pg**	**15 54 37.4**	**+0.2**
	baz=194						
TWK1				*eS*	**Sb**	**15 54 46.7**	**+0.6**
	baz=194						
TSEB	**Hengchuen, Pin**	**0.62**	**195**	⇑P	**Pg**	**15 54 37.8**	**+0.5**
	baz=180						
TSEB				*eS*	**Sb**	**15 54 47.6**	**+1.3**
	baz=180						
LAY	**Lan-yu**	**0.64**	**136**	*e*P	**Pg**	**15 54 37.9**	**+0.2**
	baz=131						
CHKT	**Chengkung**	**0.65**	**24**	⇓*iP*	**Pg**	**15 54 38.2**	**+0.2**
	baz=34						
TWP	**Hsiaoliuchiu**	**0.68**	**257**	⇓*e*P	**Pn**	**15 54 40.5**	**0.0**
	baz=253						
TWM1	**Shoushan**	**0.69**	**298**	⇑*iP*	**Pb**	**15 54 39.1**	**+0.1**
	baz=307						
ELDTW	**Lidau**	**0.69**	**355**	*e*P	**Pg**	**15 54 38.1**	**-0.6**
	baz=14						
ELDTW				*eS*	**Sb**	**15 54 48.0**	**-0.5**
	baz=14						
KAU	**Kaohsiung**	**0.71**	**276**	*e*P	**Pn**	**15 54 40.3**	**-0.6**
	baz=272						
STYT	**Tauyuan**	**0.72**	**336**	⇑*iP*	**Pg**	**15 54 39.5**	**+0.2**
	baz=346						
STYT				S	**Sb**	**15 54 48.8**	**-0.7**
	baz=346						
SGST	**Jiashian**	**0.74**	**322**	⇑*iP*	**Pg**	**15 54 39.9**	**+0.3**
	baz=330						
SGST				*eS*	**Sg**	**15 54 50.1**	**+0.7**
	baz=330						
CHN1	**Nanshi**	**0.85**	**324**	⇑*iP*	**Pn**	**15 54 42.6**	**-0.2**
	baz=329						
CHN1				*eS*	**Sn**	**15 54 54.8**	**-0.4**
	baz=329						
WTP	**Ta-pu**	**0.86**	**330**	⇑*iP*	**Pn**	**15 54 42.5**	**-0.5**
	baz=336						
WTP				S	**Sn**	**15 54 54.6**	**-0.7**
	baz=336						
CHN3	**Shinhua**	**0.87**	**311**	⇑*iP*	**Pn**	**15 54 43.7**	**+0.6**
	baz=315						
CHN3				S	**Sn**	**15 54 57.5**	**+1.9**
	baz=315						
TWF1	**Yuli**	**0.87**	**13**	⇓*e*P	**Pb**	**15 54 40.3**	**-1.9**
	baz=34						
TPUB	**Ta-pu**	**0.90**	**333**	*e*Pg	**Pn**	**15 54 43.0**	**-0.5**
YULB	**Yu-li**	**0.91**	**13**	*e*Pg	**Pb**	**15 54 40.3**	**-2.5**
TWK	**Hsinying**	**0.94**	**325**	⇑*iP*	**Pn**	**15 54 43.7**	**-0.4**
	baz=330						
TWK				*eS*	**Sn**	**15 54 57.8**	**+0.5**
	baz=330						
TAI1	**Yung-k'ang**	**0.95**	**305**	⇑*iP*	**Pn**	**15 54 44.2**	**+0.1**
	baz=307						
TAI1				*eS*	**Sn**	**15 54 58.2**	**+0.7**
	baz=307						
CHN4	**Tsaushan**	**0.96**	**332**	⇑*iP*	**Pn**	**15 54 44.2**	**-0.1**
	baz=338						
CHN4				*eS*	**Sn**	**15 54 58.7**	**+0.9**
	baz=338						
YUS	**Yu-Shan**	**0.99**	**353**	*e*P	**Pb**	**15 54 43.8**	**-0.8**
	baz=11						
YUS				*eS*	**Sn**	**15 55 00.1**	**+0.9**
	baz=11						
EHY	**Hungye**	**1.03**	**13**	⇓*e*P	**Pb**	**15 54 42.5**	**-2.4**
	baz=34						
ALS	**Alishan**	**1.04**	**346**	⇓P	**Pb**	**15 54 45.1**	**-0.1**
	baz=3.0						
ALS				*eS*	**Sn**	**15 54 59.7**	**-0.5**
	baz=3.0						
SCLT	**Jiali**	**1.06**	**310**	P	**Pg**	**15 54 45.6**	**0.0**
	baz=313						
SCLT				*eS*	**Sn**	**15 55 00.4**	**+0.3**
	baz=313						
CHN5	**Tsauling**	**1.15**	**341**	⇓*e*P	**Pg**	**15 54 47.5**	**0.0**
	baz=348						
CHN5				*eS*	**Sg**	**15 55 04.6**	**+2.0**
	baz=348						
CHN8	**Yiju**	**1.16**	**317**	⇑*iP*	**Pb**	**15 54 46.9**	**-0.2**
	baz=321						
CHN8				S	**Sg**	**15 55 03.2**	**+0.5**
	baz=321						
CHY	**Chiayi**	**1.16**	**329**	⇑*iP*	**Pg**	**15 54 47.5**	**-0.2**
	baz=334						
CHY				*eS*	**Sg**	**15 55 03.9**	**+1.0**
	baz=334						
CHN2	**Minshiung**	**1.17**	**332**	⇑*iP*	**Pg**	**15 54 47.8**	**0.0**
	baz=337						
CHN2				*eS*	**Sg**	**15 55 05.2**	**+2.2**
	baz=337						
WGK	**Gukeng**	**1.27**	**338**	⇑*iP*	**Pg**	**15 54 49.6**	**-0.2**
	baz=326						
WGK				S	**Sg**	**15 55 08.2**	**+1.8**
	baz=326						
SSLB	**Suanglung**	**1.29**	**355**	*e*Pg	**Pn**	**15 54 48.4**	**-0.5**
ESL	**Shilin**	**1.35**	**14**	*e*P	**Pn**	**15 54 47.2**	**-2.5**
	baz=34						
WSF	**Szhu**	**1.38**	**325**	⇑*iP*	**Pn**	**15 54 50.0**	**-0.1**
	baz=330						
WSF				S	**Sb**	**15 55 08.4**	**+0.1**
	baz=330						
SMLT	**Sun Moon Lake**	**1.39**	**353**	*e*P	**Pb**	**15 54 50.9**	**-0.2**
	baz=9.0						
SMLT				*eS*	**Sg**	**15 55 12.5**	**+2.5**
	baz=9.0						
TYC	**Yuchr**	**1.41**	**352**	⇓*iP*	**Pg**	**15 54 52.2**	**-0.2**
	baz=1.0						
TYC				*i* S	**Sg**	**15 55 12.9**	**+2.1**
	baz=1.0						
WNT	**Mingjian**	**1.42**	**345**	⇑*iP*	**Pg**	**15 54 52.0**	**-0.6**
	baz=332						
WNT				S	**Sg**	**15 55 10.7**	**-0.4**
	baz=332						
WDGT	**Dungji**	**1.51**	**300**	P	**Pn**	**15 54 50.5**	**-1.4**
	baz=301						
WDGT				*eS*	**Sn**	**15 55 10.0**	**-1.3**
	baz=301						
WTCT	**Ta-ch'eng**	**1.54**	**332**	⇑*iP*	**Pn**	**15 54 52.4**	**+0.1**
	baz=337						
HWA	**Hwalien**	**1.55**	**18**	*e*P	**Pb**	**15 54 53.4**	**-0.4**
	baz=36						
TWD	**Chiawan**	**1.64**	**17**	*e*P	**Pn**	**15 54 51.9**	**-1.9**
	baz=40						
WHF	**Hehuan Shan**	**1.65**	**6**	*e*P	**Pn**	**15 54 53.3**	**-0.8**
	baz=15						
WHF				*eS*	**Sg**	**15 55 19.6**	**+1.2**
	baz=15						
TCU	**Taichung**	**1.68**	**347**	⇑*iP*	**Pb**	**15 54 55.9**	**-0.1**
	baz=336						
TCU				*eS*	**Sg**	**15 55 18.6**	**-0.8**
	baz=336						
NACB	**Ninganchiao**	**1.73**	**16**	*e*Pn	**Pn**	**15 54 52.2**	**-2.7**
TWT	**Tachien**	**1.75**	**3**	⇑*e*P	**Pn**	**15 54 55.6**	**+0.2**
	baz=20						
TWT				*eS*	**Sg**	**15 55 22.1**	**+0.5**
	baz=20						
PNG	**Penghu**	**1.76**	**307**	⇑*iP*	**Pn**	**15 54 54.1**	**-1.2**
	baz=309						
PNG				*eS*	**Sn**	**15 55 14.9**	**-2.6**
	baz=309						
TWQ1	**Liyutan**	**1.86**	**351**	⇓P	**Pb**	**15 54 58.8**	**-0.3**
	baz=339						
TWQ1				*eS*	**Sg**	**15 55 24.3**	**-0.9**
	baz=339						
NSY	**Sanyi**	**1.93**	**351**	⇑P	**Pb**	**15 54 59.9**	**-0.3**
	baz=338						
NSY				S	**Sg**	**15 55 26.5**	**-0.9**
	baz=338						
NNS	**Nan Shan**	**1.95**	**8**	*e*P	**Pn**	**15 54 57.5**	**-0.6**
	baz=29						
NNS				*eS*	**Sg**	**15 55 27.1**	**-1.0**
	baz=29						
ENA	**Nanau**	**2.01**	**17**	*e*P	**Pn**	**15 54 58.0**	**-0.8**
	baz=41						
NSTT	**Nanjuang**	**2.12**	**358**	*e*P	**Pb**	**15 55 01.7**	**-1.8**
	baz=11						
NSTT				*eS*	**Sb**	**15 55 30.6**	**+0.9**
	baz=11						
ENTT	**Nioudou**	**2.18**	**12**	*e*P	**Pn**	**15 55 00.3**	**-0.8**
	baz=37						
ENTT				*eS*	**Sb**	**15 55 31.2**	**-0.2**
	baz=37						
YHNB	**Yeheng**	**2.18**	**7**	*e*Pn	**Pn**	**15 55 00.9**	**-0.2**
YHNB				*e*Pg	**Pb**	**15 55 04.5**	**0.0**
NSK	**Sanguang**	**2.18**	**7**	*e*P	**Pn**	**15 55 01.3**	**+0.1**
	baz=20						
NSK				*eS*	**Sb**	**15 55 32.1**	**+0.6**
	baz=20						
TWC	**Suao**	**2.22**	**18**	*e*P	**Pn**	**15 55 01.7**	**+0.1**
	baz=39						
HSN	**Hsinchu**	**2.29**	**358**	*e*P	**Pb**	**15 55 07.5**	**+1.0**
	baz=10.0						
ILA	**Ilan**	**2.34**	**15**	*e*P	**Pb**	**15 55 05.4**	**-1.8**
	baz=38						
NCU	**National Centr**	**2.46**	**2**	*e*P	**Pb**	**15 55 07.7**	**-1.6**
	baz=15						
TATO	**Taipei**	**2.49**	**9**	*e*Pn	**Pn**	**15 55 04.9**	**-0.5**
TWA	**Mucha**	**2.51**	**11**	*e*P	**Pb**	**15 55 09.0**	**-1.2**
	baz=37						
TWA				*eS*	**Sb**	**15 55 41.2**	**+0.2**
	baz=37						
TAP	**Taipei**	**2.56**	**9**	*e*P	**Pb**	**15 55 11.2**	**+0.2**
	baz=38						
TAP				*eS*	**Sb**	**15 55 42.3**	**0.0**
	baz=38						
TAP1	**Taipei**	**2.56**	**9**	*e*P	**Pb**	**15 55 08.9**	**-2.1**
	baz=38						
TAP1				*eS*	**Sb**	**15 55 41.4**	**-0.9**
	baz=38						
JYNG	**Yonagunijimaku**	**2.59**	**41**	P	**Pn**	**15 55 06.5**	**-0.3**
JYNG				*eS*	**Sn**	**15 55 36.7**	**-1.4**
TWS1	**Kuangyinshan**	**2.61**	**7**	*e*P	**Pn**	**15 55 09.1**	**+2.1**
	baz=358						
TWS1				*eS*	**Sb**	**15 55 45.8**	**+2.1**
	baz=358						
TWB1	**Santiao Chiao**	**2.63**	**18**	*e*P	**Pn**	**15 55 08.1**	**+0.7**
	baz=41						
NWF	**Wu-fen Shan**	**2.64**	**14**	*e*P	**Pn**	**15 55 09.1**	**+1.6**
	baz=40						
YOJ	**Yonaguni jima**	**2.64**	**42**	⇑*e*P	**Pn**	**15 55 07.2**	**-0.2**
	baz=51						
YOJ	**Yonaguni jima**	**2.64**	**42**	P	**Pn**	**15 55 06.9**	**-0.5**
YOJ				S	**Sn**	**15 55 38.7**	**-0.6**
YOJ	**Yonaguni jima**	**2.64**	**42**	*e*Pn	**Pn**	**15 55 07.2**	**-0.2**
TWY	**Chenhua**	**2.81**	**10**	*e*P	**Pn**	**15 55 11.8**	**+2.1**
	baz=3.0						
HATJ	**Hateruma jima**	**2.95**	**58**	P	**Pn**	**15 55 11.2**	**-0.5**
HATJ				S	**Sn**	**15 55 45.2**	**-1.7**
IRIF	**Iriomote-Funau**	**3.05**	**53**	P	**Pn**	**15 55 12.7**	**-0.3**
IRIF				S	**Sn**	**15 55 49.6**	**+0.3**
KNM	**Kinmen**	**3.09**	**309**	⇑*e*P	**Pn**	**15 55 13.7**	**+0.1**
	baz=309						
JKRS	**Kuro-shima**	**3.20**	**57**	P	**Pn**	**15 55 15.0**	**-0.2**
JKRS				*eS*	**Sn**	**15 55 53.9**	**+0.8**
QZH	**Quanzhou**	**3.33**	**317**	Pn	**Pn**	**15 55 15.3**	**-1.6**
QZH				Sn	**Sn**	**15 55 52.6**	**-3.7**
QZH				smax	smax		
	comp=N,520nm,0.8s						
QZH				smax	smax		
	comp=E,490nm,0.7s						
JIJ	**Ishigaki jima**	**3.37**	**56**	P	**Pn**	**15 55 16.7**	**-0.8**
JIJ				S	**Sn**	**15 55 57.9**	**+0.6**
JISG	**Ishigakijimahi**	**3.62**	**54**	P	**Pn**	**15 55 20.2**	**-0.7**
JTJ	**Tarama**	**3.95**	**57**	P	**Pn**	**15 55 25.2**	**-0.2**
JTJ				S	**Sn**	**15 56 10.9**	**-0.7**
JIRB	**Irabujima**	**4.41**	**58**	P	**Pn**	**15 55 31.4**	**-0.4**
JMJ	**Miyako jima 2**	**4.50**	**58**	*e*P	**Pn**	**15 55 32.4**	**-0.6**
	baz=65						
JMJ	**Miyako jima 2**	**4.50**	**58**	P	**Pn**	**15 55 33.0**	**0.0**
JIKM	**Ikemajima**	**4.52**	**57**	P	**Pn**	**15 55 32.9**	**-0.4**
JIKM				S	**Sn**	**15 56 26.2**	**+0.5**
JOGS	**Gusukube**	**4.56**	**60**	P	**Pn**	**15 55 33.8**	**-0.1**
JKE	**Kume jima 2**	**6.45**	**53**	P	**Pn**	**15 55 58.1**	**-1.7**
WHN	**Wuhan**	**10.02**	**324**	⇑P	**Pn**	**15 56 46.9**	**-1.9**
WHN				LR	LR		
	comp=N,1μm,9.0s						
WHN				LR	LR		
	comp=E,530nm,9.1s						
WHN				LR	LR		
	comp=Z,1μm,14.6s						
ENH	**Enshi**	**12.95**	**309**	*e*Pn	**Pn**	**15 57 30.8**	**+1.9**
	11nm,1.1s						
XAN	**Xi'an**	**15.70**	**320**	P	**Pn**	**15 58 05.9**	**-0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSAR	**Wonju Array Be**	**16.01**	**20**	Pn	**P**	**15 58 12.1**	**-1.4**
KSRS	**Korea Array**	**16.03**	**20**	Pn	**P**	**15 58 12.1**	**-1.6**
	0.2nm,0.3s,baz=200,slow=12,SNR=24						
KSRS				LR	LR	16 04 46.5	
	comp=Z,46nm,20.1s,baz=205,slow=39						
CD2	**Chengdu**	**17.58**	**302**	*e*P	**Pn**	**15 58 29.0**	**-1.0**
BJT	**Baijiatuau**	**17.96**	**348**	*e*P	**P**	**15 58 36.5**	**+1.5**
	16nm,0.6s						
LZH	**Lanzhou**	**20.19**	**316**	*e*P	Pn	15 59 02.0	+0.4
LZH				pP	sP	15 59 05.6	+0.1
LZH				sP	pP	15 59 07.8	+4.2
LZH				*e*S	**S**	**16 02 39.5**	**-6.5**
LZH				sS	Sn	16 02 48.3	-0.4
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,13.1s						
LZH				LR	LR		
	comp=E,1μm,12.4s						
MAJO	**Matsushiro**	**20.40**	**43**	*e*Pn	Pn	15 59 04.9	+1.0
	8.6nm,0.8s						
MAT	**Matsushiro**	**20.40**	**43**	P	Pn	15 59 03.5	-0.5
MAT				*e*S	Sn	16 02 53.4	-0.3
MJAR	**Matsushiro Arr**	**20.40**	**43**	P	**P**	**15 59 02.4**	**+0.5**
	8.8nm,0.9s,baz=226,slow=8.6,SNR=34						
MJAR				LR	LR	16 07 37.0	
	comp=Z,85nm,21.8s,baz=235,slow=39						
CHTO	**Chiang Mai**	**21.03**	**264**	P	**P**	**15 59 12.4**	**+3.6**
	3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.12**	**263**	P	**P**	**15 59 09.5**	**-0.2**
	1.2nm,0.8s,baz=73,slow=9.0,SNR=10						
CMAR				PcP	**PcP**	**16 03 16.6**	**+0.7**
	1.0nm,0.7s,baz=38,slow=1.6,SNR=11						
CMAR				LR	LR	16 07 25.1	
	comp=Z,122nm,20.8s,baz=66,slow=37						
USRK	**Ussuriysk Ar.**	**23.44**	**20**	P	**P**	**15 59 33.0**	**-1.1**
	1.5nm,0.6s,baz=216,slow=9.0,SNR=3.3						
USRK				LR	LR	16 09 11.8	
	comp=Z,75nm,18.9s,baz=194,slow=38						
GUMO	**Guam**	**24.27**	**107**	LR	LR	16 08 57.4	
	comp=Z,63nm,19.8s,baz=326,slow=36						
GTA	**Gaotai**	**24.73**	**318**	P	**P**	**15 59 47.8**	**+1.4**
GTA				pP	pP	15 59 52.0	+1.3
GTA				sP	sP	15 59 54.8	+2.4
GTA				S	**S**	**16 04 11.2**	**+3.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,37nm,5.1s						
GTA				LR	LR		
	comp=N,160nm,14.7s						
GTA				LR	LR		
	comp=E,180nm,14.7s						
GTA				LR	LR		
	comp=Z,250nm,14.3s						
LSA	**Lhasa**	**27.76**	**291**	*e*P	**P**	**16 00 18.1**	**+3.8**
	3.2nm,0.7s						
SONM	**Songino Array**	**27.89**	**339**	P	**P**	**16 00 14.9**	**+0.1**
	4.3nm,0.7s,baz=154,slow=9.5,SNR=26						
SONM				LR	LR	16 13 08.7	
	comp=Z,44nm,21.7s,baz=128,slow=40						
ASAJ	**Asahikawa**	**27.92**	**34**	P	**P**	**16 00 15.7**	**+0.7**
	8.4nm,0.9s,baz=234,slow=17,SNR=3.8						
MKAR	**Makanchi Array**	**39.49**	**317**	P	**P**	**16 01 56.2**	**+0.9**
	2.2nm,0.5s,baz=108,slow=10,SNR=16						
MKAR				PcP	**PcP**	**16 04 02.0**	**-1.0**
	1.0nm,0.7s,baz=97,slow=4.9,SNR=5.1						
PETK	**Petropavlovsk-**	**41.32**	**33**	LR	LR	16 20 48.3	
	comp=Z,17nm,18.7s,baz=251,slow=38						
ZALV	**Zalesovo Beam**	**41.61**	**328**	P	**P**	**16 02 12.9**	**+0.2**
	6.3nm,0.6s,baz=111,slow=8.3,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.71**	**85**	T	T	16 48 06.4	
	baz=282,slow=74,SNR=70						
H11N2	**WAKE ISLAND Hy**	**42.71**	**85**	T	T	16 47 57.0	
	baz=282,slow=74,SNR=111						
H11N3	**WAKE ISLAND Hy**	**42.72**	**85**	T	T	16 47 58.3	
	baz=282,slow=74,SNR=111						
H11S3	**WAKE ISLAND Hy**	**42.79**	**87**	T	T	16 48 00.6	
	baz=284,slow=74,SNR=391						
H11S1	**WAKE ISLAND Hy**	**42.80**	**87**	T	T	16 48 03.4	
	baz=284,slow=74,SNR=255						
H11S2	**WAKE ISLAND Hy**	**42.80**	**87**	T	T	16 48 11.5	
	baz=284,slow=74,SNR=148						
KURK	**Kurchatov**	**43.33**	**321**	P	**P**	**16 02 27.6**	**+0.9**
KURBB	**Kurchatov Arra**	**43.34**	**321**	P	**P**	**16 02 27.6**	**+0.8**
	4.4nm,0.9s,baz=120,slow=7.2,SNR=29						
WRA	**Warramunga Arr**	**44.13**	**162**	P	**P**	**16 02 30.8**	**-2.7**
	1.4nm,0.6s,baz=344,slow=8.7,SNR=18						
KKAR	**Karatay Array**	**46.43**	**309**	*e*P	**P**	**16 02 52.1**	**+0.5**
	0.9nm,0.5s						
ASAR	**Alice Springs**	**47.55**	**164**	P	**P**	**16 02 58.9**	**-1.6**
	0.6nm,0.3s,baz=340,slow=6.9,SNR=45						
ASAR				PcP	**PcP**	**16 04 29.4**	**-1.0**
	0.4nm,0.6s,baz=338,slow=2.6,SNR=5.4						
BRVK	**Borovoye**	**48.99**	**322**	*e*P	**P**	**16 03 12.0**	**+0.7**
	4.9nm,0.6s						
NRIK	**Noril'sk**	**51.00**	**345**	P	**P**	**16 03 26.1**	**-0.2**
	13nm,1.0s,baz=120,slow=8.2,SNR=8.5						
NRIK				LR	LR	16 25 03.1	
	comp=Z,33nm,18.1s,baz=172,slow=36						
ABKAR	**Akbulak array**	**54.55**	**315**	*e*P	**P**	**16 03 53.6**	**+0.7**
	2.4nm,0.7s						
GEYT	**Alibeck**	**55.57**	**301**	LR	LR	16 31 22.8	
	comp=Z,51nm,18.8s,baz=145,slow=40						
ARU	**Arti**	**56.39**	**324**	P	**P**	**16 04 06.1**	**+0.1**
	3.1nm,0.5s,baz=98,slow=4.8,SNR=8.5						
STKA	**Stephens Creek**	**57.53**	**159**	P	**P**	**16 04 13.3**	**-0.9**
	1.3nm,0.8s,baz=345,slow=6.6,SNR=4.4						
ARCES	**ARCESS Array B**	**71.06**	**338**	P	**P**	**16 05 42.6**	**0.0**
	3.2nm,0.7s,baz=71,slow=6.5,SNR=8.6						
FINES	**FINESS Array B**	**72.84**	**330**	P	**P**	**16 05 53.4**	**0.0**
	6.0nm,0.8s,baz=61,slow=6.4,SNR=16						
AKASG	**Malin Array Be**	**74.06**	**319**	P	**P**	**16 06 00.2**	**-0.5**
	0.6nm,0.6s,baz=57,slow=5.3,SNR=4.6						
HFS	**Hagfors**	**78.98**	**331**	P	**P**	**16 06 28.2**	**-0.3**
	3.5nm,0.7s,baz=35,slow=7.9,SNR=5.0						
NB2	**NORSAR Subarra**	**79.66**	**332**	P	**P**	**16 06 31.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=60,slow=5.3						
NOA	**NORSAR Array B**	**79.66**	**332**	P	**P**	**16 06 30.8**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=72,slow=4.6,SNR=3.6						
VYHS	**Vyhne**	**81.16**	**319**	*e*P	**P**	**16 06 41.5**	**+1.0**
GERES	**GERESS Array B**	**84.08**	**321**	P	**P**	**16 06 54.4**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=27,slow=6.6,SNR=3.4						
SDV	**Santo Domingo**	**146.76**	**21**	PKPbc	**PKPdf**	**16 14 06.9**	**+0.6**
	comp=Z,6.8nm,0.7s,baz=311,slow=5.1,SNR=7.2						

IDC 09 16:03:23.1±1.4, 5.°49S×146.°90E, h149km±14km, mb3.3/5, mb1 3.4/8, mb1mx3.2/24, mbtmp3.7/8, Error ellipse: s-maj=24.7km s-min=10.3km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**176**	P	Pn	16 04 23.2	+1.2
	2.6nm,0.3s,baz=358,slow=5.3,SNR=10.0						
PMG				S	Sn	16 05 07.4	-0.5
	20nm,0.3s,baz=205,slow=19,SNR=20						
JAY	**Jayapura**	**6.85**	**295**	P	Pn	16 05 01.0	-0.2
	0.3nm,0.3s,baz=204,slow=22,SNR=22						
WRA	**Warramunga Arr**	**18.86**	**219**	P	Pn	16 07 33.5	-0.7
	0.8nm,0.3s,baz=39,slow=12,SNR=57						
WRA				S	S	16 10 57.5	-1.1
	0.1nm,0.3s,baz=38,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**21.98**	**213**	P	P	16 08 06.8	+1.4
	0.8nm,0.3s,baz=45,slow=8.3,SNR=64						
ASAR				S	S	16 11 59.5	+1.7
	0.6nm,0.9s,baz=35,slow=23,SNR=4.6						
STKA	**Stephens Creek**	**26.71**	**190**	P	P	16 08 49.0	+0.4
	0.9nm,0.7s,baz=23,slow=15,SNR=3.5						
SONM	**Songino Array**	**63.91**	**331**	P	P	16 13 41.4	+1.2
	0.3nm,0.4s,baz=143,slow=5.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**78.53**	**328**	P	P	16 15 06.1	-1.8
	0.6nm,0.5s,baz=92,slow=7.2,SNR=3.3						
ILAR	**Eielson Array**	**85.06**	**23**	P	P	16 15 41.4	-0.4
	0.4nm,0.6s,baz=252,slow=5.3,SNR=6.2						

IDC 09 16:18:05.8±2.2, 3.°32N×125.°87E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=189.3km s-min=27.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**161**	P	P	16 23 27.0	-0.6
	0.2nm,0.

msh5.3/4
SKHL Felt (III) at Malokurilskoe,(II) at Yushno-Kurilsk.
ISC 09 16:34:09.0±0.5, 43°51'N±0'.05×146°62'E±0'.04, h80km×3km, h80km:pP-P,n244,σ1°21/274, mb4.7/82, 22C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.40**	**23**	*d*	iPN		**Pn**	**16 34 22.3**	**+0.4**
SHO				*i*	S		**Sn**	**16 34 31.6**	**+0.2**
SHO					pmax		pmax		
	comp=E,272nm,0.1s								
SHO					pmax		pmax		
	comp=Z,2μm,0.1s								
SHO					smax		smax		
	comp=N,91μm,0.5s								
SHO					smax		smax		
	comp=E,111μm,0.3s								
SHO	**Shikotan**	**0.40**	**23**	*e*	P		**Pn**	**16 34 22.3**	**+0.4**
SHO					AMB		AMB	16 34 22.4	
	comp=E,2μm,0.1s								
SHO				*i*	S		**Sn**	**16 34 31.6**	**+0.2**
SHO					A		A	16 34 31.9	
	comp=E,1μm,0.5s								
SHO					A		A	16 34 31.9	
	comp=E,11μm,0.5s								
NEM2	**Nemuro 2**	**0.65**	**258**		P		**Pn**	**16 34 24.1**	**-0.1**
NEM2				*e*	S		**Sn**	**16 34 34.5**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**0.76**	**314**	*d*	iPN		**Pn**	**16 34 25.6**	**+0.3**
YUK				*i*	S		**Sn**	**16 34 37.3**	**-0.1**
YUK					pmax		pmax		
	comp=Z,27μm,0.2s								
YUK					pmax		pmax		
	comp=N,4μm,0.1s								
YUK					pmax		pmax		
	comp=E,2μm,0.1s								
YUK					smax		smax		
	comp=N,17μm,0.4s								
YUK					smax		smax		
	comp=E,26μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**0.76**	**314**	*e*	P		**Pn**	**16 34 25.6**	**+0.3**
YUK					AMB		AMB	16 34 26.0	
	comp=E,3μm,0.2s								
YUK				*i*	S		**Sn**	**16 34 37.3**	**-0.1**
YUK					A		A	16 34 40.6	
	comp=E,18μm,0.4s								
YUK					A		A	16 34 40.6	
	comp=E,26μm,0.4s								
JRA	**Rausu**	**1.17**	**292**		P		**Pn**	**16 34 30.9**	**+0.8**
JRA				*e*	S		**Sn**	**16 34 47.0**	**+1.2**
JNK	**Nakash**	**1.38**	**274**		P		**Pn**	**16 34 32.9**	**+0.1**
JNK				*e*	S		**Sn**	**16 34 49.8**	**-0.9**
JAK	**Akkeshi**	**1.49**	**251**		P		**Pn**	**16 34 34.0**	**-0.2**
JAK				*e*	S		**Sn**	**16 34 51.9**	**-1.3**
KUR	**Kuril'sk**	**1.94**	**27**	*d*	iPN		**Pn**	**16 34 41.5**	**+1.4**
KUR				*i*	S		**Sn**	**16 35 04.8**	**+1.0**
KUR					pmax		pmax		
	comp=N,37nm,0.2s								
KUR					pmax		pmax		
	comp=E,42nm,0.2s								
KUR					pmax		pmax		
	comp=Z,32nm,0.2s								
KUR					smax		smax		
	comp=E,602nm,0.3s								
KUR					smax		smax		
	comp=N,272nm,0.2s								
KUR	**Kuril'sk**	**1.94**	**27**	*e*	P		**Pn**	**16 34 41.5**	**+1.4**
KUR					AMB		AMB	16 34 47.2	
	comp=N,320nm,0.2s								
KUR				*i*	S		**Sn**	**16 35 04.8**	**+1.0**
KUR					A		A	16 35 06.9	
	comp=N,1μm,0.2s								
KUR					A		A	16 35 06.9	
	comp=N,2μm,0.2s								
JTKR	**Abashiri--Toko**	**2.02**	**284**		P		**Pn**	**16 34 42.2**	**+1.1**
JTKR				*e*	S		**Sn**	**16 35 06.8**	**+1.2**
JAR	**Ashorobuto**	**2.09**	**265**		P		**Pn**	**16 34 42.5**	**+0.5**
JAR				*e*	S		**Sn**	**16 35 07.6**	**+0.4**
JOB	**Onbets**	**2.12**	**254**		P		**Pn**	**16 34 42.7**	**+0.2**
JOB				*e*	S		**Sn**	**16 35 07.9**	**-0.2**
JMP	**Maruseppu**	**2.41**	**283**		P		**Pn**	**16 34 47.7**	**+1.3**
JCH	**Churui**	**2.55**	**251**		P		**Pn**	**16 34 48.0**	**-0.2**
ASAJ	**Asahikawa**	**2.97**	**283**		P		**Pn**	**16 34 55.2**	**+1.3**
	comp=N,44nm,0.3s,baz=120,slow=7.8,SNR=455								
ASAJ	**Asahikawa**	**2.97**	**283**	*e*	Pn		**Pn**	**16 34 55.7**	**+1.7**
ASAJ	**Asahikawa**	**2.97**	**283**	*e*	Pn		**Pn**	**16 34 55.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**4.40**	**323**	*i*	iPN		**Pn**	**16 35 14.8**	**+1.5**
YSS				*i*	S		**Sn**	**16 36 03.3**	**+0.1**
YSS					pmax		pmax		
	comp=Z,80nm,0.8s								
YSS					smax		smax		
	comp=E,180nm,0.7s								
YSS	**Yuzh-Sakhalins**	**4.40**	**323**	*e*	P		**Pn**	**16 35 14.8**	**+1.5**
YSS					AMB		AMB	16 35 17.5	
	comp=E,75nm,0.5s								
YSS				*e*	S		**Sn**	**16 36 02.6**	**-0.6**
YSS					A		A	16 36 07.5	
	comp=E,190nm,0.5s								
YSS					A		A	16 36 07.5	
	comp=E,180nm,0.5s								
YSS	**Yuzh-Sakhalins**	**4.40**	**323**	*e*	Pn		**Pn**	**16 35 15.1**	**+1.8**
UGL	**Uglegorsk**	**6.40**	**332**	*e*	PN		**Pn**	**16 35 40.0**	**-0.6**
UGL				*e*	S		**Sn**	**16 36 53.3**	**+1.2**
UGL	**Uglegorsk**	**6.40**	**332**	*e*	P		**Pn**	**16 35 41.5**	**+0.9**
TYV	**Tymovskoe**	**7.84**	**341**	*e*	P		**Pn**	**16 36 01.3**	**+1.1**
HABR	**Khabarovsk**	**9.46**	**306**	*e*	PN		**Pn**	**16 36 20.4**	**-1.8**
HABR				*e*	S		**Sn**	**16 38 05.5**	**-1.2**
HABR					pmax		pmax		
	comp=N,16nm,1.5s								
HABR					pmax		pmax		
	comp=E,12nm,1.5s								
HABR					pmax		pmax		
	comp=Z,23nm,1.5s								
MJAR	**Matsushiro Arr**	**9.48**	**226**		P		**Pn**	**16 36 23.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=9.8								
MJAR					LR		LR	16 39 34.7	
	comp=Z,27nm,18.4s,baz=85,slow=34								
MJB9	**Matsu-Tunnel**	**9.48**	**226**	*e*	Pn		Pn	16 36 15.3	-7.4
MAJO	**Matsushiro**	**9.48**	**226**	*e*	PN		Pn	16 36 18.0	-4.7
MAJO	**Matsushiro**	**9.48**	**226**	*e*	Pn		Pn	16 36 15.5	-7.2
MAT	**Matsushiro**	**9.48**	**226**		P		**Pn**	**16 36 22.7**	**0.0**
MAT					S		**Sn**	**16 38 07.1**	**-0.5**
SKR	**Severo-Kuril's**	**9.66**	**39**	*e*	P		**Pn**	**16 36 26.3**	**+1.3**
SKR				*e*	S		**Sn**	**16 38 09.5**	**-2.2**
USRK	**Ussuriysk Ar.**	**10.59**	**279**		P		**Pn**	**16 36 36.0**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=88,slow=13,SNR=9.1								
VLA	**Vladivostok**	**10.75**	**273**	*e*	PN		**Pn**	**16 36 40.4**	**+0.5**
VLA					pmax		pmax		
	comp=Z,18nm,1.2s								
INU	**Inuyama**	**11.02**	**226**	*e*	Pn		**Pn**	**16 36 43.2**	**-0.4**
MSHR	**Mys Shultsa**	**11.36**	**271**	*e*	PN		**Pn**	**16 36 47.4**	**-0.8**
JHJ2	**Mitsune**	**11.67**	**209**	*e*	Pn		**Pn**	**16 36 52.1**	**-0.4**
JHJ	**Hachijo jima 2**	**11.67**	**210**		P		**Pn**	**16 36 52.1**	**-0.4**
	comp=Z,7.1nm,0.3s,baz=76,slow=19,SNR=3.0								
JHJ					S		Sn	16 38 51.9	-9.0
	comp=Z,11nm,0.3s,baz=72,slow=20,SNR=4.2								
JHJ					LR		LR	16 40 59.2	
	comp=Z,28nm,21.5s,baz=169,slow=35								
PEA0	**Petropavlovsk-**	**12.10**	**34**	*e*	Pn		**Pn**	**16 36 58.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**12.10**	**34**	*e*	Pn		**Pn**	**16 36 59.0**	**+0.9**
PETK	**Petropavlovsk-**	**12.10**	**34**		P		**Pn**	**16 36 57.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=3.9								
MDJ	**Mudanjiang**	**12.30**	**281**		P		**Pn**	**16 37 00.2**	**-0.8**
MDJ					pmax		pmax		
	comp=Z,10.0nm,0.9s								
MDJ					pmax		pmax		
	comp=Z,46nm,4.8s								
MDJ	**Mudanjiang**	**12.30**	**281**	*e*	P		**Pn**	**16 37 00.7**	**-0.3**
MDJ	**Mudanjiang**	**12.30**	**281**	*e*	Pn		**Pn**	**16 37 00.7**	**-0.3**
CN2	**Changchun**	**15.33**	**278**	*e*	P		**Pn**	**16 37 41.1**	**+0.5**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
KSRS	**Korea Array**	**15.45**	**253**		P		**Pn**	**16 37 41.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=5.7								
KSRS					LR		LR	16 43 11.0	
	comp=Z,20nm,21.1s,baz=70,slow=35								
KSAR	**Wonju Array Be**	**15.48**	**253**		P		**Pn**	**16 37 41.3**	**-1.3**
KSAR	**Wonju Array Be**	**15.48**	**253**		P		**Pn**	**16 37 41.2**	**-1.3**
JNU	**Nakatsue**	**16.10**	**235**		P		**Pn**	**16 37 50.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=355,slow=1.3,SNR=4.9								
JNU					LR		LR	16 43 55.9	
	comp=Z,22nm,20.9s,baz=57,slow=36								
MA2	**Magadan**	**16.29**	**8**		P		**Pn**	**16 37 50.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=175,slow=13,SNR=4.6								
SEY	**Seymchan**	**19.75**	**8**		P		**P**	**16 38 30.3**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=182,slow=10,SNR=17								
SEY	**Seymchan**	**19.75**	**8**	*e*	P		**Pn**	**16 38 33.4**	**-0.9**
YAK	**Yakutsk**	**21.07**	**338**		P		**P**	**16 38 43.0**	**-3.4**
	comp=Z,3.5nm,0.2s,baz=249,slow=2.5,SNR=6.2								
YAK	**Yakutsk**	**21.07**	**338**	*e*	P		**P**	**16 38 42.9**	**-3.4**
YAK					pmax		pmax		
	comp=Z,11nm,0.8s								
YAK	**Yakutsk**	**21.07**	**338**	*e*	P		**P**	**16 38 43.3**	**-3.1**
	comp=Z,17nm,0.6s								
BJI	**Beijing**	**22.90**	**272**		P		**P**	**16 39 05.5**	**-0.5**
BJI					S		**S**	**16 43 08.0**	**-1.5**
BJI					pmax		pmax		
	comp=Z,16nm,0.6s								
NJ2	**Nanjing**	**24.63**	**252**	*e*	P		**P**	**16 39 21.2**	**-0.7**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**26.00**	**276**	*e*	P		**P**	**16 39 35.6**	**+1.2**
HHC					pmax		pmax		
	comp=Z,32nm,0.9s								
HHC					pmax		pmax		
	comp=Z,67nm,8.6s								
BILL	**Bilibino**	**26.70**	**16**	*e*	P		**P**	**16 39 40.8**	**+0.5**
BILL				*e*				16 40 30.0	
BILL					pmax		pmax		
	comp=Z,2.0nm,0.3s								
BILL					MLR		MLR		
	comp=Z,60nm,18.0s								
ULN	**Ulaanbaatar**	**27.77**	**293**	*c*	iP		**P**	**16 39 50.3**	**+0.1**
ULN					pmax		pmax		
	comp=Z,34nm,1.2s								
ULN	**Ulaanbaatar**	**27.77**	**293**	*e*	P		**P**	**16 39 50.3**	**+0.1**
ULN	**Ulaanbaatar**	**27.77**	**293**	*e*	P		**P**	**16 39 50.3**	**+0.1**
	comp=Z,19nm,0.8s								
SONA1	**Songino Array**	**28.20**	**293**	*e*	P		**P**	**16 39 54.2**	**+0.1**
SONM	**Songino Array**	**28.21**	**293**		P		**P**	**16 39 53.6**	**-0.5**
	comp=Z,12nm,0.5s,baz=88,slow=8.8,SNR=84								
SONM					LR		LR	16 51 39.1	
	comp=Z,48nm,19.4s,baz=74,slow=37								
H11N2	**WAKE ISLAND Hy**	**29.17**	**138**		T		T	17 10 58.6	
	baz=329,slow=76,SNR=1665								
H11N1	**WAKE ISLAND Hy**	**29.19**	**138**		T		T	17 10 59.7	
	baz=329,slow=76,SNR=543								
H11N3	**WAKE ISLAND Hy**	**29.19**	**138**		T		T	17 10 59.1	
	baz=329,slow=76,SNR=372								
TIXI	**Tiksi**	**29.52**	**349**	*e*	P		**P**	**16 40 06.4**	**+1.1**
TIXI					pmax		pmax		
	comp=Z,7.0nm,1.3s								
TIXI	**Tiksi**	**29.52**	**349**	*e*	P		**P**	**16 40 06.4**	**+1.1**
TLY	**Talaya**	**29.74**	**301**		P		**P**	**16 40 07.7**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=357,slow=3.7,SNR=3.5								
TLY	**Talaya**	**29.74**	**301**	*e*	P		**P**	**16 40 09.9**	**+2.3**
TLY					pmax		pmax		
	comp=Z,3.0nm,0.7s								
TLY	**Talaya**	**29.74**	**301**	*e*	P		**P**	**16 40 09.9**	**+2.3**
H11S1	**WAKE ISLAND Hy**	**30.13**	**140**		T		T	17 12 13.6	
	baz=330,slow=76,SNR=5171								
H11S3	**WAKE ISLAND Hy**	**30.13**	**140**		T		T	17 12 09.0	
	baz=330,slow=76,SNR=3141								
H11S2	**WAKE ISLAND Hy**	**30.15**	**140**		T		T	17 12 14.9	
	baz=330,slow=76,SNR=3470								
XAN	**Xi'an**	**30.65**	**265**		P		P	16 40 21.8	+6.0
XAN					pmax		pmax		
	comp=Z,12nm,0.6s								
LZH	**Lanzhou**	**33.39**	**272**	*e*	P		**P**	**16 40 41.1**	**+1.1**
LZH					pP		pP	16 40 58.9	+0.2
LZH					sP		sP	16 41 06.7	-1.3
LZH					pmax		pmax		
	comp=Z,79nm,1.5s								
LZH					pmax		pmax		
	comp=Z,290nm,4.8s								
GTA	**Gaotai**	**34.95**	**280**	*e*	P		**P**	**16 40 54.0**	**+0.6**
GTA					pP		pP	16 41 12.5	+0.3
GTA					sP		sP	16 41 21.8	+0.3
GTA					S		**S**	**16 46 19.6**	**+0.3**
GTA					SS		**SnSn**	**16 48 39.2**	**-2.6**
GTA					pmax		pmax		
	comp=Z,6.0nm,0.8s								
GTA					pmax		pmax		
	comp=Z,79nm,5.5s								
CD2	**Chengdu**	**36.00**	**264**	*e*	P		**P**	**16 40 58.8**	**-3.5**
GYA	**Guiyang**	**36.49**	**255**	*e*	P		**P**	**16 41 05.2**	**-1.4**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.9s								
KDAK	**Kodiak Island**	**39.70**	**47**		P		**P**	**16 41 32.2**	**-0.8**
	comp=Z,6.3nm,0.7s,baz=354,slow=0.4,SNR=26								
KDAK	**Kodiak Island**	**39.70**	**47**	*i*	P		**P**	**16 41 33.1**	**+0.1**
KMI	**Kunming**	**40.09**	**257**		P		**P**	**16 41 37.2**	**+0.3**
KMI					pmax		pmax		
	comp=Z,9.0nm,0.9s								
ZAA0	**Zalesovo Array**	**40.84**	**307**	*e*	P		**P**	**16 41 42.4**	**-0.1**
ZAA0				*e*	PcP		**PcP**	**16 43 41.5**	**-0.3**
ZALV	**Zalesovo Beam**	**40.84**	**307**		P		**P**	**16 41 41.7**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=75,slow=9.1,SNR=18								
ZALV					PcP		**PcP**	**16 43 41.3**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=100,slow=2.7,SNR=13								
ZALV					LR		LR	17 01 00.5	
	comp=Z,28nm,18.9s,baz=70,slow=40								
COLA	**College**	**41.50**	**36**	*e*	P		**P**	**16 41 48.8**	**+1.0**
COLA					pmax		pmax		
	comp=Z,4.0nm,0.6s								
COLA	**College**	**41.50**	**36**	*e*	P		**P**	**16 41 49.3**	**+1.6**
COLA	**College**	**41.50**	**36**	*e*	P		**P**	**16 41 48.8**	**+1.0**
	comp=Z,3.6nm,0.6s								
WMQ	**Urumqi**	**41.83**	**292**		P		**P**	**16 41 51.4**	**+0.6**
WMQ					PP		**PP**	**16 43 29.0**	**+0.2**
WMQ					ScP		**ScP**	**16 47 23.7**	**-4.7**
WMQ					S		**S**	**16 48 03.8**	**+1.2**
WMQ					pmax		pmax		
	comp=Z,18nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,170nm,4.1s								
IL1	**Eielson Array**	**41.91**	**36**	*e*	P		**P**	**16 41 51.5**	**+0.4**
ILAR	**Eielson Array**	**41.91**	**36**		P		**P**	**16 41 51.8**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=245,slow=4.9,SNR=46								
ILB	**Eielson Array**	**41.91**	**36**	*e*	P		**P**	**16 41 51.4**	**+0.2**
MK31	**Makanchi Array**	**44.35**	**298**	*e*	P		**P**	**16 42 11.3**	**+0.2**
MK31					pmax		pmax		
	comp=Z,29nm,0.7s								
MK31	**Makanchi Array**	**44.35**	**298**	*e*	P		**P**	**16 42 11.0**	**-0.1**
MKAR	**Makanchi Array**	**44.35**	**298**		P		**P**	**16 42 10.7**	**-0.5**
	comp=Z,23nm,0.6s,baz=81,slow=9.3,SNR=190								
MKAR	**Makanchi Array**	**44.35**	**298**	*c*	eP		**P**	**16 42 11.3**	**+0.1**
MKAR					pmax		pmax		
	comp=Z,24nm,0.6s								
MKAR	**Makanchi Array**	**44.35**	**298**	*e*	P		**P**	**16 42 11.3**	**+0.1**
MKAR	**Makanchi Array**	**44.35**	**298**	*e*	P		**P**	**16 42 11.0**	**-0.1**
	comp=Z,240nm,0.6s								
EGAK	**Eagle**	**44.36**	**36**	*e*	P		**P**	**16 42 11.1**	**+0.3**
	comp=Z,20nm,1.8s								
MK01	**Makanchi Array**	**44.36**	**298**	*e*	P		**P**	**16 42 11.2**	**0.0**
MAKZ	**Makanchi**	**44.55**	**298**	*e*	P		**P**	**16 42 12.7**	**0.0**
MAKZ					pmax		pmax		
	comp=Z,28nm,0.7s								
MAKZ	**Makanchi**	**44.55**	**298**	*e*	P		**P**	**16 42 12.7**	**0.0**
	comp=Z,28nm,0.7s								
KURK	**Kurchatov**	**45.34**	**304**	*c*	iP		**P**	**16 42 18.6**	**-0.3**
KURK					pmax		pmax		
	comp=Z,67nm,1.7s								
KURK	**Kurchatov**	**45.34**	**304**	*e*	P		**P**	**16 42 18.6**	**-0.3**
KURK	**Kurchatov**	**45.34**	**304**	*e*	P		**P**	**16 42 17.8**	**-1.1**
	comp=Z,9.4nm,0.5s								
KURK					PcP		**PcP**	**16 43 56.7**	**-0.4**
KURBB	**Kurchatov Arra**	**45.43**	**304**		P		**P**	**16 42 19.2**	**-0.4**
	comp=Z,6.7nm,0.4s,baz=76,slow=8.2,SNR=51								
KURBB					PcP		**PcP**	**16 43 56.7**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=76,slow=3.6,SNR=8.5								
CMAR	**Chiang Mai Arr**	**47.09**	**253**		P		**P**	**16 42 32.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=49,slow=8.2,SNR=5.6								
CMAR					PcP		**PcP**	**16 44 04.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=11,slow=3.6,SNR=4.3								
CM01	**Chiang Mai Arr**	**47.10**	**253**	*e*	P		**P**	**16 42 32.2**	**-0.8**
PDGK	**Podgornoye**	**47.51**	**294**		P		**P**	**16 42 34.9**	**-1.2**
PDGK					pmax		pmax		
	comp=Z,10.0nm,0.7s								
BRVK	**Borovoye**	**49.41**	**309**	*e*	P		**P**	**16 42 49.8**	**-0.5**
BRVK					pmax		pmax		
	comp=Z,15nm,1.4s								
BRVK	**Borovoye**	**49.41**	**309**	*e*	P		**P**	**16 42 50.5**	**+0.1**
BRVK	**Borovoye**	**49.41**	**309**	*e*	P		**P**	**16 42 49.8**	**-0.5**
	comp=Z,15nm,1.4s								
TAPN	**Taplejung**	**49.63**	**271**	*e*	P		**P**	**16 42 53.2**	**+0.4**
	comp=Z,15nm,0.5s								
ODAN	**Odare**	**50.15**	**271**	*e*	P		**P**	**16 42 57.0**	**+0.4**
	comp=Z,7.4nm,0.5s								
TKM2	**Tokmak 2**	**50.26**	**295**		P		**P**	**16 42 57.1**	**-0.2**
TKM2					pmax		pmax		
	comp=Z,22nm,1.0s								
JIRN	**Jiri**	**50.56**	**273**	*e*	P		**P**	**16 43 00.4**	**+0.5**
	comp=Z,93nm,0.5s								
GUN	**Gumba**	**50.64**	**273**	*e*	P		**P**	**16 43 01.1**	**+0.6**
	comp=Z,41nm,0.4s								
RAMN	**Ramite**	**50.67**	**272**	*e*	P		**P**	**16 43 00.7**	**+0.1**
	comp=Z,44nm,0.6s								
AAK	**Ala-Archa**	**51.11**	**296**		P		**P**	**16 43 03.0**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=96,slow=5.4,SNR=20								
AAK	**Ala-Archa**	**51.11**	**296**	*c*	eP		**P**	**16 43 03.9**	**+0.3**
AAK					pmax		pmax		
	comp=Z,14nm,1.2s								
AAK	**Ala-Archa**	**51.11**	**296**	*e*	P		**P**	**16 43 03.9**	**+0.3**
AAK	**Ala-Archa**	**51.11**	**296**	*e*	P		**P**	**16 43 03.4**	**-0.3**
	comp=Z,5.6nm,0.6s								
KKN	**Kakani**	**51.15**	**273**	*e*	P		**P**	**16 43 04.7**	**+0.6**
	comp=Z,23nm,0.8s								
PKI	**Pulchoki**	**51.18**	**273**	*e*	P		**P**	**16 43 04.7**	**+0.2**
PKIN	**Phulchoki**	**51.18**	**273**	*e*	P		**P**	**16 43 04.2**	**-0.2**
	comp=Z,5.4nm,0.4s								
DMN	**Daman**	**51.38**	**273**	*e*	P		**P**	**16 43 06.4**	**+0.5**
	comp=Z,22nm,0.6s								
GKN	**Gorkha**	**51.49**	**274**	*e*	P		**P**	**16 43 06.7**	**+0.1**
	comp=Z,11nm,0.5s								
KSH	**Kashi**	**51.59**	**291**		P		**P**	**16 43 11.0**	**+3.8**
KSH					pP		pP	16 43 28.7	+1.7
KSH					sP		sP	16 43 38.3	+2.3
KSH					PcP		**PcP**	**16 44 22.3**	**+2.3**
KSH					PP		**PP**	**16 45 11.4**	**+6.4**
KSH					PcS		**PcS**	**16 48 17.6**	**-0.5**
KSH					S		**S**	**16 50 25.7**	**+3.7**
KSH					sS		sS	16 50 58.1	+2.2
KSH					ScS		**ScS**	**16 52 48.1**	**-1.7**
KSH					SS		**SS**	**16 54 02.4**	**+3.8**
KSH					pmax		pmax		
	comp=Z,7.0nm,1.1s								
KSH					pmax		pmax		
	comp=Z,65nm,6.1s								
KSH					LR		LR		
	comp=Z,130nm,5.9s								
KSH					LR		LR		
	comp=Z,82nm,4.9s								
KSH					LR		LR		
	comp=Z,110nm,5.9s								
DANN	**Dangsing**	**51.93**	**275**	*e*	P		**P**	**16 43 11.2**	**+1.2**
	comp=Z,2.4nm,0.8s								
KOLN	**Koldanda**	**52.38**	**274**	*e*	P		**P**	**16 43 13.6**	**+0.3**
	comp=Z,9.4nm,0.3s								
MNAS	**Manas**	**52.48**	**296**		P		**P**	**16 43 13.8**	**0.0**
MNAS					pmax		pmax		
	comp=Z,21nm,0.7s								
PYUN	**Piuthan**	**52.63**	**275**	*e*	P		**P**	**16 43 15.5**	**+0.4**
	comp=Z,12nm,0.5s								
SVE	**Sverdlovsk**	**53.05**	**317**	*e*	P		**P**	**16 43 17.8**	**+0.2**
SVE					pmax		pmax		
	comp=Z,17nm,0.9s								
KK31	**Karatay Array**	**53.48**	**298**	*i*	P		**P**	**16 43 20.8**	**-0.2**
KK31					pmax		pmax		
	comp=Z,4.0nm,0.5s								
KKAR	**Karatay Array**	**53.48**	**298**	*e*	P		**P**	**16 43 20.7**	**-0.3**
KKAR	**Karatay Array**	**53.48**	**298**	*e*	P		**P**	**16 43 20.7**	**-0.3**
	comp=Z,96nm,0.8s								
HNR	**Honiara**	**54.06**	**164**		LR		LR	17 02 46.0	
	comp=Z,30nm,21.1s,baz=200,slow=32								
ARU	**Arti**	**54.26**	**317**	*d*	iP		**P**	**16 43 25.4**	**-1.0**
ARU					*PP		**pP**	**16 43 45.6**	**-0.8**
ARU								16 44 27.7	
ARU								16 45 25.1	
ARU					S		**S**	**16 50 57.8**	**+0.3**
ARU					SS		**SS**	**16 54 38.8**	**-1.0**
ARU					pmax		pmax		
	comp=Z,21nm,1.0s								
ARU	**Arti**	**54.26**	**317**	*e*	P		**P**	**16 43 24.8**	**-1.6**
	comp=Z,15nm,0.7s								
YKA	**Yellowknife Ar**	**56.22**	**34**		P		**P**	**16 43 39.5**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=297,slow=6.4,SNR=3.4								
AB31	**Akbulak array**	**56.91**	**309**		P		**P**	**16 43 45.4**	**-0.1**
AB31					pmax		pmax		
	comp=Z,12nm,0.4s								
ABKAR	**Akbulak array**	**56.91**	**309**	*e*	P		**P**	**16 43 45.7**	**+0.2**
	comp=Z,507nm,0.4s								
AKTO	**Aktyubinsk**	**57.40**	**311**		LR		LR	17 10 45.3	
	comp=Z,18nm,19.6s,baz=51,slow=38								
TMCR	**Tamitsa**	**59.00**	**331**	*e*	P		**P**	**16 43 59.5**	**-0.3**
TMCR					pmax		pmax		
	comp=Z,19nm,0.8s								
ARCES	**ARCESS Array B**	**59.34**	**340**		P		**P

comp=Z,8.5nm,0.7s
KIEV Kiev 71.56 323deP P 16 45 20.8 -0.4
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 71.56 323 eP P 16 45 20.8 -0.4
KIEV Kiev 71.56 323 eP P 16 45 20.4 -0.8
comp=Z,8.2nm,0.7s
AK11 Malin Array Si 71.59 323 eP P 16 45 20.1 -1.2
WSAR Wadi Sarin 72.98 286 P P 16 45 31.0 +0.8
comp=Z,2.5nm,0.9s,baz=265,slow=5.2,SNR=4.2
MARD Mardin 75.18 307 eP P 16 45 43.7 +0.8
comp=Z,11nm,0.8s
BUR08 Bucovina Ar. S 75.59 323 eP P 16 45 45.2 +0.2
BURAR Bucovina Array 75.60 323⇑iP P 16 45 45.3 +0.2
BURAR Bucovina Array 75.60 323⇑P P 16 45 45.3 +0.2
OJC Ojcow 75.78 328 eP P 16 45 46.8 +0.9
OJC Ojcow 75.78 328 eP P 16 45 46.8 +0.9
OJC Ojcow 75.78 328 eP P 16 45 45.6 -0.3
OJC Ojcow 75.78 328 eP P 16 45 45.6 -0.3
comp=Z,13nm,1.2s
TESR Tescani 75.81 322⇑iP P 16 45 46.6 +0.4
NIE Niedzica 76.23 327 eP P 16 45 51.3 +2.8
NIE Niedzica 76.23 327 eP P 16 45 51.3 +2.8
VRI Vrincioaia 76.27 321⇑iP P 16 45 50.4 +1.6
VRI Vrincioaia 76.27 321⇑P P 16 45 50.4 +1.6
DPC Dobruska-Polom 76.98 330 eP P 16 45 53.0 +0.2
DPC epP pP 16 46 12.0 -1.9
DPC Dobruska-Polom 76.98 330 eP P 16 45 53.0 +0.2
DPC e 16 46 12.0
MORC Moravsky Berou 77.00 329⇓iP P 16 45 53.2 +0.3
MORC Moravsky Berou 77.00 329⇓P P 16 45 53.2 +0.3
MORC Moravsky Berou 77.00 329 eP P 16 45 50.2 -2.6
comp=Z,15nm,1.0s
KRLC Kraliky 77.04 329 eP P 16 45 50.3 -2.8
KRLC Kraliky 77.04 329 eP P 16 45 50.3 -2.8
CLL Collm 77.35 332⇑iP P 16 45 54.4 -0.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 77.35 332 eP P 16 45 53.6 -1.1
CLL Collm 77.35 332⇑iP P 16 45 54.4 -0.3
comp=Z,9.0nm,0.9s
CLL epP pP 16 46 16.0 +0.1
CLL Collm 77.35 332 eP P 16 45 53.6 -1.1
comp=Z,7.0nm,0.7s
VOIR 77.35 322⇓iP P 16 45 56.3 +1.3
VOIR 77.35 322⇓P P 16 45 56.3 +1.3
BRG Berggiesshubel 77.39 331 eP P 16 45 55.1 +0.1
comp=Z,4.3nm,1.2s
BRG Berggiesshubel 77.39 331 eP P 16 45 55.1 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 77.43 313 P P 16 45 55.9 +0.2
comp=Z,0.9nm,0.7s,baz=16,slow=1.3,SNR=5.4
VYHS Vyhne 77.54 327 eP P 16 45 56.4 +0.5
VYHS Vyhne 77.54 327 eP P 16 45 56.3 +0.4
ARR Arges 77.59 322⇓iP P 16 45 57.4 +1.1
GOPC GO Pecny, Ondr 77.90 330 eP P 16 45 58.5 +0.7
GOPC GO Pecny, Ondr 77.90 330 eP P 16 45 58.5 +0.7
PRU Pruhonice 77.92 331 eP P 16 45 56.8 -1.2
PRU Pruhonice 77.92 331 eP P 16 45 56.8 -1.2
KHC Kasperske Hory 78.98 331 eP P 16 46 04.1 +0.2
KHC epP pP 16 46 24.8 -0.3
KHC Kasperske Hory 78.98 331 eP P 16 46 04.1 +0.2
KHC e 16 46 24.8
KHC Kasperske Hory 78.98 331 eP P 16 46 03.7 -0.2
KHC Kasperske Hory 78.98 331 eP P 16 46 03.7 -0.2
comp=Z,2.1nm,0.8s
CONA Conrad Observa 79.15 329 iP P 16 46 05.4 +0.5
comp=Z,1.8nm,0.8s
GERES GERESS Array B 79.18 330 P P 16 46 04.8 -0.2
comp=Z,0.4nm,0.3s,baz=45,slow=5.8,SNR=8.9
ARSA Arzberg 79.84 329 iP P 16 46 08.8 +0.2
comp=Z,0.6nm,0.4s
VTS Vitosha 80.40 321⇑iP P 16 46 12.7 +0.9
VTS Vitosha 80.40 321⇑P P 16 46 12.7 +0.9
BCLA Clavier 80.56 336 P P 16 46 12.7 +0.4
comp=Z,8.5nm,1.5s
OBKA Obir 80.83 329 iP P 16 46 14.2 +0.2
comp=Z,9.6nm,1.3s
MYKA Terra Mystica 81.07 329 eP P 16 46 14.3 -0.9
comp=Z,1.2nm,0.4s
WATA Walderalm 81.22 331 iP P 16 46 16.0 -0.1
comp=Z,1.6nm,0.3s
WTTA Wattenberg 81.26 331 iP P 16 46 16.6 +0.3
comp=Z,2.9nm,0.4s
MOTA Moosalm 81.38 331 eP P 16 46 17.2 +0.3
comp=Z,1.0nm,0.3s
RAYN Ar Rayn 81.75 294 eP P 16 46 18.3 -0.8
comp=Z,2.6nm,0.6s
FETA Feichten 81.78 331 ePcP P 16 46 19.7 +0.6
comp=Z,0.8nm,0.4s
DAVA Damuels 81.85 332 iP P 16 46 19.6 +0.1
comp=Z,2.3nm,0.5s
FUORN Ofenpass-Fuorn 82.29 331 eP P 16 46 21.9 0.0
comp=Z,25nm,1.9s
TXAR Lajitas Array 83.11 56 P P 16 46 26.8 +0.6
comp=Z,0.9nm,0.8s,baz=301,slow=3.4,SNR=6.8
TXAR pP pP 16 46 49.6 +2.0
comp=Z,0.5nm,0.6s,baz=297,slow=4.3,SNR=2.4
PPT Papeete 84.23 121 LR LR 17 15 38.9
comp=Z,44nm,21.7s,baz=24,slow=30
ES19 SONSECA Array 92.99 338 eP P 16 47 12.6 -0.8
ESDC Sonseca Array 93.03 338 P P 16 47 12.8 -0.9
comp=Z,0.7nm,0.5s,baz=17,slow=4.0,SNR=8.1
TORD Torodi Ar. Bea 115.15 322 PKP PKPdf 16 52 40.3 -1.1
comp=Z,0.2nm,0.3s,baz=4.4,slow=2.2,SNR=5.3
SNAA Sanae 148.10 198 PKP PKPbc 16 53 43.2 -1.0
VNA2 Neumayer--Watz 149.64 197 PKP PKPbc 16 53 47.4 -0.6
baz=346,slow=3.6
VNA3 Neumayer Olymp 149.84 195 PKP PKPbc 16 53 48.5 0.0

*ISCJB **09** 16:40:32.6±0.6, 37.°60N±0.°04×35.°61E±0.°04, h9km±6km,*
Error ellipse: s-maj=6.1km s-min=5.8km az=162.1
*CSEM **09** 16:40:32.5±0.2, 37.°58N×35.°59E, h10km, MD2.5, Error*
ellipse: s-maj=5.9km s-min=4.5km az=50.0
*DDA **09** 16:40:32.7, 37.°60N×35.°58E, h7km, Md2.5*
*ISK **09** 16:40:32.2, 37.°59N×35.°67E, h16km, MD2.5*
ISC 09 16:40:32.0±0.9, 37.°60N±0.°04×35.°64E±0.°04, h16km±7km,
n15, σ0°33/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.19	127	ePG	Pb	16 40 37.1	-0.1
KOZT				eSG	Sg	16 40 39.8	+0.1
KOZT	Kozan	0.19	127	ePg	Pb	16 40 37.1	-0.1
KOZT				eSg	Sg	16 40 39.8	+0.1
AKO	Adana	0.20	228	iP	Pg	16 40 36.6	-0.2
AKO				iS	Sg	16 40 39.6	-0.3
YAHY	KAYSERI_Yahyal	0.54	337	iP	Pb	16 40 43.3	0.0
YAHY				iS	Sb	16 40 50.9	0.0
YAHY	KAYSERI_Yahyal	0.54	337	P	Pb	16 40 43.3	0.0
YAHY				S	Sb	16 40 50.9	0.0
ANDN	Andirin	0.56	91	iP	Pb	16 40 43.9	+0.3
ANDN				iS	Sn	16 40 54.0	-0.6
ANDN	Andirin	0.56	91	P	Pb	16 40 43.9	+0.3
ANDN				S	Sn	16 40 54.0	-0.6
CEYT	Ceyhan	0.59	171	ePG	Pb	16 40 44.1	+0.1
CEYT	Ceyhan	0.59	171	ePg	Pb	16 40 44.1	+0.1
DED	Mersin	0.92	227	iP	Pn	16 40 51.0	+0.6
DED				iS	Sn	16 41 02.6	-0.7
SARI	SarD1z-Kayseri	1.02	37	ePG	Pn	16 40 52.0	+0.2
MERS	Mersin	1.15	231	ePN	Pg	16 40 54.4	+0.2
MERS	Mersin	1.15	231	ePn	Pg	16 40 54.4	+0.2
TAHT	Tahtakopru-Hat	1.29	160	ePN	Pb	16 40 56.0	0.0
TAHT	Tahtakopru-Hat	1.29	160	ePn	Pb	16 40 56.0	0.0

*NEIC **09** 16:46:25.4±3.4, 35.°91N×70.°66E, h102km±25km, mb4.5/3,*
Error ellipse: s-maj=31.0km s-min=16.3km az=193.0
*IDC **09** 16:46:27.4±4.1, 36.°00N×70.°93E, h113km±37km, mb3.7/3,*
mb1 3.5/8, mb1mx3.1/48, mbtmp3.9/8, MS3.9/2, Ms1 3.9/2,
ms1mx2.5/47, Error ellipse: s-maj=34.9km s-min=24.8km
az=155.0
*ISCJB **09** 16:46:35.2±0.8, 36.°65N±0.°05×70.°6E±0.°1, h204km,*
mb3.4/2, Error ellipse: s-maj=11.9km s-min=6.9km
az=161.7
*NNC **09** 16:46:54.1±8.5, 38.°55N×70.°45E, h0km, mb4.2, mpv3.8,*
Error ellipse: s-maj=77.2km s-min=61.2km az=7.0
ISC 09 16:46:36.2±0.9, 36.°63N±0.°08×70.°71E±0.°09, h204km, n28,
σ1°80/27, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	Manas	6.02	13	⇑Pn	Pn	16 48 01.4	-2.4
MNAS				⇑Lg	Lg	16 49 06.1	
KK31	Karatay Array	6.47	359	Pn	Pn	16 48 07.6	-1.9
KK31				⇑Pg		16 48 15.3	
KK31				⇓Lg	Lg	16 49 20.1	
KKAR	Karatay Array	6.47	359	ePn	Pn	16 48 07.6	-1.9
AAK	Ala-Archa	6.68	25	P	Pn	16 48 11.3	-1.0
AAK				S	S	16 49 27.2	-1.2
AAK	Ala-Archa	6.68	25	⇓Pn	Pn	16 48 10.5	-1.9
AAK				⇓Lg	Lg	16 49 28.1	
TKM2	Tokmak 2	7.33	29	⇑Pn	Pn	16 48 19.1	-1.7
TKM2				⇓Lg	Lg	16 49 58.5	
GEYT	Alibeck	10.12	281	P	Pn	16 48 54.1	-2.8
MAKZ	Makanchi	13.19	36	ePn	Pn	16 49 34.7	-1.1
MK01	Makanchi Array	13.32	37	ePn	Pn	16 49 38.2	+0.9
MK31	Makanchi Array	13.33	37	ePn	P	16 49 39.0	-1.2
MKAR	Makanchi Array	13.33	37	P	Pn	16 49 37.4	-0.2
MKAR	Makanchi Array	13.33	37	ePn	P	16 49 39.1	-1.1
KOLN	Koldanda	14.03	125	ePn	Pn	16 49 46.1	-0.5
GKN	Gorkha	14.57	122	eP	P	16 49 55.7	+1.4
ABKAR	Akbulak array	14.86	332	ePn	P	16 49 57.4	+0.4
KURBB	Kurchatov Arra	15.08	19	P	P	16 50 01.4	+1.9
KKN	Kakani	15.14	121	eP	P	16 50 02.3	+1.6
KURK	Kurchatov	15.19	20	P	P	16 50 01.4	+0.7
PKIN	Phulchoki	15.36	122	eP	P	16 50 04.3	+1.2
BVAR	Borovoye Array	16.40	359	P	Pn	16 50 17.9	+3.0
TAPN	Taplejung	17.11	118	eP	Pn	16 50 24.5	+0.6
ODAN	Odare	17.19	120	eP	P	16 50 22.3	-0.9
ZAA0	Zalesovo Array	19.90	25	eP	Pn	16 50 55.9	-0.3
ZALV	Zalesovo Beam	19.90	25	P	Pn	16 50 56.4	+0.2
FINES	FINESS Array B	37.25	326	P	P	16 53 32.4	+4.6
VAE	Valguarnera	44.35	289	LR	LR	17 18 04.9	
WRA	Warramunga Arr	82.26	122	P	P	16 58 33.5	-1.4
CTA	Charters Tower	90.81	114	LR	LR	17 44 53.6	

comp=Z,102nm,20.6s,baz=207,slow=39

GUC 09 16:55:19.9±0.5, 21.°74S×70.°31W, h28km±5km, ML3.6,
1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	IPOC Station P	0.39	88	eP	Pb	16 55 28.6	-0.1
PB07				eS	Sb	16 55 34.8	+0.1
PB07				IAML		16 55 35.4	
PB02	IPOC Station P	0.57	43	⇓iP	Pb	16 55 30.9	-0.6
PB02				eS	Sb	16 55 38.9	-0.5
PB02				IAML		16 55 40.2	
PB04	IPOC Station P	0.61	166	⇑iP	Pb	16 55 31.6	-0.6
PB04				eS	Sb	16 55 40.2	-0.4
PB04				IAML		16 55 43.7	
PB09	IPOC Station P	0.99	93	eP	Pn	16 55 37.5	-0.6
PB09				eS	Sn	16 55 51.3	-0.1
PB09				IAML		16 55 52.1	
PB06	IPOC Station P	1.18	145	eP	Pn	16 55 39.9	-0.8
PB06				eS	Sn	16 55 55.6	-0.3
PB06				IAML		16 55 58.0	

comp=E,651nm,0.3s

*ISCJB **09** 16:58:47.8±0.7, 6.°5N±0.°2×123.°5E±0.°2, h650km, mb3.9/9,*
Error ellipse: s-maj=37.1km s-min=8.7km az=142.5
*IDC **09** 16:58:49.4±1.5, 6.°38N×123.°32E, h649km±20km, mb3.3/9,*
mb1 3.4/9, mb1mx2.8/51, mbtmp4.4/9, Error ellipse:
s-maj=38.6km s-min=7.9km az=60.0
ISC 09 16:58:49.7±0.9, 6.°4N±0.°2×123.°4E±0.°3, h650km, n18,
σ1°44/22, mb3.9/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.65	299	P	P	17 03 40.7	+0.5
WRA	Warramunga Arr	28.34	158	P	P	17 03 54.5	-0.3
WRA				S	S	17 07 53.5	-4.9
WRA				ScP	ScP	17 09 28.3	+2.1
ASAR	Alice Springs	31.63	161	P	P	17 04 23.6	+0.7
ASAR				S	S	17 08 49.7	+0.9
ASAR				ScP	ScP	17 09 38.8	+1.7
TAPN	Taplejung	39.75	306	eP	P	17 05 28.9	-0.7
ODAN	Odare	39.80	305	eP	P	17 05 30.4	+0.4
RAMN	Ramite	40.48	305	eP	P	17 05 36.1	+0.7
JIRN	Jiri	41.10	305	eP	P	17 05 39.6	-0.8
PKIN	Phulchoki	41.72	305	eP	P	17 05 44.5	-0.6
STKA	Stephens Creek	41.87	157	P	P	17 05 46.9	+1.0
KKN	Kakani	41.89	305	eP	P	17 05 46.3	-0.1
DMN	Daman	41.97	305	eP	P	17 05 47.3	+0.3
GKN	Gorkha	42.50	305	eP	P	17 05 50.7	-0.4
KOLN	Koldanda	43.26	304	eP	P	17 05 57.1	+0.1
DZM	Mont Dzumac	50.80	125	P	P	17 06 53.6	+0.5
MKAR	Makanchi Array	53.46	326	P	P	17 07 11.2	-0.3
KURBB	Kurchatov Arra	57.69	328	P	P	17 07 40.0	-0.4
AKTO	Aktyubinsk	69.49	322	P	P	17 08 55.1	0.0
ARU	Arti	70.89	328	P	P	17 09 01.6	-1.6

comp=Z,3.3nm,0.4s
ARU Arti 70.89 328 P P 17 09 01.6 -1.6
1.3nm,0.3s,baz=108,slow=20,SNR=3.6

PGC 09 17:05:02.6±5.8, 48.°77N×128.°99W, h10km, MLSn3.1/8,
Mw3.7/8, 228km west of Tofino, Bc Vancouver Island,
Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC27	ODP1027	1.30	140	S	Sb	17 05 39.6	-3.9
TOFB	Tofino	2.07	78	Sn	Sn	17 05 59.4	-3.8
WOSB	Woss	2.11	48	Pn	Pn	17 05 36.3	-1.7
WOSB				Sn	Sn	17 06 00.2	-4.1
GDR	Gold River	2.19	61	Sn	Sn	17 06 02.1	-4.0
TLCB	Telegraph Cove	2.27	37	Sn	Sn	17 06 04.2	-3.8
SPLB	Strathcona Par	2.46	62	Sn	Sn	17 06 09.8	-2.9
NCRB	Newcastle Ridg	2.52	48	Pn	Pn	17 05 42.4	-1.2
NCRB				Sn	Sn	17 06 11.3	-3.1
CBB	Campbell River	2.69	61	Sn	Sn	17 06 15.4	-3.0
TXB	Texada	3.13	71	Pn	Pn	17 05 51.4	-0.5
YOUB	Youbou, Lake C	3.13	86	Pn	Pn	17 05 51.1	-0.9
YOUB				Sn	Sn	17 06 25.4	-4.0
SHB	Sechelt	3.46	74	Pn	Pn	17 05 56.0	-0.6
SHB				Sn	Sn	17 06 35.1	-2.5

MAN 09 17:08:26, 16.°49N×120.°89E, h3km, mb4.2, ML3.0, MS2.8,
Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.95	263	eP	Pb	17 08 45.5	+0.4
CAUP	Cauayan	1.00	63	eP	Pb	17 08 46.0	+0.1
CAUP				eS	Sn	17 09 02.0	+0.6
ABRA	Dolores	1.16	351	eP	Pn	17 08 49.1	-0.1
ABRA				eS	Sn	17 09 07.1	+1.4

*DDA **09** 17:29:01.7, 39.°63N×38.°70E, h7km, Md2.5*
*ISK **09** 17:29:01.6, 39.°67N×38.°68E, h5km, MD2.8*
*ISCJB **09** 17:29:02.2±0.5, 39.°65N±0.°03×38.°70E±0.°03, h6km±6km,*
Error ellipse: s-maj=4.8km s-min=4.2km az=36.1
*CSEM **09** 17:29:02.1±0.2, 39.°64N×38.°67E, h5km, MD2.5, Error*
ellipse: s-maj=4.0km s-min=3.3km az=50.0
ISC 09 17:29:02.3±1.0, 39.°65N±0.°02×38.°67E±0.°02, h7km±10km,
n27, σ0°82/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	Refahiye_ERZ~	0.26	163	iP	Pg	17 29 07.5	0.0
REFA				iS	Sg	17 29 12.1	+1.1
REFA	Refahiye_ERZ~	0.26	163	P	Pg	17 29 07.5	0.0
REFA				S	Sg	17 29 12.1	+1.1
KEMA	Kemaliye	0.40	200	iP	Pg	17 29 09.6	-0.5
KEMA				iS	Sg	17 29 15.6	+0.3
KEMA	Kemaliye	0.40	200	P	Pg	17 29 09.6	-0.5
KEMA				S	Sg	17 29 15.6	+0.3
EZC	Erzincan	0.54	79	ePg	Pn	17 29 17.8	+1.2
EZC				eSg	Sn	17 29 29.1	+3.1
SUSE	Susehri	0.67	328	iP	Pg	17 29 15.1	0.0
SUSE				iS	Sb	17 29 25.6	-0.3
SUSE	Susehri	0.67	328	P	Pg	17 29 15.1	0.0
SUSE				S	Sb	17 29 25.6	-0.3
KELT	Kelkit	0.68	42	iP	Pg	17 29 14.7	-0.6
KELT				iS	Sg	17 29 24.4	+0.2
KELT	Kelkit	0.68	42	P	Pg	17 29 14.7	-0.6
KELT				S	Sg	17 29 24.4	+0.2
CUZAR	Zara_SIVAS	0.73	290	iP	Pg	17 29 16.1	-0.3
CUZAR				iS	Sn	17 29 29.0	-1.7
CUZAR	Zara_SIVAS	0.73	290	P	Pg	17 29 16.1	-0.3
ERZN	Erzincan	0.82	94	ePG	Pg	17 29 17.8	-0.2
ERZN				eSG	Sg	17 29 29.1	+0.5
TNCL	Tunceli-Merkez	0.86	128	iP	Pn	17 29 20.1	-0.8
TNCL				iS	Sg	17 29 30.1	0.0
TNCL	Tunceli-Merkez	0.86	128	P	Pn	17 29 20.1	-0.8
TNCL				S	Sg	17 29 30.1	0.0
PTK	Pertek	0.94	143	ePG	Pg	17 29 20.2	-0.2
PTK	Pertek	0.94	143	ePg	Pg	17 29 20.2	-0.2
CUKAN	kangal_SIVAS	0.98	251	iP	Pg	17 29 21.4	+0.2
CUKAN	kangal_SIVAS	0.98	251	P	Pg	17 29 21.4	+0.2
ELZG	Elazig	1.17	168	iP	Pb	17 29 23.8	-1.2
ELZG	Elazig	1.17	168	P	Pb	17 29 23.8	-1.2
SVSK	Karacayir	1.31	282	ePN	Pb	17 29 27.0	-0.2
SVSK	Karacayir	1.31	282	ePn	Pb	17 29 27.0	-0.2
DARE	Darende-Malaty	1.41	221	ePN	Pb	17 29 28.9	-0.2
DARE	Darende-Malaty	1.41	221	ePn	Pb	17 29 28.9	-0.2
YEDI	Yedisu-Bingol	1.47	98	ePN	Pb	17 29 29.4	-0.6
YEDI	Yedisu-Bingol	1.47	98	ePn	Pb	17 29 29.4	-0.6
SARI	SarD1z-Kayseri	2.14	235	ePN	Pn	17 29 39.4	+0.8

*ISCJB **09** 17:34:22.6±0.4, 40.°40N±0.°02×26.°07E±0.°03, h8km±3km,*
Error ellipse: s-maj=3.4km s-min=3.1km az=39.5
*CSEM **09** 17:34:22.8±0.1, 40.°38N×26.°08E, h10km, MD2.8, Error*
ellipse: s-maj=1.7km s-min=1.5km az=139.0
*ATH **09** 17:34:22.4, 40.°41N×26.°04E, h26km±1km, ML1.7/3, Error*
ellipse: s-maj=2.6km s-min=1.0km az=294.0
*ISK **09** 17:34:22.3, 40.°37N×26.°11E, h8km, MD2.8*
*DDA **09** 17:34:22.8, 40.°38N×26.°12E, h7km, Md2.8*
ISC 09 17:34:22.8±0.9, 40.°39N±0.°02×26.°09E±0.°02, h12km±7km,
n67, σ0°44/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKC	Gokceada-Canak	0.23	214	ePG	Pg	17 34 27.0	-0.7
GOKC	Gokceada-Canak	0.23	214	ePg	Pg	17 34 27.0	-0.7
GADA	Gvkgeada	0.24	216	ePG	Pg	17 34 28.2	+0.3
GADA				eSG	Sg	17 34 31.8	+0.4
GADA	Gvkgeada	0.24	216	ePg	Pg	17 34 28.2	+0.3
GADA				eSg	Sg	17 34 31.8	+0.4
GELI	Tayfur-Gelibol	0.30	88	ePG	Pg	17 34 28.4	-0.5
GELI	Tayfur-Gelibol	0.30	88	ePg	Pg	17 34 28.4	-0.5
ENEZ	Enez	0.35	8	ePG	Pg	17 34 29.8	-0.1
ENEZ	Enez	0.35	8	ePg	Pg	17 34 29.8	-0.1
SMTH	Samothraki Isl	0.43	281	P	Pg	17 34 31.0	-0.4
SMTH				S	Sg	17 34 37.1	0.0
SMTH				AML	AML	17 34 37.5	
SMTH				AML	AML	17 34 37.6	
SMTH	Samothraki Isl	0.43	281	P	Pg	17 34 31.0	-0.4
SMTH				S	Sg	17 34 37.1	0.0
ERIK	Erikli-Kesan	0.43	49	ePG	Pg	17 34 31.2	-0.1
ERIK				eSG	Sg	17 34 37.7	+0.6
ERIK	Erikli-Kesan	0.43	49	ePg	Pg	17 34 31.2	-0.1
ERIK				eSg	Sg	17 34 37.7	+0.6
ALN	Alexandroupoli	0.51	357	ePG	Pg	17 34 33.0	+0.1
ALN	Alexandroupoli	0.51	357	P	Pg	17 34 33.1	+0.3
ALN				S	Sg	17 34 40.0	+0.4
ALN				AML	AML	17 34 40.5	
ALN				AML	AML	17 34 40.6	
ALN	Alexandroupoli	0.51	357	P	Pg	17 34 33.1	+0.3
ALN				S	Sg	17 34 40.0	+0.4
LPK	Lapseki	0.52	92	ePG	Pb	17 34 33.3	-0.5
LPK	Lapseki	0.52	92	ePg	Pb	17 34 33.3	-0.5
BOZC	Bozcaada	0.55	183	ePG	Pg	17 34 32.9	-0.6
BOZC				eSG	Sg	17 34 40.9	+0.2
BOZC	Bozcaada	0.55	183	iP	Pg	17 34 33.3	-0.2
BOZC				iS	Sb	17 34 41.5	-0.6
BOZC	Bozcaada	0.55	183	ePg	Pg	17 34 32.9	-0.6
BOZC				eSg	Sg	17 34 40.9	+0.2
KESN	Edirne-Kesan	0.63	46	iP	Pb	17 34 35.7	-0.3
KESN				iS	Sg	17 34 43.4	-0.2
KESN	Edirne-Kesan	0.63	46	P	Pb	17 34 35.7	-0.3
KESN				S	Sg	17 34 43.4	-0.2
BAYC	CANAKKALE_Bayr	0.74	151	iP	Pg	17 34 37.0	-0.1
BAYC				iS	Sb	17 34 47.2	-0.3
BAYC	CANAKKALE_Bayr	0.74	151	P	Pg	17 34 37.0	-0.1
BAYC				S	Sb	17 34 47.2	-0.3
LIA	Limnos Island	0.85	235	P	Pg	17 34 38.8	-0.4
LIA				S	Sg	17 34 50.9	+0.7
LIA	Limnos Island	0.85	235	P	Pg	17 34 38.8	-0.4
LIA				S	Sg	17 34 50.9	+0.7
RDO	Rodhopi	0.86	331	P	Pg	17 34 39.2	-0.3
RDO				S	Sg	17 34 50.1	-0.7
RDO				AML	AML	17 34 55.0	
RDO				AML	AML	17 34 55.5	
RDO	Rodhopi	0.86	331	P	Pg	17 34 39.2	-0.3
RDO				S	Sg	17 34 50.1	-0.7
SART	Tekirdag	0.89	70	iP	Pb	17 34 40.5	+0.4
SART				iS	Sb	17 34 52.0	+0.1
SART	Tekirdag	0.89	70	P	Pb	17 34 40.5	+0.4
SART				S	Sb	17 34 52.0	+0.1
KRBG	Karabiga-Canak	0.93	89	ePG	Pg	17 34 40.1	-0.6
KRBG	Karabiga-Canak	0.93	89	ePg	Pg	17 34 40.1	-0.6
KNL	Bal~-kesir	1.11	96	iP	Pb	17 34 43.4	-0.4
KNL				iS	Sn	17 34 58.9	-0.4
PRK	Paraskevi	1.15	173	P	Pb	17 34 44.4	-0.2
PRK	Paraskevi	1.15	173	P	Pb	17 34 44.4	-0.2
MRMT	Marmara Adasi	1.17	79	ePN	Pg	17 34 45.0	-0.4
MRMT	Marmara Adasi	1.17	79	ePn	Pg	17 34 45.0	-0.4
AYVA	Ayvalik	1.18	156	iP	Pb	17 34 45.0	0.0
AYVA				iS	Sn	17 35 01.4	+0.5
AYVA	Ayvalik	1.18	156	P	Pb	17 34 45.0	0.0
AYVA				S	Sn	17 35 01.4	+0.5
SIGR	SIGRI	1.19	189	ePN	Pb	17 34 45.0	-0.2
SIGR	SIGRI	1.19	189	P	Pb	17 34 44.6	-0.5
SIGR	SIGRI	1.19	189	P	Pb	17 34 44.7	-0.5
SIGR	SIGRI	1.19	189	ePn	Pb	17 34 45.0	-0.2
KAVA	Kavala	1.34	297	P	Pn	17 34 47.5	+0.2
KAVA	Kavala	1.34	297	P	Pn	17 34 47.5	+0.2

BALY	Balya	1.34	118	*i* P		Pb	17 34 47.9 0.0
BALY				*i* S		Sg	17 35 06.1 0.0
BALY	Balya	1.34	118	P		Pb	17 34 47.9 0.0
BALY				S		Sg	17 35 06.1 0.0
EDC	Edincik	1.36	91	*e*PN		Pn	17 34 47.8 +0.2
EDC	Edincik	1.36	91	*e*Pn		Pn	17 34 47.8 +0.2
EDRB	Edirne	1.54	19	*e*PN		Pb	17 34 51.1 -0.1
EDRB	Edirne	1.54	19	*e*Pn		Pb	17 34 51.1 -0.1
BALB	Balikesir	1.57	118	*e*PN		Pn	17 34 50.5 +0.1
BALB	Balikesir	1.57	118	*e*Pn		Pn	17 34 50.5 +0.1
OUR	Ouranopolis	1.61	269	*e*PN		Pn	17 34 52.0 +1.1
OUR	Ouranopolis	1.61	269	P		Pn	17 34 51.7 +0.8
OUR	Ouranopolis	1.61	269	P		Pn	17 34 51.7 +0.8
OUR	Ouranopolis	1.61	269	*e*Pn		Pn	17 34 52.0 +1.1
STEP	BALIKESIR_Sava	1.61	128	*i* P		Pn	17 34 51.4 +0.3
STEP				*i* S		Sb	17 35 12.8 0.0
STEP	BALIKESIR_Sava	1.61	128	P		Pn	17 34 51.4 +0.3
STEP				S		Sb	17 35 12.8 0.0
KCTX	Karacabey (Bur	1.74	93	*e*PN		Pn	17 34 52.8 0.0
KCTX	Karacabey (Bur	1.74	93	*e*Pn		Pn	17 34 52.8 0.0
SLVT	Silivri	1.82	62	*e*PN		Pn	17 34 54.2 +0.4
SLVT	Silivri	1.82	62	*e*Pn		Pn	17 34 54.2 +0.4
NVR	Nevrokopi	1.94	300	P		Pn	17 34 54.6 -0.9
NVR	Nevrokopi	1.94	300	P		Pn	17 34 54.7 -0.9
ARMT	Armutlu	2.12	84	*e*PN		Pn	17 34 59.0 +0.9
ARMT	Armutlu	2.12	84	*e*Pn		Pn	17 34 59.0 +0.9

NIED ***09*** *18:00:00, 35°.40N×138°.90E, h5km, Mw3.4 Best double couple: M0=1.40000×10^14 NP1:φ=187.00000°, δ=37.00000°, λ=-16.00000°. NP2:φ=290.00000°, δ=81.00000°, λ=-126.00000°.*

JMA 09 18:00:44.5, 35°.44N×138°.88E, h9km±1km, M3.5, 2C-3D Broadband fault plane solution: P waves. NP1: φ=286.00000°, δ=83.00000°, λ=-136.00000°. **NP2:** φ=190.00000°, δ=46.00000°, λ=-9.00000°. **Principal axes:** T Plg=24.0000°, Azm=50.0000°; N Plg=45.0000°, Azm=293.0000°; P Plg=35.0000°, Azm=158.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.24**	**136**	⇓P	Pg	18 00 49.4	-0.1
JOD2				S	Sg	18 00 52.7	-0.1
JYN	**Shimob**	**0.28**	**282**	⇑P	Pg	18 00 50.4	+0.3
JYN				S	Sg	18 00 54.6	+0.7
JRY	**Ryogami san**	**0.58**	**2**	⇓P	Pg	18 00 55.6	-0.1
JRY				S	Sg	18 01 03.2	-0.1
SHZ3	**Shizuoka 3**	**0.66**	**236**	⇑P	Pg	18 00 57.1	-0.2
JIZS	**Izushimoda**	**0.72**	**180**	⇓P	Pg	18 00 57.5	-0.9
JIZS				S	Sg	18 01 07.0	-0.8
MAT	**Matsushiro**	**1.23**	**334**	P	Pn	18 01 07.1	-0.8
MAT				S	Sb	18 01 23.2	-0.7

ISCJB ***09*** *18:01:46.8±0.5, 49°.99S±0°.09×116°.3W±0°.2, h10km, mb4.4/11, MS4.9/71 Error ellipse: s-maj=18.2km s-min=11.5km az=156.7*

IDC ***09*** *18:01:46.6±0.8, 49°.98S×116°.08W, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/22, mbtmp4.1/6, MS4.6/13, Ms1 4.6/13, ms1mx4.6/15, Error ellipse: s-maj=32.1km s-min=26.9km az=130.0*

GCMT ***09*** *18:01:47.8±0.1, 49°.84S×115°.82W, h20km, MW5.5/122, Moment Tensor Solution. s111, c197; s122, c275; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr=0.28±.03; Mθθ 1.00±.03; Mφφ=-0.71±.03; Mrθ 0.06±.05; Mθφ 2.14±.03; Mrφ 0.08±.05; Best double couple: M0=2.30800×10^17 NP1:φ=11.00000°, δ=89.00000°, λ=178.00000°. NP2:φ=101.00000°, δ=88.00000°, λ=1.00000°. Principal axes: T 2.4500, Plg=2.0000°, Azm=326.0000°; N -0.2860, Plg=88.0000°, Azm=175.0000°; P -2.1650, Plg=1.0000°, Azm=56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***09*** *18:01:47.8±0.6, 50°.08S×115°.96W, h10km, mb4.7/6, MS4.9/59 Error ellipse: s-maj=27.7km s-min=18.4km az=102.0*

ISC 09 18:01:47.6±0.6, 49°.9S±0°.1×116°.3W±0°.1, h10km, n128, σ2s 47/45, mb4.5/11, MS4.9/71, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**23.32**	**16**	LR	LR	18 12 28.8	
	comp=Z,589nm,19.5s,baz=187,slow=27						
RKT	**Rikitea**	**30.45**	**324**	*e*LR	LR	18 15 47.4	
	6μm,29.2s,baz=156						
RKT	**Rikitea**	**30.45**	**324**	*e*T	T	18 39 16.9	
	2.3nm,0.3s						
PMSA	**Palmer Station**	**30.84**	**139**	*e*P	P	18 07 53.5	-10
	28nm,1.2s						
PLCA	**Paso Flores**	**32.99**	**92**	LR	LR	18 18 14.4	
	comp=Z,1μm,19.0s,baz=258,slow=30						
GO05	**HualaæØ**	**35.39**	**82**	PFAKE		18 08 50.0	+6.6
GO05				LR	LR		
	comp=Z,2μm,20.0s						
EFI	**East Falkland**	**36.03**	**116**	PFAKE		18 09 00.0	+11
EFI				LR	LR		
	comp=Z,2μm,21.0s						
TBI	**Tubuai**	**37.03**	**303**	*e*S	**S**	**18 14 44.4**	**+1.4**
	comp=Z,283nm,26.9s						
TBI				*e*LQ	LQ	18 17 28.4	
	comp=Z,1μm,24.0s						
TBI				*e*LR	LR	18 19 03.2	
	comp=Z,3μm,26.5s,baz=148						
TBI	**Tubuai**	**37.03**	**303**	*e*T	T	18 48 01.8	
	comp=Z,3.6nm,0.3s						
TRQA	**Tornquist**	**40.00**	**94**	PFAKE		18 09 30.0	+7.6
TRQA				LR	LR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**40.19**	**199**	LR	LR	18 22 28.3	
	comp=Z,1μm,20.8s,baz=98,slow=31						
QSPA	**South Pole Qui**	**40.35**	**180**	*e*P	**P**	**18 09 24.8**	**-0.3**
QSPA				LR	LR		
	comp=Z,1μm,21.0s						
TVO	**Taravao**	**41.51**	**309**	*e*T	T	18 53 28.6	
	comp=Z,2.7nm,0.3s						
PAE	**Paea**	**41.78**	**308**	*e*T	T	18 53 49.2	
	comp=Z,1.2nm,0.3s						
PPT2	**Papeete2**	**41.84**	**308**	*e*S	**S**	**18 15 55.9**	**+0.5**
	comp=Z,485nm,26.0s						
PPT2				*e*LQ	LQ	18 19 12.6	
	comp=Z,5μm,30.0s						
PPT2				*e*LR	LR	18 21 00.0	
	comp=Z,5μm,28.0s,baz=146						
PPT2	**Papeete2**	**41.84**	**308**	*e*T	T	18 53 51.4	
	comp=Z,3.1nm,0.4s						
PPT	**Papeete**	**41.85**	**308**	LR	LR	18 22 27.2	
	comp=Z,1μm,20.7s,baz=136,slow=30						
PMOR	**Pomariorio Ree**	**43.21**	**312**	*e*T	T	18 55 30.4	
	comp=Z,2.6nm,0.3s						
TAOE	**Nuku Hiva Isla**	**45.45**	**326**	*e*S	**S**	**18 16 44.8**	**-3.5**
	comp=Z,544nm,25.3s						
TAOE				*e*LR	LR	18 22 45.2	
	comp=Z,4μm,27.7s,baz=170						
LVC	**Limon Verde**	**45.86**	**71**	P	**P**	**18 10 08.7**	**-1.6**
	comp=Z,15nm,0.8s,baz=258,slow=11,SNR=3.7						
PB01	**IPOC Station P**	**46.69**	**69**	PFAKE		18 10 30.0	+13
PB01				LR	LR		
	comp=Z,1μm,20.0s						
HOPE	**Hope Point**	**46.79**	**128**	PFAKE		18 10 30.0	+13
HOPE				LR	LR		
	comp=Z,2μm,20.0s						
MXZ	**Matakaoa Point**	**47.40**	**259**	PFAKE		18 10 40.0	+18
MXZ				LR	LR		
	comp=Z,500nm,21.0s						
KHZ	**Kahutara**	**47.56**	**251**	PFAKE		18 10 40.0	+17
KHZ				LR	LR		
	comp=Z,600nm,19.0s						
PB11	**IPOC Station P**	**47.56**	**68**	PFAKE		18 10 30.0	+6.5
PB11				LR	LR		
	comp=Z,2μm,22.0s						
BKZ	**Black Stump Fm**	**47.60**	**256**	PFAKE		18 10 40.0	+17
BKZ				LR	LR		
	comp=Z,900nm,21.0s						
OXZ	**Oxford**	**47.95**	**249**	PFAKE		18 10 40.0	+14
OXZ				LR	LR		
	comp=Z,400nm,21.0s						
LTZ	**Lake Taylor**	**48.12**	**250**	PFAKE		18 10 40.0	+13
LTZ				LR	LR		
	comp=Z,700nm,18.0s						
VNA3	**Neumayer Olymp**	**48.59**	**156**	P	**P**	**18 10 27.4**	**-3.3**
FOZ	**Fox Glacier**	**49.17**	**247**	PFAKE		18 10 50.0	+15
FOZ				LR	LR		
	comp=Z,800nm,20.0s						
VNA1	**Neumayer--Stat**	**49.31**	**155**	P	**P**	**18 10 36.6**	**+0.5**
VNA2	**Neumayer--Watz**	**49.38**	**156**	P	**P**	**18 10 37.2**	**+0.5**
	baz=236,slow=7.6						
NNA	**Nana**	**49.73**	**55**	PFAKE		18 10 50.0	+10
NNA				LR	LR		
	comp=Z,2μm,19.0s						
SNAA	**Sanae**	**50.09**	**158**	P	**P**	**18 10 41.9**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=212,slow=7.4,SNR=3.7						
SNAA	**Sanae**	**50.09**	**158**	P	**P**	**18 10 41.9**	**-0.2**
SNAA				LR	LR		
	comp=Z,2μm,22.0s						
CPUP	**Villa Florida**	**50.52**	**85**	LR	LR	18 28 20.9	
	comp=Z,2μm,21.0s,baz=234,slow=32						
LPAZ	**La Paz**	**51.16**	**67**	LR	LR	18 27 14.8	
	comp=Z,602nm,18.4s,baz=224,slow=30						
LPAZ	**La Paz**	**51.16**	**67**	*e*P	P	18 10 44.9	-6.7
	comp=Z,9.5nm,1.1s						
OTAV	**Otavalo**	**59.47**	**45**	PFAKE		18 12 00.0	+8.8
OTAV				LR	LR		
	comp=Z,700nm,21.0s						
SAML	**Samuel**	**59.89**	**66**	PFAKE		18 12 10.0	+16
SAML				LR	LR		
	comp=Z,200nm,20.0s						
MAW	**Mawson**	**62.87**	**180**	P	**P**	**18 12 13.9**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=168,slow=19,SNR=3.0						
MAW				LR	LR	18 38 08.9	
	comp=Z,957nm,19.6s,baz=176,slow=35						
MAW	**Mawson**	**62.87**	**180**	*e*P	**P**	**18 12 15.1**	**+2.1**
	comp=Z,3.0nm,1.7s						
PRAC	**Prado**	**64.19**	**47**	PFAKE		18 12 30.0	+7.5
PRAC				LR	LR		
	comp=Z,600nm,22.0s						
DZM	**Mont Dzumac**	**65.35**	**265**	*e*S	S	18 21 25.0	+11
	comp=Z,372nm,25.4s						
DZM				*e*LQ	LQ	18 29 29.5	
	comp=Z,2μm,30.4s						
DZM				*e*LR	LR	18 32 20.8	
	comp=Z,872nm,24.0s						
ROSC	**El Rosal**	**65.44**	**47**	LR	LR	18 35 39.3	
	comp=Z,559nm,19.7s,baz=222,slow=31						
ROSC	**El Rosal**	**65.44**	**47**	PFAKE		18 12 40.0	+8.9
ROSC				LR	LR		
	comp=Z,600nm,22.0s						
HELC	**Santa Helena**	**66.06**	**45**	PFAKE		18 12 50.0	+15
HELC				LR	LR		
	comp=Z,900nm,20.0s						
BCIP	**Isla Barro Col**	**66.83**	**40**	PFAKE		18 12 50.0	+11
BCIP				LR	LR		
	comp=Z,1μm,21.0s						
RUSC	**La Rusia**	**66.95**	**48**	PFAKE		18 12 50.0	+9.2
RUSC				LR	LR		
	comp=Z,200nm,20.0s						
SDV	**Santo Domingo**	**70.73**	**48**	PFAKE		18 13 20.0	+16
SDV				LR	LR		
	comp=Z,900nm,18.0s						
STKA	**Stephens Creek**	**73.44**	**240**	LR	LR	18 39 12.9	
	comp=Z,213nm,21.2s,baz=135,slow=31						
MTDJ	**Mount Denham**	**75.95**	**38**	PFAKE		18 13 50.0	+15
MTDJ				LR	LR		
	comp=Z,600nm,20.0s						
AIN	**Ainahou**	**77.15**	**322**	PFAKE		18 13 50.0	+8.6
AIN				LR	LR		
	comp=Z,2μm,19.0s						
MWH	**Moku'aweowe**	**77.31**	**322**	PFAKE		18 14 00.0	+17
MWH				LR	LR		
	comp=Z,2μm,22.0s						
GRGR	**Grenville**	**78.04**	**55**	PFAKE		18 14 00.0	+14
GRGR				LR	LR		
	comp=Z,700nm,19.0s						
RCBR	**Riachuelo**	**79.37**	**86**	PFAKE		18 14 00.0	+6.1
RCBR				LR	LR		
	comp=Z,1μm,20.0s						
SDD	**Santo Domingo**	**79.40**	**44**	PFAKE		18 14 10.0	+16
SDD				LR	LR		
	comp=Z,900nm,22.0s						
TXAR	**Lajitas Array**	**79.63**	**11**	P	**P**	**18 13 57.2**	**+2.3**
	comp=Z,1.6nm,1.1s,baz=170,slow=5.5,SNR=5.9						
TXAR				LR	LR	18 42 02.7	
	comp=Z,207nm,21.4s,baz=0.0,slow=30						
TX31	**Lajitas Ar. Si**	**79.63**	**11**	*e*P	**P**	**18 13 56.4**	**+1.5**
FDF	**Fort de France**	**80.49**	**54**	PFAKE		18 14 10.0	+10
FDF				LR	LR		
	comp=Z,1μm,20.0s						
AGP	**Aguadilla**	**80.64**	**47**	PFAKE		18 14 10.0	+10
AGP				LR	LR		
	comp=Z,1μm,22.0s						
319A	**Douglas**	**81.11**	**6**	*e*P	**P**	**18 14 04.6**	**+1.8**
	comp=Z,4.4nm,0.8s						
JCT	**Junction City**	**81.31**	**14**	*e*P	**P**	**18 14 05.2**	**+1.4**
	comp=Z,15nm,1.4s						
SABA	**Saba**	**81.85**	**50**	PFAKE		18 14 20.0	+13
SABA				LR	LR		
	comp=Z,600nm,21.0s						
SKI	**Saint Kitts**	**81.86**	**51**	PFAKE		18 14 20.0	+13
SKI				LR	LR		
	comp=Z,1μm,22.0s						
NATX	**Nacogdoches**	**83.50**	**18**	PFAKE		18 14 30.0	+15
NATX				LR	LR		
	comp=Z,400nm,20.0s						
ASAR	**Alice Springs**	**84.08**	**240**	P	**P**	**18 14 18.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=152,slow=4.3,SNR=13						
ASAR				LR	LR	18 46 24.0	
	comp=Z,359nm,20.3s,baz=156,slow=32						
X18A	**Snowflake**	**84.20**	**5**	*e*P	**P**	**18 14 22.0**	**+3.1**
	comp=Z,7.7nm,1.3s						
H01W1	**Cape Leeuwin H**	**84.53**	**220**	T	T	19 49 13.7	
	baz=150,slow=76,SNR=45						
H01W2	**Cape Leeuwin H**	**84.54**	**220**	T	T	19 49 10.2	
	baz=150,slow=76,SNR=38						
H01W3	**Cape Leeuwin H**	**84.55**	**220**	T	T	19 49 13.1	
	baz=150,slow=76,SNR=40						
WRA	**Warramunga Arr**	**86.76**	**243**	P	**P**	**18 14 31.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=146,slow=4.6,SNR=5.1						
WB6	**Warramunga Arr**	**86.81**	**243**	PFAKE		18 14 40.0	+7.7
WB6				LR	LR		
	comp=Z,2μm,21.0s						
JLU	**Jordanelle**	**90.18**	**4**	PFAKE		18 15 00.0	+12
JLU				LR	LR		
	comp=Z,300nm,18.0s						
PDAR	**Pinedale Array**	**92.43**	**5**	LR	LR	18 50 00.0	
	comp=Z,239nm,18.1s,baz=190,slow=31						
IMW	**Indian Meadow**	**93.49**	**4**	PFAKE		18 15 20.0	+17
IMW				LR	LR		
	comp=Z,400nm,18.0s						
YHB	**Horse Butte**	**94.33**	**4**	PFAKE		18 15 20.0	+13
YHB				LR	LR		
	comp=Z,400nm,19.0s						
BMO	**Blue Mountains**	**94.33**	**359**	PFAKE		18 15 20.0	+13
BMO				LR	LR		
	comp=Z,700nm,20.0s						
BOSA	**Boshof**	**94.73**	**147**	LR	LR	18 49 39.5	
	comp=Z,499nm,21.7s,baz=199,slow=30						
DLMT	**Dillon**	**94.89**	**3**	PFAKE		18 15 20.0	+11
DLMT				LR	LR		
	comp=Z,500nm,21.0s						
H11S2	**WAKE ISLAND Hy**	**95.86**	**292**	T	T	20 02 12.3	
	baz=140,slow=76,SNR=268						
H11S3	**WAKE ISLAND Hy**	**95.88**	**292**	T	T	20 02 13.2	
	baz=140,slow=76,SNR=263						
H11S1	**WAKE ISLAND Hy**	**95.88**	**292**	T	T	20 02 06.4	
	baz=140,slow=76,SNR=148						
H11N3	**WAKE ISLAND Hy**	**96.69**	**293**	T	T	20 03 13.7	
	baz=142,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**96.69**	**293**	T	T	20 03 12.4	
	baz=142,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy**	**96.70**	**293**	T	T	20 03 08.2	
	baz=142,slow=75,SNR=37						
WES	**Weston**	**99.94**	**32**	PFAKE		18 15 40.0	+8.0
WES				LR	LR		
	comp=Z,900nm,22.0s						
HNH	**Hanover**	**100.79**	**31**	PFAKE		18 15 50.0	+14
HNH				LR	LR		
	comp=Z,900nm,21.0s						
FFD	**Franklin Falls**	**100.79**	**31**	PFAKE		18 15 50.0	+14
FFD				LR	LR		
	comp=Z,300nm,18.0s						
WVL	**Waterville**	**102.44**	**32**	PFAKE		18 16 00.0	+17
WVL				LR	LR		
	comp=Z,700nm,22.0s						
KAPI	**Kappang**	**107.10**	**240**	PFAKE		18 20 30.0	
KAPI				LR	LR		
	comp=Z,3μm,21.0s						
MYLDM	**Lahad Datu**	**116.11**	**245**	PFAKE		18 20 40.0	+8.9
MYLDM				LR	LR		
	comp=Z,300nm,21.0s						
SBUM	**Sibu**	**117.44**	**237**	PFAKE		18 20 50.0	+16
SBUM				LR	LR		
	comp=Z,100nm,18.0s						
TOC4	**Torodi Ar. Sit**	**117.90**	**103**	PFAKE		18 20 50.0	+16
TOC4				LR	LR		
	comp=Z,400nm,20.0s						
TOA3	**Torodi Ar. Sit**	**117.91**	**103**	PFAKE		18 20 50.0	+16
TOA3				LR	LR		
	comp=Z,100nm,18.0s						
TOC7	**Torodi Ar. Sit**	**117.92**	**103**	PFAKE		18 20 50.0	+16
TOC7				LR	LR		
	comp=Z,400nm,19.0s						
KKM	**Kota Kinabalu**	**118.14**	**243**	PFAKE		18 20 50.0	+15
KKM				LR	LR		
	comp=Z,200nm,21.0s						
KMBO	**Kilima Mbogo**	**124.36**	**147**	PFAKE		18 21 00.0	+13
KMBO				LR	LR		
	comp=Z,600nm,21.0s						
IPM	**Ipoh**	**124.91**	**227**	PFAKE		18 21 00.0	+12
IPM				LR	LR		
	comp=Z,200nm,20.0s						
PALK	**Pallekele**	**135.23**	**204**	PFAKE		18 21 20.0	+12
PALK				LR	LR		
	comp=Z,399nm,20.0s						
TIXI	**Tiksi**	**144.01**	**331**	PFAKE		18 21 30.0	+8.3
TIXI				LR	LR		
	comp=Z,300nm,21.0s						
FUORN	**Ofenpass-Fuorn**	**144.88**	**74**	*e*PKPdf	**PKPab**	**18 21 22.2**	**-1.3**
DAVA	**Damuels**	**144.93**	**73**	*i* pPKPab	**PKPdf**	**18 21 27.0**	**+2.7**
	comp=Z,12nm,1.2s						
FETA	**Feichten**	**145.34**	**74**	*i* PKPdf	**PKPab**	**18 21 26.1**	**+1.0**
	comp=Z,12nm,1.0s						
RETA	**Reutte**	**145.56**	**73**	*i* pPKPbc	**PKPab**	**18 21 28.3**	**+2.6**
	comp=Z,9.9nm,1.3s						
MOTA	**Moosalm**	**145.71**	**74**	*i* pPKPab	**PKPab**	**18 21 29.9**	**+3.5**
	comp=Z,15nm,1.3s						
WATA	**Walderalm**	**146.00**	**74**	*i* pPKPbc	**PKPab**	**18 21 30.3**	**+2.8**
	comp=Z,5.5nm,1.0s						
WTTA	**Wattenberg**	**146.01**	**74**	*i* pPKiKP	**PKPab**	**18 21 34.7**	**+7.1**
	comp=Z,12nm,1.6s						
ABTA	**Abfaltersbach**	**146.34**	**75**	*i* pPKPdf	**PKPab**	**18 21 30.0**	**+1.3**
	comp=Z,11nm,1.4s						
MYKA	**Terra Mystica**	**147.00**	**76**	*i* pPKPdf	**PKPab**	**18 21 31.0**	**-0.3**
	comp=Z,6.1nm,0.9s						
OBKA	**Obir**	**147.52**	**77**	*i* pPKPdf	**PKPbc**	**18 21 32.9**	**+1.6**
	comp=Z,12nm,1.2s						
MOA	**Molln**	**147.88**	**74**	*i* PKPdf	**PKPdf**	**18 21 30.1**	**+1.0**
	comp=Z,1.2nm,0.5s						
GEA0	**GERESS Array S**	**147.89**	**72**	*e*PKPdf	**PKPdf**	**18 21 27.2**	**-1.9**
GERES	**GERESS Array B**	**147.89**	**72**	PKPbc	**PKPbc**	**18 21 32.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=219,slow=3.4,SNR=10.0						
KHC	**Kasperske Hory**	**147.92**	**72**	*e*PKP	**PKPab**	**18 21 35.1**	**+0.3**
LZH	**Lanzhou**	**147.98**	**260**	*e*PKPbc	**PKPbc**	**18 21 31.8**	**-1.1**
LZH				pPKP	pPKPab	18 21 38.9	-0.1
LZH				sPKP		18 21 42.2	
LZH				PKPbc	**sPKPab**	**18 21 43.0**	**+2.9**
LZH				SKS	**SKSdf**	**18 28 29.1**	**-9.2**
CLL	**Collm**	**148.29**	**68**	*e*PKPbc	**PKPab**	**18 21 35.0**	**-1.1**
	comp=Z,18nm,1.6s						
CLL				*e*PSKS		18 35 18.0	
CLL				*e*PSS	PSS	18 44 55.0	
ARSA	**Arzberg**	**148.43**	**76**	*i* sPKPdf	**PKPbc**	**18 21 35.1**	**+1.5**
	comp=Z,2.4nm,0.8s						
BRG	**Berggiesshubel**	**148.72**	**69**	*e*(P)	**PKPab**	**18 21 37.8**	**-0.1**
	comp=Z,4.3nm,0.9s						
CONA	**Conrad Observa**	**148.90**	**75**	*e*pPKPdf	**PKPbc**	**18 21 34.6**	**-0.2**
	comp=Z,0.3nm,0.4s						
TREC	**Trest**	**149.15**	**72**	*e*PKP	**PKPab**	**18 21 39.3**	**-0.5**
DPC	**Dobruska-Polom**	**150.00**	**71**	*e*PKP	**PKPab**	**18 21 42.3**	**-1.0**
RAYN	**Ar Rayn**	**150.10**	**145**	PFAKE		18 21 40.0	+1.5
RAYN				LR	LR		
	comp=Z,400nm,22.0s						
LSA	**Lhasa**	**151.11**	**236**	PFAKE		18 21 50.0	+1.1
LSA				LR	LR		
	comp=Z,200nm,20.0s						
SONM	**Songino Array**	**152.11**	**282**	PKPbc	**PKPbc**	**18 21 43.9**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=130,slow=4.5,SNR=3.1						
SONM				PKPab	**pPKPab**	**18 21 54.4**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=125,slow=3.9,SNR=3.9						
CSS	**Mathiatis**	**153.31**	**112**	PFAKE		18 21 50.0	+4.6
CSS				LR	LR		
	comp=Z,100nm,22.0s						
UOSS	**Minazif**	**154.46**	**164**	PFAKE		18 21 50.0	+1.8
UOSS				LR	LR		
	comp=Z,300nm,20.0s						
BRTR	**Keskin Array B**	**156.53**	**104**	PKPab	**PKPab**	**18 22 09.6**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=224,slow=6.0,SNR=3.7						

ISCJB ***09*** *18:04:44.0±0.4, 39°.11N±0°.03×29°.09E±0°.04, h11km±3km, Error ellipse: s-maj=5.6km s-min=4.3km az=137.9*

CSEM ***09*** *18:04:43.7±0.1, 39°.11N×29°.10E, h12km, MD2.6, Error ellipse: s-maj=2.5km s-min=2.0km az=130.0*

ISK ***09*** *18:04:43.1, 39°.10N×29°.12E, h13km, MD2.6*

DDA ***09*** *18:04:44.0, 39°.12N×29°.07E, h7km, Md2.7*

ISC 09 18:04:43.8±0.8, 39°.10N±0°.03×29°.12E±0°.03, h12km±6km, n27, σ0s 35/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**261**	*e*PG	**Pg**	**18 04 47.0**	**+0.2**
SIMA				*e*SG	**Sg**	**18 04 48.8**	**-0.2**
SIMA	**Simav-Kutahya**	**0.11**	**261**	*e*Pg	**Pg**	**18 04 47.0**	**+0.2**
SIMA				*e*Sg	**Sg**	**18 04 48.8**	**-0.2**
GEDZ	**Gediz**	**0.23**	**104**	*e*PG	**Pg**	**18 04 48.5**	**-0.2**
GEDZ	**Gediz**	**0.23**	**104**	*e*Pg	**Pg**	**18 04 48.5**	**-0.2**
GDZ	**Gediz**	**0.28**	**92**	*i* P	**Pb**	**18 04 50.8**	**0.0**
GDZ				*i* S	**Sb**	**18 04 55.4**	**-0.2**
GDZ	**Gediz**	**0.28**	**92**	P	**Pb**	**18 04 50.8**	**0.0**
GDZ				S	**Sb**	**18 04 55.4**	**-0.2**
DEMI	**Demirci**	**0.32**	**260**	*i* P	**Pg**	**18 04 50.3**	**0.0**
DEMI				*i* S	**Sg**	**18 04 54.4**	**-0.3**
DEMI	**Demirci**	**0.32**	**260**	P	**Pg**	**18 04 50.3**	**0.0**
DEMI				S	**Sg**	**18 04 54.4**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**37**	*e*PG	**Pg**	**18 04 52.0**	**-0.4**
TVSB				*e*SG	**Sg**	**18 04 59.1**	**+0.9**
TVSB	**Tavsanli**	**0.44**	**37**	*e*Pg	**Pg**	**18 04 52.0**	**-0.4**
TVSB				*e*Sg	**Sg**	**18 04 59.1**	**+0.9**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*PG	**Pg**	**18 04 56.9**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**18 04 56.9**	**-0.2**
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.86	277	P	Pg	18 15 35.4	+0.4
ONAJ	Iwakimizuishiy	0.93	260	P	Pg	18 15 36.4	+0.1
ONAJ				S	Sg	18 15 47.4	-1.1
JMM	Marumori	1.09	303	P	Pb	18 15 39.0	-0.4
JMM				S	Sb	18 15 51.7	-2.0
JIO	Ouri	1.27	338	P	Pn	18 15 41.7	-0.5
JIO				S	Sb	18 15 56.3	-2.6
JFT	Otama	1.31	281	P	Pn	18 15 42.8	+0.1
JFT				S	Sb	18 15 58.1	-1.7
JOU	Okura	1.49	318	P	Pn	18 15 45.5	+0.2
JOU				S	Sn	18 16 03.7	-1.1
JYS	Shirataka	1.77	303	P	Pn	18 15 49.8	+0.8
JYS				S	Sn	18 16 12.0	+0.4
JMK	Ichinoseki	1.77	341	P	Pn	18 15 49.3	+0.2
JMK				S	Sn	18 16 10.3	-1.4
JFY	Yanaizu	1.79	275	P	Pn	18 15 49.8	+0.4
JFY				eS	Sn	18 16 11.0	-1.2
JYK	Kaneyama	2.07	323	P	Pn	18 15 53.5	+0.4
MJAR	Matsushiro Arr	3.08	258	Pn	Pn	18 16 07.7	+0.6
	2.1nm,0.3s,baz=90,slow=15,SNR=21						
MJAR				Sn	Sb	18 16 48.6	-2.3
	5.2nm,0.3s,baz=146,slow=13,SNR=6.2						
MJAR				LR	LR	18 17 31.0	
	comp=Z,119nm,18.4s,baz=45,slow=43						
MAT	Matsushiro	3.08	258	P	Pn	18 16 08.2	+1.1
MAT				eS	Sn	18 16 45.4	+1.3
JHJ	Hachijo jima 2	4.50	204	Pn	Pn	18 16 26.7	+0.1
	9.6nm,0.3s,baz=335,slow=22,SNR=23						
JHJ				Sn	Sn	18 17 16.4	-2.6
	31nm,0.3s,baz=229,slow=22,SNR=8.9						
JHJ				LR	LR	18 18 17.8	
	comp=Z,136nm,21.4s,baz=84,slow=40						
ASAJ	Asahikawa	6.86	4	Pn	Pn	18 16 58.9	0.0
	1.5nm,0.3s,baz=201,slow=19,SNR=29						
ASAJ				Sn	Sn	18 18 17.5	+0.5
	0.8nm,0.3s,baz=66,slow=20,SNR=4.0						
JNU	Nakatsue	9.96	249	LR	LR	18 21 51.6	
	comp=Z,36nm,20.0s,baz=134,slow=39						
USRK	Ussuriysk Ar.	10.24	316	Pn	Pn	18 17 47.6	+2.3
	0.2nm,0.3s,baz=136,slow=20,SNR=2.4						
KSRS	Korea Array	11.16	275	Pn	Pn	18 18 01.1	+3.1
	0.1nm,0.3s,baz=80,slow=14,SNR=3.4						
KSRS				LR	LR	18 21 51.3	
	comp=Z,54nm,19.8s,baz=94,slow=35						
SEY	Seymchan	26.48	11	P	P	18 20 55.3	-0.1
	1.4nm,0.8s,baz=232,slow=14,SNR=4.8						
H11N2	WAKE ISLAND Hy	27.91	122	T	T	18 50 34.8	
	baz=315,slow=75,SNR=122						
H11N1	WAKE ISLAND Hy	27.91	122	T	T	18 50 37.6	
	baz=315,slow=75,SNR=123						
H11N3	WAKE ISLAND Hy	27.92	122	T	T	18 50 37.4	
	baz=315,slow=75,SNR=119						
SONM	Songino Array	28.01	303	P	P	18 21 09.9	+0.4
	0.5nm,0.5s,baz=92,slow=9.3,SNR=3.7						
GTA	Gaotai	32.90	287	eP	P	18 21 53.5	+0.7
GTA				pP	sP	18 21 58.8	+1.6
GTA				sP	pP	18 22 01.8	+5.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ZALV	Zalesovo Beam	42.07	312	P	P	18 23 10.3	+0.2
	comp=Z,0.3nm,0.3s,baz=95,slow=6.1,SNR=3.0						
MKAR	Makanchi Array	44.35	302	P	P	18 23 28.6	-0.1
	comp=Z,0.4nm,0.7s,baz=90,slow=11,SNR=4.8						
ILAR	Eielson Array	49.07	32	P	P	18 24 06.0	+0.6
	comp=Z,0.5nm,0.7s,baz=262,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	57.35	189	P	P	18 25 06.2	-0.5
	comp=Z,0.8nm,0.6s,baz=4.9,slow=7.4,SNR=14						
ASAR	Alice Springs	61.08	188	P	P	18 25 31.8	-0.7
	comp=Z,0.6nm,1.0s,baz=7.6,slow=7.7,SNR=6.3						

GUC 09 18:18:58.7±0.5, 19°.29S×69°.33W, h106km±2km, ML3.6, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.30	302	⇑iP	Pn	18 19 14.7	+0.4
MNMC				eS	Sn	18 19 26.4	+0.5
MNMC				IAML		18 19 27.9	
	comp=N,10μm,0.4s						
PB11	IPOC Station P	0.56	213	⇓iP	Pn	18 19 16.2	+0.5
PB11				eS	Sn	18 19 29.4	+0.9
PSGC	Pisagua	0.81	248	⇑iP	Pn	18 19 18.2	+0.5
PSGC				eS	Sn	18 19 32.8	+0.8
PSGC				IAML		18 19 37.1	
	comp=N,909nm,0.4s						
PB08	IPOC Station P	0.86	169	iP	Pn	18 19 19.1	+0.5
PB08				eS	Sn	18 19 34.6	+1.1
PB08				IAML		18 19 35.8	
	comp=N,1μm,0.2s						
HMBC	Humberstone	1.11	208	⇓iP	Pn	18 19 21.3	+0.3
HMBC				eS	Sn	18 19 38.6	+0.8
HMBC				IAML		18 19 43.1	
	comp=N,799nm,0.4s						
PB12	IPOC Station P	1.16	305	⇑iP	Pn	18 19 21.8	+0.4
PB12				eS	Sn	18 19 39.2	+0.7
PB12				IAML		18 19 43.9	
	comp=N,5μm,0.2s						
PB01	IPOC Station P	1.75	185	⇑iP	Pn	18 19 29.2	+0.7
PB01				iS	Sn	18 19 52.4	+1.3
PB01				IAML		18 19 55.3	
	comp=N,554nm,0.3s						
PB07	IPOC Station P	2.48	192	⇑iP	Pn	18 19 39.2	+1.3
PB07				IAML		18 20 15.7	
	comp=E,407nm,0.6s						

*ISCJB **09** 18:25:39.5±1.7, 36°.35N±0°.07×142°.29E±0°.07, h1km±13km, mb3.3/4, MS2.7/2, Error ellipse: s-maj=12.1km s-min=9.3km az=12.6*
*JMA **09** 18:25:39.8±0.2, 36°.33N×142°.53E, h57km, M3.1*
*IDC **09** 18:25:41.7±1.7, 36°.49N×142°.19E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/33, mbtmp3.4/7, ML3.1/3, MS2.8/2, Ms1 2.9/2, ms1mx2.3/22, Error ellipse: s-maj=42.5km s-min=21.6km az=74.0*

ISC 09 18:25:42.3±2.7, 36°.35N±0°.07×142°.19E±0°.08, h9km±15km, n20, σ1°.69/27, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.26	240	P	Pb	18 26 05.0	-1.2
CHOJ				eS	Sg	18 26 23.8	+1.1
JHO	Hitachi	1.33	282	P	Pn	18 26 06.3	-0.8
JHO				eS	Sg	18 26 26.3	+1.1
ONAJ	Iwakimizuishiy	1.35	304	P	Pn	18 26 06.4	-1.0
JYT	Yasato	1.62	266	P	Pn	18 26 10.0	-1.0
JYT				eS	Sb	18 26 32.7	-0.1
BSO3	Boso 3	2.06	222	P	Pn	18 26 15.2	-1.7
JAG	Ashikaga	2.21	273	P	Pn	18 26 19.0	-0.2
JAG				eS	Sb	18 26 47.9	-2.0
JHU	Hanno	2.41	259	P	Pn	18 26 21.1	-0.8
JRY	Ryogami san	2.68	264	P	Pn	18 26 25.3	-0.4
JRY				eS	Sn	18 26 59.8	+1.5
JOD2	Odawara 2	2.75	248	P	Pn	18 26 26.0	-0.5
JOD2				eS	Sn	18 27 00.0	+0.2
JYN	Shimob	3.08	255	P	Pn	18 26 31.5	+0.3
JYN				eS	Sn	18 27 10.1	+1.9
MJAR	Matsushiro Arr	3.22	275	Pn	Pn	18 26 33.1	+0.1
	1.6nm,0.3s,baz=105,slow=8.9,SNR=34						
MAT	Matsushiro	3.22	275	P	Pn	18 26 33.8	+0.8
MAT				eS	Sn	18 27 08.7	-2.8
JHJ	Hachijo jima 2	3.78	212	Pn	Pn	18 26 41.0	+0.2
	8.1nm,0.3s,baz=39,slow=16,SNR=4.1						
JHJ				Sn	Sn	18 27 21.2	-4.2
	8.5nm,0.3s,baz=86,slow=16,SNR=3.4						
ASAJ	Asahikawa	7.77	2	Pn	Pn	18 27 32.1	-3.3
	0.3nm,0.3s,baz=192,slow=18,SNR=9.0						
GUMO	Guam	22.79	173	LR	LR	18 39 46.7	
	comp=Z,14nm,20.9s,baz=328,slow=37						
SONM	Songino Array	28.69	305	P	P	18 31 39.7	0.0
	0.3nm,0.5s,baz=101,slow=7.5,SNR=2.7						
CMAR	Chiang Mai Arr	41.94	257	LR	LR	18 53 12.5	
	comp=Z,21nm,19.6s,baz=130,slow=39						
MKAR	Makanchi Array	45.02	303	P	P	18 33 59.0	+1.0
	0.6nm,0.7s,baz=94,slow=11,SNR=5.2						
WRA	Warramunga Arr	56.47	189	P	P	18 35 26.1	+1.5
	0.3nm,0.8s,baz=3.6,slow=7.5,SNR=3.6						
ASAR	Alice Springs	60.20	189	P	P	18 35 52.9	+2.3
	0.1nm,0.8s,baz=0.1,slow=6.8,SNR=3.0						

MAN 09 18:26:57.9±1.4N×126°.34E, h18km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.92	294	eP	Pb	18 27 13.5	-0.9
SCPH				eS	Sb	18 27 25.9	-0.3
BIPH	Bislig	1.22	179	⇑iP	Pg	18 27 20.4	-0.2
BIPH				iS	Sb	18 27 35.0	+0.1
MSLP	Maasin	1.63	296	eP	Pn	18 27 24.8	+0.1
MSLP				eS	Sn	18 27 45.7	+0.4
BESP	Borongan	2.35	338	eP	Pn	18 27 35.5	+0.8
BESP				eS	Sb	18 28 05.8	-1.9
MATI	Mati	2.45	182	eP	Pn	18 27 35.7	-0.4
CNP	Catarman	3.49	332	eP	Pn	18 27 51.6	+1.1
CNP				eS	Sn	18 28 32.1	+0.7

*KRSC **09** 18:31:29.0±2.0, 52°.30N×161°.08E, h43km±25km, ML4.2*
*IDC **09** 18:31:30.9±0.8, 52°.79N×160°.62E, h0km, mb3.7/15, mb1 4.0/16, mb1mx3.9/32, mbtmp3.8/16, ML4.4/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/39, Error ellipse: s-maj=20.7km s-min=16.4km az=133.0*
*MOS **09** 18:31:32.9±0.9, 52°.40N×160°.87E, h43km, mb4.1/10, Error ellipse: s-maj=10.3km s-min=6.0km az=116.3*
*NEIC **09** 18:31:35.5±0.8, 52°.70N×160°.64E, h35km, mb4.3/2, Error ellipse: s-maj=19.0km s-min=14.0km az=155.0*

ISC 09 18:31:30.8±1.8, 52°.62N±0°.06×160°.94E±0°.04, h9km±10km, n70, σ1°.42/83, mb3.7/16, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.73	311	PN	Pn	18 31 47.9	+0.7
SPN				S	Sn	18 32 00.6	+2.1
SPN	Mys Shipunski	0.73	311	eP	Pn	18 31 47.9	+0.7
SPN				eS	Sn	18 32 00.6	+2.1
NLC	Nalytchevo	1.11	300	PN	Pn	18 31 53.1	+0.7
NLC	Nalytchevo	1.11	300	eP	Pn	18 31 53.1	+0.7
DALK	Dalny	1.39	288	PN	Pb	18 31 56.9	+0.1
DALK				S	Sg	18 32 16.2	+0.9
DALK	Dalny	1.39	288	eP	Pb	18 31 56.9	+0.1
DALK				eS	Sg	18 32 16.2	+0.9
SDLR	Sedlovina	1.40	299	PN	Pg	18 31 57.8	+0.1
SDLR	Sedlovina	1.40	299	eP	Pg	18 31 57.8	+0.1
UGLR	Uglovaya	1.41	296	PN	Pg	18 31 58.0	+0.2
UGLR	Uglovaya	1.41	296	eP	Pg	18 31 58.0	+0.2
PET	Petropavlovsk	1.44	287	⇑iPN	Pb	18 31 57.6	-0.2
PET				eS	Sg	18 32 17.6	+0.5
PET				pmax	pmax		
	comp=Z,695nm,0.5s						
PET				smax	smax		
	comp=N,864nm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.7s						
PET	Petropavlovsk	1.44	287	eP	Pb	18 31 57.7	-0.1
PET				eS	Sg	18 32 16.4	-0.7
PET	Petropavlovsk	1.44	287	eP	Pb	18 31 57.5	-0.2
AVH	Avacha	1.48	297	PN	Pg	18 31 59.1	0.0
AVH				S	Sg	18 32 20.0	+1.7
AVH	Avacha	1.48	297	eP	Pg	18 31 59.1	0.0
AVH				eS	Sg	18 32 20.0	+1.7
KRER	Koryakskii	1.49	298	PN	Pn	18 31 57.0	-0.9
KRER	Koryakskii	1.49	298	eP	Pn	18 31 57.0	-0.9
RUS	Russkaya	1.49	264	PN	Pn	18 31 56.7	-1.0
RUS	Russkaya	1.49	264	eP	Pn	18 31 56.7	-1.0
KOK	Koryaka	1.54	297	PN	Pg	18 32 00.4	0.0
KOK	Koryaka	1.54	297	eP	Pg	18 32 00.4	0.0
KRX	Arik	1.57	299	PN	Pb	18 32 00.2	+0.2
KRX	Arik	1.57	299	eP	Pb	18 32 00.2	+0.2
MTVR	Mutnovka	1.69	266	PN	Pn	18 32 00.1	-0.4
MTVR				S	Sn	18 32 20.3	-2.0
MTVR	Mutnovka	1.69	266	eP	Pn	18 32 00.1	-0.4
MTVR				eS	Sn	18 32 20.3	-2.0
KRMR	Karymshinskiy	1.72	278	PN	Pn	18 32 00.9	+0.1
KRMR				S	Sn	18 32 22.2	-0.6
KRMR	Karymshinskiy	1.72	278	eP	Pn	18 32 00.9	+0.1
KRMR				eS	Sn	18 32 22.2	-0.6
ASAK	Asacha	1.87	264	PN	Pn	18 32 02.5	-0.5
ASAK	Asacha	1.87	264	eP	Pn	18 32 02.5	-0.5
PETK	Petropavlovsk-	2.02	285	Pn	Pn	18 32 05.3	+0.3
	comp=E,58nm,0.3s,baz=102,slow=16,SNR=385						
PETK				Sn	Sb	18 32 32.2	-0.7
	comp=E,24nm,0.3s,baz=92,slow=19,SNR=8.8						
PETK				LR	LR	18 32 38.8	
	comp=E,129nm,20.9s,baz=158,slow=38						
GNL	Ganaly	2.10	302	PN	Pb	18 32 08.9	-0.1
GNL	Ganaly	2.10	302	eP	Pb	18 32 08.9	-0.1
APC	Apacha	2.31	279	PN	Pn	18 32 10.4	+1.4
APC	Apacha	2.31	279	eP	Pn	18 32 10.4	+1.4
KMNR	Kamenistaya	3.17	353	PN	Pb	18 32 27.5	+0.3
KMNR	Kamenistaya	3.17	353	eP	Pb	18 32 27.5	+0.3
KIRR	Kirishev	3.36	354	PN	Pb	18 32 28.0	-2.5
KIRR	Kirishev	3.36	354	eP	Pb	18 32 28.0	-2.5
KPT	Kopyto	3.38	353	PN	Pb	18 32 28.4	-2.4
KPT	Kopyto	3.38	353	eP	Pb	18 32 28.4	-2.4
ZLN	Zelenaya	3.40	359	PN	Pb	18 32 28.3	-3.0
ZLN	Zelenaya	3.40	359	eP	Pb	18 32 28.3	-3.0
CIRR	Tsirk	3.50	358	PN	Pb	18 32 30.2	-2.8
CIRR	Tsirk	3.50	358	eP	Pb	18 32 30.2	-2.8
BKI	Bering	3.94	47	PN	Pn	18 32 32.9	+1.5
BKI	Bering	3.94	47	eP	Pn	18 32 32.9	+1.5
BKI				eS	Sn	18 33 16.1	-1.6
ASAJ	Asahikawa	14.83	242	Pn	P	18 35 06.0	-0.4
	comp=E,0.6nm,0.3s,baz=81,slow=12,SNR=4.7						
YAK	Yakutsk	19.13	312	P	P	18 35 53.6	-0.2
	comp=E,0.0nm,0.3s,baz=206,slow=0.3,SNR=4.2						
YAK	Yakutsk	19.13	312	eP	P	18 35 52.5	-1.3
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK	Yakutsk	19.13	312	eP	P	18 35 52.3	-1.5
	comp=N,17nm,0.8s						
MJAR	Matsushiro Arr	22.67	234	P	P	18 36 31.7	-0.5
	comp=N,3.5nm,1.0s,baz=24,slow=11,SNR=8.5						
TIXI	Tiksi	23.72	335	P	P	18 36 42.5	-0.1
	comp=N,2.7nm,0.6s,baz=132,slow=7.7,SNR=3.9						
KSRS	Korea Array	27.52	250	P	P	18 37 17.3	-0.1
	comp=N,1.0nm,0.8s,baz=39,slow=9.8,SNR=3.5						
KSAR	Wonju Array Be	27.55	250	P	P	18 37 17.3	-0.4
KSAR	Wonju Array Be	27.55	250	P	P	18 37 17.3	-0.4
ILAR	Eielson Array	28.79	45	P	P	18 37 29.4	+0.9
	comp=N,0.8nm,1.1s,baz=246,slow=6.8,SNR=3.0						
SONM	Songino Array	34.51	284	P	P	18 38 17.3	-1.8
	comp=N,0.4nm,0.6s,baz=46,slow=8.3,SNR=3.3						
ZALV	Zalesovo Beam	43.46	303	P	P	18 39 32.3	-1.4
	comp=N,0.3nm,0.3s,baz=54,slow=6.1,SNR=3.2						
MKAR	Makanchi Array	48.82	296	P	P	18 40 13.8	-2.2
	comp=N,0.7nm,0.5s,baz=56,slow=6.6,SNR=12						
CHTO	Chiang Mai	58.31	259	eP	P	18 41 23.4	-2.6
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CHTO	Chiang Mai	58.31	259	eP	P	18 41 23.4	-2.6
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	58.59	259	P	P	18 41 27.6	-0.3
	comp=Z,1.6nm,0.8s,baz=24,slow=7.2,SNR=15						
FINES	FINESS Array B	60.76	337	P	P	18 41 42.9	+0.7
	comp=Z,3.3nm,0.8s,baz=39,slow=8.1,SNR=13						
NOA	NORSAR Array B	64.14	344	P	P	18 42 05.8	+0.9
	comp=Z,1.1nm,0.7s,baz=23,slow=6.3,SNR=3.1						
AKASG	Malin Array Be	69.28	329	P	P	18 42 39.3	+1.5
	comp=Z,1.3nm,0.5s,baz=31,slow=6.5,SNR=4.1						
TXAR	Lajitas Array	70.35	67	P	P	18 42 45.7	+0.8
	comp=Z,0.3nm,0.6s,baz=268,slow=3.8,SNR=4.6						
GERES	GERESS Array B	75.14	338	P	P	18 43 13.5	+0.5
	comp=Z,0.2nm,0.5s,baz=12,slow=5.0,SNR=3.0						
WRA	Warramunga Arr	75.87	206	P	P	18 43 20.9	+3.6
	comp=Z,0.4nm,0.9s,baz=25,slow=6.3,SNR=2.6						
ASAR	Alice Springs	79.54	205	P	P	18 43 41.3	+3.6
	comp=Z,0.3nm,0.8s,baz=13,slow=5.9,SNR=5.5						
RAR	Rarotonga	81.08	143	LR	LR	19 15 37.9	
	comp=Z,110nm,19.0s,baz=296,slow=32						

*IDC **09** 18:42:17.9±1.5, 37°.91N×21°.24E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.6/4, MS4.2/2, Ms1 4.2/2, ms1mx3.0/26, Error ellipse: s-maj=65.3km s-min=27.6km az=129.0*
*ISCJB **09** 18:42:20.9±0.4, 37°.77N±0°.02×21°.43E±0°.03, h20km±4km, mb3.4/4, MS4.1/2, Error ellipse: s-maj=3.9km s-min=2.9km az=141.9*

*THE **09** 18:42:20.8, 37°.78N×21°.47E, h11km±1km, ML3.4/18, Error ellipse: s-maj=1.0km s-min=0.5km az=107.0*
*CSEM **09** 18:42:20.8±0.2, 37°.78N×21°.47E, h15km, ML3.6, Error ellipse: s-maj=4.4km s-min=3.3km az=49.0*
*ATH **09** 18:42:20.4, 37°.78N×21°.43E, h17km±1km, ML3.3/10, Error ellipse: s-maj=1.9km s-min=0.9km az=70.0*

ISC 09 18:42:20.5±1.1, 37°.81N±0°.02×21°.49E±0°.02, h16km±8km, n92, σ0°.78/145, mb3.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	Drossia	0.23	50	P	Pb	18 42 26.1	-0.2
DRO				S	Sb	18 42 30.6	+0.4
DRO	Drossia	0.23	50	P	Pb	18 42 26.2	-0.1
DRO				S	Sb	18 42 30.8	+0.7
DRO				AML	AML	18 42 31.1	
DRO				AML	AML	18 42 31.2	
DRO	Drossia	0.23	50	P	Pb	18 42 26.1	-0.2
DRO				S	Sb	18 42 30.6	+0.4
RLS	Riolos of Patr	0.25	356	P	Pb	18 42 26.2	-0.5
RLS				S	Sb	18 42 30.8	0.0
RLS	Riolos of Patr	0.25	356	P	Pb	18 42 26.3	-0.5
RLS				S	Sb	18 42 31.0	+0.2
RLS				AML	AML	18 42 33.5	
	comp=E,10480μm,0.4s						
RLS				AML	AML	18 42 33.8	
	comp=N,14470μm,0.3s						
RLS	Riolos of Patr	0.25	356	P	Pb	18 42 26.2	-0.5
RLS				S	Sb	18 42 30.8	0.0
VTN	Vitineika	0.27	295	P	Pg	18 42 26.6	+0.3
AMT	Artemida-Makis	0.32	148	P	Pg	18 42 27.1	-0.1
AMT				S	Sb	18 42 32.4	-0.5
AMT	Artemida-Makis	0.32	148	P	Pg	18 42 27.2	-0.1
AMT				S	Sb	18 42 32.9	0.0
AMT				AML	AML	18 42 33.5	
	comp=E,44954μm,0.4s						
AMT				AML	AML	18 42 33.7	
	comp=N,41693μm,0.3s						
AMT	Artemida-Makis	0.32	148	P	Pg	18 42 27.1	-0.1
AMT				S	Sb	18 42 32.4	-0.5
AXS	Araxos	0.40	347	P	Pg	18 42 28.6	0.0
AXS				S	Sb	18 42 35.4	+0.3
AXS	Araxos	0.40	347	P	Pb	18 42 29.1	-0.1
AXS	Araxos	0.40	347	P	Pg	18 42 28.6	0.0
AXS				S	Sb	18 42 35.4	+0.3
UPR	University Cam	0.53	26	P	Pb	18 42 31.6	+0.2
UPR				S	Sb	18 42 40.2	+1.3
UPR	University Cam	0.53	26	P	Pn	18 42 32.8	-0.6
UPR	University Cam	0.53	26	P	Pb	18 42 31.6	+0.2
UPR				S	Sb	18 42 40.2	+1.3
KLV	Kalavryta, Ach	0.57	65	P	Pg	18 42 31.4	-0.4
KLV				S	Sb	18 42 41.4	+1.3
KLV	Kalavryta, Ach	0.57	65	P	Pb	18 42 31.7	-0.5
KLV				S	Sn	18 42 42.6	-0.6
KLV				AML	AML	18 42 45.4	
	comp=N,5557μm,0.4s						
KLV				AML	AML	18 42 45.7	
	comp=E,4064μm,0.4s						
KLV	Kalavryta, Ach	0.57	65	P	Pb	18 42 31.7	-0.5
KLV				S	Sb	18 42 41.4	+1.3
LAKA	Lakka	0.58	41	P	Pb	18 42 31.8	-0.5
LAKA				S	Sb	18 42 40.6	+0.3
LAKA	Lakka	0.58	41	P	Pb	18 42 31.9	-0.4
LAKA				S	Sn	18 42 42.2	-1.1
LAKA				AML	AML	18 42 44.0	
	comp=N,5022μm,0.4s						
LAKA				AML	AML	18 42 46.0	
	comp=E,7911μm,0.4s						
LAKA	Lakka	0.58	41	P	Pb	18 42 31.9	-0.4
LAKA				S	Sb	18 42 40.6	+0.3
KFL	Anninata	0.63	299	P	Pg	18 42 32.7	-0.2
KFL				S	Sb	18 42 42.0	+0.2
KFL	Anninata	0.63	299	P	Pg	18 42 32.7	-0.2
KFL				S	Sb	18 42 42.0	+0.2
TRIP	Tripoli	0.68	114	P	Pb	18 42 33.9	-0.1
TRIP				S	Sb	18 42 44.1	+0.9
GUR	Goura	0.69	79	P	Pg	18 42 33.4	-0.5
GUR				S	Sn	18 42 45.2	-0.9
GUR	Goura	0.69	79	P	Pg	18 42 33.4	-0.5
GUR				AML	AML	18 42 50.2	
	comp=N,10914μm,0.3s						
GUR				AML	AML	18 42 51.1	
	comp=E,7236μm,0.4s						
GUR	Goura	0.69	79	P	Pg	18 42 33.5	-0.5
GUR				S	Sn	18 42 44.6	-1.5
EFP	Efpalio	0.70	28	P	Pb	18 42 34.5	+0.2
EFP				S	Sn	18 42 45.9	-0.4
EFP	Efpalio	0.70	28	P	Pb	18 42 34.8	+0.4
EFP				AML	AML	18 42 47.2	
	comp=E,2462μm,0.3s						
EFP				AML	AML	18 42 49.7	
	comp=N,2989μm,0.3s						
EFP	Efpalio	0.70	28	P	Pb	18 42 34.5	+0.2
EFP				S	Sn	18 42 45.9	-0.4
ITM	Ithomi	0.71	151	P	Pg	18 42 34.1	-0.3
ITM				S	Sb	18 42 44.8	+0.7
ITM	Ithomi	0.71	151	P	Pg	18 42 34.3	-0.1
ITM	Ithomi	0.71	151	P	Pg	18 42 34.1	-0.3
ITM				S	Sb	18 42 44.8	+0.7
SERG	Sergoula	0.75	36	P	Pb	18 42 35.0	-0.2
SERG				S	Sn	18 42 47.2	-0.4
SERG	Sergoula	0.75	36	P	Pb	18 42 35.2	0.0
SERG				S	Sn	18 42 47.2	-0.4
KALE	Kalithea	0.78	41	P	Pb	18 42 35.6	-0.1
KALE				S	Sn	18 42 47.0	-1.2
KALE	Kalithea	0.78	41	P	Pb	18 42 35.5	-0.2
KALE				AML	AML	18 42 50.6	
	comp=N,7302μm,0.6s						
KALE				AML	AML	18 42 50.7	
	comp=E,7076μm,0.4s						
KALE	Kalithea	0.78	41	P	Pb	18 42 35.6	-0.1
KALE				S	Sn	18 42 47.0	-1.2
VLS	Valsamata	0.80	298	P	P

LKD2				S		Sn	18 43 00.2	+2.1
LTK	**Loutraki**	**1.19**	**79**	P		**Pg**	18 42 42.8	-0.6
LTK				S		**Sn**	18 43 00.0	+1.7
LTK	**Loutraki**	**1.19**	**79**	P		**Pg**	18 42 42.8	-0.6
LTK				S		**Sn**	18 43 00.0	+1.7
DSL	**Palaion Diasel**	**1.36**	**347**	P		**Pb**	18 42 45.7	+0.1
DSL	**Palaion Diasel**	**1.36**	**347**	P		**Pb**	18 42 45.7	+0.1
AGG	**Agios Georgios**	**1.38**	**28**	P		**Pg**	18 42 46.3	-0.8
AGG	**Agios Georgios**	**1.38**	**28**	P		**Pg**	18 42 46.3	-0.8
KRND	**KRANIDI**	**1.38**	**107**	P		**Pg**	18 42 47.4	+0.3
KRND	**KRANIDI**	**1.38**	**107**	P		**Pg**	18 42 47.4	+0.3
LKR	**Lokris**	**1.46**	**54**	P		**Pg**	18 42 47.6	-0.9
LKR	**Lokris**	**1.46**	**54**	P		**Pg**	18 42 47.6	-0.9
VLI	**Veliai**	**1.58**	**133**	P		**Pg**	18 42 51.5	+0.6
VLI	**Veliai**	**1.58**	**133**	P		**Pg**	18 42 51.5	+0.6
THL	**Klokotos Trika**	**1.80**	**13**	P		**Pg**	18 42 54.5	-0.6
THL	**Klokotos Trika**	**1.80**	**13**	P		**Pg**	18 42 54.5	-0.6
VLY	**Voula,Athens**	**1.82**	**88**	P		**Pb**	18 42 53.4	-0.1
VLY	**Voula,Athens**	**1.82**	**88**	P		**Pb**	18 42 53.4	-0.1
PTL	**Penteli**	**1.89**	**82**	P		**Pb**	18 42 55.3	+0.7
PTL	**Penteli**	**1.89**	**82**	P		**Pb**	18 42 55.3	+0.7
JAN	**Janina**	**1.92**	**345**	P		**Pb**	18 42 54.3	-0.8
JAN	**Janina**	**1.92**	**345**	P		**Pb**	18 42 54.3	-0.8
KEK	**Kerkira**	**2.32**	**326**	P		**Pb**	18 43 00.8	-1.1
KEK	**Kerkira**	**2.32**	**326**	P		**Pb**	18 43 00.8	-1.1
STON	**Ston**	**5.83**	**331**	*e*Pn		**Pn**	18 43 46.5	+0.3
STON				Sn		**Sn**	18 44 51.2	-1.5
NVLJ	**Novalja**	**8.39**	**326**	*e*Pn		**Pn**	18 44 22.6	+1.2
NVLJ				Sn		**Sn**	18 45 52.9	-2.9
FINES	**FINESS Array B**	**23.84**	**5**	P		**P**	18 47 31.6	-0.9
	comp=N,2.1nm,1.0s,baz=188,slow=12,SNR=5.2							
TORD	**Torodi Ar. Bea**	**30.24**	**221**	P		**P**	18 48 30.0	-0.6
	comp=N,0.6nm,0.8s,baz=25,slow=7.7,SNR=3.5							
TORD				LR		LR	19 02 55.4	
	comp=N,219nm,19.5s,baz=210,slow=41							
KMBO	**Kilima Mbogo**	**41.39**	**156**	LR		LR	19 07 46.7	
	comp=N,549nm,20.9s,baz=104,slow=37							
MKAR	**Makanchi Array**	**44.84**	**58**	P		**P**	18 50 34.3	+0.5
	comp=N,0.3nm,0.6s,baz=278,slow=6.9,SNR=5.2							
ZALV	**Zalesovo Beam**	**45.37**	**48**	P		**P**	18 50 38.6	+0.8
	comp=N,0.3nm,0.4s,baz=288,slow=10,SNR=2.4							

*KRNET **09** 18:55:35.4±0.1, 40°.81N×71°.32E, h19km, mb2.8*
*SOME **09** 18:55:37.0, 40°.78N×71°.43E, h10km*
*NNC **09** 18:55:38.4±3.0, 40°.87N×71°.44E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=26.6km s-min=16.1km az=178.0
ISC 09 18:55:36.5±0.9, 40°.82N±0°.04×71°.43E±0°.03, h10km, n25, σ2°.24/47, 16C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.89**	**212**	⇓*i*P	**Pg**	**18 55 52.0**	**-1.6**
	baz=207						
BTK				⇓*i*S	**Sg**	**18 56 03.5**	**-1.7**
	baz=207						
ARK	**Arkit**	**1.06**	**22**	⇑*i*P	**Pg**	**18 55 54.9**	**-2.0**
	baz=27						
ARK				⇑*i*S	**Sb**	**18 56 11.4**	**+0.4**
	baz=27						
ARSB	**Arslanbob**	**1.28**	**66**	⇓*i*P	**Pg**	**18 56 01.2**	**+0.2**
	baz=67						
ARSB				⇓*i*S	**Sn**	**18 56 19.9**	**+2.1**
	baz=67						
TOKL	**Toktogul**	**1.56**	**44**	⇓*i*P	**Pb**	**18 56 05.6**	**+0.1**
	baz=46						
TOKL				⇓*i*S	**Sg**	**18 56 27.9**	**+1.2**
	baz=46						
MNAS	**Manas**	**1.85**	**25**	⇑*i*P	**Pb**	**18 56 10.2**	**-0.3**
	baz=28						
MNAS				⇑*i*S	**Sg**	**18 56 35.4**	**-0.6**
	baz=28						
MNAS	**Manas**	**1.85**	**25**	⇑Pn	**Pb**	**18 56 10.5**	**0.0**
	4.3nm,0.4s						
MNAS				⇓Lg	Lg	18 56 37.2	
	17nm,0.3s						
DZA	**Taraz**	**2.08**	**358**	*e*P	**Pg**	**18 56 15.3**	**-1.0**
	24nm,0.1s						
DZA				*e*S	**Sg**	**18 56 42.6**	**-0.5**
	114nm,0.2s						
AML	**Almayashu**	**2.15**	**52**	⇑*i*P	**Pb**	**18 56 14.4**	**-1.3**
	baz=53						
AML				⇑*i*S	**Sb**	**18 56 42.9**	**+0.3**
	baz=53						
MRKS	**Merke**	**2.35**	**34**	*e*P	**Pg**	**18 56 20.6**	**-0.9**
	12nm,0.2s						
MRKS				*e*S	**Sg**	**18 56 52.2**	**+0.3**
	39nm,0.2s						
KK31	**Karatay Array**	**2.38**	**344**	⇓Pn	**Pb**	**18 56 17.6**	**-1.9**
	0.5nm,0.3s,baz=153,slow=14,SNR=28						
KK31				⇑Pg	**Pg**	**18 56 21.1**	**-1.1**
	0.4nm,0.2s,baz=155,slow=15,SNR=9.5						
KK31				⇓Lg	Lg	18 56 51.7	
	9.1nm,0.3s,baz=164,slow=28,SNR=24						
BRLS	**Borolday**	**2.51**	**332**	*e*P	**Pn**	**18 56 19.0**	**+1.6**
	0.2nm,0.1s						
BRLS				*e*S	**Sn**	**18 56 49.3**	**+1.2**
	24nm,0.2s						
EKS2	**Erkin-Say**	**2.55**	**43**	⇑*i*P	**Pb**	**18 56 20.5**	**-1.8**
	baz=44						
EKS2				⇑*i*S	**Sb**	**18 56 52.8**	**-0.9**
	baz=44						
AAK	**Ala-Archa**	**2.93**	**51**	⇓*i*P	**Pn**	**18 56 25.5**	**+2.3**
	baz=52						
AAK				⇓*i*S	**Sn**	**18 57 01.1**	**+2.6**
	baz=52						
AAK	**Ala-Archa**	**2.93**	**51**	⇓Pn	**Pb**	**18 56 27.4**	**-1.5**
	4.9nm,1.4s						
AAK				⇑Lg	Lg	18 57 09.0	
	3.7nm,0.5s						
KZA	**Kyzart**	**3.13**	**65**	⇑*i*P	**Pn**	**18 56 28.2**	**+1.9**
	baz=66						
KZA				⇑*i*S	**Sn**	**18 57 06.2**	**+2.2**
	baz=66						
KBK	**Karagaybulak**	**3.21**	**54**	⇑*i*P	**Pn**	**18 56 29.5**	**+2.4**
	baz=55						
KBK				⇑*i*S	**Sn**	**18 57 08.4**	**+2.9**
	baz=55						
TKM2	**Tokmak 2**	**3.75**	**55**	⇑Pg	**Pb**	**18 56 43.9**	**+1.0**
	9.4nm,1.4s						
TKM2				⇓Lg	Lg	18 57 33.6	
	3.4nm,0.4s						
BMNS	**Besmoynak**	**3.90**	**53**	*e*P	**Pb**	**18 56 47.7**	**+2.2**
	4.9nm,0.2s						
BMNS				*e*S	**Sg**	**18 57 38.3**	**-3.5**
	21nm,0.4s						
DGS	**Degeres**	**4.04**	**52**	*e*P	**Pb**	**18 56 50.1**	**+2.3**
	2.3nm,0.4s						
DGS				*e*S	**Sg**	**18 57 42.1**	**-4.1**
	15nm,0.7s						
KST	**Kastek**	**4.05**	**55**	*e*P	**Pg**	**18 56 51.3**	**-2.7**
	1.8nm,0.2s						
KST				*e*S	**Sg**	**18 57 44.9**	**-1.6**
	8.3nm,0.5s						
MTBS	**Maitube**	**4.38**	**57**	*e*P	**Pg**	**18 56 57.3**	**-3.2**
	5.4nm,0.4s						
MTBS				*e*S	**Sg**	**18 57 54.9**	**-2.3**
	5.9nm,0.2s						
IZV	**Izvestkoviy**	**4.46**	**58**	*e*P	**Pb**	**18 56 56.6**	**+1.7**
	7.9nm,0.6s						
IZV				*e*S	**Sg**	**18 57 54.4**	**-5.2**
	10nm,0.5s						
BTLS	**Baital**	**4.64**	**24**	*e*P	**Pb**	**18 57 00.9**	**+3.0**
	0.5nm,0.2s						
BTLS				*e*S	**Sg**	**18 58 01.7**	**-3.6**
	3.6nm,0.5s						
TNSS	**Tian-Shan**	**4.67**	**60**	*e*P	**Pg**	**18 57 03.4**	**-2.6**
	5.2nm,0.9s						
TNSS				*e*S	**Sg**	**18 58 06.1**	**-0.5**
	9.1nm,1.1s						
KUU	**Kurty**	**4.76**	**48**	*e*P	**Pg**	**18 57 03.8**	**-3.9**
	2.3nm,0.6s						
KUU				*e*S	**Sg**	**18 58 05.8**	**-3.5**
	5.6nm,0.3s						

IDC 09 18:56:30.0±2.8, 30°.28S×177°.51W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=57.6km s-min=23.3km az=98.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**341**	Pn	Pn	18 56 53.1	+0.8
	226nm,0.3s,baz=93,slow=11,SNR=17						
RAO				Sn	Sn	18 57 07.7	-0.3
	591nm,0.3s,baz=14,slow=23,SNR=17						
STKA	**Stephens Creek**	**34.92**	**257**	P	P	19 03 23.6	+0.1
	1.3nm,0.7s,baz=103,slow=14,SNR=3.7						
ASAR	**Alice Springs**	**43.54**	**267**	P	P	19 04 35.4	-0.3
	0.1nm,0.3s,baz=106,slow=7.2,SNR=6.3						
WRA	**Warramunga Arr**	**44.51**	**272**	P	P	19 04 43.4	-0.1
	0.5nm,0.3s,baz=111,slow=7.9,SNR=7.1						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	19 16 07.1	-1.2
	1.2nm,0.8s,baz=43,slow=2.7,SNR=10						

IDC 09 19:03:45.2±50.0, 16°.57S×176°.54W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.9/3, Error ellipse: s-maj=935.7km s-min=175.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.84**	**240**	P	P	19 11 29.5	+0.6
	1.5nm,0.9s,baz=79,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**46.64**	**258**	P	P	19 12 15.3	-0.5
	0.2nm,0.4s,baz=95,slow=7.7,SNR=6.5						
ASAR	**Alice Springs**	**46.88**	**253**	P	P	19 12 17.3	-0.3
	3.1nm,0.6s,baz=89,slow=8.1,SNR=78						

*IDC **09** 19:21:54.6±1.1, 10°.74N×126°.18E, h0km, mb3.8/7,*
mb1 4.0/7, mb1mx3.7/29, mbtmp3.8/7, Error ellipse:
s-maj=61.2km s-min=16.8km az=64.0
*ISCJB **09** 19:22:05.5±0.5, 10°.51N±0°.03×125°.73E±0°.06, h99km±5km,*
mb3.7/7, Error ellipse: s-maj=10.0km s-min=5.2km
az=167.8
*MAN **09** 19:22:06, 10°.53N×125°.70E, h71km, mb4.9, ML3.8, MS3.8*
ISC 09 19:22:06.0±0.9, 10°.51N±0°.04×125°.75E±0°.07, h84km±8km, n19, σ1°.35/28, mb3.6/7, 3C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.77**	**200**	⇑*i*P	**Pn**	**19 22 21.4**	**-1.3**
SCPH				*i*S	**Sn**	**19 22 33.2**	**-1.9**
MSLP	**Maasin**	**0.95**	**247**	*e*P	**Pn**	**19 22 24.8**	**+0.1**
MSLP				*e*S	**Sn**	**19 22 40.2**	**+1.5**
BESP	**Borongan**	**1.13**	**344**	*e*P	**Pn**	**19 22 27.0**	**+0.2**
BESP				*e*S	**Sn**	**19 22 43.8**	**+1.4**
OCLP	**Ormoc**	**1.24**	**296**	*e*P	**Pn**	**19 22 29.0**	**+0.8**
OCLP				*e*S	**Sn**	**19 22 46.8**	**+1.9**
CNP	**Catarman**	**2.25**	**332**	*e*P	**Pn**	**19 22 41.6**	**+0.2**
CNP				*e*S	**Sn**	**19 23 09.8**	**+1.3**
BIPH	**Bislig**	**2.39**	**165**	⇑*i*P	**Pn**	**19 22 45.4**	**+2.2**
BIPH				*i*S	**Sn**	**19 23 12.3**	**+0.6**
BUKP	**Musuan**	**2.70**	**195**	*e*P	**Pn**	**19 22 48.6**	**+1.2**
BUKP				*e*S	**Sn**	**19 23 21.5**	**+2.2**
DCPH	**Dipolog City**	**3.04**	**231**	⇑*e*P	**Pn**	**19 22 52.0**	**+0.1**
DCPH				*e*S	**Sn**	**19 23 26.5**	**-0.9**
GUIM	**Jordan**	**3.11**	**272**	*e*P	**Pn**	**19 22 54.3**	**+1.4**
GUIM				*e*S	**Sn**	**19 23 29.4**	**+0.3**
PVCP	**Virac**	**3.44**	**333**	*e*P	**Pn**	**19 22 58.5**	**+1.1**
PAGZ	**Pagadian**	**3.53**	**222**	*e*P	**Pn**	**19 23 00.3**	**+1.7**
MATI	**Mati**	**3.58**	**172**	*e*P	**Pn**	**19 23 01.1**	**+1.9**
CMAR	**Chiang Mai Arr**	**27.10**	**290**	P	**P**	**19 27 42.5**	**+1.3**
	1.2nm,0.7s,baz=100,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**31.42**	**164**	P	**P**	**19 28 18.3**	**-1.0**
	0.7nm,0.6s,baz=347,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**34.89**	**167**	P	**P**	**19 28 49.0**	**-0.6**
	1.0nm,0.4s,baz=347,slow=7.1,SNR=51						
SONM	**Songino Array**	**40.62**	**340**	P	**P**	**19 29 36.4**	**-1.3**
	0.3nm,0.7s,baz=117,slow=5.0,SNR=2.5						
STKA	**Stephens Creek**	**44.79**	**161**	P	**P**	**19 30 11.6**	**+0.1**
	2.6nm,0.6s,baz=331,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**51.53**	**323**	P	**P**	**19 31 03.1**	**-0.2**
	0.4nm,0.6s,baz=120,slow=7.9,SNR=5.7						
FINES	**FINESS Array B**	**85.44**	**332**	P	**P**	**19 34 33.0**	**-1.1**
	0.5nm,0.3s,baz=72,slow=6.2,SNR=8.5						

*ISCJB **09** 19:25:33.4±0.6, 43°.36N±0°.03×7°.49E±0°.03, h12km±3km,*
Error ellipse: s-maj=5.1km s-min=4.1km az=156.2
*CSEM **09** 19:25:33.9±0.3, 43°.36N×7°.52E, h12km, ML3.2/7, Error*
ellipse: s-maj=4.6km s-min=3.5km az=146.0
*LDG **09** 19:25:34.6±0.1, 43°.37N×7°.54E, h4km, Md2.9/3, Ml3.0/6,*
Error ellipse: s-maj=2.0km s-min=1.9km az=145.0
*ROM **09** 19:25:35.6±0.2, 43°.43N×7°.52E, h10km, Ml2.5/6, Error*
ellipse: s-maj=1.7km s-min=1.4km az=1.0
*GEN **09** 19:25:35.0, 43°.36N×7°.53E, h11km, ML2.5*
*STR **09** 19:25:36.4±0.5, 43°.43N×7°.50E, h5km, Ml2.5, Error ellipse:*
s-maj=0.0km s-min=0.0km az=0.0
ISC 09 19:25:33.3±1.0, 43°.35N±0°.03×7°.57E±0°.02, h15km±8km, n68, σ0°.59/99, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REVF	**Revere**	**0.42**	**340**	Pg	**Pb**	**19 25 42.9**	**+0.5**
REVF				Sg	**Sg**	**19 25 47.9**	**+0.4**
REVF	**Revere**	**0.42**	**340**	Pg	**Pb**	**19 25 42.9**	**+0.5**
REVF				Sg	**Sg**	**19 25 47.9**	**+0.4**
NEGI	**Seborga**	**0.51**	**11**	Pg	**Pb**	**19 25 44.7**	**+0.7**
NEGI				Sg	**Sb**	**19 25 51.5**	**+0.3**
	208nm,0.3s						
NEGI	**Seborga**	**0.51**	**11**	P	**Pb**	**19 25 44.7**	**+0.7**
NEGI				S	**Sb**	**19 25 51.5**	**+0.3**
SBF	**Sospel**	**0.52**	**349**	*e*Pg	**Pb**	**19 25 44.4**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 25 51.3**	**+0.6**
	391nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.52**	**349**	*e*Pg	**Pb**	**19 25 44.4**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 25 51.3**	**+0.6**
	196nm,0.2s,SNR=1.0						
LUCF	**Luceram**	**0.57**	**344**	Pg	**Pb**	**19 25 45.3**	**+0.3**
LUCF				Sg	**Sg**	**19 25 52.2**	**+0.1**
LUCF	**Luceram**	**0.57**	**344**	Pg	**Pb**	**19 25 45.3**	**+0.3**
LUCF				Sg	**Sg**	**19 25 52.2**	**+0.1**
IMI	**Imperia**	**0.61**	**23**	Pg	**Pn**	**19 25 46.6**	**-0.9**
IMI				Sg	**Sb**	**19 25 54.7**	**+0.6**
	388nm,0.5s						
IMI	**Imperia**	**0.61**	**23**	P	**Pn**	**19 25 46.6**	**-0.9**
IMI				S	**Sb**	**19 25 54.7**	**+0.6**
MVIF	**Mont Vial**	**0.62**	**331**	Pg	**Pb**	**19 25 46.1**	**+0.1**
MVIF				Sg	**Sg**	**19 25 54.1**	**+0.2**
MVIF	**Mont Vial**	**0.62**	**331**	Pg	**Pb**	**19 25 46.1**	**+0.1**
MVIF				Sg	**Sg**	**19 25 54.1**	**+0.2**
FRF	**La Foret Royal**	**0.70**	**288**	*e*Pg	**Pb**	**19 25 47.7**	**+0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 25 56.5**	**+0.2**
	160nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.70**	**288**	*e*Pg	**Pb**	**19 25 47.7**	**+0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 25 56.5**	**+0.2**
	80nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.77**	**269**	*e*Pg	**Pn**	**19 25 49.3**	**-0.3**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**19 25 58.6**	**+0.1**
	104nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.77**	**269**	*e*Pg	**Pn**	**19 25 49.3**	**-0.3**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**19 25 58.6**	**+0.1**
	52nm,0.2s,SNR=1.0						
RORO	**Rocca Rossa**	**0.84**	**25**	Pg	**Pn**	**19 25 50.5**	**-0.2**
RORO	**Rocca Rossa**	**0.84**	**25**	Pg	**Pn**	**19 25 50.5**	**-0.2**
ENR	**Entracque**	**0.88**	**353**	Pg	**Pn**	**19 25 50.9**	**-0.4**
ENR				Sg	**Sg**	**19 26 01.7**	**-0.4**
	92nm,0.3s						
ENR	**Entracque**	**0.88**	**353**	Pg	**Pn**	**19 25 50.9**	**-0.4**
ENR				Sg	**Sg**	**19 26 01.7**	**-0.4**
	92nm,0.3s						
STV	**Sant Anna di V**	**0.91**	**349**	Pg	**Pb**	**19 25 51.3**	**+0.4**
STV				Sg	**Sg**	**19 26 02.6**	**-0.4**
	86nm,0.2s						
STV	**Sant Anna di V**	**0.91**	**349**	P	**Pb**	**19 25 51.2**	**+0.4**
STV				Sg	**Sg**	**19 26 02.6**	**-0.4**
	86nm,0.2s						
FINB	**Finale Ligure**	**0.99**	**33**	Pg	**Pn**	**19 25 53.2**	**+0.5**
FINB	**Finale Ligure**	**0.99**	**33**	Pg	**Pn**	**19 25 53.2**	**+0.5**
DOI	**San Damiano**	**1.18**	**349**	Pg	**Pg**	**19 25 55.8**	**-0.2**
	184nm,0.3s						
DOI	**San Damiano**	**1.18**	**349**	Pg	**Pg**	**19 25 55.8**	**-0.2**
	184nm,0.3s						
PZZ	**Stroppo**	**1.20**	**344**	Pg	**Pg**	**19 25 56.4**	**-0.1**
	106nm,0.2s						
PZZ	**Stroppo**	**1.20**	**344**	P	**Pg**	**19 25 56.3**	**-0.2**
PGF	**Pioggiola**	**1.32**	**127**	*e*Pn	**Pg**	**19 25 58.3**	**-0.5**
	SNR=1.0						
PGF				*e*Sn	**Sg**	**19 26 16.0**	**0.0**
	12nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.32**	**127**	*e*Pn	**Pg**	**19 25 58.3**	**-0.5**
	SNR=1.0						
PGF				*e*Sn	**Sg**	**19 26 16.0**	**0.0**
	6.2nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.49**	**338**	*e*Pn	**Pb**	**19 26 00.6**	**-0.2**
MBDF	**Montbardon**	**1.49**	**338**	*e*Pg	**Pg**	**19 26 01.6**	**-0.4**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**19 26 19.5**	**+0.5**
	26nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.49**	**338**	*e*Pn	**Pb**	**19 26 00.6**	**-0.2**
MBDF	**Montbardon**	**1.49**	**338**	*e*Pg	**Pg**	**19 26 01.6**	**-0.4**
	SNR=1.0						
BHB	**Bricherasio**	**1.51**	**352**	P	**Pn**	**19 25 59.7**	**-0.1**
OG22	**Abries**	**1.54**	**343**	Pn	**Pg**	**19 26 02.6**	**-0.3**
OG22	**Abries**	**1.54**	**343**	Pn	**Pg**	**19 26 02.6**	**-0.3**
SMRF	**Simiane la Rot**	**1.58**	**294**	*e*Pn	**Pb**	**19 26 02.5**	**+0.3**
SMRF	**Simiane la Rot**	**1.58**	**294**	*e*Pg	**Pg**	**19 26 03.5**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**19 26 23.0**	**+1.1**
	49nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.58**	**294**	*e*Pn	**Pb**	**19 26 02.5**	**+0.3**
SMRF	**Simiane la Rot**	**1.58**	**294**	*e*Pg	**Pg**	**19 26 03.5**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**19 26 23.0**	**+1.1**
	25nm,0.3s,SNR=1.0						
RRL	**Rocca Remolon**	**1.67**	**341**	P	**Pb**	**19 26 04.0**	**+0.2**
RRL				S	**Sb**	**19 26 24.9**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.98**	**323**	*e*Pn	**Pn**	**19 26 07.3**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.98**	**323**	*e*Pg	**Pg**	**19 26 10.9**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**19 26 36.0**	**-1.1**
	15nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.98**	**323**	*e*Pn	**Pn**	**19 26 07.3**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.98**	**323**	*e*Pg	**Pg**	**19 26 10.9**	**-0.5**
	SNR=1.0						
LPG	**La Plagne**	**2.23**	**345**	*e*Pn	**Pn**	**19 26 10.5**	**+0.6**
LPG	**La Plagne**	**2.23**	**345**	*e*Pg	**Pg**	**19 26 15.3**	**-0.7**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**19 26 37.5**	**+0.2**
	SNR=1.0						
LPG	**La Plagne**	**2.23**	**345**	*e*Pn	**Pn**	**19 26 10.5**	**+0.6**
LPG	**La Plagne**	**2.23**	**345**	*e*Pg	**Pg**	**19 26 15.3**	**-0.7**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**19 26 37.5**	**+0.2**
	SNR=1.0						
LPL	**La Plagne**	**2.25**	**345**	*e*Pn	**Pn**	**19 26 11.5**	**+1.3**
	SNR=1.0						
LPL	**La Plagne**	**2.25**	**345**	*e*Pg	**Pg**	**19 26 15.8**	**-0.6**
	SNR=1.0						
LPL	**La Plagne**	**2.25**	**345**	*e*Pn	**Pn**	**19 26 11.5**	**+1.3**
	SNR=1.0						
LPL	**La Plagne**	**2.25**	**345**	*e*Pg	**Pg**	**19 26 15.8**	**-0.6**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**2.57**	**307**	*e*Pn	**Pn**	**19 26 14.6**	**+0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**2.57**	**307**	*e*Pg	**Pg**	**19 26 21.4**	**-1.2**
VIVF	**Saint-Julien-l**	**2.57**	**307**	*e*Pn	**Pn**	**19 26 14.6**	**+0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**2.57**	**307**	*e*Pg	**Pg**	**19 26 21.4**	**-1.2**
LASF	**Ste Croix**	**2.79**	**286**	*e*Pn	**Pn**	**19 26 17.9**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 26 49.5**	**-1.2**
	SNR=1.0						
LASF	**Ste Croix**	**2.79**	**286**	*e*Pn	**Pn**	**19 26 17.9**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 26 49.5**	**-1.2**
	SNR=1.0						
CABF	**La Chapelle**	**3.43**	**343**	*e*Pg	**Pg**	**19 26 37.4**	**-1.5**
CABF	**La Chapelle**	**3.43**	**343**	*e*Pg	**Pg**	**19 26 37.4**	**-1.5**
MTLF	**Montolieu**	**3.90**	**272**	*e*Pn	**Pn**	**19 26 33.0**	**+0.3**
	SNR=1.0						
MTLF	**Montolieu**	**3.90**	**272**	*e*Pn	**Pn**	**19 26 33.0**	**+0.3**
	SNR=1.0						
CAF	**Calviac**	**4.26**	**294**	*e*Pn	**Pn**	**19 26 37.6**	**-0.1**
	SNR=1.0						
CAF	**Calviac**	**4.26**	**294**	*e*Pn	**Pn**	**19 26 37.6**	**-0.1**
	SNR=1.0						
HINF	**Hinteralfeld**	**4.50**	**354**	*e*Pn	**Pn**	**19 26 41.1**	**+0.2**
HINF	**Hinteralfeld**	**4.50**	**354**	*e*Pn	**Pn**	**19 26 41.1**	**+0.2**

*SJA **09** 19:37:38.2±1.1, 23°.24S×68°.72W, h112km±25km, ML3.3,*
MW3.2
*ISCJB **09** 19:37:40.6±0.3, 23°.01S±0°.03×68°.58W±0°.05, h125km±5km,*
mb4.1/4, Error ellipse: s-maj=7.2km s-min=5.5km az=7.7
*IDC **09** 19:37:40.7±0.5, 22°.82S×68°.55W, h110km±5km, mb3.9/4,*
mb1 3.9/7, mb1mx3.5/36, mbtmp4.3/7, Error ellipse:
s-maj=20.0km s-min=18.2km az=131.0
*GUC **09** 19:37:41.2±0.5, 22°.98S×68°.52W, h107km±3km, ML4.3*
*NEIC **09** 19:37:41.0±0.0, 22°.96S×68°.52W, h108km, MG4.3(GUC),*
After GUC.
NEIC Felt [II] at Calama.
**ISC 09 19:37:41.0±0.7, 23°.00S±0°.04×68°.51W±0°.06

SIV	San Ignacio	9.89	46	P	Pn	19 39 56.7	-3.5
	comp=Z,7.7nm,0.3s,baz=246,slow=11,SNR=84						
CPUP	Villa Florida	10.69	110	P	Pn	19 40 10.7	-0.3
	comp=Z,0.2nm,0.3s,baz=256,slow=11,SNR=4.3						
PTGA	Pitinga	23.64	22	P	P	19 42 39.7	-2.8
	comp=Z,3.2nm,0.4s,baz=180,slow=20,SNR=10						
VNA3	Neumayer Olymp	58.54	161	P	P	19 47 26.4	+0.8
VNA1	Neumayer--Stat	58.75	160	P	P	19 47 27.9	+0.9
VNA2	Neumayer--Watz	59.12	160	P	P	19 47 29.8	+0.3
	baz=286,slow=7.8						
SNAA	Sanae	60.74	161	P	P	19 47 41.4	+0.6
SNAA	Sanae	60.74	161	P	P	19 47 41.6	+0.8
	comp=Z,1.6nm,0.6s,baz=272,slow=8.8,SNR=20						
TORD	Torodi Ar. Bea	77.51	70	P	P	19 49 24.7	-0.5
	comp=Z,1.2nm,0.4s,baz=256,slow=5.1,SNR=21						
TORD				pP	pP	19 49 53.5	+0.5
	comp=Z,1.6nm,0.8s,baz=248,slow=5.7,SNR=4.4						
MAW	Mawson	82.79	163	P	P	19 49 51.9	-0.6
	comp=Z,3.0nm,0.8s,baz=208,slow=7.4,SNR=12						
ASAR	Alice Springs	128.75	207	PKP	PKPdf	19 56 36.9	+0.6
	comp=Z,0.8nm,0.7s,baz=128,slow=1.7,SNR=15						
WRA	Warramunga Arr	131.84	209	PKP	PKPdf	19 56 43.1	+0.9
	comp=Z,0.7nm,0.6s,baz=155,slow=1.7,SNR=12						
ZALV	Zalesovo Beam	143.14	26	PKP	PKPbc	19 57 00.0	+1.0
	comp=Z,0.9nm,0.7s,baz=306,slow=3.0,SNR=3.3						
ZALV				pPKP	pPKPdf	19 57 29.4	-2.3
	comp=Z,0.4nm,0.4s,baz=329,slow=5.0,SNR=1.7						
MKAR	Makanchi Array	146.61	38	PKPbc	PKPdf	19 57 08.6	+0.5
	comp=Z,1.5nm,0.7s,baz=330,slow=2.9,SNR=12						
MKAR				pPKPbc	pPKPbc	19 57 39.5	+0.2
	comp=Z,1.4nm,0.8s,baz=336,slow=2.7,SNR=6.0						

WEL 09 19:45:30.3±0.3, 45°.23S×166°.79E, h12km, ML3.6/14, 1C-5D, Error ellipse: s-maj=2.7km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.34	132	P*	Pb	19 45 38.0	-0.3
DCZ				eS*	Sb	19 45 42.9	-0.8
DCZ				AML	AML	19 45 43.8	
DCZ				AML	AML	19 45 43.9	
DCZ				AML	AML	19 45 43.9	
PYZ	Puysegur Point	0.94	185	⇓P*	Pg	19 45 47.4	-0.9
PYZ				S*	Sg	19 45 59.3	-1.2
PYZ				AML	AML	19 46 06.9	
PYZ				AML	AML	19 46 07.0	
PYZ				AML	AML	19 46 07.4	
MLZ	Mavora Lakes	0.95	98	⇓P*	Pg	19 45 47.4	-1.1
MLZ				S*	Sg	19 45 59.8	-1.0
MLZ				AML	AML	19 46 02.1	
MSZ	Milford Sound	0.98	56	⇓P*	Pg	19 45 46.8	-2.4
MSZ				eS*	Sg	19 46 00.1	-1.9
MSZ				AML	AML	19 46 02.2	
MSZ				AML	AML	19 46 05.4	
MSZ				AML	AML	19 46 05.4	
WHZ	Wether Hill Ro	1.04	129	⇓P*	Pb	19 45 49.4	-0.9
WHZ				S*	Sb	19 46 03.2	-0.7
WHZ				AML	AML	19 46 03.9	
WKZ	Wanaka	1.63	76	⇑PN	Pn	19 45 58.6	-0.2
WKZ				AML	AML	19 46 25.0	
WKZ				AML	AML	19 46 25.5	
WKZ				AML	AML	19 46 25.6	
WKZ				AML	AML	19 46 25.7	
EAZ	Earnscleugh	1.78	91	PN	Pn	19 46 00.8	0.0
EAZ				AML	AML	19 46 27.1	
EAZ				AML	AML	19 46 27.6	
EAZ				AML	AML	19 46 27.8	
EAZ				AML	AML	19 46 29.3	
APZ	The Paps	1.80	153	PN	Pb	19 46 02.2	-1.0
JCZ	Jackson Bay	1.84	51	PN	Pn	19 45 59.8	-1.9
JCZ				AML	AML	19 46 28.8	
JCZ				AML	AML	19 46 32.9	
SYZ	Scrubby Hill	2.09	129	PN	Pn	19 46 05.0	-0.1
SYZ				AML	AML	19 46 38.9	
SYZ				AML	AML	19 46 38.9	
SYZ				AML	AML	19 46 41.5	
TUZ	Tuapeka	2.12	111	PN	Pn	19 46 05.4	-0.1
TUZ				AML	AML	19 46 37.5	
TUZ				AML	AML	19 46 37.5	
TUZ				AML	AML	19 46 39.5	
TUZ				AML	AML	19 46 41.6	
LBZ	Lake Benmore	2.56	72	PN	Pn	19 46 10.8	-0.8
LBZ				AML	AML	19 46 53.1	
LBZ				AML	AML	19 46 54.9	
ODZ	Otahua Downs	2.73	87	⇓PN	Pn	19 46 12.8	-1.2
ODZ				AML	AML	19 46 47.9	
ODZ				AML	AML	19 46 48.5	
ODZ				AML	AML	19 46 57.2	
HHSZ	Highcliff Hill	2.75	105	PN	Pn	19 46 13.9	-0.3
FOZ	Fox Glacier	2.76	53	PN	Pn	19 46 12.0	-2.2
FOZ				AML	AML	19 46 56.2	
FOZ				AML	AML	19 47 01.1	
FOZ				AML	AML	19 47 01.2	
FOZ				AML	AML	19 47 02.1	
RPZ	Rata Peaks	3.41	65	PN	Pn	19 46 22.5	-0.8
RPZ				AML	AML	19 47 20.8	
RPZ				AML	AML	19 47 22.4	
INZ	Inchbonnie	4.19	55	PN	Pn	19 46 31.7	-2.3
OXZ	Oxford	4.22	65	PN	Pn	19 46 33.0	-1.4
MQZ	McQueen's Vall	4.46	72	PN	Pn	19 46 36.9	-0.9
DSZ	Denniston Nort	5.05	48	PN	Pn	19 46 42.7	-3.0
THZ	Tophouse	5.64	54	PN	Pn	19 46 52.8	-1.1
QRZ	Quartz Range	6.09	46	PN	Pn	19 46 57.5	-2.6
DUWZ	D'Urville Isla	6.85	52	PN	Pn	19 47 08.9	-1.6

IDC 09 20:09:28.6±1.9, 2°.98S×129°.05E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=170.7km s-min=23.9km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.63	163	P	Pn	20 13 34.2	-1.6
	0.2nm,0.3s,baz=345,slow=12,SNR=8.7						
WRA				S	Sn	20 16 46.8	-6.2
	0.1nm,0.3s,baz=342,slow=21,SNR=3.2						
ASAR	Alice Springs	21.09	168	P	P	20 14 15.6	+0.8
	3.1nm,0.6s,baz=345,slow=9.9,SNR=77						
ASAR				S	S	20 18 08.4	-2.2
	0.2nm,0.7s,baz=351,slow=23,SNR=3.0						
MKAR	Makanchi Array	64.37	326	P	P	20 20 07.1	+0.7
	0.1nm,0.4s,baz=121,slow=7.6,SNR=3.4						
ZALV	Zalesovo Beam	67.58	334	P	P	20 20 26.2	-0.7
	0.4nm,0.4s,baz=131,slow=4.4,SNR=2.4						

JMA 09 20:11:49.5±0.1, 42°.06N×142°.48E, h68km±2km, M3.1
IDC 09 20:11:53.7±2.3, 42°.31N×141°.70E, h47km±22km, mb3.2/2, mb1 3.3/3, mb1mx2.9/36, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=44.3km s-min=16.8km az=116.0

ISC 09 20:11:50.4±1.3, 42°.11N±0°.04×142°.37E±0°.03, h27km±12km, n19, σ1°.30/31, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.33	59	P	Pn	20 12 00.2	+0.7
JNBK				eS	Sn	20 12 08.4	+3.0
JEM	Erimo	0.59	99	P	Pb	20 12 02.6	+0.3
JEM				eS	Sn	20 12 12.2	+0.4
JBT2	Biratori 2	0.67	359	P	Pn	20 12 04.4	+0.2
JBT2				eS	Sn	20 12 15.5	+1.8
JCH	Churui	0.89	55	P	Pb	20 12 06.3	-1.0
JCH				eS	Sb	20 12 18.8	0.0
JEW	Eniwo	1.00	317	P	Pn	20 12 09.3	+0.6
JEW				eS	Sn	20 12 24.4	+2.5
JKB	Kayabe	1.02	258	P	Pn	20 12 09.1	+0.1
JKB				eS	Sn	20 12 23.6	+1.2
JNB	Noboribetsu	1.05	290	P	Pb	20 12 09.3	-0.7
JNB				eS	Sn	20 12 24.4	+1.2
JFR	Furan	1.07	9	P	Pn	20 12 09.1	-0.5
JOT	Ohata	1.23	234	P	Pn	20 12 11.5	-0.3
JOT				eS	Sn	20 12 27.6	+0.1
JOB	Onbets	1.34	53	P	Pn	20 12 13.1	-0.3
JOB				eS	Sn	20 12 30.2	-0.1
JAB	Ashibetsu	1.40	356	P	Pn	20 12 14.7	+0.5
JAB				eS	Sb	20 12 34.3	+1.0
JYM2	Yakumo 2	1.49	271	P	Pn	20 12 15.4	0.0
JAR	Ashorobuto	1.57	41	P	Pn	20 12 15.7	-0.9
JAR				eS	Sn	20 12 35.1	-0.9
JSR	Shiriuchi	1.57	249	P	Pn	20 12 16.4	-0.1
JTM	Tenmabayashi	1.65	217	P	Pn	20 12 17.5	-0.1
ASAJ	Asahikawa	2.01	5	P	Pn	20 12 23.1	+0.5
	14nm,0.3s,baz=205,slow=11,SNR=93						
ASAJ				S	Sn	20 12 47.4	+0.5
	7.9nm,0.3s,baz=234,slow=33,SNR=9.5						
MJAR	Matsushiro Arr	6.43	211	P	Pn	20 13 25.2	+1.8
	0.2nm,0.3s,baz=29,slow=13,SNR=3.9						
ZALV	Zalesovo Beam	39.21	308	P	P	20 19 12.6	-3.4
	0.7nm,0.6s,baz=99,slow=6.6,SNR=4.1						
ILAR	Eielson Array	44.86	35	P	P	20 20 03.7	+1.7
	0.2nm,0.7s,baz=259,slow=7.2,SNR=3.1						

BKK 09 20:21:42.3±3.8, 16°.N±11°.9×6E±3°.2, h0km, M4.1/6, mb3.5/1, mB3.9/1, MLv4.3/6, Mw(mB)2.9/1
IDC 09 20:21:46.2±1.2, 15°.73N×96°.14E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/35, mbtmp3.4/7, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=32.8km s-min=22.5km az=50.0
ISCJB 09 20:21:48.0±0.7, 15°.76N±0°.07×96°.05E±0°.05, h28km, mb3.5/6, MS3.3/4, Error ellipse: s-maj=10.7km s-min=6.5km az=15.9

ISC 09 20:21:50.1±0.9, 15°.76N±0°.09×96°.07E±0°.09, h28km, n23, σ0°.79/20, mb3.5/6, MS3.2/4, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMPA	Umpang Tak	2.72	80	P	Pn	20 22 31.5	-0.6
UTHA	Uthaitani	3.26	93	P	Pn	20 22 39.0	-0.4
SRDT	SRDT	3.27	115	P	Pn	20 22 38.4	-1.1
CMAR	Chiang Mai Arr	3.84	45	Pn	Pn	20 22 46.8	-0.6
	2.3nm,0.3s,baz=237,slow=15,SNR=63						
CMAR				Sn	Sn	20 23 32.1	+0.4
	3.2nm,0.3s,baz=225,slow=31,SNR=6.0						
CMAR				LR	LR	20 24 43.4	
	comp=Z,294nm,18.2s,baz=164,slow=46						
CHTO	Chiang Mai	4.10	42	P	Pn	20 22 50.2	-0.7
LAMP	Lampang	4.38	51	P	Pn	20 22 54.4	-0.4
PHIT	Phitsanulok	4.41	71	P	Pn	20 22 54.5	-0.7
UTTA	Uttaradit	4.73	65	P	Pb	20 23 21.3	+8.9
PBKT	Sadao Pong	4.78	80	P	Pn	20 23 00.5	+0.2
CHAI	Chaiyaphum	5.70	88	P	Pn	20 23 13.8	+0.8
ODAN	Odare	13.68	325	eP	Pn	20 25 01.3	-1.2
RAMN	Ramite	14.19	323	eP	Pn	20 25 08.7	-0.9
	9.8nm,0.4s						
GKN	Gorkha	16.14	321	eP	Pn	20 25 34.0	-1.2
	11nm,0.5s						
KOLN	Koldanda	16.62	318	eP	Pn	20 25 41.3	-0.1
	15nm,0.6s						
MKAR	Makanchi Array	33.00	343	P	P	20 28 23.2	+0.5
	0.3nm,0.7s,baz=156,slow=9.3,SNR=2.7						
MKAR				LR	LR	20 43 37.0	
	comp=Z,39nm,20.1s,baz=192,slow=40						
SONM	Songino Array	33.10	13	LR	LR	20 42 39.5	
	comp=Z,58nm,18.2s,baz=192,slow=38						
KSRS	Korea Array	35.48	46	LR	LR	20 45 04.3	
	comp=Z,74nm,18.4s,baz=260,slow=40						
ZALV	Zalesovo Beam	39.11	349	P	P	20 29 15.1	+0.3
	0.8nm,0.6s,baz=168,slow=9.9,SNR=4.9						
GEYT	Alibeck	40.03	311	P	P	20 29 23.3	+0.4
	0.4nm,0.5s,baz=120,slow=8.7,SNR=2.6						
MJAR	Matsushiro Arr	42.69	53	LR	LR	20 49 01.3	
	comp=Z,25nm,18.3s,baz=235,slow=38						
WRA	Warramunga Arr	51.71	132	P	P	20 30 55.4	+0.2
	0.5nm,0.9s,baz=320,slow=7.5,SNR=3.2						
ASAR	Alice Springs	53.88	136	P	P	20 31 10.4	-0.8
	0.2nm,0.7s,baz=316,slow=7.7,SNR=3.1						
BRTR	Keskin Array B	58.97	307	P	P	20 31 48.7	+1.2
	0.6nm,0.7s,baz=131,slow=5.9,SNR=3.9						

IDC 09 20:27:58.4±0.6, 32°.22S×178°.42W, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.4/28, mbtmp4.4/16, ML4.2/2, MS3.6/10, Ms1 3.6/10, ms1mx3.4/22, Error ellipse: s-maj=18.6km s-min=17.3km az=56.0
BJI 09 20:28:02.1, 32°.20S×178°.63W, h19km, mb5.1/13, mB5.5/6, Ms5.3/6, Ms7 5.1/5
ISCJB 09 20:28:05.7±0.2, 32°.66S±0°.03×178°.92W±0°.06, h50km, mb4.7/26, MS3.6/9, Error ellipse: s-maj=7.8km s-min=3.5km az=27.4
NEIC 09 20:28:06.3±2.1, 32°.68S×178°.73W, h53km±18km, mb5.0/7, Error ellipse: s-maj=20.2km s-min=12.2km az=222.0

ISC 09 20:28:07.0±0.4, 32°.47S±0°.05×178°.58W±0°.08, h61km, n153, σ2°.51/145, mb4.9/26, 6C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.26	10	Pn	Pn	20 28 52.8	-2.9
	85nm,0.3s,baz=47,slow=19,SNR=5.2						
RAO				Sn	Sn	20 29 29.5	-3.8
	167nm,0.3s,baz=76,slow=23,SNR=6.3						
RAO	Raoul Island	3.26	10	Pn	Pn	20 28 46.4	-9.3
RAO				Sn	Sn	20 29 29.5	-3.8
MXZ	Matakaoa Point	5.68	206	ePn	Pn	20 29 27.0	-1.8
MXZ	Matakaoa Point	5.68	206	ePN	Pn	20 29 26.5	-2.3
MXZ				eSN	Sn	20 30 31.1	-1.6
HAZ	Te Kaha	6.05	208	ePN	Pn	20 29 33.0	-0.9
HAZ				eSN	Sn	20 30 42.2	+0.4
PUZ	Puketiti	6.16	204	ePN	Pn	20 29 33.0	-2.3
RUGZ	Raukumara Rang	6.28	208	ePN	Pn	20 29 34.6	-2.4
TWGZ	Tauwhareparae	6.35	205	ePN	Pn	20 29 36.1	-1.9
TWGZ				eSN	Sn	20 30 48.6	-0.4
CNGZ	Carnagh Statio	6.54	203	ePN	Pn	20 29 38.6	-2.0
MWZ	Matawai	6.66	207	ePN	Pn	20 29 39.7	-2.5
MWZ				eSN	Sn	20 30 56.2	-0.4
URZ	Urewera	6.76	210	Pn	Pn	20 29 43.3	-0.2
	4.5nm,0.3s,baz=270,slow=5.5,SNR=26						
URZ				Sn	Sn	20 30 59.4	+0.3
	30nm,0.3s,baz=223,slow=20,SNR=8.9						
URZ	Urewera	6.76	210	ePn	Pn	20 29 40.9	-2.7
URZ				Sn	Sn	20 30 59.4	+0.3
URZ	Urewera	6.76	210	ePN	Pn	20 29 40.6	-2.9
URZ				SN	Sn	20 30 57.6	-1.6
RIGZ	Rimuhau	6.90	205	ePN	Pn	20 29 42.6	-2.9
OUZ	Omahuta	7.06	245	ePn	Pn	20 29 50.2	+2.5
OUZ	Omahuta	7.06	245	ePN	Pn	20 29 50.0	+2.3
MUGZ	Murupara	7.09	211	ePN	Pn	20 29 45.1	-3.0
RTZ	Ruatahuna	7.12	209	ePN	Pn	20 29 44.8	-3.7
KNZ	Kokohu	7.21	204	ePN	Pn	20 29 46.7	-3.0
ARHZ	Aropaoanui	7.67	207	ePN	Pn	20 29 53.1	-2.9
ARHZ				eSN	Sn	20 31 19.0	-2.4
BKZ	Black Stump Fm	7.79	210	ePn	Pn	20 29 54.7	-2.9
BKZ	Black Stump Fm	7.79	210	ePN	Pn	20 29 54.9	-2.7
HIZ	Hauiti	8.06	220	ePn	Pn	20 29 57.6	-3.8
KAHZ	Kahuranaki	8.18	205	ePN	Pn	20 29 58.5	-4.5
FWVZ	Far West T-bar	8.27	213	ePN	Pn	20 30 02.6	-1.9
BFZ	Birch Farm	9.19	205	ePn	Pn	20 30 14.1	-2.7
BFZ	Birch Farm	9.19	205	ePN	Pn	20 30 11.0	-5.8
BFZ				SN	Sn	20 31 52.1	-6.5
TIWZ	Tintock	9.40	207	ePN	Pn	20 30 15.3	-4.4
MRZ	Mangatainoka R	9.42	208	ePN	Pn	20 30 13.6	-6.4
MRZ				eSN	Sn	20 31 54.7	-10
HOWZ	Holdsworth Sta	9.65	208	PN	Pn	20 30 16.7	-6.4
OGWZ	Otaki Gorge	9.72	209	ePN	Pn	20 30 18.3	-5.7
KIW	Kapiti Island	9.87	210	ePN	Pn	20 30 19.2	-6.9
DUWZ	D'Urville Isla	10.26	214	ePN	Pn	20 30 25.8	-5.6
DUWZ				SN	Sn	20 32 18.9	-6.1
TCW	Tory Channel	10.43	211	ePN	Pn	20 30 27.1	-6.6
TUWZ	Tuamarina	10.75	212	ePN	Pn	20 30 31.7	-6.4
NNZ	Nelson	10.84	214	ePN	Pn	20 30 33.3	-6.1
NNZ				SN	Sn	20 32 30.5	-8.5
CTZ	Chatham Island	11.35	173	ePN	Pn	20 30 45.1	-1.1
CTZ				eSN	Sn	20 32 41.9	-10
THZ	Tophouse	11.49	214	ePn	Pn	20 30 42.1	-6.2
THZ	Tophouse	11.49	214	ePN	Pn	20 30 42.1	-6.2
THZ				eSN	Sn	20 32 42.3	-13
KHZ	Kahutara	11.73	210	ePn	Pn	20 30 45.6	-5.9
KHZ	Kahutara	11.73	210	ePN	Pn	20 30 44.7	-6.7
OXZ	Oxford	13.11	212	ePn	Pn	20 31 03.6	-6.7
MQZ	McQueen's Vall	13.16	209	eSN	Sn	20 33 19.7	-16
RPZ	Rata Peaks	13.86	213	Pn	Pn	20 31 13.3	-7.1
	0.5nm,0.3s,baz=45,slow=2.9,SNR=4.2						
RPZ				Sn	Sn	20 33 38.6	-14
	1.4nm,0.3s,baz=140,slow=23,SNR=9.6						
DZM	Mont Dzumac	16.85	304	Pn	P	20 32 00.6	+0.4
	0.2nm,0.3s,baz=114,slow=20,SNR=3.8						
DZM				Sn	Sn	20 34 52.4	-13
	0.1nm,0.3s,baz=120,slow=20,SNR=2.1						
DZM				LR	LR	20 37 17.1	
	comp=Z,417nm,18.1s,baz=208,slow=33						
DZM	Mont Dzumac	16.85	304	eP	P	20 32 03.6	+3.4
	50nm,1.4s						
DZM				eLR	LR	20 35 46.3	
	797nm,25.4s						
AFI	Afiamalu	19.50	20	P	P	20 32 23.7	-5.5
	0.6nm,0.3s,baz=204,slow=10.0,SNR=3.4						
AFI				LR	LR	20 39 07.9	
	comp=Z,97nm,21.0s,baz=106,slow=35						
RAR	Rarotonga	20.15	61	LR	LR	20 39 48.3	
	comp=Z,178nm,18.8s,baz=284,slow=36						
TBI	Tubuai	27.22	78	eLR	LR	20 40 48.9	
	250nm,25.8s						
TBI	Tubuai	27.22	78	eT	T	21 02 16.0	
	27nm,0.3s						
EIDS	Eidsvold	27.42	277	eP	P	20 33 46.8	-0.2
	8.2nm,0.8s						
PAE	Paea	30.00	68	eT	T	21 05 31.2	
	9.7nm,0.2s						
PPT2	Papeete2	30.05	67	eLR	LR	20 42 02.2	
	247nm,25.5s						
PPT2	Papeete2	30.05	67	eT	T	21 05 34.9	
	6.6nm,0.3s						
HNR	Honiara	30.33	314	LR	LR	20 44 09.2	
	comp=Z,80nm,19.1s,baz=188,slow=32						
PMOR	Pomariorio Ree	32.87	65	eT	T	21 09 01.5	
	3.4nm,0.2s						
VAH	Vaihoa	32.93	66	eT	T	21 08 58.7	
	14nm,0.2s						
STKA	Stephens Creek	33.58	260	P	P	20 34 42.3	+1.0
	2.9nm,0.8s,baz=100,slow=14,SNR=7.2						
STKA				LR	LR	20 46 33.6	
	comp=Z,153nm,19.7s,baz=33,slow=33						
CTA	Charters Tower	33.70	283	P	P	20 34 44.0	+1.5
	20nm,0.6s,baz=111,slow=10,SNR=41						
CTAO	Charters Tower	33.70	283	P	P	20 34 37.1	-5.4
	22nm,0.6s						
PMG	Port Moresby	39.10	298	P	P	20 35 28.7	+0.2
	18nm,0.8s,baz=121,slow=4.2,SNR=11						
PMG	Port Moresby	39.10	298	P	P	20 35 26.1	-2.4
	16nm,0.7s						
COEN	Coen	39.41	289	eP	P	20 35 30.2	-1.0
	17nm,0.6s						
AS01	Alice Springs	42.51	269	eP	P	20 35 55.7	-0.9
AS31	Alice Springs	42.55	269	eP	P	20 35 56.5	-0.4
	7.4nm,0.6s						
ASAR	Alice Springs	42.55	269	P	P	20 35 56.5	-0.4
	18nm,0.6s,baz=107,slow=7.8,SNR=409						
ASAR				PcP	PcP	20 37 47.0	-1.5
	0.4nm,0.5s,baz=115,slow=3.9,SNR=2.6						
ASAR				PKiKP	PKiKP	20 44 52.4	-0.9
	0.2nm,0.5s,baz=86,slow=1.0,SNR=5.9						
ASAR				LR	LR	20 52 39.6	
	comp=Z,109nm,19.1s,baz=126,slow=35						
WB2	Warramunga Arr	43.72	275	eP	P	20 36 05.8	-0.6
WRAB	Tennant Creek	43.72	275	eP	P	20 36 05.7	-0.7
	36nm,0.6s						
WRA	Warramunga Arr	43.73	275	P	P	20 36 05.8	-0.7
	44nm,0.7s,baz=114,slow=7.7,SNR=333						
WRA				PcP	PcP	20 37 52.3	-0.2
	0.8nm,0.6s,baz=128,slow=3.6,SNR=2.7						
VNDA	Vanda	45.99	186	P	P	20 36 26.3	+2.6
	1.0nm,0.7s,baz=5.6,slow=9.2,SNR=6.0						
VNDA				PcP	PcP	20 38 00.5	+1.2
	1.2nm,0.8s,baz=30,slow=2.7,SNR=2.3						
JAY	Jayapura	48.44	299	P	P	20 36 42.2	-1.4
	1.6nm,0.9s,baz=353,slow=23,SNR=5.1						
FITZ	Fitzroy Crossi	51.89	272	P	P	20 37 09.0	-0.6
	5.7nm,0.6s,baz=132,slow=7.3						
NWAO	Narrogin (SRO)	53.23	251	P	P	20 37 18.3	-1.1
	6.3nm,0.9s,baz=117,slow=18,SNR=2.7						
SOEI	Soe	57.19	280	P	P	20 37 46.2	-2.0
	19nm,0.8s						
QSPA	South Pole Qui	57.64	180	P	P	20 37 47.1	-3.7
MAW	Mawson	70.20	201	P	P	20 39 13.7	+0.8
	3.2nm,0.5s,baz=136,slow=7.6,SNR=16						
MAW	Mawson	70.20	201	eP	P	20 39 13.9	+1.0
	2.0nm,1.3s						
SYO	Syowa Base	74.99	193	⇑eP	P	20 39 41.2	-0.1
SNAA	Sanae	76.10	179	P	P	20 39 49.8	+2.0
SNAA	Sanae	76.10	179	eP	P	20 39 47.4	-0.4
	723nm,0.9s						
VNA3	Neumayer Olymp	76.28	176	P	P	20 39 50.7	+2.0
VNA2	Neumayer--Watz	76.70	177	P	P	20 39 53.2	+2.1
	baz=175,slow=4.2						
VNA1	Neumayer--Stat	76.94	177	P	P	20 39 54.7	+2.4
MJAR	Matsushiro Arr	79.67	326	P	P	20 40 06.7	-1.1
	0.5nm,0.4s,baz=149,slow=19,SNR=10						
MJAR				LR	LR	21 09 31.9	
	comp=Z,19nm,21.9s,baz=35,slow=31						
PLCA	Paso Flores	81.46	133	P	P	20 40 17.4	-0.3
	1.0nm,0.4s,baz=315,slow=8.9,SNR=3.1						
KSRS	Korea Array	85.61	320	P	P	20 40 38.9	+0.3
	0.6nm,0.5s,baz=135,slow=5.8,SNR=4.0						
KSRS				LR	LR	21 16 20.3	
	comp=Z,12nm,19.5s,baz=240,slow=34						
KSAR	Wonju Array Be	85.62	320	P	P	20 40 38.9	+0.2
NJ2	Nanjing	87.22	311	eP	P	20 40 48.1	+1.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MURC	Murrieta	87.50	47	P	P	20 40 50.3	+2.2
	baz=228						
MONP2	Monument Peak	87.52	48	P	P	20 40 50.4	+2.0
	baz=228						
ARVC	Arvin	87.54	45	P	P	20 40 51.2	+3.1
	baz=227						
IKP	In-Ko-Pah, Jac	87.55	48	P	P	20 40 50.4	+2.0
	baz

comp=Z,36nm,18.3s,baz=0.0,slow=32
BJI Beijing 94.05 316 P **P** **20 41 21.0 +2.6**
BJI pmax pmax
comp=Z,5.0nm,0.6s
KMI Kunming 94.31 297 P **P** **20 41 22.7 +2.4**
KMI pmax pmax
comp=Z,5.0nm,0.7s
HLID Hailey 95.69 41 P **P** **20 41 28.2 +2.1**
baz=230
CD2 Chengdu 96.77 302 *e*P **P** **20 41 32.4 +1.3**
HHC Hu-ho-hao-te 97.31 314 *e*P Pdif 20 41 36.6 +3.1
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,99nm,9.2s
LZH Lanzhou 99.56 307 *e*P **Pdif** **20 41 46.1 +2.4**
LZH pP pP 20 41 54.2 -6.8
LZH sP sP 20 41 56.9 -11
WMQ Urumqi 114.11 308 PKP **PKiKP** **20 46 40.6 +1.4**
WMQ LR LR
comp=N,44nm,17.3s
WMQ LR LR
comp=E,40nm,17.3s
BOSA Boshof 115.17 203 PKP **PKPdf** **20 46 43.0 +1.0**
1.2nm,0.6s,baz=91,slow=2.7,SNR=2.7
MKAR Makanchi Array 118.71 309 PKP **PKPdf** **20 46 47.8 -0.1**
0.3nm,0.5s,baz=59,slow=1.2,SNR=4.2
KSH Kashi 120.85 300 *e*PKP **PKPdf** **20 46 52.0 -0.4**
KSH PP **PP** **20 48 26.4 +4.2**
KSH PKS **PKSdf** **20 50 29.7 +0.6**
KSH SKS **SKSdf** **20 53 59.6 +0.4**
KSH SKKS **SKKSac** **20 55 14.6 -1.3**
KSH SS **SS** **21 04 54.8 +5.4**
KSH AMB AMB
comp=Z,160nm,5.8s
KSH LR LR
comp=N,88nm,6.8s
KSH LR LR
comp=E,110nm,5.5s
KSH LR LR
comp=Z,170nm,6.4s
MATP Matopo 121.36 210 PKP **PKPdf** **20 46 54.8 +0.7**
2.5nm,0.7s,baz=170,slow=1.4,SNR=11
GEYT Alibeck 133.95 293 PKP **PKPdf** **20 47 17.0 -0.3**
1.1nm,0.8s,baz=90,slow=2.9,SNR=3.4
ARCES ARCESS Array B 140.50 347 PKhKP PKPpre 20 47 23.4
2.1nm,0.7s,baz=48,slow=1.8,SNR=4.0
ARCES PKP **PKPdf** **20 47 28.3 -0.1**
4.4nm,0.6s,baz=54,slow=1.6,SNR=8.5
KBZ Khabaz 145.81 301 PKPbc **PKPdf** **20 47 38.7 +0.2**
5.6nm,1.0s,baz=172,slow=2.4,SNR=8.5
FINES FINESS Array B 146.90 338 PKPbc **PKPdf** **20 47 40.9 +1.2**
14nm,0.7s,baz=48,slow=3.0,SNR=46
NB2 NORSAR Subarra150.71 350 PKP **PKPbc** **20 47 51.4 -0.2**
comp=Z,8.2nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B150.71 350 PKPbc **PKPbc** **20 47 51.6 0.0**
comp=Z,2.2nm,0.6s,baz=50,slow=1.7,SNR=30
AKASG Malin Array Be 152.60 320 PKP **PKPdf** **20 47 49.1 0.0**
comp=Z,0.3nm,0.3s,baz=50,slow=1.3,SNR=4.6
AKASG PKPbc **PKPbc** **20 47 55.9 -0.3**
comp=Z,1.7nm,0.4s,baz=46,slow=3.0,SNR=7.8
BRTR Keskin Array B 153.08 295 PKPbc **PKPbc** **20 47 57.5 -0.3**
comp=Z,1.5nm,0.5s,baz=147,slow=3.7,SNR=14
BRTR PKPab **pPKPdf** **20 48 07.7 -0.6**
comp=Z,1.0nm,0.9s,baz=138,slow=3.8,SNR=3.8
DBIC Dimbokro 153.67 166 PKP **PKPdf** **20 47 52.6 +0.8**
comp=Z,2.7nm,0.8s,baz=135,slow=2.9,SNR=3.2
EFOR EFORIE 155.81 306 ∥ *i*P **PKPab** **20 48 16.1 -4.7**
HARR Harsova 156.07 308 ∥ *i*P PKPab 20 48 08.1 -14
ODBI Odobesti 156.21 311 ∥ *i*P **PKPab** **20 48 14.9 -7.6**
BURAR Bucovina Array 156.45 317 ∥ *i*P **PKPab** **20 48 23.8 +0.2**
ARR Arges 157.91 312 ∥ *i*P **PKPab** **20 48 28.6 -1.3**
DRGR 158.34 317 ∥ *i*P **PKPab** **20 48 32.0 +0.3**
SIRR Siria 159.23 317 ∥ *i*P PKPab 20 48 22.2 -13
MDVR Moldovita 160.00 314 ∥ *i*P PKPdf 20 48 11.8 +13
TORD Torodi Ar. Bea 160.76 181 PKP **PKPdf** **20 48 01.6 +0.9**
comp=Z,0.8nm,0.9s,baz=294,slow=0.8,SNR=4.3
TORD PKPab **PKPab** **20 48 44.0 +1.3**
comp=Z,2.6nm,0.7s,baz=170,slow=3.9,SNR=13
ESDC Sonseca Array 171.60 30 PKP **PKPdf** **20 48 09.9 +1.3**
comp=Z,0.3nm,0.7s,baz=327,slow=4.1,SNR=4.4

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*ISK **09** 20:36:50.5, 39.°02N×29.°09E, h10km, MD2.4*
*ISCJB **09** 20:36:51.9±0.7, 39.°10N±0.°05×29.°02E±0.°05, h9km±4km, Error ellipse: s-maj=9.0km s-min=5.6km az=164.0*
*DDA **09** 20:36:52.0, 39.°09N×29.°03E, h7km, Md2.6*
*CSEM **09** 20:36:51.7±0.3, 39.°10N×29.°00E, h10km, MD2.6, Error ellipse: s-maj=7.1km s-min=5.4km az=130.0*
ISC 09 20:36:51.8±0.9, 39.°07N±0.°04×29.°02E±0.°03, h12km±5km, n16, σ0.9 66/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.03**	**298**	*e*PG	**Pg**	**20 36 53.8**	**-0.3**
SIMA				*e*SG	**Sg**	**20 36 55.4**	**-0.4**
SIMA	**Simav-Kutahya**	**0.03**	**298**	*e*Pg	**Pg**	**20 36 53.8**	**-0.3**
SIMA				*e*Sg	**Sg**	**20 36 55.4**	**-0.4**
DEMI	**Demirci**	**0.23**	**263**	*i* P	**Pg**	**20 36 57.2**	**+0.4**
DEMI				*i* S	**Sg**	**20 37 00.7**	**+0.5**
DEMI	**Demirci**	**0.23**	**263**	P	**Pg**	**20 36 57.2**	**+0.4**
DEMI				S	**Sg**	**20 37 00.7**	**+0.5**
GDZ	**Gediz**	**0.36**	**87**	*i* P	**Pg**	**20 36 59.1**	**0.0**
GDZ				*i* S	**Sg**	**20 37 04.5**	**+0.5**
GDZ	**Gediz**	**0.36**	**87**	P	**Pg**	**20 36 59.1**	**0.0**
GDZ				S	**Sg**	**20 37 04.5**	**+0.5**
TVSB	**Tavsanli**	**0.51**	**42**	*e*PG	**Pg**	**20 37 01.0**	**-0.9**
TVSB	**Tavsanli**	**0.51**	**42**	*e*Pg	**Pg**	**20 37 01.0**	**-0.9**
KULA	**Kula-Manisa**	**0.62**	**207**	*e*PG	**Pg**	**20 37 02.5**	**-1.3**
KULA	**Kula-Manisa**	**0.62**	**207**	*e*Pg	**Pg**	**20 37 02.5**	**-1.3**
MANT	**Manisa**	**0.68**	**212**	*i* P	**Pb**	**20 37 05.9**	**+0.2**
MANT				*i* S	**Sb**	**20 37 15.3**	**+0.2**
MANT	**Manisa**	**0.68**	**212**	P	**Pb**	**20 37 05.9**	**+0.2**
MANT				S	**Sb**	**20 37 15.3**	**+0.2**
KHAL	**Karahalli**	**0.79**	**152**	*i* P	**Pn**	**20 37 08.6**	**-0.2**
KHAL				*i* S	**Sb**	**20 37 19.2**	**+1.0**
KHAL	**Karahalli**	**0.79**	**152**	P	**Pn**	**20 37 08.6**	**-0.2**
KHAL				S	**Sb**	**20 37 19.2**	**+1.0**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*PN	**Pg**	**20 37 16.2**	**-0.5**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*Pn	**Pg**	**20 37 16.2**	**-0.5**

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*ISCJB **09** 20:37:03.2±2.1, 2.°4N±0.°3×97.°7E±0.°4, h67km, mb3.5/7, Error ellipse: s-maj=71.2km s-min=18.9km az=150.7*
*IDC **09** 20:37:41.3±12.0, 2.°4N×97.°87E, h453km±153km, mb2.9/7, mb1 3.0/7, mb1mx2.8/40, mbtmp3.6/7, Error ellipse: s-maj=63.4km s-min=17.1km az=61.0*
ISC 09 20:37:05.1±2.5, 2.°4N±0.°3×97.°7E±0.°5, h67km, n7, σ0.8 78/6, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.26**	**123**	P	**P**	**20 44 51.5**	**-0.8**
	0.2nm,0.6s,baz=303,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**43.74**	**128**	P	**P**	**20 45 04.9**	**+0.7**
	0.4nm,0.9s,baz=306,slow=7.9,SNR=3.2						
KSRS	**Korea Array**	**44.58**	**35**	P	**P**	**20 45 11.0**	**+0.4**
	0.6nm,0.5s,baz=215,slow=9.4,SNR=5.0						
SONM	**Songino Array**	**45.87**	**8**	P	**P**	**20 45 20.4**	**-0.5**
	0.2nm,0.4s,baz=194,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**46.20**	**345**	P	**P**	**20 45 23.2**	**-0.2**
	0.7nm,0.8s,baz=161,slow=7.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.45**	**350**	P	**P**	**20 46 11.3**	**+0.5**
	2.4nm,0.6s,baz=182,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**98.40**	**23**	P	P	20 50 27.8	-7.7
	0.1nm,0.5s,baz=289,slow=4.3,SNR=2.9						

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*THE **09** 20:55:31.1, 34.°42N×23.°11E, h4km±1km, ML3.5/6, Error ellipse: s-maj=3.4km s-min=1.7km az=175.0*
*ATH **09** 20:55:33.0, 34.°44N×23.°30E, h28km±2km, ML3.3/36, Error ellipse: s-maj=2.9km s-min=1.3km az=17.0*
*IDC **09** 20:55:32.9±3.0, 34.°44N×23.°41E, h21km±18km, mb3.8/9, mb1 3.8/18, mb1mx3.7/43, mbtmp3.8/18, ML3.9/7, MS3.3/2, Ms1 3.3/2, ms1mx2.5/46, Error ellipse: s-maj=20.5km s-min=13.3km az=6.0*
*CSEM **09** 20:55:33.0±0.9, 34.°44N×23.°30E, h10km, ML3.3, Error ellipse: s-maj=20.4km s-min=7.4km az=16.0*
*HLW **09** 20:55:36.1, 34.°37N×23.°97E, h10km±8km, Md3.2*
ISC 09 20:55:31.9±1.2, 34.°29N±0.°05×23.°35E±0.°03, h19km±3km, n129, σ1.9 48/157, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.82**	**48**	P	**Pb**	**20 55 47.7**	**+0.2**
GVD				S	**Sn**	**20 56 01.8**	**+1.8**
GVD	**Gavdhos**	**0.82**	**48**	P	**Pb**	**20 55 47.0**	**-0.5**
GVD				S	**Sn**	**20 55 59.6**	**-0.4**
GVD				AML	AML	20 56 08.6	
GVD	comp=N,6819μm,0.4s			AML	AML	20 56 13.3	
GVD	comp=E,3739μm,0.4s			AML	AML	20 56 13.3	
GVD	**Gavdhos**	**0.82**	**48**	P	**Pb**	**20 55 47.7**	**+0.2**
GVD				S	**Sn**	**20 55 59.6**	**-0.4**
IMMV	**Iera Moni Meta**	**1.27**	**24**	P	**Pn**	**20 55 54.7**	**0.0**
IMMV				S	**Sg**	**20 56 12.4**	**-0.8**
IMMV	**Iera Moni Meta**	**1.27**	**24**	P	**Pg**	**20 55 56.2**	**-0.4**
IMMV				AML	AML	20 56 27.8	
IMMV	comp=N,2348μm,0.7s			AML	AML	20 56 31.6	
IMMV	comp=E,3343μm,0.8s			AML	AML	20 56 31.6	
IMMV	**Iera Moni Meta**	**1.27**	**24**	P	**Pg**	**20 55 56.2**	**-0.4**
VAM	**Vamos**	**1.31**	**32**	P	**Pn**	**20 55 55.5**	**+0.3**
VAM				S	**Sg**	**20 56 14.1**	**-0.3**
VAM	**Vamos**	**1.31**	**32**	P	**Pg**	**20 55 56.5**	**-0.8**
VAM				AML	AML	20 56 21.3	
VAM	comp=N,1910μm,1.0s			AML	AML	20 56 28.8	
VAM	comp=E,3832μm,0.9s			AML	AML	20 56 28.8	
VAM	**Vamos**	**1.31**	**32**	P	**Pg**	**20 55 56.5**	**-0.8**
SIVA	**Sivas**	**1.40**	**59**	P	**Pb**	**20 55 57.9**	**+0.4**
SIVA				S	**Sg**	**20 56 18.6**	**+1.3**
SIVA	**Sivas**	**1.40**	**59**	P	**Pb**	**20 55 58.6**	**+1.1**
SIVA				AML	AML	20 56 36.9	
SIVA	comp=E,3731μm,1.0s			AML	AML	20 56 41.3	
SIVA	comp=N,2935μm,0.7s			AML	AML	20 56 41.3	
SIVA	**Sivas**	**1.40**	**59**	P	**Pb**	**20 55 58.6**	**+1.1**
SIVA				S	**Sg**	**20 56 18.6**	**+1.3**
ANKY	**Antikythira Is**	**1.57**	**359**	P	**Pb**	**20 56 00.1**	**-0.3**
ANKY				AML	AML	20 56 33.7	
ANKY	comp=N,1556μm,1.0s			AML	AML	20 56 44.0	
ANKY	comp=E,2091μm,1.2s			AML	AML	20 56 44.0	
ANKY	**Antikythira Is**	**1.57**	**359**	P	**Pb**	**20 56 00.1**	**-0.3**
IDI	**Anoyia**	**1.61**	**52**	Pg	**Pb**	**20 56 01.3**	**+0.2**
IDI	comp=E,9.3nm,0.3s,baz=235,slow=8.2,SNR=36			Lg	Lg	20 56 19.5	
IDI	comp=E,14nm,0.3s,baz=333,slow=22,SNR=6.7			LR	LR	20 56 30.7	
IDI	comp=E,132nm,19.8s,baz=241,slow=39			AML	AML	20 56 44.3	
IDI	**Anoyia**	**1.61**	**52**	P	**Pb**	**20 56 01.0**	**-0.1**
IDI				S	**Sg**	**20 56 23.3**	**-0.6**
IDI	**Anoyia**	**1.61**	**52**	P	**Pb**	**20 56 00.9**	**-0.1**
IDI				AML	AML	20 56 40.4	
IDI	comp=N,964μm,1.0s			AML	AML	20 56 44.3	
IDI	comp=E,647μm,1.1s			AML	AML	20 56 44.3	
IDI	**Anoyia**	**1.61**	**52**	P	**Pb**	**20 56 00.9**	**-0.1**
LAST	**Lasithi**	**1.96**	**63**	P	**Pb**	**20 56 07.1**	**+0.1**
LAST				AML	AML	20 57 04.4	
LAST	comp=E,439μm,1.2s			AML	AML	20 57 11.9	
LAST	comp=N,715μm,1.1s			AML	AML	20 57 11.9	
LAST	**Lasithi**	**1.96**	**63**	P	**Pb**	**20 56 07.1**	**+0.1**
KYTH	**Kithira**	**1.98**	**353**	P	**Pb**	**20 56 07.4**	**0.0**
KYTH				AML	AML	20 57 00.7	
KYTH	comp=E,1240μm,1.6s			AML	AML	20 57 07.9	
KYTH	comp=N,812μm,1.2s			AML	AML	20 57 07.9	
NPS	**Neapolis**	**2.10**	**62**	P	**Pn**	**20 56 08.4**	**+2.3**
NPS				S	**Sb**	**20 56 36.2**	**+1.1**
NPS	**Neapolis**	**2.10**	**62**	P	**Pb**	**20 56 09.1**	**-0.3**
NPS				AML	AML	20 57 12.8	
NPS	comp=N,718μm,1.3s			AML	AML	20 57 17.7	
NPS	comp=E,842μm,1.5s			AML	AML	20 57 17.7	
NPS	**Neapolis**	**2.10**	**62**	P	**Pb**	**20 56 09.1**	**-0.3**
NPS				S	**Sb**	**20 56 36.2**	**+1.1**
VLI	**Veliai**	**2.44**	**352**	P	**Pn**	**20 56 10.3**	**-0.5**
VLI				AML	AML	20 57 07.2	
VLI	comp=E,639μm,1.2s			AML	AML	20 57 12.3	
VLI	comp=N,512μm,0.9s			AML	AML	20 57 12.3	
VLI	**Veliai**	**2.44**	**352**	P	**Pn**	**20 56 10.3**	**-0.5**
ZKR	**Zakros**	**2.50**	**70**	P	**Pn**	**20 56 14.1**	**+2.5**
ZKR				AML	AML	20 57 15.0	
ZKR	comp=N,146μm,0.6s			AML	AML	20 57 22.5	
ZKR	comp=E,437μm,1.0s			AML	AML	20 57 22.5	
ZKR	**Zakros**	**2.50**	**70**	P	**Pn**	**20 56 14.1**	**+2.5**
MHLO	**Agia Marina, M**	**2.54**	**19**	P	**Pn**	**20 56 12.0**	**-0.1**
MHLO				AML	AML	20 57 01.3	
MHLO	comp=E,1537μm,1.1s			AML	AML	20 57 12.3	
MHLO	comp=N,1644μm,0.9s			AML	AML	20 57 12.3	
MHLO	**Agia Marina, M**	**2.54**	**19**	P	**Pn**	**20 56 12.0**	**-0.1**
MHLA	**Plaka, Milos I**	**2.60**	**19**	P	**Pn**	**20 56 12.5**	**-0.4**
MHLA				AML	AML	20 56 37.4	
MHLA	comp=N,2078μm,1.4s			AML	AML	20 56 46.6	
MHLA	comp=E,1733μm,1.7s			AML	AML	20 56 46.6	
MHLA	**Plaka, Milos I**	**2.60**	**19**	P	**Pn**	**20 56 12.5**	**-0.4**
SAP1	**Santorini-Akro**	**2.65**	**39**	P	**Pn**	**20 56 13.5**	**-0.2**
SAP1				S	**Sn**	**20 56 46.9**	**+1.6**
SAP1				AML	AML	20 57 11.5	
SAP1	comp=N,1575μm,1.3s			AML	AML	20 57 18.3	
SAP1	comp=E,1798μm,1.2s			AML	AML	20 57 18.3	
SAP1	**Santorini-Akro**	**2.65**	**39**	P	**Pn**	**20 56 13.5**	**-0.2**
SAP1				S	**Sn**	**20 56 46.9**	**+1.6**
THR3	**Thira Island,**	**2.69**	**38**	P	**Pn**	**20 56 14.4**	**+0.2**
THR3	**Thira Island,**	**2.69**	**38**	P	**Pn**	**20 56 14.4**	**+0.2**
SANT	**Santorini**	**2.70**	**39**	P	**Pn**	**20 56 13.3**	**-1.0**
SANT				AML	AML	20 56 53.1	
SANT	comp=N,360μm,0.7s			AML	AML	20 57 07.0	
SANT	comp=E,588μm,0.9s			AML	AML	20 57 07.0	
SANT	**Santorini**	**2.70**	**39**	P	**Pn**	**20 56 13.3**	**-1.0**
THR8	**Santorini-Mono**	**2.73**	**39**	P	**Pn**	**20 56 15.1**	**+0.3**
THR8	**Santorini-Mono**	**2.73**	**39**	P	**Pn**	**20 56 15.1**	**+0.3**
THR2	**Thira island,**	**2.74**	**38**	P	**Pn**	**20 56 14.9**	**0.0**
THR2	**Thira island,**	**2.74**	**38**	P	**Pn**	**20 56 14.9**	**0.0**
SLUM	**Salum**	**3.20**	**150**	P	**Pn**	**20 56 22.6**	**+1.4**
SLUM	baz=159			S	**Sn**	**20 56 58.9**	**0.0**
DID	**Didima**	**3.21**	**358**	P	**Pn**	**20 56 22.4**	**+1.1**
DID				AML	AML	20 57 34.9	
DID	comp=E,254μm,1.3s			AML	AML	20 57 37.5	
DID	comp=N,269μm,1.1s			AML	AML	20 57 37.5	
DID	**Didima**	**3.21**	**358**	P	**Pn**	**20 56 22.4**	**+1.1**
APE	**Apeiranthos**	**3.29**	**32**	P	**Pn**	**20 56 22.0**	**-0.4**
APE				S	**Sn**	**20 57 00.5**	**-0.6**
APE				AML	AML	20 57 10.4	
APE	comp=N,161μm,0.6s			AML	AML	20 57 12.7	
APE	comp=E,189μm,0.9s			AML	AML	20 57 12.7	
APE	**Apeiranthos**	**3.29**	**32**	P	**Pn**	**20 56 22.0**	**-0.4**
AMT	**Artemida-Makis**	**3.50**	**338**	P	**Pn**	**20 56 24.3**	**-1.0**
AMT				AML	AML	20 57 32.3	
AMT	comp=N,335μm,0.9s			AML	AML	20 57 32.8	
AMT	comp=E,334μm,1.2s			AML	AML	20 57 32.8	
AMT	**Artemida-Makis**	**3.50**	**338**	P	**Pn**	**20 56 24.3**	**-1.0**
VLY	**Voula,Athens**	**3.57**	**6**	P	**Pn**	**20 56 25.7**	**-0.6**
VLY				AML	AML	20 57 06.1	
VLY	comp=E,264μm,2.0s			AML	AML	20 57 08.0	
VLY	comp=N,207μm,1.2s			AML	AML	20 57 08.0	
VLY	**Voula,Athens**	**3.57**	**6**	P	**Pn**	**20 56 25.7**	**-0.6**
ATHU	**Athens Univers**	**3.68**	**5**	P	**Pn**	**20 56 27.7**	**-0.1**
ATHU				S	**Sn**	**20 57 07.7**	**-3.0**
ATHU				AML	AML	20 57 13.7	
ATHU	comp=N,122μm,1.2s			AML	AML	20 57 29.5	
ATHU	comp=E,84μm,1.1s			AML	AML	20 57 29.5	
ATHU	**Athens Univers**	**3.68**	**5**	P	**Pn**	**20 56 27.7**	**-0.1**
ATHU				S	**Sn**	**20 57 07.7**	**-3.0**
GUR	**Goura**	**3.73**	**348**	P	**Pn**	**20 56 31.5**	**+3.0**
GUR				AML	AML	20 57 26.2	
GUR	comp=N,207μm,0.7s			AML	AML	20 57 28.4	
GUR	comp=E,198μm,0.6s			AML	AML	20 57 28.4	
GUR	**Goura**	**3.73**	**348**	P	**Pn**	**20 56 31.5**	**+3.0**
LTK	**Loutraki**	**3.73**	**355**	P	**Pn**	**20 56 30.2**	**+1.6**
LTK				AML	AML	20 57 12.1	
LTK	comp=E,237μm,1.2s			AML	AML	20 57 23.6	
LTK	comp=N,225μm,0.9s			AML	AML	20 57 23.6	
LTK	**Loutraki**	**3.73**	**355**	P	**Pn**	**20 56 30.2**	**+1.6**
PTL	**Penteli**	**3.77**	**6**	P	**Pn**	**20 56 28.5**	**-0.5**
PTL				S	**Sn**	**20 57 11.2**	**-1.7**
PTL				AML	AML	20 57 34.7	
PTL	comp=N,143μm,1.3s			AML	AML	20 57 36.3	
PTL	comp=E,173μm,1.2s			AML	AML	20 57 36.3	
PTL	**Penteli**	**3.77**	**6**	P	**Pn**	**20 56 28.5**	**-0.5**
PTL				S	**Sn**	**20 57 11.2**	**-1.7**
THAL	**Thalero**	**3.78**	**352**	P	**Pn**	**20 56 29.0**	**-0.1**
THAL				AML	AML	20 57 27.8	
THAL	comp=E,420μm,1.1s			AML	AML	20 57 40.9	
THAL	comp=N,529μm,1.2s			AML	AML	20 57 40.9	
THAL	**Thalero**	**3.78**	**352**	P	**Pn**	**20 56 29.0**	**-0.1**
VILL	**Villia**	**3.86**	**360**	P	**Pn**	**20 56 30.6**	**+0.3**
VILL				S	**Sn**	**20 57 14.5**	**-0.7**
KLV	**Kalavryta, Ach**	**3.87**	**346**	P	**Pn**	**20 56 33.2**	**+2.8**
KLV				AML	AML	20 57 19.3	
KLV	comp=E,129μm,1.1s			AML	AML	20 57 32.4	
KLV	comp=N,68μm,0.8s			AML	AML	20 57 32.4	
KLV	**Kalavryta, Ach**	**3.87**	**346**	P	**Pn**	**20 56 33.2**	**+2.8**
DRO	**Drossia**	**3.88**	**341**	P	**Pn**	**20 56 31.8**	**+1.2**
DRO				AML	AML	20 57 24.4	
DRO	comp=N,253μm,1.1s			AML	AML	20 57 31.7	
DRO	comp=E,224μm,0.9s			AML	AML	20 57 31.7	
DRO	**Drossia**	**3.88**	**341**	P	**Pn**	**20 56 31.8**	**+1.2**
VIL2	**Platees**	**3.91**	**359**	P	**Pn**	**20 56 30.6**	**-0.3**
VIL2				S	**Sn**	**20 57 14.5**	**-1.8**
VIL2				AML	AML	20 57 25.7	
VIL2	comp=E,202μm,1.6s			AML	AML	20 57 30.3	
VIL2	comp=N,167μm,0.8s			AML	AML	20 57 30.3	
RLS	**Riolos of Patr**	**4.05**	**338**	P	**Pn**	**20 56 35.7**	**+2.8**
RLS				S	**Sn**	**20 57 17.9**	**-1.8**
RLS				AML	AML	20 57 48.9	
RLS	comp=N,131μm,1.0s			AML	AML	20 57 51.2	
RLS	comp=E,178μm,1.8s			AML	AML	20 57 51.2	
RLS	**Riolos of Patr**	**4.05**	**338**	P	**Pn**	**20 56 35.7**	**+2.8**
LAKA	**Lakka**	**4.09**	**345**	P	**Pn**	**20 56 35.3**	**+1.8**
LAKA				AML	AML	20 57 32.5	
LAKA	comp=N,165μm,1.4s			AML	AML	20 57 51.0	
LAKA	comp=E,146μm,2.2s			AML	AML	20 57 51.0	
LAKA	**Lakka**	**4.09**	**345**	P	**Pn**	**20 56 35.3**	**+1.8**
DSF	**Desfina**	**4.16**	**351**	P	**Pn**	**20 56 35.0**	**+0.5**
DSF				AML	AML	20 57 37.5	
DSF	comp=E,132μm,1.0s			AML	AML	20 57 44.4	
DSF	comp=N,121μm,1.3s			AML	AML	20 57 44.4	
DSF	**Desfina**	**4.16**	**351**	P	**Pn**	**20 56 35.0**	**+0.5**
TRIZ	**Trizonia**	**4.19**	**346**	P	**Pn**	**20 56 35.3**	**+0.5**
TRIZ	**Trizonia**	**4.19**	**346**	P	**Pn**	**20 56 35.3**	**+0.5**
KALE	**Kalithea**	**4.20**	**347**	P	**Pn**	**20 56 37.3**	**+2.2**
KALE				AML	AML	20 57 48.8	
KALE	comp=N,118μm,0.9s			AML	AML	20 57 49.0	
KALE	comp=E,86μm,0.6s			AML	AML	20 57 49.0	
KALE	**Kalithea**	**4.20**	**347**	P	**Pn**	**20 56 37.3**	**+2.2**
EFP	**Efpalio**	**4.29**	**345**	P	**Pn**	**20 56 36.9**	**+0.8**
EFP				AML	AML	20 57 31.8	
EFP	comp=E,166μm,1.3s			AML	AML	20 57 53.8	
EFP	comp=N,196μm,1.8s			AML	AML	20 57 53.8	
EFP	**Efpalio**	**4.29**	**345**	P	**Pn**	**20 56 36.9**	**+0.8**
ARG	**Arkhangelos**	**4.35**	**63**	P	**Pn**	**20 56 36.4**	**-0.6**
ARG				AML	AML	20 57 24.5	
ARG	comp=N,450μm,1.6s			AML	AML	20 57 40.3	
ARG	comp=E,286μm,0.8s			AML	AML	20 57 40.3	
ARG	**Arkhangelos**	**4.35**	**63**	P	**Pn**	**20 56 36.4**	**-0.6**
VLS	**Valsamata**	**4.47**	**331**	P	**Pn**	**20 56 37.3**	**-1.4**
VLS				S	**Sn**	**20 57 26.5**	**-3.7**
VLS				AML	AML	20 57 29.2	
VLS	comp=N,157μm,0.6s			AML	AML	20 57 34.4	
VLS	comp=E,138μm,0.5s			AML	AML	20 57 34.4	
VLS	**Valsamata**	**4.47**	**331**	P	**Pn**	**20 56 37.3**	**-1.4**
DSL	**Palaion Diasel**	**5.16**	**340**	P	**Pn**	**20 56 48.6**	**+0.5**
DSL				S	**Sn**	**20 57 47.0**	**-0.1**
DSL				AML	AML	20 57 49.8	
DSL	comp=N,229μm,0.9s			AML	AML	20 57 55.4	
DSL	comp=E,128μm,0.4s			AML	AML	20 57 55.4	
DSL	**Palaion Diasel**	**5.16**	**340**	P	**Pn**	**20 56 48.6**	**+0.5**
THL	**Klokotos Trika**	**5.37**	**349**	P	**Pn**	**20 56 50.5**	**-0.5**
THL				AML	AML	20 57 59.7	
THL	comp=E,59μm,0.7s			AML	AML	20 58 03.4	
THL	comp=N,50μm,1.5s			AML	AML	20 58 03.4	
THL	**Klokotos Trika**	**5.37**	**349**	P	**Pn**	**20 56 50.5**	**-0.5**
VAE	**Valguarnera**	**7.92**	**296**	Pn	**Pn**	**20 57 25.7**	**-0.3**
VAE	comp=N,0.5nm,0.3s,baz=28,slow=19,SNR=2.0			Sn	**Sn**	**20 58 59.3**	**+4.1**
VAE	comp=N,1.2nm,0.3s,baz=221,slow=2.7,SNR=2.5			Sn	**Sn**	**20 58 59.3**	**+4.1**
BARS	**Barje**	**8.59**	**352**	*e*Pn	**Pn**	**20 57 34.5**	**-0.8**
RSH		**9.36**	**108**	P	**Pn**	**20 57 43.7**	**-2.1**
	baz=109						
ZAGS	**Zajecar**	**9.54**	**355**	*e*Pn	**Pn**	**20 57 47.8**	**-0.5**
GRUS	**Gruza**	**9.80**	**349**	*e*Pn	**Pn**	**20 57 49.5**	**-2.2**
BRTR	**Keskin Array B**	**9.85**	**54**	Pn	**Pn**	**20 57 53.7**	**+1.0**
	comp=N,0.1nm,0.3s,baz=242,slow=13,SNR=9.1						
HNKL	**Nakhl**	**10.01**	**113**	P	**Pn**	**20 57 53.3**	**-1.5**
	baz=114						
MMAI	**Mount Meron Ar**	**10.13**	**94**	Pn	**Pn**	**20 57 55.7**	**-0.7**
	comp=N,1.5nm,0.3s,baz=269,slow=12,SNR=8.8						
MMAI	comp=N,1.1nm,0.3s,baz=276,slow=29,SNR=3.9			Sn	**Sn**	**20 59 44.6**	**-5.0**
DIVS	**Divibare**	**10.13**	**346**	*e*Pn	**Pn**	**20 57 54.8**	**-1.6**
TRUS	**Trudelj**	**10.17**	**348**	*e*Pn	**Pn**	**20 57 58.6**	**+1.7**
TEKS	**Tekeris**	**10.66**	**345**	*e*Pn	**Pn**	**20 58 00.8**	**-2.7**
EIL	**Elat**	**10.88**	**112**	Pn	**Pn**	**20 58 07.0**	**+0.4**
	comp=N,0.2nm,0.3s,baz=301,slow=1.8,SNR=6.5						
EIL	comp=N,0.5nm,0.3s,baz=342,slow=20,SNR=2.9			Sn	**

HFS	**Hagfors**	**26.61 349**	P		**P**	**21 01 08.6**	**-0.3**
	comp=N,1.5nm,0.5s,baz=156,slow=11,SNR=6.8						
FINES	**FINESS Array B**	**27.22 3**	P		**P**	**21 01 13.6**	**-0.7**
	comp=N,2.1nm,0.9s,baz=181,slow=11,SNR=3.8						
NOA	**NORSAR Array B**	**27.89 347**	LR		LR	21 16 14.5	
	comp=N,33nm,18.3s,baz=80,slow=45						
EKA	**Eskdalemuir Ar**	**27.92 327**	P		**P**	**21 01 21.2**	**+0.5**
	comp=N,1.9nm,0.5s,baz=124,slow=8.0,SNR=14						
TORD	**Torodi Ar. Bea**	**28.80 228**	P		**P**	**21 01 31.2**	**+2.4**
	comp=N,1.5nm,0.9s,baz=42,slow=9.3,SNR=8.6						
MKAR	**Makanchi Array**	**45.49 56**	P		**P**	**21 03 50.0**	**0.0**
	comp=N,1.0nm,0.3s,baz=267,slow=7.7,SNR=26						
ZALV	**Zalesovo Beam**	**46.68 46**	P		**P**	**21 03 58.3**	**-0.8**
	comp=N,0.7nm,0.3s,baz=275,slow=9.8,SNR=4.9						
SONM	**Songino Array**	**61.19 50**	P		**P**	**21 05 45.2**	**-0.2**
	comp=N,1.0nm,0.9s,baz=256,slow=6.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**68.16 82**	P		**P**	**21 06 31.2**	**-0.1**
	comp=N,0.3nm,0.5s,baz=300,slow=7.3,SNR=5.4						

IDC 09 21:04:47.0±5.1, 6°.59S×128°.29E, h250km±54km, mb3.2/2, mb1 3.6/4, mb1mx3.0/27, mbtmp4.1/4, Error ellipse: s-maj=96.3km s-min=15.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**157**	P	Pn	21 08 01.4	0.0
	0.7nm,0.3s,baz=336,slow=12,SNR=39						
WRA				S	S	21 10 37.1	-5.0
	0.1nm,0.3s,baz=334,slow=24,SNR=5.5						
ASAR	**Alice Springs**	**17.82**	**163**	P	Pn	21 08 39.5	-1.0
	1.9nm,0.3s,baz=345,slow=12,SNR=197						
ASAR				S	S	21 11 49.2	-0.2
	0.1nm,0.3s,baz=345,slow=20,SNR=6.9						
MKAR	**Makanchi Array**	**66.96**	**328**	P	P	21 15 11.0	-1.9
	0.3nm,0.4s,baz=118,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**70.48**	**334**	P	P	21 15 36.2	+1.9
	0.4nm,0.5s,baz=149,slow=6.4,SNR=2.4						

*IDC **09** 21:16:26.1±0.6, 32°.58N×93°.83E, h0km, mb4.1/22, mb1 4.1/26, mb1mx4.0/57, mbtmp4.0/26, ML3.7/4, MS3.1/7, Ms1 3.1/7, ms1mx2.9/32, Error ellipse: s-maj=19.4km s-min=12.9km az=43.0*

*BJI **09** 21:16:26.4, 32°.05N×94°.02E, h6km, mb4.0/5, mB3.9/1, ML3.7/3, Ms3.7/7, Ms7 3.7/7*

*ISCJB **09** 21:16:27.3±0.3, 32°.51N±0°.04×93°.75E±0°.05, h22km, mb4.3/34, MS3.1/4, Error ellipse: s-maj=6.2km s-min=4.8km az=139.0*

*NEIC **09** 21:16:32.5±0.7, 32°.59N×93°.88E, h50km±7km, mb4.5/18, Error ellipse: s-maj=6.7km s-min=4.4km az=57.0*

ISC 09 21:16:29.3±0.4, 32°.45N±0°.05×93°.66E±0°.05, h22km, n82, σ1§36/82, mb4.3/34, MS3.0/4, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.49**	**219**	Pg	**Pb**	**21 17 29.2**	**-1.4**
LSA				LR	LR		
	comp=N,240nm,12.2s						
LSA				LR	LR		
	comp=E,910nm,17.2s						
LSA				LR	LR		
	comp=Z,920nm,7.9s						
LSA	**Lhasa**	**3.49**	**219**	*e*Pn	**Pb**	**21 17 29.4**	**-1.2**
GTA	**Gaotai**	**8.55**	**34**	*e*P	**Pn**	**21 18 32.6**	**+0.7**
GTA				pP		21 18 35.7	
GTA				sP		21 18 38.7	
GTA				S	**Sn**	**21 20 10.4**	**+2.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
GTA				LR	LR		
	comp=N,180nm,10.7s						
GTA				LR	LR		
	comp=E,220nm,9.6s						
GTA				LR	LR		
	comp=Z,260nm,8.6s						
CD2	**Chengdu**	**8.74**	**97**	*e*P	Pn	21 18 28.8	-5.6
LZH	**Lanzhou**	**9.17**	**64**	*e*P	**Pn**	**21 18 42.2**	**+1.7**
LZH				pP		21 18 46.8	
LZH				sP		21 18 50.2	
LZH				*e*S	**Sn**	**21 20 27.0**	**+3.9**
LZH				sS		21 20 31.7	
LZH				LR	LR		
	comp=N,390nm,9.1s						
LZH				LR	LR		
	comp=E,350nm,6.8s						
LZH				LR	LR		
	comp=Z,390nm,9.5s						
WMQ	**Urumqi**	**12.28**	**339**	*e*P	**Pn**	**21 19 26.3**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN	**Xi'an**	**12.87**	**79**	P	**Pn**	**21 19 32.3**	**+1.3**
ENH	**Enshi**	**13.70**	**95**	*e*Pn	**Pn**	**21 19 42.4**	**+0.1**
CM31	**Chiang Mai Arr**	**14.72**	**160**	*e*Pn	**Pn**	**21 19 57.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**14.72**	**160**	Pn	**Pn**	**21 19 57.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=327,slow=12,SNR=12						
CM01	**Chiang Mai Arr**	**14.76**	**160**	*e*Pn	**Pn**	**21 19 58.5**	**+1.7**
MK01	**Makanchi Array**	**16.74**	**332**	*e*Pn	**Pn**	**21 20 22.4**	**0.0**
MK31	**Makanchi Array**	**16.77**	**332**	*e*Pn	**P**	**21 20 25.2**	**+0.4**
MK32	**Makanchi Array**	**16.77**	**332**	*e*Pn	**Pn**	**21 20 21.2**	**-1.5**
MKAR	**Makanchi Array**	**16.77**	**332**	Pn	**Pn**	**21 20 21.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=143,slow=13,SNR=16						
MKAR				LR	LR	21 26 58.6	
	comp=Z,58nm,19.8s,baz=152,slow=38						
MKAR	**Makanchi Array**	**16.77**	**332**	*e*Pn	**P**	**21 20 25.2**	**+0.4**
	comp=Z,15nm,0.7s						
MAKZ	**Makanchi**	**16.90**	**331**	*e*Pn	**P**	**21 20 26.8**	**+0.5**
	comp=Z,4.7nm,1.0s						
SONA0	**Songino Array**	**18.15**	**28**	*e*Pn	**Pn**	**21 20 37.7**	**-2.3**
	comp=Z,3.5nm,0.7s						
SONM	**Songino Array**	**18.15**	**28**	P	**Pn**	**21 20 37.7**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=30						
SONM				LR	LR	21 28 10.4	
	comp=Z,63nm,21.6s,baz=220,slow=39						
SONA1	**Songino Array**	**18.16**	**28**	*e*Pn	**Pn**	**21 20 38.0**	**-2.2**
AAK	**Ala-Archa**	**18.25**	**309**	P	**P**	**21 20 43.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=105,slow=7.9,SNR=6.4						
AAK				LR	LR	21 29 32.6	
	comp=Z,45nm,18.2s,baz=129,slow=43						
AAK	**Ala-Archa**	**18.25**	**309**	*e*P	**P**	**21 20 44.6**	**+3.2**
ULN	**Ulaanbaatar**	**18.45**	**30**	*e*P	**P**	**21 20 42.0**	**-1.5**
	comp=Z,2.4nm,0.7s						
TLY	**Talaya**	**20.56**	**18**	LR	LR	21 29 50.0	
	comp=Z,62nm,19.1s,baz=180,slow=39						
KBL	**Kabul**	**20.63**	**283**	*e*P	**P**	**21 21 09.5**	**+2.0**
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**21.10**	**307**	*e*P	**P**	**21 21 12.9**	**+0.6**
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**21.33**	**333**	P	**P**	**21 21 14.4**	**-0.3**
	comp=Z,10nm,0.8s,baz=137,slow=11,SNR=65						
KURBB				PcP	**PcP**	**21 25 17.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=158,slow=1.6,SNR=4.8						
KURK	**Kurchatov**	**21.37**	**333**	*e*P	**P**	**21 21 15.2**	**+0.2**
KURK				*e*S	Sn	21 25 17.6	-1.6
ZAA0	**Zalesovo Array**	**22.40**	**346**	*e*P	**P**	**21 21 25.2**	**-0.9**
ZALV	**Zalesovo Beam**	**22.40**	**346**	P	**P**	**21 21 24.3**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=158,slow=11,SNR=10						
ZALV				LR	LR	21 31 47.0	
	comp=Z,21nm,21.1s,baz=44,slow=41						
ZAA1	**Zalesovo Array**	**22.41**	**346**	*e*P	**P**	**21 21 24.3**	**-1.9**
BVAR	**Borovoye Array**	**26.53**	**328**	P	**P**	**21 22 05.4**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=146,slow=11,SNR=8.7						
BVAR				PcP	**PcP**	**21 25 29.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=202,slow=1.6,SNR=4.8						
KS15	**Wonju Array Si**	**28.39**	**70**	*e*P	**P**	**21 22 20.2**	**-1.9**
KSAR	**Wonju Array Be**	**28.39**	**70**	P	**P**	**21 22 20.2**	**-1.9**
KSRS	**Korea Array**	**28.42**	**70**	P	**P**	**21 22 20.2**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=266,slow=9.5,SNR=8.5						
GEYT	**Alibeck**	**29.44**	**291**	P	**P**	**21 22 32.2**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=101,slow=7.7,SNR=5.9						
GEYT				LR	LR	21 36 43.0	
	comp=Z,38nm,18.5s,baz=140,slow=41						
WSAR	**Wadi Sarin**	**32.19**	**262**	P	**P**	**21 22 58.2**	**+2.4**
	comp=Z,4.5nm,1.1s,baz=164,slow=9.2,SNR=3.9						
ARU	**Arti**	**34.08**	**325**	P	**P**	**21 23 11.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=132,slow=1.8,SNR=4.4						
ARU	**Arti**	**34.08**	**325**	*e*P	**P**	**21 23 11.3**	**-0.6**
	comp=Z,11nm,1.5s						
MYLDM	**Lahad Datu**	**35.70**	**134**	*e*P	**P**	**21 23 26.7**	**+0.5**
	comp=Z,22nm,1.4s						
RAYN	**Ar Rayn**	**43.15**	**271**	*e*P	**P**	**21 24 27.7**	**-0.8**
	comp=Z,16nm,1.9s						
TIXI	**Tiksi**	**43.51**	**15**	P	**P**	**21 24 30.2**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=238,slow=6.5,SNR=3.3						
BR101	**Keskin Array S**	**48.26**	**296**	*e*P	**P**	**21 25 09.4**	**+0.5**
BRTR	**Keskin Array B**	**48.26**	**296**	P	**P**	**21 25 09.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=89,slow=6.2,SNR=6.0						
BR231	**Keskin MP Arra**	**48.89**	**297**	*e*P	**P**	**21 25 11.6**	**-2.0**
EIL	**Elat**	**49.83**	**283**	P	**P**	**21 25 21.2**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=37,slow=7.8,SNR=2.8						
AKASG	**Malin Array Be**	**49.90**	**311**	P	**P**	**21 25 20.3**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=77,slow=6.7,SNR=3.7						
AKBB	**Malin Array Si**	**49.90**	**311**	*e*P	**P**	**21 25 20.3**	**-0.7**
	comp=Z,10.0nm,0.8s						
FIA1	**FINESS Array S**	**51.45**	**325**	*e*P	**P**	**21 25 33.1**	**+0.6**
	comp=Z,97nm,1.9s						
FIA0	**FINESS Array S**	**51.45**	**325**	*e*P	**P**	**21 25 32.8**	**+0.2**
FINES	**FINESS Array B**	**51.45**	**325**	P	**P**	**21 25 32.7**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=86,slow=7.7,SNR=11						
ARA0	**ARCESS Array S**	**52.38**	**336**	*e*P	**P**	**21 25 39.6**	**+0.2**
ARCES	**ARCESS Array B**	**52.38**	**336**	P	**P**	**21 25 39.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=94,slow=9.1,SNR=2.7						
PSZ	**Piszkesteto**	**56.35**	**309**	‖ *i*P	P	21 26 00.5	-8.2
HFS	**Hagfors**	**57.59**	**324**	P	**P**	**21 26 17.6**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=77,slow=9.0,SNR=6.2						
NC405	**NORSAR Array S**	**58.38**	**326**	*e*P	**P**	**21 26 23.2**	**+0.5**
NC303	**NORSAR Array S**	**58.52**	**326**	*e*P	**P**	**21 26 24.2**	**+0.5**
NC602	**NORSAR Array S**	**58.53**	**325**	*e*P	**P**	**21 26 23.6**	**-0.1**
NB201	**NORSAR Array S**	**58.59**	**326**	*e*P	**P**	**21 26 23.9**	**-0.3**
NB2	**NORSAR Subarra**	**58.63**	**326**	P	**P**	**21 26 24.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=78,slow=6.9						
NB200	**NORSAR Array S**	**58.63**	**326**	*e*P	**P**	**21 26 24.1**	**-0.4**
NOA	**NORSAR Array B**	**58.63**	**326**	P	**P**	**21 26 24.1**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=73,slow=8.7,SNR=7.0						
NC204	**NORSAR Array S**	**58.80**	**326**	*e*P	**P**	**21 26 25.7**	**0.0**
MBWA	**Marble Bar**	**58.85**	**151**	*e*P	**P**	**21 26 26.4**	**0.0**
	comp=Z,16nm,1.1s						
GERES	**GERESS Array B**	**60.12**	**311**	P	**P**	**21 26 36.1**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=82,slow=7.1,SNR=5.3						
WR1	**Warramunga Arr**	**65.03**	**137**	*e*P	**P**	**21 27 07.5**	**-0.4**
	comp=Z,18nm,1.9s						
WRA	**Warramunga Arr**	**65.03**	**137**	P	**P**	**21 27 07.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=320,slow=8.7,SNR=5.2						
WB2	**Warramunga Arr**	**65.03**	**137**	*e*P	**P**	**21 27 07.9**	**-0.1**
	comp=Z,24nm,1.9s						
COEN	**Coen**	**66.11**	**126**	*e*P	**P**	**21 27 13.2**	**-1.9**
	comp=Z,7.4nm,1.3s						
EKA	**Eskdalemuir Ar**	**67.62**	**322**	P	**P**	**21 27 22.9**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=63,slow=5.9,SNR=3.5						
AS31	**Alice Springs**	**67.75**	**140**	*e*P	**P**	**21 27 24.8**	**-0.6**
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**67.75**	**140**	P	**P**	**21 27 26.6**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=323,slow=6.4,SNR=40						
AS01	**Alice Springs**	**67.78**	**140**	*e*P	**P**	**21 27 26.3**	**+0.8**
NWAO	**Narrogin (SRO)**	**68.72**	**159**	*e*P	**P**	**21 27 31.5**	**+0.3**
	comp=Z,70nm,1.6s						
IL1	**Eielson Array**	**72.28**	**23**	*e*P	**P**	**21 27 49.7**	**-3.0**
ILAR	**Eielson Array**	**72.28**	**23**	P	**P**	**21 27 52.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=314,slow=5.6,SNR=7.6						
ILB	**Eielson Array**	**72.28**	**23**	*e*P	**P**	**21 27 52.0**	**-0.6**
STKA	**Stephens Creek**	**78.38**	**140**	P	**P**	**21 28 28.4**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=347,slow=7.2,SNR=2.9						
STKA	**Stephens Creek**	**78.38**	**140**	*e*P	**P**	**21 28 28.4**	**+0.3**
	comp=Z,6.5nm,1.9s						
EIDS	**Eidsvold**	**79.38**	**129**	*e*P	P	21 28 28.2	-5.4
	comp=Z,7.4nm,1.1s						
TOA1	**Torodi Ar. Sit**	**84.70**	**282**	*e*P	**P**	**21 29 02.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**84.70**	**282**	P	**P**	**21 29 02.6**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=51,slow=4.6,SNR=27						
TORD				LR	LR	22 11 21.8	
	comp=Z,46nm,18.3s,baz=135,slow=39						

*CSEM **09** 21:22:58.5, 36°.98N×15°.05E, h10km, MD1.9/7*

ROM 09 21:22:58.5±0.1, 36°.98N×15°.05E, h10km±1km, Md1.9/7, Ml2.5/6, Error ellipse: s-maj=1.8km s-min=1.1km az=161.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVL	**Avola**	**0.06**	**104**	Pg	Pg	21 23 01.2	+0.5
HAVL				Sg	Sg	21 23 02.7	+0.5
	3μm,0.3s						
HAVL	**Avola**	**0.06**	**104**	Pg	Pg	21 23 01.2	+0.5
HAVL				Sg	Sg	21 23 02.7	+0.5
	3μm,0.3s						
SSY	**Sortino**	**0.18**	**6**	Pg	Pg	21 23 03.2	+0.8
SSY				Sg	Sg	21 23 06.4	+1.4
	2μm,0.3s						
SSY	**Sortino**	**0.18**	**6**	Pg	Pg	21 23 03.2	+0.8
SSY				Sg	Sg	21 23 06.4	+1.4
	2μm,0.3s						
HMDC	**Modica**	**0.21**	**265**	Pg	Pg	21 23 03.6	+0.6
HMDC				Sg	Sg	21 23 07.2	+1.2
	416nm,0.3s						
HMDC	**Modica**	**0.21**	**265**	Pg	Pg	21 23 03.6	+0.6
HMDC				Sg	Sg	21 23 07.2	+1.2
	416nm,0.3s						
HCRL	**Carlentini**	**0.31**	**358**	Pg	Pb	21 23 05.4	-0.7
HCRL				Sg	Sb	21 23 10.5	-0.7
	2μm,0.2s						
HCRL	**Carlentini**	**0.31**	**358**	Pg	Pb	21 23 05.4	-0.7
HCRL				Sg	Sb	21 23 10.5	-0.7
	2μm,0.2s						
AGST	**Augusta-Monte**	**0.32**	**27**	Pg	Pb	21 23 05.8	-0.4
AGST				Sg	Sb	21 23 10.4	-1.0
	302nm,1.0s						
AGST	**Augusta-Monte**	**0.32**	**27**	Pg	Pb	21 23 05.8	-0.4
AGST				Sg	Sb	21 23 10.4	-1.0
	302nm,1.0s						
HAGA	**Augusta**	**0.32**	**15**	Pg	Pg	21 23 05.6	+0.7
HAGA				Sg	Sb	21 23 10.6	-1.0
	355nm,0.3s						
HAGA	**Augusta**	**0.32**	**15**	Pg	Pg	21 23 05.6	+0.7
HAGA				Sg	Sb	21 23 10.6	-1.0
	355nm,0.3s						
HVZN	**Vizzini**	**0.33**	**307**	Pg	Pg	21 23 05.6	+0.4
HVZN				Sg	Sb	21 23 11.8	-0.3
	531nm,1.2s						
HVZN	**Vizzini**	**0.33**	**307**	Pg	Pg	21 23 05.6	+0.4
HVZN				Sg	Sb	21 23 11.8	-0.3
	531nm,1.2s						

*IDC **09** 21:23:04.5±0.6, 35°.95N×22°.35E, h0km, mb4.2/23, mb1 4.2/28, mb1mx4.1/46, mbtmp4.1/28, ML3.9/4, MS3.3/18, Ms1 3.3/18, ms1mx3.2/39, Error ellipse: s-maj=15.7km s-min=12.7km az=166.0*

*BJI **09** 21:23:06.3, 36°.33N×21°.69E, h40km, mb4.5/24, mB4.9/13, Ms4.7/5, Ms7 4.4/6*

*MOS **09** 21:23:07.2±1.1, 35°.98N×22°.13E, h28km, mb4.4/19, Error ellipse: s-maj=8.1km s-min=5.0km az=71.5*

*ATH **09** 21:23:10.5, 35°.91N×22°.26E, h42km±1km, ML3.9/11, Error ellipse: s-maj=2.3km s-min=0.7km az=48.0*

*ISCJB **09** 21:23:10.4±0.3, 35°.89N±0°.02×22°.25E±0°.03, h67km±2km, mb4.3/50, Error ellipse: s-maj=4.9km s-min=2.4km az=37.5*

*NEIC **09** 21:23:10.4±0.0, 35°.91N×22°.26E, h42km, mb4.6/18, After ATH.*

*THE **09** 21:23:11.2, 35°.82N×22°.16E, h46km±6km, ML4.1/15, Error ellipse: s-maj=7.1km s-min=0.6km az=55.0*

*CSEM **09** 21:23:11.6±0.1, 35°.88N×22°.24E, h60km, mb4.3/28, Error ellipse: s-maj=4.3km s-min=2.5km az=31.0*

*HLW **09** 21:23:16.2, 35°.83N×23°.35E, h10km±10km, Md3.6, Ml3.3*

ISC 09 21:23:11.1±0.6, 35°.86N±0°.03×22°.20E±0°.03, h58km±5km, n559, σ1§71/636, mb4.3/50, MS3.5/11, 15C-10D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.80**	**59**	P	**Pn**	**21 23 25.8**	**-0.7**
KYTH				S	**Sn**	**21 23 37.8**	**-0.1**
KYTH	**Kithira**	**0.80**	**59**	P	**Pn**	**21 23 25.4**	**-1.1**
KYTH	**Kithira**	**0.80**	**59**	P	**Pn**	**21 23 25.8**	**-0.7**
KYTH				S	**Sn**	**21 23 37.8**	**-0.1**
KYTH	**Kithira**	**0.80**	**59**	*e*Pn	**Pn**	**21 23 25.8**	**-0.7**
KYTH				*e*Sn	**Sn**	**21 23 37.8**	**-0.1**
ANKY	**Antikythira Is**	**0.90**	**89**	P	**Pn**	**21 23 27.6**	**-0.1**
ANKY				S	**Sn**	**21 23 40.5**	**+0.5**
ANKY	**Antikythira Is**	**0.90**	**89**	P	**Pn**	**21 23 27.7**	**0.0**
ANKY				S	**Sn**	**21 23 38.6**	**-1.3**
ANKY				AML	AML	21 23 42.1	
	comp=N,14270μm,0.5s						
ANKY				AML	AML	21 23 43.5	
	comp=E,32473μm,0.9s						
ANKY	**Antikythira Is**	**0.90**	**89**	P	**Pn**	**21 23 27.7**	**0.0**
ANKY				S	**Sn**	**21 23 38.7**	**-1.3**
ANKY	**Antikythira Is**	**0.90**	**89**	*e*Pn	**Pn**	**21 23 27.6**	**-0.1**
ANKY				*e*Sn	**Sn**	**21 23 40.5**	**+0.5**
VLI	**Veliai**	**1.05**	**35**	P	**Pn**	**21 23 30.1**	**+0.4**
VLI				S	**Sn**	**21 23 45.2**	**+1.7**
VLI	**Veliai**	**1.05**	**35**	P	**Pn**	**21 23 28.9**	**-0.8**
VLI				S	**Sn**	**21 23 42.1**	**-1.4**
VLI				AML	AML	21 23 50.5	
	comp=E,29568μm,0.9s						
VLI				AML	AML	21 23 52.1	
	comp=N,14564μm,0.9s						
VLI	**Veliai**	**1.05**	**35**	P	**Pn**	**21 23 30.1**	**+0.4**
VLI				S	**Sn**	**21 23 42.1**	**-1.4**
VLI	**Veliai**	**1.05**	**35**	*e*Pn	**Pn**	**21 23 30.1**	**+0.4**
VLI				*e*Sn	**Sn**	**21 23 45.2**	**+1.7**
PYL	**PYLOS**	**1.10**	**341**	P	**Pn**	**21 23 29.6**	**-0.8**
PYL				S	**Sn**	**21 23 45.8**	**+1.1**
PYL	**PYLOS**	**1.10**	**341**	P	**Pn**	**21 23 29.3**	**-1.1**
PYL				S	**Sn**	**21 23 44.5**	**-0.2**
PYL				AML	AML	21 23 53.3	
	comp=N,11328μm,0.5s						
PYL				AML	AML	21 23 57.5	
	comp=E,9745μm,0.7s						
PYL	**PYLOS**	**1.10**	**341**	P	**Pn**	**21 23 29.6**	**-0.8**
PYL				S	**Sn**	**21 23 44.5**	**-0.2**
PYL	**PYLOS**	**1.10**	**341**	*e*Pn	**Pn**	**21 23 29.6**	**-0.8**
PYL				*e*Sn	**Sn**	**21 23 45.8**	**+1.1**
ITM	**Ithomi**	**1.34**	**351**	P	**Pn**	**21 23 33.1**	**-0.5**
ITM				S	**Sn**	**21 23 50.6**	**+0.2**
ITM	**Ithomi**	**1.34**	**351**	P	**Pn**	**21 23 32.8**	**-0.7**
ITM				S	**Sn**	**21 23 50.8**	**+0.4**
ITM				AML	AML	21 24 02.3	
	comp=N,8508μm,0.5s						
ITM				AML	AML	21 24 03.7	
	comp=E,8032μm,0.7s						
ITM	**Ithomi**	**1.34**	**351**	P	**Pn**	**21 23 33.1**	**-0.5**
ITM				S	**Sn**	**21 23 50.6**	**+0.2**
ITM	**Ithomi**	**1.34**	**351**	*e*Pn	**Pn**	**21 23 33.1**	**-0.5**
ITM				*e*Sn	**Sn**	**21 23 50.6**	**+0.2**
IMMV	**Iera Moni Meta**	**1.51**	**105**	P	**Pn**	**21 23 36.2**	**+0.4**
IMMV				S	**Sn**	**21 23 55.1**	**+0.7**
IMMV	**Iera Moni Meta**	**1.51**	**105**	P	**Pn**	**21 23 36.4**	**+0.6**
IMMV				S	**Sn**	**21 23 55.5**	**+1.1**
IMMV				AML	AML	21 24 11.3	
	comp=E,8008μm,0.7s						
IMMV				AML	AML	21 24 16.4	
	comp=N,6634μm,0.6s						
IMMV	**Iera Moni Meta**	**1.51**	**105**	P	**Pn**	**21 23 36.2**	**+0.4**
IMMV				S	**Sn**	**21 23 55.1**	**+0.7**
VLX	**Vlachokerasia**	**1.52**	**6**	P	**Pn**	**21 23 36.1**	**0.0**
VLX				S	**Sn**	**21 23 56.6**	**+1.8**
VLX	**Vlachokerasia**	**1.52**	**6**	P	**Pn**	**21 23 36.6**	**+0.5**
VLX	**Vlachokerasia**	**1.52**	**6**	P	**Pn**	**21 23 36.1**	**0.0**
VLX				S	**Sn**	**21 23 56.6**	**+1.8**
VLX	**Vlachokerasia**	**1.52**	**6**	*e*Pn	**Pn**	**21 23 36.1**	**0.0**
VLX				*e*Sn	**Sn**	**21 23 56.6**	**+1.8**
TRIP	**Tripoli**	**1.67**	**2**	P	**Pn**	**21 23 39.2**	**+1.1**
TRIP	**Tripoli**	**1.67**	**2**	P	**Pn**	**21 23 39.2**	**+1.1**
VAM	**Vamos**	**1.69**	**105**	P	**Pn**	**21 23 38.4**	**+0.1**
VAM				S	**Sn**	**21 23 59.4**	**+0.4**
VAM	**Vamos**	**1.69**	**105**	*e*P	**Pn**	**21 23 38.4**	**+0.1**
VAM				*e*		21 23 59.4	
VAM	**Vamos**	**1.69**	**105**	P	**Pn**	**21 23 38.8**	**+0.5**
VAM				S	**Sn**	**21 23 59.7**	**+0.7**
VAM				AML	AML	21 24 10.5	
	comp=N,8152μm,0.8s						
VAM				AML	AML	21 24 13.1	
	comp=E,5172μm,0.8s						
VAM	**Vamos**	**1.69**	**105**	P	**Pn**	**21 23 38.8**	**+0.5**
VAM				S	**Sn**	**21 23 59.4**	**+0.4**
VAM	**Vamos**	**1.69**	**105**	*e*Pn	**Pn**	**21 23 38.4**	**+0.1**
VAM				*e*Sn	**Sn**	**21 23 59.4**	**+0.4**
KRND	**KRANIDI**	**1.71**	**26**	P	**Pn**	**21 23 38.5**	**0.0**
KRND				S	**Sn**	**21 24 00.9**	**+1.7**
KRND	**KRANIDI**	**1.71**	**26**	P	**Pn**	**21 23 38.5**	**0.0**
KRND	**KRANIDI**	**1.71**	**26**	P	**Pn**	**21 23 38.5**	**0.0**
KRND				S	**Sn**	**21 24 00.9**	**+1.7**
AMT	**Artemida-Makis**	**1.72**	**347**	P	**Pn**	**21 23 39.3**	**+0.6**
AMT				S	**Sn**	**21 24 01.2**	**+1.6**
AMT	**Artemida-Makis**	**1.72**	**347**	P	**Pn**	**21 23 39.1**	**+0.4**
AMT				S	**Sn**	**21 23 59.8**	**+0.2**
AMT				AML	AML	21 24 17.1	
	comp=N,11520μm,0.5s						
AMT				AML	AML	21 24 17.3	
	comp=E,10438μm,0.4s						
AMT	**Artemida-Makis**	**

ATH Athens Observa 2.44 30 P Pn 21 23 48.7 +0.2
ATH S Sn 21 24 16.2 -0.9
VILL Villia 2.47 21 P Pn 21 23 49.6 +0.6
VILL Villia 2.47 21 P Pn 21 23 49.2 +0.2
VIL2 Platees 2.50 20 P Pn 21 23 49.2 -0.2
KFL Anninata 2.51 334 P Pn 21 23 49.5 0.0
KFL Anninata 2.51 334 P Pn 21 23 49.5 0.0
KALE Kalithea 2.53 359 P Pn 21 23 50.2 +0.4
KALE Kalithea 2.53 359 P Pn 21 23 50.2 +0.4
KALE Kalithea 2.53 359 P Pn 21 23 50.2 +0.4
KALE Kalithea 2.53 359 ePn Pn 21 23 50.2 +0.4
SERG Sergoula 2.55 358 P Pn 21 23 51.4 +1.3
SERG Sergoula 2.55 358 P Pn 21 23 51.4 +1.3
DSF Desfina 2.56 6 P Pn 21 23 50.8 +0.6
DSF Desfina 2.56 6 P Pn 21 23 49.8 -0.4
DSF Desfina 2.56 6 P Pn 21 23 49.8 -0.4
DSF Desfina 2.56 6 ePn Pn 21 23 50.8 +0.6
PTL Penteli 2.56 31 P Pn 21 23 49.4 -0.8
PTL Penteli 2.56 31 P Pn 21 23 49.4 -0.8
EFP Efpalio 2.58 355 P Pn 21 23 51.4 +1.1
EFP Efpalio 2.58 355 P Pn 21 23 53.2 +2.8
EFP Efpalio 2.58 355 P Pn 21 23 51.4 +1.1
THR6 Thira Island, 2.64 78 P Pn 21 23 50.6 -0.6
THR6 Thira Island, 2.64 78 P Pn 21 23 50.6 -0.6
THR6 Thira Island, 2.64 78 ePn Pn 21 23 50.6 -0.6
VLS Valsamata 2.65 331 P Pn 21 23 51.2 -0.2
VLS S Sn 21 24 23.4 +1.1
VLS Valsamata 2.65 331 eP Pn 21 23 51.2 -0.2
VLS e 21 24 23.4
VLS Valsamata 2.65 331 P Pn 21 23 50.6 -0.7
VLS S Sn 21 24 23.3 +1.1
VLS AML AML 21 24 26.3
comp=E,640µm,0.2s
VLS AML AML 21 24 28.1
comp=N,1162µm,0.3s
VLS Valsamata 2.65 331 P Pn 21 23 51.2 -0.2
VLS S Sn 21 24 23.3 +1.0
VLS Valsamata 2.65 331 ePn Pn 21 23 51.2 -0.2
VLS eSn Sn 21 24 23.4 +1.0
THR3 Thira Island, 2.65 77 P Pn 21 23 50.8 -0.6
THR3 Thira Island, 2.65 77 P Pn 21 23 50.8 -0.6
THR3 Thira Island, 2.65 77 ePn Pn 21 23 50.8 -0.6
SANT Santorini 2.69 78 P Pn 21 23 50.6 -1.4
SANT Santorini 2.69 78 P Pn 21 23 50.6 -1.4
SANT Santorini 2.69 78 ePn Pn 21 23 51.5 -0.5
SANT Santorini 2.69 78 ePn Pn 21 23 51.5 -0.5
THR8 Santorini-Mono 2.71 77 P Pn 21 23 51.9 -0.3
THR8 Santorini-Mono 2.71 77 P Pn 21 23 51.9 -0.3
ANX Ano Chora 2.74 355 P Pn 21 23 53.4 +0.7
ANX Ano Chora 2.74 355 P Pn 21 23 53.4 +0.7
LAST Lasithi 2.77 104 P Pn 21 23 51.8 -1.3
LAST Lasithi 2.77 104 P Pn 21 23 51.8 -1.3
PVO Paravola 2.81 349 P Pn 21 23 55.1 +1.6
PVO Paravola 2.81 349 P Pn 21 23 56.6 +3.1
PVO Paravola 2.81 349 P Pn 21 23 55.1 +1.6
NPS Neapolis 2.85 101 P Pn 21 23 52.2 -1.9
NPS S Sn 21 24 27.1 -0.2
NPS AML AML 21 24 56.9
comp=E,1347µm,0.8s
NPS AML AML 21 24 58.5
comp=N,1258µm,0.9s
NPS Neapolis 2.85 101 P Pn 21 23 52.2 -1.9
NPS S Sn 21 24 27.0 -0.2
LKR Lokris 2.86 13 P Pn 21 23 54.4 +0.1
LKR S Sn 21 24 28.9 +1.4
LKR Lokris 2.86 13 P Pn 21 23 54.4 +0.1
LKR S Sn 21 24 28.9 +1.4
LKR Lokris 2.86 13 ePn Pn 21 23 54.4 +0.1
LKR eSn Sn 21 24 28.9 +1.4
APE Apeiranthos 2.95 65 ePN Pn 21 23 54.3 -1.2
APE Apeiranthos 2.95 65 ⇑iP Pn 21 23 54.8 -0.7
APE Apeiranthos 2.95 65 ⇑iP Pn 21 23 54.6 -0.9
APE Apeiranthos 2.95 65 P Pn 21 23 53.9 -1.6
APE Apeiranthos 2.95 65 ePn Pn 21 23 54.3 -1.2
APE Apeiranthos 2.95 65 iP Pn 21 23 54.6 -0.9
EVR Evrytania 3.07 354 P Pn 21 23 59.0 +1.8
EVR Evrytania 3.07 354 P Pn 21 24 00.8 +3.6
EVR Evrytania 3.07 354 P Pn 21 23 59.0 +1.8
EVR Evrytania 3.07 354 ePn Pn 21 23 59.0 +1.8
AGG Agios Georgios 3.16 2 ePN Pn 21 23 58.5 +0.1
AGG Agios Georgios 3.16 2 P Pn 21 23 59.2 +0.8
AGG Agios Georgios 3.16 2 eP Pn 21 23 59.2 +0.8
AGG Agios Georgios 3.16 2 P Pn 21 24 00.0 +1.6
AGG Agios Georgios 3.16 2 ePn Pn 21 23 58.5 +0.1
AGG Agios Georgios 3.16 2 P Pn 21 23 59.2 +0.8
AGG Agios Georgios 3.16 2 ePn Pn 21 23 59.2 +0.8
LKD2 Lefkada island 3.17 338 P Pn 21 23 58.2 -0.3
LKD2 Lefkada island 3.17 338 P Pn 21 23 58.2 -0.3
ZKR Zakros 3.36 102 P Pn 21 24 01.7 +0.6
ZKR Zakros 3.36 102 P Pn 21 24 01.7 +0.6
DSL Palaion Diasel 3.38 345 P Pn 21 24 02.7 +1.2
DSL Palaion Diasel 3.38 345 P Pn 21 24 02.7 +1.2
SKIA Skiathos 3.45 17 P Pn 21 24 03.8 +1.4
SKIA Skiathos 3.45 17 P Pn 21 24 03.8 +1.4
XOR Xorichti 3.59 12 P Pn 21 24 04.0 -0.3
XOR Xorichti 3.59 12 P Pn 21 24 04.0 -0.3
THL Klokotos Trika 3.70 358 P Pn 21 24 05.8 0.0
THL Klokotos Trika 3.70 358 P Pn 21 24 05.8 0.0
CHOS Chios island 3.99 50 ePN Pn 21 24 09.5 -0.2
CHOS Chios island 3.99 50 ePn Pn 21 24 09.5 -0.2
KARP Karpathos 4.05 93 ePN Pn 21 24 08.7 -2.0
KARP Karpathos 4.05 93 ePn Pn 21 24 09.5 -1.1
KARP Karpathos 4.05 93 ePn Pn 21 24 09.5 -1.1
KARP eSn Sn 21 24 47.0 -10
KEK Kerkira 4.29 334 P Pn 21 24 10.6 -3.2
BODT Bodrum 4.29 72 ePN Pn 21 24 12.8 -1.1
BODT Bodrum 4.29 72 ePn Pn 21 24 12.8 -1.1
URLA Izmir 4.31 53 ePN Pn 21 24 14.1 -0.1
URLA Izmir 4.31 53 ePn Pn 21 24 14.1 -0.1
DAT Datca 4.43 77 ePN Pn 21 24 14.5 -1.4
DAT Datca 4.43 77 ePn Pn 21 24 14.5 -1.4
SIGR SIGRI 4.43 40 ePN Pn 21 24 16.3 +0.5
SIGR SIGRI 4.43 40 ePn Pn 21 24 16.3 +0.5
OUR Ouranopolis 4.69 17 ePN Pn 21 24 19.8 +0.6
OUR Ouranopolis 4.69 17 ePn Pn 21 24 19.8 +0.6
MLSB Milas 4.71 71 ePN Pn 21 24 19.4 -0.3
MLSB Milas 4.71 71 ePn Pn 21 24 19.4 -0.3
HORT Hortiatis 4.79 8 ePN Pn 21 24 21.6 +0.9
HORT Hortiatis 4.79 8 ePn Pn 21 24 21.6 +0.9
FNA Florina 4.96 353 ePN Pn 21 24 23.8 +0.7
FNA Florina 4.96 353 ePn Pn 21 24 23.8 +0.7
SLUM Salum 5.03 149 P Pn 21 24 24.0 +0.1
baz=159
SLUM AMP 21 25 00.0
comp=E,70µm,0.3s,logA/T=5.3,baz=159
SLUM S Sn 21 25 17.0 -3.7
baz=159
SLUM Salum 5.03 149 P Pn 21 24 24.0 +0.1
SLUM S Sn 21 25 17.0 -3.7
GRG Griva 5.09 2 ePN Pn 21 24 24.9 +0.1
GRG Griva 5.09 2 ePn Pn 21 24 24.9 +0.1
BIA Bitola 5.20 353 iPn Pn 21 24 27.2 +0.8
BIA eSn Sn 21 25 23.0 -2.0
BIA Bitola 5.20 353 iPn Pn 21 24 27.1 +0.8
BIA eSn Sn 21 25 22.9 -2.0
OHR Ohrid 5.36 349 iPn Pn 21 24 28.4 -0.1
OHR eSn Sn 21 25 25.6 -3.3
OHR Ohrid 5.36 349 iPn Pn 21 24 28.3 -0.2
OHR eSn Sn 21 25 25.6 -3.3
VAY Valandovo 5.46 3 ePn Pn 21 24 29.1 -0.8
KRUS Krusevo 5.55 353 iPn Pn 21 24 30.9 -0.3
KRUS eSn Sn 21 25 29.7 -4.0
TAVA DENIZLI_Tavas 5.63 71 iP Pn 21 24 33.4 +1.1
TAVA DENIZLI_Tavas 5.63 71 P Pn 21 24 33.4 +1.1
GELI Tayfur-Gelibol 5.65 35 ePN Pn 21 24 33.1 +0.7
KULA Kula-Manisa 5.80 61 ePN Pn 21 24 34.5 -0.1
MMB Musomiste 5.85 11 eP Pn 21 24 34.7 -0.5
ALN Alexandroupoli 5.87 30 ePN Pn 21 24 36.4 +1.0
ERIK Erikli-Kesan 5.88 34 ePN Pn 21 24 36.5 +0.9
AKAS Kas 6.01 84 ePN Pn 21 24 35.9 -1.7
AKAS Kas 6.01 84 iP Pn 21 24 36.8 -0.8
AKAS Kas 6.01 84 ePn Pn 21 24 35.6 -2.0
AKAS Kas 6.01 84 P Pn 21 24 36.8 -0.8
AKAS Kas 6.01 84 ePn Pn 21 24 35.6 -2.0
AKAS eSn Sn 21 25 39.1 -6.1
GLHS Glhisar (BURDU 6.02 75 ePN Pn 21 24 36.8 -0.9
KKB Krupnik 6.04 6 eP Pn 21 24 37.9 +0.1
DEMI Demirci 6.08 57 iP Pn 21 24 39.6 +1.2
DEMI Demirci 6.08 57 P Pn 21 24 39.6 +1.2
GOLH Golhisar 6.09 75 iP Pn 21 24 39.6 +1.1
GOLH Golhisar 6.09 75 P Pn 21 24 39.6 +1.1
SKO Skopje 6.13 355 iPn Pn 21 24 38.7 -0.4
RZN Rozhen 6.15 18 eP Pn 21 24 39.9 +0.5
ELL Elmali 6.29 80 ePN Pn 21 24 39.9 -1.5
VAE Valguarnera 6.46 287 Pn Pn 21 24 47.0 +3.4
comp=E,2.5nm,0.3s,baz=127,slow=20,SNR=3.3
VAE Sn Sn 21 25 53.2 -2.8
comp=E,4.6nm,0.3s,baz=45,slow=5.7,SNR=4.0
VAE Valguarnera 6.46 287 ePn Pn 21 24 47.0 +3.4
KCTX Karacabey (Bur 6.56 46 ePN Pn 21 24 44.6 -0.2
BRDR BURDUR-Merkez 6.57 71 iP Pn 21 24 46.6 +1.4
BRDR BURDUR-Merkez 6.57 71 P Pn 21 24 46.6 +1.4
GDZ Gediz 6.63 59 iP Pn 21 24 49.4 +3.4
KORT Korkueli 6.67 78 ePN Pn 21 24 45.2 -1.3
KORT Korkueli 6.67 78 iP Pn 21 24 45.3 -1.3
KORT Korkueli 6.67 78 P Pn 21 24 45.3 -1.3
VTS Vitosha 6.77 6 ⇑iP Pn 21 24 48.4 +0.5
VTS Vitosha 6.77 6 eP Pn 21 24 49.1 +1.2
TVSB Tavsanli 6.79 56 ePN Pn 21 24 48.1 0.0
KZIL AFYON_Kizioren 6.79 67 iP Pn 21 24 49.8 +1.6
KZIL AFYON_Kizioren 6.79 67 P Pn 21 24 49.8 +1.6
BCK Bucak 6.93 74 ePN Pn 21 24 48.9 -1.2
EDRB Edirne 6.95 29 ePN Pn 21 24 50.6 +0.3
SHUT Suhut-Afyon 7.19 66 ePN Pn 21 24 53.1 -0.5
BAGO Egridir - ISPA 7.21 70 iP Pn 21 24 51.8 -2.1
BOLV Bolvadin 7.54 65 iP Pn 21 24 59.6 +1.2
BOLV Bolvadin 7.54 65 P Pn 21 24 59.7 +1.2
MPEP Malo Peshtene 7.58 9 eP Pn 21 24 59.7 +0.8
ESKT Eskisehir 7.77 59 iP Pn 21 25 03.4 +1.7
SEYT Eskypehyr 7.77 59 P Pn 21 25 03.4 +1.8
STON Ston 7.82 335 ePn Pn 21 24 59.0 -3.1
STON Sn Sn 21 26 20.1 -9.0
KDHN Kadinhani 8.35 69 iP Pn 21 25 10.6 +1.0
KDHN Kadinhani 8.35 69 P Pn 21 25 10.6 +1.0
MDVR Moldovita 8.92 358 ⇑iP Pn 21 25 16.4 -0.8
CSS Mathiatis 9.13 92 ePn Pn 21 25 15.7 -4.5
BR231 Keskin MP Arra 9.26 61 ePn Pn 21 25 20.8 -1.2
BR231 Keskin MP Arra 9.26 61 ePn Pn 21 25 20.8 -1.2
LOT Lotru 9.65 7 ⇑iP Pn 21 25 26.4 -0.9
ARR Arges 9.68 10 ⇓iP Pn 21 25 26.3 -1.3
BZS Buzias 9.76 358 ⇑iP Pn 21 25 27.5 -1.1
VOIR 9.81 12 ⇑iP Pn 21 25 29.5 +0.1
BRTR Keskin Array B 9.84 64 Pn Pn 21 25 32.1 +2.1
comp=E,0.2nm,0.3s,baz=247,slow=14,SNR=16
BRTR LR LR 21 29 59.9
comp=E,141nm,18.9s,baz=260,slow=43
BRTR Keskin Array B 9.84 64 iP Pn 21 25 32.0 +2.1
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 9.84 64 iP Pn 21 25 32.0 +2.1
comp=Z,4.0nm,0.7s
BR101 Keskin Array S 9.85 64 ePn Pn 21 25 32.1 +2.1
BR101 Keskin Array S 9.85 64 ePn Pn 21 25 32.1 +2.1
BR131 Keskin Array S 9.85 64 ePn Pn 21 25 31.4 +1.4
BR131 Keskin Array S 9.85 64 ePn Pn 21 25 31.4 +1.4
UDBI Udbina 9.96 332 ePn Pn 21 25 30.2 -1.3
UDBI Sn Sn 21 27 13.5 -8.0
UDBI Udbina 9.96 332 ePn Pn 21 25 30.1 -1.3
MLR Muntele Rosu 10.03 15 ⇓iP Pn 21 25 31.4 -1.1
GLL Jalalah 10.17 125 P Pn 21 25 30.8 -3.6
baz=129
NVLJ Novalja 10.34 329 ePn Pn 21 25 34.8 -1.7
NVLJ Sn Sn 21 27 20.6 -10
NVLJ Novalja 10.34 329 ePn Pn 21 25 34.8 -1.7
SIRR Siria 10.41 358 ⇓iP Pn 21 25 38.1 +0.6
KEST Kesra 10.44 273 Pn Pn 21 25 44.0 +6.0
comp=Z,0.3nm,0.3s,baz=59,slow=6.1,SNR=4.7
KEST Sn Sn 21 27 27.6 -5.9
comp=Z,0.2nm,0.3s,baz=59,slow=18,SNR=3.2
KEST LR LR 21 31 08.8
comp=Z,68nm,18.1s,baz=295,slow=46
KEST Kesra 10.44 273 ePn Pn 21 25 40.5 +2.4
KEST Kesra 10.44 273 ePn Pn 21 25 40.5 +2.4
KEST eSn Sn 21 27 27.6 -5.9
KEST ePcP PcP 21 31 08.8 -31
PLOR Plostina 10.54 17 ⇑iP Pn 21 25 39.0 -0.3
VRI Vrincioaia 10.57 18 ⇓iP Pn 21 25 39.5 -0.2
SUZ Suez 10.77 121 P Pn 21 25 38.8 -3.8
baz=124
RSH 10.80 114 P Pn 21 25 38.4 -4.5
baz=116
DRGR 10.93 2 ⇑iP Pn 21 25 43.5 -1.2
BOJS Bojanci 10.98 333 iPn Pn 21 25 43.5 -1.8
OZLJ Ozalj 11.00 334 iPn Pn 21 25 43.5 -2.1
OZLJ Sn Sn 21 27 38.1 -8.7
CRES Cresnjev 11.18 335 iPn Pn 21 25 45.0 -3.1
CRES eSn Sn 21 27 41.6 -10
MMAI Mount Meron Ar 11.27 101 Pn Pn 21 25 44.7 -4.8
comp=Z,0.9nm,0.3s,baz=286,slow=10,SNR=9.3
MMAI Sn Sn 21 27 43.3 -10
comp=Z,2.3nm,0.3s,baz=297,slow=26,SNR=6.8
HNKL Nakhl 11.53 118 P Pn 21 25 48.7 -4.2
baz=120
BURAR Bucovina Array 11.96 10 ⇓iP Pn 21 25 58.3 -0.5
BUR08 Bucovina Ar. S 11.99 10 ePn Pn 21 25 57.6 -1.6
OBKA Obir 12.09 334 ePn Pn 21 25 58.8 -1.8
comp=Z,3.8nm,0.7s
OBKA Obir 12.09 334 Pn Pn 21 25 58.8 -1.8
comp=Z,3.8nm,0.7s
PSZ Piszkesteto 12.17 353 eP Pn 21 25 59.1 -2.6
PSZ Piszkesteto 12.17 353 ePn Pn 21 25 59.5 -2.1
PSZ Piszkesteto 12.17 353 ePn Pn 21 25 59.1 -2.6
EIL Elat 12.38 116 Pn Pn 21 26 00.4 -4.1
comp=Z,0.4nm,0.3s,baz=275,slow=4.5,SNR=9.4
EIL Sn Sn 21 28 06.6 -14
comp=Z,0.4nm,0.3s,baz=30,slow=20,SNR=4.4
ARSA Arzberg 12.43 338 iPn Pn 21 26 01.4 -3.7
comp=Z,1.8nm,0.5s
KECS Kecovo 12.68 355 eP Pn 21 26 08.6 +0.1
KECS Kecovo 12.68 355 eP Pn 21 26 08.6 +0.1
KECS Kecovo 12.68 355 ePN Pn 21 26 08.6 +0.1
ASF Jabal al Asfar 12.74 103 Pn Pn 21 26 08.2 -1.3
comp=Z,0.2nm,0.3s,baz=286,slow=11,SNR=3.0
ASF Sn Sn 21 28 18.2 -11
comp=Z,0.2nm,0.3s,baz=38,slow=19,SNR=2.1
VYHS Vyhne 12.87 350 eP Pn 21 26 09.2 -1.9
VYHS e 21 28 26.1
VYHS Vyhne 12.87 350 eP Pn 21 26 09.2 -1.9
VYHS Vyhne 12.87 350 ePN Pn 21 26 09.2 -1.9
VYHS Vyhne 12.87 350 eSN Sn 21 28 26.1 -6.5
CONA Conrad Observa 12.94 341 iPn Pn 21 26 11.5 -0.7
comp=Z,1.1nm,0.5s
CONA Conrad Observa 12.94 341 Pn Pn 21 26 11.5 -0.7
comp=Z,1.1nm,0.5s
ABTA Abfaltersbach 13.08 329 iPn Pn 21 26 13.3 -0.7
comp=Z,4.8nm,0.7s
ABTA Abfaltersbach 13.08 329 Pn Pn 21 26 13.3 -0.7
comp=Z,4.8nm,0.7s
MOA Molln 13.35 336 iPn Pn 21 26 16.9 -0.8
comp=Z,1.8nm,0.4s
MOA Molln 13.35 336 Pn Pn 21 26 16.9 -0.8
comp=Z,1.8nm,0.4s
STHS Stebnicka Huta 13.57 357 eP P 21 26 29.6 +1.8
STHS Stebnicka Huta 13.57 357 ePN P 21 26 29.6 +1.8
NIE Niedzica 13.62 355 eP P 21 26 32.2 +3.8
NIE Niedzica 13.62 355 eP P 21 26 32.2 +3.8
WTTA Wattenberg 13.85 329 iPn Pn 21 26 21.6 -3.0
comp=Z,5.9nm,0.9s
WATA Walderalm 13.94 329 iPn Pn 21 26 24.0 -1.7
comp=Z,3.0nm,0.6s
WATA Walderalm 13.94 329 Pn Pn 21 26 24.0 -1.7
comp=Z,3.0nm,0.6s
FUORN Ofenpass-Fuorn 13.99 324 ePn Pn 21 26 26.6 +0.1
FUORN Ofenpass-Fuorn 13.99 324 ePn Pn 21 26 26.6 +0.1
FUORN eSn Sn 21 28 51.7 -8.5
VRAC Vranov 14.05 345 Pn Pn 21 26 23.4 -3.7
comp=Z,0.2nm,0.3s,baz=156,slow=9.8,SNR=2.7
FETA Feichten 14.07 326 iPn Pn 21 26 28.4 +1.0
comp=Z,2.6nm,0.7s
FETA Feichten 14.07 326 Pn Pn 21 26 28.4 +1.0
comp=Z,2.6nm,0.7s
MOTA Moosalm 14.14 328 iPn Pn 21 26 29.6 +1.1
comp=Z,6.1nm,0.9s
MOTA Moosalm 14.14 328 Pn Pn 21 26 29.6 +1.1
comp=Z,6.1nm,0.9s
OKC Ostrava-Krasne 14.28 349 eP P 21 26 37.7 +2.0
OKC Ostrava-Krasne 14.28 349 eP P 21 26 37.7 +2.0
OKC Ostrava-Krasne 14.28 349 eP P 21 26 37.7 +2.0
TREC Trest 14.30 342 eP P 21 26 36.9 +1.0
TREC Trest 14.30 342 eP P 21 26 36.9 +1.0
TREC Trest 14.30 342 eP P 21 26 36.9 +1.0
MORC Moravsky Berou 14.32 348 ⇑iP Pn 21 26 30.7 +0.1
MORC Moravsky Berou 14.32 348 eP Pn 21 26 29.0 -1.6
MORC Moravsky Berou 14.32 348 ePn Pn 21 26 29.0 -1.6
MORC Moravsky Berou 14.32 348 ePn Pn 21 26 29.0 -1.6
GEA0 GERESS Array S 14.40 337 ePn Pn 21 26 28.3 -3.4
RETA Reutte 14.40 327 iPn Pn 21 26 32.9 +1.1
comp=Z,1.6nm,0.7s
RETA Reutte 14.40 327 Pn Pn 21 26 32.9 +1.1
comp=Z,1.6nm,0.7s
GEC2 GERESS Array S 14.40 337 eP P 21 26 36.1 -1.0
GEC2 e 21 29 00.0
GEC2 GERESS Array S 14.40 337 eP P 21 26 36.1 -1.0
GEC2 GERESS Array S 14.40 337 eP P 21 26 36.1 -1.0
GEC2 eSn Sn 21 29 00.0 -10
GERES GERESS Array B 14.40 337 Pn Pn 21 26 28.1 -3.7
comp=Z,0.2nm,0.3s,baz=160,slow=13,SNR=7.6
GERES Sn Sn 21 29 00.0 -10
comp=Z,0.3nm,0.3s,baz=153,slow=23,SNR=6.1
GERES LR LR 21 33 20.5
comp=Z,223nm,20.2s,baz=123,slow=43
OJC Ojcow 14.46 354 eP P 21 26 40.0 +2.3
OJC Ojcow 14.46 354 eP P 21 26 40.0 +2.3
OJC Ojcow 14.46 354 eP P 21 26 40.0 +2.3
DAVA Damuels 14.65 325 iP Pn 21 26 36.7 +1.6
comp=Z,4.8nm,0.6s
KHC Kasperske Hory 14.69 337 eP P 21 26 41.8 +1.5
KHC ex x 21 26 51.6
KHC Kasperske Hory 14.69 337 eP P 21 26 41.8 +1.5
KHC Kasperske Hory 14.69 337 eP P 21 26 41.8 +1.5
KHC Kasperske Hory 14.69 337 ePn P 21 26 42.4 +2.1
KOPT Kop Dagi 15.02 68 ePn P 21 26 43.0 -1.3
DPC Dobruska-Polom 15.10 345 eP P 21 26 45.0 +0.2
DPC Dobruska-Polom 15.10 345 eP P 21 26 45.0 +0.2
DPC Dobruska-Polom 15.10 345 eP P 21 26 45.0 +0.2
PRU Pruhonice 15.18 341 eP P 21 26 46.6 +0.9
PRU ex x 21 26 59.2
PRU Pruhonice 15.18 341 eP P 21 26 46.6 +0.9
PRU Pruhonice 15.18 341 eP P 21 26 46.6 +0.9
SENIN Lac Senin/Sane 15.34 318 ePn Pn 21 26 43.7 -0.4
comp=Z,38nm,1.9s
SENIN Lac Senin/Sane 15.34 318 ePn Pn 21 26 43.7 -0.4
comp=Z,38nm,1.9s
AK11 Malin Array Si 15.65 17 ePn Pn 21 26 44.8 -2.9
KIEV Kiev 15.67 17 ⇓eP Pn 21 26 45.8 -2.2
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 15.67 17 ePn Pn 21 26 41.4 -6.6
AKASG Malin Array Be 15.68 17 Pn Pn 21 26 44.5 -3.6
baz=207,slow=11,SNR=2.4
AKASG Sn Sn 21 29 45.9 +5.1
comp=Z,1.4nm,0.3s,baz=175,slow=23,SNR=5.1
AKBB Malin Array Si 15.68 17 eP Pn 21 26 46.0 -2.2
AKBB e 21 29 45.9
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 15.68 17 ePn Pn 21 26 46.0 -2.2
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 15.68 17 ePn Pn 21 26 46.0 -2.2
comp=Z,10.0nm,0.8s
AKBB eSn Sn 21 29 45.9 +5.1
BEL Belsk 16.00 357 eP P 21 26 56.8 +2.0
BEL Belsk 16.00 357 eP P 21 26 56.8 +2.0
BEL Belsk 16.00 357 eP P 21 26 56.8 +2.0
CLL Collm 16.80 340 eP P 21 27 08.0 +4.5
CLL Collm 16.80 340 e(pP) P 21 27 08.0 +4.5
CLL e 21 27 20.0
CLL LmV 21 34 00.0
comp=Z,100nm,18.7s
NEY Neytrino 17.44 59 ⇑eP Pn 21 27 09.6 -0.8
NEY pmax pmax
comp=Z,1.0nm,0.8s
NEY Neytrino 17.44 59 eP Pn 21 27 09.6 -0.8
comp=Z,1.0nm,0.8s
KIV Kislovodsk 17.65 56 eP P 21 27 13.2 +0.1
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,14.0s
KIV Kislovodsk 17.65 56 eP P 21 27 13.2 +0.1
comp=Z,22nm,14.0s
KIV Kislovodsk 17.65 56 ePn P 21 27 13.2 +0.1
comp=Z,8.4nm,0.9s
KVAR Kislovodsk Arr 17.66 57 P P 21 27 13.2 0.0
baz=294,slow=10.0,SNR=6.7
KVAR LR LR 21 35 21.4
comp=Z,42nm,18.6s,baz=216,slow=42
KBZ Khabaz 17.72 57 P Pn 21 27 13.2 -0.4
comp=Z,0.3nm,0.3s,baz=245,slow=11,SNR=11
KBZ LR LR 21 36 10.6
comp=Z,47nm,18.0s,baz=230,slow=45
NCK Nalchik 18.12 59 ⇑eP Pn 21 27 18.1 -0.5
NCK pmax pmax
comp=Z,4.0nm,0.8s
NCK Nalchik 18.12 59 eP Pn 21 27 18.1 -0.5
comp=Z,4.0nm,0.8s
ZEI Tsey 18.14 61 eP Pn 21 27 19.1 +0.1
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ZEI Tsey 18.14 61 eP Pn 21 27 19.1 +0.1
comp=Z,8.0nm,0.6s
SUW Suwalki 18.17 2 eP P 21 27 17.5 -1.1
SUW Suwalki 18.17 2 eP P 21 27 17.5 -1.1
SUW Suwalki 18.17 2 eP P 21 27 17.5 -1.1
GNI Garni 18.27 70 P Pn 21 27 20.6 +0.1
comp=Z,0.6nm,0.3s,baz=335,slow=5.3,SNR=9.6
GNI LR LR 21 35 17.6
comp=Z,62nm,20.3s,baz=251,slow=40
GNI Garni 18.27 70 ⇓eP Pn 21 27 21.4 +0.9
GNI pmax pmax
comp=Z,19nm,0.6s
GNI Garni 18.27 70 eP Pn 21 27 21.4 +0.9
comp=Z,19nm,0.6s
GNI Garni 18.27 70 eP P 21 27 18.3 -1.7
comp=Z,8.3nm,0.7s
KLNR Kaliningrad 18.80 356 ⇑eP P 21 27 25.4 -0.1
KLNR pmax pmax
comp=Z,135nm,1.8s
KLNR Kaliningrad 18.80 356 eP P 21 27 25.4 -0.1
comp=Z,135nm,1.8s
LPSR Galich'ya Gora 20.50 30 eP P 21 27 40.9 -3.2
LPSR pmax pmax
comp=Z,9.0nm,0.6s
ES19 SONSECA Array 20.95 288 eP P 21 27 48.9 -0.2
ES19 SONSECA Array 20.95 288 eP P 21 27 48.9 -0.2
ESDC Sonseca Array 21.00 288 P P 21 27 50.7 +1.0
comp=Z,1.0nm,0.6s,baz=88,slow=10,SNR=10
ESDC LR LR 21 35 46.5
comp=Z,27nm,18.6s,baz=335,slow=36
ESLA Sonseca Array 21.00 288 eP P 21 27 50.5 +0.8
comp=Z,4.6nm,1.0s
ESLA Sonseca Array 21.00 288 eP P 21 27 50.5 +0.8
comp=Z,4.6nm,1.0s
PAB San Pablo 21.29 288 eP P 21 27 51.9 -0.9
PAB pmax pmax
comp=Z,9.0nm,1.1s
PAB San Pablo 21.29 288 eP P 21 27 51.9 -0.9
comp=Z,8.5nm,1.1s
PAB San Pablo 21.29 288 eP P 21 27 51.9 -0.9
comp=Z,8.5nm,1.1s
MDT Midelt 22.32 270 P P 21 28 05.2 +1.3
comp=Z,1.8nm,0.8s,baz=65,slow=9.4,SNR=4.3
VSU Vasula 22.81 6 ⇓eP P 21 28 08.8 0.0
VSU pmax pmax
comp=Z,38nm,0.8s
VSU Vasula 22.81 6 eP P 21 28 08.8 0.0
comp=Z,38nm,0.8s
FIA0 FINESS Array S 25.73 4 eP P 21 28 35.5 -0.1
FIA0 e 21 32 06.1
FIA0 FINESS Array S 25.73 4 eP P 21 28 35.5 -0.1
FIA0 FINESS Array S 25.73 4 eP P 21 28 35.5 -0.1
FIA0 ePcP PcP 21 32 06.1 +1.9
FINES FINESS Array B 25.73 4 P P 21 28 35.5 -0.1
comp=Z,2.2nm,0.4s,baz=184,slow=9.3,SNR=17
FINES PcP PcP 21 32 06.1 +1.9
comp=Z,1.8nm,0.8s,baz=141,slow=4.6,SNR=3.9
FINES LR LR 21 39 47.4
comp=Z,120nm,18.9s,baz=202,slow=39
FIA1 FINESS Array S 25.73 4 eP P 21 28 35.6 -0.1
FIA1 FINESS Array S 25.73 4 eP P 21 28 35.6 -0.1
NC602 NORSAR Array S 25.82 348 eP P 21 28 36.7 +0.2
NC602 NORSAR Array S 25.82 348 eP P 21 28 36.7 +0.2
NAO01 NORSAR Array S 26.03 347 eP P 21 28 38.5 0.0
NAO01 NORSAR Array S 26.03 347 eP P 21 28 38.5 0.0
EKA Eskdalemuir Ar 26.10 326 P P 21 28 39.9 +0.9
comp=Z,4.8nm,0.5s,baz=127,slow=8.4,SNR=22
EKA Eskdalemuir Ar 26.10 326 eP P 21 28 40.0 +0.9
EKA Eskdalemuir Ar 26.10 326 eP P 21 28 40.0 +0.9

ESK	**Eskdalemuir**	**26.11**	**326**	*e*P		**P**	**21 28 39.8**	**+0.6**
ESK					pmax	pmax		
	comp=Z,89nm,1.7s							
ESK	**Eskdalemuir**	**26.11**	**326**	*e*P		**P**	**21 28 39.8**	**+0.6**
	comp=Z,89nm,1.7s							
ESK	**Eskdalemuir**	**26.11**	**326**	*e*P		**P**	**21 28 39.8**	**+0.6**
	comp=Z,89nm,1.7s							
NC405	**NORSAR Array S**	**26.14**	**348**	*e*P		**P**	**21 28 39.3**	**-0.2**
NC405	**NORSAR Array S**	**26.14**	**348**	*e*P		**P**	**21 28 39.3**	**-0.2**
NB201	**NORSAR Array S**	**26.15**	**348**	*e*P		**P**	**21 28 39.7**	**+0.1**
NB201	**NORSAR Array S**	**26.15**	**348**	*e*P		**P**	**21 28 39.7**	**+0.1**
NB2	**NORSAR Subarra**	**26.16**	**348**	P		**P**	**21 28 40.1**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=177,slow=10							
NB2	**NORSAR Subarra**	**26.16**	**348**	P		**P**	**21 28 40.1**	**+0.3**
	comp=Z,1.6nm,0.4s,SNR=7.9							
NB200	**NORSAR Array S**	**26.16**	**348**	*e*P		**P**	**21 28 40.0**	**+0.3**
NB200	**NORSAR Array S**	**26.16**	**348**	*e*P		**P**	**21 28 40.0**	**+0.3**
NOA	**NORSAR Array B**	**26.16**	**348**	P		**P**	**21 28 40.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=153,slow=9.5,SNR=18							
NOA				LR		LR	21 41 43.3	
	comp=Z,25nm,18.1s,baz=130,slow=43							
NOA	**NORSAR Array B**	**26.16**	**348**	P		**P**	**21 28 40.0**	**+0.3**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.4s							
NOA				MLR		MLR		
	comp=Z,25nm,18.1s							
NOA	**NORSAR Array B**	**26.16**	**348**	P		**P**	**21 28 40.0**	**+0.3**
	comp=Z,25nm,18.1s							
NBO00	**NORSAR Array S**	**26.23**	**347**	*e*P		**P**	**21 28 40.8**	**+0.6**
NBO00	**NORSAR Array S**	**26.23**	**347**	*e*P		**P**	**21 28 40.8**	**+0.6**
NBO02	**NORSAR Array S**	**26.23**	**348**	*e*P		**P**	**21 28 40.7**	**+0.4**
NBO02	**NORSAR Array S**	**26.23**	**348**	*e*P		**P**	**21 28 40.7**	**+0.4**
NC303	**NORSAR Array S**	**26.31**	**348**	*e*P		**P**	**21 28 41.5**	**+0.6**
NC303	**NORSAR Array S**	**26.31**	**348**	*e*P		**P**	**21 28 41.5**	**+0.6**
NC204	**NORSAR Array S**	**26.46**	**348**	*e*P		**P**	**21 28 42.7**	**+0.3**
NC204	**NORSAR Array S**	**26.46**	**348**	*e*P		**P**	**21 28 42.7**	**+0.3**
KLMR	**Klimovskoe**	**27.36**	**18**	*e*P		**P**	**21 28 51.8**	**+1.4**
KLMR					pmax	pmax		
	comp=Z,14nm,1.4s							
KLMR	**Klimovskoe**	**27.36**	**18**	*e*P		**P**	**21 28 51.8**	**+1.4**
	comp=Z,14nm,1.4s							
GEYT	**Alibeck**	**28.70**	**75**	P		**P**	**21 29 02.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=264,slow=9.7,SNR=6.3							
TOA1	**Torodi Ar. Sit**	**29.19**	**224**	*e*P		**P**	**21 29 09.1**	**+2.0**
TOA1	**Torodi Ar. Sit**	**29.19**	**224**	*e*P		**P**	**21 29 09.1**	**+2.0**
TOA0	**Torodi Ar. Sit**	**29.19**	**224**	*e*P		P	21 29 02.4	-4.8
TORD	**Torodi Ar. Bea**	**29.19**	**224**	P		**P**	**21 29 09.1**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=39,slow=10.0,SNR=16							
AKTK	**Aktyubinsk**	**29.59**	**49**	P		**P**	**21 29 09.9**	**-0.5**
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	**29.59**	**49**	P		**P**	**21 29 09.9**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=259,slow=9.4,SNR=7.4							
ABKAR	**Akbulak array**	**30.52**	**52**	*e*P		**P**	**21 29 18.2**	**-0.4**
	comp=Z,17nm,0.6s							
ABKAR	**Akbulak array**	**30.52**	**52**	*e*P		**P**	**21 29 18.2**	**-0.4**
	comp=Z,17nm,0.6s							
ARU	**Arti**	**31.97**	**38**	P		**P**	**21 29 30.0**	**-1.2**
	comp=Z,4.0nm,0.5s,baz=257,slow=9.0,SNR=8.8							
ARU	**Arti**	**31.97**	**38***c*	*i*P		**P**	**21 29 29.3**	**-2.0**
ARU							21 32 19.9	
ARU				S		**S**	**21 34 37.1**	**-1.3**
ARU					pmax	pmax		
	comp=Z,19nm,2.5s							
ARU	**Arti**	**31.97**	**38**	*e*P		**P**	**21 29 30.2**	**-1.1**
	comp=Z,4.9nm,0.7s							
ARU	**Arti**	**31.97**	**38**	PcP		**PcP**	**21 32 19.9**	**-0.1**
ARU				S		**S**	**21 34 37.1**	**-1.3**
ARU	**Arti**	**31.97**	**38**	*e*P		**P**	**21 29 30.2**	**-1.1**
	comp=Z,4.9nm,0.7s							
SVE	**Sverdlovsk**	**33.18**	**39**	*e*P		**P**	**21 29 42.0**	**+0.1**
SVE					pmax	pmax		
	comp=Z,15nm,0.6s							
SVE	**Sverdlovsk**	**33.18**	**39**	*e*P		**P**	**21 29 42.0**	**+0.1**
	comp=Z,15nm,0.6s							
ARA0	**ARCESS Array S**	**33.78**	**2**	*e*P		**P**	**21 29 47.0**	**+0.1**
ARA0	**ARCESS Array S**	**33.78**	**2**	*e*P		**P**	**21 29 47.0**	**+0.1**
ARCES	**ARCESS Array B**	**33.78**	**2**	P		**P**	**21 29 47.0**	**+0.1**
	comp=Z,7.7nm,0.6s,baz=186,slow=8.4,SNR=26							
ARCES				LR		LR	21 44 38.5	
	comp=Z,110nm,18.2s,baz=146,slow=38							
ARCES	**ARCESS Array B**	**33.78**	**2**	*e*P		**P**	**21 29 47.2**	**+0.2**
ARCES	**ARCESS Array B**	**33.78**	**2**	*e*P		**P**	**21 29 47.2**	**+0.2**
ARCES	**ARCESS Array B**	**33.78**	**2**	*e*P		**P**	**21 29 47.2**	**+0.2**
ARE0	**ARCESS Array S**	**33.78**	**2**	*e*P		**P**	**21 29 47.1**	**+0.1**
	comp=Z,88nm,1.8s							
ARE0	**ARCESS Array S**	**33.78**	**2**	*e*P		**P**	**21 29 47.1**	**+0.1**
	comp=Z,88nm,1.8s							
KEV	**Kevo**	**34.06**	**3**	*e*P		**P**	**21 29 49.8**	**+0.5**
KEV					pmax	pmax		
	comp=Z,146nm,1.8s							
KEV	**Kevo**	**34.06**	**3**	*e*P		**P**	**21 29 49.8**	**+0.5**
	comp=Z,146nm,1.8s							
KEV	**Kevo**	**34.06**	**3**	*e*P		**P**	**21 29 49.8**	**+0.5**
	comp=Z,146nm,1.8s							
KKAR	**Karatay Array**	**37.56**	**64**	*e*P		**P**	**21 30 20.1**	**+0.5**
KKAR					pmax	pmax		
	comp=Z,29nm,0.4s							
KKAR	**Karatay Array**	**37.56**	**64**	*e*P		**P**	**21 30 20.1**	**+0.5**
	comp=Z,29nm,0.4s							
KKAR	**Karatay Array**	**37.56**	**64**	*e*P		**P**	**21 30 20.1**	**+0.5**
	comp=Z,29nm,0.4s							
BRVK	**Borovoye**	**37.58**	**47**	*e*P		**P**	**21 30 20.6**	**+0.9**
BRVK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**37.58**	**47**	*e*P		**P**	**21 30 20.6**	**+0.9**
	comp=Z,2.5nm,0.6s							
BRVK	**Borovoye**	**37.58**	**47**	*e*P		**P**	**21 30 20.6**	**+0.9**
	comp=Z,2.5nm,0.6s							
BVAR	**Borovoye Array**	**37.64**	**48**	P		**P**	**21 30 20.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=266,slow=7.3,SNR=9.4							
DBIC	**Dimbokro**	**38.19**	**227**	P		**P**	**21 30 27.2**	**+2.1**
	comp=Z,2.0nm,0.5s,baz=8.1,slow=9.6,SNR=5.7							
DBIC	**Dimbokro**	**38.19**	**227**	*e*P		**P**	**21 30 27.0**	**+1.8**
DBIC					pmax	pmax		
	comp=Z,46nm,2.0s							
DBIC	**Dimbokro**	**38.19**	**227**	*e*P		**P**	**21 30 27.0**	**+1.8**
	comp=Z,46nm,2.0s							
DBIC	**Dimbokro**	**38.19**	**227**	*e*P		**P**	**21 30 27.0**	**+1.8**
	comp=Z,46nm,2.0s							
AAK	**Ala-Archa**	**40.52**	**64**	P		**P**	**21 30 44.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=226,slow=5.1,SNR=3.0							
AAK	**Ala-Archa**	**40.52**	**64**⇓	*e*P		**P**	**21 30 45.3**	**+0.7**
AAK					pmax	pmax		
	comp=Z,4.0nm,1.2s							
KSH	**Kashi**	**42.19**	**68**	*e*P		**P**	**21 30 54.4**	**-3.9**
KSH				pP		pP	21 31 06.4	-6.8
KSH				sP		sP	21 31 10.9	-9.1
KSH				PP		**PP**	**21 32 34.6**	**-2.1**
KSH				PcP		**PcP**	**21 32 51.7**	**+0.2**
KSH				PcS		**PcS**	**21 36 36.2**	**-7.3**
KSH				S		**S**	**21 37 05.4**	**-8.9**
KSH				ScS		**ScS**	**21 40 48.1**	**-7.0**
KSH					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KSH					pmax	pmax		
	comp=Z,97nm,5.3s							
KSH				LR		LR		
	comp=Z,91nm,4.8s							
KSH				LR		LR		
	comp=Z,110nm,5.6s							
KSH				LR		LR		
	comp=Z,200nm,5.4s							
KURBB	**Kurchatov Arra**	**42.57**	**52**	P		**P**	**21 31 00.4**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=275,slow=8.7,SNR=41							
KURK	**Kurchatov**	**42.63**	**51**⇑	*e*P		**P**	**21 31 01.3**	**-0.2**
KURK					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**42.63**	**51**	*e*P		**P**	**21 31 01.3**	**-0.2**
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**42.63**	**51**	*e*P		**P**	**21 31 00.4**	**-1.1**
KBS	**Kingsbay**	**43.39**	**357**	*e*P		**P**	**21 31 05.8**	**-1.4**
KBS					pmax	pmax		
	comp=Z,73nm,1.3s							
KBS	**Kingsbay**	**43.39**	**357**	*e*P		**P**	**21 31 05.8**	**-1.4**
	comp=Z,73nm,1.3s							
KBS	**Kingsbay**	**43.39**	**357**	*e*P		**P**	**21 31 05.8**	**-1.4**
	comp=Z,73nm,1.3s							
MAKZ	**Makanchi**	**45.20**	**57**	*e*P		**P**	**21 31 22.2**	**0.0**
MAKZ					pmax	pmax		
	comp=Z,6.0nm,0.6s							
MAKZ	**Makanchi**	**45.20**	**57**	*e*P		**P**	**21 31 22.2**	**0.0**
	comp=Z,6.1nm,0.6s							
MAKZ	**Makanchi**	**45.20**	**57**	*e*P		**P**	**21 31 22.2**	**0.0**
	comp=Z,6.1nm,0.6s							
NVS	**Novosibirsk**	**45.31**	**45**	*e*P		**P**	**21 31 23.2**	**+0.3**
NVS	**Novosibirsk**	**45.31**	**45**	*e*P		**P**	**21 31 23.2**	**+0.3**
MK31	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.9**	**0.0**
MK31	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.9**	**0.0**
MK31	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.9**	**0.0**
MK32	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.7**	**-0.2**
MK32	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.7**	**-0.2**
MK32				*e*PcP		**PcP**	**21 33 03.5**	**+1.2**
MKAR	**Makanchi Array**	**45.41**	**57**	P		**P**	**21 31 23.7**	**-0.2**
	comp=Z,18nm,0.6s,baz=271,slow=8.0,SNR=170							
MKAR				PcP		**PcP**	**21 33 03.5**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=260,slow=4.6,SNR=1.7							
MKAR				LR		LR	21 54 52.8	
	comp=Z,23nm,18.2s,baz=316,slow=42							
MKAR	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.9**	**0.0**
	comp=Z,143nm,0.6s							
MKAR	**Makanchi Array**	**45.41**	**57**	*e*P		**P**	**21 31 23.9**	**0.0**
	comp=Z,143nm,0.6s							
MK01	**Makanchi Array**	**45.42**	**57**	*e*P		**P**	**21 31 23.6**	**-0.4**
MK01	**Makanchi Array**	**45.42**	**57**	*e*P		**P**	**21 31 23.6**	**-0.4**
ZAA0	**Zalesovo Array**	**46.27**	**47**	*e*P		**P**	**21 31 29.9**	**-0.6**
ZAA0	**Zalesovo Array**	**46.27**	**47**	*e*P		**P**	**21 31 29.9**	**-0.6**
ZAA1	**Zalesovo Array**	**46.27**	**47**	*e*P		**P**	**21 31 29.9**	**-0.6**
ZAA1	**Zalesovo Array**	**46.27**	**47**	*e*P		**P**	**21 31 29.9**	**-0.6**
ZALV	**Zalesovo Beam**	**46.27**	**47**	P		**P**	**21 31 29.9**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=269,slow=8.8,SNR=25							
ZALV				LR		LR	21 52 57.9	
	comp=Z,26nm,18.8s,baz=70,slow=39							
NRIK	**Noril'sk**	**48.28**	**26**	LR		LR	21 53 07.6	
	comp=Z,47nm,20.6s,baz=172,slow=37							
WMQ	**Urumqi**	**49.74**	**60**	P		**P**	**21 31 58.4**	**+0.9**
PYUN	**Piuthan**	**51.43**	**80**	*e*P		**P**	**21 32 11.2**	**+0.5**
DANN	**Dangsing**	**51.95**	**80**	*e*P		**P**	**21 32 15.4**	**+0.8**
	comp=Z,2.0nm,0.8s							
KOLN	**Koldanda**	**52.06**	**81**	*e*P		**P**	**21 32 15.5**	**+0.1**
	comp=Z,4.5nm,0.6s							
GKN	**Gorkha**	**52.79**	**80**	*e*P		**P**	**21 32 20.7**	**0.0**
	comp=Z,13nm,0.6s							
DMN	**Daman**	**53.34**	**80**	*e*P		**P**	**21 32 25.2**	**+0.4**
	comp=Z,18nm,0.7s							
KKN	**Kakani**	**53.40**	**80**	*e*P		**P**	**21 32 25.3**	**+0.1**
	comp=Z,8.2nm,0.6s							
PKIN	**Phulchoki**	**53.58**	**80**	*e*P		**P**	**21 32 26.4**	**-0.2**
	comp=Z,4.6nm,0.7s							
JIRN	**Jiri**	**54.18**	**79**	*e*P		**P**	**21 32 31.1**	**0.0**
RAMN	**Ramite**	**54.82**	**80**	*e*P		**P**	**21 32 35.0**	**-0.6**
	comp=Z,14nm,0.9s							
ODAN	**Odare**	**55.49**	**80**	*e*P		**P**	**21 32 39.8**	**-0.7**
	comp=Z,4.5nm,0.6s							
TAPN	**Taplejung**	**55.53**	**79**	*e*P		**P**	**21 32 41.1**	**+0.3**
	comp=Z,7.0nm,0.7s							
LSA	**Lhasa**	**57.23**	**75**	*e*P		**P**	**21 32 54.2**	**+1.1**
LSA					pmax	pmax		
	comp=Z,3.0nm,0.6s							
LSA	**Lhasa**	**57.23**	**75**	*e*P		**P**	**21 32 54.2**	**+1.1**
	comp=Z,2.6nm,0.6s							
LSA	**Lhasa**	**57.23**	**75**	*e*P		**P**	**21 32 54.2**	**+1.1**
	comp=Z,2.6nm,0.6s							
GTA	**Gaotai**	**59.76**	**61**	*e*P		**P**	**21 33 10.6**	**+0.5**
GTA				pP		pP	21 33 22.2	-3.6
GTA				sP		sP	21 33 27.3	-5.1
GTA					pmax	pmax		
	comp=Z,3.0nm,1.2s							
SONA0	**Songino Array**	**60.91**	**50**	*e*P		**P**	**21 33 18.1**	**+0.3**
	comp=Z,13nm,1.8s							
SONA0	**Songino Array**	**60.91**	**50**	*e*P		**P**	**21 33 18.1**	**+0.3**
	comp=Z,13nm,1.8s							
SONA1	**Songino Array**	**60.91**	**50**	*e*P		**P**	**21 33 17.7**	**-0.2**
SONA1	**Songino Array**	**60.91**	**50**	*e*P		**P**	**21 33 17.7**	**-0.2**
SONM	**Songino Array**	**60.91**	**50**	P		**P**	**21 33 18.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=282,slow=8.8,SNR=12							
ULN	**Ulaanbaatar**	**61.30**	**50**⇓	*e*P		**P**	**21 33 21.0**	**+0.4**
ULN					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ULN	**Ulaanbaatar**	**61.30**	**50**	*e*P		**P**	**21 33 21.0**	**+0.4**
	comp=Z,1.0nm,0.8s							
LZH	**Lanzhou**	**64.05**	**63**	*e*P		**P**	**21 33 42.3**	**+3.2**
LZH				pP		pP	21 33 51.3	-3.6
LZH				sP		sP	21 33 56.1	-5.4
LZH					pmax	pmax		
	comp=Z,14nm,1.2s							
BOSA	**Boshof**	**64.19**	**177**	LR		LR	22 02 50.2	
	comp=Z,108nm,18.4s,baz=112,slow=37							
YAK	**Yakutsk**	**66.47**	**29**	LR		LR	22 03 54.1	
	comp=Z,37nm,18.7s,baz=90,slow=37							
HHC	**Hu-ho-hao-te**	**67.25**	**55**	*e*P		**P**	**21 33 59.3**	**-0.2**
HHC					pmax	pmax		
	comp=Z,18nm,1.0s							
HHC					pmax	pmax		
	comp=Z,100nm,9.9s							
KMI	**Kunming**	**68.46**	**74**	P		**P**	**21 34 07.1**	**-0.4**
KMI					pmax	pmax		
	comp=Z,2.0nm,0.9s							
CM31	**Chiang Mai Arr**	**68.88**	**82**	*e*P		**P**	**21 34 10.3**	**+0.4**
CM31	**Chiang Mai Arr**	**68.88**	**82**	*e*P		**P**	**21 34 10.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**68.88**	**82**	P		**P**	**21 34 10.3**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=298,slow=7.4,SNR=8.3							
BJI	**Beijing**	**70.71**	**54**	P		**P**	**21 34 21.4**	**+0.6**
BJI					pmax	pmax		
	comp=Z,6.0nm,0.9s							
GYA	**Guiyang**	**70.81**	**71**	*e*P		**P**	**21 34 22.8**	**+0.9**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
SEY	**Seymchan**	**73.81**	**21**	P		**P**	**21 34 40.0**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=7.1,slow=8.1,SNR=3.2							
CN2	**Changchun**	**74.49**	**47**	*e*P		**P**	**21 34 42.0**	**-1.2**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
NJ2	**Nanjing**	**76.82**	**60**	*e*P		**P**	**21 34 57.0**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,30nm,0.6s							
QIZ	**Qiongzhong**	**77.26**	**76**	P		**P**	**21 35 00.7**	**+1.3**
QIZ				S		**S**	**21 44 47.5**	**+2.5**
QIZ				LR		LR		
	comp=Z,290nm,4.3s							
USRK	**Ussuriysk Ar.**	**78.03**	**44**	P		**P**	**21 35 03.9**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=310,slow=4.8,SNR=7.9							
ILAR	**Eielson Array**	**79.33**	**355**	P		**P**	**21 35 11.6**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=356,slow=3.6,SNR=6.9							
ILB	**Eielson Array**	**79.33**	**355**	*e*P		**P**	**21 35 11.6**	**+1.5**
ILB	**Eielson Array**	**79.33**	**355**	*e*P		**P**	**21 35 11.6**	**+1.5**
KS15	**Wonju Array Si**	**79.73**	**51**	*e*P		**P**	**21 35 13.9**	**+1.1**
KS15	**Wonju Array Si**	**79.73**	**51**	*e*P		**P**	**21 35 13.9**	**+1.1**
KSAR	**Wonju Array Be**	**79.73**	**51**	P		**P**	**21 35 13.9**	**+1.1**
KSAR	**Wonju Array Be**	**79.73**	**51**	P		**P**	**21 35 13.9**	**+1.1**
KSAR	**Wonju Array Be**	**79.73**	**51**	P		**P**	**21 35 13.9**	**+1.1**
KSRS	**Korea Array**	**79.75**	**51**	P		**P**	**21 35 13.9**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=303,slow=4.7,SNR=7.5							
PETK	**Petropavlovsk-**	**83.34**	**25**	LR		LR	22 16 47.1	
	comp=Z,32nm,18.1s,baz=119,slow=39							
KDAK	**Kodiak Island**	**86.61**	**357**	*i* P		**P**	**21 35 50.3**	**+2.5**
KDAK	**Kodiak Island**	**86.61**	**357**	*i* P		**P**	**21 35 50.3**	**+2.5**
MJAR	**Matsushiro Arr**	**86.63**	**46**	P		**P**	**21 35 48.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=332,slow=3.1,SNR=3.7							
PDAR	**Pinedale Array**	**90.22**	**327**	LR		LR	22 18 13.2	
	comp=Z,35nm,18.6s,baz=7.5,slow=37							
WRA	**Warramunga Arr**	**119.06**	**95**	PKP		**PKPdf**	**21 41 54.6**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=307,slow=1.9,SNR=5.1							
WR1	**Warramunga Arr**	**119.06**	**95**	*e*PKPdf		**PKPdf**	**21 41 54.6**	**+0.9**
ASAR	**Alice Springs**	**120.55**	**98**	PKP		**PKPdf**	**21 41 57.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=322,slow=2.3,SNR=4.7							
AS31	**Alice Springs**	**120.55**	**98**	*e*PKPdf		**PKPdf**	**21 41 57.8**	**+1.3**

MAN 09 21:25:21.6˝38N×126˝54E, h32km, mb5.0, ML3.9, MS4.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.63**	**334**	*e*P		Pn	21 25 34.5 +0.7
MATI				*e*S		Sn	21 25 43.7 +0.9
DMPH	**Davao City--Mi**	**1.24**	**304**⇑	*i*P		Pb	21 25 43.5 -0.4
DMPH				*e*S		Sb	21 25 59.4 -0.1
GSPH	**General Santos**	**1.61**	**260**⇓	*i*P		Pn	21 25 44.0 -3.3
GSPH				*i* S		Sn	21 26 00.0 -7.0
BUKP	**Musuan**	**2.09**	**316**	*e*P		Pn	21 25 54.5 +0.6
BUKP				*e*S		Sn	21 26 18.6 -0.3

*CSEM **09** 21:43:27.2±0.3, 36˚52N×42˚64E, 2km, MD2.6, Error ellipse: s-maj=8.1km s-min=3.8km az=35.0*
*DDA **09** 21:43:27.5, 36˚59N×42˚52E, 7km, Md2.6*
*ISN **09** 21:43:27.9±0.3, 36˚08N×43˚00E, 0km, ML1.2*
ISC 09 21:43:28.2±2.2, 36˚5N±0˚1×42˚63E±0˚05, h10km, n7, σ1§27/14, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S˜–rnak**	**0.96**	**350**	*i* P		**Pg**	**21 43 46.3**	**-0.5**
SIRN				*i* S		**Sg**	**21 43 58.0**	**-1.4**
SIRN	**S˜–rnak**	**0.96**	**350**	P		**Pg**	**21 43 46.3**	**-0.5**
SIRN				S		**Sg**	**21 43 58.0**	**-1.4**
CUKT	**Cukurca**	**1.05**	**48**	*i* P		**Pg**	**21 43 47.8**	**-0.7**
CUKT				*i* S		**Sg**	**21 44 02.4**	**+0.2**
CUKT	**Cukurca**	**1.05**	**48**	P		**Pg**	**21 43 47.8**	**-0.7**
CUKT				S		**Sg**	**21 44 02.4**	**+0.2**
MARD	**Mardin**	**1.67**	**298**	*i* P		**Pn**	**21 43 57.0**	**-0.6**
MARD				*i* S		**Sn**	**21 44 19.4**	**+0.2**
BTMN	**Batman**	**1.73**	**321**	*i* P		**Pn**	**21 43 58.7**	**+0.3**
BTMN				*i* S		**Sn**	**21 44 23.0**	**+2.4**
BTMN	**Batman**	**1.73**	**321**	P		**Pn**	**21 43 58.7**	**+0.3**
BTMN				S		**Sn**	**21 44 23.0**	**+2.4**

*NIED **09** 21:57:00, 36˚30N×139˚90E, h80km, Mw4.3 Best double couple: M0=3.05000×10^15 NP1:φs=198.00000°, δ25.00000°, λ102.00000°. NP2:φs=4.00000°, δ66.00000°, λ84.00000°.*
*NEIC **09** 21:57:44.7±1.2, 36˚28N×140˚21E, h77km±9km, mb4.8/11, Error ellipse: s-maj=19.0km s-min=6.4km az=56.0*
NEIC Recorded [2 JMA] in Ibaraki, Saitama, Tochigi and Tokyo.
*ISCJB **09** 21:57:45.8±0.3, 36˚19N±0˚03×139˚87E±0˚05, h91km±2km, mb4.2/26, Error ellipse: s-maj=6.0km s-min=4.6km az=179.7*
*JMA **09** 21:57:47.5±0.1, 36˚22N×139˚88E, h77km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=4.00000°, δ54.00000°, λ85.00000°. NP2:φs191.00000°, δ36.00000°, λ96.00000°. Principal axes: T Plg80.0000°, Azm255.0000°; N Plg4.0000°, Azm6.0000°; P Plg9.0000°, Azm97.0000°;*
JMA Felt II J1.
*IDC **09** 21:57:48.2±1.0, 36˚17N×139˚75E, h96km±8km, mb3.7/16, mb1 3.8/20, mb1mx3.7/35, mbtmp4.0/20, MS3.1/6, Ms1 3.1/6, ms1mx2.8/33 Error ellipse: s-maj=15.7km s-min=8.0km az=67.0*
ISC 09 21:57:46.7±0.7, 36˚20N±0˚04×139˚88E±0˚05, h86km±6km, n71, σ1§05/85, mb4.2/26, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.26**	**84**	⇑P		**Pn**	**21 57 59.3**	**-0.1**
JYT				S		**Sn**	**21 58 08.8**	**0.0**
JAG	**Ashikaga**	**0.41**	**303**	P		**Pn**	**21 58 00.2**	**-0.1**
JAG				S		**Sn**	**21 58 09.5**	**-0.9**
JKT	**Katashina**	**0.76**	**318**	P		**Pn**	**21 58 03.6**	**+0.1**
JKT				S		**Sn**	**21 58 15.8**	**-0.3**
JRY	**Ryogami san**	**0.81**	**257**	⇓P		**Pn**	**21 58 04.5**	**+0.5**
JRY				S		**Sn**	**21 58 17.1**	**+0.2**
JOD2	**Odawara 2**	**1.13**	**215**	⇓P		**Pn**	**21 58 08.0**	**+0.3**
JOD2				S		**Sn**	**21 58 22.9**	**-0.6**
JFY	**Yanaizu**	**1.21**	**353**	⇑P		**Pn**	**21 58 08.9**	**+0.2**
JFY				S		**Sn**	**21 58 25.3**	**+0.1**
JHK	**Hiroka**	**1.25**	**327**	⇓P		**Pn**	**21 58 09.6**	**+0.5**
JYN	**Shimob**	**1.29**	**237**	⇓P		**Pn**	**21 58 10.5**	**+0.9**
JYN				S		**Sn**	**21 58 27.4**	**+0.5**
JFT	**Otama**	**1.37**	**16**	⇑P		**Pn**	**21 58 11.1**	**+0.6**
MJAR	**Matsushiro Arr**	**1.39**	**285**	P		**Pn**	**21 58 10.9**	**+0.1**
	128nm,0.3s,baz=95,slow=14,SNR=1708							
MJAR				LR		LR	21 58 27.7	
	comp=Z,141nm,18.7s,baz=110,slow=31							
MJAR				S		**Sn**	**21 58 28.9**	**-0.1**
	85nm,0.3s,baz=123,slow=13,SNR=15							
**

1.7nm,0.7s,baz=38,slow=7.7,SNR=6.1
STKA Stephens Creek 67.74 178 *eP* **P 22 08 32.9 -2.0**
4.7nm,1.8s
FINES FINESS Array B 68.97 332 P **P 22 08 43.0 +0.7**
3.2nm,0.9s,baz=78,slow=8.9,SNR=4.7
KBZ Khabaz 70.50 310 P **P 22 08 52.4 +0.4**
3.6nm,0.9s,baz=62,slow=3.9,SNR=6.7
KIV Kislovodsk 70.51 311 *eP* **P 22 08 53.5 +1.3**
7.2nm,0.8s
AKASG Malin Array Be 74.19 322 P **P 22 09 13.8 -0.1**
1.6nm,0.7s,baz=47,slow=6.5,SNR=4.3
NB2 NORSAR Subarra 74.47 337 P **P 22 09 15.3 0.0**
comp=Z,2.4nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 74.47 337 P **P 22 09 15.5 +0.1**
comp=Z,2.3nm,0.8s,baz=42,slow=5.8,SNR=4.3
KIS Kishinev 76.72 319 *e* **P 22 09 28.0 -0.4**
BRTR Keskin Array B 78.47 311 P **P 22 09 37.6 -0.8**
comp=Z,0.7nm,0.8s,baz=54,slow=7.3,SNR=3.5
SSK Sunset Peak 79.35 55 *eP* **P 22 09 40.8 -2.6**
RAYN Ar Rayn 79.82 292 *eP* **P 22 09 46.2 +0.3**
comp=Z,2.5nm,0.8s
CLL Collm 81.19 329 *eP* **P 22 09 52.0 -0.7**
GERES GERESS Array B 82.76 327 P **P 22 09 59.7 -1.4**
comp=Z,0.7nm,0.8s,baz=153,slow=4.2,SNR=4.2
TXAR Lajitas Array 91.61 51 P **P 22 10 45.4 +1.0**
comp=Z,0.2nm,0.7s,baz=335,slow=6.1,SNR=2.9
TORD Torodi Ar. Bea 117.02 313 PKP **PKPdf 22 16 21.6 -0.5**
comp=Z,0.3nm,0.7s,baz=24,slow=3.3,SNR=3.9

MAN 09 22:07:07.12±39N×120±80E,h9km,mb4.0,ML2.8,MS2.5, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.32**	**77**	*eP*		Pg	22 07 13.9	+0.5
SJMP				*eS*		Sg	22 07 18.7	+1.0
BUSP	**Coron**	**0.70**	**237**	*eP*		Pb	22 07 21.9	+0.5
BUSP				*eS*		Sn	22 07 32.7	-1.3
PGP	**Puerto Galera**	**1.12**	**8⇑**	*eP*		Pg	22 07 27.0	-1.5
PGP				*i*	S	Sg	22 07 41.8	-1.3
OTRP	**Odiongan**	**1.19**	**91**	*eP*		Pb	22 07 28.7	-1.1
OTRP				*eS*		Sn	22 07 46.7	+0.5
LUBP	**Lubang**	**1.44**	**338**	*eP*		Pn	22 07 33.1	-0.2
BOAC	**Boac**	**1.47**	**44**	*eP*		Pg	22 07 52.0	+17
ENPP	**El Nido**	**1.79**	**229**	*eP*		Pn	22 07 38.1	+0.1
ENPP				*eS*		Sn	22 07 59.0	-1.9

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*ECX **09** 22:51:52.1±0.5,31°.90N×117°.25W,h8km,MD2.4,ML2.6*
*MEX **09** 22:51:56.3±0.7,32°.04N×117°.03W,h11km±26km,MD3.6*
ISC 09 22:51:48.5±2.9,31°.88N±0°.06×117°.3W±0°.1,h7km±14km,n8, σ0°.59/16,3C-2D,Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBX	**Punta Banda**	**0.51**	**106⇑**	*eP*		**Pb**	**22 52 00.5**	**+0.7**
PBX				*eS*		**Sb**	**22 52 07.5**	**0.0**
ECNX	**Esteban Cantu**	**0.64**	**110⇑**	*eP*		**Pb**	**22 52 02.6**	**+0.6**
ECNX				*eS*		**Sb**	**22 52 11.2**	**-0.1**
CBX	**Cerro Bola**	**0.69**	**51**	*eP*		**Pb**	**22 52 03.8**	**+0.8**
CBX				*i*	S	**Sg**	**22 52 10.7**	**-0.2**
CBX	**Cerro Bola**	**0.69**	**51**	*eP*		**Pb**	**22 52 04.0**	**+1.0**
CBX				*eS*		**Sb**	**22 52 12.6**	**-0.3**
CBX				IAML			22 52 12.8	
	comp=E,693nm,0.3s							
TJIG	**Tijuana**	**0.77**	**44**	*i*	P	**Pb**	**22 52 05.0**	**+0.8**
TJIG				*eS*		**Sg**	**22 52 12.8**	**-0.4**
SDRC	**San Diego Road**	**0.90**	**20⇓**	*eP*		**Pn**	**22 52 07.3**	**-0.4**
SDRC				*eS*		**Sb**	**22 52 18.7**	**-0.1**
ZAX	**El Zacaton**	**0.95**	**112⇓**	*eP*		**Pn**	**22 52 08.1**	**-0.3**
ZAX				*eS*		**Sb**	**22 52 20.8**	**+0.6**
ZAX				IAML			22 52 23.2	
	comp=N,118nm,0.2s							
ZAX			⇑	*e*			22 52 23.2	
SPIG	**San Pedro Mart**	**1.78**	**118**	*i*	P	**Pg**	**22 52 22.3**	**-0.2**
SPIG				*eS*		**Sn**	**22 52 42.5**	**-0.4**

IDC 09 23:02:00.1±1.2,0°.18S×125°.76E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/33,mbtmp3.5/5,Error ellipse: s-maj=66.9km s-min=21.3km az=75.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**157**	P		P	23 06 48.7	-0.6
	0.5nm,0.3s,baz=336,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.65**	**162**	P		P	23 07 23.2	+0.5
	0.6nm,0.8s,baz=340,slow=7.9,SNR=6.0							
MJAR	**Matsushiro Arr**	**38.32**	**16**	P		P	23 09 22.2	-0.5
	0.5nm,0.6s,baz=206,slow=7.6,SNR=2.8							
SONM	**Songino Array**	**50.70**	**343**	P		P	23 11 03.1	+1.4
	0.3nm,0.4s,baz=141,slow=9.3,SNR=2.8							
MKAR	**Makanchi Array**	**60.24**	**327**	P		P	23 12 09.3	-0.9
	0.3nm,0.3s,baz=126,slow=7.8,SNR=4.6							

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*ISCJB **09** 23:02:30.1±0.5,0°.43S±0°.07×125°.3E±0°.1,h10km, mb4.1/16,Error ellipse: s-maj=17.2km s-min=9.0km az=166.3*
*IDC **09** 23:02:30.7±1.0,0°.40S×125°.37E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.8/33,mbtmp3.9/6,Error ellipse: s-maj=71.0km s-min=19.5km az=72.0*
*NEIC **09** 23:02:32.2±0.3,0°.41S×125°.41E,h10km,mb4.3/10,Error ellipse: s-maj=10.7km s-min=5.8km az=75.0*
ISC 09 23:02:32.1±0.6,0°.41S±0°.09×125°.4E±0°.1,h10km,n18, σ0°.55/18,mb4.1/16,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**9.36**	**187**	*ePn*		**Pn**	**23 04 47.4**	**+0.2**
WRAB	**Tennant Creek**	**21.29**	**156**	*eP*		**P**	**23 07 19.1**	**0.0**
	1.2nm,0.4s							
WRA	**Warramunga Arr**	**21.29**	**156**	P		**P**	**23 07 18.4**	**-0.7**
	2.9nm,0.7s,baz=336,slow=11,SNR=8.7							
MBWA	**Marble Bar**	**21.36**	**195**	*eP*		**P**	**23 07 19.4**	**-0.3**
	20nm,0.9s							
COEN	**Coen**	**22.14**	**128**	*eP*		**P**	**23 07 27.9**	**-0.4**
	8.4nm,0.9s							
PMG	**Port Moresby**	**23.42**	**113**	P		**P**	**23 07 42.0**	**+0.3**
	5.6nm,0.5s							
ASAR	**Alice Springs**	**24.55**	**161**	P		**P**	**23 07 53.4**	**+1.1**
	1.9nm,0.9s,baz=338,slow=9.2,SNR=7.3							
CTAO	**Charters Tower**	**28.26**	**135**	P		**P**	**23 08 26.3**	**+0.5**
	7.9nm,0.8s							
CHTO	**Chiang Mai**	**32.26**	**308**	P		**P**	**23 09 01.1**	**-0.1**
	0.5nm,0.5s							
STKA	**Stephens Creek**	**34.84**	**155**	P		**P**	**23 09 23.2**	**-0.3**
	2.4nm,0.8s,baz=311,slow=11,SNR=2.5							
HNR	**Honiara**	**35.52**	**106**	*eP*		**P**	**23 09 28.9**	**-0.8**
	36nm,1.0s							
MJAR	**Matsushiro Arr**	**38.64**	**17**	P		**P**	**23 09 56.1**	**+0.3**
	1.0nm,0.7s,baz=214,slow=12,SNR=2.8							
MAJO	**Matsushiro**	**38.64**	**17**	P		**P**	**23 09 55.8**	**0.0**
	0.9nm,0.4s							
YSS	**Yuzh-Sakhalins**	**49.56**	**16**	P		**P**	**23 11 23.3**	**+0.1**
	9.4nm,0.5s							
SONM	**Songino Array**	**50.82**	**344**	P		**P**	**23 11 33.1**	**+0.1**
	0.5nm,0.6s,baz=157,slow=9.2,SNR=2.6							
MKAR	**Makanchi Array**	**60.24**	**327**	P		**P**	**23 12 39.9**	**-0.8**
	0.6nm,0.4s,baz=125,slow=7.7,SNR=4.9							
COLA	**College**	**88.97**	**25**	P		**P**	**23 15 27.2**	**+0.4**
	0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**122.84**	**285**	PKP		**PKPdf**	**23 21 30.3**	**+0.7**
	0.4nm,0.6s,baz=17,slow=1.5,SNR=3.2							

MAN 09 23:04:21.13°.64N×120°.65E,h112km,mb4.0,ML2.8, MS2.5,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**284**	*eP*		Pn	23 04 39.8	+2.4
LUBP				*eS*		Sn	23 04 53.9	+4.0
SJMP	**San Jose**	**1.26**	**159**	*eP*		Pn	23 04 46.8	+1.7
SJMP				*eS*		Sn	23 05 06.6	+3.2
BUSP	**Coron**	**1.68**	**195**	*eP*		Pn	23 04 51.5	+1.3
BUSP				*eS*		Sn	23 05 14.3	+1.9
OTRP	**Odiongan**	**1.84**	**133**	*eP*		Pn	23 04 53.5	+1.4
ENPP	**El Nido**	**2.70**	**206**	*eP*		Pn	23 05 04.8	+1.7

IDC 09 23:05:53.1±1.8,0°.59S×125°.08E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/30,mbtmp3.4/3,Error ellipse: s-maj=192.7km s-min=25.6km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.26**	**155**	P		P	23 10 40.9	-0.3
	0.7nm,0.5s,baz=333,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**24.48**	**160**	P		P	23 11 14.3	+0.1
	0.6nm,1.0s,baz=335,slow=6.3,SNR=4.1							
MKAR	**Makanchi Array**	**60.22**	**327**	P		P	23 16 03.2	0.0
	0.2nm,0.5s,baz=116,slow=8.0,SNR=2.2							

MEX 09 23:18:05.9±0.3,15°.45N×96°.33W,h13km±12km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**34**	*i*	P	Pg	23 18 12.9	-0.7
HUIG				*i*	S	Sg	23 18 18.5	-0.2
VHO	**Vista Hermosa**	**1.66**	**347**	*i*	P	Pn	23 18 31.4	-3.5
VHO				*eS*		Sn	23 18 51.1	-5.0
PNIG	**Pinotepa**	**1.96**	**299**	*eP*		Pn	23 18 35.4	-3.6
PNIG				*eS*		Sn	23 18 58.9	-4.6

MEX 09 23:46:34.9±0.3,14°.37N×92°.37W,h56km±13km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**1.56**	**328**	*eP*		Pn	23 46 59.1	-1.3
PCIG				*i*	S	Sn	23 47 17.4	-2.1
CCIG	**Comitan**	**1.91**	**7**	*i*	P	Pn	23 47 04.2	-1.1
CCIG				*i*	S	Sn	23 47 26.4	-2.0
TGIG		**2.50**	**343**	*i*	P	Pn	23 47 12.1	-1.1
TGIG				*i*	S	Sn	23 47 40.7	-2.0

IDC 09 23:49:54.6±4.3,29°.41N×140°.87E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/28,mbtmp3.6/4,ML3.1/1,MS2.6/3, Ms1 2.6/3,ms1mx2.5/38,Error ellipse: s-maj=230.2km s-min=27.9km az=79.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.81**	**346**	LR		LR	23 52 21.6	
	comp=Z,83nm,18.7s,baz=223,slow=39							
MJAR	**Matsushiro Arr**	**7.46**	**343**	Pn		Pn	23 51 44.7	0.0
	0.3nm,0.3s,baz=161,slow=12,SNR=4.0							
MJAR				LR		LR	23 54 51.6	
	comp=Z,36nm,20.4s,baz=245,slow=40							
KSRS	**Korea Array**	**13.46**	**310**	LR		LR	23 58 42.6	
	comp=Z,36nm,18.4s,baz=100,slow=39							
H11S3	**WAKE ISLAND Hy**	**25.92**	**109**	T		T	00 21 14.3	
	baz=312							
H11S1	**WAKE ISLAND Hy**	**25.92**	**109**	T		T	00 21 13.2	
	baz=312							
H11S2	**WAKE ISLAND Hy**	**25.93**	**109**	T		T	00 21 13.2	
	baz=312							
WRA	**Warramunga Arr**	**49.47**	**188**	P		P	23 58 46.8	+0.1
	1.2nm,0.7s,baz=8.6,slow=8.0,SNR=10							
ASAR	**Alice Springs**	**53.19**	**188**	P		P	23 59 14.4	-0.3
	0.1nm,0.4s,baz=1.1,slow=5.0,SNR=4.3							
BRTR	**Keskin Array B**	**83.59**	**312**	P		P	00 02 25.1	-0.1
	0.8nm,0.7s,baz=44,slow=6.0,SNR=4.6							

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*ISK **09** 23:53:58.4,38°.10N×35°.71E,h5km,MD2.6*
*ISCJB **09** 23:53:59.2±0.5,38°.10N±0°.03×35°.72E±0°.04,h8km±6km, Error ellipse: s-maj=5.4km s-min=4.4km az=21.3*
*DDA **09** 23:53:59.2,38°.13N×35°.73E,h7km,Md2.5*
*CSEM **09** 23:53:59.1±0.2,38°.10N×35°.71E,h10km,MD2.5,Error ellipse: s-maj=5.4km s-min=3.6km az=75.0*
ISC 09 23:53:59.5±1.0,38°.10N±0°.03×35°.72E±0°.03,h12km±8km, n14,σ0°.65/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.28**	**269**	*i*	P	**Pg**	**23 54 05.5**	**+0.2**
YAHY				*i*	S	**Sg**	**23 54 09.7**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.28**	**269**	P		**Pg**	**23 54 05.5**	**+0.2**
YAHY				S		**Sg**	**23 54 09.7**	**+0.5**
KOZT	**Kozan**	**0.62**	**172**	*e*PG		**Pg**	**23 54 10.9**	**-0.7**
KOZT				*e*SG		**Sg**	**23 54 20.0**	**+0.2**
KOZT	**Kozan**	**0.62**	**172**	*e*Pg		**Pg**	**23 54 10.9**	**-0.7**
KOZT				*e*Sg		**Sg**	**23 54 20.0**	**+0.2**
SARI	**SarD1z-Kayseri**	**0.63**	**61**	*e*PG		**Pg**	**23 54 11.5**	**-0.4**
SARI				*e*SG		**Sg**	**23 54 20.4**	**+0.1**
AKO	**Adana**	**0.67**	**199**	*i*	P	**Pg**	**23 54 12.2**	**-0.3**
AKO				*i*	S	**Sb**	**23 54 21.8**	**-0.6**
ANDN	**Andirin**	**0.72**	**136**	*i*	P	**Pg**	**23 54 13.1**	**-0.3**
ANDN				*i*	S	**Sb**	**23 54 24.1**	**+0.2**
ANDN	**Andirin**	**0.72**	**136**	P		**Pg**	**23 54 13.1**	**-0.3**
ANDN				S		**Sb**	**23 54 24.1**	**+0.2**
BNN	**Bunyan**	**0.76**	**8**	*e*PG		**Pg**	**23 54 13.2**	**-0.9**
BNN				*e*SG		**Sg**	**23 54 24.4**	**+0.2**
BNN	**Bunyan**	**0.76**	**8**	*e*Pg		**Pg**	**23 54 13.3**	**-0.9**
BNN				*e*Sg		**Sg**	**23 54 24.4**	**+0.2**
GULA	**Gulagac**	**1.19**	**282**	*e*PN		**Pg**	**23 54 21.5**	**-0.9**
GULA				*e*SN		**Sn**	**23 54 38.5**	**+0.2**
GULA	**Gulagac**	**1.19**	**282**	*e*Pn		**Pg**	**23 54 21.5**	**-0.9**
GULA				*e*Sn		**Sn**	**23 54 38.5**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.38**	**17**	*i*	P	**Pn**	**23 54 24.5**	**-0.2**
CUSAR				*i*	S	**Sn**	**23 54 44.4**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.38**	**17**	P		**Pn**	**23 54 24.5**	**-0.2**
CUSAR				S		**Sn**	**23 54 44.4**	**+1.4**

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*IDC **10** 00:02:34.9±2.5,23°.14S×171°.88E,h0km,mb4.1/4, mb1 4.4/5,mb1mx3.9/28,mbtmp4.1/5,ML3.9/1,MS3.3/7, Ms1 3.3/7,ms1mx3.1/34,Error ellipse: s-maj=87.3km s-min=34.1km az=165.0*
*NEIC **10** 00:02:37.4±0.7,23°.55S×171°.80E,h10km,mb4.4/8,Error ellipse: s-maj=26.6km s-min=11.2km az=174.0*
*ISCJB **10** 00:02:39.1±0.6,23°.6S±0°.2×171°.81E±0°.06,h33km, mb4.4/12,MS3.5/3,Error ellipse: s-maj=23.7km s-min=8.4km az=2.7*
ISC 10 00:02:41.2±0.8,23°.5S±0°.2×171°.83E±0°.08,h35km,n20, σ1°.38/15,mb4.3/12,MS3.5/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.18**	**285**	Pn		**Pn**	**00 03 54.7**	**-1.6**
	4.3nm,0.3s,baz=106,slow=18,SNR=19							
DZM				Sn		**Sn**	**00 04 56.4**	**+1.5**
	2.1nm,0.3s,baz=189,slow=19,SNR=6.9							
DZM				LR		LR	00 05 42.2	
	comp=Z,121nm,21.9s,baz=194,slow=36							
RAO	**Raoul Island**	**10.81**	**124**	LR		LR	00 08 13.7	
	comp=Z,137nm,21.6s,baz=82,slow=31							
URZ	**Urewera**	**15.36**	**164**	LR		LR	00 10 59.3	
	comp=Z,139nm,20.0s,baz=312,slow=32							
HNR	**Honiara**	**18.05**	**319**	LR		LR	00 12 30.5	
	comp=Z,75nm,20.9s,baz=194,slow=34							
AFI	**Afiamalu**	**18.22**	**61**	*eP*		**P**	**00 06 51.0**	**-0.6**
	2.2nm,0.4s							
RPZ	**Rata Peaks**	**20.14**	**182**	LR		LR	00 13 37.9	
	comp=Z,230nm,19.8s,baz=278,slow=32							
RAR	**Rarotonga**	**26.34**	**91**	P		**P**	**00 08 13.8**	**-0.3**
	3.2nm,0.8s							
ASAR	**Alice Springs**	**34.69**	**262**	P		**P**	**00 09 27.4**	**-0.4**
	1.5nm,0.6s,baz=88,slow=8.9,SNR=22							
WRAB	**Tennant Creek**	**34.94**	**269**	*eP*		**P**	**00 09 29.1**	**-0.9**
	1.4nm,0.8s							
WRA	**Warramunga Arr**	**34.94**	**269**	P		**P**	**00 09 28.1**	**-1.9**
	0.7nm,0.4s,baz=96,slow=8.7,SNR=9.3							
VNDA	**Vanda**	**54.26**	**183**	LR		LR	00 31 33.8	
	comp=Z,74nm,19.9s,baz=275,slow=32							
MAJO	**Matsushiro**	**67.66**	**331**	*eP*		**P**	**00 13 36.3**	**+1.6**
	0.9nm,0.5s							
COCO	**West Island**	**71.60**	**264**	*eP*		**P**	**00 14 00.5**	**+1.0**
	89nm,0.6s							
KSRS	**Korea Array**	**73.39**	**325**	LR		LR	00 46 23.2	
	comp=Z,8.7nm,18.5s,baz=40,slow=36							
BJT	**Baijiatuan**	**81.76**	**320**	P		**P**	**00 14 58.0**	**+1.7**
	5.3nm,0.5s							
PMSA	**Palmer Station**	**82.06**	**159**	*eP*		**P**	**00 14 58.4**	**+0.8**
	4.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**82.45**	**294**	P		**P**	**00 14 59.4**	**-1.1**
	1.3nm,0.3s,baz=143,slow=4.0,SNR=5.1							
CMB	**Columbia Colle**	**88.26**	**47**	P		**P**	**00 15 29.4**	**+0.4**
	2.2nm,0.6s							
ILAR	**Eielson Array**	**93.62**	**16**	P		**P**	**00 15 51.1**	**-2.1**
	0.8nm,0.9s,baz=232,slow=5.5,SNR=4.1							
NEW	**Newport**	**95.52**	**39**	*eP*		**P**	**00 16 03.0**	**+0.6**
	2.0nm,1.0s							

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*IDC **10** 00:08:56.1±37.0,3°.26S×103°.64E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/43,mbtmp3.7/3,MS3.1/1,Ms1 3.1/1, ms1mx2.5/39,Error ellipse: s-maj=656.9km s-min=218.3km az=139.0*
*ISCJB **10** 00:09:22.9±0.7,6°.13S±0°.07×105°.39E±0°.09,h10km, mb3.6/3,MS3.2/1,Error ellipse: s-maj=15.7km s-min=5.1km az=145.4*
*DJA **10** 00:09:23.7±0.4,6°.5±4°.×10°.5E±°.,h10km,M3.4/7,MLv3.4/7*
ISC 10 00:09:23.4±0.9,6°.11S±0°.06×105°.35E±0°.07,h10km,n12, σ0°.85/13,mb3.7/3,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.61**	**146**	P		**Pg**	**00 09 34.7**	**-0.5**
BLSI	**Bandar Lampung**	**0.74**	**352**	P		**Pg**	**00 09 37.3**	**-0.4**
BLSI				S		**Sg**	**00 09 47.8**	**+0.4**
SBJI	**Serang**	**0.77**	**91**	P		**Pg**	**00 09 37.2**	**-1.1**
KASI	**Kota Agung**	**1.03**	**304**	P		**Pg**	**00 09 42.5**	**-0.7**
KLSI		**1.54**	**336**	P		**Pn**	**00 09 51.3**	**+0.4**
KLSI				S		**Sb**	**00 10 12.4**	**+0.9**
MDSI	**Maura Dua**	**1.99**	**324**	P		**Pb**	**00 09 59.0**	**-0.7**
CNJI	**Cibinong**	**2.13**	**124**	P		**Pn**	**00 09 59.0**	**-0.1**
CMJI	**Cimerak**	**3.50**	**119**	P		**Pn**	**00 10 19.7**	**+1.9**
WRA	**Warramunga Arr**	**31.34**	**119**	P		**P**	**00 15 44.2**	**-0.1**
	0.4nm,0.4s,baz=298,slow=9.2,SNR=5.3							
ASAR	**Alice Springs**	**32.54**	**125**	P		**P**	**00 15 54.7**	**-0.2**
	0.2nm,0.3s,baz=297,slow=7.6,SNR=6.2							
STKA	**Stephens Creek**	**42.45**	**132**	P		**P**	**00 17 18.8**	**+0.1**
	1.9nm,0.7s,baz=312,slow=7.5,SNR=5.7							
JHJ	**Hachijo jima 2**	**50.89**	**38**	LR		LR	00 37 21.8	
	comp=Z,21nm,18.9s,baz=92,slow=34							

MAN 10 00:11:35.7°.91N×126°.94E,h1km,mb4.4,ML3.2,MS3.1, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.64**	**295⇓**	*eP*		Pb	00 11 49.9	+0.9
BIPH				*eS*		Sg	00 11 56.5	+0.9
MATI	**Mati**	**1.17**	**216**	*eP*		Pn	00 11 58.5	-0.1
MATI				*eS*		Sb	00 12 14.0	+0.2
BUKP	**Musuan**	**1.86**	**269**	*eP*		Pb	00 12 09.3	-0.6
BUKP				*eS*		Sb	00 12 33.4	-0.4
BESP	**Borongan**	**3.96**	**338**	*eP*		Pb	00 12 44.5	-1.2
BESP				*eS*		Sn	00 13 28.9	+4.9

CASC 10 00:16:07.3±2.4,9°.40N×83°.23W,h6km±6km,MD3.9,7C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.54**	**286⇑**	*iP*		Pg	00 16 17.7	-0.1
BUS				*eS*		Sg	00 16 25.3	+0.4
URSC	**Urasca**	**0.69**	**309⇓**	*iP*		Pg	00 16 20.6	0.0
ACR	**Cerro Adams**	**0.75**	**175⇓**	*eP*		Pg	00 16 22.0	+0.3
VTR0	**Volcan Turrial**	**0.80**	**320⇓**	*iP*		Pg	00 16 23.2	+0.4
VTR0				*eS*		Sb	00 16 35.2	0.0
CVTR	**Volcan Turrial**	**0.80**	**320⇓**	*iP*		Pg	00 16 23.1	+0.3
CVTR				*eS*		Sb	00 16 34.9	-0.3
BRU2	**Volcan**	**0.81**	**138⇓**	*iP*		Pg	00 16 23.2	+0.4
BRU2				*eS*		Sb	00 16 34.8	-0.3
TBS2		**0.83**	**137**	*eP*		Pg	00 16 23.2	-0.1
TBS2				*eS*		Sg	00 16 34.6	+0.5
LCR2	**La Lucha 2**	**0.83**	**294⇑**	*iP*		Pg	00 16 22.6	-0.8
LCR2				*eS*		Sg	00 16 33.4	-0.7
PTJ1	**Puerto Jim˜'ne**	**0.86**	**185⇓**	*iP*		Pb	00 16 24.3	-0.4
PTJ1				*eS*		Sb	00 16 36.8	+0.3
QCR1	**Quepos**	**0.92**	**272⇑**	*iP*		Pg	00 16 24.4	-0.6
QCR1				*eS*		Sg	00 16 36.7	-0.3
SJS	**Escuela Geolog**	**0.97**	**303⇑**	*iP*		Pg	00 16 25.6	-0.4
SJS				*eS*		Sg	00 16 38.4	-0.1
HDC	**Heredia**	**1.05**	**305⇑**	*iP*		Pg	00 16 27.2	-0.4
HDC				*eS*		Sg	00 16 41.5	+0.3
TRT1	**Tortuguero**	**1.27**	**339**	*eP*		Pn	00 16 30.4	-1.3
TRT1				*eS*		Sg	00 16 47.4	-1.0
CGA2	**Cerro Gallo 2**	**1.36**	**297**	*eP*		Pn	00 16 31.9	-1.0
CGA2				*eS*		Sb	00 16 50.0	-1.0
ARE1	**Arenal 1**	**1.80**	**306⇑**	*eP*		Pn	00 16 39.9	+0.9
ARE1				*eS*		Sb	00 17 03.4	-0.2
CEDE	**Laguna Cede˜–o**	**1.81**	**307**	*eP*		Pb	00 16 40.2	-0.7
CEDE				*eS*		Sb	00 17 04.5	+0.7
CHPA	**Chiripa**	**1.95**	**302**	*eP*		Pg	00 16 48.8	+4.1
ACLS	**Los Chiles**	**2.18**	**318**	*eS*		Sb	00 17 13.7	-0.8
CUI	**Cuipilapa**	**2.27**	**303⇑**	*eP*		Pn	00 16 47.1	+1.6
CUI				*eS*		Sn	00 17 14.0	+0.1
COLC	**Colonia**	**2.31**	**303⇓**	*eP*		Pb	00 16 48.1	-1.3
COLC				*eS*		Sb	00 17 17.0	-1.3
MESS	**Mesas**	**2.34**	**305**	*eP*		Pb	00 16 48.3	-1.7
GUAB	**Guayabo de Bag**	**2.35**	**304**	*eP*		Pb	00 16 48.6	-1.6
LIM1	**Limonal**	**2.37**	**303**	*eP*		Pb	00 16 48.7	-1.8
GPS3	**Bodega del ICE**	**2.49**	**303**	*eP*		Pb	00 16 51.2	-1.3
BUEV	**Buena Vista**	**2.55**	**303**	*eP*		Pn	00 16 51.2	+1.9
BUEV				*eS*		Sb	00 17 23.4	-1.8
GB1A	**Borinquen Arri**	**2.56**	**304**	*eP*		Pb	00 16 52.6	-1

comp=Z,134nm,18.3s,baz=116,slow=35
WRAB Tennant Creek 45.51 270 *e*P **P 00 25 40.8 -0.5**
4.5nm,0.6s
WRA Warramunga Arr 45.52 270 P **P 00 25 41.7 +0.4**
4.4nm,0.5s,baz=110,slow=7.7,SNR=31
KKM Kota Kinabalu 73.47 287 P **P 00 28 54.1 -0.4**
11nm,1.0s
HWUT Hardware Ranch 92.12 43 P **P 00 30 27.1 -3.8**
0.6nm,0.6s
PMR Palmer 92.77 13 P **P 00 30 32.6 -0.4**
0.9nm,0.5s
LVC Limon Verde 93.41 118 LR LR 01 03 41.8
comp=Z,424nm,18.9s,baz=299,slow=30
COLA College 96.01 12 P **P 00 30 47.2 -0.6**
0.9nm,0.5s
FINES FINESS Array B 144.15 342 PKPbc **PKPdf 00 37 01.8 +5.4**
5.8nm,0.9s,baz=64,slow=4.4,SNR=11
AKASG Malin Array Be 150.88 326 PKPbc **PKPab 00 37 19.9 -1.0**
0.3nm,0.3s,baz=47,slow=3.4,SNR=4.8

IDC 10 00:32:46.5±9.5, 6°.95S×120°.99E, h605km±132km, mb3.1/4, mb1 3.0/5, mb1mx2.7/35, mbtmp3.9/5, Error ellipse: s-maj=237.0km s-min=24.7km az=65.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.30**	**136**	P	P	00 36 25.0	+0.3
	0.2nm,0.3s,baz=313,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**20.74**	**145**	P	P	00 36 46.5	-0.4
	0.8nm,0.4s,baz=321,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**31.38**	**145**	P	P	00 38 20.2	+0.4
	1.0nm,0.3s,baz=315,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**63.57**	**331**	P	P	00 42 19.4	+0.2
	1.4nm,0.5s,baz=142,slow=7.3,SNR=24						
ZALV	**Zalesovo Beam**	**67.86**	**338**	P	P	00 42 45.3	-0.3
	1.0nm,0.3s,baz=144,slow=5.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**120.02**	**281**	PKP	PKPdf	00 50 30.2	-0.3
	0.7nm,1.1s,baz=169,slow=1.5,SNR=2.8						

*ISCJB **10** 00:41:05.9±0.5, 39°.11N±0°.03×29°.03E±0°.03, h4km±5km, Error ellipse: s-maj=4.6km s-min=3.6km az=158.9*
*DDA **10** 00:41:05.8, 39°.10N×29°.01E, h7km, Md2.8*
*CSEM **10** 00:41:05.9±0.1, 39°.11N×29°.04E, h8km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.9km az=162.0*
*ISK **10** 00:41:05.5, 39°.11N×29°.08E, h7km, MD2.7*
ISC 10 00:41:06.1±0.9, 39°.11N±0°.02×29°.04E±0°.02, h10km±6km, n39, σ0s43/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.05**	**237**	*e*PG	**Pg**	**00 41 08.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.05**	**237**	*e*Pg	**Pg**	**00 41 08.2**	**0.0**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**00 41 11.4**	**0.0**
DEMI				*i* S	**Sg**	**00 41 14.9**	**-0.1**
DEMI	**Demirci**	**0.26**	**255**	P	**Pg**	**00 41 11.4**	**0.0**
DEMI				S	**Sg**	**00 41 14.9**	**-0.1**
GEDZ	**Gediz**	**0.30**	**103**	*e*PG	**Pg**	**00 41 11.5**	**-0.6**
GEDZ	**Gediz**	**0.30**	**103**	*e*Pg	**Pg**	**00 41 11.5**	**-0.6**
GDZ	**Gediz**	**0.34**	**94**	*i* P	**Pg**	**00 41 13.2**	**+0.2**
GDZ				*i* S	**Sg**	**00 41 18.4**	**+0.8**
GDZ	**Gediz**	**0.34**	**94**	P	**Pg**	**00 41 13.2**	**+0.2**
GDZ				S	**Sg**	**00 41 18.4**	**+0.8**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**	**00 41 14.6**	**-0.7**
TVSB				*e*SG	**Sg**	**00 41 21.4**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**	**00 41 14.6**	**-0.7**
TVSB				*e*Sg	**Sg**	**00 41 21.4**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**00 41 18.8**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**00 41 18.8**	**-0.2**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**00 41 20.1**	**0.0**
MANT				*i* S	**Sg**	**00 41 29.1**	**-0.5**
MANT	**Manisa**	**0.72**	**211**	P	**Pg**	**00 41 20.1**	**0.0**
MANT				S	**Sg**	**00 41 29.1**	**-0.5**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pb**	**00 41 22.4**	**-0.1**
KHAL				*i* S	**Sb**	**00 41 33.1**	**-0.6**
KHAL	**Karahalli**	**0.82**	**154**	P	**Pb**	**00 41 22.4**	**-0.1**
KHAL				S	**Sb**	**00 41 33.1**	**-0.6**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**00 41 24.3**	**-0.7**
AKHS				*i* S	**Sg**	**00 41 37.7**	**0.0**
AKHS	**Akhisar**	**0.98**	**257**	P	**Pg**	**00 41 24.3**	**-0.7**
AKHS				S	**Sg**	**00 41 37.7**	**0.0**
BALB	**Balikesir**	**1.04**	**301**	*e*PN	**Pn**	**00 41 26.7**	**-0.1**
BALB	**Balikesir**	**1.04**	**301**	*e*Pn	**Pn**	**00 41 26.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.06**	**285**	*i* P	**Pb**	**00 41 26.3**	**-0.2**
STEP				*i* S	**Sb**	**00 41 40.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.06**	**285**	P	**Pb**	**00 41 26.3**	**-0.2**
STEP				S	**Sb**	**00 41 40.8**	**+0.3**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pg**	**00 41 27.8**	**-0.6**
IGD				*i* S	**Sn**	**00 41 44.2**	**-0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**134**	*i* P	**Pn**	**00 41 29.7**	**+0.4**
KZIL				*i* S	**Sn**	**00 41 46.8**	**+1.0**
KZIL	**AFYON_Kizioren**	**1.21**	**134**	P	**Pn**	**00 41 29.7**	**+0.4**
KZIL				S	**Sn**	**00 41 46.8**	**+1.0**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pn**	**00 41 29.5**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pn**	**00 41 29.5**	**-0.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**00 41 30.9**	**+0.5**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**00 41 30.9**	**+0.5**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**00 41 30.1**	**-0.4**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pn**	**00 41 30.1**	**-0.4**
GEMT	**Gemlik**	**1.33**	**5**	*e*PN	**Pn**	**00 41 30.9**	**+0.2**
GEMT	**Gemlik**	**1.33**	**5**	*e*Pn	**Pn**	**00 41 30.9**	**+0.2**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pn**	**00 41 32.1**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pn**	**00 41 32.1**	**0.0**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**00 41 32.9**	**+0.4**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**00 41 32.9**	**+0.4**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pn**	**00 41 36.6**	**+0.1**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pn**	**00 41 36.6**	**+0.1**

*CSEM **10** 00:51:35.8, 43°.41N×12°.55E, h10km, MD1.3/4*
ROM 10 00:51:35.8±0.1, 43°.41N×12°.55E, h10km±1km, Md1.3/4, Ml1.0/4, Error ellipse: s-maj=0.4km s-min=0.3km az=80.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	**Poggio Castell**	**0.10**	**316**	Pg	Pg	00 51 38.8	+0.4
ATPC				Sg	Sg	00 51 40.9	+0.6
	49nm,0.6s						
ATPC	**Poggio Castell**	**0.10**	**316**	Pg	Pg	00 51 38.8	+0.4
ATPC				Sg	Sg	00 51 40.9	+0.6
	49nm,0.6s						
PIEI	**Pieia**	**0.12**	**356**	Pg	Pg	00 51 39.4	+0.5
PIEI				Sg	Sg	00 51 41.9	+0.9
	20nm,0.3s						
PIEI	**Pieia**	**0.12**	**356**	Pg	Pg	00 51 39.4	+0.5
PIEI				Sg	Sg	00 51 41.9	+0.9
	20nm,0.3s						
MURB	**Monte Urbino**	**0.15**	**187**	Pg	Pg	00 51 39.8	+0.6
MURB				Sg	Sg	00 51 42.7	+1.1
	135nm,1.2s						
MURB	**Monte Urbino**	**0.15**	**187**	Pg	Pg	00 51 39.8	+0.6
MURB				Sg	Sg	00 51 42.7	+1.1
	135nm,1.2s						
SSFR	**Montelago di S**	**0.17**	**81**	Pg	Pg	00 51 40.1	+0.5
SSFR				Sg	Sg	00 51 43.4	+1.2
	29nm,0.2s						
SSFR	**Montelago di S**	**0.17**	**81**	Pg	Pg	00 51 40.1	+0.5
SSFR				Sg	Sg	00 51 43.4	+1.2
	29nm,0.2s						

*ISCJB **10** 00:54:07.6±0.1, 14°.53S±0°.03×167°.82E±0°.02, h30km, mb5.3/186, MS4.7/21, Error ellipse: s-maj=4.1km s-min=3.0km az=162.4*
*MOS **10** 00:54:08.8±1.1, 14°.48S×167°.82E, h38km, mb5.4/49, Error ellipse: s-maj=7.5km s-min=7.3km az=144.3*
*IDC **10** 00:54:11.6±1.7, 14°.58S×167°.83E, h53km±15km, mb4.8/23, mb1 4.8/25, mb1mx4.8/30, mbtmp5.1/25, ML5.1/2, MS4.2/12, Ms1 4.2/12, ms1mx3.9/29, Error ellipse: s-maj=10.9km s-min=9.7km az=108.0*
*NEIC **10** 00:54:11.9±0.7, 14°.56S×167°.85E, h54km±6km, mb5.3/135, Error ellipse: s-maj=4.3km s-min=3.3km az=173.0*
*GCMT **10** 00:54:11.9±0.2, 14°.47S×167°.92E, h12km, MW5.1/78, Moment Tensor Solution. s62,c91; s78,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.53±.15; $M_{\theta\theta}$1.95±.18; $M_{\phi\phi}$-6.48±.13; $M_{r\theta}$0.73±.43; $M_{\theta\phi}$-0.17±.13; $M_{\phi r}$-0.17±.32; Best double couple: $M_0$5.60700×10^{16} NP1:ϕ_s167.00000°, δ48.00000°, λ70.00000°. NP2: ϕ_s16.00000°, δ46.00000°, λ111.00000°. Principal axes: T 4.7280, Plg75.0000°, Azm4.0000°; N 1.7580, Plg15.0000°, Azm181.0000°; P -6.4860, Plg1.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 00:54:12.9, 14°.50S×167°.90E, h78km, mb5.2/65, mB5.2/49, Ms5.3/40, Ms7 5.0/40*
ISC 10 00:54:08.9±0.2, 14°.50S±0°.04×167°.90E±0°.04, h30km, n528, σ1s26/544, mb5.3/185, MS4.7/23, 23C-24D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.66**	**190**	P	**Pn**	**00 55 57.7**	**-0.8**
	16nm,0.3s,baz=38,slow=17,SNR=130						
DZM				S	**Sn**	**00 57 24.1**	**-0.3**
	5.2nm,0.3s,baz=115,slow=16,SNR=3.2						
DZM				LR	LR	00 58 38.7	
	comp=Z,2μm,20.4s,baz=16,slow=35						
DZM	**Mont Dzumac**	**7.66**	**190**	*e*Pn	**Pn**	**00 55 55.9**	**-2.6**
	50nm,0.3s						
DZM				*e*LR	LR	00 57 43.1	
	2μm,23.7s						
HNR	**Honiara**	**9.27**	**302**	P	**Pn**	**00 56 22.0**	**+1.5**
	37nm,0.3s,baz=226,slow=2.4,SNR=40						
HNR				S	**Sn**	**00 58 05.1**	**+1.3**
	44nm,0.3s,baz=114,slow=22,SNR=5.7						
HNR				LR	LR	00 59 56.2	
	comp=Z,2μm,19.6s,baz=128,slow=37						
HNR	**Honiara**	**9.27**	**302**	*e*P	**Pn**	**00 56 22.0**	**+1.5**
HNR				*e*		00 58 09.4	
HNR	**Honiara**	**9.27**	**302**	*e*Pn	**Pn**	**00 56 22.0**	**+1.5**
HNR				*e*Sn	**Sn**	**00 58 09.4**	**+5.6**
MSVF	**Nonsavu**	**10.27**	**110**	*e*P	**Pn**	**00 56 37.6**	**+3.2**
MSVF	**Nonsavu**	**10.27**	**110**	*e*Pn	**Pn**	**00 56 37.6**	**+3.2**
EIDS	**Eidsvold**	**19.13**	**233**	P	**Pn**	**00 58 32.0**	**+1.3**
	baz=19,SNR=5.0						
EIDS	**Eidsvold**	**19.13**	**233**	*e*P	**Pn**	**00 58 32.3**	**+1.6**
	66nm,1.4s						
RAO	**Raoul Island**	**19.69**	**141**	LR	LR	01 03 31.1	
	comp=Z,306nm,21.6s,baz=350,slow=28						
PMG	**Port Moresby**	**20.91**	**282**	P	**P**	**00 58 50.2**	**+1.2**
	40nm,1.0s,baz=106,slow=8.2,SNR=12						
PMG				S	Sn	01 02 48.3	+1.1
	5.5nm,0.4s,baz=268,slow=17,SNR=2.4						
PMG				LR	LR	01 06 16.7	
	comp=Z,1μm,18.9s,baz=71,slow=35						
PMG	**Port Moresby**	**20.91**	**282**	*c*eP	Pn	00 58 50.9	-0.8
PMG				pmax	pmax		
	comp=Z,184nm,1.0s						
PMG	**Port Moresby**	**20.91**	**282**	*e*P	Pn	00 58 51.5	-0.2
	comp=Z,131nm,1.0s						
PMG				S	Sn	01 02 48.3	+1.1
OUZ	**Omahuta**	**21.26**	**167**	*e*P	**P**	**00 58 54.4**	**+1.7**
	comp=Z,119nm,1.1s						
CTA	**Charters Tower**	**21.39**	**252**	P	**P**	**00 58 55.1**	**+0.8**
	comp=Z,17nm,0.7s,baz=78,slow=12,SNR=32						
CTA				S	Sn	01 02 55.2	-3.7
	comp=Z,5.4nm,0.5s,baz=210,slow=20,SNR=6.9						
CTA				LR	LR	01 06 03.2	
	comp=Z,2μm,19.4s,baz=90,slow=33						
CTAO	**Charters Tower**	**21.39**	**252**	*e*P	**P**	**00 58 56.1**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,301nm,1.9s						
CTAO	**Charters Tower**	**21.39**	**252**	*e*P	**P**	**00 58 56.1**	**+1.8**
	comp=Z,301nm,1.9s						
RMQ	**Roma**	**21.50**	**233**	P	**P**	**00 58 57.6**	**+2.2**
	baz=22,SNR=23						
ARMA	**Armidale**	**21.80**	**221**	P	**P**	**00 58 59.9**	**+1.3**
	baz=22,SNR=15						
ARMA	**Armidale**	**21.80**	**221**	*e*P	**P**	**00 58 60.0**	**+1.3**
	comp=Z,82nm,1.0s						
MTSU	**Mount Surprise**	**22.91**	**258**	P	**P**	**00 59 11.6**	**+1.0**
	baz=23,SNR=29						
PATS	**Pohnpei**	**23.23**	**335**	P	**P**	**00 59 15.9**	**+2.1**
	baz=23,SNR=6.1						
PATS	**Pohnpei**	**23.23**	**335**	*e*P	**P**	**00 59 15.8**	**+2.0**
	comp=Z,146nm,1.1s						
MANU	**Manus Island**	**23.75**	**300**	*e*P	**P**	**00 59 19.5**	**+0.6**
	comp=Z,84nm,0.9s						
COEN	**Coen**	**23.97**	**268**	P	**P**	**00 59 22.0**	**+1.1**
	baz=24,SNR=32						
COEN	**Coen**	**23.97**	**268**	*e*P	**P**	**00 59 22.0**	**+1.1**
	comp=Z,44nm,1.0s						
MGCD	**Mangrove Creek**	**24.08**	**216**	P	**P**	**00 59 23.0**	**+1.3**
	baz=24,SNR=5.1						
HIZ	**Hauiti**	**24.70**	**167**	*e*P	**P**	**00 59 27.6**	**+0.2**
	comp=Z,180nm,1.2s						
URZ	**Urewera**	**25.04**	**163**	P	**P**	**00 59 30.8**	**+0.5**
	comp=Z,48nm,1.0s,baz=22,slow=3.5,SNR=9.1						
URZ				LR	LR	01 08 48.5	
	comp=Z,765nm,18.1s,baz=352,slow=35						
URZ	**Urewera**	**25.04**	**163**	*e*P	**P**	**00 59 30.9**	**+0.5**
	comp=Z,91nm,1.1s						
QLP	**Quilpie**	**25.16**	**238**	P	**P**	**00 59 32.7**	**+1.1**
	baz=25,SNR=8.9						
BKZ	**Black Stump Fm**	**25.71**	**164**	*e*P	**P**	**00 59 36.6**	**0.0**
	comp=Z,32nm,0.9s						
CMSA	**Cobar Meteorol**	**26.47**	**226**	P	**P**	**00 59 43.8**	**+0.3**
	baz=26,SNR=21						
CNB	**Canberra Magne**	**26.60**	**215**	P	**P**	**00 59 45.4**	**+0.7**
	baz=27,SNR=4.9						
CAN	**Canberra**	**26.81**	**216**	*e*P	**P**	**00 59 46.4**	**-0.2**
CAN				pmax	pmax		
	comp=Z,32nm,1.2s						
CAN	**Canberra**	**26.81**	**216**	*e*P	**P**	**00 59 46.4**	**-0.2**
	comp=Z,32nm,1.2s						
QIS	**Mount Isa**	**27.62**	**253**	P	**P**	**00 59 54.3**	**+0.3**
	baz=28,SNR=4.7						
RPZ	**Rata Peaks**	**29.24**	**175**	P	**P**	**01 00 07.1**	**-1.1**
	comp=Z,16nm,1.0s,baz=31,slow=12,SNR=3.5						
RPZ				LR	LR	01 10 40.6	
	comp=Z,415nm,19.0s,baz=342,slow=34						
STKA	**Stephens Creek**	**29.61**	**230**	P	**P**	**01 00 12.3**	**+0.8**
	comp=Z,46nm,0.9s,baz=45,slow=8.0,SNR=68						
STKA				PcP	**PcP**	**01 03 15.4**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=89,slow=7.4,SNR=3.2						
STKA				LR	LR	01 11 29.5	
	comp=Z,621nm,19.1s,baz=54,slow=35						
STKA	**Stephens Creek**	**29.61**	**230**	*e*P	**P**	**01 00 12.3**	**+0.8**
STKA						01 03 15.4	
STKA				pmax	pmax		
	comp=Z,25nm,1.3s						
STKA	**Stephens Creek**	**29.61**	**230**	*e*P	**P**	**01 00 12.3**	**+0.8**
	comp=Z,25nm,1.3s						
STKA				PcP	**PcP**	**01 03 15.4**	**-0.5**
TOO	**Toolangi**	**30.40**	**217**	P	**P**	**01 00 19.0**	**+0.5**
	baz=30,SNR=6.5						
SMPI	**Sarmi**	**31.39**	**291**	P	**P**	**01 00 28.4**	**+1.0**
RAR	**Rarotonga**	**31.45**	**107**	P	**P**	**01 00 28.1**	**+0.2**
	comp=Z,7.5nm,0.8s,baz=221,slow=5.7,SNR=4.7						
RAR				LR	LR	01 10 23.2	
	comp=Z,471nm,21.6s,baz=282,slow=31						
RAR	**Rarotonga**	**31.45**	**107**	P	**P**	**01 00 28.1**	**+0.2**
RAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
RAR	**Rarotonga**	**31.45**	**107**	*e*P	**P**	**01 00 27.5**	**-0.4**
	comp=Z,47nm,1.4s						
HTT	**Hallett**	**32.33**	**229**	P	**P**	**01 00 35.8**	**+0.2**
	baz=32,SNR=16						
WB2	**Warramunga Arr**	**32.46**	**256**	*e*P	**P**	**01 00 35.7**	**-1.1**
WRAB	**Tennant Creek**	**32.46**	**256**	*de*P	**P**	**01 00 35.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**32.46**	**256**	*e*P	**P**	**01 00 35.6**	**-1.2**
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**32.47**	**256**	P	**P**	**01 00 35.5**	**-1.4**
	comp=Z,9.9nm,0.9s,baz=85,slow=8.6,SNR=38						
WRA				PcP	**PcP**	**01 03 23.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=80,slow=3.7,SNR=3.9						
WRA				S	**S**	**01 05 47.5**	**-2.7**
	comp=Z,2.0nm,1.2s,baz=86,slow=14,SNR=4.3						
WRA				PKiKP	**PKiKP**	**01 10 49.5**	**-1.8**
	comp=Z,0.9nm,1.0s,baz=54,slow=1.5,SNR=4.7						
WRA				LR	LR	01 12 39.4	
	comp=Z,1μm,21.3s,baz=80,slow=34						
H11S2	**WAKE ISLAND Hy**	**32.80**	**358**	T	T	01 35 23.9	
	baz=171,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**32.80**	**358**	T	T	01 35 23.7	
	baz=171,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**32.82**	**358**	T	T	01 35 27.4	
	baz=171,slow=76,SNR=7.1						
MOO	**Moorlands**	**33.08**	**209**	P	**P**	**01 00 42.5**	**+0.5**
	baz=33,SNR=6.0						
AS31	**Alice Springs**	**33.32**	**249**	*e*P	**P**	**01 00 43.5**	**-0.9**
	comp=Z,7.7nm,0.9s						
ASAR	**Alice Springs**	**33.32**	**249**	P	**P**	**01 00 43.4**	**-1.0**
	comp=Z,28nm,1.0s,baz=74,slow=9.2,SNR=128						
ASAR				S	**S**	**01 06 00.2**	**-3.2**
	comp=Z,0.7nm,0.8s,baz=75,slow=19,SNR=4.3						
TAU	**Tasmania Unive**	**33.39**	**208**	*e*P	**P**	**01 00 45.2**	**+0.6**
TAU				pmax	pmax		
	comp=Z,178nm,1.5s						
TAU	**Tasmania Unive**	**33.39**	**208**	*e*P	**P**	**01 00 45.2**	**+0.6**
	comp=Z,178nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**34.01**	**358**	T	T	01 36 57.2	
	baz=172,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**34.01**	**358**	T	T	01 36 53.4	
	baz=172,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**34.03**	**358**	T	T	01 36 58.8	
	baz=172,slow=76,SNR=7.2						
BBOO	**Buckleboo**	**34.20**	**232**	P	**P**	**01 00 52.5**	**+0.7**
	baz=34,SNR=26						
BBOO	**Buckleboo**	**34.20**	**232**	*e*P	**P**	**01 00 52.7**	**+0.9**
	comp=Z,92nm,1.1s						
MTN	**Manton Dam**	**35.74**	**268**	P	**P**	**01 01 05.6**	**+0.3**
	baz=36,SNR=5.4						
MTN	**Manton Dam**	**35.74**	**268**	*e*P	**P**	**01 01 05.4**	**+0.1**
	comp=Z,14nm,0.6s						
FAKI	**Fak Fak**	**37.00**	**285**	P	**P**	**01 01 17.1**	**+1.0**
FAKI	**Fak Fak**	**37.00**	**285**	*e*P	**P**	**01 01 16.8**	**+0.7**
	comp=Z,35nm,0.9s						
KNRA	**Kununurra**	**37.77**	**263**	P	**P**	**01 01 22.3**	**-0.3**
	baz=38,SNR=9.1						
WRKA	**Warakurna**	**38.59**	**248**	P	**P**	**01 01 28.6**	**-0.8**
	baz=39,SNR=31						
FORT	**Forrest**	**39.94**	**239**	*e*P	**P**	**01 01 40.4**	**-0.2**
	comp=Z,337nm,0.8s						
PAE	**Paea**	**40.92**	**100**	*e*P	**P**	**01 01 49.0**	**+0.1**
	comp=Z,17nm,1.3s						
PPT2	**Papeete2**	**40.92**	**100**	*e*P	**P**	**01 01 49.5**	**+0.5**
	comp=Z,34nm,1.0s						
PPT2				*e*S	**S**	**01 08 01.1**	**+1.9**
	comp=Z,364nm,24.2s						
PPT2				*e*LR	LR	01 13 26.5	
	comp=Z,2μm,28.5s						
PPT	**Papeete**	**40.93**	**100**	LR	LR	01 14 44.6	
	comp=Z,174nm,20.6s,baz=286,slow=30						
TIAR	**Tiarei**	**41.15**	**100**	*e*P	**P**	**01 01 51.1**	**+0.3**
	comp=Z,7.9nm,0.8s						
TBI	**Tubuai**	**41.16**	**109**	*e*P	**P**	**01 01 51.5**	**+0.7**
	comp=Z,105nm,1.3s						
TBI				*e*S	**S**	**01 08 03.5**	**+1.0**
	comp=Z,295nm,24.2s						
TBI				*e*LQ	LQ	01 11 40.3	
	comp=Z,634nm,28.8s						
TBI				*e*LR	LR	01 13 33.6	
	comp=Z,1μm,27.8s,baz=279						
TVO	**Taravao**	**41.23**	**101**	*e*P	**P**	**01 01 52.5**	**+1.0**
	comp=Z,10.0nm,0.8s						
PMOR	**Pomariorio Ree**	**42.70**	**97**	*e*P	**P**	**01 02 04.3**	**+0.8**
	comp=Z,100nm,1.2s						
SOEI	**Soe**	**42.87**	**271**	*e*P	**P**	**01 02 06.5**	**+1.5**
	comp=Z,207nm,1.5s						
SANI	**Sanana**	**43.18**	**283**	P	**P**	**01 02 08.3**	**+0.9**
KMBL	**Kambalda**	**45.23**	**240**	P	**P**	**01 02 23.6**	**-0.1**
	baz=45,SNR=5.2						
MBWA	**Marble Bar**	**46.19**	**255**	*e*P	**P**	**01 02 31.5**	**+0.1**
	comp=Z,39nm,0.8s						
KAPI	**Kappang**	**48.29**	**276**	*e*P	**P**	**01 02 48.7**	**+0.9**
	comp=Z,42nm,1.0s						
KLBR	**Kellerberrin**	**48.75**	**241**	P	**P**	**01 02 50.3**	**-0.8**
	baz=49,SNR=5.3						
KIP	**Kipapa**	**48.92**	**44‖**	*e*P	**P**	**01 02 51.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**49.39**	**239**	*e*P	**P**	**01 02 55.6**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,66nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.39**	**239**	*e*P	**P**	**01 02 55.6**	**-0.4**
	comp=Z,66nm,1.1s						
RKGY	**Rocky Gully**	**49.89**	**237**	P	**P**	**01 02 59.4**	**-0.4**
	baz=50,SNR=4.9						
TAOE	**Nuku Hiva Isla**	**51.10**	**90**	*e*S	**S**	**01 10 24.2**	**-1.5**
	comp=Z,328nm,24.6s						
TAOE				*e*LR	LR	01 17 54.4	
	comp=Z,722nm,28.5s						
MYLDM	**Lahad Datu**	**52.74**	**288**	*e*P	**P**	**01 03 22.2**	**+0.9**
	comp=Z,70nm,1.3s						
JAGI	**Jajag, Banyuwa**	**52.91**	**270**	*e*P	**P**	**01 03 21.6**	**-1.1**
	comp=Z,45nm,1.0s						
RKT	**Rikitea**	**54.47**	**108**	*e*S	**S**	**01 11 10.9**	**-0.4**
	comp=Z,445nm,26.8s						
RKT				*e*LR	LR	01 19 38.6	
	comp=Z,850nm,27.5s						
KKM	**Kota Kinabalu**	**55.17**	**288**	*e*P	**P**	**01 03 38.4**	**-0.9**
	comp=Z,85nm,1.2s						
JOW	**Kunigami**	**56.29**	**317**	*e*P	**P**	**01 03 47.1**	**+0.1**
	comp=Z,76nm,0.7s						
UGM	**Wanagama**	**56.54**	**270**	*e*P	**P**	**01 03 49.6**	**+0.5**
	comp=Z,217nm,1.2s						
SMRI	**Semarang**	**56.81**	**271**	*e*P	**P**	**01 03 52.1**	**+1.2**
	comp=Z,74nm,0.9s						
INU	**Inuyama**	**57.57**	**330**	*e*P	**P**	**01 03 56.2**	**+0.3**
	comp=Z,71nm,1.6s						
SBUM	**Sibu**	**57.65**	**282**	*e*P	**P**	**01 03 58.2**	**+1.3**
	comp=Z,15nm,1.0s						
MJAR	**Matsushiro Arr**

ADK	**Adak**	**67.45**	**10**	*e*P	**P**	**01 05 01.7 +0.2**
	comp=Z,78nm,1.3s					
PETK	**Petropavlovsk-**	**67.90**	**353**	P	**P**	**01 05 05.0 +0.7**
	comp=Z,11nm,0.9s,baz=149,slow=6.9,SNR=5.0					
WHN	**Wuhan**	**68.24**	**312**	⇓P	**P**	**01 05 07.4 +0.4**
WHN				LR	LR	
	comp=Z,1μm,16.3s					
WHN				LR	LR	
	comp=Z,1μm,14.5s					
WHN				LR	LR	
	comp=Z,1μm,27.0s					
MDJ	**Mudanjiang**	**68.36**	**332**	P	**P**	**01 05 08.5 +1.0**
MDJ				pP	PcP	01 05 27.4 -5.4
MDJ				sP	sP	01 05 35.1 +15
MDJ				pmax	pmax	
	comp=Z,46nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,110nm,3.9s					
MDJ				LR	LR	
	comp=Z,1μm,23.2s					
MDJ				LR	LR	
	comp=Z,980nm,22.7s					
MDJ				LR	LR	
	comp=Z,900nm,19.5s					
MDJ	**Mudanjiang**	**68.36**	**332**	*e*P	**P**	**01 05 08.7 +1.2**
	comp=Z,44nm,0.9s					
DL2	**Dalian**	**68.48**	**323**	P	**P**	**01 05 08.7 +0.4**
DL2				*e*S	**S**	**01 14 04.7 -3.6**
DL2				pmax	pmax	
	comp=Z,100nm,0.8s					
DL2				LR	LR	
	comp=Z,650nm,19.1s					
DL2				LR	LR	
	comp=Z,860nm,25.4s					
DL2				LR	LR	
	comp=Z,1μm,27.3s					
IPM	**Ipoh**	**68.90**	**281**	*e*P	**P**	**01 05 12.1 +0.6**
	comp=Z,32nm,1.0s					
HABR	**Khabarovsk**	**69.16**	**337**	*e*P	**P**	**01 05 11.0 -1.3**
HABR				*e**PP	**sP**	**01 05 29.7 +4.5**
HABR				*e**SP	**PcP**	**01 05 37.7 +1.7**
HABR				*e*		01 07 44.4
HABR				*e*PPP	PPP	01 09 25.5
HABR				*e*S	**S**	**01 14 11.8 -4.1**
HABR				*e*		01 14 34.0
HABR				*e**SS	sS	01 14 44.7 +13
HABR				*e*		01 15 05.4
HABR				*e*SS	**SS**	**01 18 39.8 -3.2**
HABR				pmax	pmax	
	comp=E,25nm,1.4s					
HABR				pmax	pmax	
	comp=N,34nm,1.4s					
HABR				pmax	pmax	
	comp=Z,124nm,1.4s					
HABR				MLR	MLR	
	comp=Z,126nm,17.0s					
TIA	**Tai'an**	**69.57**	**318**	⇑P	**P**	**01 05 15.0 -0.2**
TIA				pmax	pmax	
	comp=Z,50nm,0.9s					
CN2	**Changchun**	**69.76**	**329**	⇑*i*P	**P**	**01 05 16.4 +0.2**
CN2				*e*pP	PcP	01 05 36.4 -2.3
CN2				*e*S	**S**	**01 14 19.7 -3.6**
CN2				pmax	pmax	
	comp=Z,60nm,0.8s					
CN2				LR	LR	
	comp=Z,800nm,17.0s					
CN2				LR	LR	
	comp=Z,700nm,17.0s					
CN2				LR	LR	
	comp=Z,900nm,18.0s					
MIR	**Mirnyy**	**70.79**	**204**	*i* P	**P**	**01 05 22.0 -0.1**
MIR				pmax	pmax	
	comp=Z,6.0nm,1.6s					
ENH	**Enshi**	**71.69**	**309**	*e*P	**P**	**01 05 27.8 -0.5**
	comp=Z,64nm,0.9s					
CHAI	**Chaiyaphum**	**71.78**	**292**	P	**P**	**01 05 29.5 +0.5**
	comp=Z,5.1nm,0.9s					
GYA	**Guiyang**	**72.08**	**304**	*e*P	**P**	**01 05 33.0 +2.2**
GYA				pP	PcP	01 05 54.2 +5.0
GYA				S	**S**	**01 14 49.4 -1.9**
GYA				pmax	pmax	
	comp=Z,20nm,1.0s					
GYA				pmax	pmax	
	comp=Z,130nm,6.0s					
SLVN	**Son La**	**72.18**	**298**	*e*P	**P**	**01 05 32.1 +0.7**
	comp=Z,34nm,1.8s					
BJT	**Baijiatuau**	**72.46**	**321**	*e*P	**P**	**01 05 32.7 +0.1**
BJT				pmax	pmax	
	comp=Z,38nm,1.1s					
BJT	**Baijiatuau**	**72.46**	**321**	*e*P	**P**	**01 05 32.7 +0.1**
	comp=Z,38nm,1.1s					
BJI	**Beijing**	**72.47**	**321**	P	**P**	**01 05 32.7 +0.1**
BJI				pmax	pmax	
	comp=Z,31nm,1.1s					
BJI				pmax	pmax	
	comp=Z,140nm,4.7s					
BJI				LR	LR	
	comp=Z,670nm,25.1s					
BJI				LR	LR	
	comp=Z,530nm,21.7s					
BJI				LR	LR	
	comp=Z,950nm,30.8s					
PHET	**Kaeng Krachan**	**72.88**	**289**	P	**P**	**01 05 37.3 +1.7**
	comp=Z,7.6nm,1.2s,comp=Z,120nm					
TIY	**Taiyuan**	**73.50**	**317**	*e*P	**P**	**01 05 39.7 +0.7**
TIY				pmax	pmax	
	comp=Z,45nm,0.9s					
TIY				pmax	pmax	
	comp=Z,190nm,5.6s					
TIY				LR	LR	
	comp=Z,400nm,14.5s					
TIY				LR	LR	
	comp=Z,290nm,12.2s					
TIY				LR	LR	
	comp=Z,560nm,23.4s					
UTTA	**Uttaradit**	**73.73**	**294**	P	**P**	**01 05 41.6 +1.1**
	comp=Z,8.2nm,0.9s					
UTHA	**Uthaitani**	**73.95**	**291**	P	**P**	**01 05 43.0 +1.1**
	comp=Z,7.1nm,1.0s					
XAN	**Xi'an**	**73.98**	**312**	P	**P**	**01 05 41.9 +0.1**
XAN				pP	PcP	01 06 01.9 +4.9
XAN				S	**S**	**01 15 11.1 -1.3**
XAN				pmax	pmax	
	comp=Z,32nm,0.9s					
XAN				pmax	pmax	
	comp=Z,170nm,4.8s					
XAN				LR	LR	
	comp=Z,510nm,26.5s					
XAN				LR	LR	
	comp=Z,710nm,26.5s					
XAN				LR	LR	
	comp=Z,770nm,18.3s					
NANT	**Nan**	**73.98**	**295**	P	P	01 05 36.5 -5.6
	comp=Z,22nm,0.6s,comp=Z,14μm					
UMPA	**Umpang Tak**	**74.70**	**292**	P	**P**	**01 05 48.2 +1.9**
	comp=Z,3.3nm,1.1s,comp=Z,727nm					
KMI	**Kunming**	**74.70**	**301**	P	**P**	**01 05 48.0 +1.6**
KMI				pmax	pmax	
	comp=Z,40nm,1.0s					
LAMP	**Lampang**	**74.83**	**294**	P	**P**	**01 05 47.9 +0.9**
	comp=Z,26nm,0.8s,comp=Z,183nm					
CM01	**Chiang Mai Arr**	**75.39**	**294**	*e*P	**P**	**01 05 51.2 +1.0**
CMAR	**Chiang Mai Arr**	**75.41**	**294**	P	**P**	**01 05 51.1 +0.8**
	comp=Z,15nm,0.9s,baz=124,slow=4.4,SNR=55					
QSPA	**South Pole Qui**	**75.53**	**180**	*e*P	**P**	**01 05 49.3 -1.1**
	comp=Z,25nm,1.1s					
CHTO	**Chiang Mai**	**75.54**	**294**	P	**P**	**01 05 51.7 +0.6**
	comp=Z,116nm,1.1s					
CHTO	**Chiang Mai**	**75.54**	**294**	*e*P	**P**	**01 05 51.9 +0.8**
CHTO				pmax	pmax	
	comp=Z,25nm,1.0s					
CHTO	**Chiang Mai**	**75.54**	**294**	*e*P	**P**	**01 05 51.9 +0.8**
	comp=Z,25nm,1.0s					
HHC	**Hu-ho-hao-te**	**75.80**	**319**	*e*P	**P**	**01 05 53.6 +1.3**
HHC				pP	sP	01 06 13.8 +8.5
HHC				sP	PcP	01 06 21.8 +17
HHC				S	**S**	**01 15 30.2 -2.4**
HHC				pmax	pmax	
	comp=Z,27nm,1.1s					
HHC				pmax	pmax	
	comp=Z,130nm,4.8s					
HHC				LR	LR	
	comp=Z,680nm,18.5s					
HHC				LR	LR	
	comp=Z,710nm,19.7s					
HHC				LR	LR	
	comp=Z,510nm,19.7s					
CHGN	**Chignik**	**75.95**	**19**	*e*P	**P**	**01 05 51.9 -0.6**
	comp=Z,70nm,1.2s					
CD2	**Chengdu**	**76.35**	**307**	⇑P	**P**	**01 05 56.1 +0.6**
CD2				S	**S**	**01 15 36.2 -2.7**
CD2				pmax	pmax	
	comp=Z,40nm,0.7s					
CD2				pmax	pmax	
	comp=Z,160nm,5.2s					
CD2				LR	LR	
	comp=Z,950nm,22.4s					
CD2				LR	LR	
	comp=Z,550nm,21.8s					
CD2				LR	LR	
	comp=Z,370nm,16.4s					
SEY	**Seymchan**	**78.13**	**353**	⇑*e*P	**P**	**01 06 04.1 -0.6**
OHAK	**Old Harbor**	**78.36**	**20**	*e*P	**P**	**01 06 06.7 +0.7**
	comp=Z,62nm,0.9s					
LZH	**Lanzhou**	**78.62**	**312**	*e*P	**P**	**01 06 09.5 +1.3**
LZH				pP	sP	01 06 27.1 +5.8
LZH				sP	pP	01 06 34.1 +16
LZH				PP	**PP**	**01 09 12.2 +5.6**
LZH				*e*S	**S**	**01 15 59.6 -3.9**
LZH				sS	ScS	01 16 31.0 +3.4
LZH				pmax	pmax	
	comp=Z,55nm,1.2s					
LZH				pmax	pmax	
	comp=Z,200nm,5.2s					
LZH				LR	LR	
	comp=Z,1μm,12.4s					
LZH				LR	LR	
	comp=Z,1μm,14.4s					
LZH				LR	LR	
	comp=Z,2μm,18.2s					
KDAK	**Kodiak Island**	**79.03**	**20**	P	**P**	**01 06 10.7 +0.9**
	comp=Z,25nm,0.9s,baz=183,slow=1.2,SNR=11					
KDAK	**Kodiak Island**	**79.03**	**20**	*e*P	**P**	**01 06 10.7 +0.9**
KDAK				pmax	pmax	
	comp=Z,35nm,0.9s					
KDAK	**Kodiak Island**	**79.03**	**20**	*e*P	**P**	**01 06 10.7 +0.9**
	comp=Z,35nm,0.9s					
CLNS	**Chul'man**	**79.55**	**338**	*e*P	**P**	**01 06 13.4 +0.7**
CLNS				pmax	pmax	
	comp=N,14nm,0.8s					
CLNS				pmax	pmax	
	comp=Z,28nm,0.8s					
CLNS				pmax	pmax	
	comp=E,5.0nm,1.0s					
SVW2	**Sparrevohn**	**80.75**	**17**	*e*P	**P**	**01 06 20.1 +1.1**
	comp=E,15nm,1.3s					
RSO	**Redoubt South**	**81.08**	**19**	*e*P	**P**	**01 06 21.1 +0.1**
YAK	**Yakutsk**	**81.99**	**343**	*e*P	**P**	**01 06 24.3 -1.2**
YAK				pmax	pmax	
	comp=Z,61nm,1.0s					
YAK				pmax	pmax	
	comp=N,23nm,1.3s					
ULN	**Ulaanbaatar**	**82.31**	**324**	*ce*P	**P**	**01 06 27.6 -0.2**
ULN				pmax	pmax	
	comp=Z,64nm,1.7s					
ULN	**Ulaanbaatar**	**82.31**	**324**	*e*P	**P**	**01 06 28.0 +0.2**
	comp=Z,30nm,0.9s					
BILL	**Bilibino**	**82.32**	**359**	*i* P	**P**	**01 06 26.1 -1.1**
BILL				*i*		01 06 35.9
BILL				*i*		01 09 33.7
BILL				pmax	pmax	
	comp=Z,10.0nm,1.0s					
MAW	**Mawson**	**82.33**	**202**	P	**P**	**01 06 26.8 -0.6**
	comp=Z,6.5nm,1.0s,baz=90,slow=7.2,SNR=13					
MAW	**Mawson**	**82.33**	**202**	*e*P	**P**	**01 06 27.3 -0.1**
MAW				pmax	pmax	
	comp=Z,5.0nm,1.3s					
MAW	**Mawson**	**82.33**	**202**	*e*P	**P**	**01 06 27.3 -0.1**
	comp=Z,4.7nm,1.3s					
SONM	**Songino Array**	**82.67**	**323**	P	**P**	**01 06 29.7 +0.1**
	comp=Z,14nm,1.0s,baz=139,slow=5.3,SNR=66					
SONA1	**Songino Array**	**82.67**	**323**	*e*P	**P**	**01 06 29.1 -0.6**
GTA	**Gaotai**	**82.95**	**314**	⇑P	**P**	**01 06 31.9 +0.6**
GTA				pP	sP	01 06 55.2 +11
GTA				sP	pP	01 07 04.6 +24
GTA				S	**S**	**01 16 44.3 -4.2**
GTA				sS	sS	01 17 18.5 +14
GTA				pmax	pmax	
	comp=Z,30nm,1.4s					
GTA				pmax	pmax	
	comp=Z,190nm,5.5s					
GTA				LR	LR	
	comp=Z,440nm,20.0s					
GTA				LR	LR	
	comp=Z,420nm,19.0s					
GTA				LR	LR	
	comp=Z,600nm,18.1s					
PMR	**Palmer**	**83.08**	**19**	*e*P	**P**	**01 06 30.1 -1.2**
PMR				pmax	pmax	
	comp=Z,187nm,2.0s					
PMR	**Palmer**	**83.08**	**19**	*e*P	**P**	**01 06 30.1 -1.2**
	comp=Z,187nm,2.0s					
KCPM	**Cahto Peak**	**83.37**	**46**	*e*P	**P**	**01 06 34.3 +0.9**
	comp=Z,48nm,1.0s					
HOPS	**Hopland Field**	**83.44**	**47**	*e*P	**P**	**01 06 34.3 +0.7**
	comp=Z,57nm,1.3s					
KMRM	**Mail Ridge**	**83.51**	**46**	*e*P	**P**	**01 06 35.2 +1.2**
	comp=Z,45nm,1.1s					
GDXM	**Gers**	**83.56**	**47**	*e*P	**P**	**01 06 36.0 +1.6**
	comp=Z,24nm,1.3s					
SAO	**San Andreas Ge**	**83.72**	**50**	*e*P	**P**	**01 06 35.9 +0.7**
SAO				pmax	pmax	
	comp=Z,17nm,0.9s					
SAO	**San Andreas Ge**	**83.72**	**50**	*e*P	**P**	**01 06 35.9 +0.7**
	comp=Z,17nm,0.9s					
KHMM	**Horse Mountain**	**83.77**	**45**	*e*P	**P**	**01 06 37.0 +1.5**
	comp=Z,19nm,0.9s					
PMPB	**Monarch Peak**	**83.98**	**50**	*e*P	**P**	**01 06 37.8 +1.2**
	comp=Z,26nm,1.0s					
SCZ2	**Santa Cruz Isl**	**84.03**	**53**	P	**P**	**01 06 37.1 +0.2**
	baz=248					
PAGB	**Antelope Grade**	**84.21**	**51**	*e*P	**P**	**01 06 38.8 +1.1**
	comp=Z,20nm,1.2s					
PKM	**Mcpherson Peak**	**84.23**	**52**	P	**P**	**01 06 38.6 +0.5**
	baz=248					
L02D	**Cave Junction,**	**84.40**	**44**	P	**P**	**01 06 39.1 +0.6**
	baz=245					
WDC	**Whiskeytown Da**	**84.47**	**46**	*e*P	**P**	**01 06 39.5 +0.7**
WDC				pmax	pmax	
	comp=Z,24nm,1.1s					
WDC	**Whiskeytown Da**	**84.47**	**46**	*e*P	**P**	**01 06 39.5 +0.7**
	comp=Z,24nm,1.1s					
N02D	**Trinity Center**	**84.52**	**45**	P	**P**	**01 06 39.8 +0.6**
	baz=246,SNR=12					
BOD	**Bodaibo**	**84.53**	**334**	*e*P	**P**	**01 06 37.9 -0.9**
BOD				pmax	pmax	
	comp=Z,30nm,1.5s					
M02C	**Callahan**	**84.58**	**45**	P	**P**	**01 06 40.3 +0.7**
	baz=245,SNR=9.2					
ORV	**Oroville**	**84.78**	**47**	*e*P	**P**	**01 06 40.0 -0.5**
ORV				pmax	pmax	
	comp=Z,21nm,1.1s					
ORV	**Oroville**	**84.78**	**47**	*e*P	**P**	**01 06 40.0 -0.5**
	comp=Z,21nm,1.1s					
YBH	**Yreka Blue Hor**	**84.82**	**45**	*e*P	**P**	**01 06 41.6 +0.8**
YBH				pmax	pmax	
	comp=Z,15nm,1.0s					
YBH	**Yreka Blue Hor**	**84.82**	**45**	*e*P	**P**	**01 06 41.6 +0.8**
	comp=Z,15nm,1.0s					
O03D	**Paynes Creek**	**84.87**	**46**	P	**P**	**01 06 40.6 -0.4**
	baz=246,SNR=15					
AFDM	**Forest Hills D**	**84.92**	**48**	*e*P	**P**	**01 06 40.9 -0.3**
CMB	**Columbia Colle**	**84.99**	**49**	*e*P	**P**	**01 06 41.6 -0.1**
CMB				pmax	pmax	
	comp=Z,17nm,1.0s					
CMB	**Columbia Colle**	**84.99**	**49**	*e*P	**P**	**01 06 41.6 -0.1**
	comp=Z,17nm,1.0s					
HUMO	**Hull Mountain**	**85.02**	**44**	*e*P	**P**	**01 06 42.5 +0.9**
	comp=Z,40nm,1.5s					
ARVC	**Arvin**	**85.06**	**52**	P	**P**	**01 06 42.1 +0.1**
	baz=248					
VES	**Vestal, Richgr**	**85.13**	**51**	P	**P**	**01 06 42.0 -0.3**
	baz=248,SNR=5.4					
RCTC	**Rector, Farmer**	**85.18**	**51**	P	**P**	**01 06 42.5 -0.1**
	baz=248					
PASC	**Pasadena Art C**	**85.22**	**53**	*e*P	**P**	**01 06 43.1 +0.3**
	comp=Z,70nm,1.7s					
I03D	**Drain, OR**	**85.22**	**43**	P	**P**	**01 06 42.7 +0.2**
	baz=245					
MWC	**Mount Wilson**	**85.33**	**53**	*e*P	**P**	**01 06 43.8 +0.2**
MWC				pmax	pmax	
	comp=Z,32nm,1.1s					
MWC	**Mount Wilson**	**85.33**	**53**	*e*P	**P**	**01 06 43.8 +0.2**
	comp=Z,32nm,1.1s					
M04C	**Macdoel**	**85.44**	**45**	P	**P**	**01 06 44.1 +0.2**
	baz=246,SNR=6.6					
ISA	**Isabella, Lake**	**85.53**	**52**	P	**P**	**01 06 44.4 0.0**
	baz=249					
ISA	**Isabella, Lake**	**85.53**	**52**	*e*P	**P**	**01 06 45.1 +0.7**
ISA				pmax	pmax	
	comp=Z,26nm,1.2s					
ISA	**Isabella, Lake**	**85.53**	**52**	*e*P	**P**	**01 06 45.1 +0.7**
	comp=Z,26nm,1.2s					
109C	**Camp Elliot, M**	**85.61**	**55**	P	**P**	**01 06 45.0 +0.3**
	baz=250					
EDW2	**Edwards Air Fo**	**85.62**	**52**	P	**P**	**01 06 45.1 +0.2**
	baz=249,SNR=16					
BFSC	**Mount Baldy Ra**	**85.65**	**53**	P	**P**	**01 06 44.8 -0.3**
	baz=249,SNR=10					
BEKR	**Beckworth**	**85.71**	**47**	*e*P	**P**	**01 06 45.8 +0.4**
	comp=Z,19nm,1.0s					
ZAK	**Zakamensk**	**85.72**	**325**	*e*P	**P**	**01 06 44.2 -0.8**
ZAK				pmax	pmax	
	comp=Z,24nm,1.1s					
MURC	**Murrieta**	**85.78**	**54**	P	**P**	**01 06 45.7 0.0**
	baz=250					
K04D	**Chiloquin, OR**	**85.84**	**44**	P	**P**	**01 06 46.1 +0.2**
	baz=246					
J04D	**Umpqua Nationa**	**85.85**	**44**	P	**P**	**01 06 45.7 -0.3**
	baz=246					
WAKR	**Walker**	**85.86**	**49**	*e*P	**P**	**01 06 46.9 +0.7**
	comp=Z,36nm,1.1s					
BAR	**Barrett**	**85.88**	**55**	*e*P	**P**	**01 06 46.5 +0.3**
	comp=Z,14nm,1.0s					
COLA	**College**	**85.91**	**17**	*e*P	**P**	**01 06 45.8 +0.3**
COLA				pmax	pmax	
	comp=Z,14nm,0.6s					
COLA	**College**	**85.91**	**17**	*e*P	**P**	**01 06 45.8 +0.3**
	comp=Z,14nm,0.6s					
LSA	**Lhasa**	**85.95**	**302**	*e*P	**P**	**01 06 48.0 +0.8**
LSA				pmax	pmax	
	comp=Z,11nm,0.8s					
LSA	**Lhasa**	**85.95**	**302**	*e*P	**P**	**01 06 48.0 +0.8**
	comp=Z,11nm,0.8s					
PNTR	**Pine Nut**	**85.96**	**48**	*e*P	**P**	**01 06 47.9 +1.3**
	comp=Z,26nm,1.1s					
MLAC	**Mammoth, Mammo**	**85.97**	**50**	P	**P**	**01 06 47.2 +0.4**
	baz=248					
LRMC	**Laurel Mtn Rad**	**86.07**	**52**	P	**P**	**01 06 47.3 +0.1**
	baz=249,SNR=10					
CWC	**Cottonwood Cre**	**86.11**	**51**	P	**P**	**01 06 47.5 +0.1**
	baz=249					
ILAR	**Eielson Array**	**86.12**	**18**	P	**P**	**01 06 45.3 -1.3**
	comp=Z,9.5nm,0.8s,baz=235,slow=5.3,SNR=57					
ILB	**Eielson Array**	**86.12**	**18**	*e*P	**P**	**01 06 45.0 -1.6**
TLY	**Talaya**	**86.14**	**326**	*e*P	**P**	**01 06 45.8 -1.2**
TLY				pmax	pmax	
	comp=Z,18nm,0.9s					
MONP2	**Monument Peak**	**86.15**	**55**	P	**P**	**01 06 48.0 +0.2**
	baz=250,SNR=8.0					
YERR	**Yerington**	**86.18**	**48**	*e*P	**P**	**01 06 48.3 +0.5**
	comp=Z,25nm,1.2s					
TIN	**Tinemaha, Big**	**86.22**	**50**	P	**P**	**01 06 48.3 +0.5**
	baz=249					
TVH2	**Borealis Mine**	**86.31**	**49**	*e*P	**P**	**01 06 49.0 +0.6**
	comp=Z,10nm,1.0s					
IKP	**In-Ko-Pah, Jac**	**86.32**	**55**	P	**P**	**01 06 49.0 +0.6**
	baz=250					
PAHR	**Pah Rah Range**	**86.35**	**48**	*e*P	**P**	**01 06 49.0 +0.5**
	comp=Z,40nm,1.0s					
PFO	**Pinyon Flats O**	**86.37**	**54**	P	**P**	**01 06 48.9 +0.2**
	baz=250					
PFO	**Pinyon Flats O**	**86.37**	**54**	*e*P	**P**	**01 06 49.2 +0.5**
PFO				pmax	pmax	
	comp=Z,32nm,1.5s					
PFO	**Pinyon Flats O**	**86.37**	**54**	*e*P	**P**	**01 06 49.2 +0.5**
	comp=Z,32nm,1.5s					
RRX	**Edison Barstow**	**86.38**	**53**	P	**P**	**01 06 48.8 +0.3**
	baz=250					
MPMC	**Manual Prospec**	**86.42**	**52**	P	**P**	**01 06 48.9 0.0**
	baz=249,SNR=9.6					
F04D	**Rainier, OR**	**86.45**	**41**	P	**P**	**01 06 49.6 +1.0**
	baz=245					
J05D	**Fort Rock, OR**	**86.45**	**44**	P	**P**	**01 06 49.2 +0.3**
	baz=246,SNR=8.5					
MOD	**Modoc Plateau**	**86.54**	**45**	*e*P	**P**	**01 06 49.3 -0.1**
	comp=Z,9.9nm,1.0s					
SWSC	**Sam W. Stewart**	**86.66**	**55**	P	**P**	**01 06 50.2 +0.2**
	baz=250,SNR=9.3					
GSC	**Goldstone, Bar**	**86.68**	**52**	P	**P**	**01 06 50.2 +0.1**
	baz=250,SNR=9.0					
GSC	**Goldstone, Bar**	**86.68**	**52**	*e*P	**P**	**01 06 50.7 +0.6**
GSC				pmax	pmax	
	comp=Z,55nm,1.8s					
GSC	**Goldstone, Bar**	**86.68**	**52**	*e*P	**P**	**01 06 50.7 +0.6**
	comp=Z,55nm,1.8s					
I05D	**Terrebonne, OR**	**86.80**	**43**	P	**P**	**01 06 50.8 +0.3**
	baz=246					
GRAC	**Grapevine Rang**	**86.84**	**51**	P	**P**	**01 06 51.5 +0.7**
	baz=249					
BELC	**Belle Mtn. Jos**	**86.86**	**54**	P	**P**	**01 06 51.5 +0.4**
	baz=250,SNR=18					
HEC	**Hector,Ludlow**	**86.88**	**53**	P	**P**	**01 06 50.9 -0.2**
	baz=250,SNR=6.8					
FURC	**Furnace Creek,**	**87.03**	**51**	P	**P**	**01 06 52.0 +0.4**
	baz=250,SNR=14					
BC3	**Big Chuckawall**	**87.17**	**54**	P	**P**	**01 06 52.8 +0.2**
	baz=251,SNR=10					
SHOC	**Shoshone, Teco**	**87.29**	**52**	P	**P**	**01 06 52.9 -0.1**
	baz=250,SNR=9.6					
GMRC	**Granite Mounta**	**87.39**	**53**	P	**P**	**01 06 53.8 +0.2**
	baz=250,SNR=10					
TUQ	**Turquoise Moun**	**87.40**	**53**	P	**P**	**01 06 53.7 0.0**
	baz=250,SNR=15					
GLA	**Glamis**	**87.47**	**55**	P	**P**	**01 06 54.7 +0.7**
	baz=251,SNR=8.4					
GLA	**Glamis**	**87.47**	**55**	*e*P	**P**	**01 06 55.0 +1.1**
GLA				pmax	pmax	
	comp=Z,40nm,1.4s					
GLA	**Glamis**	**87.47**	**55**	*e*P	**P**	**01 06 55.0 +1.1**
	comp=Z,40nm,1.4s					
LON	**Longmire**	**87.48**	**40**	*e*P	**P**	**01 06 55.2 +1.5**
LON				pmax	pmax	
	comp=Z,41nm,1.9s					
LON	**Longmire**	**87.48**	**40**	*e*P	**P**	**01 06 55.2 +1.5**
	comp=Z,41nm,1.9s					
D05A	**Enumclaw**	**87.55**	**40**	*e*P	**P**	**01 06 57.4 +3.5**
	comp=Z,34nm,1.2s					
IRM	**Iron Mountain**	**87.58**	**54**	P	**P**	**01 06 54.8 +0.4**
	baz=251,SNR=20					
TPNV	**Topopah Spring**	**87.66**	**51**	P	**P**	**01 06 55.1 +0.1**
	baz=250,SNR=19					
TPNV	**Topopah Spring**	**87.66**	**51**	*e*P	**P**	**01 06 55.1 +0.1**
TPNV				pmax	pmax	
	comp=Z,16nm,1.0s					
TPNV	**Topopah Spring**	**87.66**	**51**	*e*P	**P**	**01 06 55.1 +0.1**
	comp=Z,16nm,1.0s					
A04D	**Lummi Island**	**87.75**	**38**	P	**P**	**01 06 55.4 +0.6**
	baz=245					
WVOR	**Wild Horse Val**	**87.89**	**45**	*e*P	**P**	**01 06 56.5 +0.6**
WVOR				pmax	pmax	
	comp=Z,50nm,1.9s					
WVOR	**Wild Horse Val**	**87.89**	**45**	*e*P	**P**	**01 06 56.5 +0.6**
	comp=Z,50nm,1.9s					
EGAK	**Eagle**	**87.89**	**19**	*e*P	**P**	**01 06 57.2 +2.1**
	comp=Z,7.3nm,0.8s					
LDFC	**Landfair**	**87.91**	**53**	*e*P	**P**	**01 06 56.7 +0.6**
	comp=Z,73nm,1.3s					
B05A	**Bryant**	**87.92**	**39**	P	**P**	**01 06 56.1 +0.4**
	baz=246					
Y12C	**Blythe**	**87.94**	**55**	P	**P**	**01 06 56.4 +0.3**
	baz=251,SNR=9.1					
Y12C	**Blythe**	**87.94**	**55**	*e*P	**P**	**01 06 56.7 +0.6**
	comp=Z,58nm,1.5s					
TAPN	**Taplejung**	**88.10**	**299**	*e*P	**P**	**01 06 57.4 0.0**
NEE2	**Needles Airpor**	**88.19**	**54**	P	**P**	**01 06 57.6 +0.3**
	baz=251					
113A	**Mohawk Valley,**	**88.22**	**56**	*e*P	**P**	**01 06 59.1 +1.6**
	comp=Z,30nm,1.4s					
ODAN	**Odare**	**88.23**	**298**	*e*P	**P**	**01 06 57.8 -0.2**
	comp=Z,90nm,0.9s					
TOLK	**Toolik Lake Re**	**88.28**	**14**	P	**P**	**01 06 58.0 +1.0**
	baz=221					
SHPR	**Sheep Range**	**88.34**	**52**	*e*P	**P**	**01 06 59.1 +0.9**
	comp=Z,38nm,1.3s					
PDMCI	**Parker Dam,Lak**	**88.41**	**54**	P	**P**	**01 06 58.9 +0.5**
	baz=251,SNR=13					
R11A	**Troy Canyon, C**	**88.63**	**50**	P	**P**	**01 06 59.7 +0.2**
	baz=250,SNR=11					
R11A	**Troy Canyon, C**	**88.63**	**50**	*e*P	**P**	**01 06 59.4 -0.1**
	comp=Z,16nm,1.3s					

E07A	Sunnyside	88.64	41	eP		P	01 06 59.8	+0.6
	comp=Z,14nm,0.9s							
214A	Organ Pipe Nat	88.74	57	P		P	01 07 00.6	+0.6
	baz=252,SNR=5.2							
214A	Organ Pipe Nat	88.74	57	eP		P	01 07 00.6	+0.6
	comp=Z,122nm,1.7s							
HAWA	Hanford	88.78	41	eP		P	01 07 00.4	+0.6
	comp=Z,14nm,1.0s							
W13A	Hualapai Mount	88.86	53	eP		P	01 07 01.6	+0.8
	comp=Z,29nm,1.3s							
RAMN	Ramite	88.93	298	eP		P	01 07 01.0	-0.3
	comp=Z,40nm,0.9s							
LLLB	Lillooet	89.02	37	eP		P	01 07 01.3	+0.4
SYO	Syowa Base	89.10	196⇑	iP		P	01 06 58.6	-2.3
Y14A	Wickenburg	89.19	55	eP		P	01 07 02.8	+0.7
	comp=Z,77nm,0.4s							
HSIG		89.40	60	eP		P	01 07 03.4	+0.3
	comp=Z,36nm,1.6s							
D08A	Wollman Farm,	89.42	41	eP		P	01 07 03.3	+0.5
	comp=Z,10nm,1.1s							
JIRN	Jiri	89.48	299	eP		P	01 07 03.8	-0.2
	comp=Z,364nm,1.0s							
B08A	Colville Reser	89.66	40	eP		P	01 07 03.9	-0.1
	comp=Z,9.6nm,1.0s							
BMO	Blue Mountains	89.67	43	eP		P	01 07 04.3	+0.1
BMO					pmax	pmax		
	comp=Z,22nm,1.4s							
BMO	Blue Mountains	89.67	43	eP		P	01 07 04.3	+0.1
	comp=Z,22nm,1.4s							
GUN	Gumba	89.82	299	eP		P	01 07 05.3	-0.3
	comp=Z,42nm,0.9s							
LCMT	Little Creek M	89.96	52	eP		P	01 07 06.6	+0.8
	comp=Z,23nm,1.1s							
CCUT	Cedar City	90.04	51	eP		P	01 07 07.3	+1.1
	comp=Z,21nm,1.1s							
PKI	Pulchoki	90.12	298	eP		P	01 07 06.5	-0.5
	comp=Z,66nm,1.1s							
PKIN	Phulchoki	90.14	298	eP		P	01 07 06.4	-0.6
	comp=Z,50nm,1.1s							
MFID	Camas Ranch	90.17	45	eP		P	01 07 06.5	0.0
	comp=Z,19nm,1.4s							
SZCU	Shurtz Canyon	90.26	51	eP		P	01 07 08.2	+1.0
	comp=Z,31nm,1.3s							
KNB	Kanab	90.28	52	eP		P	01 07 08.0	+0.7
KNB					pmax	pmax		
	comp=Z,93nm,1.7s							
KNB	Kanab	90.28	52	eP		P	01 07 08.0	+0.7
	comp=Z,93nm,1.7s							
KKN	Kakani	90.29	299	eP		P	01 07 07.2	-0.4
	comp=Z,48nm,1.0s							
DMN	Daman	90.39	298	eP		P	01 07 07.9	-0.2
	comp=Z,102nm,1.1s							
TUC	Tucson	90.49	57	P		P	01 07 09.1	+0.9
	baz=253							
TUC	Tucson	90.49	57	eP		P	01 07 09.3	+1.1
TUC					pmax	pmax		
	comp=Z,41nm,1.7s							
TUC	Tucson	90.49	57	eP		P	01 07 09.3	+1.1
	comp=Z,41nm,1.7s							
U15A	North Rim	90.51	53	eP		P	01 07 09.2	+0.7
	comp=Z,34nm,1.1s							
X16A	Lo Mia Camp, P	90.57	55	eP		P	01 07 09.5	+0.8
	comp=Z,47nm,1.7s							
PKCU	Pink Cliffs	90.80	52	eP		P	01 07 12.2	+2.3
	comp=Z,45nm,1.5s							
GKN	Gorkha	90.90	299	eP		P	01 07 09.3	-1.1
	comp=Z,54nm,1.1s							
WUAZ	Wupatki	90.95	54	P		P	01 07 11.2	+0.8
	baz=253							
WUAZ	Wupatki	90.95	54	eP		P	01 07 11.4	+1.0
	comp=Z,34nm,1.4s							
NEW	Newport	90.99	40	P		P	01 07 09.9	-0.4
	baz=249							
NEW	Newport	90.99	40	eP		P	01 07 09.8	-0.4
NEW					pmax	pmax		
	comp=Z,7.0nm,0.9s							
NEW	Newport	90.99	40	eP		P	01 07 09.8	-0.4
	comp=Z,7.0nm,0.9s							
MTPU	Mount Pierson	91.08	51	eP		P	01 07 12.7	+1.5
	comp=Z,34nm,1.4s							
HLID	Hailey	91.19	45	P		P	01 07 11.5	+0.2
	baz=251							
HLID	Hailey	91.19	45	eP		P	01 07 12.0	+0.6
	comp=Z,12nm,1.4s							
MSU	Marysvale	91.22	51	eP		P	01 07 12.7	+1.0
MSU	Marysvale	91.22	51	eP		P	01 07 12.7	+1.0
DUG	Dugway, Tooele	91.26	49	P		P	01 07 12.1	+0.4
	baz=252							
DUG	Dugway, Tooele	91.26	49	eP		P	01 07 12.2	+0.4
DUG					pmax	pmax		
	comp=Z,13nm,1.3s							
DUG	Dugway, Tooele	91.26	49	eP		P	01 07 12.2	+0.4
	comp=Z,12nm,1.3s							
BGU	Big Grassy Mou	91.33	48	eP		P	01 07 13.1	+1.0
	comp=Z,17nm,1.5s							
319A	Douglas	91.45	58	eP		P	01 07 13.9	+1.1
	comp=Z,18nm,1.0s							
KOLN	Koldanda	91.72	298	eP		P	01 07 13.1	-1.1
	comp=Z,3.4nm,0.4s							
NLU	North Lily Min	91.73	49	eP		P	01 07 14.2	+0.2
	comp=Z,9.4nm,1.0s							
DANN	Dangsing	91.74	299	eP		P	01 07 13.6	-0.8
	comp=Z,3.0nm,1.2s							
HVU	Hansel Valley	91.77	47	eP		P	01 07 14.8	+0.7
HVU					pmax	pmax		
	comp=Z,13nm,1.1s							
HVU	Hansel Valley	91.77	47	eP		P	01 07 14.8	+0.7
	comp=Z,13nm,1.1s							
X18A	Snowflake	91.79	55	eP		P	01 07 15.3	+0.9
	comp=Z,29nm,1.4s							
SPUT	South Promonto	91.86	48	eP		P	01 07 15.9	+1.3
	comp=Z,11nm,1.3s							
W18A	Petrified Fore	92.12	54	P		P	01 07 16.2	+0.3
	baz=254							
TMUT	Trail Mountain	92.17	50	eP		P	01 07 18.1	+1.9
	comp=Z,6.9nm,1.2s							
PYUN	Piuthan	92.33	298	eP		P	01 07 15.7	-1.3
JLU	Jordanelle	92.38	49	eP		P	01 07 18.2	+1.2
	comp=Z,12nm,1.4s							
MSO	Missoula	92.55	42	P		P	01 07 17.2	-0.3
	baz=252							
HWUT	Hardware Ranch	92.59	48	eP		P	01 07 17.5	-0.4
	comp=Z,4.4nm,1.1s							
SRU	San Rafael Swe	92.63	50	eP		P	01 07 20.7	+2.5
SRU					pmax	pmax		
	comp=Z,4.0nm,1.0s							
SRU	San Rafael Swe	92.63	50	eP		P	01 07 20.7	+2.5
	comp=Z,3.8nm,1.0s							
121A	Cookes Peak, D	92.99	57	P		P	01 07 20.5	+0.6
	baz=255							
121A	Cookes Peak, D	92.99	57	eP		P	01 07 20.5	+0.6
	comp=Z,10nm,1.2s							
WMQ	Urumqi	93.00	314	P		P	01 07 20.1	+0.5
WMQ				pP		sP	01 07 41.0	+8.3
WMQ				sP		pP	01 07 49.5	+20
WMQ				S		S	01 18 11.5	-12
WMQ					pmax	pmax		
	comp=Z,23nm,1.5s							
WMQ					pmax	pmax		
	comp=Z,170nm,3.7s							
WMQ				LR		LR		
	comp=Z,640nm,22.5s							
WMQ				LR		LR		
	comp=Z,430nm,16.9s							
WMQ				LR		LR		
	comp=Z,430nm,29.5s							
NVL	N'lazarevskaya	93.36	188	eP		P	01 07 22.9	+2.2
PV09	Paradox Valley	93.51	51	eP		P	01 07 23.6	+1.2
PV10	Paradox Valley	93.55	51	eP		P	01 07 24.3	+1.8
HYB	Hyderabad	93.64	287	iP		P	01 07 23.0	-0.1
BOZ	Bozeman (W)	93.70	44	P		P	01 07 22.4	-0.5
	baz=253							
SNAA	Sanae	93.81	183	P		P	01 07 20.9	-2.0
SNAA	Sanae	93.81	183	eP		P	01 07 20.7	-2.2
SNAA	Sanae	93.81	183	eP		P	01 07 20.7	-2.2
	comp=Z,842nm,1.3s							
PDAR	Pinedale Array	94.34	47	P		P	01 07 26.4	+0.4
	comp=Z,0.3nm,0.7s,baz=226,slow=6.2,SNR=3.5							
VNA3	Neumayer Olymp	94.45	181	P		P	01 07 23.9	-1.9
O20A	White River Ci	94.61	50	P		P	01 07 26.6	-0.6
	baz=255							
ANMO	Albuquerque	94.67	55	P		P	01 07 27.0	-0.7
	baz=256							
ANMO	Albuquerque	94.67	55⇑	eP		P	01 07 26.7	-1.0
ANMO					pmax	pmax		
	comp=Z,7.0nm,1.7s							
ANMO	Albuquerque	94.67	55	eP		P	01 07 29.1	+1.4
	comp=Z,4.1nm,1.1s							
VNA2	Neumayer--Watz	94.73	182	P		P	01 07 25.4	-1.7
	baz=173,slow=3.4							
MNTX	Cornudas Mount	94.75	59	P		P	01 07 27.8	-0.1
	baz=256							
VNA1	Neumayer--Stat	95.03	181	P		P	01 07 26.8	-1.5
S22A	4UR Ranch, Cre	95.07	52	P		P	01 07 29.1	-0.5
	baz=256							
S22A	4UR Ranch, Cre	95.07	52	eP		P	01 07 30.8	+1.2
	comp=Z,13nm,1.6s							
SMCO	Snowmass	95.31	51	eP		P	01 07 31.8	+1.0
	comp=Z,3.2nm,0.9s							
TX31	Lajitas Ar. Si	95.63	61	eP		P	01 07 32.2	+0.2
TXAR	Lajitas Array	95.63	61	P		P	01 07 32.1	0.0
	comp=Z,1.5nm,0.8s,baz=225,slow=5.1,SNR=13							
MK31	Makanchi Array	97.46	316	eP		Pdif	01 07 39.9	0.0
MK31	Makanchi Array	97.46	316	eP		Pdif	01 07 39.9	0.0
MKAR	Makanchi Array	97.46	316	P		Pdif	01 07 40.4	+0.5
	comp=Z,21nm,0.8s,baz=100,slow=7.7,SNR=74							
MKAR	Makanchi Array	97.46	316	eP		Pdif	01 07 39.9	0.0
	comp=Z,123nm,0.8s							
ZAA0	Zalesovo Array	97.56	324	eP		P	01 07 39.1	-1.0
ZALV	Zalesovo Beam	97.56	324	P		P	01 07 39.4	-0.7
	comp=Z,7.9nm,0.9s,baz=108,slow=4.8,SNR=28							
MAKZ	Makanchi	97.67	316	eP		P	01 07 40.8	0.0
MAKZ					pmax	pmax		
	comp=Z,29nm,1.0s							
MAKZ	Makanchi	97.67	316	eP		P	01 07 40.8	0.0
	comp=Z,29nm,1.0s							
NVS	Novosilbirsk	98.67	324	eP		P	01 07 41.9	-3.1
KSH	Kashi	100.53	308	eP		Pdif	01 07 54.8	+0.9
KSH					pmax	pmax		
	comp=Z,6.0nm,1.1s							
KSH					pmax	pmax		
	comp=Z,120nm,4.6s							
KURK	Kurchatov	100.62	320⇓	eP		Pdif	01 07 52.9	-0.9
KURK					pmax	pmax		
	comp=Z,11nm,1.2s							
AAK	Ala-Archa	102.14	311⇑	eP		Pdif	01 08 01.4	+0.4
AAK					pmax	pmax		
	comp=Z,10.0nm,1.0s							
AKTO	Aktyubinsk	113.70	319	PKKPab		PKKPab	01 23 32.6	-1.3
	comp=Z,1.7nm,0.7s,baz=244,slow=5.1,SNR=3.6							
GEYT	Alibeck	114.30	305	PKP		PKPdf	01 12 45.7	-0.3
	comp=Z,3.7nm,0.8s,baz=117,slow=1.7,SNR=10							
LPAZ	La Paz	116.77	117	PKP		PKPdf	01 12 51.5	-0.6
	comp=Z,1.8nm,0.9s,baz=71,slow=1.6,SNR=6.7							
LPAZ					PKKPbc	PKKPbc	01 23 18.0	-0.4
	comp=Z,1.6nm,0.8s,baz=35,slow=4.8,SNR=6.1							
CPUP	Villa Florida	120.16	133	PKP		PKPdf	01 12 56.6	-1.0
	comp=Z,2.0nm,1.0s,baz=256,slow=2.4,SNR=4.8							
ARCES	ARCESS Array B	120.18	346	PKP		PKPdf	01 12 55.4	-0.9
	comp=Z,6.7nm,0.6s,baz=61,slow=1.8,SNR=26							
KLMR	Klimovskoe	120.75	333	ePKIKP		PKPdf	01 12 55.2	-2.4
KLMR					pmax	pmax		
	comp=Z,20nm,1.5s							
PQI	Presque Isle	123.65	43	ePKPdf		PKPdf	01 13 02.8	-0.8
BOSA	Boshof	123.94	220	PKP		PKPdf	01 13 05.0	0.0
	comp=Z,4.8nm,0.9s,baz=164,slow=6.2,SNR=5.8							
SAML	Samuel	124.24	112	ePKPdf		PKPdf	01 13 04.7	-1.0
GNI	Garni	124.46	309d	iPKIKP		PKPdf	01 13 05.9	+0.3
GNI					pmax	pmax		
	comp=Z,120nm,1.7s							
GNI	Garni	124.46	309	ePKPdf		PKPdf	01 13 06.1	+0.4
ZEI	Tsey	124.54	312	iPKIKP		PKPdf	01 13 04.8	-1.0
ZEI					pmax	pmax		
	comp=Z,26nm,1.0s							
GOF	Gofitskoye	124.60	315⇑	ePKIKP		PKPdf	01 13 06.0	+0.5
NCK	Nalchik	124.60	313⇓	iPKIKP		PKPdf	01 13 05.8	+0.2
LPSR	Galich'ya Gora	124.66	325	ePKIKP		PKPdf	01 13 04.6	-0.7
LPSR					pmax	pmax		
	comp=Z,20nm,1.2s							
KBZ	Khabaz	125.04	314	PKP		PKPdf	01 13 06.5	+0.1
	comp=Z,4.3nm,0.8s,baz=133,slow=2.3,SNR=9.1							
RAYN	Ar Rayn	125.10	289	ePKPdf		PKPdf	01 13 07.2	0.0
KIV	Kislovodsk	125.13	314	ePKIKP		PKPdf	01 13 06.4	-0.3
KIV					pmax	pmax		
	comp=Z,13nm,1.1s							
KIV	Kislovodsk	125.13	314	ePKPdf		PKPdf	01 13 06.5	-0.2
AKH	Akhalkalaki	125.14	311⇓	iP		PKPdf	01 13 07.8	+0.9
NEY	Neytrino	125.28	313d	iPKIKP		PKPdf	01 13 07.9	+0.8
FINES	FINESS Array B	125.73	339	PKP		PKPdf	01 13 06.6	-0.5
	comp=Z,6.3nm,0.8s,baz=29,slow=4.4,SNR=8.6							
ARTV	Artvin	126.34	311	ePKPdf		PKPdf	01 13 09.8	+0.5
PTGA	Pitinga	130.28	104	PKP		PKPdf	01 13 16.8	-0.5
	comp=Z,3.9nm,0.9s,baz=242,slow=1.6,SNR=9.3							
PTGA	Pitinga	130.28	104	ePKPdf		PKPdf	01 13 16.7	-0.6
LSZ	Lusaka	130.38	235	ePKIKP		PKPdf	01 13 18.2	+0.6
LSZ	Lusaka	130.38	235	ePKPdf		PKPdf	01 13 18.2	+0.6
NB2	NORSAR Subarra	130.56	345	PKPdf		PKPdf	01 13 16.0	-0.5
	comp=Z,1.6nm,0.7s,baz=31,slow=1.9							
NOA	NORSAR Array B	130.56	345	PKP		PKPdf	01 13 16.3	-0.2
	comp=Z,2.7nm,0.8s,baz=34,slow=1.9,SNR=6.2							
AKASG	Malin Array Be	130.88	326	PKP		PKPdf	01 13 16.6	-0.7
	comp=Z,3.6nm,0.8s,baz=63,slow=2.1,SNR=12							
AKASG					SKPbc	SKPab	01 16 41.2	+1.6
	comp=Z,1.5nm,0.8s,baz=50,slow=4.7,SNR=8.9							
KIEV	Kiev	130.90	326⇑	iPKIKP		PKPdf	01 13 17.4	+0.1
AK11	Malin Array Si	130.93	326	ePKPdf		PKPdf	01 13 16.6	-0.8
BR131	Keskin Array S	132.82	311	ePKPdf		PKPdf	01 13 21.2	-0.4
BRTR	Keskin Array B	132.82	311	PKP		PKPdf	01 13 20.9	-0.6
	comp=Z,5.4nm,0.9s,baz=128,slow=1.8,SNR=20							
BRTR					PP	PP	01 15 49.1	+2.5
	comp=Z,1.1nm,1.0s,baz=90,slow=4.9,SNR=4.7							
BRTR	Keskin Array B	132.82	311c	iPKIKP		PKPdf	01 13 20.8	-0.7
BRTR					pmax	pmax		
	comp=Z,5.0nm,0.9s							
ANTO	Ankara	133.38	312	ePKIKP		PKPdf	01 13 22.4	-0.1
ANTO	Ankara	133.38	312	ePKPdf		PKPdf	01 13 22.4	-0.1
BR231	Keskin MP Arra	133.41	312	ePKPpre		PKPpre	01 13 15.3	
BR231				ePKPdf		PKPdf	01 13 23.0	+0.4
LEOM	Leova	133.63	322⇓	iP		PKPdf	01 13 22.3	-0.3
LEOM	Leova	133.63	322	⇓PKIKP		PKPdf	01 13 22.3	-0.3
CFR	Carcaliu	134.33	320⇓	iP		PKPdf	01 13 24.0	0.0
CFR	Carcaliu	134.33	320	⇓PKIKP		PKPdf	01 13 24.0	0.0
TESR	Tescani	134.55	323⇓	iP		PKPpre	01 13 14.0	
BUR08	Bucovina Ar. S	134.77	325	ePKPdf		PKPdf	01 13 26.4	+1.5
BURAR	Bucovina Array	134.78	325⇑	iP		PKPdf	01 13 27.2	+2.3
BURAR	Bucovina Array	134.78	325	⇑PKIKP		PKPdf	01 13 27.2	+2.3
UZH	Uzhgorod	135.75	328	ePKHKP		PKPpre	01 13 16.7	
CRVS	Cervenica-Dubn	136.01	328	ePKIKP		PKPdf	01 13 28.9	+1.9
CRVS	Cervenica-Dubn	136.01	328	ePKP		PKPdf	01 13 28.9	+1.9
VOIR		136.07	322⇓	iP		PKPdf	01 13 32.3	+4.9
VOIR		136.07	322	⇓PKIKP		PKPdf	01 13 32.3	+4.9
ARR	Arges	136.35	322⇓	iP		PKPdf	01 13 28.5	+0.6
DRGR		136.65	325⇑	iP		PKPdf	01 13 27.5	-0.9
DRGR		136.65	325	⇑PKIKP		PKPdf	01 13 27.5	-0.9
MORC	Moravsky Berou	137.32	332⇓	iP		PKPdf	01 13 29.8	+0.3
MORC	Moravsky Berou	137.32	332	⇓PKIKP		PKPdf	01 13 29.8	+0.3
MORC	Moravsky Berou	137.32	332	ePKPdf		PKPdf	01 13 29.7	+0.2
PSZ	Piszkesteto	137.44	328⇑	iP		PKPdf	01 13 27.0	-2.8
PSZ	Piszkesteto	137.44	328	⇑PKIKP		PKPdf	01 13 27.0	-2.8
PSZ	Piszkesteto	137.44	328	ePKPdf		PKPdf	01 13 29.1	-0.7
DPC	Dobruska-Polom	137.45	333	ePKPdf		PKPdf	01 13 30.5	+0.8
DPC	Dobruska-Polom	137.45	333	ePKIKP		PKPdf	01 13 30.5	+0.8
SRE	Strehaia	137.59	322⇓	iP		PKPpre	01 13 21.8	
SRE	Strehaia	137.59	322	⇓PKHKP		PKPpre	01 13 21.8	
VYHS	Vyhne	137.59	330	ePKIKP		PKPdf	01 13 31.2	+1.2
VYHS	Vyhne	137.59	330	ePKP		PKPdf	01 13 31.2	+1.2
BZS	Buzias	137.96	324⇓	iP		PKPdf	01 13 30.7	0.0
BZS	Buzias	137.96	324	⇓PKIKP		PKPdf	01 13 30.7	0.0
BRG	Berggiesshubel	138.06	335	ePKP		PKPdf	01 13 31.8	+1.0
	comp=Z,8.4nm,1.0s							
BRG	Berggiesshubel	138.06	335	ePKIKP		PKPdf	01 13 31.8	+1.0
BRG					pmax	pmax		
	comp=Z,8.0nm,1.0s							
CLL	Collm	138.09	337	ePKIKP		PKPdf	01 13 30.0	-0.8
CLL	Collm	138.09	337	ePKPdf		PKPdf	01 13 30.0	-0.8
CLL				iPKPdf(2)			01 13 32.5	
	comp=Z,6.0nm,0.7s							
CLL				ePP		PP	01 16 18.0	-0.7
CLL				eSKPdf		SKPbc	01 16 58.0	-4.9
MDVR	Moldovita	138.39	323⇑	iP		PKPdf	01 13 31.5	-0.1
PRU	Pruhonice	138.49	334	ePKPdf		PKPdf	01 13 32.1	+0.5
PRU	Pruhonice	138.49	334	ePKIKP		PKPdf	01 13 32.1	+0.5
VTS	Vitosha	138.71	320⇓	iP		PKPdf	01 13 32.0	-0.4
VTS	Vitosha	138.71	320	⇓PKIKP		PKPdf	01 13 32.0	-0.4
CONA	Conrad Observa	139.41	331	iPKIKP		PKiKP	01 13 35.7	0.0
	comp=Z,6.8nm,0.8s							
KHC	Kasperske Hory	139.55	334	ePKPdf		PKPdf	01 13 33.5	-0.1
KHC	Kasperske Hory	139.55	334	ePKIKP		PKPdf	01 13 33.9	+0.3
KHC	Kasperske Hory	139.55	334	ePKPdf		PKPdf	01 13 33.9	+0.3
GERES	GERESS Array B	139.71	334	PKhKP		PKPpre	01 13 27.4	
	comp=Z,0.6nm,0.6s,baz=3.4,slow=4.9,SNR=4.3							
GERES				PKP		PKPdf	01 13 34.3	+0.4
	comp=Z,1.6nm,0.8s,baz=93,slow=2.9,SNR=6.7							
GEA0	GERESS Array S	139.72	334	ePKPdf		PKPdf	01 13 33.6	-0.3
ARSA	Arzberg	140.06	331	ePKPdf		PKPdf	01 13 33.3	-1.3
	comp=Z,6.2nm,1.2s							
MOA	Molln	140.21	332	iPKiKP		PKiKP	01 13 36.8	-0.5
	comp=Z,3.9nm,0.8s							
MEM	Membach	141.10	342	PKP		PKPdf	01 13 36.5	+0.3
WATA	Walderalm	141.78	334	iPKPdf		PKPdf	01 13 37.9	0.0
	comp=Z,2.2nm,0.6s							
WTTA	Wattenberg	141.81	334	ePKiKP		PKiKP	01 13 40.1	-0.7
	comp=Z,7.3nm,1.0s							
ABTA	Abfaltersbach	141.82	332	ePKPdf		PKPdf	01 13 33.2	-4.6
	comp=Z,3.8nm,0.7s							
MOTA	Moosalm	141.98	334	ePKPdf		PKPdf	01 13 37.2	-1.0
	comp=Z,7.0nm,0.8s							
RETA	Reutte	142.01	335	ePKPdf		PKPdf	01 13 37.5	-0.7
	comp=Z,5.7nm,1.1s							
FETA	Feichten	142.39	334	ePKPdf		PKPdf	01 13 35.8	-3.1
	comp=Z,6.6nm,1.0s							
DAVA	Damuels	142.53	335	ePKPdf		PKPdf	01 13 38.6	-0.6
	comp=Z,7.6nm,1.0s							
FUORN	Ofenpass-Fuorn	142.90	334	ePKPpre		PKPpre	01 13 36.4	
SENIN	Lac Senin/Sane	144.30	337	ePKPdf		PKPbc	01 13 41.2	+0.5
GDM	Grand'Maison	145.73	337	PKP		PKPbc	01 13 45.3	+0.1
GRN	Grenoble	145.83	337	PKP		PKPab	01 13 45.8	-0.1
PLDF	La Plantade	145.95	340	PKP		PKPbc	01 13 45.8	+0.1
AGO	Saint Agoulin	146.03	341	PKP		PKPdf	01 13 45.5	+0.4
SSB	Saint Sauveur	146.24	339	ePKP2		PKPbc	01 13 46.7	+0.1
SSB	Saint Sauveur	146.24	339	ePKPdf		PKPbc	01 13 46.7	+0.1
PYM	Petit Puy Mans	146.34	341	PKP		PKPbd	01 13 45.3	-0.4
LBL	Lubilhac	146.72	340	PKP		PKPbc	01 13 48.3	+0.2
RCBR	Riachuelo	148.94	129	ePKPdf		PKPdf	01 13 50.7	-0.2
KEST	Kesra	151.41	322	PKPbc		PKPbc	01 14 00.3	0.0
	comp=Z,39nm,0.8s,baz=255,slow=1.4,SNR=24							
KEST				PKPab		PKPab	01 14 07.7	-0.8
	comp=Z,8.6nm,0.6s,baz=135,slow=6.3,SNR=8.0							
KEST	Kesra	151.41	322	ePKPbc		PKPbc	01 14 00.9	+0.6
KEST				PKPab		PKPab	01 14 07.7	-0.8
PBRG	Braganca	152.40	351	ePKPdf		PKPdf	01 13 56.9	+1.4
PBRG	Braganca	152.40	351	ePKPbc		PKPbc	01 14 01.8	-0.5
PGAV	Gavieira, Arco	152.43	354	ePKPbc		PKPbc	01 14 02.3	-0.2
POLO	Lamas de Olo	152.96	353	ePKPdf		PKPdf	01 13 57.1	+0.7
POLO	Lamas de Olo	152.96	353	ePKPbc		PKPbc	01 14 03.5	-0.2
MVO	Moncorvo	153.06	352	ePKPdf		PKPdf	01 13 54.4	-2.1
MVO	Moncorvo	153.06	352	ePKPbc		PKPbc	01 14 04.2	+0.3
PTO	Porto	153.28	354	ePKPbc		PKPbc	01 14 04.2	0.0
PVIS	Viseu	153.62	353	ePKPbc		PKPbc	01 14 05.1	0.0
ES19	SONSECA Array	153.88	346	ePKPdf		PKPdf	01 13 58.0	+0.3
MTE	Manteigas	153.89	352	ePKPdf		PKPdf	01 13 57.9	+0.2
MTE	Manteigas	153.89	352	ePKPbc		PKPbc	01 14 05.4	-0.3
ESDC	Sonseca Array	153.92	346	PKPbc		PKPbc	01 14 05.3	-0.4
	comp=Z,2.2nm,0.8s,baz=13,slow=2.8,SNR=17							
ESDC				PKPab		PKPab	01 14 18.9	0.0
	comp=Z,2.2nm,0.8s,baz=15,slow=4.0,SNR=9.3							
PCAS	Casmilo, Conde	154.34	354	ePKPbc		PKPbc	01 14 06.3	-0.3
PCBR	Castelo Branco	154.43	352	ePKPdf		PKPdf	01 13 56.5	-1.9
PCBR	Castelo Branco	154.43	352	ePKPbc		PKPbc	01 14 06.7	0.0
PTOM	Tomar	154.76	353	ePKPbc		PKPbc	01 14 07.4	-0.1
PMRV	Marv??o	154.82	351	ePKPdf		PKPdf	01 13 58.9	-0.1
PMRV	Marv??o	154.82	351	ePKPbc		PKPbc	01 14 07.4	-0.2
MORF	Marmel

AYVA	**Ayvalik**	**1.81**	**277**	*i* P	**Pg**	**01 11 00.8**	**+0.1**
AYVA				*i* S	**Sg**	**01 11 24.7**	**+0.6**
AYVA	**Ayvalik**	**1.81**	**277**	P	**Pg**	**01 11 00.8**	**+0.1**
AYVA				S	**Sg**	**01 11 24.7**	**+0.6**
SBT3	**Marmara-Eregli**	**1.93**	**336**	*e*PN	**Pb**	**01 11 00.8**	**-0.5**
SBT3	**Marmara-Eregli**	**1.93**	**336**	*e*Pn	**Pb**	**01 11 00.8**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**2.00**	**289**	*i* P	**Pb**	**01 11 03.3**	**+0.6**
BAYC				*i* S	**Sg**	**01 11 30.2**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.00**	**289**	P	**Pb**	**01 11 03.3**	**+0.6**
BAYC				S	**Sg**	**01 11 30.2**	**-0.2**

MEX 10 01:13:19.2±0.4, 18°.14N×100°.29W, h51km±3km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.15**	**339**	*e*P	Pn	01 13 25.7	-1.7
ARIG				*e*S	Sn	01 13 31.4	-1.8
MEIG	**Mezcala**	**0.67**	**108**	*e*P	Pn	01 13 31.6	-1.1
MEIG				*e*S	Sn	01 13 41.0	-1.5
PLIG	**Platanillo**	**0.79**	**71**	*i* P	Pn	01 13 32.8	-1.5
PLIG				*e*S	Sn	01 13 43.6	-1.6
CAIG	**El Cayaco**	**1.08**	**179**	*e*P	Pn	01 13 36.5	-1.6
CAIG				*i* S	Sn	01 13 49.8	-2.2
MAVM	**Malinalco, Edo**	**1.11**	**43**	*e*P	Pn	01 13 36.2	-2.5
ZIIG	**Zihuatanejo**	**1.24**	**245**	*i* P	Pn	01 13 38.6	-1.5
ZIIG				*i* S	Sn	01 13 53.5	-2.2
YAIG	**Yautepec**	**1.37**	**58**	*i* P	Pn	01 13 40.5	-1.6
YAIG				*i* S	Sn	01 13 56.7	-2.5
TLIG	**Tlapa**	**1.74**	**109**	*i* P	Pn	01 13 45.7	-1.4
TLIG				*i* S	Sn	01 14 05.6	-2.6
MOIG	**Morelia**	**1.75**	**331**	*i* P	Pn	01 13 45.8	-1.7
PPM	**Popocatepetl**	**1.83**	**59**	*e*P	Pn	01 13 47.5	-1.1

KRSC ***10*** *01:14:57.0±1.3, 51°.98N×159°.73E, h72km±15km, ML5.8, FELT [IV-V] at lighthouse Krugliy; [III-IV] at GMS Vodopadnay, Petropavlovsk; [III] at Nikolaevka.*
BJI ***10*** *01:14:58.9, 52°.57N×159°.31E, h68km, mb5.1/52, mB5.1/41, Ms4.8/43, Ms7 4.5/43*
MOS ***10*** *01:15:00.0±1.1, 52°.11N×159°.37E, h80km, mb5.4/70, MS4.3/17, Error ellipse: s-maj=6.5km s-min=3.2km az=96.7*
MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy, (II-III) at Severo-Kuril'sk.
ISCJB ***10*** *01:15:00.0±0.3, 52°.10N±0°.02×159°.51E±0°.02, h79km±2km, mb5.0/272, Error ellipse: s-maj=3.7km s-min=2.1km az=161.8*
IDC ***10*** *01:15:01.5±0.5, 52°.17N×159°.53E, h80km±3km, mb4.7/39, mb1 4.8/44, mb1mx4.8/49, mbtmp5.0/44, MS4.3/31, Ms1 4.3/31, ms1mx4.2/41, Error ellipse: s-maj=10.7km s-min=9.1km az=139.0*
GCMT ***10*** *01:15:02.1±0.1, 52°.06N×159°.80E, h62km±1km, MW5.3/108, Moment Tensor Solution. s89,c144; s108,c196; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.41±.02; $M_{\theta\theta}$-0.08±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$0.32±.02; $M_{\theta\phi}$0.98±.02; $M_{\phi r}$0.49±.01; Best double couple: $M_0$1.20700×10^{17} NP1:ϕ_s358.00000°, δ70.00000°, λ148.00000°. NP2:ϕ_s100.00000°, δ60.00000°, λ23.00000°. Principal axes: T 1.2010, Plg36.0000°, Azm316.0000°; N 0.0120, Plg53.0000°, Azm149.0000°; P -1.2130, Plg6.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *01:15:02.1±0.1, 52°.22N×159°.40E, mb5.1/170 Error ellipse: s-maj=3.8km s-min=2.1km az=172.0*

ISC 10 01:15:00.7±0.4, 52°.09N±0°.04×159°.59E±0°.03, h74km±2km, h74km:pP-P, n855, σ1§44/923, mb5.1/275, 55C-31D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.74**	**298**	PN	**Pn**	**01 15 15.5**	**-0.8**
RUS				S	**Sn**	**01 15 27.2**	**-0.7**
RUS	**Russkaya**	**0.74**	**298**	*e*P	**Pn**	**01 15 15.5**	**-0.8**
RUS				*e*S	**Sn**	**01 15 27.2**	**-0.7**
GRL	**Gorelyy**	**1.04**	**297**	PN	**Pn**	**01 15 20.6**	**+0.7**
GRL	**Gorelyy**	**1.04**	**297**	*e*P	**Pn**	**01 15 20.6**	**+0.7**
SPN	**Mys Shipunski**	**1.04**	**15**	PN	**Pn**	**01 15 18.7**	**-1.2**
SPN				S	**Sn**	**01 15 32.7**	**-1.5**
SPN	**Mys Shipunski**	**1.04**	**15**	*e*P	**Pn**	**01 15 18.7**	**-1.2**
SPN				*e*S	**Sn**	**01 15 32.7**	**-1.5**
DALK	**Dalny**	**1.07**	**332**	PN	**Pn**	**01 15 19.7**	**-0.5**
DALK				S	**Sn**	**01 15 36.3**	**+1.5**
DALK	**Dalny**	**1.07**	**332**	*e*P	**Pn**	**01 15 19.7**	**-0.5**
DALK				*e*S	**Sn**	**01 15 36.3**	**+1.5**
ASAK	**Asacha**	**1.08**	**286**	PN	**Pn**	**01 15 20.3**	**-0.1**
ASAK	**Asacha**	**1.08**	**286**	*e*P	**Pn**	**01 15 20.3**	**-0.1**
NLC	**Nalytchevo**	**1.09**	**352**	PN	**Pn**	**01 15 20.0**	**-0.5**
NLC				S	**Sn**	**01 15 36.2**	**+0.9**
NLC	**Nalytchevo**	**1.09**	**352**	*e*P	**Pn**	**01 15 20.0**	**-0.5**
NLC				*e*S	**Sn**	**01 15 36.2**	**+0.9**
PET	**Petropavlovsk**	**1.09**	**329**	α *i* PN	**Pn**	**01 15 20.0**	**-0.5**
PET				*e*S	**Sn**	**01 15 35.1**	**-0.2**
PET	comp=Z,10μm,2.0s			pmax	pmax		
PET	comp=Z,4μm,0.5s			pmax	pmax		
PET	comp=N,26μm,0.4s			smax	smax		
PET	comp=N,22μm,0.4s			smax	smax		
PET	comp=E,18μm,0.5s			smax	smax		
PET	**Petropavlovsk**	**1.09**	**329**	*e*P	**Pn**	**01 15 19.8**	**-0.7**
PET	**Petropavlovsk**	**1.09**	**329**	*e*Pn	**Pn**	**01 15 20.0**	**-0.5**
PET				*e*Sn	**Sn**	**01 15 30.3**	**-5.1**
INSR	**Institute**	**1.15**	**329**	PN	**Pn**	**01 15 20.9**	**-0.3**
INSR				S	**Sn**	**01 15 36.8**	**+0.3**
INSR	**Institute**	**1.15**	**329**	*e*P	**Pn**	**01 15 20.9**	**-0.3**
INSR				*e*S	**Sn**	**01 15 36.8**	**+0.3**
KRMR	**Karymshinskiy**	**1.16**	**310**	PN	**Pn**	**01 15 21.2**	**-0.1**
KRMR				S	**Sn**	**01 15 37.8**	**+1.0**
KRMR	**Karymshinskiy**	**1.16**	**310**	*e*P	**Pn**	**01 15 21.2**	**-0.1**
KRMR				*e*S	**Sn**	**01 15 37.8**	**+1.0**
UGLR	**Uglovaya**	**1.21**	**338**	PN	**Pn**	**01 15 21.6**	**-0.5**
UGLR	**Uglovaya**	**1.21**	**338**	*e*P	**Pn**	**01 15 21.6**	**-0.5**
SDLR	**Sedlovina**	**1.26**	**340**	PN	**Pn**	**01 15 22.0**	**-0.8**
SDLR	**Sedlovina**	**1.26**	**340**	*e*P	**Pn**	**01 15 22.0**	**-0.8**
AVH	**Avacha**	**1.28**	**337**	PN	**Pn**	**01 15 23.0**	**0.0**
AVH	**Avacha**	**1.28**	**337**	*e*P	**Pn**	**01 15 23.0**	**0.0**
KRER	**Koryakskii**	**1.32**	**338**	PN	**Pn**	**01 15 24.1**	**+0.5**
KRER	**Koryakskii**	**1.32**	**338**	*e*P	**Pn**	**01 15 24.1**	**+0.5**
KOK	**Koryaka**	**1.33**	**335**	PN	**Pn**	**01 15 23.8**	**+0.1**
KOK	**Koryaka**	**1.33**	**335**	*e*P	**Pn**	**01 15 23.8**	**+0.1**
KRX	**Arik**	**1.39**	**336**	PN	**Pn**	**01 15 24.0**	**-0.5**
KRX	**Arik**	**1.39**	**336**	*e*P	**Pn**	**01 15 24.0**	**-0.5**
I44RU	**PETROPAVLOVSK-**	**1.53**	**312**	P	**Pn**	**01 15 26.8**	**+0.6**
I44RU	baz=112,slow=17,SNR=1.1			S	**Sn**	**01 15 48.8**	**+3.4**
PEA0	**Petropavlovsk-**	**1.54**	**312**	*e*Pn	**Pn**	**01 15 26.4**	**+0.1**
PEA0				*e*Sn	**Sn**	**01 15 41.1**	**-4.5**
PEA0B	**Petropavlovsk-**	**1.54**	**312**	*e*Pn	**Pn**	**01 15 26.4**	**+0.1**
PEA0B				*e*Sn	**Sn**	**01 15 41.5**	**-4.0**
PETK	**Petropavlovsk-**	**1.54**	**312**	P	**Pn**	**01 15 26.8**	**+0.5**
PETK	comp=E,1μm,0.3s,baz=110,slow=18,SNR=1304			S	**Sn**	**01 15 48.0**	**+2.4**
PETK	comp=E,1μm,0.3s,baz=248,slow=24,SNR=19			LR	LR	01 16 05.5	
PETK	comp=E,8μm,19.6s,baz=128,slow=44						
APC	**Apacha**	**1.70**	**300**	PN	**Pn**	**01 15 28.2**	**-0.2**
APC	**Apacha**	**1.70**	**300**	*e*P	**Pn**	**01 15 28.2**	**-0.2**
APC				*e*S	**Sn**	**01 15 52.4**	**+3.0**
PAU	**Pauzhetka**	**1.83**	**251**	PN	**Pn**	**01 15 27.3**	**-2.8**
PAU				S	**Sn**	**01 15 51.2**	**-1.3**
PAU	**Pauzhetka**	**1.83**	**251**	*e*P	**Pn**	**01 15 27.3**	**-2.8**
PAU				*e*S	**Sn**	**01 15 51.2**	**-1.3**
GNL	**Ganaly**	**1.89**	**329**	PN	**Pn**	**01 15 31.5**	**+0.5**
GNL	**Ganaly**	**1.89**	**329**	*e*P	**Pn**	**01 15 31.5**	**+0.5**
SKR	**Severo-Kuril's**	**2.59**	**238**	‖ *i* PN	**Pn**	**01 15 39.4**	**-0.9**
SKR				*i* S	**Sn**	**01 16 08.7**	**-2.0**
SKR	comp=Z,5μm,0.5s			pmax	pmax		
SKR	comp=N,19μm,0.7s			smax	smax		
SKR	comp=E,15μm,0.6s			smax	smax		
SKR	**Severo-Kuril's**	**2.59**	**238**	*e*P	**Pn**	**01 15 39.3**	**-1.0**
SKR				*e*S	**Sn**	**01 16 08.7**	**-2.0**
MKZ	**Mys Kozlova**	**2.78**	**27**	PN	**Pn**	**01 15 41.5**	**-1.4**
MKZ				S	**Sn**	**01 16 14.2**	**-1.2**
MKZ	**Mys Kozlova**	**2.78**	**27**	*e*P	**Pn**	**01 15 41.5**	**-1.4**
MKZ				*e*S	**Sn**	**01 16 14.2**	**-1.2**
TUMD	**Tumrok D**	**3.15**	**8**	*e*P	**Pn**	**01 15 47.9**	**-0.1**
TUMD				*e*S	**Sn**	**01 16 25.8**	**+1.3**
TUMR	**Tumrok**	**3.21**	**6**	PN	**Pn**	**01 15 47.9**	**-1.0**
TUMR				S	**Sn**	**01 16 25.8**	**-0.3**
KMNR	**Kamenistaya**	**3.69**	**6**	PN	**Pn**	**01 15 57.5**	**+2.2**
KMNR	**Kamenistaya**	**3.69**	**6**	*e*P	**Pn**	**01 15 57.5**	**+2.2**
ESO	**Esso**	**3.88**	**353**	PN	**Pn**	**01 15 58.5**	**+0.7**
ESO				S	**Sn**	**01 16 43.0**	**+0.9**
ESO	**Esso**	**3.88**	**353**	*e*P	**Pn**	**01 15 58.5**	**+0.7**
ESO				*e*S	**Sn**	**01 16 43.0**	**+0.9**
KIRR	**Kirishev**	**3.90**	**6**	PN	**Pn**	**01 15 59.6**	**+1.4**
KIRR	**Kirishev**	**3.90**	**6**	*e*P	**Pn**	**01 15 59.6**	**+1.4**
KPT	**Kopyto**	**3.90**	**5**	PN	**Pn**	**01 15 59.3**	**+1.1**
KPT	**Kopyto**	**3.90**	**5**	*e*P	**Pn**	**01 15 59.3**	**+1.1**
KOZ	**Kozyrevsk**	**3.98**	**2**	PN	**Pn**	**01 16 01.3**	**+2.1**
KOZ	**Kozyrevsk**	**3.98**	**2**	*e*P	**Pn**	**01 16 01.3**	**+2.1**
ZLN	**Zelenaya**	**4.00**	**10**	PN	**Pn**	**01 16 00.8**	**+1.3**
ZLN				S	**Sn**	**01 16 47.3**	**+2.1**
ZLN	**Zelenaya**	**4.00**	**10**	*e*P	**Pn**	**01 16 00.8**	**+1.3**
ZLN				*e*S	**Sn**	**01 16 47.3**	**+2.1**
CIRR	**Tsirk**	**4.09**	**9**	PN	**Pn**	**01 16 02.0**	**+1.2**
CIRR	**Tsirk**	**4.09**	**9**	*e*P	**Pn**	**01 16 02.0**	**+1.2**
KLY	**Klyuchi**	**4.28**	**8**	PN	**Pn**	**01 16 04.5**	**+1.3**
KLY				S	**Sn**	**01 16 53.5**	**+1.8**
KLY	**Klyuchi**	**4.28**	**8**	*e*P	**Pn**	**01 16 04.5**	**+1.3**
KLY				*e*S	**Sn**	**01 16 53.5**	**+1.8**
KBTR	**Krutoberegovo**	**4.54**	**23**	PN	**Pn**	**01 16 06.2**	**-0.6**
KBTR				S	**Sn**	**01 16 58.7**	**+0.5**
KBTR	**Krutoberegovo**	**4.54**	**23**	*e*P	**Pn**	**01 16 06.2**	**-0.6**
KBTR				*e*S	**Sn**	**01 16 58.7**	**+0.5**
SMY	**Shemya**	**8.90**	**80**	*e*PN	**Pn**	**01 17 04.5**	**-1.7**
SMY	**Shemya**	**8.90**	**80**	*e*Pn	**Pn**	**01 17 04.5**	**-1.7**
SMY				*e*Sn	**Sn**	**01 18 36.9**	**-7.8**
MA2	**Magadan**	**8.99**	**330**	P	**Pn**	**01 17 07.7**	**+0.2**
MA2	comp=E,1.3nm,0.3s,baz=134,slow=11,SNR=4.2			LR	LR	01 20 58.5	
comp=E,2μm,21.2s,baz=142,slow=40							
MA2	**Magadan**	**8.99**	**330**	‖ *e*PN	**Pn**	**01 17 07.3**	**-0.2**
OKH	**Okha**	**10.19**	**285**	‖ *i* PN	**Pn**	**01 17 26.7**	**+2.8**
OKH				*e*S	**Sn**	**01 19 21.3**	**+5.0**
OKH	comp=Z,400nm,6.5s			pmax	pmax		
OKH	comp=E,700nm,12.0s			smax	smax		
OKH	comp=Z,1μm,20.0s			MLR	MLR		
KUR	**Kuril'sk**	**10.35**	**233**	*e*PN	**Pn**	**01 17 25.4**	**-0.6**
KUR	comp=E,45nm,0.5s			pmax	pmax		
KUR	comp=Z,136nm,0.5s			pmax	pmax		
KUR	comp=Z,2μm,4.3s			pmax	pmax		
KUR	comp=Z,1μm,11.0s			MLR	MLR		
TYV	**Tymovskoe**	**10.64**	**270**	*e*PN	**Pn**	**01 17 33.9**	**+3.9**
TYV	comp=Z,27nm,1.5s			pmax	pmax		
SEY	**Seymchan**	**11.53**	**343**	P	**Pn**	**01 17 41.4**	**-0.6**
comp=Z,0.9nm,0.3s,baz=146,slow=12,SNR=40							
SEY	**Seymchan**	**11.53**	**343**	‖ *e*PN	**Pn**	**01 17 42.1**	**0.0**
UGL	**Uglegorsk**	**11.54**	**262**	*e*PN	**Pn**	**01 17 38.4**	**-3.9**
NKL	**Nikolayevsk**	**11.54**	**283**	*e*PN	Pn	01 17 55.0	+13
NKL	comp=E,50nm,1.0s			pmax	pmax		
NKL	comp=Z,86nm,1.0s			pmax	pmax		
SHO	**Shikotan**	**11.85**	**231**	*e*PN	Pn	01 17 41.6	-4.9
SHO	comp=Z,128nm,0.5s			pmax	pmax		
SHO	comp=N,60nm,0.4s			pmax	pmax		
SHO	comp=E,40nm,0.4s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**12.08**	**251**	*ce*PN	**Pn**	**01 17 50.9**	**+1.3**
YSS				*e*S	**Sn**	**01 20 00.7**	**-1.7**
YSS	comp=Z,70nm,0.9s			pmax	pmax		
YSS	comp=Z,700nm,5.3s			pmax	pmax		
YSS	comp=N,900nm,14.0s			MLR	MLR		
YSS	comp=Z,1μm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**12.08**	**251**	*e*Pn	**Pn**	**01 17 50.7**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**12.20**	**234**	‖ *e*PN	**Pn**	**01 17 48.8**	**-2.5**
ASAJ	**Asahikawa**	**13.85**	**242**	P	**Pn**	**01 18 13.1**	**-0.3**
comp=Z,6.8nm,0.3s,baz=71,slow=15,SNR=26							
ASAJ	**Asahikawa**	**13.85**	**242**	*e*Pn	**Pn**	**01 18 13.1**	**-0.3**
ASAJ				*e*Sn	**Sn**	**01 20 37.4**	**-8.1**
ADK	**Adak**	**14.61**	**81**	*e*P	**Pn**	**01 18 23.8**	**+0.6**
ADK	**Adak**	**14.61**	**81**	*e*Pn	**Pn**	**01 18 23.8**	**+0.6**
ADK				*e*Sn	Sn	01 20 54.6	-9.1
HABR	**Khabarovsk**	**16.07**	**267**	*e*P	**Pn**	**01 18 38.3**	**-3.5**
HABR				*e*S	**Sn**	**01 21 34.6**	**-4.5**
HABR	comp=E,69nm,1.5s			pmax	pmax		
HABR	comp=Z,145nm,1.5s			pmax	pmax		
HABR	comp=N,59nm,1.5s			pmax	pmax		
HABR	comp=Z,695nm,15.0s			MLR	MLR		
BILL	**Bilibino**	**16.32**	**9**	*c i* P	**P**	**01 18 46.8**	**+0.2**
BILL	comp=Z,47nm,0.9s			pmax	pmax		
BILL	comp=Z,2μm,20.0s			MLR	MLR		
YAK	**Yakutsk**	**18.89**	**313**	P	**P**	**01 19 13.6**	**-1.1**
comp=Z,0.1nm,0.3s,baz=223,slow=0.9,SNR=55							
YAK				LR	LR	01 27 19.2	
comp=Z,676nm,18.1s,baz=260,slow=39							
YAK	**Yakutsk**	**18.89**	**313**	*c i* P	**P**	**01 19 12.8**	**-1.9**
YAK				*e*S	**S**	**01 22 42.2**	**-2.9**
YAK	comp=Z,285nm,0.9s			pmax	pmax		
YAK	comp=N,34nm,0.9s			pmax	pmax		
YAK	comp=N,118nm,2.5s			smax	smax		
YAK	**Yakutsk**	**18.89**	**313**	*e*P	**P**	**01 19 12.6**	**-2.2**
comp=N,590nm,0.8s							
USRK	**Ussuriysk Ar.**	**19.95**	**258**	P	**P**	**01 19 25.2**	**-1.3**
comp=N,0.5nm,0.3s,baz=62,slow=11,SNR=28							
USRK				LR	LR	01 27 36.9	
comp=N,991nm,19.3s,baz=55,slow=38							
CLNS	**Chul'man**	**20.57**	**297**	*e*P	**P**	**01 19 31.5**	**-1.6**
CLNS	comp=Z,24nm,1.0s			pmax	pmax		
CLNS	comp=N,12nm,0.7s			pmax	pmax		
CLNS	comp=E,22nm,1.0s			pmax	pmax		
MDJ	**Mudanjiang**	**21.18**	**261**	P	**P**	**01 19 38.6**	**-1.1**
MDJ				pP	pP	01 19 50.6	-4.3
MDJ				sS	sS	01 23 49.9	-6.1
MDJ				ScP	**ScP**	**01 27 14.4**	**+2.0**
MDJ	comp=E,21nm,0.7s			pmax	pmax		
MDJ	comp=E,53nm,4.4s			pmax	pmax		
MDJ	comp=E,500nm,12.9s			LR	LR		
MDJ	comp=E,630nm,13.2s			LR	LR		
MDJ	comp=E,740nm,14.5s			LR	LR		
MDJ	**Mudanjiang**	**21.18**	**261**	*e*P	**P**	**01 19 38.3**	**-1.4**
comp=E,58nm,1.3s							
MSHR	**Mys Shultsa**	**21.37**	**255**	‖ *e*P	**P**	**01 19 40.3**	**-1.4**
MJAR	**Matsushiro Arr**	**21.69**	**233**	P	**P**	**01 19 47.0**	**+1.8**
comp=E,43nm,0.7s,baz=19,slow=12,SNR=50							
MJB9	**Matsu-Tunnel**	**21.69**	**233**	*e*P	**P**	**01 19 46.8**	**+1.5**
comp=E,46nm,1.0s							
MAJO	**Matsushiro**	**21.69**	**233**	*de*P	**P**	**01 19 45.7**	**+0.5**
MAJO	**Matsushiro**	**21.69**	**233**	*e*P	**P**	**01 19 46.7**	**+1.5**
comp=E,173nm,1.0s							
MAT	**Matsushiro**	**21.69**	**233**	P	**P**	**01 19 46.4**	**+1.2**
MAT				S	**S**	**01 23 45.0**	**+3.9**
INU	**Inuyama**	**23.22**	**233**	*e*P	**P**	**01 20 02.3**	**+1.1**
comp=E,89nm,0.9s							
JHJ	**Hachijo jima 2**	**23.78**	**225**	LR	LR	01 29 01.5	
comp=E,406nm,21.9s,baz=52,slow=35							
TIXI	**Tiksi**	**23.87**	**336**	P	**P**	**01 20 06.6**	**-0.2**
comp=E,72nm,0.4s,baz=127,slow=9.0,SNR=38							
TIXI				LR	LR	01 30 56.9	
comp=E,865nm,19.4s,baz=116,slow=40							
TIXI	**Tiksi**	**23.87**	**336**	*ce*P	**P**	**01 20 06.5**	**-0.3**
TIXI	comp=Z,249nm,1.2s			pmax	pmax		
TIXI	comp=Z,808nm,18.0s			MLR	MLR		
TIXI	**Tiksi**	**23.87**	**336**	*e*P	**P**	**01 20 05.9**	**-0.9**
comp=Z,128nm,0.7s							
CN2	**Changchun**	**24.14**	**264**	*e*P	**P**	**01 20 07.4**	**-2.1**
CN2	comp=Z,20nm,0.9s			pmax	pmax		
CHGN	**Chignik**	**24.64**	**63**	*e*P	**P**	**01 20 12.6**	**-1.2**
comp=Z,108nm,1.4s							
HIA	**Hailar**	**25.19**	**280**	*e*P	**P**	**01 20 17.6**	**-1.4**
HIA	comp=Z,102nm,0.7s			pmax	pmax		
HIA	**Hailar**	**25.19**	**280**	*e*P	**P**	**01 20 17.6**	**-1.4**
comp=Z,102nm,0.7s							
TT01	**Tatalina**	**25.64**	**48**	*e*P	**P**	**01 20 23.1**	**+0.1**
TTA	**Tatalina**	**25.65**	**48**	*e*P	**P**	**01 20 24.4**	**+1.3**
TTA	comp=Z,41nm,1.2s			pmax	pmax		
TTA	**Tatalina**	**25.65**	**48**	*e*P	**P**	**01 20 24.4**	**+1.3**
comp=Z,41nm,1.2s							
SVW2	**Sparrevohn**	**25.78**	**52**	*e*P	**P**	**01 20 24.7**	**+0.5**
comp=Z,69nm,1.5s							
BOD	**Bodaibo**	**26.38**	**301**	*e*P	**P**	**01 20 23.7**	**-5.9**
BOD	comp=E,85nm,1.5s			pmax	pmax		
KSRS	**Korea Array**	**26.56**	**249**	P	**P**	**01 20 32.2**	**+0.8**
comp=Z,5.5nm,0.6s,baz=40,slow=9.6,SNR=18							
KSRS				LR	LR	01 31 10.7	
comp=Z,410nm,21.9s,baz=60,slow=36							
KSRS	**Korea Array**	**26.56**	**249**	P	**P**	**01 20 32.2**	**+0.8**
KSRS	comp=Z,5.0nm,0.6s			pmax	pmax		
KSRS	comp=Z,410nm,21.9s			MLR	MLR		
KS01	**Wonju Array Si**	**26.56**	**249**	*e*P	**P**	**01 20 32.9**	**+1.4**
KSAR	**Wonju Array Be**	**26.59**	**249**	P	**P**	**01 20 32.2**	**+0.5**
KSAR	**Wonju Array Be**	**26.59**	**249**	P	**P**	**01 20 32.2**	**+0.5**
RSO	**Redoubt South**	**27.19**	**53**	*e*P	**P**	**01 20 37.6**	**+0.5**
OHAK	**Old Harbor**	**27.29**	**60**	*e*P	**P**	**01 20 37.1**	**-0.6**
comp=Z,47nm,1.0s							
SPU	**Mount Spurr**	**27.49**	**52**	*e*P	**P**	**01 20 41.5**	**+1.8**
KDAK	**Kodiak Island**	**27.57**	**59**	P	**P**	**01 20 39.5**	**-0.7**
comp=Z,27nm,1.1s,baz=237,slow=5.1,SNR=12							
KDAK				LR	LR	01 32 47.3	
comp=Z,472nm,18.6s,baz=271,slow=39							
KDAK	**Kodiak Island**	**27.57**	**59**	*e*P	**P**	**01 20 39.2**	**-1.1**
KDAK	comp=Z,58nm,1.4s			pmax	pmax		
KDAK	**Kodiak Island**	**27.57**	**59**	*e*P	**P**	**01 20 39.2**	**-1.1**
comp=Z,58nm,1.4s							
JNU	**Nakatsue**	**28.10**	**239**	P	**P**	**01 20 45.2**	**-0.1**
comp=Z,6.1nm,0.9s,baz=359,slow=8.3,SNR=5.9							
JNU				LR	LR	01 33 23.3	
comp=Z,321nm,21.0s,baz=46,slow=39							
TOLK	**Toolik Lake Re**	**28.95**	**36**	P	**P**	**01 20 52.7**	**+0.2**
baz=262							
COLA	**College**	**29.33**	**44**	*e*P	**P**	**01 20 56.6**	**+0.8**
COLA	comp=Z,18nm,0.8s			pmax	pmax		
COLA	**College**	**29.33**	**44**	*e*P	**P**	**01 20 56.6**	**+0.8**
comp=Z,18nm,0.8s							
IL1	**Eielson Array**	**29.75**	**44**	*e*P	**P**	**01 20 59.0**	**-0.5**
ILAR	**Eielson Array**	**29.75**	**44**	P	**P**	**01 20 59.2**	**-0.4**
comp=Z,5.7nm,0.7s,baz=257,slow=7.9,SNR=53							
ILAR				pP	**pP**	**01 21 18.0**	**+1.0**
comp=Z,5.7nm,0.8s,baz=260,slow=6.8,SNR=6.5							
ILAR				PcP	**PcP**	**01 24 00.9**	**-0.5**
comp=Z,0.8nm,0.6s,baz=278,slow=3.4,SNR=3.3							
ILAR				LR	LR	01 32 29.1	
comp=Z,414nm,21.4s,baz=272,slow=35							
ILB	**Eielson Array**	**29.75**	**44**	*e*P	**P**	**01 20 59.0**	**-0.5**
BJI	**Beijing**	**31.97**	**265**	P	**P**	**01 21 19.7**	**+0.4**
BJI				S	**S**	**01 26 27.7**	**+2.5**
BJI				sS	**sS**	**01 26 50.4**	**-4.8**
BJI	comp=Z,11nm,0.9s			pmax	pmax		
BJI	comp=Z,130nm,5.4s			pmax	pmax		
BJI	comp=Z,860nm,15.9s			LR	LR		
BJI	comp=Z,1μm,17.8s			LR	LR		
BJI	comp=Z,990nm,20.1s			LR	LR		
EGAK	**Eagle**	**32.20**	**44**	*e*P	**P**	**01 21 20.4**	**-0.7**
comp=Z,18nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.80**	**167**	T	T	01 56 28.0	
baz=351,slow=76,SNR=131							
H11N3	**WAKE ISLAND Hy**	**32.81**	**167**	T	T	01 56 45.0	
baz=351,slow=76,SNR=131							
H11N1	**WAKE ISLAND Hy**	**32.81**	**167**	T	T	01 56 45.2	
baz=351,slow=76,SNR=185							
DAWY	**Dawson**	**33.04**	**45**	*e*P	**P**	**01 21 29.1**	**+0.5**
comp=Z,9.1nm,0.9s							
ULN	**Ulaanbaatar**	**33.43**	**284**	*ce*P	**P**	**01 21 30.9**	**-1.4**
ULN	comp=Z,16nm,1.2s			pmax	pmax		
ULN	**Ulaanbaatar**	**33.43**	**284**	*e*P	**P**	**01 21 31.5**	**-0.9**
comp=Z,19nm,1.3s							
ULN	**Ulaanbaatar**	**33.43**	**284**	P	**P**	**01 21 31.4**	**-0.9**
SNR=5.5							
ULN	**Ulaanbaatar**	**33.43**	**284**	P	**P**	**01 21 31.4**	**-0.9**
SNR=5.5							
TIA	**Tai'an**	**33.80**	**259**	⇑P	**P**	**01 21 36.4**	**+1.0**
TIA	comp=Z,30nm,0.8s			pmax	pmax		
TLY	**Talaya**	**33.80**	**292**	LR	LR	01 35 46.8	
comp=Z,255nm,18.2s,baz=58,slow=37							
TLY	**Talaya**	**33.80**	**292**	*e*P	**P**	**01 21 34.7**	**-0.6**
TLY	comp=Z,56nm,1.1s			pmax	pmax		
TLY

MOY pmax pmax
comp=Z,95nm,1.6s
NJ2 Nanjing 35.65 252 *e*P **P 01 21 53.1 +1.8**
NJ2 pmax pmax
comp=Z,30nm,0.6s
WHY Whitehorse 35.83 50 *e*P **P 01 21 54.2 +1.5**
comp=Z,35nm,1.1s
SKAG Skagway 35.97 52 *e*P **P 01 21 54.1 +0.4**
comp=Z,44nm,1.0s
NRIK Noril'sk 36.55 325 P **P 01 21 57.8 -0.9**
comp=Z,36nm,0.8s,baz=86,slow=9.7,SNR=21
NRIK LR LR 01 38 00.5
comp=Z,682nm,18.6s,baz=56,slow=38
SSLB Suanglung 40.79 241 *e*P **P 01 22 36.4 +1.7**
comp=Z,89nm,1.9s
YULB Yu-li 40.92 240 *e*P **P 01 22 36.7 +1.0**
comp=Z,82nm,1.8s
LZH Lanzhou 42.03 270 *e*P **P 01 22 44.9 +0.1**
LZH pP pP 01 22 59.5 -3.4
LZH sP sP 01 23 06.5 -4.9
LZH PP **PP 01 24 20.3 -2.9**
LZH PcP **PcP 01 24 37.6 -0.9**
LZH *e*S **S 01 28 54.0 -4.4**
LZH sS sS 01 29 22.2 -7.0
LZH SS SS 01 31 55.8 -12
LZH pmax pmax
comp=Z,100nm,1.6s
LZH pmax pmax
comp=Z,340nm,5.0s
LZH LR LR
comp=Z,1μm,12.1s
LZH LR LR
comp=Z,1μm,12.8s
LZH LR LR
comp=Z,2μm,14.4s
GTA Gaotai 42.42 277 *e*P **P 01 22 47.2 -0.7**
GTA pP pP 01 23 02.4 -3.6
GTA sP sP 01 23 09.3 -5.2
GTA PcP **PcP 01 24 40.6 +0.9**
GTA ScP **ScP 01 28 28.0 +4.4**
GTA S **S 01 29 01.4 -2.6**
GTA sS sS 01 29 27.5 -7.3
GTA SS SS 01 32 03.8 -11
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,160nm,5.0s
GTA LR LR
comp=Z,760nm,16.6s
GTA LR LR
comp=Z,470nm,14.3s
GTA LR LR
comp=Z,640nm,16.2s
ENH Enshi 42.52 259 *e*P **P 01 22 48.6 -0.1**
comp=Z,55nm,0.8s
ZAA0 Zalesovo Array 43.06 303 *e*P **P 01 22 50.5 -2.3**
ZALV Zalesovo Beam 43.06 303 P **P 01 22 50.3 -2.5**
comp=Z,2.4nm,0.3s,baz=61,slow=6.8,SNR=18
ZALV PcP **PcP 01 24 40.6 -0.8**
comp=Z,5.7nm,0.7s,baz=75,slow=3.7,SNR=7.5
ZALV LR LR 01 42 12.5
comp=Z,892nm,18.3s,baz=69,slow=38
NVS Novosibirsk 43.44 305 *e*P **P 01 22 54.0 -1.7**
NVS pmax pmax
comp=N,29nm,1.2s
NVS pmax pmax
comp=E,73nm,1.2s
NVS pmax pmax
comp=Z,114nm,1.2s
YKA Yellowknife Ar 44.11 42 P **P 01 22 59.1 -2.0**
comp=Z,4.5nm,0.8s,baz=293,slow=8.0,SNR=3.3
YKA LR LR 01 44 34.0
comp=Z,24nm,18.5s,baz=0.0,slow=40
CD2 Chengdu 45.56 265 P **P 01 23 13.2 +0.1**
CD2 S **S 01 29 50.9 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,950nm,22.4s
CD2 LR LR
comp=Z,550nm,21.8s
CD2 LR LR
comp=Z,370nm,16.4s
LLLB Lilloоet 46.79 59 *e*P **P 01 23 22.9 +0.5**
comp=Z,15nm,1.0s
WMQ Urumqi 47.02 290 P **P 01 23 24.4 +0.1**
WMQ pP pP 01 23 40.9 -1.8
WMQ sP sP 01 23 49.4 -1.7
WMQ PP **PP 01 25 17.7 +2.4**
WMQ pmax pmax
comp=Z,43nm,1.7s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,620nm,22.7s
WMQ LR LR
comp=Z,220nm,12.9s
WMQ LR LR
comp=Z,450nm,38.7s
A04D Lummi Island 47.41 62 P **P 01 23 28.3 +1.1**
baz=305
KBS Kingsbay 47.83 352 *e*P **P 01 23 30.9 +0.8**
KBS pmax pmax
comp=Z,86nm,0.8s
KBS Kingsbay 47.83 352 *e*P **P 01 23 30.9 +0.8**
comp=Z,86nm,0.8s
KURK Kurchatov 48.01 302 *e*P **P 01 23 30.0 -1.8**
KURK pmax pmax
comp=Z,99nm,1.1s
KURK Kurchatov 48.01 302 *e*P **P 01 23 30.0 -1.8**
comp=Z,100nm,1.1s
KURK Kurchatov 48.01 302 P **P 01 23 30.1 -1.7**
SNR=36
KURK Kurchatov 48.01 302 P **P 01 23 30.1 -1.7**
SNR=36
B05A Bryant 48.01 62 P **P 01 23 32.9 +1.1**
baz=306
SPB1 Spitsbergen Ar 48.07 350 *e*P **P 01 23 32.0 0.0**
SPB5 Spitsbergen Ar 48.07 350 *e*P **P 01 23 31.8 -0.2**
SPA0 Spitsbergen Ar 48.07 350 *e*P **P 01 23 32.6 +0.6**
SPA3 Spitsbergen Ar 48.08 350 *e*P **P 01 23 32.1 +0.1**
SPB2 Spitsbergen Ar 48.08 350 *e*P **P 01 23 32.4 +0.4**
SPB4 Spitsbergen Ar 48.08 350 *e*P **P 01 23 31.5 -0.5**
SPB3 Spitsbergen Ar 48.08 350 *e*P **P 01 23 32.1 +0.1**
JCW Jim Creek 48.14 62 P **P 01 23 34.1 +1.2**
B06A Marblemount 48.19 61 *e*P **P 01 23 33.9 +0.7**
comp=Z,26nm,1.3s
MK31 Makanchi Array 48.32 296 *e*P **P 01 23 32.7 -1.6**
MK31 Makanchi Array 48.32 296 *e*P **P 01 23 32.6 -1.6**
MKAR Makanchi Array 48.32 296 P **P 01 23 32.6 -1.6**
comp=Z,11nm,0.6s,baz=60,slow=8.3,SNR=51
MKAR LR LR 01 45 10.7
comp=Z,514nm,18.9s,baz=42,slow=38
MKAR Makanchi Array 48.32 296 *e*P **P 01 23 32.7 -1.6**
MKAR pmax pmax
comp=Z,124nm,0.9s
MKAR Makanchi Array 48.32 296 *e*P **P 01 23 32.6 -1.6**
comp=Z,124nm,0.9s
MAKZ Makanchi 48.48 296 *e*P **P 01 23 33.9 -1.7**
MAKZ Makanchi 48.48 296 *e*P **P 01 23 33.9 -1.7**
D05A Enumclaw 48.70 63 *e*P **P 01 23 38.6 +1.5**
comp=Z,34nm,1.1s
TDL Tradedollar La 49.08 64 P **P 01 23 41.3 +1.0**
F04A Amboy 49.22 64 *e*P **P 01 23 41.5 +0.4**
comp=Z,22nm,1.0s
LTY Liberty 49.38 62 *e*P **P 01 23 42.6 +0.1**
comp=Z,12nm,1.2s
B08A Colville Reser 49.44 60 *e*P **P 01 23 44.0 +1.1**
comp=Z,30nm,1.1s
WTV Waterville 49.51 61 P **P 01 23 44.0 +0.6**
TRW Toppenish Ridg 50.03 63 P **P 01 23 48.7 +1.2**
I03D Drain, OR 50.06 67 P **P 01 23 48.9 +1.3**
baz=309
E07A Sunnyside 50.25 62 *e*P **P 01 23 49.3 +0.3**
comp=Z,12nm,1.0s
G05D Wamic, OR 50.25 64 P **P 01 23 49.9 +0.9**
baz=308
KMI Kunming 50.35 260 P **P 01 23 50.3 +0.1**
KMI pP pP 01 24 04.6 -4.2
KMI S **S 01 30 53.2 -4.6**
KMI pmax pmax
comp=Z,26nm,0.5s
KMI pmax pmax
comp=Z,280nm,4.3s
KMI LR LR
comp=Z,410nm,20.6s
KMI LR LR
comp=Z,490nm,19.8s
KMI LR LR
comp=Z,630nm,27.2s
D08A Wollman Farm, 50.45 61 *e*P **P 01 23 51.1 +0.6**
comp=Z,8.2nm,1.1s
HAWA Hanford 50.53 62 *e*P **P 01 23 52.2 +1.1**
comp=Z,25nm,1.3s
NEW Newport 50.68 59 P **P 01 23 53.1 +0.9**
baz=308,SNR=8.7
NEW Newport 50.68 59 *e*P **P 01 23 52.8 +0.5**
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 50.68 59 *e*P **P 01 23 52.8 +0.5**
comp=Z,13nm,1.1s
BVA0 Borovoye Array 50.77 309 *i*P **P 01 23 51.0 -1.8**
BVA0 pmax pmax
comp=Z,32nm,1.0s
QIZ Qiongzhong 50.79 249 P **P 01 23 55.1 +1.8**
QIZ S **S 01 31 06.6 +3.1**
QIZ LR LR
comp=Z,410nm,4.2s
QIZ LR LR
comp=Z,470nm,22.7s
I05D Terrebonne, OR 50.80 65 P **P 01 23 53.8 +0.6**
baz=309
BRVK Borovoye 50.80 309 *e*P **P 01 23 51.0 -2.1**
BRVK pmax pmax
comp=Z,88nm,1.4s
BRVK Borovoye 50.80 309 *e*P **P 01 23 51.0 -2.1**
comp=Z,88nm,1.4s
BRVK Borovoye 50.80 309 P **P 01 23 51.3 -1.7**
SNR=20
BRVK Borovoye 50.80 309 P **P 01 23 51.3 -1.7**
SNR=20
L02D Cave Junction, 50.88 69 P **P 01 23 55.0 +1.2**
baz=310
HUMO Hull Mountain 50.97 68 *e*P **P 01 23 56.2 +1.8**
comp=Z,38nm,1.8s
J04D Umpqua Nationa 51.05 67 P **P 01 23 56.4 +1.1**
baz=309,SNR=5.8
DAG Danmarks Havn 51.41 359 *i*P **P 01 23 57.3 +0.1**
comp=Z,21nm,0.9s
DAG Danmarks Havn 51.41 359 *i*P **P 01 23 57.3 +0.1**
DAG pmax pmax
comp=Z,18nm,0.9s
J05D Fort Rock, OR 51.52 66 P **P 01 24 00.5 +1.8**
baz=310,SNR=19
KHMM Horse Mountain 51.62 70 *e*P **P 01 23 59.6 +0.1**
comp=Z,40nm,1.4s
YBH Yreka Blue Hor 51.66 69 *e*P **P 01 24 01.2 +1.4**
YBH pmax pmax
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 51.66 69 *e*P **P 01 24 01.1 +1.4**
comp=Z,12nm,1.0s
M02C Callahan 51.80 69 P **P 01 24 02.6 +1.9**
baz=310,SNR=5.6
WALA Waterton Lakes 51.86 57 *e*P **P 01 24 01.9 +0.7**
comp=Z,19nm,1.2s
PDGK Podgornoye 52.01 294 P **P 01 23 59.0 -3.4**
PDGK pmax pmax
comp=Z,52nm,1.3s
KMRM Mail Ridge 52.06 71 *e*P **P 01 24 04.8 +2.1**
comp=Z,27nm,1.3s
M04C Macdoel 52.13 68 P **P 01 24 04.9 +1.6**
baz=310,SNR=7.8
N02D Trinity Center 52.16 70 P **P 01 24 05.4 +2.0**
baz=311,SNR=7.4
BSMT Bassoo Peak 52.16 58 *e*P **P 01 24 04.8 +1.3**
BLMT Blacktail Moun 52.28 58 *e*P **P 01 24 05.5 +1.0**
SLVN Son La 52.49 256 *e*P **P 01 24 07.1 +1.0**
comp=Z,19nm,0.9s
JTMT Jette 52.49 58 *e*P **P 01 24 07.5 +1.6**
WDC Whiskeytown Da 52.51 70 *e*P **P 01 24 07.7 +1.8**
WDC pmax pmax
comp=Z,15nm,1.3s
WDC Whiskeytown Da 52.51 70 *e*P **P 01 24 07.7 +1.8**
comp=Z,15nm,1.3s
SOKR Solikamsk 52.55 321 *e*P **P 01 24 03.0 -2.9**
SOKR pmax pmax
comp=Z,17nm,0.8s
SOKR MLR MLR
comp=Z,409nm,23.0s
YBMT Yellow Bay 52.56 58 *e*P **P 01 24 07.6 +1.2**
BMO Blue Mountains 52.71 63 *e*P **P 01 24 08.5 +1.0**
BMO pmax pmax
comp=Z,16nm,1.2s
BMO Blue Mountains 52.71 63 *e*P **P 01 24 08.5 +1.0**
comp=Z,16nm,1.2s
LTIM Timbered Crate 52.73 69 P **P 01 24 09.6 +1.9**
SWMT Swartz Lake 52.79 58 *e*P **P 01 24 09.4 +1.4**
SVE Sverdlovsk 52.80 317 *de*P **P 01 24 06.5 -1.3**
SVE pmax pmax
comp=Z,52nm,1.1s
SVE MLR MLR
comp=Z,377nm,15.0s
MOD Modoc Plateau 52.93 67 *e*P **P 01 24 10.7 +1.5**
comp=Z,36nm,1.0s
LBCM Butte Creek Ri 53.02 69 P **P 01 24 11.3 +1.4**
O03D Paynes Creek 53.12 70 P **P 01 24 11.3 +0.8**
baz=311,SNR=17
SLMT Seeley Lake 53.23 58 *e*P **P 01 24 11.7 +0.4**
MSO Missoula 53.26 59 P **P 01 24 12.1 +0.6**
baz=310,SNR=12
MSO Missoula 53.26 59 *e*P **P 01 24 12.4 +0.9**
comp=Z,26nm,1.3s
GDXM Geysers 53.52 72 *e*P **P 01 24 15.8 +2.3**
comp=Z,16nm,1.1s
WVOR Wild Horse Val 53.53 66 *e*P **P 01 24 14.8 +1.2**
WVOR pmax pmax
comp=Z,25nm,1.1s
WVOR Wild Horse Val 53.53 66 *e*P **P 01 24 14.8 +1.2**
comp=Z,25nm,1.1s
HAMF Hammerfest 53.55 343 *e*P **P 01 24 12.3 -0.8**
CHMT Chamberlain Mo 53.56 58 *e*P **P 01 24 14.3 +0.5**
KEV Kevo 53.67 341 *e*P **P 01 24 13.3 -0.7**
KEV pmax pmax
comp=Z,193nm,1.7s
KEV Kevo 53.67 341 *e*P **P 01 24 13.3 -0.7**
comp=Z,192nm,1.7s
ORV Oroville 53.78 70 *e*P **P 01 24 16.1 +0.8**
ORV pmax pmax
comp=Z,15nm,1.1s
ORV Oroville 53.78 70 *e*P **P 01 24 16.1 +0.8**
comp=Z,15nm,1.1s
ARU Arti 53.93 318 P **P 01 24 14.4 -1.7**
comp=Z,64nm,0.5s,baz=52,slow=7.3,SNR=11
ARU Arti 53.93 318 *c i*P **P 01 24 14.1 -2.0**
ARU *PP **pP 01 24 30.0 -4.8**
ARU 01 25 17.5
ARU 01 26 14.5
ARU S **S 01 31 45.4 -0.2**
ARU SS **SS 01 35 25.4 -1.4**
ARU pmax pmax
comp=Z,75nm,0.6s
ARU MLR MLR
comp=Z,353nm,17.0s
ARU Arti 53.93 318 *e*P **P 01 24 14.1 -2.0**
comp=Z,85nm,0.6s
ARA0 ARCESS Array S 54.15 342 *e*P **P 01 24 17.0 -0.5**
ARCES ARCESS Array B 54.15 342 P **P 01 24 17.1 -0.4**
comp=Z,51nm,0.9s,baz=38,slow=7.7,SNR=114
ARCES LR LR 01 52 30.8
comp=Z,145nm,19.6s,baz=33,slow=42
ARE0 ARCESS Array S 54.15 342 *e*P **P 01 24 17.2 -0.4**
ARE0 IAmb IAmb 01 24 17.9
comp=Z,50nm,0.9s
ARE0 ARCESS Array S 54.15 342 *e*P **P 01 24 16.6 -0.9**
comp=Z,58nm,1.0s
LSA Lhasa 54.18 274 *e*P **P 01 24 18.6 -0.3**
LSA pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 54.18 274 *e*P **P 01 24 18.6 -0.3**
comp=Z,13nm,0.9s
BEKR Beckworth 54.23 69 *e*P **P 01 24 20.0 +1.2**
comp=Z,27nm,1.1s
HRY Holter Researc 54.44 58 *e*P **P 01 24 21.5 +1.3**
TKM2 Tokmak 2 54.45 296 P **P 01 24 18.4 -2.0**
TKM2 pmax pmax
comp=Z,25nm,1.5s
MFID Camas Ranch 54.45 63 *e*P **P 01 24 21.2 +0.9**
comp=Z,17nm,1.4s
AFDM Forest Hills D 54.49 70 *e*P **P 01 24 21.5 +1.0**
comp=Z,15nm,1.0s
PAHR Pah Rah Range 54.90 69 *e*P **P 01 24 24.7 +1.1**
comp=Z,45nm,1.1s
SUMG Summit 54.99 7 *i*P **P 01 24 25.0 +0.9**
comp=Z,61nm,1.3s
SUMG Summit 54.99 7 *e*P **P 01 24 24.8 +0.7**
SUMG pmax pmax
comp=Z,82nm,1.3s
SUMG Summit 54.99 7 *e*P **P 01 24 24.8 +0.7**
comp=Z,82nm,1.3s
KTK1 Kautokeino 55.02 342 *e*P **P 01 24 23.8 0.0**
KTK1 IAmb IAmb 01 24 25.7
comp=Z,75nm,0.8s
HLID Hailey 55.13 62 P **P 01 24 27.0 +1.8**
baz=312,SNR=7.5
HLID Hailey 55.13 62 *e*P **P 01 24 26.5 +1.3**
comp=Z,8.7nm,1.1s
MCMT McKenzie Canyo 55.14 60 *e*P **P 01 24 26.2 +0.9**
PNTR Pine Nut 55.19 69 *e*P **P 01 24 27.4 +1.7**
comp=Z,72nm,1.5s
TRO Tromso 55.24 344 *e*P **P 01 24 29.2 +3.8**
AAK Ala-Archa 55.25 297 ↓*e*P **P 01 24 24.5 -1.6**
AAK pmax pmax
comp=Z,98nm,1.4s
AAK Ala-Archa 55.25 297 *e*P **P 01 24 25.1 -0.9**
comp=Z,57nm,1.4s
AAK Ala-Archa 55.25 297 P **P 01 24 25.2 -0.9**
SNR=12
AAK Ala-Archa 55.25 297 P **P 01 24 25.2 -0.9**
SNR=12
BOZ Bozeman (W) 55.28 59 P **P 01 24 27.8 +1.6**
baz=312,SNR=6.5
PANO Nakornpanom 55.31 252 P **P 01 24 30.7 +4.1**
comp=Z,100nm,0.9s
CMB Columbia Colle 55.44 71 *e*P **P 01 24 28.5 +1.1**
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 55.44 71 *e*P **P 01 24 28.5 +1.1**
comp=Z,14nm,1.0s
YERR Yerington 55.47 69 *e*P **P 01 24 29.3 +1.5**
comp=Z,27nm,1.2s
TMCR Tamitsa 55.53 333 *e*P **P 01 24 27.0 -0.5**
TMCR *i*S **S 01 32 09.1 +2.3**
TMCR pmax pmax
comp=Z,92nm,0.9s
WAKR Walker 55.67 70 *e*P **P 01 24 30.8 +1.5**
comp=Z,24nm,1.0s
QLMT Earthquake Lak 55.89 59 *e*P **P 01 24 32.4 +1.7**
YHH Holmes Hill 56.23 59 *e*P **P 01 24 35.1 +1.8**
comp=Z,11nm,1.1s
YMR Madison River 56.25 59 *e*P **P 01 24 35.4 +2.1**
comp=Z,30nm,1.5s
MNAS Manas 56.44 298 P **P 01 24 32.7 -1.9**
MNAS pmax pmax
comp=Z,10.0nm,0.9s
YFT Old Faithful 56.46 59 *e*P **P 01 24 37.8 +3.0**
comp=Z,13nm,1.0s
KSH Kashi 56.51 293 P **P 01 24 38.2 +3.1**
KSH pP pP 01 24 55.9 +2.0
KSH sP sP 01 25 01.1 -1.1
KSH PcP **PcP 01 25 34.0 +3.0**
KSH PP **PP 01 26 46.2 +5.0**
KSH PcS **PcS 01 29 31.9 +0.1**
KSH S **S 01 32 22.1 +1.3**
KSH ScS **ScS 01 34 16.5 -0.8**
KSH SS **SS 01 36 11.6 +3.2**
KSH pmax pmax
comp=Z,24nm,1.3s
KSH pmax pmax
comp=Z,220nm,3.6s
KSH LR LR
comp=Z,160nm,10.2s
KSH LR LR
comp=Z,260nm,13.6s
KSH LR LR
comp=Z,170nm,5.8s
H17A Grant Village 56.64 59 P **P 01 24 39.0 +2.9**
baz=313
H17A Grant Village 56.64 59 *e*P **P 01 24 38.8 +2.7**
comp=Z,22nm,1.2s
IMW Indian Meadow 56.78 60 *e*P **P 01 24 38.9 +1.8**
comp=Z,14nm,1.1s
RLMT Red Lodge 56.83 58 P **P 01 24 39.0 +1.6**
baz=313
RLMT Red Lodge 56.83 58 *e*P **P 01 24 38.3 +0.8**
comp=Z,18nm,1.0s
FXWY Fox Creek 56.91 60 *e*P **P 01 24 40.4 +2.4**
comp=Z,8.8nm,1.1s
MOOW Moose Ponds 56.98 60 *e*P **P 01 24 40.3 +1.8**
comp=Z,20nm,1.6s
KHON Khomkaen 57.00 253 P P 01 24 44.6 +6.0
comp=Z,14nm,1.1s,comp=Z,2μm
TPAW Teton Pass 57.05 60 *e*P **P 01 24 41.4 +2.3**
comp=Z,21nm,1.4s
KK31 Karatay Array 57.10 299 *i*P **P 01 24 37.7 -1.4**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 57.10 299 *e*P **P 01 24 38.0 -1.1**
KKAR pmax pmax
comp=Z,123nm,0.8s
KKAR Karatay Array 57.10 299 *e*P **P 01 24 38.0 -1.1**
comp=Z,123nm,0.8s
DGMT Dagmar 57.12 52 P **P 01 24 40.7 +1.6**
baz=313
LOHW Long Hollow 57.15 60 *e*P **P 01 24 41.9 +2.2**
comp=Z,13nm,1.1s
SNOW Snow King Moun 57.17 60 *e*P **P 01 24 42.4 +2.5**
comp=Z,21nm,1.3s
REDW Red Top Meadow 57.19 60 *e*P **P 01 24 42.2 +2.2**
comp=Z,34nm,1.4s
LAMP Lampang 57.21 258 P **P 01 24 41.6 +1.5**
comp=Z,15nm,0.9s,comp=Z,117nm
HVU Hansel Valley 57.22 63 *e*P **P 01 24 42.6 +2.5**
HVU pmax pmax
comp=Z,17nm,1.1s
HVU Hansel Valley 57.22 63 *e*P **P 01 24 42.6 +2.5**
comp=Z,17nm,1.1s
UTTA Uttaradit 57.25 256 P **P 01 24 42.2 +1.8**
comp=Z,9.4nm,1.1s
RCTC Rector, Farmer 57.28 72 P **P 01 24 42.1 +1.6**
baz=314
LAO LASA Array 57.33 55 P **P 01 24 42.0 +1.3**
baz=313
CHTO Chiang Mai 57.40 259 P **P 01 24 42.4 +1.0**
comp=Z,170nm,1.0s
CHTO Chiang Mai 57.40 259 *e*P **P 01 24 42.5 +1.0**
CHTO *e* 01 25 29.6
CHTO pmax pmax
comp=Z,73nm,1.4s
CHTO Chiang Mai 57.40 259 *e*P **P 01 24 42.5 +1.1**
comp=Z,73nm,1.4s
CHTO *e*PcP **PcP 01 25 29.6 -5.0**
CHTO Chiang Mai 57.40 259 P **P 01 24 42.5 +1.1**
SNR=17
CHTO Chiang Mai 57.40 259 P **P 01 24 42.5 +1.1**
SNR=17
BGU Big Grassy Mou 57.66 64 *e*P **P 01 24 43.0 -0.2**
comp=Z,7.8nm,1.2s
KLMR Klimovskoe 57.66 330 *e*P **P 01 24 40.9 -1.8**
KLMR *e* 01 25 32.6
KLMR *e* 01 26 50.2
KLMR *e*S **S 01 32 32.1 -2.9**
KLMR pmax pmax
comp=Z,67nm,0.9s
CM31 Chiang Mai Arr 57.67 258 *e*P **P 01 24 44.9 +1.5**
CMAR Chiang Mai Arr 57.67 258 P **P 01 24 44.6 +1.3**
comp=Z,16nm,0.8s,baz=23,slow=7.1,SNR=64
CMAR LR LR 01 52 09.2
comp=Z,243nm,21.1s,baz=52,slow=39
CM01 Chiang Mai Arr 57.69 258 *e*P **P 01 24 44.5 +1.0**
VES Vestal, Richgr 57.70 72 P **P 01 24 43.9 +0.5**
baz=314
SPUT South Promonto 57.72 63 *e*P **P 01 24 45.1 +1.4**
comp=Z,18nm,1.2s
CHAI Chaiyaphum 57.83 254 P **P 01 24 46.8 +2.3**
comp=Z,5.3nm,1.2s
CWC Cottonwood Cre 57.87 71 P **P 01 24 45.8 +1.0**
baz=314
GRAC Grapevine Rang 57.90 70 P **P 01 24 46.3 +1.4**
baz=314,SNR=7.4
PBKT Sadao Pong 57.92 255 P **P 01 24 47.2 +2.2**
comp=Z,22nm,1.3s
PKM Mcpherson Peak 57.93 73 P **P 01 24 46.2 +0.9**
baz=314
TAPN Taplejung 57.97 274 *e*P **P 01 24 45.5 -0.3**
comp=Z,19nm,0.4s
R11A Troy Canyon, C 57.99 67 P **P 01 24 46.6 +0.9**
baz=314,SNR=16

R11A	Troy Canyon, C	57.99	67	eP		P	01 24 46.5 +0.9
	comp=Z,12nm,1.1s						
HWUT	Hardware Ranch	58.00	62	eP		P	01 24 47.6 +2.0
	comp=Z,14nm,1.1s						
AB31	Akbulak array	58.21	311	i P		P	01 24 45.1 -1.6
AB31					pmax	pmax	
	comp=Z,14nm,0.7s						
ABKAR	Akbulak array	58.21	311	eP		P	01 24 45.2 -1.5
	comp=Z,168nm,0.6s						
AKTO	Aktubinsk	58.27	313	P		P	01 24 45.9 -1.2
	comp=Z,16nm,0.5s,baz=67,slow=9.2,SNR=35						
DUG	Dugway, Tooele	58.28	64	P		P	01 24 48.9 +1.3
	baz=314,SNR=14						
DUG	Dugway, Tooele	58.28	64	eP		P	01 24 49.6 +2.0
DUG					pmax	pmax	
	comp=Z,19nm,1.1s						
DUG	Dugway, Tooele	58.28	64	eP		P	01 24 49.6 +2.0
	comp=Z,19nm,1.1s						
BW06	Boulder Array	58.29	60	P		P	01 24 48.7 +1.0
	baz=314,SNR=12						
BW06	Boulder Array	58.29	60	eP		P	01 24 48.7 +1.0
	comp=Z,15nm,1.1s						
PD31	Pinedale Array	58.29	60	eP		P	01 24 49.2 +1.5
PDAR	Pinedale Array	58.29	60	P		P	01 24 49.2 +1.5
	comp=Z,6.6nm,0.8s,baz=303,slow=3.0,SNR=27						
PDAR				pP		pP	01 25 06.2 -0.4
	comp=Z,4.1nm,0.8s,baz=298,slow=3.0,SNR=6.9						
MPMC	Manual Prospec	58.48	71	P		P	01 24 50.4 +1.3
	baz=314,SNR=10.0						
ODAN	Odare	58.52	274	eP		P	01 24 49.8 +0.3
	comp=Z,18nm,0.4s						
FURC	Furnace Creek,	58.56	70	P		P	01 24 50.5 +1.2
	baz=314,SNR=12						
TPNV	Topopah Spring	58.58	69	P		P	01 24 50.9 +1.2
	baz=314,SNR=18						
TPNV	Topopah Spring	58.58	69	eP		P	01 24 51.1 +1.4
TPNV					pmax	pmax	
	comp=Z,19nm,1.0s						
TPNV	Topopah Spring	58.58	69	eP		P	01 24 51.0 +1.4
	comp=Z,19nm,1.0s						
JIRN	Jiri	58.68	276	eP		P	01 24 50.4 -0.4
	comp=Z,84nm,0.4s						
GUN	Gumba	58.69	276	eP		P	01 24 50.2 -0.6
	comp=Z,20nm,0.5s						
JLU	Jordanelle	58.76	63	eP		P	01 24 52.5 +1.5
	comp=Z,13nm,1.2s						
LRMC	Laurel Mtn Rad	58.77	71	P		P	01 24 51.8 +0.8
	baz=315,SNR=7.0						
NLU	North Lily Min	58.86	64	eP		P	01 24 53.2 +1.5
	comp=Z,14nm,1.1s						
BLG	Laguna Peak, P	58.91	73	P		P	01 24 53.6 +1.7
	baz=315						
RAMN	Ramite	58.94	275	eP		P	01 24 52.0 -0.5
	comp=Z,49nm,0.4s						
EDW2	Edwards Air Fo	59.01	72	P		P	01 24 53.2 +0.7
	baz=315,SNR=12						
MPU	Maple Canyon	59.06	64	eP		P	01 24 55.2 +2.2
	comp=Z,15nm,1.0s						
MOR8	Moi Rana	59.11	344	eP		P	01 24 51.6 -1.2
MOR8					IAmb	IAmb	01 24 52.6
	comp=Z,44nm,0.9s						
KKN	Kakani	59.15	277	eP		P	01 24 53.6 -0.2
	comp=Z,30nm,0.5s						
PKI	Pulchoki	59.23	276	eP		P	01 24 53.9 -0.6
	comp=Z,15nm,0.4s						
PKIN	Phulchoki	59.23	276	eP		P	01 24 54.0 -0.5
	comp=Z,23nm,0.7s						
SHOC	Shoshone, Teco	59.30	70	P		P	01 24 55.6 +1.1
	baz=315						
DMN	Daman	59.38	277	eP		P	01 24 55.3 -0.2
	comp=Z,56nm,0.7s						
GKN	Gorkha	59.39	277	eP		P	01 24 54.9 -0.5
	comp=Z,47nm,0.8s						
PASC	Pasadena Art C	59.39	73	eP		P	01 24 56.3 +1.2
	comp=Z,28nm,1.3s						
GSC	Goldstone, Bar	59.41	71	P		P	01 24 56.2 +0.8
	baz=315,SNR=8.8						
GSC	Goldstone, Bar	59.41	71	eP		P	01 24 56.6 +1.2
GSC					pmax	pmax	
	comp=Z,13nm,1.0s						
GSC	Goldstone, Bar	59.41	71	eP		P	01 24 56.6 +1.2
	comp=Z,13nm,1.0s						
MWC	Mount Wilson	59.43	73	eP		P	01 24 56.3 +0.6
MWC					pmax	pmax	
	comp=Z,21nm,1.2s						
MWC	Mount Wilson	59.43	73	eP		P	01 24 56.3 +0.6
	comp=Z,21nm,1.2s						
UMPA	Umpang Tak	59.46	257	P		P	01 24 58.6 +2.8
	comp=Z,16nm,1.0s						
NAYO	Nakonayok	59.48	253	P		P	01 24 57.7 +1.8
	comp=Z,45nm,0.9s						
SHPR	Sheep Range	59.52	69	eP		P	01 24 57.4 +1.2
	comp=Z,7.8nm,1.1s						
TCRU	Three Creeks R	59.59	65	eP		P	01 24 58.8 +2.1
	comp=Z,7.8nm,0.5s						
UTHA	Uthaitani	59.62	256	P		P	01 24 58.8 +1.9
	comp=Z,7.5nm,1.2s						
BFSC	Mount Baldy Ra	59.65	72	P		P	01 24 57.6 +0.5
	baz=315						
DANN	Dangsing	59.68	278	eP		P	01 24 57.7 +0.1
	comp=Z,4.2nm,0.9s						
TMUT	Trail Mountain	59.80	64	eP		P	01 24 59.4 +1.1
	comp=Z,16nm,1.1s						
MSU	Marysvale	59.80	65	eP		P	01 25 00.1 +1.9
MSU	Marysvale	59.80	65	eP		P	01 25 00.1 +1.9
CCUT	Cedar City	59.81	67	eP		P	01 24 59.5 +1.2
	comp=Z,17nm,1.2s						
TUQ	Turquoise Moun	59.82	70	P		P	01 24 59.4 +1.1
	baz=315,SNR=12						
P17A	Butcher Ranch,	59.93	63	eP		P	01 25 00.3 +1.3
	comp=Z,18nm,1.3s						
SZCU	Shurtz Canyon	59.94	66	eP		P	01 25 00.8 +1.7
	comp=Z,13nm,1.2s						
HEC	Hector,Ludlow	60.01	71	P		P	01 25 00.5 +1.0
	baz=315,SNR=6.8						
P18A	Preston Nutter	60.09	63	eP		P	01 25 01.7 +1.4
	comp=Z,13nm,1.2s						
KOLN	Koldanda	60.19	278	eP		P	01 25 00.5 -0.5
	comp=Z,22nm,0.4s						
RSSD	Black Hills	60.22	56	P		P	01 25 01.4 +0.4
	baz=315						
RSSD	Black Hills	60.22	56	eP		P	01 25 02.2 +1.2
RSSD					pmax	pmax	
	comp=Z,21nm,0.9s						
RSSD	Black Hills	60.22	56	eP		P	01 25 02.2 +1.2
	comp=Z,21nm,0.9s						
B31A	Greenbush Farm	60.25	48	P		P	01 25 01.5 +0.7
	baz=316						
LCMT	Little Creek M	60.26	67	eP		P	01 25 03.2 +1.9
	comp=Z,17nm,1.1s						
SRU	San Rafael Swe	60.30	64	eP		P	01 25 02.8 +1.2
SRU					pmax	pmax	
	comp=Z,23nm,1.1s						
SRU	San Rafael Swe	60.30	64	eP		P	01 25 02.8 +1.2
	comp=Z,23nm,1.1s						
PYUN	Piuthan	60.33	278	eP		P	01 25 01.4 -0.5
	comp=Z,20nm,0.3s						
MURC	Murrieta	60.38	72	P		P	01 25 02.7 +0.7
	baz=316						
GMRC	Granite Mounta	60.44	70	P		P	01 25 03.3 +0.8
	baz=315,SNR=6.7						
PKCU	Pink Cliffs	60.48	66	eP		P	01 25 05.0 +2.0
	comp=Z,10nm,1.1s						
KNB	Kanab	60.49	67	eP		P	01 25 05.0 +2.1
KNB					pmax	pmax	
	comp=Z,14nm,1.1s						
KNB	Kanab	60.49	67	eP		P	01 25 05.0 +2.1
	comp=Z,14nm,1.1s						
LDFC	Landfair	60.55	70	eP		P	01 25 03.9 +0.7
	comp=Z,26nm,1.1s						
LDFC				ePcP		PcP	01 25 49.2 +2.1
LDFC				ePP		PP	01 27 10.2 -6.8
C31A	Landman Farms,	60.67	49	P		P	01 25 04.0 +0.3
	baz=317						
BELC	Belle Mtn. Jos	60.79	71	P		P	01 25 05.4 +0.4
	baz=316						
PFO	Pinyon Flats O	60.80	72	P		P	01 25 05.3 +0.4
	baz=316						
O20A	White River Ci	60.83	61	P		P	01 25 06.0 +0.8
	baz=315						
O20A	White River Ci	60.83	61	eP		P	01 25 07.1 +1.9
	comp=Z,28nm,1.4s						
FIA1	FINESS Array S	60.92	336	eP		P	01 25 05.0 -0.1
FINES	FINESS Array B	60.92	336	P		P	01 25 05.0 -0.1
	comp=Z,20nm,0.5s,baz=36,slow=7.5,SNR=148						
FINES					LR	LR	01 54 30.4
	comp=Z,330nm,21.6s,baz=27,slow=39						
SANI	Sanana	60.95	219	P		pP	01 25 25.4 +0.4
IRM	Iron Mountain	61.18	71	P		P	01 25 08.6 +1.2
	baz=316,SNR=12						
U15A	North Rim	61.21	67	eP		P	01 25 09.7 +1.8
	comp=Z,13nm,1.4s						
PUL	Pulkovo	61.24	333	‖eP		P	01 25 06.8 -0.5
W13A	Hualapai Mount	61.24	69	eP		P	01 25 09.2 +1.1
	comp=Z,9.9nm,1.2s						
MONP2	Monument Peak	61.33	72	P		P	01 25 08.9 +0.2
	baz=316						
BC3	Big Chuckawall	61.36	71	P		P	01 25 09.4 +0.7
	baz=316,SNR=5.5						
PV09	Paradox Valley	61.51	63	eP		P	01 25 11.6 +1.7
N23A	Red Feather La	61.52	59	P		P	01 25 11.2 +1.2
	baz=316						
N23A	Red Feather La	61.52	59	eP		P	01 25 11.8 +1.8
	comp=Z,8.8nm,0.8s						
B34A	Aery, Baudette	61.57	47	P		P	01 25 10.0 +0.2
	baz=318						
PHET	Kaeng Krachan	61.58	254	P		P	01 25 12.3 +2.0
	comp=Z,26nm,0.8s						
PV10	Paradox Valley	61.64	63	eP		P	01 25 13.1 +2.3
PDMCI	Parker Dam,Lak	61.66	70	P		P	01 25 11.4 +0.8
	baz=316,SNR=6.6						
SWSC	Sam W. Stewart	61.66	72	P		P	01 25 11.2 +0.6
	baz=316						
PV05	Paradox Valley	61.82	64	eP		P	01 25 13.8 +1.9
Y12C	Blythe	61.83	71	P		P	01 25 12.7 +1.0
	baz=316,SNR=5.4						
Y12C	Blythe	61.83	71	eP		P	01 25 12.4 +0.6
	comp=Z,12nm,1.3s						
PV01	Paradox Valley	62.08	63	eP		P	01 25 14.8 +1.1
GLA	Glamis	62.16	71	P		P	01 25 14.4 +0.5
	baz=316,SNR=7.1						
GLA	Glamis	62.16	71	eP		P	01 25 15.2 +1.2
GLA					pmax	pmax	
	comp=Z,21nm,1.2s						
GLA	Glamis	62.16	71	eP		P	01 25 15.2 +1.2
	comp=Z,21nm,1.2s						
SMCO	Snowmass	62.20	61	eP		P	01 25 15.1 +0.5
	comp=Z,7.8nm,1.0s						
MOS	Moscow	62.33	327	eP		P	01 25 14.9 +0.2
MOS				e			01 25 37.2
MOS				e			01 25 49.1
MOS					pmax	pmax	
	comp=Z,77nm,1.1s						
D34A	Park Rapids	62.36	48	P		P	01 25 15.4 +0.3
	baz=318						
WUAZ	Wupatki	62.38	67	P		P	01 25 17.3 +1.7
	baz=316,SNR=8.8						
WUAZ	Wupatki	62.38	67	eP		P	01 25 17.6 +2.0
	comp=Z,15nm,1.1s						
C35A	Jirik Farms, M	62.46	47	P		P	01 25 16.1 +0.4
	baz=318						
ISCO	Idaho Springs	62.48	60	P		P	01 25 18.0 +1.6
	baz=316,SNR=12						
ISCO	Idaho Springs	62.48	60	eP		P	01 25 18.2 +1.8
ISCO					pmax	pmax	
	comp=Z,12nm,1.1s						
ISCO	Idaho Springs	62.48	60	eP		P	01 25 18.2 +1.8
	comp=Z,12nm,1.1s						
Y14A	Wickenburg	62.58	69	eP		P	01 25 18.4 +1.5
	comp=Z,49nm,1.3s						
MVCO	Mesa Verde	62.78	64	P		P	01 25 19.6 +1.3
	baz=316,SNR=5.5						
MVCO	Mesa Verde	62.78	64	eP		P	01 25 19.6 +1.3
	comp=Z,22nm,1.5s						
C36A	Pine Crest Far	62.92	46	P		P	01 25 19.2 +0.3
	baz=319						
X16A	Lo Mia Camp, P	63.13	68	eP		P	01 25 22.1 +1.4
	comp=Z,8.1nm,1.1s						
SBUM	Sibu	63.20	235	eP		P	01 25 22.6 +1.6
	comp=Z,23nm,1.0s						
SBUM				ePcP		sP	01 25 52.1 +3.7
S22A	4UR Ranch, Cre	63.31	62	P		P	01 25 23.5 +1.6
	baz=317,SNR=14						
S22A	4UR Ranch, Cre	63.31	62	eP		P	01 25 24.0 +2.1
	comp=Z,16nm,1.2s						
VSU	Vasula	63.32	334	deP		P	01 25 21.5 +0.2
VSU					pmax	pmax	
	comp=Z,361nm,1.7s						
E36A	McGregor	63.67	47	P		P	01 25 23.7 -0.1
	baz=319						
X18A	Snowflake	63.90	67	eP		P	01 25 27.2 +1.5
	comp=Z,15nm,1.1s						
KBL	Kabul	63.94	293	eP		P	01 25 24.2 -1.8
KBL				e			01 26 02.1
KBL					pmax	pmax	
	comp=Z,17nm,0.9s						
KBL	Kabul	63.94	293	eP		P	01 25 24.2 -1.8
	comp=Z,17nm,0.9s						
KBL				ePcP		PcP	01 26 02.1 +1.1
AKN	Aaknes	64.02	346	eP		P	01 25 26.7 +0.9
AKN					IAmb	IAmb	01 25 30.2
	comp=Z,60nm,1.1s						
SDCO	Great Sand Dun	64.03	61	P		P	01 25 27.9 +1.2
	baz=317,SNR=5.8						
SDCO	Great Sand Dun	64.03	61	eP		P	01 25 28.8 +2.1
	comp=Z,9.9nm,1.4s						
214A	Organ Pipe Nat	64.12	71	P		P	01 25 28.1 +1.1
	baz=317,SNR=6.3						
ECSD	EROS Data Cent	64.18	51	P		P	01 25 26.8 -0.5
	baz=319						
NC303	NORSAR Array S	64.22	344	eP		P	01 25 27.4 +0.3
NC405	NORSAR Array S	64.26	343	eP		P	01 25 27.7 +0.3
NC204	NORSAR Array S	64.28	344	eP		P	01 25 27.9 +0.4
NB201	NORSAR Array S	64.39	344	eP		P	01 25 28.7 +0.3
NB2	NORSAR Subarra	64.42	344	P		P	01 25 28.3 -0.2
	comp=Z,24nm,0.7s,baz=23,slow=6.9						
NB2	NORSAR Subarra	64.42	344	P		P	01 25 28.3 -0.2
	baz=23,slow=6.9						
NOA	NORSAR Array B	64.42	344	P		P	01 25 28.4 -0.2
	comp=Z,23nm,0.7s,baz=23,slow=6.6,SNR=56						
NOA				pP		pP	01 25 50.2 +2.5
	comp=Z,4.0nm,0.9s,baz=21,slow=6.0,SNR=1.6						
NOA				LR		LR	01 56 20.0
	comp=Z,97nm,21.7s,baz=15,slow=38						
LPSR	Galich'ya Gora	64.42	324	eP		P	01 25 25.1 -3.5
NBO02	NORSAR Array S	64.47	344	eP		P	01 25 29.1 +0.3
NBO00	NORSAR Array S	64.50	344	eP		P	01 25 29.4 +0.4
NAO01	NORSAR Array S	64.66	344	eP		P	01 25 30.4 +0.4
HFS	Hagfors	64.81	342	P		P	01 25 30.9 -0.1
	comp=Z,20nm,0.6s,baz=36,slow=5.4,SNR=63						
SPMN	Marine on St.	64.86	48	P		P	01 25 32.1 +0.6
	baz=320						
E39A	Mellen	64.99	46	P		P	01 25 32.5 +0.1
	baz=320						
KSM	Kuching	65.01	237	eP		P	01 25 34.9 +2.1
TUC	Tucson	65.04	69	P		P	01 25 34.7 +1.7
	baz=317						
TUC	Tucson	65.04	69	eP		P	01 25 34.4 +1.4
TUC					pmax	pmax	
	comp=Z,9.0nm,1.2s						
TUC	Tucson	65.04	69	eP		P	01 25 34.4 +1.4
	comp=Z,8.6nm,1.2s						
T25A	Trinidad	65.07	61	P		P	01 25 34.6 +1.3
	baz=318						
F39A	Loretta	65.18	46	P		P	01 25 34.5 +0.9
	baz=320						
E40A	Wakefield	65.23	46	P		P	01 25 34.6 +0.7
	baz=321,SNR=5.9						
G38A	Ridgeland	65.33	48	P		P	01 25 34.8 +0.2
	baz=320						
F40A	Park Falls	65.53	46	P		P	01 25 36.3 +0.3
	baz=321						
ANMO	Albuquerque	65.56	64	P		P	01 25 37.5 +1.0
	baz=318						
ANMO	Albuquerque	65.56	64	deP		P	01 25 38.7 +2.2
ANMO					pmax	pmax	
	comp=Z,8.0nm,1.2s						
ANMO	Albuquerque	65.56	64	eP		P	01 25 38.6 +2.2
	comp=Z,6.2nm,1.0s						
KRAB	Krabi	65.57	251	P		P	01 25 38.6 +2.1
	comp=Z,41nm,0.7s						
LAZ	Ladron	65.58	65	eP		P	01 25 38.4 +1.8
SKLT	Songkhla	65.59	249	P		P	01 25 40.5 +3.8
I38A	Scanlan Farm,	65.98	49	P		P	01 25 38.8 0.0
	baz=320						
BNM	Barren Site	66.05	65	eP		P	01 25 40.7 +1.0
E42A	Champion	66.10	44	P		P	01 25 40.0 +0.4
	baz=322						
F41A	Three Lakes	66.12	46	P		P	01 25 40.1 +0.3
	baz=321						
CBKS	Cedar Bluff	66.30	57	P		P	01 25 41.4 +0.4
	baz=319						
NACGM	Naroch	66.40	332	e		P	01 25 40.0 -1.3
NACGM				eLR		LR	01 58 16.0
H40A	Chili	66.42	47	P		P	01 25 41.9 +0.3
	baz=321						
MICGM	Minsk	66.43	332	‖eP		P	01 25 41.0 -0.5
MICGM					PM		01 25 42.0
	comp=Z,0.2nm,1.1s						
MNK	Minsk	66.43	332	‖eP		P	01 25 41.0 -0.5
MNK					pmax	pmax	
	comp=Z,160nm,1.1s						
I39A	Houston	66.49	48	P		P	01 25 42.2 +0.1
	baz=321						
121A	Cookes Peak, D	66.59	67	P		P	01 25 44.7 +1.6
	baz=318						
319A	Douglas	66.59	69	eP		P	01 25 44.2 +1.2
	comp=Z,20nm,1.1s						
H41A	Junction City	66.75	47	P		P	01 25 44.6 +0.9
	baz=321						
E44A	Grand Marais A	66.80	43	P		P	01 25 44.6 +0.5
	baz=323						
J39A	Decorah	66.81	49	P		P	01 25 44.1 0.0
	baz=321						
O34A	Beatrice	66.81	54	P		P	01 25 44.4 +0.2
	baz=320						
I40A	Norwalk	66.88	48	P		P	01 25 45.4 +0.8
	baz=321						
F43A	Flat Rock, Esc	66.89	44	P		P	01 25 45.2 +0.6
	baz=322						
G43A	Wallace	67.12	45	P		P	01 25 46.0 -0.1
	baz=322						
L38A	Oak Wood Farm,	67.14	50	P		P	01 25 46.2 -0.1
	baz=321						
SCIA	State Center	67.20	51	eP		P	01 25 47.4 +0.8
	comp=Z,27nm,0.8s						
GEYT	Alibeck	67.38	303	P		P	01 25 47.4 -0.4
	comp=Z,20nm,0.7s,baz=26,slow=3.8,SNR=38						
GEYT					LR	LR	01 57 52.5
	comp=Z,708nm,18.4s,baz=50,slow=38						
J41A	Loganville	67.56	48	P		P	01 25 49.4 +0.4
	baz=322						
L39A	Vinton	67.61	50	P		P	01 25 49.1 -0.1
	baz=321						
M39A	Webster	68.03	50	P		P	01 25 52.0 +0.2
	baz=321						
SUW	Suwalki	68.19	334	eP		P	01 25 52.2 -0.4
SUW	Suwalki	68.19	334	eP		P	01 25 52.2 -0.4
MSTX	Muleshoe	68.31	62	P		P	01 25 54.9 +1.0
	baz=319						
MSTX	Muleshoe	68.31	62	eP		P	01 25 55.0 +1.0
	comp=Z,12nm,1.1s						
L41A	Preston	68.35	49	P		P	01 25 53.6 -0.2
	baz=322						
KLNR	Kaliningrad	68.43	336	‖eP		P	01 25 52.6 -1.5
KLNR					pmax	pmax	
	comp=Z,233nm,1.4s						
MNTX	Cornudas Mount	68.57	66	P		P	01 25 56.3 +0.9
	baz=319,SNR=9.8						
MNTX	Cornudas Mount	68.57	66	eP		P	01 25 56.9 +1.5
	comp=Z,9.4nm,1.1s						
MAK	Makhachkala	68.65	313	eP		P	01 26 00.5 +4.9
MAK					pmax	pmax	
	comp=Z,198nm,1.5s						
MAK					MLR	MLR	
	comp=Z,491nm,16.0s						
M41A	Milan	68.88	49	P		P	01 25 57.0 -0.1
	baz=322						
MTN	Manton Dam	69.19	210	eP		P	01 25 59.7 +0.5
	comp=Z,23nm,1.0s						
O40A	La Belle	69.22	51	P		P	01 25 59.5 +0.2
	baz=322						
N41A	Harden Midland	69.25	50	P		P	01 25 59.5 +0.1
	baz=322						
Q38A	Cooks Store, C	69.28	53	P		P	01 25 59.5 -0.2
	baz=321						
P39B	Salisbury	69.29	52	P		P	01 25 60.0 +0.3
	baz=321						
AKASG	Malin Array Be	69.31	329	P		P	01 25 59.1 -0.6
	comp=Z,83nm,0.8s,baz=30,slow=6.3,SNR=97						
AKASG					LR	LR	01 59 42.9
	comp=Z,372nm,21.4s,baz=30,slow=39						
AKBB	Malin Array Si	69.31	329	eP		P	01 25 59.0 -0.6
AKBB					pmax	pmax	
	comp=Z,197nm,1.5s						
AKBB	Malin Array Si	69.31	329	eP		P	01 25 59.0 -0.6
	comp=Z,197nm,1.5s						
KIEV	Kiev	69.32	329	d iP		P	01 25 58.3 -1.4
KIEV					pmax	pmax	
	comp=Z,66nm,1.0s						
KIEV	Kiev	69.32	329	eP		P	01 25 58.9 -0.8
	comp=Z,214nm,1.6s						
AK11	Malin Array Si	69.35	329	eP		P	01 25 59.0 -0.9
O41A	Passleys Farm,	69.70	50	P		P	01 26 02.5 +0.2
	baz=322						
WMOK	Wichita Mounta	69.88	59	P		P	01 26 04.3 +0.8
	baz=320,SNR=6.9						
WMOK	Wichita Mounta	69.88	59	eP		P	01 26 04.3 +0.8
WMOK					pmax	pmax	
	comp=Z,8.0nm,0.9s						
WMOK	Wichita Mounta	69.88	59	eP		P	01 26 04.3 +0.8
	comp=Z,7.9nm,0.9s						
NCK	Nalchik	69.94	316	‖eP		P	01 26 03.6 -0.1
NCK					pmax	pmax	
	comp=Z,19nm,0.9s						
KVAR	Kislovodsk Arr	69.95	317	P		P	01 26 03.9 0.0
	comp=Z,13nm,0.7s,baz=256,slow=2.8,SNR=7.0						
KIV	Kislovodsk	69.96	317	i P		P	01 26 06.0 +2.1
	SNR=5.7						
KIV	Kislovodsk	69.96	317	i P		P	01 26 06.0 +2.1
	SNR=5.7						
KIV	Kislovodsk	69.96	317	eP		P	01 26 05.2 +1.3
KIV					pmax	pmax	
	comp=Z,23nm,1.0s						
KIV					MLR	MLR	
	comp=Z,324nm,17.0s						
KIV	Kislovodsk	69.96	317	eP		P	01 26 04.0 +0.1
	comp=Z,19nm,0.7s						
P41A	Barry, Barry	69.96	51	P		P	01 26 03.9 +0.1
	baz=322						
O42A	Bath	70.02	50	P		P	01 26 04.9 +0.7
	baz=322						
BSI	Banda Aceh	70.04	253	P		pP	01 26 25.7 +1.6
KBZ	Khabaz	70.05	316	P		P	01 26 04.5 +0.2
	comp=Z,16nm,0.8s,baz=62,slow=6.2,SNR=13						
KBZ					LR	LR	02 02 16.4
	comp=Z,332nm,18.2s,baz=32,slow=40						
R39A	Chumby, Stover	70.06	53	P		P	01 26 04.4 -0.1
	baz=322						
HDIL	Hopedale	70.10	49	P		P	01 26 04.9 +0.2
	baz=323						
S38A	Stockton	70.16	54	P		P	01 26 05.4 +0.2
	baz=321						
P42A	Winchester	70.37	50	P		P	01 26 06.5 +0.1
	baz=322						
GKP	Gorka Klasztor	70.38	337	eP		P	01 26 06.4 +0.3
GKP	Gorka Klasztor	70.38	337	eP		P	01 26 06.4 +0.3
GUDG	Gudauri	70.39	315	P		P	01 26 18.3 +12
T38A	Diamond	70.43	55	P		P	01 26 07.2 +0.4
	baz=321						
Q41A	Truxton	70.44	51	P		P	01 26 06.8 0.0
	baz=322						
R40A	Maddies Statio	70.46	53	P		P	01 26 06.7 -0.2
	baz=322						
U37A	Salina	70.50	56	P		P	01 26 07.1 -0.1
	baz=321						
V36A	Jenks	70.56	57	P		P	01 26 07.9 +0.3
	baz=321						
W35A	Tecumseh	70.56	58	P		P	01 26 08.6 +1.0
	baz=321						
ONI	Oni	70.73	315	P		P	01 26 07.3 -1.4
ONI	Oni	70.73	315	P		P	01 26 07.2 -1.4
BEL

X35A Drake 71.09 58 P P 01 26 11.4 +0.5
baz=321
CCM Cathedral Cave 71.14 52 eP P 01 26 12.1 +1.1
CCM pmax pmax
comp=Z,27nm,1.6s
CCM Cathedral Cave 71.14 52 eP P 01 26 12.1 +1.1
comp=Z,27nm,1.6s
HHAR Hobbs 71.20 55 eP P 01 26 11.6 +0.1
comp=Z,15nm,1.1s
T40A Mansfield 71.23 53 P P 01 26 11.3 -0.3
baz=322
S41A Jillco Farms, 71.27 53 P P 01 26 11.6 -0.2
baz=322
V38A Canehill 71.29 56 P P 01 26 12.3 +0.3
baz=322
TX31 Lajitas Ar. Si 71.32 66 eP P 01 26 13.5 +1.1
TXAR Lajitas Array 71.32 66 P P 01 26 12.3 -0.1
comp=Z,7.1nm,1.0s,baz=296,slow=4.0,SNR=30
U39A Green Forest 71.35 55 P P 01 26 12.0 -0.4
baz=322,SNR=7.4
ANN Anapa 71.41 321 eP P 01 26 12.7 +0.2
ANN e*PP pP 01 26 31.0 -1.0
ANN eS S 01 35 24.4 -0.2
ANN pmax pmax
comp=Z,91nm,1.6s
AKH Akhalkalaki 71.67 315 P P 01 26 15.5 +1.0
AKH Akhalkalaki 71.67 315 ⇓iP P 01 26 14.6 +0.2
AKH Akhalkalaki 71.67 315 P P 01 26 15.4 +1.0
LVV L'vov 71.68 331 eP P 01 26 16.1 +2.0
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,200nm,18.0s
U40A Yellville 71.68 54 P P 01 26 14.6 +0.2
baz=322
T41A Mountain View 71.69 53 P P 01 26 14.1 -0.3
baz=322
V39A Pettigrew 71.69 55 P P 01 26 14.6 +0.1
baz=322
EKA Eskdalemuir Ar 71.99 350 P P 01 26 16.1 +0.2
comp=E,5.9nm,0.5s,baz=18,slow=5.5,SNR=40
X38A Whitesboro 72.00 57 P P 01 26 16.8 +0.5
baz=322
ESK Eskdalemuir 72.01 350 eP P 01 26 16.5 +0.5
ESK pmax pmax
comp=Z,96nm,1.6s
ESK Eskdalemuir 72.01 350 eP P 01 26 16.5 +0.5
comp=Z,96nm,1.6s
R44A Waltonville 72.03 50 P P 01 26 16.5 +0.1
baz=323
V40A Witts Springs 72.13 55 P P 01 26 17.2 +0.1
baz=322
GNI Garni 72.14 313 P P 01 26 17.0 -0.2
comp=Z,12nm,0.7s,baz=307,slow=3.5,SNR=8.3
GNI LR LR 02 02 32.2
comp=Z,389nm,19.8s,baz=33,slow=40
GNI Garni 72.14 313 eP P 01 26 18.1 +0.9
comp=Z,27nm,0.9s
U41A Viola 72.16 54 P P 01 26 17.1 -0.1
baz=322
KWP Kalwaria Pacla 72.24 332 eP P 01 26 18.2 +0.8
KWP Kalwaria Pacla 72.24 332 eP P 01 26 18.2 +0.8
V41A Mountainview 72.48 54 P P 01 26 18.8 -0.4
baz=322
OJC Ojcow 72.52 334 eP P 01 26 19.6 +0.5
OJC Ojcow 72.52 334 eP P 01 26 19.6 +0.5
OJC pmax pmax
comp=Z,46nm,1.1s
OJC Ojcow 72.52 334 eP P 01 26 19.6 +0.5
comp=Z,46nm,1.1s
DBOC Borcka 72.52 316 iP P 01 26 18.7 -0.6
ARTV Artvin 72.54 316 iP P 01 26 19.6 -0.1
ARTV Artvin 72.54 316 eP P 01 26 19.4 -0.2
comp=Z,18nm,0.8s
PBMO Poplar Bluff 72.55 52 eP P 01 26 20.6 +1.1
comp=Z,24nm,1.3s
SIM Simferopol' 72.55 323 eP P 01 26 18.1 -1.3
SIM pmax pmax
comp=Z,31nm,1.0s
SIM MLR MLR
comp=Z,250nm,16.7s
JCT Junction City 72.59 63 P P 01 26 21.3 +1.3
baz=321
DAGI Agillar 72.63 315 iP P 01 26 20.0 -0.1
CTAO Charters Tower 72.81 193 eP P 01 26 22.3 +1.3
CTAO pmax pmax
comp=Z,14nm,1.1s
CTAO Charters Tower 72.81 193 eP P 01 26 22.3 +1.3
comp=Z,14nm,1.1s
KSP Ksiaz 72.84 337 eP P 01 26 21.2 +0.2
KSP Ksiaz 72.84 337 eP P 01 26 21.2 +0.2
STHS Stebnicka Huta 72.85 333 eP P 01 26 22.3 +1.2
STHS pmax pmax
comp=Z,33nm,1.3s
STHS Stebnicka Huta 72.85 333 eP P 01 26 22.3 +1.2
DDEM Demirkent 72.86 315 iP P 01 26 21.8 +0.4
NIE Niedzica 73.11 334 eP P 01 26 23.6 +1.0
NIE Niedzica 73.11 334 eP P 01 26 23.6 +1.0
CLL Collm 73.18 339⇑iP P 01 26 23.1 +0.1
CLL pmax pmax
comp=Z,57nm,1.2s
CLL Collm 73.18 339⇑iP P 01 26 23.1 +0.1
comp=Z,57nm,1.2s
CLL Collm 73.18 339 eP P 01 26 22.6 -0.4
comp=Z,49nm,1.1s
PRAR RASCA 73.19 329⇑iP P 01 26 23.5 +0.4
UPC Upice 73.22 337⇑eP P 01 26 23.9 +0.6
UPC Upice 73.22 337 eP P 01 26 23.9 +0.6
CRVS Cervenica-Dubn 73.25 333 eP P 01 26 23.8 +0.3
CRVS Cervenica-Dubn 73.25 333 eP P 01 26 23.8 +0.3
UZH Uzhgorod 73.26 332 ⇓iP P 01 26 24.2 +0.7
UZH e 01 26 32.9
MDSI Maura Dua 73.26 239 P P 01 26 25.1 +1.2
BUR08 Bucovina Ar. S 73.27 330 eP P 01 26 23.9 +0.2
BUR08 ePP PP 01 29 09.1 +2.1
BURAR Bucovina Array 73.29 330⇑iP P 01 26 23.8 0.0
DPC Dobruska-Polom 73.29 336 eP P 01 26 24.6 +0.9
DPC esP sP 01 26 53.9 +2.4
DPC Dobruska-Polom 73.29 336 eP P 01 26 24.6 +0.9
DPC e 01 26 53.9
OKC Ostrava-Krasne 73.30 335⇑eP P 01 26 24.5 +0.8
OKC AMS AMS 02 02 50.0
comp=Z,500nm,16.3s
OKC Ostrava-Krasne 73.30 335 eP P 01 26 24.5 +0.8
OKC MLR MLR
comp=Z,500nm,16.3s
LEOM Leova 73.31 327⇓iP P 01 26 24.1 +0.3
BRG Berggiesshubel 73.37 338 eP P 01 26 24.3 +0.2
comp=Z,26nm,1.2s
BRG e 01 26 49.8
comp=Z,8.9nm,1.2s
comp=N,499nm,20.5s
comp=E,325nm,24.3s
comp=Z,669nm,24.1s
BRG Berggiesshubel 73.37 338 eP P 01 26 24.3 +0.2
BRG e 01 26 49.8
BRG pmax pmax
comp=Z,26nm,1.2s
BRG MLR MLR
comp=N,499nm,20.5s
BRG MLR MLR
comp=E,325nm,24.3s
BRG MLR MLR
comp=Z,669nm,24.1s
EATA Eleskirt 73.38 314 iP P 01 26 25.9 +1.2
KRLC Kraliky 73.43 336⇑eP P 01 26 25.2 +0.7
KRLC Kraliky 73.43 336 eP P 01 26 25.2 +0.7
HOMI Horasan 73.48 315 iP P 01 26 26.1 +0.8
MORC Moravsky Berou 73.51 335⇓iP P 01 26 26.2 +1.2
MORC Moravsky Berou 73.51 335 eP P 01 26 25.1 +0.1
MORC pmax pmax
comp=Z,274nm,1.4s
MORC Moravsky Berou 73.51 335 eP P 01 26 25.1 +0.1
comp=Z,274nm,1.4s
PVCC Panska Ves 73.55 338 ⇑AMS AMS 02 01 30.0
comp=Z,500nm,20.8s
LANS Liptovska Anna 73.58 334 eP P 01 26 26.9 +1.5
LANS Liptovska Anna 73.58 334 eP P 01 26 26.9 +1.5
TUTA Tutak 73.61 314 iP P 01 26 26.9 +0.9
TRPA Tarpi 73.64 332⇑eP P 01 26 26.4 +0.7
BMR Baia Mare 73.76 331 ⇓iP P 01 26 27.3 +0.8
TESR Tescani 73.81 328⇑iP P 01 26 26.7 -0.1
WTSB Winterswijk 73.81 343 eP P 01 26 27.1 +0.5
comp=Z,132nm,1.7s
KECS Kecovo 73.91 333 eP P 01 26 28.2 +0.9
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 73.91 333 eP P 01 26 28.2 +0.9
PRA Prague 74.01 337⇑eP P 01 26 28.7 +0.9
PRA Prague 74.01 337 eP P 01 26 28.7 +0.9
ARCR ARCALIA 74.03 330⇓iP P 01 26 29.1 +1.1
PRU Pruhonice 74.06 337⇑eP P 01 26 28.7 +0.6
PRU Pruhonice 74.06 337 eP P 01 26 28.7 +0.6
EKAR Karacoban 74.06 314 iP P 01 26 30.3 +1.7
GOPC GO Pecny, Ondr 74.07 337 eP P 01 26 29.0 +0.8
GOPC ex x 01 27 05.3
GOPC GO Pecny, Ondr 74.07 337 eP P 01 26 29.0 +0.8
KOPT Kop Dagi 74.12 316 iP P 01 26 29.9 +0.9
KOPT Kop Dagi 74.12 316 eP P 01 26 30.1 +1.0
comp=Z,67nm,1.0s
VRAC Vranov 74.19 336 P P 01 26 29.3 +0.4
comp=Z,23nm,0.8s,baz=30,slow=6.7,SNR=21
TLCR 74.25 326⇓iP P 01 26 29.5 +0.2
CGJI Cibinong 74.27 236 P pP 01 26 53.7 +4.3
NKC Novy Kostel 74.31 339⇑eP P 01 26 30.3 +0.6
NKC Novy Kostel 74.31 339 eP P 01 26 30.3 +0.6
PETR Petresti 74.31 327⇓iP P 01 26 31.2 +1.5
CWF Charnwood Fore 74.32 348 eP P 01 26 29.6 +0.1
comp=Z,82nm,1.6s
ODBI Odobesti 74.33 328⇓iP P 01 26 30.3 +0.5
VYHS Vyhne 74.35 334 eP P 01 26 30.7 +0.8
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 74.35 334 eP P 01 26 30.7 +0.8
VRI Vrincioaia 74.35 328⇑iP P 01 26 31.3 +1.3
PLOR Plostina 74.39 328⇑iP P 01 26 30.3 +0.1
TREC Trest 74.47 337⇑eP P 01 26 31.4 +0.8
TREC Trest 74.47 337 eP P 01 26 31.4 +0.8
CFR Carcaliu 74.49 327⇑iP P 01 26 30.6 -0.1
PSZ Piszkesteto 74.58 333⇓iP P 01 26 32.7 +1.4
PSZ Piszkesteto 74.58 333 eP P 01 26 32.3 +1.0
PSZ pmax pmax
comp=Z,34nm,1.2s
PSZ Piszkesteto 74.58 333⇑eP P 01 26 32.4 +1.0
PSZ Piszkesteto 74.58 333⇑eP P 01 26 32.4 +1.0
PSZ Piszkesteto 74.58 333 eP P 01 26 32.3 +1.0
comp=Z,34nm,1.2s
CJR Cluj-Napoca 74.59 330⇑iP P 01 26 32.3 +0.9
DOPR Dopca 74.70 329⇑iP P 01 26 33.4 +1.4
SMOL Smolenice 74.70 335 eP P 01 26 33.5 +1.6
SMOL Smolenice 74.70 335 eP P 01 26 33.5 +1.6
DRGR 74.79 331⇑iP P 01 26 32.7 +0.2
MLR Muntele Rosu 74.94 328⇑iP P 01 26 34.3 +0.8
MLR Muntele Rosu 74.94 328 eP P 01 26 33.7 +0.2
MLR pmax pmax
comp=Z,133nm,1.8s
MLR Muntele Rosu 74.94 328 eP P 01 26 33.7 +0.2
comp=Z,133nm,1.8s
TIRR Tirgusor 75.02 326⇑iP P 01 26 33.9 +0.1
TIRR Tirgusor 75.02 326 eP P 01 26 33.3 -0.5
TIRR pmax pmax
comp=Z,58nm,1.0s
TIRR Tirgusor 75.02 326 eP P 01 26 33.3 -0.5
comp=Z,58nm,1.0s
WRAB Tennant Creek 75.03 205⇑eP P 01 26 34.6 +0.6
WRAB pmax pmax
comp=Z,31nm,1.7s
WB2 Warramunga Arr 75.04 205 eP P 01 26 34.0 -0.1
comp=Z,20nm,0.9s
WRA Warramunga Arr 75.04 205 P P 01 26 34.0 0.0
comp=Z,5.2nm,0.8s,baz=18,slow=6.1,SNR=22
WRA pP pP 01 26 55.1 +1.3
comp=Z,20nm,1.1s,baz=19,slow=6.2,SNR=14
SSPA Standing Stone 75.04 42 eP P 01 26 34.1 +0.1
comp=Z,33nm,1.5s
WC3 Warramunga Arr 75.05 205 eP P 01 26 34.9 +0.8
comp=Z,19nm,1.0s
ISR Istrita 75.07 328⇑iP P 01 26 34.6 +0.4
KHC Kasperske Hory 75.08 338⇑iP P 01 26 35.1 +0.9
KHC ex x 01 26 44.3
KHC AMS AMS 01 59 20.0
KHC Kasperske Hory 75.08 338⇑iP P 01 26 35.1 +0.9
KHC e 01 26 44.3
KHC Kasperske Hory 75.08 338 eP P 01 26 35.4 +1.2
comp=Z,24nm,1.2s
GRFO Grafenberg 75.09 339 eP P 01 26 34.4 +0.2
GRFO pmax pmax
comp=Z,45nm,1.0s
GRFO Grafenberg 75.09 339 eP P 01 26 34.4 +0.2
comp=Z,46nm,1.0s
HGN Heimansgroeve 75.12 343 eP P 01 26 34.8 +0.6
comp=Z,75nm,1.2s
BEBN Eben Emael 75.14 343 P P 01 26 36.4 +2.1
comp=Z,18nm,1.5s
BUD Budapest 75.22 334⇑eSKKPdf P 01 26 35.9 +1.0
BUD Budapest 75.22 334⇑eSKKPdf P 01 26 35.9 +1.0
MEM Membach 75.26 343 P P 01 26 35.7 +0.6
comp=Z,43nm,1.3s
AMRR Amara 75.26 327⇓iP P 01 26 36.4 +1.3
VOIR 75.28 329⇑iP P 01 26 36.1 +0.7
GEC2 GERESS Array S 75.32 337 eP P 01 26 35.7 +0.1
GEC2 pmax pmax
comp=Z,20nm,1.0s
GEC2 GERESS Array S 75.32 337 eP P 01 26 35.7 +0.1
comp=Z,20nm,1.0s
GERES GERESS Array B 75.32 337 P P 01 26 36.0 +0.4
comp=Z,8.0nm,0.8s,baz=33,slow=4.6,SNR=24
GERES LR LR 02 03 02.6
comp=Z,216nm,21.9s,baz=20,slow=38
GEA0 GERESS Array S 75.33 337 eP P 01 26 36.0 +0.3
GEA0 ePP PP 01 29 24.1 -0.3
ARR Arges 75.47 329⇑iP P 01 26 37.6 +1.1
CSKK Cs ‡kako 75.54 334⇑eSKKPdf P 01 26 37.9 +1.2
CSKK Cs‡kako 75.54 334⇑ex P 01 26 37.9 +1.2
SULR 75.56 328⇓iP P 01 26 37.8 +0.9
BCLA Clavier 75.56 343 P P 01 26 37.4 +0.6
comp=Z,16nm,1.2s
SIRR Siria 75.58 331⇑iP P 01 26 37.8 +0.8
CONA Conrad Observa 75.65 336 eP P 01 26 38.7 +1.2
comp=Z,39nm,1.2s,SNR=12
SNF Seneffe 75.66 344 P P 01 26 38.0 +0.7
SOP Sopron 75.70 335⇓eSKKPdf P 01 26 33.7 -3.9
DOU Dourbes 76.00 344 P P 01 26 39.9 +0.6
ILGA Ilgaz 76.03 321 eP P 01 26 40.8 +0.8
comp=Z,256nm,1.4s
MOA Molln 76.12 337 eP P 01 26 41.1 +1.1
comp=Z,24nm,1.4s
WLF Walferdange 76.14 343 P P 01 26 41.1 +1.0
comp=Z,27nm,2.3s
BZS Buzias 76.18 331⇑iP P 01 26 40.5 +0.1
MARD Mardin 76.23 314 eP P 01 26 42.0 +0.9
comp=Z,106nm,0.6s
ARSA Arzberg 76.36 336 eP P 01 26 42.6 +1.2
comp=Z,31nm,1.5s,SNR=6.1
BEHE Becsehely 76.76 335⇑ex P 01 26 45.6 +1.9
BEHE Becsehely 76.76 335⇑eSKKPdf P 01 26 45.6 +1.9
DYA Yadsworthy 76.90 349 eP P 01 26 44.7 +0.3
comp=Z,46nm,1.0s
MDVR Moldovita 76.90 331⇓iP P 01 26 44.7 +0.1
BFO Black Forest 76.99 341 iP P 01 26 46.0 +1.0
BFO Black Forest 76.99 341 eP P 01 26 45.4 +0.5
comp=Z,32nm,1.2s
KBA Koelnbreinsper 77.06 337 eP P 01 26 47.1 +1.5
comp=Z,120nm,0.8s,SNR=17
BR131 Keskin Array S 77.20 320 eP P 01 26 46.5 0.0
BRTR Keskin Array B 77.20 320 P P 01 26 46.5 0.0
comp=Z,42nm,1.1s,baz=55,slow=2.3,SNR=47
BRTR pP pP 01 27 07.3 +1.1
comp=Z,2.8nm,0.7s,baz=33,slow=3.7,SNR=1.8
BRTR LR LR 02 07 43.4
comp=Z,111nm,18.2s,baz=16,slow=41
WATA Walderalm 77.23 338 eP P 01 26 48.3 +1.8
comp=Z,31nm,1.0s
RETA Reutte 77.27 339 eP P 01 26 47.5 +0.9
comp=Z,25nm,1.1s
SFNV Sufian 77.27 314 eP P 01 26 39.6 -7.2
WTTA Wattenberg 77.29 338 eP P 01 26 48.2 +1.3
comp=Z,32nm,1.1s
OBKA Obir 77.30 336 eP P 01 26 48.6 +1.8
comp=Z,32nm,1.1s
MOTA Moosalm 77.33 339 eP P 01 26 48.3 +1.2
comp=Z,26nm,0.9s,SNR=7.8
ECH Echery 77.33 342⇑eP P 01 26 47.7 +0.8
ANTO Ankara 77.40 321 eP P 01 26 47.6 +0.1
ANTO pmax pmax
comp=Z,132nm,1.4s
ANTO Ankara 77.40 321 eP P 01 26 47.6 +0.1
comp=Z,132nm,1.4s
MYKA Terra Mystica 77.41 337 eP P 01 26 48.9 +1.5
comp=Z,24nm,1.1s
BR231 Keskin MP Arra 77.43 321 eP P 01 26 46.7 -1.0
PALK Pallekele 77.47 266 eP P 01 26 48.9 +0.7
PALK pmax pmax
comp=Z,25nm,0.9s
PALK Pallekele 77.47 266 eP P 01 26 48.9 +0.7
comp=Z,25nm,0.9s
THEF They Montfort 77.55 342 eP P 01 26 48.7 +0.6
ABTA Abfaltersbach 77.57 337 eP P 01 26 49.3 +1.0
comp=Z,56nm,1.4s,SNR=8.6
BANOM Banah 77.62 296 iP P 01 26 48.5 -0.3
SNR=24
BANOM Banah 77.62 296 iP P 01 26 48.5 -0.3
SNR=24
BANOM Banah 77.62 296 P P 01 26 48.5 -0.3
SNR=9.7
BANOM Banah 77.62 296 P P 01 26 48.5 -0.3
SNR=9.7
LEGS Legarje 77.62 335 iP P 01 26 49.0 +0.4
DAVA Damuels 77.66 339 eP P 01 26 49.4 +0.5
comp=Z,20nm,1.2s
MOF Molkenrain 77.69 341⇑eP P 01 26 49.4 +0.4
CRES Cresnjev 77.70 335 iP P 01 26 49.4 +0.4
FETA Feichten 77.72 339 eP P 01 26 50.5 +1.2
comp=Z,35nm,1.2s,SNR=6.4
FUORN Ofenpass-Fuorn 78.20 339 eP P 01 26 52.7 +0.7
comp=Z,85nm,1.8s
LOMF Lomont 78.23 341⇑eP P 01 26 52.6 +0.6
KSRV Kasrt alli 78.23 314 eP P 01 26 51.0 -1.1
WSAR Wadi Sarin 78.41 293 LR LR 02 04 18.5
comp=Z,161nm,20.6s,slow=38
VTS Vitosha 78.42 329⇑iP P 01 26 53.1 -0.1
UOSS Minazif 78.44 296 eP P 01 26 52.2 -1.2
comp=Z,212nm,1.3s
BIDO Bidbid 78.48 293 P P 01 26 54.0 +0.4
SNR=10
BIDO Bidbid 78.48 293 P P 01 26 54.0 +0.4
SNR=10
HATD Hatta, Dubai 78.57 296 iP P 01 26 53.8 -0.3
SNR=28
HATD Hatta, Dubai 78.57 296 iP P 01 26 53.8 -0.3
SNR=28
HATD Hatta, Dubai 78.57 296 P P 01 26 54.0 -0.1
SNR=16
HATD Hatta, Dubai 78.57 296 P P 01 26 54.0 -0.1
SNR=16
DRWC Darouich 78.60 316 eP P 01 26 50.7 -3.5
AS01 Alice Springs 78.70 204 eP P 01 26 55.0 +0.4
NAZ Nazwa, Dubai 78.70 296 iP P 01 26 54.3 -0.5
SNR=17
NAZ Nazwa, Dubai 78.70 296 iP P 01 26 54.3 -0.5
SNR=17
NAZ Nazwa, Dubai 78.70 296 P P 01 26 54.3 -0.5
SNR=10.0
NAZ Nazwa, Dubai 78.70 296 P P 01 26 54.3 -0.5
SNR=10.0
ASAR Alice Springs 78.72 204 P P 01 26 55.3 +0.6
comp=Z,2.9nm,0.6s,baz=15,slow=5.3,SNR=33
ASAR pP pP 01 27 16.9 +2.3
comp=Z,4.8nm,0.8s,baz=13,slow=5.6,SNR=9.7
ASAR LR LR 02 00 34.9
comp=Z,54nm,21.2s,baz=14,slow=35
ASHO Ashiyiah 78.72 296 iP P 01 26 54.4 -0.5
SNR=35
ASHO Ashiyiah 78.72 296 iP P 01 26 54.4 -0.5
SNR=35
ASHO Ashiyiah 78.72 296 P P 01 26 54.5 -0.5
SNR=15
ASHO Ashiyiah 78.72 296 P P 01 26 54.5 -0.5
SNR=15
FAQ Al Faqa, Dubai 78.94 296 iP P 01 26 55.3 -0.8
SNR=19
FAQ Al Faqa, Dubai 78.94 296 iP P 01 26 55.3 -0.8
SNR=19
FAQ Al Faqa, Dubai 78.94 296 P P 01 26 55.3 -0.8
SNR=12
FAQ Al Faqa, Dubai 78.94 296 P P 01 26 55.3 -0.8
SNR=12
BOLV Bolvadin 79.11 322 eP P 01 26 56.8 -0.3
comp=Z,106nm,1.2s
BTCH Batrach 79.18 316 eP P 01 26 53.6 -3.7
TAOE Nuku Hiva Isla 79.51 119 eLR LR 01 51 20.2
comp=Z,330nm,32.5s
SKO Skopje 79.53 330 iP P 01 26 58.5 -0.6
ARNB Al Arnab 79.54 317 eP P 01 26 55.2 -4.1
VAY Valandovo 79.77 329 iP P 01 27 00.7 +0.4
KRUS Krusevo 80.14 329 iP P 01 27 02.5 0.0
OHR Ohrid 80.52 330 iP P 01 27 04.0 -0.5
SSB Saint Sauveur 80.66 342 eP P 01 27 06.2 +1.1
SSB pmax pmax
comp=Z,29nm,1.1s
SSB Saint Sauveur 80.66 342 eP P 01 27 06.2 +1.1
comp=Z,29nm,1.1s
PMOR Pomariorio Ree 80.77 129 eT T 02 56 37.1
comp=Z,4.1nm,0.2s
CSS Mathiatis 81.42 318 eP P 01 27 09.1 -0.2
comp=Z,26nm,1.5s
PPT Papeete 82.21 132 LR LR 01 56 10.9
comp=Z,101nm,21.6s,baz=340,slow=30
MMAI Mount Meron Ar 82.21 315 P P 01 27 14.1 +0.5
comp=Z,13nm,0.5s,baz=51,slow=6.6,SNR=46
MMAI pP pP 01 27 35.0 +1.5
comp=Z,3.8nm,0.6s,baz=26,slow=6.5,SNR=2.6
MMAI LR LR 02 08 24.6
comp=Z,115nm,21.9s,baz=80,slow=39
PPT2 Papeete2 82.22 132 eLR LR 01 53 01.6
comp=Z,788nm,26.0s
ASF Jabal al Asfar 82.28 314 P P 01 27 14.4 +0.4
comp=Z,34nm,1.2s,baz=329,slow=0.5,SNR=20
APE Apeiranthos 82.58 325⇑eP P 01 27 14.7 -0.7
APE pmax pmax
comp=Z,41nm,1.3s
VIEF Viey 83.76 345 eP P 01 27 23.1 +1.6
RESF Ens 83.78 345 eP P 01 27 23.7 +2.1
IDI Anoyia 84.40 324 P P 01 27 22.9 -1.9
comp=Z,7.4nm,0.5s,baz=34,slow=15,SNR=8.9
STKA Stephens Creek 85.09 195 P P 01 27 28.6 +0.7
comp=Z,2.2nm,0.8s,baz=261,slow=5.0,SNR=3.9
STKA LR LR 01 59 12.7
comp=Z,74nm,22.0s,baz=20,slow=31
EIL Elat 85.28 314 P P 01 27 29.3 +0.1
comp=Z,15nm,0.8s,baz=19,slow=2.2,SNR=7.2
RAYN Ar Rayn 85.34 303 eP P 01 27 29.2 -0.4
comp=Z,22nm,0.9s
RAYN ePP PP 01 30 44.1 -3.8
PGAV Gavieira, Arco 85.73 351 eP P 01 27 32.7 +1.3
PBRG Braganca 85.73 350 eP P 01 27 31.6 +0.3
POLO Lamas de Olo 86.27 351 eP P 01 27 35.5 +1.4
MVO Moncorvo 86.40 350 eP P 01 27 36.2 +1.6
PVIS Viseu 86.93 351 eP P 01 27 38.6 +1.4
MTE Manteigas 87.21 350 eP P 01 27 40.2 +1.6
TBI Tubuai 87.30 134 eLR LR 01 54 50.6
comp=Z,402nm,35.5s
TBI Tubuai 87.30 134 eT T 03 04 51.6
comp=Z,4.6nm,0.2s
ES19 SONSECA Array 87.46 347 eP P 01 27 39.7 -0.1
ESDC Sonseca Array 87.49 347 P P 01 27 39.9 -0.1
comp=Z,5.9nm,0.9s,baz=7.4,slow=4.1,SNR=15
ESDC pP pP 01 28 01.6 +1.5
comp=Z,1.7nm,0.6s,baz=6.3,slow=4.9,SNR=2.7
ESDC PP PP 01 31 03.7 -0.8
comp=Z,0.4nm,0.7s,baz=4.3,slow=9.6,SNR=4.4
ESDC LR LR 02 13 57.9
comp=Z,82nm,18.0s,baz=35,slow=40
ESLA Sonseca Array 87.49 347 eP P 01 27 40.5 +0.5
comp=Z,14nm,1.1s
PCAS Casmilo, Conde 87.65 351 eP P 01 27 40.6 0.0
PCBR Castelo Branco 87.75 350 eP P 01 27 43.7 +2.6
KEST Kesra 88.75 336 P P 01 27 45.9 -0.1
comp=Z,16nm,1.1s,baz=332,slow=7.3,SNR=5.2
KEST LR LR 02 12 06.6
comp=Z,210nm,19.2s,baz=298,slow=39
KEST Kesra 88.75 336 eP P 01 27 46.6 +0.6
comp=Z,63nm,1.5s
MDT Midelt 94.33 347 P P 01 28 11.4 -0.5
comp=Z,2.7nm,1.1s,baz=41,slow=3.1,SNR=2.5
MDT PP PP 01 31 58.1 -0.7
comp=Z,1.6nm,0.9s,baz=34,slow=7.0,SNR=3.6
DBIC Dimbokro 119.97 342 PKP PKPdf 01 33 43.1 +0.3
comp=Z,2.5nm,0.7s,baz=81,slow=4.8,SNR=3.4
PLCA Paso Flores 144.30 92 PKP PKPab 01 34 26.1 +0.5
comp=Z,6.1nm,1.0s,baz=290,slow=2.9,SNR=7.0
PLCA pPKP pPKPdf 01 34 50.5 +1.9
comp=Z,5.3nm,0.9s,baz=317,slow=5.6,SNR=4.3
SYO Syowa Base 147.70 216⇑ePKPdf PKPbc 01 34 34.2 -0.9

SYO	Syowa Base	147.70	216	⇑	ePKPbc	PKPab	01 34 39.0	+1.3
TRQA	Tornquist	147.94	81	e	PKPdf	PKPbc	01 34 36.1	-0.7

*ISK **10** 01:20:35.8, 39.°08N×29.°10E, h15km, MD2.0*
*DDA **10** 01:20:36.9, 39.°16N×29.°05E, h7km, Md2.4*
CSEM 10 01:20:36.7±0.4, 39.°14N×29.°04E, h10km, MD2.0, Error ellipse: s-maj=10.2km s-min=6.2km az=144.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.07	220	ePG	Pg	01 20 39.5	+0.4
SIMA				eSG	Sg	01 20 41.5	+0.7
SIMA	Simav-Kutahya	0.07	220	ePg	Pg	01 20 39.5	+0.4
SIMA				eSg	Sg	01 20 41.5	+0.7
DEMI	Demirci	0.27	249	i P	Pb	01 20 43.2	-0.5
DEMI				i S	Sg	01 20 47.1	+1.1
DEMI	Demirci	0.27	249	P	Pb	01 20 43.2	-0.6
DEMI				S	Sg	01 20 47.1	+1.1
GEDZ	Gediz	0.30	109	ePG	Pg	01 20 41.5	-1.3
GEDZ	Gediz	0.30	109	ePg	Pg	01 20 41.5	-1.3
GDZ	Gediz	0.34	99	i P	Pg	01 20 44.2	+0.6
GDZ				i S	Sg	01 20 48.9	+0.7
GDZ	Gediz	0.34	99	P	Pg	01 20 44.2	+0.6
GDZ				S	Sg	01 20 48.9	+0.7
TVSB	Tavsanli	0.45	46	ePG	Pg	01 20 45.4	-0.1
TVSB				eSG	Sb	01 20 52.5	-1.1
TVSB	Tavsanli	0.45	46	ePg	Pg	01 20 45.4	-0.1
TVSB				eSg	Sb	01 20 52.5	-1.0
KULA	Kula-Manisa	0.69	206	ePG	Pg	01 20 49.0	-1.1
KULA				eSG	Sg	01 20 58.8	-0.4
KULA	Kula-Manisa	0.69	206	ePg	Pg	01 20 49.0	-1.1
KULA				eSg	Sg	01 20 58.8	-0.4
KHAL	Karahalli	0.85	155	i P	Pn	01 20 55.0	+0.2
KHAL				i S	Sg	01 21 04.1	+0.1
KHAL	Karahalli	0.85	155	P	Pn	01 20 55.0	+0.2
KHAL				S	Sg	01 21 04.1	+0.1

*IDC **10** 01:20:55.4±0.5, 37.°19N×22.°12E, h0km, mb4.2/19, mb1 4.3/30, mb1mx4.2/52, mbtmp4.2/30, ML3.4/11, MS3.4/16, Ms1 3.4/16, ms1mx3.3/46, Error ellipse: s-maj=12.6km s-min=10.6km az=5.0*
*NEIC **10** 01:20:56.9±0.0, 37.°21N×22.°05E, h10km, mb4.5/5, ML3.9(ATH), ML4.2(THE), After ATH.*
*CSEM **10** 01:20:56.4±0.1, 37.°18N×21.°99E, h2km, mb4.8/8, Error ellipse: s-maj=3.1km s-min=2.4km az=47.0*
*ATH **10** 01:20:56.9, 37.°21N×22.°05E, h10km±1km, ML3.9/10, Error ellipse: s-maj=1.6km s-min=0.7km az=289.0*
*ISCJB **10** 01:20:56.6±0.4, 37.°17N±0.°02×21.°98E±0.°02, h11km±2km, mb4.4/26, MS3.3/6, Error ellipse: s-maj=2.8km s-min=2.3km az=137.4*
*THE **10** 01:20:57.0, 37.°22N×22.°04E, h0km, ML4.2/19, Error ellipse: s-maj=0.9km s-min=0.3km az=228.0*
ISC 10 01:20:56.5±0.7, 37.°19N±0.°02×22.°05E±0.°01, h6km±4km, n409, σ1$47/470, mb4.4/26, MS3.4/6, 14C-14D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.10	266	P	Pg	01 20 58.9	+0.2
ITM				S	Sg	01 21 01.4	+1.1
ITM	Ithomi	0.10	266	P	Pg	01 20 58.4	-0.3
ITM				S	Sg	01 21 00.8	+0.6
ITM				AML	AML	01 21 01.6	
ITM				AML	AML	01 21 03.4	
ITM	Ithomi	0.10	266	P	Pg	01 20 58.4	-0.3
ITM				S	Sg	01 21 00.8	+0.6
ITM	Ithomi	0.10	266	P	Pg	01 20 58.9	+0.2
VLX	Vlachokerasia	0.32	55	P	Pg	01 21 03.1	+0.3
VLX				S	Sg	01 21 07.8	+0.8
VLX	Vlachokerasia	0.32	55	P	Pg	01 21 03.7	+0.9
VLX				S	Sg	01 21 08.3	+1.3
VLX	Vlachokerasia	0.32	55	P	Pg	01 21 03.1	+0.3
VLX				S	Sg	01 21 07.8	+0.8
VLX	Vlachokerasia	0.32	55	P	Pg	01 21 03.1	+0.3
TRIP	Tripoli	0.38	27	P	Pg	01 21 04.7	+0.7
TRIP				S	Sg	01 21 09.9	+0.9
TRIP				AML	AML	01 21 10.7	
	comp=E,38278μm,1.0s						
TRIP				AML	AML	01 21 14.7	
	comp=N,60741μm,1.5s						
TRIP	Tripoli	0.38	27	P	Pg	01 21 04.7	+0.7
TRIP				S	Sg	01 21 09.9	+0.9
PYL	PYLOS	0.38	221	P	Pg	01 21 03.8	-0.2
PYL	PYLOS	0.38	221	P	Pg	01 21 03.8	-0.2
AMT	Artemida-Makis	0.44	322	P	Pb	01 21 06.2	-0.6
AMT	Artemida-Makis	0.44	322	P	Pg	01 21 05.0	-0.1
GUR	Goura	0.78	17	P	Pg	01 21 11.1	-0.5
GUR				S	Sg	01 21 22.4	+0.7
GUR	Goura	0.78	17	P	Pg	01 21 11.3	-0.3
GUR				AML	AML	01 21 26.2	
	comp=N,16121μm,0.5s						
GUR				AML	AML	01 21 32.5	
	comp=E,17815μm,0.6s						
GUR	Goura	0.78	17	P	Pg	01 21 11.3	-0.3
GUR				S	Sg	01 21 22.4	+0.7
GUR	Goura	0.78	17	P	Pg	01 21 11.1	-0.5
GUR				S	Sg	01 21 22.4	+0.7
DRO	Drossia	0.81	340	P	Pg	01 21 12.1	-0.1
DRO				S	Sg	01 21 23.0	+0.4
DRO	Drossia	0.81	340	P	Pg	01 21 12.6	+0.5
DRO	Drossia	0.81	340	P	Pg	01 21 12.0	-0.1
DRO				S	Sg	01 21 23.0	+0.4
VLI	Veliai	0.85	123	P	Pg	01 21 13.2	+0.4
VLI				S	Sb	01 21 26.2	+0.9
VLI	Veliai	0.85	123	P	Pg	01 21 13.4	+0.6
VLI				S	Sn	01 21 27.5	-0.3
VLI	Veliai	0.85	123	P	Pg	01 21 13.4	+0.6
VLI				S	Sb	01 21 26.2	+0.9
VLI	Veliai	0.85	123	P	Pg	01 21 13.2	+0.4
VLI				S	Sb	01 21 26.2	+0.9
KLV	Kalavryta, Ach	0.86	5	P	Pg	01 21 12.4	-0.6
KLV				S	Sb	01 21 25.1	-0.6
KLV	Kalavryta, Ach	0.86	5	P	Pg	01 21 12.4	-0.6
KLV				S	Sg	01 21 23.4	-0.8
KLV				AML	AML	01 21 30.7	
	comp=E,10473μm,0.8s						
KLV				AML	AML	01 21 35.0	
	comp=N,8379μm,0.7s						
KLV	Kalavryta, Ach	0.86	5	P	Pg	01 21 12.6	-0.4
KLV				S	Sb	01 21 25.1	-0.6
KLV	Kalavryta, Ach	0.86	5	P	Pg	01 21 12.4	-0.6
KLV				S	Sb	01 21 25.1	-0.6
KRND	KRANIDI	0.90	77	P	Pg	01 21 14.1	+0.4
KRND	KRANIDI	0.90	77	P	Pg	01 21 14.3	+0.6
KRND				S	Sg	01 21 24.7	-0.7
KRND	KRANIDI	0.90	77	P	Pg	01 21 14.3	+0.6
KRND				S	Sg	01 21 24.7	-0.7
THAL	Thalero	0.98	30	P	Pg	01 21 15.3	0.0
THAL				S	Sb	01 21 29.5	+0.5
THAL	Thalero	0.98	30	P	Pg	01 21 15.5	+0.2
THAL	Thalero	0.98	30	P	Pg	01 21 15.5	+0.2
THAL				S	Sb	01 21 29.5	+0.5
RLS	Riolos of Patr	0.99	332	P	Pg	01 21 15.1	-0.4
RLS				S	Sg	01 21 28.6	+0.3
RLS	Riolos of Patr	0.99	332	P	Pg	01 21 15.4	-0.1
RLS				S	Sb	01 21 29.1	-0.2
RLS	Riolos of Patr	0.99	332	P	Pg	01 21 15.0	-0.4
RLS				S	Sg	01 21 28.6	+0.3
RLS	Riolos of Patr	0.99	332	P	Pg	01 21 15.1	-0.4
RLS				S	Sg	01 21 28.6	+0.3
DID	Didima	0.99	71	P	Pg	01 21 15.4	-0.2
DID	Didima	0.99	71	P	Pg	01 21 15.8	+0.2
DID	Didima	0.99	71	P	Pg	01 21 15.4	-0.2
VTN	Vitineika	1.00	317	P	Pn	01 21 18.1	+0.9
LAKA	Lakka	1.05	357	P	Pg	01 21 16.0	-0.7
LAKA				S	Sb	01 21 31.1	-0.2
LAKA	Lakka	1.05	357	P	Pg	01 21 15.8	-0.9
LAKA				S	Sg	01 21 29.2	-1.2
LAKA				AML	AML	01 21 41.1	
	comp=N,9356μm,1.3s						
LAKA				AML	AML	01 21 53.5	
	comp=E,8766μm,1.0s						
LAKA	Lakka	1.05	357	P	Pg	01 21 16.0	-0.7
LAKA				S	Sb	01 21 31.1	-0.2
LAKA	Lakka	1.05	357	P	Pg	01 21 16.0	-0.7
LAKA				S	Sb	01 21 31.1	-0.2
LOUT	Loutraki	1.08	42	P	Pg	01 21 16.9	-0.4
LOUT				S	Sb	01 21 32.5	+0.4
LOUT	Loutraki	1.08	42	P	Pb	01 21 17.7	0.0
LOUT	Loutraki	1.08	42	P	Pb	01 21 17.7	0.0
LOUT				S	Sb	01 21 32.5	+0.4
LTK	Loutraki	1.11	41	P	Pg	01 21 17.2	-0.5
LTK				S	Sb	01 21 33.1	+0.3
LTK	Loutraki	1.11	41	P	Pg	01 21 17.7	0.0
LTK	Loutraki	1.11	41	P	Pg	01 21 17.7	0.0
LTK				S	Sb	01 21 33.1	+0.3
LTK	Loutraki	1.11	41	P	Pg	01 21 17.2	-0.5
LTK				S	Sb	01 21 33.1	+0.3
UPR	University Cam	1.11	349	P	Pg	01 21 17.5	-0.4
UPR	University Cam	1.11	349	P	Pb	01 21 18.3	+0.1
UPR	University Cam	1.11	349	P	Pg	01 21 17.5	-0.4
AXS	Araxos	1.14	332	P	Pg	01 21 17.8	-0.6
AXS				S	Sb	01 21 33.7	-0.1
AXS	Araxos	1.14	332	P	Pg	01 21 17.9	-0.5
AXS	Araxos	1.14	332	P	Pg	01 21 17.9	-0.5
AXS				S	Sb	01 21 33.7	-0.1
TRIZ	Trizonia	1.18	1	P	Pg	01 21 17.9	-1.2
TRIZ	Trizonia	1.18	1	P	Pg	01 21 17.9	-1.2
KALE	Kalithea	1.20	3	P	Pg	01 21 18.7	-0.9
KALE				S	Sg	01 21 35.3	+0.1
KALE	Kalithea	1.20	3	P	Pg	01 21 18.4	-1.3
KALE				AML	AML	01 21 40.8	
	comp=E,10989μm,0.7s						
KALE				AML	AML	01 21 43.5	
	comp=N,14872μm,0.9s						
KALE	Kalithea	1.20	3	P	Pg	01 21 18.7	-0.9
KALE				S	Sg	01 21 35.3	+0.1
KALE	Kalithea	1.20	3	P	Pg	01 21 18.7	-0.9
KALE				S	Sg	01 21 35.3	+0.1
KYTH	Kithira	1.22	139	P	Pg	01 21 20.2	+0.3
KYTH				S	Sn	01 21 38.0	+1.0
KYTH	Kithira	1.22	139	P	Pn	01 21 20.6	+0.4
KYTH	Kithira	1.22	139	P	Pg	01 21 20.2	+0.3
KYTH				S	Sn	01 21 38.0	+1.0
SERG	Sergoula	1.22	0	P	Pg	01 21 19.0	-1.0
SERG	Sergoula	1.22	0	P	Pg	01 21 18.6	-1.4
SERG	Sergoula	1.22	0	P	Pg	01 21 19.0	-1.0
EFP	Efpalio	1.24	355	P	Pg	01 21 19.5	-0.9
EFP				S	Sb	01 21 36.9	+0.2
EFP	Efpalio	1.24	355	P	Pg	01 21 19.9	-0.5
EFP	Efpalio	1.24	355	P	Pg	01 21 19.9	-0.5
EFP				S	Sb	01 21 36.9	+0.2
PROD	Prodromos	1.26	32	P	Pn	01 21 20.6	-0.1
PROD	Prodromos	1.26	32	P	Pn	01 21 20.6	-0.1
DSF	Desfina	1.28	17	P	Pn	01 21 20.7	-0.3
DSF	Desfina	1.28	17	P	Pg	01 21 21.3	+0.3
DSF	Desfina	1.28	17	P	Pn	01 21 20.7	-0.3
DSF	Desfina	1.28	17	P	Pn	01 21 20.7	-0.3
KFL	Anninata	1.36	313	P	Pn	01 21 21.9	-0.2
KFL	Anninata	1.36	313	P	Pn	01 21 21.9	-0.2
VILL	Villia	1.40	45	P	Pn	01 21 22.7	+0.1
VILL				S	Sg	01 21 42.7	+1.3
VILL	Villia	1.40	45	P	Pn	01 21 22.7	+0.1
VILL				S	Sg	01 21 42.7	+1.3
VIL2	Platees	1.41	43	P	Pg	01 21 23.8	+0.3
VIL2				AML	AML	01 21 52.0	
	comp=N,12549μm,1.3s						
VIL2				AML	AML	01 21 55.8	
	comp=E,2462μm,2.0s						
ANX	Ano Chora	1.41	356	P	Pn	01 21 22.4	-0.4
ANX				S	Sg	01 21 42.7	+0.9
ANX	Ano Chora	1.41	356	P	Pn	01 21 22.4	-0.4
ANX				S	Sg	01 21 42.7	+0.9
PVO	Paravola	1.49	344	P	Pb	01 21 24.2	-0.4
PVO	Paravola	1.49	344	P	Pg	01 21 25.7	+0.7
PVO	Paravola	1.49	344	P	Pb	01 21 24.2	-0.4
VLS	Valsamata	1.52	311	P	Pn	01 21 24.5	+0.1
VLS				S	Sg	01 21 45.4	-0.1
VLS	Valsamata	1.52	311	P	Pn	01 21 24.1	-0.2
VLS				S	Sg	01 21 45.6	+0.1
VLS	Valsamata	1.52	311	P	Pn	01 21 24.1	-0.2
VLS				S	Sg	01 21 45.4	-0.1
VLS	Valsamata	1.52	311	P	Pn	01 21 24.5	+0.1
VLS				S	Sg	01 21 45.4	-0.1
VLY	Voula,Athens	1.54	64	P	Pn	01 21 24.9	+0.4
VLY	Voula,Athens	1.54	64	P	Pn	01 21 23.8	-0.7
VLY	Voula,Athens	1.54	64	P	Pn	01 21 24.9	+0.4
VLY	Voula,Athens	1.54	64	P	Pn	01 21 24.9	+0.4
ATH	Athens Observa	1.54	59	P	Pn	01 21 25.1	+0.6
ATH				S	Sg	01 21 46.2	+0.3
ATH	Athens Observa	1.54	59	P	Pb	01 21 25.2	-0.2
ATH				S	Sg	01 21 48.0	+2.1
ATH				AML	AML	01 21 52.0	
	comp=N,11337μm,1.2s						
ATH				AML	AML	01 21 54.2	
	comp=E,18595μm,1.2s						
ATH	Athens Observa	1.54	59	P	Pb	01 21 25.2	-0.2
ATH				S	Sg	01 21 46.2	+0.3
ATH	Athens Observa	1.54	59	P	Pn	01 21 25.1	+0.6
ATH				S	Sg	01 21 46.2	+0.3
ATHU	Athens Univers	1.58	60	P	Pn	01 21 25.3	+0.2
ATHU	Athens Univers	1.58	60	P	Pn	01 21 24.9	-0.2
ATHU	Athens Univers	1.58	60	P	Pn	01 21 25.3	+0.2
ATHU	Athens Univers	1.58	60	P	Pn	01 21 25.3	+0.2
LKR	Lokris	1.64	27	P	Pn	01 21 26.1	+0.2
LKR	Lokris	1.64	27	P	Pn	01 21 26.4	+0.5
LKR	Lokris	1.64	27	P	Pn	01 21 26.4	+0.5
LKR	Lokris	1.64	27	P	Pn	01 21 26.1	+0.2
AXAR	Agios Charalam	1.65	17	P	Pb	01 21 27.2	-0.1
AXAR	Agios Charalam	1.65	17	P	Pb	01 21 27.2	-0.1
ANKY	Antikythira Is	1.66	142	P	Pn	01 21 27.0	+0.9
ANKY				S	Sg	01 21 50.8	+1.0
ANKY	Antikythira Is	1.66	142	P	Pg	01 21 30.2	+1.9
ANKY	Antikythira Is	1.66	142	P	Pn	01 21 27.0	+0.9
ANKY				S	Sg	01 21 50.8	+1.0
ANKY	Antikythira Is	1.66	142	P	Pn	01 21 27.0	+0.9
ANKY				S	Sg	01 21 50.8	+1.0
PTL	Penteli	1.68	59	P	Pn	01 21 27.0	+0.6
PTL				S	Sg	01 21 50.1	-0.3
PTL	Penteli	1.68	59	P	Pn	01 21 26.6	+0.1
PTL	Penteli	1.68	59	P	Pn	01 21 27.0	+0.6
PTL				S	Sg	01 21 50.1	-0.3
PTL	Penteli	1.68	59	P	Pn	01 21 27.0	+0.6
PTL				S	Sg	01 21 50.1	-0.3
EVR	Evrytania	1.74	354	P	Pn	01 21 27.6	+0.2
EVR	Evrytania	1.74	354	P	Pb	01 21 29.1	+0.2
EVR	Evrytania	1.74	354	P	Pn	01 21 27.6	+0.2
EVR	Evrytania	1.74	354	P	Pn	01 21 27.6	+0.2
AGG	Agios Georgios	1.84	7	eP	Pb	01 21 30.3	-0.4
AGG	Agios Georgios	1.84	7	P	Pn	01 21 28.9	+0.1
AGG	Agios Georgios	1.84	7	P	Pb	01 21 31.3	+0.6
AGG	Agios Georgios	1.84	7	P	Pn	01 21 28.9	+0.1
AGG	Agios Georgios	1.84	7	eP	Pb	01 21 30.3	-0.4
AGG	Agios Georgios	1.84	7	P	Pn	01 21 28.9	+0.1
SMIA	Simia	1.92	28	P	Pn	01 21 30.2	+0.4
SMIA	Simia	1.92	28	P	Pn	01 21 30.2	+0.4
EREA	Eretria	1.93	50	P	Pn	01 21 30.6	+0.6
EREA	Eretria	1.93	50	P	Pn	01 21 30.1	+0.1
EREA	Eretria	1.93	50	P	Pn	01 21 30.6	+0.6
LKD2	Lefkada island	1.94	326	P	Pg	01 21 33.7	-0.1
LKD2				AML	AML	01 22 19.6	
	comp=E,4904μm,1.2s						
LKD2				AML	AML	01 22 22.1	
	comp=N,7269μm,1.2s						
SERI	Serifos	1.94	90	P	Pn	01 21 31.0	+0.9
SERI	Serifos	1.94	90	P	Pn	01 21 31.0	+0.9
MHLO	Agia Marina, M	1.95	104	P	Pn	01 21 31.0	+0.9
MHLO	Agia Marina, M	1.95	104	P	Pb	01 21 32.4	0.0
MHLO	Agia Marina, M	1.95	104	P	Pn	01 21 31.0	+0.9
KARY	Karystos	2.07	65	P	Pn	01 21 32.6	+0.7
KARY	Karystos	2.07	65	P	Pn	01 21 32.5	+0.6
KARY				AML	AML	01 22 08.1	
	comp=E,3063μm,0.9s						
KARY				AML	AML	01 22 11.8	
	comp=N,2328μm,1.0s						
KARY	Karystos	2.07	65	P	Pn	01 21 32.6	+0.7
SKIA	Skiathos	2.27	29	P	Pn	01 21 36.1	+1.5
SKIA	Skiathos	2.27	29	P	Pn	01 21 36.1	+1.5
IMMV	Iera Moni Meta	2.32	137	P	Pn	01 21 36.2	+0.9
IMMV	Iera Moni Meta	2.32	137	P	Pb	01 21 38.5	-0.3
IMMV	Iera Moni Meta	2.32	137	P	Pn	01 21 36.2	+0.9
FYTO	Fytoko, Volos	2.33	17	P	Pn	01 21 35.2	-0.1
FYTO	Fytoko, Volos	2.33	17	P	Pn	01 21 36.9	+1.5
FYTO	Fytoko, Volos	2.33	17	P	Pn	01 21 35.2	-0.1
FYTO	Fytoko, Volos	2.33	17	P	Pn	01 21 35.2	-0.1
XOR	Xorichti	2.35	22	P	Pn	01 21 36.4	+0.6
XOR	Xorichti	2.35	22	P	Pn	01 21 36.4	+0.6
XOR	Xorichti	2.35	22	P	Pn	01 21 36.4	+0.6
THL	Klokotos Trika	2.37	359	P	Pn	01 21 36.5	+0.5
THL	Klokotos Trika	2.37	359	P	Pn	01 21 37.4	+1.4
THL	Klokotos Trika	2.37	359	P	Pn	01 21 36.5	+0.5
VAM	Vamos	2.48	135	P	Pn	01 21 38.5	+1.0
VAM	Vamos	2.48	135	P	Pb	01 21 40.2	-1.4
VAM	Vamos	2.48	135	P	Pn	01 21 38.5	+1.0
VAM	Vamos	2.48	135	P	Pn	01 21 38.5	+1.0
APE	Apeiranthos	2.78	91	eP	Pn	01 21 43.0	+1.3
APE	Apeiranthos	2.78	91	P	Pn	01 21 42.4	+0.7
APE	Apeiranthos	2.78	91	⇑ i P	Pn	01 21 43.2	+1.5
APE	Apeiranthos	2.78	91	P	Pn	01 21 42.4	+0.7
APE	Apeiranthos	2.78	91	eP	Pn	01 21 43.0	+1.3
APE	Apeiranthos	2.78	91	P	Pn	01 21 42.4	+0.7
CMBO	Columbo, Santo	2.78	104	P	Pn	01 21 42.6	+1.0
CMBO	Columbo, Santo	2.78	104	P	Pn	01 21 43.3	+1.7
CMBO	Columbo, Santo	2.78	104	P	Pn	01 21 42.6	+1.0
THR3	Thira Island,	2.80	105	P	Pn	01 21 43.1	+1.3
THR3	Thira Island,	2.80	105	P	Pn	01 21 43.1	+1.3
THR3	Thira Island,	2.80	105	P	Pn	01 21 43.1	+1.3
THR6	Thira Island,	2.81	106	P	Pn	01 21 43.2	+1.2
THR6	Thira Island,	2.81	106	P	Pn	01 21 43.2	+1.2
THR6	Thira Island,	2.81	106	P	Pn	01 21 43.2	+1.2
SANT	Santorini	2.85	106	ePn	Pn	01 21 44.8	+2.1
SANT				eS	Sn	01 22 16.2	-1.1
SANT	Santorini	2.85	106	ePn	Pn	01 21 44.8	+2.1
SANT				eS	Sn	01 22 16.2	-1.1
LIT	Litokhoron	2.93	7	P	Pn	01 21 44.0	+0.3
LIT	Litokhoron	2.93	7	P	Pn	01 21 44.0	+0.3
LIT	Litokhoron	2.93	7	P	Pn	01 21 44.0	+0.3
IDI	Anoyia	2.98	129	Pn	Pn	01 21 42.8	-1.5
	comp=N,2.8nm,0.3s,baz=291,slow=6.7,SNR=17						
IDI				Sn	Sn	01 22 20.7	+0.3
	comp=N,8.6nm,0.3s,baz=311,slow=20,SNR=4.1						
IDI				Lg	Lg	01 22 29.9	
	comp=N,14nm,0.3s,baz=221,slow=19,SNR=7.4						
IDI				LR	LR	01 23 17.2	
	comp=N,787nm,19.4s,baz=352,slow=48						
IDI	Anoyia	2.98	129	P	Pn	01 21 45.3	+0.9
IDI	Anoyia	2.98	129	P	Pn	01 21 45.3	+0.9
IDI				Sn	Sn	01 22 20.7	+0.3
CHOS	Chios island	3.39	68	ePN	Pn	01 21 51.3	+1.2
CHOS	Chios island	3.39	68	ePn	Pn	01 21 51.3	+1.2
LAST	Lasithi	3.43	125	P	Pn	01 21 52.8	+2.2
LAST	Lasithi	3.43	125	P	Pn	01 21 53.0	+2.4
LAST	Lasithi	3.43	125	P	Pn	01 21 52.8	+2.2
LAST	Lasithi	3.43	125	P	Pn	01 21 52.8	+2.2
NPS	Neapolis	3.46	123	P	Pn	01 21 51.8	+0.8
NPS	Neapolis	3.46	123	P	Pb	01 21 55.5	-2.7
NPS	Neapolis	3.46	123	P	Pn	01 21 51.8	+0.8
NPS	Neapolis	3.46	123	P	Pn	01 21 51.8	+0.8
OUR	Ouranopolis	3.48	25	ePN	Pn	01 21 52.7	+1.4
OUR	Ouranopolis	3.48	25	ePn	Pn	01 21 52.7	+1.4
HORT	Hortiatis	3.50	13	ePN	Pn	01 21 53.0	+1.4
HORT	Hortiatis	3.50	13	ePn	Pn	01 21 53.0	+1.4
SIGR	SIGRI	3.61	55	ePN	Pn	01 21 54.4	+1.4
SIGR	SIGRI	3.61	55	ePn	Pn	01 21 54.4	+1.4
URLA	Izmir	3.78	71	ePN	Pn	01 21 57.2	+1.8
URLA	Izmir	3.78	71	ePn	Pn	01 21 57.2	+1.8
BIA	Bitola	3.87	352	ePn	Pn	01 21 59.1	+2.5
BIA	Bitola	3.87	352	ePn	Pn	01 21 59.1	+2.5
KNT	Kendrikon	4.02	9	P	Pn	01 21 59.1	+0.4
KNT	Kendrikon	4.02	9	P	Pn	01 21 59.1	+0.4
KNT	Kendrikon	4.02	9	P	Pn	01 21 59.1	+0.4
OHR	Ohrid	4.04	346	ePn	Pn	01 22 01.6	+2.7
OHR	Ohrid	4.04	346	ePn	Pn	01 22 01.6	+2.7
BOZC	Bozcaada	4.11	49	ePN	Pn	01 22 01.3	+1.5
BOZC	Bozcaada	4.11	49	ePn	Pn	01 22 01.3	+1.5
VAY	Valandovo	4.15	5	ePn	Pn	01 21 58.8	-1.6
VAY	Valandovo	4.15	5	ePn	Pn	01 21 58.8	-1.6
BODT	Bodrum	4.20	90	ePN	Pn	01 22 03.5	+2.3
BODT	Bodrum	4.20	90	ePn	Pn	01 22 03.5	+2.3
KRUS	Krusevo	4.22	352	ePn	Pn	01 22 01.9	+0.4
KRUS	Krusevo	4.22	352	ePn	Pn	01 22 01.9	+0.4
GADA	Gvkgeada	4.25	44	ePN	Pn	01 22 03.5	+1.8
GADA	Gvkgeada	4.25	44	ePn	Pn	01 22 03.5	+1.8
EZN	Ezine	4.26	51	ePN	Pn	01 22 03.2	+1.3
EZN	Ezine	4.26	51	ePn	Pn	01 22 03.3	+1.3
NVR	Nevrokopi	4.39	18	P	Pn	01 22 04.6	+0.9
NVR	Nevrokopi	4.39	18	P	Pn	01 22 06.2	+2.5
NVR	Nevrokopi	4.39	18	P	Pn	01 22 04.6	+0.9
NVR	Nevrokopi	4.39	18	P	Pn	01 22 04.6	+0.9
KARP	Karpathos	4.43	110	ePN	Pn	01 22 08.1	+3.7
KARP	Karpathos	4.43	110	ePn	Pn	01 22 08.1	+3.7
DAT	Datca	4.45	94	ePN	Pn	01 22 08.0	+3.4
DAT	Datca	4.45	94	ePn	Pn	01 22 08.0	+3.4
MLSB	Milas	4.57	87	ePN	Pn	01 22 09.2	+3.0
MLSB	Milas	4.57

DRGR 9.61 3⇑*i*P **Pn** **01 23 17.6 +2.2**
KEST Kesra 10.34 266 Pn **Pn** **01 23 27.0 +1.5**
comp=N,0.2nm,0.3s,baz=11,slow=12,SNR=6.2
KEST LR LR 01 27 54.1
comp=N,232nm,21.9s,baz=14,slow=40
KEST Kesra 10.34 266 Pn **Pn** **01 23 27.0 +1.5**
BURAR Bucovina Array 10.68 12⇑*i*P **Pn** **01 23 34.0 +3.9**
PSZ Piszkesteto 10.84 352⇓*i*P **Pn** **01 23 33.3 +1.0**
PSZ Piszkesteto 10.84 352 *e*Pn **Pn** **01 23 32.4 +0.1**
PSZ Piszkesteto 10.84 352⇓*i*P **Pn** **01 23 33.3 +1.0**
PSZ Piszkesteto 10.84 352 *e*Pn **Pn** **01 23 32.4 +0.1**
KECS Kecovo 11.35 355 *e*Pn **Pn** **01 23 41.0 +1.9**
KECS Kecovo 11.35 355 *e*PN **Pn** **01 23 41.0 +1.9**
VYHS Vyhne 11.54 349 *e*Pn **Pn** **01 23 41.4 -0.4**
VYHS Vyhne 11.54 349 *e*PN **Pn** **01 23 41.4 -0.4**
VYHS Vyhne 11.54 349 *e*SN **Sn** **01 25 55.2 +4.2**
MMAI Mount Meron Ar 11.70 107 Pn **Pn** **01 23 42.5 -1.6**
comp=N,1.4nm,0.3s,baz=298,slow=12,SNR=9.7
MMAI Sn **Sn** **01 25 52.6 -2.4**
comp=N,0.8nm,0.3s,baz=296,slow=30,SNR=4.3
MMAI LR LR 01 30 01.6
comp=N,80nm,18.8s,baz=300,slow=47
STHS Stebnicka Huta 12.24 358 *e*PN **Pn** **01 23 55.9 +4.6**
VRAC Vranov 12.75 344 LR LR 01 30 03.1
comp=N,273nm,21.9s,baz=182,slow=43
OKC Ostrava-Krasne 12.96 349 *e*P Pn 01 24 14.0 +13
TREC Trest 13.01 341 AMS AMS 01 29 40.0
EIL Elat 13.12 121 Pn **Pn** **01 24 02.0 -1.4**
comp=N,0.3nm,0.3s,baz=321,slow=9.3,SNR=7.7
EIL Sn **Sn** **01 26 24.5 -5.1**
comp=N,0.3nm,0.3s,baz=294,slow=20,SNR=3.7
EIL Elat 13.12 121 Pn **Pn** **01 24 02.0 -1.4**
GERES GERESS Array B 13.14 335 Pn **Pn** **01 24 03.8 0.0**
comp=N,0.2nm,0.3s,baz=152,slow=15,SNR=5.8
GERES LR LR 01 30 15.3
comp=N,207nm,18.5s,baz=130,slow=42
ASF Jabal al Asfar 13.20 108 Pn **Pn** **01 24 04.3 -0.3**
comp=N,0.2nm,0.3s,baz=253,slow=6.5,SNR=6.6
KRLC Kraliky 13.43 345 *e*P **P** **01 24 17.9 +0.7**
KRLC *ex* x 01 24 23.4
KHC Kasperske Hory 13.43 335 *e*P **Pn** **01 24 09.7 +2.0**
KHC *ex* x 01 24 16.8
KHC *ex* x 01 24 28.5
KHC AMS AMS 01 30 20.0
comp=N,400nm,14.1s
KHC Kasperske Hory 13.43 335 P **Pn** **01 24 09.7 +2.0**
KHC Kasperske Hory 13.43 335 *e*Pn **P** **01 24 17.6 +0.4**
GOPC GO Pecny, Ondr 13.76 340 AMS AMS 01 30 10.0
DPC Dobruska-Polom 13.79 344 *e*P **P** **01 24 21.6 +0.5**
PRU Pruhonice 13.89 339 *e*P **P** **01 24 22.9 +0.6**
PRU AMS AMS 01 30 10.0
comp=N,400nm,13.9s
PVCC Panska Ves 14.38 340 *e*P **P** **01 24 29.4 +1.8**
PVCC Panska Ves 14.38 340 P **P** **01 24 29.4 +1.8**
KIEV Kiev 14.44 19 *e*Pn **Pn** **01 24 20.7 -0.7**
comp=N,14nm,1.3s
KIEV Kiev 14.44 19 *e*Pn **Pn** **01 24 20.7 -0.7**
comp=N,14nm,1.3s
AKASG Malin Array Be 14.45 19 Pn **Pn** **01 24 21.3 -0.2**
comp=N,0.5nm,0.3s,baz=206,slow=13,SNR=4.7
GRFO Grafenberg 14.75 331 *e*Pn **P** **01 24 31.7 0.0**
BRG Berggiesshubel 14.86 340 *e*P **P** **01 24 34.5 +1.6**
comp=N,24nm,1.6s
BRG *e* 01 24 43.2
comp=N,23nm,1.7s
CLL Collm 15.52 338 *i* (sP) **sP** **01 24 41.6 -1.1**
comp=Z,22nm,1.3s
CLL *es*PP 01 24 47.0
CLL *e* 01 24 51.0
CLL Lm MLR 01 31 00.0
comp=Z,300nm,19.0s
KIV Kislovodsk 17.05 60 *e*Pn **P** **01 24 57.1 -0.3**
KIV Kislovodsk 17.05 60 *e*Pn **P** **01 24 57.1 -0.3**
KVAR Kislovodsk Arr 17.06 60 P **Pn** **01 24 55.3 -0.4**
baz=246,slow=12,SNR=1.5
KVAR LR LR 01 32 56.9
comp=Z,94nm,20.4s,baz=231,slow=42
KBZ Khabaz 17.14 61 P **Pn** **01 24 56.7 +0.2**
comp=Z,0.0nm,0.3s,baz=88,slow=14,SNR=1.9
KBZ LR LR 01 33 09.8
comp=Z,161nm,18.3s,baz=278,slow=43
GNI Garni 17.95 74 LR LR 01 32 46.6
comp=Z,297nm,19.7s,baz=270,slow=40
GNI Garni 17.95 74 *e*Pn **P** **01 25 09.0 +1.5**
comp=Z,161nm,1.3s
GNI Garni 17.95 74 *e*Pn **P** **01 25 09.0 +1.5**
comp=Z,161nm,1.3s
TAM Tamanrasset 20.22 229 *e*P Pn 01 25 33.9 -0.5
comp=Z,15nm,1.0s
TAM Tamanrasset 20.22 229 *e*P Pn 01 25 33.9 -0.5
comp=Z,15nm,1.0s
ESDC Sonseca Array 20.51 285 P **P** **01 25 35.3 -0.1**
comp=Z,5.1nm,1.0s,baz=80,slow=11,SNR=20
MDT Midelt 22.25 267 P **P** **01 25 53.9 -0.3**
comp=Z,4.1nm,0.9s,baz=95,slow=11,SNR=11
MDT LR LR 01 35 34.3
comp=Z,115nm,20.6s,baz=101,slow=39
PBRG Braganca 22.64 291 *e*P **P** **01 25 56.3 -2.0**
PBRG Braganca 22.64 291 *e*P **P** **01 25 56.3 -2.0**
MVO Moncorvo 22.84 289 *e*P **P** **01 26 00.6 +0.1**
MVO Moncorvo 22.84 289 *e*P **P** **01 26 00.6 +0.1**
PBAR Barrancos 23.01 281 *e*P P 01 26 09.7 +7.6
PMRV Marv??o 23.17 285 *e*P **P** **01 26 03.3 -0.5**
PMRV Marv??o 23.17 285 *e*P **P** **01 26 03.3 -0.5**
PCBR Castelo Branco 23.21 286 *e*P **P** **01 26 04.3 +0.1**
PCBR Castelo Branco 23.21 286 *e*P **P** **01 26 04.3 +0.1**
MTE Manteigas 23.24 287 *e*P **P** **01 26 10.8 +6.2**
PESTR Estremoz 23.37 283 *e*P **P** **01 26 04.7 -1.1**
PESTR Estremoz 23.37 283 *e*P **P** **01 26 04.7 -1.1**
HFS Hagfors 23.58 350 LR LR 01 37 14.6
comp=Z,146nm,18.7s,baz=176,slow=42
PVAQ Vaqueiros 23.64 280 *e*P **P** **01 26 08.6 +0.1**
PVAQ Vaqueiros 23.64 280 *e*P **P** **01 26 08.6 +0.1**
PBDV Barranco-do-Ve 23.84 279 *e*P **P** **01 26 10.9 +0.4**
PBDV Barranco-do-Ve 23.84 279 *e*P **P** **01 26 10.9 +0.4**
PNCL Nicolau / Gran 24.18 282 *e*P **P** **01 26 11.4 -2.3**
PNCL Nicolau / Gran 24.18 282 *e*P **P** **01 26 11.4 -2.3**
RAYN Ar Rayn 24.31 117 *e*P **P** **01 26 15.0 0.0**
comp=Z,4.5nm,0.9s
RAYN Ar Rayn 24.31 117 *e*P **P** **01 26 15.0 0.0**
comp=Z,4.5nm,0.9s
PTEO Sao Teotonio 24.41 280 *e*P **P** **01 26 15.9 +0.1**
PTEO Sao Teotonio 24.41 280 *e*P **P** **01 26 15.9 +0.1**
NB2 NORSAR Subarra 24.84 347 P **P** **01 26 18.7 -0.7**
comp=Z,7.1nm,1.0s,baz=158,slow=9.3
NB2 NORSAR Subarra 24.84 347 P **P** **01 26 18.7 -0.7**
comp=Z,7.1nm,1.0s,SNR=3.8
NOA NORSAR Array B 24.84 347 LR LR 01 37 03.4
comp=Z,66nm,19.9s,baz=150,slow=39
GEYT Alibeck 28.49 77 LR LR 01 39 20.4
comp=Z,94nm,21.8s,baz=335,slow=39
TORD Torodi Ar. Bea 30.07 223 P **P** **01 27 06.5 -0.2**
comp=Z,2.0nm,0.9s,baz=31,slow=8.4,SNR=11
ARU Arti 31.02 40 LR LR 01 40 40.5
comp=Z,72nm,19.5s,baz=266,slow=38
ARCES ARCESS Array B 32.46 2 P **P** **01 27 26.6 -0.7**
comp=Z,3.9nm,0.6s,baz=191,slow=9.8,SNR=8.3
BVAR Borovoye Array 36.84 49 P **P** **01 28 04.8 -0.5**
comp=Z,1.2nm,0.8s,baz=250,slow=4.2,SNR=3.6
DBIC Dimbokro 39.03 226 P **P** **01 28 23.8 -0.3**
comp=Z,4.7nm,0.9s,baz=312,slow=2.8,SNR=4.2
KURBB Kurchatov Arra 41.85 53 P **P** **01 28 46.2 -0.9**
comp=Z,4.0nm,0.6s,baz=281,slow=8.7,SNR=16
KURBB PcP **PcP** **01 30 43.5 +0.6**
comp=Z,1.9nm,1.0s,baz=276,slow=3.8,SNR=4.3
KURK Kurchatov 41.90 53 P **P** **01 28 46.2 -1.4**
KURK Kurchatov 41.90 53 P **P** **01 28 46.2 -1.4**
KURK PcP **PcP** **01 30 43.5 +0.4**
MKAR Makanchi Array 44.79 58 P **P** **01 29 10.2 -0.9**
comp=Z,2.0nm,0.8s,baz=286,slow=4.5,SNR=6.3
MKAR PcP **PcP** **01 30 53.1 +0.2**
comp=Z,2.7nm,1.0s,baz=291,slow=4.5,SNR=3.6
ZALV Zalesovo Beam 45.45 48 P **P** **01 29 15.2 -0.9**
comp=Z,3.3nm,0.6s,baz=276,slow=9.0,SNR=12
SONM Songino Array 60.15 51 P **P** **01 31 03.7 -1.3**
comp=Z,0.9nm,0.8s,baz=284,slow=6.0,SNR=4.9
SONM PcP **PcP** **01 31 50.6 -0.1**
comp=Z,0.4nm,0.5s,baz=241,slow=2.6,SNR=2.3
TIXI Tiksi 60.15 20 P **P** **01 31 03.4 -1.1**
comp=Z,5.2nm,0.8s,baz=56,slow=2.1,SNR=2.6
BOSA Boshof 65.52 177 P **P** **01 31 41.2 +0.4**
comp=Z,2.7nm,0.9s,baz=287,slow=4.3,SNR=3.7
BOSA Boshof 65.52 177 P **P** **01 31 41.3 +0.5**
CMAR Chiang Mai Arr 68.82 82 P **P** **01 32 01.4 -0.7**
comp=Z,1.1nm,0.3s,baz=304,slow=8.0,SNR=9.7

ILAR Eielson Array 78.00 355 P **P** **01 32 55.6 +0.2**
comp=Z,1.5nm,0.9s,baz=357,slow=5.0,SNR=13
KSAR Wonju Array Be 78.99 51 P **P** **01 33 00.2 -1.1**
KSAR Wonju Array Be 78.99 51 P **P** **01 33 00.2 -1.1**
KSRS Korea Array 79.01 51 P **P** **01 33 00.2 -1.2**
comp=Z,1.7nm,0.7s,baz=315,slow=5.4,SNR=5.8
KSRS LR LR 02 13 13.4
comp=Z,16nm,18.8s,baz=290,slow=40
LAO LASA Array 84.49 327 *e*P **P** **01 33 31.6 +1.3**
comp=Z,15nm,0.9s
LAO LASA Array 84.49 327 *e*P **P** **01 33 31.6 +1.3**
comp=Z,15nm,0.9s
EGMT Eagleton 84.91 330 *e*P **P** **01 33 33.5 +1.1**
comp=Z,17nm,0.9s
EGMT Eagleton 84.91 330 *e*P **P** **01 33 33.5 +1.1**
comp=Z,17nm,0.9s
KDAK Kodiak Island 85.28 357 P **P** **01 33 35.2 +1.3**
comp=Z,7.6nm,1.1s,baz=11,slow=5.2,SNR=2.6
MJAR Matsushiro Arr 85.80 46 P **P** **01 33 36.9 -0.1**
comp=Z,3.1nm,0.8s,baz=303,slow=4.4,SNR=7.3
IMW Indian Meadow 88.73 328 *e*P **P** **01 33 52.9 +1.5**
comp=Z,4.6nm,0.9s
IMW Indian Meadow 88.73 328 *e*P **P** **01 33 52.9 +1.5**
comp=Z,4.6nm,0.9s
PDAR Pinedale Array 89.05 327 P **P** **01 33 52.9 +0.1**
comp=Z,1.9nm,0.8s,baz=48,slow=4.4,SNR=13
WMOK Wichita Mounta 89.75 315 *e*P **P** **01 33 56.4 +0.4**
comp=Z,4.0nm,1.0s
WMOK Wichita Mounta 89.75 315 *e*P **P** **01 33 56.4 +0.4**
comp=Z,4.0nm,1.0s
O20A White River Ci 90.55 324 *e*P **P** **01 34 00.2 +0.4**
comp=Z,6.0nm,0.9s
O20A White River Ci 90.55 324 *e*P **P** **01 34 00.2 +0.4**
comp=Z,6.0nm,0.9s
HWUT Hardware Ranch 90.86 327 *e*P **P** **01 34 01.2 0.0**
comp=Z,6.9nm,0.9s
HWUT Hardware Ranch 90.86 327 *e*P **P** **01 34 01.2 0.0**
comp=Z,6.9nm,0.9s
TXAR Lajitas Array 96.53 314 P **P** **01 34 28.5 +1.1**
comp=Z,1.4nm,1.2s,baz=72,slow=3.9,SNR=2.8
WRA Warramunga Arr 119.27 94 PKP **PKPdf** **01 39 46.1 -1.0**
comp=Z,0.5nm,0.8s,baz=349,slow=0.9,SNR=3.5
ASAR Alice Springs 120.85 98 PKP **PKPdf** **01 39 49.3 -0.8**
comp=Z,0.4nm,0.9s,baz=331,slow=1.2,SNR=4.2

IDC 10 01:25:54.3±1.1, 15°.64S×12°.69W, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, MS3.5/5, Ms1 3.5/5, ms1mx3.3/29, Error ellipse: s-maj=37.9km s-min=27.3km az=115.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**6.91**	**344**	T	T	01 34 54.9	
baz=170,slow=75,SNR=2292							
H10S3	**ASCENSION HYDR**	**6.92**	**344**	T	T	01 34 54.3	
baz=170,slow=75,SNR=1963							
H10S1	**ASCENSION HYDR**	**6.92**	**344**	T	T	01 34 56.3	
baz=170,slow=75,SNR=1963							
H10N1	**ASCENSION HYDR**	**7.94**	**347**	T	T	01 36 12.3	
baz=187,slow=70,SNR=57							
H10N3	**ASCENSION HYDR**	**7.95**	**347**	T	T	01 36 10.2	
baz=187,slow=70,SNR=121							
H10N2	**ASCENSION HYDR**	**7.96**	**347**	T	T	01 36 15.8	
baz=187,slow=70,SNR=72							
DBIC	**Dimbokro**	**23.48**	**20**	LR	LR	01 38 31.2	
comp=Z,94nm,18.6s,baz=124,slow=32							
TORD	**Torodi Ar. Bea**	**31.95**	**27**	P	P	01 32 21.9	-0.2
1.9nm,0.8s,baz=209,slow=8.7,SNR=9.2							
TORD				LR	LR	01 43 40.0	
comp=Z,156nm,18.1s,baz=205,slow=33							
SUR	**Sutherland**	**34.66**	**125**	LR	LR	01 44 00.8	
comp=Z,9.6nm,18.3s,baz=314,slow=31							
BOSA	**Boshof**	**37.29**	**117**	LR	LR	01 45 21.2	
comp=Z,179nm,21.1s,baz=218,slow=31							
KMBO	**Kilima Mbogo**	**51.31**	**79**	P	P	01 35 02.3	+1.2
0.7nm,0.3s,baz=238,slow=9.5,SNR=3.3							
LPAZ	**La Paz**	**53.16**	**261**	P	P	01 35 15.9	+0.6
1.6nm,1.0s,baz=78,slow=9.3,SNR=2.4							
ESDC	**Sonseca Array**	**55.62**	**8**	P	P	01 35 32.0	-0.1
0.0nm,0.3s,baz=192,slow=6.4,SNR=2.5							
PLCA	**Paso Flores**	**55.69**	**231**	LR	LR	01 56 56.9	
comp=Z,68nm,18.6s,baz=150,slow=33							
GERES	**GERESS Array B**	**68.35**	**18**	P	P	01 36 58.0	+0.5
0.4nm,0.6s,baz=179,slow=6.4,SNR=3.6							
BRTR	**Keskin Array B**	**69.97**	**36**	P	P	01 37 08.7	+0.8
1.0nm,1.0s,baz=205,slow=5.4,SNR=3.7							
MAW	**Mawson**	**70.16**	**157**	P	P	01 37 07.8	-0.6
1.1nm,0.6s,baz=21,slow=4.7,SNR=4.2							
AKASG	**Malin Array Be**	**75.57**	**26**	P	P	01 37 39.1	-1.7
0.6nm,0.5s,baz=218,slow=6.0,SNR=5.1							

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*PRE **10** 01:43:50.9±2.2, 26°.40S×27°.54E, h2km, ML2.7*
*ISCJB **10** 01:43:52.1±1.5, 26°.38S±0°.03×27°.58E±0°.03, h15km±11km, Error ellipse: s-maj=5.6km s-min=4.0km az=31.6*
ISC 10 01:43:51.3±0.9, 26°.38S±0°.03×27°.56E±0°.04, h10km±6km, n15, σ2°.02/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.05**	**60**	*e*P	**Pg**	**01 43 53.4**	**-0.2**
KLOF				*e*S	**Sg**	**01 43 53.9**	**-1.3**
KLOF				AML	AML	01 43 54.2	
comp=Z,25μm,0.3s							
PRYS	**Parys**	**0.57**	**198**	*e*P	**Pg**	**01 44 03.0**	**+0.4**
PRYS				*e*S	**Sg**	**01 44 10.2**	**+0.1**
PRYS				AML	AML	01 44 11.5	
comp=Z,86nm,0.2s							
ERPM	**east rand prop**	**0.61**	**87**	*e*P	**Pg**	**01 44 03.6**	**+0.3**
ERPM				*e*S	**Sg**	**01 44 10.5**	**-0.9**
ERPM				AML	AML	01 44 10.7	
comp=Z,53nm,0.2s							
KSR	**Koster**	**0.79**	**311**	*e*P	**Pb**	**01 44 07.8**	**+0.5**
KSR				*e*S	**Sg**	**01 44 18.0**	**+1.0**
KSR				AML	AML	01 44 26.2	
comp=Z,54nm,0.4s							
SLR	**Silverton**	**0.91**	**46**	*e*P	**Pg**	**01 44 08.8**	**-0.2**
SLR				*e*S	**Sb**	**01 44 22.3**	**+0.7**
SLR				AML	AML	01 44 28.2	
comp=Z,44nm,0.8s							
SEK	**Senekal**	**1.94**	**178**	*e*P	**Pn**	**01 44 25.7**	**+1.2**
SEK				*e*S	**Sn**	**01 44 50.4**	**+1.3**
SEK				AML	AML	01 44 53.3	
comp=Z,76nm,0.2s							
SWZ	**Schweizer**	**2.15**	**248**	*e*P	**Pn**	**01 44 28.6**	**+1.3**
SWZ				*e*S	**Sn**	**01 44 55.2**	**+1.1**
SWZ				AML	AML	01 44 58.9	
comp=Z,51nm,0.4s							
BOSA	**Boshof**	**3.02**	**222**	*i* P	**Pn**	**01 44 41.2**	**+1.8**
BOSA				*i* S	**Sb**	**01 45 24.0**	**+1.6**
KSD	**Kokstad**	**4.46**	**159**	*e*P	**Pn**	**01 44 60.0**	**+0.8**
KSD				*e*S	**Sn**	**01 45 50.5**	**-0.8**
KSD				AML	AML	01 46 09.3	
comp=Z,3.8nm,0.4s							
UPI	**Upington**	**5.95**	**249**	*e*P	**Pn**	**01 45 20.8**	**+1.2**
UPI				*e*S	**Sn**	**01 46 25.5**	**-2.3**
UPI				AML	AML	01 46 58.7	
comp=Z,5.3nm,0.4s							
MATP	**Matopo**	**5.99**	**8**	*i* P	**Pn**	**01 45 22.5**	**+2.3**
MATP				*i* S	**Sn**	**01 46 30.1**	**+1.2**
BLWY	**Bulawayo**	**6.28**	**9**	*i* P	**Pn**	**01 45 25.9**	**+1.7**
BLWY				*i* S	**Sn**	**01 46 36.4**	**+0.2**
KEIM	**Keimoes**	**6.29**	**247**	*e*P	**Pn**	**01 45 24.1**	**-0.2**
KEIM				*e*S	**Sn**	**01 46 32.7**	**-3.7**
KEIM				AML	AML	01 47 11.3	
comp=Z,8.7nm,0.3s							
CVNA	**Calvinia**	**8.52**	**232**	*e*P	**Pn**	**01 45 54.9**	**+0.1**
CVNA				*e*S	**Sn**	**01 47 26.5**	**-4.6**
CVNA				AML	AML	01 47 31.0	
comp=Z,2.0nm,0.6s							
KOMG	**Komaggas**	**9.53**	**247**	*e*P	**Pn**	**01 46 09.9**	**+1.2**
KOMG				*e*S	**Sn**	**01 47 49.9**	**-6.0**
KOMG				AML	AML	01 47 56.6	
comp=Z,1.9nm,0.8s							

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*BJI **10** 01:55:38.0, 36°.15N×82°.51E, h8km, mb4.3/7, mB4.5/5, ML4.6/8, Ms3.9/3, Ms7 3.6/1*
*ISCJB **10** 01:55:40.2±0.3, 36°.42N±0°.02×82°.66E±0°.05, h10km, mb3.9/19, MS3.2/3, Error ellipse: s-maj=5.7km s-min=3.2km az=161.4*
*IDC **10** 01:55:41.0±0.6, 36°.38N×82°.59E, h0km, mb4.0/17, mb1 4.1/22, mb1mx4.0/47, mbtmp4.0/22, ML3.9/5, MS3.2/6, Ms1 3.2/6, ms1mx3.0/39, Error ellipse: s-maj=17.7km s-min=11.6km az=47.0*
*NEIC **10** 01:55:42.6±0.5, 36°.41N×82°.63E, h10km, mb4.3/5, Error ellipse: s-maj=12.6km s-min=8.6km az=223.0*
*NNC **10** 01:55:42.6±1.7, 36°.49N×82°.69E, h7km±7km, mb4.3, mpv4.4, Error ellipse: s-maj=13.9km s-min=8.5km az=99.0*
ISC 10 01:55:43.1±0.5, 36°.38N±0°.05×82°.72E±0°.05, h10km, n65, σ2°.14/70, mb3.9/19, MS3.2/3, 15C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.18**	**302**	Pn	**Pn**	**01 57 17.9**	**+3.4**
KSH				Sn	**Sn**	**01 58 34.1**	**+8.8**
KSH				smax	smax		
comp=N,720nm,0.7s							
KSH				smax	smax		
comp=E,760nm,0.8s							
KSH	**Kashi**	**6.18**	**302**	Pn	**Pn**	**01 57 18.2**	**+3.7**
KSH				Sn	Sn	01 58 35.9	+11
KSH				smax	smax		
comp=N,720nm,0.7s							
PDGK				⇑Sn	**Sn**	**01 58 52.9**	**-1.6**
comp=E,146nm,0.8s							
PDGK				⇓Lg	Lg	01 59 33.5	
comp=E,439nm,0.9s							
MDOK	**Medeo**	**8.06**	**329**	⇓Pn	**Pn**	**01 57 38.6**	**-1.7**
MDOK				Pg	**Pb**	**01 58 07.5**	**+4.7**
MDOK				⇑Lg	Lg	01 59 55.0	
PYUN	**Piuthan**	**8.26**	**178**	*e*P	**Pn**	**01 57 43.5**	**+0.3**
WMQ	**Urumqi**	**8.35**	**26**	P	**Pn**	**01 57 44.2**	**0.0**
WMQ				S	**Sn**	**01 59 19.9**	**+1.3**
WMQ				smax	smax		
comp=E,100nm,1.0s							
WMQ				smax	smax		
comp=E,120nm,0.8s							
GKN	**Gorkha**	**8.51**	**168**	*e*P	**Pn**	**01 57 46.4**	**-0.2**
TKM2	**Tokmak 2**	**8.53**	**322**	⇑Pn	**Pn**	**01 57 46.3**	**-0.6**
comp=E,4.0nm,0.5s							
TKM2				⇑Pg	Pg	01 58 15.8	-11
comp=E,27nm,1.1s							
TKM2				⇓Lg	Lg	02 00 09.6	
comp=E,48nm,0.8s							
KOLN	**Koldanda**	**8.62**	**175**	*e*P	**Pn**	**01 57 47.8**	**-0.3**
comp=E,12nm,0.6s							
KKN	**Kakani**	**8.84**	**165**	*e*P	**Pn**	**01 57 50.6**	**-0.5**
comp=E,7.0nm,0.5s							
GUN	**Gumba**	**8.86**	**162**	*e*P	**Pn**	**01 57 52.1**	**+0.6**
comp=E,25nm,0.8s							
AAK	**Ala-Archa**	**8.91**	**317**	Pn	**Pn**	**01 57 52.9**	**+1.0**
comp=E,0.3nm,0.3s,baz=132,slow=12,SNR=8.8							
AAK				Pg	Pg	01 58 20.8	-13
comp=E,3.1nm,0.3s,baz=20,slow=19,SNR=12							
AAK				Lg	Lg	02 00 20.1	
comp=E,3.5nm,0.3s,baz=263,slow=19,SNR=3.4							
AAK				LR	LR	02 02 17.4	
comp=E,40nm,20.4s,baz=80,slow=45							
AAK	**Ala-Archa**	**8.91**	**317**	⇓Pn	**Pn**	**01 57 51.3**	**-0.6**
comp=E,3.7nm,0.7s							
AAK				⇑Pg	Pg	01 58 22.8	-11
comp=E,16nm,0.7s							
AAK				⇓Lg	Lg	02 00 22.1	
comp=E,65nm,0.9s							
AAK	**Ala-Archa**	**8.91**	**317**	*e*Pn	**Pn**	**01 57 53.5**	**+1.5**
AAK				Pg	Pg	01 58 20.8	-13
AAK				*e*S	**Sn**	**01 59 34.6**	**+2.1**
AAK				Lg	Lg	02 00 20.1	
PKIN	**Phulchoki**	**9.07**	**165**	*e*P	**Pn**	**01 57 54.7**	**+0.4**
comp=E,12nm,0.5s							
PKI	**Pulchoki**	**9.08**	**165**	*e*P	**Pn**	**01 57 55.1**	**+0.6**
comp=E,15nm,0.5s							
JIRN	**Jiri**	**9.18**	**160**	*e*P	**Pn**	**01 57 56.7**	**+0.8**
comp=E,158nm,0.5s							
TAPN	**Taplejung**	**9.95**	**153**	*e*P	Pn	01 58 03.7	-2.8
RAMN	**Ramite**	**9.97**	**160**	*e*P	**Pn**	**01 58 05.2**	**-1.4**
comp=E,29nm,0.8s							
MNAS	**Manas**	**9.97**	**311**	⇑Pn	**Pn**	**01 58 04.3**	**-2.2**
comp=E,4.6nm,1.2s							
MNAS				⇓Pg		01 58 42.6	
comp=E,10.0nm,0.7s							
MNAS				⇓Lg	Lg	02 00 56.8	
comp=E,28nm,1.1s							
ODAN	**Odare**	**10.29**	**156**	*e*P	**Pn**	**01 58 10.0**	**-1.1**
comp=E,21nm,0.7s							
MK31	**Makanchi Array**	**10.41**	**358**	⇑Pn	**Pn**	**01 58 11.4**	**-1.0**
comp=E,2.7nm,0.3s,baz=189,slow=12,SNR=106							
MK31				⇑Sn	**Sn**	**02 00 07.0**	**-2.1**
comp=E,7.9nm,0.5s,baz=182,slow=25,SNR=4.8							
MK31				⇑Lg	Lg	02 01 10.4	
comp=E,34nm,0.8s							
MKAR	**Makanchi Array**	**10.41**	**358**	Pn	**Pn**	**01 58 11.2**	**-1.2**
comp=E,6.7nm,0.3s,baz=189,slow=11,SNR=84							
MKAR				Sn	**Sn**	**02 00 07.0**	**-2.0**
comp=E,4.0nm,0.3s,baz=182,slow=23,SNR=5.5							
MKAR				Lg	Lg	02 01 11.8	
comp=E,2.5nm,0.3s,baz=161,slow=30,SNR=3.7							
MKAR				LR	LR	02 03 06.8	
comp=E,151nm,18.1s,baz=142,slow=43							
KK31	**Karatay Array**	**11.54**	**309**	Pn	**Pn**	**01 58 27.3**	**-0.6**
comp=E,0.8nm,0.4s,baz=140,slow=14,SNR=6.9							
KK31				⇑Pg		01 59 11.4	
comp=E,3.8nm,0.7s,baz=128,slow=16,SNR=4.0							
KK31				⇑Lg	Lg	02 01 46.3	
comp=E,18nm,1.1s							
KKAR	**Karatay Array**	**11.54**	**309**	*e*Pn	**Pn**	**01 58 27.2**	**-0.7**
comp=E,4.4nm,0.6s							
GTA	**Gaotai**	**13.84**	**72**	*e*P	**P**	**01 59 11.3**	**+3.5**
GTA				pP	Pn	01 59 17.8	+18
GTA				sP		01 59 20.8	
GTA				pmax	pmax		
comp=Z,13nm,1.1s							
GTA	**Gaotai**	**13.84**	**72**	*e*P	**Pn**	**01 58 58.6**	**-0.8**
GTA				pP	P	01 59 02.2	-5.6
GTA				sP		01 59 05.4	
GTA				S	**Sn**	**02 01 34.7**	**+1.6**
GTA				sS	S	02 01 40.0	-15
GTA				SS	**SnSn**	**02 01 50.4**	**+5.1**
GTA				pmax	pmax		
comp=Z,5.0nm,0.8s							
GTA				LR	LR		
comp=Z,130nm,12.4s							
GTA				LR	LR		
comp=Z,140nm,12.8s							
GTA				LR	LR		
comp=Z,220nm,11.4s							
KURBB	**Kurchatov Arra**	**14.55**	**349**	Pn	Pn	01 59 05.6	-3.4
comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=22							
KURBB				Sn	**Sn**	**02 01 47.3**	**-2.9**
comp=Z,0.0nm,0.3s,baz=191,slow=24,SNR=2.7							
KURBB				Lg	Lg	02 03 23.2	
comp=Z,0.1nm,0.3s,baz=150,slow=32,SNR=4.1							
KURBB	**Kurchatov Arra**	**14.55**	**349**	⇓Pn	**Pn**	**01 59 07.2**	**-1.8**
comp=Z,7.2nm,1.1s							
KURBB				⇑Sn	**Sn**	**02 01 49.6**	**-0.6**
comp=Z,9.6nm,0.7s							
KURBB				⇑Lg	Lg	02 03 20.5	
comp=Z,46nm,1.2s							
KURK	**Kurchatov**	**14.63**	**350**	*e*Pn	Pn	01 59 06.9	-3.1
KURK				*e*S	**Sn**	**02 01 52.6**	**+0.5**
KURK			

comp=Z,3.3nm,0.6s
ULN Ulaanbaatar 21.29 50 *e*P **P 02 00 32.0 +2.1**
comp=Z,36nm,0.8s
TLY Talaya 21.34 38 LR LR 02 09 32.7
comp=Z,53nm,18.4s,baz=202,slow=39
CHTO Chiang Mai 22.59 136 *e*P **P 02 00 42.5 -1.4**
comp=Z,2.4nm,0.6s
AKTO Aktyubinsk 22.65 316 P **P 02 00 42.9 -1.3**
comp=Z,2.5nm,0.7s,baz=109,slow=8.4,SNR=9.1
AKTO Aktyubinsk 22.65 316 ⇑P **P 02 00 43.6 -0.6**
comp=Z,7.2nm,0.9s
CMAR Chiang Mai Arr 22.88 137 P **P 02 00 46.8 -0.1**
comp=Z,2.4nm,0.6s,baz=315,slow=10,SNR=12
WSAR Wadi Sarin 24.59 244 P **P 02 01 03.5 +0.1**
comp=Z,5.6nm,1.0s,baz=49,slow=11,SNR=3.8
ARU Arti 25.83 329 P **P 02 01 12.5 -1.9**
comp=Z,1.7nm,0.3s,baz=108,slow=19,SNR=2.9
ARU LR LR 02 12 48.7
comp=Z,76nm,18.9s,baz=176,slow=40
KBZ Khabaz 31.12 296 LR LR 02 17 54.2
comp=Z,90nm,18.5s,baz=59,slow=43
KSAR Wonju Array Be 35.87 74 P **P 02 02 44.4 +1.3**
KSRS Korea Array 35.89 74 P **P 02 02 44.4 +1.1**
comp=Z,0.6nm,0.4s,baz=274,slow=7.2,SNR=3.2
BRTR Keskin Array B 38.41 290 P **P 02 03 04.7 -0.2**
comp=Z,0.9nm,0.8s,baz=92,slow=7.7,SNR=4.4
AKASG Malin Array Be 40.44 308 P **P 02 03 21.0 -0.4**
comp=Z,0.1nm,0.3s,baz=71,slow=8.3,SNR=4.3
FINES FINESS Array B 43.02 324 P **P 02 03 41.7 -0.7**
comp=Z,3.2nm,0.9s,baz=79,slow=9.9,SNR=6.0
ARCES ARCESS Array B 45.05 335 P **P 02 03 57.9 -0.8**
comp=Z,4.0nm,0.9s,baz=104,slow=7.7,SNR=6.3
NB2 NORSAR Subarra 50.17 323 P **P 02 04 36.8 -1.8**
comp=Z,0.9nm,0.7s,baz=112,slow=8.6
NOA NORSAR Array B 50.17 323 P **P 02 04 37.2 -1.3**
comp=Z,1.3nm,0.8s,baz=86,slow=7.5,SNR=4.0
GERES GERESS Array B 50.63 307 P **P 02 04 41.8 -0.5**
comp=Z,0.7nm,0.5s,baz=60,slow=7.9,SNR=5.3
ESDC Sonseca Array 65.69 302 P **P 02 06 26.2 -1.6**
comp=Z,0.4nm,0.7s,baz=74,slow=7.2,SNR=3.9
ILAR Eielson Array 71.97 20 P **P 02 07 05.6 -0.9**
comp=Z,1.2nm,0.8s,baz=311,slow=5.6,SNR=14
WRA Warramunga Arr 74.27 130 P **P 02 07 20.2 -0.4**
comp=Z,1.8nm,0.7s,baz=326,slow=5.6,SNR=13
DAWY Dawson 74.50 18 *e*P **P 02 07 21.2 -0.3**
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 75.16 275 P P 02 07 23.5 -2.4
comp=Z,0.8nm,0.7s,baz=47,slow=5.4,SNR=7.5
ASAR Alice Springs 76.82 133 P **P 02 07 35.3 0.0**
comp=Z,0.9nm,0.8s,baz=316,slow=6.2,SNR=10.0

MEX 10 02:05:43.4±0.2, 17°.22N×100°.29W, h16km±3km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**174**	*i* P	Pg	02 05 47.0	-0.8
CAIG				*i* S	Sg	02 05 49.9	-0.8
MEIG	**Mezcala**	**0.94**	**42**	*e*P	Pb	02 05 58.2	-3.2
MEIG				*i* S	Sb	02 06 09.7	-4.1
ARIG	**Puente Sto Nin**	**1.05**	**357**	*e*P	Pb	02 05 59.5	-3.8
ARIG				*i* S	Sb	02 06 12.3	-4.6
PLIG	**Platanillo**	**1.38**	**33**	*i* P	Pn	02 06 04.4	-3.7
PLIG				*i* S	Sn	02 06 20.9	-5.2
TLIG	**Tlapa**	**1.68**	**78**	*i* P	Pn	02 06 08.7	-3.5
TLIG				*i* S	Sn	02 06 28.1	-5.3

ISCJB ***10*** *02:11:47.8±0.3, 7°.55S±0°.05×120°.13E±0°.05, h400km, mb4.0/7, Error ellipse: s-maj=8.6km s-min=5.4km az=137.9*
DJA ***10*** *02:11:51.3±0.8, 8°.S±5°.×12°.0E±°, h375km±8km, M3.9/9, MLv3.9/9*
IDC ***10*** *02:11:52.8±2.4, 7°.40S×120°.57E, h451km±29km, mb3.7/8, mb1 3.8/9, mb1mx3.3/33, mbtmp4.5/9, Error ellipse: s-maj=30.8km s-min=8.4km az=58.0*
ISC 10 02:11:48.7±0.6, 7°.62S±0°.06×120°.19E±0°.06, h400km, n36, σ1°.24/41, mb4.1/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.50**	**12**	P	**Pn**	**02 12 42.3**	**+0.4**
BSSI	**Bau Bau, Buton**	**1.50**	**12**	P	**Pn**	**02 12 42.1**	**+0.2**
MMRI	**Maumere**	**2.27**	**117**	P	**Pn**	**02 12 46.5**	**+0.1**
MMRI	**Maumere**	**2.27**	**117**	P	**Pn**	**02 12 45.6**	**-0.8**
BASI	**Baing, Sumba**	**2.61**	**172**	P	**Pn**	**02 12 50.2**	**+1.3**
BASI				S	**S**	**02 13 36.8**	**-0.7**
PLAI	**Plampang**	**2.67**	**243**	P	**Pn**	**02 12 49.9**	**+0.6**
PLAI				S	**S**	**02 13 37.9**	**-0.4**
PLAI	**Plampang**	**2.67**	**243**	P	Pn	02 12 43.1	-6.2
BBSI	**Bau Bau**	**3.18**	**48**	P	**Pn**	**02 12 54.6**	**+1.2**
BBSI	**Bau Bau**	**3.18**	**48**	P	**Pn**	**02 12 55.0**	**+1.6**
TWSI	**Taliwang, Sumb**	**3.46**	**251**	P	**Pn**	**02 12 56.4**	**+0.6**
TWSI				S	**S**	**02 13 48.3**	**-1.8**
SPSI	**Sidrap Palu**	**3.66**	**353**	P	**Pn**	**02 12 59.0**	**+1.4**
SPSI	**Sidrap Palu**	**3.66**	**353**	P	**Pn**	**02 12 58.7**	**+1.1**
KDI	**Kendari**	**4.37**	**34**	P	**Pn**	**02 13 05.0**	**+0.6**
SOEI	**Soe**	**4.56**	**118**	P	**Pn**	**02 13 06.9**	**+0.5**
SOEI				S	**S**	**02 14 09.1**	**-0.3**
TTSI	**Tana Toraja**	**4.56**	**355**	P	**Pn**	**02 13 06.9**	**+0.6**
TTSI	**Tana Toraja**	**4.56**	**355**	P	**Pn**	**02 13 06.8**	**+0.5**
WRA	**Warramunga Arr**	**18.39**	**133**	P	**P**	**02 15 37.6**	**+0.1**
WRA				S	**S**	**02 18 42.0**	**-4.2**
ASAR	**Alice Springs**	**20.68**	**142**	P	**P**	**02 16 00.3**	**+0.9**
ASAR				S	**S**	**02 19 21.9**	**-2.2**
NWAO	**Narrogin (SRO)**	**25.33**	**186**	P	**P**	**02 16 43.0**	**+1.8**
STKA	**Stephens Creek**	**31.31**	**143**	P	**P**	**02 17 35.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**33.33**	**321**	P	**P**	**02 17 52.0**	**+0.7**
TAPN	**Taplejung**	**46.87**	**319**	*e*P	**P**	**02 19 40.9**	**-0.4**
RAMN	**Ramite**	**47.33**	**318**	*e*P	**P**	**02 19 44.5**	**-0.3**
JIRN	**Jiri**	**48.08**	**318**	*e*P	**P**	**02 19 49.8**	**-0.7**
GUN	**Gumba**	**48.45**	**318**	*e*P	**P**	**02 19 52.9**	**-0.4**
PKI	**Pulchoki**	**48.54**	**317**	*e*P	**P**	**02 19 52.9**	**-1.1**
PKIN	**Phulchoki**	**48.55**	**317**	*e*P	**P**	**02 19 52.8**	**-1.2**
KKN	**Kakani**	**48.77**	**318**	*e*P	**P**	**02 19 54.8**	**-0.8**
GKN	**Gorkha**	**49.34**	**317**	*e*P	**P**	**02 19 58.2**	**-1.5**
KOLN	**Koldanda**	**49.89**	**316**	*e*P	**P**	**02 20 02.9**	**-1.0**
PYUN	**Piuthan**	**50.52**	**316**	*e*P	**P**	**02 20 07.7**	**-0.9**
SONM	**Songino Array**	**56.55**	**349**	P	**P**	**02 20 50.4**	**-0.9**
MKAR	**Makanchi Array**	**63.79**	**332**	P	**P**	**02 21 39.1**	**-0.6**
ZALV	**Zalesovo Beam**	**68.19**	**338**	P	**P**	**02 22 05.7**	**-1.5**
VNDA	**Vanda**	**73.16**	**171**	P	**P**	**02 22 37.5**	**+1.0**
CPUP	**Villa Florida**	**146.16**	**184**	PKPbc	**PKPdf**	**02 30 43.5**	**+1.7**

ATH ***10*** *02:41:08.8, 40°.23N×20°.61E, h30km±4km, ML1.6/1, Error ellipse: s-maj=4.2km s-min=1.7km az=195.0*
TIR ***10*** *02:41:08.3±0.8, 40°.16N×20°.67E, h6km±999km, ML2.6*
CSEM ***10*** *02:41:09.3±0.2, 40°.22N×20°.59E, h30km, ML1.6, Error ellipse: s-maj=6.4km s-min=4.1km az=130.0*
ISC 10 02:41:09.1±1.7, 40°.22N±0°.03×20°.65E±0°.09, h7km±24km, n14, σ0°.44/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.42**	**14**	*i* PG	**Pb**	**02 41 18.6**	**-0.3**
KBN				*i* SG	**Sb**	**02 41 25.6**	**+0.2**
KBN	**Korca**	**0.42**	**14**	*i* Pg	**Pb**	**02 41 18.6**	**-0.3**
KBN	SNR=90			*i* Sg	**Sb**	**02 41 25.6**	**+0.2**
JAN	**Janina**	**0.58**	**165**	P	**Pb**	**02 41 21.3**	**-0.4**
JAN				S	**Sb**	**02 41 30.6**	**+0.4**
JAN				AML	AML	02 41 35.7	
	comp=E,142μm,0.4s						
JAN				AML	AML	02 41 36.1	
	comp=N,109μm,0.5s						
JAN	**Janina**	**0.58**	**165**	P	**Pb**	**02 41 21.3**	**-0.4**
JAN				S	**Sb**	**02 41 30.6**	**+0.4**
SRN	**Sarande**	**0.60**	**236**	*i* PG	**Pg**	**02 41 20.4**	**-0.3**
SRN				*i* SG	**Sg**	**02 41 29.3**	**+0.6**
SRN	**Sarande**	**0.60**	**236**	*i* Pg	**Pg**	**02 41 20.4**	**-0.4**
SRN	SNR=90			*i* Sg	**Sg**	**02 41 29.3**	**+0.7**
KPRO	**Kipourio**	**0.61**	**116**	P	**Pb**	**02 41 21.5**	**-0.6**
KPRO	**Kipourio**	**0.61**	**116**	P	**Pb**	**02 41 21.5**	**-0.6**
FNA	**Florina**	**0.79**	**44**	P	**Pb**	**02 41 24.9**	**-0.3**
FNA	**Florina**	**0.79**	**44**	P	**Pb**	**02 41 24.9**	**-0.3**
KEK	**Kerkira**	**0.83**	**233**	P	**Pg**	**02 41 24.8**	**-0.2**
KEK	**Kerkira**	**0.83**	**233**	P	**Pg**	**02 41 24.8**	**-0.2**
KZN	**Kozani**	**0.86**	**84**	P	**Pb**	**02 41 26.7**	**+0.3**
KZN	**Kozani**	**0.86**	**84**	P	**Pb**	**02 41 26.7**	**+0.3**

DDA 10 02:42:38.3, 39°.02N×29°.00E, h7km, Md2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**276**	*i* P	Pg	02 42 42.8	+0.2
DEMI				*i* S	Sg	02 42 46.6	+1.0
MANT	**Manisa**	**0.63**	**213**	*i* P	Pb	02 42 51.2	-0.5
MANT				*i* S	Sg	02 42 59.7	+1.0

NIED ***10*** *02:45:00, 37°.50N×141°.50E, h53km, Mw5.7 Best double couple: M0 3.52000×10^17 NP1:φs190.00000°, δ22.00000°, λ79.00000°. NP2:φs22.00000°, δ69.00000°, λ94.00000°.*
BJI ***10*** *02:45:53.2, 37°.45N×141°.54E, h46km, mb5.6/83, mB5.4/69, Ms5.4/88, Ms7 5.2/85*
MOS ***10*** *02:45:54.7±0.8, 37°.63N×141°.22E, h30km, mb5.8/104, MS5.3/55, Error ellipse: s-maj=6.3km s-min=3.9km az=100.5*
GCMT ***10*** *02:45:57.9±0.1, 37°.56N×141°.48E, h53km, MW5.7/128, Moment Tensor Solution. s118,c231; s128,c314; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr3.25±.04; Mθθ-0.40±.03; Mφφ-2.85±.03; Mrθ0.84±.03; Mθφ-0.93±.03; Mφr2.38±.04; Best double couple: M0 4.08000×10^17 NP1:φs19.00000°, δ64.00000°, λ90.00000°. NP2:φs198.00000°, δ26.00000°, λ89.00000°. Principal axes: T 4.1240, Plg71.0000°, Azm290.0000°; N -0.0880, Plg0.0000°, Azm199.0000°; P -4.0350, Plg19.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
JMA ***10*** *02:45:57.0±0.1, 37°.51N×141°.49E, h47km±1km, M5.6 Broadband fault plane solution: P waves. NP1: φs18.00000°, δ47.00000°, λ84.00000°. NP2:φs207.00000°, δ43.00000°, λ97.00000°. Principal axes: T Plg85.0000°, Azm224.0000°; N Plg5.0000°, Azm22.0000°; P Plg2.0000°, Azm112.0000°;*
JMA Felt IV J1.
IDC ***10*** *02:45:57.8±1.3, 37°.54N×141°.32E, h49km±12km, mb5.3/32, mb1 5.4/37, mb1mx5.3/41, mbtmp5.5/37, ML4.8/4, MS5.0/32, Ms1 5.0/32, ms1mx4.9/37 Error ellipse: s-maj=11.8km s-min=7.4km az=95.0*
ISCJB ***10*** *02:45:57.9±0.2, 37°.53N±0°.02×141°.31E±0°.02, h60km±1km, mb5.5/389, Error ellipse: s-maj=2.7km s-min=2.0km az=156.2*
NEIC ***10*** *02:45:57.0±0.0, 37°.55N×141°.22E, h50km, Moment Tensor Solution. s19 Moment tensor: Scale 1017Nm; Mrr2.07; Mθθ-0.89; Mφφ-1.18; Mrθ0.82; Mφφ-0.32; Mφr2.71; Best double couple: M0 3.40000×10^17 NP1:φs19.00000°, δ74.00000°, λ87.00000°. NP2:φs211.00000°, δ16.00000°, λ102.00000°. Principal axes: T 3.6700, Plg60.0000°, Azm284.0000°; N -0.7200, Plg3.0000°, Azm19.0000°; P -2.9500, Plg29.0000°, Azm111.0000°;*
NEIC ***10*** *02:45:57.9±0.1, 37°.55N×141°.26E, h46km, mb5.4/257, MS5.1/138, MW5.7, MW5.6 Error ellipse: s-maj=2.9km s-min=1.9km az=143.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^17Nm; Mrr3.05; Mθθ-1.48; Mφφ-1.56; Mrθ1.10; Mθφ-1.99; Mφr2.14; Best double couple: M0 4.10000×10^17 NP1:φs237.00000°, δ29.00000°, λ112.00000°. NP2:φs33.00000°, δ63.00000°, λ79.00000°. Principal axes: T 3.9100, Plg70.0000°, Azm281.0000°; N 0.3400, Plg10.0000°, Azm38.0000°; P -4.2500, Plg18.0000°, Azm132.0000°;*
NEIC Felt widely in eastern Honshu. Recorded [4 JMA] in Fukushima and Miyagi.
ISC 10 02:45:57.3±0.3, 37°.56N±0°.03×141°.39E±0°.03, h45km±2km, h45km; pP-P, n1483, σ1°.53/1544, mb5.5/410, MS5.2/209, 86C-59D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.45**	**244**	||P	**Pn**	**02 46 08.1**	**+0.4**
JFK				S	**Sn**	**02 46 16.1**	**+1.0**
JMM	**Marumori**	**0.56**	**303**	||P	**Pn**	**02 46 10.2**	**+1.2**
JMM				S	**Sn**	**02 46 19.5**	**+2.1**
ONAJ	**Iwakimizuishiy**	**0.66**	**226**	||P	**Pn**	**02 46 10.3**	**-0.1**
ONAJ				S	**Sn**	**02 46 19.6**	**-0.1**
JFT	**Otama**	**0.84**	**267**	||P	**Pn**	**02 46 14.1**	**+1.4**
JFT				S	**Sn**	**02 46 25.9**	**+2.0**
JIO	**Ouri**	**0.89**	**358**	||P	**Pn**	**02 46 14.0**	**+0.6**
JIO				S	**Sn**	**02 46 26.1**	**+0.9**
JOU	**Okura**	**0.98**	**325**	||P	**Pn**	**02 46 15.7**	**+1.0**
JOU				*e*S	**Sn**	**02 46 29.7**	**+2.2**
JHO	**Hitachi**	**1.15**	**215**	||P	**Pn**	**02 46 16.2**	**-0.8**
JYS	**Shiratake**	**1.23**	**303**	||P	**Pn**	**02 46 19.5**	**+1.4**
JYS				*e*S	**Sn**	**02 46 35.6**	**+2.0**
JSB	**Shiboa**	**1.31**	**244**	||P	**Pn**	**02 46 20.2**	**+1.0**
JFY	**Yanaizu**	**1.35**	**264**	||P	**Pn**	**02 46 20.8**	**+1.1**
JFY				*e*S	**Sn**	**02 46 38.2**	**+1.8**
JMK	**Ichinoseki**	**1.39**	**355**	||P	**Pn**	**02 46 21.0**	**+0.7**
JMK				*e*S	**Sn**	**02 46 39.2**	**+1.7**
JYK	**Kaneyama**	**1.58**	**329**	||P	**Pn**	**02 46 24.3**	**+1.5**
JNS	**Sasagawa**	**1.66**	**279**	||P	**Pn**	**02 46 25.3**	**+1.4**
JYA	**Atsumi**	**1.67**	**308**	||P	**Pn**	**02 46 25.8**	**+1.7**
JKT	**Katashina**	**1.88**	**246**	||P	**Pn**	**02 46 28.7**	**+1.6**
JAW	**Awa shima**	**1.91**	**298**	P	**Pn**	**02 46 28.6**	**+1.3**
JHK	**Hiroka**	**1.91**	**261**	||P	**Pn**	**02 46 28.6**	**+1.2**
JAG	**Ashikaga**	**1.92**	**234**	||P	**Pn**	**02 46 28.0**	**+0.5**
JRG	**Rokugo**	**1.92**	**342**	||P	**Pn**	**02 46 29.4**	**+1.8**
JIZZ	**Izumozaki**	**2.13**	**270**	||P	**Pn**	**02 46 32.3**	**+2.0**
JTB	**Tobi-shima**	**2.17**	**319**	||P	**Pn**	**02 46 32.3**	**+1.3**
JYW	**Yuwa**	**2.18**	**335**	||P	**Pn**	**02 46 33.3**	**+2.3**
I30JP	**ISUMI INFRASON**	**2.41**	**201**	P	**Pn**	**02 46 36.6**	**+2.4**
I30JP	baz=21,slow=16,SNR=0.9			*i*		03 05 30.0	
JSD	**Sado**	**2.52**	**282**	||P	**Pn**	**02 46 36.7**	**+1.0**
JRY	**Ryogami san**	**2.52**	**233**	||P	**Pn**	**02 46 36.3**	**+0.5**
JJN	**Nakama**	**2.61**	**261**	||P	**Pn**	**02 46 38.8**	**+1.8**
JAH	**Hinai**	**2.69**	**348**	||P	**Pn**	**02 46 40.2**	**+2.2**
MJAR	**Matsushiro Arr**	**2.74**	**249**	P	**Pn**	**02 46 39.8**	**+1.0**
MJAR	167nm,0.3s,baz=46,slow=12,SNR=659			S	**Sn**	**02 47 15.3**	**+4.7**
MJAR	281nm,0.3s,baz=326,slow=26,SNR=6.4			LR	LR	02 48 02.0	
	comp=Z,59μm,19.4s,baz=70,slow=47						
MAJO	**Matsushiro**	**2.74**	**249**	*d* iP	**Pn**	**02 46 40.5**	**+1.7**
MAJO	**Matsushiro**	**2.74**	**249**	*e*Pn	**Pn**	**02 46 40.7**	**+1.9**
MAT	**Matsushiro**	**2.74**	**249**	P	**Pn**	**02 46 40.8**	**+2.0**
MAT				*e*S	**Sn**	**02 47 17.1**	**+6.4**
MAT	**Matsushiro**	**2.74**	**249**	P	**Pn**	**02 46 40.7**	**+2.0**
MJB9	**Matsu-Tunnel**	**2.74**	**249**	*e*Pn	**Pn**	**02 46 40.7**	**+1.9**
JNG	**Nsakai**	**2.87**	**247**	||P	**Pn**	**02 46 42.5**	**+1.8**
JYN	**Shimob**	**3.08**	**229**	||P	**Pn**	**02 46 44.6**	**+1.1**
JNT	**Takato**	**3.11**	**238**	P	**Pn**	**02 46 45.9**	**+2.0**
JGN	**Niukaw**	**3.53**	**249**	||P	**Pn**	**02 46 51.9**	**+2.3**
JHG	**Hegura jima**	**3.55**	**276**	||P	**Pn**	**02 46 51.2**	**+1.3**
JNY	**Yasuok**	**3.59**	**233**	P	**Pn**	**02 46 53.0**	**+2.4**
JAO	**Obara**	**4.04**	**237**	||P	**Pn**	**02 46 59.0**	**+2.3**
INU	**Inuyama**	**4.16**	**239**	*e*Pn	**Pn**	**02 47 00.8**	**+2.5**
JHJ2	**Mitsune**	**4.62**	**197**	*e*Pn	**Pn**	**02 47 04.4**	**-0.2**
JHJ	**Hachijo jima 2**	**4.62**	**197**	P	**Pn**	**02 47 04.8**	**+0.2**
JHJ	516nm,0.3s,baz=93,slow=7.1,SNR=19			S	**Sn**	**02 47 57.0**	**0.0**
	753nm,0.3s,baz=49,slow=23,SNR=8.3						
JWT	**Wachi**	**5.34**	**247**	||P	**Pn**	**02 47 17.1**	**+2.7**
JAD	**Aida**	**6.39**	**248**	||P	**Pn**	**02 47 31.4**	**+2.5**
ASAJ	**Asahikawa**	**6.61**	**8**	P	**Pn**	**02 47 31.0**	**-0.9**
ASAJ	14nm,0.3s,baz=234,slow=9.6,SNR=38			S	**Sn**	**02 48 47.0**	**+1.1**
ASAJ	**Asahikawa**	**6.61**	**8**	*e*Pn	**Pn**	**02 47 32.0**	**+0.2**
ASAJ	29nm,0.3s,baz=26,slow=32,SNR=6.8			*e*Sn	**Sn**	**02 48 41.7**	**-4.2**
JHS	**Saijyo**	**7.15**	**252**	P	**Pn**	**02 47 42.9**	**+3.5**
YUK	**Yuzh-Kuril'sk**	**7.30**	**26**	*d* iP	**Pn**	**02 47 43.0**	**+1.7**
YUK				*e*S	**Sn**	**02 48 59.7**	**-3.1**
YUK				pmax	pmax		
	comp=Z,627nm,0.2s						
YUK				pmax	pmax		
	comp=E,373nm,0.4s						
YUK				pmax	pmax		
	comp=N,94nm,0.2s						
YUK				MLR	MLR		
	comp=Z,5μm,14.0s						
YUK				MLR	MLR		
	comp=E,7μm,10.0s						
SHO	**Shikotan**	**7.53**	**32**	*e*P	**Pn**	**02 47 44.3**	**-0.2**
SHO				*e*S	**Sn**	**02 49 02.4**	**-6.1**
SHO				pmax	pmax		
	comp=E,209nm,0.4s						
SHO				pmax	pmax		
	comp=Z,341nm,0.4s						
SHO				pmax	pmax		
	comp=N,66nm,0.2s						
JGT2	**ShimaneMisato**	**7.59**	**253**	P	**Pn**	**02 47 49.7**	**+4.4**
JHM	**Kurahashi**	**7.96**	**247**	P	**Pn**	**02 47 53.7**	**+3.3**
JKU	**Kubokawa**	**8.01**	**240**	P	**Pn**	**02 47 54.2**	**+3.1**
JTO	**Tosashimizu**	**8.45**	**239**	P	**Pn**	**02 47 59.5**	**+2.4**
KUR	**Kuril'sk**	**9.07**	**30**	*e*P	**Pn**	**02 48 07.2**	**+1.6**
KUR				*e*S	**Sn**	**02 49 44.7**	**-1.6**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=Z,329nm,0.5s						
KUR				pmax	pmax		
	comp=E,159nm,0.4s						
KUR				smax	smax		
	comp=E,734nm,0.4s						
KUR				smax	smax		
	comp=N,304nm,0.6s						
KUR				MLR	MLR		
	comp=Z,4μm,16.0s						
VLA	**Vladivostok**	**9.13**	**310**	*de*P	**Pn**	**02 48 08.6**	**+2.2**
VLA				*e*S	**Sn**	**02 49 51.9**	**+4.2**
VLA				pmax	pmax		
	comp=Z,849nm,1.1s						
MSHR	**Mys Shultsa**	**9.30**	**306**	⇑*e*P	**Pn**	**02 48 10.9**	**+2.2**
YSS	**Yuzh-Sakhalins**	**9.44**	**6**	⇑*e*P	**Pn**	**02 48 12.0**	**+1.4**
YSS				*e*S	**Sn**	**02 49 52.1**	**-3.1**
YSS				pmax	pmax		
	comp=Z,190nm,0.7s						
YSS				pmax	pmax		
	comp=N,160nm,0.6s						
YSS				pmax	pmax		
	comp=Z,600nm,5.3s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.44**	**6**	*e*Pn	**Pn**	**02 48 10.0**	**-0.6**
JNU	**Nakatsue**	**9.66**	**246**	P	**Pn**	**02 48 16.9**	**+3.2**
JNU	comp=Z,13nm,0.3s,baz=57,slow=2.6,SNR=57			LR	LR	02 52 24.8	
	comp=Z,22μm,20.8s,baz=58,slow=40						
JNU	**Nakatsue**	**9.66**	**246**	*e*Pn	**Pn**	**02 48 16.4**	**+2.7**
USRK	**Ussuriysk Ar.**	**9.72**	**316**	P	**Pn**	**02 48 16.3**	**+1.9**
USRK	comp=Z,35nm,0.3s,baz=124,slow=17,SNR=35			LR	LR	02 51 50.3	
	comp=Z,19μm,19.1s,baz=127,slow=36						
CBIJ	**Chichi jima**	**10.46**	**176**	*e*Pn	**Pn**	**02 48 21.9**	**-2.8**
KSRS	**Korea Array**	**10.70**	**274**	P	Pn	02 48 32.8	+4.9
KSRS	comp=Z,20nm,0.3s,baz=86,slow=14,SNR=169			LR	LR	02 52 21.6	
	comp=Z,12μm,20.8s,baz=64,slow=36						
KS01	**Wonju Array Si**	**10.72**	**274**	*e*Pn	**Pn**	**02 48 31.7**	**+3.5**
KS15	**Wonju Array Si**	**10.73**	**273**	*e*Pn	**Pn**	**02 48 32.2**	**+3.9**
KSAR	**Wonju Array Be**	**10.73**	**273**	P	**Pn**	**02 48 32.8**	**+4.5**
KSAR	**Wonju Array Be**	**10.73**	**273**	P	**Pn**	**02 48 32.8**	**+4.5**
MDJ	**Mudanjiang**	**11.34**	**312**	P	**Pn**	**02 48 39.9**	**+3.2**
MDJ				sP		02 48 54.7	
MDJ				S	**Sn**	**02 50 47.2**	**+5.3**
MDJ				pmax	pmax		
	comp=Z,180nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,620nm,3.8s						
MDJ				LR	LR		
	comp=Z,6μm,15.7s						
MDJ				LR	LR		
	comp=Z,8μm,20.7s						
MDJ				LR	LR		
	comp=Z,13μm,22.4s						
MDJ	**Mudanjiang**	**11.34**	**312**	*e*Pn	**Pn**	**02 48 40.9**	**+4.3**
INCN	**Inchon**	**11.72**	**274**	*e*Pn	Pn	02 48 47.0	+5.1
HABR	**Khabarovsk**	**11.84**	**339**	*e*P	**Pn**	**02 48 40.2**	**-3.2**
HABR				*e*S	**Sn**	**02 50 49.8**	**-4.3**
HABR				pmax	pmax		
	comp=Z,46nm,0.9s						
HABR				pmax	pmax		
	comp=Z,3μm,13.0s						
TYV	**Tymovskoe**	**13.33**	**3**	*e*P	Pn	02 48 57.7	-6.0
TYV				pmax	pmax		
	comp=Z,700nm,3.9s						
TYV				pmax	pmax		
	comp=Z,158nm,0.9s						
TYV				MLR	MLR		
	comp=N,5μm,24.0s						
TYV				MLR	MLR		
	comp=Z,5μm,19.0s						
CN2	**Changchun**	**13.60**	**302**	*e*P	**Pn**	**02 49 08.0**	**+0.6**
CN2				*e*S	**Sn**	**02 51 39.7**	**+2.7**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,5μm,18.0s						
CN2				LR	LR		
	comp=Z,7μm,18.0s						
CN2				LR	LR		
	comp=Z,7μm,22.0s						
SNY	**Shenyang**	**14.35**	**293**	⇑P	**Pn**	**02 49 17.4**	**-0.3**
SNY				pmax	pmax		
	comp=Z,82nm,0.6s						
SNY				pmax	pmax		
	comp=Z,760nm,6.7s						
SNY				LR	LR		
	comp=Z,7μm,14.2s						
SNY				LR	LR		
	comp=Z,15μm,17.1s						
SNY				LR	LR		
	comp=Z,22μm,16.7s						
JOW	**Kunigami**	**15.40**	**230**	*e*Pn	**Pn**	**02 49 31.6**	**+0.1**
	comp=Z,86nm,0.6s						
DL2	**Dalian**	**15.59**	**281**	P	**Pn**	**02 49 35.2**	**+1.4**
DL2				PP	**pP**	**02 49 48.8**	**+0.8**
DL2				S	**Sn**	**02 52 27.8**	**+2.4**
DL2				pmax	pmax		
	comp=Z,390nm,0.6s						
DL2				pmax	pmax		
	comp=Z,2μm,6.8s						
DL2				LR	LR		
	comp=Z,8μm,19.5s						
DL2				LR	LR		
	comp=Z,10μm,19.8s						
NKL	**Nikolayevsk**	**15.60**	**358**	*e*P	**P

SKR				MLR	MLR	
	comp=Z,4μm,14.0s					
SSE	**Sheshan**	**17.87**	**255**	*e*P	**Pn**	**02 50 02.0 -0.5**
SSE				pP	**pP**	**02 50 09.0 -4.4**
SSE				S	**Sn**	**02 53 19.9 -1.0**
SSE				sS	**S**	**02 53 32.4 +6.7**
SSE				pmax	pmax	
	comp=Z,32nm,0.7s					
SSE				pmax	pmax	
	comp=Z,1μm,11.2s					
SSE				LR	LR	
	comp=Z,6μm,21.9s					
SSE				LR	LR	
	comp=Z,4μm,21.9s					
SSE				LR	LR	
	comp=Z,6μm,22.9s					
PEA0	**Petropavlovsk-**	**19.24**	**31**	*e*P	**P**	**02 50 18.4 +0.7**
PEA0B	**Petropavlovsk-**	**19.24**	**31**	*e*P	**Pn**	**02 50 19.6 +0.7**
	comp=Z,168nm,1.4s					
PETK	**Petropavlovsk-**	**19.24**	**31**	P	**P**	**02 50 18.1 +0.5**
	comp=Z,0.6nm,0.3s,baz=212,slow=6.8,SNR=15					
PETK				PcP	**PcP**	**02 54 38.6 -0.5**
	comp=Z,0.7nm,0.3s,baz=174,slow=4.5,SNR=3.7					
PETK				LR	LR	02 57 28.4
	comp=Z,2μm,21.7s,baz=219,slow=36					
PETK				PKP2ab		03 28 41.8
	comp=Z,2.2nm,0.3s,baz=87,slow=6.2,SNR=6.9					
NJ2	**Nanjing**	**19.29**	**260**	*e*P	**P**	**02 50 18.6 +0.3**
NJ2				pP	**pP**	**02 50 26.2 -2.8**
NJ2				sP	**sP**	**02 50 34.8 +0.1**
NJ2				S	**S**	**02 53 52.5 -1.7**
NJ2				sS	**sS**	**02 54 09.3 -2.0**
NJ2				pmax	pmax	
	comp=Z,57nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,1μm,4.1s					
NJ2				LR	LR	
	comp=Z,5μm,22.8s					
NJ2				LR	LR	
	comp=Z,4μm,26.2s					
NJ2				LR	LR	
	comp=Z,7μm,25.0s					
TIA	**Tai'an**	**19.45**	**273**	⇑P	**P**	**02 50 19.0 -1.0**
TIA				PP	**sP**	**02 50 39.0 +2.6**
TIA				S	**S**	**02 53 53.2 -4.2**
TIA				SS	**SnSn**	**02 54 21.1 +7.9**
TIA				pmax	pmax	
	comp=Z,70nm,1.0s					
TIA				pmax	pmax	
	comp=Z,800nm,4.0s					
TIA				LR	LR	
	comp=Z,4μm,18.2s					
TIA				LR	LR	
	comp=Z,6μm,13.6s					
TIA				LR	LR	
	comp=Z,8μm,13.4s					
HIA	**Hailar**	**19.52**	**314**	*e*P	**P**	**02 50 19.5 -1.3**
HIA				pmax	pmax	
	comp=Z,73nm,0.6s					
HIA	**Hailar**	**19.52**	**314**	*e*P	**P**	**02 50 19.5 -1.3**
	comp=Z,73nm,0.6s					
PET	**Petropavlovsk**	**19.58**	**32**	*ce*P	**P**	**02 50 19.8 -1.5**
PET				*e*S	**S**	**02 53 50.0 -10**
PET				pmax	pmax	
	comp=Z,800nm,8.4s					
PET				pmax	pmax	
	comp=Z,1μm,6.9s					
PET				pmax	pmax	
	comp=Z,75nm,1.0s					
PET				MLR	MLR	
	comp=Z,3μm,18.0s					
PET				MLR	MLR	
	comp=Z,4μm,20.0s					
PET	**Petropavlovsk**	**19.58**	**32**	*e*P	**Pn**	**02 50 24.3 +1.4**
	comp=Z,66nm,1.0s					
BJI	**Beijing**	**19.79**	**285**	P	**P**	**02 50 22.4 -1.3**
BJI				sP	**sP**	**02 50 38.0 -2.1**
BJI				S	**S**	**02 53 58.3 -5.8**
BJI				sS	**sS**	**02 54 18.0 -3.4**
BJI				pmax	pmax	
	comp=Z,120nm,0.8s					
BJI				pmax	pmax	
	comp=Z,820nm,4.0s					
BJI				LR	LR	
	comp=Z,3μm,15.3s					
BJI				LR	LR	
	comp=Z,3μm,23.3s					
BJI				LR	LR	
	comp=Z,6μm,30.7s					
BJT	**Baijiatuau**	**19.79**	**285**	*e*P	**P**	**02 50 22.5 -1.3**
BJT				pmax	pmax	
	comp=Z,160nm,0.5s					
BJT	**Baijiatuau**	**19.79**	**285**	*e*P	**P**	**02 50 22.5 -1.3**
	comp=Z,160nm,0.5s					
YOJ	**Yonaguni jima**	**20.41**	**235**	*e*P	**P**	**02 50 27.9 -2.7**
YOJ				pmax	pmax	
	comp=Z,214nm,1.3s					
YOJ				MLR	MLR	
	comp=Z,2μm,20.0s					
YOJ	**Yonaguni jima**	**20.41**	**235**	*e*P	**P**	**02 50 27.9 -2.7**
	comp=Z,214nm,1.3s					
YOJ				LR	LR	
	comp=Z,2μm,20.0s					
TATO	**Taipei**	**21.08**	**239**	*e*P	**P**	**02 50 36.9 -0.9**
	comp=Z,2μm,0.6s					
TATO				LR	LR	
	comp=Z,3μm,20.0s					
YHNB	**Yeheng**	**21.36**	**239**	*e*P	**P**	**02 50 39.5 -1.4**
	comp=Z,163nm,0.5s					
YHNB				LR	LR	
	comp=Z,2μm,18.0s					
NACB	**Ninganchiao**	**21.55**	**237**	*e*P	**P**	**02 50 39.1 -3.7**
	comp=Z,77nm,0.5s					
NACB				*e*S	**S**	**02 54 37.0 -2.3**
NACB				LR	LR	
	comp=Z,2μm,20.0s					
CLNS	**Chul'man**	**22.19**	**336**	*e*P	**P**	**02 50 52.6 +3.1**
CLNS				*e**PP	**pP**	**02 50 57.4 -3.0**
CLNS				*e*		02 51 05.8
CLNS				*e*		02 54 43.8
CLNS				*e*S	**S**	**02 54 49.5 -1.6**
CLNS				pmax	pmax	
	comp=N,59nm,0.8s					
CLNS				pmax	pmax	
	comp=Z,135nm,0.9s					
CLNS				pmax	pmax	
	comp=E,29nm,0.8s					
CLNS				pmax	pmax	
	comp=Z,45nm,0.7s					
CLNS				pmax	pmax	
	comp=E,52nm,0.8s					
CLNS				pmax	pmax	
	comp=N,58nm,0.8s					
CLNS				smax	smax	
	comp=N,109nm,1.4s					
CLNS				smax	smax	
	comp=E,44nm,1.2s					
CLNS				MLR	MLR	
	comp=Z,4μm,18.0s					
CLNS				MLR	MLR	
	comp=E,2μm,17.0s					
CLNS				MLR	MLR	
	comp=N,4μm,19.0s					
SSLB	**Suanglung**	**22.24**	**238**	*e*P	**P**	**02 50 46.6 -3.7**
	comp=N,70nm,0.6s					
SSLB				*e*S	**S**	**02 54 48.2 -4.1**
SSLB				LR	LR	
	comp=Z,2μm,20.0s					
YULB	**Yu-li**	**22.28**	**236**	*e*P	**P**	**02 50 45.6 -5.1**
YULB				*e*S	**S**	**02 54 56.8 +3.6**
YULB				LR	LR	
	comp=Z,1μm,20.0s					
TPUB	**Ta-pu**	**22.79**	**237**	*e*P	**P**	**02 50 52.7 -3.4**
	comp=Z,146nm,0.6s					
TPUB				*e*S	**S**	**02 55 07.2 +5.2**
TPUB				LR	LR	
	comp=Z,3μm,21.0s					
TWG	**Pinlang**	**22.83**	**236**	*e*P	**P**	**02 50 54.4 -2.1**
	comp=Z,627nm,0.6s					
TWG				*e*Sn	Sn	02 55 14.4 -5.6
MA2	**Magadan**	**22.84**	**12**	P	**P**	**02 50 56.2 -0.1**
	comp=Z,144nm,0.8s,baz=200,slow=9.1,SNR=30					
MA2				LR	LR	02 59 46.6
	comp=Z,1μm,21.5s,baz=196,slow=36					
MA2	**Magadan**	**22.84**	**12**	*ce*P	**P**	**02 50 56.4 +0.1**
TIY	**Taiyuan**	**22.89**	**279**	*e*P	**P**	**02 50 54.3 -2.9**
TIY				S	**S**	**02 54 56.9 -6.8**
TIY				SS	**SnSn**	**02 55 49.5 +12**
TIY				pmax	pmax	
	comp=Z,110nm,0.8s					
TIY				pmax	pmax	
	comp=Z,760nm,6.3s					
TIY				LR	LR	
	comp=Z,3μm,15.9s					
TIY				LR	LR	
	comp=Z,5μm,16.3s					
TIY				LR	LR	
	comp=Z,6μm,15.1s					
QZH	**Quanzhou**	**23.12**	**244**	⇓*i*P	**P**	**02 50 58.8 -0.7**
QZH				S	**S**	**02 55 03.9 -3.7**
QZH				pmax	pmax	
	comp=Z,160nm,0.6s					
QZH				pmax	pmax	
	comp=Z,2μm,8.0s					
QZH				LR	LR	
	comp=Z,2μm,10.5s					
QZH				LR	LR	
	comp=Z,8μm,17.7s					
QZH				LR	LR	
	comp=Z,11μm,19.4s					
HHC	**Hu-ho-hao-te**	**23.29**	**287**	*e*P	**P**	**02 50 57.4 -3.7**
HHC				pP	pP	02 51 08.4 -3.9
HHC				sP	sP	02 51 14.6 -3.3
HHC				PP	**PnPn**	**02 51 29.4 +1.2**
HHC				S	**S**	**02 55 02.8 -7.5**
HHC				SS	**SnSn**	**02 55 48.5 +1.0**
HHC				pmax	pmax	
	comp=Z,38nm,0.7s					
HHC				pmax	pmax	
	comp=Z,670nm,9.0s					
HHC				LR	LR	
	comp=Z,6μm,14.8s					
HHC				LR	LR	
	comp=Z,6μm,16.0s					
HHC				LR	LR	
	comp=Z,6μm,18.5s					
WHN	**Wuhan**	**23.42**	**261**	⇑P	**P**	**02 51 01.3 -1.0**
WHN				S	**S**	**02 55 01.7 -11**
WHN				LR	LR	
	comp=Z,3μm,11.6s					
WHN				LR	LR	
	comp=Z,10μm,14.8s					
WHN				LR	LR	
	comp=Z,21μm,32.8s					
GUMO	**Guam**	**24.08**	**172**	LR	LR	03 01 29.2
	comp=Z,1μm,18.8s,baz=19,slow=39					
CIT	**Chita**	**24.28**	**315**	*e*P	**P**	**02 51 09.1 -1.1**
CIT				*e*		02 51 14.5
CIT				*e*		02 51 20.9
CIT				*e*		02 51 45.1
CIT				*e*		02 51 58.0
CIT				pmax	pmax	
	comp=Z,287nm,1.6s					
BTO	**Baotou**	**24.47**	**287**	*e*P	**P**	**02 51 11.4 -0.7**
YAK	**Yakutsk**	**25.55**	**347**	P	**P**	**02 51 20.9 -0.7**
	comp=Z,745nm,0.7s,baz=332,slow=0.1,SNR=103					
YAK				LR	LR	03 01 52.6
	comp=Z,6μm,18.9s,baz=92,slow=37					
YAK	**Yakutsk**	**25.55**	**347**	*c i*P	**P**	**02 51 21.3 -0.2**
YAK				*e**PP	**pP**	**02 51 34.8 +1.4**
YAK				*e*		02 51 58.1
YAK				*e*S	**S**	**02 55 43.6 -2.2**
YAK				pmax	pmax	
	comp=Z,403nm,0.9s					
YAK				pmax	pmax	
	comp=N,80nm,0.9s					
YAK				pmax	pmax	
	comp=Z,176nm,1.0s					
YAK				pmax	pmax	
	comp=N,58nm,0.8s					
YAK				smax	smax	
	comp=N,879nm,3.2s					
YAK	**Yakutsk**	**25.55**	**347**	*e*P	**P**	**02 51 20.8 -0.7**
	comp=N,935nm,0.7s					
SEY	**Seymchan**	**26.28**	**11**	P	**P**	**02 51 28.8 +0.7**
	comp=N,147nm,1.0s,baz=200,slow=7.7,SNR=24					
SEY				LR	LR	03 03 28.0
	comp=N,1μm,19.5s,baz=191,slow=40					
SEY	**Seymchan**	**26.28**	**11**	⇑*e*P	**P**	**02 51 30.0 +1.9**
XAN	**Xi'an**	**26.49**	**272**	P	**P**	**02 51 29.5 -0.9**
XAN				pP	pP	02 51 41.8 -0.5
XAN				PP	**PnPn**	**02 52 15.5 +3.5**
XAN				S	**S**	**02 55 56.4 -5.0**
XAN				pmax	pmax	
	comp=N,250nm,0.6s					
XAN				LR	LR	
	comp=N,2μm,23.7s					
XAN				LR	LR	
	comp=N,2μm,21.6s					
XAN				LR	LR	
	comp=N,4μm,20.1s					
ULN	**Ulaanbaatar**	**27.04**	**303**	*ce*P	**P**	**02 51 34.9 -0.5**
ULN				pmax	pmax	
	comp=Z,80nm,0.6s					
ULN	**Ulaanbaatar**	**27.04**	**303**	*e*P	**P**	**02 51 35.2 -0.2**
	comp=Z,105nm,0.6s					
ULN				LR	LR	
	comp=Z,4μm,18.0s					
ULN	**Ulaanbaatar**	**27.04**	**303**	P	**P**	**02 51 35.3 -0.2**
	SNR=25					
ULN	**Ulaanbaatar**	**27.04**	**303**	P	**P**	**02 51 35.3 -0.2**
	SNR=25					
BOD	**Bodaibo**	**27.07**	**327**	*e*P	**P**	**02 51 34.8 -0.5**
BOD				pmax	pmax	
	comp=Z,80nm,0.7s					
ENH	**Enshi**	**27.36**	**264**	*e*P	**P**	**02 51 37.4 -0.8**
	comp=Z,261nm,0.6s					
ENH				LR	LR	
	comp=Z,4μm,22.0s					
SONA1	**Songino Array**	**27.47**	**303**	*e*P	**P**	**02 51 39.2 0.0**
SONM	**Songino Array**	**27.48**	**303**	P	**P**	**02 51 38.5 -0.7**
	comp=Z,118nm,0.6s,baz=106,slow=8.1,SNR=300					
SONM				PcP	**PcP**	**02 54 56.6 0.0**
	comp=Z,8.9nm,0.6s,baz=131,slow=3.0,SNR=5.5					
GZH	**Guangzhou**	**28.05**	**247**	⇑*i*P	P	02 51 39.6 -4.8
GZH				S	S	02 56 14.8 -11
GZH				pmax	pmax	
	comp=Z,3μm,4.2s					
H11N2	**WAKE ISLAND Hy**	**28.44**	**122**	T	T	03 22 03.4
	baz=315,slow=75,SNR=1053					
H11N1	**WAKE ISLAND Hy**	**28.45**	**122**	T	T	03 22 04.0
	baz=315,slow=75,SNR=1653					
H11N3	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	03 22 04.8
	baz=315,slow=75,SNR=1399					
WAKE	**Wake Island**	**28.59**	**123**	PFAKE		02 52 00.0 +11
WAKE				LR	LR	
	comp=Z,4μm,20.0s					
H11S1	**WAKE ISLAND Hy**	**29.17**	**124**	T	T	03 22 57.1
	baz=316,slow=76,SNR=1694					
H11S3	**WAKE ISLAND Hy**	**29.17**	**124**	T	T	03 22 54.8
	baz=316,slow=76,SNR=1302					
H11S2	**WAKE ISLAND Hy**	**29.18**	**124**	T	T	03 22 59.5
	baz=316,slow=76,SNR=1376					
TGY	**Tagaytay City**	**29.61**	**223**	P	**P**	**02 51 57.5 -0.9**
	comp=Z,191nm,0.4s,baz=85,slow=3.6,SNR=4.1					
ZAK	**Zakamensk**	**29.93**	**308**	*e*P	**P**	**02 52 00.3 -0.7**
ZAK				pmax	pmax	
	comp=Z,33nm,0.8s					
LZH	**Lanzhou**	**29.96**	**279**	*e*P	**P**	**02 52 00.3 -1.2**
LZH				pP	pP	02 52 11.9 -1.6
LZH				sP	sP	02 52 16.9 -1.9
LZH				PP	**PnPn**	**02 53 03.0 +3.8**
LZH				PcP	**PcP**	**02 55 05.2 +2.1**
LZH				*e*S	**S**	**02 56 53.0 -3.2**
LZH				sS	sS	02 57 12.6 -3.7
LZH				SS	**ScP**	**02 58 38.5 -3.0**
LZH				pmax	pmax	
	comp=Z,320nm,1.4s					
LZH				pmax	pmax	
	comp=Z,1μm,4.5s					
LZH				LR	LR	
	comp=Z,2μm,14.8s					
LZH				LR	LR	
	comp=Z,5μm,14.9s					
LZH				LR	LR	
	comp=Z,7μm,17.2s					
TLY	**Talaya**	**29.97**	**310**	P	**P**	**02 52 01.1 -0.2**
	comp=Z,52nm,0.6s,baz=108,slow=4.9,SNR=84					
TLY				LR	LR	03 04 33.6
	comp=Z,5μm,20.5s,baz=110,slow=37					
TLY	**Talaya**	**29.97**	**310**	*e*P	**P**	**02 52 01.8 +0.6**
TLY				*e*		02 53 11.9
TLY				*e*S	**S**	**02 56 55.3 -0.5**
TLY				pmax	pmax	
	comp=Z,54nm,0.7s					
TLY				MLR	MLR	
	comp=Z,4μm,14.0s					
TLY	**Talaya**	**29.97**	**310**	*e*P	**P**	**02 52 01.3 +0.1**
	comp=Z,55nm,0.6s					
TLY	**Talaya**	**29.97**	**310**	P	**P**	**02 52 01.0 -0.2**
	SNR=11					
TLY	**Talaya**	**29.97**	**310**	P	**P**	**02 52 01.0 -0.2**
	SNR=11					
OCLP	**Ormoc**	**30.40**	**214**	*e*P	**P**	**02 52 05.1 -0.2**
GYA	**Guiyang**	**31.29**	**259**	⇑*i*P	**P**	**02 52 11.9 -1.4**
GYA				pP	pP	02 52 26.0 +0.7
GYA				sP	sP	02 52 32.2 +1.6
GYA				PP	**PnPn**	**02 53 18.4 +1.8**
GYA				PcP	**PcP**	**02 55 08.9 +2.2**
GYA				S	**S**	**02 57 08.9 -8.2**
GYA				sS	sS	02 57 36.3 -0.9
GYA				ScP	**ScP**	**02 58 47.0 +1.0**
GYA				SS	**SnSn**	**02 59 02.4 -0.6**
GYA				ScS	**ScS**	**03 02 42.6 -1.1**
GYA				pmax	pmax	
	comp=Z,140nm,0.7s					
GYA				pmax	pmax	
	comp=Z,400nm,8.4s					
GYA				LR	LR	
	comp=Z,3μm,18.0s					
GYA				LR	LR	
	comp=Z,3μm,23.3s					
GYA				LR	LR	
	comp=Z,5μm,22.6s					
MOY	**Mondy**	**31.58**	**310**	*e*P	**P**	**02 52 15.2 -0.4**
MOY				pmax	pmax	
	comp=Z,73nm,3.2s					
CD2	**Chengdu**	**31.66**	**269**	⇑P	**P**	**02 52 14.9 -1.4**
CD2				pP	pP	02 52 26.6 -1.7
CD2				PP	**PP**	**02 53 26.4 -1.9**
CD2				S	**S**	**02 57 17.9 -4.7**
CD2				sS	sS	02 57 40.8 -1.9
CD2				pmax	pmax	
	comp=Z,210nm,0.5s					
CD2				pmax	pmax	
	comp=Z,1μm,4.8s					
CD2				LR	LR	
	comp=Z,5μm,17.4s					
CD2				LR	LR	
	comp=Z,4μm,19.9s					
CD2				LR	LR	
	comp=Z,5μm,16.9s					
BUSP	**Coron**	**31.75**	**222**	*e*P	**P**	**02 52 16.7 -0.4**
GTA	**Gaotai**	**32.39**	**286**	*e*P	**P**	**02 52 21.9 -0.9**
GTA				pP	pP	02 52 33.7 -1.1
GTA				sP	sP	02 52 39.0 -1.2
GTA				PcP	**PcP**	**02 55 10.2 +0.7**
GTA				S	**S**	**02 57 32.0 -2.1**
GTA				sS	sS	02 57 52.9 -1.3
GTA				SS	**SnSn**	**02 59 29.8 +0.4**
GTA				ScS	**ScS**	**03 02 47.2 -1.7**
GTA				pmax	pmax	
	comp=Z,13nm,0.8s					
GTA				pmax	pmax	
	comp=Z,630nm,7.5s					
GTA				LR	LR	
	comp=Z,3μm,20.0s					
GTA				LR	LR	
	comp=Z,4μm,21.0s					
GTA				LR	LR	
	comp=Z,5μm,22.3s					
ENPP	**El Nido**	**32.83**	**223**	*e*P	**P**	**02 52 25.8 -0.8**
BUKP	**Musuan**	**33.05**	**211**	*e*P	**P**	**02 52 26.7 -1.9**
QIZ	**Qiongzhong**	**33.13**	**245**	P	**P**	**02 52 29.1 -0.2**
QIZ				pP	**pP**	**02 52 39.5 -1.8**
QIZ				S	**S**	**02 57 44.1 -1.5**
QIZ				sS	**sS**	**02 58 06.2 +0.5**
QIZ				pmax	pmax	
	comp=Z,47nm,1.6s					
QIZ				pmax	pmax	
	comp=Z,510nm,11.5s					
QIZ				LR	LR	
	comp=Z,2μm,25.5s					
QIZ				LR	LR	
	comp=Z,2μm,23.4s					
QIZ				LR	LR	
	comp=Z,3μm,18.8s					
QIZ	**Qiongzhong**	**33.13**	**245**	*e*P	**P**	**02 52 30.6 +1.3**
	comp=Z,88nm,1.4s					
QIZ				LR	LR	
	comp=Z,3μm,19.0s					
MATI	**Mati**	**33.44**	**208**	*e*P	**P**	**02 52 31.0 -0.9**
BILL	**Bilibino**	**33.53**	**17**	*c i*P	**P**	**02 52 31.8 -0.4**
BILL				*i*		02 53 47.0
BILL				*i*		02 55 11.8
BILL				*i*S	**S**	**02 57 48.5 -2.3**
BILL				*i*SS	**SnSn**	**02 59 59.0 +2.9**
BILL				pmax	pmax	
	comp=Z,12nm,1.0s					
BILL				MLR	MLR	
	comp=Z,1μm,19.0s					
DAV	**Davao City (W)**	**33.58**	**209**	PFAKE		02 52 50.0 +17
DAV				LR	LR	
	comp=Z,2μm,22.0s					
PAGZ	**Pagadian**	**33.79**	**213**	*e*P	**P**	**02 52 33.1 -1.9**
CTBH	**Cotabato--PC H**	**33.98**	**212**	⇓*i*P	**P**	**02 52 37.9 +1.2**
PATS	**Pohnpei**	**34.24**	**149**	PFAKE		02 52 50.0 +11
PATS				LR	LR	
	comp=Z,4μm,22.0s					
TIXI	**Tiksi**	**34.76**	**353**	P	**P**	**02 52 42.6 -0.2**
	comp=Z,53nm,0.7s,baz=138,slow=4.9,SNR=23					
TIXI	**Tiksi**	**34.76**	**353**	*c i*P	**P**	**02 52 42.2 -0.7**
TIXI				pmax	pmax	
	comp=Z,52nm,0.7s					
TIXI				MLR	MLR	
	comp=Z,2μm,17.0s					
TIXI	**Tiksi**	**34.76**	**353**	*e*P	**P**	**02 52 42.5 -0.4**
	comp=Z,51nm,0.7s					
TIXI				LR	LR	
	comp=Z,2μm,20.0s					
KMI	**Kunming**	**35.02**	**261**	P	**P**	**02 52 45.4 -0.5**
KMI				pP	pP	02 52 55.1 -2.9
KMI				sP	sP	02 52 59.2 -4.2
KMI				PP	**PP**	**02 54 06.5 +0.6**
KMI				S	**S**	**02 58 06.4 -8.8**
KMI				pmax	pmax	
	comp=Z,150nm,0.7s					
KMI				pmax	pmax	
	comp=Z,730nm,4.8s					
KMI				LR	LR	
	comp=Z,2μm,17.9s					
KMI				LR	LR	
	comp=Z,4μm,16.8s					
KMI				LR	LR	
	comp=Z,5μm,28.6s					
SLVN	**Son La**	**36.15**	**254**	*e*P	**P**	**02 52 55.4 0.0**
	comp=Z,77nm,1.5s					
SLVN				LR	LR	
	comp=Z,2μm,19.0s					
PANO	**Nakornpanom**	**38.14**	**248**	P	**P**	**02 53 13.0 +0.7**
	comp=Z,43nm,1.5s					
MYLDM	**Lahad Datu**	**38.41**	**219**	*e*P	**P**	**02 53 16.4 +1.9**
	comp=Z,181nm,1.4s					
UBPT	**Khong Chiam**	**38.73**	**245**	P	**P**	**02 53 18.5 +1.3**
	comp=Z,51nm,1.0s					
DLV	**T Lat**	**38.94**	**238**	*e*P	**P**	**02 53 19.9 +0.6**
	comp=Z,116nm,0.6s					
DLV				LR	LR	
	comp=Z,2μm,22.0s					
SMPI	**Sarmi**	**39.43**	**184**	P	**P**	**02 53 27.4 +4.4**
	comp=Z,83nm,1.1s,comp=Z,1μm					
JAY	**Jayapura**	**39.88**	**181**	P	**P**	**02 53 26.6 -0.2**
	comp=Z,6.6nm,0.8s					
GENI	**Genyem**	**39.97**	**182**	P	**P**	**02 53 31.7 +4.2**
	comp=Z,64nm,0.9s					
KHON	**Khomkaen**	**39.98**	**249**	P	**P**	**02 53 27.8 +0.2**
	comp=Z,45nm,0.6s					
WMQ	**Urumqi**	**40.58**	**296**	P	**P**	**02 53 33.2 +0.7**
WMQ				pP	pP	02 53 44.4 -0.3
WMQ				PP	**PnPn**	**02 55 12.7 +2.1**
WMQ				PcP	**PcP**	**02 55 37.2 +3.3**
WMQ				S	**S**	**02 59 37.3 -1.5**
WMQ				sS	sS	03 00 00.7 +1.4
WMQ				SS	**SS**	**03 02 39.0 -0.7**
WMQ				pmax	pmax	
	comp=Z,220nm,0.9s					
WMQ				pmax	pmax	

comp=Z,2μm,3.7s
WMQ LR LR
comp=Z,2μm,12.9s
WMQ LR LR
comp=Z,3μm,27.9s
WMQ LR LR
comp=Z,5μm,26.9s
UTTA Uttaradit 40.81 252 P **P 02 53 34.5 0.0**
comp=Z,17nm,0.8s,comp=Z,356nm
CHAI Chaiyaphum 40.87 249 P **P 02 53 34.6 -0.5**
comp=Z,28nm,0.7s
LAMP Lampang 41.05 254 P **P 02 53 36.9 +0.4**
comp=Z,32nm,0.6s,comp=Z,279nm
FAKI Fak Fak 41.16 194 P **P 02 53 39.1 +1.7**
comp=Z,85nm,0.8s,comp=Z,971nm
FAKI Fak Fak 41.16 194 *e*P **P 02 53 36.5 -0.9**
comp=Z,58nm,0.7s
FAKI LR LR
comp=Z,3μm,22.0s
CHTO Chiang Mai 41.40 255 P **P 02 53 39.1 -0.3**
comp=Z,224nm,0.7s,comp=Z,4μm
CHTO Chiang Mai 41.40 255 *e*P **P 02 53 39.2 -0.2**
CHTO pmax pmax
comp=Z,32nm,0.6s
CHTO MLR MLR
comp=Z,2μm,21.0s
CHTO Chiang Mai 41.40 255 *e*P **P 02 53 39.2 -0.2**
comp=Z,32nm,0.6s
CHTO LR LR
comp=Z,2μm,21.0s
CHTO Chiang Mai 41.40 255 P **P 02 53 39.4 0.0**
SNR=12
CHTO Chiang Mai 41.40 255 P **P 02 53 39.4 0.0**
SNR=12
ZAA0 Zalesovo Array 41.54 312 *e*P **P 02 53 40.0 -0.2**
ZALV Zalesovo Beam 41.54 312 P **P 02 53 39.9 -0.3**
comp=Z,62nm,0.5s,baz=93,slow=7.9,SNR=160
ZALV PcP **PcP 02 55 35.8 -0.9**
comp=Z,32nm,0.6s,baz=142,slow=3.8,SNR=5.4
ZALV LR LR 03 11 31.3
comp=Z,4μm,20.1s,baz=70,slow=37
CM31 Chiang Mai Arr 41.61 255 *e*P **P 02 53 41.9 +0.8**
CMAR Chiang Mai Arr 41.61 255 P **P 02 53 39.5 -1.6**
comp=Z,16nm,0.5s,baz=41,slow=8.8,SNR=31
CMAR PcP **PcP 02 55 38.3 +0.7**
comp=Z,5.2nm,0.5s,baz=24,slow=2.9,SNR=4.8
CMAR LR LR 03 12 01.6
comp=Z,2μm,20.2s,baz=56,slow=38
CM01 Chiang Mai Arr 41.62 255 *e*P **P 02 53 40.9 -0.3**
SANI Sanana 41.92 203 P **P 02 53 42.5 -1.1**
comp=Z,101nm,0.6s,comp=Z,1μm
LSA Lhasa 42.14 275 P **P 02 53 46.3 +0.4**
LSA pmax pmax
comp=Z,32nm,1.2s
LSA Lhasa 42.14 275 *e*P **P 02 53 46.6 +0.7**
LSA pmax pmax
comp=Z,40nm,0.6s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 42.14 275 *e*P **P 02 53 46.6 +0.7**
comp=Z,40nm,0.6s
LSA LR LR
comp=Z,2μm,19.0s
MSAI Masohi 42.32 199 P P 02 53 53.9 +7.1
comp=Z,22nm,0.5s,comp=Z,2μm
NAYO Nakonayok 42.38 248 P **P 02 53 47.6 +0.2**
comp=Z,27nm,1.0s
NVS Novosibirsk 42.46 313‖ *i*P **P 02 53 48.2 +0.6**
NVS *e*S **S 03 00 06.3 +0.2**
NVS pmax pmax
comp=N,20nm,0.6s
NVS pmax pmax
comp=E,80nm,0.6s
NVS pmax pmax
comp=Z,84nm,0.6s
NVS smax smax
comp=N,26nm,1.4s
NVS smax smax
comp=E,33nm,1.4s
NLAI Namlea 42.71 201 P **P 02 53 53.6 +3.6**
comp=E,50nm,0.8s,comp=E,931nm
NRIK Noril'sk 42.78 335 P **P 02 53 49.5 -0.4**
comp=E,22nm,0.5s,baz=110,slow=7.6,SNR=17
NRIK PcP **PcP 02 55 40.9 +0.3**
comp=E,27nm,0.7s,baz=162,slow=3.0,SNR=3.5
NRIK LR LR 03 12 49.3
comp=E,2μm,19.1s,baz=109,slow=38
AAI Ambon 42.83 200 P **P 02 53 55.2 +4.2**
comp=E,124nm,1.1s
UTHA Uthaitani 42.99 251 P **P 02 53 52.7 +0.4**
comp=E,16nm,0.8s,comp=E,136nm
UMPA Umpang Tak 43.03 252 P **P 02 53 53.9 +1.2**
comp=E,21nm,1.0s,comp=E,752nm
PCI Palu 43.16 212 P **P 02 53 55.9 +2.3**
comp=E,94nm,1.2s,comp=E,862nm
BNDI Bandanaira 43.21 197 P P 02 54 01.6 +7.5
comp=E,447nm,1.0s,comp=E,5μm
SHL Shillong 43.39 269 *e*P **P 02 53 55.0 -0.7**
SHL *e*S **S 03 00 15.0 -5.9**
MK01 Makanchi Array 43.82 302 *e*P **P 02 53 58.3 -0.4**
MK31 Makanchi Array 43.82 302 *e*P **P 02 53 58.9 +0.1**
MK31 Makanchi Array 43.82 302 *e*P **P 02 53 58.9 +0.1**
MKAR Makanchi Array 43.82 302 P **P 02 53 58.9 +0.1**
comp=E,115nm,0.7s,baz=83,slow=9.0,SNR=270
MKAR LR LR 03 12 41.6
comp=E,2μm,21.4s,baz=82,slow=37
MKAR Makanchi Array 43.82 302 *e*P **P 02 53 58.9 +0.1**
MKAR pmax pmax
comp=Z,883nm,0.8s
MKAR Makanchi Array 43.82 302 *e*P **P 02 53 58.9 +0.1**
comp=Z,883nm,0.8s
MAKZ Makanchi 44.03 302 *e*P **P 02 54 00.8 +0.3**
MAKZ pmax pmax
comp=Z,157nm,1.0s
MAKZ MLR MLR
comp=Z,3μm,21.0s
MAKZ Makanchi 44.03 302 *e*P **P 02 54 00.8 +0.3**
comp=Z,157nm,1.0s
MAKZ LR LR
comp=Z,3μm,21.0s
SEM Semipalatinsk 44.60 307 *i*P **P 02 54 03.6 -1.6**
comp=Z,600nm,1.6s
SEM *i*S **S 03 00 37.0 -1.0**
SEM LR LR 03 11 40.8
comp=Z,2μm,16.9s
KDI Kendari 44.84 207 P **P 02 54 11.5 +4.3**
comp=Z,31nm,1.2s,comp=Z,706nm
TT01 Tatalina 44.99 35 *e*P **P 02 54 09.3 +1.5**
TTA Tatalina 45.00 35 *e*P **P 02 54 09.4 +1.4**
TTA pmax pmax
comp=Z,12nm,1.0s
TTA Tatalina 45.00 35 *e*P **P 02 54 09.0 +1.0**
comp=Z,12nm,1.0s
TTSI Tana Toraja 45.09 211 P P 02 54 16.6 +7.5
comp=Z,19nm,0.6s
SVW2 Sparrevohn 45.12 38 *e*P **P 02 54 09.5 +0.7**
comp=Z,39nm,1.0s
KURK Kurchatov 45.59 308*c i*P **P 02 54 12.5 -0.2**
KURK pmax pmax
comp=Z,774nm,0.6s
KURK Kurchatov 45.59 308 *e*P **P 02 54 12.7 0.0**
comp=Z,284nm,0.6s
KURK LR LR
comp=Z,4μm,19.0s
KURK Kurchatov 45.59 308 P **P 02 54 12.8 0.0**
SNR=86
KURK Kurchatov 45.59 308 P **P 02 54 12.8 0.0**
SNR=86
KURBB Kurchatov Arra 45.66 308 P **P 02 54 13.2 -0.1**
comp=Z,217nm,0.6s,baz=82,slow=8.0,SNR=1084
TAPN Taplejung 45.88 273 *e*P **P 02 54 16.1 +0.4**
comp=Z,184nm,0.4s
KSM Kuching 45.90 226 *e*P **P 02 54 15.5 -0.1**
comp=Z,50nm,0.7s
SPSI Sidrap Palu 45.95 211 P **P 02 54 16.5 +0.6**
comp=Z,18nm,0.8s
TARA Tarawa 46.26 134 PFAKE 02 54 30.0 +12
TARA LR LR
comp=Z,3μm,20.0s
SAUI Saumlaki 46.28 194 *e*P **P 02 54 18.3 -0.1**
comp=Z,174nm,0.9s
ODAN Odare 46.36 273 *e*P **P 02 54 19.7 +0.3**
comp=Z,161nm,0.5s
OHAK Old Harbor 46.38 43 PFAKE 02 54 30.0 +11
OHAK LR LR
comp=Z,2μm,22.0s
STKI Sintang 46.41 224 P **P 02 54 21.4 +1.8**

RSO Redoubt South 46.50 39 *e*P **P 02 54 21.7 +1.6**
PDGK Podgornoye 46.51 297 P **P 02 54 20.1 -0.2**
PDGK pmax pmax
comp=Z,116nm,0.5s
SHLS Shalkode 46.57 297 *i*P **P 02 54 17.3 -3.4**
comp=Z,946nm,0.6s
SHLS LRM MLR 03 15 27.6
comp=Z,763nm,13.9s
KDAK Kodiak Island 46.72 42 P **P 02 54 22.0 +0.6**
comp=Z,21nm,0.7s,baz=285,slow=4.0,SNR=7.2
KDAK Kodiak Island 46.72 42 *e*P **P 02 54 22.1 +0.6**
KDAK pmax pmax
comp=Z,227nm,1.6s
KDAK MLR MLR
comp=Z,2μm,21.0s
KDAK Kodiak Island 46.72 42 *e*P **P 02 54 22.1 +0.6**
comp=Z,227nm,1.6s
KDAK LR LR
comp=Z,2μm,21.0s
SPU Mount Spurr 46.83 38 *e*P **P 02 54 24.0 +1.6**
UZB Uzynbulak 46.89 297 *i*P **P 02 54 21.5 -1.7**
comp=Z,205nm,0.5s
UZB *i*S **S 03 01 09.5 -1.4**
UZB LRM MLR 03 15 19.6
comp=Z,1μm,16.3s
KAPI Kappang 46.91 210 P **P 02 54 23.6 +0.2**
SNR=13
KAPI Kappang 46.91 210 P **P 02 54 23.6 +0.2**
SNR=13
RAMN Ramite 46.95 274 *e*P **P 02 54 24.1 +0.1**
comp=Z,264nm,0.5s
JIRN Jiri 46.95 275 *e*P **P 02 54 24.6 +0.4**
comp=Z,809nm,0.4s
PMG Port Moresby 47.03 172 P **P 02 54 24.5 +0.2**
comp=Z,4.2nm,0.4s,baz=8.8,slow=8.0,SNR=3.8
PMG LR LR 03 13 52.2
comp=Z,370nm,21.7s,baz=6.5,slow=36
PMG Port Moresby 47.03 172‖ *e*P **P 02 54 27.4 +3.1**
PMG pmax pmax
comp=Z,99nm,2.5s
PMG Port Moresby 47.03 172 *e*P **P 02 54 25.8 +1.5**
comp=Z,24nm,0.9s
KPKS Kokpek 47.04 298 *i*P **P 02 54 23.4 -1.0**
comp=Z,1μm,0.8s
KPKS *i*S **S 03 01 12.4 -0.6**
KPKS LRM MLR 03 16 11.1
comp=Z,2μm,16.7s
GUN Gumba 47.08 275 *e*P **P 02 54 25.4 +0.2**
comp=Z,446nm,0.4s
ZHN Zhinishke 47.30 298 *i*P **P 02 54 25.4 -1.0**
comp=Z,184nm,0.9s
SATY Saty 47.34 297 *i*P **P 02 54 25.8 -1.0**
comp=Z,332nm,0.7s
PKI Pulchoki 47.61 275 *e*P **P 02 54 29.0 -0.3**
comp=Z,188nm,0.5s
KKN Kakani 47.61 275 *e*P **P 02 54 29.4 +0.2**
comp=Z,337nm,0.6s
PKIN Phulchoki 47.62 275 *e*P **P 02 54 29.1 -0.1**
comp=Z,68nm,0.4s
SKLT Songkhla 47.74 241 P **P 02 54 31.5 +1.5**
comp=Z,68nm,1.1s
DMN Daman 47.83 275 *e*P **P 02 54 31.0 +0.1**
comp=Z,82nm,0.4s
TOLK Toolik Lake Re 48.01 27 P **P 02 54 32.9 +1.4**
baz=267
GKN Gorkha 48.02 276 *e*P **P 02 54 32.5 +0.2**
comp=Z,326nm,0.5s
PMR Palmer 48.22 37 *e*P **P 02 54 33.6 +0.6**
PMR pmax pmax
comp=Z,37nm,0.8s
PMR MLR MLR
comp=Z,2μm,21.0s
PMR Palmer 48.22 37 *e*P **P 02 54 33.6 +0.6**
comp=Z,37nm,0.8s
PMR LR LR
comp=Z,2μm,21.0s
MDOK Medeo 48.27 298 *i*P **P 02 54 32.4 -1.6**
comp=Z,700nm,0.7s
MDOK *i*S **S 03 01 29.3 -1.3**
MDOK LR LR 03 14 23.5
comp=Z,3μm,19.4s
AAA Alma-Ata 48.35 298 *i*P **P 02 54 35.1 +0.6**
AAA *i*S S 03 01 42.9 +11
AAA pmax pmax
comp=Z,1μm,2.2s
AAA smax smax
comp=E,2μm,5.4s
AAA MLR MLR
comp=Z,6μm,10.0s
DANN Dangsing 48.56 277 *e*P **P 02 54 37.0 +0.4**
comp=Z,64nm,0.9s
KUU Kurty 48.56 299 *i*P **P 02 54 34.7 -1.4**
comp=Z,752nm,0.6s
KUU *i*S **S 03 01 33.7 -0.8**
KUU LR LR 03 15 02.7
comp=Z,523nm,15.2s
COLA College 48.64 32 *e*P **P 02 54 37.9 +1.6**
COLA pmax pmax
comp=Z,25nm,0.7s
COLA College 48.64 32 *e*P **P 02 54 37.5 +1.2**
comp=Z,25nm,0.7s
KOLN Koldanda 48.95 276 *e*P **P 02 54 39.8 +0.3**
comp=Z,195nm,0.5s
IL1 Eielson Array 49.06 33 *e*P **P 02 54 39.8 +0.2**
ILAR Eielson Array 49.06 33 P **P 02 54 40.1 +0.6**
comp=Z,38nm,0.8s,baz=270,slow=6.2,SNR=272
ILB Eielson Array 49.06 33 *e*P **P 02 54 40.1 +0.6**
KULM Kulim 49.07 239 *e*P **P 02 54 40.3 +0.1**
KULM LR LR
comp=Z,2μm,21.0s
BMNS Besmoynak 49.26 298 *i*P **P 02 54 40.1 -1.4**
BMNS *i*S **S 03 01 43.4 -1.1**
BMNS LR LR 03 15 11.2
comp=Z,1μm,16.8s
PYUN Piuthan 49.28 277 *e*P **P 02 54 42.4 +0.4**
comp=Z,545nm,0.7s
MMRI Maumere 49.33 205 *e*P **P 02 54 40.9 -1.2**
comp=Z,68nm,0.6s
IPM Ipoh 49.40 238 *e*P **P 02 54 42.0 -0.7**
comp=Z,61nm,0.7s
IPM LR LR
comp=Z,2μm,21.0s
BRZS Berezniki 49.47 308 *i*P **P 02 54 41.8 -1.1**
comp=Z,399nm,0.6s
BRZS *i*S **S 03 01 46.3 -0.7**
MYKOM Kota Tinggi 49.56 233 *e*P **P 02 54 43.4 -0.5**
comp=Z,24nm,1.0s
MYKOM LR LR
comp=Z,1μm,20.0s
SOEI Soe 49.73 202 *e*P **P 02 54 46.1 +0.8**
comp=Z,145nm,0.8s
HNR Honiara 49.88 156 PFAKE 02 55 00.0 +14
HNR LR LR
comp=Z,2μm,21.0s
FRU Bishkek 50.07 298 *e*P **P 02 54 47.0 -0.6**
FRU *e* 02 56 07.0
FRU *e*S **S 03 02 01.0 +5.3**
FRU pmax pmax
comp=Z,120nm,1.3s
FRU smax smax
comp=N,43nm,1.7s
KSH Kashi 50.17 294 P **P 02 54 52.5 +4.0**
KSH pP sP 02 55 06.4 +0.1
KSH sP pP 02 55 10.7 +10
KSH PcP **PcP 02 56 11.2 +3.9**
KSH PP **PP 02 56 49.0 +5.2**
KSH PcS **PcS 03 00 07.3 +2.8**
KSH S **S 03 02 00.6 +3.3**
KSH sS sS 03 02 21.4 +3.2
KSH ScS **ScS 03 04 36.1 +0.1**
KSH SS **SS 03 05 29.9 -0.8**
KSH pmax pmax
comp=N,37nm,0.6s
KSH pmax pmax
comp=N,690nm,5.8s
KSH LR LR
comp=N,3μm,14.7s
KSH LR LR
comp=N,2μm,16.0s
KSH LR LR
comp=N,5μm,15.1s
BVAR Borovoye Array 50.20 312 P **P 02 54 48.4 0.0**
comp=N,50nm,0.5s,baz=74,slow=7.7,SNR=190
BVAR PcP **PcP 02 56 07.0 -0.1**
comp=N,45nm,0.6s,baz=70,slow=3.8,SNR=7.2
AAK Ala-Archa 50.22 298*c i*P **P 02 54 48.9 0.0**

AAK pmax pmax
comp=Z,112nm,0.8s
AAK Ala-Archa 50.22 298 *e*P **P 02 54 49.2 +0.3**
comp=Z,78nm,0.6s
AAK LR LR
comp=Z,6μm,20.0s
AAK Ala-Archa 50.22 298 P **P 02 54 49.4 +0.5**
SNR=21
AAK Ala-Archa 50.22 298 P **P 02 54 49.4 +0.5**
SNR=21
BRVK Borovoye 50.26 312*c i*P **P 02 54 48.8 0.0**
BRVK pmax pmax
comp=Z,147nm,0.8s
BRVK Borovoye 50.26 312 *e*P **P 02 54 48.9 0.0**
comp=Z,107nm,1.1s
BRVK LR LR
comp=Z,4μm,18.0s
BRVK Borovoye 50.26 312 P **P 02 54 49.1 +0.3**
SNR=28
BRVK Borovoye 50.26 312 P **P 02 54 49.1 +0.3**
SNR=28
COEN Coen 51.27 178 *e*P **P 02 54 56.8 0.0**
comp=Z,29nm,0.9s
COEN LR LR
comp=Z,800nm,18.0s
EGAK Eagle 51.50 32 *e*P **P 02 54 58.8 +0.8**
comp=Z,19nm,0.6s
MNAS Manas 51.66 298 P **P 02 55 00.1 +0.4**
MNAS pmax pmax
comp=Z,96nm,0.6s
LHMI Lhok Sumawe 51.68 243 PFAKE 02 55 10.0 +10
LHMI LR LR
comp=Z,2μm,21.0s
DAWY Dawson 52.37 33 *e*P **P 02 55 05.8 +1.3**
comp=Z,12nm,0.8s
DAWY LR LR
comp=Z,1μm,21.0s
JAGI Jajag, Banyuwa 52.40 215 *e*P **P 02 55 03.2 -2.0**
comp=Z,52nm,1.1s
BKNI Bangkinang 52.48 235 *e*P **P 02 55 06.5 +0.6**
comp=Z,120nm,0.7s
BKNI LR LR
comp=Z,1μm,19.0s
KK31 Karatay Array 52.84 300 *i*P **P 02 55 08.1 -0.2**
KK31 pmax pmax
comp=Z,54nm,0.6s
KKAR Karatay Array 52.84 300 *e*P **P 02 55 08.2 -0.1**
KKAR MLR MLR
comp=Z,700nm,19.0s
KKAR Karatay Array 52.84 300 *e*P **P 02 55 08.2 -0.1**
comp=Z,775nm,0.6s
KKAR LR LR
comp=Z,700nm,19.0s
SMRI Semarang 52.95 220 *e*P **P 02 55 09.8 +0.4**
comp=Z,163nm,1.3s
IUG Iuzhnay 53.50 299 *i*P **P 02 55 12.1 -1.1**
comp=Z,576nm,0.7s
IUG *i*S **S 03 02 42.2 -0.7**
IUG LR LR 03 18 40.6
comp=Z,395nm,13.9s
UGM Wanagama 53.65 219 *e*P **P 02 55 13.7 -0.8**
comp=Z,134nm,0.8s
SVE Sverdlovsk 54.74 318*d i*P **P 02 55 22.4 +0.5**
SVE *e*S **S 03 02 55.6 -3.3**
SVE pmax pmax
comp=Z,117nm,0.8s
SVE MLR MLR
comp=Z,4μm,17.0s
SVE MLR MLR
comp=E,4μm,17.0s
MNAI Manna 54.91 229 *e*P **P 02 55 23.8 +0.1**
comp=E,280nm,1.4s
WHY Whitehorse 55.18 37 *e*P **P 02 55 27.2 +2.1**
comp=E,24nm,0.9s
WHY LR LR
comp=Z,800nm,21.0s
SKAG Skagway 55.29 38 *e*P **P 02 55 26.4 +0.5**
comp=Z,23nm,1.0s
SKAG LR LR
comp=Z,1μm,21.0s
SOKR Solikamsk 55.89 322*c i*P **P 02 55 28.3 -1.8**
SOKR S **S 03 03 12.4 -1.7**
SOKR pmax pmax
comp=Z,63nm,1.0s
SOKR MLR MLR
comp=Z,2μm,22.0s
ARU Arti 55.95 318 P **P 02 55 30.3 -0.3**
comp=Z,82nm,0.5s,baz=75,slow=4.4,SNR=125
ARU Arti 55.95 318*c i*P **P 02 55 30.3 -0.3**
ARU 02 56 26.6
ARU 02 57 35.2
ARU PPP PPP 02 58 46.7
ARU S **S 03 03 16.5 +1.4**
ARU 03 05 16.1
ARU SS **SS 03 07 05.6 +4.7**
ARU pmax pmax
comp=Z,118nm,0.8s
ARU MLR MLR
comp=Z,4μm,18.0s
ARU Arti 55.95 318 *e*P **P 02 55 30.0 -0.6**
comp=Z,115nm,0.9s
ARU LR LR
comp=Z,4μm,18.0s
KBL Kabul 57.21 291 *e*P **P 02 55 39.7 -0.5**
KBL pmax pmax
comp=Z,66nm,0.8s
KBL MLR MLR
comp=Z,2μm,20.0s
KBL Kabul 57.21 291 *e*P **P 02 55 39.7 -0.5**
comp=Z,66nm,0.8s
KBL LR LR
comp=Z,2μm,20.0s
MWH Moku'aweowe 57.22 90 PFAKE 02 55 50.0 +9.2
MWH LR LR
comp=Z,2μm,21.0s
SDHHI Sand Hill 57.51 90 PFAKE 02 56 00.0 +18
SDHHI LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 57.52 175 *e*P **P 02 55 42.8 +0.7**
CTAO pmax pmax
comp=Z,40nm,1.6s
CTAO Charters Tower 57.52 175 *e*P **P 02 55 42.8 +0.7**
comp=Z,40nm,1.6s
WB4 Warramunga Arr 57.54 188 PFAKE 02 55 50.0 +7.8
WB4 LR LR
comp=Z,900nm,22.0s
WB3 Warramunga Arr 57.56 188 PFAKE 02 55 50.0 +7.6
WB3 LR LR
comp=Z,900nm,22.0s
WC2 Warramunga Arr 57.56 188 PFAKE 02 55 50.0 +7.6
WC2 LR LR
comp=Z,900nm,21.0s
WRAB Tennant Creek 57.57 188*c i*P **P 02 55 41.3 -1.1**
WRAB pmax pmax
comp=Z,59nm,0.9s
WRAB Tennant Creek 57.57 188 *e*P **P 02 55 41.8 -0.6**
comp=Z,49nm,0.9s
WRAB LR LR
comp=Z,1μm,22.0s
WR0 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +18
WR0 LR LR
comp=Z,1μm,22.0s
WR8 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +18
WR8 LR LR
comp=Z,900nm,22.0s
WR9 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +18
WR9 LR LR
comp=Z,800nm,22.0s
WR7 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +18
WR7 LR LR
comp=Z,1μm,22.0s
WB2 Warramunga Arr 57.58 188 *e*P **P 02 55 41.5 -1.0**
WB2 LR LR
comp=Z,1μm,21.0s
WR1 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +17
WR1 LR LR
comp=Z,800nm,21.0s
WR5 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +17
WR5 LR LR
comp=Z,800nm,20.0s
WRA Warramunga Arr 57.58 188 P **P 02 55 41.5 -1.0**
comp=Z,24nm,0.4s,baz=5.5,slow=7.2,SNR=151
WRA LR LR 03 19 45.6
comp=Z,606nm,21.0s,baz=10.0,slow=35
WRA PKP2bc 03 25 40.0
comp=Z,2.3nm,0.8s,baz=200,slow=1.9,SNR=9.3
WR4 Warramunga Arr 57.58 188 PFAKE 02 56 00.0 +17

WR4				LR	LR	
	comp=Z,900nm,22.0s					
AB31	**Akbulak array**	**57.58**	**310**	P	**P**	**02 55 42.2 -0.1**
AB31				pmax	pmax	
	comp=Z,100nm,0.6s					
ABKAR	**Akbulak array**	**57.58**	**310**	*e*P	**P**	**02 55 42.1 -0.2**
	comp=Z,2μm,0.6s					
ABKAR				LR	LR	
	comp=Z,900nm,19.0s					
WC3	**Warramunga Arr**	**57.59**	**188**	*e*P	**P**	**02 55 41.4 -1.3**
	comp=Z,53nm,0.8s					
WC3				LR	LR	
	comp=Z,900nm,22.0s					
JCUZ	**Jacuzzi**	**57.66**	**90**	PFAKE		02 56 00.0 +17
JCUZ				LR	LR	
	comp=Z,2μm,19.0s					
HYB	**Hyderabad**	**58.20**	**268**	*i* P	**P**	**02 55 46.5 -0.6**
HYB				*e*pP	**pP**	**02 56 01.5 +1.6**
HYB				*e*PcP	**PcP**	**02 56 38.0 -0.2**
SPB1	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.7 +1.0**
SPB5	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 58.7 +0.1**
SPA1	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.7 +1.0**
SPA0	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.7 +1.0**
SPA2	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.7 +1.0**
SPB2	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.7 +1.0**
SPA3	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.6 +0.8**
SPB4	**Spitsbergen Ar**	**60.00**	**349**	*e*P	**P**	**02 55 59.2 +0.5**
KBS	**Kingsbay**	**60.13**	**350**	*e*P	**P**	**02 56 00.1 +0.6**
KBS				IAmb	IAmb	02 56 01.9
	comp=Z,78nm,0.8s					
KBS				*e*S	**S**	**03 04 15.3 +6.2**
KBS	**Kingsbay**	**60.13**	**350**	*e*P	**P**	**02 56 01.2 +1.7**
KBS	**Kingsbay**	**60.13**	**350**	*e*P	**P**	**02 56 01.0 +1.4**
	comp=Z,75nm,0.8s					
HSPB	**Hornsund (broa**	**60.92**	**348**	*e*P	**P**	**02 56 06.1 +1.1**
HSPB				IAmb	IAmb	02 56 07.7
	comp=Z,140nm,1.0s					
HSPB				*e*S	**S**	**03 04 22.0 +2.8**
AS01	**Alice Springs**	**61.30**	**188**	*e*P	**P**	**02 56 08.1 0.0**
AS31	**Alice Springs**	**61.31**	**188**	*e*P	**P**	**02 56 08.0 -0.2**
	comp=Z,10nm,0.6s					
ASAR	**Alice Springs**	**61.31**	**188**	P	**P**	**02 56 07.8 -0.4**
	comp=Z,15nm,0.7s,baz=11,slow=6.8,SNR=155					
ASAR				LR	LR	03 22 11.6
	comp=Z,598nm,21.0s,baz=354,slow=36					
ASAR				PKPPKP	**P'P'df**	**03 25 18.8 +2.1**
	comp=Z,0.3nm,0.6s,baz=188,slow=2.6,SNR=4.5					
ASAR				PKP2bc		03 25 30.9
	comp=Z,2.7nm,0.8s,baz=178,slow=2.3,SNR=20					
MBWA	**Marble Bar**	**61.87**	**203**	*e*P	**P**	**02 56 11.5 -0.4**
	comp=Z,35nm,0.8s					
APA	**Apatity**	**62.20**	**336**⇓	*i* P	**P**	**02 56 13.3 -0.4**
APA				*i*		02 56 54.2
APA				*i*		02 58 33.2
APA				*i* S	**S**	**03 04 31.0 -4.6**
APA				pmax	pmax	
	comp=Z,70nm,0.6s					
APA				MLR	MLR	
	comp=Z,3μm,15.0s					
TMCR	**Tamitsa**	**62.27**	**331**	*e*P	**P**	**02 56 14.7 +0.5**
TMCR				pmax	pmax	
	comp=Z,88nm,0.9s					
PALK	**Pallekele**	**62.46**	**257**	LR	LR	03 25 18.3
	comp=Z,895nm,21.6s,baz=117,slow=38					
PALK	**Pallekele**	**62.46**	**257**	*e*P	**P**	**02 56 16.7 +0.4**
PALK				pmax	pmax	
	comp=Z,23nm,0.8s					
PALK	**Pallekele**	**62.46**	**257**	*e*P	**P**	**02 56 16.7 +0.4**
	comp=Z,23nm,0.8s					
KEV	**Kevo**	**62.94**	**339**	*e*P	**P**	**02 56 19.1 +0.6**
KEV				pmax	pmax	
	comp=Z,73nm,0.8s					
KEV	**Kevo**	**62.94**	**339**	*e*P	**P**	**02 56 19.1 +0.6**
	comp=Z,73nm,0.8s					
EIDS	**Eidsvold**	**63.26**	**170**	*e*P	**P**	**02 56 21.7 +0.6**
	comp=Z,128nm,1.8s					
EIDS				LR	LR	
	comp=Z,1μm,22.0s					
KLMR	**Klimovskoe**	**63.30**	**328**	*e*P	**P**	**02 56 19.3 -1.8**
KLMR				*e*		02 58 39.6
KLMR				*e*PPP	PPP	03 00 07.3
KLMR				pmax	pmax	
	comp=Z,93nm,0.7s					
HAMF	**Hammerfest**	**63.31**	**341**	*e*P	**P**	**02 56 21.0 -0.1**
HAMF				IAmb	IAmb	02 56 22.6
	comp=Z,48nm,0.7s					
HAMF				*e*S	**S**	**03 04 50.8 +1.3**
YKA	**Yellowknife Ar**	**63.36**	**30**	P	**P**	**02 56 21.9 +0.5**
	comp=Z,20nm,0.7s,baz=304,slow=6.7,SNR=24					
YKA				LR	LR	03 26 53.2
	comp=Z,17nm,19.0s,baz=0.0,slow=39					
ARA0	**ARCESS Array S**	**63.49**	**339**	*e*P	**P**	**02 56 22.8 +0.5**
ARCES	**ARCESS Array B**	**63.49**	**339**	P	**P**	**02 56 22.8 +0.5**
	comp=Z,57nm,0.8s,baz=43,slow=6.2,SNR=76					
ARCES				LR	LR	03 27 58.7
	comp=Z,1μm,18.0s,baz=49,slow=40					
ARE0	**ARCESS Array S**	**63.49**	**339**	*e*P	**P**	**02 56 22.8 +0.5**
ARE0				IAmb	IAmb	02 56 24.0
	comp=Z,88nm,1.0s					
ARE0				*e*S	**S**	**03 04 53.7 +1.8**
ARE0				*e*SS	**SS**	**03 09 01.6 +3.0**
ARE0				IAMs_20	IAMs_20	03 25 01.3
	comp=Z,3μm,20.8s					
ARE0	**ARCESS Array S**	**63.49**	**339**	*e*P	**P**	**02 56 23.0 +0.7**
	comp=Z,89nm,1.0s					
ARE0				LR	LR	
	comp=Z,4μm,22.0s					
GEYT	**Alibeck**	**63.56**	**299**	P	**P**	**02 56 23.5 +0.2**
	comp=Z,78nm,0.6s,baz=28,slow=3.6,SNR=154					
GEYT				LR	LR	03 25 14.8
	comp=Z,1μm,22.0s,baz=80,slow=37					
DZM	**Mont Dzumac**	**63.84**	**154**	*e*P	**P**	**02 56 26.5 +1.3**
	comp=Z,44nm,1.4s					
DZM				*e*pP	**sP**	**02 56 41.4 -1.8**
	comp=Z,350nm,1.4s					
DZM				*e*S	**S**	**03 04 56.0 -1.2**
	comp=Z,930nm,28.8s					
DZM	**Mont Dzumac**	**63.84**	**154**	*e*LR	LR	03 15 50.0
	comp=Z,3μm,21.4s					
KTK1	**Kautokeino**	**64.45**	**339**	*e*P	**P**	**02 56 29.1 +0.5**
KTK1				IAmb	IAmb	02 56 30.2
	comp=Z,76nm,0.8s					
MSVF	**Nonsavu**	**64.93**	**141**	PFAKE		02 56 50.0 +18
MSVF				LR	LR	
	comp=Z,2μm,22.0s					
TRO	**Tromso**	**65.21**	**341**	*e*P	**P**	**02 56 36.9 +3.5**
TRO				IAmb	IAmb	02 56 38.9
	comp=Z,118nm,1.3s					
TRO				*e*S	**S**	**03 05 15.3 +2.4**
DAG	**Danmarks Havn**	**65.25**	**355**⇑	*i* P	**P**	**02 56 33.4 -0.2**
	comp=Z,70nm,0.8s					
DAG	**Danmarks Havn**	**65.25**	**355**⇑	*i* P	**P**	**02 56 33.4 -0.2**
DAG				pmax	pmax	
	comp=Z,53nm,0.8s					
LLLB	**Lillooet**	**65.89**	**44**	*e*P	**P**	**02 56 39.4 +1.1**
	comp=Z,38nm,1.1s					
NLWA	**Neilton Lookou**	**66.37**	**48**	*e*P	**P**	**02 56 42.9 +1.5**
	comp=Z,57nm,1.1s					
A04D	**Lummi Island**	**66.38**	**46**	P	**P**	**02 56 42.5 +1.2**
	baz=300					
MOS	**Moscow**	**66.81**	**323**	*e*P	**P**	**02 56 41.5 -2.5**
MOS				*e*		02 57 11.4
MOS				pmax	pmax	
	comp=Z,103nm,1.1s					
MOS				pmax	pmax	
	comp=Z,400nm,2.1s					
MOS				MLR	MLR	
	comp=Z,1μm,18.0s					
B05A	**Bryant**	**66.96**	**46**	P	**P**	**02 56 46.5 +1.5**
	baz=301,SNR=5.8					
E03A	**Lebam**	**66.98**	**48**	*e*P	**P**	**02 56 48.1 +2.9**
	comp=Z,54nm,1.2s					
B06A	**Marblemount**	**67.18**	**46**	*e*P	**P**	**02 56 48.0 +1.6**
	comp=Z,62nm,1.4s					
STEI	**Steigen**	**67.36**	**341**	*e*P	**P**	**02 56 47.4 +0.2**
STEI				IAmb	IAmb	02 56 48.2
	comp=Z,44nm,0.7s					
D05A	**Enumclaw**	**67.58**	**47**	*e*P	**P**	**02 56 51.1 +2.1**
	comp=Z,49nm,1.1s					
PUL	**Pulkovo**	**67.73**	**329**	*ce*P	**P**	**02 56 50.2 +0.5**
PUL				pmax	pmax	
	comp=Z,113nm,0.8s					
C06D	**Leavenworth**	**67.83**	**46**	P	**P**	**02 56 52.1 +1.5**
	baz=302					
LPSR	**Galich'ya Gora**	**67.88**	**320**	*e*P	**P**	**02 56 50.4 -0.4**
LPSR				pmax	pmax	
	comp=Z,80nm,0.5s					
LON	**Longmire**	**67.91**	**47**	*e*P	**P**	**02 56 53.0 +1.8**
LON				pmax	pmax	
	comp=Z,27nm,1.5s					
LON	**Longmire**	**67.91**	**47**	*e*P	**P**	**02 56 53.0 +1.8**
	comp=Z,27nm,1.5s					
F04A	**Amboy**	**67.98**	**48**	*e*P	**P**	**02 56 53.0 +1.5**
	comp=Z,25nm,0.8s					
MAK	**Makhachkala**	**68.12**	**308**	*e*P	**P**	**02 56 50.5 -1.9**
MAK				*e*		02 59 19.2
MAK				*e*S	**S**	**03 05 46.2 -2.7**
MAK				pmax	pmax	
	comp=Z,225nm,1.2s					
MAK				MLR	MLR	
	comp=Z,3μm,19.0s					
VORR	**Voronezh**	**68.25**	**319**	P	**P**	**02 56 53.0 -0.1**
VORR				pmax	pmax	
	comp=Z,300nm,0.6s					
ARMA	**Armidale**	**68.30**	**170**	*e*P	**P**	**02 56 55.9 +2.2**
	comp=Z,40nm,1.2s					
LTY	**Liberty**	**68.31**	**47**	*e*P	**P**	**02 56 54.6 +0.9**
	comp=Z,45nm,1.5s					
FIA1	**FINESS Array S**	**68.33**	**332**	*e*P	**P**	**02 56 53.4 -0.1**
FINES	**FINESS Array B**	**68.34**	**332**	P	**P**	**02 56 53.4 -0.1**
	comp=Z,104nm,0.6s,baz=40,slow=8.5,SNR=314					
FINES				LR	LR	03 29 09.4
	comp=Z,3μm,18.8s,baz=52,slow=38					
B08A	**Colville Reser**	**68.48**	**45**	*e*P	**P**	**02 56 55.7 +1.0**
	comp=Z,37nm,1.3s					
VSR	**Storozhevoye**	**68.52**	**319**	*e*P	**P**	**02 56 54.1 -0.7**
VSR				pmax	pmax	
	comp=Z,30nm,0.4s					
VSR				MLR	MLR	
	comp=Z,4μm,17.0s					
I03D	**Drain, OR**	**68.59**	**51**	P	**P**	**02 56 57.1 +1.7**
	baz=302,SNR=6.8					
MOR8	**Moi Rana**	**68.86**	**340**	*e*P	**P**	**02 56 55.7 -1.0**
MOR8				IAmb	IAmb	02 56 56.5
	comp=Z,108nm,0.6s					
MOR8				IAMs_20	IAMs_20	03 26 27.3
	comp=Z,3μm,26.9s					
G05D	**Wamic, OR**	**69.00**	**49**	P	**P**	**02 56 59.0 +1.0**
	baz=303					
STKA	**Stephens Creek**	**69.08**	**180**	P	**P**	**02 56 58.5 +0.1**
	comp=Z,15nm,0.7s,baz=341,slow=7.0,SNR=22					
STKA				LR	LR	03 26 13.8
	comp=Z,681nm,21.8s,baz=1.2,slow=35					
STKA	**Stephens Creek**	**69.08**	**180**	*e*P	**P**	**02 56 57.2 -1.2**
STKA				pmax	pmax	
	comp=Z,4.0nm,0.7s					
STKA	**Stephens Creek**	**69.08**	**180**	*e*P	**P**	**02 56 57.2 -1.2**
	comp=Z,3.7nm,0.7s					
STOK	**Stokkvaagen**	**69.13**	**340**	*e*P	**P**	**02 56 58.0 -0.3**
STOK				IAmb	IAmb	02 57 01.4
	comp=Z,101nm,1.1s					
E07A	**Sunnyside**	**69.15**	**47**	*e*P	**P**	**02 56 58.9 0.0**
	comp=Z,18nm,1.0s					
L02D	**Cave Junction,**	**69.25**	**52**	P	**P**	**02 57 01.0 +1.4**
	baz=302					
HUMO	**Hull Mountain**	**69.41**	**52**	*e*P	**P**	**02 57 01.5 +0.9**
	comp=Z,11nm,0.8s					
D08A	**Wollman Farm,**	**69.42**	**46**	*e*P	**P**	**02 57 00.8 +0.3**
	comp=Z,15nm,0.8s					
HAWA	**Hanford**	**69.43**	**47**	*e*P	**P**	**02 57 01.4 +0.8**
	comp=Z,30nm,1.4s					
I05D	**Terrebonne, OR**	**69.47**	**49**	P	**P**	**02 57 02.6 +1.6**
	baz=303,SNR=5.5					
J04D	**Umpqua Nationa**	**69.60**	**51**	P	**P**	**02 57 03.6 +1.7**
	baz=303,SNR=9.8					
GOF	**Gofitskoye**	**69.72**	**312**⇑	*e*P	P	02 56 57.3 -5.1
GOF				pmax	pmax	
	comp=Z,36nm,0.5s					
NEW	**Newport**	**69.77**	**44**	P	**P**	**02 57 03.6 +1.0**
	baz=304,SNR=15					
NEW	**Newport**	**69.77**	**44**	*e*P	**P**	**02 57 03.8 +1.1**
NEW				pmax	pmax	
	comp=Z,23nm,0.9s					
NEW	**Newport**	**69.77**	**44**	*e*P	**P**	**02 57 03.8 +1.1**
	comp=Z,22nm,0.9s					
KHMM	**Horse Mountain**	**69.85**	**54**	*e*P	**P**	**02 57 06.4 +3.0**
	comp=Z,53nm,1.3s					
VSU	**Vasula**	**69.99**	**329**	*ce*P	**P**	**02 57 03.8 +0.1**
VSU				pmax	pmax	
	comp=Z,213nm,1.0s					
YBH	**Yreka Blue Hor**	**70.04**	**52**	*e*P	**P**	**02 57 06.4 +1.9**
YBH				pmax	pmax	
	comp=Z,53nm,1.7s					
YBH	**Yreka Blue Hor**	**70.04**	**52**	*e*P	**P**	**02 57 06.4 +1.9**
	comp=Z,53nm,1.7s					
J05D	**Fort Rock, OR**	**70.11**	**50**	P	**P**	**02 57 06.7 +1.7**
	baz=303,SNR=15					
M02C	**Callahan**	**70.13**	**53**	P	**P**	**02 57 06.9 +1.8**
	baz=303,SNR=7.6					
K04D	**Chiloquin, OR**	**70.15**	**51**	P	**P**	**02 57 06.4 +1.2**
	baz=303					
SUMG	**Summit**	**70.16**	**360**	*i* P	**P**	**02 57 06.4 +1.3**
	comp=Z,58nm,0.8s					
SUMG	**Summit**	**70.16**	**360**	*i* P	**P**	**02 57 06.4 +1.3**
SUMG				pmax	pmax	
	comp=Z,58nm,0.8s					
SUMG	**Summit**	**70.16**	**360**	*e*P	**P**	**02 57 06.1 +1.0**
	comp=Z,86nm,1.0s					
BBOO	**Buckleboo**	**70.19**	**185**	*e*P	**P**	**02 57 05.4 +0.2**
	comp=Z,20nm,0.8s					
KMRM	**Mail Ridge**	**70.22**	**54**	*e*P	**P**	**02 57 07.8 +2.2**
	comp=Z,15nm,0.9s					
NCK	**Nalchik**	**70.25**	**310**⇓	*e*P	**P**	**02 57 05.7 0.0**
NCK				pmax	pmax	
	comp=Z,47nm,1.0s					
GUDG	**Gudauri**	**70.27**	**309**	P	**P**	**02 57 07.2 +1.1**
ZEI	**Tsey**	**70.45**	**309**	*e*P	**P**	**02 57 05.2 -2.0**
ZEI				pmax	pmax	
	comp=Z,103nm,0.6s					
N02D	**Trinity Center**	**70.45**	**53**	P	**P**	**02 57 08.9 +1.8**
	baz=303,SNR=7.0					
TBLG	**Delisi**	**70.51**	**308**	P	**P**	**02 57 07.5 +0.2**
TBLG	**Delisi**	**70.51**	**308**	P	**P**	**02 57 07.5 +0.2**
KBZ	**Khabaz**	**70.54**	**310**	P	**P**	**02 57 07.7 +0.3**
	comp=Z,83nm,0.8s,baz=37,slow=4.8,SNR=97					
KBZ				LR	LR	03 32 57.1
	comp=Z,2μm,18.7s,baz=56,slow=40					
KIV	**Kislovodsk**	**70.54**	**311**	*i* P	**P**	**02 57 08.3 +0.7**
	SNR=28					
KIV	**Kislovodsk**	**70.54**	**311**	*i* P	**P**	**02 57 08.3 +0.7**
	SNR=28					
KIV	**Kislovodsk**	**70.54**	**311**	*e*P	**P**	**02 57 07.6 0.0**
KIV				*e*		02 57 28.0
KIV				*e*		02 59 43.6
KIV				*e*S	**S**	**03 06 18.3 +0.6**
KIV				pmax	pmax	
	comp=Z,258nm,1.0s					
KIV				pmax	pmax	
	comp=Z,191nm,3.7s					
KIV				MLR	MLR	
	comp=Z,1μm,18.0s					
KIV	**Kislovodsk**	**70.54**	**311**	*e*P	**P**	**02 57 08.0 +0.4**
	comp=Z,192nm,0.7s					
KIV				LR	LR	
	comp=Z,2μm,20.0s					
KIV	**Kislovodsk**	**70.54**	**311**	P	**P**	**02 57 07.9 +0.4**
	SNR=41					
KIV	**Kislovodsk**	**70.54**	**311**	P	**P**	**02 57 07.9 +0.4**
	SNR=41					
M04C	**Macdoel**	**70.56**	**52**	P	**P**	**02 57 09.3 +1.6**
	baz=303,SNR=17					
KCPM	**Cahto Peak**	**70.59**	**55**	*e*P	**P**	**02 57 09.8 +1.8**
	comp=Z,44nm,1.3s					
K05A	**Summer Lake**	**70.63**	**51**	*e*P	**P**	**02 57 10.1 +1.9**
	comp=Z,58nm,1.0s					
WDC	**Whiskeytown Da**	**70.77**	**53**	*e*P	**P**	**02 57 10.7 +1.8**
WDC				pmax	pmax	
	comp=Z,20nm,1.0s					
WDC	**Whiskeytown Da**	**70.77**	**53**	*e*P	**P**	**02 57 10.7 +1.8**
	comp=Z,20nm,1.0s					
ONI	**Oni**	**70.83**	**309**	P	P	02 57 14.9 +5.6
ONI	**Oni**	**70.83**	**309**	P	P	02 57 14.9 +5.6
NEY	**Neytrino**	**70.91**	**310**	*ce*P	**P**	**02 57 10.8 +0.8**
NEY				pmax	pmax	
	comp=Z,8.0nm,0.8s					
BIDO	**Bidbid**	**70.94**	**285**	P	**P**	**02 57 10.6 +0.4**
	SNR=8.9					
BIDO	**Bidbid**	**70.94**	**285**	P	**P**	**02 57 10.6 +0.4**
	SNR=8.9					
BANOM	**Banah**	**71.02**	**288**	*i* P	**P**	**02 57 11.0 +0.3**
	SNR=54					
BANOM	**Banah**	**71.02**	**288**	*i* P	**P**	**02 57 11.0 +0.3**
	SNR=54					
BANOM	**Banah**	**71.02**	**288**	P	**P**	**02 57 10.9 +0.3**
	SNR=10					
BANOM	**Banah**	**71.02**	**288**	P	**P**	**02 57 10.9 +0.3**
	SNR=10					
WALA	**Waterton Lakes**	**71.06**	**42**	*e*P	**P**	**02 57 11.6 +0.9**
	comp=Z,76nm,1.4s					
BSMT	**Bassoo Peak**	**71.29**	**44**	P	**P**	**02 57 13.3 +1.2**
GNI	**Garni**	**71.37**	**307**	P	**P**	**02 57 12.7 -0.1**
	comp=Z,27nm,0.7s,baz=67,slow=1.2,SNR=20					
GNI	**Garni**	**71.37**	**307**	*i* P	**P**	**02 57 13.6 +0.8**
	SNR=15					
GNI	**Garni**	**71.37**	**307**	*i* P	**P**	**02 57 13.6 +0.8**
	SNR=15					
GNI	**Garni**	**71.37**	**307***c*	*i* P	**P**	**02 57 13.5 +0.7**
GNI				pmax	pmax	
	comp=Z,199nm,1.2s					
GNI	**Garni**	**71.37**	**307**	*e*P	**P**	**02 57 13.6 +0.8**
	comp=Z,69nm,0.9s					
GNI				LR	LR	
	comp=Z,2μm,20.0s					
GNI	**Garni**	**71.37**	**307**	P	**P**	**02 57 13.4 +0.7**
	SNR=19					
GNI	**Garni**	**71.37**	**307**	P	**P**	**02 57 13.4 +0.7**
	SNR=19					
O03D	**Paynes Creek**	**71.40**	**53**	P	**P**	**02 57 13.5 +0.7**
	baz=304,SNR=13					
BLMT	**Blacktail Moun**	**71.43**	**43**	*e*P	**P**	**02 57 14.7 +1.7**
MOD	**Modoc Plateau**	**71.45**	**51**	*e*P	**P**	**02 57 13.9 +0.7**
	comp=Z,62nm,1.7s					
AKH	**Akhalkalaki**	**71.46**	**308**	P	**P**	**02 57 14.5 +1.2**
AKH	**Akhalkalaki**	**71.46**	**308**⇑	*i* P	**P**	**02 57 14.1 +0.8**
AKH	**Akhalkalaki**	**71.46**	**308**	P	**P**	**02 57 14.5 +1.2**
SCO	**Scoresbysund**	**71.58**	**354**	*i* P	**P**	**02 57 13.7 +0.4**
	comp=Z,46nm,0.8s					
SCO	**Scoresbysund**	**71.58**	**354**	*i* P	**P**	**02 57 13.7 +0.4**
SCO				pmax	pmax	
	comp=Z,46nm,0.8s					
BMO	**Blue Mountains**	**71.59**	**47**	*e*P	**P**	**02 57 14.9 +1.0**
BMO				pmax	pmax	
	comp=Z,46nm,1.4s					
BMO	**Blue Mountains**	**71.59**	**47**	*e*P	**P**	**02 57 14.9 +1.0**
	comp=Z,46nm,1.4s					
JTMT	**Jette**	**71.63**	**44**	*e*P	**P**	**02 57 15.5 +1.4**
UOSS	**Minazif**	**71.63**	**288**	*e*P	**P**	**02 57 14.1 -0.2**
	comp=Z,125nm,0.7s					
UOSS				LR	LR	
	comp=Z,1μm,22.0s					
YBMT	**Yellow Bay**	**71.70**	**43**	*e*P	**P**	**02 57 15.8 +1.2**
HATD	**Hatta, Dubai**	**71.75**	**288**	*i* P	**P**	**02 57 15.2 +0.1**
	SNR=68					
HATD	**Hatta, Dubai**	**71.75**	**288**	*i* P	**P**	**02 57 15.2 +0.1**
	SNR=68					
HATD	**Hatta, Dubai**	**71.75**	**288**	P	**P**	**02 57 15.1 +0.1**
	SNR=13					
HATD	**Hatta, Dubai**	**71.75**	**288**	P	**P**	**02 57 15.1 +0.1**
	SNR=13					
EAK	**Akyaka**	**71.79**	**308**	*i* P	**P**	**02 57 15.0 -0.3**
ASHO	**Ashiyiah**	**71.88**	**287**	*i* P	**P**	**02 57 15.9 -0.1**
	SNR=31					
ASHO	**Ashiyiah**	**71.88**	**287**	*i* P	**P**	**02 57 15.9 -0.1**
	SNR=31					
ASHO	**Ashiyiah**	**71.88**	**287**	P	**P**	**02 57 15.8 -0.1**
	SNR=10					
ASHO	**Ashiyiah**	**71.88**	**287**	P	**P**	**02 57 15.8 -0.1**
	SNR=10					
EPOS	**Posof**	**71.89**	**309**	*i* P	**P**	**02 57 16.4 +0.6**
SWMT	**Swartz Lake**	**71.92**	**44**	*e*P	**P**	**02 57 16.7 +0.9**
IZAR	**Zarasai**	**71.95**	**327**	*e*P	**P**	**02 57 16.1 +0.4**
IZAR				IAmb	IAmb	02 57 17.1
	comp=Z,30nm,0.6s					
ORV	**Oroville**	**72.00**	**54**	*e*P	**P**	**02 57 17.0 +0.6**
ORV	**Oroville**	**72.00**	**54**	*e*P	**P**	**02 57 16.7 +0.3**
	comp=Z,52nm,1.6s					
NAZ	**Nazwa, Dubai**	**72.01**	**288**	*i* P	**P**	**02 57 16.4 -0.2**
	SNR=22					
NAZ	**Nazwa, Dubai**	**72.01**	**288**	*i* P	**P**	**02 57 16.4 -0.2**
	SNR=22					
NAZ	**Nazwa, Dubai**	**72.01**	**288**	P	**P**	**02 57 16.4 -0.2**
	SNR=8.4					
NAZ	**Nazwa, Dubai**	**72.01**	**288**	P	**P**	**02 57 16.4 -0.2**
	SNR=8.4					
IDID	**Didziasalis**	**72.02**	**327**	*e*P	**P**	**02 57 16.5 +0.4**
IDID				IAmb	IAmb	02 57 18.4
	comp=Z,43nm,0.8s					
MICGM	**Minsk**	**72.05**	**326**⇓	*e*P	**P**	**02 57 13.0 -3.3**
MICGM				*e*LR	LR	03 28 02.0
MICGM				LRM	MLR	03 31 56.0
	comp=Z,3.3nm,15.0s					
MNK	**Minsk**	**72.05**	**326**	*e*P	**P**	**02 57 13.0 -3.3**
MNK				MLR	MLR	
	comp=Z,3μm,15.0s					
DIGO	**Kars**	**72.09**	**307**	*i* P	**P**	**02 57 17.9 +0.7**
ISAL	**Salakas**	**72.12**	**327**	*e*P	**P**	**02 57 17.1 +0.4**
ISAL				IAmb	IAmb	02 57 20.0
	comp=Z,55nm,0.9s					
WVOR	**Wild Horse Val**	**72.17**	**50**	*e*P	**P**	**02 57 18.5 +1.0**
WVOR				pmax	pmax	
	comp=Z,32nm,1.2s					
WVOR	**Wild Horse Val**	**72.17**	**50**	*e*P	**P**	**02 57 18.5 +1.0**
	comp=Z,32nm,1.2s					
FAQ	**Al Faqa, Dubai**	**72.20**	**288**	*i* P	**P**	**02 57 17.5 -0.3**
	SNR=41					
FAQ	**Al Faqa, Dubai**	**72.20**	**288**	*i* P	**P**	**02 57 17.5 -0.3**
	SNR=41					
FAQ	**Al Faqa, Dubai**	**72.20**	**288**	P	**P**	**02 57 17.4 -0.3**
	SNR=11					
FAQ	**Al Faqa, Dubai**	**72.20**	**288**	P	**P**	**02 57 17.4 -0.3**
	SNR=11					
TBLU	**Trondheim**	**72.25**	**339**	*e*P	**P**	**02 57 16.5 -0.9**
TBLU				IAmb	IAmb	02 57 17.9
	comp=Z,92nm,0.8s					
TBLU				*e*S	**S**	**03 06 37.0 +0.4**
NACGM	**Naroch**	**72.27**	**327**	*e*	**P**	**02 57 17.0 -0.7**
NACGM				*e*LR	LR	03 23 13.0
MSO	**Missoula**	**72.35**	**44**	P	**P**	**02 57 19.1 +0.6**
	baz=306,SNR=8.8					
MSO	**Missoula**	**72.35**	**44**	*e*P	**P**	**02 57 18.8 +0.3**
	comp=Z,17nm,0.9s					
SLMT	**Seeley Lake**	**72.36**	**44**	*e*P	**P**	**02 57 19.4 +0.9**
SOC	**Sochi**	**72.53**	**312***c*	*i* P	**P**	**02 57 18.6 -0.8**
SOC				*e*PPP	PPP	03 01 48.5
SOC				*e*S	**S**	**03 06 41.2 +0.8**
SOC				*e*SS	**SS**	**03 11 14.7 -4.4**
SOC				pmax	pmax	
	comp=Z,75nm,0.6s					
SOC				MLR	MLR	
	comp=Z,2μm,20.0s					
BEKR	**Beckworth**	**72.56**	**53**	*e*P	**P**	**02 57 20.9 +1.0**
	comp=Z,64nm,1.5s					
ARTV	**Artvin**	**72.56**	**309**	*i* P	**P**	**02 57 20.0 +0.1**
ARTV	**Artvin**	**72.56**	**309**	*e*P	**P**	**02 57 19.9 0.0**
	com

NC405	NORSAR Array S	73.48	337	eP		P	02 57 24.9 +0.1
PNTR	Pine Nut	73.48	53	eP		P	02 57 27.0 +1.6
	comp=Z,55nm,1.4s						
NC303	NORSAR Array S	73.50	337	eP		P	02 57 25.2 +0.3
DOMB	Dombas	73.55	339	eP		P	02 57 25.4 +0.3
DOMB				IAmb		IAmb	02 57 27.1
	comp=Z,77nm,0.8s						
DOMB				IAMs_20		IAMs_20	03 32 26.6
	comp=Z,4μm,21.3s						
MOL	Molde	73.55	340	eP		P	02 57 25.5 +0.4
MOL				IAmb		IAmb	02 57 26.9
	comp=Z,54nm,0.8s						
EKAR	Karacoban	73.58	307	i P		P	02 57 27.3 +1.2
HRY	Holter Researc	73.58	43	eP		P	02 57 26.4 +0.6
NC204	NORSAR Array S	73.64	338	eP		P	02 57 26.1 +0.3
ERZM	Erzurum	73.65	308	i P		P	02 57 27.4 +0.9
NWAO	Narrogin (SRO)	73.66	201	eP		P	02 57 26.6 +0.6
NWAO				pmax		pmax	
	comp=Z,45nm,1.1s						
NWAO	Narrogin (SRO)	73.66	201	eP		P	02 57 26.6 +0.6
	comp=Z,45nm,1.1s						
NB201	NORSAR Array S	73.66	337	eP		P	02 57 26.0 +0.2
NB2	NORSAR Subarra	73.69	337	P		P	02 57 25.9 -0.1
	comp=Z,70nm,0.8s,baz=40,slow=6.2						
NB2	NORSAR Subarra	73.69	337	P		P	02 57 25.9 -0.1
	baz=40,slow=6.2						
NOA	NORSAR Array B	73.69	337	P		P	02 57 25.9 -0.1
	comp=Z,58nm,0.7s,baz=39,slow=5.8,SNR=191						
NOA				LR		LR	03 33 24.0
	comp=Z,2μm,19.4s,baz=40,slow=39						
YERR	Yerington	73.77	53	eP		P	02 57 28.5 +1.4
	comp=Z,98nm,1.6s						
LRM	Limekiln Ridge	73.78	44	eP		P	02 57 28.3 +1.2
NBO02	NORSAR Array S	73.79	337	eP		P	02 57 26.7 +0.1
NC602	NORSAR Array S	73.83	337	eP		P	02 57 26.4 -0.3
NC602				eS		S	03 06 55.2 +0.6
NC602	NORSAR Array S	73.83	337	eP		P	02 57 26.8 0.0
NBO00	NORSAR Array S	73.83	337	eP		P	02 57 27.2 +0.4
AKASG	Malin Array Be	73.87	322	P		P	02 57 26.8 -0.4
AKASG				LR		LR	03 32 52.2
	comp=Z,70nm,0.6s,baz=47,slow=6.0,SNR=306						
AKBB	Malin Array Si	73.87	322	eP		P	02 57 26.7 -0.4
AKBB				pmax		pmax	
	comp=Z,103nm,0.8s						
AKBB				MLR		MLR	
	comp=Z,2μm,18.0s						
AKBB	Malin Array Si	73.87	322	eP		P	02 57 26.7 -0.4
	comp=Z,103nm,0.8s						
AKBB				LR		LR	
	comp=Z,2μm,18.0s						
KIEV	Kiev	73.88	322	eP		P	02 57 26.7 -0.5
KIEV				pmax		pmax	
	comp=Z,102nm,0.8s						
KIEV				MLR		MLR	
	comp=Z,2μm,18.0s						
KIEV	Kiev	73.88	322	eP		P	02 57 26.7 -0.5
	comp=Z,102nm,0.8s						
KIEV				LR		LR	
	comp=Z,2μm,18.0s						
EGMT	Eagleton	73.89	41	P		P	02 57 28.1 +0.6
	baz=309,SNR=16						
EGMT	Eagleton	73.89	41	eP		P	02 57 28.5 +1.0
	comp=Z,42nm,0.9s						
AK11	Malin Array Si	73.91	322	eP		P	02 57 26.8 -0.7
WAKR	Walker	73.92	54	eP		P	02 57 29.6 +1.6
	comp=Z,10nm,0.9s						
NAO01	NORSAR Array S	73.94	337	eP		P	02 57 27.6 +0.2
DLMT	Dillon	73.98	45	eP		P	02 57 29.4 +1.3
	comp=Z,38nm,0.9s						
AKN	Aaknes	74.02	340	eP		P	02 57 28.6 +0.7
AKN				IAMs_20		IAMs_20	03 33 37.7
	comp=Z,2μm,19.5s						
HLID	Hailey	74.03	47	P		P	02 57 29.4 +0.9
	baz=307,SNR=16						
HLID	Hailey	74.03	47	eP		P	02 57 28.4 -0.1
	comp=Z,54nm,1.6s						
ECAT	Cat-ERZURUM	74.07	308	i P		P	02 57 29.0 +0.2
KOPT	Kop Dagi	74.12	308	i P		P	02 57 31.0 +1.8
KOPT	Kop Dagi	74.12	308	eP		P	02 57 29.7 +0.4
	comp=Z,29nm,0.8s						
KOPT				LR		LR	
	comp=Z,2μm,19.0s						
MCMT	McKenzie Canyo	74.16	45	eP		P	02 57 30.0 +0.6
BOZ	Bozeman (W)	74.38	44	P		P	02 57 31.3 +0.9
	baz=308,SNR=21						
BOZ	Bozeman (W)	74.38	44	eP		P	02 57 31.6 +1.2
BOZ				pmax		pmax	
	comp=Z,28nm,0.8s						
BOZ	Bozeman (W)	74.38	44	eP		P	02 57 31.6 +1.2
	comp=Z,28nm,0.8s						
TVH2	Borealis Mine	74.43	53	eP		P	02 57 32.5 +1.5
	comp=Z,45nm,1.6s						
TVH2				LR		LR	
	comp=Z,500nm,21.0s						
SUW	Suwalki	74.43	327	eP		P	02 57 29.9 -0.5
SUW	Suwalki	74.43	327	eP		P	02 57 29.9 -0.5
OSL	Oslo	74.70	337	eP		P	02 57 32.4 +0.5
OSL				IAmb		IAmb	02 57 33.6
	comp=Z,59nm,0.7s						
SIM	Simferopol'	74.94	315	eP		P	02 57 32.8 -0.7
SIM				e			02 57 47.0
SIM				e			03 00 19.0
SIM				ePPP		PPP	03 02 01.0
SIM				eS		S	03 07 06.0 -1.5
SIM				eSSS		SSS	03 15 14.0
SIM				pmax		pmax	
	comp=Z,87nm,0.7s						
SIM				pmax		pmax	
	comp=Z,150nm,12.2s						
SIM				MLR		MLR	
	comp=Z,1μm,16.5s						
QLMT	Earthquake Lak	74.96	45	eP		P	02 57 35.3 +1.3
PAGB	Antelope Grade	75.00	56	eP		P	02 57 36.0 +2.0
	comp=Z,30nm,0.8s						
FOO	Floro	75.03	340	eP		P	02 57 34.2 +0.5
FOO				IAmb		IAmb	02 57 35.4
	comp=Z,62nm,0.8s						
HYA	Hoyanger	75.07	339	eP		P	02 57 34.5 +0.6
HYA				IAmb		IAmb	02 57 35.7
	comp=Z,80nm,0.9s						
YHB	Horse Butte	75.14	45	eP		P	02 57 36.5 +1.5
	comp=Z,35nm,0.7s						
YHB				LR		LR	
	comp=Z,600nm,21.0s						
YHH	Holmes Hill	75.31	45	eP		P	02 57 37.5 +1.4
	comp=Z,18nm,1.0s						
YMR	Madison River	75.32	45	eP		P	02 57 37.7 +1.6
	comp=Z,22nm,0.8s						
GCMT	Greycliff	75.33	43	eP		P	02 57 37.4 +1.4
SFJD	Kangerlussuaq	75.36	5	i P		P	02 57 35.6 +0.1
	comp=Z,28nm,0.8s						
SFJD	Kangerlussuaq	75.36	5	i P		P	02 57 35.6 +0.1
SFJD				pmax		pmax	
	comp=Z,28nm,0.8s						
SFJD	Kangerlussuaq	75.36	5	eP		P	02 57 35.4 -0.1
	comp=Z,26nm,0.8s						
YNR	Norris Junctio	75.45	44	eP		P	02 57 39.4 +2.6
	comp=Z,27nm,1.2s						
YFT	Old Faithful	75.53	45	eP		P	02 57 40.2 +2.9
	comp=Z,28nm,0.7s						
MARD	Mardin	75.53	306	eP		P	02 57 37.9 +0.7
	comp=Z,73nm,0.8s						
VES	Vestal, Richgr	75.70	56	P		P	02 57 38.9 +0.9
	baz=306						
H17A	Grant Village	75.71	45	P		P	02 57 40.9 +2.6
	baz=309,SNR=31						
H17A	Grant Village	75.71	45	eP		P	02 57 41.4 +3.1
	comp=Z,41nm,0.8s						
PKM	Mcpherson Peak	75.78	57	P		P	02 57 39.8 +1.0
	baz=306						
IMW	Indian Meadow	75.82	45	eP		P	02 57 41.0 +2.0
	comp=Z,31nm,0.8s						
ASK	Askoy	75.91	339	eP		P	02 57 39.5 +0.7
ASK				IAmb		IAmb	02 57 40.7
	comp=Z,61nm,0.7s						
FXWY	Fox Creek	75.93	46	eP		P	02 57 41.3 +1.8
	comp=Z,18nm,0.8s						
BER	Bergen	75.95	339	eP		P	02 57 39.2 +0.2
BER				IAmb		IAmb	02 57 41.0
	comp=Z,76nm,0.9s						
BER				eS		S	03 07 20.7 +2.6
ODD1	Odda	75.97	338	eP		P	02 57 40.0 +0.8
ODD1				IAmb		IAmb	02 57 42.0
	comp=Z,50nm,0.9s						
RLMT	Red Lodge	75.97	44	P		P	02 57 40.5 +0.8
	baz=310,SNR=10						
RLMT	Red Lodge	75.97	44	eP		P	02 57 41.1 +1.4
	comp=Z,23nm,1.0s						
CWC	Cottonwood Cre	76.00	55	P		P	02 57 40.7 +0.7
	baz=306						
MOOW	Moose Ponds	76.02	45	eP		P	02 57 41.3 +1.2
	comp=Z,34nm,1.2s						
TPAW	Teton Pass	76.06	46	eP		P	02 57 42.0 +1.6
	comp=Z,21nm,0.7s						
HVU	Hansel Valley	76.07	48	eP		P	02 57 41.8 +1.5
HVU				pmax		pmax	
	comp=Z,51nm,1.4s						
HVU	Hansel Valley	76.07	48	eP		P	02 57 41.8 +1.5
	comp=Z,51nm,1.4s						
SBC	Santa Barbara	76.10	57	P		P	02 57 40.8 +0.4
	baz=306						
GRAC	Grapevine Rang	76.13	54	P		P	02 57 41.3 +0.8
	baz=307						
LOHW	Long Hollow	76.18	45	eP		P	02 57 42.6 +1.6
	comp=Z,24nm,1.4s						
SNOW	Snow King Moun	76.19	46	eP		P	02 57 42.8 +1.8
	comp=Z,27nm,0.9s						
REDW	Red Top Meadow	76.20	46	eP		P	02 57 42.6 +1.6
	comp=Z,33nm,1.0s						
ISA	Isabella, Lake	76.20	56	P		P	02 57 41.7 +0.6
	baz=306						
ISA	Isabella, Lake	76.20	56	eP		P	02 57 42.0 +1.0
ISA				pmax		pmax	
	comp=Z,13nm,0.9s						
ISA	Isabella, Lake	76.20	56	eP		P	02 57 42.0 +1.0
	comp=Z,13nm,0.9s						
ARVC	Arvin	76.29	56	P		P	02 57 42.4 +1.0
	baz=306						
TOKA	Tokat	76.41	311	eP		P	02 57 42.3 +0.2
	comp=Z,33nm,0.8s						
TOKA				LR		LR	
	comp=Z,900nm,20.0s						
BLS5	Blasjo	76.42	338	eP		P	02 57 42.9 +1.2
BLS5				eS		S	03 07 25.6 +2.2
BLS5				IAMs_20		IAMs_20	03 33 30.6
	comp=Z,4μm,23.5s						
DGMT	Dagmar	76.44	39	P		P	02 57 42.4 +0.3
	baz=312,SNR=12						
DGMT	Dagmar	76.44	39	eP		P	02 57 42.8 +0.7
	comp=Z,33nm,0.8s						
BGU	Big Grassy Mou	76.44	49	eP		P	02 57 43.8 +1.4
	comp=Z,11nm,0.8s						
R11A	Troy Canyon, C	76.45	52	P		P	02 57 43.1 +0.6
	baz=307,SNR=32						
R11A	Troy Canyon, C	76.45	52	eP		P	02 57 43.6 +1.0
	comp=Z,42nm,1.3s						
KIS	Kishinev	76.48	319	eP		P	02 57 41.0 -1.3
	comp=Z,2μm,4.0s						
KIS	Kishinev	76.48	319	ePP		PP	03 00 58.0 +24
KIS				LRM		MLR	03 34 04.0
	comp=Z,4μm,16.0s						
KIS	Kishinev	76.48	319	eP		P	02 57 41.0 -1.3
KIS				e			03 08 18.0
KIS				e			03 12 17.0
KIS				pmax		pmax	
	comp=Z,2μm,4.0s						
KIS				MLR		MLR	
	comp=Z,4μm,16.0s						
SFNV	Sufian	76.50	306	eP		P	02 57 43.1 +0.5
SPUT	South Promonto	76.55	48	eP		P	02 57 44.5 +1.4
	comp=Z,29nm,1.3s						
LAO	LASA Array	76.59	41	P		P	02 57 43.6 +0.6
	baz=311,SNR=14						
LAO	LASA Array	76.59	41	eP		P	02 57 44.3 +1.3
	comp=Z,36nm,0.9s						
MPMC	Manual Prospec	76.61	55	P		P	02 57 44.1 +0.6
	baz=307,SNR=17						
OSI	Osito Audit: C	76.66	57	P		P	02 57 44.0 +0.4
	baz=307						
HOMB	Homborsund	76.73	337	eP		P	02 57 43.8 +0.3
HOMB				eSS		SS	03 12 25.1 +3.3
BLG	Laguna Peak, P	76.73	57	P		P	02 57 44.6 +0.6
	baz=307						
FURC	Furnace Creek,	76.77	54	P		P	02 57 45.1 +1.0
	baz=307,SNR=22						
LRMC	Laurel Mtn Rad	76.83	55	P		P	02 57 45.5 +0.8
	baz=307,SNR=5.5						
TPNV	Topopah Spring	76.88	53	P		P	02 57 45.8 +0.8
	baz=307,SNR=28						
TPNV	Topopah Spring	76.88	53	eP		P	02 57 45.8 +0.8
TPNV				pmax		pmax	
	comp=Z,120nm,1.8s						
TPNV	Topopah Spring	76.88	53	eP		P	02 57 45.8 +0.8
	comp=Z,120nm,1.8s						
HWUT	Hardware Ranch	76.89	47	eP		P	02 57 46.4 +1.4
	comp=Z,51nm,1.2s						
SNCC	San Nicolas Is	76.93	58	P		P	02 57 46.6 +1.5
	baz=306						
LVV	L'vov	76.94	324	eP		P	02 57 46.2 +1.4
LVV				e			02 58 03.1
LVV				e			03 00 35.8
LVV				ePPP		PPP	03 02 22.6
LVV				eS		S	03 07 28.9 -0.5
LVV				ePS		PnS	03 07 53.9 -18
LVV				MLR		MLR	
	comp=E,2μm,16.0s						
LVV				MLR		MLR	
	comp=Z,2μm,16.0s						
LVV				MLR		MLR	
	comp=N,1μm,15.0s						
KMY	Karmoy	76.95	339	eP		P	02 57 45.6 +1.0
KMY				IAmb		IAmb	02 57 46.4
	comp=Z,2.2nm,1.0s						
BSD	Bornholm Skovb	76.97	332	i P		P	02 57 44.6 -0.2
	comp=Z,58nm,0.8s						
BSD	Bornholm Skovb	76.97	332	i P		P	02 57 44.6 -0.2
BSD				pmax		pmax	
	comp=Z,58nm,0.8s						
EDW2	Edwards Air Fo	76.98	56	P		P	02 57 46.0 +0.6
	baz=307,SNR=13						
BEL	Belsk	76.99	327	eP		P	02 57 45.5 +0.5
BEL	Belsk	76.99	327	eP		P	02 57 45.5 +0.5
IAS	Iasi	76.99	320	↓iP		P	02 57 45.6 +0.4
DUG	Dugway, Tooele	77.03	49	P		P	02 57 46.6 +0.9
	baz=308,SNR=29						
STAV	Stavanger	77.04	338	eP		P	02 57 46.0 +0.8
STAV				eS		S	03 07 33.2 +3.1
SNART	Snartemo	77.08	337	eP		P	02 57 46.1 +0.7
SNART				IAmb		IAmb	02 57 47.9
	comp=Z,26nm,0.5s						
LEOM	Leova	77.12	319	↑iP		P	02 57 45.9 0.0
BORG	Borgarnes	77.12	352	eP		P	02 57 47.9 +2.3
BORG				pmax		pmax	
	comp=Z,91nm,0.9s						
BORG	Borgarnes	77.12	352	eP		P	02 57 47.9 +2.3
	comp=Z,91nm,0.9s						
BW06	Boulder Array	77.31	46	P		P	02 57 47.7 +0.3
	baz=310,SNR=22						
BW06	Boulder Array	77.31	46	eP		P	02 57 47.8 +0.5
	comp=Z,13nm,0.8s						
PD31	Pinedale Array	77.31	46	eP		P	02 57 47.9 +0.5
PDAR	Pinedale Array	77.31	46	P		P	02 57 47.8 +0.4
	comp=Z,12nm,0.7s,baz=262,slow=2.4,SNR=92						
PDAR				LR		LR	03 28 15.4
	comp=Z,334nm,21.3s,baz=330,slow=33						
MWC	Mount Wilson	77.33	57	eP		P	02 57 49.1 +1.5
MWC				pmax		pmax	
	comp=Z,62nm,1.4s						
MWC				MLR		MLR	
	comp=Z,1μm,22.0s						
MWC	Mount Wilson	77.33	57	eP		P	02 57 49.1 +1.5
	comp=Z,62nm,1.4s						
MWC				LR		LR	
	comp=Z,1μm,22.0s						
GKP	Gorka Klasztor	77.44	329	eP		P	02 57 47.5 0.0
GKP	Gorka Klasztor	77.44	329	eP		P	02 57 47.5 0.0
COP	Copenhagen	77.44	333	i P		P	02 57 47.9 +0.4
	comp=Z,65nm,0.9s						
COP	Copenhagen	77.44	333	i P		P	02 57 47.9 +0.4
COP				pmax		pmax	
	comp=Z,65nm,0.9s						
SHOC	Shoshone, Teco	77.50	54	P		P	02 57 49.0 +0.8
	baz=308						
GSC	Goldstone, Bar	77.51	55	P		P	02 57 49.0 +0.5
	baz=307,SNR=7.3						
GSC	Goldstone, Bar	77.51	55	eP		P	02 57 49.3 +0.9
GSC				pmax		pmax	
	comp=Z,40nm,1.6s						
GSC	Goldstone, Bar	77.51	55	eP		P	02 57 49.3 +0.9
	comp=Z,40nm,1.6s						
KSRV	Kasrt alli	77.55	306	eP		P	02 57 49.2 +0.7
PRAR	RASCA	77.55	321	↓iP		P	02 57 48.8 +0.5
JLU	Jordanelle	77.58	48	eP		P	02 57 50.3 +1.3
	comp=Z,24nm,1.1s						
BFSC	Mount Baldy Ra	77.59	56	P		P	02 57 49.4 +0.4
	baz=307						
ILGA	Ilgaz	77.60	312	eP		P	02 57 49.8 +0.8
	comp=Z,90nm,0.7s						
NLU	North Lily Min	77.62	49	eP		P	02 57 50.5 +1.4
	comp=Z,16nm,0.8s						
TLCR		77.67	318	↓iP		P	02 57 49.3 +0.3
KWP	Kalwaria Pacla	77.69	324	eP		P	02 57 49.7 +0.7
KWP	Kalwaria Pacla	77.69	324	eP		P	02 57 49.7 +0.7
SHPR	Sheep Range	77.84	53	eP		P	02 57 51.8 +1.5
	comp=Z,32nm,1.1s						
MPU	Maple Canyon	77.84	49	eP		P	02 57 51.2 +0.9
	comp=Z,21nm,0.8s						
BUR08	Bucovina Ar. S	77.87	322	eP		P	02 57 50.5 +0.3
BURAR	Bucovina Array	77.88	322	↑iP		P	02 57 50.7 +0.4
TESR	Tescani	77.91	320	↓iP		P	02 57 50.5 +0.1
MUD	Monsted U'grnd	77.97	335	i P		P	02 57 51.1 +0.7
	comp=Z,47nm,1.0s						
MUD	Monsted U'grnd	77.97	335	i P		P	02 57 51.1 +0.7
MUD				pmax		pmax	
	comp=Z,47nm,1.0s						
RGN	Rugen	78.00	332	PFAKE			02 58 00.0 +9.4
RGN				LR		LR	
	comp=Z,2μm,20.0s						
TUQ	Turquoise Moun	78.00	55	P		P	02 57 51.7 +0.5
	baz=308,SNR=15						
SLMH	Al Salmeh	78.02	306	eP		P	02 57 50.6 -0.6
CFR	Carcaliu	78.04	318	↓iP		P	02 57 50.9 -0.1
HEC	Hector,Ludlow	78.11	55	P		P	02 57 52.3 +0.6
	baz=306						
PETR	Petresti	78.15	319	↑iP		P	02 57 52.2 +0.6
ODBI	Odobesti	78.21	319	↓iP		P	02 57 53.1 +1.1
TCRU	Three Creeks R	78.23	50	eP		P	02 57 53.6 +1.0
	comp=Z,68nm,1.6s						
MURC	Murrieta	78.28	57	P		P	02 57 53.6 +0.9
	baz=308						
VRI	Vrincioaia	78.31	320	↑iP		P	02 57 53.2 +0.6
CCUT	Cedar City	78.33	52	eP		P	02 57 54.7 +1.6
	comp=Z,52nm,1.4s						
PLOR	Plostina	78.36	320	↑iP		P	02 57 53.4 +0.5
TIRR	Tirgusor	78.37	318	↓iP		P	02 57 53.2 +0.3
TIRR	Tirgusor	78.37	318	eP		P	02 57 53.1 +0.3
TIRR				pmax		pmax	
	comp=Z,30nm,0.8s						
TIRR				MLR		MLR	
	comp=Z,3μm,18.0s						
TIRR	Tirgusor	78.37	318	eP		P	02 57 53.1 +0.3
	comp=Z,30nm,0.8s						
TIRR				LR		LR	
	comp=Z,3μm,18.0s						
SZCU	Shurtz Canyon	78.47	51	eP		P	02 57 55.2 +1.4
	comp=Z,23nm,1.4s						
BR131	Keskin Array S	78.48	311	eP		P	02 57 53.9 -0.1
BRTR	Keskin Array B	78.48	311	P		P	02 57 53.8 -0.1
	comp=Z,19nm,0.7s,baz=80,slow=3.6,SNR=68						
BRTR				LR		LR	03 37 17.8
	comp=Z,596nm,18.9s,baz=48,slow=39						
BRTR	Keskin Array B	78.48	311	ceP		P	02 57 53.7 -0.1
BRTR				pmax		pmax	
	comp=Z,20nm,0.7s						
GRER		78.51	319	↓iP		P	02 57 54.9 +1.2
STHS	Stebnicka Huta	78.51	325	eP		P	02 57 54.4 +0.8
STHS				pmax		pmax	
	comp=Z,33nm,0.8s						
STHS	Stebnicka Huta	78.51	325	eP		P	02 57 54.4 +0.8
TMUT	Trail Mountain	78.55	49	eP		P	02 57 55.4 +1.0
	comp=Z,41nm,1.5s						
GMRC	Granite Mounta	78.57	55	P		P	02 57 55.0 +0.6
	baz=308,SNR=10						
DRWC	Darouich	78.57	307	eP		P	02 57 54.8 +0.6
UZH	Uzhgorod	78.58	324	eP		P	02 57 53.8 -0.2
UZH				e			02 58 06.4
UZH				i S		S	03 07 43.0 -4.2
UZH				e			03 08 24.0
UZH				eSS		SS	03 12 48.2 -2.2
UZH				MLR		MLR	
	comp=Z,600nm,14.0s						
OJC	Ojcow	78.59	326	eP		P	02 57 54.5 +0.5
OJC	Ojcow	78.59	326	eP		P	02 57 54.5 +0.5
OJC	Ojcow	78.59	326	eP		P	02 57 54.2 +0.2
	comp=Z,75nm,0.8s						
ARCR	ARCALIA	78.67	322	↑iP		P	02 57 55.8 +1.3
BMR	Baia Mare	78.68	322	↓iP		P	02 57 55.7 +1.1
P17A	Butcher Ranch,	78.72	49	eP		P	02 57 56.5 +1.4
	comp=Z,38nm,0.9s						
LCMT	Little Creek M	78.74	52	eP		P	02 57 56.8 +1.5
	comp=Z,60nm,1.4s						
LDFC	Landfair	78.75	54	eP		P	02 57 56.4 +1.1
LDFC				epP		pP	02 58 09.1 +0.6
MTPU	Mount Pierson	78.75	51	eP		P	02 57 56.5 +0.9
	comp=Z,20nm,0.8s						
PFO	Pinyon Flats O	78.76	56	P		P	02 57 56.1 +0.7
	baz=308						
PFO	Pinyon Flats O	78.76	56	eP		P	02 57 56.0 +0.6
PFO				pmax		pmax	
	comp=Z,52nm,1.4s						
PFO				MLR		MLR	
	comp=Z,1μm,21.0s						
PFO	Pinyon Flats O	78.76	56	eP		P	02 57 56.0 +0.6
	comp=Z,52nm,1.4s						
PFO				LR		LR	
	comp=Z,1μm,21.0s						
CRVS	Cervenica-Dubn	78.78	324	eP		P	02 57 55.5 +0.4
CRVS	Cervenica-Dubn	78.78	324	eP		P	02 57 55.5 +0.4
PGOR	Pogoanele	78.82	319	↓iP		P	02 57 56.7 +1.3
BELC	Belle Mtn. Jos	78.83	56	P		P	02 57 56.8 +1.0
	baz=308,SNR=5.3						
ANTO	Ankara	78.89	312	eP		P	02 57 56.4 +0.4
ANTO				pmax		pmax	
	comp=Z,44nm,0.8s						
ANTO	Ankara	78.89	312	eP		P	02 57 56.4 +0.4
	comp=Z,44nm,0.8s						
ISR	Istrita	78.91	319	↓iP		P	02 57 57.1 +1.2
P18A	Preston Nutter	78.92	48	eP		P	02 57 57.7 +1.3
	comp=Z,31nm,1.1s						
BR231	Keskin MP Arra	78.92	312	eP		P	02 57 56.4 +0.2
DOPR	Dopca	78.93	320	↑iP		P	02 57 57.0 +1.0
NIE	Niedzica	78.94	325	eP		P	02 57 56.8 +0.8
NIE	Niedzica	78.94	325	eP		P	02 57 56.8 +0.8
MLR	Muntele Rosu	78.97	320	↑iP		P	02 57 56.7 +0.4
MLR	Muntele Rosu	78.97	320	eP		P	02 57 56.5 +0.1
MLR				pmax		pmax	
	comp=Z,36nm,0.8s						
MLR				MLR		MLR	
	comp=Z,3μm,22.0s						
MLR	Muntele Rosu	78.97	320	eP		P	02 57 56.5 +0.1
	comp=Z,36nm,0.8s						
MLR				LR		LR	
	comp=Z,3μm,22.0s						
KNB	Kanab	79.00	52	eP		P	02 57 58.5 +1.8
KNB				pmax		pmax	
	comp=Z,48nm,1.1s						
KNB	Kanab	79.00	52	eP		P	02 57 58.5 +1.8
	comp=Z,48nm,1.1s						
PKCU	Pink Cliffs	79.05	51	eP		P	02 57 53.8 -3.4
PKCU				ePcP		PcP	02 57 59.4 -6.2
SRU	San Rafael Swe	79.08	49	eP		P	02 57 58.2 +1.0
SRU	San Rafael Swe	79.08	49	eP		P	02 57 58.1 +1.0
K22A	Casper	79.09	44	P		P	02 57 57.3 +0.2
	baz=312,SNR=8.9						
K22A	Casper	79.09	44	eP		P	02 57 57.7 +0.6
	comp=Z,15nm,0.8s						
MDND	Maddock	79.10	37	P		P	02 57 57.0 +0.2
	baz=

RSSD	**Black Hills**	79.45	42	P		**P**		02 57 59.3 +0.2
	baz=313							
RSSD	**Black Hills**	79.45	42	*e*P		**P**		02 57 59.5 +0.4
RSSD				pmax		pmax		
	comp=Z,17nm,0.8s							
RSSD	**Black Hills**	79.45	42	*e*P		**P**		02 57 59.5 +0.4
	comp=Z,17nm,0.8s							
VOIR		79.46	320⇑	*i*P		**P**		02 57 59.2 +0.2
ARNB	**Al Arnab**	79.48	307	*e*P		**P**		02 57 59.6 +0.3
LANS	**Liptovska Anna**	79.51	325	*e*P		**P**		02 58 00.3 +1.2
LANS	**Liptovska Anna**	79.51	325	*e*P		**P**		02 58 00.3 +1.2
W13A	**Hualapai Mount**	79.52	54	*e*P		**P**		02 58 00.3 +0.6
	comp=Z,26nm,1.3s							
KECS	**Kecovo**	79.53	325	*e*P		**P**		02 58 00.1 +0.9
KECS				pmax		pmax		
	comp=Z,11nm,0.8s							
KECS	**Kecovo**	79.53	325	*e*P		**P**		02 58 00.1 +0.9
IKP	**In-Ko-Pah, Jac**	79.58	57	P		**P**		02 58 00.7 +0.9
	baz=308							
OKC	**Ostrava-Krasne**	79.59	327⇑	*e*P		**P**		02 57 59.9 +0.4
OKC				*e*PCP		**PcP**		02 58 07.7 +0.4
OKC				AMS		AMS		03 36 20.0
	comp=Z,2μm,14.5s							
OKC	**Ostrava-Krasne**	79.59	327	*e*P		**P**		02 57 59.9 +0.4
OKC				*e*				02 58 07.7
OKC				MLR		MLR		
	comp=Z,2μm,14.5s							
B31A	**Greenbush Farm**	79.60	36	P		**P**		02 57 59.6 0.0
	baz=316,SNR=12							
SWSC	**Sam W. Stewart**	79.61	56	P		**P**		02 58 00.6 +0.7
	baz=308							
KSP	**Ksiaz**	79.64	328	*e*P		**P**		02 58 00.2 +0.5
KSP	**Ksiaz**	79.64	328	*e*P		**P**		02 58 00.2 +0.5
DRGR		79.68	322⇑	*i*P		**P**		02 58 00.6 +0.4
ROOS	**tl_alroos**	79.69	305	*e*P		**P**		02 58 00.2 -0.3
U15A	**North Rim**	79.70	52	*e*P		**P**		02 58 02.3 +1.6
	comp=Z,46nm,1.3s							
ARR	**Arges**	79.72	320⇑	*i*P		**P**		02 58 01.6 +1.2
O20A	**White River Ci**	79.77	47	P		**P**		02 58 01.3 +0.4
	baz=311,SNR=13							
O20A	**White River Ci**	79.77	47	*e*P		**P**		02 58 01.6 +0.7
	comp=Z,18nm,0.8s							
A32A	**Rocking H Ranc**	79.77	35	P		**P**		02 58 00.2 -0.3
	baz=317,SNR=15							
PDMCI	**Parker Dam,Lak**	79.85	55	P		**P**		02 58 01.8 +0.6
	baz=309,SNR=19							
MORC	**Moravsky Berou**	79.90	327⇑	*i*P		**P**		02 58 01.8 +0.5
MORC	**Moravsky Berou**	79.90	327	*e*P		**P**		02 58 01.5 +0.3
MORC				pmax		pmax		
	comp=Z,164nm,0.9s							
MORC				MLR		MLR		
	comp=Z,6μm,18.0s							
MORC	**Moravsky Berou**	79.90	327	*e*P		**P**		02 58 01.5 +0.3
	comp=Z,164nm,0.9s							
MORC				LR		LR		
	comp=Z,6μm,18.0s							
Y12C	**Blythe**	79.95	55	P		**P**		02 58 02.3 +0.6
	baz=309,SNR=7.9							
Y12C	**Blythe**	79.95	55	*e*P		**P**		02 58 02.9 +1.1
	comp=Z,28nm,1.0s							
DPC	**Dobruska-Polom**	80.00	328	*e*P		**P**		02 58 02.6 +0.8
DPC				*e*PP		**PP**		03 01 03.3 0.0
DPC				*e*S		**S**		03 08 03.8 +1.5
DPC				AMS		AMS		03 36 40.0
	comp=Z,2μm,16.5s							
DPC	**Dobruska-Polom**	80.00	328	*e*P		**P**		02 58 02.6 +0.8
DPC				*e*				03 01 03.3
DPC				*e*S		**S**		03 08 03.8 +1.5
DPC				MLR		MLR		
	comp=Z,2μm,16.5s							
KRLC	**Kraliky**	80.01	327⇑	*e*P		**P**		02 58 02.4 +0.6
KRLC	**Kraliky**	80.01	327	*e*P		**P**		02 58 02.4 +0.6
UPC	**Upice**	80.01	328⇑	*e*P		**P**		02 58 02.3 +0.5
UPC				*e*S		**S**		03 08 03.3 +1.0
UPC				AMS		AMS		03 36 20.0
	comp=Z,2μm,17.3s							
UPC	**Upice**	80.01	328	*e*P		**P**		02 58 02.3 +0.5
UPC				*e*S		**S**		03 08 03.3 +1.0
UPC				MLR		MLR		
	comp=Z,2μm,17.3s							
C31A	**Landman Farms,**	80.02	36	P		**P**		02 58 01.9 +0.1
	baz=316,SNR=8.9							
LOT	**Lotru**	80.10	321⇓	*i*P		**P**		02 58 02.8 +0.3
HUMR	**Humele**	80.13	319⇓	*i*P		**P**		02 58 02.1 -0.4
B32A	**Ashes, Strandq**	80.14	35	P		**P**		02 58 02.1 -0.4
	baz=317,SNR=17							
GLA	**Glamis**	80.18	56	P		**P**		02 58 03.5 +0.4
	baz=309,SNR=7.3							
GLA	**Glamis**	80.18	56	*e*P		**P**		02 58 04.6 +1.5
GLA				pmax		pmax		
	comp=Z,35nm,1.0s							
GLA	**Glamis**	80.18	56	*e*P		**P**		02 58 04.6 +1.5
	comp=Z,35nm,1.0s							
PSZ	**Piszkesteto**	80.21	324⇑	*i*P		**P**		02 58 03.7 +0.7
PSZ	**Piszkesteto**	80.21	324	*e*P		**P**		02 58 03.4 +0.4
PSZ				pmax		pmax		
	comp=Z,53nm,0.8s							
PSZ				MLR		MLR		
	comp=Z,2μm,22.0s							
PSZ	**Piszkesteto**	80.21	324	*e*P		**P**		02 58 03.4 +0.4
	comp=Z,53nm,0.8s							
PSZ				LR		LR		
	comp=Z,2μm,22.0s							
DEV	**Deva**	80.23	321⇓	*i*P		**P**		02 58 03.6 +0.6
A33A	**Warroad**	80.25	34	P		**P**		02 58 02.9 -0.2
	baz=318,SNR=17							
VYHS	**Vyhne**	80.28	325	*e*P		**P**		02 58 03.7 +0.4
VYHS				pmax		pmax		
	comp=Z,337nm,3.2s							
VYHS	**Vyhne**	80.28	325	*e*P		**P**		02 58 03.7 +0.4
PV09	**Paradox Valley**	80.31	49	*e*P		**P**		02 58 05.2 +1.3
MARH	**Ras Al Marh**	80.31	305	*e*P		**P**		02 58 04.6 +0.5
RAYN	**Ar Rayn**	80.44	292	*e*P		**P**		02 58 04.2 -0.3
	comp=Z,32nm,0.8s							
RAYN				LR		LR		
	comp=Z,2μm,20.0s							
PV10	**Paradox Valley**	80.44	49	*e*P		**P**		02 58 06.2 +1.6
AGMN	**Agassiz Nation**	80.51	35	P		**P**		02 58 03.9 -0.6
	baz=318,SNR=9.9							
AGMN	**Agassiz Nation**	80.51	35	*e*P		**P**		02 58 04.3 -0.2
	comp=Z,24nm,0.8s							
D31A	**Mcclaflin, Tow**	80.56	37	P		**P**		02 58 04.7 -0.1
	baz=316,SNR=6.1							
SIRR	**Siria**	80.57	322⇑	*i*P		**P**		02 58 05.4 +0.5
N23A	**Red Feather La**	80.58	45	P		**P**		02 58 06.1 +0.7
	baz=312,SNR=12							
N23A	**Red Feather La**	80.58	45	*e*P		**P**		02 58 06.7 +1.4
	comp=Z,47nm,1.2s							
PHWY	**Pilot Hill**	80.58	45	*e*P		**P**		02 58 05.8 +0.4
	comp=Z,26nm,1.5s							
BRG	**Berggiesshubel**	80.59	329	*i* P		**P**		02 58 05.9 +1.1
	comp=Z,42nm,1.0s							
BRG				*e*				02 58 22.2
	comp=Z,21nm,0.7s							
BRG				*e*				03 08 09.0
	comp=N,2μm,14.9s							
	comp=E,972nm,14.4s							
	comp=Z,2μm,14.7s							
BRG	**Berggiesshubel**	80.59	329	*i* P		**P**		02 58 05.9 +1.1
BRG				*e*				02 58 22.2
BRG				*e*				03 08 09.0
BRG				pmax		pmax		
	comp=Z,42nm,1.0s							
BRG				pmax		pmax		
	comp=Z,21nm,0.7s							
BRG				MLR		MLR		
	comp=N,2μm,14.9s							
BRG				MLR		MLR		
	comp=E,972nm,14.4s							
BRG				MLR		MLR		
	comp=Z,2μm,14.7s							
PVCC	**Panska Ves**	80.59	329⇑	*e*P		**P**		02 58 05.4 +0.5
PVCC				*e*pP		**PcP**		02 58 15.0 +3.4
PVCC				AMS		AMS		03 37 00.0
	comp=Z,2μm,16.5s							
PVCC	**Panska Ves**	80.59	329	*e*P		**P**		02 58 05.4 +0.5
PVCC				*e*				02 58 15.0
PVCC				MLR		MLR		
	comp=Z,2μm,16.5s							
PV05	**Paradox Valley**	80.60	49	*e*P		**P**		02 58 06.9 +1.4
CLL	**Collm**	80.63	330⇑	*i*P		**P**		02 58 04.8 -0.2
CLL				*e*				02 58 19.0
CLL				*e*S		**S**		03 08 09.0 +0.3
CLL				pmax		pmax		
	comp=Z,70nm,0.9s							
CLL				MLR		MLR		
	comp=Z,2μm,18.5s							
CLL	**Collm**	80.63	330⇑	*i*P		**P**		02 58 04.8 -0.2
	comp=Z,70nm,0.9s							
CLL				*e*pP		**pP**		02 58 19.0 +0.7
CLL				*e*PP		**PP**		03 01 04.0 -4.3
CLL				*e*S		**S**		03 08 09.0 +0.3
CLL				*e*(sS)				03 08 32.0
CLL				*e*PPS		PPS		03 09 16.0
CLL				*e*SS		**SS**		03 13 12.0 -8.7
CLL				*e*SSS		SSS		03 17 00.0
CLL				LmH				03 34 00.0
	comp=N,800nm,21.4s							
CLL				LmH				03 34 00.0
	comp=E,2μm,21.3s							
CLL				LmV				03 36 00.0
	comp=N,1μm,20.4s							
CLL				LmV				03 36 00.0
	comp=E,600nm,19.5s							
CLL				LmV				03 36 00.0
	comp=Z,2μm,18.5s							
CLL	**Collm**	80.63	330	*e*P		**P**		02 58 04.9 -0.2
	comp=Z,66nm,0.9s							
CLL				LR		LR		
	comp=Z,2μm,18.0s							
B33A	**Robert and Kas**	80.66	35	P		**P**		02 58 05.0 -0.2
	baz=318							
BOLV	**Bolvadin**	80.73	312	*e*P		**P**		02 58 06.9 +0.9
	comp=Z,66nm,1.0s							
Y14A	**Wickenburg**	80.82	54	*e*P		**P**		02 58 07.5 +1.1
	comp=Z,115nm,1.0s							
D32A	**Dogwood Acres,**	80.83	36	P		**P**		02 58 05.8 -0.4
	baz=317,SNR=5.5							
E31A	**Nome**	80.84	37	P		**P**		02 58 06.1 -0.1
	baz=316,SNR=17							
WUAZ	**Wupatki**	80.85	52	P		**P**		02 58 07.6 +0.8
	baz=310,SNR=23							
WUAZ	**Wupatki**	80.85	52	*e*P		**P**		02 58 07.9 +1.1
	comp=Z,44nm,1.2s							
PV01	**Paradox Valley**	80.88	49	*e*P		**P**		02 58 07.8 +0.8
SMOL	**Smolenice**	80.89	326	*e*P		**P**		02 58 08.0 +1.5
SMOL	**Smolenice**	80.89	326	*e*P		**P**		02 58 08.0 +1.5
B34A	**Aery, Baudette**	80.92	34	P		**P**		02 58 05.9 -0.8
	baz=318,SNR=8.7							
SRE	**Strehaia**	80.94	320⇓	*i*P		**P**		02 58 07.9 +1.0
C33A	**Trail**	80.95	35	P		**P**		02 58 06.4 -0.5
	baz=318,SNR=12							
SALA	**Sala**	80.97	304	*e*P		**P**		02 58 06.0 -1.4
GOPC	**GO Pecny, Ondr**	80.97	328	*e*P		**P**		02 58 07.5 +0.5
GOPC				*e*S		**S**		03 08 13.2 +0.8
GOPC				AMS		AMS		03 37 00.0
	comp=Z,2μm,18.6s							
GOPC	**GO Pecny, Ondr**	80.97	328	*e*P		**P**		02 58 07.5 +0.5
GOPC				*e*S		**S**		03 08 13.2 +0.8
GOPC				MLR		MLR		
	comp=Z,2μm,18.6s							
PRA	**Prague**	81.00	329⇑	*e*P		**P**		02 58 07.7 +0.6
PRA				*e*S		**S**		03 08 15.0 +2.4
PRA				AMS		AMS		03 37 10.0
	comp=Z,2μm,16.2s							
PRA	**Prague**	81.00	329	*e*P		**P**		02 58 07.7 +0.6
PRA				*e*S		**S**		03 08 15.0 +2.4
PRA				MLR		MLR		
	comp=Z,2μm,16.2s							
PRU	**Pruhonice**	81.02	328⇑	*e*P		**P**		02 58 07.5 +0.3
PRU				*e*S		**S**		03 08 14.0 +1.2
PRU				AMS		AMS		03 37 00.0
	comp=Z,3μm,17.4s							
PRU	**Pruhonice**	81.02	328	*e*P		**P**		02 58 07.5 +0.3
PRU				*e*S		**S**		03 08 14.0 +1.2
PRU				MLR		MLR		
	comp=Z,3μm,17.4s							
BRBR	**Barbar**	81.04	305	*e*P		**P**		02 58 05.9 -2.0
BZS	**Buzias**	81.05	322⇑	*i*P		**P**		02 58 07.3 -0.1
113A	**Mohawk Valley,**	81.06	56	*e*P		**P**		02 58 07.9 +0.3
	comp=Z,23nm,1.1s							
SMCO	**Snowmass**	81.13	47	*e*P		**P**		02 58 09.7 +1.2
	comp=Z,23nm,1.3s							
TREC	**Trest**	81.15	328⇑	*e*P		**P**		02 58 08.3 +0.4
TREC				*e*pP		**pP**		02 58 19.8 -1.4
TREC				*e*S		**S**		03 08 16.3 +2.0
TREC				AMS		AMS		03 37 20.0
	comp=Z,2μm,20.0s							
TREC	**Trest**	81.15	328	*e*P		**P**		02 58 08.3 +0.4
TREC				*e*				02 58 19.8
TREC				*e*S		**S**		03 08 16.3 +2.0
TREC				MLR		MLR		
	comp=Z,2μm,20.0s							
F31A	**Hecla**	81.17	38	P		**P**		02 58 07.6 -0.4
	baz=316,SNR=12							
E32A	**Braaten, Kindr**	81.20	36	P		**P**		02 58 08.4 +0.1
	baz=317							
D33A	**AnnSam, Waubun**	81.37	35	P		**P**		02 58 08.6 -0.5
	baz=318							
B35A	**Bob, Littlefor**	81.42	34	P		**P**		02 58 09.0 -0.4
	baz=319,SNR=9.6							
C34A	**RKJ Ranch, Bem**	81.42	35	P		**P**		02 58 09.0 -0.4
	baz=318							
BANR	**Banloc**	81.46	322⇑	*i*P		**P**		02 58 10.4 +0.9
ISCO	**Idaho Springs**	81.50	46	P		**P**		02 58 11.0 +0.6
	baz=312,SNR=14							
ISCO	**Idaho Springs**	81.50	46	*e*P		**P**		02 58 11.2 +0.9
ISCO				pmax		pmax		
	comp=Z,11nm,0.8s							
ISCO	**Idaho Springs**	81.50	46	*e*P		**P**		02 58 11.2 +0.9
	comp=Z,11nm,0.8s							
X16A	**Lo Mia Camp, P**	81.51	53	*e*P		**P**		02 58 11.8 +1.5
	comp=Z,19nm,0.8s							
MVCO	**Mesa Verde**	81.53	49	P		**P**		02 58 11.1 +0.7
	baz=311,SNR=19							
MVCO	**Mesa Verde**	81.53	49	*e*P		**P**		02 58 11.2 +0.8
	comp=Z,57nm,1.4s							
MPEP	**Malo Peshtene**	81.58	319	*e*P		**P**		02 58 10.9 +0.6
MDVR	**Moldovita**	81.60	321⇑	*i*P		**P**		02 58 10.4 0.0
G31A	**Conde**	81.65	38	P		**P**		02 58 10.3 -0.3
	baz=316,SNR=14							
NKC	**Novy Kostel**	81.69	330⇑	*e*P		**P**		02 58 10.9 +0.2
NKC				*e*PCP		**PcP**		02 58 17.8 +1.3
NKC				AMS		AMS		03 38 00.0
	comp=Z,2μm,15.4s							
NKC	**Novy Kostel**	81.69	330	*e*P		**P**		02 58 10.9 +0.2
NKC				*e*				02 58 17.8
NKC				MLR		MLR		
	comp=Z,2μm,15.4s							
F32A	**Veblen**	81.70	37	P		**P**		02 58 10.4 -0.4
	baz=317,SNR=15							
D34A	**Park Rapids**	81.71	35	P		**P**		02 58 10.3 -0.6
	baz=318,SNR=18							
CSS	**Mathiatis**	81.72	308	P		**P**		02 58 11.1 -0.1
CSS	**Mathiatis**	81.72	308	*e*P		**P**		02 58 11.1 -0.1
	comp=Z,14nm,0.6s							
CSS				LR		LR		
	comp=Z,200nm,21.0s							
HIZ	**Hauiti**	81.75	154	PFAKE				02 58 20.0 +9.1
HIZ				LR		LR		
	comp=Z,1μm,21.0s							
E33A	**Westby DABS, E**	81.77	36	P		**P**		02 58 11.0 -0.3
	baz=316,SNR=20							
C35A	**Jirik Farms, M**	81.80	34	P		**P**		02 58 10.8 -0.6
	baz=319,SNR=16							
SUSD	**Miller**	81.84	39	P		**P**		02 58 11.5 -0.1
	baz=316,SNR=10							
PGB	**Panagyurishte**	81.93	318	*e*P		**P**		02 58 12.6 +0.4
G32A	**Webster**	81.97	38	P		**P**		02 58 12.2 -0.1
	baz=317,SNR=6.5							
CONA	**Conrad Observa**	82.03	326	*i* P		**P**		02 58 13.5 +0.9
	comp=Z,55nm,1.3s,SNR=23							
H31A	**Wolsey**	82.05	39	P		**P**		02 58 12.5 -0.2
	baz=316,SNR=6.7							
KHC	**Kasperske Hory**	82.08	328⇑	*i*P		**P**		02 58 13.1 +0.2
KHC				*e*pP		**pP**		02 58 24.6 -1.6
KHC				*e*PP		**PP**		03 01 24.2 +3.7
KHC				*e*S		**S**		03 08 25.0 +1.1
KHC				AMS		AMS		03 37 40.0
	comp=Z,2μm,19.4s							
KHC	**Kasperske Hory**	82.08	328⇑	*i*P		**P**		02 58 13.1 +0.2
KHC				*e*				02 58 24.6
KHC				*e*				03 01 24.2
KHC				*e*S		**S**		03 08 25.0 +1.1
KHC				MLR		MLR		
	comp=Z,2μm,19.4s							
KHC	**Kasperske Hory**	82.08	328	*e*P		**P**		02 58 13.0 +0.1
	comp=Z,20nm,0.9s							
KHC				LR		LR		
	comp=Z,900nm,18.0s							
F33A	**5 Mile Ranch,**	82.12	37	P		**P**		02 58 13.1 0.0
	baz=318,SNR=13							
E34A	**Wadena**	82.15	36	P		**P**		02 58 13.2 0.0
	baz=318							
S22A	**4UR Ranch, Cre**	82.17	48	P		**P**		02 58 15.2 +1.4
	baz=312							
S22A	**4UR Ranch, Cre**	82.17	48	*e*P		**P**		02 58 15.5 +1.6
	comp=Z,17nm,0.8s							
214A	**Organ Pipe Nat**	82.19	56	P		**P**		02 58 14.4 +0.6
	baz=310							
D35A	**Remer**	82.23	35	P		**P**		02 58 12.9 -0.8
	baz=319,SNR=5.2							
GEC2	**GERESS Array S**	82.25	328	*e*P		**P**		02 58 13.7 -0.1
GEC2				MLR		MLR		
	comp=Z,2μm,18.0s							
GEC2	**GERESS Array S**	82.25	328	*e*P		**P**		02 58 13.7 -0.1
GEC2				LR		LR		
	comp=Z,2μm,18.0s							
GERES	**GERESS Array B**	82.25	328	P		**P**		02 58 13.6 -0.1
	comp=Z,18nm,0.6s,baz=36,slow=5.6,SNR=124							
GERES				PKKPbc		**PKKPbc**		03 16 40.1 -0.5
	comp=Z,0.8nm,0.7s,baz=183,slow=2.7,SNR=6.3							
GERES				LR		LR		03 38 18.8
	comp=Z,2μm,18.1s,baz=36,slow=38							
GEA0	**GERESS Array S**	82.26	328	*e*P		**P**		02 58 13.7 -0.2
C36A	**Pine Crest Far**	82.27	34	P		**P**		02 58 13.3 -0.5
	baz=320,SNR=14							
Q24A	**Divide**	82.33	46	P		**P**		02 58 15.1 +0.4
	baz=313,SNR=8.5							
Q24A	**Divide**	82.33	46	*e*P		**P**		02 58 15.5 +0.8
	comp=Z,13nm,0.8s							
URZ	**Urewera**	82.33	152	PFAKE				02 58 30.0 +16
URZ				LR		LR		
	comp=Z,1μm,22.0s							
X18A	**Snowflake**	82.38	52	*e*P		**P**		02 58 16.1 +1.3
	comp=Z,23nm,1.3s							
VTS	**Vitosha**	82.40	319⇑	*i*P		**P**		02 58 15.2 +0.4
VTS	**Vitosha**	82.40	319	*e*P		**P**		02 58 15.2 +0.4
WTSB	**Winterswijk**	82.43	334	*e*P		**P**		02 58 14.3 -0.2
	comp=Z,49nm,0.8s							
E35A	**Pequot Lakes**	82.47	35	P		**P**		02 58 14.5 -0.4
	baz=319,SNR=6.0							
G33A	**Ortonville**	82.53	37	P		**P**		02 58 15.0 -0.2
	baz=317,SNR=15							
H32A	**Carlson Farm,**	82.55	38	P		**P**		02 58 15.0 -0.4
	baz=317,SNR=6.0							
D36A	**Goodland**	82.56	34	P		**P**		02 58 15.2 -0.2
	baz=319,SNR=6.3							
C37A	**Embarrass**	82.57	33	P		**P**		02 58 15.0 -0.4
	baz=320,SNR=14							
GRFO	**Grafenberg**	82.60	330	*e*P		**P**		02 58 16.2 +0.7
GRFO				pmax		pmax		
	comp=Z,62nm,0.9s							
GRFO				MLR		MLR		
	comp=Z,1μm,20.0s							
GRFO	**Grafenberg**	82.60	330	*e*P		**P**		02 58 16.1 +0.7
	comp=Z,62nm,0.9s							
GRFO				LR		LR		
	comp=Z,1μm,20.0s							
ESK	**Eskdalemuir**	82.65	340	*e*P		**P**		02 58 16.6 +0.9
ESK				pmax		pmax		
	comp=Z,26nm,0.7s							
ESK				MLR		MLR		
	comp=Z,2μm,19.0s							
ESK	**Eskdalemuir**	82.65	340	*e*P		**P**		02 58 16.6 +0.9
	comp=Z,26nm,0.7s							
ESK				LR		LR		
	comp=Z,2μm,19.0s							
ARSA	**Arzberg**	82.69	326	*i* P		**P**		02 58 16.6 +0.6
	comp=Z,22nm,0.9s,SNR=7.9							
EYMN	**Ely**	82.70	33	P		**P**		02 58 15.9 -0.2
	baz=320,SNR=10							
EYMN	**Ely**	82.70	33	*e*P		**P**		02 58 15.9 -0.2
	comp=Z,32nm,0.9s							
OGNE	**Ogallala**	82.71	43	P		**P**		02 58 16.3 0.0
	baz=314							
OGNE	**Ogallala**	82.71	43	*e*P		**P**		02 58 16.6 +0.2
	comp=Z,22nm,0.8s							
H33A	**Prehn Over Nor**	82.76	38	P		**P**		02 58 16.4 0.0
	baz=317,SNR=18							
J31A	**Geddes**	82.77	40	P		**P**		02 58 16.5 0.0
	baz=316,SNR=12							
MOA	**Molln**	82.78	327	*e*P		**P**		02 58 17.1 +0.6
	comp=Z,25nm,1.1s,SNR=8.3							
MMB	**Musomiste**	82.83	318	*e*P		**P**		02 58 17.7 +0.8
G34A	**Benson**	82.87	37	P		**P**		02 58 16.9 -0.1
	baz=318,SNR=16							
I32A	**Karley and Nic**	82.88	38	P		**P**		02 58 16.8 -0.3
	baz=317,SNR=9.7							
D37A	**Cotton**	82.90	34	P		**P**		02 58 16.9 -0.2
	baz=320							
BKZ	**Black Stump Fm**	82.90	153	*e*P		**P**		02 58 18.8 +1.8
	comp=Z,56nm,1.5s							
F35A	**Swanville**	82.91	36	P		**P**		02 58 16.9 -0.3
	baz=319,SNR=7.2							
NVR	**Nevrokopi**	82.93	318	P		**P**		02 58 17.6 +0.2
SDCO	**Great Sand Dun**	82.95	47	P		**P**		02 58 18.6 +0.7
	baz=313,SNR=21							
SDCO	**Great Sand Dun**	82.95	47	*e*P		**P**		02 58 18.8 +0.9
	comp=Z,10nm,0.8s							
DIVS	**Divibare**	82.95	322	P		**P**		02 58 17.8 +0.3
C38A	**Sawbill Land.**	82.98	33	P		**P**		02 58 17.1 -0.4
	baz=321,SNR=15							
KKB	**Krupnik**	82.98	319	*e*P		**P**		02 58 18.4 +0.8
E36A	**McGregor**	83.02	35	P		**P**		02 58 17.4 -0.3
	baz=319,SNR=7.1							
J32A	**Parkston**	83.17	39	P		**P**		02 58 18.2 -0.4
	baz=317,SNR=7.0							
AKAS	**Kas**	83.17	311	*e*P		**P**		02 58 19.2 +0.4
	comp=Z,170nm,1.6s							
I33A	**Coleman**	83.19	38	P		**P**		02 58 18.9 +0.2
	baz=317							
K31A	**O'Neill**	83.25	40	P		**P**		02 58 18.7 -0.3
	baz=316,SNR=8.7							
TUC	**Tucson**	83.29	54	P		**P**		02 58 20.7 +1.3
	baz=311							
TUC	**Tucson**	83.29	54	*e*P		**P**		02 58 20.5 +1.0
TUC				pmax		pmax		
	comp=Z,19nm,1.3s							
TUC	**Tucson**	83.29	54	*e*P		**P**		02 58 20.5 +1.

comp=Z,40nm,0.8s
THZ Tophouse 84.03 157 PFAKE 02 58 30.0 +7.3
THZ LR LR
comp=Z,2µm,20.0s
LJU Ljubljana 84.06 326 *e*P **P** **02 58 22.5 -0.5**
F38A Pierce - Schro 84.06 34 P **P** **02 58 23.1 0.0**
baz=320,SNR=32
PVY Plav 84.06 321⇑ *i*P **P** **02 58 22.6 -0.7**
L32A Elgin 84.08 40 P **P** **02 58 23.1 -0.2**
baz=317,SNR=8.1
KOME Kolasin 84.10 321⇑ *i*P **P** **02 58 23.7 +0.2**
VISS Visnje 84.10 326 *i* P **P** **02 58 23.2 -0.1**
STU Stuttgart 84.14 330 *e*P **P** **02 58 23.8 +0.4**
STU pmax pmax
comp=Z,57nm,0.9s
STU MLR MLR
comp=Z,1µm,18.0s
STU Stuttgart 84.14 330 *e*P **P** **02 58 23.8 +0.4**
comp=Z,57nm,0.9s
STU LR LR
comp=Z,1µm,18.0s
UPM Unac-Piva 84.14 322⇑ *i*P **P** **02 58 22.0 -1.8**
BOJS Bojanci 84.14 325 *i* P **P** **02 58 23.7 +0.2**
K33A Hardington 84.15 39 P **P** **02 58 23.7 +0.1**
baz=317
J34A George 84.17 38 P **P** **02 58 23.9 +0.2**
baz=318
H36A Jessenland, He 84.18 36 P **P** **02 58 23.9 +0.2**
baz=319,SNR=11
SNZO South Karori 84.20 155 PFAKE 02 58 40.0 +17
SNZO LR LR
comp=Z,900nm,20.0s
SPMN Marine on St. 84.21 35 P **P** **02 58 23.6 -0.3**
baz=320
SPMN Marine on St. 84.21 35 *e*P **P** **02 58 22.7 -1.1**
comp=Z,17nm,0.8s
LAZ Ladron 84.21 51 *e*P **P** **02 58 25.1 +0.8**
BCLA Clavier 84.24 334 P **P** **02 58 23.4 -0.4**
CADS Cadrg 84.26 326 *e*P **P** **02 58 23.1 -1.1**
ANMO Albuquerque 84.26 50 P **P** **02 58 25.6 +1.0**
baz=312
ANMO Albuquerque 84.26 50 *c i*P **P** **02 58 25.3 +0.7**
ANMO pmax pmax
comp=Z,30nm,1.2s
ANMO Albuquerque 84.26 50 *e*P **P** **02 58 25.8 +1.3**
comp=Z,20nm,0.9s
KRUS Krusevo 84.30 319 *i* P **P** **02 58 24.4 -0.1**
WATA Walderalm 84.32 328 *e*P **P** **02 58 24.7 +0.1**
comp=Z,17nm,0.8s,SNR=11
E39A Mellen 84.32 33 P **P** **02 58 24.1 -0.3**
baz=321,SNR=16
L33A Hoskins 84.33 40 P **P** **02 58 24.4 -0.2**
baz=317
WTTA Wattenberg 84.35 328 *i* P **P** **02 58 24.7 -0.1**
comp=Z,13nm,0.7s
JAVS Javornik 84.38 326 *e*P **P** **02 58 23.7 -1.1**
NKY Niksic 84.39 321⇑ *i*P **P** **02 58 24.9 0.0**
ABTA Abfaltersbach 84.39 327 *e*P **P** **02 58 24.5 -0.3**
comp=Z,15nm,0.8s,SNR=6.7
PMOR Pomariorio Ree 84.41 114 *e*T T 04 31 18.0
comp=Z,52nm,0.2s
BGNE Belgrade 84.44 41 P **P** **02 58 24.9 -0.3**
baz=317
BGNE Belgrade 84.44 41 *e*P **P** **02 58 25.0 -0.2**
comp=Z,41nm,0.8s
J35A Milford 84.47 38 P **P** **02 58 25.0 -0.3**
baz=318
LANF Langenberg 84.50 331⇑ *e*P **P** **02 58 25.2 -0.1**
BIA Bitola 84.51 319 P **P** **02 58 26.1 +0.6**
BIA Bitola 84.51 319 *e*P **P** **02 58 24.4 -1.1**
BIA Bitola 84.51 319 P **P** **02 58 26.1 +0.6**
MOTA Moosalm 84.51 329 *i* P **P** **02 58 25.6 +0.1**
comp=Z,18nm,0.6s,SNR=21
SNF Seneffe 84.52 334 P **P** **02 58 25.2 -0.1**
F39A Loretta 84.52 34 P **P** **02 58 25.2 -0.2**
baz=321,SNR=8.4
RETA Reutte 84.54 329 *i* P **P** **02 58 25.7 +0.1**
comp=Z,44nm,0.7s,SNR=26
TTG Podgorica 84.54 321⇑ *i*P **P** **02 58 25.6 +0.1**
K34A Le Mars 84.54 39 P **P** **02 58 25.2 -0.4**
baz=318
BRY Bratogost 84.55 322⇑ *i*P **P** **02 58 26.2 +0.4**
LIT Litokhoron 84.55 318 P **P** **02 58 25.2 -0.5**
LIT Litokhoron 84.55 318 P **P** **02 58 25.2 -0.5**
E40A Wakefield 84.56 33 P **P** **02 58 25.7 +0.1**
baz=322,SNR=24
I36A Fitzsimmons Fa 84.56 37 P **P** **02 58 25.5 -0.2**
baz=319
WLF Walferdange 84.56 333 P **P** **02 58 26.6 +1.0**
comp=Z,34nm,2.1s
WLF Walferdange 84.56 333 *e*P **P** **02 58 25.3 -0.2**
WLF pmax pmax
comp=Z,95nm,1.8s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 84.56 333 *e*P **P** **02 58 25.3 -0.2**
comp=Z,95nm,1.8s
WLF LR LR
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 84.56 51 *e*P **P** **02 58 28.0 +1.9**
comp=Z,36nm,0.7s
LPM Los Pinos Moun 84.58 50 *e*P **P** **02 58 27.3 +1.1**
CEME Cevo 84.62 321⇑ *i*P **P** **02 58 25.6 -0.5**
D41A Chassel 84.64 32 P **P** **02 58 25.8 -0.1**
baz=322,SNR=5.7
H37A Dierke Farm, C 84.64 36 P **P** **02 58 26.1 0.0**
baz=320,SNR=6.2
UDBI Udbina 84.65 324 P **P** **02 58 25.7 -0.5**
G38A Ridgeland 84.68 35 P **P** **02 58 25.9 -0.3**
baz=320,SNR=10.0
BNM Barren Site 84.69 51 *e*P **P** **02 58 27.7 +0.9**
OHR Ohrid 84.72 319 *i* P **P** **02 58 26.2 -0.4**
OHR Ohrid 84.72 319 *i* P **P** **02 58 26.2 -0.4**
DRME Dracevica, Mon 84.75 321⇑ *i*P **P** **02 58 27.1 +0.4**
DOU Dourbes 84.76 334 P **P** **02 58 26.1 -0.4**
comp=Z,15nm,1.5s
M33A Taylor Creek F 84.81 40 P **P** **02 58 27.1 +0.1**
baz=317
BUM Brajici-Budva 84.81 321⇑ *i*P **P** **02 58 27.2 +0.1**
KHZ Kahutara 84.82 157 PFAKE 02 58 40.0 +13
KHZ LR LR
comp=Z,1µm,20.0s
BFO Black Forest 84.83 331 *c e*P **P** **02 58 27.0 0.0**
BFO Black Forest 84.83 331 *e*P **P** **02 58 26.9 -0.1**
comp=Z,61nm,0.8s
BFO LR LR
comp=Z,1µm,19.0s
I37A Lemond, Waseca 84.85 36 P **P** **02 58 27.1 0.0**
baz=320,SNR=14
319A Douglas 84.86 54 *e*P **P** **02 58 28.7 +1.1**
comp=Z,23nm,0.8s
H38A Maiden Rock 84.87 35 P **P** **02 58 27.0 -0.2**
baz=320
F40A Park Falls 84.87 33 P **P** **02 58 26.9 -0.3**
baz=322,SNR=8.9
ULC Ulcinj 84.89 321⇑ *i*P **P** **02 58 27.4 0.0**
PPT Papeete 84.89 117 LR LR 03 32 16.3
comp=Z,787nm,19.0s,baz=312,slow=33
G39A Holcombe 84.90 34 P **P** **02 58 27.0 -0.4**
baz=321,SNR=6.5
PPT2 Papeete2 84.90 117 *e*P P 02 58 34.2 +6.5
comp=Z,54nm,1.2s
PPT2 Papeete2 84.90 117 *e*S **S** **03 08 58.2 +5.0**
comp=Z,471nm,25.2s
PPT2 *e*SS **SS** **03 14 25.1 -1.9**
comp=Z,370nm,26.2s
PPT2 Papeete2 84.90 117 *e*LR LR 03 25 12.8
comp=Z,4µm,29.5s,baz=317
PPT2 Papeete2 84.90 117 *e*T T 04 31 57.0
comp=Z,12nm,0.3s
HCY Herceg Novi 84.91 321⇑ *i*P **P** **02 58 26.7 -0.7**
FETA Feichten 84.92 329 *e*P **P** **02 58 27.8 +0.1**
comp=Z,24nm,0.7s,SNR=17
L34A Svendsen Farm, 84.93 39 P **P** **02 58 27.5 -0.1**
baz=318,SNR=7.7
E41A Kenton 84.94 32 P **P** **02 58 27.4 -0.1**
baz=322,SNR=19
K35A Storm Lake 84.94 38 P **P** **02 58 27.2 -0.4**
baz=318
PAE Paea 84.95 117 *e*T T 04 31 59.9
comp=Z,2.2nm,0.3s
STON Ston 84.98 322 P **P** **02 58 26.4 -1.3**
APE Apeiranthos 85.00 314 P **P** **02 58 27.3 -0.8**
APE Apeiranthos 85.00 314 ‖ *i*P **P** **02 58 26.4 -1.7**
APE Apeiranthos 85.00 314 *c e*P **P** **02 58 27.1 -1.0**
APE pmax pmax
comp=Z,36nm,0.8s
NVLJ Novalja 85.04 325 P **P** **02 58 27.0 -1.0**
TIAR Tiarei 85.05 116 *e*P P 02 58 34.8 +6.4
comp=Z,14nm,1.1s
TIAR Tiarei 85.05 116 *e*T T 04 32 07.3
comp=Z,13nm,0.3s
121A Cookes Peak, D 85.05 52 P **P** **02 58 29.4 +0.8**
baz=312,SNR=26
DAVA Damuels 85.06 329 *i* P **P** **02 58 28.2 -0.1**
comp=Z,60nm,0.9s,SNR=20
KARP Karpathos 85.10 312 *e*P **P** **02 58 28.5 -0.1**
comp=Z,52nm,0.9s
M34A Aspy Farms, Fr 85.17 40 P **P** **02 58 29.4 +0.6**
baz=318
L35A Bielow Farm, R 85.24 39 P **P** **02 58 28.2 -0.9**
baz=318
TVO Taravao 85.26 117 *e*P P 02 58 35.9 +6.4
comp=Z,22nm,1.1s
TVO Taravao 85.26 117 *e*T T 04 32 23.3
comp=Z,1.8nm,0.3s
HSIG 85.31 57 PFAKE 02 58 40.0 +10
HSIG LR LR
comp=Z,900nm,21.0s
J37A Redenius Farm, 85.31 37 P **P** **02 58 29.2 -0.2**
baz=319,SNR=7.1
H39A Augusta 85.32 35 P **P** **02 58 29.3 -0.2**
baz=321,SNR=10
I38A Scanlan Farm, 85.33 36 P **P** **02 58 29.4 -0.1**
baz=320,SNR=10.0
DSB Dublin 85.34 341 *e*P **P** **02 58 29.8 +0.5**
comp=Z,35nm,0.7s
G40A Rib Lake 85.34 34 P **P** **02 58 29.5 -0.1**
baz=322,SNR=23
ECH Echery 85.38 331⇑ *e*P **P** **02 58 29.5 -0.2**
K36A Gilmore City 85.39 38 P **P** **02 58 29.8 0.0**
baz=319,SNR=7.4
AGG Agios Georgios 85.41 317 PFAKE 02 58 40.0 +10
AGG LR LR
comp=Z,5µm,19.0s
E42A Champion 85.41 32 P **P** **02 58 29.7 -0.1**
baz=323,SNR=15
FUORN Ofenpass-Fuorn 85.44 329 *e*P **P** **02 58 30.9 +0.6**
FUORN LR LR
comp=Z,71nm,0.8s
comp=Z,2µm,18.0s
F41A Three Lakes 85.45 33 P **P** **02 58 30.0 -0.1**
baz=322,SNR=16
CBKS Cedar Bluff 85.46 43 P **P** **02 58 29.7 -0.6**
baz=316
CBKS Cedar Bluff 85.46 43 *e*P **P** **02 58 30.1 -0.2**
CBKS pmax pmax
comp=Z,17nm,0.8s
CBKS Cedar Bluff 85.46 43 *e*P **P** **02 58 30.1 -0.2**
comp=Z,17nm,0.8s
CMBO Columbo, Santo 85.49 313 P **P** **02 58 28.5 -1.9**
M35A Neola 85.65 39 P **P** **02 58 31.2 +0.1**
baz=318,SNR=12
K37A Belmond 85.68 37 P **P** **02 58 31.0 -0.3**
baz=319,SNR=16
MOF Molkenrain 85.69 331⇑ *e*P **P** **02 58 30.8 -0.5**
O33A Hebron 85.70 41 P **P** **02 58 30.8 -0.6**
baz=317
N34A Lincoln 85.70 40 P **P** **02 58 30.8 -0.7**
baz=318,SNR=9.6
MQZ McQueen's Vall 85.72 158 PFAKE 02 58 40.0 +8.9
MQZ LR LR
comp=Z,1µm,18.0s
H40A Chili 85.76 34 P **P** **02 58 31.4 -0.2**
baz=321,SNR=15
THEF They Montfort 85.81 332⇑ *e*P **P** **02 58 31.7 -0.1**
J38A Wedel Dairy, R 85.81 36 P **P** **02 58 31.9 -0.1**
baz=320
E43A Lone Tree Farm 85.83 31 P **P** **02 58 31.8 -0.2**
baz=324,SNR=16
G41A Antigo 85.83 33 P **P** **02 58 32.0 0.0**
baz=322
I39A Houston 85.85 35 P **P** **02 58 31.6 -0.5**
baz=321,SNR=16
F42A Maple Grove Fa 85.85 32 P **P** **02 58 32.3 +0.3**
baz=323
ANX Ano Chora 85.94 317 P **P** **02 58 30.2 -2.6**
ZKR Zakros 85.95 312 P **P** **02 58 32.8 0.0**
E44A Grand Marais A 86.08 31 P **P** **02 58 33.2 +0.1**
baz=324,SNR=8.9
O34A Beatrice 86.08 41 P **P** **02 58 32.6 -0.8**
baz=318,SNR=8.9
H41A Jutiotico City 86.10 34 P **P** **02 58 33.1 -0.3**
baz=322,SNR=8.1
M36A Felix, Anita 86.10 39 P **P** **02 58 33.4 0.0**
baz=319,SNR=8.5
L37A Phoenix Point, 86.11 38 P **P** **02 58 33.3 -0.2**
baz=319,SNR=9.9
N35A Tabor 86.12 40 P **P** **02 58 34.1 +0.6**
baz=318
G42A Mountain 86.14 33 P **P** **02 58 33.5 0.0**
baz=323,SNR=12
J39A Decorah 86.16 36 P **P** **02 58 33.1 -0.6**
baz=321,SNR=16
K38A Parkersburg 86.19 37 P **P** **02 58 33.0 -0.8**
baz=320
F43A Flat Rock, Esc 86.20 32 P **P** **02 58 33.8 0.0**
baz=324,SNR=8.7
LOMF Lomont 86.22 331 *e*P **P** **02 58 33.6 -0.3**
I40A Norwalk 86.23 35 P **P** **02 58 33.7 -0.3**
baz=321,SNR=5.5
TAOE Nuku Hiva Isla 86.32 104 *e*S **S** **03 09 11.4 +4.1**
comp=Z,539nm,29.0s
TAOE Nuku Hiva Isla 86.32 104 *e*LR LR 03 25 45.2
comp=Z,3µm,26.1s,baz=313
TAOE Nuku Hiva Isla 86.32 104 *e*T T 04 33 36.9
comp=Z,114nm,0.3s
F44A Big Bay de Noc 86.39 31 P **P** **02 58 34.9 +0.1**
baz=324,SNR=21
I41A Arkdale 86.44 34 P **P** **02 58 34.8 -0.1**
baz=322,SNR=9.7
G43A Wallace 86.44 32 P **P** **02 58 35.1 +0.1**
baz=323,SNR=12
P34A Walnut Farm, R 86.48 41 P **P** **02 58 34.8 -0.6**
baz=318,SNR=20
L38A Oak Wood Farm, 86.48 37 P **P** **02 58 35.2 -0.1**
baz=320,SNR=6.3
N36A Muff Farm, Cla 86.50 39 P **P** **02 58 35.6 +0.2**
baz=319,SNR=8.4
M37A Trindle Farm, 86.51 38 P **P** **02 58 35.5 +0.1**
baz=319,SNR=8.1
J40A Soldiers Grove 86.56 35 P **P** **02 58 35.0 -0.6**
baz=321,SNR=13
K39A Oelwein 86.56 36 P **P** **02 58 35.0 -0.7**
baz=320,SNR=15
E45A Wooded Hills, 86.59 30 P **P** **02 58 35.5 -0.2**
baz=325,SNR=5.2
DAMY Dhamar 86.67 286 *e*P **P** **02 58 37.9 +1.0**
comp=Z,44nm,1.2s
DAMY LR LR
comp=Z,1µm,20.0s
H42A Shiocton 86.67 33 P **P** **02 58 36.1 -0.1**
baz=323,SNR=8.4
SENIN Lac Senin/Sane 86.84 330 *e*P **P** **02 58 37.1 -0.1**
comp=Z,14nm,0.8s
SENIN LR LR
comp=Z,1µm,18.0s
SIVA Sivas 86.85 313 P **P** **02 58 37.0 -0.2**
Q34A Chapman 86.88 42 P **P** **02 58 37.0 -0.3**
baz=318,SNR=8.2
J41A Loganville 86.92 35 P **P** **02 58 37.1 -0.3**
baz=322,SNR=15
K40A Colesburg 86.92 36 P **P** **02 58 36.9 -0.5**
baz=321,SNR=25
P35A Duane Minner, 86.92 41 P **P** **02 58 36.5 -0.9**
baz=318,SNR=7.1
N37A Lee Faris, Mou 86.92 39 P **P** **02 58 37.6 +0.2**
baz=319
M38A Pleasantville 86.92 38 P **P** **02 58 37.2 -0.2**
baz=320,SNR=12
KSU1 Kansas State U 86.93 41 P **P** **02 58 37.3 -0.2**
baz=318,SNR=11
KSU1 Kansas State U 86.93 41 *e*P **P** **02 58 37.3 -0.2**
comp=Z,46nm,0.8s
ITM Ithomi 86.95 316 P **P** **02 58 36.4 -1.3**
L39A Vinton 86.96 37 P **P** **02 58 37.3 -0.3**
baz=320,SNR=16
I42A Draeger Farm, 87.00 34 P **P** **02 58 37.7 -0.1**
baz=322,SNR=17
F45A CMU Biological 87.00 31 P **P** **02 58 37.5 -0.2**
baz=325,SNR=5.5
O36A Bolckow 87.01 40 P **P** **02 58 37.8 0.0**
baz=319,SNR=16
MNTX Cornudas Mount 87.12 52 P **P** **02 58 39.3 +0.8**
baz=313,SNR=8.4
MNTX Cornudas Mount 87.12 52 *e*P **P** **02 58 38.8 +0.2**
comp=Z,5.9nm,0.9s
CPRX Cap Rock 87.14 50 *e*P **P** **02 58 39.5 +0.7**
MSTX Muleshoe 87.15 48 P **P** **02 58 39.3 +0.5**
baz=314,SNR=5.2
MSTX Muleshoe 87.15 48 *e*P **P** **02 58 38.5 -0.3**
comp=Z,44nm,1.5s
AMTX Amarillo 87.15 47 P **P** **02 58 39.6 +0.8**
baz=315
AMTX Amarillo 87.15 47 *e*P **P** **02 58 39.8 +1.0**
comp=Z,46nm,0.8s
JFWS Jewell Farm 87.16 35 *e*P **P** **02 58 38.5 -0.1**
JFWS pmax pmax
comp=Z,22nm,0.8s
JFWS Jewell Farm 87.16 35 *e*P **P** **02 58 38.5 -0.1**
comp=Z,22nm,0.8s
R34A Isabella, Hill 87.18 42 P **P** **02 58 39.5 +0.7**
baz=317
DYA Yadsworthy 87.20 339 *e*P **P** **02 58 38.8 +0.3**
comp=Z,77nm,1.1s
DYA LR LR
comp=Z,2µm,22.0s
P36A Good Intent, A 87.27 40 P **P** **02 58 38.9 -0.2**
baz=319,SNR=12
M39A Webster 87.37 37 P **P** **02 58 39.5 -0.1**
baz=320,SNR=13
L40A Anamosa 87.37 36 P **P** **02 58 39.2 -0.4**
baz=321,SNR=13
K41A Shullsburg 87.38 35 P **P** **02 58 39.3 -0.3**
baz=322,SNR=17
N38A Joes South For 87.38 38 P **P** **02 58 39.5 -0.1**
baz=320,SNR=9.3
O37A Wolven Farm, M 87.40 39 P **P** **02 58 39.7 -0.1**
baz=319,SNR=11
Q35A Mercer Eighty, 87.41 41 P **P** **02 58 39.6 -0.2**
baz=318,SNR=18
U32A Winter Ranch, 87.61 45 P **P** **02 58 41.5 +0.6**
baz=316
Q36A Arnold C. Orve 87.63 41 P **P** **02 58 40.9 0.0**
baz=318
N39A Derby Farms, D 87.67 38 P **P** **02 58 41.0 -0.1**
baz=320,SNR=11
S34A Willow Spring 87.69 43 P **P** **02 58 41.0 -0.2**
baz=318,SNR=7.7
L41A Preston 87.70 36 P **P** **02 58 40.7 -0.4**
baz=321,SNR=12
R35A Emporia Munici 87.72 42 P **P** **02 58 41.4 +0.1**
baz=318,SNR=8.9
P37A Lathrop 87.73 40 P **P** **02 58 41.1 -0.2**
baz=319,SNR=16
M40A Post Highland 87.74 37 P **P** **02 58 41.2 -0.2**
baz=321,SNR=11
O38A Galt 87.77 39 P **P** **02 58 41.5 0.0**
baz=320
VLDQ Val d'Or 87.95 25 *e*P **P** **02 58 41.6 -0.6**
comp=Z,33nm,0.8s
GLMI Grayling 88.07 31 *e*P **P** **02 58 43.2 +0.4**
comp=Z,90nm,0.8s
R36A Gordon, Harris 88.08 41 P **P** **02 58 42.9 -0.1**
baz=318,SNR=5.8
N40A Mertquake, Sal 88.11 37 P **P** **02 58 43.1 0.0**
baz=321,SNR=7.4
P38A Dawn 88.12 39 P **P** **02 58 43.4 +0.2**
baz=320,SNR=15
S35A Otter Creek Ra 88.13 42 P **P** **02 58 43.4 +0.1**
baz=318,SNR=17
T34A McClaskey Farm 88.14 43 P **P** **02 58 43.5 +0.1**
baz=318
Q37A Longview Farm, 88.21 40 P **P** **02 58 43.6 0.0**
baz=319
M41A Milan 88.23 36 P **P** **02 58 43.4 -0.3**
baz=321,SNR=8.8
L43A Garden Prairie 88.42 35 P **P** **02 58 44.1 -0.5**
baz=323,SNR=5.5
R37A Teagarden Farm 88.44 41 P **P** **02 58 44.3 -0.4**
baz=319,SNR=6.6
S36A Lake Cedric, C 88.48 42 P **P** **02 58 44.7 -0.3**
baz=318,SNR=6.4
M42A Sheffield 88.53 36 P **P** **02 58 44.7 -0.4**
baz=322,SNR=5.9
O40A La Belle 88.56 38 P **P** **02 58 45.2 0.0**
baz=321,SNR=12
Q38A Cooks Store, C 88.58 40 P **P** **02 58 45.0 -0.3**
baz=320,SNR=6.7
PLDF La Plantade 88.58 332 *e*P **P** **02 58 46.2 +0.8**
T35A Sooner Cattle 88.59 43 P **P** **02 58 45.7 +0.3**
baz=318,SNR=5.3
N41A Harden Midland 88.60 37 P **P** **02 58 45.2 -0.2**
baz=321
P39B Salisbury 88.61 39 P **P** **02 58 45.6 +0.1**
baz=320
AGO Saint Agoulin 88.70 332 *e*P **P** **02 58 45.9 +0.1**
TBI Tubuai 88.81 121 *e*LR LR 03 26 49.3
comp=Z,3µm,31.0s,baz=313
TBI Tubuai 88.81 121 *e*T T 04 36 51.6
comp=Z,173nm,0.3s
SSB Saint Sauveur 88.82 331 *e*P **P** **02 58 46.9 +0.5**
SSB pmax pmax
comp=Z,38nm,1.7s
SSB MLR MLR
comp=Z,1µm,22.0s
SSB Saint Sauveur 88.82 331 *e*P **P** **02 58 46.9 +0.5**
comp=Z,38nm,1.7s
SSB LR LR
comp=Z,1µm,22.0s
T36A Boggs Farm, Ca 88.82 42 P **P** **02 58 46.5 -0.1**
baz=318,SNR=12
Q39A Willow Grove F 88.84 39 P **P** **02 58 46.6 0.0**
baz=320,SNR=20
S37A Fort Scott 88.86 41 P **P** **02 58 46.4 -0.3**
baz=319,SNR=7.3
U35A Pawnee 88.87 43 P **P** **02 58 46.9 +0.1**
baz=318,SNR=7.8
N42A Yates City 88.89 36 P **P** **02 58 46.7 -0.1**
baz=322
WMOK Wichita Mounta 88.92 46 P **P** **02 58 47.3 +0.1**
baz=317,SNR=5.8
WMOK Wichita Mounta 88.92 46 *e*P **P** **02 58 47.5 +0.4**
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK Wichita Mounta 88.92 46 *e*P **P** **02 58 47.5 +0.4**
comp=Z,8.4nm,0.9s
P40A Paris 88.93 38 P **P** **02 58 47.0 0.0**
baz=320,SNR=6.1
PYM Petit Puy Mans 89.00 332 *e*P **P** **02 58 49.1 +1.8**
R38A Fenwick Farm, 89.02 40 P **P** **02 58 46.7 -0.8**
baz=319
O41A Passleys Farm, 89.04 37 P **P** **02 58 47.6 +0.1**
baz=321,SNR=10
V35A Meyer Ranch, C 89.26 44 P **P** **02 58 48.7 +0.1**
baz=318,SNR=6.6
T37A Cheneyville 18 89.29 42 P **P** **02 58 48.8 +0.1**
baz=319,SNR=7.8
P41A Barry, Barry 89.30 38 P **P** **02 58 49.2 +0.4**
baz=321
Q40A Laux Farm, Aux 89.33 39 P **P** **02 58 49.0 +0.2**
baz=320,SNR=5.8
LBL Lubilhac 89.35 332 *e*P **P** **02 58 47.8 -1.2**
R39A Chumby, Stover 89.36 40 P **P** **02 58 49.0 -0.1**
baz=320
O42A Bath 89.36 37 P **P** **02 58 49.2 +0.2**
baz=322
U36A Oologah 89.40 43 P **P** **02 58 49.3 +0.1**
baz=318,SNR=6.0
S38A Stockton 89.43 41 P **P** **02 58 49.0 -0.4**
baz=319
HDIL Hopedale 89.45 36 P **P** **02 58 49.4 -0.1**
baz=322,SNR=6.5
HDIL Hopedale 89.45 36 *e*P **P** **02 58 49.8 +0.4**
comp=Z,35nm,0.8s
O43A Sugar Creek Fa 89.66 36 P **P** **02 58 50.4 0.0**
baz=322
T38A Diamond 89.68 41 P **P** **02 58 50.4 -0.2**
baz=319,SNR=22
W35A Tecumseh 89.69 44 P **P** **02 58 50.7 0.0**
baz=318,SNR=12
S39A Bolivar 89.69 40 P **P** **02 58 49.9 -0.7**
baz=320,SNR=10
P42A Winchester 89.72 37 P **P** **02 58 50.6 -0.1**
baz=322,SNR=7.4
U37A Salina 89.72 42 P **P** **02 58 50.8 0.0**
baz=319,SNR=7.7
TUL1 Leonard 89.72 43 P **P** **02 58 50.9 +0.1**
baz=318,SNR=16
TUL1 Leonard 89.72 43 *e*P **P** **02 58 51.4 +0.5**
comp=Z,29nm,0.7s
V36A Jenks 89.73 43 P **P** **02 58 50.9 +0.1**

baz=318,SNR=8.5
R40A Maddies Statio 89.77 39 P **P 02 58 50.7 -0.3**
baz=320,SNR=7.9
Q41A Truxton 89.78 38 P **P 02 58 51.0 +0.1**
baz=321,SNR=7.8
TX31 Lajitas Ar. Si 89.81 52 *e*P **P 02 58 52.0 +0.6**
TXAR Lajitas Array 89.81 52 P **P 02 58 52.0 +0.5**
comp=Z,16nm,0.7s,baz=298,slow=3.2,SNR=135
TXAR PKKPbc **PKKPbc 03 16 23.0 +0.6**
comp=Z,0.4nm,0.6s,baz=133,slow=6.4,SNR=4.3
TXAR LR LR 03 33 17.3
comp=Z,427nm,21.9s,baz=0.0,slow=32
TXAR Lajitas Array 89.81 52 P **P 02 58 52.0 +0.5**
ABTX Abilene, Hawle 89.95 48 P **P 02 58 52.1 +0.2**
baz=316,SNR=15
ABTX Abilene, Hawle 89.95 48 *e*P **P 02 58 52.6 +0.7**
comp=Z,25nm,0.9s
W36A Wetumka 90.06 44 P **P 02 58 52.4 0.0**
baz=318,SNR=11
P43A Skaggs, Pawnee 90.07 37 P **P 02 58 52.0 -0.3**
baz=322
U38A Gravette 90.08 42 P **P 02 58 52.2 -0.3**
baz=319,SNR=14
V37A Hulbert 90.09 43 P **P 02 58 52.4 -0.2**
baz=319,SNR=14
Q42A Golden Eagle 90.15 38 P **P 02 58 52.6 -0.1**
baz=322,SNR=5.9
T39A Clever 90.17 41 P **P 02 58 52.7 -0.2**
baz=320,SNR=8.2
HPIG 90.18 55 *e*P **P 02 58 53.8 +0.4**
comp=Z,12nm,0.8s
S40A Lebanon 90.18 40 P **P 02 58 53.1 +0.2**
baz=320,SNR=8.4
X35A Drake 90.19 45 P **P 02 58 52.5 -0.5**
baz=318
R41A Rosebud 90.21 39 P **P 02 58 53.0 0.0**
baz=321,SNR=6.9
X36A Centrahoma 90.41 44 P **P 02 58 54.1 +0.1**
baz=318,SNR=17
HHAR Hobbs 90.44 42 *e*P **P 02 58 54.2 0.0**
comp=Z,19nm,0.7s
CCM Cathedral Cave 90.46 39 *e*P **P 02 58 54.5 +0.3**
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 90.46 39 *e*P **P 02 58 54.5 +0.3**
comp=Z,17nm,0.9s
W37B Quinton 90.49 43 P **P 02 58 54.4 0.0**
baz=318,SNR=13
V38A Canehill 90.50 42 P **P 02 58 54.3 -0.2**
baz=319,SNR=21
SLM Saint Louis 90.51 38 *e*P **P 02 58 55.0 +0.6**
SLM pmax pmax
comp=Z,22nm,0.8s
SLM MLR MLR
comp=Z,700nm,21.0s
SLM Saint Louis 90.51 38 *e*P **P 02 58 55.0 +0.6**
comp=Z,22nm,0.8s
SLM LR LR
comp=Z,700nm,21.0s
R42A Luebbering 90.51 38 P **P 02 58 56.0 +1.5**
baz=321
T40A Mansfield 90.52 40 P **P 02 58 53.8 -0.7**
baz=320
Y35A Marietta 90.52 45 P **P 02 58 54.3 -0.2**
baz=318
AAM Ann Arbor 90.54 32 *e*P **P 02 58 55.0 +0.5**
AAM pmax pmax
comp=Z,17nm,0.8s
AAM Ann Arbor 90.54 32 *e*P **P 02 58 55.0 +0.5**
comp=Z,17nm,0.8s
TRQ Mont Tremblant 90.56 24 *e*P **P 02 58 54.3 -0.3**
S41A Jillco Farms, 90.57 39 P **P 02 58 54.2 -0.6**
baz=321
U39A Green Forest 90.60 41 P **P 02 58 54.5 -0.4**
baz=320,SNR=28
P44A Sand Creek, Wi 90.63 36 P **P 02 58 54.7 -0.2**
baz=323
PLVO Plevna 90.75 26 *e*P **P 02 58 55.1 -0.2**
comp=Z,11nm,0.7s
PLVO LR LR
comp=Z,600nm,20.0s
Q44A Meyer Farm, Va 90.89 37 P **P 02 58 55.9 -0.2**
baz=322
S42A Caledonia 90.91 39 P **P 02 58 56.1 -0.2**
baz=321,SNR=6.1
V39A Pettigrew 90.93 42 P **P 02 58 56.0 -0.5**
baz=320,SNR=14
X37A Clayton 90.94 44 P **P 02 58 56.4 -0.1**
baz=318,SNR=7.2
R43A Red Bud 90.94 38 P **P 02 58 56.6 +0.1**
baz=322
Y36A Durant 90.94 45 P **P 02 58 56.4 -0.2**
baz=318,SNR=16
U40A Yellville 90.95 41 P **P 02 58 56.2 -0.3**
baz=320,SNR=40
T41A Mountain View 90.98 40 P **P 02 58 56.5 -0.2**
baz=321,SNR=5.3
W38A Poteau 91.04 43 P **P 02 58 57.3 +0.3**
baz=319
X38A Whitesboro 91.17 43 P **P 02 58 57.7 +0.1**
baz=319,SNR=8.8
Y37A Hugo 91.25 44 P **P 02 58 57.9 0.0**
baz=318
Z36A Blue Ridge 91.32 45 P **P 02 58 58.0 -0.3**
baz=318,SNR=17
W39A Magazine 91.34 42 P **P 02 58 57.9 -0.4**
baz=320
V40A Witts Springs 91.39 41 P **P 02 58 58.6 0.0**
baz=320,SNR=7.4
JCT Junction City 91.39 49 P **P 02 58 58.6 -0.2**
baz=316,SNR=16
JCT Junction City 91.39 49 *e*P **P 02 58 58.8 +0.1**
JCT pmax pmax
comp=Z,25nm,0.8s
JCT MLR MLR
comp=Z,500nm,22.0s
JCT Junction City 91.39 49 *e*P **P 02 58 58.8 +0.1**
comp=Z,25nm,0.8s
JCT LR LR
comp=Z,500nm,22.0s
S43A Fulton Ridge, 91.42 38 P **P 02 58 58.2 -0.5**
baz=322
U41A Viola 91.44 40 P **P 02 58 58.5 -0.3**
baz=321,SNR=5.2
WHTX Lake Whitney, 91.68 47 P **P 02 59 00.2 +0.3**
baz=317,SNR=7.3
WHTX Lake Whitney, 91.68 47 *e*P **P 02 59 00.3 +0.3**
comp=Z,42nm,0.8s
X39A Fountain Ranch 91.68 43 P **P 02 59 00.1 +0.2**
baz=319,SNR=7.4
T43A Greenville 91.70 39 P **P 02 58 60.0 0.0**
baz=322
W40A Ferguson Farm, 91.72 42 P **P 02 59 00.0 -0.1**
baz=320,SNR=11
S44A Carbondale 91.73 38 P **P 02 58 60.0 -0.1**
baz=322
V41A Mountainview 91.75 41 P **P 02 58 59.8 -0.5**
baz=320,SNR=18
Y38A Idabel 91.78 44 P **P 02 59 00.0 -0.4**
baz=319,SNR=5.8
U42A Revenden 91.79 40 P **P 02 59 00.2 -0.2**
baz=321
Z37A Pogue Cattle C 91.83 45 P **P 02 59 00.9 +0.3**
baz=318,SNR=5.5
136A Ennis 91.86 46 P **P 02 59 00.7 -0.1**
baz=318
PBMO Poplar Bluff 91.86 39 *e*P **P 02 59 00.8 +0.1**
comp=Z,18nm,1.0s
MIAR Mount Ida 91.94 43 P **P 02 59 01.2 0.0**
baz=320,SNR=13
MIAR Mount Ida 91.94 43 *e*P **P 02 59 01.7 +0.6**
MIAR pmax pmax
comp=Z,31nm,0.8s
MIAR Mount Ida 91.94 43 *e*P **P 02 59 01.7 +0.6**
comp=Z,31nm,0.8s
LONY Lake Ozonia 91.97 25 *e*P **P 02 59 01.4 +0.3**
comp=Z,36nm,1.5s
X301 Greenbrier Sit 92.04 41 *e*P **P 02 59 01.6 +0.1**
comp=Z,13nm,0.8s
WHAR Wooly Hollow 92.06 41 *e*P **P 02 59 02.4 +0.8**
comp=Z,32nm,0.8s
S45A Carrier Mills 92.07 37 P **P 02 59 01.9 +0.3**
baz=323
PQI Presque Isle 92.09 20 *e*P **P 02 59 01.7 +0.1**
comp=Z,17nm,0.8s
PQI LR LR
comp=Z,1μm,20.0s
Y39A Lockesburg 92.12 43 P **P 02 59 01.7 -0.2**
baz=319,SNR=10
V42A Cord 92.13 40 P **P 02 59 02.0 +0.1**
baz=321,SNR=5.1
W41B Gary Mavity, V 92.17 41 P **P 02 59 02.0 -0.2**
baz=320
U43A Rector 92.19 39 P **P 02 59 02.5 +0.3**
baz=322
236A Katherine and 92.20 46 P **P 02 59 02.6 +0.3**
baz=318
X40A Basin Creek Fa 92.39 42 P **P 02 59 03.6 +0.5**
baz=320,SNR=6.4
MMNY Mt. Morris Dam 92.45 28 *e*P **P 02 59 03.5 +0.2**
U44A Portageville 92.45 39 P **P 02 59 04.2 +0.8**
baz=322
336A Riesel 92.47 47 P **P 02 59 04.3 +0.6**
baz=318
435B Jarrell 92.49 48 P **P 02 59 03.9 +0.1**
baz=317
633A Saathoff Ranch 92.50 49 P **P 02 59 04.2 +0.4**
baz=316
Y40A Okolona 92.51 43 P **P 02 59 03.7 0.0**
baz=320
ACSO Alum Creek Sta 92.54 32 *e*P **P 02 59 03.9 +0.1**
comp=Z,21nm,0.8s
X41A Kaden, Bauxite 92.55 42 P **P 02 59 04.6 +0.7**
baz=320,SNR=5.1
Z39A Irene McRaven, 92.60 44 P **P 02 59 04.8 +0.6**
baz=319
237A Washetta, Mont 92.61 46 P **P 02 59 05.0 +0.7**
baz=318
NCB Newcomb 92.66 25 *e*P **P 02 59 04.7 +0.4**
comp=Z,0.1nm,0.8s
WCI Wyandotte Cave 92.71 36 *e*P **P 02 59 05.3 +0.7**
WCI pmax pmax
comp=Z,16nm,0.9s
WCI Wyandotte Cave 92.71 36 *e*P **P 02 59 05.3 +0.7**
comp=Z,16nm,0.9s
M54A Oil Creek Stat 92.83 30 P **P 02 59 05.4 +0.3**
baz=329
WLAR White Oak Lake 92.84 43 *e*P **P 02 59 06.6 +1.3**
comp=Z,29nm,1.2s
832A Faith Ranch, C 92.85 51 P **P 02 59 05.6 +0.2**
baz=316
436A Wall Ranch, Ga 92.96 47 P **P 02 59 06.5 +0.6**
baz=318
733A Divot King Ran 92.96 50 P **P 02 59 06.4 +0.4**
baz=316
MDV Middlebury 92.98 24 *e*P **P 02 59 06.4 +0.7**
Z40A Long Farm, Mag 93.01 43 P **P 02 59 06.4 +0.3**
baz=320
PKME Peaks-Kenny Pk 93.03 21 *e*P **P 02 59 07.1 +1.1**
comp=Z,17nm,1.0s
PKME LR LR
comp=Z,700nm,20.0s
N54A Moraine State 93.16 30 P **P 02 59 06.9 +0.2**
baz=328
LBNH Lisbon 93.17 23 *e*P **P 02 59 08.6 +2.0**
LBNH pmax pmax
comp=Z,33nm,1.7s
LBNH Lisbon 93.17 23 *e*P **P 02 59 08.6 +2.0**
comp=Z,32nm,1.7s
833A Chaparral WMA, 93.18 50 P **P 02 59 08.4 +1.4**
baz=316
536A Bastrop 93.31 48 P **P 02 59 08.3 +0.8**
baz=318
ACCN Adirondack Com 93.37 25 *e*P **P 02 59 08.6 +1.1**
comp=Z,24nm,1.5s
CCAR Cane Creek 93.39 42 *e*P **P 02 59 06.3 -1.5**
comp=Z,20nm,0.9s
Y42A Garnett, Star 93.44 42 P **P 02 59 08.6 +0.5**
baz=321
HNH Hanover 93.53 24 PFAKE 02 59 20.0 +12
HNH LR LR
comp=Z,1μm,21.0s
WVT Waverly 93.66 38 *e*P **P 02 59 09.4 +0.4**
WVT pmax pmax
comp=Z,9.0nm,1.0s
WVT Waverly 93.66 38 *e*P **P 02 59 09.4 +0.4**
comp=Z,9.3nm,1.0s
LMN Caledonia Moun 93.68 18 PFAKE 02 59 20.0 +11
LMN LR LR
comp=Z,800nm,21.0s
438A Sam Houston St 93.73 46 P **P 02 59 10.7 +1.2**
baz=318
636A Smothers Creek 93.75 48 P **P 02 59 10.4 +0.9**
baz=318
735A Kenedy 93.76 49 P **P 02 59 10.5 +0.9**
baz=317
933A Laredo 93.76 51 P **P 02 59 10.6 +0.9**
baz=316,SNR=7.4
Z42A Norrel Spur, H 93.79 42 P **P 02 59 10.3 +0.7**
baz=320
834A Tilden 93.84 50 P **P 02 59 10.1 +0.2**
baz=317
GGN Saint George 93.84 20 PFAKE 02 59 20.0 +10
GGN LR LR
comp=Z,700nm,21.0s
FFD Franklin Falls 93.95 23 PFAKE 02 59 20.0 +10
FFD LR LR
comp=Z,1μm,22.0s
EMMW East Machias 94.05 20 *e*P **P 02 59 11.3 +0.7**
comp=Z,26nm,0.9s
EMMW LR LR
comp=Z,600nm,18.0s
439A Center Grove, 94.11 46 P **P 02 59 11.9 +0.7**
baz=319
736A Circle Diamond 94.13 48 P **P 02 59 12.3 +1.0**
baz=317
637A Eagle Lake 94.21 48 P **P 02 59 12.4 +0.8**
baz=318
O56A Blue Knob Stat 94.32 30 P **P 02 59 11.8 -0.3**
baz=329
MCWV Mont Chateau 94.33 31 *e*P **P 02 59 13.2 +1.2**
comp=Z,33nm,1.6s
034A Hebbronville 94.52 51 P **P 02 59 14.7 +1.5**
baz=316
KEST Kesra 94.59 323 P **P 02 59 13.0 -0.4**
comp=Z,11nm,1.0s,baz=9.3,slow=4.2,SNR=4.7
KEST LR LR 03 46 54.2
comp=Z,937nm,19.5s,baz=352,slow=39
QUA2 Belchertown 94.79 24 PFAKE 02 59 30.0 +16
QUA2 LR LR
comp=Z,600nm,22.0s
N59A State Game Lan 94.81 27 P **P 02 59 14.5 +0.2**
baz=331
HRV Adam Dziewonsk 94.84 24 PFAKE 02 59 30.0 +16
HRV LR LR
comp=Z,700nm,19.0s
WES Weston 95.03 24 *e*P **P 02 59 16.0 +0.8**
WES pmax pmax
comp=Z,116nm,2.0s
WES MLR MLR
comp=Z,1μm,19.0s
WES Weston 95.03 24 *e*P **P 02 59 16.0 +0.8**
comp=Z,116nm,2.0s
WES LR LR
comp=Z,1μm,19.0s
ZAIG Zacatecas 95.08 56 *e*P **P 02 59 17.3 +1.2**
comp=Z,29nm,1.7s
LUPA Lehigh Univers 95.23 27 PFAKE 02 59 30.0 +14
LUPA LR LR
comp=Z,700nm,20.0s
BRYW Bryant College 95.38 24 PFAKE 02 59 30.0 +13
BRYW LR LR
comp=Z,1μm,20.0s
244A Avery, Jackson 95.41 42 P **P 02 59 17.5 +0.4**
baz=321
YLE Yale 95.46 25 PFAKE 02 59 30.0 +13
YLE LR LR
comp=Z,600nm,19.0s
CPCT Cooper Cave 95.79 36 *e*P **P 02 59 18.9 +0.1**
comp=Z,50nm,1.9s
PBRG Braganca 95.82 337 *e*P **P 02 59 18.7 -0.2**
comp=Z,15nm,0.8s
PBRG Braganca 95.82 337 *e*LR LR 03 33 49.7
comp=Z,1μm,22.0s
TKL Tuckaleechee C 95.97 35 *e*P **P 02 59 19.6 0.0**
TKL pmax pmax
comp=Z,59nm,1.6s
TKL Tuckaleechee C 95.97 35 *e*P **P 02 59 19.6 0.0**
comp=Z,59nm,1.6s
PGAV Gavieira, Arco 96.14 338 *e*P **P 02 59 20.2 -0.2**
PGAV Gavieira, Arco 96.14 338 *e*PP PP 03 03 18.5 +5.9
PGAV *e*S S 03 10 08.3 -28
PGAV *e*SS **SS 03 17 08.1 +1.6**
PGAV Gavieira, Arco 96.14 338 *e*LQ LQ 03 29 10.3
PGAV *e*LR LR 03 31 05.3
comp=Z,885nm,22.0s
MVO Moncorvo 96.49 337 *e*P **P 02 59 22.1 +0.1**
comp=Z,20nm,2.3s
MVO Moncorvo 96.49 337 *e*PP PP 03 03 20.0 +4.7
MVO *e*S S 03 10 05.1 -34
MVO Moncorvo 96.49 337 *e*LQ LQ 03 30 04.5
MVO *e*LR LR 03 31 13.4
comp=Z,1μm,22.0s
POLO Lamas de Olo 96.54 337 *e*P **P 02 59 22.1 -0.1**
POLO Lamas de Olo 96.54 337 *e*LR LR 03 31 54.3
comp=Z,612nm,22.0s
ES19 SONSECA Array 96.76 334 *e*P **P 02 59 22.8 -0.4**
ESDC Sonseca Array 96.81 334 P **P 02 59 23.0 -0.4**
comp=Z,2.8nm,0.7s,baz=17,slow=4.4,SNR=27
ESDC PP **PP 03 03 16.8 -1.0**
comp=Z,0.9nm,0.6s,baz=28,slow=7.5,SNR=5.3
ESDC LR LR 03 47 30.8
comp=Z,2μm,21.0s,baz=60,slow=38
ESLA Sonseca Array 96.81 334 *e*P **P 02 59 23.3 -0.1**
comp=Z,30nm,1.9s
ESLA LR LR
comp=Z,2μm,21.0s
PAB San Pablo 97.06 334 *e*P **P 02 59 24.3 -0.3**
PAB pmax pmax
comp=Z,18nm,1.7s
PAB MLR MLR
comp=Z,2μm,20.0s
PAB San Pablo 97.06 334 *e*P **P 02 59 24.3 -0.3**
comp=Z,18nm,1.7s
PAB LR LR
comp=Z,2μm,20.0s
446A Poplarville 97.09 42 P Pdif 02 59 26.3 +1.5
baz=322
MTE Manteigas 97.35 337 *e*P Pdif 02 59 26.1 +0.2
MTE Manteigas 97.35 337 *e*PP PP 03 03 25.0 +3.1
MTE *e*S S 03 10 24.1 -22
MTE Manteigas 97.35 337 *e*LQ LQ 03 29 05.4
MTE *e*LR LR 03 32 02.7
comp=Z,1μm,20.0s
MTE Manteigas 97.35 337 PFAKE 02 59 40.0 +14
MTE LR LR
comp=Z,1μm,21.0s
KMSC Kings Mountain 97.50 34 PFAKE 02 59 40.0 +13
KMSC LR LR
comp=Z,1μm,22.0s
PMRV Marv??o 98.18 336 *e*P Pdif 02 59 30.2 +0.6
PMRV Marv??o 98.18 336 *e*S S 03 10 41.0 -13
PMRV *e*SS **SS 03 17 44.2 +9.0**
PMRV *e*LQ LQ 03 26 37.9
PMRV *e*LR LR 03 32 18.9
comp=Z,1μm,22.0s
PESTR Estremoz 98.76 336 *e*P **P 02 59 32.0 -0.1**
comp=Z,16nm,1.6s
PESTR Estremoz 98.76 336 *e*LR LR 03 32 52.1
comp=Z,1μm,22.0s
RKT Rikitea 98.97 112 *e*SKSac **SKSac 03 10 11.0 +3.2**
comp=Z,463nm,26.6s
RKT *e*SP **SP 03 12 27.8 +1.2**
comp=Z,479nm,39.8s
RKT *e*SS **SS 03 17 38.9 -10**
comp=Z,622nm,31.2s
RKT Rikitea 98.97 112 *e*LR LR 03 31 33.4
comp=Z,3μm,27.8s,baz=309
PBAR Barrancos 99.20 335 *e*P **Pdif 02 59 33.2 -0.9**
PBAR Barrancos 99.20 335 *e*LR LR 03 33 24.8
comp=Z,4μm,20.0s
PMAFR Mafra 99.21 337 *e*LR LR 03 31 38.0
comp=Z,1μm,18.0s
PNCL Nicolau / Gran 99.75 336 *e*LR LR 03 32 19.1
comp=Z,1μm,22.0s
PCVE Castro Verde 100.03 336 *e*LR LR 03 33 33.4
comp=Z,1μm,22.0s
PVAQ Vaqueiros 100.13 335 *e*PP PP 03 03 45.9 +2.8
PVAQ *e*S 03 10 41.3
PVAQ *e*SS SS 03 18 17.1 +15
PVAQ Vaqueiros 100.13 335 *e*LQ LQ 03 31 02.0
PVAQ *e*LR LR 03 34 08.1
comp=Z,2μm,18.0s
PBDV Barranco-do-Ve 100.34 336 *e*LR LR 03 33 16.8
comp=Z,2μm,20.0s
MORF Marmelete 100.52 336 *e*LR LR 03 34 39.0
comp=Z,1μm,18.0s
PFVI Vila Bisbo 100.73 336 *e*LR LR 03 34 14.4
comp=Z,1μm,22.0s
PFVI Vila Bisbo 100.73 336 PFAKE 02 59 50.0 +9.0
PFVI LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 101.88 278 P **Pdif 02 59 45.7 -1.0**
comp=Z,0.6nm,0.3s,baz=45,slow=5.1,SNR=4.0
KMBO Kilima Mbogo 101.88 278 P **Pdif 02 59 45.7 -1.0**
KMBO MLR MLR
comp=Z,500nm,22.0s
KMBO Kilima Mbogo 101.88 278 P **Pdif 02 59 45.7 -1.0**
KMBO LR LR
comp=Z,500nm,22.0s
MDT Midelt 103.14 331 Pdiff **Pdif 02 59 51.4 -0.5**
comp=Z,1.3nm,0.7s,baz=32,slow=5.9,SNR=6.0
TAM Tamanrasset 107.01 318 PFAKE 03 04 30.0
TAM LR LR
comp=Z,600nm,19.0s
PMOZ Porto Moniz, M 107.18 341 *e*LR LR 03 36 58.9
VNDA Vanda 115.50 175 PKP **PKPdf 03 04 31.8 -1.1**
comp=Z,1.6nm,0.7s,baz=338,slow=2.5,SNR=14
VNDA Vanda 115.50 175 *e*PKIKP **PKPdf 03 04 32.8 -0.1**
VNDA Vanda 115.50 175 *e*PKPdf **PKPdf 03 04 32.8 -0.1**
SBA Scott Base 116.18 174 *e*PKIKP **PKPdf 03 04 35.5 +1.3**
SBA Scott Base 116.18 174 *e*PKPdf **PKPdf 03 04 35.5 +1.3**
TOC1 Torodi Ar. Sit 116.92 315 PFAKE 03 04 50.0 +12
TOC1 LR LR
comp=Z,600nm,19.0s
TOB2 Torodi Ar. Sit 116.93 315 PFAKE 03 04 50.0 +12
TOB2 LR LR
comp=Z,500nm,20.0s
TOC3 Torodi Ar. Sit 116.94 315 PFAKE 03 04 50.0 +12
TOC3 LR LR
comp=Z,600nm,19.0s
TOA0 Torodi Ar. Sit 116.94 315 *e*PKPdf **PKPdf 03 04 36.6 -1.0**
TOA0 LR LR
comp=Z,600nm,19.0s
TORD Torodi Ar. Bea 116.94 315 PKP **PKPdf 03 04 36.5 -1.1**
comp=Z,3.1nm,0.6s,baz=30,slow=2.3,SNR=48
TORD PKKPbc **PKKPbc 03 15 03.8 +1.9**
comp=Z,0.7nm,0.8s,baz=218,slow=2.4,SNR=4.3
TOB3 Torodi Ar. Sit 116.94 315 PFAKE 03 04 50.0 +12
TOB3 LR LR
comp=Z,600nm,19.0s
LSZ Lusaka 117.45 271 *e*PKIKP **PKPdf 03 04 38.6 0.0**
LSZ Lusaka 117.45 271 *e*PKPdf **PKPdf 03 04 38.6 0.0**
MAW Mawson 120.01 206 PKP **PKPdf 03 04 41.4 -0.3**
comp=Z,2.2nm,0.8s,baz=50,slow=2.0,SNR=7.5
MAW PKKPbc **PKKPbc 03 14 51.0 -0.7**
comp=Z,1.7nm,0.9s,baz=241,slow=9.4,SNR=7.5
MAW Mawson 120.01 206 *e*PKIKP **PKPdf 03 04 42.0 +0.3**
MAW Mawson 120.01 206 *e*PKPdf **PKPdf 03 04 42.0 +0.3**
MAW PKKPbc **PKKPbc 03 14 51.0 -0.7**
SABA Saba 120.41 27 PFAKE 03 05 00.0 +16
SABA LR LR
comp=Z,600nm,21.0s
SKI Saint Kitts 120.86 27 PFAKE 03 05 00.0 +15
SKI LR LR
comp=Z,1μm,21.0s
ZARC Zaragoza, Cauc 123.84 45 *e*P **PKPdf 03 04 50.2 -0.7**
BBTS Babate 124.06 334 PKP **PKPdf 03 04 51.5 +0.3**
comp=Z,14nm,0.7s,baz=224,slow=1.3,SNR=7.1
OCAC Ocana 124.07 43 *e*P **PKPdf 03 04 51.8 +0.3**
HELC Santa Helena 124.52 46 PFAKE 03 05 00.0 +7.4
HELC LR LR
comp=Z,600nm,19.0s
LBTB Lobatse 124.68 263 *e*PKIKP **PKPdf 03 04 52.4 +0.2**
LBTB Lobatse 124.68 263 *e*PKPdf **PKPdf 03 04 52.4 +0.2**
BRRC Barranca, Sant 124.79 44 *e*P **PKPdf 03 04 51.4 -1.3**
SDV Santo Domingo 124.93 40 *e*PKPdf **PKPdf 03 04 53.1 -0.1**
SDV LR LR
comp=Z,400nm,21.0s
GIRC Giron, Santand 125.10 44 *e*P **PKPdf 03 04 52.9 -0.6**
SVB Belmont 125.14 27 PFAKE 03 05 10.0 +17
SVB LR LR
comp=Z,500nm,19.0s
PAMC Pamplona, Colo 125.15 43 *e*P **PKPdf 03 04 53.6 -0.4**
GUYC Guyana, Colomb 125.38 47 *e*P **PKPdf 03 04 54.1 -0.3**
BARC Barichara 125.51 44 *e*P **PKPdf 03 04 52.7 -1.7**
DBIC Dimbokro 125.89 317 PKP **PKPdf 03 04 54.0 -0.7**
comp=Z,16nm,0.6s,baz=16,slow=2.5,SNR=36
DBIC Dimbokro 125.89 317 *e*PKIKP **PKPdf 03 04 54.2 -0.6**
DBIC Dimbokro 125.89 317 *e*PKPdf **PKPdf 03 04 54.2 -0.6**

TIC	**Toumodi**	**126.00**	**317**	*e*PKIKP	**PKPdf**	03 04 53.9	-1.1		
GRGR	**Grenville**	**126.04**	**28**	PFAKE		03 05 10.0	+15		
GRGR				LR	LR				
	comp=Z,600nm,22.0s								
KIC	**Kosan Boka**	**126.08**	**317**	*e*PKIKP	**PKPdf**	03 04 54.2	-1.0		
	comp=Z,24nm,0.7s								
RUSC	**La Rusia**	**126.14**	**44**	*e*PKPdf	**PKPdf**	03 04 55.6	-0.3		
RUSC				LR	LR				
	comp=Z,100nm,20.0s								
ROSC	**El Rosal**	**126.31**	**46**	PKP	**PKPdf**	03 04 55.8	-0.4		
	comp=Z,5.7nm,0.6s,baz=146,slow=6.2,SNR=10								
ROSC	**El Rosal**	**126.31**	**46**	*e*P	**PKPdf**	03 04 55.5	-0.6		
ROSC	**El Rosal**	**126.31**	**46**	*e*PKPdf	**PKPdf**	03 04 56.6	+0.5		
LIC	**Lamto**	**126.35**	**317**	*e*PKIKP	**PKPdf**	03 04 54.0	-1.7		
	comp=Z,45nm,0.7s								
BOSA	**Boshof**	**126.65**	**260**	PKP	**PKPdf**	03 04 55.5	-0.5		
	comp=Z,7.9nm,0.7s,baz=52,slow=2.2,SNR=14								
BOSA	**Boshof**	**126.65**	**260**	*e*PKIKP	**PKPdf**	03 04 56.4	+0.5		
BOSA	**Boshof**	**126.65**	**260**	*e*PKPdf	**PKPdf**	03 04 56.4	+0.5		
CHIC	**Chingaza**	**126.81**	**46**	*e*P	**PKPdf**	03 04 56.7	-0.4		
PRAC	**Prado**	**126.89**	**48**	*e*PKPdf	**PKPdf**	03 04 56.0	-0.8		
PRAC				LR	LR				
	comp=Z,300nm,21.0s								
CMBC	**Cumbal**	**127.28**	**53**	*e*P	PKPpre	03 04 51.6			
QSPA	**South Pole Qui**	**127.31**	**180**	*e*PKPpre	PKPpre	03 04 55.2			
QSPA				*e*PKPdf	**PKPdf**	03 04 55.3	-0.6		
OTAV	**Otavalo**	**127.42**	**54**	*e*PKPdf	**PKPdf**	03 04 59.3	+1.0		
TSUM	**Tsumeb**	**128.04**	**274**	PKP	**PKPdf**	03 04 59.0	+0.2		
	comp=Z,6.6nm,0.7s,baz=6.8,slow=5.0,SNR=11								
SYO	**Syowa Base**	**128.67**	**207**	*e*PKPdf	**PKPdf**	03 05 01.5	+3.2		
NNA	**Nana**	**137.40**	**63**	*e*PKHKP	PKPpre	03 05 04.3			
NNA				*e*		03 05 16.9			
NNA	**Nana**	**137.40**	**63**	*e*PKPpre	PKPpre	03 05 04.3			
NNA				*e*PKPdf	**PKPdf**	03 05 16.9	+0.4		
PTGA	**Pitinga**	**138.39**	**33**	*e*PKPpre	PKPpre	03 05 08.9			
PTGA				*e*PKPdf	**PKPdf**	03 05 18.3	-0.1		
SNAA	**Sanae**	**141.25**	**197**	PKP	PKPpre	03 05 14.6			
SNAA	**Sanae**	**141.25**	**197**	*e*PKHKP	PKPpre	03 05 14.7			
SNAA	**Sanae**	**141.25**	**197**	*e*PKPpre	PKPpre	03 05 14.7			
VNA2	**Neumayer--Watz**	**142.82**	**196**	PKP	**PKPdf**	03 05 21.5	-3.1		
	baz=103,slow=3.0								
VNA3	**Neumayer Olymp**	**143.07**	**195**	PKP	PKPab	03 05 20.7	+0.2		
VNA1	**Neumayer--Stat**	**143.22**	**196**	PKP	PKPbc	03 05 22.8	+0.4		
SAML	**Samuel**	**143.88**	**44**	*e*PKPpre	PKPpre	03 05 25.6			
SAML				LR	LR				
	comp=Z,200nm,20.0s								
LPAZ	**La Paz**	**146.44**	**59**	PKPbc	**PKPbc**	03 05 34.5	-0.2		
	comp=Z,29nm,0.6s,baz=338,slow=2.5,SNR=120								
LPAZ	**La Paz**	**146.44**	**59**	*e*PKP2	**PKPbc**	03 05 34.6	0.0		
LPAZ	**La Paz**	**146.44**	**59**	*e*PKPdf	**PKPbc**	03 05 34.6	0.0		
PB11	**IPOC Station P**	**147.70**	**65**	*e*PKPbc	**PKPbc**	03 05 37.9	+0.4		
RCBR	**Riachuelo**	**148.31**	**355**	PKPbc	**PKPbc**	03 05 38.5	-0.7		
	comp=Z,38nm,0.7s,baz=337,slow=2.4,SNR=26								
RCBR	**Riachuelo**	**148.31**	**355**	*e*PKPbc	**PKPbc**	03 05 39.1	0.0		
LVC	**Limon Verde**	**150.00**	**69**	*e*PKPbc	**PKPbc**	03 05 44.9	+1.3		
LCO	**Las Campanas**	**151.96**	**82**	*e*PKPbc	**PKPbc**	03 05 48.8	+0.9		
GO09	**Cerro Castillo**	**152.56**	**131**	*e*PKPbc	**PKPbc**	03 05 49.1	+0.9		
ROC1	**El Roble**	**153.23**	**90**	*e*PKPdf	**PKPdf**	03 05 41.7	-1.3		
ROC1				*e*PKPbc	**PKPbc**	03 05 50.6	0.0		
CHRN	**Cochrane**	**153.29**	**122**	PFAKE		03 05 50.0	+0.1		
CHRN				LR	LR				
	comp=Z,100nm,22.0s								
PLCA	**Paso Flores**	**155.10**	**107**	*e*PKIKP	**PKPdf**	03 05 44.9	-0.3		
PLCA	**Paso Flores**	**155.10**	**107**	*e*PKPdf	**PKPdf**	03 05 44.9	-0.3		
CPUP	**Villa Florida**	**160.60**	**60**	PKP	**PKPdf**	03 05 51.4	-1.0		
	comp=Z,2.6nm,1.0s,baz=188,slow=2.6,SNR=4.0								
CPUP				PKPab	**PKPab**	03 06 34.7	+0.7		
	comp=Z,3.0nm,0.8s,baz=290,slow=5.2,SNR=4.5								

*ATH **10** 02:57:43.3, 38°.31N×20°.37E, h11km±2km, ML2.8/4, Error ellipse: s-maj=3.4km s-min=1.3km az=63.0*
*CSEM **10** 02:57:44.2±0.4, 38°.34N×20°.44E, h2km, ML2.6, Error ellipse: s-maj=8.5km s-min=4.4km az=66.0*
THE 10 02:57:44.6, 38°.35N×20°.47E, h7km±1km, ML2.6/6, Error ellipse: s-maj=1.7km s-min=0.5km az=96.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**150**	P	Pg	02 57 48.3	-0.3
VLS				S	Sg	02 57 51.7	+0.5
VLS	**Valsamata**	**0.20**	**150**	P	Pg	02 57 48.5	0.0
VLS				S	Sg	02 57 51.9	+0.7
VLS				AML	AML	02 57 51.9	
	comp=N,26661μm,0.1s						
VLS				AML	AML	02 57 52.2	
	comp=E,16412μm,0.1s						
VLS	**Valsamata**	**0.20**	**150**	P	Pg	02 57 48.3	-0.3
VLS				S	Sg	02 57 51.7	+0.5
KFL	**Anninata**	**0.35**	**133**	P	Pg	02 57 51.1	-0.3
KFL				S	Sg	02 57 56.4	+0.4
KFL	**Anninata**	**0.35**	**133**	P	Pg	02 57 51.1	-0.3
KFL				S	Sg	02 57 56.5	+0.5
KFL	**Anninata**	**0.35**	**133**	P	Pg	02 57 51.1	-0.3
KFL				S	Sg	02 57 56.4	+0.4
LKD2	**Lefkada island**	**0.47**	**19**	P	Pg	02 57 53.6	0.0
LKD2				S	Sg	02 58 00.9	+1.1
LKD2	**Lefkada island**	**0.47**	**19**	P	Pg	02 57 53.7	0.0
LKD2	**Lefkada island**	**0.47**	**19**	P	Pg	02 57 53.6	0.0
LKD2				S	Sg	02 58 00.9	+1.1
VTN	**Vitineika**	**0.71**	**127**	P	Pg	02 57 58.0	-0.3
VTN	**Vitineika**	**0.71**	**127**	P	Pg	02 57 58.0	-0.3
AXS	**Araxos**	**0.73**	**102**	P	Pg	02 57 58.5	-0.2
AXS	**Araxos**	**0.73**	**102**	P	Pb	02 58 00.2	+0.6
AXS	**Araxos**	**0.73**	**102**	P	Pg	02 57 58.5	-0.2
RLS	**Riolos of Patr**	**0.84**	**110**	P	Pg	02 58 00.2	-0.5
RLS				S	Sb	02 58 13.0	+0.1
RLS	**Riolos of Patr**	**0.84**	**110**	P	Pg	02 58 00.7	0.0
RLS	**Riolos of Patr**	**0.84**	**110**	P	Pg	02 58 00.7	0.0
RLS				S	Sb	02 58 13.0	+0.1
PVO	**Paravola**	**0.87**	**72**	P	Pg	02 58 01.1	-0.3
PVO				S	Sg	02 58 13.2	+0.4
PVO	**Paravola**	**0.87**	**72**	P	Pn	02 58 02.9	-0.4
PVO	**Paravola**	**0.87**	**72**	P	Pg	02 58 01.1	-0.3
PVO				S	Sg	02 58 13.2	+0.4
DSL	**Palaion Diasel**	**0.93**	**32**	P	Pg	02 58 02.2	-0.2
DSL				S	Sb	02 58 15.1	-0.4
DSL	**Palaion Diasel**	**0.93**	**32**	P	Pg	02 58 02.3	-0.1
DSL				AML	AML	02 58 20.9	
	comp=N,728μm,0.4s						
DSL				AML	AML	02 58 22.4	
	comp=E,874μm,0.5s						
DSL	**Palaion Diasel**	**0.93**	**32**	P	Pg	02 58 02.3	-0.1
DSL				S	Sb	02 58 15.1	-0.4
DRO	**Drossia**	**1.06**	**112**	P	Pg	02 58 04.3	-0.6
DRO				S	Sn	02 58 20.6	-0.2
DRO	**Drossia**	**1.06**	**112**	P	Pg	02 58 03.6	-1.3
DRO	**Drossia**	**1.06**	**112**	P	Pg	02 58 04.3	-0.6
DRO				S	Sn	02 58 20.6	-0.2
EFP	**Efpalio**	**1.13**	**86**	P	Pg	02 58 04.9	-1.5
EFP	**Efpalio**	**1.13**	**86**	P	Pg	02 58 04.9	-1.5
ANX	**Ano Chora**	**1.17**	**77**	P	Pn	02 58 07.4	0.0
ANX				AML	AML	02 58 34.2	
	comp=E,427μm,0.7s						
ANX				AML	AML	02 58 37.6	
	comp=N,631μm,0.5s						
ANX	**Ano Chora**	**1.17**	**77**	P	Pn	02 58 07.4	0.0
EVR	**Evrytania**	**1.20**	**61**	P	Pn	02 58 08.1	+0.3
EVR	**Evrytania**	**1.20**	**61**	P	Pn	02 58 08.1	+0.3
LAKA	**Lakka**	**1.20**	**95**	P	Pg	02 58 05.8	-1.7
LAKA				S	Sn	02 58 26.5	+2.3
LAKA	**Lakka**	**1.20**	**95**	P	Pg	02 58 05.8	-1.7
LAKA				S	Sn	02 58 26.5	+2.3
SERG	**Sergoula**	**1.25**	**86**	P	Pn	02 58 07.5	-1.0
SERG	**Sergoula**	**1.25**	**86**	P	Pg	02 58 09.0	+0.4
SERG	**Sergoula**	**1.25**	**86**	P	Pg	02 58 09.0	+0.4
TRIZ	**Trizonia**	**1.26**	**89**	P	Pn	02 58 06.7	-1.9
TRIZ	**Trizonia**	**1.26**	**89**	P	Pn	02 58 06.7	-1.9
AMT	**Artemida-Makis**	**1.28**	**129**	P	Pg	02 58 09.9	+0.8
AMT	**Artemida-Makis**	**1.28**	**129**	P	Pg	02 58 09.9	+0.8
SGD	**Sagiada**	**1.28**	**352**	P	Pn	02 58 08.1	-0.7
SGD				S	Sn	02 58 26.1	-0.1
SGD	**Sagiada**	**1.28**	**352**	P	Pn	02 58 08.1	-0.7
SGD	**Sagiada**	**1.28**	**352**	P	Pn	02 58 08.1	-0.7
SGD				S	Sn	02 58 26.1	-0.1
JAN	**Janina**	**1.34**	**13**	P	Pg	02 58 10.3	-0.1
JAN	**Janina**	**1.34**	**13**	P	Pg	02 58 10.3	0.0
KLV	**Kalavryta, Ach**	**1.36**	**102**	P	Pn	02 58 08.4	-1.6
KLV	**Kalavryta, Ach**	**1.36**	**102**	P	Pn	02 58 08.4	-1.6
KEK	**Kerkira**	**1.46**	**339**	P	Pn	02 58 09.7	-1.6
KEK	**Kerkira**	**1.46**	**339**	P	Pn	02 58 09.7	-1.6
GUR	**Goura**	**1.54**	**105**	P	Pn	02 58 11.2	-1.2
GUR	**Goura**	**1.54**	**105**	P	Pn	02 58 11.2	-1.3
DSF	**Desfina**	**1.62**	**87**	P	Pg	02 58 15.8	+0.1
DSF	**Desfina**	**1.62**	**87**	P	Pg	02 58 15.8	+0.1
ITM	**Ithomi**	**1.64**	**135**	P	Pb	02 58 14.9	-0.3
ITM				AML	AML	02 58 38.9	
	comp=N,409μm,0.6s						
ITM				AML	AML	02 58 38.9	
	comp=E,292μm,0.6s						
ITM	**Ithomi**	**1.64**	**135**	P	Pb	02 58 14.9	-0.3
THL	**Klokotos Trika**	**1.71**	**44**	P	Pb	02 58 16.7	+0.4
THL	**Klokotos Trika**	**1.71**	**44**	P	Pb	02 58 16.7	+0.3
PYL	**PYLOS**	**1.77**	**145**	P	Pn	02 58 16.2	+0.7
PYL	**PYLOS**	**1.77**	**145**	P	Pn	02 58 16.2	+0.6
KZN	**Kozani**	**2.20**	**27**	P	Pg	02 58 26.2	-0.6
KZN	**Kozani**	**2.20**	**27**	P	Pg	02 58 26.2	-0.6
VIL2	**Platees**	**2.21**	**93**	P	Pn	02 58 23.0	+1.3
VILL	**Villia**	**2.25**	**94**	P	Pn	02 58 23.0	+0.8
DID	**Didima**	**2.35**	**110**	P	Pn	02 58 24.9	+1.4
DID	**Didima**	**2.35**	**110**	P	Pn	02 58 24.9	+1.3

IDC 10 03:13:07.9±1.2, 3°.88N×123°.71E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/32, mbtmp3.6/4, Error ellipse: s-maj=81.9km s-min=23.0km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.88**	**157**	P	P	03 18 41.8	+0.2
	0.9nm,0.5s,baz=336,slow=9.5,SNR=8.1						
ASAR	**Alice Springs**	**29.13**	**161**	P	P	03 19 10.5	-0.2
	0.2nm,0.3s,baz=334,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**55.74**	**327**	P	P	03 22 46.4	0.0
	0.6nm,0.3s,baz=134,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**86.26**	**25**	P	P	03 25 51.3	0.0
	0.2nm,0.6s,baz=267,slow=5.9,SNR=3.9						

JMA 10 03:17:06.2±0.1, 38°.72N×142°.36E, h34km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.65**	**304**	P	Pn	03 17 19.0	+0.1
OFUJ				S	Sn	03 17 27.8	-0.2
JIO	**Ouri**	**0.84**	**252**	P	Pn	03 17 21.4	-0.1
JIO				S	Sn	03 17 31.8	-0.8
JMK	**Ichinoseki**	**0.92**	**285**	P	Pn	03 17 23.0	+0.3
JOM	**Ohasama**	**1.12**	**312**	P	Pn	03 17 26.2	+0.7
JOM				S	Sb	03 17 40.7	-0.7
JTH	**Tanohata**	**1.28**	**343**	P	Pn	03 17 27.9	+0.3
JOU	**Okura**	**1.38**	**256**	P	Pn	03 17 30.9	+1.0
JOU				S	Sn	03 17 47.3	+1.2

*IDC **10** 03:29:28.1±0.8, 5°.06N×128°.03E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/38, mbtmp4.0/9, Error ellipse: s-maj=62.7km s-min=17.1km az=70.0*
*ISCJB **10** 03:29:38.5±0.7, 4°.8N±0°.1×127°.6E±0°.2, h100km, mb3.8/9, Error ellipse: s-maj=34.3km s-min=7.6km az=148.8*
ISC 10 03:29:40.2±0.8, 4°.8N±0°.1×127°.5E±0°.2, h100km, n13, σ1§41/15, mb4.0/9, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.44**	**329**	*e*P	**Pn**	**03 30 18.3**	**-0.4**
MATI				*e*S	**Sn**	**03 30 46.1**	**-2.0**
BUKP	**Musuan**	**3.89**	**321**	*e*P	**Pn**	**03 30 38.1**	**+0.1**
BUKP				*e*S	**Sn**	**03 31 25.1**	**+2.4**
CTBH	**Cotabato--PC H**	**4.03**	**306**	‖ *i*P	**Pn**	**03 30 37.8**	**-2.1**
WRA	**Warramunga Arr**	**25.52**	**165**	P	**P**	**03 34 59.6**	**0.0**
	1.2nm,0.4s,baz=344,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**29.01**	**168**	P	**P**	**03 35 30.5**	**-0.4**
	0.2nm,0.6s,baz=6.9,slow=10.0,SNR=3.7						
STKA	**Stephens Creek**	**38.90**	**161**	P	**P**	**03 36 56.2**	**+0.1**
	1.2nm,0.5s,baz=6.0,slow=11,SNR=3.4						
SONM	**Songino Array**	**46.52**	**340**	P	**P**	**03 37 56.2**	**-1.5**
	0.2nm,0.4s,baz=167,slow=8.0,SNR=2.3						
MKAR	**Makanchi Array**	**57.11**	**324**	P	**P**	**03 39 17.6**	**+1.3**
	1.4nm,0.5s,baz=119,slow=7.8,SNR=19						
KURBB	**Kurchatov Arra**	**61.24**	**327**	P	**P**	**03 39 45.6**	**+0.9**
	2.8nm,0.6s,baz=127,slow=6.2,SNR=21						
BVAR	**Borovoye Array**	**66.83**	**327**	P	**P**	**03 40 22.9**	**+1.6**
	1.2nm,0.5s,baz=122,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**83.77**	**25**	P	**P**	**03 41 57.1**	**-0.9**
	0.4nm,0.5s,baz=255,slow=6.0,SNR=9.8						
ARCES	**ARCESS Array B**	**89.69**	**340**	P	**P**	**03 42 26.8**	**0.0**
	1.8nm,0.7s,baz=61,slow=5.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**123.32**	**289**	PKP	**PKPdf**	**03 48 27.9**	**+1.2**
	0.2nm,0.6s,baz=149,slow=3.5,SNR=1.6						

*ATH **10** 03:29:50.8, 39°.52N×23°.76E, h21km±9km, ML2.3/2, Error ellipse: s-maj=9.5km s-min=1.2km az=265.0*
*ISCJB **10** 03:29:51.7±0.8, 39°.54N±0°.03×23°.70E±0°.07, h14km±5km, Error ellipse: s-maj=10.3km s-min=3.9km az=25.6*
*CSEM **10** 03:29:51.9±0.3, 39°.53N×23°.70E, h20km, ML2.3, Error ellipse: s-maj=9.6km s-min=5.1km az=129.0*
*ISK **10** 03:29:52.0, 39°.60N×23°.56E, h5km, MD2.5*
ISC 10 03:29:50.9±1.2, 39°.55N±0°.04×23°.74E±0°.05, h10km±10km, n18, σ0§36/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.43**	**209**	P	**Pg**	**03 29 59.2**	**-0.2**
SKIA				S	**Sg**	**03 30 05.7**	**+0.6**
SKIA	**Skiathos**	**0.43**	**209**	P	**Pg**	**03 29 59.2**	**-0.2**
SKIA				S	**Sg**	**03 30 05.7**	**+0.6**
XOR	**Xorichti**	**0.46**	**247**	P	**Pb**	**03 30 01.0**	**-0.1**
XOR				S	**Sb**	**03 30 07.8**	**-0.2**
XOR	**Xorichti**	**0.46**	**247**	P	**Pb**	**03 30 01.0**	**-0.1**
XOR				S	**Sb**	**03 30 07.8**	**-0.2**
NEO	**Neokhori**	**0.46**	**239**	P	**Pb**	**03 30 01.5**	**+0.2**
NEO				S	**Sg**	**03 30 06.4**	**+0.3**
NEO	**Neokhori**	**0.46**	**239**	P	**Pb**	**03 30 01.5**	**+0.2**
NEO				S	**Sg**	**03 30 06.4**	**+0.3**
FYTO	**Fytoko, Volos**	**0.63**	**258**	P	**Pg**	**03 30 03.2**	**0.0**
FYTO				S	**Sg**	**03 30 11.4**	**0.0**
FYTO	**Fytoko, Volos**	**0.63**	**258**	P	**Pg**	**03 30 03.2**	**0.0**
FYTO				S	**Sg**	**03 30 11.4**	**0.0**
SMIA	**Simia**	**0.78**	**212**	P	**Pb**	**03 30 06.9**	**+0.2**
SMIA				S	**Sg**	**03 30 15.3**	**-0.9**
SMIA				AML	AML	03 30 22.1	
	comp=N,452μm,0.8s						
SMIA				AML	AML	03 30 28.9	
	comp=E,421μm,2.0s						
SMIA	**Simia**	**0.78**	**212**	P	**Pb**	**03 30 06.9**	**+0.2**
SMIA				S	**Sg**	**03 30 15.3**	**-0.9**
OUR	**Ouranopolis**	**0.81**	**13**	*e*PG	**Pn**	**03 30 08.3**	**-0.2**
OUR				*e*SG	**Sn**	**03 30 20.9**	**+0.3**
OUR	**Ouranopolis**	**0.81**	**13**	P	**Pg**	**03 30 06.5**	**-0.2**
OUR				S	**Sb**	**03 30 18.6**	**+0.4**
OUR				AML	AML	03 30 21.0	
	comp=E,326μm,0.3s						
OUR				AML	AML	03 30 21.4	
	comp=N,416μm,0.4s						
OUR	**Ouranopolis**	**0.81**	**13**	P	**Pg**	**03 30 06.4**	**-0.2**
OUR	**Ouranopolis**	**0.81**	**13**	*e*Pg	**Pn**	**03 30 08.3**	**-0.2**
OUR				S	**Sb**	**03 30 18.6**	**+0.4**
OUR				*e*Sg	**Sn**	**03 30 20.9**	**+0.3**
HORT	**Hortiatis**	**1.16**	**335**	*e*PG	**Pg**	**03 30 13.1**	**-0.1**
HORT				*e*SG	**Sn**	**03 30 29.2**	**-0.2**
HORT	**Hortiatis**	**1.16**	**335**	*e*Pg	**Pg**	**03 30 13.1**	**-0.1**
HORT				*e*Sg	**Sn**	**03 30 29.2**	**-0.2**
AGG	**Agios Georgios**	**1.21**	**245**	*e*PN	**Pg**	**03 30 14.5**	**+0.3**
AGG	**Agios Georgios**	**1.21**	**245**	*e*Pn	**Pg**	**03 30 14.5**	**+0.3**

IDC 10 03:45:06.6±3.3, 22°.46S×179°.61W, h604km±36km, mb3.4/5, mb1 3.5/5, mb1mx3.1/32, mbtmp4.4/5, Error ellipse: s-maj=95.0km s-min=26.1km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.86**	**268**	P	P	03 50 44.3	+0.2
	2.6nm,0.3s,baz=81,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**35.61**	**246**	P	P	03 51 15.7	+0.4
	1.2nm,0.5s,baz=28,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**42.64**	**259**	P	P	03 52 11.6	-0.2
	2.0nm,0.4s,baz=96,slow=7.7,SNR=33						
ASAR				PcP	PcP	03 53 49.8	+0.2
	0.5nm,0.6s,baz=108,slow=3.8,SNR=3.7						
ASAR				S	S	03 57 52.9	+0.3
	0.8nm,0.8s,baz=99,slow=15,SNR=7.6						
WRA	**Warramunga Arr**	**42.88**	**264**	P	P	03 52 12.9	-0.8
	3.5nm,0.6s,baz=91,slow=5.9,SNR=58						
CMAR	**Chiang Mai Arr**	**89.37**	**290**	P	P	03 57 02.0	+1.6
	1.3nm,0.3s,baz=133,slow=3.8,SNR=4.9						
AKASG	**Malin Array Be**	**143.95**	**329**	PKP	PKPbc	04 03 32.2	-1.3
	1.1nm,0.5s,baz=43,slow=4.3,SNR=6.7						
BRTR	**Keskin Array B**	**146.98**	**309**	PKPbc	PKPbc	04 03 41.7	-1.1
	0.4nm,0.5s,baz=97,slow=8.0,SNR=3.8						

*DDA **10** 03:51:43.0, 38°.62N×30°.02E, h7km, Md2.6*
*ISK **10** 03:51:42.8, 38°.59N×30°.11E, h18km, MD2.6*
*ISCJB **10** 03:51:43.1±0.5, 38°.61N±0°.03×30°.06E±0°.03, h8km±6km, Error ellipse: s-maj=5.8km s-min=3.6km az=28.2*
*CSEM **10** 03:51:43.1±0.1, 38°.59N×30°.07E, h15km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.7km az=26.0*
ISC 10 03:51:42.9±1.0, 38°.59N±0°.03×30°.06E±0°.02, h13km±8km, n25, σ0§39/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZIL	**AFYON_Kizioren**	**0.34**	**170**	*i* P	**Pg**	**03 51 49.6**	**-0.2**
KZIL				*i* S	**Sb**	**03 51 57.1**	**+1.0**
KZIL	**AFYON_Kizioren**	**0.34**	**170**	P	**Pg**	**03 51 49.6**	**-0.2**
KZIL				S	**Sb**	**03 51 57.1**	**+1.0**
SHUT	**Suhut-Afyon**	**0.38**	**95**	*e*PG	**Pg**	**03 51 50.6**	**0.0**
SHUT				*e*SG	**Sg**	**03 51 56.0**	**+0.1**
SHUT	**Suhut-Afyon**	**0.38**	**95**	*e*Pg	**Pg**	**03 51 50.6**	**0.0**
SHUT				*e*Sg	**Sg**	**03 51 56.0**	**+0.1**
KHAL	**Karahalli**	**0.50**	**244**	*i* P	**Pg**	**03 51 52.7**	**-0.1**
KHAL				*i* S	**Sg**	**03 51 59.6**	**+0.1**
KHAL	**Karahalli**	**0.50**	**244**	P	**Pg**	**03 51 52.7**	**-0.1**
KHAL				S	**Sg**	**03 51 59.6**	**+0.1**
GDZ	**Gediz**	**0.68**	**318**	*i* P	**Pg**	**03 51 56.1**	**0.0**
GDZ				*i* S	**Sb**	**03 52 06.4**	**+0.4**
GDZ	**Gediz**	**0.68**	**318**	P	**Pg**	**03 51 56.1**	**0.0**
GDZ				S	**Sb**	**03 52 06.4**	**+0.4**
GEDZ	**Gediz**	**0.69**	**312**	*e*PG	**Pb**	**03 51 57.1**	**+0.3**
GEDZ	**Gediz**	**0.69**	**312**	*e*Pg	**Pb**	**03 51 57.1**	**+0.3**
BOLV	**Bolvadin**	**0.71**	**79**	*i* P	**Pb**	**03 51 57.2**	**+0.1**
BOLV				*i* S	**Sb**	**03 52 06.9**	**+0.1**
BOLV	**Bolvadin**	**0.71**	**79**	P	**Pb**	**03 51 57.2**	**+0.1**
BOLV				S	**Sb**	**03 52 06.9**	**+0.1**
BAGO	**Egridir - ISPA**	**0.82**	**136**	*i* P	**Pg**	**03 51 57.6**	**-1.3**
BAGO				*i* S	**Sn**	**03 52 12.4**	**+0.1**
BRDR	**BURDUR-Merkez**	**0.89**	**180**	*i* P	**Pb**	**03 52 00.1**	**-0.1**
BRDR				*i* S	**Sn**	**03 52 14.1**	**+0.2**
BRDR	**BURDUR-Merkez**	**0.89**	**180**	P	**Pb**	**03 52 00.1**	**-0.1**
BRDR				S	**Sn**	**03 52 14.1**	**+0.2**
SIMA	**Simav-Kutahya**	**0.98**	**301**	*e*PG	**Pn**	**03 52 02.6**	**+0.2**
SIMA	**Simav-Kutahya**	**0.98**	**301**	*e*Pg	**Pn**	**03 52 02.6**	**+0.2**
TVSB	**Tavsanli**	**0.98**	**332**	*e*PG	**Pn**	**03 52 02.3**	**-0.1**
TVSB	**Tavsanli**	**0.98**	**332**	*e*Pg	**Pn**	**03 52 02.3**	**-0.1**
KULA	**Kula-Manisa**	**1.10**	**267**	*e*PN	**Pg**	**03 52 04.2**	**0.0**
KULA	**Kula-Manisa**	**1.10**	**267**	*e*Pn	**Pg**	**03 52 04.2**	**0.0**
DEMI	**Demirci**	**1.15**	**294**	*i* P	**Pb**	**03 52 04.2**	**-0.4**
DEMI				*i* S	**Sn**	**03 52 19.8**	**-0.5**
DEMI	**Demirci**	**1.15**	**294**	P	**Pb**	**03 52 04.2**	**-0.4**
DEMI				S	**Sn**	**03 52 19.8**	**-0.5**
MANT	**Manisa**	**1.19**	**266**	*i* P	**Pg**	**03 52 05.8**	**0.0**
MANT				*i* S	**Sb**	**03 52 20.3**	**-0.4**
MANT	**Manisa**	**1.19**	**266**	P	**Pg**	**03 52 05.8**	**0.0**
MANT				S	**Sb**	**03 52 20.

ISC 10 04:43:14.7±0.3,4°97S±0°.04×151°.64E±0°.04,h140km±2km, h140km:pP-P,n594,σ1°36/667,mb5.2/157,22C-20D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	0.93	34	*e*Pn	Pn	04 43 38.1	+0.1
MANU	**Manus Island**	5.16	304	*e*Pn	Pn	04 44 31.1	+1.0
PMG	**Port Moresby**	6.26	225	P	Pn	04 44 45.5	+0.7
	87nm,0.3s,baz=54,slow=5.1,SNR=54						
PMG				S	Sn	04 45 56.0	+0.7
	68nm,0.3s,baz=53,slow=23,SNR=6.1						
PMG	**Port Moresby**	6.26	225	*e*P	Pn	04 44 45.7	+0.9
PMG				*e*S	Sn	04 45 52.6	-2.7
PMG	**Port Moresby**	6.26	225	*e*Pn	Pn	04 44 45.7	+0.9
PMG				*e*S	Sn	04 45 52.6	-2.7
HNR	**Honiara**	9.36	119	P	Pn	04 45 27.4	+1.0
	19nm,0.3s,baz=154,slow=9.0,SNR=8.5						
HNR	**Honiara**	9.36	119	*e*P	Pn	04 45 27.7	+1.3
HNR				*e*S	Sn	04 47 04.0	-6.1
HNR	**Honiara**	9.36	119	*e*Pn	Pn	04 45 27.7	+1.3
HNR				*e*S	Sn	04 47 04.0	-6.1
JAY	**Jayapura**	11.18	282	P	Pn	04 45 50.6	-0.1
	0.5nm,0.3s,baz=101,slow=5.6,SNR=10						
JAY	**Jayapura**	11.18	282	P	Pn	04 45 51.1	+0.5
GENI	**Genyem**	11.69	281	P	Pn	04 45 58.3	+1.0
COEN	**Coen**	12.22	222	P	Pn	04 46 06.1	+1.8
	baz=12,SNR=25						
COEN	**Coen**	12.22	222	*e*Pn	Pn	04 46 05.9	+1.7
COEN				*e*S	Sn	04 48 15.5	-3.7
SMPI	**Sarmi**	13.24	282	P	Pn	04 46 18.3	+0.9
MTSU	**Mount Surprise**	14.91	208	P	P	04 46 41.2	+0.5
	baz=15,SNR=66						
CTA	**Charters Tower**	15.92	199	P	P	04 46 53.0	+1.2
	1.1nm,0.3s,baz=26,slow=13,SNR=24						
CTAO	**Charters Tower**	15.92	199	*e*P	P	04 46 52.7	+0.9
CTAO				pmax	pmax		
	comp=Z,178nm,1.5s						
CTAO	**Charters Tower**	15.92	199	*e*Pn	P	04 46 52.7	+0.9
	comp=Z,178nm,1.5s						
QIS	**Mount Isa**	19.41	216	P	P	04 47 31.2	+1.0
	baz=19,SNR=70						
FAKI	**Fak Fak**	19.45	275	P	P	04 47 31.1	+0.5
FAKI	**Fak Fak**	19.45	275	*e*P	P	04 47 30.9	+0.3
	comp=Z,218nm,1.0s						
GUMO	**Guam**	19.62	340	P	Pn	04 47 34.0	-1.2
	comp=Z,19nm,0.3s,baz=172,slow=8.0,SNR=40						
GUMO	**Guam**	19.62	340	*e*P	Pn	04 47 34.0	-1.2
GUMO				pmax	pmax		
	comp=Z,2μm,1.0s						
GUMO	**Guam**	19.62	340	*e*P	Pn	04 47 34.0	-1.2
	comp=Z,2μm,1.0s						
EIDS	**Eidsvold**	20.29	181	P	P	04 47 41.2	+1.6
	baz=20,SNR=16						
EIDS	**Eidsvold**	20.29	181	*e*P	P	04 47 40.9	+1.3
	comp=Z,79nm,0.9s						
KDU	**Kakadu**	20.42	247	P	P	04 47 40.5	-0.5
	baz=20,SNR=48						
PALU	**Palau**	21.05	305	P	P	04 47 47.8	0.0
	baz=21,SNR=16						
RMQ	**Roma**	21.57	187	P	P	04 47 54.6	+1.3
	baz=22,SNR=121						
MTN	**Manton Dam**	21.70	248	P	P	04 47 53.9	-0.9
	baz=22,SNR=46						
MTN	**Manton Dam**	21.70	248	*e*P	P	04 47 53.8	-1.0
	comp=Z,311nm,1.3s						
DZM	**Mont Dzumac**	22.24	141	P	P	04 48 01.3	+1.0
	comp=Z,84nm,0.6s,baz=293,slow=7.1,SNR=169						
DZM	**Mont Dzumac**	22.24	141	*e*P	P	04 47 59.2	-1.1
	comp=Z,619nm,1.4s						
SARN	**Sarigan**	22.30	345	*e*P	P	04 48 00.5	-0.3
WRAB	**Tennant Creek**	22.46	227	*c i*P	P	04 48 02.0	-0.4
WRAB				pmax	pmax		
	comp=Z,374nm,1.0s						
WRAB	**Tennant Creek**	22.46	227	*e*P	P	04 48 02.1	-0.3
	comp=Z,117nm,0.6s						
WB2	**Warramunga Arr**	22.46	227	*e*P	P	04 48 02.3	-0.2
WRA	**Warramunga Arr**	22.47	227	P	P	04 48 02.2	-0.4
	comp=Z,73nm,0.5s,baz=52,slow=9.8,SNR=138						
WRA				S	S	04 51 57.0	-2.1
	comp=Z,30nm,1.0s,baz=42,slow=16,SNR=8.1						
WRA				ScP	ScP	04 55 16.8	+0.1
	comp=Z,30nm,1.1s,baz=46,slow=2.8,SNR=20						
QLP	**Quilpie**	22.63	197	P	P	04 48 05.0	+1.1
	baz=23,SNR=28						
LBMI	**Labuha**	24.48	279	P	P	04 48 22.5	+1.4
NLAI	**Namlea**	24.53	273	P	P	04 48 22.4	+0.9
KNRA	**Kununurra**	24.86	243	P	P	04 48 24.3	-0.1
	baz=25,SNR=50						
AS01	**Alice Springs**	25.22	221	*e*P	P	04 48 27.5	-0.2
AS31	**Alice Springs**	25.25	221	*e*P	P	04 48 28.0	-0.1
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	25.25	221	P	P	04 48 28.0	0.0
	comp=Z,34nm,0.7s,baz=53,slow=8.6,SNR=171						
ASAR				PcP	PcP	04 51 58.3	+0.4
	comp=Z,9.9nm,0.8s,baz=58,slow=2.5,SNR=7.2						
ASAR				S	S	04 52 41.5	-2.1
	comp=Z,6.5nm,1.0s,baz=43,slow=14,SNR=4.5						
ASAR				ScP	ScP	04 55 24.5	+0.3
	comp=Z,30nm,1.0s,baz=48,slow=3.3,SNR=39						
ARMA	**Armidale**	25.32	180	P	P	04 48 30.1	+1.5
	baz=25,SNR=21						
ARMA	**Armidale**	25.32	180	*e*P	P	04 48 30.0	+1.5
	comp=Z,75nm,1.0s						
SANI	**Sanana**	25.76	276	P	P	04 48 32.2	-0.5
CMSA	**Cobar Meteorol**	27.01	191	P	P	04 48 44.0	+0.3
	baz=27,SNR=33						
SOEI	**Soe**	27.55	258	P	P	04 48 54.3	+5.5
SOEI	**Soe**	27.55	258	*e*P	P	04 48 49.6	+0.8
	comp=Z,51nm,0.9s						
MATI	**Mati**	27.96	295	*e*P	P	04 48 50.2	-2.1
MGCD	**Mangrove Creek**	28.10	181	P	P	04 48 55.0	+1.6
	baz=28,SNR=6.7						
STKA	**Stephens Creek**	28.38	198	P	P	04 48 55.7	-0.1
	comp=Z,15nm,0.9s,baz=7.8,slow=8.5,SNR=19						
STKA				LR	LR	05 00 12.4	
	comp=Z,211nm,18.1s,baz=355,slow=36						
STKA	**Stephens Creek**	28.38	198	*e*P	P	04 48 55.8	-0.1
STKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	28.38	198	*e*P	P	04 48 55.8	-0.1
	comp=Z,7.1nm,1.1s						
FITZ	**Fitzroy Crossi**	28.57	241	P	P	04 48 56.9	-0.8
MSVF	**Nonsavu**	28.78	118	*e*P	P	04 49 01.7	+2.0
MSVF				pmax	pmax		
	comp=Z,84nm,1.0s						
MSVF	**Nonsavu**	28.78	118	*e*P	P	04 49 01.7	+2.0
	comp=Z,84nm,1.0s						
YNG	**Young**	29.34	185	P	P	04 49 07.0	+2.7
	baz=30,SNR=4.5						
WRKA	**Warakurna**	30.00	226	P	P	04 49 09.9	-0.5
	baz=30,SNR=41						
CNB	**Canberra Magne**	30.27	184	P	P	04 49 14.3	+1.6
	baz=30,SNR=4.9						
CAN	**Canberra**	30.30	184	*e*P	P	04 49 14.0	+1.1
CAN				pmax	pmax		
	comp=Z,49nm,1.4s						
CAN	**Canberra**	30.30	184	*e*P	P	04 49 14.0	+1.1
	comp=Z,49nm,1.4s						
HTT	**Hallett**	30.70	201	P	P	04 49 16.9	+0.5
	baz=31,SNR=18						
BESP	**Borongan**	30.83	302	*e*P	P	04 49 18.3	+0.6
OCLP	**Ormoc**	31.26	301	*e*P	P	04 49 20.8	-0.7
BBOO	**Buckleboo**	31.29	206	P	P	04 49 21.6	0.0
	baz=31,SNR=35						
BBOO	**Buckleboo**	31.29	206	*e*P	P	04 49 21.6	0.0
	comp=Z,38nm,0.7s						
KAPI	**Kappang**	31.76	269	*e*P	P	04 49 26.0	0.0
	comp=Z,14nm,0.8s						
SPSI	**Sidrap Palu**	31.79	270	P	P	04 49 25.5	-0.6
TTSI	**Tana Toraja**	31.80	272	P	P	04 49 27.8	+1.6
	comp=Z,10nm,0.6s						
PCI	**Palu**	32.01	276	P	P	04 49 28.9	+0.8
MPSI	**Mapaga**	32.14	279	P	P	04 49 28.4	-0.8
GUIM	**Jordan**	32.81	298	*e*P	P	04 49 34.4	-0.7
ARPS	**Mount Arapiles**	32.90	195	P	P	04 49 36.4	+0.8
	baz=33,SNR=8.5						
PVCP	**Virac**	32.93	304	*e*P	P	04 49 36.1	0.0
RCP	**Roxas**	33.10	300⇑	*e*P	P	04 49 38.1	+0.5
PLAI	**Plampang**	33.82	262	P	P	04 49 42.3	-1.6
AUQP	**San Andres**	34.02	303	*e*P	P	04 49 46.9	+1.3
OTRP	**Odiongan**	34.11	301	*e*P	P	04 49 45.2	-1.1
BOAC	**Boac**	34.79	302	*e*P	P	04 49 52.9	+0.7
MBWA	**Marble Bar**	34.88	240	*e*P	P	04 49 51.8	-1.2
	comp=Z,280nm,0.8s						
MBWA				*e*PP	PnPn	04 51 12.2	-2.5
MBWA	**Marble Bar**	34.88	240	P	P	04 49 52.6	-0.4
	SNR=5.3						
MBWA	**Marble Bar**	34.88	240	P	P	04 49 52.6	-0.4
	SNR=5.3						
SJMP	**San Jose**	34.93	300	*e*P	P	04 49 54.8	+1.4
TSM	**Tawau**	34.96	285	⇓P	P	04 49 54.0	+0.3
ENPP	**El Nido**	35.86	297	*e*P	P	04 50 01.5	+0.2
TGY	**Tagaytay City**	35.87	302	P	P	04 50 02.5	+1.0
	comp=Z,371nm,0.5s,baz=153,slow=1.7,SNR=18						
OUZ	**Omahuta**	36.30	149	*e*P	P	04 50 06.3	+1.5
	comp=Z,84nm,0.9s						
IGBI	**Denpasar**	36.42	262	P	P	04 50 04.6	-1.5
CAUP	**Cauayan**	36.64	307	*e*P	P	04 50 06.4	-1.5
KKM	**Kota Kinabalu**	37.02	287	*e*P	P	04 50 10.9	-0.4
	comp=Z,158nm,1.4s						
KKM	**Kota Kinabalu**	37.02	287	⇓P	P	04 50 11.7	+0.3
AFI	**Afiamalu**	37.12	106	P	P	04 50 13.0	+0.9
	comp=Z,37nm,0.8s,baz=283,slow=22,SNR=5.1						
SGCP	**Mt. Cagua**	37.20	309	*e*P	P	04 50 13.0	+0.4
JAGI	**Jajag, Banyuwa**	37.38	263	*e*P	P	04 50 11.4	-2.9
	comp=Z,40nm,1.0s						
ABRA	**Dolores**	37.91	307	*e*P	P	04 50 18.6	0.0
KMBL	**Kambalda**	38.33	223	P	P	04 50 21.7	-0.3
	baz=38,SNR=13						
JOW	**Kunigami**	38.87	326	*e*P	P	04 50 26.6	+0.1
	comp=Z,251nm,0.9s						
NIUE	**Niue**	40.00	114	P	P	04 50 36.2	+0.1
	baz=40,SNR=4.1						
SBUM	**Sibu**	40.06	280	⇑P	P	04 50 38.1	+1.4
GIRL	**Giralia**	40.17	240	P	P	04 50 37.9	+0.4
	baz=40,SNR=20						
YOJ	**Yonaguni jima**	40.40	318	*e*P	P	04 50 39.7	+0.4
YOJ				pmax	pmax		
	comp=Z,157nm,0.9s						
YOJ	**Yonaguni jima**	40.40	318	*e*P	P	04 50 39.7	+0.4
	comp=Z,157nm,0.9s						
URZ	**Urewera**	40.44	149	P	P	04 50 40.7	+1.3
	comp=Z,16nm,0.4s,baz=287,slow=2.0,SNR=25						
BKZ	**Black Stump Fm**	40.81	150	*e*P	P	04 50 44.0	+1.5
	comp=Z,32nm,1.1s						
YULB	**Yu-li**	40.88	315	*e*P	P	04 50 43.5	+0.2
	comp=Z,57nm,0.8s						
NACB	**Ninganchiao**	41.18	316	*e*P	P	04 50 46.3	+0.6
	comp=Z,80nm,0.9s						
THZ	**Tophouse**	41.26	156	*e*P	P	04 50 47.7	+1.5
	comp=Z,83nm,1.2s						
TPUB	**Ta-pu**	41.30	314	*e*P	P	04 50 46.7	0.0
	comp=Z,51nm,0.8s						
MORW	**Morawa**	41.34	230	P	P	04 50 46.4	-0.6
	baz=41,SNR=13						
KLBR	**Kellerberrin**	41.35	226	P	P	04 50 46.0	-1.0
	baz=41,SNR=39						
SSLB	**Suanglung**	41.38	315	*e*P	P	04 50 47.3	0.0
	comp=Z,38nm,0.8s						
SSLB				*e*PcP	PcP	04 52 41.4	-1.6
BLDU	**Ballidu**	41.60	228	P	P	04 50 48.3	-0.8
	baz=42,SNR=12						
FOZ	**Fox Glacier**	41.63	160	*e*P	P	04 50 51.8	+2.8
	comp=Z,87nm,1.1s						
YHNB	**Yeheng**	41.65	316	*e*P	P	04 50 50.5	+0.9
	comp=Z,110nm,0.9s						
YHNB				*e*pP	pP	04 51 24.6	+3.8
SNZO	**South Karori**	41.66	154	*e*P	P	04 50 50.6	+1.3
	comp=Z,168nm,1.3s						
KSM	**Kuching**	41.78	278	*e*P	P	04 50 50.7	-0.1
	comp=Z,44nm,0.8s						
KSM				*e*pP	pP	04 51 20.9	-1.0
LTZ	**Lake Taylor**	41.87	157	*e*P	P	04 50 52.5	+1.4
	comp=Z,97nm,1.2s						
RPZ	**Rata Peaks**	42.22	159	P	P	04 50 54.7	+0.8
	comp=Z,85nm,0.8s,baz=342,slow=2.6,SNR=24						
OXZ	**Oxford**	42.24	158	*e*P	P	04 50 55.0	+0.9
	comp=Z,83nm,1.2s						
INU	**Inuyama**	42.40	342	*e*P	P	04 50 54.0	-1.3
	comp=Z,17nm,0.9s						
NWAO	**Narrogin (SRO)**	42.45	225	LR	LR	05 11 00.0	
	comp=Z,175nm,18.2s,baz=100,slow=39						
NWAO	**Narrogin (SRO)**	42.45	225	*e*P	P	04 50 55.8	-0.1
NWAO				pmax	pmax		
	comp=Z,43nm,0.9s						
NWAO	**Narrogin (SRO)**	42.45	225	*e*P	P	04 50 55.8	-0.1
	comp=Z,43nm,0.9s						
JNU	**Nakatsue**	42.69	334	P	P	04 50 58.4	+0.5
	comp=Z,49nm,0.8s,baz=130,slow=4.3,SNR=41						
JNU				PcP	PcP	04 52 46.6	-0.6
	comp=Z,16nm,0.9s,baz=108,slow=6.3,SNR=3.3						
JNU				ScP	ScP	04 56 24.5	-0.6
	comp=Z,7.9nm,0.9s,baz=104,slow=3.1,SNR=4.9						
JNU	**Nakatsue**	42.69	334	*e*P	P	04 50 57.7	-0.1
	comp=Z,63nm,0.8s						
JNU				PcP	PcP	04 52 46.6	-0.6
JNU				ScP	ScP	04 56 24.5	-0.6
MLZ	**Mavora Lakes**	42.73	163	*e*P	P	04 50 59.3	+1.3
	comp=Z,88nm,1.1s						
CMJI	**Cimerak**	43.00	264	P	P	04 50 59.3	-1.3
MJAR	**Matsushiro Arr**	43.16	344	P	P	04 50 59.5	-2.0
	comp=Z,8.4nm,0.8s,baz=166,slow=9.2,SNR=17						
MJAR				PcP	PcP	04 52 48.6	0.0
	comp=Z,6.5nm,0.8s,baz=176,slow=3.7,SNR=6.8						
MJAR				ScP	ScP	04 56 26.5	-0.4
	comp=Z,4.2nm,0.9s,baz=180,slow=4.7,SNR=6.8						
MJAR				LR	LR	05 06 42.5	
	comp=Z,89nm,21.9s,baz=180,slow=33						
MAJO	**Matsushiro**	43.16	344	⇑*i*P	P	04 50 59.4	-2.2
MAJO				pmax	pmax		
	comp=Z,125nm,1.0s						
MAJO	**Matsushiro**	43.16	344	*e*P	P	04 50 59.8	-1.7
	comp=Z,21nm,0.9s						
MAT	**Matsushiro**	43.16	344	P	P	04 51 00.2	-1.4
MJB9	**Matsu-Tunnel**	43.17	344	*e*P	P	04 51 00.2	-1.4
	comp=Z,5.4nm,0.9s						
RKGY	**Rocky Gully**	43.57	223	P	P	04 51 04.9	+0.1
	baz=44,SNR=9.5						
CISI	**Cisompet, Garu**	43.62	264	*e*P	P	04 51 04.3	-1.4
	comp=Z,173nm,0.8s						
CNJI	**Cibinong**	44.30	265	P	P	04 51 09.9	-1.1
PPBI	**Pangkal Pinang**	45.49	272	P	P	04 51 20.3	-0.2
CGJI	**Cibinong**	45.73	266	P	P	04 51 20.4	-1.9
DLV	**T Lat**	46.08	292	*e*P	P	04 51 25.6	+0.4
	comp=Z,127nm,1.0s						
DLV				*e*pP	pP	04 51 57.4	+0.4
QIZ	**Qiongzhong**	47.56	301	P	P	04 51 37.3	+0.8
QIZ				S	S	04 58 22.6	+1.3
QIZ				pmax	pmax		
	comp=Z,83nm,1.1s						
KSRS	**Korea Array**	47.64	334	P	P	04 51 36.7	0.0
	comp=Z,14nm,0.8s,baz=150,slow=8.9,SNR=56						
KSRS				PcP	PcP	04 53 04.7	+0.5
	comp=Z,4.4nm,0.8s,baz=150,slow=4.6,SNR=7.1						
KSRS				ScP	ScP	04 56 44.8	-0.6
	comp=Z,2.7nm,0.8s,baz=142,slow=5.1,SNR=6.6						
KSRS	**Korea Array**	47.64	334	P	P	04 51 36.7	0.0
KSRS						04 53 04.7	
KSRS				pmax	pmax		
	comp=Z,15nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSRS				pmax	pmax		
	comp=N,3.0nm,0.8s						
KS15	**Wonju Array Si**	47.65	334	*e*P	P	04 51 37.9	+1.1
KSAR	**Wonju Array Be**	47.65	334	P	P	04 51 36.7	-0.1
KSAR						04 53 04.7	
KSAR	**Wonju Array Be**	47.65	334	P	P	04 51 36.7	-0.1
KSAR				PcP	PcP	04 53 04.7	+0.5
KSAR				ScP	ScP	04 56 44.8	-0.6
KS01	**Wonju Array Si**	47.67	334	*e*P	P	04 51 36.2	-0.8
INCN	**Inchon**	48.23	333	*e*P	P	04 51 42.6	+1.2
	comp=N,95nm,0.8s						
NJ2	**Nanjing**	48.25	322	*e*P	P	04 51 42.5	+0.9
NJ2				pmax	pmax		
	comp=N,34nm,1.4s						
ASAJ	**Asahikawa**	49.53	351	P	P	04 51 50.3	-0.8
	comp=N,12nm,0.7s,baz=119,slow=6.5,SNR=6.5						
RAR	**Rarotonga**	49.77	114	P	P	04 51 55.3	+1.9
	comp=N,23nm,0.8s,baz=250,slow=6.1,SNR=12						
RAR	**Rarotonga**	49.77	114	*e*P	P	04 51 55.5	+2.1
RAR	**Rarotonga**	49.77	114	*e*P	P	04 51 55.5	+2.1
UBPT	**Khong Chiam**	49.96	295	P	P	04 51 56.1	+1.3
	comp=N,40nm,0.9s						
WHN	**Wuhan**	50.18	317	⇓P	P	04 51 57.9	+1.6
WHN				pmax	pmax		
	comp=N,130nm,1.0s						
BKNI	**Bangkinang**	50.81	274	*e*P	P	04 52 00.3	-1.1
	comp=N,164nm,0.9s						
VLA	**Vladivostok**	51.10	341⇑	*e*P	P	04 52 00.8	-2.1
VLA				*i* *PP	pP	04 52 32.3	-2.9
VLA				*i*		04 53 57.9	
VLA				pmax	pmax		
	comp=Z,72nm,1.4s						
PANO	**Nakornpanom**	51.38	296	P	P	04 52 07.0	+1.5
	comp=Z,53nm,1.0s						
IPM	**Ipoh**	51.42	280	*e*P	P	04 52 05.4	-0.5
	comp=Z,112nm,0.8s						
SKNT	**Sakolnakorn**	51.88	296	P	P	04 52 10.3	+1.1
	comp=Z,71nm,0.8s,comp=Z,3μm						
KULM	**Kulim**	51.93	281	*e*P	P	04 52 08.9	-0.7
	comp=Z,106nm,0.9s						
USRK	**Ussuriysk Ar.**	52.04	342	P	P	04 52 09.6	-0.3
	comp=Z,15nm,0.8s,baz=168,slow=7.8,SNR=22						
USRK				ScP	ScP	04 57 04.3	+0.2
	comp=Z,1.5nm,0.6s,baz=242,slow=3.2,SNR=4.3						
CHBT	**CHBT**	52.06	290	P	P	04 52 12.1	+1.6
	comp=Z,501nm,1.2s,comp=Z,241μm						
TIA	**Tai'an**	52.17	325	⇑P	P	04 52 10.8	-0.2
TIA				pmax	pmax		
	comp=Z,40nm,1.0s						
KHON	**Khomkaen**	52.71	295	P	P	04 52 16.6	+1.3
	comp=Z,21nm,0.8s,comp=Z,772nm						
MDJ	**Mudanjiang**	53.18	340	P	P	04 52 18.3	0.0
MDJ				pP	pP	04 52 50.9	+0.1
MDJ				pmax	pmax		
	comp=Z,19nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,57nm,4.4s						
CHAI	**Chaiyaphum**	53.33	294	P	P	04 52 20.3	+0.4
	comp=Z,12nm,0.7s,comp=Z,127nm						
TRTT	**Trang**	53.36	284	P	P	04 52 20.1	-0.1
	comp=Z,90nm,1.0s						
ENH	**Enshi**	53.43	314	*e*P	P	04 52 20.8	+0.4
	comp=Z,166nm,1.1s						
GYA	**Guiyang**	53.58	308⇑	*i*P	P	04 52 22.8	+1.1
GYA				pP	pP	04 52 56.4	+2.1
GYA				sP	sP	04 53 12.0	+2.2
GYA				PcP	**PcP**	04 53 29.8	+3.2
GYA				PP	**PP**	04 54 27.2	+3.2
GYA				ScP	**ScP**	04 57 11.0	-0.5
GYA				S	**S**	04 59 44.4	-0.2
GYA				sS	sS	05 00 41.8	+0.9
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,6.0s						
SLVN	**Son La**	53.59	301	*e*P	P	04 52 22.8	+1.1
	comp=Z,35nm,1.0s						
CN2	**Changchun**	53.99	337	*e*P	P	04 52 24.0	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SURT	**Suratani**	54.46	285	P	P	04 52 28.1	-0.1
	comp=Z,42nm,1.1s,comp=Z,418nm						
PBKT	**Sadao Pong**	54.47	294	P	P	04 52 29.1	+1.0
	comp=Z,32nm,1.4s						
PHET	**Kaeng Krachan**	54.63	290	P	P	04 52 30.7	+1.4
	comp=Z,21nm,1.1s,comp=Z,230nm						
PKDT	**Phuket**	54.69	283	P	P	04 52 29.5	-0.3
	comp=Z,115nm,0.9s,comp=Z,5μm						
UTTA	**Uttaradit**	55.22	295	P	P	04 52 34.8	+1.2
	comp=Z,19nm,0.8s,comp=Z,162nm						
BJT	**Baijiatuau**	55.39	327	*e*P	P	04 52 34.3	0.0
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	55.39	327	*e*P	P	04 52 34.3	0.0
	comp=Z,16nm,0.8s						
BJI	**Beijing**	55.40	327	P	P	04 52 34.1	-0.3
BJI				sP	**sP**	04 53 21.4	-1.2
BJI				PP	**PP**	04 54 38.2	-1.6
BJI				ScP	**ScP**	04 57 18.8	-0.1
BJI				S	**S**	05 00 07.6	-0.6
BJI				sS	**sS**	05 01 05.3	+0.5
BJI				SS	**SS**	05 03 56.7	+1.6
BJI				pmax	pmax		
	comp=Z,22nm,1.4s						
BJI				pmax	pmax		
	comp=Z,180nm,3.7s						
BJI				LR	LR		
	comp=Z,150nm,19.5s						
BJI				LR	LR		
	comp=Z,130nm,16.4s						
BJI				LR	LR		
	comp=Z,150nm,21.6s						
NANT	**Nan**	55.45	297	P	P	04 52 35.7	+0.5
	comp=Z,32nm,0.8s,comp=Z,357nm						
SRDT	**SRDT**	55.50	291	P	P	04 52 37.2	+1.6
	comp=Z,293nm,1.1s						
LHMI	**Lhok Sumawe**	55.55	280	*e*P	P	04 52 35.5	-0.4
	comp=Z,350nm,0.9s						
UTHA	**Uthaitani**	55.55	293	P	P	04 52 36.9	+1.0
	comp=Z,18nm,0.7s,comp=Z,157nm						
SKR	**Severo-Kuril's**	55.56	3⇓	*e*P	P	04 52 33.1	-2.3
XAN	**Xi'an**	55.95	317	P	P	04 52 38.6	0.0
XAN				pP	pP	04 53 10.8	-0.6
XAN				S	**S**	05 00 14.9	-1.0
XAN				sS	sS	05 01 12.8	+0.2
XAN				pmax	pmax		
	comp=Z,57nm,1.1s						
XAN				LR	LR		
	comp=Z,140nm,17.2s						
TIY	**Taiyuan**	55.95	323	*e*P	P	04 52 39.6	+1.1
TIY				pmax	pmax		
	comp=Z,32nm,0.5s						
KMI	**Kunming**	56.12	305	P	P	04 52 41.7	+1.5
KMI				pP	pP	04 53 16.0	+3.0
KMI				PP	**PP**	04 54 48.7	+1.8
KMI				S	**S**	05 00 21.2	+2.4
KMI				sS	sS	05 01 20.5	+4.9

PPT2	**Papeete2**	58.78	107	*e*P	**P**	04 53 01.4 +2.7
	comp=Z,33nm,0.8s					
PAE	**Paea**	58.78	108	*e*P	**P**	04 53 01.2 +2.5
	comp=Z,7.2nm,1.1s					
TIAR	**Tiarei**	59.00	107	*e*P	**P**	04 53 02.8 +2.6
	comp=Z,22nm,0.8s					
TVO	**Taravao**	59.10	108	*e*P	**P**	04 53 03.6 +2.6
	comp=Z,16nm,1.0s					
TBI	**Tubuai**	59.55	114	*e*P	**P**	04 53 05.6 +1.8
	comp=Z,109nm,1.3s					
PMOR	**Pomariorio Ree**	60.22	104	*e*P	**P**	04 53 10.9 +2.4
	comp=Z,204nm,1.3s					
VAH	**Vaihoa**	60.49	105	*e*P	**P**	04 53 12.6 +2.2
	comp=Z,81nm,1.2s					
LZH	**Lanzhou**	60.55	316	*e*P	**P**	04 53 10.5 -0.1
LZH				pP	pP	04 53 46.0 +2.0
LZH				PcP	**PcP**	04 53 49.0 -4.8
LZH				sP	sP	04 54 02.6 +3.3
LZH				*e*S	**S**	05 01 15.2 -0.5
LZH				sS	sS	05 02 20.0 +6.7
LZH				SS	**SS**	05 05 19.2 +2.6
LZH				pmax	pmax	
	comp=Z,70nm,1.2s					
LZH				pmax	pmax	
	comp=Z,170nm,5.4s					
HIA	**Hailar**	60.72	337	*e*P	**P**	04 53 11.5 +0.1
HIA				pmax	pmax	
	comp=Z,79nm,1.2s					
HIA	**Hailar**	60.72	337	*e*P	**P**	04 53 11.5 +0.1
	comp=Z,79nm,1.2s					
MA2	**Magadan**	64.35	360	P	**P**	04 53 34.5 -0.7
	comp=Z,17nm,0.7s,baz=166,slow=6.3,SNR=8.4					
GTA	**Gaotai**	65.00	318	P	**P**	04 53 40.6 +0.6
GTA				pP	pP	04 54 15.4 +1.6
GTA				sP	sP	04 54 30.1 +1.1
GTA				ScP		04 58 01.7
GTA				S	**S**	05 02 11.0 -0.1
GTA				sS	sS	05 03 10.4 +1.0
GTA				SS	**SS**	05 06 27.8 +1.9
GTA				pmax	pmax	
	comp=Z,21nm,1.3s					
GTA				pmax	pmax	
	comp=Z,170nm,7.2s					
GTA				LR	LR	
	comp=Z,200nm,18.5s					
GTA				LR	LR	
	comp=Z,140nm,18.5s					
GTA				LR	LR	
	comp=Z,100nm,17.1s					
CLNS	**Chul'man**	65.35	344	*e*P	**P**	04 53 41.9 +0.1
CLNS				pmax	pmax	
	comp=Z,38nm,0.8s					
CLNS				pmax	pmax	
	comp=N,10.0nm,0.6s					
CLNS				pmax	pmax	
	comp=E,8.0nm,0.7s					
CIT	**Chita**	65.36	335	*e*P	**P**	04 53 42.7 +0.7
CIT				*e*		04 54 16.9
ULN	**Ulaanbaatar**	65.53	329	*c i*P	**P**	04 53 44.1 +0.8
ULN				pmax	pmax	
	comp=Z,63nm,1.0s					
ULN	**Ulaanbaatar**	65.53	329	*e*P	**P**	04 53 44.2 +0.9
ULN	**Ulaanbaatar**	65.53	329	P	**P**	04 53 44.5 +1.2
	SNR=24					
ULN	**Ulaanbaatar**	65.53	329	P	**P**	04 53 44.5 +1.2
	SNR=24					
SONM	**Songino Array**	65.86	328	P	**P**	04 53 46.1 +0.8
	comp=Z,30nm,0.6s,baz=139,slow=5.3,SNR=138					
SONM				PcP	**PcP**	04 54 15.1 -0.1
	comp=Z,2.5nm,0.3s,baz=156,slow=4.1,SNR=7.0					
SONM				LR	LR	05 21 18.1
	comp=Z,80nm,21.4s,baz=142,slow=35					
SONA1	**Songino Array**	65.86	328	*e*P	**P**	04 53 45.4 0.0
LSA	**Lhasa**	67.38	305	P	**P**	04 53 56.6 +0.8
LSA				pmax	pmax	
	comp=Z,91nm,0.9s					
LSA	**Lhasa**	67.38	305	*e*P	**P**	04 53 56.2 +0.4
LSA				pmax	pmax	
	comp=Z,74nm,0.8s					
LSA	**Lhasa**	67.38	305	*e*P	**P**	04 53 56.2 +0.4
	comp=Z,74nm,0.8s					
SEY	**Seymchan**	67.72	0	P	**P**	04 53 56.2 -0.4
	comp=Z,2.4nm,0.3s,baz=178,slow=22,SNR=8.8					
SEY				pP	**pP**	04 54 31.0 +0.4
	comp=Z,5.7nm,0.8s,baz=230,slow=22,SNR=3.4					
SEY	**Seymchan**	67.72	0	*e*P	**P**	04 53 55.6 -1.0
YAK	**Yakutsk**	68.92	349	P	**P**	04 54 04.1 0.0
	comp=Z,27nm,0.3s,baz=358,slow=3.2,SNR=8.8					
YAK	**Yakutsk**	68.92	349	*e*P	**P**	04 54 03.7 -0.4
YAK				pmax	pmax	
	comp=Z,38nm,1.0s					
YAK				pmax	pmax	
	comp=N,18nm,1.0s					
ZAK	**Zakamensk**	69.04	329	*e*P	**P**	04 54 05.8 +0.5
ZAK				*e*		04 54 57.2
ZAK				pmax	pmax	
	comp=Z,94nm,1.0s					
ZAK				pmax	pmax	
	comp=Z,15nm,1.1s					
TAPN	**Taplejung**	69.50	301	*e*P	**P**	04 54 08.9 0.0
	comp=Z,140nm,1.0s					
BOD	**Bodaibo**	69.54	340	*e*P	**P**	04 54 07.6 -0.4
BOD				pmax	pmax	
	comp=Z,36nm,1.2s					
ODAN	**Odare**	69.63	301	*e*P	**P**	04 54 09.8 +0.2
	comp=Z,172nm,0.9s					
TLY	**Talaya**	69.65	330	P	**P**	04 54 09.5 +0.7
	comp=Z,26nm,0.8s,baz=152,slow=3.9,SNR=16					
TLY	**Talaya**	69.65	330	*e*P	**P**	04 54 09.3 +0.4
TLY				pmax	pmax	
	comp=Z,52nm,1.1s					
TLY	**Talaya**	69.65	330	*e*P	**P**	04 54 09.4 +0.4
TLY	**Talaya**	69.65	330	P	**P**	04 54 09.6 +0.7
	SNR=7.1					
TLY	**Talaya**	69.65	330	P	**P**	04 54 09.6 +0.7
	SNR=7.1					
RAMN	**Ramite**	70.33	301	*e*P	**P**	04 54 13.8 -0.1
	comp=Z,67nm,1.0s					
JIRN	**Jiri**	70.89	301	*e*P	**P**	04 54 17.4 0.0
	comp=Z,515nm,0.8s					
MOY	**Mondy**	70.96	329	*e*P	**P**	04 54 18.1 +1.1
MOY				pmax	pmax	
	comp=Z,82nm,1.2s					
GUN	**Gumba**	71.22	302	*e*P	**P**	04 54 19.4 0.0
	comp=Z,196nm,0.8s					
PKI	**Pulchoki**	71.53	301	*e*P	**P**	04 54 20.9 -0.3
	comp=Z,132nm,1.1s					
PKIN	**Phulchoki**	71.54	301	*e*P	**P**	04 54 20.8 -0.4
	comp=Z,99nm,1.1s					
KKN	**Kakani**	71.70	301	*e*P	**P**	04 54 21.9 -0.2
	comp=Z,111nm,0.9s					
DMN	**Daman**	71.80	301	*e*P	**P**	04 54 22.7 0.0
	comp=Z,239nm,1.0s					
PALK	**Pallekele**	71.82	279	*i*P	**P**	04 54 23.2 +0.4
PALK	**Pallekele**	71.82	279	*e*P	**P**	04 54 22.8 -0.1
	comp=Z,20nm,0.8s					
GKN	**Gorkha**	72.30	301	*e*P	**P**	04 54 25.4 -0.2
	comp=Z,217nm,1.0s					
VNDA	**Vanda**	72.71	178	P	**P**	04 54 27.8 +1.0
	comp=Z,10nm,1.0s,baz=328,slow=6.4,SNR=58					
VNDA				pP	**pP**	04 55 01.1 -0.2
	comp=Z,10nm,1.0s,baz=313,slow=8.9,SNR=7.7					
KOLN	**Koldanda**	73.12	301	*e*P	**P**	04 54 30.2 -0.3
	comp=Z,122nm,0.8s					
DANN	**Dangsing**	73.14	301	*e*P	**P**	04 54 30.5 -0.2
	comp=Z,11nm,0.9s					
SBA	**Scott Base**	73.27	177	*e*P	**P**	04 54 32.2 +2.0
SBA				pmax	pmax	
	comp=Z,11nm,1.0s					
SBA	**Scott Base**	73.27	177	*e*P	**P**	04 54 32.2 +2.0
	comp=Z,11nm,1.0s					
MIR	**Mirnyy**	73.36	201	*i*P	**P**	04 54 31.5 +0.7
MIR				pmax	pmax	
	comp=Z,10.0nm,1.2s					
BILL	**Bilibino**	73.57	6*c*	*i*P	**P**	04 54 31.6 -0.4
BILL				pmax	pmax	
	comp=Z,12nm,1.0s					
PYUN	**Piuthan**	73.73	301	*e*P	**P**	04 54 33.3 -0.8
	comp=Z,271nm,0.9s					
WMQ	**Urumqi**	75.08	318	P	**P**	04 54 41.7 +0.3
WMQ				pP	pP	04 55 16.9 +0.9
WMQ				sP	sP	04 55 32.0 +1.0
WMQ				PP	**PP**	04 57 35.1 +3.6
WMQ				S	**S**	05 04 10.3 +2.0
WMQ				sS	sS	05 05 08.5 +0.4
WMQ				pmax	pmax	
	comp=Z,46nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,70nm,3.6s					
WMQ				LR	LR	
	comp=Z,270nm,29.9s					
WMQ				LR	LR	
	comp=Z,200nm,39.0s					
WMQ				LR	LR	
	comp=Z,78nm,28.3s					
HYB	**Hyderabad**	75.45	289	*i*P	**P**	04 54 43.0 -1.0
KDAK	**Kodiak Island**	76.85	27	P	**P**	04 54 51.5 +0.6
	comp=Z,11nm,0.8s,baz=61,slow=2.7,SNR=5.6					
KDAK	**Kodiak Island**	76.85	27	*i*P	**P**	04 54 52.1 +1.2
KDAK	**Kodiak Island**	76.85	27	*e*P	**P**	04 54 51.6 +0.7
SVW2	**Sparrevohn**	77.43	23	*e*P	**P**	04 54 55.0 +0.8
TIXI	**Tiksi**	77.92	353	P	**P**	04 54 55.9 -0.7
	comp=Z,4.2nm,0.3s,baz=132,slow=4.5,SNR=5.0					
TIXI	**Tiksi**	77.92	353	*e*P	**P**	04 54 54.9 -1.7
TIXI				pmax	pmax	
	comp=Z,13nm,1.2s					
RSO	**Redoubt South**	78.22	25	*e*P	**P**	04 55 00.1 +1.3
HOM	**Homer**	78.26	26	*e*P	**P**	04 55 00.2 +1.5
TT01	**Tatalina**	78.33	22	*e*P	**P**	04 54 59.3 +0.2
TTA	**Tatalina**	78.35	22	*e*P	**P**	04 54 59.9 +0.6
TTA	**Tatalina**	78.35	22	*e*P	**P**	04 54 59.9 +0.6
CNPM	**China Poot**	78.37	26	*e*P	**P**	04 54 59.7 +0.2
BRLK	**Bradley Lake**	78.64	26	*e*P	**P**	04 55 01.0 0.0
SEW	**Seward**	79.44	26	*e*P	**P**	04 55 05.0 -0.2
	comp=Z,16nm,0.8s					
SUA	**Susitna One**	79.59	24	*e*P	**P**	04 55 05.5 -0.7
MK31	**Makanchi Array**	79.69	319	*i*P	**P**	04 55 06.8 -0.1
MK31				pmax	pmax	
	comp=Z,40nm,1.0s					
MKAR	**Makanchi Array**	79.69	319	P	**P**	04 55 06.9 -0.1
	comp=Z,27nm,0.9s,baz=106,slow=5.9,SNR=89					
MKAR				LR	LR	05 30 33.7
	comp=Z,38nm,19.8s,baz=315,slow=36					
RC01	**Rabbit Creek A**	79.81	25	*e*P	**P**	04 55 07.1 -0.1
RC01				*e*pP	**pP**	04 55 43.9 +1.7
MAKZ	**Makanchi**	79.90	319	*e*P	**P**	04 55 08.0 -0.1
MAKZ	**Makanchi**	79.90	319	*e*P	**P**	04 55 08.0 -0.1
CAST	**Castle Rocks**	80.10	22	*e*P	**P**	04 55 08.1 -0.6
PMR	**Palmer**	80.32	25	*e*P	**P**	04 55 09.1 -0.7
PMR				pmax	pmax	
	comp=Z,4.0nm,0.6s					
PMR	**Palmer**	80.32	25	*e*P	**P**	04 55 09.1 -0.7
	comp=Z,3.8nm,0.6s					
PDGK	**Podgornoye**	80.56	315	P	**P**	04 55 11.2 -0.6
PDGK				pmax	pmax	
	comp=Z,31nm,0.9s					
KTH	**Kantishna Hill**	80.61	22	*e*P	**P**	04 55 10.1 -1.5
	comp=Z,10nm,0.7s					
KTH				*e*pP	**pP**	04 55 48.9 +2.3
KTH				*e*sP	**sP**	04 56 03.1 +1.7
ZALV	**Zalesovo Beam**	80.65	327	P	**P**	04 55 10.8 -1.0
	comp=Z,28nm,0.7s,baz=111,slow=5.2,SNR=61					
ZALV				pP	**pP**	04 55 46.8 -0.1
	comp=Z,5.2nm,0.8s,baz=113,slow=7.0,SNR=1.6					
ZALV				LR	LR	05 32 18.3
	comp=Z,55nm,19.6s,baz=250,slow=36					
SML	**Sawmill**	80.76	25	*e*P	**P**	04 55 11.4 -0.9
SML				pmax	pmax	
	comp=Z,5.0nm,0.7s					
SML	**Sawmill**	80.76	25	*e*P	**P**	04 55 11.4 -0.9
	comp=Z,4.8nm,0.7s					
TRF	**Thorofare Moun**	80.80	23	*e*P	**P**	04 55 11.3 -1.4
	comp=Z,7.8nm,0.7s					
GLI	**Glacier Island**	80.84	26	*e*P	**P**	04 55 12.9 +0.2
MCK	**McKinley**	81.46	23	*e*P	**P**	04 55 14.9 -1.1
MCK				*e**PP	**pP**	04 55 52.5 +1.4
MCK				*e**SP	**sP**	04 56 08.4 +2.4
MCK				pmax	pmax	
	comp=Z,29nm,0.9s					
MCK	**McKinley**	81.46	23	*e*P	**P**	04 55 14.9 -1.1
	comp=Z,29nm,0.9s					
MCK				*e*pP	**pP**	04 55 52.5 +1.4
MCK				*e*sP	**sP**	04 56 08.4 +2.4
DIV	**Divide**	81.53	26	*e*P	**P**	04 55 16.6 +0.1
NVS	**Novosibirsk**	81.84	327	*e*P	**P**	04 55 17.6 -0.5
NVS				*e*		04 55 56.5
NVS				pmax	pmax	
	comp=N,18nm,1.3s					
NVS				pmax	pmax	
	comp=Z,43nm,1.3s					
KSH	**Kashi**	82.17	311	P	**P**	04 55 22.0 +1.6
KSH				pP	pP	04 55 57.4 +1.9
KSH				sP	sP	04 56 12.7 +2.3
KSH				PP	**PP**	04 58 35.7 +5.1
KSH				S	**S**	05 05 20.6 -3.5
KSH				SS	**SS**	05 10 48.0 +0.9
KSH				pmax	pmax	
	comp=Z,34nm,1.0s					
KSH				pmax	pmax	
	comp=Z,150nm,4.0s					
KSH				LR	LR	
	comp=Z,170nm,5.3s					
KSH				LR	LR	
	comp=Z,110nm,5.4s					
KSH				LR	LR	
	comp=Z,130nm,6.1s					
COLA	**College**	82.44	22	*e*P	**P**	04 55 19.6 -1.4
COLA				*e**PP	**pP**	04 55 56.4 +0.2
COLA				*e**SP	**sP**	04 56 10.8 -0.2
COLA	**College**	82.44	22	*e*P	**P**	04 55 19.6 -1.4
COLA				*e*pP	**pP**	04 55 56.4 +0.2
COLA				*e*sP	**sP**	04 56 10.8 -0.2
PAX	**Paxson**	82.48	24	*e*P	**P**	04 55 21.3 -0.1
PAX	**Paxson**	82.48	24	*e*P	**P**	04 55 21.3 -0.1
ILAR	**Eielson Array**	82.75	22	P	**P**	04 55 21.0 -1.7
	comp=Z,13nm,0.7s,baz=249,slow=4.8,SNR=108					
ILAR				S	**S**	05 05 24.6 -4.1
	comp=Z,1.1nm,1.0s,baz=235,slow=9.7,SNR=7.1					
COLD	**Coldfoot**	82.80	19	*e*P	**P**	04 55 22.8 -0.1
	comp=Z,5.8nm,0.8s					
KURK	**Kurchatov**	83.19	322	*c i*P	**P**	04 55 24.6 -0.6
KURK				pmax	pmax	
	comp=Z,320nm,1.2s					
KURK	**Kurchatov**	83.19	322	*e*P	**P**	04 55 24.8 -0.4
	comp=Z,382nm,0.9s					
KURK	**Kurchatov**	83.19	322	P	**P**	04 55 24.9 -0.3
	SNR=24					
KURK	**Kurchatov**	83.19	322	P	**P**	04 55 24.9 -0.3
	SNR=24					
TKM2	**Tokmak 2**	83.21	314	P	**P**	04 55 25.5 -0.3
TKM2				pmax	pmax	
	comp=Z,28nm,0.7s					
DOT	**Dot Lake**	83.35	24	*e*P	**P**	04 55 25.3 -0.5
	comp=Z,41nm,0.9s					
DOT				*e*pP	**pP**	04 55 59.1 -1.9
TOLK	**Toolik Lake Re**	83.74	18	P	**P**	04 55 27.7 0.0
	baz=239					
FRU	**Bishkek**	83.90	314	*e*P	**P**	04 55 29.0 -0.1
FRU				*e*		05 05 36.0
FRU				pmax	pmax	
	comp=Z,120nm,1.9s					
AAK	**Ala-Archa**	83.94	314	*e*P	**P**	04 55 29.6 +0.1
AAK				pmax	pmax	
	comp=Z,29nm,0.7s					
AAK	**Ala-Archa**	83.94	314	*e*P	**P**	04 55 29.6 +0.1
	comp=Z,30nm,0.7s					
AAK	**Ala-Archa**	83.94	314	P	**P**	04 55 30.2 +0.7
	SNR=18					
AAK	**Ala-Archa**	83.94	314	P	**P**	04 55 30.2 +0.7
	SNR=18					
MAW	**Mawson**	84.97	203	P	**P**	04 55 34.4 +0.5
	comp=Z,4.5nm,0.7s,baz=100,slow=6.0,SNR=23					
MAW				pP	**pP**	04 56 08.7 -0.5
	comp=Z,13nm,0.9s,baz=80,slow=6.4,SNR=7.7					
EGAK	**Eagle**	84.97	23	*e*P	**P**	04 55 33.9 0.0
	comp=Z,9.8nm,0.8s					
QSPA	**South Pole Qui**	84.99	180	*e*P	**P**	04 55 34.7 +0.5
	comp=Z,92nm,1.0s					
QSPA				*e*pP	**pP**	04 56 07.3 -2.4
MNAS	**Manas**	85.35	313	P	**P**	04 55 36.8 +0.3
MNAS				pmax	pmax	
	comp=Z,202nm,1.1s					
DAWY	**Dawson**	85.42	24	*e*P	**P**	04 55 36.3 0.0
	comp=Z,5.1nm,0.7s					
NRIK	**Noril'sk**	85.75	341	P	**P**	04 55 37.4 -0.3
	comp=Z,25nm,0.8s,baz=138,slow=2.3,SNR=9.7					
KK31	**Karatay Array**	86.91	314	*i*P	**P**	04 55 43.2 -0.8
KK31				pmax	pmax	
	comp=Z,33nm,1.3s					
KKAR	**Karatay Array**	86.91	314	*e*P	**P**	04 55 43.6 -0.4
KKAR				pmax	pmax	
	comp=Z,41nm,1.1s					
KKAR	**Karatay Array**	86.91	314	*e*P	**P**	04 55 43.6 -0.4
	comp=Z,41nm,1.1s					
BRVK	**Borovoye**	88.75	323	*c i*P	**P**	04 55 50.9 -1.6
BRVK				pmax	pmax	
	comp=Z,95nm,1.2s					
BRVK	**Borovoye**	88.75	323	*e*P	**P**	04 55 50.8 -1.6
	comp=Z,65nm,0.9s					
BRVK	**Borovoye**	88.75	323	P	**P**	04 55 51.3 -1.2
	SNR=8.3					
L02D	**Cave Junction,**	89.42	48	P	**P**	04 55 57.2 +1.4
	baz=263					
I03D	**Drain, OR**	89.80	46	P	**P**	04 55 58.3 +0.8
	baz=263					
M02C	**Callahan**	89.88	49	P	**P**	04 55 59.3 +1.1
	baz=263,SNR=8.8					
N02D	**Trinity Center**	89.95	49	P	**P**	04 55 59.8 +1.4
	baz=264,SNR=5.6					
HUMO	**Hull Mountain**	89.95	47	*e*P	**P**	04 55 59.1 +0.7
	comp=Z,132nm,1.0s					
HUMO				*e*pP	**pP**	04 56 33.1 -1.0
HDW	**Hoodsport**	90.47	42	P	**P**	04 56 02.0 +1.2
O03D	**Paynes Creek**	90.56	50	P	**P**	04 56 02.1 +0.8
	baz=264,SNR=5.6					
J04D	**Umpqua Nationa**	90.64	47	P	**P**	04 56 02.3 +0.5
	baz=264,SNR=5.2					
M04C	**Macdoel**	90.68	48	P	**P**	04 56 02.7 +0.8
	baz=264,SNR=16					
A04D	**Lummi Island**	90.83	41	P	**P**	04 56 03.6 +1.4
	baz=264					
K04D	**Chiloquin, OR**	90.83	47	P	**P**	04 56 03.0 +0.4
	baz=264					
B05A	**Bryant**	91.18	42	P	**P**	04 56 04.7 +0.9
	baz=264					
J05D	**Fort Rock, OR**	91.28	47	P	**P**	04 56 05.6 +0.9
	baz=264					
I05D	**Terrebonne, OR**	91.31	46	P	**P**	04 56 05.1 +0.4
	baz=264					
PKM	**Mcpherson Peak**	91.62	55	P	**P**	04 56 07.4 +0.9
	baz=265					
MOD	**Modoc Plateau**	91.84	48	*e*P	**P**	04 56 07.9 +0.6
	comp=Z,24nm,1.0s					
MOD				*e*pP	**pP**	04 56 41.8 -1.3
NAC	**Naches**	91.89	43	P	**P**	04 56 08.4 +1.2
RCTC	**Rector, Farmer**	92.20	54	P	**P**	04 56 09.6 +0.7
	baz=266					
VES	**Vestal, Richgr**	92.29	54	P	**P**	04 56 10.0 +0.7
	baz=266,SNR=6.0					
ETW	**Entiat**	92.30	43	P	**P**	04 56 09.6 +0.3
ARVC	**Arvin**	92.44	55	P	**P**	04 56 11.0 +0.9
	baz=266					
WTV	**Waterville**	92.56	43	P	**P**	04 56 10.7 +0.3
PASC	**Pasadena Art C**	92.90	56	*e*P	**P**	04 56 12.3 +0.1
	comp=Z,24nm,1.0s					
EDW2	**Edwards Air Fo**	93.11	55	P	**P**	04 56 14.4 +1.2
	baz=266,SNR=8.4					
SYO	**Syowa Base**	93.12	200	*e*P	**P**	04 56 11.2 -1.2
SYO	**Syowa Base**	93.12	200	*e*PcP	**PcP**	04 56 16.2 +3.2
CWC	**Cottonwood Cre**	93.14	54	P	**P**	04 56 14.4 +0.9
	baz=266					
BFSC	**Mount Baldy Ra**	93.34	56	P	**P**	04 56 15.1 +0.7
	baz=266					
LRMC	**Laurel Mtn Rad**	93.40	55	P	**P**	04 56 15.5 +0.8
	baz=266,SNR=6.6					
MPMC	**Manual Prospec**	93.60	54	P	**P**	04 56 16.6 +1.0
	baz=267,SNR=16					
MURC	**Murrieta**	93.69	57	P	**P**	04 56 16.8 +0.9
	baz=267					
109C	**Camp Elliot, M**	93.72	57	P	**P**	04 56 17.4 +1.5
	baz=267					
GRAC	**Grapevine Rang**	93.75	53	P	**P**	04 56 16.9 +0.8
	baz=267,SNR=11					
BBRC	**Big Bear Solar**	93.95	56	P	**P**	04 56 18.0 +0.7
	baz=267					
GSC	**Goldstone, Bar**	94.11	55	P	**P**	04 56 18.9 +1.1
	baz=267,SNR=8.1					
FURC	**Furnace Creek,**	94.12	54	P	**P**	04 56 19.0 +1.3
	baz=267,SNR=17					
MONP2	**Monument Peak**	94.29	57	P	**P**	04 56 20.3 +1.4
	baz=267,SNR=8.3					
PFO	**Pinyon Flats O**	94.30	57	P	**P**	04 56 20.8 +2.0
	comp=Z,8.9nm,0.9s,baz=283,slow=2.3,SNR=14					
PFO	**Pinyon Flats O**	94.30	57	P	**P**	04 56 20.3 +1.5
	baz=267,SNR=7.1					
PFO	**Pinyon Flats O**	94.30	57	*e*P	**P**	04 56 20.6 +1.8
PFO				pmax	pmax	
	comp=Z,12nm,1.0s					
PFO	**Pinyon Flats O**	94.30	57	*e*P	**P**	04 56 20.6 +1.8
	comp=Z,12nm,1.0s					
HEC	**Hector,Ludlow**	94.47	56	P	**P**	04 56 20.3 +0.9
	baz=267,SNR=5.0					
NEW	**Newport**	94.50	42	P	**P**	04 56 19.4 +0.1
	baz=268,SNR=5.8					
IKP	**In-Ko-Pah, Jac**	94.54	58	P	**P**	04 56 22.7 +2.8
	baz=267					
SHOC	**Shoshone, Teco**	94.57	54	P	**P**	04 56 20.9 +1.1
	baz=267,SNR=12					
TPNV	**Topopah Spring**	94.64	53	P	**P**	04 56 21.1 +0.8
	baz=267,SNR=26					
BELC	**Belle Mtn. Jos**	94.70	56	P	**P**	04 56 21.8 +1.1
	baz=267,SNR=9.8					
SWSC	**Sam W. Stewart**	94.82	57	P	**P**	04 56 22.3 +1.3
	baz=267,SNR=6.3					
TUQ	**Turquoise Moun**	94.83	55	P	**P**	04 56 22.1 +0.9
	baz=267,SNR=12					
ABKAR	**Akbulak array**	94.84	319	*e*P	**P**	04 56 18.0 -2.7
	comp=Z,3.1nm,0.7s					
GMRC	**Granite Mounta**	95.02	56	P	**P**	04 56 23.2 +1.1
	baz=268,SNR=9.5					
BC3	**Big Chuckawall**	95.14	57	P	**P**	04 56 23.8 +1.1
	baz=268,SNR=8.4					
R11A	**Troy Canyon, C**	95.23	52	P	**P**	04 56 23.8 +0.7
	baz=268,SNR=14					
IRM	**Iron Mountain**	95.42	56	P	**P**	04 56 24.9 +1.1
	baz=268,SNR=8.0					
GLA	**Glamis**	95.64	57	P	**P**	04 56 26.8 +1.9
	baz=268					
ARU	**Arti**	95.81	326	LR	LR	05 39 16.8
	comp=Z,78nm,21.1s,baz=154,slow=35					
ARU	**Arti**	95.81	326	*e*P	**P**	04 56 21.8 -3.2
ARU						05 00 14.1
ARU				S	**SKSac**	05 06 44.1 -3.8
ARU	**Arti**	95.81	326	*e*P	**P**	04 56 21.6 -3.4
	comp=Z,12nm,1.0s					
NEE2	**Needles Airpor**	95.88	56	P	**P**	04 56 27.3 +1.5
	baz=268					
Y12C	**Blythe**	95.92	57	P	**P**	04 56 27.7 +1.6
	baz=268					
BSMT	**Bassoo Peak**	96.05	43	P	**P**	04 56 26.9 +0.3
AKTO	**Aktyubinsk**	96.11	320	P	**P**	04 56 24.4 -2.1
	comp=Z,3.0nm,0.7s,baz=78,slow=7.4,SNR=7.3					
YKA	**Yellowknife Ar**	96.11	28	P	**P**	04 56 25.7 -0.5
	comp=Z,2.3nm,0.7s,baz=277,slow=5.1,SNR=3.7					
HLID	**Hailey**	96.25	47	P	**P**	04 56 28.2 +0.7
	baz=269					
PDMCI	**Parker Dam,Lak**	96.26	56	P	**P**	04 56 29.3 +1.8
	baz=268					
DUG	**Dugway, Tooele**	97.42	50	P	Pdif	04 56 33.6 +0.7
	baz=270					
BOZ	**Bozeman (W)**	98.

N23A	Red Feather La	102.62	49	Pdiff	Pdif	04 56 56.5	+0.3
	baz=274						
VNA3	Neumayer Olymp	102.94	186	P	Pdif	04 56 50.3	-6.3
VNA2	Neumayer--Watz	102.98	187	P	Pdif	04 56 56.8	0.0
	baz=224,slow=3.8						
DGMT	Dagmar	103.09	41	Pdiff	Pdif	04 56 58.3	+0.6
	baz=278						
KLMR	Klimovskoe	104.99	332	*e*P	Pdif	04 57 02.7	-3.2
KLMR				pmax	pmax		
	comp=Z,13nm,1.4s						
TXAR	Lajitas Array	105.22	61	PKKPbc	PKKPbc	05 12 48.3	-0.1
	comp=Z,0.6nm,0.7s,baz=132,slow=1.9,SNR=4.7						
TXAR				PKKPab	PKKPab	05 13 06.2	+0.4
	comp=Z,1.0nm,0.7s,baz=108,slow=6.9,SNR=6.7						
ZEI	Tsey	106.36	313	*e*P	Pdif	04 57 09.9	-2.8
ZEI				pmax	pmax		
	comp=Z,15nm,1.3s						
ARCES	ARCESS Array B	106.69	343	PKiKP	PKiKP	05 01 23.1	+0.2
	comp=Z,4.2nm,0.9s,baz=107,slow=2.0,SNR=19						
FINES	FINESS Array B	110.72	335	Pdiff	Pdif	04 57 29.8	-1.6
	comp=Z,1.5nm,0.6s,baz=27,slow=3.6,SNR=7.0						
FINES				PKiKP	PKiKP	05 01 30.5	-0.1
	comp=Z,5.3nm,0.8s,baz=97,slow=2.5,SNR=13						
S39A	Bolivar	112.76	51	PKiKP	PKiKP	05 01 35.0	-0.2
	baz=282						
R39A	Chumby, Stover	112.85	50	PKiKP	PKiKP	05 01 34.9	-0.5
	baz=282						
E40A	Wakefield	112.98	41	PKiKP	PKiKP	05 01 35.2	-0.2
	baz=288						
F40A	Park Falls	113.00	42	PKiKP	PKiKP	05 01 35.1	-0.3
	baz=288						
K40A	Colesburg	113.21	46	PKiKP	PKiKP	05 01 35.9	-0.1
	baz=286						
P40A	Paris	113.33	49	PKiKP	PKiKP	05 01 37.1	+0.9
	baz=284						
U40A	Yellville	113.40	53	PKiKP	PKiKP	05 01 36.6	+0.1
	baz=282						
Q40A	Laux Farm, Aux	113.44	50	PKiKP	PKiKP	05 01 37.1	+0.6
	baz=283						
R40A	Maddies Statio	113.45	50	PKiKP	PKiKP	05 01 37.1	+0.5
	baz=283						
V40A	Witts Springs	113.53	53	PKiKP	PKiKP	05 01 36.8	0.0
	baz=282						
F41A	Three Lakes	113.73	42	PKiKP	PKiKP	05 01 36.7	-0.2
	baz=288						
J41A	Loganville	113.82	45	PKiKP	PKiKP	05 01 36.7	-0.4
	baz=287						
AKASG	Malin Array Be	113.95	324	PKiKP	PKiKP	05 01 36.5	-0.6
	comp=Z,2.0nm,0.4s,baz=61,slow=2.8,SNR=11						
KIEV	Kiev	113.97	324	‖ *i* PKiKP	PKiKP	05 01 36.2	-0.9
P41A	Barry, Barry	114.04	49	PKiKP	PKPdf	05 01 37.3	-0.3
	baz=284						
Q41A	Truxton	114.09	49	PKiKP	PKiKP	05 01 37.9	+0.2
	baz=284						
W41B	Gary Mavity, V	114.12	54	PKiKP	PKiKP	05 01 38.1	+0.2
	baz=282						
R41A	Rosebud	114.13	50	PKiKP	PKPdf	05 01 37.6	-0.2
	baz=284						
U41A	Viola	114.14	52	PKiKP	PKiKP	05 01 38.3	+0.3
	baz=282						
G42A	Mountain	114.34	42	PKiKP	PKPdf	05 01 37.3	-0.7
	baz=289						
BRTR	Keskin Array B	114.55	312	PKP	PKPdf	05 01 37.9	-0.9
	comp=Z,2.8nm,0.9s,baz=148,slow=0.5,SNR=9.7						
P42A	Winchester	114.60	49	PKiKP	PKiKP	05 01 39.0	+0.3
	baz=285						
V42A	Cord	114.67	53	PKiKP	PKiKP	05 01 39.0	0.0
	baz=282						
S42A	Caledonia	114.70	51	PKiKP	PKPdf	05 01 38.7	-0.3
	baz=284						
L43A	Garden Prairie	115.06	46	PKiKP	PKiKP	05 01 39.5	0.0
	baz=287						
P43A	Skaggs, Pawnee	115.20	48	PKiKP	PKiKP	05 01 39.8	0.0
	baz=286						
SORM	Soroca	115.48	322	⇑ *i*P	PKPdf	05 01 39.0	-1.1
SORM	Soroca	115.48	322	⇑PKiKP	PKPdf	05 01 39.0	-1.1
EIL	Elat	115.58	300	PKP	PKPdf	05 01 41.4	+0.5
	comp=Z,2.2nm,0.5s,baz=295,slow=4.6,SNR=3.8						
E45A	Wooded Hills,	116.09	40	PKiKP	PKiKP	05 01 42.1	+0.7
	baz=292						
NB2	NORSAR Subarra	116.67	340	PKPdf	PKPdf	05 01 40.9	-1.2
	comp=Z,1.6nm,0.6s,baz=44,slow=1.9						
NOA	NORSAR Array B	116.67	340	PKP	PKPdf	05 01 41.6	-0.5
	comp=Z,4.4nm,0.8s,baz=50,slow=1.8,SNR=9.1						
CFR	Carcaliu	116.73	319	‖ *i*P	PKPdf	05 01 39.6	-3.0
CFR	Carcaliu	116.73	319	‖PKiKP	PKPdf	05 01 39.6	-3.0
BURAR	Bucovina Array	117.62	322	⇑ *i*P	PKPdf	05 01 45.0	+0.6
BURAR	Bucovina Array	117.62	322	⇑PKiKP	PKPdf	05 01 45.0	+0.6
KWP	Kalwaria Pacla	118.19	325	*e*PKP	PKPdf	05 01 45.7	+0.4
KWP	Kalwaria Pacla	118.19	325	*e*PKiKP	PKPdf	05 01 45.7	+0.4
BOSA	Boshof	118.59	234	PKP	PKPdf	05 01 46.4	-0.5
	comp=Z,3.4nm,0.8s,baz=86,slow=5.3,SNR=6.0						
ARR	Arges	118.93	320	⇑ *i*P	PKPdf	05 01 48.1	+1.1
CRVS	Cervenica-Dubn	119.26	325	*e*PKiKP	PKPdf	05 01 47.8	+0.4
CRVS	Cervenica-Dubn	119.26	325	*e*PKP	PKPdf	05 01 47.8	+0.4
LOT	Lotru	119.45	320	‖ *i*P	PKPdf	05 01 46.9	-1.1
DRGR		119.51	322	‖ *i*P	PKPdf	05 01 43.7	-4.3
DRGR		119.51	322	‖PKiKP	PKPdf	05 01 43.7	-4.3
OJC	Ojcow	119.53	327	*e*PKP	PKPdf	05 01 48.2	+0.4
OJC	Ojcow	119.53	327	*e*PKiKP	PKPdf	05 01 48.2	+0.4
NIE	Niedzica	119.66	326	*e*PKP	PKPdf	05 01 49.0	+0.8
NIE	Niedzica	119.66	326	*e*PKiKP	PKPdf	05 01 49.0	+0.8
LANS	Liptovska Anna	120.27	326	*e*PKiKP	PKPdf	05 01 50.4	+1.0
LANS	Liptovska Anna	120.27	326	*e*PKP	PKPdf	05 01 50.4	+1.0
PLCA	Paso Flores	120.33	144	PKKPbc	PKKPbc	05 11 57.5	-0.9
	comp=Z,3.8nm,0.7s,baz=70,slow=3.5,SNR=7.3						
SUR	Sutherland	120.35	228	*e*PKPdf	PKPdf	05 01 51.4	+1.1
LSZ	Lusaka	120.50	249	*e*PKiKP	PKPdf	05 01 51.3	+0.4
LSZ	Lusaka	120.50	249	*e*PKPdf	PKPdf	05 01 51.2	+0.4
OKC	Ostrava-Krasne	120.63	327	*e*PKPdf	PKPdf	05 01 50.2	+0.2
OKC	Ostrava-Krasne	120.63	327	*e*PKiKP	PKPdf	05 01 50.2	+0.2
PSZ	Piszkesteto	120.65	324	‖ *i*P	PKPdf	05 01 49.9	-0.3
PSZ	Piszkesteto	120.65	324	‖PKiKP	PKPdf	05 01 49.9	-0.3
BZS	Buzias	120.73	321	‖ *i*P	PKPdf	05 01 50.0	-0.3
BZS	Buzias	120.73	321	‖PKiKP	PKPdf	05 01 50.0	-0.3
VYHS	Vyhne	120.97	325	*e*PKiKP	PKPdf	05 01 50.5	-0.2
VYHS	Vyhne	120.97	325	*e*PKP	PKPdf	05 01 50.5	-0.2
MORC	Moravsky Berou	120.99	327	⇑ *i*P	PKPdf	05 01 50.4	-0.4
MORC	Moravsky Berou	120.99	327	⇑PKiKP	PKPdf	05 01 50.4	-0.4
VTS	Vitosha	121.02	318	‖ *i*P	PKPdf	05 01 50.9	-0.3
VTS	Vitosha	121.02	318	‖PKiKP	PKPdf	05 01 50.9	-0.3
MDVR	Moldovita	121.05	320	‖ *i*P	PKPdf	05 01 50.7	-0.3
KSP	Ksiaz	121.06	329	*e*PKP	PKPdf	05 01 51.1	+0.3
KSP	Ksiaz	121.06	329	*e*PKiKP	PKPdf	05 01 51.1	+0.3
DPC	Dobruska-Polom	121.32	328	*e*PKPdf	PKPdf	05 01 51.3	-0.1
DPC				*ex*	x	05 01 53.9	
DPC	Dobruska-Polom	121.32	328	*e*PKiKP	PKPdf	05 01 51.3	-0.1
N54A	Moraine State	121.64	44	PKiKP	PKPdf	05 01 52.1	-0.2
	baz=294						
M54A	Oil Creek Stat	121.64	44	PKiKP	PKiKP	05 01 52.5	+0.1
	baz=294						
TIGA	Tifton	122.03	56	PKiKP	PKiKP	05 01 53.5	+0.1
	baz=285						
PVCC	Panska Ves	122.13	329	*e*PKPdf	PKPdf	05 01 53.7	+0.9
PVCC				*ex*	x	05 01 55.5	
PVCC	Panska Ves	122.13	329	*e*PKiKP	PKPdf	05 01 53.7	+0.9
BRG	Berggiesshubel	122.24	330	*i* PKP	PKPdf	05 01 53.2	+0.2
	comp=Z,15nm,0.8s						
	comp=N,214nm,17.6s						
	comp=E,311nm,22.1s						
	comp=Z,418nm,18.4s						
BRG	Berggiesshubel	122.24	330	*i* PKiKP	PKPdf	05 01 53.2	+0.2
BRG				pmax	pmax		
	comp=Z,15nm,0.8s						
BRG				MLR	MLR		
	comp=N,214nm,17.6s						
BRG				MLR	MLR		
	comp=E,311nm,22.1s						
BRG				MLR	MLR		
	comp=Z,418nm,18.4s						
TREC	Trest	122.37	328	*e*PKPdf	PKPdf	05 01 53.7	+0.3
TREC	Trest	122.37	328	*e*PKiKP	PKPdf	05 01 53.7	+0.3
GOPC	GO Pecny, Ondr	122.38	328	*e*PKPdf	PKPdf	05 01 53.6	+0.2
GOPC	GO Pecny, Ondr	122.38	328	*e*PKiKP	PKPdf	05 01 53.6	+0.2
CLL	Collm	122.43	331	‖ *i*PKiKP	PKPdf	05 01 53.2	-0.2
CLL				pmax	pmax		
	comp=Z,15nm,0.8s						
CLL	Collm	122.43	331	‖ *i*PKPdf	PKPdf	05 01 53.2	-0.2
	comp=Z,15nm,0.8s						
CLL				*i*		05 01 55.5	
	comp=Z,12nm,1.0s						
CLL				*ep*PKPdf	pPKPdf	05 02 29.0	-1.8
PRU	Pruhonice	122.46	329	*e*PKPdf	PKPdf	05 01 53.7	+0.2
PRU	Pruhonice	122.46	329	*e*PKiKP	PKPdf	05 01 53.7	+0.2
SKO	Skopje	122.47	318	*e*PKP	PKPdf	05 01 53.2	-0.6
KMSC	Kings Mountain	122.75	51	PKiKP	PKPdf	05 01 54.5	0.0
	baz=289						
KRUS	Krusevo	122.86	317	*i* PKP	PKPdf	05 01 53.9	-0.8
O56A	Blue Knob Stat	122.91	44	PKiKP	PKPdf	05 01 54.6	-0.2
	baz=294						
CONA	Conrad Observa	122.94	326	*i* PKiKP	PKiKP	05 01 54.8	0.0
	comp=Z,9.9nm,0.8s						
BIA	Bitola	122.95	317	*e*PKP	PKPdf	05 01 54.0	-0.8
OHR	Ohrid	123.27	317	*e*PKP	PKPdf	05 01 54.3	-1.1
NKC	Novy Kostel	123.38	330	*e*PKPdf	PKPdf	05 01 55.8	+0.5
NKC				*ex*	x	05 01 58.7	
NKC	Novy Kostel	123.38	330	*e*PKiKP	PKPdf	05 01 55.8	+0.5
KHC	Kasperske Hory	123.48	328	*e*PKPdf	PKPdf	05 01 55.7	+0.1
KHC				*ex*	x	05 01 59.3	
KHC				*e*SKP		05 05 18.6	
KHC	Kasperske Hory	123.48	328	*e*PKiKP	PKPdf	05 01 55.7	+0.1
KHC	Kasperske Hory	123.48	328	*e*PKPdf	PKPdf	05 01 55.4	-0.1
GERES	GERESS Array B	123.59	328	PKP	PKPdf	05 01 55.7	-0.2
	comp=Z,11nm,0.6s,baz=71,slow=1.6,SNR=56						
MOA	Molln	123.87	327	*i* PKiKP	PKPdf	05 01 56.1	-0.2
	comp=Z,6.0nm,1.0s						
N59A	State Game Lan	124.55	43	PKiKP	PKiKP	05 01 58.4	+0.2
	baz=297						
BOJS	Bojanci	124.64	324	*i* PKPdf	PKPdf	05 01 58.2	+0.4
LJU	Ljubljana	124.76	325	*i* PKPdf	PKPdf	05 01 58.4	+0.3
KBA	Koelnbreinsper	124.83	326	*i* PKiKP	PKPdf	05 01 57.9	-0.5
	comp=Z,11nm,0.9s						
MYKA	Terra Mystica	124.93	326	*i* PKiKP	PKPdf	05 01 58.2	-0.3
	comp=Z,8.4nm,0.9s						
ABTA	Abfaltersbach	125.49	326	*i* PKiKP	PKPdf	05 01 59.3	-0.3
	comp=Z,17nm,0.8s						
WTTA	Wattenberg	125.65	327	*i* PKiKP	PKiKP	05 02 00.3	0.0
	comp=Z,8.6nm,0.4s,SNR=5.2						
EKA	Eskdalemuir Ar	125.85	343	PKP	PKPdf	05 01 59.8	-0.1
	comp=Z,7.8nm,0.7s,baz=18,slow=3.4,SNR=20						
MOTA	Moosalm	125.88	328	*i* PKiKP	PKPdf	05 02 00.3	-0.1
	comp=Z,28nm,0.8s,SNR=12						
RETA	Reutte	125.97	328	*i* PKiKP	PKPdf	05 02 00.6	+0.1
	comp=Z,3.8nm,0.5s						
MEM	Membach	126.18	334	PKP	PKPdf	05 02 00.9	+0.3
FETA	Feichten	126.28	328	*i* PKiKP	PKPdf	05 02 01.3	+0.1
	comp=Z,21nm,0.9s,SNR=8.3						
DAVA	Damuels	126.56	328	*i* PKiKP	PKPdf	05 02 01.7	+0.1
	comp=Z,12nm,0.6s,SNR=5.3						
BCLA	Clavier	126.62	334	PKP	PKPdf	05 02 01.3	-0.2
BFO	Black Forest	126.67	330	*i* PKiKP	PKPdf	05 02 02.2	+0.5
WLF	Walferdange	126.79	333	PKP	PKPdf	05 02 03.2	+1.4
SNF	Seneffe	127.00	334	PKP	PKPdf	05 02 02.9	+0.8
DOU	Dourbes	127.17	334	PKP	PKPdf	05 02 03.1	+0.6
CMBC	Cumbal	130.46	93	*e*P	SKPab	05 05 26.4	+5.2
FLOC	Florencia	132.68	92	*e*P	SKPab	05 05 32.3	+2.1
MOTC	Monteria, Cord	132.91	83	*e*P	SKPab	05 05 31.4	+0.3
HELC	Santa Helena	133.05	86	*e*P	SKPab	05 05 31.3	-0.9
GUYC	Guyana, Colomb	133.17	88	*e*P	SKPab	05 05 34.3	+1.5
SJCC	San Jacinto, C	133.35	81	*e*P	SKPab	05 05 34.6	+1.5
PRAC	Prado	133.60	90	*e*P	SKPab	05 05 33.9	-0.3
NORC	Norcasia	133.69	87	*e*P	SKPab	05 05 35.0	+0.4
ZARC	Zaragoza, Cauc	133.73	84	*e*P	SKPab	05 05 35.1	+0.4
KEST	Kesra	133.73	316	PKP	PKPdf	05 02 16.4	+0.8
	comp=Z,17nm,0.9s,baz=264,slow=2.9,SNR=7.8						
KEST				SKPbc	SKPbc	05 05 31.1	-0.5
	comp=Z,16nm,1.1s,baz=283,slow=3.7,SNR=4.4						
ROSC	El Rosal	134.22	88	PKP	PKPdf	05 02 18.5	+1.1
	comp=Z,6.6nm,0.7s,baz=4.4,slow=11,SNR=10						
CHIC	Chingaza	134.79	88	*e*P	SKPab	05 05 38.5	-1.4
VILC	Villavicencio,	134.81	89	*e*P	SKPab	05 05 37.7	-1.9
BRRC	Barranca, Sant	134.87	85	*e*P	SKPab	05 05 35.8	-3.9
OCAC	Ocana	135.24	83	*e*P	SKPab	05 05 41.2	-0.3
LPAZ	La Paz	135.35	119	PKP	PKPdf	05 02 21.1	+1.3
	comp=Z,2.6nm,0.8s,baz=47,slow=1.9,SNR=9.2						
LPAZ				SKPab	SKPab	05 05 41.2	-1.2
	comp=Z,5.5nm,1.2s,baz=128,slow=1.3,SNR=5.9						
BARC	Barichara	135.39	86	*e*P	SKPdf	05 05 39.9	-1.8
PAMC	Pamplona, Colo	135.87	85	*e*P	SKPdf	05 05 43.0	+0.2
YOPC	Yopal, Colombi	136.12	87	*e*P	SKPdf	05 05 39.8	-3.1
URIC	Uribia, Colomb	136.36	78	*e*P	SKPdf	05 05 43.0	0.0
SDV	Santo Domingo	137.88	82	SKP	SKPdf	05 05 48.1	+2.1
	comp=Z,57nm,1.0s,baz=275,slow=2.8,SNR=32						
SDV	Santo Domingo	137.88	82	*e*PKPdf	PKPdf	05 02 24.4	+0.4
SDV				SKP		05 05 48.1	
PBRG	Braganca	138.56	335	*e*LR	LR	06 15 25.8	
	comp=Z,260nm,20.0s						
ESDC	Soeseca Array	139.02	331	PKhKP	PKPpre	05 02 16.1	
	comp=Z,0.5nm,0.6s,baz=28,slow=3.2,SNR=5.3						
ESDC				PKP	PKPdf	05 02 26.1	+0.9
	comp=Z,0.5nm,0.4s,baz=21,slow=3.0,SNR=8.2						
ESDC				PP	PP	05 05 17.8	-0.5
	comp=Z,6.2nm,0.8s,baz=29,slow=6.8,SNR=24						
ESDC				SKPbc	SKPbc	05 05 47.2	-0.2
	comp=Z,2.3nm,0.9s,baz=17,slow=3.8,SNR=7.5						
ESDC				SKPab	SKPab	05 05 57.1	-0.1
	comp=Z,4.1nm,0.9s,baz=25,slow=4.2,SNR=7.7						
PGAV	Gavieira, Arco	139.03	337	*e*PKPdf	PKPdf	05 02 24.6	-0.6
PGAV	Gavieira, Arco	139.03	337	*e*LR	LR	06 15 00.3	
	comp=Z,245nm,20.0s						
MVO	Moncorvo	139.21	335	*e*PKPdf	PKPdf	05 02 26.5	+1.0
MVO				*ep*	SKPbc	05 05 48.7	+0.8
MVO	Moncorvo	139.21	335	*e*LR	LR	06 15 11.2	
	comp=Z,262nm,18.0s						
POLO	Lamas de Olo	139.35	336	*e*PKPdf	PKPdf	05 02 24.2	-1.6
POLO	Lamas de Olo	139.35	336	*e*LR	LR	06 14 42.0	
	comp=Z,109nm,20.0s						
PVIS	Viseu	139.94	336	*ep*	SKPbc	05 05 51.1	+1.2
MTE	Manteigas	140.06	335	*e*PKPdf	PKPdf	05 02 28.1	+1.0
MTE				*ep*	SKPbc	05 05 51.3	+1.1
MTE	Manteigas	140.06	335	*e*LR	LR	06 14 53.0	
	comp=Z,389nm,20.0s						
PCBR	Castelo Branco	140.50	334	*e*PKPdf	PKPdf	05 02 27.4	-0.4
PCBR				*ep*	SKPbc	05 05 52.1	+0.8
PCAS	Casmilo, Conde	140.75	336	*e*PKPdf	PKPdf	05 02 28.1	-0.1
PMRV	Marv??o	140.80	334	*e*PKPdf	PKPdf	05 02 28.5	+0.1
PMRV				*ep*	SKPbc	05 05 52.5	+0.3
PMRV	Marv??o	140.80	334	*e*LR	LR	06 15 07.5	
	comp=Z,475nm,22.0s						
PTOM	Tomar	141.08	335	*e*PKPdf	PKPdf	05 02 23.1	-5.7
PESTR	Estremoz	141.35	334	*e*LR	LR	06 15 18.5	
	comp=Z,519nm,20.0s						
PBAR	Barrancos	141.67	332	*e*PKPdf	PKPdf	05 02 24.8	-5.1
PBAR				*ep*	SKPbc	05 05 55.3	+0.9
PBAR	Barrancos	141.67	332	*e*LR	LR	06 14 42.0	
	comp=Z,858nm,18.0s						
EVO	Evora	141.81	334	*e*PKPdf	PKPdf	05 02 28.1	-2.1
EVO	Evora	141.81	334	*e*PP	PP	05 05 34.0	-1.1
EVO				*ep*	SKPbc	05 05 55.7	+1.0
PMAFR	Mafra	142.00	336	*e*LR	LR	06 14 31.1	
	comp=Z,538nm,20.0s						
PNCL	Nicolau / Gran	142.39	334	*e*PKPdf	PKPdf	05 02 27.9	-3.3
PNCL				*ep*	SKPbc	05 05 56.8	+0.6
PNCL	Nicolau / Gran	142.39	334	A	A	06 22 45.1	
	comp=Z,523nm,20.0s						
PCVE	Castro Verde	142.57	333	*e*PKPdf	PKPdf	05 02 26.9	-4.7
PCVE	Castro Verde	142.57	333	*e*LR	LR	06 15 11.2	
	comp=Z,486nm,18.0s						
PVAQ	Vaqueiros	142.61	332	*e*LR	LR	06 14 42.0	
	comp=Z,392nm,20.0s						
SAML	Samuel	142.63	112	*e*PKPdf	PKPdf	05 02 29.2	-3.1
TAM	Tamanrasset	142.79	302	*e*PKiKP	PKPdf	05 02 28.8	-3.8
TAM	Tamanrasset	142.79	302	*e*PKPdf	PKPdf	05 02 28.8	-3.8
MORF	Marmelete	143.11	333	*e*LR	LR	06 16 34.9	
	comp=Z,484nm,18.0s						
MDT	Midelt	144.52	324	PKP	PKPab	05 02 34.0	0.0
	comp=Z,8.6nm,0.3s,baz=19,slow=1.3,SNR=119						
MDT				SKPbc	SKPbc	05 06 01.7	+0.1
	comp=Z,8.7nm,1.0s,baz=78,slow=3.1,SNR=6.0						
PTGA	Pitinga	147.93	99	PKPbc	PKPbc	05 02 43.7	-0.9
	comp=Z,23nm,0.8s,baz=251,slow=2.9,SNR=57						
PTGA				pPKPbc	pPKPdf	05 03 20.0	+1.2
	comp=Z,15nm,0.7s,baz=254,slow=2.0,SNR=3.8						
TORD	Torodi Ar. Bea	149.25	287	PKP	PKPdf	05 02 42.9	-0.6
	comp=Z,72nm,0.9s,baz=73,slow=2.0,SNR=143						
TORD				PKPbc	PKPbc	05 02 47.4	-0.6
	comp=Z,66nm,0.8s,baz=69,slow=2.4,SNR=224						
TORD				pPKPbc	pPKPbc	05 03 25.3	+0.3
	comp=Z,6.3nm,0.6s,baz=78,slow=2.9,SNR=2.3						
TORD				SKPbc		05 06 11.3	
	comp=Z,4.2nm,0.9s,baz=62,slow=2.2,SNR=4.1						
PMPS	Porto Santo	149.88	340	*e*PKPbc	PKPbc	05 02 49.8	+0.8
PMAR	Madeira	150.39	340	*e*PKPbc	PKPbc	05 02 48.0	-2.4
PMOZ	Porto Moniz, M	150.39	341	*e*PKPbc	PKPbc	05 02 51.3	+0.9
PMOZ	Porto Moniz, M	150.39	341	*e*LR	LR	06 10 23.5	
	comp=Z,320nm,20.0s						
FUL	Funchal	150.45	340	*e*PKPdf	PKPbc	05 02 51.5	+1.2
KIC	Kosan Boka	156.45	274	*e*PKP2	PKPdf	05 03 03.3	+9.2
	comp=Z,49nm,0.9s						
DBIC	Dimbokro	156.56	275	PKPbc	PKPdf	05 03 04.3	+10
	comp=Z,2.2nm,0.4s,baz=88,slow=3.7,SNR=11						
DBIC				PKPab	PKPab	05 03 23.1	-0.6
	comp=Z,14nm,0.9s,baz=84,slow=6.1,SNR=7.4						
TIC	Toumodi	156.72	275	*e*PKP2	PKPdf	05 03 04.8	+10
LIC	Lamto	156.74	274	*e*PKP2	PKPdf	05 03 03.7	+9.3
	comp=Z,57nm,1.1s						

CSEM ***10*** *04:48:49.7, 38.°49N×28.°33E, h7km, MD2.7*

DDA 10 04:48:49.7, 38.°49N×28.°33E, h7km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	Manisa	0.18	89	*i* P	Pg	04 48 54.0	+0.5
MANT				*i* S	Sg	04 48 57.3	+1.3
MANT	Manisa	0.18	89	P	Pg	04 48 54.0	+0.5
MANT				S	Sg	04 48 57.3	+1.3
DEMI	Demirci	0.63	29	*i* P	Pg	04 49 02.0	+0.1
DEMI				*i* S	Sg	04 49 09.9	-0.2
DEMI	Demirci	0.63	29	P	Pg	04 49 02.0	+0.1
DEMI				S	Sg	04 49 09.9	-0.3
AYDN	Tasoluk	0.90	203	*i* P	Pg	04 49 06.7	-0.3
AYDN				*i* S	Sb	04 49 20.1	+0.2
AYDN	Tasoluk	0.90	203	P	Pg	04 49 06.7	-0.3
AYDN				S	Sb	04 49 20.1	+0.2
KHAL	Karahalli	0.92	97	*i* P	Pg	04 49 07.5	+0.1
KHAL				*i* S	Sg	04 49 20.0	+0.6
KHAL	Karahalli	0.92	97	P	Pg	04 49 07.6	+0.2
KHAL				S	Sb	04 49 20.0	-0.6
STEP	BALIKESIR_Sava	1.01	332	*i* P	Pn	04 49 10.4	+0.1
STEP				*i* S	Sb	04 49 23.7	+0.7
STEP	BALIKESIR_Sava	1.01	332	P	Pn	04 49 10.4	+0.1
STEP				S	Sb	04 49 23.7	+0.7

IDC ***10*** *04:49:42.7±0.8, 37.°18N×22.°00E, h0km, mb4.0/13, mb1 4.1/20, mb1mx4.0/49, mbtmp4.0/20, ML3.3/7, MS3.4/12, Ms1 3.4/12, ms1mx3.2/55, Error ellipse: s-maj=17.9km s-min=15.0km az=171.0*

THE ***10*** *04:49:43.7, 37.°22N×22.°04E, h0km±1km, ML4.0/26, Error ellipse: s-maj=1.0km s-min=0.4km az=217.0*

NEIC ***10*** *04:49:43.2±0.0, 37.°22N×22.°02E, h11km, mb3.9/1, ML3.9(ATH), ML4.0(THE), After ATH.*

ISCJB ***10*** *04:49:43.3±0.4, 37.°20N±0.°02×21.°99E±0.°02, h8km±2km, mb4.0/12, MS3.4/5, Error ellipse: s-maj=2.9km s-min=2.4km az=44.5*

ATH ***10*** *04:49:43.2, 37.°22N×22.°02E, h11km±1km, ML3.9/17, Error ellipse: s-maj=1.3km s-min=0.6km az=247.0*

CSEM ***10*** *04:49:43.5±0.1, 37.°21N×22.°01E, h2km, ML3.9, Error ellipse: s-maj=3.3km s-min=2.5km az=49.0*

ISC 10 04:49:43.7±0.7, 37.°23N±0.°01×22.°03E±0.°01, h3km±5km, n281, σ1§11/358, mb4.1/12, MS3.5/5, 13C-7D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.09	240	P

THAL	**Thalero**	**0.95**	**32**	P	**Pg**	**04 50 01.7**	**-0.3**
THAL				S	**Sb**	**04 50 15.4**	**-0.6**
THAL	**Thalero**	**0.95**	**32**	P	**Pg**	**04 50 02.0**	**0.0**
THAL	**Thalero**	**0.95**	**32**	P	**Pg**	**04 50 02.0**	**0.0**
THAL				S	**Sb**	**04 50 15.4**	**-0.6**
DID	**Didima**	**1.00**	**73**	P	**Pg**	**04 50 02.5**	**-0.5**
DID				S	**Sb**	**04 50 17.8**	**+0.4**
DID	**Didima**	**1.00**	**73**	P	**Pg**	**04 50 02.5**	**-0.5**
DID				S	**Sb**	**04 50 17.0**	**-0.4**
DID				AML	AML	04 50 24.1	
	comp=N,6860μm,1.3s						
DID				AML	AML	04 50 34.4	
	comp=E,8940μm,0.9s						
DID	**Didima**	**1.00**	**73**	P	**Pg**	**04 50 02.5**	**-0.5**
DID				S	**Sb**	**04 50 17.0**	**-0.4**
DID	**Didima**	**1.00**	**73**	P	**Pg**	**04 50 02.5**	**-0.5**
DID				S	**Sb**	**04 50 17.8**	**+0.4**
LAKA	**Lakka**	**1.01**	**358**	P	**Pg**	**04 50 02.4**	**-0.8**
LAKA				S	**Sb**	**04 50 18.1**	**+0.4**
LAKA	**Lakka**	**1.01**	**358**	P	**Pg**	**04 50 01.7**	**-1.5**
LAKA				S	**Sb**	**04 50 17.2**	**-0.5**
LAKA				AML	AML	04 50 30.9	
	comp=N,9831μm,1.1s						
LAKA				AML	AML	04 50 32.2	
	comp=E,7437μm,0.7s						
LAKA	**Lakka**	**1.01**	**358**	P	**Pg**	**04 50 02.4**	**-0.8**
LAKA				S	**Sb**	**04 50 17.2**	**-0.5**
LAKA	**Lakka**	**1.01**	**358**	P	**Pg**	**04 50 02.4**	**-0.8**
LAKA				S	**Sb**	**04 50 18.1**	**+0.4**
LOUT	**Loutraki**	**1.07**	**44**	P	**Pg**	**04 50 03.8**	**-0.4**
LOUT				S	**Sb**	**04 50 19.1**	**-0.2**
LOUT	**Loutraki**	**1.07**	**44**	P	**Pg**	**04 50 04.2**	**0.0**
LOUT	**Loutraki**	**1.07**	**44**	P	**Pg**	**04 50 04.2**	**0.0**
LOUT				S	**Sb**	**04 50 19.1**	**-0.2**
UPR	**University Cam**	**1.07**	**350**	P	**Pg**	**04 50 04.4**	**+0.1**
UPR				S	**Sn**	**04 50 20.4**	**-0.7**
UPR	**University Cam**	**1.07**	**350**	P	**Pn**	**04 50 05.6**	**-0.1**
UPR	**University Cam**	**1.07**	**350**	P	**Pg**	**04 50 04.4**	**+0.1**
UPR				S	**Sn**	**04 50 20.4**	**-0.7**
AXS	**Araxos**	**1.10**	**332**	P	**Pg**	**04 50 04.4**	**-0.4**
AXS	**Araxos**	**1.10**	**332**	P	**Pg**	**04 50 04.6**	**-0.2**
AXS	**Araxos**	**1.10**	**332**	P	**Pg**	**04 50 04.6**	**-0.2**
TRIZ	**Trizonia**	**1.14**	**2**	P	**Pg**	**04 50 04.1**	**-1.4**
TRIZ				S	**Sg**	**04 50 19.3**	**-1.0**
TRIZ	**Trizonia**	**1.14**	**2**	P	**Pg**	**04 50 04.1**	**-1.4**
TRIZ				S	**Sg**	**04 50 19.3**	**-1.0**
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**04 50 05.2**	**-0.9**
KALE				S	**Sn**	**04 50 23.7**	**+0.2**
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**04 50 05.0**	**-1.1**
KALE				S	**Sg**	**04 50 20.8**	**-0.4**
KALE				AML	AML	04 50 26.9	
	comp=N,10672μm,0.6s						
KALE				AML	AML	04 50 30.7	
	comp=E,9925μm,1.0s						
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**04 50 05.0**	**-1.1**
KALE				S	**Sg**	**04 50 20.8**	**-0.4**
KALE	**Kalithea**	**1.17**	**4**	P	**Pg**	**04 50 05.2**	**-0.9**
KALE				S	**Sn**	**04 50 23.7**	**+0.2**
SERG	**Sergoula**	**1.19**	**1**	P	**Pg**	**04 50 05.5**	**-1.0**
SERG				S	**Sn**	**04 50 24.1**	**+0.2**
EFP	**Efpalio**	**1.20**	**355**	P	**Pg**	**04 50 06.1**	**-0.7**
EFP				S	**Sn**	**04 50 24.6**	**+0.3**
EFP	**Efpalio**	**1.20**	**355**	P	**Pg**	**04 50 06.1**	**-0.7**
EFP				S	**Sg**	**04 50 22.4**	**0.0**
EFP				AML	AML	04 50 28.9	
	comp=N,8471μm,1.0s						
EFP				AML	AML	04 50 30.2	
	comp=E,7484μm,0.8s						
EFP	**Efpalio**	**1.20**	**355**	P	**Pg**	**04 50 06.1**	**-0.7**
EFP				S	**Sg**	**04 50 22.4**	**0.0**
PROD	**Prodromos**	**1.24**	**34**	P	**Pg**	**04 50 07.6**	**0.0**
PROD				S	**Sg**	**04 50 23.9**	**+0.2**
PROD				AML	AML	04 50 28.2	
	comp=E,10831μm,0.6s						
PROD				AML	AML	04 50 29.1	
	comp=N,7606μm,0.7s						
PROD	**Prodromos**	**1.24**	**34**	P	**Pg**	**04 50 07.6**	**0.0**
PROD				S	**Sg**	**04 50 23.9**	**+0.2**
DSF	**Desfina**	**1.25**	**18**	P	**Pg**	**04 50 06.8**	**-0.9**
DSF	**Desfina**	**1.25**	**18**	P	**Pg**	**04 50 06.1**	**-1.5**
DSF	**Desfina**	**1.25**	**18**	P	**Pg**	**04 50 06.8**	**-0.9**
DSF	**Desfina**	**1.25**	**18**	P	**Pg**	**04 50 06.8**	**-0.9**
KYTH	**Kithira**	**1.26**	**139**	P	**Pg**	**04 50 07.5**	**-0.4**
KYTH				S	**Sn**	**04 50 25.4**	**-0.4**
KYTH	**Kithira**	**1.26**	**139**	P	**Pg**	**04 50 08.0**	**+0.1**
KYTH	**Kithira**	**1.26**	**139**	P	**Pg**	**04 50 07.5**	**-0.4**
KYTH				S	**Sn**	**04 50 25.4**	**-0.4**
KFL	**Anninata**	**1.32**	**312**	P	**Pb**	**04 50 09.2**	**0.0**
KFL	**Anninata**	**1.32**	**312**	P	**Pb**	**04 50 09.7**	**+0.5**
KFL	**Anninata**	**1.32**	**312**	P	**Pb**	**04 50 09.2**	**0.0**
ANX	**Ano Chora**	**1.37**	**357**	P	**Pn**	**04 50 08.8**	**-1.0**
ANX				S	**Sn**	**04 50 28.7**	**+0.2**
VILL	**Villia**	**1.39**	**47**	P	**Pn**	**04 50 09.9**	**-0.1**
VILL				S	**Sn**	**04 50 29.9**	**+1.0**
VILL	**Villia**	**1.39**	**47**	P	**Pn**	**04 50 09.9**	**-0.1**
VILL				S	**Sn**	**04 50 29.0**	**+0.1**
VIL2	**Platees**	**1.39**	**45**	P	**Pb**	**04 50 10.3**	**-0.1**
VIL2				S	**Sn**	**04 50 29.0**	**-0.1**
VIL2				AML	AML	04 50 34.2	
	comp=E,8573μm,0.8s						
VIL2				AML	AML	04 50 40.4	
	comp=N,10878μm,0.8s						
PVO	**Paravola**	**1.44**	**344**	P	**Pn**	**04 50 10.8**	**0.0**
PVO				S	**Sn**	**04 50 30.4**	**+0.1**
PVO	**Paravola**	**1.44**	**344**	P	**Pg**	**04 50 12.2**	**+0.8**
PVO	**Paravola**	**1.44**	**344**	P	**Pg**	**04 50 12.2**	**+0.8**
PVO				S	**Sn**	**04 50 30.4**	**+0.1**
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**04 50 10.9**	**-0.4**
VLS				S	**Sg**	**04 50 32.1**	**+0.7**
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**04 50 10.7**	**-0.7**
VLS				S	**Sb**	**04 50 30.7**	**-0.5**
VLS				AML	AML	04 50 47.4	
	comp=N,7349μm,0.9s						
VLS				AML	AML	04 50 52.0	
	comp=E,3997μm,0.9s						
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**04 50 10.9**	**-0.4**
VLS				S	**Sb**	**04 50 30.7**	**-0.5**
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**04 50 10.9**	**-0.4**
VLS				S	**Sg**	**04 50 32.1**	**+0.7**
ATH	**Athens Observa**	**1.54**	**60**	P	**Pn**	**04 50 11.6**	**-0.4**
ATH				S	**Sn**	**04 50 32.5**	**0.0**
ATH	**Athens Observa**	**1.54**	**60**	P	**Pn**	**04 50 12.0**	**-0.1**
ATH				S	**Sg**	**04 50 33.4**	**+0.3**
ATH				AML	AML	04 50 40.8	
	comp=E,14858μm,1.1s						
ATH				AML	AML	04 50 43.2	
	comp=N,7756μm,1.6s						
ATH	**Athens Observa**	**1.54**	**60**	P	**Pn**	**04 50 12.0**	**-0.1**
ATH				S	**Sg**	**04 50 33.4**	**+0.3**
ATH	**Athens Observa**	**1.54**	**60**	P	**Pn**	**04 50 11.6**	**-0.4**
ATH				S	**Sn**	**04 50 32.5**	**0.0**
VLY	**Voula,Athens**	**1.54**	**65**	P	**Pn**	**04 50 12.0**	**-0.1**
VLY				S	**Sn**	**04 50 32.4**	**-0.2**
VLY	**Voula,Athens**	**1.54**	**65**	P	**Pn**	**04 50 12.0**	**-0.1**
VLY	**Voula,Athens**	**1.54**	**65**	P	**Pn**	**04 50 12.0**	**-0.1**
VLY	**Voula,Athens**	**1.54**	**65**	P	**Pn**	**04 50 12.0**	**-0.1**
VLY				S	**Sn**	**04 50 32.4**	**-0.2**
ATHU	**Athens Univers**	**1.58**	**62**	P	**Pn**	**04 50 12.2**	**-0.4**
ATHU				S	**Sn**	**04 50 33.8**	**+0.2**
ATHU	**Athens Univers**	**1.58**	**62**	P	**Pn**	**04 50 12.3**	**-0.4**
ATHU	**Athens Univers**	**1.58**	**62**	P	**Pn**	**04 50 12.3**	**-0.4**
ATHU	**Athens Univers**	**1.58**	**62**	P	**Pn**	**04 50 12.2**	**-0.4**
ATHU				S	**Sn**	**04 50 33.8**	**+0.2**
LKR	**Lokris**	**1.62**	**28**	P	**Pn**	**04 50 12.9**	**-0.3**
LKR				S	**Sb**	**04 50 35.0**	**0.0**
LKR	**Lokris**	**1.62**	**28**	P	**Pn**	**04 50 12.8**	**-0.4**
LKR	**Lokris**	**1.62**	**28**	P	**Pn**	**04 50 12.9**	**-0.3**
LKR				S	**Sb**	**04 50 35.0**	**0.0**
LKR	**Lokris**	**1.62**	**28**	P	**Pn**	**04 50 12.9**	**-0.3**
LKR				S	**Sb**	**04 50 35.0**	**0.0**
PTL	**Penteli**	**1.68**	**60**	P	**Pn**	**04 50 14.1**	**+0.1**
PTL				S	**Sg**	**04 50 38.2**	**+0.7**
PTL				AML	AML	04 50 44.1	
	comp=E,5200μm,0.9s						
PTL				AML	AML	04 50 48.2	
	comp=N,5256μm,1.3s						
PTL	**Penteli**	**1.68**	**60**	P	**Pn**	**04 50 14.1**	**+0.1**
PTL				S	**Sg**	**04 50 38.2**	**+0.7**
EVR	**Evrytania**	**1.70**	**354**	P	**Pn**	**04 50 14.4**	**0.0**
EVR	**Evrytania**	**1.70**	**354**	P	**Pb**	**04 50 15.4**	**-0.2**
EVR	**Evrytania**	**1.70**	**354**	P	**Pn**	**04 50 14.4**	**0.0**
EVR	**Evrytania**	**1.70**	**354**	P	**Pn**	**04 50 14.4**	**0.0**
AGG	**Agios Georgios**	**1.81**	**8**	*e*PN	**Pn**	**04 50 15.7**	**-0.1**
AGG	**Agios Georgios**	**1.81**	**8**	P	**Pn**	**04 50 15.8**	**-0.1**
AGG	**Agios Georgios**	**1.81**	**8**	P	**Pb**	**04 50 16.7**	**-0.8**
AGG	**Agios Georgios**	**1.81**	**8**	P	**Pn**	**04 50 15.8**	**-0.1**
AGG	**Agios Georgios**	**1.81**	**8**	P	**Pn**	**04 50 15.8**	**-0.1**
SMIA	**Simia**	**1.90**	**29**	P	**Pn**	**04 50 16.9**	**-0.1**
SMIA	**Simia**	**1.90**	**29**	P	**Pn**	**04 50 17.7**	**+0.7**
SMIA	**Simia**	**1.90**	**29**	P	**Pn**	**04 50 16.9**	**-0.1**
LKD2	**Lefkada island**	**1.90**	**326**	P	**Pn**	**04 50 16.6**	**-0.5**
LKD2	**Lefkada island**	**1.90**	**326**	P	**Pg**	**04 50 20.0**	**-0.1**
LKD2	**Lefkada island**	**1.90**	**326**	P	**Pn**	**04 50 16.6**	**-0.5**
LKD2	**Lefkada island**	**1.90**	**326**	P	**Pn**	**04 50 16.6**	**-0.5**
EREA	**Eretria**	**1.92**	**51**	P	**Pn**	**04 50 17.2**	**-0.2**
EREA	**Eretria**	**1.92**	**51**	P	**Pn**	**04 50 17.4**	**0.0**
EREA	**Eretria**	**1.92**	**51**	P	**Pn**	**04 50 17.4**	**0.0**
SERI	**Serifos**	**1.96**	**91**	P	**Pn**	**04 50 16.9**	**-1.1**
SERI	**Serifos**	**1.96**	**91**	P	**Pn**	**04 50 16.9**	**-1.1**
MHLO	**Agia Marina, M**	**1.98**	**105**	P	**Pn**	**04 50 17.8**	**-0.3**
MHLO	**Agia Marina, M**	**1.98**	**105**	P	**Pb**	**04 50 19.7**	**-0.6**
MHLO	**Agia Marina, M**	**1.98**	**105**	P	**Pn**	**04 50 17.8**	**-0.3**
DSL	**Palaion Diasel**	**2.04**	**339**	P	**Pn**	**04 50 18.9**	**-0.1**
DSL	**Palaion Diasel**	**2.04**	**339**	P	**Pn**	**04 50 18.9**	**-0.1**
KARY	**Karystos**	**2.08**	**66**	P	**Pn**	**04 50 19.6**	**+0.1**
KARY	**Karystos**	**2.08**	**66**	P	**Pn**	**04 50 19.6**	**+0.1**
SKIA	**Skiathos**	**2.25**	**30**	P	**Pn**	**04 50 22.1**	**+0.3**
SKIA	**Skiathos**	**2.25**	**30**	P	**Pn**	**04 50 22.1**	**+0.3**
FYTO	**Fytoko, Volos**	**2.29**	**18**	P	**Pn**	**04 50 21.8**	**-0.7**
FYTO	**Fytoko, Volos**	**2.29**	**18**	P	**Pn**	**04 50 23.4**	**+1.0**
FYTO	**Fytoko, Volos**	**2.29**	**18**	P	**Pn**	**04 50 21.8**	**-0.7**
FYTO	**Fytoko, Volos**	**2.29**	**18**	P	**Pn**	**04 50 21.8**	**-0.7**
XOR	**Xorichti**	**2.33**	**23**	P	**Pn**	**04 50 22.9**	**0.0**
XOR	**Xorichti**	**2.33**	**23**	P	**Pn**	**04 50 24.1**	**+1.1**
XOR	**Xorichti**	**2.33**	**23**	P	**Pn**	**04 50 22.9**	**0.0**
XOR	**Xorichti**	**2.33**	**23**	P	**Pn**	**04 50 22.9**	**0.0**
THL	**Klokotos Trika**	**2.33**	**360**	P	**Pn**	**04 50 22.8**	**-0.2**
THL	**Klokotos Trika**	**2.33**	**360**	P	**Pn**	**04 50 23.7**	**+0.7**
THL	**Klokotos Trika**	**2.33**	**360**	P	**Pn**	**04 50 22.8**	**-0.2**
IMMV	**Iera Moni Meta**	**2.37**	**138**	P	**Pn**	**04 50 23.0**	**-0.5**
IMMV	**Iera Moni Meta**	**2.37**	**138**	P	**Pb**	**04 50 25.6**	**-1.4**
IMMV	**Iera Moni Meta**	**2.37**	**138**	P	**Pn**	**04 50 23.0**	**-0.5**
APE	**Apeiranthos**	**2.81**	**92**	*e*PN	**Pn**	**04 50 29.9**	**+0.4**
APE	**Apeiranthos**	**2.81**	**92**	⇑*i*P	**Pn**	**04 50 30.0**	**+0.4**
APE	**Apeiranthos**	**2.81**	**92**	*e*Pn	**Pn**	**04 50 29.9**	**+0.4**
THR3	**Thira Island,**	**2.83**	**106**	P	**Pn**	**04 50 30.1**	**+0.3**
THR3	**Thira Island,**	**2.83**	**106**	P	**Pn**	**04 50 30.1**	**+0.3**
THR3	**Thira Island,**	**2.83**	**106**	P	**Pn**	**04 50 30.1**	**+0.3**
SANT	**Santorini**	**2.88**	**106**	*e*Pn	**Pn**	**04 50 30.3**	**-0.3**
SANT				*e*S	**Sn**	**04 51 07.4**	**+1.5**
SANT	**Santorini**	**2.88**	**106**	*e*Pn	**Pn**	**04 50 30.3**	**-0.3**
SANT				*e*S	**Sn**	**04 51 07.4**	**+1.5**
IDI	**Anoyia**	**3.02**	**129**	Pn	**Pn**	**04 50 32.7**	**+0.2**
	comp=N,6.9nm,0.3s,baz=239,slow=13,SNR=21						
IDI				LR	LR	04 52 04.4	
	comp=N,534nm,19.7s,baz=8.0,slow=47						
IDI	**Anoyia**	**3.02**	**129**	P	**Pn**	**04 50 31.6**	**-0.9**
IDI	**Anoyia**	**3.02**	**129**	P	**Pn**	**04 50 31.6**	**-0.9**
CHOS	**Chios island**	**3.40**	**69**	*e*PN	**Pn**	**04 50 37.7**	**0.0**
CHOS	**Chios island**	**3.40**	**69**	*e*Pn	**Pn**	**04 50 37.7**	**0.0**
OUR	**Ouranopolis**	**3.46**	**26**	*e*PN	**Pn**	**04 50 38.8**	**+0.3**
OUR	**Ouranopolis**	**3.46**	**26**	*e*Pn	**Pn**	**04 50 38.8**	**+0.3**
HORT	**Hortiatis**	**3.47**	**14**	*e*PN	**Pn**	**04 50 39.0**	**+0.3**
HORT	**Hortiatis**	**3.47**	**14**	*e*Pn	**Pn**	**04 50 39.0**	**+0.3**
SIGR	**SIGRI**	**3.61**	**56**	*e*PN	**Pn**	**04 50 40.2**	**-0.3**
SIGR	**SIGRI**	**3.61**	**56**	*e*Pn	**Pn**	**04 50 40.2**	**-0.3**
URLA	**Izmir**	**3.79**	**71**	*e*PN	**Pn**	**04 50 43.6**	**+0.5**
URLA	**Izmir**	**3.79**	**71**	*e*Pn	**Pn**	**04 50 43.6**	**+0.5**
BIA	**Bitola**	**3.83**	**352**	*e*Pn	**Pn**	**04 50 44.9**	**+1.2**
BIA	**Bitola**	**3.83**	**352**	*e*Pn	**Pn**	**04 50 44.8**	**+1.2**
OHR	**Ohrid**	**4.00**	**347**	*e*Pn	**Pb**	**04 50 50.7**	**-4.1**
OHR	**Ohrid**	**4.00**	**347**	*e*Pn	**Pb**	**04 50 50.7**	**-4.1**
VAY	**Valandovo**	**4.11**	**6**	*e*Pn	**Pn**	**04 50 46.5**	**-0.9**
VAY	**Valandovo**	**4.11**	**6**	*e*Pn	**Pn**	**04 50 46.5**	**-0.9**
KRUS	**Krusevo**	**4.18**	**352**	*e*Pn	**Pn**	**04 50 51.7**	**+3.1**
KRUS	**Krusevo**	**4.18**	**352**	*e*Pn	**Pn**	**04 50 51.6**	**+3.1**
KARP	**Karpathos**	**4.47**	**110**	*e*PN	**Pn**	**04 50 54.8**	**+2.4**
KARP	**Karpathos**	**4.47**	**110**	*e*Pn	**Pn**	**04 50 54.8**	**+2.4**
MMB	**Musomiste**	**4.55**	**16**	P	**Pn**	**04 50 55.8**	**+2.2**
KKB	**Krupnik**	**4.71**	**10**	P	**Pn**	**04 50 58.2**	**+2.5**
SKO	**Skopje**	**4.76**	**355**	*e*Pn	Pn	04 50 49.6	-6.8
ALN	**Alexandroupoli**	**4.82**	**39**	*e*PN	**Pn**	**04 50 57.7**	**+0.5**
ALN	**Alexandroupoli**	**4.82**	**39**	*e*Pn	**Pn**	**04 50 57.7**	**+0.5**
RZN	**Roznov**	**4.92**	**24**	P	**Pn**	**04 51 02.4**	**+3.7**
KDZ	**Kurdzhali**	**5.14**	**30**	P	**Pn**	**04 51 05.6**	**+4.0**
KULA	**Kula-Manisa**	**5.40**	**74**	*e*PN	**Pn**	**04 51 06.8**	**+1.5**
KULA	**Kula-Manisa**	**5.40**	**74**	*e*Pn	**Pn**	**04 51 06.8**	**+1.5**
VTS	**Vitosha**	**5.43**	**9**	⇑*i*P	**Pn**	**04 51 08.4**	**+2.6**
VTS	**Vitosha**	**5.43**	**9**	P	**Pn**	**04 51 08.1**	**+2.3**
VTS	**Vitosha**	**5.43**	**9**	⇑*i*P	**Pn**	**04 51 08.4**	**+2.6**
BARS	**Barje**	**5.59**	**358**	⇑*i*Pn	**Pn**	**04 51 09.7**	**+2.0**
KCTX	**Karacabey (Bur**	**5.80**	**57**	*e*PN	**Pn**	**04 51 12.0**	**+1.2**
KCTX	**Karacabey (Bur**	**5.80**	**57**	*e*Pn	**Pn**	**04 51 12.0**	**+1.2**
VAE	**Valguarnera**	**6.07**	**275**	Pn	**Pn**	**04 51 14.7**	**+0.2**
	comp=N,1.2nm,0.3s,baz=30,slow=12,SNR=3.1						
SJES	**Sjenica**	**6.23**	**346**	*e*Pn	**Pn**	**04 51 17.8**	**+1.1**
TVSB	**Tavsanli**	**6.25**	**67**	*e*PN	**Pn**	**04 51 18.4**	**+1.5**
TVSB	**Tavsanli**	**6.25**	**67**	*e*Pn	**Pn**	**04 51 18.5**	**+1.5**
BOVS	**Bovan**	**6.41**	**358**	*e*Pn	**Pn**	**04 51 20.2**	**+1.2**
STON	**Ston**	**6.54**	**331**	*e*Pn	**Pn**	**04 51 20.5**	**-0.4**
STON	**Ston**	**6.54**	**331**	*e*Pn	**Pn**	**04 51 20.4**	**-0.4**
ZAGS	**Zajecar**	**6.58**	**1**	⇑*i*Pn	**Pn**	**04 51 22.7**	**+1.3**
BOLS	**Boljevac**	**6.60**	**360**	*e*Pn	**Pn**	**04 51 22.2**	**+0.6**
KORT	**Korkueli**	**6.66**	**89**	*e*PN	**Pn**	**04 51 24.9**	**+2.4**
GRUS	**Gruza**	**6.73**	**352**	*e*Pn	**Pn**	**04 51 23.9**	**+0.5**
BBLS	**Lazići**	**6.93**	**344**	*e*Pn	**Pn**	**04 51 23.6**	**-2.6**
DIVS	**Divibare**	**7.04**	**348**	⇑*i*Pn	**Pn**	**04 51 27.7**	**0.0**
MDVR	**Moldovita**	**7.55**	**358**	⇓*i*P	**Pn**	**04 51 35.1**	**+0.3**
MDVR	**Moldovita**	**7.55**	**358**	⇓*i*P	**Pn**	**04 51 35.1**	**+0.3**
TEKS	**Tekeris**	**7.56**	**346**	*i* Pn	**Pn**	**04 51 34.6**	**-0.2**
FGSL	**Fruska Gora**	**8.10**	**349**	*e*Pn	**Pn**	**04 51 41.0**	**-1.2**
ARR	**Arges**	**8.37**	**13**	⇑*i*P	**Pn**	**04 51 48.1**	**+2.2**
ARR	**Arges**	**8.37**	**13**	⇑*i*P	**Pn**	**04 51 48.1**	**+2.2**
BZS	**Buzias**	**8.39**	**358**	⇓*i*P	**Pn**	**04 51 45.5**	**-0.7**
BZS	**Buzias**	**8.39**	**358**	⇓*i*P	**Pn**	**04 51 45.5**	**-0.7**
VNIR		**8.51**	**15**	⇑*i*P	**Pn**	**04 51 50.8**	**+2.8**
TIRR	**Tirgusor**	**8.69**	**32**	Pn	**Pn**	**04 51 47.9**	**-2.4**
TIRR	**Tirgusor**	**8.69**	**32**	Pn	**Pn**	**04 51 47.9**	**-2.4**
MLR	**Muntele Rosu**	**8.77**	**18**	Pn	**Pn**	**04 51 53.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=210,slow=14,SNR=3.4						
MLR	**Muntele Rosu**	**8.77**	**18**	⇑*i*P	Pn	04 51 56.9	+5.4
PLOR	**Plostina**	**9.29**	**20**	⇓*i*P	**Pn**	**04 52 02.5**	**+4.0**
VRI	**Vrincioaia**	**9.32**	**21**	⇑*i*P	Pn	04 52 04.6	+5.6
BRTR	**Keskin Array B**	**9.44**	**71**	Pn	**Pn**	**04 52 03.5**	**+2.7**
	comp=N,0.3nm,0.3s,baz=249,slow=14,SNR=12						
BRTR				LR	LR	04 56 40.3	
	comp=N,108nm,21.1s,baz=262,slow=44						
DRGR		**9.57**	**3**	⇓*i*P	**Pn**	**04 52 03.2**	**+0.7**
DRGR		**9.57**	**3**	⇓*i*P	**Pn**	**04 52 03.2**	**+0.7**
BURAR	**Bucovina Array**	**10.64**	**12**	⇑*i*P	**Pn**	**04 52 19.6**	**+2.4**
BURAR	**Bucovina Array**	**10.64**	**12**	⇑*i*P	**Pn**	**04 52 19.6**	**+2.4**
PSZ	**Piszkesteto**	**10.80**	**352**	*e*Pn	**Pn**	**04 52 17.0**	**-2.3**
	comp=N,7.0nm,0.9s						
PSZ	**Piszkesteto**	**10.80**	**352**	*e*Pn	**Pn**	**04 52 17.0**	**-2.3**
	comp=N,7.0nm,0.9s						
KECS	**Kecovo**	**11.31**	**355**	*e*Pn	**Pn**	**04 52 26.8**	**+0.7**
KECS	**Kecovo**	**11.31**	**355**	*e*PN	**Pn**	**04 52 26.8**	**+0.7**
VYHS	**Vyhne**	**11.50**	**349**	*e*Pn	**Pn**	**04 52 28.9**	**+0.1**
VYHS	**Vyhne**	**11.50**	**349**	*e*PN	**Pn**	**04 52 28.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**11.68**	**358**	*e*Pn	**Pn**	**04 52 31.8**	**+0.6**
CRVS	**Cervenica-Dubn**	**11.68**	**358**	*e*PN	**Pn**	**04 52 31.8**	**+0.6**
MMAI	**Mount Meron Ar**	**11.73**	**107**	LR	LR	04 58 20.0	
	comp=N,68nm,18.7s,baz=185,slow=44						
ABTA	**Abfaltersbach**	**11.85**	**326**	*e*Pn	Pn	04 52 38.4	+4.8
	comp=N,1.1nm,0.3s						
MOA	**Molln**	**12.05**	**334**	*e*Pn	**Pn**	**04 52 40.4**	**+4.1**
	comp=N,1.2nm,0.4s						
VRAC	**Vranov**	**12.70**	**344**	LR	LR	04 58 48.7	
	comp=N,259nm,19.5s,baz=172,slow=43						
MOTA	**Moosalm**	**12.93**	**325**	*e*Pn	**Pn**	**04 52 53.2**	**+4.7**
	comp=N,0.7nm,0.3s						
GERES	**GERESS Array B**	**13.10**	**335**	Pn	**Pn**	**04 52 52.8**	**+2.0**
	comp=N,0.2nm,0.3s,baz=139,slow=12,SNR=4.9						
GERES				LR	LR	04 59 01.9	
	comp=N,213nm,19.1s,baz=226,slow=43						
ASF	**Jabal al Asfar**	**13.23**	**108**	Pn	**Pn**	**04 52 56.4**	**+3.8**
	comp=N,0.3nm,0.3s,baz=270,slow=11,SNR=3.6						
KHC	**Kasperske Hory**	**13.39**	**335**	*e*P	**Pn**	**04 52 56.9**	**+2.3**
KHC				*ex*	x	04 53 05.1	
	comp=N,500nm,10.4s						
KHC	**Kasperske Hory**	**13.39**	**335**	P	**Pn**	**04 52 56.9**	**+2.3**
GOPC	**GO Pecny, Ondr**	**13.71**	**340**	AMS	AMS	04 58 50.0	
DPC	**Dobruska-Polom**	**13.74**	**344**	*e*P	**Pn**	**04 52 57.6**	**-1.9**
DPC				*ex*	x	04 53 06.4	
DPC	**Dobruska-Polom**	**13.74**	**344**	P	**Pn**	**04 52 57.6**	**-1.9**
PRU	**Pruhonice**	**13.85**	**339**	*e*P	**P**	**04 53 10.6**	**+1.2**
AKASG	**Malin Array Be**	**14.42**	**19**	Pn	**Pn**	**04 53 08.1**	**-0.6**
	comp=N,0.4nm,0.3s,baz=206,slow=12,SNR=4.2						
BRG	**Berggiesshubel**	**14.81**	**340**	*e*P	**P**	**04 53 21.9**	**+1.8**
	comp=N,8.1nm,1.3s						
CLL	**Collm**	**15.47**	**338**	*es*P	**sP**	**04 53 28.0**	**-0.6**
	comp=Z,15nm,1.1s						
CLL				*es*PP		04 53 34.0	
CLL				*e*		04 53 39.0	
KVAR	**Kislovodsk Arr**	**17.06**	**60**	LR	LR	05 01 31.1	
	comp=Z,65nm,19.4s,baz=231,slow=41						
KBZ	**Khabaz**	**17.14**	**61**	Pn	**P**	**04 53 48.7**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=276,slow=7.7,SNR=7.0						
KBZ				LR	LR	05 01 45.1	
	comp=Z,118nm,19.3s,baz=236,slow=42						
GNI	**Garni**	**17.96**	**74**	Pn	**P**	**04 53 57.1**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=214,slow=6.7,SNR=4.8						
TAM	**Tamanrasset**	**20.23**	**229**	*e*P	Pn	04 54 21.1	-1.0
	comp=Z,8.0nm,1.3s						
TAM	**Tamanrasset**	**20.23**	**229**	*e*P	Pn	04 54 21.1	-1.0
	comp=Z,8.0nm,1.3s						
ESDC	**Sonseca Array**	**20.48**	**285**	P	**P**	**04 54 22.5**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=79,slow=11,SNR=8.9						
MDT	**Midelt**	**22.23**	**267**	P	**P**	**04 54 41.1**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=76,slow=7.6,SNR=7.7						

PB06	**IPOC Station P**	**1.70**	**206**	*eP*	Pn	05 08 34.3 +0.7
PB06				*eS*	Sn	05 08 58.1 +0.7
PB06				IAML		05 08 59.0
	comp=E,506nm,0.4s					
PB04	**IPOC Station P**	**1.73**	**228**	*eP*	Pn	05 08 34.9 +0.9
PB04				*eS*	Sn	05 08 59.1 +1.0
MNMC	**Minye Minye**	**2.17**	**339**	*eP*	Pn	05 08 40.1 +0.8
MNMC				*eS*	Sn	05 09 08.9 +1.3

ISCJB ***10*** *05:18:08.7±0.2,25°.35S±0°.03×116°.12W±0°.04,h10km, mb5.3/252,MS5.1/300,Error ellipse: s-maj=5.0km s-min=4.7km az=136.5*
IDC ***10*** *05:18:08.3±0.4,25°.31S×116°.33W,h0km,mb4.7/17, mb1 4.8/17,mb1mx4.7/29,mbtmp4.6/17,MS4.9/19, Ms1 4.9/19,ms1mx4.9/22,Error ellipse: s-maj=17.0km s-min=15.8km az=125.0*
MOS ***10*** *05:18:09.4±1.4,25°.34S×116°.29W,h10km,mb5.5/50, MS5.1/25,Error ellipse: s-maj=12.9km s-min=6.6km az=83.4*
NEIC ***10*** *05:18:10.6±0.2,25°.46S×116°.22W,h10km,mb5.5/235, MS5.2/274,Error ellipse: s-maj=6.0km s-min=5.0km az=83.0*
GCMT ***10*** *05:18:10.6±0.1,25°.55S×116°.24W,h12km,MW5.5/119, Moment Tensor Solution. s95,c168; s119,c236; Duration: 19s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43±.02; $M_{\theta\theta}$-1.51±.02; $M_{\phi\phi}$1.95±.02; $M_{r\theta}$-0.16±.05; $M_{\theta\phi}$-0.62±.02; $M_{\phi r}$0.00±.06; Best double couple: $M_0$1.84900×10^{17} NP1:ϕ_s125.00000°,δ85.00000°, λ-174.00000°. NP2:ϕ_s35.00000°,δ84.00000°,λ-5.00000°. Principal axes: T 2.0590, Plg1.0000°, Azm260.0000°; N -0.4110, Plg83.0000°, Azm165.0000°; P -1.6390, Plg7.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***10*** *05:18:12.8,25°.51S×116°.92W,h20km,mB5.4/18, Ms5.5/25,Ms7 5.2/26*

ISC 10 05:18:10.2±0.3,25°.38S±0°.07×116°.32W±0°.05,h10km, n999,σ1§27/853,mb5.5/251,MS5.2/300,8C-11D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.51**	**107**	LR	LR	05 21 34.3	
	comp=Z,19μm,19.4s,baz=296,slow=32						
RPN	**Rapa Nui**	**6.51**	**107**	*eP*	**Pn**	**05 19 47.6**	**+1.5**
RPN				*e*		05 20 56.0	
RPN	**Rapa Nui**	**6.51**	**107**	*e*Pn	**Pn**	**05 19 47.6**	**+1.5**
RPN				*e*Sn	**Sn**	**05 20 56.0**	**-4.4**
RKT	**Rikitea**	**17.16**	**274**	*eP*	**Pn**	**05 22 08.7**	**-1.5**
	550nm,1.5s						
RKT				*e*LQ	LQ	05 25 12.5	
	3μm,24.5s						
RKT				*e*LR	LR	05 25 55.5	
	22μm,27.0s,baz=106						
TAOE	**Nuku Hiva Isla**	**28.00**	**302**	*eS*	**S**	**05 28 42.5**	**-3.6**
	264nm,24.1s						
TAOE				*e*LQ	LQ	05 29 50.4	
	4μm,23.9s						
TAOE				*e*LR	LR	05 30 59.4	
	5μm,26.4s						
TBI	**Tubuai**	**30.22**	**267**	*eS*	**S**	**05 29 18.1**	**-2.6**
	715nm,27.8s						
TBI				*e*LR	LR	05 31 58.6	
	8μm,30.0s,baz=97						
TBI	**Tubuai**	**30.22**	**267**	*e*T	T	05 55 41.7	
	16nm,0.3s						
TIAR	**Tiarei**	**31.64**	**278**	*eP*	**P**	**05 24 34.4**	**+0.6**
	12nm,1.0s						
PAE	**Paea**	**31.82**	**277**	*eP*	**P**	**05 24 36.3**	**+1.0**
	16nm,1.1s						
PPTF	**Pamatai, Papee**	**31.83**	**277**	*eP*	**P**	**05 24 37.0**	**+1.5**
	144nm,1.3s						
PPTF				LR	LR		
	comp=Z,6μm,19.0s						
PPT2	**Papeete2**	**31.84**	**277**	*eP*	**P**	**05 24 36.2**	**+0.6**
	comp=Z,85nm,1.3s						
PPT2				*e*S	**S**	**05 29 42.8**	**-3.5**
	comp=Z,749nm,24.5s						
PPT2				*e*LR	LR	05 32 44.3	
	comp=Z,15μm,25.8s,baz=108						
PPT	**Papeete**	**31.84**	**277**	P	**P**	**05 24 36.9**	**+1.4**
	comp=Z,38nm,0.9s,baz=111,slow=12,SNR=6.7						
PPT				LR	LR	05 33 41.5	
	comp=Z,7μm,21.9s,baz=110,slow=29						
PAYG	**Puerto Ayora**	**35.14**	**50**	PFAKE		05 25 20.0	+16
PAYG				LR	LR		
	comp=Z,2μm,19.0s						
GO05	**HualaaeØ**	**39.28**	**115**	*eP*	P	05 25 34.0	-5.3
	comp=Z,29nm,0.9s						
GO05				LR	LR		
	comp=Z,6μm,21.0s						
NNA	**Nana**	**39.54**	**78**	PFAKE		05 25 50.0	+8.3
NNA				LR	LR		
	comp=Z,4μm,20.0s						
RAR	**Rarotonga**	**40.00**	**267**	LR	LR	05 37 31.1	
	comp=Z,2μm,20.3s,baz=118,slow=29						
ROC1	**El Roble**	**40.03**	**112**	*eP*	**P**	**05 25 46.3**	**+0.4**
	comp=Z,37nm,0.8s						
LCO	**Las Campanas**	**40.55**	**106**	*eP*	**P**	**05 25 50.8**	**+0.5**
	comp=Z,90nm,1.1s						
LCO				LR	LR		
	comp=Z,6μm,21.0s						
PLCA	**Paso Flores**	**40.84**	**124**	P	**P**	**05 25 53.1**	**+0.8**
	comp=Z,16nm,0.8s,baz=303,slow=8.3,SNR=20						
PLCA				LR	LR	05 38 28.4	
	comp=Z,2μm,19.2s,baz=306,slow=30						
PLCA	**Paso Flores**	**40.84**	**124**	*eP*	**P**	**05 25 53.7**	**+1.5**
PLCA	**Paso Flores**	**40.84**	**124**	*eP*	**P**	**05 25 53.1**	**+0.8**
	comp=Z,49nm,1.0s						
PB10	**IPOC Station P**	**41.55**	**97**	PFAKE		05 26 10.0	+12
PB10				LR	LR		
	comp=Z,5μm,22.0s						
PB04	**IPOC Station P**	**42.18**	**96**	PFAKE		05 26 20.0	+16
PB04				LR	LR		
	comp=Z,3μm,21.0s						
PB01	**IPOC Station P**	**43.09**	**94**	*eP*	**P**	**05 26 10.4**	**-0.5**
	comp=Z,28nm,1.0s						
PB01				LR	LR		
	comp=Z,2μm,19.0s						
LVC	**Limon Verde**	**43.23**	**97**	*eP*	**P**	**05 26 12.3**	**0.0**
	comp=Z,29nm,1.1s						
LVC				LR	LR		
	comp=Z,3μm,20.0s						
PB11	**IPOC Station P**	**43.28**	**92**	*eP*	**P**	**05 26 11.2**	**-1.3**
	comp=Z,51nm,1.1s						
PB11				LR	LR		
	comp=Z,3μm,20.0s						
MNMC	**Minye Minye**	**43.52**	**92**	*eP*	**P**	**05 26 13.4**	**-1.2**
	comp=Z,33nm,1.0s						
MNMC				LR	LR		
	comp=Z,3μm,19.0s						
OTAV	**Otavalo**	**44.57**	**61**	*eP*	**P**	**05 26 23.2**	**-0.1**
	comp=Z,30nm,1.1s						
OTAV				LR	LR		
	comp=Z,2μm,22.0s						
TUMC	**Tumaco**	**45.34**	**59**	PFAKE		05 26 40.0	+11
TUMC				LR	LR		
	comp=Z,2μm,21.0s						
LPAZ	**La Paz**	**45.73**	**88**	P	**P**	**05 26 32.5**	**-0.3**
	comp=Z,20nm,0.8s,baz=270,slow=4.7,SNR=78						
LPAZ				LR	LR	05 41 11.0	
	comp=Z,1μm,18.9s,baz=248,slow=30						
LPAZ	**La Paz**	**45.73**	**88**	*eP*	**P**	**05 26 32.3**	**-0.4**
	comp=Z,28nm,0.9s						
TLIG	**Tlapa**	**46.05**	**24**	*eP*	**P**	**05 26 37.3**	**+2.9**
	comp=Z,107nm,1.7s						
TLIG				LR	LR		
	comp=Z,2μm,21.0s						
CMIG	**Matias Romero**	**47.09**	**29**	P	**P**	**05 26 41.3**	**-1.2**
	comp=Z,6.9nm,1.0s,baz=187,slow=2.6,SNR=7.4						
HDC	**Heredia**	**47.12**	**46**	PFAKE		05 27 00.0	+17
HDC				LR	LR		
	comp=Z,900nm,19.0s						
MOIG	**Morelia**	**47.14**	**20**	*eP*	**P**	**05 26 45.6**	**+2.5**
	comp=Z,97nm,1.3s						
MOIG				LR	LR		
	comp=Z,1μm,21.0s						
TRQA	**Tornquist**	**47.32**	**119**	*eP*	**P**	**05 26 44.1**	**-0.1**
	comp=Z,35nm,0.8s						
POPC	**Popayan, Colom**	**47.38**	**60**	*eP*	**P**	**05 26 44.4**	**-0.8**
UNM	**Universidad Na**	**47.46**	**22**	PFAKE		05 27 00.0	+14
UNM				LR	LR		
	comp=Z,2μm,22.0s						
FLOC	**Florencia**	**47.61**	**62**	*eP*	**P**	**05 26 46.3**	**-0.4**
CCIG	**Comitan**	**47.64**	**32**	*eP*	**P**	**05 26 46.4**	**-0.6**
	comp=Z,191nm,2.0s						
XMAS	**Kiritimati**	**48.25**	**298**	PFAKE		05 27 00.0	+8.4
XMAS				LR	LR		
	comp=Z,2μm,19.0s						
TGUH	**Tegucigalpa,Un**	**48.35**	**39**	*eP*	**P**	**05 26 51.9**	**-0.4**
	comp=Z,147nm,1.9s						
TGUH				LR	LR		
	comp=Z,400nm,22.0s						
LVIG	**Laguna Verde**	**48.83**	**25**	PFAKE		05 27 10.0	+14
LVIG				LR	LR		
	comp=Z,1μm,19.0s						
BCIP	**Isla Barro Col**	**49.40**	**51**	PFAKE		05 27 10.0	+10
BCIP				LR	LR		
	comp=Z,2μm,22.0s						
PRAC	**Prado**	**49.51**	**60**	*eP*	**P**	**05 27 01.0**	**-0.4**
PRAC	**Prado**	**49.51**	**60**	*eP*	**P**	**05 27 01.4**	**0.0**
	comp=Z,68nm,1.2s						
PRAC				LR	LR		
	comp=Z,2μm,20.0s						
ZAIG	**Zacatecas**	**49.68**	**17**	*eP*	**P**	**05 27 03.6**	**+0.8**
	comp=Z,49nm,1.6s						
ZAIG				LR	LR		
	comp=Z,600nm,21.0s						
GUYC	**Guyana, Colomb**	**50.05**	**58**	*eP*	**P**	**05 27 05.6**	**-0.4**
SCIG	**Sabancuy**	**50.41**	**31**	PFAKE		05 27 20.0	+12
SCIG				LR	LR		
	comp=Z,800nm,18.0s						
HELC	**Santa Helena**	**50.56**	**57**	*eP*	**P**	**05 27 07.3**	**-2.4**
HELC	**Santa Helena**	**50.56**	**57**	*eP*	**P**	**05 27 09.3**	**-0.4**
	comp=Z,124nm,1.5s						
HELC				LR	LR		
	comp=Z,3μm,21.0s						
ROSC	**El Rosal**	**50.64**	**60**	P	**P**	**05 27 11.1**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=193,slow=2.7,SNR=16						
ROSC				LR	LR	05 45 08.0	
	comp=Z,1μm,18.5s,baz=227,slow=32						
ROSC	**El Rosal**	**50.64**	**60**	*eP*	**P**	**05 27 10.8**	**+0.4**
ROSC	**El Rosal**	**50.64**	**60**	*eP*	**P**	**05 27 11.2**	**+0.8**
	comp=Z,26nm,1.2s						
ROSC				LR	LR		
	comp=Z,2μm,18.0s						
NORC	**Norcasia**	**50.67**	**58**	*eP*	**P**	**05 27 09.7**	**-0.5**
VILC	**Villavicencio,**	**50.69**	**61**	*eP*	**P**	**05 27 13.2**	**+2.8**
CAPC	**Capurgana**	**50.81**	**53**	*eP*	**P**	**05 27 11.2**	**+0.1**
CHIC	**Chingaza**	**50.97**	**60**	*eP*	**P**	**05 27 13.2**	**+0.3**
PMSA	**Palmer Station**	**51.51**	**154**	*eP*	**P**	**05 27 19.9**	**+4.1**
	comp=Z,58nm,0.4s						
MOTC	**Monteria, Cord**	**52.14**	**55**	*eP*	**P**	**05 27 20.6**	**-0.6**
RUSC	**La Rusia**	**52.26**	**60**	*eP*	**P**	**05 27 21.7**	**-0.9**
RUSC	**La Rusia**	**52.26**	**60**	*eP*	**P**	**05 27 21.9**	**-0.7**
	comp=Z,42nm,1.4s						
RUSC				LR	LR		
	comp=Z,900nm,21.0s						
BRRC	**Barranca, Sant**	**52.53**	**58**	*eP*	**P**	**05 27 23.8**	**-0.3**
SRIG	**Santa Rosalia**	**52.54**	**5**	PFAKE		05 27 40.0	+16
SRIG				LR	LR		
	comp=Z,2μm,18.0s						
LNIG	**Linares**	**52.57**	**19**	*eP*	**P**	**05 27 26.2**	**+2.1**
	comp=Z,93nm,2.0s						
LNIG				LR	LR		
	comp=Z,1μm,18.0s						
BARC	**Barichara**	**52.61**	**59**	*eP*	**P**	**05 27 24.1**	**-0.8**
CPUP	**Villa Florida**	**52.68**	**105**	P	**P**	**05 27 24.3**	**-0.8**
	comp=Z,13nm,0.9s,baz=264,slow=9.0,SNR=23						
CPUP				LR	LR	05 46 00.3	
	comp=Z,2μm,18.9s,baz=260,slow=32						
GIRC	**Giron, Santand**	**52.91**	**58**	*eP*	**P**	**05 27 26.3**	**-0.7**
SAML	**Samuel**	**52.98**	**82**	PFAKE		05 27 40.0	+13
SAML				LR	LR		
	comp=Z,800nm,19.0s						
HPIG		**53.01**	**12**	*eP*	**P**	**05 27 27.4**	**-0.2**
	comp=Z,105nm,2.0s						
HPIG				LR	LR		
	comp=Z,700nm,20.0s						
AFI	**Afiamalu**	**53.14**	**271**	LR	LR	05 44 57.9	
	comp=Z,1μm,18.4s,baz=116,slow=30						
AFI	**Afiamalu**	**53.14**	**271**	PFAKE		05 27 40.0	+11
AFI				LR	LR		
	comp=Z,2μm,19.0s						
SJCC	**San Jacinto, C**	**53.24**	**54**	*eP*	**P**	**05 27 28.4**	**-1.0**
PAMC	**Pamplona, Colo**	**53.45**	**58**	*eP*	**P**	**05 27 30.2**	**-1.2**
OCAC	**Ocana**	**53.55**	**57**	*eP*	**P**	**05 27 31.2**	**-0.5**
HSIG		**54.33**	**6**	*eP*	**P**	**05 27 40.2**	**+3.2**
	comp=Z,44nm,1.1s						
HSIG				LR	LR		
	comp=Z,2μm,18.0s						
034A	**Hebbronville**	**54.84**	**19**	P	**P**	**05 27 41.3**	**+0.7**
	baz=199,SNR=6.9						
933A	**Laredo**	**55.18**	**18**	P	**P**	**05 27 44.6**	**+1.4**
	baz=199,SNR=8.8						
832A	**Faith Ranch, C**	**55.62**	**18**	P	**P**	**05 27 46.4**	**+0.1**
	baz=198						
TXAR	**Lajitas Array**	**55.74**	**13**	P	**P**	**05 27 47.2**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=216,slow=10.0,SNR=5.1						
TXAR				LR	LR	05 47 23.0	
	comp=Z,596nm,18.2s,baz=0.0,slow=32						
LTX	**Lajitas**	**55.74**	**13**	*eP*	**P**	**05 27 47.2**	**-0.1**
LTX	**Lajitas**	**55.74**	**13**	*eP*	**P**	**05 27 47.1**	**-0.1**
TX31	**Lajitas Ar. Si**	**55.74**	**13**	*eP*	**P**	**05 27 48.5**	**+1.2**
833A	**Chaparral WMA,**	**55.82**	**18**	P	**P**	**05 27 48.3**	**+0.6**
	baz=198						
834A	**Tilden**	**55.88**	**19**	P	**P**	**05 27 48.6**	**+0.4**
	baz=199						
SDV	**Santo Domingo**	**56.01**	**59**	*eP*	**P**	**05 27 48.3**	**-1.3**
	comp=Z,34nm,0.9s						
SDV				LR	LR		
	comp=Z,2μm,20.0s						
MXZ	**Matakaoa Point**	**56.06**	**241**	PFAKE		05 28 00.0	+10
MXZ				LR	LR		
	comp=Z,3μm,20.0s						
733A	**Divot King Ran**	**56.22**	**18**	P	**P**	**05 27 50.5**	**-0.1**
	baz=198						
319A	**Douglas**	**56.83**	**7**	*eP*	**P**	**05 27 56.3**	**+1.2**
	comp=Z,48nm,0.9s						
319A				LR	LR		
	comp=Z,1μm,22.0s						
URZ	**Urewera**	**56.91**	**240**	PFAKE		05 28 10.0	+14
URZ				LR	LR		
	comp=Z,2μm,20.0s						
633A	**Saathoff Ranch**	**56.95**	**18**	P	**P**	**05 27 56.9**	**+1.1**
	baz=198,SNR=6.8						
736A	**Circle Diamond**	**57.10**	**20**	P	**P**	**05 27 57.5**	**+0.7**
	baz=201						
214A	**Organ Pipe Nat**	**57.11**	**4**	P	**P**	**05 27 58.3**	**+1.4**
	baz=184,SNR=6.5						
BFZ	**Birch Farm**	**57.26**	**237**	PFAKE		05 28 10.0	+12
BFZ				LR	LR		
	comp=Z,2μm,20.0s						
BKZ	**Black Stump Fm**	**57.26**	**238**	PFAKE		05 28 10.0	+12
BKZ				LR	LR		
	comp=Z,2μm,20.0s						
636A	**Smothers Creek**	**57.59**	**20**	P	**P**	**05 28 01.1**	**+0.8**
	baz=200						
EPT	**El Paso**	**57.60**	**10**	*eP*	**P**	**05 28 02.0**	**+1.5**
	comp=Z,50nm,1.1s						
EPT				LR	LR		
	comp=Z,2μm,20.0s						
TUC	**Tucson**	**57.61**	**6**	P	**P**	**05 28 01.5**	**+1.0**
	baz=186						
TUC	**Tucson**	**57.61**	**6**	*eP*	**P**	**05 28 01.4**	**+1.0**
TUC				pmax	pmax		
	comp=Z,38nm,1.3s						
TUC				MLR	MLR		
	comp=Z,1μm,20.0s						
TUC	**Tucson**	**57.61**	**6**	*eP*	**P**	**05 28 01.4**	**+1.0**
	comp=Z,38nm,1.3s						
TUC				LR	LR		
	comp=Z,1μm,20.0s						
IKP	**In-Ko-Pah, Jac**	**57.70**	**0**	P	**P**	**05 28 01.6**	**+0.5**
	baz=180						
MNTX	**Cornudas Mount**	**57.71**	**11**	P	**P**	**05 28 01.3**	**+0.2**
	baz=192						
MNTX	**Cornudas Mount**	**57.71**	**11**	*eP*	**P**	**05 28 00.8**	**-0.3**
	comp=Z,82nm,1.5s						
MNTX				LR	LR		
	comp=Z,800nm,22.0s						
BAR	**Barrett**	**57.73**	**360**	*eP*	**P**	**05 28 02.9**	**+1.6**
	comp=Z,51nm,1.4s						
BAR				LR	LR		
	comp=Z,1μm,21.0s						
JCT	**Junction City**	**57.75**	**17**	P	**P**	**05 28 01.8**	**+0.4**
	baz=198,SNR=12						
JCT	**Junction City**	**57.75**	**17**	*eP*	**P**	**05 28 01.6**	**+0.1**
JCT				pmax	pmax		
	comp=Z,109nm,1.2s						
JCT				MLR	MLR		
	comp=Z,700nm,18.0s						
JCT	**Junction City**	**57.75**	**17**	*eP*	**P**	**05 28 01.6**	**+0.1**
	comp=Z,109nm,1.2s						
JCT				LR	LR		
	comp=Z,700nm,18.0s						
113A	**Mohawk Valley,**	**57.87**	**3**	*eP*	**P**	**05 28 03.3**	**+1.1**
	comp=Z,81nm,1.8s						
113A				LR	LR		
	comp=Z,1μm,19.0s						
109C	**Camp Elliot, M**	**57.95**	**359**	P	**P**	**05 28 02.9**	**+0.1**
	baz=179						
MONP2	**Monument Peak**	**57.95**	**360**	P	**P**	**05 28 03.0**	**0.0**
	baz=180						
SWSC	**Sam W. Stewart**	**58.00**	**1**	P	**P**	**05 28 03.3**	**+0.2**
	baz=180						
GLA	**Glamis**	**58.12**	**1**	P	**P**	**05 28 04.3**	**+0.3**
	baz=182						
GLA	**Glamis**	**58.12**	**1**	*eP*	**P**	**05 28 04.9**	**+0.9**
GLA				pmax	pmax		
	comp=Z,22nm,1.3s						
GLA				MLR	MLR		
	comp=Z,1μm,19.0s						
GLA	**Glamis**	**58.12**	**1**	*eP*	**P**	**05 28 04.9**	**+0.9**
	comp=Z,22nm,1.3s						
GLA				LR	LR		
	comp=Z,1μm,19.0s						
121A	**Cookes Peak, D**	**58.16**	**8**	P	**P**	**05 28 05.2**	**+0.7**
	baz=189,SNR=13						
STCH	**Steam Cracks**	**58.34**	**316**	PFAKE		05 28 20.0	+14
STCH				LR	LR		
	comp=Z,2μm,19.0s						
SNZO	**South Karori**	**58.34**	**236**	PFAKE		05 28 20.0	+14
SNZO				LR	LR		
	comp=Z,2μm,22.0s						
HKT	**Hockley**	**58.42**	**21**	*eP*	**P**	**05 28 08.0**	**+2.0**
HKT				pmax	pmax		
	comp=Z,67nm,1.5s						
HKT				MLR	MLR		
	comp=Z,1μm,21.0s						
HKT	**Hockley**	**58.42**	**21**	*eP*	**P**	**05 28 08.0**	**+2.0**
	comp=Z,67nm,1.5s						
HKT				LR	LR		
	comp=Z,1μm,21.0s						
KKO	**Keanakako'i**	**58.44**	**316**	PFAKE		05 28 20.0	+13
KKO				LR	LR		
	comp=Z,4μm,22.0s						
SDHHI	**Sand Hill**	**58.45**	**316**	PFAKE		05 28 20.0	+13
SDHHI				LR	LR		
	comp=Z,2μm,18.0s						
HIZ	**Hauiti**	**58.62**	**239**	PFAKE		05 28 20.0	+12
HIZ				LR	LR		
	comp=Z,2μm,21.0s						
435B	**Jarrell**	**58.65**	**19**	P	**P**	**05 28 08.5**	**+0.7**
	baz=200,SNR=6.8						
MURC	**Murrieta**	**58.66**	**359**	P	**P**	**05 28 08.3**	**+0.6**
	baz=179						
XPFO	**Pigeon Flat**	**58.66**	**360**	*eP*	**P**	**05 28 10.2**	**+2.3**
	comp=Z,47nm,1.5s						
XPFO				LR	LR		
	comp=Z,1μm,22.0s						
PFO	**Pinyon Flats O**	**58.66**	**360**	LR	LR	05 47 06.1	
	comp=Z,1μm,19.4s,baz=178,slow=30						
PFO	**Pinyon Flats O**	**58.66**	**360**	P	**P**	**05 28 08.5**	**+0.6**
	baz=180						
PFO	**Pinyon Flats O**	**58.66**	**360**	*eP*	**P**	**05 28 10.2**	**+2.3**
PFO				pmax	pmax		
	comp=Z,41nm,1.5s						
PFO				MLR	MLR		
	comp=Z,2μm,21.0s						
PFO	**Pinyon Flats O**	**58.66**	**360**	*eP*	**P**	**05 28 10.2**	**+2.3**
	comp=Z,41nm,1.5s						
PFO				LR	LR		
	comp=Z,2μm,21.0s						
BC3	**Big Chuckawall**	**58.71**	**1**	P	**P**	**05 28 09.6**	**+1.3**
	baz=181						
MWH	**Moku'aweowe**	**58.71**	**316**	PFAKE		05 28 20.0	+11
MWH				LR	LR		
	comp=Z,2μm,22.0s						
Y12C	**Blythe**	**58.83**	**2**	P	**P**	**05 28 09.7**	**+0.9**
	baz=182,SNR=5.5						
Y12C	**Blythe**	**58.83**	**2**	*eP*	**P**	**05 28 09.9**	**+1.1**
	comp=Z,110nm,2.0s						
Y12C				LR	LR		
	comp=Z,1μm,20.0s						
BELC	**Belle Mtn. Jos**	**59.05**	**0**	P	**P**	**05 28 11.5**	**+0.9**
	baz=180,SNR=16						
KHZ	**Kahutara**	**59.07**	**234**	PFAKE		05 28 20.0	+9.4
KHZ				LR	LR		
	comp=Z,2μm,20.0s						
Y14A	**Wickenburg**	**59.07**	**3**	*eP*	**P**	**05 28 11.9**	**+1.3**
	comp=Z,156nm,1.3s						
Y14A				LR	LR		
	comp=Z,5μm,21.0s						
IRM	**Iron Mountain**	**59.22**	**1**	P	**P**	**05 28 12.8**	**+1.2**
	baz=181,SNR=6.0						
PASC	**Pasadena Art C**	**59.25**	**358**	*eP*	**P**	**05 28 13.4**	**+1.6**
	comp=Z,54nm,1.4s						
PASC				LR	LR		
	comp=Z,2μm,20.0s						
MWC	**Mount Wilson**	**59.30**	**358**	*eP*	**P**	**05 28 13.7**	**+1.4**
MWC				pmax	pmax		
	comp=Z,47nm,1.3s						
MWC	**Mount Wilson**	**59.30**	**358**	*eP*	**P**	**05 28 13.8**	**+1.4**
	comp=Z,47nm,1.4s						
MWC				LR	LR		
	comp=Z,2μm,20.0s						
BFSC	**Mount Baldy Ra**	**59.30**	**359**	P	**P**	**05 28 13.2**	**+0.8**
	baz=178						
BBRC	**Big Bear Solar**	**59.31**	**359**	P	**P**	**05 28 13.3**	**+0.7**
	baz=179						
DECC	**Green Verdugo**	**59.33**	**358**	P	**P**	**05 28 13.4**	**+1.0**
	baz=178						
PDMCI	**Parker Dam,Lak**	**59.39**	**2**	P	**P**	**05 28 14.0**	**+1.2**
	baz=182						
439A	**Center Grove,**	**59.54**	**22**	P	**P**	**05 28 14.1**	**+0.2**
	baz=202						
MQZ	**McQueen's Vall**	**59.55**	**233**	PFAKE		05 28 30.0	+16
MQZ				LR	LR		
	comp=Z,2μm,20.0s						
PTGA	**Pitinga**	**59.56**	**75**	*eP*	**P**	**05 28 12.3**	**-2.1**
	comp=Z,28nm,1.0s						
PTGA				LR	LR		
	comp=Z,2μm,20.0s						
CRLZ	**Canterbury Las**	**59.59**	**233**	PFAKE		05 28 30.0	+16
CRLZ				LR	LR		
	comp=Z,3μm,19.0s						
THZ	**Tophouse**	**59.62**	**235**	PFAKE		05 28 30.0	+15
THZ				LR	LR		
	comp=Z,2μm,21.0s						
X16A	**Lo Mia Camp, P**	**59.65**	**5**	*eP*	**P**	**05 28 16.2**	**+1.4**
	comp=Z,51nm,1.4s						
X16A				LR	LR		
	comp=Z,700nm,19.0s						
OSI	**Osito Audit: C**	**59.71**	**358**	P	**P**	**05 28 15.5**	**+0.5**
	baz=177						
OSI	**Osito Audit: C**	**59.71**	**358**	PFAKE		05 28 30.0	+15
OSI				LR	LR		
	comp=Z,2μm,19.0s						
Y22D	**IRIS PASSCAL I**	**59.79**	**9**	PFAKE		05 28 30.0	+14
Y22D				LR	LR		
	comp=Z,800nm,20.0s						
WHTX	**Lake Whitney,**	**59.82**	**19**	P	**P**	**05 28 16.0**	**+0.2**
	baz=200						
WHTX	**Lake Whitney,**	**59.82**	**19**	*eP*	**P**	**05 28 15.8**	**0.0**
	comp=Z,40nm,1.2s						
WHTX				LR	LR		
	comp=Z,500nm,18.0s						
ABTX	**Abilene, Hawle**	**59.83**	**16**	P	**P**	**05 28 16.3**	**+0.4**
	baz=197						
ABTX	**Abilene, Hawle**	**59.83**	**16**	*eP*	**P**	**05 28 16.1**	**+0.2**
	comp=Z,46nm,1.1s						
ABTX				LR	LR		
	comp=Z,600nm,20.0s						
GMRC	**Granite Mounta**	**59

LTZ	Lake Taylor	59.95	234	PFAKE			05 28 30.0 +13
LTZ				LR	LR		
	comp=Z,4μm,21.0s						
EDW2	Edwards Air Fo	59.95	358	P	P		05 28 17.5 +0.8
	baz=178						
OXZ	Oxford	60.04	233	PFAKE			05 28 30.0 +13
OXZ				LR	LR		
	comp=Z,4μm,21.0s						
LPM	Los Pinos Moun	60.07	9	eP	P		05 28 20.7 +3.0
LAZ	Ladron	60.09	9	eP	P		05 28 18.9 +1.0
236A	Katherine and	60.10	19	P	P		05 28 17.9 +0.1
	baz=200,SNR=6.0						
339A	Huntington	60.11	21	P	P		05 28 17.9 +0.2
	baz=202						
LDFC	Landfair	60.14	1	eP	P		05 28 19.8 +1.8
	comp=Z,44nm,1.1s						
LDFC				LR	LR		
	comp=Z,2μm,21.0s						
W13A	Hualapai Mount	60.19	2	eP	P		05 28 19.9 +1.4
	comp=Z,29nm,1.3s						
W13A				LR	LR		
	comp=Z,2μm,19.0s						
OUZ	Omahuta	60.20	243	PFAKE			05 28 30.0 +11
OUZ				LR	LR		
	comp=Z,1μm,20.0s						
237A	Washetta, Mont	60.33	20	P	P		05 28 18.9 -0.4
	baz=201						
GSC	Goldstone, Bar	60.35	360	P	P		05 28 20.0 +0.5
	baz=179						
GSC	Goldstone, Bar	60.35	360	eP	P		05 28 20.7 +1.2
GSC				pmax	pmax		
	comp=Z,46nm,1.4s						
GSC	Goldstone, Bar	60.35	360	eP	P		05 28 21.1 +1.6
	comp=Z,46nm,1.4s						
GSC				LR	LR		
	comp=Z,1μm,20.0s						
MSTX	Muleshoe	60.41	13	P	P		05 28 19.5 -0.4
	baz=194,SNR=14						
MSTX	Muleshoe	60.41	13	eP	P		05 28 19.3 -0.6
	comp=Z,53nm,1.1s						
340A	Bronson	60.41	22	P	P		05 28 19.2 -0.6
	baz=203						
NATX	Nacogdoches	60.47	21	P	P		05 28 20.4 +0.2
	baz=202						
NATX	Nacogdoches	60.47	21	eP	P		05 28 22.0 +1.8
	comp=Z,51nm,1.2s						
TUQ	Turquoise Moun	60.48	0	P	P		05 28 21.3 +0.8
	baz=180,SNR=5.3						
W18A	Petrified Fore	60.49	6	PFAKE			05 28 30.0 +9.5
W18A				LR	LR		
	comp=Z,2μm,20.0s						
LRMC	Laurel Mtn Rad	60.54	359	P	P		05 28 21.7 +0.9
	baz=178						
238A	Jacksonville	60.54	21	P	P		05 28 20.6 -0.2
	baz=202						
136A	Ennis	60.55	19	P	P		05 28 20.8 0.0
	baz=200						
341A	Kurthwood	60.58	23	P	P		05 28 21.0 0.0
	baz=204						
RPZ	Rata Peaks	60.70	233	PFAKE			05 28 30.0 +8.1
RPZ				LR	LR		
	comp=Z,2μm,20.0s						
ANMO	Albuquerque	60.72	9	LR	LR		05 49 49.4
	comp=Z,728nm,18.9s,baz=192,slow=31						
ANMO	Albuquerque	60.72	9	P	P		05 28 22.7 +0.6
	baz=190						
ANMO	Albuquerque	60.72	9⇓	eP	P		05 28 24.0 +1.9
ANMO				pmax	pmax		
	comp=Z,23nm,1.2s						
ANMO	Albuquerque	60.72	9	eP	P		05 28 23.4 +1.2
	comp=Z,22nm,1.1s						
ANMO				LR	LR		
	comp=Z,900nm,22.0s						
ISA	Isabella, Lake	60.74	358	eP	P		05 28 24.8 +2.7
ISA				pmax	pmax		
	comp=Z,48nm,1.5s						
ISA				MLR	MLR		
	comp=Z,2μm,20.0s						
ISA	Isabella, Lake	60.74	358	eP	P		05 28 24.8 +2.7
	comp=Z,48nm,1.5s						
ISA				LR	LR		
	comp=Z,2μm,20.0s						
WUAZ	Wupatki	60.74	5	P	P		05 28 23.1 +0.9
	baz=185						
WUAZ	Wupatki	60.74	5	eP	P		05 28 24.8 +2.5
	comp=Z,63nm,1.4s						
WUAZ				LR	LR		
	comp=Z,500nm,20.0s						
PAGB	Antelope Grade	60.89	356	eP	P		05 28 25.8 +2.7
	comp=Z,47nm,1.5s						
PAGB				LR	LR		
	comp=Z,2μm,20.0s						
VES	Vestal, Richgr	60.94	357	P	P		05 28 24.2 +0.8
	baz=177,SNR=6.1						
SHOC	Shoshone, Teco	60.95	0	P	P		05 28 24.4 +1.0
	baz=180						
MSVF	Nonsavu	61.00	263	PFAKE			05 28 40.0 +16
MSVF				LR	LR		
	comp=Z,1μm,21.0s						
MPMC	Manual Prospec	61.11	359	P	P		05 28 25.8 +1.0
	baz=179						
138A	Matatall Enter	61.16	20	P	P		05 28 25.8 +0.9
	baz=202,SNR=6.0						
LBZ	Lake Benmore	61.23	232	PFAKE			05 28 40.0 +15
LBZ				LR	LR		
	comp=Z,3μm,20.0s						
241A	Mo Tay, Goldon	61.30	23	P	P		05 28 26.0 +0.2
	baz=204,SNR=5.9						
Z36A	Blue Ridge	61.32	19	P	P		05 28 26.1 +0.2
	baz=200						
RCTC	Rector, Farmer	61.41	357	P	P		05 28 27.9 +1.3
	baz=177						
CWC	Cottonwood Cre	61.51	358	P	P		05 28 28.0 +0.6
	baz=178						
FURC	Furnace Creek,	61.51	360	P	P		05 28 28.0 +0.8
	baz=179						
AMTX	Amarillo	61.52	14	P	P		05 28 28.2 +0.7
	baz=195						
AMTX	Amarillo	61.52	14	eP	P		05 28 29.2 +1.8
	comp=Z,44nm,1.0s						
AMTX				LR	LR		
	comp=Z,500nm,20.0s						
SHPR	Sheep Range	61.56	1	eP	P		05 28 29.2 +1.4
	comp=Z,80nm,1.5s						
SHPR				LR	LR		
	comp=Z,2μm,20.0s						
U15A	North Rim	61.59	4	eP	P		05 28 29.5 +1.4
	comp=Z,58nm,1.2s						
U15A				LR	LR		
	comp=Z,1μm,20.0s						
FOZ	Fox Glacier	61.62	233	PFAKE			05 28 40.0 +12
FOZ				LR	LR		
	comp=Z,2μm,20.0s						
140A	Cam and Jess,	61.64	22	P	P		05 28 28.9 +0.8
	baz=203						
Y35A	Marietta	61.74	18	P	P		05 28 29.5 +0.7
	baz=200						
141A	Papa Simpson,	61.83	22	P	P		05 28 29.7 +0.3
	baz=204						
Y36A	Durant	61.95	19	P	P		05 28 30.2 -0.1
	baz=200						
TPNV	Topopah Spring	61.99	0	P	P		05 28 32.0 +1.3
	baz=180,SNR=9.5						
TPNV	Topopah Spring	61.99	0	eP	P		05 28 32.2 +1.5
TPNV				pmax	pmax		
	comp=Z,68nm,1.6s						
TPNV				MLR	MLR		
	comp=Z,1μm,21.0s						
TPNV	Topopah Spring	61.99	0	eP	P		05 28 32.2 +1.5
	comp=Z,68nm,1.6s						
TPNV				LR	LR		
	comp=Z,1μm,21.0s						
GRAC	Grapevine Rang	62.05	359	P	P		05 28 32.3 +1.4
	baz=179						
WMOK	Wichita Mounta	62.06	16	P	P		05 28 31.3 +0.4
	baz=198						
WMOK	Wichita Mounta	62.06	16	eP	P		05 28 33.7 +2.7
WMOK				pmax	pmax		
	comp=Z,12nm,1.0s						
WMOK				MLR	MLR		
	comp=Z,700nm,19.0s						
WMOK	Wichita Mounta	62.06	16	eP	P		05 28 33.7 +2.7
	comp=Z,12nm,1.0s						
WMOK				LR	LR		
	comp=Z,700nm,19.0s						
SPB	Sao Paulo	62.06	104	PFAKE			05 28 40.0 +8.6
SPB				LR	LR		
	comp=Z,2μm,19.0s						
142A	Monroe	62.12	23	P	P		05 28 31.8 +0.4
	baz=205						
LCMT	Little Creek M	62.12	3	eP	P		05 28 32.7 +1.2
	comp=Z,24nm,1.3s						
KNB	Kanab	62.15	3	eP	P		05 28 33.1 +1.4
KNB				pmax	pmax		
	comp=Z,50nm,1.3s						
KNB				MLR	MLR		
	comp=Z,1μm,20.0s						
KNB	Kanab	62.15	3	eP	P		05 28 33.1 +1.4
	comp=Z,50nm,1.3s						
KNB				LR	LR		
	comp=Z,1μm,20.0s						
X35A	Drake	62.22	18	P	P		05 28 32.6 +0.6
	baz=200						
Y37A	Hugo	62.22	19	P	P		05 28 32.3 +0.3
	baz=201						
Z40A	Long Farm, Mag	62.26	22	P	P		05 28 32.5 +0.2
	baz=203,SNR=5.5						
347A	Saraland	62.39	27	P	P		05 28 34.1 +0.9
	baz=208						
245A	Little AP, Sta	62.41	25	P	P		05 28 33.6 +0.2
	baz=207,SNR=6.8						
Y38A	Idabel	62.45	20	P	P		05 28 34.3 +0.8
	baz=202,SNR=6.3						
143A	Socs Landing,	62.45	24	P	P		05 28 34.0 +0.4
	baz=205,SNR=5.7						
Z41A	Richland Creek	62.46	22	P	P		05 28 33.8 +0.2
	baz=204,SNR=6.7						
X36A	Centrahoma	62.56	19	P	P		05 28 34.2 -0.1
	baz=200						
PKCU	Pink Cliffs	62.60	4	eP	P		05 28 34.3 -0.6
	comp=Z,185nm,1.9s						
SBA	Scott Base	62.62	193	eP	P		05 28 35.6 +1.4
SBA				pmax	pmax		
	comp=Z,36nm,1.3s						
SBA	Scott Base	62.62	193	eP	P		05 28 35.6 +1.4
	comp=Z,36nm,1.3s						
CCUT	Cedar City	62.66	3	eP	P		05 28 36.6 +1.4
	comp=Z,50nm,1.2s						
CCUT				LR	LR		
	comp=Z,1μm,18.0s						
Y39A	Lockesburg	62.66	21	P	P		05 28 36.0 +1.0
	baz=202,SNR=5.4						
348A	Jackson	62.67	27	P	P		05 28 34.7 -0.4
	baz=209						
MVCO	Mesa Verde	62.69	7	P	P		05 28 36.8 +1.4
	baz=188,SNR=10						
MVCO	Mesa Verde	62.69	7	eP	P		05 28 36.0 +0.5
	comp=Z,57nm,1.2s						
MVCO				LR	LR		
	comp=Z,1μm,19.0s						
SZCU	Shurtz Canyon	62.71	3	eP	P		05 28 36.8 +1.3
	comp=Z,47nm,1.2s						
SZCU				LR	LR		
	comp=Z,1μm,20.0s						
MLAC	Mammoth, Mammo	62.72	358	P	P		05 28 36.9 +1.3
	baz=177						
144A	Alexander Plac	62.75	24	P	P		05 28 36.3 +0.7
	baz=206						
WLAR	White Oak Lake	62.75	22	eP	P		05 28 35.6 +0.1
	comp=Z,72nm,1.1s						
Z42A	Norrel Spur, H	62.77	23	P	P		05 28 36.5 +0.8
	baz=205						
X37A	Clayton	62.86	19	P	P		05 28 37.4 +1.0
	baz=201						
145A	Houston Renfro	62.91	25	P	P		05 28 37.4 +0.7
	baz=207						
247A	Quitman	62.94	26	P	P		05 28 37.0 +0.1
	baz=208						
W35A	Tecumseh	62.95	18	P	P		05 28 37.0 +0.1
	baz=200						
Y40A	Okolona	62.99	21	P	P		05 28 37.0 -0.1
	baz=203						
Y41A	Eaglette Beard	63.09	22	P	P		05 28 39.4 +1.6
	baz=204,SNR=8.1						
X38A	Whitesboro	63.10	20	P	P		05 28 38.1 +0.2
	baz=202						
HGTCO	Madrid Canyon	63.11	10	PFAKE			05 28 50.0 +12
HGTCO				LR	LR		
	comp=Z,1μm,18.0s						
W36A	Wetumka	63.12	18	P	P		05 28 38.2 +0.1
	baz=200						
MHTCO	State Highway	63.13	10	eP	P		05 28 38.0 -0.3
	comp=Z,80nm,1.1s						
MHTCO				LR	LR		
	comp=Z,1μm,18.0s						
X39A	Fountain Ranch	63.18	20	P	P		05 28 38.4 0.0
	baz=202						
T25A	Trinidad	63.19	11	P	P		05 28 40.5 +1.8
	baz=192,SNR=15						
T25A	Trinidad	63.19	11	eP	P		05 28 39.4 +0.7
	comp=Z,77nm,1.4s						
T25A				LR	LR		
	comp=Z,1μm,19.0s						
CMB	Columbia Colle	63.19	356	eP	P		05 28 39.5 +1.0
CMB				pmax	pmax		
	comp=Z,33nm,1.3s						
CMB				MLR	MLR		
	comp=Z,2μm,22.0s						
CMB	Columbia Colle	63.19	356	eP	P		05 28 39.5 +1.0
	comp=Z,33nm,1.3s						
CMB				LR	LR		
	comp=Z,2μm,22.0s						
248A	Dixon Mills	63.33	27	P	P		05 28 39.2 -0.3
	baz=209						
Y42A	Garnett, Star	63.34	23	P	P		05 28 39.7 +0.2
	baz=205						
W37B	Quinton	63.35	19	P	P		05 28 39.3 -0.3
	baz=201						
MIAR	Mount Ida	63.38	21	P	P		05 28 39.5 -0.3
	baz=203						
MIAR	Mount Ida	63.38	21	eP	P		05 28 39.8 0.0
MIAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MIAR				MLR	MLR		
	comp=Z,1μm,20.0s						
MIAR	Mount Ida	63.38	21	eP	P		05 28 39.8 0.0
	comp=Z,11nm,0.8s						
MIAR				LR	LR		
	comp=Z,1μm,20.0s						
R11A	Troy Canyon, C	63.39	1	P	P		05 28 40.8 +0.8
	baz=181,SNR=31						
R11A	Troy Canyon, C	63.39	1	eP	P		05 28 41.5 +1.5
	comp=Z,36nm,1.3s						
R11A				LR	LR		
	comp=Z,2μm,20.0s						
S22A	4UR Ranch, Cre	63.42	8	P	P		05 28 41.5 +1.1
	baz=189,SNR=12						
S22A	4UR Ranch, Cre	63.42	8	eP	P		05 28 41.0 +0.7
	comp=Z,60nm,1.4s						
S22A				LR	LR		
	comp=Z,900nm,21.0s						
TVH2	Borealis Mine	63.46	358	eP	P		05 28 42.0 +1.4
	comp=Z,19nm,1.3s						
TVH2				LR	LR		
	comp=Z,2μm,21.0s						
PV05	Paradox Valley	63.48	6	eP	P		05 28 41.4 +0.7
MCCM	Marconi Confer	63.48	354	PFAKE			05 28 50.0 +10
MCCM				LR	LR		
	comp=Z,1μm,21.0s						
V35A	Meyer Ranch, C	63.54	18	P	P		05 28 41.4 +0.6
	baz=200						
U32A	Winter Ranch,	63.56	16	P	P		05 28 41.8 +0.8
	baz=197,SNR=5.6						
W38A	Poteau	63.57	20	P	P		05 28 41.4 +0.4
	baz=202						
X40A	Basin Creek Fa	63.57	22	P	P		05 28 41.4 +0.3
	baz=204						
PV01	Paradox Valley	63.59	7	eP	P		05 28 41.6 +0.2
SDCO	Great Sand Dun	63.61	10	P	P		05 28 41.9 +0.4
	baz=191,SNR=57						
SDCO	Great Sand Dun	63.61	10	eP	P		05 28 42.0 +0.4
	comp=Z,87nm,1.4s						
SDCO				LR	LR		
	comp=Z,800nm,21.0s						
WAKR	Walker	63.61	357	eP	P		05 28 42.8 +1.4
	comp=Z,44nm,1.5s						
WAKR				LR	LR		
	comp=Z,2μm,20.0s						
PSUT	Pine Spring	63.62	2	PFAKE			05 28 50.0 +8.5
PSUT				LR	LR		
	comp=Z,900nm,18.0s						
147A	Livingston	63.62	26	P	P		05 28 41.4 0.0
	baz=208,SNR=7.1						
VNDA	Vanda	63.64	194	P	P		05 28 41.9 +0.9
	comp=Z,2.7nm,1.0s,baz=99,slow=6.5,SNR=11						
VNDA				LR	LR		05 49 12.0
	comp=Z,408nm,19.8s,baz=88,slow=29						
VNDA	Vanda	63.64	194	eP	P		05 28 42.3 +1.3
VNDA				pmax	pmax		
	comp=Z,27nm,1.5s						
VNDA	Vanda	63.64	194	eP	P		05 28 42.0 +0.9
	comp=Z,27nm,1.5s						
Y43A	Makayla and Ka	63.71	23	P	P		05 28 41.9 -0.1
	baz=205						
TCRU	Three Creeks R	63.75	3	PFAKE			05 29 00.0 +18
TCRU				LR	LR		
	comp=Z,2μm,20.0s						
V36A	Jenks	63.81	18	P	P		05 28 42.8 +0.2
	baz=200						
Z46A	Louisville	63.81	25	P	P		05 28 42.8 +0.2
	baz=207						
PV09	Paradox Valley	63.90	6	eP	P		05 28 44.2 +0.7
TUL1	Leonard	63.97	18	P	P		05 28 44.2 +0.6
	baz=200						
TUL1	Leonard	63.97	18	eP	P		05 28 44.7 +1.1
	comp=Z,131nm,2.0s						
TUL1				LR	LR		
	comp=Z,700nm,18.0s						
UALR	University of	64.00	22	eP	P		05 28 44.5 +0.7
	comp=Z,28nm,1.2s						
Y44A	Strider, Charl	64.02	24	P	P		05 28 44.7 +0.8
	baz=206						
YERR	Yerington	64.08	357	eP	P		05 28 46.0 +1.4
	comp=Z,37nm,1.0s						
YERR				LR	LR		
	comp=Z,2μm,21.0s						
V37A	Hulbert	64.13	19	P	P		05 28 46.0 +1.3
	baz=201						
AFDM	Forest Hills D	64.14	356	eP	P		05 28 46.5 +1.8
	comp=Z,40nm,1.4s						
AFDM				LR	LR		
	comp=Z,2μm,22.0s						
U35A	Pawnee	64.14	18	P	P		05 28 45.7 +1.0
	baz=200						
W40A	Ferguson Farm,	64.14	21	P	P		05 28 45.3 +0.5
	baz=203						
W40A	Ferguson Farm,	64.14	21	eP	P		05 28 46.1 +1.3
	comp=Z,35nm,1.1s						
Z47A	Carrollton	64.16	26	P	P		05 28 44.7 -0.2
	baz=208						
Y45A	Yeager Farm, C	64.18	25	P	P		05 28 44.4 -0.6
	baz=207						
PNTR	Pine Nut	64.20	357	eP	P		05 28 46.6 +1.2
	comp=Z,33nm,0.9s						
PNTR				LR	LR		
	comp=Z,2μm,21.0s						
X43A	Marvell	64.27	23	P	P		05 28 45.1 -0.6
	baz=205						
HOPS	Hopland Field	64.34	354	eP	P		05 28 47.1 +1.1
	comp=Z,57nm,1.3s						
HOPS				LR	LR		
	comp=Z,2μm,19.0s						
SRU	San Rafael Swe	64.38	5	eP	P		05 28 46.9 +0.4
SRU				pmax	pmax		
	comp=Z,46nm,1.2s						
SRU	San Rafael Swe	64.38	5	eP	P		05 28 46.9 +0.4
	comp=Z,46nm,1.2s						
W41B	Gary Mavity, V	64.39	22	P	P		05 28 46.0 -0.4
	baz=204,SNR=6.6						
X301	Greenbrier Sit	64.40	22	eP	P		05 28 48.2 +1.7
	comp=Z,76nm,1.9s						
U36A	Oologah	64.44	18	P	P		05 28 46.4 -0.3
	baz=200						
LRAL	Lakeview Retre	64.45	27	eP	P		05 28 48.7 +1.8
	comp=Z,180nm,2.0s						
Y46A	Houston	64.45	25	P	P		05 28 46.3 -0.5
	baz=207						
WHAR	Wooly Hollow	64.48	22	eP	P		05 28 47.0 0.0
	comp=Z,62nm,1.5s						
TMUT	Trail Mountain	64.51	4	eP	P		05 28 48.5 +1.0
	comp=Z,37nm,1.4s						
TMUT				LR	LR		
	comp=Z,900nm,21.0s						
Z48A	Northport	64.52	26	P	P		05 28 46.8 -0.5
	baz=209						
V39A	Pettigrew	64.55	20	P	P		05 28 46.8 -0.7
	baz=202						
TIGA	Tifton	64.58	31	P	P		05 28 46.7 -1.1
	baz=212						
U37A	Salina	64.63	19	P	P		05 28 47.2 -0.8
	baz=201						
T34A	McClaskey Farm	64.63	17	P	P		05 28 48.2 +0.3
	baz=199,SNR=9.5						
T35A	Sooner Cattle	64.71	17	P	P		05 28 48.0 -0.5
	baz=200,SNR=7.3						
W42A	Bald Knob	64.73	22	P	P		05 28 48.1 -0.5
	baz=205						
X45A	UM Field Stati	64.73	24	P	P		05 28 48.0 -0.6
	baz=207,SNR=7.8						
ORV	Oroville	64.78	356	eP	P		05 28 51.4 +2.5
ORV				pmax	pmax		
	comp=Z,63nm,1.9s						
ORV				MLR	MLR		
	comp=Z,1μm,19.0s						
ORV	Oroville	64.78	356	eP	P		05 28 51.4 +2.5
	comp=Z,63nm,1.9s						
ORV				LR	LR		
	comp=Z,1μm,19.0s						
V40A	Witts Springs	64.78	21	P	P		05 28 48.1 -0.9
	baz=203						
QSPA	South Pole Qui	64.78	180	eP	P		05 28 49.4 +0.5
	comp=Z,33nm,1.0s						
QSPA				LR	LR		
	comp=Z,1μm,19.0s						
OXF	Oxford	64.80	24	eP	P		05 28 50.4 +1.3
OXF				pmax	pmax		
	comp=Z,56nm,1.1s						
OXF	Oxford	64.80	24	eP	P		05 28 50.4 +1.3
	comp=Z,56nm,1.1s						
PAHR	Pah Rah Range	64.81	357	eP	P		05 28 50.3 +1.1
	comp=Z,18nm,1.1s						
PAHR				LR	LR		
	comp=Z,3μm,20.0s						
SMCO	Snowmass	64.81	8	eP	P		05 28 49.9 +0.3
	comp=Z,21nm,0.9s						
Q24A	Divide	64.85	10	P	P		05 28 49.2 -0.5
	baz=191						
Q24A	Divide	64.85	10	eP	P		05 28 49.8 0.0
	comp=Z,13nm,0.9s						
Q24A				LR	LR		
	comp=Z,800nm,19.0s						
HHAR	Hobbs	64.86	20	eP	P		05 28 49.0 -0.5
	comp=Z,13nm,1.1s						
Y47A	UCPARC, Winfie	64.86	26	P	P		05 28 48.6 -1.0
	baz=208						
U38A	Gravette	64.87	19	P	P		05 28 48.9 -0.7
	baz=202						
P18A	Preston Nutter	64.92	5	eP	P		05 28 50.3 +0.2
	comp=Z,52nm,1.3s						
V41A	Mountainview	64.98	22	P	P		05 28 49.7 -0.6
	baz=204						
BEKR	Beckworth	65.02	357	eP	P		05 28 51.7 +1.1
	comp=Z,30nm,1.3s						
BEKR				LR	LR		
	comp=Z,2μm,20.0s						
T36A	Boggs Farm, Ca	65.02	18	P	P		05 28 49.5 -1.0
	baz=200,SNR=5.8						
U39A	Green Forest	65.10	20	P	P		05 28 50.2 -0.9
	baz=203						
NLU	North Lily Min	65.11	4	eP	P		05 28 52.5 +1.2
	comp=Z,41nm,1.2s						
NLU				LR	LR		
	comp=Z,1μm,18.0s						
MPU	Maple Canyon	65.20	4	eP	P		05 28 52.9 +1.0
	comp=Z,49nm,1.4s						
MPU				LR	LR		
	comp=Z,1μm,20.0s						
SJG	San Juan	65.20	54	PFAKE			05 29 00.0 +7.9
SJG				LR	LR		
	comp=Z,800nm,22.0s						
V42A	Cord	65.26	22	P	P		05 28 51.5 -0.5
	baz=205						
U40A	Yellville	65.27	21	P	P		05 28 51.9 -0.3
	baz=203,SNR=6.9						
S34A	Willow Spring	65.29	17	P	P		05 28 51.4 -0.8
	baz=199						
DUG	Dugway, Tooele	65.31	3	P	P		05 28 53.5 +1.0
	baz=183						
DUG	Dugway, Tooele	65.31	3	eP	P		05 28 53.5 +1.0
DUG				pmax	pmax		
	comp=Z,64nm,1.3s						
DUG				MLR	MLR		
	comp=Z,1μm,19.0s						
DUG	Dugway, Tooele	65.31	3	eP	P		05 28 53.5 +1.0

comp=Z,64nm,1.3s
DUG LR LR
comp=Z,1µm,19.0s
KSCO Kaye Shedlock' 65.32 12 P **P** 05 28 52.5 -0.1
baz=194,SNR=8.6
KSCO Kaye Shedlock' 65.32 12 eP **P** 05 28 53.0 +0.4
comp=Z,80nm,1.3s
KSCO LR LR
comp=Z,900nm,19.0s
T37A Cheneyville 18 65.35 19 P **P** 05 28 52.4 -0.3
baz=201,SNR=5.8
HUMP Col San Antoni 65.44 54 PFAKE 05 29 10.0 +16
HUMP LR LR
comp=Z,900nm,18.0s
T38A Diamond 65.45 19 P **P** 05 28 53.4 +0.1
baz=202,SNR=7.8
W45A Hickory Valley 65.46 24 P **P** 05 28 53.1 -0.3
baz=207
S35A Otter Creek Ra 65.48 17 P **P** 05 28 53.5 0.0
baz=200,SNR=8.1
O03D Paynes Creek 65.53 355 P **P** 05 28 54.7 +0.9
baz=174
U41A Viola 65.57 21 P **P** 05 28 53.7 -0.4
baz=204,SNR=5.2
ISCO Idaho Springs 65.60 9 P **P** 05 28 54.1 -0.5
baz=190,SNR=16
ISCO Idaho Springs 65.60 9 eP **P** 05 28 55.2 +0.6
ISCO pmax pmax
comp=Z,46nm,1.3s
ISCO Idaho Springs 65.60 9 eP **P** 05 28 54.9 +0.3
comp=Z,46nm,1.3s
ISCO LR LR
comp=Z,1µm,21.0s
O20A White River Ci 65.61 7 P **P** 05 28 55.2 +0.7
baz=188,SNR=6.8
O20A White River Ci 65.61 7 eP **P** 05 28 55.1 +0.7
comp=Z,47nm,1.3s
O20A LR LR
comp=Z,1µm,18.0s
KMRM Mail Ridge 65.62 354 eP **P** 05 28 56.0 +1.6
comp=Z,63nm,1.3s
MTP Monte Pirata 65.63 54 PFAKE 05 29 10.0 +15
MTP LR LR
comp=Z,800nm,18.0s
CBKS Cedar Bluff 65.72 14 P **P** 05 28 54.1 -0.9
baz=196
CBKS Cedar Bluff 65.72 14 eP **P** 05 28 54.7 -0.3
CBKS pmax pmax
comp=Z,40nm,1.1s
CBKS Cedar Bluff 65.72 14 eP **P** 05 28 54.7 -0.3
comp=Z,40nm,1.1s
S36A Lake Cedric, C 65.72 18 P **P** 05 28 54.5 -0.5
baz=200,SNR=7.9
T39A Clever 65.72 20 P **P** 05 28 54.3 -0.7
baz=203,SNR=8.8
JLU Jordanelle 65.80 4 eP **P** 05 28 56.2 +0.4
comp=Z,118nm,1.7s
JLU LR LR
comp=Z,1µm,20.0s
U42A Revenden 65.80 22 P **P** 05 28 54.8 -0.8
baz=205
R34A Isabella, Hill 65.82 16 P **P** 05 28 55.1 -0.6
baz=199
WDC Whiskeytown Da 65.87 355 eP **P** 05 28 56.4 +0.5
WDC pmax pmax
comp=Z,50nm,1.3s
WDC Whiskeytown Da 65.87 355 eP **P** 05 28 56.4 +0.5
comp=Z,50nm,1.3s
S37A Fort Scott 65.97 19 P **P** 05 28 56.1 -0.5
baz=201,SNR=17
BGU Big Grassy Mou 66.03 3 eP **P** 05 28 57.4 +0.3
comp=Z,95nm,1.7s
V45A Humboldt 66.06 24 P **P** 05 28 56.4 -0.9
baz=207
U43A Rector 66.11 23 P **P** 05 28 56.7 -0.8
baz=205
T40A Mansfield 66.11 21 P **P** 05 28 57.2 -0.4
baz=203,SNR=6.2
S38A Stockton 66.12 19 P **P** 05 28 57.0 -0.6
baz=202
T41A Mountain View 66.25 21 P **P** 05 28 58.5 0.0
baz=204
KHMM Horse Mountain 66.27 354 eP **P** 05 29 00.1 +1.4
comp=Z,32nm,1.0s
N02D Trinity Center 66.28 355 P **P** 05 28 59.1 +0.5
baz=174
R36A Gordon, Harris 66.31 18 P **P** 05 28 58.8 0.0
baz=200
S39A Bolivar 66.35 20 P **P** 05 28 58.9 -0.2
baz=202
SPUT South Promonto 66.44 3 eP **P** 05 29 00.1 +0.3
comp=Z,45nm,1.3s
SPUT LR LR
comp=Z,1µm,20.0s
U44B Burton Farm, H 66.45 24 P **P** 05 28 59.4 -0.3
baz=206
PBMO Poplar Bluff 66.47 22 eP **P** 05 29 00.9 +1.1
comp=Z,104nm,1.9s
U44A Portageville 66.48 23 P **P** 05 28 59.7 -0.2
baz=206
R37A Teagarden Farm 66.48 18 P **P** 05 28 59.9 0.0
baz=201
Q34A Chapman 66.48 16 P **P** 05 28 59.8 -0.1
baz=199
S40A Lebanon 66.52 20 P **P** 05 29 00.2 0.0
baz=203,SNR=7.5
PARMO Parma 66.60 23 eP **P** 05 29 00.4 -0.2
comp=Z,53nm,1.0s
UTMT University of 66.63 24 eP **P** 05 29 00.9 0.0
comp=Z,223nm,1.3s
N23A Red Feather La 66.63 9 P **P** 05 29 00.4 -0.8
baz=190,SNR=21
N23A Red Feather La 66.63 9 eP **P** 05 29 01.5 +0.4
comp=Z,57nm,1.1s
N23A LR LR
comp=Z,1µm,20.0s
R38A Fenwick Farm, 66.64 19 P **P** 05 29 00.5 -0.4
baz=202
Q35A Mercer Eighty, 66.66 17 P **P** 05 29 00.1 -1.0
baz=200,SNR=5.8
U45A Rockin P Farm, 66.67 24 P **P** 05 29 00.1 -1.1
baz=207,SNR=7.7
M02C Callahan 66.70 355 P **P** 05 29 01.5 +0.1
baz=174
KSU1 Kansas State U 66.74 17 P **P** 05 29 00.7 -0.8
baz=199,SNR=7.4
KSU1 Kansas State U 66.74 17 eP **P** 05 29 01.4 -0.1
comp=Z,86nm,1.2s
S41A Jillco Farms, 66.76 21 P **P** 05 29 00.4 -1.3
baz=204,SNR=18
SWET Sewanee 66.78 27 eP **P** 05 29 03.1 +1.2
comp=Z,44nm,1.1s
T43A Greenville 66.79 22 P **P** 05 29 01.8 0.0
baz=205,SNR=7.8
HWUT Hardware Ranch 66.79 4 eP **P** 05 29 02.9 +0.9
comp=Z,84nm,2.0s
HWUT LR LR
comp=Z,1µm,18.0s
WVT Waverly 66.83 25 eP **P** 05 29 00.9 -1.3
WVT pmax pmax
comp=Z,58nm,1.5s
WVT Waverly 66.83 25 eP **P** 05 29 00.9 -1.3
comp=Z,58nm,1.5s
HVU Hansel Valley 66.90 3 eP **P** 05 29 03.5 +0.8
HVU pmax pmax
comp=Z,18nm,1.3s
HVU MLR MLR
comp=Z,800nm,18.0s
HVU Hansel Valley 66.90 3 eP **P** 05 29 03.5 +0.8
comp=Z,18nm,1.3s
HVU LR LR
comp=Z,800nm,18.0s
FDF Fort de France 66.91 60 PFAKE 05 29 20.0 +17
FDF LR LR
comp=Z,500nm,19.0s
Q36A Arnold C. Orve 66.91 18 P **P** 05 29 02.2 -0.5
baz=200
R39A Chumby, Stover 67.01 20 P **P** 05 29 02.5 -0.8
baz=203,SNR=5.4
M04C Macdoel 67.02 356 P **P** 05 29 04.1 +0.7
baz=174
YBH Yreka Blue Hor 67.03 355 eP **P** 05 29 06.3 +2.8
YBH pmax pmax
comp=Z,40nm,1.8s
YBH Yreka Blue Hor 67.03 355 eP **P** 05 29 06.3 +2.8
comp=Z,40nm,1.8s
T44A Benton 67.03 23 P **P** 05 29 02.8 -0.7
baz=206

MOD Modoc Plateau 67.04 357 eP **P** 05 29 04.6 +1.0
comp=Z,33nm,1.0s
MOD LR LR
comp=Z,2µm,21.0s
SABA Saba 67.04 56 PFAKE 05 29 20.0 +16
SABA LR LR
comp=Z,1µm,20.0s
PHWY Pilot Hill 67.10 9 eP **P** 05 29 04.3 +0.2
comp=Z,33nm,1.4s
PHWY LR LR
comp=Z,1µm,18.0s
P34A Walnut Farm, R 67.10 16 P **P** 05 29 04.4 +0.5
baz=199
Q37A Longview Farm, 67.12 18 P **P** 05 29 04.4 +0.5
baz=201
R40A Maddies Statio 67.23 20 P **P** 05 29 04.0 -0.7
baz=203,SNR=6.3
S42A Caledonia 67.24 22 P **P** 05 29 04.5 -0.3
baz=205
SKI Saint Kitts 67.25 56 PFAKE 05 29 20.0 +15
SKI LR LR
comp=Z,1µm,21.0s
RWWY Rawlins 67.26 7 eP **P** 05 29 07.4 +2.3
comp=Z,44nm,1.3s
P35A Duane Minner, 67.30 17 P **P** 05 29 05.8 +0.8
baz=200
S43A Fulton Ridge, 67.30 22 P **P** 05 29 05.2 +0.1
baz=206
OGNE Ogallala 67.31 12 eP **P** 05 29 04.4 -0.8
comp=Z,95nm,1.5s
OGNE LR LR
comp=Z,1µm,21.0s
CCM Cathedral Cave 67.34 21 eP **P** 05 29 04.7 -0.7
CCM pmax pmax
comp=Z,46nm,1.2s
CCM Cathedral Cave 67.34 21 eP **P** 05 29 04.6 -0.8
comp=Z,46nm,1.3s
O33A Hebron 67.42 15 P **P** 05 29 04.7 -1.2
baz=198,SNR=8.2
SMRT St. Maarten 67.44 56 PFAKE 05 29 20.0 +14
SMRT LR LR
comp=Z,400nm,19.0s
Q38A Cooks Store, C 67.44 19 P **P** 05 29 05.6 -0.4
baz=202,SNR=14
WVOR Wild Horse Val 67.50 358 eP **P** 05 29 07.8 +1.3
WVOR pmax pmax
comp=Z,30nm,1.2s
WVOR MLR MLR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 67.50 358 eP **P** 05 29 07.8 +1.3
comp=Z,30nm,1.2s
WVOR LR LR
comp=Z,2µm,21.0s
R41A Rosebud 67.52 21 P **P** 05 29 05.3 -1.2
baz=204
CPCT Cooper Cave 67.57 28 eP **P** 05 29 05.9 -0.9
comp=Z,59nm,1.3s
P36A Good Intent, A 67.60 18 P **P** 05 29 06.5 -0.5
baz=200
S44A Carbondale 67.70 23 P **P** 05 29 06.8 -0.8
baz=206
R42A Luebbering 67.70 22 P **P** 05 29 06.6 -1.0
baz=205
Q39A Willow Grove F 67.71 19 P **P** 05 29 06.7 -0.9
baz=203,SNR=12
O34A Beatrice 67.74 16 P **P** 05 29 07.5 -0.3
baz=199,SNR=15
P37A Lathrop 67.81 18 P **P** 05 29 07.7 -0.6
baz=201,SNR=7.4
BG3 Lake Jocassee 67.86 29 eP **P** 05 29 10.3 +1.5
comp=Z,37nm,1.1s
K05A Summer Lake 67.89 356 eP **P** 05 29 10.3 +1.3
comp=Z,76nm,1.3s
HUMO Hull Mountain 67.92 355 eP **P** 05 29 10.1 +1.1
comp=Z,21nm,1.0s
S45A Carrier Mills 67.92 23 P **P** 05 29 07.7 -1.3
baz=207
Q40A Laux Farm, Aux 67.94 20 P **P** 05 29 08.5 -0.6
baz=203,SNR=16
R43A Red Bud 67.98 22 P **P** 05 29 08.8 -0.6
baz=206,SNR=5.8
O35A Humboldt 68.02 17 P **P** 05 29 09.0 -0.6
baz=200
P38A Dawn 68.08 19 P **P** 05 29 09.5 -0.5
baz=202,SNR=19
BW06 Boulder Array 68.09 5 P **P** 05 29 09.7 -0.6
baz=186,SNR=8.3
BW06 Boulder Array 68.09 5 eP **P** 05 29 09.7 -0.6
comp=Z,51nm,1.4s
BW06 LR LR
comp=Z,800nm,20.0s
PD31 Pinedale Array 68.09 5 eP **P** 05 29 09.8 -0.5
PDAR Pinedale Array 68.09 5 P **P** 05 29 09.4 -0.9
comp=Z,3.4nm,0.7s,baz=168,slow=6.1,SNR=24
PDAR LR LR 05 53 31.7
comp=Z,790nm,21.6s,baz=195,slow=31
PDAR Pinedale Array 68.09 5 eP **P** 05 29 09.2 -1.1
Q41A Truxton 68.17 21 P **P** 05 29 09.7 -0.8
baz=204,SNR=5.9
P39B Salisbury 68.18 19 P **P** 05 29 09.6 -1.0
baz=203,SNR=16
R44A Waltonville 68.25 23 P **P** 05 29 10.2 -0.9
baz=206
K22A Casper 68.29 8 P **P** 05 29 11.2 -0.3
baz=189,SNR=32
K22A Casper 68.29 8 eP **P** 05 29 10.9 -0.5
comp=Z,94nm,1.1s
Q42A Golden Eagle 68.36 21 P **P** 05 29 10.8 -1.0
baz=205
O37A Wolven Farm, M 68.40 18 P **P** 05 29 11.1 -0.9
baz=201
N34A Lincoln 68.40 16 P **P** 05 29 11.3 -0.7
baz=199,SNR=5.9
P40A Paris 68.43 20 P **P** 05 29 11.4 -0.8
baz=203
MFID Camas Ranch 68.45 0 eP **P** 05 29 13.0 +0.6
comp=Z,42nm,1.3s
J05D Fort Rock, OR 68.47 356 P **P** 05 29 13.0 +0.4
baz=175,SNR=10
USIN University of 68.51 24 eP **P** 05 29 14.1 +1.4
comp=Z,44nm,1.0s
BGNE Belgrade 68.55 15 P **P** 05 29 12.9 0.0
baz=198,SNR=8.1
BGNE Belgrade 68.55 15 eP **P** 05 29 13.4 +0.4
comp=Z,97nm,1.1s
BGNE LR LR
comp=Z,500nm,19.0s
O38A Galt 68.55 19 P **P** 05 29 12.4 -0.5
baz=202,SNR=5.4
REDW Red Top Meadow 68.58 4 eP **P** 05 29 13.3 -0.1
comp=Z,46nm,1.3s
REDW LR LR
comp=Z,2µm,20.0s
HLID Hailey 68.62 1 P **P** 05 29 14.4 +0.8
baz=182,SNR=31
HLID Hailey 68.62 1 eP **P** 05 29 13.9 +0.3
comp=Z,29nm,1.1s
N35A Tabor 68.64 17 P **P** 05 29 13.7 +0.2
baz=200,SNR=7.4
Q43A New Douglas 68.66 22 P **P** 05 29 13.3 -0.4
baz=206
SNOW Snow King Moun 68.69 4 eP **P** 05 29 14.0 -0.1
comp=Z,58nm,1.5s
SNOW LR LR
comp=Z,1µm,19.0s
TPAW Teton Pass 68.70 4 eP **P** 05 29 14.1 -0.1
comp=Z,40nm,1.1s
TPAW LR LR
comp=Z,1µm,18.0s
KMSC Kings Mountain 68.71 30 P **P** 05 29 13.1 -0.9
baz=214
KMSC Kings Mountain 68.71 30 eP **P** 05 29 14.8 +0.8
comp=Z,86nm,1.6s
FXWY Fox Creek 68.85 4 eP **P** 05 29 14.7 -0.3
comp=Z,50nm,1.3s
FXWY LR LR
comp=Z,1µm,20.0s
LOHW Long Hollow 68.85 4 eP **P** 05 29 14.8 -0.3
comp=Z,44nm,1.4s
LOHW LR LR
comp=Z,1µm,18.0s
Q44A Meyer Farm, Va 68.86 23 P **P** 05 29 14.4 -0.5
baz=206,SNR=10
P41A Barry, Barry 68.88 21 P **P** 05 29 14.4 -0.6
baz=204
M33A Taylor Creek F 68.93 15 P **P** 05 29 15.0 -0.3
baz=198
N37A Lee Faris, Mou 68.93 18 P **P** 05 29 14.7 -0.6

baz=201
O39A Kirksville 68.95 19 P **P** 05 29 14.8 -0.7
baz=203
MOOW Moose Ponds 68.97 4 eP **P** 05 29 15.5 -0.3
comp=Z,18nm,1.0s
MOOW LR LR
comp=Z,1µm,18.0s
M34A Aspy Farms, Fr 69.01 16 P **P** 05 29 15.6 -0.2
baz=199
P42A Winchester 69.03 21 P **P** 05 29 15.6 -0.4
baz=205,SNR=8.4
O40A La Belle 69.03 20 P **P** 05 29 15.1 -0.8
baz=203,SNR=5.5
OLIL Olney 69.03 23 eP **P** 05 29 19.6 +3.6
comp=Z,56nm,1.3s
IMW Indian Meadow 69.11 4 eP **P** 05 29 15.9 -0.8
comp=Z,48nm,1.3s
IMW LR LR
comp=Z,1µm,18.0s
L32A Elgin 69.15 15 P **P** 05 29 16.4 -0.3
baz=198
M35A Neola 69.20 16 P **P** 05 29 16.4 -0.6
baz=200
N38A Joes South For 69.24 19 P **P** 05 29 16.7 -0.5
baz=202
O41A Passleys Farm, 69.33 21 P **P** 05 29 17.5 -0.3
baz=204,SNR=27
M36A Felix, Anita 69.42 17 P **P** 05 29 17.7 -0.6
baz=201
L33A Hoskins 69.47 15 P **P** 05 29 18.4 -0.3
baz=198
L34A Svendsen Farm, 69.50 16 P **P** 05 29 18.4 -0.4
baz=199,SNR=6.5
P44A Sand Creek, Wi 69.50 23 P **P** 05 29 18.5 -0.4
baz=206,SNR=9.0
I05D Terrebonne, OR 69.53 356 P **P** 05 29 19.5 +0.5
baz=175
N39A Derby Farms, D 69.53 19 P **P** 05 29 18.5 -0.5
baz=203,SNR=6.9
K31A O'Neill 69.58 14 P **P** 05 29 19.9 +0.6
baz=197,SNR=9.1
M37A Trindle Farm, 69.58 18 P **P** 05 29 19.2 -0.1
baz=201
H17A Grant Village 69.63 4 P **P** 05 29 19.8 -0.1
baz=185
H17A Grant Village 69.63 4 PFAKE 05 29 30.0 +10
H17A LR LR
comp=Z,1µm,18.0s
O42A Bath 69.67 21 P **P** 05 29 19.9 0.0
baz=205,SNR=5.6
YFT Old Faithful 69.67 4 PFAKE 05 29 30.0 +10
YFT LR LR
comp=Z,2µm,19.0s
K32A Verdigre 69.78 14 P **P** 05 29 20.4 -0.2
baz=198,SNR=12
LKWY Lake 69.81 5 PFAKE 05 29 30.0 +9.0
LKWY LR LR
comp=Z,2µm,18.0s
N40A Mertquake, Sal 69.81 20 P **P** 05 29 20.5 -0.3
baz=204
M38A Pleasantville 69.83 18 P **P** 05 29 20.4 -0.5
baz=202,SNR=15
DZM Mont Dzumac 69.84 255 eS **S** 05 38 29.8 -1.8
comp=Z,549nm,26.0s
DZM Mont Dzumac 69.84 255 eLR LR 05 50 23.9
comp=Z,4µm,27.4s
L35A Bielow Farm, R 69.84 16 P **P** 05 29 20.5 -0.4
baz=200
YMR Madison River 69.88 4 eP **P** 05 29 22.0 +0.6
comp=Z,70nm,1.4s
YMR LR LR
comp=Z,800nm,18.0s
N41A Harden Midland 69.88 20 P **P** 05 29 20.7 -0.4
baz=204
BMO Blue Mountains 69.89 359 eP **P** 05 29 21.6 +0.3
BMO pmax pmax
comp=Z,32nm,1.4s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 69.89 359 eP **P** 05 29 21.6 +0.3
comp=Z,32nm,1.4s
BMO LR LR
comp=Z,1µm,20.0s
MCMT McKenzie Canyo 69.94 3 eP **P** 05 29 21.6 -0.1
YNR Norris Junctio 69.94 4 PFAKE 05 29 30.0 +8.2
YNR LR LR
comp=Z,1µm,19.0s
YHB Horse Butte 69.94 4 eP **P** 05 29 23.0 +1.2
comp=Z,98nm,2.0s
YHB LR LR
comp=Z,800nm,18.0s
K33A Hardington 69.95 15 P **P** 05 29 21.2 -0.4
baz=198
BLO Bloomington 70.00 24 eP **P** 05 29 21.1 -0.8
BLO pmax pmax
comp=Z,37nm,1.3s
BLO Bloomington 70.00 24 eP **P** 05 29 21.1 -0.8
comp=Z,37nm,1.3s
O43A Sugar Creek Fa 70.00 22 P **P** 05 29 20.7 -1.2
baz=206
YHH Holmes Hill 70.00 4 eP **P** 05 29 22.7 +0.5
comp=Z,53nm,1.3s
YHH LR LR
comp=Z,900nm,18.0s
QLMT Earthquake Lak 70.01 4 eP **P** 05 29 23.6 +1.4
L36A Harm Buss Farm 70.06 17 P **P** 05 29 21.8 -0.5
baz=201
RSSD Black Hills 70.07 9 P **P** 05 29 22.2 -0.4
baz=192
RSSD Black Hills 70.07 9 eP **P** 05 29 22.5 -0.1
RSSD pmax pmax
comp=Z,47nm,1.4s
RSSD Black Hills 70.07 9 eP **P** 05 29 22.4 -0.2
comp=Z,47nm,1.4s
M39A Webster 70.18 19 P **P** 05 29 22.4 -0.6
baz=203,SNR=6.9
J31A Geddes 70.22 14 P **P** 05 29 23.2 0.0
baz=197
K34A Le Mars 70.25 16 P **P** 05 29 22.5 -0.9
baz=199
HDIL Hopedale 70.25 22 P **P** 05 29 22.8 -0.6
baz=206
HDIL Hopedale 70.25 22 eP **P** 05 29 23.1 -0.3
comp=Z,94nm,1.3s
N42A Yates City 70.25 21 P **P** 05 29 22.5 -1.0
baz=205,SNR=8.9
SCIA State Center 70.28 18 eP **P** 05 29 22.9 -0.7
comp=Z,40nm,1.2s
M40A Post Highland 70.31 20 P **P** 05 29 23.4 -0.4
baz=204,SNR=7.8
L37A Phoenix Point, 70.33 18 P **P** 05 29 24.2 +0.3
baz=201,SNR=6.4
RLMT Red Lodge 70.45 5 P **P** 05 29 24.3 -0.6
baz=187,SNR=6.4
RLMT Red Lodge 70.45 5 eP **P** 05 29 24.5 -0.4
comp=Z,60nm,1.5s
RLMT LR LR
comp=Z,1µm,20.0s
DLMT Dillon 70.48 3 eP **P** 05 29 25.4 +0.4
comp=Z,44nm,1.5s
DLMT LR LR
comp=Z,800nm,19.0s
J32A Parkston 70.49 14 P **P** 05 29 24.2 -0.6
baz=198,SNR=7.4
K35A Storm Lake 70.50 16 P **P** 05 29 24.0 -1.0
baz=200
L38A Oak Wood Farm, 70.57 18 P **P** 05 29 24.9 -0.5
baz=202,SNR=5.3
M41A Milan 70.58 20 P **P** 05 29 25.0 -0.4
baz=204,SNR=10
K36A Gilmore City 70.62 17 P **P** 05 29 24.7 -1.0
baz=201
J33A Davis 70.64 15 P **P** 05 29 23.4 -2.4
baz=198
BOZ Bozeman (W) 70.76 3 P **P** 05 29 26.9 +0.2
baz=184,SNR=5.1
BOZ Bozeman (W) 70.76 3 eP **P** 05 29 28.7 +2.0
BOZ pmax pmax
comp=Z,27nm,1.6s
BOZ Bozeman (W) 70.76 3 eP **P** 05 29 28.7 +2.0
comp=Z,27nm,1.6s
L39A Vinton 70.83 19 P **P** 05 29 26.2 -0.8
baz=203,SNR=10.0
J34A George 70.84 16 P **P** 05 29 26.4 -0.7
baz=199
LRM Limekiln Ridge 70.94 3 eP **P** 05 29 29.5 +1.6
K37A Belmond 70.96 17 P **P** 05 29 27.1 -0.6
baz=202

I31A	Royce, Wessing	70.97	13	P	P	05 29 26.9	-0.9
	baz=197						
L40A	Anamosa	71.00	20	P	P	05 29 27.1	-0.9
	baz=204,SNR=11						
GCMT	Greycliff	71.08	5	eP	P	05 29 29.2	+0.6
K38A	Parkersburg	71.09	18	P	P	05 29 27.6	-0.9
	baz=202						
ECSD	EROS Data Cent	71.11	15	P	P	05 29 27.5	-1.2
	baz=199,SNR=8.6						
ECSD	EROS Data Cent	71.11	15	eP	P	05 29 28.3	-0.4
	comp=Z,28nm,1.1s						
F04A	Amboy	71.19	356	eP	P	05 29 33.9	+4.9
	comp=Z,98nm,1.6s						
I32A	Karley and Nic	71.20	14	P	P	05 29 28.4	-0.8
	baz=198						
L41A	Preston	71.23	20	P	P	05 29 28.7	-0.7
	baz=204						
SUSD	Miller	71.28	13	P	P	05 29 28.8	-0.9
	baz=196						
J36A	Seneca 1, Swea	71.29	17	P	P	05 29 28.9	-0.8
	baz=201,SNR=7.7						
I33A	Coleman	71.37	15	P	P	05 29 29.5	-0.7
	baz=198						
VNA3	Neumayer Olymp	71.37	161	P	P	05 29 29.6	-0.4
K39A	Oelwein	71.39	19	P	P	05 29 29.6	-0.8
	baz=203,SNR=6.3						
H31A	Wolsey	71.41	13	P	P	05 29 30.2	-0.2
	baz=197						
J37A	Redenius Farm,	71.48	17	P	P	05 29 30.6	-0.4
	baz=202						
HAWA	Hanford	71.49	358	eP	P	05 29 33.0	+2.2
	comp=Z,43nm,1.8s						
I34A	Hadley	71.58	15	P	P	05 29 31.1	-0.4
	baz=199						
K40A	Colesburg	71.61	19	P	P	05 29 31.5	-0.2
	baz=204						
I35A	Creekview Farm	71.62	16	P	P	05 29 31.8	+0.1
	baz=200						
H32A	Carlson Farm,	71.66	14	P	P	05 29 32.0	+0.1
	baz=198						
K41A	Shullsburg	71.78	20	P	P	05 29 32.5	-0.2
	baz=204						
J38A	Wedel Dairy, R	71.79	18	P	P	05 29 32.0	-0.8
	baz=202,SNR=8.0						
HRY	Holter Researc	71.86	3	eP	P	05 29 33.9	+0.6
E03A	Lebam	71.88	355	eP	P	05 29 34.9	+1.7
	comp=Z,55nm,1.0s						
L43A	Garden Prairie	71.89	21	P	P	05 29 32.6	-0.7
	baz=206,SNR=6.1						
MSO	Missoula	71.90	2	P	P	05 29 33.2	-0.2
	baz=182,SNR=7.0						
MSO	Missoula	71.90	2	eP	P	05 29 33.2	-0.2
	comp=Z,69nm,1.8s						
LON	Longmire	71.96	356	eP	P	05 29 37.1	+3.3
LON				pmax	pmax		
	comp=Z,27nm,1.4s						
LON	Longmire	71.96	356	eP	P	05 29 37.1	+3.3
	comp=Z,27nm,1.4s						
H33A	Prehn Over Nor	71.98	15	P	P	05 29 33.1	-0.8
	baz=198						
CHMT	Chamberlain Mo	72.00	2	eP	P	05 29 34.8	+0.6
I36A	Fitzsimmons Fa	72.02	17	P	P	05 29 33.4	-0.7
	baz=201						
J39A	Decorah	72.02	19	P	P	05 29 33.6	-0.5
	baz=203,SNR=20						
VNA1	Neumayer--Stat	72.04	161	P	P	05 29 35.9	+1.9
JFWS	Jewell Farm	72.07	20	eP	P	05 29 34.0	-0.5
JFWS				pmax	pmax		
	comp=Z,23nm,1.0s						
JFWS	Jewell Farm	72.07	20	eP	P	05 29 33.9	-0.5
	comp=Z,23nm,1.0s						
D08A	Wollman Farm,	72.13	358	eP	P	05 29 37.3	+2.6
	comp=Z,77nm,1.9s						
VNA2	Neumayer--Watz	72.18	161	P	P	05 29 33.7	-1.1
	baz=276,slow=4.3						
I37A	Lemond, Waseca	72.18	17	P	P	05 29 34.5	-0.6
	baz=202,SNR=7.9						
H34A	Spellman Lake,	72.19	15	P	P	05 29 34.7	-0.4
	baz=199						
ACSO	Alum Creek Sta	72.28	26	eP	P	05 29 38.4	+2.7
	comp=Z,24nm,1.3s						
LAO	LASA Array	72.31	7	P	P	05 29 35.3	-0.5
	baz=189,SNR=5.5						
LAO	LASA Array	72.31	7	eP	P	05 29 35.9	0.0
	comp=Z,40nm,1.0s						
SLMT	Seeley Lake	72.32	2	eP	P	05 29 37.8	+1.7
J40A	Soldiers Grove	72.36	19	P	P	05 29 35.8	-0.4
	baz=204						
LTY	Liberty	72.40	357	eP	P	05 29 41.8	+5.4
LTY				LR	LR		
	comp=Z,49nm,1.6s						
	comp=Z,1μm,19.0s						
H35A	Sunnyside Ranc	72.45	16	P	P	05 29 36.1	-0.6
	baz=200,SNR=6.5						
URVA	University of	72.45	31	eP	P	05 29 36.5	-0.3
I38A	Scanlan Farm,	72.50	18	P	P	05 29 36.5	-0.5
	baz=202,SNR=7.6						
G33A	Ortonville	72.53	15	P	P	05 29 36.4	-0.8
	baz=199						
I39A	Houston	72.55	19	P	P	05 29 37.0	-0.3
	baz=203,SNR=6.0						
J41A	Loganville	72.56	20	P	P	05 29 36.4	-0.9
	baz=205						
IP05	Hopewell Churc	72.56	31	eP	P	05 29 37.5	0.0
	comp=Z,86nm,1.5s						
H36A	Jessenland, He	72.57	17	P	P	05 29 37.0	-0.3
	baz=201						
SWMT	Swartz Lake	72.58	2	eP	P	05 29 38.4	+0.9
IP01	Cuckoo	72.59	31	PFAKE		05 29 50.0	+12
IP01				LR	LR		
	comp=Z,300nm,22.0s						
IP04	Greensprings	72.61	31	eP	P	05 29 37.5	-0.3
	comp=Z,25nm,1.1s						
F31A	Hecla	72.78	13	P	P	05 29 38.5	-0.1
	baz=197						
JTMT	Jette	72.81	1	eP	P	05 29 39.3	+0.4
H37A	Dierke Farm, C	72.83	17	P	P	05 29 38.9	-0.1
	baz=202,SNR=5.1						
I40A	Norwalk	72.85	19	P	P	05 29 38.7	-0.4
	baz=204						
BSMT	Bassoo Peak	72.90	1	eP	P	05 29 39.5	-0.1
YBMT	Yellow Bay	72.93	2	eP	P	05 29 44.9	+5.3
F32A	Veblen	73.02	14	P	P	05 29 39.7	-0.4
	baz=198						
G35A	Watkins	73.03	16	P	P	05 29 39.5	-0.6
	baz=200						
BLMT	Blacktail Moun	73.07	1	eP	P	05 29 41.0	+0.5
C06D	Leavenworth	73.08	357	P	P	05 29 40.5	+0.2
	baz=176						
H38A	Maiden Rock	73.09	18	P	P	05 29 40.6	+0.1
	baz=202,SNR=9.1						
MCWV	Mont Chateau	73.11	29	eP	P	05 29 40.4	-0.3
	comp=Z,21nm,1.0s						
SNAA	Sanae	73.12	162	P	P	05 29 41.7	+1.1
SNAA	Sanae	73.12	162	P	P	05 29 40.1	-0.4
	comp=Z,13nm,1.1s,baz=249,slow=3.8,SNR=17						
SNAA	Sanae	73.12	162	iP	P	05 29 39.9	-0.7
SNAA	Sanae	73.12	162	eP	P	05 29 39.8	-0.8
	comp=Z,20nm,1.1s						
SNAA				LR	LR		
	comp=Z,500nm,18.0s						
F33A	5 Mile Ranch,	73.18	14	P	P	05 29 40.5	-0.5
	baz=199,SNR=7.1						
G36A	St. Michael	73.22	16	P	P	05 29 41.0	-0.2
	baz=201,SNR=6.3						
I41A	Arkdale	73.23	20	P	P	05 29 40.9	-0.4
	baz=205						
TARA	Tarawa	73.26	280	PFAKE		05 29 50.0	+7.8
TARA				LR	LR		
	comp=Z,2μm,21.0s						
EGMT	Eagleton	73.30	5	P	P	05 29 43.0	+1.2
	baz=186						
EGMT	Eagleton	73.30	5	eP	P	05 29 46.1	+4.4
	comp=Z,97nm,1.4s						
NEW	Newport	73.30	359	P	P	05 29 42.1	+0.4
	baz=179,SNR=8.2						
NEW	Newport	73.30	359	eP	P	05 29 42.3	+0.6
NEW				pmax	pmax		
	comp=Z,65nm,1.5s						
NEW				MLR	MLR		
	comp=Z,2μm,19.0s						
NEW	Newport	73.30	359	eP	P	05 29 42.3	+0.6
	comp=Z,65nm,1.5s						
NEW				LR	LR		
	comp=Z,2μm,19.0s						
I42A	Draeger Farm,	73.37	20	P	P	05 29 41.6	-0.6
	baz=206,SNR=5.4						
F34A	Alexandria	73.38	15	P	P	05 29 42.2	+0.1
	baz=200						
H39A	Augusta	73.38	18	P	P	05 29 41.9	-0.3
	baz=203,SNR=8.5						
B08A	Colville Reser	73.44	358	eP	P	05 29 45.2	+2.7
	comp=Z,14nm,1.1s						
SPMN	Marine on St.	73.46	17	P	P	05 29 42.8	+0.2
	baz=202						
SPMN	Marine on St.	73.46	17	eP	P	05 29 43.4	+0.7
	comp=Z,35nm,1.4s						
B05A	Bryant	73.48	356	P	P	05 29 43.5	+0.9
	baz=174						
E31A	Nome	73.52	13	P	P	05 29 43.2	+0.3
	baz=197						
H40A	Chili	73.58	19	P	P	05 29 42.7	-0.7
	baz=204						
F35A	Swanville	73.60	16	P	P	05 29 42.7	-0.8
	baz=200						
G38A	Ridgeland	73.67	18	P	P	05 29 43.6	-0.3
	baz=203,SNR=5.7						
E32A	Braaten, Kindr	73.72	14	P	P	05 29 43.5	-0.6
	baz=198						
AAM	Ann Arbor	73.79	25	eP	P	05 29 44.5	-0.1
AAM				pmax	pmax		
	comp=Z,108nm,1.4s						
AAM	Ann Arbor	73.79	25	eP	P	05 29 44.5	-0.1
	comp=Z,108nm,1.4s						
H41A	Junction City	73.80	19	P	P	05 29 44.1	-0.6
	baz=205						
F36A	Milaca	73.87	16	P	P	05 29 44.8	-0.2
	baz=201,SNR=19						
E33A	Westby DABS, E	73.87	14	P	P	05 29 44.5	-0.5
	baz=199						
G39A	Holcombe	73.97	18	P	P	05 29 45.7	+0.1
	baz=203,SNR=9.1						
F37A	Hinrichs Farm,	73.97	17	P	P	05 29 45.4	-0.2
	baz=202,SNR=5.3						
A04D	Lummi Island	73.98	356	P	P	05 29 45.9	+0.4
	baz=174						
D31A	Mcclaflin, Tow	74.02	13	P	P	05 29 45.7	-0.2
	baz=197						
H42A	Shiocton	74.05	20	P	P	05 29 45.8	-0.3
	baz=206						
N54A	Moraine State	74.12	28	P	P	05 29 46.2	-0.4
	baz=214						
WALA	Waterton Lakes	74.13	2	eP	P	05 29 47.4	+0.7
	comp=Z,17nm,1.0s						
O56A	Blue Knob Stat	74.17	29	P	P	05 29 46.1	-0.9
	baz=215						
G40A	Rib Lake	74.23	19	P	P	05 29 47.0	-0.2
	baz=204,SNR=5.8						
E35A	Pequot Lakes	74.30	16	P	P	05 29 47.1	-0.4
	baz=200						
DGMT	Dagmar	74.31	8	P	P	05 29 47.7	+0.1
	baz=191,SNR=7.1						
DGMT	Dagmar	74.31	8	eP	P	05 29 47.5	-0.1
	comp=Z,79nm,1.1s						
F38A	Pierce - Schro	74.39	17	P	P	05 29 47.7	-0.4
	baz=203,SNR=8.9						
MDND	Maddock	74.42	12	P	P	05 29 47.7	-0.6
	baz=196						
MDND	Maddock	74.42	12	eP	P	05 29 47.3	-0.9
	comp=Z,66nm,1.4s						
G41A	Antigo	74.48	20	P	P	05 29 47.7	-1.0
	baz=205						
D33A	AnnSam, Waubun	74.51	14	P	P	05 29 48.0	-0.8
	baz=199						
E36A	McGregor	74.55	16	P	P	05 29 48.4	-0.6
	baz=201,SNR=5.4						
D34A	Park Rapids	74.61	15	P	P	05 29 48.9	-0.4
	baz=200						
F39A	Loretta	74.61	18	P	P	05 29 49.4	0.0
	baz=204,SNR=7.2						
M54A	Oil Creek Stat	74.71	28	P	P	05 29 48.8	-1.3
	baz=214						
C31A	Landman Farms,	74.73	13	P	P	05 29 49.6	-0.4
	baz=197,SNR=7.3						
G42A	Mountain	74.74	20	P	P	05 29 49.5	-0.6
	baz=206,SNR=5.1						
SSPA	Standing Stone	74.77	29	eP	P	05 29 51.8	+1.4
	comp=Z,30nm,1.3s						
E37A	Wrenshall	74.81	17	P	P	05 29 50.3	-0.2
	baz=202						
F40A	Park Falls	74.84	19	P	P	05 29 50.7	-0.1
	baz=204,SNR=7.3						
D35A	Remer	74.87	16	P	P	05 29 50.5	-0.3
	baz=201						
MVL	Millersville	74.95	31	eP	P	05 29 53.2	+1.8
	comp=Z,44nm,1.5s						
F41A	Three Lakes	74.98	19	P	P	05 29 51.7	+0.2
	baz=205,SNR=16						
G43A	Wallace	74.98	21	P	P	05 29 51.4	-0.2
	baz=206						
E38A	The Farm, Brul	75.07	17	P	P	05 29 51.5	-0.5
	baz=203						
ERPA	Erie	75.08	27	eP	P	05 29 51.8	-0.4
	comp=Z,31nm,1.3s						
C33A	Trail	75.11	14	P	P	05 29 51.7	-0.5
	baz=199						
E39A	Mellen	75.14	18	P	P	05 29 52.0	-0.4
	baz=204,SNR=6.6						
D36A	Goodland	75.18	16	P	P	05 29 52.5	-0.1
	baz=201						
F42A	Maple Grove Fa	75.29	20	P	P	05 29 52.7	-0.6
	baz=206						
PSUB	Penn St. - Bra	75.31	31	eP	P	05 29 55.0	+1.4
	comp=Z,42nm,1.6s						
B31A	Greenbush Farm	75.35	13	P	P	05 29 53.5	-0.1
	baz=197,SNR=5.6						
E40A	Wakefield	75.39	19	P	P	05 29 53.4	-0.4
	baz=204,SNR=6.5						
C35A	Jirik Farms, M	75.47	15	P	P	05 29 54.3	+0.1
	baz=201,SNR=5.3						
B32A	Ashes, Strandq	75.55	13	P	P	05 29 54.7	0.0
	baz=198						
AGMN	Agassiz Nation	75.60	14	P	P	05 29 55.1	+0.1
	baz=199,SNR=5.9						
AGMN	Agassiz Nation	75.60	14	eP	P	05 29 57.2	+2.2
	comp=Z,40nm,1.3s						
B33A	Robert and Kas	75.64	14	P	P	05 29 55.4	+0.2
	baz=199						
F43A	Flat Rock, Esc	75.66	21	P	P	05 29 55.2	-0.2
	baz=207						
E41A	Kenton	75.68	19	P	P	05 29 55.4	-0.1
	baz=205,SNR=6.7						
C36A	Pine Crest Far	75.80	16	P	P	05 29 55.2	-1.0
	baz=202,SNR=7.2						
LLLB	Lillooet	75.81	356	eP	P	05 29 54.8	-1.4
	comp=Z,49nm,1.7s						
LUPA	Lehigh Univers	75.88	31	eP	P	05 29 56.5	-0.3
	comp=Z,33nm,1.1s						
A31A	Linda, St. Vin	75.92	13	P	P	05 29 56.5	-0.3
	baz=198						
C37A	Embarrass	75.94	17	P	P	05 29 56.9	-0.1
	baz=202						
N59A	State Game Lan	75.95	31	P	P	05 29 56.3	-0.9
	baz=217						
F44A	Big Bay de Noc	76.03	21	P	P	05 29 57.4	-0.1
	baz=208						
B34A	Aery, Baudette	76.05	15	P	P	05 29 57.0	-0.5
	baz=200,SNR=5.3						
F45A	CMU Biological	76.07	22	P	P	05 29 57.9	+0.1
	baz=208						
B35A	Bob, Littlefor	76.15	15	P	P	05 29 58.4	+0.3
	baz=201						
C38A	Sawbill Land.	76.17	17	P	P	05 29 58.0	-0.3
	baz=203						
E43A	Lone Tree Farm	76.20	20	P	P	05 29 57.1	-1.4
	baz=207,SNR=8.6						
A33A	Warroad	76.31	14	P	P	05 29 59.0	0.0
	baz=199						
EYMN	Ely	76.32	17	P	P	05 29 58.2	-1.0
	baz=203,SNR=5.5						
EYMN	Ely	76.32	17	eP	P	05 29 58.8	-0.3
	comp=Z,64nm,1.4s						
BRNJ	Basking Ridge	76.32	31	eP	P	05 30 03.6	+4.4
	comp=Z,32nm,1.3s						
D41A	Chassel	76.33	19	P	P	05 29 59.4	+0.2
	baz=206						
KSPA	Keystone Colle	76.46	30	eP	P	05 30 00.1	+0.1
	comp=Z,98nm,1.8s						
MMNY	Mt. Morris Dam	76.46	28	eP	P	05 29 59.7	-0.4
C39A	Grand Marais	76.57	18	P	P	05 30 00.2	-0.4
	baz=204						
ODNJ	Ogdensburg	76.62	31	eP	P	05 30 00.5	-0.5
	comp=Z,34nm,1.5s						
E45A	Wooded Hills,	76.77	22	P	P	05 30 01.9	+0.2
	baz=208						
BINY	Binghamton	76.87	30	eP	P	05 30 01.8	-0.6
	comp=Z,48nm,1.2s						
PAL	Palisades	76.89	32	eP	P	05 30 04.4	+1.9
PAL				pmax	pmax		
	comp=Z,22nm,1.1s						
PAL	Palisades	76.89	32	eP	P	05 30 04.4	+1.9
	comp=Z,22nm,1.1s						
NVL	N'lazarevskaya	77.47	165	eP	P	05 30 08.0	+2.5
YLE	Yale	77.59	32	PFAKE		05 30 20.0	+14
YLE				LR	LR		
	comp=Z,500nm,18.0s						
PLVO	Plevna	78.69	27	eP	P	05 30 12.2	-0.3
	comp=Z,42nm,1.3s						
ACCN	Adirondack Com	78.85	30	eP	P	05 30 12.4	-1.0
	comp=Z,80nm,1.4s						
ACCN				LR	LR		
	comp=Z,700nm,19.0s						
RCBR	Riachuelo	78.88	91	PFAKE		05 30 30.0	+16
RCBR				LR	LR		
	comp=Z,1μm,19.0s						
NCB	Newcomb	79.06	30	eP	P	05 30 13.4	-1.1
	comp=Z,0.5nm,1.4s						
HRV	Adam Dziewonsk	79.16	32	eP	P	05 30 16.6	+1.5
HRV				pmax	pmax		
	comp=Z,21nm,1.1s						
HRV	Adam Dziewonsk	79.16	32	eP	P	05 30 16.6	+1.5
	comp=Z,21nm,1.1s						
WES	Weston	79.18	32	eP	P	05 30 17.1	+1.9
WES				pmax	pmax		
	comp=Z,70nm,1.8s						
WES	Weston	79.18	32	eP	P	05 30 17.1	+1.9
	comp=Z,70nm,1.8s						
ARMA	Armidale	79.24	241	eP	P	05 30 15.6	-0.5
	comp=Z,33nm,1.4s						
ARMA				LR	LR		
	comp=Z,1μm,21.0s						
CAN	Canberra	79.34	236	eP	P	05 30 16.4	-0.2
CAN				pmax	pmax		
	comp=Z,65nm,1.7s						
CAN	Canberra	79.34	236	eP	P	05 30 16.4	-0.2
	comp=Z,65nm,1.7s						
LONY	Lake Ozonia	79.41	29	eP	P	05 30 15.8	-0.7
	comp=Z,39nm,1.3s						
HNH	Hanover	79.74	31	eP	P	05 30 18.3	+0.1
	comp=Z,40nm,1.3s						
HNH				LR	LR		
	comp=Z,800nm,18.0s						
FFD	Franklin Falls	79.85	31	eP	P	05 30 19.2	+0.3
	comp=Z,54nm,1.4s						
FRNY	Flat Rock	80.02	29	eP	P	05 30 19.7	0.0
	comp=Z,62nm,1.6s						
LBNH	Lisbon	80.31	31	eP	P	05 30 24.0	+2.6
LBNH				pmax	pmax		
	comp=Z,62nm,1.8s						
LBNH	Lisbon	80.31	31	eP	P	05 30 24.0	+2.6
	comp=Z,62nm,1.8s						
HNR	Honiara	80.40	264	PFAKE		05 30 30.0	+7.5
HNR				LR	LR		
	comp=Z,1μm,22.0s						
TRQ	Mont Tremblant	80.69	28	eP	P	05 30 22.9	-0.5
WVL	Waterville	81.62	32	eP	P	05 30 28.3	0.0
	comp=Z,44nm,1.3s						
WVL				LR	LR		
	comp=Z,600nm,20.0s						
EIDS	Eidsvold	81.69	246	PFAKE		05 30 40.0	+11
EIDS				LR	LR		
	comp=Z,600nm,18.0s						
WRAK	Wrangell Islan	82.60	351	PFAKE		05 30 50.0	+17
WRAK				LR	LR		
	comp=Z,2μm,19.0s						
GGN	Saint George	83.39	33	eP	P	05 30 38.5	+1.1
	comp=Z,30nm,1.3s						
GGN				LR	LR		
	comp=Z,900nm,19.0s						
PQI	Presque Isle	83.95	31	eP	P	05 30 41.8	+1.5
	comp=Z,32nm,1.1s						
SYO	Syowa Base	84.26	172‖	eP	P	05 30 38.0	-3.7
SYO	Syowa Base	84.26	172‖	epP	P	05 30 40.2	-1.5
BESE	Bessie Mountai	85.05	350	PFAKE		05 31 00.0	+14
BESE				LR	LR		
	comp=Z,700nm,18.0s						
MIR	Mirnyy	85.70	191	iP	P	05 30 49.0	0.0
MIR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
STKA	Stephens Creek	86.39	236	P	P	05 30 52.8	-0.4
	comp=Z,9.0nm,0.9s,baz=97,slow=7.6,SNR=8.8						
STKA				LR	LR	06 03 34.7	
	comp=Z,532nm,19.4s,baz=105,slow=32						
STKA	Stephens Creek	86.39	236	eP	P	05 30 53.3	+0.1
	comp=Z,3.3nm,1.0s						
H11S2	WAKE ISLAND Hy	86.61	292	T	T	07 06 48.6	
	baz=118,slow=75,SNR=1037						
H11S1	WAKE ISLAND Hy	86.62	292	T	T	07 06 33.0	
	baz=118,slow=75,SNR=1250						
H11S3	WAKE ISLAND Hy	86.63	292	T	T	07 06 33.6	
	baz=118,slow=75,SNR=658						
H11N3	WAKE ISLAND Hy	87.01	293	T	T	07 07 00.9	
	baz=120,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	87.03	293	T	T	07 07 05.7	
	baz=120,slow=75,SNR=61						
H11N2	WAKE ISLAND Hy	87.03	293	T	T	07 07 01.8	
	baz=120,slow=75,SNR=80						
WHY	Whitehorse	87.05	351	eP	P	05 30 57.9	+2.2
	comp=Z,33nm,1.5s						
MAW	Mawson	87.30	180	P	P	05 30 57.8	+1.0
	comp=Z,4.8nm,1.1s,baz=203,slow=7.4,SNR=7.3						
MAW				LR	LR	06 05 48.5	
	comp=Z,552nm,20.1s,baz=214,slow=33						
MAW	Mawson	87.30	180	eP	P	05 30 59.2	+2.4
MAW				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MAW	Mawson	87.30	180	eP	P	05 30 58.4	+1.6
	comp=Z,3.0nm,1.4s						
YKA	Yellowknife Ar	87.57	1	P	P	05 30 57.2	-0.8
	comp=Z,4.8nm,0.9s,baz=172,slow=4.5,SNR=7.4						
YKA				LR	LR	06 05 34.7	
	comp=Z,114nm,18.2s,baz=180,slow=32						
YKB5	Yellowknife Ar	87.57	1	eP	P	05 30 57.2	-0.8
CTA	Charters Tower	87.96	249	P	P	05 30 59.1	-1.9
	comp=Z,1.5nm,0.3s,baz=78,slow=5.6,SNR=3.6						
CTAO	Charters Tower	87.96	249	PFAKE		05 31 10.0	+9.0
CTAO				LR	LR		
	comp=Z,900nm,21.0s						
OHAK	Old Harbor	87.97	341	PFAKE		05 31 10.0	+10
OHAK				LR	LR		
	comp=Z,2μm,19.0s						
RAGM	Ragged Mountai	88.54	346	PFAKE		05 31 10.0	+7.3
RAGM				LR	LR		
	comp=Z,1μm,20.0s						
CRQM	Cirque	88.56	347	eP	P	05 31 03.0	+0.1
	comp=Z,69nm,1.4s						
CRQM				LR	LR		
	comp=Z,900nm,20.0s						
PATS	Pohnpei	88.73	278	PFAKE		05 31 20.0	+15
PATS				LR	LR		
	comp=Z,2μm,20.0s						
EYAK	Cordova Ski Ar	88.92	346	PFAKE		05 31 20.0	+16
EYAK				LR	LR		
	comp=Z,1μm,20.0s						
FID	Port Fidalgo	89.26	346	PFAKE		05 31 20.0	+14
FID				LR	LR		
	comp=Z,900nm,19.0s						
CNPM	China Poot	89.35	343	eP	P	05 31 07.0	+0.5
	comp=Z,149nm,1.8s						
CNPM				LR	LR		
	comp=Z,1μm,21.0s						
RABL	Rabaul	89.59	266	PFAKE		05 31 20.0	+11
RABL				LR	LR		
	comp=Z,800nm,22.0s						
KLU	Klutina	89.81	346	eP	P	05 31 10.1	+1.5
	comp=Z,14nm,1.2s						
KLU				LR	LR		
	comp=Z,900nm,19.0s						
BBOO	Buckleboo	90.04	233	PFAKE		05 31 20.0	+9.4
BBOO				LR	LR		
	comp=Z,2μm,19.0s						
RC01	Rabbit Creek A	90.32	344	PFAKE		05 31 20.0	+9.1
RC01				LR	LR		
	comp=Z,900nm,19.0s						
SCM	Sheep Creek Mo	90.42	346	PFAKE		05 31 20.0	+8.5
SCM				LR	LR		
	comp=Z,700nm,20.0s						
HARP	HAARP	90.47	347	eP	P	05 31 16.5	+4.9
	comp=Z,51nm,1.3s						
RSO	Redoubt South	90.55	343	eP	P	05 31 14.8	+2.5
PMR	Palmer	90.61	345	eP	P	05 31 13.1	+0.8
PM

comp=Z,28nm,1.4s
PMR Palmer 90.61 345 *e*P **P 05 31 13.1 +0.8**
comp=Z,28nm,1.4s
SML Sawmill 90.62 345 *e*P **P 05 31 12.4 0.0**
SML pmax pmax
comp=Z,15nm,0.6s
SML Sawmill 90.62 345 *e*P **P 05 31 12.4 0.0**
comp=Z,15nm,0.6s
SUA Susitna One 90.89 344 PFAKE 05 31 30.0 +16
SUA LR LR
comp=Z,600nm,20.0s
DAWY Dawson 90.97 350 *e*P **P 05 31 14.0 +0.1**
comp=Z,36nm,1.9s
SPU Mount Spurr 90.98 344 *e*P **P 05 31 15.2 +1.1**
PAX Paxson 91.04 347 *e*P **P 05 31 18.2 +3.8**
PAX pmax pmax
comp=Z,43nm,1.8s
PAX MLR MLR
comp=Z,600nm,19.0s
PAX Paxson 91.04 347 *e*P **P 05 31 18.2 +3.8**
comp=Z,43nm,1.8s
PAX LR LR
comp=Z,600nm,19.0s
DOT Dot Lake 91.38 348 *e*P **P 05 31 18.2 +2.4**
comp=Z,102nm,1.8s
DHY Denali Highway 91.53 346 PFAKE 05 31 30.0 +13
DHY LR LR
comp=Z,800nm,20.0s
PMG Port Moresby 91.84 259 PFAKE 05 31 30.0 +11
PMG LR LR
comp=Z,700nm,19.0s
SVW2 Sparrevohn 91.85 342 *e*P **P 05 31 22.0 +4.0**
comp=Z,62nm,1.8s
RND Reindeer 92.14 346 *e*P **P 05 31 21.7 +2.2**
RND pmax pmax
comp=Z,57nm,2.0s
RND Reindeer 92.14 346 *e*P **P 05 31 21.7 +2.2**
comp=Z,57nm,2.0s
MCK McKinley 92.44 346 *e*P **P 05 31 23.0 +2.2**
MCK pmax pmax
comp=Z,24nm,1.4s
MCK McKinley 92.44 346 *e*P **P 05 31 23.0 +2.2**
comp=Z,24nm,1.4s
PPLA Purkeypile 92.47 344 *e*P **P 05 31 21.7 +0.6**
comp=Z,71nm,1.6s
PPLA LR LR
comp=Z,600nm,18.0s
TRF Thorofare Moun 92.50 345 *e*P **P 05 31 21.0 -0.2**
comp=Z,22nm,1.2s
KTH Kantishna Hill 92.73 345 *e*P **P 05 31 21.9 -0.3**
comp=Z,51nm,1.3s
CAST Castle Rocks 92.89 345 *e*P **P 05 31 23.8 +0.9**
comp=Z,41nm,1.6s
CAST LR LR
comp=Z,800nm,19.0s
WRH Wood River Hil 92.92 347 *e*P **P 05 31 24.3 +1.4**
comp=Z,12nm,1.1s
WRH LR LR
comp=Z,700nm,19.0s
IL1 Eielson Array 92.94 347 *e*P **P 05 31 24.6 +1.6**
ILAR Eielson Array 92.94 347 P **P 05 31 22.6 -0.4**
comp=Z,0.6nm,0.9s,baz=172,slow=1.8,SNR=2.8
ILAR LR LR 06 06 21.2
comp=Z,510nm,18.1s,baz=148,slow=31
ILB Eielson Array 92.94 347 *e*P **P 05 31 22.7 -0.4**
CCB Clear Creek Bu 93.01 347 *e*P **P 05 31 25.6 +2.3**
comp=Z,15nm,1.3s
CCB LR LR
comp=Z,800nm,20.0s
COLA College 93.22 347 *e*P P 05 31 29.6 +5.3
COLA pmax pmax
comp=Z,24nm,0.3s
COLA College 93.22 347 PFAKE 05 31 40.0 +16
COLA LR LR
comp=Z,900nm,21.0s
COEN Coen 93.32 253 *e*P **P 05 31 26.5 +0.5**
comp=Z,11nm,1.1s
COEN LR LR
comp=Z,1μm,20.0s
MDM Murphy Dome 93.37 347 *e*P **P 05 31 24.3 -0.8**
comp=Z,27nm,1.2s
MDM LR LR
comp=Z,900nm,19.0s
TT01 Tatalina 93.45 343 *e*P **P 05 31 25.0 -0.4**
FYU Fort Yukon 94.24 349 *e*P **P 05 31 32.5 +3.6**
comp=Z,32nm,1.2s
FYU LR LR
comp=Z,700nm,21.0s
MANU Manus Island 94.84 265 PFAKE 05 31 40.0 +7.0
MANU LR LR
comp=Z,900nm,20.0s
IMAR Indian Mountai 95.44 346 *e*P **P 05 31 35.8 +1.4**
COLD Coldfoot 95.75 347 *e*P **P 05 31 36.5 +0.7**
comp=Z,13nm,1.2s
COLD LR LR
comp=Z,600nm,19.0s
ASAR Alice Springs 96.34 240 P **P 05 31 38.8 -1.1**
comp=Z,1.3nm,0.9s,baz=130,slow=3.9,SNR=6.4
ASAR LR LR 06 12 06.9
comp=Z,739nm,18.4s,baz=128,slow=34
TOLK Toolik Lake Re 96.86 348 P **P 05 31 41.4 +0.4**
baz=150
WB2 Warramunga Arr 97.88 244 *e*P Pdif 05 31 48.0 +1.1
comp=Z,8.2nm,1.2s
WB2 LR LR
comp=Z,600nm,20.0s
WRAB Tennant Creek 97.89 244 *i* P **P 05 31 45.7 -1.1**
WRAB pmax pmax
comp=Z,16nm,1.1s
WRAB Tennant Creek 97.89 244 *e*P **P 05 31 44.8 -2.0**
comp=Z,28nm,1.0s
WR1 Warramunga Arr 97.89 244 *e*P **P 05 31 46.5 -0.4**
comp=Z,29nm,2.0s
WR1 *e*PP **PP 05 35 40.8 -4.2**
WRA Warramunga Arr 97.89 244 P **P 05 31 46.5 -0.4**
comp=Z,3.2nm,1.1s,baz=117,slow=4.4,SNR=9.3
WRA PP **PP 05 35 40.8 -4.2**
comp=Z,1.3nm,1.2s,baz=115,slow=6.3,SNR=5.7
WRA LR LR 06 11 18.8
comp=Z,449nm,20.9s,baz=90,slow=33
WB4 Warramunga Arr 97.90 244 PFAKE 05 32 00.0 +13
WB4 LR LR
comp=Z,600nm,18.0s
WB6 Warramunga Arr 97.92 244 PFAKE 05 32 00.0 +13
WB6 LR LR
comp=Z,4μm,20.0s
WB8 Warramunga Arr 97.92 244 PFAKE 05 32 00.0 +13
WB8 LR LR
comp=Z,600nm,19.0s
WB9 Warramunga Arr 97.93 244 PFAKE 05 32 00.0 +13
WB9 LR LR
comp=Z,2μm,20.0s
WB0 Warramunga Arr 97.94 244 PFAKE 05 32 00.0 +13
WB0 LR LR
comp=Z,800nm,18.0s
MTN Manton Dam 104.13 248 PFAKE 05 32 30.0 +15
MTN LR LR
comp=Z,1μm,20.0s
SAUI Saumlaki 106.40 253 PFAKE 05 36 50.0
SAUI LR LR
comp=Z,3μm,20.0s
PEA0B Petropavlovsk- 107.57 321 PFAKE 05 36 50.0
PEA0B LR LR
comp=Z,700nm,20.0s
FAKI Fak Fak 107.97 258 PFAKE 05 36 50.0
FAKI LR LR
comp=Z,2μm,18.0s
MBWA Marble Bar 108.58 235 PFAKE 05 36 50.0
MBWA LR LR
comp=Z,1μm,20.0s
SOEI Soe 111.48 247 PFAKE 05 37 00.0
SOEI LR LR
comp=Z,1μm,18.0s
MMRI Maumere 113.77 247 PFAKE 05 37 00.0
MMRI LR LR
comp=Z,1μm,18.0s
ASAJ Asahikawa 114.89 309 PFAKE 05 37 00.0 +8.8
ASAJ LR LR
comp=Z,300nm,20.0s
MAJO Matsushiro 116.55 300 PFAKE 05 37 10.0 +15
MAJO LR LR
comp=Z,400nm,20.0s
MJB9 Matsu-Tunnel 116.56 300 PFAKE 05 37 10.0 +15
MJB9 LR LR
comp=Z,100nm,20.0s
INU Inuyama 117.23 298 PFAKE 05 37 10.0 +14
INU LR LR
comp=Z,400nm,21.0s
KAPI Kappang 117.78 249 PFAKE 05 37 10.0 +12
KAPI LR LR
comp=Z,800nm,20.0s
DAV Davao City (W) 118.36 264 PFAKE 05 37 10.0 +11
DAV LR LR
comp=Z,1μm,19.0s
TOC5 Torodi Ar. Sit 120.66 89 PFAKE 05 37 10.0 +6.9
TOC5 LR LR
comp=Z,1μm,20.0s
TOB4 Torodi Ar. Sit 120.67 89 PFAKE 05 37 10.0 +6.8
TOB4 LR LR
comp=Z,1μm,21.0s
TOB5 Torodi Ar. Sit 120.67 89 PFAKE 05 37 10.0 +6.8
TOB5 LR LR
comp=Z,1μm,21.0s
TOC7 Torodi Ar. Sit 120.67 89 PFAKE 05 37 10.0 +6.8
TOC7 LR LR
comp=Z,1μm,21.0s
TOC4 Torodi Ar. Sit 120.67 89 PFAKE 05 37 10.0 +6.8
TOC4 LR LR
comp=Z,1μm,20.0s
TOA1 Torodi Ar. Sit 120.68 89 *e*PKPdf **PKPdf 05 37 01.8 -1.4**
TOA1 *e*PP **PP 05 38 25.2 -5.9**
TOA0 Torodi Ar. Sit 120.68 89 *e*PKPdf **PKPdf 05 37 01.6 -1.5**
TOA0 LR LR
comp=Z,1μm,21.0s
TORD Torodi Ar. Bea 120.68 89 PKP **PKPdf 05 37 01.8 -1.4**
comp=Z,2.5nm,0.9s,baz=288,slow=2.1,SNR=10
TORD PP **PP 05 38 25.2 -5.9**
comp=Z,1.5nm,0.9s,baz=262,slow=5.0,SNR=4.5
TOB3 Torodi Ar. Sit 120.69 89 PFAKE 05 37 10.0 +6.8
TOB3 LR LR
comp=Z,1μm,20.0s
TOB2 Torodi Ar. Sit 120.69 89 PFAKE 05 37 10.0 +6.8
TOB2 LR LR
comp=Z,1μm,21.0s
TOC1 Torodi Ar. Sit 120.69 89 PFAKE 05 37 10.0 +6.8
TOC1 LR LR
comp=Z,1μm,21.0s
TOC3 Torodi Ar. Sit 120.70 89 PFAKE 05 37 10.0 +6.8
TOC3 LR LR
comp=Z,1μm,20.0s
TOC2 Torodi Ar. Sit 120.71 89 PFAKE 05 37 10.0 +6.8
TOC2 LR LR
comp=Z,1μm,21.0s
JNU Nakatsue 121.73 295 PFAKE 05 37 20.0 +15
JNU LR LR
comp=Z,400nm,18.0s
PAB San Pablo 122.14 58 PFAKE 05 37 20.0 +15
PAB LR LR
comp=Z,600nm,19.0s
ESLA Sonseca Array 122.45 58 PFAKE 05 37 20.0 +14
ESLA LR LR
comp=Z,600nm,20.0s
JOW Kunigami 122.56 287 PFAKE 05 37 20.0 +14
JOW LR LR
comp=Z,1μm,20.0s
MYLDM Lahad Datu 123.87 259 PFAKE 05 37 20.0 +11
MYLDM LR LR
comp=Z,700nm,21.0s
MDJ Mudanjiang 124.19 308 PFAKE 05 37 20.0 +11
MDJ LR LR
comp=Z,500nm,20.0s
INCN Inchon 125.84 299 PFAKE 05 37 20.0 +7.5
INCN LR LR
comp=Z,400nm,19.0s
CISI Cisompet, Garu 126.02 239 PFAKE 05 37 30.0 +16
CISI LR LR
comp=Z,700nm,22.0s
TAM Tamanrasset 127.20 80 PFAKE 05 37 30.0 +14
TAM LR LR
comp=Z,400nm,21.0s
NACB Ninganchiao 127.77 282 PFAKE 05 37 30.0 +13
NACB LR LR
comp=Z,700nm,21.0s
SBUM Sibu 128.06 252 PFAKE 05 37 30.0 +13
SBUM LR LR
comp=Z,400nm,21.0s
YHNB Yeheng 128.08 282 PFAKE 05 37 30.0 +13
YHNB LR LR
comp=Z,1μm,22.0s
SSLB Suanglung 128.24 281 PFAKE 05 37 30.0 +13
SSLB LR LR
comp=Z,500nm,20.0s
HIA Hailar 130.76 314 PFAKE 05 37 30.0 +8.5
HIA LR LR
comp=Z,400nm,20.0s
NJ2 Nanjing 131.59 291 *e*PKP **PKPdf 05 37 26.0 +2.4**
BJI Beijing 134.10 302 PKP **PKPdf 05 37 30.2 +2.2**
BJI PP **PP 05 40 01.2 +2.0**
BJI AMB AMB
comp=Z,100nm,3.5s
BJI LR LR
comp=Z,160nm,15.5s
BJI LR LR
comp=Z,330nm,19.9s
BJI LR LR
comp=Z,410nm,22.7s
BJT Baijiatuau 134.11 302 PFAKE 05 37 40.0 +12
BJT LR LR
comp=Z,500nm,20.0s
BRG Berggiesshubel 134.44 43 *e*PKP **PKPdf 05 37 31.8 +3.4**
comp=Z,6.3nm,1.3s
BRG Berggiesshubel 134.44 43 *e*PKIKP **PKPdf 05 37 31.8 +3.4**
BRG pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 134.63 45 *e*PKPdf **PKPdf 05 37 32.0 +3.2**
KHC *ex* x 05 37 46.5
KHC AMS AMS 06 39 10.0
comp=Z,400nm,11.8s
KHC Kasperske Hory 134.63 45 *e*PKIKP **PKPdf 05 37 32.0 +3.2**
KHC MLR MLR
comp=Z,400nm,11.8s
MYKOM Kota Tinggi 134.76 245 PFAKE 05 37 40.0 +10
MYKOM LR LR
comp=Z,800nm,22.0s
GEC2 GERESS Array S 134.77 45 *e*PKIKP **PKPdf 05 37 29.4 +0.3**
GEC2 GERESS Array S 134.77 45 *e*PKPdf **PKPdf 05 37 29.4 +0.3**
GERES GERESS Array B 134.77 45 PKP **PKPdf 05 37 29.5 +0.3**
comp=Z,0.2nm,0.3s,baz=48,slow=1.5,SNR=3.5
PVCC Panska Ves 134.91 43 AMS AMS 06 29 00.0
DLV T Lat 135.70 261 PFAKE 05 37 40.0 +8.0
DLV LR LR
comp=Z,300nm,20.0s
TREC Trest 135.81 44 AMS AMS 06 37 00.0
comp=Z,500nm,16.6s
BKNI Bangkinang 136.17 241 PFAKE 05 37 40.0 +7.2
BKNI LR LR
comp=Z,702nm,22.0s
QIZ Qiongzhong 136.96 271 PKP **PKPdf 05 37 35.5 +1.5**
QIZ PP **PP 05 40 20.7 +2.9**
QIZ LR LR
comp=Z,380nm,20.2s
QIZ Qiongzhong 136.96 271 PFAKE 05 37 50.0 +16
QIZ LR LR
comp=Z,400nm,20.0s
HHC Hu-ho-hao-te 137.56 304 *e*PKP **PKPdf 05 37 37.4 +2.8**
HHC SKKS 05 47 11.5
HHC SS **SS 05 58 22.8 -7.0**
HHC LR LR
comp=Z,250nm,18.5s
HHC LR LR
comp=Z,400nm,21.0s
HHC LR LR
comp=Z,490nm,20.4s
IPM Ipoh 138.60 246 PFAKE 05 37 50.0 +13
IPM LR LR
comp=Z,500nm,21.0s
ULN Ulaanbaatar 139.28 315 PFAKE 05 37 50.0 +12
ULN LR LR
comp=Z,500nm,22.0s
KULM Kulim 139.35 247 PFAKE 05 37 50.0 +11
KULM LR LR
comp=Z,500nm,21.0s
ENH Enshi 139.40 288 PFAKE 05 37 50.0 +12
ENH LR LR
comp=Z,300nm,20.0s
SONA1 Songino Array 139.70 315 *e*PKPdf **PKPdf 05 37 36.5 -1.9**
SONA0 Songino Array 139.71 315 *e*PKPpre PKPpre 05 37 34.7
SONA0 *e*PP **PP 05 40 33.8 -0.2**
SONM Songino Array 139.71 315 PKhKP PKPpre 05 37 34.7
comp=Z,1.4nm,0.8s,baz=132,slow=4.4,SNR=4.2
SONM PP **PP 05 40 33.8 -0.2**
comp=Z,1.1nm,1.1s,baz=88,slow=3.6,SNR=5.0
TLY Talaya 139.93 322 PFAKE 05 37 50.0 +11
TLY LR LR
comp=Z,400nm,21.0s
ZAK Zakamensk 140.68 320 *e*PKIKP **PKPdf 05 37 36.0 -4.0**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
KLMR Klimovskoe 140.87 19 *e*PKIKP **PKPdf 05 37 38.2 -1.7**
KLMR pmax pmax
comp=Z,24nm,1.1s
GYA Guiyang 141.46 281 PKP **PKPdf 05 37 42.0 -0.2**
GYA PP **PP 05 40 50.2 +4.6**
GYA PKS **PKSdf 05 41 17.8 -0.5**
GYA SKKS 05 47 38.6
GYA AMB AMB
comp=Z,140nm,8.1s
GYA LR LR
comp=Z,160nm,22.0s
GYA LR LR
comp=Z,130nm,23.3s
GYA LR LR
comp=Z,170nm,22.6s
ARR Arges 142.90 47⇑ *i*P **PKPdf 05 37 39.9 -4.2**
SLVN Son La 142.95 272 *e*PKPdf **PKPdf 05 37 44.8 -0.1**
SLVN LR LR
comp=Z,300nm,19.0s
VOIR 143.15 47⇑ *i*P **PKPdf 05 37 44.8 +0.2**
VOIR 143.15 47 ⇑PKIKP **PKPdf 05 37 44.8 +0.2**
AK11 Malin Array Si 143.43 37 *e*PKPdf **PKPdf 05 37 45.6 +0.8**
KIEV Kiev 143.44 37 *e*PKIKP **PKPdf 05 37 45.4 +0.6**
KIEV Kiev 143.44 37 *e*PKPdf **PKPdf 05 37 45.4 +0.6**
AKASG Malin Array Be 143.44 37 PKhKP PKPpre 05 37 41.0
comp=Z,3.4nm,1.0s,baz=298,slow=2.9,SNR=3.9
AKBB Malin Array Si 143.44 37 *e*PKIKP **PKPdf 05 37 45.8 +1.0**
AKBB Malin Array Si 143.44 37 *e*PKPdf **PKPdf 05 37 45.8 +1.0**
MLR Muntele Rosu 143.72 47⇓ *i*P PKPab 05 37 42.4 0.0
MLR Muntele Rosu 143.72 47 ⇓PKIKP PKPab 05 37 42.4 0.0
MLR Muntele Rosu 143.72 47 *e*PKPpre PKPpre 05 37 42.3
MLR LR LR
comp=Z,400nm,21.0s
LZH Lanzhou 144.09 297 *e*PKP **PKPdf 05 37 45.7 -0.9**
LZH pPKP sPKPdf 05 37 52.7 +1.5
LZH sPKP 05 37 55.5
LZH PP **PP 05 41 02.6 +1.3**
LZH SKKS 05 47 51.3
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=Z,340nm,18.0s
LZH LR LR
comp=Z,370nm,17.0s
LZH LR LR
comp=Z,470nm,18.2s
SORM Soroca 144.18 41⇑ *i*P **PKPdf 05 37 45.7 -0.4**
SORM Soroca 144.18 41 ⇑PKIKP **PKPdf 05 37 45.7 -0.4**
MOS Moscow 144.21 25 *e*PKIKP PKPdf 05 37 56.3 +10
CD2 Chengdu 144.37 288 PKP **PKPdf 05 37 47.4 +0.3**
CD2 PP **PP 05 41 04.1 +1.1**
CD2 AMB AMB
comp=Z,160nm,6.2s
CD2 LR LR
comp=Z,710nm,21.9s
CD2 LR LR
comp=Z,650nm,24.3s
KMI Kunming 144.76 278 PKP **PKPdf 05 37 48.3 +0.1**
KMI LR LR
comp=Z,210nm,22.8s
KMI LR LR
comp=Z,290nm,20.9s
KMI LR LR
comp=Z,400nm,25.4s
LEOM Leova 144.83 44⇑ *i*P **PKPab 05 37 44.5 -1.8**
LEOM Leova 144.83 44 ⇑PKIKP **PKPab 05 37 44.5 -1.8**
CFR Carcaliu 145.28 46⇓ *i*P **PKPbc 05 37 47.3 -0.6**
CFR Carcaliu 145.28 46 ⇓PKIKP **PKPbc 05 37 47.3 -0.6**
SOKR Solikamsk 145.46 6 *i* PKP2 **PKPdf 05 37 45.6 -2.4**
SOKR pmax pmax
comp=Z,16nm,1.2s
SOKR MLR MLR
comp=Z,303nm,21.0s
APE Apeiranthos 145.57 61⇓ *i*P **PKPdf 05 37 48.9 -0.1**
APE Apeiranthos 145.57 61 ⇓PKIKP **PKPdf 05 37 48.9 -0.1**
SANT Santorini 145.61 62 *e*PKPdf **PKPdf 05 37 48.5 -0.6**
TIRR Tirgusor 145.73 47⇓ *i*P **PKPbc 05 37 49.4 +0.1**
TIRR Tirgusor 145.73 47 ⇓PKP2 **PKPbc 05 37 49.4 +0.1**
TIRR Tirgusor 145.73 47 *e*PKPdf **PKPab 05 37 50.0 +0.3**
CM01 Chiang Mai Arr 146.61 265 *e*PKPdf **PKPbc 05 37 53.2 +0.4**
CM31 Chiang Mai Arr 146.64 265 *e*PKPdf **PKPbc 05 37 53.0 +0.2**
CMAR Chiang Mai Arr 146.64 265 PKPbc **PKPbc 05 37 53.0 +0.2**
comp=Z,14nm,1.1s,baz=115,slow=0.8,SNR=31
GTA Gaotai 146.67 304 PKPbc **PKPbc 05 37 52.4 -0.2**
GTA PP **PP 05 41 21.9 +5.5**
GTA SKS **SKSdf 05 44 59.1 -0.9**
GTA AMB AMB
comp=Z,89nm,5.2s
GTA LR LR
comp=Z,300nm,20.9s
GTA LR LR
comp=Z,400nm,22.8s
GTA LR LR
comp=Z,530nm,21.9s
CHTO Chiang Mai 146.75 266 *e*PKP2 **PKPab 05 37 53.8 -0.6**
CHTO MLR MLR
comp=Z,300nm,20.0s
CHTO Chiang Mai 146.75 266 *e*PKPbc **PKPab 05 37 53.8 -0.6**
CHTO LR LR
comp=Z,300nm,20.0s
LPSR Galich'ya Gora 147.02 28 *e*PKP2 **PKPbc 05 37 52.7 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NVS Novosibirsk 147.22 339 *e*PKP2 **PKPbc 05 37 52.4 -1.0**
NVS pmax pmax
comp=E,26nm,1.9s
NVS pmax pmax
comp=Z,52nm,1.9s
ZAA1 Zalesovo Array 147.41 337 *e*PKPdf **PKPbc 05 37 53.0 -0.9**
ZAA0 Zalesovo Array 147.41 337 *e*PKPdf **PKPdf 05 37 52.7 +1.2**
ZALV Zalesovo Beam 147.41 337 PKPbc **PKPbc 05 37 53.0 -0.9**
comp=Z,6.5nm,0.8s,baz=29,slow=2.5,SNR=13
ZALV Zalesovo Beam 147.41 337 *e*PKPdf **PKPdf 05 37 51.5 0.0**
SVE Sverdlovsk 148.50 3 *e*PKP2 **PKPbc 05 37 57.0 +0.2**
SVE pmax pmax
comp=Z,61nm,1.4s
ARU Arti 148.75 5 PKPbc **PKPbc 05 37 55.9 -1.5**
comp=Z,9.5nm,0.7s,baz=328,slow=2.5,SNR=11
ARU Arti 148.75 5 *i* PKP2 **PKPbc 05 37 56.7 -0.7**
ARU 05 41 24.1
ARU MLR MLR
comp=Z,445nm,21.0s
ARU Arti 148.75 5 *e*PKPbc **PKPbc 05 37 58.7 +1.3**
SIM Simferopol' 149.19 43 *i* PKP2 **PKPbc 05 37 58.9 0.0**
SIM pmax pmax
comp=Z,20nm,1.3s
BOLV Bolvadin 149.41 56 PFAKE 05 38 10.0 +5.4
BOLV LR LR
comp=Z,300nm,22.0s
BR231 Keskin MP Arra 150.41 53 *e*PKPbc **PKPbc 05 38 02.3 +0.1**
ANTO Ankara 150.41 53 *e*PKIKP **PKPbc 05 38 02.0 -0.2**
ANTO Ankara 150.41 53 *e*PKPbc **PKPbc 05 38 01.9 -0.2**
ILGA Ilgaz 150.64 50 PFAKE 05 38 10.0 +0.2
ILGA LR LR
comp=Z,300nm,18.0s
BR101 Keskin Array S 151.08 53 *e*pPKPdf pPKPdf 05 38 02.0 +0.6
BR131 Keskin Array S 151.08 53 *e*PKPbc **PKPbc 05 38 03.0 -0.9**
BRTR Keskin Array B 151.08 53 PKPbc **PKPbc 05 38 02.1 -1.8**
comp=Z,18nm,1.0s,baz=198,slow=0.4,SNR=28
BRVK Borovoye 151.91 352 *e*PKIKP **PKPbc 05 38 04.8 -0.3**
BRVK MLR MLR
comp=Z,400nm,22.0s
BRVK Borovoye 151.91 352 *e*PKPbc **PKPbc 05 38 04.8 -0.3**
BRVK LR LR
comp=Z,400nm,22.0s
BVA0 Borovoye Array 151.93 351 PKIKP **PKPdf 05 37 59.2 +0.5**
BVA0 pmax pmax
comp=Z,46nm,1.5s
BVAR Borovoye Array 151.93 351 PKP **PKPdf 05 37 57.7 -1.0**
comp=Z,0.6nm,0.4s,baz=254,slow=2.7,SNR=3.9
BVAR PKPbc **PKPbc 05 38 04.4 -0.8**
comp=Z,5.0nm,0.8s,baz=0.0,slow=1.5,SNR=16
CSS Mathiatis 152.17 63 PFAKE 05 38 10.0 +3.7
CSS LR LR
comp=Z,100nm,20.0s
KURK Kurchatov 152.21 339 *e*PKIKP **PKPdf 05 37 58.6 -0.6**
KURK MLR MLR
comp=Z,401nm,18.0s

KURK	Kurchatov	152.21	339	*e*PKPdf	PKPdf	05 37 58.6	-0.6
KURK				*e*PKPbc	PKPbc	05 38 05.2	-0.7
KURK				LR	LR		
	comp=Z,401nm,18.0s						
KURBB	Kurchatov Arra	152.32	339	PKP	PKPdf	05 37 58.6	-0.7
	comp=Z,2.6nm,1.1s,baz=355,slow=1.2,SNR=9.0						
KURBB				PKPbc	PKPbc	05 38 05.2	-0.9
	comp=Z,10nm,1.1s,baz=23,slow=1.9,SNR=22						
TOKA	Tokat	152.86	50	PFAKE		05 38 10.0	+2.2
TOKA				LR	LR		
	comp=Z,300nm,22.0s						
WMQ	Urumqi	153.15	319	PKPbc	PKPdf	05 37 59.7	-1.2
WMQ				pPKP	pPKPbc	05 38 10.4	-1.3
WMQ				LR	LR		
	comp=Z,270nm,33.3s						
WMQ				LR	LR		
	comp=Z,200nm,33.3s						
WMQ				LR	LR		
	comp=Z,200nm,23.3s						
MK31	Makanchi Array	153.99	330	*i* PKIKP	PKPbc	05 38 07.7	-2.3
MK31				pmax	pmax		
	comp=Z,15nm,1.2s						
MK32	Makanchi Array	153.99	330	*e*PKPdf	PKPdf	05 38 00.8	-1.1
MK32				*e*PKPbc	PKPbc	05 38 09.6	-0.4
MKAR	Makanchi Array	153.99	330	PKP	PKPdf	05 38 00.8	-1.1
	comp=Z,1.6nm,1.1s,baz=196,slow=1.0,SNR=3.3						
MKAR				PKPbc	PKPbc	05 38 09.6	-0.4
	comp=Z,2.1nm,0.9s,baz=101,slow=1.5,SNR=4.1						
MAKZ	Makanchi	154.12	330	PKIKP	PKPbc	05 38 10.2	-0.1
MAKZ				pmax	pmax		
	comp=Z,21nm,1.4s						
MAKZ	Makanchi	154.12	330	*e*PKPbc	PKPbc	05 38 12.3	+2.1
MAKZ				LR	LR		
	comp=Z,400nm,20.0s						
AKTO	Aktyubinsk	154.60	8	PKIKP	PKPbc	05 38 10.1	-1.0
AKTO				pmax	pmax		
	comp=Z,23nm,1.4s						
KBZ	Khabaz	155.06	38	PKP	PKPdf	05 38 03.7	+0.2
	comp=Z,3.4nm,1.0s,baz=237,slow=7.9,SNR=3.7						
LSA	Lhasa	155.29	286	PFAKE		05 38 20.0	-10
LSA				LR	LR		
	comp=Z,400nm,22.0s						
KOPT	Kop Dagi	155.73	47	PFAKE		05 38 20.0	-11
KOPT				LR	LR		
	comp=Z,400nm,19.0s						
PALK	Pallekele	155.74	225	PFAKE		05 38 20.0	-12
PALK				LR	LR		
	comp=Z,500nm,20.0s						
ARTV	Artvin	156.03	44	PFAKE		05 38 20.0	-12
ARTV				LR	LR		
	comp=Z,100nm,21.0s						
ZEI	Tsey	156.22	38	*i* PKIKP	PKPdf	05 38 13.5	+8.1
ZEI				pmax	pmax		
	comp=Z,17nm,1.1s						
MARD	Mardin	157.17	53	PFAKE		05 38 20.0	+13
MARD				LR	LR		
	comp=Z,200nm,20.0s						
GNI	Garni	158.37	42	PFAKE		05 38 20.0	+12
GNI				LR	LR		
	comp=Z,300nm,20.0s						
DAMY	Dhamar	158.95	117	PFAKE		05 38 20.0	+10
DAMY				LR	LR		
	comp=Z,500nm,19.0s						
FRU	Bishkek	160.40	335	*e*PKP2	PKPab	05 38 54.0	+3.0
KSH	Kashi	162.52	327	*e*PKP	PKPdf	05 38 14.6	+1.9
KSH				PKS	PKSdf	05 41 48.3	+2.4
KSH				PP	PP	05 42 52.9	+8.5
KSH				SKS	SKSdf	05 45 17.1	-0.6
KSH				SKKS	SKKSac	05 49 39.4	+6.0
KSH				AMB	AMB		
	comp=Z,100nm,6.1s						
KSH				LR	LR		
	comp=Z,110nm,4.5s						
KSH				LR	LR		
	comp=Z,150nm,5.5s						
KSH				LR	LR		
	comp=Z,250nm,6.2s						
RAYN	Ar Rayn	163.34	93	*e*PKPdf	PKPdf	05 38 15.3	+1.5
GEYT	Alibeck	166.62	19	PKP	PKPdf	05 38 15.9	-0.3
	comp=Z,1.3nm,0.3s,baz=329,slow=2.6,SNR=5.3						

IDC 10 05:30:43.3±1.6, 6.74S×155.39E, $h0^{km}$, mb3.7/4, mb1 4.1/4, mb1mx3.6/43, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/32, Error ellipse: s-maj=66.7km s-min=29.2km az=129.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.25	121	LR	LR	05 34 19.3	
	comp=Z,162nm,18.9s,baz=226,slow=41						
WRA	Warramunga Arr	24.28	235	P	P	05 36 02.6	0.0
	1.1nm,0.5s,baz=59,slow=9.6,SNR=12						
WRA				PcP	PcP	05 39 43.2	+0.2
	0.3nm,0.5s,baz=57,slow=2.4,SNR=6.0						
ASAR	Alice Springs	26.64	229	P	P	05 36 23.7	-0.2
	0.3nm,0.6s,baz=59,slow=9.2,SNR=4.7						
CMAR	Chiang Mai Arr	61.02	295	P	P	05 41 00.0	+0.7
	1.4nm,0.3s,baz=124,slow=5.8,SNR=5.0						
ILAR	Eielson Array	82.99	21	P	P	05 43 10.1	0.0
	0.4nm,0.7s,baz=252,slow=5.0,SNR=7.1						
TORD	Torodi Ar. Bea	153.33	286	PKPbc	PKPbc	05 50 43.4	-1.1
	0.3nm,0.6s,baz=57,slow=2.2,SNR=3.1						

*ISK **10** 05:36:03.6, 37.°35N×31.°10E, $h5^{km}$, ML2.4*
*DDA **10** 05:36:05.7, 37.°33N×31.°15E, $h7^{km}$, Md2.5*
CSEM 10 05:36:05.2±0.4, 37.°34N×31.°11E, $h5^{km}$, ML2.4, Error ellipse: s-maj=10.8km s-min=5.8km az=150.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	Sutluce-Ispart	0.16	328	PG	Pg	05 36 07.4	-1.1
SUTC				*e*SG	Sg	05 36 10.3	-0.4
SUTC	Sutluce-Ispart	0.16	328	*i* Pg	Pg	05 36 07.4	-1.1
SUTC				*e*Sg	Sg	05 36 10.3	-0.4
BCK	Bucak	0.43	286	*e*PG	Pg	05 36 12.7	-0.8
BCK				*e*SG	Sg	05 36 20.0	+0.9
BCK	Bucak	0.43	286	*e*Pg	Pg	05 36 12.7	-0.8
BCK				*e*Sg	Sg	05 36 20.0	+0.8
KORT	Korkueli	0.69	241	*e*PG	Pg	05 36 18.0	-0.5
KORT				*e*SG	Sb	05 36 29.3	-0.5
KORT	Korkueli	0.69	241	*i* P	Pg	05 36 19.0	+0.5
KORT				*i* S	Sb	05 36 30.1	+0.3
KORT	Korkueli	0.69	241	*e*Pg	Pg	05 36 18.0	-0.5
KORT	Korkueli	0.69	241	P	Pg	05 36 19.0	+0.5
KORT				*e*Sg	Sb	05 36 29.3	-0.5
KORT				S	Sg	05 36 30.1	+2.6
BAGO	Egridir - ISPA	0.70	339	*i* P	Pg	05 36 19.0	+0.4
BAGO				*i* S	Sb	05 36 30.0	+0.1
KMER	Konya-Meram	1.09	66	*i* P	Pb	05 36 26.6	0.0
KMER	Konya-Meram	1.09	66	P	Pb	05 36 26.6	0.0
ELL	Elmali	1.13	239	*e*PN	Pg	05 36 26.2	-0.6
ELL	Elmali	1.13	239	*e*Pn	Pg	05 36 26.2	-0.6
KONT	Konya--Tatoy	1.16	58	*e*PN	Pg	05 36 27.1	-0.4
KONT	Konya--Tatoy	1.16	58	*e*Pn	Pg	05 36 27.2	-0.3
KZIL	AFYON_Kizioren	1.19	320	*i* P	Pg	05 36 27.8	-0.3
KZIL				*i* S	Sn	05 36 47.7	+2.4
KZIL	AFYON_Kizioren	1.19	320	P	Pg	05 36 27.8	-0.3
KZIL				S	Sn	05 36 47.7	+2.3
GOLH	Golhisar	1.24	266	*i* P	Pn	05 36 30.9	+1.7
GOLH	Golhisar	1.24	266	P	Pn	05 36 30.9	+1.6
LADK	Ladik-KONYA	1.31	49	*e*PN	Pn	05 36 30.1	-0.3
LADK	Ladik-KONYA	1.31	49	*e*Pn	Pn	05 36 30.1	-0.3
BOLV	Bolvadin	1.38	355	*i* P	Pg	05 36 32.1	+0.3
BOLV	Bolvadin	1.38	355	P	Pg	05 36 32.1	+0.4
KDHN	Kadinhani	1.42	34	*i* P	Pg	05 36 33.1	+0.6
KDHN				*i* S	Sn	05 36 51.7	+0.7
KDHN	Kadinhani	1.42	34	P	Pg	05 36 33.1	+0.6
KDHN				S	Sn	05 36 51.7	+0.7

*NEIC **10** 05:39:23.7±0.0, 50.°49N×130.°36W, $h10^{km}$, mb4.2/66, MW4.4(OTT), After OTT.*
*PGC **10** 05:39:23.7±3.4, 50.°50N×130.°36W, $h10^{km}$, MLSn3.8/29, Mw4.4, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*ISCJB **10** 05:39:27.8±0.2, 50.°62N±0.°02×129.°58W±0.°04, $h10^{km}$, mb4.4/25, MS4.5/2, Error ellipse: s-maj=3.8km s-min=2.3km az=148.6*
*IDC **10** 05:39:27.3±2.1, 50.°56N×129.°79W, $h0^{km}$, mb4.1/2, mb1 4.5/7, mb1mx3.9/50, mbtmp4.2/7, ML4.0/5, MS4.2/3, Ms1 4.2/3, ms1mx3.3/48, Error ellipse: s-maj=35.5km s-min=18.7km az=60.0*
ISC 10 05:39:28.5±0.6, 50.°65N±0.°05×129.°63W±0.°05, $h10^{km}$, n473, σ1°30/464, mb4.6/25, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLCB	Telegraph Cove	1.78	92	Pn	Pn	05 39 59.4	+0.1
TLCB				Sn	Sg	05 40 25.0	-0.7
EDB	Eliza Dome	1.79	115	Pn	Pn	05 39 57.4	-1.9
WOSB	Woss	2.02	103	Pn	Pn	05 40 02.2	-0.4
WOSB				Sn	Sb	05 40 30.4	0.0
NCRB	Newcastle Ridg	2.29	95	Pn	Pn	05 40 06.3	-0.2
BNB	Barry Inlet	2.34	326	Pn	Pn	05 39 58.8	-8.3
BNB				Sn	Sn	05 40 25.7	-10
ETB	Estevan Point	2.36	121	Pn	Pn	05 40 05.5	-1.8
GDR	Gold River	2.47	109	Pn	Pn	05 40 07.7	-1.0
SPLB	Strathcona Par	2.66	105	Pn	Pn	05 40 11.2	-0.2
SPLB				Sn	Sb	05 40 46.3	-2.5
NC89	ODP889	2.68	137	Pn	Pn	05 40 09.2	-2.2
CBB	Campbell River	2.80	101	Pn	Pn	05 40 13.5	+0.2
CBB				Sn	Sn	05 40 49.4	+2.3
TOFB	Tofino	2.83	120	Pn	Pn	05 40 11.8	-1.9
MWAB	Mount Washingt	2.92	106	Pn	Pn	05 40 15.0	-0.1
MWAB				Sn	Sn	05 40 52.2	+1.9
NC27	ODP1027	3.14	156	Pn	Pn	05 40 12.9	-4.7
B012	Ucluelet	3.16	122	Pn	Pn	05 40 17.3	-0.9
OZB	Mount Ozzard	3.17	121	Pn	Pn	05 40 16.3	-2.0
B927	Port Alberni	3.42	113	Pn	Pn	05 40 21.2	-0.5
B927	Port Alberni	3.42	113	*e*Pn	Pn	05 40 21.4	-0.5
BMSB	Bamfield Mari	3.43	120	Pn	Pn	05 40 20.5	-1.4
B928	Bamfield	3.43	120	Pn	Pn	05 40 20.4	-1.5
B928	Bamfield	3.43	120	*e*Pn	Pn	05 40 21.0	-0.9
TXB	Texada	3.47	104	Pn	Pn	05 40 22.5	-0.1
SHB	Sechelt	3.85	104	Pn	Pn	05 40 28.0	+0.2
NDB	Naden	3.89	330	Pn	Pn	05 40 20.9	-7.3
YOUB	Youbou, Lake C	3.89	115	Pn	Pn	05 40 27.8	-0.6
NLLB	Nanaimo Lost L	3.91	109	Pn	Pn	05 40 27.8	-0.7
B926	Mesachie Lake	4.01	115	Pn	Pn	05 40 30.0	+0.1
OCP	Olym-Cheeka Pk	4.02	124	Pn	Pn	05 40 29.5	-0.6
OCP	Olym-Cheeka Pk	4.02	124	*e*Pn	Pn	05 40 29.5	-0.6
UBRB	Upper Baezaeko	4.11	55	Pn	Pn	05 40 33.5	+2.1
UBRB				Sn	Sn	05 41 22.8	+3.2
WPB	Watts Point	4.24	101	Pn	Pn	05 40 34.0	+0.8
BIB	Bowen Island	4.26	105	Pn	Pn	05 40 33.2	-0.2
OTR	Olympics--Tyee	4.30	125	P	Pn	05 40 34.8	+0.8
GOBB	Galiano Island	4.31	111	Pn	Pn	05 40 34.3	+0.3
WSLR	Whistler	4.32	94	Pn	Pn	05 40 35.3	+1.0
OFR	Olym-F Res Ctr	4.37	126	Pn	Pn	05 40 34.2	-0.6
OFR	Olym-F Res Ctr	4.37	126	*e*Pn	Pn	05 40 35.8	+1.0
B010	North Saanich	4.48	114	Pn	Pn	05 40 35.9	-0.5
B009	North Saanich	4.48	114	Pn	Pn	05 40 35.9	-0.5
B011	North Saanich	4.48	114	Pn	Pn	05 40 35.9	-0.5
B04A	Port Angeles	4.77	121	*e*Pn	Pn	05 40 41.2	+0.9
OSD	Olympics--Snow	4.80	124	Pn	Pn	05 40 40.9	-0.1
MCW	Mount Constitu	4.83	111	Pn	Pn	05 40 42.2	+0.9
MCW	Mount Constitu	4.83	111	P	Pn	05 40 42.2	+0.9
A04D	Lummi Island	4.89	111	P	Pn	05 40 42.8	+0.8
	baz=292,SNR=126						
LLLB	Lillooet	4.93	87	Pn	Pn	05 40 44.1	+1.5
LLLB	Lillooet	4.93	87	*e*Pn	Pn	05 40 44.1	+1.5
LLLB				*e*Sn	Sn	05 41 39.7	0.0
NLWA	Neilton Lookou	5.00	128	*e*Pn	Pn	05 40 42.8	-0.7
NLWA				*e*Sn	Sn	05 41 40.8	-0.5
BLN	Blyn Mountain	5.09	119	Pn	Pn	05 40 44.7	-0.1
WISH	Wishkah	5.23	130	Pn	Pn	05 40 46.0	-0.7
HDW	Hoodsport	5.25	122	Pn	Pn	05 40 47.0	-0.1
HDW	Hoodsport	5.25	122	P	Pn	05 40 46.9	-0.2
C04A	Brinnon	5.26	121	*e*Pn	Pn	05 40 48.1	+1.1
CRAG	Craig	5.27	338	*e*Pn	Pn	05 40 48.8	+1.6
CRAG				*e*Sn	Sn	05 41 49.0	+1.1
SMW	South Mountain	5.31	126	Pn	Pn	05 40 47.2	-0.7
MBW	Mount Baker	5.35	107	Pn	Pn	05 40 49.8	+1.3
MBW	Mount Baker	5.35	107	P	Pn	05 40 49.8	+1.3
B05A	Bryant	5.46	113	P	Pn	05 40 50.8	+1.0
	baz=296,SNR=268						
B05A	Bryant	5.46	113	P	Pn	05 40 51.0	+1.2
JCW	Jim Creek	5.59	113	Pn	Pn	05 40 52.3	+0.6
JCW	Jim Creek	5.59	113	*e*Pn	Pn	05 40 52.9	+1.2
B06A	Marblemount	5.71	109	Pn	Pn	05 40 54.6	+1.4
B06A	Marblemount	5.71	109	*e*Pn	Pn	05 40 54.8	+1.6
RPW	Rockport	5.72	109	Pn	Pn	05 40 54.4	+0.9
RPW	Rockport	5.72	109	*e*Pn	Pn	05 40 54.6	+1.1
E03A	Lebam	5.75	133	Pn	Pn	05 40 53.1	-0.6
E03A	Lebam	5.75	133	*e*Pn	Pn	05 40 53.4	-0.4
E03A				*e*Sn	Sn	05 41 59.1	-0.5
HTW	Haystack Looko	5.88	116	*e*Pn	Pn	05 40 56.6	+0.9
WRAK	Wrangell Islan	6.01	345	*e*Pn	Pn	05 40 58.4	+1.1
WRAK				*e*Sn	Sn	05 42 09.4	+3.4
GPW	Glacier Peak	6.09	111	Pn	Pn	05 40 59.9	+1.2
GPW	Glacier Peak	6.09	111	*e*Pn	Pn	05 41 00.5	+1.8
D05A	Enumclaw	6.11	122	Pn	Pn	05 40 59.9	+1.2
D05A	Enumclaw	6.11	122	*e*Pn	Pn	05 41 00.7	+2.0
D05A				*e*Sn	Sn	05 42 08.7	+0.1
B941	Kapowsin	6.11	124	*e*Pn	Pn	05 40 59.8	+1.0
F03A	Seaside	6.22	137	*e*Pn	Pn	05 40 59.7	-0.6
F03A				*e*Sn	Sn	05 42 11.4	+0.1
RVC	Mount Rainier-	6.27	123	P	Pn	05 41 02.7	+1.6
C06D	Leavenworth	6.33	112	P	Pn	05 41 02.8	+1.0
	baz=296,SNR=11						
F04D	Rainier, OR	6.34	133	P	Pn	05 41 02.9	+0.9
	baz=315						
FMW	Mount Fremont	6.44	122	Pn	Pn	05 41 04.4	+0.9
LON	Longmire	6.48	124	Pn	Pn	05 41 02.2	-1.6
LON	Longmire	6.48	124	*e*Pn	Pn	05 41 04.9	+1.1
LON				*e*Sn	Sn	05 42 21.9	+4.1
ERK	Elk Rock	6.50	129	*e*Pn	Pn	05 41 05.5	+1.2
TDL	Tradedollar La	6.54	128	*e*Pn	Pn	05 41 06.2	+1.4
B201	Coldwater, Mou	6.54	129	*e*Pn	Pn	05 41 06.2	+1.5
FL2	Flat Top 2	6.58	130	*e*Pn	Pn	05 41 06.5	+1.2
PNT	Penticton	6.59	98	Pn	Pn	05 41 06.6	+1.2
PNT	Penticton	6.59	98	*e*Pn	Pn	05 41 06.8	+1.4
B203	Quarry, Mount	6.60	130	*e*Pn	Pn	05 41 06.8	+1.2
LVP	Lakeview Peak	6.64	131	*e*Pn	Pn	05 41 07.5	+1.3
F04A	Amboy	6.73	132	*e*Pn	Pn	05 41 08.7	+1.4
LTY	Liberty	6.80	116	Pn	Pn	05 41 09.4	+1.1
LTY	Liberty	6.80	116	*e*Pn	Pn	05 41 09.9	+1.5
LTY				*e*Sn	Sn	05 42 26.3	+0.4
ETW	Entiat	6.82	113	*e*Pn	Pn	05 41 10.1	+1.5
DOWB	Downie Slide	7.05	79	Pn	Pn	05 41 13.7	+1.9
B08A	Colville Reser	7.08	105	Pn	Pn	05 41 13.0	+0.9
B08A	Colville Reser	7.08	105	*e*Pn	Pn	05 41 13.1	+0.9
B08A				*e*Sn	Sn	05 42 33.7	+1.0
COR	Corvallis	7.42	142	*e*Pn	Pn	05 41 18.6	+1.9
TDH	Tom, Dick, Har	7.51	133	*e*Pn	Pn	05 41 20.0	+1.9
FHE	Frenchman Hill	7.64	115	*e*Pn	Pn	05 41 21.1	+1.3
E07A	Sunnyside	7.66	119	*e*Pn	Pn	05 41 19.6	-0.5
E07A				*e*Sn	Sn	05 42 46.7	-0.2
MDW	Midway	7.68	118	*e*Pn	Pn	05 41 21.3	+1.0
G05D	Wamic, OR	7.77	131	P	Pn	05 41 22.1	+0.6
	baz=314						
GBL	Gable Mountain	7.86	117	P	Pn	05 41 23.7	+1.0
D08A	Wollman Farm,	7.92	113	*e*Pn	Pn	05 41 24.1	+0.4
D08A				*e*Sn	Sn	05 42 52.4	-0.8
HAWA	Hanford	7.94	119	*e*Pn	Pn	05 41 24.7	+0.9
DPW	Davenport	7.97	106	*e*Pn	Pn	05 41 25.6	+1.3
VTHM	Trough	8.18	128	P	Pn	05 41 29.5	+2.2
I05D	Terrebonne, OR	8.44	135	P	Pn	05 41 31.6	+0.8
	baz=318						
NEW	Newport	8.49	101	Pn	Pn	05 41 32.5	+1.1
	3.6nm,0.3s,baz=294,slow=14,SNR=51						
NEW				LR	LR	05 44 55.2	
	comp=Z,410nm,19.5s,baz=284,slow=38						
NEW	Newport	8.49	101	P	Pn	05 41 32.5	+1.1
	baz=289,SNR=14						
J04D	Umpqua Nationa	9.01	142	P	Pn	05 41 39.5	+0.7
	baz=325						
FNBB	Fort Nelson	9.10	22	Pn	Pn	05 41 39.1	-0.6
HUMO	Hull Mountain	9.26	148	*e*Pn	Pn	05 41 44.4	+2.5
J05D	Fort Rock, OR	9.33	139	P	Pn	05 41 43.9	+0.8
	baz=322						
L02D	Cave Junction,	9.45	152	P	Pn	05 41 45.9	+1.2
	baz=333						
PRDA	Priddis	9.72	83	Pn	Pn	05 41 51.1	+2.7
K05A	Summer Lake	9.93	140	*e*Pn	Pn	05 41 54.2	+2.9
BSMT	Bassoo Peak	10.10	100	*e*Pn	Pn	05 41 55.0	+1.4
BMO	Blue Mountains	10.12	120	*e*Pn	Pn	05 41 54.8	+1.0
YBH	Yreka Blue Hor	10.12	149	*e*Pn	Pn	05 41 56.7	+2.9
WALA	Waterton Lakes	10.28	93	*e*Pn	Pn	05 41 57.6	+1.6
M02C	Callahan	10.38	150	P	Pn	05 41 58.1	+0.7
	baz=333						
JTMT	Jette	10.45	100	*e*Pn	Pn	05 42 00.7	+2.2
WHY	Whitehorse	10.46	346	*e*Pn	Pn	05 41 55.2	-3.2
YBMT	Yellow Bay	10.58	99	*e*Pn	Pn	05 42 02.5	+2.3
SWMT	Swartz Lake	10.72	101	*e*Pn	Pn	05 42 03.1	+1.0
N02D	Trinity Center	10.81	151	P	Pn	05 42 04.2	+0.9
	baz=333						
MOD	Modoc Plateau	10.86	140	*e*Pn	Pn	05 42 03.1	-0.9
MSO	Missoula	11.04	104	P	Pn	05 42 07.5	+1.1
	baz=295,SNR=9.8						
MSO	Missoula	11.04	104	*e*Pn	Pn	05 42 08.0	+1.6
SLMT	Seeley Lake	11.14	102	*e*Pn	Pn	05 42 09.2	+1.3
WVOR	Wild Horse Val	11.16	133	*e*Pn	Pn	05 42 10.4	+2.3
WDC	Whiskeytown Da	11.22	151	*e*Pn	Pn	05 42 11.3	+2.5
KMRM	Mail Ridge	11.22	156	*e*Pn	Pn	05 42 12.0	+3.2
CHMT	Chamberlain Mo	11.43	103	*e*Pn	Pn	05 42 13.2	+1.4
O03D	Paynes Creek	11.71	149	P	Pn	05 42 16.6	+0.9
	baz=332						
KCPM	Cahto Peak	11.76	156	*e*Pn	Pn	05 42 18.5	+2.2
MFID	Camas Ranch	11.86	122	*e*Pn	Pn	05 42 19.3	+1.6
HRY	Holter Researc	12.40	102	*e*Pn	Pn	05 42 26.8	+1.8
ORV	Oroville	12.48	150	*e*Pn	Pn	05 42 27.8	+1.8
HOPS	Hopland Field	12.54	156	*e*Pn	Pn	05 42 26.6	-0.3
HLID	Hailey	12.54	119	P	Pn	05 42 28.4	+1.4
	baz=308,SNR=7.8						
HLID	Hailey	12.54	119	*e*Pn	Pn	05 42 28.4	+1.4
DLMT	Dillon	12.56	108	*e*Pn	Pn	05 42 28.6	+1.3
BEKR	Beckworth	12.59	145	*e*Pn	Pn	05 42 30.4	+2.7
MCMT	McKenzie Canyo	12.69	111	*e*Pn	Pn	05 42 30.4	+1.2
BOZ	Bozeman (W)	13.03	106	P	Pn	05 42 34.3	+0.6
	baz=298						
BOZ	Bozeman (W)	13.03	106	*e*Pn	Pn	05 42 34.1	+0.4
PAHR	Pah Rah Range	13.09	143	*e*Pn	Pn	05 42 37.2	+2.6
AFDM	Forest Hills D	13.20	149	*e*Pn	Pn	05 42 38.2	+2.3
EGMT	Eagleton	13.22	94	P	Pn	05 42 36.8	+0.7
	baz=288						
EGMT	Eagleton	13.22	94	*e*Pn	Pn	05 42 38.2	+2.0
QLMT	Earthquake Lak	13.54	108	*e*Pn	Pn	05 42 42.5	+1.7
PNTR	Pine Nut	13.55	145	*e*Pn	Pn	05 42 43.4	+2.5
YHB	Horse Butte	13.73	108	*e*Pn	Pn	05 42 45.2	+1.9
YERR	Yerington	13.78	144	*e*Pn	Pn	05 42 46.1	+2.2
YMR	Madison River	13.91	108	*e*Pn	Pn	05 42 48.1	+2.4
YHH	Holmes Hill	13.92	108	*e*Pn	Pn	05 42 47.7	+1.8
YNR	Norris Junctio	14.06	108	*e*Pn	Pn	05 42 50.4	+2.6
YFT	Old Faithful	14.11	109	*e*Pn	Pn	05 42 50.9	+2.4
WAKR	Walker	14.13	145	*e*Pn	Pn	05 42 50.8	+2.0
GCMT	Greycliff	14.15	102	*e*Pn	Pn	05 42 49.6	+0.7
CMB	Columbia Colle	14.22	149	*e*Pn	Pn	05 42 51.3	+1.4
H17A	Grant Village	14.29	109	P	Pn	05 42 50.6	-0.5
	baz=302,SNR=5.7						
H17A	Grant Village	14.29	109	*e*Pn	Pn	05 42 52.9	+1.9
IMW	Indian Meadow	14.35	111	*e*Pn	Pn	05 42 54.7	+2.8
YKA	Yellowknife Ar	14.42	29	Pn	Pn	05 42 49.8	-2.6
	0.3nm,0.3s,baz=221,slow=12,SNR=3.7						
YKB5	Yellowknife Ar	14.42	29	*e*Pn	Pn	05 42 49.8	-2.6
FXWY	Fox Creek	14.45	112	*e*Pn	P	05 42 55.9	-4.2
TVH2	Borealis Mine	14.49	144	*e*Pn	Pn	05 42 54.8	+1.1
JBNB	Ben Lomond Mou	14.54	156	*e*Pn	P	05 42 58.9	-1.9
MOOW	Moose Ponds	14.55	111	*e*Pn	P	05 42 58.0	-3.1
TPAW	Teton Pass	14.58	112	*e*Pn	P	05 42 58.4	-3.1
HVU	Hansel Valley	14.63	121	*e*Pn	P	05 42 59.2	-2.7
SNOW	Snow King Moun	14.71	112	*e*Pn	P	05 43 00.7	-2.2
REDW	Red Top Meadow	14.71	112	*e*Pn	P	05 43 00.1	-2.9
LOHW	Long Hollow	14.71	111	*e*Pn	P	05 42 59.7	-3.2
RLMT	Red Lodge	14.72	104	P	Pn	05 42 57.1	+0.3
	baz=298,SNR=5.4						
RLMT	Red Lodge	14.72	104	*e*Pn	P	05 43 00.3	-2.7
BGU	Big Grassy Mou	15.09	124	*e*Pn	P	05 43 04.5	-2.6
	7.0nm,0.9s						
SPUT	South Promonto	15.13	122	*e*Pn	P	05 43 04.8	-2.7
	15nm,1.5s						
DOT	Dot Lake	15.15	335	*e*Pn	P	05 43 05.7	-1.7

	baz=330					
KNB	Kanab	18.18	132	ePn	P	05 43 44.1 +2.8
	10nm,1.3s					
O20A	White River Ci	18.27	117	P	P	05 43 42.6 +0.3
	baz=311,SNR=11					
O20A	White River Ci	18.27	117	eP	P	05 43 43.9 +1.6
	22nm,1.1s					
MWC	Mount Wilson	18.46	148	eP	Pn	05 43 45.8 +1.3
	13nm,1.0s					
MWC				eSn	S	05 47 21.3 +6.1
RSSD	Black Hills	18.46	101	P	Pn	05 43 45.4 +0.9
	baz=299					
RSSD	Black Hills	18.46	101	eP	Pn	05 43 47.1 +2.6
	7.0nm,0.8s					
HEC	Hector,Ludlow	18.53	143	P	Pn	05 43 46.1 +0.8
	baz=331					
BFSC	Mount Baldy Ra	18.58	147	P	Pn	05 43 46.7 +0.7
	baz=334					
BBRC	Big Bear Solar	18.82	146	P	Pn	05 43 49.4 +0.5
	baz=333					
GMRC	Granite Mounta	18.83	142	P	Pn	05 43 49.5 +0.5
	baz=330					
U15A	North Rim	18.90	132	eP	Pn	05 43 51.0 +1.1
	9.8nm,1.0s					
PV10	Paradox Valley	19.05	122	eP	Pn	05 43 53.2 +1.4
N23A	Red Feather La	19.11	112	P	Pn	05 43 52.9 +0.5
	baz=308					
N23A	Red Feather La	19.11	112	eP	Pn	05 43 53.2 +0.8
	8.8nm,0.9s					
PV04	Paradox Valley	19.11	122	eP	Pn	05 43 53.0 +0.6
PHWY	Pilot Hill	19.15	110	eP	Pn	05 43 52.9 0.0
	13nm,0.9s					
PV05	Paradox Valley	19.24	123	eP	Pn	05 43 54.3 +0.3
W13A	Hualapai Mount	19.29	138	eP	Pn	05 43 56.1 +1.5
	4.1nm,0.8s					
BELC	Belle Mtn. Jos	19.39	144	P	Pn	05 43 55.0 -0.7
	baz=332,SNR=5.6					
SCI2	San Clemente I	19.45	151	P	Pn	05 43 55.7 -0.6
	baz=337					
PV01	Paradox Valley	19.48	122	eP	Pn	05 43 56.8 -0.1
COLD	Coldfoot	19.55	336	eP	Pn	05 43 58.4 +1.2
	6.6nm,1.1s					
PFO	Pinyon Flats O	19.57	145	P	Pn	05 43 56.6 -1.3
	0.2nm,0.3s,baz=332,slow=6.6,SNR=5.5					
PFO	Pinyon Flats O	19.57	145	P	Pn	05 43 57.4 -0.5
	baz=333					
PFO	Pinyon Flats O	19.57	145	eP	Pn	05 43 57.7 -0.2
	5.9nm,1.1s					
IRM	Iron Mountain	19.58	142	P	Pn	05 43 57.1 -0.8
	baz=330					
SMCO	Snowmass	19.63	117	eP	Pn	05 43 58.9 0.0
	26nm,1.6s					
IMAR	Indian Mountai	19.71	330	eP	Pn	05 43 58.0 -1.2
MDND	Maddock	19.73	86	P	Pn	05 43 58.3 -1.3
	baz=289					
MDND	Maddock	19.73	86	eP	Pn	05 44 00.1 +0.5
	296nm,1.6s					
PDMCI	Parker Dam,Lak	19.86	139	P	Pn	05 44 00.2 -0.9
	baz=329,SNR=6.8					
ISCO	Idaho Springs	20.00	114	eP	P	05 44 00.1 -1.3
	3.6nm,0.8s					
WUAZ	Wupatki	20.08	132	P	Pn	05 44 02.2 -1.7
	baz=323					
WUAZ	Wupatki	20.08	132	eP	Pn	05 44 03.5 -0.4
	7.3nm,1.0s					
Y12C	Blythe	20.19	141	P	Pn	05 44 03.5 -1.6
	baz=330					
Y12C	Blythe	20.19	141	eP	Pn	05 44 04.8 -0.3
	7.8nm,0.8s					
MVCO	Mesa Verde	20.20	124	P	P	05 44 03.1 -0.4
	baz=317					
MVCO	Mesa Verde	20.20	124	eP	Pn	05 44 04.7 -0.8
	10nm,0.8s					
MONP2	Monument Peak	20.23	146	P	Pn	05 44 04.8 -1.0
	baz=334					
SWSC	Sam W. Stewart	20.41	145	P	Pn	05 44 05.9 -1.7
	baz=333,SNR=5.6					
TOLK	Toolik Lake Re	20.48	339	P	P	05 44 05.8 -0.3
	baz=143					
IKP	In-Ko-Pah, Jac	20.57	146	P	Pn	05 44 07.7 -1.8
	baz=334,SNR=6.1					
Y14A	Wickenburg	20.66	138	eP	Pn	05 44 09.6 -1.0
	37nm,0.8s					
GLA	Glamis	20.68	143	P	Pn	05 44 09.1 -1.8
	baz=331					
GLA	Glamis	20.68	143	eP	Pn	05 44 09.4 -1.4
	11nm,0.7s					
S22A	4UR Ranch, Cre	20.72	120	P	Pn	05 44 10.0 -1.5
	baz=315					
S22A	4UR Ranch, Cre	20.72	120	eP	Pn	05 44 11.1 -0.4
	25nm,1.6s					
B31A	Greenbush Farm	20.79	84	P	Pn	05 44 10.2 -1.7
	baz=288,SNR=8.2					
Q24A	Divide	20.82	115	P	Pn	05 44 10.9 -1.9
	baz=311					
A31A	Linda, St. Vin	20.93	82	P	Pn	05 44 12.3 -1.3
	baz=287					
C31A	Landman Farms,	20.94	85	P	Pn	05 44 12.8 -0.9
	baz=290					
X16A	Lo Mia Camp, P	20.95	134	eP	Pn	05 44 13.1 -1.0
	7.8nm,0.8s					
W18A	Petrified Fore	21.19	129	P	P	05 44 15.6 +1.4
	baz=322					
W18A	Petrified Fore	21.19	129	eP	P	05 44 15.6 +1.4
	14nm,1.0s					
E31A	Nome	21.29	89	P	P	05 44 15.6 +0.6
	baz=292,SNR=7.0					
F31A	Hecla	21.34	91	P	P	05 44 16.1 +0.6
	baz=294					
113A	Mohawk Valley,	21.35	141	eP	P	05 44 18.1 +2.4
	5.2nm,1.3s					
A32A	Rocking H Ranc	21.37	82	P	P	05 44 16.3 +0.5
	baz=287,SNR=10					
OGNE	Ogallala	21.43	106	P	P	05 44 16.8 +0.1
	baz=306					
SDCO	Great Sand Dun	21.46	118	P	P	05 44 17.9 +0.7
	baz=314					
SDCO	Great Sand Dun	21.46	118	eP	P	05 44 18.3 +1.1
	7.4nm,1.1s					
B32A	Ashes, Strandq	21.50	83	P	P	05 44 18.3 +1.1
	baz=288					
X18A	Snowflake	21.56	131	eP	P	05 44 19.6 +1.5
	16nm,0.9s					
H31A	Wolsey	21.80	94	P	P	05 44 21.5 +1.1
	baz=297,SNR=14					
AGMN	Agassiz Nation	21.96	83	P	P	05 44 23.8 +1.6
	baz=289,SNR=7.3					
AGMN	Agassiz Nation	21.96	83	eP	P	05 44 24.8 +2.6
	22nm,0.7s					
I31A	Royce, Wessing	21.97	95	P	P	05 44 23.1 +0.8
	baz=298					
F32A	Veblen	22.05	90	P	P	05 44 24.3 +1.2
	baz=294					
A33A	Warroad	22.06	81	P	P	05 44 24.1 +1.0
	baz=287					
G32A	Webster	22.07	92	P	P	05 44 24.1 +0.6
	baz=295					
B33A	Robert and Kas	22.14	83	P	P	05 44 24.9 +0.8
	baz=289					
C33A	Trail	22.20	84	P	P	05 44 25.2 +0.5
	baz=290					
J31A	Geddes	22.20	97	P	P	05 44 25.7 +0.9
	baz=300					
KSCO	Kaye Shedlock'	22.27	111	P	P	05 44 25.9 +0.2
	baz=310,SNR=7.2					
KSCO	Kaye Shedlock'	22.27	111	eP	P	05 44 27.4 +1.7
	29nm,1.0s					
MHTCO	State Highway	22.35	118	eP	P	05 44 28.4 +1.8
	15nm,1.3s					
D33A	AnnSam, Waubun	22.37	86	P	P	05 44 26.6 0.0
	baz=291					
H32A	Carlson Farm,	22.45	93	P	P	05 44 27.9 +0.5
	baz=297					
214A	Organ Pipe Nat	22.45	140	P	P	05 44 27.9 +0.4
	baz=330					
214A	Organ Pipe Nat	22.45	140	eP	P	05 44 27.9 +0.4
	50nm,1.1s					
T25A	Trinidad	22.50	117	P	P	05 44 27.3 -1.0
	baz=314					
E33A	Westby DABS, E	22.51	87	P	P	05 44 27.7 -0.4
	baz=293,SNR=6.5					
F33A	5 Mile Ranch,	22.59	89	P	P	05 44 30.0 +1.1
	baz=294,SNR=5.5					
I32A	Karley and Nic	22.65	94	P	P	05 44 30.6 +1.0
	baz=298					
B34A	Aery, Baudette	22.66	82	P	P	05 44 30.3 +0.6
	baz=288					
J32A	Parkston	22.73	96	P	P	05 44 31.2 +0.7
	baz=299					
G33A	Ortonville	22.77	91	P	P	05 44 31.9 +1.0
	baz=296					
D34A	Park Rapids	22.80	86	P	P	05 44 31.2 0.0
	baz=292					
H33A	Prehn Over Nor	22.81	92	P	P	05 44 32.2 +1.0
	baz=297					
ANMO	Albuquerque	22.99	124	P	P	05 44 34.3 +0.8
	4.9nm,0.9s,baz=321,slow=8.9,SNR=19					
ANMO	Albuquerque	22.99	124	P	P	05 44 33.4 0.0
	baz=319					
ANMO	Albuquerque	22.99	124	eP	P	05 44 34.2 +0.8
	7.6nm,1.0s					
K32A	Verdigre	23.01	98	P	P	05 44 32.8 -0.6
	baz=301,SNR=12					
TUC	Tucson	23.01	136	P	P	05 44 34.0 +0.5
	baz=327					
TUC	Tucson	23.01	136	eP	P	05 44 34.1 +0.5
	11nm,1.1s					
E34A	Wadena	23.04	87	P	P	05 44 33.6 0.0
	baz=293					
I33A	Coleman	23.07	94	P	P	05 44 34.2 +0.3
	baz=298					
G34A	Benson	23.26	90	P	P	05 44 35.9 0.0
	baz=295,SNR=7.6					
B35A	Bob, Littlefor	23.29	82	P	P	05 44 35.6 -0.5
	baz=289					
J33A	Davis	23.31	96	P	P	05 44 36.8 +0.4
	baz=299					
ECSD	EROS Data Cent	23.33	94	P	P	05 44 36.8 +0.1
	baz=298,SNR=9.8					
ECSD	EROS Data Cent	23.33	94	eP	P	05 44 37.7 +1.1
	14nm,0.7s					
L32A	Elgin	23.34	99	P	P	05 44 36.6 -0.1
	baz=302					
H34A	Spellman Lake,	23.43	92	P	P	05 44 38.0 +0.4
	baz=297					
Y22D	IRIS PASSCAL I	23.43	126	P	P	05 44 38.7 +0.8
	baz=321					
BNM	Barren Site	23.52	126	eP	P	05 44 39.7 +0.9
BGNE	Belgrade	23.57	101	P	P	05 44 39.7 +0.6
	baz=303					
BGNE	Belgrade	23.57	101	eP	P	05 44 40.5 +1.4
	20nm,0.8s					
K33A	Hardington	23.65	97	P	P	05 44 40.8 +0.9
	baz=301					
H35A	Sunnyside Ranc	24.02	91	P	P	05 44 44.1 +0.8
	baz=296					
M33A	Taylor Creek F	24.08	100	P	P	05 44 44.6 +0.6
	baz=303					
CBKS	Cedar Bluff	24.13	108	P	P	05 44 45.0 +0.5
	baz=308					
121A	Cookes Peak, D	24.23	130	P	P	05 44 45.6 +0.1
	baz=324,SNR=6.2					
121A	Cookes Peak, D	24.23	130	eP	P	05 44 45.9 +0.4
	17nm,1.3s					
F36A	Milaca	24.34	87	P	P	05 44 46.7 +0.4
	baz=294					
N33A	J Bar K, Exete	24.39	101	P	P	05 44 47.4 +0.6
	baz=304					
G36A	St. Michael	24.47	89	P	P	05 44 47.7 +0.2
	baz=296					
C37A	Embarrass	24.47	82	P	P	05 44 47.9 +0.5
	baz=291					
319A	Douglas	24.48	134	eP	P	05 44 48.7 +0.9
	8.9nm,1.0s					
K35A	Storm Lake	24.71	95	P	P	05 44 50.7 +1.0
	baz=300					
EYMN	Ely	24.83	81	P	P	05 44 50.8 +0.1
	baz=290					
EYMN	Ely	24.83	81	eP	P	05 44 51.5 +0.8
	15nm,1.1s					
N34A	Lincoln	24.92	100	P	P	05 44 52.0 +0.4
	baz=304					
F37A	Hinrichs Farm,	24.97	87	P	P	05 44 52.9 +0.9
	baz=295					
J36A	Seneca 1, Swea	24.98	93	P	P	05 44 52.4 +0.4
	baz=299					
C38A	Sawbill Land.	25.05	82	P	P	05 44 53.1 +0.4
	baz=291					
SPMN	Marine on St.	25.07	88	P	P	05 44 53.4 +0.5
	baz=296					
M35A	Neola	25.08	98	P	P	05 44 53.5 +0.5
	baz=303					
O34A	Beatrice	25.18	102	P	P	05 44 54.2 +0.3
	baz=305					
K36A	Gilmore City	25.25	95	P	P	05 44 55.3 +0.8
	baz=300					
H37A	Dierke Farm, C	25.29	90	P	P	05 44 56.3 +1.5
	baz=297					
E38A	The Farm, Brul	25.30	84	P	P	05 44 55.8 +0.9
	baz=293					
F38A	Pierce - Schro	25.35	86	P	P	05 44 56.5 +1.1
	baz=294					
N35A	Tabor	25.45	99	P	P	05 44 57.5 +1.2
	baz=304					
P34A	Walnut Farm, R	25.47	103	P	P	05 44 57.8 +1.3
	baz=306					
J37A	Redenius Farm,	25.48	93	P	P	05 44 57.3 +0.6
	baz=299					
M36A	Felix, Anita	25.65	97	P	P	05 44 59.3 +1.1
	baz=302					
AMTX	Amarillo	25.66	117	P	P	05 44 58.8 +0.5
	baz=316					
AMTX	Amarillo	25.66	117	eP	P	05 44 58.9 +0.5
	26nm,0.9s					
K37A	Belmond	25.70	94	P	P	05 44 59.0 +0.4
	baz=300					
MSTX	Muleshoe	25.72	120	P	P	05 44 59.8 +0.8
	baz=318					
MSTX	Muleshoe	25.72	120	eP	P	05 44 59.5 +0.5
	14nm,1.4s					
Q34A	Chapman	25.78	104	P	P	05 45 00.5 +1.2
	baz=307					
I38A	Scanlan Farm,	25.91	90	P	P	05 45 00.9 +0.4
	baz=298					
R34A	Isabella, Hill	25.97	106	P	P	05 45 01.2 0.0
	baz=308					
G39A	Holcombe	26.09	87	P	P	05 45 02.8 +0.7
	baz=296					
MNTX	Cornudas Mount	26.10	127	P	P	05 45 02.1 -0.2
	baz=323,SNR=10					
MNTX	Cornudas Mount	26.10	127	eP	P	05 45 02.4 +0.1
	5.7nm,0.9s					
J38A	Wedel Dairy, R	26.16	92	P	P	05 45 03.7 +0.9
	baz=299					
E40A	Wakefield	26.41	84	P	P	05 45 05.2 +0.2
	baz=294					
N37A	Lee Faris, Mou	26.41	98	P	P	05 45 05.8 +0.7
	baz=304					
P36A	Good Intent, A	26.43	101	P	P	05 45 05.8 +0.5
	baz=306					
S34A	Willow Spring	26.44	107	P	P	05 45 06.0 +0.7
	baz=309					
I39A	Houston	26.51	90	P	P	05 45 07.0 +1.1
	baz=298					
J39A	Decorah	26.65	91	P	P	05 45 07.9 +0.7
	baz=299					
Q36A	Arnold C. Orve	26.67	103	P	P	05 45 07.8 +0.4
	baz=307					
M38A	Pleasantville	26.69	96	P	P	05 45 08.9 +1.4
	baz=302					
G40A	Rib Lake	26.71	86	P	P	05 45 08.2 +0.4
	baz=296					
T34A	McClaskey Farm	26.83	108	P	P	05 45 09.1 +0.3
	baz=310					
S35A	Otter Creek Ra	26.93	106	P	P	05 45 10.1 +0.3
	baz=309					
P37A	Lathrop	26.99	100	P	P	05 45 10.7 +0.4
	baz=306					
N38A	Joes South For	27.00	97	P	P	05 45 10.9 +0.5
	baz=303					
J40A	Soldiers Grove	27.23	90	P	P	05 45 12.4 0.0
	baz=299					
T35A	Sooner Cattle	27.31	107	P	P	05 45 12.8 -0.4
	baz=310,SNR=5.4					
Q37A	Longview Farm,	27.35	102	P	P	05 45 14.1 +0.6
	baz=307					
S36A	Lake Cedric, C	27.35	105	P	P	05 45 14.1 +0.5
	baz=309					
N39A	Derby Farms, D	27.42	96	P	P	05 45 14.6 +0.5
	baz=303					
WMOK	Wichita Mounta	27.43	114	P	P	05 45 14.1 -0.2
	baz=314,SNR=11					
WMOK	Wichita Mounta	27.43	114	eP	P	05 45 14.8 +0.5
	9.9nm,0.8s					
P38A	Dawn	27.48	100	P	P	05 45 14.7 0.0
	baz=305,SNR=7.1					
T36A	Boggs Farm, Ca	27.60	106	P	P	05 45 15.9 +0.2
	baz=310					
M40A	Post Highland	27.76	95	P	P	05 45 18.0 +0.8
	baz=302					
S37A	Fort Scott	27.80	104	P	P	05 45 18.1 +0.5
	baz=308					
F42A	Maple Grove Fa	27.81	84	P	P	05 45 18.2 +0.7
	baz=295					
Q38A	Cooks Store, C	27.82	101	P	P	05 45 18.2 +0.5
	baz=306					
V35A	Meyer Ranch, C	27.87	110	P	P	05 45 18.5 +0.3
	baz=312					
P39B	Salisbury	28.05	99	P	P	05 45 20.2 +0.5
	baz=305					
R38A	Fenwick Farm,	28.11	102	P	P	05 45 20.4 +0.1
	baz=308					
U36A	Oologah	28.12	107	P	P	05 45 20.9 +0.4
	baz=311					
O40A	La Belle	28.24	97	P	P	05 45 21.4 0.0
	baz=304					
TUL1	Leonard	28.41	108	P	P	05 45 23.4 +0.4
	baz=311					
TUL1	Leonard	28.41	108	eP	P	05 45 23.6 +0.7
	11nm,0.9s					
S38A	Stockton	28.45	103	P	P	05 45 23.9 +0.5
	baz=308					
ABTX	Abilene, Hawle	28.46	118	P	P	05 45 23.9 +0.4
	baz=318					
U37A	Salina	28.49	107	P	P	05 45 24.1 +0.4
	baz=310					
N41A	Harden Midland	28.56	95	P	P	05 45 24.7 +0.5
	baz=303					
T38A	Diamond	28.59	105	P	P	05 45 25.3 +0.7
	baz=309					
W36A	Wetumka	28.66	110	P	P	05 45 26.1 +0.8
	baz=313					
Q40A	Laux Farm, Aux	28.77	99	P	P	05 45 26.7 +0.6
	baz=306					
O41A	Passleys Farm,	28.87	96	P	P	05 45 27.8 +0.7
	baz=304					
TX31	Lajitas Ar. Si	28.87	128	eP	P	05 45 27.9 +0.6
LTX	Lajitas	28.88	128	eP	P	05 45 27.4 +0.1
TXAR	Lajitas Array	28.88	128	P	P	05 45 27.4 +0.1
	3.2nm,1.0s,baz=327,slow=6.6,SNR=13					
U38A	Gravette	28.91	106	P	P	05 45 28.3 +0.7
	baz=310					
X36A	Centrahoma	28.98	111	P	P	05 45 29.1 +1.1
	baz=313					
P41A	Barry, Barry	29.01	97	P	P	05 45 28.4 +0.1
	baz=305					
N42A	Yates City	29.01	94	P	P	05 45 28.9 +0.6
	baz=303					
Y35A	Marietta	29.04	113	P	P	05 45 29.2 +0.6
	baz=314					
T39A	Clever	29.16	104	P	P	05 45 30.3 +0.6
	baz=309					
V38A	Canehill	29.28	107	P	P	05 45 31.4 +0.6
	baz=311					
Q41A	Truxton	29.32	99	P	P	05 45 31.7 +0.6
	baz=306					
Y36A	Durant	29.48	112	P	P	05 45 33.8 +1.2
	baz=314					
X37A	Clayton	29.55	110	P	P	05 45 34.5 +1.3
	baz=313					
R41A	Rosebud	29.62	100	P	P	05 45 34.3 +0.6
	baz=307					
V39A	Pettigrew	29.76	106	P	P	05 45 35.4 +0.3
	baz=311					
Q42A	Golden Eagle	29.78	98	P	P	05 45 35.5 +0.3
	baz=306					
Y37A	Hugo	29.82	111	P	P	05 45 35.9 +0.3
	baz=314					
Z36A	Blue Ridge	29.84	113	P	P	05 45 36.1 +0.3
	baz=315					
U40A	Yellville	29.91	104	P	P	05 45 36.6 +0.2
	baz=310					
JCT	Junction City	30.00	121	P	P	05 45 36.7 -0.5
	baz=320					
JCT	Junction City	30.00	121	eP	P	05 45 37.0 -0.2
	7.1nm,0.7s					
W39A	Magazine	30.10	107	P	P	05 45 38.4 +0.4
	baz=312					
T41A	Mountain View	30.15	102	P	P	05 45 38.5 +0.1
	baz=309					
WHTX	Lake Whitney,	30.18	116	P	P	05 45 38.9 +0.3
	baz=317					
V40A	Witts Springs	30.29	105	P	P	05 45 40.0 +0.3
	baz=310					
Q43A	New Douglas	30.29	97	P	P	05 45 40.2 +0.6
	baz=306					
S42A	Caledonia	30.30	100	P	P	05 45 40.0 +0.2
	baz=307					
MIAR	Mount Ida	30.66	108	P	P	05 45 43.4 +0.4
	baz=312					
V41A	Mountainview	30.71	104	P	P	05 45 43.5 +0.1
	baz=310					
S43A	Fulton Ridge,	30.88	100	P	P	05 45 45.0 +0.2
	baz=308					
T43A	Greenville	31.05	101	P	P	05 45 45.7 -0.7
	baz=308					
V42A	Cord	31.17	104	P	P	05 45 47.0 -0.4
	baz=310					
832A	Faith Ranch, C	31.63	124	P	P	05 45 52.1 +0.6
	baz=322					
Z40A	Long Farm, Mag	31.65	109	P	P	05 45 52.5 +0.8
	baz=314					
833A	Chaparral WMA,	31.91	123	P	P	05 45 54.3 +0.3
	baz=322					
140A	Cam and Jess,	31.98	110	P	P	05 45 55.8 +1.2
	baz=314					
537A	Green Hill Far	32.25	117	P	P	05 45 58.3 +1.4
	baz=319					
933A	Laredo	32.54	124	P	P	05 46 00.5 +1.0
	baz=323					
OXF	Oxford	33.24	103	eP	P	05 46 06.1 +0.5
	42nm,1.0s					
Y46A	Houston	34.00	104	P	P	05 46 12.1 -0.1
	baz=312					
244A	Avery, Jackson	34.14	108	P	P	05 46 14.5 +1.1
	baz=314					
H11N2	WAKE ISLAND Hy	58.22	263	T	T	06 51 46.6
	baz=42,slow=76,SNR=896					
H11N3	WAKE ISLAND Hy	58.23	262	T	T	06 51 46.1
	baz=42,slow=76,SNR=1083					
H11N1	WAKE ISLAND Hy	58.24	263	T	T	06 51 47.7
	baz=42,slow=76,SNR=891					
H11S1	WAKE ISLAND Hy	59.25	262	T	T	06 52 60.0
	baz=40,slow=75,SNR=45					
H11S2	WAKE ISLAND Hy	59.26	262	T	T	06 53 00.7
	baz=40,slow=75,SNR=45					
H11S3	WAKE ISLAND Hy	59.27	262	T	T	06 53 01.4
	baz=40,slow=75,SNR=39					
JNU	Nakatsue	70.66	299	LR	LR	06 22 20.9
	comp=Z,168nm,18.9s,baz=110,slow=36					
HHC	Hu-ho-hao-te	74.35	316	eP	P	05 51 05.6 -0.6
HHC				pmax	pmax	
	comp=Z,12nm,0.7s					
HHC				pmax	pmax	
	comp=Z,72nm,8.1s					
ESDC	Sonseca Array	78.23	40	LR	LR	06 25 00.3
	comp=Z,407nm,20.2s,baz=220,slow=35					
WMQ	Urumqi	80.47	334	eP	P	05 51 41.7 +1.4
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.7s					
WMQ				LR	LR	
	comp=N,140nm,36.3s					
WMQ				LR	LR	
	comp=E,200nm,33.3s					
WMQ				LR	LR	
	comp=Z,160nm,30.3s					

MEX 10 05:43:23.2±0.3, 16°32N×97°87W, h4km±4km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.26	285	*i* P	Pg	05 43 28.0	-0.3
PNIG				*i* S	Sg	05 43 31.8	+0.2
VHO	Vista Hermosa	1.32	55	eP	Pg	05 43 44.8	-3.8
VHO				*i* S	Sg	05 44 01.6	-4.0
TLIG	Tlapa	1.40	332	eP	Pn	05 43 45.7	-4.0
TLIG				*i* S	Sg	05 44 03.9	-4.4
HUIG	Huatulco	1.78	108	eP	Pn	05 43 51.4	-3.4
HUIG				*i* S	Sn	05 44 13.0	-4.9
MEIG	Mezcala	2.31	314	eP	Pn	05 43 58.2	-3.9
MEIG				*i* S	Sn	05 44 26.7	-4.4
CMIG	Matias Romero	2.96	75	*i* P	Pn	05 44 07.5	-3.5

CMIG *i* S Sn 05 44 43.2 -3.8

GUC 10 05:47:47.1±0.6, 19°.37S×70°.18W, h79km±3km, ML3.8, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.23**	**166**	*e*P	Pn	05 47 59.4	+0.3
PSGC				*e*S	Sn	05 48 08.4	+0.5
MNMC	**Minye Minye**	**0.60**	**67**	*e*P	Pn	05 48 02.4	+0.4
MNMC				*e*S	Sn	05 48 13.5	+0.4
MNMC				IAML		05 48 15.2	
	comp=N,10μm,0.1s						
PB12	**IPOC Station P**	**0.76**	**350**	*e*P	Pn	05 48 03.5	-0.1
PB12				*e*S	Sn	05 48 15.3	-0.3
HMBC	**Humberstone**	**0.95**	**163**	*e*P	Pn	05 48 06.2	+0.6
HMBC				*e*S	Sn	05 48 20.2	+0.8
HMBC				IAML		05 48 21.1	
	comp=E,3μm,0.3s						
PB13	**IPOC Station P**	**1.21**	**32**	*e*P	Pn	05 48 09.7	+0.3
PB13				*e*S	Sn	05 48 26.4	+0.5
PB08	**IPOC Station P**	**1.24**	**129**	*e*P	Pn	05 48 10.4	+1.0
PB08				*e*S	Sn	05 48 27.6	+1.5
PB08				IAML		05 48 28.6	
	comp=E,3μm,0.1s						
PB01	**IPOC Station P**	**1.79**	**159**	*e*P	Pn	05 48 16.7	+0.4
PB01				*e*S	Sn	05 48 38.6	+0.2

*SOME **10** 06:04:53.7, 44°.70N×82°.50E, h35km*
*NNC **10** 06:04:56.1±0.9, 44°.69N×82°.32E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=12.2km s-min=2.0km az=115.0*

ISC 10 06:04:52.5±2.2, 44°.69N±0°.07×82°.30E±0°.10, h0km±16km, n8, σ0§91/16, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.83**	**260**	⇑*i*P	**Pg**	**06 05 27.9**	**+0.4**
	8.1nm,0.2s						
DJR				⇑*i*S	**Sg**	**06 05 52.3**	**+1.0**
	4.6nm,0.4s						
MK31	**Makanchi Array**	**2.11**	**360**	⇓Pn	**Pg**	**06 05 32.6**	**-0.2**
	0.9nm,0.2s,baz=179,slow=11,SNR=61						
MK31				⇑Sn	**Sg**	**06 06 00.7**	**+0.6**
	1.0nm,0.2s,baz=184,slow=27,SNR=19						
MAKZ	**Makanchi**	**2.13**	**354**	⇑Pn	**Pg**	**06 05 32.8**	**-0.6**
	2.4nm,0.7s						
MAKZ				⇑Sn	**Sg**	**06 06 01.0**	**0.0**
	2.0nm,0.3s						
KAPS	**Kapalarasan**	**2.17**	**287**	*e*P	**Pb**	**06 05 33.2**	**+0.5**
	1.8nm,0.1s						
KAPS				*e*S	**Sg**	**06 06 01.5**	**-0.7**
	3.6nm,0.2s						
PDGK	**Podgornoye**	**2.44**	**237**	⇓Pn	**Pb**	**06 05 37.3**	**+0.1**
	1.1nm,0.5s						
PDGK				⇓Sn	**Sg**	**06 06 09.4**	**-1.4**
	6.8nm,0.7s						
SHLS	**Shalkode**	**2.56**	**234**	*e*P	**Pn**	**06 05 35.9**	**+0.7**
	3.7nm,0.2s						
SHLS				*e*S	**Sn**	**06 06 06.1**	**-1.0**
	9.9nm,0.2s						
MNBS	**Baschi**	**2.86**	**259**	*e*P	**Pb**	**06 05 43.4**	**-1.0**
	2.0nm,0.1s						
MNBS				*e*S	**Sb**	**06 06 19.2**	**-0.8**
	2.9nm,0.1s						
KPKS	**Kokpek**	**2.88**	**246**	*e*P	**Pb**	**06 05 44.9**	**+0.2**
	4.0nm,0.1s						
KPKS				*e*S	**Sb**	**06 06 21.9**	**+1.4**
	10nm,0.3s						

IDC 10 06:10:18.0±411.0, 50°.97N×115°.40E, h0km, Error ellipse: s-maj=172.4km s-min=131.0km az=49.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.67**	**245**	*i*		06 53 20.0	
	baz=57,slow=323,SNR=4.6						
I45RU	**USSURIYSK INFR**	**13.06**	**115**	*i*		07 32 30.0	
	baz=304,slow=313,SNR=1.0						
I30JP	**ISUMI INFRASON**	**23.82**	**121**	*i*		08 35 20.0	
	baz=320,slow=317,SNR=0.4						

GUC 10 06:12:29.8±0.6, 20°.39S×68°.97W, h107km±4km, ML3.6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.30**	**324**	*e*P	Pn	06 12 46.1	+0.4
PB08				*e*S	Sn	06 12 58.6	+1.1
PB08				IAML		06 12 59.1	
	comp=E,4μm,0.2s						
PB01	**IPOC Station P**	**0.81**	**217**	*e*P	Pn	06 12 49.3	+0.3
PB01				*e*S	Sn	06 13 04.3	+0.9
PB01				IAML		06 13 06.2	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**0.87**	**277**	*e*P	Pn	06 12 49.7	+0.1
HMBC				*e*S	Sn	06 13 05.5	+1.0
PSGC	**Pisagua**	**1.34**	**306**	*e*P	Pn	06 12 54.8	+0.1
PSGC				*e*S	Sn	06 13 14.4	+0.9
PSGC				IAML		06 13 15.0	
	comp=N,706nm,0.8s						
MNMC	**Minye Minye**	**1.39**	**335**	*e*P	Pn	06 12 56.2	+0.9
MNMC				*e*S	Sn	06 13 15.9	+1.2
PB09	**IPOC Station P**	**1.42**	**190**	*e*P	Pn	06 12 56.5	+0.8
PB09				*e*S	Sn	06 13 16.6	+1.3
PB09				IAML		06 13 19.1	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.58**	**213**	*e*P	Pn	06 12 57.7	+0.1
PB07				*e*S	Sn	06 13 18.9	+0.1

*IDC **10** 06:15:52.2±0.6, 2°.68S×129°.71E, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.3/41, mbtmp4.4/16, MS3.9/11, Ms1 4.0/11, ms1mx3.8/33, Error ellipse: s-maj=33.6km s-min=13.1km az=68.0*
*ISCJB **10** 06:15:54.8±0.2, 2°.82S±0°.02×129°.63E±0°.03, h28km, mb4.7/39, MS4.1/12, Error ellipse: s-maj=4.8km s-min=3.0km az=152.7*
*DJA **10** 06:15:57.9±0.4, 3°S±5°×13°0E±°, h61km±14km, M4.9/8, MLv4.9/8*
*BJI **10** 06:15:58.4, 2°.80S×129°.70E, h53km, mb4.7/25, mB5.0/17, Ms4.7/14, Ms7 4.4/13*
*NEIC **10** 06:15:59.0±1.0, 2°.81S×129°.74E, h50km±10km, mb4.9/26, Error ellipse: s-maj=8.7km s-min=6.1km az=47.0*

ISC 10 06:15:56.6±0.4, 2°.80S±0°.04×129°.63E±0°.04, h28km, n114, σ2§03/124, mb4.8/39, MS4.0/13, 2C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.89**	**232**	P	**Pb**	**06 16 14.1**	**+0.7**
MSAI				S	**Sn**	**06 16 28.1**	**+3.0**
AAI	**Ambon**	**1.68**	**238**	P	**Pn**	**06 16 25.1**	**+0.9**
BNDI	**Bandanaira**	**1.74**	**171**	P	**Pb**	**06 16 27.4**	**-0.5**
SWI	**Sorong**	**2.52**	**40**	P	**Pn**	**06 16 35.6**	**-0.1**
NLAI	**Namlea**	**2.56**	**260**	P	**Pn**	**06 16 36.4**	**+0.1**
FAKI	**Fak Fak**	**2.62**	**93**	*e*Pn	**Pn**	**06 16 38.2**	**+1.0**
FAKI				*e*Sn	**Sn**	**06 17 10.4**	**+2.4**
LBMI	**Labuha**	**3.02**	**315**	P	**Pn**	**06 16 42.0**	**-0.6**
SANI	**Sanana**	**3.71**	**281**	P	**Pn**	**06 16 50.2**	**-1.9**
SANI				S	**Sn**	**06 17 30.4**	**-4.5**
KMPI	**Kaimana, Papua**	**4.16**	**102**	P	**Pn**	**06 16 59.9**	**+1.6**
SAUI	**Saumlaki**	**5.42**	**162**	*e*Sn	**Sn**	**06 18 17.7**	**+0.7**
BBSI	**Bau Bau**	**7.53**	**249**	P	**Pn**	**06 17 48.2**	**+3.6**
APSI	**Ampana**	**8.19**	**283**	P	**Pn**	**06 17 52.0**	**-1.7**
MRSI	**Marisa**	**8.34**	**293**	P	**Pn**	**06 17 53.2**	**-2.6**
SOEI	**Soe**	**8.73**	**217**	*e*Pn	**Pn**	**06 18 05.4**	**+4.2**
SOEI				*e*Sn	**Sn**	**06 19 38.5**	**-0.3**
MMRI	**Maumere**	**9.36**	**231**	*e*Pn	**Pn**	**06 18 13.8**	**+4.0**
BSSI	**Bau Bau, Buton**	**9.70**	**250**	P	**Pn**	**06 18 16.6**	**+2.3**
SPSI	**Sidrap Palu**	**9.91**	**263**	P	**Pn**	**06 18 18.9**	**+1.6**
MTN	**Manton Dam**	**10.09**	**172**	*e*Pn	**Pn**	**06 18 21.5**	**+1.7**
MTN				*e*Sn	**Sn**	**06 20 12.8**	**+0.6**
MPSI	**Mapaga**	**10.21**	**288**	P	**Pn**	**06 18 20.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.71**	**194**	Pn	**Pn**	**06 19 32.8**	**-3.3**
JAGI	**Jajag, Banyuwa**	**16.39**	**249**	*e*Pn	**Pn**	**06 19 45.5**	**+0.6**
	126nm,1.1s						
COEN	**Coen**	**17.38**	**130**	*e*Pn	**Pn**	**06 19 57.3**	**0.0**
	24nm,1.0s						
COEN				*e*Sn	**Sn**	**06 23 06.9**	**-3.2**
WRAB	**Tennant Creek**	**17.65**	**165**	*e*Pn	**Pn**	**06 19 58.5**	**-2.1**
	143nm,1.5s						
WRAB				*e*Sn	**Sn**	**06 23 14.6**	**-1.9**
WR1	**Warrumunga Arr**	**17.65**	**165**	*e*Pn	**Pn**	**06 19 58.3**	**-2.4**
	55nm,0.9s						
WR1				*e*Sn	**Sn**	**06 23 13.2**	**-3.5**
WRA	**Warrumunga Arr**	**17.65**	**165**	P	**Pn**	**06 19 58.3**	**-2.4**
	1.3nm,0.3s,baz=344,slow=12,SNR=46						
WRA				S	**Sn**	**06 23 13.2**	**-3.5**
	0.4nm,0.3s,baz=350,slow=23,SNR=3.9						
WB2	**Warrumunga Arr**	**17.66**	**165**	*e*Pn	**Pn**	**06 19 58.1**	**-2.6**
SBUM	**Sibu**	**18.16**	**287**	*e*P	**P**	**06 20 07.8**	**+0.7**
	62nm,1.2s						
PMG	**Port Moresby**	**18.62**	**111**	P	**Pn**	**06 20 13.4**	**+0.8**
	2.3nm,0.3s,baz=293,slow=11,SNR=4.7						
PMG				LR	LR	06 29 27.6	
	comp=Z,482nm,20.0s,baz=310,slow=44						
UGM	**Wanagama**	**19.68**	**254**	*e*P	**Pn**	**06 20 25.3**	**0.0**
	223nm,1.2s						
MBWA	**Marble Bar**	**20.64**	**207**	*e*P	Pn	06 20 36.2	-0.3
	75nm,1.2s						
AS31	**Alice Springs**	**21.16**	**169**	*e*P	**P**	**06 20 40.2**	**+0.5**
	18nm,0.5s						
ASAR	**Alice Springs**	**21.16**	**169**	P	**P**	**06 20 39.1**	**-0.6**
	17nm,0.5s,baz=343,slow=9.3,SNR=183						
ASAR				S	**S**	**06 24 29.1**	**-4.7**
	2.0nm,0.8s,baz=348,slow=21,SNR=3.3						
AS01	**Alice Springs**	**21.16**	**169**	*e*P	**P**	**06 20 39.0**	**-0.8**
GUMO	**Guam**	**22.22**	**43**	LR	LR	06 28 55.4	
	comp=Z,181nm,19.0s,baz=230,slow=36						
CTA	**Charters Tower**	**23.64**	**138**	P	**P**	**06 21 07.3**	**+1.5**
	6.0nm,0.5s,baz=304,slow=14,SNR=8.4						
CTA				LR	LR	06 31 31.9	
	comp=Z,382nm,20.0s,baz=318,slow=40						
CTAO	**Charters Tower**	**23.64**	**138**	*e*P	**P**	**06 21 03.7**	**-2.0**
	23nm,1.0s						
MYKOM	**Kota Tinggi**	**26.17**	**280**	*e*P	**P**	**06 21 30.3**	**+1.3**
	54nm,1.1s						
IPM	**Ipoh**	**29.48**	**284**	*e*P	**P**	**06 21 59.6**	**+1.0**
	48nm,1.1s						
STKA	**Stephens Creek**	**31.05**	**160**	P	**P**	**06 22 12.8**	**+0.6**
	6.6nm,1.0s,baz=330,slow=11,SNR=6.3						
STKA				LR	LR	06 36 11.7	
	comp=Z,429nm,19.1s,baz=335,slow=39						
STKA	**Stephens Creek**	**31.05**	**160**	*e*P	**P**	**06 22 12.1**	**-0.1**
	4.4nm,1.3s						
CHAI	**Chaiyaphum**	**33.05**	**305**	P	**P**	**06 22 34.6**	**+4.6**
	3.2nm,0.9s						
SLVN	**Son La**	**34.77**	**315**	*e*P	**P**	**06 22 46.9**	**+1.9**
	9.3nm,1.2s						
NJ2	**Nanjing**	**36.13**	**344**	*e*P	**P**	**06 22 56.8**	**+0.3**
GYA	**Guiyang**	**36.59**	**324**	*e*P	**P**	**06 23 01.9**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CM31	**Chiang Mai Arr**	**36.86**	**306**	*e*P	**P**	**06 23 02.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**36.86**	**306**	P	**P**	**06 23 03.5**	**+0.6**
	1.5nm,0.3s,baz=128,slow=2.3,SNR=7.9						
CHTO	**Chiang Mai**	**37.05**	**307**	P	**P**	**06 23 08.1**	**+3.6**
	46nm,1.5s						
CHTO	**Chiang Mai**	**37.05**	**307**	*e*P	**P**	**06 23 05.3**	**+0.8**
	7.1nm,0.9s						
KMI	**Kunming**	**38.09**	**318**	P	**P**	**06 23 17.4**	**+4.0**
KMI				pmax	pmax		
	comp=Z,20nm,0.6s						
MJAR	**Matsushiro Arr**	**39.95**	**11**	P	**P**	**06 23 26.6**	**-2.0**
	1.9nm,0.8s,baz=181,slow=8.8,SNR=5.0						
MJAR				LR	LR	06 38 12.7	
	comp=Z,215nm,20.5s,baz=105,slow=34						
KS15	**Wonju Array Si**	**40.07**	**358**	*e*P	**P**	**06 23 29.6**	**0.0**
KSRS	**Korea Array**	**40.08**	**358**	LR	LR	06 39 12.0	
	comp=Z,125nm,21.1s,baz=176,slow=35						
XAN	**Xi'an**	**41.51**	**334**	P	**P**	**06 23 41.4**	**-0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
CD2	**Chengdu**	**41.61**	**326**	*e*P	**P**	**06 23 43.8**	**+1.3**
BJI	**Beijing**	**44.38**	**345**	P	**P**	**06 24 06.0**	**+1.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LZH	**Lanzhou**	**45.56**	**330**	*e*P	P	06 24 20.7	+6.3
LZH				pP	sP	06 24 33.9	+7.7
LZH				sP	pP	06 24 39.5	+17
LZH				*e*S	**S**	**06 30 56.0**	**+0.8**
LZH				sS	sS	06 31 16.4	+7.3
LZH				pmax	pmax		
	comp=Z,37nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH				LR	LR		
	comp=N,1μm,18.0s						
LZH				LR	LR		
	comp=E,1μm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,18.2s						
HHC	**Hu-ho-hao-te**	**46.47**	**341**	*e*P	**P**	**06 24 25.1**	**+3.8**
HHC				pP	sP	06 24 37.4	+4.2
HHC				sP	pP	06 24 42.4	+13
HHC				S	**S**	**06 31 11.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,8.5s						
HHC				LR	LR		
	comp=N,310nm,16.0s						
HHC				LR	LR		
	comp=E,370nm,14.8s						
HHC				LR	LR		
	comp=Z,370nm,14.8s						
USRK	**Ussuriysk Ar.**	**46.83**	**2**	LR	LR	06 44 05.7	
	comp=Z,145nm,19.1s,baz=148,slow=36						
GTA	**Gaotai**	**50.15**	**330**	*e*P	**P**	**06 24 49.8**	**-0.1**
GTA				pP	sP	06 25 03.0	+1.2
GTA				sP	pP	06 25 07.9	+9.5
GTA				PcP	**PcP**	**06 26 09.7**	**+0.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RAMN	**Ramite**	**50.95**	**308**	*e*P	**P**	**06 24 56.2**	**-0.1**
	110nm,1.1s						
JIRN	**Jiri**	**51.62**	**309**	*e*P	**P**	**06 25 00.7**	**-0.7**
GUN	**Gumba**	**51.98**	**309**	*e*P	**P**	**06 25 03.7**	**-0.3**
	62nm,1.1s						
PKI	**Pulchoki**	**52.18**	**308**	*e*P	**P**	**06 25 05.7**	**+0.1**
PKIN	**Phulchoki**	**52.19**	**308**	*e*P	**P**	**06 25 04.5**	**-1.1**
KKN	**Kakani**	**52.38**	**309**	*e*P	**P**	**06 25 06.3**	**-0.6**
DMN	**Daman**	**52.44**	**308**	*e*P	**P**	**06 25 06.8**	**-0.6**
	35nm,1.1s						
GKN	**Gorkha**	**52.99**	**308**	*e*P	**P**	**06 25 10.8**	**-0.5**
KOLN	**Koldanda**	**53.70**	**308**	*e*P	**P**	**06 25 16.1**	**-0.5**
	33nm,0.9s						
DANN	**Dangsing**	**53.83**	**308**	*e*P	**P**	**06 25 17.8**	**+0.1**
	4.3nm,0.9s						
PYUN	**Piuthan**	**54.33**	**308**	*e*P	**P**	**06 25 21.0**	**-0.2**
	78nm,1.0s						
SONA0	**Songino Array**	**54.37**	**341**	*e*P	**P**	**06 25 21.5**	**+0.5**
	18nm,2.0s						
SONM	**Songino Array**	**54.37**	**341**	P	**P**	**06 25 21.5**	**+0.5**
	0.5nm,0.5s,baz=158,slow=7.0,SNR=7.1						
SONA1	**Songino Array**	**54.38**	**341**	*e*P	**P**	**06 25 21.0**	**-0.1**
WMQ	**Urumqi**	**59.71**	**326**	P	**P**	**06 25 59.4**	**+0.6**
WMQ				pP	sP	06 26 15.7	+4.8
WMQ				sP	pP	06 26 20.2	+13
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.3s						
WMQ				LR	LR		
	comp=N,170nm,9.3s						
WMQ				LR	LR		
	comp=E,210nm,11.7s						
WMQ				LR	LR		
	comp=Z,180nm,18.3s						
PETK	**Petropavlovsk-**	**60.48**	**19**	LR	LR	06 50 04.3	
	comp=Z,66nm,21.4s,baz=206,slow=34						
MK01	**Makanchi Array**	**64.52**	**326**	*e*P	**P**	**06 26 31.1**	**+0.1**
MK31	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**06 26 31.4**	**+0.3**
MK32	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**06 26 30.7**	**-0.5**
MKAR	**Makanchi Array**	**64.54**	**326**	P	**P**	**06 26 30.7**	**-0.5**
	1.7nm,0.4s,baz=108,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**64.54**	**326**	*e*P	**P**	**06 26 31.5**	**+0.3**
	29nm,1.0s						
KSH	**Kashi**	**64.71**	**316**	P	**P**	**06 26 33.4**	**+0.8**
KSH				pP	sP	06 26 49.3	+4.7
KSH				sP	PcP	06 26 56.0	-10
KSH				PcP	pP	06 27 08.0	+27
KSH				PP	**PP**	**06 28 59.6**	**+4.4**
KSH				PcS		06 31 05.1	
KSH				S	**S**	**06 35 06.2**	**-5.2**
KSH				sS	sS	06 35 33.4	+7.5
KSH				ScS	**SKSac**	**06 36 15.2**	**-10**
KSH				SS	**SS**	**06 39 20.1**	**-2.8**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,110nm,7.6s						
KSH				LR	LR		
	comp=N,75nm,5.6s						
KSH				LR	LR		
	comp=E,92nm,7.1s						
KSH				LR	LR		
	comp=Z,260nm,5.4s						
AAK	**Ala-Archa**	**67.13**	**319**	P	**P**	**06 26 47.5**	**-0.7**
	2.0nm,0.6s,baz=99,slow=4.7,SNR=6.1						
AAK	**Ala-Archa**	**67.13**	**319**	*e*P	**P**	**06 26 48.5**	**+0.4**
ZAA0	**Zalesovo Array**	**67.68**	**333**	*e*P	**P**	**06 26 50.7**	**-0.4**
ZALV	**Zalesovo Beam**	**67.68**	**333**	P	**P**	**06 26 50.2**	**-0.9**
	9.3nm,0.9s,baz=108,slow=3.7,SNR=21						
ZAA1	**Zalesovo Array**	**67.68**	**333**	*e*P	**P**	**06 26 50.2**	**-0.9**
KURK	**Kurchatov**	**68.77**	**328**	*e*P	**P**	**06 26 57.8**	**-0.3**
	18nm,0.9s						
KKAR	**Karatay Array**	**69.97**	**318**	*e*P	**P**	**06 27 05.8**	**+0.2**
	63nm,1.4s						
BVAR	**Borovoye Array**	**74.34**	**327**	P	**P**	**06 27 31.2**	**-0.3**
	7.6nm,1.0s,baz=116,slow=6.8,SNR=20						
BRVK	**Borovoye**	**74.41**	**327**	*e*P	**P**	**06 27 31.7**	**-0.3**
	12nm,1.1s						
VNDA	**Vanda**	**76.64**	**173**	P	**P**	**06 27 44.2**	**-0.2**
	1.3nm,0.6s,baz=337,slow=7.6,SNR=8.6						
VNDA				LR	LR	06 59 31.9	
	comp=Z,52nm,21.3s,baz=306,slow=34						
MAW	**Mawson**	**78.71**	**201**	P	**P**	**06 27 56.4**	**+0.4**
	8.3nm,1.1s,baz=77,slow=5.3,SNR=18						
MAW	**Mawson**	**78.71**	**201**	*e*P	**P**	**06 27 56.4**	**+0.4**
	3.0nm,1.2s						
ABKAR	**Akbulak array**	**79.01**	**321**	*e*P	**P**	**06 27 58.2**	**+0.2**
	37nm,0.8s						
AKTO	**Aktyubinsk**	**80.55**	**322**	P	**P**	**06 28 06.7**	**+0.4**
	4.5nm,0.8s,baz=75,slow=10,SNR=9.1						
ARU	**Arti**	**81.97**	**328**	P	**P**	**06 28 13.6**	**-0.2**
	1.9nm,0.4s,baz=135,slow=1.0,SNR=6.7						
ARU	**Arti**	**81.97**	**328**	*e*P	**P**	**06 28 13.4**	**-0.4**
	10nm,1.1s						
TT01	**Tatalina**	**85.40**	**26**	*e*P	**P**	**06 28 30.6**	**-0.6**
RAYN	**Ar Rayn**	**85.72**	**294**	*e*P	**P**	**06 28 34.1**	**+0.4**
	37nm,1.3s						
KDAK	**Kodiak Island**	**85.86**	**32**	LR	LR	07 05 25.0	
	comp=Z,116nm,19.6s,baz=242,slow=35						
KDAK	**Kodiak Island**	**85.86**	**32**	*e*P	**P**	**06 28 32.9**	**-0.6**
	87nm,1.8s						
QSPA	**South Pole Qui**	**87.15**	**180**	*e*P	**P**	**06 28 40.3**	**+0.3**
	12nm,1.3s						
SYO	**Syowa Base**	**87.42**	**201**⇑	*e*X	**P**	**06 28 37.4**	**-3.6**
SYO	**Syowa Base**	**87.42**	**201**⇑	*e*PcP	**P**	**06 28 41.0**	**0.0**
ILAR	**Eielson Array**	**89.73**	**25**	P	**P**	**06 28 50.1**	**-1.9**
	0.9nm,0.9s,baz=256,slow=5.0,SNR=6.9						
ILAR				LR	LR	07 03 55.7	
	comp=Z,89nm,19.8s,baz=295,slow=32						
ILB	**Eielson Array**	**89.73**	**25**	*e*P	**P**	**06 28 52.0**	**0.0**
KMBO	**Kilima Mbogo**	**92.32**	**269**	P	**P**	**06 29 06.1**	**+0.6**
	1.7nm,0.7s,baz=69,slow=3.7,SNR=3.7						
KMBO	**Kilima Mbogo**	**92.32**	**269**	*e*P	**P**	**06 29 06.6**	**+1.1**
	8.1nm,1.2s						
CLL	**Collm**	**108.58**	**324**	*e*Pdif	**Pdif**	**06 30 17.0**	**-0.4**
CLL				LmV		07 16 00.0	
	comp=Z,100nm,20.9s						
TORD	**Torodi Ar. Bea**	**127.52**	**284**	PKP	**PKPdf**	**06 35 00.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**127.52**	**284**	*e*PKPdf	**PKPdf**	**06 35 00.3**	**+0.2**
CPUP	**Villa Florida**	**150.27**	**167**	PKPbc	**PKPbc**	**06 35 47.2**	**+1.3**
	comp=Z,16nm,1.2s,baz=81,slow=1.5,SNR=9.6						
CPUP	**Villa Florida**	**150.27**	**167**	*e*PKPbc	**PKPbc**	**06 35 46.9**	**+0.9**
LPAZ	**La Paz**	**154.16**	**138**	PKPbc	**PKPbc**	**06 35 56.7**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=176,slow=3.2,SNR=3.3						

*ISCJB **10** 06:16:42.9±0.4, 34°.13N±0°.02×36°.20E±0°.03, h20km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=18.3*
*NSSC **10** 06:16:42.9±0.9, 34°.12N×36°.21E, h18km±3km, ML2.5*
*CSEM **10** 06:16:43.4, 34°.12N×36°.22E, h17km, ML3.1*
*GRAL **10** 06:16:43.4±0.3, 34°.12N×36°.22E, h17km±4km, MD3.1*

ISC 10 06:16:41.7±1.1, 34°.15N±0°.03×36°.21E±0°.03, h30km±7km, n17, σ0§35/34, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.19**	**61**	*e*P	**Pb**	**06 16 48.1**	**+0.1**
FKH				*e*S	**Sb**	**06 16 51.5**	**-0.7**
HWQ	**Hawqa**	**0.25**	**301**	*e*P	**Pb**	**06 16 49.1**	**+0.5**
HWQ				*e*S	**Sb**	**06 16 53.4**	**+0.1**
HWQ	**Hawqa**	**0.25**	**301**	*e*P	**Pb**	**06 16 49.1**	**+0.5**
HWQ				*e*S	**Sb**	**06 16 53.3**	**+0.1**
MARH	**Ras Al Marh**	**0.26**	**119**	*i* P	**Pb**	**06 16 48.9**	**-0.1**
MARH				*e*S	**Sb**	**06 16 53.5**	**-0.3**
MARH				AML	AML	06 16 55.3	
	comp=E,1μm,0.3s						
MARH				AML	AML	06 16 56.2	
	comp=N,734nm,0.2s						
BHL	**Bhannes**	**0.52**	**242**	*e*P	**Pb**	**06 16 52.8**	**+0.3**
BHL				*e*S	**Sb**	**06 16 59.8**	**-0.1**
BHL	**Bhannes**	**0.52**	**242**	*e*P	**Pb**	**06 16 52.8**	**+0.3**
BHL				*e*S	**Sb**	**06 16 59.8**	**-0.1**
QASN	**Qassioun**	**0.62**	**175**	*i* P	**Pb**	**06 16 54.5**	**+0.4**
QASN				*e*S	**Sb**	**06 17 02.4**	**-0.3**
QASN				AML	AML	06 17 04.7	
	comp=N,979nm,0.2s						
QASN				AML	AML	06 17 04.7	
	comp=Z,688nm,0.3s						
DQRL	**Deir Qamar**	**0.69**	**230**	*e*P	**Pb**	**06 16 55.6**	**+0.3**
DQRL				*e*S	**Sb**	**06 17 04.5**	**-0.1**
DQRL	**Deir Qamar**	**0.69**	**230**	*e*P	**Pb**	**06 16 55.6**	**+0.3**
DQRL				*e*S	**Sb**	**06 17 04.5**	**-0.1**
**RCY

ISC 10 06:25:10.4±1.6, 24°.63N±0°.07×122°.70E±0°.03, h104km±10km, n30, σ0°62/56, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.29**	**128**	P	**Pn**	**06 25 25.4**	**+0.1**
JYNG				S	**Sn**	**06 25 37.4**	**+0.9**
YOJ	**Yonaguni jima**	**0.33**	**120**	P	**Pn**	**06 25 25.6**	**+0.1**
YOJ				*e*S	**Sn**	**06 25 37.5**	**+0.6**
TWB1	**Santiao Chiao**	**0.75**	**301**	*e*P	**Pn**	**06 25 29.1**	**+0.5**
	baz=300						
TWB1				*e*S	**Sn**	**06 25 41.9**	**-0.3**
	baz=300						
TWC	**Suao**	**0.77**	**269**	*i* P	**Pn**	**06 25 28.5**	**-0.3**
	baz=262						
TWC				*i* S	**Sn**	**06 25 41.9**	**-0.8**
	baz=262						
ENA	**Nanau**	**0.89**	**257**	*e*P	**Pn**	**06 25 30.0**	**0.0**
	baz=251						
ENA				*e*S	**Sn**	**06 25 44.2**	**-0.5**
	baz=251						
NWF	**Wu-fen Shan**	**0.94**	**298**	*e*P	**Pn**	**06 25 30.7**	**+0.1**
	baz=291						
NWF				*e*S	**Sn**	**06 25 44.2**	**-1.6**
	baz=291						
IRIF	**Iriomote-Funau**	**0.98**	**107**	P	**Pn**	**06 25 30.8**	**-0.1**
IRIF				*e*S	**Sn**	**06 25 46.5**	**+0.1**
ENTT	**Nioudou**	**1.03**	**271**	P	**Pn**	**06 25 32.0**	**+0.6**
	baz=267						
ENTT				*e*S	**Sn**	**06 25 47.3**	**0.0**
	baz=267						
TWD	**Chiawan**	**1.14**	**242**	P	**Pn**	**06 25 32.3**	**-0.4**
	baz=234						
TWD				*e*S	**Sn**	**06 25 48.7**	**-0.8**
	baz=234						
HATJ	**Hateruma jima**	**1.16**	**119**	P	**Pn**	**06 25 33.2**	**+0.4**
HATJ				S	**Sn**	**06 25 50.3**	**+0.5**
NSK	**Sanguang**	**1.22**	**272**	⇓*i*P	**Pn**	**06 25 33.8**	**+0.2**
	baz=265						
NSK				*e*S	**Sn**	**06 25 50.9**	**-0.3**
	baz=265						
NNS	**Nan Shan**	**1.22**	**261**	P	**Pn**	**06 25 33.7**	**+0.1**
	baz=253						
NNS				*e*S	**Sn**	**06 25 51.3**	**+0.1**
	baz=253						
JKRS	**Kuro-shima**	**1.26**	**108**	P	**Pn**	**06 25 34.3**	**+0.4**
JKRS				S	**Sn**	**06 25 52.4**	**+0.7**
JIJ	**Ishigaki jima**	**1.34**	**101**	P	**Pn**	**06 25 34.7**	**-0.2**
JIJ				S	**Sn**	**06 25 52.8**	**-0.7**
WHF	**Hehuan Shan**	**1.39**	**250**	⇓*i*P	**Pn**	**06 25 36.0**	**0.0**
	baz=248						
WHF				*e*S	**Sn**	**06 25 55.0**	**-0.3**
	baz=248						
TWT	**Tachien**	**1.44**	**255**	P	**Pn**	**06 25 36.9**	**+0.7**
	baz=253						
TWT				S	**Sn**	**06 25 56.2**	**+0.4**
	baz=253						
JISG	**Ishigakijimahi**	**1.47**	**91**	P	**Pn**	**06 25 36.1**	**-0.3**
JISG				S	**Sn**	**06 25 55.4**	**-0.8**
NSTT	**Nanjuang**	**1.54**	**270**	*e*P	**Pn**	**06 25 37.4**	**0.0**
	baz=269						
NSTT				*e*S	**Sn**	**06 25 57.8**	**-0.1**
	baz=269						
WDT	**Danda**	**1.67**	**239**	⇓*i*P	**Pn**	**06 25 39.2**	**0.0**
	baz=237						
EHY	**Hungye**	**1.68**	**229**	*e*P	**Pn**	**06 25 38.0**	**-1.1**
	baz=226						
EHY				*e*S	**Sn**	**06 25 59.8**	**-1.2**
	baz=226						
SMLT	**Sun Moon Lake**	**1.80**	**246**	*e*P	**Pn**	**06 25 41.3**	**+0.6**
	baz=238						
SMLT				*e*S	**Sn**	**06 26 05.0**	**+1.2**
	baz=238						
TWF1	**Yuli**	**1.81**	**226**	*e*P	**Pn**	**06 25 40.0**	**-0.7**
	baz=229						
TWF1				*e*S	**Sn**	**06 26 02.7**	**-1.0**
	baz=229						
JTJ	**Tarama**	**1.82**	**89**	P	**Pn**	**06 25 40.8**	**0.0**
JTJ				S	**Sn**	**06 26 04.1**	**0.0**
TYC	**Yuchr**	**1.83**	**247**	*e*P	**Pn**	**06 25 41.6**	**+0.7**
	baz=240						
TYC				*e*S	**Sn**	**06 26 05.0**	**+0.8**
	baz=240						
YUS	**Yu-Shan**	**1.96**	**235**	*e*P	**Pn**	**06 25 43.3**	**+0.2**
	baz=228						
YUS				*e*S	**Sn**	**06 26 07.7**	**-0.2**
	baz=228						
ALS	**Alishan**	**2.06**	**238**	*e*P	**Pn**	**06 25 44.8**	**+0.6**
	baz=236						
ELDTW	**Lidau**	**2.10**	**227**	*e*P	**Pn**	**06 25 44.0**	**-0.6**
	baz=225						
CHN5	**Tsauling**	**2.11**	**241**	*e*P	**Pn**	**06 25 44.8**	**+0.2**
	baz=233						
CHN5				*e*S	**Sn**	**06 26 12.4**	**+1.6**
	baz=233						
JIRB	**Irabujima**	**2.26**	**84**	S	**Sn**	**06 26 13.9**	**-0.2**
CHN4	**Tsaushan**	**2.31**	**237**	*e*P	**Pn**	**06 25 47.3**	**+0.2**
	baz=235						
CHN4				*e*S	**Sn**	**06 26 15.5**	**+0.2**
	baz=235						

*DDA **10** 06:49:33.6, 39°.65N×38°.53E, h7km, Md2.5*
*ISCJB **10** 06:49:35.6±0.7, 39°.58N±0°.04×38°.69E±0°.06, h12km, Error ellipse: s-maj=6.9km s-min=5.2km az=14.8*
*ISK **10** 06:49:35.7, 39°.57N×38°.67E, h7km, MD2.7*
*CSEM **10** 06:49:35.1±0.3, 39°.60N×38°.68E, h2km, MD2.5, Error ellipse: s-maj=8.2km s-min=6.2km az=85.0*

ISC 10 06:49:35.5±1.0, 39°.59N±0°.03×38°.68E±0°.03, h12km, n17, σ0°75/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.20**	**161**	*i* P	**Pg**	**06 49 40.3**	**+0.2**
REFA	**Refahiye_ERZ**	**0.20**	**161**	P	**Pg**	**06 49 40.3**	**+0.2**
KEMA	**Kemaliye**	**0.35**	**204**	*i* P	**Pg**	**06 49 41.4**	**-1.2**
KEMA				*i* S	**Sg**	**06 49 47.1**	**-0.3**
KEMA	**Kemaliye**	**0.35**	**204**	P	**Pg**	**06 49 41.4**	**-1.2**
KEMA				S	**Sg**	**06 49 47.1**	**-0.3**
KELT	**Kelkit**	**0.71**	**38**	*i* P	**Pg**	**06 49 48.0**	**-1.4**
KELT				*i* S	**Sg**	**06 49 59.2**	**+0.4**
KELT	**Kelkit**	**0.71**	**38**	P	**Pg**	**06 49 48.0**	**-1.4**
KELT				S	**Sg**	**06 49 59.2**	**+0.4**
ERZN	**Erzincan**	**0.81**	**90**	*e*PG	**Pb**	**06 49 51.8**	**+0.2**
PTK	**Pertek**	**0.89**	**141**	*e*PG	**Pg**	**06 49 53.0**	**+0.3**
PTK				*e*SG	**Sb**	**06 50 05.7**	**+0.7**
PTK	**Pertek**	**0.89**	**141**	*e*Pg	**Pg**	**06 49 53.0**	**+0.3**
PTK				*e*Sg	**Sb**	**06 50 05.7**	**+0.7**
ELZG	**Elazig**	**1.12**	**168**	*i* P	**Pb**	**06 49 56.0**	**-0.9**
ELZG	**Elazig**	**1.12**	**168**	P	**Pb**	**06 49 56.0**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.30**	**158**	*e*PN	**Pg**	**06 50 01.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.30**	**158**	*e*Pn	**Pg**	**06 50 01.0**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.31**	**308**	*e*PN	**Pg**	**06 50 01.4**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.31**	**308**	*e*Pn	**Pg**	**06 50 01.4**	**+0.6**
SVSK	**Karacayir**	**1.34**	**285**	*e*PN	**Pb**	**06 50 00.6**	**+0.1**
SVSK	**Karacayir**	**1.34**	**285**	*e*Pn	**Pb**	**06 50 00.6**	**+0.1**

*IDC **10** 06:57:22.9±8.9, 48°.73N×155°.18E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/36, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=217.8km s-min=67.8km az=83.0*
*MOS **10** 06:57:27.5±1.4, 48°.96N×156°.23E, h15km, mb4.4/1, Error ellipse: s-maj=53.7km s-min=5.4km az=78.0*
*SKHL **10** 06:57:28.4±0.5, 48°.96N×156°.39E, h40km±7km, mb4.5/3*
*ISCJB **10** 06:57:30.4±0.8, 49°.09N±0°.06×156°.1E±0°.1, h34km, mb3.4/2, Error ellipse: s-maj=14.0km s-min=6.3km az=32.6*
*KRSC **10** 06:57:30.4±3.0, 49°.14N×157°.05E, h16km±55km, ML4.4*

ISC 10 06:57:31.3±1.3, 49°.03N±0°.09×156°.2E±0°.1, h34km, n51, σ1°60/56, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.66**	**359**	*e*PN	**Pn**	**06 57 56.0**	**-1.9**
SKR				*e*S	**Sn**	**06 58 17.1**	**-0.9**
SKR				pmax	pmax		
	comp=Z,253nm,0.4s						
SKR				smax	smax		
	comp=E,783nm,0.4s						
SKR				smax	smax		
	comp=N,954nm,0.5s						
SKR	**Severo-Kuril's**	**1.66**	**359**	*e*P	**Pn**	**06 57 56.0**	**-1.9**
SKR				AMB	AMB	06 57 57.8	
	comp=N,250nm,0.4s						
SKR				*e*S	**Sn**	**06 58 16.3**	**-1.7**
SKR				A	A	06 58 30.7	
	comp=N,780nm,0.4s						
SKR				A	A	06 58 30.7	
	comp=N,954nm,0.4s						
PAU	**Pauzhetka**	**2.48**	**9**	PN	**Pn**	**06 58 06.8**	**-2.4**
PAU	**Pauzhetka**	**2.48**	**9**	*e*P	**Pn**	**06 58 06.3**	**-2.9**
PAU				AMB	AMB	06 58 10.3	
	comp=N,100nm,0.3s						
PAU				*e*S	**Sn**	**06 58 34.7**	**-3.5**
PAU				A	A	06 58 41.5	
	comp=N,600nm,0.3s						
PAU	**Pauzhetka**	**2.48**	**9**	*e*P	**Pn**	**06 58 06.8**	**-2.4**
PAU				*e*S	**Sn**	**06 58 36.2**	**-2.0**
ASAK	**Asacha**	**3.53**	**17**	PN	**Pn**	**06 58 24.5**	**+0.7**
ASAK	**Asacha**	**3.53**	**17**	*e*P	**Pn**	**06 58 24.5**	**+0.7**
MTVR	**Mutnovka**	**3.69**	**19**	PN	**Pn**	**06 58 26.7**	**+0.7**
MTVR	**Mutnovka**	**3.69**	**19**	*e*P	**Pn**	**06 58 26.7**	**+0.7**
MTVR				*e*S	**Sn**	**06 59 08.8**	**+0.5**
RUS	**Russkaya**	**3.72**	**23**	PN	**Pn**	**06 58 25.4**	**-0.9**
RUS	**Russkaya**	**3.72**	**23**	*e*P	**Pn**	**06 58 25.4**	**-0.9**
RUS				*e*S	**Sn**	**06 59 07.9**	**-0.9**
KRMR	**Karymshinskiy**	**4.00**	**17**	PN	**Pn**	**06 58 31.2**	**+1.0**
KRMR	**Karymshinskiy**	**4.00**	**17**	*e*P	**Pn**	**06 58 31.2**	**+1.0**
PETK	**Petropavlovsk-**	**4.20**	**13**	Pn	**Pn**	**06 58 34.3**	**+1.5**
	comp=N,3.3nm,0.3s,baz=170,slow=12,SNR=8.1						
PET	**Petropavlovsk**	**4.30**	**20**	*e*PN	**Pn**	**06 58 34.7**	**+0.6**
PET				pmax	pmax		
	comp=Z,44nm,0.5s						
PET	**Petropavlovsk**	**4.30**	**20**	*e*P	**Pn**	**06 58 33.1**	**-1.1**
PET				AMB	AMB	06 58 37.0	
	comp=Z,20nm,0.4s						
PET				*e*S	**Sn**	**06 59 22.0**	**-1.1**
PET				A	A	06 59 34.2	
	comp=Z,150nm,0.4s						
PET	**Petropavlovsk**	**4.30**	**20**	*e*P	**Pn**	**06 58 34.8**	**+0.6**
PET				*e*S	**Sn**	**06 59 24.5**	**+1.4**
DALK	**Dalny**	**4.33**	**21**	PN	**Pn**	**06 58 35.2**	**+0.6**
DALK	**Dalny**	**4.33**	**21**	*e*P	**Pn**	**06 58 35.2**	**+0.6**
DALK				*e*S	**Sn**	**06 59 25.5**	**+1.7**
UGLR	**Uglovaya**	**4.51**	**21**	PN	**Pn**	**06 58 38.1**	**+0.9**
UGLR	**Uglovaya**	**4.51**	**21**	*e*P	**Pn**	**06 58 38.1**	**+0.9**
AVH	**Avacha**	**4.54**	**20**	PN	**Pn**	**06 58 39.7**	**+2.1**
AVH	**Avacha**	**4.54**	**20**	*e*P	**Pn**	**06 58 39.7**	**+2.1**
KOK	**Koryaka**	**4.54**	**19**	PN	**Pn**	**06 58 39.1**	**+1.4**
KOK	**Koryaka**	**4.54**	**19**	*e*P	**Pn**	**06 58 39.1**	**+1.4**
KRER	**Koryakskii**	**4.58**	**20**	PN	**Pn**	**06 58 40.6**	**+2.3**
KRER	**Koryakskii**	**4.58**	**20**	*e*P	**Pn**	**06 58 40.6**	**+2.3**
SDLR	**Sedlovina**	**4.58**	**21**	PN	**Pn**	**06 58 39.9**	**+1.6**
SDLR	**Sedlovina**	**4.58**	**21**	*e*P	**Pn**	**06 58 39.9**	**+1.6**
NLC	**Nalytchevo**	**4.60**	**25**	*e*S	**Sn**	**06 59 27.8**	**-2.8**
KRX	**Arik**	**4.61**	**19**	PN	**Pn**	**06 58 40.8**	**+2.2**
KRX	**Arik**	**4.61**	**19**	*e*P	**Pn**	**06 58 40.8**	**+2.2**
SPN	**Mys Shipunski**	**4.74**	**29**	PN	**Pn**	**06 58 40.8**	**+0.5**
SPN	**Mys Shipunski**	**4.74**	**29**	*e*P	**Pn**	**06 58 40.8**	**+0.5**
SPN				*e*S	**Sn**	**06 59 33.9**	**-0.2**
GNL	**Ganaly**	**4.80**	**13**	PN	**Pn**	**06 58 43.9**	**+2.6**
GNL	**Ganaly**	**4.80**	**13**	*e*P	**Pn**	**06 58 43.9**	**+2.6**
MKZ	**Mys Kozlova**	**6.52**	**30**	PN	**Pn**	**06 59 03.7**	**-1.0**
MKZ	**Mys Kozlova**	**6.52**	**30**	*e*P	**Pn**	**06 59 03.7**	**-1.0**
KUR	**Kuril'sk**	**6.82**	**239**	*e*P	**Pn**	**06 59 08.9**	**0.0**
KBTR	**Krutoberegovo**	**8.25**	**27**	PN	**Pn**	**06 59 27.8**	**-0.6**
KBTR	**Krutoberegovo**	**8.25**	**27**	*e*P	**Pn**	**06 59 27.8**	**-0.6**
KBG	**Krutoberegovo**	**8.25**	**26**	*e*P	**Pn**	**06 59 27.5**	**-1.0**
TYV	**Tymovskoe**	**8.91**	**287**	*e*P	**Pn**	**06 59 38.9**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**30.48**	**160**	T	T	07 36 15.8	
	baz=347,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.49**	**160**	T	T	07 36 10.5	
	baz=347						
H11N3	**WAKE ISLAND Hy**	**30.49**	**160**	T	T	07 36 14.1	
	baz=347,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**31.61**	**161**	T	T	07 37 41.9	
	baz=346,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**31.62**	**161**	T	T	07 37 40.3	
	baz=346,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**31.63**	**161**	T	T	07 37 41.2	
	baz=346,slow=76,SNR=18						
PDAR	**Pinedale Array**	**61.75**	**56**	P	**P**	**07 07 48.3**	**+1.8**
	comp=Z,0.3nm,0.9s,baz=320,slow=8.3,SNR=2.7						
TXAR	**Lajitas Array**	**74.60**	**63**	P	**P**	**07 09 07.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=312,slow=6.2,SNR=3.9						
TXAR				pP	**PcP**	**07 09 21.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=292,slow=4.1,SNR=3.4						

IDC 10 06:59:55.4±3.1, 25°.04S×116°.19W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/17, mbtmp3.9/3, MS3.7/4, Ms1 3.7/4, ms1mx3.3/24, Error ellipse: s-maj=105.6km s-min=34.5km az=52.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**31.92**	**277**	LR	LR	07 15 26.3	
	comp=Z,277nm,19.6s,baz=138,slow=29						
RAR	**Rarotonga**	**40.14**	**266**	LR	LR	07 20 14.2	
	comp=Z,75nm,18.6s,baz=109,slow=30						
PLCA	**Paso Flores**	**40.92**	**124**	P	P	07 07 40.2	+0.6
	4.3nm,0.9s,baz=282,slow=7.0,SNR=4.6						
LPAZ	**La Paz**	**45.60**	**89**	P	P	07 08 18.0	-0.4
	1.2nm,0.6s,baz=264,slow=9.6,SNR=9.1						
LPAZ				LR	LR	07 23 05.4	
	comp=Z,41nm,18.2s,baz=192,slow=30						
PDAR	**Pinedale Array**	**67.74**	**5**	P	P	07 10 55.4	+0.5
	0.2nm,0.5s,baz=166,slow=4.6,SNR=3.3						
DZM	**Mont Dzumac**	**70.05**	**254**	LR	LR	07 33 57.6	
	comp=Z,56nm,20.6s,baz=28,slow=29						
H11S2	**WAKE ISLAND Hy**	**86.60**	**292**	T	T	08 48 16.9	
	baz=118						
H11S1	**WAKE ISLAND Hy**	**86.61**	**292**	T	T	08 48 33.0	
	baz=118						
H11S3	**WAKE ISLAND Hy**	**86.61**	**292**	T	T	08 48 14.2	
	baz=118						
BRTR	**Keskin Array B**	**150.78**	**53**	PKPbc	PKPbc	07 19 48.9	-1.2
	0.8nm,0.8s,baz=318,slow=3.9,SNR=2.5						

*DDA **10** 07:14:31.3, 38°.45N×39°.25E, h16km, Ml4.0*
*IDC **10** 07:14:31.4±1.3, 38°.37N×39°.21E, h0km, mb4.1/6, mb1 4.0/11, mb1mx3.8/46, mbtmp4.0/11, ML3.5/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/52, Error ellipse: s-maj=30.7km s-min=13.0km az=176.0*
*CSEM **10** 07:14:31.4±0.2, 38°.48N×39°.27E, h5km, ML3.8, Error ellipse: s-maj=5.0km s-min=4.1km az=74.0*
*ISCJB **10** 07:14:31.5±0.5, 38°.46N±0°.02×39°.28E±0°.03, h4km±3km, mb3.8/7, Error ellipse: s-maj=3.6km s-min=3.1km az=159.8*
*ISN **10** 07:14:31.8±0.5, 38°.64N×39°.95E, h0km±1km, ML3.9*
*ISK **10** 07:14:31.1, 38°.45N×39°.33E, h13km, ML3.8*

ISC 10 07:14:32.0±0.9, 38°.47N±0°.02×39°.27E±0°.02, h4km±7km, n74, σ1°21/104, mb4.0/7, 8C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.09**	**161**	*e*PG	**Pg**	**07 14 34.1**	**+0.1**
SVRC				*e*SG	**Sg**	**07 14 35.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.09**	**161**	*e*Pg	**Pg**	**07 14 34.1**	**+0.1**
SVRC				*e*Sg	**Sg**	**07 14 35.9**	**+0.6**
ELZG	**Elazig**	**0.23**	**278**	⇑*i*P	**Pg**	**07 14 36.2**	**-0.2**
ELZG				*i* S	**Sg**	**07 14 39.1**	**-0.3**
ELZG	**Elazig**	**0.23**	**278**	P	**Pg**	**07 14 36.2**	**-0.2**
ELZG				S	**Sg**	**07 14 39.1**	**-0.3**
PTK	**Pertek**	**0.44**	**13**	*e*PG	**Pg**	**07 14 40.3**	**-0.2**
PTK	**Pertek**	**0.44**	**13**	*e*Pg	**Pg**	**07 14 40.3**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.68**	**18**	⇓*i*P	**Pg**	**07 14 44.4**	**-0.8**
TNCL				*i* S	**Sb**	**07 14 55.2**	**-1.3**
TNCL	**Tunceli-Merkez**	**0.68**	**18**	P	**Pg**	**07 14 44.4**	**-0.8**
TNCL				S	**Sb**	**07 14 55.2**	**-1.3**
DIYA	**Diyarbakir**	**0.86**	**129**	⇑*i*P	**Pn**	**07 14 49.5**	**-1.6**
DIYA				*i* S	**Sb**	**07 15 01.6**	**+0.1**
DIYA	**Diyarbakir**	**0.86**	**129**	P	**Pn**	**07 14 49.5**	**-1.6**
DIYA				S	**Sb**	**07 15 01.6**	**+0.1**
KEMA	**Kemaliye**	**1.01**	**323**	⇑*i*P	**Pg**	**07 14 49.7**	**-1.6**
KEMA				*i* S	**Sg**	**07 15 04.0**	**-0.4**
KEMA	**Kemaliye**	**1.01**	**323**	P	**Pg**	**07 14 49.7**	**-1.6**
KEMA				S	**Sg**	**07 15 04.0**	**-0.4**
BINT	**Bingol**	**1.04**	**66**	*e*Pn	**Pn**	**07 14 54.2**	**+0.6**
URFA	**Urfa**	**1.08**	**199**	*e*PG	**Pb**	**07 14 52.4**	**-1.0**
URFA				*e*SG	**Sn**	**07 15 07.8**	**-1.8**
URFA	**Urfa**	**1.08**	**199**	*e*Pg	**Pb**	**07 14 52.4**	**-1.0**
URFA				*e*Sg	**Sn**	**07 15 07.8**	**-1.8**
ERZN	**Erzincan**	**1.17**	**17**	*e*PN	**Pg**	**07 14 53.5**	**-1.1**
ERZN				*e*SN	**Sb**	**07 15 10.6**	**-0.1**
BNGB	**Bing¨¶l**	**1.22**	**64**	*e*PN	**Pg**	**07 14 54.2**	**-1.3**
ATAB	**Bozova**	**1.26**	**218**	⇓*i*P	**Pn**	**07 14 55.7**	**-0.8**
ATAB				*i* S	**Sn**	**07 15 12.9**	**-0.9**
ATAB	**Bozova**	**1.26**	**218**	P	**Pn**	**07 14 55.7**	**-0.8**
ATAB				S	**Sn**	**07 15 12.9**	**-0.9**
EZC	**Erzincan**	**1.29**	**3**	*e*Pn	**Pg**	**07 14 53.5**	**-3.2**
MAZI	**Mazidag**	**1.37**	**137**	*e*PN	**Pn**	**07 14 55.8**	**-2.2**
MAZI	**Mazidag**	**1.37**	**137**	*e*Pn	**Pn**	**07 14 55.8**	**-2.2**
YEDI	**Yedisu-Bingol**	**1.39**	**45**	*e*PN	**Pn**	**07 14 56.7**	**-1.7**
YEDI	**Yedisu-Bingol**	**1.39**	**45**	*e*Pn	**Pn**	**07 14 56.7**	**-1.7**
DARE	**Darende-Malaty**	**1.41**	**275**	*e*PN	**Pn**	**07 14 57.3**	**-1.2**
DARE	**Darende-Malaty**	**1.41**	**275**	*e*Pn	**Pn**	**07 14 57.3**	**-1.2**
BNGL	**BINGOL**	**1.55**	**71**	⇑*i*P	**Pb**	**07 15 00.7**	**-0.7**
BNGL				*i* S	**Sg**	**07 15 25.0**	**+3.1**
SVAN	**Silvan-Diyarba**	**1.55**	**101**	*e*PN	**Pn**	**07 14 58.4**	**-2.1**
SVAN	**Silvan-Diyarba**	**1.55**	**101**	*e*Pn	**Pn**	**07 14 58.4**	**-2.1**
CUGUR	**Gurin_S¨VAS**	**1.59**	**280**	*i* P	**Pn**	**07 15 00.5**	**-0.6**
CUGUR				*i* S	**Sg**	**07 15 25.1**	**+2.1**
CUGUR	**Gurin_S¨VAS**	**1.59**	**280**	P	**Pn**	**07 15 00.5**	**-0.6**
CUGUR				S	**Sg**	**07 15 25.1**	**+2.1**
CUKAN	**kangal_SIVAS**	**1.64**	**302**	⇑*i*P	**Pn**	**07 15 01.2**	**-0.7**
CUKAN				*i* S	**Sg**	**07 15 26.3**	**+1.4**
CUKAN	**kangal_SIVAS**	**1.64**	**302**	P	**Pn**	**07 15 01.2**	**-0.7**
CUKAN				S	**Sg**	**07 15 26.3**	**+1.4**
MARD	**Mardin**	**1.66**	**133**	⇑*i*P	**Pn**	**07 15 01.2**	**-0.9**
MARD				*i* S	**Sg**	**07 15 24.3**	**-1.0**
SURC	**SANLIURFA_SURC**	**1.67**	**198**	⇓*i*P	**Pn**	**07 15 01.0**	**-1.1**
SURC				*i* S	**Sg**	**07 15 25.9**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.67**	**198**	P	**Pn**	**07 15 01.0**	**-1.1**
SURC				S	**Sg**	**07 15 25.9**	**+0.3**
BTMN	**Batman**	**1.68**	**109**	⇑*i*P	**Pn**	**07 15 01.7**	**-0.6**
BTMN				*i* S	**Sg**	**07 15 25.2**	**-0.7**
BTMN	**Batman**	**1.68**	**109**	P	**Pn**	**07 15 01.7**	**-0.6**
BTMN				S	**Sg**	**07 15 25.2**	**-0.7**
KELT	**Kelkit**	**1.68**	**360**	⇑*i*P	**Pb**	**07 15 02.9**	**-0.8**
KELT				*i* S	**Sg**	**07 15 26.9**	**+0.8**
KELT	**Kelkit**	**1.68**	**360**	P	**Pb**	**07 15 02.9**	**-0.8**
KELT				S	**Sg**	**07 15 26.9**	**+0.8**
CUZAR	**Zara_SIVAS**	**1.84**	**321**	*i* P	**Pb**	**07 15 05.5**	**-0.8**
CUZAR				*i* S	**Sg**	**07 15 31.0**	**-0.1**
CUZAR	**Zara_SIVAS**	**1.84**	**321**	P	**Pb**	**07 15 05.5**	**-0.8**
CUZAR				S	**Sg**	**07 15 31.0**	**-0.1**
VRTB	**Varto-Mus**	**1.84**	**67**	*e*PN	**Pn**	**07 15 02.7**	**-1.9**
VRTB	**Varto-Mus**	**1.84**	**67**	*e*Pn	**Pn**	**07 15 02.7**	**-1.9**
SUSE	**Susehri**	**1.93**	**335**	*i* P	**Pg**	**07 15 08.0**	**-1.0**
SUSE				*i* S	**Sg**	**07 15 33.9**	**-0.1**
SUSE	**Susehri**	**1.93**	**335**	P	**Pg**	**07 15 08.0**	**-1.0**
GAZ	**Gaziantep**	**2.08**	**232**	*e*PN	**Pn**	**07 15 06.9**	**-0.9**
GAZ	**Gaziantep**	**2.08**	**232**	*e*Pn	**Pn**	**07 15 06.9**	**-0.9**
KMRS	**Kahramanmaras**	**2.10**	**244**	*e*PN	**Pn**	**07 15 06.8**	**-1.3**
KMRS	**Kahramanmaras**	**2.10**	**244**	*e*Pn	**Pn**	**07 15 06.8**	**-1.3**
SARI	**SarD1z-Kayseri**	**2.24**	**269**	*e*PN	**Pn**	**07 15 09.8**	**-0.3**
SVSK	**Karacayir**	**2.28**	**310**	*e*PN	**Pn**	**07 15 10.9**	**+0.4**
SVSK	**Karacayir**	**2.28**	**310**	*e*Pn	**Pn**	**07 15 10.9**	**+0.4**
KUZU	**Kuzuini**	**2.43**	**227**	*i* P	**Pn**	**07 15 11.7**	**-0.9**
KUZU				*i* S	**Sg**	**07 15 48.2**	**-1.8**
KUZU	**Kuzuini**	**2.43**	**227**	P	**Pn**	**07 15 11.7**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.45**	**323**	*e*PN	**Pn**	**07 15 12.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.45**	**323**	*e*Pn	**Pn**	**07 15 12.6**	**-0.2**
KTUT	**Trabzon**	**2.55**	**9**	*e*PN	**Pn**	**07 15 14.1**	**-0.1**
KTUT	**Trabzon**	**2.55**	**9**	*e*Pn	**Pn**	**07 15 14.1**	**-0.1**
BRTR	**Keskin Array B**	**4.56**	**288**	**Pn**	**Pn**	**07 15 42.6**	**+0.7**
	2.4nm,0.3s,baz=115,slow=14,SNR=47						
BRTR				LR	LR	07 17 50.2	
	comp=Z,200nm,19.6s,baz=102,slow=44						
GNI	**Garni**	**4.57**	**67**	Pn	**Pn**	**07 15 44.1**	**+2.0**
	2.7nm,0.3s,baz=54,slow=22,SNR=3.2						
GNI				LR	LR	07 17 34.4	
	comp=Z,56nm,20.6s,baz=255,slow=39						
MMAI	**Mount Meron Ar**	**6.28**	**211**	LR	LR	07 18 28.4	
	comp=Z,116nm,18.8s,baz=155,slow=38	

DVHZ			AML	AML	07 21 08.8	
BFZ	**Birch Farm**	**4.04 187**	PN	Pn	07 20 26.2	-2.2
MRZ	**Mangatainoka R**	**4.12 194**	PN	Pn	07 20 26.8	-2.6
TIWZ	**Tintock**	**4.18 191**	PN	Pn	07 20 28.4	-1.7
OGWZ	**Otaki Gorge**	**4.36 197**	PN	Pn	07 20 30.0	-2.3
OGWZ			AML	AML	07 21 24.4	
OGWZ			AML	AML	07 21 32.5	
HOWZ	**Holdsworth Sta**	**4.36 194**	PN	Pn	07 20 29.9	-2.5
CAW	**Cannon Point**	**4.66 197**	PN	Pn	07 20 33.0	-3.1
DUWZ	**D'Urville Isla**	**4.74 208**	PN	Pn	07 20 36.4	-0.8
TUWZ	**Tuamarina**	**5.28 205**	PN	Pn	07 20 42.4	-1.6
NNZ	**Nelson**	**5.30 210**	PN	Pn	07 20 44.0	-0.4
THZ	**Tophouse**	**5.95 210**	PN	Pn	07 20 52.3	-0.5
KHZ	**Kahutara**	**6.30 203**	PN	Pn	07 20 55.8	-1.3
DSZ	**Denniston Nort**	**6.42 216**	PN	Pn	07 20 59.7	+0.8
LTZ	**Lake Taylor**	**7.07 209**	PN	Pn	07 21 05.0	-2.2
INZ	**Inchbonnie**	**7.36 213**	PN	Pn	07 21 09.9	-1.1

MAN 10 07:24:11, 11°23N×126°39E, h1km, mb4.8, ML3.7, MS3.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.00**	**292**	*eP*	Pg	07 24 30.6	+0.4
BESP				*eS*	Sn	07 24 49.8	+2.9
PLP	**Palo**	**1.38**	**267**	⇓*eP*	Pn	07 24 36.6	-0.9
PLP				*eS*	Sn	07 24 57.0	+0.6
OCLP	**Ormoc**	**1.75**	**264**	*eP*	Pb	07 24 43.5	-0.4
OCLP				*eS*	Sg	07 25 11.5	+4.2
PVCP	**Virac**	**3.21**	**317**	*eP*	Pn	07 25 03.9	+1.3
PVCP				*eS*	Sg	07 26 04.9	+11
BUKP	**Musuan**	**3.58**	**202**	*eP*	Pb	07 25 13.5	-1.7
BUKP				*eS*	Sn	07 25 47.9	-2.8

*IDC **10** 07:24:40.9±0.7, 3°.35S×129°.95E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/54, mbtmp4.0/10, MS3.7/2, Ms1 3.7/2, ms1mx2.9/49, Error ellipse: s-maj=40.4km s-min=15.9km az=66.0*
*ISCJB **10** 07:24:43.7±0.4, 3°.57S±0°.04×129°.76E±0°.05, h33km, mb4.0/10, MS3.7/2, Error ellipse: s-maj=7.9km s-min=5.1km az=139.1*
*DJA **10** 07:24:43.5±0.4, 3°.5±4°×13°.0E±°, h10km, M4.1/7, MLv4.1/7*
*NEIC **10** 07:24:46.0±0.5, 3°.53S×129°.91E, h35km, mb4.1/4, Error ellipse: s-maj=15.6km s-min=8.1km az=68.0*
ISC 10 07:24:45.8±0.6, 3°.54S±0°.06×129°.78E±0°.05, h35km, n38, σ2°16/40, mb4.0/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.87**	**283**	P	**Pn**	**07 24 59.0**	**-2.5**
MSAI				S	**Sn**	**07 25 10.6**	**-2.4**
BNDI	**Bandanaira**	**0.98**	**173**	P	**Pn**	**07 25 02.7**	**-0.4**
BNDI				S	**Sn**	**07 25 17.6**	**+1.8**
AAI	**Ambon**	**1.58**	**265**	P	**Pn**	**07 25 11.6**	**+0.2**
FAKI	**Fak Fak**	**2.54**	**76**	P	**Pn**	**07 25 24.9**	**+0.3**
FAKI	**Fak Fak**	**2.54**	**76**	*e*Pn	**Pn**	**07 25 24.6**	**0.0**
FAKI				*e*Sn	Sn	07 25 41.1	-13
NLAI	**Namlea**	**2.69**	**276**	P	**Pn**	**07 25 30.0**	**+3.4**
LBMI	**Labuha**	**3.67**	**322**	P	**Pn**	**07 25 39.7**	**-0.5**
KMPI	**Kaimana, Papua**	**3.92**	**92**	P	**Pn**	**07 25 44.8**	**+1.2**
SAUI	**Saumlaki**	**4.66**	**161**	*e*Pn	**Pn**	**07 25 54.1**	**+0.3**
SAUI				*e*Sn	Sn	07 26 37.3	-9.5
MTN	**Manton Dam**	**9.34**	**172**	*e*Pn	**Pn**	**07 26 59.3**	**+1.3**
COEN	**Coen**	**16.79**	**129**	*e*Pn	**Pn**	**07 28 36.1**	**-2.4**
	14nm,0.9s						
WRAB	**Tennant Creek**	**16.89**	**165**	*e*Pn	**Pn**	**07 28 38.2**	**-1.5**
	5.0nm,0.7s						
WRAB				*e*Sn	**Sn**	**07 31 38.2**	**-8.2**
WR1	**Warramunga Arr**	**16.90**	**165**	*e*Pn	**Pn**	**07 28 36.3**	**-3.5**
	40nm,1.8s						
WRA	**Warramunga Arr**	**16.90**	**165**	P	**Pn**	**07 28 36.3**	**-3.5**
	0.4nm,0.3s,baz=350,slow=12,SNR=10						
WB2	**Warramunga Arr**	**16.90**	**165**	*e*Pn	**Pn**	**07 28 37.1**	**-2.7**
WB2				*e*Sn	**Sn**	**07 31 44.9**	**-1.7**
AS31	**Alice Springs**	**20.40**	**169**	*e*P	**P**	**07 29 19.7**	**-0.2**
	3.9nm,0.7s						
ASAR	**Alice Springs**	**20.40**	**169**	P	**P**	**07 29 19.7**	**-0.2**
	4.3nm,0.5s,baz=348,slow=10,SNR=61						
AS01	**Alice Springs**	**20.41**	**169**	*e*P	**P**	**07 29 19.6**	**-0.4**
CTA	**Charters Tower**	**22.99**	**137**	P	**P**	**07 29 49.0**	**+1.3**
	3.5nm,0.6s,baz=315,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**30.30**	**160**	P	**P**	**07 30 55.5**	**+1.6**
	2.1nm,0.6s,baz=346,slow=6.8,SNR=7.1						
STKA	**Stephens Creek**	**30.30**	**160**	*e*P	**P**	**07 30 54.3**	**+0.4**
	8.0nm,1.9s						
JNU	**Nakatsue**	**36.48**	**2**	LR	LR	07 47 18.5	
	comp=Z,70nm,18.2s,baz=164,slow=37						
CMAR	**Chiang Mai Arr**	**37.42**	**307**	P	**P**	**07 31 57.3**	**+1.4**
	0.9nm,0.3s,baz=148,slow=7.1,SNR=1.9						
MJAR	**Matsushiro Arr**	**40.65**	**10**	P	**P**	**07 32 20.5**	**-2.2**
	1.8nm,0.8s,baz=181,slow=8.2,SNR=5.6						
PALK	**Pallekele**	**50.14**	**282**	LR	LR	07 58 17.2	
	comp=Z,111nm,18.1s,baz=297,slow=40						
PALK	**Pallekele**	**50.14**	**282**	*e*P	**P**	**07 33 41.9**	**+3.6**
	72nm,1.7s						
MK32	**Makanchi Array**	**65.24**	**326**	*e*P	**P**	**07 35 23.7**	**-0.2**
MKAR	**Makanchi Array**	**65.24**	**326**	P	**P**	**07 35 23.7**	**-0.2**
	0.5nm,0.6s,baz=123,slow=11,SNR=4.0						
KURBB	**Kurchatov Arra**	**69.47**	**328**	P	**P**	**07 35 50.8**	**+0.2**
	1.1nm,0.3s,baz=125,slow=5.4,SNR=10						
KURK	**Kurchatov**	**69.48**	**328**	*e*P	**P**	**07 35 50.8**	**+0.2**
BVAR	**Borovoye Array**	**75.04**	**327**	P	**P**	**07 36 23.3**	**-0.6**
	1.0nm,0.7s,baz=116,slow=6.8,SNR=4.1						
VNDA	**Vanda**	**75.88**	**173**	P	**P**	**07 36 29.9**	**+1.7**
	0.3nm,0.6s,baz=317,slow=8.6,SNR=5.2						
ILAR	**Eielson Array**	**90.33**	**25**	P	**P**	**07 37 42.9**	**-0.1**
	0.3nm,0.7s,baz=272,slow=4.6,SNR=5.1						
LTX	**Lajitas**	**123.30**	**57**	*e*PKPdf	**PKPdf**	**07 43 40.0**	**0.0**
TXAR	**Lajitas Array**	**123.30**	**57**	PKP	**PKPdf**	**07 43 40.0**	**0.0**
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**127.85**	**284**	PKP	**PKPdf**	**07 43 50.4**	**+1.5**
	1.0nm,0.9s,baz=67,slow=1.6,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**127.85**	**284**	*e*PKPdf	**PKPdf**	**07 43 50.4**	**+1.5**
CPUP	**Villa Florida**	**149.52**	**167**	PKPbc	**PKPbc**	**07 44 32.3**	**0.0**
	1.8nm,0.7s,baz=6.7,slow=3.7,SNR=6.6						

*IDC **10** 07:28:12.8±1.0, 7°.22S×147°.34E, h0km, mb4.3/13, mb1 4.5/16, mb1mx4.3/44, mbtmp4.4/16, ML4.3/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/36, Error ellipse: s-maj=41.1km s-min=14.1km az=93.0*
*ISCJB **10** 07:28:16.4±0.4, 7°.28S±0°.04×147°.19E±0°.08, h32km, mb4.6/25, MS3.2/2, Error ellipse: s-maj=11.8km s-min=5.9km az=9.9*
*NEIC **10** 07:28:20.3±0.9, 7°.35S×147°.19E, h54km±8km, mb4.7/20, Error ellipse: s-maj=11.3km s-min=6.6km az=103.0*
ISC 10 07:28:18.7±0.6, 7°.33S±0°.05×147°.0E±0°.1, h32km, n68, σ1°31/68, mb4.6/25, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.07**	**176**	Pn	**Pn**	**07 28 51.7**	**+0.4**
	61nm,0.3s,baz=14,slow=5.4,SNR=203						
PMG				Sn	**Sn**	**07 29 19.7**	**+3.7**
	112nm,0.3s,baz=23,slow=15,SNR=9.8						
PMG				LR	LR	07 30 01.2	
	comp=Z,1μm,19.1s,baz=76,slow=50						
MANU	**Manus Island**	**5.26**	**4**	*e*Pn	**Pn**	**07 29 38.2**	**+3.0**
COEN	**Coen**	**7.60**	**210**	*e*Pn	**Pn**	**07 30 07.4**	**+0.1**
COEN				*e*Sn	**Sn**	**07 31 31.7**	**-0.7**
COEN	**Coen**	**7.60**	**210**	*e*Sn	**Sn**	**07 31 31.5**	**-0.9**
JAY	**Jayapura**	**7.90**	**307**	LR	LR	07 33 26.8	
	comp=Z,1μm,18.1s,baz=28,slow=39						
CTA	**Charters Tower**	**12.71**	**183**	Pn	**Pn**	**07 31 18.3**	**+0.9**
	1.1nm,0.3s,baz=3.3,slow=15,SNR=8.2						
CTAO	**Charters Tower**	**12.71**	**183**	*e*Pn	**Pn**	**07 31 18.7**	**+1.3**
WRAB	**Tennant Creek**	**17.55**	**223**	*e*Pn	**P**	**07 32 24.1**	**+2.2**
	18nm,0.8s						
WB2	**Warramunga Arr**	**17.56**	**223**	*e*Pn	**P**	**07 32 23.5**	**+1.5**
	15nm,0.8s						
WR1	**Warramunga Arr**	**17.57**	**223**	*e*Pn	**Pn**	**07 32 21.4**	**+0.1**
	17nm,0.8s						
WRA	**Warramunga Arr**	**17.57**	**223**	P	**Pn**	**07 32 21.4**	**+0.1**
	1.0nm,0.3s,baz=48,slow=12,SNR=14						
EIDS	**Eidsvold**	**18.36**	**168**	*e*P	**Pn**	**07 32 32.1**	**+1.1**
	10nm,0.8s						
AS01	**Alice Springs**	**20.53**	**216**	*e*S	**P**	**07 32 53.8**	**-0.8**
AS31	**Alice Springs**	**20.55**	**216**	*e*P	**P**	**07 32 55.5**	**+0.6**
	9.9nm,0.8s						
AS31	**Alice Springs**	**20.55**	**216**	*e*S	**P**	**07 32 55.5**	**+0.6**
ASAR	**Alice Springs**	**20.56**	**216**	P	**P**	**07 32 55.1**	**+0.2**
	21nm,0.9s,baz=42,slow=11,SNR=42						
ASAR				LR	LR	07 41 10.8	
	comp=Z,172nm,19.6s,baz=26,slow=37						
GUMO	**Guam**	**20.89**	**354**	LR	LR	07 39 40.0	
	comp=Z,62nm,20.4s,baz=219,slow=33						
STKA	**Stephens Creek**	**24.95**	**191**	P	**P**	**07 33 38.7**	**-0.5**
	2.3nm,0.8s,baz=333,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**24.95**	**191**	*e*P	**P**	**07 33 38.5**	**-0.8**
	2.2nm,1.1s						
JNU	**Nakatsue**	**43.05**	**340**	P	**P**	**07 36 14.8**	**-0.9**
	6.9nm,0.8s,baz=143,slow=6.4,SNR=6.3						
JNU	**Nakatsue**	**43.05**	**340**	*e*P	**P**	**07 36 14.7**	**-0.9**
	11nm,0.9s						
MJAR	**Matsushiro Arr**	**44.41**	**350**	P	**P**	**07 36 24.2**	**-2.4**
	2.2nm,0.7s,baz=184,slow=8.6,SNR=7.3						
MAT	**Matsushiro**	**44.41**	**350**	P	**P**	**07 36 24.6**	**-2.0**
QIZ	**Qiongzhong**	**45.04**	**306**	*e*P	**P**	**07 36 32.2**	**+0.4**
	158nm,1.7s						
KSRS	**Korea Array**	**47.99**	**339**	P	**P**	**07 36 53.6**	**-1.0**
	5.9nm,0.8s,baz=157,slow=8.8,SNR=19						
KSAR	**Wonju Array Be**	**47.99**	**339**	P	**P**	**07 36 53.6**	**-1.0**
USRK	**Ussuriysk Ar.**	**53.05**	**347**	P	**P**	**07 37 31.7**	**-1.0**
	3.5nm,0.7s,baz=105,slow=4.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**53.90**	**299**	P	**P**	**07 37 40.8**	**+1.3**
	3.5nm,0.7s,baz=127,slow=5.5,SNR=13						
SONA0	**Songino Array**	**65.56**	**331**	*e*P	**P**	**07 38 59.5**	**+0.1**
	4.1nm,1.2s						
SONM	**Songino Array**	**65.56**	**331**	P	**P**	**07 38 59.5**	**+0.1**
	0.9nm,0.8s,baz=134,slow=6.4,SNR=4.3						
TAPN	**Taplejung**	**66.89**	**304**	*e*P	**P**	**07 39 09.2**	**+0.6**
	23nm,0.9s						
RAMN	**Ramite**	**67.67**	**303**	*e*P	**P**	**07 39 14.1**	**+0.7**
JIRN	**Jiri**	**68.26**	**304**	*e*P	**P**	**07 39 19.0**	**+1.7**
	117nm,0.8s						
GUN	**Gumba**	**68.61**	**304**	*e*P	**P**	**07 39 21.0**	**+1.5**
	32nm,0.8s						
PKIN	**Phulchoki**	**68.89**	**303**	*e*P	**P**	**07 39 22.4**	**+1.3**
KKN	**Kakani**	**69.06**	**303**	*e*P	**P**	**07 39 23.6**	**+1.5**
DMN	**Daman**	**69.14**	**303**	*e*P	**P**	**07 39 23.4**	**+0.7**
	29nm,0.8s						
GKN	**Gorkha**	**69.67**	**303**	*e*P	**P**	**07 39 26.2**	**+0.4**
	21nm,0.8s						
KOLN	**Koldanda**	**70.45**	**303**	*e*P	**P**	**07 39 30.5**	**-0.2**
	14nm,0.7s						
PYUN	**Piuthan**	**71.07**	**303**	*e*P	**P**	**07 39 34.5**	**+0.1**
	34nm,0.9s						
MK01	**Makanchi Array**	**78.51**	**321**	*e*P	**P**	**07 40 17.4**	**+0.6**
MK31	**Makanchi Array**	**78.53**	**321**	*e*P	**P**	**07 40 16.9**	**0.0**
MK32	**Makanchi Array**	**78.53**	**321**	*e*P	**P**	**07 40 16.5**	**-0.5**
MKAR	**Makanchi Array**	**78.53**	**321**	P	**P**	**07 40 16.5**	**-0.4**
	4.2nm,0.9s,baz=112,slow=6.0,SNR=17						
MKAR	**Makanchi Array**	**78.53**	**321**	*e*P	**P**	**07 40 16.9**	**-0.1**
	30nm,0.9s						
MAKZ	**Makanchi**	**78.73**	**321**	*e*P	**P**	**07 40 18.5**	**+0.4**
	10nm,1.1s						
ZALV	**Zalesovo Beam**	**80.14**	**328**	*e*P	**P**	**07 40 24.9**	**-0.6**
KURK	**Kurchatov**	**82.28**	**323**	*e*P	**P**	**07 40 36.9**	**-0.1**
	7.6nm,1.3s						
AAK	**Ala-Archa**	**82.28**	**315**	P	**P**	**07 40 37.5**	**0.0**
	1.0nm,0.4s,baz=180,slow=6.1,SNR=3.9						
KURBB	**Kurchatov Arra**	**82.30**	**323**	P	**P**	**07 40 36.9**	**-0.2**
	0.8nm,0.2s,baz=109,slow=3.7,SNR=8.2						
QSPA	**South Pole Qui**	**82.65**	**180**	*e*P	**P**	**07 40 37.8**	**-1.1**
	20nm,0.9s						
IMAR	**Indian Mountai**	**84.71**	**21**	*e*P	**P**	**07 40 48.5**	**-0.7**
SML	**Sawmill**	**84.82**	**26**	*e*P	**P**	**07 40 49.2**	**-0.7**
	18nm,1.4s						
KKAR	**Karatag Array**	**85.22**	**314**	*e*P	**P**	**07 40 51.4**	**-0.9**
	21nm,0.9s						
RND	**Reindeer**	**85.31**	**24**	*e*P	**P**	**07 40 50.5**	**-1.9**
	5.4nm,0.8s						
MCK	**McKinley**	**85.43**	**24**	*e*P	**P**	**07 40 51.3**	**-1.5**
	7.1nm,1.0s						
DHY	**Denali Highway**	**85.77**	**25**	*e*P	**P**	**07 40 53.9**	**-0.8**
	5.6nm,1.0s						
CCB	**Clear Creek Bu**	**86.27**	**23**	*e*P	**P**	**07 40 55.5**	**-1.4**
	3.7nm,0.9s						
IL1	**Eielson Array**	**86.68**	**23**	*e*P	**P**	**07 40 56.7**	**-2.3**
ILAR	**Eielson Array**	**86.68**	**23**	P	**P**	**07 40 56.7**	**-2.3**
	2.7nm,0.8s,baz=256,slow=5.1,SNR=18						
ILB	**Eielson Array**	**86.68**	**23**	*e*P	**P**	**07 40 57.1**	**-1.9**
DOT	**Dot Lake**	**87.37**	**25**	*e*P	**P**	**07 41 00.2**	**-2.2**
	14nm,1.0s						
BVAR	**Borovoye Array**	**87.84**	**324**	P	**P**	**07 41 03.5**	**-1.4**
	1.6nm,0.7s,baz=104,slow=6.3,SNR=6.4						
DAWY	**Dawson**	**89.46**	**25**	*e*P	**P**	**07 41 12.2**	**-0.1**
	14nm,1.5s						
PFO	**Pinyon Flats O**	**99.43**	**57**	*e*P	**Pdif**	**07 41 55.3**	**-3.5**
TORD	**Torodi Ar. Bea**	**145.41**	**282**	PKPbc	**PKPdf**	**07 47 53.8**	**-0.8**
	8.0nm,0.9s,baz=79,slow=4.0,SNR=27						
TOA1	**Torodi Ar. Sit**	**145.42**	**282**	*e*PKPdf	**PKPdf**	**07 47 53.8**	**-0.8**
DBIC	**Dimbokro**	**152.08**	**270**	PKPbc	**PKPbc**	**07 48 12.8**	**+0.8**
	2.8nm,0.5s,baz=58,slow=3.3,SNR=6.6						

MEX 10 07:29:42.4±0.4, 19°.42N×104°.34W, h75km±4km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.42**	**126**	*i P*	Pn	07 29 53.9	-1.2
R15V				*e*S	Sn	07 30 02.9	-1.6
CJM	**Chamela**	**0.66**	**277**	*i P*	Pn	07 29 56.1	-1.2
CJM				*e*S	Sn	07 30 06.3	-2.0
MMIG	**Aquila**	**1.47**	**140**	*i P*	Pn	07 30 06.0	-1.2
MMIG				*e*S	Sn	07 30 23.8	-2.1
MOIG	**Morelia**	**2.99**	**85**	*i P*	Pn	07 30 26.4	-1.3
MOIG				*i* S	Sn	07 31 01.5	-1.2
ZIIG	**Zihuatanejo**	**3.27**	**123**	*i P*	Pn	07 30 30.3	-1.1
ZIIG				*i* S	Sn	07 31 06.8	-2.5
ARIG	**Puente Sto Nin**	**3.95**	**106**	*e*P	Pn	07 30 40.0	-0.7
ARIG				*i* S	Sn	07 31 24.3	-1.6

*IDC **10** 07:33:18.2±1.7, 20°.22S×177°.75W, h474km±17km, mb3.8/15, mb1 4.0/18, mb1mx3.8/36, mbtmp4.7/18, Error ellipse: s-maj=13.3km s-min=12.2km az=122.0*
*ISCJB **10** 07:33:19.4±0.3, 20°.33S±0°.05×177°.84W±0°.06, h500km, mb4.3/38, Error ellipse: s-maj=8.2km s-min=6.4km az=34.5*
*NEIC **10** 07:33:19.4±0.6, 20°.27S×177°.74W, h493km±6km, mb4.5/25, Error ellipse: s-maj=9.8km s-min=6.4km az=140.0*
ISC 10 07:33:19.3±0.3, 20°.25S±0°.06×177°.62W±0°.07, h500km, n138, σ1°58/154, mb4.4/38, 21C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**301**	*e*P	**P**	**07 34 46.2**	**+1.5**
AFI	**Afiamalu**	**8.42**	**42**	P	**P**	**07 35 18.9**	**-1.4**
	21nm,0.3s,baz=169,slow=1.7,SNR=26						
AFI				S	**S**	**07 36 53.1**	**-6.4**
	32nm,0.3s,baz=285,slow=15,SNR=13						
AFI	**Afiamalu**	**8.42**	**42**	*e*P	**P**	**07 35 18.8**	**-1.5**
AFI				*e*S	**S**	**07 36 53.3**	**-6.2**
RAO	**Raoul Island**	**8.97**	**182**	P	**P**	**07 35 24.0**	**-1.8**
	170nm,0.3s,baz=66,slow=23,SNR=8.4						
RAO				S	**S**	**07 37 05.8**	**-3.8**
	66nm,0.3s,baz=99,slow=22,SNR=5.3						
RAO	**Raoul Island**	**8.97**	**182**	*e*P	**P**	**07 35 24.2**	**-1.5**
RAO				*e*S	**S**	**07 37 06.5**	**-4.1**
FUNA	**Funafuti**	**12.05**	**345**	*e*P	**P**	**07 35 58.2**	**-0.4**
DZM	**Mont Dzumac**	**14.98**	**260**	P	**P**	**07 36 28.5**	**-0.9**
	0.7nm,0.3s,baz=81,slow=17,SNR=12						
URZ	**Urewera**	**18.52**	**193**	P	**P**	**07 37 03.6**	**-0.7**
	2.1nm,0.3s,baz=327,slow=1.3,SNR=9.7						
URZ	**Urewera**	**18.52**	**193**	*e*P	**P**	**07 37 03.7**	**-0.6**
URZ				*e*S	**S**	**07 40 08.6**	**+0.9**
ARMA	**Armidale**	**29.50**	**244**	*e*P	**P**	**07 38 43.1**	**+0.6**
	8.3nm,0.6s						
CTA	**Charters Tower**	**33.87**	**264**	P	**P**	**07 39 19.8**	**-0.1**
	29nm,0.4s,baz=88,slow=11,SNR=43						
CTAO	**Charters Tower**	**33.87**	**264**	*e*P	**P**	**07 39 19.9**	**-0.1**
	29nm,0.6s						
PMG	**Port Moresby**	**35.63**	**282**	P	**P**	**07 39 34.6**	**-0.1**
	26nm,0.8s,baz=80,slow=7.0,SNR=12						
PMG	**Port Moresby**	**35.63**	**282**	*e*P	**P**	**07 39 34.6**	**-0.1**
	75nm,0.9s						
STKA	**Stephens Creek**	**38.22**	**244**	P	**P**	**07 39 55.7**	**-0.2**
	5.9nm,0.7s,baz=91,slow=11,SNR=13						
STKA				PcP	**PcP**	**07 41 58.6**	**+1.0**
	4.4nm,0.7s,baz=101,slow=4.3,SNR=6.0						
STKA	**Stephens Creek**	**38.22**	**244**	*e*P	**P**	**07 39 55.8**	**0.0**
	8.1nm,1.8s						
STKA				PcP	**PcP**	**07 41 58.6**	**+1.0**
AS01	**Alice Springs**	**44.88**	**256**	*e*P	**P**	**07 40 48.2**	**-0.7**
AS31	**Alice Springs**	**44.92**	**256**	*e*P	**P**	**07 40 48.6**	**-0.6**
	6.9nm,0.8s						
AS31				*e*PcP	**pP**	**07 42 20.7**	**-1.5**
ASAR	**Alice Springs**	**44.92**	**256**	P	**P**	**07 40 48.7**	**-0.5**
	28nm,0.7s,baz=88,slow=8.5,SNR=206						
ASAR				PcP	**pP**	**07 42 20.5**	**-1.7**
	9.0nm,0.7s,baz=103,slow=4.0,SNR=18						
ASAR				S	**S**	**07 46 47.4**	**-3.1**
	1.3nm,1.0s,baz=91,slow=16,SNR=8.6						
WB2	**Warramunga Arr**	**44.98**	**262**	*e*P	**P**	**07 40 48.5**	**-1.1**
WRAB	**Tennant Creek**	**44.98**	**262**	*e*P	**P**	**07 40 48.5**	**-1.2**
	14nm,0.8s						
WRAB				*e*S	**S**	**07 46 49.1**	**-2.2**
WR1	**Warramunga Arr**	**44.99**	**262**	*e*P	**P**	**07 40 48.5**	**-1.2**
	27nm,1.0s						
WR1				*e*PcP	**pP**	**07 42 20.8**	**-1.9**
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**07 40 48.5**	**-1.2**
	6.0nm,0.3s,baz=96,slow=7.8,SNR=226						
WRA				PcP	**pP**	**07 42 20.8**	**-1.9**
	4.5nm,0.7s,baz=94,slow=3.5,SNR=10						
MTN	**Manton Dam**	**49.52**	**270**	*e*P	**P**	**07 41 22.9**	**-1.0**
	20nm,0.8s						
FORT	**Forrest**	**49.72**	**246**	*e*P	**P**	**07 41 24.5**	**-0.7**
	360nm,0.8s						
SOEI	**Soe**	**56.85**	**271**	*e*P	**P**	**07 42 17.5**	**+1.1**
	62nm,0.7s						
VNDA	**Vanda**	**58.19**	**185**	P	**P**	**07 42 26.4**	**+2.1**
	1.7nm,0.6s,baz=359,slow=8.0,SNR=13						
VNDA				PcP	**PcP**	**07 43 10.4**	**+1.2**
	1.0nm,0.7s,baz=326,slow=2.7,SNR=4.7						
MBWA	**Marble Bar**	**58.26**	**257**	*e*P	**P**	**07 42 25.0**	**-0.8**
	22nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.80**	**243**	P	**P**	**07 42 29.2**	**-0.1**
	17nm,0.9s,baz=348,slow=6.2,SNR=7.0						
QSPA	**South Pole Qui**	**69.82**	**180**	*e*P	**P**	**07 43 40.4**	**+1.5**
	20nm,0.9s						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**07 43 41.7**	**+0.2**
	2.6nm,0.7s,baz=154,slow=5.7,SNR=6.6						
USRK	**Ussuriysk Ar.**	**78.96**	**326**	P	**P**	**07 44 32.4**	**+1.8**
	3.2nm,0.7s,baz=114,slow=4.8,SNR=5.1						
BORC	**Borrego Spring**	**78.98**	**48**	*e*P	**P**	**07 44 32.2**	**+1.2**
MAW	**Mawson**	**81.92**	**200**	P	**P**	**07 44 46.5**	**+0.7**
	3.8nm,0.6s,baz=137,slow=5.2,SNR=30						
MAW	**Mawson**	**81.92**	**200**	*e*P	**P**	**07 44 46.4**	**+0.7**
	2.6nm,1.4s						
X16A	**Lo Mia Camp, P**	**83.11**	**50**	*e*P	**P**	**07 44 55.7**	**+3.1**
	2.2nm,0.8s						
CCUT	**Cedar City**	**83.38**	**46**	*e*P	**P**	**07 44 53.7**	**-0.2**
	7.2nm,1.5s						
U15A	**North Rim**	**83.53**	**48**	*e*P	**P**	**07 44 57.8**	**+3.1**
	3.6nm,0.8s						
SUA	**Susitna One**	**84.24**	**13**	*e*P	**P**	**07 44 58.0**	**+0.6**
	5.4nm,0.8s						
TRF	**Thorofare Moun**	**86.13**	**12**	*e*P	**P**	**07 45 07.4**	**+0.8**
	6.0nm,0.8s						
SEY	**Seymchan**	**86.21**	**347**	P	**P**	**07 45 07.4**	**+0.6**
	2.7nm,0.6s,baz=136,slow=6.0,SNR=7.6						
RND	**Reindeer**	**86.38**	**13**	*e*P	**P**	**07 45 09.1**	**+1.4**
	8.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**86.62**	**57**	*e*P	**P**	**07 45 12.2**	**+2.6**
LTX	**Lajitas**	**86.62**	**57**	*e*P	**P**	**07 45 12.6**	**+2.9**
TXAR	**Lajitas Array**	**86.62**	**57**	P	**P**	**07 45 12.6**	**+2.9**
	1.4nm,0.7s,baz=219,slow=7.6,SNR=17						
SYO	**Syowa Base**	**87.05**	**193**	⇓*e*P	**P**	**07 45 09.4**	**-1.4**
WRH	**Wood River Hil**	**87.48**	**12**	*e*P	**P**	**07 45 13.4**	**+0.7**
	6.0nm,0.9s						
HDA	**Harding Lake**	**87.66**	**13**	*e*P	**P**	**07 45 14.4

GOPC	GO Pecny, Ondr	148.79 344⇑	*e*PKP		PKPbc	07 52 11.2	+1.2
ARR	Arges	148.94 329⇑	*i*P		PKPbc	07 52 12.3	+1.8
NKC	Novy Kostel	149.03 347⇑	*e*PKP		PKPbc	07 52 11.8	+1.3
EIL	Elat	149.10 294	PKPbc		PKPbc	07 52 12.0	+0.7
	comp=Z,11nm,0.7s,baz=346,slow=3.8,SNR=12						
SIRR	Siria	149.61 333⇓	*i*P		PKPbc	07 52 12.2	+0.1
KHC	Kasperske Hory	149.82 345⇑	*e*PKP		PKPbc	07 52 13.6	+1.1
KHC			*e*PKPAB		PKPab	07 52 18.7	-1.3
KHC	Kasperske Hory	149.82 345	*e*PKPbc		PKPbc	07 52 13.5	+1.0
GEC2	GERESS Array S	150.05 345	*e*PKPbc		PKPbc	07 52 13.8	+0.7
GERES	GERESS Array B	150.05 345	PKPbc		PKPbc	07 52 13.7	+0.6
	comp=Z,6.9nm,0.8s,baz=48,slow=2.0,SNR=27						
GEA0	GERESS Array S	150.06 345	*e*PKPbc		PKPbc	07 52 13.7	+0.6
BZS	Buzias	150.14 332⇑	*i*P		PKPbc	07 52 14.0	+0.7
CONA	Conrad Observa	150.31 342	*i* PKiKP		PKiKP	07 52 14.7	+0.4
	comp=Z,9.9nm,0.7s						
MDVR	Moldovita	150.75 331⇑	*i*P		PKPbc	07 52 15.5	+0.7
MOA	Molln	150.83 343	*i* PKPbc		PKPbc	07 52 15.3	+0.5
	comp=Z,3.0nm,0.5s						
VTS	Vitosha	151.65 326⇑	*i*P		PKPbc	07 52 17.7	+0.6
WATA	Walderalm	151.96 347	*i* PKPbc		PKPbc	07 52 18.1	+0.5
	comp=Z,3.2nm,0.5s						
MOTA	Moosalm	152.05 347	*i* PKPbc		PKPbc	07 52 18.2	+0.4
	comp=Z,2.9nm,0.7s						
MYKA	Terra Mystica	152.12 343	*i* PKPbc		PKPbc	07 52 17.7	-0.1
	comp=Z,3.6nm,0.5s						
ABTA	Abfaltersbach	152.30 345	*i* PKPbc		PKPbc	07 52 18.1	-0.2
	comp=Z,6.7nm,0.6s						
FETA	Feichten	152.44 348	*i* PKPbc		PKPbc	07 52 18.9	+0.2
	comp=Z,2.3nm,0.6s						
CRNS	Crni Vrh	152.45 342	*i* PKPbc		PKPbc	07 52 18.5	0.0
BOJS	Bojanci	152.66 340	*i* PKPbc		PKPbc	07 52 19.7	+0.7
DBIC	Dimbokro	164.79 152	PKPab		PKPab	07 53 27.2	+1.7
	comp=Z,3.0nm,0.6s,baz=176,slow=3.0,SNR=6.0						
TOA0	Torodi Ar. Sit	172.91 175	*e*PKPdf		PKPdf	07 52 30.8	-0.7
TORD	Torodi Ar. Bea	172.91 175	PKP		PKPdf	07 52 31.2	-0.4
	comp=Z,2.4nm,0.9s,baz=49,slow=0.2,SNR=11						
TORD			PKPab		PKPab	07 54 02.1	+0.7
	comp=Z,1.0nm,0.9s,baz=184,slow=3.6,SNR=5.5						
TORD			PP		PP	07 57 51.9	-0.2
	comp=Z,0.6nm,0.8s,baz=166,slow=5.4,SNR=3.7						
TOA1	Torodi Ar. Sit	172.91 175	*e*PKPdf		PKPdf	07 52 31.1	-0.4
TOA1			*e*PKPab		PKPab	07 54 02.1	+0.7
TOA1			*e*PP		PP	07 57 51.9	-0.2

IDC 10 07:39:14.2±5.3, 5°.78S×146°.88E, h106km±51km, mb3.5/3, mb1 3.8/5, mb1mx3.4/31, mbtmp3.9/5, MS3.9/1, Ms1 3.9/1, ms1mx2.6/30, Error ellipse: s-maj=51.1km s-min=28.2km az=135.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.62	176	P	Pn	07 40 09.0	+0.7
	9.5nm,0.3s,baz=50,slow=5.3,SNR=16						
PMG				S	Sn	07 40 50.5	+0.3
	11nm,0.3s,baz=192,slow=23,SNR=9.7						
CTA	Charters Tower	14.24	182	P	P	07 42 35.5	+0.4
	0.6nm,0.3s,baz=3.6,slow=16,SNR=4.7						
WRA	Warramunga Arr	18.63	220	P	P	07 43 22.6	-1.0
	0.8nm,0.3s,baz=41,slow=12,SNR=16						
ASAR	Alice Springs	21.73	214	P	P	07 43 57.0	-0.2
	1.3nm,0.4s,baz=53,slow=8.5,SNR=14						
FITZ	Fitzroy Crossi	24.09	238	P	P	07 44 20.0	0.0
STKA	Stephens Creek	26.43	190	P	P	07 44 42.2	+1.1
	2.0nm,0.7s,baz=25,slow=9.9,SNR=3.8						
RAO	Raoul Island	40.61	129	LR	LR	08 00 49.9	
	comp=Z,178nm,21.7s,baz=96,slow=32						
ILAR	Eielson Array	85.33	23	P	P	07 51 39.0	-0.1
	0.5nm,0.7s,baz=251,slow=5.0,SNR=8.1						

*MOS **10** 08:03:07.7±1.1, 48°.98N×155°.09E, h62km, mb4.7/26, Error ellipse: s-maj=9.1km s-min=4.7km az=83.2*
*ISCJB **10** 08:03:11.7±0.5, 49°.25N±0°.04×155°.26E±0°.06, h89km±4km, mb4.4/63, Error ellipse: s-maj=9.2km s-min=3.9km az=138.3*
*IDC **10** 08:03:13.0±0.6, 49°.21N×155°.25E, h87km±5km, mb4.0/24, mb1 4.1/30, mb1mx4.0/56, mbtmp4.3/30, MS3.2/14, Ms1 3.2/14, ms1mx3.0/40, Error ellipse: s-maj=15.5km s-min=10.7km az=138.0*
*SKHL **10** 08:03:12.1±0.2, 49°.15N×155°.59E, h109km±6km, mb5.5/3, msh4.9/2*
*KRSC **10** 08:03:13.3±3.0, 49°.15N×156°.90E, h39km±26km, ML4.7*
*NEIC **10** 08:03:13.7±0.6, 49°.21N×155°.22E, h94km±5km, mb4.7/21, Error ellipse: s-maj=6.8km s-min=3.8km az=153.0*

ISC 10 08:03:13.0±0.5, 49°.28N±0°.06×155°.16E±0°.06, h83km±4km, h83km:pP-P, n224, σ1§83/251, mb4.5/63, 9C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.54	23	*e*PN	Pn	08 03 38.9	0.0
SKR				*e*S	Sn	08 03 58.4	-0.1
SKR				pmax	pmax		
	comp=Z,710nm,0.7s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
SKR				smax	smax		
	comp=E,3μm,0.8s						
SKR	Severo-Kuril's	1.54	23	*e*P	Pn	08 03 38.7	-0.2
SKR				AMB	AMB	08 03 41.7	
	comp=E,380nm,0.2s						
SKR				*e*S	Sn	08 03 58.8	+0.3
SKR				A	A	08 04 00.7	
	comp=E,3μm,0.2s						
SKR				A	A	08 04 00.7	
	comp=E,2μm,0.2s						
SKR	Severo-Kuril's	1.54	23	*e*P	Pn	08 03 38.4	-0.5
SKR				*e*S	Sn	08 03 58.9	+0.4
PAU	Pauzhetka	2.44	25	PN	Pn	08 03 48.3	-2.4
PAU				S	Sn	08 04 17.5	-2.1
PAU	Pauzhetka	2.44	25	*e*P	Pn	08 03 48.3	-2.4
PAU				*e*S	Sn	08 04 17.7	-1.9
PAU				A	A	08 04 19.6	
	comp=E,1μm,0.2s						
PAU				A	A	08 04 19.6	
	comp=E,1μm,0.2s						
PAU	Pauzhetka	2.44	25	*e*P	Pn	08 03 48.3	-2.4
PAU				*e*S	Sn	08 04 17.5	-2.1
ASAK	Asacha	3.56	28	PN	Pn	08 04 05.9	-0.1
ASAK	Asacha	3.56	28	*e*P	Pn	08 04 05.9	-0.1
MTVR	Mutnovka	3.74	30	PN	Pn	08 04 08.5	0.0
MTVR				S	Sn	08 04 50.0	-1.4
MTVR	Mutnovka	3.74	30	*e*P	Pn	08 04 08.5	0.0
MTVR				*e*S	Sn	08 04 50.0	-1.4
RUS	Russkaya	3.81	33	PN	Pn	08 04 07.5	-1.8
RUS	Russkaya	3.81	33	*e*P	Pn	08 04 07.5	-1.8
RUS				*e*S	Sn	08 04 49.2	-3.7
KRMR	Karymshinskiy	4.02	27	PN	Pn	08 04 13.1	+0.9
KRMR	Karymshinskiy	4.02	27	*e*P	Pn	08 04 13.1	+0.9
PEA0B	Petropavlovsk-	4.16	22	*e*Pn	Pn	08 04 15.7	+1.7
PEA0B				*e*Sn	Sn	08 04 55.1	-6.3
PETK	Petropavlovsk-	4.16	22	P	Pn	08 04 15.5	+1.5
	comp=E,10nm,0.3s,baz=179,slow=12,SNR=87						
PETK	Petropavlovsk-	4.16	22	*e*PN	Pn	08 04 15.8	+1.8
PETK	Petropavlovsk-	4.16	22	*e*Pn	Pn	08 04 15.8	+1.8
PETK				*e*Sn	Sn	08 04 56.0	-5.3
PEA1	Petropavlovsk-	4.16	22	*e*Pn	Pn	08 04 15.5	+1.4
PET	Petropavlovsk	4.35	29	*e*PN	Pn	08 04 24.4	+7.8
PET				pmax	pmax		
	comp=Z,48nm,0.4s						
PET	Petropavlovsk	4.35	29	*e*P	Pn	08 04 15.8	-0.8
PET				AMB	AMB	08 04 24.8	
	comp=Z,340nm,4.0s						
PET				AMB	AMB	08 04 28.4	
	comp=Z,34nm,0.4s						
PET				*e*S	Sn	08 05 03.5	-2.5
PET				A	A	08 05 06.7	
	comp=Z,300nm,2.5s						
PET				A	A	08 05 06.7	
	comp=Z,380nm,2.5s						
PET				A	A	08 05 09.7	
	comp=Z,150nm,0.4s						
PET				A	A	08 05 09.7	
	comp=Z,140nm,0.4s						
PET	Petropavlovsk	4.35	29	*e*S	Sn	08 05 05.0	-1.0
PET	Petropavlovsk	4.35	29	*e*Pn	Pn	08 04 17.1	+0.5
PET				*e*Sn	Sn	08 04 59.8	-6.2
DALK	Dalny	4.39	30	PN	Pn	08 04 17.3	+0.2
DALK	Dalny	4.39	30	*e*P	Pn	08 04 17.3	+0.2
DALK				*e*S	Sn	08 05 06.3	-0.6
UGLR	Uglovaya	4.56	29	PN	Pn	08 04 20.7	+1.1
UGLR	Uglovaya	4.56	29	*e*P	Pn	08 04 20.7	+1.1
KOK	Koryaka	4.58	27	PN	Pn	08 04 21.0	+1.2
KOK	Koryaka	4.58	27	*e*P	Pn	08 04 21.0	+1.2
AVH	Avacha	4.58	28	PN	Pn	08 04 21.6	+1.7
AVH	Avacha	4.58	28	*e*P	Pn	08 04 21.6	+1.7
KRER	Koryakskii	4.62	28	PN	Pn	08 04 21.4	+0.9
KRER	Koryakskii	4.62	28	*e*P	Pn	08 04 21.4	+0.9
KRX	Arik	4.64	27	PN	Pn	08 04 22.2	+1.5
KRX	Arik	4.64	27	*e*P	Pn	08 04 22.2	+1.5
SDLR	Sedlovina	4.64	29	PN	Pn	08 04 20.3	-0.4
SDLR	Sedlovina	4.64	29	*e*P	Pn	08 04 20.3	-0.4
NLC	Nalytchevo	4.70	32	*e*S	Sn	08 05 10.1	-4.5
GNL	Ganaly	4.75	20	PN	Pn	08 04 24.2	+2.0
GNL	Ganaly	4.75	20	*e*P	Pn	08 04 24.2	+2.0
SPN	Mys Shipunski	4.90	37	PN	Pn	08 04 22.5	-1.6
SPN	Mys Shipunski	4.90	37	*e*P	Pn	08 04 22.5	-1.6
SPN				*e*S	Sn	08 05 15.1	-4.3
KUR	Kuril'sk	6.40	234	*e*PN	Pn	08 04 46.9	+2.3
KUR				pmax	pmax		
	comp=Z,19nm,0.6s						
KUR	Kuril'sk	6.40	234	*e*P	Pn	08 04 46.9	+2.3
KUR				AMB	AMB	08 04 54.9	
	comp=Z,650nm,2.0s						
KUR				AMB	AMB	08 04 56.5	
	comp=Z,23nm,0.5s						
KUR				*e*S	Sn	08 05 58.5	+2.4
KUR				A	A	08 06 00.2	
	comp=Z,119nm,0.6s						
KUR				A	A	08 06 10.0	
	comp=Z,1μm,3.0s						
KUR				A	A	08 06 10.0	
	comp=Z,900nm,3.0s						
SHO	Shikotan	7.88	230	*e*PN	Pn	08 05 02.5	-2.3
SHO				*e*S	Sn	08 06 25.5	-6.8
SHO				pmax	pmax		
	comp=Z,74nm,0.5s						
SHO	Shikotan	7.88	230	*e*P	Pn	08 05 06.1	+1.3
SHO				AMB	AMB	08 05 10.5	
	comp=Z,29nm,0.3s						
SHO				AMB	AMB	08 05 18.0	
	comp=Z,810nm,3.0s						
SHO				*e*S	Sn	08 06 27.9	-4.4
SHO				A	A	08 06 29.6	
	comp=Z,19nm,0.3s						
SHO				A	A	08 06 29.6	
	comp=Z,63nm,0.3s						
SHO				A	A	08 06 30.6	
	comp=Z,580nm,3.4s						
TYV	Tymovskoe	8.20	286	*e*PN	Pn	08 05 07.9	-1.2
TYV				pmax	pmax		
	comp=Z,51nm,1.8s						
TYV	Tymovskoe	8.20	286	*e*P	Pn	08 05 12.5	+3.4
UGL	Uglegorsk	8.58	274	*e*PN	Pn	08 05 10.3	-4.0
YSS	Yuzh-Sakhalins	8.62	259⇑	*e*PN	Pn	08 05 19.3	+4.5
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS	Yuzh-Sakhalins	8.62	259	*e*P	Pn	08 05 17.4	+2.6
YSS				AMB	AMB	08 05 20.6	
	comp=Z,30nm,0.5s						
YSS	Yuzh-Sakhalins	8.62	259	*e*Pn	Pn	08 05 11.1	-3.7
YSS				*e*Sn	Sn	08 06 44.5	-5.8
BKI	Bering	8.90	44	*e*S	Sn	08 06 43.2	-14
ASAJ	Asahikawa	10.05	244	P	Pn	08 05 35.5	+1.2
	comp=Z,1.3nm,0.3s,baz=64,slow=12,SNR=9.7						
MA2	Magadan	10.63	348	LR	LR	08 09 57.4	
	comp=Z,80nm,18.9s,baz=128,slow=38						
HABR	Khabarovsk	13.26	274	*e*PN	Pn	08 06 12.2	-5.5
HABR				pmax	pmax		
	comp=E,28nm,0.9s						
HABR				pmax	pmax		
	comp=Z,21nm,0.9s						
HABR				pmax	pmax		
	comp=N,15nm,0.9s						
HABR				MLR	MLR		
	comp=Z,41nm,13.0s						
SEY	Seymchan	13.78	355	P	Pn	08 06 25.3	+1.0
	comp=Z,0.2nm,0.3s,baz=151,slow=11,SNR=3.6						
USRK	Ussuriysk Ar.	16.65	261	P	Pn	08 07 01.6	+0.6
	comp=Z,0.5nm,0.3s,baz=69,slow=12,SNR=6.6						
USRK				LR	LR	08 12 49.0	
	comp=Z,53nm,20.9s,baz=26,slow=34						
MJB9	Matsu-Tunnel	17.73	230	*e*P	P	08 07 14.0	0.0
MAJO	Matsushiro	17.73	230	*e*P	P	08 07 13.9	-0.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s						
MAJO	Matsushiro	17.73	230	*e*P	P	08 07 13.9	-0.1
	comp=Z,12nm,0.5s						
MAT	Matsushiro	17.73	230	P	Pn	08 07 14.1	-0.2
MJAR	Matsushiro Arr	17.73	230	P	P	08 07 13.6	-0.4
	comp=Z,0.5nm,0.3s,baz=28,slow=10,SNR=14						
YAK	Yakutsk	19.06	322	P	P	08 07 28.8	+0.5
	comp=Z,0.0nm,0.3s,baz=191,slow=0.3,SNR=6.7						
YAK	Yakutsk	19.06	322	*e*P	P	08 07 27.6	-0.7
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK	Yakutsk	19.06	322	*e*P	P	08 07 29.2	+0.9
YAK	Yakutsk	19.06	322	*e*P	P	08 07 29.2	+0.9
	comp=N,45nm,0.6s						
CLNS	Chul'man	19.57	304	*e*P	Pn	08 07 36.3	+0.2
CLNS				pmax	pmax		
	comp=Z,22nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,1.1s						
KSRS	Korea Array	22.92	249	P	P	08 08 09.8	-0.1
	comp=N,8.1nm,0.7s,baz=51,slow=9.4,SNR=26						
KSRS				LR	LR	08 16 29.1	
	comp=N,23nm,20.3s,baz=45,slow=35						
KS01	Wonju Array Si	22.93	249	*e*P	P	08 08 09.8	-0.2
KS15	Wonju Array Si	22.95	249	*e*P	P	08 08 10.5	+0.3
JNU	Nakatsue	24.22	237	P	P	08 08 22.6	+0.7
	comp=N,16nm,0.9s,baz=34,slow=8.0,SNR=11						
JNU				LR	LR	08 17 19.6	
	comp=N,28nm,21.8s,baz=88,slow=35						
JNU	Nakatsue	24.22	237	*e*P	P	08 08 23.1	+1.2
JNU	Nakatsue	24.22	237	*e*P	P	08 08 21.6	-0.3
	comp=N,24nm,1.0s						
H11N2	WAKE ISLAND Hy	30.95	158	T	T	08 41 47.9	
	baz=346,slow=77,SNR=92						
H11N1	WAKE ISLAND Hy	30.96	158	T	T	08 41 58.4	
	baz=346,slow=77,SNR=96						
H11N3	WAKE ISLAND Hy	30.96	158	T	T	08 41 49.2	
	baz=346,slow=77,SNR=98						
HHC	Hu-ho-hao-te	31.55	271	*e*P	P	08 09 25.3	-2.0
HHC				pP	sP	08 09 59.2	+3.0
HHC				sP	PP	08 10 18.1	-22
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,71nm,7.4s						
SONA0	Songino Array	31.86	286	*e*P	P	08 09 29.6	-0.5
	comp=Z,13nm,2.0s						
SONM	Songino Array	31.86	286	P	P	08 09 29.6	-0.5
	comp=Z,0.5nm,0.4s,baz=75,slow=6.6,SNR=2.7						
SONM				LR	LR	08 22 51.1	
	comp=Z,65nm,19.3s,baz=68,slow=37						
H11S1	WAKE ISLAND Hy	32.08	159	T	T	08 43 15.9	
	baz=346,slow=76,SNR=1098						
NJ2	Nanjing	32.08	251	*e*P	P	08 09 30.2	-1.7
H11S3	WAKE ISLAND Hy	32.09	159	T	T	08 43 12.8	
	baz=346,slow=76,SNR=1062						
H11S2	WAKE ISLAND Hy	32.09	159	T	T	08 43 17.5	
	baz=346,slow=76,SNR=843						
TLY	Talaya	32.31	294	LR	LR	08 22 32.0	
	comp=Z,64nm,18.2s,baz=6.0,slow=36						
MCK	McKinley	32.85	43	*e*P	P	08 09 38.8	+0.4
MCK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MCK	McKinley	32.85	43	*e*P	P	08 09 38.8	+0.4
	comp=Z,6.1nm,1.1s						
SML	Sawmill	33.21	46	*e*P	P	08 09 41.0	-0.6
SML				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SML	Sawmill	33.21	46	*e*P	P	08 09 41.0	-0.6
	comp=Z,8.5nm,0.7s						
ILAR	Eielson Array	33.73	41	P	P	08 09 45.5	-0.4
	comp=Z,0.4nm,0.7s,baz=250,slow=7.8,SNR=5.6						
ILAR				pP	pP	08 10 05.5	+0.2
	comp=Z,1.3nm,0.7s,baz=266,slow=6.6,SNR=8.3						
ILAR	Eielson Array	33.73	41	P	P	08 09 45.5	-0.4
ILAR				*PP	pP	08 10 05.5	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILB	Eielson Array	33.73	41	*e*P	P	08 09 45.5	-0.4
NRIK	Noril'sk	37.34	327	LR	LR	08 25 16.9	
	comp=Z,41nm,18.8s,baz=132,slow=35						
LZH	Lanzhou	39.22	270	*e*P	P	08 10 33.8	+0.6
LZH				pP	sP	08 11 10.8	+8.4
LZH				sP	PP	08 11 31.1	-33
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,89nm,4.6s						
GTA	Gaotai	39.97	277	*e*P	P	08 10 39.5	+0.2
GTA				pP	sP	08 11 17.4	+8.8
GTA				sP	PP	08 11 37.2	-35
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ZAA1	Zalesovo Array	42.28	304	*e*P	P	08 10 57.4	-0.5
ZAA1				*e*PcP	PcP	08 12 50.5	+0.5
ZALV	Zalesovo Beam	42.28	304	P	P	08 10 57.4	-0.5
	comp=Z,2.6nm,0.5s,baz=62,slow=7.5,SNR=8.7						
ZALV				PcP	PcP	08 12 50.5	+0.5
	comp=Z,1.0nm,0.3s,baz=47,slow=4.9,SNR=2.4						
ZALV				LR	LR	08 28 54.6	
	comp=Z,49nm,18.2s,baz=72,slow=36						
WMQ	Urumqi	45.32	290	*e*P	P	08 11 21.8	-0.7
WMQ				pP	sP	08 11 59.3	+7.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WMQ				LR	LR		
	comp=Z,26nm,13.9s						
MK31	Makanchi Array	47.03	296	*e*P	P	08 11 36.0	+0.2
MK31	Makanchi Array	47.03	296	*e*P	P	08 11 36.0	+0.2
MK32	Makanchi Array	47.03	296	*e*P	P	08 11 35.8	0.0
MK32				*e*PcP	PcP	08 13 09.1	+2.5
MKAR	Makanchi Array	47.03	296	P	P	08 11 35.8	0.0
	comp=Z,9.6nm,0.8s,baz=63,slow=7.9,SNR=52						
MKAR				PcP	PcP	08 13 09.1	+2.5
	comp=Z,0.6nm,0.4s,baz=69,slow=4.4,SNR=2.8						
MKAR				LR	LR	08 31 25.7	
	comp=Z,49nm,20.3s,baz=44,slow=36						
MKAR	Makanchi Array	47.03	296	*e*P	P	08 11 35.9	+0.1
MKAR				pmax	pmax		
	comp=Z,62nm,0.9s						
MKAR	Makanchi Array	47.03	296	*e*P	P	08 11 35.9	+0.1
	comp=Z,62nm,0.9s						
MK01	Makanchi Array	47.03	296	*e*P	P	08 11 35.5	-0.4
KURK	Kurchatov	47.13	302	P	P	08 11 37.1	+0.6
KURK						08 13 07.6	
KURK				pmax	pmax		
	comp=Z,16nm,0.7s						
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	47.13	302	*e*P	P	08 11 34.8	-1.7
KURK	Kurchatov	47.13	302	*e*P	P	08 11 36.7	+0.2
	comp=Z,16nm,0.7s						
KURK				*e*PcP	PcP	08 13 07.6	+0.8
MAKZ	Makanchi	47.20	296	*e*P	P	08 11 37.2	0.0
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAKZ	Makanchi	47.20	296	*e*P	P	08 11 37.2	0.0
	comp=Z,5.5nm,0.8s						
KURBB	Kurchatov Arra	47.23	302	P	P	08 11 37.1	-0.1
	comp=Z,16nm,0.7s,baz=65,slow=8.3,SNR=50						
KURBB				PcP	PcP	08 13 07.6	+0.4
	comp=Z,1.6nm,0.6s,baz=69,slow=3.1,SNR=7.0						
BVA0	Borovoye Array	50.33	309	P	P	08 12 00.0	-1.0
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BVAR	Borovoye Array	50.33	309	P	P	08 12 00.7	-0.2
	comp=Z,6.1nm,0.7s,baz=56,slow=8.8,SNR=31						
BVAR				PcP	PcP	08 13 20.1	+1.7
	comp=Z,1.5nm,0.4s,baz=35,slow=5.3,SNR=5.2						
BRVK	Borovoye	50.37	309	*e*P	P	08 12 01.5	+0.3
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	Borovoye	50.37	309	*e*P	P	08 12 00.1	-1.1
BRVK	Borovoye	50.37	309	*e*P	P	08 12 01.5	+0.3
	comp=Z,9.2nm,0.8s						
TKM2	Tokmak 2	53.13	295	P	P	08 12 21.9	-0.3
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AAK	Ala-Archa	53.95	296	P	P	08 12 28.1	0.0
	comp=Z,2.8nm,0.7s,baz=72,slow=4.9,SNR=8.9						
AAK	Ala-Archa	53.95	296	*e*P	P	08 12 28.6	+0.4
AAK	Ala-Archa	53.95	296	*e*P	P	08 12 26.8	-1.4
AAK	Ala-Archa	53.95	296	*e*P	P	08 12 28.6	+0.4
CHTO	Chiang Mai	54.04	257	*e*P	P	08 12 28.0	-0.9
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHTO	Chiang Mai	54.04	257	*e*P	P	08 12 28.0	-0.9
	comp=Z,6.9nm,0.7s						
ARU	Arti	54.09	317	*d i*P	P	08 12 28.1	-0.6
ARU						08 13 31.1	
ARU						08 14 28.3	
ARU				pmax	pmax		
	comp=Z,26nm,1.2s						
ARU	Arti	54.09	317	*e*P	P	08 12 28.1	-0.6
ARU	Arti	54.09	317	*e*P	P	08 12 28.2	-0.6
	comp=Z,46nm,1.5s						
CMAR	Chiang Mai Arr	54.30	256	P	P	08 12 31.8	+1.0
	comp=Z,2.1nm,0.4s,baz=31,slow=7.3,SNR=7.3						
CMAR				LR	LR	08 36 51.5	
	comp=Z,8.2nm,18.8s,baz=0.0,slow=37						
KSH	Kashi	54.97	292	P	P	08 12 39.8	+4.3
KSH				pP	sP	08 13 17.0	+11
KSH				sP	PcP	08 13 37.5	+1.2
KSH				PcP	pP	08 13 42.3	+46
KSH				PP	PP	08 14 43.5	+4.5
KSH				PcS	PcS	08 17 41.6	+5.2
KSH				S	S	08 19 59.1	-12
KSH				ScS	ScS	08 22 07.2	-10
KSH	Kashi	54.97	292	SS	SKiKP	08 23 42.6	+9.2
KSH				pmax	pmax		
	comp=Z,11nm,1.5s						
KSH				pmax	pmax		
	comp=Z,180nm,4.9s						
KSH				LR	LR		
	comp=N,110nm,4.6s		

comp=Z,11nm,1.0s
SUMG Summit 58.07 5 *i* P **P 08 12 57.4 +0.1**
SUMG pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 58.65 329 *e*P **P 08 13 00.3 -0.7**
KLMR pmax pmax
comp=Z,6.0nm,0.7s
PNTR Pine Nut 58.88 65 *e*P **P 08 13 02.9 -0.4**
comp=Z,3.6nm,0.6s
PTRM Twissleman Ran 60.76 68 *e*P **P 08 13 16.9 +0.9**
CARC Carrizo Plain 61.22 68 *e*P **P 08 13 16.6 -2.5**
DUG Dugway, Tooele 62.09 60 *e*P **P 08 13 24.9 -0.1**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 62.09 60 *e*P **P 08 13 24.9 -0.1**
comp=Z,3.8nm,1.0s
PD31 Pinedale Array 62.17 56 *e*P **P 08 13 25.6 0.0**
PDAR Pinedale Array 62.17 56 P **P 08 13 25.2 -0.4**
comp=Z,1.9nm,1.0s,baz=318,slow=2.0,SNR=8.5
PDAR pP **pP 08 13 47.5 +0.8**
comp=Z,1.0nm,0.8s,baz=304,slow=2.1,SNR=3.5
PDAR Pinedale Array 62.17 56 *e*P **P 08 13 25.0 -0.6**
FIA0 FINESS Array S 62.33 335 *e*P **P 08 13 25.1 -0.9**
FIA0 FINESS Array S 62.33 335 *e*P **P 08 13 25.1 -0.9**
FINES FINESS Array B 62.33 335 P **P 08 13 25.1 -0.9**
comp=Z,2.7nm,0.6s,baz=26,slow=6.8,SNR=9.5
LCMT Little Creek M 64.00 63 *e*P **P 08 13 37.5 -0.2**
comp=Z,2.2nm,0.8s
SRU San Rafael Swe 64.12 60 *e*P **P 08 13 38.1 -0.4**
SRU *e**PP **pP 08 14 02.7 +2.9**
SRU San Rafael Swe 64.12 60 *e*P **P 08 13 38.1 -0.4**
SRU epP **pP 08 14 02.7 +2.9**
BORC Borrego Spring 64.68 68 *e*P **P 08 13 40.9 -1.1**
NB200 NORSAR Array S 66.27 342 *e*P **P 08 13 51.2 -0.6**
NOA NORSAR Array B 66.27 342 P **P 08 13 51.2 -0.6**
comp=Z,1.2nm,0.8s,baz=37,slow=4.4,SNR=3.0
NOA LR LR 08 46 09.5
comp=Z,20nm,18.3s,baz=60,slow=39
GEYT Alibeck 66.48 301 P **P 08 13 54.6 +1.1**
comp=Z,3.6nm,0.5s,baz=58,slow=3.6,SNR=5.7
KBZ Khabaz 70.08 314 P **P 08 14 15.7 -0.2**
comp=Z,4.3nm,0.6s,baz=248,slow=3.6,SNR=6.5
AKASG Malin Array Be 70.19 327 P **P 08 14 15.3 -1.2**
comp=Z,2.2nm,0.6s,baz=32,slow=6.7,SNR=3.2
319A Douglas 70.29 65 *e*P **P 08 14 17.6 +0.1**
comp=Z,8.6nm,1.0s
WR1 Warramunga Arr 71.36 201 *e*P **P 08 14 21.2 -2.6**
comp=Z,25nm,1.9s
WR1 *e*pP **pP 08 14 44.3 -1.1**
WRA Warramunga Arr 71.36 201 P **P 08 14 21.2 -2.6**
comp=Z,0.3nm,0.6s,baz=16,slow=6.2,SNR=4.2
WRA pP **pP 08 14 44.3 -1.1**
comp=Z,0.8nm,0.6s,baz=20,slow=6.4,SNR=4.4
STHS Stebnicka Huta 74.00 331 *e*P **P 08 14 40.4 +1.2**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 74.00 331 *e*P **P 08 14 40.4 +1.2**
BUR08 Bucovina Ar. S 74.20 327 *e*P **P 08 14 41.0 +0.5**
BURAR Bucovina Array 74.22 327⇑*i*P **P 08 14 40.0 -0.6**
BURAR Bucovina Array 74.22 327⇑P **P 08 14 40.0 -0.6**
CRVS Cervenica-Dubn 74.38 330 *e*P **P 08 14 42.1 +0.7**
CRVS Cervenica-Dubn 74.38 330 *e*P **P 08 14 42.1 +0.7**
DPC Dobruska-Polom 74.67 334 *e*P **P 08 14 43.8 +0.7**
DPC Dobruska-Polom 74.67 334⇓*e*P **P 08 14 43.8 +0.7**
CLL Collm 74.71 336⇑*i*P **P 08 14 43.2 -0.1**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 74.71 336⇑*i*P **P 08 14 43.2 -0.1**
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 74.79 332 *e*P **P 08 14 45.1 +1.2**
LANS Liptovska Anna 74.79 332 *e*P **P 08 14 45.1 +1.2**
MORC Moravsky Berou 74.82 333⇑*i*P **P 08 14 44.8 +0.8**
MORC Moravsky Berou 74.82 333⇑P **P 08 14 44.8 +0.8**
MORC Moravsky Berou 74.82 333 *e*P **P 08 14 44.9 +0.9**
comp=Z,25nm,0.7s
ASAR Alice Springs 75.05 200 P **P 08 14 44.1 -1.3**
comp=Z,0.3nm,0.7s,baz=17,slow=5.3,SNR=7.4
ASAR pP **pP 08 15 07.7 +0.4**
comp=Z,0.9nm,0.7s,baz=15,slow=5.2,SNR=7.6
TX31 Lajitas Ar. Si 75.08 62 *e*P **P 08 14 45.1 -0.8**
LTX Lajitas 75.08 62 *e*P **P 08 14 45.2 -0.7**
LTX *e**PP **pP 08 15 08.5 +0.8**
LTX Lajitas 75.08 62 *e*P **P 08 14 45.2 -0.7**
LTX *e*pP **pP 08 15 08.5 +0.8**
TXAR Lajitas Array 75.08 62 P **P 08 14 45.2 -0.7**
comp=Z,1.3nm,0.6s,baz=302,slow=5.0,SNR=18
TXAR pP **pP 08 15 08.5 +0.8**
comp=Z,0.8nm,0.6s,baz=297,slow=4.6,SNR=5.3
VYHS Vyhne 75.57 332 *e*P **P 08 14 48.6 +0.3**
VYHS pmax pmax
comp=Z,12nm,2.0s
VYHS Vyhne 75.57 332 *e*P **P 08 14 48.6 +0.3**
VOIR 76.14 326⇓*i*P **P 08 14 52.2 +0.5**
VOIR 76.14 326⇓P **P 08 14 52.2 +0.5**
ARR Arges 76.35 327⇓*i*P **P 08 14 54.5 +1.7**
KHC Kasperske Hory 76.54 335 *e*P **P 08 14 54.5 +0.7**
KHC Kasperske Hory 76.54 335 *e*P **P 08 14 54.5 +0.7**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 76.54 335 *e*P **P 08 14 54.4 +0.7**
KHC Kasperske Hory 76.54 335 *e*P **P 08 14 54.5 +0.7**
comp=Z,2.2nm,0.8s
GERES GERESS Array B 76.76 335 P **P 08 14 55.3 +0.2**
comp=Z,1.8nm,0.6s,baz=26,slow=7.4,SNR=10.0
GERES LR LR 08 50 39.7
comp=Z,29nm,20.9s,baz=292,slow=37
GEA0 GERESS Array S 76.77 335 *e*P **P 08 14 55.5 +0.3**
WSAR Wadi Sarin 76.82 290 P **P 08 14 56.9 +1.2**
comp=Z,8.7nm,1.0s,baz=50,slow=2.7,SNR=3.5
CONA Conrad Observa 76.98 333 *e*P **P 08 14 57.5 +1.2**
comp=Z,6.0nm,0.7s
BZS Buzias 77.19 329⇓*i*P **P 08 14 57.8 +0.3**
BZS Buzias 77.19 329⇓P **P 08 14 57.8 +0.3**
BR101 Keskin Array S 77.47 318 *e*P **P 08 14 59.6 +0.3**
BRTR Keskin Array B 77.47 318 P **P 08 14 59.6 +0.3**
comp=Z,8.6nm,1.1s,baz=60,slow=3.3,SNR=14
BRTR Keskin Array B 77.47 318 *ce*P **P 08 15 00.2 +0.9**
BRTR pmax pmax
comp=Z,9.0nm,1.1s
MOA Molln 77.51 334 *e*P **P 08 15 00.3 +1.0**
comp=Z,4.5nm,0.9s
BR231 Keskin MP Arra 77.75 318 *e*P **P 08 15 00.3 -0.5**
MDVR Moldovita 77.89 328⇑*i*P **P 08 15 00.1 -1.4**
KBA Koelnbreinsper 78.47 334 *e*P **P 08 15 06.3 +1.5**
comp=Z,16nm,0.9s
WTTA Wattenberg 78.77 336 *e*P **P 08 15 07.4 +1.0**
comp=Z,12nm,1.4s
MOTA Moosalm 78.84 336 *e*P **P 08 15 07.7 +0.9**
comp=Z,7.0nm,1.1s
ABTA Abfaltersbach 79.01 335 *e*P **P 08 15 08.4 +0.8**
comp=Z,4.0nm,0.7s
VTS Vitosha 79.26 326⇓*i*P **P 08 15 09.5 +0.3**
VTS Vitosha 79.26 326⇓P **P 08 15 09.5 +0.3**
MMAI Mount Meron Ar 82.14 313 P **P 08 15 25.2 +0.6**
comp=Z,0.7nm,0.3s,baz=26,slow=3.7,SNR=2.6
RAYN Ar Rayn 84.39 300 *e*P **P 08 15 36.9 +0.7**
comp=Z,11nm,1.4s

IDC 10 08:09:05.1±420.0, 51°01'N×116°29'E, h0km, Error ellipse: s-maj=172.2km s-min=138.2km az=51.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.20**	**247**	*i*		08 56 10.0	
	baz=58,slow=322,SNR=0.3						
I45RU	**USSURIYSK INFR**	**12.57**	**117**	*i*		09 23 40.0	
	baz=305,slow=316,SNR=3.6						
I30JP	**ISUMI INFRASON**	**23.37**	**123**	*i*		10 32 20.0	
	baz=320,slow=318,SNR=0.5						

*ISCJB **10** 08:26:08.5±0.3, 51°47'N±0°.02×16°.21E±0°.02, h0km, mb2.8/1, MS2.8/1, Error ellipse: s-maj=2.3km s-min=2.1km az=41.9*
*IPEC **10** 08:26:09.5±0.3, 51°53'N×16°.21E, h0km, ML2.9/3, Error ellipse: s-maj=4.1km s-min=2.0km az=82.0*
*CSEM **10** 08:26:10.7±0.1, 51°45'N×16°.21E, h2km, ML3.8/16, Error ellipse: s-maj=3.0km s-min=2.6km az=73.0*
*IDC **10** 08:26:11.2±0.7, 51°43'N×15°.95E, h0km, mb3.4/1, mb1 3.5/9, mb1mx3.3/39, mbtmp3.4/9, ML3.4/8, MS2.9/1, Ms1 2.9/1, ms1mx2.1/38, Error ellipse: s-maj=12.1km s-min=7.4km az=101.0*
*WAR **10** 08:26:12.0, 51°44'N×16°.20E, h1km, Mw3.1*
*PRU **10** 08:26:12.1, 51°43'N×16°.14E, h0km*
*BGR **10** 08:26:13.3±0.5, 51°38'N×16°.17E, h1km, ML3.2/10, Error ellipse: s-maj=6.7km s-min=2.2km az=23.0*
*VIE **10** 08:26:13.8±0.7, 51°25'N×16°.04E, h0km, mb2.6/7, ML3.1/7, Error ellipse: s-maj=5.5km s-min=3.4km az=30.0, Suspected Mining induced.*
*UPP **10** 08:26:14.9±3.0, 51°.70N×15°.64E, h0km, ML2.5*

ISC 10 08:26:09.2±0.6, 51°49'N±0°.02×16°20'E±0°.02, h0km, n110, σ1°53/185, 11D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**175**	*i* Pg	**Pb**	**08 26 23.2**	**-0.2**
KSP				*i* Sg	**Sg**	**08 26 31.6**	**+1.5**
KSP				*e*		08 26 35.0	
KSP	**Ksiaz**	**0.65**	**175**	*e*Pg	**Pb**	**08 26 23.2**	**-0.2**
KSP				*e*Sg	**Sg**	**08 26 31.6**	**+1.5**
KSP	**Ksiaz**	**0.65**	**175**	Pg	**Pb**	**08 26 23.2**	**-0.2**
KSP				Sg	**Sg**	**08 26 31.6**	**+1.5**
KSP	**Ksiaz**	**0.65**	**175**	*i* Pg	**Pb**	**08 26 23.2**	**-0.2**
KSP				*i* Sg	**Sg**	**08 26 31.6**	**+1.5**
KSP				*e*		08 26 35.0	
UPC	**Upice**	**0.99**	**187**⇓	*e*PG	**Pb**	**08 26 29.5**	**+0.2**
UPC				*e*SG	**Sg**	**08 26 42.2**	**+1.1**
	comp=Z,304nm,0.3s						
UPC	**Upice**	**0.99**	**187**	Pg	**Pb**	**08 26 29.5**	**+0.2**
UPC				Sg	**Sg**	**08 26 42.2**	**+1.1**
	304nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**176**⇓	*i*PG	**Pb**	**08 26 32.1**	**+0.1**
DPC				*e*SG	**Sg**	**08 26 46.9**	**+0.9**
	comp=Z,81nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*Pg	**Pb**	**08 26 32.0**	**+0.1**
DPC				*e*Sg	**Sg**	**08 26 47.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.15**	**176**	Pg	**Pb**	**08 26 32.0**	**+0.1**
DPC				Sg	**Sg**	**08 26 46.9**	**+0.9**
	81nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**228**⇓	*e*PG	**Pb**	**08 26 37.5**	**+1.1**
PVCC				*e*SG	**Sn**	**08 26 56.1**	**+0.6**
	comp=Z,600nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**228**	Pg	**Pb**	**08 26 37.5**	**+1.1**
PVCC				Sg	**Sn**	**08 26 56.1**	**+0.6**
	600nm,0.3s						
KRLC	**Kraliky**	**1.47**	**165**⇓	*e*PG	**Pb**	**08 26 37.6**	**+0.3**
KRLC				*e*SG	**Sg**	**08 26 56.6**	**+0.4**
KRLC	**Kraliky**	**1.47**	**165**	Pg	**Pb**	**08 26 37.6**	**+0.3**
KRLC				Sg	**Sg**	**08 26 56.6**	**+0.4**
BRG	**Berggiesshubel**	**1.55**	**247**	PN	**Pg**	**08 26 39.7**	**+0.8**
BRG				PG	**Pb**	**08 26 40.8**	**+2.0**
BRG				SG	**Sg**	**08 27 00.7**	**+1.7**
	165nm,0.6s						
BRG	**Berggiesshubel**	**1.55**	**247**	*e*Pn	**Pg**	**08 26 39.9**	**+1.0**
BRG				*e*Pg	**Pb**	**08 26 40.4**	**+1.6**
BRG				*e*Sg	**Sg**	**08 27 00.8**	**+1.7**
BRG	**Berggiesshubel**	**1.55**	**247**	Pn	**Pg**	**08 26 39.9**	**+1.0**
PRA	**Prague**	**1.81**	**219**⇓	*e*PN	**Pb**	**08 26 42.8**	**-0.4**
PRA				*e*PG	**Pg**	**08 26 44.7**	**+0.8**
PRA				*e*SG	**Sb**	**08 27 07.4**	**+0.9**
	comp=Z,88nm,0.4s						
PRA	**Prague**	**1.81**	**219**	Pn	**Pb**	**08 26 42.8**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**⇓	*e*PN	**Pn**	**08 26 42.7**	**+1.0**
GOPC				*e*PG	**Pg**	**08 26 44.7**	**+0.7**
GOPC				*e*SG	**Sb**	**08 27 07.6**	**+0.9**
	comp=Z,61nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pn	**Pn**	**08 26 42.7**	**+1.0**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pg	**Pg**	**08 26 44.7**	**+0.7**
GOPC				Sg	**Sb**	**08 27 07.6**	**+0.9**
	61nm,0.3s						
PRU	**Pruhonice**	**1.84**	**216**⇓	*e*PN	**Pn**	**08 26 42.9**	**+0.9**
PRU				*e*PG	**Pg**	**08 26 44.4**	**0.0**
PRU				*e*SG	**Sg**	**08 27 08.3**	**+0.1**
	comp=Z,120nm,0.4s						
PRU	**Pruhonice**	**1.84**	**216**	Pn	**Pn**	**08 26 42.9**	**+0.9**
PRU	**Pruhonice**	**1.84**	**216**	Pg	**Pg**	**08 26 44.4**	**0.0**
PRU				Sg	**Sg**	**08 27 08.3**	**+0.1**
	120nm,0.4s						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**08 26 43.9**	**+0.8**
MORC				*e*Sg	**Sg**	**08 27 11.3**	**+0.5**
MORC	**Moravsky Berou**	**1.92**	**153**	Pn	**Pn**	**08 26 43.9**	**+0.8**
MORC				Sg	**Sg**	**08 27 11.3**	**+0.5**
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pg**	**08 26 48.3**	**+0.5**
CLL				*e*Sg	**Sg**	**08 27 16.4**	**+2.6**
CLL	**Collm**	**2.01**	**266**	Pn	**Pg**	**08 26 48.3**	**+0.5**
CLL				Sg	**Sg**	**08 27 16.4**	**+2.6**
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pb**	**08 26 46.0**	**-0.6**
CLL				*e*Pg	**Pg**	**08 26 48.0**	**+0.3**
CLL				*e*		08 26 50.0	
CLL				*e*		08 26 52.0	
CLL				*e*Sg	**Sg**	**08 27 16.0**	**+2.2**
	comp=Z,78nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**143**⇓	*e*PN	**Pb**	**08 26 48.2**	**+0.6**
OKC				*e*PG	**Pg**	**08 26 49.5**	**+0.7**
OKC				*e*SG	**Sb**	**08 27 15.0**	**+1.2**
	comp=Z,57nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*Pn	**Pg**	**08 26 49.4**	**+0.6**
OKC				*e*Sg	**Sg**	**08 27 15.2**	**-0.4**
OKC	**Ostrava-Krasne**	**2.07**	**143**	Pn	**Pb**	**08 26 48.2**	**+0.6**
VRAC	**Vranov**	**2.20**	**173**	Pn	**Pn**	**08 26 48.2**	**+1.2**
	comp=Z,6.4nm,0.3s,baz=345,slow=16,SNR=16						
VRAC				Lg	Lg	08 27 18.7	
	comp=Z,10nm,0.3s,baz=115,slow=6.7,SNR=10.0						
VRAC	**Vranov**	**2.20**	**173**	*e*Pn	**Pn**	**08 26 47.9**	**+0.9**
VRAC				*e*Sg	**Sg**	**08 27 19.6**	**-0.3**
	comp=Z,61nm,0.5s						
TREC	**Trest**	**2.25**	**192**⇓	*e*PN	**Pn**	**08 26 48.8**	**+1.2**
TREC				*e*PG	**Pg**	**08 26 52.2**	**0.0**
TREC				*e*SG	**Sb**	**08 27 20.7**	**+1.7**
	comp=Z,52nm,0.4s						
TREC	**Trest**	**2.25**	**192**	Pn	**Pn**	**08 26 48.8**	**+1.2**
KRUC	**Moravsky**	**2.44**	**177**	*e*Pn	**Pn**	**08 26 51.2**	**+1.0**
KRUC				*e*Sg	**Sg**	**08 27 27.0**	**-0.4**
	comp=Z,84nm,0.8s						
OJC	**Ojcow**	**2.61**	**118**	*e*Pn	**Pn**	**08 26 52.7**	**+0.1**
OJC				*e*Pg	**Pg**	**08 27 00.8**	**+1.6**
OJC				*e*Sn	**Sn**	**08 27 24.3**	**-0.7**
OJC				*e*Sg	**Sg**	**08 27 35.1**	**+2.1**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg	**Pg**	**08 27 01.7**	**+2.6**
OJC	**Ojcow**	**2.61**	**118**	*e*Pn	**Pn**	**08 26 52.7**	**+0.1**
OJC	**Ojcow**	**2.61**	**118**	*e*Pn	**Pn**	**08 26 52.7**	**+0.1**
OJC				*e*Pg	**Pg**	**08 27 00.8**	**+1.6**
OJC				*e*Sn	**Sn**	**08 27 24.3**	**-0.7**
OJC				*e*Sg	**Sg**	**08 27 35.1**	**+2.1**
WERD	**Werda**	**2.68**	**248**	*e*Pn	**Pn**	**08 26 55.3**	**+1.7**
WERD				*e*Pg	**Pg**	**08 27 01.7**	**+1.2**
WERD				*e*Sg	**Sg**	**08 27 35.8**	**+0.7**
WERD	**Werda**	**2.68**	**248**	Pn	**Pn**	**08 26 55.3**	**+1.7**
NKC	**Novy Kostel**	**2.69**	**244**⇓	*e*PN	**Pn**	**08 26 55.5**	**+1.7**
NKC				*e*PG	**Pg**	**08 27 01.4**	**+0.6**
NKC				*e*SG	**Sg**	**08 27 36.4**	**+0.8**
	comp=Z,125nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**244**	Pn	**Pn**	**08 26 55.5**	**+1.7**
NKC	**Novy Kostel**	**2.69**	**244**	Pg	**Pg**	**08 27 01.4**	**+0.6**
NKC				Sg	**Sg**	**08 27 36.4**	**+0.8**
	comp=Z,125nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**⇓	*e*PN	**Pn**	**08 26 57.8**	**+1.2**
KHC				*e*PG	**Pg**	**08 27 04.1**	**-0.7**
KHC				*e*SN	**Sn**	**08 27 31.4**	**-0.8**
KHC				*e*SG	**Sg**	**08 27 40.7**	**-1.7**
	comp=Z,44nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**	**08 26 57.8**	**+1.2**
MANZ	**Manzenberg**	**3.01**	**241**	*e*Pn	**Pn**	**08 26 60.0**	**+1.9**
MANZ				*e*Sg	**Sg**	**08 27 46.7**	**+1.0**
MANZ	**Manzenberg**	**3.01**	**241**	Pn	**Pn**	**08 27 00.0**	**+1.9**
MANZ				Sg	**Sg**	**08 27 46.7**	**+1.0**
MOX	**Moxa**	**3.02**	**255**	*e*Sg	**Sg**	**08 27 47.8**	**+1.8**
MOX	**Moxa**	**3.02**	**255**	Sg	**Sg**	**08 27 47.8**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.08**	**237**	*e*Pn	**Pn**	**08 27 00.9**	**+1.9**
ROTZ	**Rotzenmuhle**	**3.08**	**237**	Pn	**Pn**	**08 27 00.9**	**+1.9**
SMOL	**Smolenice**	**3.09**	**165**	*e*Pg	**Pb**	**08 27 05.5**	**+0.6**
SMOL				*e*SG	**Sg**	**08 27 50.7**	**+2.4**
SMOL	**Smolenice**	**3.09**	**165**	*e*PG	**Pb**	**08 27 05.5**	**+0.6**
SMOL				*e*SG	**Sg**	**08 27 50.7**	**+2.4**
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pn	**Pn**	**08 27 01.5**	**+2.1**
GEC2	**GERESS Array S**	**3.10**	**212**	Pn	**Pn**	**08 27 01.5**	**+2.1**
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**08 26 59.7**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=33,slow=13,SNR=24						
GERES				Pg	**Pb**	**08 27 07.2**	**+2.0**
	comp=Z,12nm,0.3s,baz=25,slow=22,SNR=53						
GERES				Lg	Lg	08 27 46.8	
	comp=Z,15nm,0.3s,baz=31,slow=24,SNR=9.9						
LANS	**Liptovska Anna**	**3.14**	**137**	*e*Pg	**Pg**	**08 27 09.3**	**-0.1**
LANS				*e*Sg	**Sg**	**08 27 52.4**	**+2.3**
LANS	**Liptovska Anna**	**3.14**	**137**	*e*PG	**Pg**	**08 27 09.3**	**-0.1**
LANS				*e*SG	**Sg**	**08 27 52.4**	**+2.3**
WET	**Wettzell**	**3.17**	**223**	*e*Pn	**Pn**	**08 27 02.0**	**+1.7**
WET	**Wettzell**	**3.17**	**223**	Pn	**Pn**	**08 27 02.0**	**+1.7**
NIE	**Niedzica**	**3.34**	**127**	*e*P	**Pg**	**08 27 13.3**	**+0.1**
NIE				*e*S	**Sg**	**08 27 57.8**	**+1.3**
NIE	**Niedzica**	**3.34**	**127**	*e*P	**Pg**	**08 27 13.3**	**+0.1**
NIE				*e*S	**Sg**	**08 27 57.8**	**+1.3**
VYHS	**Vyhne**	**3.45**	**149**	*e*Pg	**Pg**	**08 27 16.5**	**+1.3**
VYHS				*e*Sg	**Sg**	**08 28 02.6**	**+2.7**
VYHS	**Vyhne**	**3.45**	**149**	*e*PG	**Pg**	**08 27 16.5**	**+1.3**
VYHS				*e*SG	**Sg**	**08 28 02.6**	**+2.7**
VYHS				*e*LG	Lg	08 28 16.1	
CONA	**Conrad Observa**	**3.58**	**184**	Pn	**Pn**	**08 27 07.9**	**+2.0**
	comp=Z,0.8nm,0.1s						
CONA	**Conrad Observa**	**3.58**	**184**	Pg	**Pg**	**08 27 16.3**	**-1.4**
	comp=Z,7.9nm,0.3s						
CONA				Sg	**Sg**	**08 28 04.2**	**+0.2**
	comp=Z,32nm,0.4s						
CLZ	**Clausthal**	**3.65**	**278**	*e*Pn	**Pn**	**08 27 09.8**	**+2.9**
CLZ	**Clausthal**	**3.65**	**278**	Pn	**Pn**	**08 27 09.8**	**+2.9**
BSD	**Bornholm Skovb**	**3.71**	**348**	*i* P	**Pn**	**08 27 08.6**	**+1.0**
BSD				*i* S	**Sn**	**08 27 50.3**	**-1.7**
BSD	**Bornholm Skovb**	**3.71**	**348**	*i* P	**Pn**	**08 27 08.6**	**+1.0**
BSD				*i* S	**Sn**	**08 27 50.3**	**-1.7**
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*Pg	**Pg**	**08 27 25.1**	**+2.5**
STHS				*e*Sg	**Sg**	**08 28 16.9**	**+4.7**
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*PG	**Pg**	**08 27 25.1**	**+2.5**
STHS				*e*SG	**Sg**	**08 28 16.9**	**+4.7**
STHS				*e*LG	Lg	08 28 25.1	
MOA	**Molln**	**3.86**	**200**	Pn	**Pn**	**08 27 11.4**	**+1.6**
	comp=Z,3.0nm,0.2s						
MOA	**Molln**	**3.86**	**200**	Pg	**Pg**	**08 27 24.4**	**+1.3**
	comp=Z,17nm,0.5s						
MOA				Sg	**Sg**	**08 28 11.9**	**-1.2**
	comp=Z,16nm,0.3s						
KECS	**Kecovo**	**4.09**	**136**	*e*Sg	**Sg**	**08 28 18.6**	**-1.8**
KECS	**Kecovo**	**4.09**	**136**	*e*SG	**Sg**	**08 28 18.6**	**-1.8**
KECS				*e*LG	Lg	08 28 26.7	
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*Pg	**Pg**	**08 27 31.9**	**+1.2**
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*PG	**Pg**	**08 27 31.9**	**+1.2**
ARSA	**Arzberg**	**4.27**	**186**	Pg	**Pg**	**08 27 29.2**	**-1.8**
	comp=Z,3.6nm,0.3s						
ARSA				Sg	**Sg**	**08 28 26.1**	**-0.2**
	comp=Z,20nm,0.5s						
BLEU	**Blekinge**	**4.83**	**357**	P	**Pn**	**08 27 24.4**	**+1.4**
BLEU				S	**Sn**	**08 28 17.3**	**-2.2**
BLEU	**Blekinge**	**4.83**	**357**	P	**Pn**	**08 27 24.4**	**+1.4**
BJUU	**Bjuv**	**4.96**	**339**	P	**Pn**	**08 27 25.3**	**+0.4**
BJUU				S	**Sn**	**08 28 21.1**	**-1.7**
BJUU	**Bjuv**	**4.96**	**339**	P	**Pn**	**08 27 25.3**	**+0.4**
BJUU				S	**Sn**	**08 28 21.1**	**-1.7**
OBKA	**Obir**	**5.11**	**193**	Sg	**Sg**	**08 28 55.8**	**+2.7**
	comp=Z,11nm,0.5s						
DEL	**Delary**	**5.17**	**345**	P	**Pn**	**08 27 28.7**	**+0.9**
DEL	**Delary**	**5.17**	**345**	P	**Pn**	**08 27 28.7**	**+0.9**
VXJU	**Vaexsjoe**	**5.49**	**353**	P	**Pn**	**08 27 33.5**	**+1.4**
VXJU	**Vaexsjoe**	**5.49**	**353**	P	**Pn**	**08 27 33.5**	**+1.4**
OSKU	**Oskarshamn**	**5.71**	**359**	P	**Pn**	**08 27 37.5**	**+2.3**
OSKU	**Oskarshamn**	**5.71**	**359**	P	**Pn**	**08 27 37.5**	**+2.3**
FETA	**Feichten**	**5.73**	**221**	Sg	**Sg**	**08 29 13.4**	**+0.2**
	comp=Z,2.4nm,0.5s						
BYXU	**Byxelkrok**	**5.83**	**4**	P	**Pn**	**08 27 39.1**	**+2.4**
BYXU	**Byxelkrok**	**5.83**	**4**	P	**Pn**	**08 27 39.1**	**+2.4**
FABU	**Falkenberg**	**5.88**	**341**	P	**Pn**	**08 27 38.2**	**+0.7**
FABU	**Falkenberg**	**5.88**	**341**	P	**Pn**	**08 27 38.2**	**+0.7**
ASPU	**Aespoe**	**5.94**	**2**	P	**Pn**	**08 27 40.4**	**+2.1**
ASPU	**Aespoe**	**5.94**	**2**	P	**Pn**	**08 27 40.4**	**+2.1**
GNOU	**Gnosjoe**	**5.98**	**347**	P	**Pn**	**08 27 40.1**	**+1.2**
GNOU	**Gnosjoe**	**5.98**	**347**	P	**Pn**	**08 27 40.1**	**+1.2**
AKASG	**Malin Array Be**	**8.24**	**90**	Pn	**Pn**	**08 28 11.8**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=281,slow=12,SNR=3.2						
AKASG				Sn	**Sn**	**08 29 40.0**	**-3.5**
	comp=Z,0.9nm,0.3s,baz=264,slow=26,SNR=3.1						
AKASG				Lg	Lg	08 30 39.1	
	comp=Z,1.8nm,0.3s,baz=231,slow=25,SNR=5.3						
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**08 28 17.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=171,slow=13,SNR=7.4						
HFS				Sn	**Sn**	**08 29 54.3**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=181,slow=26,SNR=3.3						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**08 28 33.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=162,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**08 28 51.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=6.8						
FINES				Sn	**Sn**	**08 30 54.9**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=223,slow=20,SNR=5.1						
EKA	**Eskdalemuir Ar**	**12.16**	**296**	Pn	**Pn**	**08 29 02.7**	**-0.9**
	baz=102,slow=13,SNR=3.1			

comp=Z,67nm,19.9s,baz=212,slow=34
PETK Petropavlovsk- 18.77 286 P **P 08 55 43.4 -0.1**
0.8nm,0.3s,baz=87,slow=14,SNR=11
EGAK Eagle 20.18 39 *e*P **P 08 55 58.4 -0.4**
9.1nm,1.1s
EGAK *e*S **S 08 59 43.0 -1.1**
SKAG Skagway 21.47 55 *e*P **P 08 56 13.9 +1.1**
5.3nm,0.6s
SKAG *e*S **S 09 00 07.6 -2.0**
SEY Seymchan 22.07 314 P **P 08 56 20.4 +1.2**
1.6nm,0.6s,baz=84,slow=21,SNR=4.6
ASAJ Asahikawa 31.29 274 P **P 08 57 44.8 +0.5**
6.3nm,1.0s,baz=46,slow=8.2,SNR=4.6
YKA Yellowknife Ar 31.49 48 P **P 08 57 45.6 -0.2**
0.8nm,0.3s,baz=277,slow=6.9,SNR=10
YKA LR LR 09 12 22.6
comp=Z,7.7nm,19.2s,baz=180,slow=40
NEW Newport 34.34 74 P **P 08 58 11.8 +0.8**
1.7nm,0.7s,baz=306,slow=4.6,SNR=5.3
H11N2 WAKE ISLAND Hy 36.33 216 T T 09 37 00.3
baz=21,slow=76,SNR=5.1
H11N3 WAKE ISLAND Hy 36.33 216 T T 09 36 59.1
baz=21,slow=76,SNR=6.0
H11N1 WAKE ISLAND Hy 36.34 216 T T 09 36 55.9
baz=21,slow=76,SNR=7.2
H11S1 WAKE ISLAND Hy 37.52 216 T T 09 38 30.9
baz=21,slow=76,SNR=6.3
H11S2 WAKE ISLAND Hy 37.53 215 T T 09 38 27.2
baz=21,slow=76,SNR=6.4
H11S3 WAKE ISLAND Hy 37.54 216 T T 09 38 32.4
baz=21,slow=76,SNR=7.4
MJAR Matsushiro Arr 38.42 267 LR LR 09 11 20.1
comp=Z,18nm,21.2s,baz=65,slow=31
PDAR Pinedale Array 41.73 77 P **P 08 59 14.3 +0.8**
0.6nm,0.4s,baz=299,slow=7.9,SNR=10
KSRS Korea Array 44.20 276 P **P 08 59 33.4 +0.1**
0.4nm,0.4s,baz=54,slow=7.9,SNR=5.9
KSAR Wonju Array Be 44.23 276 P **P 08 59 33.4 -0.2**
TXAR Lajitas Array 54.02 87 P **P 09 00 48.9 +0.2**
0.6nm,0.8s,baz=308,slow=6.2,SNR=6.3
ARCES ARCESS Array B 58.24 353 P **P 09 01 15.6 -2.5**
2.3nm,0.8s,baz=17,slow=6.6,SNR=1.3
MKAR Makanchi Array 63.20 312 P **P 09 01 50.5 -1.8**
0.2nm,0.3s,baz=38,slow=5.6,SNR=4.5
FINES FINESS Array B 66.14 351 P **P 09 02 09.4 -1.7**
16nm,1.3s,baz=25,slow=7.6,SNR=3.8
NOA NORSAR Array B 67.38 359 LR LR 09 33 01.7
comp=Z,12nm,18.4s,baz=275,slow=37
CMAR Chiang Mai Arr 75.48 281 P **P 09 03 09.1 +0.4**
1.5nm,0.3s,baz=44,slow=5.3,SNR=4.5
WRA Warramunga Arr 85.74 230 P **P 09 04 04.0 +0.7**
0.2nm,0.4s,baz=38,slow=6.4,SNR=2.0
ASAR Alice Springs 89.14 228 P **P 09 04 19.1 -0.5**
1.9nm,0.8s,baz=26,slow=5.3,SNR=16

NIED ***10*** *08:59:00,37°.00N×142°.40E,h8km,Mw3.5 Best double couple: M0=2.06000×10^14 NP1:φ=192.00000°,δ=25.00000°, λ=-73.00000°. NP2:φ=353.00000°,δ=66.00000°, λ=-98.00000°.*
IDC ***10*** *08:59:48.8±1.5,37°.06N×142°.71E,h0km,mb3.6/4, mb1 3.7/8,mb1mx3.6/45,mbtmp3.7/8,ML3.6/4,Error ellipse: s-maj=32.0km s-min=20.6km az=77.0*
ISCJB ***10*** *08:59:49.9±0.8,37°.01N±0°.04×142°.45E±0°.07,h9km, mb3.5/4,Error ellipse: s-maj=7.7km s-min=5.7km az=4.5*
JMA ***10*** *08:59:53.1±0.2,37°.04N×142°.38E,h43km,M3.5*
ISC 10 08:59:51.0±1.1,37°.03N±0°.05×142°.40E±0°.07,h9km,n22, σ1§56/29,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.27**	**286**	P	**Pn**	**09 00 14.8**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.29**	**274**	P	**Pn**	**09 00 15.3**	**+0.1**
ONAJ				*e*S	**Sb**	**09 00 30.8**	**-1.3**
JMM	**Marumori**	**1.53**	**303**	P	**Pn**	**09 00 18.1**	**-0.4**
JIO	**Ouri**	**1.65**	**330**	P	**Pn**	**09 00 20.2**	**+0.1**
JIO				*e*S	**Sn**	**09 00 40.1**	**-1.3**
JFT	**Otama**	**1.72**	**287**	P	**Pn**	**09 00 21.3**	**+0.2**
JFT				*e*S	**Sn**	**09 00 41.9**	**-1.3**
JMK	**Ichinoseki**	**2.13**	**334**	P	**Pn**	**09 00 27.5**	**+0.7**
JAG	**Ashikaga**	**2.45**	**257**	P	**Pn**	**09 00 32.0**	**+0.9**
JYK	**Kaneyama**	**2.48**	**320**	P	**Pn**	**09 00 32.6**	**+1.0**
JOM	**Ohasama**	**2.59**	**341**	P	**Pn**	**09 00 34.1**	**+1.0**
BSO1	**Boso 1**	**2.64**	**206**	P	**Pn**	**09 00 34.4**	**+1.1**
BSO1				*e*S	**Sn**	**09 01 05.6**	**+0.4**
JRY	**Ryogami san**	**3.00**	**251**	P	**Pn**	**09 00 39.8**	**+1.1**
JRY				*e*S	**Sn**	**09 01 13.9**	**-0.9**
MJAR	**Matsushiro Arr**	**3.40**	**263**	Pn	**Pn**	**09 00 46.5**	**+2.2**
MJAR				Sn	**Sb**	**09 01 30.9**	**-2.1**
MAT	**Matsushiro**	**3.40**	**263**	P	**Pn**	**09 00 47.2**	**+2.9**
MAT				*e*S	**Sn**	**09 01 25.5**	**+0.7**
JHJ	**Hachijo jima 2**	**4.46**	**210**	Pn	**Pn**	**09 00 58.1**	**-0.6**
JHJ				Sn	**Sn**	**09 01 46.5**	**-4.3**
ASAJ	**Asahikawa**	**7.08**	**1**	Pn	**Pn**	**09 01 33.7**	**-1.1**
ASAJ				Sn	**Sn**	**09 02 53.6**	**-1.7**
KSRS	**Korea Array**	**11.55**	**276**	Pn	**Pn**	**09 02 39.2**	**+3.1**
SONM	**Songino Array**	**28.44**	**304**	P	**P**	**09 05 47.0**	**+0.8**
MKAR	**Makanchi Array**	**44.79**	**302**	P	**P**	**09 08 05.5**	**+0.5**
ILAR	**Eielson Array**	**49.07**	**32**	pP	pP	09 08 47.2	+6.2
WRA	**Warramunga Arr**	**57.18**	**189**	P	**P**	**09 09 37.8**	**-0.5**
ASAR	**Alice Springs**	**60.90**	**189**	P	**P**	**09 10 04.1**	**0.0**
TXAR	**Lajitas Array**	**89.49**	**53**	pP	pP	09 12 57.8	+5.9

IDC 10 09:04:10.3±423.0,50°.89N×116°.41E,h0km,Error ellipse: s-maj=171.1km s-min=145.2km az=47.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.22**	**249**	*i*		09 50 10.0	
baz=60,slow=320,SNR=0.4							
I45RU	**USSURIYSK INFR**	**12.46**	**116**	*i*		10 19 40.0	
baz=306,slow=319,SNR=2.8							
I30JP	**ISUMI INFRASON**	**23.24**	**123**	*i*		11 26 50.0	
baz=320,slow=321,SNR=0.5							

ISCJB ***10*** *09:17:27.5±0.5,36°.80N±0°.02×1°.23E±0°.04,h14km,Error ellipse: s-maj=5.1km s-min=3.5km az=171.7*
CRAAG ***10*** *09:17:27.5,36°.65N×1°.27E,Ml3.4*
CSEM ***10*** *09:17:28.0±0.2,36°.74N×1°.25E,h10km,ML3.4,Error ellipse: s-maj=7.3km s-min=4.5km az=78.0*
MDD ***10*** *09:17:29.7±0.9,36°.70N×1°.29E,h18km±12km,mb3.9/8, mbLg2.5/1,Error ellipse: s-maj=9.1km s-min=6.9km az=162.0,PRXIMO*
ISC 10 09:17:27.5±0.8,36°.71N±0°.03×1°.28E±0°.04,h14km,n42, σ1§58/64,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.46**	**154**	P	**Pb**	**09 17 38.0**	**+0.5**
EBNR	**Beni Rached**	**0.46**	**154**	P	**Pb**	**09 17 38.0**	**+0.5**
ECHF	**Ech Chlef**	**0.55**	**175**	P	**Pb**	**09 17 39.0**	**0.0**
ECHF	**Ech Chlef**	**0.55**	**175**	P	**Pb**	**09 17 39.0**	**0.0**
ECHA	**Ech Chlef**	**0.56**	**173**	P	**Pg**	**09 17 39.0**	**+0.5**
ECHA	**Ech Chlef**	**0.56**	**173**	P	**Pg**	**09 17 39.0**	**+0.5**
EANR	**'Ain N'Sour**	**0.77**	**191**	P	**Pb**	**09 17 43.5**	**+0.8**
EANR	**'Ain N'Sour**	**0.77**	**191**	P	**Pb**	**09 17 43.5**	**+0.8**
EANR	**'Ain N'Sour**	**0.77**	**191**	P	**Pb**	**09 17 43.5**	**+0.8**
OKGL	**Djebel Kef Gue**	**0.84**	**218**	P	**Pn**	**09 17 45.5**	**+0.4**
OKGL	**Djebel Kef Gue**	**0.84**	**218**	⇓P	**Pn**	**09 17 45.4**	**+0.4**
666nm,0.6s,SNR=18							
OKGL				S	**Sb**	**09 17 55.5**	**+0.3**
146nm,0.2s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**0.84**	**218**	P	**Pn**	**09 17 45.4**	**+0.4**
666nm,0.6s,SNR=18							
OKGL				S	**Sb**	**09 17 55.5**	**+0.3**
146nm,0.2s,SNR=7.9							
OJGS	**Djebel Guires**	**1.28**	**200**	P	**Pg**	**09 17 52.2**	**+0.1**
OJGS	**Djebel Guires**	**1.28**	**200**	P	**Pg**	**09 17 52.2**	**+0.1**
OJGS	**Djebel Guires**	**1.28**	**200**	P	**Pg**	**09 17 52.2**	**+0.1**
EMHD	**Djebel Mahouad**	**1.44**	**110**	P	**Pn**	**09 17 54.0**	**+0.7**
EMHD	**Djebel Mahouad**	**1.44**	**110**	P	**Pn**	**09 17 54.0**	**+0.7**
EMHD	**Djebel Mahouad**	**1.44**	**110**	P	**Pn**	**09 17 54.0**	**+0.7**
EMUR	**La Murta**	**2.31**	**300**	P	**Pn**	**09 18 06.1**	**+1.0**
1.1nm,0.2s,SNR=7.9							
EMUR				S	**Sn**	**09 18 30.9**	**-2.4**
2.7nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.31**	**300**	P	**Pn**	**09 18 06.1**	**+1.0**
1.1nm,0.2s,SNR=7.9							
EMUR				S	**Sn**	**09 18 31.0**	**-2.4**
2.7nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.31**	**1**	P	**Pn**	**09 18 06.6**	**+1.4**
3.1nm,0.1s,SNR=5.6							
EIBI				S	**Sn**	**09 18 32.2**	**-1.3**
8.8nm,0.2s,SNR=9.8							
EIBI	**Ibiza**	**2.31**	**1**	P	**Pn**	**09 18 06.6**	**+1.4**
3.1nm,0.1s,SNR=5.6							
EIBI				S	**Sn**	**09 18 32.2**	**-1.3**
8.8nm,0.2s,SNR=9.8							
AFON	**Font Roja**	**2.43**	**324**	S	**Sn**	**09 18 34.7**	**-1.7**
3.4nm,0.5s,SNR=6.6							
AFON	**Font Roja**	**2.43**	**324**	S	**Sn**	**09 18 34.7**	**-1.7**
3.4nm,0.5s,SNR=6.6							
ETOB	**Tobarra**	**2.96**	**312**	P	**Pn**	**09 18 15.6**	**+1.4**
1.9nm,0.3s,SNR=10							
ETOB				S	**Sn**	**09 18 47.2**	**-2.3**
5.2nm,0.3s,SNR=6.4							
ETOB	**Tobarra**	**2.96**	**312**	P	**Pn**	**09 18 15.6**	**+1.4**
1.9nm,0.3s,SNR=10							
ETOB				S	**Sn**	**09 18 47.2**	**-2.3**
5.2nm,0.3s,SNR=6.4							
ETOS	**Mallorca**	**3.28**	**21**	P	**Pn**	**09 18 19.3**	**+0.8**
3.3nm,0.5s,SNR=7.3							
ETOS				S	**Sn**	**09 18 55.3**	**-2.1**
69nm,1.2s							
ETOS	**Mallorca**	**3.28**	**21**	P	**Pn**	**09 18 19.3**	**+0.8**
3.3nm,0.5s,SNR=7.3							
ETOS				S	**Sn**	**09 18 55.3**	**-2.1**
69nm,1.2s							
EBER	**Berja**	**3.35**	**274**	P	**Pn**	**09 18 19.4**	**-0.2**
0.8nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**09 18 57.3**	**-2.0**
1.2nm,0.2s,SNR=7.9							
EBER	**Berja**	**3.35**	**274**	P	**Pn**	**09 18 19.4**	**-0.2**
0.8nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**09 18 57.3**	**-2.0**
1.2nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.36**	**296**	P	**Pn**	**09 18 20.9**	**+1.2**
0.7nm,0.2s,SNR=7.9							
SESP				S	**Sn**	**09 18 59.1**	**-0.3**
18nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**3.36**	**296**	P	**Pn**	**09 18 20.9**	**+1.2**
0.7nm,0.2s,SNR=7.9							
SESP				S	**Sn**	**09 18 59.1**	**-0.3**
18nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.64**	**289**	P	**Pn**	**09 18 26.0**	**+2.5**
0.7nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**09 19 06.2**	**-0.1**
6.8nm,0.4s,SNR=4.9							
EQES	**Quesada**	**3.64**	**289**	P	**Pn**	**09 18 26.0**	**+2.5**
0.7nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**09 19 06.2**	**-0.1**
6.8nm,0.4s,SNR=4.9							
EMOS	**Mosqueruela**	**3.90**	**340**	P	**Pn**	**09 18 29.2**	**+2.0**
1.9nm,0.3s,SNR=24							
EMOS				S	**Sn**	**09 19 11.4**	**-1.4**
13nm,1.1s							
EMOS	**Mosqueruela**	**3.90**	**340**	P	**Pn**	**09 18 29.2**	**+2.0**
1.9nm,0.3s,SNR=24							
EMOS				S	**Sn**	**09 19 11.4**	**-1.4**
13nm,1.1s							
ERTA	**Horta de San J**	**4.30**	**350**	P	**Pn**	**09 18 33.8**	**+1.2**
1.2nm,0.1s,SNR=7.9							
ERTA				S	**Sn**	**09 19 20.1**	**-2.5**
0.6nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**4.30**	**350**	P	**Pn**	**09 18 33.8**	**+1.2**
1.2nm,0.1s,SNR=7.9							
ERTA				S	**Sn**	**09 19 20.1**	**-2.5**
0.6nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**4.64**	**358**	P	**Pn**	**09 18 38.7**	**+1.5**
1.5nm,0.2s,SNR=7.9							
EPOB				S	**Sn**	**09 19 28.0**	**-2.9**
1.2nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.64**	**358**	P	**Pn**	**09 18 38.7**	**+1.5**
1.5nm,0.2s,SNR=7.9							
EPOB				S	**Sn**	**09 19 28.0**	**-2.9**
1.2nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.88**	**289**	S	**Sn**	**09 19 33.6**	**-3.3**
0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.88**	**289**	S	**Sn**	**09 19 33.6**	**-3.3**
0.6nm,0.2s,SNR=7.9							

SOME ***10*** *09:47:28.8,43°.73N×69°.60E,h5km*
NNC ***10*** *09:47:28.2±1.5,43°.60N×69°.56E,h0km,mb3.2,mpv2.7, Error ellipse: s-maj=17.7km s-min=8.4km az=39.0*
KRNET ***10*** *09:47:29.8±0.1,43°.58N×69°.47E,mb2.6*
ISC 10 09:47:29.2±2.3,43°.72N±0°.08×69°.80E±0°.09,h0km,n17, σ1§38/31,18C-7D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.81**	**140**	⇑P	**Pg**	**09 47 44.6**	**-0.1**
0.9nm,0.2s,baz=315,slow=13,SNR=37							
KK31				S	**Sb**	**09 47 56.7**	**-0.9**
8.9nm,0.3s,baz=301,slow=29,SNR=72							
IUG	**Iuzhnay**	**1.58**	**174**	*e*P	**Pb**	**09 47 59.4**	**0.0**
0.1nm,0.1s							
IUG				*e*S	**Sg**	**09 48 21.3**	**+1.2**
0.2nm,0.2s							
MNAS	**Manas**	**2.34**	**121**	⇓*i*P	**Pg**	**09 48 13.3**	**-0.7**
baz=115							
MNAS				⇓*i*S	**Sg**	**09 48 44.7**	**+0.5**
baz=115							
MNAS	**Manas**	**2.34**	**121**	⇑Pg	**Pb**	**09 48 12.7**	**+0.4**
0.9nm,0.3s							
MNAS				⇑Lg	Lg	09 48 45.1	
9.0nm,0.5s							
ARK	**Arkit**	**2.50**	**140**	⇑*i*P	**Pb**	**09 48 15.0**	**0.0**
baz=133							
ARK				⇑*i*S	**Sb**	**09 48 47.2**	**+0.8**
baz=133							
MRKS	**Merke**	**2.69**	**110**	⇓*i*P	**Pg**	**09 48 20.2**	**-0.5**
4.2nm,0.3s							
MRKS				*e*S	**Sg**	**09 48 57.0**	**+1.4**
10nm,0.3s							
TOKL	**Toktogul**	**2.88**	**127**	⇑*i*P	**Pb**	**09 48 21.1**	**-0.4**
baz=122							
TOKL				⇑*i*S	**Sb**	**09 48 58.0**	**+0.7**
baz=122							
EKS2	**Erkin-Say**	**3.10**	**109**	⇑*i*P	**Pb**	**09 48 25.3**	**+0.1**
baz=105							
EKS2				⇑*e*S	**Sb**	**09 49 05.1**	**+1.5**
baz=105							
AML	**Almayashu**	**3.27**	**118**	⇑*e*P	**Pb**	**09 48 26.2**	**-2.2**
baz=114							
AML				⇑*i*S	**Sb**	**09 49 08.1**	**-0.9**
baz=114							
ARSB	**Arslanbob**	**3.36**	**134**	⇑*i*P	**Pb**	**09 48 26.7**	**-3.0**
baz=130							
ARSB				⇑*i*S	**Sb**	**09 49 08.7**	**-2.5**
baz=130							
USP	**Ospenovka**	**3.45**	**96**	⇓*i*P	**Pb**	**09 48 30.3**	**-0.9**
baz=93							
USP				⇓*i*S	**Sb**	**09 49 15.1**	**+1.4**
baz=93							
AAK	**Ala-Archa**	**3.60**	**106**	⇑*i*P	**Pb**	**09 48 31.8**	**-2.1**
baz=103							
AAK				⇑*i*S	**Sb**	**09 49 17.2**	**-1.0**
baz=103							
AAK	**Ala-Archa**	**3.60**	**106**	⇓Pg	**Pg**	**09 48 38.4**	**+0.2**
2.1nm,0.4s							
AAK				Lg	Lg	09 49 26.5	
3.6nm,0.5s							
BTK	**Batken**	**3.74**	**168**	⇑*i*P	**Pn**	**09 48 29.1**	**+0.8**
baz=164							
BTK				⇑*i*S	**Sn**	**09 49 13.2**	**+0.1**
baz=164							
TKM2	**Tokmak 2**	**4.31**	**99**	⇑Pg	**Pg**	**09 48 49.9**	**-1.8**
1.9nm,0.7s							
TKM2				⇓Lg	Lg	09 49 49.3	
5.1nm,0.6s							
DGS	**Degeres**	**4.38**	**94**	*e*P	**Pg**	**09 48 51.8**	**-1.2**
1.6nm,0.2s							
DGS				*e*S	**Sg**	**09 49 51.1**	**+1.4**
4.7nm,0.3s							
KUU	**Kurty**	**4.74**	**86**	*e*P	**Pg**	**09 48 59.4**	**-0.6**
2.2nm,0.2s							
KUU				*e*S	**Sg**	**09 50 04.1**	**+2.7**
6.6nm,0.2s							

NNC ***10*** *10:07:55.5±1.4,54°.68N×86°.01E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=45.8km s-min=9.5km az=135.0*
IDC ***10*** *10:08:00.8±2.2,54°.27N×86°.07E,h0km,mb1 3.3/3, mb1mx3.1/43,mbtmp3.3/3,ML3.0/3,Error ellipse: s-maj=17.5km s-min=11.5km az=48.0*
ISC 10 10:07:59.3±3.4,54°.4N±0°.2×86°.0E±0°.2,h10km,n9, σ1§85/11,4C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**236**	*i*		10 12 45.9	
baz=66,slow=332,SNR=29							
ZAA0	**Zalesovo Array**	**0.87**	**236**	⇓P	**Pg**	**10 08 14.8**	**-1.2**
0.2nm,0.2s							
ZAA0				⇓S	**Sg**	**10 08 29.0**	**+1.7**
2.6nm,0.4s							
ZALV	**Zalesovo Beam**	**0.87**	**236**	Pg	**Pg**	**10 08 14.6**	**-1.4**
2.9nm,0.3s,baz=66,slow=15,SNR=16							
ZALV				Lg	Lg	10 08 28.4	
9.9nm,0.3s,baz=65,slow=32,SNR=28							
ZALV				Rg	Rg	10 08 32.0	
17nm,0.3s,baz=69,slow=36,SNR=23							
KURK	**Kurchatov**	**5.86**	**234**	⇑Pn	**Pn**	**10 09 25.9**	**-0.3**
1.7nm,0.9s							
KURK				⇓Lg	Lg	10 11 07.3	
2.1nm,0.6s							
KURBB	**Kurchatov Arra**	**5.96**	**233**	Pn	**Pn**	**10 09 30.6**	**+3.0**
0.2nm,0.3s,baz=53,slow=14,SNR=16							
KURBB				Lg	Lg	10 11 07.4	
0.0nm,0.3s,baz=50,slow=32,SNR=3.2							
KURBB	**Kurchatov Arra**	**5.96**	**233**	⇑Pn	**Pn**	**10 09 26.8**	**-0.8**
1.7nm,0.5s							
KURBB				⇑Lg	Lg	10 11 09.9	
5.2nm,0.7s							
MK31	**Makanchi Array**	**8.01**	**199**	⇑Pn	**Pn**	**10 09 56.9**	**+1.2**
0.9nm,0.5s,baz=25,slow=13,SNR=18							
MKAR	**Makanchi Array**	**8.01**	**199**	Pn	**Pn**	**10 09 57.0**	**+1.3**
0.8nm,0.3s,baz=22,slow=14,SNR=14							
MKAR				Sn	**Sn**	**10 11 25.6**	**-0.7**
0.1nm,0.3s,baz=23,slow=27,SNR=2.8							
MKAR				Lg	Lg	10 12 07.2	
0.1nm,0.3s,baz=14,slow=32,SNR=3.5							
BVAR	**Borovoye Array**	**9.39**	**268**	Pn	**Pn**	**10 10 16.9**	**+2.4**
0.1nm,0.3s,baz=72,slow=15,SNR=2.5							
BVAR				Sn	**Sn**	**10 11 58.6**	**-1.4**
0.2nm,0.3s,baz=68,slow=27,SNR=3.2							

JMA ***10*** *10:25:58.6±0.3,43°.96N×148°.20E,h0km,M3.8*
SKHL ***10*** *10:25:59.6±0.3,44°.35N×148°.34E,h41km±8km,mb4.2/3*
ISC 10 10:25:57.0±3.2,44°.31N±0°.09×148°.2E±0°.2,h6km±15km, n11,σ1§53/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**344**	*e*P	**Pg**	**10 26 15.4**	**-0.1**
KUR				AMB	AMB	10 26 16.1	
13nm,0.1s							
KUR				*i*S	**Sg**	**10 26 27.3**	**-0.7**
KUR				A	A	10 26 30.0	
600nm,0.4s							
KUR				A	A	10 26 30.0	
300nm,0.4s							
SHO	**Shikotan**	**1.11**	**247**	*e*P	**Pn**	**10 26 19.0**	**-0.1**
SHO				AMB	AMB	10 26 20.0	
78nm,0.2s							
SHO				*i*S	**Sg**	**10 26 33.3**	**+0.7**
SHO				A	A	10 26 34.5	
332nm,0.2s							
SHO				A	A	10 26 34.5	
230nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.74**	**262**	*e*P	**Pn**	**10 26 27.9**	**+0.2**
YUK				AMB	AMB	10 26 31.5	
45nm,0.1s							
YUK				*e*S	**Sn**	**10 26 49.3**	**-0.8**
YUK				A	A	10 26 58.2	
102nm,0.1s							
YUK				A	A	10 26 58.2	
212nm,0.1s							
NEM2	**Nemuro 2**	**2.04**	**243**	P	**Pn**	**10 26 32.5**	**+0.6**
NEM2				*e*S	**Sn**	**10 26 57.1**	**-0.5**
JRA	**Rausu**	**2.28**	**262**	P	**Pb**	**10 26 37.4**	**-1.1**
JNK	**Nakash**	**2.65**	**255**	P	**Pn**	**10 26 42.1**	**+1.9**
JNK				*e*S	**Sn**	**10 27 13.1**	**+0.5**
JAK	**Akkeshi**	**2.89**	**244**	P	**Pn**	**10 26 44.7**	**+1.1**
JAR	**Ashorobuto**	**3.39**	**254**	P	**Pn**	**10 26 52.9**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.67**	**306**	*e*P	**Pn**	**10 27 09.7**	**+1.7**
JKB	**Kayabe**	**5.81**	**248**	P	**Pn**	**10 27 25.9**	**+2.3**
JANG	**Nango**	**6.35**	**234**	*e*S	**Sn**	**10 28 41.5**	**-2.4**

IDC 10 10:29:55.8±1.7,22°.33N×93°.90E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/34,mbtmp3.3/4,ML3.7/1,Error ellipse: s-maj=68.8km s-min=22.3km az=52.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.10**	**128**	Pn	Pn	10 31 28.7	+1.4
0.5nm,0.3s,baz=305,slow=14,SNR=9.1							
CMAR				Lg	Lg	10 33 11.4	
0.2nm,0.3s,baz=311,slow=29,SNR=3.2							
MKAR	**Makanchi Array**	**26.16**	**342**	P	P	10 35 32.6	+0.7
0.4nm,0.4s,baz=155,slow=9.9,SNR=3.7							
WRA	**Warramunga Arr**	**57.66**	**134**	P	P	10 39 47.5	-0.8
0.3nm,0.6s,baz=322,slow=7.5,SNR=9.5							
ASAR	**Alice Springs**	**60.03**	**137**	P	P	10 40 04.5	-0.3
0.2nm,0.5s,baz=316,slow=6.8,SNR=4.7							

BJI ***10*** *10:47:04.5,12°.83N×144°.81E,h94km,mb4.8/31,mB5.0/20*
ISCJB ***10*** *10:47:07.9±0.6,12°.96N±0°.03×144°.41E±0°.04, h101km±5km,mb4.6/74,Error ellipse: s-maj=7.1km s-min=5.3km az=177.7*
IDC ***10*** *10:47:08.9±0.5,13°.02N×144°.43E,h95km±4km,mb4.2/21, mb1 4.3/21,mb1mx4.2/36,mbtmp4.5/21,MS3.2/13, Ms1 3.2/13,ms1mx3.1/35,Error ellipse: s-maj=15.5km s-min=8.5km az=93.0*
NEIC ***10*** *10:47:09.5±0.7,12°.98N×144°.44E,h101km±6km,mb4.7/54, Error ellipse: s-maj=6.4km s-min=4.5km az=94.0*
NEIC Felt [III] at Barrigada and Santa Rita; [II] at Hagatna Heights, Talofofo and Yigo. Also felt at Andersen AFB, Apra Harbor, Dededo, Mangilao, Merizo, Ordot and Yona.
ISC 10 10:47:09.1±0.5,12°.95N±0°.05×144°.44E±0°.07,h97km±4km, h97km:pP-P,n132,σ1§18/150,mb4.7/74,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.76**	**33**	P	**Pn**	**10 47 26.5**	**-0.4**
4μm,0.3s,baz=176,slow=13,SNR=2736							
GUMO				S	**Sn**	**10 47 39.9**	**-0.2**
3μm,0.3s,baz=197,slow=19,SNR=69							
GUMO	**Guam**	**0.76**	**33**	*e*Pn	**Pn**	**10 47 26.5**	**-0.4**

	baz=260						
PMG	**Port Moresby**	**22.37 173**		P	**P**	**10 51 58.3**	**-1.2**
	10nm,0.7s,baz=3.0,slow=8.8,SNR=8.8						
PMG	**Port Moresby**	**22.37 173**		*e*P	**P**	**10 51 59.2**	**-0.3**
	11nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**22.56**	**70**	T	T	11 15 04.7	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.57**	**70**	T	T	11 15 04.4	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**22.58**	**70**	T	T	11 15 06.0	
	baz=255,slow=75						
YOJ	**Yonaguni jima**	**23.27 303**		*e*P	**P**	**10 52 07.8**	**-0.6**
	66nm,1.1s						
INU	**Inuyama**	**23.29 345**		*e*P	**P**	**10 52 08.3**	**-0.2**
	17nm,0.8s						
JNU	**Nakatsue**	**23.59 331**		P	**P**	**10 52 10.7**	**-0.7**
	12nm,0.7s,baz=136,slow=2.6,SNR=19						
JNU				LR	LR	11 00 44.3	
	comp=Z,18nm,18.4s,baz=142,slow=35						
JNU	**Nakatsue**	**23.59 331**		*e*P	**P**	**10 52 10.8**	**-0.5**
	14nm,0.9s						
JNU				*e*		11 00 44.3	
MJAR	**Matsushiro Arr**	**24.15 348**		P	**P**	**10 52 14.4**	**-1.8**
	16nm,0.7s,baz=167,slow=8.8,SNR=51						
MJAR				LR	LR	10 59 20.8	
	comp=Z,27nm,20.3s,baz=145,slow=30						
MAJO	**Matsushiro**	**24.15 348**		*e*P	**P**	**10 52 15.0**	**-1.2**
	33nm,0.8s						
MAT	**Matsushiro**	**24.15 348**		P	**P**	**10 52 15.6**	**-0.6**
MAT				S	**S**	**10 56 31.0**	**+3.7**
MJB9	**Matsu-Tunnel**	**24.16 348**		*e*P	**P**	**10 52 15.1**	**-1.2**
	8.3nm,0.8s						
YULB	**Yu-li**	**24.28 299**		*e*P	**P**	**10 52 18.0**	**+0.4**
	12nm,0.7s						
NACB	**Ninganchiao**	**24.32 301**		*e*P	**P**	**10 52 18.4**	**+0.5**
SSLB	**Suanglung**	**24.72 299**		*e*P	**P**	**10 52 21.5**	**-0.1**
	26nm,0.9s						
TPUB	**Ta-pu**	**24.82 298**		*e*P	**P**	**10 52 22.3**	**-0.2**
	280nm,2.0s						
COEN	**Coen**	**26.76 183**		*e*P	**P**	**10 52 40.3**	**+0.3**
	5.2nm,0.8s						
HNR	**Honiara**	**27.05 145**		LR	LR	11 01 49.5	
	comp=Z,54nm,19.4s,baz=20,slow=32						
KSRS	**Korea Array**	**28.52 332**		P	**P**	**10 52 54.5**	**-0.9**
	3.2nm,0.5s,baz=141,slow=9.6,SNR=20						
KSRS				pP	**pP**	**10 53 16.4**	**-0.9**
	1.5nm,0.7s,baz=138,slow=10,SNR=3.2						
KSRS				LR	LR	11 04 32.2	
	comp=Z,26nm,18.4s,baz=167,slow=37						
KS15	**Wonju Array Si**	**28.53 332**		*e*P	**P**	**10 52 54.5**	**-1.0**
KS15				*e*pP	**pP**	**10 53 16.4**	**-0.9**
KS15				*e*		11 04 32.2	
KSAR	**Wonju Array Be**	**28.53 332**		P	**P**	**10 52 54.5**	**-1.0**
KSAR				pP	**pP**	**10 53 16.4**	**-0.9**
MTN	**Manton Dam**	**28.82 208**		*e*P	**P**	**10 52 58.5**	**+0.1**
	19nm,1.2s						
NJ2	**Nanjing**	**30.20 313**		*e*P	**P**	**10 53 10.9**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
ASAJ	**Asahikawa**	**31.10 357**		P	**P**	**10 53 18.4**	**+0.2**
	6.2nm,0.6s,baz=190,slow=4.8,SNR=9.8						
ASAJ	**Asahikawa**	**31.10 357**		*e*P	**P**	**10 53 18.4**	**+0.2**
	67nm,1.6s						
USRK	**Ussuriysk Ar.**	**32.92 343**		P	**P**	**10 53 33.4**	**-0.8**
	3.7nm,0.6s,baz=153,slow=7.8,SNR=7.6						
SBUM	**Sibu**	**33.54 255**		*e*P	**P**	**10 53 41.1**	**+1.1**
	9.4nm,1.2s						
WRAB	**Tennant Creek**	**34.15 197**		*e*P	**P**	**10 53 45.3**	**+0.2**
	21nm,0.8s						
WB2	**Warramunga Arr**	**34.16 197**		*e*P	**P**	**10 53 43.9**	**-1.3**
WB2				*e*P	**P**	**10 53 45.5**	**+0.3**
WB2				*e*pP	**pP**	**10 54 08.9**	**+1.6**
WR1	**Warramunga Arr**	**34.16 197**		*e*P	**P**	**10 53 45.2**	**-0.1**
	24nm,0.8s						
WR1				*e*pP	**pP**	**10 54 08.3**	**+1.0**
WR1				*e*		11 07 41.7	
WRA	**Warramunga Arr**	**34.16 197**		P	**P**	**10 53 45.2**	**-0.1**
	20nm,0.9s,baz=17,slow=9.5,SNR=42						
WRA				pP	**pP**	**10 54 08.3**	**+1.0**
	3.1nm,0.7s,baz=20,slow=9.7,SNR=3.3						
WRA				ScP	**ScP**	**10 59 57.6**	**+0.9**
	0.4nm,0.7s,baz=17,slow=3.9,SNR=4.6						
WRA				LR	LR	11 07 41.7	
	comp=Z,52nm,21.0s,baz=215,slow=36						
BJI	**Beijing**	**36.69 323**		P	**P**	**10 54 06.2**	**-0.5**
BJI				S	**S**	**10 59 42.7**	**-0.3**
BJI				pmax	pmax		
	comp=Z,20nm,0.6s						
BJI				pmax	pmax		
	comp=Z,170nm,4.7s						
BJI				LR	LR		
	comp=Z,56nm,39.0s						
AS01	**Alice Springs**	**37.81 196**		*e*P	**P**	**10 54 16.7**	**+0.4**
AS31	**Alice Springs**	**37.82 196**		*e*P	**P**	**10 54 16.8**	**+0.3**
	2.1nm,0.9s						
AS31				*e*pP	**pP**	**10 54 38.3**	**-0.5**
AS31				*e*PcP	**PcP**	**10 56 32.1**	**+0.9**
AS31				*e*		11 09 56.1	
ASAR	**Alice Springs**	**37.82 196**		P	**P**	**10 54 16.5**	**0.0**
	1.6nm,0.5s,baz=12,slow=9.0,SNR=48						
ASAR				pP	**pP**	**10 54 38.3**	**-0.5**
	0.9nm,0.6s,baz=22,slow=11,SNR=1.9						
ASAR				PcP	**PcP**	**10 56 32.1**	**+0.9**
	1.5nm,0.8s,baz=26,slow=3.1,SNR=6.7						
ASAR				LR	LR	11 09 56.1	
	comp=Z,46nm,20.5s,baz=14,slow=36						
XAN	**Xi'an**	**38.47 309**		P	**P**	**10 54 21.7**	**-0.2**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				LR	LR		
	comp=N,47nm,8.5s						
XAN				LR	LR		
	comp=E,79nm,8.3s						
XAN				LR	LR		
	comp=Z,120nm,5.2s						
HHC	**Hu-ho-hao-te**	**39.99 320**		*e*P	**P**	**10 54 33.3**	**-1.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,87nm,5.3s						
DZM	**Mont Dzumac**	**40.95 148**		P	**P**	**10 54 43.9**	**+1.3**
	12nm,0.7s,baz=336,slow=6.7,SNR=15						
DZM	**Mont Dzumac**	**40.95 148**		*e*P	**P**	**10 54 43.5**	**+0.9**
	11nm,0.7s						
PETK	**Petropavlovsk-**	**41.43**	**12**	PcP	**PcP**	**10 56 41.9**	**-0.3**
	6.3nm,0.8s,baz=174,slow=4.3,SNR=3.8						
PETK				LR	LR	11 10 08.3	
	comp=Z,20nm,20.5s,baz=197,slow=33						
PEA1	**Petropavlovsk-**	**41.44**	**12**	*e*PcP	**PcP**	**10 56 41.9**	**-0.3**
PEA1				*e*		11 10 08.3	
LZH	**Lanzhou**	**43.10 310**		*e*P	**P**	**10 55 00.5**	**+0.5**
LZH				pP	pP	10 55 25.9	+3.1
LZH				sP	sP	10 55 37.2	+3.4
LZH				PcP	**PcP**	**10 56 46.4**	**-1.9**
LZH				*e*S	**S**	**11 01 16.1**	**-3.1**
LZH				pmax	pmax		
	comp=Z,42nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,4.2s						
CM31	**Chiang Mai Arr**	**44.05 283**		*e*P	**P**	**10 55 08.5**	**+0.8**
CM31				*e*PcP	**PP**	**10 56 52.6**	**+0.5**
CM31				*e*		11 13 23.5	
CMAR	**Chiang Mai Arr**	**44.05 283**		P	**P**	**10 55 08.5**	**+0.8**
	1.5nm,0.6s,baz=83,slow=6.5,SNR=8.9						
CMAR				PcP	**PP**	**10 56 52.6**	**+0.5**
	1.0nm,0.3s,baz=83,slow=1.4,SNR=4.1						
CMAR				LR	LR	11 13 23.5	
	comp=Z,12nm,19.7s,baz=65,slow=36						
STKA	**Stephens Creek**	**44.65 183**		P	**P**	**10 55 11.7**	**-0.6**
	3.9nm,0.7s,baz=0.2,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**44.65 183**		*e*P	**P**	**10 55 11.7**	**-0.6**
	3.4nm,1.5s						
FORT	**Forrest**	**46.24 200**		*e*P	**P**	**10 55 25.3**	**+0.5**
	146nm,0.8s						
SONA0	**Songino Array**	**47.01 325**		*e*P	**P**	**10 55 30.2**	**-0.6**
	7.1nm,1.4s						
SONA0				*e*		11 14 52.1	
SONM	**Songino Array**	**47.01 325**		P	**P**	**10 55 30.2**	**-0.6**
	0.8nm,0.4s,baz=127,slow=6.0,SNR=6.0						
SONM				LR	LR	11 14 52.1	
	comp=Z,24nm,19.6s,baz=106,slow=35						
GTA	**Gaotai**	**47.29 312**		*e*P	**P**	**10 55 33.2**	**+0.1**
GTA				pP	pP	10 55 58.0	+1.8
GTA				sP	sP	10 56 08.4	+1.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SEY	**Seymchan**	**50.23**	**5**	P	**P**	**10 55 55.3**	**+0.3**
	1.7nm,0.4s,baz=196,slow=5.7,SNR=6.3						
LSA	**Lhasa**	**51.92 298**		*e*P	**P**	**10 56 09.6**	**+0.8**
	7.2nm,0.6s						
TAPN	**Taplejung**	**54.73 294**		*e*P	**P**	**10 56 27.8**	**-1.4**
JIRN	**Jiri**	**56.09 295**		*e*P	**P**	**10 56 39.1**	**0.0**
	130nm,0.7s						
GUN	**Gumba**	**56.38 295**		*e*P	**P**	**10 56 40.7**	**-0.4**
	13nm,0.4s						
PKI	**Pulchoki**	**56.78 295**		*e*P	**P**	**10 56 43.1**	**-0.9**
PKIN	**Phulchoki**	**56.79 295**		*e*P	**P**	**10 56 43.3**	**-0.7**
	6.3nm,0.4s						
WMQ	**Urumqi**	**57.27 314**		*e*P	**P**	**10 56 49.4**	**+2.5**
WMQ				pP	pP	10 57 11.0	+0.3
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,92nm,4.7s						
WMQ				LR	LR		
	comp=Z,52nm,13.3s						
GKN	**Gorkha**	**57.48 295**		*e*P	**P**	**10 56 48.2**	**-0.5**
	11nm,0.4s						
KOLN	**Koldanda**	**58.39 295**		*e*P	**P**	**10 56 54.7**	**-0.4**
	7.9nm,0.6s						
PYUN	**Piuthan**	**58.94 295**		*e*P	**P**	**10 56 58.5**	**-0.4**
MK01	**Makanchi Array**	**61.65 316**		*e*P	**P**	**10 57 16.9**	**+0.1**
MK31	**Makanchi Array**	**61.66 316**		*e*P	**P**	**10 57 17.1**	**+0.2**
MK32	**Makanchi Array**	**61.66 316**		*e*P	**P**	**10 57 16.7**	**-0.2**
MKAR	**Makanchi Array**	**61.66 316**		P	**P**	**10 57 16.7**	**-0.2**
	1.9nm,0.4s,baz=91,slow=8.9,SNR=22						
MKAR	**Makanchi Array**	**61.66 316**		*e*P	**P**	**10 57 17.1**	**+0.2**
	23nm,0.5s						
MAKZ	**Makanchi**	**61.87 316**		*e*P	**P**	**10 57 18.4**	**+0.1**
	5.1nm,0.6s						
KURK	**Kurchatov**	**64.80 320**		*e*P	**P**	**10 57 37.3**	**-0.3**
	8.7nm,0.9s						
KSH	**Kashi**	**65.30 308**		*e*P	**P**	**10 57 43.5**	**+2.4**
KSH				pP	pP	10 58 07.5	+2.0
KSH				PcP	**PcP**	**10 58 13.4**	**+0.7**
KSH				sP	sP	10 58 18.6	+2.5
KSH				PP	**PP**	**11 00 10.8**	**+5.0**
KSH				PcS		11 02 13.6	
KSH				S	**S**	**11 06 15.8**	**-1.8**
KSH				ScS	**SKSac**	**11 07 22.7**	**-5.0**
KSH				pmax	pmax		
	comp=Z,120nm,4.6s						
KSH				LR	LR		
	comp=N,110nm,6.4s						
KSH				LR	LR		
	comp=E,110nm,5.3s						
KSH				LR	LR		
	comp=Z,130nm,6.5s						
CNPM	**China Poot**	**65.99**	**30**	*e*P	**P**	**10 57 44.5**	**-0.6**
	21nm,0.5s						
CAST	**Castle Rocks**	**66.75**	**26**	*e*P	**P**	**10 57 49.7**	**-0.2**
	9.4nm,0.9s						
KTH	**Kantishna Hill**	**67.29**	**26**	*e*P	**P**	**10 57 52.7**	**-0.6**
	8.5nm,1.0s						
PMR	**Palmer**	**67.54**	**28**	*e*P	**P**	**10 57 53.9**	**-0.9**
	9.2nm,0.7s						
SML	**Sawmill**	**67.97**	**28**	*e*P	**P**	**10 57 57.2**	**-0.4**
	15nm,0.9s						
SCM	**Sheep Creek Mo**	**68.44**	**28**	*e*P	**P**	**10 58 00.3**	**-0.2**
	27nm,1.1s						
COLD	**Coldfoot**	**68.70**	**22**	*e*P	**P**	**10 58 02.4**	**+0.4**
	6.8nm,0.9s						
DHY	**Denali Highway**	**68.71**	**27**	*e*P	**P**	**10 58 02.0**	**-0.3**
	18nm,1.6s						
WRH	**Wood River Hil**	**68.74**	**25**	*e*P	**P**	**10 58 01.2**	**-1.1**
	6.8nm,0.9s						
MDM	**Murphy Dome**	**68.81**	**25**	*e*P	**P**	**10 58 02.7**	**-0.1**
	4.4nm,0.8s						
CCB	**Clear Creek Bu**	**68.91**	**25**	*e*P	**P**	**10 58 01.9**	**-1.4**
	3.3nm,0.8s						
IL1	**Eielson Array**	**69.32**	**25**	*e*P	**P**	**10 58 04.2**	**-1.7**
ILAR	**Eielson Array**	**69.32**	**25**	P	**P**	**10 58 03.8**	**-2.1**
	3.2nm,0.5s,baz=249,slow=5.7,SNR=66						
ILAR				LR	LR	11 27 30.2	
	comp=Z,38nm,19.4s,baz=169,slow=35						
ILB	**Eielson Array**	**69.32**	**25**	*e*P	**P**	**10 58 04.2**	**-1.8**
ILB				*e*		11 27 30.2	
PAX	**Paxson**	**69.53**	**27**	*e*P	**P**	**10 58 07.0**	**-0.3**
	4.7nm,0.7s						
HARP	**HAARP**	**69.56**	**28**	*e*P	**P**	**10 58 07.1**	**-0.3**
	15nm,0.8s						
BRVK	**Borovoye**	**70.23**	**322**	*e*P	**P**	**10 58 11.4**	**-0.3**
	3.0nm,0.7s						
DOT	**Dot Lake**	**70.29**	**27**	*e*P	**P**	**10 58 11.2**	**-0.7**
	20nm,0.7s						
FYU	**Fort Yukon**	**70.41**	**24**	*e*P	**P**	**10 58 12.2**	**-0.2**
	39nm,1.6s						
DAWY	**Dawson**	**72.39**	**27**	*e*P	**P**	**10 58 24.9**	**+0.4**
	16nm,1.3s						
ABKAR	**Akbulak array**	**76.73**	**318**	*e*P	**P**	**10 58 49.3**	**-0.6**
	19nm,0.4s						
GEYT	**Alibeck**	**79.30**	**307**	P	**P**	**10 59 04.1**	**-0.3**
	2.5nm,0.5s,baz=44,slow=5.3,SNR=5.1						
YBH	**Yreka Blue Hor**	**83.61**	**49**	*e*P	**P**	**10 59 28.6**	**+1.5**
	28nm,1.9s						
YKA	**Yellowknife Ar**	**83.62**	**27**	P	**P**	**10 59 26.2**	**-0.3**
	4.0nm,0.4s,baz=286,slow=5.2,SNR=16						
YKB5	**Yellowknife Ar**	**83.62**	**27**	*e*P	**P**	**10 59 26.2**	**-0.3**
B08A	**Colville Reser**	**84.53**	**42**	*e*P	**P**	**10 59 32.2**	**+0.7**
	5.9nm,0.7s						
BEKR	**Beckworth**	**85.75**	**50**	*e*P	**P**	**10 59 38.1**	**0.0**
	13nm,1.7s						
NEW	**Newport**	**85.98**	**41**	*e*P	**P**	**10 59 39.7**	**+0.9**
	7.0nm,0.8s						
BMO	**Blue Mountains**	**86.74**	**45**	*e*P	**P**	**10 59 43.4**	**+0.7**
	4.9nm,0.8s						
ARA0	**ARCESS Array S**	**87.56 342**		*e*P	**P**	**10 59 45.0**	**-1.1**
ARCES	**ARCESS Array B**	**87.56 342**		P	**P**	**10 59 45.0**	**-1.1**
	2.6nm,0.8s,baz=70,slow=7.0,SNR=4.6						
BSMT	**Bassoo Peak**	**87.60**	**41**	*e*P	**P**	**10 59 48.5**	**+1.6**
MFID	**Camas Ranch**	**88.14**	**46**	*e*P	**P**	**10 59 49.8**	**+0.3**
	5.5nm,0.8s						
HLID	**Hailey**	**89.09**	**46**	*e*P	**P**	**10 59 55.3**	**+1.3**
	4.3nm,1.3s						
CCCA	**Chr Cany lake**	**89.12**	**54**	*e*P	**P**	**10 59 55.3**	**+1.2**
TPNV	**Topopah Spring**	**89.61**	**52**	*e*P	**P**	**10 59 58.3**	**+1.7**
	16nm,1.8s						
CRY	**Cary Ranch**	**90.13**	**56**	*e*P	**P**	**10 59 59.4**	**+0.4**
VNDA	**Vanda**	**90.86 176**		P	**P**	**11 00 02.1**	**+1.0**
	1.4nm,1.1s,baz=318,slow=6.3,SNR=6.2						
VNDA				LR	LR	11 39 05.5	
	comp=Z,34nm,18.9s,baz=257,slow=34						
H17A	**Grant Village**	**91.46**	**44**	*e*P	**P**	**11 00 06.9**	**+1.7**
	10.0nm,1.6s						
FIA0	**FINESS Array S**	**91.56 335**		*e*P	**P**	**11 00 02.5**	**-2.4**
FINES	**FINESS Array B**	**91.56 335**		P	**P**	**11 00 02.5**	**-2.4**
	8.2nm,1.1s,baz=95,slow=2.1,SNR=4.7						
PD31	**Pinedale Array**	**92.71**	**45**	*e*P	**P**	**11 00 11.1**	**+0.1**
PDAR	**Pinedale Array**	**92.71**	**45**	P	**P**	**11 00 11.1**	**+0.1**
	0.4nm,0.7s,baz=220,slow=2.5,SNR=4.4						
LAO	**LASA Array**	**93.48**	**41**	*e*P	**P**	**11 00 15.0**	**+0.8**
	8.9nm,1.1s						
TOA1	**Torodi Ar. Sit**	**134.87 304**		*e*PKPdf	**PKPdf**	**11 06 16.2**	**-1.6**
TOA1				*e*SKPbc	**SKPbc**	**11 09 39.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**134.87 304**		PKP	**PKPdf**	**11 06 16.2**	**-1.6**
	0.5nm,0.6s,baz=48,slow=1.8,SNR=5.5						
TORD				SKPbc	**SKPbc**	**11 09 39.9**	**+0.2**
	1.1nm,0.8s,baz=28,slow=2.4,SNR=7.7						
DBIC	**Dimbokro**	**143.80 301**		PKP	PKPab	11 06 31.1	0.0
	2.3nm,0.6s,baz=54,slow=2.6,SNR=5.6						
LPAZ	**La Paz**	**148.33 100**		PKPbc	**PKPbc**	**11 06 47.2**	**+1.2**
	2.1nm,0.6s,baz=265,slow=2.2,SNR=10						
LPAZ	**La Paz**	**148.33 100**		*e*PKPdf	**PKPdf**	**11 06 43.4**	**+1.0**

MEX 10 11:02:31.8±0.3, 15°.06N×93°.24W, h50km±25km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.64**	**2**	*e*P	Pn	11 02 43.2	-1.5
PCIG				*e*S	Sn	11 02 52.3	-1.9
TGIG		**1.71**	**4**	*e*P	Pn	11 02 57.5	-1.7
TGIG				*i* S	Sn	11 03 17.9	-2.1

TRN 10 11:06:52.1, 14°.85N×60°.24W, h30km, MD3.8, 2C-7D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.70**	**245**	⇑*i*P	Pn	11 07 06.7	+0.7
LPMF	**Morne Lapointe**	**0.76**	**249**	*e*P	Pn	11 07 07.2	+0.5
ZAM	**Aeronautique**	**0.81 250**		⇓*e*P	Pb	11 07 07.9	+0.2
TRMF	**Trois Ilets**	**0.85 249**		*e*P	Pb	11 07 08.5	+0.2
BIM	**Bigot**	**0.87 248**		*e*P	Pb	11 07 09.0	+0.3
BIM				*e*S	Sn	11 07 20.6	+0.5
BAMF	**Morne Balai**	**0.88 268**		⇓*i*P	Pb	11 07 09.4	+0.5
FDF	**Fort de France**	**0.89 263**		⇓*i*P	Pb	11 07 09.3	+0.3
FDF				*e*S	Sb	11 07 20.9	+0.3
GBMF	**Grand Be**	**0.90 267**		⇓*e*P	Pb	11 07 09.5	+0.3
SVN	**Savane Anatole**	**0.90 270**		*e*P	Pb	11 07 09.7	+0.5
CXM	**Morne La Croix**	**0.90 268**		⇓*e*P	Pb	11 07 09.8	+0.5
CXM				*e*S	Sb	11 07 21.9	+0.9
PML	**Morne Lenard**	**0.92 266**		⇑*e*P	Pb	11 07 09.9	+0.4
PCM	**Pelee Case Pet**	**0.94 268**		⇓*e*P	Pn	11 07 09.2	-0.1
PCM	**Pelee Case Pet**	**0.94 268**		*e*P	Pb	11 07 10.2	+0.3
SLW	**Petit Monier**	**1.07 220**		*e*P	Pb	11 07 13.1	+1.2
SLW				*e*S	Sb	11 07 26.0	+0.4
DLPL	**La Plaine**	**1.09 296**		*e*P	Pb	11 07 12.8	+0.5
DLPL				*e*S	Sb	11 07 27.0	+0.8
DBCT	**Belle View Cho**	**1.15 292**		*e*P	Pb	11 07 13.4	0.0
DBCT				*e*S	Sb	11 07 28.3	+0.4
DSHT	**Scott's Head**	**1.16 288**		*e*P	Pb	11 07 13.6	+0.1
DSHT				*e*S	Sb	11 07 28.4	+0.3
DPMT	**Pointe Michel**	**1.18 291**		*e*P	Pb	11 07 13.9	+0.1
DPMT				*e*S	Sb	11 07 28.8	+0.2
MDN	**Morne-Daniel**	**1.21 293**		*e*P	Pb	11 07 14.5	+0.1
MDN				*e*S	Sb	11 07 30.3	+0.7
DWS	**Wesley**	**1.26 305**		*e*P	Pb	11 07 15.2	0.0
DWS				*e*S	Sb	11 07 30.9	-0.2
SLB	**Belfond**	**1.28 218**		*e*P	Pb	11 07 16.2	+0.7
SLB				*e*S	Sb	11 07 32.3	+0.6
SLDE	**Delcer**	**1.31 218**		*e*P	Pb	11 07 16.1	0.0
SLDE				*e*S	Sb	11 07 33.3	+0.8
MCLT	**Moule a Chique**	**1.32 211**		*e*P	Pb	11 07 16.7	+0.4
MCLT				*e*S	Sb	11 07 34.4	+1.6
BBL	**Barber's Block**	**1.37 300**		*e*P	Pb	11 07 16.6	-0.4
BBL				*e*S	Sb	11 07 34.4	+0.2
DEG	**La Desirade**	**1.66 332**		*e*P	Pn	11 07 20.6	+1.4
DEG				*e*S	Sb	11 07 42.0	-0.6
TBG	**Guadaloupe-3**	**1.69 307**		*e*P	Pn	11 07 20.6	+1.1
TBG				*e*S	Sn	11 07 41.7	+1.6
PHG	**Guadaloupe-2**	**1.78 311**		⇓*e*P	Pb	11 07 22.6	-1.5
BBGH	**Gun Hill**	**1.82 159**		*e*P	Pn	11 07 22.3	+0.9
BBGH				*e*S	Sn	11 07 45.0	+1.6
SVB	**Belmont**	**1.85 212**		*e*P	Pn	11 07 22.6	+0.8
SVB	**Belmont**	**1.85 212**		*e*P	Pb	11 07 23.8	-1.5
SVB				*e*S	Sn	11 07 45.9	+1.7
MLG	**Mont-d'or**	**1.86 311**		*e*P	Pn	11 07 23.3	+1.3
BBSP	**Saint Philip**	**1.89 156**		*e*P	Pn	11 07 23.2	+0.8
BBSP				*e*S	Sn	11 07 46.0	+0.8
GRSS	**Sisters**	**2.87 208**		*e*P	Pn	11 07 38.3	+2.5
GRW	**Mount Saint Ca**	**3.01 208**		*e*P	Pn	11 07 39.9	+2.0
GRW				*e*S	Sn	11 08 14.4	+1.4
GRGR	**Grenville**	**3.03 207**		*e*P	Pn	11 07 40.4	+2.3

*NNC **10** 11:08:56.7±1.4, 44°.15N×78°.87E, h0km, mb3.0, mpv2.4,*
Error ellipse: s-maj=10.9km s-min=3.1km az=19.0
*KRNET **10** 11:08:56.6±0.1, 42°.44N×79°.04E, h17km, mb2.4*
*SOME **10** 11:08:57.6, 42°.38N×79°.12E, h20km*

ISC 10 11:08:56.8±1.6, 42°.44N±0°.06×79°.00E±0°.04, h14km±10km, n26, σ1°.39/50, 15C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.71**	**1**	*e*P	**Pb**	**11 09 10.8**	**-0.2**
	9.1nm,0.2s						
UZB				*e*S	**Sb**	**11 09 20.6**	**-0.1**
	21nm,0.2s						
SHLS	**Shalkode**	**0.79**	**25**	*e*P	**Pn**	**11 09 15.2**	**+1.6**
	19nm,0.3s						
SHLS				*e*S	**Sn**	**11 09 28.4**	**+3.0**
	40nm,0.2s						
PDGK	**Podgornoye**	**0.96**	**22**	⇑*e*P	**Pg**	**11 09 15.1**	**-0.3**
	baz=20						
PDGK				⇑*i*S	**Sn**	**11 09 28.2**	**-1.3**
	baz=20						
PDGK	**Podgornoye**	**0.96**	**22**	⇑P	**Pb**	**11 09 14.8**	**-0.5**
	1.4nm,0.4s						
PDGK				⇑S	**Sg**	**11 09 28.0**	**0.0**
	17nm,0.5s						
ANVS	**Anan'yevo**	**1.04 290**		⇑*i*P	**Pn**	**11 09 17.2**	**0.0**
	baz=289						
ANVS				⇑*i*S	**Sn**	**11 09 32.5**	**+0.8**
	baz=289						
KPKS	**Kokpek**	**1.05 347**		*e*P	**Pg**	**11 09 17.1**	**0.0**
	29nm,0.2s						
KPKS				*e*S	**Sn**	**11 09 31.6**	**-0.2**
	21nm,0.4s						
KDJ	**Kajisay**	**1.39 258**		⇑*i*P	**Pb**	**11 09 23.3**	**+0.7**
	baz=258						
KDJ				⇑*i*S	**Sg**	**11 09 42.7**	**+1.1**
	baz=258						
MDOK	**Medeo**	**1.61 297**		*e*P	**Pg**	**11 09 27.9**	**+0.1**
	3.7nm,0.3s						
MDOK				*e*S	**Sg**	**11 09 49.8**	**+1.1**
	12nm,0.4s						
TNSS	**Tian-Shan**	**1.63 292**		*e*P	**Pg

IDC 10 11:09:08.7±2.4, 0°11N×16°85W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/33, mbtmp4.1/5, ML4.6/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/41, Error ellipse: s-maj=76.0km s-min=46.6km az=122.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.23**	**163**	T	T	11 20 13.8	
	baz=342,slow=74,SNR=254						
H10N3	**ASCENSION HYDR**	**8.24**	**164**	T	T	11 20 14.3	
	baz=342,slow=74,SNR=272						
H10N1	**ASCENSION HYDR**	**8.25**	**163**	T	T	11 20 15.2	
	baz=342,slow=74,SNR=321						
H10S1	**ASCENSION HYDR**	**9.25**	**166**	T	T	11 21 27.5	
	baz=345,slow=75,SNR=90						
H10S3	**ASCENSION HYDR**	**9.26**	**166**	T	T	11 21 27.5	
	baz=345,slow=75,SNR=105						
H10S2	**ASCENSION HYDR**	**9.27**	**166**	T	T	11 21 28.8	
	baz=345,slow=75,SNR=97						
DBIC	**Dimbokro**	**13.62**	**61**	Pn	Pn	11 12 23.1	-0.3
	3.0nm,0.3s,baz=234,slow=13,SNR=34						
DBIC				Sn	Sn	11 14 44.2	-11
	1.2nm,0.3s,baz=144,slow=18,SNR=4.3						
DBIC				LR	LR	11 17 03.4	
	comp=Z,66nm,19.5s,baz=218,slow=35						
BBTS	**Babate**	**14.46**	**1**	LR	LR	11 17 41.9	
	comp=Z,129nm,18.5s,baz=196,slow=36						
RCBR	**Riachuelo**	**19.92**	**252**	LR	LR	11 19 09.4	
	comp=Z,68nm,18.7s,baz=68,slow=30						
TORD	**Torodi Ar. Bea**	**22.48**	**54**	P	P	11 14 09.8	-0.1
	4.3nm,0.5s,baz=235,slow=10,SNR=33						
TORD				S	S	11 18 13.9	-4.0
	1.1nm,0.7s,baz=241,slow=22,SNR=4.8						
TORD				LR	LR	11 22 10.3	
	comp=Z,80nm,19.8s,baz=245,slow=35						
GERES	**GERESS Array B**	**55.23**	**24**	P	P	11 18 43.6	0.0
	1.0nm,0.6s,baz=218,slow=6.2,SNR=3.8						
VRAC	**Vranov**	**56.80**	**26**	LR	LR	11 44 15.3	
	comp=Z,38nm,18.2s,baz=334,slow=37						
BRTR	**Keskin Array B**	**60.53**	**43**	P	P	11 19 21.9	+0.7
	1.0nm,0.8s,baz=242,slow=8.0,SNR=4.4						
BRTR				LR	LR	11 47 24.3	
	comp=Z,16nm,20.1s,baz=108,slow=38						
PLCA	**Paso Flores**	**63.35**	**223**	LR	LR	11 46 00.5	
	comp=Z,46nm,19.2s,baz=186,slow=35						
AKASG	**Malin Array Be**	**63.73**	**31**	P	P	11 19 41.6	-0.6
	0.6nm,0.5s,baz=236,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**143.20**	**132**	PKhKP	PKPpre	11 28 41.5	
	0.3nm,0.4s,baz=226,slow=2.4,SNR=11						
WRA	**Warramunga Arr**	**145.58**	**127**	PKPbc	PKPdf	11 28 49.3	-0.8
	1.0nm,0.8s,baz=238,slow=2.4,SNR=6.6						

*IDC **10** 11:42:26.8±1.9, 51°70N×171°93W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/41, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=77.7km s-min=33.4km az=148.0*
*ISCJB **10** 11:42:32.1±0.8, 51°8N±0°1×171°78W±0°06, h50km, mb3.2/3, Error ellipse: s-maj=16.6km s-min=3.7km az=167.5*
*NEIC **10** 11:42:33.7±0.0, 52°02N×171°85W, h40km, ML3.2(AEIC), After AEIC.*

ISC 10 11:42:33.8±1.0, 51°8N±0°2×171°82W±0°05, h50km, n23, σ0°71/23, mb3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.47**	**291**	P	**Pn**	**11 42 58.0**	**0.0**
KOFP	**Korovin Flat P**	**1.48**	**289**	P	**Pn**	**11 42 58.2**	**+0.2**
ATKA	**Atka Island**	**1.52**	**285**	P	**Pn**	**11 42 57.9**	**-0.6**
ATKA				S	**Sn**	**11 43 16.4**	**-0.6**
NIKH	**Nikolski High**	**2.15**	**57**	P	**Pn**	**11 43 06.6**	**-0.5**
NIKH				S	**Sn**	**11 43 32.9**	**+0.3**
OKSP	**Okmok Steeple**	**2.58**	**55**	P	**Pn**	**11 43 12.5**	**-0.6**
GSTD	**Great Sitkin T**	**2.69**	**277**	P	**Pn**	**11 43 14.4**	**-0.2**
GSTD				S	**Sn**	**11 43 46.9**	**+1.0**
OKSO	**Okmok South**	**2.71**	**54**	P	**Pn**	**11 43 14.1**	**-0.7**
OKCE	**Okmok Cone E**	**2.74**	**53**	P	**Pn**	**11 43 14.8**	**-0.6**
OKCE				S	**Sn**	**11 43 49.0**	**+1.8**
ADK	**Adak**	**3.02**	**273**	P	**Pn**	**11 43 18.9**	**-0.1**
ADK				S	**Sn**	**11 43 54.4**	**+0.5**
KIKV	**Kanaga Island**	**3.32**	**273**	P	**Pn**	**11 43 22.9**	**-0.3**
MSW	**Makushin Switc**	**3.70**	**54**	P	**Pn**	**11 43 27.9**	**-0.6**
UNV	**Unalaska Valle**	**3.81**	**56**	P	**Pn**	**11 43 29.7**	**-0.2**
UNV				S	**Sn**	**11 44 14.3**	**+1.1**
KDAK	**Kodiak Island**	**12.57**	**54**	Pn	**Pn**	**11 45 28.5**	**-1.2**
	0.1nm,0.3s,baz=211,slow=5.9,SNR=4.1						
ILAR	**Eielson Array**	**18.26**	**35**	P	**P**	**11 46 42.3**	**-0.6**
	0.0nm,0.3s,baz=235,slow=8.2,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**36.11**	**215**	T	T	12 28 04.3	
	baz=20,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**36.12**	**215**	T	T	12 28 10.2	
	baz=20,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**36.13**	**215**	T	T	12 28 06.8	
	baz=20,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**37.31**	**215**	T	T	12 29 37.3	
	baz=22,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**37.32**	**215**	T	T	12 29 34.7	
	baz=22,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**37.32**	**215**	T	T	12 29 37.9	
	baz=22,slow=76,SNR=9.9						
PDAR	**Pinedale Array**	**41.99**	**77**	P	**P**	**11 50 20.5**	**+0.3**
	0.1nm,0.5s,baz=310,slow=4.2,SNR=2.9						
TXAR	**Lajitas Array**	**54.28**	**87**	P	**P**	**11 51 55.1**	**+0.2**
	0.2nm,0.6s,baz=314,slow=5.2,SNR=3.5						
ASAR	**Alice Springs**	**88.90**	**228**	P	**P**	**11 55 22.5**	**0.0**
	0.2nm,0.6s,baz=32,slow=5.5,SNR=4.7						

*ISCJB **10** 11:57:03.3±0.9, 6°84N±0°04×73°15W±0°05, h145km±7km, mb2.8/1, Error ellipse: s-maj=8.0km s-min=5.8km az=10.6*
*RSNC **10** 11:57:04.5±0.9, 6°81N×73°15W, h139km±5km, ML3.2*
*IDC **10** 11:57:04.8±6.4, 6°67N×73°24W, h178km±42km, mb2.6/1, mb1 3.2/2, mb1mx2.9/27, mbtmp3.3/2, Error ellipse: s-maj=105.9km s-min=39.7km az=72.0*

ISC 10 11:57:02.5±1.1, 6°84N±0°04×73°11W±0°06, h150km±7km, n20, σ0°92/34, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**197**	*i* P	**Pn**	**11 57 23.4**	**+0.2**
BARC				*e*S	**Sn**	**11 57 38.0**	**-0.9**
BARC				*i*		11 57 39.8	
	comp=Z,190nm,0.4s						
GIRC	**Giron, Santand**	**0.26**	**341**	*i* P	**Pn**	**11 57 23.2**	**+0.1**
PAMC	**Pamplona, Colo**	**0.65**	**39**	*e*P	**Pn**	**11 57 25.8**	**+0.6**
PAMC				*e*S	**Sn**	**11 57 42.8**	**+0.3**
BRRC	**Barranca, Sant**	**0.66**	**294**	*i*P	**Pn**	**11 57 25.0**	**+0.3**
BRRC				*e*S	**Sn**	**11 57 41.4**	**-0.2**
BRRC				*i*		11 57 46.4	
	comp=Z,177nm,0.2s						
CBRI	**Barrientos, No**	**0.93**	**19**	*e*P	**Pn**	**11 57 27.6**	**+0.7**
CBRI				*e*S	**Sn**	**11 57 45.4**	**-0.1**
RUSC	**La Rusia**	**0.94**	**178**	*i*P	**Pn**	**11 57 27.6**	**+0.3**
RUSC				*e*S	**Sn**	**11 57 45.8**	**-0.4**
OCAC	**Ocana**	**1.41**	**351**	*e*P	**Pn**	**11 57 33.1**	**+1.8**
OCAC				*e*S	**Sn**	**11 57 54.4**	**+1.0**
OCAC				*i*		11 57 59.2	
	comp=Z,157nm,0.5s						
YOPC	**Yopal, Colombi**	**1.62**	**155**	*e*P	**Pn**	**11 57 34.4**	**+0.9**
YOPC				*e*S	**Sn**	**11 57 57.6**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**11 57 35.7**	**-0.3**
ZARC				*e*S	**Sn**	**11 58 01.2**	**-0.4**
ZARC				*i*		11 58 06.6	
	comp=Z,193nm,0.4s						
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**11 57 39.2**	**-0.3**
NORC				*e*S	**Sn**	**11 58 07.0**	**-1.0**
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**11 57 42.0**	**+0.7**
CHIC				*e*S	**Sn**	**11 58 11.7**	**+0.5**
CHIC				*i*		11 58 15.8	
	comp=Z,76nm,0.5s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**11 57 43.2**	**+1.4**
	comp=Z,25nm,0.3s,baz=2.4,slow=9.0,SNR=35						
ROSC				S	**Sn**	**11 58 13.5**	**+1.5**
	comp=Z,30nm,0.3s,baz=66,slow=20,SNR=10						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**11 57 43.2**	**+1.4**
ROSC				*i*		11 57 45.4	
	comp=Z,103nm,0.3s						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**11 57 44.9**	**+1.0**
HELC				*e*S	**Sn**	**11 58 15.7**	**+0.1**
HELC				*i*		11 58 22.1	
	comp=Z,147nm,0.4s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**11 57 47.5**	**+0.4**
GUYC	**Guyana, Colomb**	**2.78**	**235**	*e*P	**Pn**	**11 57 48.7**	**+1.2**
GUYC				*e*S	**Sn**	**11 58 22.7**	**+0.5**
GUYC				*i*		11 58 34.7	
	comp=Z,115nm,0.5s						
DBBC	**Dabeiba**	**3.08**	**274**	*e*P	**Pn**	**11 57 52.6**	**+1.6**
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**11 57 57.3**	**+0.1**
PRAC				*e*S	**Sn**	**11 58 40.4**	**+0.7**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**12 03 53.0**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=121,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**12 16 35.1**	**-2.0**
	comp=Z,0.3nm,1.0s,baz=106,slow=2.8,SNR=4.9						

*ISCJB **10** 12:00:35.9±0.5, 17°67S±0°10×65°7E±0°1, h10km, mb4.2/15, MS3.7/18, Error ellipse: s-maj=15.5km s-min=14.1km az=20.3*
*IDC **10** 12:00:36.1±0.8, 17°69S×65°69E, h0km, mb4.1/12, mb1 4.2/13, mb1mx3.9/53, mbtmp4.0/13, ML4.3/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/42, Error ellipse: s-maj=27.3km s-min=19.6km az=81.0*
*NEIC **10** 12:00:37.8±0.3, 17°68S×65°69E, h10km, mb4.4/2, Error ellipse: s-maj=10.3km s-min=9.4km az=106.0*

ISC 10 12:00:37.7±0.7, 17°7S±0°1×65°6E±0°2, h10km, n36, σ0°44/17, mb4.2/15, MS3.7/18, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**12.01**	**35**	T	T	12 15 43.1	
	baz=213,slow=75,SNR=167						
H08S2	**Diego Garcia H**	**12.02**	**35**	T	T	12 15 50.6	
	baz=213,slow=75,SNR=52						
H08S3	**Diego Garcia H**	**12.03**	**35**	T	T	12 15 52.8	
	baz=213,slow=75,SNR=78						
H08N3	**Diego Garcia H**	**12.43**	**26**	T	T	12 16 48.2	
	baz=204,slow=75,SNR=508						
H08N1	**Diego Garcia H**	**12.44**	**26**	T	T	12 16 41.9	
	baz=204,slow=75,SNR=360						
H08N2	**Diego Garcia H**	**12.45**	**26**	T	T	12 16 49.8	
	baz=204,slow=75,SNR=367						
OPO	**Ambohidratompo**	**17.55**	**264**	P	**P**	**12 04 43.8**	**-0.1**
	1.1nm,0.3s,baz=94,slow=19,SNR=9.1						
OPO				LR	LR	12 09 52.0	
	comp=Z,333nm,21.7s,baz=80,slow=32						
PALK	**Pallekele**	**28.93**	**32**	LR	LR	12 15 13.9	
	comp=Z,58nm,20.9s,baz=296,slow=30						
ATD	**Arta Tunnel**	**36.73**	**321**	LR	LR	12 20 13.1	
	comp=Z,72nm,21.7s,baz=68,slow=32						
BOSA	**Boshof**	**38.52**	**246**	LR	LR	12 22 37.9	
	comp=Z,80nm,18.1s,baz=74,slow=34						
H01W2	**Cape Leeuwin H**	**46.27**	**122**	T	T	12 58 39.7	
	baz=278,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**46.27**	**122**	T	T	12 58 44.1	
	baz=278,slow=75,SNR=63						
H01W1	**Cape Leeuwin H**	**46.29**	**122**	T	T	12 58 41.3	
	baz=278,slow=75,SNR=60						
CMAR	**Chiang Mai Arr**	**48.61**	**44**	P	**P**	**12 09 22.8**	**+0.9**
	0.8nm,0.4s,baz=236,slow=8.4,SNR=8.3						
CMAR				LR	LR	12 26 35.6	
	comp=Z,55nm,20.9s,baz=224,slow=32						
MAW	**Mawson**	**49.92**	**181**	P	**P**	**12 09 32.0**	**+0.8**
	3.1nm,0.9s,baz=25,slow=8.1,SNR=7.5						
MAW				LR	LR	12 25 03.4	
	comp=Z,90nm,20.6s,baz=58,slow=29						
ASAR	**Alice Springs**	**63.63**	**108**	P	**P**	**12 11 08.8**	**-0.6**
	2.7nm,0.9s,baz=270,slow=5.9,SNR=24						
ASAR				LR	LR	12 34 32.2	
	comp=Z,242nm,21.7s,baz=268,slow=32						
BRTR	**Keskin Array B**	**64.45**	**333**	LR	LR	12 37 48.5	
	comp=Z,27nm,19.7s,baz=146,slow=35						
KBZ	**Khabaz**	**64.57**	**342**	LR	LR	12 39 53.0	
	comp=Z,46nm,18.2s,baz=237,slow=36						
WRA	**Warramunga Arr**	**64.66**	**104**	P	**P**	**12 11 15.9**	**-0.3**
	4.5nm,0.9s,baz=265,slow=6.0,SNR=28						
WRAB	**Tennant Creek**	**64.67**	**104**	*e*P	**P**	**12 11 16.1**	**-0.2**
	6.2nm,0.9s						
MKAR	**Makanchi Array**	**65.92**	**12**	P	**P**	**12 11 23.5**	**-0.2**
	0.6nm,0.7s,baz=213,slow=5.0,SNR=2.9						
MKAR				LR	LR	12 36 45.9	
	comp=Z,47nm,20.2s,baz=200,slow=33						
ABKAR	**Akbulak array**	**66.83**	**356**	*e*P	**P**	**12 11 29.3**	**-0.2**
	0.7nm,0.7s						
STKA	**Stephens Creek**	**69.18**	**118**	LR	LR	12 36 58.5	
	comp=Z,88nm,21.2s,baz=207,slow=32						
TORD	**Torodi Ar. Bea**	**70.14**	**292**	LR	LR	12 41 26.2	
	comp=Z,49nm,18.9s,baz=140,slow=35						
BVAR	**Borovoye Array**	**70.54**	**3**	P	**P**	**12 11 52.1**	**-0.4**
	0.8nm,0.7s,baz=161,slow=6.1,SNR=4.1						
QSPA	**South Pole Qui**	**72.41**	**180**	*e*P	**P**	**12 12 04.1**	**+0.1**
	22nm,1.2s						
ZALV	**Zalesovo Beam**	**73.23**	**12**	P	**P**	**12 12 08.4**	**-0.2**
	0.7nm,0.3s,baz=191,slow=6.6,SNR=3.8						
ZALV				LR	LR	12 42 05.7	
	comp=Z,50nm,18.2s,baz=250,slow=34						
VNDA	**Vanda**	**74.20**	**167**	P	**P**	**12 12 13.6**	**-0.6**
	1.1nm,1.1s,baz=273,slow=9.0,SNR=3.9						
SONM	**Songino Array**	**74.73**	**27**	P	**P**	**12 12 17.8**	**0.0**
	0.9nm,0.7s,baz=221,slow=7.0,SNR=5.4						
SONM				LR	LR	12 43 59.0	
	comp=Z,59nm,19.6s,baz=234,slow=35						
KEST	**Kesra**	**75.23**	**316**	LR	LR	12 48 13.9	
	comp=Z,53nm,18.0s,baz=161,slow=38						
AKASG	**Malin Array Be**	**75.24**	**337**	P	**P**	**12 12 20.6**	**+0.2**
	2.1nm,0.7s,baz=139,slow=5.3,SNR=4.6						
AKASG				LR	LR	12 46 09.9	
	comp=Z,21nm,18.6s,baz=320,slow=36						
TLY	**Talaya**	**76.63**	**23**	LR	LR	12 45 07.5	
	comp=Z,76nm,19.1s,baz=187,slow=35						
KSAR	**Wonju Array Be**	**80.19**	**46**	P	**P**	**12 12 48.5**	**+0.1**
KSRS	**Korea Array**	**80.22**	**46**	P	**P**	**12 12 48.5**	**-0.1**
	1.7nm,0.8s,baz=234,slow=5.4,SNR=5.2						
KSRS				LR	LR	12 49 17.8	
	comp=Z,18nm,18.1s,baz=234,slow=36						
MJAR	**Matsushiro Arr**	**87.09**	**50**	P	**P**	**12 13 23.7**	**-0.2**
	3.0nm,0.8s,baz=226,slow=5.2,SNR=6.7						
NRIK	**Noril'sk**	**88.19**	**8**	LR	LR	12 50 44.4	
	comp=Z,56nm,19.4s,baz=286,slow=34						

*ISN **10** 12:08:20.2±0.5, 39°34N×38°77E, h0km±14km, ML3.7*
*DDA **10** 12:08:31.9, 39°62N×38°68E, h5km, Ml3.6*
*ISK **10** 12:08:31.6, 39°64N×38°65E, h7km, ML3.8*
*IDC **10** 12:08:31.6±1.3, 39°07N×38°72E, h0km, mb3.6/3, mb1 3.6/7, mb1mx3.4/39, mbtmp3.5/7, ML3.4/4, MS2.7/4, Ms1 2.7/4, ms1mx2.4/39, Error ellipse: s-maj=25.7km s-min=11.7km az=161.0*
*CSEM **10** 12:08:32.8±0.2, 39°61N×38°68E, h8km, ML3.6, Error ellipse: s-maj=4.2km s-min=3.4km az=35.0*
*ISCJB **10** 12:08:33.9±0.3, 39°60N±0°02×38°70E±0°02, h20km±4km, mb3.4/3, MS3.0/1, Error ellipse: s-maj=3.9km s-min=3.1km az=22.9*

ISC 10 12:08:33.0±0.9, 39°64N±0°02×38°68E±0°02, h12km±7km, n82, σ1°08/100, mb3.3/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¨**	**0.25**	**165**	*i* P	**Pg**	**12 08 38.4**	**0.0**
REFA				*i* S	**Sg**	**12 08 43.2**	**+1.3**
REFA	**Refahiye_ERZ¨**	**0.25**	**165**	P	**Pg**	**12 08 38.3**	**0.0**
KEMA	**Kemaliye**	**0.40**	**202**	*i* P	**Pg**	**12 08 40.4**	**-0.6**
KEMA				*i* S	**Sb**	**12 08 47.0**	**-1.1**
KEMA	**Kemaliye**	**0.40**	**202**	P	**Pg**	**12 08 40.4**	**-0.6**
EZC	**Erzincan**	**0.53**	**77**	*e*Pg	**Pn**	**12 08 47.5**	**+1.0**
KELT	**Kelkit**	**0.67**	**41**	*i* P	**Pg**	**12 08 45.3**	**-0.8**
KELT				*i* S	**Sg**	**12 08 55.5**	**+0.4**
KELT	**Kelkit**	**0.67**	**41**	P	**Pg**	**12 08 45.3**	**-0.8**
KELT				S	**Sg**	**12 08 55.5**	**+0.4**
SUSE	**Susehri**	**0.68**	**327**	*i* P	**Pg**	**12 08 46.0**	**-0.2**
SUSE				*i* S	**Sb**	**12 08 57.0**	**+0.7**
SUSE	**Susehri**	**0.68**	**327**	P	**Pg**	**12 08 46.0**	**-0.2**
SUSE				S	**Sb**	**12 08 57.0**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.75**	**290**	*i* P	**Pg**	**12 08 46.8**	**-0.7**
CUZAR				*i* S	**Sb**	**12 08 58.6**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.75**	**290**	P	**Pg**	**12 08 46.8**	**-0.7**
CUZAR				S	**Sb**	**12 08 58.6**	**+0.4**
EUZM	**Uzumlu**	**0.79**	**85**	*i* P	**Pg**	**12 08 48.2**	**0.0**
EUZM				*i* S	**Sb**	**12 09 00.1**	**+0.8**
EUZM	**Uzumlu**	**0.79**	**85**	P	**Pg**	**12 08 48.2**	**0.0**
EUZM				S	**Sb**	**12 09 00.1**	**+0.8**
ERZN	**Erzincan**	**0.80**	**93**	*e*PG	**Pg**	**12 08 47.5**	**-1.1**
ERZN				*e*SG	**Sb**	**12 09 00.4**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.85**	**128**	*i* P	**Pg**	**12 08 48.4**	**-1.0**
TNCL				*i* S	**Sb**	**12 09 00.6**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.85**	**128**	P	**Pg**	**12 08 48.4**	**-1.0**
TNCL				S	**Sb**	**12 09 00.6**	**-0.5**
PTK	**Pertek**	**0.93**	**143**	*e*PG	**Pg**	**12 08 49.8**	**-1.1**
PTK				*e*SG	**Sb**	**12 09 03.9**	**+0.5**
PTK	**Pertek**	**0.93**	**143**	*e*Pg	**Pg**	**12 08 49.8**	**-1.1**
PTK				*e*Sg	**Sb**	**12 09 03.9**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.99**	**251**	*i* P	**Pg**	**12 08 51.1**	**-1.1**
CUKAN				*i* S	**Sn**	**12 09 06.8**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.99**	**251**	P	**Pg**	**12 08 51.1**	**-1.1**
ELZG	**Elazig**	**1.16**	**168**	*i* P	**Pb**	**12 08 54.0**	**-1.1**
ELZG	**Elazig**	**1.16**	**168**	P	**Pb**	**12 08 54.0**	**-1.1**
SCER	**sogukcermik**	**1.22**	**281**	*i* P	**Pn**	**12 08 55.3**	**-0.7**
SCER				*i* S	**Sn**	**12 09 13.5**	**+1.1**
SCER	**sogukcermik**	**1.22**	**281**	P	**Pn**	**12 08 55.3**	**-0.7**
SCER				S	**Sn**	**12 09 13.5**	**+1.1**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*PN	**Pn**	**12 08 56.4**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*Pn	**Pn**	**12 08 56.4**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.32**	**346**	*i* P	**Pn**	**12 08 57.1**	**-0.2**
GRSN				*i* S	**Sg**	**12 09 17.3**	**+1.7**
GRSN	**GIRESUNGRSN**	**1.32**	**346**	P	**Pn**	**12 08 57.1**	**-0.2**
GRSN				S	**Sg**	**12 09 17.3**	**+1.7**
SVSK	**Karacayir**	**1.33**	**283**	*e*PN	**Pn**	**12 08 56.6**	**-0.7**
SVSK	**Karacayir**	**1.33**	**283**	*e*Pn	**Pn**	**12 08 56.6**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.35**	**159**	*e*PN	**Pn**	**12 08 56.6**	**-1.2**
SVRC	**Sivrice-ELAZID**	**1.35**	**159**	*e*Pn	**Pn**	**12 08 56.6**	**-1.2**
DARE	**Darende-Malaty**	**1.42**	**222**	*e*PN	**Pn**	**12 08 58.0**	**-0.7**
DARE	**Darende-Malaty**	**1.42**	**222**	*e*Pn	**Pn**	**12 08 58.0**	**-0.7**
CUGUR	**Gurin_S¨VAS**	**1.43**	**231**	*i* P	**Pg**	**12 09 00.6**	**+0.2**
CUGUR	**Gurin_S¨VAS**	**1.43**	**231**	P	**Pg**	**12 09 00.6**	**+0.2**
KOPT	**Kop Dagi**	**1.45**	**74**	*i* P	**Pg**	**12 09 01.2**	**+0.4**
KOPT	**Kop Dagi**	**1.45**	**74**	P	**Pg**	**12 09 01.2**	**+0.4**
ORDU	**Ordu-Boztepe**	**1.49**	**335**	*i* P	**Pn**	**12 09 00.1**	**+0.5**
ORDU				*i* S	**Sg**	**12 09 23.1**	**+2.1**
ORDU	**Ordu-Boztepe**	**1.49**	**335**	P	**Pn**	**12 09 00.1**	**+0.5**
CUALT	**Altinyayla-SIV**	**1.53**	**257**	*i* P	**Pb**	**12 09 01.1**	**-0.3**
CUALT	**Altinyayla-SIV**	**1.53**	**257**	P	**Pb**	**12 09 01.1**	**-0.3**
MACK	**Trabzon**	**1.54**	**32**	*i* P	**Pn**	**12 09 00.9**	**+0.6**
MACK	**Trabzon**	**1.54**	**32**	P	**Pn**	**12 09 00.9**	**+0.6**
KTUT	**Trabzon**	**1.58**	**31**	*e*PN	**Pn**	**12 09 01.2**	**+0.4**
KTUT	**Trabzon**	**1.58**	**31**	*e*Pn	**Pn**	**12 09 01.2**	**+0.4**
BINT	**Bingol**	**1.60**	**118**	*e*Pn	**Pb**	**12 09 02.1**	**-0.4**
BNGB	**Bing¨¶l**	**1.68**	**112**	*e*PN	**Pn**	**12 09 02.1**	**-0.1**
TOKA	**Tokat**	**1.83**	**293**	*i* P	**Pb**	**12 09 06.5**	**+0.2**
TOKA	**Tokat**	**1.83**	**293**	P	**Pb**	**12 09 06.5**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.90**	**264**	*i* P	**Pb**	**12 09 07.6**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.90**	**264**	P	**Pb**	**12 09 07.6**	**0.0**
BNGL	**BINGOL**	**2.03**	**109**	*i* P	**Pg**	**12 09 11.9**	**-0.1**
ERZM	**Erzurum**	**2.08**	**82**	*i* P	**Pg**	**12 09 12.2**	**-0.8**
SARI	**SarD1z-Kayseri**	**2.15**	**236**	*e*PN	**Pn**	**12 09 09.1**	**+0.3**
ATAB	**Bozova**	**2.19**	**188**	*i* P	**Pb**	**12 09 12.7**	**+0.2**
URFA	**Urfa**	**2.20**	**177**	*e*PN	**Pn**	**12 09 10.2**	**+0.8**
URFA	**Urfa**	**2.20**	**177**	*e*Pn	**Pn**	**12 09 10.2**	**+0.8**
VRTB	**Varto-Mus**	**2.20**	**102**	*e*PN	**Pn**	**12 09 10.4**	**+0.9**
VRTB	**Varto-Mus**	**2.20**	**102**	*e*Pn	**Pn**	**12 09 10.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.46**	**126**	*e*PN	**Pn**	**12 09 13.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.46**	**126**	*e*Pn	**Pn**	**12 09 13.6**	**+0.7**
HOMI	**Horasan**	**2.51**	**80**	*i* P	**Pb**	**12 09 19.6**	**+1.4**
KMRS	**Kahramanmaras**	**2.55**	**214**	*e*PN	**Pn**	**12 09 14.4**	**+0.3**
KMRS	**Kahramanmaras**	**2.55**	**214**	*e*Pn	**Pn**	**12 09 14.4**	**+0.3**
MAZI	**Mazidag**	**2.58**	**147**	*e*PN	**Pn**	**12 09 15.2**	**+0.6**
MAZI	**Mazidag**	**2.58**	**147**	*e*Pn	**Pn**	**12 09 15.2**	**+0.6**
GAZ	**Gaziantep**	**2.72**	**206**	*e*PN	**Pn**	**12 09 16.8**	**+0.3**
GAZ	**Gaziantep**	**2.72**	**206**	*e*Pn	**Pn**	**12 09 16.8**	**+0.3**
BRTR	**Keskin Array B**	**3.89**	**273**	P	**Pn**	**12 09 34.7**	**+2.0**
	2

JYK			*e*S		**Sn**	**12 48 13.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.96 268**	Pn		**Pb**	**12 47 53.9**	**-1.3**
	2.8nm,0.3s,baz=101,slow=11,SNR=21						
MJAR			Sn		**Sb**	**12 48 30.3**	**-0.7**
	0.4nm,0.3s,baz=199,slow=19,SNR=4.3						
MAT	**Matsushiro**	**2.96 268**	P		**Pb**	**12 47 54.5**	**-0.7**
MAT			*e*S		**Sb**	**12 48 32.1**	**+1.1**
JHJ	**Hachijo jima 2**	**3.95 207**	Pn		**Pn**	**12 48 03.0**	**+0.3**
	9.2nm,0.3s,baz=53,slow=15,SNR=10						
JHJ			Sn		**Sn**	**12 48 48.6**	**+0.3**
	11nm,0.3s,baz=79,slow=22,SNR=8.1						
ZALV	**Zalesovo Beam**	**42.43 313**	P		P	12 55 08.7	+12
	0.8nm,0.5s,baz=104,slow=9.1,SNR=4.4						
KURBB	**Kurchatov Arra**	**46.52 308**	P		P	12 55 39.6	+11
	0.5nm,0.6s,baz=82,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**56.76 188**	P		P	12 56 52.0	+6.2
	0.2nm,0.5s,baz=0.7,slow=7.5,SNR=2.8						

NNC 10 12:57:13.9±1.9, 38°.59N×70°.34E, h4^{km}±7^{km}, mb4.1, mpv3.7, 10C-3D, Error ellipse: s-maj=14.3km s-min=9.4km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**4.23**	**22**	⇓Pn	Pn	12 58 20.6	+1.3
	3.1nm,0.4s						
MNAS				⇓Pg	Pb	12 58 31.4	+2.4
	14nm,0.5s						
MNAS				⇑Lg	Lg	12 59 28.8	
	27nm,0.7s						
KK31	**Karatay Array**	**4.51**	**2**	⇑Pn	Pn	12 58 23.8	+0.7
	4.4nm,0.5s,baz=157,slow=11,SNR=7.5						
KK31				⇑Pg	Pb	12 58 36.3	+2.5
	4.2nm,0.5s						
KK31				⇑Lg	Lg	12 59 37.4	
	15nm,0.6s,baz=178,slow=28,SNR=7.3						
AAK	**Ala-Archa**	**5.13**	**37**	⇑Pn	Pn	12 58 31.8	+0.1
	4.2nm,0.4s						
AAK				⇑Pg	Pb	12 58 46.6	+2.2
	9.0nm,0.5s						
AAK				⇑Lg	Lg	12 59 57.3	
	15nm,0.8s						
TKM2	**Tokmak 2**	**5.89**	**41**	⇑Pn	Pn	12 58 41.2	-1.0
	6.5nm,0.5s						
TKM2				⇓Sn	Sn	12 59 51.2	+1.0
	8.4nm,0.9s						
TKM2				⇑Lg	Lg	13 00 20.4	
	7.4nm,0.8s						
MDOK	**Medeo**	**6.83**	**46**	Pn	Pn	12 58 55.0	-0.1
MDOK				Pg	Pb	12 59 17.9	+4.6
MDOK				Lg	Lg	13 00 52.0	
AB31	**Akbulak array**	**13.02 328**		Pn	Pn	13 00 18.6	-1.0
	0.6nm,0.4s,baz=148,slow=12,SNR=22						
AB31				⇑Sn	Sn	13 02 43.8	-1.0
	1.3nm,0.6s,baz=149,slow=23,SNR=4.5						

*IDC **10** 13:07:13.4±1.6, 15°.44S×177°.70W, h410^{km}±20^{km}, mb3.4/7, mb1 3.6/9, mb1mx3.4/26, mbtmp4.2/9, Error ellipse: s-maj=48.6km s-min=12.4km az=151.0*

ISC 10 13:07:11.4±0.7, 15°.2S±0°.3×177°.9W±0°.1, h386^{km}, n12, σ1^{s}02/15, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.09**	**78**	P	**Pn**	**13 08 45.2**	**+0.5**
	3.8nm,0.3s,baz=274,slow=15,SNR=8.7						
AFI				S	**S**	**13 10 01.4**	**+0.8**
	1.8nm,0.3s,baz=73,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**16.30**	**243**	P	**Pn**	**13 10 42.1**	**-0.2**
	0.1nm,0.3s,baz=90,slow=18,SNR=3.6						
STKA	**Stephens Creek**	**40.38**	**238**	P	**P**	**13 14 14.7**	**+1.0**
	1.6nm,0.4s,baz=88,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**45.63**	**257**	P	**P**	**13 14 56.4**	**+0.9**
	0.8nm,0.4s,baz=95,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**46.02**	**252**	P	**P**	**13 14 59.3**	**+0.8**
	7.8nm,0.4s,baz=86,slow=8.1,SNR=111						
ASAR				PcP	**PcP**	**13 16 27.2**	**-0.5**
	0.2nm,0.4s,baz=98,slow=3.4,SNR=3.1						
ASAR				S	**S**	**13 21 15.2**	**+1.1**
	0.3nm,0.7s,baz=86,slow=15,SNR=5.3						
ILAR	**Eielson Array**	**83.18**	**13**	P	**P**	**13 18 55.4**	**+0.5**
	1.5nm,0.7s,baz=222,slow=5.4,SNR=16						
TXAR	**Lajitas Array**	**84.17**	**58**	P	**P**	**13 19 01.3**	**+0.4**
	1.0nm,0.8s,baz=220,slow=7.8,SNR=9.6						
PDAR	**Pinedale Array**	**85.09**	**43**	P	**P**	**13 19 05.0**	**-0.3**
	0.3nm,0.5s,baz=240,slow=3.8,SNR=4.4						
MAW	**Mawson**	**86.53**	**200**	P	**P**	**13 19 09.9**	**-1.6**
	0.5nm,0.5s,baz=139,slow=9.3,SNR=4.1						
ARCES	**ARCESS Array B**	**123.76**	**350**	PKP	**PKPdf**	**13 25 22.1**	**-1.3**
	5.7nm,1.0s,baz=27,slow=1.4,SNR=6.0						
BRTR	**Keskin Array B**	**143.17**	**318**	PKP	**PKPdf**	**13 25 59.3**	**-1.3**
	3.7nm,0.8s,baz=60,slow=3.3,SNR=13						
GERES	**GERESS Array B**	**145.13**	**347**	PKPbc	**PKPab**	**13 26 03.7**	**-1.0**
	1.4nm,0.6s,baz=29,slow=3.3,SNR=5.8						

IDC 10 13:10:25.0±15.0, 25°.13S×178°.44W, h481^{km}±64^{km}, mb3.2/3, mb1 3.4/5, mb1mx3.0/24, mbtmp4.2/5, Error ellipse: s-maj=246.6km s-min=54.0km az=61.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.62**	**195**	P	P	13 13 20.7	-0.1
	1.1nm,0.3s,baz=4.8,slow=12,SNR=5.6						
DZM	**Mont Dzumac**	**14.19**	**279**	P	P	13 13 27.5	+0.3
	0.4nm,0.3s,baz=118,slow=15,SNR=7.8						
STKA	**Stephens Creek**	**35.61**	**250**	P	P	13 16 40.5	-0.8
	1.4nm,0.8s,baz=105,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**43.25**	**262**	P	P	13 17 43.2	0.0
	1.3nm,0.4s,baz=93,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**43.75**	**267**	P	P	13 17 47.3	+0.1
	1.6nm,0.4s,baz=104,slow=7.8,SNR=16						

MAN 10 13:27:28, 8°.16N×126°.75E, h4^{km}, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.39**	**274**	⇓*i*P	Pb	13 27 38.4	+1.0
BIPH				*i* S	Sb	13 27 45.7	+2.0
MATI	**Mati**	**1.30**	**202**	*e*P	Pg	13 27 51.4	-1.5
MATI				*e*S	Sn	13 28 11.4	+0.7
BUKP	**Musuan**	**1.69**	**261**	*e*P	Pb	13 27 59.9	+0.1
BUKP				*e*S	Sg	13 28 26.4	+3.9

MAN 10 13:29:54, 8°.22N×127°.27E, h92^{km}, mb4.5, ML3.4, MS3.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.90**	**268**	⇓*e*P	Pn	13 30 09.7	-3.0
BIPH				*e*S	Sn	13 30 17.1	-10
MATI	**Mati**	**1.61**	**219**	*e*P	Pn	13 30 23.2	+1.9
MATI				*e*S	Sn	13 30 43.3	+1.3
BUKP	**Musuan**	**2.21**	**261**	*e*P	Pn	13 30 31.1	+2.0
BUKP				*e*S	Sn	13 30 56.9	+1.0
BESP	**Borongan**	**3.82**	**332**	*e*P	Pn	13 30 49.9	-0.7
BESP				*e*S	Sn	13 31 42.0	+7.5

*IDC **10** 13:50:29.8±1.7, 33°.15N×138°.85E, h0^{km}, mb3.5/2, mb1 3.6/3, mb1mx3.3/41, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=86.5km s-min=24.6km az=86.0*

*ISCJB **10** 13:50:30.3±0.8, 33°.67N±0°.04×140°.71E±0°.08, h58^{km}, mb3.6/2, Error ellipse: s-maj=10.3km s-min=5.8km az=16.8*

*JMA **10** 13:50:31.3±0.1, 33°.73N×140°.64E, h51^{km}±4^{km}, M3.0*

ISC 10 13:50:31.7±1.3, 33°.67N±0°.05×140°.68E±0°.08, h58^{km}, n15, σ0^{s}97/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.91**	**232**	P	**Pn**	**13 50 48.3**	**-0.2**
JHJ2				S	**Sn**	**13 50 59.6**	**-1.3**
JHCJ	**Hachijojimakas**	**0.95**	**231**	P	**Pn**	**13 50 48.6**	**-0.4**
BSO1	**Boso 1**	**1.01**	**14**	P	**Pn**	**13 50 48.7**	**-0.5**
BSO1				S	**Sn**	**13 51 01.5**	**-0.8**
BSO3	**Boso 3**	**1.14**	**353**	P	**Pn**	**13 50 50.8**	**-0.4**
BSO3				*e*S	**Sn**	**13 51 04.5**	**-1.2**
BSO4	**Boso 4**	**1.34**	**348**	P	**Pn**	**13 50 53.5**	**-0.6**
JKO	**Kozu shima**	**1.38**	**292**	P	**Pn**	**13 50 54.3**	**-0.4**
JKO				*e*S	**Sn**	**13 51 10.9**	**-1.1**
JIM2	**Oshima 3**	**1.47**	**316**	P	**Pn**	**13 50 55.0**	**-0.9**
JIZS	**Izushimoda**	**1.82**	**305**	P	**Pn**	**13 51 00.3**	**-0.3**
JOD2	**Odawara 2**	**2.06**	**321**	P	**Pn**	**13 51 03.3**	**-0.6**
MJAR	**Matsushiro Arr**	**3.51**	**325**	Pn	**Pn**	**13 51 24.5**	**+0.8**
	1.4nm,0.3s,baz=174,slow=14,SNR=15						
MJAR				Sn	**Sn**	**13 52 05.9**	**+2.0**
	0.9nm,0.3s,baz=171,slow=26,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**27.13**	**114**	T	T	14 24 57.8	
	baz=306,slow=75,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**27.14**	**114**	T	T	14 24 59.1	
	baz=306,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**27.15**	**114**	T	T	14 25 02.7	
	baz=306,slow=75,SNR=5.8						
WRA	**Warramunga Arr**	**53.66**	**187**	P	**P**	**13 59 48.0**	**+0.6**
	0.6nm,0.5s,baz=4.5,slow=7.6,SNR=9.0						
ASAR	**Alice Springs**	**57.38**	**187**	P	**P**	**14 00 15.1**	**+1.0**
	0.3nm,0.8s,baz=0.2,slow=6.7,SNR=5.7						

WEL 10 13:52:17.6±0.2, 37°.39S×177°.67E, h74^{km}±2^{km}, ML3.8/26, 4C-12D, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.38**	**166**	P*	Pn	13 52 29.5	-0.3
HAZ				S*	Sn	13 52 38.9	+0.2
HAZ				AML	AML	13 52 39.1	
HAZ				AML	AML	13 52 39.1	
HAZ				AML	AML	13 52 39.6	
WIZ	**White Island**	**0.40**	**250**	P*	Pn	13 52 29.4	-0.6
MXZ	**Matakaoa Point**	**0.54**	**109**	⇑P*	Pn	13 52 31.0	-0.1
MXZ				AML	AML	13 52 43.8	
MXZ				AML	AML	13 52 44.6	
RUGZ	**Raukumara Rang**	**0.57**	**179**	⇑P*	Pn	13 52 31.0	-0.6
RUGZ				S*	Sn	13 52 41.6	-0.4
WHRZ	**Whale Island**	**0.72**	**230**	P*	Pn	13 52 33.5	+0.4
TWGZ	**Tauwhareparae**	**0.82**	**162**	PN	Pn	13 52 35.0	+0.7
TWGZ				AML	AML	13 52 54.4	
TWGZ				AML	AML	13 52 54.5	
PUZ	**Puketiti**	**0.82**	**145**	PN	Pn	13 52 34.2	-0.1
PUZ				AML	AML	13 52 52.3	
PUZ				AML	AML	13 52 59.1	
MWZ	**Matawai**	**0.95**	**187**	⇓P*	Pn	13 52 35.6	-0.1
MWZ				AML	AML	13 52 50.1	
MWZ				AML	AML	13 52 50.2	
URZ	**Urewera**	**0.97**	**207**	P*	Pn	13 52 35.8	-0.2
URZ				AML	AML	13 52 50.7	
URZ				AML	AML	13 52 50.9	
MARZ	**Manawahe**	**0.98**	**233**	⇓P*	Pn	13 52 36.1	-0.1
OPRZ	**Ohinepanea**	**0.99**	**243**	⇓P*	Pn	13 52 36.0	-0.2
TKGZ	**Te Karaka**	**1.05**	**172**	PN	Pn	13 52 37.0	0.0
TKGZ				AML	AML	13 52 57.4	
TKGZ				AML	AML	13 52 58.6	
RAGZ	**Rawiri**	**1.12**	**190**	P*	Pn	13 52 38.2	+0.3
RAGZ				AML	AML	13 52 59.9	
RAGZ				AML	AML	13 53 01.9	
CNGZ	**Carnagh Statio**	**1.17**	**159**	PN	Pn	13 52 38.6	+0.2
CNGZ				AML	AML	13 53 07.8	
CNGZ				AML	AML	13 53 21.7	
MUGZ	**Murupara**	**1.29**	**213**	P*	Pn	13 52 39.9	-0.2
RRRZ	**Republican Roa**	**1.31**	**224**	⇓P*	Pn	13 52 40.4	+0.1
RIGZ	**Rimuhau**	**1.31**	**177**	PN	Pn	13 52 39.8	-0.5
RIGZ				AML	AML	13 53 04.4	
RIGZ				AML	AML	13 53 07.6	
RTZ	**Ruatahuna**	**1.33**	**204**	P*	Pn	13 52 40.3	-0.3
SNGZ	**Shannon Statio**	**1.41**	**190**	⇑PN	Pn	13 52 41.6	0.0
SNGZ				AML	AML	13 53 06.7	
SNGZ				AML	AML	13 53 12.3	
PRRZ	**Plateau Road**	**1.49**	**222**	⇓P*	Pn	13 52 42.7	+0.1
ALRZ	**Allen Road**	**1.57**	**221**	⇓P*	Pn	13 52 43.8	+0.2
KNZ	**Kokohu**	**1.63**	**180**	PN	Pn	13 52 43.3	-1.1
WPRZ	**Whakapapatarin**	**1.64**	**226**	⇑P*	Pn	13 52 45.0	+0.4
KUZ	**Kuaotunu**	**1.68**	**292**	⇓PN	Pn	13 52 44.8	-0.3
WHHZ	**Waihua**	**1.71**	**191**	PN	Pn	13 52 45.3	-0.2
WHHZ				AML	AML	13 53 17.9	
WHHZ				AML	AML	13 53 19.0	
TOZ	**Tahuroa Road**	**1.75**	**258**	⇓P*	Pn	13 52 46.0	0.0
NMHZ	**Naumai**	**1.83**	**201**	PN	Pn	13 52 47.4	+0.2
NMHZ				AML	AML	13 53 17.6	
NMHZ				AML	AML	13 53 17.8	
TLZ	**Tolley Road**	**1.93**	**240**	PN	Pn	13 52 48.5	+0.1
ARHZ	**Aropaoanui**	**1.94**	**196**	PN	Pn	13 52 48.0	-0.6
ARHZ				AML	AML	13 53 22.7	
ARHZ				AML	AML	13 53 23.5	
BKZ	**Black Stump Fm**	**2.00**	**207**	⇓PN	Pn	13 52 48.9	-0.5
BKZ				AML	AML	13 53 20.0	
BKZ				AML	AML	13 53 28.2	
MKAZ	**Moumakai**	**2.02**	**277**	⇓PN	Pn	13 52 49.7	+0.1
GRZ	**Great Barrier**	**2.11**	**302**	⇓PN	Pn	13 52 50.7	0.0
MCHZ	**McNeill Hill**	**2.19**	**200**	PN	Pn	13 52 51.2	-0.6
MCHZ				AML	AML	13 53 29.3	
MCHZ				AML	AML	13 53 31.9	
ETAZ	**East Tamaki Re**	**2.23**	**281**	⇓PN	Pn	13 52 52.8	+0.4
KWHZ	**Kaweka Forest**	**2.25**	**205**	PN	Pn	13 52 52.3	-0.5
KWHZ				AML	AML	13 53 30.6	
KWHZ				AML	AML	13 53 30.7	
AWAZ	**Awhitu Peninsu**	**2.43**	**277**	PN	Pn	13 52 55.9	+0.7
BHHZ	**Black Hill Sta**	**2.44**	**211**	PN	Pn	13 52 54.7	-0.7
BHHZ				AML	AML	13 53 34.3	
KRHZ	**Kereru**	**2.47**	**204**	PN	Pn	13 52 54.1	-1.5
KRHZ				AML	AML	13 53 24.7	
KRHZ				AML	AML	13 53 34.5	
KAHZ	**Kahuranaki**	**2.48**	**194**	PN	Pn	13 52 54.4	-1.4
KAHZ				AML	AML	13 53 52.3	
FWVZ	**Far West T-bar**	**2.49**	**221**	PN	Pn	13 52 56.4	+0.2
WHVZ	**Whangaehu Hut**	**2.50**	**220**	PN	Pn	13 52 56.1	-0.2
WNVZ	**Wahianoa**	**2.52**	**219**	PN	Pn	13 52 56.3	-0.3
PNHZ	**Pukenui**	**2.77**	**204**	PN	Pn	13 52 57.7	-2.1
PNHZ				AML	AML	13 53 43.9	
PNHZ				AML	AML	13 53 49.8	
WPHZ	**Waipukurau**	**2.83**	**199**	PN	Pn	13 52 58.3	-2.3
TSZ	**Takapari Road**	**2.98**	**206**	PN	Pn	13 53 01.2	-1.4
PRHZ	**Porangahau**	**2.98**	**195**	PN	Pn	13 52 59.8	-2.8
PRHZ				AML	AML	13 53 35.4	
PRHZ				AML	AML	13 53 40.1	
OHWZ	**Ohakea**	**3.35**	**212**	PN	Pn	13 53 06.4	-1.3
BFZ	**Birch Farm**	**3.46**	**198**	PN	Pn	13 53 06.2	-3.0
MRZ	**Mangatainoka R**	**3.65**	**206**	PN	Pn	13 53 08.3	-3.3
MRZ				AML	AML	13 53 50.7	
MRZ				AML	AML	13 53 56.6	
TIWZ	**Tintock**	**3.65**	**202**	PN	Pn	13 53 10.4	-1.3
TIWZ				AML	AML	13 53 54.1	
TIWZ				AML	AML	13 53 54.3	
HOWZ	**Holdsworth Sta**	**3.88**	**205**	PN	Pn	13 53 11.3	-3.6
OGWZ	**Otaki Gorge**	**3.93**	**209**	PN	Pn	13 53 12.4	-3.1
OGWZ				AML	AML	13 53 58.1	
OGWZ				AML	AML	13 53 58.2	
KIW	**Kapiti Island**	**4.07**	**211**	PN	Pn	13 53 14.5	-3.0
CAW	**Cannon Point**	**4.22**	**208**	PN	Pn	13 53 16.0	-3.5
CAW				AML	AML	13 54 04.8	
TRWZ	**Traveller**	**4.28**	**200**	PN	Pn	13 53 18.3	-2.1
BHWZ	**Baring Head**	**4.56**	**207**	PN	Pn	13 53 18.6	-4.4
TCW	**Tory Channel**	**4.63**	**214**	PN	Pn	13 53 21.4	-3.6
TUWZ	**Tuamarina**	**4.96**	**214**	PN	Pn	13 53 25.4	-4.0
BSWZ	**Blackbirch Sta**	**5.22**	**213**	PN	Pn	13 53 30.4	-2.6
THZ	**Tophouse**	**5.71**	**219**	PN	Pn	13 53 35.5	-4.3

*IDC **10** 14:12:39.8±1.4, 17°.76S×178°.71W, h549^{km}±16^{km}, mb3.6/11, mb1 3.9/12, mb1mx3.7/22, mbtmp4.5/12, Error ellipse: s-maj=21.6km s-min=11.2km az=144.0*

*ISCJB **10** 14:12:40.4±0.6, 17°.8S±0°.2×178°.6W±0°.1, h579^{km}, mb3.9/12, Error ellipse: s-maj=22.7km s-min=9.8km az=153.0*

ISC 10 14:12:41.6±0.7, 17°.8S±0°.2×178°.5W±0°.1, h579^{km}, n36, σ1^{s}44/41, mb4.0/12, 2C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**60**	P	**P**	**14 14 33.7**	**-2.3**
	4.0nm,0.3s,baz=172,slow=7.1,SNR=6.7						
AFI				S	**S**	**14 16 07.2**	**-2.4**
	2.4nm,0.3s,baz=165,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**14 19 15.8**	**-0.4**
	4.1nm,0.4s,baz=86,slow=6.8,SNR=21						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**14 20 01.5**	**-1.8**
	2.2nm,0.4s,baz=92,slow=6.9,SNR=66						
WRA				PcP	**PcP**	**14 21 33.6**	**0.0**
	0.5nm,0.8s,baz=94,slow=3.2,SNR=5.3						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**14 20 03.6**	**-1.0**
	23nm,0.4s,baz=89,slow=8.1,SNR=780						
ASAR				PcP	**PcP**	**14 21 34.2**	**0.0**
	1.1nm,0.4s,baz=102,slow=3.8,SNR=6.0						
ASAR				ScP	**ScP**	**14 24 36.3**	**+4.4**
	0.3nm,0.8s,baz=93,slow=5.6,SNR=2.6						
ASAR				S	**S**	**14 25 56.6**	**-3.5**
	0.6nm,0.9s,baz=86,slow=16,SNR=5.6						
VNDA	**Vanda**	**60.55**	**185**	P	**P**	**14 21 57.1**	**+0.8**
	0.3nm,0.7s,baz=344,slow=6.2,SNR=4.9						
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**14 22 42.1**	**-0.3**
	4.4nm,0.7s,baz=157,slow=6.2,SNR=9.2						
PETK	**Petropavlovsk-**	**73.54**	**345**	P	**P**	**14 23 16.4**	**+0.4**
	9.2nm,0.8s,baz=125,slow=8.9,SNR=8.7						
KSRS	**Korea Array**	**74.55**	**318**	P	**P**	**14 23 22.9**	**+0.8**
	0.7nm,0.5s,baz=132,slow=5.7,SNR=5.6						
USRK	**Ussuriysk Ar.**	**76.46**	**326**	P	**P**	**14 23 34.3**	**+1.7**
	1.8nm,0.6s,baz=134,slow=4.2,SNR=4.1						
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**14 24 19.4**	**-0.5**
	1.5nm,0.4s,baz=221,slow=5.1,SNR=18						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**14 24 24.2**	**+2.3**
	2.6nm,0.8s,baz=218,slow=6.2,SNR=25						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**14 24 29.2**	**+1.2**
	1.4nm,0.5s,baz=218,slow=3.7,SNR=16						
CMAR	**Chiang Mai Arr**	**88.75**	**290**	P	**P**	**14 24 35.7**	**+0.8**
	0.7nm,0.6s,baz=111,slow=3.3,SNR=7.9						
MKAR	**Makanchi Array**	**108.98**	**314**	PKiKP	**PKiKP**	**14 30 05.2**	**-0.8**
	0.5nm,0.4s,baz=174,slow=0.6,SNR=6.5						
ARCES	**ARCESS Array B**	**126.18**	**350**	PKP	**PKPdf**	**14 30 38.2**	**-0.1**
	2.4nm,0.8s,baz=33,slow=2.2,SNR=7.5						
FINES	**FINESS Array B**	**133.05**	**344**	PKP	**PKPdf**	**14 30 50.8**	**-0.6**
	2.2nm,0.8s,baz=42,slow=3.1,SNR=4.0						
SORM	**Soroca**	**142.64**	**330**	⇓*i*P	**PKPdf**	**14 31 06.5**	**-2.9**
BURAR	**Bucovina Array**	**144.46**	**332**	⇓*i*P	**PKPab**	**14 31 14.4**	**+0.9**
TESR	**Tescani**	**144.61**	**330**	⇓*i*P	**PKPab**	**14 31 14.0**	**+0.1**
BRTR	**Keskin Array B**	**144.63**	**315**	PKP	**PKPdf**	**14 31 13.8**	**+0.5**
	2.5nm,0.5s,baz=113,slow=1.5,SNR=14						
VRI	**Vrincioaia**	**145.03**	**329**	⇓*i*P	**PKPab**	**14 31 15.4**	**-0.2**
PLOR	**Plostina**	**145.08**	**329**	⇑*i*P	**PKPbc**	**14 31 15.5**	**+0.8**
CLL	**Collm**	**145.33**	**347**	⇑*i*PKP	**PKPbc**	**14 31 15.7**	**+0.5**
	comp=Z,15nm,1.0s						
UPC	**Upice**	**145.35**	**344**	*e*PKP	**PKPab**	**14 31 16.4**	**-0.2**
DPC	**Dobruska-Polom**	**145.41**	**343**	*e*PKP	**PKPab**	**14 31 16.6**	**-0.3**
BRG	**Berggiesshubel**	**145.53**	**346**	*e*P	**PKPbc**	**14 31 16.4**	**+0.6**
	comp=Z,7.2nm,0.9s						
MORC	**Moravsky Berou**	**145.57**	**342**	⇓*i*P	**PKPbc**	**14 31 17.0**	**+1.0**
MLR	**Muntele Rosu**	**145.68**	**329**	⇓*i*P	**PKPab**	**14 31 18.1**	**-0.2**
PVCC	**Panska Ves**	**145.70**	**345**	*e*PKP	**PKPbc**	**14 31 17.2**	**+0.9**
VOIR		**146.16**	**330**	⇓*i*P	**PKPbc**	**14 31 19.0**	**+1.1**
DRGR		**146.19**	**333**	⇓*i*P	**PKPbc**	**14 31 18.7**	**+0.8**
PRU	**Pruhonice**	**146.21**	**345**	*e*PKP	**PKPbc**	**14 31 18.4**	**+0.7**
PRU				*ex*	x	14 31 21.1	
ARR	**Arges**	**146.41**	**330**	⇓*i*P	**PKPbc**	**14 31 20.0**	**+1.5**
KHC	**Kasperske Hory**	**147.24**	**345**	*e*PKP	**PKPbc**	**14 31 21.3**	**+0.7**
KHC				*ex*	x	14 31 25.6	
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	**PKPbc**	**14 31 21.8**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=29,slow=3.0,SNR=23						
VTS	**Vitosha**	**149.14**	**328**	⇓*i*P	**PKPbc**	**14 31 26.4**	**+0.7**

MEX 10 14:26:45.6±0.3, 15°.61N×96°.47W, h20^{km}±20^{km}, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**65**	*e*P	Pb	14 26 52.3	-1.4
HUIG				*e*S	Sb	14 26 57.8	-1.4
PNIG	**Pinotepa**	**1.77**	**296**	*i* P	Pn	14 27 12.5	-2.7
PNIG				*i* S	Sn	14 27 33.0	-4.2

IDC 10 14:31:08.5±2.0, 7°.01S×128°.54E, h0^{km}, mb3.5/1, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=121.3km s-min=31.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.03**	**157**	Pn	Pn	14 34 28.0	-0.7
	0.2nm,0.3s,baz=335,slow=13,SNR=7.2						
WRA				Sn	Sn	14 36 51.2	-14
	0.3nm,0.3s,baz=333,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**17.34**	**163**	P	Pn	14 35 12.8	+0.6
	0.2nm,0.3s,baz=342,slow=9.9,SNR=44						
ASAR				S	Sn	14 38 14.5	-11
	0.1n

comp=Z,14nm,0.4s
VRAC Vranov 2.24 172 Pn **Pn 14 58 49.5 +0.5**
comp=Z,1.4nm,0.3s,baz=351,slow=15,SNR=7.8
VRAC Pg **Pg 14 58 53.7 +0.2**
comp=Z,1.5nm,0.3s,baz=334,slow=18,SNR=5.9
VRAC Lg Lg 14 59 20.3
comp=Z,2.0nm,0.3s,baz=80,slow=17,SNR=3.5
VRAC Vranov 2.24 172 *e*Pn **Pn 14 58 49.7 +0.8**
VRAC *e*Sg **Sg 14 59 21.9 -0.7**
TREC Trest 2.27 190⇓*e*PN **Pn 14 58 50.8 +1.5**
TREC *e*PG **Pg 14 58 53.3 -0.7**
TREC *e*SG **Sb 14 59 21.8 +0.9**
comp=Z,16nm,0.4s
TREC Trest 2.27 190 Pn **Pn 14 58 50.8 +1.5**
NKC Novy Kostel 2.65 242⇓*e*PN **Pn 14 58 55.8 +1.3**
NKC *e*PG **Pg 14 59 01.4 +0.1**
NKC *e*SG **Sg 14 59 36.3 +0.7**
comp=Z,24nm,0.4s
NKC Novy Kostel 2.65 242 Pn **Pn 14 58 55.8 +1.3**
OJC Ojcow 2.69 118 *e*Pg **Pg 14 59 02.3 +0.3**
OJC *e*Sg **Sg 14 59 37.8 +1.0**
OJC Ojcow 2.69 118 *e*Pg **Pg 14 59 02.3 +0.3**
OJC *e*Sg **Sg 14 59 37.8 +1.0**
OJC Ojcow 2.69 118 *e*Pg **Pg 14 59 02.3 +0.3**
OJC *e*Sg **Sg 14 59 37.8 +1.0**
KHC Kasperske Hory 2.89 215⇓*e*PN **Pn 14 58 58.4 +0.6**
KHC *e*PG **Pb 14 59 04.4 +1.4**
KHC *e*SN **Sn 14 59 32.7 -0.6**
KHC *e*SG **Sg 14 59 42.5 -0.8**
comp=Z,5.3nm,0.3s
KHC Kasperske Hory 2.89 215 Pn **Pn 14 58 58.4 +0.6**
GERES GERESS Array B 3.09 211 Pn **Pn 14 59 01.3 +0.6**
comp=Z,0.8nm,0.3s,baz=29,slow=12,SNR=12
GERES Pg **Pb 14 59 07.1 +0.7**
comp=Z,2.1nm,0.3s,baz=27,slow=16,SNR=17
GERES Sn **Sn 14 59 39.7 +1.3**
comp=Z,1.1nm,0.3s,baz=26,slow=25,SNR=3.7
GERES Lg Lg 14 59 47.4
comp=Z,2.2nm,0.3s,baz=31,slow=29,SNR=7.1
LANS Liptovska Anna 3.21 136 *e*Sg **Sg 14 59 53.2 -0.5**
LANS Liptovska Anna 3.21 136 *e*SG **Sg 14 59 53.2 -0.5**
CONA Conrad Observa 3.60 182 Pn **Pn 14 59 09.0 +1.3**
comp=Z,0.7nm,0.2s
CONA Sg **Sg 15 00 03.9 -2.4**
comp=Z,4.8nm,0.3s
STHS Stebnicka Huta 3.91 121 *e*SG **Sg 15 00 20.7 +4.7**
STHS *e*LG Lg 15 00 22.5
ARSA Arzberg 4.30 185 Sg **Sg 15 00 25.6 -2.9**
comp=Z,1.7nm,0.3s
FINES FINESS Array B 11.35 25 Pn **Pn 15 00 52.2 -1.6**
comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=3.0
ARCES ARCESS Array B 18.61 10 Pn **P 15 02 25.9 -3.2**
comp=Z,0.0nm,0.3s,baz=193,slow=16,SNR=1.7

*IDC **10** 15:08:12.4±2.7, 36°.32N×70°.46E, h174km±24km, mb3.2/9, mb1 3.3/15, mb1mx3.2/56, mbtmp3.7/15, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=21.1km s-min=15.4km az=3.0*
*ISCJB **10** 15:08:14.5±0.3, 36°.52N±0°.03×70°.46E±0°.05, h204km, mb3.3/8, Error ellipse: s-maj=6.0km s-min=3.6km az=155.1*
*NNC **10** 15:08:21.0±1.1, 36°.98N×70°.45E, h218km±14km, mb3.1, mpv4.4, Error ellipse: s-maj=10.9km s-min=7.4km az=28.0*
ISC 10 15:08:14.7±0.6, 36°.50N±0°.05×70°.48E±0°.06, h204km, n41, σ2§13/52, **mb3.4/8, 7C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**		**2.91 156**	⇓P	**Pn**	**15 09 05.3**	**+1.6**
CEP				S	**S**	**15 09 42.0**	**+0.6**
CHCP	**Chirah Chowk**		**3.63 140**	⇓P	**Pn**	**15 09 14.4**	**+2.2**
THW	**Thamme Wali**		**3.84 164**	P	**Pn**	**15 09 15.7**	**+1.0**
SARP	**Sargodha**		**4.91 158**	P	**Pn**	**15 09 28.6**	**+0.5**
THN	**Thein Dam**		**5.92 132**	*e*P	**Pn**	**15 09 37.0**	**-4.1**
THN				*e*S	**S**	**15 10 44.0**	**-5.1**
MNAS	**Manas**		**6.18 14**	⇓P	**Pn**	**15 09 45.3**	**+0.8**
	34nm,0.8s						
MNAS				⇑S	**S**	**15 10 53.0**	**-2.3**
	34nm,0.9s						
DHRM	**DHARAMSHALA**		**6.41 130**	*e*P	**Pn**	**15 09 48.5**	**+0.9**
DHRM				*e*S	**S**	**15 10 59.7**	**-1.2**
DHRM				IAML		15 11 00.3	
	comp=E,407nm,0.4s						
DHRM				IAML		15 11 00.5	
	comp=N,140nm,0.3s						
KK31	**Karatay Array**		**6.60 0**	P	**Pn**	**15 09 49.8**	**+0.1**
	comp=N,5.7nm,0.3s,baz=196,slow=19,SNR=128						
KK31				⇑S	**S**	**15 11 00.9**	**-4.0**
	comp=N,16nm,0.6s						
AAK	**Ala-Archa**		**6.87 26**	P	**Pn**	**15 09 54.5**	**+1.1**
	comp=N,8.3nm,0.3s,baz=197,slow=9.4,SNR=58						
AAK				S	**S**	**15 11 10.3**	**-1.2**
	comp=N,2.7nm,0.3s,baz=337,slow=22,SNR=13						
AAK	**Ala-Archa**		**6.87 26**	⇓P	**Pn**	**15 09 54.4**	**+1.1**
	comp=N,8.0nm,0.3s						
AAK				⇑S	**S**	**15 11 08.9**	**-2.6**
	comp=N,23nm,0.6s						
SDNR	**Sundarnagar**		**7.34 131**	*e*S	**S**	**15 11 18.6**	**-3.9**
TKM2	**Tokmak 2**		**7.53 30**	⇓P	**Pn**	**15 10 02.9**	**+1.0**
	comp=N,26nm,0.5s						
TKM2				⇓S	**S**	**15 11 24.4**	**-2.8**
	comp=N,8.6nm,0.8s						
SMLA	**Simla**		**7.72 132**	*e*P	**Pn**	**15 10 04.6**	**+0.3**
SMLA				*e*S	**S**	**15 11 28.6**	**-2.9**
SMLA				IAML		15 11 31.8	
	comp=N,59nm,0.1s						
SMLA				IAML		15 11 32.0	
	comp=E,63nm,0.7s						
MDOK	**Medeo**		**8.35 35**	P	**Pn**	**15 10 13.6**	**+1.0**
GEYT	**Alibeck**		**9.97 282**	P	**Pn**	**15 10 33.3**	**-0.2**
	comp=E,0.1nm,0.3s,baz=104,slow=18,SNR=1.6						
GEYT				S	**S**	**15 12 21.0**	**-4.1**
	comp=E,0.5nm,0.3s,baz=90,slow=20,SNR=3.1						
MK31	**Makanchi Array**		**13.54 37**	⇑P	**P**	**15 11 20.9**	**-0.2**
	comp=E,0.8nm,0.4s,baz=0.0,slow=0.1,SNR=7.3						
MKAR	**Makanchi Array**		**13.54 37**	P	**Pn**	**15 11 19.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=222,slow=15,SNR=5.3						
KOLN	**Koldanda**		**14.10 124**	*e*P	**Pn**	**15 11 26.3**	**+0.3**
	comp=E,2.3nm,0.3s						
GKN	**Gorkha**		**14.65 121**	*e*P	**P**	**15 11 33.9**	**+0.2**
	comp=E,8.7nm,0.3s						
AB31	**Akbulak array**		**14.89 332**	⇑P	**Pn**	**15 11 34.8**	**-0.4**
	comp=E,2.0nm,0.5s,baz=146,slow=11,SNR=61						
AB31				⇑S	**S**	**15 14 16.4**	**-3.8**
	comp=E,4.3nm,1.2s,baz=146,slow=12,SNR=3.7						
KURBB	**Kurchatov Arra**		**15.26 20**	P	**P**	**15 11 40.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=4.7						
PKIN	**Phulchoki**		**15.45 121**	*e*P	**P**	**15 11 43.8**	**+1.2**
	comp=E,8.7nm,0.7s						
JIRN	**Jiri**		**15.95 119**	*e*P	**Pn**	**15 11 50.3**	**+1.7**
	comp=E,101nm,0.4s						
BVA0	**Borovoye Array**		**16.53 360**	⇓P	**P**	**15 11 53.7**	**-0.3**
	comp=E,0.8nm,0.5s,baz=183,slow=11,SNR=8.2						
BVAR	**Borovoye Array**		**16.53 360**	P	**Pn**	**15 11 57.3**	**+2.4**
	comp=E,0.4nm,0.3s,baz=174,slow=11,SNR=9.0						
AKTO	**Aktyubinsk**		**16.58 331**	P	**Pn**	**15 11 56.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=143,slow=10,SNR=9.1						
AKTO				S	**S**	**15 14 59.2**	**+1.8**
	comp=E,0.1nm,0.3s,baz=60,slow=20,SNR=1.8						
AKTO	**Aktyubinsk**		**16.58 331**	⇑P	**Pn**	**15 11 55.9**	**+0.3**
	comp=E,4.2nm,0.9s						
RAMN	**Ramite**		**16.67 120**	*e*P	**Pn**	**15 11 58.6**	**+1.4**
	comp=E,9.2nm,0.6s						
WSAR	**Wadi Sarin**		**16.72 221**	LR	LR	15 18 53.7	
	comp=E,54nm,18.9s,baz=243,slow=39						
TAPN	**Taplejung**		**17.21 117**	*e*P	**Pn**	**15 12 05.7**	**+2.1**
	comp=E,3.9nm,0.3s						
ODAN	**Odare**		**17.28 119**	*e*P	**Pn**	**15 12 05.4**	**+1.0**
BOK	**Bokaro**		**18.34 129**	*e*P	**P**	**15 12 08.5**	**-5.6**
ZALV	**Zalesovo Beam**		**20.09 25**	P	**P**	**15 12 34.1**	**+1.6**
	comp=E,1.6nm,0.4s,baz=220,slow=11,SNR=5.8						
AKASG	**Malin Array Be**		**32.62 309**	P	**P**	**15 14 27.8**	**+0.7**
	comp=E,0.2nm,0.3s,baz=107,slow=8.9,SNR=2.6						
FINES	**FINESS Array B**		**37.26 326**	P	**P**	**15 15 08.5**	**+2.0**
	comp=E,2.7nm,0.8s,baz=126,slow=9.7,SNR=6.2						
ARCES	**ARCESS Array B**		**40.99 338**	P	**P**	**15 15 39.7**	**+2.4**
	comp=E,1.9nm,0.9s,baz=108,slow=8.6,SNR=7.6						
NOA	**NORSAR Array B**		**44.13 323**	P	**P**	**15 16 04.1**	**+1.4**
	comp=E,1.4nm,0.9s,baz=100,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**		**65.30 268**	P	**P**	**15 18 35.0**	**-0.1**
	comp=E,0.3nm,0.4s,baz=59,slow=5.4,SNR=3.4						
ILAR	**Eielson Array**		**74.89 16**	P	**P**	**15 19 34.6**	**+2.0**
	comp=E,0.3nm,0.8s,baz=316,slow=5.0,SNR=4.2						
WRA	**Warramunga Arr**		**82.34 122**	P	**P**	**15 20 14.2**	**+0.3**
	comp=E,0.6nm,0.8s,baz=336,slow=6.0,SNR=3.4						
ASAR	**Alice Springs**		**84.59 125**	P	**P**	**15 20 25.9**	**+0.7**
	comp=E,0.5nm,0.7s,baz=314,slow=5.0,SNR=13						

*ISCJB **10** 15:20:56.9±0.5, 85°.11N±0°.05×11°.3E±0°.7, h10km, mb4.0/17, MS3.5/22, Error ellipse: s-maj=9.0km s-min=7.0km az=26.5*
*IDC **10** 15:20:57.4±0.7, 85°.27N×11°.57E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.0/41, mbtmp4.1/17, ML4.4/2, MS3.6/23, Ms1 3.6/23, ms1mx3.4/50, Error ellipse: s-maj=18.8km s-min=14.6km az=58.0*
*NEIC **10** 15:20:58.9±0.5, 85°.19N×11°.45E, h10km, mb4.3/3, Error ellipse: s-maj=11.6km s-min=8.6km az=91.0*
*CSEM **10** 15:20:58.4±0.3, 85°.19N×11°.73E, h10km, ML4.9, Error ellipse: s-maj=13.2km s-min=8.2km az=92.0*
*GCMT **10** 15:20:58.9±0.4, 85°.06N×12°.40E, h21km±1km, MW4.8/71, Moment Tensor Solution. s15,c15; s71,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.65±.15; Mθθ0.75±.09; Mφφ0.89±.09; Mrθ-0.80±.18; Mφφ0.71±.06; Mφr-0.53±.16; Best double couple: M0 1.86000×10^16 NP1:φs49.00000°, δ60.00000°, λ-83.00000°. NP2: φs216.00000°, δ30.00000°, λ-101.00000°. Principal axes: T 1.7940, Plg15.0000°, Azm134.0000°; N 0.1320, Plg6.0000°, Azm226.0000°; P -1.9270, Plg74.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 15:20:59.0±0.6, 85°.05N±0°.06×11°.23E±0°.09, h10km, n87, σ1§69/85, **mb4.1/17, MS3.5/22, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**		**6.16 179**	Pn	**Pn**	**15 22 31.1**	**+1.2**
KBS				Sn	**Sn**	**15 23 37.6**	**-2.6**
KBS	**Kingsbay**		**6.16 179**	Pn	**Pn**	**15 22 31.1**	**+1.2**
KBS				Sn	**Sn**	**15 23 37.6**	**-2.6**
KBS				IAML		15 23 40.7	
	comp=Z,80nm,0.4s						
KBS	**Kingsbay**		**6.16 179**	Pn	**Pn**	**15 22 31.1**	**+1.2**
	SNR=50						
KBS	**Kingsbay**		**6.16 179**	*e*Pn	**Pn**	**15 22 30.3**	**+0.4**
KBS				*e*Sn	**Sn**	**15 23 38.1**	**-2.2**
SPA0	**Spitsbergen Ar**		**6.95 171**	Pn	**Pn**	**15 22 42.0**	**+1.4**
	baz=360,slow=14						
SPA0	**Spitsbergen Ar**		**6.95 171**	*e*P	**Pn**	**15 22 40.6**	**0.0**
SPA0				*e*S	**Sn**	**15 23 56.6**	**-3.0**
SPA0	**Spitsbergen Ar**		**6.95 171**	*e*P	**Pn**	**15 22 40.6**	**0.0**
	SNR=47						
SPA0	**Spitsbergen Ar**		**6.95 171**	Pn	**Pn**	**15 22 42.0**	**+1.4**
	SNR=522						
SPA0	**Spitsbergen Ar**		**6.95 171**	*e*Pn	**Pn**	**15 22 40.8**	**+0.2**
SPITS	**Spitsbergen Ar**		**6.95 171**	Pn	**Pn**	**15 22 40.7**	**0.0**
	baz=19,slow=11,SNR=341						
SPITS				Sn	**Sn**	**15 23 56.5**	**-3.1**
	baz=15,slow=17,SNR=2.7						
SPITS				LR	LR	15 25 08.8	
	comp=Z,705nm,19.3s,baz=5.0,slow=35						
BRBA	**Barentsburg A**		**7.04 175**	Pn	**Pn**	**15 22 43.5**	**+1.5**
	SNR=50						
HSP	**Hornsund**		**8.11 173**	Pn	**Pn**	**15 22 57.5**	**+0.9**
HSP				Sn	**Sn**	**15 24 24.7**	**-3.5**
HSPB	**Hornsund (broa**		**8.12 173**	Pn	**Pn**	**15 22 57.5**	**+0.8**
HSPB				Sn	**Sn**	**15 24 24.7**	**-3.6**
HSPB	**Hornsund (broa**		**8.12 173**	Pn	**Pn**	**15 22 57.5**	**+0.8**
	SNR=50						
DAG	**Danmarks Havn**		**9.32 225**	*i* P	**Pn**	**15 23 16.5**	**+3.4**
	comp=Z,18nm,1.0s						
SUMG	**Summit**		**14.79 244**	*i* P	**Pn**	**15 24 26.4**	**-1.8**
	comp=Z,40nm,0.9s						
SUMG	**Summit**		**14.79 244**	*e*Pn	**Pn**	**15 24 26.1**	**-2.0**
	comp=Z,45nm,0.9s						
ARA0	**ARCESS Array S**		**15.81 161**	Pn	**Pn**	**15 24 39.4**	**-1.9**
	baz=358,slow=12						
ARA0	**ARCESS Array S**		**15.81 161**	Pn	**Pn**	**15 24 39.4**	**-1.9**
	baz=358,slow=12						
ARCES	**ARCESS Array B**		**15.81 161**	Pn	**Pn**	**15 24 40.3**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=356,slow=11,SNR=48						
ARCES				Sn	Sn	15 27 25.5	-11
	comp=Z,0.3nm,0.3s,baz=356,slow=19,SNR=4.3						
ARCES				LR	LR	15 30 29.0	
	comp=Z,176nm,19.5s,baz=350,slow=36						
ARE0	**ARCESS Array S**		**15.81 161**	*e*P	**Pn**	**15 24 40.6**	**-0.6**
KTK1	**Kautokeino**		**16.27 164**	*e*P	**Pn**	**15 24 48.8**	**+1.6**
APA0	**Apatity Array**		**17.99 153**	P	**Pn**	**15 25 05.8**	**-2.9**
	baz=6.3,slow=22						
APA0	**Apatity Array**		**17.99 153**	P	**Pn**	**15 25 05.8**	**-2.9**
	baz=6.3,slow=22						
NRIK	**Noril'sk**		**20.17 90**	P	Pn	15 25 33.8	-1.2
	comp=Z,11nm,0.9s,baz=352,slow=7.1,SNR=9.1						
NRIK				LR	LR	15 32 54.5	
	comp=Z,112nm,20.6s,baz=312,slow=36						
TIXI	**Tiksi**		**21.23 51**	LR	LR	15 32 24.4	
	comp=Z,69nm,19.8s,baz=292,slow=33						
FIA0	**FINESS Array S**		**23.93 162**	P	**P**	**15 26 14.4**	**+1.8**
	slow=14						
FIA0	**FINESS Array S**		**23.93 162**	P	**P**	**15 26 14.4**	**+1.8**
	slow=14						
FIA0	**FINESS Array S**		**23.93 162**	P	**P**	**15 26 14.4**	**+1.8**
	SNR=47						
FINES	**FINESS Array B**		**23.93 162**	P	**P**	**15 26 14.3**	**+1.7**
	comp=Z,13nm,0.8s,baz=8.9,slow=11,SNR=17						
FINES				LR	LR	15 34 33.6	
	comp=Z,145nm,19.1s,baz=11,slow=34						
NB2	**NORSAR Subarra**		**24.14 180**	P	**P**	**15 26 17.1**	**+2.5**
NB2	**NORSAR Subarra**		**24.14 180**	P	**P**	**15 26 17.1**	**+2.5**
NB2	**NORSAR Subarra**		**24.14 180**	P	**P**	**15 26 17.1**	**+2.5**
	SNR=47						
NOA	**NORSAR Array B**		**24.14 180**	P	**P**	**15 26 16.9**	**+2.3**
	comp=Z,6.2nm,1.0s,baz=0.9,slow=9.8,SNR=4.3						
NOA				LR	LR	15 34 29.7	
	comp=Z,60nm,20.2s,baz=355,slow=33						
HFS	**Hagfors**		**25.05 177**	P	**P**	**15 26 26.3**	**+3.4**
	baz=349,slow=4.0						
HFS	**Hagfors**		**25.05 177**	P	**P**	**15 26 24.7**	**+1.8**
	comp=Z,11nm,1.1s,baz=43,slow=11,SNR=4.1						
HFS				LR	LR	15 38 05.4	
	comp=Z,93nm,18.6s,baz=356,slow=41						
HFS	**Hagfors**		**25.05 177**	P	**P**	**15 26 26.3**	**+3.4**
	baz=349,slow=4.0						
ILAR	**Eielson Array**		**30.06 341**	P	**P**	**15 27 06.0**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=16,slow=7.7,SNR=7.1						
ILAR				LR	LR	15 38 47.1	
	comp=Z,135nm,19.6s,baz=358,slow=36						
YKA	**Yellowknife Ar**		**30.83 313**	LR	LR	15 40 02.2	
	comp=Z,7.5nm,18.5s,baz=0.0,slow=37						
AKASG	**Malin Array Be**		**34.77 160**	P	**P**	**15 27 50.0**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=355,slow=8.6,SNR=6.2						
AKASG				LR	LR	15 41 37.7	
	comp=Z,153nm,19.8s,baz=305,slow=36						
AKASG	**Malin Array Be**		**34.77 160**	P	**P**	**15 27 50.0**	**+1.0**
BVAR	**Borovoye Array**		**34.83 115**	P	**P**	**15 27 50.3**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=342,slow=9.3,SNR=5.3						
ZALV	**Zalesovo Beam**		**35.11 100**	PcP	**PcP**	**15 30 22.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=242,slow=3.2,SNR=3.6						
ZALV				LR	LR	15 43 42.7	
	comp=Z,128nm,21.0s,baz=70,slow=39						
VRAC	**Vranov**		**35.92 174**	LR	LR	15 42 48.3	
	comp=Z,54nm,20.1s,baz=344,slow=36						
GERES	**GERESS Array B**		**36.37 177**	LR	LR	15 42 25.8	
	comp=Z,100nm,20.4s,baz=336,slow=35						
KURK	**Kurchatov**		**37.79 107**	P	**P**	**15 28 16.0**	**+1.2**
KURK	**Kurchatov**		**37.79 107**	P	**P**	**15 28 16.0**	**+1.2**
KURK				PcP	**PcP**	**15 30 31.3**	**+0.2**
KURBB	**Kurchatov Arra**		**37.88 107**	P	**P**	**15 28 16.0**	**+0.5**
	comp=Z,0.8nm,0.2s,baz=359,slow=7.6,SNR=4.7						
KURBB				PcP	**PcP**	**15 30 31.3**	**0.0**
	comp=Z,0.4nm,0.2s,baz=355,slow=2.8,SNR=5.0						
PETK	**Petropavlovsk-**		**41.31 30**	LR	LR	15 45 39.9	
	comp=Z,34nm,20.6s,baz=358,slow=36						
ULM	**Lac du Bonnet**		**41.63 293**	LR	LR	15 44 30.2	
	comp=Z,76nm,18.5s,baz=274,slow=34						
MKAR	**Makanchi Array**		**41.99 104**	P	**P**	**15 28 49.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=350,slow=7.3,SNR=4.8						
MKAR				LR	LR	15 49 02.4	
	comp=Z,107nm,20.0s,baz=352,slow=40						
KBZ	**Khabaz**		**42.28 146**	LR	LR	15 47 47.6	
	comp=Z,146nm,18.9s,baz=26,slow=38						
SONA1	**Songino Array**		**43.03 79**	*e*P	**P**	**15 28 57.0**	**-1.3**
SONA1	**Songino Array**		**43.03 79**	*e*P	**P**	**15 28 57.0**	**-1.3**
SONM	**Songino Array**		**43.04 79**	P	**P**	**15 28 57.9**	**-0.5**
	comp=Z,2.9nm,1.1s,baz=338,slow=6.4,SNR=11						
SONM				LR	LR	15 47 05.9	
	comp=Z,58nm,19.9s,baz=65,slow=36						
ULN	**Ulaanbaatar**		**43.06 79**	*e*P	**P**	**15 28 57.8**	**-0.8**
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**		**43.06 79**	*e*P	**P**	**15 28 57.8**	**-0.8**
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**		**45.48 112**	*e*P	**P**	**15 29 18.7**	**+0.7**
	comp=Z,4.7nm,1.1s						
AAK	**Ala-Archa**		**45.48 112**	*e*P	**P**	**15 29 18.7**	**+0.7**
	comp=Z,4.7nm,1.1s						
BR231	**Keskin MP Arra**		**45.74 157**	*e*P	**P**	**15 29 22.4**	**+2.4**
BR231	**Keskin MP Arra**		**45.74 157**	*e*P	**P**	**15 29 22.4**	**+2.4**
BRTR	**Keskin Array B**		**45.88 156**	P	**P**	**15 29 23.2**	**+2.0**
	comp=Z,4.1nm,1.1s,baz=353,slow=5.0,SNR=6.1						
BRTR				LR	LR	15 49 46.1	
	comp=Z,62nm,19.3s,baz=330,slow=38						
GEYT	**Alibeck**		**48.95 130**	LR	LR	15 54 32.9	
	comp=Z,143nm,19.7s,baz=330,slow=41						
KEST	**Kesra**		**49.47 182**	LR	LR	15 49 36.0	
	comp=Z,51nm,21.4s,baz=207,slow=35						
PDAR	**Pinedale Array**		**50.12 304**	P	**P**	**15 29 53.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=37,slow=6.1,SNR=2.5						
PDAR				LR	LR	15 51 36.1	
	comp=Z,111nm,18.2s,baz=15,slow=37						
KSRS	**Korea Array**		**55.10 60**	LR	LR	15 56 03.2	
	comp=Z,25nm,19.8s,baz=10.0,slow=38						
DANN	**Dangsing**		**60.42 105**	*e*P	**P**	**15 31 08.3**	**-0.2**
	comp=Z,3.6nm,1.0s						
PYUN	**Piuthan**		**60.61 106**	*e*P	**P**	**15 31 09.6**	**-0.1**
GKN	**Gorkha**		**60.84 104**	*e*P	**P**	**15 31 10.7**	**-0.5**
	comp=Z,21nm,0.9s						
KOLN	**Koldanda**		**60.98 105**	*e*P	**P**	**15 31 11.3**	**-1.0**
	comp=Z,3.9nm,0.6s						
GUN	**Gumba**		**61.04 103**	*e*P	**P**	**15 31 12.8**	**0.0**
KKN	**Kakani**		**61.11 103**	*e*P	**P**	**15 31 12.6**	**-0.5**
	comp=Z,15nm,0.7s						
DMN	**Daman**		**61.27 104**	*e*P	**P**	**15 31 14.0**	**-0.3**
JIRN	**Jiri**		**61.31 102**	*e*P	**P**	**15 31 14.7**	**0.0**
PKIN	**Phulchoki**		**61.33 103**	*e*P	**P**	**15 31 13.9**	**-0.8**
	comp=Z,8.7nm,0.7s						
TAPN	**Taplejung**		**61.75 101**	*e*P	**P**	**15 31 18.2**	**+0.7**
RAMN	**Ramite**		**62.05 102**	*e*P	**P**	**15 31 18.8**	**-0.7**
	comp=Z,11nm,0.9s						
ODAN	**Odare**		**62.21 101**	*e*P	**P**	**15 31 19.7**	**-0.9**
	comp=Z,13nm,0.8s						
RAYN	**Ar Rayn**		**62.53 144**	*e*P	**P**	**15 31 24.1**	**+1.6**
	comp=Z,4.0nm,1.2s						
RAYN	**Ar Rayn**		**62.53 144**	*e*P	**P**	**15 31 24.1**	**+1.6**
	comp=Z,4.0nm,1.2s						
TXAR	**Lajitas Array**		**63.02 297**	P	**P**	**15 31 25.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=359,slow=6.5,SNR=3.1						
CMAR	**Chiang Mai Arr**		**71.53 91**	P	**P**	**15 32 18.5**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=347,slow=7.1,SNR=12						
CMAR				LR	LR	16 06 00.5	
	comp=Z,65nm,20.5s,baz=351,slow=38						
CM01	**Chiang Mai Arr**		**71.57 91**	*e*P	**P**	**15 32 18.4**	**-1.6**
CM01	**Chiang Mai Arr**		**71.57 91**	*e*P	**P**	**15 32 18.4**	**-1.6**
TOA0	**Torodi Ar. Sit**		**72.02 190**	*e*P	**P**	**15 32 23.9**	**+1.2**
TOA0	**Torodi Ar. Sit**		**72.02 190**	*e*P	**P**	**15 32 23.9**	**+1.2**
TORD	**Torodi Ar. Bea**		**72.02 190**	P	**P**	**15 32 24.0**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=357,slow=6.8,SNR=24						

*IDC **10** 15:38:23.3±1.4, 3°.72N×127°.50E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, Error ellipse: s-maj=131.5km s-min=21.7km az=70.0*
*ISCJB **10** 15:38:26.3±1.0, 3°.95N±0°.07×128°.55E±0°.09, h46km, mb3.5/4, Error ellipse: s-maj=12.5km s-min=9.6km az=164.0*
*DJA **10** 15:38:29.2±1.2, 4°N±6°×12°8E±°, h136km±13km, M4.0/3, mB4.4/1, mb3.9/1, MLv4.0/3, Mw(mB)3.5/1*
ISC 10 15:38:28.5±1.2, 3°.95N±0°.08×128°.5E±0°.1, h46km, n8, σ1§43/12, **mb3.6/4, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**		**2.97 265**	P	**Pn**	**15 39 12.7**	**-0.5**
SGSI				S	**Sn**	**15 39 50.0**	**+2.4**
LBMI	**Labuha**		**4.67 192**	P	**Pn**	**15 39 38.0**	**+1.5**
LBMI				S	**Sn**	**15 40 29.2**	**-0.2**
KMSI	**Cibinong**		**5.62 233**	P	**Pn**	**15 39 49.2**	**-0.4**
SANI	**Sanana**		**6.47 203**	P	**Pn**	**15 40 00.3**	**-0.9**
SANI				S	**Sn**	**15 41 11.7**	**-2.1**
WRA	**Warramunga Arr**		**24.43 167**	P	**P**	**15 43 44.0**	**+0.9**
	1.0nm,0.6s,baz=343,slow=10,SNR=8.7						
ASAR	**Alice Springs**		**27.95 169**	P	**P**	**15 44 15.5**	**+0.7**
	0.3nm,0.6s,baz=355,slow=8.3,SNR=9.2						
ASAR				PcP	**PcP**	**15 47 31.0**	**+1.5**
	0.2nm,0.7s,baz=341,slow=2.6,SNR=3.

336A	Riesel baz=197	13.72	16	P	Pn	16 09 24.5	-1.0
MNTX	Cornudas Mount baz=162,SNR=8.1	13.99	345	P	Pn	16 09 30.7	+1.5
MNTX	Cornudas Mount 20nm,1.4s	13.99	345	ePn	Pn	16 09 30.2	+0.9
338A	Crockett baz=203	14.15	21	P	Pn	16 09 30.2	-1.1
WHTX	Lake Whitney, baz=194	14.16	13	P	Pn	16 09 30.7	-0.6
236A	Katherine and baz=198	14.39	16	P	Pn	16 09 32.9	-1.5
ABTX	Abilene, Hawle baz=185	14.45	5	P	Pn	16 09 34.7	-0.5
ABTX	Abilene, Hawle	14.45	5	ePn	Pn	16 09 34.3	-1.0
238A	Jacksonville baz=203	14.81	20	P	Pn	16 09 39.5	-0.4
319A	Douglas	15.06	332	eP	P	16 09 47.5	+0.1
137A	Heron Place, G baz=200	15.16	18	P	Pn	16 09 44.0	-0.5
342A	Flagon Creek P baz=214	15.39	30	P	Pn	16 09 46.2	-1.1
121A	Cookes Peak, D baz=154,SNR=6.5	15.49	339	P	Pn	16 09 49.8	+0.9
121A	Cookes Peak, D 9.3nm,0.9s	15.49	339	ePn	Pn	16 09 48.8	-0.1
Z36A	Blue Ridge baz=197	15.62	15	P	Pn	16 09 49.2	-1.1
MSTX	Muleshoe baz=173,SNR=5.5	15.79	355	P	Pn	16 09 52.4	-0.3
MSTX	Muleshoe 15nm,0.8s	15.79	355	ePn	Pn	16 09 52.7	0.0
344A	Westbrook Farm baz=218	16.24	34	P	P	16 09 58.4	-2.0
Y36A	Durant baz=196	16.26	15	P	Pn	16 09 57.7	-0.7
Z39A	Irene McRaven, baz=204	16.26	21	P	P	16 09 58.6	-2.0
Y37A	Hugo baz=199	16.50	16	P	Pn	16 10 00.2	-1.2
TUC	Tucson baz=144	16.53	330	P	P	16 10 03.4	-0.3
TUC	Tucson 4.8nm,0.9s	16.53	330	eP	P	16 10 06.1	+2.3
Z40A	Long Farm, Mag baz=207	16.56	23	P	Pn	16 10 01.7	-0.5
X35A	Drake baz=194	16.59	12	P	Pn	16 10 01.2	-1.3
WMOK	Wichita Mounta baz=187	16.63	7	P	Pn	16 10 02.6	-0.6
WMOK	Wichita Mounta 5.8nm,1.1s	16.63	7	ePn	Pn	16 10 02.2	-0.9
BNM	Barren Site	16.64	344	eP	P	16 10 05.6	+0.5
AMTX	Amarillo baz=177	16.65	359	P	Pn	16 10 03.0	-0.4
AMTX	Amarillo 17nm,0.9s	16.65	359	ePn	Pn	16 10 02.5	-0.9
Z41A	Richland Creek baz=209	16.79	25	P	Pn	16 10 04.4	-0.7
214A	Organ Pipe Nat baz=138	17.29	325	P	Pn	16 10 11.5	+0.2
W35A	Tecumseh baz=193	17.33	12	P	Pn	16 10 10.2	-1.7
ANMO	Albuquerque 0.2nm,0.3s,baz=150,slow=12,SNR=9.0	17.36	345	P	P	16 10 13.7	+0.8
ANMO				LR	LR	16 17 19.2	
	comp=Z,134nm,19.6s,baz=156,slow=39						
ANMO	Albuquerque baz=162	17.36	345	P	Pn	16 10 12.2	-0.1
ANMO	Albuquerque 6.1nm,0.9s	17.36	345	ePn	P	16 10 14.3	+1.4
X38A	Whitesboro baz=200	17.37	18	P	Pn	16 10 10.5	-1.7
W36A	Wetumka baz=195	17.46	14	P	Pn	16 10 11.7	-1.6
V35A	Meyer Ranch, C baz=193	17.93	11	P	Pn	16 10 17.4	-1.8
X18A	Snowflake 6.3nm,0.8s	18.07	336	eP	Pn	16 10 23.7	+2.6
V36A	Jenks baz=196,SNR=5.4	18.14	14	P	P	16 10 19.8	-1.6
TUL1	Leonard baz=196	18.29	14	P	P	16 10 21.1	-2.0
TUL1	Leonard 18nm,0.9s	18.29	14	eP	P	16 10 21.7	-1.4
V37A	Hulbert baz=198	18.43	16	P	P	16 10 22.8	-1.7
113A	Mohawk Valley, 4.7nm,0.8s	18.43	324	eP	Pn	16 10 27.4	+2.2
Y44A	Strider, Charl baz=215	18.52	30	P	P	16 10 24.4	-1.1
U35A	Pawnee baz=193	18.54	11	P	P	16 10 25.0	-0.8
X16A	Lo Mia Camp, P 13nm,0.9s	18.60	332	eP	Pn	16 10 28.3	+0.9
V38A	Canehill baz=200	18.61	17	P	Pn	16 10 26.1	-1.2
Y45A	Yeager Farm, C baz=217	18.77	31	P	P	16 10 26.8	-1.4
U36A	Oologah baz=196	18.77	14	P	P	16 10 25.5	-2.8
V39A	Pettigrew baz=202,SNR=5.7	18.81	19	P	P	16 10 27.2	-1.6
U37A	Salina baz=198	18.93	15	P	P	16 10 28.1	-1.9
Y14A	Wickenburg 34nm,0.8s	18.94	328	eP	Pn	16 10 31.9	+0.6
V40A	Witts Springs baz=205,SNR=6.8	19.05	21	P	P	16 10 29.9	-1.5
T34A	McClaskey Farm baz=191	19.10	10	P	P	16 10 30.2	-1.7
T35A	Sooner Cattle baz=193	19.11	11	P	P	16 10 31.0	-1.1
Y46A	Houston baz=218	19.13	33	P	P	16 10 31.0	-1.2
HHAR	Hobbs 7.3nm,0.8s	19.13	18	eP	P	16 10 31.3	-1.0
U38A	Gravette baz=200	19.15	17	P	P	16 10 31.6	-0.9
GLA	Glamis baz=136	19.24	323	P	P	16 10 33.8	+0.3
V41A	Mountainview baz=207,SNR=7.1	19.27	23	P	P	16 10 33.1	-0.7
U39A	Green Forest baz=202	19.36	19	P	P	16 10 33.4	-1.4
T36A	Boggs Farm, Ca baz=195	19.38	13	P	P	16 10 33.6	-1.3
WUAZ	Wupatki baz=148,SNR=20	19.50	334	P	P	16 10 37.0	+0.4
WUAZ	Wupatki 20nm,0.7s	19.50	334	eP	Pn	16 10 37.9	-0.3
U40A	Yellville baz=204	19.54	20	P	P	16 10 35.6	-1.1
V42A	Cord baz=209	19.58	24	P	P	16 10 35.7	-1.4
Y12C	Blythe baz=138	19.59	325	P	P	16 10 37.7	+0.4
T37A	Cheneyville 18 baz=198,SNR=6.1	19.66	15	P	P	16 10 37.0	-1.0
SWSC	Sam W. Stewart baz=133	19.73	321	P	P	16 10 39.7	+0.9
T38A	Diamond baz=199	19.74	16	P	P	16 10 37.4	-1.4
PDMCI	Parker Dam,Lak baz=140,SNR=7.1	19.80	327	P	Pn	16 10 41.4	-0.2
U41A	Viola baz=207	19.85	22	P	P	16 10 38.8	-1.3
SDCO	Great Sand Dun baz=167,SNR=9.5	19.86	350	P	P	16 10 40.2	-0.3
SDCO	Great Sand Dun 5.8nm,0.9s	19.86	350	eP	P	16 10 41.0	+0.4
S35A	Otter Creek Ra baz=193	19.89	11	P	P	16 10 38.9	-1.7
T39A	Clever baz=202,SNR=6.8	19.99	18	P	P	16 10 40.6	-1.0
MVCO	Mesa Verde baz=158,SNR=13	20.03	343	P	P	16 10 43.1	+0.8
MVCO	Mesa Verde 46nm,1.4s	20.03	343	eP	P	16 10 43.0	+0.8
BC3	Big Chuckawall baz=135	20.04	323	P	P	16 10 43.3	+1.1
MONP2	Monument Peak baz=132,SNR=5.6	20.07	320	P	P	16 10 44.5	+1.7
S36A	Lake Cedric, C baz=195	20.08	13	P	P	16 10 41.1	-1.4
U42A	Revenden baz=208	20.11	24	P	P	16 10 41.9	-1.0
S22A	4UR Ranch, Cre baz=163,SNR=10	20.12	347	P	P	16 10 44.0	+0.7
S22A	4UR Ranch, Cre 16nm,1.3s	20.12	347	eP	Pn	16 10 44.4	-1.2
IRM	Iron Mountain baz=137,SNR=13	20.23	325	P	Pn	16 10 46.2	-0.5
S37A	Fort Scott baz=197	20.29	15	P	P	16 10 43.2	-1.6
W13A	Hualapai Mount 7.6nm,0.8s	20.30	329	eP	P	16 10 46.8	+1.6
R34A	Isabella, Hill baz=190	20.34	9	P	P	16 10 43.5	-1.9
S38A	Stockton baz=200,SNR=14	20.40	17	P	P	16 10 44.7	-1.4
NEE2	Needles Airpor baz=139	20.41	327	P	Pn	16 10 48.2	-0.5
109C	Camp Elliot, M baz=130	20.49	319	P	P	16 10 48.2	+1.1
T41A	Mountain View baz=206,SNR=5.5	20.54	22	P	P	16 10 46.3	-1.2
R35A	Emporia Munici baz=193	20.54	11	P	P	16 10 46.1	-1.4
PFO	Pinyon Flats O 4.6nm,0.7s,baz=129,slow=8.6,SNR=5.3	20.59	321	P	P	16 10 49.9	+1.6
PFO	Pinyon Flats O baz=133	20.59	321	P	P	16 10 48.9	+0.6
PFO	Pinyon Flats O 8.4nm,1.0s	20.59	321	eP	P	16 10 50.3	+2.0
BELC	Belle Mtn. Jos baz=135	20.60	323	P	P	16 10 49.2	+0.8
CBKS	Cedar Bluff baz=183	20.60	3	P	P	16 10 47.3	-1.0
CBKS	Cedar Bluff	20.60	3	eP	P	16 10 47.5	-0.7
S39A	Bolivar baz=201,SNR=8.2	20.62	18	P	P	16 10 47.1	-1.3
U15A	North Rim 14nm,1.0s	20.67	334	eP	Pn	16 10 51.1	-0.9
R36A	Gordon, Harris baz=195	20.67	13	P	P	16 10 47.4	-1.6
S40A	Lebanon baz=204	20.79	20	P	P	16 10 48.9	-1.3
R37A	Teagarden Farm baz=197,SNR=7.2	20.81	14	P	P	16 10 49.2	-1.2
LDFC	Landfair 9.5nm,0.6s	20.91	326	eP	Pn	16 10 54.2	-0.6
PV01	Paradox Valley	20.91	343	eP	P	16 10 52.5	+0.6
R38A	Fenwick Farm, baz=199	20.92	16	P	P	16 10 49.6	-2.1
GMRC	Granite Mounta baz=137	20.98	325	P	P	16 10 53.3	+0.8
Q34A	Chapman baz=191	21.00	9	P	P	16 10 50.3	-2.1
Q24A	Divide baz=169	21.00	351	P	P	16 10 50.5	-2.3
PV05	Paradox Valley	21.01	342	eP	P	16 10 53.5	+0.7
MURC	Murrieta baz=132,SNR=5.3	21.03	320	P	P	16 10 53.9	+1.0
S41A	Jillco Farms, baz=206	21.03	21	P	P	16 10 50.7	-2.2
Q35A	Mercer Eighty, baz=193	21.09	11	P	P	16 10 51.5	-2.0
T43A	Greenville baz=210	21.12	25	P	P	16 10 52.0	-1.8
PV04	Paradox Valley	21.25	343	eP	P	16 10 55.5	+0.1
PV10	Paradox Valley	21.27	343	eP	P	16 10 56.8	+1.1
R39A	Chumby, Stover baz=202,SNR=5.9	21.28	18	P	P	16 10 53.6	-1.9
HEC	Hector,Ludlow baz=136	21.39	324	P	P	16 10 57.7	+0.9
KNB	Kanab 43nm,1.7s	21.39	334	eP	P	16 10 58.3	+1.4
R40A	Maddies Statio baz=204,SNR=5.4	21.50	19	P	P	16 10 56.4	-1.4
SMCO	Snowmass 16nm,1.1s	21.53	348	eP	P	16 10 59.2	+0.6
LCMT	Little Creek M 2.9nm,0.7s	21.57	333	eP	P	16 10 59.8	+1.0
TUQ	Turquoise Moun baz=138,SNR=21	21.61	326	P	P	16 11 00.7	+1.5
Q38A	Cooks Store, C baz=199	21.73	16	P	P	16 10 59.3	-0.9
BFSC	Mount Baldy Ra baz=132	21.74	321	P	P	16 11 01.5	+0.9
R41A	Rosebud baz=206	21.79	21	P	P	16 11 00.0	-1.0
ISCO	Idaho Springs baz=168,SNR=6.5	21.89	351	P	P	16 11 01.7	-0.7
ISCO	Idaho Springs 5.1nm,0.6s	21.89	351	eP	P	16 11 03.0	+0.7
Q39A	Willow Grove F baz=201	21.98	17	P	P	16 11 01.0	-2.0
R42A	Luebbering baz=207	21.98	22	P	P	16 11 01.8	-1.2
SZCU	Shurtz Canyon 14nm,1.7s	21.99	334	eP	P	16 11 05.4	+2.0
GSC	Goldstone, Bar baz=136	22.00	324	P	P	16 11 04.1	+0.8
GSC	Goldstone, Bar 5.1nm,0.8s	22.00	324	eP	P	16 11 04.9	+1.6
MTPU	Mount Pierson 15nm,0.7s	22.02	336	eP	P	16 11 04.8	+1.0
O33A	Hebron baz=189	22.04	7	P	P	16 11 02.3	-1.3
SHPR	Sheep Range 7.1nm,0.8s	22.04	329	eP	P	16 11 05.1	+1.2
P37A	Lathrop baz=197	22.14	14	P	P	16 11 03.5	-1.2
SHOC	Shoshone, Teco baz=138	22.15	326	P	P	16 11 04.6	-0.3
Q40A	Laux Farm, Aux baz=203	22.20	19	P	P	16 11 03.7	-1.7
O34A	Beatrice baz=191	22.27	9	P	P	16 11 04.1	-2.0
R43A	Red Bud baz=209	22.30	24	P	P	16 11 04.5	-2.0
SRU	San Rafael Swe 11nm,0.7s	22.39	341	eP	P	16 11 07.7	0.0
Q41A	Truxton baz=205	22.43	21	P	P	16 11 06.1	-1.8
P39B	Salisbury baz=201	22.45	17	P	P	16 11 05.8	-2.3
O35A	Humboldt baz=193	22.48	11	P	P	16 11 06.0	-2.4
R44A	Waltonville baz=211	22.61	25	P	P	16 11 08.1	-1.7
LRMC	Laurel Mtn Rad baz=134,SNR=5.5	22.62	323	P	P	16 11 10.9	+0.9
OSI	Osito Audit: C baz=131	22.65	320	P	P	16 11 10.7	+0.4
P40A	Paris baz=203	22.70	19	P	P	16 11 08.7	-1.9
OGNE	Ogallala 24nm,0.7s	22.70	358	eP	P	16 11 10.3	-0.5
O20A	White River Ci baz=162	22.72	346	P	P	16 11 10.4	-0.8
O37A	Wolven Farm, M baz=197	22.74	14	P	P	16 11 09.4	-1.7
P18A	Preston Nutter 12nm,0.8s	22.78	342	eP	P	16 11 12.0	+0.1
TMUT	Trail Mountain 7.1nm,0.7s	22.78	340	eP	P	16 11 12.4	+0.5
P17A	Butcher Ranch, 5.5nm,0.8s	22.79	341	eP	P	16 11 12.0	+0.1
O38A	Galt baz=199	22.86	15	P	P	16 11 09.9	-2.4
FURC	Furnace Creek, baz=137	22.89	326	P	P	16 11 12.8	+0.1
MPMC	Manual Prospec baz=136,SNR=11	22.93	324	P	P	16 11 13.9	+0.6
TPNV	Topopah Spring baz=140,SNR=15	22.94	328	P	P	16 11 14.5	+1.2
TPNV	Topopah Spring 13nm,0.9s	22.94	328	eP	P	16 11 14.6	+1.2
N34A	Lincoln baz=191	22.94	9	P	P	16 11 10.6	-2.5
N23A	Red Feather La baz=168,SNR=6.6	23.01	351	P	P	16 11 14.1	-0.1
N23A	Red Feather La 14nm,1.0s	23.01	351	eP	P	16 11 14.1	-0.1
P41A	Barry, Barry baz=205	23.14	20	P	P	16 11 13.2	-2.0
Q44A	Meyer Farm, Va baz=210	23.20	25	P	P	16 11 13.5	-2.2
O39A	Kirksville baz=201	23.23	17	P	P	16 11 14.0	-2.0
TKL	Tuckaleechee C 3.0nm,0.5s,baz=202,slow=5.4,SNR=5.0	23.25	38	P	P	16 11 13.3	-2.9
N37A	Lee Faris, Mou baz=197	23.29	13	P	P	16 11 15.0	-1.5
O40A	La Belle baz=203	23.30	18	P	P	16 11 14.8	-1.9
BGNE	Belgrade baz=187	23.30	6	P	P	16 11 14.9	-1.8
P42A	Winchester baz=207	23.30	22	P	P	16 11 14.0	-2.7
PHWY	Pilot Hill 19nm,1.0s	23.34	352	eP	P	16 11 16.0	-1.5
CWC	Cottonwood Cre baz=135	23.53	324	P	P	16 11 19.5	+0.4
N38A	Joes South For baz=199,SNR=6.0	23.55	15	P	P	16 11 17.4	-1.7
GRAC	Grapevine Rang baz=137,SNR=7.1	23.55	326	P	P	16 11 20.5	+1.3
O41A	Passleys Farm, baz=205	23.60	20	P	P	16 11 17.2	-2.3
P43A	Skaggs, Pawnee baz=208	23.65	23	P	P	16 11 18.7	-1.2
NLU	North Lily Min 4.9nm,0.8s	23.67	339	eP	P	16 11 20.7	+0.3
VES	Vestal, Richgr baz=132	23.69	322	P	P	16 11 21.3	+0.9
R11A	Troy Canyon, C baz=143,SNR=9.7	23.72	331	P	P	16 11 21.4	+0.6
R11A	Troy Canyon, C 7.7nm,1.1s	23.72	331	eP	P	16 11 21.8	+0.9
N39A	Derby Farms, D baz=200,SNR=7.5	23.82	16	P	P	16 11 20.2	-1.3
M36A	Felix, Anita baz=195	23.83	12	P	P	16 11 19.9	-1.7
P44A	Sand Creek, Wi baz=211	23.84	25	P	P	16 11 20.3	-1.5
M37A	Trindle Farm, baz=197	23.94	13	P	P	16 11 21.1	-1.4
O42A	Bath baz=207	23.94	21	P	P	16 11 20.7	-1.9
N40A	Mertquake, Sal baz=203	24.08	18	P	P	16 11 22.0	-1.9
DUG	Dugway, Tooele baz=151,SNR=9.3	24.14	338	P	P	16 11 25.2	+0.5
DUG	Dugway, Tooele 8.8nm,0.8s	24.14	338	eP	P	16 11 25.1	+0.5
L33A	Hoskins baz=189	24.14	7	P	P	16 11 24.1	-0.3
N41A	Harden Midland baz=204	24.14	19	P	P	16 11 22.6	-1.9
M38A	Pleasantville baz=198,SNR=10	24.15	15	P	P	16 11 23.2	-1.3
L35A	Bielow Farm, R baz=193	24.34	10	P	P	16 11 24.8	-1.4
K31A	O'Neill baz=185	24.45	4	P	P	16 11 26.0	-1.3
M39A	Webster baz=201	24.47	16	P	P	16 11 25.4	-2.0
L36A	Harm Buss Farm baz=195	24.48	12	P	P	16 11 25.6	-1.9
N42A	Yates City baz=206,SNR=5.6	24.52	21	P	P	16 11 26.4	-1.5
M40A	Post Highland baz=202	24.59	18	P	P	16 11 26.2	-2.3
L37A	Phoenix Point, baz=197	24.69	13	P	P	16 11 28.2	-1.3
K22A	Casper baz=167,SNR=7.5	24.82	351	P	P	16 11 31.5	+0.7
K22A	Casper 20nm,0.9s	24.82	351	eP	P	16 11 31.8	+1.0
BGU	Big Grassy Mou 5.7nm,0.9s	24.86	338	eP	P	16 11 31.7	+0.5
L38A	Oak Wood Farm, baz=198	24.89	15	P	P	16 11 30.1	-1.2
HWUT	Hardware Ranch 17nm,0.8s	24.99	341	eP	P	16 11 33.0	+0.6
J31A	Geddes baz=185	25.12	4	P	P	16 11 31.6	-1.7
J33A	Davis baz=189	25.32	7	P	P	16 11 33.3	-1.8
K37A	Belmond baz=197	25.33	13	P	P	16 11 34.0	-1.3
K38A	Parkersburg baz=199	25.41	15	P	P	16 11 34.6	-1.4
L41A	Preston baz=204	25.50	19	P	P	16 11 34.9	-1.9
BW06	Boulder Array baz=160,SNR=15	25.53	346	P	P	16 11 37.3	-0.1
BW06	Boulder Array 12nm,0.9s	25.53	346	eP	P	16 11 37.0	-0.3
PD31	Pinedale Array	25.53	346	eP	P	16 11 36.7	-0.6
PDAR	Pinedale Array 11nm,1.0s,baz=137,slow=9.8,SNR=38	25.53	346	P	P	16 11 37.0	-0.3
HVU	Hansel Valley 5.5nm,0.8s	25.54	340	eP	P	16 11 37.2	-0.1
K39A	Oelwein baz=200	25.69	16	P	P	16 11 37.1	-1.4
ECSD	EROS Data Cent baz=190	25.77	8	P	P	16 11 37.7	-1.5
WAKR	Walker 8.0nm,1.2s	25.77	326	eP	P	16 11 41.5	+2.0
J37A	Redenius Farm, baz=196	25.87	13	P	P	16 11 38.5	-1.6
YERR	Yerington 12nm,1.4s	26.02	327	eP	P	16 11 43.5	+1.7
TPAW	Teton Pass 12nm,0.7s	26.56	344	eP	P	16 11 47.4	+0.7
LOHW	Long Hollow 10nm,0.8s	26.58	345	eP	P	16 11 47.0	+0.2
FXWY	Fox Creek 6.4nm,0.9s	26.72	344	eP	P	16 11 47.2	-0.8
MOOW	Moose Ponds 6.3nm,0.8s	26.75	344	eP	P	16 11 47.8	-0.5
I38A	Scanlan Farm, baz=199	26.84	14	P	P	16 11 46.4	-2.5
IMW	Indian Meadow 3.8nm,0.6s	26.93	344	eP	P	16 11 49.0	-1.1
HLID	Hailey baz=151,SNR=8.0	27.67	339	P	P	16 11 56.7	+0.1
HLID	Hailey 4.1nm,0.7s	27.67	339	eP	P	16 11 56.6	+0.1
RLMT	Red Lodge baz=163	27.71	348	P	P	16 11 56.6	-0.3
MCMT	McKenzie Canyo	28.32	342	eP	P	16 12 03.0	+0.7
DLMT	Dillon 6.6nm,1.0s	28.74	343	eP	P	16 12 07.0	+1.0
BMO	Blue Mountains 4.2nm,0.9s	29.83	337	eP	P	16 12 14.9	-0.8
SWMT	Swartz Lake	31.09	343	eP	P	16 12 26.6	-0.2
ULM	Lac du Bonnet 4.8nm,0.6s,baz=203,slow=10,SNR=4.8	32.28	6	P	P	16 12 34.6	-2.4
SJG	San Juan 6.1nm,0.3s,baz=291,slow=8.6,SNR=5.1	33.24	85	P	P	16 12 47.9	+2.2
B08A	Colville Reser 33nm,2.0s	33.54	338	eP	P	16 12 48.0	-0.2
SCHQ	Schefferville comp=Z,76nm,19.3s,baz=332,slow=37	45.00	27	LR	LR	16 33 52.2	
YKA	Yellowknife Ar 2.7nm,0.7s,baz=157,slow=7.9,SNR=4.9	45.26	351	P	P	16 14 23.3	-2.0
EGAK	Eagle 6.9nm,0.6s	53.69	340	eP	P	16 15 29.8	+0.3
ILAR	Eielson Array 3.5nm,0.9s,baz=142,slow=5.9,SNR=31	55.63	338	P	P	16 15 44.1	+0.5
ILAR				PcP	PcP	16 16 43.6	+1.0
	0.3nm,0.6s,baz=151,slow=2.3,SNR=3.0						
TRF	Thorofare Moun 10nm,1.1s	56.18	336	eP	P	16 15 48.4	+0.6
DAG	Danmarks Havn 7.0nm,0.8s	70.72	14	i P	P	16 17 21.3	-2.0
SEY	Seymchan 3.9nm,0.8s,baz=97,slow=7.7,SNR=5.6	81.23	334	P	P	16 18 24.5	+1.1
NB2	NORSAR Subarra comp=Z,1.2nm,0.7s,baz=298,slow=5.1	84.57	27	P	P	16 18 41.2	+0.4
NOA	NORSAR Array B comp=Z,1.6nm,0.7s,baz=298,slow=5.1,SNR=4.4	84.57	27	P	P	16 18 40.9	+0.1
ARCES	ARCESS Array B comp=Z,5.0nm,0.6s,baz=324,slow=6.0,SNR=18	84.80	16	P	P	16 18 42.5	+0.7
MDT	Midelt comp=Z,2.4nm,0.8s,baz=302,slow=9.0,SNR=5.5	85.64	57	P	P	16 18 46.6	-0.2
DZM	Mont Dzumac comp=Z,61nm,19.6s,baz=28,slow=29	98.78	250	LR	LR	16 53 56.6	
WRA	Warramunga Arr comp=Z,0.5nm,0.8s,baz=72,slow=2.5,SNR=3.2	127.71	259	PKP	PKPdf	16 25 14.4	+0.7

NIED **10** *16:11:00,42°.20N×146°.20E,h14km,Mw3.8 Best double couple: M0:6.17000×10^14 NP1:φ=250.00000°,δ=48.00000°, λ=148.00000°. NP2:φ=2.00000°,δ=67.00000°,λ=46.00000°.*
IDC **10** *16:11:44.2±2.0,42°.15N×146°.24E,h0km,mb4.0/8, mb1 4.0/10,mb1mx3.7/42,mbtmp3.9/10,ML3.1/2,Error ellipse: s-maj=43.7km s-min=26.2km az=165.0*

*NEIC **10** 16:11:45.5±0.7, 42°.11N×146°.24E, h10km, mb4.9/3, Error ellipse: s-maj=14.4km s-min=8.4km az=133.0*
*ISCJB **10** 16:11:46.1±1.6, 42°.22N±0°.05×146°.19E±0°.07, h21km±10km, mb4.1/11, Error ellipse: s-maj=9.6km s-min=6.4km az=38.7*
*JMA **10** 16:11:46.7±0.2, 42°.22N×146°.23E, h55km±5km, M3.7*
*SKHL **10** 16:11:47.9±0.3, 42°.20N×146°.16E, h81km±7km, mb4.7/1, msh5.4/3*
*MOS **10** 16:11:47.5±1.4, 42°.10N×146°.16E, h43km, mb4.2/1, Error ellipse: s-maj=16.2km s-min=10.3km az=91.7*

ISC 10 16:11:46.1±2.3, 42°.28N±0°.07×146°.17E±0°.06, h7km±13km, n46, σ1§12/51, mb4.2/11, 3C, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**344**	P	**Pg**	**16 12 08.0**	**+0.2**
NEM2				*e*S	**Sb**	**16 12 23.4**	**+0.5**
JAK	**Akkeshi**	**1.30**	**304**	P	**Pn**	**16 12 10.2**	**-0.6**
JAK				*e*S	**Sb**	**16 12 27.3**	**-0.6**
SHO	**Shikotan**	**1.66**	**17**	*c i*PN	**Pn**	**16 12 15.5**	**-0.2**
SHO				*i* S	**Sn**	**16 12 36.3**	**-1.0**
SHO				smax	smax		
	comp=N,458nm,0.4s						
SHO				smax	smax		
	comp=E,581nm,0.4s						
SHO	**Shikotan**	**1.66**	**17**	*e*P	**Pn**	**16 12 15.5**	**-0.2**
SHO				*i* S	**Sn**	**16 12 36.3**	**-1.0**
SHO				A	A	16 12 38.0	
	comp=E,460nm,0.4s						
SHO				A	A	16 12 38.0	
	comp=E,580nm,0.4s						
JNK	**Nakash**	**1.69**	**321**	P	**Pn**	**16 12 15.0**	**-1.1**
JNK				*e*S	**Sn**	**16 12 35.5**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**1.77**	**353**	*c i*PN	**Pn**	**16 12 16.6**	**-0.6**
YUK				*i* S	**Sn**	**16 12 38.6**	**-1.4**
YUK				pmax	pmax		
	comp=Z,198nm,0.4s						
YUK				pmax	pmax		
	comp=N,41nm,0.2s						
YUK				pmax	pmax		
	comp=E,24nm,0.2s						
YUK				smax	smax		
	comp=N,326nm,0.3s						
YUK				smax	smax		
	comp=E,868nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.77**	**353**	*i* P	**Pn**	**16 12 16.8**	**-0.4**
YUK				AMB	AMB	16 12 22.8	
	comp=E,200nm,0.4s						
YUK				*i* S	**Sn**	**16 12 38.6**	**-1.4**
YUK				A	A	16 12 49.0	
	comp=E,330nm,0.3s						
YUK				A	A	16 12 49.0	
	comp=E,870nm,0.3s						
JRA	**Rausu**	**1.83**	**335**	P	**Pn**	**16 12 17.5**	**-0.5**
JAR	**Ashorobuto**	**2.04**	**301**	P	**Pn**	**16 12 20.0**	**-0.9**
JCH	**Churui**	**2.11**	**280**	P	**Pn**	**16 12 21.4**	**-0.4**
JEM	**Erimo**	**2.26**	**264**	P	**Pn**	**16 12 24.0**	**+0.1**
JTKR	**Abashiri--Toko**	**2.37**	**316**	P	**Pn**	**16 12 25.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.54**	**271**	P	**Pn**	**16 12 27.4**	**-0.4**
JMP	**Maruseppu**	**2.69**	**311**	P	**Pn**	**16 12 29.9**	**+0.1**
JFR	**Furan**	**2.78**	**290**	P	**Pn**	**16 12 30.4**	**-0.7**
JBT2	**Biratori 2**	**2.86**	**281**	P	**Pn**	**16 12 30.9**	**-1.3**
ASAJ	**Asahikawa**	**3.20**	**306**	Pn	**Pn**	**16 12 37.1**	**+0.3**
	comp=E,1.5nm,0.3s,baz=139,slow=15,SNR=22						
ASAJ				Sn	**Sn**	**16 13 17.8**	**+2.7**
	comp=E,2.9nm,0.3s,baz=41,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**3.20**	**306**	*e*Pn	**Pn**	**16 12 37.8**	**+1.0**
ASAJ				Sn	**Sn**	**16 13 17.8**	**+2.7**
KUR	**Kuril'sk**	**3.20**	**22**	*c i*PN	**Pn**	**16 12 39.5**	**+2.7**
KUR				*e*S	**Sn**	**16 13 15.0**	**-0.2**
KUR				smax	smax		
	comp=N,109nm,0.4s						
KUR				smax	smax		
	comp=E,63nm,0.3s						
KUR	**Kuril'sk**	**3.20**	**22**	*e*P	**Pn**	**16 12 37.6**	**+0.8**
KUR				*i* S	**Sn**	**16 13 14.6**	**-0.6**
KUR				A	A	16 13 15.6	
	comp=E,142nm,0.4s						
KUR				A	A	16 13 15.6	
	comp=E,113nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.27**	**334**	*e*P	**Pn**	**16 13 06.1**	**+0.8**
MAJO	**Matsushiro**	**8.41**	**230**	*e*PN	**Pn**	**16 13 47.2**	**-1.3**
MAJO	**Matsushiro**	**8.41**	**230**	*e*Pn	**Pn**	**16 13 47.2**	**-1.3**
MJAR	**Matsushiro Arr**	**8.41**	**230**	Pn	**Pn**	**16 13 45.8**	**-2.7**
	comp=E,0.3nm,0.3s,baz=24,slow=14,SNR=5.4						
ULN	**Ulaanbaatar**	**27.97**	**295**	*e*P	**P**	**16 17 37.2**	**-0.2**
ULN	**Ulaanbaatar**	**27.97**	**295**	*e*P	**P**	**16 17 37.2**	**-0.2**
SONM	**Songino Array**	**28.41**	**295**	P	**P**	**16 17 41.9**	**+0.6**
	comp=E,3.5nm,0.9s,baz=88,slow=7.8,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.50**	**136**	T	T	16 47 47.2	
	baz=328						
H11N1	**WAKE ISLAND Hy**	**28.51**	**136**	T	T	16 47 51.6	
	baz=328						
H11N3	**WAKE ISLAND Hy**	**28.52**	**136**	T	T	16 47 39.7	
	baz=328						
H11S1	**WAKE ISLAND Hy**	**29.43**	**137**	T	T	16 48 51.9	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**29.43**	**137**	T	T	16 48 48.1	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**29.44**	**137**	T	T	16 48 56.3	
	baz=325						
ZALV	**Zalesovo Beam**	**41.33**	**308**	P	**P**	**16 19 31.8**	**-0.4**
	comp=E,0.9nm,0.6s,baz=77,slow=6.4,SNR=4.9						
ILAR	**Eielson Array**	**43.10**	**35**	P	**P**	**16 19 46.3**	**-0.3**
	comp=E,0.4nm,0.8s,baz=249,slow=6.6,SNR=3.9						
BMRM	**Bremner River**	**44.48**	**41**	*e*P	**P**	**16 19 57.5**	**-0.3**
	comp=E,13nm,0.7s						
MKAR	**Makanchi Array**	**44.65**	**299**	P	**P**	**16 19 59.2**	**0.0**
	comp=E,1.8nm,0.7s,baz=80,slow=9.4,SNR=15						
KURK	**Kurchatov**	**45.77**	**305**	*e*P	**P**	**16 20 07.5**	**-0.6**
KURK	**Kurchatov**	**45.77**	**305**	*e*P	**P**	**16 20 07.5**	**-0.6**
	comp=E,12nm,0.6s						
BRVK	**Borovoye**	**49.94**	**310**	*e*P	**P**	**16 20 40.6**	**+0.2**
BRVK	**Borovoye**	**49.94**	**310**	*e*P	**P**	**16 20 40.6**	**+0.2**
	comp=E,4.2nm,0.6s						
FINES	**FINESS Array B**	**65.86**	**333**	P	**P**	**16 22 31.8**	**-0.2**
	comp=E,2.4nm,0.7s,baz=32,slow=7.6,SNR=11						
KBZ	**Khabaz**	**70.24**	**311**	P	**P**	**16 23 00.7**	**+0.9**
	comp=E,1.8nm,0.9s,baz=51,slow=6.5,SNR=4.0						
NB2	**NORSAR Subarra**	**70.71**	**339**	P	**P**	**16 23 04.3**	**+1.9**
	comp=Z,4.5nm,1.0s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**70.71**	**339**	P	**P**	**16 23 02.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=36,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	**72.34**	**323**	P	**P**	**16 23 12.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=45,slow=5.4,SNR=3.4						

GUC 10 16:28:26.3±0.4, 22°.56S×68°.84W, h103km±4km, ML3.6, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.08**	**232**	⇑*i*P	Pn	16 28 40.9	-0.2
LVC				*e*S	Sn	16 28 51.4	-0.8
PB06	**IPOC Station P**	**0.69**	**258**	⇑*i*P	Pn	16 28 44.3	+0.2
PB06				*i* S	Sn	16 28 58.3	+0.8
PB06				IAML		16 28 59.9	
	comp=N,1μm,0.1s						
PB09	**IPOC Station P**	**0.85**	**334**	*e*P	Pn	16 28 46.1	+0.4
PB09				*e*S	Sn	16 29 00.8	+0.6
PB09				IAML		16 29 01.6	
	comp=N,6μm,0.6s						
PB04	**IPOC Station P**	**1.23**	**280**	⇑*i*P	Pn	16 28 50.1	+0.3
PB04				*i* S	Sn	16 29 08.3	+0.9
PB04				IAML		16 29 10.9	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.27**	**310**	⇑*i*P	Pn	16 28 50.6	+0.4
PB07				*e*S	Sn	16 29 08.8	+0.5
PB07				IAML		16 29 10.1	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**1.63**	**338**	⇓*i*P	Pn	16 28 54.7	+0.3
PB01				*e*S	Sn	16 29 16.5	+0.8
PB01				IAML		16 29 17.0	
	comp=E,726nm,0.3s						

*JMA **10** 16:33:27.6, 22°.48N×121°.16E, h42km±2km, M3.7*
*ISCJB **10** 16:33:29.3±0.5, 22°.57N±0°.02×121°.46E±0°.02, h8km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=3.7*
*TAP **10** 16:33:31.7, 22°.63N×121°.28E, h23km, ML3.7, B*
*NEIC **10** 16:33:32.8±3.7, 22°.83N×121°.35E, h13km±16km, ML4.1(TAP), Error ellipse: s-maj=40.0km s-min=14.5km az=126.0*
NEIC Recorded [1 TAP] in Taitung.

ISC 10 16:33:30.0±1.2, 22°.59N±0°.03×121°.39E±0°.03, h14km±9km, n74, σ0§76/107, 5C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.28**	**307**	⇓*i*P	**Pb**	**16 33 37.4**	**+0.7**
	baz=314						
TTN				*i* S	**Sb**	**16 33 41.9**	**+0.7**
	baz=314						
TWG	**Pinlang**	**0.37**	**309**	⇓*i*P	**Pb**	**16 33 38.4**	**0.0**
	baz=302						
TWG				*i* S	**Sb**	**16 33 43.1**	**-0.9**
	baz=302						
TWG	**Pinlang**	**0.37**	**309**	*e*Pg	**Pb**	**16 33 38.1**	**-0.3**
ECL	**Taimali**	**0.40**	**272**	⇑*i*P	**Pb**	**16 33 38.5**	**-0.3**
	baz=274						
TAW	**Tawu**	**0.51**	**243**	⇑*i*P	**Pb**	**16 33 40.7**	**0.0**
	baz=243						
TAW				S	**Sb**	**16 33 47.0**	**-0.9**
	baz=243						
CHKT	**Chengkung**	**0.51**	**358**	⇑*i*P	**Pb**	**16 33 41.1**	**+0.3**
	baz=18						
CHKT				S	**Sb**	**16 33 48.4**	**+0.4**
	baz=18						
EAST	**Anshuo**	**0.54**	**248**	⇑*i*P	**Pb**	**16 33 41.1**	**-0.1**
	baz=246						
LAY	**Lan-yu**	**0.57**	**164**	⇓*i*P	**Pn**	**16 33 43.2**	**-0.4**
	baz=158						
LAY				*e*S	**Sn**	**16 33 52.2**	**-0.7**
	baz=158						
ELDTW	**Lidau**	**0.69**	**331**	*e*P	**Pg**	**16 33 42.9**	**-0.5**
	baz=336						
SCZT	**Fangliau**	**0.74**	**253**	⇑P	**Pg**	**16 33 44.2**	**-0.1**
	baz=240						
TWF1	**Yuli**	**0.77**	**354**	*e*P	**Pb**	**16 33 44.4**	**-0.7**
	baz=348						
TWF1				*e*S	**Sg**	**16 33 56.3**	**+1.4**
	baz=348						
YULB	**Yu-li**	**0.81**	**354**	*e*Pg	**Pb**	**16 33 44.2**	**-1.6**
STYT	**Tauyuan**	**0.81**	**315**	⇓*i*P	**Pb**	**16 33 45.3**	**-0.7**
	baz=325						
TSEB	**Hengchuen, Pin**	**0.82**	**213**	*e*P	**Pn**	**16 33 46.3**	**-0.8**
	baz=201						
HEN	**Hengchun**	**0.83**	**226**	*e*P	**Pn**	**16 33 46.5**	**-0.8**
	baz=220						
TWK1	**Hengchun**	**0.84**	**220**	*e*P	**Pg**	**16 33 46.2**	**0.0**
	baz=203						
SGLT	**Jiouru**	**0.84**	**280**	*e*P	**Pn**	**16 33 46.4**	**-1.0**
	baz=279						
SGST	**Jiashian**	**0.89**	**304**	P	**Pn**	**16 33 47.3**	**-0.8**
	baz=308						
EHY	**Hungye**	**0.92**	**356**	*e*P	**Pb**	**16 33 46.6**	**-1.1**
	baz=351						
EHY				*e*S	**Sb**	**16 33 59.7**	**-0.1**
	baz=351						
TWM1	**Shoushan**	**0.92**	**285**	*e*P	**Pn**	**16 33 48.2**	**-0.4**
	baz=285						
WTP	**Ta-pu**	**0.97**	**313**	⇓*i*P	**Pn**	**16 33 48.6**	**-0.6**
	baz=321						
WTP				*e*S	**Sn**	**16 34 02.6**	**-0.2**
	baz=321						
TWP	**Hsiaoliuchiu**	**0.97**	**256**	*e*P	**Pn**	**16 33 51.2**	**+1.9**
	baz=248						
YUS	**Yu-Shan**	**0.98**	**336**	⇓*i*P	**Pb**	**16 33 48.3**	**-0.8**
	baz=339						
CHN1	**Nanshi**	**0.99**	**307**	⇓*i*P	**Pn**	**16 33 49.4**	**-0.1**
	baz=314						
CHN1				S	**Sn**	**16 34 02.5**	**-0.8**
	baz=314						
TPUB	**Ta-pu**	**0.99**	**316**	*e*Pg	**Pb**	**16 33 48.7**	**-0.3**
KAU	**Kaohsiung**	**0.99**	**269**	*e*P	**Pn**	**16 33 51.1**	**+1.5**
	baz=266						
CHN4	**Tsaushan**	**1.05**	**316**	⇓*i*P	**Pg**	**16 33 50.2**	**-0.2**
	baz=323						
CHN4				*e*S	**Sn**	**16 34 04.9**	**0.0**
	baz=323						
CHN3	**Shinhua**	**1.06**	**298**	*e*P	**Pg**	**16 33 52.3**	**+1.9**
	baz=296						
CHN3				*e*S	**Sn**	**16 34 07.1**	**+2.1**
	baz=296						
ALS	**Alishan**	**1.06**	**330**	⇓P	**Pb**	**16 33 50.0**	**-0.4**
	baz=332						
TWK	**Hsinying**	**1.07**	**309**	⇓*i*P	**Pg**	**16 33 50.6**	**0.0**
	baz=320						
CHN5	**Tsauling**	**1.20**	**327**	P	**Pb**	**16 33 52.5**	**0.0**
	baz=328						
CHN5				*e*S	**Sg**	**16 34 09.8**	**+1.1**
	baz=328						
ESL	**Shilin**	**1.22**	**2**	*e*P	**Pn**	**16 33 51.8**	**-0.9**
	baz=4.0						
SCLT	**Jiali**	**1.24**	**298**	*e*P	**Pg**	**16 33 53.5**	**-0.5**
	baz=296						
SCLT				*e*S	**Sg**	**16 34 10.8**	**+0.6**
	baz=296						
SSLB	**Suanglung**	**1.26**	**342**	*e*Pg	**Pn**	**16 33 52.0**	**-1.3**
CHN2	**Minshiung**	**1.26**	**318**	*e*P	**Pb**	**16 33 53.2**	**-0.3**
	baz=318						
CHN2				*e*S	**Sg**	**16 34 10.7**	**+0.1**
	baz=318						
CHY	**Chiayi**	**1.27**	**316**	*e*P	**Pg**	**16 33 54.0**	**-0.4**
	baz=315						
CHY				*e*S	**Sg**	**16 34 10.3**	**-0.5**
	baz=315						
CHN8	**Yiju**	**1.32**	**305**	*e*P	**Pb**	**16 33 54.5**	**0.0**
	baz=304						
CHN8				*e*S	**Sg**	**16 34 12.2**	**-0.3**
	baz=304						
WGK	**Gukeng**	**1.33**	**325**	P	**Pg**	**16 33 55.5**	**-0.1**
	baz=325						
WGK				*e*S	**Sg**	**16 34 13.3**	**+0.4**
	baz=325						
SMLT	**Sun Moon Lake**	**1.36**	**341**	*e*P	**Pb**	**16 33 55.5**	**+0.1**
	baz=351						
SMLT				S	**Sg**	**16 34 13.7**	**-0.4**
	baz=351						
HWA	**Hwalien**	**1.40**	**8**	*e*P	**Pn**	**16 33 54.4**	**-0.7**
	baz=357						
TYC	**Yuchr**	**1.40**	**340**	⇓P	**Pb**	**16 33 56.3**	**+0.4**
	baz=350						
WNT	**Mingjian**	**1.44**	**334**	P	**Pg**	**16 33 57.4**	**-0.2**
	baz=332						
WNT				*e*S	**Sg**	**16 34 16.2**	**-0.2**
	baz=332						
WSF	**Szhu**	**1.50**	**315**	*e*P	**Pb**	**16 33 56.9**	**-0.7**
	baz=313						
WSF				*e*S	**Sb**	**16 34 15.7**	**-0.8**
	baz=313						
TWD	**Chiawan**	**1.50**	**7**	*e*P	**Pn**	**16 33 55.8**	**-0.7**
	baz=7.0						
WHF	**Hehuan Shan**	**1.56**	**356**	*e*P	**Pn**	**16 33 57.1**	**-0.6**
	baz=7.0						
NACB	**Ninganchiao**	**1.59**	**7**	*e*Pn	**Pn**	**16 33 57.0**	**-0.8**
TWT	**Tachien**	**1.67**	**353**	*e*P	**Pb**	**16 33 59.9**	**-0.7**
	baz=1.0						
TCU	**Taichung**	**1.68**	**337**	*e*P	**Pb**	**16 34 00.7**	**-0.1**
	baz=336						
TWQ1	**Liyutan**	**1.84**	**342**	*e*P	**Pb**	**16 34 03.1**	**-0.4**
	baz=340						
TWQ1				*e*S	**Sb**	**16 34 25.9**	**-0.5**
	baz=340						
NNS	**Nan Shan**	**1.84**	**360**	*e*P	**Pb**	**16 34 02.4**	**-1.2**
	baz=10.0						
ENA	**Nanau**	**1.86**	**10**	*e*P	**Pn**	**16 34 01.1**	**-0.4**
	baz=356						
NSY	**Sanyi**	**1.91**	**343**	*e*P	**Pb**	**16 34 04.0**	**-0.6**
	baz=340						
NSY				*e*S	**Sb**	**16 34 28.5**	**+0.2**
	baz=340						
PNG	**Penghu**	**1.95**	**300**	*e*P	**Pn**	**16 34 02.3**	**-0.3**
	baz=299						
ENTT	**Nioudou**	**2.05**	**5**	*e*P	**Pb**	**16 34 05.7**	**-1.4**
	baz=2.0						
TWC	**Suao**	**2.06**	**12**	*e*P	**Pn**	**16 34 04.7**	**+0.5**
	baz=358						
NSTT	**Nanjuang**	**2.06**	**350**	*e*P	**Pn**	**16 34 05.1**	**+0.8**
	baz=348						
YHNB	**Yeheng**	**2.07**	**360**	*e*Pn	**Pn**	**16 34 04.5**	**0.0**
NSK	**Sanguang**	**2.08**	**359**	*e*P	**Pn**	**16 34 05.5**	**+1.0**
	baz=9.0						
JYNG	**Yonaguni jimaku**	**2.34**	**37**	P	**Pn**	**16 34 08.8**	**+0.7**
JYNG				S	**Sn**	**16 34 37.7**	**+1.0**
YOJ	**Yonaguni jima**	**2.39**	**38**	*e*P	**Pn**	**16 34 09.4**	**+0.6**
	baz=36						
YOJ	**Yonaguni jima**	**2.39**	**38**	P	**Pn**	**16 34 09.3**	**+0.6**
YOJ				*e*S	**Sn**	**16 34 38.7**	**+0.8**
YOJ	**Yonaguni jima**	**2.39**	**38**	*e*Pn	**Pn**	**16 34 09.6**	**+0.8**
NWF	**Wu-fen Shan**	**2.50**	**8**	*e*P	**Pn**	**16 34 11.7**	**+1.3**
	baz=3.0						
TWS1	**Kuangyinshan**	**2.50**	**1**	*e*P	**Pb**	**16 34 13.5**	**-1.3**
	baz=10.0						
HATJ	**Hateruma jima**	**2.66**	**56**	P	**Pn**	**16 34 13.0**	**+0.5**
HATJ				*e*S	**Sn**	**16 34 44.4**	**-0.2**
IRIF	**Iriomote-Funau**	**2.77**	**51**	P	**Pn**	**16 34 14.7**	**+0.7**
IRIF				*e*S	**Sn**	**16 34 48.3**	**+1.1**
JKRS	**Kuro-shima**	**2.92**	**55**	P	**Pn**	**16 34 16.9**	**+0.9**
JKRS				*e*S	**Sn**	**16 34 51.4**	**+0.5**
JIJ	**Ishigaki jima**	**3.09**	**55**	P	**Pn**	**16 34 18.7**	**+0.3**
JIJ				*e*S	**Sn**	**16 34 55.4**	**+0.3**
JISG	**Ishigakijimahi**	**3.34**	**53**	P	**Pn**	**16 34 21.9**	**+0.1**
JISG				S	**Sn**	**16 35 01.9**	**+0.5**
JTJ	**Tarama**	**3.67**	**55**	P	**Pn**	**16 34 26.7**	**+0.4**
JTJ				S	**Sn**	**16 35 09.4**	**0.0**
JIRB	**Irabujima**	**4.13**	**57**	P	**Pn**	**16 34 33.0**	**+0.4**
JIRB				S	**Sn**	**16 35 19.9**	**-0.8**
JMJ	**Miyako jima 2**	**4.21**	**57**	P	**Pn**	**16 34 34.5**	**+0.7**
JIKM	**Ikemajima**	**4.24**	**56**	P	**Pn**	**16 34 34.7**	**+0.6**
JIKM				S	**Sn**	**16 35 23.9**	**+0.5**
JOGS	**Gusukube**	**4.27**	**59**	P	**Pn**	**16 34 35.5**	**+0.8**
JOGS				S	**Sn**	**16 35 25.7**	**+1.3**

*IDC **10** 16:36:58.3±1.3, 28°.55S×175°.71W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/29, mbtmp3.9/6, ML4.7/1, Error ellipse: s-maj=35.8km s-min=29.0km az=175.0*
*NEIC **10** 16:37:01.2±0.7, 28°.70S×175°.86W, h10km, mb4.3/1, Error ellipse: s-maj=18.7km s-min=13.3km az=184.0*

ISC 10 16:37:04.7±1.0, 28°.7S±0°.2×175°.9W±0°.1, h36km, n14, σ1§20/14, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**252**	Pn	**Pn**	**16 37 33.7**	**-0.1**
	274nm,0.3s,baz=318,slow=2.6,SNR=13						
RAO				Sn	**Sn**	**16 37 55.2**	**-0.8**
	302nm,0.3s,baz=298,slow=24,SNR=7.0						
URZ	**Urewera**	**11.19**	**210**	Pn	Pn	16 39 33.8	-8.2
	0.3nm,0.3s,baz=166,slow=17,SNR=1.5						
URZ				Sn	Sn	16 41 23.8	-22
	0.8nm,0.3s,baz=180,slow=20,SNR=2.0						
CTA	**Charters Tower**	**35.38**	**275**	P	**P**	**16 43 57.9**	**+0.7**
	1.0nm,0.5s,baz=80,slow=12,SNR=1.4						
STKA	**Stephens Creek**	**36.67**	**254**	P	**P**	**16 44 08.4**	**+0.4**
	1.4nm,0.6s,baz=97,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**45.05**	**264**	P	**P**	**16 45 17.8**	**+0.5**
	0.6nm,0.5s,baz=101,slow=7.2,SNR=28						
WRAB	**Tennant Creek**	**45.89**	**269**	*e*P	**P**	**16 45 24.7**	**+0.8**
	4.0nm,1.1s						
WRA	**Warramunga Arr**	**45.89**	**269**	P	**P**	**16 45 24.3**	**+0.3**
	1.4nm,0.7s,baz=109,slow=7.6,SNR=10						
VNDA	**Vanda**	**49.99**	**186**	P	**P**	**16 45 55.3**	**+0.5**
	0.7nm,0.9s,baz=45,slow=5.7,SNR=4.3						
QSPA	**South Pole Qui**	**61.43**	**180**	*e*P	**P**	**16 47 17.2**	**0.0**
	20nm,1.2s						
FINES	**FINESS Array B**	**144.11**	**342**	PKP	**PKPdf**	**16 56 36.9**	**+1.1**
	7.6nm,0.9s,baz=55,slow=5.3,SNR=4.3						
KBZ	**Khabaz**	**145.61**	**306**	PKPbc	**PKPdf**	**16 56 39.1**	**+0.1**
	0.8nm,0.6s,baz=90,slow=12,SNR=1.7						
NOA	**NORSAR Array B**	**147.29**	**354**	PKPbc	**PKPdf**	**16 56 42.5**	**+1.2**
	0.8nm,0.8s,baz=21,slow=3.8,SNR=4.0						
AKASG	**Malin Array Be**	**150.96**	**326**	PKPab	**PKPab**	**16 56 57.9**	**-2.9**
	0.9nm,0.4s,baz=45,slow=2.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**164.39**	**171**	PKPab	**PKPab**	**16 57 57.7**	**-1.6**
	0.7nm,0.8s,baz=184,slow=4.0,SNR=4.3						

MAN 10 16:45:59.5±0.50N×125°.86E, h55km, mb4.6, ML3.5, MS3.5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.49**	**16**	*e*P	Pn	16 46 24.4	+1.0
MATI				*e*S	Sn	16 46 43.2	+1.3
DMPH	**Davao City--Mi**	**1.61**	**348**	⇑*e*P	Pn	16 46 32.5	+7.4
DMPH				*e*S	Sn	16 46 48.6	+3.9
CTBH	**Cotabato--PC H**	**2.34**	**317**	⇓*i*P	Pn	16 46 36.6	+1.6
BUKP	**Musuan**	**2.49**	**342**	*e*P	Pn	16 46 39.1	+1.9
BUKP				*e*S	Sn	16 47 08.6	+2.2
BIPH	**Bislig**	**2.71**	**11**	⇓*i*P	Pn	16 46 43.9	+3.8
BIPH				*i* S	Sn	16 47 14.0	+2.2
PAGZ	**Pagadian**	**3.38**	**314**	*e*P	Pn	16 46 50.9	+1.5

*NIED **10** 16:47:00, 37°.20N×143°.40E, h14km, Mw3.6 Best double couple: M0:2.84000×10^14 NP1:φs=210.00000°, δ53.00000°, λ-132.00000°. NP2:φs=86.00000°, δ54.00000°, λ-49.00000°.*
*IDC **10** 16:47:09.4±1.1, 36°.93N×143°.82E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.8/45, mbtmp3.8/11, ML3.2/4, MS2.4/1, Ms1 2.4/1, ms1mx2.2/36, Error ellipse: s-maj=25.2km s-min=21.3km az=153.0*
*NEIC **10** 16:47:10.9±0.7, 36°.93N×143°.75E, h10km, mb4.1/1, Error ellipse: s-maj=16.5km s-min=11.9km az=155.0*
*ISCJB **10** 16:47:12.1±0.6, 37°.14N±0°.04×143°.45E±0°.05, h33km, mb3.9/8, Error ellipse: s-maj=5.8km s-min=4.7km az=37.4*
*JMA **10** 16:47:13.0±0.2, 37°.21N×143°.41E, h51km, M3.9*

ISC 10 16:47:14.6±0.9, 37°.17N±0°.05×143°.50E±0°.07, h35km, n36, σ2§47/47, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.10**	**276**	P	**Pn**	**16 47 45.9**	**-1.4**
JFK				S	**Sn**	**16 48 09.5**	**-2.7**
JIO	**Ouri**	**2.13**	**308**	P	**Pn**	**16 47 46.1**	**-1.5**
JIO				S	**Sn**	**16 48 10.8**	**-2.0**
ONAJ	**Iwakimizuishiy**	**2.16**	**269**	P	**Pn**	**16 47 46.3**	**-1.8**
ONAJ				S	**Sn**	**16 48 10.9**	**-2.8**
JMM	**Marumori**	**2.26**	**289**	P	**Pn**	**16 47 47.7**	**-1.7**
JMM				S	**Sn**	**16 48 13.3**	**-2.7**
JMK	**Ichinoseki**	**2.53**	**315**	P	**Pn**	**16 47 51.4**	**-1.7**
JFT	**

ZALV Zalesovo Beam 43.05 312 P P 16 55 14.8 +4.1
0.8nm,0.6s,baz=112,slow=6.7,SNR=2.6
MKAR Makanchi Array 45.45 302 P **P** **16 55 33.7 +3.7**
0.6nm,0.6s,baz=82,slow=10,SNR=4.8
KDAK Kodiak Island 45.88 42 P **P** **16 55 33.7 +0.6**
13nm,1.0s,baz=291,slow=9.3,SNR=2.5
ILAR Eielson Array 48.48 32 P **P** **16 55 52.2 -1.2**
0.5nm,0.8s,baz=269,slow=6.9,SNR=3.5
WRAB Tennant Creek 57.45 190 P **P** **16 56 59.1 -0.9**
1.7nm,0.8s
WRA Warramunga Arr 57.46 190 P **P** **16 56 59.0 -1.0**
1.4nm,0.7s,baz=8.7,slow=7.4,SNR=7.6
TXAR Lajitas Array 88.70 54 P **P** **17 00 05.0 +0.2**
0.3nm,0.6s,baz=298,slow=2.7,SNR=4.0

MEX 10 17:13:12.9±0.4, 16°.34N×98°.17W, h34km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.07**	**36**	*i* P		Pb	17 13 17.8	-0.9
PNIG				*e*S		Sb	17 13 20.7	-1.9
TLIG	**Tlapa**	**1.28**	**343**	*e*P		Pn	17 13 32.3	-2.2
TLIG				*i* S		Sn	17 13 48.3	-2.3
VHO	**Vista Hermosa**	**1.56**	**62**	*i* P		Pn	17 13 36.5	-2.0
VHO				*i* S		Sn	17 13 55.2	-2.3
MEIG	**Mezcala**	**2.10**	**319**	*e*P		Pn	17 13 44.8	-1.0
CAIG	**El Cayaco**	**2.13**	**290**	*i* P		Pn	17 13 44.4	-1.7
CAIG				*i* S		Sn	17 14 09.5	-2.0

*IDC **10** 17:16:49.0±2.5, 33°.53N×141°.05E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/47, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=46.6km s-min=31.0km az=45.0*
*ISCJB **10** 17:16:54.4±1.3, 33°.65N±0°.05×140°.7E±0°.1, h58km, mb3.3/2, Error ellipse: s-maj=14.3km s-min=7.1km az=176.7*
*JMA **10** 17:16:54.9±0.2, 33°.73N×140°.65E, h49km, M2.8*
ISC 10 17:16:56.5±1.8, 33°.64N±0°.05×140°.5E±0°.2, h58km, n8, σ0s78/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.79**	**228**	P		**Pn**	**17 17 12.3**	**+0.6**
JHJ2				S		**Sn**	**17 17 23.6**	**+0.7**
JHJ	**Hachijo jima 2**	**0.81**	**230**	Pn		**Pn**	**17 17 12.0**	**0.0**
42nm,0.3s,baz=102,slow=22,SNR=74								
JHJ				Sn		**Sn**	**17 17 22.6**	**-0.7**
84nm,0.3s,baz=100,slow=23,SNR=24								
JHCJ	**Hachijojimakas**	**0.83**	**227**	P		**Pn**	**17 17 12.2**	**0.0**
JIM2	**Oshima 3**	**1.40**	**320**	P		**Pn**	**17 17 18.6**	**-1.2**
JIZS	**Izushimoda**	**1.73**	**309**	P		**Pn**	**17 17 24.2**	**0.0**
JIZS				S		**Sn**	**17 17 44.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.46**	**327**	Pn		**Pn**	**17 17 48.4**	**+0.6**
0.8nm,0.3s,baz=174,slow=14,SNR=9.1								
MJAR				Sn		**Sn**	**17 18 29.0**	**+1.4**
0.6nm,0.3s,baz=124,slow=15,SNR=5.5								
WRA	**Warramunga Arr**	**53.61**	**187**	P		**P**	**17 26 11.3**	**-0.5**
0.4nm,0.5s,baz=4.9,slow=7.6,SNR=6.9								
ASAR	**Alice Springs**	**57.34**	**187**	P		**P**	**17 26 38.7**	**+0.1**
0.1nm,0.6s,baz=1.7,slow=6.3,SNR=5.6								

*IDC **10** 17:30:01.3±2.0, 19°.05N×119°.97E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/47, mbtmp3.7/7, MS2.3/1, Ms1 2.3/1, ms1mx2.1/47, Error ellipse: s-maj=282.3km s-min=18.0km az=63.0*
*ISCJB **10** 17:30:05.0±0.7, 18°.9N±0°.1×119°.55E±0°.10, h33km, mb3.6/7, Error ellipse: s-maj=19.2km s-min=7.3km az=39.6*
*MAN **10** 17:30:04.0, 18°.98N×119°.74E, h13km, mb5.2, ML4.1, MS4.3*
ISC 10 17:30:06.8±0.9, 19°.0N±0°.1×119°.6E±0°.1, h35km, n11, σ2s67/13, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.71**	**140**	*e*P		**Pn**	**17 30 31.2**	**-3.0**
ABRA				*e*S		**Sn**	**17 30 54.3**	**-0.6**
SGCP	**Mt. Cagua**	**2.46**	**107**	*e*P		**Pn**	**17 30 43.4**	**-1.1**
SGCP				*e*S		**Sn**	**17 31 12.2**	**-1.2**
CAUP	**Cauayan**	**2.95**	**133**	*e*P		**Pn**	**17 30 51.5**	**+0.2**
CAUP				*e*S		**Sn**	**17 31 32.6**	**+7.2**
TGY	**Tagaytay City**	**5.02**	**165**	LR		LR	17 33 42.2	
comp=Z,32nm,19.8s,baz=125,slow=44								
MKAR	**Makanchi Array**	**41.22**	**321**	P		**P**	**17 37 49.6**	**+1.3**
0.2nm,0.6s,baz=126,slow=7.3,SNR=2.2								
WRA	**Warramunga Arr**	**41.30**	**159**	P		**P**	**17 37 47.4**	**-1.9**
1.0nm,0.6s,baz=341,slow=9.0,SNR=6.6								
ZALV	**Zalesovo Beam**	**43.92**	**331**	P		**P**	**17 38 10.9**	**+0.8**
0.4nm,0.5s,baz=105,slow=11,SNR=1.9								
ASAR	**Alice Springs**	**44.63**	**161**	P		**P**	**17 38 15.2**	**-1.0**
0.5nm,0.4s,baz=338,slow=7.0,SNR=30								
KURBB	**Kurchatov Arra**	**45.26**	**324**	P		**P**	**17 38 21.7**	**+0.9**
0.2nm,0.4s,baz=126,slow=8.0,SNR=4.9								
STKA	**Stephens Creek**	**54.80**	**157**	P		**P**	**17 39 33.7**	**+0.3**
2.7nm,0.9s,baz=318,slow=12,SNR=4.0								
FINES	**FINESS Array B**	**75.18**	**330**	P		**P**	**17 41 45.5**	**+0.1**
3.9nm,1.0s,baz=100,slow=13,SNR=1.5								

*SJA **10** 17:39:42.9±0.9, 24°.46S×70°.41W, h33km±22km, ML3.8, MW3.4*
*ISCJB **10** 17:39:44.5±0.3, 24°.46S±0°.02×70°.38W±0°.05, h57km±3km, mb4.3/14, MS3.2/2, Error ellipse: s-maj=7.2km s-min=3.4km az=0.1*
*GUC **10** 17:39:44.0±0.6, 24°.45S×70°.41W, h52km±3km, ML4.5*
*NEIC **10** 17:39:45.5±0.3, 24°.42S×70°.15W, mb4.4/7, Error ellipse: s-maj=9.3km s-min=5.6km az=97.0*
*IDC **10** 17:39:45.7±0.6, 24°.57S×70°.23W, h50km±4km, mb4.0/8, mb1 4.0/12, mb1mx3.7/29, mbtmp4.2/12, MS3.2/7, Ms1 3.2/7, ms1mx3.1/26, Error ellipse: s-maj=21.0km s-min=8.6km az=118.0*
ISC 10 17:39:45.1±0.5, 24°.45S±0°.03×70°.36W±0°.06, h46km±4km, h46km:pP-P, n87, σ1s32/100, mb4.4/14, 4C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.18**	**192**	*e*P		**Pn**	**17 39 53.7**	**+0.3**
PB14				*i* S		**Sn**	**17 40 00.0**	**+0.9**
PB14				IAML			17 40 00.6	
comp=N,46μm,0.6s								
ANCH	**Antofagasta**	**0.76**	**357**	⇓*i* P		**Pn**	**17 40 00.1**	**+0.5**
ANCH				*i* S		**Sn**	**17 40 10.9**	**+0.9**
PB10	**IPOC Station P**	**0.94**	**349**	⇓*i* P		**Pn**	**17 40 01.4**	**-0.7**
PB10				*i* S		**Sn**	**17 40 14.3**	**-0.1**
PB10				IAML			17 40 20.5	
comp=E,21μm,0.3s								
PB10	**IPOC Station P**	**0.94**	**349**	*e*Pn		**Pn**	**17 40 01.6**	**-0.5**
PB10				*e*Sn		**Sn**	**17 40 15.6**	**+1.1**
PB06	**IPOC Station P**	**1.88**	**23**	⇑*i* P		**Pn**	**17 40 15.3**	**+0.3**
PB06				*i* S		**Sn**	**17 40 38.6**	**+1.1**
PB06				IAML			17 40 44.4	
comp=N,5μm,0.4s								
PB04	**IPOC Station P**	**2.11**	**5**	⇑*i* P		**Pn**	**17 40 18.0**	**-0.2**
PB04				*i* S		**Sn**	**17 40 42.8**	**-0.5**
PB04				IAML			17 40 50.9	
comp=N,4μm,0.3s								
PB04	**IPOC Station P**	**2.11**	**5**	*e*P		**Pn**	**17 40 17.6**	**-0.6**
LVC	**Limon Verde**	**2.26**	**36**	P		**Pn**	**17 40 21.7**	**+1.2**
comp=N,8μm,0.3s,baz=221,slow=11,SNR=588								
LVC				S		**Sn**	**17 40 49.4**	**+2.1**
comp=N,39μm,0.3s,baz=320,slow=16,SNR=24								
LVC				LR		LR	17 41 18.9	
comp=N,2μm,19.8s,baz=252,slow=41								
LVC	**Limon Verde**	**2.26**	**36**	*e*P		**Pn**	**17 40 21.7**	**+1.2**
LVC				*i* S		**Sn**	**17 40 48.7**	**+1.4**
CDCH	**Caldera**	**2.64**	**189**	*e*P		**Pn**	**17 40 24.9**	**-0.3**
PB07	**IPOC Station P**	**2.74**	**9**	*e*P		**Pn**	**17 40 26.5**	**-0.4**
PB07				IAML			17 41 12.7	
comp=E,2μm,0.6s								
PB09	**IPOC Station P**	**2.83**	**22**	⇑*i* P		**Pn**	**17 40 28.9**	**+0.8**
PB09				*i* S		**Sn**	**17 41 02.6**	**+1.5**
CPCH	**Copiapo**	**2.90**	**180**	⇑*i* P		**Pn**	**17 40 28.7**	**-0.2**
CPCH				*i* S		**Sn**	**17 41 03.2**	**+0.8**
PB01	**IPOC Station P**	**3.48**	**14**	IAML			17 41 34.8	
comp=E,2μm,0.4s								
PB01	**IPOC Station P**	**3.48**	**14**	*e*Pn		**Pn**	**17 40 36.4**	**-0.6**
FSA	**Cafayete**	**4.30**	**114**	*e*P		**Pn**	**17 40 50.5**	**+2.3**
FSA				IAML			17 41 23.7	
comp=Z,18nm,0.7s								
LCO	**Las Campanas**	**4.56**	**184**	*e*Pn		**Pn**	**17 40 52.5**	**+0.7**
VCA	**Vinchina**	**4.69**	**156**	IAML			17 42 24.4	
comp=Z,166nm,0.5s								
HJA	**Humahuaca**	**4.70**	**76**	*e*P		Pn	17 40 58.1	+4.1
HJA				IAML			17 41 01.1	
comp=Z,148nm,0.5s								
PB11	**IPOC Station P**	**4.71**	**8**	*e*Pn		**Pn**	**17 40 51.9**	**-1.9**
AZAP	**Zapla**	**4.84**	**88**	*e*P		**Pn**	**17 40 57.9**	**+2.2**
YJA	**Yavi**	**5.00**	**64**	*e*P		**Pn**	**17 41 01.2**	**+3.2**
AGUA	**GUANDACOL**	**5.29**	**162**	*e*P		**Pn**	**17 41 04.5**	**+2.7**
MNMC	**Minye Minye**	**5.34**	**8**	*e*Pn		**Pn**	**17 41 01.2**	**-1.4**
ASTB	**Santa Barbara**	**5.42**	**86**	*e*P		**Pn**	**17 41 05.9**	**+2.3**
ASTB				*e*S		Sn	17 41 30.5	-34
ACDV	**Cuesta del Vie**	**5.81**	**169**	*e*P		**Pn**	**17 41 11.4**	**+2.5**
ACLC	**CERRO LA CRUZ**	**5.82**	**149**	*e*P		**Pn**	**17 41 10.8**	**+1.7**
ALOL	**LOMAS DE OLMED**	**5.86**	**85**	*e*P		**Pn**	**17 41 11.6**	**+2.0**
ALOL				*e*S		**Sn**	**17 42 16.6**	**+1.1**
AMOG	**MOGNA**	**6.68**	**166**	*e*P		**Pn**	**17 41 21.4**	**+0.7**
AVFE	**Valle Fertil**	**6.71**	**158**	*e*P		**Pn**	**17 41 22.2**	**+1.1**
AVFE				*e*S		**Sn**	**17 42 36.7**	**+0.4**
APLL	**PUNTA DE LOS L**	**6.83**	**151**	*e*P		**Pn**	**17 41 23.4**	**+0.5**
RTLL	**Cerro Villicun**	**7.06**	**167**	*e*P		**Pn**	**17 41 26.6**	**+0.6**
RTLL				⇓*e*S		Sn	17 42 54.6	+10
RTCV	**Cerro Valdivia**	**7.56**	**168**	*e*P		**Pn**	**17 41 33.1**	**+0.3**
LPAZ	**La Paz**	**8.38**	**15**	P		**Pn**	**17 41 45.0**	**+0.3**
comp=Z,1.2nm,0.3s,baz=209,slow=5.7,SNR=23								
LPAZ				LR		LR	17 46 15.3	
comp=Z,43nm,19.2s,baz=206,slow=46								
LPAZ	**La Paz**	**8.38**	**15**	*e*Pn		**Pn**	**17 41 45.0**	**+0.3**
ROC1	**El Roble**	**8.52**	**184**	*e*Pn		**Pn**	**17 41 44.4**	**-1.8**
CPUP	**Villa Florida**	**11.93**	**102**	P		**Pn**	**17 42 31.1**	**-1.6**
comp=Z,0.1nm,0.3s,baz=278,slow=15,SNR=2.0								
CPUP				LR		LR	17 46 56.3	
comp=Z,44nm,19.8s,baz=279,slow=36								
SIV	**San Ignacio**	**12.11**	**48**	P		**Pn**	**17 42 34.5**	**-0.7**
comp=Z,6.6nm,0.3s,baz=245,slow=11,SNR=70								
SIV				S		**Sn**	**17 44 43.8**	**-5.1**
comp=Z,0.3nm,0.3s,baz=276,slow=22,SNR=3.3								
SIV				LR		LR	17 46 41.1	
comp=Z,68nm,21.7s,baz=320,slow=34								
TRQA	**Tornquist**	**15.33**	**154**	*e*Pn		**P**	**17 43 20.1**	**-2.4**
TRQA				*e*pP		**pP**	**17 43 33.0**	**-0.2**
PLCA	**Paso Flores**	**16.24**	**181**	P		**Pn**	**17 43 29.7**	**-0.4**
comp=Z,0.0nm,0.3s,baz=34,slow=3.6,SNR=2.0								
PLCA				LR		LR	17 49 58.5	
comp=Z,229nm,22.0s,baz=340,slow=38								
PTGA	**Pitinga**	**25.64**	**25**	P		**P**	**17 45 09.6**	**-0.9**
comp=Z,1.2nm,0.3s,baz=206,slow=13,SNR=3.7								
PTGA	**Pitinga**	**25.64**	**25**	*e*P		**P**	**17 45 09.9**	**-0.7**
comp=Z,17nm,1.5s								
ROSC	**El Rosal**	**29.36**	**352**	LR		LR	17 58 17.7	
comp=Z,51nm,19.0s,baz=200,slow=38								
HELC	**Santa Helena**	**30.86**	**350**	*e*P		**P**	**17 45 58.3**	**+0.6**
comp=Z,16nm,0.8s								
H06E1	**SOCORRO T-PHAS**	**58.38**	**314**	T		T	18 52 54.2	
LTX	**Lajitas**	**62.32**	**327**	*e*P		**P**	**17 50 04.0**	**+1.0**
TXAR	**Lajitas Array**	**62.32**	**327**	P		**P**	**17 50 04.0**	**+1.0**
comp=Z,0.5nm,0.6s,baz=158,slow=7.9,SNR=7.2								
MNTX	**Cornudas Mount**	**65.10**	**327**	*e*P		**P**	**17 50 21.1**	**-0.1**
comp=Z,12nm,1.9s								
QSPA	**South Pole Qui**	**65.76**	**180**	*e*P		**P**	**17 50 25.5**	**+0.4**
QSPA				*e*pP		**pP**	**17 50 39.5**	**+1.1**
SDCO	**Great Sand Dun**	**70.13**	**331**	*e*P		**P**	**17 50 54.6**	**+1.6**
comp=Z,3.5nm,0.9s								
X16A	**Lo Mia Camp, P**	**70.34**	**325**	*e*P		**P**	**17 50 56.5**	**+2.2**
comp=Z,2.5nm,0.9s								
DBIC	**Dimbokro**	**70.86**	**73**	P		**P**	**17 50 55.9**	**-1.8**
comp=Z,2.2nm,0.7s,baz=228,slow=12,SNR=3.6								
PDAR	**Pinedale Array**	**76.01**	**331**	P		**P**	**17 51 27.8**	**+0.1**
comp=Z,0.4nm,0.6s,baz=101,slow=7.7,SNR=4.2								
MLAC	**Mammoth, Mammo**	**76.73**	**322**	*e*P		**P**	**17 51 31.7**	**-0.2**
ULM	**Lac du Bonnet**	**77.73**	**344**	P		**P**	**17 51 36.9**	**+0.1**
comp=Z,2.2nm,0.6s,baz=142,slow=5.9,SNR=4.0								
HLID	**Hailey**	**78.84**	**329**	*e*P		**P**	**17 51 45.4**	**+2.0**
comp=Z,4.4nm,1.1s								
TOA0	**Torodi Ar. Sit**	**79.60**	**70**	*e*P		**P**	**17 51 47.1**	**-0.9**
comp=Z,6.5nm,0.6s								
TOA0				*e*pP		**pP**	**17 52 00.1**	**-1.4**
TOA1	**Torodi Ar. Sit**	**79.60**	**70**	*e*P		**P**	**17 51 47.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**79.60**	**70**	P		**P**	**17 51 47.1**	**-0.8**
comp=Z,5.4nm,0.5s,baz=258,slow=5.1,SNR=58								
LMPM	**Military Pass**	**81.27**	**323**	*e*P		**P**	**17 52 00.0**	**+3.4**
MAW	**Mawson**	**81.90**	**164**	P		**P**	**17 51 58.0**	**-1.3**
comp=Z,1.6nm,0.6s,baz=247,slow=3.8,SNR=4.5								
MAW				pP		**pP**	**17 52 13.3**	**+0.4**
comp=Z,3.7nm,0.8s,baz=244,slow=6.4,SNR=7.2								
MAW	**Mawson**	**81.90**	**164**	*e*P		**P**	**17 51 59.9**	**+0.6**
MAW				*e*pP		**pP**	**17 52 13.8**	**+0.9**
BOSA	**Boshof**	**83.25**	**118**	P		**P**	**17 52 06.3**	**-1.0**
comp=Z,4.2nm,1.0s,baz=226,slow=4.0,SNR=3.7								
MATP	**Matopo**	**89.36**	**112**	LR		LR	18 28 55.6	
comp=Z,14nm,22.0s,slow=33								
AS31	**Alice Springs**	**126.69**	**208**	*e*PKPdf		**PKPdf**	**17 58 44.3**	**0.0**
ASAR	**Alice Springs**	**126.69**	**208**	PKP		**PKPdf**	**17 58 44.3**	**0.0**
comp=Z,0.8nm,0.5s,baz=125,slow=1.6,SNR=16								
ASAR				pPKP		**pPKPdf**	**17 58 58.5**	**0.0**
comp=Z,0.7nm,0.8s,baz=138,slow=2.2,SNR=5.4								
H11S2	**WAKE ISLAND Hyl**	**26.86**	**275**	T		T	20 18 26.4	
baz=108,slow=75,SNR=89								
H11S1	**WAKE ISLAND Hyl**	**26.87**	**275**	T		T	20 18 27.1	
baz=108,slow=75,SNR=157								
H11S3	**WAKE ISLAND Hyl**	**26.88**	**275**	T		T	20 18 27.7	
baz=108,slow=75,SNR=129								
H11N3	**WAKE ISLAND Hyl**	**27.03**	**277**	T		T	20 18 35.3	
baz=107,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hyl**	**27.04**	**277**	T		T	20 18 42.3	
baz=107,slow=75,SNR=23								
H11N2	**WAKE ISLAND Hyl**	**27.04**	**277**	T		T	20 18 41.0	
baz=107,slow=75,SNR=15								
WR1	**Warramunga Arr**	**129.75**	**211**	*e*PKPdf		**PKPdf**	**17 58 50.5**	**+0.4**
WR1				*ep*PKPdf		**pPKPdf**	**17 59 05.0**	**+0.7**
WRA	**Warramunga Arr**	**129.75**	**211**	PKP		**PKPdf**	**17 58 50.5**	**+0.4**
comp=Z,0.7nm,0.5s,baz=156,slow=1.6,SNR=11								
WRA				pPKP		**pPKPdf**	**17 59 05.0**	**+0.6**
comp=Z,0.4nm,0.8s,baz=185,slow=1.0,SNR=5.5								
SEY	**Seymchan**	**132.23**	**335**	PKP		**PKPdf**	**17 58 54.1**	**+0.7**
comp=Z,2.6nm,0.8s,baz=84,slow=9.2,SNR=3.0								
NRIK	**Noril'sk**	**133.20**	**11**	PKP		**PKPdf**	**17 58 53.3**	**-1.8**
comp=Z,1.9nm,0.3s,baz=45,slow=4.3,SNR=2.8								
KURK	**Kurchatov**	**144.51**	**34**	*e*PKPdf		**PKPdf**	**17 59 15.5**	**-0.7**
KURK				*ep*PKPdf		**pPKPdf**	**17 59 29.3**	**-1.1**
KURBB	**Kurchatov Arra**	**144.52**	**35**	PKP		**PKPdf**	**17 59 15.5**	**-0.8**
comp=Z,3.7nm,0.6s,baz=304,slow=3.5,SNR=49								
KURBB				pPKP		**pPKPdf**	**17 59 29.3**	**-1.2**
comp=Z,1.4nm,0.8s,baz=302,slow=3.2,SNR=7.4								
ZAA1	**Zalesovo Array**	**145.18**	**26**	*e*PKPbc		**PKPdf**	**17 59 17.4**	**+0.1**
ZAA1				*ep*PKPab		pPKPbc	17 59 31.7	+0.6
ZALV	**Zalesovo Beam**	**145.18**	**26**	PKPbc		**PKPdf**	**17 59 17.4**	**+0.1**
comp=Z,9.8nm,0.6s,baz=312,slow=4.4,SNR=41								
ZALV				pPKPbc		pPKPab	17 59 31.7	+0.9
comp=Z,5.0nm,0.8s,baz=309,slow=4.2,SNR=6.5								
AAK	**Ala-Archa**	**145.86**	**49**	PKPbc		**PKPab**	**17 59 20.4**	**+0.2**
comp=Z,3.7nm,0.6s,baz=214,slow=2.5,SNR=17								
AAK				pPKPbc		pPKPab	17 59 35.1	+1.0
comp=Z,1.1nm,0.4s,baz=190,slow=1.1,SNR=2.9								
MK32	**Makanchi Array**	**148.79**	**38**	*e*PKPbc		**PKPbc**	**17 59 27.6**	**+0.1**
MK32				*ep*PKPab		**pPKPbc**	**17 59 41.9**	**+0.3**
MKAR	**Makanchi Array**	**148.79**	**38**	PKPbc		**PKPbc**	**17 59 27.6**	**+0.1**
comp=Z,2.3nm,0.7s,baz=326,slow=2.4,SNR=20								
MKAR				pPKPbc		**pPKPbc**	**17 59 41.9**	**+0.3**
comp=Z,1.8nm,0.7s,baz=344,slow=1.8,SNR=7.4								
SONA0	**Songino Array**	**156.52**	**5**	*e*PKPab		**PKPab**	**18 00 04.5**	**+0.7**
SONM	**Songino Array**	**156.52**	**5**	PKPab		**PKPab**	**18 00 04.5**	**+0.7**
comp=Z,0.8nm,0.9s,baz=332,slow=5.8,SNR=4.5								
KSRS	**Korea Array**	**159.70**	**314**	PKPab		**PKPab**	**18 00 19.0**	**+1.2**
comp=Z,0.4nm,0.3s,baz=68,slow=5.1,SNR=2.9								
KSAR	**Wonju Array Be**	**159.73**	**314**	PKPab		**PKPab**	**18 00 19.0**	**+1.0**

IDC 10 17:47:18.8±5.8, 15°.29S×173°.12W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/28, mbtmp3.9/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/28, Error ellipse: s-maj=302.7km s-min=25.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**44**	Pn		Pn	17 47 51.1	-1.3
30nm,0.3s,baz=186,slow=1.9,SNR=32								
AFI				Sn		Sn	17 48 11.2	-5.7
145nm,0.3s,baz=72,slow=20,SNR=14								
AFI				LR		LR	17 48 34.5	
comp=Z,260nm,19.5s,baz=188,slow=40								
DZM	**Mont Dzumac**	**20.49**	**248**	LR		LR	17 58 34.2	
comp=Z,171nm,19.3s,baz=41,slow=33								
DZM	**Mont Dzumac**	**20.49**	**248**	*e*LR		LR	17 57 07.8	
166nm,25.1s								
PPT	**Papeete**	**22.69**	**99**	LR		LR	17 58 31.7	
comp=Z,107nm,20.6s,baz=270,slow=30								
PPT2	**Papeete2**	**22.69**	**99**	*e*LR		LR	17 57 47.6	
133nm,25.5s								
TBI	**Tubuai**	**23.70**	**113**	*e*LR		LR	17 58 11.1	
126nm,24.8s								
TAOE	**Nuku Hiva Isla**	**32.84**	**83**	*e*LR		LR	18 02 14.4	
95nm,24.8s								
WRA	**Warramunga Arr**	**50.13**	**257**	P		P	17 56 15.8	-0.5
0.7nm,0.5s,baz=90,slow=7.0,SNR=23								
ASAR	**Alice Springs**	**50.40**	**252**	P		P	17 56 17.6	-0.8
1.2nm,0.5s,baz=86,slow=7.8,SNR=48								
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc		PKPab	18 07 03.4	+0.9
1.1nm,0.8s,baz=52,slow=1.9,SNR=4.3								

WEL 10 18:03:38.6±0.3, 42°.14S×177°.32E, h33km, ML3.9/66, 11C-5D, Error ellipse: s-maj=2.8km s-min=2.4km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**1.42**	**301**	PN		Pn	18 04 01.6	-0.6
TRWZ				SN		Sn	18 04 19.1	-0.7
TRWZ				AML		AML	18 04 19.9	
TMWZ	**Te Maipa**	**1.48**	**314**	PN		Pn	18 04 02.6	-0.4
TMWZ				AML		AML	18 04 22.3	
TMWZ				AML		AML	18 04 25.2	
PAWZ	**Paruwai Farm**	**1.60**	**298**	⇓PN		Pn	18 04 04.2	-0.4
PAWZ				SN		Sn	18 04 23.2	-1.1
PAWZ				AML		AML	18 04 23.5	
PLWZ	**Palliser**	**1.64**	**290**	PN		Pn	18 04 04.4	-0.8
PLWZ				SN		Sn	18 04 24.0	-1.2
PLWZ				AML		AML	18 04 24.4	
BFZ	**Birch Farm**	**1.66**	**331**	PN		Pn	18 04 04.6	-0.8
MTW	**Mount Morrison**	**1.68**	**305**	PN		Pn	18 04 05.1	-0.6
MTW				AML		AML	18 04 24.9	
MTW				AML		AML	18 04 25.0	
MSWZ	**Moikau Station**	**1.71**	**294**	⇓PN		Pn	18 04 05.3	-0.8
MSWZ				AML		AML	18 04 25.8	
MSWZ				AML		AML	18 04 26.2	
TIWZ	**Tintock**	**1.73**	**321**	PN		Pn	18 04 06.1	-0.4
TIWZ				AML		AML	18 04 08.8	
TIWZ				AML		AML	18 04 10.1	
ANWZ	**Angora Road**	**1.79**	**339**	PN		Pn	18 04 06.6	-0.6
ANWZ				SN		Sn	18 04 26.7	-2.1
ANWZ				AML		AML	18 04 31.8	
HOWZ	**Holdsworth Sta**	**1.83**	**312**	⇑PN		Pn	18 04 07.5	-0.4
HOWZ				AML		AML	18 04 07.9	
HOWZ				AML		AML	18 04 08.1	
PRWZ	**Pori Road**	**1.88**	**327**	⇑PN		Pn	18 04 08.4	0.0
PRWZ				AML		AML	18 04 09.4	
PRWZ				AML		AML	18 04 09.7	
PRHZ	**Porangahau**	**1.94**	**344**	PN		Pn	18 04 08.2	-1.1
PRHZ				AML		AML	18 04 32.8	
PRHZ				AML		AML	18 04 35.2	
BHW	**Baring Head**	**1.97**	**291**	PN		Pn	18 04 08.9	-0.8
BHW				AML		AML	18 04 31.6	
BHW				AML		AML	18 04 32.0	
MRZ	**Mangatainoka R**	**1.97**	**318**	PN		Pn	18 04 09.2	-0.5
MRZ				AML		AML	18 04 09.5	
MRZ				AML		AML	18 04 09.5	
CAW	**Cannon Point**	**1.98**	**301**	PN		Pn	18 04 09.2	-0.6
CAW				SN		Sn	18 04 31.6	-1.8
CAW				AML		AML	18 04 32.9	
OGWZ	**Otaki Gorge**	**2.08**	**309**	⇑PN		Pn	18 04 11.0	-0.2

KRVZ	**Karewarewa**	**3.30**	**337**	PN	Pn	18 04 28.4 +0.3
KRVZ				AML	AML	18 04 31.3
KRVZ				AML	AML	18 04 31.3
THZ	**Tophouse**	**3.31**	**275**	PN	Pn	18 04 27.3 -0.9
THZ				AML	AML	18 05 08.3
THZ				AML	AML	18 05 09.9
SNGZ	**Shannon Statio**	**3.35**	**0**	PN	Pn	18 04 26.6 -2.1
SNGZ				AML	AML	18 05 06.8
SNGZ				AML	AML	18 05 07.8
MRHZ	**Matea Rd**	**3.37**	**348**	⇓PN	Pn	18 04 28.4 -0.7
MRHZ				AML	AML	18 05 07.6
MRHZ				AML	AML	18 05 09.0
TWVZ	**Taurewa**	**3.38**	**334**	PN	Pn	18 04 29.3 +0.1
KATZ	**Kakaramea**	**3.39**	**338**	PN	Pn	18 04 29.6 +0.2
KATZ				AML	AML	18 04 33.2
KATZ				AML	AML	18 04 36.4
RIGZ	**Rimuhau**	**3.45**	**6**	PN	Pn	18 04 27.3 -2.8
RIGZ				AML	AML	18 05 07.3
RIGZ				AML	AML	18 05 08.3
LREZ	**Lake Rotokare**	**3.47**	**319**	PN	Pn	18 04 31.9 +1.6
LREZ				AML	AML	18 05 16.9
LREZ				AML	AML	18 05 34.0
RATZ	**Rangitukua**	**3.47**	**340**	PN	Pn	18 04 30.5 0.0
RATZ				AML	AML	18 05 11.1
RATZ				AML	AML	18 05 11.9
RTZ	**Ruatahuna**	**3.53**	**356**	PN	Pn	18 04 29.4 -1.8
VRZ	**Vera Road**	**3.58**	**326**	⇑PN	Pn	18 04 32.5 +0.6
VRZ				AML	AML	18 05 20.8
WATZ	**Wairara**	**3.63**	**340**	PN	Pn	18 04 32.1 -0.5
RAGZ	**Rawiri**	**3.64**	**1**	PN	Pn	18 04 30.1 -2.6
RAGZ				AML	AML	18 05 13.6
RAGZ				AML	AML	18 05 14.1
ALRZ	**Allen Road**	**3.65**	**348**	PN	Pn	18 04 31.8 -1.0
PREZ	**Palmer Road**	**3.68**	**318**	PN	Pn	18 04 35.6 +2.3
PRRZ	**Plateau Road**	**3.70**	**349**	PN	Pn	18 04 32.5 -1.0
PRRZ				AML	AML	18 05 17.9
MQZ	**McQueen's Vall**	**3.77**	**244**	⇑PN	Pn	18 04 31.6 -2.7
MQZ				AML	AML	18 05 15.1
NEZ	**North Egmont**	**3.77**	**318**	PN	Pn	18 04 36.2 +1.8
NMEZ	**Namu Road**	**3.77**	**315**	PN	Pn	18 04 36.4 +1.9
DREZ	**Durham Road**	**3.78**	**320**	PN	Pn	18 04 36.4 +1.9
LTZ	**Lake Taylor**	**3.79**	**259**	PN	Pn	18 04 32.9 -1.9
LTZ				AML	AML	18 05 17.2
KHEZ	**Kahui Hut**	**3.79**	**317**	PN	Pn	18 04 36.6 +1.8
MWZ	**Matawai**	**3.80**	**3**	PN	Pn	18 04 31.9 -3.1
MWZ				AML	AML	18 05 19.3
MWZ				AML	AML	18 05 20.3
QRZ	**Quartz Range**	**3.83**	**288**	PN	Pn	18 04 35.9 +0.7
QRZ				AML	AML	18 05 19.7
QRZ				AML	AML	18 05 22.2
QRZ				AML	AML	18 05 22.2
URZ	**Urewera**	**3.88**	**358**	PN	Pn	18 04 33.7 -2.2
URZ				AML	AML	18 05 19.4
URZ				AML	AML	18 05 19.5
PKE	**Pukeiti**	**3.88**	**318**	PN	Pn	18 04 37.9 +1.9
HSRZ	**Hossack Road**	**3.91**	**348**	PN	Pn	18 04 35.5 -0.9
TARZ	**Mount Tarawera**	**3.95**	**351**	PN	Pn	18 04 35.7 -1.3
TWGZ	**Tauwhareparae**	**3.99**	**8**	PN	Pn	18 04 34.9 -2.6
TWGZ				AML	AML	18 05 21.8
TWGZ				AML	AML	18 05 21.8
TLZ	**Tolley Road**	**4.04**	**340**	PN	Pn	18 04 37.0 -1.2
TLZ				AML	AML	18 04 38.5
TLZ				AML	AML	18 04 48.6
OXZ	**Oxford**	**4.06**	**251**	PN	Pn	18 04 36.3 -2.2
OXZ				AML	AML	18 05 23.3
HIZ	**Hauiti**	**4.08**	**332**	PN	Pn	18 04 40.2 +1.5
RUGZ	**Raukumara Rang**	**4.18**	**4**	PN	Pn	18 04 37.3 -2.9
INZ	**Inchbonnie**	**4.38**	**260**	PN	Pn	18 04 41.9 -1.0
HAZ	**Te Kaha**	**4.39**	**5**	PN	Pn	18 04 40.4 -2.6
HAZ				AML	AML	18 05 30.0
HAZ				AML	AML	18 05 33.7
TOZ	**Tahuroa Road**	**4.62**	**342**	PN	Pn	18 04 44.9 -1.2
CTZ	**Chatham Island**	**4.73**	**112**	PN	Pn	18 04 39.6 -8.1
RPZ	**Rata Peaks**	**4.86**	**249**	PN	Pn	18 04 47.5 -2.0
RPZ				AML	AML	18 05 26.5
ODZ	**Otahua Downs**	**5.65**	**237**	PN	Pn	18 04 58.3 -1.9
ODZ				AML	AML	18 06 54.3
LBZ	**Lake Benmore**	**5.67**	**244**	PN	Pn	18 04 59.1 -1.5
EAZ	**Earnscleugh**	**6.58**	**239**	⇑PN	Pn	18 05 11.7 -1.3
TUZ	**Tuapeka**	**6.72**	**233**	PN	Pn	18 05 13.1 -1.8

*SJA **10** 18:03:54.6±1.3,24°.23S×67°.41W,h143km±22km,ML2.6, MW3.0*
*ISCJB **10** 18:03:55.2±0.5,24°.24S±0°.04×67°.21W±0°.03,h178km±6km, mb3.2/2,Error ellipse: s-maj=7.6km s-min=4.1km az=26.0*
*GUC **10** 18:03:57.1±0.5,24°.17S×67°.57W,h196km±11km,ML4.1*
*IDC **10** 18:04:01.9±2.2,23°.83S×67°.04W,h217km±21km,mb2.9/2, mb1 3.2/5,mb1mx3.1/26,mbtmp3.6/5,Error ellipse: s-maj=31.3km s-min=18.5km az=73.0*

ISC 10 18:03:56.6±0.9,24°.19S±0°.05×67°.19W±0°.04,h170km±8km, n26,σ1§44/41,8C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.62**	**109**	*e*P	**Pn**	**18 04 29.5**	**+0.3**
SLA	comp=Z,88nm,0.7s			IAML		18 04 30.8	
SLA				*e*S	**Sn**	**18 04 53.9**	**-0.4**
HJA	**Humahuaca**	**1.91**	**59**	*e*P	**Pn**	**18 04 33.0**	**+0.6**
HJA	comp=Z,75nm,0.4s			IAML		18 04 35.1	
AZAP	**Zapla**	**1.94**	**91**	*e*P	**Pn**	**18 04 32.4**	**-0.2**
AZAP				*e*S	**Sn**	**18 04 59.9**	**-0.5**
FSA	**Cafayete**	**2.20**	**150**	*e*P	**Pn**	**18 04 34.7**	**-0.8**
FSA	comp=Z,12nm,0.5s			IAML		18 04 35.7	
FSA				*e*S	**Sn**	**18 05 03.2**	**-2.5**
LVC	**Limon Verde**	**2.23**	**315**	*e*P	**Pn**	**18 04 36.9**	**+0.9**
LVC				*i* S	**Sn**	**18 05 06.8**	**+0.3**
ASTB	**Santa Barbara**	**2.52**	**85**	*e*P	**Pn**	**18 04 38.7**	**-0.4**
YJA	**Yavi**	**2.53**	**38**	*e*P	**Pn**	**18 04 40.2**	**+0.6**
YJA	comp=Z,7.0nm,0.4s			IAML		18 04 41.6	
PB06	**IPOC Station P**	**2.64**	**304**	⇑*i*P	**Pn**	**18 04 41.3**	**+0.7**
PB06				*i* S	**Sn**	**18 05 14.5**	**-0.2**
PB06	comp=N,454nm,0.4s			IAML		18 05 16.4	
ALOL	**LOMAS DE OLMED**	**2.96**	**83**	*e*P	**Pn**	**18 04 44.1**	**-0.2**
ALOL				*e*S	**Sn**	**18 05 20.6**	**-0.9**
PB14	**IPOC Station P**	**2.96**	**261**	⇑*i*P	**Pn**	**18 04 44.1**	**-0.6**
PB14				*e*S	**Sn**	**18 05 20.3**	**-1.6**
PB14	comp=E,364nm,0.5s			IAML		18 05 21.7	
PB14	**IPOC Station P**	**2.96**	**261**	*e*P	**Pn**	**18 04 43.8**	**-0.9**
PB14				*e*S	**Sn**	**18 05 20.4**	**-1.5**
ANCH	**Antofagasta**	**2.99**	**279**	⇑*i*P	**Pn**	**18 04 46.4**	**+1.7**
ANCH				*i* S	**Sn**	**18 05 21.9**	**-0.1**
PB09	**IPOC Station P**	**3.04**	**321**	⇑*i*P	**Pn**	**18 04 46.6**	**+1.0**
PB09				*i* S	**Sn**	**18 05 24.1**	**+0.5**
PB10	**IPOC Station P**	**3.15**	**282**	⇑*i*P	**Pn**	**18 04 46.7**	**0.0**
PB10				*i* S	**Sn**	**18 05 24.2**	**-1.5**
PB10	**IPOC Station P**	**3.15**	**282**	*e*P	**Pn**	**18 04 46.9**	**+0.1**
PB04	**IPOC Station P**	**3.29**	**304**	⇓*i*P	**Pn**	**18 04 48.8**	**+0.2**
PB04				*e*S	**Sn**	**18 05 27.4**	**-1.6**
PB04	comp=N,367nm,0.3s			IAML		18 05 29.6	
PB07	**IPOC Station P**	**3.49**	**314**	⇑*i*P	**Pn**	**18 04 51.2**	**0.0**
PB07				*i* S	**Sn**	**18 05 31.7**	**-1.9**
PB01	**IPOC Station P**	**3.79**	**325**	⇑*i*P	**Pn**	**18 04 54.4**	**-0.5**
PB01				*i* S	**Sn**	**18 05 38.2**	**-2.0**
PB02	**IPOC Station P**	**3.80**	**318**	⇑*i*P	**Pn**	**18 04 54.4**	**-0.5**
PB02				*i* S	**Sn**	**18 05 38.1**	**-2.4**
ACLC	**CERRO LA CRUZ**	**5.22**	**178**	*e*P	**Pn**	**18 05 11.8**	**-1.6**
LPAZ	**La Paz**	**7.91**	**353**	P	**Pn**	**18 05 49.5**	**0.0**
LPAZ	comp=N,1.2nm,0.3s,baz=160,slow=8.2,SNR=28			S	**Sn**	**18 07 17.6**	**-0.9**
CPUP	comp=N,0.1nm,0.3s,baz=53,slow=22,SNR=1.2 **Villa Florida**	**9.18**	**105**	P	Pn	18 06 11.5	+6.0
PLCA	comp=N,0.2nm,0.3s,baz=271,slow=13,SNR=4.5 **Paso Flores**	**16.73**	**189**	P	**Pn**	**18 07 46.5**	**+5.3**
TXAR	comp=N,0.1nm,0.3s,baz=13,slow=14,SNR=4.6 **Lajitas Array**	**63.73**	**325**	P	**P**	**18 14 10.0**	**-0.5**
TORD	comp=N,0.4nm,0.4s,baz=154,slow=8.7,SNR=2.0 **Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**18 15 27.9**	**-2.1**
MKAR	comp=N,0.4nm,0.5s,baz=259,slow=5.3,SNR=7.0 **Makanchi Array**	**146.78**	**40**	PKPbc	**PKPdf**	**18 23 17.7**	**+1.1**
	comp=N,0.2nm,0.4s,baz=314,slow=1.1,SNR=1.4						

*IDC **10** 18:14:16.5±0.4,29°.25S×176°.17W,h0km,mb4.9/20, mb1 4.9/22,mb1mx4.9/25,mbtmp4.8/22,ML3.9/2,MS4.4/19, Ms1 4.3/19,ms1mx4.2/27,Error ellipse: s-maj=16.2km s-min=14.0km az=176.0*
*ISCJB **10** 18:14:19.0±0.1,29°.67S±0°.03×176°.24W±0°.03,h28km, mb5.3/211,MS4.5/21,Error ellipse: s-maj=5.3km s-min=3.0km az=142.2*
*NEIC **10** 18:14:20.8±1.6,29°.60S×176°.28W,h30km±10km, mb5.4/187,Error ellipse: s-maj=4.7km s-min=3.6km az=151.0*
*GCMT **10** 18:14:20.8±0.2,29°.24S×175°.95W,h12km,MW5.0/96, Moment Tensor Solution. s41,c55; s96,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.16±.10; Mθθ-0.09±.11; Mφφ4.25±.08; Mrθ0.64±.36; Mθφ0.33±.09; Mφr0.63±.27; Best double couple: Mo4.31300×10¹⁶ NP1:φs192.00000°,δ50.00000°,λ-80.00000°. NP2: φs356.00000°,δ41.00000°,λ-102.00000°. Principal axes: T 4.3290, Plg5.0000°, Azm275.0000°; N -0.0310, Plg8.0000°, Azm6.0000°; P -4.2970, Plg81.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **10** 18:14:21.0±0.9,29°.19S×176°.36W,h33km,mb5.6/40 Error ellipse: s-maj=11.0km s-min=8.5km az=78.1*
*BJI **10** 18:14:23.1,29°.40S×176°.20W,h50km,mb5.1/27, mB5.5/21,Ms5.2/14,Ms7 4.7/13*

ISC 10 18:14:20.2±0.2,29°.53S±0°.04×176°.18W±0°.04,h28km, n621,σ1§64/647,mb5.3/209,MS4.5/21,14C-10D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.54**	**280**	Pn	**Pn**	**18 14 47.1**	**+1.2**
RAO	1μm,0.3s,baz=105,slow=2.4,SNR=69			Sn	**Sb**	**18 15 07.4**	**+0.2**
URZ	1μm,0.3s,baz=100,slow=19,SNR=8.7 **Urewera**	**10.34**	**211**	Pn	**Pn**	**18 16 46.4**	**-0.2**
URZ	3.1nm,0.3s,baz=256,slow=3.4,SNR=10			Sn	**Sn**	**18 18 38.1**	**-3.4**
URZ	18nm,0.3s,baz=261,slow=23,SNR=13 **Urewera**	**10.34**	**211**	*e*Sn	**Sn**	**18 18 38.1**	**-3.4**
URZ				*e*Sn	Sn	18 18 38.2	-3.3
BKZ	**Black Stump Fm**	**11.36**	**210**	*e*Pn	**Pn**	**18 16 59.1**	**-1.5**
BKZ				*e*Sn	**Sn**	**18 19 03.4**	**-3.2**
BFZ	**Birch Farm**	**12.73**	**207**	*e*Pn	**Pn**	**18 17 18.2**	**-1.2**
BFZ				*e*Sn	**Sn**	**18 19 33.2**	**-6.9**
MSVF	**Nonsavu**	**12.87**	**335**	*e*P	**Pn**	**18 17 19.7**	**-1.8**
MSVF	**Nonsavu**	**12.87**	**335**	*e*Pn	**Pn**	**18 17 19.7**	**-1.8**
SNZO	**South Karori**	**13.90**	**210**	*e*Pn	**Pn**	**18 17 35.1**	**-0.1**
SNZO				*e*Sn	**Sn**	**18 20 00.2**	**-8.3**
THZ	**Tophouse**	**15.07**	**213**	*e*Pn	**Pn**	**18 17 50.7**	**-0.6**
THZ	76nm,0.7s			*e*Sn	**Sn**	**18 20 28.8**	**-8.6**
KHZ	**Kahutara**	**15.30**	**210**	*e*Pn	**Pn**	**18 17 52.0**	**-2.2**
KHZ	156nm,0.8s			*e*Sn	**Sn**	**18 20 33.8**	**-8.9**
AFI	**Afiamalu**	**16.07**	**16**	Pn	**Pn**	**18 18 00.1**	**-4.2**
AFI	1.7nm,0.3s,baz=218,slow=18,SNR=3.2			Sn	Sn	18 20 38.2	-24
AFI	2.3nm,0.3s,baz=190,slow=19,SNR=3.6 **Afiamalu**	**16.07**	**16**	*e*P	**Pn**	**18 18 01.6**	**-2.7**
AFI	comp=Z,78nm,1.0s			pmax	pmax		
AFI	**Afiamalu**	**16.07**	**16**	*e*Pn	**Pn**	**18 18 01.6**	**-2.7**
AFI	comp=Z,78nm,1.0s			*e*Sn	Sn	18 20 39.2	-23
LTZ	**Lake Taylor**	**16.16**	**212**	*e*Pn	**Pn**	**18 18 03.6**	**-1.7**
OXZ	comp=Z,53nm,0.9s **Oxford**	**16.69**	**211**	*e*Pn	**Pn**	**18 18 09.3**	**-2.7**
OXZ	comp=Z,76nm,0.7s			*e*Sn	Sn	18 21 02.9	-14
MQZ	**McQueen's Vall**	**16.73**	**209**	*e*Pn	**Pn**	**18 18 10.1**	**-2.4**
RAR	comp=Z,76nm,1.1s **Rarotonga**	**16.97**	**65**	Pn	**Pn**	**18 18 15.1**	**-0.6**
RAR	comp=Z,1.3nm,0.3s,baz=96,slow=4.8,SNR=5.0			Sn	Sn	18 20 56.9	-27
RAR	comp=Z,1.6nm,0.3s,baz=87,slow=17,SNR=3.8			LR	LR	18 24 32.0	
RAR	comp=Z,1μm,18.7s,baz=252,slow=36 **Rarotonga**	**16.97**	**65**	*e*P	**Pn**	**18 18 09.6**	**-6.0**
RAR	comp=Z,64nm,1.0s			pmax	pmax		
RAR	**Rarotonga**	**16.97**	**65**	*e*Pn	**Pn**	**18 18 09.6**	**-6.0**
RAR	comp=Z,64nm,1.0s			Sn	Sn	18 20 56.9	-27
DZM	**Mont Dzumac**	**17.31**	**291**	P	**P**	**18 18 22.2**	**+1.0**
DZM	comp=Z,0.7nm,0.3s,baz=112,slow=14,SNR=18			LR	LR	18 24 23.4	
DZM	comp=Z,2μm,18.2s,baz=114,slow=35 **Mont Dzumac**	**17.31**	**291**	*e*P	**P**	**18 18 21.5**	**+0.3**
DZM	comp=Z,116nm,1.4s			*e*LQ	LQ	18 21 37.7	
DZM	comp=Z,2μm,28.9s			*e*LR	LR	18 22 23.4	
DZM	comp=Z,4μm,28.1s **Mont Dzumac**	**17.31**	**291**	*e*Pn	**P**	**18 18 21.8**	**+0.6**
RPZ	comp=Z,73nm,1.2s **Rata Peaks**	**17.45**	**212**	P	**Pn**	**18 18 18.6**	**-3.0**
RPZ	comp=Z,2.0nm,0.3s,baz=59,slow=5.9,SNR=6.0			S	Sn	18 21 19.9	-15
RPZ	comp=Z,1.5nm,0.3s,baz=0.0,slow=20,SNR=5.3 **Rata Peaks**	**17.45**	**212**	*e*Pn	**Pn**	**18 18 18.5**	**-3.0**
RPZ	comp=Z,62nm,0.9s			*e*Sn	Sn	18 21 19.9	-15
FOZ	**Fox Glacier**	**17.91**	**215**	*e*Pn	**Pn**	**18 18 23.9**	**-3.3**
LBZ	comp=Z,178nm,1.2s **Lake Benmore**	**18.36**	**212**	*e*P	**P**	**18 18 29.7**	**-3.0**
ODZ	comp=Z,281nm,1.7s **Otahua Downs**	**18.66**	**210**	*e*P	**P**	**18 18 33.6**	**-2.3**
WKZ	comp=Z,75nm,1.0s **Wanaka**	**19.25**	**213**	*e*P	**P**	**18 18 40.6**	**-1.7**
MLZ	comp=Z,224nm,1.6s **Mavora Lakes**	**20.08**	**214**	*e*P	**P**	**18 18 49.5**	**-1.9**
WHZ	comp=Z,60nm,1.2s **Wether Hill Ro**	**20.54**	**213**	*e*P	**P**	**18 18 56.0**	**-0.5**
DCZ	comp=Z,234nm,1.8s **Deep Cove**	**20.62**	**215**	*e*P	**P**	**18 18 58.1**	**+0.9**
TBI	comp=Z,144nm,1.6s **Tubuai**	**24.67**	**82**	*e*P	**P**	**18 19 37.7**	**-1.1**
TBI	comp=Z,109nm,1.2s			*e*S	**S**	**18 23 50.2**	**-8.6**
TBI	comp=Z,821nm,30.2s			*e*LR	LR	18 25 29.8	
TBI	comp=Z,3μm,27.8s,baz=247 **Tubuai**	**24.67**	**82**	*e*T	T	18 44 45.6	
PAE	comp=Z,3.7nm,0.3s **Paea**	**27.02**	**70**	*e*P	**P**	**18 19 58.4**	**-1.6**
PPT2	comp=Z,15nm,1.1s **Papeete2**	**27.06**	**70**	*e*P	**P**	**18 19 59.3**	**-1.2**
PPT2	comp=Z,44nm,1.1s			*e*S	**S**	**18 24 29.3**	**-7.5**
PPT2	comp=Z,1μm,24.8s			*e*LR	LR	18 26 28.2	
PPT	comp=Z,2μm,27.2s,baz=235 **Papeete**	**27.07**	**70**	LR	LR	18 29 32.4	
TIAR	comp=Z,827nm,18.6s,baz=237,slow=34 **Tiarei**	**27.26**	**70**	*e*P	**P**	**18 20 00.8**	**-1.5**
ARMA	comp=Z,26nm,0.9s **Armidale**	**27.85**	**260**	P	**P**	**18 20 10.6**	**+3.0**
ARMA	baz=28,SNR=6.2 **Armidale**	**27.85**	**260**	*e*P	**P**	**18 20 07.5**	**-0.1**
EIDS	comp=Z,23nm,1.2s **Eidsvold**	**29.29**	**270**	P	**P**	**18 20 21.4**	**+1.1**
EIDS	baz=29,SNR=4.0 **Eidsvold**	**29.29**	**270**	*e*P	**P**	**18 20 21.7**	**+1.4**
CAN	comp=Z,70nm,1.7s **Canberra**	**29.85**	**250**	P	**P**	**18 20 28.3**	**+3.0**
HNR	baz=30 **Honiara**	**29.98**	**307**	P	**P**	**18 20 24.1**	**-2.4**
HNR	comp=Z,21nm,0.6s,baz=75,slow=1.4,SNR=3.6			LR	LR	18 31 14.2	
RMQ	comp=Z,161nm,21.2s,baz=144,slow=34 **Roma**	**31.04**	**267**	P	**P**	**18 20 37.8**	**+2.0**
CMSA	baz=31,SNR=12 **Cobar Meteorol**	**32.80**	**257**	P	**P**	**18 20 52.9**	**+1.8**
QLP	baz=33,SNR=6.4 **Quilpie**	**34.95**	**265**	P	**P**	**18 21 10.9**	**+1.0**
CTAO	baz=35,SNR=12 **Charters Tower**	**35.24**	**277**	*e*P	**P**	**18 21 13.9**	**+1.4**
CTAO	comp=Z,12nm,0.6s			pmax	pmax		
CTAO	**Charters Tower**	**35.24**	**277**	*e*P	**P**	**18 21 13.9**	**+1.4**
	comp=Z,12nm,0.6s						
XMAS	**Kiritimati**	**36.15**	**33**	*e*P	**P**	**18 21 19.7**	**-0.6**
	comp=Z,88nm,1.1s						
STKA	**Stephens Creek**	**36.22**	**255**	P	**P**	**18 21 21.4**	**+0.6**
STKA	comp=Z,20nm,0.8s,baz=95,slow=10,SNR=46			LR	LR	18 35 34.5	
STKA	comp=Z,1μm,18.2s,baz=77,slow=35 **Stephens Creek**	**36.22**	**255**	P	**P**	**18 21 21.6**	**+0.8**
STKA	baz=36 **Stephens Creek**	**36.22**	**255**	*e*P	**P**	**18 21 21.7**	**+0.8**
STKA	comp=Z,4.0nm,0.6s			pmax	pmax		
STKA	**Stephens Creek**	**36.22**	**255**	*e*P	**P**	**18 21 21.6**	**+0.8**
RKT	comp=Z,3.8nm,0.6s **Rikitea**	**37.34**	**90**	*e*LR	LR	18 31 20.3	
MTSU	comp=Z,1μm,27.5s,baz=258 **Mount Surprise**	**37.71**	**278**	P	**P**	**18 21 33.9**	**+0.3**
HTT	baz=38,SNR=17 **Hallett**	**38.27**	**252**	P	**P**	**18 21 39.3**	**+1.0**
RABL	baz=38,SNR=21 **Rabaul**	**39.15**	**304**	*e*P	**P**	**18 21 45.9**	**+0.1**
TAOE	comp=Z,28nm,0.5s **Nuku Hiva Isla**	**39.51**	**66**	*e*LR	LR	18 32 14.0	
PMG	comp=Z,1μm,26.8s **Port Moresby**	**39.70**	**293**	*ce*P	**P**	**18 21 48.7**	**-1.5**
PMG	comp=Z,6.0nm,0.6s			pmax	pmax		
COEN	**Coen**	**40.58**	**284**	P	**P**	**18 21 57.4**	**-0.2**
COEN	baz=41,SNR=7.9 **Coen**	**40.58**	**284**	*e*P	**P**	**18 21 57.9**	**+0.3**
BBOO	comp=Z,16nm,1.4s **Buckleboo**	**40.73**	**253**	P	**P**	**18 21 59.0**	**+0.3**
BBOO	baz=41,SNR=13 **Buckleboo**	**40.73**	**253**	*e*P	**P**	**18 21 59.3**	**+0.6**
PATS	comp=Z,36nm,1.1s **Pohnpei**	**43.69**	**322**	*e*P	**P**	**18 22 22.2**	**-0.6**
MANU	comp=Z,152nm,1.9s **Manus Island**	**44.12**	**301**	*e*P	**P**	**18 22 27.0**	**+0.6**
AS01	comp=Z,26nm,1.0s **Alice Springs**	**44.70**	**265**	*e*P	**P**	**18 22 30.8**	**-0.3**
AS31	**Alice Springs**	**44.74**	**265**	*e*P	**P**	**18 22 31.3**	**-0.1**
ASAR	comp=Z,3.0nm,0.8s **Alice Springs**	**44.74**	**265**	P	**P**	**18 22 30.4**	**-1.0**
ASAR	comp=Z,7.6nm,0.6s,baz=99,slow=7.6,SNR=194			ScP	**ScP**	**18 28 06.8**	**+2.9**
ASAR	comp=Z,0.5nm,0.8s,baz=114,slow=4.1,SNR=3.5			S	**S**	**18 29 03.8**	**-3.0**
ASAR	comp=Z,1.4nm,1.0s,baz=105,slow=16,SNR=6.4			LR	LR	18 41 12.8	
WB2	comp=Z,1μm,18.0s,baz=112,slow=36 **Warramunga Arr**	**45.65**	**270**	*e*P	**P**	**18 22 37.5**	**-1.0**
WRAB	**Tennant Creek**	**45.65**	**270**	*c i*P	**P**	**18 22 37.8**	**-0.8**
WRAB	comp=Z,37nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek**	**45.65**	**270**	*e*P	**P**	**18 22 38.5**	**-0.1**
WR1	comp=Z,16nm,0.8s **Warramunga Arr**	**45.66**	**270**	*e*P	**P**	**18 22 37.6**	**-1.1**
WR1	comp=Z,20nm,0.7s			*e*S	**S**	**18 29 14.9**	**-5.1**
WRA	**Warramunga Arr**	**45.66**	**270**	P	**P**	**18 22 37.6**	**-1.1**
WRA	comp=Z,18nm,0.8s,baz=108,slow=7.8,SNR=63			S	**S**	**18 29 14.9**	**-5.1**
WRA	comp=Z,1.5nm,0.9s,baz=108,slow=14,SNR=3.5			LR	LR	18 41 09.2	
FORT	comp=Z,403nm,18.3s,baz=120,slow=35 **Forrest**	**47.80**	**254**	*e*P	**P**	**18 22 54.6**	**-0.7**
SBA	comp=Z,276nm,0.7s **Scott Base**	**49.03**	**185**	*e*P	**P**	**18 23 08.9**	**+4.8**
SBA	comp=Z,36nm,1.1s			pmax	pmax		
SBA	**Scott Base**	**49.03**	**185**	*e*P	**P**	**18 23 08.9**	**+4.9**
VNDA	comp=Z,36nm,1.1s **Vanda**	**49.12**	**186**	P	**P**	**18 23 08.4**	**+3.5**
VNDA	comp=Z,8.4nm,0.9s,baz=2.9,slow=7.4,SNR=29			LR	LR	18 40 02.8	
VNDA	comp=Z,120nm,21.3s,baz=356,slow=31 **Vanda**	**49.12**	**186**	*e*P	**P**	**18 23 09.0**	**+4.2**
VNDA	**Vanda**	**49.12**	**186**	*e*P	**P**	**18 23 09.0**	**+4.2**
VNDA				*ep*P	**pP**	**18 23 09.2**	**-4.1**
WRKA	**Warakurna**	**49.16**	**261**	P	**P**	**18 23 05.5**	**-0.4**
MTN	baz=49,SNR=9.7 **Manton Dam**	**51.42**	**277**	*e*P	**P**	**18 23 21.3**	**-1.8**
KNRA	comp=Z,14nm,0.9s **Kununurra**	**52.23**	**273**	P	**P**	**18 23 29.4**	**+0.4**
JCUZ	baz=52,SNR=4.6 **Jacuzzi**	**52.70**	**25**	*e*P	**P**	**18 23 29.6**	**-2.9**
KLBR	comp=Z,472nm,1.2s **Kellerberrin**	**56.13**	**250**	P	**P**	**18 23 56.6**	**-0.7**
QSPA	baz=56,SNR=8.6 **South Pole Qui**	**60.58**	**180**	*e*P	**P**	**18 24 30.7**	**+2.7**
PMSA	comp=Z,57nm,1.0s **Palmer Station**	**72.40**	**155**	*e*P	**P**	**18 25 44.3**	**+0.9**
MAW	comp=Z,15nm,1.0s **Mawson**	**73.67**	**200**	P	**P**	**18 25 53.6**	**+2.7**
MAW	comp=Z,19nm,1.0s,baz=136,slow=6.0,SNR=33			LR	LR	18 55 34.2	
MAW	comp=Z,54nm,21.8s,baz=66,slow=34 **Mawson**	**73.67**	**200**	*e*P	**P**	**18 25 53.6**	**+2.7**
MAW				pmax	pmax		
MAW	comp=Z,8.0nm,1.2s **Mawson**	**73.67**	**200**	*e*P	**P**	**18 25 53.6**	**+2.7**
KKM	comp=Z,7.5nm,1.2s **Kota Kinabalu**	**73.80**	**287**	*e*P	**P**	**18 25 51.6**	**-1.1**
SBUM	comp=Z,15nm,1.0s **Sibu**	**75.28**	**281**	*e*P	**P**	**18 26 01.8**	**+0.6**
SYO	comp=Z,17nm,1.3s **Syowa Base**	**78.31**	**192**	⇓*e*P	**P**	**18 26 17.0**	**-0.3**
SYO	**Syowa Base**	**78.31**	**192**	⇓*e*PcP	**PcP**	**18 26 25.0**	**-1.6**
MJAR	**Matsushiro Arr**	**78.45**	**324**	P	**P**	**18 26 17.5**	**-0.9**
MAJO	comp=Z,4.3nm,0.9s,baz=155,slow=5.4,SNR=8.6 **Matsushiro**	**78.45**	**324**	*e*P	**P**	**18 26 16.9**	**-1.5**
MAJO	comp=Z,36nm,1.0s			pmax	pmax		
MAT	**Matsushiro**	**78.45**	**324**	P	**P**	**18 26 18.0**	**-0.4**
MAT				S	S	18 36 28.4	+16
SNAA	**Sanae**	**78.97**	**178**	P	**P**	**18 26 22.1**	**+1.0**
SNAA	**Sanae**	**78.97**	**178**	*e*P	**P**	**18 26 20.9**	**-0.1**
SNAA	**Sanae**	**78.97**	**178**	*e*P	**P**	**18 26 22.0**	**+1.0**
	comp=Z,27nm,1.1s						
VNA3	**Neumayer Olymp**	**79.06**	**176**	P	**P**	**18 26 22.3**	**+0.8**
VNA2	**Neumayer--Watz**	**79.51**	**176**	P	**P**	**18 26 25.1**	**+1.2**
	baz=171,slow=5.6						
TWG	**Pinlang**	**79.68**	**304**	*e*P	**P**	**18 26 22.8**	**-2.7**
	comp=Z,211nm,1

PMPB	Monarch Peak	83.57	42	eP	P	18 26 47.0 +1.2
	comp=Z,18nm,1.0s					
SAO	San Andreas Ge	83.58	41	eP	P	18 26 46.7 +0.9
SAO				pmax	pmax	
	comp=Z,12nm,1.0s					
SAO	San Andreas Ge	83.58	41	eP	P	18 26 46.7 +0.9
	comp=Z,12nm,1.0s					
BAR	Barrett	83.72	47	eP	P	18 26 46.5 -0.2
	comp=Z,12nm,1.1s					
OSI	Osito Audit: C	83.72	44	P	P	18 26 47.0 +0.4
	baz=228					
OSI	Osito Audit: C	83.72	44	eP	P	18 26 47.6 +1.0
	comp=Z,28nm,0.3s					
PASC	Pasadena Art C	83.75	45	eP	P	18 26 47.3 +0.6
	comp=Z,24nm,1.1s					
MWC	Mount Wilson	83.86	45	eP	P	18 26 48.2 +0.7
MWC				pmax	pmax	
	comp=Z,24nm,1.1s					
MWC	Mount Wilson	83.86	45	eP	P	18 26 48.2 +0.7
	comp=Z,24nm,1.1s					
MURC	Murrieta	83.99	46	P	P	18 26 48.5 +0.5
	baz=229,SNR=7.4					
MONP2	Monument Peak	84.01	47	P	P	18 26 48.6 +0.3
	baz=229,SNR=13					
IKP	In-Ko-Pah, Jac	84.06	47	P	P	18 26 49.0 +0.5
	baz=229,SNR=7.7					
BFSC	Mount Baldy Ra	84.12	45	P	P	18 26 49.3 +0.5
	baz=228,SNR=10					
HOPS	Hopland Field	84.23	39	eP	P	18 26 50.0 +1.0
	comp=Z,120nm,1.8s					
VES	Vestal, Richgr	84.33	43	P	P	18 26 49.8 +0.2
	baz=227,SNR=6.1					
EDW2	Edwards Air Fo	84.34	45	P	P	18 26 50.2 +0.4
	baz=228,SNR=18					
SWSC	Sam W. Stewart	84.44	47	P	P	18 26 50.9 +0.7
	baz=229					
PFO	Pinyon Flats O	84.46	46	P	P	18 26 51.0 +0.5
	baz=229,SNR=11					
PFO	Pinyon Flats O	84.46	46	eP	P	18 26 51.4 +0.9
PFO				pmax	pmax	
	comp=Z,28nm,1.1s					
PFO	Pinyon Flats O	84.46	46	eP	P	18 26 51.4 +0.9
	comp=Z,28nm,1.1s					
XPFO	Piæon Flat	84.46	46	eP	P	18 26 51.5 +1.0
	comp=Z,30nm,1.1s					
ISA	Isabella, Lake	84.57	44	P	P	18 26 51.7 +0.8
	baz=228					
ISA	Isabella, Lake	84.57	44	eP	P	18 26 52.3 +1.3
ISA				pmax	pmax	
	comp=Z,25nm,1.1s					
ISA	Isabella, Lake	84.57	44	eP	P	18 26 52.3 +1.3
	comp=Z,24nm,1.1s					
BBRC	Big Bear Solar	84.59	46	P	P	18 26 51.7 +0.4
	baz=229					
YSS	Yuzh-Sakhalins	84.67	333	⇓iP	P	18 26 51.9 +0.9
YSS				pmax	pmax	
	comp=Z,20nm,0.7s					
YSS	Yuzh-Sakhalins	84.67	333	eP	P	18 26 52.0 +1.0
	comp=Z,115nm,1.8s					
KSRS	Korea Array	84.72	319	P	P	18 26 52.9 +1.4
	comp=Z,3.6nm,0.8s,baz=138,slow=5.6,SNR=12					
KSRS				LR	LR	19 02 36.7
	comp=Z,75nm,18.2s,baz=121,slow=34					
KS15	Wonju Array Si	84.74	319	eP	P	18 26 53.2 +1.6
KSAR	Wonju Array Be	84.74	319	P	P	18 26 52.9 +1.3
KSAR	Wonju Array Be	84.74	319	P	P	18 26 52.9 +1.3
KS01	Wonju Array Si	84.76	319	eP	P	18 26 52.8 +1.1
KMRM	Mail Ridge	84.77	38	eP	P	18 26 53.5 +1.7
	comp=Z,30nm,0.9s					
LRMC	Laurel Mtn Rad	84.93	44	P	P	18 26 53.4 +0.6
	baz=228,SNR=6.6					
RRX	Edison Barstow	84.95	45	P	P	18 26 53.5 +0.7
	baz=229					
BELC	Belle Mtn. Jos	85.00	46	P	P	18 26 54.0 +0.7
	baz=229,SNR=24					
CMB	Columbia Colle	85.06	41	eP	P	18 26 53.7 +0.3
CMB				pmax	pmax	
	comp=Z,22nm,0.9s					
CMB	Columbia Colle	85.06	41	eP	P	18 26 53.7 +0.3
	comp=Z,22nm,0.9s					
BC3	Big Chuckawall	85.12	47	P	P	18 26 54.7 +0.9
	baz=230,SNR=24					
GLA	Glamis	85.14	48	P	P	18 26 54.5 +0.7
	baz=230,SNR=12					
GLA	Glamis	85.14	48	eP	P	18 26 55.3 +1.5
GLA				pmax	pmax	
	comp=Z,35nm,1.1s					
GLA	Glamis	85.14	48	eP	P	18 26 55.3 +1.5
	comp=Z,35nm,1.1s					
HSIG		85.23	53	eP	P	18 26 55.0 +0.6
	comp=Z,40nm,1.2s					
KHMM	Horse Mountain	85.23	37	eP	P	18 26 55.6 +1.4
	comp=Z,43nm,1.2s					
CWC	Cottonwood Cre	85.33	43	P	P	18 26 55.5 +0.7
	baz=228					
HEC	Hector,Ludlow	85.33	46	P	P	18 26 55.3 +0.5
	baz=229					
GSC	Goldstone, Bar	85.35	45	P	P	18 26 55.5 +0.7
	baz=229,SNR=8.0					
GSC	Goldstone, Bar	85.35	45	eP	P	18 26 55.6 +0.7
GSC				pmax	pmax	
	comp=Z,34nm,1.2s					
GSC	Goldstone, Bar	85.35	45	eP	P	18 26 55.6 +0.7
	comp=Z,34nm,1.2s					
AFDM	Forest Hills D	85.36	40	eP	P	18 26 55.2 +0.4
	comp=Z,22nm,1.1s					
PEA0	Petropavlovsk-	85.38	345	eP	P	18 26 54.2 -0.2
PETK	Petropavlovsk-	85.38	345	P	P	18 26 54.1 -0.3
	comp=Z,2.6nm,0.7s,baz=124,slow=6.1,SNR=5.7					
PETK				LR	LR	19 00 30.9
	comp=Z,124nm,20.2s,baz=139,slow=33					
PEA1	Petropavlovsk-	85.38	345	eP	P	18 26 54.1 -0.3
MPMC	Manual Prospec	85.43	44	P	P	18 26 56.3 +0.8
	baz=228,SNR=19					
ORV	Oroville	85.49	39	eP	P	18 26 55.7 +0.3
ORV				pmax	pmax	
	comp=Z,17nm,1.0s					
ORV	Oroville	85.49	39	eP	P	18 26 55.7 +0.3
	comp=Z,16nm,1.0s					
IRM	Iron Mountain	85.64	47	P	P	18 26 57.4 +1.1
	baz=230,SNR=31					
113A	Mohawk Valley,	85.65	48	eP	P	18 26 57.4 +1.1
	comp=Z,24nm,1.1s					
WDC	Whiskeytown Da	85.65	38	eP	P	18 26 56.8 +0.7
WDC				pmax	pmax	
	comp=Z,41nm,1.0s					
WDC	Whiskeytown Da	85.65	38	eP	P	18 26 56.8 +0.7
	comp=Z,41nm,1.0s					
MLAC	Mammoth, Mammo	85.68	42	eP	P	18 26 54.2 -2.5
GMRC	Granite Mounta	85.72	46	P	P	18 26 57.4 +0.6
	baz=229,SNR=13					
ROC1	El Roble	85.76	126	eP	P	18 26 57.6 +0.2
	comp=Z,23nm,0.8s					
214A	Organ Pipe Nat	85.77	50	P	P	18 26 57.9 +0.9
	baz=231					
214A	Organ Pipe Nat	85.77	50	P	P	18 26 58.2 +1.2
	comp=Z,130nm,1.4s					
Y12C	Blythe	85.78	47	P	P	18 26 57.7 +0.7
	baz=230					
Y12C	Blythe	85.78	47	eP	P	18 26 57.6 +0.7
	comp=Z,19nm,1.1s					
N02D	Trinity Center	85.84	38	P	P	18 26 58.4 +1.2
	baz=224,SNR=9.0					
O03D	Paynes Creek	85.85	39	P	P	18 26 57.3 0.0
	baz=225,SNR=11					
WAKR	Walker	85.93	41	eP	P	18 26 58.6 +0.7
	comp=Z,40nm,1.2s					
IPM	Ipoh	85.93	277	eP	P	18 26 59.0 +0.7
	comp=Z,14nm,0.9s					
IPM				e		18 27 11.2
TUQ	Turquoise Moun	85.98	45	P	P	18 26 58.7 +0.6
	baz=229,SNR=9.2					
M02C	Callahan	86.06	37	P	P	18 26 59.3 +1.1
	baz=224,SNR=13					
QIZ	Qiongzhong	86.06	294	P	P	18 27 00.2 +1.5
QIZ				S	S	18 37 25.6 -5.8
SHOC	Shoshone, Teco	86.07	45	P	P	18 26 58.9 +0.6
	baz=229,SNR=10					
FURC	Furnace Creek,	86.08	44	P	P	18 26 59.0 +0.7
	baz=229					
GRAC	Grapevine Rang	86.13	43	P	P	18 26 59.3 +0.7
	baz=228,SNR=10					
L02D	Cave Junction,	86.22	36	P	P	18 27 00.1 +1.2
	baz=224					
PNTR	Pine Nut	86.23	41	eP	P	18 27 00.4 +1.0
	comp=Z,40nm,0.9s					
TVH2	Borealis Mine	86.23	42	eP	P	18 27 00.1 +0.7
	comp=Z,40nm,0.2s					
LDFC	Landfair	86.26	46	eP	P	18 27 01.2 +1.8
	comp=Z,69nm,1.1s					
BEKR	Beckworth	86.34	40	eP	P	18 27 00.5 +0.6
	comp=Z,16nm,1.1s					
KEBM	Edson Butte	86.36	35	eP	P	18 27 01.1 +1.4
	comp=Z,74nm,1.0s					
NEE2	Needles Airpor	86.37	46	P	P	18 27 00.7 +0.9
	baz=230					
YERR	Yerington	86.37	41	eP	P	18 27 00.8 +0.8
	comp=Z,26nm,1.1s					
PDMCI	Parker Dam,Lak	86.38	47	P	P	18 27 00.9 +1.0
	baz=230,SNR=6.2					
YBH	Yreka Blue Hor	86.38	37	eP	P	18 27 00.0 +0.2
YBH				pmax	pmax	
	comp=Z,18nm,1.1s					
YBH	Yreka Blue Hor	86.38	37	eP	P	18 27 00.0 +0.2
	comp=Z,18nm,1.1s					
LBCM	Butte Creek Ri	86.47	38	eP	P	18 27 01.0 +0.6
KULM	Kulim	86.66	278	eP	P	18 27 02.9 +1.1
	comp=Z,25nm,1.1s					
TPNV	Topopah Spring	86.77	44	P	P	18 27 02.6 +0.6
	baz=229,SNR=20					
TPNV	Topopah Spring	86.77	44	eP	P	18 27 02.5 +0.6
TPNV				pmax	pmax	
	comp=Z,19nm,0.9s					
TPNV	Topopah Spring	86.77	44	eP	P	18 27 02.5 +0.6
	comp=Z,19nm,0.9s					
PAHR	Pah Rah Range	86.78	40	eP	P	18 27 02.4 +0.4
	comp=Z,22nm,1.1s					
HUMO	Hull Mountain	86.88	36	eP	P	18 27 03.1 +0.9
	comp=Z,68nm,1.6s					
Y14A	Wickenburg	86.88	48	eP	P	18 27 03.4 +1.0
	comp=Z,121nm,1.0s					
NJ2	Nanjing	86.89	310	eP	P	18 27 02.8 +0.4
W13A	Hualapai Mount	87.04	47	eP	P	18 27 04.2 +0.8
	comp=Z,15nm,1.0s					
SHPR	Sheep Range	87.15	45	eP	P	18 27 05.0 +1.2
	comp=Z,23nm,1.4s					
USRK	Ussuriysk Ar.	87.32	326	P	P	18 27 04.8 +0.6
	comp=Z,4.7nm,0.7s,baz=142,slow=2.5,SNR=8.3					
TUC	Tucson	87.34	50	P	P	18 27 06.0 +1.3
	baz=232					
TUC	Tucson	87.34	50	eP	P	18 27 06.0 +1.3
TUC				pmax	pmax	
	comp=Z,33nm,1.0s					
TUC	Tucson	87.34	50	eP	P	18 27 06.0 +1.3
	comp=Z,33nm,1.0s					
K04D	Chiloquin, OR	87.51	37	P	P	18 27 05.7 +0.3
	baz=225					
J04D	Umpqua Nationa	87.76	36	P	P	18 27 07.4 +0.7
	baz=225					
MOD	Modoc Plateau	87.78	38	eP	P	18 27 06.9 +0.2
	comp=Z,14nm,0.9s					
HPIG		87.79	57	eP	P	18 27 07.4 +0.3
	comp=Z,13nm,0.8s					
319A	Douglas	87.80	52	eP	P	18 27 07.9 +0.9
	comp=Z,24nm,0.9s					
ZAIG	Zacatecas	87.81	62	eP	P	18 27 08.1 +0.6
	comp=Z,23nm,1.4s					
K05A	Summer Lake	88.04	37	eP	P	18 27 09.1 +1.1
	comp=Z,68nm,1.4s					
R11A	Troy Canyon, C	88.08	43	P	P	18 27 08.6 +0.3
	baz=229,SNR=6.9					
R11A	Troy Canyon, C	88.08	43	eP	P	18 27 08.4 +0.2
	comp=Z,14nm,1.6s					
X16A	Lo Mia Camp, P	88.19	48	eP	P	18 27 10.2 +1.4
	comp=Z,24nm,0.9s					
TLIG	Tlapa	88.21	69	eP	P	18 27 10.9 +1.7
	comp=Z,17nm,1.1s					
J05D	Fort Rock, OR	88.25	37	P	P	18 27 09.8 +0.9
	baz=226,SNR=8.2					
OHAK	Old Harbor	88.55	12	eP	P	18 27 10.4 +0.7
	comp=Z,37nm,0.9s					
LCMT	Little Creek M	88.65	45	eP	P	18 27 12.1 +1.2
	comp=Z,17nm,0.9s					
MDJ	Mudanjiang	88.82	325	P	P	18 27 12.6 +1.3
MDJ				pP	sP	18 27 27.0 +3.4
MDJ				sP	pP	18 27 33.1 +13
MDJ				S	S	18 37 59.7 +2.9
MDJ				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,52nm,4.1s					
U15A	North Rim	88.88	46	eP	P	18 27 13.6 +1.3
	comp=Z,32nm,0.8s					
WUAZ	Wupatki	88.91	48	P	P	18 27 13.4 +1.2
	baz=232					
WUAZ	Wupatki	88.91	48	eP	P	18 27 13.8 +1.6
	comp=Z,30nm,1.0s					
KNB	Kanab	88.92	46	eP	P	18 27 13.6 +1.3
KNB				pmax	pmax	
	comp=Z,31nm,0.9s					
KNB	Kanab	88.92	46	eP	P	18 27 13.6 +1.3
	comp=Z,31nm,0.9s					
CCUT	Cedar City	88.92	45	eP	P	18 27 14.0 +1.7
	comp=Z,18nm,1.0s					
I05D	Terrebonne, OR	88.93	36	P	P	18 27 12.8 +0.8
	baz=225					
WVOR	Wild Horse Val	89.05	39	eP	P	18 27 13.4 +0.8
WVOR				pmax	pmax	
	comp=Z,17nm,1.2s					
WVOR	Wild Horse Val	89.05	39	eP	P	18 27 13.4 +0.8
	comp=Z,17nm,1.2s					
SZCU	Shurtz Canyon	89.12	45	eP	P	18 27 14.8 +1.6
	comp=Z,18nm,1.0s					
X18A	Snowflake	89.23	49	eP	P	18 27 15.1 +1.3
	comp=Z,18nm,1.0s					
PSUT	Pine Spring	89.24	44	eP	P	18 27 14.7 +1.0
	comp=Z,14nm,1.1s					
PANO	Nakornpanom	89.29	290	P	P	18 27 16.4 +2.2
	comp=Z,140nm,0.8s					
F04D	Rainier, OR	89.34	34	P	P	18 27 15.4 +1.7
	baz=224					
E03A	Lebam	89.40	33	eP	P	18 27 15.4 +1.4
	comp=Z,82nm,1.0s					
PKCU	Pink Cliffs	89.50	46	eP	P	18 27 17.5 +2.3
	comp=Z,28nm,1.5s					
121A	Cookes Peak, D	89.50	52	P	P	18 27 16.0 +0.8
	baz=234					
121A	Cookes Peak, D	89.50	52	P	P	18 27 16.6 +1.5
	comp=Z,13nm,1.1s					
F04A	Amboy	89.52	34	eP	P	18 27 15.2 +0.6
	comp=Z,48nm,0.9s					
VFP	Flag Point	89.56	35	P	P	18 27 15.9 +0.8
G05D	Wamic, OR	89.58	35	P	P	18 27 16.1 +1.1
	baz=225					
SKNT	Sakolnakorn	89.72	290	P	P	18 27 18.2 +2.0
	comp=Z,44nm,1.2s					
W18A	Petrified Fore	89.73	49	P	P	18 27 16.9 +0.8
	baz=233					
W18A	Petrified Fore	89.73	49	eP	P	18 27 17.6 +1.5
	comp=Z,51nm,1.4s					
ERK	Elk Rock	89.82	34	eP	P	18 27 17.3 +1.1
NLWA	Neilton Lookou	89.87	33	eP	P	18 27 17.8 +1.6
	comp=Z,52nm,1.1s					
VTHM	Trough	89.92	36	P	P	18 27 17.5 +0.9
MSU	Marysvale	90.25	45	eP	P	18 27 20.2 +1.7
MSU	Marysvale	90.25	45	eP	P	18 27 20.2 +1.7
KHON	Khomkaen	90.35	289	P	P	18 27 22.0 +2.8
	comp=Z,15nm,1.0s					
LON	Longmire	90.39	34	eP	P	18 27 19.3 +0.6
LON				pmax	pmax	
	comp=Z,13nm,0.9s					
LON	Longmire	90.39	34	eP	P	18 27 19.3 +0.6
	comp=Z,13nm,0.9s					
CN2	Changchun	90.42	322	eP	P	18 27 19.7 +0.9
HDW	Hoodsport	90.44	33	P	P	18 27 20.4 +1.4
NAYO	Nakonayok	90.58	286	P	P	18 27 22.8 +2.5
	comp=Z,45nm,0.8s					
LTX	Lajitas	90.59	56	eP	P	18 27 20.6 +0.4
LTX	Lajitas	90.59	56	eP	P	18 27 20.6 +0.4
TX31	Lajitas Ar. Si	90.59	56	eP	P	18 27 20.7 +0.6
TXAR	Lajitas Array	90.59	56	P	P	18 27 20.6 +0.4
	comp=Z,8.1nm,1.0s,baz=212,slow=6.8,SNR=45					
TXAR				LR	LR	19 01 59.3
	comp=Z,210nm,18.5s,baz=0.0,slow=32					
D05A	Enumclaw	90.62	34	eP	P	18 27 21.4 +1.7
	comp=Z,98nm,1.1s					
MNTX	Cornudas Mount	90.69	54	P	P	18 27 20.7 +0.2
	baz=235					
MNTX	Cornudas Mount	90.69	54	eP	P	18 27 21.1 +0.6
	comp=Z,13nm,1.0s					
TRW	Toppenish Ridg	90.70	35	P	P	18 27 21.3 +1.1
CHAI	Chaiyaphum	90.83	288	P	P	18 27 23.2 +1.8
	comp=Z,6.9nm,0.9s					
DUG	Dugway, Tooele	90.91	43	P	P	18 27 21.5 0.0
	baz=231					
DUG	Dugway, Tooele	90.91	43	eP	P	18 27 21.3 -0.2
DUG				pmax	pmax	
	comp=Z,11nm,1.4s					
DUG	Dugway, Tooele	90.91	43	eP	P	18 27 21.3 -0.2
	comp=Z,11nm,1.4s					
LAZ	Ladron	91.03	51	eP	P	18 27 23.6 +1.4
CNPM	China Poot	91.09	12	eP	P	18 27 22.6 +1.0
	comp=Z,57nm,1.2s					
NLU	North Lily Min	91.21	44	eP	P	18 27 23.5 +0.6
	comp=Z,6.6nm,1.0s					
E07A	Sunnyside	91.23	35	eP	P	18 27 23.6 +1.0
	comp=Z,65nm,1.0s					
BNM	Barren Site	91.23	51	eP	P	18 27 24.2 +1.0
MFID	Camas Ranch	91.24	39	eP	P	18 27 23.5 +0.7
	comp=Z,22nm,1.2s					
BGU	Big Grassy Mou	91.24	43	eP	P	18 27 23.6 +0.6
	comp=Z,27nm,1.9s					
BENWA	Benson Ranch	91.27	35	P	P	18 27 22.9 +0.2
HAWA	Hanford	91.28	35	eP	P	18 27 23.4 +0.6
	comp=Z,37nm,1.0s					
PHET	Kaeng Krachan	91.31	284	P	P	18 27 26.9 +3.2
	comp=Z,8.2nm,0.9s					
LPM	Los Pinos Moun	91.32	51	eP	P	18 27 24.1 +0.6
TMUT	Trail Mountain	91.33	45	eP	P	18 27 24.5 +0.8
	comp=Z,20nm,0.9s					
B05A	Bryant	91.33	33	P	P	18 27 23.8 +0.9
	baz=225					
LNIG	Linares	91.34	62	eP	P	18 27 23.5 -0.2
	comp=Z,22nm,1.1s					
A04D	Lummi Island	91.37	32	P	P	18 27 24.0 +0.9
	baz=224					
GBB	Gable Butte	91.38	35	P	P	18 27 23.3 +0.1
BRLK	Bradley Lake	91.38	12	eP	P	18 27 23.7 +0.8
	comp=Z,54nm,1.1s					
BMO	Blue Mountains	91.39	38	eP	P	18 27 23.5 0.0
BMO				pmax	pmax	
	comp=Z,16nm,1.1s					
BMO	Blue Mountains	91.39	38	eP	P	18 27 23.5 0.0
	comp=Z,16nm,1.1s					
SRU	San Rafael Swe	91.64	45	eP	P	18 27 25.7 +0.8
SRU				pmax	pmax	
	comp=Z,22nm,1.0s					
SRU	San Rafael Swe	91.64	45	eP	P	18 27 25.7 +0.8
	comp=Z,22nm,1.0s					
C06D	Leavenworth	91.66	34	P	P	18 27 25.0 +0.4
	baz=226					
RSO	Redoubt South	91.70	11	eP	P	18 27 25.1 +0.4
P17A	Butcher Ranch,	91.72	45	eP	P	18 27 26.5 +1.3
	comp=Z,15nm,1.1s					
MVCO	Mesa Verde	91.78	48	P	P	18 27 26.2 +0.5
	baz=234					
MVCO	Mesa Verde	91.78	48	P	P	18 27 26.5 +0.9
	comp=Z,8.2nm,1.0s					
ANMO	Albuquerque	91.80	50	P	P	18 27 26.2 +0.5
	baz=235					
ANMO	Albuquerque	91.80	50	iP	P	18 27 25.6 -0.2
ANMO				pmax	pmax	
	comp=Z,11nm,1.0s					
ANMO	Albuquerque	91.80	50	eP	P	18 27 26.3 +0.5
	comp=Z,11nm,0.9s					
SPUT	South Promonto	91.83	43	eP	P	18 27 26.7 +1.0
	comp=Z,16nm,1.0s					
PV05	Paradox Valley	91.91	47	eP	P	18 27 27.5 +1.3
HVU	Hansel Valley	91.93	42	eP	P	18 27 27.0 +0.8
HVU				pmax	pmax	
	comp=Z,26nm,1.3s					
HVU	Hansel Valley	91.93	42	eP	P	18 27 26.9 +0.8
	comp=Z,26nm,1.3s					
PBKT	Sadao Pong	92.00	288	P	P	18 27 29.6 +2.8
	comp=Z,16nm,0.9s					
SLVN	Son La	92.01	293	eP	P	18 27 29.3 +2.4
	comp=Z,13nm,1.2s					
D08A	Wollman Farm,	92.04	35	eP	P	18 27 27.4 +1.0
	comp=Z,51nm,0.9s					
HLID	Hailey	92.12	40	P	P	18 27 28.2 +1.1
	baz=230					
HLID	Hailey	92.12	40	eP	P	18 27 27.6 +0.6
	comp=Z,18nm,1.0s					
P18A	Preston Nutter	92.12	45	eP	P	18 27 28.1 +0.8
	comp=Z,11nm,1.0s					
NNA	Nana	92.13	105	LR	LR	19 02 28.2
	comp=Z,107nm,18.4s,baz=214,slow=31					
NNA	Nana	92.13	105	iP	P	18 27 29.2 +1.5
PV09	Paradox Valley	92.14	46	eP	P	18 27 28.2 +0.8
SAW	Saint Andrews	92.24	34	P	P	18 27 27.8 +0.6
PV01	Paradox Valley	92.28	47	eP	P	18 27 28.5 +0.5
ENH	Enshi	92.43	304	eP	P	18 27 30.0 +1.4
	comp=Z,49nm,1.1s					
SRDT	SRDT	92.45	285	P	P	18 27 31.6 +2.7
	comp=Z,35nm,1.1s					
SPU	Mount Spurr	92.50	11	eP	P	18 27 27.9 -0.3
GYA	Guiyang	92.50	299	P	P	18 27 30.7 +1.6
GYA				pP	sP	18 27 45.8 +4.4
GYA				PP	PP	18 31 15.0 +4.1
GYA				SKS	SKSac	18 37 58.4 -2.6
GYA				S	S	18 38 28.2 -3.4
GYA				pmax	pmax	
	comp=Z,20nm,1.0s					
GYA				pmax	pmax	
	comp=Z,130nm,5.9s					
HWUT	Hardware Ranch	92.53	43	eP	P	18 27 29.2 +0.2
	comp=Z,4.6nm,0.9s					
B08A	Colville Reser	92.72	34	eP	P	18 27 29.5 0.0
	comp=Z,38nm,1.8s					
832A	Faith Ranch, C	92.74	59	P	P	18 27 30.1 +0.1
	baz=238					
UTHA	Uthaitani	92.77	286	P	P	18 27 33.6 +3.2
	comp=Z,3.1nm,0.9s					
RC01	Rabbit Creek A	92.83	13	eP	P	18 27 30.2 +0.6
	comp=Z,60nm,1.5s					
933A	Laredo	92.91	60	P	P	18 27 31.2 +0.3
	baz=238					
LVC	Limon Verde	92.96	118	LR	LR	19 02 45.0
	comp=Z,1µm,18.5s,baz=230,slow=31					
LVC	Limon Verde	92.96	118	eP	P	18 27 33.7 +1.9
	comp=Z,22nm,0.9s					
SUA	Susitna One	92.99	12	eP	P	18 27 30.7 +0.2
	comp=Z,16nm,0.9s					
034A	Hebbronville	93.08	61	P	P	18 27 32.8 +1.2
	baz=238					
LLLB	Lillooet	93.09	31	eP	P	18 27 31.8 +0.6
	comp=Z,35nm,1.8s					
GLI	Glacier Island	93.16	14	eP	P	18 27 31.8 +0.6
	comp=Z,32nm,0.9s					
S22A	4UR Ranch, Cre	93.17	48	P	P	18 27 32.7 +0.5
	baz=235					
S22A	4UR Ranch, Cre	93.17	48	eP	P	18 27 32.8 +0.6
	comp=Z,11nm,0.9s					
FID	Port Fidalgo	93.17	14	eP	P	18 27 31.4 +0.2
	comp=Z,35nm,1.2s					
833A	Chaparral WMA,	93.20	59	P	P	18 27 32.1 0.0
	baz=238					
ATAH	Atahualpa	93.25	100	LR	LR	19 02 05.4
	comp=Z,257nm,18.2s,baz=218,slow=31					
WRAK	Wrangell Islan	93.34	23	eP	P	18 27 33.7 +1.7
	comp=Z,116nm,1.8s					
PB01	IPOC Station P	93.37	116	eP	P	18 27 34.7 +1.4
	comp=Z,23nm,1.0s					
PMR	Palmer	93.41	13	eP	P	18 27 32.8 +0.6
PMR				pmax	pmax	
	comp=Z,15nm,1.0s					
PMR	Palmer	93.41	13	eP	P	18 27 32.8 +0.6
	comp=Z,15nm,1.0s					
BJI	Beijing	93.42	315	P	P	18 27 33.1 +0.3
BJI				pmax	pmax	
	comp=Z,10.0nm,0.4s					
BJI				pmax	pmax	
	comp=Z,170nm,5.3s					
934A	Benavides	93.48	60	P	P	18 27 34.4 +0.9
	baz=238					
733A	Divot King Ran	93.48	59	P	P	18 27 33.0 -0.4
	baz=238					
TT01	Tatalina	93.52	9	eP	P	18 27 33.3 +0.6
UMPA	Umpang Tak	93.58	286	P	P

SMCO Snowmass 93.90 47 *eP* **P 18 27 35.9 +0.3**
comp=Z,9.4nm,0.9s
PB11 IPOC Station P 93.94 115 *eP* **P 18 27 36.7 +0.7**
comp=Z,35nm,0.9s
SCM Sheep Creek Mo 93.98 13 *eP* **P 18 27 35.8 +0.8**
SCM pmax pmax
comp=Z,25nm,0.9s
SCM Sheep Creek Mo 93.98 13 *eP* **P 18 27 35.8 +0.8**
comp=Z,25nm,0.9s
REDW Red Top Meadow 94.02 42 *eP* **P 18 27 36.7 +0.8**
comp=Z,19nm,1.0s
JCT Junction City 94.03 57 P **P 18 27 35.7 -0.3**
baz=238
JCT Junction City 94.03 57 *eP* **P 18 27 35.8 -0.2**
JCT pmax pmax
comp=Z,11nm,1.0s
JCT Junction City 94.03 57 *eP* **P 18 27 35.8 -0.2**
comp=Z,11nm,1.0s
SDCO Great Sand Dun 94.03 49 P **P 18 27 35.6 -0.5**
baz=235
SDCO Great Sand Dun 94.03 49 *eP* **P 18 27 36.6 +0.5**
comp=Z,4.9nm,1.0s
TPAW Teton Pass 94.04 41 *eP* **P 18 27 36.5 +0.5**
comp=Z,12nm,1.0s
FXWY Fox Creek 94.09 41 *eP* **P 18 27 36.9 +0.7**
comp=Z,9.8nm,1.0s
SNOW Snow King Moun 94.14 42 P **P 18 27 32.5 -3.9**
comp=Z,24nm,0.8s
DLMT Dillon 94.27 39 *eP* **P 18 27 37.7 +0.9**
comp=Z,17nm,1.0s
IMW Indian Meadow 94.30 41 *eP* **P 18 27 37.8 +0.6**
comp=Z,15nm,1.0s
LOHW Long Hollow 94.32 42 *eP* **P 18 27 37.5 +0.3**
comp=Z,17nm,1.3s
MOOW Moose Ponds 94.32 41 *eP* **P 18 27 37.5 +0.3**
comp=Z,19nm,1.6s
MNMC Minye Minye 94.33 115 *eP* **P 18 27 39.3 +1.3**
comp=Z,31nm,1.1s
T25A Trinidad 94.41 50 P **P 18 27 37.6 -0.2**
baz=236
T25A Trinidad 94.41 50 *eP* **P 18 27 38.2 +0.4**
comp=Z,6.9nm,0.8s
BW06 Boulder Array 94.42 43 P **P 18 27 37.1 -0.7**
baz=233
BW06 Boulder Array 94.42 43 *eP* **P 18 27 37.2 -0.5**
comp=Z,5.6nm,1.1s
PD31 Pinedale Array 94.42 43 *eP* **P 18 27 37.6 -0.1**
PD31 *e*PKKPdf **PKKPdf 18 44 38.4 +0.2**
PDAR Pinedale Array 94.42 43 P **P 18 27 37.5 -0.1**
comp=Z,4.1nm,0.9s,baz=215,slow=4.0,SNR=20
PDAR PKKPbc **PKKPdf 18 44 38.4 +0.2**
comp=Z,0.4nm,0.7s,baz=84,slow=7.6,SNR=3.9
PDAR LR LR 19 06 11.6
comp=Z,256nm,18.1s,baz=285,slow=33
MSO Missoula 94.46 38 P **P 18 27 37.6 0.0**
baz=231
MSO Missoula 94.46 38 *eP* **P 18 27 38.9 +1.3**
comp=Z,5.7nm,1.0s
CM01 Chiang Mai Arr 94.58 288 *eP* **P 18 27 40.6 +1.9**
QLMT Earthquake Lak 94.59 40 *eP* **P 18 27 39.5 +1.1**
CM31 Chiang Mai Arr 94.61 288 *eP* **P 18 27 40.0 +1.2**
CM31 *e*PKKPdf **PKKPdf 18 44 37.0 +0.6**
CMAR Chiang Mai Arr 94.61 288 P **P 18 27 40.7 +1.8**
comp=Z,1.5nm,0.9s,baz=139,slow=3.7,SNR=12
CMAR PKKPbc **PKKPdf 18 44 37.0 +0.6**
comp=Z,0.7nm,0.7s,baz=289,slow=4.6,SNR=7.5
CMAR LR LR 19 11 34.6
comp=Z,34nm,18.8s,baz=164,slow=36
LRM Limekiln Ridge 94.63 39 *eP* **P 18 27 39.1 +0.5**
YFT Old Faithful 94.69 41 *eP* **P 18 27 40.2 +1.3**
comp=Z,14nm,1.0s
YMR Madison River 94.75 41 *eP* **P 18 27 40.8 +1.6**
comp=Z,28nm,1.1s
CHTO Chiang Mai 94.79 289 P **P 18 27 42.1 +2.4**
CHTO Chiang Mai 94.79 289 *eP* **P 18 27 41.3 +1.6**
CHTO *e* 18 27 53.3
CHTO pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 94.79 289 *eP* **P 18 27 41.3 +1.6**
comp=Z,5.6nm,1.1s
CHTO *e* 18 27 53.3
H17A Grant Village 94.81 41 *eP* **P 18 27 41.5 +2.0**
comp=Z,43nm,0.4s
XAN Xi'an 94.86 306 P **P 18 27 43.9 +4.2**
XAN pP sP 18 27 57.5 +5.5
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,140nm,9.2s
XAN LR LR
comp=Z,130nm,15.1s
XAN LR LR
comp=Z,200nm,17.8s
CHMT Chamberlain Mo 94.88 38 *eP* **P 18 27 39.7 0.0**
YHH Holmes Hill 94.89 40 *eP* **P 18 27 41.3 +1.4**
comp=Z,21nm,1.3s
KTH Kantishna Hill 94.90 11 *eP* **P 18 27 38.3 -0.9**
comp=Z,38nm,1.6s
TRF Thorofare Moun 94.92 11 *eP* **P 18 27 39.3 -0.1**
comp=Z,14nm,1.0s
BOZ Bozeman (W) 94.94 40 P **P 18 27 40.2 +0.3**
baz=232
BOZ Bozeman (W) 94.94 40 *eP* **P 18 27 40.3 +0.3**
BOZ pmax pmax
comp=Z,21nm,1.0s
BOZ Bozeman (W) 94.94 40 *eP* **P 18 27 40.2 +0.3**
comp=Z,21nm,1.0s
AMTX Amarillo 95.03 53 P **P 18 27 40.1 -0.4**
baz=237
ISCO Idaho Springs 95.12 47 P **P 18 27 41.1 0.0**
baz=236
RND Reindeer 95.13 12 *eP* **P 18 27 40.5 +0.3**
RND pmax pmax
comp=Z,23nm,1.0s
RND Reindeer 95.13 12 *eP* **P 18 27 40.5 +0.3**
comp=Z,23nm,1.0s
PAX Paxson 95.38 14 *eP* **P 18 27 41.6 +0.1**
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 95.38 14 *eP* **P 18 27 41.6 +0.1**
comp=Z,8.5nm,1.2s
MCK McKinley 95.41 12 *eP* **P 18 27 41.6 +0.1**
MCK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 95.41 12 *eP* **P 18 27 41.5 +0.1**
comp=Z,35nm,1.4s
SEY Seymchan 95.50 346 P **P 18 27 41.6 -0.2**
comp=Z,2.1nm,0.9s,baz=204,slow=17,SNR=3.6
N23A Red Feather La 95.53 46 P **P 18 27 43.3 +0.4**
baz=235
N23A Red Feather La 95.53 46 *eP* **P 18 27 43.2 +0.4**
comp=Z,5.7nm,0.8s
K22A Casper 96.17 44 P **P 18 27 45.8 +0.2**
baz=235
WRH Wood River Hil 96.24 12 *eP* **P 18 27 45.3 +0.2**
comp=Z,18nm,0.9s
DOT Dot Lake 96.28 14 *eP* **P 18 27 45.9 +0.5**
comp=Z,18nm,0.9s
HDA Harding Lake 96.39 12 *eP* **P 18 27 45.7 -0.2**
comp=Z,13nm,0.8s
CCB Clear Creek Bu 96.45 12 *eP* **P 18 27 46.0 -0.1**
comp=Z,11nm,0.9s
COLA College 96.65 12 *eP* **P 18 27 46.2 -0.8**
COLA pmax pmax
comp=Z,13nm,0.9s
MDM Murphy Dome 96.66 12 *eP* **P 18 27 46.9 -0.2**
comp=Z,10nm,0.9s
IL1 Eielson Array 96.73 12 *eP* **P 18 27 47.2 -0.2**
ILAR Eielson Array 96.73 12 P **P 18 27 46.9 -0.6**
comp=Z,6.3nm,1.0s,baz=219,slow=5.4,SNR=36
ILB Eielson Array 96.73 12 *eP* **P 18 27 47.2 -0.2**
IMAR Indian Mountai 96.76 9 *eP* **P 18 27 47.5 0.0**
HHC Hu-ho-hao-te 96.78 313 *eP* **P 18 27 51.6 +3.3**
HHC pP sP 18 28 05.0 +4.3
HHC sP pP 18 28 10.3 +13
HHC S **S 18 39 01.6 -6.7**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,79nm,8.5s
HHC LR LR
comp=Z,230nm,16.0s
HHC LR LR
comp=Z,310nm,16.0s
HHC LR LR
comp=Z,220nm,17.3s
CD2 Chengdu 96.97 301 P **P 18 27 50.5 +1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LPAZ La Paz 97.05 113 P Pdif 18 27 52.0 +1.0
comp=Z,5.4nm,0.8s,baz=221,slow=2.3,SNR=25
LPAZ La Paz 97.05 113 *eP* Pdif 18 27 52.4 +1.5
LPAZ pmax pmax
comp=Z,7.0nm,0.8s
LPAZ La Paz 97.05 113 *eP* Pdif 18 27 52.4 +1.5
comp=Z,6.6nm,0.8s
RSSD Black Hills 98.49 44 Pdiff Pdif 18 27 56.2 0.0
baz=237
RSSD Black Hills 98.49 44 *eP* Pdif 18 27 56.4 +0.2
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD Black Hills 98.49 44 *eP* Pdif 18 27 56.4 +0.2
comp=Z,16nm,0.9s
W35A Tecumseh 98.54 55 Pdiff **P 18 27 56.2 -0.1**
baz=240
CPUP Villa Florida 99.27 127 P **Pdif 18 28 02.3 +2.4**
comp=Z,2.3nm,1.1s,baz=331,slow=3.1,SNR=4.5
CPUP LR LR 19 08 05.6
comp=Z,160nm,18.4s,baz=263,slow=32
CPUP Villa Florida 99.27 127 *eP* **Pdif 18 28 01.7 +1.8**
CPUP Villa Florida 99.27 127 *eP* **Pdif 18 28 01.7 +1.8**
LZH Lanzhou 99.48 306 *eP* **Pdif 18 28 04.3 +3.6**
LZH pP sP 18 28 19.5 +6.5
LZH sP pP 18 28 26.1 +16
LZH *e*S **S 18 39 25.0 -6.7**
LZH SS **SS 18 46 21.5 -1.4**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,76nm,4.8s
LZH LR LR
comp=Z,180nm,15.4s
LZH LR LR
comp=Z,160nm,14.0s
LZH LR LR
comp=Z,180nm,19.1s
X38A Whitesboro 99.77 56 Pdiff **Pdif 18 28 02.3 +0.5**
baz=241
TOLK Toolik Lake Re 99.83 10 Pdiff **Pdif 18 28 02.3 +1.0**
baz=203
YAK Yakutsk 101.05 337 *eP* **Pdif 18 28 06.1 -0.7**
YAK pmax pmax
comp=Z,5.0nm,1.0s
ECSD EROS Data Cent 102.91 47 Pdiff **Pdif 18 28 16.5 +0.9**
baz=242
M54A Oil Creek Stat 113.45 54 PKiKP **PKiKP 18 32 55.5 -0.1**
baz=251
O56A Blue Knob Stat 113.83 56 PKiKP **PKiKP 18 32 56.3 0.0**
baz=251
WMQ Urumqi 113.93 308 PKP **PKiKP 18 32 56.4 0.0**
WMQ sPKP 18 33 20.1
WMQ PP **PP 18 33 52.0 +1.2**
WMQ SKKS 18 40 40.3
WMQ AMB AMB
comp=Z,210nm,6.1s
WMQ LR LR
comp=Z,220nm,25.5s
WMQ LR LR
comp=Z,290nm,21.3s
WMQ LR LR
comp=Z,290nm,21.3s
N59A State Game Lan 116.06 56 PKiKP **PKiKP 18 33 01.7 +1.1**
baz=252
MK01 Makanchi Array 118.41 310 *e*PKPdf **PKPdf 18 33 04.6 -0.3**
MK31 Makanchi Array 118.42 310 *e*PKIKP **PKPdf 18 33 04.5 -0.4**
MK31 Makanchi Array 118.42 310 *e*PKPdf **PKPdf 18 33 04.5 -0.4**
MK32 Makanchi Array 118.42 310 *e*PKPdf **PKPdf 18 33 04.5 -0.4**
MK32 *e*PKKPbc **PKKPab 18 43 23.7 +0.1**
MKAR Makanchi Array 118.42 310 PKP **PKPdf 18 33 04.5 -0.4**
comp=Z,2.5nm,0.7s,baz=92,slow=0.6,SNR=15
MKAR PKKPbc **PKKPab 18 43 23.7 +0.1**
comp=Z,1.4nm,0.9s,baz=305,slow=4.3,SNR=5.3
ZAA1 Zalesovo Array 118.43 318 *e*PKPdf **PKPdf 18 33 03.9 -0.7**
ZALV Zalesovo Beam 118.43 318 PKP **PKPdf 18 33 03.9 -0.7**
comp=Z,1.7nm,0.6s,baz=178,slow=0.4,SNR=9.1
ZALV Zalesovo Beam 118.43 318 *e*PKIKP **PKPdf 18 33 03.7 -0.9**
ZALV Zalesovo Beam 118.43 318 *e*PKPdf **PKPdf 18 33 03.7 -0.9**
MAKZ Makanchi 118.64 310 *e*PKIKP **PKPdf 18 33 04.9 -0.4**
MAKZ Makanchi 118.64 310 *e*PKPdf **PKPdf 18 33 04.9 -0.4**
KSH Kashi 121.16 301 *e*PKP **PKPdf 18 33 11.5 +1.0**
KSH sPKP 18 33 27.9
KSH PP **PP 18 34 48.2 +6.9**
KSH PKS **SKSdf 18 36 49.4 +2.1**
KSH SKS **SKSdf 18 40 20.2 -0.5**
KSH SS **SS 18 51 18.1 +4.9**
KSH AMB AMB
comp=Z,52nm,5.6s
KSH LR LR
comp=Z,89nm,6.0s
KSH LR LR
comp=Z,74nm,6.9s
KSH LR LR
comp=Z,140nm,5.5s
KURK Kurchatov 121.58 314 *i* PKIKP **PKPdf 18 33 09.9 -0.9**
KURK pmax pmax
comp=Z,34nm,1.0s
KURK Kurchatov 121.58 314 *e*PKPdf **PKPdf 18 33 09.6 -1.2**
KURBB Kurchatov Arra 121.63 314 PKP **PKPdf 18 33 09.6 -1.3**
comp=Z,5.1nm,0.8s,baz=108,slow=2.0,SNR=26
AAK Ala-Archa 122.94 304 *e*PKIKP **PKPdf 18 33 14.3 +0.4**
AAK Ala-Archa 122.94 304 *e*PKPdf **PKPdf 18 33 14.3 +0.4**
KBL Kabul 125.33 293 *e*PKIKP **PKPdf 18 33 19.6 +0.8**
KBL Kabul 125.33 293 *e*PKPdf **PKPdf 18 33 19.6 +0.8**
KKAR Karatay Array 125.90 304 *e*PKIKP **PKPdf 18 33 19.7 +0.3**
KKAR *e* 18 33 30.9
KKAR Karatay Array 125.90 304 *e*PKPdf **PKPdf 18 33 19.7 +0.3**
KKAR *e* 18 33 30.9
BVAR Borovoye Array 126.88 316 PKP **PKPdf 18 33 21.1 +0.2**
comp=Z,6.0nm,0.7s,baz=64,slow=3.4,SNR=27
BRVK Borovoye 126.94 316 *i* PKIKP **PKPdf 18 33 20.9 -0.1**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 126.94 316 *e*PKPdf **PKPdf 18 33 21.4 +0.4**
SPITS Spitsbergen Ar 130.94 357 PKP **PKPdf 18 33 28.2 +0.2**
comp=Z,16nm,0.9s,baz=284,slow=7.3,SNR=3.9
ARU Arti 133.41 321 PKP **PKPdf 18 33 33.8 +0.7**
comp=Z,3.5nm,0.6s,baz=89,slow=1.1,SNR=8.8
ARU Arti 133.41 321 *e*PKIKP **PKPdf 18 33 32.4 -0.7**
ARU Arti 133.41 321 *e*PKPdf **PKPdf 18 33 32.4 -0.7**
ABKAR Akbulak array 133.53 311 *e*PKPdf **PKPdf 18 33 33.7 +0.1**
GEYT Alibeck 134.62 296 PKP **PKPdf 18 33 37.0 +0.9**
comp=Z,2.4nm,0.7s,baz=261,slow=2.9,SNR=7.8
AKTO Aktyubinsk 134.67 313 PKP **PKPdf 18 33 36.0 +0.3**
comp=Z,3.7nm,0.7s,baz=120,slow=5.1,SNR=14
KMBO Kilima Mbogo 135.86 232 PKP **PKPdf 18 33 38.9 -0.6**
comp=Z,0.9nm,0.3s,baz=41,slow=20,SNR=2.3
ARA0 ARCESS Array S 138.06 349 *e*PKPdf **PKPdf 18 33 39.9 -1.6**
ARCES ARCESS Array B 138.06 349 PKP **PKPdf 18 33 39.9 -1.6**
comp=Z,5.8nm,0.7s,baz=17,slow=1.3,SNR=9.7
KLMR Klimovskoe 140.72 333 *e*PKIKP **PKPdf 18 33 45.5 -1.0**
KLMR pmax pmax
comp=Z,14nm,1.4s
RAYN Ar Rayn 142.38 271 *e*PKPdf **PKPdf 18 33 50.8 0.0**
FIA1 FINESS Array S 144.84 342 *e*PKPdf **PKPab 18 33 52.6 -0.3**
FIA0 FINESS Array S 144.84 342 *e*PKIKP **PKPab 18 33 52.6 -0.3**
FIA0 FINESS Array S 144.84 342 *e*PKPdf **PKPab 18 33 52.6 -0.3**
FINES FINESS Array B 144.84 342 PKP **PKPab 18 33 52.6 -0.3**
comp=Z,27nm,0.9s,baz=65,slow=3.7,SNR=43
TBLG Delisi 144.90 302 P **PKPdf 18 33 55.0 +0.4**
TBLG Delisi 144.90 302 PKIKP **PKPdf 18 33 55.0 +0.4**
GNI Garni 145.05 299 PKP **PKPdf 18 33 55.3 +0.2**
comp=Z,5.3nm,0.7s,baz=119,slow=3.5,SNR=7.2
GNI Garni 145.05 299 *d*PKIKP **PKPbc 18 33 53.3 -1.3**
ZEI Tsey 145.36 303 *i* PKHKP PKPpre 18 33 51.8
ZEI pmax pmax
comp=Z,54nm,0.8s
LPSR Galich'ya Gora 145.43 322 *e*PKIKP **PKPdf 18 33 54.9 -0.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
NCK Nalchik 145.46 305 *i* PKIKP **PKPdf 18 33 55.5 0.0**
GOF Gofitskoye 145.53 308⇑ *e*PKIKP **PKPab 18 33 56.8 +0.8**
GOF pmax pmax
comp=Z,36nm,0.8s
VORR Voronezh 145.70 320 PKP2 **PKPdf 18 33 53.0 -2.6**
VORR pmax pmax
comp=Z,250nm,1.0s
ONI Oni 145.72 303 P **PKPab 18 33 57.8 +0.9**
ONI Oni 145.72 303 PKIKP **PKPab 18 33 57.7 +0.9**
BGD Bogdanovka 145.80 301 P **PKPab 18 34 00.1 +2.7**
AKH Akhalkalaki 145.86 301 P **PKPab 18 33 58.4 +0.7**
AKH Akhalkalaki 145.86 301 ⇓ *i*P **PKPab 18 33 58.5 +0.9**
AKH Akhalkalaki 145.86 301 PKP2 **PKPab 18 33 58.3 +0.7**
KBZ Khabaz 145.92 305 PKPbc **PKPab 18 33 57.4 -0.1**
comp=Z,6.8nm,0.8s,baz=66,slow=5.3,SNR=11
KVAR Kislovodsk Arr 146.01 306 PKPbc **PKPbc 18 33 57.5 +0.1**
comp=Z,25nm,1.2s,baz=112,slow=0.6,SNR=7.4
KIV Kislovodsk 146.02 306 *e*PKP2 **PKPbc 18 33 57.5 +0.1**
KIV Kislovodsk 146.02 306 *e*PKPdf **PKPbc 18 33 57.5 +0.1**
NEY Neytrino 146.13 305 *i* PKIKP **PKPdf 18 33 55.3 -1.6**
VSU Vasula 147.04 338 *i* PKIKP **PKPdf 18 33 56.1 -1.5**
NC303 NORSAR Array S 147.90 353 *e*PKPbc **PKPbc 18 34 02.0 0.0**
NC405 NORSAR Array S 147.98 353 *e*PKPbc **PKPbc 18 34 02.3 0.0**
NB201 NORSAR Array S 148.08 353 *e*PKPbc **PKPbc 18 34 02.3 -0.3**
NB2 NORSAR Subarra148.10 353 PKP **PKPbc 18 34 02.4 -0.2**
comp=Z,61nm,1.4s,baz=21,slow=3.1
NB2 NORSAR Subarra148.10 353 PKP **PKPbc 18 34 02.4 -0.2**
baz=21,slow=3.1
NB200 NORSAR Array S 148.10 353 *e*PKPbc **PKPbc 18 34 02.4 -0.2**
NOA NORSAR Array B 148.10 353 PKPbc **PKPbc 18 34 02.4 -0.2**
comp=Z,20nm,1.0s,baz=15,slow=4.3,SNR=18
NBO02 NORSAR Array S 148.13 354 *e*PKPbc **PKPbc 18 34 02.6 -0.1**
NBO00 NORSAR Array S 148.15 354 *e*PKPbc **PKPbc 18 34 03.0 +0.3**
NAO01 NORSAR Array S 148.33 353 *e*PKPdf **PKPbc 18 34 03.4 +0.2**
MARD Mardin 148.34 294 *e*PKPbc **PKPbc 18 34 05.3 +1.2**
NC602 NORSAR Array S 148.37 353 *e*PKPbc **PKPbc 18 34 03.3 +0.1**
HFS Hagfors 148.68 350 PKPbc **PKPbc 18 34 03.8 -0.3**
comp=Z,16nm,0.7s,baz=90,slow=2.9,SNR=16
SACV Santiago Islan 150.87 114 *e*PKPbc **PKPbc 18 34 10.3 -0.5**
RRR Rubha Reidh 150.90 11 *eP* **PKPbc 18 34 09.2 -0.3**
KAC Achnashellach 151.32 10 *eP* **PKPbc 18 34 11.1 +0.5**
KPL Plockton 151.42 11 *eP* **PKPbc 18 34 11.1 +0.4**
MDO Dochfour 151.51 9 *eP* **PKPbc 18 34 11.1 +0.1**
MCD Coleburn Disti 151.52 8 *eP* **PKPbc 18 34 11.0 0.0**
AKASG Malin Array Be 151.53 325 PKPbc **PKPbc 18 34 11.2 0.0**
comp=Z,23nm,0.6s,baz=45,slow=2.9,SNR=84
AKASG PKPab **PKPab 18 34 19.3 -0.5**
comp=Z,7.3nm,0.7s,baz=45,slow=3.3,SNR=9.3
AKBB Malin Array Si 151.53 325 *e*PKIKP **PKPbc 18 34 10.9 -0.4**
AKBB Malin Array Si 151.53 325 *e*PKPbc **PKPbc 18 34 10.9 -0.4**
KIEV Kiev 151.54 325 *e*PKIKP **PKPbc 18 34 11.2 -0.1**
KIEV Kiev 151.54 325 *e*PKPbc **PKPbc 18 34 11.2 -0.1**
ASF Jabal al Asfar 151.54 284 PKPbc **PKPbc 18 34 13.5 +1.5**
comp=Z,9.7nm,0.9s,baz=60,slow=1.2,SNR=15
ASF PKPab **pPKPbc 18 34 21.1 -0.3**
comp=Z,10nm,1.0s,baz=65,slow=2.6,SNR=6.9
KSB Sheil Bridge 151.58 11 *eP* **PKPbc 18 34 11.4 +0.2**
SUW Suwalki 151.78 336 *e*PKP **PKPbc 18 34 12.2 +0.5**
SUW Suwalki 151.78 336 *e*PKIKP **PKPbc 18 34 12.2 +0.5**
MMAI Mount Meron Ar 152.84 285 PKPbc **PKPbc 18 34 16.6 +1.7**
comp=Z,5.6nm,0.6s,baz=84,slow=7.8,SNR=14
EIL Elat 152.97 278 PKPbc **PKPbc 18 34 16.7 +1.5**
comp=Z,5.4nm,0.7s,baz=86,slow=2.7,SNR=8.2
EIL PKPab **PKPab 18 34 27.9 +1.3**
comp=Z,6.9nm,0.9s,baz=284,slow=13,SNR=5.5
SORM Soroca 153.53 321 ⇑ *i*P **PKPbc 18 34 13.1 -2.7**
SORM Soroca 153.53 321 ⇑PKIKP **PKPbc 18 34 13.1 -2.7**
BR101 Keskin Array S 153.55 301 *e*PKPbc **PKPbc 18 34 16.6 +0.2**
BR101 *e*PKPab **PKPab 18 34 29.2 +0.3**
BR131 Keskin Array S 153.55 301 *e*PKPbc **PKPbc 18 34 16.6 +0.3**
BRTR Keskin Array B 153.55 301 PKPbc **PKPbc 18 34 16.6 +0.3**
comp=Z,5.3nm,1.1s,baz=136,slow=4.0,SNR=1
BRTR PKPab **PKPab 18 34 29.2 +0.3**
comp=Z,2.6nm,0.8s,baz=88,slow=4.5,SNR=5.9
EKA Eskdalemuir Ar 153.73 9 PKPbc **PKPab 18 34 15.4 -0.6**
comp=Z,2.4nm,0.7s,baz=346,slow=1.7,SNR=7.5
EKA PKPab **PKPab 18 34 28.5 -0.3**
comp=Z,6.5nm,0.8s,baz=345,slow=2.9,SNR=7.2
BR231 Keskin MP Arra 154.16 301 *e*PKPbc **PKPbc 18 34 17.4 -0.2**
LIC Lamto 155.36 158 *e*PKP2 **PKPab 18 34 37.5 +0.6**
comp=Z,67nm,1.5s
TESR Tescani 155.42 320 ⇑ *i*P **PKPab 18 34 36.6 +0.2**
BUR08 Bucovina Ar. S 155.51 324 *e*PKPbc PKPdf 18 34 21.2 +10
BUR08 *e*PKPab **PKPab 18 34 37.4 +0.5**
BURAR Bucovina Array 155.52 323 ⇑ *i*P PKPdf 18 34 21.1 +10
BURAR Bucovina Array 155.52 323 ⇑PKIKP PKPdf 18 34 21.1 +10
KIC Kosan Boka 155.58 159 *e*PKP2 **PKPab 18 34 38.6 +0.8**
comp=Z,43nm,1.1s
VRI Vrincioaia 155.75 319 ⇓ *i*P **PKPab 18 34 39.5 +1.6**
VRI Vrincioaia 155.75 319 ⇓PKP2 **PKPab 18 34 39.5 +1.6**
TIC Toumodi 155.76 158 *e*PKP2 **PKPab 18 34 39.1 +0.5**
ARCR ARCALIA 156.31 323 ⇑ *i*P **PKPab 18 34 42.3 +2.1**
DOPR Dopca 156.45 320 ⇓ *i*P **PKPab 18 34 41.9 +1.0**
OKC Ostrava-Krasne 156.99 336 *e*PKPAB **PKPab 18 34 43.4 +0.4**
OKC Ostrava-Krasne 156.99 336 *e*PKP2 **PKPab 18 34 43.4 +0.4**
UPC Upice 157.12 340 *e*PKPAB **PKPab 18 34 44.1 +0.6**
UPC Upice 157.12 340 *e*PKP2 **PKPab 18 34 44.1 +0.6**
DPC Dobruska-Polom 157.16 339 *e*PKPDF **PKPdf 18 34 13.9 +0.8**
DPC *e*PKPAB **PKPab 18 34 44.5 +0.7**
DPC *e*pPKP **sPKPab 18 34 56.9 +0.8**
DPC Dobruska-Polom 157.16 339 *e*PKIKP **PKPdf 18 34 13.9 +0.8**
CLL Collm 157.18 345 *e*PKIKP PKPdf 18 34 24.0 +11
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 157.18 345 *e*PKPdiff PKPdf 18 34 24.0 +11
CLL *e*PKPab **PKPab 18 34 43.0 -0.7**
comp=Z,10.0nm,1.1s
ARR Arges 157.23 320 ⇑ *i*P **PKPab 18 34 45.2 +0.9**
DRGR 157.34 325 ⇑ *i*P PKPdf 18 34 25.3 +12
DRGR 157.34 325 ⇑PKIKP PKPdf 18 34 25.3 +12
BRG Berggiesshubel 157.36 343 *i* PKP **PKPab 18 34 44.5 -0.1**
comp=Z,17nm,1.5s
BRG *e* 18 34 56.7
comp=Z,23nm,1.8s
BRG Berggiesshubel 157.36 343 *i* PKP2 **PKPab 18 34 44.5 -0.1**
BRG pmax pmax
comp=Z,17nm,1.5s
BRG pmax pmax
comp=Z,23nm,1.8s
VYHS Vyhne 157.83 333 *e*PKP2 **PKPab 18 34 46.9 +0.2**
VYHS Vyhne 157.83 333 *e*PKP **PKPab 18 34 46.9 +0.2**
VRAC Vranov 157.98 337 PKPab **PKPab 18 34 45.8 -1.5**
comp=Z,3.4nm,0.8s,baz=75,slow=2.0,SNR=3.6
NKC Novy Kostel 158.31 345 *e*PKPAB **PKPab 18 34 48.9 +0.2**
NKC Novy Kostel 158.31 345 *e*PKP2 **PKPab 18 34 48.9 +0.2**
BZS Buzias 158.70 324 ⇓ *i*P **PKPdf 18 34 15.8 +0.8**
BZS Buzias 158.70 324 ⇓PKIKP **PKPdf 18 34 15.8 +0.8**
KHC Kasperske Hory 159.05 342 *e*PKPDF **PKPdf 18 34 15.1 -0.3**
KHC *e*PKPAB **PKPab 18 34 52.3 +0.3**
KHC *e*pPKP **sPKPab 18 35 04.7 +0.4**
KHC Kasperske Hory 159.05 342 *e*PKIKP **PKPdf 18 34 15.1 -0.3**
KHC *e* 18 34 52.3
GERES GERESS Array B 159.28 341 PKPab **PKPab 18 34 51.2 -1.8**
comp=Z,0.8nm,0.6s,baz=33,slow=15,SNR=3.5
CONA Conrad Observa 159.41 336 *i* PKPdf **PKPdf 18 34 13.9 -2.0**
comp=Z,8.1nm,2.0s
VTS Vitosha 159.67 315 ⇑ *i*P **PKPab 18 34 56.2 +1.1**
VTS Vitosha 159.67 315 ⇑PKP2 **PKPab 18 34 56.2 +1.1**
MOTA Moosalm 161.33 344 *i* PKPdf **PKPdf 18 34 18.7 +0.5**
comp=Z,4.1nm,0.9s
FETA Feichten 161.72 345 *i* PKPdf **PKPdf 18 34 19.8 +1.3**
comp=Z,6.4nm,1.1s
FUORN Ofenpass-Fuorn 162.21 345 *e*PKPab **PKPab 18 35 06.7 +0.6**
PMPS Porto Santo 162.42 73 *e*PKPdf **PKPdf 18 34 20.6 +1.1**
TOA0 Torodi Ar. Sit 163.58 173 *e*PKPdf **PKPdf 18 34 21.4 +0.2**
TOA0 *e*PKPab **PKPab 18 35 13.1 +0.6**
TOA0 *e*PKPab **PKPab 18 35 13.6 +1.1**
TORD Torodi Ar. Bea 163.58 173 PKP **PKPdf 18 34 21.4 +0.2**
comp=Z,2.1nm,1.0s,baz=263,slow=1.0,SNR=8.6
TORD PKPab **PKPab 18 35 13.4 +1.0**
comp=Z,11nm,0.8s,baz=189,slow=4.1,SNR=39
TOA1 Torodi Ar. Sit 163.59 173 *e*PKPdf **PKPdf 18 34 21.4 +0.2**
TOA1 *e*PKPab **PKPab 18 35 13.4 +1.0**
PGAV Gavieira, Arco 164.20 35 *e*PKPdf **PKPdf 18 34 22.3 +1.3**
PCAB Cabril 164.51 35 *e*PKPdf **PKPdf 18 34 23.4 +2.2**
PCAB Cabril 164.51 35 *e*PKPab **PKPab 18 35 16.2 +0.1**
POLO Lamas de Olo 164.88 36 *e*PKPdf **PKPdf 18 34 22.6 +0.9**
PBRG Braganca 165.06 32 *e*PKPab **PKPab 18 35 18.3 -0.2**
PVIS Viseu 165.30 37 *e*PKPab **PKPab 18 35 19.9 +0.2**
MVO Moncorvo 165.41 34 *e*PKPdf **PKPdf 18 34 23.7 +1.6**
MVO Moncorvo 165.41 34 *e*PKPab **PKPab 18 35 20.1 -0.1**
MTE Manteigas 165.72 38 *e*PKPdf **PKPdf 18 34 23.8 +1.4**
MTE Manteigas 165.72 38 *e*PKPab **PKPab 18 35 21.4 -0.1**
PTOM Tomar 165.77 42 *e*PKPdf **PKPdf 18 34 24.2 +1.9**
PCBR Castelo Branco 166.15 39 *e*PKPdf **PKPdf 18 34 24.2 +1.6**
PCBR Castelo Branco 166.15 39 *e*PKPab **PKPab 18 35 22.6 -0.7**
PMRV Marv??o 166.48 40 *e*PKPab **PKPab 18 35 23.4 -1.5**
PNCL Nicolau / Gran 166.64 47 *e*PKPdf **PKPdf 18 34 24.9 +1.9**
EVO Evora 166.71 44 *e*PKPdf **PKPdf 18 34 23.8 +0.7**
PESTR Estremoz 166.75 42 *e*PKPab **PKPab 18 35 25.4 -0.7**
MORF Marmelete 167.02 50 *e*PKPdf **PKPdf 18 34 26.1 +2.6**
MORF Marmelete 167.02 50 *e*PKPab **PKPab 18 35 28.1 +0.7**
PBAR Barrancos 167.52 43 *e*PKPdf **PKPdf 18 34 20.6 -3.1**
PBAR Barrancos 167.52 43 *e*PKPab **PKPab 18 35 28.9 -0.6**
MDT Midelt 172.06 63 PKP **PKPdf 18 34 28.1 +1.4**
comp=Z,7.1nm,1.1s,baz=269,slow=2.0,SNR=7.0

MEX 10 18:15:18.5±0.8, 30°.25N×109°.76W, h20km±45km, MD3.5, Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
319A	**Douglas**	**1.19**	**20**	*eP*	Pn	18 15 36.2	-4.0
319A				*i* S	Sb	18 15 51.9	-3.7
CGIG		**1.54**	**85**	*eP*	Pn	18 15 42.3	-2.7
CGIG				*i* S	Sn	18 16 00.3	-4.2
HSIG		**1.61**	**220**	*eP*	Pn	18 15 42.8	-3.0
HSIG				*e*S	Sn	18 16 02.7	-3.2
121A	**Cookes Peak, D**	**2.83**	**36**	*i P*	Pn	18 16 00.5	-2.2

NIED ***10*** *18:15:00, 37°.60N×142°.20E, h32km, Mw3.4 Best double couple: M₀1.33000×10¹⁴ NP1:φs96.00000°, δ39.00000°, λ-104.00000°. NP2:φs294.00000°, δ52.00000°, λ-79.00000°.*

IDC ***10*** *18:15:22.0±2.3, 37°.68N×142°.55E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/49, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=45.8km s-min=33.8km az=69.0*

JMA ***10*** *18:15:26.4±0.2, 37°.59N×142°.21E, h27km±4km, M3.6*

ISC 10 18:15:25.2±2.4, 37°.60N±0°.06×142°.20E±0°.09, h16km±14km, n23, σ1§63/25, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.08**	**258**	P	**Pg**	**18 15 46.0**	**-0.2**
JFK				*e*S	**Sb**	**18 15 59.3**	**-0.1**
JIO	**Ouri**	**1.09**	**322**	P	**Pn**	**18 15 46.2**	**+0.4**
JIO				*e*S	**Sb**	**18 15 59.7**	**+0.1**
JMM	**Marumori**	**1.15**	**284**	P	**Pb**	**18 15 47.0**	**+0.3**
JMM				*e*S	**Sb**	**18 16 01.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.22**	**247**	P	**Pb**	**18 15 47.7**	**-0.3**
ONAJ				*e*S	**Sb**	**18 16 02.6**	**-0.9**
JOU	**Okura**	**1.44**	**303**	P	**Pb**	**18 15 52.2**	**+0.6**
JFT	**Otama**	**1.48**	**267**	P	**Pb**	**18 15 52.6**	**+0.2**
JFT				*e*S	**Sb**	**18 16 11.4**	**+0.4**
OFUJ	**Ofunato**	**1.54**	**344**	P	**Pn**	**18 15 52.0**	**0.0**
JMK	**Ichinoseki**	**1.56**	**331**	P	**Pb**	**18 15 53.3**	**-0.3**
JYK	**Kaneyama**	**1.96**	**313**	P	**Pb**	**18 15 59.7**	**-0.8**
JOM	**Ohasama**	**2.00**	**339**	P	**Pn**	**18 15 59.7**	**+1.3**
MJAR	**Matsushiro Arr**	**3.36**	**253**	Pn	**Pn**	**18 16 20.4**	**+3.3**
	1.5nm,0.3s,baz=74,slow=8.2,SNR=11						
MJAR				Sn	**Sb**	**18 17 02.7**	**-2.4**
	1.7nm,0.3s,baz=83,slow=14,SNR=5.1						
MAT	**Matsushiro**	**3.36**	**253**	P	**Pb**	**18 16 21.3**	**-3.2**
MAT				S	**Sb**	**18 17 02.3**	**-2.8**
ASAJ	**Asahikawa**	**6.52**	**3**	Pn	**Pn**	**18 17 01.9**	**+1.6**
	baz=152,slow=17						
ASAJ				Sn	**Sn**	**18 18 10.8**	**-3.5**
	0.2nm,0.3s,baz=82,slow=14,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**27.91**	**123**	T	T	18 50 25.4	
	baz=315,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.92**	**123**	T	T	18 50 30.0	
	baz=315,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	18 50 29.0	
	baz=315,slow=75,SNR=13						
SONM	**Songino Array**	**28.00**	**303**	P	**P**	**18 21 16.3**	**+1.0**
	0.4nm,0.7s,baz=107,slow=9.7,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	18 51 43.3	
	baz=317,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	18 51 20.6	
	baz=317,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	18 51 26.2	
	baz=317,slow=76,SNR=5.6						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**18 23 35.4**	**+0.8**
	0.3nm,0.6s,baz=88,slow=12,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**18 23 49.0**	**+0.3**
	0.5nm,0.5s,baz=81,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**57.71**	**189**	P	**P**	**18 25 15.2**	**+0.1**
	1.0nm,0.8s,baz=4.7,slow=7.1,SNR=3.0						

DDA 10 18:17:55.3, 38°.13N×28°.78E, h6km, Ml2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.40**	**335**	*i P*	Pg	18 18 03.5	+0.4
MANT				*i* S	Sg	18 18 09.3	+0.9

IDC ***10*** *18:18:34.0±1.1, 36°.19N×65°.56E, h0km, mb3.4/5, mb1 3.5/11, mb1mx3.3/55, mbtmp3.4/11, ML3.3/6, MS2.7/2, Ms1 2.7/2, ms1mx2.3/34, Error ellipse: s-maj=21.6km s-min=15.2km az=144.0*

ISCJB ***10*** *18:18:36.8±0.8, 36°.53N±0°.06×65°.61E±0°.06, h33km, mb3.4/5, Error ellipse: s-maj=9.8km s-min=5.5km az=156.1*

NNC ***10*** *18:18:42.3±3.9, 36°.66N×65°.79E, h24km±92km, mb3.8, mpv3.7, Error ellipse: s-maj=84.6km s-min=16.5km az=15.0*

ISC 10 18:18:39.1±0.9, 36°.55N±0°.08×65°.53E±0°.06, h35km, n18, σ2§30/27, mb3.5/5, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**6.07**	**285**	Pn	**Pn**	**18 20 06.0**	**-0.4**
	0.6nm,0.3s,baz=117,slow=8.5,SNR=9.2						
GEYT				Sn	**Sn**	**18 21 15.3**	**+0.6**
	0.8nm,0.3s,baz=155,slow=24,SNR=3.2						
GEYT				Lg	Lg	18 21 58.5	
	0.6nm,0.3s,baz=69,slow=12,SNR=2.3						
GEYT				LR	LR	18 23 07.7	
	comp=Z,26nm,22.0s,baz=335,slow=44						
KK31	**Karatay Array**	**7.58**	**29**	⇑P	**Pn**	**18 20 29.2**	**+2.2**
	0.8nm,0.3s,baz=217,slow=15,SNR=39						
KK31				⇓S	**Sn**	**18 21 52.2**	**+0.6**
	1.3nm,0.3s,baz=274,slow=24,SNR=5.6						
MNAS	**Manas**	**8.01**	**40**	⇓P	**Pn**	**18 20 34.3**	**+1.4**
	2.5nm,0.5s						
MNAS				⇓S	**Sn**	**18 22 03.1**	**+0.8**
	5.1nm,0.4s						
AAK	**Ala-Archa**	**9.20**	**46**	Pn	**Pn**	**18 20 50.4**	**+1.0**
	0.7nm,0.3s,baz=229,slow=9.0,SNR=8.1						
AAK				Sn	**Sn**	**18 22 32.8**	**+1.1**
	0.6nm,0.3s,baz=358,slow=23,SNR=7.2						
AAK				Lg	Lg	18 23 32.3	
	baz=323,slow=20,SNR=2.0						
AAK	**Ala-Archa**	**9.20**	**46**	⇓P	**Pn**	**18 20 50.5**	**+1.1**
	1.7nm,0.4s						
AAK				⇑S	**Sn**	**18 22 32.4**	**+0.7**
	3.9nm,0.6s						
TKM2	**Tokmak 2**	**10.02**	**48**	⇑P	**Pn**	**18 20 59.5**	**-1.1**
	1.6nm,0.4s						
TKM2				⇑S	**Sn**	**18 22 51.7**	**-0.2**
	3.2nm,0.6s						
AB31	**Akbulak array**	**13.33**	**344**	⇑P	**Pn**	**18 21 49.7**	**+4.0**
	0.3nm,0.3s						
AB31				⇓S	**Sn**	**18 24 15.7**	**+3.1**
	0.8nm,0.6s,baz=159,slow=24,SNR=2.6						
AKTO	**Aktyubinsk**	**14.90**	**341**	Pn	**Pn**	**18 22 08.0**	**+1.0**
	0.1nm,0.3s,baz=145,slow=12,SNR=2.5						
AKTO				Sn	**Sn**	**18 24 43.9**	**-6.8**
	0.1nm,0.3s,baz=259,slow=16,SNR=2.6						
AKTO				LR	LR	18 29 30.0	
	comp=Z,67nm,18.2s,baz=278,slow=43						
AKTO	**Aktyubinsk**	**14.90**	**341**	⇑P	**P**	**18 22 11.0**	**-1.2**
	3.1nm,1.2s						
MK31	**Makanchi Array**	**16.14**	**45**	⇓P	**P**	**18 22 26.8**	**+0.8**
	0.6nm,0.5s,baz=234,slow=14,SNR=9.5						
MKAR	**Makanchi Array**	**16.14**	**45**	Pn	**Pn**	**18 22 22.1**	**-1.0**
	0.1nm,0.3s,baz=230,slow=14,SNR=3.5						
BVAR	**Borovoye Array**	**16.82**	**10**	Pn	**Pn**	**18 22 32.3**	**+0.6**
	0.4nm,0.3s,baz=188,slow=11,SNR=7.9						
BVAR				Sn	**Sn**	**18 25 31.9**	**-5.4**
	0.3nm,0.3s,baz=252,slow=41,SNR=4.3						
KURBB	**Kurchatov Arra**	**16.89**	**30**	Pn	**Pn**	**18 22 31.2**	**-1.2**
	0.0nm,0.3s,baz=219,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**21.94**	**31**	P	**P**	**18 23 30.3**	**+1.0**
	0.7nm,0.4s,baz=216,slow=9.5,SNR=5.6						
BRTR	**Keskin Array B**	**25.21**	**287**	P	**P**	**18 24 03.3**	**+1.7**
	0.6nm,0.8s,baz=106,slow=9.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**34.45**	**112**	P	**P**	**18 25 22.0**	**-1.5**
	0.4nm,0.5s,baz=300,slow=7.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**61.33**	**265**	P	**P**	**18 28 50.4**	**-1.0**
	0.7nm,1.0s,baz=38,slow=6.5,SNR=4.2						
ASAR	**Alice Springs**	**87.97**	**121**	P	**P**	**18 31 25.9**	**+0.4**
	0.1nm,0.6s,baz=322,slow=5.9,SNR=2.4						

SJA ***10*** *18:22:47.4±1.2, 32°.67S×71°.99W, h59km±33km, ML3.0, MW3.2*

GUC ***10*** *18:22:49.9±0.4, 32°.51S×71°.26W, h22km±9km, ML2.8*

ISC 10 18:22:50.9±3.0, 32°.68S±0°.06×71°.4W±0°.1, h0km±18km, n17, σ1§53/22, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.42**	**135**	*eP*	**Pb**	**18 23 00.6**	**-0.7**
ROCH				*e*S	**Sb**	**18 23 08.5**	**+0.3**
ROCH				IAML		18 23 08.6	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**0.73**	**129**	*eP*	**Pg**	**18 23 04.9**	**-0.1**
PEL				IAML		18 23 17.7	
	comp=E,764nm,0.2s						
RCDM	**Rinconada Maip**	**0.93**	**150**	*eP*	Pg	18 23 01.9	-6.9
RCDM				*e*S	Sg	18 23 11.9	-9.0
RCDM				IAML		18 23 12.6	
	comp=N,814nm,0.2s						
CLCH	**Cerro Calan**	**1.00**	**136**	*eP*	**Pg**	**18 23 08.9**	**-1.1**
CLCH				*e*S	**Sg**	**18 23 23.9**	**+0.9**
CLCH				IAML		18 23 27.8	
	comp=N,235nm,0.5s						
FCH	**Farellones**	**1.11**	**126**	*eP*	**Pg**	**18 23 11.0**	**-1.2**
FCH				*e*S	**Sg**	**18 23 27.0**	**+0.4**
FCH				IAML		18 23 28.1	
	comp=E,262nm,0.2s						
AUSP	**Uspallata**	**1.73**	**75**	*eP*	**Pb**	**18 23 23.6**	**-0.1**
AUSP				⇓*e*S	**Sg**	**18 23 48.0**	**+1.5**
ARCO	**CERRO ARCO**	**2.05**	**95**	*eP*	**Pb**	**18 23 28.6**	**-0.6**
ARCO				IAML		18 23 41.0	
	comp=Z,37nm,0.5s						
ASAL	**Salagasta**	**2.13**	**88**	*eP*	**Pb**	**18 23 30.6**	**+0.1**
ASAL				⇓*e*S	**Sg**	**18 24 01.6**	**+2.1**
AAGR	**Agrelo**	**2.17**	**101**	*eP*	**Pb**	**18 23 30.0**	**-1.1**
RTCV	**Cerro Valdivia**	**2.52**	**72**	*eP*	**Pb**	**18 23 36.2**	**-1.0**
AMOG	**MOGNA**	**3.00**	**55**	*eP*	**Pn**	**18 23 40.7**	**+1.0**
ACAN	**Cantantal**	**3.55**	**85**	*eP*	**Pn**	**18 23 50.3**	**+3.0**
AVFE	**Valle Fertil**	**3.89**	**60**	*eP*	**Pn**	**18 23 53.3**	**+1.3**
AVFE				⇓*e*S	**Sb**	**18 24 44.8**	**-3.3**
AVFE				IAML		18 24 50.5	
	comp=Z,16nm,0.4s						
AGUA	**GUANDACOL**	**4.02**	**38**	*eP*	**Pn**	**18 23 55.9**	**+2.0**
VCA	**Vinchina**	**4.78**	**35**	*eP*	**Pn**	**18 24 05.5**	**+1.2**
VCA				IAML		18 25 20.8	
	comp=Z,15nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.98**	**51**	*eP*	**Pn**	**18 24 07.4**	**+0.3**
TCA	**Tanti**	**5.90**	**79**	⇓*eP*	**Pn**	**18 24 18.8**	**-0.8**

IDC ***10*** *18:31:08.4±1.7, 18°.99S×174°.67W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/28, mbtmp3.8/6, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/25, Error ellipse: s-maj=81.1km s-min=23.0km az=144.0*

ISCJB ***10*** *18:31:09.1±1.2, 18°.85S±0°.2×174°.8W±0°.3, h10km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=47.6km s-min=10.1km az=43.7*

NEIC ***10*** *18:31:14.0±1.1, 18°.94S×174°.68W, h35km, mb4.1/1, Error ellipse: s-maj=52.1km s-min=12.6km az=143.0*

ISC 10 18:31:10.0±1.4, 18°.9S±0°.3×174°.7W±0°.3, h10km, n10, σ1§17/9, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.74**	**30**	Pn	**Pn**	**18 32 36.4**	**+1.0**
	4.3nm,0.3s,baz=218,slow=19,SNR=2.0						
AFI				Sn	**Sn**	**18 33 40.7**	**-0.7**
	5.1nm,0.3s,baz=198,slow=20,SNR=1.3						
PPT	**Papeete**	**23.91**	**91**	LR	LR	18 44 01.8	
	comp=Z,112nm,18.3s,baz=203,slow=32						
WRAB	**Tennant Creek**	**47.89**	**260**	P	**P**	**18 39 50.3**	**+1.5**
	1.2nm,0.7s						
ASAR	**Alice Springs**	**47.90**	**255**	P	**P**	**18 39 49.3**	**+0.5**
	1.0nm,0.5s,baz=93,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**47.90**	**260**	P	**P**	**18 39 48.2**	**-0.7**
	0.6nm,0.6s,baz=96,slow=7.4,SNR=7.2						
TXAR	**Lajitas Array**	**83.61**	**56**	P	**P**	**18 43 39.1**	**-0.1**
	0.4nm,0.8s,baz=230,slow=7.0,SNR=4.2						
PDAR	**Pinedale Array**	**85.72**	**42**	P	**P**	**18 43 49.3**	**-0.3**
	0.2nm,0.5s,baz=224,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**86.14**	**12**	P	**P**	**18 43 51.2**	**+0.3**
	0.7nm,0.6s,baz=229,slow=5.9,SNR=8.5						
AKASG	**Malin Array Be**	**143.04**	**335**	PKhKP	PKPpre	18 50 40.8	
	0.5nm,0.5s,baz=35,slow=3.9,SNR=2.1						
BRTR	**Keskin Array B**	**147.97**	**316**	PKPbc	**PKPab**	**18 50 56.8**	**-1.9**
	0.8nm,0.8s,baz=113,slow=3.3,SNR=1.9						

ISCJB ***10*** *18:37:28.2±0.5, 6°.1S±0°.1×106°.0E±0°.1, h171km±5km, mb3.6/5, Error ellipse: s-maj=24.7km s-min=4.8km az=40.3*

DJA ***10*** *18:37:30.1±0.5, 6°S±7°×10°6E±°, h154km±5km, M3.4/8, MLv3.4/8*

IDC ***10*** *18:37:32.5±4.0, 6°.07S×105°.87E, h212km±40km, mb3.1/5, mb1 3.3/5, mb1mx3.0/33, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.6/9, Error ellipse: s-maj=117.1km s-min=16.3km az=53.0*

ISC 10 18:37:28.7±0.8, 6°.1S±0°.1×106°.0E±0°.1, h170km±7km, n20, σ0§98/30, mb3.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.58**	**214**	P	**Pn**	**18 37 53.3**	**+0.6**
CGJI				S	**Sn**	**18 38 10.6**	**-0.6**
DBJI	**Dramaga**	**0.84**	**121**	P	**Pn**	**18 37 55.7**	**+1.5**
SKJI	**Sukabumi**	**1.02**	**149**	P	**Pn**	**18 37 55.4**	**-0.2**
SKJI				S	**Sn**	**18 38 15.7**	**-0.6**
BLSI	**Bandar Lampung**	**1.08**	**314**	P	**Pn**	**18 37 56.0**	**0.0**
BLSI				S	**Sn**	**18 38 16.1**	**-1.0**
CNJI	**Cibinong**	**1.61**	**137**	P	**Pn**	**18 38 00.6**	**-0.3**
CNJI				S	**Sn**	**18 38 24.9**	**-0.9**
KASI	**Kota Agung**	**1.63**	**291**	P	**Pn**	**18 38 02.0**	**+0.9**
KASI				S	**Sn**	**18 38 25.6**	**-0.5**
KLSI		**1.92**	**318**	P	**Pn**	**18 38 05.0**	**+0.8**
KLSI				S	**Sn**	**18 38 32.1**	**+0.4**
LWLI	**Liwa**	**2.24**	**299**	P	**Pn**	**18 38 08.9**	**+1.0**
LWLI				S	**Sn**	**18 38 38.8**	**+0.5**
CISI	**Cisompet, Garu**	**2.28**	**129**	P	**Pn**	**18 38 08.9**	**+0.6**
MDSI	**Maura Dua**	**2.45**	**311**	P	**Pn**	**18 38 11.4**	**+1.1**
MDSI				S	**Sn**	**18 38 42.8**	**+0.3**
CMJI	**Cimerak**	**2.92**	**125**	P	**Pn**	**18 38 17.0**	**+1.1**
CMJI				S	**Sn**	**18 38 52.4**	**-0.2**
LHSI	**Lahat**	**3.38**	**312**	P	**Pn**	**18 38 22.1**	**+0.5**
MNAI	**Manna**	**3.52**	**300**	P	**Pn**	**18 38 24.6**	**+1.2**
MNAI				S	**Sn**	**18 39 05.0**	**-1.1**
TGY	**Tagaytay City**	**24.96**	**36**	LR	LR	18 53 06.1	
	comp=Z,17nm,19.7s,baz=66,slow=37						
WRA	**Warramunga Arr**	**30.74**	**119**	P	**P**	**18 43 29.2**	**+0.9**
	0.5nm,0.4s,baz=290,slow=9.8,SNR=7.0						
ASAR	**Alice Springs**	**31.98**	**126**	P	**P**	**18 43 40.4**	**+1.3**
	0.4nm,0.3s,baz=298,slow=7.4,SNR=6.6						
ASAR				S	**S**	**18 48 38.0**	**-0.3**
	0.4nm,0.8s,baz=299,slow=15,SNR=4.3						
STKA	**Stephens Creek**	**41.94**	**132**	P	**P**	**18 45 04.4**	**+1.5**
	1.0nm,0.5s,baz=315,slow=10,SNR=2.0						
SONM	**Songino Array**	**53.73**	**0**	P	**P**	**18 46 32.9**	**-0.5**
	0.3nm,0.4s,baz=179,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**56.74**	**341**	P	**P**	**18 46 53.0**	**-1.8**
	0.4nm,0.5s,baz=151,slow=9.1,SNR=4.1						
TXAR	**Lajitas Array**	**143.70**	**47**	PKP	**PKPdf**	**18 56 42.5**	**-1.8**
	0.2nm,0.5s,baz=315,slow=0.5,SNR=1.9						

CSEM ***10*** *19:07:00.8, 42°.31N×13°.50E, h19km, MD1.8/5*

ROM 10 19:07:00.8±0.1, 42°.31N×13°.50E, h19km, Md1.8/5, Ml1.3/1, Error ellipse: s-maj=0.7km s-min=0.4km az=99.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.07**	**125**	Pg	Pg	19 07 04.6	+0.1
FAGN				Sg	Sg	19 07 07.4	+0.4
	310nm,0.4s						
FAGN	**Fagnano**	**0.07**	**125**	Pg	Pg	19 07 04.6	+0.1
FAGN				Sg	Sg	19 07 07.4	+0.4
	310nm,0.4s						
T0104	**Madonna delle**	**0.13**	**293**	Pg	Pg	19 07 05.1	0.0
T0104				Sg	Sg	19 07 08.3	+0.3
FIAM	**Fiamignano**	**0.29**	**262**	Pg	Pb	19 07 07.5	+0.1
FIAM				Sg	Sb	19 07 12.4	+0.6
FIAM	**Fiamignano**	**0.29**	**262**	Pg	Pb	19 07 07.5	+0.1
FIAM				Sg	Sb	19 07 12.4	+0.6
PTQR	**Pietraquaria**	**0.29**	**195**	Pg	Pb	19 07 07.5	0.0
PTQR				Sg	Sb	19 07 12.3	+0.4
PTQR	**Pietraquaria**	**0.29**	**195**	Pg	Pb	19 07 07.5	0.0
PTQR				Sg	Sb	19 07 12.3	+0.4
TERO	**Teramo**	**0.32**	**13**	Pg	Pb	19 07 08.0	-0.1
TERO				Sg	Sb	19 07 13.3	+0.4
TERO	**Teramo**	**0.32**	**13**	Pg	Pb	19 07 08.0	-0.1
TERO				Sg	Sb	19 07 13.3	+0.4
SMA1	**SAN MARTINO**	**0.35**	**339**	Pg	Pg	19 07 08.4	+0.1
SMA1				Sg	Sb	19 07 13.7	0.0
	74nm,1.4s						
SMA1	**SAN MARTINO**	**0.35**	**339**	Pg	Pg	19 07 08.4	+0.1
SMA1				Sg	Sb	19 07 13.7	0.0
	74nm,1.4s						

BJI ***10*** *19:06:57.5, 37°.29N×21°.97E, h6km, mb4.5/35, mB5.0/28, Ms4.7/26, Ms7 4.4/20*

IDC ***10*** *19:06:59.2±0.4, 37°.21N×22°.12E, h0km, mb4.5/33, mb1 4.6/44, mb1mx4.4/62, mbtmp4.5/44, ML3.9/11, MS4.1/38, Ms1 4.1/38, ms1mx4.1/49, Error ellipse: s-maj=10.7km s-min=9.6km az=166.0*

ISCJB ***10*** *19:07:00.1±0.3, 37°.18N±0°.01×22°.00E±0°.01, h8km±1km, mb4.9/165, MS4.2/34, Error ellipse: s-maj=1.7km s-min=1.6km az=28.4*

PDG ***10*** *19:07:00.4±0.7, 37°.18N×22°.00E, h2km±1km, ML4.4/10, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*

ATH ***10*** *19:07:00.5, 37°.19N×22°.04E, h11km, ML4.5/31, Error ellipse: s-maj=1.0km s-min=0.5km az=295.0*

NEIC ***10*** *19:07:01.1±0.6, 37°.21N×22°.06E, h6km±3km, mb5.1/96, MW4.9, ML4.6(THE), Error ellipse: s-maj=3.7km s-min=3.0km az=212.0, Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁶Nm; Mrr-2.28; Mθθ1.14; Mφφ1.14; Mrθ1.81; Mθφ-0.75; Mφr-1.24; Best double couple: M₀3.00000×10¹⁶ NP1:φs139.00000°, δ22.00000°, λ-80.00000°. NP2:φs308.00000°, δ68.00000°, λ-94.00000°. Principal axes: T 2.8100, Plg23.0000°, Azm41.0000°; N 0.4200, Plg4.0000°, Azm309.0000°; P -3.2300, Plg66.0000°, Azm210.0000°;*

THE ***10*** *19:07:01.0, 37°.21N×22°.03E, h0km, ML4.6/28 Error ellipse: s-maj=0.9km s-min=0.3km az=230.0*

MOS ***10*** *19:07:01.7±1.3, 37°.25N×22°.04E, h23km, mb5.2/38, MS4.2/20, Error ellipse: s-maj=5.8km s-min=3.0km az=83.5*

GCMT ***10*** *19:07:01.1±0.3, 37°.11N×21°.87E, h12km, MW4.8/82, Moment Tensor Solution. s12,c13; s82,c123; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.36±.06; Mθθ0.35±.07; Mφφ2.01±.06; Mrθ-0.57±.34; Mθφ-0.43±.05; Mφr0.07±.26; Best double couple: M₀2.30000×10¹⁶ NP1:φs155.00000°, δ49.00000°, λ-105.00000°. NP2: φs357.00000°, δ43.00000°, λ-74.00000°. Principal axes: T 2.1260, Plg3.0000°, Azm255.0000°; N 0.3480, Plg11.0000°, Azm165.0000°; P -2.4740, Plg79.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM ***10*** *19:07:01.0±0.1, 37°.20N×22°.05E, h5km, mb5.2/99, Mw4.9 Error ellipse: s-maj=2.6km s-min=2.0km az=41.0*

ISC 10 19:07:01.7±0.4, 37°.20N±0°.01×22°.05E±0°.01, h14km±2km, h14km:pP-P, n1349, σ1§47/1558, mb5.0/165, MS4.2/34, 43C-28D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**261**	P	**Pg**	**19 07 02.2**	**-2.7**
ITM				S	**Sg**	**19 07 04.2**	**-2.9**
ITM	**Ithomi**	**0.10**	**261**	P	**Pg**	**19 07 01.4**	**-3.5**
ITM				S	**Sg**	**19 07 04.1**	**-2.9**
ITM				AML	AML	19 07 05.2	
ITM				AML	AML	19 07 06.2	
ITM	**Ithomi**	**0.10**	**261**	P	**Pg**	**19 07 02.2**	**-2.7**
ITM				S	**Sg**	**19 07 04.1**	**-2.9**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**19 07 07.0**	**-1.3**
VLX				S	**Sg**	**19 07 12.4**	**-0.4**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**19 07 06.6**	**-1.7**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**19 07 07.0**	**-1.3**
VLX				S	**Sg**	**19 07 12.4**	**-0.4**
VLX	**Vlachokerasia**	**0.32**	**56**	*e*Pg	**Pg**	**19 07 06.8**	**-1.5**
VLX				*e*Sg	**Sg**	**19 07 12.4**	**-0.4**
TRIP	**Tripoli**	**0.38**	**28**	P	**Pg**	**19 07 08.1**	**-1.3**
TRIP				S	**Sg**	**19 07 13.3**	**-1.2**
TRIP				AML	AML	19 07 15.3	
TRIP				AML	AML	19 07 18.6	
TRIP	**Tripoli**	**0.38**	**28**	P	**Pg**	**19 07 08.1**	**-1.3**
TRIP				S	**Sg**	**19 07 13.4**	**-1.2**
PYL	**PYLOS**	**0.39**	**220**	P	**Pg**	**19 07 07.9**	**-1.6**
PYL				S	**Sg**	**19 07 14.3**	**-0.5**
PYL	**PYLOS**	**0.39**	**220**	P	**Pg**	**19 07 07.6**	**-1.9**
PYL				S	**Sg**	**19 07 14.8**	**-0.1**
PYL				AML	AML	19 07 22.9	
PYL				AML	AML	19 07 26.6	
PYL	**PYLOS**	**0.39**	**220**	P	**Pg**	**19 07 07.6**	**-1.9**
PYL				S	**Sg**	**19 07 14.3**	**-0.5**
PYL	**PYLOS**	**0.39**	**220**	*e*Pg	**Pg**	**19 07 07.9**	**-1.6**
PYL				*e*Sg	**Sg**	**19 07 14.3**	**-0.5**
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**19 07 09.4**	**-1.0**
AMT				S	**Sg**	**19 07 15.4**	**-0.9**
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**19 07 07.8**	**-2.6**
AMT				S	**Sg**	**19 07 14.9**	**-1.4**
AMT				AML	AML	19 07 18.1	
AMT				AML	AML	19 07 21.2	
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**19 07 09.4**	**-1.0**
AMT				S	**Sg**	**19 07 15.4**	**-0.9**
GUR	**Goura**	**0.78**	**17**	P	**Pg**	**19 07 14.9**	**-2.0**
GUR				S	**Sg**	**19 07 27.

KRND	KRANIDI	0.90	78	P	Pg	19 07 18.0	-1.1
KRND				S	Sb	19 07 30.9	0.0
THAL	Thalero	0.97	30	P	Pg	19 07 18.8	-1.7
THAL				S	Sb	19 07 33.7	+0.6
THAL	Thalero	0.97	30	P	Pg	19 07 18.6	-2.0
THAL				S	Sb	19 07 33.5	+0.4
THAL				AML	AML	19 07 40.7	
	comp=N,90368µm,0.7s						
THAL				AML	AML	19 07 47.1	
	comp=E,91226µm,0.6s						
THAL	Thalero	0.97	30	P	Pg	19 07 18.8	-1.7
THAL				S	Sb	19 07 33.5	+0.4
RLS	Riolos of Patr	0.98	332	P	Pb	19 07 19.2	-1.3
RLS				S	Sg	19 07 33.0	-0.4
RLS	Riolos of Patr	0.98	332	P	Pb	19 07 18.6	-1.8
RLS				S	Sn	19 07 34.5	-0.2
RLS				AML	AML	19 07 38.0	
	comp=E,38871µm,0.4s						
RLS				AML	AML	19 07 39.9	
	comp=N,40056µm,0.9s						
RLS	Riolos of Patr	0.98	332	P	Pb	19 07 19.2	-1.3
RLS				S	Sg	19 07 33.0	-0.4
VTN	Vitineika	0.99	317	P	Pn	19 07 21.9	+0.6
VTN	Vitineika	0.99	317	P	Pn	19 07 21.9	+0.6
DID	Didima	1.00	71	P	Pb	19 07 19.8	-1.0
DID				S	Sn	19 07 35.1	-0.1
DID	Didima	1.00	71	P	Pb	19 07 20.1	-0.7
DID				S	Sn	19 07 34.7	-0.5
DID				AML	AML	19 07 38.8	
	comp=E,38938µm,0.5s						
DID				AML	AML	19 07 43.0	
	comp=N,41364µm,0.7s						
DID	Didima	1.00	71	*e*Pg	Pb	19 07 19.4	-1.4
DID	Didima	1.00	71	P	Pb	19 07 20.1	-0.7
DID				S	Sn	19 07 34.7	-0.5
DID	Didima	1.00	71	*e*Pg	Pb	19 07 19.4	-1.4
DID				*e*Pn	Pb	19 07 19.8	-1.0
DID				*e*Sn	Sn	19 07 35.1	-0.1
LAKA	Lakka	1.04	357	P	Pb	19 07 20.1	-1.6
LAKA				S	Sn	19 07 35.8	-0.6
LAKA	Lakka	1.04	357	P	Pb	19 07 20.0	-1.6
LAKA				S	Sb	19 07 35.0	-0.2
LAKA				AML	AML	19 07 41.1	
	comp=N,24368µm,1.3s						
LAKA				AML	AML	19 07 48.9	
	comp=E,28510µm,1.4s						
LAKA	Lakka	1.04	357	*e*Pg	Pb	19 07 19.6	-2.0
LAKA	Lakka	1.04	357	P	Pb	19 07 20.1	-1.6
LAKA				S	Sb	19 07 35.0	-0.2
LAKA	Lakka	1.04	357	*e*Pg	Pb	19 07 19.6	-2.0
LAKA				*e*Pn	Pb	19 07 20.1	-1.6
LAKA				*e*Sn	Sn	19 07 35.8	-0.6
LOUT	Loutraki	1.08	43	P	Pb	19 07 21.1	-1.1
LOUT				S	Sn	19 07 37.8	+0.5
LOUT	Loutraki	1.08	43	P	Pb	19 07 21.1	-1.1
LOUT				S	Sn	19 07 37.8	+0.5
LTK	Loutraki	1.10	41	P	Pb	19 07 21.2	-1.4
LTK	Loutraki	1.10	41	P	Pb	19 07 20.6	-2.0
LTK				AML	AML	19 07 42.6	
	comp=E,33660µm,0.7s						
LTK				AML	AML	19 07 45.3	
	comp=N,32702µm,0.6s						
LTK	Loutraki	1.10	41	*e*Pg	Pb	19 07 20.9	-1.7
LTK	Loutraki	1.10	41	P	Pb	19 07 21.2	-1.4
LTK	Loutraki	1.10	41	*e*Pg	Pb	19 07 20.9	-1.7
LTK				*e*Pn	Pb	19 07 21.2	-1.4
UPR	University Cam	1.11	349	P	Pb	19 07 21.8	-0.9
UPR				S	Sn	19 07 37.8	-0.1
UPR	University Cam	1.11	349	P	Pb	19 07 22.0	-0.7
UPR				S	Sn	19 07 38.6	+0.7
UPR	University Cam	1.11	349	P	Pb	19 07 22.0	-0.7
UPR				S	Sn	19 07 37.8	-0.1
AXS	Araxos	1.13	332	P	Pb	19 07 21.7	-1.4
AXS				S	Sn	19 07 38.5	0.0
AXS	Araxos	1.13	332	P	Pb	19 07 21.0	-2.1
AXS				S	Sb	19 07 37.3	-0.4
AXS	Araxos	1.13	332	P	Pb	19 07 21.7	-1.4
AXS				S	Sb	19 07 37.3	-0.4
TRIZ	Trizonia	1.17	1	P	Pb	19 07 20.9	-2.8
TRIZ				S	Sn	19 07 39.4	0.0
TRIZ	Trizonia	1.17	1	P	Pb	19 07 20.9	-2.8
TRIZ				S	Sn	19 07 39.4	0.0
KALE	Kalithea	1.20	3	P	Pn	19 07 22.6	-1.6
KALE				S	Sn	19 07 40.8	+0.6
KALE	Kalithea	1.20	3	P	Pn	19 07 21.8	-2.3
KALE				S	Sn	19 07 41.5	+1.3
KALE				AML	AML	19 07 44.3	
	comp=E,32905µm,0.9s						
KALE				AML	AML	19 07 46.0	
	comp=N,39811µm,0.7s						
KALE	Kalithea	1.20	3	P	Pn	19 07 22.6	-1.6
KALE				S	Sn	19 07 40.8	+0.6
KALE	Kalithea	1.20	3	*e*Pg	Pn	19 07 22.5	-1.6
KALE				*e*Sn	Sn	19 07 40.8	+0.6
SERG	Sergoula	1.22	0	P	Pn	19 07 22.9	-1.5
SERG				S	Sn	19 07 41.4	+0.7
SERG	Sergoula	1.22	0	P	Pn	19 07 22.8	-1.6
SERG				S	Sb	19 07 40.3	+0.1
SERG				AML	AML	19 07 48.7	
	comp=E,19217µm,1.0s						
SERG				AML	AML	19 07 50.0	
	comp=N,35321µm,0.8s						
SERG	Sergoula	1.22	0	P	Pn	19 07 22.9	-1.5
SERG				S	Sb	19 07 40.3	+0.1
KYTH	Kithira	1.23	139	P	Pb	19 07 24.8	+0.1
KYTH				S	Sg	19 07 42.7	+1.4
KYTH	Kithira	1.23	139	P	Pn	19 07 24.2	-0.3
KYTH				S	Sb	19 07 40.2	-0.1
KYTH				AML	AML	19 07 54.1	
	comp=N,34840µm,0.8s						
KYTH				AML	AML	19 07 56.8	
	comp=E,37351µm,0.8s						
KYTH	Kithira	1.23	139	*e*Pn	Pb	19 07 24.8	+0.1
KYTH				*e*Sn	Sg	19 07 42.7	+1.4
EFP	Efpalio	1.23	355	P	Pn	19 07 23.7	-0.9
EFP				S	Sg	19 07 42.1	+0.5
EFP	Efpalio	1.23	355	P	Pn	19 07 23.6	-0.9
EFP				S	Sg	19 07 42.6	+1.0
EFP	Efpalio	1.23	355	P	Pn	19 07 23.7	-0.9
EFP				S	Sg	19 07 42.1	+0.5
PROD	Prodromos	1.26	32	P	Pn	19 07 23.6	-1.3
PROD				S	Sn	19 07 41.6	-0.1
PROD				AML	AML	19 07 45.6	
	comp=E,46387µm,0.7s						
PROD				AML	AML	19 07 46.3	
	comp=N,36847µm,0.6s						
PROD	Prodromos	1.26	32	P	Pn	19 07 23.6	-1.3
PROD				S	Sn	19 07 41.6	-0.1
DSF	Desfina	1.27	17	P	Pn	19 07 24.3	-0.9
DSF				S	Sg	19 07 43.2	+0.4
DSF	Desfina	1.27	17	P	Pn	19 07 23.6	-1.6
DSF	Desfina	1.27	17	P	Pn	19 07 24.3	-0.9
DSF				S	Sg	19 07 43.2	+0.4
DSF	Desfina	1.27	17	*e*Pg	Pn	19 07 24.3	-0.9
DSF				*e*Sn	Sg	19 07 43.2	+0.4
KFL	Anninata	1.35	313	P	Pn	19 07 26.2	-0.1
KFL				S	Sg	19 07 45.9	+0.4
KFL	Anninata	1.35	313	P	Pn	19 07 25.2	-1.0
KFL	Anninata	1.35	313	P	Pn	19 07 26.2	-0.1
KFL				S	Sg	19 07 45.9	+0.4
VILL	Villia	1.39	46	P	Pn	19 07 26.9	+0.1
VILL				S	Sg	19 07 46.3	-0.4
VILL	Villia	1.39	46	P	Pn	19 07 26.9	+0.1
VILL				S	Sg	19 07 46.3	-0.4
ANX	Ano Chora	1.40	356	P	Pn	19 07 26.6	-0.4
ANX				S	Sg	19 07 46.6	-0.3
ANX	Ano Chora	1.40	356	P	Pn	19 07 26.0	-0.9
ANX				S	Sg	19 07 48.1	+1.2
ANX				AML	AML	19 07 58.2	
	comp=E,38934µm,0.7s						
ANX				AML	AML	19 08 00.8	
	comp=N,40097µm,0.6s						
ANX	Ano Chora	1.40	356	P	Pn	19 07 26.6	-0.4
ANX				S	Sg	19 07 46.6	-0.3
VIL2	Platees	1.40	43	P	Pn	19 07 26.9	0.0
VIL2				S	Sg	19 07 47.1	+0.1
VIL2				AML	AML	19 07 56.8	
	comp=N,57719µm,0.7s						
VIL2				AML	AML	19 08 00.3	
	comp=E,31757µm,0.9s						
PVO	Paravola	1.48	344	P	Pb	19 07 28.7	-0.3
PVO				S	Sg	19 07 48.5	-0.9
PVO	Paravola	1.48	344	P	Pb	19 07 29.2	+0.2
PVO				S	Sg	19 07 50.6	+1.2
PVO				AML	AML	19 08 01.5	
	comp=E,20020µm,0.6s						
PVO				AML	AML	19 08 05.1	
	comp=N,16746µm,0.9s						
PVO	Paravola	1.48	344	P	Pb	19 07 28.7	-0.3
PVO				S	Sg	19 07 48.5	-0.9
VLS	Valsamata	1.52	311	P	Pn	19 07 28.2	-0.3
VLS				S	Sg	19 07 49.5	-1.1
VLS	Valsamata	1.52	311	P	Pn	19 07 27.8	-0.7
VLS				S	Sg	19 07 49.6	-1.1
VLS				AML	AML	19 08 00.4	
	comp=E,9664µm,0.8s						
VLS				AML	AML	19 08 02.2	
	comp=N,14094µm,0.6s						
VLS	Valsamata	1.52	311	P	Pn	19 07 28.2	-0.3
VLS				S	Sg	19 07 49.5	-1.1
ATH	Athens Observa	1.54	59	P	Pn	19 07 29.0	+0.3
ATH				S	Sg	19 07 50.9	-0.3
ATH	Athens Observa	1.54	59	P	Pn	19 07 29.1	+0.4
ATH				S	Sg	19 07 51.2	0.0
ATH				AML	AML	19 07 56.3	
	comp=N,37572µm,1.3s						
ATH				AML	AML	19 07 57.8	
	comp=E,54298µm,1.4s						
ATH	Athens Observa	1.54	59	P	Pn	19 07 29.1	+0.4
ATH				S	Sg	19 07 50.9	-0.3
VLY	Voula,Athens	1.54	64	P	Pn	19 07 28.9	+0.2
VLY	Voula,Athens	1.54	64	P	Pn	19 07 28.3	-0.4
VLY				S	Sg	19 07 52.3	+1.1
VLY				AML	AML	19 07 59.1	
	comp=E,22519µm,0.5s						
VLY				AML	AML	19 08 01.8	
	comp=N,28452µm,1.3s						
VLY	Voula,Athens	1.54	64	P	Pn	19 07 28.9	+0.2
VLY				S	Sg	19 07 52.3	+1.1
VLY	Voula,Athens	1.54	64	*e*Pn	Pn	19 07 28.7	0.0
VLY				*e*Pg	Pn	19 07 28.9	+0.2
ATHU	Athens Univers	1.58	60	P	Pn	19 07 29.7	+0.4
ATHU				S	Sg	19 07 51.8	-0.8
ATHU	Athens Univers	1.58	60	*e*Pn	Pn	19 07 29.4	+0.1
ATHU	Athens Univers	1.58	60	P	Pn	19 07 29.7	+0.4
ATHU				S	Sg	19 07 51.8	-0.8
ATHU	Athens Univers	1.58	60	*e*Pn	Pn	19 07 29.4	+0.1
ATHU				*e*Pg	Pn	19 07 29.7	+0.4
ATHU				*e*Sn	Sg	19 07 51.8	-0.8
LKR	Lokris	1.64	27	P	Pb	19 07 31.1	-0.6
LKR	Lokris	1.64	27	P	Pn	19 07 30.1	0.0
LKR				S	Sb	19 07 52.2	0.0
LKR				AML	AML	19 07 59.8	
	comp=N,22862µm,1.3s						
LKR				AML	AML	19 08 02.7	
	comp=E,22735µm,0.7s						
LKR	Lokris	1.64	27	P	Pb	19 07 31.1	-0.6
LKR				S	Sb	19 07 52.2	0.0
ANKY	Antikythira Is	1.67	142	P	Pb	19 07 31.6	-0.6
ANKY				S	Sb	19 07 54.0	+1.0
ANKY	Antikythira Is	1.67	142	P	Pb	19 07 32.3	+0.2
ANKY				AML	AML	19 08 06.3	
	comp=N,23390µm,0.6s						
ANKY				AML	AML	19 08 09.5	
	comp=E,23374µm,0.9s						
ANKY	Antikythira Is	1.67	142	P	Pb	19 07 31.6	-0.6
ANKY				S	Sb	19 07 54.0	+1.0
ANKY	Antikythira Is	1.67	142	*e*Pn	Pb	19 07 31.6	-0.6
ANKY				*e*Sn	Sb	19 07 54.0	+1.0
PTL	Penteli	1.68	59	P	Pn	19 07 31.0	+0.3
PTL	Penteli	1.68	59	P	Pn	19 07 30.3	-0.3
PTL				S	Sb	19 07 53.2	-0.1
PTL				AML	AML	19 08 04.4	
	comp=E,34258µm,1.2s						
PTL				AML	AML	19 08 07.4	
	comp=N,35189µm,1.7s						
PTL	Penteli	1.68	59	P	Pn	19 07 31.0	+0.3
PTL				S	Sb	19 07 53.2	-0.1
PTL	Penteli	1.68	59	*e*Pn	Pn	19 07 30.9	+0.3
PTL				*e*Pg	Pn	19 07 31.0	+0.3
EVR	Evrytania	1.73	354	P	Pb	19 07 32.7	-0.7
EVR	Evrytania	1.73	354	P	Pb	19 07 33.0	-0.4
EVR				S	Sb	19 07 55.8	+0.8
EVR				AML	AML	19 08 07.6	
	comp=E,16772µm,1.8s						
EVR				AML	AML	19 08 09.1	
	comp=N,23135µm,2.0s						
EVR	Evrytania	1.73	354	P	Pb	19 07 32.7	-0.7
EVR				S	Sb	19 07 55.8	+0.8
AGG	Agios Georgios	1.84	7	P	Pn	19 07 33.6	+0.7
AGG	Agios Georgios	1.84	7	*e*P	Pn	19 07 33.6	+0.7
AGG	Agios Georgios	1.84	7	P	Pn	19 07 33.3	+0.3
AGG				AML	AML	19 08 12.9	
	comp=E,29210µm,0.7s						
AGG				AML	AML	19 08 15.3	
	comp=N,24103µm,0.7s						
AGG	Agios Georgios	1.84	7	P	Pn	19 07 33.6	+0.7
AGG	Agios Georgios	1.84	7	*e*Pg	Pn	19 07 33.9	+1.0
AGG	Agios Georgios	1.84	7	*e*Pn	Pn	19 07 33.6	+0.7
AGG				*e*Pg	Pn	19 07 33.9	+1.0
SMIA	Simia	1.91	28	P	Pn	19 07 34.5	+0.5
SMIA	Simia	1.91	28	P	Pb	19 07 35.3	-1.1
SMIA	Simia	1.91	28	P	Pn	19 07 34.5	+0.5
EREA	Eretria	1.93	50	P	Pn	19 07 34.6	+0.4
EREA				S	Sb	19 07 59.8	-0.8
EREA	Eretria	1.93	50	P	Pn	19 07 34.0	-0.1
EREA				S	Sb	19 08 01.0	+0.4
EREA				AML	AML	19 08 10.1	
	comp=N,11725µm,1.2s						
EREA				AML	AML	19 08 13.2	
	comp=E,15140µm,0.8s						
EREA	Eretria	1.93	50	P	Pn	19 07 34.6	+0.4
EREA				S	Sb	19 07 59.8	-0.8
LKD2	Lefkada island	1.93	326	P	Pb	19 07 37.0	+0.2
LKD2	Lefkada island	1.93	326	P	Pb	19 07 36.6	-0.2
LKD2				S	Sg	19 08 02.9	-1.1
LKD2	Lefkada island	1.93	326	P	Pb	19 07 36.6	-0.2
LKD2				S	Sg	19 08 02.9	-1.1
MHLO	Agia Marina, M	1.95	104	P	Pn	19 07 35.0	+0.6
MHLO	Agia Marina, M	1.95	104	P	Pb	19 07 35.9	-1.2
MHLO	Agia Marina, M	1.95	104	P	Pn	19 07 35.0	+0.6
MHLA	Plaka, Milos I	1.95	103	P	Pb	19 07 36.3	-0.8
MHLA	Plaka, Milos I	1.95	103	P	Pb	19 07 36.3	-0.8
KARY	Karystos	2.07	65	P	Pn	19 07 36.7	+0.6
KARY				S	Sb	19 08 04.6	-0.1
KARY	Karystos	2.07	65	P	Pn	19 07 35.9	-0.2
KARY				AML	AML	19 08 11.8	
	comp=E,11746µm,0.8s						
KARY				AML	AML	19 08 12.5	
	comp=N,7256µm,0.8s						
KARY	Karystos	2.07	65	P	Pn	19 07 36.7	+0.6
KARY				S	Sb	19 08 04.6	-0.1
SKIA	Skiathos	2.26	29	P	Pn	19 07 39.0	+0.3
SKIA	Skiathos	2.26	29	P	Pn	19 07 38.5	-0.2
SKIA				S	Sn	19 08 08.1	+1.7
SKIA	Skiathos	2.26	29	P	Pn	19 07 39.0	+0.3
SKIA				S	Sn	19 08 08.1	+1.7
NEO	Neokhori	2.30	23	P	Pn	19 07 39.3	0.0
NEO	Neokhori	2.30	23	P	Pn	19 07 39.3	0.0
FYTO	Fytoko, Volos	2.32	17	P	Pn	19 07 40.1	+0.6
FYTO	Fytoko, Volos	2.32	17	P	Pn	19 07 39.9	+0.4
FYTO	Fytoko, Volos	2.32	17	P	Pn	19 07 40.1	+0.6
FYTO	Fytoko, Volos	2.32	17	*e*Pn	Pn	19 07 40.1	+0.6
IMMV	Iera Moni Meta	2.33	137	P	Pn	19 07 40.0	+0.3
IMMV	Iera Moni Meta	2.33	137	P	Pb	19 07 43.6	+0.1
IMMV	Iera Moni Meta	2.33	137	P	Pn	19 07 40.0	+0.3
XOR	Xorichti	2.35	22	P	Pn	19 07 40.3	+0.4
XOR	Xorichti	2.35	22	P	Pb	19 07 42.1	-1.7
XOR	Xorichti	2.35	22	P	Pn	19 07 40.3	+0.4
THL	Klokotos Trika	2.37	359	P	Pn	19 07 41.9	+1.8
THL	Klokotos Trika	2.37	359	P	Pn	19 07 41.9	+1.8
VAM	Vamos	2.49	135	P	Pb	19 07 45.1	-1.1
VAM	Vamos	2.49	135	P	Pb	19 07 45.1	-1.1
JAN	Janina	2.63	339	P	Pb	19 07 47.5	-1.2
JAN	Janina	2.63	339	P	Pb	19 07 47.9	-0.9
JAN	Janina	2.63	339	P	Pb	19 07 47.8	-0.9
THR5	Thira Island,	2.76	105	P	Pn	19 07 48.2	+2.7
THR5	Thira Island,	2.76	105	P	Pn	19 07 48.2	+2.7
APE	Apeiranthos	2.79	92	P	Pn	19 07 46.7	+0.7
APE	Apeiranthos	2.79	92	⇑*i*P	Pn	19 07 46.7	+0.7
APE				S	Sn	19 08 21.2	+1.8
APE	Apeiranthos	2.79	92	*e*P	Pn	19 07 46.7	+0.7
APE	Apeiranthos	2.79	92	P	Pn	19 07 46.2	+0.3
APE	Apeiranthos	2.79	92	P	Pn	19 07 46.2	+0.3
APE	Apeiranthos	2.79	92	*e*Pn	Pn	19 07 46.7	+0.7
CMBO	Columbo, Santo	2.79	104	P	Pn	19 07 47.3	+1.4
CMBO	Columbo, Santo	2.79	104	P	Pn	19 07 47.3	+1.4
THR3	Thira Island,	2.80	105	P	Pn	19 07 47.1	+1.0
THR3	Thira Island,	2.80	105	P	Pb	19 07 49.2	-2.3
THR3	Thira Island,	2.80	105	P	Pn	19 07 47.1	+1.0
THR3	Thira Island,	2.80	105	*e*Pn	Pn	19 07 47.1	+1.0
SGD	Sagiada	2.80	330	P	Pb	19 07 48.8	-2.8
SGD	Sagiada	2.80	330	P	Pb	19 07 48.8	-2.8
KPRO	Kipourio	2.81	349	P	Pb	19 07 50.5	-1.2
KPRO	Kipourio	2.81	349	P	Pb	19 07 50.1	-1.6
KPRO	Kipourio	2.81	349	P	Pb	19 07 50.1	-1.6
SAP1	Santorini-Akro	2.81	106	P	Pn	19 07 49.1	+2.8
SAP1	Santorini-Akro	2.81	106	P	Pn	19 07 47.4	+1.1
THR6	Thira Island,	2.81	106	P	Pn	19 07 47.1	+0.8
THR6	Thira Island,	2.81	106	P	Pn	19 07 46.9	+0.6
THR6	Thira Island,	2.81	106	P	Pn	19 07 46.9	+0.6
THR6	Thira Island,	2.81	106	*e*Pn	Pn	19 07 47.1	+0.8
THR2	Thira island,	2.82	104	P	Pn	19 07 48.8	+2.4
THR2	Thira island,	2.82	104	P	Pn	19 07 48.8	+2.4
THR7	Fira-Santorini	2.82	105	P	Pb	19 07 50.2	-1.6
THR7	Fira-Santorini	2.82	105	P	Pb	19 07 50.2	-1.6
THT1	Athinios (Pele	2.83	106	P	Pb	19 07 49.9	-2.2
THT1	Athinios (Pele	2.83	106	P	Pb	19 07 49.9	-2.2
SAP2K	Karterados	2.84	105	P	Pb	19 07 49.9	-2.3
SANT	Santorini	2.86	106	P	Pb	19 07 49.8	-2.7
SANT	Santorini	2.86	106	*e*Pn	Pn	19 07 49.1	+2.1
SANT	Santorini	2.86	106	P	Pb	19 07 49.8	-2.7
SANT	Santorini	2.86	106	*e*Pn	Pn	19 07 49.1	+2.1
GVD	Gavdhos	2.87	144	P	Pb	19 07 50.8	-2.0
GVD	Gavdhos	2.87	144	P	Pb	19 07 50.8	-2.0
LIT	Litokhoron	2.92	7	P	Pn	19 07 48.0	+0.2
LIT	Litokhoron	2.92	7	*e*P	Pn	19 07 48.0	+0.2
LIT	Litokhoron	2.92	7	P	Pn	19 07 48.7	+0.9
LIT	Litokhoron	2.92	7	P	Pn	19 07 48.7	+0.9
LIT	Litokhoron	2.92	7	*e*Pn	Pn	19 07 48.0	+0.2
IDI	Anoyia	2.98	129	Pn	Pn	19 07 50.8	+2.1
	comp=N,16nm,0.3s,baz=320,slow=16,SNR=35						
IDI				Sn	Sb	19 08 27.9	-3.1
	comp=N,59nm,0.3s,baz=244,slow=23,SNR=6.1						
IDI				LR	LR	19 09 22.2	
	comp=N,4µm,19.6s,baz=348,slow=48						
IDI	Anoyia	2.98	129	P	Pn	19 07 48.4	-0.3
IDI	Anoyia	2.98	129	P	Pn	19 07 48.4	-0.3
IDI	Anoyia	2.98	129	*e*Pn	Pn	19 07 50.5	+1.8
IDI				*e*Sn	Sb	19 08 27.9	-3.1
KEK	Kerkira	3.07	326	P	Pn	19 07 51.2	+1.3
KEK	Kerkira	3.07	326	P	Pn	19 07 51.3	+1.5
KEK	Kerkira	3.07	326	P	Pn	19 07 51.2	+1.3
KZN	Kozani	3.12	356	P	Pb	19 07 53.9	-3.1
KZN	Kozani	3.12	356	P	Pb	19 07 55.4	-1.5
KZN	Kozani	3.12	356	P	Pb	19 07 55.4	-1.5
SIVA	Sivas	3.12	133	P	Pn	19 07 52.4	+1.9
SIVA	Sivas	3.12	133	P	Pn	19 07 52.4	+1.9
PLG	Polygyros	3.36	19	P	Pn	19 07 56.3	+2.5
PLG	Polygyros	3.36	19	P	Pn	19 07 56.3	+2.5
CHOS	Chios island	3.39	68	P	Pn	19 07 55.1	+0.8
CHOS				S	Sn	19 08 37.5	+3.2
CHOS	Chios island	3.39	68	P	Pn	19 07 54.1	-0.1
CHOS	Chios island	3.39	68	P	Pn	19 07 55.1	+0.8
CHOS				S	Sn	19 08 37.5	+3.2
LAST	Lasithi	3.44	125	P	Pn	19 07 56.1	+1.1
LAST	Lasithi	3.44	125	P	Pn	19 07 57.3	+2.4
LAST	Lasithi	3.44	125	P	Pn	19 07 56.1	+1.1
NPS	Neapolis	3.47	123	P	Pn	19 07 56.5	+1.2
NPS	Neapolis	3.47	123	P	Pn	19 07 58.5	+3.2
NPS	Neapolis	3.47	123	P	Pn	19 07 56.5	+1.2
OUR	Ouranopolis	3.48	25	P	Pn	19 07 55.5	+0.1
OUR	Ouranopolis	3.48	25	P	Pn	19 07 55.5	+0.1
HORT	Hortiatis	3.50	13	P	Pn	19 07 56.0	+0.2
HORT	Hortiatis	3.50	13	P	Pn	19 07 54.9	-0.9
HORT	Hortiatis	3.50	13	P	Pn	19 07 56.0	+0.2
THE	Thessaloniki	3.51	11	P	Pn	19 07 56.5	+0.7
THE	Thessaloniki	3.51	11	*e*P	Pn	19 07 56.5	+0.7
THE	Thessaloniki	3.51	11	P	Pn	19 07 58.7	+2.9
THE	Thessaloniki	3.51	11	P	Pn	19 07 56.5	+0.7
THE	Thessaloniki	3.51	11	*e*Pn	Pn	19 07 56.5	+0.7
SIGR	SIGRI	3.61	55	P	Pn	19 07 56.8	-0.4
SIGR	SIGRI	3.61	55	P	Pn	19 07 56.8	-0.4
FNA	Florina	3.62	352	P	Pn	19 08 00.8	+3.3
FNA	Florina	3.62	352	P	Pn	19 08 00.8	+3.3
LIA	Limnos Island	3.65	41	P	Pn	19 07 56.7	-1.1
LIA	Limnos Island	3.65	41	P	Pn	19 07 56.7	-1.1
SOH	Sokhos	3.76	15	P	Pn	19 08 00.0	+0.6
SOH	Sokhos	3.76	15	*e*P	Pn	19 08 00.0	+0.6
SOH	Sokhos	3.76	15	P	Pn	19 08 01.6	+2.2
SOH	Sokhos	3.76	15	P	Pn	19 08 00.0	+0.6
SOH	Sokhos	3.76	15	*e*Pn	Pn	19 08 00.0	+0.6
GRG	Griva	3.77	4	P	Pb	19 08 03.7	-4.3
GRG	Griva	3.77	4	P	Pb	19 08 03.7	-4.3
BIA	Bitola	3.86	352	*i* Pn	Pn	19 08 03.7	+2.9
BIA	Bitola	3.86	352	*i* Pn	Pn	19 08 03.6	+2.9
PRK	Paraskevi	3.91	57	P	Pn	19 08 00.7	-0.6
PRK	Paraskevi	3.91	57	P	Pn	19 08 00.7	-0.6
ZKR	Zakros	3.96	120	P	Pn	19 08 03.4	+1.3
ZKR

IVA	**Berane**	**5.91 344**	⇑*i*Pn	**Pn**	**19 08 30.8 +1.9**
IVA			*e*Sn	**Sn**	**19 09 38.4 +2.0**
HCY	**Herceg Novi**	**5.92 334**	⇑*i*Pn	**Pn**	**19 08 29.6 +0.7**
HCY			*e*Sn	**Sn**	**19 09 38.7 +2.2**
HCY	**Herceg Novi**	**5.92 334**	⇑*i*Pn	**Pn**	**19 08 29.6 +0.7**
HCY			*e*Sn	**Sn**	**19 09 38.7 +2.2**
NKY	**Niksic**	**6.08 338**	⇓*i*Pn	**Pn**	**19 08 32.7 +1.4**
NKY			*e*Sn	**Sn**	**19 09 42.7 +2.0**
NKY	**Niksic**	**6.08 338**	⇓*i*Pn	**Pn**	**19 08 32.7 +1.4**
NKY			*e*Sn	**Sn**	**19 09 42.7 +2.0**
VAE	**Valguarnera**	**6.09 275**	Pn	**Pn**	**19 08 32.5 +1.1**
	comp=N,3.1nm,0.3s,baz=38,slow=2.1,SNR=20				
VAE			Sn	**Sn**	**19 09 44.6 +3.7**
	comp=N,6.0nm,0.3s,baz=194,slow=17,SNR=2.5				
VAE			LR	LR	19 11 17.9
	comp=N,868nm,20.5s,baz=91,slow=42				
AKAS	**Kas**	**6.14 97**	*e*Pn	**Pn**	**19 08 36.2 +4.0**
AKAS	**Kas**	**6.14 97**	*e*Pn	**Pn**	**19 08 36.2 +4.0**
WDD	**Wied Dalam**	**6.21 260**	*e*Pn	**Pn**	**19 08 33.2 +0.2**
WDD	**Wied Dalam**	**6.21 260**	*e*Pn	**Pn**	**19 08 33.2 +0.2**
BRY	**Bratogost**	**6.30 336**	⇑*i*Pn	**Pn**	**19 08 35.2 +0.8**
BRY			*e*Sn	**Sn**	**19 09 48.0 +1.8**
BRY	**Bratogost**	**6.30 336**	⇑*i*Pn	**Pn**	**19 08 35.2 +0.8**
BRY			*e*Sn	**Sn**	**19 09 48.0 +1.8**
PLE	**Pljevlja**	**6.46 342**	⇑*i*Pn	**Pn**	**19 08 38.1 +1.6**
PLE			*e*Sn	**Sn**	**19 09 51.9 +1.9**
PLE	**Pljevlja**	**6.46 342**	⇑*i*Pn	**Pn**	**19 08 38.1 +1.6**
PLE			*e*Sn	**Sn**	**19 09 51.9 +1.9**
UPM	**Unac-Piva**	**6.46 339**	⇑*i*Pn	**Pn**	**19 08 38.1 +1.5**
UPM			*e*Sn	**Sn**	**19 09 51.9 +1.6**
UPM	**Unac-Piva**	**6.46 339**	⇑*i*Pn	**Pn**	**19 08 38.1 +1.5**
UPM			*e*Sn	**Sn**	**19 09 51.9 +1.6**
STON	**Ston**	**6.58 331**	*e*Pn	**Pn**	**19 08 36.9 -1.1**
STON			Sn	**Sn**	**19 09 52.5 -0.3**
STON	**Ston**	**6.58 331**	*e*Pn	**Pn**	**19 08 36.9 -1.1**
STON			Sn	**Sn**	**19 09 52.4 -0.3**
ISP	**Isparta**	**6.76 82**	⇓*i*P	**Pn**	**19 08 43.8 +3.1**
ISP	**Isparta**	**6.76 82**	*e*P	**Pn**	**19 08 43.8 +3.1**
ISP	**Isparta**	**6.76 82**	*e*Pn	**Pn**	**19 08 43.8 +3.1**
ISP	**Isparta**	**6.76 82**	*e*Pn	**Pn**	**19 08 43.8 +3.1**
BBLS	**Lazići**	**6.96 344**	*e*Pn	**Pn**	**19 08 43.7 +0.4**
CLTB	**Caltabellotta**	**7.04 276**	*e*Pn	**Pn**	**19 08 45.3 +0.8**
CLTB	**Caltabellotta**	**7.04 276**	*e*Pn	**Pn**	**19 08 45.3 +0.8**
DIVS	**Divibare**	**7.07 348**	⇑*i*Pn	**Pn**	**19 08 45.1 +0.2**
BOLV	**Bolvadin**	**7.20 75**	*e*Pn	**Pn**	**19 08 49.5 +2.9**
BOLV	**Bolvadin**	**7.20 75**	*e*Pn	**Pn**	**19 08 49.5 +2.9**
MDVR	**Moldovita**	**7.58 358**	⇑*i*P	**Pn**	**19 08 53.4 +1.5**
TEKS	**Tekeris**	**7.59 346**	*i* Pn	**Pn**	**19 08 51.6 -0.3**
BANR	**Banloc**	**8.21 355**	⇓*i*P	**Pn**	**19 09 01.0 +0.6**
LOT	**Lotru**	**8.35 8**	⇓*i*P	**Pn**	**19 09 05.2 +2.8**
ARR	**Arges**	**8.39 13**	⇓*i*P	**Pn**	**19 09 05.5 +2.5**
BLY	**Banja Luka**	**8.39 336**	*e*Pn	**Pn**	**19 09 02.6 -0.3**
BLY	**Banja Luka**	**8.39 336**	*e*Pn	**Pn**	**19 09 02.6 -0.3**
BZS	**Buzias**	**8.42 358**	⇑*i*P	**Pn**	**19 09 04.1 +0.8**
VOIR		**8.54 14**	⇑*i*P	**Pn**	**19 09 07.7 +2.7**
ISR	**Istrita**	**8.61 22**	⇑*i*P	**Pn**	**19 09 10.3 +4.4**
DEV	**Deva**	**8.71 4**	⇓*i*P	**Pn**	**19 09 11.2 +4.0**
HARR	**Harsova**	**8.71 29**	⇑*i*P	**Pn**	**19 09 10.4 +3.2**
TIRR	**Tirgusor**	**8.71 32**	⇓*i*P	**Pn**	**19 09 10.0 +2.8**
TIRR	**Tirgusor**	**8.71 32**	*e*P	**Pn**	**19 09 10.0 +2.8**
TIRR	**Tirgusor**	**8.71 32**	*e*P	**Pn**	**19 09 10.0 +2.8**
TIRR	**Tirgusor**	**8.71 32**	*e*Pn	**Pn**	**19 09 10.0 +2.8**
UDBI	**Udbina**	**8.73 329**	*e*Pn	**Pn**	**19 09 08.2 +0.6**
UDBI			Sn	**Sn**	**19 10 43.9 -2.0**
UDBI	**Udbina**	**8.73 329**	*e*Pn	**Pn**	**19 09 08.2 +0.6**
MLR	**Muntele Rosu**	**8.79 18**	Pn	**Pn**	**19 09 10.1 +1.7**
	comp=N,0.2nm,0.3s,baz=233,slow=11,SNR=12				
MLR	**Muntele Rosu**	**8.79 18**	⇑*i*P	**Pn**	**19 09 10.7 +2.2**
MLR	**Muntele Rosu**	**8.79 18**	*e*Pn	**Pn**	**19 09 11.1 +2.6**
MLR	**Muntele Rosu**	**8.79 18**	*e*Pn	**Pn**	**19 09 11.1 +2.6**
BR231	**Keskin MP Arra**	**8.81 69**	*e*Pn	**Pn**	**19 09 12.7 +3.9**
BR231	**Keskin MP Arra**	**8.81 69**	*e*Pn	**Pn**	**19 09 12.7 +3.9**
BR231			*e*		19 09 19.5
GRER		**8.98 23**	⇓*i*P	Pn	19 09 17.4 +6.5
SIRR	**Siria**	**9.07 358**	⇓*i*P	**Pn**	**19 09 14.2 +2.0**
DOPR	**Dopca**	**9.11 15**	⇑*i*P	**Pn**	**19 09 16.3 +3.5**
NVLJ	**Novalja**	**9.15 326**	*e*Pn	**Pn**	**19 09 13.4 +0.1**
NVLJ			Sn	**Sn**	**19 10 54.7 -1.3**
NVLJ	**Novalja**	**9.15 326**	*e*Pn	**Pn**	**19 09 13.3 +0.1**
CFR	**Carcaliu**	**9.20 28**	⇑*i*P	**Pn**	**19 09 15.5 +1.6**
PLOR	**Plostina**	**9.31 20**	⇓*i*P	**Pn**	**19 09 19.2 +3.7**
VRI	**Vrincioaia**	**9.35 21**	⇑*i*P	**Pn**	**19 09 19.6 +3.6**
CSS	**Mathiatis**	**9.40 100**	*e*Pn	**Pn**	**19 09 19.4 +2.6**
CSS	**Mathiatis**	**9.40 100**	*e*Pn	**Pn**	**19 09 19.4 +2.6**
BR101	**Keskin Array S**	**9.44 71**	*e*Pn	**Pn**	**19 09 20.0 +2.6**
BR101	**Keskin Array S**	**9.44 71**	*e*Pn	**Pn**	**19 09 20.0 +2.6**
BR131	**Keskin Array S**	**9.44 71**	*e*Pn	**Pn**	**19 09 20.7 +3.3**
BR131	**Keskin Array S**	**9.44 71**	*e*Pn	**Pn**	**19 09 20.7 +3.3**
BRTR	**Keskin Array B**	**9.44 71**	Pn	**Pn**	**19 09 20.0 +2.6**
	comp=N,1.2nm,0.3s,baz=253,slow=13,SNR=41				
BRTR			LR	LR	19 13 12.0
	comp=N,2μm,21.8s,baz=250,slow=40				
BRTR	**Keskin Array B**	**9.44 71**	P	**Pn**	**19 09 20.0 +2.6**
BRTR	**Keskin Array B**	**9.44 71**	P	**Pn**	**19 09 20.0 +2.6**
TLCR		**9.47 30**	⇑*i*P	**Pn**	**19 09 20.4 +2.8**
DRGR		**9.60 3**	⇓*i*P	**Pn**	**19 09 21.7 +2.1**
OZLJ	**Ozalj**	**9.75 332**	*e*Pn	**Pn**	**19 09 22.6 +1.1**
OZLJ	**Ozalj**	**9.75 332**	*e*Pn	**Pn**	**19 09 22.6 +1.1**
TESR	**Tescani**	**9.92 19**	⇑*i*P	**Pn**	**19 09 26.3 +2.5**
GBRS	**Gornja Briga**	**9.94 329**	*e*Pn	**Pn**	**19 09 24.0 -0.2**
ARCR	**ARCALIA**	**10.03 9**	⇓*i*P	**Pn**	**19 09 28.2 +2.9**
BEHE	**Becsehely**	**10.06 339**	⇑*e*P	**Pn**	**19 09 25.1 -0.7**
BEHE	**Becsehely**	**10.06 339**	⇑*e*Pn	**Pn**	**19 09 25.1 -0.7**
BEHE	**Becsehely**	**10.06 339**	⇑*e*Pn	**Pn**	**19 09 25.1 -0.7**
KEST	**Kesra**	**10.34 266**	Pn	**Pn**	**19 09 29.4 -0.2**
	comp=N,0.3nm,0.3s,baz=13,slow=9.3,SNR=13				
KEST			Sn	**Sn**	**19 11 23.8 -1.5**
	comp=N,0.1nm,0.3s,baz=49,slow=20,SNR=2.6				
KEST			LR	LR	19 13 58.3
	comp=N,1μm,22.0s,baz=38,slow=40				
KEST	**Kesra**	**10.34 266**	*e*Pn	**Pn**	**19 09 30.5 +0.8**
KEST	**Kesra**	**10.34 266**	*e*Pn	**Pn**	**19 09 30.4 +0.8**
LEOM	**Leova**	**10.36 25**	⇑*i*P	Pn	19 09 38.3 +8.5
BMR	**Baia Mare**	**10.53 5**	⇓*i*P	**Pn**	**19 09 36.6 +4.5**
TRI	**Trieste**	**10.53 326**	*e*P	**Pn**	**19 09 32.9 +0.7**
TRI	**Trieste**	**10.53 326**	*e*P	**Pn**	**19 09 32.9 +0.7**
TRI	**Trieste**	**10.53 326**	*e*Pn	**Pn**	**19 09 32.9 +0.7**
CSKK	**Cs'‡kako**	**10.54 346**	*ex*	Pn	19 09 40.2 +7.9
CSKK	**Cs'‡kako**	**10.54 346**	*ep*Pn	Pn	19 09 40.2 +7.9
BURAR	**Bucovina Array**	**10.67 12**	⇓*i*P	**Pn**	**19 09 37.7 +3.5**
BUR08	**Bucovina Ar. S**	**10.70 12**	*e*Pn	**Pn**	**19 09 37.2 +2.6**
BUR08	**Bucovina Ar. S**	**10.70 12**	*e*Pn	**Pn**	**19 09 37.2 +2.6**
SOKA	**Soboth**	**10.81 333**	*e*Pn	**Pn**	**19 09 35.9 -0.3**
	comp=N,12nm,1.0s,SNR=9.5				
SOKA			*e*Sn	**Sn**	**19 11 34.5 -2.5**
	comp=N,29nm,1.3s				
SOKA	**Soboth**	**10.81 333**	Pn	**Pn**	**19 09 35.9 -0.3**
	comp=N,12nm,1.0s,SNR=9.5				
PSZ	**Piszkesteto**	**10.83 352**	⇓*i*P	**Pn**	**19 09 38.3 +1.9**
PSZ	**Piszkesteto**	**10.83 352**	*e*P	**Pn**	**19 09 37.4 +1.0**
PSZ	**Piszkesteto**	**10.83 352**	*e*P	**Pn**	**19 09 37.4 +1.0**
PSZ	**Piszkesteto**	**10.83 352**	⇑*e*Pn	**Pn**	**19 09 37.7 +1.3**
PSZ	**Piszkesteto**	**10.83 352**	⇑*e*Pn	**Pn**	**19 09 37.7 +1.3**
PSZ	**Piszkesteto**	**10.83 352**	*e*Pn	**Pn**	**19 09 37.4 +1.0**
OBKA	**Obir**	**10.85 331**	*e*Pn	**Pn**	**19 09 36.6 -0.1**
	comp=N,18nm,0.8s				
OBKA			*e*Sn	**Sn**	**19 11 38.2 +0.3**
	comp=N,23nm,0.8s				
OBKA	**Obir**	**10.85 331**	Pn	**Pn**	**19 09 36.6 -0.1**
	comp=N,18nm,0.8s				
OBKA			Sn	**Sn**	**19 11 38.2 +0.3**
	comp=N,23nm,0.8s				
MILM	**Milestii Mici**	**10.93 25**	⇑*i*P	**Pn**	**19 09 40.8 +3.1**
TRPA	**Tarpa**	**10.94 2**	*e*Pn	**Pn**	**19 09 41.6 +3.9**
ARSA	**Arzberg**	**11.15 336**	*e*Pn	**Pn**	**19 09 40.4 -0.3**
	comp=N,14nm,1.4s				
ARSA	**Arzberg**	**11.15 336**	Pn	**Pn**	**19 09 40.4 -0.3**
	comp=N,14nm,1.4s				
SOP	**Sopron**	**11.23 341**	*e*Pn	**Pn**	**19 09 39.9 -1.9**
MYKA	**Terra Mystica**	**11.31 329**	*e*Pn	**Pn**	**19 09 45.5 +2.6**
	comp=N,21nm,1.3s				
MYKA			*i* Sn	**Sn**	**19 11 51.1 +2.0**
	comp=N,12nm,0.9s				
MYKA	**Terra Mystica**	**11.31 329**	Pn	**Pn**	**19 09 45.5 +2.6**
	comp=N,21nm,1.3s				
MYKA			Sn	**Sn**	**19 11 51.1 +2.0**
	comp=N,12nm,0.9s				
KECS	**Kecovo**	**11.34 355**	*e*P	**Pn**	**19 09 43.8 +0.5**
KECS	**Kecovo**	**11.34 355**	*e*P	**Pn**	**19 09 43.8 +0.5**
KECS	**Kecovo**	**11.34 355**	*e*PN	**Pn**	**19 09 43.8 +0.5**
UZH	**Uzhgorod**	**11.43 1**	⇓*i*P	**Pn**	**19 09 45.6 +1.1**
UZH			*i* S	**Sn**	**19 11 52.2 +0.3**
UZH			MLR	MLR	
	comp=Z,1μm,9.0s				
UZH	**Uzhgorod**	**11.43 1**	*i* P	**Pn**	**19 09 45.6 +1.1**
UZH			*i* S	**Sn**	**19 11 52.2 +0.3**
	comp=Z,1μm,9.0s				
VYHS	**Vyhne**	**11.54 349**	*e*P	**Pn**	**19 09 45.2 -0.7**
VYHS	**Vyhne**	**11.54 349**	*e*P	**Pn**	**19 09 45.2 -0.7**
VYHS	**Vyhne**	**11.54 349**	*e*PN	**Pn**	**19 09 45.2 -0.7**
CONA	**Conrad Observa**	**11.65 339**	*e*Pn	**Pn**	**19 09 49.2 +1.6**
	comp=Z,23nm,1.4s				
CONA	**Conrad Observa**	**11.65 339**	Pn	**Pn**	**19 09 49.2 +1.6**
	comp=Z,23nm,1.4s				
MMAI	**Mount Meron Ar**	**11.70 107**	Pn	**Pn**	**19 09 46.3 -2.1**
	comp=Z,5.0nm,0.3s,baz=296,slow=13,SNR=16				
MMAI			Sn	**Sn**	**19 11 53.4 -5.5**
	comp=Z,1.5nm,0.3s,baz=314,slow=13,SNR=3.6				
MMAI			LR	LR	19 15 46.7
	comp=Z,494nm,19.0s,baz=315,slow=45				
CRVS	**Cervenica-Dubn**	**11.71 358**	*e*P	**Pn**	**19 09 51.4 +3.1**
CRVS	**Cervenica-Dubn**	**11.71 358**	*e*P	**Pn**	**19 09 51.4 +3.1**
CRVS	**Cervenica-Dubn**	**11.71 358**	*e*PN	**Pn**	**19 09 51.4 +3.1**
KBA	**Koelnbreinsper**	**11.79 330**	*e*Pn	**Pn**	**19 09 49.8 +0.2**
	comp=Z,21nm,0.8s				
KBA	**Koelnbreinsper**	**11.79 330**	Pn	**Pn**	**19 09 49.8 +0.2**
	comp=Z,21nm,0.8s				
SMOL	**Smolenice**	**11.81 345**	*e*P	**Pn**	**19 09 49.9 +0.3**
SMOL	**Smolenice**	**11.81 345**	*e*P	**Pn**	**19 09 49.9 +0.3**
SMOL	**Smolenice**	**11.81 345**	*e*PN	**Pn**	**19 09 49.9 +0.3**
SORM	**Soroca**	**11.87 21**	⇑*i*P	**Pn**	**19 09 52.5 +2.0**
ABTA	**Abfaltersbach**	**11.88 326**	*e*Pn	**Pn**	**19 09 50.7 -0.1**
	comp=Z,15nm,0.9s,SNR=5.3				
ABTA			*e*Sn	**Sn**	**19 12 01.3 -1.9**
	comp=Z,22nm,0.9s				
ABTA	**Abfaltersbach**	**11.88 326**	Pn	**Pn**	**19 09 50.7 -0.1**
	comp=Z,15nm,0.9s,SNR=5.3				
SIM	**Simferopol'**	**11.95 46**	*e*P	**Pn**	**19 09 52.3 +0.7**
SIM			pmax	pmax	
	comp=Z,27nm,1.1s				
SIM			MLR	MLR	
	comp=N,700nm,12.9s				
SIM	**Simferopol'**	**11.95 46**	*e*P	**Pn**	**19 09 52.3 +0.7**
	comp=N,700nm,12.9s				
MOA	**Molln**	**12.09 334**	*i* Pn	**Pn**	**19 09 54.2 +0.7**
	comp=N,30nm,1.4s				
MOA	**Molln**	**12.09 334**	Pn	**Pn**	**19 09 54.2 +0.7**
	comp=N,30nm,1.4s				
LANS	**Liptovska Anna**	**12.10 352**	*e*	P	19 10 12.0 +5.6
STHS	**Stebnicka Huta**	**12.23 358**	*e*P	**Pn**	**19 09 57.6 +2.1**
STHS	**Stebnicka Huta**	**12.23 358**	*e*P	**Pn**	**19 09 57.6 +2.1**
STHS	**Stebnicka Huta**	**12.23 358**	*e*PN	**Pn**	**19 09 57.6 +2.1**
NIE	**Niedzica**	**12.28 355**	*e*P	**Pn**	**19 09 51.9 -4.3**
NIE	**Niedzica**	**12.28 355**	*e*P	**Pn**	**19 09 51.9 -4.3**
KWP	**Kalwaria Pacla**	**12.44 2**	*e*P	**Pn**	**19 10 02.4 +4.1**
KWP	**Kalwaria Pacla**	**12.44 2**	*e*P	**Pn**	**19 10 02.4 +4.1**
WTTA	**Wattenberg**	**12.67 326**	*e*Pn	**Pn**	**19 10 04.5 +2.9**
	comp=N,22nm,1.1s				
WTTA			Sn	**Sn**	**19 12 23.4 +0.9**
WTTA	**Wattenberg**	**12.67 326**	Pn	**Pn**	**19 10 04.5 +2.9**
	comp=N,22nm,1.1s				
WTTA			Sn	**Sn**	**19 12 23.4 +0.9**
LVV	**L'vov**	**12.70 6**	*e*P	P	19 10 07.9 -5.2
VRAC	**Vranov**	**12.74 344**	Pn	**Pn**	**19 10 01.9 -0.5**
	comp=N,0.3nm,0.3s,baz=170,slow=14,SNR=7.8				
VRAC			LR	LR	19 16 07.1
	comp=N,2μm,21.7s,baz=178,slow=43				
WATA	**Walderalm**	**12.75 326**	*e*Pn	**Pn**	**19 10 03.6 +1.0**
	comp=N,12nm,0.6s				
WATA	**Walderalm**	**12.75 326**	Pn	**Pn**	**19 10 03.6 +1.0**
	comp=N,12nm,0.6s				
FUORN	**Ofenpass-Fuorn**	**12.86 321**	*e*Pn	**Pn**	**19 10 06.4 +2.1**
FUORN	**Ofenpass-Fuorn**	**12.86 321**	*e*Pn	**Pn**	**19 10 06.4 +2.1**
OKC	**Ostrava-Krasne**	**12.95 349**	*e*P	**Pn**	**19 10 05.9 +0.7**
OKC			*ex*	x	19 10 13.4
OKC			*ex*	x	19 10 17.4
OKC			AMS	AMS	19 16 00.0
	comp=N,1μm,11.2s				
OKC	**Ostrava-Krasne**	**12.95 349**	*e*P	**Pn**	**19 10 05.9 +0.7**
OKC			MLR	MLR	
	comp=Z,1μm,11.2s				
OKC	**Ostrava-Krasne**	**12.95 349**	*e*P	**Pn**	**19 10 05.9 +0.7**
	comp=Z,1μm,11.2s				
MOTA	**Moosalm**	**12.97 325**	*e*Pn	**Pn**	**19 10 06.7 +1.0**
	comp=Z,6.3nm,0.6s,SNR=8.0				
MOTA	**Moosalm**	**12.97 325**	Pn	**Pn**	**19 10 06.7 +1.0**
	comp=Z,6.3nm,0.6s,SNR=8.0				
MORC	**Moravsky Berou**	**12.99 347**	⇓*i*P	**Pn**	**19 10 06.7 +0.8**
MORC	**Moravsky Berou**	**12.99 347**	*e*P	**Pn**	**19 10 05.5 -0.4**
MORC	**Moravsky Berou**	**12.99 347**	*e*P	**Pn**	**19 10 05.5 -0.4**
MORC	**Moravsky Berou**	**12.99 347**	*e*Pn	**Pn**	**19 10 05.5 -0.4**
TREC	**Trest**	**13.00 341**	*e*P	**Pn**	**19 10 05.6 -0.3**
TREC			AMS	AMS	19 15 40.0
	comp=Z,2μm,12.5s				
TREC	**Trest**	**13.00 341**	*e*P	**Pn**	**19 10 05.6 -0.3**
TREC			MLR	MLR	
	comp=Z,2μm,12.5s				
TREC	**Trest**	**13.00 341**	*e*P	**Pn**	**19 10 05.6 -0.3**
	comp=Z,2μm,12.5s				
EIL	**Elat**	**13.12 121**	Pn	**Pn**	**19 10 04.6 -3.1**
	comp=Z,1.5nm,0.3s,baz=324,slow=10,SNR=19				
EIL			Sn	Sn	19 12 23.9 -10
	comp=Z,1.4nm,0.3s,baz=321,slow=12,SNR=4.4				
EIL			LR	LR	19 17 24.7
	comp=Z,340nm,20.9s,baz=295,slow=48				
GEA0	**GERESS Array S**	**13.13 335**	*e*Pn	**Pn**	**19 10 10.1 +2.3**
GEA0	**GERESS Array S**	**13.13 335**	*e*Pn	**Pn**	**19 10 10.2 +2.3**
GEC2	**GERESS Array S**	**13.14 335**	*e*P	**Pn**	**19 10 10.1 +2.2**
GEC2			*e*		19 12 28.3
GEC2	**GERESS Array S**	**13.14 335**	*e*P	**Pn**	**19 10 10.1 +2.2**
GEC2			*e*Sn	**Sn**	**19 12 28.3 -5.5**
GEC2	**GERESS Array S**	**13.14 335**	*e*Pn	**Pn**	**19 10 10.1 +2.2**
GEC2			*e*Sn	**Sn**	**19 12 28.3 -5.5**
GERES	**GERESS Array B**	**13.14 335**	Pn	**Pn**	**19 10 08.6 +0.7**
	comp=Z,0.5nm,0.3s,baz=148,slow=7.8,SNR=5.1				
GERES			Sn	**Sn**	**19 12 28.3 -5.5**
	comp=Z,0.2nm,0.3s,baz=151,slow=22,SNR=2.4				
GERES			LR	LR	19 16 21.1
	comp=Z,954nm,20.9s,baz=139,slow=43				
ASF	**Jabal al Asfar**	**13.20 108**	Pn	**Pn**	**19 10 07.6 -1.3**
	comp=Z,0.7nm,0.3s,baz=240,slow=14,SNR=8.0				
ASF			Sn	**Sn**	**19 12 33.7 -1.8**
	comp=Z,0.4nm,0.3s,baz=315,slow=20,SNR=2.3				
ASF			LR	LR	19 16 04.4
	comp=Z,376nm,21.7s,baz=266,slow=41				
RETA	**Reutte**	**13.23 325**	*e*Pn	**Pn**	**19 10 11.7 +2.5**
	comp=Z,21nm,1.9s				
RETA			*e*Sn	**Sn**	**19 12 34.0 -2.1**
	comp=Z,36nm,1.2s				
RETA	**Reutte**	**13.23 325**	Pn	**Pn**	**19 10 11.7 +2.5**
	comp=Z,21nm,1.9s				
KRLC	**Kraliky**	**13.42 345**	*e*P	**Pn**	**19 10 12.8 +1.0**
KRLC			*ex*	x	19 10 17.7
KRLC			*ex*	x	19 10 23.3
KRLC	**Kraliky**	**13.42 345**	*e*P	**Pn**	**19 10 12.8 +1.0**
KRLC	**Kraliky**	**13.42 345**	*e*P	**Pn**	**19 10 12.8 +1.0**
KHC	**Kasperske Hory**	**13.43 335**	*e*P	**Pn**	**19 10 13.3 +1.5**
KHC			*ex*	x	19 10 22.5
KHC			*ex*	x	19 10 34.4
KHC			*e*S	**Sn**	**19 12 39.4 -1.3**
KHC			*ex*	x	19 13 37.0
KHC			AMS	AMS	19 16 00.0
	comp=Z,2μm,11.2s				
KHC	**Kasperske Hory**	**13.43 335**	*e*P	**Pn**	**19 10 13.3 +1.5**
KHC			*e*S	**Sn**	**19 12 39.4 -1.3**
KHC			MLR	MLR	
	comp=Z,2μm,11.2s				
KHC	**Kasperske Hory**	**13.43 335**	*e*P	**Pn**	**19 10 13.3 +1.5**
KHC	**Kasperske Hory**	**13.43 335**	*e*Pn	**Pn**	**19 10 13.3 +1.5**
DAVA	**Damuels**	**13.51 322**	*e*Pn	**Pn**	**19 10 15.7 +2.7**
	comp=Z,22nm,1.0s				
DAVA	**Damuels**	**13.51 322**	Pn	**Pn**	**19 10 15.7 +2.7**
	comp=Z,22nm,1.0s				
GOPC	**GO Pecny, Ondr**	**13.75 340**	*e*P	**Pn**	**19 10 15.9 -0.3**
GOPC			*ex*	x	19 10 24.7
GOPC			AMS	AMS	19 16 10.0
	comp=Z,2μm,11.8s				
GOPC	**GO Pecny, Ondr**	**13.75 340**	*e*P	**Pn**	**19 10 15.9 -0.3**
GOPC			MLR	MLR	
	comp=Z,2μm,11.8s				
GOPC	**GO Pecny, Ondr**	**13.75 340**	*e*P	**Pn**	**19 10 15.9 -0.3**
	comp=Z,2μm,11.8s				
DPC	**Dobruska-Polom**	**13.78 344**	*e*P	**Pn**	**19 10 17.2 +0.6**
DPC			*ex*	x	19 10 25.7
DPC			AMS	AMS	19 16 50.0
	comp=Z,1μm,16.8s				
DPC	**Dobruska-Polom**	**13.78 344**	*e*P	**Pn**	**19 10 17.2 +0.6**
DPC			MLR	MLR	
	comp=Z,1μm,16.8s				
DPC	**Dobruska-Polom**	**13.78 344**	*e*P	**Pn**	**19 10 17.2 +0.6**
	comp=Z,1μm,16.8s				
PRU	**Pruhonice**	**13.89 339**	*e*P	**Pn**	**19 10 17.4 -0.6**
PRU			*ex*	x	19 10 27.5
PRU			AMS	AMS	19 16 10.0
	comp=Z,2μm,11.7s				
PRU	**Pruhonice**	**13.89 339**	*e*P	**Pn**	**19 10 17.4 -0.6**
PRU			MLR	MLR	
	comp=Z,2μm,11.7s				
PRU	**Pruhonice**	**13.89 339**	*e*P	**Pn**	**19 10 17.4 -0.6**
	comp=Z,2μm,11.7s				
PRA	**Prague**	**13.99 339**	AMS	AMS	19 16 20.0
	comp=Z,2μm,12.8s				
UPC	**Upice**	**13.99 344**	*e*P	**Pn**	**19 10 19.9 +0.4**
UPC			*ex*	x	19 10 29.4
UPC			AMS	AMS	19 17 10.0
	comp=Z,1μm,9.9s				
UPC	**Upice**	**13.99 344**	*e*P	**Pn**	**19 10 19.9 +0.4**
UPC			MLR	MLR	
	comp=Z,1μm,9.9s				
UPC	**Upice**	**13.99 344**	*e*P	**Pn**	**19 10 19.9 +0.4**
	comp=Z,1μm,9.9s				
KSP	**Ksiaz**	**14.25 345**	*e*P	**P**	**19 10 32.4 +2.1**
KSP	**Ksiaz**	**14.25 345**	*e*P	**P**	**19 10 32.4 +2.1**
SENIN	**Lac Senin/Sane**	**14.30 314**	*e*Pn	**Pn**	**19 10 24.1 +0.2**
SENIN			*e*Sn	**Sn**	**19 13 01.2 -1.2**
SENIN	**Lac Senin/Sane**	**14.30 314**	*e*Pn	**Pn**	**19 10 24.1 +0.2**
SENIN			*e*Sn	**Sn**	**19 13 01.2 -1.2**
PVCC	**Panska Ves**	**14.37 340**	*e*P	**Pn**	**19 10 24.1 -0.5**
PVCC			*ep*P	**P**	**19 10 33.2 +1.6**
PVCC			AMS	AMS	19 16 40.0
	comp=Z,2μm,13.3s				
PVCC	**Panska Ves**	**14.37 340**	*e*P	**Pn**	**19 10 24.1 -0.5**
PVCC			MLR	MLR	
	comp=Z,2μm,13.3s				
AK11	**Malin Array Si**	**14.41 18**	*e*Pn	**Pn**	**19 10 24.6 -0.6**
AK11	**Malin Array Si**	**14.41 18**	*e*Pn	**Pn**	**19 10 24.6 -0.6**
KIEV	**Kiev**	**14.44 19**	⇑*i*P	**Pn**	**19 10 24.8 -0.7**
KIEV			pmax	pmax	
	comp=Z,18nm,1.3s				
KIEV	**Kiev**	**14.44 19**	*e*Pn	**Pn**	**19 10 25.3 -0.2**
KIEV	**Kiev**	**14.44 19**	*e*Pn	**Pn**	**19 10 25.3 -0.2**
AKASG	**Malin Array Be**	**14.45 19**	Pn	**Pn**	**19 10 25.1 -0.6**
	comp=Z,0.8nm,0.3s,baz=207,slow=12,SNR=13				
AKASG			PcP	**PcP**	**19 15 40.4 -0.2**
	comp=Z,0.5nm,0.3s,baz=241,slow=1.0,SNR=5.4				
AKASG			LR	LR	19 17 20.8
	comp=Z,634nm,18.4s,baz=230,slow=43				
AKBB	**Malin Array Si**	**14.45 19**	*e*P	**Pn**	**19 10 25.3 -0.4**
AKBB	**Malin Array Si**	**14.45 19**	*e*Pn	**Pn**	**19 10 25.3 -0.4**
AKBB	**Malin Array Si**	**14.45 19**	*e*Pn	**Pn**	**19 10 25.3 -0.4**
AKBB			*e*		19 15 40.4
BEL	**Belsk**	**14.

GNI Garni 17.96 74 P P 19 11 13.7 +2.0
comp=Z,0.3nm,0.3s,baz=318,slow=3.4,SNR=13
GNI LR LR 19 18 51.3
comp=Z,2μm,18.5s,baz=268,slow=40
GNI Garni 17.96 74c *i* P **P 19 11 13.6 +2.0**
GNI pmax pmax
comp=Z,234nm,1.7s
GNI Garni 17.96 74 *i* P **P 19 11 13.6 +2.0**
comp=Z,234nm,1.7s
DOU Dourbes 17.99 321 P **P 19 11 13.5 +1.8**
comp=Z,32nm,2.3s
GUDG Gudauri 17.99 66 P **P 19 11 16.5 +4.4**
NACGM Naroch 18.01 9 *e* **Pn 19 11 10.0 -1.4**
TBLG Delisi 18.08 68 P **P 19 11 16.3 +3.5**
TBLG Delisi 18.08 68 P **P 19 11 16.3 +3.5**
IDID Didziasalis 18.40 9 *e*P **P 19 11 15.3 -1.0**
IDID IAmb IAmb 19 11 18.9
comp=Z,28nm,1.4s
VSR Storozhevoye 18.56 36 *i* P **P 19 11 17.5 -0.5**
VSR pmax pmax
comp=Z,19nm,0.6s
VSR Storozhevoye 18.56 36 *i* P **P 19 11 17.5 -0.5**
comp=Z,19nm,0.6s
ISAL Salakas 18.59 7 *e*P **P 19 11 17.2 -1.1**
ISAL IAmb IAmb 19 11 24.7
comp=Z,16nm,0.9s
IZAR Zarasai 18.78 7 *e*P **P 19 11 19.2 -1.1**
IZAR IAmb IAmb 19 11 22.5
comp=Z,16nm,0.7s
VORR Voronezh 18.89 35 P **Pn 19 11 22.0 -0.2**
VORR pmax pmax
comp=Z,250nm,1.2s
VORR Voronezh 18.89 35 P **Pn 19 11 22.0 -0.2**
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 19.42 32 *e*P **P 19 11 27.8 +0.4**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR Galich'ya Gora 19.42 32 *e*P **P 19 11 27.8 +0.4**
comp=Z,40nm,0.8s
TAM Tamanrasset 20.23 229 *e*P Pn 19 11 38.6 +0.1
TAM pmax pmax
comp=Z,24nm,1.1s
TAM Tamanrasset 20.23 229 *e*P Pn 19 11 38.6 +0.1
comp=Z,24nm,1.1s
TAM Tamanrasset 20.23 229 *e*P Pn 19 11 38.6 0.0
comp=Z,24nm,1.1s
MAK Makhachkala 20.27 66 *e*P **P 19 11 33.2 -3.6**
MAK *e*S **S 19 15 19.7 -4.0**
MAK pmax pmax
comp=Z,370nm,1.6s
MAK MLR MLR
comp=Z,878nm,14.0s
ESDC Sonseca Array 20.51 285 P **P 19 11 39.5 0.0**
comp=Z,13nm,0.7s,baz=82,slow=12,SNR=40
PAB San Pablo 20.81 285 *e*P **P 19 11 42.9 +0.2**
PAB pmax pmax
comp=Z,51nm,1.5s
PAB San Pablo 20.81 285 *e*P **P 19 11 42.9 +0.2**
comp=Z,51nm,1.5s
PAB San Pablo 20.81 285 *e*P **P 19 11 42.9 +0.2**
comp=Z,51nm,1.5s
MOS Moscow 21.34 25 *e*P **P 19 11 48.9 +0.8**
MOS *e* 19 11 54.4
MOS *e* 19 12 08.8
MOS *e*S **S 19 15 44.4 -0.1**
MOS *e* 19 15 52.9
MOS *e*SS **SnSn 19 16 14.9 +7.8**
MOS pmax pmax
comp=Z,86nm,1.1s
MOS Moscow 21.34 25 *e*P **P 19 11 48.9 +0.8**
comp=Z,86nm,1.1s
MOS Moscow 21.34 25 *e*PcP **PcP 19 15 52.9 +1.0**
VSU Vasula 21.50 7⇑ *e*P **P 19 11 48.8 -1.1**
VSU pmax pmax
comp=Z,103nm,0.7s
VSU Vasula 21.50 7 *e*P **P 19 11 48.8 -1.1**
comp=Z,103nm,0.7s
MDT Midelt 22.24 267 P **P 19 11 57.7 -0.5**
comp=Z,9.3nm,0.8s,baz=80,slow=13,SNR=27
MDT LR LR 19 22 23.3
comp=Z,253nm,20.4s,baz=71,slow=42
CWF Charnwood Fore 22.54 321 *e*P **P 19 12 01.7 +0.6**
comp=Z,32nm,1.1s
CWF Charnwood Fore 22.54 321 *e*P **P 19 12 01.7 +0.6**
comp=Z,32nm,1.1s
PBRG Braganca 22.64 291 *e*P **P 19 12 03.5 +1.2**
comp=Z,25nm,1.3s
PBRG *e*pP **sP 19 12 07.3 -0.8**
MVO Moncorvo 22.84 289 *e*P **P 19 12 05.4 +0.9**
comp=Z,54nm,1.6s
MVO *e*pP **pP 19 12 08.7 +0.3**
MVO *e*S **S 19 16 20.2 +6.8**
MVO *e*LR LR 19 17 59.0
comp=Z,377nm,18.0s
PBAR Barrancos 23.00 281 *e*P **P 19 12 07.4 +1.3**
comp=Z,48nm,1.4s
PBAR *e*pP **sP 19 12 12.1 +0.1**
PBAR *e*S **S 19 16 18.3 +2.1**
PBAR *e*LR LR 19 18 05.9
comp=Z,544nm,20.0s
PMRV Marv??o 23.16 285 *e*P **P 19 12 07.1 -0.7**
comp=Z,38nm,1.2s
PMRV *e*pP **sP 19 12 14.1 +0.4**
PMRV *e*S **S 19 16 15.9 -3.1**
PMRV *e*LR LR 19 18 13.6
comp=Z,270nm,20.0s
PCBR Castelo Branco 23.21 286 *e*P **P 19 12 07.2 -1.0**
comp=Z,20nm,1.8s
PCBR *e*pP **sP 19 12 19.6 +5.6**
MTE Manteigas 23.24 287 *e*P **P 19 12 07.8 -0.8**
comp=Z,35nm,1.6s
MTE *e*pP **sP 19 12 15.4 +1.0**
MTE *e*S **S 19 16 22.4 +2.2**
MTE *e*LR LR 19 18 08.8
comp=Z,525nm,18.0s
MTE Manteigas 23.24 287 *e*P **P 19 12 07.7 -0.8**
comp=Z,29nm,1.2s
MTE Manteigas 23.24 287 *e*P **P 19 12 07.7 -0.9**
comp=Z,29nm,1.2s
PESTR Estremoz 23.36 283 *e*P **P 19 12 08.5 -1.3**
comp=Z,26nm,1.4s
PESTR *e*pP **sP 19 12 17.4 +1.7**
PESTR *e*S **S 19 16 26.5 +4.2**
PESTR *e*LR LR 19 18 10.4
comp=Z,303nm,20.0s
POLO Lamas de Olo 23.41 290 *e*pP **pP 19 12 18.1 +3.6**
POLO *e*S **S 19 16 27.9 +4.7**
POLO *e*LR LR 19 18 08.9
comp=Z,179nm,18.0s
PVIS Viseu 23.50 288 *e*P **P 19 12 12.2 +1.1**
HFS Hagfors 23.57 350 P **P 19 12 10.8 -0.8**
comp=Z,15nm,0.5s,baz=158,slow=12,SNR=66
HFS LR LR 19 23 20.3
comp=Z,624nm,18.4s,baz=170,slow=42
PCAB Cabril 23.59 290 *e*P **P 19 12 12.9 +0.8**
PVAQ Vaqueiros 23.64 280 *e*P **P 19 12 12.0 -0.5**
comp=Z,77nm,1.6s
PVAQ *e*S **S 19 16 28.1 +1.4**
PVAQ *e*LR LR 19 18 14.1
comp=Z,149nm,20.0s
PBEJ Beja 23.67 281 *e*P **P 19 12 12.7 -0.1**
comp=Z,16nm,1.0s
EVO Evora 23.73 282 *e*P **P 19 12 13.2 -0.1**
comp=Z,18nm,1.3s
EVO *e*pP **sP 19 12 19.6 +0.3**
PGAV Gavieira, Arco 23.78 291 *e*S **S 19 16 33.3 +4.2**
PGAV *e*LR LR 19 18 40.6
comp=Z,371nm,18.0s
PBDV Barranco-do-Ve 23.83 279 *e*P **P 19 12 14.0 -0.4**
comp=Z,84nm,1.4s
PBDV *e*S **S 19 16 25.4 -4.4**
PBDV *e*LR LR 19 18 33.6
comp=Z,186nm,20.0s
PCVE Castro Verde 23.86 280 *e*S **S 19 16 31.6 +1.4**
PCVE *e*LR LR 19 18 30.5
comp=Z,192nm,16.0s
PTOM Tomar 23.94 285 *e*P **P 19 12 16.3 +0.9**
comp=Z,48nm,1.3s
PCAS Casmilo, Conde 23.98 286 *e*S **S 19 16 33.4 +1.3**
PNCL Nicolau / Gran 24.18 282 *e*P **P 19 12 18.4 +0.8**
comp=Z,20nm,1.7s
PNCL *e*S **S 19 16 38.2 +2.9**
PNCL *e*LR LR 19 18 25.2
comp=Z,284nm,18.0s
RAYN Ar Rayn 24.32 117 *e*P **P 19 12 20.3 +1.2**
comp=Z,15nm,1.0s
RAYN Ar Rayn 24.32 117 *e*P **P 19 12 20.3 +1.2**
comp=Z,15nm,1.0s
MORF Marmelete 24.39 280 *e*S **S 19 16 45.4 +6.6**
FIA0 FINESS Array S 24.40 5 *e*P **P 19 12 17.7 -1.7**
FIA0 *e* 19 15 58.0
FIA0 FINESS Array S 24.40 5 *e*P **P 19 12 17.7 -1.7**
FIA0 FINESS Array S 24.40 5 *e*PcP **PcP 19 15 58.0 -0.1**
FIA0 FINESS Array S 24.40 5 *e*P **P 19 12 17.7 -1.7**
FIA0 *e*PcP **PcP 19 15 58.0 -0.1**
FINES FINESS Array B 24.40 5 P **P 19 12 17.7 -1.7**
comp=Z,7.8nm,0.6s,baz=161,slow=9.7,SNR=20
FINES PcP **PcP 19 15 58.0 -0.1**
comp=Z,2.8nm,0.8s,baz=173,slow=3.1,SNR=5.8
FINES LR LR 19 22 52.5
comp=Z,1μm,18.5s,baz=208,slow=39
FIA1 FINESS Array S 24.41 5 *e*P **P 19 12 18.6 -0.8**
FIA1 FINESS Array S 24.41 5 *e*P **P 19 12 18.6 -0.8**
PTEO Sao Teotonio 24.41 280 *e*P **P 19 12 16.7 -3.0**
comp=Z,63nm,1.5s
PTEO *e*pP **pP 19 12 21.2 -2.8**
NC602 NORSAR Array S 24.49 348 *e*P **P 19 12 20.2 0.0**
NC602 NORSAR Array S 24.49 348 *e*P **P 19 12 20.2 0.0**
PFVI Vila Bisbo 24.56 279 *e*S **S 19 16 42.8 +1.4**
PFVI *e*LR LR 19 18 53.8
comp=Z,207nm,22.0s
PMAFR Mafra 24.67 284 *e*S **S 19 16 36.3 -6.9**
PMAFR *e*LR LR 19 18 53.9
comp=Z,224nm,20.0s
NAO01 NORSAR Array S 24.70 347 *e*P **P 19 12 21.8 -0.4**
NAO01 NORSAR Array S 24.70 347 *e*P **P 19 12 21.8 -0.4**
NC405 NORSAR Array S 24.81 348 *e*P **P 19 12 24.1 +1.0**
NC405 NORSAR Array S 24.81 348 *e*P **P 19 12 24.1 +1.0**
NB2 NORSAR Subarra 24.83 347 P **P 19 12 22.9 -0.4**
comp=Z,13nm,0.8s,baz=155,slow=11
NB2 NORSAR Subarra 24.83 347 P **P 19 12 22.9 -0.4**
comp=Z,13nm,0.8s,SNR=4.5
NB200 NORSAR Array S 24.83 347 *e*P **P 19 12 22.9 -0.4**
NB200 NORSAR Array S 24.83 347 *e*P **P 19 12 22.9 -0.4**
NOA NORSAR Array B 24.83 347 P **P 19 12 22.9 -0.4**
comp=Z,4.3nm,0.7s,baz=303,slow=23,SNR=18
NOA LR LR 19 23 18.9
comp=Z,369nm,20.3s,baz=160,slow=40
NBO00 NORSAR Array S 24.90 347 *e*P **P 19 12 23.8 -0.1**
NBO00 NORSAR Array S 24.90 347 *e*P **P 19 12 23.8 -0.1**
NBO02 NORSAR Array S 24.90 347 *e*P **P 19 12 23.6 -0.4**
NBO02 NORSAR Array S 24.90 347 *e*P **P 19 12 23.6 -0.4**
EKA Eskdalemuir Ar 24.93 325 P **P 19 12 23.9 -0.3**
comp=Z,11nm,0.7s,baz=127,slow=9.8,SNR=24
ESK Eskdalemuir 24.94 325 *e*P **P 19 12 25.7 +1.4**
ESK pmax pmax
comp=Z,190nm,1.7s
ESK Eskdalemuir 24.94 325 *e*P **P 19 12 25.7 +1.4**
comp=Z,190nm,1.7s
ESK Eskdalemuir 24.94 325 *e*P **P 19 12 25.7 +1.4**
comp=Z,190nm,1.7s
NC303 NORSAR Array S 24.98 348 *e*P **P 19 12 25.9 +1.3**
NC303 NORSAR Array S 24.98 348 *e*P **P 19 12 25.9 +1.3**
NC204 NORSAR Array S 25.13 347 *e*P **P 19 12 28.1 +2.0**
NC204 NORSAR Array S 25.13 347 *e*P **P 19 12 28.1 +2.0**
KLMR Klimovskoe 26.13 19 *e*P **P 19 12 33.4 -1.7**
KLMR *e*PPP PPP 19 13 19.9
KLMR *e*S **S 19 17 08.6 +2.6**
KLMR pmax pmax
comp=Z,82nm,1.2s
GEYT Alibeck 28.49 77 P **P 19 12 56.1 -0.4**
comp=Z,1.8nm,0.5s,baz=287,slow=7.8,SNR=7.1
GEYT LR LR 19 26 23.3
comp=Z,179nm,19.3s,baz=285,slow=41
AKTO Aktyubinsk 28.83 51 P **P 19 12 57.4 -2.0**
comp=Z,1.6nm,0.6s,baz=263,slow=9.1,SNR=4.8
AKTO LR LR 19 27 04.7
comp=Z,412nm,19.3s,baz=268,slow=42
TOA1 Torodi Ar. Sit 30.07 223 *e*P **P 19 13 10.3 -0.4**
TOA1 Torodi Ar. Sit 30.07 223 *e*PcP **PcP 19 16 13.2 +0.8**
TOA1 Torodi Ar. Sit 30.07 223 *e*P **P 19 13 10.3 -0.4**
TOA1 *e*PcP **PcP 19 16 13.2 +0.8**
TORD Torodi Ar. Bea 30.08 223 P **P 19 13 10.3 -0.4**
comp=Z,3.2nm,0.6s,baz=33,slow=8.5,SNR=26
TORD PcP **PcP 19 16 13.2 +0.7**
comp=Z,0.5nm,0.6s,baz=31,slow=2.0,SNR=3.8
TORD LR LR 19 26 28.5
comp=Z,673nm,19.5s,baz=20,slow=39
ARU Arti 31.01 40 P **P 19 13 16.7 -1.9**
comp=Z,3.1nm,0.5s,baz=261,slow=11,SNR=5.5
ARU LR LR 19 26 52.1
comp=Z,451nm,18.1s,baz=231,slow=38
ARU Arti 31.01 40c *i*P **P 19 13 17.7 -0.9**
ARU 19 14 15.2
ARU 19 16 14.2
ARU S **S 19 18 23.6 +0.8**
ARU SS **SnSn 19 20 01.4 -1.9**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU MLR MLR
comp=Z,401nm,14.0s
ARU Arti 31.01 40 PcP **PcP 19 16 14.2 0.0**
APA Apatity 31.09 8⇑ *i*P P 19 13 10.4 -8.8
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,2μm,17.0s
SOKR Solikamsk 31.57 34 *e*P **P 19 13 22.0 -1.4**
SOKR pmax pmax
comp=Z,7.0nm,0.9s
SOKR MLR MLR
comp=Z,316nm,17.0s
SVE Sverdlovsk 32.22 40⇓ *e*P **P 19 13 28.8 -0.5**
SVE pmax pmax
comp=Z,30nm,1.2s
SVE Sverdlovsk 32.22 40 *e*P **P 19 13 28.8 -0.5**
comp=Z,30nm,1.2s
ARA0 ARCESS Array S 32.45 2 *e*P **P 19 13 30.8 -0.4**
ARA0 ARCESS Array S 32.45 2 *e*P **P 19 13 30.8 -0.4**
ARCES ARCESS Array B 32.45 2 P **P 19 13 30.8 -0.3**
comp=Z,7.0nm,0.7s,baz=188,slow=9.8,SNR=28
ARCES LR LR 19 27 51.8
comp=Z,634nm,18.2s,baz=183,slow=39
ARCES ARCESS Array B 32.45 2 *e*P **P 19 13 30.6 -0.6**
ARCES ARCESS Array B 32.45 2 *e*P **P 19 13 30.6 -0.6**
ARCES ARCESS Array B 32.45 2 *e*P **P 19 13 30.6 -0.6**
WSAR Wadi Sarin 34.31 103 LR LR 19 31 48.3
comp=Z,130nm,19.3s,baz=327,slow=44
BRVK Borovoye 36.78 49⇑ *i*P **P 19 14 08.7 0.0**
BRVK pmax pmax
comp=Z,30nm,1.2s
BRVK Borovoye 36.78 49 *e*P **P 19 14 08.9 +0.2**
comp=Z,8.8nm,0.9s
BRVK Borovoye 36.78 49 *e*P **P 19 14 08.9 +0.2**
comp=Z,8.8nm,0.9s
BVAR Borovoye Array 36.84 49 P **P 19 14 09.2 -0.1**
comp=Z,5.2nm,0.9s,baz=264,slow=6.0,SNR=12
KKAR Karatay Array 37.09 65 *e*P **P 19 14 10.3 -1.3**
KKAR pmax pmax
comp=Z,27nm,0.6s
KKAR Karatay Array 37.09 65 *e*P **P 19 14 10.3 -1.3**
comp=Z,27nm,0.6s
KKAR Karatay Array 37.09 65 *e*P **P 19 14 10.3 -1.3**
comp=Z,27nm,0.6s
DBIC Dimbokro 39.03 226 P **P 19 14 27.7 -0.4**
comp=Z,5.8nm,0.7s,baz=20,slow=8.8,SNR=13
DBIC LR LR 19 31 11.3
comp=Z,362nm,21.2s,baz=4.0,slow=37
DBIC Dimbokro 39.03 226 *e*P **P 19 14 27.7 -0.4**
DBIC pmax pmax
comp=Z,40nm,1.5s
DBIC Dimbokro 39.03 226 *e*P **P 19 14 27.7 -0.4**
comp=Z,40nm,1.5s
DBIC Dimbokro 39.03 226 *e*P **P 19 14 27.7 -0.4**
comp=Z,40nm,1.5s
TIC Toumodi 39.15 226 *e*P **P 19 14 30.2 +1.1**
KIC Kosan Boka 39.22 225 *e*P **P 19 14 29.7 0.0**
comp=Z,105nm,1.6s
LIC Lamto 39.49 225 *e*P **P 19 14 32.0 0.0**
comp=Z,81nm,1.2s
AAK Ala-Archa 40.06 65 P **P 19 14 35.7 -0.9**
comp=Z,2.7nm,0.8s,baz=222,slow=5.9,SNR=12
AAK PcP **PcP 19 16 41.9 +0.6**
comp=Z,5.1nm,1.1s,baz=234,slow=4.4,SNR=4.3
AAK Ala-Archa 40.06 65⇓ *i*P **P 19 14 35.5 -1.1**
AAK pmax pmax
comp=Z,8.0nm,0.9s
FRU Bishkek 40.11 65 *e*P **P 19 14 37.0 +0.1**
FRU *e* 19 16 42.0
FRU Bishkek 40.11 65 *e*P **P 19 14 37.0 +0.1**
KMBO Kilima Mbogo 40.65 156 P **P 19 14 42.7 +0.9**
comp=Z,4.1nm,0.9s,baz=344,slow=4.3,SNR=5.3
KMBO Kilima Mbogo 40.65 156 *i*P **P 19 14 43.2 +1.4**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 40.65 156 *i*P **P 19 14 43.2 +1.4**
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 40.65 156 *e*P **P 19 14 44.3 +2.5**
comp=Z,20nm,1.5s
KSH Kashi 41.82 70 P **P 19 14 49.4 -1.8**
KSH pP pP 19 14 55.1 -0.4
KSH sP sP 19 14 57.6 +0.3
KSH PP **PP 19 16 29.7 +1.9**
KSH PcP **PcP 19 16 48.9 +1.8**
KSH PcS **PcS 19 20 36.4 -2.3**
KSH S **S 19 21 02.1 -6.4**
KSH SS SS 19 24 01.3 -13
KSH ScS **ScS 19 24 49.7 -4.3**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,100nm,7.2s
KSH LR LR
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,130nm,5.7s
KURBB Kurchatov Arra 41.85 53 P **P 19 14 50.3 -0.7**
comp=Z,6.9nm,0.6s,baz=281,slow=8.7,SNR=28
KURBB PcP **PcP 19 16 46.1 -0.6**
comp=Z,1.1nm,0.5s,baz=275,slow=3.9,SNR=7.4
KURK Kurchatov 41.90 53d *i*P **P 19 14 49.9 -1.6**
KURK pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 41.90 53 *e*P **P 19 14 50.3 -1.2**
KURK Kurchatov 41.90 53 *e*PcP **PcP 19 16 46.1 -0.8**
KURK Kurchatov 41.90 53 *e*P **P 19 14 50.3 -1.2**
KURK *e*PcP **PcP 19 16 46.1 -0.8**
DAG Danmarks Havn 43.52 347 *i*P **P 19 15 03.6 -0.7**
comp=Z,9.8nm,1.2s
DAG Danmarks Havn 43.52 347 *i*P **P 19 15 03.6 -0.7**
DAG pmax pmax
comp=Z,15nm,1.2s
NVS Novosibirsk 44.47 46 *e*P **P 19 15 12.4 +0.2**
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.4s
NVS Novosibirsk 44.47 46 *e*P **P 19 15 12.4 +0.2**
comp=E,2.0nm,0.5s
MAKZ Makanchi 44.58 58 *e*P **P 19 15 12.8 -0.4**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
MAKZ Makanchi 44.58 58 *e*P **P 19 15 12.8 -0.4**
comp=Z,8.9nm,1.3s
MAKZ Makanchi 44.58 58 *e*P **P 19 15 12.8 -0.4**
comp=Z,8.9nm,1.3s
MK31 Makanchi Array 44.79 58 *e*P **P 19 15 14.1 -0.8**
MK31 Makanchi Array 44.79 58 *e*P **P 19 15 14.1 -0.8**
MK31 Makanchi Array 44.79 58 *e*P **P 19 15 14.1 -0.8**
MK32 Makanchi Array 44.79 58 *e*P **P 19 15 13.8 -1.1**
MK32 Makanchi Array 44.79 58 *e*PcP **PcP 19 16 55.9 -0.9**
MK32 Makanchi Array 44.79 58 *e*P **P 19 15 13.8 -1.1**
MK32 *e*PcP **PcP 19 16 55.9 -0.9**
MKAR Makanchi Array 44.79 58 P **P 19 15 13.8 -1.1**
comp=Z,2.8nm,0.5s,baz=268,slow=7.3,SNR=27
MKAR PcP **PcP 19 16 55.9 -0.9**
comp=Z,4.1nm,1.0s,baz=289,slow=3.7,SNR=5.0
MKAR LR LR 19 37 05.6
comp=Z,257nm,21.5s,baz=268,slow=40
MKAR Makanchi Array 44.79 58 *e*P **P 19 15 14.1 -0.8**
comp=Z,24nm,0.8s
MKAR Makanchi Array 44.79 58 *e*P **P 19 15 14.1 -0.8**
comp=Z,24nm,0.8s
MKAR PcP **PcP 19 16 55.9 -0.9**
MK01 Makanchi Array 44.80 58 *e*P **P 19 15 13.8 -1.2**
MK01 Makanchi Array 44.80 58 *e*P **P 19 15 13.8 -1.2**
ZAA0 Zalesovo Array 45.45 48 *e*P **P 19 15 19.3 -0.7**
ZAA0 Zalesovo Array 45.45 48 *e*P **P 19 15 19.3 -0.7**
ZAA1 Zalesovo Array 45.45 48 *e*P **P 19 15 18.2 -1.8**
ZAA1 Zalesovo Array 45.45 48 *e*PcP **PcP 19 16 57.9 -1.0**
ZAA1 Zalesovo Array 45.45 48 *e*P **P 19 15 18.2 -1.8**
ZAA1 *e*PcP **PcP 19 16 57.9 -1.0**
ZALV Zalesovo Beam 45.45 48 P **P 19 15 18.2 -1.8**
comp=Z,7.1nm,0.6s,baz=274,slow=9.3,SNR=20
ZALV PcP **PcP 19 16 57.9 -1.0**
comp=Z,0.9nm,0.5s,baz=273,slow=4.8,SNR=1.9
ZALV LR LR 19 36 06.7
comp=Z,176nm,20.1s,baz=250,slow=38
SUMG Summit 46.18 339 *i*P P 19 15 21.0 -5.0
SUMG Summit 46.18 339 *e*P P 19 15 21.0 -5.0
SUMG Summit 46.18 339 *e*P **P 19 15 27.6 +1.6**
comp=Z,17nm,1.0s
SUMG Summit 46.18 339 *e*P **P 19 15 27.6 +1.6**
comp=Z,17nm,1.0s
NRIK Noril'sk 47.14 26 P **P 19 15 33.8 +0.7**
comp=Z,3.5nm,0.6s,baz=297,slow=4.5,SNR=2.9
NRIK LR LR 19 39 09.7
comp=Z,255nm,18.1s,baz=274,slow=41
WMQ Urumqi 49.18 61 P **P 19 15 51.8 +2.5**
WMQ pP sP 19 15 56.6 +1.1
WMQ sP pP 19 15 59.1 +5.3
WMQ S **S 19 22 54.4 0.0**
WMQ ScS **ScS 19 25 36.3 -4.8**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,94nm,4.7s
WMQ LR LR
comp=Z,350nm,18.7s
WMQ LR LR
comp=Z,500nm,18.7s
WMQ LR LR
comp=Z,360nm,18.7s
PYUN Piuthan 51.34 81 *e*P **P 19 16 05.5 -0.6**
comp=Z,32nm,0.7s
DANN Dangsing 51.84 81 *e*P **P 19 16 09.2 -0.7**
comp=Z,4.9nm,0.9s
KOLN Koldanda 51.97 82 *e*P **P 19 16 09.9 -0.9**
comp=Z,8.0nm,0.6s
LSZ Lusaka 52.51 173 *e*P **P 19 16 15.7 +1.1**
LSZ pmax pmax
comp=Z,11nm,1.1s
LSZ Lusaka 52.51 173 *e*P **P 19 16 15.7 +1.1**
comp=Z,11nm,1.1s
LSZ Lusaka 52.51 173 *e*P **P 19 16 15.7 +1.1**
comp=Z,11nm,1.1s
GKN Gorkha 52.68 81 *e*P **P 19 16 15.0 -1.0**
comp=Z,23nm,0.8s
DMN Daman 53.23 81 *e*P **P 19 16 19.4 -0.8**
comp=Z,58nm,1.0s
KKN Kakani 53.29 81 *e*P **P 19 16 19.6 -0.9**
comp=Z,9.6nm,0.6s
PKIN Phulchoki 53.48 81 *e*P **P 19 16 21.0 -1.0**
comp=Z,16nm,0.9s
GUN Gumba 53.70 80 *e*P **P 19 16 23.0 -0.8**
comp=Z,52nm,1.1s
JIRN Jiri 54.06 80 *e*P **P 19 16 25.5 -0.9**
comp=Z,199nm,1.1s
RAMN Ramite 54.71 81 *e*P **P 19 16 29.8 -1.2**
comp=Z,45nm,0.9s
ODAN Odare 55.38 81 *e*P **P 19 16 34.7 -1.1**
comp=Z,14nm,0.9s
TAPN Taplejung 55.40 80 *e*P **P 19 16 34.5 -1.6**
comp=Z,35nm,1.2s
LSA Lhasa 57.00 76 P **P 19 16 47.0 -0.7**
LSA pmax pmax
comp=Z,6.0nm,1.2s
LSA Lhasa 57.00 76 *e*P **P 19 16 47.5 -0.2**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 57.00 76 *e*P **P 19 16 47.5 -0.2**
comp=Z,7.5nm,0.8s
LSA Lhasa 57.00 76 *e*P **P 19 16 47.5 -0.2**
comp=Z,7.5nm,0.8s
TLY Talaya 57.06 47 *e*P **P 19 16 46.8 -0.4**
TLY pmax pmax
comp=Z,11nm,1.6s
TLY MLR MLR
comp=Z,198nm,19.0s
ZAK Zakamensk 57.29 49 *e*P **P 19 16 46.9 -2.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
GTA Gaotai 59.22 62 *e*P **P 19 17 01.8 -0.9**
GTA pP pP 19 17 06.2 -1.0
GTA sP sP 19 17 08.9 0.0

GTA S **S** **19 25 07.4 -2.8**
GTA SS **SS** **19 29 03.5 -0.7**
GTA pmax pmax
comp=Z,110nm,5.8s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,150nm,14.7s
GTA LR LR
comp=Z,190nm,17.1s
SCHQ Schefferville 60.00 318 LR LR 19 42 34.0
comp=Z,236nm,18.9s,baz=88,slow=36
SONA0 Songino Array 60.14 51 *e*P **P** **19 17 08.0 -0.9**
comp=Z,25nm,1.7s
SONA0 Songino Array 60.14 51 *e*PcP **PcP** **19 17 55.9 +1.4**
SONA0 Songino Array 60.14 51 *e*P **P** **19 17 08.0 -0.9**
comp=Z,25nm,1.7s
SONA0 *e*PcP **PcP** **19 17 55.9 +1.4**
SONA1 Songino Array 60.14 51 *e*P **P** **19 17 07.9 -1.0**
SONA1 Songino Array 60.14 51 *e*P **P** **19 17 07.9 -1.0**
SONM Songino Array 60.14 51 P **P** **19 17 08.0 -0.9**
comp=Z,3.4nm,1.1s,baz=280,slow=9.0,SNR=13
SONM PcP **PcP** **19 17 55.9 +1.4**
comp=Z,0.8nm,0.6s,baz=274,slow=4.0,SNR=2.9
SONM LR LR 19 46 04.9
comp=Z,248nm,19.4s,baz=290,slow=39
SONM Songino Array 60.14 51 P **P** **19 17 08.0 -0.9**
BOD Bodaibo 60.40 38 *e*P **P** **19 17 09.2 -1.1**
BOD pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 60.54 50⇑ *e*P **P** **19 17 11.3 -0.3**
ULN pmax pmax
comp=Z,7.0nm,1.2s
PALK Pallekele 60.80 104 P **P** **19 17 13.2 -0.5**
comp=Z,11nm,1.0s,baz=295,slow=8.5,SNR=6.8
PALK Pallekele 60.80 104 *e*P **P** **19 17 13.2 -0.5**
PALK pmax pmax
comp=Z,17nm,1.0s
PALK Pallekele 60.80 104 *e*P **P** **19 17 13.2 -0.5**
comp=Z,17nm,1.0s
PALK Pallekele 60.80 104 *e*P **P** **19 17 13.2 -0.5**
comp=Z,17nm,1.0s
LBTB Lobatse 61.97 176 *e*P **P** **19 17 22.7 +1.4**
LBTB pmax pmax
comp=Z,19nm,1.3s
LBTB Lobatse 61.97 176 *e*P **P** **19 17 22.7 +1.4**
comp=Z,19nm,1.3s
LBTB Lobatse 61.97 176 *e*P **P** **19 17 22.7 +1.4**
comp=Z,19nm,1.3s
LZH Lanzhou 63.56 64 *e*P **P** **19 17 31.8 -0.3**
LZH pP pP 19 17 35.3 -1.3
LZH sP sP 19 17 38.4 +0.1
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,56nm,4.8s
LZH LR LR
comp=Z,220nm,14.5s
LZH LR LR
comp=Z,180nm,12.1s
LZH LR LR
comp=Z,240nm,15.6s
BOSA Boshof 65.53 177 P **P** **19 17 44.8 0.0**
comp=Z,5.4nm,0.8s,baz=360,slow=7.8,SNR=12
BOSA LR LR 19 48 31.4
comp=Z,194nm,19.2s,baz=360,slow=38
CD2 Chengdu 66.00 69 *e*P **P** **19 17 47.8 -0.2**
HHC Hu-ho-hao-te 66.59 56 *e*P **P** **19 17 52.5 +0.8**
HHC PP **PP** **19 20 21.3 +3.3**
HHC S **S** **19 26 40.9 -1.5**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,130nm,7.3s
HHC LR LR
comp=Z,170nm,14.8s
HHC LR LR
comp=Z,240nm,14.8s
HHC LR LR
comp=Z,200nm,14.8s
XAN Xi'an 68.19 63 P **P** **19 18 01.6 -0.2**
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN LR LR
comp=Z,92nm,17.3s
XAN LR LR
comp=Z,100nm,20.3s
XAN LR LR
comp=Z,170nm,14.7s
KMI Kunming 68.21 74 P **P** **19 18 02.7 +0.4**
KMI pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 68.62 82 P **P** **19 18 04.0 -0.7**
comp=Z,52nm,1.1s
CHTO Chiang Mai 68.62 82 *e*P **P** **19 18 03.8 -0.9**
CHTO pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 68.62 82 *e*P **P** **19 18 03.8 -0.9**
comp=Z,11nm,1.1s
CHTO Chiang Mai 68.62 82 *e*P **P** **19 18 03.8 -0.9**
comp=Z,11nm,1.1s
CM31 Chiang Mai Arr 68.82 82 *e*P **P** **19 18 05.0 -0.9**
CM31 Chiang Mai Arr 68.82 82 *e*P **P** **19 18 05.0 -0.9**
CMAR Chiang Mai Arr 68.82 82 P **P** **19 18 04.7 -1.2**
comp=Z,6.1nm,1.0s,baz=302,slow=7.9,SNR=38
CMAR LR LR 19 54 19.1
comp=Z,105nm,18.0s,baz=290,slow=41
VLDQ Val d'Or 69.00 315 *e*P **P** **19 18 09.1 +2.6**
comp=Z,69nm,1.8s
VLDQ Val d'Or 69.00 315 *e*P **P** **19 18 09.1 +2.6**
comp=Z,69nm,1.8s
LAMP Lampang 69.33 82 P **P** **19 18 09.5 +0.4**
comp=Z,5.0nm,0.9s
UMPA Umpang Tak 70.00 85 P **P** **19 18 14.0 +0.7**
comp=Z,3.8nm,1.1s
PLVO Plevna 70.44 312 *e*P **P** **19 18 17.1 +1.6**
comp=Z,44nm,1.4s
PLVO Plevna 70.44 312 *e*P **P** **19 18 17.1 +1.6**
comp=Z,44nm,1.4s
GYA Guiyang 70.49 71 P **P** **19 18 17.0 +0.7**
GYA PP **PP** **19 20 55.0 +2.8**
GYA S **S** **19 27 27.8 -1.5**
GYA SKS **SKSac** **19 28 14.2 -3.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
SLVN Son La 71.14 77 *e*P **P** **19 18 20.0 -0.3**
comp=Z,10nm,1.2s
SLVN Son La 71.14 77 *e*P **P** **19 18 19.9 -0.3**
comp=Z,10nm,1.2s
SRDT SRDT 71.25 86 P **P** **19 18 20.7 -0.2**
comp=Z,31nm,1.2s
PBKT Sadao Pong 71.47 83 P **P** **19 18 22.2 0.0**
comp=Z,6.0nm,1.4s,comp=Z,2µm
N59A State Game Lan 71.92 308 P **P** **19 18 24.9 +0.3**
baz=56
MMNY Mt. Morris Dam 72.23 310 *e*P **P** **19 18 26.7 +0.4**
MMNY Mt. Morris Dam 72.23 310 *e*P **P** **19 18 26.7 +0.4**
SEY Seymchan 72.61 21 P **P** **19 18 27.9 -0.3**
comp=Z,5.1nm,0.3s,baz=157,slow=0.3,SNR=23
SEY Seymchan 72.61 21 P **P** **19 18 28.0 -0.3**
SEY pmax pmax
comp=Z,5.0nm,1.0s
CHAI Chaiyaphum 72.65 83 P **P** **19 18 28.9 -0.4**
comp=Z,3.8nm,1.0s
NAYO Nakonayok 73.02 85 P **P** **19 18 32.0 +0.5**
comp=Z,104nm,1.5s,comp=Z,15µm
KHON Khomkaen 73.07 82 P **P** **19 18 32.1 +0.4**
comp=Z,8.5nm,1.0s
SKNT Sakolnakorn 73.63 81 P **P** **19 18 34.9 -0.1**
comp=Z,21nm,1.0s
ERPA Erie 73.84 311 *e*P **P** **19 18 37.6 +1.7**
comp=Z,63nm,1.3s
ERPA Erie 73.84 311 *e*P **P** **19 18 37.6 +1.7**
comp=Z,63nm,1.3s
M54A Oil Creek Stat 74.00 310 P **P** **19 18 37.2 +0.3**
baz=54
PANO Nakornpanom 74.03 80 P **P** **19 18 37.5 +0.2**
comp=Z,96nm,1.2s
O56A Blue Knob Stat 74.04 309 P **P** **19 18 37.0 -0.2**
baz=55
TOLK Toolik Lake Re 74.30 357 P **P** **19 18 38.3 +0.1**
baz=6.9
N54A Moraine State 74.52 310 P **P** **19 18 40.7 +0.8**
baz=54
E44A Grand Marais A 74.56 317 P **P** **19 18 40.8 +0.8**
baz=52
YKA Yellowknife Ar 74.72 341 P **P** **19 18 40.8 +0.2**
comp=Z,3.7nm,0.9s,baz=26,slow=6.6,SNR=4.5
YKB5 Yellowknife Ar 74.72 341 *e*P **P** **19 18 40.8 +0.2**
YKB5 Yellowknife Ar 74.72 341 *e*P **P** **19 18 40.8 +0.2**
F45A CMU Biological 74.91 316 P **P** **19 18 42.6 +0.6**
baz=52
F44A Big Bay de Noc 75.23 317 P **P** **19 18 44.4 +0.5**
baz=52
E43A Lone Tree Farm 75.29 317 P **P** **19 18 45.0 +0.7**
baz=51
D41A Chassel 75.69 319 P **P** **19 18 47.3 +0.8**
baz=50
F43A Flat Rock, Esc 75.72 317 P **P** **19 18 47.3 +0.5**
baz=51
COLD Coldfoot 75.73 357 *e*P **P** **19 18 47.2 +0.8**
comp=Z,11nm,1.0s
COLD Coldfoot 75.73 357 *e*P **P** **19 18 47.2 +0.8**
comp=Z,11nm,1.0s
E42A Champion 75.75 318 P **P** **19 18 47.4 +0.5**
baz=51
FYU Fort Yukon 76.10 355 *e*P **P** **19 18 50.5 +2.0**
comp=Z,48nm,1.3s
FYU Fort Yukon 76.10 355 *e*P **P** **19 18 50.5 +2.0**
comp=Z,48nm,1.3s
NJ2 Nanjing 76.26 60 *e*P **P** **19 18 50.5 +0.5**
NJ2 pmax pmax
comp=Z,17nm,0.6s
E41A Kenton 76.29 318 P **P** **19 18 50.1 +0.2**
baz=50
F42A Maple Grove Fa 76.29 317 P **P** **19 18 50.7 +0.7**
baz=50
G43A Wallace 76.37 317 P **P** **19 18 51.3 +0.9**
baz=50
EYMN Ely 76.64 321 P **P** **19 18 52.0 +0.1**
baz=49
EYMN Ely 76.64 321 *e*P **P** **19 18 52.9 +1.0**
comp=Z,23nm,1.3s
EYMN Ely 76.64 321 *e*P **P** **19 18 52.9 +1.0**
comp=Z,23nm,1.3s
FFC Flin Flon 76.64 330 *e*P **P** **19 18 53.2 +1.4**
FFC pmax pmax
comp=Z,26nm,1.4s
FFC Flin Flon 76.64 330 *e*P **P** **19 18 53.2 +1.4**
comp=Z,26nm,1.4s
FFC Flin Flon 76.64 330 *e*P **P** **19 18 53.2 +1.4**
comp=Z,26nm,1.4s
G42A Mountain 76.78 317 P **P** **19 18 53.3 +0.5**
baz=50
E40A Wakefield 76.79 319 P **P** **19 18 53.7 +0.8**
baz=49
F41A Three Lakes 76.83 318 P **P** **19 18 53.7 +0.7**
baz=50
IMAR Indian Mountai 77.10 358 *e*P **P** **19 18 55.4 +1.2**
IMAR Indian Mountai 77.10 358 *e*P **P** **19 18 55.4 +1.2**
C37A Embarrass 77.13 321 P **P** **19 18 55.4 +0.7**
baz=48
USRK Ussuriysk Ar. 77.15 44 P **P** **19 18 53.5 -1.4**
comp=Z,2.8nm,0.6s,baz=357,slow=3.8,SNR=6.4
USRK LR LR 19 56 46.2
comp=Z,69nm,19.0s,baz=298,slow=39
E39A Mellen 77.18 319 P **P** **19 18 55.5 +0.5**
baz=49
ULM Lac du Bonnet 77.20 324 P **P** **19 18 54.9 -0.2**
comp=Z,18nm,1.1s,baz=39,slow=7.3,SNR=7.6
F40A Park Falls 77.25 318 P **P** **19 18 55.9 +0.5**
baz=49
H42A Shiocton 77.31 317 P **P** **19 18 55.5 -0.2**
baz=50
C36A Pine Crest Far 77.44 321 P **P** **19 18 56.5 +0.1**
baz=48
B35A Bob, Littlefor 77.47 322 P **P** **19 18 57.3 +0.7**
baz=47
D37A Cotton 77.63 321 P **P** **19 18 58.0 +0.5**
baz=48
F39A Loretta 77.68 319 P **P** **19 18 58.5 +0.7**
baz=49
G40A Rib Lake 77.72 318 P **P** **19 18 58.7 +0.7**
baz=49
B34A Aery, Baudette 77.84 323 P **P** **19 18 59.0 +0.3**
baz=47
H41A Junction City 77.85 317 P **P** **19 18 58.8 0.0**
baz=49
A33A Warroad 77.88 323 P **P** **19 18 59.0 +0.1**
baz=46
MDM Murphy Dome 77.89 356 *e*P **P** **19 18 59.7 +1.0**
comp=Z,22nm,1.2s
MDM Murphy Dome 77.89 356 *e*P **P** **19 18 59.7 +1.0**
comp=Z,22nm,1.2s
I42A Draeger Farm, 77.92 316 P **P** **19 18 59.0 -0.2**
baz=50
D36A Goodland 77.99 321 P **P** **19 19 00.2 +0.7**
baz=48
IL1 Eielson Array 78.00 355 *e*P **P** **19 18 59.9 +0.7**
IL1 Eielson Array 78.00 355 *e*P **P** **19 18 59.9 +0.7**
ILAR Eielson Array 78.00 355 P **P** **19 18 59.6 +0.4**
comp=Z,3.5nm,0.9s,baz=357,slow=4.7,SNR=20
ILAR LR LR 19 53 45.3
comp=Z,70nm,22.0s,baz=28,slow=36
ILB Eielson Array 78.00 355 *e*P **P** **19 18 59.8 +0.6**
ILB Eielson Array 78.00 355 *e*P **P** **19 18 59.8 +0.6**
DAWY Dawson 78.01 352 *e*P **P** **19 19 00.5 +1.1**
comp=Z,38nm,1.4s
DAWY Dawson 78.01 352 *e*P **P** **19 19 00.5 +1.1**
comp=Z,38nm,1.4s
C35A Jirik Farms, M 78.04 322 P **P** **19 19 00.4 +0.6**
baz=47
F38A Pierce - Schro 78.15 319 P **P** **19 19 01.1 +0.7**
baz=48
CCB Clear Creek Bu 78.18 356 *e*P **P** **19 19 00.7 +0.5**
comp=Z,12nm,1.2s
CCB Clear Creek Bu 78.18 356 *e*P **P** **19 19 00.7 +0.5**
comp=Z,12nm,1.2s
G39A Holcombe 78.22 318 P **P** **19 19 01.6 +0.7**
baz=48
H40A Chili 78.25 318 P **P** **19 19 01.7 +0.8**
baz=49
I41A Arkdale 78.33 317 P **P** **19 19 02.4 +0.9**
baz=49
HDA Harding Lake 78.36 355 *e*P **P** **19 19 01.8 +0.5**
comp=Z,16nm,0.8s
HDA Harding Lake 78.36 355 *e*P **P** **19 19 01.8 +0.5**
comp=Z,16nm,0.8s
WRH Wood River Hil 78.37 356 *e*P **P** **19 19 01.9 +0.6**
comp=Z,44nm,1.5s
WRH Wood River Hil 78.37 356 *e*P **P** **19 19 01.9 +0.6**
comp=Z,44nm,1.5s
A32A Rocking H Ranc 78.42 324 P **P** **19 19 02.1 +0.2**
baz=46
E36A McGregor 78.48 320 P **P** **19 19 02.6 +0.4**
baz=47
D35A Remer 78.50 321 P **P** **19 19 03.4 +1.0**
baz=47
AGMN Agassiz Nation 78.55 323 P **P** **19 19 03.3 +0.7**
baz=46
G38A Ridgeland 78.66 319 P **P** **19 19 04.3 +1.0**
baz=48
H39A Augusta 78.69 318 P **P** **19 19 03.7 +0.3**
baz=48
F37A Hinrichs Farm, 78.69 320 P **P** **19 19 03.4 0.0**
baz=48
B32A Ashes, Strandq 78.81 323 P **P** **19 19 04.3 +0.3**
baz=46
I40A Norwalk 78.85 317 P **P** **19 19 04.8 +0.5**
baz=49
J41A Loganville 78.87 316 P **P** **19 19 04.7 +0.3**
baz=49
C33A Trail 78.88 323 P **P** **19 19 05.1 +0.6**
baz=46
DOT Dot Lake 78.89 354 *e*P **P** **19 19 05.3 +1.1**
comp=Z,31nm,0.9s
DOT Dot Lake 78.89 354 *e*P **P** **19 19 05.3 +1.1**
comp=Z,31nm,0.9s
L43A Garden Prairie 78.93 315 P **P** **19 19 04.7 -0.1**
baz=49
KS01 Wonju Array Si 78.97 51 *e*P **P** **19 19 04.3 -0.8**
KS01 Wonju Array Si 78.97 51 *e*P **P** **19 19 04.3 -0.8**
KS15 Wonju Array Si 78.99 51 *e*P **P** **19 19 05.2 0.0**
KS15 Wonju Array Si 78.99 51 *e*P **P** **19 19 05.2 0.0**
KSAR Wonju Array Be 78.99 51 P **P** **19 19 04.2 -1.0**
KSAR Wonju Array Be 78.99 51 P **P** **19 19 04.2 -1.0**
KSAR Wonju Array Be 78.99 51 P **P** **19 19 04.2 -1.0**
KSRS Korea Array 79.01 51 P **P** **19 19 04.2 -1.0**
comp=Z,3.0nm,0.5s,baz=312,slow=4.4,SNR=16
KSRS LR LR 19 59 42.7
comp=Z,156nm,18.0s,baz=314,slow=40
E35A Pequot Lakes 79.04 321 P **P** **19 19 05.9 +0.6**
baz=47
F36A Milaca 79.06 320 P **P** **19 19 06.1 +0.7**
baz=47
SPMN Marine on St. 79.12 319 P **P** **19 19 06.3 +0.5**
baz=47
MCK McKinley 79.16 356 *e*P **P** **19 19 06.1 +0.4**
MCK pmax pmax
comp=Z,29nm,1.1s
MCK McKinley 79.16 356 *e*P **P** **19 19 06.1 +0.4**
comp=Z,29nm,1.1s
MCK McKinley 79.16 356 *e*P **P** **19 19 06.1 +0.4**
comp=Z,29nm,1.1s
H38A Maiden Rock 79.22 319 P **P** **19 19 06.2 -0.1**
baz=48
J40A Soldiers Grove 79.24 317 P **P** **19 19 06.5 0.0**
baz=48
I39A Houston 79.36 318 P **P** **19 19 06.4 -0.7**
baz=48
KTH Kantishna Hill 79.43 357 *e*P **P** **19 19 08.0 +0.8**
comp=Z,15nm,1.2s
KTH Kantishna Hill 79.43 357 *e*P **P** **19 19 08.0 +0.8**
comp=Z,15nm,1.2s
E34A Wadena 79.45 321 P **P** **19 19 08.0 +0.5**
baz=46
TRF Thorofare Moun 79.51 357 *e*P **P** **19 19 08.6 +0.8**
comp=Z,30nm,1.4s
TRF Thorofare Moun 79.51 357 *e*P **P** **19 19 08.6 +0.8**
comp=Z,30nm,1.4s
K41A Shullsburg 79.53 316 P **P** **19 19 07.9 -0.1**
baz=49
G36A St. Michael 79.61 320 P **P** **19 19 08.9 +0.5**
baz=47
CAST Castle Rocks 79.62 357 *e*P **P** **19 19 08.5 +0.3**
comp=Z,21nm,1.4s
CAST Castle Rocks 79.62 357 *e*P **P** **19 19 08.5 +0.3**
comp=Z,21nm,1.4s
H37A Dierke Farm, C 79.62 319 P **P** **19 19 09.7 +1.2**
baz=47
I38A Scanlan Farm, 79.67 318 P **P** **19 19 09.2 +0.4**
baz=48
DHY Denali Highway 79.71 355 *e*P **P** **19 19 09.6 +0.8**
comp=Z,17nm,0.9s
DHY Denali Highway 79.71 355 *e*P **P** **19 19 09.6 +0.8**
comp=Z,17nm,0.9s
C31A Landman Farms, 79.80 324 P **P** **19 19 09.3 -0.2**
baz=45
J39A Decorah 79.81 317 P **P** **19 19 09.5 -0.1**
baz=48
E33A Westby DABS, E 79.87 322 P **P** **19 19 10.3 +0.5**
baz=46
D32A Dogwood Acres, 79.92 323 P **P** **19 19 10.3 +0.2**
baz=45
K40A Colesburg 79.92 317 P **P** **19 19 10.4 +0.1**
baz=48
L41A Preston 79.98 316 P **P** **19 19 11.1 +0.5**
baz=48
H36A Jessenland, He 80.15 319 P **P** **19 19 11.7 +0.3**
baz=47
TT01 Tatalina 80.23 359 *e*P **P** **19 19 12.2 +0.8**
TT01 Tatalina 80.23 359 *e*P **P** **19 19 12.2 +0.8**
J38A Wedel Dairy, R 80.24 318 P **P** **19 19 12.5 +0.6**
baz=47
I37A Lemond, Waseca 80.26 319 P **P** **19 19 12.2 +0.2**
baz=47
HDIL Hopedale 80.30 314 P **P** **19 19 12.1 -0.2**
baz=49
D31A Mcclaflin, Tow 80.33 323 P **P** **19 19 12.4 +0.1**
baz=45
K39A Oelwein 80.33 317 P **P** **19 19 12.4 0.0**
baz=48
E32A Braaten, Kindr 80.33 322 P **P** **19 19 12.3 0.0**
baz=45
L40A Anamosa 80.39 316 P **P** **19 19 13.6 +0.8**
baz=48
M41A Milan 80.47 315 P **P** **19 19 13.5 +0.4**
baz=48
F33A 5 Mile Ranch, 80.48 321 P **P** **19 19 14.0 +0.9**
baz=45
H35A Sunnyside Ranc 80.53 320 P **P** **19 19 13.6 +0.1**
baz=46
N42A Yates City 80.55 315 P **P** **19 19 14.5 +1.0**
baz=48
G34A Benson 80.57 321 P **P** **19 19 13.6 0.0**
baz=46
P44A Sand Creek, Wi 80.62 313 P **P** **19 19 14.2 +0.2**
baz=49
MDND Maddock 80.64 324 P **P** **19 19 14.6 +0.6**
baz=44
E31A Nome 80.75 323 P **P** **19 19 15.0 +0.4**
baz=44
L39A Vinton 80.78 317 P **P** **19 19 14.9 0.0**
baz=48
J37A Redenius Farm, 80.82 318 P **P** **19 19 14.9 -0.1**
baz=47
YSS Yuzh-Sakhalins 80.84 37⇑ *i*P **P** **19 19 15.3 +0.3**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS Yuzh-Sakhalins 80.84 37 *e*P **P** **19 19 15.4 +0.4**
comp=Z,38nm,1.1s
YSS Yuzh-Sakhalins 80.84 37 *e*P **P** **19 19 15.4 +0.4**
comp=Z,38nm,1.1s
K38A Parkersburg 80.85 317 P **P** **19 19 15.1 -0.1**
baz=47
M40A Post Highland 81.00 316 P **P** **19 19 15.6 -0.3**
baz=48
G33A Ortonville 81.00 321 P **P** **19 19 16.6 +0.6**
baz=45
P43A Skaggs, Pawnee 81.04 313 P **P** **19 19 16.8 +0.6**
baz=49
H34A Spellman Lake, 81.04 320 P **P** **19 19 16.8 +0.7**
baz=46
J36A Seneca 1, Swea 81.22 319 P **P** **19 19 17.3 +0.1**
baz=46
Q44A Meyer Farm, Va 81.23 313 P **P** **19 19 17.6 +0.3**
baz=49
K37A Belmond 81.24 318 P **P** **19 19 17.4 +0.1**
baz=47
L38A Oak Wood Farm, 81.30 317 P **P** **19 19 18.2 +0.6**
baz=47
PMR Palmer 81.30 356 *e*P **P** **19 19 17.9 +0.7**
PMR pmax pmax
comp=Z,33nm,1.4s
PMR Palmer 81.30 356 *e*P **P** **19 19 17.9 +0.7**
comp=Z,33nm,1.4s
PMR Palmer 81.30 356 *e*P **P** **19 19 17.9 +0.7**
comp=Z,33nm,1.4s
M39A Webster 81.31 316 P **P** **19 19 17.6 -0.1**
baz=47
N40A Mertquake, Sal 81.39 315 P **P** **19 19 18.1 0.0**
baz=48
F31A Hecla 81.43 322 P **P** **19 19 17.9 -0.3**
baz=44
G32A Webster 81.49 322 P **P** **19 19 19.1 +0.5**
baz=44
O41A Passleys Farm, 81.50 314 P **P** **19 19 19.0 +0.3**
baz=48
SUA Susitna One 81.51 357 *e*P **P** **19 19 19.8 +1.3**
comp=Z,26nm,1.0s
SUA Susitna One 81.51 357 *e*S **S** **19 29 32.8 +3.2**
SUA Susitna One 81.51 357 *e*P **P** **19 19 19.8 +1.3**
comp=Z,26nm,1.0s
SUA *e*S **S** **19 29 32.8 +3.2**
P42A Winchester 81.55 314 P **P** **19 19 19.4 +0.4**
baz=48
BMRM Bremner River 81.58 353 *e*P **P** **19 19 19.5 +0.7**
comp=Z,42nm,1.4s
BMRM Bremner River 81.58 353 *e*P **P** **19 19 19.5 +0.7**
comp=Z,42nm,1.4s
Q43A New Douglas 81.60 313 P **P** **19 19 19.7 +0.4**
baz=48
R44A Waltonville 81.69 312 P **P** **19 19 19.8 +0.1**
baz=49
L37A Phoenix Point, 81.74 317 P **P** **19 19 20.3 +0.4**
baz=46
K36A Gilmore City 81.76 318 P **P** **19 19 20.5 +0.5**
baz=46
S45A Carrier Mills 81.77 311 P **P** **19 19 19.8 -0.3**
baz=49
RC01 Rabbit Creek A 81.83 356 *e*P **P** **19 19 20.9 +0.9**
comp=Z,59nm,1.5s
RC01 Rabbit Creek A 81.83 356 *e*P **P** **19 19 20.9 +0.9**
comp=Z,59nm,1.5s
SPU Mount Spurr 81.85 357 *e*P **P** **19 19 20.3 +0.1**
SPU Mount Spurr 81.85 357 *e*P **P** **19 19 20.3 +0.1**
G31A Conde 81.86 322 P **P** **19 19 20.7 +0.2**
baz=44
P41A Barry, Barry 81.90 314 P **P** **19 19 20.8 0.0**
baz=48
N39A Derby Farms, D 81.90 316 P **P** **19 19 21.0 +0.1**

baz=47
M38A **Pleasantville** 81.92 317 P P 19 19 21.1 +0.3
baz=47
H32A **Carlson Farm,** 82.00 321 P P 19 19 20.9 -0.3
baz=44
I33A **Coleman** 82.00 320 P P 19 19 21.0 -0.3
baz=45
O40A **La Belle** 82.06 315 P P 19 19 21.6 -0.1
baz=47
Q42A **Golden Eagle** 82.11 313 P P 19 19 22.3 +0.4
baz=48
ECSD **EROS Data Cent** 82.12 320 P P 19 19 22.0 +0.1
baz=45
ECSD **EROS Data Cent** 82.12 320 eP P 19 19 23.1 +1.2
comp=Z,38nm,1.6s
ECSD **EROS Data Cent** 82.12 320 eP P 19 19 23.1 +1.2
comp=Z,38nm,1.6s
S44A **Carbondale** 82.16 312 P P 19 19 22.7 +0.5
baz=48
R43A **Red Bud** 82.18 313 P P 19 19 22.6 +0.3
baz=48
PETK **Petropavlovsk-** 82.18 25 LR LR 20 01 36.1
comp=Z,170nm,18.3s,baz=313,slow=40
DGMT **Dagmar** 82.24 327 P P 19 19 22.7 +0.2
baz=40
I32A **Karley and Nic** 82.35 321 P P 19 19 23.3 +0.2
baz=44
N38A **Joes South For** 82.37 316 P P 19 19 23.4 +0.1
baz=47
M37A **Trindle Farm,** 82.40 317 P P 19 19 23.5 +0.1
baz=46
Q41A **Truxton** 82.48 314 P P 19 19 24.5 +0.7
baz=48
H31A **Wolsey** 82.53 322 P P 19 19 24.7 +0.6
baz=44
P40A **Paris** 82.56 315 P P 19 19 24.7 +0.4
baz=47
K34A **Le Mars** 82.59 319 P P 19 19 24.7 +0.3
baz=45
S43A **Fulton Ridge,** 82.73 312 P P 19 19 25.6 +0.4
baz=48
M36A **Felix, Anita** 82.77 317 P P 19 19 25.6 +0.3
baz=46
SUSD **Miller** 82.80 322 P P 19 19 25.9 +0.4
baz=44
I31A **Royce, Wessing** 82.89 321 P P 19 19 26.7 +0.8
baz=44
Q40A **Laux Farm, Aux** 82.94 314 P P 19 19 27.2 +0.9
baz=47
O38A **Galt** 82.96 316 P P 19 19 27.1 +0.8
baz=46
P39B **Salisbury** 82.99 315 P P 19 19 26.9 +0.4
baz=47
S42A **Caledonia** 83.02 313 P P 19 19 27.3 +0.5
baz=48
CCM **Cathedral Cave** 83.09 313 eP P 19 19 27.7 +0.6
CCM pmax pmax
comp=Z,31nm,0.6s
CCM **Cathedral Cave** 83.09 313 eP P 19 19 27.7 +0.6
comp=Z,31nm,0.6s
CCM **Cathedral Cave** 83.09 313 eP P 19 19 27.7 +0.6
comp=Z,31nm,0.6s
U44B **Burton Farm, H** 83.11 311 P P 19 19 26.5 -0.7
baz=48
K33A **Hardington** 83.12 319 P P 19 19 26.9 -0.3
baz=45
T43A **Greenville** 83.18 312 P P 19 19 27.9 +0.3
baz=48
M35A **Neola** 83.24 318 P P 19 19 27.9 +0.1
baz=45
L34A **Svendsen Farm,** 83.25 319 P P 19 19 28.4 +0.6
baz=45
O37A **Wolven Farm, M** 83.30 316 P P 19 19 28.9 +0.8
baz=46
P38A **Dawn** 83.33 315 P P 19 19 29.0 +0.8
baz=46
Q39A **Willow Grove F** 83.42 315 P P 19 19 29.4 +0.7
baz=47,SNR=5.6
J31A **Geddes** 83.52 321 P P 19 19 29.0 -0.2
baz=44
R40A **Maddies Statio** 83.53 314 P P 19 19 29.1 -0.2
baz=47,SNR=5.7
L33A **Hoskins** 83.58 319 P P 19 19 30.0 +0.4
baz=44
K32A **Verdigre** 83.59 320 P P 19 19 30.7 +1.1
baz=44
JNU **Nakatsue** 83.62 53 P P 19 19 28.9 -1.0
comp=Z,6.1nm,1.0s,baz=16,slow=6.3,SNR=5.2
JNU **Nakatsue** 83.62 53 eP P 19 19 28.9 -1.0
comp=Z,14nm,1.2s
JNU **Nakatsue** 83.62 53 eP P 19 19 28.9 -1.0
comp=Z,14nm,1.2s
N35A **Tabor** 83.64 317 P P 19 19 29.9 +0.1
baz=45
M34A **Aspy Farms, Fr** 83.69 318 P P 19 19 30.4 +0.3
baz=45
S41A **Jillco Farms,** 83.70 313 P P 19 19 30.9 +0.6
baz=47,SNR=5.7
O36A **Bolckow** 83.78 317 P P 19 19 31.4 +0.9
baz=46
Y47A **UCPARC, Winfie** 83.79 308 P P 19 19 31.5 +0.8
baz=49
P37A **Lathrop** 83.82 316 P P 19 19 31.3 +0.5
baz=46
LRAL **Lakeview Retre** 83.82 307 eP P 19 19 32.0 +1.1
comp=Z,62nm,1.6s
LRAL **Lakeview Retre** 83.82 307 eP P 19 19 32.0 +1.1
comp=Z,62nm,1.6s
Q38A **Cooks Store, C** 83.84 315 P P 19 19 31.8 +1.0
baz=46,SNR=5.3
Z48A **Northport** 83.95 308 P P 19 19 31.7 +0.1
baz=49
R39A **Chumby, Stover** 83.95 314 P P 19 19 31.6 +0.1
baz=46,SNR=8.8
M33A **Taylor Creek F** 83.96 319 P P 19 19 31.6 +0.1
baz=44
K31A **O'Neill** 84.01 320 P P 19 19 31.7 -0.1
baz=44
PTGA **Pitinga** 84.07 265 eP P 19 19 34.1 +1.7
comp=Z,22nm,1.5s
PTGA **Pitinga** 84.07 265 eP P 19 19 34.1 +1.7
comp=Z,22nm,1.5s
L32A **Elgin** 84.08 320 P P 19 19 32.5 +0.4
baz=44
T41A **Mountain View** 84.08 313 P P 19 19 32.8 +0.7
baz=47,SNR=6.3
N34A **Lincoln** 84.11 318 P P 19 19 32.6 +0.3
baz=45
S40A **Lebanon** 84.14 313 P P 19 19 33.0 +0.5
baz=47,SNR=6.4
O35A **Humboldt** 84.20 317 P P 19 19 33.2 +0.5
baz=45
U42A **Revenden** 84.24 312 P P 19 19 33.5 +0.6
baz=47
Q37A **Longview Farm,** 84.37 315 P P 19 19 34.5 +0.9
baz=46
Z47A **Carrollton** 84.39 308 P P 19 19 34.4 +0.6
baz=49
Y46A **Houston** 84.44 309 P P 19 19 34.8 +0.8
baz=48
T40A **Mansfield** 84.45 313 P P 19 19 34.8 +0.8
baz=47,SNR=9.0
LAO **LASA Array** 84.48 327 P P 19 19 34.9 +0.8
baz=39
LAO **LASA Array** 84.48 327 eP P 19 19 35.5 +1.4
comp=Z,559nm,1.8s
LAO **LASA Array** 84.48 327 eP P 19 19 35.5 +1.4
comp=Z,559nm,1.8s
R38A **Fenwick Farm,** 84.54 315 P P 19 19 35.3 +0.8
baz=46,SNR=6.1
S39A **Bolivar** 84.55 314 P P 19 19 35.5 +1.0
baz=46
BGNE **Belgrade** 84.58 319 P P 19 19 35.1 +0.4
baz=44
BGNE **Belgrade** 84.58 319 eP P 19 19 36.1 +1.5
comp=Z,174nm,1.4s
BGNE **Belgrade** 84.58 319 eP P 19 19 36.1 +1.5
comp=Z,174nm,1.4s
U41A **Viola** 84.65 312 P P 19 19 36.0 +0.9
baz=47
O34A **Beatrice** 84.68 318 P P 19 19 35.6 +0.5
baz=45
N33A **J Bar K, Exete** 84.69 318 P P 19 19 35.7 +0.4
baz=44
V42A **Cord** 84.70 311 P P 19 19 36.1 +0.8
baz=47
P35A **Duane Minner,** 84.78 317 P P 19 19 36.1 +0.5
baz=45

147A **Livingston** 84.86 307 P P 19 19 36.3 +0.2
baz=49
Q36A **Arnold C. Orve** 84.87 316 P P 19 19 36.5 +0.4
baz=45
EGMT **Eagleton** 84.90 330 P P 19 19 36.7 +0.5
baz=37,SNR=21
EGMT **Eagleton** 84.90 330 eP P 19 19 37.5 +1.3
comp=Z,129nm,1.4s
EGMT **Eagleton** 84.90 330 eP P 19 19 37.5 +1.3
comp=Z,129nm,1.4s
S38A **Stockton** 84.92 314 P P 19 19 36.6 +0.1
baz=46
R37A **Teagarden Farm** 84.97 315 P P 19 19 37.7 +1.1
baz=46
T39A **Clever** 85.04 313 P P 19 19 37.4 +0.4
baz=46
W42A **Bald Knob** 85.14 311 P P 19 19 38.5 +1.0
baz=47
V41A **Mountainview** 85.17 312 P P 19 19 38.4 +0.7
baz=47,SNR=5.4
U40A **Yellville** 85.19 313 P P 19 19 38.2 +0.4
baz=46
P34A **Walnut Farm, R** 85.21 317 P P 19 19 38.8 +1.0
baz=44,SNR=8.2
O33A **Hebron** 85.24 318 P P 19 19 38.4 +0.4
baz=44
Q35A **Mercer Eighty,** 85.26 316 P P 19 19 38.8 +0.7
baz=45
Z45A **Winona** 85.29 309 P P 19 19 38.4 +0.1
baz=48
R36A **Gordon, Harris** 85.34 316 P P 19 19 39.1 +0.6
baz=45,SNR=7.2
S37A **Fort Scott** 85.36 315 P P 19 19 39.2 +0.6
baz=46
KSU1 **Kansas State U** 85.41 317 P P 19 19 39.5 +0.7
baz=44
348A **Jackson** 85.45 306 P P 19 19 40.2 +1.0
baz=49
RSSD **Black Hills** 85.48 324 eP P 19 19 40.7 +1.3
RSSD pmax pmax
comp=Z,232nm,2.0s
RSSD **Black Hills** 85.48 324 eP P 19 19 40.7 +1.3
comp=Z,232nm,2.0s
RSSD **Black Hills** 85.48 324 eP P 19 19 40.7 +1.3
comp=Z,232nm,2.0s
247A **Quitman** 85.49 307 P P 19 19 40.1 +0.8
baz=48
U39A **Green Forest** 85.54 313 P P 19 19 40.4 +0.8
baz=46,SNR=5.4
V40A **Witts Springs** 85.55 312 P P 19 19 40.0 +0.4
baz=46
T38A **Diamond** 85.56 314 P P 19 19 40.3 +0.7
baz=46
WHAR **Wooly Hollow** 85.58 312 eP P 19 19 41.0 +1.2
comp=Z,33nm,1.3s
WHAR **Wooly Hollow** 85.58 312 eP P 19 19 41.0 +1.2
comp=Z,33nm,1.3s
W41B **Gary Mavity, V** 85.64 312 P P 19 19 41.3 +1.3
baz=47
WALA **Waterton Lakes** 85.65 333 eP P 19 19 40.6 +0.6
comp=Z,28nm,1.4s
WALA **Waterton Lakes** 85.65 333 eP P 19 19 40.6 +0.6
comp=Z,28nm,1.4s
X301 **Greenbrier Sit** 85.69 312 eP P 19 19 41.4 +1.2
comp=Z,49nm,1.7s
X301 **Greenbrier Sit** 85.69 312 eP P 19 19 41.4 +1.2
comp=Z,49nm,1.7s
Q34A **Chapman** 85.71 317 P P 19 19 41.1 +0.7
baz=44
R35A **Emporia Munici** 85.73 316 P P 19 19 41.0 +0.6
baz=45
MJB9 **Matsu-Tunnel** 85.79 46 eP P 19 19 40.6 -0.2
comp=Z,19nm,2.0s
MJB9 **Matsu-Tunnel** 85.79 46 eP P 19 19 40.6 -0.2
comp=Z,19nm,2.0s
MAJO **Matsushiro** 85.79 46 eP P 19 19 40.4 -0.4
MAJO pmax pmax
comp=Z,75nm,2.0s
MAJO **Matsushiro** 85.79 46 eP P 19 19 40.4 -0.4
comp=Z,75nm,2.0s
MAJO **Matsushiro** 85.79 46 eP P 19 19 40.4 -0.4
comp=Z,75nm,2.0s
MAT **Matsushiro** 85.79 46 P P 19 19 40.2 -0.6
MAT S S 19 30 05.8 -7.6
MJAR **Matsushiro Arr** 85.79 46 P P 19 19 39.9 -0.9
comp=Z,12nm,1.1s,baz=312,slow=5.2,SNR=18
MJAR LR LR 20 02 07.7
comp=Z,89nm,18.1s,baz=5.0,slow=39
S36A **Lake Cedric, C** 85.81 315 P P 19 19 41.5 +0.6
baz=45
T37A **Cheneyville 18** 85.85 314 P P 19 19 41.8 +0.7
baz=45,SNR=12
HHAR **Hobbs** 85.88 313 eP P 19 19 41.9 +0.7
comp=Z,17nm,1.0s
HHAR **Hobbs** 85.88 313 eP P 19 19 41.9 +0.7
comp=Z,17nm,1.0s
V39A **Pettigrew** 86.01 313 P P 19 19 41.7 -0.3
baz=46
U38A **Gravette** 86.03 314 P P 19 19 42.7 +0.8
baz=46
S35A **Otter Creek Ra** 86.25 316 P P 19 19 43.4 +0.4
baz=45
245A **Little AP, Sta** 86.31 308 P P 19 19 43.9 +0.5
baz=48
R34A **Isabella, Hill** 86.32 317 P P 19 19 44.0 +0.6
baz=44,SNR=11
T36A **Boggs Farm, Ca** 86.44 315 P P 19 19 44.5 +0.5
baz=45
X40A **Basin Creek Fa** 86.46 311 P P 19 19 44.5 +0.4
baz=46
U37A **Salina** 86.47 314 P P 19 19 45.1 +1.0
baz=45
W39A **Magazine** 86.54 312 P P 19 19 45.0 +0.6
baz=46
GCMT **Greycliff** 86.66 328 eP P 19 19 46.6 +1.5
GCMT **Greycliff** 86.66 328 eP P 19 19 46.6 +1.5
S34A **Willow Spring** 86.68 316 P P 19 19 45.4 +0.2
baz=44
YBMT **Yellow Bay** 86.69 332 eP P 19 19 46.3 +1.2
YBMT **Yellow Bay** 86.69 332 eP P 19 19 46.3 +1.2
BLMT **Blacktail Moun** 86.69 332 eP P 19 19 46.4 +1.1
BLMT **Blacktail Moun** 86.69 332 eP P 19 19 46.4 +1.1
Z42A **Norrel Spur, H** 86.75 310 P P 19 19 46.0 +0.4
baz=47
HRY **Holter Researc** 86.80 330 eP P 19 19 46.9 +1.2
HRY **Holter Researc** 86.80 330 eP P 19 19 46.9 +1.2
244A **Avery, Jackson** 86.81 308 P P 19 19 46.9 +1.1
baz=47
143A **Socs Landing,** 86.81 309 P P 19 19 46.8 +1.0
baz=47
U36A **Oologah** 86.83 314 P P 19 19 46.5 +0.6
baz=45
V37A **Hulbert** 86.85 314 P P 19 19 46.7 +0.7
baz=45
MIAR **Mount Ida** 86.86 312 P P 19 19 47.7 +1.6
baz=46
MIAR **Mount Ida** 86.86 312 eP P 19 19 47.7 +1.6
MIAR pmax pmax
comp=Z,11nm,0.8s
MIAR **Mount Ida** 86.86 312 eP P 19 19 47.7 +1.6
comp=Z,11nm,0.8s
MIAR **Mount Ida** 86.86 312 eP P 19 19 47.7 +1.6
comp=Z,11nm,0.8s
JTMT **Jette** 86.88 332 eP P 19 19 47.3 +1.2
JTMT **Jette** 86.88 332 eP P 19 19 47.3 +1.2
T35A **Sooner Cattle** 86.90 315 P P 19 19 47.4 +1.1
baz=44,SNR=6.2
SWMT **Swartz Lake** 86.97 332 eP P 19 19 47.5 +1.0
SWMT **Swartz Lake** 86.97 332 eP P 19 19 47.5 +1.0
SLMT **Seeley Lake** 87.00 331 eP P 19 19 47.4 +0.7
SLMT **Seeley Lake** 87.00 331 eP P 19 19 47.4 +0.7
RLMT **Red Lodge** 87.03 328 P P 19 19 47.4 +0.4
baz=37
RLMT **Red Lodge** 87.03 328 eP P 19 19 48.7 +1.7
comp=Z,40nm,1.0s
RLMT **Red Lodge** 87.03 328 eP P 19 19 48.6 +1.7
comp=Z,40nm,1.0s
Y40A **Okolona** 87.05 311 P P 19 19 47.6 +0.6
baz=46
W38A **Poteau** 87.06 313 P P 19 19 48.6 +1.6
baz=46
CHMT **Chamberlain Mo** 87.18 331 eP P 19 19 48.3 +0.6
CHMT **Chamberlain Mo** 87.18 331 eP P 19 19 48.3 +0.6
T34A **McClaskey Farm** 87.21 316 P P 19 19 48.7 +1.0
baz=44,SNR=5.5
TUL1 **Leonard** 87.21 314 P P 19 19 48.0 +0.3
baz=45

TUL1 **Leonard** 87.21 314 eP P 19 19 48.7 +1.0
comp=Z,15nm,0.9s
TUL1 **Leonard** 87.21 314 eP P 19 19 48.7 +1.0
comp=Z,15nm,0.9s
X39A **Fountain Ranch** 87.21 312 P P 19 19 48.9 +1.1
baz=46
344A **Westbrook Farm** 87.23 308 P P 19 19 48.9 +1.0
baz=47
Z41A **Richland Creek** 87.29 310 P P 19 19 48.9 +0.8
baz=46
CBKS **Cedar Bluff** 87.30 318 P P 19 19 48.3 +0.1
baz=43
V36A **Jenks** 87.38 314 P P 19 19 49.4 +0.8
baz=45
U35A **Pawnee** 87.42 315 P P 19 19 49.6 +0.9
baz=44
445A **Amite** 87.47 307 P P 19 19 49.6 +0.5
baz=48
NEW **Newport** 87.47 334 P P 19 19 49.6 +0.7
baz=31
NEW **Newport** 87.47 334 eP P 19 19 50.1 +1.2
NEW pmax pmax
comp=Z,42nm,1.4s
NEW **Newport** 87.47 334 eP P 19 19 50.1 +1.2
comp=Z,42nm,1.4s
NEW **Newport** 87.47 334 eP P 19 19 50.1 +1.2
comp=Z,42nm,1.4s
X38A **Whitesboro** 87.52 313 P P 19 19 50.3 +1.0
baz=45
MSO **Missoula** 87.52 331 P P 19 19 49.6 +0.4
baz=34,SNR=5.7
MSO **Missoula** 87.52 331 eP P 19 19 49.9 +0.7
comp=Z,21nm,1.4s
MSO **Missoula** 87.52 331 eP P 19 19 49.9 +0.7
comp=Z,21nm,1.4s
W37B **Quinton** 87.54 313 P P 19 19 49.5 +0.1
baz=45
BOZ **Bozeman (W)** 87.62 329 P P 19 19 50.5 +0.7
baz=35,SNR=12
BOZ **Bozeman (W)** 87.62 329 eP P 19 19 51.2 +1.4
BOZ pmax pmax
comp=Z,23nm,1.4s
BOZ **Bozeman (W)** 87.62 329 eP P 19 19 51.2 +1.4
comp=Z,22nm,1.4s
BOZ **Bozeman (W)** 87.62 329 eP P 19 19 51.2 +1.4
comp=Z,22nm,1.4s
242A **Grayson** 87.70 309 P P 19 19 50.7 +0.5
baz=47
444A **Pine Grove** 87.74 307 P P 19 19 51.7 +1.4
baz=47
K22A **Casper** 87.76 325 P P 19 19 50.5 0.0
baz=38,SNR=6.7
K22A **Casper** 87.76 325 eP P 19 19 51.0 +0.5
comp=Z,19nm,0.6s
K22A **Casper** 87.76 325 eP P 19 19 51.0 +0.5
comp=Z,19nm,0.6s
LRM **Limekiln Ridge** 87.77 330 eP P 19 19 51.6 +1.0
LRM **Limekiln Ridge** 87.77 330 eP P 19 19 51.6 +1.0
X37A **Clayton** 87.89 313 P P 19 19 51.3 +0.3
baz=45
V35A **Meyer Ranch, C** 87.91 315 P P 19 19 51.6 +0.5
baz=44
YHH **Holmes Hill** 87.96 329 eP P 19 19 53.2 +1.6
comp=Z,32nm,1.7s
YHH **Holmes Hill** 87.96 329 eP P 19 19 53.2 +1.6
comp=Z,32nm,1.7s
Y38A **Idabel** 87.98 312 P P 19 19 52.8 +1.3
baz=45
YMR **Madison River** 88.11 329 eP P 19 19 54.0 +1.8
comp=Z,49nm,1.6s
YMR **Madison River** 88.11 329 eP P 19 19 54.0 +1.8
comp=Z,49nm,1.6s
H17A **Grant Village** 88.17 328 P P 19 19 52.4 -0.1
baz=36
DLMT **Dillon** 88.21 330 eP P 19 19 53.9 +1.4
comp=Z,12nm,1.0s
DLMT **Dillon** 88.21 330 eP P 19 19 53.9 +1.4
comp=Z,12nm,1.0s
PHWY **Pilot Hill** 88.31 323 eP P 19 19 54.4 +1.1
comp=Z,21nm,1.2s
PHWY **Pilot Hill** 88.31 323 eP P 19 19 54.4 +1.1
comp=Z,21nm,1.2s
W35A **Tecumseh** 88.36 314 P P 19 19 54.2 +0.9
baz=44
Y37A **Hugo** 88.47 313 P P 19 19 53.6 -0.2
baz=45
X36A **Centrahoma** 88.48 313 P P 19 19 53.7 -0.1
baz=44
KSCO **Kaye Shedlock'** 88.66 320 P P 19 19 54.8 0.0
baz=41
U32A **Winter Ranch,** 88.68 316 P P 19 19 55.3 +0.6
baz=43
IMW **Indian Meadow** 88.72 328 eP P 19 19 57.1 +1.9
comp=Z,13nm,1.0s
IMW **Indian Meadow** 88.72 328 eP P 19 19 57.1 +1.9
comp=Z,13nm,1.0s
MCMT **McKenzie Canyo** 88.75 330 eP P 19 19 56.8 +1.6
MCMT **McKenzie Canyo** 88.75 330 eP P 19 19 56.8 +1.6
MOOW **Moose Ponds** 88.76 328 eP P 19 19 56.8 +1.5
comp=Z,5.8nm,0.8s
MOOW **Moose Ponds** 88.76 328 eP P 19 19 56.8 +1.5
comp=Z,5.8nm,0.8s
LOHW **Long Hollow** 88.81 328 eP P 19 19 56.9 +1.4
comp=Z,25nm,1.6s
LOHW **Long Hollow** 88.81 328 eP P 19 19 56.9 +1.4
comp=Z,25nm,1.6s
N23A **Red Feather La** 88.86 323 P P 19 19 56.3 +0.4
baz=39
Y36A **Durant** 88.91 313 P P 19 19 56.3 +0.4
baz=44
X35A **Drake** 88.96 314 P P 19 19 56.4 +0.3
baz=44
FXWY **Fox Creek** 88.97 328 eP P 19 19 57.5 +1.2
comp=Z,8.0nm,1.0s
FXWY **Fox Creek** 88.97 328 eP P 19 19 57.5 +1.2
comp=Z,8.0nm,1.0s
C06D **Leavenworth** 89.04 336 P P 19 19 56.3 +0.1
baz=29
BW06 **Boulder Array** 89.04 327 P P 19 19 56.5 -0.1
baz=36,SNR=7.7
BW06 **Boulder Array** 89.04 327 eP P 19 19 56.8 +0.1
comp=Z,6.0nm,0.8s
BW06 **Boulder Array** 89.04 327 eP P 19 19 56.8 +0.1
comp=Z,6.0nm,0.8s
PD31 **Pinedale Array** 89.04 327 eP P 19 19 56.7 +0.1
PD31 **Pinedale Array** 89.04 327 eP P 19 19 56.7 +0.1
PDAR **Pinedale Array** 89.04 327 P P 19 19 56.5 -0.1
comp=Z,1.9nm,0.6s,baz=46,slow=4.3,SNR=20
PDAR **Pinedale Array** 89.04 327 eP P 19 19 56.4 -0.2
PDAR **Pinedale Array** 89.04 327 eP P 19 19 56.4 -0.2
TPAW **Teton Pass** 89.06 328 eP P 19 19 58.0 +1.2
comp=Z,8.4nm,0.7s
TPAW **Teton Pass** 89.06 328 eP P 19 19 58.0 +1.2
comp=Z,8.4nm,0.7s
138A **Matatall Enter** 89.08 311 P P 19 19 57.2 +0.6
baz=45
REDW **Red Top Meadow** 89.12 328 eP P 19 19 58.3 +1.3
comp=Z,39nm,1.8s
REDW **Red Top Meadow** 89.12 328 eP P 19 19 58.3 +1.3
comp=Z,39nm,1.8s
Y35A **Marietta** 89.35 313 P P 19 19 58.6 +0.6
baz=44
Z36A **Blue Ridge** 89.45 313 P P 19 19 59.3 +0.9
baz=44
137A **Heron Place, G** 89.52 312 P P 19 19 59.3 +0.5
baz=45
ISCO **Idaho Springs** 89.55 322 P P 19 19 58.9 -0.3
baz=39
ISCO **Idaho Springs** 89.55 322 eP P 19 20 00.1 +0.9
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO **Idaho Springs** 89.55 322 eP P 19 20 00.1 +0.9
comp=Z,7.2nm,1.1s
ISCO **Idaho Springs** 89.55 322 eP P 19 20 00.1 +0.9
comp=Z,7.2nm,1.1s
WMOK **Wichita Mounta** 89.75 315 P P 19 20 00.5 +0.7
baz=43
WMOK **Wichita Mounta** 89.75 315 eP P 19 20 01.2 +1.4
WMOK pmax pmax
comp=Z,12nm,1.1s
WMOK **Wichita Mounta** 89.75 315 eP P 19 20 01.2 +1.4
comp=Z,12nm,1.1s
WMOK **Wichita Mounta** 89.75 315 eP P 19 20 01.2 +1.4
comp=Z,12nm,1.1s
HAWA **Hanford** 89.92 335 eP P 19 20 01.8 +1.4
comp=Z,11nm,0.9s
HAWA **Hanford** 89.92 335 eP P 19 20 01.8 +1.4
comp=Z,11nm,0.9s

338A	Crockett	90.13 311	P	P	19 20 02.2 +0.6
	baz=45				
439A	Center Grove,	90.19 310	P	P	19 20 02.5 +0.6
	baz=45				
HLID	Hailey	90.43 330	P	P	19 20 02.7 -0.3
	baz=33				
BMO	Blue Mountains	90.45 332	eP	P	19 20 03.1 +0.1
BMO			pmax	pmax	
	comp=Z,7.0nm,0.9s				
BMO	Blue Mountains	90.45 332	eP	P	19 20 03.1 +0.1
	comp=Z,7.3nm,0.9s				
BMO	Blue Mountains	90.45 332	eP	P	19 20 03.1 +0.1
	comp=Z,7.3nm,0.9s				
O20A	White River Ci	90.54 324	P	P	19 20 03.1 -0.5
	baz=37,SNR=5.3				
O20A	White River Ci	90.54 324	eP	P	19 20 04.3 +0.6
	comp=Z,35nm,1.4s				
O20A	White River Ci	90.54 324	eP	P	19 20 04.3 +0.6
	comp=Z,35nm,1.4s				
HWUT	Hardware Ranch	90.85 327	eP	P	19 20 05.4 +0.3
	comp=Z,54nm,1.5s				
HWUT	Hardware Ranch	90.85 327	eP	P	19 20 05.4 +0.3
	comp=Z,54nm,1.5s				
WHTX	Lake Whitney,	90.96 312	P	P	19 20 06.3 +0.8
	baz=44				
T25A	Trinidad	90.99 320	P	P	19 20 06.5 +0.6
	baz=40				
SDCO	Great Sand Dun	91.08 321	P	P	19 20 06.5 +0.1
	baz=39				
SDCO	Great Sand Dun	91.08 321	eP	P	19 20 06.8 +0.5
	comp=Z,9.2nm,1.3s				
SDCO	Great Sand Dun	91.08 321	eP	P	19 20 06.8 +0.5
	comp=Z,9.2nm,1.3s				
MFID	Camas Ranch	91.11 331	eP	P	19 20 07.2 +1.1
	comp=Z,20nm,1.3s				
MFID	Camas Ranch	91.11 331	eP	P	19 20 07.2 +1.1
	comp=Z,20nm,1.3s				
MHTCO	State Highway	91.14 320	eP	P	19 20 07.7 +1.2
	comp=Z,33nm,1.5s				
MHTCO	State Highway	91.14 320	eP	P	19 20 07.7 +1.2
	comp=Z,33nm,1.5s				
HVU	Hansel Valley	91.23 328	eP	P	19 20 07.8 +1.0
HVU			pmax	pmax	
	comp=Z,8.0nm,0.9s				
HVU	Hansel Valley	91.23 328	eP	P	19 20 07.8 +1.0
	comp=Z,8.4nm,0.9s				
HVU	Hansel Valley	91.23 328	eP	P	19 20 07.8 +1.0
	comp=Z,8.4nm,0.9s				
JLU	Jordanelle	91.62 326	eP	P	19 20 09.8 +1.1
	comp=Z,34nm,1.4s				
JLU	Jordanelle	91.62 326	eP	P	19 20 09.8 +1.1
	comp=Z,34nm,1.4s				
S22A	4UR Ranch, Cre	91.74 322	P	P	19 20 09.5 +0.1
	baz=38				
S22A	4UR Ranch, Cre	91.74 322	eP	P	19 20 10.3 +0.9
	comp=Z,9.0nm,1.3s				
S22A	4UR Ranch, Cre	91.74 322	eP	P	19 20 10.3 +0.9
	comp=Z,9.0nm,1.3s				
ABTX	Abilene, Hawle	91.78 314	P	P	19 20 09.9 +0.6
	baz=43				
ABTX	Abilene, Hawle	91.78 314	eP	P	19 20 10.5 +1.2
	comp=Z,10nm,0.9s				
ABTX	Abilene, Hawle	91.78 314	eP	P	19 20 10.5 +1.2
	comp=Z,10nm,0.9s				
435B	Jarrell	91.91 312	P	P	19 20 10.0 +0.1
	baz=44				
BGU	Big Grassy Mou	92.04 328	eP	P	19 20 11.7 +1.1
	comp=Z,12nm,1.1s				
BGU	Big Grassy Mou	92.04 328	eP	P	19 20 11.7 +1.1
	comp=Z,12nm,1.1s				
ROSC	El Rosal	92.17 278	LR	LR	19 59 21.9
	comp=Z,59nm,19.8s,baz=58,slow=34				
PV09	Paradox Valley	92.26 324	eP	P	19 20 12.8 +1.0
PV09	Paradox Valley	92.26 324	eP	P	19 20 12.8 +1.0
PV01	Paradox Valley	92.28 323	eP	P	19 20 12.6 +0.8
PV01	Paradox Valley	92.28 323	eP	P	19 20 12.7 +0.8
DUG	Dugway, Tooele	92.55 327	P	P	19 20 13.0 +0.1
	baz=34				
DUG	Dugway, Tooele	92.55 327	eP	P	19 20 14.2 +1.3
DUG			pmax	pmax	
	comp=Z,5.0nm,0.8s				
DUG	Dugway, Tooele	92.55 327	eP	P	19 20 14.2 +1.3
	comp=Z,5.2nm,0.8s				
DUG	Dugway, Tooele	92.55 327	eP	P	19 20 14.2 +1.3
	comp=Z,5.2nm,0.8s				
PV05	Paradox Valley	92.58 323	eP	P	19 20 13.8 +0.6
PV05	Paradox Valley	92.58 323	eP	P	19 20 13.8 +0.6
MVCO	Mesa Verde	92.98 323	P	P	19 20 14.9 -0.2
	baz=37				
WVOR	Wild Horse Val	93.02 332	eP	P	19 20 16.2 +1.2
WVOR			pmax	pmax	
	comp=Z,12nm,1.4s				
WVOR	Wild Horse Val	93.02 332	eP	P	19 20 16.2 +1.2
	comp=Z,12nm,1.4s				
WVOR	Wild Horse Val	93.02 332	eP	P	19 20 16.2 +1.2
	comp=Z,12nm,1.4s				
J05D	Fort Rock, OR	93.22 334	P	P	19 20 16.1 +0.2
	baz=28				
I03D	Drain, OR	93.57 336	P	P	19 20 17.7 +0.4
	baz=27				
733A	Divot King Ran	94.42 311	P	P	19 20 21.5 0.0
	baz=43				
M04C	Macdoel	94.75 334	P	P	19 20 23.4 +0.4
	baz=28				
R11A	Troy Canyon, C	95.28 328	P	P	19 20 26.4 +0.9
	baz=33				
M02C	Callahan	95.45 334	P	P	19 20 25.6 -0.5
	baz=27				
MNTX	Cornudas Mount	95.68 317	P	P	19 20 27.5 +0.3
	baz=39				
MNTX	Cornudas Mount	95.68 317	eP	P	19 20 27.6 +0.3
	comp=Z,5.4nm,1.3s				
MNTX	Cornudas Mount	95.68 317	eP	P	19 20 27.6 +0.3
	comp=Z,5.4nm,1.3s				
WUAZ	Wupatki	95.72 323	P	P	19 20 27.8 +0.2
	baz=36				
BEKR	Beckworth	95.89 332	eP	P	19 20 29.1 +0.8
	comp=Z,4.7nm,0.7s				
BEKR	Beckworth	95.89 332	eP	P	19 20 29.1 +0.8
	comp=Z,4.7nm,0.7s				
LTX	Lajitas	96.53 314	eP	P	19 20 31.5 +0.3
LTX	Lajitas	96.53 314	eP	P	19 20 31.5 +0.3
LTX	Lajitas	96.53 314	eP	P	19 20 31.5 +0.3
TX31	Lajitas Ar. Si	96.53 314	eP	P	19 20 32.4 +1.2
TX31	Lajitas Ar. Si	96.53 314	eP	P	19 20 32.4 +1.2
TXAR	Lajitas Array	96.53 314	P	P	19 20 31.5 +0.3
	comp=Z,0.4nm,0.7s,baz=53,slow=4.8,SNR=6.5				
X16A	Lo Mia Camp, P	96.64 323	eP	P	19 20 33.2 +1.4
	comp=Z,3.3nm,0.9s				
X16A	Lo Mia Camp, P	96.64 323	eP	P	19 20 33.2 +1.4
	comp=Z,3.3nm,0.9s				
MLAC	Mammoth, Mammo	97.23 330	eP	Pdif	19 20 34.7 +0.1
MLAC	Mammoth, Mammo	97.23 330	eP	Pdif	19 20 34.7 +0.1
BGH	Bear Gulch	98.85 332	eP	Pdif	19 20 41.7 +0.3
BGH	Bear Gulch	98.85 332	eP	Pdif	19 20 41.7 +0.3
LPAZ	La Paz	99.80 257	LR	LR	20 06 26.3
	comp=Z,98nm,21.1s,baz=70,slow=36				
WR1	Warramunga Arr	119.28 94	ePKIKP	PKPdf	19 25 49.9 -1.0
WR1	Warramunga Arr	119.28 94	ePKPdf	PKPdf	19 25 49.9 -1.0
WRA	Warramunga Arr	119.28 94	PKP	PKPdf	19 25 49.9 -1.0
	comp=Z,0.5nm,0.6s,baz=326,slow=1.7,SNR=6.4				
AS31	Alice Springs	120.85 98	ePKIKP	PKPdf	19 25 52.2 -1.7
AS31	Alice Springs	120.85 98	ePKPdf	PKPdf	19 25 52.2 -1.7
ASAR	Alice Springs	120.85 98	PKP	PKPdf	19 25 52.2 -1.6
	comp=Z,0.8nm,0.7s,baz=317,slow=1.7,SNR=19				
DZM	Mont Dzumac	145.80 74	ePKIKP	PKPbc	19 26 40.8 -0.1
DZM	Mont Dzumac	145.80 74	ePKPdf	PKPbc	19 26 40.8 -0.1

*IDC **10** 19:15:43.9±0.7, 37°.14N×22°.12E, h0km, mb3.8/15, mb1 3.9/23, mb1mx3.7/57, mbtmp3.8/23, ML3.3/7, Error ellipse: s-maj=16.6km s-min=12.3km az=171.0*
*ISCJB **10** 19:15:44.9±0.4, 37°.13N±0°.02×21°.99E±0°.02, h8km±2km, mb3.8/15, Error ellipse: s-maj=3.1km s-min=2.6km az=34.6*
*THE **10** 19:15:45.9, 37°.19N×22°.03E, h0km, ML3.8/29, Error ellipse: s-maj=1.0km s-min=0.4km az=229.0*
*CSEM **10** 19:15:45.6±0.1, 37°.17N×22°.03E, h2km, ML3.8, Error ellipse: s-maj=3.6km s-min=2.9km az=50.0*
*ATH **10** 19:15:45.6, 37°.20N×22°.03E, h11km±1km, ML3.6/8, Error ellipse: s-maj=1.8km s-min=0.7km az=267.0*
*NEIC **10** 19:15:46.0±0.5, 37°.21N×22°.06E, h10km, mb4.2/1, Error ellipse: s-maj=10.3km s-min=7.2km az=168.0*
ISC 10 19:15:45.4±0.8, **37°.18N**±0°.02×**22°.03E**±0°.01, **h8**km±5km,

n209, σ1932/291, mb3.8/15, 10C-7D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.09**	**269**	P	**Pg**	**19 15 47.6**	**0.0**
ITM				S	**Sg**	**19 15 49.2**	**+0.1**
ITM	**Ithomi**	**0.09**	**269**	P	**Pg**	**19 15 46.8**	**-0.8**
ITM				S	**Sg**	**19 15 48.9**	**-0.2**
ITM				AML	AML	19 15 50.4	
ITM				AML	AML	19 15 50.4	
ITM	**Ithomi**	**0.09**	**269**	P	**Pg**	**19 15 47.6**	**0.0**
ITM				S	**Sg**	**19 15 48.9**	**-0.2**
VLX	**Vlachokerasia**	**0.33**	**55**	P	**Pg**	**19 15 52.2**	**+0.1**
VLX				S	**Sg**	**19 15 57.3**	**+0.8**
VLX	**Vlachokerasia**	**0.33**	**55**	P	**Pg**	**19 15 52.7**	**+0.7**
VLX	**Vlachokerasia**	**0.33**	**55**	P	**Pg**	**19 15 52.2**	**+0.1**
VLX				S	**Sg**	**19 15 57.3**	**+0.8**
PYL	**PYLOS**	**0.37**	**219**	P	**Pg**	**19 15 52.8**	**+0.2**
PYL				S	**Sg**	**19 15 58.2**	**+0.7**
PYL	**PYLOS**	**0.37**	**219**	P	**Pg**	**19 15 52.3**	**-0.4**
PYL				S	**Sb**	**19 15 59.6**	**-0.6**
PYL				AML	AML	19 16 00.3	
	comp=N,31022μm,0.6s						
PYL				AML	AML	19 16 02.7	
	comp=E,27069μm,0.5s						
PYL	**PYLOS**	**0.37**	**219**	P	**Pg**	**19 15 52.8**	**+0.2**
PYL				S	**Sg**	**19 15 58.2**	**+0.7**
TRIP	**Tripoli**	**0.39**	**29**	P	**Pg**	**19 15 53.6**	**+0.4**
TRIP				S	**Sg**	**19 15 59.5**	**+1.1**
TRIP				AML	AML	19 16 02.1	
	comp=E,17727μm,0.7s						
TRIP				AML	AML	19 16 02.7	
	comp=N,30286μm,0.7s						
TRIP	**Tripoli**	**0.39**	**29**	P	**Pg**	**19 15 53.4**	**+0.2**
TRIP				S	**Sg**	**19 15 59.1**	**+0.7**
AMT	**Artemida-Makis**	**0.44**	**324**	P	**Pg**	**19 15 54.2**	**+0.3**
AMT				S	**Sg**	**19 16 00.4**	**+0.7**
AMT	**Artemida-Makis**	**0.44**	**324**	P	**Pg**	**19 15 54.6**	**+0.6**
AMT				S	**Sg**	**19 15 59.9**	**+0.2**
AMT				AML	AML	19 16 03.5	
	comp=E,99804μm,0.5s						
AMT				AML	AML	19 16 05.9	
	comp=N,51169μm,0.5s						
AMT	**Artemida-Makis**	**0.44**	**324**	P	**Pg**	**19 15 54.0**	**+0.1**
AMT				S	**Sg**	**19 15 59.9**	**+0.2**
GUR	**Goura**	**0.79**	**18**	P	**Pg**	**19 16 00.1**	**-0.6**
GUR				S	**Sb**	**19 16 12.7**	**+0.2**
GUR	**Goura**	**0.79**	**18**	P	**Pg**	**19 15 59.9**	**-0.8**
GUR	**Goura**	**0.79**	**18**	P	**Pg**	**19 16 00.1**	**-0.6**
GUR				S	**Sb**	**19 16 12.7**	**+0.2**
DRO	**Drossia**	**0.81**	**342**	P	**Pg**	**19 16 01.2**	**+0.1**
DRO				S	**Sb**	**19 16 13.2**	**+0.2**
DRO	**Drossia**	**0.81**	**342**	P	**Pb**	**19 16 02.4**	**+0.5**
DRO	**Drossia**	**0.81**	**342**	P	**Pg**	**19 16 01.2**	**+0.1**
DRO				S	**Sb**	**19 16 13.2**	**+0.2**
VLI	**Veliai**	**0.86**	**122**	P	**Pg**	**19 16 02.3**	**+0.4**
VLI				S	**Sb**	**19 16 15.8**	**+1.6**
VLI	**Veliai**	**0.86**	**122**	P	**Pg**	**19 16 02.6**	**+0.7**
VLI	**Veliai**	**0.86**	**122**	P	**Pg**	**19 16 02.1**	**+0.2**
KLV	**Kalavryta, Ach**	**0.87**	**6**	P	**Pg**	**19 16 01.6**	**-0.5**
KLV				S	**Sb**	**19 16 15.4**	**+0.8**
KLV	**Kalavryta, Ach**	**0.87**	**6**	P	**Pg**	**19 16 01.8**	**-0.3**
KLV				S	**Sg**	**19 16 11.8**	**-1.6**
KLV				AML	AML	19 16 18.2	
	comp=E,6668μm,0.6s						
KLV				AML	AML	19 16 20.2	
	comp=N,4184μm,0.9s						
KLV	**Kalavryta, Ach**	**0.87**	**6**	P	**Pg**	**19 16 01.8**	**-0.3**
KLV				S	**Sb**	**19 16 15.4**	**+0.8**
KRND	**KRANIDI**	**0.91**	**77**	P	**Pg**	**19 16 03.2**	**+0.2**
KRND				S	**Sb**	**19 16 16.8**	**+1.0**
KRND	**KRANIDI**	**0.91**	**77**	P	**Pg**	**19 16 03.5**	**+0.5**
KRND				S	**Sg**	**19 16 15.8**	**+1.0**
KRND				AML	AML	19 16 19.6	
	comp=E,6297μm,0.5s						
KRND				AML	AML	19 16 22.8	
	comp=N,5862μm,0.3s						
KRND	**KRANIDI**	**0.91**	**77**	P	**Pg**	**19 16 03.2**	**+0.2**
KRND				S	**Sg**	**19 16 15.8**	**+1.0**
RLS	**Riolos of Patr**	**0.98**	**333**	P	**Pg**	**19 16 04.1**	**-0.2**
RLS				S	**Sb**	**19 16 18.7**	**+0.8**
RLS	**Riolos of Patr**	**0.98**	**333**	P	**Pg**	**19 16 04.5**	**+0.1**
RLS				S	**Sg**	**19 16 17.2**	**+0.1**
RLS				AML	AML	19 16 22.6	
	comp=N,7602μm,0.4s						
RLS				AML	AML	19 16 23.3	
	comp=E,4436μm,0.4s						
RLS	**Riolos of Patr**	**0.98**	**333**	P	**Pg**	**19 16 04.5**	**+0.1**
RLS				S	**Sg**	**19 16 17.2**	**+0.1**
THAL	**Thalero**	**0.99**	**30**	P	**Pg**	**19 16 03.9**	**-0.6**
THAL				S	**Sb**	**19 16 18.4**	**+0.3**
THAL	**Thalero**	**0.99**	**30**	P	**Pg**	**19 16 04.3**	**-0.1**
THAL	**Thalero**	**0.99**	**30**	P	**Pg**	**19 16 04.3**	**-0.1**
THAL				S	**Sb**	**19 16 18.4**	**+0.3**
VTN	**Vitineika**	**1.00**	**318**	P	**Pg**	**19 16 04.3**	**-0.3**
VTN	**Vitineika**	**1.00**	**318**	P	**Pg**	**19 16 04.3**	**-0.3**
DID	**Didima**	**1.01**	**71**	P	**Pg**	**19 16 04.7**	**-0.2**
DID				S	**Sb**	**19 16 20.1**	**+1.4**
DID	**Didima**	**1.01**	**71**	P	**Pg**	**19 16 04.6**	**-0.2**
DID	**Didima**	**1.01**	**71**	P	**Pg**	**19 16 04.7**	**-0.2**
DID				S	**Sb**	**19 16 20.1**	**+1.4**
LAKA	**Lakka**	**1.06**	**358**	P	**Pg**	**19 16 05.2**	**-0.6**
LAKA				S	**Sb**	**19 16 21.4**	**+1.3**
LAKA	**Lakka**	**1.06**	**358**	P	**Pg**	**19 16 05.6**	**-0.1**
LAKA				S	**Sb**	**19 16 20.9**	**+0.8**
LAKA				AML	AML	19 16 25.1	
	comp=N,3073μm,0.3s						
LAKA				AML	AML	19 16 27.9	
	comp=E,2864μm,0.9s						
LAKA	**Lakka**	**1.06**	**358**	P	**Pg**	**19 16 05.6**	**-0.1**
LAKA				S	**Sb**	**19 16 20.9**	**+0.8**
LOUT	**Loutraki**	**1.10**	**43**	P	**Pg**	**19 16 06.5**	**0.0**
LOUT				S	**Sn**	**19 16 23.1**	**+0.6**
LOUT	**Loutraki**	**1.10**	**43**	P	**Pb**	**19 16 07.6**	**+0.9**
LOUT	**Loutraki**	**1.10**	**43**	P	**Pg**	**19 16 06.5**	**0.0**
LOUT				S	**Sn**	**19 16 23.1**	**+0.6**
UPR	**University Cam**	**1.12**	**350**	P	**Pg**	**19 16 07.2**	**+0.3**
UPR				S	**Sb**	**19 16 23.0**	**+1.2**
UPR	**University Cam**	**1.12**	**350**	P	**Pn**	**19 16 08.1**	**+0.7**
UPR	**University Cam**	**1.12**	**350**	P	**Pg**	**19 16 07.2**	**+0.3**
UPR				S	**Sb**	**19 16 23.0**	**+1.2**
LTK	**Loutraki**	**1.12**	**41**	P	**Pg**	**19 16 06.3**	**-0.6**
LTK	**Loutraki**	**1.12**	**41**	P	**Pg**	**19 16 06.3**	**-0.6**
LTK	**Loutraki**	**1.12**	**41**	P	**Pg**	**19 16 06.3**	**-0.6**
AXS	**Araxos**	**1.14**	**333**	P	**Pg**	**19 16 06.7**	**-0.6**
AXS				S	**Sn**	**19 16 24.2**	**+0.7**
AXS	**Araxos**	**1.14**	**333**	P	**Pg**	**19 16 06.6**	**-0.8**
AXS	**Araxos**	**1.14**	**333**	P	**Pg**	**19 16 06.7**	**-0.6**
AXS				S	**Sn**	**19 16 24.2**	**+0.7**
TRIZ	**Trizonia**	**1.18**	**1**	P	**Pg**	**19 16 07.1**	**-1.1**
TRIZ	**Trizonia**	**1.18**	**1**	P	**Pg**	**19 16 07.1**	**-1.1**
KALE	**Kalithea**	**1.21**	**4**	P	**Pg**	**19 16 07.6**	**-1.1**
KALE				S	**Sn**	**19 16 26.4**	**+1.0**
KALE	**Kalithea**	**1.21**	**4**	P	**Pg**	**19 16 07.8**	**-0.9**
KALE	**Kalithea**	**1.21**	**4**	P	**Pg**	**19 16 07.8**	**-0.9**
KALE				S	**Sn**	**19 16 26.4**	**+1.0**
KYTH	**Kithira**	**1.22**	**138**	P	**Pb**	**19 16 09.4**	**+0.6**
KYTH				S	**Sn**	**19 16 26.8**	**+1.2**
KYTH	**Kithira**	**1.22**	**138**	P	**Pn**	**19 16 09.8**	**+0.9**
SERG	**Sergoula**	**1.23**	**1**	P	**Pg**	**19 16 08.0**	**-1.1**
SERG				S	**Sn**	**19 16 26.5**	**+0.7**
SERG	**Sergoula**	**1.23**	**1**	P	**Pg**	**19 16 07.4**	**-1.6**
SERG	**Sergoula**	**1.23**	**1**	P	**Pg**	**19 16 08.0**	**-1.1**
SERG				S	**Sn**	**19 16 26.5**	**+0.7**
EFP	**Efpalio**	**1.25**	**355**	P	**Pg**	**19 16 08.6**	**-0.8**
EFP				S	**Sn**	**19 16 26.9**	**+0.7**
EFP	**Efpalio**	**1.25**	**355**	P	**Pg**	**19 16 09.2**	**-0.2**
EFP	**Efpalio**	**1.25**	**355**	P	**Pg**	**19 16 09.2**	**-0.2**
EFP				S	**Sn**	**19 16 26.9**	**+0.7**
PROD	**Prodromos**	**1.28**	**32**	P	**Pg**	**19 16 09.4**	**-0.5**
PROD	**Prodromos**	**1.28**	**32**	P	**Pg**	**19 16 09.4**	**-0.5**
DSF	**Desfina**	**1.29**	**17**	P	**Pg**	**19 16 09.6**	**-0.6**
DSF				S	**Sn**	**19 16 28.6**	**+1.3**
DSF	**Desfina**	**1.29**	**17**	P	**Pg**	**19 16 09.9**	**-0.3**
DSF	**Desfina**	**1.29**	**17**	P	**Pg**	**19 16 09.9**	**-0.3**
DSF				S	**Sn**	**19 16 28.6**	**+1.3**
KFL	**Anninata**	**1.36**	**314**	P	**Pn**	**19 16 11.1**	**+0.4**
KFL				S	**Sn**	**19 16 31.1**	**+2.2**
KFL	**Anninata**	**1.36**	**314**	P	**Pn**	**19 16 11.1**	**+0.4**
KFL				S	**Sn**	**19 16 31.1**	**+2.2**
VILL	**Villia**	**1.41**	**46**	P	**Pn**	**19 16 12.2**	**+0.7**
VILL				S	**Sn**	**19 16 32.4**	**+2.1**
VILL	**Villia**	**1.41**	**46**	P	**Pn**	**19 16 12.2**	**+0.7**
VILL				S	**Sn**	**19 16 32.4**	**+2.1**
ANX	**Ano Chora**	**1.41**	**356**	P	**Pn**	**19 16 11.4**	**-0.2**
ANX				S	**Sn**	**19 16 32.4**	**+2.0**
ANX	**Ano Chora**	**1.41**	**356**	P	**Pn**	**19 16 11.4**	**-0.2**
ANX				S	**Sn**	**19 16 32.4**	**+2.0**
VIL2	**Platees**	**1.42**	**43**	P	**Pb**	**19 16 13.0**	**+0.8**
PVO	**Paravola**	**1.49**	**344**	P	**Pg**	**19 16 14.1**	**+0.1**
PVO	**Paravola**	**1.49**	**344**	P	**Pg**	**19 16 14.9**	**+0.9**
PVO	**Paravola**	**1.49**	**344**	P	**Pg**	**19 16 14.1**	**+0.1**
VLS	**Valsamata**	**1.52**	**311**	P	**Pn**	**19 16 13.5**	**+0.6**
VLS				S	**Sg**	**19 16 35.2**	**+1.0**
VLS	**Valsamata**	**1.52**	**311**	P	**Pn**	**19 16 13.2**	**+0.3**
VLS	**Valsamata**	**1.52**	**311**	P	**Pn**	**19 16 13.5**	**+0.6**
VLS				S	**Sg**	**19 16 35.2**	**+1.0**
VLY	**Voula,Athens**	**1.55**	**64**	P	**Pn**	**19 16 14.0**	**+0.6**
VLY				S	**Sg**	**19 16 36.5**	**+1.2**
VLY	**Voula,Athens**	**1.55**	**64**	P	**Pn**	**19 16 13.3**	**0.0**
VLY	**Voula,Athens**	**1.55**	**64**	P	**Pn**	**19 16 14.0**	**+0.6**
VLY				S	**Sg**	**19 16 36.5**	**+1.2**
ATH	**Athens Observa**	**1.55**	**59**	P	**Pn**	**19 16 14.2**	**+0.8**
ATH				S	**Sg**	**19 16 36.2**	**+0.8**
ATH	**Athens Observa**	**1.55**	**59**	P	**Pn**	**19 16 13.3**	**0.0**
ATH	**Athens Observa**	**1.55**	**59**	P	**Pn**	**19 16 14.2**	**+0.8**
ATH				S	**Sg**	**19 16 36.2**	**+0.8**
ATHU	**Athens Univers**	**1.60**	**60**	P	**Pn**	**19 16 14.5**	**+0.5**
ATHU				S	**Sg**	**19 16 36.9**	**+0.1**
ATHU	**Athens Univers**	**1.60**	**60**	P	**Pn**	**19 16 13.9**	**-0.1**
ATHU	**Athens Univers**	**1.60**	**60**	P	**Pn**	**19 16 14.5**	**+0.5**
ATHU				S	**Sg**	**19 16 36.9**	**+0.1**
LKR	**Lokris**	**1.65**	**27**	P	**Pn**	**19 16 15.8**	**+1.0**
LKR	**Lokris**	**1.65**	**27**	P	**Pn**	**19 16 15.0**	**+0.2**
LKR	**Lokris**	**1.65**	**27**	P	**Pn**	**19 16 15.8**	**+1.0**
AXAR	**Agios Charalam**	**1.66**	**17**	P	**Pb**	**19 16 16.3**	**1.0**
AXAR	**Agios Charalam**	**1.66**	**17**	P	**Pb**	**19 16 16.3**	**0.0**
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pn**	**19 16 15.8**	**+0.9**
ANKY				S	**Sg**	**19 16 38.9**	**+0.1**
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pg**	**19 16 19.4**	**+2.1**
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pn**	**19 16 15.8**	**+0.9**
ANKY				S	**Sg**	**19 16 38.9**	**+0.1**
PTL	**Penteli**	**1.69**	**59**	P	**Pn**	**19 16 15.4**	**+0.1**
PTL				S	**Sg**	**19 16 39.8**	**0.0**
PTL	**Penteli**	**1.69**	**59**	P	**Pn**	**19 16 15.5**	**+0.1**
PTL	**Penteli**	**1.69**	**59**	P	**Pn**	**19 16 15.5**	**+0.1**
PTL				S	**Sg**	**19 16 39.8**	**0.0**
EVR	**Evrytania**	**1.74**	**354**	P	**Pb**	**19 16 17.9**	**+0.2**
EVR				S	**Sn**	**19 16 40.0**	**+1.4**
EVR	**Evrytania**	**1.74**	**354**	P	**Pb**	**19 16 18.3**	**+0.5**
EVR	**Evrytania**	**1.74**	**354**	P	**Pb**	**19 16 17.9**	**+0.2**
EVR				S	**Sn**	**19 16 40.0**	**+1.4**
AGG	**Agios Georgios**	**1.85**	**7**	P	**Pn**	**19 16 19.1**	**+1.5**
AGG				S	**Sn**	**19 16 42.9**	**+1.7**
AGG	**Agios Georgios**	**1.85**	**7**	P	**Pn**	**19 16 19.2**	**+1.6**
AGG	**Agios Georgios**	**1.85**	**7**	P	**Pn**	**19 16 19.1**	**+1.5**
AGG				S	**Sn**	**19 16 42.9**	**+1.7**
SMIA	**Simia**	**1.93**	**28**	P	**Pn**	**19 16 20.4**	**+1.8**
SMIA	**Simia**	**1.93**	**28**	P	**Pn**	**19 16 20.4**	**+1.8**
LKD2	**Lefkada island**	**1.94**	**326**	P	**Pg**	**19 16 22.6**	**0.0**
LKD2	**Lefkada island**	**1.94**	**326**	P	**Pb**	**19 16 20.6**	**-0.5**
LKD2	**Lefkada island**	**1.94**	**326**	P	**Pb**	**19 16 20.6**	**-0.5**
EREA	**Eretria**	**1.95**	**50**	P	**Pn**	**19 16 19.7**	**+0.9**
EREA	**Eretria**	**1.95**	**50**	P	**Pn**	**19 16 19.2**	**+0.4**
EREA	**Eretria**	**1.95**	**50**	P	**Pn**	**19 16 19.7**	**+0.9**
MHLO	**Agia Marina, M**	**1.96**	**104**	P	**Pn**	**19 16 19.3**	**+0.3**
MHLO	**Agia Marina, M**	**1.96**	**104**	P	**Pn**	**19 16 19.3**	**+0.3**
DSL	**Palaion Diasel**	**2.08**	**340**	P	**Pg**	**19 16 25.1**	**-0.3**
KARY	**Karystos**	**2.09**	**65**	P	**Pn**	**19 16 21.8**	**+1.0**
KARY	**Karystos**	**2.09**	**65**	P	**Pn**	**19 16 21.8**	**+1.0**
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	**Pb**	**19 16 27.1**	**-0.6**
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	**Pb**	**19 16 27.6**	**0.0**
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	**Pb**	**19 16 27.1**	**-0.6**
THL	**Klokotos Trika**	**2.38**	**360**	P	**Pn**	**19 16 26.5**	**+1.7**
THL	**Klokotos Trika**	**2.38**	**360**	P	**Pn**	**19 16 26.9**	**+2.1**
THL	**Klokotos Trika**	**2.38**	**360**	P	**Pn**	**19 16 26.5**	**+1.7**
VAM	**Vamos**	**2.49**	**135**	P	**Pn**	**19 16 29.1**	**+2.9**
VAM	**Vamos**	**2.49**	**135**	P	**Pn**	**19 16 29.1**	**+2.9**
APE	**Apeiranthos**	**2.80**	**91**	⇑P	**Pn**	**19 16 31.5**	**+1.0**
APE				S	**Sn**	**19 17 04.7**	**+0.2**
APE	**Apeiranthos**	**2.80**	**91**	P	**Pn**	**19 16 30.2**	**-0.4**
APE	**Apeiranthos**	**2.80**	**91**	P	**Pn**	**19 16 30.2**	**-0.4**
APE				S	**Sn**	**19 17 04.7**	**+0.2**
IDI	**Anoyia**	**2.98**	**128**	Pn	**Pn**	**19 16 35.1**	**+1.9**
	comp=E,2.9nm,0.3s,baz=318,slow=19,SNR=5.2						
IDI			

comp=E,2.3nm,0.9s,baz=83,slow=13,SNR=5.9
HFS Hagfors 23.58 350 P **P 19 20 55.7 -0.6**
comp=E,1.1nm,0.3s,baz=161,slow=14,SNR=14
FINES FINESS Array B 24.42 5 P **P 19 21 03.6 -0.6**
comp=E,2.3nm,0.8s,baz=188,slow=7.9,SNR=9.8
NB2 NORSAR Subarra 24.84 347 P **P 19 21 08.2 +0.1**
comp=Z,2.1nm,0.9s,baz=159,slow=9.3
NB2 NORSAR Subarra 24.84 347 P **P 19 21 08.2 +0.1**
comp=Z,2.1nm,0.9s,baz=159,slow=9.1,SNR=3.6
NOA NORSAR Array B 24.84 347 P **P 19 21 07.7 -0.4**
comp=Z,1.4nm,0.8s,baz=163,slow=7.5,SNR=5.4
EKA Eskdalemuir Ar 24.93 325 P **P 19 21 09.1 +0.2**
comp=Z,1.4nm,0.6s,baz=132,slow=9.7,SNR=6.0
GEYT Alibeck 28.51 77 P **P 19 21 41.0 -0.4**
comp=Z,0.6nm,0.5s,baz=294,slow=14,SNR=3.0
AKTO Aktyubinsk 28.84 51 P **P 19 21 44.6 +0.5**
comp=Z,0.6nm,0.2s,baz=316,slow=16,SNR=2.6
TORD Torodi Ar. Bea 30.06 223 P **P 19 21 55.4 +0.2**
comp=Z,0.7nm,0.6s,baz=33,slow=9.2,SNR=8.7
ARCES ARCESS Array B 32.47 2 P **P 19 22 15.9 0.0**
comp=Z,1.2nm,0.6s,baz=186,slow=10,SNR=9.4
BRVK Borovoye 36.80 49 P **P 19 22 52.5 -1.0**
comp=Z,3.0nm,0.7s
BRVK Borovoye 36.80 49 P **P 19 22 52.5 -1.0**
comp=Z,3.0nm,0.7s
DBIC Dimbokro 39.01 226 P **P 19 23 12.2 -0.4**
comp=Z,2.9nm,0.8s,baz=29,slow=13,SNR=2.6
MKAR Makanchi Array 44.81 58 P **P 19 23 58.9 -0.9**
comp=Z,0.6nm,0.5s,baz=270,slow=8.0,SNR=7.9
ZALV Zalesovo Beam 45.47 48 P **P 19 24 03.9 -1.0**
comp=Z,1.2nm,0.4s,baz=270,slow=7.5,SNR=6.1
CMAR Chiang Mai Arr 68.83 82 P **P 19 26 50.3 -0.4**
comp=Z,0.4nm,0.3s,baz=307,slow=6.6,SNR=5.0
KSAR Wonju Array Be 79.01 51 P **P 19 27 49.5 -0.5**
KSAR Wonju Array Be 79.01 51 P **P 19 27 49.5 -0.5**
KSRS Korea Array 79.03 51 P **P 19 27 49.5 -0.6**
comp=Z,0.5nm,0.5s,baz=320,slow=4.5,SNR=3.7
ASAR Alice Springs 120.86 98 PKP **PKPdf 19 34 38.2 -0.5**
comp=Z,0.3nm,0.8s,baz=315,slow=1.8,SNR=3.4

GCMT 10 19:24:40.0±0.3, 1°.14N×85°.36W, h25km±1km, MW5.0/91, Moment Tensor Solution. s30,c33; s91,c114; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.28±.14; $M_{\theta\theta}$1.55±.12; $M_{\phi\phi}$-1.82±.16; $M_{r\theta}$-0.29±.22; $M_{\theta\phi}$3.20±.11; $M_{r\phi}$0.52±.27; **Best double couple:** $M_0$3.66000×10^16 **NP1:**ϕ_s194.00000°,δ84.00000°, λ-174.00000°. **NP2:**ϕ_s104.00000°,δ84.00000°, λ-6.00000°. **Principal axes:** T 3.4820, Plg0.0000°, Azm329.0000°; N 0.3620, Plg82.0000°, Azm236.0000°; P -3.8380, Plg8.0000°, Azm59.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea** 464nm,33.0s	**53.94**	**240**	*e*LR	LR	19 49 57.7	
TAOE	**Nuku Hiva Isla** 410nm,26.5s	**55.48**	**259**	*e*LR	LR	19 50 34.5	
PPT2	**Papeete2** 71nm,23.5s	**65.87**	**250**	*e*S	S	19 44 17.8	+7.5
PPT2	**Papeete2** 291nm,28.8s	**65.87**	**250**	*e*LR	LR	19 55 29.4	
TBI	**Tubuai** 273nm,26.0s	**66.82**	**244**	*e*LR	LR	19 56 03.8	

MEX 10 19:53:19.0±0.5, 16°.53N×99°.36W, h16km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.01**	**301**	*e*P	Pb	19 53 35.1	-3.1
CAIG				*e*S	Sb	19 53 46.6	-4.7
PNIG	**Pinotepa**	**1.19**	**96**	*e*P	Pn	19 53 37.5	-3.5
PNIG				*i* S	Sb	19 53 50.8	-5.5
TLIG	**Tlapa**	**1.28**	**36**	*i* P	Pn	19 53 38.7	-3.6
TLIG				*i* S	Sb	19 53 54.0	-5.0
MEIG	**Mezcala**	**1.41**	**350**	*e*P	Pn	19 53 40.9	-3.3
MEIG				*e*S	Sn	19 53 57.3	-5.2
PLIG	**Platanillo**	**1.86**	**356**	*i* P	Pn	19 53 47.0	-3.3
PLIG				*i* S	Sn	19 54 08.8	-4.8
ARIG	**Puente Sto Nin**	**1.98**	**332**	*i* P	Pn	19 53 48.9	-3.1
ARIG				*i* S	Sn	19 54 11.8	-4.7

MEX 10 20:03:29.6±0.3, 17°.20N×99°.83W, h40km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.33**	**184**	*e*P	Pn	20 03 41.8	+3.6
ACX				*e*S	Sn	20 03 47.8	+3.6
CAIG	**El Cayaco**	**0.44**	**250**	*e*P	Pn	20 03 37.9	-1.7
CAIG				*e*S	Sn	20 03 44.8	-1.8
MEIG	**Mezcala**	**0.75**	**16**	*e*P	Pn	20 03 42.0	-1.9
MEIG				*e*S	Sn	20 03 51.8	-2.4
ARIG	**Puente Sto Nin**	**1.18**	**336**	*e*P	Pn	20 03 48.1	-1.7
ARIG				*e*S	Sn	20 04 02.4	-2.3
PLIG	**Platanillo**	**1.23**	**15**	*e*P	Pn	20 03 48.7	-1.7
PLIG				*i* S	Sn	20 04 03.9	-2.0
TLIG	**Tlapa**	**1.26**	**73**	*e*P	Pn	20 03 49.3	-1.6
TLIG				*i* S	Sn	20 04 04.7	-2.0
ZIIG	**Zihuatanejo**	**1.61**	**285**	*i* P	Pn	20 03 54.2	-1.3
ZIIG				*i* S	Sn	20 04 13.2	-2.0
YAIG	**Yautepec**	**1.81**	**24**	*e*P	Pn	20 03 57.0	-1.4
YAIG				*e*S	Sn	20 04 18.1	-2.1
PNIG	**Pinotepa**	**1.82**	**116**	*e*P	Pn	20 03 56.8	-1.6
PNIG				*i* S	Sn	20 04 18.3	-2.0

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*ISCJB **10** 20:04:55.9±0.6, 0°.76S±0°.06×130°.86E±0°.04, h33km, mb3.7/6, MS3.0/1, Error ellipse: s-maj=8.2km s-min=6.2km az=11.4*
*NEIC **10** 20:04:55.8±0.8, 1°.04S×130°.52E, h10km, mb4.1/3, Error ellipse: s-maj=38.5km s-min=10.3km az=68.0*
*DJA **10** 20:04:56.5±0.4, 1°.S±5°×13°.1E±°, h11km±5km, M4.1/8, MLv4.1/8*
*IDC **10** 20:05:00.8±4.4, 1°.13S×130°.34E, h46km±44km, mb3.3/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.6/5, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/15, Error ellipse: s-maj=94.6km s-min=16.0km az=71.0*
ISC 10 20:04:58.1±0.8, 0°.84S±0°.07×130°.92E±0°.05, h35km, n20, σ1°59/24, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.34**	**94**	P	**Pn**	**20 05 04.7**	**-1.8**
SWI				S	Sn	**20 05 12.3**	**0.0**
FAKI	**Fak Fak**	**2.46**	**147**	P	**Pn**	**20 05 36.7**	**+1.0**
FAKI				S	**Sn**	**20 06 06.4**	**+1.9**
FAKI	**Fak Fak**	**2.46**	**147**	*e*Pn	**Pn**	**20 05 36.0**	**+0.3**
MSAI	**Masohi**	**3.19**	**219**	P	**Pn**	**20 05 45.7**	**0.0**
MSAI				S	**Sn**	**20 06 22.8**	**+0.2**
LBMI	**Labuha**	**3.42**	**273**	P	**Pn**	**20 05 48.3**	**-0.7**
BNDI	**Bandanaira**	**3.80**	**195**	P	**Pn**	**20 05 54.5**	**+0.4**
AAI	**Ambon**	**3.93**	**224**	P	**Pn**	**20 05 55.9**	**0.0**
NLAI	**Namlea**	**4.50**	**238**	P	**Pn**	**20 06 02.8**	**-1.0**
MTN	**Manton Dam**	**11.93**	**179**	*e*Pn	**Pn**	**20 07 43.0**	**-2.8**
MTN				*e*Sn	Sn	20 09 48.0	-10
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=350,slow=11,SNR=21	**19.28**	**170**	P	**P**	**20 09 20.1**	**+0.1**
WRA				S	Sn	20 12 41.6	-15
WR1	**Warramunga Arr** 16nm,1.5s	**19.28**	**170**	*e*P	**P**	**20 09 20.1**	**+0.1**
WR1				*e*Sn	Sn	20 12 41.6	-15
WB2	**Warramunga Arr**	**19.28**	**170**	*e*P	**P**	**20 09 18.7**	**-1.3**
AS31	**Alice Springs** 2.5nm,0.6s	**22.87**	**173**	*e*P	**P**	**20 09 59.8**	**+1.0**
AS31				*e*S	**S**	**20 14 04.7**	**-1.5**
ASAR	**Alice Springs** 4.8nm,0.7s,baz=354,slow=12,SNR=28	**22.88**	**173**	P	**P**	**20 09 58.3**	**-0.4**
ASAR				S	**S**	**20 14 04.7**	**-1.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.8s,baz=116,slow=6.5,SNR=3.3	**36.82**	**303**	P	**P**	**20 12 02.0**	**-1.1**
MJAR	**Matsushiro Arr** comp=Z,28nm,21.6s,baz=5.0,slow=34	**37.80**	**10**	LR	LR	20 26 30.2	
SONA0	**Songino Array** 8.7nm,1.8s	**52.98**	**339**	*e*P	**P**	**20 14 14.9**	**+3.6**
SONM	**Songino Array**	**52.98**	**339**	P	**P**	**20 14 14.9**	**+3.6**

0.1nm,0.5s,baz=127,slow=6.7,SNR=1.6
MK32 Makanchi Array 63.67 325 *e*P **P 20 15 25.2 -0.7**
MKAR Makanchi Array 63.67 325 P **P 20 15 25.2 -0.7**
0.4nm,0.6s,baz=116,slow=7.4,SNR=2.5

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*NIED **10** 20:35:00,20°.50N×122°.10E, h8km, Mw4.1 Best double couple: $M_0$1.49000×10^15 NP1:ϕ_s116.00000°,δ18.00000°, λ-40.00000°. NP2:ϕ_s245.00000°,δ78.00000°, λ-104.00000°.*
*IDC **10** 20:35:24.0±0.9, 19°.99N×122°.32E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/42, mbtmp3.8/9, ML3.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.0/45, Error ellipse: s-maj=29.8km s-min=17.6km az=74.0*
*NEIC **10** 20:35:24.8±1.2, 20°.18N×122°.44E, h10km, mb4.0/2, Error ellipse: s-maj=25.9km s-min=10.7km az=94.0*
NEIC Felt [I PIVS] at Basco.
*ISCJB **10** 20:35:24.3±0.3, 20°.20N±0°.03×122°.33E±0°.06, h10km, mb3.7/9, MS3.7/5, Error ellipse: s-maj=8.6km s-min=2.7km az=22.4*
*JMA **10** 20:35:26.7±0.4, 20°.50N×122°.12E, h1km, M4.3*
*MAN **10** 20:35:27, 20°.01N×122°.14E, h5km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY I - BASCO BATANES.
ISC 10 20:35:25.4±0.7, 20°.14N±0°.05×122°.25E±0°.09, h10km, n49, σ1°95/48, mb3.7/9, MS3.8/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.90**	**186**	*e*P	**Pn**	**20 35 57.9**	**+0.1**
SGCP				*e*S	**Sb**	**20 36 22.2**	**-1.6**
ABRA	**Dolores**	**2.87**	**211**	*e*P	**Pn**	**20 36 12.1**	**+0.8**
ABRA				*e*S	**Sn**	**20 36 45.9**	**0.0**
TWG	**Pinlang**	**2.89**	**338**	*e*Pn	Pn	20 36 09.2	-2.2
SZP	**Santa**	**3.08**	**214**	*e*Pn	**Pn**	**20 36 16.1**	**+1.9**
CAUP	**Cauayan**	**3.20**	**187**	*e*P	**Pn**	**20 36 18.3**	**+2.5**
CAUP				*e*S	**Sb**	**20 37 00.5**	**-1.0**
YULB	**Yu-li**	**3.36**	**345**	*e*Pn	**Pn**	**20 36 16.7**	**-1.2**
TPUB	**Ta-pu**	**3.49**	**335**	*e*Pn	**Pn**	**20 36 20.9**	**+1.2**
SSLB	**Suanglung**	**3.83**	**342**	*e*Pn	**Pn**	**20 36 24.9**	**+0.5**
NACB	**Ninganchiao**	**4.06**	**352**	*e*Pn	Pn	20 36 25.8	-1.8
HATJ	**Hateruma jima**	**4.16**	**20**	P	**Pn**	**20 36 29.8**	**+0.9**
HATJ				S	**Sn**	**20 37 14.5**	**-3.1**
JYNG	**Yonagunijimaku**	**4.34**	**8**	P	**Pn**	**20 36 31.9**	**+0.5**
JYNG				S	**Sn**	**20 37 18.8**	**-3.3**
BOLP	**Bolinao**	**4.35**	**211**	*e*P	**Pn**	**20 36 33.5**	**+2.0**
BOLP				*e*S	**Sb**	**20 37 25.9**	**-8.5**
YOJ	**Yonaguni jima**	**4.36**	**9**	P	**Pn**	**20 36 32.3**	**+0.6**
YOJ				S	Sn	20 37 18.6	-4.0
YOJ	**Yonaguni jima**	**4.36**	**9**	*e*Pn	**Pn**	**20 36 32.1**	**+0.4**
JKRS	**Kuro-shima**	**4.39**	**21**	P	**Pn**	**20 36 32.7**	**+0.6**
JKRS				*e*S	**Sn**	**20 37 20.4**	**-3.0**
IRIF	**Iriomote-Funau**	**4.39**	**18**	P	**Pn**	**20 36 32.4**	**+0.2**
IRIF				*e*S	Sn	20 37 19.6	-3.8
JIJ	**Ishigaki jima**	**4.55**	**22**	P	**Pn**	**20 36 35.6**	**+1.2**
JIJ				S	Sn	20 37 23.1	-4.3
YHNB	**Yeheng**	**4.58**	**350**	*e*Pn	**Pn**	**20 36 34.8**	**0.0**
JISG	**Ishigakijimahi**	**4.82**	**23**	P	**Pn**	**20 36 37.9**	**-0.1**
JISG				S	Sn	20 37 30.5	-3.4
SCZP	**Santa Cruz**	**4.88**	**208**	*e*P	**Pn**	**20 36 40.7**	**+1.9**
SCZP				*e*S	**Sn**	**20 37 36.6**	**+1.3**
JTJ	**Tarama**	**5.02**	**26**	P	**Pn**	**20 36 41.8**	**+1.0**
JTJ				*e*S	**Sn**	**20 37 36.0**	**-2.9**
JIRB	**Irabujima**	**5.39**	**30**	P	**Pn**	**20 36 46.7**	**+0.8**
JIRB				S	**Sn**	**20 37 46.6**	**-1.4**
JMJ	**Miyako jima 2**	**5.44**	**31**	P	**Pn**	**20 36 48.3**	**+1.8**
JOGS	**Gusukube**	**5.45**	**32**	P	**Pn**	**20 36 48.1**	**+1.5**
JOGS				S	**Sn**	**20 37 48.5**	**-0.9**
JIKM	**Ikemajima**	**5.51**	**30**	P	**Pn**	**20 36 48.5**	**+1.0**
JIKM				*e*S	**Sn**	**20 37 49.8**	**-1.1**
JKE	**Kume jima 2**	**7.44**	**33**	P	**Pn**	**20 37 13.8**	**-0.2**
SJMP	**San Jose**	**7.71**	**188**	*e*P	Pn	20 37 23.4	+5.6
JNTH	**Nagotoyohara**	**8.27**	**39**	P	**Pn**	**20 37 25.9**	**+0.5**
JNU	**Nakatsue** 0.2nm,0.3s,baz=169,slow=11,SNR=2.8	**15.05**	**29**	Pn	**Pn**	**20 38 58.1**	**-0.1**
KSRS	**Korea Array** 0.1nm,0.3s,baz=193,slow=12,SNR=8.1	**17.95**	**15**	P	**Pn**	**20 39 36.7**	**+1.7**
KSRS				LR	LR	20 47 00.5	
CHTO	**Chiang Mai** 3.4nm,1.0s	**22.01**	**271**	*e*P	**P**	**20 40 21.5**	**+1.4**
CMAR	**Chiang Mai Arr** 1.2nm,0.9s,baz=75,slow=8.9,SNR=11	**22.06**	**270**	P	**P**	**20 40 21.5**	**+0.9**
SONM	**Songino Array** 0.3nm,0.4s,baz=154,slow=8.0,SNR=2.5	**30.47**	**339**	P	**P**	**20 41 39.4**	**+1.0**
SONM				LR	LR	20 55 15.1	
WRAB	**Tennant Creek** 8.1nm,1.2s	**41.55**	**163**	*e*P	**P**	**20 43 11.7**	**-1.7**
WRA	**Warramunga Arr** 4.8nm,0.8s,baz=343,slow=9.0,SNR=26	**41.56**	**163**	P	**P**	**20 43 11.5**	**-1.9**
H11N1	**WAKE ISLAND Hy** baz=278,slow=75,SNR=66	**41.87**	**83**	T	T	21 28 23.1	
H11S3	**WAKE ISLAND Hy** baz=281,slow=74,SNR=93	**41.88**	**84**	T	T	21 28 24.8	
H11N2	**WAKE ISLAND Hy** baz=278,slow=75,SNR=50	**41.88**	**83**	T	T	21 28 27.6	
H11S1	**WAKE ISLAND Hy** baz=281,slow=74,SNR=126	**41.89**	**84**	T	T	21 28 20.5	
H11N3	**WAKE ISLAND Hy** baz=278,slow=75,SNR=51	**41.89**	**83**	T	T	21 28 24.4	
H11S2	**WAKE ISLAND Hy** baz=281,slow=74,SNR=87	**41.89**	**84**	T	T	21 28 26.2	
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=113,slow=8.3,SNR=8.3	**41.97**	**319**	P	**P**	**20 43 18.1**	**+1.5**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=110,slow=6.6,SNR=2.7	**44.18**	**329**	P	**P**	**20 43 35.2**	**+0.8**
ASAR	**Alice Springs** 1.0nm,0.8s,baz=340,slow=6.6,SNR=14	**45.00**	**165**	P	**P**	**20 43 40.4**	**-0.8**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=274,slow=5.4,SNR=2.8	**72.35**	**27**	P	**P**	**20 46 52.6**	**+1.4**
SPITS	**Spitsbergen Ar** comp=Z,39nm,18.8s,baz=220,slow=39	**73.63**	**348**	LR	LR	21 23 53.5	
BRTR	**Keskin Array B** comp=Z,51nm,21.8s,baz=272,slow=38	**76.38**	**308**	LR	LR	21 24 01.8	
URZ	**Urewera** comp=Z,84nm,20.6s,baz=185,slow=35	**77.60**	**139**	LR	LR	21 20 34.8	
PPT	**Papeete** comp=Z,42nm,19.8s,baz=35,slow=30	**94.25**	**107**	LR	LR	21 21 59.7	

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*IDC **10** 20:38:41.6±1.0, 3°.30N×79°.48W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/26, mbtmp4.0/9, ML3.3/2, MS2.9/3, Ms1 2.9/3, ms1mx2.6/35, Error ellipse: s-maj=35.0km s-min=19.4km az=70.0*
*NEIC **10** 20:38:42.3±7.0, 3°.21N×79°.56W, h11km±43km, mb4.8/2, Error ellipse: s-maj=24.5km s-min=10.6km az=103.0*
*ISCJB **10** 20:38:43.1±0.6, 3°.18N±0°.04×79°.32W±0°.04, h20km, mb3.9/8, MS3.0/1, Error ellipse: s-maj=6.2km s-min=5.5km az=7.3*
*RSNC **10** 20:38:47.1±0.9, 3°.05N×79°.18W, h14km±6km, ML3.5*
ISC 10 20:38:44.7±0.7, 3°.15N±0°.05×79°.30W±0°.07, h20km, n46, σ1°21/44, mb4.0/8, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGC	**Isla de Gorgon**	**1.14**	**97**	*e*P	**Pn**	**20 39 04.6**	**-1.0**
GRGC				*e*S	**Sb**	**20 39 18.4**	**-1.8**
TUMC	**Tumaco**	**1.43**	**156**	*e*P	**Pn**	**20 39 10.0**	**+0.3**
TUMC				*e*S	**Sn**	**20 39 27.0**	**-0.9**
TUMC				*i*		20 39 38.0	
TUMC	**Tumaco** comp=Z,540nm,0.4s	**1.43**	**156**	*e*Pn	**Pb**	**20 39 10.4**	**-0.4**
CMBC	**Cumbal**	**2.64**	**146**	*e*P	**Pn**	**20 39 26.7**	**0.0**
POPC	**Popayan, Colom**	**2.69**	**103**	*e*P	**Pn**	**20 39 26.7**	**-0.4**
POPC				*e*S	**Sn**	**20 39 57.6**	**-1.7**
POPC				*i*		20 40 05.7	
OTAV	**Otavalo** comp=Z,256nm,0.1s	**3.01**	**164**	*e*P	**Pn**	**20 39 31.6**	**-0.2**
OTAV				*e*S	**Sn**	**20 40 06.8**	**-0.7**
OTAV				*i*		20 40 10.6	
OTAV	**Otavalo** comp=Z,97nm,0.3s	**3.01**	**164**	*e*Pn	**Pn**	**20 39 32.1**	**+0.3**
FLOC	**Florencia**	**3.96**	**113**	*e*S	**Sn**	**20 40 29.7**	**-0.7**
FLOC				*i*		20 40 35.1	
TOLC	**Tolima** comp=Z,129nm,0.5s	**4.22**	**70**	*e*P	**Pn**	**20 39 48.6**	**+0.3**
PRAC	**Prado**	**4.44**	**83**	*e*P	**Pn**	**20 39 52.2**	**+1.2**
PRAC	**Prado**	**4.44**	**83**	*e*Pn	**Pn**	**20 39 53.5**	**+2.5**
HELC	**Santa Helena**	**4.83**	**51**	*e*Pn	**Pn**	**20 39 55.7**	**-0.9**
NORC	**Norcasia**	**5.03**	**61**	*e*P	**Pn**	**20 40 00.3**	**+1.1**

ROSC	**El Rosal** comp=Z,6.7nm,0.3s,baz=91,slow=6.5,SNR=7.6	**5.25**	**71**	Pn	**Pn**	**20 40 05.5**	**+3.0**
ROSC				Sn	**Sn**	**20 41 03.8**	**+1.2**
RUSC	**La Rusia** baz=51,slow=20,SNR=1.6	**6.77**	**66**	*e*Pn	**Pn**	**20 40 25.5**	**+2.0**
ATAH	**Atahualpa** comp=Z,1.4nm,0.3s,baz=36,slow=14,SNR=4.9	**10.25**	**175**	Pn	**Pn**	**20 41 13.0**	**+1.8**
NNA	**Nana** comp=Z,36nm,21.6s,baz=3.5,slow=37	**15.23**	**171**	LR	LR	20 48 13.6	
NNA	**Nana** comp=Z,56nm,1.1s	**15.23**	**171**	*e*P	**Pn**	**20 42 18.8**	**-0.1**
PTGA	**Pitinga** comp=Z,36nm,20.1s,baz=312,slow=37	**19.71**	**101**	LR	LR	20 50 50.1	
LPAZ	**La Paz** comp=Z,1.5nm,0.9s,baz=336,slow=11,SNR=5.1	**22.25**	**151**	P	**P**	**20 43 43.0**	**+1.9**
LPAZ	**La Paz** comp=Z,23nm,1.0s	**22.25**	**151**	*e*P	**P**	**20 43 40.0**	**-1.1**
MNMC	**Minye Minye** comp=Z,23nm,1.0s	**24.11**	**157**	*e*P	**P**	**20 44 02.4**	**+2.8**
SIV	**San Ignacio** comp=Z,46nm,20.5s,baz=162,slow=38	**26.20**	**137**	LR	LR	20 55 37.4	
PLCA	**Paso Flores** comp=Z,2.0nm,0.8s,baz=2.3,slow=8.7,SNR=4.2	**44.40**	**170**	P	**P**	**20 46 56.1**	**+2.0**
ULM	**Lac du Bonnet** comp=Z,2.3nm,0.7s,baz=159,slow=9.5,SNR=3.0	**48.99**	**346**	P	**P**	**20 47 28.1**	**-1.8**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.7s,baz=129,slow=8.0,SNR=2.7	**64.75**	**343**	*e*P	**P**	**20 49 20.4**	**-1.0**
YKB5	**Yellowknife Ar**	**64.75**	**343**	*e*P	**P**	**20 49 20.4**	**-1.0**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.6s,baz=262,slow=5.9,SNR=4.6	**76.72**	**50**	P	**P**	**20 50 35.5**	**+0.6**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=117,slow=3.2,SNR=5.3	**77.73**	**336**	P	**P**	**20 50 39.4**	**-0.7**
TOA1	**Torodi Ar. Sit**	**80.53**	**77**	*e*P	**P**	**20 50 56.4**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.6s,baz=282,slow=6.5,SNR=15	**80.53**	**77**	P	**P**	**20 50 56.4**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.4s,baz=124,slow=3.6,SNR=7.5	**141.98**	**235**	PKhKP	PKPpre	20 58 11.1	
WR1	**Warramunga Arr**	**143.18**	**240**	*e*PKPdf	PKPbc	20 58 15.3	0.0
WRA	**Warramunga Arr** comp=Z,1.2nm,0.7s,baz=115,slow=3.2,SNR=8.6	**143.18**	**240**	PKhKP	PKPbc	20 58 15.3	0.0
PYUN	**Piuthan** comp=Z,7.1nm,0.3s	**144.56**	**28**	*e*P	PKPbc	20 58 19.6	+0.1
DANN	**Dangsing**	**144.70**	**26**	*e*P	**PKPdf**	**20 58 20.9**	**-0.4**
KOLN	**Koldanda** comp=Z,5.9nm,0.6s	**145.13**	**27**	*e*P	**PKPbc**	**20 58 21.0**	**-0.4**
GKN	**Gorkha** comp=Z,21nm,0.8s	**145.38**	**26**	*e*P	**PKPbc**	**20 58 21.9**	**-0.2**
KKN	**Kakani** comp=Z,14nm,0.9s	**145.84**	**25**	*e*P	**PKPbc**	**20 58 23.7**	**0.0**
DMN	**Daman** comp=Z,6.4nm,0.5s	**145.93**	**25**	*e*P	**PKPbc**	**20 58 23.9**	**-0.1**
GUN	**Gumba** comp=Z,28nm,0.9s	**145.98**	**24**	*e*P	**PKPab**	**20 58 25.0**	**+0.3**
PKIN	**Phulchoki** comp=Z,6.3nm,0.6s	**146.08**	**25**	*e*P	**PKPdf**	**20 58 23.8**	**+0.1**
JIRN	**Jiri** comp=Z,91nm,0.7s	**146.33**	**24**	*e*P	**PKPbc**	**20 58 25.5**	**+0.2**
RAMN	**Ramite**	**147.13**	**24**	*e*P	**PKPdf**	**20 58 25.2**	**-0.2**
TAPN	**Taplejung**	**147.19**	**22**	*e*P	**PKPbc**	**20 58 27.5**	**-0.2**
ODAN	**Odare**	**147.52**	**23**	*e*P	**PKPbc**	**20 58 28.3**	**-0.3**

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*IDC **10** 20:54:03.0±1.4, 56°.38N×156°.54W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/42, Error ellipse: s-maj=40.8km s-min=20.4km az=10.0*
*ISCJB **10** 20:54:08.4±0.5, 56°.36N±0°.05×155°.97W±0°.05, h65km±5km, mb3.8/10, Error ellipse: s-maj=9.1km s-min=4.0km az=160.1*
*NEIC **10** 20:54:10.2±0.0, 56°.31N×156°.08W, h64km, ML3.4(AEIC), After AEIC.*
ISC 10 20:54:11.1±1.1, 56°.48N±0°.06×155°.93W±0°.05, h56km±10km, n78, σ1°56/88, mb3.7/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.97**	**84**	*e*Pn	**Pn**	**20 54 28.8**	**+0.2**
SII				*e*Sn	**Sn**	**20 54 42.6**	**+1.1**
PLK4	**Peulik 4**	**1.19**	**349**	P	**Pn**	**20 54 32.4**	**+1.0**
PLK3	**Peulik 3**	**1.23**	**351**	P	**Pn**	**20 54 32.9**	**+0.9**
PLK3				S	**Sn**	**20 54 50.6**	**+3.0**
ANPK	**Aniakchak Peak**	**1.27**	**288**	P	**Pn**	**20 54 30.9**	**-1.7**
ANPB	**Aniakchak Plen**	**1.34**	**285**	P	**Pn**	**20 54 31.7**	**-1.8**
ANPB				S	**Sn**	**20 54 48.3**	**-2.0**
ANNW	**Aniakchak Nort**	**1.35**	**292**	P	**Pn**	**20 54 32.7**	**-1.0**
PLK1	**Peulik 1**	**1.38**	**345**	P	**Pn**	**20 54 34.6**	**+0.6**
CHGN	**Chignik**	**1.40**	**264**	*e*Pn	**Pn**	**20 54 31.1**	**-3.0**
CHGN				*e*Sn	**Sn**	**20 54 48.7**	**-2.8**
OHAK	**Old Harbor**	**1.63**	**62**	*e*Pn	**Pn**	**20 54 37.9**	**+0.6**
OHAK				*e*Sn	**Sn**	**20 54 58.6**	**+1.4**
KABR	**Katmai Barrier**	**1.74**	**17**	P	**Pn**	**20 54 40.1**	**+1.1**
KCE	**Katmai Mt Cerb**	**1.82**	**12**	P	**Pn**	**20 54 41.4**	**+1.3**
KAKN	**Katmai Knife C**	**1.89**	**14**	P	**Pn**	**20 54 42.2**	**+1.2**
KVTA	**Katmai Vly 10**	**1.94**	**10**	P	**Pn**	**20 54 42.6**	**+1.0**
KELA	**Mount Kelaz**	**1.97**	**3**	P	**Pn**	**20 54 42.7**	**+0.6**
KAWH	**Katmai**	**2.01**	**17**	P	**Pn**	**20 54 43.4**	**+0.8**
KAHC	**Katmai Hardscr**	**2.24**	**12**	P	**Pn**	**20 54 46.7**	**+1.0**
KDAK	**Kodiak Island** 14nm,0.3s,baz=213,slow=7.3,SNR=174	**2.25**	**53**	Pn	**Pn**	**20 54 46.3**	**+0.6**
KDAK				Sn	**Sn**	**20 55 11.3**	**-0.9**
KDAK	33nm,0.3s,baz=48,slow=21,SNR=16			Lg	Lg	20 55 24.0	
KDAK	20nm,0.3

PDAR	**Pinedale Array**	**32.35**	**95**	P	**P**	**21 00 37.0**	**+2.0**
	0.9nm,0.6s,baz=308,slow=7.3,SNR=5.3						
LTX	**Lajitas**	**45.41**	**104**	*e*P	**P**	**21 02 25.2**	**+1.2**
TXAR	**Lajitas Array**	**45.41**	**104**	P	**P**	**21 02 25.2**	**+1.2**
	0.5nm,0.7s,baz=306,slow=5.3,SNR=7.4						
SONA0	**Songino Array**	**55.61**	**306**	*e*P	**P**	**21 03 39.5**	**-1.4**
	9.0nm,1.7s						
SONM	**Songino Array**	**55.61**	**306**	P	**P**	**21 03 39.5**	**-1.4**
	0.4nm,0.5s,baz=46,slow=7.1,SNR=3.2						
FIA0	**FINESS Array S**	**62.41**	**359**	*e*P	**P**	**21 04 26.4**	**-1.1**
FINES	**FINESS Array B**	**62.41**	**359**	P	**P**	**21 04 26.4**	**-1.1**
	2.6nm,0.9s,baz=12,slow=7.1,SNR=3.4						
AKASG	**Malin Array Be**	**73.11**	**357**	P	**P**	**21 05 34.2**	**-0.6**
	1.4nm,0.5s,baz=7.3,slow=6.2,SNR=4.1						
ESDC	**Sonseca Array**	**81.31**	**22**	P	**P**	**21 06 22.3**	**+1.2**
	0.5nm,0.6s,baz=339,slow=6.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**82.86**	**293**	P	**P**	**21 06 27.9**	**-1.6**
	0.3nm,0.4s,baz=20,slow=5.4,SNR=4.1						
BR101	**Keskin Array S**	**83.82**	**353**	*e*P	**P**	**21 06 34.6**	**+0.3**
BRTR	**Keskin Array B**	**83.82**	**353**	P	**P**	**21 06 34.6**	**+0.3**
	1.1nm,0.8s,baz=350,slow=7.3,SNR=3.4						

IDC 10 20:58:43.6±1.5, 36°.30S×98°.62W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/23, mbtmp3.9/4, MS3.7/8, Ms1 3.7/8, ms1mx3.6/16, Error ellipse: s-maj=41.8km s-min=32.6km az=20.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**22.36**	**110**	P	P	21 03 43.3	0.0
	7.2nm,1.1s,baz=304,slow=9.9,SNR=4.4						
LPAZ	**La Paz**	**33.61**	**62**	P	P	21 05 26.5	0.0
	3.5nm,0.8s,baz=222,slow=6.5,SNR=15						
LPAZ				LR	LR	21 16 21.2	
	comp=Z,65nm,21.9s,baz=255,slow=32						
CPUP	**Villa Florida**	**36.41**	**86**	LR	LR	21 18 18.6	
	comp=Z,100nm,18.2s,baz=245,slow=32						
ROSC	**El Rosal**	**46.82**	**34**	LR	LR	21 23 51.7	
	comp=Z,67nm,18.6s,baz=212,slow=32						
URZ	**Urewera**	**64.73**	**240**	LR	LR	21 29 05.2	
	comp=Z,61nm,21.4s,baz=93,slow=28						
TXAR	**Lajitas Array**	**65.46**	**355**	P	P	21 09 29.4	+0.9
	0.5nm,1.0s,baz=194,slow=5.5,SNR=3.6						
RPZ	**Rata Peaks**	**66.26**	**232**	LR	LR	21 31 32.5	
	comp=Z,114nm,21.8s,baz=178,slow=30						
PDAR	**Pinedale Array**	**79.32**	**352**	P	P	21 10 50.2	-0.9
	0.9nm,0.9s,baz=145,slow=5.4,SNR=4.6						
STKA	**Stephens Creek**	**91.81**	**228**	LR	LR	21 47 43.5	
	comp=Z,43nm,18.4s,baz=198,slow=32						
BOSA	**Boshof**	**96.61**	**133**	LR	LR	21 53 50.0	
	comp=Z,48nm,19.1s,baz=62,slow=34						
DBIC	**Dimbokro**	**96.93**	**87**	LR	LR	21 50 34.7	
	comp=Z,40nm,20.4s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**156.43**	**226**	PKPab	PKPab	21 19 09.0	-0.2
	0.6nm,0.9s,baz=188,slow=2.7,SNR=5.2						

IDC 10 21:08:26.9±5.3, 37°.60S×78°.70E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/46, mbtmp3.7/3, Error ellipse: s-maj=186.1km s-min=50.0km az=33.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.60**	**95**	T	T	21 44 46.2	
	baz=254,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**28.61**	**95**	T	T	21 44 46.6	
	baz=254,slow=75,SNR=39						
H01W1	**Cape Leeuwin H**	**28.62**	**95**	T	T	21 44 47.2	
	baz=254,slow=75,SNR=36						
H08S2	**Diego Garcia H**	**30.34**	**348**	T	T	21 45 47.3	
	baz=171,slow=76,SNR=109						
H08S1	**Diego Carcia H**	**30.35**	**348**	T	T	21 45 50.3	
	baz=171,slow=76,SNR=129						
H08S3	**Diego Garcia H**	**30.36**	**348**	T	T	21 45 51.2	
	baz=171,slow=76,SNR=116						
ASAR	**Alice Springs**	**48.85**	**90**	P	P	21 17 14.2	-0.1
	0.3nm,0.7s,baz=226,slow=7.6,SNR=4.3						
ASAR				PcP	PcP	21 18 38.6	-0.4
	0.2nm,0.7s,baz=240,slow=3.1,SNR=1.4						
WRA	**Warramunga Arr**	**51.12**	**86**	P	P	21 17 31.5	-0.1
	0.9nm,0.8s,baz=238,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**84.07**	**2**	P	P	21 20 59.0	0.0
	0.7nm,0.8s,baz=176,slow=6.4,SNR=4.2						

*KRNET **10** 21:17:42.6±0.1, 39°.48N×73°.49E, mb2.4*
*NNC **10** 21:17:48.4±1.2, 39°.72N×73°.56E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=9.0km s-min=7.0km az=164.0*
*SOME **10** 21:18:29.7, 40°.95N×73°.55E, h20km*
ISC 10 21:17:47.9±2.4, 39°.6N±0°.1×73°.49E±0°.09, h10km, n10, σ1$55/15, 8C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.74**	**347**	⇑*i*P	**Pn**	**21 18 18.1**	**-0.2**
	baz=348						
ARSB				⇑*i*S	**Sg**	**21 18 43.8**	**-0.1**
	baz=348						
BTK	**Batken**	**2.10**	**283**	⇓*i*P	**Pn**	**21 18 21.6**	**-1.6**
	baz=287						
BTK				⇓*i*S	**Sn**	**21 18 50.4**	**+1.0**
	baz=287						
ARK	**Arkit**	**2.46**	**332**	⇓*i*P	**Pn**	**21 18 28.1**	**-0.1**
	baz=334						
ARK				⇓*i*S	**Sb**	**21 19 01.2**	**-1.5**
	baz=334						
MNAS	**Manas**	**2.96**	**346**	⇑*e*P	**Pn**	**21 18 35.2**	**+0.2**
	baz=347						
MNAS				⇑*i*S	**Sb**	**21 19 14.2**	**-2.8**
	baz=347						
MNAS	**Manas**	**2.96**	**346**	⇓Pn	**Pn**	**21 18 36.4**	**+1.3**
	0.7nm,0.4s						
MNAS				⇓Lg	Lg	21 19 20.6	
	8.8nm,0.6s						
AAK	**Ala-Archa**	**3.10**	**14**	⇑Pg	**Pb**	**21 18 42.6**	**-0.7**
	0.6nm,0.3s						
AAK				⇑Lg	Lg	21 19 23.4	
	5.3nm,0.7s						
MRKS	**Merke**	**3.12**	**356**	*e*P	Pg	21 19 02.7	+15
	6.2nm,0.4s						
MRKS				*e*S	**Sg**	**21 19 26.5**	**-1.7**
	9.3nm,0.5s						
TKM2	**Tokmak 2**	**3.66**	**25**	⇓Lg	Lg	21 19 42.1	
	4.2nm,0.8s						
KST	**Kastek**	**3.89**	**28**	*e*P	Pg	21 19 18.5	+16
	1.5nm,0.5s						
KST				*e*S	**Sg**	**21 19 53.8**	**+0.9**
	4.4nm,0.6s						
KK31	**Karatay Array**	**4.13**	**328**	⇓Pn	**Pn**	**21 18 51.8**	**+0.7**
	0.3nm,0.5s,baz=145,slow=12,SNR=4.9						
KK31				⇑Pg	**Pb**	**21 19 02.6**	**+1.9**
	0.4nm,0.5s,baz=144,slow=17,SNR=2.7						
KK31				⇓Sn	**Sn**	**21 19 41.7**	**+2.2**
	0.5nm,0.3s						
KK31				⇑Lg	Lg	21 19 57.7	
	1.6nm,0.6s						

*IDC **10** 21:17:50.7±0.8, 37°.22N×22°.13E, h0km, mb3.8/14, mb1 3.9/20, mb1mx3.8/48, mbtmp3.8/20, ML3.1/6, MS3.0/4, Ms1 3.0/4, ms1mx2.6/43, Error ellipse: s-maj=19.8km s-min=13.5km az=175.0*
*ISCJB **10** 21:17:51.7±0.4, 37°.19N±0°.02×21°.97E±0°.02, h9km±2km, mb3.8/13, MS3.1/2, Error ellipse: s-maj=3.0km s-min=2.8km az=42.1*
*ATH **10** 21:17:51.4, 37°.21N×22°.01E, h16km±1km, ML3.5/6, Error ellipse: s-maj=1.6km s-min=0.9km az=229.0*
*THE **10** 21:17:52.4, 37°.24N×22°.02E, h0km±1km, ML3.7/27, Error ellipse: s-maj=1.0km s-min=0.4km az=220.0*
*CSEM **10** 21:17:52.2±0.2, 37°.21N×22°.02E, h2km, ML3.5, Error ellipse: s-maj=3.8km s-min=2.9km az=52.0*
ISC 10 21:17:52.1±0.8, 37°.21N±0°.02×22°.02E±0°.02, h8km±5km, n181, σ1$28/248, mb3.9/13, 7C-13D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**250**	P	**Pg**	**21 17 54.0**	**-0.2**
ITM				S	**Sg**	**21 17 56.0**	**+0.3**
ITM	**Ithomi**	**0.08**	**250**	P	**Pg**	**21 17 53.5**	**-0.7**
ITM				AML	AML	21 17 56.5	
ITM				AML	AML	21 17 57.0	
ITM	**Ithomi**	**0.08**	**250**	P	**Pg**	**21 17 53.5**	**-0.7**
ITM				S	**Sg**	**21 17 55.8**	**+0.1**
VLX	**Vlachokerasia**	**0.33**	**60**	P	**Pg**	**21 17 58.5**	**-0.2**
VLX				S	**Sg**	**21 18 03.3**	**+0.2**
VLX	**Vlachokerasia**	**0.33**	**60**	P	**Pg**	**21 17 58.3**	**-0.4**
VLX				S	**Sg**	**21 18 03.6**	**+0.5**
VLX	**Vlachokerasia**	**0.33**	**60**	P	**Pg**	**21 17 58.5**	**-0.2**
VLX				S	**Sg**	**21 18 03.3**	**+0.2**
PYL	**PYLOS**	**0.38**	**216**	P	**Pg**	**21 17 59.6**	**+0.1**
PYL				S	**Sb**	**21 18 06.6**	**-0.5**
PYL	**PYLOS**	**0.38**	**216**	P	**Pg**	**21 17 59.3**	**-0.2**
PYL				S	**Sb**	**21 18 06.6**	**-0.5**
TRIP	**Tripoli**	**0.38**	**32**	P	**Pg**	**21 17 59.4**	**-0.2**
TRIP				S	**Sg**	**21 18 05.5**	**+0.9**
TRIP				AML	AML	21 18 06.0	
	comp=E,16754μm,0.7s						
TRIP				AML	AML	21 18 11.2	
	comp=N,23696μm,0.9s						
TRIP	**Tripoli**	**0.38**	**32**	P	**Pg**	**21 17 59.4**	**-0.2**
TRIP				S	**Sg**	**21 18 05.5**	**+0.9**
AMT	**Artemida-Makis**	**0.41**	**323**	P	**Pg**	**21 17 59.8**	**-0.3**
AMT				S	**Sg**	**21 18 05.7**	**+0.2**
AMT	**Artemida-Makis**	**0.41**	**323**	P	**Pg**	**21 18 00.0**	**-0.1**
AMT	**Artemida-Makis**	**0.41**	**323**	P	**Pg**	**21 18 00.0**	**-0.1**
AMT				S	**Sg**	**21 18 05.7**	**+0.2**
GUR	**Goura**	**0.77**	**19**	P	**Pg**	**21 18 06.1**	**-0.9**
GUR				S	**Sg**	**21 18 17.5**	**+0.4**
GUR	**Goura**	**0.77**	**19**	P	**Pg**	**21 18 05.6**	**-1.5**
GUR				S	**Sg**	**21 18 17.8**	**+0.7**
GUR				AML	AML	21 18 21.0	
	comp=N,9227μm,0.3s						
GUR				AML	AML	21 18 26.3	
	comp=E,9802μm,0.8s						
GUR	**Goura**	**0.77**	**19**	P	**Pg**	**21 18 06.1**	**-0.9**
GUR				S	**Sg**	**21 18 17.8**	**+0.7**
DRO	**Drossia**	**0.78**	**342**	P	**Pg**	**21 18 06.9**	**-0.3**
DRO				S	**Sg**	**21 18 18.0**	**+0.6**
DRO	**Drossia**	**0.78**	**342**	P	**Pg**	**21 18 07.4**	**+0.2**
DRO	**Drossia**	**0.78**	**342**	P	**Pg**	**21 18 07.4**	**+0.2**
DRO				S	**Sg**	**21 18 18.0**	**+0.6**
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	**Pg**	**21 18 07.3**	**-1.0**
KLV				S	**Sb**	**21 18 20.0**	**-0.5**
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	**Pg**	**21 18 06.6**	**-1.8**
KLV				AML	AML	21 18 26.4	
	comp=N,4347μm,0.8s						
KLV				AML	AML	21 18 29.1	
	comp=E,3478μm,0.7s						
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	**Pg**	**21 18 07.3**	**-1.0**
KLV				S	**Sb**	**21 18 20.0**	**-0.5**
VLI	**Veliai**	**0.88**	**123**	P	**Pg**	**21 18 08.8**	**-0.3**
VLI				S	**Sn**	**21 18 23.2**	**-0.6**
VLI	**Veliai**	**0.88**	**123**	P	**Pg**	**21 18 09.3**	**+0.3**
VLI				S	**Sg**	**21 18 19.4**	**-1.1**
VLI				AML	AML	21 18 27.4	
	comp=E,9648μm,0.8s						
VLI				AML	AML	21 18 37.8	
	comp=N,6842μm,1.1s						
VLI	**Veliai**	**0.88**	**123**	P	**Pg**	**21 18 08.6**	**-0.5**
VLI				S	**Sg**	**21 18 19.4**	**-1.1**
KRND	**KRANIDI**	**0.92**	**79**	P	**Pg**	**21 18 09.4**	**-0.4**
KRND				S	**Sb**	**21 18 23.1**	**+0.4**
KRND	**KRANIDI**	**0.92**	**79**	P	**Pg**	**21 18 09.8**	**0.0**
KRND	**KRANIDI**	**0.92**	**79**	P	**Pg**	**21 18 09.4**	**-0.4**
KRND				S	**Sg**	**21 18 21.9**	**+0.2**
RLS	**Riolos of Patr**	**0.96**	**333**	P	**Pg**	**21 18 09.9**	**-0.6**
RLS				S	**Sb**	**21 18 23.9**	**+0.2**
RLS	**Riolos of Patr**	**0.96**	**333**	P	**Pg**	**21 18 10.3**	**-0.2**
RLS				AML	AML	21 18 29.1	
	comp=E,4051μm,0.5s						
RLS				AML	AML	21 18 32.1	
	comp=N,5043μm,0.8s						
RLS	**Riolos of Patr**	**0.96**	**333**	P	**Pg**	**21 18 10.3**	**-0.2**
RLS				S	**Sb**	**21 18 23.9**	**+0.2**
VTN	**Vitineika**	**0.97**	**317**	P	**Pg**	**21 18 09.9**	**-0.8**
VTN	**Vitineika**	**0.97**	**317**	P	**Pg**	**21 18 09.9**	**-0.8**
THAL	**Thalero**	**0.98**	**31**	P	**Pg**	**21 18 10.0**	**-0.8**
THAL				S	**Sb**	**21 18 24.4**	**+0.1**
THAL	**Thalero**	**0.98**	**31**	P	**Pg**	**21 18 09.3**	**-1.6**
THAL	**Thalero**	**0.98**	**31**	P	**Pg**	**21 18 10.0**	**-0.8**
THAL				S	**Sb**	**21 18 24.4**	**+0.1**
DID	**Didima**	**1.02**	**72**	P	**Pg**	**21 18 11.1**	**-0.5**
DID				S	**Sn**	**21 18 26.6**	**-0.6**
DID	**Didima**	**1.02**	**72**	P	**Pg**	**21 18 11.3**	**-0.3**
DID	**Didima**	**1.02**	**72**	P	**Pg**	**21 18 11.3**	**-0.3**
DID				S	**Sn**	**21 18 26.6**	**-0.6**
LAKA	**Lakka**	**1.03**	**358**	P	**Pg**	**21 18 10.7**	**-1.3**
LAKA				S	**Sb**	**21 18 26.4**	**+0.4**
LAKA	**Lakka**	**1.03**	**358**	P	**Pg**	**21 18 10.5**	**-1.4**
LAKA	**Lakka**	**1.03**	**358**	P	**Pg**	**21 18 10.7**	**-1.3**
LAKA				S	**Sb**	**21 18 26.4**	**+0.4**
LOUT	**Loutraki**	**1.09**	**44**	P	**Pg**	**21 18 12.1**	**-0.9**
LOUT				S	**Sn**	**21 18 28.4**	**-0.5**
LOUT	**Loutraki**	**1.09**	**44**	P	**Pg**	**21 18 12.8**	**-0.2**
LOUT	**Loutraki**	**1.09**	**44**	P	**Pg**	**21 18 12.8**	**-0.2**
LOUT				S	**Sn**	**21 18 28.4**	**-0.5**
UPR	**University Cam**	**1.09**	**350**	P	**Pg**	**21 18 12.4**	**-0.7**
UPR	**University Cam**	**1.09**	**350**	P	**Pg**	**21 18 12.8**	**-0.2**
UPR	**University Cam**	**1.09**	**350**	P	**Pg**	**21 18 12.8**	**-0.2**
LTK	**Loutraki**	**1.11**	**42**	P	**Pg**	**21 18 12.5**	**-0.9**
LTK				S	**Sb**	**21 18 28.9**	**+0.7**
LTK	**Loutraki**	**1.11**	**42**	P	**Pg**	**21 18 12.4**	**-0.9**
LTK	**Loutraki**	**1.11**	**42**	P	**Pg**	**21 18 12.5**	**-0.9**
LTK				S	**Sb**	**21 18 28.9**	**+0.7**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**21 18 12.8**	**-0.6**
AXS				S	**Sn**	**21 18 29.1**	**-0.3**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**21 18 12.6**	**-0.8**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**21 18 12.8**	**-0.6**
AXS				S	**Sn**	**21 18 29.1**	**-0.3**
TRIZ	**Trizonia**	**1.16**	**2**	P	**Pg**	**21 18 12.4**	**-2.0**
TRIZ	**Trizonia**	**1.16**	**2**	P	**Pg**	**21 18 12.4**	**-2.0**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**21 18 13.4**	**-1.5**
KALE				S	**Sn**	**21 18 31.3**	**-0.1**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**21 18 13.3**	**-1.6**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**21 18 13.4**	**-1.5**
KALE				S	**Sn**	**21 18 31.3**	**-0.1**
SERG	**Sergoula**	**1.21**	**1**	P	**Pb**	**21 18 13.8**	**-1.4**
SERG	**Sergoula**	**1.21**	**1**	P	**Pb**	**21 18 13.4**	**-1.8**
SERG	**Sergoula**	**1.21**	**1**	P	**Pb**	**21 18 13.8**	**-1.4**
EFP	**Efpalio**	**1.22**	**356**	P	**Pb**	**21 18 14.4**	**-1.0**
EFP				S	**Sn**	**21 18 32.4**	**+0.2**
EFP	**Efpalio**	**1.22**	**356**	P	**Pb**	**21 18 14.0**	**-1.4**
EFP	**Efpalio**	**1.22**	**356**	P	**Pb**	**21 18 14.4**	**-1.0**
EFP				S	**Sn**	**21 18 32.4**	**+0.2**
KYTH	**Kithira**	**1.25**	**138**	P	**Pb**	**21 18 16.2**	**+0.3**
KYTH	**Kithira**	**1.25**	**138**	P	**Pb**	**21 18 16.2**	**+0.3**
DSF	**Desfina**	**1.27**	**18**	P	**Pn**	**21 18 15.3**	**-0.9**
DSF				S	**Sn**	**21 18 34.0**	**+0.6**
DSF	**Desfina**	**1.27**	**18**	P	**Pn**	**21 18 15.3**	**-0.9**
DSF				S	**Sn**	**21 18 34.0**	**+0.6**
KFL	**Anninata**	**1.33**	**313**	P	**Pg**	**21 18 18.1**	**+0.5**
KFL	**Anninata**	**1.33**	**313**	P	**Pg**	**21 18 18.1**	**+0.5**
ANX	**Ano Chora**	**1.39**	**357**	P	**Pn**	**21 18 17.2**	**-0.6**
ANX				S	**Sg**	**21 18 37.4**	**+0.7**
ANX	**Ano Chora**	**1.39**	**357**	P	**Pn**	**21 18 17.2**	**-0.6**
ANX				S	**Sg**	**21 18 37.4**	**+0.7**
VILL	**Villia**	**1.40**	**47**	P	**Pb**	**21 18 18.6**	**0.0**
VILL				S	**Sg**	**21 18 37.9**	**+0.6**
VILL	**Villia**	**1.40**	**47**	P	**Pb**	**21 18 18.6**	**0.0**
VILL				S	**Sg**	**21 18 37.9**	**+0.6**
VIL2	**Platees**	**1.41**	**44**	P	**Pg**	**21 18 19.3**	**+0.1**
PVO	**Paravola**	**1.46**	**345**	P	**Pb**	**21 18 19.6**	**+0.1**
PVO				S	**Sg**	**21 18 39.7**	**+0.6**
PVO	**Paravola**	**1.46**	**345**	P	**Pg**	**21 18 20.5**	**+0.4**
PVO	**Paravola**	**1.46**	**345**	P	**Pb**	**21 18 19.6**	**+0.1**
PVO				S	**Sg**	**21 18 39.7**	**+0.6**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**21 18 19.2**	**+0.1**
VLS				S	**Sg**	**21 18 40.8**	**+0.8**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**21 18 19.3**	**+0.1**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**21 18 19.3**	**+0.1**
VLS				S	**Sg**	**21 18 40.8**	**+0.8**
ATH	**Athens Observa**	**1.55**	**60**	P	**Pn**	**21 18 20.4**	**+0.4**
ATH				S	**Sg**	**21 18 42.2**	**+0.2**
ATH	**Athens Observa**	**1.55**	**60**	P	**Pn**	**21 18 20.4**	**+0.4**
ATH	**Athens Observa**	**1.55**	**60**	P	**Pn**	**21 18 20.4**	**+0.4**
ATH				S	**Sg**	**21 18 42.2**	**+0.2**
VLY	**Voula,Athens**	**1.55**	**65**	P	**Pn**	**21 18 20.4**	**+0.4**
VLY				S	**Sb**	**21 18 41.6**	**+0.7**
VLY	**Voula,Athens**	**1.55**	**65**	P	**Pn**	**21 18 20.0**	**0.0**
VLY	**Voula,Athens**	**1.55**	**65**	P	**Pn**	**21 18 20.4**	**+0.4**
VLY				S	**Sb**	**21 18 41.6**	**+0.7**
ATHU	**Athens Univers**	**1.60**	**61**	P	**Pn**	**21 18 20.9**	**+0.3**
ATHU	**Athens Univers**	**1.60**	**61**	P	**Pn**	**21 18 20.9**	**+0.3**
ATHU	**Athens Univers**	**1.60**	**61**	P	**Pn**	**21 18 20.9**	**+0.3**
LKR	**Lokris**	**1.64**	**28**	P	**Pn**	**21 18 21.8**	**+0.6**
LKR	**Lokris**	**1.64**	**28**	P	**Pn**	**21 18 21.6**	**+0.4**
LKR	**Lokris**	**1.64**	**28**	P	**Pn**	**21 18 21.8**	**+0.6**
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pn**	**21 18 22.7**	**+0.8**
ANKY				S	**Sg**	**21 18 46.2**	**-0.2**
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pn**	**21 18 22.7**	**+0.8**
ANKY				S	**Sg**	**21 18 46.2**	**-0.2**
PTL	**Penteli**	**1.69**	**60**	P	**Pn**	**21 18 22.4**	**+0.5**
PTL				S	**Sb**	**21 18 45.8**	**+0.9**
PTL	**Penteli**	**1.69**	**60**	P	**Pn**	**21 18 22.3**	**+0.3**
PTL	**Penteli**	**1.69**	**60**	P	**Pn**	**21 18 22.4**	**+0.5**
PTL				S	**Sb**	**21 18 45.8**	**+0.9**
EVR	**Evrytania**	**1.72**	**355**	P	**Pb**	**21 18 23.4**	**-0.5**
EVR	**Evrytania**	**1.72**	**355**	P	**Pb**	**21 18 23.9**	**0.0**
EVR	**Evrytania**	**1.72**	**355**	P	**Pb**	**21 18 23.4**	**-0.5**
AGG	**Agios Georgios**	**1.83**	**8**	P	**Pn**	**21 18 24.9**	**+1.0**
AGG				S	**Sb**	**21 18 49.0**	**+0.1**
AGG	**Agios Georgios**	**1.83**	**8**	P	**Pn**	**21 18 24.9**	**+1.0**
AGG				S	**Sb**	**21 18 49.0**	**+0.1**
SMIA	**Simia**	**1.92**	**29**	P	**Pn**	**21 18 25.7**	**+0.6**
SMIA	**Simia**	**1.92**	**29**	P	**Pn**	**21 18 25.7**	**+0.6**
EREA	**Eretria**	**1.94**	**51**	P	**Pn**	**21 18 26.4**	**+1.0**
EREA	**Eretria**	**1.94**	**51**	P	**Pn**	**21 18 26.4**	**+1.0**
IMMV	**Iera Moni Meta**	**2.35**	**137**	P	**Pn**	**21 18 32.7**	**+1.7**
IMMV	**Iera Moni Meta**	**2.35**	**137**	P	**Pn**	**21 18 32.7**	**+1.7**
VAM	**Vamos**	**2.52**	**135**	P	**Pn**	**21 18 34.9**	**+1.7**
VAM	**Vamos**	**2.52**	**135**	P	**Pn**	**21 18 34.9**	**+1.7**
IDI	**Anoyia**	**3.01**	**129**	Pn	**Pn**	**21 18 40.8**	**+0.7**
	comp=N,3.2nm,0.3s,baz=196,slow=9.3,SNR=22						
IDI				Sn	**Sb**	**21 19 20.7**	**-2.1**
	comp=N,6.6nm,0.3s,baz=81,slow=19,SNR=2.2						
IDI	**Anoyia**	**3.01**	**129**	P	**Pn**	**21 18 41.2**	**+1.1**
IDI	**Anoyia**	**3.01**	**129**	P	**Pn**	**21 18 41.2**	**+1.1**
BIA	**Bitola**	**3.85**	**352**	*e*Pn	**Pn**	**21 18 51.8**	**+0.1**
BIA	**Bitola**	**3.85**	**352**	*e*Pn	**Pn**	**21 18 51.7**	**+0.1**
OHR	**Ohrid**	**4.01**	**347**	*e*Pn	**Pb**	**21 19 01.3**	**-1.8**
SRS	**Serrai**	**4.09**	**17**	P	**Pn**	**21 18 56.3**	**+1.3**
SRS	**Serrai**	**4.09**	**17**	P	**Pn**	**21 18 56.3**	**+1.3**
VAY	**Valandovo**	**4.13**	**6**	*e*Pn	**Pn**	**21 18 56.1**	**+0.7**
VAY	**Valandovo**	**4.13**	**6**	*e*Pn	**Pn**	**21 18 56.1**	**+0.7**
KRUS	**Krusevo**	**4.20**	**352**	*e*Pn	**Pn**	**21 19 00.1**	**+3.5**
KRUS	**Krusevo**	**4.20**	**352**	*e*Pn	**Pn**	**21 19 00.0**	**+3.5**
VTS	**Vitosha**	**5.46**	**9**	⇓*i*P	**Pn**	**21 19 16.6**	**+2.8**
VTS	**Vitosha**	**5.46**	**9**	⇓*i*P	**Pn**	**21 19 16.6**	**+2.8**
VTS				S	**Sn**	**21 20 19.4**	**+2.6**
BARS	**Barje**	**5.61**	**358**	*e*Pn	**Pn**	**21 19 18.5**	**+2.8**
PDG	**Podgorica**	**5.63**	**339**	⇓*i*P	**Pn**	**21 19 15.3**	**-0.8**
PDG	**Podgorica**	**5.63**	**339**	S	**Sn**	**21 20 17.7**	**-3.3**
PDG	**Podgorica**	**5.63**	**339**	⇓*i*P	**Pn**	**21 19 15.3**	**-0.8**
VAE	**Valguarnera**	**6.07**	**275**	Pn	**Pn**	**21 19 25.4**	**+3.3**
	comp=N,0.8nm,0.3s,baz=69,slow=1.7,SNR=3.9						
VAE				Sn	**Sn**	**21 20 34.4**	**+2.6**
	comp=N,1.2nm,0.3s,baz=110,slow=19,SNR=2.2						
BOVS	**Bovan**	**6.43**	**358**	*e*Pn	**Pn**	**21 19 28.7**	**+1.7**
STON	**Ston**	**6.56**	**331**	*i* Pn	**Pn**	**21 19 28.1**	**-0.7**
STON				Sn	**Sn**	**21 20 43.0**	**-0.6**
STON	**Ston**	**6.56**	**331**	*i* Pn	**Pn**	**21 19 28.0**	**-0.7**
STON				Sn	**Sn**	**21 20 43.0**	**-0.6**
ZAGS	**Zajecar**	**6.60**	**1**	*e*Pn	**Pn**	**21 19 31.6**	**+2.2**
BOLS	**Boljevac**	**6.62**	**360**	*e*Pn	**Pn**	**21 19 28.3**	**-1.3**
GRUS	**Gruza**	**6.75**	**352**	*e*Pn	**Pn**	**21 19 32.6**	**+1.2**
BBLS	**Lazići**	**6.94**	**344**	*e*Pn	**Pn**	**21 19 35.0**	**+0.8**
DIVS	**Divibare**	**7.05**	**348**	*e*Pn	**Pn**	**21 19 36.0**	**+0.3**
KUBS	**Kucevo**	**7.20**	**358**	*e*Pn	**Pn**	**21 19 37.2**	**-0.5**
MDVR	**Moldovita**	**7.57**	**358**	⇑*i*P	**Pn**	**21 19 43.5**	**+0.7**
MDVR	**Moldovita**	**7.57**	**358**	⇑*i*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.61**	**177**	P	**Pb**	**21 29 52.8**	**-3.1**
CBIJ				*e*S	**Sb**	**21 30 24.6**	**-2.9**
CBIJ	**Chichi jima**	**2.61**	**177**	*e*Pn	**Pb**	**21 29 55.9**	**0.0**
CBIJ				*e*Sn	**Sb**	**21 30 26.2**	**-1.3**
JHCJ	**Hachijojimakas**	**3.85**	**331**	*e*S	**Sn**	**21 30 50.4**	**-0.9**
JHJ2	**Mitsune**	**3.88**	**331**	P	**Pn**	**21 30 07.7**	**+0.3**
JHJ2				*e*S	**Sn**	**21 30 51.5**	**-0.4**
JHJ2	**Mitsune**	**3.88**	**331**	*e*Pn	**Pn**	**21 30 06.4**	**-1.0**
JHJ2				*e*Sn	**Sn**	**21 30 44.7**	**-7.3**
JHJ	**Hachijo jima 2**	**3.90**	**331**	Pn	**Pn**	**21 30 07.8**	**+0.1**
	5.7nm,0.3s,baz=81,slow=23,SNR=1.4						
JHJ				Sn	**Sn**	**21 30 50.4**	**-2.1**
	14nm,0.3s,baz=70,slow=21,SNR=1.8						
BSO1	**Boso 1**	**5.01**	**350**	P	**Pn**	**21 30 21.3**	**-1.1**
JOD2	**Odawara 2**	**6.07**	**337**	P	**Pn**	**21 30 38.5**	**+1.0**
JOD2				*e*S	**Sn**	**21 31 45.5**	**-0.4**
MJAR	**Matsushiro Arr**	**7.53**	**336**	Pn	**Pn**	**21 30 56.9**	**-0.6**
	2.3nm,0.3s,baz=153,slow=10,SNR=36						
MJAR				LR	LR	21 33 55.7	
	comp=Z,118nm,19.1s,baz=165,slow=39						
MAJO	**Matsushiro**	**7.53**	**336**	*e*P	**Pn**	**21 30 57.7**	**+0.2**
MAJO				*e*		21 32 23.4	
MAJO	**Matsushiro**	**7.53**	**336**	*e*Pn	**Pn**	**21 30 57.7**	**+0.2**
MAJO				*e*Sn	**Sn**	**21 32 23.4**	**+1.5**
MAT	**Matsushiro**	**7.53**	**336**	P	**Pn**	**21 30 57.8**	**+0.3**
MAT				S	**Sn**	**21 32 22.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**7.53**	**336**	*e*Pn	**Pn**	**21 30 58.1**	**+0.5**
MJB9				*e*Sn	**Sn**	**21 32 24.0**	**+2.0**
KSRS	**Korea Array**	**14.05**	**307**	Pn	**Pn**	**21 32 29.6**	**+2.9**
	0.4nm,0.3s,baz=114,slow=12,SNR=13						
KSRS				LR	LR	21 37 56.8	
	comp=Z,111nm,18.1s,baz=152,slow=38						
KSAR	**Wonju Array Be**	**14.07**	**307**	P	**Pn**	**21 32 29.6**	**+2.5**
KSAR	**Wonju Array Be**	**14.07**	**307**	Pn	**Pn**	**21 32 29.6**	**+2.5**
ASAJ	**Asahikawa**	**14.39**	**2**	Pn	**Pn**	**21 32 31.6**	**+0.3**
	0.7nm,0.3s,baz=197,slow=9.7,SNR=4.5						
GUMO	**Guam**	**16.26**	**170**	LR	LR	21 38 41.0	
	comp=Z,52nm,18.8s,baz=34,slow=35						
USRK	**Ussuriysk Ar.**	**16.52**	**334**	Pn	**Pn**	**21 32 59.9**	**+0.7**
	0.1nm,0.3s,baz=149,slow=13,SNR=2.8						
YSS	**Yuzh-Sakhalins**	**17.23**	**2⇑**	*e*P	**Pn**	**21 33 06.4**	**-1.7**
YSS				MLR	MLR		
	comp=Z,2μm,20.0s						
MDJ	**Mudanjiang**	**17.84**	**330**	P	**P**	**21 33 16.5**	**+0.3**
MDJ				pP	sP	21 33 26.9	-1.1
MDJ				sP	pP	21 33 32.3	+8.1
MDJ				S	**S**	**21 36 36.5**	**-3.2**
MDJ				ScP	**ScP**	**21 41 25.9**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,56nm,4.4s						
SSLB	**Suanglung**	**19.71**	**258**	*e*P	**Pn**	**21 33 38.4**	**-0.1**
	comp=Z,77nm,1.7s						
NJ2	**Nanjing**	**20.02**	**283**	*e*P	**Pn**	**21 33 40.9**	**-1.1**
BJI	**Beijing**	**23.50**	**303**	P	**P**	**21 34 16.6**	**-0.5**
BJI				S	**S**	**21 38 28.8**	**-0.1**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJI				LR	LR		
	comp=Z,110nm,11.0s						
BJI				LR	LR		
	comp=Z,190nm,13.2s						
TGY	**Tagaytay City**	**24.91**	**236**	LR	LR	21 43 37.7	
	comp=Z,95nm,19.7s,baz=48,slow=35						
HIA	**Hailar**	**25.85**	**325**	*e*P	**P**	**21 34 38.3**	**-0.4**
HIA				pmax	pmax		
	comp=Z,12nm,0.7s						
HIA	**Hailar**	**25.85**	**325**	*e*P	**P**	**21 34 38.2**	**-0.4**
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**27.11**	**302**	*e*P	**P**	**21 34 51.5**	**+1.4**
HHC				pP	sP	21 35 03.4	+0.9
HHC				sP	pP	21 35 08.8	+10
HHC				S	**S**	**21 39 23.4**	**-3.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,51nm,7.5s						
HHC				LR	LR		
	comp=Z,1μm,12.3s						
HHC				LR	LR		
	comp=Z,1μm,11.1s						
HHC				LR	LR		
	comp=Z,1μm,11.1s						
GYA	**Guiyang**	**31.29**	**273**	*e*P	**P**	**21 35 27.8**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**32.37**	**314**	*e*P	**P**	**21 35 37.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**32.37**	**314**	*e*P	**P**	**21 35 37.1**	**+0.3**
	comp=Z,4.4nm,0.9s						
SONA1	**Songino Array**	**32.77**	**314**	*e*P	**P**	**21 35 41.0**	**+0.7**
SONM	**Songino Array**	**32.77**	**314**	P	**P**	**21 35 41.4**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=112,slow=8.4,SNR=15						
CD2	**Chengdu**	**32.95**	**282**	*e*P	**P**	**21 35 41.2**	**-0.7**
GTA	**Gaotai**	**35.80**	**297**	*e*P	**P**	**21 36 06.2**	**-0.4**
GTA				pP	sP	21 36 18.0	-1.1
GTA				sP	pP	21 36 23.6	+8.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**40.54**	**265**	*e*P	**P**	**21 36 46.5**	**0.0**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**40.54**	**265**	*e*P	**P**	**21 36 46.5**	**0.0**
	comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.68**	**264**	P	**P**	**21 36 47.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=72,slow=5.3,SNR=9.5						
CMAR				LR	LR	21 55 47.1	
	comp=Z,54nm,18.5s,baz=86,slow=39						
CM01	**Chiang Mai Arr**	**40.68**	**264**	*e*P	**P**	**21 36 47.0**	**-0.8**
WMQ	**Urumqi**	**44.97**	**304**	P	**P**	**21 37 23.5**	**+1.2**
WMQ				pP	sP	21 37 37.4	+2.5
WMQ				sP	pP	21 37 42.6	+11
WMQ				PP	**PP**	**21 39 10.3**	**+2.7**
WMQ				S	**S**	**21 43 57.9**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,64nm,6.9s						
WMQ				LR	LR		
	comp=Z,87nm,18.1s						
WMQ				LR	LR		
	comp=Z,94nm,16.9s						
ZAA0	**Zalesovo Array**	**47.45**	**318**	*e*P	**P**	**21 37 41.3**	**-0.2**
ZAA0				*e*PcP	**PcP**	**21 39 11.2**	**-0.4**
ZALV	**Zalesovo Beam**	**47.45**	**318**	P	**P**	**21 37 41.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=110,slow=6.5,SNR=4.4						
ZALV				PcP	**PcP**	**21 39 11.5**	**0.0**
	comp=Z,1.4nm,0.6s,baz=130,slow=3.7,SNR=6.0						
ZALV				LR	LR	22 00 20.2	
	comp=Z,23nm,18.6s,baz=68,slow=40						
MK01	**Makanchi Array**	**48.73**	**308**	*e*P	**P**	**21 37 51.6**	**+0.1**
MK31	**Makanchi Array**	**48.73**	**308**	*e*P	**P**	**21 37 50.4**	**-1.2**
MK31	**Makanchi Array**	**48.73**	**308**	*e*P	**P**	**21 37 50.4**	**-1.2**
MKAR	**Makanchi Array**	**48.73**	**308**	P	**P**	**21 37 52.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=92,slow=9.8,SNR=18						
MKAR				LR	LR	21 59 19.2	
	comp=Z,40nm,18.9s,baz=48,slow=37						
MKAR	**Makanchi Array**	**48.73**	**308**	*c*e*P*	**P**	**21 37 52.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**48.73**	**308**	*e*P	**P**	**21 37 50.7**	**-1.0**
	comp=Z,14nm,0.7s						
MAKZ	**Makanchi**	**48.95**	**308**	*i*P	**P**	**21 37 52.4**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**48.95**	**308**	*e*P	**P**	**21 37 52.8**	**-0.4**
	comp=Z,1.8nm,0.6s						
WRAB	**Tennant Creek**	**49.91**	**189**	*e*P	**P**	**21 38 00.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRAB	**Tennant Creek**	**49.91**	**189**	*e*P	**P**	**21 38 00.6**	**-0.1**
	comp=Z,5.0nm,0.7s						
WB2	**Warramunga Arr**	**49.91**	**189**	*e*P	**P**	**21 38 01.0**	**+0.2**
WRA	**Warramunga Arr**	**49.92**	**189**	P	**P**	**21 38 00.6**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=8.7,slow=8.0,SNR=46						
WRA	**Warramunga Arr**	**49.92**	**189**	*i*P	**P**	**21 38 00.9**	**+0.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WC3	**Warramunga Arr**	**49.93**	**189**	*e*P	**P**	**21 38 00.9**	**0.0**
	comp=Z,6.3nm,0.8s						
PDGK	**Podgornoye**	**50.95**	**304**	*i*P	**P**	**21 38 07.2**	**-1.5**
PDGK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**51.08**	**313**	*i*P	**P**	**21 38 08.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,62nm,1.7s						
KURK	**Kurchatov**	**51.08**	**313**	*e*P	**P**	**21 38 09.1**	**-0.3**
	comp=Z,8.9nm,0.9s						
AS01	**Alice Springs**	**53.63**	**189**	*e*P	**P**	**21 38 28.5**	**0.0**
ASAR	**Alice Springs**	**53.64**	**189**	P	**P**	**21 38 28.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=3.8,slow=6.1,SNR=13						
KSH	**Kashi**	**54.15**	**299**	P	**P**	**21 38 35.3**	**+2.9**
KSH				pP	sP	21 38 48.2	+3.1
KSH				sP	pP	21 38 53.1	+12
KSH				PcP	**PcP**	**21 39 39.1**	**+2.3**
KSH				PP	**PP**	**21 40 39.6**	**+5.6**
KSH				PcS	**PcS**	**21 43 36.5**	**+0.2**
KSH				S	**S**	**21 46 06.8**	**-0.7**
KSH				sS	sS	21 46 30.0	+7.5
KSH				ScS	**ScS**	**21 48 17.2**	**-2.6**
KSH				SS	**SS**	**21 49 49.8**	**+0.7**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,150nm,4.5s						
KSH				LR	LR		
	comp=Z,110nm,7.9s						
KSH				LR	LR		
	comp=Z,140nm,6.7s						
KSH				LR	LR		
	comp=Z,130nm,5.5s						
AAK	**Ala-Archa**	**54.68**	**303**	*e*P	**P**	**21 38 35.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**55.51**	**29**	P	**P**	**21 38 41.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=266,slow=5.1,SNR=6.1						
BRVK	**Borovoye**	**56.10**	**316**	*i*P	**P**	**21 38 45.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MNAS	**Manas**	**56.15**	**303**	*i*P	**P**	**21 38 44.5**	**-2.3**
MNAS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**57.47**	**305**	*i*P	**P**	**21 38 56.1**	**+0.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**57.47**	**305**	*e*P	**P**	**21 38 56.8**	**+0.8**
KKAR	**Karatay Array**	**57.47**	**305**	*e*P	**P**	**21 38 56.8**	**+0.8**
	comp=Z,66nm,0.6s						
SVE	**Sverdlovsk**	**61.08**	**322**	*e*P	P	21 39 32.4	+12
STKA	**Stephens Creek**	**61.25**	**180**	P	**P**	**21 39 24.2**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=0.9,slow=6.9,SNR=3.3						
ARU	**Arti**	**62.29**	**321**	*d*P	**P**	**21 39 27.3**	**-1.5**
ARU				*PP	**sP**	**21 39 39.7**	**-2.0**
ARU						21 40 05.9	
ARU				S	**S**	**21 47 49.7**	**-3.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ARU	**Arti**	**62.29**	**321**	*e*P	**P**	**21 39 28.3**	**-0.6**
	comp=Z,10nm,1.1s						
AB31	**Akbulak array**	**63.19**	**313**	*i*P	**P**	**21 39 34.9**	**-0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	**Akbulak array**	**63.19**	**313**	*e*P	**P**	**21 39 35.0**	**0.0**
	comp=Z,35nm,0.6s						
AKTO	**Aktyubinsk**	**64.08**	**315**	P	**P**	**21 39 43.1**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=76,slow=8.9,SNR=3.2						
GEYT	**Alibeck**	**67.98**	**302**	P	**P**	**21 40 06.5**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=47,slow=6.7,SNR=6.8						
KLMR	**Klimovskoe**	**70.26**	**329**	*e*P	**P**	**21 40 19.6**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
FINES	**FINESS Array B**	**75.55**	**334**	P	**P**	**21 40 51.8**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=78,slow=12,SNR=6.1						
ZEI	**Tsey**	**75.92**	**311**	*e*P	**P**	**21 40 53.9**	**0.0**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBZ	**Khabaz**	**76.14**	**313**	P	**P**	**21 40 55.8**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=88,slow=4.7,SNR=8.3						
GNI	**Garni**	**76.57**	**309**	*e*P	**P**	**21 40 57.0**	**-0.7**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKASG	**Malin Array Be**	**80.43**	**324**	P	**P**	**21 41 18.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=50,slow=6.3,SNR=4.3						
KIEV	**Kiev**	**80.45**	**324**	*e*P	**P**	**21 41 18.3**	**-0.2**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**81.14**	**338**	P	**P**	**21 41 22.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**81.14**	**338**	P	**P**	**21 41 22.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=42,slow=5.4,SNR=6.1						
NOA				LR	LR	22 20 13.8	
	comp=Z,15nm,20.2s,baz=300,slow=38						
RAYN	**Ar Rayn**	**83.97**	**294**	*e*P	**P**	**21 41 38.8**	**+1.2**
	comp=Z,13nm,0.8s						
BR131	**Keskin Array S**	**84.13**	**313**	*e*P	**P**	**21 41 38.8**	**+0.6**
BRTR	**Keskin Array B**	**84.13**	**313**	P	**P**	**21 41 39.5**	**+1.2**
	comp=Z,5.0nm,0.8s,baz=98,slow=3.1,SNR=18						
BR231	**Keskin MP Arra**	**84.61**	**313**	*e*P	**P**	**21 41 38.3**	**-2.4**
TXAR	**Lajitas Array**	**94.15**	**53**	P	**P**	**21 42 27.6**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=331,slow=2.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**122.74**	**312**	PKP	**PKPdf**	**21 48 03.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=27,slow=2.6,SNR=3.2						
LPAZ	**La Paz**	**149.30**	**71**	PKPbc	**PKPbc**	**21 48 58.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=26,slow=3.2,SNR=5.4						

NIED ***10*** *21:49:00, 46°.00N×143°.00E, h360km, Mw4.1 Best double couple: M0=1.50000×10^15 NP1:φs=8.00000°, δ24.00000°, λ124.00000°. NP2:φs=151.00000°, δ71.00000°, λ76.00000°.*

ISCJB ***10*** *21:49:26.4±0.3, 46°.03N±0°.06×143°.05E±0°.09, h349km±4km, mb3.6/16, Error ellipse: s-maj=10.0km s-min=9.2km az=37.0*

JMA ***10*** *21:49:27.1±0.3, 45°.97N×143°.03E, h350km±3km, M4.4*

IDC ***10*** *21:49:27.1±0.7, 46°.17N×142°.97E, h336km±8km, mb3.4/16, mb1 3.6/23, mb1mx3.5/35, mbtmp4.2/23, Error ellipse: s-maj=12.5km s-min=9.8km az=130.0*

ISC 10 21:49:27.2±0.6, 45°.92N±0°.06×143°.06E±0°.07, h349km±6km, n45, σ1=43°/59, mb3.6/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.01**	**234**	P	**Pn**	**21 50 13.2**	**+0.4**
JWK2				*e*S	**S**	**21 50 48.8**	**-0.6**
JSE	**Soyaes**	**1.01**	**199**	P	**Pn**	**21 50 13.0**	**+0.1**
JRR	**Rishiri**	**1.45**	**238**	P	**Pn**	**21 50 15.2**	**+0.3**
JRR				*e*S	**S**	**21 50 53.3**	**+0.1**
JSS	**Shosan**	**1.74**	**210**	P	**Pn**	**21 50 17.4**	**+0.7**
ASAJ	**Asahikawa**	**1.83**	**190**	P	**Pn**	**21 50 18.2**	**+0.9**
	25nm,0.3s,baz=16,slow=8.1,SNR=272						
ASAJ				S	**S**	**21 50 58.2**	**+0.8**
	baz=72,slow=22,SNR=0.8						
ASAJ	**Asahikawa**	**1.83**	**190**	P	**Pn**	**21 50 18.1**	**+0.9**
ASAJ				*e*S	**S**	**21 50 58.8**	**+1.4**
JYG	**Yagishiri**	**1.88**	**218**	P	**Pn**	**21 50 18.1**	**+0.5**
JMP	**Maruseppu**	**1.92**	**173**	P	**Pn**	**21 50 18.5**	**+0.6**
JTKR	**Abashiri--Toko**	**2.04**	**162**	P	**Pn**	**21 50 19.5**	**+0.8**
JTKR				*e*S	**S**	**21 51 00.2**	**+0.3**
JKK2	**Kamakawa 2**	**2.05**	**186**	P	**Pn**	**21 50 19.6**	**+0.8**
JHR	**Hokuryu**	**2.37**	**204**	P	**Pn**	**21 50 22.0**	**+0.8**
JRA	**Rausu**	**2.46**	**143**	P	**Pn**	**21 50 23.0**	**+1.1**
JAR	**Ashorobuto**	**2.67**	**169**	P	**Pn**	**21 50 24.6**	**+1.0**
JAR				*e*S	**S**	**21 51 09.2**	**+0.3**
JFR	**Furan**	**2.77**	**187**	P	**Pn**	**21 50 25.3**	**+0.8**
JAK	**Akkeshi**	**3.15**	**158**	P	**Pn**	**21 50 28.0**	**+0.2**
JAK				*e*S	**S**	**21 51 14.8**	**-1.7**
NEM2	**Nemuro 2**	**3.19**	**142**	*e*S	**S**	**21 51 13.7**	**-3.6**
JEW	**Eniwo**	**3.28**	**201**	P	**Pn**	**21 50 30.4**	**+1.3**
JCH	**Churui**	**3.31**	**176**	P	**Pn**	**21 50 28.8**	**-0.5**
JCH				*e*S	**S**	**21 51 15.5**	**-3.8**
JNBK	**Urakawa-nobuka**	**3.64**	**184**	P	**Pn**	**21 50 32.6**	**0.0**
JNBK				*e*S	**S**	**21 51 24.6**	**-0.6**
JKB	**Kayabe**	**4.28**	**201**	P	**Pn**	**21 50 39.0**	**-0.1**
JKB				*e*S	**S**	**21 51 32.9**	**-4.2**
JOSM	**Okushiri--Mats**	**4.62**	**215**	P	**Pn**	**21 50 43.0**	**+0.3**
JOSM				*e*S	**S**	**21 51 42.7**	**-0.9**
JOT	**Ohata**	**4.76**	**199**	P	**Pn**	**21 50 43.7**	**-0.5**
JOT				*e*S	**S**	**21 51 42.1**	**-4.2**
USRK	**Ussuriysk Ar.**	**8.02**	**262**	P	**Pn**	**21 51 21.9**	**+0.4**
	6.7nm,0.3s,baz=70,slow=13,SNR=79						
MJAR	**Matsushiro Arr**	**10.05**	**203**	P	**P**	**21 51 47.6**	**+0.3**
	2.5nm,0.3s,baz=7.9,slow=13,SNR=31						
KSRS	**Korea Array**	**14.10**	**239**	P	**Pn**	**21 52 34.2**	**+0.6**
	0.8nm,0.3s,baz=46,slow=12,SNR=12						
JNU	**Nakatsue**	**15.83**	**220**	P	**Pn**	**21 52 53.9**	**+0.1**
	0.5nm,0.3s,baz=228,slow=5.8,SNR=5.2						
SEY	**Seymchan**	**17.86**	**14**	P	**P**	**21 53 11.5**	**-0.8**
	2.9nm,0.3s,baz=185,slow=9.9,SNR=22						
YAK	**Yakutsk**	**17.90**	**339**	P	**P**	**21 53 10.2**	**-2.6**
	0.0nm,0.3s,baz=66,slow=2.5,SNR=13						
SONM	**Songino Array**	**24.99**	**288**	P	**P**	**21 54 20.3**	**-0.2**
	1.7nm,0.5s,baz=82,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**37.37**	**304**	P	**P**	**21 56 06.1**	**-1.3**
	0.4nm,0.4s,baz=96,slow=6.4,SNR=2.6						
ZALV				PcP	**PcP**	**21 58 18.7**	**+0.9**
	0.8nm,0.5s,baz=131,slow=1.5,SNR=4.4						
KDAK	**Kodiak Island**	**39.97**	**49**	P	**P**	**21 56 28.6**	**0.0**
	13nm,1.0s,baz=306,slow=8.7,SNR=5.9						
MKAR	**Makanchi Array**	**41.02**	**294**	P	**P**	**21 56 37.1**	**-0.3**
	0.6nm,0.6s,baz=76,slow=8.5,SNR=6.1						
MKAR				PcP	**PcP**	**21 58 30.4**	**+0.7**
	0.2nm,0.3s,baz=60,slow=4.8,SNR=2.5						
ILAR	**Eielson Array**	**41.50**	**37**	P	**P**	**21 56 39.8**	**-1.3**
	2.0nm,0.8s,baz=276,slow=7.5,SNR=19						
CMAR	**Chiang Mai Arr**	**45.49**	**248**	P	**P**	**21 57 14.6**	**+1.5**
	0.2nm,0.4s,baz=16,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**55.61**	**33**	P	**P**	**21 58 27.0**	**-0.3**
	4.1nm,0.5s,baz=308,slow=7.3,SNR=16						
ARCES	**ARCESS Array B**	**56.17**	**338**	P	**P**	**21 58 30.5**	**-0.7**
	2.0nm,0.9s,baz=39,slow=5.8,SNR=3.6						
FINES	**FINESS Array B**	**61.59**	**331**	P	**P**	**21 59 07.0**	**-1.2**
	3.0nm,0.4s,baz=48,slow=7.8,SNR=41						
WRA	**Warramunga Arr**	**66.02**	**189**	P	**P**	**21 59 38.6**	**+1.4**
	0.9nm,0.7s,baz=6.4,slow=6.6,SNR=6.4						
NB2	**NORSAR Subarra**	**66.50**	**337**	P	**P**	**21 59 38.8**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**66.50**	**337**	P	**P**	**21 59 38.7**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=36,slow=6.2,SNR=5.5						
ASAR	**Alice Springs**	**69.75**	**189**	P	**P**	**22 00 03.1**	**+2.8**
	comp=Z,0.6nm,0.5s,baz=13,slow=5.5,SNR=12						
PDAR	**Pinedale Array**	**70.68**	**48**	P	**P**	**22 00 07.0**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=279,slow=1.3,SNR=10						
ULM	**Lac du Bonnet**	**71.48**	**35**	P	**P**	**22 00 10.2**	**-0.2**
	comp=Z,3.0nm,0.4s,baz=330,slow=8.7,SNR=7.7						
TXAR	**Lajitas Array**	**83.80**	**54**	P	**P**	**22 01 19.8**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=298,slow=4.2,SNR=16						
ESDC	**Sonseca Array**	**89.81**	**335**	P	**P**	**22 01 47.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.0,SNR=4.9						

IDC ***10*** *22:08:08.1±1.1, 18°.31N×147°.74E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/37, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=39.2km s-min=20.5km az=84.0*

ISCJB ***10*** *22:08:10.5±1.1, 18°.3N±0°.1×147°.9E±0°.3, h33km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=39.4km s-min=17.2km az=176.7*

ISC 10 22:08:13.1±1.0, 18°.3N±0°.2×147°.8E±0°.3, h35km, n13, σ0=88°/10, mb4.0/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**17.98**	**86**	T	T	22 31 07.1	
	baz=273,slow=74,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**17.99**	**86**	T	T	22 31 08.5	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**17.99**	**86**	T	T	22 31 02.3	
	baz=273,slow=74,SNR=5.5						
KSRS	**Korea Array**	**25.82**	**322**	P	**P**	**22 13 42.0**	**+0.9**
	1.4nm,0.7s,baz=152,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**40.21**	**200**	P	**P**	**22 15 46.2**	**-0.2**
	1.8nm,0.7s,baz=24,slow=8.6,SNR=8.1						
ASAR	**Alice Springs**	**43.84**	**198**	P	**P**	**22 16 16.1**	**+0.1**
	0.5nm,0.6s,baz=20,slow=9.1,SNR=6.3						
SONM	**Songino Array**	**44.68**	**321**	P	**P**	**22 16 23.1**	**+0.4**
	1.1nm,0.8s,baz=142,slow=9.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**59.52**	**322**	P	**P**	**22 18 12.9**	**+0.1**
	2.5nm,0.8s,baz=98,slow=7.0,SNR=9.2						
ZALV				LR	LR	22 43 10.8	
	comp=Z,26nm,20.4s,baz=62,slow=35						
MKAR	**Makanchi Array**	**60.14**	**314**	P	**P**	**22 18 17.8**	**+0.5**
	0.7nm,0.6s,baz=92,slow=8.6,SNR=6.2						
ILAR	**Eielson Array**	**63.15**	**26**	P	**P**	**22 18 36.8**	**-0.5**
	0.5nm,0.8s,baz=256,slow=5.2,SNR=4.4						
FINES	**FINESS Array B**	**88.06**	**336**	P	**P**	**22 20 58.9**	**-0.8**
	1.3nm,0.7s,baz=120,slow=2.

	baz=246						
TWT				S	Sb	22 17 34.5	+0.3
	baz=246						
ESL	**Shilin**	**0.77**	**217**	*eP*	**Pb**	**22 17 25.2**	**0.0**
	baz=220						
ESL				*eS*	**Sn**	**22 17 36.8**	**-1.2**
	baz=220						
TWS1	**Kuangyinshan**	**0.81**	**325**	P	**Pn**	**22 17 26.8**	**-0.2**
	baz=338						
TWS1				S	**Sn**	**22 17 37.8**	**-1.2**
	baz=338						
NSTT	**Nanjuang**	**0.88**	**283**	*eP*	**Pn**	**22 17 27.2**	**-0.7**
	baz=282						
NSTT				*eS*	**Sb**	**22 17 38.1**	**-0.4**
	baz=282						
TWY	**Chenhua**	**0.89**	**340**	*eP*	**Pg**	**22 17 27.0**	**-0.2**
	baz=345						
JYNG	**Yonagunijimaku**	**0.92**	**89**	P	**Pn**	**22 17 29.7**	**+1.3**
JYNG				S	**Sn**	**22 17 43.7**	**+2.2**
YOJ	**Yonaguni jima**	**0.98**	**88**	P	**Pn**	**22 17 29.6**	**+0.3**
YOJ				S	**Sn**	**22 17 45.1**	**+2.1**
TWQ1	**Liyutan**	**1.07**	**266**	*eP*	**Pg**	**22 17 30.8**	**+0.3**
	baz=263						
TWQ1				*eS*	**Sb**	**22 17 43.8**	**-0.3**
	baz=263						
NSY	**Sanyi**	**1.07**	**269**	*eP*	**Pg**	**22 17 31.0**	**+0.4**
	baz=277						
EHY	**Hungye**	**1.08**	**211**	*eP*	**Pn**	**22 17 30.4**	**-0.3**
	baz=218						
EHY				*eS*	**Sb**	**22 17 44.4**	**-0.2**
	baz=218						
SMLT	**Sun Moon Lake**	**1.10**	**240**	*eP*	**Pg**	**22 17 31.9**	**+0.8**
	baz=236						
SMLT				*eS*	**Sb**	**22 17 44.2**	**-0.8**
	baz=236						
TYC	**Yuchr**	**1.12**	**242**	*eP*	**Pg**	**22 17 32.0**	**+0.5**
	baz=238						
TYC				*eS*	**Sb**	**22 17 45.9**	**+0.3**
	baz=238						
TCU	**Taichung**	**1.19**	**256**	*eP*	**Pn**	**22 17 31.8**	**-0.4**
	baz=243						
TWF1	**Yuli**	**1.23**	**209**	*eP*	**Pb**	**22 17 32.9**	**-0.1**
	baz=217						
TWF1				*eS*	**Sg**	**22 17 49.7**	**+0.2**
	baz=217						
YUS	**Yu-Shan**	**1.30**	**224**	*eP*	**Pb**	**22 17 34.7**	**+0.1**
	baz=208						
YUS				*eS*	**Sb**	**22 17 50.2**	**-1.1**
	baz=208						
ALS	**Alishan**	**1.39**	**229**	*eP*	**Pb**	**22 17 36.1**	**+0.2**
	baz=213						
CHN5	**Tsauling**	**1.42**	**234**	*eP*	**Pb**	**22 17 36.1**	**-0.3**
	baz=231						
CHN5				*eS*	**Sb**	**22 17 55.2**	**+0.7**
	baz=231						
CHKT	**Chengkung**	**1.43**	**202**	*eP*	**Pg**	**22 17 37.2**	**-0.3**
	baz=184						
ELDTW	**Lidau**	**1.50**	**214**	*eP*	**Pb**	**22 17 36.9**	**-0.8**
	baz=210						
ELDTW				*eS*	**Sn**	**22 17 55.9**	**-0.2**
	baz=210						
IRIF	**Iriomote-Funau**	**1.64**	**93**	P	**Pb**	**22 17 39.8**	**-0.1**
IRIF				S	**Sg**	**22 18 01.9**	**-0.7**
CHN4	**Tsaushan**	**1.64**	**229**	*eP*	**Pb**	**22 17 39.7**	**-0.3**
	baz=215						
CHN4				*eS*	**Sb**	**22 18 01.1**	**+0.6**
	baz=215						
WTP	**Ta-pu**	**1.69**	**226**	*eP*	**Pb**	**22 17 39.9**	**-1.0**
	baz=211						
WTP				*eS*	**Sg**	**22 18 04.3**	**-0.3**
	baz=211						
TWK	**Hsinying**	**1.77**	**229**	*eP*	**Pb**	**22 17 41.6**	**-0.6**
	baz=227						
CHN1	**Nanshi**	**1.79**	**226**	*eP*	**Pb**	**22 17 42.5**	**-0.1**
	baz=212						
CHN1				*eS*	**Sb**	**22 18 04.8**	**-0.2**
	baz=212						
SGST	**Jiashian**	**1.83**	**223**	*eP*	**Pn**	**22 17 41.8**	**+0.7**
	baz=208						
JKRS	**Kuro-shima**	**1.90**	**96**	P	**Pb**	**22 17 43.9**	**-0.5**
JKRS				S	**Sb**	**22 18 08.5**	**+0.5**
JIJ	**Ishigaki jima**	**2.01**	**92**	P	**Pb**	**22 17 45.4**	**-0.9**
JIJ				S	**Sb**	**22 18 11.0**	**-0.2**
SSD	**Sandimen**	**2.06**	**216**	*eP*	**Pb**	**22 17 46.1**	**-1.1**
	baz=213						
JISG	**Ishigakijimahi**	**2.17**	**86**	P	**Pn**	**22 17 45.4**	**-0.2**
JISG				S	**Sb**	**22 18 14.1**	**-1.6**

IDC 10 22:20:57.9±6.6, 24°.00S×177°.70W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=220.3km s-min=102.2km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.64**	**248**	P	P	22 28 07.1	+0.8
	2.2nm,0.8s,baz=101,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**44.10**	**260**	P	P	22 29 06.1	-2.1
	0.5nm,0.7s,baz=94,slow=7.1,SNR=5.1						
WRA	**Warramunga Arr**	**44.50**	**265**	P	P	22 29 12.5	+1.1
	1.5nm,0.9s,baz=106,slow=7.8,SNR=5.7						
FINES	**FINESS Array B**	**139.19**	**343**	PKP	PKPdf	22 40 25.9	-0.3
	1.4nm,0.6s,baz=12,slow=2.0,SNR=3.7						

NIED ***10*** *22:28:00, 38°.00N×144°.20E, h8km, Mw3.4 Best double couple: M₀1.28000×10¹⁴ NP1:φs20.00000°, δ36.00000°, λ-65.00000°. NP2:φs170.00000°, δ58.00000°, λ-107.00000°.*

JMA 10 22:28:06.1±0.2, 38°.04N×144°.17E, h42km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.22**	**299**	P	Pn	22 28 41.8	+1.4
OFUJ				*eS*	Sn	22 29 08.5	+1.9
JIO	**Ouri**	**2.26**	**281**	P	Pn	22 28 42.3	+1.4
JIO				S	Sn	22 29 08.6	+1.1
MIYJ	**Miyakonagasawa**	**2.39**	**311**	P	Pn	22 28 43.9	+1.1
MIYJ				*eS*	Sn	22 29 12.4	+1.5
JMK	**Ichinoseki**	**2.49**	**292**	P	Pn	22 28 45.8	+1.7
JMK				*eS*	Sn	22 29 15.3	+2.1
JOM	**Ohasama**	**2.67**	**303**	P	Pn	22 28 48.4	+1.9
JOM				*eS*	Sn	22 29 19.6	+2.0
JFT	**Otama**	**3.08**	**261**	S	Sn	22 29 29.9	+2.0
JANG	**Nango**	**3.11**	**319**	P	Pn	22 28 54.3	+1.6
JANG				*eS*	Sn	22 29 29.4	+0.8
JYK	**Kaneyama**	**3.12**	**288**	P	Pn	22 28 55.3	+2.6
JYK				*eS*	Sn	22 29 31.8	+3.1
JOT	**Ohata**	**4.12**	**325**	P	Pn	22 29 08.6	+2.2
JOT				*eS*	Sn	22 29 52.6	-0.7
JKB	**Kayabe**	**4.54**	**329**	P	Pn	22 29 14.6	+2.4
JKB				*eS*	Sn	22 30 03.1	-0.5
JCH	**Churui**	**4.61**	**353**	P	Pn	22 29 13.5	+0.3
JCH				*eS*	Sn	22 30 02.9	-2.6
JRY	**Ryogami san**	**4.67**	**246**	P	Pn	22 29 15.2	+1.0
JRY				*eS*	Sn	22 30 05.4	-1.7
JOD2	**Odawara 2**	**4.94**	**237**	*eS*	Sn	22 30 10.9	-2.7
NEM2	**Nemuro 2**	**5.45**	**12**	P	Pn	22 29 22.9	-1.8
NEM2				*eS*	Sn	22 30 21.2	-5.0
JTKR	**Abashiri--Toko**	**5.93**	**358**	P	Pn	22 29 31.7	+0.4
JTKR				*eS*	Sn	22 30 35.1	-2.8

IDC 10 22:38:56.0±4.7, 20°.33S×179°.27W, h491km±39km, mb2.8/3, mb1 3.3/4, mb1mx2.9/26, mbtmp3.9/4, Error ellipse: s-maj=200.7km s-min=25.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.59**	**49**	P	P	22 41 08.9	-0.2
	4.6nm,0.3s,baz=247,slow=15,SNR=2.1						
ASAR	**Alice Springs**	**43.40**	**257**	P	P	22 46 14.3	-0.4
	0.7nm,0.7s,baz=92,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**43.45**	**262**	P	P	22 46 15.3	+0.2
	0.5nm,0.2s,baz=95,slow=8.7,SNR=4.4						
ILAR	**Eielson Array**	**88.42**	**13**	P	P	22 50 55.3	+0.7
	0.2nm,0.4s,baz=223,slow=5.5,SNR=2.0						
ARCES	**ARCESS Array B**	**128.53**	**349**	PKP	PKPdf	22 57 05.0	-0.9
	5.6nm,1.1s,baz=20,slow=1.1,SNR=5.7						

SJA ***10*** *22:49:26.7±0.7, 31°.74S×68°.32W, h102km±2km, ML3.0, MW3.5*

ISCJB ***10*** *22:49:27.1±0.7, 31°.74S±0°.04×68°.33W±0°.05, h105km±6km, Error ellipse: s-maj=8.0km s-min=4.1km az=38.3*

GUC ***10*** *22:49:27.6±0.7, 31°.62S×68°.63W, h43km±5km, ML3.0*

ISC 10 22:49:27.5±1.4, 31°.73S±0°.04×68°.31W±0°.05, h103km±8km, n24, σ1s20/41, 8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.24**	**236**	*eP*	**Pn**	**22 49 42.2**	**0.0**
RTCV				⇓*eS*	**Sn**	**22 49 53.3**	**0.0**
SJA	**San Juan**	**0.29**	**313**	*eP*	**Pn**	**22 49 42.6**	**+0.1**
SJA				⇓*eS*	**Sn**	**22 49 53.6**	**-0.1**
RTLL	**Cerro Villicun**	**0.42**	**341**	⇓*iP*	**Pn**	**22 49 43.0**	**-0.1**
RTLL				*i* S	**Sn**	**22 49 55.2**	**+0.3**
RTLL	**Cerro Villicun**	**0.42**	**341**	*eP*	**Pn**	**22 49 43.1**	**-0.1**
RTLL				⇓*eS*	**Sn**	**22 49 54.8**	**-0.1**
AMOG	**MOGNA**	**0.81**	**349**	*eP*	**Pn**	**22 49 46.6**	**+0.3**
AMOG				⇓*eS*	**Sn**	**22 50 00.3**	**-0.1**
RTLS	**Leoncito**	**0.84**	**265**	*eP*	**Pn**	**22 49 46.9**	**0.0**
RTLS				*eS*	**Sn**	**22 50 01.9**	**+0.5**
RTLS				IAML		22 50 02.8	
	comp=Z,401nm,0.4s						
ASAL	**Salagasta**	**0.97**	**207**	*eP*	**Pn**	**22 49 48.0**	**+0.1**
ASAL				⇓*eS*	**Sn**	**22 50 04.3**	**+1.1**
AUSP	**Uspallata**	**1.04**	**242**	*eP*	**Pn**	**22 49 49.0**	**+0.1**
AUSP				⇓*eS*	**Sn**	**22 50 02.1**	**-2.9**
ACAN	**Cantantal**	**1.09**	**120**	*eP*	**Pn**	**22 49 50.0**	**+0.8**
ARCO	**CERRO ARCO**	**1.23**	**205**	*eP*	**Pn**	**22 49 50.9**	**0.0**
ARCO				*eS*	**Sn**	**22 50 08.7**	**+0.2**
ARCO				IAML		22 50 10.6	
	comp=Z,374nm,0.3s						
AVFE	**Valle Fertil**	**1.29**	**35**	*eP*	**Pn**	**22 49 51.9**	**+0.3**
AVFE				IAML		22 50 18.9	
	comp=Z,88nm,0.3s						
AAGR	**Agrelo**	**1.42**	**198**	⇓*eP*	**Pn**	**22 49 53.2**	**+0.2**
AAGR				*eS*	**Sn**	**22 50 12.0**	**-0.4**
ACHE	**Chepes**	**1.52**	**68**	*eP*	**Pn**	**22 49 54.7**	**+0.4**
ACHE				*eS*	**Sn**	**22 50 15.2**	**+0.6**
ACDV	**Cuesta del Vie**	**1.70**	**336**	*eP*	**Pn**	**22 49 57.2**	**+0.5**
APLL	**PUNTA DE LOS L**	**2.03**	**49**	*eP*	**Pn**	**22 50 00.7**	**+0.1**
APLL				*eS*	**Sn**	**22 50 24.4**	**-1.5**
AGUA	**GUANDACOL**	**2.24**	**356**	*eP*	**Pn**	**22 50 04.3**	**+0.8**
FCH	**Farellones**	**2.31**	**226**	*eP*	**Pn**	**22 50 05.2**	**+0.6**
FCH				*eS*	**Sn**	**22 50 35.5**	**+2.7**
FCH				IAML		22 50 41.0	
	comp=E,68nm,0.3s						
PEL	**Peldehue**	**2.45**	**234**	*eP*	**Pn**	**22 50 06.0**	**-0.1**
PEL				*eS*	**Sn**	**22 50 34.5**	**-1.3**
PEL				IAML		22 50 37.7	
	comp=N,72nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.58**	**27**	*eP*	**Pn**	**22 50 07.2**	**-0.7**
ACLC				*eS*	**Sn**	**22 50 34.6**	**-4.3**
ROCH	**El Roble**	**2.60**	**241**	*eP*	**Pn**	**22 50 07.5**	**-0.8**
ROCH				*eS*	**Sn**	**22 50 38.3**	**-1.2**
ROCH				IAML		22 50 42.3	
	comp=N,116nm,0.3s						
ROC1	**El Roble**	**2.60**	**241**	*eS*	**Sn**	**22 50 39.4**	**-0.2**
TLL	**Tololo Astrono**	**2.65**	**305**	IAML		22 50 44.7	
	comp=E,97nm,0.5s						
VCA	**Vinchina**	**2.99**	**2**	*eP*	**Pn**	**22 50 13.9**	**+0.6**
VCA				*eS*	**Sn**	**22 50 49.7**	**+1.1**
VCA				IAML		22 50 53.0	
	comp=N,102nm,0.3s						
VCA	**Vinchina**	**2.99**	**2**	*eP*	**Pn**	**22 50 13.9**	**+0.6**
VCA				*eS*	**Sn**	**22 50 51.1**	**+2.5**

MOS ***10*** *22:54:18.7±1.2, 36°.50N×71°.16E, h213km, mb4.2/19, Error ellipse: s-maj=8.7km s-min=5.7km az=92.5*

NEIC ***10*** *22:54:20.6±1.6, 36°.63N×71°.20E, h211km±18km, mb4.4/8, Error ellipse: s-maj=14.4km s-min=9.3km az=176.0*

BJI ***10*** *22:54:20.2, 36°.70N×71°.17E, h211km, mb4.5/22, mB4.5/18*

ISCJB ***10*** *22:54:21.5±0.2, 36°.63N±0°.02×71°.34E±0°.04, h250km, mb3.9/31, Error ellipse: s-maj=4.2km s-min=2.9km az=156.5*

IDC ***10*** *22:54:22.2±0.8, 36°.59N×71°.28E, h231km±7km, mb3.6/21, mb1 3.7/27, mb1mx3.6/44, mbtmp4.2/27, Error ellipse: s-maj=10.5km s-min=8.5km az=165.0*

NNC ***10*** *22:54:25.9±1.6, 37°.03N×71°.32E, h225km±13km, mb3.6, mpv5.0, Error ellipse: s-maj=13.7km s-min=9.3km az=20.0*

ISC 10 22:54:22.6±0.4, 36°.60N±0°.04×71°.23E±0°.04, h250km, n125, σ2s76/152, mb4.0/31, 20C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**168**	P	**Pn**	**22 55 11.3**	**-2.2**
CEP				S	**S**	**22 55 49.0**	**-4.7**
CHCP	**Chirah Chowk**	**3.38**	**150**	P	**Pn**	**22 55 18.1**	**-1.3**
THW	**Thamme Wali**	**3.82**	**173**	P	**Pn**	**22 55 22.6**	**-1.8**
KSH	**Kashi**	**4.74**	**51**	⇑*iP*	Pn	22 55 28.4	-6.9
KSH				S	S	22 56 18.5	-15
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
SARP	**Sargodha**	**4.82**	**165**	P	**Pn**	**22 55 34.2**	**-2.1**
MNAS	**Manas**	**5.96**	**9**	⇑P	**Pn**	**22 55 48.1**	**-2.1**
	209nm,0.5s						
MNAS				⇓S	**S**	**22 56 53.9**	**-6.5**
	504nm,0.8s						
MNAS	**Manas**	**5.96**	**9**	PN	**Pn**	**22 55 48.1**	**-2.1**
DHRM	**DHARAMSHALA**	**6.03**	**135**	*eP*	**Pn**	**22 55 50.0**	**-1.5**
DHRM				*eS*	**S**	**22 56 57.3**	**-5.1**
DHRM				AML	AML	22 56 58.4	
	comp=E,1μm,0.5s						
DHRM				AML	AML	22 56 58.9	
	comp=N,811nm,0.2s						
PONG	**Pong**	**6.07**	**139**	*eP*	**Pn**	**22 55 48.5**	**-3.1**
PONG				*ex*	x	22 57 03.0	
JWA	**Jwalamukhi**	**6.34**	**137**	*eP*	**Pn**	**22 55 52.0**	**-3.0**
JWA				*eS*	**S**	**22 57 02.0**	**-6.9**
KK31	**Karatay Array**	**6.52**	**355**	⇑P	**Pn**	**22 55 54.4**	**-2.7**
	comp=N,15nm,0.3s,baz=180,slow=12,SNR=857						
KK31				⇑S	**S**	**22 57 05.7**	**-7.2**
	comp=N,74nm,0.3s,baz=177,slow=17,SNR=14						
KK31	**Karatay Array**	**6.52**	**355**	PN	**Pn**	**22 55 54.4**	**-2.7**
KKAR	**Karatay Array**	**6.52**	**355**	*ePn*	**Pn**	**22 55 54.7**	**-2.4**
KKAR	**Karatay Array**	**6.52**	**355**	*ePn*	**Pn**	**22 55 54.7**	**-2.4**
KKAR				*eSn*	S	22 56 58.4	-14
AAK	**Ala-Archa**	**6.53**	**22**	P	**Pn**	**22 55 55.8**	**-1.7**
	comp=N,62nm,0.3s,baz=134,slow=2.3,SNR=480						
AAK				S	**S**	**22 57 09.2**	**-4.2**
	comp=N,16nm,0.3s,baz=124,slow=23,SNR=7.6						
AAK	**Ala-Archa**	**6.53**	**22**	⇓P	**Pn**	**22 55 55.5**	**-1.9**
	comp=N,101nm,0.5s						
AAK				⇑S	**S**	**22 57 05.7**	**-7.8**
	comp=N,80nm,0.6s						
AAK	**Ala-Archa**	**6.53**	**22**	*c iPN*	**Pn**	**22 55 55.5**	**-1.9**
AAK	**Ala-Archa**	**6.53**	**22**	*ePn*	**Pn**	**22 55 55.8**	**-1.7**
AAK				*eSn*	S	22 56 53.7	-20
BHK	**Bhakra**	**6.73**	**139**	*eP*	**Pn**	**22 55 55.8**	**-4.2**
BHK				*eS*	S	22 57 08.4	-10
FRU	**Bishkek**	**6.75**	**22**	⇑*ePN*	**Pn**	**22 55 58.0**	**-2.0**
FRU				*eS*	**S**	**22 57 14.0**	**-4.2**
FRU				pmax	pmax		
	comp=Z,130nm,1.8s						
FRU				smax	smax		
	comp=E,300nm,1.6s						
SDNR	**Sundarnagar**	**6.97**	**135**	*eP*	**Pn**	**22 56 01.0**	**-2.0**
SDNR				*eS*	**S**	**22 57 15.0**	**-8.5**
TKM2	**Tokmak 2**	**7.15**	**27**	⇑P	**Pn**	**22 56 03.6**	**-1.7**
	comp=E,289nm,0.7s						
TKM2				⇑S	**S**	**22 57 21.9**	**-5.8**
	comp=E,76nm,0.9s						
SMLA	**Simla**	**7.36**	**136**	*eP*	**Pn**	**22 56 06.4**	**-1.5**
SMLA				*eS*	**S**	**22 57 25.6**	**-6.8**
SMLA				AML	AML	22 57 28.7	
	comp=E,449nm,0.4s						
SMLA				AML	AML	22 57 30.1	
	comp=N,475nm,0.8s						
AAA	**Alma-Ata**	**7.91**	**32**	*i* PN	**Pn**	**22 56 14.0**	**-0.7**
AAA				pmax	pmax		
	comp=Z,400nm,0.4s						
AAA				MLR	MLR		
	comp=Z,500nm,5.0s						
MDOK	**Medeo**	**7.93**	**33**	⇓P	**Pn**	**22 56 13.2**	**-1.9**
KNDC	**Almaty**	**7.94**	**32**	⇑P	**Pn**	**22 56 14.0**	**-1.1**
KNDC				⇑S	**S**	**22 57 38.9**	**-6.8**
DDI	**Dehra Dun**	**8.47**	**136**	*eP*	**Pn**	**22 56 21.1**	**-0.8**
PDGK	**Podgornoye**	**9.23**	**41**	⇑P	**Pn**	**22 56 29.2**	**-2.4**
	comp=Z,24nm,0.7s						
PDGK				⇓S	**S**	**22 58 10.3**	**-5.5**
	comp=Z,30nm,1.1s						
NDI	**New Delhi**	**9.37**	**146**	*eP*	**Pn**	**22 56 30.5**	**-2.8**
NDI				*eS*	S	22 58 07.0	-12
GEYT	**Alibeck**	**10.53**	**281**	P	**Pn**	**22 56 44.5**	**-3.4**
	comp=Z,3.6nm,0.3s,baz=106,slow=11,SNR=22						
GEYT				S	**S**	**22 58 39.7**	**-6.3**
	comp=Z,3.0nm,0.3s,baz=118,slow=15,SNR=3.5						
MAKZ	**Makanchi**	**12.96**	**35**	*eP*	**Pn**	**22 57 16.4**	**-1.5**
MAKZ				*e*		22 59 40.0	
MAKZ	**Makanchi**	**12.96**	**35**	*ePn*	**Pn**	**22 57 16.4**	**-1.5**
MAKZ				*eSn*	**S**	**22 59 40.0**	**-1.9**
PYUN	**Piuthan**	**13.06**	**127**	*eP*	**Pn**	**22 57 17.8**	**-1.7**
	comp=Z,87nm,0.2s						
MK01	**Makanchi Array**	**13.09**	**36**	*ePn*	**Pn**	**22 57 17.8**	**-1.7**
MK31	**Makanchi Array**	**13.10**	**36**	P	**Pn**	**22 57 18.1**	**-1.5**
	comp=Z,6.4nm,0.8s,baz=219,slow=15,SNR=27						
MK31	**Makanchi Array**	**13.10**	**36**	*eP*	**Pn**	**22 57 18.4**	**-1.2**
MK31				*e*		22 59 47.6	
MK31	**Makanchi Array**	**13.10**	**36**	*ePn*	**Pn**	**22 57 18.4**	**-1.2**
MK31				*eSn*	**S**	**22 59 47.6**	**+2.6**
MKAR	**Makanchi Array**	**13.10**	**36**	P	**Pn**	**22 57 17.9**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=220,slow=16,SNR=31						
MKAR	**Makanchi Array**	**13.10**	**36**	*eP*	**Pn**	**22 57 18.4**	**-1.2**
MKAR				*e*		22 59 47.6	
MKAR	**Makanchi Array**	**13.10**	**36**	*ePn*	**Pn**	**22 57 18.4**	**-1.2**
MKAR				*eSn*	**S**	**22 59 47.6**	**+2.6**
DANN	**Dangsing**	**13.39**	**124**	*eP*	**Pn**	**22 57 22.6**	**-1.1**
KOLN	**Koldanda**	**13.68**	**127**	*eP*	**Pn**	**22 57 26.0**	**-1.0**
GKN	**Gorkha**	**14.21**	**123**	*eP*	**Pn**	**22 57 32.2**	**-1.2**
	comp=Z,138nm,0.3s						
BHPL	**Bhopal**	**14.35**	**156**	*eP*	**P**	**22 57 36.0**	**+0.7**
DMN	**Daman**	**14.78**	**123**	*eP*	**Pn**	**22 57 40.0**	**-0.4**
	comp=Z,163nm,0.5s						
KKN	**Kakani**	**14.78**	**122**	*eP*	**Pn**	**22 57 39.8**	**-0.6**
	comp=Z,192nm,0.5s						
KURBB	**Kurchatov Arra**	**14.97**	**18**	P	**P**	**22 57 40.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=210,slow=11,SNR=42						
KURBB	**Kurchatov Arra**	**14.97**	**18**	⇓P	**P**	**22 57 40.1**	**-1.7**
	comp=Z,6.9nm,0.5s						
PKIN	**Phulchoki**	**14.99**	**123**	*eP*	**Pn**	**22 57 42.4**	**-0.6**
	comp=Z,168nm,0.4s						
PKI	**Pulchoki**	**15.01**	**123**	*eP*	**Pn**	**22 57 42.6**	**-0.6**
	comp=Z,126nm,0.4s						
KURK	**Kurchatov**	**15.07**	**18**	*d iP*	**P**	**22 57 41.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	**Kurchatov**	**15.07**	**18**	*ePn*	**P**	**22 57 42.0**	**-1.0**
	comp=Z,13nm,1.3s						
KURK				*eS*	**S**	**23 00 29.5**	**0.0**
AB31	**Akbulak array**	**15.08**	**330**	P	**P**	**22 57 41.8**	**-1.4**
	comp=Z,4.0nm,0.5s,baz=142,slow=14,SNR=114						
AB31				⇑S	**S**	**23 00 26.7**	**-3.0**
	comp=Z,8.5nm,0.7s,baz=156,slow=22,SNR=4.0						
AB31	**Akbulak array**	**15.08**	**330**	P	**Pn**	**22 57 45.0**	**+1.4**
ABKAR	**Akbulak array**	**15.08**	**330**	*ePn*	**P**	**22 57 42.3**	**-0.9**
	comp=Z,78nm,0.6s						
ABKAR				*eS*	**S**	**23 00 23.1**	**-6.6**
GUN	**Gumba**	**15.11**	**121**	*eP*	**Pn**	**22 57 43.8**	**-0.7**
	comp=Z,110nm,0.4s						
JIRN	**Jiri**	**15.48**	**121**	*eP*	**Pn**	**22 57 49.0**	**0.0**
	comp=Z,868nm,0.4s						
RAMN	**Ramite**	**16.21**	**122**	*eP*	**Pn**	**22 57 57.4**	**-0.1**
	comp=Z,156nm,0.5s						
BVA0	**Borovoye Array**	**16.43**	**358**	P	**Pn**	**22 57 60.0**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=165,slow=12,SNR=46						
BVAR	**Borovoye Array**	**16.43**	**358**	P	**Pn**	**22 57 59.2**	**-0.3**
	comp=Z,2.9nm,0.3s,baz=159,slow=10,SNR=38						
BRVK	**Borovoye**	**16.47**	**358**	*c iP*	**Pn**	**22 57 59.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,22nm,0.8s						
BRVK	**Borovoye**	**16.47**	**358**	*eP*	**Pn**	**22 57 59.7**	**-0.3**
	comp=Z,9.5nm,0.5s						
BRVK				*eS*	**S**	**23 00 58.9**	**+1.5**
TAPN	**Taplejung**	**16.73**	**119**	*eP*	**Pn**	**22 58 04.5**	**+0.8**
	comp=Z,80nm,0.5s						
AKTO	**Aktyubinsk**	**16.78**	**330**	P	**Pn**	**22 58 03.2**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=140,slow=9.7,SNR=21						
AKTO	**Aktyubinsk**	**16.78**	**330**	⇑P	**Pn**	**22 58 03.1**	**-0.6**
	comp=Z,6.0nm,0.6s						
AKTO				⇓S	**S**	**23 01 05.4**	**+1.5**
	comp=Z,7.7nm,0.8s						
ODAN	**Odare**	**16.81**	**121**	*eP*	**Pn**	**22 58 05.1**	**+0.6**
	comp=Z,184nm,0.6s						
NGP	**Nagpur**	**16.84**	**154**	*eP*	**Pn**	**22 58 04.4**	**-0.3**
WSAR	**Wadi Sarin**	**17.20**	**223**	P	**Pn**	**22 58 07.7**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=64,slow=4.1,SNR=22						
LKRN	**Lenkeran, Azer**	**17.89**	**284**	P	**P**	**22 58 12.2**	**-1.8**
BOK	**Bokaro**	**17.96**	**131**	*ex*	**P**	**22 58 16.5**	**+1.7**
LSA	**Lhasa**	**18.03**	**107**	P	**Pn**	**22 58 19.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,39nm,0.9s						
SEKA	**Sheki**	**19.24**	**291**	P	**P**	**22 58 26.0**	**-2.5**
MNGR	**Mingechevir, A**	**19.28**	**290**	P	**P**	**22 58 27.2**	**-1.6**
ZKTA	**Zakatala**	**19.71**	**292**	P	**P**	**22 58 31.8**	**-1.7**
ZAA0	**Zalesovo Array**	**19.75**	**24**	⇑P	**P**	**22 58 34.5**	**+0.8**
	comp=Z,0.6nm,0.5s						
ZAA0	**Zalesovo Array**	**19.75**	**24**	*eP*	**P**	**22 58 34.2**	**+0.6**
ZALV	**Zal

CMAR Chiang Mai Arr 30.34 119 P P 23 00 13.2 +1.8
comp=Z,4.9nm,0.8s,baz=304,slow=8.4,SNR=41
CMAR Chiang Mai Arr 30.34 119 *ceP* **P 23 00 13.6 +2.3**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CM01 Chiang Mai Arr 30.38 119 *eP* **P 23 00 13.7 +2.0**
KLMR Klimovskoe 31.48 330 *eP* **P 23 00 23.1 +2.3**
KLMR pmax pmax
comp=Z,12nm,1.4s
HHC Hu-ho-hao-te 31.55 70 *eP* **P 23 00 24.5 +2.7**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,60nm,7.3s
AKASG Malin Array Be 33.02 309 P **P 23 00 35.9 +1.6**
comp=Z,1.0nm,0.5s,baz=80,slow=7.2,SNR=6.8
AKASG pP **pP 23 01 21.4 -2.8**
comp=Z,1.2nm,0.5s,baz=83,slow=7.3,SNR=2.7
AKASG Malin Array Be 33.02 309 *ceP* **P 23 00 36.9 +2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
NRIK Noril'sk 33.99 10 P **P 23 00 44.5 +2.1**
comp=Z,4.1nm,0.6s,baz=194,slow=7.4,SNR=4.6
FINES FINESS Array B 37.50 326 P **P 23 01 14.0 +1.8**
comp=Z,1.0nm,0.4s,baz=125,slow=8.9,SNR=13
ARCES ARCESS Array B 41.12 337 P **P 23 01 44.2 +2.3**
comp=Z,1.3nm,0.6s,baz=115,slow=8.5,SNR=9.9
ARCES pP **pP 23 02 31.6 -2.0**
comp=Z,1.7nm,0.7s,baz=105,slow=8.0,SNR=1.5
NB2 NORSAR Subarra 44.41 323 P **P 23 02 09.6 +1.2**
comp=Z,1.9nm,0.5s,baz=100,slow=7.9
NOA NORSAR Array B 44.41 323 P **P 23 02 09.7 +1.2**
comp=Z,1.6nm,0.5s,baz=103,slow=7.1,SNR=9.7
KMBO Kilima Mbogo 49.03 228 P **P 23 02 47.1 +2.2**
comp=Z,1.3nm,0.5s,baz=35,slow=10,SNR=4.8
KMBO Kilima Mbogo 49.03 228 *ceP* **P 23 02 46.2 +1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KEST Kesra 49.18 289 P **P 23 02 47.9 +2.3**
comp=Z,2.5nm,0.5s,baz=295,slow=6.6,SNR=5.6
MBAR Mbarara 52.72 235 *eP* **P 23 03 13.4 +1.2**
MBAR pmax pmax
comp=Z,6.0nm,0.7s
MBAR Mbarara 52.72 235 *eP* **P 23 03 13.4 +1.2**
comp=Z,5.6nm,0.7s
ESDC Sonseca Array 57.57 298 P **P 23 03 47.7 +1.3**
comp=Z,1.7nm,0.7s,baz=60,slow=7.3,SNR=17
ESDC pP **PcP 23 04 38.9 +2.1**
comp=Z,0.9nm,0.7s,baz=59,slow=7.4,SNR=4.6
TORD Torodi Ar. Bea 65.90 269 P **P 23 04 41.9 -0.2**
comp=Z,3.0nm,0.5s,baz=52,slow=6.1,SNR=60
ILAR Eielson Array 74.63 16 P **P 23 05 35.2 +1.2**
comp=Z,0.6nm,0.8s,baz=311,slow=4.8,SNR=6.4
DBIC Dimbokro 74.89 267 P **P 23 05 36.8 +0.4**
comp=Z,1.7nm,0.5s,baz=45,slow=4.3,SNR=4.7
YKA Yellowknife Ar 81.13 3 P **P 23 06 11.3 +1.6**
comp=Z,1.0nm,0.4s,baz=350,slow=5.3,SNR=7.1
WRA Warramunga Arr 81.89 122 P **P 23 06 15.2 +0.8**
comp=Z,2.9nm,0.7s,baz=325,slow=4.9,SNR=17
WRA Warramunga Arr 81.89 122 *i P* **P 23 06 15.1 +0.7**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRAB Tennant Creek 81.89 122 *i P* **P 23 06 14.8 +0.4**
WRAB pmax pmax
comp=Z,12nm,1.0s
ASAR Alice Springs 84.16 125 P **P 23 06 26.6 +0.6**
comp=Z,2.6nm,0.7s,baz=319,slow=5.5,SNR=33

*ISCJB **10** 23:08:20.6±0.3, 5°.58S±0°.04×131°.34E±0°.03, h54km, mb4.1/12, Error ellipse: s-maj=5.8km s-min=4.4km az=8.7*
*NEIC **10** 23:08:23.5±1.0, 5°.53S×131°.38E, h67km±10km, mb4.5/3, Error ellipse: s-maj=10.9km s-min=9.0km az=97.0*
*DJA **10** 23:08:23.9±0.3, 6°S±2°×13°1E±°, h51km±33km, M4.9/10, mb5.1/3, mB5.2/4, MLv4.9/10, Mw(mB)4.6/4*
*IDC **10** 23:08:26.1±0.7, 5°.41S×131°.46E, h85km±5km, mb3.8/11, mb1 3.9/12, mb1mx3.7/41, mbtmp4.1/12, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=21.4km s-min=13.4km az=55.0*
ISC 10 23:08:22.4±0.5, 5°.50S±0°.04×131°.36E±0°.05, h54km, n44, σ1°51/52, mb4.2/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**304**	P	**Pn**	**23 08 51.2**	**+0.9**
BNDI				S	**Sn**	**23 09 13.0**	**+1.6**
SAUI	**Saumlaki**	**2.47**	**181**	P	**Pn**	**23 09 02.3**	**+2.0**
SAUI				S	**Sn**	**23 09 31.1**	**+1.8**
FAKI	**Fak Fak**	**2.71**	**19**	P	**Pn**	**23 09 04.6**	**+1.0**
FAKI	**Fak Fak**	**2.71**	**19**	*e*Pn	**Pn**	**23 09 04.6**	**+1.0**
FAKI				*e*S	**Sn**	**23 09 32.7**	**-2.5**
KMPI	**Kaimana, Papua**	**2.97**	**52**	P	**Pn**	**23 09 09.5**	**+2.4**
KMPI				S	**Sn**	**23 09 42.5**	**+1.0**
MSAI	**Masohi**	**3.23**	**311**	P	**Pn**	**23 09 12.0**	**+1.3**
MSAI				S	**Sn**	**23 09 46.5**	**-1.5**
AAI	**Ambon**	**3.63**	**300**	P	**Pn**	**23 09 17.5**	**+1.3**
AAI				S	**Sn**	**23 09 58.0**	**+0.2**
NLAI	**Namlea**	**4.80**	**298**	P	**Pn**	**23 09 34.2**	**+1.9**
LBMI	**Labuha**	**6.17**	**321**	P	Pn	23 10 01.9	+11
SANI	**Sanana**	**6.36**	**302**	P	**Pn**	**23 09 54.8**	**+1.2**
SOEI	**Soe**	**8.20**	**239**	P	**Pn**	**23 10 20.3**	**+1.3**
SOEI	**Soe**	**8.20**	**239**	Pn	**Pn**	**23 10 20.8**	**+1.8**
SOEI				*e*S	**Sn**	**23 11 51.0**	**+0.6**
JAY	**Jayapura**	**9.78**	**73**	P	**Pn**	**23 10 42.1**	**+1.5**
JAY				S	**Sn**	**23 12 32.3**	**+3.2**
JAY	**Jayapura**	**9.78**	**73**	P	Pn	23 10 46.7	+6.1
BSSI	**Bau Bau, Buton**	**10.83**	**266**	P	Pn	23 11 00.5	+5.6
COEN	**Coen**	**14.36**	**127**	*e*Pn	**Pn**	**23 11 41.0**	**-1.9**
COEN				*e*S	Sn	23 14 07.6	-13
WRAB	**Tennant Creek**	**14.64**	**169**	*e*Pn	Pn	23 11 41.4	-5.2
WRAB				*e*S	Sn	23 14 13.8	-14
WRA	**Warramunga Arr**	**14.65**	**169**	P	**Pn**	**23 11 42.0**	**-4.8**
WRA				S	Sn	23 14 15.0	-13
PMG	**Port Moresby**	**16.14**	**105**	P	**Pn**	**23 12 06.0**	**+0.1**
PMG	**Port Moresby**	**16.14**	**105**	*e*Pn	**P**	**23 12 07.4**	**-0.9**
ASAR	**Alice Springs**	**18.23**	**173**	P	**P**	**23 12 29.9**	**-1.6**
ASAR				S	Sn	23 15 39.4	-15
MBWA	**Marble Bar**	**19.22**	**215**	*e*P	**P**	**23 12 41.1**	**-1.2**
CTA	**Charters Tower**	**20.50**	**136**	P	Pn	23 12 59.0	+0.2
STKA	**Stephens Creek**	**27.94**	**161**	P	**P**	**23 14 08.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**39.85**	**307**	P	**P**	**23 15 53.5**	**+2.5**
MJAR	**Matsushiro Arr**	**42.31**	**8**	P	**P**	**23 16 10.7**	**-0.3**
TAPN	**Taplejung**	**53.33**	**310**	*e*P	**P**	**23 17 36.0**	**-0.9**
RAMN	**Ramite**	**53.98**	**309**	*e*P	**P**	**23 17 41.1**	**-0.5**
GUN	**Gumba**	**55.01**	**310**	*e*P	**P**	**23 17 48.3**	**-0.9**
KKN	**Kakani**	**55.41**	**309**	*e*P	**P**	**23 17 50.4**	**-1.5**
DMN	**Daman**	**55.46**	**309**	*e*P	**P**	**23 17 52.5**	**+0.2**
GKN	**Gorkha**	**56.01**	**309**	*e*P	**P**	**23 17 55.3**	**-0.8**
KOLN	**Koldanda**	**56.71**	**308**	*e*P	**P**	**23 18 00.5**	**-0.7**
PYUN	**Piuthan**	**57.34**	**308**	*e*P	**P**	**23 18 05.0**	**-0.6**
SONM	**Songino Array**	**57.47**	**340**	P	**P**	**23 18 06.6**	**+0.5**
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**23 19 14.8**	**+0.4**
MKAR				pP	**sP**	**23 19 36.5**	**+1.0**
ZALV	**Zalesovo Beam**	**70.85**	**333**	P	**P**	**23 19 33.1**	**-0.4**
ZALV				pP	**sP**	**23 19 55.1**	**+0.5**
KURBB	**Kurchatov Arra**	**71.95**	**328**	P	**P**	**23 19 40.4**	**+0.2**
KURBB				pP	**sP**	**23 20 02.4**	**+1.0**
KURK	**Kurchatov**	**71.96**	**328**	*e*P	**P**	**23 19 40.0**	**-0.2**
KURK				*e*		23 20 02.5	
VNDA	**Vanda**	**73.77**	**173**	P	**P**	**23 19 50.6**	**+0.1**
VNDA				pP	**sP**	**23 20 14.4**	**+2.6**
BVAR	**Borovoye Array**	**77.53**	**327**	P	**P**	**23 20 12.3**	**-0.1**
BVAR				pP	**sP**	**23 20 34.2**	**+0.4**
QSPA	**South Pole Qui**	**84.47**	**180**	*e*P	**P**	**23 20 49.5**	**+0.2**
ILAR	**Eielson Array**	**91.42**	**25**	P	**P**	**23 21 21.1**	**-1.4**
TORD	**Torodi Ar. Bea**	**129.82**	**282**	PKP	**PKPdf**	**23 27 25.2**	**-1.7**

MAN 10 23:11:30, 9°.37N×126°.50E, h18km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.19**	**187**	⇑*e*P	Pn	23 11 51.6	-0.1
BIPH				*e*S	Sb	23 12 04.2	-3.0
BUKP	**Musuan**	**2.06**	**224**	*e*P	Pn	23 12 04.3	+0.5
BUKP				*e*S	Sb	23 12 33.0	+0.9
BESP	**Borongan**	**2.45**	**335**	*e*P	Pn	23 12 09.4	+0.3
BESP				*e*S	Sb	23 12 42.2	-1.2

*JMA **10** 23:14:37.9±0.2, 43°.42N×146°.04E, h92km±2km, M2.7*
*SKHL **10** 23:14:38.0±0.1, 44°.25N×147°.44E, h10km, mb4.4/1*
ISC 10 23:14:35.3±2.1, 43°.37N±0°.09×146°.24E±0°.08, h102km±12km, n11, σ1°59/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.36**	**269**	P	**Pn**	**23 14 51.2**	**+0.8**
NEM2				*e*S	**Sn**	**23 15 01.3**	**-0.4**
SHO	**Shikotan**	**0.66**	**41**	*e*P	**Pn**	**23 14 54.3**	**+1.8**
SHO				*i* S	**Sn**	**23 15 06.6**	**+1.1**
SHO				A	A	23 15 07.2	
480nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.72**	**338**	*e*P	**Pn**	**23 14 53.6**	**+0.6**
YUK				AMB	AMB	23 14 56.6	
85nm,0.2s							
YUK				*i* S	**Sn**	**23 15 05.2**	**-1.2**
YUK				A	A	23 15 06.7	
170nm,0.2s							
YUK				A	A	23 15 06.7	
360nm,0.2s							
JRA	**Rausu**	**0.99**	**305**	P	**Pn**	**23 14 56.1**	**+0.4**
JRA				*e*S	**Sn**	**23 15 09.9**	**-1.2**
JNK	**Nakash**	**1.12**	**282**	P	**Pn**	**23 14 57.2**	**0.0**
JNK				*e*S	**Sn**	**23 15 11.1**	**-2.7**
JAK	**Akkeshi**	**1.19**	**252**	P	**Pn**	**23 14 58.5**	**+0.6**
JAK				*e*S	**Sn**	**23 15 14.0**	**-1.0**
JAR	**Ashorobuto**	**1.80**	**268**	P	**Pn**	**23 15 06.2**	**+0.8**
JAR				*e*S	**Sn**	**23 15 27.3**	**-1.0**
JOB	**Onbets**	**1.82**	**256**	P	**Pn**	**23 15 06.7**	**+1.1**
JOB				*e*S	**Sn**	**23 15 28.1**	**-0.6**
KUR	**Kuril'sk**	**2.20**	**32**	*erx*	rx	23 14 34.1	
KUR				*e*P	**Pn**	**23 15 08.0**	**-2.5**
JCH	**Churui**	**2.24**	**251**	P	**Pn**	**23 15 12.0**	**+1.0**
JCH				*e*S	**Sn**	**23 15 36.7**	**-1.7**
YSS	**Yuzh-Sakhalins**	**4.35**	**327**	*e*P	**Pn**	**23 15 42.3**	**+3.2**

*ISCJB **10** 23:17:22.3±0.4, 44°.89S±0°.04×167°.61E±0°.07, h106km, mb4.0/6, Error ellipse: s-maj=7.8km s-min=5.0km az=40.6*
*WEL **10** 23:17:23.3±0.3, 44°.96S×167°.50E, h102km±2km, ML4.8/23, Mw4.2, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0*
WEL Felt between Otago, Southland and Fiordland, maximum reported intensity MM 5.
*NEIC **10** 23:17:23.3±0.0, 44°.97S×167°.49E, h102km, mb4.2/2, After WEL.*
NEIC Felt in western Otago.
*IDC **10** 23:17:24.3±3.1, 44°.76S×167°.78E, h115km±31km, mb3.6/4, mb1 3.9/6, mb1mx3.5/28, mbtmp4.1/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/18, Error ellipse: s-maj=33.4km s-min=22.6km az=36.0*
ISC 10 23:17:23.5±0.7, 44°.91S±0°.05×167°.62E±0°.06, h106km, n70, σ1°16/71, mb4.0/6, 5C-5D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.33**	**43**	Pn	**Pn**	**23 17 38.9**	**0.0**
MSZ				Sn	**Sn**	**23 17 50.2**	**-0.2**
MSZ	**Milford Sound**	**0.33**	**43**	⇓PN	**Pn**	**23 17 38.9**	**0.0**
MSZ				SN	**Sn**	**23 17 50.2**	**-0.2**
MSZ				AML	AML	23 17 51.4	
MSZ				AML	AML	23 17 52.0	
MLZ	**Mavora Lakes**	**0.58**	**142**	Pn	**Pn**	**23 17 39.9**	**-0.7**
MLZ				Sn	**Sn**	**23 17 52.1**	**-1.2**
MLZ	**Mavora Lakes**	**0.58**	**142**	PN	**Pn**	**23 17 39.9**	**-0.7**
MLZ				SN	**Sn**	**23 17 52.1**	**-1.2**
MLZ				AML	AML	23 17 52.4	
DCZ	**Deep Cove**	**0.64**	**210**	Pn	**Pn**	**23 17 39.2**	**-1.8**
DCZ	**Deep Cove**	**0.64**	**210**	PN	**Pn**	**23 17 39.2**	**-1.8**
DCZ				AML	AML	23 17 52.2	
DCZ				AML	AML	23 17 52.2	
DCZ				AML	AML	23 17 52.4	
DCZ				AML	AML	23 17 52.4	
WKZ	**Wanaka**	**1.00**	**86**	Pn	**Pn**	**23 17 44.9**	**+0.5**
WKZ	**Wanaka**	**1.00**	**86**	PN	**Pn**	**23 17 44.9**	**+0.5**
WKZ				AML	AML	23 18 02.9	
WKZ				AML	AML	23 18 03.0	
WKZ				AML	AML	23 18 03.6	
WKZ				AML	AML	23 18 03.6	
WHZ	**Wether Hill Ro**	**1.01**	**167**	Pn	**Pn**	**23 17 43.4**	**-1.1**
WHZ	**Wether Hill Ro**	**1.01**	**167**	PN	**Pn**	**23 17 43.4**	**-1.1**
WHZ				AML	AML	23 17 58.7	
WHZ				AML	AML	23 17 58.8	
JCZ	**Jackson Bay**	**1.19**	**45**	Pn	**Pn**	**23 17 46.5**	**0.0**
JCZ	**Jackson Bay**	**1.19**	**45**	⇓PN	**Pn**	**23 17 46.5**	**0.0**
JCZ				AML	AML	23 18 04.6	
JCZ				AML	AML	23 18 08.4	
EAZ	**Earnscleugh**	**1.24**	**105**	Pn	**Pn**	**23 17 47.3**	**+0.3**
EAZ	**Earnscleugh**	**1.24**	**105**	⇑PN	**Pn**	**23 17 47.3**	**+0.3**
EAZ				AML	AML	23 18 05.1	
EAZ				AML	AML	23 18 05.1	
EAZ				AML	AML	23 18 05.5	
EAZ				AML	AML	23 18 05.5	
PYZ	**Puysegur Point**	**1.42**	**207**	Pn	**Pn**	**23 17 48.0**	**-1.1**
PYZ	**Puysegur Point**	**1.42**	**207**	PN	**Pn**	**23 17 48.0**	**-1.1**
PYZ				AML	AML	23 18 06.8	
PYZ				AML	AML	23 18 06.8	
PYZ				AML	AML	23 18 07.6	
PYZ				AML	AML	23 18 07.7	
TUZ	**Tuapeka**	**1.76**	**127**	Pn	**Pn**	**23 17 53.1**	**-0.2**
TUZ	**Tuapeka**	**1.76**	**127**	⇑PN	**Pn**	**23 17 53.1**	**-0.2**
TUZ				AML	AML	23 18 14.3	
TUZ				AML	AML	23 18 14.3	
TUZ				AML	AML	23 18 15.4	
TUZ				AML	AML	23 18 15.4	
LBZ	**Lake Benmore**	**1.91**	**75**	Pn	**Pn**	**23 17 54.8**	**-0.4**
LBZ	**Lake Benmore**	**1.91**	**75**	⇑PN	**Pn**	**23 17 54.8**	**-0.4**
LBZ				AML	AML	23 18 19.2	
LBZ				AML	AML	23 18 19.2	
LBZ				AML	AML	23 18 19.3	
LBZ				AML	AML	23 18 19.3	
APZ	**The Paps**	**1.94**	**172**	Pn	**Pn**	**23 17 54.4**	**-1.1**
APZ	**The Paps**	**1.94**	**172**	⇓PN	**Pn**	**23 17 54.4**	**-1.1**
APZ				AML	AML	23 18 20.0	
APZ				AML	AML	23 18 20.9	
SYZ	**Scrubby Hill**	**1.94**	**147**	Pn	**Pn**	**23 17 55.1**	**-0.5**
SYZ	**Scrubby Hill**	**1.94**	**147**	PN	**Pn**	**23 17 55.1**	**-0.5**
SYZ				AML	AML	23 18 18.8	
SYZ				AML	AML	23 18 18.8	
SYZ				AML	AML	23 18 19.7	
SYZ				AML	AML	23 18 19.7	
FOZ	**Fox Glacier**	**2.10**	**50**	Pn	**Pn**	**23 17 57.2**	**-0.4**
FOZ	**Fox Glacier**	**2.10**	**50**	PN	**Pn**	**23 17 57.2**	**-0.4**
FOZ				AML	AML	23 18 25.9	
FOZ				AML	AML	23 18 25.9	
FOZ				AML	AML	23 18 27.3	
FOZ				AML	AML	23 18 27.3	
ODZ	**Otahua Downs**	**2.15**	**95**	Pn	**Pn**	**23 17 58.0**	**-0.2**
ODZ	**Otahua Downs**	**2.15**	**95**	PN	**Pn**	**23 17 58.0**	**-0.2**
ODZ				AML	AML	23 18 23.7	
ODZ				AML	AML	23 18 23.7	
ODZ				AML	AML	23 18 24.2	
ODZ				AML	AML	23 18 24.2	
HHSZ	**Highcliff Hill**	**2.32**	**116**	Pn	**Pn**	**23 18 00.5**	**+0.1**
HHSZ	**Highcliff Hill**	**2.32**	**116**	⇓PN	**Pn**	**23 18 00.5**	**+0.1**
HHSZ				AML	AML	23 18 28.9	
HHSZ				AML	AML	23 18 29.0	
RPZ	**Rata Peaks**	**2.74**	**65**	P	**Pn**	**23 18 05.3**	**-0.8**
37nm,0.3s,baz=226,slow=6.2,SNR=48							
RPZ				S	**Sn**	**23 18 36.7**	**-2.0**
186nm,0.3s,baz=39,slow=22,SNR=48							
RPZ				LR	LR	23 19 05.3	
comp=Z,208nm,19.3s,baz=216,slow=39							
RPZ	**Rata Peaks**	**2.74**	**65**	⇑PN	**Pn**	**23 18 05.3**	**-0.8**
RPZ				AML	AML	23 18 39.0	
RPZ				AML	AML	23 18 39.1	
WVZ	**Waitaha Valley**	**2.91**	**52**	Pn	**Pn**	**23 18 07.3**	**-0.8**
WVZ	**Waitaha Valley**	**2.91**	**52**	PN	**Pn**	**23 18 07.3**	**-0.8**
WVZ				AML	AML	23 18 44.3	
WVZ				AML	AML	23 18 46.9	
INZ	**Inchbonnie**	**3.53**	**53**	⇓PN	**Pn**	**23 18 15.8**	**-0.6**
OXZ	**Oxford**	**3.56**	**65**	PN	**Pn**	**23 18 16.6**	**-0.2**
OXZ				AML	AML	23 18 57.6	
OXZ				AML	AML	23 18 57.7	
OXZ				AML	AML	23 19 00.5	
OXZ				AML	AML	23 19 00.6	
MQZ	**McQueen's Vall**	**3.81**	**73**	PN	**Pn**	**23 18 19.1**	**-1.1**
CRLZ	**Canterbury Las**	**3.84**	**71**	PN	**Pn**	**23 18 21.1**	**+0.5**
LTZ	**Lake Taylor**	**3.98**	**59**	PN	**Pn**	**23 18 21.2**	**-1.4**
LTZ				AML	AML	23 19 09.7	
DSZ	**Denniston Nort**	**4.40**	**45**	Pn	**Pn**	**23 18 27.6**	**-0.7**
DSZ	**Denniston Nort**	**4.40**	**45**	⇑PN	**Pn**	**23 18 27.5**	**-0.7**
DSZ				AML	AML	23 19 17.7	
DSZ				AML	AML	23 19 17.7	
DSZ				AML	AML	23 19 18.4	
DSZ				AML	AML	23 19 18.4	
KHZ	**Kahutara**	**4.97**	**62**	Pn	**Pn**	**23 18 34.5**	**-1.4**
KHZ	**Kahutara**	**4.97**	**62**	PN	**Pn**	**23 18 34.4**	**-1.4**
THZ	**Tophouse**	**4.98**	**53**	Pn	**Pn**	**23 18 34.6**	**-1.5**
THZ	**Tophouse**	**4.98**	**53**	PN	**Pn**	**23 18 34.6**	**-1.5**
THZ				AML	AML	23 19 31.6	
THZ				AML	AML	23 19 33.2	
QRZ	**Quartz Range**	**5.45**	**43**	Pn	**Pn**	**23 18 41.9**	**-0.5**
QRZ	**Quartz Range**	**5.45**	**43**	PN	**Pn**	**23 18 41.9**	**-0.5**
QRZ				AML	AML	23 19 45.5	
QRZ				AML	AML	23 19 45.5	
QRZ				AML	AML	23 19 56.6	
QRZ				AML	AML	23 19 56.6	
NNZ	**Nelson**	**5.61**	**51**	AML	AML	23 19 49.4	
NNZ				AML	AML	23 19 51.2	
TCW	**Tory Channel**	**6.12**	**55**	Pn	**Pn**	**23 18 52.0**	**+0.5**
TCW	**Tory Channel**	**6.12**	**55**	PN	**Pn**	**23 18 51.9**	**+0.5**
DUWZ	**D'Urville Isla**	**6.19**	**51**	Pn	**Pn**	**23 18 53.7**	**+1.2**
DUWZ	**D'Urville Isla**	**6.19**	**51**	PN	**Pn**	**23 18 53.7**	**+1.2**
SNZO	**South Karori**	**6.32**	**58**	*e*Pn	**Pn**	**23 18 55.5**	**+1.4**
SNZO				*e*S	**Sn**	**23 19 58.6**	**-6.1**
KHEZ	**Kahui Hut**	**7.36**	**42**	Pn	**Pn**	**23 19 09.8**	**+1.5**
URZ	**Urewera**	**9.73**	**50**	P	**Pn**	**23 19 39.8**	**-0.7**
0.5nm,0.3s,baz=229,slow=7.5,SNR=2.2							
URZ				S	Sn	23 21 18.9	-8.9
1.7nm,0.3s,baz=154,slow=18,SNR=5.7							
ASAR	**Alice Springs**	**34.63**	**296**	P	**P**	**23 24 01.7**	**-0.9**
0.8nm,0.8s,baz=145,slow=7.1,SNR=6.5							
WRA	**Warramunga Arr**	**37.11**	**301**	P	**P**	**23 24 23.8**	**0.0**
1.1nm,0.6s,baz=136,slow=8.0,SNR=9.2							
WRAB	**Tennant Creek**	**37.11**	**301**	*e*P	**P**	**23 24 24.1**	**+0.3**
0.6nm,0.5s							
H01W1	**Cape Leeuwin H**	**41.54**	**265**	T	T	00 09 10.8	
baz=121,slow=76,SNR=11							
H01W2	**Cape Leeuwin H**	**41.55**	**265**	T	T	00 09 11.3	
baz=121,slow=76,SNR=14							
H01W3	**Cape Leeuwin H**	**41.56**	**265**	T	T	00 09 08.7	
baz=121,slow=76,SNR=12							
QSPA	**South Pole Qui**	**45.21**	**180**	*e*P	**P**	**23 25 31.3**	**+1.6**
11nm,0.9s							
SNAA	**Sanae**	**63.52**	**183**	P	**P**	**23 27 42.0**	**0.0**
1.4nm,0.8s,baz=160,slow=6.0,SNR=5.5							
MJAR	**Matsushiro Arr**	**85.33**	**337**	LR	LR	00 07 09.4	
comp=Z,10nm,19.2s,baz=335,slow=35							
CMAR	**Chiang Mai Arr**	**88.63**	**298**	P	**P**	**23 30 05.7**	**+1.0**
0.7nm,0.3s,baz=169,slow=2.9,SNR=5.6							
DBIC	**Dimbokro**	**141.34**	**192**	PKP	**PKPdf**	**23 36 43.6**	**+1.4**
13nm,1.2s,baz=22,slow=4.4,SNR=4.3							
BRTR	**Keskin Array B**	**145.94**	**278**	PKPbc	**PKPdf**	**23 36 49.7**	**+0.1**
1.3nm,0.8s,baz=136,slow=5.6,SNR=7.2							
TORD	**Torodi Ar. Bea**	**146.14**	**205**	PKPbc	**PKPdf**	**23 36 50.9**	**+0.4**
3.2nm,0.7s,baz=154,slow=2.3,SNR=23							
AKASG	**Malin Array Be**	**151.75**	**297**	PKPbc	**PKPbc**	**23 37 04.7**	**-0.1**
0.2nm,0.2s,baz=88,slow=2.1,SNR=4.4							
FINES	**FINESS Array B**	**152.18**	**320**	PKPbc	**PKPbc**	**23 37 05.3**	**-0.2**
6.9nm,1.2s,baz=201,slow=16,SNR=4.0							

*IDC **10** 23:18:59.5±3.4, 17°.43S×65°.82E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.6/50, mbtmp3.9/8, MS3.6/11, Ms1 3.6/11, ms1mx3.3/38, Error ellipse: s-maj=101.5km s-min=27.1km az=57.0*
*NEIC **10** 23:19:01.4±2.2, 17°.39S×65°.85E, h10km, mb4.3/2, Error ellipse: s-maj=67.7km s-min=17.8km az=55.0*
ISC 10 23:19:02.7±3.4, 17°.4S±0°.4×65°.9E±0°.6, h17km, n28, σ0°80/11, mb4.1/10, MS3.6/10, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**11.63**	**34**	T	T	23 31 47.4	
baz=211,slow=75,SNR=662							
H08S2	**Diego Garcia H**	**11.64**	**35**	T	T	23 31 49.8	
baz=211,slow=75,SNR=410							
H08S3	**Diego Garcia H**	**11.65**	**34**	T	T	23 31 49.0	
baz=211,slow=75,SNR=544							
H08N3	**Diego Garcia H**	**12.06**	**25**	T	T	23 32 57.5	
baz=200,slow=75,SNR=66							
H08N1	**Diego Carcia H**	**12.07**	**25**	T	T	23 32 57.9	
baz=200,slow=75,SNR=70							
H08N2	**Diego Garcia H**	**12.09**	**25**	T	T	23 33 04.0	
baz=200,slow=75,SNR=39							
OPO	**Ambohidratompo**	**17.80**	**263**	LR	LR	23 28 30.0	
comp=Z,115nm,21.3s,baz=129,slow=32							
PALK	**Pallekele**	**28.55**	**32**	LR	LR	23 33 35.3	
comp=Z,68nm,18.6s,baz=296,slow=31							
KMBO	**Kilima Mbogo**	**32.44**	**297**	LR	LR	23 36 26.7	
comp=Z,114nm,18.4s,baz=93,slow=32							
BOSA	**Boshof**	**38.84**	**246**	LR	LR	23 39 31.8	
comp=Z,69nm,19.2s,baz=72,slow=32							
H01W2	**Cape Leeuwin H**	**46.25**	**122**	T	T	00 16 32.3	
baz=282,slow=75,SNR=7.2							
H01W3	**Cape Leeuwin H**	**46.25**	**122**	T	T	00 16 37.5	
baz=282,slow=75,SNR=9.4							
H01W1	**Cape Leeuwin H**	**46.27**	**122**	T	T	00 16 31.4	
baz=282,slow=75,SNR=8.2							
CMAR	**Chiang Mai Arr**	**48.24**	**44**	P	**P**	**23 27 43.0**	**+0.1**
0.6nm,0.3s,baz=238,slow=8.7,SNR=8.4							
CMAR				LR	LR	23 43 46.3	
comp=Z,27nm,21.7s,baz=290,slow=31							
MAW	**Mawson**	**50.23**	**181**	LR	LR	23 44 21.6	
comp=

DBIC	**Dimbokro**	**73.80 282**	LR	LR	00 02 24.5	
	comp=Z,44nm,18.3s,baz=65,slow=35					
SONM	**Songino Array**	**74.36 27**	P	**P**	**23 30 40.3**	**+0.7**
	0.9nm,0.8s,baz=213,slow=6.5,SNR=6.2					

*IDC **10** 23:36:41.3±3.1,20.°04S×175.°87W,h152km±32km,mb3.7/5, mb1 3.9/7,mb1mx3.6/39,mbtmp4.3/7,Error ellipse: s-maj=26.7km s-min=21.6km az=75.0*

ISC 10 23:36:50.0±1.7,20.°5S±0.°2×176.°2W±0.°2,h211km,n10, σ1°56/11,mb3.9/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**33**	P	Pn	23 38 24.3	-16
	3.9nm,0.3s,baz=157,slow=3.2,SNR=5.4						
AFI				S	S	23 39 37.5	-30
	9.5nm,0.3s,baz=132,slow=23,SNR=5.6						
DZM	**Mont Dzumac**	**16.31**	**261**	P	**Pn**	**23 40 30.2**	**+2.6**
	1.4nm,0.3s,baz=80,slow=19,SNR=17						
URZ	**Urewera**	**18.67**	**197**	P	**P**	**23 40 52.7**	**+0.4**
	3.9nm,0.3s,baz=324,slow=3.3,SNR=11						
URZ				S	**S**	**23 44 11.7**	**-1.9**
	0.6nm,0.3s,baz=201,slow=19,SNR=1.1						
STKA	**Stephens Creek**	**39.37**	**244**	P	**P**	**23 43 59.4**	**+0.1**
	1.0nm,0.4s,baz=86,slow=12,SNR=4.5						
JAY	**Jayapura**	**45.68**	**287**	P	**P**	**23 44 49.5**	**-0.7**
	194nm,0.6s,baz=126,slow=4.1,SNR=25						
ASAR	**Alice Springs**	**46.22**	**256**	P	**P**	**23 44 53.5**	**-0.8**
	4.0nm,0.6s,baz=94,slow=8.3,SNR=43						
ASAR				PcP	**PcP**	**23 46 24.4**	**-2.0**
	0.6nm,0.5s,baz=96,slow=3.4,SNR=4.0						
WRA	**Warramunga Arr**	**46.32**	**262**	P	**P**	**23 44 54.1**	**-1.1**
	3.9nm,0.3s,baz=96,slow=7.5,SNR=83						
VNDA	**Vanda**	**58.11**	**186**	P	**P**	**23 46 22.4**	**+1.4**
	0.3nm,0.5s,baz=348,slow=7.3,SNR=4.8						
MAW	**Mawson**	**82.18**	**199**	P	**P**	**23 48 47.1**	**+0.1**
	1.0nm,0.5s,baz=128,slow=7.3,SNR=5.7						
BRTR	**Keskin Array B**	**148.08**	**314**	PKPbc	**PKPdf**	**23 56 08.3**	**+0.7**
	1.5nm,0.6s,baz=130,slow=4.7,SNR=9.0						

MEX 10 23:41:30.3±0.7,17.°03N×100.°11W,h6km±7km,MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.15**	**277**	*e*P	Pg	23 41 32.8	-0.6
CAIG				*e*S	Sg	23 41 35.3	0.0
ACX	**Acapulco**	**0.29**	**123**	*i* P	Pb	23 41 39.2	+1.2
ACX				*e*S	Sb	23 41 43.6	+0.5
MEIG	**Mezcala**	**1.01**	**28**	*e*P	Pg	23 41 46.3	-3.4
MEIG				*i* S	Sg	23 41 59.1	-3.7
ARIG	**Puente Sto Nin**	**1.27**	**350**	*e*P	Pg	23 41 51.3	-3.3
ARIG				*e*S	Sg	23 42 07.1	-3.9
ZIIG	**Zihuatanejo**	**1.41**	**294**	*e*P	Pn	23 41 52.7	-3.9
ZIIG				*e*S	Sb	23 42 10.4	-5.1
PLIG	**Plataniillo**	**1.48**	**23**	*e*P	Pn	23 41 55.1	-2.5
PLIG				*e*S	Sn	23 42 12.4	-4.9
TLIG	**Tlapa**	**1.57**	**70**	*e*P	Pn	23 41 55.4	-3.5
TLIG				*e*S	Sn	23 42 14.7	-5.0
PNIG	**Pinotepa**	**2.01**	**108**	*e*P	Pn	23 42 01.4	-3.4
PNIG				*i* S	Sn	23 42 25.7	-4.6

*ISCJB **10** 23:43:17.2±0.7, 19.°4S±0.°2×177.°5W±0.°1,h550km,mb4.0/6, Error ellipse: s-maj=24.1km s-min=10.1km az=144.3*
*IDC **10** 23:43:18.7±1.7, 19.°26S×177.°57W,h557km±19km,mb3.3/5, mb1 3.4/6,mb1mx3.1/32,mbtmp4.2/6,Error ellipse: s-maj=30.5km s-min=15.4km az=156.0*

ISC 10 23:43:17.9±0.7,19.°3S±0.°2×177.°5W±0.°1,h550km,n18, σ1°14/22,mb3.9/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**46**	P	**P**	**23 45 13.5**	**+0.8**
	3.1nm,0.3s,baz=311,slow=3.9,SNR=5.3						
AFI				S	**S**	**23 46 44.7**	**-2.1**
	3.0nm,0.3s,baz=249,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**23 49 56.0**	**+0.6**
	1.5nm,0.5s,baz=105,slow=7.2,SNR=3.9						
JAY	**Jayapura**	**44.14**	**287**	P	**P**	**23 50 39.1**	**+0.8**
	26nm,0.6s,baz=86,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**45.24**	**261**	P	**P**	**23 50 46.5**	**-0.3**
	1.0nm,0.3s,baz=97,slow=7.7,SNR=14						
WRA				PcP	**PcP**	**23 52 14.5**	**-0.6**
	0.5nm,0.5s,baz=97,slow=3.8,SNR=3.7						
ASAR	**Alice Springs**	**45.26**	**256**	P	**P**	**23 50 46.9**	**0.0**
	2.3nm,0.4s,baz=85,slow=8.6,SNR=29						
ASAR				PcP	**PcP**	**23 52 14.6**	**-0.6**
	1.1nm,0.7s,baz=98,slow=4.0,SNR=7.1						
ASAR				S	**S**	**23 56 44.5**	**-2.9**
	0.8nm,0.7s,baz=91,slow=15,SNR=8.4						
MAW	**Mawson**	**82.82**	**200**	P	**P**	**23 54 44.3**	**0.0**
	1.0nm,0.7s,baz=156,slow=7.4,SNR=2.6						
VNA3	**Neumayer Olymp**	**89.27**	**176**	P	**P**	**23 55 14.7**	**-0.5**
VNA2	**Neumayer--Watz**	**89.72**	**177**	P	**P**	**23 55 16.9**	**-0.4**
	baz=192,slow=5.2						
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P	**P**	**23 55 21.6**	**+1.2**
	0.7nm,0.4s,baz=118,slow=2.2,SNR=7.9						
MKAR	**Makanchi Array**	**110.74**	**314**	PKiKP	**PKiKP**	**00 00 46.8**	**-1.6**
	0.2nm,0.3s,baz=169,slow=3.7,SNR=4.5						
ARCES	**ARCESS Array B**	**127.86**	**350**	PKP	**PKPdf**	**00 01 19.9**	**-0.6**
	1.3nm,0.7s,baz=60,slow=2.9,SNR=7.1						
FINES	**FINESS Array B**	**134.78**	**344**	PKP	**PKPdf**	**00 01 34.3**	**+0.5**
	3.2nm,0.9s,baz=103,slow=6.1,SNR=3.3						
AKASG	**Malin Array Be**	**142.21**	**332**	PKP	**PKPdf**	**00 01 48.7**	**+1.0**
	0.6nm,0.5s,baz=355,slow=10,SNR=4.1						
BRTR	**Keskin Array B**	**146.39**	**314**	PKPbc	**PKPdf**	**00 01 57.0**	**+1.6**
	1.5nm,0.6s,baz=138,slow=5.3,SNR=7.8						
DPC	**Dobruska-Polom**	**147.15**	**344**	*e*P	**PKPbc**	**00 01 59.7**	**+0.3**
KHC	**Kasperske Hory**	**148.96**	**346**	*e*P	**PKPbc**	**00 02 03.8**	**-0.2**
GERES	**GERESS Array B**	**149.20**	**345**	PKPbc	**PKPbc**	**00 02 04.0**	**-0.7**
	1.3nm,0.8s,baz=347,slow=4.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**173.80**	**173**	PKPab	**PKPab**	**00 03 59.8**	**+0.6**
	0.2nm,0.7s,baz=171,slow=3.5,SNR=2.4						

*ISK **11** 00:03:27.9,37.°31N×34.°39E,h6km,MD2.6*
*CSEM **11** 00:03:28.9±0.7,37.°24N×34.°48E,h5km,MD2.6,Error ellipse: s-maj=16.7km s-min=14.1km az=70.0*
*ISCJB **11** 00:03:29.6±0.6,37.°24N±0.°04×34.°44E±0.°04,h11km,Error ellipse: s-maj=6.1km s-min=4.8km az=27.2*
*DDA **11** 00:03:30.3,37.°28N×34.°48E,h7km,Md2.6*

ISC 11 00:03:29.1±1.0,37.°25N±0.°04×34.°44E±0.°03,h11km,n16, σ0°43/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERG	**Konya-Eregli**	**0.30**	**304**	*i* P	**Pb**	**00 03 37.0**	**+0.3**
KERG				*i* S	**Sb**	**00 03 41.5**	**-0.2**
KERG	**Konya-Eregli**	**0.30**	**304**	P	**Pb**	**00 03 37.0**	**+0.3**
KERG				S	**Sb**	**00 03 41.5**	**-0.2**
MERS	**Mersin**	**0.38**	**170**	*e*PG	**Pg**	**00 03 37.6**	**+0.9**
MERS				*e*SG	**Sb**	**00 03 44.0**	**+0.1**
MERS	**Mersin**	**0.38**	**170**	*e*Pg	**Pg**	**00 03 37.6**	**+0.9**
MERS				*e*Sg	**Sb**	**00 03 44.0**	**+0.1**
DED	**Mersin**	**0.40**	**135**	*i* P	**Pb**	**00 03 38.4**	**+0.1**
DED				*i* S	**Sb**	**00 03 44.0**	**-0.4**
AKO	**Adana**	**0.83**	**75**	*i* P	**Pb**	**00 03 45.1**	**-0.5**
AKO				*i* S	**Sb**	**00 03 56.5**	**-0.3**
KEBE	**Keben-Mersin**	**0.99**	**216**	*e*PG	**Pg**	**00 03 47.9**	**-0.3**
KEBE	**Keben-Mersin**	**0.99**	**216**	*e*Pg	**Pg**	**00 03 47.9**	**-0.3**
KOZT	**Kozan**	**1.13**	**78**	*e*PN	**Pb**	**00 03 50.4**	**-0.3**
KOZT	**Kozan**	**1.13**	**78**	*e*Pn	**Pb**	**00 03 50.4**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.14**	**225**	*e*PN	**Pb**	**00 03 50.4**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.14**	**225**	*e*Pn	**Pb**	**00 03 50.4**	**-0.5**
IKL	**Isikli**	**1.18**	**211**	*e*PN	**Pn**	**00 03 51.2**	**-0.3**
IKL	**Isikli**	**1.18**	**211**	*e*Pn	**Pn**	**00 03 51.2**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.53**	**225**	*e*PN	**Pn**	**00 03 56.8**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.53**	**225**	*e*Pn	**Pn**	**00 03 56.8**	**+0.4**

*DDA **11** 00:06:05.6,39.°62N×38.°76E,h7km,Md2.7*
*ISCJB **11** 00:06:06.2±0.8,39.°65N±0.°03×38.°73E±0.°06,h9km±6km, Error ellipse: s-maj=8.3km s-min=5.3km az=18.9*
*CSEM **11** 00:06:06.2±0.3,39.°63N×38.°76E,h10km,MD2.7,Error ellipse: s-maj=7.7km s-min=6.0km az=107.0*
*ISK **11** 00:06:06.7,39.°52N×38.°60E,h2km,MD2.7*

ISC 11 00:06:06.5±1.0,39.°63N±0.°03×38.°75E±0.°03,h15km±7km, n14,σ0°77/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.23**	**176**	*i* P	**Pg**	**00 06 11.4**	**-0.4**
REFA				*i* S	**Sg**	**00 06 16.2**	**+0.9**
REFA	**Refahiye_ERZ**	**0.23**	**176**	*i* P	**Pg**	**00 06 11.4**	**-0.4**
REFA				S	**Sg**	**00 06 16.2**	**+0.9**
KEMA	**Kemaliye**	**0.41**	**209**	*i* P	**Pg**	**00 06 13.5**	**-1.3**
KEMA				*i* S	**Sg**	**00 06 20.1**	**-0.3**
KEMA	**Kemaliye**	**0.41**	**209**	P	**Pg**	**00 06 13.5**	**-1.3**
KEMA				S	**Sg**	**00 06 20.1**	**-0.3**
KELT	**Kelkit**	**0.65**	**37**	*i* P	**Pg**	**00 06 18.4**	**-0.9**
KELT				*i* S	**Sg**	**00 06 27.9**	**-0.1**
KELT	**Kelkit**	**0.65**	**37**	P	**Pg**	**00 06 18.4**	**-0.9**
KELT				S	**Sg**	**00 06 27.9**	**-0.1**
PTK	**Pertek**	**0.89**	**146**	*e*PG	**Pb**	**00 06 24.3**	**+0.6**
PTK				*e*SG	**Sn**	**00 06 37.5**	**+0.1**
PTK	**Pertek**	**0.89**	**146**	*e*Pg	**Pb**	**00 06 24.3**	**+0.6**
PTK				*e*Sg	**Sn**	**00 06 37.5**	**+0.1**
ELZG	**Elazig**	**1.15**	**171**	*i* P	**Pg**	**00 06 27.2**	**-1.4**
ELZG				*i* S	**Sb**	**00 06 43.7**	**+0.9**
ELZG	**Elazig**	**1.15**	**171**	P	**Pg**	**00 06 27.2**	**-1.4**
ELZG				S	**Sb**	**00 06 43.7**	**+0.9**
SVSK	**Karacayir**	**1.38**	**283**	*e*PN	**Pg**	**00 06 32.6**	**-0.3**
SVSK				*e*SN	**Sg**	**00 06 51.4**	**+0.5**
SVSK	**Karacayir**	**1.38**	**283**	*e*Pn	**Pg**	**00 06 32.7**	**-0.3**
SVSK				*e*Sn	**Sg**	**00 06 51.4**	**+0.5**
DARE	**Darende-Malaty**	**1.44**	**223**	*e*PN	**Pn**	**00 06 32.2**	**0.0**
DARE				*e*SN	**Sb**	**00 06 50.8**	**-0.5**
DARE	**Darende-Malaty**	**1.44**	**223**	*e*Pn	**Pn**	**00 06 32.2**	**0.0**
DARE				*e*Sn	**Sb**	**00 06 50.8**	**-0.5**

*IDC **11** 00:10:08.0±2.0,26.°88S×176.°36W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/25,mbtmp4.0/3,ML5.0/1,MS3.8/2, Ms1 3.8/2,ms1mx3.0/30,Error ellipse: s-maj=47.1km s-min=40.0km az=40.0*

ISC 11 00:10:13.5±2.0,27.°0S±0.°1×176.°4W±0.°2,h35km,n12, σ1°01/8,mb3.9/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**212**	Pn	**Pn**	**00 10 52.8**	**-0.3**
	244nm,0.3s,baz=89,slow=8.8,SNR=28						
RAO				Sn	**Sn**	**00 11 23.8**	**+0.4**
	256nm,0.3s,baz=92,slow=21,SNR=6.9						
URZ	**Urewera**	**12.46**	**205**	Sn	Sn	00 15 14.6	-11
	0.6nm,0.3s,baz=53,slow=20,SNR=4.7						
DZM	**Mont Dzumac**	**16.41**	**284**	Pn	**P**	**00 14 04.0**	**+0.2**
	0.1nm,0.3s,baz=108,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**16.41**	**284**	*e*LR	LR	00 18 00.0	
	262nm,23.3s						
PPT2	**Papeete2**	**26.45**	**75**	*e*LR	LR	00 22 17.2	
	102nm,24.0s						
PPT	**Papeete**	**26.46**	**75**	LR	LR	00 25 07.0	
	comp=Z,101nm,18.2s,baz=188,slow=34						
CTA	**Charters Tower**	**34.87**	**273**	P	**P**	**00 17 03.0**	**+1.2**
	3.3nm,0.4s,baz=92,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**44.85**	**263**	P	**P**	**00 18 23.4**	**-1.2**
	0.3nm,0.4s,baz=89,slow=6.9,SNR=7.5						
WRA	**Warramunga Arr**	**45.54**	**268**	P	**P**	**00 18 28.9**	**-1.3**
	1.1nm,0.7s,baz=104,slow=8.1,SNR=9.5						
PMSA	**Palmer Station**	**74.72**	**156**	LR	LR	00 46 36.0	
	comp=Z,91nm,20.2s,baz=183,slow=29						
MMAI	**Mount Meron Ar**	**151.94**	**290**	PKPbc	**PKPbc**	**00 30 05.5**	**+0.3**
	0.3nm,0.5s,baz=64,slow=3.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**166.06**	**172**	PKPab	**PKPab**	**00 31 16.0**	**+0.3**
	0.6nm,0.6s,baz=205,slow=3.2,SNR=5.6						

*ISCJB **11** 00:10:53.3±0.3,35.°85S±0.°03×71.°50W±0.°07,h101km±4km, mb4.2/9,Error ellipse: s-maj=10.4km s-min=4.1km az=24.0*
*GUC **11** 00:10:54.6±0.5,35.°83S×71.°54W,h100km±3km,ML4.3*
*NEIC **11** 00:10:54.0±0.0,35.°83S×71.°54W,h100km,mb4.5/3,After GUC.*
NEIC Felt [IV] at Cauquenes, Constitucion, Linares, Longavi, Maule, Parral and Pencahue; [III] at Cabrero, Chillan and Talca; [II] at Cobquecura, Concepcion, Los Angeles and Quirihue.
*IDC **11** 00:10:55.2±2.8,35.°84S×71.°24W,h95km±25km,mb4.0/7, mb1 4.1/11,mb1mx3.8/30,mbtmp4.3/11,Error ellipse: s-maj=31.6km s-min=14.8km az=90.0*
*SJA **11** 00:11:09.8±0.9,34.°76S×70.°48W,h161km±18km,ML3.5, MW3.4*

ISC 11 00:10:54.6±0.7,35.°84S±0.°04×71.°49W±0.°07,h93km±7km, n50,σ1°54/60,mb4.2/9,1C-5D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.86**	**14**	*e*P	**Pn**	**00 11 13.2**	**+0.3**
NICH				*e*S	**Sn**	**00 11 27.4**	**+0.7**
NICH				IAML		00 11 32.5	
	comp=N,18μm,0.5s						
CCHI	**Chillan**	**0.90**	**212**	*e*P	**Pn**	**00 11 13.3**	**0.0**
CCHI				*e*S	**Sn**	**00 11 28.0**	**+0.6**
CCHI				IAML		00 11 28.5	
	comp=N,17μm,0.6s						
GO05	**HualaæØ**	**0.91**	**336**	*e*P	**Pn**	**00 11 13.6**	**+0.2**
GO05				*e*S	**Sn**	**00 11 27.7**	**+0.2**
GO05				IAML		00 11 28.9	
	comp=N,7μm,0.6s						
COCH	**Cobquecura**	**1.10**	**254**	*e*P	**Pn**	**00 11 15.4**	**0.0**
COCH				*e*S	**Sn**	**00 11 30.7**	**-0.5**
COCH				IAML		00 11 33.0	
	comp=N,4μm,0.7s						
CHPI	**Pichilemu**	**1.51**	**343**	*e*P	**Pn**	**00 11 20.4**	**-0.1**
CHPI				*e*S	**Sn**	**00 11 39.6**	**-0.5**
CHPI				IAML		00 11 41.3	
	comp=N,2μm,0.5s						
CCSP	**San Pedro de C**	**1.65**	**232**	*e*P	**Pn**	**00 11 20.9**	**-1.3**
CCSP				*e*S	**Sn**	**00 11 41.8**	**-1.6**
CCSP				IAML		00 11 44.2	
	comp=N,10μm,0.3s						
ANTU	**Antumapu**	**2.37**	**17**	*e*P	**Pn**	**00 11 32.0**	**+0.2**
ANTU				*e*S	**Sn**	**00 12 00.6**	**+0.3**
ANTU				IAML		00 12 24.9	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**2.56**	**18**	*e*P	**Pn**	**00 11 34.4**	**0.0**
CLCH				*e*S	**Sn**	**00 12 04.6**	**-0.3**
CLCH				IAML		00 12 24.8	
	comp=E,2μm,1.4s						
PEL	**Peldehue**	**2.77**	**14**	*e*P	**Pn**	**00 11 37.3**	**+0.1**
PEL				*e*S	**Sn**	**00 12 09.8**	**-0.1**
PEL				IAML		00 12 12.5	
	comp=N,1μm,0.3s						
ROC1	**El Roble**	**2.88**	**8**	*e*P	**Pn**	**00 11 38.6**	**-0.2**
AAGR	**Agrelo**	**3.52**	**39**	*e*P	**Pn**	**00 11 47.8**	**+0.6**
ARCO	**CERRO ARCO**	**3.66**	**36**	*e*P	**Pn**	**00 11 50.1**	**+0.8**
ARCO				⇓*e*S	Sn	00 12 20.0	-12
ARCO				IAML		00 12 23.9	
	comp=Z,110nm,0.5s						
ASAL	**Salagasta**	**3.92**	**35**	*e*P	**Pn**	**00 11 53.5**	**+0.9**
ASAL				⇓*e*S	Sn	00 12 22.7	-15
AUSP	**Uspallata**	**4.01**	**26**	*e*P	**Pn**	**00 11 55.6**	**+1.6**
RTLS	**Leoncito**	**4.42**	**25**	*e*P	**Pn**	**00 12 00.8**	**+1.1**
RTLS				IAML		00 12 54.7	
	comp=Z,113nm,0.6s						
RTCV	**Cerro Valdivia**	**4.66**	**33**	⇓*e*P	**Pn**	**00 12 02.7**	**0.0**
PLCA	**Paso Flores**	**4.94**	**172**	P	**Pn**	**00 12 06.5**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=1.3,slow=12,SNR=71						
ACAN	**Cantantal**	**5.04**	**46**	⇓*e*P	**Pn**	**00 12 07.9**	**+0.1**
AMOG	**MOGNA**	**5.49**	**28**	*e*P	**Pn**	**00 12 13.4**	**-0.6**
AVFE	**Valle Fertil**	**6.17**	**34**	*e*P	**Pn**	**00 12 21.5**	**-1.7**
AVFE				IAML		00 13 36.0	
	comp=Z,33nm,0.7s						
AGUA	**GUANDACOL**	**6.82**	**23**	*e*P	**Pn**	**00 12 30.7**	**-1.4**
APLL	**PUNTA DE LOS L**	**6.84**	**39**	*e*P	**Pn**	**00 12 28.6**	**-3.7**
LCO	**Las Campanas**	**6.84**	**6**	*e*Pn	**Pn**	**00 12 32.5**	**-0.1**
LCO				*e*S	**Sn**	**00 13 44.7**	**-4.4**
ACLC	**CERRO LA CRUZ**	**7.45**	**32**	*e*P	**Pn**	**00 12 39.2**	**-1.6**
TRQA	**Tornquist**	**7.93**	**109**	*e*Pn	**Pn**	**00 12 46.9**	**-0.2**
LVC	**Limon Verde**	**13.37**	**10**	*e*S	**P**	**00 14 09.4**	**+2.3**
CPUP	**Villa Florida**	**15.38**	**56**	P	**Pn**	**00 14 26.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=5.2						
EFI	**East Falkland**	**18.51**	**153**	*e*Pn	**P**	**00 15 02.8**	**-0.5**
	comp=Z,44nm,1.1s						
USHA	**Ushuaia**	**19.11**	**175**	P	**P**	**00 15 10.3**	**+0.5**
	comp=Z,40nm,0.3s,baz=339,slow=9.5,SNR=7.6						
LPAZ	**La Paz**	**19.70**	**10**	P	**Pn**	**00 15 18.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=183,slow=8.4,SNR=12						
SIV	**San Ignacio**	**21.84**	**28**	P	**P**	**00 15 37.9**	**-1.7**
	comp=Z,5.7nm,0.8s,baz=226,slow=11,SNR=16						

SAML	**Samuel**	**27.82**	**18**	*e*P	**P**	**00 16 34.3**	**-0.9**
	comp=Z,1.2nm,0.6s						
HOPE	**Hope Point**	**30.40**	**138**	*e*P	**P**	**00 16 57.0**	**-0.7**
VNA3	**Neumayer Olymp**	**47.49**	**157**	P	**P**	**00 19 19.6**	**-0.2**
VNA1	**Neumayer--Stat**	**47.81**	**156**	P	**P**	**00 19 24.7**	**+2.6**
VNA2	**Neumayer--Watz**	**48.14**	**157**	P	**P**	**00 19 24.8**	**0.0**
	baz=287,slow=9.1						
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**00 19 36.6**	**-0.3**
SNAA	**Sanae**	**49.71**	**157**	P	**P**	**00 19 36.5**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=252,slow=5.9,SNR=27						
QSPA	**South Pole Qui**	**54.40**	**180**	*e*P	**P**	**00 20 12.2**	**+0.4**
	comp=Z,4.9nm,0.6s						
SYO	**Syowa Base**	**63.99**	**158**	⇓*e*P	**P**	**00 21 15.3**	**-2.3**
SYO	**Syowa Base**	**63.99**	**158**	⇑*e*pP	pP	00 21 39.2	-1.7
MAW	**Mawson**	**71.29**	**163**	P	**P**	**00 22 03.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=192,slow=7.3,SNR=8.0						
TXAR	**Lajitas Array**	**71.56**	**331**	P	**P**	**00 22 06.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=158,slow=10.0,SNR=9.6						
DBIC	**Dimbokro**	**75.35**	**70**	P	**P**	**00 22 27.8**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=194,slow=5.7,SNR=8.8						
BOSA	**Boshof**	**78.82**	**117**	P	**P**	**00 22 46.9**	**-0.8**
	comp=Z,9.6nm,0.8s,baz=232,slow=2.8,SNR=20						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**00 23 16.4**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=253,slow=4.9,SNR=30						
KVAR	**Kislovodsk Arr**	**130.06**	**59**	PKP	**PKPdf**	**00 29 52.5**	**-0.8**
	comp=Z,8.1nm,1.1s,baz=104,slow=5.8,SNR=3.7						
AAK	**Ala-Archa**	**152.92**	**65**	*e*PKPbc	**PKPbc**	**00 30 41.2**	**+0.2**
ZALV	**Zalesovo Beam**	**155.50**	**35**	PKPbc	**PKPdf**	**00 30 43.9**	**+7.2**
	comp=Z,0.6nm,0.5s,baz=336,slow=3.2,SNR=4.3						
MKAR	**Makanchi Array**	**157.57**	**53**	PKP	**PKPdf**	**00 30 40.8**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=23,slow=1.6,SNR=3.5						
MKAR				PKPab	**PKPab**	**00 31 11.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=300,slow=2.7,SNR=5.9						

*TAP **11** 00:11:15.6,24.°79N×122.°18E,h6km±1km,ML3.2,C*
*JMA **11** 00:11:16.3±0.1,24.°68N×122.°23E,h20km±4km,M2.2*

ISC 11 00:11:13.9±1.2,24.°84N±0.°04×122.°28E±0.°02,h7km±10km, n36,σ0°65/59,3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**303**	⇑*i* P	**Pb**	**00 11 22.0**	**+0.1**
	baz=319						
TWB1				*i* S	**Sb**	**00 11 26.1**	**-1.1**
	baz=319						
TWC	**Suao**	**0.45**	**240**	⇓*i* P	**Pg**	**00 11 22.8**	**+0.2**
	baz=238						
TWC				*e*S	**Sg**	**00 11 27.3**	**-1.2**
	baz=238						
NWF	**Wu-fen Shan**	**0.51**	**298**	⇑*e*P	**Pn**	**00 11 26.9**	**-0.8**
	baz=305						
ENA	**Nanau**	**0.64**	**231**	P	**Pg**	**00 11 26.1**	**0.0**
	baz=229						
ENA				*e*S	**Sb**	**00 11 35.8**	**-0.7**
	baz=229						
TWA	**Mucha**	**0.65**	**283**	*e*P	**Pb**	**00 11 27.8**	**+0.2**
	baz=287						
ENTT	**Nioudou**	**0.68**	**254**	*e*P	**Pb**	**00 11 27.6**	**-0.4**
	baz=254						
ENTT				*e*S	**Sb**	**00 11 36.6**	**-1.1**
	baz=254						
JYNG	**Yonagunijimaku**	**0.72**	**122**	P	**Pb**	**00 11 29.2**	**+0.5**
JYNG				S	**Sb**	**00 11 39.7**	**+0.9**
TWY	**Chenhua**	**0.76**	**306**	P	**Pn**	**00 11 31.1**	**+0.1**
	baz=311						
TWY				*e*S	**Sn**	**00 11 41.9**	**-0.8**
	baz=311						
YOJ	**Yonaguni jima**	**0.76**	**119**	P	**Pn**	**00 11 30.3**	**-0.8**
YOJ				*e*S	**Sb**	**00 11 40.8**	**+0.7**
PCYT	**Pengchaiyu**	**0.81**	**347**	*e*P	**Pn**	**00 11 32.6**	**+0.8**
	baz=352						
NSK	**Sanguang**	**0.85**	**260**	*e*P	**Pb**	**00 11 31.0**	**-0.1**
	baz=252						
NSK				*e*S	**Sg**	**00 11 40.4**	**-1.0**
	baz=252						
NNS	**Nan Shan**	**0.91**	**245**	*e*P	**Pb**	**00 11 31.7**	**-0.5**
	baz=233						
NNS				S	**Sg**	**00 11 43.6**	**+0.3**
	baz=233						
TWD	**Chiawan**	**0.97**	**220**	*e*P	**Pg**	**00 11 32.5**	**-0.1**
	baz=228						
TWD				*e*S	**

*ISCJB **11** 00:20:09.3±0.2, 15°.37N±0°.02×90°.46W±0°.03, h10km, mb4.3/47, MS3.8/7, Error ellipse: s-maj=5.2km s-min=2.3km az=148.9*
*NEIC **11** 00:20:11.0±0.4, 15°.23N×90°.58W, h10km, mb4.5/55, MD4.5(GCG), Error ellipse: s-maj=9.6km s-min=4.8km az=42.0*
NEIC Felt [V] at Coban and San Cristobal Verapaz and [II] at Guatemala. Also felt at Fraijanes, San Pedro Carcha, Sanarate, Santa Catarina Pinula and Tactic.
*BJI **11** 00:20:11.3, 15°.30N×90°.60W, h10km, Ms7 5.1/1*
*CASC **11** 00:20:14.7±0.8, 15°.10N×90°.38W, h12km±15km, ML4.3, mb4.5(NEIC)*
*IDC **11** 00:20:15.7±5.1, 15°.09N×90°.74W, h57km±45km, mb3.8/13, mb1 4.0/14, mb1mx3.9/33, mbtmp4.0/14, ML4.3/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=41.1km s-min=17.4km az=45.0*

ISC 11 00:20:10.5±1.2, 15°.34N±0°.04×90°.46W±0°.05, h9km±7km, n304, σ1§76/310, mb4.5/47, MS3.6/7, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.79**	**110**	‖*e*P	**Pg**	**00 20 24.3**	**-1.5**
MRL				*e*S	**Sg**	**00 20 34.1**	**-2.0**
IXG	**Ixpaco**	**1.16**	**180**	*e*P	**Pg**	**00 20 31.3**	**-1.6**
MTO3	**Montecristo**	**1.42**	**131**	*e*P	**Pn**	**00 20 36.1**	**-0.5**
RBDL	**Robledal**	**1.43**	**148**	‖*e*P	**Pn**	**00 20 36.3**	**-0.5**
RBDL				*e*S	**Sb**	**00 20 52.4**	**-3.5**
CUS1	**Cusmapa**	**1.51**	**161**	*e*P	**Pn**	**00 20 37.1**	**-0.6**
CUS1				*e*S	**Sn**	**00 20 54.2**	**-3.3**
RTR	**El Retiro**	**1.64**	**151**	*e*P	**Pn**	**00 20 39.6**	**-0.1**
MONT	**Ecomontaæa**	**1.67**	**152**	‖*e*P	**Pn**	**00 20 40.5**	**+0.3**
SNJE	**San Jose**	**1.68**	**150**	*e*P	**Pn**	**00 20 40.2**	**0.0**
SNJE				*e*S	**Sn**	**00 21 00.7**	**-1.3**
SBLS	**San Blas**	**1.70**	**151**	*e*P	**Pn**	**00 20 40.5**	**0.0**
CCIG	**Comitan**	**1.87**	**300**	*e*Pn	**Pn**	**00 20 42.8**	**0.0**
CCIG				*e*Sn	**Sn**	**00 20 59.7**	**-6.8**
OPAM	**San Salvador** comp=Z,7μm,0.5s	**2.02**	**143**	AML	AML	00 21 18.1	
SNET	**Serv Nac Est T** comp=Z,4μm,0.6s	**2.03**	**144**	AML	AML	00 21 21.7	
TGUH	**Tegucigalpa,Un**	**3.34**	**112**	*e*Pn	**Pn**	**00 21 04.5**	**+1.6**
TGUH				*e*Sn	**Sn**	**00 21 39.0**	**-3.6**
SCIG	**Sabancuy**	**3.67**	**349**	*e*Pn	**Pn**	**00 21 06.6**	**-0.8**
SCIG				*e*Sn	Sn	00 21 42.4	-8.5
TUIG	**Tuzandepetl**	**4.65**	**306**	*e*Pn	**Pn**	**00 21 23.0**	**+2.1**
TLIG	**Tlapa**	**8.09**	**287**	*e*Pn	**Pn**	**00 22 12.1**	**+3.8**
APOP	**Alto Boquete** comp=Z,7μm,0.3s	**10.17**	**129**	AML	AML	00 20 46.6	
MTDJ	**Mount Denham**	**12.71**	**75**	*e*Pn	**Pn**	**00 23 14.8**	**+3.2**
835A	**Beeville** baz=151	**14.58**	**333**	P	**Pn**	**00 23 37.6**	**+0.6**
933A	**Laredo** baz=145	**14.70**	**328**	P	**Pn**	**00 23 39.1**	**+0.3**
DWPF	**Disney Wildern**	**15.21**	**32**	*e*Pn	**Pn**	**00 23 42.8**	**-2.8**
DWPF				*e*S	Sn	00 26 22.9	-11
444A	**Pine Grove** baz=179	**15.30**	**359**	P	**Pn**	**00 23 48.1**	**+1.3**
734A	**La Parita Cree** baz=150	**15.38**	**332**	P	**Pn**	**00 23 48.1**	**+0.3**
441A	**DeRidder** baz=171	**15.54**	**351**	P	**Pn**	**00 23 48.6**	**-1.3**
832A	**Faith Ranch, C** baz=144	**15.61**	**327**	P	**Pn**	**00 23 49.6**	**-1.1**
733A	**Divot King Ran** baz=147,SNR=6.3	**15.62**	**330**	P	**Pn**	**00 23 50.0**	**-0.9**
537A	**Green Hill Far** baz=159	**15.63**	**341**	P	**Pn**	**00 23 50.1**	**-0.9**
440A	**Kirbyville** baz=168	**15.66**	**349**	P	**Pn**	**00 23 51.0**	**-0.5**
SJCC	**San Jacinto, C**	**15.86**	**108**	*e*P	**P**	**00 23 59.5**	**+1.6**
536A	**Bastrop** baz=157	**15.87**	**339**	P	**Pn**	**00 23 54.0**	**-0.2**
345A	**Thompson Farm,** baz=182	**15.90**	**1**	P	**Pn**	**00 23 54.7**	**+0.2**
438A	**Sam Houston St** baz=163	**16.01**	**344**	P	**Pn**	**00 23 56.0**	**+0.1**
344A	**Westbrook Farm** baz=180,SNR=12	**16.04**	**359**	P	**Pn**	**00 23 56.7**	**+0.4**
342A	**Flagon Creek P** baz=174	**16.05**	**354**	P	**Pn**	**00 23 56.2**	**-0.2**
341A	**Kurthwood** baz=171	**16.11**	**352**	P	**Pn**	**00 23 57.1**	**-0.1**
633A	**Saathoff Ranch** baz=149,SNR=21	**16.19**	**332**	P	**Pn**	**00 23 58.4**	**+0.2**
340A	**Bronson** baz=169	**16.30**	**350**	P	**Pn**	**00 23 59.5**	**-0.2**
339A	**Huntington** baz=166	**16.35**	**347**	P	**Pn**	**00 24 00.1**	**-0.2**
436A	**Wall Ranch, Ga** baz=158	**16.42**	**340**	P	**Pn**	**00 24 01.1**	**-0.1**
243A	**Waterproof** baz=177	**16.49**	**357**	P	**Pn**	**00 24 01.9**	**-0.1**
338A	**Crockett** baz=164	**16.55**	**345**	P	**Pn**	**00 24 02.7**	**-0.1**
242A	**Grayson** baz=175,SNR=9.3	**16.71**	**355**	P	**Pn**	**00 24 05.0**	**+0.1**
NATX	**Nacogdoches** baz=166	**16.79**	**348**	P	**Pn**	**00 24 05.7**	**-0.2**
NATX	**Nacogdoches** comp=Z,20nm,0.5s	**16.79**	**348**	*e*Pn	**Pn**	**00 24 06.9**	**+1.0**
NATX				*e*Sn	Sn	00 26 54.7	-18
239A	**Gary** baz=167	**17.00**	**348**	P	**Pn**	**00 24 08.0**	**-0.6**
336A	**Riesel** baz=159	**17.00**	**341**	P	**Pn**	**00 24 07.9**	**-0.8**
238A	**Jacksonville** baz=165	**17.12**	**346**	P	**Pn**	**00 24 10.1**	**0.0**
ZARC	**Zaragoza, Cauc**	**17.16**	**115**	*e*P	**P**	**00 24 15.0**	**+2.7**
142A	**Monroe** baz=176	**17.18**	**356**	P	**Pn**	**00 24 11.1**	**+0.3**
145A	**Houston Renfro** baz=182	**17.19**	**2**	P	**Pn**	**00 24 10.8**	**-0.2**
TIGA	**Tifton**	**17.21**	**20**	*e*Pn	**Pn**	**00 24 12.2**	**+1.0**
TIGA				*e*S	Sn	00 27 08.7	-14
HELC	**Santa Helena**	**17.25**	**120**	*e*P	**P**	**00 24 13.6**	**0.0**
HELC	**Santa Helena** comp=Z,19nm,1.0s	**17.25**	**120**	*e*Pn	**P**	**00 24 13.1**	**-0.6**
237A	**Washetta, Mont** baz=163	**17.29**	**345**	P	**Pn**	**00 24 12.7**	**+0.6**
141A	**Papa Simpson,** baz=172	**17.33**	**353**	P	**P**	**00 24 14.0**	**0.0**
JCT	**Junction City** baz=149	**17.34**	**332**	P	**Pn**	**00 24 13.7**	**+0.8**
JCT	**Junction City** comp=Z,18nm,0.9s	**17.34**	**332**	*e*Pn	**Pn**	**00 24 12.1**	**-0.7**
JCT				*e*Sn	Sn	00 27 14.7	-11
140A	**Cam and Jess,** baz=170	**17.45**	**351**	P	**P**	**00 24 15.7**	**+0.3**
236A	**Katherine and** baz=161	**17.48**	**343**	P	**P**	**00 24 16.0**	**+0.3**
139A	**Bunkhouse Ranc** baz=168	**17.63**	**349**	P	**P**	**00 24 18.0**	**+0.7**
138A	**Matatall Enter** baz=166	**17.75**	**347**	P	**P**	**00 24 19.4**	**+0.7**
WHTX	**Lake Whitney,** baz=158,SNR=14	**17.76**	**340**	P	**P**	**00 24 19.4**	**+0.6**
WHTX	**Lake Whitney,** comp=Z,46nm,0.9s	**17.76**	**340**	*e*Pn	**P**	**00 24 21.1**	**+2.3**
WHTX				*e*Sn	Sn	00 27 20.0	-16
Z46A	**Louisville** baz=185	**17.83**	**4**	P	**P**	**00 24 20.1**	**+0.6**
137A	**Heron Place, G** baz=164	**17.84**	**345**	P	**P**	**00 24 19.9**	**+0.2**
Z44A	**Pea Ridge, Bel** baz=180	**17.86**	**0**	P	**P**	**00 24 20.7**	**+0.9**
LRAL	**Lakeview Retre** comp=Z,29nm,1.4s	**17.89**	**10**	*e*Pn	**P**	**00 24 22.6**	**+2.4**
LRAL				*e*Sn	Sn	00 27 25.7	-14
Z42A	**Norrel Spur, H** baz=176	**17.90**	**356**	P	**P**	**00 24 21.2**	**+0.9**
Z47A	**Carrollton** baz=188	**17.91**	**7**	P	**P**	**00 24 21.3**	**+0.9**
136A	**Ennis** baz=161	**17.93**	**343**	P	**Pn**	**00 24 20.7**	**+0.6**
Z41A	**Richland Creek** baz=173	**17.96**	**354**	P	**P**	**00 24 22.1**	**+1.0**
Z40A	**Long Farm, Mag** baz=171,SNR=8.8	**18.04**	**352**	P	**P**	**00 24 22.3**	**+0.5**
Z39A	**Irene McRaven,** baz=169	**18.14**	**350**	P	**P**	**00 24 23.6**	**+0.6**
HPIG	comp=Z,8.2nm,0.9s	**18.26**	**312**	*e*Pn	**Pn**	**00 24 24.2**	**-0.2**
Z38A	**Mt. Pleasant** baz=166	**18.30**	**348**	P	**P**	**00 24 25.9**	**+1.2**
URIC	**Uribia, Colomb**	**18.31**	**99**	*e*P	**Pn**	**00 24 22.6**	**-2.4**
WLAR	**White Oak Lake** comp=Z,28nm,0.7s	**18.42**	**353**	*e*P	**Pn**	**00 24 27.1**	**+1.0**
WLAR				*e*Sn	Sn	00 27 36.3	-16
Y42A	**Garnett, Star** baz=176	**18.45**	**357**	P	**P**	**00 24 26.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**18.50**	**321**	*e*P	**Pn**	**00 24 29.1**	**+1.9**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=16	**18.50**	**321**	P	**Pn**	**00 24 29.4**	**+2.2**
TXAR				LR	LR	00 32 05.2	
CCAR	**Cane Creek** comp=Z,60nm,0.6s	**18.53**	**357**	*e*P	**Pn**	**00 24 29.9**	**+2.4**
CCAR				*e*Sn	Sn	00 27 43.1	-12
Y44A	**Strider, Charl** baz=181	**18.54**	**1**	P	**P**	**00 24 27.5**	**+0.1**
Y41A	**Eaglette Beard** baz=174	**18.56**	**354**	P	**P**	**00 24 28.0**	**+0.4**
Y47A	**UCPARC, Winfie** baz=188	**18.63**	**7**	P	**P**	**00 24 28.7**	**+0.3**
Z36A	**Blue Ridge** baz=162	**18.65**	**344**	P	**P**	**00 24 28.9**	**+0.2**
Y40A	**Okolona** baz=172	**18.76**	**353**	P	**P**	**00 24 30.6**	**+0.8**
Y39A	**Lockesburg** baz=170	**18.80**	**351**	P	**P**	**00 24 30.5**	**+0.2**
Y38A	**Idabel** baz=168	**18.90**	**349**	P	**P**	**00 24 31.8**	**+0.4**
ROSC	**El Rosal** comp=Z,153nm,18.5s,baz=55,slow=39	**18.99**	**122**	LR	LR	00 32 32.4	
ROSC	**El Rosal** comp=Z,48nm,1.8s	**18.99**	**122**	*e*P	**Pn**	**00 24 36.1**	**+2.5**
GOGA	**Godfrey** comp=Z,82nm,1.8s	**19.07**	**18**	*e*P	**Pn**	**00 24 36.3**	**+2.2**
ABTX	**Abilene, Hawle** baz=152	**19.12**	**336**	P	**P**	**00 24 34.1**	**+0.2**
ABTX	**Abilene, Hawle** comp=Z,12nm,0.6s	**19.12**	**336**	*e*P	**P**	**00 24 34.5**	**+0.6**
ABTX				*e*Sn	Sn	00 27 48.9	-20
OTAV	**Otavalo** comp=Z,9.4nm,1.1s	**19.13**	**141**	*e*P	**P**	**00 24 34.2**	**-0.3**
PAMC	**Pamplona, Colo**	**19.13**	**113**	*e*P	**Pn**	**00 24 36.2**	**+0.9**
Y37A	**Hugo** baz=165	**19.13**	**347**	P	**P**	**00 24 34.8**	**+0.9**
PRAC	**Prado** comp=Z,167nm,0.2s	**19.20**	**125**	*e*P	**Pn**	**00 24 36.6**	**+0.8**
MIAR	**Mount Ida** baz=171,SNR=8.7	**19.33**	**352**	P	**P**	**00 24 37.0**	**+1.0**
MIAR	**Mount Ida** comp=Z,38nm,1.4s	**19.33**	**352**	*e*P	**Pn**	**00 24 38.1**	**+1.0**
MIAR				*e*Sn	Sn	00 27 55.9	-18
X39A	**Fountain Ranch** baz=170	**19.37**	**351**	P	**P**	**00 24 37.0**	**+0.5**
Y35A	**Marietta** baz=161	**19.41**	**343**	P	**P**	**00 24 37.9**	**+0.9**
UALR	**University of** comp=Z,16nm,0.8s	**19.42**	**355**	*e*P	**Pn**	**00 24 39.2**	**+0.9**
UALR				*e*Sn	Sn	00 28 01.7	-15
RUSC	**La Rusia**	**19.47**	**117**	*e*P	**Pn**	**00 24 39.5**	**-0.1**
RUSC	**La Rusia** comp=Z,5.5nm,1.0s	**19.47**	**117**	*e*P	**P**	**00 24 38.8**	**+0.4**
CHIC	**Chingaza**	**19.59**	**121**	*e*P	**Pn**	**00 24 40.6**	**-0.2**
X38A	**Whitesboro** baz=168	**19.64**	**349**	P	**P**	**00 24 39.6**	**+0.1**
X37A	**Clayton** baz=166,SNR=8.6	**19.67**	**348**	P	**P**	**00 24 40.3**	**+0.5**
W41B	**Gary Mavity, V** baz=175	**19.81**	**356**	P	**P**	**00 24 41.8**	**+0.5**
X35A	**Drake** baz=162,SNR=8.1	**19.86**	**344**	P	**P**	**00 24 41.8**	**-0.1**
X301	**Greenbrier Sit** comp=Z,42nm,1.7s	**19.89**	**355**	*e*P	**P**	**00 24 43.3**	**+1.1**
WHAR	**Wooly Hollow** comp=Z,14nm,1.0s	**19.93**	**356**	*e*P	**Pn**	**00 24 44.9**	**+0.5**
W38A	**Poteau** baz=169	**19.98**	**350**	P	**P**	**00 24 43.4**	**+0.2**
HBAR	**Harrisburg**	**20.13**	**360**	*e*P	Pn	00 24 46.4	-0.2
W37B	**Quinton** baz=166	**20.21**	**348**	P	**P**	**00 24 45.8**	**+0.1**
W36A	**Wetumka** baz=164	**20.38**	**346**	P	**P**	**00 24 47.7**	**+0.1**
V42A	**Cord** baz=178	**20.40**	**358**	P	**P**	**00 24 47.6**	**-0.1**
SDV	**Santo Domingo** comp=Z,11nm,0.5s,baz=301,slow=8.1,SNR=10	**20.41**	**106**	P	Pn	00 24 50.5	+0.2
SDV	**Santo Domingo** comp=Z,35nm,0.9s	**20.41**	**106**	*e*P	Pn	00 24 50.6	+0.3
V41A	**Mountainview** baz=176	**20.41**	**356**	P	**P**	**00 24 48.2**	**+0.3**
V40A	**Witts Springs** baz=174	**20.49**	**355**	P	**P**	**00 24 48.9**	**+0.1**
W35A	**Tecumseh** baz=163	**20.55**	**345**	P	**P**	**00 24 49.3**	**-0.1**
V39A	**Pettigrew** baz=172	**20.61**	**353**	P	**P**	**00 24 51.5**	**+1.4**
WMOK	**Wichita Mounta** baz=157,SNR=17	**20.71**	**340**	P	**P**	**00 24 51.0**	**-0.2**
WMOK	**Wichita Mounta** comp=Z,15nm,1.0s	**20.71**	**340**	*e*P	**P**	**00 24 52.0**	**+0.8**
WMOK				*e*S	S	00 28 31.9	-11
V38A	**Canehill** baz=170,SNR=9.5	**20.74**	**351**	P	**P**	**00 24 51.5**	**+0.1**
WVT	**Waverly** comp=Z,12nm,0.9s	**20.84**	**6**	*e*P	Pn	00 24 56.2	+1.3
WVT				*e*S	**S**	**00 28 35.4**	**-10**
V37A	**Hulbert** baz=168	**20.88**	**349**	P	**P**	**00 24 53.5**	**+0.5**
U44B	**Burton Farm, H** baz=183	**20.93**	**3**	P	**P**	**00 24 53.9**	**+0.3**
U42A	**Revenden** baz=178,SNR=5.6	**20.93**	**358**	P	**P**	**00 24 54.3**	**+0.7**
V36A	**Jenks** baz=166	**20.94**	**347**	P	**P**	**00 24 53.7**	**+0.1**
U41A	**Viola** baz=176,SNR=12	**20.96**	**357**	P	**P**	**00 24 54.4**	**+0.6**
TUL1	**Leonard** baz=166	**21.03**	**348**	P	**P**	**00 24 54.9**	**+0.3**
TUL1	**Leonard** comp=Z,115nm,1.9s	**21.03**	**348**	*e*P	**P**	**00 24 55.6**	**+1.0**
TUL1				*e*S	**S**	**00 28 40.0**	**-8.9**
U40A	**Yellville** baz=174,SNR=17	**21.04**	**355**	P	**P**	**00 24 54.7**	**+0.1**
HHAR	**Hobbs** comp=Z,18nm,1.0s	**21.08**	**352**	*e*P	**P**	**00 24 55.4**	**+0.3**
HHAR				*e*S	**S**	**00 28 40.5**	**-9.4**
TKL	**Tuckaleechee C** comp=Z,14nm,0.8s,baz=181,slow=11,SNR=9.3	**21.10**	**15**	P	**P**	**00 24 59.3**	**+3.9**
TKL				S	**S**	**00 28 43.0**	**-7.2**
TKL	**Tuckaleechee C** comp=Z,52nm,1.4s	**21.10**	**15**	P	**P**	**00 24 59.3**	**+3.9**
TKL				*e*S	**S**	**00 28 43.9**	**-6.3**
V35A	**Meyer Ranch, C** baz=163	**21.12**	**345**	P	**P**	**00 24 55.6**	**0.0**
U39A	**Green Forest** baz=172	**21.13**	**353**	P	**P**	**00 24 55.8**	**+0.2**
MNTX	**Cornudas Mount** baz=137,SNR=13	**21.23**	**323**	P	**P**	**00 24 56.6**	**-0.1**
MNTX	**Cornudas Mount** comp=Z,7.3nm,1.0s	**21.23**	**323**	*e*P	**P**	**00 24 57.2**	**+0.5**
U38A	**Gravette** baz=170	**21.30**	**351**	P	**P**	**00 24 57.9**	**+0.4**
PBMO	**Poplar Bluff** comp=Z,28nm,0.8s	**21.35**	**0**	*e*P	**P**	**00 24 58.6**	**+0.6**
U37A	**Salina** baz=168	**21.39**	**350**	P	**P**	**00 24 58.2**	**-0.2**
U36A	**Oologah** baz=166	**21.49**	**348**	P	**P**	**00 24 59.4**	**0.0**
MSTX	**Muleshoe** baz=147	**21.62**	**331**	P	**P**	**00 25 00.9**	**-0.2**
MSTX	**Muleshoe** comp=Z,24nm,0.9s	**21.62**	**331**	*e*P	**P**	**00 25 01.6**	**+0.5**
T41A	**Mountain View** baz=177,SNR=20	**21.64**	**357**	P	**P**	**00 25 01.5**	**+0.3**
T44A	**Benton** baz=183	**21.67**	**2**	P	**P**	**00 25 02.3**	**+0.9**
U35A	**Pawnee** baz=164	**21.68**	**346**	P	**P**	**00 25 01.2**	**-0.3**
T39A	**Clever** baz=173	**21.75**	**354**	P	**P**	**00 25 02.9**	**+0.6**
T40A	**Mansfield** baz=175,SNR=6.8	**21.80**	**356**	P	**P**	**00 25 03.0**	**+0.1**
T38A	**Diamond** baz=170	**21.87**	**352**	P	**P**	**00 25 03.9**	**+0.2**
AMTX	**Amarillo** baz=150	**21.92**	**335**	P	**P**	**00 25 04.6**	**+0.4**
AMTX	**Amarillo**	**21.92**	**335**	*e*P	**P**	**00 25 04.9**	**+0.7**
T37A	**Cheneyville 18** baz=169	**22.05**	**350**	P	**P**	**00 25 06.1**	**+0.5**
S43A	**Fulton Ridge,** baz=181	**22.14**	**1**	P	**P**	**00 25 06.4**	**-0.1**
T35A	**Sooner Cattle** baz=165	**22.15**	**347**	P	**P**	**00 25 06.8**	**+0.2**
T36A	**Boggs Farm, Ca** baz=166	**22.16**	**348**	P	**P**	**00 25 06.7**	**0.0**
S41A	**Jillco Farms,** baz=177	**22.19**	**357**	P	**P**	**00 25 07.3**	**+0.3**
S40A	**Lebanon** baz=175,SNR=8.0	**22.24**	**356**	P	**P**	**00 25 07.9**	**+0.3**
S44A	**Carbondale** baz=183,SNR=13	**22.29**	**3**	P	**P**	**00 25 09.3**	**+1.2**
U32A	**Winter Ranch,** baz=158	**22.29**	**342**	P	**P**	**00 25 08.4**	**+0.2**
S45A	**Carrier Mills** baz=185	**22.31**	**4**	P	**P**	**00 25 08.9**	**+0.6**
S42A	**Caledonia** baz=180	**22.34**	**359**	P	**P**	**00 25 08.6**	**0.0**
S39A	**Bolivar** baz=173,SNR=9.9	**22.40**	**354**	P	**P**	**00 25 10.0**	**+0.6**
T34A	**McClaskey Farm** baz=163	**22.41**	**346**	P	**P**	**00 25 09.2**	**-0.2**
S38A	**Stockton** baz=172,SNR=8.7	**22.41**	**353**	P	**P**	**00 25 09.6**	**+0.2**
CCM	**Cathedral Cave** comp=Z,14nm,0.8s	**22.64**	**358**	*e*P	**P**	**00 25 13.8**	**+2.0**
S37A	**Fort Scott** baz=169	**22.66**	**351**	P	**P**	**00 25 12.1**	**0.0**
USIN	**University of** comp=Z,79nm,1.1s	**22.67**	**6**	*e*P	**P**	**00 25 14.0**	**+1.9**
S36A	**Lake Cedric, C** baz=168	**22.75**	**349**	P	**P**	**00 25 13.0**	**-0.1**
R44A	**Waltonville** baz=184	**22.85**	**3**	P	**P**	**00 25 13.5**	**-0.6**
R43A	**Red Bud** baz=182	**22.85**	**1**	P	**P**	**00 25 14.0**	**0.0**
R42A	**Luebbering** baz=180	**22.85**	**359**	P	**P**	**00 25 14.1**	**+0.1**
R41A	**Rosebud** baz=178	**22.88**	**358**	P	**P**	**00 25 14.7**	**+0.4**
R40A	**Maddies Statio** baz=176,SNR=9.6	**22.91**	**356**	P	**P**	**00 25 14.8**	**+0.1**
R38A	**Fenwick Farm,** baz=172,SNR=5.4	**22.96**	**353**	P	**P**	**00 25 15.6**	**+0.4**
R39A	**Chumby, Stover** baz=174	**23.00**	**355**	P	**P**	**00 25 15.4**	**-0.1**
WCI	**Wyandotte Cave** comp=Z,42nm,1.2s	**23.09**	**8**	*e*P	**P**	**00 25 18.5**	**+1.9**
121A	**Cookes Peak, D** baz=134	**23.26**	**320**	P	**P**	**00 25 17.7**	**-0.8**
121A	**Cookes Peak, D** comp=Z,19nm,1.0s	**23.26**	**320**	*e*P	**P**	**00 25 19.7**	**+1.2**
HSIG	comp=Z,19nm,1.5s	**23.30**	**309**	*e*P	**P**	**00 25 20.0**	**+1.2**
R36A	**Gordon, Harris** baz=168	**23.32**	**350**	P	**P**	**00 25 18.3**	**-0.7**
R35A	**Emporia Munici** baz=166	**23.45**	**349**	P	**P**	**00 25 19.7**	**-0.5**
319A	**Douglas** comp=Z,39nm,1.1s	**23.46**	**316**	*e*P	**P**	**00 25 22.1**	**+1.5**
Q42A	**Golden Eagle** baz=180	**23.48**	**360**	P	**P**	**00 25 20.1**	**-0.3**
Q44A	**Meyer Farm, Va** baz=184	**23.50**	**3**	P	**P**	**00 25 19.8**	**-0.9**
Q43A	**New Douglas** baz=182	**23.52**	**1**	P	**P**	**00 25 20.3**	**-0.5**
Q41A	**Truxton** baz=178,SNR=12	**23.53**	**358**	P	**P**	**00 25 20.2**	**-0.8**
Q40A	**Laux Farm, Aux** baz=176	**23.61**	**357**	P	**P**	**00 25 20.7**	**-1.0**
R34A	**Isabella, Hill** baz=164	**23.64**	**347**	P	**P**	**00 25 21.2**	**-0.9**
Q38A	**Cooks Store, C** baz=173,SNR=9.1	**23.69**	**354**	P	**P**	**00 25 21.9**	**-0.6**
Q39A	**Willow Grove F** baz=174,SNR=7.1	**23.72**	**355**	P	**P**	**00 25 21.4**	**-1.4**
BNM	**Barren Site**	**23.74**	**325**	*e*P	**P**	**00 25 24.4**	**+1.1**
Y22D	**IRIS PASSCAL I** comp=Z,49nm,1.2s	**23.84**	**324**	*e*P	**P**	**00 25 25.5**	**+1.2**
BLO	**Bloomington** comp=Z,15nm,0.8s	**23.99**	**8**	*e*P	**P**	**00 25 29.2**	**+3.8**
P44A	**Sand Creek, Wi** baz=185	**24.09**	**3**	P	**P**	**00 25 25.2**	**-1.1**
P40A	**Paris** baz=177,SNR=9.6	**24.14**	**357**	P	**P**	**00 25 26.0**	**-0.8**
P39B	**Salisbury** baz=175	**24.14**	**356**	P	**P**	**00 25 25.6**	**-1.2**
P42A	**Winchester** baz=181	**24.15**	**0**	P	**P**	**00 25 24.5**	**-2.4**
LAZ	**Ladron**	**24.21**	**325**	*e*P	**P**	**00 25 28.1**	**+0.4**
P43A	**Skaggs, Pawnee** baz=182	**24.22**	**2**	P	**P**	**00 25 26.0**	**-1.6**
ANMO	**Albuquerque** comp=Z,1.1nm,0.8s,baz=154,slow=11,SNR=3.7	**24.24**	**327**	P	**P**	**00 25 27.3**	**-0.7**
ANMO	**Albuquerque** baz=140	**24.24**	**327**	P	**P**	**00 25 25.8**	**-2.3**
ANMO	**Albuquerque**	**24.24**	**327**	*e*P	**P**	**00 25 28.5**	**+0.4**
P41A	**Barry, Barry** baz=179	**24.25**	**359**	P	**P**	**00 25 27.1**	**-0.7**
KSU1	**Kansas State U** baz=166	**24.28**	**348**	P	**P**	**00 25 26.5**	**-1.6**
KSU1	**Kansas State U** comp=Z,2.6nm,0.6s	**24.28**	**348**	*e*P	**P**	**00 25 27.7**	**-0.4**
P38A	**Dawn** baz=173	**24.34**	**354**	P	**P**	**00 25 27.8**	**-0.8**
P37A	**Lathrop** baz=171	**24.39**	**353**	P	**P**	**00 25 27.4**	**-1.8**
P35A	**Duane Minner,** baz=167	**24.58**	**350**	P	**P**	**00 25 29.9**	**-1.0**
O41A	**Passleys Farm,** baz=179	**24.68**	**359**	P	**P**	**00 25 30.5**	**-1.3**
O40A	**La Belle** baz=177	**24.72**	**357**	P	**P**	**00 25 30.8**	**-1.2**
P34A	**Walnut Farm, R** baz=166	**24.75**	**348**	P	**P**	**00 25 31.3**	**-1.1**
O42A	**Bath** baz=181	**24.76**	**1**	P	**P**	**00 25 31.4**	**-1.1**
CBKS	**Cedar Bluff** comp=Z,11nm,0.7s	**24.77**	**343**	*e*P	**P**	**00 25 33.9**	**+1.3**
O38A	**Galt** baz=173	**24.83**	**354**	P	**P**	**00 25 31.4**	**-1.7**
T25A	**Trinidad** baz=147	**25.00**	**333**	P	**P**	**00 25 34.1**	**-0.8**
T25A	**Trinidad** comp=Z,11nm,0.9s	**25.00**	**333**	*e*P	**P**	**00 25 36.1**	**+1.2**
TUC	**Tucson** baz=128	**25.04**	**316**	P	**P**	**00 25 34.5**	**-0.7**
TUC	**Tucson** comp=Z,13nm,1.1s	**25.04**	**316**	*e*P	**P**	**00 25 36.6**	**+1.4**
SFIN	**Lafayette** comp=Z,10nm,0.6s	**25.12**	**6**	*e*P	**P**	**00 25 37.2**	**+1.6**
ATAH	**Atahualpa** comp=Z,5.7nm,0.7s,baz=342,slow=8.0,SNR=4.1	**25.33**	**151**	P	**P**	**00 25 42.5**	**+4.2**
N42A	**Yates City** baz=181	**25.40**	**1**	P	**P**	**00 25 38.0**	**-0.2**
N38A	**Joes South For** baz=174	**25.47**	**355**	P	**P**	**00 25 38.1**	**-0.8**
N39A	**Derby Farms, D** baz=176	**25.50**	**356**	P	**P**	**00 25 38.7**	**-0.5**
ACSO	**Alum Creek Sta** comp=Z,14nm,0.9s	**25.64**	**13**	*e*P	**P**	**00 25 42.7**	**+2.3**
X18A	**Snowflake** comp=Z,7.6nm,1.1s	**25.94**	**321**	*e*P	**P**	**00 25 46.1**	**+2.7**
M41A	**Milan** baz=180	**25.94**	**360**	P	**P**	**00 25 42.3**	**-0.9**
SDCO	**Great Sand Dun** comp=Z,3.2nm,0.8s	**25.98**	**332**	*e*P	**P**	**00 25 46.5**	**+2.5**
M40A	**Post Highland** baz=178	**25.99**	**358**	P	**P**	**00 25 42.9**	**-0.6**
M39A	**Webster** baz=176	**26.09**	**357**	P	**P**	**00 25 43.3**	**-1.1**
S22A	**4UR Ranch, Cre** baz=143	**26.61**	**330**	P	**P**	**00 25 49.0**	**-0.5**
S22A	**4UR Ranch, Cre** comp=Z,4.6nm,1.0s	**26.61**	**330**	*e*P	**P**	**00 25 50.1**	**+0.5**
L40A	**Anamosa** baz=179	**26.64**	**359**	P	**P**	**00 25 49.0**	**-0.4**
L41A	**Preston** baz=180	**26.64**	**360**	P	**P**	**00 25 49.0**	**-0.5**
X16A	**Lo Mia Camp, P** comp=Z,4.6nm,1.1s	**26.79**	**319**	*e*P	**P**	**00 25 52.5**	**+1.4**
K39A	**Oelwein** baz=177	**27.30**	**358**	P	**P**	**00 25 54.2**	**-1.1**
WUAZ	**Wupatki** comp=Z,6.1nm,1.0s	**27.46**	**321**	*e*P	**P**	**00 25 59.3**	**+2.1**

K37A Belmond 27.47 355 P **P 00 25 55.6 -1.3**
baz=174
GLA Glamis 28.26 313 P **P 00 26 02.9 -1.3**
baz=123
I42A Draeger Farm, 28.48 2 P **P 00 26 05.0 -1.0**
baz=183
PDMCI Parker Dam,Lak 28.48 316 P **P 00 26 05.6 -0.5**
baz=126
I41A Arkdale 28.63 1 P **P 00 26 07.0 -0.2**
baz=181
ECSD EROS Data Cent 28.78 351 P **P 00 26 08.0 -0.6**
baz=168
SWSC Sam W. Stewart 28.89 312 P **P 00 26 08.9 -0.9**
baz=122
IKP In-Ko-Pah, Jac 28.97 311 P **P 00 26 09.9 -0.6**
baz=121
BC3 Big Chuckawall 29.02 313 P **P 00 26 09.7 -1.4**
baz=123
O20A White River Ci 29.17 331 P **P 00 26 11.5 -0.9**
baz=143
LDFC Landfair 29.58 316 *e*P **P 00 26 17.9 +1.9**
comp=Z,12nm,1.1s
BELC Belle Mtn. Jos 29.59 314 P **P 00 26 14.8 -1.3**
baz=123
GMRC Granite Mounta 29.79 315 P **P 00 26 16.4 -1.4**
baz=125
SPMN Marine on St. 29.85 357 P **P 00 26 17.8 -0.3**
baz=176
SPMN Marine on St. 29.85 357 *e*P **P 00 26 17.6 -0.5**
comp=Z,15nm,1.0s
G42A Mountain 29.85 3 P **P 00 26 17.5 -0.6**
baz=184
G39A Holcombe 29.86 359 P **P 00 26 17.5 -0.7**
baz=179
G43A Wallace 29.91 4 P **P 00 26 18.0 -0.6**
baz=186
HEC Hector,Ludlow 30.27 315 P **P 00 26 20.9 -1.2**
baz=124
F40A Park Falls 30.48 0 P **P 00 26 23.4 -0.3**
baz=181
F38A Pierce - Schro 30.55 358 P **P 00 26 24.5 +0.3**
baz=178
BFSC Mount Baldy Ra 30.89 312 P **P 00 26 26.4 -1.2**
baz=121
E41A Kenton 31.05 2 P **P 00 26 27.7 -1.0**
baz=183
E42A Champion 31.07 3 P **P 00 26 27.2 -1.6**
baz=185
E43A Lone Tree Farm 31.07 5 P **P 00 26 28.2 -0.7**
baz=187
LRMC Laurel Mtn Rad 31.55 314 P **P 00 26 33.9 +0.5**
baz=123
MPMC Manual Prospec 31.74 316 P **P 00 26 34.9 -0.2**
baz=124
PDAR Pinedale Array 31.87 333 P **P 00 26 35.6 -0.6**
comp=Z,0.4nm,0.6s,baz=119,slow=9.3,SNR=4.3
PDAR LR LR 00 42 01.1
comp=Z,98nm,19.0s,baz=90,slow=41
ARVC Arvin 32.17 313 P **P 00 26 39.3 +0.6**
baz=121
GRAC Grapevine Rang 32.18 317 P **P 00 26 39.1 +0.3**
baz=125
VES Vestal, Richgr 32.71 314 P **P 00 26 43.1 -0.3**
baz=122
REDW Red Top Meadow 32.92 332 *e*P **P 00 26 44.3 -1.2**
comp=Z,11nm,1.0s
SNOW Snow King Moun 32.95 332 *e*P **P 00 26 46.4 +0.7**
comp=Z,10nm,0.8s
LOHW Long Hollow 33.00 333 *e*P **P 00 26 46.5 +0.4**
comp=Z,3.2nm,0.9s
TPAW Teton Pass 33.06 332 *e*P **P 00 26 47.3 +0.6**
comp=Z,15nm,1.5s
MOOW Moose Ponds 33.17 333 *e*P **P 00 26 47.8 +0.2**
comp=Z,2.2nm,0.8s
MCMT McKenzie Canyo 34.96 332 *e*P **P 00 27 04.1 +0.9**
ULM Lac du Bonnet 35.09 354 LR LR 00 44 23.0
comp=Z,78nm,21.3s,baz=334,slow=41
MFID Camas Ranch 35.38 327 *e*P **P 00 27 06.4 -0.2**
comp=Z,7.4nm,1.5s
LRM Limekiln Ridge 35.56 333 *e*P **P 00 27 08.5 +0.2**
EGMT Eagleton 36.27 338 P **P 00 27 13.6 -0.6**
baz=148
EGMT Eagleton 36.27 338 *e*P **P 00 27 14.4 +0.2**
comp=Z,10nm,1.0s
LPAZ La Paz 38.39 144 P **P 00 27 32.1 -0.9**
comp=Z,1.0nm,0.6s,baz=355,slow=4.7,SNR=3.5
LPAZ LR LR 00 43 44.7
comp=Z,82nm,18.1s,baz=310,slow=37
SCHQ Schefferville 43.46 20 LR LR 00 46 22.2
comp=Z,151nm,20.9s,baz=6.5,slow=36
YKA Yellowknife Ar 50.09 346 P **P 00 29 05.4 0.0**
comp=Z,4.5nm,0.6s,baz=145,slow=7.4,SNR=10
CPUP Villa Florida 52.48 142 LR LR 00 51 18.2
comp=Z,80nm,18.2s,baz=326,slow=36
IL1 Eielson Array 62.21 336 *e*P **P 00 30 33.0 +0.8**
ILAR Eielson Array 62.21 336 P **P 00 30 31.6 -0.5**
comp=Z,1.0nm,0.7s,baz=158,slow=4.9,SNR=13
ILB Eielson Array 62.21 336 *e*P **P 00 30 33.2 +1.0**
ESDC Sonseca Array 77.72 52 P **P 00 32 08.8 +0.8**
comp=Z,0.5nm,0.7s,baz=284,slow=4.8,SNR=6.4
NOA NORSAR Array B 82.26 29 P **P 00 32 34.0 +1.9**
comp=Z,1.5nm,0.8s,baz=292,slow=11,SNR=2.9
NOA LR LR 01 11 17.3
comp=Z,28nm,20.6s,baz=295,slow=37
ARCES ARCESS Array B 84.40 19 P **P 00 32 43.5 +0.5**
comp=Z,1.9nm,0.6s,baz=276,slow=3.5,SNR=15
GERES GERESS Array B 87.62 40 P **P 00 32 59.1 -0.3**
comp=Z,1.1nm,0.7s,baz=6.7,slow=3.4,SNR=4.9
TORD Torodi Ar. Bea 88.62 77 P **P 00 33 03.7 -1.0**
comp=Z,0.3nm,0.8s,baz=273,slow=8.5,SNR=2.8
FINES FINESS Array B 88.65 25 P **P 00 33 04.1 +0.2**
comp=Z,3.4nm,1.0s,baz=270,slow=1.9,SNR=3.6
HHC Hu-ho-hao-te 120.48 341 *e*PKP **PKPdf 00 38 58.8 -4.2**
WMQ Urumqi 121.10 2 *e*PKP **PKPdf 00 39 04.6 +0.6**
KSH Kashi 123.98 13 *e*PKP **PKPdf 00 39 10.1 +0.3**
KSH PP **PP 00 40 59.7 +7.7**
KSH PKS **PKSdf 00 42 46.6 +0.1**
KSH SKS **SKSdf 00 46 25.3 +3.1**
KSH SKKS **SKKSac 00 47 54.9 +2.3**
KSH SS **SS 00 57 49.3 +8.1**
NJ2 Nanjing 125.14 329 *e*PKP **PKPdf 00 39 11.9 -0.1**
QIZ Qiongzhong 140.43 329 PKP **PKPdf 00 39 41.2 +0.2**
QIZ PP **PP 00 42 38.5 +0.4**
QIZ SS SS 01 01 04.4 +2.2
QIZ LR LR
comp=Z,270nm,16.4s
CHTO Chiang Mai 144.82 344 *e*PKPdf **PKPab 00 39 47.0 -0.7**
CM31 Chiang Mai Arr 145.16 344 *e*PKPbc **PKPdf 00 39 49.5 +0.1**
CMAR Chiang Mai Arr 145.16 344 PKPbc **PKPbc 00 39 48.0 -0.9**
comp=Z,12nm,0.9s,baz=339,slow=3.5,SNR=41
CM01 Chiang Mai Arr 145.19 344 *e*PKPbc **PKPbc 00 39 48.1 -0.9**

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*IDC **11** 00:29:50.1±0.8, 27°.09S×176°.46W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/30, mbtmp4.2/8, ML5.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.8/26, Error ellipse: s-maj=28.4km s-min=20.2km az=98.0*
*ISCJB **11** 00:29:53.3±1.0, 27°.01S±0°.07×176°.4W±0°.2, h35km, mb4.3/9, MS4.2/5, Error ellipse: s-maj=22.4km s-min=9.6km az=10.2*
*NEIC **11** 00:29:55.1±0.5, 27°.05S×176°.42W, h35km, mb4.6/2, Error ellipse: s-maj=16.0km s-min=10.8km az=94.0*
ISC 11 00:29:55.2±0.6, 26°.95S±0°.07×176°.5W±0°.1, h35km, n44, σ1°.99/34, mb4.2/9, MS4.3/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.63**	**209**	Pn	**Pn**	**00 30 33.4**	**-1.7**
	345nm,0.3s,baz=301,slow=7.1,SNR=34						
RAO				LR	LR	00 31 02.2	
	comp=Z,938nm,18.8s,baz=108,slow=29						
RAO				Sn	**Sn**	**00 31 03.5**	**-2.3**
	257nm,0.3s,baz=90,slow=21,SNR=4.1						
RAO	**Raoul Island**	**2.63**	**209**	*e*Pn	**Pn**	**00 30 33.7**	**-1.4**
RAO				*e*S	**Sn**	**00 31 06.8**	**+1.1**
URZ	**Urewera**	**12.50**	**204**	Pn	Pn	00 32 41.9	-8.6
	0.6nm,0.3s,baz=153,slow=16,SNR=3.8						
URZ				Sn	Sn	00 34 56.3	-12
	1.5nm,0.3s,baz=84,slow=22,SNR=7.6						
AFI	**Afiamalu**	**13.70**	**20**	Pn	**Pn**	**00 33 02.6**	**-4.4**
	3.7nm,0.3s,baz=151,slow=3.0,SNR=4.9						
AFI				Sn	Sn	00 35 24.9	-13
	1.8nm,0.3s,baz=216,slow=19,SNR=2.8						
AFI	**Afiamalu**	**13.70**	**20**	*e*Pn	**Pn**	**00 33 02.9**	**-4.1**
AFI				*e*S	Sn	00 35 25.7	-12
RAR	**Rarotonga**	**16.27**	**73**	LR	LR	00 38 49.5	
	comp=Z,376nm,19.4s,baz=230,slow=33						
DZM	**Mont Dzumac**	**16.30**	**284**	Pn	**P**	**00 33 45.0**	**+0.9**
	0.1nm,0.3s,baz=217,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**16.30**	**284**	*e*P	**P**	**00 33 44.3**	**+0.2**
	56nm,1.3s						
DZM				*e*LR	LR	00 37 28.5	
	2μm,23.8s						
DZM	**Mont Dzumac**	**16.30**	**284**	*e*Pn	**P**	**00 33 47.4**	**+3.2**
FUNA	**Funafuti**	**18.78**	**347**	*e*P	**Pn**	**00 34 11.9**	**-0.3**
	34nm,0.4s						
TBI	**Tubuai**	**24.69**	**88**	*e*S	**S**	**00 39 37.0**	**+4.5**
	432nm,28.0s						
TBI				*e*LR	LR	00 41 09.0	
	913nm,28.0s,baz=259						
TBI	**Tubuai**	**24.69**	**88**	*e*T	T	01 00 15.6	
	8.6nm,0.3s						
PAE	**Paea**	**26.49**	**75**	*e*T	T	01 02 39.6	
	3.9nm,0.3s						
PPT2	**Papeete2**	**26.52**	**75**	*e*S	**S**	**00 40 05.0**	**+3.2**
	665nm,24.0s						
PPT2				*e*LR	LR	00 41 57.0	
	979nm,26.5s,baz=245						
PPT	**Papeete**	**26.53**	**75**	LR	LR	00 43 03.4	
	comp=Z,286nm,21.2s,baz=252,slow=30						
VAH	**Vaihoa**	**29.25**	**72**	*e*T	T	01 06 08.2	
	6.3nm,0.3s						
CTA	**Charters Tower**	**34.77**	**273**	P	**P**	**00 36 43.0**	**+0.6**
	7.7nm,0.4s,baz=98,slow=11,SNR=24						
CTAO	**Charters Tower**	**34.77**	**273**	*e*P	**P**	**00 36 44.9**	**+2.4**
	31nm,0.3s						
STKA	**Stephens Creek**	**36.70**	**252**	LR	LR	00 50 45.6	
	comp=Z,507nm,19.2s,baz=72,slow=34						
RKT	**Rikitea**	**37.67**	**94**	*e*LR	LR	00 47 05.5	
	948nm,37.5s,baz=255						
TAOE	**Nuku Hiva Isla**	**38.76**	**69**	*e*LR	LR	00 47 33.4	
	404nm,26.9s						
ASAR	**Alice Springs**	**44.76**	**263**	P	**P**	**00 38 04.7**	**-0.9**
	0.8nm,0.4s,baz=95,slow=6.8,SNR=15						
ASAR				LR	LR	00 55 56.2	
	comp=Z,336nm,18.4s,baz=134,slow=35						
WRAB	**Tennant Creek**	**45.44**	**268**	*e*P	**P**	**00 38 10.5**	**-0.5**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**45.45**	**268**	P	**P**	**00 38 10.3**	**-0.7**
	1.2nm,0.3s,baz=104,slow=8.2,SNR=22						
VNDA	**Vanda**	**51.65**	**186**	P	**P**	**00 38 57.0**	**-0.9**
	0.4nm,0.8s,baz=333,slow=2.3,SNR=2.1						
RPN	**Rapa Nui**	**59.09**	**107**	LR	LR	00 59 50.9	
	comp=Z,111nm,20.2s,baz=291,slow=30						
QSPA	**South Pole Qui**	**63.15**	**180**	*e*P	**P**	**00 40 18.9**	**-0.4**
	47nm,0.8s						
MAW	**Mawson**	**76.00**	**200**	P	**P**	**00 41 38.8**	**+0.5**
	1.2nm,0.6s,baz=149,slow=6.4,SNR=8.7						
MJAR	**Matsushiro Arr**	**76.22**	**324**	P	**P**	**00 41 40.8**	**+0.8**
	1.3nm,0.5s,baz=166,slow=6.7,SNR=6.1						
KSRS	**Korea Array**	**82.64**	**319**	P	**P**	**00 42 17.8**	**+3.0**
	1.0nm,0.5s,baz=113,slow=4.7,SNR=5.6						
KSAR	**Wonju Array Be**	**82.65**	**319**	P	**P**	**00 42 17.8**	**+2.9**
PSI	**Prapat**	**86.46**	**275**	LR	LR	01 20 26.4	
	comp=Z,192nm,21.9s,baz=86,slow=35						
MKAR	**Makanchi Array**	**116.56**	**311**	PKP	**PKPdf**	**00 48 34.8**	**-0.5**
	0.3nm,0.6s,baz=261,slow=1.4,SNR=4.9						
KURK	**Kurchatov**	**119.61**	**315**	PKP	**PKPdf**	**00 48 40.8**	**-0.2**
KURBB	**Kurchatov Arra**	**119.65**	**315**	PKP	**PKPdf**	**00 48 40.7**	**-0.3**
	0.4nm,0.7s,baz=112,slow=2.0,SNR=3.8						
BVAR	**Borovoye Array**	**124.84**	**317**	PKP	**PKPdf**	**00 48 51.4**	**+0.4**
	0.5nm,0.5s,baz=33,slow=5.5,SNR=3.7						
ARCES	**ARCESS Array B**	**135.49**	**349**	PKP	**PKPdf**	**00 49 09.8**	**-0.9**
	1.9nm,0.8s,baz=20,slow=2.9,SNR=5.0						
FINES	**FINESS Array B**	**142.33**	**342**	PKhKP	PKPpre	00 49 19.0	
	2.3nm,0.9s,baz=121,slow=1.1,SNR=6.3						
NB2	**NORSAR Subarra**	**145.53**	**353**	PKP	**PKPab**	**00 49 31.0**	**+1.6**
	comp=Z,14nm,1.4s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**145.53**	**353**	PKPbc	**PKPab**	**00 49 30.4**	**+0.9**
	comp=Z,1.3nm,1.1s,baz=353,slow=2.3,SNR=5.0						
AKASG	**Malin Array Be**	**149.26**	**327**	PKPbc	**PKPbc**	**00 49 40.3**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=42,slow=3.6,SNR=11						
MMAI	**Mount Meron Ar**	**151.81**	**290**	PKPbc	**PKPbc**	**00 49 47.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=102,slow=6.6,SNR=2.5						
BRTR	**Keskin Array B**	**151.95**	**305**	PKPbc	**PKPbc**	**00 49 47.1**	**+0.3**
	comp=Z,1.9nm,1.1s,baz=131,slow=3.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**166.16**	**172**	PKPab	**PKPab**	**00 50 56.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=192,slow=4.0,SNR=8.4						

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*IDC **11** 00:40:19.7±1.4, 32°.26N×48°.93E, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.6/44, mbtmp3.7/12, ML3.5/4, Error ellipse: s-maj=29.9km s-min=18.6km az=162.0*
*CSEM **11** 00:40:23.8±0.2, 32°.12N×48°.99E, h20km, ML3.3, Error ellipse: s-maj=6.9km s-min=3.4km az=1.0*
*TEH **11** 00:40:25.7, 32°.37N×49°.09E, h18km, ML3.3*
*ISN **11** 00:40:25.5±0.4, 32°.04N×49°.14E, h14km±9km, ML3.3*
ISC 11 00:40:22.8±1.0, 32°.12N±0°.06×48°.96E±0°.03, h26km±8km, n40, σ1°.86/48, mb3.6/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.13**	**264**	*e*Pg	**Pb**	**00 40 27.7**	**-0.2**
IPIR	**Pirpir**	**1.73**	**71**	*e*Pn	**Pb**	**00 40 53.4**	**-0.7**
IPIR				*e*Sg	**Sn**	**00 41 15.0**	**+2.1**
IPIR				*e*AMB	AMB	00 41 19.4	
	comp=Z,8μm,0.3s						
IPIR	**Pirpir**	**1.73**	**71**	*e*Pn	**Pb**	**00 40 53.4**	**-0.7**
IPIR				*e*Sg	**Sn**	**00 41 15.0**	**+2.1**
KHMZ	**Khomeyn**	**1.82**	**27**	*e*P	**Pn**	**00 40 53.5**	**+0.8**
KHMZ				*e*Sg	**Sn**	**00 41 16.8**	**+1.8**
IKOM	**Komasi**	**2.38**	**330**	*e*Pn	**Pn**	**00 41 02.1**	**+1.8**
IKOM				*e*AMB	AMB	00 41 38.7	
	comp=Z,2μm,0.2s						
IKOM	**Komasi**	**2.38**	**330**	*e*Pn	**Pn**	**00 41 02.1**	**+1.8**
IKLH	**Kolahrood**	**2.51**	**61**	*e*Pn	**Pn**	**00 41 03.9**	**+1.7**
IKLH				*e*Sg	**Sb**	**00 41 36.5**	**-1.5**
IKLH				*e*AMB	AMB	00 41 41.9	
	comp=Z,2μm,0.3s						
IKLH	**Kolahrood**	**2.51**	**61**	*e*Pn	**Pn**	**00 41 03.9**	**+1.7**
IKLH				*e*Sg	**Sb**	**00 41 36.5**	**-1.5**
ASAO	**Ashtian**	**2.58**	**20**	*e*Pn	**Pn**	**00 41 04.6**	**+1.5**
IGAR	**Gharneh**	**2.63**	**83**	*e*AMB	AMB	00 41 44.6	
	comp=Z,1μm,0.1s						
IGAR				*e*Pn	**Pn**	**00 41 05.7**	**+1.9**
NSR	**Nassriya**	**2.65**	**246**	*e*Pg	**Pb**	**00 41 07.5**	**-2.1**
	SNR=9.0						
NSR				*e*Sg	**Sb**	**00 41 42.7**	**+1.1**
	SNR=9.0						
IRAM	**Ramesheh**	**2.93**	**95**	*e*Pn	**Pn**	**00 41 09.0**	**+1.1**
IRAM				*e*AMB	AMB	00 42 11.3	
	comp=Z,428nm,0.4s						
IRAM	**Ramesheh**	**2.93**	**95**	*e*Pn	**Pn**	**00 41 09.0**	**+1.1**
IZEF	**Zefreh**	**2.95**	**74**	*e*AMB	AMB	00 41 59.4	
	comp=Z,649nm,0.4s						
IZEF				*e*Pn	**Pn**	**00 41 09.8**	**+1.5**
IGHG	**Ghaleghazi**	**2.98**	**318**	*e*Pn	**Pn**	**00 41 09.9**	**+1.3**
IGHG				*e*AMB	AMB	00 42 12.8	
	comp=Z,1μm,0.3s						
IGHG	**Ghaleghazi**	**2.98**	**318**	*e*Pn	**Pn**	**00 41 09.9**	**+1.3**
IVIS	**Veis**	**2.98**	**324**	*e*Pn	**Pn**	**00 41 10.2**	**+1.7**
IVIS				*e*AMB	AMB	00 41 53.3	
	comp=Z,806nm,0.1s						
IVIS	**Veis**	**2.98**	**324**	*e*Pn	**Pn**	**00 41 10.2**	**+1.7**
GHVR	**GHOM**	**3.06**	**39**	*e*Pn	**Pn**	**00 41 10.8**	**+1.2**
ILIN	**Lien**	**3.25**	**330**	*e*Pn	**Pn**	**00 41 14.3**	**+2.0**
ILIN				*e*AMB	AMB	00 42 05.0	
	comp=Z,732nm,0.2s						
ILIN	**Lien**	**3.25**	**330**	*e*Pn	**Pn**	**00 41 14.3**	**+2.0**
SNGE	**Sanandaj**	**3.25**	**336**	*e*Pn	**Pn**	**00 41 14.3**	**+1.9**
NASN	**Na'in**	**3.32**	**77**	*e*Pn	**Pn**	**00 41 15.6**	**+2.2**
BHD	**Baghdad**	**4.03**	**288**	*e*Pn	**Pn**	**00 41 25.0**	**+2.2**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**00 42 13.0**	**+3.9**
	SNR=5.0						
CUKT	**Cukurca**	**6.75**	**321**	*i* P	**Pn**	**00 42 01.6**	**+1.3**
CUKT	**Cukurca**	**6.75**	**321**	P	**Pn**	**00 42 01.6**	**+1.3**
HAKT	**HAKKARI**	**6.93**	**323**	*i* P	**Pn**	**00 42 01.9**	**-1.0**
ASF	**Jabal al Asfar**	**10.23**	**273**	Pn	**Pn**	**00 42 48.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=40,slow=4.1,SNR=8.7						
ASF				Sn	**Sn**	**00 44 35.3**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=3.1						
MMAI	**Mount Meron Ar**	**11.47**	**278**	Pn	**Pn**	**00 43 06.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=79,slow=16,SNR=3.5						
WSAR	**Wadi Sarin**	**12.31**	**134**	Pn	**Pn**	**00 43 16.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=340,slow=15,SNR=3.4						
BRTR	**Keskin Array B**	**14.54**	**306**	Pn	**P**	**00 43 54.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=8.4						
AKTO	**Aktyubinsk**	**19.50**	**18**	P	**P**	**00 44 47.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=208,slow=16,SNR=3.2						
AKASG	**Malin Array Be**	**23.61**	**328**	P	**P**	**00 45 29.9**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=126,slow=8.4,SNR=4.0						
BVAR	**Borovoye Array**	**26.00**	**30**	P	**P**	**00 45 53.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=224,slow=8.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**28.60**	**41**	P	**P**	**00 46 17.3**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=243,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**29.36**	**50**	P	**P**	**00 46 24.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=242,slow=9.5,SNR=4.4						
FINES	**FINESS Array B**	**32.89**	**340**	P	**P**	**00 46 53.9**	**-0.6**
	comp=Z,6.9nm,1.1s,baz=142,slow=8.7,SNR=9.5						
ZALV	**Zalesovo Beam**	**33.56**	**39**	P	**P**	**00 47 00.2**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=244,slow=10,SNR=12						
ARCES	**ARCESS Array B**	**39.73**	**347**	P	**P**	**00 47 51.0**	**-1.7**
	comp=Z,3.5nm,1.1s,baz=143,slow=7.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**47.12**	**258**	P	**P**	**00 48 53.9**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=57,slow=8.0,SNR=4.5						

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*IDC **11** 00:50:48.5±0.5, 27°.06S×176°.53W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.6/25, mbtmp4.5/15, ML5.4/1, MS4.6/16, Ms1 4.6/16, ms1mx4.4/28, Error ellipse: s-maj=19.3km s-min=16.0km az=113.0*
*MOS **11** 00:50:52.7±1.1, 27°.10S×176°.62W, h33km, mb5.0/18, Error ellipse: s-maj=12.6km s-min=10.5km az=79.5*
*ISCJB **11** 00:50:52.9±0.2, 27°.21S±0°.06×176°.66W±0°.06, h33km, mb4.9/59, MS4.7/22, Error ellipse: s-maj=8.4km s-min=7.2km az=146.4*
*BJI **11** 00:50:53.6, 27°.03S×176°.60W, h32km, mb5.2/29, mB5.4/12, Ms5.0/18, Ms7 4.7/20*
*GCMT **11** 00:50:55.4±0.2, 27°.14S×176°.08W, h20km, MW5.2/106, Moment Tensor Solution. s73,c109; s106,c172; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.66±.02; Mθθ0.02±.01; Mφφ-0.68±.01; Mrθ0.10±.03; Mθφ-0.19±.01; Mφr0.47±.03; Best double couple: M0.84700×10^17 NP1:φs13.00000°, δ62.00000°, λ89.00000°. NP2:φs195.00000°, δ28.00000°, λ92.00000°. Principal axes: T 0.8120, Plg73.0000°, Azm281.0000°; N 0.0700, Plg1.0000°, Azm13.0000°; P -0.8820, Plg17.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 00:50:55.4±1.4, 27°.34S×176°.62W, h47km±12km, mb4.9/37 Error ellipse: s-maj=11.0km s-min=8.5km az=156.0*
ISC 11 00:50:52.2±0.3, 27°.50S±0°.05×176°.23W±0°.06, h33km, n199, σ2°.18/199, mb4.9/59, MS4.7/22, 20C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.29**	**220**	Pn	**Pb**	**00 51 31.8**	**-1.1**
	867nm,0.3s,baz=86,slow=9.0,SNR=87						
RAO				Sn	**Sb**	**00 52 03.1**	**+2.3**
	942nm,0.3s,baz=75,slow=22,SNR=4.6						
RAO	**Raoul Island**	**2.29**	**220**	*e*Pn	**Pb**	**00 51 31.6**	**-1.3**
RAO				*e*S	**Sb**	**00 52 02.0**	**+1.1**
MSVF	**Nonsavu**	**11.06**	**330**	*e*P	**Pn**	**00 53 26.3**	**-1.8**
MSVF	**Nonsavu**	**11.06**	**330**	*e*Pn	**Pn**	**00 53 26.3**	**-1.8**
MSVF				*e*S	Sn	00 55 12.7	-18
URZ	**Urewera**	**12.10**	**206**	Pn	**Pn**	**00 53 37.8**	**-4.4**
	0.9nm,0.3s,baz=266,slow=6.0,SNR=7.9						
URZ				Sn	**Sn**	**00 55 51.9**	**-4.0**
	1.8nm,0.3s,baz=209,slow=19,SNR=4.9						
AFI	**Afiamalu**	**14.14**	**18**	Pn	Pn	00 54 00.9	-9.4
	16nm,0.3s,baz=167,slow=2.6,SNR=13						
AFI				Sn	Sn	00 56 22.6	-24
	3.2nm,0.3s,baz=315,slow=20,SNR=4.2						
AFI	**Afiamalu**	**14.14**	**18**	*e*P	Pn	00 54 02.6	-7.8
AFI	**Afiamalu**	**14.14**	**18**	*e*Pn	Pn	00 54 02.6	-7.8
AFI				*e*S	Sn	00 56 24.6	-22
SNZO	**South Karori**	**15.66**	**206**	*e*Pn	**Pn**	**00 54 29.0**	**-1.4**
RAR	**Rarotonga**	**16.24**	**71**	Pn	**Pn**	**00 54 31.4**	**-6.6**
	5.5nm,0.3s,baz=252,slow=6.8,SNR=9.3						
RAR				LR	LR	00 59 37.9	
	comp=Z,2μm,19.6s,baz=248,slow=32						
RAR	**Rarotonga**	**16.24**	**71**	*e*P	**Pn**	**00 54 31.9**	**-6.1**
RAR	**Rarotonga**	**16.24**	**71**	*e*Pn	**Pn**	**00 54 31.9**	**-6.1**
DZM	**Mont Dzumac**	**16.63**	**285**	Pn	**P**	**00 54 46.9**	**+1.8**
	0.7nm,0.3s,baz=109,slow=18,SNR=15						
DZM				LR	LR	00 58 32.9	
	comp=Z,596nm,21.2s,baz=188,slow=29						
DZM	**Mont Dzumac**	**16.63**	**285**	*e*P	**P**	**00 54 45.1**	**0.0**
	191nm,1.6s						
DZM				*e*LR	LR	00 58 28.0	
	9μm,23.8s						
DZM	**Mont Dzumac**	**16.63**	**285**	*e*Pn	**Pn**	**00 54 43.1**	**+0.1**
	61nm,1.0s						
KHZ	**Kahutara**	**17.06**	**207**	*e*Pn	**Pn**	**00 54 45.5**	**-2.6**
	62nm,0.8s						
KHZ				*e*Sn	**Sn**	**00 57 46.3**	**-10**
RPZ	**Rata Peaks**	**19.16**	**209**	Pn	**P**	**00 55 11.5**	**-1.3**
	1.1nm,0.3s,baz=36,slow=19,SNR=2.6						
TBI	**Tubuai**	**24.51**	**86**	*e*S	**S**	**01 00 25.3**	**-1.8**
	306nm,23.2s						
TBI				*e*LQ	LQ	01 00 47.3	
	2μm,28.8s						
TBI				*e*LR	LR	01 02 08.0	
	3μm,27.8s,baz=256						
TBI	**Tubuai**	**24.51**	**86**	*e*T	T	01 21 13.2	
	16nm,0.3s						
PAE	**Paea**	**26.43**	**74**	*e*T	T	01 23 26.2	
	4.7nm,0.2s						
PPT2	**Papeete2**	**26.47**	**74**	*e*S	**S**	**01 00 54.4**	**-4.1**
	215nm,23.4s						
PPT2				*e*LQ	LQ	01 01 33.0	
	2μm,24.2s						
PPT2				*e*LR	LR	01 02 55.6	
	4μm,26.0s,baz=245						
PPT2	**Papeete2**	**26.47**	**74**	*e*T	T	01 23 30.1	
	5.2nm,0.3s						
PPT	**Papeete**	**26.48**	**74**	LR	LR	01 04 01.5	
	comp=Z,1μm,20.5s,baz=245,slow=30						
VAH	**Vaihoa**	**29.22**	**71**	*e*T	T	01 26 52.7	
	10nm,0.3s						
EIDS	**Eidsvold**	**29.30**	**267**	*e*P	**P**	**00 56 52.1**	**+0.3**
	20nm,1.4s						
CTA	**Charters Tower**	**35.01**	**274**

VNDA LR LR 01 17 54.9
comp=Z,458nm,20.9s,baz=24,slow=32
VNDA Vanda 51.13 186 *e*P P 00 59 56.8 +5.5
VNDA pmax pmax
comp=Z,13nm,1.4s
VNDA Vanda 51.13 186 *e*P P 00 59 56.8 +5.4
comp=Z,13nm,1.4s
GUMO Guam 55.60 312 LR LR 01 24 02.0
comp=Z,355nm,18.4s,baz=142,slow=36
QSPA South Pole Qui 62.60 180 *e*P **P 01 01 17.1 +4.1**
comp=Z,146nm,0.9s
MIR Mirnyy 65.40 206 *i* P **P 01 01 34.0 +2.9**
MIR pmax pmax
comp=Z,6.0nm,1.5s
KKM Kota Kinabalu 73.19 286 *e*P **P 01 02 18.8 -1.5**
comp=Z,7.0nm,0.5s
MAW Mawson 75.56 200 P **P 01 02 36.4 +3.3**
comp=Z,8.0nm,0.8s,baz=135,slow=9.1,SNR=21
MAW LR LR 01 36 11.8
comp=Z,725nm,18.6s,baz=88,slow=36
MAW Mawson 75.56 200 *e*P **P 01 02 36.6 +3.5**
MAW pmax pmax
comp=Z,11nm,1.6s
MAW Mawson 75.56 200 *e*P **P 01 02 36.6 +3.5**
comp=Z,11nm,1.6s
JOW Kunigami 75.91 311 *e*P **P 01 02 35.9 +0.2**
comp=Z,28nm,0.8s
KSM Kuching 76.05 279 *e*P **P 01 02 36.2 -0.7**
comp=Z,13nm,0.6s
MJAR Matsushiro Arr 76.78 324 P **P 01 02 39.0 -1.5**
comp=Z,6.4nm,0.8s,baz=155,slow=5.6,SNR=17
MJAR LR LR 01 30 42.7
comp=Z,170nm,21.0s,baz=120,slow=31
MJAR Matsushiro Arr 76.78 324 P **P 01 02 39.0 -1.5**
MAJO Matsushiro 76.79 324 *e*P **P 01 02 38.6 -1.9**
MAJO pmax pmax
comp=Z,86nm,1.0s
MAJO Matsushiro 76.79 324 *e*P **P 01 02 39.8 -0.7**
comp=Z,129nm,2.0s
MAT Matsushiro 76.79 324 P **P 01 02 39.3 -1.2**
MAT S **S 01 12 24.0 -1.5**
MJB9 Matsu-Tunnel 76.79 324 *e*P **P 01 02 40.2 -0.3**
comp=Z,32nm,2.0s
JNU Nakatsue 78.46 317 P **P 01 02 49.4 -0.5**
comp=Z,8.7nm,0.9s,baz=140,slow=3.4,SNR=9.0
JNU Nakatsue 78.46 317 *e*P **P 01 02 48.4 -1.6**
comp=Z,56nm,0.4s
SYO Syowa Base 80.28 192⇑*i*P **P 01 03 00.5 +1.2**
SYO Syowa Base 80.28 192⇑*i*PcP **PcP 01 03 05.0 -1.4**
SYO Syowa Base 80.28 192⇑*es*P sP 01 03 19.0 +5.5
SNAA Sanae 81.00 178 P **P 01 03 05.7 +2.5**
SNAA Sanae 81.00 178 *e*P **P 01 03 03.8 +0.6**
SNAA Sanae 81.00 178 *e*P **P 01 03 04.2 +1.0**
comp=Z,15nm,1.2s
VNA3 Neumayer Olymp 81.08 176 P **P 01 03 05.8 +2.2**
VNA2 Neumayer--Watz 81.53 176 P **P 01 03 08.7 +2.7**
baz=169,slow=4.0
VNA1 Neumayer--Stat 81.75 176 P **P 01 03 10.7 +3.5**
NVL N'lazarevskaya 81.84 183 *e*P P 01 03 12.4 +4.8
YSS Yuzh-Sakhalins 82.84 333 *e*P **P 01 03 12.0 -1.0**
YSS MLR MLR
comp=Z,400nm,19.0s
PET Petropavlovsk 83.12 345 *e*P **P 01 03 12.6 -1.6**
PET *e*S **S 01 13 27.2 -4.2**
PET MLR MLR
comp=Z,600nm,19.0s
KSRS Korea Array 83.18 318 P **P 01 03 15.4 +0.5**
comp=Z,4.2nm,0.7s,baz=136,slow=5.5,SNR=14
KSRS LR LR 01 34 18.6
comp=Z,158nm,21.8s,baz=130,slow=32
KSAR Wonju Array Be 83.19 318 P **P 01 03 15.5 +0.4**
KSAR Wonju Array Be 83.19 318 P **P 01 03 15.4 +0.4**
KS01 Wonju Array Si 83.21 318 *e*P **P 01 03 14.7 -0.4**
PLCA Paso Florista 83.33 133 P P 01 03 20.5 +4.4
comp=Z,1.4nm,0.8s,baz=259,slow=5.2,SNR=2.3
PLCA LR LR 01 34 13.5
comp=Z,290nm,19.3s,baz=310,slow=31
CMB Columbia Colle 83.57 41 *e*P **P 01 03 18.4 +1.4**
CMB pmax pmax
comp=Z,11nm,0.8s
CMB Columbia Colle 83.57 41 *e*P **P 01 03 18.4 +1.4**
comp=Z,11nm,0.8s
WDC Whiskeytown Da 84.09 38 *e*P **P 01 03 22.4 +2.8**
WDC pmax pmax
comp=Z,7.0nm,0.9s
WDC Whiskeytown Da 84.09 38 *e*P **P 01 03 22.4 +2.8**
comp=Z,6.6nm,0.9s
WAKR Walker 84.44 41 *e*P **P 01 03 25.8 +4.1**
comp=Z,16nm,1.5s
TVH2 Borealis Mine 84.75 42 *e*P **P 01 03 25.6 +2.3**
comp=Z,12nm,1.7s
LDFC Landfair 84.89 46 *e*P **P 01 03 27.0 +3.1**
comp=Z,23nm,1.4s
QIZ Qiongzhong 85.19 294 P **P 01 03 26.1 +0.5**
QIZ S **S 01 13 52.7 -1.0**
PAHR Pah Rah Range 85.27 40 *e*P **P 01 03 27.6 +1.8**
comp=Z,15nm,1.3s
TPNV Topopah Spring 85.35 44 *e*P **P 01 03 28.6 +2.4**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 85.35 44 *e*P **P 01 03 28.6 +2.4**
comp=Z,5.5nm,0.9s
Y14A Wickenburg 85.56 48 *e*P **P 01 03 29.8 +2.6**
comp=Z,30nm,1.3s
NJ2 Nanjing 85.57 310 *e*P **P 01 03 26.8 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
USRK Ussuriysk Ar. 85.63 325 P **P 01 03 25.0 -2.2**
comp=Z,1.4nm,0.6s,baz=116,slow=4.4,SNR=11
USRK LR LR 01 35 51.5
comp=Z,269nm,20.3s,baz=138,slow=32
W13A Hualapai Mount 85.69 47 *e*P **P 01 03 30.7 +2.7**
comp=Z,9.4nm,1.7s
SHPR Sheep Range 85.75 45 *e*P **P 01 03 31.0 +2.8**
comp=Z,12nm,1.6s
TUC Tucson 86.09 51 *e*P **P 01 03 32.1 +2.2**
TUC pmax pmax
comp=Z,19nm,1.6s
TUC Tucson 86.09 51 *e*P **P 01 03 32.1 +2.2**
comp=Z,19nm,1.6s
X16A Lo Mia Camp, P 86.88 49 *e*P **P 01 03 37.0 +3.0**
comp=Z,7.4nm,1.2s
LCMT Little Creek M 87.27 46 *e*P **P 01 03 35.9 +0.2**
comp=Z,5.6nm,1.3s
U15A North Rim 87.52 46 *e*P **P 01 03 39.4 +2.3**
comp=Z,8.9nm,1.2s
KNB Kanab 87.54 46 *e*P **P 01 03 37.0 0.0**
KNB pmax pmax
comp=Z,15nm,1.5s
KNB Kanab 87.54 46 *e*P **P 01 03 37.0 0.0**
comp=Z,15nm,1.5s
WHN Wuhan 87.87 306⇑P **P 01 03 39.3 +0.8**
WHN S **S 01 14 16.9 -2.3**
WHN pmax pmax
comp=Z,52nm,0.6s
WHN LR LR
comp=Z,2μm,23.5s
TIA Tai'an 89.16 312⇑P **P 01 03 45.0 +0.5**
TIA pmax pmax
comp=Z,30nm,1.5s
TX31 Lajitas Ar. Si 89.51 56 *e*P **P 01 03 49.4 +3.0**
TXAR Lajitas Array 89.51 56 P **P 01 03 48.5 +2.1**
comp=Z,0.7nm,0.8s,baz=218,slow=7.9,SNR=6.5
TMUT Trail Mountain 89.92 45 *e*P **P 01 03 51.6 +3.2**
comp=Z,18nm,1.0s
SRU San Rafael Swe 90.24 45 *e*P **P 01 03 53.5 +3.8**
SRU pmax pmax
comp=Z,6.0nm,1.1s
SRU San Rafael Swe 90.24 45 *e*P **P 01 03 53.5 +3.8**
comp=Z,6.4nm,1.1s
D08A Wollman Farm, 90.41 35 *e*P **P 01 03 51.7 +1.7**
ANMO Albuquerque 90.55 50 *e*P **P 01 03 50.5 -0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 90.55 50 *e*P **P 01 03 52.9 +1.7**
comp=Z,16nm,1.7s
HLID Hailey 90.60 40 *e*P **P 01 03 55.5 +4.3**
comp=Z,3.5nm,1.2s
SLVN Son La 91.17 293 *e*P **P 01 03 55.3 +1.0**
comp=Z,17nm,1.3s
ENH Enshi 91.27 304 *e*P **P 01 03 55.6 +1.1**
comp=Z,97nm,1.4s
GYA Guiyang 91.48 299 *e*P **P 01 03 57.2 +1.5**
GYA pP pP 01 04 06.8 +0.6
GYA PP **PP 01 07 36.4 +2.2**
GYA SKS **SKSac 01 14 25.0 -1.0**
GYA S **S 01 14 50.6 -2.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BJI Beijing 91.97 315 P **P 01 03 57.8 +0.4**
BJI S **S 01 14 57.1 +0.3**
BJI sS **sS 01 15 15.3 +1.0**
BJI pmax pmax
comp=Z,16nm,1.5s
BJI LR LR
comp=Z,230nm,17.2s
BJI LR LR
comp=Z,220nm,18.2s
BJI LR LR
comp=Z,200nm,20.7s
PDAR Pinedale Array 92.96 43 P **P 01 04 03.0 +0.8**
comp=Z,1.2nm,1.0s,baz=222,slow=2.0,SNR=4.3
PDAR LR LR 01 40 03.9
comp=Z,322nm,19.4s,baz=303,slow=32
KMI Kunming 93.92 296 P **P 01 04 08.8 +1.7**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI LR LR
comp=Z,230nm,20.1s
CMAR Chiang Mai Arr 93.93 289 P **P 01 04 08.5 +1.5**
comp=Z,1.5nm,0.4s,baz=149,slow=3.1,SNR=7.8
CHTO Chiang Mai 94.09 289 *e*P **P 01 04 08.7 +0.9**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 94.09 289 *e*P **P 01 04 08.7 +0.9**
comp=Z,5.3nm,0.9s
COLA College 94.68 12 *e*P **P 01 04 08.9 -0.4**
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 94.77 12 P **P 01 04 09.0 -0.7**
comp=Z,0.5nm,0.7s,baz=216,slow=5.8,SNR=5.1
HHC Hu-ho-hao-te 95.35 313 *e*P **P 01 04 17.4 +4.2**
HHC SKS **SKSac 01 14 47.9 +1.3**
HHC S **S 01 15 24.9 -1.9**
HHC SS **SS 01 21 53.4 -1.9**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,170nm,11.1s
HHC LR LR
comp=Z,270nm,15.4s
HHC LR LR
comp=Z,260nm,17.5s
CD2 Chengdu 95.87 302 *e*P **P 01 04 16.0 +0.3**
LPAZ La Paz 97.88 113 LR LR 01 39 47.5
comp=Z,186nm,21.0s,baz=255,slow=30
LZH Lanzhou 98.25 306 *e*P Pdif 01 04 27.4 +0.9
LZH pP pP 01 04 36.1 -0.9
LZH sP sP 01 04 40.7 -0.1
LZH pmax pmax
comp=Z,11nm,1.0s
LZH LR LR
comp=Z,300nm,16.4s
LZH LR LR
comp=Z,270nm,15.7s
LZH LR LR
comp=Z,530nm,18.0s
WMQ Urumqi 112.64 309 PKP **PKiKP 01 09 27.0 +1.8**
WMQ PP **PP 01 10 15.2 +2.3**
WMQ SS SS 01 25 47.2 -5.4
WMQ AMB AMB
comp=Z,120nm,4.3s
WMQ LR LR
comp=Z,140nm,22.7s
WMQ LR LR
comp=Z,130nm,26.7s
WMQ LR LR
comp=Z,190nm,26.7s
ZALV Zalesovo Beam 116.88 319 PKP **PKPdf 01 09 32.4 -0.6**
comp=Z,1.1nm,0.6s,baz=125,slow=1.1,SNR=4.0
MK01 Makanchi Array 117.06 311 *e*PKPdf **PKPdf 01 09 32.8 -0.8**
MK31 Makanchi Array 117.07 311 *e*PKIKP **PKPdf 01 09 33.5 -0.1**
MK31 Makanchi Array 117.07 311 *e*PKPdf **PKPdf 01 09 33.5 -0.1**
MKAR Makanchi Array 117.07 311 PKP **PKPdf 01 09 33.1 -0.5**
comp=Z,1.1nm,0.8s,baz=71,slow=3.1,SNR=6.6
KSH Kashi 120.07 302 PKP **PKPdf 01 09 39.5 -0.2**
KSH sPKP 01 09 55.1
KSH PP **PP 01 11 09.7 +4.5**
KSH PKS **PKSdf 01 13 17.4 +0.9**
KSH SKS **SKSdf 01 16 47.7 -1.7**
KSH SKKS **SKKSac 01 17 59.1 -3.2**
KSH SS **SKKSdf 01 27 30.6 -0.6**
KSH LR LR
comp=Z,150nm,8.4s
KSH LR LR
comp=Z,180nm,5.7s
KSH LR LR
comp=Z,140nm,6.1s
KURK Kurchatov 120.14 315 *i* PKIKP **PKPdf 01 09 38.4 -0.9**
KURK Kurchatov 120.14 315 PKP **PKPdf 01 09 38.6 -0.7**
KURBB Kurchatov Arra 120.18 315 PKP **PKPdf 01 09 38.6 -0.8**
comp=Z,1.3nm,0.7s,baz=100,slow=1.8,SNR=9.0
KKAR Karatay Array 124.72 305 *e*PKIKP **PKPdf 01 09 48.6 +0.2**
KKAR Karatay Array 124.72 305 *e*PKPdf **PKPdf 01 09 48.6 +0.2**
BRVK Borovoye 125.44 317 *i* PKIKP **PKPdf 01 09 49.2 -0.2**
SVE Sverdlovsk 130.58 323 *e*PKHKP PKPpre 01 09 31.0
ARU Arti 131.79 322 *i* PKIKP **PKPdf 01 10 00.8 -0.6**
ARU 01 12 18.2
ARU Arti 131.79 322 *e*PKPdf **PKPdf 01 10 01.9 +0.6**
ARCES ARCESS Array B 136.06 349 PKP **PKPdf 01 10 09.4 +0.4**
comp=Z,4.9nm,0.9s,baz=11,slow=2.5,SNR=10
KLMR Klimovskoe 138.88 334 *e*PKIKP **PKPdf 01 10 14.4 -0.1**
KLMR pmax pmax
comp=Z,17nm,1.4s
FINES FINESS Array B 142.91 342 PKhKP PKPpre 01 10 16.8
comp=Z,4.6nm,0.8s,baz=50,slow=1.2,SNR=8.0
GNI Garni 144.00 301 *i* PKIKP PKPbc 01 10 22.3 -0.2
NCK Nalchik 144.24 307⇑*e*PKIKP **PKPdf 01 10 29.7 +5.0**
SHA1 Shidzhatmaz 144.84 308 *i* PKIKP **PKPdf 01 10 31.8 +5.8**
NEY Neytrino 144.91 307 *i* PKHKP PKPpre 01 10 22.7
ARTV Artvin 145.94 304 *e*PKPdf **PKPab 01 10 29.6 +0.4**
NB2 NORSAR Subarra 146.09 354 PKP **PKPbc 01 10 27.8 -0.5**
comp=Z,111nm,2.0s,baz=14,slow=3.2
NB2 NORSAR Subarra 146.09 354 PKP **PKPbc 01 10 27.8 -0.5**
baz=14,slow=3.2
NOA NORSAR Array B 146.09 354 PKPbc **PKPbc 01 10 27.9 -0.3**
comp=Z,3.2nm,0.7s,baz=333,slow=2.9,SNR=10
NOA NORSAR Array B 146.09 354 PKP2 **PKPbc 01 10 28.0 -0.3**
MARD Mardin 147.43 297 *e*PKPdf **PKPab 01 10 34.2 -0.9**
AKASG Malin Array Be 149.82 327 PKPbc **PKPbc 01 10 38.2 -0.3**
comp=Z,5.1nm,0.6s,baz=40,slow=3.6,SNR=23
AKBB Malin Array Si 149.82 327 *e*PKP2 **PKPbc 01 10 38.6 +0.1**
AKBB Malin Array Si 149.82 327 *e*PKPbc **PKPbc 01 10 38.6 +0.1**
KIEV Kiev 149.84 327 *i* PKIKP **PKPdf 01 10 32.8 -0.9**
KIEV Kiev 149.84 327 *e*PKPbc **PKPbc 01 10 38.1 -0.5**
AK11 Malin Array Si 149.87 327 *e*PKPdf **PKPbc 01 10 38.3 -0.3**
SORM Soroca 151.90 324⇑*i*P **PKPbc 01 10 41.5 -2.0**
SORM Soroca 151.90 324⇑PKIKP **PKPbc 01 10 41.5 -2.0**
BR131 Keskin Array S 152.43 304 *e*PKPab **PKPab 01 10 56.4 +0.9**
BRTR Keskin Array B 152.43 304 PKPbc **PKPbc 01 10 45.0 -0.2**
comp=Z,1.5nm,0.7s,baz=144,slow=5.2,SNR=3.1
BRTR PKPab **PKPab 01 10 55.5 0.0**
comp=Z,3.3nm,0.7s,baz=91,slow=3.7,SNR=7.8
BR231 Keskin MP Arra 153.02 305 *e*PKPbc **PKPbc 01 10 48.0 +1.6**
CSS Mathiatis 153.71 294 *e*PKPab **PKPab 01 11 01.5 +0.6**
CFR Carcaliu 153.76 319⇑*i*P **PKPbc 01 10 45.0 -2.7**
CFR Carcaliu 153.76 319⇑PKIKP **PKPbc 01 10 45.0 -2.7**
TESR Tescani 153.81 323⇑*i*P **PKPbc 01 10 44.0 -3.8**
BURAR Bucovina Array 153.84 326⇑*i*P **PKPbc 01 10 49.1 +1.1**
BURAR Bucovina Array 153.84 326⇑PKIKP **PKPbc 01 10 49.1 +1.1**
VRI Vrincioaia 154.17 321⇓*i*P **PKPbc 01 10 45.7 -2.9**
VRI Vrincioaia 154.17 321⇓PKIKP **PKPbc 01 10 45.7 -2.9**
UZH Uzhgorod 154.48 331⇓*e*PKP2 **PKPab 01 11 02.5 -1.0**
OKC Ostrava-Krasne 155.11 338 *e*PKPAB **PKPab 01 11 06.6 +0.4**
OKC Ostrava-Krasne 155.11 338 *e*PKP2 **PKPab 01 11 06.6 +0.4**
CLL Collm 155.21 346 *e*PKIKP **PKPdf 01 10 42.0 +0.4**
CLL *e* 01 11 04.0
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 155.21 346 *e*PKPdf **PKPdf 01 10 42.0 +0.4**
CLL *e*PKPdiff **pPKPdf 01 10 52.0 -0.5**
CLL *e*PKPab sPKPbc 01 11 05.0 -0.1
comp=Z,11nm,1.2s
DPC Dobruska-Polom 155.25 341⇑*e*PKP PKPdf 01 10 51.6 +10
DPC *e*PKPAB **PKPab 01 11 07.1 +0.3**
VOIR 155.36 322⇑*i*P **PKPdf 01 10 44.5 +2.4**
VOIR 155.36 322⇑PKIKP **PKPdf 01 10 44.6 +2.4**
BRG Berggiesshubel 155.41 344 *e*PKP PKPdf 01 10 52.6 +11
comp=Z,31nm,2.0s
BRG *e* 01 11 07.5
comp=Z,10nm,1.2s
ARR Arges 155.63 323⇑*i*P PKPdf 01 10 53.0 +10
DRGR 155.64 327⇑*i*P **PKPab 01 11 08.6 -0.1**
DRGR 155.64 327⇑PKP2 **PKPab 01 11 08.6 -0.1**
VYHS Vyhne 155.99 335 *e*PKP2 **PKPab 01 11 10.6 +0.5**
VYHS Vyhne 155.99 335 *e*PKP **PKPab 01 11 10.6 +0.5**
PRU Pruhonice 156.07 343 *e*PKPAB **PKPab 01 11 09.7 -0.6**
PRU Pruhonice 156.07 343 *e*PKP2 **PKPab 01 11 09.7 -0.6**
KHC Kasperske Hory 157.11 343 *e*PKPDF **PKPdf 01 10 46.1 +1.8**
KHC *e*PKPAB **PKPab 01 11 14.7 -0.1**
KHC Kasperske Hory 157.11 343 *e*PKIKP **PKPdf 01 10 46.1 +1.8**
GERES GERESS Array B 157.34 343 PKPab **PKPab 01 11 15.0 -0.9**
comp=Z,1.0nm,0.7s,baz=356,slow=6.9,SNR=3.7
MDVR Moldovita 157.56 325⇑*i*P **PKPab 01 11 16.2 -0.8**
TORD Torodi Ar. Bea 165.59 172 PKP **PKPdf 01 10 54.9 +0.7**
comp=Z,0.7nm,0.8s,baz=348,slow=4.2,SNR=4.2
TORD PKPab **PKPab 01 11 55.2 +2.6**
comp=Z,4.1nm,0.9s,baz=192,slow=3.2,SNR=13
ESDC Sonseca Array 166.26 26 PKPab **PKPab 01 11 56.7 +1.6**
comp=Z,0.2nm,0.4s,baz=332,slow=3.7,SNR=3.0

IDC ***11*** *00:57:52.4±0.6, 7°.47S×106°.11E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/38, mbtmp4.2/14, Error ellipse: s-maj=32.6km s-min=14.1km az=59.0*
DJA ***11*** *00:57:54.4±0.4, 8°.5±3°×10°.6E±°, h10km, M4.3/10, MLv4.3/10*
ISCJB ***11*** *00:57:55.5±0.6, 7°.82S±0°.04×106°.00E±0°.04, h41km±6km, mb4.2/16, Error ellipse: s-maj=6.9km s-min=5.3km az=137.3*
NEIC ***11*** *00:57:57.1±0.6, 7°.71S×105°.92E, h35km, mb4.3/2, Error ellipse: s-maj=14.9km s-min=11.0km az=38.0*
ISC 11 00:57:56.4±2.0, 7°.80S±0°.04×105°.98E±0°.05, h29km±14km, n40, σ1°.64/45, mb4.4/16, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.97**	**36**	P	**Pn**	**00 58 11.1**	**-3.0**
CGJI	**Cibinong**	**1.21**	**346**	P	**Pn**	**00 58 16.8**	**-0.5**
CGJI				S	**Sn**	**00 58 31.4**	**-1.4**
CNJI	**Cibinong**	**1.24**	**67**	P	**Pn**	**00 58 16.1**	**-1.6**
CNJI				S	**Sn**	**00 58 31.0**	**-2.5**
DBJI	**Dramaga**	**1.45**	**32**	P	**Pn**	**00 58 19.9**	**-0.8**
DBJI				S	**Sn**	**00 58 37.6**	**-1.2**
SBJI	**Serang**	**1.67**	**5**	P	**Pn**	**00 58 23.4**	**-0.3**
SBJI				S	**Sn**	**00 58 44.2**	**0.0**
TNG	**Tangerang**	**1.75**	**22**	P	**Pb**	**00 58 27.7**	**-0.1**
TNG				S	**Sn**	**00 58 48.2**	**+2.2**
CISI	**Cisompet, Garu**	**1.83**	**83**	P	**Pn**	**00 58 24.8**	**-1.2**
CISI	**Cisompet, Garu**	**1.83**	**83**	*e*Pn	**Pn**	**00 58 24.8**	**-1.2**
CISI				*e*S	**Sn**	**00 58 45.4**	**-2.9**
CMJI	**Cimerak**	**2.45**	**90**	P	**Pn**	**00 58 33.0**	**-1.3**
XMIS	**Christmas Isla**	**2.69**	**187**	*e*Pn	**Pn**	**00 58 36.0**	**-1.6**
XMIS				*e*S	**Sn**	**00 59 06.6**	**-2.6**
KASI	**Kota Agung**	**2.70**	**327**	P	**Pn**	**00 58 38.6**	**+0.8**
KLSI		**3.33**	**338**	P	**Pn**	**00 58 48.0**	**+1.5**
LWLI	**Liwa**	**3.36**	**325**	P	**Pn**	**00 58 48.5**	**+1.5**
MDSI	**Maura Dua**	**3.75**	**331**	P	**Pn**	**00 58 53.4**	**+1.2**
SMRI	**Semarang**	**4.49**	**81**	P	Pn	00 59 08.5	+6.1
SMRI	**Semarang**	**4.49**	**81**	*e*Pn	**Pn**	**00 59 04.2**	**+1.8**
SMRI				*e*S	**Sn**	**00 59 56.4**	**+2.7**
UGM	**Wanagama**	**4.50**	**92**	P	**Pn**	**00 59 02.3**	**-0.4**
MNAI	**Manna**	**4.55**	**318**	P	**Pn**	**00 59 04.9**	**+1.6**
JAGI	**Jajag, Banyuwa**	**8.12**	**95**	*e*Pn	**Pn**	**00 59 54.5**	**+2.2**
30nm,0.3s							
WRA	**Warramunga Arr**	**30.00**	**117**	P	**P**	**01 04 03.2**	**+0.4**
0.8nm,0.6s,baz=290,slow=10,SNR=7.4							
WRA				PcP	**PcP**	**01 07 05.6**	**+0.8**
0.4nm,0.5s,baz=311,slow=2.1,SNR=4.8							
WRAB	**Tennant Creek**	**30.01**	**117**	*e*P	**P**	**01 04 03.8**	**+0.9**
1.2nm,0.5s							
ASAR	**Alice Springs**	**31.07**	**124**	P	**P**	**01 04 12.8**	**+0.6**
0.6nm,0.5s,baz=301,slow=7.9,SNR=8.4							
H08S2	**Diego Garcia H**	**33.18**	**268**	T	T	01 39 55.9	
baz=92,slow=75,SNR=10							
H08S3	**Diego Garcia H**	**33.19**	**268**	T	T	01 39 48.5	
baz=92,slow=75,SNR=9.9							
H08S1	**Diego Carcia H**	**33.20**	**268**	T	T	01 39 58.9	
baz=92,slow=75,SNR=10.0							
STKA	**Stephens Creek**	**40.87**	**131**	P	**P**	**01 05 38.1**	**+2.1**
1.0nm,0.5s,baz=306,slow=8.7,SNR=2.6							
SONM	**Songino Array**	**55.39**	**0**	P	**P**	**01 07 27.3**	**-0.7**
0.5nm,0.4s,baz=186,slow=7.6,SNR=4.9							
SONM				PcP	**PcP**	**01 08 27.9**	**-0.3**
0.4nm,0.3s,baz=186,slow=4.4,SNR=4.4							
MKAR	**Makanchi Array**	**58.30**	**341**	P	**P**	**01 07 46.8**	**-1.7**
2.2nm,0.5s,baz=143,slow=7.7,SNR=28							
KURBB	**Kurchatov Arra**	**62.86**	**341**	P	**P**	**01 08 18.4**	**-1.1**
2.3nm,0.6s,baz=152,slow=6.2,SNR=18							
KURK	**Kurchatov**	**62.91**	**341**	P	**P**	**01 08 18.4**	**-1.4**
GEYT	**Alibeck**	**63.69**	**319**	P	**P**	**01 08 25.4**	**0.0**
1.2nm,0.6s,baz=169,slow=8.3,SNR=4.3							
ZALV	**Zalesovo Beam**	**64.06**	**346**	P	**P**	**01 08 25.1**	**-2.3**
1.9nm,0.5s,baz=163,slow=5.2,SNR=9.3							
MAW	**Mawson**	**66.31**	**197**	P	**P**	**01 08 44.6**	**+2.8**
3.0nm,0.8s,baz=52,slow=4.6,SNR=9.6							
ABKAR	**Akbulak array**	**69.58**	**330**	*e*P	**P**	**01 09 01.8**	**-0.9**
4.0nm,0.6s							
VNDA	**Vanda**	**75.37**	**169**	P	**P**	**01 09 38.6**	**+1.9**
1.2nm,1.0s,baz=299,slow=6.3,SNR=5.8							
KBZ	**Khabaz**	**76.56**	**318**	P	**P**	**01 09 44.6**	**+0.6**
3.9nm,0.8s,baz=128,slow=2.7,SNR=7.7							
NRIK	**Noril'sk**	**78.02**	**353**	P	**P**	**01 09 49.5**	**-2.1**
2.2nm,0.3s,baz=73,slow=2.8,SNR=4.7							
BRTR	**Keskin Array B**	**81.60**	**312**	P	**P**	**01 10 12.1**	**+0.1**
3.7nm,0.9s,baz=127,slow=6.6,SNR=15							
ARCES	**ARCESS Array B**	**93.93**	**340**	P	**P**	**01 11 09.8**	**-1.1**
3.1nm,0.8s,baz=79,slow=4.9,SNR=2.8							
TXAR	**Lajitas Array**	**144.85**	**49**	PKP	PKPbc	01 17 31.2	+0.7
1.0nm,0.6s,baz=259,slow=1.4,SNR=9.0							

ISK ***11*** *01:10:01.2, 40°.22N×44°.24E, h32km, MD2.8*
TIF ***11*** *01:10:02.7, 42°.28N×43°.04E, h7km±1km*
DDA ***11*** *01:10:10.9, 41°.67N×43°.33E, h7km, Ml2.9*
CSEM ***11*** *01:10:10.9, 41°.67N×43°.33E, h7km, ML2.9*
ISC 11 01:10:04.5±1.3, 42°.36N±0°.05×43°.06E±0°.03, h11km±10km, n24, σ0°.93/40, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.37**	**51**	P	**Pg**	**01 10 12.0**	**+0.1**
ONI				S	**Sb**	**01 10 18.9**	**0.0**
EPOS	**Posof**	**0.89**	**196**	*i* P	**Pg**	**01 10 21.2**	**-0.5**
EPOS	**Posof**	**0.89**	**196**	P	**Pg**	**01 10 21.2**	**-0.5**
AKH	**Akhalkalaki**	**1.00**	**161**	*e*PN	**Pb**	**01 10 23.9**	**-0.1**
AKH				*e*SN	**Sn**	**01 10 40.4**	**+1.5**
AKH	**Akhalkalaki**	**1.00**	**161**	P	**Pb**	**01 10 23.2**	**-0.7**
AKH				S	**Sb**	**01 10 38.6**	**+1.4**
AKH	**Akhalkalaki**	**1.00**	**161**	*i* P	**Pb**	**01 10 23.3**	**-0.7**
AKH	**Akhalkalaki**	**1.00**	**161**	PKIKP	**Pb**	**01 10 23.4**	**-0.6**
AKH				S	**Sn**	**01 10 38.8**	**-0.1**
AKH	**Akhalkalaki**	**1.00**	**161**	*e*Pn	**Pb**	**01 10 23.9**	**-0.1**
AKH				*e*Sn	**Sn**	**01 10 40.4**	**+1.5**
GUDG	**Gudauri**	**1.05**	**84**	P	**Pg**	**01 10 25.0**	**+0.2**
GUDG				S	**Sn**	**01 10 40.8**	**+0.7**
BGD	**Bogdanovka**	**1.17**	**160**	P	**Pn**	**01 10 25.1**	**-1.8**
BGD				S	**Sb**	**01 10 42.5**	**+0.5**
TBLG	**Delisi**	**1.40**	**116**	*e*PN	**Pn**	**01 10 27.5**	**-2.5**
TBLG	**Delisi**	**1.40**	**116**	P	**Pn**	**01 10 29.4**	**-0.6**
TBLG				S	**Sg**	**01 10 49.7**	**+0.2**
TBLG	**Delisi**	**1.40**	**116**	PKIKP	**Pn**	**01 10 29.4**	**-0.6**
TBLG	**Delisi**	**1.40**	**116**	P	**Pn**	**01 10 30.2**	**+0.2**
TBLG				S	**Sn**	**01 10 47.8**	**-0.6**
TBLG	**Delisi**	**1.40**	**116**	*e*Pn	**Pn**	**01 10 27.5**	**-2.5**
SEAG	**Tbilisi Sea**	**1.43**	**114**	P	**Pb**	**01 10 31.3**	**+0.2**
SEAG				S	**Sg**	**01 10 52.0**	**+1.6**
ARTV	**Artvin**	**1.45**	**216**	*i* P	**Pn**	**01 10 30.7**	**-0.1**
ARTV				*i* S	**Sg**	**01 10 51.5**	**+0.3**
ARTV	**Artvin**	**1.45**	**216**	P	**Pn**	**01 10 30.7**	**-0.1**
ARTV				S	**Sg**	**01 10 51.5**	**+0.3**
DBOC	**Borcka**	**1.46**	**226**	*i* S	**Sb**	**01 10 50.3**	**+0.2**
DBOC	**Borcka**	**1.46**	**226**	S	**Sb**	**01 10 50.3**	**+0.2**
DAGI	**Agillar**	**1.54**	**214**	*i* P	**Pb**	**01 10 33.0**	**-0.2**
DAGI				*i* S	**Sb**	**01 10 52.9**	**+0.1**
DDEM	**Demirkent**	**1.77**	**214**	*i* P	**Pb**	**01 10 36.8**	**-0.1**
DDEM				*i* S	**Sb**	**01 11 00.2**	**+1.1**
DDEM	**Demirkent**	**1.77**	**214**	P	**Pb**	**01 10 36.8**	**-0.1**
DDEM				S	**Sb**	**01 11 00.2**	**+1.1**
DGRG	**David-gareji**	**1.95**	**117**	P	**Pb**	**01 10 39.9**	**-0.1**

DGRG S **Sg** **01 11 07.4 +0.2**

*ATH **11** 01:10:08.8, 37°.19N×22°.01E, h15km±2km, ML3.7/7, Error ellipse: s-maj=2.0km s-min=1.1km az=268.0*
*IDC **11** 01:10:08.2±1.4, 37°.23N×22°.19E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/41, mbtmp3.6/8, ML2.7/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/41, Error ellipse: s-maj=34.0km s-min=21.0km az=144.0*
*ISCJB **11** 01:10:09.1±0.4, 37°.20N±0°.02×21°.97E±0°.03, h8km±3km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=3.8km s-min=3.1km az=141.3*
*THE **11** 01:10:09.3, 37°.20N×22°.01E, h1km±1km, ML3.8/15, Error ellipse: s-maj=1.2km s-min=0.3km az=207.0*
*CSEM **11** 01:10:09.6±0.2, 37°.22N×22°.02E, h2km, ML3.8, Error ellipse: s-maj=4.1km s-min=3.0km az=48.0*
ISC 11 01:10:09.3±0.8, 37°.20N±0°.02×22°.01E±0°.02, h7km±5km, n158, σ1§00/191, mb3.7/5, 3C-6D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.07**	**252**	P	**Pg**	**01 10 10.9**	**-0.1**
ITM				S	**Sg**	**01 10 12.2**	**-0.1**
ITM	**Ithomi**	**0.07**	**252**	P	**Pg**	**01 10 10.3**	**-0.7**
ITM				AML	AML	01 10 12.9	
ITM				AML	AML	01 10 13.2	
ITM	**Ithomi**	**0.07**	**252**	P	**Pg**	**01 10 10.9**	**-0.1**
ITM				S	**Sg**	**01 10 12.2**	**-0.1**
VLX	**Vlachokerasia**	**0.34**	**60**	P	**Pg**	**01 10 16.1**	**+0.1**
VLX				S	**Sg**	**01 10 21.0**	**+0.5**
VLX	**Vlachokerasia**	**0.34**	**60**	P	**Pg**	**01 10 16.0**	**+0.1**
VLX				S	**Sg**	**01 10 21.5**	**+0.9**
VLX	**Vlachokerasia**	**0.34**	**60**	P	**Pg**	**01 10 16.1**	**+0.1**
VLX				S	**Sg**	**01 10 21.0**	**+0.5**
PYL	**PYLOS**	**0.37**	**215**	P	**Pg**	**01 10 16.2**	**-0.3**
PYL				S	**Sg**	**01 10 21.8**	**+0.4**
PYL	**PYLOS**	**0.37**	**215**	P	**Pg**	**01 10 16.1**	**-0.4**
PYL	**PYLOS**	**0.37**	**215**	P	**Pg**	**01 10 16.1**	**-0.4**
PYL				S	**Sg**	**01 10 21.8**	**+0.4**
TRIP	**Tripoli**	**0.39**	**33**	P	**Pg**	**01 10 17.2**	**+0.3**
TRIP				S	**Sg**	**01 10 22.6**	**+0.6**
TRIP				AML	AML	01 10 30.2	
	comp=E,11776μm,0.7s						
TRIP				AML	AML	01 10 30.6	
	comp=N,10972μm,0.8s						
TRIP	**Tripoli**	**0.39**	**33**	P	**Pg**	**01 10 17.0**	**+0.1**
TRIP				S	**Sg**	**01 10 22.6**	**+0.6**
AMT	**Artemida-Makis**	**0.41**	**324**	P	**Pg**	**01 10 17.2**	**0.0**
AMT				S	**Sg**	**01 10 23.6**	**+1.0**
AMT	**Artemida-Makis**	**0.41**	**324**	P	**Pg**	**01 10 17.5**	**+0.3**
AMT				S	**Sb**	**01 10 24.8**	**-0.5**
AMT				AML	AML	01 10 25.7	
	comp=N,94219μm,0.5s						
AMT				AML	AML	01 10 27.2	
	comp=E,86884μm,0.4s						
AMT	**Artemida-Makis**	**0.41**	**324**	P	**Pg**	**01 10 17.2**	**0.0**
AMT				S	**Sg**	**01 10 23.0**	**+0.4**
GUR	**Goura**	**0.78**	**20**	P	**Pg**	**01 10 23.5**	**-0.8**
GUR				S	**Sg**	**01 10 35.1**	**+0.6**
GUR	**Goura**	**0.78**	**20**	P	**Pg**	**01 10 23.2**	**-1.1**
GUR				S	**Sb**	**01 10 36.0**	**-0.1**
GUR				AML	AML	01 10 38.6	
	comp=E,10472μm,0.5s						
GUR				AML	AML	01 10 40.7	
	comp=N,10833μm,0.7s						
GUR	**Goura**	**0.78**	**20**	P	**Pg**	**01 10 23.5**	**-0.8**
GUR				S	**Sg**	**01 10 35.1**	**+0.6**
DRO	**Drossia**	**0.79**	**343**	P	**Pg**	**01 10 24.3**	**-0.1**
DRO				S	**Sg**	**01 10 35.2**	**+0.6**
DRO	**Drossia**	**0.79**	**343**	P	**Pb**	**01 10 24.9**	**-0.4**
DRO	**Drossia**	**0.79**	**343**	P	**Pg**	**01 10 24.4**	**0.0**
DRO				S	**Sg**	**01 10 35.2**	**+0.6**
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	**Pg**	**01 10 24.9**	**-0.6**
KLV				S	**Sb**	**01 10 37.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	**Pg**	**01 10 24.3**	**-1.3**
KLV				S	**Sb**	**01 10 38.5**	**+0.5**
KLV				AML	AML	01 10 40.1	
	comp=E,5537μm,0.5s						
KLV				AML	AML	01 10 43.4	
	comp=N,4199μm,0.6s						
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	**Pg**	**01 10 25.0**	**-0.6**
KLV				S	**Sb**	**01 10 37.6**	**-0.5**
VLI	**Veliai**	**0.89**	**123**	P	**Pg**	**01 10 26.2**	**-0.1**
VLI				S	**Sb**	**01 10 39.0**	**-0.1**
VLI	**Veliai**	**0.89**	**123**	P	**Pb**	**01 10 26.9**	**-0.1**
VLI	**Veliai**	**0.89**	**123**	P	**Pg**	**01 10 26.2**	**-0.1**
VLI				S	**Sb**	**01 10 39.0**	**-0.1**
KRND	**KRANIDI**	**0.93**	**78**	P	**Pg**	**01 10 27.1**	**0.0**
KRND				S	**Sb**	**01 10 40.4**	**+0.1**
KRND	**KRANIDI**	**0.93**	**78**	P	**Pb**	**01 10 27.6**	**-0.1**
KRND	**KRANIDI**	**0.93**	**78**	P	**Pg**	**01 10 27.1**	**0.0**
KRND				S	**Sb**	**01 10 40.4**	**+0.1**
RLS	**Riolos of Patr**	**0.96**	**334**	P	**Pg**	**01 10 27.3**	**-0.3**
RLS				S	**Sb**	**01 10 41.3**	**+0.2**
RLS	**Riolos of Patr**	**0.96**	**334**	P	**Pg**	**01 10 27.4**	**-0.3**
RLS				AML	AML	01 10 48.3	
	comp=N,9676μm,0.8s						
RLS				AML	AML	01 10 54.0	
	comp=E,5925μm,0.9s						
RLS	**Riolos of Patr**	**0.96**	**334**	P	**Pg**	**01 10 27.4**	**-0.2**
RLS				S	**Sb**	**01 10 41.3**	**+0.2**
THAL	**Thalero**	**0.98**	**32**	P	**Pb**	**01 10 28.6**	**-0.1**
THAL				S	**Sb**	**01 10 41.7**	**-0.2**
THAL	**Thalero**	**0.98**	**32**	P	**Pg**	**01 10 26.6**	**-1.6**
THAL	**Thalero**	**0.98**	**32**	P	**Pb**	**01 10 28.6**	**-0.1**
THAL				S	**Sb**	**01 10 41.7**	**-0.2**
DID	**Didima**	**1.03**	**72**	P	**Pg**	**01 10 28.5**	**-0.5**
DID				S	**Sb**	**01 10 43.5**	**+0.4**
DID	**Didima**	**1.03**	**72**	P	**Pg**	**01 10 28.8**	**-0.2**
DID	**Didima**	**1.03**	**72**	P	**Pg**	**01 10 28.8**	**-0.2**
DID				S	**Sb**	**01 10 43.5**	**+0.4**
LAKA	**Lakka**	**1.04**	**359**	P	**Pg**	**01 10 28.3**	**-0.9**
LAKA				S	**Sb**	**01 10 44.2**	**+0.7**
LAKA	**Lakka**	**1.04**	**359**	P	**Pg**	**01 10 28.3**	**-0.9**
LAKA	**Lakka**	**1.04**	**359**	P	**Pg**	**01 10 28.3**	**-0.9**
LAKA				S	**Sb**	**01 10 44.2**	**+0.7**
UPR	**University Cam**	**1.09**	**351**	P	**Pb**	**01 10 30.4**	**-0.1**
UPR				S	**Sn**	**01 10 46.3**	**-0.2**
UPR	**University Cam**	**1.09**	**351**	P	**Pn**	**01 10 31.3**	**+0.2**
UPR	**University Cam**	**1.09**	**351**	P	**Pb**	**01 10 30.4**	**-0.1**
UPR				S	**Sn**	**01 10 46.3**	**-0.2**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**01 10 29.9**	**-0.7**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**01 10 30.0**	**-0.7**
AXS	**Araxos**	**1.11**	**333**	P	**Pg**	**01 10 30.0**	**-0.7**
LTK	**Loutraki**	**1.12**	**43**	P	**Pg**	**01 10 29.9**	**-0.9**
LTK	**Loutraki**	**1.12**	**43**	P	**Pg**	**01 10 29.6**	**-1.1**
LTK	**Loutraki**	**1.12**	**43**	P	**Pg**	**01 10 29.9**	**-0.9**
TRIZ	**Trizonia**	**1.16**	**3**	P	**Pg**	**01 10 30.1**	**-1.5**
TRIZ	**Trizonia**	**1.16**	**3**	P	**Pg**	**01 10 30.1**	**-1.5**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**01 10 30.9**	**-1.3**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**01 10 30.6**	**-1.6**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**01 10 30.9**	**-1.3**
SERG	**Sergoula**	**1.21**	**2**	P	**Pg**	**01 10 31.4**	**-1.1**
SERG	**Sergoula**	**1.21**	**2**	P	**Pg**	**01 10 30.8**	**-1.7**
SERG				AML	AML	01 10 55.4	
	comp=N,3734μm,0.6s						
SERG				AML	AML	01 10 57.8	
	comp=E,3684μm,0.7s						
SERG	**Sergoula**	**1.21**	**2**	P	**Pg**	**01 10 31.4**	**-1.1**
EFP	**Efpalio**	**1.23**	**356**	P	**Pb**	**01 10 32.1**	**-0.7**
EFP	**Efpalio**	**1.23**	**356**	P	**Pb**	**01 10 31.9**	**-0.9**
EFP	**Efpalio**	**1.23**	**356**	P	**Pb**	**01 10 32.1**	**-0.7**
KYTH	**Kithira**	**1.25**	**138**	P	**Pn**	**01 10 33.0**	**-0.2**
KYTH				S	**Sn**	**01 10 50.6**	**+0.2**
KYTH	**Kithira**	**1.25**	**138**	P	**Pg**	**01 10 33.6**	**+0.3**
PROD	**Prodromos**	**1.27**	**34**	P	**Pn**	**01 10 33.0**	**-0.5**
PROD	**Prodromos**	**1.27**	**34**	P	**Pn**	**01 10 33.0**	**-0.5**
DSF	**Desfina**	**1.28**	**19**	P	**Pn**	**01 10 33.0**	**-0.6**
DSF				S	**Sn**	**01 10 52.3**	**+1.3**
DSF	**Desfina**	**1.28**	**19**	P	**Pn**	**01 10 32.3**	**-1.3**
DSF	**Desfina**	**1.28**	**19**	P	**Pn**	**01 10 33.0**	**-0.6**
DSF				S	**Sn**	**01 10 52.3**	**+1.3**
ANX	**Ano Chora**	**1.39**	**357**	P	**Pn**	**01 10 34.6**	**-0.6**
ANX	**Ano Chora**	**1.39**	**357**	P	**Pn**	**01 10 34.0**	**-1.2**
ANX	**Ano Chora**	**1.39**	**357**	P	**Pn**	**01 10 34.6**	**-0.6**
VILL	**Villia**	**1.41**	**47**	P	**Pn**	**01 10 35.5**	**+0.1**
VILL	**Villia**	**1.41**	**47**	P	**Pn**	**01 10 35.6**	**+0.1**
VIL2	**Platees**	**1.42**	**44**	P	**Pn**	**01 10 35.6**	**0.0**
PVO	**Paravola**	**1.46**	**345**	P	**Pg**	**01 10 37.2**	**-0.1**
PVO	**Paravola**	**1.46**	**345**	P	**Pg**	**01 10 38.5**	**+1.2**
PVO	**Paravola**	**1.46**	**345**	P	**Pg**	**01 10 37.2**	**-0.1**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**01 10 36.6**	**+0.1**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**01 10 36.2**	**-0.2**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**01 10 36.6**	**+0.1**
ATH	**Athens Observa**	**1.56**	**60**	P	**Pn**	**01 10 37.8**	**+0.3**
ATH	**Athens Observa**	**1.56**	**60**	P	**Pn**	**01 10 37.5**	**0.0**
ATH	**Athens Observa**	**1.56**	**60**	P	**Pn**	**01 10 37.8**	**+0.3**
VLY	**Voula,Athens**	**1.56**	**65**	P	**Pn**	**01 10 37.6**	**+0.1**
VLY	**Voula,Athens**	**1.56**	**65**	P	**Pn**	**01 10 37.4**	**-0.1**
VLY	**Voula,Athens**	**1.56**	**65**	P	**Pn**	**01 10 37.6**	**+0.1**
ATHU	**Athens Univers**	**1.61**	**61**	P	**Pn**	**01 10 38.1**	**0.0**
ATHU	**Athens Univers**	**1.61**	**61**	P	**Pn**	**01 10 37.6**	**-0.4**
ATHU	**Athens Univers**	**1.61**	**61**	P	**Pn**	**01 10 38.1**	**0.0**
LKR	**Lokris**	**1.65**	**28**	P	**Pb**	**01 10 39.5**	**-0.5**
LKR	**Lokris**	**1.65**	**28**	P	**Pn**	**01 10 39.2**	**+0.6**
LKR	**Lokris**	**1.65**	**28**	P	**Pb**	**01 10 39.5**	**-0.5**
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pg**	**01 10 42.0**	**+0.3**
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pg**	**01 10 42.0**	**+0.3**
PTL	**Penteli**	**1.70**	**60**	P	**Pn**	**01 10 39.6**	**+0.2**
PTL	**Penteli**	**1.70**	**60**	P	**Pn**	**01 10 39.2**	**-0.2**
PTL	**Penteli**	**1.70**	**60**	P	**Pn**	**01 10 39.6**	**+0.2**
EVR	**Evrytania**	**1.72**	**355**	P	**Pb**	**01 10 41.1**	**-0.2**
EVR	**Evrytania**	**1.72**	**355**	P	**Pg**	**01 10 41.9**	**-0.4**
EVR	**Evrytania**	**1.72**	**355**	P	**Pb**	**01 10 41.1**	**-0.2**
AGG	**Agios Georgios**	**1.84**	**8**	P	**Pb**	**01 10 42.6**	**-0.6**
AGG	**Agios Georgios**	**1.84**	**8**	P	**Pb**	**01 10 42.6**	**-0.6**
LKD2	**Lefkada island**	**1.91**	**327**	P	**Pg**	**01 10 45.4**	**-0.5**
LKD2	**Lefkada island**	**1.91**	**327**	P	**Pg**	**01 10 45.4**	**-0.5**
SMIA	**Simia**	**1.93**	**29**	P	**Pb**	**01 10 43.7**	**-1.0**
SMIA	**Simia**	**1.93**	**29**	P	**Pb**	**01 10 45.0**	**+0.2**
SMIA	**Simia**	**1.93**	**29**	P	**Pb**	**01 10 43.7**	**-1.0**
EREA	**Eretria**	**1.95**	**51**	P	**Pn**	**01 10 43.6**	**+0.7**
EREA	**Eretria**	**1.95**	**51**	P	**Pn**	**01 10 43.6**	**+0.7**
DSL	**Palaion Diasel**	**2.06**	**340**	P	**Pb**	**01 10 46.6**	**-0.4**
DSL	**Palaion Diasel**	**2.06**	**340**	P	**Pb**	**01 10 46.6**	**-0.4**
THL	**Klokotos Trika**	**2.36**	**0**	P	**Pn**	**01 10 49.0**	**+0.6**
THL	**Klokotos Trika**	**2.36**	**0**	P	**Pn**	**01 10 49.0**	**+0.6**
JAN	**Janina**	**2.62**	**340**	P	**Pb**	**01 10 56.1**	**-0.4**
JAN	**Janina**	**2.62**	**340**	P	**Pb**	**01 10 56.1**	**-0.4**
APE	**Apeiranthos**	**2.82**	**92**	⇑iP	**Pn**	**01 10 55.5**	**+0.7**
APE				S	**Sb**	**01 11 32.7**	**-2.0**
APE	**Apeiranthos**	**2.82**	**92**	⇑iP	**Pn**	**01 10 55.5**	**+0.7**
BIA	**Bitola**	**3.85**	**352**	*e*Pn	**Pn**	**01 11 09.8**	**+0.8**
BIA	**Bitola**	**3.85**	**352**	*e*Pn	**Pn**	**01 11 09.8**	**+0.8**
OHR	**Ohrid**	**4.02**	**347**	*e*Pn	**Pb**	**01 11 22.3**	**+1.9**
VAY	**Valandovo**	**4.14**	**6**	*e*Pn	**Pn**	**01 11 10.7**	**-2.2**
VAY	**Valandovo**	**4.14**	**6**	*e*Pn	**Pn**	**01 11 10.7**	**-2.2**
KRUS	**Krusevo**	**4.20**	**352**	*e*Pn	**Pn**	**01 11 16.6**	**+2.7**
KRUS	**Krusevo**	**4.20**	**352**	*e*Pn	**Pn**	**01 11 16.5**	**+2.7**
SKO	**Skopje**	**4.79**	**355**	*e*Pn	Pg	01 11 46.4	+5.5
PDG	**Podgorica**	**5.64**	**339**	⇓*i*P	**Pn**	**01 11 36.3**	**+2.9**
PDG	**Podgorica**	**5.64**	**339**	⇓*i*P	**Pn**	**01 11 36.3**	**+2.9**
BOVS	**Bovan**	**6.43**	**358**	*e*Pn	**Pn**	**01 11 45.5**	**+1.1**
IVAS	**Ivanjica**	**6.52**	**348**	*e*Pn	**Pn**	**01 11 46.8**	**+1.1**
STON	**Ston**	**6.56**	**331**	*i* Pn	**Pn**	**01 11 46.2**	**+0.1**
STON				Sn	**Sn**	**01 13 00.7**	**-0.4**
STON	**Ston**	**6.56**	**331**	*i* Pn	**Pn**	**01 11 46.2**	**+0.1**
STON				Sn	**Sn**	**01 13 00.7**	**-0.4**
ZAGS	**Zajecar**	**6.61**	**1**	*e*Pn	**Pn**	**01 11 48.7**	**+1.9**
BOLS	**Boljevac**	**6.62**	**360**	*e*Pn	**Pn**	**01 11 46.5**	**-0.5**
GRUS	**Gruza**	**6.75**	**352**	*e*Pn	**Pn**	**01 11 50.6**	**+1.8**
BBLS	**Lazići**	**6.95**	**344**	*e*Pn	**Pn**	**01 11 53.4**	**+1.9**
DIVS	**Divibare**	**7.06**	**348**	*e*Pn	**Pn**	**01 11 54.2**	**+1.1**
KUBS	**Kucevo**	**7.21**	**358**	*e*Pn	**Pn**	**01 11 55.9**	**+0.8**
TEKS	**Tekeris**	**7.58**	**346**	*e*Pn	**Pn**	**01 12 00.9**	**+0.8**
BZS	**Buzias**	**8.41**	**358**	⇓*i*P	**Pn**	**01 12 15.7**	**+4.1**
VOIR		**8.54**	**15**	⇓*i*P	**Pn**	**01 12 16.8**	**+3.4**
UDBI	**Udbina**	**8.71**	**329**	*e*Pn	**Pn**	**01 12 17.3**	**+1.5**
UDBI				Sn	**Sn**	**01 13 54.1**	**-0.2**
UDBI	**Udbina**	**8.71**	**329**	*e*Pn	**Pn**	**01 12 17.2**	**+1.5**
UDBI				Sn	**Sn**	**01 13 54.0**	**-0.2**
MLR	**Muntele Rosu**	**8.79**	**18**	⇓*i*P	Pn	01 12 22.0	+5.1
PLOR	**Plostina**	**9.32**	**20**	⇑*i*P	Pn	01 12 29.6	+5.6
VRI	**Vrincioaia**	**9.35**	**21**	⇓*i*P	Pn	01 12 31.5	+7.0
BRTR	**Keskin Array B**	**9.47**	**71**	Pn	**Pn**	**01 12 28.2**	**+2.0**
	comp=E,0.1nm,0.3s,baz=297,slow=16,SNR=3.0						
BRTR				LR	LR	01 16 20.3	
	comp=E,114nm,21.6s,baz=276,slow=40						
MMAI	**Mount Meron Ar**	**11.74**	**107**	LR	LR	01 18 23.1	
	comp=E,45nm,18.4s,baz=135,slow=43						
AKASG	**Malin Array Be**	**14.45**	**19**	Pn	**Pn**	**01 13 32.4**	**-1.8**
	baz=212,slow=8.7,SNR=3.5						
CLL	**Collm**	**15.49**	**338**	*e*(PP)	**PnPn**	**01 14 00.0**	**+3.7**
CLL				*e*		01 14 06.0	
KVAR	**Kislovodsk Arr**	**17.08**	**60**	LR	LR	01 21 08.6	
	comp=E,34nm,19.4s,baz=334,slow=39						
GNI	**Garni**	**17.99**	**74**	LR	LR	01 22 00.1	
	comp=E,74nm,22.0s,baz=296,slow=40						
ESDC	**Sonseca Array**	**20.47**	**285**	P	Pn	01 14 50.0	+0.3
	comp=E,0.5nm,0.6s,baz=82,slow=12,SNR=8.2						
FINES	**FINESS Array B**	**24.40**	**5**	P	**P**	**01 15 27.4**	**-0.6**
	comp=E,3.3nm,1.0s,baz=134,slow=4.0,SNR=3.4						
NOA	**NORSAR Array B**	**24.82**	**347**	LR	LR	01 25 33.4	
	comp=E,54nm,18.6s,baz=175,slow=37						
TORD	**Torodi Ar. Bea**	**30.06**	**222**	P	**P**	**01 16 19.9**	**+0.7**
	comp=E,0.4nm,0.7s,baz=33,slow=8.7,SNR=4.2						
ARCES	**ARCESS Array B**	**32.45**	**2**	P	**P**	**01 16 39.0**	**-0.7**
	comp=E,1.7nm,0.7s,baz=192,slow=10,SNR=7.8						
KURBB	**Kurchatov Arra**	**41.87**	**53**	P	**P**	**01 17 58.7**	**-1.2**
	comp=E,0.5nm,0.3s,baz=261,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**44.82**	**58**	P	**P**	**01 18 21.8**	**-2.0**
	comp=E,0.4nm,0.5s,baz=282,slow=5.9,SNR=4.6						

*IDC **11** 01:16:17.6±2.5, 37°.33N×70°.74E, h0km, mb3.8/5, mb1 3.9/11, mb1mx3.6/50, mbtmp3.7/11, ML3.3/6, Error ellipse: s-maj=46.1km s-min=16.9km az=148.0*
*ISCJB **11** 01:16:23.1±1.5, 37°.6N±0°.2×70°.5E±0°.1, h40km, mb3.8/5, Error ellipse: s-maj=25.4km s-min=11.2km az=161.8*
ISC 11 01:16:24.3±1.7, 37°.6N±0°.2×70°.62E±0°.09, h40km, n13, σ2§52/230, mb4.4/52, MS3.8/3, 49C-25D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.61**	**64**	Pn	**Pn**	**01 17 33.5**	**+1.9**
KSH				Sn	**Sn**	**01 18 20.1**	**-3.9**
KSH				smax	smax		
	comp=N,43nm,0.6s						
KSH				smax	smax		
	comp=E,80nm,0.7s						
AAK	**Ala-Archa**	**5.84**	**29**	Pn	**Pn**	**01 17 51.1**	**+2.7**
	comp=E,2.3nm,0.3s,baz=175,slow=2.0,SNR=18						
GEYT	**Alibeck**	**9.90**	**276**	Pn	**Pn**	**01 18 42.1**	**-2.0**
	comp=E,0.7nm,0.3s,baz=91,slow=9.0,SNR=8.4						
MKAR	**Makanchi Array**	**12.61**	**40**	Pn	**Pn**	**01 19 20.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=200,slow=14,SNR=4.5						
KURBB	**Kurchatov Arra**	**14.19**	**21**	Pn	**Pn**	**01 19 40.6**	**-1.9**
	comp=E,0.0nm,0.3s,baz=208,slow=12,SNR=2.4						
BVAR	**Borovoye Array**	**15.42**	**359**	Pn	**Pn**	**01 19 59.1**	**+0.2**
	comp=E,0.2nm,0.3s,baz=153,slow=12,SNR=4.7						
AKTO	**Aktyubinsk**	**15.67**	**329**	Pn	**Pn**	**01 20 01.7**	**-0.4**
	comp=E,0.2nm,0.3s,baz=120,slow=8.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**19.05**	**26**	P	**P**	**01 20 44.0**	**+1.1**
	comp=E,0.3nm,0.3s,baz=222,slow=11,SNR=7.2						
KBZ	**Khabaz**	**21.84**	**295**	P	**P**	**01 21 12.5**	**-0.6**
	comp=E,2.5nm,0.8s,baz=152,slow=5.7,SNR=4.7						
FINES	**FINESS Array B**	**36.40**	**325**	P	**P**	**01 23 25.3**	**+0.8**
	comp=E,2.8nm,0.9s,baz=119,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**40.01**	**337**	P	**P**	**01 23 56.4**	**+1.5**
	comp=E,2.4nm,1.0s,baz=100,slow=6.7,SNR=5.8						
NOA	**NORSAR Array B**	**43.32**	**322**	P	**P**	**01 24 22.5**	**+0.5**
	comp=E,0.5nm,0.5s,baz=98,slow=8.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.44**	**268**	P	**P**	**01 27 03.9**	**+0.5**
	comp=E,0.3nm,0.6s,baz=43,slow=6.7,SNR=4.0						

*KRNET **11** 01:17:11.4±0.1, 38°.81N×69°.93E, mb4.8*
*IDC **11** 01:17:13.9±0.6, 38°.62N×70°.55E, h0km, mb4.1/20, mb1 4.3/29, mb1mx4.2/51, mbtmp4.2/29, ML3.8/7, Error ellipse: s-maj=12.5km s-min=9.4km az=179.0*
*ISCJB **11** 01:17:15.9±0.2, 38°.68N±0°.02×70°.56E±0°.03, h23km, mb4.3/50, MS3.8/3, Error ellipse: s-maj=3.2km s-min=2.9km az=178.5*
*NNC **11** 01:17:17.9±2.8, 38°.91N×70°.18E, h0km, mb5.0, mpv4.8, Error ellipse: s-maj=23.7km s-min=17.9km az=166.0*
*BJI **11** 01:17:21.3, 39°.00N×70°.83E, h43km, mb4.6/31, mB4.7/21, ML4.3/3, Ms4.0/17, Ms7 3.8/13*
*NEIC **11** 01:17:21.8±1.0, 38°.90N×70°.66E, h52km±10km, mb4.5/17, Error ellipse: s-maj=7.8km s-min=5.7km az=188.0*
NEIC Felt [III] at Dushanbe. Also felt at Gharm.

*MOS **11** 01:17:22.1±1.6, 38°.97N×70°.59E, h69km, mb4.4/30, Error ellipse: s-maj=7.0km s-min=5.1km az=85.3*
ISC 11 01:17:17.6±0.3, 38°.72N±0°.03×70°.51E±0°.03, h23km, n223, σ2§52/230, mb4.4/52, MS3.8/3, 49C-25D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.36**	**10**	⇑*i*P	**Pn**	**01 17 39.0**	**-2.3**
	baz=29						
BTK				⇑*i*S	**Sb**	**01 17 59.4**	**-0.1**
	baz=29						
ARSB	**Arslanbob**	**3.22**	**35**	⇓*i*P	**Pn**	**01 18 08.6**	**+1.6**
	baz=42						
ARSB				⇓*e*S	**Sb**	**01 18 50.6**	**-2.5**
	baz=42						
ARK	**Arkit**	**3.27**	**19**	⇓*e*P	**Pn**	**01 18 07.8**	**+0.2**
	baz=27						
ARK				⇓*e*S	**Sn**	**01 18 48.7**	**+2.8**
	baz=27						
TOKL	**Toktogul**	**3.69**	**29**	⇑*e*P	**Pn**	**01 18 15.0**	**+1.6**
	baz=35						
TOKL				⇑*i*S	**Sn**	**01 19 00.6**	**+4.4**
	baz=35						
MNAS	**Manas**	**4.06**	**21**	⇓*e*P	**Pn**	**01 18 19.4**	**+0.9**
	baz=27						
MNAS				⇓*e*S	**Sn**	**01 19 07.7**	**+2.3**
	baz=27						
MNAS	**Manas**	**4.06**	**21**	⇑Pn	**Pn**	**01 18 21.6**	**+3.1**
	57nm,0.4s						
MNAS				⇑Sn	**Sn**	**01 19 06.7**	**+1.4**
	166nm,0.5s						
MNAS				⇓Lg	Lg	01 19 32.2	
	562nm,0.8s						
MNAS	**Manas**	**4.06**	**21**	PN	**Pn**	**01 18 21.0**	**+2.5**
AML	**Almayashu**	**4.19**	**34**	⇑*i*P	**Pn**	**01 18 20.4**	**-0.1**
	baz=40						
AML				⇑*i*S	**Sn**	**01 19 12.2**	**+3.3**
	baz=40						
KBL	**Kabul**	**4.33**	**196**	*e*PN	Pb	01 18 27.7	-5.5
KBL	**Kabul**	**4.33**	**196**	*e*Pn	Pb	01 18 27.7	-5.5
KBL				*e*Sn	**Sb**	**01 19 18.9**	**-6.2**
KK31	**Karatay Array**	**4.38**	**0**	⇑Pn	**Pn**	**01 18 24.9**	**+2.1**
	14nm,0.3s,baz=189,slow=14,SNR=29						
KK31				⇓Pg	**Pb**	**01 18 35.4**	**+1.5**
	42nm,0.5s,baz=176,slow=12,SNR=16						
KK31				⇓Lg	Lg	01 19 31.9	
	193nm,0.6s,baz=178,slow=30,SNR=5.1						
KK31	**Karatay Array**	**4.38**	**0**	PN	**Pn**	**01 18 24.0**	**+1.2**
KKAR	**Karatay Array**	**4.38**	**0**	*e*PN	**Pn**	**01 18 24.7**	**+1.9**
KKAR	**Karatay Array**	**4.38**	**0**	*e*Pn	**Pn**	**01 18 24.7**	**+1.9**
KKAR				*e*Sn	**Sn**	**01 19 06.7**	**-6.4**
EKS2	**Erkin-Say**	**4.66**	**31**	⇑*i*P	**Pn**	**01 18 26.3**	**-0.4**
	baz=36						
EKS2				⇑*i*S	**Sn**	**01 19 22.5**	**+2.4**
	baz=36						
KZA	**Kyzart**	**4.94**	**46**	⇑*i*P	**Pn**	**01 18 32.3**	**+1.5**
	baz=49						
KZA				⇑*i*S	**Sn**	**01 19 31.6**	**+4.3**
	baz=49						
AAK	**Ala-Archa**	**4.95**	**36**	Pn	**Pn**	**01 18 33.4**	**+2.7**

WMQ pmax pmax
comp=N,150nm,5.9s
WMQ LR LR
comp=N,290nm,6.9s
WMQ LR LR
comp=N,370nm,5.3s
BVA0 Borovoye Array 14.31 360 Pn **Pn 01 20 38.7 0.0**
comp=N,3.8nm,0.5s,baz=163,slow=12,SNR=18
BVA0 ⇓Sn **Sn 01 23 17.3 +0.7**
comp=N,9.9nm,0.7s,baz=175,slow=26,SNR=3.9
BVAR Borovoye Array 14.31 360 Pn **Pn 01 20 36.9 -1.8**
comp=N,1.6nm,0.3s,baz=160,slow=13,SNR=19
BVAR Sn **Sn 01 23 12.9 -3.6**
comp=N,0.9nm,0.3s,baz=171,slow=19,SNR=3.9
BRVK Borovoye 14.34 359 *i* P **Pn 01 20 38.0 -1.1**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 14.34 359 *e*Pn **Pn 01 20 38.9 -0.2**
AKTO Aktyubinsk 14.69 327 Pn **Pn 01 20 42.5 -1.3**
comp=Z,2.3nm,0.3s,baz=136,slow=14,SNR=17
AKTO Sn **Sn 01 23 21.9 -3.9**
comp=Z,1.8nm,0.3s,baz=179,slow=21,SNR=6.6
AKTO Aktyubinsk 14.69 327 ⇓Pn **Pn 01 20 41.9 -1.9**
comp=Z,22nm,0.7s
AKTO ⇓Sn **Sn 01 23 22.8 -2.9**
comp=Z,45nm,0.8s
PYUN Piuthan 14.84 132 *e*P **Pn 01 20 43.0 -3.3**
comp=Z,58nm,0.6s
DANN Dangsing 15.12 129 *e*P **Pn 01 20 47.2 -2.8**
KOLN Koldanda 15.45 131 *e*P **Pn 01 20 51.5 -2.8**
comp=Z,39nm,0.6s
GKN Gorkha 15.90 128 *e*P **Pn 01 20 57.2 -2.9**
KKN Kakani 16.45 127 *e*P **Pn 01 21 04.0 -3.2**
comp=Z,40nm,0.5s
DMN Daman 16.47 128 *e*P **Pn 01 21 03.8 -3.7**
comp=Z,72nm,0.7s
BHPL Bhopal 16.52 157 *e*P **P 01 21 11.8 +1.5**
BHPL IAmb IAmb 01 21 12.4
comp=Z,19nm,0.5s
PKIN Phulchoki 16.68 127 *e*P **Pn 01 21 06.7 -3.4**
comp=Z,24nm,0.5s
PKI Pulchoki 16.69 127 *e*P **Pn 01 21 07.1 -3.2**
comp=Z,50nm,0.7s
GUN Gumba 16.75 125 *e*P **Pn 01 21 08.0 -3.1**
comp=Z,97nm,1.0s
JIRN Jiri 17.12 125 *e*P **Pn 01 21 12.5 -3.3**
comp=Z,528nm,0.5s
RAMN Ramite 17.88 126 *e*P **Pn 01 21 22.0 -3.0**
comp=Z,90nm,0.6s
MAK Makhachkala 17.90 291 *e*P P 01 21 36.0 +11
MAK pmax pmax
comp=Z,269nm,1.3s
MAK MLR MLR
comp=Z,879nm,15.0s
ZAA0 Zalesovo Array 18.10 28 *e*Pn **Pn 01 21 25.6 -1.7**
ZALV Zalesovo Beam 18.10 28 P **Pn 01 21 25.6 -1.7**
comp=Z,1.3nm,0.3s,baz=228,slow=12,SNR=17
ZALV Zalesovo Beam 18.10 28 *e*P **Pn 01 21 25.2 -2.2**
ZALV Zalesovo Beam 18.10 28 *e*Pn **Pn 01 21 25.2 -2.2**
ZAA1 Zalesovo Array 18.11 28 *e*Pn **Pn 01 21 25.6 -1.8**
NVS Novosibirsk 18.28 24 *e*P **Pn 01 21 28.4 -1.2**
NVS pmax pmax
comp=Z,12nm,0.9s
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.5s
TAPN Taplejung 18.31 123 *e*P **Pn 01 21 27.6 -2.8**
comp=E,30nm,0.5s
ODAN Odare 18.44 125 *e*P **P 01 21 28.2 -3.6**
comp=E,60nm,0.7s
GROC Groznyy 19.17 291 *e*P **Pn 01 21 43.9 +3.5**
GROC *e*S **S 01 25 18.9 +3.8**
GROC pmax pmax
comp=Z,40nm,1.2s
SVE Sverdlovsk 19.26 343⇑ *e*P **P 01 21 40.2 -0.1**
SVE *e*S Sn 01 25 04.6 -12
SVE pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 19.27 112 *e*P **P 01 21 41.0 -0.1**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 19.27 112 *e*P **P 01 21 41.0 -0.1**
comp=Z,9.9nm,0.6s
DGRG David-gareji 19.41 286 P **Pn 01 21 43.3 0.0**
DGRG David-gareji 19.41 286 P **Pn 01 21 43.3 0.0**
ARU Arti 19.41 340 P **P 01 21 42.1 +0.1**
comp=Z,0.0nm,0.3s,baz=144,slow=5.2,SNR=9.9
ARU S S 01 25 08.6 -11
comp=Z,0.0nm,0.3s,baz=105,slow=20,SNR=6.3
ARU Arti 19.41 340*d i*P **P 01 21 41.5 -0.5**
ARU S **S 01 25 16.2 -3.7**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 19.41 340 *e*P **P 01 21 41.1 -0.9**
comp=Z,11nm,0.7s
ARU *e*Sn S 01 25 08.6 -11
BOK Bokaro 19.81 134 *e*P **Pn 01 21 47.0 -1.2**
BOK IAmb IAmb 01 21 48.5
comp=Z,27nm,0.7s
TBLG Delisi 19.88 287 P **Pn 01 21 52.1 +3.2**
TBLG Delisi 19.88 287 P **Pn 01 21 52.1 +3.2**
GNI Garni 19.93 282 P **P 01 21 47.5 -0.5**
comp=Z,0.4nm,0.3s,baz=258,slow=2.3,SNR=2.6
GNI Garni 19.93 282 *i* P **Pn 01 21 51.0 +1.2**
GNI pmax pmax
comp=Z,58nm,0.8s
GNI Garni 19.93 282 *e*P **Pn 01 21 50.4 +0.6**
GUDG Gudauri 20.09 289 P Pn 01 21 52.5 +0.9
POO Poona 20.33 171 *e*P Pn 01 21 55.9 +1.6
POO IAmb IAmb 01 21 59.0
comp=Z,50nm,0.2s
ZEI Tsey 20.53 290 *e*P Pn 01 22 02.8 +6.1
ZEI pmax pmax
comp=Z,20nm,0.7s
BGD Bogdanovka 20.74 286 P Pn 01 21 59.6 +0.3
NCK Nalchik 20.79 292 *e*P **P 01 21 57.0 -0.1**
NCK pmax pmax
comp=Z,12nm,0.8s
AKH Akhalkalaki 20.82 286 P Pn 01 22 00.0 -0.1
ONI Oni 20.85 289 P Pn 01 22 00.5 +0.1
ONI Oni 20.85 289 P Pn 01 22 00.4 0.0
KBZ Khabaz 21.31 292 P **P 01 22 02.1 -0.6**
comp=Z,2.5nm,0.6s,baz=80,slow=17,SNR=7.2
GOF Gofitskoye 21.34 296⇑ *i* P **P 01 22 06.8 +3.8**
GOF pmax pmax
comp=Z,35nm,0.9s
NEY Neytrino 21.41 291 *e*P **P 01 22 05.7 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KVAR Kislovodsk Arr 21.48 293 P **P 01 22 03.9 -0.7**
comp=Z,5.3nm,0.6s,baz=69,slow=1.9,SNR=5.0
KIV Kislovodsk 21.48 293 *e*P **P 01 22 03.9 -0.7**
KIV Kislovodsk 21.48 293 *e*P **P 01 22 03.9 -0.7**
ARTV Artvin 22.01 286 *e*P **P 01 22 14.2 +3.8**
comp=Z,16nm,1.5s
SHL Shillong 22.28 120 *e*P **P 01 22 14.7 +1.2**
SHL IAmb IAmb 01 22 15.6
comp=Z,37nm,0.2s
HYB Hyderabad 22.36 159 *i* P **P 01 22 16.0 +1.9**
HYB Hyderabad 22.36 159 *e*P **P 01 22 14.6 +0.4**
SOKR Solikamsk 22.65 342 *e*P **P 01 22 15.1 -1.7**
SOKR pmax pmax
comp=Z,7.0nm,0.5s
SOKR MLR MLR
comp=Z,92nm,10.0s
GTA Gaotai 22.73 79 *e*P **P 01 22 18.0 -0.1**
GTA pP sP 01 22 29.2 +1.8
GTA sP pP 01 22 35.2 +11
GTA S **S 01 26 22.7 -2.7**
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA pmax pmax
comp=Z,74nm,6.2s
GTA LR LR
comp=Z,150nm,13.3s
GTA LR LR
comp=Z,230nm,14.7s
GTA LR LR
comp=Z,230nm,9.7s
GOA Goa 23.32 172 *ex* **P 01 22 19.9 -4.2**
MARD Mardin 23.42 276 *e*P **P 01 22 29.4 +4.3**
comp=Z,10nm,0.6s
VIS Vishakhapatnam 23.73 148 *e*P **P 01 22 28.0 0.0**
VIS IAmb IAmb 01 22 30.3
comp=Z,11nm,0.3s

ZAK Zakamensk 25.89 53 *e*P **P 01 22 43.9 -3.8**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 26.11 242 *e*P **P 01 22 53.6 +3.7**
comp=Z,6.0nm,0.6s
TLY Talaya 26.45 50 *e*P **P 01 22 54.2 +1.5**
TLY pmax pmax
comp=Z,7.0nm,0.8s
LZH Lanzhou 26.53 85 *e*P **P 01 22 57.3 +3.5**
LZH pP sP 01 23 08.8 +5.3
LZH sP pP 01 23 14.9 +14
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.3s
SONA0 Songino Array 27.46 59 *e*P **P 01 23 02.1 +0.1**
comp=Z,24nm,2.0s
SONA0 *e*PcP **PcP 01 26 19.6 -0.3**
SONM Songino Array 27.46 59 P **P 01 23 02.1 +0.1**
comp=Z,1.6nm,0.6s,baz=265,slow=8.6,SNR=8.2
SONM PcP **PcP 01 26 19.6 -0.3**
comp=Z,0.6nm,0.7s,baz=241,slow=4.5,SNR=3.0
SONA1 Songino Array 27.47 59 *e*P **P 01 23 02.4 +0.3**
ULN Ulaanbaatar 27.91 59 *i* P **P 01 23 05.9 -0.1**
ULN pmax pmax
comp=Z,9.0nm,2.5s
BR101 Keskin Array S 28.45 284 *e*P **P 01 23 12.2 +1.3**
BR131 Keskin Array S 28.45 284 *e*P **P 01 23 12.2 +1.3**
BRTR Keskin Array B 28.45 284 P **P 01 23 12.2 +1.3**
comp=Z,2.9nm,1.0s,baz=89,slow=6.9,SNR=7.7
BRTR Keskin Array B 28.45 284*e*P **P 01 23 14.6 +3.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR231 Keskin MP Arra 29.09 284 *e*P **P 01 23 14.0 -2.5**
KLMR Klimovskoe 29.37 329 *e*P **P 01 23 17.3 -1.3**
KLMR *e* 01 24 15.4
KLMR pmax pmax
comp=Z,9.0nm,1.3s
XAN Xi'an 31.12 87 P **P 01 23 34.6 +0.1**
XAN pP sP 01 23 42.9 -1.3
XAN pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 31.29 306 P **P 01 23 35.8 +0.1**
comp=Z,0.5nm,0.5s,baz=113,slow=8.1,SNR=4.4
AKASG Malin Array Be 31.29 306 P **P 01 23 35.8 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 31.29 306 *e*P **P 01 23 38.4 +2.7**
AKBB pmax pmax
comp=Z,13nm,1.4s
AKBB Malin Array Si 31.29 306 *e*P **P 01 23 38.4 +2.7**
comp=Z,13nm,1.4s
KIEV Kiev 31.30 306 *e*P **P 01 23 36.7 +1.0**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 31.30 306 *e*P **P 01 23 38.4 +2.6**
comp=Z,13nm,1.4s
AK11 Malin Array Si 31.32 306 *e*P **P 01 23 38.4 +2.4**
HHC Hu-ho-hao-te 31.42 73 *e*P **P 01 23 40.2 +3.1**
HHC S S 01 28 31.0 -13
HHC SS **SnSn 01 30 24.4 -3.8**
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,110nm,4.6s
HHC LR LR
comp=Z,200nm,14.8s
HHC LR LR
comp=Z,140nm,13.6s
HHC LR LR
comp=Z,160nm,10.4s
CM31 Chiang Mai Arr 31.90 121 *e*P **P 01 23 41.9 +0.5**
CMAR Chiang Mai Arr 31.90 121 P **P 01 23 41.9 +0.5**
comp=Z,0.8nm,0.3s,baz=312,slow=8.7,SNR=6.9
CMAR Chiang Mai Arr 31.90 121*e*P P 01 23 47.7 +6.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
DGPR DIGLIPUR 32.28 136 *e*P **P 01 23 46.4 +1.7**
TESR Tescani 32.85 298⇑ *i*P P 01 23 54.4 +4.9
PLOR Plostina 32.88 297⇑ *i*P P 01 23 55.2 +5.4
PLOR Plostina 32.88 297⇑ P P 01 23 55.2 +5.4
MLR Muntele Rosu 33.40 296⇑ *i*P P 01 24 02.0 +7.5
MLR Muntele Rosu 33.40 296⇑ P P 01 24 02.0 +7.5
SLVN Son La 33.47 111 *e*P **P 01 23 56.5 +1.4**
comp=Z,6.1nm,0.8s
BURAR Bucovina Array 33.79 300⇑ *i*P P 01 24 02.5 +4.7
BURAR Bucovina Array 33.79 300⇑ P P 01 24 02.5 +4.7
BOD Bodaibo 33.91 41 *e*P **P 01 23 57.3 -1.3**
BOD pmax pmax
comp=Z,9.0nm,1.3s
VOIR 34.03 296⇑ *i*P P 01 24 04.8 +4.9
VOIR 34.03 296⇑ P P 01 24 04.8 +4.9
ARR Arges 34.33 296⇑ *i*P P 01 24 10.7 +8.2
ARCR ARCALIA 34.40 299⇓ *i*P P 01 24 08.6 +5.6
LOT Lotru 34.93 296⇑ *i*P P 01 24 12.4 +4.7
FIA0 FINESS Array S 35.44 325 *e*P **P 01 24 11.7 0.0**
FIA0 FINESS Array S 35.44 325 *e*P **P 01 24 11.7 0.0**
FIA1 FINESS Array S 35.44 325 *e*P **P 01 24 11.5 -0.2**
comp=Z,46nm,1.5s
FINES FINESS Array B 35.44 325 P **P 01 24 11.7 0.0**
comp=Z,1.1nm,0.3s,baz=112,slow=8.7,SNR=9.3
FINES FINESS Array B 35.44 325*e*P **P 01 24 10.8 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.3s
DRGR 35.54 299⇓ *i*P P 01 24 18.0 +5.1
DRGR 35.54 299⇓ P P 01 24 18.0 +5.1
VTS Vitosha 35.73 292⇓ *i*P **P 01 24 16.6 +2.0**
VTS Vitosha 35.73 292⇓ P **P 01 24 16.6 +2.0**
BZS Buzias 36.42 297⇑ *i*P P 01 24 25.6 +5.3
BZS Buzias 36.42 297⇑ P P 01 24 25.6 +5.3
ARA0 ARCESS Array S 38.95 337 *e*P **P 01 24 41.2 -0.2**
ARCES ARCESS Array B 38.95 337 P **P 01 24 41.2 -0.2**
comp=Z,2.7nm,0.8s,baz=81,slow=7.5,SNR=9.7
ARE0 ARCESS Array S 38.95 337 *e*P **P 01 24 41.1 -0.3**
comp=Z,131nm,2.0s
DPC Dobruska-Polom 39.50 305 *e*P P 01 24 51.5 +5.2
DPC Dobruska-Polom 39.50 305 *e*P P 01 24 51.5 +5.2
NJ2 Nanjing 39.60 84 *e*P **P 01 24 47.9 +0.6**
NJ2 pmax pmax
comp=Z,15nm,0.5s
BRG Berggiesshubel 40.97 306 *e*P P 01 25 04.5 +6.1
comp=Z,4.5nm,0.8s
BRG Berggiesshubel 40.97 306 *e*P P 01 25 04.6 +6.2
BRG pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 41.36 303 *e*P **P 01 25 03.3 +1.5**
GEC2 pmax pmax
comp=Z,18nm,1.8s
GEC2 GERESS Array S 41.36 303 *e*P **P 01 25 03.3 +1.5**
comp=Z,18nm,1.8s
GERES GERESS Array B 41.36 303 P **P 01 25 03.3 +1.5**
comp=Z,0.3nm,0.5s,baz=68,slow=7.7,SNR=2.4
KHC Kasperske Hory 41.40 304 *e*P P 01 25 08.7 +6.7
KHC Kasperske Hory 41.40 304 *e*P P 01 25 08.7 +6.7
NC405 NORSAR Array S 42.15 322 *e*P **P 01 25 07.2 -0.8**
NC303 NORSAR Array S 42.33 322 *e*P **P 01 25 08.3 -1.1**
NB201 NORSAR Array S 42.35 322 *e*P **P 01 25 09.5 -0.1**
NB2 NORSAR Subarra 42.39 322 P **P 01 25 09.2 -0.7**
comp=Z,2.4nm,0.5s,baz=95,slow=8.6
NB200 NORSAR Array S 42.39 322 *e*P **P 01 25 09.8 -0.1**
NOA NORSAR Array B 42.39 322 P **P 01 25 09.8 -0.1**
comp=Z,3.5nm,0.6s,baz=106,slow=8.2,SNR=5.3
NOA NORSAR Array B 42.39 322 P **P 01 25 09.8 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.9s
KS15 Wonju Array Si 44.54 73 *e*P **P 01 25 26.6 -0.9**
KSAR Wonju Array Be 44.54 73 P **P 01 25 26.6 -0.9**
KSAR Wonju Array Be 44.54 73 P **P 01 25 26.6 -0.9**
KSRS Korea Array 44.56 73 P **P 01 25 26.6 -1.1**
comp=Z,1.6nm,0.7s,baz=297,slow=5.5,SNR=5.9
MSHR Mys Shultsa 45.32 65 *i* P **P 01 25 35.0 +1.3**
USRK Ussuriysk Ar. 45.46 62 P **P 01 25 34.9 +0.1**
comp=Z,1.3nm,0.6s,baz=259,slow=7.0,SNR=3.5
SENIN Lac Senin/Sane 46.09 301 *e*P **P 01 25 42.4 +2.4**
comp=Z,5.5nm,0.6s
JNU Nakatsue 48.45 77 P **P 01 25 59.3 +1.0**
comp=Z,3.8nm,0.5s,baz=344,slow=6.3,SNR=4.5
JNU Nakatsue 48.45 77 *e*P **P 01 25 59.3 +1.0**
comp=Z,13nm,1.2s
DAG Danmarks Havn 52.50 343 *i* P **P 01 26 28.0 -0.2**
comp=Z,4.2nm,0.8s
DAG Danmarks Havn 52.50 343 *i* P **P 01 26 28.0 -0.2**
DAG pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 52.53 70 P **P 01 26 28.7 -0.4**
comp=Z,3.6nm,0.8s,baz=295,slow=9.0,SNR=10
ESDC Sonseca Array 56.10 296 P **P 01 26 55.8 +0.7**
comp=Z,2.3nm,0.7s,baz=60,slow=6.9,SNR=16
TAM Tamanrasset 56.96 274 *e*P **P 01 27 04.8 +3.3**
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 56.96 274 *e*P **P 01 27 04.8 +3.3**
comp=Z,1.9nm,0.8s
SUMG Summit 58.84 341 *i* P **P 01 27 14.9 +0.6**
comp=Z,6.4nm,0.6s
SUMG Summit 58.84 341 *i* P **P 01 27 14.9 +0.6**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
TOA1 Torodi Ar. Sit 65.40 267 *e*P **P 01 27 58.5 -0.2**
TOA0 Torodi Ar. Sit 65.40 267 *e*P **P 01 28 01.8 +3.1**
TORD Torodi Ar. Bea 65.40 267 P **P 01 27 58.5 -0.2**
comp=Z,3.4nm,0.7s,baz=45,slow=6.3,SNR=14
IL1 Eielson Array 72.76 16 *e*P **P 01 28 42.2 -1.3**
ILAR Eielson Array 72.76 16 P **P 01 28 43.0 -0.6**
comp=Z,1.0nm,0.9s,baz=320,slow=5.0,SNR=8.0
ILB Eielson Array 72.76 16 *e*P **P 01 28 43.0 -0.6**
YKA Yellowknife Ar 79.05 2 P **P 01 29 19.6 +0.1**
comp=Z,0.7nm,0.4s,baz=352,slow=3.6,SNR=3.7
YKB5 Yellowknife Ar 79.05 2 *e*P **P 01 29 19.6 +0.1**
BOSA Boshof 79.20 219 P **P 01 29 24.6 +3.8**
comp=Z,2.7nm,0.8s,baz=20,slow=4.9,SNR=3.9
WRA Warramunga Arr 83.49 122 P **P 01 29 43.4 -0.2**
comp=Z,2.0nm,0.6s,baz=325,slow=4.9,SNR=16
WRA Warramunga Arr 83.49 122*e*P **P 01 29 47.5 +3.8**
WRA pmax pmax
comp=Z,4.0nm,1.1s
WR1 Warramunga Arr 83.49 122 *e*P **P 01 29 43.4 -0.2**
comp=Z,3.5nm,0.6s
AS31 Alice Springs 85.84 125 *e*P **P 01 29 54.4 -1.1**
comp=Z,3.7nm,1.8s
ASAR Alice Springs 85.84 125 P **P 01 29 54.4 -1.1**
comp=Z,1.0nm,0.8s,baz=313,slow=4.9,SNR=8.6
CPUP Villa Florida 134.87 270 PKP **PKPdf 01 36 34.8 0.0**
comp=Z,1.1nm,0.8s,baz=8.2,slow=1.9,SNR=3.5
PLCA Paso Flores 150.14 254 PKPbc **PKPbc 01 37 07.5 +1.1**
comp=Z,6.2nm,1.0s,baz=267,slow=2.2,SNR=3.4

IDC 11 01:21:02.9±1.7, 5°69S×147°38E, h134km±14km, mb3.3/2, mb1 3.8/5, mb1mx3.3/34, mbtmp4.2/5, Error ellipse: s-maj=28.5km s-min=13.4km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**183**	P	Pn	01 21 59.7	+0.9
PMG	20nm,0.3s,baz=205,slow=6.6,SNR=54			S	Sn	01 22 41.7	-0.4
JAY	**Jayapura**	**7.37**	**295**	P	Pn	01 22 47.4	-0.5
	31nm,0.3s,baz=160,slow=5.4,SNR=16						
CTA	**Charters Tower**	**14.36**	**184**	P	P	01 24 23.8	+0.7
	0.5nm,0.3s,baz=13,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**19.02**	**221**	P	Pn	01 25 15.8	-0.9
	0.7nm,0.3s,baz=40,slow=12,SNR=20						
WRA				S	S	01 28 42.4	-1.0
	0.0nm,0.3s,baz=36,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**22.09**	**215**	P	P	01 25 48.9	+1.4
	1.6nm,0.5s,baz=53,slow=8.8,SNR=22						
ASAR				S	S	01 29 43.0	+1.1
	0.9nm,0.7s,baz=30,slow=23,SNR=6.3						
ILAR	**Eielson Array**	**85.05**	**23**	P	P	01 33 22.2	-1.0
	0.6nm,0.7s,baz=246,slow=4.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**145.38**	**285**	PKPbc	PKPdf	01 40 26.0	0.0
	0.2nm,0.6s,baz=88,slow=3.3,SNR=4.7						

IDC 11 01:34:20.6±21.0, 18°22S×178°63W, h675km±196km, mb3.0/4, mb1 3.1/4, mb1mx2.7/34, mbtmp4.2/4, Error ellipse: s-maj=182.3km s-min=95.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.19**	**261**	P	P	01 40 06.0	+0.1
	1.8nm,0.6s,baz=119,slow=13,SNR=2.3						
STKA	**Stephens Creek**	**38.30**	**241**	P	P	01 40 47.2	-0.2
	2.0nm,0.5s,baz=77,slow=6.6,SNR=6.6						
WRA	**Warramunga Arr**	**44.37**	**260**	P	P	01 41 34.9	0.0
	0.8nm,0.4s,baz=95,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**44.51**	**255**	P	P	01 41 36.1	+0.2
	2.9nm,0.6s,baz=85,slow=8.6,SNR=34						
ASAR				PcP	PcP	01 43 03.4	-0.3
	0.3nm,0.4s,baz=88,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**144.85**	**314**	PKP	PKPdf	01 52 43.0	-0.4
	0.6nm,0.7s,baz=103,slow=1.6,SNR=4.2						

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*JMA **11** 01:44:47.0±0.2, 37°71N×143°70E, h46km, M3.3*
*IDC **11** 01:44:49.8±13.0, 36°64N×143°54E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.5/3, ML3.0/1, MS3.5/1, Ms1 3.6/1, ms1mx2.6/41, Error ellipse: s-maj=295.5km s-min=36.4km az=23.0*
ISC 11 01:44:47.7±1.9, 37°63N±0°07×143°8E±0°1, h35km, n15, σ1°27/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.08**	**294**	P	**Pn**	**01 45 19.5**	**-0.6**
JIO				*e*S	**Sn**	**01 45 43.5**	**-1.2**
OFUJ	**Ofunato**	**2.19**	**312**	P	Pn	01 45 20.6	-1.1
OFUJ				*e*S	Sn	01 45 45.8	-1.8
JMK	**Ichinoseki**	**2.40**	**304**	P	Pn	01 45 23.9	-0.6
JMK				*e*S	**Sn**	**01 45 51.4**	**-1.2**
JOM	**Ohasama**	**2.67**	**314**	P	Pn	01 45 27.8	-0.5
JOM				S	Sn	01 45 58.5	-0.9
JFT	**Otama**	**2.73**	**269**	P	**Pn**	**01 45 29.9**	**+0.9**
JFT				S	**Sn**	**01 46 01.1**	**+0.3**
JYK	**Kaneyama**	**2.98**	**297**	P	**Pn**	**01 45 32.8**	**+0.4**
JAG	**Ashikaga**	**3.66**	**252**	P	**Pn**	**01 45 42.3**	**+0.5**
JAG				S	**Sn**	**01 46 23.8**	**+0.1**
BSO1	**Boso 1**	**3.73**	**218**	P	**Pn**	**01 45 41.8**	**-0.5**
BSO1				S	**Sn**	**01 46 25.0**	**+0.2**
JRY	**Ryogami san**	**4.22**	**249**	P	**Pn**	**01 45 49.8**	**+0.2**
JRY				S	**Sn**	**01 46 35.7**	**-2.0**
JOD2	**Odawara 2**	**4.45**	**239**	P	**Pn**	**01 45 52.5**	**-0.2**
JOD2				*e*S	**Sn**	**01 46 40.5**	**-2.8**
MJAR	**Matsushiro Arr**	**4.58**	**258**	Pn	**Pn**	**01 45 55.8**	**+1.3**
	0.9nm,0.3s,baz=61,slow=9.9,SNR=5.8						
MJAR				Sn	**Sn**	**01 46 48.5**	**+2.1**
	0.7nm,0.3s,baz=44,slow=25,SNR=4.5						
JCH	**Churui**	**4.99**	**357**	P	Pn	01 45 58.0	-2.0
JCH				*e*S	Sn	01 46 50.6	-5.8
ILAR	**Eielson Array**	**47.98**	**33**	LR	LR	02 15 12.0	
	comp=Z,47nm,20.2s,baz=154,slow=37						
WRA	**Warramunga Arr**	**57.95**	**190**	P	**P**	**01 54 36.9**	**+0.3**
	1.2nm,0.7s,baz=11,slow=7.3,SNR=9.8						
ASAR	**Alice Springs**	**61.67**	**190**	P	**P**	**01 55 02.6**	**+0.5**
	0.4nm,0.8s,baz=12,slow=6.9,SNR=5.4						

IDC 11 02:06:34.6±45.0, 17°30S×179°18W, h561km±189km, mb3.3/4, mb1 3.3/5, mb1mx3.0/36, mbtmp4.2/5, Error ellipse: s-maj=581.5km s-min=94.5km az=71.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.34**	**248**	P	P	02 09 37.2	-0.2
	0.3nm,0.3s,baz=124,slow=11,SNR=3.2						
CTA	**Charters Tower**	**32.82**	**260**	P	P	02 12 22.7	0.0
	1.9nm,0.5s,baz=121,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**38.28**	**240**	P	P	02 13 07.8	+0.1
	2.3nm,0.4s,baz=90,slow=11,SNR=11						
WRA	**Warramunga Arr**	**44.02**	**259**	P	P	02 13 52.8	-0.6
	0.9nm,0.7s,baz=95,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**44.25**	**254**	P	P	02 13 55.1	0.0
	6.6nm,0.5s,baz=89,slow=8.1,SNR=92						

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*CSEM **11** 02:17:07.5, 42°15N×48°61E, h15km, mb4.1*
*MOS **11** 02:17:07.5±1.8, 42°15N×48°61E, h15km, mb4.1/1, Error ellipse: s-maj=11.3km s-min=7.3km az=17.6*
ISC 11 02:17:07.7±1.8, 42°14N±0°03×48°55E±0°08, h10km±8km, n41, σ1°63/69, 2C-4D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.20**	**238**	⇓*i*PG	**Pg**	**02 17 11.6**	**-0.1**
DRN				pmax	pmax		

comp=Z,1μm,0.9s
DRN Derbent 0.20 238 *i* Pg **Pg 02 17 11.6 -0.1**
comp=Z,1μm,0.9s
KSMR Kasumkent 0.62 211 *e*PG **Pg 02 17 20.0 +0.3**
KSMR *e*S **Sn 02 17 31.5 -1.2**
KSMR pmax pmax
comp=Z,402nm,0.2s
KSMR Kasumkent 0.62 211 *e*Pg **Pg 02 17 20.0 +0.3**
comp=Z,402nm,0.2s
KSMR *e*Sg **Sn 02 17 31.5 -1.2**
URKR Urkarakh 0.68 273 ⇓*i*PG **Pg 02 17 20.0 -0.9**
URKR *e*S **Sg 02 17 30.0 +0.1**
URKR pmax pmax
comp=Z,543nm,0.2s
URKR Urkarakh 0.68 273 *i* Pg **Pg 02 17 20.0 -0.9**
comp=Z,543nm,0.2s
URKR *e*Sg **Sg 02 17 30.0 +0.1**
AKT Akhty 0.90 223 ⇓*i*PG **Pb 02 17 25.1 -0.3**
AKT *e* 02 17 37.8
AKT pmax pmax
comp=Z,252nm,0.7s
AKT smax smax
comp=N,459nm,0.5s
AKT smax smax
comp=E,499nm,0.4s
AKT smax smax
comp=E,573nm,0.4s
AKT Akhty 0.90 223 *i* Pg **Pb 02 17 25.1 -0.3**
comp=E,252nm,0.7s
AKT *e*Sg **Sb 02 17 37.8 +0.3**
comp=E,459nm,0.5s
KMKR Kumukh 1.08 270 *e*PG **Pb 02 17 27.7 -0.9**
KMKR *e*S **Sb 02 17 42.0 -0.9**
KMKR pmax pmax
comp=Z,117nm,0.2s
KMKR Kumukh 1.08 270 *e*Pg **Pb 02 17 27.7 -0.9**
comp=Z,117nm,0.2s
KMKR *e*Sg **Sb 02 17 42.0 -0.9**
MAK Makhachkala 1.13 317 *e*PG **Pb 02 17 29.2 -0.1**
MAK *e* 02 17 46.9
MAK pmax pmax
comp=Z,42nm,0.5s
MAK smax smax
comp=E,242nm,0.5s
MAK smax smax
comp=N,200nm,0.5s
MAK Makhachkala 1.13 317 *e*Pg **Pb 02 17 29.2 -0.1**
comp=N,42nm,0.5s
MAK *e*Sg **Sg 02 17 46.9 +2.8**
comp=N,200nm,0.5s
GNBR Gunib 1.21 283 ⇑*i*PG **Pn 02 17 29.9 -0.8**
GNBR *i* S **Sb 02 17 46.0 -0.3**
GNBR pmax pmax
comp=Z,33nm,0.1s
GNBR Gunib 1.21 283 *i* Pg **Pn 02 17 29.9 -0.8**
comp=Z,33nm,0.1s
GNBR *i* Sg **Sb 02 17 46.0 -0.3**
ARKR Arakani 1.25 293 *i* PG **Pn 02 17 30.0 -1.2**
ARKR *i* S **Sb 02 17 47.0 -0.5**
ARKR Arakani 1.25 293 *i* Pg **Pn 02 17 30.0 -1.2**
ARKR *i* Sg **Sb 02 17 47.0 -0.5**
BUJR Buynaksk 1.27 303 *e*PG **Pn 02 17 30.0 -1.6**
BUJR *i* S **Sb 02 17 47.0 -1.2**
BUJR Buynaksk 1.27 303 *e*Pg **Pn 02 17 30.0 -1.6**
BUJR *i* Sg **Sb 02 17 47.0 -1.2**
KRNR Karanay 1.40 300 *e*PG **Pn 02 17 33.0 -0.4**
KRNR *e*S **Sn 02 17 51.5 -0.5**
KRNR pmax pmax
comp=Z,29nm,0.3s
KRNR Karanay 1.40 300 *e*Pg **Pn 02 17 33.0 -0.4**
comp=Z,29nm,0.3s
KRNR *e*Sg **Sn 02 17 51.5 -0.5**
UNCR Uncukul 1.42 295 *e*PG **Pb 02 17 34.0 -0.4**
UNCR *e*S **Sb 02 17 52.5 -0.1**
UNCR pmax pmax
comp=Z,41nm,0.3s
UNCR Uncukul 1.42 295 *e*Pg **Pb 02 17 34.0 -0.4**
comp=Z,41nm,0.3s
UNCR *e*Sg **Sb 02 17 52.5 -0.1**
XNZR Khunzakh 1.43 287 *e*PG **Pn 02 17 33.7 -0.2**
XNZR *e* 02 17 52.7
XNZR Khunzakh 1.43 287 *e*Pg **Pn 02 17 33.7 -0.2**
XNZR *e*Sg **Sn 02 17 52.7 -0.1**
GROC Groznyy 2.30 299 *e*PN **Pb 02 17 48.1 -1.1**
GROC *e* 02 18 17.9
GROC pmax pmax
comp=Z,15nm,0.5s
GROC smax smax
comp=N,40nm,1.1s
GROC smax smax
comp=N,40nm,0.6s
GROC smax smax
comp=E,23nm,0.5s
GROC Groznyy 2.30 299 *e*Pn **Pb 02 17 48.1 -1.1**
comp=E,15nm,0.5s
GROC *e*Sn **Sb 02 18 17.9 +0.3**
comp=E,40nm,0.6s
TBLG Delisi 2.87 263 P **Pn 02 17 56.3 +2.7**
TBLG S **Sb 02 18 31.9 -2.4**
TBLG Delisi 2.87 263 PN **Pn 02 17 56.3 +2.7**
TBLG S **Sb 02 18 31.9 -2.4**
TBLG Delisi 2.87 263 Pn **Pn 02 17 56.3 +2.7**
TBLG Sn **Sb 02 18 31.9 -2.4**
VLKR Vladikavkaz 3.00 289 *e*PN **Pn 02 17 57.4 +2.0**
VLKR *e*S **Sn 02 18 34.3 +2.8**
VLKR Vladikavkaz 3.00 289 *e*Pn **Pn 02 17 57.4 +2.0**
VLKR *e*Sn **Sn 02 18 34.3 +2.8**
GUDG Gudauri 3.04 278 P **Pb 02 18 00.5 -1.5**
GUDG S **Sb 02 18 39.4 +0.1**
LACR Lac 3.22 284 *e*PN **Pn 02 18 01.2 +2.7**
LACR *e*S **Sn 02 18 39.2 +2.2**
LACR Lac 3.22 284 *e*Pn **Pn 02 18 01.2 +2.7**
LACR *e*Sn **Sn 02 18 39.2 +2.2**
GNI Garni 3.50 237 *ce*PN **Pb 02 18 08.7 -1.0**
GNI Garni 3.50 237 *e*Pn **Pb 02 18 08.7 -1.0**
ONI Oni 3.81 279 P **Pn 02 18 10.3 +3.8**
ONI Oni 3.81 279 PN **Pn 02 18 10.3 +3.8**
ONI Oni 3.81 279 Pn **Pn 02 18 10.3 +3.8**
KIEV Kiev 15.81 309 ⇓*e*P **Pn 02 20 48.9 -1.4**
KIEV pmax pmax
comp=Z,9.0nm,1.8s
KIEV Kiev 15.81 309 *e*P **Pn 02 20 48.9 -1.4**
comp=Z,9.0nm,1.8s

ISCJB ***11*** *02:23:19.7±1.5, 47°.2N±0°.2×151°.9E±0°.3, h106km, mb3.7/5, Error ellipse: s-maj=41.8km s-min=13.1km az=142.5*
IDC ***11*** *02:23:21.8±3.0, 47°.18N×152°.04E, h117km±25km, mb3.5/6, mb1 3.6/8, mb1mx3.3/30, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/38, Error ellipse: s-maj=47.9km s-min=21.9km az=150.0*
ISC 11 02:23:21.1±1.8, 47°.2N±0°.3×152°.0E±0°.2, h106km, n14, σ1§04/8, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.96**	**30**	P	**Pn**	**02 25 01.6**	**+1.2**
	0.4nm,0.3s,baz=213,slow=6.7,SNR=4.3						
ASAJ	**Asahikawa**	**7.27**	**248**	P	**Pn**	**02 25 05.0**	**+0.4**
	1.5nm,0.3s,baz=81,slow=13,SNR=4.3						
KSRS	**Korea Array**	**20.22**	**250**	P	**P**	**02 27 48.2**	**+0.8**
	1.6nm,0.7s,baz=59,slow=10,SNR=5.0						
KSRS				LR	LR	02 34 57.1	
	comp=Z,31nm,18.8s,baz=18,slow=34						
H11N2	**WAKE ISLAND Hy 29.96**		**151**	T	T	03 00 51.4	
	baz=340,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy 29.98**		**151**	T	T	03 00 52.5	
	baz=340,slow=76,SNR=49						
H11N3	**WAKE ISLAND Hy 29.98**		**151**	T	T	03 00 53.1	
	baz=340,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy 31.04**		**152**	T	T	03 02 20.8	
	baz=341,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy 31.05**		**152**	T	T	03 02 27.5	
	baz=341,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy 31.06**		**152**	T	T	03 02 27.5	
	baz=341,slow=76,SNR=50						
MKAR	**Makanchi Array**	**46.07**	**297**	P	**P**	**02 31 33.5**	**-0.6**
	0.5nm,0.6s,baz=67,slow=8.0,SNR=5.5						
FINES	**FINESS Array B**	**63.32**	**334**	P	**P**	**02 33 37.4**	**-0.9**
	4.2nm,1.1s,baz=28,slow=8.6,SNR=6.9						
KBZ	**Khabaz**	**70.01**	**313**	P	**P**	**02 34 21.9**	**+0.9**
	2.0nm,0.9s,baz=108,slow=3.2,SNR=3.1						
AKASG	**Malin Array Be**	**70.76**	**326**	P	**P**	**02 34 24.6**	**-0.9**
	0.3nm,0.4s,baz=40,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**77.93**	**60**	P	**P**	**02 35 06.9**	**-0.6**
	0.4nm,0.6s,baz=272,slow=4.1,SNR=3.8						

CSEM ***11*** *02:38:06.0±0.7, 51°.57N×16°.13E, h1km, ML2.9/4, Error ellipse: s-maj=9.9km s-min=5.6km az=8.0*
WAR ***11*** *02:38:07.8, 51°.54N×16°.14E, h1km*
PRU ***11*** *02:38:07.7, 51°.52N×16°.16E, h0km*
ISC 11 02:38:07.3±2.1, 51°.54N±0°.10×16°.14E±0°.05, h0km, n22, σ0§61/37, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**02 38 21.1**	**+0.3**
KSP				*e*Sg	**Sg**	**02 38 30.3**	**+0.3**
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**02 38 21.1**	**+0.3**
KSP				*e*Sg	**Sg**	**02 38 30.3**	**+0.3**
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pg**	**02 38 21.1**	**+0.3**
KSP				*e*Sg	**Sg**	**02 38 30.3**	**+0.3**
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**02 38 27.2**	**0.0**
UPC				*e*SG	**Sg**	**02 38 40.9**	**+0.3**
	comp=Z,12nm,0.2s						
UPC	**Upice**	**1.04**	**184**	Pg	**Pg**	**02 38 27.2**	**0.0**
UPC				Sg	**Sg**	**02 38 40.9**	**+0.3**
	12nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**02 38 30.0**	**-0.2**
DPC				*e*SG	**Sg**	**02 38 45.4**	**-0.4**
	comp=Z,5.1nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pg**	**02 38 30.0**	**-0.2**
DPC				Sg	**Sg**	**02 38 45.4**	**-0.4**
	5.1nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pn**	**02 38 33.8**	**-0.5**
PVCC				*e*SG	**Sb**	**02 38 53.6**	**+0.4**
	comp=Z,26nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	**Pn**	**02 38 33.8**	**-0.5**
PVCC				Sg	**Sb**	**02 38 53.6**	**+0.4**
	26nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**245**	PG	**Pn**	**02 38 36.3**	**+0.4**
BRG				SG	**Sb**	**02 38 57.0**	**+0.5**
	16nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*PG	**Pb**	**02 38 41.8**	**0.0**
GOPC				*e*SG	**Sb**	**02 39 06.1**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pg	**Pb**	**02 38 41.8**	**0.0**
GOPC				Sg	**Sb**	**02 39 06.1**	**+0.7**
PRU	**Pruhonice**	**1.86**	**214**	*e*SG	**Sb**	**02 39 06.0**	**+0.2**
PRU	**Pruhonice**	**1.86**	**214**	Sg	**Sb**	**02 39 06.0**	**+0.2**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn	**Pn**	**02 38 41.0**	**-1.1**
MORC				*e*Sg	**Sb**	**02 39 09.9**	**+0.5**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*SG	**Sb**	**02 39 13.9**	**+0.2**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Sg	**Sb**	**02 39 13.9**	**+0.2**
VRAC	**Vranov**	**2.26**	**172**	*e*Sg	**Sg**	**02 39 19.1**	**-0.6**
NKC	**Novy Kostel**	**2.68**	**242**	*e*SG	**Sg**	**02 39 32.7**	**-0.6**
	comp=Z,9.4nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**242**	Sg	**Sg**	**02 39 32.7**	**-0.6**
	9.4nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PG	**Pb**	**02 39 01.0**	**+0.8**
KHC				*e*SG	**Sg**	**02 39 39.3**	**-1.7**
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	**Pb**	**02 39 01.0**	**+0.8**
KHC				Sg	**Sg**	**02 39 39.3**	**-1.7**

NIED ***11*** *02:48:00, 38°.30N×144°.60E, h5km, Mw4.6 Best double couple: M0 1.05000×10^16 NP1:φs=20.00000°, δ 17.00000°, λ-86.00000°. NP2:φs 196.00000°, δ 73.00000°, λ-91.00000°.*
ISCJB ***11*** *02:48:44.8±1.0, 38°.16N±0°.03×144°.64E±0°.02, h6km±6km, mb4.7/145, MS3.9/21, Error ellipse: s-maj=5.1km s-min=2.9km az=173.1*
IDC ***11*** *02:48:45.0±0.4, 38°.13N×144°.87E, h0km, mb4.5/31, mb1 4.6/37, mb1mx4.5/58, mbtmp4.5/37, ML4.0/6, MS3.7/18, Ms1 3.7/18, ms1mx3.5/38, Error ellipse: s-maj=13.4km s-min=11.0km az=91.0*
NEIC ***11*** *02:48:47.1±2.0, 38°.11N×144°.75E, h12km±12km, mb4.8/94, Error ellipse: s-maj=5.3km s-min=3.6km az=147.0*
JMA ***11*** *02:48:48.5±0.2, 38°.27N×144°.60E, h52km, M4.5*
MOS ***11*** *02:48:48.7±0.9, 38°.11N×144°.68E, h33km, mb4.8/56, Error ellipse: s-maj=8.5km s-min=6.4km az=109.5*
BJI ***11*** *02:48:48.7, 38°.52N×144°.76E, h23km, mb4.7/51, mB4.9/36, Ms4.2/34, Ms7 4.1/35*
ISC 11 02:48:48.6±0.7, 38°.20N±0°.04×144°.76E±0°.04, h19km±2km, n320, σ1§71/353, mb4.7/150, MS3.9/22, 16C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.58**	**291**	P	**Pn**	**02 49 26.9**	**-2.4**
OFUJ				*e*S	**Sn**	**02 49 55.5**	**-4.6**
MIYJ	**Miyakonagasawa**	**2.68**	**302**	P	**Pn**	**02 49 28.2**	**-2.5**
MIYJ				S	**Sn**	**02 49 57.6**	**-5.0**
JIO	**Ouri**	**2.69**	**277**	P	**Pn**	**02 49 28.6**	**-2.3**
JIO				*e*S	**Sn**	**02 49 58.6**	**-4.4**
JMK	**Ichinoseki**	**2.88**	**286**	P	**Pn**	**02 49 31.4**	**-2.0**
JMK				S	**Sn**	**02 50 03.1**	**-4.3**
JOM	**Ohasama**	**2.99**	**296**	P	**Pn**	**02 49 33.1**	**-1.9**
JOM				*e*S	**Sn**	**02 50 05.9**	**-4.5**
JANG	**Nango**	**3.33**	**312**	P	**Pn**	**02 49 37.0**	**-2.6**
JYK	**Kaneyama**	**3.52**	**283**	P	**Pn**	**02 49 40.8**	**-1.5**
JYK				*e*S	**Sn**	**02 50 20.0**	**-3.5**
JFT	**Otama**	**3.56**	**260**	P	**Pn**	**02 49 41.5**	**-1.4**
JFT				*e*S	**Sn**	**02 50 20.7**	**-3.8**
JOT	**Ohata**	**4.28**	**319**	P	**Pn**	**02 49 50.5**	**-2.2**
JOT				*e*S	**Sn**	**02 50 36.5**	**-5.5**
JCH	**Churui**	**4.54**	**347**	P	**Pn**	**02 49 53.7**	**-2.6**
JCH				*e*S	**Sn**	**02 50 42.3**	**-6.2**
JKB	**Kayabe**	**4.67**	**323**	P	**Pn**	**02 49 56.0**	**-2.0**
JKB				*e*S	**Sn**	**02 50 46.2**	**-5.4**
BSO1	**Boso 1**	**4.67**	**222**	P	**Pn**	**02 49 55.1**	**-2.5**
BSO1				*e*S	**Sn**	**02 50 47.0**	**-4.0**
JRY	**Ryogami san**	**5.16**	**247**	P	**Pn**	**02 50 02.7**	**-2.2**
JRY				*e*S	**Sn**	**02 50 57.1**	**-6.9**
NEM2	**Nemuro 2**	**5.22**	**8**	P	**Pn**	**02 50 01.8**	**-3.8**
NEM2				*e*S	Sn	02 50 55.8	-9.3
JOD2	**Odawara 2**	**5.41**	**239**	P	**Pn**	**02 50 06.1**	**-2.2**
JOD2				*e*S	**Sn**	**02 51 03.2**	**-6.9**
MJAR	**Matsushiro Arr**	**5.47**	**254**	P	**Pn**	**02 50 08.7**	**-0.4**
	8.1nm,0.3s,baz=68,slow=8.2,SNR=104						
MAJO	**Matsushiro**	**5.47**	**254**	*c i*P	**Pn**	**02 50 08.3**	**-0.9**
MAJO	**Matsushiro**	**5.47**	**254**	*e*Pn	**Pn**	**02 50 08.7**	**-0.4**
MAJO				*e*Sn	**Sn**	**02 51 08.3**	**-3.3**
MJB9	**Matsu-Tunnel**	**5.47**	**254**	*e*Pn	**Pn**	**02 50 08.8**	**-0.4**
JOSM	**Okushiri--Mats**	**5.61**	**315**	P	**Pn**	**02 50 10.0**	**-0.9**
JOSM				*e*S	**Sn**	**02 51 11.3**	**-3.5**
JTKR	**Abashiri--Toko**	**5.80**	**354**	P	**Pn**	**02 50 11.2**	**-2.4**
JTKR				*e*S	**Sn**	**02 51 12.5**	**-7.1**
YUK	**Yuzh-Kuril'sk**	**5.89**	**8**	*c i*P	**Pn**	**02 50 11.2**	**-3.6**
YUK				pmax	pmax		
	comp=Z,403nm,0.3s						
YUK				pmax	pmax		
	comp=N,63nm,0.1s						
YUK				pmax	pmax		
	comp=E,37nm,0.1s						
JHR	**Hokuryu**	**6.00**	**338**	P	**Pn**	**02 50 15.6**	**-0.7**
JHR				*e*S	**Sn**	**02 51 21.1**	**-3.3**
ASAJ	**Asahikawa**	**6.13**	**345**	Pn	**Pn**	**02 50 16.8**	**-1.4**
	comp=E,7.3nm,0.3s,baz=206,slow=13,SNR=27						
ASAJ				Sn	**Sn**	**02 51 21.8**	**-6.0**
	comp=E,10nm,0.3s,baz=47,slow=27,SNR=5.4						
ASAJ	**Asahikawa**	**6.13**	**345**	*e*Pn	**Pn**	**02 50 17.2**	**-1.0**
ASAJ				*e*Sn	**Sn**	**02 51 21.8**	**-6.0**
JHJ2	**Mitsune**	**6.47**	**220**	*e*Pn	**Pn**	**02 50 18.9**	**-4.0**
JHJ2				*e*Sn	Sn	02 51 27.9	-8.3
JHJ	**Hachijo jima 2**	**6.49**	**220**	Pn	**Pn**	**02 50 20.7**	**-2.3**
	comp=E,21nm,0.3s,baz=234,slow=19,SNR=5.1						
JHJ				Sn	Sn	02 51 26.1	-10
	comp=E,9.8nm,0.3s,baz=72,slow=19,SNR=2.1						
INU	**Inuyama**	**6.83**	**248**	*e*Pn	**Pn**	**02 50 26.6**	**-1.2**
KUR	**Kuril'sk**	**7.40**	**17**	*e*P	**Pn**	**02 50 33.9**	**-1.7**
KUR				pmax	pmax		
	comp=Z,98nm,1.0s						
KUR				pmax	pmax		
	comp=E,83nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.88**	**351**	*e*P	Pn	02 50 41.0	-15
MSHR	**Mys Shultsa**	**11.26**	**297**	*ce*P	**Pn**	**02 51 28.9**	**+0.5**
CBIJ	**Chichi jima**	**11.28**	**192**	*e*Pn	Pn	02 51 22.4	-6.4
CBIJ				*e*Sn	Sn	02 53 19.9	-14
USRK	**Ussuriysk Ar.**	**11.33**	**306**	Pn	**Pn**	**02 51 29.5**	**+0.1**
	comp=E,1.1nm,0.3s,baz=106,slow=14,SNR=31						
USRK				LR	LR	02 55 35.8	
	comp=E,518nm,21.6s,baz=113,slow=36						
JNU	**Nakatsue**	**12.37**	**250**	Pn	**Pn**	**02 51 42.3**	**-1.4**
	comp=E,0.6nm,0.3s,baz=52,slow=13,SNR=7.6						
JNU	**Nakatsue**	**12.37**	**250**	*e*Pn	**Pn**	**02 51 42.9**	**-0.8**
MDJ	**Mudanjiang**	**13.06**	**304**	P	**Pn**	**02 51 52.2**	**-0.8**
MDJ				S	**Sn**	**02 54 19.7**	**+2.0**
MDJ				PcP	**PcP**	**02 57 25.4**	**+0.4**
MDJ				ScP	**ScP**	**03 00 56.6**	**-0.5**
MDJ				PcS	**PcS**	**03 00 59.6**	**+0.3**
MDJ				ScS	**ScS**	**03 04 34.7**	**+1.2**
MDJ				pmax	pmax		
	comp=E,39nm,1.0s						
MDJ				pmax	pmax		
	comp=E,72nm,8.9s						
MDJ				LR	LR		
	comp=E,300nm,14.8s						
MDJ				LR	LR		
	comp=E,440nm,13.8s						
MDJ				LR	LR		
	comp=E,670nm,14.8s						
MDJ	**Mudanjiang**	**13.06**	**304**	*e*Pn	**Pn**	**02 51 52.5**	**-0.5**
KSRS	**Korea Array**	**13.34**	**272**	Pn	**Pn**	**02 51 57.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=86,slow=13,SNR=11						
KSRS				LR	LR	02 57 06.2	
	comp=E,145nm,18.9s,baz=69,slow=37						
KSRS	**Korea Array**	**13.34**	**272**	P	**Pn**	**02 51 57.0**	**+0.2**
KSRS				MLR	MLR		
	comp=Z,145nm,19.0s						
KS15	**Wonju Array Si**	**13.37**	**272**	*e*Pn	**Pn**	**02 51 57.4**	**+0.2**
CN2	**Changchun**	**15.61**	**297**	*e*P	**P**	**02 52 29.9**	**-1.7**
CN2				*es*P	sP	02 52 39.8	+0.4
CN2				*e*S	**Sn**	**02 55 22.4**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
PETK	**Petropavlovsk-**	**17.40**	**27**	P	**P**	**02 52 52.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=212,slow=8.1,SNR=5.0						
PETK				LR	LR	02 59 54.6	
	comp=Z,46nm,19.7s,baz=210,slow=38						
PETK	**Petropavlovsk-**	**17.40**	**27**	*e*P	Pn	02 52 41.3	-8.8
PETK	**Petropavlovsk-**	**17.40**	**27**	*e*Pn	Pn	02 52 41.3	-8.8
PEA1	**Petropavlovsk-**	**17.40**	**27**	*e*Pn	**P**	**02 52 52.2**	**+0.8**
DL2	**Dalian**	**18.10**	**279**	P	**Pn**	**02 52 56.9**	**-2.0**
DL2				*e*S	**Sn**	**02 56 16.2**	**-4.2**
DL2				pmax	pmax		
	comp=Z,42nm,0.9s						
DL2				pmax	pmax		
	comp=Z,130nm,3.8s						
DL2				LR	LR		
	comp=Z,430nm,26.5s						
DL2				LR	LR		
	comp=Z,430nm,21.4s						
MA2	**Magadan**	**21.74**	**8**	P	**P**	**02 53 39.4**	**+0.8**
	comp=Z,20nm,0.7s,baz=163,slow=20,SNR=5.8						
NJ2	**Nanjing**	**22.02**	**262**	*e*P	**P**	**02 53 43.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
TIA	**Tai'an**	**22.07**	**273**	*e*P	**P**	**02 53 40.3**	**-2.1**
TIA				pmax	pmax		
	comp=Z,20nm,1.0s						
BJI	**Beijing**	**22.22**	**284**	P	**P**	**02 53 44.5**	**+0.6**
BJI				S	**S**	**02 57 48.0**	**+0.4**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=Z,120nm,13.8s						
BJI				LR	LR		
	comp=Z,370nm,14.4s						
BJI				LR	LR		
	comp=Z,220nm,15.0s						
CLNS	**Chul'man**	**22.82**	**331**	*e*P	**P**	**02 53 52.4**	**+2.1**
CLNS				pmax	pmax		
	comp=Z,19nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,175nm,13.0s						
SEY	**Seymchan**	**25.20**	**8**	P	**P**	**02 54 13.8**	**+1.1**
	comp=Z,20nm,0.7s,baz=185,slow=6.4,SNR=24						
SEY	**Seymchan**	**25.20**	**8**	*ce*P	**P**	**02 54 13.6**	**+0.9**
YAK	**Yakutsk**	**25.61**	**344**	*e*P	**P**	**02 54 21.2**	**+4.8**
YAK				*e**PP	**sP**	**02 54 25.6**	**+1.0**
YAK				*e*		02 54 59.7	
YAK				*e*PPP	PPP	02 55 06.9	
YAK				*e*		02 57 44.7	
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=Z,16nm,0.6s						
YAK				pmax	pmax		
	comp=N,35nm,1.0s						
YAK				MLR	MLR		
	comp=Z,66nm,7.0s						
YAK				MLR	MLR		
	comp=N,39nm,5.0s						
HHC	**Hu-ho-hao-te**	**25.66**	**286**	*e*P	**P**	**02 54 18.3**	**+1.0**
HHC				PP	**PnPn**	**02 54 59.2**	**+5.6**
HHC				S	**S**	**02 58 43.3**	**-1.5**
HHC				pmax	pmax		
	comp=N,24nm,1.2s						
HHC				pmax	pmax		
	comp=N,93nm,4.8s						
HHC				LR	LR		
	comp=N,140nm,10.7s						
HHC				LR	LR		
	comp=N,500nm,13.2s						
HHC				LR	LR		
	comp=N,560nm,14.6s						
H11N2	**WAKE ISLAND Hy 26.60**		**128**	T	T	03 21 58.8	
	baz=319,slow=74,SNR=51						
H11N1	**WAKE ISLAND Hy 26.61**		**128**	T	T	03 22 03.5	
	baz=319,slow=74,SNR=32						
H11N3	**WAKE ISLAND Hy 26.62**		**128**	T	T	03 22 04.1	
	baz=319,slow=74,SNR=43						
H11S1	**WAKE ISLAND Hy 27.40**		**130**	T	T	03 23 13.6	
	baz=352,slow=76,SNR=4.1						
H11S3	**WAKE ISLAND Hy 27.40**		**130**	T	T	03 23 04.9	
	baz=352						
H11S2	**WAKE ISLAND Hy 27.42**		**130**	T	T	03 23 08.7	
	baz=352,slow=76,SNR=3.7						
BOD	**Bodaibo**	**28.05**	**324**	*e*P	**P**	**02 54 38.3**	**-0.1**
BOD				pmax	pmax		
	comp=Z,20nm,1.2s						
ULN	**Ulaanbaatar**	**28.95**	**302**	⇑*e*P	**P**	**02 54 48.2**	**+1.4**
ULN				pmax	pmax		
	comp=Z,11nm,2.0s						
ULN	**Ulaanbaatar**	**28.95**	**302**	*e*P	**P**	**02 54 46.6**	**-0.2**
XAN	**Xi'an**	**29.13**	**273**	P	**P**	**02 54 51.8**	**+3.4**
XAN				pP	sP	02 54 59.8	+3.2
XAN				pmax	pmax		
	comp=Z,15nm,1.1s						
SONA1	**Songino Array**	**29.39**	**302**	*e*P	**P**	**02 54 50.6**	**-0.1**
SONA0	**Songino Array**	**29.39**	**302**	*e*P	**P**	**02 54 51.5**	**+0.9**
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**29.39**	**302**	P	**P**	**02 54 51.5**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=96,slow=8.8,SNR=8.7						
SONM				LR	LR	03 06 35.9	
	comp=Z,194nm,20.9s,baz=106,slow=36						
ENH	**Enshi**	**30.08**	**265**	*e*P	**P**	**02 54 55.2**	**-1.6**
	comp=Z,17nm,0.8s						
ZAK	**Zakamensk**	**31.68**	**306**	*e*P	**P**	**02 55 09.9**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LZH	**Lanzhou**	**32.50**	**279**	*e*P	P	02 55 23.0	+4.8
LZH				pP	sP	02 55 30.7	+4.2

CD2 LR LR
comp=Z,810nm,11.9s
CD2 LR LR
comp=Z,300nm,12.9s
CD2 LR LR
comp=Z,910nm,10.4s
GTA Gaotai 34.77 286 *e*P **P 02 55 40.5 +2.5**
GTA pP sP 02 55 47.8 +1.6
GTA sP pP 02 55 50.8 +7.0
GTA S **S 03 01 07.0 -0.6**
GTA sS sS 03 01 19.3 +2.1
GTA SS **SnSn 03 03 20.0 -1.2**
GTA pmax pmax
comp=Z,9.0nm,0.6s
GTA pmax pmax
comp=Z,80nm,6.7s
GTA LR LR
comp=Z,160nm,18.5s
GTA LR LR
comp=Z,320nm,15.0s
GTA LR LR
comp=Z,370nm,14.7s
QIZ Qiongzhong 35.83 248 P **P 02 55 47.1 +0.1**
QIZ S **S 03 01 24.9 +1.1**
QIZ pmax pmax
comp=Z,190nm,4.4s
QIZ LR LR
comp=Z,230nm,14.1s
JAY Jayapura 40.68 186 P **P 02 56 27.6 -0.3**
comp=Z,54nm,0.8s,baz=118,slow=11,SNR=4.5
WMQ Urumqi 42.70 296 P **P 02 56 45.5 +1.2**
WMQ pP sP 02 56 52.3 -0.3
WMQ sP pP 02 56 58.8 +8.6
WMQ S S 03 02 58.9 -7.8
WMQ SS SS 03 06 07.9 -9.2
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,100nm,5.1s
WMQ LR LR
comp=Z,81nm,14.1s
WMQ LR LR
comp=Z,110nm,35.9s
WMQ LR LR
comp=Z,100nm,31.9s
TT01 Tatalina 42.94 35 *e*P **P 02 56 45.4 -0.5**
SVW2 Sparrevohn 42.98 38 *e*P **P 02 56 47.3 +1.0**
comp=Z,10nm,1.0s
ZAA1 Zalesovo Array 43.11 312 *e*P **P 02 56 47.8 +0.4**
ZAA1 *e*PcP **PcP 02 58 36.7 -0.2**
ZALV Zalesovo Beam 43.12 312 P **P 02 56 47.8 +0.4**
comp=Z,2.5nm,0.5s,baz=88,slow=7.2,SNR=9.9
ZALV PcP **PcP 02 58 36.7 -0.2**
comp=Z,2.4nm,0.5s,baz=102,slow=3.6,SNR=4.3
ZALV LR LR 03 15 13.5
comp=Z,164nm,19.8s,baz=70,slow=37
NRIK Noril'sk 43.35 334 LR LR 03 15 49.7
comp=Z,230nm,20.8s,baz=105,slow=37
IMAR Indian Mountai 44.29 31 *e*P **P 02 56 56.8 0.0**
RSO Redoubt South 44.34 39 *e*P **P 02 56 57.8 +0.4**
CM31 Chiang Mai Arr 44.35 257 *e*P **P 02 56 58.6 +0.8**
CM31 *e*PP **PcP 02 58 42.2 +0.5**
CMAR Chiang Mai Arr 44.35 257 P **P 02 56 58.6 +0.8**
comp=Z,1.3nm,0.3s,baz=59,slow=7.4,SNR=3.7
CMAR PcP **PcP 02 58 42.2 +0.5**
comp=Z,0.8nm,0.3s,baz=15,slow=3.7,SNR=4.4
CMAR LR LR 03 17 08.4
comp=Z,74nm,19.8s,baz=150,slow=38
CMAR Chiang Mai Arr 44.35 257 *ce*P P 02 56 51.0 -6.8
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KDAK Kodiak Island 44.45 43 P **P 02 56 57.2 -0.9**
comp=Z,34nm,0.8s,baz=264,slow=4.0,SNR=14
KDAK Kodiak Island 44.45 43 *e*P **P 02 56 57.7 -0.3**
KDAK pmax pmax
comp=Z,36nm,0.8s
KDAK Kodiak Island 44.45 43 *e*P **P 02 56 57.7 -0.3**
comp=Z,36nm,0.8s
PPLA Purkeypile 44.69 35 *e*P **P 02 56 59.4 -0.7**
comp=Z,25nm,1.5s
SPU Mount Spurr 44.69 38 *e*P **P 02 57 00.2 +0.2**
CAST Castle Rocks 44.76 35 *e*P **P 02 57 01.1 +0.6**
comp=Z,9.1nm,1.2s
CNPM China Poot 45.10 40 *e*P **P 02 57 02.5 -0.8**
comp=Z,89nm,1.7s
BRLK Bradley Lake 45.28 40 *e*P **P 02 57 04.6 -0.1**
comp=Z,51nm,1.5s
MK01 Makanchi Array 45.76 302 *e*P **P 02 57 08.7 -0.1**
MK31 Makanchi Array 45.76 302 *i* P **P 02 57 08.2 -0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 45.76 302 *e*P **P 02 57 08.9 +0.2**
MK32 Makanchi Array 45.76 302 *e*P **P 02 57 08.7 0.0**
MKAR Makanchi Array 45.76 302 P **P 02 57 08.7 0.0**
comp=Z,2.9nm,0.7s,baz=84,slow=9.3,SNR=20
MKAR LR LR 03 17 06.7
comp=Z,153nm,19.7s,baz=53,slow=37
MKAR Makanchi Array 45.76 302 *i* P **P 02 57 08.6 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 45.76 302 *e*P **P 02 57 08.9 +0.2**
comp=Z,55nm,0.8s
MAKZ Makanchi 45.97 302 *e*P **P 02 57 10.3 0.0**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 45.97 302 *e*P **P 02 57 10.3 0.0**
comp=Z,4.5nm,0.8s
MDM Murphy Dome 46.51 33 *e*P **P 02 57 13.5 -0.8**
comp=Z,8.0nm,1.0s
WRH Wood River Hil 46.56 33 *e*P **P 02 57 14.6 -0.1**
WRH *e*PcP **PcP 02 58 48.2 -0.4**
SCM Sheep Creek Mo 46.95 37 *e*P **P 02 57 17.8 -0.1**
SCM Sheep Creek Mo 46.95 37 *e*P **P 02 57 17.8 -0.1**
IL1 Eielson Array 47.08 33 *e*P **P 02 57 18.0 -0.8**
ILAR Eielson Array 47.08 33 P **P 02 57 18.1 -0.7**
comp=Z,2.2nm,0.7s,baz=260,slow=6.7,SNR=30
ILB Eielson Array 47.08 33 *e*P **P 02 57 18.4 -0.4**
KURK Kurchatov 47.31 308 *ce*P **P 02 57 20.8 0.0**
KURK pmax pmax
comp=Z,57nm,1.2s
KURK Kurchatov 47.31 308 *e*P **P 02 57 20.5 -0.3**
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 47.39 308 P **P 02 57 21.2 -0.2**
comp=Z,5.9nm,0.6s,baz=82,slow=8.0,SNR=46
PMG Port Moresby 47.41 177 P **P 02 57 20.6 -1.1**
comp=Z,6.8nm,0.4s,baz=13,slow=5.1,SNR=5.3
PMG Port Moresby 47.41 177 *ce*P **P 02 57 23.0 +1.2**
PMG pmax pmax
comp=Z,32nm,1.0s
KLU Klutina 47.64 37 *e*P **P 02 57 23.6 +0.3**
comp=Z,23nm,1.4s
FYU Fort Yukon 47.77 31 *e*P **P 02 57 22.7 -1.3**
comp=Z,68nm,1.8s
DOT Dot Lake 48.35 34 *e*P **P 02 57 28.4 -0.3**
comp=Z,62nm,1.8s
PDGK Podgornoye 48.58 298 *i* P **P 02 57 29.9 -1.0**
PDGK pmax pmax
comp=Z,7.0nm,0.8s
CRQM Cirque 49.05 38 *e*P **P 02 57 34.6 +0.3**
comp=Z,56nm,1.3s
TKM2 Tokmak 2 51.41 299 P **P 02 57 52.0 -0.5**
TKM2 pmax pmax
comp=Z,16nm,1.6s
BVA0 Borovoye Array 51.76 312 *i* P **P 02 57 54.4 -0.3**
BVA0 pmax pmax
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 51.76 312 P **P 02 57 54.8 +0.2**
comp=Z,3.0nm,0.7s,baz=80,slow=8.3,SNR=12
BVAR PcP **PcP 02 59 07.7 0.0**
comp=Z,2.4nm,0.7s,baz=87,slow=3.0,SNR=2.4
BRVK Borovoye 51.81 312 *ce*P **P 02 57 56.0 +1.0**
BRVK pmax pmax
comp=Z,41nm,2.5s
BRVK Borovoye 51.81 312 *e*P **P 02 57 54.2 -0.8**
comp=Z,11nm,0.9s
FRU Bishkek 52.12 299 *e*P **P 02 57 58.0 +0.4**
AAK Ala-Archa 52.27 299 P **P 02 57 58.9 +0.1**
comp=Z,0.6nm,0.3s,baz=55,slow=8.9,SNR=4.2
KSH Kashi 52.35 294 *e*P **P 02 58 03.9 +4.5**
KSH pP sP 02 58 12.5 +4.7
KSH sP pP 02 58 15.5 +10
KSH PcP **PcP 02 59 13.4 +3.0**
KSH PP **PP 03 00 03.7 +5.8**
KSH PcS **PcS 03 03 11.2 +2.4**
KSH S **S 03 05 27.5 +3.3**
KSH sS sS 03 05 41.1 +6.9
KSH ScS **ScS 03 07 49.4 +0.9**
KSH SS **SS 03 09 05.2 +3.5**
KSH pmax pmax
comp=Z,130nm,6.1s
KSH LR LR
comp=Z,160nm,7.2s
KSH LR LR
comp=Z,130nm,5.3s
KSH LR LR
comp=Z,200nm,4.9s
MTN Manton Dam 52.35 197 *e*P **P 02 57 58.4 -1.0**
comp=Z,12nm,0.8s
MNAS Manas 53.70 299 P **P 02 58 09.3 -0.1**
MNAS pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 57.24 319 P **P 02 58 33.9 -0.5**
comp=Z,1.2nm,0.3s,baz=60,slow=4.3,SNR=4.3
ARU Arti 57.24 319 P **P 02 58 33.9 -0.5**
ARU pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 57.24 319 *e*P **P 02 58 33.9 -0.5**
comp=Z,9.9nm,0.9s
WRAB Tennant Creek 58.64 191 *ce*P **P 02 58 43.2 -1.4**
WRAB pmax pmax
comp=Z,66nm,2.5s
WB2 Warramunga Arr 58.65 191 *e*P **P 02 58 43.4 -1.3**
WR1 Warramunga Arr 58.65 191 *e*P **P 02 58 43.0 -1.7**
comp=Z,8.6nm,0.8s
WR1 *e*PcP **PcP 02 59 34.1 -0.4**
WRA Warramunga Arr 58.65 191 P **P 02 58 43.0 -1.7**
comp=Z,6.9nm,0.7s,baz=12,slow=7.3,SNR=53
WRA PcP **PcP 02 59 34.1 -0.5**
comp=Z,2.9nm,0.7s,baz=0.1,slow=4.1,SNR=11
ABKAR Akbulak array 59.21 311 *e*P **P 02 58 46.5 -1.8**
comp=Z,47nm,0.7s
AS01 Alice Springs 62.37 191 *e*P **P 02 59 08.5 -1.4**
AS31 Alice Springs 62.37 191 *e*P **P 02 59 09.0 -1.0**
comp=Z,1.1nm,0.9s
AS31 *e*PcP **PcP 02 59 49.1 -0.4**
ASAR Alice Springs 62.38 191 P **P 02 59 08.8 -1.2**
comp=Z,2.5nm,0.8s,baz=9.4,slow=5.8,SNR=34
ASAR PcP **PcP 02 59 49.1 -0.4**
comp=Z,1.6nm,0.7s,baz=12,slow=4.2,SNR=6.4
ARCES ARCESS Array B 63.83 340 LR LR 03 32 06.2
comp=Z,56nm,18.2s,baz=51,slow=41
KLMR Klimovskoe 64.18 328 P **P 02 59 21.2 -0.4**
KLMR pmax pmax
comp=Z,17nm,1.5s
DAG Danmarks Havn 64.83 356 *i* P **P 02 59 24.5 -1.1**
comp=Z,12nm,1.1s
DAG *i* 02 59 33.3
DAG Danmarks Havn 64.83 356 *i* P **P 02 59 24.5 -1.1**
DAG *i* 02 59 33.3
DAG pmax pmax
comp=Z,15nm,1.1s
D05A Enumclaw 65.17 49 *e*P **P 02 59 27.3 -1.1**
comp=Z,37nm,1.3s
GEYT Alibeck 65.58 300 P **P 02 59 31.5 +0.3**
comp=Z,2.4nm,0.7s,baz=61,slow=13,SNR=2.4
GEYT LR LR 03 29 44.9
comp=Z,46nm,21.7s,baz=275,slow=37
B08A Colville Reser 66.12 47 *e*P **P 02 59 34.3 -0.2**
comp=Z,16nm,1.4s
EDM Edmonton 66.77 40 *e*P **P 02 59 38.4 -0.2**
EDM pmax pmax
comp=Z,39nm,1.1s
EDM Edmonton 66.77 40 *e*P **P 02 59 38.4 -0.2**
comp=Z,39nm,1.1s
NEW Newport 67.43 46 *e*P **P 02 59 41.9 -0.9**
NEW pmax pmax
comp=Z,10.0nm,1.4s
NEW Newport 67.43 46 *e*P **P 02 59 41.9 -0.9**
comp=Z,10nm,1.4s
K05A Summer Lake 68.14 52 *e*P **P 02 59 46.4 -1.3**
comp=Z,20nm,1.1s
MOD Modoc Plateau 68.95 53 *e*P **P 02 59 52.5 -0.1**
comp=Z,5.5nm,0.9s
FIA0 FINESS Array S 69.00 333 *e*P **P 02 59 52.2 -0.2**
FIA0 FINESS Array S 69.00 333 *e*P **P 02 59 52.1 -0.2**
FINES FINESS Array B 69.00 333 P **P 02 59 52.1 -0.2**
comp=Z,6.7nm,0.8s,baz=118,slow=11,SNR=6.0
FINES LR LR 03 32 07.2
comp=Z,104nm,21.8s,baz=46,slow=38
FINES FINESS Array B 69.00 333 *i* P **P 02 59 51.0 -1.4**
FINES pmax pmax
comp=Z,7.0nm,0.8s
BMO Blue Mountains 69.18 49 *e*P **P 02 59 53.9 0.0**
BMO pmax pmax
comp=Z,11nm,1.4s
BMO Blue Mountains 69.18 49 *e*P **P 02 59 53.9 0.0**
comp=Z,11nm,1.4s
ORV Oroville 69.46 55 *e*P **P 02 59 55.2 -0.4**
ORV pmax pmax
comp=Z,23nm,1.9s
ORV Oroville 69.46 55 *e*P **P 02 59 55.2 -0.4**
comp=Z,23nm,1.9s
SUMG Summit 69.50 1 *i* P **P 02 59 55.7 -0.1**
SUMG *i* 03 00 05.1
comp=Z,11nm,0.9s
SUMG Summit 69.50 1 *i* P **P 02 59 55.7 -0.1**
SUMG *i* 03 00 05.1
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 69.50 1 *e*P **P 02 59 55.3 -0.5**
comp=Z,92nm,2.0s
STKA Stephens Creek 69.78 183 P **P 02 59 56.3 -1.1**
comp=Z,2.1nm,0.8s,baz=303,slow=11,SNR=4.5
STKA Stephens Creek 69.78 183 *e*P **P 02 59 56.3 -1.1**
comp=Z,5.3nm,1.9s
MSO Missoula 70.02 46 *e*P **P 02 59 59.2 +0.2**
comp=Z,17nm,1.5s
BEKR Beckworth 70.03 55 *e*P **P 02 59 59.3 0.0**
comp=Z,6.5nm,1.2s
PAHR Pah Rah Range 70.74 54 *e*P **P 03 00 03.8 +0.1**
comp=Z,6.0nm,1.1s
MFID Camas Ranch 70.86 50 *e*P **P 03 00 04.2 -0.1**
comp=Z,4.4nm,1.0s
CMB Columbia Colle 71.02 56 *e*P **P 03 00 05.4 +0.1**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 71.02 56 *e*P **P 03 00 05.4 +0.1**
comp=Z,3.9nm,0.8s
YERR Yerington 71.24 55 *e*P **P 03 00 06.5 -0.2**
comp=Z,5.0nm,0.9s
LRM Limekiln Ridge 71.44 46 *e*P **P 03 00 08.4 +0.5**
HLID Hailey 71.62 49 *e*P **P 03 00 09.4 +0.4**
comp=Z,3.3nm,0.9s
DLMT Dillon 71.63 46 *e*P **P 03 00 09.2 +0.2**
comp=Z,18nm,1.4s
BOZ Bozeman (W) 72.04 46 *e*P **P 03 00 12.0 +0.5**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 72.04 46 *e*P **P 03 00 11.9 +0.5**
comp=Z,5.2nm,0.8s
KVAR Kislovodsk Arr 72.12 312 P **P 03 00 11.9 +0.1**
comp=Z,8.8nm,0.8s,baz=179,slow=5.7,SNR=6.1
KIV Kislovodsk 72.13 312 *e*P **P 03 00 12.0 +0.1**
KIV Kislovodsk 72.13 312 *e*P **P 03 00 11.9 +0.1**
KBZ Khabaz 72.14 312 P **P 03 00 12.7 +0.9**
comp=Z,5.2nm,0.8s,baz=347,slow=3.0,SNR=5.8
KBZ LR LR 03 34 49.2
comp=Z,56nm,18.8s,baz=52,slow=38
H17A Grant Village 73.36 46 *e*P **P 03 00 19.6 +0.2**
comp=Z,16nm,1.3s
FXWY Fox Creek 73.56 47 *e*P **P 03 00 21.0 +0.4**
comp=Z,7.7nm,1.0s
HVU Hansel Valley 73.65 50 *e*P **P 03 00 21.0 0.0**
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 73.65 50 *e*P **P 03 00 21.0 0.0**
comp=Z,6.6nm,1.0s
MOOW Moose Ponds 73.66 47 *e*P **P 03 00 21.4 +0.2**
comp=Z,7.0nm,1.1s
TPAW Teton Pass 73.69 47 *e*P **P 03 00 21.8 +0.3**
comp=Z,16nm,1.4s
LOHW Long Hollow 73.82 47 *e*P **P 03 00 22.5 +0.4**
comp=Z,4.8nm,1.2s
SNOW Snow King Moun 73.82 47 *e*P **P 03 00 22.5 +0.3**
comp=Z,25nm,1.8s
R11A Troy Canyon, C 73.94 54 *e*P **P 03 00 22.9 +0.1**
comp=Z,4.4nm,1.0s
NB2 NORSAR Subarra 74.11 338 P **P 03 00 22.5 -0.7**
comp=Z,1.3nm,0.7s,baz=39,slow=5.9
NB200 NORSAR Array S 74.11 338 *e*P **P 03 00 22.8 -0.4**
NOA NORSAR Array B 74.11 338 P **P 03 00 22.8 -0.4**
comp=Z,2.6nm,0.9s,baz=40,slow=5.9,SNR=5.2
NOA LR LR 03 38 15.3
comp=Z,47nm,19.4s,baz=40,slow=40
TPNV Topopah Spring 74.34 55 *e*P **P 03 00 25.8 +0.6**
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 74.34 55 *e*P **P 03 00 25.8 +0.6**
comp=Z,11nm,1.1s
HWUT Hardware Ranch 74.47 49 *e*P **P 03 00 26.8 +0.9**
comp=Z,8.5nm,1.1s
DUG Dugway, Tooele 74.57 51 *e*P **P 03 00 26.8 +0.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 74.57 51 *e*P **P 03 00 26.8 +0.3**
comp=Z,6.5nm,0.9s
FMP Fort Macarthur 74.88 59 *e*P **P 03 00 25.2 -2.9**
BW06 Boulder Array 74.94 47 *e*P **P 03 00 28.5 -0.2**
comp=Z,4.3nm,1.0s
PD31 Pinedale Array 74.94 47 *e*P **P 03 00 28.8 +0.1**
PDAR Pinedale Array 74.94 47 P **P 03 00 28.4 -0.2**
comp=Z,2.4nm,0.6s,baz=269,slow=1.7,SNR=31
PDAR Pinedale Array 74.94 47 *e*P **P 03 00 27.6 -1.1**
GSC Goldstone, Bar 74.94 57 *e*P **P 03 00 28.7 +0.1**
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 74.94 57 *e*P **P 03 00 28.7 +0.1**
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 74.97 324 P **P 03 00 28.0 -0.4**
comp=Z,1.4nm,0.6s,baz=43,slow=5.6,SNR=7.7
AKASG LR LR 03 35 45.4
comp=Z,51nm,19.5s,baz=5.0,slow=38
AKASG Malin Array Be 74.97 324 *ce*P **P 03 00 28.7 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 74.97 324 *e*P **P 03 00 28.0 -0.4**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 74.97 324 *e*P **P 03 00 28.0 -0.4**
comp=Z,6.6nm,0.9s
NLU North Lily Min 75.17 51 *e*P **P 03 00 30.8 +0.8**
comp=Z,4.2nm,1.0s
SHPR Sheep Range 75.31 55 *e*P **P 03 00 31.8 +1.0**
comp=Z,4.7nm,0.9s
MPU Maple Canyon 75.40 50 *e*P **P 03 00 32.2 +0.9**
comp=Z,6.6nm,0.8s
CCUT Cedar City 75.83 53 *e*P **P 03 00 34.9 +1.1**
comp=Z,6.6nm,0.8s
SZCU Shurtz Canyon 75.97 53 *e*P **P 03 00 35.5 +0.8**
comp=Z,3.4nm,0.8s
MSU Marysvale 75.99 52 *e*P **P 03 00 36.0 +1.3**
MSU Marysvale 75.99 52 *e*P **P 03 00 36.0 +1.3**
LDFC Landfair 76.19 56 *e*P **P 03 00 36.3 +0.5**
comp=Z,16nm,0.4s
LCMT Little Creek M 76.23 54 *e*P **P 03 00 37.1 +1.1**
comp=Z,6.8nm,0.9s
P17A Butcher Ranch, 76.28 50 *e*P **P 03 00 37.2 +0.9**
comp=Z,8.1nm,0.7s
KNB Kanab 76.50 54 *e*P **P 03 00 38.8 +1.2**
KNB pmax pmax
comp=Z,8.0nm,0.9s
KNB Kanab 76.50 54 *e*P **P 03 00 38.8 +1.2**
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 76.63 51 *e*P **P 03 00 39.0 +0.7**
SRU pmax pmax
comp=Z,11nm,0.8s
SRU San Rafael Swe 76.63 51 *e*P **P 03 00 39.0 +0.7**
comp=Z,11nm,0.8s
ULM Lac du Bonnet 77.05 35 P **P 03 00 39.2 -1.0**
comp=Z,3.2nm,0.8s,baz=277,slow=7.0,SNR=4.0
SORM Soroca 77.14 322 ⇑ *i*P **P 03 00 40.5 -0.3**
SORM Soroca 77.14 322 ⇑ P **P 03 00 40.5 -0.3**
RSSD Black Hills 77.17 44 *e*P **P 03 00 41.0 -0.3**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 77.17 44 *e*P **P 03 00 41.0 -0.3**
comp=Z,5.3nm,1.0s
PV09 Paradox Valley 77.86 50 *e*P **P 03 00 46.3 +0.9**
PV05 Paradox Valley 78.15 51 *e*P **P 03 00 47.8 +0.9**
N23A Red Feather La 78.22 47 *e*P **P 03 00 48.2 +0.9**
comp=Z,8.6nm,0.8s
Y14A Wickenburg 78.27 56 *e*P **P 03 00 48.1 +0.7**
comp=Z,26nm,0.9s
WUAZ Wupatki 78.34 54 *e*P **P 03 00 48.1 +0.2**
comp=Z,11nm,0.9s
PV01 Paradox Valley 78.44 50 *e*P **P 03 00 49.2 +0.7**
SMCO Snowmass 78.73 49 *e*P **P 03 00 50.9 +0.6**
comp=Z,5.2nm,0.9s
X16A Lo Mia Camp, P 78.98 55 *e*P **P 03 00 52.3 +0.8**
comp=Z,7.1nm,0.8s
BUR08 Bucovina Ar. S 79.00 323 *e*P **P 03 00 51.6 +0.4**
BURAR Bucovina Array 79.01 323 ⇑ *i*P **P 03 00 51.8 +0.5**
BURAR Bucovina Array 79.01 323 ⇑ P **P 03 00 51.8 +0.5**
TESR Tescani 79.11 322 ⇓ *i*P **P 03 00 51.6 -0.1**
ISCO Idaho Springs 79.12 48 *e*P **P 03 00 53.1 +0.8**
ISCO pmax pmax
comp=Z,22nm,1.8s
ISCO Idaho Springs 79.12 48 *e*P **P 03 00 53.1 +0.8**
comp=Z,22nm,1.8s
STHS Stebnicka Huta 79.50 326 *e*P **P 03 00 55.3 +1.5**
STHS Stebnicka Huta 79.50 326 *e*P **P 03 00 55.3 +1.5**
OJC Ojcow 79.52 328 *e*P **P 03 00 53.9 0.0**
OJC pmax pmax
comp=Z,8.0nm,1.0s
OJC Ojcow 79.52 328 *e*P **P 03 00 53.9 0.0**
comp=Z,8.2nm,1.0s
S22A 4UR Ranch, Cre 79.74 50 *e*P **P 03 00 56.8 +1.1**
comp=Z,6.4nm,1.1s
BR101 Keskin Array S 80.03 313 *e*P **P 03 00 57.0 0.0**
BRTR Keskin Array B 80.03 313 P **P 03 00 57.0 0.0**
comp=Z,1.4nm,0.9s,baz=27,slow=5.8,SNR=4.4
BRTR LR LR 03 40 06.7
comp=Z,15nm,18.6s,baz=30,slow=38
BRTR Keskin Array B 80.03 313 *i* P **P 03 01 00.4 +3.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
SDCO Great Sand Dun 80.53 49 *e*P **P 03 01 00.7 +0.7**
comp=Z,2.7nm,0.9s
DPC Dobruska-Polom 80.85 329 *e*P **P 03 01 01.8 +0.7**
DPC *ex* x 03 01 10.7
DPC *ex* x 03 01 20.1
DPC Dobruska-Polom 80.85 329 *e*P **P 03 01 01.8 +0.7**
DPC *e* 03 01 10.7
DPC *e* 03 01 20.1
ARR Arges 80.91 322 ⇓ *i*P **P 03 01 03.3 +1.7**
VYHS Vyhne 81.24 327 *e*P **P 03 01 03.7 +0.5**
VYHS Vyhne 81.24 327 *e*P **P 03 01 03.7 +0.5**
ECSD EROS Data Cent 81.34 40 *e*P **P 03 01 03.4 -0.5**
comp=Z,4.4nm,0.8s
BRG Berggiesshubel 81.36 331 *e*PKP **P 03 01 03.9 +0.1**
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 81.36 331 *e*P **P 03 01 03.9 +0.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 81.37 332 *e*P P 03 00 59.0 -4.8
CLL *i* 03 01 12.1
CLL Collm 81.37 332 *i* P **P 03 01 03.2 -0.6**
comp=Z,6.0nm,0.8s
CLL *i* sP **sP 03 01 12.1 -0.3**
comp=Z,12nm,0.9s
CLL *e* 03 01 20.0
CLL Collm 81.37 332 *e*P **P 03 01 03.6 -0.2**
comp=Z,14nm,1.0s
MHTCO State Highway 81.43 49 *e*P **P 03 01 05.7 +1.1**
comp=Z,7.2nm,0.9s
VRAC Vranov 81.55 329 P **P 03 01 04.0 -0.8**
comp=Z,3.3nm,0.8s,baz=41,slow=15,SNR=3.7
T25A Trinidad 81.59 49 *e*P **P 03 01 03.8 -1.7**
comp=Z,6.3nm,0.9s
ANMO Albuquerque 81.79 52 *e*P **P 03 01 07.5 +0.9**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 81.79 52 *e*P **P 03 01 07.5 +0.9**
comp=Z,7.9nm,1.1s
PRU Pruhonice 81.84 330 *e*P **P 03 01 06.5 +0.2**
PRU *ex* x 03 01 15.1
PRU Pruhonice 81.84 330 *e*P **P 03 01 06.5 +0.2**
PRU *e* 03 01 15.1
Y22D IRIS PASSCAL I 82.08 53 *e*P **P 03 01 07.9 -0.2**
comp=Z,24nm,0.6s
BGNE Belgrade 82.19 43 *e*P **P 03 01 08.0 -0.4**
comp=Z,19nm,0.8s
319A Douglas 82.31 56 *e*P **P 03 01 07.8 -1.5**
comp=Z,12nm,0.9s
RAYN Ar Rayn 82.64 294 *e*P **P 03 01 11.2 +0.2**
comp=Z,2.7nm,0.9s
MDVR Moldovita 82.74 323 ⇑ *i*P **P 03 01 11.1 -0.1**
PPT Papeete 82.82 119 LR LR 03 29 53.0
comp=Z,70nm,20.4s,baz=338,slow=30

PPT2	Papeete2	82.83	119	eLR	LR	03 27 25.8	
	comp=Z,145nm,22.5s						
KHC	Kasperske Hory	82.90	330	eP	P	03 01 11.9	0.0
KHC				ex	x	03 01 20.3	
KHC	Kasperske Hory	82.90	330	eP	P	03 01 11.9	0.0
KHC				e		03 01 20.3	
KHC	Kasperske Hory	82.90	330	eP	P	03 01 12.0	0.0
	comp=Z,2.4nm,0.9s						
CONA	Conrad Observa	82.94	328	i pP	P	03 01 12.9	+0.7
	comp=Z,4.4nm,0.9s						
ASF	Jabal al Asfar	83.03	306	P	P	03 01 13.9	+0.9
	comp=Z,1.6nm,0.8s,baz=248,slow=7.3,SNR=4.1						
GEC2	GERESS Array S	83.08	330	eP	P	03 01 12.8	-0.2
GEC2				pmax	pmax		
	comp=Z,12nm,1.6s						
GEC2	GERESS Array S	83.08	330	eP	P	03 01 12.8	-0.2
	comp=Z,12nm,1.6s						
GERES	GERESS Array B	83.08	330	P	P	03 01 12.8	-0.2
	comp=Z,0.9nm,0.7s,baz=18,slow=4.7,SNR=4.0						
GERES				LR	LR	03 42 00.2	
	comp=Z,72nm,18.0s,baz=296,slow=38						
MMAI	Mount Meron Ar	83.42	307	P	P	03 01 16.2	+1.2
	comp=Z,5.1nm,0.7s,baz=48,slow=7.9,SNR=16						
VTS	Vitosha	83.64	321	⇓iP	P	03 01 16.3	+0.3
VTS	Vitosha	83.64	321	⇓P	P	03 01 16.3	+0.3
SOKA	Soboth	84.27	328	i P	P	03 01 18.8	-0.2
	comp=Z,5.7nm,0.9s						
MNTX	Cornudas Mount	84.61	54	eP	P	03 01 20.9	-0.1
	comp=Z,6.3nm,1.0s						
AMTX	Amarillo	84.74	49	eP	P	03 01 20.8	-0.9
	comp=Z,26nm,1.4s						
MOTA	Moosalm	85.32	330	i PcP	P	03 01 24.3	-0.1
	comp=Z,4.0nm,0.6s						
RETA	Reutte	85.33	331	i PcP	P	03 01 24.7	+0.3
	comp=Z,6.9nm,0.7s						
BFO	Black Forest	85.55	333	i P	P	03 01 25.9	+0.5
BFO	Black Forest	85.55	333	eP	P	03 01 25.4	0.0
	comp=Z,12nm,1.1s						
FETA	Feichten	85.73	330	ePcP	P	03 01 26.5	0.0
	comp=Z,4.9nm,0.8s						
DAVA	Damuels	85.84	331	i PcP	P	03 01 27.1	+0.1
	comp=Z,4.9nm,0.8s						
FUORN	Ofenpass-Fuorn	86.24	330	eP	P	03 01 29.5	+0.4
	comp=Z,15nm,0.6s						
WMOK	Wichita Mounta	86.55	48	eP	P	03 01 30.5	-0.1
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMOK	Wichita Mounta	86.55	48	eP	P	03 01 30.5	-0.1
	comp=Z,4.7nm,1.0s						
TBI	Tubuai	86.88	123	eT	T	04 37 09.0	
	comp=Z,10nm,0.3s						
TX31	Lajitas Ar. Si	87.30	54	eP	P	03 01 34.4	0.0
LTX	Lajitas	87.30	54	eP	P	03 01 34.3	-0.1
LTX	Lajitas	87.30	54	eP	P	03 01 34.3	-0.1
TXAR	Lajitas Array	87.30	54	P	P	03 01 34.3	-0.1
	comp=Z,1.9nm,0.8s,baz=274,slow=3.6,SNR=12						
CCM	Cathedral Cave	88.27	41	eP	P	03 01 38.4	-0.4
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CCM	Cathedral Cave	88.27	41	eP	P	03 01 38.4	-0.4
	comp=Z,7.5nm,0.9s						
MIAR	Mount Ida	89.64	45	eP	P	03 01 45.3	0.0
MIAR				pmax	pmax		
	comp=Z,13nm,1.0s						
MIAR	Mount Ida	89.64	45	eP	P	03 01 45.3	0.0
	comp=Z,12nm,1.0s						
PBMO	Poplar Bluff	89.66	41	eP	P	03 01 45.1	-0.2
	comp=Z,12nm,1.1s						
ESDC	Sonseca Array	97.36	336	LR	LR	03 51 19.7	
	comp=Z,22nm,19.9s,baz=155,slow=38						
VNDA	Vanda	115.93	176	PKP	PKPdf	03 07 27.9	-0.7
	comp=Z,0.3nm,0.7s,baz=280,slow=4.5,SNR=4.9						
VNDA	Vanda	115.93	176	PKIKP	PKPdf	03 07 28.0	-0.7
TOA1	Torodi Ar. Sit	118.31	318	ePKPdf	PKPdf	03 07 33.9	-1.3
TOA1				ePP	PP	03 08 54.0	+3.8
TORD	Torodi Ar. Bea	118.31	318	PKP	PKPdf	03 07 33.9	-1.3
	comp=Z,0.3nm,0.4s,baz=13,slow=1.6,SNR=8.0						
TORD				PP	PP	03 08 54.0	+3.7
	comp=Z,0.6nm,0.8s,baz=12,slow=5.3,SNR=4.0						
MAW	Mawson	121.75	206	PKP	PKPdf	03 07 39.2	-0.8
	comp=Z,0.6nm,0.3s,baz=198,slow=3.2,SNR=4.1						
LPAZ	La Paz	143.81	62	PKP	PKPab	03 08 20.9	+0.2
	comp=Z,1.4nm,0.6s,baz=80,slow=1.3,SNR=9.2						
CPUP	Villa Florida	157.95	64	PKPab	PKPab	03 09 16.4	-1.0
	comp=Z,2.3nm,0.9s,baz=346,slow=4.2,SNR=3.3						

AZER ***11*** *02:53:46.6±0.1, 40°.94N×48°.47E, h4km, Error ellipse: s-maj=0.5km s-min=0.5km az=340.0*
IDC ***11*** *02:53:47.9±1.4, 40°.71N×48°.58E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.5/38, mbtmp3.7/7, ML1.6/2, Error ellipse: s-maj=26.6km s-min=12.3km az=164.0*
ISCJB ***11*** *02:53:50.5±0.3, 40°.89N±0°.02×48°.46E±0°.02, h2km±3km, mb3.7/3, Error ellipse: s-maj=3.3km s-min=2.3km az=137.3*
MOS ***11*** *02:53:50.0±1.4, 40°.86N×48°.54E, h12km, mb4.0/3, Error ellipse: s-maj=11.8km s-min=6.5km az=127.4*
CSEM ***11*** *02:53:50.7±0.2, 40°.89N×48°.47E, h10km, mb4.0, Error ellipse: s-maj=4.8km s-min=3.8km az=69.0*

ISC 11 02:53:50.4±1.0, 40°.87N±0°.01×48°.48E±0°.02, h4km±7km, n106, σ1§42/165, mb3.8/3, 28C-19D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	Pirkuli	0.11	133	⇑P	Pg	02 53 52.8	0.0
	SNR=1825						
PQL				⇓S	Sg	02 53 55.5	+1.1
PQL	Pirkuli	0.11	133	P	Pg	02 53 52.8	0.0
	SNR=1000						
PQL				S	Sg	02 53 55.5	+1.1
IML	Ismayilli	0.24	252	⇑P	Pg	02 53 55.3	+0.3
IML				⇑S	Sg	02 54 00.2	+2.0
IML	Ismayilli	0.24	252	P	Pg	02 53 55.3	+0.3
IML				S	Sg	02 54 00.2	+2.0
ATGJ	Altiaghaj	0.35	91	⇑P	Pg	02 53 56.9	-0.2
	SNR=192						
ATGJ				⇑S	Sb	02 54 03.2	-1.9
ATGJ	Altiaghaj	0.35	91	P	Pg	02 53 56.9	-0.2
	SNR=192						
ATGJ				S	Sb	02 54 03.2	-1.9
SIZA	Siyzn	0.38	56	⇓P	Pg	02 53 57.7	0.0
	SNR=280						
SIZA				⇓S	Sb	02 54 04.8	-1.2
SIZA				⇑S	Sb	02 54 04.8	-1.2
SIZA	Siyzn	0.38	56	P	Pg	02 53 57.7	0.0
	SNR=280						
SIZA				S	Sb	02 54 04.8	-1.2
XNQ	Khinaliq	0.40	320	⇑P	Pg	02 53 57.3	-0.9
	SNR=768						
XNQ				⇑S	Sg	02 54 03.0	-0.5
XNQ	Khinaliq	0.40	320	P	Pg	02 53 57.3	-0.9
	SNR=768						
XNQ				S	Sg	02 54 03.0	-0.5
GBS	Qobustan	0.48	133	P	Pb	02 54 01.1	-0.4
	SNR=44						
GBS				⇑S	Sb	02 54 11.0	+2.1
GBS	Qobustan	0.48	133	P	Pb	02 54 01.1	-0.4
	SNR=44						
QUBA	Quba, Azerbaij	0.49	1	⇓P	Pg	02 53 59.9	+0.1
	SNR=98						
QUBA				⇓S	Sb	02 54 08.1	-1.1
QUBA	Quba, Azerbaij	0.49	1	P	Pg	02 53 59.9	+0.1
	SNR=98						
QUBA				S	Sb	02 54 08.1	-1.1
QBL	Gabala	0.50	279	⇓P	Pg	02 53 59.4	-0.5
	SNR=35						
QBL				⇑S	Sb	02 54 08.0	-1.4
QBL	Gabala	0.50	279	P	Pg	02 53 59.4	-0.5
	SNR=35						
QBL				S	Sb	02 54 08.0	-1.4
KDMR	Kurdemir	0.54	205	P	Pb	02 54 01.8	-0.6
	SNR=27						
KDMR				⇑S	Sb	02 54 12.4	+1.9
KDMR	Kurdemir	0.54	205	P	Pb	02 54 01.8	-0.6
	SNR=27						
QSAR	Qusar	0.67	346	⇑P	Pg	02 54 03.1	-0.2
	SNR=14						
QSAR				⇑S	Sg	02 54 12.5	+0.6
QSAR	Qusar	0.67	346	P	Pg	02 54 03.1	-0.2
	SNR=14						
QSAR				S	Sg	02 54 12.5	+0.6
KSMR	Kasumkent	0.78	340	i PG	Pg	02 54 05.0	-0.4
KSMR				eS	Sg	02 54 15.0	-0.6
KSMR	Kasumkent	0.78	340	i Pg	Pg	02 54 05.0	-0.4
KSMR				eSg	Sg	02 54 15.0	-0.6
AKT	Akhty	0.83	317	ePG	Pg	02 54 05.2	-1.2
AKT				e		02 54 16.8	
AKT				pmax	pmax		
	comp=Z,84nm,0.5s						
AKT				smax	smax		
	comp=E,851nm,0.4s						
AKT				smax	smax		
	comp=E,926nm,0.4s						
AKT				smax	smax		
	comp=N,880nm,0.4s						
AKT	Akhty	0.83	317	ePg	Pg	02 54 05.2	-1.2
	comp=N,84nm,0.5s						
AKT				eSg	Sg	02 54 16.8	-0.5
	comp=N,880nm,0.4s						
ZRD	Zardab	0.84	226	P	Pb	02 54 07.3	-0.3
	SNR=112						
ZRD				⇑S	Sn	02 54 22.1	+0.2
ZRD	Zardab	0.84	226	P	Pb	02 54 07.3	-0.3
	SNR=112						
SAAT	Saatly	1.01	183	⇑P	Pg	02 54 09.6	-0.1
	SNR=6.9						
SAAT				⇑S	Sn	02 54 25.5	-0.3
SAAT	Saatly	1.01	183	P	Pg	02 54 09.6	-0.1
	SNR=6.9						
SAAT				S	Sn	02 54 25.5	-0.3
SEKA	Sheki	1.03	290	⇓P	Pg	02 54 08.5	-1.6
	SNR=11						
SEKA				⇑S	Sb	02 54 24.3	-0.4
SEKA	Sheki	1.03	290	PG	Pg	02 54 08.6	-1.6
SEKA	Sheki	1.03	290	Pg	Pg	02 54 08.6	-1.6
SEKA				S	Sb	02 54 24.3	-0.4
GOBA	Gobu	1.06	116	⇓S	Sn	02 54 28.9	+1.7
MNGR	Mingechevir, A	1.06	265	⇑P	Pg	02 54 10.1	-0.7
	SNR=9.4						
MNGR				⇑S	Sn	02 54 27.9	+0.6
MNGR	Mingechevir, A	1.06	265	PG	Pg	02 54 10.4	-0.4
MNGR	Mingechevir, A	1.06	265	P	Pg	02 54 10.1	-0.7
	SNR=9.4						
MNGR	Mingechevir, A	1.06	265	Pg	Pg	02 54 10.4	-0.4
BRDA	Brd	1.16	239	⇑P	Pg	02 54 12.5	-0.2
	SNR=28						
BRDA				⇓S	Sn	02 54 30.7	+0.9
BRDA	Brd	1.16	239	P	Pg	02 54 12.5	-0.2
	SNR=28						
DRN	Derbent	1.17	354	ePG	Pg	02 54 12.3	-0.5
DRN				e		02 54 28.7	
DRN				pmax	pmax		
	comp=Z,190nm,0.6s						
DRN				smax	smax		
	comp=E,372nm,0.7s						
DRN				smax	smax		
	comp=N,428nm,0.8s						
DRN				smax	smax		
	comp=N,430nm,0.9s						
DRN	Derbent	1.17	354	ePg	Pg	02 54 12.3	-0.5
	comp=N,190nm,0.6s						
DRN				eSg	Sb	02 54 28.7	+0.1
	comp=N,430nm,0.9s						
NDR	Nardaran	1.18	104	⇓S	Sn	02 54 30.8	+0.7
NDR	Nardaran	1.18	104	S	Sn	02 54 30.8	+0.7
URKR	Urkarakh	1.45	334	ePG	Pn	02 54 17.0	-0.5
URKR				eS	Sn	02 54 37.5	+0.5
URKR				pmax	pmax		
	comp=Z,247nm,0.4s						
URKR	Urkarakh	1.45	334	ePg	Pn	02 54 17.0	-0.5
	comp=Z,247nm,0.4s						
URKR				eSg	Sn	02 54 37.5	+0.5
ZKTA	Zakatala	1.60	299	⇓Pn	Pn	02 54 18.3	-1.2
	SNR=12						
ZKTA				⇓Sn	Sn	02 54 39.9	-0.7
ZKTA	Zakatala	1.60	299	PN	Pn	02 54 16.6	-2.9
ZKTA	Zakatala	1.60	299	Pn	Pn	02 54 16.6	-2.9
GLBA	Clilabad	1.62	182	⇑Pn	Pn	02 54 17.7	-2.1
GLBA				⇓Sn	Sg	02 54 42.4	-0.2
KMKR	Kumukh	1.64	321	ePN	Pb	02 54 21.0	-0.3
KMKR				S	Sg	02 54 44.0	+1.0
KMKR				pmax	pmax		
	comp=Z,96nm,0.6s						
KMKR	Kumukh	1.64	321	ePn	Pb	02 54 21.0	-0.3
	comp=Z,96nm,0.6s						
KMKR				Sg	Sg	02 54 44.0	+1.0
GANJ	Ganja	1.66	263	Pn	Pn	02 54 18.8	-1.5
	SNR=8.1						
GANJ				⇑Sn	Sn	02 54 41.1	-0.8
GANJ	Ganja	1.66	263	PN	Pn	02 54 18.7	-1.5
GANJ	Ganja	1.66	263	Pn	Pn	02 54 18.8	-1.5
	SNR=8.1						
GANJ				Sn	Sn	02 54 41.2	-0.8
GNBR	Gunib	1.90	324	ePN	Pg	02 54 29.1	+2.3
GNBR				e		02 54 56.7	
GNBR				pmax	pmax		
	comp=Z,80nm,0.6s						
GNBR				smax	smax		
	comp=E,136nm,0.8s						
GNBR				smax	smax		
	comp=E,153nm,0.8s						
ARKR	Arakani	2.06	328	ePN	Pb	02 54 28.0	-0.4
ARKR				i S	Sg	02 54 58.0	+1.4
ARKR	Arakani	2.06	328	ePn	Pb	02 54 28.0	-0.4
ARKR				i Sb	Sg	02 54 58.0	+1.4
GDB	GEDABAY	2.08	267	⇑Pn	Pn	02 54 24.5	-1.7
	SNR=29						
GDB				⇑Sn	Sn	02 54 51.7	-0.9
GDB	GEDABAY	2.08	267	Pn	Pn	02 54 24.5	-1.7
	SNR=29						
GDB				Sn	Sn	02 54 51.7	-0.9
XNZR	Khunzakh	2.14	322	ePN	Pg	02 54 33.0	+1.6
XNZR				e		02 55 01.5	
XNZR	Khunzakh	2.14	322	eSb	Sg	02 55 01.5	+2.4
LKRN	Lenkeran, Azer	2.17	174	⇓Pn	Pn	02 54 27.8	+0.5
	SNR=11						
LKRN				⇓Sn	Sb	02 54 57.5	+0.1
LKRN	Lenkeran, Azer	2.17	174	PN	Pn	02 54 27.7	+0.5
LKRN	Lenkeran, Azer	2.17	174	Pn	Pn	02 54 27.8	+0.5
	SNR=11						
LKRN				Sn	Sb	02 54 57.5	+0.1
MAK	Makhachkala	2.22	341	ePN	Pg	02 54 35.0	+2.1
MAK				e		02 55 03.0	
MAK				pmax	pmax		
	comp=Z,38nm,1.4s						
MAK				smax	smax		
	comp=E,137nm,0.7s						
MAK				smax	smax		
	comp=N,124nm,0.7s						
MAK	Makhachkala	2.22	341	eSb	Sg	02 55 03.0	+1.4
	comp=N,124nm,0.7s						
LRK	Lerik	2.22	183	⇓Pn	Pn	02 54 28.0	-0.2
	SNR=39						
LRK				⇑Sn	Sn	02 54 57.7	+1.5
LRK	Lerik	2.22	183	Pn	Pn	02 54 28.0	-0.2
	SNR=39						
LRK				Sn	Sn	02 54 57.7	+1.5
KRNR	Karanay	2.29	330	ePN	Pb	02 54 31.0	-1.3
KRNR	Karanay	2.29	330	ePn	Pb	02 54 31.0	-1.3
ASTR	Astara	2.32	174	⇑Pn	Pn	02 54 28.3	-1.0
	SNR=11						
ASTR				⇑Sn	Sb	02 55 00.4	-1.3
ASTR	Astara	2.32	174	Pn	Pn	02 54 28.3	-1.0
	SNR=11						
ASTR				Sn	Sb	02 55 00.4	-1.3
QZX	Qazax, Azerbai	2.36	276	⇓Pn	Pn	02 54 29.1	-0.9
	SNR=28						
QZX				⇓Sn	Sn	02 55 00.3	+0.8
QZX	Qazax, Azerbai	2.36	276	Pn	Pn	02 54 29.1	-0.9
	SNR=28						
QZX				Sn	Sn	02 55 00.3	+0.8
DGRG	David-gareji	2.42	285	P	Pg	02 54 36.0	-0.8
DGRG				S	Sb	02 55 05.7	+1.0
DGRG	David-gareji	2.42	285	PN	Pg	02 54 36.0	-0.8
DGRG				S	Sb	02 55 05.7	+1.0
DGRG	David-gareji	2.42	285	Pn	Pg	02 54 36.0	-0.8
DGRG				Sn	Sb	02 55 05.7	+1.0
NAX	Nakhchivan	2.85	235	⇓Sn	Sn	02 55 13.8	+2.3
NAX	Nakhchivan	2.85	235	Sn	Sn	02 55 13.8	+2.3
GNI	Garni	2.94	257	Pn	Pn	02 54 39.0	+0.9
	comp=N,1.7nm,0.3s,baz=27,slow=4.3,SNR=7.3						
GNI				Lg	Lg	02 55 24.4	
	comp=N,2.4nm,0.3s,baz=101,slow=16,SNR=4.8						
GNI	Garni	2.94	257	⇑ePN	Pb	02 54 41.2	-2.3
GNI	Garni	2.94	257	ePn	Pb	02 54 41.2	-2.3
TBLG	Delisi	2.95	288	P	Pn	02 54 39.5	+1.4
TBLG				S	Sb	02 55 18.5	-1.5
TBLG	Delisi	2.95	288	PN	Pn	02 54 39.5	+1.4
TBLG				S	Sb	02 55 18.5	-1.5
TBLG	Delisi	2.95	288	P	Pn	02 54 39.5	+1.4
TBLG				S	Sb	02 55 18.5	-1.5
GROC	Groznyy	3.07	320	ePN	Pg	02 54 52.3	+3.0
GROC				e		02 55 32.5	
GROC				pmax	pmax		
	comp=Z,23nm,0.7s						
GROC				smax	smax		
	comp=N,31nm,0.8s						
GROC				smax	smax		
	comp=N,56nm,1.3s						
GROC	Groznyy	3.07	320	eSg	Sg	02 55 32.5	+3.4
	comp=N,56nm,1.3s						
GUDG	Gudauri	3.40	299	P	Pn	02 54 47.5	+3.1
BGD	Bogdanovka	3.71	278	P	Pb	02 54 53.6	-3.1
BGD				S	Sb	02 55 41.3	-0.8
AKH	Akhalkalaki	3.81	280	P	Pn	02 54 51.3	+1.3
AKH	Akhalkalaki	3.81	280	PN	Pn	02 54 51.3	+1.3
AKH	Akhalkalaki	3.81	280	Pn	Pn	02 54 51.3	+1.3
ZEI	Tsey	3.92	301	ePN	Pb	02 54 58.8	-1.5
ZEI				pmax	pmax		
	comp=Z,20nm,0.6s						
ONI	Oni	4.14	296	P	Pn	02 54 55.6	+1.2
ONI				S	Sn	02 55 46.7	+3.4
ONI	Oni	4.14	296	PN	Pn	02 54 55.6	+1.2
ONI				S	Sn	02 55 46.7	+3.4
ONI	Oni	4.14	296	Pn	Pn	02 54 55.6	+1.2
ONI				Sn	Sn	02 55 46.7	+3.4
KBZ	Khabaz	5.03	306	Pn	Pn	02 55 10.4	+3.8
	comp=Z,0.1nm,0.3s,baz=129,slow=6.5,SNR=2.1						
GEYT	Alibeck	8.02	108	Pn	Pn	02 55 45.4	-2.3
	comp=Z,1.8nm,0.3s,baz=294,slow=16,SNR=9.6						
AKTO	Aktyubinsk	11.65	32	Pn	Pn	02 56 35.1	-2.3
	comp=Z,0.2nm,0.3s,baz=198,slow=13,SNR=3.4						
KK31	Karatay Array	16.53	75	P	Pn	02 57 41.8	-1.2
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	16.60	313	i P	P	02 57 51.2	+4.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	24.70	334	P	P	02 59 10.8	-1.4
	comp=Z,4.8nm,0.9s,baz=166,slow=7.0,SNR=5.8						
MKAR	Makanchi Array	24.97	65	P	P	02 59 13.7	-1.2
	comp=Z,1.0nm,0.6s,baz=278,slow=11,SNR=4.1						
MKAR	Makanchi Array	24.97	65	i P	P	02 59 23.2	+8.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	30.33	324	P	P	03 00 03.5	+0.7
	comp=Z,1.9nm,0.9s,baz=113,slow=7.6,SNR=3.4						
NOA	NORSAR Array B	30.33	324	P	P	03 00 03.5	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	30.33	324	P	P	03 00 03.5	+0.7
	comp=Z,1.0nm,0.9s						

MDD ***11*** *03:02:12.7±8.4, 37°.83N×19°.58W, h15km±113km, mb4.8/1, Error ellipse: s-maj=82.7km s-min=25.3km az=98.0, PRXIMO*
CSEM ***11*** *03:02:15.0±0.7, 37°.74N×18°.94W, h10km, ML2.8, Error ellipse: s-maj=15.6km s-min=4.6km az=133.0*
INMG ***11*** *03:02:21.6±2.1, 37°.54N×19°.34W, h5km, ML2.8, Error ellipse: s-maj=20.5km s-min=4.6km az=118.0*

ISC 11 03:01:57.2±2.9, 37°.78N±0°.08×19°.9W±0°.2, h10km, n69, σ1§38/75, 2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	Porto Moniz, M	5.41	155	eP	Pb	03 03 32.1	+0.1
PMOZ				eS	Sn	03 04 23.9	+3.4
PMOZ				A	A	03 04 31.1	
	23nm,0.6s						
PMOZ	Porto Moniz, M	5.41	155	P	Pb	03 03 32.0	+0.1
	14nm,0.3s,SNR=7.9						
PMOZ				S	Sn	03 04 23.9	+3.4
	7.1nm,0.2s						
PMOZ	Porto Moniz, M	5.41	155	P	Pb	03 03 32.0	+0.1
	14nm,0.3s,SNR=7.9						
PMPS	Porto Santo	5.53	147	eP	Pb	03 03 32.1	-1.8
PMPS				eS	Sn	03 04 25.2	+1.9
PMPS				A	A	03 04 27.7	
	7.0nm,0.5s						
PMPS	Porto Santo	5.53	147	P	Pb	03 03 32.1	-1.8
PMPS				S	Sn	03 04 25.2	+1.9
	3.5nm,0.5s						
PMPS	Porto Santo	5.53	147	eP	Pb	03 03 32.1	-1.8
PMAR	Madeira	5.60	153	⇓eP	Pb	03 03 33.9	-1.3
PMAR				eS	Sn	03 04 28.0	+2.8
PMAR				A	A	03 04 36.2	
	17nm,0.3s						
PMAR	Madeira	5.60	153	P	Pb	03 03 33.9	-1.3
PMAR				S	Sn	03 04 28.0	+2.8
	8.5nm,0.3s						
PMAR	Madeira	5.60	153	⇓eP	Pb	03 03 33.9	-1.3
FUL	Funchal	5.67	154	eP	Pb	03 03 34.3	-2.0
FUL	Funchal	5.67	154	P	Pb	03 03 34.3	-2.0
PMAFR	Mafra	8.41	79	eS	Sn	03 05 36.6	+2.6
PMAFR	Mafra	8.41	79	S	Sn	03 05 36.4	+2.4
	2.0nm,0.1s,SNR=6.4						
PMAFR	Mafra	8.41	79	S	Sn	03 05 36.4	+2.4
	2.0nm,0.1s,SNR=6.4						
PTEO	Sao Teotonio	8.85	88	eS	Sn	03 05 44.3	-0.6
PTEO	Sao Teotonio	8.85	88	S	Sn	03 05 44.3	-0.6
PTEO	Sao Teotonio	8.85	88	eS	Sn	03 05 44.3	-0.6
PNCL	Nicolau / Gran	8.97	84	eS	Sn	03 05 47.6	-0.3
PNCL	Nicolau / Gran	8.97	84	eS	Sn	03 05 47.6	-0.3
PTOM	Tomar	9.15	75	eS	Sn	03 05 54.1	+1.8
PTOM	Tomar	9.15	75	S	Sn	03 05 54.1	+1.8
PTOM	Tomar	9.15	75	eS	Sn	03 05 54.1	+1.8
PCAS	Casmilo, Conde	9.15	72	eS	Sn	03 05 54.4	+2.0
PCAS	Casmilo, Conde	9.15	72	eS	Sn	03 05 54.4	+2.0
EVO	Evora	9.38	82	eS	Sn	03 05 58.5	+0.6
EVO	Evora	9.38	82	S	Sn	03 05 58.5	+0.6
EVO	Evora	9.38	82	eS	Sn	03 05 58.5	+0.6
PCVE	Castro Verde	9.38	87	eS	Sn	03 05 58.0	-0.1
PCVE	Castro Verde	9.38	87	S	Sn	03 05 58.0	-0.1
PCVE	Castro Verde	9.38	87	eS	Sn	03 05 58.0	-0.1
PVAQ	Vaqueiros	9.66	89	eS	Sn	03 06 04.6	-0.2
PVAQ	Vaqueiros	9.66	89	S	Sn	03 06 04.6	-0.2
PVAQ	Vaqueiros	9.66	89	eS	Sn	03 06 04.6	-0.2
PESTR	Estremoz	9.72	80	eS	Sn	03 06 07.0	+0.7
PESTR	Estremoz	9.72	80	eS	Sn	03 06 07.0	+0.7
PVIS	Viseu	9.75	69	eS	Sn	03 06 08.7	+1.7
PVIS	Viseu	9.75	69	S	Sn	03 06 08.7	+1.7
PVIS	Viseu	9.75	69	eS

0.4nm,0.1s,SNR=7.9
MVO Moncorvo 10.49 67 S **Sn 03 06 24.9 -0.4**
0.4nm,0.1s,SNR=7.9
ECAL Calabor 10.92 64 S **Sn 03 06 36.2 +0.3**
0.7nm,0.2s,SNR=7.9
ECAL Calabor 10.92 64 S **Sn 03 06 36.2 +0.3**
0.7nm,0.2s,SNR=7.9
EPON Pontenova 11.15 56 S **Sn 03 06 39.3 -2.1**
0.4nm,0.2s,SNR=7.9
ECAB El Cabril 11.43 84 S **Sn 03 06 46.5 -1.7**
0.1nm,0.1s,SNR=7.9
ECAB El Cabril 11.43 84 S **Sn 03 06 46.5 -1.7**
0.1nm,0.1s,SNR=7.9
EADA Adamuz 12.09 83 S **Sn 03 07 04.4 +0.1**
0.1nm,0.2s,SNR=7.9
EADA Adamuz 12.09 83 S **Sn 03 07 04.4 +0.1**
0.1nm,0.2s,SNR=7.9

IDC ***11*** *03:21:36.0±3.3, 1°.83N×97°.74E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/44, mbtmp3.7/4, ML4.3/1, MS3.6/3, Ms1 3.7/3, ms1mx3.1/43, Error ellipse: s-maj=139.0km s-min=24.8km az=59.0*
DJA ***11*** *03:21:43.1±0.4, 2°.N±3°×9°.9E±°, h10km, M4.2/2, MLv4.2/2*
ISCJB ***11*** *03:21:44.1±0.7, 2°.46N±0°.05×98°.79E±0°.07, h40km, mb3.5/3, MS3.6/2, Error ellipse: s-maj=10.9km s-min=6.3km az=153.5*
ISC 11 03:21:45.6±1.0, 2°.53N±0°.06×98°.69E±0°.09, h40km, n15, σ1§88/15, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**0.98**	**353**	P	**Pn**	**03 22 02.5**	**-0.4**
TSI				S	**Sn**	**03 22 16.9**	**+1.4**
KCSI	**Kotacane, Aceh**	**1.35**	**317**	P	**Pn**	**03 22 05.5**	**-2.5**
KCSI				S	**Sn**	**03 22 28.0**	**+3.3**
TPTI		**1.67**	**296**	P	**Pn**	**03 22 11.8**	**-0.6**
TPTI				S	**Sn**	**03 22 34.9**	**+2.3**
PBSI	**Pulau Batu**	**2.59**	**189**	P	**Pn**	**03 22 26.1**	**+1.0**
MLSI	**Meulaboh, Aceh**	**2.86**	**307**	P	**Pn**	**03 22 26.4**	**-2.4**
MLSI				S	Sn	03 23 15.8	+14
BKNI	**Bangkinang**	**3.21**	**133**	P	Pn	03 22 43.0	+9.4
SISI	**Saibi**	**3.85**	**174**	P	**Pn**	**03 22 41.4**	**-0.9**
TRTT	**Trang**	**5.37**	**11**	P	**Pn**	**03 23 03.9**	**+0.6**
SURT	**Suratani**	**6.39**	**1**	P	**Pn**	**03 23 19.7**	**+2.4**
CMAR	**Chiang Mai Arr**	**15.84**	**1**	Pn	**P**	**03 25 29.6**	**+0.5**
	0.4nm,0.3s,baz=197,slow=13,SNR=7.2						
CMAR				LR	LR	03 31 36.5	
	comp=Z,202nm,21.1s,baz=188,slow=36						
WRA	**Warramunga Arr**	**41.51**	**124**	P	**P**	**03 29 28.7**	**-0.6**
	1.1nm,0.6s,baz=302,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**43.04**	**129**	P	**P**	**03 29 40.0**	**-1.8**
	0.8nm,0.9s,baz=296,slow=7.3,SNR=7.4						
KSRS	**Korea Array**	**43.92**	**34**	LR	LR	03 50 52.8	
	comp=Z,93nm,18.2s,baz=160,slow=39						
MKAR	**Makanchi Array**	**46.35**	**344**	P	**P**	**03 30 07.2**	**-0.5**
	0.2nm,0.4s,baz=162,slow=11,SNR=3.5						
MJAR	**Matsushiro Arr**	**49.72**	**42**	LR	LR	03 53 01.8	
	comp=Z,56nm,19.8s,baz=255,slow=37						

NIED ***11*** *03:26:00, 36°.70N×143°.40E, h8km, Mw4.6 Best double couple: M0=9.98000×10^15 NP1:φs=187.00000°, δ39.00000°, λ-127.00000°. NP2:φs=51.00000°, δ60.00000°, λ-64.00000°.*
IDC ***11*** *03:26:07.2±0.4, 36°.57N×143°.60E, h0km, mb5.0/28, mb1 5.0/35, mb1mx5.0/45, mbtmp4.9/35, ML4.6/5, MS4.0/27, Ms1 4.0/27, ms1mx3.8/44, Error ellipse: s-maj=13.6km s-min=10.9km az=95.0*
ISCJB ***11*** *03:26:08.8±0.8, 36°.62N±0°.03×143°.45E±0°.02, h15km±4km, mb5.0/250, MS4.1/38, Error ellipse: s-maj=4.5km s-min=2.1km az=175.4*
JMA ***11*** *03:26:11.6±0.2, 36°.68N×143°.36E, h57km, M4.8*
JMA Felt I J1.
GCMT ***11*** *03:26:11.5±0.5, 36°.76N×143°.54E, h19km±1km, MW4.8/65, Moment Tensor Solution. s21,c25; s65,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.81±.16; Mθθ0.21±.10; Mφφ1.60±.10; Mrθ-0.57±.23; Mθφ0.86±.06; Mφr0.10±.18; Best double couple: M0=2.00500×10^16 NP1:φs=42.00000°, δ50.00000°, λ-67.00000°. NP2: φs=189.00000°, δ45.00000°, λ-115.00000°. Principal axes: T 2.0210, Plg2.0000°, Azm116.0000°; N -0.0290, Plg17.0000°, Azm207.0000°; P -1.9890, Plg73.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***11*** *03:26:11.9, 36°.87N×143°.38E, h33km, mb4.9/71, mB5.0/46, Ms4.4/59, Ms7 4.2/51*
NEIC ***11*** *03:26:11.5±1.1, 36°.55N×143°.47E, h26km±7km, mb5.1/179, Error ellipse: s-maj=3.4km s-min=2.3km az=153.0*
NEIC Felt at Ichinoseki and Yachimata. Recorded [1 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi.
MOS ***11*** *03:26:13.1±0.9, 36°.95N×143°.41E, h37km, mb5.2/87, MS4.0/17, Error ellipse: s-maj=6.7km s-min=4.5km az=107.3*
ISC 11 03:26:11.9±0.6, 36°.61N±0°.04×143°.54E±0°.04, h30km±3km, n879, σ1§19/919, mb5.0/264, MS4.1/40, 19C-34D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.25**	**283**	P	**Pn**	**03 26 45.0**	**-2.2**
ONAJ				S	**Sn**	**03 27 10.5**	**-3.5**
JFK	**Kawauchi**	**2.26**	**290**	P	**Pn**	**03 26 45.2**	**-2.1**
JFK				S	**Sn**	**03 27 09.9**	**-4.3**
CHOJ	**Chosi**	**2.35**	**248**	P	**Pn**	**03 26 47.2**	**-1.3**
JHO	**Hitachi**	**2.39**	**271**	P	**Pn**	**03 26 47.1**	**-1.9**
JHO				S	**Sn**	**03 27 12.6**	**-4.7**
JFT	**Otama**	**2.71**	**290**	P	**Pn**	**03 26 52.4**	**-1.1**
JFT				S	**Sn**	**03 27 22.6**	**-2.8**
JMK	**Ichinoseki**	**2.97**	**323**	P	**Pn**	**03 26 55.0**	**-2.0**
JMK				S	**Sn**	**03 27 27.7**	**-4.0**
JAG	**Ashikaga**	**3.29**	**268**	P	**Pn**	**03 27 00.0**	**-1.5**
JOM	**Ohasama**	**3.36**	**329**	P	**Pn**	**03 27 00.3**	**-2.1**
JOM				S	**Sn**	**03 27 36.9**	**-4.4**
JYK	**Kaneyama**	**3.41**	**313**	P	**Pn**	**03 27 01.7**	**-1.4**
JYK				S	**Sn**	**03 27 40.0**	**-2.6**
JNS	**Sasagawa**	**3.58**	**291**	P	**Pn**	**03 27 04.7**	**-0.7**
JRY	**Ryogami san**	**3.79**	**262**	P	**Pn**	**03 27 06.8**	**-1.5**
JOD2	**Odawara 2**	**3.85**	**251**	P	**Pn**	**03 27 07.8**	**-1.4**
JOD2				S	**Sn**	**03 27 49.8**	**-3.6**
JAW	**Awa shima**	**3.88**	**300**	P	**Pn**	**03 27 08.4**	**-1.0**
MJAR	**Matsushiro Arr**	**4.29**	**271**	Pn	**Pn**	**03 27 14.7**	**-0.5**
	143nm,0.3s,baz=89,slow=15,SNR=798						
MJAR				Sn	**Sn**	**03 28 03.0**	**-1.2**
	59nm,0.3s,baz=89,slow=27,SNR=5.5						
MJAR				LR	LR	03 29 05.0	
	comp=Z,1μm,20.1s,baz=85,slow=41						
MAJO	**Matsushiro**	**4.29**	**271**	*c iP*	**Pn**	**03 27 14.9**	**-0.3**
MAJO	**Matsushiro**	**4.29**	**271**	*e*Pn	**Pn**	**03 27 14.9**	**-0.3**
MAJO				*e*Sn	**Sn**	**03 28 01.0**	**-3.2**
MAT	**Matsushiro**	**4.29**	**271**	P	**Pn**	**03 27 14.8**	**-0.4**
MAT				S	**Sn**	**03 28 01.6**	**-2.6**
MJB9	**Matsu-Tunnel**	**4.29**	**271**	*e*Pn	**Pn**	**03 27 15.1**	**-0.1**
MJB9				*e*Sn	**Sn**	**03 28 02.6**	**-1.7**
JHJ2	**Mitsune**	**4.64**	**222**	*e*Pn	**Pn**	**03 27 18.1**	**-1.8**
JHJ2				*e*Sn	**Sn**	**03 28 08.0**	**-4.8**
JHJ	**Hachijo jima 2**	**4.65**	**223**	Pn	**Pn**	**03 27 18.4**	**-1.7**
	123nm,0.3s,baz=138,slow=18,SNR=30						
JHJ				Sn	**Sn**	**03 28 07.6**	**-5.5**
	504nm,0.3s,baz=94,slow=22,SNR=8.1						
JOT	**Ohata**	**5.14**	**339**	P	**Pn**	**03 27 25.3**	**-1.6**
INU	**Inuyama**	**5.43**	**259**	*e*Pn	**Pn**	**03 27 30.4**	**-0.4**
INU				*e*Sn	**Sn**	**03 28 28.2**	**-4.2**
ASAJ	**Asahikawa**	**7.53**	**355**	Pn	**Pn**	**03 27 57.4**	**-2.3**
	14nm,0.3s,baz=211,slow=15,SNR=43						
ASAJ				Sn	**Sn**	**03 29 15.7**	**-8.3**
	15nm,0.3s,baz=118,slow=27,SNR=6.6						
YUK	**Yuzh-Kuril'sk**	**7.63**	**13**	*d iP*	**Pn**	**03 27 57.5**	**-3.4**
YUK				*i* S	Sn	03 29 17.3	-9.0
YUK				pmax	pmax		
	comp=Z,254nm,0.3s						
YUK				pmax	pmax		
	comp=E,23nm,0.2s						
YUK				pmax	pmax		
	comp=N,64nm,0.4s						
KUR	**Kuril'sk**	**9.22**	**19**	P	**Pn**	**03 28 19.5**	**-3.2**
KUR				*e*S	Sn	03 29 54.3	-11
KUR				smax	smax		
	comp=N,188nm,0.6s						
KUR				smax	smax		
	comp=E,84nm,0.7s						
KUR				MLR	MLR		
	comp=Z,2μm,11.0s						
CBIJ	**Chichi jima**	**9.55**	**187**	*e*Pn	**Pn**	**03 28 23.3**	**-4.2**
CBIJ				*e*Sn	Sn	03 29 57.4	-16
YSS	**Yuzh-Sakhalins**	**10.35**	**357**	*e iP*	**Pn**	**03 28 36.9**	**-1.4**
YSS				*e*S	**Sn**	**03 30 26.5**	**-6.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,800nm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.35**	**357**	*e*Pn	**Pn**	**03 28 37.9**	**-0.4**
JNU	**Nakatsue**	**10.96**	**255**	Pn	**Pn**	**03 28 47.0**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=61,slow=6.3,SNR=27						
JNU	**Nakatsue**	**10.96**	**255**	*e*Pn	**Pn**	**03 28 46.8**	**0.0**
MSHR	**Mys Shultsa**	**11.25**	**306**	*i* P	**Pn**	**03 28 49.1**	**-1.6**
USRK	**Ussuriysk Ar.**	**11.61**	**314**	Pn	**Pn**	**03 28 54.9**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=122,slow=15,SNR=21						
USRK				LR	LR	03 33 09.7	
	comp=Z,1μm,18.1s,baz=129,slow=36						
KSRS	**Korea Array**	**12.51**	**279**	Pn	**Pn**	**03 29 08.7**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=91,slow=14,SNR=38						
KSRS				LR	LR	03 34 08.7	
	comp=Z,455nm,18.1s,baz=78,slow=38						
KSRS				PcP	**PcP**	**03 34 46.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=20,slow=0.1,SNR=5.9						
KS01	**Wonju Array Si**	**12.53**	**279**	*e*Pn	**Pn**	**03 29 08.0**	**-0.1**
KS15	**Wonju Array Si**	**12.54**	**278**	*e*Pn	**Pn**	**03 29 08.6**	**+0.4**
KS15				*e*		03 34 46.8	
KSAR	**Wonju Array Be**	**12.54**	**278**	P	**Pn**	**03 29 08.7**	**+0.4**
KSAR	**Wonju Array Be**	**12.54**	**278**	Pn	**Pn**	**03 29 08.7**	**+0.4**
MDJ	**Mudanjiang**	**13.26**	**311**	P	**Pn**	**03 29 17.7**	**-0.4**
MDJ				S	**Sn**	**03 31 45.0**	**+0.6**
MDJ				PcP	**PcP**	**03 34 48.0**	**+1.1**
MDJ				ScP	**ScP**	**03 38 17.7**	**-0.3**
MDJ				PcS	**PcS**	**03 38 21.8**	**+0.5**
MDJ				ScS	**ScS**	**03 41 54.9**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,22nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,78nm,4.2s						
MDJ				LR	LR		
	comp=Z,440nm,16.1s						
MDJ				LR	LR		
	comp=Z,500nm,16.1s						
MDJ				LR	LR		
	comp=Z,930nm,16.1s						
MDJ	**Mudanjiang**	**13.26**	**311**	*e*Pn	**Pn**	**03 29 21.8**	**+3.7**
HABR	**Khabarovsk**	**13.39**	**335**	*e*P	**Pn**	**03 29 17.3**	**-2.5**
HABR				*e*S	**Sn**	**03 31 45.0**	**-2.6**
HABR				pmax	pmax		
	comp=E,60nm,1.1s						
HABR				pmax	pmax		
	comp=N,13nm,0.6s						
HABR				pmax	pmax		
	comp=Z,88nm,1.1s						
HABR				MLR	MLR		
	comp=Z,238nm,11.0s						
CN2	**Changchun**	**15.56**	**303**	*e*P	**Pn**	**03 29 49.4**	**+0.3**
CN2				*e*sP	pP	03 30 01.6	+0.6
CN2				*e*S	**Sn**	**03 32 39.3**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
SKR	**Severo-Kuril's**	**16.72**	**29**	*e*P	**Pn**	**03 30 03.9**	**+0.1**
DL2	**Dalian**	**17.47**	**284**	P	**Pn**	**03 30 12.0**	**-1.3**
DL2				*e*S	**Sn**	**03 33 24.9**	**-2.0**
DL2				pmax	pmax		
	comp=Z,53nm,1.0s						
DL2				pmax	pmax		
	comp=Z,170nm,7.3s						
DL2				LR	LR		
	comp=Z,500nm,13.3s						
DL2				LR	LR		
	comp=Z,600nm,19.6s						
PEA0	**Petropavlovsk-**	**19.25**	**27**	*e*P	**Pn**	**03 30 34.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**19.25**	**27**	*e*P	**P**	**03 30 34.0**	**+0.3**
	comp=Z,54nm,1.0s						
PETK	**Petropavlovsk-**	**19.25**	**27**	P	**Pn**	**03 30 34.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=190,slow=7.4,SNR=7.9						
PETK				LR	LR	03 38 47.0	
	comp=Z,184nm,20.4s,baz=230,slow=39						
PETK	**Petropavlovsk-**	**19.25**	**27**	*e*P	**Pn**	**03 30 34.4**	**-0.5**
PETK	**Petropavlovsk-**	**19.25**	**27**	*e*P	**Pn**	**03 30 34.4**	**-0.5**
PEA1	**Petropavlovsk-**	**19.25**	**27**	*e*P	**Pn**	**03 30 34.5**	**-0.4**
NJ2	**Nanjing**	**20.86**	**265**	*e*P	**P**	**03 30 52.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIA	**Tai'an**	**21.24**	**277**	*e*P	**P**	**03 30 55.2**	**-0.3**
TIA				S	**S**	**03 34 53.1**	**+3.0**
TIA				pmax	pmax		
	comp=Z,20nm,1.2s						
TIA				LR	LR		
	comp=Z,280nm,16.0s						
TIA				LR	LR		
	comp=Z,450nm,14.0s						
TIA				LR	LR		
	comp=Z,540nm,15.0s						
YOJ	**Yonaguni jima**	**21.38**	**241**	*e*P	**P**	**03 30 56.5**	**-0.5**
YOJ				pmax	pmax		
	comp=Z,11nm,0.6s						
YOJ	**Yonaguni jima**	**21.38**	**241**	*e*P	**P**	**03 30 56.5**	**-0.5**
	comp=Z,11nm,0.6s						
HIA	**Hailar**	**21.42**	**314**	*e*P	**P**	**03 31 00.1**	**+2.7**
HIA				pmax	pmax		
	comp=Z,31nm,1.0s						
HIA	**Hailar**	**21.42**	**314**	*e*P	**P**	**03 31 00.1**	**+2.7**
	comp=Z,31nm,1.0s						
BJI	**Beijing**	**21.70**	**287**	P	**P**	**03 30 59.8**	**-0.6**
BJI				S	**S**	**03 34 56.2**	**-2.8**
BJI				pmax	pmax		
	comp=Z,25nm,0.9s						
BJI				LR	LR		
	comp=Z,400nm,14.0s						
BJI				LR	LR		
	comp=Z,190nm,11.2s						
BJT	**Baijiatuau**	**21.71**	**287**	*e*P	**P**	**03 31 00.1**	**-0.4**
BJT				pmax	pmax		
	comp=Z,33nm,0.8s						
BJT	**Baijiatuau**	**21.71**	**287**	*e*P	**P**	**03 31 00.1**	**-0.4**
	comp=Z,33nm,0.8s						
GUMO	**Guam**	**22.95**	**177**	LR	LR	03 38 37.7	
	comp=Z,277nm,22.0s,baz=20,slow=33						
YULB	**Yu-li**	**23.26**	**242**	*e*P	**P**	**03 31 16.5**	**-0.5**
MA2	**Magadan**	**23.45**	**9**	P	**P**	**03 31 18.7**	**+0.2**
	comp=Z,30nm,0.6s,baz=204,slow=9.7,SNR=8.4						
MA2				LR	LR	03 41 51.4	
	comp=Z,159nm,18.6s,baz=202,slow=40						
MA2	**Magadan**	**23.45**	**9**	*i* P	**P**	**03 31 17.2**	**-1.4**
CLNS	**Chul'man**	**23.78**	**334**	*e*P	**P**	**03 31 21.1**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,35nm,1.4s						
CLNS				pmax	pmax		
	comp=E,12nm,1.2s						
CLNS				pmax	pmax		
	comp=N,27nm,1.0s						
TPUB	**Ta-pu**	**23.80**	**242**	*e*P	**P**	**03 31 19.8**	**-2.4**
	comp=N,95nm,1.2s						
TIY	**Taiyuan**	**24.76**	**282**	*e*P	**P**	**03 31 32.5**	**+1.5**
TIY				PP	**PnPn**	**03 32 09.9**	**+6.3**
TIY				S	**S**	**03 35 45.4**	**-6.0**
TIY				pmax	pmax		
	comp=N,23nm,0.6s						
TIY				pmax	pmax		
	comp=N,220nm,4.1s						
TIY				LR	LR		
	comp=N,260nm,10.8s						
TIY				LR	LR		
	comp=N,220nm,8.7s						
TIY				LR	LR		
	comp=N,450nm,21.1s						
WHN	**Wuhan**	**25.00**	**265**	*i* P	**P**	**03 31 38.2**	**+5.1**
WHN				S	**S**	**03 35 56.3**	**+1.1**
WHN				pmax	pmax		
	comp=N,68nm,1.0s						
WHN				LR	LR		
	comp=N,1μm,11.4s						
WHN				LR	LR		
	comp=N,630nm,10.0s						
WHN				LR	LR		
	comp=N,1μm,12.5s						
HHC	**Hu-ho-hao-te**	**25.22**	**289**	*e*P	**P**	**03 31 35.7**	**+0.5**
HHC				sP	sP	03 31 48.2	+0.8
HHC				PP	**PnPn**	**03 32 14.2**	**+4.3**
HHC				S	**S**	**03 35 56.7**	**-2.1**
HHC				SS	**SnSn**	**03 36 53.2**	**+2.8**
HHC				pmax	pmax		
	comp=N,27nm,0.9s						
HHC				pmax	pmax		
	comp=N,170nm,4.8s						
HHC				LR	LR		
	comp=N,200nm,11.1s						
HHC				LR	LR		
	comp=N,270nm,12.6s						
HHC				LR	LR		
	comp=N,330nm,13.6s						
CIT	**Chita**	**26.17**	**316**	*e*P	**P**	**03 31 44.8**	**+1.2**
CIT				*e*		03 31 57.9	
H11N2	**WAKE ISLAND Hy**	**26.48**	**123**	T	T	03 59 14.3	
	baz=313,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**26.49**	**123**	T	T	03 59 28.2	
	baz=313,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**26.50**	**123**	T	T	03 59 23.9	
	baz=313,slow=75,SNR=60						
YAK	**Yakutsk**	**26.88**	**346**	P	**P**	**03 31 48.9**	**-0.9**
	comp=N,4.1nm,0.4s,baz=190,slow=22,SNR=6.0						
YAK	**Yakutsk**	**26.88**	**346**	*e*P	**P**	**03 31 49.4**	**-0.4**
YAK				*e*		03 32 30.4	
YAK				*e*PPP	PPP	03 32 39.6	
YAK				*e*		03 35 09.0	
YAK				*e*S	**S**	**03 36 27.7**	**+3.4**
YAK				*e*SS	**SnSn**	**03 37 36.0**	**+5.7**
YAK				*e*		03 42 44.3	
YAK				pmax	pmax		
	comp=Z,86nm,0.9s						
YAK				pmax	pmax		
	comp=N,37nm,1.4s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,31nm,1.3s						
YAK				smax	smax		
	comp=N,26nm,2.2s						
YAK				MLR	MLR		
	comp=Z,386nm,15.0s						
YAK				MLR	MLR		
	comp=N,715nm,21.0s						
YAK	**Yakutsk**	**26.88**	**346**	*e*P	**P**	**03 31 48.9**	**-0.9**
	comp=N,95nm,0.8s						
SEY	**Seymchan**	**26.91**	**9**	P	**P**	**03 31 51.3**	**+1.2**
	comp=N,33nm,0.7s,baz=192,slow=8.6,SNR=46						
SEY	**Seymchan**	**26.91**	**9**	*i* P	**P**	**03 31 50.7**	**+0.6**
H11S1	**WAKE ISLAND Hy**	**27.21**	**125**	T	T	04 00 15.2	
	baz=316,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**27.21**	**125**	T	T	04 00 25.5	
	baz=316,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**27.23**	**125**	T	T	04 00 12.5	
	baz=316,slow=76,SNR=34						
XAN	**Xi'an**	**28.27**	**275**	P	**P**	**03 32 05.5**	**+2.9**
XAN				pP	sP	03 32 16.8	+1.9
XAN				pmax	pmax		
	comp=N,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**29.00**	**304**	*e*P	**P**	**03 32 07.7**	**-1.5**
ULN	**Ulaanbaatar**	**29.00**	**304**	*e*P	**P**	**03 32 07.7**	**-1.5**
ULN				*e*pP	**P**	**03 32 07.9**	**-1.2**
SONA1	**Songino Array**	**29.43**	**304**	*e*P	**P**	**03 32 13.5**	**+0.6**
SONA0	**Songino Array**	**29.43**	**304**	*e*P	**P**	**03 32 14.1**	**+1.2**
	comp=N,56nm,1.0s						
SONA0				*e*PcP	**PcP**	**03 35 18.4**	**+0.3**
SONM	**Songino Array**	**29.43**	**304**	P	**P**	**03 32 14.1**	**+1.2**
	comp=N,35nm,1.0s,baz=107,slow=8.6,SNR=30						
SONM				PcP	**PcP**	**03 35 18.4**	**+0.3**
	comp=N,1.9nm,0.5s,baz=119,slow=3.6,SNR=6.1						
SONM				LR	LR	03 44 32.6	
	comp=N,279nm,18.2s,baz=174,slow=38						
IRK	**Irkutsk**	**31.65**	**312**	*e*P	**P**	**03 32 36.2**	**+3.9**
IRK				pmax	pmax		
	comp=Z,61nm,2.6s						
LZH	**Lanzhou**	**31.82**	**281**	*e*P	**P**	**03 32 38.0**	**+3.8**
LZH				pP	sP	03 32 46.4	-0.1
LZH				sP	pP	03 32 52.0	+9.1
LZH				*e*S	**S**	**03 37 43.1**	**+0.3**
LZH				sS	sS	03 37 58.0	+0.8
LZH				pmax	pmax		
	comp=Z,41nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=Z,610nm,15.4s						
LZH				LR	LR		
	comp=Z,670nm,15.5s						
LZH				LR	LR		
	comp=Z,640nm,16.8s						
ZAK	**Zakamensk**	**31.87**	**308**	*e*P	**P**	**03 32 34.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,23nm,1.1s						
ADK	**Adak**	**31.87**	**49**	*e*P	**P**	**03 32 33.3**	**-0.9**
ADK				pmax	pmax		
	comp=Z,104nm,1.5s						
ADK	**Adak**	**31.87**	**49**	*e*P	**P**	**03 32 33.3**	**-0.9**
	comp=Z,104nm,1.5s						
TLY	**Talaya**	**31.89**	**311**	LR	LR	03 46 13.0	
	comp=Z,416nm,18.3s,baz=159,slow=38						
TLY	**Talaya**	**31.89**	**311**	*e*P	**P**	**03 32 32.4**	**-2.1**
TLY				pmax	pmax		
	comp=Z,31nm,1.3s						
TLY				MLR	MLR		
	comp=Z,412nm,18.0s						
TLY	**Talaya**	**31.89**	**311**	*e*P	**P**	**03 32 33.1**	**-1.3**
	comp=Z,26nm,1.0s						
GYA	**Guiyang**	**32.84**	**263**	*e*P	**P**	**03 32 44.0**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**33.38**	**272**	P	**P**	**03 32 46.4**	**-1.4**
CD2				S	**S**	**03 38 05.0**	**-2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.2s						
CD2				LR	LR		
	comp=Z,620nm,17.9s						
CD2				LR	LR		
	comp=Z,480nm,16.9s						
CD2				LR	LR		
	comp=Z,390nm,14.4s						
ATKA	**Atka Island**	**33.44**	**49**	*e*P	**P**	**03 32 46.5**	**-1.4**
	comp=Z,233nm,1.7s						
MOY	**Mondy**	**33.51**	**310**	*e*P	P	03 32 54.2	+5.5
MOY				pmax	pmax		
	comp=Z,13nm,1.2s						
BILL	**Bilibino**	**33.97**	**15**	*d iP*	**P**	**03 32 51.6**	**-0.8**
BILL				*i*		03 34 04.3	
BILL				*i*		03 35 28.8	
BILL				pmax	pmax		
	comp=Z,28nm,1.0s						
BILL				MLR	MLR		
	comp=Z,621nm,21.0s						
GTA	**Gaotai**	**34.31**	**288**	*e*P	**P**	**03 32 56.6**	**+0.7**
GTA				pP	pP	03 33 05.9	+1.3
GTA				sP	sP	03 33 09.9	+1.7
GTA				PcP	**PcP**	**03 35 32.6**	**+1.0**
GTA				S	**S**	**03 38 19.0**	**-2.4**
GTA				sS	sS	03 38 35.2	-0.6
GTA				SS	**SnSn**	**03 40 26.8**	**-5.1**
GTA				pmax	pmax		
	comp=Z,27nm,0.8s						
GTA				pmax	pmax		
	comp=Z,160nm,5.7s						
GTA				LR	LR		
	comp=Z,210nm,10.5s						
GTA				LR	LR		
	comp=Z,240nm,14.7s						
GTA				LR

TIXI Tiksi 35.93 352 *e*P **P 03 33 08.2 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
KMI Kunming 36.59 263 P **P 03 33 15.8 +0.1**
KMI pP pP 03 33 22.0 -2.5
KMI pmax pmax
comp=Z,23nm,0.9s
JAY Jayapura 39.01 184 P **P 03 33 36.4 +0.5**
comp=Z,159nm,0.8s,baz=318,slow=7.0,SNR=7.3
JAY LR LR 03 49 41.4
comp=Z,482nm,18.9s,baz=310,slow=36
FAKI Fak Fak 40.71 197 *e*P **P 03 33 50.0 0.0**
comp=Z,18nm,0.8s
WMQ Urumqi 42.55 298 P **P 03 34 05.3 +0.4**
WMQ sP sP 03 34 19.6 +2.2
WMQ S **S 03 40 26.2 +0.7**
WMQ sS sS 03 40 40.0 -0.1
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,160nm,4.1s
WMQ LR LR
comp=Z,130nm,18.1s
WMQ LR LR
comp=Z,90nm,30.1s
CMAR Chiang Mai Arr 43.05 257 LR LR 03 54 29.1
comp=Z,176nm,19.1s,baz=54,slow=40
ZAA0 Zalesovo Array 43.46 313 *e*P **P 03 34 12.4 +0.4**
ZAA1 Zalesovo Array 43.46 313 *e*P **P 03 34 12.2 +0.2**
ZAA1 *e*PP **PcP 03 35 59.8 +0.1**
ZALV Zalesovo Beam 43.46 313 P **P 03 34 12.2 +0.3**
comp=Z,6.8nm,0.6s,baz=92,slow=6.7,SNR=14
ZALV PcP **PcP 03 35 59.8 +0.1**
comp=Z,12nm,0.7s,baz=95,slow=3.2,SNR=7.4
ZALV LR LR 03 52 51.8
comp=Z,248nm,19.2s,baz=70,slow=37
ZALV Zalesovo Beam 43.46 313 P **P 03 34 12.3 +0.3**
ZALV 03 35 59.8
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV MLR MLR
comp=Z,249nm,19.2s
ZALV Zalesovo Beam 43.46 313 *e*P **P 03 34 11.8 -0.2**
NVS Novosibirsk 44.36 314 *i* P **P 03 34 19.5 +0.2**
NRIK Noril'sk 44.37 335 LR LR 03 54 02.7
comp=Z,365nm,19.3s,baz=86,slow=38
TT01 Tatalina 44.80 34 *e*P **P 03 34 23.4 +0.8**
TTA Tatalina 44.80 34 *e*P **P 03 34 22.8 0.0**
TTA pmax pmax
comp=Z,7.0nm,0.9s
TTA Tatalina 44.80 34 *e*P **P 03 34 22.8 0.0**
comp=Z,6.7nm,0.9s
SVW2 Sparrevohn 44.83 37 *e*P **P 03 34 23.8 +0.9**
comp=Z,15nm,1.0s
SHL Shillong 45.11 271 *e*P **P 03 34 25.2 -0.7**
SII Sitkinak Islan 45.44 43 *e*P **P 03 34 28.7 +0.8**
MK01 Makanchi Array 45.78 303 *e*P **P 03 34 30.8 0.0**
MK31 Makanchi Array 45.78 303 *i* P **P 03 34 30.7 0.0**
MK31 pmax pmax
comp=Z,19nm,0.7s
MK31 Makanchi Array 45.78 303 *e*P **P 03 34 30.9 +0.2**
MK32 Makanchi Array 45.78 303 *e*P **P 03 34 30.9 +0.2**
MK32 *e*PcP **PcP 03 36 07.2 -0.7**
MKAR Makanchi Array 45.78 303 P **P 03 34 30.9 +0.2**
comp=Z,11nm,0.8s,baz=87,slow=9.3,SNR=61
MKAR PcP **PcP 03 36 07.2 -0.7**
comp=Z,5.5nm,0.8s,baz=66,slow=5.9,SNR=3.7
MKAR Makanchi Array 45.78 303 *i* P **P 03 34 30.8 +0.1**
MKAR pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 45.78 303 *e*P **P 03 34 30.9 +0.2**
comp=Z,117nm,0.7s
PMG Port Moresby 45.90 175 *e*P **P 03 34 32.4 +0.6**
PMG pmax pmax
comp=Z,22nm,0.9s
OHAK Old Harbor 45.91 43 *e*P **P 03 34 31.8 +0.3**
comp=Z,130nm,1.8s
MAKZ Makanchi 45.99 303 *e*P **P 03 34 32.6 +0.2**
MAKZ pmax pmax
comp=Z,28nm,1.0s
MAKZ Makanchi 45.99 303 *e*P **P 03 34 32.6 +0.2**
comp=Z,28nm,1.0s
IMAR Indian Mountai 46.15 30 *e*P **P 03 34 33.9 +0.6**
RSO Redoubt South 46.18 38 *e*P **P 03 34 34.8 +0.9**
KDAK Kodiak Island 46.28 42 *i* P **P 03 34 34.3 -0.1**
KDAK Kodiak Island 46.28 42 *e*P **P 03 34 34.8 +0.4**
comp=Z,75nm,1.2s
SPU Mount Spurr 46.54 37 *e*P **P 03 34 37.9 +1.3**
PPLA Purkeypile 46.55 35 *e*P **P 03 34 37.8 +1.2**
comp=Z,52nm,1.6s
CAST Castle Rocks 46.62 34 *e*P **P 03 34 38.4 +1.3**
comp=Z,48nm,1.8s
CNPM China Poot 46.95 39 *e*P **P 03 34 40.1 +0.4**
comp=Z,91nm,1.6s
BRLK Bradley Lake 47.12 39 *e*P **P 03 34 40.2 -0.8**
comp=Z,73nm,1.6s
KTH Kantishna Hill 47.15 34 *e*P **P 03 34 42.4 +1.1**
comp=Z,21nm,1.1s
TRF Thorofare Moun 47.43 34 *e*P **P 03 34 45.0 +1.4**
comp=Z,9.5nm,1.1s
KURK Kurchatov 47.53 309 *e*P **P 03 34 44.2 -0.1**
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 47.53 309 *e*P **P 03 34 44.2 -0.1**
comp=Z,47nm,0.8s
RC01 Rabbit Creek A 47.67 37 *e*P **P 03 34 45.8 +0.5**
comp=Z,32nm,1.2s
TAPN Taplejung 47.67 276 *e*P **P 03 34 46.4 +0.3**
comp=Z,19nm,0.4s
COLD Coldfoot 47.70 29 *e*P **P 03 34 46.0 +0.6**
comp=Z,4.4nm,1.0s
SEW Seward 47.83 38 *e*P **P 03 34 46.5 +0.1**
comp=Z,52nm,1.4s
PMR Palmer 47.95 36 *e*P **P 03 34 47.4 0.0**
PMR pmax pmax
comp=Z,37nm,1.2s
PMR Palmer 47.95 36 *e*P **P 03 34 47.4 0.0**
comp=Z,37nm,1.2s
MCK McKinley 48.04 34 *e*P **P 03 34 48.8 +0.7**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 48.04 34 *e*P **P 03 34 48.8 +0.7**
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 48.07 27 P **P 03 34 49.3 +1.0**
baz=264,SNR=8.4
RND Reindeer 48.07 34 *e*P **P 03 34 47.4 -1.1**
RND pmax pmax
comp=Z,26nm,1.0s
RND Reindeer 48.07 34 *e*P **P 03 34 47.4 -1.1**
comp=Z,26nm,1.0s
ODAN Odare 48.14 275 *e*P **P 03 34 50.4 +0.7**
comp=Z,25nm,0.7s
SML Sawmill 48.33 36 *e*P **P 03 34 50.6 +0.2**
SML pmax pmax
comp=Z,27nm,1.0s
SML Sawmill 48.33 36 *e*P **P 03 34 50.6 +0.2**
comp=Z,27nm,1.0s
MDM Murphy Dome 48.37 32 *e*P **P 03 34 51.6 +0.9**
comp=Z,35nm,1.0s
WRH Wood River Hil 48.42 33 *e*P **P 03 34 51.6 +0.6**
WRH *e*PcP **PcP 03 36 17.1 +0.2**
PDGK Podgornoye 48.48 299 P **P 03 34 51.5 -0.4**
PDGK pmax pmax
comp=Z,9.0nm,0.7s
CCB Clear Creek Bu 48.55 32 *e*P **P 03 34 52.5 +0.6**
comp=Z,9.7nm,1.2s
RAMN Ramite 48.74 276 *e*P **P 03 34 54.6 +0.3**
comp=Z,46nm,0.8s
DHY Denali Highway 48.75 34 *e*P **P 03 34 53.9 +0.2**
comp=Z,5.7nm,0.8s
JIRN Jiri 48.76 277 *e*P **P 03 34 55.6 +1.1**
comp=Z,155nm,0.5s
GUN Gumba 48.90 277 *e*P **P 03 34 55.8 +0.2**
comp=Z,28nm,0.4s
IL1 Eielson Array 48.94 32 *e*P **P 03 34 55.1 +0.1**
ILAR Eielson Array 48.94 32 P **P 03 34 54.9 -0.1**
comp=Z,11nm,0.9s,baz=266,slow=6.3,SNR=90
ILAR LR LR 03 58 44.4
comp=Z,64nm,18.7s,baz=152,slow=40
ILB Eielson Array 48.94 32 *e*P **P 03 34 55.0 -0.1**
FID Port Fidalgo 49.27 38 *e*P **P 03 34 58.0 +0.4**
comp=Z,29nm,1.2s
PKIN Phulchoki 49.42 277 *e*P **P 03 34 59.4 -0.2**
KKN Kakani 49.43 277 *e*P **P 03 34 59.7 +0.2**
comp=Z,20nm,0.5s
KLU Klutina 49.49 37 *e*P **P 03 35 00.4 +1.0**
comp=Z,26nm,1.0s
DIV Divide 49.59 37 *e*P **P 03 35 01.5 +1.4**
comp=Z,53nm,1.1s
FYU Fort Yukon 49.63 30 *e*P **P 03 35 01.3 +1.1**
comp=Z,62nm,1.3s
DMN Daman 49.64 277 *e*P **P 03 35 01.3 +0.1**
comp=Z,30nm,1.0s
EYAK Cordova Ski Ar 49.65 38 *e*P **P 03 35 01.9 +1.5**
comp=Z,41nm,1.0s
HARP HAARP 49.79 35 *e*P **P 03 35 02.1 +0.5**
comp=Z,20nm,0.7s
GKN Gorkha 49.85 278 *e*P **P 03 35 03.0 +0.4**
comp=Z,35nm,0.7s
BMRM Bremner River 50.17 37 *e*P **P 03 35 06.0 +1.5**
comp=Z,28nm,1.0s
DOT Dot Lake 50.21 34 *e*P **P 03 35 04.8 0.0**
comp=Z,22nm,1.0s
DOT *e*pP **sP 03 35 17.6 +0.3**
COEN Coen 50.29 180 *e*P **P 03 35 06.4 +0.6**
comp=Z,12nm,0.8s
DANN Dangsing 50.40 279 *e*P **P 03 35 07.6 +0.6**
comp=Z,7.7nm,0.9s
MTN Manton Dam 50.56 196 *e*P **P 03 35 06.2 -1.5**
comp=Z,24nm,0.8s
KOLN Koldanda 50.77 278 *e*P **P 03 35 09.7 0.0**
comp=Z,20nm,0.6s
DGPR DIGLIPUR 50.81 256 *e*P **P 03 35 08.8 -1.0**
DGPR IAmb IAmb 03 35 11.5
comp=Z,55nm,1.3s
CRQM Cirque 50.90 37 *e*P **P 03 35 11.7 +1.5**
comp=Z,68nm,1.1s
PYUN Piuthan 51.12 279 *e*P **P 03 35 12.5 +0.2**
comp=Z,70nm,0.8s
EGAK Eagle 51.39 32 *e*P **P 03 35 14.0 +0.4**
comp=Z,35nm,1.9s
PBA Port Blair 51.87 255 *e*P P 03 35 15.9 -1.9
PBA IAmb IAmb 03 35 22.6
comp=Z,18nm,0.7s
FRU Bishkek 52.04 299 *e*P **P 03 35 19.0 +0.2**
BVAR Borovoye Array 52.11 313 P **P 03 35 19.1 0.0**
comp=Z,6.6nm,0.8s,baz=78,slow=7.7,SNR=23
BVAR PcP **PcP 03 36 30.1 -0.7**
comp=Z,5.6nm,0.7s,baz=70,slow=4.9,SNR=5.4
KSH Kashi 52.13 295 P **P 03 35 24.1 +4.5**
KSH pP sP 03 35 33.9 +1.7
KSH sP pP 03 35 37.6 +8.9
KSH PcP **PcP 03 36 35.2 +4.0**
KSH PP **PP 03 37 24.1 +6.2**
KSH PcS **PcS 03 40 31.4 +1.8**
KSH S **S 03 42 45.3 +3.3**
KSH sS sS 03 43 03.4 +6.5
KSH ScS **ScS 03 45 08.1 +0.5**
KSH SS **SS 03 46 23.3 +4.1**
KSH pmax pmax
comp=Z,19nm,1.2s
KSH pmax pmax
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,190nm,6.2s
KSH LR LR
comp=Z,170nm,8.5s
KSH LR LR
comp=Z,350nm,14.2s
BRVK Borovoye 52.17 313 *d i* P **P 03 35 19.6 +0.1**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 52.17 313 *e*P **P 03 35 20.0 +0.5**
comp=Z,9.7nm,0.8s
AAK Ala-Archa 52.19 299 LR LR 03 58 56.5
comp=Z,302nm,18.9s,baz=104,slow=38
AAK Ala-Archa 52.19 299 *e*P **P 03 35 19.3 -0.7**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 52.19 299 *e*P **P 03 35 20.7 +0.7**
comp=Z,18nm,0.4s
DAWY Dawson 52.23 33 *e*P **P 03 35 22.7 +2.8**
comp=Z,9.2nm,1.2s
SMLA Simla 54.41 285 *e*P **P 03 35 35.6 -0.7**
SMLA IAmb IAmb 03 35 36.6
comp=Z,78nm,1.6s
DHRM DHARAMSHALA 54.61 287 *e*P **P 03 35 37.9 -0.2**
DHRM IAmb IAmb 03 35 43.5
comp=Z,17nm,0.6s
WHY Whitehorse 54.92 37 *e*P **P 03 35 41.6 +1.9**
comp=Z,13nm,0.8s
VIS Vishakhapatnam 55.90 267 *e*P **P 03 35 46.8 -0.4**
VIS IAmb IAmb 03 35 50.7
comp=Z,10nm,1.1s
SVE Sverdlovsk 56.59 319 *e*P **P 03 35 51.0 -0.6**
SVE pmax pmax
comp=Z,32nm,1.5s
SVE MLR MLR
comp=Z,401nm,19.0s
WRAB Tennant Creek 56.90 190 *i* P **P 03 35 52.7 -1.5**
WRAB pmax pmax
comp=Z,83nm,0.8s
WRAB Tennant Creek 56.90 190 *e*P **P 03 35 53.6 -0.5**
comp=Z,40nm,0.8s
WB2 Warramunga Arr 56.91 190 *e*P **P 03 35 53.4 -0.8**
WR1 Warramunga Arr 56.91 190 *e*P **P 03 35 53.4 -0.9**
WRA Warramunga Arr 56.91 190 P **P 03 35 53.4 -0.9**
comp=Z,42nm,0.8s,baz=11,slow=7.4,SNR=58
WRA LR LR 03 57 59.3
comp=Z,37nm,21.4s,baz=135,slow=34
WRAK Wrangell Islan 57.35 41 *e*PcP **PcP 03 36 51.6 +0.9**
NGP Nagpur 57.55 273 *e*P **P 03 35 58.5 -0.4**
NGP IAmb IAmb 03 36 12.3
comp=Z,8.5nm,1.1s
ARU Arti 57.80 319 *d i*P **P 03 35 59.5 -0.6**
ARU 03 36 50.0
ARU S **S 03 43 57.7 +0.5**
ARU SS **SS 03 47 44.0 -3.5**
ARU pmax pmax
comp=Z,56nm,1.7s
ARU MLR MLR
comp=Z,422nm,18.0s
ARU Arti 57.80 319 *e*P **P 03 35 59.6 -0.6**
comp=Z,113nm,1.8s
BHPL Bhopal 57.81 276 *e*P **P 03 36 00.8 0.0**
BHPL IAmb IAmb 03 36 01.4
comp=Z,5.2nm,0.6s
AB31 Akbulak array 59.51 311 *i* P **P 03 36 11.8 -0.4**
AB31 pmax pmax
comp=Z,33nm,0.8s
ABKAR Akbulak array 59.51 311 *e*P **P 03 36 12.2 0.0**
comp=Z,245nm,0.8s
HYB Hyderabad 59.90 270 *e*P **P 03 36 14.9 -0.5**
HYB IAmb IAmb 03 36 15.9
comp=Z,14nm,1.0s
AKTO Aktyubinsk 60.22 313 LR LR 04 03 45.2
comp=Z,152nm,18.6s,baz=64,slow=38
AS01 Alice Springs 60.63 190 *e*P **P 03 36 19.2 -0.9**
AS31 Alice Springs 60.63 190 *e*P **P 03 36 19.8 -0.3**
comp=Z,6.0nm,0.6s
AS31 ⇑*e* 04 05 47.0
ASAR Alice Springs 60.64 190 P **P 03 36 19.6 -0.5**
comp=Z,16nm,0.8s,baz=15,slow=7.1,SNR=42
ASAR LR LR 04 03 51.6
comp=Z,45nm,19.7s,baz=350,slow=37
ASAR PKP2bc 04 05 47.0
comp=Z,0.9nm,0.8s,baz=162,slow=2.3,SNR=7.9
MDRS Chennai 60.93 265 *ex* **P 03 36 18.4 -3.9**
DZM Mont Dzumac 62.25 156 *e*LR LR 03 54 55.2
comp=Z,224nm,22.4s
POO Poona 63.09 274 *e*P **P 03 36 34.0 -2.9**
POO IAmb IAmb 03 36 37.7
comp=Z,11nm,0.8s
YKA Yellowknife Ar 63.31 31 P **P 03 36 37.5 -0.1**
comp=Z,9.5nm,0.7s,baz=301,slow=6.6,SNR=11
YKB5 Yellowknife Ar 63.31 31 *e*P **P 03 36 37.5 -0.1**
APA Apatity 63.77 336 *i*⇓*i*P **P 03 36 39.0 -1.5**
APA pmax pmax
comp=Z,10.0nm,0.9s
GOA Goa 64.75 271 *ex* P 03 36 39.5 -8.3
GOA IAmb IAmb 03 36 39.8
comp=Z,183nm,0.1s
ARA0 ARCESS Array S 64.99 340 *e*P **P 03 36 48.8 +0.3**
ARCES ARCESS Array B 64.99 340 P **P 03 36 48.8 +0.3**
comp=Z,8.1nm,0.8s,baz=2.9,slow=2.4,SNR=24
ARCES LR LR 04 10 28.4
comp=Z,148nm,18.9s,baz=54,slow=41
ARCES ARCESS Array B 64.99 340 P **P 03 36 48.8 +0.3**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,148nm,18.9s
KLMR Klimovskoe 65.02 328 *e*P **P 03 36 47.5 -1.3**
KLMR *e* 03 37 19.3
KLMR pmax pmax
comp=Z,26nm,1.5s
GEYT Alibeck 65.53 300 P **P 03 36 53.1 +0.5**
comp=Z,26nm,1.1s,baz=43,slow=2.8,SNR=22
NLWA Neilton Lookou 65.74 48 *e*P **P 03 36 56.0 +2.2**
comp=Z,26nm,0.9s
DAG Danmarks Havn 66.33 356 *i* P **P 03 36 56.9 -0.2**
comp=Z,13nm,0.8s
DAG Danmarks Havn 66.33 356 *i* P **P 03 36 56.9 -0.2**
DAG pmax pmax
comp=Z,10.0nm,0.8s
B05A Bryant 66.37 47 P **P 03 36 58.8 +1.1**
baz=299
NIHS Ingelmoor High 66.55 47 *e*P **P 03 37 00.4 +1.4**
B941 Kapowsin 66.92 48 P **P 03 37 02.7 +1.4**
D05A Enumclaw 66.96 48 *e*P **P 03 37 03.6 +2.0**
comp=Z,27nm,0.9s
TDL Tradedollar La 67.23 49 *e*P **P 03 37 04.9 +1.4**
F04A Amboy 67.32 49 *e*P **P 03 37 05.4 +1.5**
comp=Z,27nm,0.4s
NLW Nelson Butte 67.49 46 *e*P **P 03 37 06.1 +1.0**
ETW Entiat 67.73 47 *e*P **P 03 37 07.4 +0.8**
I03D Drain, OR 67.85 51 P **P 03 37 08.4 +1.1**
baz=300
WTV Waterville 67.90 46 *e*P **P 03 37 08.0 +0.4**
B08A Colville Reser 67.93 46 *e*P **P 03 37 08.4 +0.6**
comp=Z,17nm,1.1s
STKA Stephens Creek 68.15 182 P **P 03 37 08.8 -0.2**
comp=Z,7.0nm,0.8s,baz=347,slow=8.4,SNR=14
STKA Stephens Creek 68.15 182 *e*P **P 03 37 12.6 +3.5**
comp=Z,1.9nm,0.8s
SAW Saint Andrews 68.22 46 P **P 03 37 10.2 +0.5**
G05D Wamic, OR 68.33 49 P **P 03 37 11.5 +1.1**
baz=300
FORT Forrest 68.59 194 *e*P **P 03 37 12.1 +0.3**
comp=Z,264nm,0.6s
MOS Moscow 68.60 324 *e*P **P 03 37 10.8 -0.9**
MOS pmax pmax
comp=Z,58nm,1.2s
I05D Terrebonne, OR 68.78 50 P **P 03 37 14.2 +1.1**
baz=301
D08A Wollman Farm, 68.83 47 *e*P **P 03 37 14.1 +0.7**
comp=Z,14nm,0.8s
NEW Newport 69.24 45 P **P 03 37 16.6 +0.7**
baz=302
NEW Newport 69.24 45 *e*P **P 03 37 16.5 +0.6**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 69.24 45 *e*P **P 03 37 16.5 +0.6**
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 69.25 53 *e*P **P 03 37 18.0 +1.8**
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 69.25 53 *e*P **P 03 37 18.0 +1.8**
comp=Z,9.1nm,1.2s
M02C Callahan 69.33 53 P **P 03 37 18.0 +1.3**
baz=301
J05D Fort Rock, OR 69.38 51 P **P 03 37 18.4 +1.3**
baz=301
N02D Trinity Center 69.64 54 P **P 03 37 20.0 +1.4**
baz=301
M04C Macdoel 69.78 53 P **P 03 37 20.3 +0.8**
baz=301
K05A Summer Lake 69.89 51 *e*P **P 03 37 22.1 +1.9**
comp=Z,39nm,1.3s
WDC Whiskeytown Da 69.95 54 *e*P **P 03 37 21.9 +1.5**
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC Whiskeytown Da 69.95 54 *e*P **P 03 37 21.9 +1.5**
comp=Z,8.9nm,1.0s
FIA1 FINESS Array S 69.97 333 *e*P **P 03 37 20.6 +0.5**
FIA0 FINESS Array S 69.97 333 *e*P **P 03 37 20.4 +0.3**
FIA0 FINESS Array S 69.97 333 *e*P **P 03 37 20.4 +0.3**
FINES FINESS Array B 69.97 333 P **P 03 37 20.4 +0.3**
comp=Z,18nm,0.8s,baz=32,slow=10,SNR=28
MAK Makhachkala 70.05 309 *e*P **P 03 37 19.6 -1.3**
MAK *e*S **S 03 46 28.2 -1.4**
MAK pmax pmax
comp=Z,199nm,1.2s
MAK MLR MLR
comp=Z,197nm,14.0s
O03D Paynes Creek 70.58 54 P **P 03 37 24.6 +0.2**
baz=302,SNR=11
WALA Waterton Lakes 70.60 43 *e*P **P 03 37 25.4 +1.0**
comp=Z,16nm,0.8s
MOD Modoc Plateau 70.69 52 *e*P **P 03 37 26.4 +1.3**
comp=Z,21nm,1.4s
BMO Blue Mountains 70.96 48 *e*P **P 03 37 27.4 +0.8**
BMO pmax pmax
comp=Z,14nm,1.3s
BMO Blue Mountains 70.96 48 *e*P **P 03 37 27.4 +0.8**
comp=Z,14nm,1.3s
MCCM Marconi Confer 71.00 56 *e*P **P 03 37 26.6 -0.2**
comp=Z,168nm,1.4s
SUMG Summit 71.10 1 ⇓*i*P **P 03 37 28.3 +1.0**
comp=Z,39nm,0.8s
SUMG Summit 71.10 1 ⇓*i*P **P 03 37 28.3 +1.0**
SUMG pmax pmax
comp=Z,39nm,0.8s
SUMG Summit 71.10 1 *e*P **P 03 37 28.1 +0.8**
comp=Z,41nm,0.8s
JTMT Jette 71.12 44 *e*P **P 03 37 28.8 +1.2**
ORV Oroville 71.17 54 *e*P **P 03 37 28.3 +0.5**
ORV pmax pmax
comp=Z,10.0nm,1.0s
ORV Oroville 71.17 54 *e*P **P 03 37 28.3 +0.5**
comp=Z,9.9nm,1.0s
SWMT Swartz Lake 71.41 44 *e*P **P 03 37 29.9 +0.6**
WVOR Wild Horse Val 71.45 51 *e*P **P 03 37 30.7 +1.0**
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 71.45 51 *e*P **P 03 37 30.7 +1.0**
comp=Z,8.4nm,1.1s
GOF Gofitskoye 71.64 313 ⇓*i*P **P 03 37 31.1 +0.5**
GOF pmax pmax
comp=Z,71nm,0.9s
VSU Vasula 71.67 330 *i* P **P 03 37 29.9 -0.6**
VSU pmax pmax
comp=Z,120nm,2.5s
BEKR Beckworth 71.75 54 *e*P **P 03 37 32.6 +1.0**
comp=Z,15nm,0.9s
MSO Missoula 71.83 45 P **P 03 37 32.1 +0.3**
baz=304
MSO Missoula 71.83 45 *e*P **P 03 37 32.2 +0.3**
comp=Z,18nm,1.0s
AFDM Forest Hills D 71.84 55 *e*P **P 03 37 33.1 +1.1**
comp=Z,5.5nm,1.1s
SLMT Seeley Lake 71.85 44 *e*P **P 03 37 32.5 +0.4**
CHMT Chamberlain Mo 72.17 45 *e*P **P 03 37 34.2 +0.2**
NCK Nalchik 72.17 311 *e*P **P 03 37 33.9 +0.1**
NCK pmax pmax
comp=Z,14nm,1.1s
DGRG David-gareji 72.20 309 P **P 03 37 35.9 +1.8**
GUDG Gudauri 72.20 310 P **P 03 37 35.5 +1.2**
ZEI Tsey 72.38 310 *e*P **P 03 37 33.9 -1.4**
ZEI pmax pmax
comp=Z,29nm,0.6s
TBLG Delisi 72.44 309 P **P 03 37 36.0 +0.5**
TBLG Delisi 72.44 309 P **P 03 37 36.0 +0.5**
KVAR Kislovodsk Arr 72.46 312 LR LR 04 14 58.8
comp=Z,77nm,18.4s,baz=38,slow=40
PAHR Pah Rah Range 72.46 53 *e*P **P 03 37 36.9 +1.1**
comp=Z,12nm,0.9s
KBZ Khabaz 72.46 312 P **P 03 37 36.3 +0.8**
comp=Z,27nm,0.8s,baz=77,slow=3.9,SNR=48
KBZ LR LR 04 12 22.7
comp=Z,86nm,19.4s,baz=54,slow=38
WSAR Wadi Sarin 72.62 286 P **P 03 37 37.3 +0.4**
comp=Z,6.6nm,0.9s,baz=71,slow=14,SNR=3.5
MFID Camas Ranch 72.64 49 *e*P **P 03 37 37.3 +0.5**
comp=Z,7.1nm,0.8s
PNTR Pine Nut 72.66 54 *e*P **P 03 37 38.5 +1.5**
comp=Z,8.1nm,0.9s
CMB Columbia Colle 72.72 55 *e*P **P 03 37 38.1 +0.9**
CMB pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 72.72 55 *e*P **P 03 37 38.1 +0.9**
comp=Z,12nm,1.0s
ONI Oni 72.76 310 P **P 03 37 37.9 +0.4**
ONI Oni 72.76 310 P **P 03 37 37.9 +0.4**
NEY Neytrino 72.84 311 *e*P **P 03 37 37.6 -0.4**
NEY pmax pmax

comp=Z,2.0nm,0.9s
YERR Yerington 72.95 54 eP P 03 37 40.1 +1.3
comp=Z,17nm,0.9s
HRY Holter Researc 73.08 44 eP P 03 37 40.1 +0.8
WAKR Walker 73.09 54 eP P 03 37 41.1 +1.5
comp=Z,11nm,1.1s
FFC Flin Flon 73.13 33 eP P 03 37 39.6 +0.3
FFC pmax pmax
comp=Z,38nm,0.8s
FFC Flin Flon 73.13 33 eP P 03 37 39.6 +0.3
comp=Z,38nm,0.8s
LRM Limekiln Ridge 73.25 45 eP P 03 37 41.3 +0.8
GNI Garni 73.32 308 eP P 03 37 41.4 +0.5
GNI pmax pmax
comp=Z,32nm,1.0s
GNI Garni 73.32 308 eP P 03 37 42.5 +1.6
comp=Z,22nm,1.2s
AKH Akhalkalaki 73.40 309 P P 03 37 42.3 +1.0
AKH Akhalkalaki 73.40 309⇑iP P 03 37 42.9 +1.5
AKH Akhalkalaki 73.40 309 P P 03 37 42.3 +1.0
HLID Hailey 73.40 48 P P 03 37 42.2 +0.8
baz=305
HLID Hailey 73.40 48 eP P 03 37 42.1 +0.7
comp=Z,4.3nm,0.9s
BGD Bogdanovka 73.42 309 P P 03 37 42.7 +1.2
DLMT Dillon 73.43 46 eP P 03 37 41.9 +0.4
comp=Z,20nm,0.7s
EGMT Eagleton 73.45 42 P P 03 37 41.7 +0.3
baz=307
EGMT Eagleton 73.45 42 eP P 03 37 41.8 +0.4
comp=Z,21nm,1.0s
MCMT McKenzie Canyo 73.60 46 eP P 03 37 43.0 +0.5
BOZ Bozeman (W) 73.85 45 P P 03 37 44.5 +0.6
baz=306
PAGB Antelope Grade 74.08 57 eP P 03 37 46.9 +1.6
comp=Z,16nm,1.0s
QLMT Earthquake Lak 74.41 46 eP P 03 37 48.6 +1.3
ARTV Artvin 74.50 310 eP P 03 37 48.8 +1.0
comp=Z,8.1nm,0.7s
YHH Holmes Hill 74.77 45 eP P 03 37 50.1 +0.6
comp=Z,18nm,1.3s
YMR Madison River 74.78 45 eP P 03 37 50.2 +0.8
comp=Z,15nm,0.7s
VES Vestal, Richgr 74.80 57 P P 03 37 49.4 0.0
baz=304,SNR=7.1
GCMT Greycliff 74.84 44 eP P 03 37 50.3 +0.6
PKM Mcpherson Peak 74.84 58 P P 03 37 49.8 -0.1
baz=304
YNR Norris Junctio 74.91 45 eP P 03 37 51.2 +1.0
comp=Z,9.5nm,1.0s
YFT Old Faithful 74.98 46 eP P 03 37 51.3 +0.6
comp=Z,14nm,0.8s
NC405 NORSAR Array S 75.02 338 eP P 03 37 50.8 +0.6
NC303 NORSAR Array S 75.03 338 eP P 03 37 51.0 +0.7
ANN Anapa 75.04 315 eP P 03 37 50.9 +0.3
ANN pmax pmax
comp=Z,42nm,1.3s
CWC Cottonwood Cre 75.13 56 P P 03 37 52.0 +0.5
baz=305
H17A Grant Village 75.16 46 P P 03 37 54.1 +2.4
baz=307
H17A Grant Village 75.16 46 eP P 03 37 52.6 +0.9
comp=Z,32nm,0.9s
NC204 NORSAR Array S 75.17 338 eP P 03 37 51.8 +0.6
NB201 NORSAR Array S 75.19 338 eP P 03 37 51.6 +0.3
NB2 NORSAR Subarra 75.22 338 P P 03 37 51.4 -0.1
comp=Z,34nm,0.9s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.22 338 P P 03 37 51.4 -0.1
baz=41,slow=5.9
NB200 NORSAR Array S 75.22 338 eP P 03 37 51.7 +0.3
NOA NORSAR Array B 75.22 338 P P 03 37 51.7 +0.3
comp=Z,21nm,0.8s,baz=39,slow=5.7,SNR=46
GRAC Grapevine Rang 75.29 55 P P 03 37 53.2 +0.9
baz=305,SNR=7.2
NBO02 NORSAR Array S 75.32 338 eP P 03 37 52.4 +0.4
FXWY Fox Creek 75.36 46 eP P 03 37 53.4 +0.6
comp=Z,13nm,1.1s
NBO00 NORSAR Array S 75.36 338 eP P 03 37 52.5 +0.3
ARVC Arvin 75.37 57 P P 03 37 53.3 +0.6
baz=305
HVU Hansel Valley 75.42 49 eP P 03 37 53.5 +0.4
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU Hansel Valley 75.42 49 eP P 03 37 53.5 +0.4
comp=Z,8.8nm,0.8s
MOOW Moose Ponds 75.45 46 eP P 03 37 54.0 +0.7
comp=Z,14nm,1.3s
RLMT Red Lodge 75.47 44 P P 03 37 54.1 +0.7
baz=308
RLMT Red Lodge 75.47 44 eP P 03 37 54.5 +1.1
comp=Z,37nm,1.5s
TPAW Teton Pass 75.49 46 eP P 03 37 54.2 +0.6
comp=Z,8.1nm,0.8s
LOHW Long Hollow 75.62 46 eP P 03 37 55.4 +1.1
comp=Z,6.1nm,1.0s
SNOW Snow King Moun 75.62 46 eP P 03 37 54.8 +0.4
comp=Z,9.6nm,0.9s
REDW Red Top Meadow 75.62 46 eP P 03 37 55.4 +1.1
comp=Z,11nm,1.0s
AKASG Malin Array Be 75.67 323 P P 03 37 53.9 -0.2
comp=Z,19nm,0.6s,baz=45,slow=6.2,SNR=86
AKASG LR LR 04 16 03.5
comp=Z,78nm,18.3s,baz=30,slow=40
AKASG Malin Array Be 75.67 323 P P 03 37 53.9 -0.2
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG MLR MLR
comp=Z,78nm,18.3s
AKBB Malin Array Si 75.67 323 eP P 03 37 54.1 0.0
AKBB pmax pmax
comp=Z,37nm,0.9s
AKBB Malin Array Si 75.67 323 eP P 03 37 54.1 0.0
comp=Z,37nm,0.9s
R11A Troy Canyon, C 75.67 53 P P 03 37 55.4 +0.7
baz=306,SNR=25
R11A Troy Canyon, C 75.67 53 eP P 03 37 55.3 +0.7
comp=Z,12nm,0.9s
KIEV Kiev 75.68 323diP P 03 37 53.9 -0.2
KIEV pmax pmax
comp=Z,30nm,0.9s
KIEV Kiev 75.68 323 eP P 03 37 53.6 -0.6
comp=Z,36nm,0.9s
AK11 Malin Array Si 75.71 323 eP P 03 37 54.2 -0.1
MPMC Manual Prospec 75.74 56 P P 03 37 55.7 +0.6
baz=305,SNR=13
BGU Big Grassy Mou 75.77 49 eP P 03 37 56.5 +1.3
comp=Z,4.7nm,0.8s
FURC Furnace Creek, 75.92 55 P P 03 37 56.6 +0.7
baz=305,SNR=7.0
LRMC Laurel Mtn Rad 75.95 56 P P 03 37 56.5 +0.3
baz=305,SNR=9.0
TPNV Topopah Spring 76.05 54 P P 03 37 57.4 +0.7
baz=305,SNR=22
TPNV Topopah Spring 76.05 54 eP P 03 37 57.5 +0.7
TPNV pmax pmax
comp=Z,18nm,1.0s
TPNV Topopah Spring 76.05 54 eP P 03 37 57.5 +0.7
comp=Z,18nm,1.0s
KOPT Kop Dagi 76.06 310 eP P 03 37 58.7 +1.8
comp=Z,8.2nm,0.8s
EDW2 Edwards Air Fo 76.08 57 P P 03 37 57.7 +0.8
baz=305,SNR=7.9
DGMT Dagmar 76.10 39 P P 03 37 56.8 +0.2
baz=310
DGMT Dagmar 76.10 39 eP P 03 37 57.2 +0.5
comp=Z,47nm,1.3s
SFJD Kangerlussuaq 76.15 6 iP P 03 37 56.2 -0.4
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 76.15 6 iP P 03 37 56.2 -0.4
SFJD pmax pmax
comp=Z,16nm,0.9s
SUW Suwalki 76.15 328 eP P 03 37 56.8 0.0
SUW Suwalki 76.15 328 eP P 03 37 56.8 0.0
LAO LASA Array 76.17 42 P P 03 37 57.9 +0.7
baz=309
LAO LASA Array 76.17 42 eP P 03 37 58.3 +1.1
comp=Z,24nm,0.9s
HWUT Hardware Ranch 76.25 48 eP P 03 37 58.9 +1.0
comp=Z,12nm,1.0s
DUG Dugway, Tooele 76.33 50 P P 03 37 59.2 +0.9
baz=306,SNR=20
DUG Dugway, Tooele 76.33 50 eP P 03 37 59.4 +1.1
DUG pmax pmax
comp=Z,18nm,0.9s
DUG Dugway, Tooele 76.33 50 eP P 03 37 59.4 +1.1
comp=Z,18nm,0.9s
GSC Goldstone, Bar 76.63 56 P P 03 38 00.6 +0.6
baz=306,SNR=7.4
GSC Goldstone, Bar 76.63 56 eP P 03 38 00.9 +0.9
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone, Bar 76.63 56 eP P 03 38 00.9 +0.9
comp=Z,9.7nm,1.1s
SHOC Shoshone, Teco 76.64 55 P P 03 38 00.5 +0.5
baz=306
BFSC Mount Baldy Ra 76.67 57 P P 03 38 00.7 +0.4
baz=305,SNR=5.3
BW06 Boulder Array 76.74 46 P P 03 38 00.9 +0.2
baz=308,SNR=9.6
BW06 Boulder Array 76.74 46 eP P 03 38 01.0 +0.2
comp=Z,5.9nm,0.7s
PD31 Pinedale Array 76.74 46 eP P 03 38 00.9 +0.2
PDAR Pinedale Array 76.74 46 P P 03 38 00.9 +0.2
comp=Z,4.3nm,0.6s,baz=272,slow=2.0,SNR=53
PDAR Pinedale Array 76.74 46 eP P 03 38 00.8 +0.1
SIM Simferopol' 76.81 317deP P 03 38 00.8 0.0
SIM e 03 38 14.0
SIM pmax pmax
comp=Z,30nm,0.8s
SIM MLR MLR
comp=Z,150nm,15.6s
JLU Jordanelle 76.92 49 eP P 03 38 03.1 +1.3
comp=Z,10nm,0.9s
NLU North Lily Min 76.93 50 eP P 03 38 03.1 +1.3
comp=Z,12nm,0.9s
SHPR Sheep Range 77.02 54 eP P 03 38 03.6 +1.3
comp=Z,12nm,1.1s
TUQ Turquoise Moun 77.14 55 P P 03 38 03.6 +0.7
baz=306,SNR=11
MPU Maple Canyon 77.17 50 eP P 03 38 04.2 +1.1
comp=Z,16nm,0.9s
HEC Hector,Ludlow 77.22 56 P P 03 38 04.1 +0.8
baz=306
MURC Murrieta 77.36 58 P P 03 38 04.4 +0.4
baz=306
MARD Mardin 77.48 307 eP P 03 38 05.4 +0.6
comp=Z,34nm,0.8s
CCUT Cedar City 77.56 52 eP P 03 38 06.4 +1.0
comp=Z,13nm,1.0s
GMRC Granite Mounta 77.70 56 P P 03 38 06.7 +0.7
baz=306
SZCU Shurtz Canyon 77.71 52 eP P 03 38 07.4 +1.2
comp=Z,9.3nm,1.0s
MSU Marysvale 77.73 51 eP P 03 38 07.7 +1.4
MSU Marysvale 77.73 51 eP P 03 38 07.7 +1.4
SORM Soroca 77.79 322⇓iP P 03 38 06.2 +0.1
109C Camp Elliot, M 77.83 58 P P 03 38 07.0 +0.4
baz=306
PFO Pinyon Flats O 77.85 57 P P 03 38 07.2 +0.2
baz=306,SNR=7.0
PFO Pinyon Flats O 77.85 57 eP P 03 38 07.6 +0.7
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 77.85 57 eP P 03 38 07.6 +0.7
comp=Z,14nm,1.2s
XPFO Pigeon Flat 77.85 57 eP P 03 38 07.6 +0.7
comp=Z,14nm,1.1s
TMUT Trail Mountain 77.86 50 eP P 03 38 08.3 +1.2
comp=Z,14nm,0.5s
LDFC Landfair 77.89 55 eP P 03 38 07.5 +0.4
comp=Z,15nm,1.0s
BELC Belle Mtn. Jos 77.93 57 P P 03 38 07.4 0.0
baz=306
LCMT Little Creek M 77.96 53 eP P 03 38 07.8 +0.3
comp=Z,16nm,0.9s
P17A Butcher Ranch, 78.04 50 eP P 03 38 09.1 +1.2
comp=Z,26nm,0.9s
KNB Kanab 78.23 53 eP P 03 38 10.4 +1.4
KNB pmax pmax
comp=Z,25nm,1.0s
KNB Kanab 78.23 53 eP P 03 38 10.4 +1.4
comp=Z,25nm,1.0s
P18A Preston Nutter 78.25 49 eP P 03 38 10.6 +1.3
comp=Z,8.3nm,0.8s
MONP2 Monument Peak 78.29 58 P P 03 38 09.7 +0.2
baz=306
SRU San Rafael Swe 78.40 50 eP P 03 38 10.8 +0.8
SRU pmax pmax
comp=Z,26nm,0.8s
SRU San Rafael Swe 78.40 50 eP P 03 38 10.8 +0.8
comp=Z,26nm,0.8s
IRM Iron Mountain 78.41 56 P P 03 38 10.4 +0.5
baz=306,SNR=6.4
BC3 Big Chuckawall 78.50 57 P P 03 38 10.9 +0.4
baz=306,SNR=7.9
K22A Casper 78.56 45 P P 03 38 11.0 +0.2
baz=310,SNR=6.4
K22A Casper 78.56 45 eP P 03 38 11.2 +0.5
comp=Z,13nm,0.9s
IKP In-Ko-Pah, Jac 78.65 58 P P 03 38 11.6 +0.3
baz=306
W13A Hualapai Mount 78.69 55 eP P 03 38 12.5 +0.8
comp=Z,5.5nm,1.1s
SWSC Sam W. Stewart 78.69 57 P P 03 38 11.4 +0.1
baz=306
LVV L'vov 78.72 325 eP P 03 38 12.6 +1.4
BEL Belsk 78.72 328 eP P 03 38 12.3 +1.1
BEL Belsk 78.72 328 eP P 03 38 12.3 +1.1
MDND Maddock 78.81 38 P P 03 38 12.1 +0.3
baz=313
ULM Lac du Bonnet 78.91 34 P P 03 38 12.3 0.0
comp=Z,8.9nm,0.9s,baz=318,slow=4.9,SNR=9.3
U15A North Rim 78.92 53 eP P 03 38 14.1 +1.1
comp=Z,14nm,1.0s
PDMCI Parker Dam,Lak 78.99 55 P P 03 38 13.4 +0.4
baz=307
RSSD Black Hills 79.00 43 P P 03 38 13.2 0.0
baz=311
RSSD Black Hills 79.00 43 eP P 03 38 13.4 +0.2
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 79.00 43 eP P 03 38 13.4 +0.2
comp=Z,11nm,1.0s
Y12C Blythe 79.07 56 P P 03 38 14.1 +0.6
baz=307
Y12C Blythe 79.07 56 eP P 03 38 14.6 +1.1
comp=Z,27nm,1.4s
GKP Gorka Klasztor 79.13 330 eP P 03 38 13.7 +0.3
GKP Gorka Klasztor 79.13 330 eP P 03 38 13.7 +0.3
O20A White River Ci 79.14 48 P P 03 38 14.2 +0.1
baz=309,SNR=8.2
O20A White River Ci 79.14 48 eP P 03 38 14.5 +0.5
comp=Z,15nm,0.9s
GLA Glamis, 79.28 57 P P 03 38 15.5 +0.8
baz=307
B31A Greenbush Farm 79.37 36 P P 03 38 14.7 -0.2
baz=314,SNR=5.2
PRAR RASCA 79.37 322⇑iP P 03 38 14.7 -0.2
KWP Kalwaria Pacla 79.46 325 eP P 03 38 16.3 +1.0
KWP Kalwaria Pacla 79.46 325 eP P 03 38 16.3 +1.0
A32A Rocking H Ranc 79.57 36 P P 03 38 15.4 -0.5
baz=315,SNR=6.5
PV09 Paradox Valley 79.63 50 eP P 03 38 18.1 +1.2
BUR08 Bucovina Ar. S 79.68 323 eP P 03 38 17.4 +0.7
BURAR Bucovina Array 79.69 323⇓iP P 03 38 17.2 +0.5
TESR Tescani 79.74 321⇑iP P 03 38 17.3 +0.4
PV10 Paradox Valley 79.76 50 eP P 03 38 18.7 +1.1
C31A Landman Farms, 79.77 37 P P 03 38 16.8 -0.2
baz=314,SNR=5.8
PV04 Paradox Valley 79.83 50 eP P 03 38 18.0 +0.2
CFR Carcaliu 79.88 320⇓iP P 03 38 17.9 +0.2
PV05 Paradox Valley 79.91 50 eP P 03 38 19.3 +1.0
B32A Ashes, Strandq 79.91 36 P P 03 38 17.3 -0.5
baz=315,SNR=8.1
Y14A Wickenburg 79.96 55 eP P 03 38 19.1 +0.6
comp=Z,57nm,1.1s
PETR Petresti 79.98 320⇓iP P 03 38 19.9 +1.7
N23A Red Feather La 80.01 46 P P 03 38 19.9 +1.1
baz=310,SNR=13
N23A Red Feather La 80.01 46 eP P 03 38 19.9 +1.1
comp=Z,24nm,1.0s
ODBI Odobesti 80.05 320⇓iP P 03 38 20.3 +1.7
A33A Warroad 80.06 35 P P 03 38 18.1 -0.5
baz=316,SNR=6.1
WUAZ Wupatki 80.06 53 P P 03 38 20.0 +0.9
baz=308,SNR=13
WUAZ Wupatki 80.06 53 eP P 03 38 20.3 +1.2
comp=Z,19nm,1.1s
VRI Vrincioaia 80.14 321⇑iP P 03 38 20.0 +0.9
113A Mohawk Valley, 80.16 57 eP P 03 38 20.2 +0.7
comp=Z,9.3nm,1.0s
PLOR Plostina 80.19 321⇑iP P 03 38 20.3 +0.9
PV01 Paradox Valley 80.20 50 eP P 03 38 20.7 +0.9
TIRR Tirgusor 80.22 319⇓iP P 03 38 19.7 +0.2
STHS Stebnicka Huta 80.28 326 eP P 03 38 20.9 +1.1
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 80.28 326 eP P 03 38 20.9 +1.1
D31A Mcclaflin, Tow 80.29 37 P P 03 38 19.6 -0.2
baz=314
AGMN Agassiz Nation 80.30 36 P P 03 38 19.5 -0.4
baz=316
AGMN Agassiz Nation 80.30 36 eP P 03 38 19.7 -0.2
comp=Z,8.7nm,0.7s
OJC Ojcow 80.33 327 eP P 03 38 20.7 +0.7
OJC Ojcow 80.33 327 eP P 03 38 19.9 -0.1
OJC pmax pmax
comp=Z,46nm,1.1s
OJC Ojcow 80.33 327 eP P 03 38 19.9 -0.1
comp=Z,46nm,1.1s
UZH Uzhgorod 80.36 325 eP P 03 38 19.7 -0.5
UZH i 03 38 29.1
BR101 Keskin Array S 80.40 313 eP P 03 38 21.1 +0.3
BR131 Keskin Array S 80.40 313 eP P 03 38 21.1 +0.3
BRTR Keskin Array B 80.40 313 P P 03 38 21.1 +0.3
comp=Z,6.1nm,0.8s,baz=110,slow=4.2,SNR=27
BRTR LR LR 04 18 20.5
comp=Z,50nm,18.3s,baz=26,slow=39
ARCR ARCALIA 80.48 323⇑iP P 03 38 22.4 +1.5
SMCO Snowmass 80.51 48 eP P 03 38 21.4 -0.3
comp=Z,9.3nm,1.0s
CRVS Cervenica-Dubn 80.55 325 eP P 03 38 21.8 +0.6
CRVS Cervenica-Dubn 80.55 325 eP P 03 38 21.8 +0.6
E31A Nome 80.55 38 P P 03 38 21.1 -0.2
baz=314,SNR=14
D32A Dogwood Acres, 80.57 37 P P 03 38 21.0 -0.3
baz=315
NIE Niedzica 80.70 326 eP P 03 38 23.1 +1.1
NIE Niedzica 80.70 326 eP P 03 38 23.1 +1.1
X16A Lo Mia Camp, P 80.70 54 eP P 03 38 23.1 +0.6
comp=Z,10nm,1.0s
C33A Trail 80.73 36 P P 03 38 21.8 -0.4
baz=316
B34A Aery, Baudette 80.73 35 P P 03 38 21.5 -0.7
baz=316
DOPR Dopca 80.75 321⇑iP P 03 38 24.0 +1.6
ISR Istrita 80.75 320⇑iP P 03 38 23.8 +1.4
ANTO Ankara 80.81 313 eP P 03 38 23.1 +0.2
ANTO pmax pmax
comp=Z,59nm,0.7s
ANTO Ankara 80.81 313 eP P 03 38 23.1 +0.2
comp=Z,59nm,0.7s
MVCO Mesa Verde 80.83 50 P P 03 38 23.9 +0.7
baz=309,SNR=9.5
MVCO Mesa Verde 80.83 50 eP P 03 38 23.4 +0.2
comp=Z,12nm,1.0s
BR231 Keskin MP Arra 80.83 313 eP P 03 38 21.9 -1.1
F31A Hecla 80.86 39 P P 03 38 22.8 -0.2
baz=314,SNR=5.4
ISCO Idaho Springs 80.91 47 P P 03 38 24.6 +0.9
baz=310,SNR=6.4
ISCO Idaho Springs 80.91 47 eP P 03 38 24.6 +0.9
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 80.91 47 eP P 03 38 24.6 +0.9
comp=Z,6.6nm,1.0s
SECR 81.05 320⇑iP P 03 38 24.9 +0.9
D33A AnnSam, Waubun 81.13 36 P P 03 38 23.9 -0.6
baz=316
C34A RKJ Ranch, Bem 81.21 36 P P 03 38 24.2 -0.6
baz=316
B35A Bob, Littlefor 81.25 35 P P 03 38 24.5 -0.4
baz=317
LANS Liptovska Anna 81.26 327 eP P 03 38 26.5 +1.4
LANS Liptovska Anna 81.26 327 eP P 03 38 26.5 +1.4
VOIR 81.29 321⇑iP P 03 38 26.2 +0.8
214A Organ Pipe Nat 81.30 57 P P 03 38 25.9 +0.3
baz=308
KECS Kecovo 81.30 326 eP P 03 38 25.3 0.0
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 81.30 326 eP P 03 38 25.2 0.0
G31A Conde 81.32 39 P P 03 38 25.2 -0.2
baz=314,SNR=5.4
OKC Ostrava-Krasne 81.33 328⇓iP P 03 38 25.9 +0.6
OKC Ostrava-Krasne 81.33 328⇓iP P 03 38 25.9 +0.6
KSP Ksiaz 81.35 329 eP P 03 38 26.1 +0.7
KSP Ksiaz 81.35 329 eP P 03 38 26.1 +0.7
F32A Veblen 81.41 38 P P 03 38 25.6 -0.3
baz=315
SUSD Miller 81.48 40 P P 03 38 26.1 -0.2
baz=314
D34A Park Rapids 81.48 36 P P 03 38 25.8 -0.5
baz=316,SNR=9.8
S22A 4UR Ranch, Cre 81.51 49 P P 03 38 28.1 +1.2
baz=310,SNR=21
S22A 4UR Ranch, Cre 81.51 49 eP P 03 38 28.2 +1.2
comp=Z,15nm,1.0s
E33A Westby DABS, E 81.51 37 P P 03 38 26.4 0.0
baz=316,SNR=12
ARR Arges 81.55 321⇑iP P 03 38 28.3 +1.6
C35A Jirik Farms, M 81.61 35 P P 03 38 26.2 -0.7
baz=317,SNR=5.2
MORC Moravsky Berou 81.63 328⇓iP P 03 38 27.7 +0.7
MORC Moravsky Berou 81.63 328 eP P 03 38 27.7 +0.7
MORC pmax pmax
comp=Z,85nm,1.1s
MORC Moravsky Berou 81.63 328 eP P 03 38 27.7 +0.7
comp=Z,85nm,1.1s
G32A Webster 81.66 39 P P 03 38 27.4 +0.2
baz=315
DPC Dobruska-Polom 81.71 329⇓iP P 03 38 28.3 +0.9
DPC esP sP 03 38 41.6 +1.2
DPC Dobruska-Polom 81.71 329⇓iP P 03 38 28.3 +0.9
DPC e 03 38 41.6
UPC Upice 81.72 329⇓eP P 03 38 28.0 +0.6
UPC ex x 03 38 40.4
UPC Upice 81.72 329 eP P 03 38 28.0 +0.6
UPC e 03 38 40.4
KRLC Kraliky 81.73 329⇓eP P 03 38 28.3 +0.8
KRLC Kraliky 81.73 329 eP P 03 38 28.3 +0.8
Q24A Divide 81.73 47 P P 03 38 28.7 +0.6
baz=311,SNR=6.7
Q24A Divide 81.73 47 eP P 03 38 29.1 +0.9
comp=Z,8.2nm,0.9s
F33A 5 Mile Ranch, 81.84 38 P P 03 38 28.2 +0.1
baz=315,SNR=9.9
E34A Wadena 81.91 37 P P 03 38 28.1 -0.4
baz=316
LOT Lotru 81.92 322⇑iP P 03 38 29.4 +0.7
PSZ Piszkesteto 81.98 326⇑iP P 03 38 29.9 +1.0
PSZ Piszkesteto 81.98 326 eP P 03 38 28.9 0.0
PSZ pmax pmax
comp=Z,27nm,1.0s
PSZ Piszkesteto 81.98 326 eP P 03 38 28.9 0.0
comp=Z,27nm,1.0s
D35A Remer 82.03 36 P P 03 38 28.5 -0.6
baz=317
VYHS Vyhne 82.03 326 eP P 03 38 29.9 +0.8
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 82.03 326 eP P 03 38 29.9 +0.8
C36A Pine Crest Far 82.09 35 P P 03 38 28.9 -0.6
baz=318
G33A Ortonville 82.23 38 P P 03 38 30.2 0.0
baz=315,SNR=11
E35A Pequot Lakes 82.24 36 P P 03 38 29.6 -0.6
baz=317
BRG Berggiesshubel 82.27 330 iP P 03 38 30.4 +0.1
comp=Z,12nm,0.7s
BRG Berggiesshubel 82.27 330 iP P 03 38 30.4 +0.1
BRG e 03 38 43.9
BRG pmax pmax
comp=Z,12nm,0.7s
BRG pmax pmax
comp=Z,5.0nm,0.7s
PVCC Panska Ves 82.29 330⇓eP P 03 38 31.0 +0.6
PVCC Panska Ves 82.29 330 eP P 03 38 31.0 +0.6
CLL Collm 82.30 331⇓iP P 03 38 30.5 +0.1
CLL i 03 38 43.5
CLL pmax pmax
comp=Z,33nm,0.9s
CLL Collm 82.30 331⇓iP P 03 38 30.5 +0.1
comp=Z,33nm,0.9s
CLL iSP sP 03 38 43.5 +0.1
CLL Collm 82.30 331 eP P 03 38 30.6 +0.1
comp=Z,32nm,0.9s
SDCO Great Sand Dun 82.31 48 P P 03 38 32.0 +0.8
baz=311,SNR=13

SDCO	Great Sand Dun	82.31	48	eP	P	03 38 32.1	+0.8
	comp=Z,10nm,1.2s						
D36A	Goodland	82.37	35	P	P	03 38 30.2	-0.7
	baz=317						
RAYN	Ar Rayn	82.39	294	eP	P	03 38 31.6	+0.1
	comp=Z,8.6nm,1.0s						
J31A	Geddes	82.39	41	P	P	03 38 30.9	-0.3
	baz=314						
C37A	Embarrass	82.41	34	P	P	03 38 30.6	-0.5
	baz=318						
TUC	Tucson	82.43	55	P	P	03 38 32.0	+0.4
	baz=309						
TUC	Tucson	82.43	55	eP	P	03 38 32.5	+0.9
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TUC	Tucson	82.43	55	eP	P	03 38 32.5	+0.9
	comp=Z,3.9nm,1.0s						
H33A	Prehn Over Nor	82.44	39	P	P	03 38 31.3	-0.1
	baz=315,SNR=6.0						
PMOR	Pomariorio Ree	82.45	115	eT	T	05 08 53.5	
	comp=Z,3.6nm,0.2s						
I32A	Karley and Nic	82.54	40	P	P	03 38 31.3	-0.6
	baz=315						
EYMN	Ely	82.56	34	P	P	03 38 31.7	-0.2
	baz=318						
G34A	Benson	82.59	38	P	P	03 38 32.1	0.0
	baz=316						
SMOL	Smolenice	82.64	327	eP	P	03 38 33.4	+1.1
SMOL	Smolenice	82.64	327	eP	P	03 38 33.4	+1.1
F35A	Swanville	82.67	37	P	P	03 38 32.1	-0.4
	baz=317						
GOPC	GO Pecny, Ondr	82.68	329‖	eP	P	03 38 33.1	+0.6
GOPC				esP	sP	03 38 46.3	+0.9
GOPC	GO Pecny, Ondr	82.68	329	eP	P	03 38 33.1	+0.6
GOPC				e		03 38 46.3	
PRA	Prague	82.70	330‖	eP	P	03 38 33.4	+0.9
PRA	Prague	82.70	330	eP	P	03 38 33.4	+0.9
PRU	Pruhonice	82.72	330‖	eP	P	03 38 32.8	+0.1
PRU	Pruhonice	82.72	330	eP	P	03 38 32.8	+0.1
D37A	Cotton	82.72	35	P	P	03 38 31.9	-0.9
	baz=318						
J32A	Parkston	82.80	40	P	P	03 38 32.7	-0.5
	baz=315						
E36A	McGregor	82.81	36	P	P	03 38 32.7	-0.5
	baz=317						
C38A	Sawbill Land.	82.83	34	P	P	03 38 32.8	-0.5
	baz=319						
K31A	O'Neill	82.85	41	P	P	03 38 33.5	0.0
	baz=314,SNR=5.3						
BZS	Buzias	82.86	323⇑	iP	P	03 38 33.3	-0.1
I33A	Coleman	82.86	39	P	P	03 38 33.1	-0.5
	baz=315						
TREC	Trest	82.87	329‖	eP	P	03 38 34.0	+0.5
TREC	Trest	82.87	329	eP	P	03 38 34.0	+0.5
PPT	Papeete	82.92	118	LR	LR	04 09 58.8	
	comp=Z,61nm,19.2s,baz=347,slow=32						
PPT2	Papeete2	82.94	118	eLR	LR	04 04 42.9	
	comp=Z,62nm,20.5s						
F36A	Milaca	83.17	36	P	P	03 38 35.0	-0.1
	baz=317						
KSCO	Kaye Shedlock'	83.17	46	eP	P	03 38 36.0	+0.7
	comp=Z,19nm,1.2s						
G35A	Watkins	83.17	37	P	P	03 38 35.4	+0.3
	baz=317,SNR=7.0						
ECSD	EROS Data Cent	83.18	39	P	P	03 38 34.9	-0.3
	baz=315,SNR=7.0						
ECSD	EROS Data Cent	83.18	39	eP	P	03 38 34.9	-0.3
	comp=Z,14nm,1.1s						
MHTCO	State Highway	83.20	48	eP	P	03 38 36.9	+1.2
	comp=Z,80nm,1.9s						
C39A	Grand Marais	83.26	33	P	P	03 38 34.8	-0.7
	baz=319						
NKC	Novy Kostel	83.37	331‖	eP	P	03 38 36.0	0.0
NKC	Novy Kostel	83.37	331	eP	P	03 38 36.0	0.0
T25A	Trinidad	83.37	48	P	P	03 38 37.3	+0.8
	baz=311,SNR=9.0						
T25A	Trinidad	83.37	48	eP	P	03 38 37.3	+0.8
	comp=Z,14nm,0.9s						
H35A	Sunnyside Ranc	83.38	38	P	P	03 38 36.5	+0.3
	baz=316,SNR=16						
MDVR	Moldovita	83.42	322‖	iP	P	03 38 36.6	+0.2
LAZ	Ladron	83.47	52	eP	P	03 38 38.3	+1.2
G36A	St. Michael	83.52	37	P	P	03 38 36.7	-0.2
	baz=317						
E38A	The Farm, Brul	83.53	35	P	P	03 38 36.4	-0.6
	baz=318,SNR=5.3						
ANMO	Albuquerque	83.54	51	P	P	03 38 38.2	+0.7
	baz=311						
ANMO	Albuquerque	83.54	51	iP	P	03 38 37.9	+0.4
ANMO				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	Albuquerque	83.54	51	eP	P	03 38 38.6	+1.1
	comp=Z,14nm,1.1s						
CONA	Conrad Observa	83.76	328	iPcP	P	03 38 39.0	+0.9
	comp=Z,11nm,0.9s						
RPZ	Rata Peaks	83.77	160	LR	LR	04 14 36.9	
	comp=Z,118nm,19.1s,baz=342,slow=35						
K33A	Hardington	83.78	40	P	P	03 38 38.3	0.0
	baz=315						
KHC	Kasperske Hory	83.78	330‖	eP	P	03 38 38.4	+0.2
KHC				ex	x	03 38 52.0	
KHC	Kasperske Hory	83.78	330	eP	P	03 38 38.4	+0.2
KHC				e		03 38 52.0	
KHC	Kasperske Hory	83.78	330	eP	P	03 38 38.5	+0.2
	comp=Z,6.4nm,0.8s						
F38A	Pierce - Schro	83.87	35	P	P	03 38 38.7	0.0
	baz=318,SNR=8.0						
H36A	Jessenland, He	83.91	37	P	P	03 38 39.3	+0.4
	baz=317,SNR=6.2						
BNM	Barren Site	83.95	52	eP	P	03 38 40.2	+0.6
GEC2	GERESS Array S	83.96	329	eP	P	03 38 39.6	+0.4
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GEC2	GERESS Array S	83.96	329	eP	P	03 38 39.6	+0.4
	comp=Z,6.3nm,0.8s						
GERES	GERESS Array B	83.96	329	P	P	03 38 38.9	-0.3
	comp=Z,5.1nm,0.7s,baz=22,slow=4.3,SNR=17						
GEA0	GERESS Array S	83.96	329	eP	P	03 38 39.1	-0.1
SPMN	Marine on St.	83.98	36	P	P	03 38 39.0	-0.2
	baz=318						
SPMN	Marine on St.	83.98	36	eP	P	03 38 39.3	+0.1
	comp=Z,7.7nm,0.8s						
319A	Douglas	84.01	55	eP	P	03 38 40.9	+1.0
	comp=Z,16nm,1.0s						
BGNE	Belgrade	84.02	42	P	P	03 38 39.1	-0.5
	baz=315						
BGNE	Belgrade	84.02	42	eP	P	03 38 39.6	0.0
	comp=Z,66nm,1.4s						
J35A	Milford	84.16	39	P	P	03 38 39.9	-0.4
	baz=316						
E39A	Mellen	84.16	34	P	P	03 38 39.7	-0.4
	baz=319,SNR=6.9						
K34A	Le Mars	84.19	40	P	P	03 38 40.6	+0.2
	baz=316						
VTS	Vitosha	84.24	320⇑	iP	P	03 38 41.5	+0.7
VTS	Vitosha	84.24	320	eP	P	03 38 41.7	+0.9
VTS				pmax	pmax		
	comp=Z,28nm,0.9s						
VTS	Vitosha	84.24	320	eP	P	03 38 41.7	+0.9
	comp=Z,28nm,0.9s						
121A	Cookes Peak, D	84.25	54	P	P	03 38 42.1	+1.0
	baz=310						
121A	Cookes Peak, D	84.25	54	eP	P	03 38 40.9	-0.2
	comp=Z,24nm,1.3s						
I36A	Fitzsimmons Fa	84.28	38	P	P	03 38 41.0	+0.2
	baz=317						
F39A	Loretta	84.34	35	P	P	03 38 40.9	-0.2
	baz=319						
H37A	Dierke Farm, C	84.40	37	P	P	03 38 41.7	+0.3
	baz=318,SNR=5.5						
E40A	Wakefield	84.41	34	P	P	03 38 41.5	+0.1
	baz=320,SNR=7.7						
ARSA	Arzberg	84.43	327	iP	P	03 38 41.9	+0.3
	comp=Z,5.9nm,1.1s						
G38A	Ridgeland	84.47	36	P	P	03 38 41.2	-0.5
	baz=318						
MOA	Molln	84.50	328	iP	P	03 38 42.5	+0.6
	comp=Z,9.0nm,0.9s						
D41A	Chassel	84.53	33	P	P	03 38 41.2	-0.8
	baz=320						
L34A	Svendsen Farm,	84.56	40	P	P	03 38 42.1	-0.2
	baz=316						
I37A	Lemond, Waseca	84.58	37	P	P	03 38 42.7	+0.4
	baz=318,SNR=6.5						
K35A	Storm Lake	84.61	39	P	P	03 38 42.2	-0.4
	baz=316						
J36A	Seneca 1, Swea	84.62	38	P	P	03 38 42.3	-0.2
	baz=317						
H38A	Maiden Rock	84.63	36	P	P	03 38 42.4	-0.2
	baz=318						
G39A	Holcombe	84.70	35	P	P	03 38 42.5	-0.4
	baz=319						
F40A	Park Falls	84.70	34	P	P	03 38 42.5	-0.5
	baz=320						
E41A	Kenton	84.81	33	P	P	03 38 43.1	-0.3
	baz=320,SNR=5.1						
CBKS	Cedar Bluff	84.95	44	P	P	03 38 43.7	-0.7
	baz=314						
J37A	Redenius Farm,	85.03	38	P	P	03 38 44.5	0.0
	baz=317						
K36A	Gilmore City	85.07	39	P	P	03 38 44.7	-0.1
	baz=317						
I38A	Scanlan Farm,	85.08	37	P	P	03 38 44.5	-0.4
	baz=318						
SOKA	Soboth	85.08	327	iP	P	03 38 45.1	+0.2
	comp=Z,16nm,1.2s						
H39A	Augusta	85.10	36	P	P	03 38 44.7	-0.2
	baz=319,SNR=5.7						
G40A	Rib Lake	85.16	35	P	P	03 38 45.0	-0.2
	baz=320,SNR=5.1						
SCHQ	Schefferville	85.26	17	P	P	03 38 45.9	+0.3
	comp=Z,6.0nm,0.6s,baz=7.2,slow=8.4,SNR=6.1						
SCHQ				LR	LR	04 20 31.2	
	comp=Z,70nm,19.7s,baz=12,slow=38						
M35A	Neola	85.28	40	P	P	03 38 45.6	-0.2
	baz=316						
E42A	Champion	85.30	33	P	P	03 38 45.6	-0.3
	baz=321						
F41A	Three Lakes	85.30	34	P	P	03 38 45.8	-0.1
	baz=320,SNR=6.4						
N34A	Lincoln	85.30	41	P	P	03 38 45.0	-1.1
	baz=316						
L36A	Harm Buss Farm	85.35	39	P	P	03 38 45.9	-0.3
	baz=317						
K37A	Belmond	85.38	38	P	P	03 38 46.1	-0.3
	baz=317,SNR=6.6						
MEM	Membach	85.44	334	P	P	03 38 46.9	+0.4
	comp=Z,9.0nm,1.1s						
J38A	Wedel Dairy, R	85.55	37	P	P	03 38 46.9	-0.3
	baz=318,SNR=6.8						
H40A	Chili	85.56	35	P	P	03 38 47.1	-0.1
	baz=319,SNR=6.0						
I39A	Houston	85.61	36	P	P	03 38 47.0	-0.5
	baz=319,SNR=9.1						
O34A	Beatrice	85.67	42	P	P	03 38 46.9	-1.0
	baz=316						
G41A	Antigo	85.67	34	P	P	03 38 47.4	-0.4
	baz=320						
MYKA	Terra Mystica	85.72	328	iP	P	03 38 47.5	-0.6
	comp=Z,6.0nm,1.0s						
E43A	Lone Tree Farm	85.74	32	P	P	03 38 47.8	-0.2
	baz=322						
N35A	Tabor	85.74	41	P	P	03 38 48.0	-0.2
	baz=316						
M36A	Felix, Anita	85.75	40	P	P	03 38 48.2	0.0
	baz=317,SNR=5.3						
L37A	Phoenix Point,	85.79	39	P	P	03 38 48.1	-0.3
	baz=317						
K38A	Parkersburg	85.90	38	P	P	03 38 48.4	-0.5
	baz=318						
J39A	Decorah	85.91	37	P	P	03 38 48.4	-0.6
	baz=319,SNR=11						
H41A	Junction City	85.91	35	P	P	03 38 48.7	-0.2
	baz=320						
G42A	Mountain	85.99	34	P	P	03 38 49.1	-0.2
	baz=321						
E44A	Grand Marais A	86.00	32	P	P	03 38 49.5	+0.1
	baz=322						
I40A	Norwalk	86.01	36	P	P	03 38 49.1	-0.4
	baz=319,SNR=5.2						
P34A	Walnut Farm, R	86.05	42	P	P	03 38 49.1	-0.7
	baz=316,SNR=5.8						
F43A	Flat Rock, Esc	86.09	33	P	P	03 38 49.7	-0.1
	baz=322						
ABTA	Abfaltersbach	86.11	329	iP	P	03 38 49.8	-0.2
	comp=Z,7.4nm,1.4s						
M37A	Trindle Farm,	86.17	40	P	P	03 38 50.5	+0.2
	baz=317						
L38A	Oak Wood Farm,	86.18	38	P	P	03 38 50.1	-0.3
	baz=318						
MOTA	Moosalm	86.21	330	iP	P	03 38 50.3	-0.3
	comp=Z,3.4nm,0.8s						
RETA	Reutte	86.23	330	iPcP	P	03 38 50.8	+0.2
	comp=Z,12nm,1.2s						
I41A	Arkdale	86.24	35	P	P	03 38 50.3	-0.2
	baz=320						
K39A	Oelwein	86.29	37	P	P	03 38 50.1	-0.8
	baz=318						
F44A	Big Bay de Noc	86.30	32	P	P	03 38 50.9	0.0
	baz=322						
G43A	Wallace	86.31	33	P	P	03 38 51.0	+0.1
	baz=321						
J40A	Soldiers Grove	86.33	36	P	P	03 38 50.4	-0.6
	baz=319						
MNTX	Cornudas Mount	86.34	53	P	P	03 38 51.5	+0.1
	baz=311,SNR=5.0						
MNTX	Cornudas Mount	86.34	53	eP	P	03 38 51.9	+0.5
	comp=Z,5.0nm,1.0s						
PDG	Podgorica	86.35	322‖	iP	P	03 38 51.7	+0.5
Q34A	Chapman	86.43	43	P	P	03 38 51.3	-0.3
	baz=316,SNR=5.2						
MSTX	Muleshoe	86.47	50	P	P	03 38 52.1	0.0
	baz=312						
KSU1	Kansas State U	86.48	43	P	P	03 38 51.4	-0.5
	baz=316,SNR=5.6						
KSU1	Kansas State U	86.48	43	eP	P	03 38 51.8	-0.1
	comp=Z,14nm,0.7s						
BFO	Black Forest	86.49	332	iP	P	03 38 52.1	+0.3
BFO	Black Forest	86.49	332	eP	P	03 38 51.7	-0.1
	comp=Z,30nm,1.3s						
P35A	Duane Minner,	86.50	42	P	P	03 38 51.6	-0.4
	baz=316						
H42A	Shiocton	86.51	34	P	P	03 38 51.8	-0.1
	baz=321						
AMTX	Amarillo	86.52	48	P	P	03 38 52.4	+0.1
	baz=313						
AMTX	Amarillo	86.52	48	eP	P	03 38 53.2	+0.9
	comp=Z,9.6nm,0.8s						
E45A	Wooded Hills,	86.53	31	P	P	03 38 51.5	-0.4
	baz=323						
M38A	Pleasantville	86.60	39	P	P	03 38 52.5	+0.1
	baz=318,SNR=8.0						
FETA	Feichten	86.62	330	iPcP	P	03 38 52.5	-0.2
	comp=Z,7.1nm,1.1s						
O36A	Bolckow	86.62	41	P	P	03 38 52.5	-0.1
	baz=317						
K40A	Colesburg	86.66	37	P	P	03 38 52.3	-0.3
	baz=319,SNR=5.8						
L39A	Vinton	86.67	38	P	P	03 38 52.6	-0.1
	baz=318,SNR=6.4						
J41A	Loganville	86.70	36	P	P	03 38 52.6	-0.3
	baz=320,SNR=7.0						
DAVA	Damuels	86.75	330	iPcP	P	03 38 53.5	+0.2
	comp=Z,6.9nm,0.8s						
I42A	Draeger Farm,	86.81	35	P	P	03 38 53.2	-0.1
	baz=320,SNR=7.1						
TBI	Tubuai	86.85	122	eT	T	05 14 23.6	
	comp=Z,4.8nm,0.3s						
P36A	Good Intent, A	86.87	41	P	P	03 38 53.3	-0.5
	baz=317						
H43A	Windswept, Lux	86.88	34	P	P	03 38 53.8	+0.1
	baz=321,SNR=5.4						
F45A	CMU Biological	86.92	32	P	P	03 38 53.8	0.0
	baz=323						
Q35A	Mercer Eighty,	86.97	42	P	P	03 38 54.0	-0.3
	baz=316,SNR=7.6						
O37A	Wolven Farm, M	87.03	40	P	P	03 38 54.7	+0.1
	baz=317						
N38A	Joes South For	87.04	39	P	P	03 38 54.5	-0.1
	baz=318						
U32A	Winter Ranch,	87.06	46	P	P	03 38 54.6	-0.2
	baz=314						
M39A	Webster	87.07	38	P	P	03 38 54.7	0.0
	baz=318,SNR=6.4						
L40A	Anamosa	87.10	38	P	P	03 38 54.4	-0.4
	baz=319						
FUORN	Ofenpass-Fuorn	87.13	330	eP	P	03 38 55.5	+0.2
	comp=Z,8.8nm,0.6s						
K41A	Shullsburg	87.13	37	P	P	03 38 54.6	-0.4
	baz=320,SNR=5.1						
Q36A	Arnold C. Orve	87.21	42	P	P	03 38 55.1	-0.3
	baz=316						
S34A	Willow Spring	87.21	44	P	P	03 38 55.4	-0.1
	baz=316						
R35A	Emporia Munici	87.27	43	P	P	03 38 56.0	+0.3
	baz=316						
P37A	Lathrop	87.34	41	P	P	03 38 55.8	-0.2
	baz=317						
N39A	Derby Farms, D	87.35	39	P	P	03 38 56.1	0.0
	baz=318,SNR=8.1						
O38A	Galt	87.41	40	P	P	03 38 56.4	0.0
	baz=318						
L41A	Preston	87.44	37	P	P	03 38 56.2	-0.3
	baz=319						
M40A	Post Highland	87.45	38	P	P	03 38 56.4	-0.2
	baz=319						
R36A	Gordon, Harris	87.64	42	P	P	03 38 57.4	-0.2
	baz=316						
T34A	McClaskey Farm	87.65	44	P	P	03 38 57.5	-0.1
	baz=316						
S35A	Otter Creek Ra	87.66	43	P	P	03 38 57.6	-0.1
	baz=316						
P38A	Dawn	87.75	40	P	P	03 38 57.9	-0.1
	baz=318						
O39A	Kirksville	87.79	39	P	P	03 38 58.3	+0.1
	baz=318						
N40A	Mertquake, Sal	87.81	38	P	P	03 38 58.4	+0.1
	baz=319						
M41A	Milan	87.95	38	P	P	03 38 58.8	-0.1
	baz=319						
GLMI	Grayling	87.99	32	eP	P	03 38 60.0	+0.9
	comp=Z,61nm,0.9s						
R37A	Teagarden Farm	88.02	42	P	P	03 38 58.7	-0.6
	baz=317						
S36A	Lake Cedric, C	88.03	43	P	P	03 38 59.2	-0.2
	baz=316						
T35A	Sooner Cattle	88.10	44	P	P	03 38 59.6	-0.1
	baz=316						
L43A	Garden Prairie	88.20	36	P	P	03 38 59.5	-0.6
	baz=321						
O40A	La Belle	88.23	39	P	P	03 39 00.3	0.0
	baz=319						
P39B	Salisbury	88.25	40	P	P	03 39 00.3	-0.2
	baz=318						
N41A	Harden Midland	88.30	38	P	P	03 39 00.6	-0.1
	baz=319						
WMOK	Wichita Mounta	88.34	47	P	P	03 39 00.8	-0.2
	baz=315						
T36A	Boggs Farm, Ca	88.35	44	P	P	03 39 01.2	+0.3
	baz=316						
U35A	Pawnee	88.37	45	P	P	03 39 01.1	0.0
	baz=316						
S37A	Fort Scott	88.42	42	P	P	03 39 01.0	-0.2
	baz=317						
Q39A	Willow Grove F	88.46	41	P	P	03 39 01.2	-0.3
	baz=318						
SENIN	Lac Senin/Sane	88.51	331	eP	P	03 39 03.5	+1.7
	comp=Z,5.1nm,0.6s						
P40A	Paris	88.58	40	P	P	03 39 02.1	+0.1
	baz=318,SNR=5.7						
N42A	Yates City	88.62	38	P	P	03 39 01.9	-0.2
	baz=320						
O41A	Passleys Farm,	88.74	39	P	P	03 39 02.8	+0.1
	baz=319,SNR=7.5						
T37A	Cheneyville 18	88.83	43	P	P	03 39 03.1	-0.1
	baz=317						
U36A	Oologah	88.91	44	P	P	03 39 03.4	-0.1
	baz=316						
Q40A	Laux Farm, Aux	88.97	40	P	P	03 39 03.6	-0.2
	baz=318						
R39A	Chumby, Stover	88.97	41	P	P	03 39 03.3	-0.6
	baz=318						
S38A	Stockton	89.01	42	P	P	03 39 03.3	-0.8
	baz=317						
TX31	Lajitas Ar. Si	89.02	54	eP	P	03 39 04.6	+0.3
LTX	Lajitas	89.02	54	eP	P	03 39 04.6	+0.3
LTX	Lajitas	89.02	54	eP	P	03 39 04.6	+0.3
TXAR	Lajitas Array	89.02	54	P	P	03 39 04.6	+0.2
	comp=Z,6.7nm,0.6s,baz=304,slow=3.5,SNR=66						
W35A	Tecumseh	89.15	45	P	P	03 39 04.6	-0.2
	baz=316						
HDIL	Hopedale	89.19	37	P	P	03 39 04.5	-0.2
	baz=320						
HDIL	Hopedale	89.19	37	eP	P	03 39 05.1	+0.3
	comp=Z,24nm,0.8s						
TUL1	Leonard	89.23	44	P	P	03 39 05.1	0.0
	baz=316						
T38A	Diamond	89.24	43	P	P	03 39 04.9	-0.2
	baz=317,SNR=5.9						
U37A	Salina	89.25	44	P	P	03 39 05.0	-0.1
	baz=317						
S39A	Bolivar	89.28	42	P	P	03 39 04.6	-0.7
	baz=318						
ABTX	Abilene, Hawle	89.30	49	P	P	03 39 05.4	-0.1
	baz=314						
O43A	Sugar Creek Fa	89.39	38	P	P	03 39 05.6	-0.1
	baz=320						
R40A	Maddies Statio	89.39	41	P	P	03 39 05.5	-0.3
	baz=318,SNR=5.6						
P42A	Winchester	89.41	39	P	P	03 39 05.8	0.0
	baz=320,SNR=6.7						
Q41A	Truxton	89.44	40	P	P	03 39 06.0	0.0
	baz=319,SNR=6.4						
W36A	Wetumka	89.53	45	P	P	03 39 06.3	-0.2
	baz=316						
V37A	Hulbert	89.61	44	P	P	03 39 06.7	-0.1
	baz=317						
U38A	Gravette	89.62	43	P	P	03 39 06.5	-0.4
	baz=317						
X35A	Drake	89.63	46	P	P	03 39 06.7	-0.3
	baz=316						
T39A	Clever	89.74	42	P	P	03 39 06.9	-0.6
	baz=318						
P43A	Skaggs, Pawnee	89.78	38	P	P	03 39 07.4	-0.2
	baz=320						
S40A	Lebanon	89.79	41	P	P	03 39 07.0	-0.6
	baz=318						
Q42A	Golden Eagle	89.82	39	P	P	03 39 07.8	0.0
	baz=320						
R41A	Rosebud	89.85	40	P	P	03 39 07.8	-0.1
	baz=319						
X36A	Centrahoma	89.87	46	P	P	03 39 08.2	+0.1
	baz=316						
Y35A	Marietta	89.95	46	P	P	03 39 08.4	-0.1
	baz=316						
HHAR	Hobbs	89.98	43	eP	P	03 39 08.5	-0.1
	comp=Z,4.1nm,0.8s						
W37B	Quinton	89.98	45	P	P	03 39 08.8	+0.2
	baz=316,SNR=5.5						
V38A	Canehill	90.03	44	P	P	03 39 08.7	-0.2
	baz=317,SNR=7.6						
CCM	Cathedral Cave	90.11	40	eP	P	03 39 09.3	+0.2
CCM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CCM	Cathedral Cave	90.11	40	eP	P	03 39 09.3	+0.2
	comp=Z,10.0nm,0.8s						
T40A	Mansfield	90.11	42	P	P	03 39 08.7	-0.5
	baz=318						
U39A	Green Forest	90.16	43	P	P	03 39 09.0	-0.5
	baz=318,SNR=7.0						
S41A	Jillco Farms,	90.19	41	P	P	03 39 09.2	-0.4
	baz=319						
P44A	Sand Creek, Wi	90.36	38	P	P	03 39 10.4	+0.1
	baz=321,SNR=5.2						
SFIN	Lafayette	90.39	36	P	P	03 39 10.4	+0.1
	baz=322						
Y36A	Durant	90.39	46	P	P	03 39 10.9	+0.3
	baz=316						
X37A	Clayton	90.42	45	P	P	03 39 10.7	0.0
	baz=317						
V39A	Pettigrew	90.47	43	P	P	03 39 10.7	-0.3
	baz=318						
U40A	Yellville	90.52	42	P	P	03 39 10.8	-0.3
	baz=318,SNR=7.8						
W38A	Poteau	90.55	44	P	P	03 39 11.4	+0.2
	baz=317						
T41A	Mountain View	90.59	41	P	P	03 39 10.9	-0.5
	baz=319						
R43A	Red Bud	90.61	39	P	P	03 39 11.8	+0.3
	baz=320						
JCT	Junction City	90.69	50	P	P	03 39 12.0	0.0
	baz=314						
JCT	Junction City	90.69	50	eP	P	03 39 12.2	+0.1
JCT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
JCT	Junction City	90.69	50	eP	P	03 39 12.2	+0.1
	comp=Z,6.6nm,0.7s						
Z36A	Blue Ridge	90.75	47	P	P	03 39 12.1	-0.2
	baz=316						
W39A	Magazine	90.87	44	P	P	03 39 12.6	-0.

U41A	Viola	91.03	42	P	P	03 39 13.3	-0.2
	baz=319						
WHTX	Lake Whitney,	91.06	48	P	P	03 39 13.9	+0.3
	baz=315,SNR=7.8						
WHTX	Lake Whitney,	91.06	48	eP	P	03 39 14.2	+0.6
	comp=Z,11nm,0.8s						
X39A	Fountain Ranch	91.19	44	P	P	03 39 14.5	+0.3
	baz=317						
W40A	Ferguson Farm,	91.26	43	P	P	03 39 14.6	+0.1
	baz=318						
Z37A	Pogue Cattle C	91.28	46	P	P	03 39 15.0	+0.4
	baz=316						
V41A	Mountainview	91.32	42	P	P	03 39 14.4	-0.5
	baz=318,SNR=6.3						
T43A	Greenville	91.34	40	P	P	03 39 14.9	+0.1
	baz=320						
U42A	Revenden	91.39	41	P	P	03 39 15.3	+0.2
	baz=319						
S44A	Carbondale	91.40	39	P	P	03 39 15.2	+0.1
	baz=320						
MIAR	Mount Ida	91.46	44	P	P	03 39 15.7	+0.2
	baz=318,SNR=5.7						
MIAR	Mount Ida	91.46	44	eP	P	03 39 16.0	+0.5
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MIAR	Mount Ida	91.46	44	eP	P	03 39 16.0	+0.5
	comp=Z,9.6nm,0.8s						
PBMO	Poplar Bluff	91.49	41	eP	P	03 39 15.9	+0.3
	comp=Z,18nm,1.1s						
Y39A	Lockesburg	91.61	45	P	P	03 39 16.3	+0.1
	baz=317						
WHAR	Wooly Hollow	91.62	43	eP	P	03 39 16.8	+0.6
	comp=Z,27nm,1.3s						
V42A	Cord	91.72	42	P	P	03 39 16.2	-0.5
	baz=319						
W41B	Gary Mavity, V	91.73	43	P	P	03 39 17.1	+0.4
	baz=318						
S45A	Carrier Mills	91.76	39	P	P	03 39 16.7	0.0
	baz=321						
U43A	Rector	91.82	41	P	P	03 39 17.1	0.0
	baz=320						
X40A	Basin Creek Fa	91.92	43	P	P	03 39 17.9	+0.3
	baz=318						
Y40A	Okolona	92.02	44	P	P	03 39 18.1	0.0
	baz=318						
M54A	Oil Creek Stat	92.78	31	P	P	03 39 21.4	-0.1
	baz=327						
N54A	Moraine State	93.10	31	P	P	03 39 22.6	-0.4
	baz=326						
KEST	Kesra	96.38	324	LR	LR	04 28 33.3	
	comp=Z,130nm,18.1s,baz=307,slow=39						
ESDC	Sonseca Array	98.41	335	P	P	03 39 46.5	-0.7
	comp=Z,0.5nm,0.6s,baz=16,slow=5.1,SNR=6.1						
ESDC				LR	LR	04 29 22.6	
	comp=Z,107nm,19.5s,baz=10.0,slow=38						
VNDA	Vanda	114.42	176	PKP	PKPdf	03 44 47.2	-0.2
	comp=Z,0.5nm,0.7s,baz=319,slow=2.9,SNR=2.7						
TOA1	Torodi Ar. Sit	118.82	317	ePKPdf	PKPdf	03 44 56.9	-1.0
TOA1				ePP	PP	03 46 03.8	-12
TORD	Torodi Ar. Bea	118.82	317	PKP	PKPdf	03 44 56.9	-1.0
	comp=Z,0.6nm,0.4s,baz=35,slow=2.6,SNR=20						
TORD				PP	PP	03 46 03.8	-12
	comp=Z,1.5nm,0.9s,baz=29,slow=8.1,SNR=4.7						
MAW	Mawson	119.90	206	PKP	PKPdf	03 44 58.5	+0.3
	comp=Z,1.1nm,0.7s,baz=102,slow=9.3,SNR=4.9						
SDV	Santo Domingo	124.52	42	ePKPdf	PKPdf	03 45 08.7	-0.4
RUSC	La Rusia	125.58	47	ePKPdf	PKPdf	03 45 12.2	+0.7
QSPA	South Pole Qui	126.35	180	ePKPdf	PKPdf	03 45 10.7	-0.1
DBIC	Dimbokro	127.75	319	PKP	PKPdf	03 45 14.8	-0.2
	comp=Z,3.3nm,0.5s,baz=14,slow=1.0,SNR=8.6						
BOSA	Boshof	128.18	260	PKP	PKPdf	03 45 15.8	+0.2
	comp=Z,2.6nm,0.8s,baz=334,slow=1.4,SNR=4.0						
PTGA	Pitinga	138.19	37	ePKPdf	PKPdf	03 45 35.1	+0.4
SAML	Samuel	143.31	48	ePKPpre	PKPpre	03 45 40.7	
LPAZ	La Paz	145.41	63	PKPbc	PKPbc	03 45 47.8	-0.3
	comp=Z,9.9nm,0.7s,baz=286,slow=2.4,SNR=50						
LPAZ	La Paz	145.41	63	ePKPdf	PKPbc	03 45 48.0	-0.1
MNMC	Minye Minye	146.15	68	ePKPdf	PKPab	03 45 50.5	-0.1
PB11	IPOC Station P	146.49	69	ePKPdf	PKPab	03 45 51.3	-0.4
PLCA	Paso Flores	153.17	109	PKPab	PKPab	03 46 17.2	-1.3
	comp=Z,2.9nm,0.7s,baz=323,slow=5.1,SNR=5.5						

MEX 11 03:28:42.3±0.3, 23°.67N×109°.97W, h20km, MD3.7, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	0.53	325	eP	Pb	03 28 51.2	-1.7
	baz=145,slow=3.4						
LPIG				i S	Sb	03 28 58.1	-2.0

IDC 11 03:33:16.5±15.0, 35°.79N×70°.88E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/45, mbtmp3.9/3, Error ellipse: s-maj=360.4km s-min=48.7km az=110.0
ISCJB 11 03:33:43.4±0.9, 36°.69N±0°.06×70°.8E±0°.1, h200km, mb3.5/3, Error ellipse: s-maj=14.7km s-min=8.7km az=7.6
ISC 11 03:33:43.7±1.0, 36°.63N±0°.07×70°.8E±0°.1, h200km, n7, σ2°26/9, mb3.7/3, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.96	161	↑P	Pn	03 34 34.7	+1.6
CEP				S	Sn	03 35 12.0	+0.4
THW	Thamme Wali	3.91	168	↓P	Pn	03 34 45.2	+0.7
KSH	Kashi	5.02	53	Pn	Pn	03 34 59.4	+0.9
KSH				Sn	Sn	03 35 55.4	-2.0
KSH				smax	smax		
	comp=N,120nm,0.4s						
KSH				smax	smax		
	comp=E,150nm,0.8s						
MNAS	Manas	6.00	12	P	Pn	03 35 14.2	+3.1
MNAS				pmax	pmax		
	comp=Z,25nm,0.8s						
FINES	FINESS Array B	37.27	326	P	P	03 40 35.8	-0.1
	comp=Z,2.0nm,0.8s,baz=128,slow=11,SNR=2.9						
ARCES	ARCESS Array B	40.95	338	P	P	03 41 07.0	+0.7
	comp=Z,1.2nm,0.5s,baz=110,slow=7.0,SNR=8.6						
TORD	Torodi Ar. Bea	65.53	268	P	P	03 44 02.6	-3.4
	comp=Z,0.2nm,0.4s,baz=51,slow=5.8,SNR=6.5						

NIED 11 04:10:00, 38°.20N×144°.60E, h14km, Mw3.6 Best double couple: M0=2.75000×10^14 NP1:φs=11.00000°, δ21.00000°, λ-82.00000°. NP2:φs=182.00000°, δ69.00000°, λ-93.00000°.
IDC 11 04:10:22.9±3.2, 38°.05N×144°.88E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/39, mbtmp3.5/3, ML3.7/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/28, Error ellipse: s-maj=74.5km s-min=38.6km az=56.0
ISCJB 11 04:10:26.4±1.1, 38°.24N±0°.05×144°.61E±0°.09, h33km, mb3.5/2, Error ellipse: s-maj=9.8km s-min=7.7km az=172.7
JMA 11 04:10:26.8±0.2, 38°.23N×144°.56E, h44km, M3.7
ISC 11 04:10:28.3±1.6, 38°.22N±0°.07×144°.6E±0°.1, h35km, n15, σ1°02/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.44	292	P	Pn	04 11 05.3	-0.3
OFUJ				S	Sn	04 11 34.2	0.0
MIYJ	Miyakonagasawa	2.55	303	P	Pn	04 11 06.7	-0.4
MIYJ				eS	Sn	04 11 36.1	-0.8
JTH	Tanohata	2.73	310	P	Pn	04 11 09.1	-0.5
JMK	Ichinoseki	2.73	287	P	Pn	04 11 09.6	-0.1
JMK				S	Sn	04 11 41.8	+0.3
JOM	Ohasama	2.86	297	P	Pn	04 11 11.3	-0.1
JOM				S	Sn	04 11 44.7	+0.1
JANG	Nango	3.21	313	P	Pn	04 11 15.9	-0.3
JANG				eS	Sn	04 11 52.1	-1.2
JYK	Kaneyama	3.38	283	P	Pn	04 11 19.4	+0.8
JFT	Otama	3.43	260	P	Pn	04 11 19.7	+0.4
JFT				S	Sn	04 11 58.8	+0.1
JNBK	Urakawa-nobuka	4.29	342	P	Pn	04 11 31.2	+0.1
JNBK				eS	Sn	04 12 19.2	-0.8
JRY	Ryogami san	5.04	246	P	Pn	04 11 40.9	-0.5
MJAR	Matsushiro Arr	5.34	254	Pn	Pn	04 11 46.4	+0.8
	2.6nm,0.3s,baz=78,slow=14,SNR=23						
MJAR				LR	LR	04 13 58.0	
	comp=Z,58nm,20.1s,baz=110,slow=39						
MAT	Matsushiro	5.34	254	P	Pn	04 11 46.6	+1.0
MAT				eS	Sn	04 12 42.8	-3.1
KSRS	Korea Array	13.19	272	LR	LR	04 18 13.8	
	comp=Z,22nm,18.3s,baz=90,slow=35						
MKAR	Makanchi Array	45.63	302	P	P	04 18 47.0	+1.8
	0.2nm,0.2s,baz=93,slow=8.6,SNR=3.9						
WRA	Warramunga Arr	58.64	191	P	P	04 20 21.1	-0.9
	0.2nm,0.6s,baz=6.0,slow=6.8,SNR=2.7						

NIED 11 04:43:00, 38°.30N×144°.50E, h5km, Mw3.6 Best double couple: M0=3.24000×10^14 NP1:φs=36.00000°, δ16.00000°, λ-68.00000°. NP2:φs=193.00000°, δ75.00000°, λ-96.00000°.
JMA 11 04:43:32.0±0.1, 38°.27N×144°.49E, h25km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.35	291	P	Pn	04 44 10.4	+1.4
MIYJ	Miyakonagasawa	2.46	303	P	Pn	04 44 11.8	+1.3
MIYJ				eS	Sn	04 44 41.4	+1.7
JIO	Ouri	2.48	275	P	Pn	04 44 11.9	+1.2
JIO				S	Sn	04 44 41.6	+1.5
JMK	Ichinoseki	2.65	286	P	Pn	04 44 14.9	+1.8
JOM	Ohasama	2.77	297	P	Pn	04 44 16.5	+1.7
JOM				eS	Sn	04 44 49.1	+1.7
JANG	Nango	3.12	313	P	Pn	04 44 21.6	+2.0
JYK	Kaneyama	3.30	283	P	Pn	04 44 23.6	+1.5
JYK				eS	Sn	04 45 02.6	+2.1

NIED 11 04:50:00, 38°.20N×144°.50E, h5km, Mw3.9 Best double couple: M0=8.57000×10^14 NP1:φs=10.00000°, δ11.00000°, λ-60.00000°. NP2:φs=159.00000°, δ80.00000°, λ-96.00000°.
IDC 11 04:50:53.6±1.8, 38°.12N×144°.90E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/57, mbtmp3.9/11, ML4.1/2, MS2.8/3, Ms1 2.8/3, ms1mx2.5/40, Error ellipse: s-maj=44.1km s-min=19.7km az=173.0
ISCJB 11 04:50:57.1±0.7, 38°.29N±0°.05×144°.58E±0°.05, h33km, mb3.9/8, Error ellipse: s-maj=6.8km s-min=5.3km az=161.8
JMA 11 04:50:57.5±0.1, 38°.23N×144°.53E, h44km, M4.2
ISC 11 04:50:58.9±0.9, 38°.24N±0°.06×144°.62E±0°.07, h35km, n30, σ1°68/35, mb3.8/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.46	291	P	Pn	04 51 35.5	-1.0
OFUJ				eS	Sn	04 52 04.0	-1.4
MIYJ	Miyakonagasawa	2.56	302	P	Pn	04 51 36.9	-1.1
MIYJ				S	Sn	04 52 06.1	-1.8
JIO	Ouri	2.58	276	P	Pn	04 51 37.1	-1.1
JIO				S	Sn	04 52 06.5	-1.9
JMK	Ichinoseki	2.76	286	P	Pn	04 51 39.9	-0.7
JMK				S	Sn	04 52 11.2	-1.5
JOM	Ohasama	2.88	296	P	Pn	04 51 41.6	-0.7
JOM				eS	Sn	04 52 14.6	-1.1
JANG	Nango	3.22	312	P	Pn	04 51 46.3	-0.7
JANG				S	Sn	04 52 22.4	-1.7
JYK	Kaneyama	3.41	283	P	Pn	04 51 49.4	-0.2
JFT	Otama	3.47	259	P	Pn	04 51 49.8	-0.6
JOT	Ohata	4.18	320	S	Sn	04 52 44.8	-2.9
JCH	Churui	4.48	348	P	Pn	04 52 02.7	-1.5
JCH				S	Sn	04 52 51.7	-3.4
BSO1	Boso 1	4.63	221	P	Pn	04 52 03.2	-2.6
JRY	Ryogami san	5.08	246	P	Pn	04 52 11.0	-1.6
JRY				S	Sn	04 53 06.8	-3.2
MJAR	Matsushiro Arr	5.38	254	Pn	Pn	04 52 16.7	0.0
	10nm,0.3s,baz=79,slow=15,SNR=69						
MJAR				LR	LR	04 54 30.3	
	comp=Z,81nm,21.7s,baz=75,slow=39						
MAT	Matsushiro	5.38	254	P	Pn	04 52 16.9	+0.2
MAT				eS	Sn	04 53 18.1	+0.7
JTKR	Abashiri--Toko	5.75	355	P	Pn	04 52 19.8	-2.0
ASAJ	Asahikawa	6.07	346	Pn	Pn	04 52 25.4	-0.7
	2.8nm,0.3s,baz=261,slow=21,SNR=3.7						
ASAJ				Sn	Sn	04 53 36.4	+2.1
	2.4nm,0.3s,baz=322,slow=19,SNR=4.1						
USRK	Ussuriysk Ar.	11.22	306	Pn	Pn	04 53 38.5	+1.8
	0.2nm,0.3s,baz=101,slow=13,SNR=4.0						
KSRS	Korea Array	13.23	272	LR	LR	04 58 55.1	
	comp=Z,38nm,18.4s,baz=58,slow=36						
PETK	Petropavlovsk-	17.41	27	LR	LR	05 01 11.6	
	comp=Z,29nm,20.5s,baz=83,slow=36						
SEY	Seymchan	25.18	8	P	P	04 56 21.3	+0.6
	1.4nm,0.3s,baz=181,slow=23,SNR=5.7						
H11N2	WAKE ISLAND Hy	26.71	127	T	T	05 24 21.2	
	baz=320,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	26.72	127	T	T	05 24 12.5	
	baz=320,slow=75,SNR=6.8						
H11N3	WAKE ISLAND Hy	26.73	127	T	T	05 24 13.6	
	baz=320,slow=75,SNR=11						
SONM	Songino Array	29.28	302	P	P	04 57 01.1	+3.2
	0.6nm,0.6s,baz=77,slow=7.6,SNR=3.0						
KDAK	Kodiak Island	44.49	43	P	P	04 59 06.1	-0.5
	9.7nm,0.8s,baz=308,slow=7.9,SNR=5.0						
MKAR	Makanchi Array	45.65	302	P	P	04 59 17.3	+1.3
	0.3nm,0.3s,baz=82,slow=8.8,SNR=7.0						
ILAR	Eielson Array	47.11	33	P	P	04 59 26.8	-0.4
	0.5nm,0.7s,baz=262,slow=6.8,SNR=8.9						
KURBB	Kurchatov Arra	47.28	308	P	P	04 59 29.9	+1.3
	0.8nm,0.5s,baz=80,slow=8.0,SNR=3.0						
PDAR	Pinedale Array	75.00	47	P	P	05 02 36.9	-0.1
	0.5nm,0.6s,baz=243,slow=1.1,SNR=7.5						
TXAR	Lajitas Array	87.36	54	P	P	05 03 41.6	-1.1
	0.6nm,0.8s,baz=321,slow=3.2,SNR=4.5						

KLM 11 04:51:36.0, 7°.75S×121°.17E, h572km, mb4.5
ISCJB 11 04:51:37.5±0.3, 7°.45S±0°.04×121°.05E±0°.05, h550km, mb4.1/17, Error ellipse: s-maj=7.4km s-min=5.4km az=153.6
IDC 11 04:51:38.7±1.7, 7°.37S×121°.05E, h544km±20km, mb3.7/18, mb1 3.7/19, mb1mx3.4/58, mbtmp4.6/19, Error ellipse: s-maj=18.4km s-min=9.1km az=61.0
DJA 11 04:51:39.7±0.4, 7°.5S±3°×12°.1E±°, h523km±4km, M4.3/12, mb4.6/5, mB4.8/4, MLv4.3/12, Mw(mB)4.0/4
ISC 11 04:51:38.8±0.5, 7°.46S±0°.06×121°.04E±0°.07, h550km, n55, σ1°31/63, mb4.2/17, 2D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.42	337	P	P	04 52 46.2	-0.1
BSSI				S	S	04 53 38.5	-2.5
EDFI	Ende, Flores	1.43	153	P	P	04 52 44.7	-1.7
MMRI	Maumere	1.66	135	P	P	04 52 45.5	-1.6
MMRI				S	S	04 53 38.9	-3.7
WSI	Waingapu	2.31	198	P	P	04 52 49.4	-0.5
WSI				S	S	04 53 45.0	-2.8
BBSI	Bau Bau	2.48	38	S	S	04 53 47.1	-2.3
BASI	Baing, Sumba	2.78	189	P	P	04 52 52.4	-0.1
BASI				S	S	04 53 49.8	-2.7
PLAI	Plampang	3.50	247	P	P	04 52 56.3	-0.8
PLAI				S	S	04 53 56.9	-4.0
SPSI	Sidrap Palu	3.70	340	P	P	04 52 58.5	0.0
KDI	Kendari	3.82	24	P	P	04 52 59.6	+0.2
KDI				S	S	04 54 03.1	-1.9
SOEI	Soe	3.92	126	P	P	04 52 59.8	-0.4
SOEI				S	S	04 54 03.7	-2.8
TWSI	Taliwang, Sumb	4.31	253	P	P	04 52 56.2	-6.8
TTSI	Tana Toraja	4.55	344	P	P	04 53 04.5	-0.5
PCI	Palu	6.62	350	P	P	04 53 23.5	+0.2
NLAI	Namlea	7.35	56	P	P	04 53 28.7	-1.5
BKB	Balikpapan	7.42	326	P	P	04 53 33.6	+2.8
	258nm,0.7s,3μm						
MPSI	Mapaga	7.83	352	P	P	04 53 34.3	-0.6
MRSI	Marisa	7.94	7	P	P	04 53 34.6	-1.4
KMSI	Cibinong	8.50	20	P	P	04 53 41.6	0.0
SBUM	Sibu	13.21	318	↓P	P	04 54 30.8	+0.9
KSM	Kuching	13.91	309	↓P	P	04 54 37.6	+0.5
CGJI	Cibinong	15.26	272	P	P	04 54 50.3	-0.7
MDSI	Maura Dua	17.03	279	P	P	04 55 07.8	-0.1
WRA	Warramunga Arr	17.89	135	P	P	04 55 16.0	+0.2
	4.2nm,0.3s,baz=315,slow=10,SNR=227						
ASAR	Alice Springs	20.30	144	P	P	04 55 38.1	+0.5
	11nm,0.4s,baz=318,slow=8.1,SNR=205						
ASAR				ScP	ScP	05 02 10.9	+0.2
	1.3nm,0.6s,baz=318,slow=2.1,SNR=7.0						
PSI	Prapat	24.31	294	P	P	04 56 13.6	-0.2
	9.8nm,0.7s,baz=96,slow=7.9,SNR=6.3						
NWAO	Narrogin (SRO)	25.59	187	P	P	04 56 25.3	+0.7
	3.1nm,0.4s,baz=260,slow=8.0,SNR=7.1						
CTA	Charters Tower	27.46	120	P	P	04 56 41.8	+0.4
	1.7nm,0.4s,baz=318,slow=15,SNR=3.6						
STKA	Stephens Creek	30.93	144	P	P	04 57 12.3	+1.0
	20nm,0.4s,baz=320,slow=9.3,SNR=55						
CMAR	Chiang Mai Arr	33.74	320	P	P	04 57 35.8	+0.5
	2.7nm,0.7s,baz=149,slow=6.5,SNR=14						
CMAR				PcP	PcP	05 00 00.2	+1.5
	1.5nm,0.5s,baz=161,slow=2.7,SNR=6.2						
ODAN	Odare	47.20	318	eP	P	04 59 22.3	-0.3
	19nm,0.6s						
TAPN	Taplejung	47.31	318	eP	P	04 59 23.4	-0.1
	18nm,0.5s						
RAMN	Ramite	47.79	317	eP	P	04 59 27.1	+0.1
	44nm,0.6s						
JIRN	Jiri	48.53	317	eP	P	04 59 32.4	-0.3
	186nm,0.6s						
GUN	Gumba	48.90	317	eP	P	04 59 35.0	-0.4
	35nm,0.7s						
PKI	Pulchoki	49.00	317	eP	P	04 59 35.4	-0.7
	7.7nm,0.4s						
PKIN	Phulchoki	49.01	317	eP	P	04 59 35.3	-0.8
	18nm,0.7s						
DMN	Daman	49.23	317	eP	P	04 59 37.2	-0.5
	16nm,0.8s						
GKN	Gorkha	49.80	317	eP	P	04 59 41.3	-0.5
	8.3nm,0.3s						
KOLN	Koldanda	50.37	316	eP	P	04 59 45.4	-0.6
	20nm,0.7s						
DANN	Dangsing	50.62	316	eP	P	04 59 47.6	-0.3
	2.5nm,0.8s						
PYUN	Piuthan	50.99	316	eP	P	04 59 50.2	-0.4
	27nm,0.6s						
SONM	Songino Array	56.56	348	P	P	05 00 29.2	-0.2
	1.9nm,0.4s,baz=166,slow=7.9,SNR=14						
MKAR	Makanchi Array	64.05	331	P	P	05 01 18.8	-0.1
	4.2nm,0.5s,baz=144,slow=7.3,SNR=40						
ZALV	Zalesovo Beam	68.36	338	P	P	05 01 44.0	-1.3
	6.3nm,0.4s,baz=144,slow=4.6,SNR=9.9						
KURBB	Kurchatov Arra	68.52	332	P	P	05 01 45.8	-0.5
	1.7nm,0.4s,baz=144,slow=5.3,SNR=9.7						
OPO	Ambohidratompo	72.40	253	P	P	05 02 11.0	+0.8
	1.6nm,0.5s,baz=73,slow=19,SNR=5.9						
VNDA	Vanda	73.19	171	P	P	05 02 14.8	+1.3
	0.5nm,0.6s,baz=306,slow=9.9,SNR=5.1						
GEYT	Alibeck	73.86	313	P	P	05 02 18.0	0.0
	2.2nm,0.4s,baz=146,slow=2.9,SNR=4.0						
SEY	Seymchan	74.17	14	P	P	05 02 19.8	+0.7
	4.5nm,0.5s,baz=174,slow=23,SNR=8.8						
MATP	Matopo	89.80	250	P	P	05 03 39.6	-0.1
	2.5nm,0.8s,baz=88,slow=6.7,SNR=5.1						
LSZ	Lusaka	90.79	255	P	P	05 03 45.1	+0.7
	2.5nm,0.6s,baz=85,slow=3.4,SNR=5.3						
BOSA	Boshof	91.51	241	P	P	05 03 48.1	+0.5
	1.6nm,0.5s,baz=94,slow=1.6,SNR=4.3						
BRTR	Keskin Array B	92.72	310	P	P	05 03 51.9	-1.0
	0.4nm,0.6s,baz=119,slow=5.3,SNR=4.2						
TORD	Torodi Ar. Bea	120.17	281	PKP	PKPdf	05 09 28.5	0.0
	1.0nm,0.6s,baz=33,slow=2.7,SNR=7.2						
CPUP	Villa Florida	146.37	183	PKPbc	PKPbc	05 10 19.9	+0.9
	1.9nm,0.7s,baz=304,slow=8.2,SNR=7.6						

KRSC 11 04:53:03.1±1.8, 49°.58N×156°.99E, h16km±30km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.24	333	P	Pn	04 53 25.3	-0.5
SKR				eS	Sb	04 53 39.9	-2.0
ASAK	Asacha	2.87	11	eP	Pn	04 53 50.7	+2.5
MTVR	Mutnovka	3.01	14	eP	Pb	04 53 53.3	-3.0
MTVR				eS	Sb	04 54 30.2	-2.6
RUS	Russkaya	3.02	18	eP	Pn	04 53 52.4	+2.2
RUS				eS	Sn	04 54 29.1	+3.1
AVH	Avacha	3.85	16	eP	Pn	04 54 05.4	+3.6
AVH				eS	Sb	04 54 52.3	-4.8
SDLR	Sedlovina	3.89	17	eP	Pn	04 54 05.0	+2.7
SPN	Mys Shipunski	4.01	27	S	Sn	04 54 53.8	+3.4
GNL	Ganaly	4.17	8	eP	Pn	04 54 10.3	+4.2

NIED 11 04:56:00, 37°.40N×142°.20E, h32km, Mw3.4 Best double couple: M0=1.55000×10^14 NP1:φs=171.00000°, δ53.00000°, λ144.00000°. NP2:φs=285.00000°, δ62.00000°, λ43.00000°.
IDC 11 04:56:32.7±2.1, 37°.33N×142°.69E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/56, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=48.8km s-min=29.9km az=50.0
ISCJB 11 04:56:37.0±1.5, 37°.45N±0°.04×142°.23E±0°.08, h16km±7km, mb3.8/3, Error ellipse: s-maj=11.5km s-min=6.8km az=20.3
JMA 11 04:56:37.6±0.1, 37°.43N×142°.22E, h26km±3km, M3.8
ISC 11 04:56:35.0±3.4, 37°.43N±0°.06×142°.28E±0°.08, h8km±22km, n22, σ1°36/26, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.12	267	P	Pn	04 56 56.9	-0.1
JFK				S	Sb	04 57 10.7	-0.7
ONAJ	Iwakimizuishiy	1.23	255	P	Pn	04 56 58.2	-0.3
ONAJ				S	Sb	04 57 12.9	-1.6
JMM	Marumori	1.25	291	P	Pb	04 56 59.0	+0.1
JMM				eS	Sb	04 57 14.3	-0.9
JIO	Ouri	1.26	324	P	Pb	04 56 59.3	+0.4
JIO				S	Sb	04 57 15.2	-0.1
JFT	Otama	1.55	274	P	Pb	04 57 04.1	+0.2
JFT				S	Sn	04 57 23.1	-0.1
JOU	Okura	1.58	307	P	Pb	04 57 04.5	0.0
JOU				S	Sn	04 57 24.1	+0.1
JMK	Ichinoseki	1.73	332	P	Pb	04 57 06.9	-0.1
JMK				S	Sn	04 57 27.7	+0.1
JFY	Yanaizu	2.05	270	eS	Sn	04 57 35.0	-0.6
JYK	Kaneyama	2.12	315	P	Pb	04 57 12.3	-1.3
JYK				eS	Sn	04 57 36.8	-0.4
JOM	Ohasama	2.18	339	eS	Sn	04 57 38.8	+0.1
JAG	Ashikaga	2.48	247	P	Pn	04 57 16.3	+0.6
MJAR	Matsushiro Arr	3.38	256	Pn	Pn	04 57 31.1	+3.0
	2.4nm,0.3s,baz=91,slow=15,SNR=7.2						
MJAR				Sn	Sb	04 58 14.3	-2.1
	1.8nm,0.3s,baz=141,slow=11,SNR=4.5						
MAT	Matsushiro	3.38	256	P	Pn	04 57 30.8	+2.7
MAT				eS	Sn	04 58 11.0	+2.6
H11N

HNR *e*Pn **Pb** **05 05 43.7 -2.4**
HNR *e*Sn **Sg** **05 06 26.9 +1.9**
RABL Rabaul 6.69 308 *e*Pn **Pn** **05 06 36.4 +0.8**
PMG Port Moresby 10.18 264 Pn **Pn** **05 07 23.8 +0.2**
1.1nm,0.3s,baz=120,slow=8.1,SNR=3.0
PMG LR LR 05 11 11.5
comp=Z,1μm,19.0s,baz=89,slow=37
PATS Pohnpei 15.16 3 *e*Pn **Pn** **05 08 32.5 +0.8**
47nm,0.9s
CTA Charters Tower 15.86 222 Pn **Pn** **05 08 41.4 +0.6**
0.3nm,0.3s,baz=48,slow=16,SNR=2.4
DZM Mont Dzumac 16.13 148 LR LR 05 13 18.1
comp=Z,240nm,20.5s,baz=338,slow=31
DZM Mont Dzumac 16.13 148 *e*P **Pn** **05 08 43.3 -1.0**
31nm,1.4s
DZM *e*LR LR 05 12 36.7
250nm,23.9s
EIDS Eidsvold 17.92 199 *e*Pn **P** **05 09 07.6 +0.4**
17nm,1.1s
ARMA Armidale 22.56 193 *e*P **P** **05 10 00.6 +2.8**
27nm,1.3s
WR1 Warramunga Arr 25.10 240 *e*P **P** **05 10 20.0 -2.3**
50nm,1.9s
WR1 *e*PcP **PcP** **05 13 56.5 -0.2**
WRA Warramunga Arr 25.10 240 P **P** **05 10 20.0 -2.3**
6.5nm,0.8s,baz=66,slow=9.6,SNR=19
WRA PcP **PcP** **05 13 56.5 -0.2**
3.6nm,0.9s,baz=66,slow=2.5,SNR=18
WRA LR LR 05 19 36.6
comp=Z,473nm,19.9s,baz=65,slow=35
AS01 Alice Springs 27.11 233 *e*P **P** **05 10 39.9 -0.5**
AS31 Alice Springs 27.15 233 *e*P **P** **05 10 39.2 -1.6**
2.3nm,1.0s
ASAR Alice Springs 27.15 233 P **P** **05 10 38.6 -2.1**
1.3nm,0.8s,baz=75,slow=8.6,SNR=7.0
ASAR PcP **PcP** **05 14 01.2 -0.2**
1.7nm,1.0s,baz=66,slow=2.6,SNR=4.1
ASAR LR LR 05 20 51.1
comp=Z,373nm,19.7s,baz=52,slow=35
STKA Stephens Creek 27.60 210 P **P** **05 10 44.5 -0.2**
11nm,0.8s,baz=47,slow=15,SNR=9.6
STKA LR LR 05 21 27.0
comp=Z,269nm,18.2s,baz=33,slow=36
STKA Stephens Creek 27.60 210 *e*P **P** **05 10 45.4 +0.6**
2.8nm,0.8s
JAGI Jajag, Banyuwa 42.77 267 *e*P **P** **05 12 54.6 -0.6**
75nm,1.3s
SSLB Suanglung 47.87 313 *e*P **P** **05 13 35.1 -0.5**
13nm,0.7s
MJAR Matsushiro Arr 48.21 339 LR LR 05 31 42.0
comp=Z,18nm,21.2s,baz=170,slow=33
PPT2 Papeete2 52.31 106 *e*LR LR 05 29 27.0
284nm,30.5s
TBI Tubuai 52.93 113 *e*LQ LQ 05 27 27.9
446nm,33.8s
KSRS Korea Array 53.31 331 P **P** **05 14 16.1 -0.2**
0.6nm,0.3s,baz=128,slow=8.1,SNR=5.4
KSRS LR LR 05 35 13.4
comp=Z,35nm,19.9s,baz=132,slow=34
KS15 Wonju Array Si 53.32 331 *e*P **P** **05 14 16.1 -0.3**
KSAR Wonju Array Be 53.32 331 P **P** **05 14 16.1 -0.3**
QIZ Qiongzhong 54.23 301 P **P** **05 14 22.1 -1.4**
QIZ S **S** **05 21 57.1 -3.5**
NJ2 Nanjing 54.52 319 *e*P **P** **05 14 24.2 -1.2**
USRK Ussuriysk Ar. 57.19 338 P **P** **05 14 44.8 +0.6**
1.1nm,0.6s,baz=134,slow=5.5,SNR=6.0
PANO Nakornpanom 58.03 296 P **P** **05 14 55.1 +4.4**
12nm,1.3s
SKNT Sakolnakorn 58.53 296 P **P** **05 14 57.9 +3.7**
15nm,1.4s
PSI Prapat 59.37 278 LR LR 05 43 47.2
comp=Z,82nm,19.9s,baz=99,slow=39
GYA Guiyang 60.20 307 *e*P **P** **05 15 07.2 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
PBKT Sadao Pong 61.09 294 P **P** **05 15 15.4 +3.6**
8.4nm,1.8s,1μm
PETK Petropavlovsk- 61.27 0 LR LR 05 39 35.9
comp=Z,28nm,19.6s,baz=153,slow=34
BJI Beijing 61.43 325 P **P** **05 15 14.6 +0.9**
BJI pmax pmax
comp=Z,9.0nm,0.8s
TAOE Nuku Hiva Isla 61.67 96 *e*LR LR 05 33 55.4
310nm,29.2s
UTTA Uttaradit 61.86 295 P **P** **05 15 21.3 +4.3**
2.5nm,1.0s
NANT Nan 62.10 296 P **P** **05 15 22.7 +4.1**
3.6nm,1.2s
CM01 Chiang Mai Arr 63.52 295 *e*P **P** **05 15 26.9 -1.2**
CM31 Chiang Mai Arr 63.55 295 *e*P **P** **05 15 28.4 +0.1**
CMAR Chiang Mai Arr 63.55 295 P **P** **05 15 28.4 +0.1**
5.6nm,1.0s,baz=123,slow=4.9,SNR=8.6
CMAR LR LR 05 41 21.8
comp=Z,16nm,20.7s,baz=130,slow=34
CHTO Chiang Mai 63.66 296 P **P** **05 15 32.4 +3.4**
45nm,1.4s
CHTO Chiang Mai 63.66 296 *e*P **P** **05 15 28.8 -0.2**
16nm,1.4s
CD2 Chengdu 64.54 310 *e*P **P** **05 15 34.8 +0.1**
HHC Hu-ho-hao-te 64.64 323 *e*P **P** **05 15 39.1 +3.9**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.1s
MA2 Magadan 67.96 356 LR LR 05 40 13.0
comp=Z,26nm,21.0s,baz=168,slow=31
VNDA Vanda 69.13 179 P **P** **05 16 03.0 0.0**
3.2nm,1.0s,baz=336,slow=4.6,SNR=16
VNDA LR LR 05 41 12.4
comp=Z,58nm,19.3s,baz=337,slow=32
SBA Scott Base 69.59 178 *e*P **P** **05 16 06.9 +1.0**
10.0nm,1.2s
GTA Gaotai 71.40 316 *e*P **P** **05 16 19.2 +1.5**
GTA pP PcP 05 16 32.4 -4.9
GTA sP sP 05 16 37.9 +13
GTA pmax pmax
comp=Z,5.0nm,1.1s
SONA0 Songino Array 71.81 327 *e*P **P** **05 16 20.6 +0.6**
3.9nm,0.8s
SONM Songino Array 71.81 327 P **P** **05 16 20.6 +0.6**
1.8nm,0.8s,baz=136,slow=6.1,SNR=7.7
SONA1 Songino Array 71.82 327 *e*P **P** **05 16 20.4 +0.3**
WMQ Urumqi 81.48 317 P **P** **05 17 15.0 +0.2**
WMQ sP sP 05 17 33.9 +12
WMQ S **S** **05 27 20.4 -5.5**
WMQ pmax pmax
comp=Z,7.0nm,1.3s
WMQ pmax pmax
comp=Z,160nm,6.1s
QSPA South Pole Qui 81.58 180 *e*P **P** **05 17 14.8 -0.2**
MCK McKinley 82.48 21 *e*P **P** **05 17 19.6 +0.1**
35nm,1.8s
IL1 Eielson Array 83.81 21 *e*P **P** **05 17 25.4 -0.9**
ILAR Eielson Array 83.81 21 P **P** **05 17 25.9 -0.4**
1.0nm,0.9s,baz=252,slow=5.4,SNR=8.2
ILAR LR LR 05 51 39.5
comp=Z,65nm,21.4s,baz=145,slow=33
ILB Eielson Array 83.81 21 *e*P **P** **05 17 25.8 -0.6**
MAW Mawson 84.03 203 P **P** **05 17 26.8 -0.6**
4.5nm,1.0s,baz=74,slow=7.4,SNR=8.6
MAW Mawson 84.03 203 *e*P **P** **05 17 28.4 +1.0**
2.2nm,1.1s
MK01 Makanchi Array 86.03 318 *e*P **P** **05 17 37.4 -0.5**
MI31 Makanchi Array 86.04 318 *e*P **P** **05 17 37.8 -0.1**
MK32 Makanchi Array 86.04 318 *e*P **P** **05 17 37.6 -0.3**
MKAR Makanchi Array 86.04 318 P **P** **05 17 37.6 -0.3**
3.6nm,0.9s,baz=101,slow=6.3,SNR=17
MKAR Makanchi Array 86.04 318 *e*P **P** **05 17 37.8 -0.2**
39nm,1.2s
MAKZ Makanchi 86.25 318 *e*P **P** **05 17 38.7 -0.3**
15nm,1.4s
KSH Kashi 88.74 310 *e*P **P** **05 17 51.2 -0.1**
KSH pP sP 05 18 06.4 +7.8
KSH sP pP 05 18 10.8 +14
KSH PP **PP** **05 21 26.6 +6.2**
KSH SKS **SKSac** **05 28 11.8 -8.7**
KSH S **SKKSac** **05 28 30.3 -1.4**
KSH sS sS 05 28 53.4 +6.4
KSH SS **SS** **05 34 28.4 -1.7**
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH pmax pmax
comp=Z,100nm,5.1s
KSH LR LR
comp=N,81nm,5.6s
KSH LR LR
comp=E,170nm,5.9s
KSH LR LR
comp=Z,110nm,7.4s
CIAC Catalina I. Ai 89.75 56 *e*P **P** **05 17 56.9 +0.8**
BORC Borrego Spring 91.37 57 *e*P **P** **05 18 02.9 -0.7**
YKA Yellowknife Ar 96.45 28 LR LR 05 56 14.0
comp=Z,8.1nm,21.1s,baz=180,slow=32
PD31 Pinedale Array 97.86 48 *e*P **P** **05 18 32.6 -0.8**
PDAR Pinedale Array 97.86 48 P Pdif 05 18 34.5 +1.0
0.4nm,0.8s,baz=309,slow=5.7,SNR=2.9
PDAR LR LR 05 55 37.6
comp=Z,48nm,21.1s,baz=320,slow=31
SNAA Sanae 99.03 186 LR LR 05 59 22.6
comp=Z,47nm,19.1s,baz=40,slow=33
LPAZ La Paz 128.69 119 PKP **PKPdf** **05 24 06.5 +0.1**
1.7nm,0.9s,baz=309,slow=0.8,SNR=6.6
LPAZ La Paz 128.69 119 *e*PKPdf **PKPdf** **05 24 05.5 -0.8**
ESDC Sonseca Array 144.68 335 PKP **PKPab** **05 24 32.6 -0.6**
0.1nm,0.3s,baz=5.7,slow=2.6,SNR=4.9
TORD Torodi Ar. Bea 155.69 283 PKPab **PKPab** **05 25 19.5 +1.0**
1.2nm,1.1s,baz=74,slow=5.1,SNR=3.6
TOA1 Torodi Ar. Sit 155.69 283 *e*PKPab **PKPab** **05 25 19.5 +1.0**
DBIC Dimbokro 162.34 266 PKPab **PKPab** **05 25 49.6 +2.1**
5.5nm,0.8s,baz=160,slow=3.9,SNR=4.2

*IDC **11** 05:32:14.2±2.5, 25°.68S×177°.52W, h137km±21km, mb4.0/12, mb1 4.1/13, mb1mx3.9/33, mbtmp4.3/13, Error ellipse: s-maj=21.8km s-min=16.5km az=46.0*
*ISCJB **11** 05:32:15.5±0.7, 25°.85S±0°.06×177°.6W±0°.1, h161km, mb4.1/13, Error ellipse: s-maj=16.1km s-min=8.4km az=174.6*
*NEIC **11** 05:32:15.8±1.4, 25°.81S×177°.48W, h155km±12km, mb4.7/1, Error ellipse: s-maj=16.7km s-min=12.7km az=73.0*
ISC 11 05:32:16.6±0.7, 25°.84S±0°.07×177°.5W±0°.1, h161km, n29, σ1§04/29, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.42**	**186**	P	**Pn**	**05 33 08.4**	**-1.2**
	452nm,0.3s,baz=22,slow=1.7,SNR=29						
RAO				S	**Sn**	**05 33 50.6**	**-0.3**
	491nm,0.3s,baz=11,slow=22,SNR=7.5						
RAO	**Raoul Island**	**3.42**	**186**	*e*Pn	**Pn**	**05 33 07.7**	**-1.9**
RAO				P	**Pn**	**05 33 08.4**	**-1.2**
RAO				*e*Sn	**Sn**	**05 33 50.3**	**-0.6**
RAO				S	**Sn**	**05 33 50.6**	**-0.3**
MSVF	**Nonsavu**	**9.06**	**332**	*e*Pn	**Pn**	**05 34 24.8**	**+0.6**
	123nm,0.9s						
AFI	**Afiamalu**	**13.04**	**25**	P	Pn	05 35 07.9	-8.1
	12nm,0.3s,baz=112,slow=3.4,SNR=14						
AFI				S	Sn	05 37 19.4	-21
	2.3nm,0.3s,baz=68,slow=19,SNR=4.2						
AFI	**Afiamalu**	**13.04**	**25**	P	Pn	05 35 07.9	-8.1
AFI				*e*Pn	Pn	05 35 09.3	-6.7
AFI				S	Sn	05 37 19.4	-21
URZ	**Urewera**	**13.19**	**199**	S	Sn	05 37 30.2	-14
	7.2nm,0.3s,baz=210,slow=20,SNR=13						
DZM	**Mont Dzumac**	**15.14**	**281**	P	**Pn**	**05 35 42.3**	**-0.1**
	0.2nm,0.3s,baz=126,slow=19,SNR=2.9						
CTA	**Charters Tower**	**33.77**	**272**	P	**P**	**05 38 44.0**	**+0.7**
	17nm,0.6s,baz=106,slow=11,SNR=20						
CTAO	**Charters Tower**	**33.77**	**272**	*e*P	**P**	**05 38 43.6**	**+0.3**
	112nm,0.8s						
STKA	**Stephens Creek**	**36.16**	**251**	P	**P**	**05 39 05.7**	**+2.2**
	1.3nm,0.6s,baz=76,slow=4.2,SNR=2.9						
PMG	**Port Moresby**	**37.26**	**290**	P	**P**	**05 39 11.9**	**-1.2**
	11nm,0.6s,baz=140,slow=6.3,SNR=7.5						
ASAR	**Alice Springs**	**43.97**	**262**	P	**P**	**05 40 07.2**	**-0.8**
	1.7nm,0.4s,baz=93,slow=7.5,SNR=22						
WRA	**Warramunga Arr**	**44.55**	**267**	P	**P**	**05 40 11.5**	**-1.1**
	8.9nm,0.8s,baz=99,slow=7.3,SNR=29						
VNDA	**Vanda**	**52.66**	**186**	P	**P**	**05 41 15.8**	**+2.1**
	0.3nm,0.5s,baz=21,slow=7.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**74.78**	**324**	P	**P**	**05 43 38.2**	**-0.8**
	0.6nm,0.3s,baz=171,slow=5.4,SNR=4.2						
MAW	**Mawson**	**76.72**	**200**	P	**P**	**05 43 50.3**	**+0.8**
	0.9nm,0.5s,baz=131,slow=4.4,SNR=14						
PETK	**Petropavlovsk-**	**81.53**	**345**	P	**P**	**05 44 15.7**	**0.0**
	13nm,0.9s,baz=101,slow=8.0,SNR=6.1						
TRF	**Thorofare Moun**	**91.56**	**12**	*e*P	**P**	**05 45 03.8**	**-0.8**
	7.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**92.31**	**289**	P	**P**	**05 45 09.4**	**+0.5**
	0.7nm,0.3s,baz=99,slow=5.6,SNR=5.6						
PDAR	**Pinedale Array**	**92.54**	**43**	P	**P**	**05 45 10.7**	**+0.9**
	0.5nm,0.7s,baz=209,slow=2.7,SNR=5.5						
ILAR	**Eielson Array**	**93.40**	**13**	P	**P**	**05 45 12.7**	**-0.2**
	0.6nm,0.8s,baz=222,slow=4.7,SNR=5.1						
MKAR	**Makanchi Array**	**115.12**	**312**	PKP	**PKPdf**	**05 50 37.2**	**-1.3**
	0.2nm,0.2s,baz=64,slow=3.4,SNR=3.6						
ARCES	**ARCESS Array B**	**134.23**	**349**	PKhKP	PKPpre	05 51 08.0	
	1.8nm,0.9s,baz=349,slow=0.5,SNR=3.9						
ARCES				PKP	**PKPdf**	**05 51 14.1**	**-0.2**
	1.3nm,0.6s,baz=48,slow=1.8,SNR=14						
FINES	**FINESS Array B**	**140.99**	**342**	PKhKP	PKPpre	05 51 19.1	
	2.1nm,0.9s,baz=40,slow=6.2,SNR=6.0						
NB2	**NORSAR Subarra**	**144.31**	**353**	PKP	**PKPab**	**05 51 30.8**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=11,slow=3.4						
NOA	**NORSAR Array B**	**144.31**	**353**	PKP	**PKPab**	**05 51 31.0**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=16,slow=2.4,SNR=15						
AKASG	**Malin Array Be**	**147.82**	**328**	PKPbc	**PKPbc**	**05 51 41.2**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=44,slow=4.2,SNR=14						
BRTR	**Keskin Array B**	**150.54**	**306**	PKPbc	**PKPbc**	**05 51 49.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=137,slow=4.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**167.35**	**176**	PKPab	**PKPab**	**05 53 10.9**	**+1.2**
	comp=Z,0.4nm,1.0s,baz=187,slow=4.5,SNR=2.7						

*IDC **11** 05:32:56.3±3.8, 8°.90S×111°.06E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/48, mbtmp3.8/4, Error ellipse: s-maj=211.1km s-min=22.5km az=49.0*
*DJA **11** 05:33:03.6±0.6, 9°.5±7°.×11°.1E±°, h10km, M4.2/6, MLv4.2/6*
*ISCJB **11** 05:33:04.6±0.8, 9°.07S±0°.09×111°.38E±0°.06, h55km, mb3.7/4, Error ellipse: s-maj=14.0km s-min=6.9km az=23.7*
ISC 11 05:33:04.8±1.2, 9°.1S±0°.1×111°.39E±0°.06, h55km, n14, σ1§70/15, mb3.8/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.42**	**323**	P	**Pn**	**05 33 29.1**	**+0.8**
UGM				S	**Sn**	**05 33 45.6**	**-0.3**
NGJI	**Ngawi**	**1.67**	**2**	P	**Pn**	**05 33 34.3**	**+2.6**
GMJI	**Gumukmas**	**2.17**	**69**	P	**Pn**	**05 33 38.8**	**+0.3**
SMRI	**Semarang**	**2.20**	**335**	P	**Pn**	**05 33 40.5**	**+1.6**
TBJI	**Tambak Boyo**	**2.26**	**12**	P	**Pn**	**05 33 40.2**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.79**	**78**	P	**Pn**	**05 33 47.5**	**+0.5**
CMJI	**Cimerak**	**3.17**	**293**	P	**Pn**	**05 33 53.2**	**+1.0**
CISI	**Cisompet, Garu**	**3.84**	**292**	P	**Pn**	**05 34 02.5**	**+1.1**
SRBI	**Singaraja**	**3.90**	**76**	P	**Pn**	**05 34 03.6**	**+1.4**
CNJI	**Cibinong**	**4.56**	**292**	P	**Pn**	**05 34 12.4**	**+1.2**
WRA	**Warramunga Arr**	**24.68**	**119**	P	**P**	**05 38 22.1**	**+1.3**
	0.6nm,0.4s,baz=291,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**25.98**	**127**	P	**P**	**05 38 34.5**	**+1.9**
	0.4nm,0.5s,baz=306,slow=8.5,SNR=7.3						
MKAR	**Makanchi Array**	**61.35**	**338**	P	**P**	**05 43 12.5**	**-2.4**
	0.7nm,0.5s,baz=149,slow=7.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**66.66**	**343**	P	**P**	**05 43 46.8**	**-2.7**
	0.6nm,0.3s,baz=151,slow=3.3,SNR=3.1						

*ISCJB **11** 05:34:34.7±0.4, 13°.79N±0°.07×144°.8E±0°.1, h125km, mb4.2/20, Error ellipse: s-maj=16.5km s-min=10.2km az=167.7*
*NEIC **11** 05:34:36.7±0.8, 13°.78N×144°.85E, h132km±7km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=9.4km az=79.0*
*IDC **11** 05:34:36.3±0.4, 13°.79N×144°.87E, h124km±3km, mb3.9/16, mb1 4.0/16, mb1mx3.8/50, mbtmp4.2/16, MS2.7/1, Ms1 2.7/1, ms1mx2.3/30, Error ellipse: s-maj=21.7km s-min=11.7km az=75.0*
ISC 11 05:34:36.3±0.6, 13°.81N±0°.10×144°.9E±0°.2, h125km, n37, σ0§80/31, mb4.2/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.22**	**185**	LR	LR	05 34 53.6	
	comp=Z,36nm,20.1s,baz=130,slow=87						
GUMO				P	**Pn**	**05 34 54.6**	**+1.0**
	996nm,0.3s,baz=133,slow=2.1,SNR=355						
GUMO				S	**Sn**	**05 35 07.3**	**+0.7**
	2μm,0.3s,baz=288,slow=19,SNR=70						
H11S3	**WAKE ISLAND Hy 21.45**	**75**	T	T		06 01 59.3	
	baz=260,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy 21.46**	**75**	T	T		06 02 06.9	
	baz=260,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy 21.46**	**75**	T	T		06 02 11.9	
	baz=260,slow=75,SNR=2.7						
H11N1	**WAKE ISLAND Hy 21.86**	**71**	T	T		06 02 29.8	
	baz=257,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy 21.87**	**71**	T	T		06 02 31.4	
	baz=257,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 21.88**	**71**	T	T		06 02 31.6	
	baz=257,slow=75,SNR=17						
JNU	**Nakatsue 23.08 329**		P	**P**		**05 39 32.2**	**+1.1**
	12nm,0.7s,baz=113,slow=2.7,SNR=11						
JNU	**Nakatsue 23.08 329**		*e*P	**P**		**05 39 31.6**	**+0.5**
	6.4nm,0.9s						
JNU			P	**P**		**05 39 32.2**	**+1.1**
MJAR	**Matsushiro Arr 23.42 346**		P	**P**		**05 39 34.1**	**-0.1**
	3.9nm,0.9s,baz=172,slow=9.5,SNR=5.5						
MJAR			LR	LR		05 47 34.9	
	comp=Z,21nm,21.6s,baz=170,slow=33						
KSRS	**Korea Array 27.99 330**		P	**P**		**05 40 14.9**	**-0.3**
	1.7nm,0.5s,baz=147,slow=9.6,SNR=5.6						
KSAR	**Wonju Array Be 28.00 330**		P	**P**		**05 40 14.9**	**-0.4**
CTA	**Charters Tower 33.71 178**		P	**P**		**05 41 05.0**	**-0.7**
	8.1nm,1.1s,baz=358,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr 35.11 197**		P	**P**		**05 41 16.9**	**-0.9**
	1.0nm,0.5s,baz=21,slow=9.6,SNR=6.4						
ASAR	**Alice Springs 36.76 196**		P	**P**		**05 41 47.5**	**-1.3**
	0.3nm,0.4s,baz=20,slow=14,SNR=5.6						
DZM	**Mont Dzumac 41.45 149**		P	**P**		**05 42 12.2**	**+1.2**
	8.5nm,0.6s,baz=310,slow=4.1,SNR=14						
CMAR	**Chiang Mai Arr 44.29 282**		P	**P**		**05 42 34.5**	**+0.5**
	1.1nm,0.5s,baz=85,slow=6.6,SNR=5.6						
SONM	**Songino Array 46.57 325**		P	**P**		**05 42 52.7**	**+1.1**
	2.4nm,0.8s,baz=135,slow=6.8,SNR=11						
SONM			PcP	**PcP**		**05 44 23.6**	**-0.2**
	0.8nm,0.5s,baz=152,slow=2.8,SNR=4.3						
MKAR	**Makanchi Array 61.35 316**		P	**P**		**05 44 39.1**	**+0.2**
	1.0nm,0.4s,baz=86,slow=8.7,SNR=9.2						
KURK	**Kurchatov 64.43 320**		*e*P	**P**		**05 44 58.4**	**-0.8**
	87nm,1.3s						
NRIK	**Noril'sk 65.93 341**		P	**P**		**05 45 08.4**	**-0.1**
	3.5nm,0.5s,baz=140,slow=7.9,SNR=3.3						
RC01	**Rabbit Creek A 66.17 29**		*e*P	**P**		**05 45 09.6**	**-0.7**
ILAR	**Eielson Array 68.36 25**		P	**P**		**05 45 23.4**	**-0.6**
	2.9nm,0.6s,baz=247,slow=5.8,SNR=12						
EGAK	**Eagle 70.77 26**		*e*P	**P**		**05 45 38.7**	**-0.1**
YKA	**Yellowknife Ar 82.66 27**		P	**P**		**05 46 44.8**	**-0.7**
	1.1nm,0.5s,baz=286,slow=5.2,SNR=6.4						
BMO	**Blue Mountains 85.82 45**		*e*P	**P**		**05 47 02.1**	**0.0**
	6.1nm,1.1s						
ARCES	**ARCESS Array B 86.89 342**		P	**P**		**05 47 06.4**	**-0.3**
	2.6nm,0.9s,baz=73,slow=9.0,SNR=6.5						
MFID	**Camas Ranch 87.24 46**		*e*P	**P**		**05 47 09.6**	**+0.5**
	7.1nm,0.8s						
HLID	**Hailey 88.18 46**		*e*P	**P**		**05 47 14.0**	**+0.4**
	5.2nm,1.0s						
FINES	**FINESS Array B 90.97 335**		P	**P**		**05 47 24.1**	**-1.9**
	1.1nm,0.4s,baz=70,slow=3.9,SNR=8.1						
PDAR	**Pinedale Array 91.80 45**		P	**P**		**05 47 30.5**	**-0.1**
	0.4nm,0.6s,baz=248,slow=3.1,SNR=5.1						
TORD	**Torodi Ar. Bea 134.76 305**		PKP	**PKPdf**		**05 53 41.9**	**+0.7**
	0.8nm,0.6s,baz=37,slow=1.2,SNR=7.3						
DBIC	**Dimbokro 143.72 302**		PKP	PKPbc		05 53 55.2	-0.3
	2.6nm,0.5s,baz=38,slow=5.2,SNR=9.5						
KIC	**Kosan Boka 143.80 302**		*e*PKP1	PKPab		05 53 55.1	+0.1
	204nm,2.3s						
TIC	**Toumodi 143.87 302**		*e*PKP1	PKPab		05 53 55.2	-0.1
LIC	**Lamto 144.11 302**		*e*PKP1	**PKPab**		**05 53 56.1**	**0.0**
	18nm,0.4s						
LPAZ	**La Paz 148.04 99**		PKPbc	**PKPbc**		**05 54 09.9**	**+1.0**
	4.0nm,0.7s,baz=293,slow=2.0,SNR=24						

IDC 11 05:42:29.9±364.0, 51°.17N×116°.42E, h0km, Error ellipse: s-maj=145.7km s-min=134.2km az=90.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.34**	**247**	*i*		06 30 10.0	
	baz=58,slow=322,SNR=0.5						
I45RU	**USSURIYSK INFR**	**12.58**	**118**	*i*		07 01 20.0	
	baz=306,slow=327,SNR=1.9						
I30JP	**ISUMI INFRASON**	**23.39**	**123**	*i*		08 06 00.0	
	baz=319,slow=323,SNR=0.4						
I44RU	**PETROPAVLOVSK**	**25.17**	**69**	*i*		08 15 10.0	
	baz=285,slow=363,SNR=1.9						

IDC 11 05:42:43.6±7.8, 31°.13S×177°.46W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, Error ellipse: s-maj=337.9km s-min=60.1km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.54**	**267**	P	P	05 50 48.9	-0.5
	0.2nm,0.4s,baz=122,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	**44.59**	**273**	P	P	05 50 58.0	+0.2
	0.3nm,0.4s,baz=111,slow=8.1,SNR=6.9						
FINES	**FINESS Array B**	**145.98**	**340**	PKPbc	PKPdf	06 02 23.7	-0.1
	3.1nm,0.9s,baz=29,slow=4.4,SNR=4.4						

*NEIC **11** 05:47:25.8±0.0, 38°.04S×176°.01E, h182km, MG4.0(WEL), After WEL.*
WEL 11 05:47:27.4±0.4, 38°.10S×176°.04E, h168km±3km, ML3.9/43, 15C-3D, Error ellipse: s-maj=3.4km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.80**	**158**	⇑PN	Pn	05 47 52.7	+0.2
MRHZ				AML	AML	05 47 53.2	
MRHZ				AML	AML	05 47 53.2	
URZ	**Urewera**	**0.86**	**101**	Pn	Pn	05 47 52.7	-0.2
URZ	**Urewera**	**0.86**	**101**	⇑Pn	Pn	05 47 52.7	-0.2
URZ				SN	Sn	05 48 12.2	-0.2
URZ				AML	AML	05 48 12.5	
WTVZ	**West Tongariro**	**1.08**	**199**	Pn	Pn	05 47 54.8	+0.2
WTVZ	**West Tongariro**	**1.08**	**199**	PN	Pn	05 47 54.8	+0.2
OTVZ	**Oturere**	**1.10**	**195**	Pn	Pn	05 47 55.4	+0.5
OTVZ	**Oturere**	**1.10**	**195**	⇑PN	Pn	05 47 55.4	+0.5
BKZ	**Black Stump Fm**	**1.13**	**162**	Pn	Pn	05 47 54.8	-0.2
BKZ	**Black Stump Fm**	**1.13**	**162**	PN	Pn	05 47 54.8	-0.2
BKZ				SN	Sn	05 48 15.6	-0.8
BKZ				AML	AML	05 48 17.9	
NMHZ	**Naumai**	**1.17**	**149**	Pn	Pn	05 47 56.1	+0.7
NMHZ	**Naumai**	**1.17**	**149**	⇑PN	Pn	05 47 56.1	+0.7
NMHZ				AML	AML	05 48 18.5	
NMHZ				AML	AML	05 48 19.3	
MWZ	**Matawai**	**1.20**	**102**	Pn	Pn	05 47 55.4	-0.2
MWZ	**Matawai**	**1.20**	**102**	PN	Pn	05 47 55.4	-0.2
MWZ				SN	Sn	05 48 17.0	-0.3
MWZ				AML	AML	05 48 17.5	
TUVZ	**Tukino**	**1.21**	**194**	Pn	Pn	05 47 55.9	+0.1
TUVZ	**Tukino**	**1.21**	**194**	PN	Pn	05 47 55.9	+0.1
FWVZ	**Far West T-bar**	**1.22**	**198**	Pn	Pn	05 47 56.0	+0.1
FWVZ	**Far West T-bar**	**1.22**	**198**	PN	Pn	05 47 56.0	+0.1
SNGZ	**Shannon Statio**	**1.23**	**124**	Pn	Pn	05

BHHZ	Black Hill Sta	1.39 179	Pn	Pn	05 47 56.9	-0.4
BHHZ	Black Hill Sta	1.39 179	⇑PN	Pn	05 47 56.9	-0.4
HAZ	Te Kaha	1.42 77	PN	Pn	05 47 56.6	-1.0
HAZ			AML	AML	05 48 20.9	
HAZ			AML	AML	05 48 20.9	
HAZ			AML	AML	05 48 20.9	
HAZ			AML	AML	05 48 20.9	
VRZ	Vera Road	1.43 224	Pn	Pn	05 47 58.1	+0.4
VRZ	Vera Road	1.43 224	⇑PN	Pn	05 47 58.1	+0.4
MCHZ	McNeill Hill	1.44 159	Pn	Pn	05 47 58.2	+0.5
MCHZ	McNeill Hill	1.44 159	⇑PN	Pn	05 47 58.2	+0.5
MCHZ			AML	AML	05 48 33.7	
RIGZ	Rimuhau	1.49 115	PN	Pn	05 47 58.3	0.0
RIGZ			AML	AML	05 48 22.1	
RIGZ			AML	AML	05 48 22.8	
TWGZ	Tauwhareparae	1.54 94	Pn	Pn	05 47 58.9	+0.1
TWGZ	Tauwhareparae	1.54 94	PN	Pn	05 47 58.9	+0.1
TWGZ			AML	AML	05 48 25.9	
TWGZ			AML	AML	05 48 26.7	
KRHZ	Kereru	1.57 170	PN	Pn	05 47 58.7	-0.3
KRHZ			AML	AML	05 48 01.3	
KRHZ			AML	AML	05 48 25.6	
KNZ	Kokohu	1.58 126	Pn	Pn	05 47 58.9	-0.2
KNZ	Kokohu	1.58 126	⇑PN	Pn	05 47 58.9	-0.2
PRGZ	Paritu Road	1.67 120	Pn	Pn	05 47 59.8	-0.2
PRGZ	Paritu Road	1.67 120	PN	Pn	05 47 59.8	-0.2
PRGZ			AML	AML	05 48 27.5	
PRGZ			AML	AML	05 48 29.0	
CKHZ	Cape Kidnapper	1.76 153	Pn	Pn	05 48 01.0	0.0
CKHZ	Cape Kidnapper	1.76 153	PN	Pn	05 48 01.0	0.0
CKHZ			AML	AML	05 48 28.9	
CKHZ			AML	AML	05 48 29.1	
MHGZ	Mahia Peninsul	1.81 126	Pn	Pn	05 48 01.5	0.0
MHGZ	Mahia Peninsul	1.81 126	PN	Pn	05 48 01.5	0.0
MHGZ			AML	AML	05 48 32.2	
KAHZ	Kahuranaki	1.82 159	Pn	Pn	05 48 01.5	-0.2
KAHZ	Kahuranaki	1.82 159	PN	Pn	05 48 01.5	-0.2
KAHZ			AML	AML	05 48 30.8	
KAHZ			AML	AML	05 48 33.4	
PNHZ	Pukenui	1.82 176	Pn	Pn	05 48 00.8	-0.9
PNHZ	Pukenui	1.82 176	PN	Pn	05 48 00.8	-0.9
PNHZ			AML	AML	05 48 29.9	
PNHZ			AML	AML	05 48 29.9	
WAZ	Wanganui	1.85 206	Pn	Pn	05 48 01.5	-0.4
WAZ	Wanganui	1.85 206	PN	Pn	05 48 01.5	-0.4
WMGZ	Waiomatatini S	1.90 82	PN	Pn	05 48 02.0	-0.6
WMGZ			AML	AML	05 48 30.9	
WMGZ			AML	AML	05 48 31.1	
TSZ	Takapari Road	1.96 182	Pn	Pn	05 48 02.2	-1.0
TSZ	Takapari Road	1.96 182	⇑PN	Pn	05 48 02.2	-1.0
TSZ			AML	AML	05 48 29.3	
TSZ			AML	AML	05 48 31.9	
WPHZ	Waipukurau	1.99 171	Pn	Pn	05 48 02.7	-0.8
WPHZ	Waipukurau	1.99 171	PN	Pn	05 48 02.7	-0.8
WPHZ			AML	AML	05 48 35.6	
PXZ	Pawanui	2.04 162	PN	Pn	05 48 03.3	-0.7
PXZ			AML	AML	05 48 33.8	
PXZ			AML	AML	05 48 33.9	
OHWZ	Ohakea	2.18 195	PN	Pn	05 48 04.8	-0.8
DVHZ	Dannevirke	2.20 177	Pn	Pn	05 48 04.4	-1.5
DVHZ	Dannevirke	2.20 177	⇑PN	Pn	05 48 04.4	-1.5
DVHZ			AML	AML	05 48 36.3	
DVHZ			AML	AML	05 48 38.0	
PRHZ	Porangahau	2.22 168	Pn	Pn	05 48 05.1	-1.0
PRHZ	Porangahau	2.22 168	⇓PN	Pn	05 48 05.1	-1.0
PRHZ			AML	AML	05 48 37.5	
PRHZ			AML	AML	05 48 37.6	
POWZ	Post Office Ro	2.30 185	Pn	Pn	05 48 05.4	-1.6
POWZ	Post Office Ro	2.30 185	PN	Pn	05 48 05.4	-1.6
POWZ			AML	AML	05 48 38.1	
POWZ			AML	AML	05 48 38.7	
ANWZ	Angora Road	2.39 172	⇑PN	Pn	05 48 06.8	-1.2
ANWZ			AML	AML	05 48 41.6	
ANWZ			AML	AML	05 48 43.0	
PRWZ	Pori Road	2.46 181	Pn	Pn	05 48 07.4	-1.5
PRWZ	Pori Road	2.46 181	PN	Pn	05 48 07.4	-1.5
PRWZ			AML	AML	05 48 42.4	
PRWZ			AML	AML	05 48 42.7	
MRZ	Mangatainoka R	2.59 188	Pn	Pn	05 48 08.2	-2.2
MRZ	Mangatainoka R	2.59 188	⇑PN	Pn	05 48 08.2	-2.2
MRZ			AML	AML	05 48 42.7	
MRZ			AML	AML	05 48 42.7	
BFZ	Birch Farm	2.59 176	Pn	Pn	05 48 08.5	-1.9
BFZ	Birch Farm	2.59 176	PN	Pn	05 48 08.5	-1.9
OGWZ	Otaki Gorge	2.80 194	Pn	Pn	05 48 10.8	-2.2
OGWZ	Otaki Gorge	2.80 194	PN	Pn	05 48 10.8	-2.2
OGWZ			AML	AML	05 48 46.4	
OGWZ			AML	AML	05 48 46.8	
CPWZ	Castlepoint	2.81 177	PN	Pn	05 48 11.0	-2.2
CPWZ			AML	AML	05 48 48.3	
CPWZ			AML	AML	05 48 49.5	
HOWZ	Holdsworth Sta	2.83 188	Pn	Pn	05 48 10.7	-2.6
HOWZ	Holdsworth Sta	2.83 188	PN	Pn	05 48 10.7	-2.6
HOWZ			AML	AML	05 48 45.7	
HOWZ			AML	AML	05 48 47.0	
KIW	Kapiti Island	2.90 197	Pn	Pn	05 48 11.4	-2.7
KIW	Kapiti Island	2.90 197	PN	Pn	05 48 11.4	-2.7
KIW			AML	AML	05 48 48.0	
KIW			AML	AML	05 48 48.5	
TMWZ	Te Maipa	3.01 182	Pn	Pn	05 48 12.9	-2.7
TMWZ	Te Maipa	3.01 182	PN	Pn	05 48 12.9	-2.7
TMWZ			AML	AML	05 48 51.1	
TMWZ			AML	AML	05 48 53.0	
CAW	Cannon Point	3.10 194	Pn	Pn	05 48 13.8	-2.8
CAW	Cannon Point	3.10 194	PN	Pn	05 48 13.8	-2.8
CAW			AML	AML	05 48 52.7	
CAW			AML	AML	05 48 53.9	
DUWZ	D'Urville Isla	3.16 211	Pn	Pn	05 48 14.6	-2.9
DUWZ	D'Urville Isla	3.16 211	PN	Pn	05 48 14.6	-2.9
TRWZ	Traveller	3.31 185	Pn	Pn	05 48 16.3	-3.0
TRWZ	Traveller	3.31 185	PN	Pn	05 48 16.3	-3.0
TRWZ			AML	AML	05 48 57.1	
TRWZ			AML	AML	05 48 57.2	
PAWZ	Paruwai Farm	3.32 188	Pn	Pn	05 48 16.1	-3.2
PAWZ	Paruwai Farm	3.32 188	PN	Pn	05 48 16.1	-3.2
PAWZ			AML	AML	05 48 55.4	
PAWZ			AML	AML	05 48 57.7	
MSWZ	Moikau Station	3.37 190	Pn	Pn	05 48 16.7	-3.4
MSWZ	Moikau Station	3.37 190	PN	Pn	05 48 16.7	-3.4
MSWZ			AML	AML	05 48 58.0	
MSWZ			AML	AML	05 48 58.2	
TCW	Tory Channel	3.39 203	Pn	Pn	05 48 17.4	-3.0
TCW	Tory Channel	3.39 203	PN	Pn	05 48 17.4	-3.0
TCW			AML	AML	05 48 59.5	
TCW			AML	AML	05 48 59.5	
BHW	Baring Head	3.43 195	Pn	Pn	05 48 17.2	-3.5
BHW	Baring Head	3.43 195	PN	Pn	05 48 17.2	-3.6
BHW			AML	AML	05 48 57.9	
BHW			AML	AML	05 48 59.8	
PLWZ	Palliser	3.52 190	Pn	Pn	05 48 18.4	-3.6
PLWZ	Palliser	3.52 190	PN	Pn	05 48 18.4	-3.6
PLWZ			AML	AML	05 49 01.5	
PLWZ			AML	AML	05 49 03.0	
TUWZ	Tuamarina	3.70 205	Pn	Pn	05 48 15.9	-8.3
TUWZ	Tuamarina	3.70 205	PN	Pn	05 48 25.3	+1.1
TUWZ			AML	AML	05 49 05.0	
TUWZ			AML	AML	05 49 07.1	
NNZ	Nelson	3.73 212	Pn	Pn	05 48 21.2	-3.4
NNZ	Nelson	3.73 212	PN	Pn	05 48 21.2	-3.4
QRZ	Quartz Range	3.85 224	Pn	Pn	05 48 22.3	-3.8
QRZ	Quartz Range	3.85 224	PN	Pn	05 48 22.3	-3.8
BSWZ	Blackbirch Sta	3.98 204	*e*Pn	Pn	05 48 24.9	-2.9
BSWZ	Blackbirch Sta	3.98 204	*e*PN	Pn	05 48 24.9	-2.9
THZ	Tophouse	4.38 212	PN	Pn	05 48 30.8	-2.3
KHZ	Kahutara	4.72 203	Pn	Pn	05 48 33.5	-3.9
KHZ	Kahutara	4.72 203	⇓PN	Pn	05 48 33.5	-3.9
KHZ			AML	AML	05 49 27.6	
KHZ			AML	AML	05 49 27.7	
LTZ	Lake Taylor	5.49 210	Pn	Pn	05 48 43.3	-4.2
LTZ	Lake Taylor	5.49 210	PN	Pn	05 48 43.3	-4.2
INZ	Inchbonnie	5.80 216	PN	Pn	05 48 47.9	-3.6
OXZ	Oxford	6.04 209	PN	Pn	05 48 49.4	-5.3
MQZ	McQueen's Vall	6.16 203	Pn	Pn	05 48 50.3	-5.9
MQZ	McQueen's Vall	6.16 203	PN	Pn	05 48 50.3	-5.9

*IDC **11** 05:52:15.5±0.8, 2°.41S×139°.59E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/23, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=14.1km s-min=11.2km az=5.0*

*DJA **11** 05:52:15.9±1.5, 3°S±17°×14°.0E±°, h33km±11km, M4.4/3, MLv4.4/3*
*NEIC **11** 05:52:16.9±0.6, 2°.41S×139°.62E, h10km, mb4.2/2, Error ellipse: s-maj=12.3km s-min=11.4km az=168.0*
*ISCJB **11** 05:52:18.0±0.5, 2°.49S±0°.07×139°.56E±0°.04, h27km, mb4.0/7, Error ellipse: s-maj=10.1km s-min=5.2km az=13.6*

ISC 11 05:52:18.9±0.6, 2°.47S±0°.08×139°.62E±0°.04, h27km, n21, σ2°71/20, mb3.9/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	0.56	102	P	Pn	05 52 30.1	-1.0
GENI				S	Sn	05 52 40.1	+0.6
SMPI	**Sarmi**	1.03	298	P	Pb	05 52 35.6	-2.4
SMPI				S	Sn	05 52 50.8	-0.2
JAY	**Jayapura**	1.09	92	Pg	Pb	05 52 36.7	-2.4
	540nm,0.3s,baz=243,slow=9.4,SNR=119						
JAY				Lg	Lg	05 52 52.5	
	1μm,0.3s,baz=129,slow=18,SNR=15						
JAY	**Jayapura**	1.09	92	P	Pb	05 52 36.5	-2.6
JAY				S	Sb	05 52 52.8	-0.1
SOEI	**Soe**	16.88	244	*e*Pn	Pn	05 56 13.2	-0.4
	44nm,0.8s						
WRAB	**Tennant Creek**	18.10	196	*e*Pn	P	05 56 29.3	+0.5
	5.7nm,0.6s						
WRA	**Warramunga Arr**	18.11	196	P	P	05 56 28.1	-0.7
	0.8nm,0.3s,baz=17,slow=13,SNR=31						
WRA				S	Sn	05 59 42.4	-7.8
	0.3nm,0.3s,baz=20,slow=23,SNR=4.8						
ASAR	**Alice Springs**	21.78	194	P	P	05 57 10.0	+1.2
	1.8nm,0.4s,baz=23,slow=9.6,SNR=39						
ASAR				S	S	06 01 13.5	+4.9
	0.9nm,0.8s,baz=7.8,slow=28,SNR=4.2						
EIDS	**Eidsvold**	25.30	155	P	P	05 57 47.1	+3.7
	8.5nm,1.0s						
STKA	**Stephens Creek**	29.31	177	P	P	05 58 20.8	+1.5
	1.0nm,0.5s,baz=346,slow=9.9,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	33.82	51	T	T	06 34 38.3	
	baz=230						
H11S2	**WAKE ISLAND Hy**	33.84	51	T	T	06 34 45.3	
	baz=230						
H11S1	**WAKE ISLAND Hy**	33.84	51	T	T	06 34 41.5	
	baz=230						
H11N1	**WAKE ISLAND Hy**	34.69	49	T	T	06 35 36.3	
	baz=233,slow=75,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	34.70	49	T	T	06 35 40.6	
	baz=233,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	34.71	49	T	T	06 35 41.5	
	baz=233,slow=75,SNR=5.4						
CMAR	**Chiang Mai Arr**	45.11	299	P	P	06 00 33.4	+0.1
	1.2nm,0.3s,baz=123,slow=6.4,SNR=8.6						
SONM	**Songino Array**	57.90	334	P	P	06 02 09.5	+0.8
	0.4nm,0.5s,baz=154,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	70.16	322	P	P	06 03 29.5	+0.3
	2.8nm,0.8s,baz=116,slow=8.2,SNR=19						
ILAR	**Eielson Array**	85.24	24	P	P	06 04 53.5	+0.7
	0.8nm,0.9s,baz=249,slow=5.3,SNR=5.4						
LPAZ	**La Paz**	146.85	125	PKPbc	PKPab	06 12 00.7	-1.1
	1.0nm,0.9s,baz=239,slow=5.9,SNR=3.9						

*ISCJB **11** 05:55:27.3±1.4, 34°.82N±0°.07×26°.14E±0°.04, h8km±7km, mb4.0/3, Error ellipse: s-maj=11.9km s-min=4.6km az=167.5*
*ATH **11** 05:55:27.7, 34°.96N×26°.17E, h27km±1km, ML3.5/4, Error ellipse: s-maj=6.5km s-min=1.4km az=355.0*
*THE **11** 05:55:28.3, 34°.91N×26°.14E, h1km, ML3.5/6, Error ellipse: s-maj=1.2km s-min=0.4km az=162.0*
*CSEM **11** 05:55:28.3±0.8, 34°.85N×26°.11E, h10km, ML3.5, Error ellipse: s-maj=19.2km s-min=5.7km az=172.0*
*IDC **11** 05:55:43.0±4.7, 36°.99N×20°.70E, h0km, mb4.1/3, mb1 3.9/4, mb1mx3.5/29, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=268.3km s-min=20.9km az=116.0*

ISC 11 05:55:29.0±1.1, 35°.00N±0°.06×26°.13E±0°.02, h14km±6km, n59, σ1°1°24/78, mb4.0/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	0.13	31	P	Pg	05 55 33.1	+0.5
ZKR				S	Sb	05 55 36.8	+0.6
ZKR	**Zakros**	0.13	31	P	Pb	05 55 33.3	0.0
ZKR				S	Sg	05 55 34.9	-0.1
ZKR				AML	AML	05 55 37.0	
	comp=E,50458μm,0.3s						
ZKR				AML	AML	05 55 37.0	
	comp=N,26643μm,0.3s						
ZKR	**Zakros**	0.13	31	P	Pb	05 55 33.3	0.0
ZKR				S	Sb	05 55 36.8	+0.6
NPS	**Neapolis**	0.50	302	P	Pb	05 55 39.6	0.0
NPS				S	Sb	05 55 48.0	+1.2
NPS	**Neapolis**	0.50	302	P	Pb	05 55 40.6	+1.0
NPS				S	Sb	05 55 48.3	+1.5
NPS				AML	AML	05 55 49.5	
	comp=E,10621μm,0.5s						
NPS				AML	AML	05 55 50.0	
	comp=N,8711μm,0.8s						
NPS	**Neapolis**	0.50	302	P	Pb	05 55 39.6	0.0
NPS				S	Sb	05 55 48.3	+1.5
LAST	**Lasithi**	0.56	287	P	Pg	05 55 39.9	-0.1
LAST				S	Sb	05 55 49.6	+1.0
LAST	**Lasithi**	0.56	287	P	Pb	05 55 41.0	+0.4
LAST				S	Sb	05 55 50.2	+1.7
LAST				AML	AML	05 55 50.6	
	comp=E,8543μm,0.3s						
LAST				AML	AML	05 55 52.7	
	comp=N,8376μm,0.6s						
LAST	**Lasithi**	0.56	287	P	Pb	05 55 41.0	+0.4
LAST				S	Sb	05 55 49.6	+1.0
KARP	**Karpathos**	1.00	57	P	Pb	05 55 47.9	-0.3
KARP				S	Sn	05 56 03.7	+1.1
KARP	**Karpathos**	1.00	57	P	Pn	05 55 49.0	+0.3
KARP	**Karpathos**	1.00	57	P	Pb	05 55 47.9	-0.3
KARP				S	Sn	05 56 03.7	+1.1
IDI	**Anoyia**	1.06	286	P	Pb	05 55 48.7	-0.4
IDI				S	Sn	05 56 04.3	+0.2
IDI	**Anoyia**	1.06	286	P	Pb	05 55 48.7	-0.4
IDI	**Anoyia**	1.06	286	P	Pb	05 55 48.7	-0.4
IDI				S	Sn	05 56 04.3	+0.2
SIVA	**Sivas**	1.09	271	P	Pb	05 55 49.2	-0.3
SIVA				S	Sn	05 56 05.1	+0.5
SIVA	**Sivas**	1.09	271	P	Pb	05 55 49.4	-0.2
SIVA				S	Sb	05 56 01.4	-2.2
SIVA				AML	AML	05 56 10.0	
	comp=N,4064μm,0.6s						
SIVA				AML	AML	05 56 12.6	
	comp=E,5183μm,0.6s						
SIVA	**Sivas**	1.09	271	P	Pb	05 55 49.4	-0.2
SIVA				S	Sn	05 56 05.1	+0.5
THR6	**Thira Island,**	1.48	336	P	Pb	05 55 56.0	-0.3
THR6	**Thira Island,**	1.48	336	P	Pn	05 55 53.8	-1.4
THR6	**Thira Island,**	1.48	336	P	Pb	05 55 56.0	-0.3
THR3	**Thira Island,**	1.53	337	P	Pb	05 55 57.2	+0.1
THR3	**Thira Island,**	1.53	337	P	Pn	05 55 56.6	+0.8
THR3	**Thira Island,**	1.53	337	P	Pn	05 55 56.6	+0.8
THR2	**Thira Island,**	1.55	339	P	Pb	05 55 57.7	+0.2
THR2	**Thira Island,**	1.55	339	P	Pn	05 55 55.6	-0.6
THR2	**Thira Island,**	1.55	339	P	Pb	05 55 57.7	+0.2
THR5	**Thira Island,**	1.55	336	P	Pb	05 55 57.8	+0.3
THR5	**Thira Island,**	1.55	336	P	Pn	05 55 55.4	-0.8
THR5	**Thira Island,**	1.55	336	P	Pb	05 55 57.8	+0.3
VAM	**Vamos**	1.64	285	P	Pn	05 55 57.4	+0.1
VAM	**Vamos**	1.64	285	P	Pn	05 55 57.4	+0.1
IMMV	**Iera Moni Meta**	1.82	285	P	Pn	05 55 58.7	-1.2
IMMV	**Iera Moni Meta**	1.82	285	P	Pn	05 55 58.7	-1.2
DAT	**Datca**	2.09	34	*i* P	Pn	05 56 05.2	+1.6
DAT	**Datca**	2.09	34	P	Pn	05 56 05.2	+1.6
APE	**Apeiranthos**	2.12	347	P	Pn	05 56 04.5	+0.4
APE	**Apeiranthos**	2.12	347	P	Pn	05 56 04.5	+0.4
MHLO	**Agia Marina, M**	2.20	321	P	Pn	05 56 00.6	-4.5
BDRM	**Kayabasi**	2.32	27	*i* P	Pn	05 56 09.5	-1.1
BDRM	**Kayabasi**	2.32	27	P	Pb	05 56 09.5	-1.1
ANKY	**Antikythira Is**	2.47	291	P	Pn	05 56 08.9	+0.1
ANKY	**Antikythira Is**	2.47	291	P	Pn	05 56 08.9	+0.1
DALY	**Dalyan (Mu¨la**	2.73	48	*i* P	Pb	05 56 15.8	-1.8
DALY				*i* S	Sg	05 56 54.9	-1.9
DALY	**Dalyan (Mu¨la**	2.73	48	P	Pb	05 56 15.8	-1.8
TURN	**Turunc**	2.74	46	*i* P	Pn	05 56 11.7	-0.9
TURN				*i* S	Sn	05 56 44.6	-0.8
TURN	**Turunc**	2.74	46	P	Pn	05 56 11.6	-0.9
TURN				S	Sn	05 56 44.6	-0.8
AYDN	**Tasoluk**	3.01	27	*i* P	Pb	05 56 20.1	-2.3
AYDN	**Tasoluk**	3.01	27	P	Pb	05 56 20.1	-2.3
VLI	**Veliai**	3.11	304	P	Pn	05 56 18.6	+1.0
VLI	**Veliai**	3.11	304	P	Pn	05 56 18.6	+1.0
TAVA	**DENIZLI_Tavas**	3.33	42	*i* P	Pn	05 56 23.7	+2.9
TAVA	**DENIZLI_Tavas**	3.33	42	P	Pn	05 56 23.7	+2.9
GOLH	**Golhisar**	3.56	50	*i* P	Pn	05 56 26.6	+2.6
GOLH	**Golhisar**	3.56	50	P	Pn	05 56 26.5	+2.6
AKASG	**Malin Array Be**	15.85	7	Pn	P	05 59 15.4	+0.1
	comp=E,0.3nm,0.3s,baz=194,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	31.01	231	P	P	06 01 46.4	+0.2
	comp=E,1.3nm,0.5s,baz=38,slow=8.6,SNR=19						
ARCES	**ARCESS Array B**	34.59	360	P	P	06 02 16.7	-0.4
	comp=E,2.1nm,1.1s,baz=178,slow=8.1,SNR=4.1						
DBIC	**Dimbokro**	40.10	233	P	P	06 03 03.9	-0.3
	comp=E,3.4nm,0.9s,baz=36,slow=8.7,SNR=3.4						

*ISCJB **11** 05:55:38.9±0.5, 47°.72N±0°.03×7°.65E±0°.04, h15km, Error ellipse: s-maj=4.4km s-min=3.7km az=18.0*
*LDG **11** 05:55:39.7±0.1, 47°.74N×7°.67E, h25km, Md1.8/1, Ml1.7/4, Error ellipse: s-maj=1.2km s-min=0.9km az=2.0*
*CSEM **11** 05:55:40.1±0.2, 47°.75N×7°.66E, h10km, ML1.8/6, Error ellipse: s-maj=4.5km s-min=3.4km az=15.0*
*ZUR **11** 05:55:40.2, 47°.73N×7°.68E, h21km±2km, ML1.5/5*

ISC 11 05:55:38.6±0.8, 47.74N±0°.03×7.80E±0°.04, h15km, n24, σ1°18/30, 2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZ	**Kirchzarten**	0.23	20	*e*Sg	Sg	05 55 47.9	+0.6
	70nm,0.1s						
KIZ	**Kirchzarten**	0.23	20	*e*Pg	Pb	05 55 51.1	+6.5
	70nm,0.1s						
KIZ	**Kirchzarten**	0.23	20	*e*Sg	Sg	05 55 47.9	+0.6
	70nm,0.1s						
KIZ	**Kirchzarten**	0.23	20	*e*Pg	Pb	05 55 51.1	+6.5
	70nm,0.1s						
SFRA	**Frenkendorf**	0.24	195	*i* Sg	Sg	05 55 46.7	-0.9
SFRA	**Frenkendorf**	0.24	195	*i* Sg	Sg	05 55 46.7	-0.9
SULZ	**Cheisacher**	0.30	135	⇓*i*Pg	Pn	05 55 48.5	0.0
	65nm,0.3s						
SULZ	**Cheisacher**	0.30	135	⇓*i*Pg	Pn	05 55 48.5	0.0
	65nm,0.3s						
BALST	**Balsthal**	0.41	190	*i* Sg	Sg	05 55 49.5	-3.0
	45nm,0.3s						
BALST	**Balsthal**	0.41	190	*e*Pg	Pn	05 55 54.2	+4.2
	45nm,0.3s						
SLE	**Schleitheim**	0.47	87	*e*Pg	Pn	05 55 51.0	+0.2
	71nm,0.1s						
SLE				*e*Sg	Sn	05 55 58.7	-0.2
	71nm,0.1s						
SLE	**Schleitheim**	0.47	87	*e*Pg	Pn	05 55 51.0	+0.2
	71nm,0.1s						
SLE				*e*Sg	Sn	05 55 58.7	-0.2
	71nm,0.1s						
BOURR	**Bourrignon**	0.52	228	*e*Pg	Pb	05 55 49.9	+0.5
	62nm,0.5s						
BOURR	**Bourrignon**	0.52	228	*e*Pg	Pb	05 55 49.9	+0.5
	62nm,0.5s						
HINF	**Hinteralfeld**	0.64	277	*e*Pg	Pg	05 55 50.9	-0.3
HINF				*e*Sg	Sg	05 55 58.3	-1.5
	22nm,0.2s						
HINF	**Hinteralfeld**	0.64	277	*e*Pg	Pg	05 55 50.9	-0.3
HINF				*e*Sg	Sg	05 55 58.3	-1.5
	11nm,0.2s						
CDF	**Champ du Feu**	0.76	333	*e*Pg	Pb	05 55 53.9	+0.3
CDF				*e*Sg	Sb	05 56 04.0	+0.2
	2.6nm,0.2s						
CDF	**Champ du Feu**	0.76	333	*e*Pg	Pb	05 55 53.9	+0.3
CDF				*e*Sg	Sb	05 56 04.0	+0.2
	1.3nm,0.2s						
HAU	**Haudompre**	1.01	286	*e*Pg	Pb	05 55 57.5	-0.4
HAU				*e*Sg	Sb	05 56 09.9	-1.1
	3.0nm,0.2s						
HAU	**Haudompre**	1.01	286	*e*Pg	Pb	05 55 57.5	-0.4
HAU				*e*Sg	Sb	05 56 09.9	-1.1
	1.5nm,0.2s						
PAGF	**Fort de Pagny**	1.61	301	*e*Sg	Sb	05 56 28.3	+0.1
	1.1nm,0.4s						
PAGF	**Fort de Pagny**	1.61	301	*e*Sg	Sb	05 56 28.3	+0.1
	0.6nm,0.4s						
CABF	**La Chapelle**	1.62	227	*e*Sg	Sb	05 56 29.3	+0.7
	0.6nm,0.2s						
CABF	**La Chapelle**	1.62	227	*e*Sg	Sb	05 56 29.3	+0.7
	0.3nm,0.2s						

IDC 11 06:01:57.2±6.3, 5°.74S×150°.85E, h56km±53km, mb3.4/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=70.6km s-min=34.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.16	225	P	Pn	06 03 13.5	+1.6
	6.7nm,0.3s,baz=63,slow=5.4,SNR=9.2						
PMG				S	Sn	06 04 10.1	-0.1
	4.4nm,0.3s,baz=107,slow=20,SNR=15						
WRA	**Warramunga Arr**	21.38	227	P	P	06 06 40.1	-0.1
	2.2nm,0.5s,baz=52,slow=10,SNR=24						
ASAR	**Alice Springs**	24.16	221	P	P	06 07 08.6	+0.2
	1.6nm,0.7s,baz=57,slow=8.9,SNR=22						
MKAR	**Makanchi Array**	79.77	319	P	P	06 13 60.0	+0.5
	0.1nm,0.2s,baz=101,slow=4.6,SNR=2.3						
ILAR	**Eielson Array**	83.76	22	P	P	06 14 19.0	-1.1
	0.3nm,0.7s,baz=240,slow=6.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	148.72

TWD				*i* S		**Sg**	**06 18 32.2 +0.2**
	baz=211						
ENTT	**Nioudou**	**0.39 325**	⇓	*i* P		**Pg**	**06 18 29.6 +0.1**
	baz=329						
ENTT				*i* S		**Sg**	**06 18 34.7 0.0**
	baz=329						
HWA	**Hwalien**	**0.39 209**		*e*P		**Pg**	**06 18 29.8 +0.3**
	baz=202						
NNS	**Nan Shan**	**0.41 287**	⇓	*i* P		**Pg**	**06 18 29.8 -0.2**
	baz=286						
NNS				S		**Sg**	**06 18 34.6 -1.0**
	baz=286						
ILA	**Ilan**	**0.45 353**		*e*P		**Pg**	**06 18 29.6 -1.0**
	baz=348						
WHF	**Hehuan Shan**	**0.53 251**	⇑	*i* P		**Pg**	**06 18 31.9 -0.3**
	baz=247						
WHF				S		**Sg**	**06 18 39.0 -0.1**
	baz=247						
NSK	**Sanguang**	**0.54 311**	⇓	*i* P		**Pg**	**06 18 32.6 +0.1**
	baz=312						
NSK				*e*S		**Sg**	**06 18 39.9 +0.3**
	baz=312						
TWT	**Tachien**	**0.58 264**		*e*P		**Pg**	**06 18 33.6 +0.4**
	baz=261						
TWT				*e*S		**Sg**	**06 18 40.9 +0.1**
	baz=261						
ESL	**Shilin**	**0.61 214**	⇑	*i* P		**Pg**	**06 18 33.5 -0.2**
	baz=210						
ESL				*e*S		**Sg**	**06 18 41.8 +0.1**
	baz=210						
TWA	**Mucha**	**0.69 343**		*e*P		**Pg**	**06 18 35.5 +0.3**
	baz=346						
TWA				*e*S		**Sg**	**06 18 44.4 +0.2**
	baz=346						
TWB1	**Santiao Chiao**	**0.70 13**		*e*P		**Pb**	**06 18 36.3 -0.2**
	baz=8.0						
TWB1				*e*S		**Sg**	**06 18 44.9 +0.2**
	baz=8.0						
NWF	**Wu-fen Shan**	**0.75 358**		*e*P		**Pg**	**06 18 36.8 +0.4**
	baz=352						
NWF				S		**Sg**	**06 18 46.7 +0.6**
	baz=352						
TAP1	**Taipei**	**0.76 340**		*e*P		**Pg**	**06 18 36.5 -0.1**
	baz=341						
TAP1				*e*S		**Sg**	**06 18 47.1 +0.6**
	baz=341						
TAP	**Taipei**	**0.77 339**		*e*P		**Pg**	**06 18 36.4 -0.3**
	baz=341						
TAP				*e*S		**Sg**	**06 18 47.2 +0.4**
	baz=341						
NSTT	**Nanjuang**	**0.80 293**	⇓	*i* P		**Pg**	**06 18 37.8 +0.5**
	baz=293						
NSTT				*i* S		**Sg**	**06 18 47.6 0.0**
	baz=293						
WDT	**Danda**	**0.83 228**	⇑	*i* P		**Pg**	**06 18 37.6 -0.4**
	baz=225						
WDT				S		**Sg**	**06 18 49.4 +0.5**
	baz=225						
TWS1	**Kuangyinshan**	**0.85 336**		*e*P		**Pb**	**06 18 39.4 +0.4**
	baz=324						
NCU	**National Centr**	**0.86 319**		*e*P		**Pb**	**06 18 39.7 +0.6**
	baz=320						
HSN	**Hsinchu**	**0.90 302**		*e*P		**Pb**	**06 18 40.0 +0.1**
	baz=305						
EHY	**Hungye**	**0.92 209**		P		**Pg**	**06 18 39.4 -0.3**
	baz=213						
EHY				S		**Sg**	**06 18 52.6 +0.9**
	baz=213						
SMLT	**Sun Moon Lake**	**0.94 243**	⇑	*i* P		**Pg**	**06 18 39.9 0.0**
	baz=230						
SMLT				*e*S		**Sg**	**06 18 52.1 0.0**
	baz=230						
TWQ1	**Liyutan**	**0.94 272**		*e*P		**Pg**	**06 18 40.4 +0.3**
	baz=271						
TWQ1				*e*S		**Sg**	**06 18 52.6 +0.3**
	baz=271						
NSY	**Sanyi**	**0.96 276**		*e*P		**Pb**	**06 18 41.3 +0.5**
	baz=275						
TYC	**Yuchr**	**0.96 245**	⇑	*i* P		**Pg**	**06 18 40.3 -0.1**
	baz=243						
TYC				S		**Sg**	**06 18 52.0 -0.9**
	baz=243						
TWY	**Chenhua**	**0.97 349**		*e*P		**Pg**	**06 18 40.7 +0.1**
	baz=351						
TWY				*e*S		**Sn**	**06 18 55.3 -0.6**
	baz=351						
JYNG	**Yonagunijimaku**	**1.04 83**		P		**Pb**	**06 18 42.2 -0.1**
JYNG				*e*S		**Sb**	**06 18 56.6 +0.4**
TCU	**Taichung**	**1.05 261**		*e*P		**Pb**	**06 18 41.1 -1.2**
	baz=259						
TCU				*e*S		**Sn**	**06 18 58.1 +0.4**
	baz=259						
TWF1	**Yuli**	**1.07 206**		P		**Pb**	**06 18 42.1 -0.7**
	baz=214						
TWF1				*e*S		**Sg**	**06 18 57.7 +1.3**
	baz=214						
YOJ	**Yonaguni jima**	**1.11 82**		*e*P		**Pb**	**06 18 43.3 0.0**
	baz=71						
YOJ	**Yonaguni jima**	**1.11 82**		P		**Pb**	**06 18 42.8 -0.5**
YOJ				S		**Sn**	**06 18 59.2 0.0**
WNT	**Mingjian**	**1.12 247**		*e*P		**Pg**	**06 18 43.9 +0.5**
	baz=235						
YUS	**Yu-Shan**	**1.14 224**		P		**Pb**	**06 18 43.5 -0.7**
	baz=213						
YUS				S		**Sg**	**06 18 58.9 +0.3**
	baz=213						
ALS	**Alishan**	**1.22 229**		*e*P		**Pn**	**06 18 44.2 -1.4**
	baz=226						
CHN5	**Tsauling**	**1.26 235**	⇑	*i* P		**Pg**	**06 18 46.7 +0.6**
	baz=223						
CHN5				*e*S		**Sg**	**06 19 04.0 +1.5**
	baz=223						
ELDTW	**Lidau**	**1.34 213**		*e*P		**Pn**	**06 18 46.2 -0.8**
	baz=211						
CHN4	**Tsaushan**	**1.47 229**		*e*P		**Pg**	**06 18 50.4 +0.2**
	baz=228						
CHN4				*e*S		**Sg**	**06 19 10.8 +1.5**
	baz=228						
STYT	**Tauyuan**	**1.50 220**		*e*P		**Pb**	**06 18 49.9 -0.2**
	baz=218						
WTP	**Ta-pu**	**1.53 226**		*e*P		**Pb**	**06 18 50.5 -0.1**
	baz=212						
WTP				*e*S		**Sg**	**06 19 12.5 +1.4**
	baz=212						
TWK	**Hsinying**	**1.60 229**		*e*P		**Pb**	**06 18 51.7 -0.1**
	baz=211						
CHN1	**Nanshi**	**1.63 226**		*e*P		**Pb**	**06 18 52.3 +0.1**
	baz=215						
CHN1				*e*S		**Sg**	**06 19 15.7 +1.4**
	baz=215						
TWG	**Pinlang**	**1.64 204**		*e*P		**Pn**	**06 18 52.0 +0.9**
	baz=203						
IRIF	**Iriomote-Funau**	**1.75 89**		P		**Pn**	**06 18 52.8 +0.2**
IRIF				*e*S		**Sb**	**06 19 16.0 -0.6**
JKRS	**Kuro-shima**	**2.01 92**		P		**Pn**	**06 18 56.9 +0.7**
JKRS				S		**Sb**	**06 19 23.4 -0.6**
EAST	**Anshuo**	**2.12 205**		*e*P		**Pb**	**06 18 59.6 -1.0**
	baz=191						
JIJ	**Ishigaki jima**	**2.13 88**		P		**Pn**	**06 18 58.1 +0.3**
JIJ				S		**Sn**	**06 19 23.8 -0.7**
PNG	**Penghu**	**2.19 250**		*e*P		**Pb**	**06 19 02.5 +0.7**
	baz=248						
JISG	**Ishigakijimahi**	**2.30 83**		P		**Pn**	**06 19 00.1 0.0**

IDC 11 06:26:45.8±4.4, 44°.32N×131°.50E, h0km, Error ellipse: s-maj=24.5km s-min=5.3km az=110.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**0.36 110**		*i*		06 28 40.0	
	baz=290,slow=328,SNR=65						
USRK	**Ussuriysk Ar.**	**0.37 109**		Pg	Pg	06 26 52.9	0.0
	0.4nm,0.3s,baz=292,slow=19,SNR=5.2						
USRK				Lg	Lg	06 26 58.0	
	0.9nm,0.3s,baz=289,slow=32,SNR=6.2						
I30JP	**ISUMI INFRASON**	**11.26 140**		*i*		07 34 20.0	
	baz=328,slow=323,SNR=0.5						

NIED ***11*** *06:37:00, 36°.40N×141°.10E, h5km, Mw3.3 Best double couple: M₀1.17000×10¹⁴ NP1:φ₁=45.00000°, δ74.00000°, λ-3.00000°. NP2:φ₂136.00000°, δ87.00000°, λ-164.00000°.*

JMA 11 06:37:30.2, 36°.42N×141°.11E, h24km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.48 294**		P	Pb	06 37 39.6	-0.4
JHO				S	Sb	06 37 46.5	-0.1
ONAJ	**Iwakimizuishiy**	**0.72 340**		P	Pb	06 37 43.8	-0.4
ONAJ				S	Sb	06 37 53.3	-0.5
JYT	**Yasato**	**0.76 256**		P	Pb	06 37 44.6	-0.2
JYT				S	Sb	06 37 54.9	+0.1
JFT	**Otama**	**1.26 331**		P	Pb	06 37 52.9	-0.4
JFT				S	Sn	06 38 08.5	0.0
JAG	**Ashikaga**	**1.34 271**		P	Pn	06 37 53.2	-0.2
JMM	**Marumori**	**1.47 350**		P	Pn	06 37 54.9	-0.2
JMM				S	Sn	06 38 13.4	-0.2
MAT	**Matsushiro**	**2.34 274**		P	Pn	06 38 08.7	+1.5
MAT				S	Sn	06 38 36.5	+1.2

ISCJB ***11*** *06:41:19.0±0.4, 32°.22N±0°.03×115°.21W±0°.03, h28km±3km, Error ellipse: s-maj=4.6km s-min=4.0km az=30.1*
ECX ***11*** *06:41:20.8±0.5, 32°.18N×115°.30W, h7km, MD2.8, ML3.0*
MEX ***11*** *06:41:21.9±0.4, 32°.26N×115°.21W, h16km±3km, MD3.9*

ISC 11 06:41:19.0±0.9, 32°.22N±0°.03×115°.22W±0°.03, h28km±7km, n32, σ0ˢ62/50, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.19**	**5**	*i* P	**Pb**	**06 41 25.1**	**+0.3**
MBIG				*e*S	**Sb**	**06 41 27.6**	**-1.2**
MBIG	**Mexicali**	**0.19**	**5**	*e*P	**Pb**	**06 41 25.4**	**+0.6**
CPBX	**Cerro Prieto**	**0.21**	**340**	*e*P	**Pb**	**06 41 25.2**	**+0.1**
CPBX				*e*S	**Sb**	**06 41 29.1**	**-0.2**
CPBX				⇓*e*		06 41 32.3	
CPBX				IAML		06 41 32.3	
	comp=E,8μm,0.2s						
EMSC	**East Mesa**	**0.55**	**21**	*e*P	**Pn**	**06 41 31.2**	**+0.2**
DREC	**Desert Rsrch C**	**0.61**	**342**	*e*P	**Pn**	**06 41 32.1**	**+0.3**
WESC	**Westside Schoo**	**0.69**	**321**	*e*P	**Pn**	**06 41 33.1**	**+0.3**
YUH	**Yuha Desert**	**0.73**	**306**	⇑*i*P	**Pb**	**06 41 33.1**	**-0.1**
COK	**Cook Ranch**	**0.76**	**326**	*e*P	**Pn**	**06 41 34.2**	**+0.4**
ECBX	**El Chinero**	**0.76**	**169**	*e*P	**Pb**	**06 41 33.3**	**-0.3**
ECBX				*e*S	**Sb**	**06 41 43.1**	**-0.5**
ECBX				IAML		06 41 44.8	
	comp=N,385nm,0.5s						
ECBX				⇑*e*		06 41 44.8	
RMX	**La Rumorosa**	**0.82**	**298**	⇑*e*P	**Pb**	**06 41 34.3**	**-0.5**
RMX				*e*S	**Sb**	**06 41 44.4**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.87**	**300**	P	**Pn**	**06 41 35.6**	**+0.3**
	baz=125,SNR=48						
IKP				S	**Sb**	**06 41 46.1**	**-0.7**
	baz=125						
IKP	**In-Ko-Pah, Jac**	**0.87**	**300**	⇑*i*P	**Pn**	**06 41 35.7**	**+0.3**
IKP				*e*S	**Sb**	**06 41 46.7**	**-0.1**
SWSC	**Sam W. Stewart**	**0.87**	**326**	P	**Pn**	**06 41 34.9**	**-0.5**
	baz=150						
GLA	**Glamis**	**0.89**	**22**	P	**Pn**	**06 41 35.9**	**+0.2**
	baz=202,SNR=14						
GLA				S	**Sb**	**06 41 47.3**	**-0.2**
	baz=202						
CRR	**Carrizo Plain**	**0.92**	**316**	*e*P	**Pb**	**06 41 36.7**	**+0.4**
ZAX	**El Zacaton**	**1.14**	**232**	*e*P	**Pn**	**06 41 39.5**	**+0.3**
ZAX				*e*S	**Sn**	**06 41 53.7**	**-0.2**
ZAX				IAML		06 41 55.7	
	comp=N,447nm,0.2s						
ZAX				*e*		06 41 55.7	
SPIG	**San Pedro Mart**	**1.19**	**190**	*i* P	**Pb**	**06 41 40.9**	**-0.2**
SPIG				*i* S	**Sn**	**06 41 55.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.19**	**190**	*e*P	**Pb**	**06 41 40.9**	**-0.2**
SPX	**San Pedro Mart**	**1.19**	**190**	*e*P	**Pn**	**06 41 40.8**	**+0.7**
MONP2	**Monument Peak**	**1.22**	**304**	P	**Pb**	**06 41 41.6**	**+0.1**
	baz=127,SNR=16						
MONP2				S	**Sn**	**06 41 56.1**	**+0.1**
	baz=127						
CBX	**Cerro Bola**	**1.23**	**275**	*e*P	**Pn**	**06 41 41.1**	**+0.7**
CBX				*e*S	**Sn**	**06 41 55.1**	**-1.1**
CBX	**Cerro Bola**	**1.23**	**275**	*e*P	**Pn**	**06 41 41.1**	**+0.7**
CBX				*e*S	**Sn**	**06 41 56.8**	**+0.6**
CBX				IAML		06 41 58.6	
	comp=E,349nm,0.4s						
CBX				⇓*e*		06 41 58.6	
TJIG	**Tijuana**	**1.25**	**280**	*e*P	**Pn**	**06 41 41.2**	**+0.6**
TJIG				*e*S	**Sn**	**06 41 55.6**	**-1.0**
TJIG	**Tijuana**	**1.25**	**280**	*e*P	**Pn**	**06 41 41.2**	**+0.6**
TJIG				*e*S	**Sn**	**06 41 57.0**	**+0.4**
ECNX	**Esteban Cantu**	**1.30**	**245**	*e*P	**Pn**	**06 41 42.2**	**+0.8**
BAR	**Barrett**	**1.31**	**291**	*e*P	**Pb**	**06 41 42.9**	**-0.1**
113A	**Mohawk Valley,**	**1.34**	**66**	*e*P	**Pn**	**06 41 42.0**	**+0.1**
113A				*e*S	**Sn**	**06 41 57.6**	**-1.1**
PBX	**Punta Banda**	**1.37**	**250**	*e*P	**Pn**	**06 41 42.7**	**+0.5**
109C	**Camp Elliot, M**	**1.73**	**293**	P	**Pn**	**06 41 48.6**	**+1.4**
	baz=115,SNR=9.2						
109C				S	**Sn**	**06 42 09.1**	**+0.9**
	baz=115						
PFO	**Pinyon Flats O**	**1.74**	**323**	P	**Pn**	**06 41 47.5**	**+0.2**
	baz=145						
PFO				S	**Sn**	**06 42 08.3**	**-0.4**
	baz=145						
IRM	**Iron Mountain**	**1.93**	**2**	P	**Pn**	**06 41 51.0**	**+1.0**
	baz=183						
214A	**Organ Pipe Nat**	**2.06**	**97**	*e*P	**Pn**	**06 41 52.6**	**+0.9**
214A				*i* S	**Sn**	**06 42 17.0**	**+0.5**

IDC 11 06:53:37.8±398.0, 50°.60N×116°.64E, h0km, Error ellipse: s-maj=155.0km s-min=135.3km az=99.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.27**	**251**	*i*		07 40 40.0	
	baz=62,slow=324,SNR=0.5						
I45RU	**USSURIYSK INFR**	**12.19**	**116**	*i*		08 05 00.0	
	baz=305,slow=326,SNR=2.4						
I44RU	**PETROPAVLOVSK**	**25.25**	**68**	*i*		09 29 00.0	
	baz=284,slow=372,SNR=2.3						

IDC 11 07:16:02.2±11.0, 6°.72S×127°.96E, h0km, mb4.0/1, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=302.8km s-min=150.9km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.53**	**155**	Pn	Pn	07 19 27.8	-1.4
	0.3nm,0.3s,baz=333,slow=13,SNR=11						
WRA				Sn	Sn	07 21 52.5	-19
	0.5nm,0.3s,baz=331,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.79**	**162**	P	Pn	07 20 11.6	+0.1
	0.5nm,0.3s,baz=342,slow=10,SNR=26						
ASAR				S	Sn	07 23 15.3	-15
	0.1nm,0.3s,baz=351,slow=22,SNR=4.4						
STKA	**Stephens Creek**	**28.08**	**155**	P	P	07 21 55.9	+0.2
	0.6nm,0.3s,baz=329,slow=9.0,SNR=4.9						

IDC ***11*** *07:17:02.2±2.7, 19°.08N×145°.71E, h154km±26km, mb3.7/14, mb1 3.9/15, mb1mx3.7/36, mbtmp4.2/15, Error ellipse: s-maj=21.8km s-min=13.2km az=71.0*
ISCJB ***11*** *07:17:06.5±0.6, 18°.92N±0°.06×145°.6E±0°.2, h214km, mb3.8/14, Error ellipse: s-maj=21.1km s-min=8.8km az=178.3*

ISC 11 07:17:07.5±0.6, 18°.83N±0°.08×145°.6E±0°.2, h214km, n19, σ1ˢ72/17, mb3.9/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.26**	**188**	P	**Pn**	**07 18 22.3**	**-3.4**
	3.6nm,0.3s,baz=110,slow=17,SNR=3.9						
GUMO				S	**S**	**07 19 26.8**	**-0.5**
	7.6nm,0.3s,baz=233,slow=20,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**19.98**	**88**	T	T	07 42 15.2	
	baz=275,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**19.99**	**88**	T	T	07 42 15.1	
	baz=275,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**20.00**	**88**	T	T	07 42 15.4	
	baz=275,slow=75,SNR=7.1						
KSRS	**Korea Array**	**24.16**	**324**	P	**P**	**07 22 01.5**	**-2.6**
	1.7nm,0.6s,baz=142,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**40.09**	**197**	P	**P**	**07 24 24.5**	**+2.0**
	1.7nm,0.5s,baz=10,slow=8.2,SNR=11						
SONM	**Songino Array**	**42.98**	**321**	P	**P**	**07 24 45.3**	**-0.5**
	1.0nm,0.6s,baz=138,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**43.76**	**196**	P	**P**	**07 24 53.9**	**+1.8**
	0.4nm,0.4s,baz=16,slow=7.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**44.11**	**277**	P	**P**	**07 24 57.1**	**+2.1**
	0.7nm,0.3s,baz=62,slow=8.3,SNR=4.1						
DZM	**Mont Dzumac**	**45.48**	**152**	P	**P**	**07 25 07.8**	**+2.0**
	2.0nm,0.7s,baz=323,slow=20,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.85**	**322**	P	**P**	**07 26 38.5**	**+1.8**
	5.4nm,0.3s,baz=110,slow=13,SNR=12						
MKAR	**Makanchi Array**	**58.30**	**314**	P	**P**	**07 26 40.1**	**0.0**
	0.3nm,0.3s,baz=96,slow=7.6,SNR=5.3						
NRIK	**Noril'sk**	**61.45**	**340**	P	**P**	**07 27 00.5**	**-0.5**
	2.4nm,0.5s,baz=96,slow=7.4,SNR=5.3						
ILAR	**Eielson Array**	**63.56**	**26**	P	**P**	**07 27 14.2**	**-0.8**
	2.4nm,0.4s,baz=256,slow=5.8,SNR=77						
YKA	**Yellowknife Ar**	**77.91**	**28**	P	**P**	**07 28 41.9**	**+0.5**
	1.4nm,0.5s,baz=292,slow=5.3,SNR=4.4						
ARCES	**ARCESS Array B**	**82.34**	**342**	P	**P**	**07 29 05.2**	**+0.2**
	1.4nm,0.5s,baz=74,slow=8.5,SNR=14						
FINES	**FINESS Array B**	**86.72**	**335**	P	**P**	**07 29 25.7**	**-1.4**
	1.5nm,0.4s,baz=72,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**87.80**	**45**	P	**P**	**07 29 33.0**	**+0.1**
	0.5nm,0.5s,baz=136,slow=1.6,SNR=7.0						
LPAZ	**La Paz**	**147.77**	**91**	PKPbc	**PKPab**	**07 36 30.8**	**-0.8**
	0.9nm,0.7s,baz=228,slow=4.8,SNR=6.2						

IDC 11 07:58:35.1±7.3, 29°.93S×177°.32W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/26, mbtmp3.8/3, Error ellipse: s-maj=132.6km s-min=24.7km az=79.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**322**	Pn	Pn	07 58 54.7	+0.3
	623nm,0.3s,baz=99,slow=3.5,SNR=26						
RAO				Sn	Sn	07 59 08.2	+0.6
	1μm,0.3s,baz=49,slow=23,SNR=12						
STKA	**Stephens Creek**	**35.16**	**256**	P	P	08 05 31.7	+1.0
	0.9nm,0.6s,baz=110,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**43.73**	**266**	P	P	08 06 42.0	-0.4
	0.6nm,0.6s,baz=108,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**44.68**	**271**	P	P	08 06 49.1	-0.8
	1.5nm,0.7s,baz=110,slow=8.1,SNR=15						

TIR ***11*** *08:15:14.6±0.3, 40°.67N×22°.05E, h2km, ML3.2*
ISCJB ***11*** *08:15:17.8±0.5, 40°.41N±0°.03×21°.85E±0°.04, h10km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=146.5*
CSEM ***11*** *08:15:17.5±0.2, 40°.42N×21°.84E, h10km, ML2.2, Error ellipse: s-maj=4.4km s-min=3.4km az=60.0*
THE ***11*** *08:15:18.2, 40°.42N×21°.84E, h2km±24km, ML2.2/5, Error ellipse: s-maj=24.9km s-min=0.5km az=219.0*

ISC 11 08:15:18.2±1.1, 40°.46N±0°.03×21°.86E±0°.02, h1km±11km, n26, σ1ˢ51/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.17**	**203**	P	Pg	08 15 20.5	-0.9
KZN				S	**Sg**	**08 15 23.2**	**-0.4**
KZN	**Kozani**	**0.17**	**203**	P	Pg	08 15 20.5	-0.9
KZN				S	**Sg**	**08 15 23.2**	**-0.4**
KTI	**Kastanea**	**0.21**	**109**	P	**Pg**	**08 15 22.2**	**0.0**
KTI	**Kastanea**	**0.21**	**109**	P	**Pg**	**08 15 22.2**	**0.0**
FNA	**Florina**	**0.49**	**311**	P	**Pg**	**08 15 27.4**	**-0.1**
FNA				S	**Sb**	**08 15 34.7**	**-2.6**
FNA	**Florina**	**0.49**	**311**	P	**Pg**	**08 15 27.4**	**-0.1**
FNA				S	**Sb**	**08 15 34.7**	**-2.6**
LIT	**Litokhoron**	**0.60**	**126**	P	**Pg**	**08 15 29.4**	**-0.3**
LIT				S	**Sg**	**08 15 37.7**	**+0.2**
LIT	**Litokhoron**	**0.60**	**126**	P	**Pg**	**08 15 29.4**	**-0.3**
LIT				S	**Sg**	**08 15 37.7**	**+0.2**
KPRO	**Kipourio**	**0.63**	**217**	P	**Pg**	**08 15 29.5**	**-0.8**
KPRO				S	**Sg**	**08 15 37.9**	**-0.6**
KPRO	**Kipourio**	**0.63**	**217**	P	**Pg**	**08 15 29.5**	**-0.8**
KPRO				S	**Sg**	**08 15 37.9**	**-0.6**
GRG	**Griva**	**0.65**	**40**	P	**Pg**	**08 15 30.7**	**+0.2**
GRG				S	**Sb**	**08 15 41.6**	**-0.2**
GRG	**Griva**	**0.65**	**40**	P	**Pg**	**08 15 30.7**	**+0.2**
GRG				S	**Sb**	**08 15 41.6**	**-0.2**
KBN	**Korca**	**0.83**	**282**	*i* PN	**Pg**	**08 15 34.6**	**+0.4**
KBN				*i* SN	**Sb**	**08 15 47.1**	**-0.1**
KBN	**Korca**	**0.83**	**282**	*i* Pn	**Pg**	**08 15 34.6**	**+0.5**
KBN				*i* Sn	**Sb**	**08 15 47.1**	**-0.1**
THL	**Klokotos Trika**	**0.90**	**172**	P	Pg	08 15 34.1	-1.4
THL				S	**Sg**	**08 15 47.2**	**0.0**
THL	**Klokotos Trika**	**0.90**	**172**	P	Pg	08 15 34.1	-1.4
THL				S	**Sg**	**08 15 47.2**	**0.0**
VAY	**Valandovo**	**1.01**	**32**	*i* Pn	**Pg**	**08 15 37.6**	**0.0**
VAY				*i* Sn	**Sn**	**08 15 58.6**	**+4.1**
VAY	**Valandovo**	**1.01**	**32**	*i* Pn	**Pg**	**08 15 37.6**	**0.0**
KRUS	**Krusevo**	**1.02**	**333**	*i* Pg	**Pb**	**08 15 38.8**	**+0.1**
KRUS				*i* Sg	**Sn**	**08 15 55.8**	**+1.0**
KRUS	**Krusevo**	**1.02**	**333**	*i* Pg	**Pb**	**08 15 38.7**	**0.0**
KRUS				*i* Sg	**Sn**	**08 15 55.7**	**+1.0**
OHR	**Ohrid**	**1.03**	**309**	*i* Pg	**Pg**	**08 15 38.0**	**0.0**
OHR				*i* Sg	**Sn**	**08 15 54.9**	**-0.1**
OHR	**Ohrid**	**1.03**	**309**	*i* Pg	**Pg**	**08 15 37.9**	**-0.1**
OHR				*i* Sg	**Sn**	**08 15 54.9**	**-0.2**
SRN	**Sarande**	**1.54**	**248**	*i* PN	**Pb**	**08 15 49.0**	**+1.5**
SRN				*i* SN	**Sg**	**08 16 14.3**	**+6.7**
SRN	**Sarande**	**1.54**	**248**	*i* Pn	**Pb**	**08 15 49.0**	**+1.5**
	SNR=40						
PHP	**Peshkopia**	**1.62**	**319**	*i* PN	**Pn**	**08 15 46.4**	**-1.7**
PHP				*i* SN	**Sg**	**08 16 10.1**	**-0.3**
PHP	**Peshkopia**	**1.62**	**319**	*i* Pn	**Pn**	**08 15 46.4**	**-1.6**
	SNR=40						
PHP				*i* Sn	**Sg**	**08 16 10.1**	**-0.3**
	SNR=40						

KRSC 11 08:27:57.3±1.6, 53°.84N×161°.53E, h16km±35km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.17**	**231**	*e*P	Pn	08 28 18.4	-0.5
SPN				S	Sb	08 28 33.4	-0.5
KII	**Karymskiy**	**1.25**	**280**	*e*S	Sn	08 28 36.8	+0.2
KZV	**Kizimen**	**1.47**	**331**	*e*P	Pn	08 28 23.6	+0.4
KZV				*e*S	Sn	08 28 41.4	-0.8
NLC	**Nalytchevo**	**1.47**	**244**	P	Pb	08 28 24.4	+0.2
NLC				*e*S	Sb	08 28 42.3	-0.2
TUMD	**Tumrok D**	**1.52**	**335**	P	Pn	08 28 24.2	+0.4
TUMD				*e*S	S

ESO				S	Sn	08 29 11.9	+0.7
APC	**Apacha**	**2.77**	**252**	*e*P	Pb	08 28 44.6	-1.8
APC				*e*S	Sb	08 29 18.8	-1.3

ISK ***11*** *08:34:57.3, 38°.32N×38°.77E, h6km, MD2.8*
DDA ***11*** *08:34:57.7, 38°.30N×38°.79E, h9km, Md2.8*
CSEM ***11*** *08:34:58.1±0.2, 38°.31N×38°.78E, h2km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.8km az=100.0*

ISC 11 08:34:58.3±1.1, 38°.31N±0°.03×38°.78E±0°.03, h8km±10km, n23, σ0.50/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.25**	**41**	*i* P	**Pg**	**08 35 03.4**	**+0.1**
ELZG				*i* S	**Sg**	**08 35 07.3**	**+0.6**
ELZG	**Elazig**	**0.25**	**41**	P	**Pg**	**08 35 03.4**	**+0.1**
ELZG				S	**Sg**	**08 35 07.3**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.42**	**81**	*e*PG	**Pg**	**08 35 05.9**	**-0.6**
SVRC				*e*SG	**Sg**	**08 35 12.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.42**	**81**	*e*Pg	**Pg**	**08 35 05.9**	**-0.6**
SVRC				*e*Sg	**Sg**	**08 35 12.4**	**+0.3**
PTK	**Pertek**	**0.75**	**40**	*e*PG	**Pg**	**08 35 12.3**	**-0.5**
PTK				*e*SG	**Sb**	**08 35 23.3**	**-1.0**
PTK	**Pertek**	**0.75**	**40**	*e*Pg	**Pg**	**08 35 12.3**	**-0.5**
PTK				*e*Sg	**Sb**	**08 35 23.3**	**-1.0**
URFA	**Urfa**	**0.87**	**178**	*e*PG	**Pg**	**08 35 14.7**	**-0.3**
URFA	**Urfa**	**0.87**	**178**	*e*Pg	**Pg**	**08 35 14.7**	**-0.3**
KEMA	**Kemaliye**	**0.98**	**347**	*i* P	**Pg**	**08 35 16.7**	**-0.4**
KEMA				*i* S	**Sb**	**08 35 30.7**	**0.0**
KEMA	**Kemaliye**	**0.98**	**347**	P	**Pg**	**08 35 16.7**	**-0.4**
KEMA				S	**Sb**	**08 35 30.7**	**0.0**
TNCL	**Tunceli-Merkez**	**1.00**	**37**	*i* P	Pg	08 35 10.9	-6.6
TNCL				*i* S	**Sb**	**08 35 31.0**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.00**	**37**	S	**Sb**	**08 35 31.0**	**-0.3**
DARE	**Darende-Malaty**	**1.05**	**285**	*e*PG	**Pg**	**08 35 17.6**	**-0.7**
DARE	**Darende-Malaty**	**1.05**	**285**	*e*Pg	**Pg**	**08 35 17.7**	**-0.7**
GZT	**Gaziantep**	**1.35**	**226**	*i* P	**Pg**	**08 35 24.2**	**-0.1**
GZT				*i* S	**Sn**	**08 35 43.1**	**+1.2**
SURC	**SANLIURFA_SURC**	**1.44**	**185**	*i* P	**Pg**	**08 35 25.8**	**0.0**
SURC				*i* S	**Sg**	**08 35 44.2**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.44**	**185**	P	**Pg**	**08 35 25.8**	**0.0**
SURC				S	**Sg**	**08 35 44.2**	**-0.2**
MAZI	**Mazidag**	**1.57**	**122**	*e*PN	**Pn**	**08 35 26.5**	**-0.1**
MAZI	**Mazidag**	**1.57**	**122**	*e*Pn	**Pn**	**08 35 26.5**	**-0.1**
KELT	**Kelkit**	**1.87**	**11**	*i* P	**Pb**	**08 35 32.8**	**0.0**
KELT				*i* S	**Sb**	**08 35 56.7**	**+0.2**
KELT	**Kelkit**	**1.87**	**11**	P	**Pb**	**08 35 32.8**	**0.0**
KELT				S	**Sb**	**08 35 56.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.91**	**94**	*e*PN	**Pn**	**08 35 31.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.91**	**94**	*e*Pn	**Pn**	**08 35 31.4**	**+0.2**

CSEM ***11*** *08:42:15.2±0.3, 33°.94N×6°.51W, h10km, MD3.1, Error ellipse: s-maj=7.7km s-min=6.4km az=130.0*
INMG ***11*** *08:42:15.4±0.9, 34°.06N×6°.53W, h0km, ML1.9, Error ellipse: s-maj=5.0km s-min=1.6km az=115.0*
MDD ***11*** *08:42:16.4±0.7, 33°.96N×6°.58W, h14km±7km, mb3.5/6, Error ellipse: s-maj=7.8km s-min=4.6km az=82.0, PRXIMO*
CNRM ***11*** *08:42:16.4, 33°.99N×6°.55W, h8km, MD3.1*
SFS ***11*** *08:42:17.0, 34°.12N×6°.58W, h0km, ML3.4*

ISC 11 08:42:15.1±1.0, 33°.99N±0°.02×6°.53W±0°.03, h17km±8km, n58, σ1.13/99, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTC	**Rabat Centre**	**0.27**	**269**	P	**Pg**	**08 42 20.5**	**-0.5**
RTC				S	**Sb**	**08 42 25.5**	**-0.3**
RTC	**Rabat Centre**	**0.27**	**269**	*i* P	**Pg**	**08 42 20.5**	**-0.5**
RTC				*i* S	**Sb**	**08 42 25.5**	**-0.3**
RTC	**Rabat Centre**	**0.27**	**269**	P	**Pg**	**08 42 20.5**	**-0.5**
RTC				S	**Sb**	**08 42 25.5**	**-0.3**
AVE	**Averroes**	**1.01**	**227**	*i* P	**Pg**	**08 42 34.7**	**+0.1**
AVE				*e*S	**Sn**	**08 42 49.5**	**+1.2**
AVE	**Averroes**	**1.01**	**227**	*i* P	**Pg**	**08 42 34.7**	**+0.1**
AVE				*e*S	**Sn**	**08 42 49.5**	**+1.2**
RSA	**Sarsar**	**1.06**	**33**	P	**Pg**	**08 42 37.0**	**+1.4**
RSA				S	**Sb**	**08 42 48.0**	**-0.6**
RSA	**Sarsar**	**1.06**	**33**	*i* P	**Pg**	**08 42 37.0**	**+1.4**
RSA				*i* S	**Sb**	**08 42 48.0**	**-0.6**
RSA	**Sarsar**	**1.06**	**33**	P	**Pg**	**08 42 37.0**	**+1.4**
RSA				S	**Sb**	**08 42 48.0**	**-0.6**
KIB	**El Ksiba**	**1.47**	**164**	P	**Pn**	**08 42 41.0**	**0.0**
KIB				S	**Sn**	**08 42 59.0**	**-0.9**
KIB	**El Ksiba**	**1.47**	**164**	*i* P	**Pn**	**08 42 41.0**	**0.0**
KIB				*i* S	**Sn**	**08 42 59.0**	**-0.9**
KIB	**El Ksiba**	**1.47**	**164**	P	**Pn**	**08 42 41.0**	**0.0**
KIB				S	**Sn**	**08 42 59.0**	**-0.9**
CZD	**Col de Zad**	**1.57**	**127**	P	**Pb**	**08 42 44.0**	**+0.1**
CZD				S	**Sg**	**08 43 06.0**	**+0.1**
CZD	**Col de Zad**	**1.57**	**127**	*i* P	**Pb**	**08 42 44.0**	**+0.1**
CZD	**Col de Zad**	**1.57**	**127**	P	**Pb**	**08 42 44.0**	**+0.1**
CZD				*i* S	**Sg**	**08 43 06.0**	**+0.1**
TZC	**Tazercounte**	**1.84**	**179**	P	**Pn**	**08 42 45.0**	**-1.1**
TZC				S	**Sn**	**08 43 09.0**	**-0.1**
TZC	**Tazercounte**	**1.84**	**179**	*e*P	**Pn**	**08 42 45.0**	**-1.1**
TZC				*i* S	**Sn**	**08 43 09.0**	**-0.1**
TZC	**Tazercounte**	**1.84**	**179**	P	**Pn**	**08 42 45.0**	**-1.1**
TZC				S	**Sn**	**08 43 09.0**	**-0.1**
ZFT	**Errachidia**	**2.68**	**136**	P	**Pn**	**08 42 58.0**	**+0.3**
ZFT				S	**Sn**	**08 43 30.0**	**+0.2**
ZFT	**Errachidia**	**2.68**	**136**	*i* P	**Pn**	**08 42 58.0**	**+0.3**
ZFT				*i* S	**Sn**	**08 43 30.0**	**+0.2**
ZFT	**Errachidia**	**2.68**	**136**	P	**Pn**	**08 42 58.0**	**+0.3**
ZFT				S	**Sn**	**08 43 30.0**	**+0.2**
OUK	**Oukaimeden**	**3.00**	**202**	P	**Pn**	**08 43 02.0**	**-0.1**
OUK				S	**Sn**	**08 43 36.0**	**-1.8**
OUK	**Oukaimeden**	**3.00**	**202**	*e*P	**Pn**	**08 43 02.0**	**-0.1**
OUK				*i* S	**Sn**	**08 43 36.0**	**-1.8**
OUK	**Oukaimeden**	**3.00**	**202**	P	**Pn**	**08 43 02.0**	**-0.1**
OUK				S	**Sn**	**08 43 36.0**	**-1.8**
CIA	**Chichaoua**	**3.06**	**218**	P	**Pn**	**08 43 04.0**	**+1.2**
CIA				S	**Sn**	**08 43 40.0**	**+1.0**
CIA	**Chichaoua**	**3.06**	**218**	*e*P	**Pn**	**08 43 04.0**	**+1.2**
CIA				*i* S	**Sn**	**08 43 40.0**	**+1.0**
CIA	**Chichaoua**	**3.06**	**218**	P	**Pn**	**08 43 04.0**	**+1.2**
CIA				S	**Sn**	**08 43 40.0**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.44**	**341**	*e*Sn	**Sn**	**08 43 47.7**	**-0.6**
PBDV				A	A	08 43 53.4	
	1.2nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.44**	**341**	S	**Sn**	**08 43 47.7**	**-0.6**
	1.2nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.44**	**341**	S	**Sn**	**08 43 47.7**	**-0.6**
	1.2nm,0.1s						
PVAQ	**Vaqueiros**	**3.54**	**345**	*e*Sn	**Sn**	**08 43 49.8**	**-0.9**
PVAQ				A	A	08 43 54.7	
	1.8nm,0.1s						
PVAQ	**Vaqueiros**	**3.54**	**345**	S	**Sn**	**08 43 49.8**	**-0.9**
	1.8nm,0.1s						
PVAQ	**Vaqueiros**	**3.54**	**345**	S	**Sn**	**08 43 49.8**	**-0.9**
	1.8nm,0.1s						
EGRO	**El Granado**	**3.62**	**348**	P	**Pn**	**08 43 11.3**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 43 51.6**	**-1.1**
	2.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.62**	**348**	P	**Pn**	**08 43 11.3**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 43 51.6**	**-1.1**
	2.8nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.73**	**333**	*e*Sn	**Sn**	**08 43 55.3**	**-0.2**
MORF				A	A	08 43 59.1	
	3.1nm,0.1s						
MORF	**Marmelete**	**3.73**	**333**	S	**Sn**	**08 43 55.3**	**-0.2**
	3.1nm,0.1s						
MORF	**Marmelete**	**3.73**	**333**	S	**Sn**	**08 43 55.3**	**-0.2**
	3.1nm,0.1s						
EMIN	**Mina Concepcio**	**3.77**	**358**	P	**Pn**	**08 43 14.3**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**08 43 54.6**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.77**	**358**	P	**Pn**	**08 43 14.3**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**08 43 54.6**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**3.83**	**342**	*e*Sn	**Sn**	**08 43 57.0**	**-1.0**
PCVE				A	A	08 44 01.6	
	0.9nm,0.1s						
PCVE	**Castro Verde**	**3.83**	**342**	S	**Sn**	**08 43 57.0**	**-1.0**
	0.9nm,0.1s						
PCVE	**Castro Verde**	**3.83**	**342**	S	**Sn**	**08 43 57.0**	**-1.0**
	0.9nm,0.1s						

ECAB	**El Cabril**	**4.17**	**12**	P	**Pn**	**08 43 18.8**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**08 44 02.5**	**-3.9**
	1.2nm,0.2s,SNR=7.0						
ECAB	**El Cabril**	**4.17**	**12**	P	**Pn**	**08 43 18.8**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**4.19**	**355**	*e*Pn	**Pn**	**08 43 19.9**	**+1.6**
PBAR				*e*Sn	**Sn**	**08 44 05.5**	**-1.4**
PBAR				A	A	08 44 09.4	
	3.0nm,0.1s						
PBAR	**Barrancos**	**4.19**	**355**	P	**Pn**	**08 43 19.9**	**+1.6**
PBAR				S	**Sn**	**08 44 05.5**	**-1.4**
	3.0nm,0.1s						
PBAR	**Barrancos**	**4.19**	**355**	P	**Pn**	**08 43 19.9**	**+1.6**
PBAR				S	**Sn**	**08 44 05.5**	**-1.4**
	3.0nm,0.1s						
PNCL	**Nicolau / Gran**	**4.42**	**339**	*e*Pn	**Pn**	**08 43 22.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**08 44 11.7**	**-0.7**
PNCL				A	A	08 44 14.4	
	0.8nm,0.1s						
PNCL	**Nicolau / Gran**	**4.42**	**339**	*e*Pn	**Pn**	**08 43 22.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**08 44 11.7**	**-0.7**
	0.8nm,0.1s						
EADA	**Adamuz**	**4.46**	**20**	P	**Pn**	**08 43 22.6**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 44 11.9**	**-1.5**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.46**	**20**	P	**Pn**	**08 43 22.6**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 44 11.9**	**-1.5**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.73**	**35**	P	**Pn**	**08 43 26.7**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**08 44 18.4**	**-1.8**
	0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.73**	**35**	P	**Pn**	**08 43 26.7**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**08 44 18.4**	**-1.8**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.77**	**355**	P	**Pn**	**08 43 26.5**	**+0.3**
	0.9nm,0.1s,SNR=5.5						
EBAD				S	**Sn**	**08 44 18.5**	**-2.5**
	0.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.77**	**355**	P	**Pn**	**08 43 26.5**	**+0.3**
	0.9nm,0.1s,SNR=5.5						
EBAD				S	**Sn**	**08 44 18.5**	**-2.5**
	0.9nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**5.47**	**353**	*e*Sn	**Sn**	**08 44 37.3**	**-1.0**
PMRV	**Marv??o**	**5.47**	**353**	S	**Sn**	**08 44 37.3**	**-1.0**
PMRV	**Marv??o**	**5.47**	**353**	S	**Sn**	**08 44 37.3**	**-1.0**

IDC 11 08:48:50.4±4.4, 44°.35N×131°.49E, h0km, Error ellipse: s-maj=24.2km s-min=5.3km az=112.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**0.38**	**112**	*i*		08 50 45.0	
	baz=292,slow=330,SNR=17						
USRK	**Ussuriysk Ar.**	**0.38**	**112**	Pg	Pg	08 48 57.8	0.0
	0.3nm,0.3s,baz=291,slow=18,SNR=5.2						
USRK				Lg	Lg	08 49 03.1	
	0.8nm,0.3s,baz=294,slow=31,SNR=4.9						
I30JP	**ISUMI INFRASON**	**11.28**	**140**	*i*		09 57 00.0	
	baz=328,slow=320,SNR=1.0						

WEL 11 08:59:35.7±0.6, 45°.76S×165°.73E, h5km, ML3.6/6, 1C, Error ellipse: s-maj=6.1km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.78**	**122**	↑P*	Pg	08 59 51.0	+0.4
PYZ				S*	Sg	09 00 01.2	+0.5
PYZ				AML	AML	09 00 02.6	
PYZ				AML	AML	09 00 02.8	
PYZ				AML	AML	09 00 02.8	
DCZ	**Deep Cove**	**1.04**	**74**	P*	Pg	08 59 55.2	-0.5
WHZ	**Wether Hill Ro**	**1.56**	**96**	PN	Pn	09 00 03.3	-0.8
MLZ	**Mavora Lakes**	**1.72**	**78**	PN	Pn	09 00 06.6	+0.2
MLZ				SN	Sn	09 00 28.7	-0.1
APZ	**The Paps**	**1.90**	**125**	PN	Pn	09 00 07.6	-1.1
APZ				AML	AML	09 02 38.2	
APZ				AML	AML	09 02 38.3	
SYZ	**Scrubby Hill**	**2.49**	**109**	PN	Pn	09 00 16.5	-0.4
SYZ				AML	AML	09 02 47.9	
SYZ				AML	AML	09 08 15.2	
EAZ	**Earnscleugh**	**2.57**	**79**	PN	Pn	09 00 18.8	+0.8
EAZ				AML	AML	09 01 02.2	
TUZ	**Tuapeka**	**2.73**	**95**	PN	Pn	09 00 20.3	+0.1
TUZ				AML	AML	09 02 51.8	
TUZ				AML	AML	09 02 52.0	
ODZ	**Otahua Downs**	**3.54**	**80**	AML	AML	09 00 23.9	
ODZ				PN	Pn	09 00 30.5	-0.8
ODZ				AML	AML	09 05 45.8	

HEL ***11*** *08:59:38.5±0.4, 64°.62N×30°.69E, h0km, ML1.9, Explosion*
ISCJB ***11*** *08:59:38.5±0.9, 64°.71N×0°.04×30°.25E±0°.10, h0km, Error ellipse: s-maj=7.4km s-min=4.1km az=44.3*
IDC ***11*** *08:59:42.0±2.6, 64°.69N×30°.94E, h0km, mb1 3.0/3, mb1mx2.9/44, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=34.8km s-min=9.0km az=101.0*
KOLA ***11*** *08:59:42.2, 64°.79N×30°.34E, h0km*
CSEM ***11*** *08:59:42.2±0.2, 64°.85N×30°.44E, h1km, ML2.1, Error ellipse: s-maj=8.4km s-min=2.8km az=109.0, Suspected Mining explosion.*
NAO ***11*** *08:59:42.1±1.7, 64°.74N×30°.88E, ML2.1*
BER ***11*** *08:59:43.5±4.5, 64°.75N×30°.55E, h0km, ML2.1(NAO), Suspected explosion*

ISC 11 08:59:41.5±1.1, 64°.81N±0°.03×30°.42E±0°.06, h0km, n45, σ1.52/66, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.24**	**350**	PG	**Pg**	**09 00 05.1**	**-0.1**
	baz=169						
KU6				MSG		09 00 22.1	
	comp=Z,11nm,0.2s						
KU6				SN	**Sn**	**09 00 25.3**	**+1.8**
KU6	**Riekki**	**1.24**	**350**	Pg	**Pg**	**09 00 05.1**	**-0.1**
MSF	**Maaselka**	**1.25**	**333**	PN	**Pg**	**09 00 05.5**	**+0.1**
MSF				SG	**Sn**	**09 00 24.2**	**+0.5**
MSF	**Maaselka**	**1.25**	**333**	Pn	**Pg**	**09 00 05.5**	**+0.1**
MSF				Sg	**Sn**	**09 00 24.2**	**+0.5**
OUL	**Oulu**	**1.95**	**280**	PG	**Pn**	**09 00 16.3**	**+0.5**
	baz=96						
OUL				SG	**Sb**	**09 00 42.5**	**-0.1**
OUL	**Oulu**	**1.95**	**280**	Pg	**Pn**	**09 00 16.3**	**+0.5**
OUL				Sg	**Sb**	**09 00 42.5**	**-0.1**
OUFX	**Oulainen**	**2.51**	**262**	PG	**Pn**	**09 00 25.1**	**+1.6**
OUFX				SG	**Sb**	**09 00 58.9**	**+0.1**
OUFX	**Oulainen**	**2.51**	**262**	Pg	**Pn**	**09 00 25.1**	**+1.6**
RNF	**Rovaniemi**	**2.56**	**317**	PB	**Pn**	**09 00 26.0**	**+1.7**
RNF				SG	**Sg**	**09 01 06.3**	**+2.5**
RNF	**Rovaniemi**	**2.56**	**317**	Pb	**Pn**	**09 00 26.0**	**+1.7**
SUF	**Sumiainen**	**2.83**	**224**	PG	**Pn**	**09 00 28.9**	**+1.0**
SUF				MSG		09 01 00.4	
	comp=Z,3.8nm,0.2s						
SUF				SG	**Sb**	**09 01 06.2**	**-1.8**
SUF	**Sumiainen**	**2.83**	**224**	Pg	**Pn**	**09 00 28.9**	**+1.0**
TOF	**Tornio**	**2.85**	**299**	SB	**Sb**	**09 01 09.1**	**+0.6**
APA0	**Apatity Array**	**2.99**	**19**	Pn	**Pn**	**09 00 30.4**	**+0.3**
	baz=185,slow=12						
APA0				Lg	Lg	09 01 19.4	
	baz=188,slow=37						
APA0	**Apatity Array**	**2.99**	**19**	P	**Pn**	**09 00 30.6**	**+0.4**
APA0				S	**Sn**	**09 01 06.9**	**+0.2**
APA0	**Apatity Array**	**2.99**	**19**	Pn	**Pn**	**09 00 30.4**	**+0.3**
	baz=185,slow=12						
APA0				Lg	Lg	09 01 19.4	
	baz=188,slow=37						
APA0	**Apatity Array**	**2.99**	**19**	Pn	**Pn**	**09 00 30.5**	**+0.3**
	baz=185,slow=12,SNR=6.2						
APA0				Lg	Lg	09 01 19.4	
	baz=188,slow=34						
APA0	**Apatity Array**	**2.99**	**19**	Pn	**Pn**	**09 00 30.5**	**+0.3**
	SNR=50						
APA0				Lg	Lg	09 01 19.4	
APA	**Apatity**	**3.02**	**22**	P	**Pn**	**09 00 31.1**	**+0.5**
APA				S	**Sn**	**09 01 07.6**	**+0.2**
SGF	**Sodankyl**	**3.08**	**331**	SG	**Sg**	**09 01 18.6**	**-1.8**
KALU	**Kalix**	**3.14**	**293**	PG	**Pb**	**09 00 37.0**	**-1.2**
	baz=112						
KEF	**Keuruu**	**3.64**	**226**	PG	**Pb**	**09 00 43.5**	**-3.1**
	baz=43						
ERTU	**Ertsjaerv**	**3.83**	**301**	PB	**Pn**	**09 00 44.5**	**+2.9**
	baz=117						
ERTU	**Ertsjaerv**	**3.83**	**301**	Pb	**Pn**	**09 00 44.5**	**+2.9**
BURU	**Burvik**	**3.89**	**271**	PB	**Pn**	**09 00 45.4**	**+2.9**
BURU	**Burvik**	**3.89**	**271**	Pb	**Pn**	**09 00 45.3**	**+2.9**
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 00 43.6**	**+0.9**
	baz=34,slow=14						
FIA0				Pg	**Pb**	**09 00 51.1**	**-0.2**
	baz=28,slow=16						
FIA0				Sn	**Sn**	**09 01 29.7**	**+0.3**
	baz=42,slow=22						
FIA0				Lg	Lg	09 01 41.8	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 00 43.6**	**+0.9**
	baz=34,slow=14						
FIA0				Pg	**Pb**	**09 00 51.1**	**-0.2**
	baz=28,slow=16						
FIA0				Sn	**Sn**	**09 01 29.7**	**+0.3**
	baz=42,slow=22						
FIA0				Lg	Lg	09 01 41.8	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**3.91**	**212**	PG	**Pn**	**09 00 46.6**	**+3.8**
	baz=27						
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 00 43.7**	**+0.9**
	baz=34,slow=13,SNR=9.4						
FIA0				Sn	**Sn**	**09 01 29.7**	**+0.3**
	baz=42,slow=19						
FIA0				Lg	Lg	09 01 41.8	
	SNR=30						
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 00 43.7**	**+0.9**
	SNR=50						
FIA0	**FINESS Array S**	**3.91**	**212**	Pg	**Pn**	**09 00 46.6**	**+3.8**
FIA0				Sn	**Sn**	**09 01 29.7**	**+0.3**
	SNR=50						
FIA0				Lg	Lg	09 01 41.8	
	baz=32,slow=26,SNR=30						
FINES	**FINESS Array B**	**3.91**	**212**	Pn	**Pn**	**09 00 43.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=5.3						
FINES				Lg	Lg	09 01 42.9	
	comp=Z,1.3nm,0.3s,baz=35,slow=27,SNR=9.4						
UMAU	**Umeaa**	**4.34**	**262**	PB	**Pn**	**09 00 51.0**	**+2.4**
UMAU	**Umeaa**	**4.34**	**262**	Pb	**Pn**	**09 00 51.0**	**+2.4**
HEF	**Hetta**	**4.50**	**326**	SG	**Sg**	**09 02 02.5**	**-3.6**
ARA0	**ARCESS Array S**	**5.11**	**340**	Pn	**Pn**	**09 00 59.5**	**+0.2**
	baz=155,slow=14						
ARA0				Sn	**Sn**	**09 01 58.0**	**-1.0**
	baz=148,slow=22						
ARA0				Lg	Lg	09 02 21.2	
	baz=139,slow=37						
ARA0	**ARCESS Array S**	**5.11**	**340**	Pn	**Pn**	**09 00 59.5**	**+0.2**
	baz=155,slow=14						
ARA0				Sn	**Sn**	**09 01 58.0**	**-1.0**
	baz=148,slow=22						
ARA0				Lg	Lg	09 02 21.2	
	baz=139,slow=37						
ARA0	**ARCESS Array S**	**5.11**	**340**	Pn	**Pn**	**09 00 59.5**	**+0.2**
	baz=155,slow=13,SNR=7.6						
ARA0				Sn	**Sn**	**09 01 58.0**	**-1.0**
	baz=148,slow=22						
ARA0				Lg	Lg	09 02 21.2	
	SNR=28						
ARA0	**ARCESS Array S**	**5.11**	**340**	Pn	**Pn**	**09 00 59.5**	**+0.2**
	SNR=50						
ARA0				Sn	**Sn**	**09 01 58.0**	**-1.0**
	SNR=50						
ARA0				Lg	Lg	09 02 21.2	
	SNR=28						
ARCES	**ARCESS Array B**	**5.11**	**340**	Pn	**Pn**	**09 00 59.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=12						
ARCES				Sn	**Sn**	**09 01 59.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=155,slow=28,SNR=6.7						
ARCES				Lg	Lg	09 02 26.4	
	comp=Z,0.8nm,0.3s,baz=156,slow=30,SNR=6.0						
HFS	**Hagfors**	**9.04**	**246**	Pn	**Pn**	**09 01 54.8**	**+1.7**
HFS	**Hagfors**	**9.04**	**246**	Pn	**Pn**	**09 01 54.8**	**+1.7**
HFS	**Hagfors**	**9.04**	**246**	Pn	**Pn**	**09 01 54.8**	**+1.7**
NOA	**NORSAR Array B**	**9.52**	**255**	Pn	**Pn**	**09 02 00.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=2.3						

ISCJB ***11*** *09:07:54.0±0.3, 2°.8S±0°.1×102°.85E±0°.08, h249km±6km, mb3.7/13, Error ellipse: s-maj=21.2km s-min=5.6km az=36.7*
DJA ***11*** *09:07:55.4±0.5, 3°.5±6°×10°.3E±°, h233km±5km, M4.3/9, mB5.1/1, mb4.8/1, MLv4.0/9, Mw(mB)4.4/1*
IDC ***11*** *09:07:56.2±2.6, 2°.82S×102°.67E, h259km±25km, mb3.4/13, mb1 3.5/14, mb1mx3.3/44, mbtmp4.0/14, Error ellipse: s-maj=32.0km s-min=11.0km az=56.0*

ISC 11 09:07:54.9±0.7, 2°.8S±0°.1×102°.88E±0°.09, h242km±8km, n26, σ1.27/35, mb3.6/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.73**	**240**	P	**Pn**	**09 08 29.2**	**+1.4**
MASI				S	**S**	**09 08 54.9**	**+1.3**
LHSI	**Lahat**	**1.23**	**148**	P	**Pn**	**09 08 30.4**	**-0.1**
MNAI	**Manna**	**1.57**	**177**	P	**Pn**	**09 08 33.2**	**+0.1**
MNAI				S	**S**	**09 09 02.2**	**-1.0**

TUMD				*e*S	Sn	09 31 04.2	+0.2
TUMR	**Tumrok**	**1.57 325**		*e*P	Pb	09 30 48.8	-0.6
NLC	**Nalytchevo**	**1.64 240**		P	Pn	09 30 49.3	+0.7
NLC				*e*S	Sb	09 31 10.4	-0.3
SDLR	**Sedlovina**	**1.83 248**		*e*P	Pb	09 30 52.9	-0.9
SDLR				*e*S	Sb	09 31 16.0	-0.5
UGLR	**Uglovaya**	**1.90 246**		*e*P	Pb	09 30 53.9	-1.0
UGLR				*e*S	Sb	09 31 18.1	-0.2
KRER	**Koryakskii**	**1.90 250**		*e*P	Pb	09 30 54.3	-0.7
KRER				*e*S	Sb	09 31 18.3	-0.1
AVH	**Avacha**	**1.92 249**		*e*P	Pb	09 30 54.4	-0.8
AVH				*e*S	Sb	09 31 18.1	-0.8
KRX	**Arik**	**1.93 252**		*e*P	Pb	09 30 54.4	-1.1
KRX				*e*S	Sb	09 31 18.5	-0.9
KMNR	**Kamenistaya**	**1.95 335**		*e*P	Pb	09 30 54.9	-0.9
KMNR				*e*S	Sb	09 31 20.2	+0.3
KOK	**Koryaka**	**1.97 250**		*e*P	Pb	09 30 55.3	-0.7
DALK	**Dalny**	**2.02 242**		*e*P	Pn	09 30 55.1	+1.3
DALK				*e*S	Sb	09 31 20.2	-1.4
BZMR	**Bezymyannaya**	**2.06 340**		*e*P	Pb	09 30 56.9	-0.8
BZMR				*e*S	Sb	09 31 23.4	+0.4
PET	**Petropavlovsk**	**2.08 243**		*e*P	Pn	09 30 56.0	+1.4
PET				*e*S	Sb	09 31 21.8	-1.4
ZLN	**Zelenaya**	**2.08 346**		*e*P	Pn	09 30 56.4	+1.5
ZLN				*e*S	Sb	09 31 22.5	-1.2
BZWR	**Bezymyannyi-We**	**2.09 341**		*e*P	Pb	09 30 57.1	-1.0
BZWR				*e*S	Sb	09 31 23.7	-0.1
KIRR	**Kirishev**	**2.11 339**		*e*P	Pb	09 30 57.0	-1.5
KIRR				*e*S	Sb	09 31 23.4	-1.0
KPT	**Kopyto**	**2.15 337**		*e*P	Pb	09 30 57.8	-1.3
LGNR	**Loginova**	**2.17 345**		*e*P	Pb	09 30 57.9	-1.7
LGNR				*e*S	Sb	09 31 24.7	-1.5
CIRR	**Tsirk**	**2.19 346**		*e*P	Pn	09 30 57.8	+1.5
CIRR				*e*S	Sb	09 31 25.2	-1.5
GNL	**Ganaly**	**2.26 264**		*e*P	Pb	09 30 59.5	-1.5
KBTR	**Krutoberegovo**	**2.30 16**		*e*P	Pn	09 30 58.5	+0.8
KBTR				*e*S	Sn	09 31 26.5	+1.0
KRSR	**Krestovskiy**	**2.31 344**		*e*P	Pn	09 30 59.6	+1.6
KRSR				*e*S	Sn	09 31 28.1	+2.0
KOZ	**Kozyrevsk**	**2.32 334**		*e*P	Pn	09 30 59.9	+1.9
KOZ				*e*S	Sb	09 31 28.5	-1.7
KBG	**Krutoberegovo**	**2.33 14**		*e*P	Pb	09 31 00.3	-1.8
KBG				*e*S	Sb	09 31 29.2	-1.3
KLY	**Klyuchi**	**2.39 346**		*e*P	Pn	09 31 00.2	+1.2
KLY				*e*S	Sn	09 31 28.5	+0.7
KRMR	**Karymshinskiy**	**2.45 243**		*e*P	Pb	09 31 02.6	-1.5
KRMR				*e*S	Sb	09 31 32.5	-1.4
RUS	**Russkaya**	**2.49 232**		*e*P	Pn	09 31 01.1	+0.8
RUS				*e*S	Sn	09 31 30.9	+0.8
SMKR	**Semkarok**	**2.59 357**		*e*P	Pb	09 31 05.3	-1.3
SMKR				*e*S	Sb	09 31 37.4	-0.7
ESO	**Esso**	**2.59 319**		*e*P	Pn	09 31 02.9	+1.1
ESO				*e*S	Sn	09 31 33.7	+0.9
MTVR	**Mutnovka**	**2.61 236**		*e*P	Pb	09 31 05.4	-1.7
MTVR				*e*S	Sb	09 31 37.8	-1.1
ASAK	**Asacha**	**2.81 236**		*e*P	Pb	09 31 08.2	-2.2
APC	**Apacha**	**2.93 250**		*e*P	Pb	09 31 09.8	-2.6
APC				*e*S	Sb	09 31 45.9	-1.9

IDC 11 09:32:45.4±8.4, 26°.89N×144°.12E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/54, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=343.8km s-min=22.7km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**7.25**	**330**	Pn	Pn	09 34 31.9	-0.8
	4.0nm,0.3s,baz=252,slow=20,SNR=2.6						
MJAR	**Matsushiro Arr**	**10.85**	**334**	Pn	Pn	09 35 20.9	-1.2
	0.3nm,0.3s,baz=149,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**47.51**	**193**	P	P	09 41 23.5	+1.0
	1.1nm,0.7s,baz=12,slow=8.4,SNR=5.6						
ASAR	**Alice Springs**	**51.22**	**192**	P	P	09 41 49.6	-1.3
	0.1nm,0.5s,baz=1.2,slow=5.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**54.41**	**315**	P	P	09 42 14.6	+0.4
	0.2nm,0.3s,baz=94,slow=7.2,SNR=2.8						

NIED ***11*** *09:49:00, 37°.90N×143°.40E, h8km, Mw3.5 Best double couple: M*$_0$*2.09000×10*^{14} *NP1:*ϕ_s*=335.00000°,* δ*=66.00000°,* λ*=-176.00000°. NP2:*ϕ_s*=243.00000°,* δ*=86.00000°,* λ*=-25.00000°.*

JMA 11 09:49:03.7±0.1, 37°.88N×143°.38E, h39km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.70**	**290**	P	Pn	09 49 31.9	+1.1
JIO				S	Sn	09 49 52.2	+0.9
OFUJ	**Ofunato**	**1.80**	**312**	P	Pn	09 49 33.0	+0.8
OFUJ				S	Sn	09 49 55.0	+1.2
JMK	**Ichinoseki**	**2.01**	**303**	P	Pn	09 49 36.2	+1.2
JMK				S	Sn	09 49 59.9	+1.0
JOU	**Okura**	**2.20**	**284**	P	Pn	09 49 39.4	+1.7
JOM	**Ohasama**	**2.28**	**315**	P	Pn	09 49 40.2	+1.4
JOM				S	Sn	09 50 07.2	+1.6
JFT	**Otama**	**2.44**	**262**	P	Pn	09 49 42.5	+1.5
JFT				S	Sn	09 50 11.4	+1.8
JYK	**Kaneyama**	**2.59**	**295**	P	Pn	09 49 45.2	+2.1
JRG	**Rokugo**	**2.63**	**306**	P	Pn	09 49 45.4	+1.8
JAG	**Ashikaga**	**3.46**	**246**	P	Pn	09 49 56.2	+1.2
JRY	**Ryogami san**	**4.04**	**244**	P	Pn	09 50 04.4	+1.4
JRY				S	Sn	09 50 49.1	0.0

ISCJB ***11*** *10:14:25.8±0.3, 51°.53N±0°.02×16°.12E±0°.02, h0km, mb3.4/4, MS3.4/2, Error ellipse: s-maj=2.7km s-min=2.1km az=6.6*

LDG ***11*** *10:14:26.6±0.2, 51°.58N×16°.15E, h1km, Ml4.1/8, Error ellipse: s-maj=5.1km s-min=3.1km az=11.0, Suspected Mining induced.*

IPEC ***11*** *10:14:26.9±0.4, 51°.59N×16°.18E, h1km±2km, ML3.4/3, Error ellipse: s-maj=4.3km s-min=2.5km az=77.0*

CSEM ***11*** *10:14:27.2±0.2, 51°.57N×16°.14E, h1km, ML4.0/10, Error ellipse: s-maj=4.0km s-min=3.7km az=33.0*

WAR ***11*** *10:14:28.5, 51°.55N×16°.11E, h1km, Mw3.2*

BGR ***11*** *10:14:28.3±0.4, 51°.56N×16°.14E, h1km, ML3.7/12, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*

PRU ***11*** *10:14:28.1, 51°.55N×16°.12E, h0km*

IDC ***11*** *10:14:28.2±0.6, 51°.54N×16°.06E, h0km, mb3.5/4, mb1 3.7/11, mb1mx3.4/50, mbtmp3.6/11, ML3.3/7, MS3.4/2, Ms1 3.4/2, ms1mx2.5/48, Error ellipse: s-maj=12.5km s-min=6.5km az=106.0*

UPP ***11*** *10:14:30.6±3.4, 51°.79N×15°.86E, h0km, ML2.1*

VIE ***11*** *10:14:32.3±0.5, 51°.24N×16°.04E, h0km, mb3.3/13, ML3.3/15, Error ellipse: s-maj=4.8km s-min=4.0km az=99.0, Suspected Mining induced.*

ISC 11 10:14:26.3±0.5, 51°.54N±0°.02×16°.11E±0°.02, h0km, n119, σ2=02/193, mb3.4/4, 5C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pb**	**10 14 41.9**	**+0.4**
KSP				*i* Sg	**Sb**	**10 14 51.6**	**-0.1**
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	**Pb**	**10 14 41.9**	**+0.4**
KSP				*e*Sg	**Sb**	**10 14 51.7**	**-0.1**
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pb**	**10 14 41.9**	**+0.4**
KSP				*i* Sg	**Sb**	**10 14 51.6**	**-0.1**
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pb**	**10 14 41.9**	**+0.4**
KSP				*i* Sg	**Sb**	**10 14 51.6**	**-0.1**
UPC	**Upice**	**1.03**	**183**	||*i*PG	**Pb**	**10 14 47.8**	**+0.7**
UPC				*e*SG	**Sb**	**10 15 01.3**	**+0.1**
	comp=Z,573nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**173**	||*i*PG	**Pn**	**10 14 50.7**	**+0.4**
DPC				*e*SG	**Sg**	**10 15 06.3**	**+1.6**
	comp=Z,229nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pn**	**10 14 50.7**	**+0.4**
DPC				*e*Sg	**Sb**	**10 15 07.0**	**+1.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg	**Pn**	**10 14 50.7**	**+0.4**
DPC				Sg	**Sb**	**10 15 07.0**	**+1.1**
PVCC	**Panska Ves**	**1.40**	**224**	||*i*PG	**Pb**	**10 14 54.3**	**+1.0**
PVCC				*e*SG	**Sn**	**10 15 14.2**	**+1.9**
	comp=Z,1μm,0.6s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pb**	**10 14 55.2**	**-0.1**
BRG				PG	**Pg**	**10 14 57.2**	**+1.8**
BRG				SG	**Sn**	**10 15 17.2**	**+2.1**
	556nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn	**Pb**	**10 14 55.1**	**-0.1**
BRG				*e*Sg	**Sn**	**10 15 17.2**	**+2.1**
BRG	**Berggiesshubel**	**1.52**	**245**	Pn	**Pn**	**10 14 55.1**	**+0.4**
BRG				Sg	**Sn**	**10 15 17.2**	**+2.1**
KRLC	**Kraliky**	**1.53**	**163**	||*e*PG	**Pb**	**10 14 55.9**	**+0.4**
KRLC				*e*SG	**Sn**	**10 15 16.2**	**+0.8**
PRA	**Prague**	**1.81**	**216**	||*e*PN	**Pn**	**10 14 59.8**	**+1.0**
PRA				*e*PG	**Pg**	**10 15 01.6**	**+0.6**
PRA				*e*SG	**Sg**	**10 15 26.2**	**+1.7**
	comp=Z,347nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	||*e*PN	**Pn**	**10 14 59.9**	**+0.9**
GOPC				*e*PG	**Pg**	**10 15 02.3**	**+0.9**
GOPC				*e*SG	**Sg**	**10 15 26.5**	**+1.4**
	comp=Z,235nm,0.7s						
PRU	**Pruhonice**	**1.84**	**213**	||*e*PN	**Pn**	**10 15 00.1**	**+0.9**
PRU				*e*PG	**Pg**	**10 15 02.4**	**+0.8**
PRU				*e*SG	**Sg**	**10 15 26.4**	**+0.9**
	comp=Z,237nm,0.7s						
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pb**	**10 15 01.4**	**+0.1**
GKP				*e*Pb	Pg	10 15 07.5	+5.4
GKP				*e*Sn	**Sg**	**10 15 31.8**	**+5.5**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pb**	**10 15 01.4**	**+0.1**
GKP				*e*Sn	**Sg**	**10 15 31.8**	**+5.5**
GKP	**Gorka Klasztor**	**1.87**	**21**	*e*Pn	**Pb**	**10 15 01.4**	**+0.1**
GKP				*e*Pb	Pg	10 15 07.5	+5.4
GKP				*e*Sn	**Sg**	**10 15 31.8**	**+5.5**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**10 15 01.1**	**+0.3**
CLL				*e*Sg	**Sg**	**10 15 30.5**	**+1.3**
CLL	**Collm**	**1.96**	**264**	Pn	**Pn**	**10 15 01.1**	**+0.3**
CLL				Sg	**Sg**	**10 15 30.5**	**+1.3**
CLL	**Collm**	**1.96**	**264**	*i* Pn	**Pn**	**10 15 01.1**	**+0.3**
CLL				*i* Pg	**Pg**	**10 15 04.3**	**+0.5**
CLL				*i*		10 15 07.7	
CLL				*i* Sg	**Sg**	**10 15 30.2**	**+1.1**
	comp=Z,239nm,0.4s						
MORC	**Moravsky Berou**	**1.99**	**152**	⇑*i* P	**Pn**	**10 15 02.0**	**+0.8**
MORC				S	**Sg**	**10 15 30.4**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**10 15 02.1**	**+0.9**
MORC	**Moravsky Berou**	**1.99**	**152**	Pn	**Pn**	**10 15 02.1**	**+0.9**
MORC				*e*Sg	**Sb**	**10 15 30.1**	**+1.5**
	comp=Z,254nm,0.8s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	||*e*SG	**Sg**	**10 15 35.2**	**+0.2**
	comp=Z,179nm,0.5s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn	**Pn**	**10 15 03.6**	**+0.3**
OKC				*e*Sg	**Sg**	**10 15 35.2**	**+0.2**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pn	**Pn**	**10 15 03.6**	**+0.3**
OKC				Sg	**Sg**	**10 15 35.2**	**+0.2**
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**10 15 06.9**	**+2.0**
	comp=Z,6.2nm,0.3s,baz=348,slow=14,SNR=23						
VRAC				Lg	Lg	10 15 39.8	
	comp=Z,34nm,0.3s,baz=245,slow=17,SNR=12						
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**10 15 06.1**	**+1.2**
VRAC				*e*Sg	**Sg**	**10 15 39.2**	**+0.5**
	comp=Z,218nm,0.8s						
TREC	**Trest**	**2.28**	**190**	||*e*PG	**Pg**	**10 15 10.6**	**+0.6**
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**10 15 09.3**	**+1.3**
KRUC				*e*Sg	**Sg**	**10 15 46.2**	**+0.1**
	comp=Z,146nm,0.7s						
WERD	**Werda**	**2.64**	**247**	*e*Pn	**Pn**	**10 15 11.4**	**+1.3**
WERD	**Werda**	**2.64**	**247**	Pn	**Pn**	**10 15 11.4**	**+1.3**
NKC	**Novy Kostel**	**2.66**	**242**	||*e*PN	**Pn**	**10 15 11.8**	**+1.4**
NKC				*e*PG	**Pg**	**10 15 18.6**	**+1.3**
NKC				*e*SG	**Sg**	**10 15 54.0**	**+2.3**
	comp=Z,405nm,0.5s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**10 15 10.3**	**-0.5**
OJC				*e*Pg	**Pg**	**10 15 18.7**	**+0.9**
OJC				*e*Sn	**Sn**	**10 15 43.0**	**-1.0**
OJC				*e*Sg	**Sg**	**10 15 54.1**	**+1.5**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**10 15 10.3**	**-0.5**
OJC				*e*Sg	**Sg**	**10 15 54.9**	**+2.3**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**10 15 10.3**	**-0.5**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**10 15 10.3**	**-0.5**
OJC				*e*Pg	**Pg**	**10 15 18.7**	**+0.9**
OJC				*e*Sn	**Sn**	**10 15 43.0**	**-1.0**
OJC				*e*Sg	**Sg**	**10 15 54.1**	**+1.5**
KHC	**Kasperske Hory**	**2.90**	**215**	||*e*PN	**Pn**	**10 15 14.8**	**+1.0**
KHC				*e*PG	**Pg**	**10 15 21.5**	**-0.4**
KHC				*e*SN	**Sn**	**10 15 49.7**	**+0.3**
KHC				*e*SG	**Sg**	**10 16 00.4**	**+0.8**
	comp=Z,76nm,0.4s						
MOX	**Moxa**	**2.97**	**254**	*e*Pn	**Pn**	**10 15 15.8**	**+1.1**
MOX				*e*Sg	**Sg**	**10 16 03.7**	**+2.0**
MOX	**Moxa**	**2.97**	**254**	Pn	**Pn**	**10 15 15.8**	**+1.1**
MOX				Sg	**Sg**	**10 16 03.7**	**+2.0**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**10 15 16.4**	**+1.6**
MANZ	**Manzenberg**	**2.98**	**240**	Pn	**Pn**	**10 15 16.4**	**+1.6**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**10 15 16.9**	**+1.1**
ROTZ				*e*Sg	**Sg**	**10 16 05.3**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn	**Pn**	**10 15 16.9**	**+1.1**
ROTZ				Sg	**Sg**	**10 16 05.3**	**+1.1**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**10 15 18.2**	**+1.6**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn	**Pn**	**10 15 18.2**	**+1.6**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**10 15 18.0**	**+1.4**
	comp=Z,6.1nm,0.3s,baz=31,slow=12,SNR=91						
GERES				Pg	**Pg**	**10 15 26.1**	**+0.3**
	comp=Z,11nm,0.3s,baz=29,slow=16,SNR=39						
GERES				Lg	Lg	10 16 04.7	
	comp=Z,13nm,0.3s,baz=22,slow=25,SNR=4.7						
SMOL	**Smolenice**	**3.15**	**164**	*e*PG	**Pg**	**10 15 27.3**	**+0.7**
SMOL				*e*SG	**Sg**	**10 16 09.8**	**+2.5**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**10 15 18.6**	**+1.2**
WET	**Wettzell**	**3.17**	**222**	Pn	**Pn**	**10 15 18.6**	**+1.2**
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**10 15 28.5**	**+0.6**
LANS				*e*SG	**Sg**	**10 16 10.9**	**+1.3**
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**10 15 32.1**	**+0.3**
NIE				*e*S	**Sg**	**10 16 16.1**	**+0.1**
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**10 15 32.1**	**+0.3**
NIE				*e*S	**Sg**	**10 16 16.1**	**+0.1**
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**10 15 32.1**	**+0.3**
NIE				*e*S	**Sg**	**10 16 16.1**	**+0.1**
VYHS	**Vyhne**	**3.52**	**149**	*e*PG	**Pg**	**10 15 35.8**	**+2.1**
VYHS				*e*SG	**Sg**	**10 16 17.5**	**-1.8**
VYHS				*e*LG	Lg	10 16 47.0	
CLZ	**Clausthal**	**3.58**	**277**	*e*Pn	**Pn**	**10 15 24.9**	**+1.8**
CLZ	**Clausthal**	**3.58**	**277**	Pn	**Pn**	**10 15 24.9**	**+1.8**
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**10 15 25.5**	**+1.8**
	comp=Z,6.9nm,0.3s,SNR=9.4						
CONA				Sg	**Sg**	**10 16 20.5**	**-2.0**
	comp=Z,95nm,0.5s						
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pn	**Pn**	**10 15 25.3**	**+1.7**
GRA1				Sg	**Sg**	**10 16 24.2**	**+1.7**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**10 15 25.3**	**+1.7**
GRF				*e*Sg	**Sg**	**10 16 24.2**	**+1.7**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**10 15 23.9**	**-0.1**
BSD				*i* S	**Sg**	**10 16 31.1**	**+7.5**
SOP	**Sopron**	**3.87**	**175**	*ex*	**Pn**	**10 15 30.2**	**+3.2**
SOP				*ex*	**Sg**	**10 16 30.1**	**-0.5**
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**10 15 29.0**	**+1.8**
	comp=Z,29nm,0.3s,SNR=18						
MOA				Sg	**Sg**	**10 16 31.0**	**+0.1**
	comp=Z,122nm,0.6s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*	**Pn**	**10 15 29.4**	**+1.8**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**10 15 43.4**	**+2.2**
STHS				*e*SG	**Sg**	**10 16 37.8**	**+6.0**
STHS				*e*LG	Lg	10 16 58.2	
KECS	**Kecovo**	**4.16**	**136**	*e*	**Pn**	**10 15 32.0**	**+0.9**
KECS	**Kecovo**	**4.16**	**136**	*e*PG	**Pg**	**10 15 48.0**	**+2.0**
KECS				*e*SG	**Sg**	**10 16 38.3**	**-1.7**
KECS				*e*LG	Lg	10 16 51.2	
ARSA	**Arzberg**	**4.31**	**185**	Pn	**Pn**	**10 15 35.8**	**+2.7**
	comp=Z,9.2nm,0.4s,SNR=5.6						
ARSA				Sg	**Sg**	**10 16 45.2**	**+0.5**
	comp=Z,58nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*	**Pn**	**10 15 35.6**	**+2.2**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PG	**Pg**	**10 15 52.1**	**+2.8**
PSZ	**Piszkesteto**	**4.38**	**144**	||*i*P	**Pn**	**10 15 34.4**	**+0.3**
PSZ	**Piszkesteto**	**4.38**	**144**	||*ex*	**Pn**	**10 15 35.9**	**+1.8**
PSZ	**Piszkesteto**	**4.38**	**144**	||*ex*	**Pn**	**10 15 35.9**	**+1.8**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pn**	**10 15 38.6**	**+1.3**
KWP				*e*Pg	**Pg**	**10 15 54.9**	**+0.1**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pn**	**10 15 38.6**	**+1.3**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pn**	**10 15 38.6**	**+1.3**
KWP				*e*Pg	**Pg**	**10 15 54.9**	**+0.1**
KBA	**Koelnbreinsper**	**4.81**	**203**	Pn	**Pn**	**10 15 42.3**	**+2.1**
	comp=Z,21nm,0.5s						
KBA				Sg	**Sg**	**10 17 02.7**	**+1.8**
	comp=Z,76nm,0.9s						
SOKA	**Soboth**	**4.92**	**189**	Pn	**Pn**	**10 15 44.5**	**+3.0**
	comp=Z,1.8nm,0.2s						
SOKA				Sg	**Sg**	**10 17 03.9**	**-0.2**
	comp=Z,21nm,0.6s						
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**10 15 43.3**	**-0.8**
DEL				S	**Sn**	**10 16 39.6**	**-4.2**
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**10 15 43.3**	**-0.8**
DEL				S	**Sn**	**10 16 39.6**	**-4.2**
OBKA	**Obir**	**5.14**	**192**	Sg	**Sg**	**10 17 12.7**	**+1.5**
	comp=Z,54nm,0.8s						
WATA	**Walderalm**	**5.14**	**217**	Pn	**Pn**	**10 15 46.9**	**+2.3**
	comp=Z,5.8nm,0.3s,SNR=7.7						
WTTA	**Wattenberg**	**5.18**	**216**	Pn	**Pn**	**10 15 47.7**	**+2.5**
	comp=Z,6.5nm,0.5s						
WTTA				Sg	**Sg**	**10 17 13.7**	**+1.1**
	comp=Z,24nm,0.5s						
MOTA	**Moosalm**	**5.32**	**220**	Pn	**Pn**	**10 15 50.1**	**+3.0**
	comp=Z,11nm,0.5s,SNR=7.5						
ABTA	**Abfaltersbach**	**5.34**	**208**	Pn	**Pn**	**10 15 49.5**	**+2.1**
	comp=Z,3.2nm,0.3s						
ABTA				Sg	**Sg**	**10 17 18.3**	**+0.4**
	comp=Z,60nm,0.6s						
FABU	**Falkenberg**	**5.82**	**341**	P	**Pn**	**10 15 53.1**	**-0.7**
FABU	**Falkenberg**	**5.82**	**341**	P	**Pn**	**10 15 53.1**	**-0.7**
GNOU	**Gnosjoe**	**5.92**	**348**	P	**Pn**	**10 15 54.8**	**-0.4**
GNOU	**Gnosjoe**	**5.92**	**348**	P	**Pn**	**10 15 54.8**	**-0.4**
DRGR		**6.43**	**135**	⇑*i*P	**Pn**	**10 16 02.0**	**-0.2**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**10 16 02.7**	**-0.5**
CDF				*e*Sg	**Sg**	**10 17 49.8**	**-5.1**
	comp=Z,98nm,0.9s						
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**10 16 02.7**	**-0.5**
CDF				*e*Sg	**Sg**	**10 17 49.8**	**-5.1**
	comp=Z,49nm,0.9s						
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Sg	**Sg**	**10 18 08.6**	**-4.5**
	comp=Z,51nm,0.8s						
BURAR	**Bucovina Array**	**7.11**	**120**	⇑*i*P	**Pn**	**10 16 12.1**	**+0.5**
HAU	**Haudompre**	**7.24**	**245**	*e*Sg	**Sg**	**10 18 14.5**	**-4.2**
	comp=Z,33nm,0.6s						
HAU	**Haudompre**	**7.24**	**245**	*e*Sg	**Sg**	**10 18 14.5**	**-4.2**
	comp=Z,17nm,0.6s						
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg	**Sg**	**10 18 44.3**	**-5.7**
	comp=Z,39nm,0.8s						
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg	**Sg**	**10 18 44.3**	**-5.7**
	comp=Z,19nm,0.8s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**10 16 26.8**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=281,slow=12,SNR=13						
AKASG				Lg	Lg	10 19 04.9	
	baz=272,slow=28,SNR=4.9						
LPG	**La Plagne**	**8.66**	**229**	*e*Sg	**Sg**	**10 18 59.9**	**-4.4**
	comp=Z,54nm,1.2s						
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**10 16 33.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=4.3						
LOR	**Lormes**	**9.05**	**247**	*e*Pn	**Pn**	**10 16 37.9**	**-0.3**
	baz=71						
LOR				*e*Sg	Sn	10 19 10.9	+50
	comp=Z,35nm,1.0s						
LOR	**Lormes**	**9.05**	**247**	*e*Pn	**Pn**	**10 16 37.9**	**-0.3**
LOR				*e*Sg	Sn	10 19 10.9	+50
	comp=Z,17nm,1.0s						
MBDF	**Montbardon**	**9.24**	**226**	*e*P	**Pn**	**10 16 44.3**	**+3.5**
MBDF				*e*Sg	Sn	10 19 16.3	+51
	comp=Z,19nm,1.1s						
MBDF	**Montbardon**	**9.24**	**226**	*e*P	**Pn**	**10 16 44.3**	**+3.5**
MBDF				*e*Sg	Sn	10 19 16.3	+51
	comp=Z,9.5nm,1.1s						
SBF	**Sospel**	**9.64**	**221**	*e*P	**Pn**	**10 16 47.9**	**+1.6**
SBF	**Sospel**	**9.64**	**221**	*e*P	**Pn**	**10 16 47.9**	**+1.6**
NOA	**NORSAR Array B**	**9.90**	**

COCO West Island 8.29 231 *e*Pn **Pn 10 27 13.7 -0.9**
COCO *e*Sn **Sn 10 28 45.8 -1.9**
MYKOM Kota Tinggi 8.76 3 *e*Pn **Pn 10 27 21.6 +0.5**
MYKOM *e*Sn **Sn 10 28 58.4 -1.0**
MYKOM Kota Tinggi 8.76 3 ⇑P Pn 10 27 35.7 +15
KGM Kluang 8.97 359 ⇑P Pn 10 27 32.1 +8.1
JAGI Jajag, Banyuwa 10.72 98 *e*Pn **Pn 10 27 47.9 -0.2**
JAGI *e*Sn **Sn 10 29 48.2 +0.5**
IPM Ipoh 11.67 348 ⇑P Pn 10 28 11.3 +10
KTGM Kuala Trenggan 12.27 359 ⇑P **Pn 10 28 10.1 +0.9**
SBUM Sibu 12.86 43 *e*Pn **Pn 10 28 16.8 -0.5**
SBUM Sibu 12.86 43 ⇓P Pn 10 28 22.6 +5.2
KKM Kota Kinabalu 18.20 45 *e*P **P 10 29 27.5 +0.1**
13nm,0.8s
KKM Kota Kinabalu 18.20 45 ⇑P **Pn 10 29 26.7 -0.5**
KDM Kudat 19.25 44 ⇑P **P 10 29 38.6 -0.2**
MYLDM Lahad Datu 19.32 52 *e*P **Pn 10 29 42.2 +1.5**
68nm,1.1s
MYLDM Lahad Datu 19.32 52 ⇓P **Pn 10 29 42.0 +1.3**
SOEI Soe 20.79 99 *e*P **P 10 29 54.2 -1.6**
164nm,0.8s
SOEI *e*S **S 10 33 48.1 +0.8**
NAYO Nakonayok 21.30 354 P **P 10 30 00.5 -0.6**
13nm,0.9s
CHAI Chaiyaphum 22.82 356 P **P 10 30 18.0 +0.7**
8.3nm,0.8s,157nm
KHON Khomkaen 23.21 359 P **P 10 30 21.7 +0.3**
19nm,0.8s
UMPA Umpang Tak 23.51 349 P **P 10 30 23.4 -1.0**
6.4nm,0.8s
PANO Nakornpanom 24.04 3 P **P 10 30 29.4 0.0**
17nm,1.3s
UTTA Uttaradit 24.77 353 P **P 10 30 36.7 +0.6**
3.4nm,0.8s
MORW Morawa 24.95 153 P **P 10 30 38.1 +0.4**
baz=25
CM01 Chiang Mai Arr 25.66 350 *e*P **P 10 30 44.2 0.0**
CM31 Chiang Mai Arr 25.70 350 *e*P **P 10 30 44.7 +0.2**
CMAR Chiang Mai Arr 25.70 350 P **P 10 30 44.5 0.0**
16nm,0.7s,baz=182,slow=9.0,SNR=47
CMAR PcP **PcP 10 34 15.3 +0.6**
0.5nm,0.3s,baz=206,slow=3.0,SNR=4.2
CMAR Chiang Mai Arr 25.70 350 P **P 10 30 44.5 0.0**
CMAR 10 34 15.4
CMAR pmax pmax
comp=Z,13nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CHTO Chiang Mai 26.05 350 P **P 10 30 47.5 -0.2**
CHTO Chiang Mai 26.05 350 *e*P **P 10 30 47.4 -0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 26.05 350 *e*P **P 10 30 47.4 -0.2**
comp=Z,8.3nm,0.8s
KNRA Kununurra 26.26 111 P **P 10 30 49.6 -0.1**
baz=26,SNR=4.7
QIZ Qiongzhong 26.64 14 P **P 10 30 55.0 +1.9**
QIZ S **S 10 35 34.2 +6.9**
QIZ LR LR
comp=Z,240nm,12.0s
QIZ LR LR
comp=Z,290nm,16.2s
QIZ LR LR
comp=Z,250nm,18.1s
TGY Tagaytay City 27.24 40 LR LR 10 42 08.5
comp=Z,58nm,19.6s,baz=115,slow=37
MTN Manton Dam 27.88 104 P **P 10 31 03.6 -0.7**
baz=28,SNR=12
SLVN Son La 28.18 1 *e*P **P 10 31 07.2 +0.3**
comp=Z,4.3nm,0.7s
H01W3 Cape Leeuwin H 29.43 162 T T 11 02 06.3
baz=339,slow=76,SNR=34
H01W2 Cape Leeuwin H 29.45 162 T T 11 02 04.0
baz=339,slow=76,SNR=39
H01W1 Cape Leeuwin H 29.45 162 T T 11 02 06.2
baz=339,slow=76,SNR=37
WRKA Warakurna 29.77 130 P **P 10 31 20.6 -0.4**
baz=30,SNR=7.8
H08S2 Diego Garcia H 30.68 267 T T 11 03 46.6
baz=91,slow=75,SNR=129
H08S3 Diego Garcia H 30.70 267 T T 11 03 45.2
baz=91,slow=75,SNR=17
H08S1 Diego Carcia H 30.70 267 T T 11 03 39.3
baz=91,slow=75,SNR=95
KMI Kunming 31.95 359 P **P 10 31 41.9 +1.4**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI LR LR
comp=Z,270nm,10.2s
KMI LR LR
comp=Z,250nm,12.4s
KMI LR LR
comp=Z,240nm,13.3s
WRA Warramunga Arr 32.61 116 P **P 10 31 46.0 -0.2**
comp=Z,5.4nm,0.8s,baz=297,slow=10.0,SNR=42
WRA Warramunga Arr 32.61 116 P **P 10 31 46.0 -0.2**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WR1 Warramunga Arr 32.61 116 *e*P **P 10 31 46.0 -0.2**
comp=Z,9.4nm,0.6s
WRAB Tennant Creek 32.62 116*c i*P **P 10 31 46.1 -0.1**
WRAB pmax pmax
comp=Z,16nm,0.7s
WRAB Tennant Creek 32.62 116 *e*P **P 10 31 46.2 -0.1**
comp=Z,11nm,0.7s
WB2 Warramunga Arr 32.62 116 *e*P **P 10 31 46.0 -0.2**
GYA Guiyang 33.43 5 *e*P **P 10 31 57.4 +4.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 33.61 123 *e*P **P 10 31 54.8 -0.1**
comp=Z,2.3nm,0.6s
ASAR Alice Springs 33.61 123 P **P 10 31 54.5 -0.4**
comp=Z,3.7nm,0.7s,baz=304,slow=7.9,SNR=56
ASAR PcP **PcP 10 34 35.9 +0.8**
comp=Z,1.3nm,0.7s,baz=311,slow=2.6,SNR=6.4
ASAR LR LR 10 47 34.3
comp=Z,54nm,18.3s,baz=278,slow=40
AS01 Alice Springs 33.65 123 *e*P **P 10 31 54.3 -0.9**
ODAN Odare 37.09 336 *e*P **P 10 32 25.7 +0.8**
comp=Z,24nm,0.7s
TAPN Taplejung 37.40 337 *e*P **P 10 32 28.8 +1.2**
comp=Z,35nm,0.9s
RAMN Ramite 37.50 335 *e*P **P 10 32 29.5 +1.1**
comp=Z,13nm,0.6s
QIS Mount Isa 37.52 115 P **P 10 32 28.8 +0.4**
baz=38,SNR=12
CD2 Chengdu 37.71 0 *e*P **P 10 32 31.4 +1.5**
JIRN Jiri 38.30 335 *e*P **P 10 32 36.2 +0.9**
comp=Z,190nm,0.7s
PKI Pulchoki 38.55 334 *e*P **P 10 32 38.6 +1.2**
PKIN Phulchoki 38.56 334 *e*P **P 10 32 38.0 +0.6**
comp=Z,5.7nm,0.5s
GUN Gumba 38.65 335 *e*P **P 10 32 39.3 +1.1**
comp=Z,28nm,0.6s
DMN Daman 38.72 334 *e*P **P 10 32 39.5 +0.8**
WHN Wuhan 38.79 15 ⇓P **P 10 32 39.5 +0.6**
KKN Kakani 38.80 334 *e*P **P 10 32 40.2 +0.9**
GKN Gorkha 39.27 333 *e*P **P 10 32 44.2 +1.0**
comp=Z,37nm,0.9s
KOLN Koldanda 39.54 332 *e*P **P 10 32 46.8 +1.3**
comp=Z,23nm,0.7s
COEN Coen 39.64 103 P **P 10 32 45.6 -0.7**
baz=40,SNR=8.1
COEN Coen 39.64 103 *e*P **P 10 32 45.5 -0.8**
comp=Z,16nm,0.8s
BBOO Buckleboo 39.70 135 P **P 10 32 46.7 +0.1**
baz=40
DANN Dangsing 39.96 332 *e*P **P 10 32 50.3 +1.2**
comp=Z,7.2nm,1.0s
PYUN Piuthan 40.11 331 *e*P **P 10 32 51.5 +1.3**
comp=Z,54nm,1.0s
XAN Xi'an 41.16 7 P **P 10 32 57.9 -0.8**
XAN pP pP 10 33 05.3 +0.4
XAN pmax pmax
comp=Z,19nm,0.9s
XAN LR LR
comp=Z,110nm,14.9s
XAN LR LR
comp=Z,230nm,12.5s
XAN LR LR
comp=Z,300nm,14.4s
MTSU Mount Surprise 41.31 109 P **P 10 33 00.9 +0.7**
baz=41,SNR=8.3
NJ2 Nanjing 41.55 20 *e*P **P 10 33 02.3 +0.5**
NJ2 pmax pmax
comp=Z,19nm,0.6s

HTT Hallett 42.06 134 P **P 10 33 05.8 -0.4**
baz=42
LZH Lanzhou 42.88 0 *e*P **P 10 33 13.2 +0.4**
LZH pP pP 10 33 16.1 -2.9
LZH sP sP 10 33 18.4 -3.1
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,95nm,5.6s
LZH LR LR
comp=Z,280nm,12.6s
LZH LR LR
comp=Z,450nm,15.4s
LZH LR LR
comp=Z,480nm,14.5s
STKA Stephens Creek 43.30 130 P **P 10 33 16.4 +0.2**
comp=Z,10nm,0.6s,baz=304,slow=8.7,SNR=42
STKA LR LR 10 53 29.8
comp=Z,46nm,18.6s,baz=334,slow=39
STKA Stephens Creek 43.30 130 P **P 10 33 16.5 +0.3**
baz=43,SNR=24
STKA Stephens Creek 43.30 130 *e*P **P 10 33 16.4 +0.2**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 43.30 130 *e*P **P 10 33 16.4 +0.2**
comp=Z,4.3nm,0.7s
PMG Port Moresby 43.33 96 P **P 10 33 15.1 -1.5**
comp=Z,9.7nm,0.7s,baz=272,slow=6.0,SNR=6.5
PMG Port Moresby 43.33 96*c i*P **P 10 33 16.3 -0.3**
PMG pmax pmax
comp=Z,64nm,1.1s
PMG Port Moresby 43.33 96 *e*P **P 10 33 16.0 -0.6**
comp=Z,22nm,0.8s
QLP Quilpie 43.38 122 P **P 10 33 18.1 +1.2**
baz=44,SNR=7.7
GTA Gaotai 46.31 356 *e*P **P 10 33 41.0 +0.8**
GTA pP pP 10 33 45.1 -1.4
GTA sP sP 10 33 48.0 -0.9
GTA S **S 10 40 27.3 +0.9**
GTA sS sS 10 40 36.0 -0.8
GTA SS **SS 10 43 47.7 -4.7**
GTA pmax pmax
comp=Z,13nm,0.8s
GTA pmax pmax
comp=Z,61nm,5.7s
GTA LR LR
comp=Z,320nm,15.2s
GTA LR LR
comp=Z,450nm,19.0s
GTA LR LR
comp=Z,130nm,15.4s
CMSA Cobar Meteorol 46.34 127 P **P 10 33 41.2 +0.9**
baz=46,SNR=11
JNU Nakatsue 47.69 32 P **P 10 33 49.0 -1.9**
comp=Z,6.9nm,0.8s,baz=137,slow=5.8,SNR=11
JNU Nakatsue 47.69 32 *e*P **P 10 33 49.5 -1.4**
comp=Z,8.3nm,0.7s
HHC Hu-ho-hao-te 48.22 8 *e*P **P 10 33 56.2 +1.3**
HHC PP **PP 10 35 44.8 -2.7**
HHC S **S 10 40 55.2 +1.8**
HHC SS **SS 10 44 19.5 -3.6**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,75nm,5.2s
HHC LR LR
comp=Z,190nm,14.8s
HHC LR LR
comp=Z,180nm,12.3s
HHC LR LR
comp=Z,130nm,10.4s
BJI Beijing 48.28 13 P **P 10 33 55.3 0.0**
BJI S **S 10 40 58.8 +4.7**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI LR LR
comp=Z,96nm,9.8s
BJI LR LR
comp=Z,160nm,14.3s
BJI LR LR
comp=Z,95nm,24.9s
EIDS Eidsvold 48.96 118 P **P 10 34 00.7 -0.1**
baz=49
KS15 Wonju Array Si 49.78 26 *e*P **P 10 34 08.0 +1.1**
KSRS Korea Array 49.81 26 P **P 10 34 06.0 -1.0**
comp=Z,2.5nm,0.7s,baz=219,slow=7.6,SNR=12
CAN Canberra 50.35 131 P **P 10 34 11.0 -0.4**
baz=50
WMQ Urumqi 52.57 346 P **P 10 34 29.2 +1.4**
WMQ pP pP 10 34 33.9 -0.2
WMQ sP sP 10 34 36.1 -0.5
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.3s
WMQ LR LR
comp=Z,70nm,18.9s
WMQ LR LR
comp=Z,90nm,21.5s
KSH Kashi 52.81 333 P **P 10 34 28.8 -0.9**
KSH PcP **PcP 10 35 37.5 -1.5**
KSH PcS **PcS 10 39 31.0 -6.7**
KSH S **S 10 41 53.8 -3.6**
KSH ScS **ScS 10 44 12.7 -6.0**
KSH SS **SS 10 45 32.7 -3.9**
KSH pmax pmax
comp=Z,13nm,0.8s
KSH pmax pmax
comp=Z,90nm,5.6s
KSH LR LR
comp=Z,100nm,5.2s
KSH LR LR
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,120nm,6.1s
MAJO Matsushiro 54.23 34⇑ *e*P **P 10 34 40.0 0.0**
MAJO pmax pmax
comp=Z,61nm,2.0s
CN2 Changchun 54.37 20 *e*P **P 10 34 41.0 +0.1**
CN2 *es*P pP 10 34 48.0 +0.7
CN2 *e*S **S 10 42 18.5 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
PDGK Podgornoye 54.62 339 P **P 10 34 43.2 +0.3**
PDGK pmax pmax
comp=Z,20nm,0.9s
SONA0 Songino Array 54.68 2 *e*P **P 10 34 44.0 +0.8**
comp=Z,9.3nm,0.8s
SONM Songino Array 54.68 2 P **P 10 34 44.0 +0.8**
comp=Z,7.1nm,0.7s,baz=178,slow=8.9,SNR=40
SONM LR LR 11 00 07.8
comp=Z,65nm,20.8s,baz=200,slow=38
SONA1 Songino Array 54.69 2 *e*P **P 10 34 43.7 +0.4**
ULN Ulaanbaatar 54.74 3⇑ *e*P **P 10 34 43.9 +0.2**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 54.74 3 *e*P **P 10 34 44.5 +0.7**
comp=Z,4.6nm,0.8s
TKM2 Tokmak 2 55.78 335 P **P 10 34 51.4 0.0**
TKM2 pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 56.01 334 P **P 10 34 53.4 +0.4**
comp=Z,2.1nm,0.5s,baz=131,slow=5.9,SNR=6.4
AAK LR LR 11 02 11.2
comp=Z,71nm,19.1s,baz=129,slow=40
AAK Ala-Archa 56.01 334 *e*P **P 10 34 53.6 +0.7**
FRU Bishkek 56.11 335 *e*P **P 10 34 55.0 +1.4**
MK01 Makanchi Array 56.75 343 *e*P **P 10 34 58.1 0.0**
MK31 Makanchi Array 56.78 343 *i*P **P 10 34 58.2 0.0**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 56.78 343 *e*P **P 10 34 58.7 +0.5**
MK32 Makanchi Array 56.78 343 *e*P **P 10 34 58.3 +0.1**
MKAR Makanchi Array 56.78 343 P **P 10 34 58.3 +0.1**
comp=Z,11nm,0.8s,baz=145,slow=8.1,SNR=70
MKAR Makanchi Array 56.78 343 *i*P **P 10 34 58.2 0.0**
MKAR pmax pmax
comp=Z,11nm,0.8s

MKAR Makanchi Array 56.78 343 *e*P **P 10 34 58.7 +0.5**
comp=Z,49nm,0.7s
MAKZ Makanchi 56.88 343 *e*P **P 10 34 58.9 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 56.88 343 *e*P **P 10 34 58.9 0.0**
comp=Z,6.2nm,1.0s
USRK Ussuriysk Ar. 57.13 24 P **P 10 34 59.8 -0.9**
comp=Z,5.4nm,0.6s,baz=220,slow=7.3,SNR=11
ZAK Zakamensk 57.16 360 *e*P **P 10 34 59.0 -2.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 58.47 0 P **P 10 35 09.3 -0.7**
comp=Z,1.7nm,0.6s,baz=268,slow=4.9,SNR=4.2
KURBB Kurchatov Arra 61.32 342 P **P 10 35 29.7 +0.2**
comp=Z,7.4nm,0.7s,baz=160,slow=6.1,SNR=44
KURBB PcP **PcP 10 36 12.6 +0.7**
comp=Z,0.4nm,0.2s,baz=156,slow=3.2,SNR=4.7
KURK Kurchatov 61.37 342*c i*P **P 10 35 30.1 +0.2**
KURK pmax pmax
comp=Z,80nm,1.2s
KURK Kurchatov 61.37 342 *e*P **P 10 35 30.3 +0.3**
GEYT Alibeck 61.47 320 P **P 10 35 31.4 +0.5**
comp=Z,2.5nm,0.4s,baz=168,slow=7.6,SNR=4.0
ZAA0 Zalesovo Array 62.73 348 *e*P **P 10 35 38.9 -0.1**
ZALV Zalesovo Beam 62.73 348 P **P 10 35 38.9 -0.1**
comp=Z,15nm,0.6s,baz=159,slow=4.1,SNR=41
ZALV LR LR 11 05 55.3
comp=Z,134nm,18.2s,baz=257,slow=39
ZALV Zalesovo Beam 62.73 348 *e*P **P 10 35 38.7 -0.3**
ZAA1 Zalesovo Array 62.74 348 *e*P **P 10 35 38.9 -0.1**
BVA0 Borovoye Array 66.05 339 P **P 10 36 00.4 -0.4**
BVA0 pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 66.12 339*c i*P **P 10 36 01.1 -0.1**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 66.12 339 *e*P **P 10 36 01.2 0.0**
comp=Z,9.0nm,0.7s
MAW Mawson 66.35 196 P **P 10 36 02.6 +0.1**
comp=Z,1.7nm,0.7s,baz=277,slow=10,SNR=5.9
MAW LR LR 10 59 05.8
comp=Z,95nm,19.7s,baz=60,slow=31
MAW Mawson 66.35 196 P **P 10 36 02.3 -0.2**
baz=66
AB31 Akbulak array 67.66 331 *i*P **P 10 36 10.9 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 67.66 331 *e*P **P 10 36 11.2 +0.2**
comp=Z,59nm,0.6s
GNI Garni 71.49 316⇓ *e*P **P 10 36 34.4 -0.8**
GNI pmax pmax
comp=Z,36nm,1.6s
YAK Yakutsk 71.78 13 LR LR 11 11 43.5
comp=Z,41nm,19.8s,baz=271,slow=39
YAK Yakutsk 71.78 13 *i*P **P 10 36 36.0 -0.2**
YAK pmax pmax
comp=Z,10.0nm,0.6s
SVE Sverdlovsk 72.60 337 *e*P **P 10 36 42.0 +0.8**
SVE pmax pmax
comp=Z,21nm,1.1s
MARD Mardin 73.12 312 *e*P **P 10 36 45.9 +0.9**
ARU Arti 73.15 336 *e*P **P 10 36 43.7 -0.8**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 73.15 336 *e*P **P 10 36 43.7 -0.8**
comp=Z,8.0nm,0.7s
ZEI Tsey 73.24 319 *e*P **P 10 36 45.8 +0.2**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
MATP Matopo 73.49 251 P **P 10 36 48.4 +0.9**
comp=Z,3.8nm,0.9s,baz=121,slow=3.2,SNR=4.5
NEY Neytrino 74.22 319⇓ *e*P **P 10 36 54.1 +2.8**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 74.31 319 P **P 10 36 51.5 -0.1**
comp=Z,6.1nm,0.8s,baz=103,slow=7.4,SNR=9.6
PETK Petropavlovsk- 75.37 30 LR LR 11 12 48.1
comp=Z,32nm,18.2s,baz=95,slow=38
PET Petropavlovsk 75.80 31 *e*P **P 10 36 59.2 -0.8**
PET pmax pmax
comp=Z,21nm,1.3s
BOSA Boshof 76.31 242 P **P 10 37 05.1 +1.5**
comp=Z,1.8nm,0.6s,baz=79,slow=5.9,SNR=3.7
VNDA Vanda 76.61 169 P **P 10 37 05.0 +0.7**
comp=Z,1.3nm,0.9s,baz=276,slow=6.2,SNR=6.6
VNDA LR LR 11 08 09.6
comp=Z,38nm,19.1s,baz=307,slow=34
VNDA Vanda 76.61 169 *e*P **P 10 37 04.9 +0.7**
VNDA pmax pmax
comp=Z,4.0nm,1.1s
VNDA Vanda 76.61 169 *e*P **P 10 37 04.9 +0.7**
comp=Z,4.2nm,1.1s
NRIK Noril'sk 76.98 354 P **P 10 37 06.2 -0.1**
comp=Z,3.0nm,0.4s,baz=166,slow=3.2,SNR=4.2
NRIK LR LR 11 14 03.2
comp=Z,78nm,19.1s,baz=33,slow=38
BR101 Keskin Array S 79.21 313 *e*P **P 10 37 19.4 -0.2**
BR131 Keskin Array S 79.21 313 *e*P **P 10 37 20.0 +0.4**
BRTR Keskin Array B 79.21 313 P **P 10 37 19.4 -0.2**
comp=Z,2.8nm,0.6s,baz=129,slow=7.0,SNR=10
BRTR Keskin Array B 79.21 313 *i*P **P 10 37 19.3 -0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR231 Keskin MP Arra 79.88 312 *e*P **P 10 37 20.3 -2.8**
TIXI Tiksi 80.28 8⇓ *i*P **P 10 37 23.6 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
MOS Moscow 82.53 329 *e*P **P 10 37 38.6 +1.9**
KLMR Klimovskoe 83.81 334 *e*P **P 10 37 43.3 +0.1**
KLMR pmax pmax
comp=Z,23nm,1.3s
AKASG Malin Array Be 85.52 322 P **P 10 37 50.6 -1.5**
comp=Z,0.2nm,0.3s,baz=86,slow=4.8,SNR=8.7
KIEV Kiev 85.53 322⇓ *e*P **P 10 37 52.2 +0.1**
KIEV pmax pmax
comp=Z,9.0nm,2.0s
MLR Muntele Rosu 86.27 317⇑ *i*P **P 10 38 00.5 +4.4**
BURAR Bucovina Array 87.26 318⇓ *i*P **P 10 38 02.8 +1.9**
BUR08 Bucovina Ar. S 87.28 318 *e*P **P 10 38 02.6 +1.6**
SNAA Sanae 88.44 198 P **P 10 38 08.4 +2.3**
SNAA Sanae 88.44 198*c i*P **P 10 38 08.3 +2.3**
SNAA Sanae 88.44 198 *e*P **P 10 38 08.2 +2.1**
comp=Z,9.4nm,1.1s
DRGR 88.75 317⇑ *i*P **P 10 38 08.3 +0.3**
MDVR Moldovita 89.05 315⇑ *i*P **P 10 38 09.8 +0.4**
BZS Buzias 89.27 316⇓ *i*P **P 10 38 11.6 +1.3**
VNA2 Neumayer--Watz 90.08 198 P **P 10 38 16.4 +2.7**
baz=83,slow=4.2
FIA0 FINESS Array S 90.12 332 *e*P **P 10 38 13.9 0.0**
FIA0 FINESS Array S 90.12 332 *e*P **P 10 38 13.8 0.0**
FINES FINESS Array B 90.12 332 P **P 10 38 13.8 0.0**
comp=Z,3.3nm,1.0s,baz=132,slow=2.8,SNR=3.4
ARCES ARCESS Array B 92.33 340 P **P 10 38 23.8 -0.3**
comp=Z,2.8nm,0.8s,baz=90,slow=7.3,SNR=9.0
LTX Lajitas 146.18 46 *e*PKP2 **PKPab 10 44 56.2 +0.3**
LTX Lajitas 146.18 46 *e*PKPdf **PKPab 10 44 56.2 +0.3**
TXAR Lajitas Array 146.18 46 PKPbc **PKPab 10 44 56.2 +0.3**
comp=Z,3.7nm,0.6s,baz=276,slow=1.8,SNR=135
LPAZ La Paz 155.38 200 PKPab **PKPab 10 45 34.8 +0.3**
comp=Z,1.8nm,0.7s,baz=215,slow=6.3,SNR=7.3
LPAZ La Paz 155.38 200 *e*PKPbc PKPbc 10 45 15.6
LPAZ *e*PKPab **PKPab 10 45 36.9 +2.4**

IDC 11 10:37:35.9±3.0, 32°33'S×179°22'W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=64.9km s-min=35.9km az=107.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.64**	**206**	Pn	Pn	10 39 15.4	+0.8
	2.3nm,0.3s,baz=4.6,slow=12,SNR=5.7						
URZ				Sn	Sn	10 40 29.7	-1.2
	3.0nm,0.3s,baz=218,slow=22,SNR=9.3						
RPZ	**Rata Peaks**	**13.70**	**211**	LR	LR	10 45 46.4	
	comp=Z,45nm,21.3s,baz=330,slow=36						
DZM	**Mont Dzumac**	**16.32**	**305**	LR	LR	10 46 34.7	
	comp=Z,87nm,18.3s,baz=246,slow=33						
ASAR	**Alice Springs**	**42.01**	**270**	P	P	10 45 29.4	+0.2
	0.8nm,0.8s,baz=109,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**43.17**	**275**	P	P	10 45 38.2	-0.5
	0.5nm,0.3s,baz=112,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**146.57**	**338**	PKPbc	PKPdf	10 57 17.6	+0.6
	1.4nm,0.7s,baz=48,slow=2.1,SNR=6.0						

*ISCJB **11** 10:48:36.2±1.1,31°.94S±0°.04×70°.70W±0°.08, h103km±13km, Error ellipse: s-maj=10.9km s-min=7.1km az=11.0*
*SJA **11** 10:48:36.1±1.3,31°.89S×70°.70W, h78km±13km, ML2.9, MW3.3*
*GUC **11** 10:48:36.0±0.3,31°.93S×70°.81W, h100km±6km, ML2.9*
ISC 11 10:48:37.2±2.1,31°.93S±0°.05×70°.71W±0°.07,h91km±25km, n20,σ0s72/24,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.07**	**194**	*eP*	**Pn**	**10 48 57.5**	**-0.5**
ROCH				*eS*	**Sn**	**10 49 13.9**	**+0.3**
ROCH				IAML		10 49 16.9	
	comp=N,342nm,0.2s						
ROC1	**El Roble**	**1.07**	**194**	*eP*	**Pn**	**10 48 57.7**	**-0.4**
ROC1				*eS*	**Sn**	**10 49 13.8**	**+0.1**
AUSP	**Uspallata**	**1.16**	**105**	*eP*	**Pn**	**10 48 59.0**	**-0.1**
AUSP				*eS*	**Sn**	**10 49 15.2**	**-0.4**
PEL	**Peldehue**	**1.21**	**179**	*eP*	**Pn**	**10 48 58.9**	**-0.6**
PEL				*eS*	**Sn**	**10 49 16.2**	**0.0**
PEL				IAML		10 49 16.8	
	comp=N,180nm,0.6s						
RTLS	**Leoncito**	**1.21**	**84**	*eP*	**Pn**	**10 48 59.3**	**-0.4**
RTLS				IAML		10 49 16.8	
	comp=Z,56nm,0.3s						
FCH	**Farellones**	**1.44**	**166**	*eP*	**Pn**	**10 49 02.6**	**+0.1**
FCH				*eS*	**Sn**	**10 49 22.6**	**+0.9**
ANTU	**Antumapu**	**1.64**	**178**	*eP*	**Pn**	**10 49 05.4**	**+0.6**
ASAL	**Salagasta**	**1.72**	**113**	*eP*	**Pn**	**10 49 06.5**	**+0.6**
TLL	**Tololo Astrono**	**1.76**	**357**	*eP*	**Pn**	**10 49 06.0**	**-0.5**
TLL				*eS*	**Sn**	**10 49 28.9**	**+0.1**
TLL				IAML		10 49 34.9	
	comp=N,191nm,0.2s						
ARCO	**CERRO ARCO**	**1.76**	**122**	*eP*	**Pn**	**10 49 07.7**	**+1.3**
ARCO				IAML		10 49 32.0	
	comp=Z,112nm,0.3s						
RTCV	**Cerro Valdivia**	**1.85**	**89**	*eP*	**Pn**	**10 49 07.4**	**-0.1**
RTLL	**Cerro Villicun**	**2.00**	**73**	*eP*	**Pn**	**10 49 09.0**	**-0.4**
AMOG	**MOGNA**	**2.14**	**63**	*eP*	**Pn**	**10 49 11.5**	**+0.2**
ACDV	**Cuesta del Vie**	**2.22**	**38**	*eP*	**Pn**	**10 49 14.1**	**+1.6**
ACAN	**Cantantal**	**3.01**	**97**	*eP*	**Pn**	**10 49 22.4**	**-0.4**
AVFE	**Valle Fertil**	**3.06**	**66**	*eP*	**Pn**	**10 49 23.9**	**+0.3**
AVFE				IAML		10 50 03.4	
	comp=Z,32nm,0.2s						
ACHE	**Chepes**	**3.54**	**79**	*eP*	**Pn**	**10 49 29.4**	**-0.7**
VCA	**Vinchina**	**3.85**	**35**	IAML		10 50 26.1	
	comp=Z,21nm,0.4s						
MRA	**San Martin**	**4.26**	**98**	*eP*	**Pn**	**10 49 38.4**	**-1.5**
MRA				IAML		10 50 29.5	
	comp=Z,19nm,0.5s						
TCA	**Tanti**	**5.25**	**85**	IAML		10 49 53.0	
	comp=Z,8.9nm,0.4s						

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*IDC **11** 11:11:42.5±1.4,34°.68N×24°.95E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.4/51, mbtmp3.7/6, ML3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.5/49, Error ellipse: s-maj=30.2km s-min=11.4km az=88.0*
*ISCJB **11** 11:11:45.1±1.0,34°.75N±0°.05×24°.86E±0°.03, h12km±5km, mb3.5/3, MS3.7/2, Error ellipse: s-maj=8.3km s-min=4.7km az=178.2*
*CSEM **11** 11:11:45.8±0.6,34°.78N×24°.86E, h15km, ML3.5, Error ellipse: s-maj=12.2km s-min=5.7km az=175.0*
*ATH **11** 11:11:45.8,34°.82N×24°.84E, h15km±1km, ML3.3/7, Error ellipse: s-maj=3.1km s-min=1.4km az=2.0*
*THE **11** 11:11:46.1,34°.83N×24°.84E, h20km±1km, ML3.5/8, Error ellipse: s-maj=2.0km s-min=0.8km az=352.0*
ISC 11 11:11:45.0±1.3,34°.79N±0°.04×24°.87E±0°.02,h15km±9km, n59,σ0s68/79,mb3.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.23**	**348**	P	**Pb**	**11 11 51.0**	**+0.1**
SIVA				S	**Sb**	**11 11 54.7**	**-0.2**
SIVA	**Sivas**	**0.23**	**348**	P	**Pb**	**11 11 51.7**	**+0.8**
SIVA				S	**Sb**	**11 11 54.5**	**-0.4**
SIVA				AML	AML	11 11 55.6	
SIVA				AML	AML	11 11 57.1	
SIVA	**Sivas**	**0.23**	**348**	P	**Pb**	**11 11 51.0**	**+0.1**
SIVA				S	**Sb**	**11 11 54.5**	**-0.4**
TMBK	**Timbaki Herakl**	**0.29**	**344**	P	**Pb**	**11 11 52.2**	**+0.2**
TMBK				S	**Sb**	**11 11 56.9**	**+0.2**
TMBK	**Timbaki Herakl**	**0.29**	**344**	P	**Pb**	**11 11 52.2**	**+0.2**
TMBK				S	**Sb**	**11 11 56.9**	**+0.2**
IDI	**Anoyia**	**0.50**	**2**	Pg	**Pg**	**11 11 55.0**	**+0.1**
	85nm,0.3s,baz=271,slow=17,SNR=677						
IDI				Lg	Lg	11 12 02.2	
	944nm,0.3s,baz=279,slow=19,SNR=106						
IDI				LR	LR	11 12 24.3	
	comp=Z,76nm,20.2s,baz=89,slow=69						
IDI	**Anoyia**	**0.50**	**2**	P	**Pg**	**11 11 55.0**	**+0.1**
IDI				S	**Sb**	**11 12 02.3**	**-0.3**
IDI	**Anoyia**	**0.50**	**2**	P	**Pg**	**11 11 54.8**	**-0.1**
IDI				S	**Sb**	**11 12 02.5**	**0.0**
IDI				AML	AML	11 12 02.8	
	comp=E,10016μm,0.2s						
IDI				AML	AML	11 12 04.2	
	comp=N,6908μm,0.2s						
IACM	**Heraklion**	**0.54**	**18**	P	**Pb**	**11 11 56.7**	**+0.5**
IACM				S	**Sb**	**11 12 04.8**	**+1.0**
IACM	**Heraklion**	**0.54**	**18**	P	**Pn**	**11 11 57.5**	**-0.7**
IACM	**Heraklion**	**0.54**	**18**	P	**Pb**	**11 11 56.7**	**+0.5**
IACM				S	**Sb**	**11 12 04.8**	**+1.0**
LAST	**Lasithi**	**0.62**	**53**	P	**Pb**	**11 11 57.7**	**0.0**
LAST				S	**Sb**	**11 12 06.7**	**+0.4**
LAST	**Lasithi**	**0.62**	**53**	P	**Pg**	**11 11 57.4**	**+0.1**
LAST				AML	AML	11 12 08.1	
	comp=E,1813μm,0.4s						
LAST				AML	AML	11 12 08.3	
	comp=N,2402μm,0.4s						
LAST	**Lasithi**	**0.62**	**53**	P	**Pb**	**11 11 57.7**	**0.0**
LAST				S	**Sb**	**11 12 06.7**	**+0.4**
GVD	**Gavdhos**	**0.64**	**275**	P	**Pg**	**11 11 57.6**	**0.0**
GVD				S	**Sb**	**11 12 07.2**	**+0.5**
GVD	**Gavdhos**	**0.64**	**275**	P	**Pg**	**11 11 57.8**	**+0.2**
GVD				S	**Sb**	**11 12 08.1**	**+1.3**
GVD				AML	AML	11 12 13.2	
	comp=E,12021μm,0.4s						
GVD				AML	AML	11 12 13.5	
	comp=N,10124μm,0.3s						
GVD	**Gavdhos**	**0.64**	**275**	P	**Pg**	**11 11 57.6**	**0.0**
GVD				S	**Sb**	**11 12 07.2**	**+0.5**
NPS	**Neapolis**	**0.77**	**52**	P	**Pb**	**11 12 00.2**	**0.0**
NPS	**Neapolis**	**0.77**	**52**	P	**Pg**	**11 11 59.9**	**-0.1**
NPS	**Neapolis**	**0.77**	**52**	P	**Pb**	**11 12 00.2**	**0.0**
VAM	**Vamos**	**0.82**	**319**	P	**Pg**	**11 12 00.5**	**-0.5**
VAM				S	**Sg**	**11 12 11.0**	**-0.8**
VAM	**Vamos**	**0.82**	**319**	P	**Pg**	**11 12 00.5**	**-0.5**
VAM				S	**Sb**	**11 12 12.9**	**+1.0**
VAM				AML	AML	11 12 15.2	
	comp=E,5731μm,0.3s						
VAM				AML	AML	11 12 15.6	
	comp=N,7055μm,0.3s						
VAM	**Vamos**	**0.82**	**319**	P	**Pg**	**11 12 00.5**	**-0.5**
VAM				S	**Sb**	**11 12 12.9**	**+1.0**
IMMV	**Iera Moni Meta**	**0.99**	**313**	P	**Pb**	**11 12 03.3**	**-0.5**
IMMV				S	**Sb**	**11 12 16.6**	**-0.1**
IMMV	**Iera Moni Meta**	**0.99**	**313**	P	**Pb**	**11 12 02.9**	**-0.9**
IMMV				S	**Sb**	**11 12 15.8**	**-0.9**
IMMV				AML	AML	11 12 19.2	
	comp=E,4641μm,0.4s						
IMMV				AML	AML	11 12 19.2	
	comp=N,6338μm,0.4s						
IMMV	**Iera Moni Meta**	**0.99**	**313**	P	**Pb**	**11 12 03.3**	**-0.5**
IMMV				S	**Sb**	**11 12 16.6**	**-0.1**
ZKR	**Zakros**	**1.16**	**73**	P	**Pb**	**11 12 07.0**	**+0.3**
ZKR				S	**Sn**	**11 12 22.2**	**0.0**
ZKR	**Zakros**	**1.16**	**73**	P	**Pn**	**11 12 06.5**	**-0.2**
ZKR				AML	AML	11 12 27.5	
	comp=E,1620μm,0.5s						
ZKR				AML	AML	11 12 30.3	
	comp=N,858μm,0.4s						
ZKR	**Zakros**	**1.16**	**73**	P	**Pb**	**11 12 07.0**	**+0.3**
ZKR				S	**Sn**	**11 12 22.2**	**0.0**
THR6	**Thira Island,**	**1.62**	**15**	P	**Pn**	**11 12 13.1**	**0.0**
THR6	**Thira Island,**	**1.62**	**15**	P	**Pb**	**11 12 14.4**	**-0.2**
THR6	**Thira Island,**	**1.62**	**15**	P	**Pb**	**11 12 14.4**	**-0.2**
SAP1	**Santorini-Akro**	**1.62**	**15**	P	**Pb**	**11 12 14.8**	**+0.2**
SAP1	**Santorini-Akro**	**1.62**	**15**	P	**Pb**	**11 12 14.9**	**+0.2**
SANT	**Santorini**	**1.65**	**17**	P	**Pg**	**11 12 17.3**	**+0.6**
SANT	**Santorini**	**1.65**	**17**	P	**Pg**	**11 12 17.3**	**+0.6**
ANKY	**Antikythira Is**	**1.67**	**310**	P	**Pb**	**11 12 16.3**	**+0.8**
ANKY	**Antikythira Is**	**1.67**	**310**	P	**Pb**	**11 12 16.3**	**+0.8**
THR5	**Thira Island,**	**1.67**	**13**	P	**Pb**	**11 12 15.5**	**0.0**
THR5	**Thira Island,**	**1.67**	**13**	P	**Pb**	**11 12 15.5**	**0.0**
THR3	**Thira Island,**	**1.67**	**15**	P	**Pg**	**11 12 18.1**	**+1.0**
THR3	**Thira Island,**	**1.67**	**15**	P	**Pg**	**11 12 18.1**	**+1.0**
THR2	**Thira island,**	**1.72**	**15**	P	**Pb**	**11 12 15.8**	**-0.5**
THR2	**Thira island,**	**1.72**	**15**	P	**Pb**	**11 12 15.8**	**-0.5**
KARP	**Karpathos**	**2.03**	**67**	P	**Pg**	**11 12 23.8**	**-0.1**
KARP	**Karpathos**	**2.03**	**67**	P	**Pg**	**11 12 23.8**	**-0.1**
KYTH	**Kithira**	**2.09**	**315**	P	**Pg**	**11 12 24.0**	**-1.1**
APE	**Apeiranthos**	**2.34**	**13**	P	**Pn**	**11 12 24.4**	**+1.4**
APE	**Apeiranthos**	**2.34**	**13**	P	**Pn**	**11 12 24.4**	**+1.4**
VLI	**Veliai**	**2.48**	**321**	P	**Pn**	**11 12 27.1**	**+2.2**
VLI	**Veliai**	**2.48**	**321**	P	**Pn**	**11 12 27.1**	**+2.2**
AKASG	**Malin Array Be**	**16.22**	**10**	Pn	**Pn**	**11 15 32.2**	**+0.1**
	comp=N,0.6nm,0.3s,baz=201,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**16.30**	**333**	Pn	**P**	**11 15 35.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=158,slow=11,SNR=2.7						
KBZ	**Khabaz**	**16.55**	**52**	Pn	**P**	**11 15 39.6**	**+0.7**
	comp=N,0.1nm,0.3s,baz=256,slow=10,SNR=6.0						
TORD	**Torodi Ar. Bea**	**30.07**	**230**	P	**P**	**11 17 53.6**	**-0.2**
	comp=N,0.2nm,0.3s,baz=33,slow=9.6,SNR=5.8						
ARCES	**ARCESS Array B**	**34.80**	**0**	P	**P**	**11 18 33.4**	**-1.3**
	comp=N,0.8nm,0.7s,baz=168,slow=8.9,SNR=3.7						
BBTS	**Babate**	**42.24**	**252**	LR	LR	11 38 03.8	
	comp=N,36nm,21.8s,slow=37						
MKAR	**Makanchi Array**	**44.18**	**56**	P	**P**	**11 19 53.0**	**-0.2**
	comp=N,0.4nm,0.4s,baz=269,slow=8.4,SNR=6.0						
USRK	**Ussuriysk Ar.**	**77.27**	**45**	LR	LR	12 04 58.0	
	comp=N,94nm,18.9s,baz=139,slow=41						

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*IDC **11** 11:11:47.7±1.6, 18°.29S×168°.07E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/37, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=38.4km s-min=28.0km az=130.0*
*ISCJB **11** 11:11:49.5±0.8, 18°.34S±0°.09×168°.13E±0°.10, h29km, mb4.0/7, Error ellipse: s-maj=15.2km s-min=10.4km az=40.4*
*NEIC **11** 11:11:49.1±0.5, 18°.30S×168°.09E, h10km, mb4.1/3, Error ellipse: s-maj=15.4km s-min=8.7km az=161.0*
ISC 11 11:11:51.5±0.9,18°.4S±0°.1×168°.23E±0°.09,h29km,n14, σ1s16/17,mb4.0/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**204**	Pn	**Pn**	**11 12 51.5**	**+0.1**
	3.0nm,0.3s,baz=102,slow=8.7,SNR=45						
DZM				Sn	**Sn**	**11 13 37.7**	**-0.1**
	16nm,0.3s,baz=150,slow=20,SNR=12						
DZM	**Mont Dzumac**	**4.04**	**204**	*e*Pn	**Pn**	**11 12 51.2**	**-0.2**
DZM				*e*Sn	**Sn**	**11 13 37.6**	**-0.3**
MSVF	**Nonsavu**	**9.37**	**88**	*e*Pn	**Pn**	**11 14 05.7**	**+1.0**
	75nm,1.4s						
MSVF				*e*Sn	**Sn**	**11 15 46.6**	**-2.6**
CTA	**Charters Tower**	**20.82**	**262**	P	**P**	**11 16 30.3**	**-0.6**
	6.3nm,0.9s,baz=84,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**27.51**	**236**	P	**P**	**11 17 35.8**	**+0.1**
	2.4nm,0.8s,baz=64,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**27.51**	**236**	*e*P	**P**	**11 17 35.8**	**+0.1**
	5.8nm,1.8s						
WR1	**Warramunga Arr**	**32.02**	**262**	*e*P	**P**	**11 18 14.2**	**-1.5**
	12nm,1.5s						
WRA	**Warrmunga Arr**	**32.02**	**262**	P	**P**	**11 18 14.2**	**-1.5**
	0.2nm,0.4s,baz=93,slow=8.4,SNR=6.1						
AS31	**Alice Springs**	**32.42**	**255**	*e*P	**P**	**11 18 18.8**	**-0.5**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**32.42**	**255**	P	**P**	**11 18 18.6**	**-0.7**
	1.6nm,0.5s,baz=80,slow=8.7,SNR=50						
ILAR	**Eielson Array**	**89.70**	**18**	P	**P**	**11 24 46.8**	**+0.3**
	0.3nm,0.7s,baz=232,slow=5.1,SNR=5.1						
ILB	**Eielson Array**	**89.70**	**18**	*e*P	**P**	**11 24 47.3**	**+0.8**
SNAA	**Sanae**	**89.97**	**183**	P	**P**	**11 24 49.4**	**+1.5**
	3.6nm,1.1s,baz=177,slow=3.5,SNR=7.6						
SNAA	**Sanae**	**89.97**	**183**	*e*P	**P**	**11 24 49.4**	**+1.5**
	12nm,0.5s						

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*BJI **11** 11:16:22.8,29°.31S×173°.14W, h6km, mb5.0/2, Ms5.0/4, Ms7 4.7/6*
*IDC **11** 11:16:46.0±0.4,29°.18S×176°.14W, h0km, mb4.7/17, mb1 4.8/19, mb1mx4.7/32, mbtmp4.7/19, ML3.9/2, MS4.4/17, Ms1 4.4/17, ms1mx4.2/29, Error ellipse: s-maj=17.6km s-min=14.1km az=172.0*
*ISCJB **11** 11:16:48.4±0.1,29°.69S±0°.03×176°.20W±0°.04, h28km, mb5.0/93, MS4.5/17, Error ellipse: s-maj=6.4km s-min=3.1km az=44.5*
*NEIC **11** 11:16:50.8±1.7,29°.50S×176°.24W, h32km±11km, mb5.0/82, Error ellipse: s-maj=7.1km s-min=4.3km az=153.0*
*GCMT **11** 11:16:50.8±0.2,29°.29S×175°.86W, h12km, MW5.0/88, Moment Tensor Solution. s44,c52; s88,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.54±.09; $M_{\theta\theta}$0.05±.10; $M_{\phi\phi}$3.49±.07; $M_{r\theta}$-1.08±.39; $M_{r\phi}$0.61±.08; $M_{\theta\phi}$0.41±.27; Best double couple: $M_0$3.74200×10^{16} NP1:ϕ_s26.00000°, δ46.00000°, λ-67.00000°. Principal axes: T 3.6020, Plg2.0000°, Azm279.0000°; N 0.2820, Plg16.0000°, Azm189.0000°; P -3.8820, Plg73.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 11:16:50.0±0.3,29°.48S±0°.05×176°.17W±0°.05,h28km, n268,σ1s74/265,mb5.0/92,MS4.5/17,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.54**	**278**	Pn	**Pn**	**11 17 16.7**	**+1.0**
	1μm,0.3s,baz=296,slow=3.2,SNR=42						
RAO				Sn	**Sb**	**11 17 38.0**	**+1.0**
	1μm,0.3s,baz=90,slow=20,SNR=8.6						
HAZ	**Te Kaha**	**9.67**	**210**	PN	**Pn**	**11 19 06.7**	**-0.6**
HAZ				SN	**Sn**	**11 20 56.1**	**+1.1**
TWGZ	**Tauwhareparae**	**9.94**	**208**	PN	**Pn**	**11 19 08.3**	**-2.8**
TWGZ				SN	**Sn**	**11 20 59.9**	**-1.8**
URZ	**Urewera**	**10.38**	**211**	Pn	Pn	11 19 12.0	-5.0
	3.2nm,0.3s,baz=71,slow=9.3,SNR=7.1						
URZ				Sn	**Sn**	**11 21 09.4**	**-3.0**
	8.3nm,0.3s,baz=47,slow=23,SNR=11						
RIGZ	**Rimuhau**	**10.48**	**207**	PN	**Pn**	**11 19 17.8**	**-0.7**
RIGZ				SN	**Sn**	**11 21 11.0**	**-4.0**
KNZ	**Kokohu**	**10.79**	**206**	PN	Pn	11 19 17.2	-5.4
KNZ				SN	**Sn**	**11 21 18.3**	**-4.2**
PXZ	**Pawanui**	**11.98**	**207**	*e*PN	Pn	11 19 30.4	-8.5
PXZ				SN	**Sn**	**11 21 44.7**	**-6.8**
MSVF	**Nonsavu**	**12.83**	**334**	*e*Pn	**Pn**	**11 19 52.0**	**+1.3**
	9.0nm,0.8s						
MRZ	**Mangatainoka R**	**13.03**	**209**	PN	Pn	11 19 46.5	-6.8
MRZ				SN	**Sn**	**11 22 08.5**	**-8.9**
HOWZ	**Holdsworth Sta**	**13.26**	**209**	PN	Pn	11 19 51.3	-5.1
CAW	**Cannon Point**	**13.62**	**209**	*e*PN	Pn	11 19 53.6	-7.7
DUWZ	**D'Urville Isla**	**13.89**	**213**	*e*PN	Pn	11 19 58.1	-7.0
DUWZ				SN	**Sn**	**11 22 29.5**	**-8.9**
NNZ	**Nelson**	**14.47**	**213**	PN	**Pn**	**11 20 12.8**	**-0.1**
THZ	**Tophouse**	**15.12**	**213**	PN	**Pn**	**11 20 17.8**	**-4.0**
KHZ	**Kahutara**	**15.35**	**210**	*e*Pn	**Pn**	**11 20 22.8**	**-1.9**
	150nm,0.8s						
AFI	**Afiamalu**	**16.02**	**16**	Pn	**Pn**	**11 20 27.0**	**-6.5**
	2.0nm,0.3s,baz=82,slow=23,SNR=3.8						
AFI				Sn	Sn	11 23 08.7	-22
	2.4nm,0.3s,baz=198,slow=20,SNR=3.7						
AFI	**Afiamalu**	**16.02**	**16**	*e*Pn	**Pn**	**11 20 33.7**	**+0.2**
AFI				*e*Sn	**Sn**	**11 23 25.2**	**-5.2**
LTZ	**Lake Taylor**	**16.21**	**212**	*e*Pn	**Pn**	**11 20 32.5**	**-3.3**
	28nm,0.6s						
INZ	**Inchbonnie**	**16.55**	**214**	PN	**Pn**	**11 20 37.2**	**-2.9**
OXZ	**Oxford**	**16.74**	**211**	*e*Pn	**P**	**11 20 46.8**	**+2.2**
	86nm,1.1s						
OXZ	**Oxford**	**16.74**	**211**	PN	**Pn**	**11 20 38.9**	**-3.6**
RAR	**Rarotonga**	**16.94**	**65**	Pn	**Pn**	**11 20 44.4**	**-0.7**
	1.2nm,0.3s,baz=77,slow=3.4,SNR=4.6						
RAR				LR	LR	11 27 01.3	
	comp=Z,1μm,19.2s,baz=252,slow=37						
RAR	**Rarotonga**	**16.94**	**65**	*e*Pn	**Pn**	**11 20 44.6**	**-0.5**
	141nm,1.4s						
DZM	**Mont Dzumac**	**17.30**	**291**	P	**P**	**11 20 52.2**	**+1.2**
	0.4nm,0.3s,baz=110,slow=16,SNR=13						
DZM				LR	LR	11 26 43.8	
	comp=Z,1μm,18.1s,baz=120,slow=35						
DZM	**Mont Dzumac**	**17.30**	**291**	*e*P	**P**	**11 20 51.6**	**+0.7**
	80nm,1.2s						
DZM				*e*LR	LR	11 24 50.7	
	3μm,27.8s						
DZM	**Mont Dzumac**	**17.30**	**291**	*e*P	**P**	**11 20 51.6**	**+0.7**
	44nm,1.2s						
RPZ	**Rata Peaks**	**17.49**	**212**	P	**Pn**	**11 20 48.9**	**-3.0**
	1.2nm,0.3s,baz=264,slow=1.9,SNR=5.6						
LHI	**Lord Howe Isla**	**21.43**	**258**	P	**P**	**11 21 37.1**	**+1.2**
	baz=22,SNR=3.7						
TBI	**Tubuai**	**24.66**	**82**	*e*LQ	LQ	11 26 45.3	
	876nm,28.0s						
TBI				*e*LR	LR	11 27 57.6	
	2μm,27.8s,baz=246						
PAE	**Paea**	**26.99**	**70**	*e*P	**P**	**11 22 28.4**	**-1.3**
	14nm,1.1s						
PPT2	**Papeete2**	**27.03**	**70**	*e*P	**P**	**11 22 29.3**	**-0.8**
	39nm,1.1s						
PPT2				*e*LQ	LQ	11 27 40.5	
	981nm,25.2s						
PPT2				*e*LR	LR	11 28 58.6	
	2μm,26.8s,baz=236						
PPTF	**Pamatai, Papee**	**27.04**	**70**	*e*P	**P**	**11 22 31.9**	**+1.7**
	67nm,1.1s						
PPT	**Papeete**	**27.04**	**70**	LR	LR	11 32 01.7	
	comp=Z,732nm,18.8s,baz=242,slow=34						
TIAR	**Tiarei**	**27.24**	**70**	*e*P	**P**	**11 22 31.0**	**-0.9**
	21nm,1.0s						
ARMA	**Armidale**	**27.87**	**260**	P	**P**	**11 22 40.6**	**+3.0**
	baz=28,SNR=3.9						
EIDS	**Eidsvold**	**29.30**	**270**	P	**P**	**11 22 51.4**	**+1.2**
	baz=29,SNR=4.5						
EIDS	**Eidsvold**	**29.30**	**270**	*e*P	**P**	**11 22 51.6**	**+1.4**
	16nm,0.9s						
RMQ	**Roma**	**31.05**	**267**	P	**P**	**11 23 07.2**	**+1.5**
	baz=31,SNR=7.0						
CMSA	**Cobar Meteorol**	**32.81**	**257**	P	**P**	**11 23 23.1**	**+1.9**
	baz=33,SNR=8.8						
QLP	**Quilpie**	**34.96**	**265**	P	**P**	**11 23 40.5**	**+0.7**
	baz=35,SNR=8.0						
CTA	**Charters Tower**	**35.24**	**277**	P	**P**	**11 23 42.7**	**+0.3**
	6.9nm,0.5s,baz=98,slow=11,SNR=16						
CTA				LR	LR	11 37 20.3	
	comp=Z,1μm,18.1s,baz=88,slow=35						
STKA	**Stephens Creek**	**36.24**	**255**	P	**P**	**11 23 51.4**	**+0.6**
	11nm,0.6s,baz=97,slow=10,SNR=39						
STKA				LR	LR	11 38 05.1	
	comp=Z,894nm,18.1s,baz=75,slow=35						
STKA	**Stephens Creek**	**36.24**	**255**	P	**P**	**11 23 51.4**	**+0.6**
	baz=36,SNR=24						
STKA	**Stephens Creek**	**36.24**	**255**	*e*P	**P**	**11 23 51.5**	**+0.7**
	6.4nm,0.8s						
RKT	**Rikitea**	**37.33**	**90**	*e*LR	LR	11 33 31.7	
	1μm,31.0s,baz=254						
MTSU	**Mount Surprise**	**37.71**	**278**	P	**P**	**11 24 03.9**	**+0.5**
	baz=38,SNR=16						
HTT	**Hallett**	**38.29**	**252**	P	**P**	**11 24 09.1**	**+0.9**
	baz=38,SNR=22						
TAOE	**Nuku Hiva Isla**	**39.48**	**66**	*e*LR	LR	11 34 41.8	
	954nm,26.4s						
PMG	**Port Moresby**	**39.68**	**293**	LR	LR	11 37 54.0	
	comp=Z,393nm,21.6s,baz=128,slow=32						
BBOO	**Buckleboo**	**40.75**	**253**	P	**P**	**11 24 29.0**	**+0.3**
	baz=41,SNR=19						
BBOO	**Buckleboo**	**40.75**	**253**	*e*P	**P**	**11 24 28.9**	**+0.3**
	43nm,0.8s						
AS01	**Alice Springs**	**44.72**	**265**	*e*P	**P**	**11 24 59.7**	**-1.3**
AS31	**Alice Springs**	**44.76**	**265**	*e*P	**P**	**11 25 00.6**	**-0.8**
	3.0nm,0.9s						
ASAR	**Alice Springs**	**44.76**	**265**	P	**P**	**11 25 00.5**	**-0.8**
	5.2nm,0.6s,baz=98,slow=7.5,SNR=68						
ASAR				LR	LR	11 43 42.9	
	comp=Z,1μm,18.2s,baz=120,slow=36						
WB2	**Warramunga Arr**	**45.65**	**270**	*e*P	**P**	**11 25 06.9**	**-1.5**
	17nm,0.7s						
WRAB	**Tennant Creek**	**45.66**	**270**	*e*P	**P**	**11 25 08.0**	**-0.6**
	16nm,0.8s						
WR1	**Warramunga Arr**	**45.66**	**270**	*e*P	**P**	**11 25 07.1**	**-1.4**
	20nm,0.7s						
WRA	**Warramunga Arr**	**45.66**	**270**	P	**P**	**11 25 07.1**	**-1.4**
	16nm,0.8s,baz=109,slow=7.8,SNR=48						
JAY	**Jayapura**	**48.92**	**295**	LR	LR	11 44 59.8	
	comp=Z,1μm,19.4s,baz=150,slow=35						
SBA	**Scott Base**	**49.08**	**185**	*e*P	P	11 25 39.2	+4.9
	16nm,1.0s						
VNDA	**Vanda**	**49.17**	**186**	P	**P**	**11 25 38.5**	**+3.4**
	6.0nm,0.9s,baz=6.9,slow=8.3,SNR=27						
VNDA	**Vanda**	**49.17**	**186**	*e*P	**P**	**11 25 39.0**	**+3.9**
	6.3nm,0.9s						
WRKA	**Warakurna**	**49.18**	**261**	P	**P**	**11 25 35.3**	**-0.6**
	baz=49,SNR=16						
MTN	**Manton Dam**	**51.43**	**277**	P	**P**	**11 25 53.8**	**+0.9**
	baz=51,SNR=3.1						
KNRA	**Kununurra**	**52.23**	**273**	P	**P**	**11 25 58.2**	**-0.7**
	baz=52,SNR=3.6						
KLBR	**Kellerberrin**	**56.15**	**250**	P	**P**	**11 26 27.2**	**-0.2**

GLA	**Glamis**	85.10	48	*e*P		P	11 29 24.2 +0.7
	10nm,0.9s						
CWC	**Cottonwood Cre**	85.29	43	P		P	11 29 24.8 +0.3
	baz=228						
HEC	**Hector,Ludlow**	85.29	46	P		P	11 29 24.6 +0.2
	baz=229,SNR=8.1						
GSC	**Goldstone, Bar**	85.31	45	P		P	11 29 25.0 +0.4
	baz=229,SNR=6.4						
GSC	**Goldstone, Bar**	85.31	45	*e*P		P	11 29 24.9 +0.4
	8.8nm,1.0s						
AFDM	**Forest Hills D**	85.32	40	*e*P		P	11 29 24.7 +0.3
	8.4nm,1.1s						
MPMC	**Manual Prospec**	85.39	44	P		P	11 29 25.3 +0.2
	baz=228,SNR=9.2						
ORV	**Oroville**	85.45	39	*e*P		P	11 29 25.6 +0.6
	6.7nm,1.0s						
IRM	**Iron Mountain**	85.61	47	P		P	11 29 26.7 +0.7
	baz=230,SNR=12						
113A	**Mohawk Valley,**	85.61	48	*e*P		P	11 29 26.6 +0.6
	7.2nm,1.1s						
WDC	**Whiskeytown Da**	85.61	38	*e*P		P	11 29 26.5 +0.7
	8.7nm,0.9s						
MLAC	**Mammoth, Mammo**	85.64	42	P		P	11 29 26.7 +0.4
	baz=227						
GMRC	**Granite Mounta**	85.69	46	P		P	11 29 26.9 +0.5
	baz=230,SNR=6.0						
214A	**Organ Pipe Nat**	85.73	50	P		P	11 29 27.2 +0.5
	baz=231						
Y12C	**Blythe**	85.74	47	P		P	11 29 27.1 +0.6
	baz=230						
N02D	**Trinity Center**	85.80	38	P		P	11 29 27.4 +0.6
	baz=225						
O03D	**Paynes Creek**	85.81	39	P		P	11 29 26.8 -0.1
	baz=225						
WAKR	**Walker**	85.89	41	*e*P		P	11 29 28.3 +0.8
	16nm,1.1s						
TUQ	**Turquoise Moun**	85.94	45	P		P	11 29 28.1 +0.4
	baz=229,SNR=6.0						
M02C	**Callahan**	86.02	37	P		P	11 29 28.7 +0.8
	baz=224						
SHOC	**Shoshone, Teco**	86.03	45	P		P	11 29 28.3 +0.3
	baz=229,SNR=5.5						
FURC	**Furnace Creek,**	86.04	44	P		P	11 29 28.5 +0.5
	baz=229						
GRAC	**Grapevine Rang**	86.09	43	P		P	11 29 28.8 +0.5
	baz=228,SNR=6.2						
PNTR	**Pine Nut**	86.19	41	*e*P		P	11 29 29.7 +0.7
	14nm,1.0s						
LDFC	**Landfair**	86.22	46	*e*P		P	11 29 30.3 +1.2
	26nm,1.1s						
YERR	**Yerington**	86.33	41	*e*P		P	11 29 30.1 +0.5
	9.3nm,1.0s						
PDMCI	**Parker Dam,Lak**	86.34	47	P		P	11 29 30.3 +0.8
	baz=230						
TPNV	**Topopah Spring**	86.73	44	P		P	11 29 32.2 +0.6
	baz=229,SNR=8.4						
TPNV	**Topopah Spring**	86.73	44	*e*P		P	11 29 32.2 +0.6
	8.7nm,1.0s						
PAHR	**Pah Rah Range**	86.74	40	*e*P		P	11 29 31.6 0.0
	6.3nm,0.9s						
NJ2	**Nanjing**	86.87	310	*e*P		P	11 29 17.2 -15
W13A	**Hualapai Mount**	87.00	47	*e*P		P	11 29 33.9 +0.8
	6.1nm,1.1s						
SHPR	**Sheep Range**	87.11	45	*e*P		P	11 29 34.4 +1.0
	12nm,1.4s						
USRK	**Ussuriysk Ar.**	87.29	326	P		P	11 29 32.2 -1.7
	3.7nm,0.9s,baz=88,slow=7.7,SNR=3.6						
TUC	**Tucson**	87.30	50	P		P	11 29 35.3 +0.9
	baz=232						
TUC	**Tucson**	87.30	50	*e*P		P	11 29 35.6 +1.2
	12nm,0.9s						
HPIG		87.75	57	*e*P		P	11 29 36.9 0.0
	7.4nm,1.0s						
R11A	**Troy Canyon, C**	88.04	43	P		P	11 29 38.2 +0.3
	baz=229						
X16A	**Lo Mia Camp, P**	88.15	48	*e*P		P	11 29 39.6 +1.1
	8.8nm,0.9s						
J05D	**Fort Rock, OR**	88.20	37	P		P	11 29 38.7 +0.2
	baz=226						
LCMT	**Little Creek M**	88.61	45	*e*P		P	11 29 41.8 +1.1
	5.7nm,0.9s						
U15A	**North Rim**	88.85	46	*e*P		P	11 29 43.0 +1.1
	11nm,0.8s						
WUAZ	**Wupatki**	88.87	48	P		P	11 29 42.7 +0.8
	baz=232						
WUAZ	**Wupatki**	88.87	48	*e*P		P	11 29 42.5 +0.6
	11nm,1.0s						
CCUT	**Cedar City**	88.88	45	*e*P		P	11 29 43.3 +1.3
	4.9nm,0.9s						
KNB	**Kanab**	88.88	46	*e*P		P	11 29 43.1 +1.2
	13nm,1.0s						
I05D	**Terrebonne, OR**	88.89	36	P		P	11 29 41.5 -0.1
	baz=225						
SZCU	**Shurtz Canyon**	89.08	45	*e*P		P	11 29 44.2 +1.3
	7.3nm,1.1s						
X18A	**Snowflake**	89.20	49	*e*P		P	11 29 44.5 +1.0
	5.4nm,1.0s						
121A	**Cookes Peak, D**	89.47	52	P		P	11 29 45.3 +0.6
	baz=234						
W18A	**Petrified Fore**	89.69	49	P		P	11 29 46.4 +0.6
	baz=233						
W18A	**Petrified Fore**	89.69	49	*e*P		P	11 29 46.6 +0.9
	13nm,1.1s						
LON	**Longmire**	90.35	34	*e*P		P	11 29 49.2 +0.8
	13nm,1.0s						
LTX	**Lajitas**	90.56	56	*e*P		P	11 29 49.3 -0.6
TX31	**Lajitas Ar. Si**	90.56	56	*e*P		P	11 29 50.4 +0.6
TXAR	**Lajitas Array**	90.56	56	P		P	11 29 49.3 -0.6
	3.3nm,0.9s,baz=210,slow=7.8,SNR=28						
TXAR				LR		LR	12 04 28.7
	comp=Z,180nm,18.5s,baz=0.0,slow=32						
MNTX	**Cornudas Mount**	90.66	54	P		P	11 29 50.6 +0.4
	baz=235						
MNTX	**Cornudas Mount**	90.66	54	*e*P		P	11 29 50.6 +0.4
	5.8nm,0.9s						
LAZ	**Ladron**	90.99	51	*e*P		P	11 29 53.0 +1.1
E07A	**Sunnyside**	91.18	35	*e*P		P	11 29 53.1 +0.9
	21nm,0.9s						
MFID	**Camas Ranch**	91.20	39	*e*P		P	11 29 52.9 +0.4
	9.3nm,1.3s						
HAWA	**Hanford**	91.23	35	*e*P		P	11 29 53.1 +0.7
	14nm,1.0s						
TMUT	**Trail Mountain**	91.29	45	*e*P		P	11 29 54.4 +1.1
	8.0nm,0.9s						
LNIG	**Linares**	91.31	62	*e*P		P	11 29 52.9 -0.5
	5.5nm,0.9s						
BMO	**Blue Mountains**	91.34	38	*e*P		P	11 29 53.3 +0.2
	8.6nm,1.5s						
SRU	**San Rafael Swe**	91.60	45	*e*P		P	11 29 54.8 +0.3
	8.2nm,0.9s						
MVCO	**Mesa Verde**	91.74	48	P		P	11 29 55.4 +0.1
	baz=234						
MVCO	**Mesa Verde**	91.74	48	*e*P		P	11 29 55.6 +0.2
	20nm,1.8s						
ANMO	**Albuquerque**	91.77	50	P		P	11 29 55.7 +0.3
	baz=235						
ANMO	**Albuquerque**	91.77	50	*e*P		P	11 29 55.8 +0.3
	4.9nm,0.8s						
D08A	**Wollman Farm,**	91.99	35	*e*P		P	11 29 56.7 +0.7
	20nm,0.9s						
SLVN	**Son La**	92.00	293	*e*P		P	11 29 57.3 +0.6
	6.5nm,1.0s						
HLID	**Hailey**	92.08	40	P		P	11 29 56.8 +0.2
	baz=230						
HLID	**Hailey**	92.08	40	*e*P		P	11 29 57.4 +0.7
	6.6nm,1.0s						
PV09	**Paradox Valley**	92.10	46	*e*P		P	11 29 57.7 +0.7
PV01	**Paradox Valley**	92.24	47	*e*P		P	11 29 57.8 +0.1
ENH	**Enshi**	92.41	304	*e*P		P	11 29 58.3 -0.1
	23nm,0.9s						
GYA	**Guiyang**	92.48	299	*e*P		P	11 29 47.0 -12
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
933A	**Laredo**	92.88	60	P		P	11 30 01.6 +1.1
	baz=238						
LVC	**Limon Verde**	92.98	118	*e*P		P	11 30 03.2 +1.5
	10nm,0.8s						
034A	**Hebbronville**	93.05	61	P		P	11 30 02.1 +0.8
	baz=238						
S22A	**4UR Ranch, Cre**	93.13	48	P		P	11 30 02.0 +0.2
	baz=235						
S22A	**4UR Ranch, Cre**	93.13	48	*e*P		P	11 30 02.5 +0.7
	3.9nm,0.9s						
O20A	**White River Ci**	93.62	45	P		P	11 30 03.5 -0.4
	baz=234						
O20A	**White River Ci**	93.62	45	*e*P		P	11 30 03.9 0.0
	5.4nm,0.9s						
MSTX	**Muleshoe**	93.74	53	P		P	11 30 04.3 -0.1
	baz=237						
MSTX	**Muleshoe**	93.74	53	*e*P		P	11 30 04.4 -0.1
	7.5nm,0.8s						
MCMT	**McKenzie Canyo**	93.75	40	*e*P		P	11 30 04.8 +0.4
PB11	**IPOC Station P**	93.95	115	*e*P		P	11 30 06.8 +0.9
	15nm,0.8s						
SDCO	**Great Sand Dun**	93.99	49	P		P	11 30 05.5 -0.3
	baz=236						
SDCO	**Great Sand Dun**	93.99	49	*e*P		P	11 30 06.0 +0.2
	2.4nm,1.0s						
TPAW	**Teton Pass**	94.00	41	*e*P		P	11 30 06.2 +0.5
	125nm,0.3s						
FXWY	**Fox Creek**	94.05	41	*e*P		P	11 30 06.9 +1.0
	23nm,0.3s						
SNOW	**Snow King Moun**	94.10	42	*e*P		P	11 30 06.6 +0.5
	16nm,0.7s						
DLMT	**Dillon**	94.22	39	*e*P		P	11 30 07.0 +0.5
	37nm,1.9s						
IMW	**Indian Meadow**	94.25	41	*e*P		P	11 30 06.9 0.0
	17nm,0.3s						
LOHW	**Long Hollow**	94.28	42	*e*P		P	11 30 07.1 +0.3
	5.6nm,0.4s						
T25A	**Trinidad**	94.37	50	P		P	11 30 07.4 -0.1
	baz=236						
BW06	**Boulder Array**	94.38	43	P		P	11 30 07.3 -0.1
	baz=233						
PD31	**Pinedale Array**	94.38	43	*e*P		P	11 30 07.3 0.0
PDAR	**Pinedale Array**	94.38	43	P		P	11 30 06.5 -0.8
	1.7nm,0.9s,baz=225,slow=4.0,SNR=9.6						
PDAR				LR		LR	12 08 40.6
	comp=Z,243nm,18.1s,baz=293,slow=33						
PDAR	**Pinedale Array**	94.38	43	*e*P		P	11 30 06.9 -0.5
QLMT	**Earthquake Lak**	94.55	40	*e*P		P	11 30 09.0 +0.9
CM01	**Chiang Mai Arr**	94.57	288	*e*P		P	11 30 10.2 +1.7
CMAR	**Chiang Mai Arr**	94.61	288	P		P	11 30 10.2 +1.5
	1.1nm,0.7s,baz=135,slow=4.0,SNR=7.6						
YMR	**Madison River**	94.71	41	*e*P		P	11 30 09.9 +1.1
	6.7nm,0.9s						
YHH	**Holmes Hill**	94.85	40	*e*P		P	11 30 11.0 +1.5
	8.3nm,1.3s						
BOZ	**Bozeman (W)**	94.90	40	P		P	11 30 09.9 +0.3
	baz=232						
BOZ	**Bozeman (W)**	94.90	40	*e*P		P	11 30 10.2 +0.6
	7.1nm,0.8s						
ISCO	**Idaho Springs**	95.08	47	P		P	11 30 10.4 -0.3
	baz=236						
RLMT	**Red Lodge**	95.95	41	P		P	11 30 14.5 +0.1
	baz=234						
K22A	**Casper**	96.13	44	P		P	11 30 15.0 -0.2
	baz=235						
DOT	**Dot Lake**	96.23	14	*e*P		P	11 30 15.1 0.0
	47nm,1.8s						
HDA	**Harding Lake**	96.34	12	*e*P		P	11 30 15.4 -0.1
	6.4nm,0.8s						
CCB	**Clear Creek Bu**	96.40	12	*e*P		P	11 30 15.3 -0.4
	4.1nm,0.8s						
COLA	**College**	96.60	12	*e*P		P	11 30 15.8 -0.9
	4.5nm,0.9s						
IL1	**Eielson Array**	96.69	12	*e*P		P	11 30 16.1 -0.9
ILAR	**Eielson Array**	96.69	12	P		P	11 30 15.7 -1.4
	1.9nm,0.8s,baz=219,slow=5.7,SNR=23						
ILB	**Eielson Array**	96.69	12	*e*P		P	11 30 16.5 -0.5
HHC	**Hu-ho-hao-te**	96.75	313	*e*P		P	11 30 04.4 -14
HHC				PP		PP	11 34 09.6 -4.0
HHC				S		S	11 41 32.3 -5.6
HHC				SS		SS	11 48 18.4 +4.4
HHC				LR		LR	
	comp=N,180nm,11.1s						
HHC				LR		LR	
	comp=E,100nm,13.6s						
HHC				LR		LR	
	comp=Z,110nm,14.8s						
LPAZ	**La Paz**	97.06	113	P		Pdif	11 30 21.9 +1.0
	3.1nm,0.8s,baz=202,slow=3.0,SNR=14						
LPAZ				LR		LR	12 08 14.5
	comp=Z,137nm,18.3s,baz=248,slow=32						
LPAZ	**La Paz**	97.06	113	*e*P		Pdif	11 30 21.8 +1.0
	3.6nm,0.8s						
RSSD	**Black Hills**	98.45	44	P		P	11 30 25.5 -0.4
	baz=237						
RSSD	**Black Hills**	98.45	44	*e*P		P	11 30 25.7 -0.1
	6.6nm,0.9s						
LAO	**LASA Array**	98.59	41	P		Pdif	11 30 26.4 +0.2
	baz=236						
CPUP	**Villa Florida**	99.29	127	LR		LR	12 11 22.4
	comp=Z,115nm,18.3s,baz=228,slow=33						
X37A	**Clayton**	99.30	56	P		Pdif	11 30 30.5 +1.0
	baz=241						
WMQ	**Urumqi**	113.91	308	*e*PKP		PKiKP	11 35 09.0 -17
WMQ				LR		LR	
	comp=N,150nm,24.1s						
WMQ				LR		LR	
	comp=E,88nm,15.7s						
WMQ				LR		LR	
	comp=Z,120nm,22.9s						
MK01	**Makanchi Array**	118.38	310	*e*PKPdf		PKPdf	11 35 34.1 -0.5
MK32	**Makanchi Array**	118.40	310	*e*PKPdf		PKPdf	11 35 34.1 -0.6
MKAR	**Makanchi Array**	118.40	310	PKP		PKPdf	11 35 34.1 -0.6
	1.6nm,0.7s,baz=69,slow=3.4,SNR=11						
MKAR	**Makanchi Array**	118.40	310	*e*PKPdf		PKPdf	11 35 34.5 -0.2
MAKZ	**Makanchi**	118.61	310	*e*PKPdf		PKPdf	11 35 34.2 -0.9
KSH	**Kashi**	121.14	301	*e*PKP		PKPdf	11 35 22.0 -18
KSH				PP		PP	11 37 07.8 -3.2
KSH				PKS		PKSdf	11 38 57.1 -20
KSH				SKS		SKSdf	11 42 33.3 -17
KSH				SKKS		SKKSac	11 44 00.6 -7.7
KSH				SS		SS	11 53 51.7 +8.9
KSH				LR		LR	
	comp=N,94nm,6.6s						
KSH				LR		LR	
	comp=E,120nm,5.0s						
KSH				LR		LR	
	comp=Z,160nm,6.1s						
KURK	**Kurchatov**	121.56	314	*e*PKPdf		PKPdf	11 35 39.9 -0.6
KURBB	**Kurchatov Arra**	121.60	314	PKP		PKPdf	11 35 39.9 -0.7
	2.5nm,0.7s,baz=102,slow=2.0,SNR=23						
KKAR	**Karatay Array**	125.88	304	*e*PKPdf		PKPdf	11 35 49.7 +0.5
BVAR	**Borovoye Array**	126.85	316	PKP		PKPdf	11 35 50.1 -0.6
	2.8nm,0.7s,baz=112,slow=1.6,SNR=12						
BRVK	**Borovoye**	126.91	316	*e*PKPdf		PKPdf	11 35 50.9 +0.1
AKTO	**Aktyubinsk**	134.64	313	PKP		PKPdf	11 36 05.6 +0.1
	2.2nm,0.7s,baz=102,slow=3.1,SNR=8.1						
ARA0	**ARCESS Array S**	138.01	349	*e*PKPdf		PKPdf	11 36 10.6 -0.7
ARCES	**ARCESS Array B**	138.01	349	PKP		PKPdf	11 36 10.6 -0.7
	2.9nm,0.9s,baz=37,slow=0.5,SNR=9.6						
FIA0	**FINESS Array S**	144.80	342	*e*PKPdf		PKPab	11 36 22.1 -0.5
FINES	**FINESS Array B**	144.80	342	PKP		PKPab	11 36 22.1 -0.5
	4.1nm,0.5s,baz=54,slow=3.2,SNR=29						
GNI	**Garni**	145.04	299	PKP		PKPdf	11 36 25.8 +0.9
	11nm,0.5s,baz=68,slow=3.1,SNR=5.9						
KBZ	**Khabaz**	145.89	305	PKPbc		PKPab	11 36 27.4 +0.2
	3.9nm,0.8s,baz=147,slow=8.5,SNR=6.1						
NC303	**NORSAR Array S**	147.86	353	*e*PKPbc		PKPbc	11 36 31.6 -0.1
NB2	**NORSAR Subarra**	148.05	353	PKP		PKPbc	11 36 31.7 -0.7
	comp=Z,8.5nm,1.1s,baz=17,slow=2.6						
NB200	**NORSAR Array S**	148.05	353	*e*PKPbc		PKPbc	11 36 32.1 -0.2
NOA	**NORSAR Array B**	148.05	353	PKPbc		PKPbc	11 36 32.1 -0.2
	comp=Z,6.4nm,0.8s,baz=13,slow=4.5,SNR=9.7						
HFS	**Hagfors**	148.63	351	PKPbc		PKPbc	11 36 33.2 -0.7
	comp=Z,5.6nm,0.7s,baz=22,slow=1.6,SNR=6.1						
AKASG	**Malin Array Be**	151.49	325	PKPbc		PKPbc	11 36 40.8 -0.2
	comp=Z,9.2nm,0.6s,baz=45,slow=2.8,SNR=29						
AKBB	**Malin Array Si**	151.49	325	*e*PKPbc		PKPbc	11 36 40.8 -0.2
AKBB				*e*PKPab		PKPab	11 36 49.7 +0.2
KIEV	**Kiev**	151.50	325	*e*PKPbc		PKPbc	11 36 40.8 -0.3
KIEV				*e*PKPab		PKPab	11 36 49.4 -0.1
AK11	**Malin Array Si**	151.53	325	*e*PKPbc		PKPbc	11 36 40.8 -0.3
AK11				*e*PKPab		PKPab	11 36 49.3 -0.3
ASF	**Jabal al Asfar**	151.54	284	PKPbc		PKPbc	11 36 43.1 +1.2
	comp=Z,3.1nm,0.6s,baz=96,slow=4.0,SNR=5.5						
MMAI	**Mount Meron Ar**	152.83	286	PKPbc		PKPbc	11 36 45.4 +0.7
	comp=Z,2.4nm,0.4s,baz=78,slow=3.4,SNR=2.2						
EIL	**Elat**	152.97	278	PKPbc		PKPbc	11 36 45.9 +0.8
	comp=Z,4.9nm,0.8s,baz=34,slow=3.6,SNR=3.3						
BR101	**Keskin Array S**	153.53	301	*e*PKPbc		PKPbc	11 36 46.2 0.0
BRTR	**Keskin Array B**	153.53	301	PKPbc		PKPbc	11 36 46.2 0.0
	comp=Z,0.8nm,0.4s,baz=134,slow=3.6,SNR=4.5						
BR231	**Keskin MP Arra**	154.14	301	*e*PKPbc		PKPbc	11 36 46.8 -0.6
TOA0	**Torodi Ar. Sit**	163.63	173	*e*PKPdf		PKPdf	11 36 50.7 -0.3
TOA0				*e*PKPab		PKPab	11 37 42.8 +0.3
TOA0				*e*PKPab		PKPab	11 37 43.2 +0.7
TORD	**Torodi Ar. Bea**	163.63	173	PKP		PKPdf	11 36 51.0 0.0
	comp=Z,1.1nm,0.9s,baz=23,slow=0.2,SNR=4.2						
TORD				PKPab		PKPab	11 37 43.4 +0.9
	comp=Z,5.5nm,0.8s,baz=185,slow=4.1,SNR=17						
TOA1	**Torodi Ar. Sit**	163.63	173	*e*PKPdf		PKPdf	11 36 51.0 -0.1
TOA1				*e*PKPab		PKPab	11 37 43.4 +0.8
ESDC	**Sonseca Array**	167.98	30	PKPab		PKPab	11 38 01.3 0.0
	comp=Z,0.4nm,0.4s,baz=313,slow=4.4,SNR=5.1						

CSEM ***11*** *11:21:52.6, 37°.22N×38°.98E, h5km, MD2.9*
ISK ***11*** *11:21:52.6, 37°.22N×38°.98E, h5km, MD2.9*
ISCJB ***11*** *11:21:53.6±1.4, 37°.22N±0°.04×39°.01E±0°.04, h1km±10km,*
Error ellipse: s-maj=7.5km s-min=5.6km az=22.6
NSSC ***11*** *11:21:54.7±1.6, 37°.14N×39°.02E, h1km±9km, ML1.9*
ISC 11 11:21:53.4±1.8, 37°.24N±0°.04×39°.04E±0°.04, h0km±15km,
n14, σ0s62/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	0.26	320	*e*PG	Pg	11 21 58.7	+0.2
URFA	**Urfa**	0.26	320	*e*Pg	Pg	11 21 58.7	+0.2
MAZI	**Mazidag**	1.15	79	*e*PN	Pn	11 22 16.6	-0.2
MAZI				*e*SN	Sn	11 22 34.3	+1.1
MAZI	**Mazidag**	1.15	79	*e*Pn	Pn	11 22 16.6	-0.2
MAZI				*e*Sn	Sn	11 22 34.3	+1.1
SVRC	**Sivrice-ELAZID**	1.16	11	*e*PN	Pn	11 22 16.5	-0.5
SVRC				*e*SN	Sn	11 22 33.9	+0.3
SVRC	**Sivrice-ELAZID**	1.16	11	*e*Pn	Pn	11 22 16.5	-0.5
SVRC				*e*Sn	Sn	11 22 33.9	+0.3
SFNV	**Sufian**	1.19	133	*e*P	Pb	11 22 16.9	+0.1
SFNV				*e*S	Sb	11 22 33.1	+0.3
SFNV				AML	AML	11 22 39.8	
	comp=Z,48nm,0.9s						
KBSD	**Kabsdagh**	1.23	101	*e*P	Pn	11 22 17.9	+0.1
KBSD				*e*S	Sn	11 22 34.8	-0.3
KBSD				AML	AML	11 22 46.6	
	comp=Z,46nm,0.5s						
GAZ	**Gaziantep**	1.46	268	*e*PN	Pn	11 22 20.5	-0.5
GAZ	**Gaziantep**	1.46	268	*e*Pn	Pn	11 22 20.5	-0.5
PTK	**Pertek**	1.67	10	*e*PN	Pb	11 22 24.8	-0.4
PTK	**Pertek**	1.67	10	*e*Pn	Pb	11 22 24.8	-0.4
MZRK	**Al-Mazaregh**	1.92	137	*e*P	Pn	11 22 26.7	-0.6
MZRK				*e*S	Sn	11 22 50.9	-1.2
MZRK				AML	AML	11 22 53.9	
	comp=Z,33nm,0.3s						
DRWC	**Darouich**	2.00	253	*e*P	Pn	11 22 29.3	+0.9
DRWC				*e*S	Sn	11 22 54.4	+0.2
DRWC				AML	AML	11 23 08.1	
	comp=E,9.1nm,0.3s						
DRWC				AML	AML	11 23 09.3	
	comp=N,14nm,0.8s						

IDC ***11*** *11:22:39.3±0.5, 58°.74S×25°.36W, h0km, mb4.5/10,*
mb1 4.6/11, mb1mx4.1/30, mbtmp4.5/11, ML4.6/1, MS3.8/3,
Ms1 3.8/3, ms1mx3.3/22, Error ellipse: s-maj=23.3km
s-min=18.6km az=62.0
ISCJB ***11*** *11:22:40.6±0.5, 58°.77S±0°.07×25°.1W±0°.2, h18km,*
mb4.5/13, MS4.3/1, Error ellipse: s-maj=13.3km
s-min=7.2km az=147.7
NEIC ***11*** *11:22:40.9±0.3, 58°.72S×25°.11W, h10km, mb4.5/9, Error*
ellipse: s-maj=12.5km s-min=9.6km az=59.0
ISC 11 11:22:42.2±0.5, 58°.75S±0°.08×25°.20W±0°.09, h18km, n60,
σ1s10/57, mb4.6/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	7.68	301	*e*Pn	Pn	11 24 34.7	+1.7
HOPE				*e*Sn	Sn	11 25 57.1	-2.3
VNA1	**Neumayer--Stat**	13.88	156	P	Pn	11 25 58.4	+0.7
VNA3	**Neumayer Olymp**	14.08	159	P	Pn	11 26 00.4	-0.1
VNA2	**Neumayer--Watz**	14.28	156	P	Pn	11 26 02.7	-0.5
	baz=319,slow=15						
SNAA	**Sanae**	15.83	154	P	Pn	11 26 23.3	-0.6
SNAA	**Sanae**	15.83	154	Pn	Pn	11 26 23.6	-0.2
	2.5nm,0.3s,baz=317,slow=15,SNR=98						
SNAA				LR	LR	11 31 05.9	
	comp=Z,159nm,19.9s,baz=342,slow=32						
SNAA	**Sanae**	15.83	154	*e*Pn	Pn	11 26 24.1	+0.2
	12nm,0.5s						
SNAA				*e*Sn	Sn	11 29 15.8	-2.9
PMSA	**Palmer Station**	19.09	235	P	Pn	11 27 05.2	+0.9
	0.4nm,0.3s,baz=94,slow=11,SNR=4.2						
PMSA				LR	LR	11 32 52.8	
	comp=Z,199nm,19.3s,baz=38,slow=32						
PMSA	**Palmer Station**	19.09	235	*e*P	Pn	11 27 05.2	+0.9
	7.8nm,0.6s						
USHA	**Ushuaia**	23.68	261	P	P	11 27 51.5	-0.9
	38nm,0.6s,baz=92,slow=9.3,SNR=6.6						
USHA				LR	LR	11 34 43.9	
	comp=Z,1μm,21.4s,baz=84,slow=31						
QSPA	**South Pole Qui**	31.49	180	*e*P	P	11 29 03.6	+1.0
PLCA	**Paso Flores**	33.58	282	P	P	11 29 20.5	-0.6
	3.1nm,0.7s,baz=156,slow=7.4,SNR=4.6						
PLCA	**Paso Flores**	33.58	282	*e*P	P	11 29 22.8	+1.7
	26nm,1.6s						
MAW	**Mawson**	37.35	141	P	P	11 29 53.2	+0.2
	2.3nm,0.7s,baz=236,slow=11,SNR=5.9						
MAW	**Mawson**	37.35	141	*e*P	P	11 29 53.1	+0.1
	3.2nm,1.7s						
SBA	**Scott Base**	43.45	184	*e*P	P	11 30 45.6	+2.3
	4.2nm,0.8s						
VNDA	**Vanda**	43.91	182	P	P	11 30 48.6	+1.5
	5.3nm,0.6s,baz=187

SONM Songino Array 149.74 90 PKPbc **PKPbc 11 42 29.7 -0.3**
2.4nm,0.7s,baz=221,slow=4.7,SNR=10
KS15 Wonju Array Si 152.45 129 *e*PKPdf **PKPdf 11 42 31.2 +1.7**
KS15 *e*PKPbc **PKPbc 11 42 36.9 +0.5**
KSAR Wonju Array Be 152.45 129 PKPbc **PKPbc 11 42 35.8 -0.6**
KSRS Korea Array 152.47 129 PKPbc **PKPbc 11 42 35.8 -0.7**
0.6nm,0.5s,baz=201,slow=2.2,SNR=3.3
ILAR Eielson Array 152.67 307 PKPbc **PKPbc 11 42 35.8 -0.3**
9.3nm,0.8s,baz=138,slow=5.5,SNR=107
ILB Eielson Array 152.67 307 *e*PKPbc **PKPbc 11 42 35.7 -0.4**

IDC 11 11:25:40.7±3.2, 28°.16S×176°.59W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.8/3, Error ellipse: s-maj=92.0km s-min=30.0km az=129.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**227**	Pn	Pn	11 26 10.2	0.0
	156nm,0.3s,baz=72,slow=16,SNR=9.0						
RAO				Sn	Sg	11 26 32.0	0.0
	242nm,0.3s,baz=132,slow=23,SNR=6.1						
STKA	**Stephens Creek**	**36.24**	**254**	P	P	11 32 45.0	-0.6
	0.8nm,0.5s,baz=109,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**44.52**	**264**	P	P	11 33 54.5	+0.1
	0.5nm,0.6s,baz=101,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**45.31**	**269**	P	P	11 34 00.7	+0.1
	0.9nm,0.6s,baz=107,slow=7.9,SNR=5.7						
FINES	**FINESS Array B**	**143.44**	**342**	PKP	PKPbc	11 45 14.1	+0.4
	2.8nm,0.9s,baz=66,slow=3.4,SNR=3.3						
AKASG	**Malin Array Be**	**150.20**	**326**	PKPbc	PKPbc	11 45 33.4	+0.1
	0.2nm,0.3s,baz=42,slow=3.1,SNR=2.9						

*ISCJB **11** 11:31:04.1±0.6, 37°.3S±0°.1×78°.2E±0°.1, h9km, mb4.1/12, MS3.9/4, Error ellipse: s-maj=20.3km s-min=15.4km az=27.3*
*NEIC **11** 11:31:05.9±0.6, 37°.24S×78°.17E, h10km, mb4.2/5, Error ellipse: s-maj=19.8km s-min=15.5km az=205.0*
*IDC **11** 11:31:05.4±1.6, 37°.04S×78°.19E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.8/54, mbtmp4.1/8, MS3.9/4, Ms1 3.9/4, ms1mx3.3/40, Error ellipse: s-maj=55.4km s-min=26.4km az=25.0*

ISC 11 11:31:05.8±0.9, 37°.3S±0°.2×78°.1E±0°.2, h9km, n27, σ1§41/19, mb4.2/12, MS4.0/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.11**	**96**	T	T	12 07 21.5	
	baz=254,slow=75,SNR=196						
H01W3	**Cape Leeuwin H**	**29.11**	**96**	T	T	12 07 28.3	
	baz=254,slow=75,SNR=263						
H01W1	**Cape Leeuwin H**	**29.12**	**96**	T	T	12 07 22.8	
	baz=254,slow=75,SNR=211						
H08S2	**Diego Garcia H**	**29.94**	**349**	T	T	12 08 28.5	
	baz=171,slow=76,SNR=333						
H08S1	**Diego Carcia H**	**29.94**	**349**	T	T	12 08 28.7	
	baz=171,slow=76,SNR=348						
H08S3	**Diego Garcia H**	**29.95**	**349**	T	T	12 08 29.9	
	baz=171,slow=76,SNR=407						
MAW	**Mawson**	**31.57**	**191**	LR	LR	11 47 42.8	
	comp=Z,264nm,19.1s,baz=60,slow=31						
MAW	**Mawson**	**31.57**	**191**	*e*P	**P**	**11 37 27.4**	**-0.8**
	1.4nm,1.4s						
BOSA	**Boshof**	**44.69**	**265**	LR	LR	11 53 34.8	
	comp=Z,97nm,21.9s,baz=76,slow=30						
ASAR	**Alice Springs**	**49.32**	**91**	P	**P**	**11 39 56.1**	**+0.6**
	4.0nm,1.1s,baz=236,slow=6.3,SNR=10.0						
ASAR				LR	LR	11 57 56.9	
	comp=Z,167nm,18.9s,baz=202,slow=33						
AS31	**Alice Springs**	**49.33**	**91**	*e*P	**P**	**11 39 54.1**	**-1.4**
	1.5nm,1.1s						
AS01	**Alice Springs**	**49.36**	**91**	*e*P	**P**	**11 39 54.5**	**-1.3**
WRA	**Warramunga Arr**	**51.57**	**87**	P	**P**	**11 40 12.8**	**+0.2**
	4.1nm,0.8s,baz=238,slow=7.0,SNR=12						
WR1	**Warramunga Arr**	**51.57**	**87**	*e*P	**P**	**11 40 12.8**	**+0.2**
	12nm,1.5s						
WB2	**Warramunga Arr**	**51.58**	**87**	*e*P	**P**	**11 40 16.1**	**+3.5**
STKA	**Stephens Creek**	**51.70**	**104**	P	**P**	**11 40 13.9**	**+0.6**
	2.2nm,0.9s,baz=274,slow=8.3,SNR=3.8						
STKA				LR	LR	11 58 14.2	
	comp=Z,153nm,20.1s,baz=211,slow=32						
STKA	**Stephens Creek**	**51.70**	**104**	*e*P	**P**	**11 40 14.2**	**+0.9**
	3.2nm,1.5s						
CMAR	**Chiang Mai Arr**	**58.82**	**23**	P	**P**	**11 41 05.1**	**+0.5**
	0.8nm,0.3s,baz=198,slow=5.7,SNR=5.5						
MK01	**Makanchi Array**	**83.76**	**3**	*e*P	**P**	**11 43 34.7**	**-0.1**
MK32	**Makanchi Array**	**83.78**	**3**	*e*P	**P**	**11 43 34.0**	**-0.9**
MKAR	**Makanchi Array**	**83.78**	**3**	P	**P**	**11 43 34.0**	**-0.9**
	2.1nm,0.9s,baz=168,slow=6.2,SNR=9.7						
TORD	**Torodi Ar. Bea**	**87.35**	**289**	P	**P**	**11 43 55.0**	**+1.6**
	0.2nm,0.6s,baz=110,slow=6.0,SNR=2.2						
TOA1	**Torodi Ar. Sit**	**87.35**	**289**	*e*P	**P**	**11 43 55.0**	**+1.6**
KURBB	**Kurchatov Arra**	**87.53**	**0**	P	**P**	**11 43 53.3**	**-0.1**
	0.9nm,0.9s,baz=194,slow=4.8,SNR=5.1						
KURK	**Kurchatov**	**87.62**	**0**	*e*P	**P**	**11 43 53.3**	**-0.6**
SONA0	**Songino Array**	**88.42**	**19**	*e*P	**P**	**11 43 56.2**	**-1.8**
	8.7nm,1.7s						
SONM	**Songino Array**	**88.42**	**19**	P	**P**	**11 43 56.2**	**-1.8**
	0.6nm,0.6s,baz=201,slow=4.9,SNR=2.3						

*IDC **11** 11:36:41.7±0.7, 11°.12S×73°.80W, h0km, mb4.3/11, mb1 4.5/18, mb1mx4.2/42, mbtmp4.3/18, ML3.9/7, MS3.6/9, Ms1 3.6/9, ms1mx3.4/32, Error ellipse: s-maj=19.9km s-min=12.7km az=38.0*
*ISCJB **11** 11:36:44.5±0.2, 11°.13S±0°.03×73°.79W±0°.04, h35km, mb4.7/59, MS4.2/3, Error ellipse: s-maj=5.8km s-min=3.5km az=140.9*
*NEIC **11** 11:36:47.5±0.5, 11°.15S×73°.79W, h37km±5km, mb4.7/54, ML4.9(ARE), Error ellipse: s-maj=6.3km s-min=3.9km az=57.0*
NEIC Felt [III] at San Martin de Pangoa and [II] at Satipo.
*BJI **11** 11:36:50.1, 10°.80S×73°.90W, h39km, mB5.2/7, Ms5.1/5, Ms7 4.8/5*

ISC 11 11:36:47.4±0.4, 11°.14S±0°.05×73°.81W±0°.05, h35km, n321, σ1§19/324, mb4.7/59, MS4.0/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.08**	**254**	Pn	**Pn**	**11 37 32.6**	**-1.1**
	57nm,0.3s,baz=65,slow=8.9,SNR=264						
NNA				Sn	**Sn**	**11 38 12.6**	**+3.2**
	245nm,0.3s,baz=164,slow=22,SNR=8.3						
NNA				LR	LR	11 38 18.1	
	comp=Z,124nm,20.6s,baz=40,slow=31						
NNA	**Nana**	**3.08**	**254**	*e*Pn	**Pn**	**11 37 33.1**	**-0.5**
NNA				*e*Sn	**Sn**	**11 38 12.6**	**+3.2**
ATAH	**Atahualpa**	**6.03**	**311**	Pn	**Pn**	**11 38 14.4**	**0.0**
	6.3nm,0.3s,baz=103,slow=8.3,SNR=30						
ATAH				Sn	**Sn**	**11 39 24.2**	**+1.8**
	9.6nm,0.3s,baz=104,slow=17,SNR=3.6						
ATAH				LR	LR	11 40 41.5	
	comp=Z,271nm,19.1s,baz=141,slow=40						
LPAZ	**La Paz**	**7.53**	**133**	Pn	**Pn**	**11 38 33.8**	**-1.4**
	0.2nm,0.3s,baz=313,slow=8.1,SNR=4.6						
LPAZ				Lg	Lg	11 40 40.3	
	2.6nm,0.3s,baz=167,slow=14,SNR=2.5						
LPAZ				LR	LR	11 41 05.2	
	comp=Z,52nm,18.2s,baz=337,slow=35						
MNMC	**Minye Minye**	**8.93**	**153**	*e*Pn	**Pn**	**11 38 54.3**	**+0.2**
MNMC				*e*Sn	**Sn**	**11 40 33.2**	**-0.5**
PB11	**IPOC Station P**	**9.46**	**155**	*e*Sn	**Sn**	**11 40 47.1**	**+0.5**
SAML	**Samuel**	**10.69**	**79**	*e*Pn	**Pn**	**11 39 18.6**	**+0.4**
SAML				*e*Sn	**Sn**	**11 41 18.3**	**+1.6**
OTAV	**Otavalo**	**12.21**	**338**	*e*Pn	**Pn**	**11 39 40.6**	**+1.3**
LVC	**Limon Verde**	**12.33**	**158**	Pn	**Pn**	**11 39 40.8**	**0.0**
	6.7nm,0.3s,baz=312,slow=15,SNR=2.2						
LVC				LR	LR	11 44 37.3	
	comp=Z,2μm,18.7s,baz=321,slow=38						
CMBC	**Cumbal**	**12.65**	**341**	*e*P	**Pn**	**11 39 44.4**	**-0.9**
FLOC	**Florencia**	**12.77**	**352**	*e*P	**Pn**	**11 39 44.5**	**-2.1**
CRUC	**La Cruz**	**13.01**	**346**	*e*P	**Pn**	**11 39 50.0**	**-0.1**
SIV	**San Ignacio**	**13.29**	**113**	Pn	**Pn**	**11 39 53.0**	**-0.6**
	0.7nm,0.3s,baz=301,slow=13,SNR=6.0						
SIV				Sn	**Sn**	**11 42 23.9**	**+3.6**
	1.2nm,0.3s,baz=267,slow=19,SNR=3.3						
SIV				Lg	Lg	11 43 41.6	
	4.3nm,0.3s,baz=359,slow=21,SNR=5.5						
SIV				LR	LR	11 45 18.5	
	comp=Z,256nm,19.4s,baz=302,slow=39						
GUVC	**San Jose del G**	**13.65**	**5**	*e*P	**Pn**	**11 39 57.9**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
BETC	**Betania**	**13.83**	**353**	*e*P	**Pn**	**11 40 01.9**	**+0.8**
POPC	**Popayan, Colom**	**13.89**	**348**	*e*P	**Pn**	**11 40 02.2**	**+0.1**
PRAC	**Prado**	**14.80**	**356**	*e*P	**P**	**11 40 23.4**	**+3.7**
PRAC	**Prado**	**14.80**	**356**	*e*Pn	**Pn**	**11 40 14.0**	**-0.3**
VILC	**Villavicencio,**	**15.15**	**0**	*e*P	**Pn**	**11 40 17.1**	**-1.9**
CHIC	**Chingaza**	**15.67**	**0**	*e*P	**Pn**	**11 40 25.6**	**-0.4**
TOLC	**Tolima**	**15.70**	**354**	*e*P	**P**	**11 40 32.4**	**+2.4**
ROSC	**El Rosal**	**15.88**	**358**	Pn	**Pn**	**11 40 28.2**	**-0.6**
	1.4nm,0.3s,baz=221,slow=17,SNR=7.1						
ROSC				Lg	Lg	11 45 05.1	
	2.0nm,0.3s,baz=162,slow=20,SNR=4.1						
ROSC				LR	LR	11 48 07.3	
	comp=Z,89nm,18.9s,baz=234,slow=43						
ROSC	**El Rosal**	**15.88**	**358**	*e*Pn	**Pn**	**11 40 29.5**	**+0.7**
	26nm,0.6s						
GUYC	**Guyana, Colomb**	**16.33**	**354**	*e*P	**Pn**	**11 40 35.8**	**+1.2**
YOPC	**Yopal, Colombi**	**16.45**	**5**	*e*P	Pn	11 40 26.8	-8.9
NORC	**Norcasia**	**16.63**	**356**	*e*P	**Pn**	**11 40 38.3**	**+0.4**
RUSC	**La Rusia**	**16.94**	**2**	*e*P	**Pn**	**11 40 43.1**	**+0.9**
RUSC	**La Rusia**	**16.94**	**2**	*e*Pn	**Pn**	**11 40 42.5**	**+0.2**
	17nm,0.9s						
PTGA	**Pitinga**	**17.21**	**54**	P	**Pn**	**11 40 44.3**	**-0.9**
	2.0nm,0.3s,baz=230,slow=14,SNR=18						
PTGA				LR	LR	11 48 00.1	
	comp=Z,582nm,20.0s,baz=221,slow=40						
PTGA	**Pitinga**	**17.21**	**54**	*e*Pn	**Pn**	**11 40 44.2**	**-0.9**
	39nm,0.6s						
HELC	**Santa Helena**	**17.30**	**354**	*e*P	Pn	11 40 38.3	-8.3
HELC	**Santa Helena**	**17.30**	**354**	*e*Pn	**P**	**11 40 47.7**	**-0.1**
	72nm,1.3s						
SOLC	**Bahia Solano**	**17.62**	**348**	*e*P	**Pn**	**11 40 48.4**	**-1.8**
BRRC	**Barranca, Sant**	**18.13**	**0**	*e*P	**Pn**	**11 40 55.6**	**-1.0**
PAMC	**Pamplona, Colo**	**18.39**	**4**	*e*P	**Pn**	**11 41 01.2**	**+1.0**
ZARC	**Zaragoza, Cauc**	**18.54**	**357**	*e*P	**P**	**11 41 00.7**	**-0.5**
OCAC	**Ocana**	**19.26**	**1**	*e*P	**P**	**11 41 04.2**	**-5.0**
MOTC	**Monteria, Cord**	**19.88**	**355**	*e*P	**P**	**11 41 14.8**	**-1.0**
CAPC	**Capurgana**	**19.96**	**350**	*e*P	P	11 41 07.1	-10
SDV	**Santo Domingo**	**20.15**	**9**	P	**P**	**11 41 17.8**	**-1.1**
	8.7nm,0.6s,baz=250,slow=7.0,SNR=8.2						
SDV				LR	LR	11 50 00.5	
	comp=Z,522nm,18.6s,baz=216,slow=40						
SDV	**Santo Domingo**	**20.15**	**9**	*e*P	**P**	**11 41 18.5**	**-0.4**
	17nm,0.8s						
SJCC	**San Jacinto, C**	**20.95**	**356**	*e*P	**P**	**11 41 27.5**	**+0.1**
BCIP	**Isla Barro Col**	**21.05**	**343**	*e*P	**P**	**11 41 28.9**	**+0.5**
	42nm,0.8s						
CPUP	**Villa Florida**	**21.68**	**136**	P	**P**	**11 41 34.4**	**-0.9**
	1.7nm,0.6s,baz=298,slow=4.7,SNR=3.8						
CPUP	**Villa Florida**	**21.68**	**136**	*e*P	**P**	**11 41 35.2**	**0.0**
PCRV	**Puerto La Cruz**	**23.06**	**24**	P	**P**	**11 41 50.2**	**+0.2**
	3.4nm,0.6s,baz=216,slow=8.7,SNR=1.9						
PCRV				LR	LR	11 51 28.1	
	comp=Z,494nm,18.6s,baz=194,slow=38						
LNIG	**Linares**	**43.70**	**325**	*e*P	**P**	**11 44 49.1**	**-0.1**
	12nm,0.8s						
034A	**Hebbronville**	**45.00**	**328**	P	**P**	**11 45 00.2**	**+0.6**
	baz=144						
934A	**Benavides**	**45.35**	**329**	P	**P**	**11 45 03.2**	**+0.8**
	baz=145						
835A	**Beeville**	**45.57**	**330**	P	**P**	**11 45 04.8**	**+0.8**
	baz=146						
Z48A	**Northport**	**46.17**	**344**	P	**P**	**11 45 07.7**	**-1.0**
	baz=161						
636A	**Smothers Creek**	**46.19**	**332**	P	**P**	**11 45 09.1**	**+0.2**
	baz=148						
Y47A	**UCPARC, Winfie**	**46.74**	**344**	P	**P**	**11 45 12.1**	**-1.1**
	baz=161						
Y46A	**Houston**	**47.01**	**343**	P	**P**	**11 45 13.9**	**-1.3**
	baz=160						
633A	**Saathoff Ranch**	**47.20**	**329**	P	**P**	**11 45 16.9**	**0.0**
	baz=145						
138A	**Matatall Enter**	**48.06**	**336**	P	**P**	**11 45 24.3**	**+0.8**
	baz=152						
Z38A	**Mt. Pleasant**	**48.54**	**336**	P	**P**	**11 45 27.4**	**+0.2**
	baz=152						
CVRD	**Centerville Ro**	**49.09**	**356**	*e*P	**P**	**11 45 31.9**	**+0.6**
	23nm,0.8s						
Z36A	**Blue Ridge**	**49.15**	**335**	P	**P**	**11 45 31.5**	**-0.4**
	baz=150						
MIAR	**Mount Ida**	**49.16**	**338**	P	**P**	**11 45 31.3**	**-0.6**
	baz=154						
W41B	**Gary Mavity, V**	**49.26**	**340**	P	**P**	**11 45 31.8**	**-0.9**
	baz=156						
X39A	**Fountain Ranch**	**49.32**	**338**	P	**P**	**11 45 33.0**	**-0.2**
	baz=153						
X301	**Greenbrier Sit**	**49.37**	**340**	*e*P	**P**	**11 45 32.7**	**-0.8**
	8.3nm,0.9s						
Y37A	**Hugo**	**49.43**	**336**	P	**P**	**11 45 34.4**	**+0.4**
	baz=151,SNR=6.3						
LTX	**Lajitas**	**49.48**	**325**	*e*P	**P**	**11 45 34.2**	**-0.4**
TXAR	**Lajitas Array**	**49.48**	**325**	P	**P**	**11 45 34.2**	**-0.4**
	3.5nm,0.7s,baz=152,slow=8.9,SNR=57						
TX31	**Lajitas Ar. Si**	**49.49**	**325**	*e*P	**P**	**11 45 34.3**	**-0.3**
V42A	**Cord**	**49.56**	**341**	P	**P**	**11 45 34.3**	**-0.6**
	baz=157						
X38A	**Whitesboro**	**49.73**	**337**	P	**P**	**11 45 36.3**	**+0.1**
	baz=153						
V41A	**Mountainview**	**49.79**	**340**	P	**P**	**11 45 35.3**	**-1.4**
	baz=156						
X37A	**Clayton**	**49.87**	**337**	P	**P**	**11 45 36.9**	**-0.4**
	baz=152						
Y35A	**Marietta**	**49.95**	**335**	P	**P**	**11 45 38.8**	**+0.8**
	baz=150						
W38A	**Poteau**	**49.97**	**338**	P	**P**	**11 45 38.5**	**+0.4**
	baz=153						
U42A	**Revenden**	**50.01**	**342**	P	**P**	**11 45 37.3**	**-1.1**
	baz=158						
V40A	**Witts Springs**	**50.03**	**340**	P	**P**	**11 45 37.6**	**-0.9**
	baz=155						
ABTX	**Abilene, Hawle**	**50.03**	**331**	P	**P**	**11 45 38.1**	**-0.5**
	baz=146,SNR=6.7						
ABTX	**Abilene, Hawle**	**50.03**	**331**	*e*P	**P**	**11 45 38.6**	**0.0**
	14nm,0.7s						
U41A	**Viola**	**50.22**	**341**	P	**P**	**11 45 38.6**	**-1.3**
	baz=157						
V39A	**Pettigrew**	**50.34**	**339**	P	**P**	**11 45 39.6**	**-1.3**
	baz=154						
W37B	**Quinton**	**50.38**	**337**	P	**P**	**11 45 41.0**	**-0.2**
	baz=152						
S45A	**Carrier Mills**	**50.50**	**345**	P	**P**	**11 45 40.5**	**-1.5**
	baz=161						
U40A	**Yellville**	**50.54**	**340**	P	**P**	**11 45 41.2**	**-1.2**
	baz=156						
V38A	**Canehill**	**50.64**	**338**	P	**P**	**11 45 42.3**	**-0.8**
	baz=154						
W36A	**Wetumka**	**50.69**	**336**	P	**P**	**11 45 42.3**	**-1.2**
	baz=151						
U39A	**Green Forest**	**50.77**	**339**	P	**P**	**11 45 42.6**	**-1.6**
	baz=155						
T41A	**Mountain View**	**50.81**	**341**	P	**P**	**11 45 42.8**	**-1.7**
	baz=157						
V37A	**Hulbert**	**50.92**	**338**	P	**P**	**11 45 44.0**	**-1.3**
	baz=153						
MVL	**Millersville**	**50.93**	**357**	*e*P	**P**	**11 45 45.2**	**0.0**
	29nm,1.0s						
U38A	**Gravette**	**51.14**	**339**	P	**P**	**11 45 45.3**	**-1.6**
	baz=154						
V36A	**Jenks**	**51.14**	**337**	P	**P**	**11 45 46.4**	**-0.5**
	baz=152,SNR=5.2						
T40A	**Mansfield**	**51.15**	**341**	P	**P**	**11 45 45.8**	**-1.2**
	baz=156						
S42A	**Caledonia**	**51.19**	**343**	P	**P**	**11 45 44.9**	**-2.4**
	baz=158						
TUL1	**Leonard**	**51.19**	**337**	P	**P**	**11 45 46.7**	**-0.6**
	baz=152						
S41A	**Jillco Farms,**	**51.31**	**342**	P	**P**	**11 45 46.9**	**-1.3**
	baz=157						
O56A	**Blue Knob Stat**	**51.34**	**355**	P	**P**	**11 45 47.3**	**-1.0**
	baz=174						
U37A	**Salina**	**51.38**	**338**	P	**P**	**11 45 48.0**	**-0.7**
	baz=153						
R43A	**Red Bud**	**51.42**	**344**	P	**P**	**11 45 47.5**	**-1.4**
	baz=160						
S40A	**Lebanon**	**51.55**	**341**	P	**P**	**11 45 48.7**	**-1.3**
	baz=156						
T38A	**Diamond**	**51.64**	**339**	P	**P**	**11 45 49.6**	**-1.1**
	baz=154						
R42A	**Luebbering**	**51.67**	**343**	P	**P**	**11 45 49.4**	**-1.4**
	baz=159						
Q44A	**Meyer Farm, Va**	**51.77**	**345**	P	**P**	**11 45 50.1**	**-1.4**
	baz=161						
N59A	**State Game Lan**	**51.83**	**358**	P	**P**	**11 45 52.0**	**0.0**
	baz=178						
R41A	**Rosebud**	**51.85**	**342**	P	**P**	**11 45 50.3**	**-1.9**
	baz=158						
S39A	**Bolivar**	**51.91**	**340**	P	**P**	**11 45 51.5**	**-1.1**
	baz=156						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
T37A	**Cheneyville 18**	**51.94**	**339**	P	**P**	**11 45 51.9**	**-1.0**
	baz=153,SNR=6.9						
U35A	**Pawnee**	**51.96**	**336**	P	**P**	**11 45 52.1**	**-0.9**
	baz=151						
Q43A	**New Douglas**	**51.98**	**344**	P	**P**	**11 45 52.1**	**-1.0**
	baz=160						
R40A	**Maddies Statio**	**52.12**	**342**	P	**P**	**11 45 52.7**	**-1.5**
	baz=157						
N54A	**Moraine State**	**52.15**	**354**	P	**P**	**11 45 54.0**	**-0.4**
	baz=172						
Q42A	**Golden Eagle**	**52.18**	**343**	P	**P**	**11 45 53.1**	**-1.5**
	baz=159						
P44A	**Sand Creek, Wi**	**52.20**	**346**	P	**P**	**11 45 53.2**	**-1.5**
	baz=162,SNR=5.3						
MNTX	**Cornudas Mount**	**52.24**	**326**	P	**P**	**11 45 54.3**	**-0.9**
	baz=140						
MNTX	**Cornudas Mount**	**52.24**	**326**	*e*P	**P**	**11 45 54.0**	**-1.3**
	7.4nm,1.4s						
T36A	**Boggs Farm, Ca**	**52.24**	**338**	P	**P**	**11 45 54.6**	**-0.5**
	baz=152						
T35A	**Sooner Cattle**	**52.35**	**337**	P	**P**	**11 45 55.4**	**-0.6**
	baz=152						
R39A	**Chumby, Stover**	**52.38**	**341**	P	**P**	**11 45 54.0**	**-2.1**
	baz=156						
Q41A	**Truxton**	**52.42**	**343**	P	**P**	**11 45 54.5**	**-1.9**
	baz=158						
S37A	**Fort Scott**	**52.48**	**339**	P	**P**	**11 45 55.8**	**-1.1**
	baz=154						
R38A	**Fenwick Farm,**	**52.55**	**340**	P	**P**	**11 45 56.1**	**-1.2**
	baz=155						
P43A	**Skaggs, Pawnee**	**52.59**	**345**	P	**P**	**11 45 56.6**	**-1.0**
	baz=160						
MSTX	**Muleshoe**	**52.64**	**330**	P	**P**	**11 45 57.1**	**-1.2**
	baz=143						
M54A	**Oil Creek Stat**	**52.66**	**354**	P	**P**	**11 45 57.9**	**-0.3**
	baz=173						
Q40A	**Laux Farm, Aux**	**52.70**	**342**	P	**P**	**11 45 57.5**	**-1.0**
	baz=157						
T34A	**McClaskey Farm**	**52.71**	**336**	P	**P**	**11 45 57.7**	**-0.9**
	baz=151						
SFIN	**Lafayette**	**52.72**	**347**	P	**P**	**11 45 56.6**	**-2.0**
	baz=164						
S36A	**Lake Cedric, C**	**52.72**	**338**	P	**P**	**11 45 57.5**	**-1.1**
	baz=153,SNR=6.7						
P42A	**Winchester**	**52.76**	**344**	P	**P**	**11 45 57.6**	**-1.3**
	baz=160						
S35A	**Otter Creek Ra**	**52.95**	**338**	P	**P**	**11 45 59.4**	**-1.0**
	baz=152						
Q39A	**Willow Grove F**	**53.03**	**341**	P	**P**	**11 45 59.6**	**-1.3**
	baz=156						
P41A	**Barry, Barry**	**53.04**	**343**	P	**P**	**11 45 59.5**	**-1.4**
	baz=159,SNR=5.9						
BINY	**Binghamton**	**53.11**	**358**	*e*P	**P**	**11 46 02.0**	**+0.5**
	42nm,1.0s						
P40A	**Paris**	**53.19**	**342**	P	**P**	**11 46 00.8**	**-1.3**
	baz=158						
R36A	**Gordon, Harris**	**53.22**	**339**	P	**P**	**11 46 00.9**	**-1.5**
	baz=153						
O42A	**Bath**	**53.26**	**344**	P	**P**	**11 46 01.2**	**-1.3**
	baz=160						
P39B	**Salisbury**	**53.36**	**342**	P	**P**	**11 46 01.6**	**-1.8**
	baz=157						
O41A	**Passleys Farm,**	**53.40**	**344**	P	**P**	**11 46 02.2**	**-1.4**
	baz=159						
R35A	**Emporia Munici**	**53.47**	**338**	P	**P**	**11 46 03.1**	**-1.1**
	baz=152						
O40A	**La Belle**	**53.68**	**343**	P	**P**	**11 46 04.9**	**-0.8**
	baz=158						
P38A	**Dawn**	**53.73**	**341**	P	**P**	**11 46 04.8**	**-1.3**
	baz=156						
MMNY	**Mt. Morris Dam**	**53.74**	**356**	*e*P	**P**	**11 46 06.3**	**+0.2**
Q36A	**Arnold C. Orve**	**53.78**	**339**	P	**P**	**11 46 05.5**	**-0.9**
	baz=153						
N42A	**Yates City**	**53.84**	**345**	P	**P**	**11 46 05.5**	**-1.3**
	baz=160						
R34A	**Isabella, Hill**	**53.85**	**337**	P	**P**	**11 46 06.5**	**-0.4**
	baz=151						
Q35A	**Mercer Eighty,**	**53.89**	**339**	P	**P**	**11 46 06.1**	**-1.1**
	baz=153,SNR=5.6						
N41A	**Harden Midland**	**53.94**	**344**	P	**P**	**11 46 06.6**	**-1.0**
	baz=159						
P37A	**Lathrop**	**53.96**	**340**	P	**P**	**11 46 06.5**	**-1.3**
	baz=155						
P36A	**Good Intent, A**	**54.28**	**340**	P	**P**	**11 46 08.9**	**-1.1**
	baz=154						
P35A	**Duane Minner,**	**54.48**	**339**	P	**P**	**11 46 09.9**	**-1.6**
	baz=153						
M41A	**Milan**	**54.48**	**345**	P	**P**	**11 46 09.7**	**-1.8**
	baz=160						
N39A	**Derby Farms, D**	**54.57**	**343**	P	**P**	**11 46 09.9**	**-2.2**
	baz=157						
M40A	**Post Highland**	**54.77**	**344**	P	**P**	**11 46 12.4**	**-1.2**
	baz=159						
P34A	**Walnut Farm, R**	**54.78**	**338**	P	**P**	**11 46 12.9**	**-0.8**
	baz=152						
M39A	**Webster**	**55.03**	**343**	P	**P**	**11 46 14.2**	**-1.2**
	baz=158						
L41A	**Preston**	**55.13**	**345**	P	**P**	**11 46 14.3**	**-1.9**
	baz=160						
LAZ	**Ladron**	**55.25**	**326**	*e*P	**P**	**11 46 17.2**	**-0.2**
M38A	**Pleasantville**	**55.27**	**342**	P	**P**	**11 46 15.6**	**-1.6**
	baz=157						
CBKS	**Cedar

G43A	Wallace baz=164	57.52 348	P	P	11 46 32.6	-0.5
S22A	4UR Ranch, Cre baz=141	57.63 329	P	P	11 46 33.7	-0.8
S22A	4UR Ranch, Cre 6.3nm,1.3s	57.63 329	*eP*	P	11 46 34.5	0.0
G42A	Mountain baz=163	57.65 348	P	P	11 46 33.1	-0.9
X16A	Lo Mia Camp, P 3.8nm,0.8s	57.69 323	*eP*	P	11 46 34.9	0.0
H39A	Augusta baz=160	57.77 345	P	P	11 46 33.4	-1.6
H38A	Maiden Rock baz=158	58.02 345	P	P	11 46 35.9	-0.8
MVCO	Mesa Verde baz=139	58.08 328	P	P	11 46 36.8	-0.8
K31A	O'Neill baz=151	58.18 339	P	P	11 46 37.0	-0.9
F41A	Three Lakes baz=162	58.27 347	P	P	11 46 36.8	-1.7
G38A	Ridgeland baz=159	58.37 345	P	P	11 46 37.8	-1.3
WUAZ	Wupatki baz=136,SNR=7.4	58.42 324	P	P	11 46 40.0	+0.1
WUAZ	Wupatki 8.1nm,0.8s	58.42 324	*eP*	P	11 46 40.4	+0.5
ISCO	Idaho Springs baz=143	58.66 332	P	P	11 46 41.0	-0.6
F40A	Park Falls baz=161	58.66 347	P	P	11 46 39.7	-1.5
SPMN	Marine on St. baz=158	58.67 344	P	P	11 46 40.2	-1.0
H35A	Sunnyside Ranc baz=156	58.75 343	P	P	11 46 40.9	-0.9
J31A	Geddes baz=151	58.76 339	P	P	11 46 40.6	-1.3
SMCO	Snowmass 8.0nm,0.9s	58.82 330	*eP*	P	11 46 43.4	+0.6
PV01	Paradox Valley	58.82 328	*eP*	P	11 46 42.9	+0.2
F39A	Loretta baz=160	58.84 346	P	P	11 46 41.2	-1.2
VLDQ	Val d'Or 13nm,0.8s	59.08 357	*eP*	P	11 46 43.4	-0.5
Y12C	Blythe baz=132	59.09 321	P	P	11 46 42.5	-1.9
Y12C	Blythe 6.8nm,1.1s	59.09 321	*eP*	P	11 46 45.0	+0.6
E40A	Wakefield baz=162	59.11 347	P	P	11 46 43.2	-1.1
F38A	Pierce - Schro baz=159	59.12 345	P	P	11 46 43.2	-1.1
E39A	Mellen baz=161	59.20 347	P	P	11 46 43.5	-1.3
SWSC	Sam W. Stewart baz=130	59.37 319	P	P	11 46 45.6	-0.7
U15A	North Rim 3.7nm,0.8s	59.59 324	*eP*	P	11 46 48.5	+0.4
W13A	Hualapai Mount 3.9nm,1.1s	59.61 322	*eP*	P	11 46 48.8	+0.6
BC3	Big Chuckawall baz=131	59.61 320	P	P	11 46 47.6	-0.6
IRM	Iron Mountain baz=132,SNR=7.5	59.75 321	P	P	11 46 48.9	-0.1
E36A	McGregor baz=158	59.99 345	P	P	11 46 49.0	-1.3
O20A	White River Ci baz=140	60.18 330	P	P	11 46 51.6	-0.4
BELC	Belle Mtn. Jos baz=131	60.18 320	P	P	11 46 51.6	-0.5
XPFO	Piæon Flat 26nm,1.9s	60.22 319	*eP*	P	11 46 51.7	-0.6
F33A	5 Mile Ranch, baz=154	60.22 342	P	P	11 46 51.1	-0.8
PFO	Pinyon Flats O baz=130	60.22 319	P	P	11 46 52.6	+0.2
PFO	Pinyon Flats O 22nm,1.9s	60.22 319	*eP*	P	11 46 51.7	-0.6
KNB	Kanab 35nm,1.9s	60.31 325	*eP*	P	11 46 53.5	+0.5
D37A	Cotton baz=159	60.37 345	P	P	11 46 52.4	-0.5
LCMT	Little Creek M 3.4nm,1.0s	60.55 324	*eP*	P	11 46 54.7	+0.2
C37A	Embarrass baz=159	60.85 346	P	P	11 46 54.9	-1.3
CCUT	Cedar City 3.3nm,1.1s	60.99 325	*eP*	P	11 46 57.6	0.0
C36A	Pine Crest Far baz=159	61.03 345	P	P	11 46 56.7	-0.7
TUQ	Turquoise Moun baz=131	61.07 321	P	P	11 46 57.9	-0.2
SHPR	Sheep Range 18nm,2.0s	61.32 323	*eP*	P	11 47 00.3	+0.4
K22A	Casper baz=143	61.34 333	P	P	11 46 58.9	-0.9
C34A	RKJ Ranch, Bem baz=156	61.47 344	P	P	11 46 59.4	-1.0
RSSD	Black Hills baz=146	61.48 336	P	P	11 47 00.2	-0.5
EDW2	Edwards Air Fo baz=129	62.01 320	P	P	11 47 03.9	-0.5
JLU	Jordanelle 5.3nm,0.9s	62.14 328	*eP*	P	11 47 05.5	+0.1
LRMC	Laurel Mtn Rad baz=130	62.19 320	P	P	11 47 05.2	-0.4
TPNV	Topopah Spring baz=132	62.27 322	P	P	11 47 06.5	+0.3
TPNV	Topopah Spring 5.0nm,1.0s	62.27 322	*eP*	P	11 47 07.0	+0.8
AGMN	Agassiz Nation baz=156	62.32 344	P	P	11 47 05.3	-0.8
FURC	Furnace Creek, baz=131	62.32 322	P	P	11 47 06.5	+0.2
C31A	Landman Farms, baz=153	62.41 342	P	P	11 47 06.0	-0.7
MPMC	Manual Prospec baz=130	62.44 321	P	P	11 47 06.7	-0.7
DUG	Dugway, Tooele baz=136,SNR=8.6	62.56 327	P	P	11 47 08.1	+0.1
DUG	Dugway, Tooele 7.1nm,0.8s	62.56 327	*eP*	P	11 47 07.8	-0.2
A33A	Warroad baz=156	62.78 344	P	P	11 47 08.5	-0.6
R11A	Troy Canyon, C baz=133	62.81 324	P	P	11 47 09.8	0.0
R11A	Troy Canyon, C 2.7nm,0.8s	62.81 324	*eP*	P	11 47 10.0	+0.1
BW06	Boulder Array baz=140	62.83 331	P	P	11 47 09.1	-0.8
PD31	Pinedale Array	62.83 331	*eP*	P	11 47 09.1	-0.8
PDAR	Pinedale Array 0.7nm,0.6s,baz=118,slow=7.9,SNR=10.0	62.83 331	P	P	11 47 08.9	-1.0
NAIU	Northern Antel	62.85 328	*eP*	P	11 47 07.2	-2.7
HWUT	Hardware Ranch 6.7nm,0.8s	62.94 329	*eP*	P	11 47 10.0	-0.6
CWC	Cottonwood Cre baz=130	63.05 321	P	P	11 47 11.4	0.0
LOHW	Long Hollow 2.5nm,0.7s	63.97 331	*eP*	P	11 47 16.9	-0.5
FXWY	Fox Creek 3.4nm,1.1s	64.19 331	*eP*	P	11 47 18.1	-0.7
BLDC	Black Mountain	64.29 318	*eP*	P	11 47 22.7	+3.2
PCBM	Cambria	64.38 318	*eP*	P	11 47 21.5	+1.5
PANM	San Antonio Re	64.44 319	*eP*	P	11 47 20.8	+0.4
RLMT	Red Lodge baz=141	64.51 333	P	P	11 47 20.0	-0.9
PHCM	Hearst Castle	64.54 318	*eP*	P	11 47 18.6	-2.4
PCCM	Crazy Canyon	64.79 319	*eP*	P	11 47 24.4	+1.8
PAPM	Alder Peak	64.81 319	*eP*	P	11 47 22.4	-0.5
YMR	Madison River 4.9nm,0.8s	64.94 332	*eP*	P	11 47 24.6	+0.9
YHH	Holmes Hill 4.3nm,0.8s	64.97 332	*eP*	P	11 47 24.7	+0.6
YHB	Horse Butte 5.6nm,0.8s	65.11 332	*eP*	P	11 47 25.3	+0.5
DGMT	Dagmar baz=147	65.16 338	P	P	11 47 24.6	-0.2
WAKR	Walker 20nm,1.8s	65.20 322	*eP*	P	11 47 26.3	+0.8
YERR	Yerington 6.5nm,1.0s	65.39 322	*eP*	P	11 47 27.1	+0.4
HLID	Hailey baz=136	65.81 329	P	P	11 47 28.7	-0.6
HLID	Hailey 14nm,1.9s	65.81 329	*eP*	P	11 47 29.3	0.0
PAHR	Pah Rah Range 6.1nm,0.9s	65.93 323	*eP*	P	11 47 30.5	+0.4
BOZ	Bozeman (W)	65.94 332	P	P	11 47 29.0	-1.2
BOZ	Bozeman (W) 3.3nm,0.8s	65.94 332	*eP*	P	11 47 30.0	-0.1
MFID	Camas Ranch 10nm,0.9s	66.43 328	*eP*	P	11 47 33.8	+0.5
EGMT	Eagleton baz=141	66.98 335	P	P	11 47 35.7	-0.9
ORV	Oroville 8.8nm,1.0s	67.11 322	*eP*	P	11 47 38.3	+0.8
O03D	Paynes Creek baz=128	67.75 322	P	P	11 47 40.8	-0.8
MOD	Modoc Plateau 6.9nm,0.8s	67.87 324	*eP*	P	11 47 42.6	+0.1
M04C	Macdoel baz=128	68.69 323	P	P	11 47 46.9	-0.7
LIC	Lamto 66nm,1.4s	70.59 79	*eP*	P	11 47 59.2	-0.5
TIC	Toumodi	70.70 79	*eP*	P	11 48 00.0	-0.4
DBIC	Dimbokro	70.86 79	P	P	11 48 01.1	-0.3
DBIC	Dimbokro 11nm,0.8s	70.86 79	*eP*	P	11 48 00.8	-0.5
KIC	Kosan Boka 32nm,0.9s	70.89 79	*eP*	P	11 48 01.2	-0.4
VNA3	Neumayer Olymp	71.33 162	P	P	11 48 11.4	+8.2
VNA1	Neumayer--Stat	71.56 161	P	P	11 48 13.6	+9.1
PANH	Panhandle Gap,	71.79 328	*eP*	P	11 48 06.2	-0.4
VNA2	Neumayer--Watz baz=296,slow=7.0	71.92 162	P	P	11 48 15.3	+8.6
SNAA	Sanae	73.54 162	P	P	11 48 24.7	+8.3
TOA1	Torodi Ar. Sit	78.70 74	*eP*	P	11 48 46.2	-0.5
TOA0	Torodi Ar. Sit	78.71 74	*eP*	P	11 48 46.1	-0.6
TORD	Torodi Ar. Bea 11nm,0.8s,baz=270,slow=5.8,SNR=47	78.71 74	P	P	11 48 46.2	-0.5
YKA	Yellowknife Ar 6.6nm,0.9s,baz=135,slow=5.5,SNR=10	79.92 342	P	P	11 48 51.7	-0.6
YKB5	Yellowknife Ar	79.92 342	*eP*	P	11 48 51.7	-0.6
ESDC	Sonseca Array 0.2nm,0.3s,baz=285,slow=5.8,SNR=4.7	82.02 47	P	P	11 49 04.7	+0.5
SUMG	Summit 28nm,1.0s	86.67 10	*eP*	P	11 49 28.0	+0.5
ILAR	Eielson Array 0.8nm,0.8s,baz=136,slow=2.2,SNR=8.1	92.92 336	P	P	11 49 55.6	-0.9
ILB	Eielson Array	92.92 336	*eP*	P	11 49 56.1	-0.4
MDM	Murphy Dome 4.4nm,0.8s	93.53 336	*eP*	P	11 49 58.4	-0.9
GEC2	GERESS Array S 8.8nm,1.5s	96.66 42	*eP*	P	11 50 14.0	-0.1
GERES	GERESS Array B 0.5nm,0.2s,baz=224,slow=5.4,SNR=3.0	96.66 42	P	P	11 50 14.0	-0.1
ZAA1	Zalesovo Array	134.03 17	*e*PKPdf	PKPdf	11 56 01.1	+0.2
ZALV	Zalesovo Beam 0.9nm,0.4s,baz=316,slow=4.0,SNR=3.2	134.03 17	PKP	PKPdf	11 56 01.1	+0.2
ASAR	Alice Springs 0.4nm,0.8s,baz=148,slow=1.7,SNR=4.9	136.05 218	PKP	PKPdf	11 56 05.1	-0.6
WR1	Warramunga Arr	138.50 222	*e*PKPdf	PKPdf	11 56 09.5	-0.8
WRA	Warramunga Arr 0.7nm,0.8s,baz=135,slow=1.7,SNR=9.0	138.50 222	PKP	PKPdf	11 56 09.5	-0.8
KSH	Kashi	141.05 38	*e*PKP	PKPdf	11 56 15.7	+1.2
KSH			sPKP		11 56 32.7	
KSH			PP	PP	11 59 20.3	+4.9
KSH			PKS	PKSdf	11 59 49.5	-1.0
KSH			SKS	SKSdf	12 03 20.5	-1.8
KSH			SKKS	SKKSac	12 06 07.5	+0.5
KSH			SS	SS	12 17 43.5	+2.6
KSH	comp=Z,160nm,5.6s		AMB	AMB		
KSH	comp=N,94nm,5.8s		LR	LR		
KSH	comp=E,98nm,5.5s		LR	LR		
KSH	comp=Z,180nm,6.3s		LR	LR		
SONA0	Songino Array	143.43 360	*e*PKPdf	PKPbc	11 56 16.4	+0.7
SONM	Songino Array 1.5nm,0.7s,baz=350,slow=2.1,SNR=6.2	143.43 360	PKP	PKPbc	11 56 16.3	+0.7
WMQ	Urumqi	143.72 23	*e*PKP	PKPdf	11 56 19.8	+0.7
KSRS	Korea Array 2.7nm,0.8s,baz=47,slow=2.2,SNR=7.5	147.32 327	PKPbc	PKPdf	11 56 26.0	+0.7
KS15	Wonju Array Si	147.35 327	*e*PKPdf	PKPdf	11 56 21.7	-3.6
HHC	Hu-ho-hao-te	150.03 352	*e*PKPbc	PKPdf	11 56 31.4	+1.6
HHC			SS	SS	12 19 24.4	+2.8
HHC	comp=Z,44nm,4.7s		AMB	AMB		
HHC	comp=N,98nm,14.8s		LR	LR		
HHC	comp=E,120nm,14.8s		LR	LR		
HHC	comp=Z,67nm,13.6s		LR	LR		
GTA	Gaotai	151.28 10	*e*PKPbc	PKPdf	11 56 32.9	+1.1
CMAR	Chiang Mai Arr 0.5nm,0.3s,baz=349,slow=0.9,SNR=4.1	169.91 43	PKP	PKPdf	11 56 52.6	+0.3
CMAR			PKPab	PKPab	11 58 05.5	-1.5
	0.7nm,0.5s,baz=317,slow=5.9,SNR=5.4					

*IDC **11** 11:43:51.9±0.9,3°.13S×118°.86E,h0km,mb4.0/8,*
mb1 4.1/8,mb1mx3.8/45,mbtmp4.0/8,MS3.6/2,Ms1 3.7/2,
ms1mx3.0/38,Error ellipse: s-maj=61.6km s-min=15.3km
az=60.0
*ISCJB **11** 11:43:54.6±0.4,3°.16S±0°.04×118°.70E±0°.05,h33km,*
mb4.0/11,MS3.6/2,Error ellipse: s-maj=7.5km
s-min=5.5km az=165.2
*DJA **11** 11:43:54.0±1.4,3°.S±3°×11°.9E±°,h17km±13km,M4.3/5,*
mb4.2/2,MLv4.3/5
*NEIC **11** 11:43:57.0±0.3,3°.16S×118°.81E,h35km,mb4.0/4,Error*
ellipse: s-maj=13.9km s-min=5.7km az=64.0
NEIC Felt [III] at Majene.

ISC 11 11:43:56.7±0.7,3°.16S±0°.06×118°.80E±0°.08,h35km,n33,
σ1§19/36,mb4.0/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.02	84	P	Pn	11 44 13.6	-1.0
SPSI	Sidrap Palu	1.26	130	P	Pn	11 44 16.6	-1.2
SPSI				S	Sn	11 44 34.7	+1.2
KAPI	Kappang	2.07	153	*e*Pn	Pn	11 44 30.7	+1.6
PCI	Palu	2.47	25	P	Pn	11 44 33.4	-1.1
BKB	Balikpapan	2.68	315	P	Pn	11 44 44.7	+7.3
APSI	Ampana	3.62	52	P	Pn	11 44 50.8	+0.5
MPSI	Mapaga	3.64	18	P	Pn	11 44 48.7	-1.9
PLAI	Plamangang 33nm,1.6s	5.72	190	P	Pn	11 45 18.6	-0.7
PLAI				S	Sn	11 46 20.7	-3.1
SRBI	Singaraja	6.06	216	P	Pn	11 45 22.4	-1.5
MMRI	Maumere	6.43	148	*e*Pn	Pn	11 45 27.5	-1.5
JAGI	Jajag, Banyuwa	7.01	221	P	Pn	11 45 36.6	-0.5
JAGI	Jajag, Banyuwa	7.01	221	*e*Pn	Pn	11 45 36.5	-0.5
WRA	Warramunga Arr 3.9nm,0.9s,baz=319,slow=10,SNR=23	22.55	139	P	P	11 48 53.8	-0.2
WRA				PcP	PcP	11 52 44.8	-2.2
	0.3nm,0.8s,baz=329,slow=2.4,SNR=7.1						
WR1	Warramunga Arr 9.9nm,1.1s	22.55	139	*e*P	P	11 48 53.8	-0.2
WR1				*e*PcP	PcP	11 52 44.8	-2.2
WB2	Warramunga Arr	22.55	139	*e*P	P	11 48 54.1	+0.1
AS31	Alice Springs 1.4nm,1.0s	25.08	146	*e*P	P	11 49 19.8	+1.5
ASAR	Alice Springs 1.2nm,0.5s,baz=318,slow=7.6,SNR=30	25.08	146	P	P	11 49 18.8	+0.5
ASAR				PcP	PcP	11 52 53.0	+0.6
	0.7nm,0.7s,baz=345,slow=2.0,SNR=8.7						
CMAR	Chiang Mai Arr 0.4nm,0.4s,baz=133,slow=3.8,SNR=3.0	29.05	318	P	P	11 49 55.4	+1.5
CMAR				LR	LR	12 03 04.2	
	comp=Z,99nm,19.2s,baz=168,slow=40						
STKA	Stephens Creek 1.8nm,0.6s,baz=314,slow=9.0,SNR=7.4	35.72	146	P	P	11 50 53.1	+1.0
STKA	Stephens Creek 2.1nm,1.4s	35.72	146	*e*P	P	11 50 52.8	+0.7
KS15	Wonju Array Si	41.27	11	*e*P	P	11 51 38.3	-0.3
KSAR	Wonju Array Be	41.27	11	P	P	11 51 38.3	-0.3
KSRS	Korea Array 1.6nm,0.9s,baz=191,slow=11,SNR=5.0	41.29	11	P	P	11 51 38.3	-0.5
SONA0	Songino Array 5.2nm,1.0s	51.93	349	*e*P	P	11 53 02.9	+0.7
SONM	Songino Array 3.2nm,0.9s,baz=164,slow=8.7,SNR=13	51.93	349	P	P	11 53 02.9	+0.7
SONA1	Songino Array	51.94	349	*e*P	P	11 53 01.8	-0.5
MK01	Makanchi Array	59.20	332	*e*P	P	11 53 54.6	+0.2
MK31	Makanchi Array	59.23	332	*e*P	P	11 53 55.3	+0.7
MK32	Makanchi Array	59.23	332	*e*P	P	11 53 55.2	+0.6
MKAR	Makanchi Array 3.6nm,0.7s,baz=138,slow=7.9,SNR=38	59.23	332	P	P	11 53 55.2	+0.6
MKAR	Makanchi Array 21nm,0.6s	59.23	332	*e*P	P	11 53 55.3	+0.7
AAK	Ala-Archa 1.3nm,0.6s,baz=105,slow=7.9,SNR=4.6	60.64	324	P	P	11 54 04.4	-0.1
AKTO	Aktyubinsk comp=Z,45nm,18.0s,baz=106,slow=40	74.36	325	LR	LR	12 33 26.0	

MEX 11 11:45:53.3±0.4,17°.72N×101°.15W,h18km±73km,MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.32	250	*i* P	Pg	11 45 59.2	-1.0
ZIIG				*e*S	Sg	11 46 03.8	-1.1
ARIG	Puente Sto Nin	0.95	53	*e*P	Pb	11 46 08.0	-3.2
ARIG				*i* S	Sb	11 46 19.4	-4.0
CAIG	El Cayaco	1.07	128	*i* P	Pb	11 46 09.7	-3.6
CAIG				*i* S	Sb	11 46 22.8	-4.2
MEIG	Mezcala	1.47	82	*e*P	Pn	11 46 16.0	-3.0
MEIG				*i* S	Sn	11 46 33.5	-4.3
PLIG	Platanillo	1.70	66	*e*P	Pn	11 46 19.1	-3.1
PLIG				*e*S	Sn	11 46 39.3	-4.3
YAIG	Yautepec	2.28	60	*e*P	Pn	11 46 23.4	-6.9
TLIG	Tlapa	2.47	93	*e*P	Pn	11 46 34.1	+1.4
TLIG				*i* S	Sn	11 46 58.7	-3.8

*IDC **11** 11:59:34.9±0.7,25°.07S×70°.06E,h0km,mb4.1/16,*
mb1 4.2/16,mb1mx4.0/51,mbtmp4.1/16,MS4.2/20,
Ms1 4.2/20,ms1mx3.9/47,Error ellipse: s-maj=23.5km
s-min=19.2km az=66.0
*ISCJB **11** 11:59:35.7±0.3,25°.21S±0°.06×70°.02E±0°.08,h19km,*
mb4.5/32,MS4.2/20,Error ellipse: s-maj=10.7km
s-min=9.0km az=167.2
*NEIC **11** 11:59:36.1±0.3,25°.20S×69°.99E,h10km,mb4.9/16,Error*
ellipse: s-maj=10.0km s-min=8.1km az=55.0
*GCMT **11** 11:59:36.1±0.2,24°.94S×69°.86E,h13km±1km,MW5.0/94,*
Moment Tensor Solution. s37,c40; s94,c137; Duration:
0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.17;
$M_{\theta\theta}$0.30±.10; $M_{\phi\phi}$2.75±.12; $M_{r\theta}$1.38±.31; $M_{\theta\phi}$-1.01±.07;
$M_{\phi r}$1.71±.28; Best double couple: $M_0$3.72900×10^{16}
NP1:ϕ_s186.00000°,δ61.00000°,λ-64.00000°. NP2:
ϕ_s320.00000°,δ39.00000°,λ-129.00000°. Principal axes:
T 3.3560, Plg12.0000°, Azm257.0000°; N 0.7460,
Plg23.0000°, Azm352.0000°; P -4.1030, Plg64.0000°,
Azm141.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.

ISC 11 11:59:37.9±0.5,25°.02S±0°.09×70°.0E±0°.1,h19km,n74,
σ1§72/58,mb4.4/32,MS4.2/20,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H baz=189,slow=76,SNR=29	17.44	8	T	T	12 21 52.5	
H08S2	Diego Garcia H baz=189,slow=76,SNR=38	17.44	8	T	T	12 21 54.5	
H08S3	Diego Garcia H baz=189,slow=76,SNR=31	17.46	8	T	T	12 21 53.9	
OPO	Ambohidratompo comp=Z,920nm,21.2s,baz=108,slow=30	22.14	282	LR	LR	12 10 45.8	
PALK	Pallekele comp=Z,758nm,19.9s,baz=116,slow=31	33.74	19	LR	LR	12 16 53.7	
PALK	Pallekele 66nm,1.8s	33.74	19	*e*P	P	12 06 16.3	-2.2
H01W2	Cape Leeuwin H baz=272,slow=74	39.19	115	T	T	12 48 53.4	
H01W3	Cape Leeuwin H baz=272,slow=74	39.19	115	T	T	12 49 00.3	
H01W1	Cape Leeuwin H baz=272	39.21	115	T	T	12 48 57.3	
KMBO	Kilima Mbogo comp=Z,140nm,19.6s,baz=88,slow=32	39.57	302	LR	LR	12 20 54.3	
KMBO	Kilima Mbogo 32nm,2.0s	39.57	302	*e*P	P	12 07 06.7	-1.8
BOSA	Boshof comp=Z,567nm,19.0s,baz=110,slow=32	39.95	255	LR	LR	12 20 52.0	
MAW	Mawson 1.3nm,1.0s,baz=12,slow=9.3,SNR=2.1	42.82	184	P	P	12 07 35.5	+1.3
MAW	Mawson 2.5nm,1.5s	42.82	184	*e*P	P	12 07 32.9	-1.3
SBUM	Sibu 54nm,1.8s	49.18	62	*e*P	P	12 08 27.0	+1.9
CM01	Chiang Mai Arr	51.56	36	*e*P	P	12 08 43.9	+0.9
CMAR	Chiang Mai Arr 2.6nm,0.8s,baz=228,slow=7.2,SNR=13	51.58	36	P	P	12 08 44.3	+1.2
CMAR				LR	LR	12 26 55.3	
	comp=Z,169nm,21.7s,baz=208,slow=32						
CHTO	Chiang Mai 6.1nm,1.1s	51.88	36	*e*P	P	12 08 46.6	+1.3
RAYN	Ar Rayn 29nm,2.0s	53.80	332	*e*P	P	12 09 01.7	+2.2
ASAR	Alice Springs 2.0nm,1.0s,baz=259,slow=7.0,SNR=14	57.71	103	P	P	12 09 26.3	-1.5
ASAR				LR	LR	12 31 18.3	
	comp=Z,199nm,20.6s,baz=302,slow=33						
AS31	Alice Springs 3.5nm,1.5s	57.71	103	*e*P	P	12 09 26.9	-0.9
AS01	Alice Springs	57.75	103	*e*P	P	12 09 26.7	-1.4
WRA	Warramunga Arr 6.5nm,1.0s,baz=255,slow=6.9,SNR=20	59.16	99	P	P	12 09 37.0	-1.0
WRA				LR	LR	12 32 47.5	
	comp=Z,392nm,19.1s,baz=270,slow=34						
WR1	Warramunga Arr 28nm,1.3s	59.16	99	*e*P	P	12 09 37.0	-1.0
WB2	Warramunga Arr	59.17	99	*e*P	P	12 09 37.8	-0.2
WRAB	Tennant Creek 30nm,1.4s	59.17	99	*e*P	P	12 09 38.0	0.0
SNAA	Sanae	61.08	200	P	P	12 09 53.7	+3.4
SNAA	Sanae 1.6nm,1.1s,baz=21,slow=7.5,SNR=3.4	61.08	200	P	P	12 09 50.6	+0.3
SNAA	Sanae 12nm,1.5s	61.08	200	*e*P	P	12 09 49.2	-1.1
STKA	Stephens Creek comp=Z,336nm,20.7s,baz=249,slow=32	62.28	114	LR	LR	12 33 12.3	
VNA2	Neumayer--Watz baz=86,slow=4.4	62.47	201	P	P	12 09 59.2	-0.4
VNA1	Neumayer--Stat	62.74	202	P	P	12 10 01.0	-0.3
TGY	Tagaytay City comp=Z,287nm,19.6s,baz=196,slow=34	63.05	58	LR	LR	12 35 37.7	
VNA3	Neumayer Olymp	63.22	201	P	P	12 10 03.2	-1.4
GEYT	Alibeck comp=Z,127nm,20.5s,baz=100,slow=33	63.61	350	LR	LR	12 34 49.1	
KSH	Kashi	64.44	5	P	P	12 10 11.3	-1.8
KSH				pP	pP	12 10 16.1	-3.1
KSH				sP	sP	12 10 17.9	-3.6
KSH				PcP	PP	12 11 45.7	-50
KSH				PP	PP	12 12 35.4	+0.1
KSH				PcS		12 14 43.4	
KSH				S	S	12 18 44.8	-6.2
KSH				sS	pS	12 18 56.6	-2.0
KSH				ScS	SKSac	12 20 00.7	-5.7
KSH	Kashi	64.44	5	SS	SS	12 23 00.3	-1.6
KSH	comp=Z,11nm,1.3s			pmax	pmax		
KSH	comp=Z,120nm,3.6s			pmax	pmax		
KSH	comp=N,92nm,4.5s			LR	LR		
KSH	comp=E,63nm,4.3s			LR	LR		
KSH	comp=Z,150nm,6.9s			LR	LR		
QSPA	South Pole Qui	65.11	180	*e*P	P	12 10 15.6	-1.6
VNDA	Vanda comp=Z,85nm,18.9s,baz=286,slow=33	66.15	166	LR	LR	12 36 17.8	
VNDA	Vanda comp=Z,13nm,1.3s	66.15	166	*e*P	P	12 10 22.7	-0.9
AAK	Ala-Archa comp=Z,147nm,20.0s,baz=162,slow=34	67.45	4	LR	LR	12 37 49.4	
AAK	Ala-Archa comp=Z,7.8nm,1.3s	67.45	4	*e*P	P	12 10 34.3	+1.9
MAKZ	Makanchi comp=Z,23nm,1.9s	72.31	9	*e*P	P	12 11 03.7	+1.7
MK01	Makanchi Array	72.31	9	*e*P	P	12 11 01.9	-0.1
MK32	Makanchi Array	72.33	9	*e*P	P	12 11 02.0	-0.1
MKAR	Makanchi Array comp=Z,1.6nm,0.6s,baz=190,slow=5.5,SNR=11	72.33	9	P	P	12 11 02.1	-0.1
MKAR				LR	LR	12 41 50.0	
	comp=Z,81nm,18.2s,baz=187,slow=35						
KBZ	Khabaz	72.81	340	P	P	12 11 05.0	0.0

comp=Z,1.2nm,0.4s,baz=157,slow=7.7,SNR=3.7
BR101 Keskin Array S 72.81 331 *eP* **P 12 11 06.1 +0.7**
BRTR Keskin Array B 72.81 331 P **P 12 11 06.1 +0.7**
comp=Z,4.3nm,1.1s,baz=159,slow=7.3,SNR=4.7
BRTR LR LR 12 42 01.4
comp=Z,32nm,18.3s,baz=128,slow=35
BR231 Keskin MP Arra 73.29 331 *eP* **P 12 11 08.6 +0.5**
ABKAR Akbulak array 74.49 353 *eP* **P 12 11 15.6 +0.9**
comp=Z,91nm,1.5s
KURBB Kurchatov Arra 75.69 6 P **P 12 11 22.4 +0.8**
comp=Z,1.4nm,0.8s,baz=200,slow=6.1,SNR=12
KURK Kurchatov 75.79 6 *eP* **P 12 11 24.6 +2.4**
AKTO Aktyubinsk 75.87 352 P **P 12 11 23.6 +0.8**
comp=Z,1.0nm,0.4s,baz=139,slow=5.9,SNR=4.8
TOA0 Torodi Ar. Sit 76.63 291 *eP* **P 12 11 28.0 +0.2**
TORD Torodi Ar. Bea 76.63 291 P **P 12 11 27.1 -0.8**
comp=Z,1.3nm,0.8s,baz=128,slow=5.7,SNR=9.1
TORD LR LR 12 44 45.0
comp=Z,141nm,18.1s,baz=285,slow=35
TOA1 Torodi Ar. Sit 76.64 291 *eP* **P 12 11 27.1 -0.8**
BVAR Borovoye Array 77.72 0 P **P 12 11 32.9 -0.2**
comp=Z,0.9nm,0.8s,baz=168,slow=7.4,SNR=4.2
DBIC Dimbokro 79.25 283 LR LR 12 43 01.3
comp=Z,218nm,21.6s,baz=111,slow=33
SONA0 Songino Array 79.55 24 *eP* **P 12 11 44.6 +1.1**
comp=Z,15nm,1.4s
SONM Songino Array 79.55 24 P **P 12 11 44.6 +1.1**
comp=Z,0.6nm,0.4s,baz=197,slow=4.6,SNR=9.8
SONM LR LR 12 45 30.4
comp=Z,142nm,21.9s,baz=208,slow=35
SONA1 Songino Array 79.56 24 *eP* **P 12 11 43.8 +0.2**
ZAA0 Zalesovo Array 79.68 9 *eP* **P 12 11 44.2 +0.4**
ZALV Zalesovo Beam 79.68 9 P **P 12 11 44.1 +0.3**
comp=Z,1.7nm,0.6s,baz=199,slow=5.7,SNR=6.1
ZALV LR LR 12 46 55.3
comp=Z,72nm,18.6s,baz=260,slow=36
ZAA1 Zalesovo Array 79.68 9 *eP* **P 12 11 44.1 +0.3**
ULN Ulaanbaatar 79.82 24 *eP* **P 12 11 46.4 +1.4**
comp=Z,14nm,1.3s
RPZ Rata Peaks 80.57 134 LR LR 12 39 26.1
comp=Z,134nm,19.2s,baz=264,slow=30
ARU Arti 81.71 354 *eP* **P 12 11 56.6 +1.9**
comp=Z,28nm,1.6s
KS15 Wonju Array Si 82.56 43 *eP* **P 12 12 00.3 +0.7**
KSAR Wonju Array Be 82.56 43 P **P 12 12 00.3 +0.7**
KS01 Wonju Array Si 82.59 43 *eP* **P 12 12 01.2 +1.5**
KSRS Korea Array 82.59 43 P **P 12 12 00.3 +0.6**
comp=Z,0.8nm,0.5s,baz=225,slow=24,SNR=3.6
KSRS LR LR 12 47 41.2
comp=Z,86nm,19.3s,baz=258,slow=35
AKASG Malin Array Be 83.57 335 P **P 12 12 04.8 +0.3**
comp=Z,0.2nm,0.3s,baz=147,slow=4.3,SNR=7.7
KHC Kasperske Hory 89.30 327 *eP* **P 12 12 36.0 +3.3**
KHC *ex* x 12 12 45.1

PGC 11 11:59:38.1±39.0, 48°69N×129°35W, h10km, ML3.0/9, Mw3.6, 256km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOFB	**Tofino**	**2.32**	**77**	Pn	Pn	12 00 14.4	-1.8
TOFB				Sn	Sn	12 00 39.3	-5.5
WOSB	**Woss**	**2.34**	**50**	Pn	Pn	12 00 15.1	-1.6
WOSB				Sn	Sn	12 00 40.9	-4.5
TLCB	**Telegraph Cove**	**2.48**	**40**	Pn	Pn	12 00 17.1	-1.3
TLCB				Sn	Sn	12 00 42.1	-6.5
OZB	**Mount Ozzard**	**2.56**	**83**	Pn	Pn	12 00 17.9	-1.8
OZB				Sn	Sn	12 00 45.9	-5.1
NCRB	**Newcastle Ridg**	**2.75**	**50**	Pn	Pn	12 00 21.2	-1.1
NCRB				Sn	Sn	12 00 50.3	-5.3
B928	**Bamfield**	**2.79**	**85**	Pn	Pn	12 00 22.0	-0.7
B928				Sn	Sn	12 00 49.2	-7.3
TXB	**Texada**	**3.38**	**71**	Pn	Pn	12 00 30.3	-0.6
NLLB	**Nanaimo Lost L**	**3.58**	**79**	Pn	Pn	12 00 33.6	+0.1
SHB	**Sechelt**	**3.71**	**74**	Pn	Pn	12 00 35.1	-0.4
BIB	**Bowen Island**	**4.04**	**78**	Pn	Pn	12 00 39.7	-0.2
WPB	**Watts Point**	**4.14**	**74**	Pn	Pn	12 00 41.4	0.0

*ISCJB **11** 12:01:00.9±0.3, 31°.88N±0°.02×116°.10W±0°.03, h24km±5km, Error ellipse: s-maj=4.3km s-min=3.5km az=154.7*
*ECX **11** 12:01:02.1±0.5, 31°.88N×116°.11W, h7km, MD2.8, ML3.1, Fault plane solution: NP1:φs=90.00000°, δ90.00000°, λ0.00000°.*
*MEX **11** 12:01:03.7±0.5, 31°.92N×116°.12W, h20km±33km, MD3.6*
ISC 11 12:01:00.3±1.0, 31°.89N±0°.02×116°.08W±0°.03, h16km±9km, n31, σ0°56/50, 9C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAX	**El Zacaton**	**0.41**	**204**	*eP*	**Pb**	**12 01 09.1**	**-0.2**
ZAX				*eS*	**Sb**	**12 01 14.9**	**-0.4**
ECNX	**Esteban Cantu**	**0.50**	**242**	⇑*eP*	**Pb**	**12 01 10.6**	**-0.2**
ECNX				⇑*eP*	**Pg**	**12 01 11.0**	**+0.7**
ECNX				*eS*	**Sg**	**12 01 17.0**	**0.0**
ECNX				*eS*	**Sb**	**12 01 17.4**	**-0.5**
PBX	**Punta Banda**	**0.57**	**255**	⇑*eP*	**Pb**	**12 01 11.8**	**-0.1**
PBX				*eS*	**Sg**	**12 01 19.2**	**0.0**
CBX	**Cerro Bola**	**0.65**	**310**	*i P*	**Pb**	**12 01 13.5**	**+0.2**
CBX				*eS*	**Sg**	**12 01 21.6**	**-0.2**
CBX	**Cerro Bola**	**0.65**	**310**	⇑*eP*	**Pb**	**12 01 13.6**	**+0.2**
CBX				*eS*	**Sb**	**12 01 22.1**	**-0.2**
CBX				*e*		12 01 24.3	
CBX				IAML		12 01 24.3	
comp=N,699nm,0.3s							
RMX	**La Rumorosa**	**0.71**	**360**	⇓*e*	**Sb**	**12 01 24.2**	**+0.2**
RMX				IAML		12 01 24.2	
comp=N,580nm,0.1s							
TJIG	**Tijuana**	**0.74**	**317**	*eS*	**Sg**	**12 01 23.6**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**0.76**	**358**	P	**Pb**	**12 01 15.7**	**+0.5**
baz=180,SNR=48							
IKP				S	**Sg**	**12 01 25.1**	**-0.1**
baz=180							
IKP	**In-Ko-Pah, Jac**	**0.76**	**358**	*eP*	**Pb**	**12 01 15.7**	**+0.5**
YUH	**Yuha Desert**	**0.77**	**10**	*i* P	**Pg**	**12 01 15.7**	**+0.5**
MBIG	**Mexicali**	**0.91**	**55**	*eP*	**Pg**	**12 01 18.0**	**+0.1**
MBIG				*eS*	**Sb**	**12 01 29.3**	**-0.2**
BAR	**Barrett**	**0.93**	**328**	⇑*eP*	**Pb**	**12 01 18.0**	**-0.1**
ECBX	**El Chinero**	**0.97**	**115**	⇑*eP*	**Pg**	**12 01 19.1**	**0.0**
ECBX				⇓*e*		12 01 34.5	
ECBX				IAML		12 01 34.5	
comp=N,573nm,0.1s							
ECBX				⇓*e*		12 01 37.3	
ECBX				IAML		12 01 37.3	
comp=E,422nm,0.3s							
SPIG	**San Pedro Mart**	**0.99**	**148**	*eP*	**Pn**	**12 01 20.0**	**+0.2**
SPIG				*eS*	**Sb**	**12 01 32.3**	**0.0**
SPIG	**San Pedro Mart**	**0.99**	**148**	⇑*eP*	**Pn**	**12 01 20.1**	**+0.2**
SPX	**San Pedro Mart**	**0.99**	**148**	⇑*eP*	**Pn**	**12 01 20.1**	**+0.2**
SPX				IAML		12 01 34.5	
comp=N,318nm,0.2s							
SPX				*e*		12 01 34.5	
MONP2	**Monument Peak**	**1.04**	**344**	P	**Pn**	**12 01 20.3**	**-0.1**
baz=165,SNR=33							
MONP2				S	**Sb**	**12 01 33.6**	**0.0**
baz=165							
SWSC	**Sam W. Stewart**	**1.08**	**13**	P	**Pg**	**12 01 21.6**	**+0.5**
baz=194,SNR=62							
SWSC				S	**Sn**	**12 01 35.9**	**+0.5**
baz=194							
SDRC	**San Diego Road**	**1.12**	**319**	⇑*eP*	**Pb**	**12 01 20.9**	**-0.3**
109C	**Camp Elliot, M**	**1.32**	**319**	P	**Pn**	**12 01 24.3**	**+0.1**
baz=139,SNR=21							
109C				S	**Sn**	**12 01 41.3**	**-0.1**
baz=139							
GLA	**Glamis**	**1.57**	**42**	P	**Pn**	**12 01 28.2**	**+0.7**
baz=224							
GLA				S	**Sn**	**12 01 47.6**	**0.0**
baz=224							
PFO	**Pinyon Flats O**	**1.75**	**349**	P	**Pb**	**12 01 31.2**	**-0.9**
baz=170,SNR=19							
PFO				Sb	**Sb**	**12 01 55.0**	**+1.1**
baz=170							
BC3	**Big Chuckawall**	**1.84**	**16**	P	**Pb**	**12 01 32.7**	**-0.9**
baz=198							
MURC	**Murrieta**	**1.95**	**331**	Pb	**Pb**	**12 01 34.8**	**-0.6**
baz=151							
MURC				Sb	**Sb**	**12 01 59.8**	**+0.2**
baz=151							
BELC	**Belle Mtn. Jos**	**2.10**	**2**	Pb	**Pb**	**12 01 37.4**	**-0.8**
baz=183							
BELC				Sb	**Sg**	**12 02 06.4**	**-1.7**
baz=183							
113A	**Mohawk Valley,**	**2.14**	**65**	*eP*	**Pn**	**12 01 36.7**	**+1.3**
113A				*eS*	**Sn**	**12 02 01.6**	**-0.1**
CIS	**Catalina Islan**	**2.48**	**308**	P	**Pn**	**12 01 40.3**	**+0.2**
baz=127							
BFSC	**Mount Baldy Ra**	**2.69**	**331**	Pb	**Pb**	**12 01 47.4**	**-0.8**
baz=150							
214A	**Organ Pipe Nat**	**2.78**	**88**	P	**Pn**	**12 01 44.8**	**+0.7**
baz=270							
214A	**Organ Pipe Nat**	**2.78**	**88**	*eP*	**Pn**	**12 01 44.9**	**+0.7**
214A				*eS*	**Sn**	**12 02 17.1**	**-0.4**
EDW2	**Edwards Air Fo**	**3.39**	**332**	Pb	**Pb**	**12 01 59.4**	**-0.6**
baz=152							

*IDC **11** 12:01:27.1±6.5, 38°.54N×72°.50E, h0km, mb3.9/1, mb1 3.8/7, mb1mx3.5/51, mbtmp3.8/7, ML3.3/6, MS2.5/1, Ms1 2.5/1, ms1mx2.2/52, Error ellipse: s-maj=85.4km s-min=29.3km az=170.0*
*KRNET **11** 12:01:34.0±0.1, 39°.22N×72°.01E, mb3.6*
*NNC **11** 12:01:39.1±3.7, 39°.45N×72°.15E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=28.3km s-min=19.6km az=6.0*
ISC 11 12:01:34.7±1.6, 39°.25N±0°.10×71°.96E±0°.05, h10km, n24, σ2°71/42, 30C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.19**	**313**	⇑*eP*	**Pg**	**12 01 58.3**	**+0.7**
baz=313							
BTK				⇑*iS*	**Sn**	**12 02 15.8**	**+1.9**
baz=313							
ARSB	**Arslanbob**	**2.21**	**20**	⇑*eP*	**Pb**	**12 02 14.1**	**-0.8**
baz=19							
ARSB				⇑*eS*	**Sb**	**12 02 44.0**	**+1.6**
baz=19							
ARK	**Arkit**	**2.54**	**0**	⇑*eP*	**Pb**	**12 02 19.1**	**-1.4**
baz=360							
ARK				⇑*iS*	**Sb**	**12 02 51.7**	**-0.2**
baz=360							
AML	**Almayashu**	**3.17**	**24**	⇑*iP*	**Pb**	**12 02 27.9**	**-3.4**
baz=23							
AML				⇑*iS*	**Sn**	**12 03 05.9**	**+2.9**
baz=23							
MNAS	**Manas**	**3.26**	**7**	⇑*eP*	**Pn**	**12 02 28.9**	**+2.9**
baz=6.0							
MNAS				⇑*iS*	**Sb**	**12 03 08.8**	**-3.7**
baz=6.0							
MNAS	**Manas**	**3.26**	**7**	⇑Pn	**Pn**	**12 02 28.8**	**+2.9**
6.7nm,0.3s							
MNAS				⇑Pg	**Pg**	**12 02 38.4**	**+1.3**
12nm,0.4s							
MNAS				⇑Sn	**Sn**	**12 03 08.2**	**+3.3**
50nm,0.5s							
EKS2	**Erkin-Say**	**3.68**	**21**	⇑*iP*	**Pn**	**12 02 35.1**	**+3.4**
baz=21							
EKS2				⇑*iS*	**Sn**	**12 03 17.5**	**+2.3**
baz=21							
KZA	**Kyzart**	**3.77**	**41**	⇑*iP*	**Pn**	**12 02 36.1**	**+2.8**
baz=40							
KZA				⇑*iS*	**Sn**	**12 03 20.0**	**+2.0**
baz=40							
AAK	**Ala-Archa**	**3.89**	**29**	Pn	**Pn**	**12 02 38.4**	**+3.7**
4.0nm,0.3s,baz=160,slow=6.1,SNR=28							
AAK				Sn	**Sn**	**12 03 24.6**	**+4.0**
2.5nm,0.3s,baz=108,slow=20,SNR=6.2							
AAK				LR	LR	12 04 18.9	
comp=Z,54nm,20.6s,baz=144,slow=39							
AAK	**Ala-Archa**	**3.89**	**29**	⇑*iP*	**Pn**	**12 02 37.6**	**+2.9**
baz=28							
AAK				⇑*iS*	**Sn**	**12 03 22.8**	**+2.3**
baz=28							
AAK	**Ala-Archa**	**3.89**	**29**	⇑Pn	**Pn**	**12 02 38.0**	**+3.3**
8.7nm,0.5s							
AAK				⇓Pg	**Pg**	**12 02 46.2**	**-3.0**
19nm,0.7s							
AAK				Lg	Lg	12 03 33.8	
22nm,0.4s							
KK31	**Karatay Array**	**4.00**	**345**	⇓Pn	**Pn**	**12 02 39.4**	**+3.3**
2.5nm,0.3s,baz=152,slow=12,SNR=105							
KK31				⇑Pg	**Pb**	**12 02 48.0**	**+2.8**
8.5nm,0.4s,baz=156,slow=14,SNR=20							
KK31				⇓Sn	**Sn**	**12 03 27.0**	**+4.0**
20nm,0.5s,baz=165,slow=24,SNR=5.1							
KK31				⇓Lg	Lg	12 03 40.4	
7.4nm,0.3s,baz=158,slow=28							
KBK	**Karagaybulak**	**4.09**	**33**	⇑*iP*	**Pn**	**12 02 40.6**	**+3.2**
baz=32							
KBK				⇑*iS*	**Sn**	**12 03 27.4**	**+2.0**
baz=32							
TKM2	**Tokmak 2**	**4.58**	**36**	⇑Pn	**Pn**	**12 02 46.6**	**+2.4**
2.3nm,0.3s							
TKM2				⇓Pg	**Pb**	**12 02 56.6**	**+1.3**
5.3nm,0.5s							
TKM2				⇑Lg	Lg	12 03 55.1	
12nm,0.6s							
MDOK	**Medeo**	**5.48**	**43**	⇓Pg	**Pb**	**12 03 11.7**	**+1.2**
MDOK				⇑Lg	Lg	12 04 22.2	
PDGK	**Podgornoye**	**6.98**	**52**	⇑Lg	Lg	12 05 09.6	
8.9nm,0.6s							
MKAR	**Makanchi Array**	**10.67**	**42**	Pn	**Pn**	**12 04 07.2**	**-0.4**
0.1nm,0.3s,baz=230,slow=11,SNR=5.0							
KURBB	**Kurchatov Arra**	**12.28**	**20**	Pn	**Pn**	**12 04 30.7**	**+1.2**
0.0nm,0.3s,baz=213,slow=12,SNR=3.8							
AB31	**Akbulak array**	**13.18**	**323**	⇑P	**Pn**	**12 04 41.6**	**-0.2**
0.7nm,0.3s,baz=0.0,slow=0.1,SNR=26							
AB31				⇑S	**Sn**	**12 07 05.1**	**-3.2**
3.1nm,0.7s,baz=0.0,slow=0.1,SNR=5.8							
BVAR	**Borovoye Array**	**13.82**	**356**	Pn	**Pn**	**12 04 49.9**	**-0.7**
0.2nm,0.3s,baz=163,slow=10,SNR=2.8							
AKTO	**Aktyubinsk**	**14.90**	**323**	Pn	**P**	**12 05 08.9**	**-2.1**
0.3nm,0.3s,baz=151,slow=10,SNR=4.2							
AKTO				Sn	**Sn**	**12 07 45.7**	**-4.5**
0.2nm,0.3s,baz=325,slow=16,SNR=4.7							
AKTO	**Aktyubinsk**	**14.90**	**323**	⇑P	**P**	**12 05 10.4**	**-0.6**
1.0nm,0.5s							
AKTO				⇓S	**Sn**	**12 07 45.3**	**-5.0**
2.2nm,0.7s							
ZALV	**Zalesovo Beam**	**17.11**	**27**	P	**P**	**12 05 34.4**	**-1.0**
0.4nm,0.3s,baz=217,slow=12,SNR=6.2							
ARCES	**ARCESS Array B**	**38.92**	**336**	P	**P**	**12 08 59.8**	**-0.4**
1.3nm,0.8s,baz=108,slow=9.6,SNR=5.8							

*IDC **11** 12:10:33.9±0.6, 2°.22S×138°.92E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/30, mbtmp4.2/16, ML4.1/2, MS3.8/3, Ms1 3.8/3, ms1mx3.1/33, Error ellipse: s-maj=16.1km s-min=11.4km az=42.0*
*ISCJB **11** 12:10:37.6±0.3, 2°.29S±0°.04×138°.80E±0°.03, h37km, mb4.3/20, MS4.2/1, Error ellipse: s-maj=5.0km s-min=4.8km az=4.3*
*DJA **11** 12:10:37.6±1.0, 2°S±25°×13°9E±°, h40km±18km, M4.1/3, MLv4.1/3*
*NEIC **11** 12:10:38.8±0.8, 2°.27S×139°.00E, h36km±8km, mb4.2/10, Error ellipse: s-maj=7.8km s-min=5.6km az=75.0*
ISC 11 12:10:39.3±0.5, 2°.33S±0°.05×138°.86E±0°.05, h37km, n56, σ2°03/62, mb4.2/20, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.36**	**336**	P	**Pn**	**12 10 45.3**	**-2.6**
SMPI				S	**Sn**	**12 10 52.0**	**-2.6**
GENI	**Genyem**	**1.34**	**101**	P	**Pn**	**12 11 01.0**	**-0.4**
GENI				S	**Sn**	**12 11 19.4**	**+1.4**
JAY	**Jayapura**	**1.86**	**96**	Pg	**Pn**	**12 11 07.3**	**-1.3**
397nm,0.3s,baz=238,slow=9.5,SNR=210							
JAY				Lg	Lg	12 11 31.5	
257nm,0.3s,baz=308,slow=19,SNR=4.8							
JAY				LR	LR	12 11 50.7	
comp=Z,9μm,20.6s,baz=172,slow=43							
JAY	**Jayapura**	**1.86**	**96**	P	**Pn**	**12 11 07.1**	**-1.5**
JAY				S	**Sn**	**12 11 31.7**	**+0.8**
FAKI	**Fak Fak**	**6.63**	**265**	P	**Pn**	**12 12 14.1**	**-0.1**
FAKI				S	**Sn**	**12 13 26.3**	**-2.2**
FAKI	**Fak Fak**	**6.63**	**265**	*e*Pn	**Pn**	**12 12 15.9**	**+1.7**
FAKI				*e*Sn	**Sn**	**12 13 29.2**	**+0.7**
SAUI	**Saumlaki**	**9.39**	**233**	*e*Pn	**Pn**	**12 12 54.4**	**+2.2**
SAUI				*e*Sn	**Sn**	**12 14 37.5**	**+1.0**
PMG	**Port Moresby**	**10.85**	**131**	LR	LR	12 18 54.8	
comp=Z,391nm,18.1s,baz=312,slow=46							
MTN	**Manton Dam**	**12.95**	**216**	*e*Pn	**Pn**	**12 13 42.2**	**+1.4**
MTN				*e*Sn	**Sn**	**12 16 02.1**	**-1.6**
GUMO	**Guam**	**16.90**	**21**	LR	LR	12 20 38.0	
comp=Z,112nm,18.2s,baz=188,slow=36							
WRAB	**Tennant Creek**	**18.05**	**194**	*e*Pn	**P**	**12 14 47.4**	**-0.1**
12nm,0.4s							
WRAB				*e*Sn	**Sn**	**12 18 09.9**	**+2.2**
WB2	**Warramunga Arr**	**18.05**	**194**	*e*P	**Pn**	**12 14 47.0**	**-0.4**
WB2				*e*Sn	**Sn**	**12 18 08.9**	**+1.0**
WR1	**Warramunga Arr**	**18.06**	**194**	*e*P	**Pn**	**12 14 47.0**	**-0.4**
11nm,0.6s							
WR1				*e*Sn	**Sn**	**12 17 59.2**	**-8.8**
WRA	**Warramunga Arr**	**18.06**	**194**	P	**Pn**	**12 14 47.0**	**-0.4**
1.9nm,0.3s,baz=18,slow=12,SNR=58							
WRA				S	**Sn**	**12 17 59.2**	**-8.8**
0.5nm,0.3s,baz=15,slow=22,SNR=5.5							
CTA	**Charters Tower**	**19.08**	**158**	P	**P**	**12 14 57.8**	**-1.0**
0.1nm,0.3s,baz=214,slow=11,SNR=2.0							
AS01	**Alice Springs**	**21.74**	**192**	*e*P	**P**	**12 15 27.9**	**+0.2**
AS01				*e*S	Sn	12 19 35.2	-1.5
AS31	**Alice Springs**	**21.75**	**192**	*e*P	**P**	**12 15 28.6**	**+0.8**
3.3nm,0.6s							
AS31				*e*S	Sn	12 19 36.1	-0.8
ASAR	**Alice Springs**	**21.75**	**192**	P	**P**	**12 15 28.3**	**+0.5**
2.0nm,0.4s,baz=14,slow=10,SNR=123							
ASAR				S	**S**	**12 19 24.6**	**-2.0**
1.4nm,0.6s,baz=9.8,slow=25,SNR=6.1							
EIDS	**Eidsvold**	**25.76**	**154**	*e*P	**P**	**12 16 04.3**	**-2.4**
6.3nm,0.8s							
STKA	**Stephens Creek**	**29.51**	**175**	P	**P**	**12 16 41.2**	**+1.1**
1.5nm,0.4s,baz=358,slow=8.6,SNR=15							
STKA	**Stephens Creek**	**29.51**	**175**	*e*P	**P**	**12 16 41.2**	**+1.1**
3.2nm,1.5s							
FORT	**Forrest**	**30.09**	**199**	*e*P	**P**	**12 16 47.6**	**+2.3**
158nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**34.33**	**52**	T	T	12 53 22.6	
baz=237							
H11S2	**WAKE ISLAND Hy**	**34.34**	**52**	T	T	12 53 21.2	
baz=237							
H11S1	**WAKE ISLAND Hy**	**34.35**	**52**	T	T	12 53 30.6	
baz=237							
NWAO	**Narrogin (SRO)**	**36.58**	**211**	LR	LR	12 33 56.5	
comp=Z,401nm,20.5s,baz=197,slow=38							
MJAR	**Matsushiro Arr**	**38.67**	**359**	P	**P**	**12 17 57.7**	**-1.8**
1.0nm,0.5s,baz=183,slow=8.6,SNR=5.1							
CM01	**Chiang Mai Arr**	**44.35**	**299**	*e*P	**P**	**12 18 46.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.37**	**299**	P	**P**	**12 18 47.2**	**+0.7**
1.4nm,0.6s,baz=120,slow=6.3,SNR=16							
CHTO	**Chiang Mai**	**44.52**	**300**	*e*P	**P**	**12 18 48.0**	**+0.3**
4.3nm,1.0s							
USRK	**Ussuriysk Ar.**	**46.72**	**353**	P	**P**	**12 19 04.4**	**-0.2**
1.5nm,0.7s,baz=154,slow=7.9,SNR=3.4							
SONA0	**Songino Array**	**57.44**	**335**	*e*P	**P**	**12 20 24.4**	**-0.1**
17nm,2.0s							
SONM	**Songino Array**	**57.44**	**335**	P	**P**	**12 20 24.4**	**-0.1**
0.4nm,0.5s,baz=152,slow=6.6,SNR=3.9							
SONA1	**Songino Array**	**57.44**	**335**	*e*P	**P**	**12 20 24.7**	**+0.2**
POO	**Poona**	**67.18**	**291**	*ex*	**P**	**12 21 33.0**	**+2.8**
MK01	**Makanchi Array**	**69.56**	**322**	*e*P	**P**	**12 21 43.6**	**-0.9**
MK31	**Makanchi Array**	**69.58**	**322**	*e*P	**P**	**12 21 44.0**	**-0.6**
MK32	**Makanchi Array**	**69.58**	**322**	*e*P	**P**	**12 21 44.1**	**-0.6**
MKAR	**Makanchi Array**	**69.58**	**322**	P	**P**	**12 21 44.1**	**-0.6**
6.4nm,0.9s,baz=120,slow=8.2,SNR=29							
MKAR	**Makanchi Array**	**69.58**	**322**	*e*P	**P**	**12 21 44.0**	**-0.6**
46nm,0.3s							
MAKZ	**Makanchi**	**69.77**	**322**	*e*P	**P**	**12 21 46.0**	**+0.1**
9.6nm,0.9s							
ZALV	**Zalesovo Beam**	**71.68**	**330**	P	**P**	**12 21 56.9**	**-0.4**
2.7nm,0.6s,baz=117,slow=5.6,SNR=8.1							
ZALV	**Zalesovo Beam**	**71.68**	**330**	*e*P	**P**	**12 21 56.5**	**-0.7**
ZAA1	**Zalesovo Array**	**71.68**	**330**	*e*P	**P**	**12 21 56.9**	**-0.4**
KURK	**Kurchatov**	**73.49**	**325**	*e*P	**P**	**12 22 08.1**	**+0.1**
KURBB	**Kurchatov Arra**	**73.50**	**325**	P	**P**	**12 22 08.1**	**0.0**
4.6nm,0.8s,baz=114,slow=5.6,SNR=15							
VNDA	**Vanda**	**76.15**	**175**	P	**P**	**12 22 23.9**	**+0.9**
2.0nm,0.6s,baz=324,slow=6.4,SNR=13							
BVAR	**Borovoye Array**	**79.08**	**325**	P	**P**	**12 22 40.2**	**+0.4**
7.2nm,0.7s,baz=107,slow=7.9,SNR=29							
MAW	**Mawson**	**82.53**	**202**	P	**P**	**12 22 59.2**	**+1.3**
2.3nm,1.1s,baz=82,slow=7.1,SNR=4.7							
MAW	**Mawson**	**82.53**	**202**	*e*P	**P**	**12 22 59.0**	**+1.1**
2.9nm,1.8s							
GEYT	**Alibeck**	**84.12**	**308**	P	**P**	**12 23 08.0**	**+1.1**
2.2nm,0.6s,baz=93,slow=5.9,SNR=6.1							
ILAR	**Eielson Array**	**85.42**	**24**	P	**P**	**12 23 11.7**	**-1.0**
1.2nm,0.8s,baz=258,slow=4.7,SNR=10							
ILB	**Eielson Array**	**85.42**	**24**	*e*P	**P**	**12 23 11.3**	**-1.4**
ARCES	**ARCESS Array B**	**100.19**	**341**	P	**Pdif**	**12 24 20.1**	**-1.0**
1.8nm,0.9s,baz=89,slow=5.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**136.29**	**287**	PKP	**PKPdf**	**12 29 58.1**	**+0.1**
0.4nm,0.5s,baz=49,slow=2.9,SNR=3.6							
TOA1	**Torodi Ar. Sit**	**136.29**	**287**	*e*PKPdf	**PKPdf**	**12 29 58.1**	**+0.1**

*ISCJB **11** 12:22:37.7±0.8, 7°.08S±0°.05×103°.44E±0°.09, h20km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=7.8km az=177.5*
*IDC **11** 12:22:38.4±3.8, 6°.76S×103°.73E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/55, mbtmp3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.8/31, Error ellipse: s-maj=159.6km s-min=22.9km az=53.0*
*DJA **11** 12:22:40.3±0.9, 7°S±5°×10°4E±°, h10km, M3.7/6, MLv3.7/6*
ISC 11 12:22:40.1±1.2, 7°.02S±0°.09×103°.5E±0°.1, h20km, n18, σ0°79/18, mb3.5/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.78**	**33**	P	**Pn**	**12 23 09.6**	**-0.1**
KASI				S	**Sn**	**12 23 31.1**	**-0.6**
LWLI	**Liwa**	**2.06**	**15**	P	**Pn**	**12 23 14.5**	**+0.8**
LWLI				S	**Sn**	**12 23 38.7

IDC 11 12:47:04.6±1.4, 2°.29S×138°.87E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/29, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=29.0km s-min=15.2km az=7.0
ISCJB 11 12:47:06.0±0.8, 2°.46S±0°.06×138°.81E±0°.06, h10km, mb3.3/3, Error ellipse: s-maj=9.5km s-min=6.4km az=135.8
DJA 11 12:47:08.7±1.4, 2°S±20°×13°9E±1°7, h15km±15km, M3.3/3, MLv3.3/3
ISC 11 12:47:06.1±1.0, **2°.3S**±0°.1×**138°.89E**±0°.07, **h10**km, **n8**, σ1§**17**/11, **mb3.6**/3, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.39**	**332**	P	**Pn**	**12 47 16.1**	**-1.6**
SMPI				S	**Sb**	**12 47 22.8**	**+1.7**
GENI	**Genyem**	**1.30**	**101**	P	**Pg**	**12 47 32.0**	**+0.9**
GENI				S	**Sg**	**12 47 49.0**	**+1.0**
JAY	**Jayapura**	**1.82**	**96**	Pg	**Pb**	**12 47 38.5**	**-1.0**
	30nm,0.3s,baz=245,slow=9.7,SNR=16						
JAY				Lg	Lg	12 48 02.5	
	60nm,0.3s,baz=350,slow=21,SNR=9.1						
JAY	**Jayapura**	**1.82**	**96**	P	**Pb**	**12 47 39.1**	**-0.5**
JAY				S	**Sb**	**12 48 01.9**	**-0.6**
WRA	**Warramunga Arr**	**18.06**	**194**	P	**P**	**12 51 18.6**	**+0.9**
	0.1nm,0.3s,baz=12,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**21.75**	**192**	P	**P**	**12 51 57.9**	**0.0**
	0.2nm,0.5s,baz=24,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**69.60**	**322**	P	**P**	**12 58 14.9**	**-0.7**
	0.3nm,0.6s,baz=127,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**85.42**	**24**	P	**P**	**12 59 44.5**	**+0.8**
	0.4nm,0.9s,baz=248,slow=4.8,SNR=2.8						

IDC 11 12:50:36.9±4.3, 6°.01S×134°.69E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/30, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=241.3km s-min=30.3km az=81.0
ISCJB 11 12:50:41.6±0.8, 6°.15S±0°.06×133°.66E±0°.09, h33km, mb3.9/2, Error ellipse: s-maj=13.1km s-min=7.9km az=169.3
DJA 11 12:50:45.3±0.8, 6°S±6°×13°4E±°, h70km±60km, M4.1/4, MLv4.1/4
ISC 11 12:50:41.7±1.0, **6°.25S**±0°.06×**133°.8E**±0°.1, **h35**km, **n8**, σ3§**21**/13, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.57**	**359**	P	**Pn**	**12 51 21.7**	**+0.8**
KMPI				S	**Sn**	**12 51 48.8**	**-2.2**
FAKI	**Fak Fak**	**3.64**	**335**	P	**Pn**	**12 51 35.0**	**-0.6**
FAKI				S	**Sn**	**12 52 12.9**	**-4.5**
BNDI	**Bandanaira**	**4.21**	**294**	P	**Pn**	**12 51 45.2**	**+1.7**
BNDI				S	**Sn**	**12 52 29.7**	**-1.8**
SWI	**Sorong**	**5.91**	**335**	P	**Pn**	**12 52 06.3**	**-0.5**
WRA	**Warramunga Arr**	**13.62**	**178**	Pn	**Pn**	**12 53 54.4**	**+1.8**
	0.7nm,0.3s,baz=359,slow=13,SNR=30						
WRA				Sn	**Sn**	**12 56 17.8**	**-5.0**
	0.4nm,0.3s,baz=353,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**17.32**	**180**	P	**P**	**12 54 43.8**	**+1.8**
	0.6nm,0.3s,baz=3.8,slow=7.4,SNR=25						
ASAR				S	**Sn**	**12 57 47.2**	**-5.4**
	0.2nm,0.3s,baz=358,slow=28,SNR=2.9						
MKAR	**Makanchi Array**	**69.71**	**325**	P	**P**	**13 01 50.8**	**+2.7**
	0.6nm,0.5s,baz=118,slow=6.9,SNR=7.2						
ZALV	**Zalesovo Beam**	**72.62**	**332**	P	**P**	**13 02 07.4**	**+2.0**
	0.6nm,0.3s,baz=132,slow=6.2,SNR=4.2						

ISCJB 11 13:03:07.8±0.9, 47°.4N±0°.2×27°.5W±0°.2, h6km, mb3.4/5, MS3.2/2, Error ellipse: s-maj=24.1km s-min=14.9km az=18.5
IDC 11 13:03:08.6±1.1, 47°.32N×27°.48W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.4/40, mbtmp3.5/7, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/50, Error ellipse: s-maj=39.5km s-min=20.4km az=25.0
ISC 11 13:03:09.5±1.0, **47°.3N**±0°.2×**27°.5W**±0°.1, **h6**km, **n15**, σ0§**81**/7, **mb3.5**/5, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.10**	**53**	P	**Pn**	**13 07 08.2**	**-0.6**
	baz=267,slow=11,SNR=3.8						
ESDC	**Sonseca Array**	**18.63**	**106**	P	**Pn**	**13 07 28.8**	**+0.8**
	0.4nm,0.3s,baz=297,slow=13,SNR=7.3						
ESDC				LR	LR	13 13 04.5	
	comp=Z,77nm,18.9s,baz=305,slow=32						
MDT	**Midelt**	**22.59**	**122**	P	**P**	**13 08 11.2**	**+0.4**
	0.6nm,0.6s,baz=307,slow=10,SNR=2.9						
SFJD	**Kangerlussuaq**	**23.10**	**337**	LR	LR	13 15 57.0	
	comp=Z,71nm,19.3s,baz=87,slow=33						
VRAC	**Vranov**	**29.05**	**70**	LR	LR	13 19 13.9	
	comp=Z,78nm,20.8s,baz=267,slow=33						
TORD	**Torodi Ar. Bea**	**41.89**	**135**	P	**P**	**13 10 59.7**	**-0.9**
	0.7nm,0.7s,baz=330,slow=8.6,SNR=5.0						
PDAR	**Pinedale Array**	**55.62**	**298**	P	**P**	**13 12 45.7**	**-0.4**
	1.0nm,0.7s,baz=58,slow=7.6,SNR=9.1						
H10N2	**ASCENSION HYDR**	**56.11**	**164**	T	T	14 13 01.9	
	baz=350						
H10N3	**ASCENSION HYDR**	**56.12**	**164**	T	T	14 12 59.7	
	baz=350						
H10N1	**ASCENSION HYDR**	**56.13**	**164**	T	T	14 13 01.9	
	baz=350						
H10S1	**ASCENSION HYDR**	**57.17**	**165**	T	T	14 14 22.2	
	baz=350,slow=75,SNR=4.8						
H10S3	**ASCENSION HYDR**	**57.18**	**165**	T	T	14 14 23.0	
	baz=350,slow=75,SNR=5.4						
H10S2	**ASCENSION HYDR**	**57.19**	**165**	T	T	14 14 18.5	
	baz=350,slow=75,SNR=5.8						
TXAR	**Lajitas Array**	**60.08**	**282**	P	**P**	**13 13 18.0**	**+0.5**
	0.2nm,0.8s,baz=70,slow=7.2,SNR=3.7						
SONM	**Songino Array**	**77.05**	**30**	P	**P**	**13 15 03.7**	**+0.4**
	0.3nm,0.7s,baz=335,slow=5.4,SNR=2.4						

BJI 11 13:05:44.6, 2°.22S×138°.99E, h12km, mb5.1/81, mB5.6/64, Ms5.4/88, MS7 5.3/83
IDC 11 13:05:45.2±0.3, 2°.23S×138°.79E, h0km, mb5.0/26, mb1 5.0/30, mb1mx5.0/35, mbtmp5.0/30, ML4.8/3, MS5.2/27, Ms1 5.2/27, ms1mx5.1/36, Error ellipse: s-maj=11.2km s-min=7.4km az=81.0
MOS 11 13:05:48.4±1.1, 2°.23S×138°.80E, h33km, mb5.7/55, MS5.2/31, Error ellipse: s-maj=9.3km s-min=5.1km az=108.8
ISCJB 11 13:05:48.1±0.6, 2°.24S±0°.02×138°.90E±0°.02, h32km±4km, mb5.4/179, MS5.5/260, Error ellipse: s-maj=3.7km s-min=3.4km az=135.8
NEIC 11 13:05:48.0±0.0, 2°.30S×138°.83E, h20km, Moment Tensor Solution. s25 Moment tensor: Scale 1017Nm; Mrr3.71; Mθθ-0.36; Mφφ-3.35; Mrθ-1.27; Mθφ0.80; Mrφ0.64; Best double couple: M0 3.90000×10^17 NP1:φs332.00000°, δ54.00000°, λ73.00000°. NP2:φs179.00000°, δ39.00000°, λ112.00000°. Principal axes: T 4.0900, Plg74.0000°, Azm191.0000°; N -0.4200, Plg13.0000°, Azm341.0000°; P -3.6700, Plg7.0000°, Azm73.0000°;
DJA 11 13:05:48.7±0.3, 2°S±6°×13°9E±°, h10km, M5.6/12, mb5.7/12, mB5.9/10, MLv5.7/3, Mw(mB)5.5/10, Mwp5.9/5
NEIC 11 13:05:49.0±1.3, 2°.25S×138°.84E, h27km±9km, mb5.6/91, MS5.6/192, MW5.6, MW5.7, Error ellipse: s-maj=4.4km s-min=4.0km az=48.0, Moment Tensor Solution. s30 Moment tensor: Scale 1017Nm; Mrr2.31; Mθθ1.14; Mφφ-3.45; Mrθ0.21; Mθφ-0.38; Mrφ0.01; Best double couple: M0 3.10000×10^17 NP1:φs175.00000°, δ46.00000°, λ76.00000°. NP2:φs15.00000°, δ46.00000°, λ104.00000°. Principal axes: T 2.3500, Plg80.0000°, Azm3.0000°; N 1.1300, Plg10.0000°, Azm185.0000°; P -3.4800, Plg0.0000°, Azm95.0000°;
GCMT 11 13:05:49.0±0.1, 1°.97S×138°.93E, h21km, MW5.7/128, Moment Tensor Solution. s120,c235; s128,c374; Duration: 1s8 Moment tensor: Scale 1017Nm; Mrr4.30±.04; Mθθ0.06±.03; Mφφ-4.35±.04; Mrθ-0.56±.07; Mθφ1.56±.03; Mrφ0.65±.07; Best double couple: M0 4.65600×10^17 NP1:φs337.00000°, δ50.00000°, λ83.00000°. NP2:φs168.00000°, δ40.00000°, λ98.00000°. Principal axes: T 4.3980, Plg83.0000°, Azm206.0000°; N 0.5230, Plg5.0000°, Azm342.0000°; P -4.9150, Plg5.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s.

nsta2 refers to surface/mantle waves, cutoff=50s.
ISC 11 13:05:49.3±0.4, **2°.21S**±0°.03×**138°.89E**±0°.03, **h27**km±2km, **h28**km:**pP-P**, **n693**, σ1§**93**/638, **mb5.5**/194, **MS5.5**/261, **19C-16D**, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.29**	**320**	P	**Pb**	**13 05 55.5**	**-0.9**
GENI	**Genyem**	**1.33**	**106**	P	**Pn**	**13 06 11.2**	**-0.9**
JAY	**Jayapura**	**1.83**	**99**	Pn	**Pn**	**13 06 19.1**	**0.0**
	3μm,0.3s,baz=276,slow=18,SNR=329						
JAY				Lg	Lg	13 06 44.4	
	3μm,0.3s,baz=131,slow=20,SNR=13						
JAY				LR	LR	13 07 24.2	
	comp=Z,1037μm,19.9s,baz=155,slow=51						
JAY	**Jayapura**	**1.83**	**99**	P	**Pn**	**13 06 17.5**	**-1.6**
JAY				S	**Sb**	**13 06 44.1**	**-0.7**
RKPI	**Ransiki, Papua**	**4.76**	**278**	P	Pn	13 07 04.6	+5.2
KMPI	**Kaimana, Papua**	**5.38**	**254**	P	**Pn**	**13 07 09.8**	**+2.0**
	2μm,0.6s,20μm75μm						
KMPI				S	**Sn**	**13 08 14.3**	**+5.4**
	2μm,0.6s,20μm75μm						
FAKI	**Fak Fak**	**6.67**	**264**	P	**Pn**	**13 07 26.0**	**+0.3**
	857nm,0.7s,8μm57μm						
FAKI				S	**Sn**	**13 08 42.6**	**+1.7**
	857nm,0.7s,8μm57μm						
FAKI	**Fak Fak**	**6.67**	**264**	*e*Pn	**Pn**	**13 07 25.9**	**+0.2**
SWI	**Sorong**	**7.75**	**280**	P	**Pn**	**13 07 42.4**	**+2.0**
MANU	**Manus Island**	**8.47**	**89**	*e*Pn	**Pn**	**13 07 52.3**	**+2.0**
BNDI	**Bandanaira**	**9.26**	**255**	P	**Pn**	**13 08 03.7**	**+2.5**
BNDI				S	**Sn**	**13 09 49.0**	**+4.4**
SAUI	**Saumlaki**	**9.49**	**233**	P	**Pn**	**13 08 08.5**	**+4.2**
	715nm,0.7s,9μm						
SAUI				S	**Sn**	**13 09 48.1**	**-2.0**
	715nm,0.7s,9μm						
SAUI	**Saumlaki**	**9.49**	**233**	*e*Pn	**Pn**	**13 08 03.8**	**-0.5**
MSAI	**Masohi**	**10.02**	**263**	P	**Pn**	**13 08 13.2**	**+1.6**
	105nm,0.9s,1μm						
PALU	**Palau**	**10.47**	**335**	P	**Pn**	**13 08 18.7**	**+1.0**
	baz=11,SNR=5.8						
PMG	**Port Moresby**	**10.89**	**131**	Pn	**Pn**	**13 08 25.4**	**+1.9**
	1.0nm,0.3s,baz=300,slow=11,SNR=14						
PMG				LR	LR	13 14 15.4	
	comp=Z,33μm,18.2s,baz=323,slow=47						
PMG	**Port Moresby**	**10.89**	**131**	*de*P	**Pn**	**13 08 27.3**	**+3.8**
PMG	**Port Moresby**	**10.89**	**131**	*e*Pn	**Pn**	**13 08 24.2**	**+0.7**
LBMI	**Labuha**	**11.50**	**278**	P	**Pn**	**13 08 34.5**	**+2.7**
NLAI	**Namlea**	**11.82**	**265**	P	**Pn**	**13 08 38.8**	**+2.5**
	372nm,0.7s,4μm26μm						
KDU	**Kakadu**	**12.19**	**211**	P	**Pn**	**13 08 40.1**	**-1.2**
	baz=12,SNR=20						
COEN	**Coen**	**12.41**	**160**	P	**Pn**	**13 08 44.5**	**+0.2**
	baz=12,SNR=30						
COEN	**Coen**	**12.41**	**160**	*e*Pn	**Pn**	**13 08 44.7**	**+0.3**
SANI	**Sanana**	**12.90**	**270**	P	**Pn**	**13 08 52.7**	**+1.7**
	118nm,0.8s,2μm22μm						
MTN	**Manton Dam**	**13.06**	**216**	P	**Pn**	**13 08 51.4**	**-1.9**
	baz=13,SNR=112						
MTN	**Manton Dam**	**13.06**	**216**	*e*Pn	**Pn**	**13 08 51.5**	**-1.7**
RABL	**Rabaul**	**13.39**	**99**	*e*Pn	**Pn**	**13 08 58.5**	**+0.7**
MATI	**Mati**	**15.55**	**306**	*e*P	**Pn**	**13 09 28.7**	**+1.8**
KDI	**Kendari**	**16.34**	**264**	P	**P**	**13 09 38.5**	**-1.3**
	211nm,1.1s,3μm						
SOEI	**Soe**	**16.35**	**242**	P	**P**	**13 09 38.6**	**-1.4**
	627nm,1.2s,6μm						
SOEI	**Soe**	**16.35**	**242**	*e*Pn	**Pn**	**13 09 35.2**	**-2.1**
	511nm,0.9s						
BBSI	**Bau Bau**	**16.61**	**258**	P	**P**	**13 09 43.5**	**+0.8**
	201nm,1.3s,2μm						
MTSU	**Mount Surprise**	**16.69**	**162**	P	**P**	**13 09 42.6**	**-1.1**
	baz=17,SNR=30						
KNRA	**Kununurra**	**16.69**	**216**	P	**Pn**	**13 09 40.9**	**-0.5**
	baz=17,SNR=12						
GUMO	**Guam**	**16.78**	**21**	Pn	**P**	**13 09 44.0**	**-0.6**
	0.8nm,0.3s,baz=198,slow=9.6,SNR=3.1						
GUMO	**Guam**	**16.78**	**21**	P	**P**	**13 09 44.0**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GUMO	**Guam**	**16.78**	**21**	*e*Pn	**Pn**	**13 09 43.2**	**+0.6**
	comp=Z,2μm,1.9s						
BUKP	**Musuan**	**17.05**	**306**	*e*P	**P**	**13 09 50.2**	**+2.5**
CTBH	**Cotabato--PC H**	**17.36**	**303**	↑*i*P	**P**	**13 09 52.7**	**+1.6**
WRAB	**Tennant Creek**	**18.16**	**194**	↓*e*P	**Pn**	**13 09 59.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,189nm,1.0s						
WRAB	**Tennant Creek**	**18.16**	**194**	*e*Pn	**Pn**	**13 09 58.0**	**-1.8**
	comp=Z,188nm,0.8s						
WB2	**Warramunga Arr**	**18.17**	**194**	*e*Pn	**Pn**	**13 09 57.4**	**-2.4**
WRA	**Warramunga Arr**	**18.17**	**194**	P	**Pn**	**13 09 57.6**	**-2.3**
	comp=Z,4.2nm,0.3s,baz=18,slow=12,SNR=53						
WRA				S	**Sn**	**13 13 21.9**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=18,slow=22,SNR=5.4						
WRA				LR	LR	13 17 45.4	
	comp=Z,28μm,19.3s,baz=15,slow=40						
QIS	**Mount Isa**	**18.25**	**178**	P	**Pn**	**13 09 59.7**	**-1.1**
	baz=18,SNR=16						
PAGZ	**Pagadian**	**18.42**	**303**	*e*P	**Pn**	**13 10 03.8**	**+0.9**
BSSI	**Bau Bau, Buton**	**18.76**	**257**	P	**Pn**	**13 10 10.7**	**+3.6**
	comp=Z,558nm,1.1s						
PCI	**Palu**	**19.09**	**274**	P	**Pn**	**13 10 14.1**	**+3.0**
	comp=Z,437nm,1.3s,comp=Z,7μm						
MPSI	**Mapaga**	**19.16**	**277**	P	**Pn**	**13 10 12.4**	**+0.5**
CTA	**Charters Tower**	**19.16**	**158**	P	**Pn**	**13 10 11.9**	**0.0**
	comp=Z,4.0nm,0.3s,baz=340,slow=12,SNR=18						
CTAO	**Charters Tower**	**19.16**	**158**	*e*P	**P**	**13 10 08.3**	**-2.6**
CTAO				pmax	pmax		
	comp=Z,58nm,1.0s						
CTAO	**Charters Tower**	**19.16**	**158**	*e*P	**P**	**13 10 08.2**	**-2.6**
	comp=Z,58nm,0.9s						
BESP	**Borongan**	**19.17**	**316**	*e*P	**P**	**13 10 11.3**	**+0.4**
SPSI	**Sidrap Palu**	**19.18**	**264**	P	**Pn**	**13 10 15.5**	**+3.4**
PLP	**Palo**	**19.19**	**314**	↓*e*P	**P**	**13 10 08.0**	**-3.2**
KAPI	**Kappang**	**19.30**	**261**	P	**Pn**	**13 10 16.3**	**+2.7**
	SNR=21						
KAPI	**Kappang**	**19.30**	**261**	P	**Pn**	**13 10 16.3**	**+2.7**
	SNR=21						
SNPH	**Sibulan**	**19.37**	**307**	*e*P	**Pn**	**13 10 15.1**	**+0.6**
OCLP	**Ormoc**	**19.38**	**313**	*e*P	**P**	**13 10 13.7**	**+0.4**
GUIM	**Jordan**	**20.64**	**308**	*e*P	Pn	13 10 28.3	-1.1
RCP	**Roxas**	**21.10**	**311**	↓*e*P	**P**	**13 10 33.5**	**+1.5**
PATS	**Pohnpei**	**21.37**	**65**	P	**P**	**13 10 36.9**	**+2.0**
	baz=22,SNR=13						
PATS	**Pohnpei**	**21.37**	**65**	*e*P	**P**	**13 10 34.5**	**-0.4**
	comp=Z,611nm,1.2s						
PVCP	**Virac**	**21.46**	**317**	*e*P	**P**	**13 10 33.9**	**-1.9**
MYLDM	**Lahad Datu**	**21.66**	**290**	*e*P	**P**	**13 10 39.5**	**+1.5**
	comp=Z,772nm,1.6s						
AS01	**Alice Springs**	**21.86**	**192**	*e*P	**P**	**13 10 38.5**	**-1.6**
AS31	**Alice Springs**	**21.86**	**192**	*e*P	**P**	**13 10 38.3**	**-1.9**
	comp=Z,48nm,0.6s						
AS31				LR	LR		
	comp=Z,300nm,18.0s						
ASAR	**Alice Springs**	**21.87**	**192**	P	**P**	**13 10 39.0**	**-1.1**
	comp=Z,48nm,0.9s,baz=23,slow=9.6,SNR=109						
ASAR				S	**S**	**13 14 44.4**	**+3.8**
	comp=Z,12nm,0.8s,baz=13,slow=25,SNR=4.2						
ASAR				LR	LR	13 19 51.0	
	comp=Z,20μm,19.6s,baz=16,slow=39						
HNR	**Honiara**	**22.12**	**110**	P	**P**	**13 10 43.6**	**+0.6**
	comp=Z,243nm,0.7s,baz=263,slow=8.1,SNR=7.1						
HNR	**Honiara**	**22.12**	**110**	*e*P	**P**	**13 10 41.4**	**-1.6**
HNR				pmax	pmax		
	comp=Z,320nm,0.9s						
HNR	**Honiara**	**22.12**	**110**	*e*P	**P**	**13 10 41.1**	**-1.9**
	comp=Z,322nm,0.8s						
OTRP	**Odiongan**	**22.15**	**311**	*e*P	**P**	**13 10 42.7**	**-0.6**
AUQP	**San Andres**	**22.30**	**314**	*e*P	**P**	**13 10 49.2**	**+4.4**
SJMP	**San Jose**	**22.90**	**310**	*e*P	**P**	**13 10 51.4**	**+0.2**
BUSP	**Coron**	**23.34**	**308**	*e*P	**P**	**13 10 56.3**	**+0.6**
ENPP	**El Nido**	**23.51**	**305**	*e*P	**P**	**13 10 57.6**	**+0.2**
TGY	**Tagaytay City**	**24.07**	**313**	P	**P**	**13 11 03.5**	**+0.7**
	comp=Z,464nm,0.7s,baz=143,slow=9.6,SNR=9.7						
TGY				LR	LR	13 20 57.8	
	comp=Z,5μm,19.2s,baz=144,slow=38						
KKM	**Kota Kinabalu**	**24.09**	**290**	*e*P	**P**	**13 11 02.4**	**-0.6**
	comp=Z,126nm,0.9s						
LUBP	**Lubang**	**24.35**	**311**	*e*P	**P**	**13 11 05.0**	**-0.3**
QLP	**Quilpie**	**24.77**	**169**	P	**P**	**13 11 08.5**	**-0.4**
	baz=25,SNR=56						
JAGI	**Jajag, Banyuwa**	**25.39**	**255**	*e*P	**P**	**13 11 13.8**	**-1.0**
	comp=Z,154nm,1.3s						
JAGI				LR	LR		
	comp=Z,3μm,22.0s						
CAUP	**Cauayan**	**25.42**	**319**	*e*P	**P**	**13 11 20.3**	**+5.3**
EIDS	**Eidsvold**	**25.84**	**154**	P	**P**	**13 11 19.6**	**+0.9**
	baz=26,SNR=30						
EIDS	**Eidsvold**	**25.84**	**154**	*e*P	**P**	**13 11 18.8**	**+0.1**
	comp=Z,697nm,1.8s						
EIDS				LR	LR		
	comp=Z,5μm,19.0s						
RMQ	**Roma**	**25.93**	**159**	P	**P**	**13 11 20.2**	**+0.8**
	baz=26,SNR=38						
SGCP	**Mt. Cagua**	**26.24**	**321**	*e*P	**P**	**13 11 17.8**	**-4.5**
BOLP	**Bolinao**	**26.32**	**315**	*e*P	**P**	**13 11 27.4**	**+4.3**
MBWA	**Marble Bar**	**26.52**	**223**	*e*P	**P**	**13 11 24.6**	**-0.3**
	comp=Z,94nm,0.8s						
MBWA				LR	LR		
	comp=Z,8μm,18.0s						
MBWA	**Marble Bar**	**26.52**	**223**	P	**P**	**13 11 25.7**	**+0.9**
	SNR=7.7						
MBWA				P	**P**	**13 11 25.7**	**+0.9**
	SNR=7.7						
MBWA	**Marble Bar**	**26.52**	**223**	P	**P**	**13 11 25.7**	**+0.9**
	SNR=7.7						
ABRA	**Dolores**	**26.66**	**318**	*e*P	**P**	**13 11 27.8**	**+1.6**
SBUM	**Sibu**	**27.07**	**280**	*e*P	**P**	**13 11 31.1**	**+1.2**
	comp=Z,90nm,1.4s						
SBUM	**Sibu**	**27.07**	**280**	↑P	**P**	**13 11 32.9**	**+3.0**
UGM	**Wanagama**	**28.81**	**258**	PFAKE		13 12 00.0	+14
UGM				LR	LR		
	comp=Z,1μm,20.0s						
CBIJ	**Chichi jima**	**29.31**	**6**	PFAKE		13 12 00.0	+10
CBIJ				LR	LR		
	comp=Z,4μm,19.0s						
STKA	**Stephens Creek**	**29.61**	**175**	P	**P**	**13 11 51.6**	**-0.8**
	comp=Z,20nm,1.0s,baz=349,slow=8.7,SNR=24						
STKA				LR	LR	13 25 07.4	
	comp=Z,15μm,19.2s,baz=348,slow=39						
STKA	**Stephens Creek**	**29.61**	**175**	P	**P**	**13 11 52.6**	**+0.2**
	baz=30,SNR=23						
STKA	**Stephens Creek**	**29.61**	**175**	*e*P	**P**	**13 11 51.6**	**-0.8**
STKA				pmax	pmax		
	comp=Z,40nm,1.5s						
STKA	**Stephens Creek**	**29.61**	**175**	*e*P	**P**	**13 11 51.6**	**-0.8**
	comp=Z,40nm,1.5s						
CMSA	**Cobar Meteorol**	**29.86**	**168**	P	**P**	**13 11 56.0**	**+1.3**
	baz=30,SNR=36						
TWG	**Pinlang**	**30.35**	**326**	PFAKE		13 12 10.0	+11
TWG				LR	LR		
	comp=Z,15μm,20.0s						
ARMA	**Armidale**	**30.54**	**158**	P	**P**	**13 12 03.6**	**+2.9**
	baz=31,SNR=15						
ARMA	**Armidale**	**30.54**	**158**	*e*P	**P**	**13 12 02.2**	**+1.4**
	comp=Z,49nm,1.0s						
ARMA				LR	LR		
	comp=Z,7μm,18.0s						
BBOO	**Buckleboo**	**30.55**	**185**	P	**P**	**13 12 01.9**	**+1.3**
	baz=31,SNR=21						
BBOO	**Buckleboo**	**30.55**	**185**	*e*P	**P**	**13 12 00.8**	**+0.1**
	comp=Z,192nm,1.2s						
BBOO				LR	LR		
	comp=Z,15μm,19.0s						
JOW	**Kunigami**	**30.64**	**341**	*e*P	**P**	**13 12 02.1**	**+0.6**
	comp=Z,102nm,1.2s						
JOW				LR	LR		
	comp=Z,8μm,21.0s						
YOJ	**Yonaguni jima**	**30.68**	**331**	PFAKE		13 12 10.0	+8.1
YOJ				LR	LR		
	comp=Z,8μm,21.0s						
YULB	**Yu-li**	**30.68**	**327**	*e*P	**P**	**13 12 03.5**	**+1.5**
	comp=Z,138nm,1.9s						
YULB				LR	LR		
	comp=Z,5μm,20.0s						
TPUB	**Ta-pu**	**30.98**	**326**	PFAKE		13 12 20.0	+15
TPUB				LR	LR		
	comp=Z,5μm,20.0s						
HTT	**Hallett**	**31.05**	**180**	P	**P**	**13 12 05.3**	**+0.1**
	baz=31,SNR=70						
NACB	**Ninganchiao**	**31.16**	**328**	*e*P	**P**	**13 12 06.1**	**0.0**
	comp=Z,224nm,1.6s						
NACB				LR	LR		
	comp=Z,5μm,21.0s						
SSLB	**Suanglung**	**31.19**	**327**	*e*P	**P**	**13 12 06.1**	**-0.3**
	comp=Z,83nm,1.7s						
SSLB				LR	LR		
	comp=Z,7μm,21.0s						
GIRL	**Giralia**	**31.39**	**228**	P	**P**	**13 12 09.4**	**+1.2**
	baz=31,SNR=4.9						
CISI	**Cisompet, Garu**	**31.40**	**259**	*e*P	**P**	**13 12 08.7**	**+0.2**
	comp=Z,60nm,0.7s						
CISI				LR	LR		
	comp=Z,1μm,21.0s						
YHNB	**Yeheng**	**31.68**	**329**	*e*P	**P**	**13 12 10.0**	**-0.8**
	comp=Z,52nm,1.0s						
YHNB				LR	LR		
	comp=Z,6μm,20.0s						
TATO	**Taipei**	**31.87**	**329**	PFAKE		13 12 20.0	+7.6
TATO				LR	LR		
	comp=Z,5μm,21.0s						
MGCD	**Mangrove Creek**	**32.89**	**161**	P	**P**	**13 12 22.1**	**+0.9**
	baz=33,SNR=4.9						
DZM	**Mont Dzumac**	**33.27**	**129**	*e*S	S	13 17 29.4	-14
	comp=Z,3μm,33.8s						
DZM				*e*LR	LR	13 21 08.2	
	comp=Z,7μm,23.5s						
DZM	**Mont Dzumac**	**33.27**	**129**	PFAKE		13 12 40.0	+15
DZM				LR	LR		
	comp=Z,5μm,21.0s						
DLV	**T Lat**	**33.33**	**296**	*e*P	**P**	**13 12 24.3**	**-1.3**
	comp=Z,210nm,1.8s						
QZH	**Quanzhou**	**33.42**	**325**	↑*i*P	**P**	**13 12 24.1**	**-1.8**
QZH				S	**S**	**13 17 40.3**	**-5.4**
QZH				pmax	pmax		
	comp=Z,100nm,0.7s						
QZH				pmax	pmax		
	comp=Z,1μm,3.9s						
QZH				LR	LR		
	comp=Z,3μm,13.9s						
QZH				LR	LR		
	comp=Z,4μm,17.4s						
QZH				LR	LR		
	comp=Z,9μm,21.3s						
**TAR

GZH			LR	LR		
	comp=Z,7μm,16.1s					
QIZ	**Qiongzhong**	**35.52 308**	P	**P**	**13 12 43.9**	**-0.3**
QIZ			sP	**pP**	**13 12 52.0**	**-0.3**
QIZ			PP	**PP**	**13 14 06.8**	**+1.6**
QIZ			S	**S**	**13 18 20.1**	**+1.8**
QIZ			sS	**sS**	**13 18 31.2**	**-0.5**
QIZ			LR	LR		
	comp=Z,2μm,16.1s					
QIZ			LR	LR		
	comp=Z,3μm,17.3s					
QIZ			LR	LR		
	comp=Z,3μm,18.9s					
QIZ	**Qiongzhong**	**35.52 308**	*e*P	**P**	**13 12 44.4**	**+0.2**
	comp=Z,86nm,1.0s					
QIZ			LR	LR		
	comp=Z,3μm,20.0s					
TOO	**Toolangi**	**35.71 171**	P	**P**	**13 12 46.4**	**+0.8**
	baz=36,SNR=10					
MNAI	**Manna**	**35.94 266**	PFAKE		13 13 00.0	+12
MNAI			LR	LR		
	comp=Z,3μm,22.0s					
JNU	**Nakatsue**	**35.95 349**	*e*P	**P**	**13 12 47.0**	**-0.8**
	comp=Z,37nm,1.0s					
NWAO	**Narrogin (SRO)**	**36.70 211**	P	**P**	**13 12 54.0**	**-0.2**
	baz=37,SNR=16					
NWAO			P	**P**	**13 12 54.0**	**-0.2**
	baz=37,SNR=16					
NWAO	**Narrogin (SRO)**	**36.70 211**	*e*P	**P**	**13 12 53.8**	**-0.3**
NWAO			pmax	pmax		
	comp=Z,91nm,0.9s					
NWAO	**Narrogin (SRO)**	**36.70 211**	*e*P	**P**	**13 12 53.2**	**-0.9**
	comp=Z,92nm,0.8s					
NWAO			LR	LR		
	comp=Z,25μm,20.0s					
NWAO	**Narrogin (SRO)**	**36.70 211**	P	**P**	**13 12 54.0**	**-0.2**
	SNR=6.7					
NWAO			P	**P**	**13 12 54.0**	**-0.2**
	SNR=6.7					
NWAO	**Narrogin (SRO)**	**36.70 211**	P	**P**	**13 12 54.0**	**-0.2**
	SNR=6.7					
SSE	**Sheshan**	**37.17 334**	P	**P**	**13 12 57.3**	**-0.8**
SSE			sP	**pP**	**13 13 06.1**	**-0.2**
SSE			PP	**PP**	**13 14 22.4**	**-0.8**
SSE			S	**S**	**13 18 41.7**	**-1.5**
SSE			sS	**pS**	**13 18 50.7**	**-1.9**
SSE			pmax	pmax		
	comp=Z,44nm,0.7s					
SSE			pmax	pmax		
	comp=Z,560nm,8.1s					
SSE			LR	LR		
	comp=Z,4μm,21.8s					
SSE			LR	LR		
	comp=Z,1μm,21.5s					
SSE			LR	LR		
	comp=Z,5μm,20.3s					
UBPT	**Khong Chiam**	**37.36 299**	P	**P**	**13 13 01.4**	**+1.4**
	comp=Z,75nm,2.2s,comp=Z,2μm					
INU	**Inuyama**	**37.41 357**	*e*P	**P**	**13 13 01.3**	**+1.2**
	comp=Z,53nm,1.5s					
INU			LR	LR		
	comp=Z,3μm,21.0s					
FRIM	**Kepong**	**37.65 278**	⇓P	**P**	**13 13 04.0**	**+1.5**
RKGY	**Rocky Gully**	**38.16 210**	P	**P**	**13 13 05.8**	**-0.7**
	baz=38,SNR=8.3					
IPM	**Ipoh**	**38.42 280**	*e*P	**P**	**13 13 09.2**	**+0.2**
	comp=Z,288nm,1.7s					
IPM	**Ipoh**	**38.42 280**	⇑P	**P**	**13 13 10.8**	**+1.8**
MJAR	**Matsushiro Arr**	**38.56 359**	P	**P**	**13 13 08.2**	**-1.6**
	comp=Z,6.3nm,0.8s,baz=180,slow=9.1,SNR=23					
MJAR			PcP	**PcP**	**13 15 22.3**	**+0.1**
	comp=Z,11nm,1.0s,baz=175,slow=2.8,SNR=9.0					
MJAR			LR	LR	13 26 59.4	
	comp=Z,4μm,20.3s,baz=135,slow=33					
MAJO	**Matsushiro**	**38.56 359**	⇑*e*P	**P**	**13 13 09.5**	**-0.4**
MAJO			pmax	pmax		
	comp=Z,74nm,0.8s					
MAJO	**Matsushiro**	**38.56 359**	*e*P	**P**	**13 13 08.7**	**-1.2**
	comp=Z,75nm,1.7s					
MAJO			LR	LR		
	comp=Z,4μm,20.0s					
MAT	**Matsushiro**	**38.56 359**	P	**P**	**13 13 10.6**	**+0.7**
MAT			S	S	13 19 19.8	+16
MJB9	**Matsu-Tunnel**	**38.57 359**	*e*P	**P**	**13 13 08.7**	**-1.2**
	comp=Z,19nm,1.7s					
MJB9			LR	LR		
	comp=Z,1μm,21.0s					
PANO	**Nakornpanom**	**38.91 301**	P	**P**	**13 13 13.9**	**+0.9**
	comp=Z,125nm,0.9s					
KULM	**Kulim**	**38.92 281**	*e*P	**P**	**13 13 09.9**	**-3.3**
	comp=Z,291nm,1.6s					
KULM	**Kulim**	**38.92 281**	⇑P	**P**	**13 13 14.9**	**+1.6**
NJ2	**Nanjing**	**39.02 332**	*e*P	**P**	**13 13 15.0**	**+1.2**
NJ2			pP	**pP**	**13 13 17.5**	**-4.4**
NJ2			S	**S**	**13 19 14.6**	**+3.3**
NJ2			sS	**pS**	**13 19 18.4**	**-2.3**
NJ2			ScS	**ScS**	**13 23 23.3**	**+1.6**
NJ2			pmax	pmax		
	comp=Z,36nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,800nm,3.5s					
NJ2			LR	LR		
	comp=Z,4μm,19.6s					
NJ2			LR	LR		
	comp=Z,3μm,18.0s					
NJ2			LR	LR		
	comp=Z,6μm,20.6s					
SKLT	**Songkhla**	**39.31 284**	P	**P**	**13 13 18.2**	**+1.7**
	comp=Z,139nm,0.8s					
SKNT	**Sakolnakorn**	**39.37 300**	P	**P**	**13 13 17.1**	**+0.2**
	comp=Z,221nm,0.8s,comp=Z,3μm					
H01W1	**Cape Leeuwin H**	**39.84 212**	P	**P**	**13 13 19.7**	**-0.6**
	baz=64,slow=5.3,SNR=3.1					
H01W3	**Cape Leeuwin H**	**39.84 213**	P	**P**	**13 13 19.2**	**-1.1**
	baz=64,slow=5.3,SNR=3.5					
H01W2	**Cape Leeuwin H**	**39.85 212**	P	**P**	**13 13 19.3**	**-1.1**
	baz=64,slow=5.3,SNR=3.0					
WHN	**Wuhan**	**40.11 326**	⇑P	**P**	**13 13 25.1**	**+2.2**
WHN			LR	LR		
	comp=Z,4μm,16.8s					
WHN			LR	LR		
	comp=Z,3μm,16.6s					
WHN			LR	LR		
	comp=Z,5μm,17.1s					
KHON	**Khomkaen**	**40.11 299**	P	**P**	**13 13 24.5**	**+1.4**
	comp=Z,36nm,0.9s					
TRTT	**Trang**	**40.36 285**	P	**P**	**13 13 26.5**	**+1.3**
	comp=Z,142nm,1.5s,comp=Z,2μm					
FUNA	**Funafuti**	**40.59 100**	*e*P	**P**	**13 13 25.4**	**-1.7**
	comp=Z,610nm,1.8s					
CHAI	**Chaiyaphum**	**40.68 298**	P	**P**	**13 13 27.9**	**+0.1**
	comp=Z,31nm,0.8s,comp=Z,274nm					
KSAR	**Wonju Array Be**	**40.76 347**	P	**P**	**13 13 29.0**	**+0.9**
KSAR					13 15 30.8	
KSAR	**Wonju Array Be**	**40.76 347**	P	**P**	**13 13 28.9**	**+0.9**
KSAR			PcP	**PcP**	**13 15 30.8**	**+1.7**
KSRS	**Korea Array**	**40.76 347**	P	**P**	**13 13 28.9**	**+0.9**
	comp=Z,7.6nm,0.9s,baz=159,slow=9.1,SNR=17					
KSRS			PcP	**PcP**	**13 15 30.8**	**+1.7**
	comp=Z,12nm,0.9s,baz=169,slow=3.5,SNR=14					
KSRS			LR	LR	13 27 45.7	
	comp=Z,4μm,22.0s,baz=162,slow=32					
KS01	**Wonju Array Si**	**40.79 347**	*e*P	**P**	**13 13 28.3**	**-0.1**
KS01			*e*PcP	**PcP**	**13 15 30.1**	**+0.8**
INCN	**Inchon**	**41.10 345**	*e*P	**P**	**13 13 31.4**	**+0.4**
	comp=Z,50nm,0.9s					
INCN			LR	LR		
	comp=Z,4μm,20.0s					
TAU	**Tasmania Unive**	**41.21 171**	PFAKE		13 13 40.0	+8.2
TAU			LR	LR		
	comp=Z,14μm,18.0s					
MSVF	**Nonsavu**	**41.40 114**	PFAKE		13 13 50.0	+16
MSVF			LR	LR		
	comp=Z,3μm,22.0s					
SLVN	**Son La**	**41.47 306**	*e*P	**P**	**13 13 33.6**	**-0.7**
	comp=Z,58nm,0.9s					
SLVN			LR	LR		
	comp=Z,3μm,20.0s					
PHET	**Kaeng Krachan**	**41.77 292**	P	**P**	**13 13 38.3**	**+1.5**
	comp=Z,30nm,0.8s,comp=Z,267nm					
PBKT	**Sadao Pong**	**41.84 298**	P	**P**	**13 13 38.2**	**+0.9**
	comp=Z,34nm,1.8s,comp=Z,834nm					
GYA	**Guiyang**	**42.20 315**	⇑*i*P	**P**	**13 13 40.5**	**+0.2**
GYA			PP	**PP**	**13 15 23.0**	**+4.6**
GYA			PcP	**PcP**	**13 15 36.2**	**+1.9**
GYA			ScP	**ScP**	**13 19 24.5**	**+1.2**
GYA			S	**S**	**13 20 02.6**	**+3.4**
GYA			SS	**SS**	**13 23 04.9**	**-3.0**
GYA			ScS	**ScS**	**13 23 41.0**	**-0.3**
GYA			pmax	pmax		
	comp=Z,40nm,0.8s					
GYA			pmax	pmax		
	comp=Z,630nm,10.5s					
GYA			LR	LR		
	comp=Z,1μm,19.1s					
GYA			LR	LR		
	comp=Z,1μm,19.4s					
GYA			LR	LR		
	comp=Z,2μm,16.9s					
LHMI	**Lhok Sumawe**	**42.55 280**	*e*P	**P**	**13 13 42.6**	**-0.6**
	comp=Z,246nm,1.0s					
PHIT	**Phitsanulok**	**42.57 298**	P	**P**	**13 13 47.4**	**+4.2**
	comp=Z,44nm,1.0s,comp=Z,525nm					
UTTA	**Uttaradit**	**42.67 299**	P	**P**	**13 13 45.3**	**+1.3**
	comp=Z,19nm,0.9s,comp=Z,198nm					
SRDT	**SRDT**	**42.70 294**	P	**P**	**13 13 46.3**	**+1.9**
	comp=Z,185nm,1.5s,comp=Z,4μm					
ENH	**Enshi**	**42.79 321**	*e*P	**P**	**13 13 44.6**	**-0.3**
	comp=Z,93nm,1.2s					
NANT	**Nan**	**42.97 301**	P	**P**	**13 13 47.5**	**+1.0**
	comp=Z,28nm,0.8s,comp=Z,296nm					
TIA	**Tai'an**	**43.29 334**	⇓P	**P**	**13 13 48.8**	**0.0**
TIA			S	**S**	**13 20 13.6**	**-1.0**
TIA			pmax	pmax		
	comp=Z,60nm,1.5s					
TIA			pmax	pmax		
	comp=Z,750nm,10.0s					
TIA			LR	LR		
	comp=Z,3μm,23.0s					
TIA			LR	LR		
	comp=Z,2μm,22.0s					
TIA			LR	LR		
	comp=Z,5μm,22.0s					
UMPA	**Umpang Tak**	**43.58 296**	P	**P**	**13 13 53.6**	**+2.1**
	comp=Z,20nm,1.1s,comp=Z,520nm					
LAMP	**Lampang**	**43.78 300**	P	**P**	**13 13 54.1**	**+1.0**
	comp=Z,33nm,0.9s,comp=Z,295nm					
DL2	**Dalian**	**43.90 340**	⇑*i*P	**P**	**13 13 53.8**	**+0.1**
DL2			S	**S**	**13 20 26.1**	**+2.6**
DL2			pmax	pmax		
	comp=Z,65nm,1.1s					
DL2			pmax	pmax		
	comp=Z,1μm,10.1s					
DL2			LR	LR		
	comp=Z,2μm,24.6s					
DL2			LR	LR		
	comp=Z,2μm,23.3s					
DL2			LR	LR		
	comp=Z,3μm,23.1s					
KMI	**Kunming**	**44.34 310**	P	**P**	**13 13 57.8**	**+0.1**
KMI			pP	pP	13 14 02.6	-3.4
KMI			sP	sP	13 14 05.8	-3.5
KMI			PP	**PcP**	**13 15 45.3**	**+3.6**
KMI			S	**S**	**13 20 30.1**	**-0.7**
KMI			SS	**SS**	**13 23 44.7**	**-5.4**
KMI			pmax	pmax		
	comp=Z,30nm,1.0s					
KMI			pmax	pmax		
	comp=Z,500nm,4.9s					
KMI			LR	LR		
	comp=Z,2μm,20.5s					
KMI			LR	LR		
	comp=Z,2μm,20.5s					
KMI			LR	LR		
	comp=Z,4μm,24.5s					
CM31	**Chiang Mai Arr**	**44.35 299**	*e*P	**P**	**13 13 56.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**44.35 299**	P	**P**	**13 13 58.0**	**+0.3**
	comp=Z,52nm,1.0s,baz=120,slow=6.6,SNR=61					
CMAR			PcP	**PcP**	**13 15 43.0**	**+1.5**
	comp=Z,12nm,0.9s,baz=143,slow=1.9,SNR=8.3					
CMAR			ScP	**ScP**	**13 19 34.1**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=112,slow=1.5,SNR=2.5					
CMAR			LR	LR	13 33 56.0	
	comp=Z,1μm,18.8s,baz=143,slow=38					
CMAR	**Chiang Mai Arr**	**44.35 299**	*c*e*P	**P**	**13 13 58.0**	**+0.3**
CMAR			pmax	pmax		
	comp=Z,58nm,1.0s					
CHTO	**Chiang Mai**	**44.49 300**	P	**P**	**13 13 59.3**	**+0.5**
	comp=Z,295nm,1.3s,comp=Z,3μm					
CHTO	**Chiang Mai**	**44.49 300**	*e*P	**P**	**13 13 58.2**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,48nm,1.0s					
CHTO	**Chiang Mai**	**44.49 300**	*e*P	**P**	**13 13 58.2**	**-0.6**
	comp=Z,48nm,1.0s					
CHTO	**Chiang Mai**	**44.49 300**	P	**P**	**13 13 58.3**	**-0.5**
	SNR=28					
MSHR	**Mys Shultsa**	**45.13 352**	⇓*e*P	**P**	**13 14 04.1**	**+0.6**
XAN	**Xi'an**	**45.78 325**	P	**P**	**13 14 08.7**	**-0.1**
XAN			pP	pP	13 14 16.9	-0.2
XAN			S	**S**	**13 20 49.9**	**-1.1**
XAN			pmax	pmax		
	comp=Z,41nm,1.4s					
XAN			pmax	pmax		
	comp=Z,880nm,11.4s					
XAN			LR	LR		
	comp=Z,1μm,24.4s					
XAN			LR	LR		
	comp=Z,1μm,21.4s					
XAN			LR	LR		
	comp=Z,4μm,20.3s					
CMBY	**CAMPBELL BAY**	**45.80 282**	*e*P	**P**	**13 14 08.3**	**-0.9**
SNY	**Shenyang**	**45.99 344**	⇑P	**P**	**13 14 09.2**	**-1.0**
SNY			S	**S**	**13 20 55.8**	**+2.2**
SNY			pmax	pmax		
	comp=Z,29nm,2.5s					
SNY			LR	LR		
	comp=Z,3μm,19.6s					
SNY			LR	LR		
	comp=Z,1μm,20.6s					
SNY			LR	LR		
	comp=Z,6μm,21.0s					
ASAJ	**Asahikawa**	**46.24 4**	*e*P	**P**	**13 14 12.4**	**+0.2**
	comp=Z,121nm,1.7s					
YUK	**Yuzh-Kuril'sk**	**46.46 7**	*c i*P	**P**	**13 14 12.6**	**-1.3**
YUK			*i*		13 15 59.9	
YUK			*i* PPP	PPP	13 16 41.7	
YUK			*i* S	**S**	**13 20 59.1**	**-1.2**
YUK			*i* SS	**SS**	**13 24 23.1**	**-3.5**
YUK			*i* SSS	SSS	13 25 23.3	
YUK			pmax	pmax		
	comp=Z,386nm,1.5s					
YUK			pmax	pmax		
	comp=Z,232nm,1.4s					
YUK			pmax	pmax		
	comp=N,222nm,1.3s					
USRK	**Ussuriysk Ar.**	**46.62 353**	P	**P**	**13 14 15.5**	**+0.3**
	comp=N,22nm,1.0s,baz=165,slow=7.9,SNR=30					
USRK			PcP	**PcP**	**13 15 50.1**	**+1.3**
	comp=N,12nm,1.0s,baz=184,slow=4.3,SNR=3.1					
USRK			LR	LR	13 30 16.4	
	comp=N,6μm,21.8s,baz=152,slow=32					
TIY	**Taiyuan**	**46.68 331**	*e*P	**P**	**13 14 14.9**	**-1.0**
TIY			S	**S**	**13 21 00.5**	**-3.3**
TIY			SS	**SS**	**13 24 26.1**	**-4.4**
TIY			pmax	pmax		
	comp=N,400nm,5.0s					
TIY			LR	LR		
	comp=N,4μm,19.2s					
TIY			LR	LR		
	comp=N,1μm,15.5s					
TIY			LR	LR		
	comp=N,4μm,18.8s					
BJT	**Baijiatuau**	**46.90 336**	*e*P	**P**	**13 14 17.3**	**-0.2**
BJT			pmax	pmax		
	comp=Z,315nm,1.7s					
BJT			MLR	MLR		
	comp=Z,6μm,21.0s					
BJT	**Baijiatuau**	**46.90 336**	*e*P	**P**	**13 14 17.3**	**-0.2**
	comp=Z,315nm,1.7s					
BJT			LR	LR		
	comp=Z,6μm,21.0s					
BJI	**Beijing**	**46.92 336**	P	**P**	**13 14 17.4**	**-0.2**
BJI			sP	**pP**	**13 14 24.3**	**-1.6**
BJI			S	**S**	**13 21 05.4**	**-1.6**
BJI			sS	**sS**	**13 21 20.7**	**+0.1**
BJI			pmax	pmax		
	comp=Z,92nm,1.7s					
BJI			pmax	pmax		
	comp=Z,1μm,3.6s					
BJI			LR	LR		
	comp=Z,4μm,22.0s					
BJI			LR	LR		
	comp=Z,2μm,20.1s					
BJI			LR	LR		
	comp=Z,5μm,21.6s					
CD2	**Chengdu**	**46.94 317**	⇑P	**P**	**13 14 18.7**	**+0.7**
CD2			sP	sP	13 14 27.8	-1.8
CD2			PcS	**PcS**	**13 19 45.6**	**+0.1**
CD2			S	**S**	**13 21 08.6**	**+0.8**
CD2			sS	sS	13 21 21.3	-0.1
CD2			pmax	pmax		
	comp=Z,210nm,0.7s					
CD2			pmax	pmax		
	comp=Z,690nm,5.0s					
CD2			LR	LR		
	comp=Z,2μm,17.3s					
CD2			LR	LR		
	comp=Z,4μm,17.3s					
CD2			LR	LR		
	comp=Z,3μm,19.5s					
MDJ	**Mudanjiang**	**47.36 351**	P	**P**	**13 14 21.0**	**+0.1**
MDJ			pP	pP	13 14 24.2	-5.1
MDJ			PcP	**PcP**	**13 15 52.5**	**+1.0**
MDJ			PP	**PP**	**13 16 11.8**	**-0.7**
MDJ			S	**S**	**13 21 15.2**	**+2.1**
MDJ			sS	pS	13 21 20.0	-2.9
MDJ			pmax	pmax		
	comp=Z,35nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,700nm,9.7s					
MDJ			LR	LR		
	comp=Z,4μm,20.1s					
MDJ			LR	LR		
	comp=Z,2μm,18.3s					
MDJ			LR	LR		
	comp=Z,5μm,20.1s					
MDJ	**Mudanjiang**	**47.36 351**	*e*P	**P**	**13 14 21.5**	**+0.6**
	comp=Z,74nm,1.3s					
MDJ			LR	LR		
	comp=Z,5μm,20.0s					
CN2	**Changchun**	**47.37 347**	*e*P	**P**	**13 14 20.2**	**-0.9**
CN2			*e*sP	pP	13 14 27.2	-2.2
CN2			*e*S	**S**	**13 21 14.2**	**+0.8**
CN2			SS	**SS**	**13 24 36.2**	**-5.2**
CN2			pmax	pmax		
	comp=Z,20nm,1.6s					
CN2			pmax	pmax		
	comp=Z,200nm,9.0s					
CN2			LR	LR		
	comp=Z,4μm,18.0s					
CN2			LR	LR		
	comp=Z,2μm,18.0s					
CN2			LR	LR		
	comp=Z,4μm,20.0s					
PBA	**Port Blair**	**47.90 288**	*e*P	P	13 14 22.3	-3.3
KUR	**Kuril'sk**	**47.91 9**	*d i*P	**P**	**13 14 28.7**	**+3.5**
KUR			*i* S	**S**	**13 21 24.2**	**+3.3**
KUR			*i* SSS	SSS	13 26 06.3	
KUR			MLR	MLR		
	comp=Z,834nm,14.0s					
KUR			MLR	MLR		
	comp=N,664nm,13.0s					
DGPR	**DIGLIPUR**	**48.10 290**	*e*P	**P**	**13 14 26.4**	**-0.8**
DGPR			IAmb	IAmb	13 14 33.9	
HIZ	**Hauiti**	**48.83 142**	PFAKE		13 14 40.0	+7.5
HIZ			LR	LR		
	comp=Z,4μm,20.0s					
YSS	**Yuzh-Sakhalins**	**49.08 4**	⇓*i*P	**P**	**13 14 34.6**	**+0.4**
YSS			*e*		13 16 24.0	
YSS			*e*PPP	PPP	13 17 23.0	
YSS			*e*S	**S**	**13 21 36.0**	**-1.4**
YSS			*e*PS	**pS**	**13 21 48.0**	**+0.8**
YSS			*e*SSS	SSS	13 26 20.0	
YSS			pmax	pmax		
	comp=Z,70nm,1.1s					
YSS			pmax	pmax		
	comp=Z,500nm,7.5s					
YSS			MLR	MLR		
	comp=Z,2μm,15.0s					
YSS			MLR	MLR		
	comp=N,1μm,17.0s					
YSS			MLR	MLR		
	comp=E,900nm,19.0s					
YSS	**Yuzh-Sakhalins**	**49.08 4**	*e*P	**P**	**13 14 33.7**	**-0.4**
	comp=E,63nm,0.6s					
YSS			LR	LR		
	comp=Z,700nm,21.0s					
HHC	**Hu-ho-hao-te**	**49.58 333**	*e*P	**P**	**13 14 38.2**	**-0.1**
HHC			pP	pP	13 14 44.2	-2.4
HHC			PP	**PP**	**13 16 29.1**	**-3.8**
HHC			S	**S**	**13 21 40.8**	**-4.0**
HHC			sS	pS	13 21 55.8	+1.1
HHC			SS	**SS**	**13 25 13.1**	**-4.3**
HHC			pmax	pmax		
	comp=Z,33nm,1.5s					
HHC			pmax	pmax		
	comp=Z,750nm,5.4s					
HHC			LR	LR		
	comp=Z,3μm,19.1s					
HHC			LR	LR		
	comp=Z,2μm,18.2s					
HHC			LR	LR		
	comp=Z,4μm,19.2s					
URZ	**Urewera**	**50.08 141**	PFAKE		13 14 50.0	+8.0
URZ			LR	LR		
	comp=Z,4μm,20.0s					
AFI	**Afiamalu**	**50.09 106**	P	**P**	**13 14 44.8**	**+2.3**
	comp=Z,30nm,0.8s,baz=243,slow=4.5					
AFI	**Afiamalu**	**50.09 106**	P	**P**	**13 14 44.8**	**+2.3**
AFI			LR	LR		
	comp=Z,4μm,18.0s					
BTO	**Baotou**	**50.11 331**	*e*P	**P**	**13 14 40.2**	**-2.1**
LZH	**Lanzhou**	**50.20 323**	⇑P	**P**	**13 14 43.5**	**+0.3**
LZH			pP	pP	13 14 49.7	-1.8
LZH			sP	sP	13 14 52.5	-2.3
LZH			PP	**PP**	**13 16 42.0**	**+3.3**
LZH			*e*S	**S**	**13 21 55.4**	**+1.6**
LZH			sS	pS	13 22 04.1	+0.4
LZH			SS	**SS**	**13 25 27.0**	**-0.6**
LZH			pmax	pmax		
	comp=Z,140nm,1.2s					
LZH			pmax	pmax		
	comp=Z,650nm,4.6s					
LZH			LR	LR		
	comp=Z,2μm,15.1s					
LZH			LR	LR		
	comp=Z,1μm,15.0s					
LZH			LR	LR		
	comp=Z,3μm,16.2s					
RPZ	**Rata Peaks**	**50.22 150**	LR	LR	13 34 06.4	
	comp=Z,3μm,20.4s,baz=302,slow=34					
OXZ	**Oxford**	**50.45 149**	PFAKE		13 15 00.0	+15
OXZ			LR	LR		
	comp=Z,3μm,20.0s					
SNZO	**South Karori**	**50.53 145**	PFAKE		13 15 00.0	+15
SNZO			LR	LR		
	comp=Z,4μm,20.0s					
HABR	**Khabarovsk**	**50.59 357**	*c*e*P	**P**	**13 14 43.6**	**-2.0**
HABR			*e**PP	**pP**	**13 14 53.8**	**-0.2**
HABR			*e**SP	**sP**	**13 14 57.8**	**+0.5**
HABR			*e*		13 16 01.2	
HABR			*e*		13 16 39.9	
HABR			*e*PPP	PPP	13 17 37.0	
HABR			*e*S	**S**	**13 21 56.1**	**-2.3**
HABR			*e**SS	**sS**	**13 22 13.5**	**+1.3**
HABR			*e*		13 24 32.2	
HABR			*e*SS	**SS**	**13 25 32.5**	**-0.5**
HABR			pmax	pmax		
	comp=N,28nm,1.5s					
HABR			pmax	pmax		
	comp=Z,64nm,1.5s					
HABR			pmax	pmax		
	comp=E,30nm,1.5s					
HABR			MLR	MLR		
	comp=Z,1μm,18.0s					
MIDW	**Midway**	**51.75 51**	PFAKE		13 15 10.0	+15
MIDW			LR	LR		
	comp=Z,6μm,20.0s					
TYV	**Tymovskoe**	**52.97 3**	*e*P	**P**	**13 15 02.9**	**-0.5**
TYV			pmax	pmax		
	comp=Z,41nm,1.5s					
TYV			pmax	pmax		
	comp=Z,800nm,4.0s					
SHL	**Shillong**	**53.21 304**	*e*P	**P**	**13 15 06.6**	**+0.8**
SHL			IAmb	IAmb	13 15 10.8	
	comp=Z,162nm,1.4s					
SHL			*e*S	**S**	**13 22 36.0**	**+0.4**

HIA	**Hailar**	**53.89**	**345**	PFAKE		13 15 20.0	+10
HIA				LR	LR		
comp=Z,3μm,20.0s							
SKR	**Severo-Kuril's**	**54.72**	**13**	*e*P	P	13 15 03.9	-12
SKR				*e*		13 17 25.6	
SKR				*e*S	**S**	**13 22 59.5**	**+4.7**
SKR				*e*SS	**SS**	**13 26 39.6**	**+1.4**
SKR				pmax	pmax		
comp=Z,49nm,2.0s							
SKR				pmax	pmax		
comp=Z,600nm,7.4s							
SKR				pmax	pmax		
comp=Z,600nm,13.3s							
SKR				MLR	MLR		
comp=Z,800nm,16.0s							
SKR				MLR	MLR		
comp=Z,1μm,16.0s							
GTA	**Gaotai**	**54.78**	**323**	*e*P	**P**	**13 15 17.8**	**+0.8**
GTA				pP	pP	13 15 21.8	-3.7
GTA				sP	sP	13 15 25.4	-3.3
GTA				S	**S**	**13 22 55.8**	**-0.6**
GTA				sS	pS	13 23 05.6	-0.9
GTA				SS	**SS**	**13 26 38.6**	**-1.4**
GTA				pmax	pmax		
comp=Z,21nm,1.1s							
GTA				pmax	pmax		
comp=Z,520nm,5.9s							
GTA				LR	LR		
comp=Z,1μm,19.7s							
GTA				LR	LR		
comp=Z,900nm,22.1s							
GTA				LR	LR		
comp=Z,1μm,19.0s							
LSA	**Lhasa**	**55.55**	**309**	P	**P**	**13 15 24.3**	**+1.1**
LSA				pmax	pmax		
comp=Z,7.0nm,0.8s							
LSA	**Lhasa**	**55.55**	**309**	*e*P	**P**	**13 15 23.5**	**+0.3**
LSA				pmax	pmax		
comp=Z,50nm,0.6s							
LSA				MLR	MLR		
comp=Z,2μm,20.0s							
LSA	**Lhasa**	**55.55**	**309**	*e*P	**P**	**13 15 23.4**	**+0.3**
comp=Z,50nm,0.6s							
LSA				LR	LR		
comp=Z,2μm,20.0s							
BWNR	**Bhubaneshwar**	**56.63**	**296**	*e*P	**P**	**13 15 29.6**	**-0.8**
ULN	**Ulaanbaatar**	**57.10**	**335***c*	*i*P	**P**	**13 15 33.9**	**+0.4**
ULN				pmax	pmax		
comp=Z,71nm,1.7s							
ULN	**Ulaanbaatar**	**57.10**	**335**	*e*P	**P**	**13 15 33.0**	**-0.5**
comp=Z,42nm,1.1s							
ULN				LR	LR		
comp=Z,4μm,22.0s							
ULN	**Ulaanbaatar**	**57.10**	**335**	P	**P**	**13 15 33.8**	**+0.3**
SNR=26							
ULN				P	**P**	**13 15 33.8**	**+0.3**
SNR=26							
ULN	**Ulaanbaatar**	**57.10**	**335**	P	**P**	**13 15 33.8**	**+0.3**
SNR=26							
PEA0	**Petropavlovsk-**	**57.34**	**13**	*e*P	**P**	**13 15 35.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**57.34**	**13**	PFAKE		13 15 50.0	+15
PEA0B				LR	LR		
comp=Z,3μm,21.0s							
PETK	**Petropavlovsk-**	**57.34**	**13**	P	**P**	**13 15 35.4**	**+0.5**
comp=Z,9.6nm,0.8s,baz=156,slow=5.8,SNR=5.9							
PETK				LR	LR	13 36 13.5	
comp=Z,3μm,22.0s,baz=203,slow=32							
TAPN	**Taplejung**	**57.34**	**305**	*e*P	**P**	**13 15 35.3**	**-0.5**
SONM	**Songino Array**	**57.35**	**335**	P	**P**	**13 15 34.4**	**-0.9**
comp=Z,5.0nm,1.0s,baz=150,slow=6.9,SNR=20							
SONM				PcP	**PcP**	**13 16 30.8**	**+1.7**
comp=Z,6.0nm,0.8s,baz=142,slow=6.0,SNR=3.9							
SONM				LR	LR	13 38 58.4	
comp=Z,5μm,21.7s,baz=137,slow=35							
SONM				PKP2bc		13 45 36.0	
comp=Z,0.3nm,0.4s,baz=351,slow=4.7,SNR=5.6							
SONM	**Songino Array**	**57.35**	**335**	P	**P**	**13 15 34.4**	**-0.9**
SONM						13 16 30.8	
SONM				pmax	pmax		
comp=Z,8.0nm,0.7s							
SONM				pmax	pmax		
comp=Z,6.0nm,0.8s							
SONA1	**Songino Array**	**57.36**	**335**	*e*P	**P**	**13 15 34.9**	**-0.4**
ODAN	**Odare**	**57.42**	**304**	*e*P	**P**	**13 15 36.4**	**+0.1**
comp=Z,167nm,0.9s							
PET	**Petropavlovsk**	**57.49**	**14**	*e*P	**P**	**13 15 36.5**	**+0.6**
PET				*e*S	**S**	**13 23 33.0**	**+1.5**
PET				*e*SS	**SS**	**13 27 25.9**	**+4.2**
PET				pmax	pmax		
comp=Z,900nm,13.5s							
PET				MLR	MLR		
comp=Z,1μm,19.0s							
PET	**Petropavlovsk**	**57.49**	**14**	PFAKE		13 15 50.0	+14
PET				LR	LR		
comp=Z,2μm,20.0s							
BOK	**Bokaro**	**57.63**	**300**	*e*P	**P**	**13 15 39.1**	**+1.6**
BOK				IAmb	IAmb	13 15 43.4	
comp=Z,42nm,0.8s							
CHLP	**Challavanipeta**	**57.72**	**293**	*e*P	**P**	**13 15 38.1**	**-0.1**
CHLP				IAmb	IAmb	13 15 43.2	
comp=Z,35nm,0.9s							
CHLP				*e*PcP	**PcP**	**13 16 30.0**	**-1.0**
CHLP				*e*PP	**PP**	**13 17 48.5**	**+2.0**
CHLP				*e*ScP	**ScP**	**13 20 27.1**	**-2.3**
CHLP				*e*S	**S**	**13 23 35.6**	**-0.2**
CHLP				*e*SS	**SS**	**13 27 26.6**	**-0.1**
CHLP				IVMs_BB	IVMs_BB	13 30 39.3	
comp=Z,285nm,18.9s							
RAMN	**Ramite**	**58.11**	**304**	*e*P	**P**	**13 15 41.4**	**+0.2**
comp=Z,273nm,1.1s							
CIT	**Chita**	**58.14**	**342**	*e*P	**P**	**13 15 41.4**	**+0.8**
CIT				*e*		13 15 55.8	
CIT				*e*		13 16 34.4	
CIT				pmax	pmax		
comp=Z,113nm,1.9s							
VIS	**Vishakhapatnam**	**58.20**	**292**	*e*P	**P**	**13 15 39.6**	**-1.9**
VIS				IAmb	IAmb	13 15 50.5	
comp=Z,118nm,1.6s							
JIRN	**Jiri**	**58.71**	**304**	*e*P	**P**	**13 15 45.3**	**-0.2**
comp=Z,683nm,0.8s							
PALK	**Pallekele**	**58.82**	**280**	PFAKE		13 16 00.0	+14
PALK				LR	LR		
comp=Z,1μm,21.0s							
GUN	**Gumba**	**59.06**	**304**	*e*P	**P**	**13 15 48.0**	**+0.1**
comp=Z,200nm,0.9s							
PKI	**Pulchoki**	**59.33**	**304**	*e*P	**P**	**13 15 49.3**	**-0.4**
comp=Z,72nm,0.9s							
PKIN	**Phulchoki**	**59.34**	**304**	*e*P	**P**	**13 15 49.2**	**-0.5**
comp=Z,76nm,1.1s							
KKN	**Kakani**	**59.51**	**304**	*e*P	**P**	**13 15 50.7**	**-0.1**
comp=Z,160nm,0.8s							
DMN	**Daman**	**59.59**	**304**	*e*P	**P**	**13 15 51.5**	**+0.1**
comp=Z,195nm,0.9s							
PVM	**Polavaram**	**59.67**	**291**	*e*P	**P**	**13 15 48.4**	**-3.4**
CLNS	**Chul'man**	**59.95**	**351**	*e*P	**P**	**13 15 53.2**	**+0.2**
CLNS				*e**PP	**pP**	**13 16 01.7**	**+0.2**
CLNS				*e*		13 16 34.5	
CLNS				*e*		13 18 06.4	
CLNS				*e*PPP	PPP	13 19 33.1	
CLNS				*e*S	**S**	**13 24 10.1**	**+6.6**
CLNS				*e*		13 25 35.1	
CLNS				pmax	pmax		
comp=Z,24nm,0.9s							
CLNS				pmax	pmax		
comp=N,8.0nm,0.9s							
CLNS				pmax	pmax		
comp=E,8.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,5.0nm,0.8s							
CLNS				pmax	pmax		
comp=N,5.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,4.0nm,0.9s							
CLNS				smax	smax		
comp=N,338nm,12.6s							
CLNS				smax	smax		
comp=E,231nm,13.7s							
GKN	**Gorkha**	**60.12**	**304**	*e*P	**P**	**13 15 54.8**	**-0.1**
comp=E,259nm,0.8s							
MDRS	**Chennai**	**60.13**	**286**	*e*P	**P**	**13 15 53.8**	**-1.2**
MDRS				IAmb	IAmb	13 15 59.4	
comp=Z,40nm,0.4s							
ZAK	**Zakamensk**	**60.62**	**335**	*e*P	**P**	**13 15 57.2**	**-0.7**
ZAK				pmax	pmax		
comp=Z,76nm,1.4s							
SKHT	**Srikalahasti**	**60.77**	**287**	*e*P	**P**	**13 15 56.5**	**-2.8**
KOLN	**Koldanda**	**60.90**	**304**	*e*P	**P**	**13 16 00.3**	**0.0**
comp=Z,180nm,1.1s							
ADKI	**Addanki**	**60.92**	**289**	*e*P	**P**	**13 15 59.3**	**-1.0**
ADKI				IAmb	IAmb	13 16 04.9	
comp=Z,42nm,0.6s							
ADKI				*e*PcP	**PcP**	**13 16 39.9**	**-3.9**
ADKI				*e*PP	**PP**	**13 18 13.2**	**-1.6**
ADKI				*e*ScP	**ScP**	**13 20 42.9**	**-0.7**
ADKI				*e*S	**S**	**13 24 13.2**	**-4.0**
ADKI				*e*SS	**SS**	**13 28 17.1**	**+0.2**
ADKI				IVMs_BB	IVMs_BB	13 45 46.5	
comp=Z,345nm,20.6s							
DANN	**Dangsing**	**60.96**	**304**	*e*P	**P**	**13 16 01.0**	**+0.1**
comp=Z,10nm,0.9s							
TLY	**Talaya**	**61.44**	**336**	*e*P	**P**	**13 16 02.6**	**-0.7**
TLY				*e*S	**S**	**13 24 24.7**	**+2.0**
TLY				pmax	pmax		
comp=Z,76nm,1.7s							
TLY				MLR	MLR		
comp=Z,2μm,19.0s							
TLY	**Talaya**	**61.44**	**336**	*e*P	**P**	**13 16 03.6**	**+0.3**
comp=Z,52nm,1.2s							
TLY				LR	LR		
comp=Z,3μm,21.0s							
TLY	**Talaya**	**61.44**	**336**	P	**P**	**13 16 02.8**	**-0.5**
SNR=27							
TLY				P	**P**	**13 16 02.8**	**-0.5**
SNR=27							
TLY	**Talaya**	**61.44**	**336**	P	**P**	**13 16 02.8**	**-0.5**
SNR=27							
PYUN	**Piuthan**	**61.52**	**304**	*e*P	**P**	**13 16 04.5**	**0.0**
comp=Z,464nm,0.9s							
IRK	**Irkutsk**	**61.62**	**337**	*e*P	**P**	**13 16 04.6**	**+0.1**
IRK				pmax	pmax		
comp=Z,158nm,2.6s							
NJS	**Nagarjunasagar**	**61.69**	**290**	*e*P	**P**	**13 16 04.0**	**-1.6**
NJS				IAmb	IAmb	13 16 09.5	
comp=Z,24nm,0.7s							
NJS				*e*PcP	**PcP**	**13 16 44.9**	**-2.0**
NJS				*e*PP	**PP**	**13 18 23.7**	**+2.1**
NJS				*e*ScP	**ScP**	**13 20 45.2**	**-1.9**
NJS				*e*S	**S**	**13 24 20.6**	**-6.4**
NJS				*e*SS	**SS**	**13 28 25.7**	**-3.3**
NJS				IVMs_BB	IVMs_BB	13 46 35.0	
comp=Z,299nm,15.8s							
SRLM	**Srisailam**	**61.99**	**289**	*e*P	**P**	**13 16 06.2**	**-1.5**
SRLM				IAmb	IAmb	13 16 11.4	
comp=Z,47nm,0.6s							
SRLM				*e*PcP	**PcP**	**13 16 48.1**	**-0.1**
SRLM				*e*PP	**PP**	**13 18 23.1**	**-1.2**
SRLM				*e*ScP	**ScP**	**13 20 39.3**	**-9.1**
SRLM				*e*S	**S**	**13 24 24.8**	**-6.0**
SRLM				*e*SS	**SS**	**13 28 34.2**	**+0.4**
SRLM				IVMs_BB	IVMs_BB	13 41 16.5	
comp=Z,352nm,18.3s							
RPR	**Rampur**	**62.19**	**293**	*e*P	**P**	**13 16 07.4**	**-1.5**
RPR				IAmb	IAmb	13 16 14.7	
comp=Z,141nm,1.6s							
RPR				*e*PcP	**PcP**	**13 16 48.5**	**-0.3**
RPR				*e*S	**S**	**13 24 28.4**	**-4.9**
RPR				*e*SS	**SS**	**13 28 34.3**	**-2.6**
RPR				IVMs_BB	IVMs_BB	13 37 01.5	
comp=Z,259nm,43.7s							
SMY	**Shemya**	**62.22**	**23**	PFAKE		13 16 20.0	+12
SMY				LR	LR		
comp=Z,3μm,20.0s							
MOY	**Mondy**	**62.55**	**334**	*e*P	**P**	**13 16 13.4**	**+2.6**
MOY				pmax	pmax		
comp=Z,157nm,2.1s							
HYB	**Hyderabad**	**62.57**	**291**	*i*P	**P**	**13 16 11.5**	**0.0**
comp=Z,38nm,0.8s							
HYB				*e*S	**S**	**13 24 38.0**	**-0.2**
HYB	**Hyderabad**	**62.57**	**291**	*e*P	**P**	**13 16 12.5**	**+1.0**
HYBB	**Hyderabad (bro**	**62.57**	**291**	*e*P	**P**	**13 16 10.5**	**-1.0**
HYBB				IAmb	IAmb	13 16 16.6	
comp=Z,28nm,0.8s							
HYBB				*e*PcP	**PcP**	**13 16 46.9**	**-3.7**
HYBB				*e*PP	**PP**	**13 18 31.1**	**+1.6**
HYBB				*e*ScP	**ScP**	**13 20 47.9**	**-3.1**
HYBB				*e*S	**S**	**13 24 36.1**	**-2.1**
HYBB				*e*SS	**SS**	**13 28 38.8**	**-4.1**
HYBB				IVMs_BB	IVMs_BB	13 37 17.7	
comp=Z,293nm,24.0s							
TRD	**Trivandrum**	**62.65**	**281**	*e*P	**P**	**13 16 10.8**	**-1.3**
NGP	**Nagpur**	**62.95**	**295**	*e*P	**P**	**13 16 12.8**	**-1.1**
NGP				IAmb	IAmb	13 16 19.3	
comp=Z,156nm,1.9s							
BOD	**Bodaibo**	**63.08**	**345**	*e*P	**P**	**13 16 14.8**	**+0.7**
BOD				pmax	pmax		
comp=Z,49nm,1.7s							
SRSP	**Sriramsagar**	**63.08**	**292**	*e*P	**P**	**13 16 13.1**	**-1.8**
SRSP				IAmb	IAmb	13 16 19.0	
comp=Z,25nm,0.8s							
SRSP				*e*PcP	**PcP**	**13 16 49.5**	**-3.1**
SRSP				*e*PP	**PP**	**13 18 30.5**	**-3.4**
SRSP				*e*S	**S**	**13 24 42.4**	**-2.2**
SRSP				IVMs_BB	IVMs_BB	13 37 33.8	
comp=Z,266nm,21.7s							
URV	**Uravakonda**	**63.32**	**288**	*e*P	**P**	**13 16 14.5**	**-2.0**
URV				IAmb	IAmb	13 16 24.5	
comp=Z,10nm,0.7s							
URV				*e*PcP	**PcP**	**13 16 51.6**	**-1.9**
URV				*e*PP	**PP**	**13 18 35.7**	**-0.4**
URV				*e*S	**S**	**13 24 41.8**	**-5.8**
URV				*e*SS	**SS**	**13 28 52.0**	**-2.6**
URV				IVMs_BB	IVMs_BB	13 42 04.8	
comp=Z,256nm,22.5s							
YAK	**Yakutsk**	**64.46**	**355**	P	**P**	**13 16 23.6**	**+0.5**
comp=Z,3.5nm,0.5s,baz=65,slow=14							
YAK	**Yakutsk**	**64.46**	**355**	*e*P	**P**	**13 16 23.1**	**0.0**
YAK				*e**PP	**pP**	**13 16 32.0**	**+0.4**
YAK				*e*		13 16 56.1	
YAK				*e*		13 18 43.0	
YAK				*e*S	**S**	**13 25 03.4**	**+3.4**
YAK				*e**SS	**sS**	**13 25 13.1**	**-1.0**
YAK				*e*SS	**SS**	**13 29 16.7**	**+6.1**
YAK				pmax	pmax		
comp=Z,69nm,1.1s							
YAK				pmax	pmax		
comp=N,23nm,1.4s							
YAK				pmax	pmax		
comp=Z,207nm,3.9s							
YAK				pmax	pmax		
comp=N,153nm,3.8s							
YAK				smax	smax		
comp=N,297nm,3.9s							
YAK	**Yakutsk**	**64.46**	**355**	*e*P	**P**	**13 16 22.7**	**-0.4**
comp=N,102nm,1.0s							
YAK				LR	LR		
comp=Z,3μm,21.0s							
KLRI	**Killari**	**64.53**	**291**	*e*P	**P**	**13 16 22.6**	**-1.9**
KLRI				IAmb	IAmb	13 16 28.0	
comp=Z,247nm,2.5s							
KLRI				*e*PcP	**PcP**	**13 16 58.2**	**-0.3**
KLRI				*e*PP	**PP**	**13 18 43.5**	**-3.1**
KLRI				*e*S	**S**	**13 25 00.7**	**-1.9**
KLRI				IVMs_BB	IVMs_BB	13 40 05.8	
comp=Z,424nm,20.1s							
WMQ	**Urumqi**	**64.74**	**321**	P	**P**	**13 16 27.1**	**+1.7**
WMQ				pP	pP	13 16 33.0	-1.0
WMQ				PP	**PP**	**13 18 47.7**	**-0.4**
WMQ				S	**S**	**13 25 01.5**	**-2.9**
WMQ				sS	sS	13 25 20.0	+1.5
WMQ				SS	**SS**	**13 29 21.0**	**+5.1**
WMQ				pmax	pmax		
comp=Z,78nm,1.1s							
WMQ				pmax	pmax		
comp=Z,770nm,5.3s							
WMQ				LR	LR		
comp=Z,1μm,19.7s							
WMQ				LR	LR		
comp=Z,660nm,17.1s							
WMQ				LR	LR		
comp=Z,780nm,22.5s							
BHPL	**Bhopal**	**64.92**	**297**	*e*P	**P**	**13 16 27.4**	**+0.4**
BHPL				IAmb	IAmb	13 16 30.5	
comp=Z,22nm,1.0s							
ADK	**Adak**	**65.65**	**28**	PFAKE		13 16 40.0	+8.9
ADK				LR	LR		
comp=Z,2μm,20.0s							
SEY	**Seymchan**	**65.77**	**7**‖	*e*P	**P**	**13 16 33.3**	**+1.7**
DDI	**Dehra Dun**	**66.31**	**304**	*e*P	**P**	**13 16 36.5**	**+0.7**
GOA	**Goa**	**66.68**	**288**	*e*P	**P**	**13 16 37.6**	**-0.8**
ATKA	**Atka Island**	**67.05**	**29**	PFAKE		13 16 50.0	+10
ATKA				LR	LR		
comp=Z,3μm,22.0s							
POO	**Poona**	**67.18**	**291**	*e*P	**P**	**13 16 40.0**	**-1.6**
POO				*e*P	pP	13 16 40.8	-9.4
POO				IAmb	IAmb	13 16 45.8	
comp=Z,26nm,0.7s							
SMLA	**Simla**	**67.28**	**305**	*e*P	**P**	**13 16 42.1**	**+0.2**
SMLA				IAmb	IAmb	13 16 47.4	
comp=Z,627nm,0.1s							
POHA	**Pohakuloa**	**67.90**	**68**	PFAKE		13 17 00.0	+14
POHA				LR	LR		
comp=Z,3μm,20.0s							
WRMHI	**West Rim**	**68.05**	**68**	PFAKE		13 17 00.0	+13
WRMHI				LR	LR		
comp=Z,4μm,20.0s							
SDHHI	**Sand Hill**	**68.05**	**68**	PFAKE		13 17 00.0	+13
SDHHI				LR	LR		
comp=Z,4μm,21.0s							
KKO	**Keanakako'i**	**68.08**	**68**	PFAKE		13 17 00.0	+13
KKO				LR	LR		
comp=Z,4μm,21.0s							
SBLHI	**Steaming Bluff**	**68.08**	**68**	PFAKE		13 17 00.0	+13
SBLHI				LR	LR		
comp=Z,5μm,21.0s							
BYL	**Byron's Ledge**	**68.08**	**68**	PFAKE		13 17 00.0	+13
BYL				LR	LR		
comp=Z,4μm,20.0s							
HATHI	**Halema'uma'u T**	**68.08**	**68**	PFAKE		13 17 00.0	+13
HATHI				LR	LR		
comp=Z,4μm,20.0s							
NPOC	**North of Pu'u**	**68.22**	**68**	PFAKE		13 17 00.0	+12
NPOC				LR	LR		
comp=Z,5μm,22.0s							
JCUZ	**Jacuzzi**	**68.23**	**68**	PFAKE		13 17 00.0	+12
JCUZ				LR	LR		
comp=Z,4μm,22.0s							
DHRM	**DHARAMSHALA**	**68.32**	**306**	*e*P	**P**	**13 16 49.1**	**+0.4**
MK01	**Makanchi Array**	**69.49**	**322**	*e*P	**P**	**13 16 55.0**	**-0.5**
MK31	**Makanchi Array**	**69.51**	**322**	*i*P	**P**	**13 16 56.1**	**+0.5**
MK31				pmax	pmax		
comp=Z,108nm,1.1s							
MK31	**Makanchi Array**	**69.51**	**322**	*e*P	**P**	**13 16 55.0**	**-0.7**
MKAR	**Makanchi Array**	**69.51**	**322**	P	**P**	**13 16 55.4**	**-0.3**
comp=Z,37nm,1.0s,baz=114,slow=8.3,SNR=90							
MKAR				LR	LR	13 46 50.5	
comp=Z,595nm,22.0s,baz=104,slow=36							
MKAR	**Makanchi Array**	**69.51**	**322**	*e*P	**P**	**13 16 55.2**	**-0.3**
comp=Z,286nm,0.9s							
MAKZ	**Makanchi**	**69.71**	**322**	*e*P	**P**	**13 16 55.8**	**-1.0**
MAKZ				pmax	pmax		
comp=Z,86nm,0.9s							
MAKZ				MLR	MLR		
comp=Z,1μm,20.0s							
MAKZ	**Makanchi**	**69.71**	**322**	*e*P	**P**	**13 16 55.8**	**-1.0**
comp=Z,86nm,0.9s							
MAKZ				LR	LR		
comp=Z,1μm,20.0s							
SHLS	**Shalkode**	**69.77**	**318**	*i*P	**P**	**13 16 55.7**	**-1.7**
comp=Z,182nm,0.7s							
SHLS				*e*S	**S**	**13 26 01.4**	**-3.8**
SHLS				LRM	MLR	13 50 25.1	
comp=Z,86nm,12.2s							
PDGK	**Podgornoye**	**69.82**	**318**	P	**P**	**13 16 57.5**	**-0.3**
PDGK				pmax	pmax		
comp=Z,86nm,2.0s							
UZB	**Uzynbulak**	**70.07**	**318**	*i*P	**P**	**13 16 58.9**	**-0.4**
comp=Z,252nm,1.1s							
KPKS	**Kokpek**	**70.42**	**318**	*i*P	**P**	**13 17 01.0**	**-0.4**
comp=Z,460nm,1.5s							
SATY	**Saty**	**70.45**	**317**	*i*P	**P**	**13 17 01.5**	**-0.1**
comp=Z,710nm,1.0s							
SATY				LRM	MLR	13 50 16.9	
comp=Z,186nm,12.4s							
ZHN	**Zhinishke**	**70.47**	**318**	*i*P	**P**	**13 17 01.5**	**-0.2**
comp=Z,182nm,0.8s							
KSH	**Kashi**	**70.88**	**313**	P	**P**	**13 17 05.9**	**+1.6**
KSH				pP	pP	13 17 13.1	+0.2
KSH				sP	sP	13 17 15.1	-1.1
KSH				PcP	**PcP**	**13 17 27.6**	**+2.8**
KSH				PP	**PP**	**13 19 46.7**	**+5.0**
KSH				S	**S**	**13 26 18.4**	**+0.2**
KSH				sS	sS	13 26 30.9	-1.6
KSH				SKS	**SKSac**	**13 27 01.4**	**-3.8**
KSH				SS	**SS**	**13 30 54.7**	**+3.4**
KSH				pmax	pmax		
comp=Z,74nm,1.2s							
KSH				pmax	pmax		
comp=Z,560nm,5.3s							
KSH				LR	LR		
comp=Z,610nm,15.3s							
KSH				LR	LR		
comp=Z,850nm,15.1s							
KSH				LR	LR		
comp=Z,1μm,17.0s							
TDK	**Taldygorghan**	**71.20**	**319**	*i*P	**P**	**13 17 06.2**	**+0.2**
comp=Z,230nm,1.2s							
MDOK	**Medeo**	**71.41**	**317**	*i*P	**P**	**13 17 07.4**	**-0.1**
comp=Z,312nm,0.7s							
MDOK				*e*S	**S**	**13 26 23.4**	**-0.9**
MDOK				LRM	MLR	13 49 17.2	
comp=Z,404nm,19.4s							
AAA	**Alma-Ata**	**71.52**	**317**	*e*P	**P**	**13 17 09.6**	**+1.6**
AAA				*i*S	**S**	**13 26 29.2**	**+3.9**
AAA				pmax	pmax		
comp=Z,1μm,4.1s							
AAA				smax	smax		
comp=N,1μm,11.3s							
AAA				MLR	MLR		
comp=Z,1μm,21.0s							
ZAA0	**Zalesovo Array**	**71.60**	**330**	*e*P	**P**	**13 17 06.6**	**-1.5**
ZALV	**Zalesovo Beam**	**71.60**	**330**	P	**P**	**13 17 06.8**	**-1.4**
comp=Z,13nm,0.7s,baz=115,slow=6.2,SNR=35							
ZALV				LR	LR	13 48 23.0	
comp=Z,2μm,21.1s,baz=74,slow=36							
MIR	**Mirnyy**	**71.73**	**198**	*e*P	**P**	**13 17 10.0**	**+1.3**
MIR				pmax	pmax		
comp=Z,6.0nm,2.0s							
PPT	**Papeete**	**71.73**	**108**	LR	LR	13 45 37.0	
comp=Z,907nm,21.1s,baz=269,slow=33							
PPT2	**Papeete2**	**71.73**	**108**	*e*S	S	13 26 12.7	-16
comp=Z,1μm,26.0s							
PPT2				*e*LQ	LQ	13 36 05.3	
comp=Z,7μm,38.8s							
PPT2				*e*LR	LR	13 39 06.9	
comp=Z,3μm,26.0s							
UNV	**Unalaska Valle**	**71.82**	**31**	PFAKE		13 17 20.0	+11
UNV				LR	LR		
comp=Z,3μm,21.0s							
SPIA	**Saint Paul Isl**	**71.86**	**26**	PFAKE		13 17 20.0	+10
SPIA				LR	LR		
comp=Z,2μm,20.0s							
KUU	**Kurty**	**72.15**	**318**	*i*P	**P**	**13 17 11.0**	**-0.8**
comp=Z,288nm,0.8s							
KUU				*i*S	**S**	**13 26 30.5**	**-2.0**
TBI	**Tubuai**	**72.28**	**114**	*e*S	S	13 26 17.9	-17
comp=Z,576nm,34.5s							
TBI				*e*SS	SS	13 31 01.3	-12
comp=Z,827nm,35.2s							
TBI				*e*LQ	LQ	13 36 15.5	
comp=Z,4μm,39.2s							
TBI				*e*LR	LR	13 39 22.5	
comp=Z,2μm,32.2s							
TKM2	**Tokmak 2**	**72.31**	**316**	P	**P**	**13 17 12.9**	**-0.1**
BMNS	**Besmoynak**	**72.33**	**317**	*i*P	**P**	**13 17 12.7**	**-0.3**
comp=Z,351nm,1.2s							
SEM	**Semipalatinsk**	**72.35**	**325**	*i*P	**P**	**13 17 12.7**	**-0.3**
comp=Z,144nm,1.5s							
SEM				LRM	MLR	13 52 03.5	
comp=Z,359nm,17.3s							
BILL	**Bilibino**	**72.65**	**10**	*i*P	**P**	**13 17 10.4**	**-3.8**
BILL				*i*		13 17 28.7	
BILL				*i*		13 20 00.6	
BILL				*i*S	**S**	**13 26 38.3**	**+1.0**
BILL				pmax	pmax		
comp=Z,5.0nm,1.3s							
BILL				MLR	MLR		
comp=Z,909nm,20.0s							
NVS	**Novosibirsk**	**72.86**	**330**	*e*P	**P**	**13 17 15.7**	**+0.1**
NVS				pmax	pmax		
comp=N,28nm,1.6s							
NVS				pmax	pm

FRU pmax pmax
comp=Z,150nm,2.0s
FRU MLR MLR
comp=E,1μm,19.0s
AAK Ala-Archa 72.98 316 P **P 13 17 17.1 +0.2**
AAK pmax pmax
comp=Z,41nm,1.4s
AAK Ala-Archa 72.98 316 *e*P **P 13 17 14.2 -2.7**
comp=Z,106nm,1.9s
AAK LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 72.98 316 P **P 13 17 16.6 -0.3**
SNR=22
AAK P **P 13 17 16.6 -0.3**
SNR=22
AAK Ala-Archa 72.98 316 P **P 13 17 16.6 -0.3**
SNR=22
KURK Kurchatov 73.42 325 P **P 13 17 18.5 -0.5**
KURK pmax pmax
comp=Z,35nm,0.9s
KURK Kurchatov 73.42 325 P **P 13 17 18.5 -0.5**
KURBB Kurchatov Arra 73.43 325 P **P 13 17 18.5 -0.6**
comp=Z,35nm,0.9s,baz=120,slow=5.5,SNR=18
FALS False Pass 73.89 31 PFAKE 13 17 30.0 +8.3
FALS LR LR
comp=Z,3μm,19.0s
TIXI Tiksi 74.02 357 P **P 13 17 21.8 -0.3**
comp=Z,5.9nm,0.5s,baz=160,slow=4.0,SNR=6.6
TIXI Tiksi 74.02 357⇓ *e*P **P 13 17 21.1 -1.1**
TIXI pmax pmax
comp=Z,32nm,2.5s
TIXI Tiksi 74.02 357 *e*P **P 13 17 21.6 -0.5**
comp=Z,18nm,0.9s
TIXI LR LR
comp=Z,2μm,20.0s
BTLS Baital 74.09 318 *i* P **P 13 17 23.2 +0.1**
comp=Z,250nm,1.6s
MNAS Manas 74.32 315 P **P 13 17 24.7 -0.1**
MNAS pmax pmax
comp=Z,67nm,1.0s
KBL Kabul 74.78 307 *e*P **P 13 17 27.5 -0.2**
KBL Kabul 74.78 307 *e*P **P 13 17 26.9 -0.8**
comp=Z,44nm,0.8s
KBL LR LR
comp=Z,600nm,19.0s
KK31 Karatay Array 75.91 315 *i* P **P 13 17 33.4 -0.3**
KK31 pmax pmax
comp=Z,60nm,1.4s
KKAR Karatay Array 75.91 315 *e*P **P 13 17 32.5 -1.2**
KKAR pmax pmax
comp=Z,380nm,1.4s
KKAR Karatay Array 75.91 315 *e*P **P 13 17 32.5 -1.2**
comp=Z,380nm,1.4s
IUG Iuzhnay 75.98 314 *i* P **P 13 17 34.3 +0.1**
IUG LRM MLR 13 53 46.9
comp=Z,342nm,1.5s
comp=Z,184nm,16.5s
VNDA Vanda 76.25 175 P **P 13 17 33.9 -1.1**
comp=Z,16nm,0.8s,baz=326,slow=6.9,SNR=42
VNDA LR LR 13 51 51.2
comp=Z,6μm,18.7s,baz=344,slow=36
VNDA Vanda 76.25 175 *e*P **P 13 17 33.7 -1.3**
comp=Z,24nm,0.9s
BRLS Borolday 76.36 315 *i* P **P 13 17 37.1 +0.8**
BRZS Berezniki 76.65 323 *i* P **P 13 17 38.2 +0.4**
comp=Z,47nm,1.1s
SBA Scott Base 77.02 174 *e*P **P 13 17 38.8 -0.5**
SBA pmax pmax
comp=Z,100nm,1.7s
SBA MLR MLR
comp=Z,2μm,21.0s
SBA Scott Base 77.02 174 *e*P **P 13 17 38.8 -0.5**
comp=Z,100nm,1.7s
SBA LR LR
comp=Z,2μm,21.0s
CHGN Chignik 77.08 31 PFAKE 13 17 50.0 +10
CHGN LR LR
comp=Z,2μm,20.0s
BVAR Borovoye Array 79.01 325 P **P 13 17 50.3 -0.6**
comp=Z,34nm,0.6s,baz=112,slow=7.0,SNR=57
BVAR LR LR 13 54 57.3
comp=Z,877nm,19.6s,baz=95,slow=37
BRVK Borovoye 79.08 325 P **P 13 17 51.1 -0.1**
BRVK pmax pmax
comp=Z,119nm,1.2s
BRVK Borovoye 79.08 325 *e*P **P 13 17 50.3 -0.9**
comp=Z,90nm,0.9s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 79.08 325 P **P 13 17 51.3 +0.1**
SNR=43
BRVK P **P 13 17 51.3 +0.1**
SNR=43
BRVK Borovoye 79.08 325 P **P 13 17 51.3 +0.1**
SNR=43
NRIK Noril'sk 79.30 344 P **P 13 17 52.5 +0.5**
comp=Z,25nm,1.1s,baz=123,slow=5.1,SNR=20
NRIK LR LR 13 53 02.8
comp=Z,2μm,21.1s,baz=115,slow=36
SVW2 Sparrevohn 80.35 27 *e*P **P 13 17 58.5 +0.5**
comp=Z,77nm,1.6s
SVW2 LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 80.58 30 *i* P **P 13 18 00.9 +1.7**
KDAK Kodiak Island 80.58 30 *e*P **P 13 17 59.2 0.0**
comp=Z,51nm,0.9s
KDAK LR LR
comp=Z,4μm,21.0s
TAOE Nuku Hiva Isla 80.73 99 *e*S S 13 27 48.2 -20
comp=Z,419nm,26.0s
TAOE *e*SS SS 13 33 06.8 -15
comp=Z,832nm,29.1s
TAOE Nuku Hiva Isla 80.73 99 *e*LR LR 13 43 09.0
comp=Z,1μm,23.0s
TT01 Tatalina 80.87 25 *e*P **P 13 18 01.0 +0.3**
TTA Tatalina 80.89 25 *e*P **P 13 18 00.4 -0.4**
TTA pmax pmax
comp=Z,27nm,1.0s
TTA Tatalina 80.89 25 *e*P **P 13 18 00.4 -0.4**
comp=Z,27nm,1.0s
CNPM China Poot 81.82 29 *e*P **P 13 18 06.7 +0.9**
comp=Z,106nm,1.3s
CNPM LR LR
comp=Z,4μm,20.0s
BIDO Bidbid 82.42 294 P **P 13 18 08.6 -1.1**
SNR=8.7
BIDO Bidbid 82.42 294 P **P 13 18 08.6 -1.1**
SNR=8.7
PPLA Purkeypile 82.50 26 *e*P **P 13 18 10.1 +0.6**
comp=Z,119nm,1.8s
PPLA LR LR
comp=Z,3μm,22.0s
MAW Mawson 82.65 202 P **P 13 18 09.2 -0.7**
comp=Z,11nm,0.9s,baz=65,slow=4.2,SNR=16
MAW LR LR 13 53 34.8
comp=Z,4μm,18.1s,baz=64,slow=35
MAW Mawson 82.65 202 *e*P **P 13 18 09.6 -0.3**
MAW Mawson 82.65 202 *e*P **P 13 18 09.1 -0.8**
comp=Z,5.9nm,1.1s
CAST Castle Rocks 82.72 25 *e*P **P 13 18 10.8 +0.4**
comp=Z,21nm,1.0s
CAST LR LR
comp=Z,2μm,19.0s
SEW Seward 82.86 29 *e*P **P 13 18 12.0 +0.8**
comp=Z,64nm,1.2s
SEW LR LR
comp=Z,4μm,22.0s
RC01 Rabbit Creek A 83.02 28 *e*P **P 13 18 11.4 -0.6**
comp=Z,34nm,0.8s
RC01 LR LR
comp=Z,3μm,20.0s
KTH Kantishna Hill 83.26 25 *e*P **P 13 18 13.8 +0.5**
comp=Z,38nm,1.0s
KTH LR LR
comp=Z,2μm,21.0s
PMR Palmer 83.44 27 *e*P **P 13 18 13.2 -1.0**
PMR pmax pmax
comp=Z,38nm,1.0s
PMR MLR MLR
comp=Z,3μm,21.0s
PMR Palmer 83.44 27 *e*P **P 13 18 13.2 -1.0**
comp=Z,38nm,1.0s
PMR LR LR
comp=Z,3μm,21.0s
TRF Thorofare Moun 83.50 25 *e*P **P 13 18 14.2 -0.4**
comp=Z,28nm,1.2s
TRF LR LR
comp=Z,2μm,19.0s
GEYT Alibeck 84.08 308 P **P 13 18 18.6 +0.5**
comp=Z,20nm,0.7s,baz=108,slow=4.7,SNR=28
GEYT LR LR 13 58 09.0
comp=Z,2μm,21.8s,baz=70,slow=37
RND Reindeer 84.10 26 *e*P **P 13 18 18.0 +0.4**
RND pmax pmax
comp=Z,62nm,1.0s
RND MLR MLR
comp=Z,2μm,21.0s
RND Reindeer 84.10 26 *e*P **P 13 18 18.0 +0.4**
comp=Z,62nm,1.0s
RND LR LR
comp=Z,2μm,21.0s
MCK McKinley 84.16 25 *e*P **P 13 18 17.2 -0.6**
MCK pmax pmax
comp=Z,157nm,1.6s
MCK MLR MLR
comp=Z,1μm,19.0s
MCK McKinley 84.16 25 *e*P **P 13 18 17.2 -0.6**
comp=Z,157nm,1.6s
MCK LR LR
comp=Z,1μm,19.0s
GLI Glacier Island 84.19 28 PFAKE 13 18 30.0 +12
GLI LR LR
comp=Z,4μm,21.0s
FID Port Fidalgo 84.45 28 *e*P **P 13 18 19.9 +0.5**
comp=Z,49nm,1.0s
FID LR LR
comp=Z,4μm,20.0s
AB31 Akbulak array 84.46 320 *i* P **P 13 18 18.6 -1.1**
AB31 pmax pmax
comp=Z,65nm,1.2s
DHY Denali Highway 84.65 26 *e*P **P 13 18 21.1 +0.6**
comp=Z,56nm,1.0s
COLD Coldfoot 84.73 22 *e*P **P 13 18 21.3 +0.7**
comp=Z,32nm,1.4s
COLD LR LR
comp=Z,2μm,19.0s
WRH Wood River Hil 84.73 25 *e*P **P 13 18 20.8 +0.1**
comp=Z,68nm,1.1s
EYAK Cordova Ski Ar 84.75 29 PFAKE 13 18 30.0 +9.2
EYAK LR LR
comp=Z,4μm,19.0s
MDM Murphy Dome 84.81 24 *e*P **P 13 18 21.2 0.0**
comp=Z,12nm,1.0s
MDM LR LR
comp=Z,2μm,20.0s
DIV Divide 84.88 28 *e*P **P 13 18 20.8 -0.8**
comp=Z,94nm,1.0s
DIV LR LR
comp=Z,4μm,22.0s
CCB Clear Creek Bu 84.89 24 *e*P **P 13 18 19.6 -1.9**
comp=Z,58nm,1.1s
KLU Klutina 84.90 28 *e*P **P 13 18 21.5 -0.2**
comp=Z,85nm,1.2s
KLU LR LR
comp=Z,3μm,20.0s
COLA College 84.94 24 *e*P **P 13 18 21.5 -0.2**
COLA pmax pmax
comp=Z,40nm,1.3s
COLA MLR MLR
comp=Z,1μm,19.0s
COLA College 84.94 24 *e*P **P 13 18 21.5 -0.2**
comp=Z,40nm,1.3s
COLA LR LR
comp=Z,1μm,19.0s
HDA Harding Lake 85.19 25 *e*P **P 13 18 22.7 -0.3**
comp=Z,23nm,0.9s
ILAR Eielson Array 85.31 24 P **P 13 18 23.0 -0.6**
comp=Z,10nm,0.8s,baz=261,slow=3.9,SNR=48
ILAR PKKPbc **PKKPbc 13 36 31.9 +0.2**
comp=Z,0.2nm,0.6s,baz=340,slow=1.5,SNR=4.1
ILAR LR LR 13 54 46.6
comp=Z,1μm,19.8s,baz=244,slow=34
ILAR Eielson Array 85.31 24 P **P 13 18 23.0 -0.6**
ILAR pmax pmax
comp=Z,11nm,0.8s
ILB Eielson Array 85.31 24 *e*P **P 13 18 21.7 -1.9**
IL1 Eielson Array 85.31 24 *e*P **P 13 18 21.9 -1.7**
BMRM Bremner River 85.40 28 PFAKE 13 18 40.0 +16
BMRM LR LR
comp=Z,4μm,20.0s
SVE Sverdlovsk 85.43 327 *e*P **P 13 18 24.1 -0.2**
SVE *e* 13 21 40.6
SVE *e*PPP PPP 13 23 33.0
SVE *e*S **SKSac 13 28 44.1 -3.4**
SVE *e* 13 34 33.8
SVE pmax pmax
comp=Z,49nm,1.0s
SVE MLR MLR
comp=Z,981nm,22.0s
PAX Paxson 85.46 26 PFAKE 13 18 40.0 +15
PAX LR LR
comp=Z,3μm,21.0s
HARP HAARP 85.47 27 PFAKE 13 18 40.0 +16
HARP LR LR
comp=Z,2μm,21.0s
RKT Rikitea 85.58 113 *e*S S 13 28 34.6 -22
comp=Z,663nm,37.0s
RKT Rikitea 85.58 113 *e*LQ LQ 13 41 35.0
comp=Z,1μm,35.2s
RKT *e*LR LR 13 45 22.3
comp=Z,1μm,24.0s
AKTO Aktyubinsk 85.88 321 P **P 13 18 26.6 -0.2**
comp=Z,11nm,0.9s,baz=94,slow=6.5,SNR=12
AKTO Aktyubinsk 85.88 321 P **P 13 18 26.3 -0.5**
AKTO pmax pmax
comp=Z,44nm,1.5s
CRQM Cirque 86.05 29 *e*P **P 13 18 27.0 -0.6**
comp=Z,49nm,0.9s
CRQM LR LR
comp=Z,3μm,22.0s
DOT Dot Lake 86.24 26 *e*P **P 13 18 28.3 0.0**
comp=Z,39nm,0.8s
FYU Fort Yukon 86.42 23 *e*P **P 13 18 29.9 +0.9**
comp=Z,196nm,1.6s
FYU LR LR
comp=Z,2μm,20.0s
ARU Arti 86.48 327 P **P 13 18 28.0 -1.5**
comp=Z,35nm,0.8s,baz=126,slow=3.1,SNR=21
ARU Arti 86.48 327*c i*P **P 13 18 27.9 -1.7**
ARU 13 21 45.6
ARU S **SKSac 13 28 51.0 -3.2**
ARU SS **SS 13 34 37.3 -7.3**
ARU pmax pmax
comp=Z,51nm,1.0s
ARU MLR MLR
comp=Z,1μm,22.0s
ARU Arti 86.48 327 *e*P **P 13 18 26.9 -2.7**
comp=Z,39nm,0.8s
EGAK Eagle 87.70 25 *e*P **P 13 18 35.9 +0.6**
comp=Z,88nm,1.2s
EGAK LR LR
comp=Z,2μm,19.0s
DAWY Dawson 88.35 26 *e*P **P 13 18 39.2 +0.8**
comp=Z,88nm,1.0s
SKAG Skagway 89.74 31 *e*P **P 13 18 45.3 +0.3**
comp=Z,48nm,1.0s
WHY Whitehorse 90.06 29 *e*P **P 13 18 47.0 +0.3**
comp=Z,25nm,1.0s
CRAG Craig 90.66 35 PFAKE 13 19 00.0 +11
CRAG LR LR
comp=Z,2μm,18.0s
OPO Ambohidratompo 90.92 251 LR LR 13 57 52.4
comp=Z,422nm,19.4s,baz=86,slow=34
WRAK Wrangell Islan 91.14 34 *e*P **P 13 18 52.6 +1.0**
comp=Z,31nm,1.1s
SYO Syowa Base 91.28 201⇓ *e*P **P 13 18 53.4 +1.4**
MAK Makhachkala 92.51 313 *e*P **P 13 18 56.3 -2.0**
MAK *e* 13 22 35.7
MAK *e*PS **PS 13 31 14.8 -0.5**
MAK *e*SS SS 13 36 17.8 +5.1
MAK pmax pmax
comp=Z,366nm,1.4s
RAYN Ar Rayn 93.98 293 *e*P **P 13 19 05.3 -0.3**
comp=Z,8.4nm,0.8s
GNI Garni 94.59 310 P **P 13 19 07.7 -0.5**
comp=Z,4.1nm,0.4s,baz=334,slow=14,SNR=1.4
GNI LR LR 14 05 05.7
comp=Z,363nm,21.5s,baz=84,slow=38
ZEI Tsey 95.16 313 *e*P **P 13 19 08.5 -2.3**
ZEI pmax pmax
comp=Z,14nm,1.8s
KBZ Khabaz 95.86 314 P **P 13 19 13.2 -0.4**
comp=Z,1.6nm,0.5s,baz=113,slow=5.7,SNR=5.1
KBZ LR LR 14 07 27.3
comp=Z,424nm,19.7s,baz=78,slow=39
KVAR Kislovodsk Arr 96.00 314 LR LR 14 07 37.0
comp=Z,629nm,19.5s,slow=39
NEY Neytrino 96.01 313⇑ *e*P **P 13 19 19.1 +4.5**
NEY pmax pmax
comp=Z,3.0nm,0.9s
KLMR Klimovskoe 96.50 331 *e*P **P 13 19 13.9 -2.2**
KLMR *e* 13 23 10.3
KLMR pmax pmax
comp=Z,34nm,1.5s
ARTV Artvin 96.70 311 PFAKE 13 19 30.0 +12
ARTV LR LR
comp=Z,400nm,20.0s
TMCR Tamitsa 96.72 334 *e*P **P 13 19 20.0 +3.0**
TMCR pmax pmax
comp=Z,14nm,0.5s
F03A Seaside 96.84 44 PFAKE 13 19 30.0 +12
F03A LR LR
comp=Z,2μm,19.0s
KRMB Red Mountain 96.86 49 PFAKE 13 19 30.0 +12
KRMB LR LR
comp=Z,3μm,20.0s
KHMM Horse Mountain 97.02 49 PFAKE 13 19 30.0 +11
KHMM LR LR
comp=Z,2μm,20.0s
KMRM Mail Ridge 97.08 50 PFAKE 13 19 30.0 +11
KMRM LR LR
comp=Z,2μm,19.0s
COR Corvallis 97.11 46 PFAKE 13 19 30.0 +11
COR LR LR
comp=Z,2μm,22.0s
KCPM Cahto Peak 97.20 50 PFAKE 13 19 30.0 +10
KCPM LR LR
comp=Z,3μm,18.0s
HUMO Hull Mountain 97.50 47 PFAKE 13 19 30.0 +8.8
HUMO LR LR
comp=Z,2μm,19.0s
F04A Amboy 97.63 44 PFAKE 13 19 30.0 +8.3
F04A LR LR
comp=Z,2μm,21.0s
YBH Yreka Blue Hor 97.74 48 PFAKE 13 19 30.0 +7.6
YBH LR LR
comp=Z,2μm,20.0s
MCCM Marconi Confer 97.84 52 PFAKE 13 19 30.0 +7.3
MCCM LR LR
comp=Z,2μm,19.0s
GDXM Geysers 97.86 51 PFAKE 13 19 30.0 +7.0
GDXM LR LR
comp=Z,3μm,18.0s
APA Apatity 97.92 338⇓ *i*P P 13 19 13.5 -8.9
APA MLR MLR
comp=Z,2μm,17.0s
WDC Whiskeytown Da 97.94 50 PFAKE 13 19 30.0 +6.8
WDC LR LR
comp=Z,2μm,20.0s
LON Longmire 97.98 43 PFAKE 13 19 30.0 +6.7
LON LR LR
comp=Z,2μm,20.0s
B06A Marblemount 98.03 41 PFAKE 13 19 30.0 +6.6
B06A LR LR
comp=Z,3μm,19.0s
MOS Moscow 98.17 326 *e*P **P 13 19 23.1 -0.7**
MOS *e* 13 23 19.8
MOS MLR MLR
comp=Z,2μm,20.0s
SOC Sochi 98.17 314 *e*P **P 13 19 20.4 -3.7**
SOC *e* 13 23 19.9
SOC *e*S **SKSac 13 29 54.7 -5.6**
SOC *e*SS **SS 13 37 36.4 +3.3**
SOC MLR MLR
comp=Z,770nm,17.0s
SPITS Spitsbergen Ar 98.53 350 LR LR 14 02 58.6
comp=Z,2μm,21.4s,baz=40,slow=35
ORV Oroville 98.82 50 *e*P **P 13 19 25.0 -2.1**
ORV pmax pmax
comp=Z,9.0nm,1.2s
ORV MLR MLR
comp=Z,2μm,20.0s
ORV Oroville 98.82 50 *e*P **P 13 19 25.0 -2.1**
comp=Z,8.9nm,1.2s
ORV LR LR
comp=Z,2μm,20.0s
SAO San Andreas Ge 99.06 53 PFAKE 13 19 40.0 +12
SAO LR LR
comp=Z,2μm,18.0s
AFDM Forest Hills D 99.27 51 *e*P **Pdif 13 19 29.0 -0.2**
comp=Z,9.3nm,1.1s
AFDM LR LR
comp=Z,1μm,19.0s
MOD Modoc Plateau 99.52 48 PFAKE 13 19 40.0 +10
MOD LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 99.54 27 P **Pdif 13 19 28.9 -0.8**
comp=Z,1.6nm,0.8s,baz=265,slow=4.9,SNR=2.7
YKA LR LR 14 01 55.8
comp=Z,200nm,19.9s,baz=0.0,slow=34
HAWA Hanford 99.58 43 PFAKE 13 19 40.0 +10
HAWA LR LR
comp=Z,2μm,18.0s
PMPB Monarch Peak 99.62 54 PFAKE 13 19 40.0 +9.1
PMPB LR LR
comp=Z,2μm,19.0s
BEKR Beckworth 99.67 50 PFAKE 13 19 40.0 +8.9
BEKR LR LR
comp=Z,2μm,20.0s
ANN Anapa 99.69 315 *e*P **Pdif 13 19 29.9 -0.9**
ANN pmax pmax
comp=Z,92nm,4.5s
CMB Columbia Colle 99.81 52 PFAKE 13 19 40.0 +8.4
CMB LR LR
comp=Z,1μm,19.0s
D08A Wollman Farm, 99.92 43 PFAKE 13 19 40.0 +8.2
D08A LR LR
comp=Z,3μm,19.0s
ARA0 ARCESS Array S 100.10 341 *e*Pdif **Pdif 13 19 30.4 -1.8**
ARCES ARCESS Array B 100.10 341 P **Pdif 13 19 31.1 -1.1**
comp=Z,6.1nm,0.7s,baz=79,slow=6.3,SNR=14
PAGB Antelope Grade 100.10 54 PFAKE 13 19 40.0 +7.0
PAGB LR LR
comp=Z,3μm,18.0s
PNTR Pine Nut 100.33 51 PFAKE 13 19 50.0 +16
PNTR LR LR
comp=Z,2μm,18.0s
PAHR Pah Rah Range 100.43 50 PFAKE 13 19 50.0 +16
PAHR LR LR
comp=Z,4μm,20.0s
WAKR Walker 100.51 51 PFAKE 13 19 50.0 +15
WAKR LR LR
comp=Z,2μm,19.0s
YERR Yerington 100.61 51 PFAKE 13 19 50.0 +15
YERR LR LR
comp=Z,2μm,18.0s
WVOR Wild Horse Val 100.69 47 PFAKE 13 19 50.0 +14
WVOR LR LR
comp=Z,1μm,18.0s
SNCC San Nicolas Is 100.90 57 PFAKE 13 19 50.0 +13
SNCC LR LR
comp=Z,3μm,19.0s
NEW Newport 100.95 41 PFAKE 13 19 50.0 +14
NEW LR LR
comp=Z,2μm,20.0s
TVH2 Borealis Mine 101.05 51 PFAKE 13 19 50.0 +13
TVH2 LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 101.33 45 PFAKE 13 19 50.0 +12
BMO LR LR
comp=Z,1μm,20.0s
OSI Osito Audit: C 101.45 55 PFAKE 13 19 50.0 +11
OSI LR LR
comp=Z,3μm,20.0s
ISA Isabella, Lake 101.55 54 PFAKE 13 19 50.0 +11
ISA LR LR
comp=Z,2μm,19.0s
PASC Pasadena Art C 101.93 56 PFAKE 13 19 50.0 +8.9
PASC LR LR
comp=Z,3μm,19.0s
MWC Mount Wilson 102.03 56 PFAKE 13 19 50.0 +8.2
MWC LR LR
comp=Z,3μm,19.0s
SNAA Sanae 102.23 192*de*P **Pdif 13 19 46.9 +5.2**
SNAA Sanae 102.23 192 PFAKE 13 19 50.0 +8.3
SNAA LR LR
comp=Z,6μm,20.0s
MFID Camas Ranch 102.60 46 PFAKE 13 20 00.0 +16
MFID LR LR

comp=Z,1μm,18.0s
FINES FINESS Array B 102.70 333 P **Pdif 13 19 42.9 -0.9**
comp=Z,2.2nm,0.8s,baz=114,slow=6.2,SNR=4.0
GSC Goldstone, Bar 102.94 54 PFAKE 13 20 00.0 +14
GSC LR LR
comp=Z,3μm,18.0s
BRTR Keskin Array B 103.13 310 Pdiff **Pdif 13 19 46.1 -0.4**
comp=Z,1.0nm,0.6s,baz=104,slow=6.1,SNR=4.6
BRTR Keskin Array B 103.13 310 *i P* **Pdif 13 19 48.9 +2.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
TPNV Topopah Spring 103.19 53 PFAKE 13 20 00.0 +13
TPNV LR LR
comp=Z,2μm,18.0s
MSO Missoula 103.32 42 PFAKE 13 20 00.0 +13
MSO LR LR
comp=Z,2μm,19.0s
BAR Barrett 103.34 57 PFAKE 13 20 00.0 +13
BAR LR LR
comp=Z,3μm,20.0s
PFO Pinyon Flats O 103.42 56 PFAKE 13 20 00.0 +12
PFO LR LR
comp=Z,3μm,19.0s
HLID Hailey 103.59 46 PFAKE 13 20 00.0 +11
HLID LR LR
comp=Z,2μm,18.0s
AKASG Malin Array Be 104.09 322 Pdiff **Pdif 13 19 49.1 -1.2**
comp=Z,3.6nm,0.7s,baz=61,slow=4.7,SNR=8.9
AKASG PP **PP 13 24 07.7 -0.3**
comp=Z,0.7nm,0.5s,baz=66,slow=7.3,SNR=6.4
AKBB Malin Array Si 104.09 322 *eP* **Pdif 13 19 49.8 -0.5**
AKBB Malin Array Si 104.09 322 *e*Pdif **Pdif 13 19 49.8 -0.5**
KIEV Kiev 104.11 322 *eP* **Pdif 13 19 49.9 -0.4**
KIEV Kiev 104.11 322 *e*Pdif **Pdif 13 19 49.9 -0.4**
SHPR Sheep Range 104.12 53 PFAKE 13 20 00.0 +9.0
SHPR LR LR
comp=Z,2μm,18.0s
LDFC Landfair 104.35 54 PFAKE 13 20 00.0 +8.0
LDFC LR LR
comp=Z,3μm,19.0s
GLA Glamis 104.84 57 PFAKE 13 20 10.0 +16
GLA LR LR
comp=Z,2μm,20.0s
PSUT Pine Spring 104.85 51 PFAKE 13 20 10.0 +16
PSUT LR LR
comp=Z,1μm,20.0s
Y12C Blythe 105.00 56 PFAKE 13 24 20.0
Y12C LR LR
comp=Z,2μm,19.0s
BGU Big Grassy Mou 105.07 48 PFAKE 13 24 20.0
BGU LR LR
comp=Z,2μm,19.0s
HVU Hansel Valley 105.10 47 PFAKE 13 24 20.0
HVU LR LR
comp=Z,3μm,19.0s
KIS Kishinev 105.23 318 *eP* **Pdif 13 19 55.0 -0.5**
KIS Kishinev 105.23 318 *e*PP PP 13 24 16.0 -0.6
KIS Kishinev 105.23 318 *e*PS PS 13 33 29.0 -3.2
KIS Kishinev 105.23 318 *e*PPS PPS 13 34 32.0
KIS *e*LR LR 14 06 10.0
comp=Z,900nm,21.0s
KIS Kishinev 105.23 318 *eP* **Pdif 13 19 55.0 -0.5**
KIS *e* 13 24 16.0
KIS *e*PS **PS 13 33 29.0 -3.2**
KIS *e*PPS PPS 13 34 32.0
KIS MLR MLR
comp=Z,900nm,21.0s
KIS MLR MLR
comp=Z,1μm,21.0s
W13A Hualapai Mount 105.34 54 PFAKE 13 24 20.0
W13A LR LR
comp=Z,2μm,19.0s
BOLV Bolvadin 105.35 309 PFAKE 13 24 20.0
BOLV LR LR
comp=Z,500nm,21.0s
DUG Dugway, Tooele 105.36 49 PFAKE 13 24 20.0
DUG LR LR
comp=Z,1μm,18.0s
CCUT Cedar City 105.39 52 PFAKE 13 24 20.0
CCUT LR LR
comp=Z,2μm,18.0s
SPUT South Promonto 105.43 48 PFAKE 13 24 20.0
SPUT LR LR
comp=Z,3μm,20.0s
LCMT Little Creek M 105.57 52 PFAKE 13 24 20.0
LCMT LR LR
comp=Z,1μm,18.0s
SZCU Shurtz Canyon 105.59 52 PFAKE 13 24 20.0
SZCU LR LR
comp=Z,2μm,18.0s
YHB Horse Butte 105.63 44 PFAKE 13 24 20.0
YHB LR LR
comp=Z,2μm,19.0s
113A Mohawk Valley, 105.76 57 PFAKE 13 24 20.0
113A LR LR
comp=Z,2μm,20.0s
KNB Kanab 105.90 52 PFAKE 13 24 20.0
KNB LR LR
comp=Z,2μm,18.0s
YFT Old Faithful 105.95 44 PFAKE 13 24 20.0
YFT LR LR
comp=Z,2μm,18.0s
YNR Norris Junctio 106.00 44 PFAKE 13 24 20.0
YNR LR LR
comp=Z,2μm,18.0s
HWUT Hardware Ranch 106.02 47 PFAKE 13 24 20.0
HWUT LR LR
comp=Z,2μm,20.0s
TIRR Tirgusor 106.09 316 PFAKE 13 24 20.0
TIRR LR LR
comp=Z,1μm,22.0s
LOHW Long Hollow 106.30 45 PFAKE 13 24 20.0
LOHW LR LR
comp=Z,2μm,19.0s
JLU Jordanelle 106.31 48 PFAKE 13 24 20.0
JLU LR LR
comp=Z,2μm,19.0s
BW06 Boulder Array 107.23 46 PFAKE 13 24 30.0
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 107.23 46 PKiKP **PKiKP 13 24 14.8 +1.0**
comp=Z,0.6nm,0.7s,baz=270,slow=1.8,SNR=3.5
SRU San Rafael Swe 107.30 50 PFAKE 13 24 30.0
SRU LR LR
comp=Z,1μm,20.0s
WUAZ Wupatki 107.30 54 PFAKE 13 24 30.0
WUAZ LR LR
comp=Z,2μm,19.0s
P18A Preston Nutter 107.41 49 PFAKE 13 24 30.0
P18A LR LR
comp=Z,2μm,20.0s
TUC Tucson 108.32 57 PFAKE 13 24 30.0
TUC LR LR
comp=Z,2μm,21.0s
HSIG 108.67 60 PFAKE 13 24 30.0
HSIG LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 108.69 54 PFAKE 13 24 30.0
W18A LR LR
comp=Z,3μm,19.0s
O20A White River Ci 108.80 48 PFAKE 13 24 30.0
O20A LR LR
comp=Z,1μm,20.0s
UZH Uzhgorod 109.00 321 *eP* **Pdif 13 20 13.5 +1.3**
319A Douglas 109.73 58 PFAKE 13 24 30.0
319A LR LR
comp=Z,3μm,21.0s
VTS Vitosha 110.22 315 PFAKE 13 24 30.0
VTS LR LR
comp=Z,700nm,22.0s
N23A Red Feather La 110.31 47 PFAKE 13 24 30.0
N23A LR LR
comp=Z,2μm,20.0s
PHWY Pilot Hill 110.56 47 PFAKE 13 24 30.0
PHWY LR LR
comp=Z,2μm,20.0s
RSSD Black Hills 110.74 43 PFAKE 13 24 30.0
RSSD LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 110.75 321 PFAKE 13 24 30.0
PSZ LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 110.84 48 PFAKE 13 24 30.0
ISCO LR LR
comp=Z,2μm,18.0s

OKC Ostrava-Krasne 111.10 323 AMS AMS 14 14 00.0
comp=Z,900nm,14.8s
Y22D IRIS PASSCAL I 111.17 54 PFAKE 13 24 30.0
Y22D LR LR
comp=Z,3μm,20.0s
ANMO Albuquerque 111.36 53 *i*PKiKP **PKiKP 13 24 26.7 +5.0**
ANMO Albuquerque 111.36 53 PFAKE 13 24 30.0
ANMO LR LR
comp=Z,2μm,19.0s
Q24A Divide 111.41 49 PFAKE 13 24 30.0
Q24A LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 111.45 50 PFAKE 13 24 30.0
SDCO LR LR
comp=Z,2μm,18.0s
MORC Moravsky Berou 111.48 323 PFAKE 13 24 30.0
MORC LR LR
comp=Z,4μm,20.0s
DPC Dobruska-Polom 111.97 324 *e*SP SP 13 34 37.6 +2.6
DPC AMS AMS 14 15 40.0
comp=Z,2μm,18.1s
UPC Upice 112.08 325 *e*SP SP 13 34 35.7 -0.2
UPC AMS AMS 14 13 10.0
comp=Z,2μm,18.5s
PVCC Panska Ves 112.90 325 *e*SP SP 13 34 35.8 -7.6
PVCC AMS AMS 14 17 00.0
comp=Z,1μm,15.5s
TREC Trest 112.90 324 AMS AMS 14 13 00.0
comp=Z,1μm,20.4s
MNTX Cornudas Mount 112.94 56 PFAKE 13 24 40.0
MNTX LR LR
comp=Z,2μm,20.0s
GOPC GO Pecny, Ondr 113.05 324 AMS AMS 14 16 30.0
comp=Z,2μm,19.7s
OGNE Ogallala 113.13 46 PFAKE 13 24 40.0
OGNE LR LR
comp=Z,2μm,20.0s
PRU Pruhonice 113.16 325 *e*SP SP 13 34 40.4 -5.4
PRU AMS AMS 14 13 40.0
comp=Z,1μm,19.5s
PRA Prague 113.18 325 AMS AMS 14 13 30.0
comp=Z,1μm,18.9s
CLL Collm 113.43 326 *e*PP PP 13 25 19.0 +3.3
CLL *e*PS **PS 13 34 50.0 -2.4**
CLL *e*PPS PPS 13 36 00.0
CLL *e*SS SS 13 41 24.0 +24
CLL *e* 13 52 42.0
CLL Lm MLR 14 16 00.0
comp=N,1μm,18.8s
CLL Lm MLR 14 16 00.0
comp=E,1μm,20.7s
CLL Lm MLR 14 16 00.0
comp=Z,2μm,18.9s
CLL Collm 113.43 326 PFAKE 13 24 40.0
CLL LR LR
comp=Z,2μm,20.0s
HPIG 113.61 62 PFAKE 13 24 40.0
HPIG LR LR
comp=Z,2μm,19.0s
BLY Banja Luka 113.65 319 PFAKE 13 24 40.0
BLY LR LR
comp=Z,800nm,19.0s
KHC Kasperske Hory 114.10 324 *e*PP PKPdf 13 25 18.1 +52
KHC *e*SP SP 13 34 54.4 -0.2
KHC AMS AMS 14 14 30.0
comp=Z,1μm,19.2s
KHC Kasperske Hory 114.10 324 PFAKE 13 24 40.0 +14
KHC LR LR
comp=Z,500nm,21.0s
GERES GERESS Array B 114.16 324 PKP PKPdf 13 24 26.7 +0.2
comp=Z,0.5nm,0.3s,baz=64,slow=2.3,SNR=2.4
NKC Novy Kostel 114.25 325 AMS AMS 14 17 50.0
comp=Z,1μm,20.2s
TXAR Lajitas Array 114.88 59 PKP PKPdf 13 24 28.9 +0.4
comp=Z,0.4nm,0.6s,baz=219,slow=2.3,SNR=5.2
TXAR PKKPbc **PKKPbc 13 35 08.2 +2.5**
comp=Z,0.3nm,0.6s,baz=101,slow=4.7,SNR=3.7
WMOK Wichita Mounta 117.50 52 *e*PKiKP **PKPdf 13 24 33.5 +0.2**
WMOK Wichita Mounta 117.50 52 *e*PKPdf **PKPdf 13 24 33.5 +0.2**
JCT Junction City 117.88 57 *e*PKiKP **PKPdf 13 24 34.8 +0.7**
JCT Junction City 117.88 57 *e*PKPdf **PKPdf 13 24 34.8 +0.7**
TSUM Tsumeb 118.57 247 PKP **PKPdf 13 24 36.6 +0.7**
comp=Z,3.3nm,0.9s,baz=294,slow=1.3,SNR=5.3
EKA Eskdalemuir Ar 118.80 336 PKP **PKPdf 13 24 36.4 +1.3**
comp=Z,3.2nm,0.9s,baz=39,slow=3.7,SNR=3.6
CCM Cathedral Cave 121.95 46 *e*PKiKP **PKPdf 13 24 41.7 0.0**
CCM Cathedral Cave 121.95 46 *e*PKPdf **PKPdf 13 24 41.6 0.0**
VLDQ Val d'Or 124.60 29 *e*PKPdf **PKPdf 13 24 45.9 -0.5**
WVT Waverly 125.25 46 *e*PKiKP **PKPdf 13 24 49.1 +1.0**
WVT Waverly 125.25 46 *e*PKPdf **PKPdf 13 24 49.1 +1.0**
PLCA Paso Flores 129.52 151 PKP **PKPdf 13 24 57.5 +1.3**
comp=Z,4.4nm,0.9s,baz=215,slow=4.0,SNR=5.9
ESDC Sonseca Array 129.73 323 PKP **PKPdf 13 24 57.4 +0.8**
comp=Z,0.2nm,0.3s,baz=11,slow=1.3,SNR=3.9
PBRG Braganca 129.95 327 *e*PP PP 13 27 12.3 +4.0
PBRG Braganca 129.95 327 *e*LR LR 14 10 59.5
comp=Z,2μm,22.0s
MVO Moncorvo 130.55 326 *e*PKPdf **PKPdf 13 24 58.7 +0.6**
MVO Moncorvo 130.55 326 *e*PP PP 13 27 17.1 +5.0
MVO Moncorvo 130.55 326 *e*LR LR 14 10 52.0
comp=Z,2μm,22.0s
PGAV Gavieira, Arco 130.67 328 *e*PKPdf **PKPdf 13 25 01.9 +3.5**
PGAV Gavieira, Arco 130.67 328 *e*PP PP 13 27 18.1 +5.2
PGAV Gavieira, Arco 130.67 328 *e*LR LR 14 10 32.1
comp=Z,1μm,20.0s
POLO Lamas de Olo 130.82 327 *e*PKPdf **PKPdf 13 25 02.8 +4.1**
POLO Lamas de Olo 130.82 327 *e*PP PP 13 27 18.9 +4.9
POLO Lamas de Olo 130.82 327 *e*LR LR 14 11 23.7
comp=Z,840nm,20.0s
MTE Manteigas 131.35 326 *e*PKPdf **PKPdf 13 25 01.6 +1.9**
MTE Manteigas 131.35 326 *e*PP PP 13 27 16.5 -0.9
MTE Manteigas 131.35 326 *e*LR LR 14 09 10.6
comp=Z,2μm,22.0s
PCBR Castelo Branco 131.69 325 *e*PKPdf **PKPdf 13 25 03.4 +3.2**
PMRV Marv??o 131.92 325 *e*PP PP 13 27 25.0 +4.0
PMRV Marv??o 131.92 325 *e*LR LR 14 09 27.0
comp=Z,1μm,22.0s
PESTR Estremoz 132.41 324 *e*PP PP 13 27 29.1 +5.0
PESTR Estremoz 132.41 324 *e*LR LR 14 10 35.5
comp=Z,1μm,18.0s
PBAR Barrancos 132.53 323 *e*PKPdf **PKPdf 13 25 03.4 +1.5**
PBAR Barrancos 132.53 323 *e*PP PP 13 27 27.8 +2.8
PBAR Barrancos 132.53 323 *e*LR LR 14 12 12.5
comp=Z,3μm,18.0s
PMAFR Mafra 133.32 326 *e*PP PP 13 27 33.9 +4.0
PMAFR Mafra 133.32 326 *e*LR LR 14 10 52.1
comp=Z,1μm,20.0s
PVAQ Vaqueiros 133.44 323 *e*PP PP 13 27 36.4 +5.6
PVAQ Vaqueiros 133.44 323 *e*LR LR 14 13 16.3
comp=Z,1μm,18.0s
PNCL Nicolau / Gran 133.46 324 *e*PP PP 13 27 33.8 +3.0
PNCL Nicolau / Gran 133.46 324 *e*LR LR 14 10 20.8
comp=Z,1μm,22.0s
PCVE Castro Verde 133.49 323 *e*PP PP 13 27 33.3 +2.2
PCVE Castro Verde 133.49 323 *e*LR LR 14 12 37.1
comp=Z,1μm,22.0s
PBDV Barranco-do-Ve 133.68 323 *e*PP PP 13 27 36.4 +4.1
PBDV Barranco-do-Ve 133.68 323 *e*LR LR 14 11 13.8
comp=Z,1μm,20.0s
MORF Marmelete 134.07 323 *e*PP PP 13 27 36.3 +1.5
PFVI Vila Bisbo 134.29 323 *e*PP PP 13 27 38.5 +2.3
PFVI Vila Bisbo 134.29 323 *e*LR LR 14 10 28.6
comp=Z,2μm,20.0s
TOA0 Torodi Ar. Sit 136.29 287 *e*PKPpre PKPpre 13 24 57.6
TORD Torodi Ar. Bea 136.29 287 PKhKP PKPpre 13 24 58.1
comp=Z,1.0nm,0.6s,baz=58,slow=3.2,SNR=6.9
TORD PKP **PKPdf 13 25 10.2 +0.6**
comp=Z,3.7nm,0.7s,baz=57,slow=1.7,SNR=11
TORD PP PP 13 28 02.6 +12
comp=Z,2.0nm,1.0s,baz=61,slow=6.3,SNR=3.9
PMOZ Porto Moniz, M 142.18 326 *e*PP PP 13 28 31.1 +5.9
CMBC Cumbal 143.28 91 *e*P **PKPdf 13 25 21.7 -1.1**
CAPC Capurgana 143.38 79 *e*P PKPab 13 25 15.8 -2.6
KIC Kosan Boka 143.51 278 *e*PKP1 **PKPdf 13 25 22.0 -0.7**
comp=Z,68nm,1.3s
DBIC Dimbokro 143.60 278 PKP PKPbc 13 25 21.1 +0.9
comp=Z,12nm,0.6s,baz=78,slow=3.5,SNR=19
DBIC Dimbokro 143.60 278 *e*PKPdf PKPbc 13 25 20.9 +0.7
TIC Toumodi 143.76 278 *e*PKP1 **PKPdf 13 25 22.4 -0.8**
LIC Lamto 143.81 277 *e*PKP1 **PKPdf 13 25 23.1 -0.1**
comp=Z,125nm,1.2s
PB01 IPOC Station P 143.86 131 *e*PKPdf PKPbc 13 25 21.4 +0.5
CRUC La Cruz 144.17 90 *e*P **PKPab 13 25 16.0 -6.0**
POPC Popayan, Colom 144.46 89 *e*P **PKPab 13 25 19.4 -3.6**
PB11 IPOC Station P 144.47 129 *e*PKPdf **PKPab 13 25 22.5 -0.1**

MOTC Monteria, Cord 145.01 78 *e*P **PKPbc 13 25 22.9 -1.7**
SJCC San Jacinto, C 145.30 76 *e*P **PKPbc 13 25 24.1 -1.5**
HELC Santa Helena 145.45 82 *e*P **PKPbc 13 25 22.9 -3.6**
FLOC Florencia 145.47 90 *e*P **PKPab 13 25 26.4 0.0**
GUYC Guyana, Colomb 145.66 84 *e*P **PKPdf 13 25 21.7 -5.3**
BETC Betania 145.69 88 *e*P **PKPdf 13 25 20.6 -6.0**
ZARC Zaragoza, Cauc 145.98 80 *e*P **PKPdf 13 25 24.1 -2.9**
NORC Norcasia 146.16 83 *e*P **PKPdf 13 25 26.4 -0.9**
PRAC Prado 146.23 87 *e*P **PKPdf 13 25 24.1 -3.4**
PRAC Prado 146.23 87 *e*PKPdf **PKPbc 13 25 28.6 0.0**
ROSC El Rosal 146.75 85 PKPbc **PKPab 13 25 32.1 +0.4**
comp=Z,12nm,0.5s,baz=84,slow=6.0,SNR=10
BRRC Barranca, Sant 147.15 80 *e*P **PKPdf 13 25 27.6 -1.4**
CHIC Chingaza 147.35 85 *e*P **PKPdf 13 25 29.9 +0.1**
OCAC Ocana 147.38 78 *e*P **PKPdf 13 25 24.1 -5.4**
VILC Villavicencio, 147.41 86 *e*P **PKPab 13 25 34.7 +0.7**
CPUP Villa Florida 147.58 152 PKPbc **PKPbc 13 25 32.2 +0.2**
comp=Z,20nm,0.9s,baz=245,slow=1.9,SNR=24
CPUP Villa Florida 147.58 152 *e*PKPdf **PKPbc 13 25 31.0 -0.9**
LPAZ La Paz 147.58 126 PKPbc **PKPbc 13 25 33.4 +0.4**
comp=Z,17nm,0.8s,baz=273,slow=1.7,SNR=25
LPAZ La Paz 147.58 126 *e*PKPdf **PKPbc 13 25 32.2 -0.8**
GIRC Giron, Santand 147.67 80 *e*P **PKPdf 13 25 31.0 +1.0**
BARC Barichara 147.73 81 *e*P **PKPdf 13 25 28.8 -1.4**
RUSC La Rusia 147.90 82 *e*P **PKPbc 13 25 33.5 -0.3**
RUSC La Rusia 147.90 82 *e*PKPbc **PKPbc 13 25 33.5 -0.3**
PAMC Pamplona, Colo 148.12 80 *e*P **PKPbc 13 25 33.5 -0.9**
YOPC Yopal, Colombi 148.60 83 *e*P **PKPbc 13 25 36.0 +0.8**
MPR Mayaguez 149.93 56 *e*PKPbc **PKPbc 13 25 38.6 +0.5**
CELP Cerrillos 150.46 56 *e*PKPbc **PKPbc 13 25 39.1 -0.4**
SJG San Juan 150.79 56 *e*PKIKP **PKPbc 13 25 39.0 -1.2**
SJG San Juan 150.79 56 *e*P **PKPbc 13 25 39.9 -0.4**
SJG San Juan 150.79 56 *e*PKPbc **PKPbc 13 25 39.0 -1.2**
HUMP Col San Antoni 151.03 55 *e*PKPdf **PKPdf 13 25 37.4 +2.4**
MTP Monte Pirata 151.29 55 *e*PKPbc **PKPbc 13 25 41.6 +0.2**
STVI Saint Thomas 151.65 54 *e*PKPbc **PKPbc 13 25 41.9 -0.3**
BBTS Babate 152.77 298 PKPbc **PKPbc 13 25 44.4 -0.5**
comp=Z,21nm,0.8s,baz=121,slow=1.2,SNR=1.9
BBTS PKPab **pPKPbc 13 25 54.2 +0.3**
comp=Z,40nm,0.7s,baz=110,slow=4.8,SNR=8.2

IDC ***11*** *13:20:10.6±0.8, 38°.29N×20°.36E, h0km, mb3.9/12, mb1 3.9/19, mb1mx3.7/53, mbtmp3.8/19, ML3.8/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/46, Error ellipse: s-maj=16.0km s-min=14.2km az=162.0*
TIR ***11*** *13:20:10.9, 38°.13N×20°.15E, h27km, ML4.2*
ISCJB ***11*** *13:20:11.2±0.5, 38°.16N±0°.02×20°.18E±0°.02, h10km±3km, mb3.9/14, Error ellipse: s-maj=3.6km s-min=2.1km az=35.6*
PDG ***11*** *13:20:12.1±0.7, 38°.20N×20°.23E, h7km±1km, ML4.1/11, Error ellipse: s-maj=1.4km s-min=2.1km az=0.0*
ATH ***11*** *13:20:12.8, 38°.21N×20°.33E, h18km, ML3.8/16, Error ellipse: s-maj=2.0km s-min=0.8km az=64.0*
CSEM ***11*** *13:20:12.5±0.1, 38°.16N×20°.25E, h10km, mb4.0/11, Error ellipse: s-maj=4.1km s-min=2.1km az=34.0*
THE ***11*** *13:20:12.5, 38°.15N×20°.27E, h10km, ML3.9/14, Error ellipse: s-maj=1.4km s-min=0.8km az=60.0*
NEIC ***11*** *13:20:15.8±0.6, 38°.30N×20°.30E, h36km±7km, mb4.1/1, Error ellipse: s-maj=7.3km s-min=6.0km az=160.0*
MOS ***11*** *13:20:17.0±1.9, 38°.52N×20°.26E, h33km, mb4.3/12, Error ellipse: s-maj=12.1km s-min=6.2km az=75.1*

ISC 11 13:20:12.7±1.0, 38°.19N±0°.02×20°.26E±0°.03, h10km±6km, n322, σ1$39/410, mb3.9/14, 19C-28D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**94**	P	**Pg**	**13 20 18.1**	**+0.1**
VLS				S	**Sg**	**13 20 21.5**	**0.0**
VLS	**Valsamata**	**0.26**	**94**	P	**Pg**	**13 20 18.6**	**+0.6**
VLS				S	**Sg**	**13 20 21.8**	**+0.3**
VLS				AML	AML	13 20 21.8	
VLS				AML	AML	13 20 21.9	
VLS	**Valsamata**	**0.26**	**94**	P	**Pg**	**13 20 18.1**	**+0.1**
VLS				S	**Sg**	**13 20 21.5**	**0.0**
KFL	**Anninata**	**0.42**	**101**	P	**Pg**	**13 20 20.8**	**-0.2**
KFL				S	**Sg**	**13 20 26.1**	**-0.5**
KFL	**Anninata**	**0.42**	**101**	P	**Pg**	**13 20 21.2**	**+0.2**
KFL				S	**Sg**	**13 20 26.3**	**-0.3**
KFL	**Anninata**	**0.42**	**101**	P	**Pg**	**13 20 20.8**	**-0.2**
KFL				S	**Sg**	**13 20 26.1**	**-0.5**
LKD2	**Lefkada island**	**0.67**	**27**	P	**Pg**	**13 20 25.2**	**-0.5**
LKD2				S	**Sb**	**13 20 37.1**	**+1.2**
LKD2	**Lefkada island**	**0.67**	**27**	P	**Pg**	**13 20 25.1**	**-0.6**
LKD2				AML	AML	13 20 41.5	
LKD2	comp=E,20012μm,0.2s			AML	AML	13 20 44.9	
LKD2	comp=N,17378μm,0.5s						
LKD2	**Lefkada island**	**0.67**	**27**	P	**Pg**	**13 20 25.2**	**-0.5**
LKD2				S	**Sb**	**13 20 37.1**	**+1.2**
VTN	**Vitineika**	**0.78**	**111**	P	**Pg**	**13 20 27.6**	**-0.1**
VTN	**Vitineika**	**0.78**	**111**	P	**Pg**	**13 20 27.6**	**-0.1**
AXS	**Araxos**	**0.88**	**90**	P	**Pg**	**13 20 28.4**	**-1.2**
AXS	**Araxos**	**0.88**	**90**	P	**Pg**	**13 20 28.8**	**-0.8**
AXS	**Araxos**	**0.88**	**90**	P	**Pg**	**13 20 28.8**	**-0.8**
AXS				S	**Sg**	**13 20 41.3**	**+0.3**
RLS	**Riolos of Patr**	**0.96**	**98**	P	**Pg**	**13 20 29.9**	**-1.2**
RLS				S	**Sb**	**13 20 44.7**	**+0.5**
RLS	**Riolos of Patr**	**0.96**	**98**	P	**Pg**	**13 20 30.0**	**-1.2**
RLS				S	**Sg**	**13 20 42.4**	**-1.2**
RLS				AML	AML	13 20 47.7	
RLS	comp=N,12017μm,0.8s			AML	AML	13 20 52.2	
RLS	comp=E,8072μm,0.6s						
RLS	**Riolos of Patr**	**0.96**	**98**	P	**Pg**	**13 20 30.0**	**-1.2**
RLS				S	**Sg**	**13 20 42.4**	**-1.2**
PVO	**Paravola**	**1.08**	**67**	P	**Pb**	**13 20 32.6**	**-0.9**
PVO				S	**Sb**	**13 20 47.9**	**+0.3**
PVO	**Paravola**	**1.08**	**67**	P	**Pb**	**13 20 33.3**	**-0.2**
PVO				AML	AML	13 20 53.9	
PVO	comp=E,15802μm,0.4s			AML	AML	13 20 54.2	
PVO	comp=N,12260μm,0.4s						
PVO	**Paravola**	**1.08**	**67**	P	**Pb**	**13 20 33.3**	**-0.2**
PVO				S	**Sb**	**13 20 47.9**	**+0.3**
DSL	**Palaion Diasel**	**1.14**	**35**	P	**Pb**	**13 20 33.5**	**-1.1**
DSL				S	**Sn**	**13 20 51.3**	**+0.7**
DSL	**Palaion Diasel**	**1.14**	**35**	P	**Pb**	**13 20 33.6**	**-1.1**
DSL				S	**Sg**	**13 20 49.9**	**+0.4**
DSL	**Palaion Diasel**	**1.14**	**35**	P	**Pb**	**13 20 33.8**	**-0.8**
DSL				S	**Sg**	**13 20 49.9**	**+0.4**
DRO	**Drossia**	**1.17**	**101**	P	**Pb**	**13 20 33.8**	**-1.2**
DRO				S	**Sg**	**13 20 50.5**	**+0.2**
DRO	**Drossia**	**1.17**	**101**	P	**Pb**	**13 20 33.7**	**-1.2**
DRO				S	**Sb**	**13 20 48.8**	**-1.4**
DRO				AML	AML	13 20 58.2	
DRO	comp=E,20967μm,0.7s			AML	AML	13 20 59.5	
DRO	comp=N,23446μm,0.6s						
DRO	**Drossia**	**1.17**	**101**	P	**Pb**	**13 20 34.0**	**-1.0**
DRO				S	**Sb**	**13 20 48.8**	**-1.4**
UPR	**University Cam**	**1.20**	**85**	P	**Pb**	**13 20 35.4**	**-0.2**
UPR	**University Cam**	**1.20**	**85**	P	**Pb**	**13 20 35.4**	**-0.2**
EFP	**Efpalio**	**1.31**	**79**	P	**Pn**	**13 20 36.0**	**-1.1**
EFP				S	**Sg**	**13 20 55.3**	**+0.3**
EFP	**Efpalio**	**1.31**	**79**	P	**Pn**	**13 20 35.5**	**-1.7**
EFP				AML	AML	13 21 04.3	
EFP	comp=N,6768μm,0.7s			AML	AML	13 21 09.5	
EFP	comp=E,7225μm,0.7s						
EFP	**Efpalio**	**1.31**	**79**	P	**Pn**	**13 20 36.0**	**-1.1**
EFP				S	**Sg**	**13 20 55.3**	**+0.3**
AMT	**Artemida-Makis**	**1.32**	**120**	P	**Pn**	**13 20 36.3**	**-1.0**
AMT				S	**Sb**	**13 20 54.5**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**120**	P	**Pb**	**13 20 37.5**	**-0.2**
AMT	**Artemida-Makis**	**1.32**	**120**	P	**Pn**	**13 20 36.3**	**-1.0**
AMT				S	**Sb**	**13 20 54.5**	**-0.1**
LAKA	**Lakka**	**1.35**	**88**	P	**Pn**	**13 20 36.7**	**-1.0**
LAKA	**Lakka**	**1.35**	**88**	P	**Pn**	**13 20 36.5**	**-1.2**
LAKA	**Lakka**	**1.35**	**88**	P	**Pn**	**13 20 36.7**	**-1.0**
ANX	**Ano Chora**	**1.36**	**72**	P	**Pn**	**13 20 37.2**	**-0.7**
ANX	**Ano Chora**	**1.36**	**72**	P	**Pn**	**13 20 37.0**	**-0.9**
ANX	**Ano Chora**	**1.36**	**72**	P	**Pn**	**13 20 37.2**	**-0.7**
EVR	**Evrytania**	**1.41**	**59**	P	**Pn**	**13 20 38.1**	**-0.5**
EVR				S	**Sn**	**13 20 56.9**	**-0.4**
EVR	**Evrytania**	**1.41**	**59**	P	**Pn**	**13 20 37.7**	**-0.9**
EVR				AML	AML	13 21 10.6	
EVR	comp=E,3255μm,0.6s			AML	AML	13 21 12.7	

comp=N,3905μm,0.8s
EVR Evrytania 1.41 59 P **Pn 13 20 38.1 -0.5**
EVR S **Sn 13 20 56.9 -0.4**
SGD Sagiada 1.42 359 P **Pb 13 20 39.2 -0.1**
SGD Sagiada 1.42 359 P **Pb 13 20 39.1 -0.2**
SGD S **Sg 13 20 58.1 -0.2**
SGD Sagiada 1.42 359 P **Pb 13 20 39.1 -0.2**
SGD S **Sg 13 20 58.1 -0.2**
TRIZ Trizonia 1.43 83 P **Pn 13 20 37.1 -1.7**
TRIZ Trizonia 1.43 83 P **Pn 13 20 37.1 -1.7**
KALE Kalithea 1.49 82 P **Pn 13 20 38.8 -0.8**
KALE S **Sn 13 20 58.1 -1.1**
KALE Kalithea 1.49 82 P **Pn 13 20 38.0 -1.6**
KALE S **Sb 13 20 59.5 0.0**
KALE AML AML 13 21 06.1
comp=N,5274μm,0.5s
KALE AML AML 13 21 14.9
comp=E,4799μm,1.3s
KALE Kalithea 1.49 82 P **Pn 13 20 38.8 -0.8**
KALE S **Sb 13 20 59.5 0.0**
KLV Kalavryta, Ach 1.50 95 P **Pn 13 20 39.4 -0.3**
KLV S **Sn 13 20 58.5 -0.8**
KLV Kalavryta, Ach 1.50 95 P **Pn 13 20 39.0 -0.7**
KLV AML AML 13 21 11.5
comp=N,3727μm,0.6s
KLV AML AML 13 21 15.7
comp=E,2957μm,0.6s
KLV Kalavryta, Ach 1.50 95 P **Pn 13 20 39.0 -0.7**
KLV S **Sn 13 20 58.5 -0.8**
JAN Janina 1.53 17 P **Pb 13 20 41.2 0.0**
JAN S **Sb 13 21 00.7 0.0**
JAN Janina 1.53 17 P **Pb 13 20 41.3 +0.1**
JAN AML AML 13 21 09.8
comp=E,4501μm,0.4s
JAN AML AML 13 21 12.2
comp=N,4416μm,0.8s
JAN Janina 1.53 17 P **Pb 13 20 41.2 0.0**
JAN S **Sb 13 21 00.7 0.0**
KEK Kerkira 1.56 347 P **Pn 13 20 41.0 +0.5**
KEK S **Sg 13 21 02.6 -0.3**
KEK Kerkira 1.56 347 P **Pn 13 20 40.7 +0.2**
KEK Kerkira 1.56 347 P **Pn 13 20 40.7 +0.2**
KEK S **Sg 13 21 02.6 -0.3**
GUR Goura 1.66 98 P **Pn 13 20 41.6 -0.4**
GUR Goura 1.66 98 P **Pn 13 20 41.0 -1.1**
GUR Goura 1.66 98 P **Pn 13 20 41.6 -0.4**
ITM Ithomi 1.66 127 P **Pn 13 20 42.6 +0.6**
ITM Ithomi 1.66 127 P **Pn 13 20 42.6 +0.6**
SRN Sarande 1.70 353 *i* PN **Pn 13 20 43.1 +0.7**
SRN Sarande 1.70 353 *i* Pn **Pn 13 20 43.1 +0.7**
PYL PYLOS 1.75 137 P **Pn 13 20 42.1 -1.0**
PYL S **Sn 13 21 04.6 -0.9**
PYL PYLOS 1.75 137 P **Pn 13 20 43.0 -0.1**
PYL PYLOS 1.75 137 P **Pn 13 20 42.1 -1.0**
PYL S **Sn 13 21 04.6 -0.9**
DSF Desfina 1.79 82 P **Pn 13 20 44.6 +0.8**
DSF Desfina 1.79 82 P **Pn 13 20 44.6 +0.8**
AGG Agios Georgios 1.82 62 P **Pb 13 20 46.0 -0.1**
AGG Agios Georgios 1.82 62 P **Pb 13 20 46.0 -0.1**
VLX Vlachokerasia 1.87 115 P **Pb 13 20 47.1 +0.1**
THAL Thalero 1.90 94 P **Pn 13 20 46.2 +1.0**
THAL Thalero 1.90 94 P **Pn 13 20 46.2 +1.0**
THL Klokotos Trika 1.93 44 P **Pb 13 20 48.0 -0.1**
THL AML AML 13 21 23.0
comp=N,2402μm,0.6s
THL AML AML 13 21 27.2
comp=E,1801μm,0.7s
THL Klokotos Trika 1.93 44 P **Pb 13 20 48.0 -0.1**
KPRO Kipourio 1.96 26 P **Pb 13 20 48.7 +0.2**
KPRO Kipourio 1.96 26 P **Pb 13 20 48.7 +0.2**
PROD Prodromos 2.08 87 P **Pn 13 20 48.6 +1.0**
PROD AML AML 13 21 29.6
comp=N,1965μm,0.5s
PROD AML AML 13 21 30.3
comp=E,2489μm,0.4s
PROD Prodromos 2.08 87 P **Pn 13 20 48.7 +1.0**
PENT Pentalofos 2.11 19 P **Pb 13 20 50.7 -0.5**
PENT Pentalofos 2.11 19 P **Pb 13 20 50.7 -0.5**
LTK Loutraki 2.14 94 P **Pn 13 20 48.6 +0.1**
LTK Loutraki 2.14 94 P **Pn 13 20 48.6 +0.1**
LKR Lokris 2.20 77 P **Pn 13 20 50.6 +1.3**
LKR Lokris 2.20 77 P **Pn 13 20 50.6 +1.3**
VLO Vlora 2.35 346 *i* PN **Pn 13 20 52.9 +1.6**
VLO Vlora 2.35 346 *i* Pn **Pn 13 20 52.9 +1.6**
VIL2 Platees 2.37 89 P **Pn 13 20 52.5 +0.8**
VILL Villia 2.40 90 P **Pn 13 20 52.5 +0.3**
KZN Kozani 2.41 29 P **Pb 13 20 54.9 -1.4**
KZN Kozani 2.41 29 P **Pb 13 20 54.9 -1.4**
DID Didima 2.45 105 P **Pn 13 20 53.7 +0.9**
DID AML AML 13 21 37.3
comp=E,2835μm,0.6s
DID AML AML 13 21 46.1
comp=N,2123μm,0.8s
DID Didima 2.45 105 P **Pn 13 20 53.7 +0.9**
KBN Korca 2.46 9 *i* PN **Pn 13 20 54.9 +1.9**
KBN *i* SN **Sb 13 21 25.8 -1.7**
KBN Korca 2.46 9 *i* Pn **Pn 13 20 54.9 +1.9**
KBN *i* Sn **Sb 13 21 25.8 -1.7**
NEO Neokhori 2.57 63 P **Pn 13 20 56.1 +1.8**
NEO S **Sn 13 21 26.2 +0.5**
NEO AML AML 13 21 27.0
comp=E,1094μm,0.4s
NEO AML AML 13 21 47.2
comp=N,1631μm,1.0s
NEO Neokhori 2.57 63 P **Pn 13 20 56.2 +1.8**
NEO S **Sn 13 21 26.2 +0.5**
XOR Xorichti 2.57 62 P **Pn 13 20 56.2 +1.8**
XOR Xorichti 2.57 62 P **Pn 13 20 56.2 +1.8**
LIT Litokhoron 2.57 42 P **Pn 13 20 56.4 +1.9**
LIT Litokhoron 2.57 42 P **Pn 13 20 56.4 +1.9**
SKIA Skiathos 2.69 68 P **Pn 13 20 57.3 +1.2**
SKIA Skiathos 2.69 68 P **Pn 13 20 57.3 +1.2**
FNA Florina 2.73 18 P **Pn 13 20 57.9 +1.3**
FNA Florina 2.73 18 P **Pn 13 20 57.9 +1.3**
ATH Athens Observa 2.73 94 P **Pn 13 20 57.3 +0.7**
ATH Athens Observa 2.73 94 P **Pn 13 20 57.3 +0.7**
ATHU Athens Univers 2.79 94 P **Pn 13 20 57.6 +0.2**
ATHU Athens Univers 2.79 94 P **Pn 13 20 57.6 +0.2**
VLY Voula,Athens 2.81 96 P **Pn 13 20 57.4 -0.3**
VLY S **Sn 13 21 31.2 -0.5**
VLY AML AML 13 21 51.7
comp=E,1032μm,0.5s
VLY AML AML 13 21 55.1
comp=N,1210μm,1.0s
VLY Voula,Athens 2.81 96 P **Pn 13 20 57.4 -0.3**
VLY S **Sn 13 21 31.2 -0.5**
PTL Penteli 2.84 92 P **Pn 13 20 58.9 +0.7**
PTL Penteli 2.84 92 P **Pn 13 20 58.9 +0.7**
EREA Eretria 2.89 84 P **Pn 13 20 59.1 +0.2**
EREA Eretria 2.89 84 P **Pn 13 20 59.1 +0.2**
BIA Bitola 2.94 16 *i* Pn **Pn 13 21 01.2 +1.7**
BIA Bitola 2.94 16 *i* Pn **Pn 13 21 01.2 +1.7**
KYTH Kithira 2.94 130 P **Pb 13 21 03.0 -2.2**
OHR Ohrid 2.94 8 *i* Pn **Pn 13 21 01.8 +2.2**
OHR Ohrid 2.94 8 *i* Pn **Pn 13 21 01.8 +2.2**
TIR Tirane 3.17 355 *i* PN **Pn 13 21 04.1 +1.5**
TIR Tirane 3.17 355 *e*P **Pn 13 21 03.6 +0.9**
TIR Tirane 3.17 355 *e*Pn **Pn 13 21 03.5 +0.9**
TIR Tirane 3.17 355 *e*Pn **Pn 13 21 03.5 +0.9**
HORT Hortiatis 3.25 42 P **Pn 13 21 04.2 +0.3**
HORT Hortiatis 3.25 42 P **Pn 13 21 04.2 +0.3**
KRUS Krusevo 3.26 13 *i* Pn **Pn 13 21 04.6 +0.5**
KRUS Krusevo 3.26 13 *i* Pn **Pn 13 21 04.6 +0.5**
TAR1 Taranto 3.28 316 *e*Pn **Pn 13 21 05.1 +0.9**
PLG Polygyros 3.29 48 P **Pn 13 21 05.2 +0.8**
PLG Polygyros 3.29 48 P **Pn 13 21 05.2 +0.8**
ANKY Antikythira Is 3.36 133 P **Pn 13 21 07.4 +2.1**
ANKY AML AML 13 21 49.2
comp=N,1142μm,0.8s
ANKY AML AML 13 21 49.3
comp=E,1120μm,0.9s
MASS Massafra 3.43 316 *e*Pn **Pn 13 21 07.8 +1.5**
FASA Fasano 3.45 320 *e*Pn **Pn 13 21 07.2 +0.6**
PHP Peshkopia 3.49 2 *i* SN **Pn 13 21 08.2 +1.1**
SOH Sokhos 3.55 41 P **Pn 13 21 09.1 +1.2**
SOH Sokhos 3.55 41 P **Pn 13 21 09.1 +1.2**
VAY Valandovo 3.59 29 *i* Pn **Pn 13 21 10.0 +1.5**
VAY Valandovo 3.59 29 *i* Pn **Pn 13 21 10.0 +1.5**
KNT Kendrikon 3.59 34 P **Pn 13 21 09.1 +0.6**
KNT Kendrikon 3.59 34 P **Pn 13 21 09.1 +0.6**
SG1 Sgolgore (BA) 3.83 315 *e*Pn **Pn 13 21 13.1 +1.3**

ULC Ulcinj 3.84 349 *e*Pn **Pn 13 21 12.0 0.0**
ULC *e*Sn **Sn 13 21 59.0 +1.7**
ULC Ulcinj 3.84 349 *e*Pn **Pn 13 21 12.0 0.0**
ULC *e*Sn **Sn 13 21 59.0 +1.7**
PUK Puka 3.85 356 *i* PN **Pb 13 21 22.6 +1.7**
SKO Skopje 3.88 13 *i* Pn **Pn 13 21 13.0 +0.6**
SKO Skopje 3.88 13 *i* Pn **Pn 13 21 13.0 +0.6**
BAI Bari 3.91 319 *e*Pn **Pn 13 21 13.4 +0.6**
IMMV Iera Moni Meta 4.04 131 P **Pn 13 21 15.4 +0.8**
IMMV Iera Moni Meta 4.04 131 P **Pn 13 21 15.4 +0.8**
DRME Dracevica, Mon 4.07 349 ⇓*i*Pn **Pn 13 21 15.3 +0.2**
DRME *e*Sn **Sn 13 22 04.6 +1.8**
DRME Dracevica, Mon 4.07 349 ⇓*i*Pn **Pn 13 21 15.3 +0.2**
DRME *e*Sn **Sn 13 22 04.6 +1.8**
BCI Bajram Curri 4.17 358 *i* PN **Pn 13 21 17.9 +1.4**
BCI *i* SN **Sn 13 22 05.6 +0.3**
BCI Bajram Curri 4.17 358 *i* Pn **Pn 13 21 17.9 +1.4**
BCI *i* Sn **Sn 13 22 05.6 +0.3**
LIA Limnos Island 4.19 65 P **Pn 13 21 17.0 +0.3**
LIA Limnos Island 4.19 65 P **Pn 13 21 17.0 +0.3**
CDT Castel del Mon 4.22 314 *e*Pn **Pn 13 21 18.2 +1.1**
BUM Brajici-Budva 4.23 346 ⇓*i*Pn **Pn 13 21 17.4 0.0**
BUM *e*Sn **Sn 13 22 08.2 +1.3**
BUM Brajici-Budva 4.23 346 ⇓*i*Pn **Pn 13 21 17.4 0.0**
BUM *e*Sn **Sn 13 22 08.2 +1.3**
KKB Krupnik 4.26 30 *e*P **Pn 13 21 18.7 +1.0**
PDG Podgorica 4.30 350 ⇑*i*Pn **Pn 13 21 18.5 +0.3**
PDG *e*Sn **Sn 13 22 09.2 +0.8**
TTG Podgorica 4.30 350 ⇑*i*Pn **Pn 13 21 18.5 +0.3**
TTG *e*Sn **Sn 13 22 09.2 +0.8**
MMB Musomiste 4.31 37 *e*P **Pn 13 21 19.0 +0.6**
KAVA Kavala 4.31 48 P **Pn 13 21 18.5 +0.1**
KAVA Kavala 4.31 48 P **Pn 13 21 18.5 +0.1**
APE Apeiranthos 4.33 103 ⇓*e*P **Pb 13 21 25.6 -3.3**
PVY Plav 4.40 357 ⇓*i*Pn **Pn 13 21 20.2 +0.5**
PVY *e*Sn **Sn 13 22 12.0 +0.9**
PVY Plav 4.40 357 ⇓*i*Pn **Pn 13 21 20.2 +0.5**
PVY *e*Sn **Sn 13 22 12.0 +0.9**
HCY Herceg Novi 4.46 343 ⇓*i*Pn **Pn 13 21 19.9 -0.5**
HCY *e*Sn **Sn 13 22 13.2 +0.9**
HCY Herceg Novi 4.46 343 ⇓*i*Pn **Pn 13 21 19.9 -0.5**
HCY *e*Sn **Sn 13 22 13.2 +0.9**
CEME Cevo 4.47 347 ⇓*i*Pn **Pn 13 21 20.2 -0.4**
CEME *e*Sn **Sn 13 22 13.6 +1.0**
CEME Cevo 4.47 347 ⇓*i*Pn **Pn 13 21 20.2 -0.4**
CEME *e*Sn **Sn 13 22 13.6 +1.0**
CHOS Chios island 4.56 86 P **Pn 13 21 21.9 0.0**
CHOS Chios island 4.56 86 P **Pn 13 21 21.9 0.0**
NKME Niksic 4.68 348 ⇓*i*Pn **Pn 13 21 23.5 +0.1**
NKME *e*Sn **Sn 13 22 18.8 +1.0**
NKME Niksic 4.68 348 ⇓*i*Pn **Pn 13 21 23.5 +0.1**
NKME *e*Sn **Sn 13 22 18.8 +1.0**
BEY Berane 4.68 357 ⇑*i*Pn **Pn 13 21 24.5 +1.0**
BEY *e*Sn **Sn 13 22 19.4 +1.5**
IVA Berane 4.68 357 ⇑*i*Pn **Pn 13 21 24.5 +1.0**
IVA *e*Sn **Sn 13 22 19.4 +1.5**
KOME Kolasin 4.69 353 ⇓*i*Pn **Pn 13 21 24.1 +0.5**
KOME *e*Sn **Sn 13 22 19.5 +1.4**
KOME Kolasin 4.69 353 ⇓*i*Pn **Pn 13 21 24.1 +0.5**
KOME *e*Sn **Sn 13 22 19.5 +1.4**
VAE Valguarnera 4.69 263 Pn **Pn 13 21 26.1 +2.5**
comp=E,2.9nm,0.3s,baz=106,slow=10,SNR=2.1
VAE Sn **Sn 13 22 19.2 +1.2**
comp=E,5.2nm,0.3s,baz=10,slow=21,SNR=3.9
IDI Anoyia 4.71 127 Pn **Pn 13 21 24.8 +0.8**
comp=E,1.0nm,0.3s,baz=302,slow=13,SNR=11
IDI Sn **Sn 13 22 17.7 -1.0**
comp=E,4.8nm,0.3s,baz=343,slow=19,SNR=3.9
IDI LR LR 13 23 52.8
comp=E,156nm,20.7s,baz=349,slow=47
IDI Anoyia 4.71 127 P **Pn 13 21 25.1 +1.2**
IDI Anoyia 4.71 127 P **Pn 13 21 25.1 +1.2**
IDI Sn **Sn 13 22 17.7 -1.0**
NKY Niksic 4.71 349 ⇑*i*Pn **Pn 13 21 24.6 +0.6**
NKY *e*Sn **Sn 13 22 20.0 +1.2**
NKY Niksic 4.71 349 ⇑*i*Pn **Pn 13 21 24.6 +0.6**
NKY *e*Sn **Sn 13 22 20.0 +1.2**
TREB Trebinje 4.75 343 *e*Pn **Pn 13 21 23.3 -1.1**
BARS Barje 4.77 14 ⇑*i*Pn **Pn 13 21 24.2 -0.4**
MS1 Monte Sant'Ang 4.83 318 *e*Pn **Pn 13 21 26.4 +0.9**
BRY Bratogost 4.88 345 ⇑*i*Pn **Pn 13 21 25.9 -0.4**
BRY *e*Sn **Sn 13 22 23.5 +0.5**
BRY Bratogost 4.88 345 ⇑*i*Pn **Pn 13 21 25.9 -0.4**
BRY *e*Sn **Sn 13 22 23.5 +0.5**
RZN Rozhen 4.89 43 *e*P **Pn 13 21 28.0 +1.6**
VTS Vitosha 4.93 26 ⇑*i*P **Pn 13 21 27.9 +0.8**
VTS Vitosha 4.93 26 ⇑P **Pn 13 21 27.9 +0.8**
VTS Vitosha 4.93 26 *e*P **Pn 13 21 27.6 +0.5**
VTS Vitosha 4.93 26 P **Pn 13 21 27.9 +0.8**
STON Ston 5.06 338 *i* Pn **Pn 13 21 28.2 -0.5**
STON Sn **Sn 13 22 23.6 -3.6**
STON Ston 5.06 338 *i* Pn **Pn 13 21 28.2 -0.5**
STON Sn **Sn 13 22 23.6 -3.6**
SJES Sjenica 5.07 358 ⇓*i*Pn **Pn 13 21 29.3 +0.5**
UPM Unac-Piva 5.11 349 ⇓*i*Pn **Pn 13 21 30.4 +0.9**
UPM *e*Sn **Sn 13 22 29.6 +1.0**
UPM Unac-Piva 5.11 349 ⇓*i*Pn **Pn 13 21 30.4 +0.9**
UPM *e*Sn **Sn 13 22 29.6 +1.0**
WDD Wied Dalam 5.16 245 *e*Pn **Pn 13 21 30.0 0.0**
WDD Wied Dalam 5.16 245 *e*Pn **Pn 13 21 29.9 0.0**
LAST Lasithi 5.17 124 P **Pn 13 21 29.3 -0.9**
LAST Lasithi 5.17 124 P **Pn 13 21 29.3 -0.9**
PLE Pljevlja 5.17 353 ⇓*i*Pn **Pn 13 21 31.1 +0.8**
PLE *e*Sn **Sn 13 22 30.8 +0.7**
PLE Pljevlja 5.17 353 ⇓*i*Pn **Pn 13 21 31.1 +0.8**
PLE *e*Sn **Sn 13 22 30.8 +0.7**
ALN Alexandroupoli 5.22 57 P **Pn 13 21 30.1 -0.7**
ALN Alexandroupoli 5.22 57 P **Pn 13 21 30.1 -0.7**
ZKR Zakros 5.69 121 P **Pn 13 21 40.1 +2.9**
BBLS Lazići 5.70 354 *e*Pn **Pn 13 21 37.5 -0.1**
DIVS Divibare 5.90 358 *e*Pn **Pn 13 21 39.1 -1.2**
HAPS Han Pijesak,Bl 5.97 351 *e*Pn **Pn 13 21 39.8 -1.4**
TEKS Tekeris 6.37 355 *e*Pn **Pn 13 21 45.8 -0.9**
MDVR Moldovita 6.67 9 ⇓*i*P **Pn 13 21 51.5 +0.7**
BLY Banja Luka 6.95 342 *e*Pn **Pn 13 21 53.7 -0.8**
UDBI Udbina 7.17 333 *e*Pn **Pn 13 21 58.8 +1.0**
UDBI Sn **Sn 13 23 16.8 -2.6**
UDBI Udbina 7.17 333 *e*Pn **Pn 13 21 58.7 +1.0**
BZS Buzias 7.49 7 ⇓*i*P **Pn 13 22 02.8 +0.9**
BZS Buzias 7.49 7 ⇓P **Pn 13 22 02.8 +0.9**
BZS Buzias 7.49 7 P **Pn 13 22 02.8 +0.9**
NVLJ Novalja 7.54 329 *e*Pn **Pn 13 22 02.9 +0.1**
NVLJ Sn **Sn 13 23 23.7 -4.5**
NVLJ Novalja 7.54 329 *e*Pn **Pn 13 22 02.8 +0.1**
ARR Arges 7.88 23 ⇑*i*P **Pn 13 22 08.2 +0.9**
VOIR 8.07 25 ⇑*i*P **Pn 13 22 10.5 +0.5**
VOIR 8.07 25 ⇑P **Pn 13 22 10.5 +0.5**
VOIR 8.07 25 P **Pn 13 22 10.5 +0.5**
BOJS Bojanci 8.20 334 *i* Pn **Pn 13 22 12.0 +0.2**
BOJS Bojanci 8.20 334 *i* Pn **Pn 13 22 12.0 +0.2**
OZLJ Ozalj 8.23 336 *i* Pn **Pn 13 22 12.0 -0.1**
OZLJ Sn **Sn 13 23 41.5 -3.6**
OZLJ Ozalj 8.23 336 *i* Pn **Pn 13 22 12.0 -0.1**
CRES Cresnjev 8.42 336 *e*Pn **Pn 13 22 14.4 -0.4**
MLR Muntele Rosu 8.43 28 Pn **Pn 13 22 13.7 -1.3**
comp=E,0.1nm,0.3s,baz=89,slow=18,SNR=2.1
MLR Muntele Rosu 8.43 28 ⇑*i*P **Pn 13 22 15.1 +0.1**
MLR Muntele Rosu 8.43 28 ⇑P **Pn 13 22 15.1 +0.1**
MLR Muntele Rosu 8.43 28 P **Pn 13 22 15.1 +0.1**
GOLS Golise 8.54 338 *e*Pn **Pn 13 22 15.3 -1.1**
GOLS *i* Sn **Sn 13 23 46.5 -6.2**
GOLS Golise 8.54 338 *e*Pn **Pn 13 22 15.3 -1.1**
CEY Cerknica 8.70 332 *e*Pn **Pn 13 22 18.6 0.0**
LJU Ljubljana 8.92 333 *e*Pn **Pn 13 22 22.0 +0.3**
LJU *e*Sn **Sn 13 24 15.0 +13**
LJU Ljubljana 8.92 333 *e*Pn **Pn 13 22 21.7 0.0**
PLOR Plostina 9.00 30 ⇑*i*P **Pn 13 22 25.2 +2.4**
PLOR Plostina 9.00 30 ⇑P **Pn 13 22 25.2 +2.4**
PLOR Plostina 9.00 30 P **Pn 13 22 25.2 +2.4**
VRI Vrincioaia 9.05 30 ⇓*i*P **Pn 13 22 23.2 -0.2**
VRI Vrincioaia 9.05 30 ⇓P **Pn 13 22 23.2 -0.2**
VRI Vrincioaia 9.05 30 P **Pn 13 22 23.2 -0.2**
SOKA Soboth 9.32 337 *i* Pn **Pn 13 22 26.5 -0.6**
comp=E,18nm,0.3s,SNR=19
SOKA Soboth 9.32 337 Pn **Pn 13 22 26.5 -0.6**
comp=E,18nm,0.3s,SNR=19
OBKA Obir 9.32 335 *i* Pn **Pn 13 22 27.7 +0.5**
comp=E,10nm,0.2s,SNR=9.0
OBKA Obir 9.32 335 Pn **Pn 13 22 27.7 +0.5**
comp=E,10nm,0.2s,SNR=9.0

ARSA Arzberg 9.70 340 *i* Pn **Pn 13 22 31.3 -1.0**
comp=E,6.6nm,0.3s,SNR=6.6
ARSA Arzberg 9.70 340 Pn **Pn 13 22 31.3 -1.0**
comp=E,6.6nm,0.3s,SNR=6.6
MYKA Terra Mystica 9.74 332 *i* Pn **Pn 13 22 32.9 -0.1**
comp=E,2.4nm,0.2s
MYKA Terra Mystica 9.74 332 Pn **Pn 13 22 32.9 -0.1**
comp=E,2.4nm,0.2s
KBA Koelnbreinsper 10.23 332 *i* Pn **Pn 13 22 39.9 +0.1**
comp=E,6.7nm,0.3s
KBA Koelnbreinsper 10.23 332 Pn **Pn 13 22 39.9 +0.1**
comp=E,6.7nm,0.3s
CONA Conrad Observa 10.25 343 *i* Pn **Pn 13 22 38.8 -1.1**
comp=E,2.0nm,0.5s
CONA Conrad Observa 10.25 343 Pn **Pn 13 22 38.8 -1.1**
comp=E,2.0nm,0.5s
ABTA Abfaltersbach 10.28 329 *i* Pn **Pn 13 22 40.2 -0.1**
comp=E,5.5nm,0.3s
ABTA Abfaltersbach 10.28 329 Pn **Pn 13 22 40.2 -0.1**
comp=E,5.5nm,0.3s
VYHS Vyhne 10.35 355 *e*SN **Sn 13 24 31.3 -5.9**
VYHS *e* 13 51 52.7
BRTR Keskin Array B 10.53 77 Pn **Pn 13 22 44.1 +0.3**
comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=2.4
MOA Molln 10.60 338 *i* Pn **Pn 13 22 45.5 +0.9**
comp=E,12nm,0.3s,SNR=7.2
MOA Molln 10.60 338 Pn **Pn 13 22 45.5 +0.9**
comp=E,12nm,0.3s,SNR=7.2
WTTA Wattenberg 11.06 328 *i* Pn **Pn 13 22 52.6 +1.6**
comp=E,8.4nm,0.3s
WTTA Wattenberg 11.06 328 Pn **Pn 13 22 52.6 +1.6**
comp=E,8.4nm,0.3s
WATA Walderalm 11.14 328 *i* Pn **Pn 13 22 53.7 +1.6**
comp=E,6.0nm,0.2s,SNR=7.1
WATA Walderalm 11.14 328 Pn **Pn 13 22 53.7 +1.6**
comp=E,6.0nm,0.2s,SNR=7.1
MOTA Moosalm 11.35 327 *i* Pn **Pn 13 22 56.5 +1.5**
comp=E,8.1nm,0.5s
MOTA Moosalm 11.35 327 Pn **Pn 13 22 56.5 +1.5**
comp=E,8.1nm,0.5s
GERES GERESS Array B 11.66 338 Pn **Pn 13 22 57.8 -1.4**
comp=E,2.1nm,0.3s,baz=162,slow=14,SNR=23
GERES Sn **Sn 13 25 01.1 -8.3**
comp=E,0.6nm,0.3s,baz=152,slow=26,SNR=5.7
GERES GERESS Array B 11.66 338 *e*P **Pn 13 22 59.3 +0.1**
GERES GERESS Array B 11.66 338 *e*P **Pn 13 22 59.3 +0.1**
comp=E,2.0nm,0.3s
KHC Kasperske Hory 11.95 338 *e*P **Pn 13 23 01.9 -1.2**
KHC *ex* x 13 23 13.9
KHC *e*S **Sn 13 25 08.6 -7.8**
KHC Kasperske Hory 11.95 338 *e*P **Pn 13 23 01.9 -1.2**
KHC *e*S **Sn 13 25 08.6 -7.8**
KHC Kasperske Hory 11.95 338 *e*Pn **Pn 13 23 01.5 -1.6**
comp=E,1.5nm,0.6s
KHC Kasperske Hory 11.95 338 *e*P **Pn 13 23 01.9 -1.2**
KHC Kasperske Hory 11.95 338 *e*Pn **Pn 13 23 01.5 -1.6**
comp=E,1.5nm,0.6s
AKASG Malin Array Be 14.03 24 Pn **Pn 13 23 29.4 -2.1**
comp=E,0.6nm,0.3s,baz=210,slow=11,SNR=3.2
ESDC Sonseca Array 18.90 282 P **P 13 24 32.8 -0.7**
comp=E,0.4nm,0.3s,baz=82,slow=11,SNR=3.8
GNI Garni 19.07 76 ⇑*e*P **Pn 13 24 40.1 +3.9**
VSU Vasula 20.71 10 ⇓*i*P **P 13 24 52.4 -0.6**
VSU Vasula 20.71 10 *i* P **P 13 24 52.4 -0.6**
comp=E,81nm,0.8s
MDT Midelt 20.92 263 P **P 13 24 56.5 +0.9**
comp=E,2.1nm,0.8s,baz=70,slow=8.5,SNR=4.0
HFS Hagfors 22.35 351 P **P 13 25 09.8 -0.8**
comp=E,9.9nm,0.6s,baz=150,slow=12,SNR=6.7
EKA Eskdalemuir Ar 23.30 325 P **P 13 25 19.7 -0.8**
comp=E,3.4nm,0.8s,baz=121,slow=9.8,SNR=5.6
FINES FINESS Array B 23.55 7 P **P 13 25 21.2 -1.8**
comp=E,2.2nm,0.5s,baz=178,slow=10,SNR=8.0
FINES FINESS Array B 23.55 7 *i* P **P 13 25 23.2 +0.2**
FINES FINESS Array B 23.55 7 *i* P **P 13 25 23.2 +0.2**
comp=E,2.0nm,0.5s
NB2 NORSAR Subarra 23.56 349 P **P 13 25 22.0 -1.2**
comp=Z,2.5nm,0.7s,baz=164,slow=12
NB2 NORSAR Subarra 23.56 349 P **P 13 25 22.0 -1.2**
comp=Z,2.5nm,0.7s,SNR=6.0
NOA NORSAR Array B 23.56 349 P **P 13 25 21.8 -1.4**
comp=Z,1.5nm,0.6s,baz=163,slow=10,SNR=6.7
NOA NORSAR Array B 23.56 349 *e*P **P 13 25 22.7 -0.5**
NOA NORSAR Array B 23.56 349 *e*P **P 13 25 22.7 -0.5**
comp=Z,2.0nm,0.6s
KLMR Klimovskoe 25.70 22 *e*P **P 13 25 45.6 +2.9**
TORD Torodi Ar. Bea 29.92 218 P **P 13 26 20.8 -0.1**
comp=Z,2.1nm,0.7s,baz=31,slow=8.2,SNR=5.1
ABKAR Akbulak array 30.40 56 P **P 13 26 24.9 0.0**
comp=Z,0.8nm,0.7s
ABKAR Akbulak array 30.40 56 P **P 13 26 24.9 0.0**
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 31.53 4 P **P 13 26 32.8 -1.9**
comp=Z,0.6nm,0.5s,baz=184,slow=11,SNR=4.4
ARCES PcP **PcP 13 29 26.2 -0.9**
comp=Z,2.0nm,0.9s,baz=222,slow=1.2,SNR=4.0
BRVK Borovoye 37.20 50 ⇓*e*P **P 13 27 26.8 +2.9**
BVAR Borovoye Array 37.26 50 P **P 13 27 26.4 +2.0**
comp=Z,0.5nm,0.5s,baz=268,slow=7.1,SNR=3.3
KKAR Karatay Array 37.98 66 *e*P **P 13 27 30.2 -0.5**
KKAR Karatay Array 37.98 66 *e*P **P 13 27 30.2 -0.5**
comp=Z,2.0nm,0.6s
KKAR Karatay Array 37.98 66 *e*P **P 13 27 30.1 -0.5**
comp=Z,1.7nm,0.6s
AAK Ala-Archa 40.94 66 ⇓*e*P **P 13 27 58.6 +3.1**
KURBB Kurchatov Arra 42.38 53 P **P 13 28 05.5 -1.5**
comp=Z,0.3nm,0.5s,baz=283,slow=9.0,SNR=4.7
KURK Kurchatov 42.43 53 P **P 13 28 05.5 -1.9**
KURK Kurchatov 42.43 53 P **P 13 28 05.5 -1.9**
KURK Kurchatov 42.43 53 P **P 13 28 05.5 -1.9**
MKAR Makanchi Array 45.47 58 P **P 13 28 30.2 -1.7**
comp=Z,0.8nm,0.4s,baz=274,slow=7.5,SNR=12
MKAR Makanchi Array 45.47 58 *e*P **P 13 28 31.0 -0.9**
MKAR Makanchi Array 45.47 58 *e*P **P 13 28 31.0 -0.9**
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 45.83 48 P **P 13 28 33.8 -0.9**
comp=Z,2.4nm,0.4s,baz=271,slow=9.0,SNR=8.0
SONM Songino Array 60.60 50 P **P 13 30 22.5 -1.2**
comp=Z,0.3nm,0.3s,baz=285,slow=5.5,SNR=3.2
SONM Songino Array 60.60 50 *e*P **P 13 30 27.6 +3.9**
CMAR Chiang Mai Arr 70.09 82 P **P 13 31 23.6 -1.7**
comp=Z,0.7nm,0.6s,baz=316,slow=6.3,SNR=3.7
CMAR Chiang Mai Arr 70.09 82 *e*P **P 13 31 28.7 +3.3**

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*IDC **11** 13:23:06.7±2.0, 0°.78N×125°.81E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, Error ellipse: s-maj=188.1km s-min=25.6km az=65.0*
*ISCJB **11** 13:23:15.9±1.0, 0°.30N±0°.09×125°.59E±0°.06, h44km, mb3.5/3, Error ellipse: s-maj=14.6km s-min=5.9km az=30.4*
*DJA **11** 13:23:15.2±0.8, 0°N±4°×12°6E±°, h77km±22km, M3.3/3, MLv3.3/3*
ISC 11 13:23:14.7±1.2, **0°.49N**±0°.10×**125°.67E**±0°.07, **h44**km, **n9**, σ2°.21/12, **mb3.4/3**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.69**	**273**	P	**Pn**	**13 23 42.8**	**+1.1**
KMSI				S	**Sn**	**13 24 03.3**	**+1.2**
LBMI	**Labuha**	**2.15**	**121**	P	**Pn**	**13 23 50.2**	**+2.1**
LBMI				S	**Sn**	**13 24 16.0**	**+2.5**
SANI	**Sanana**	**2.54**	**173**	P	**Pn**	**13 23 54.0**	**+0.5**
SANI				S	**Sn**	**13 24 21.6**	**-1.6**
MRSI	**Marisa**	**3.73**	**270**	P	**Pn**	**13 24 10.1**	**+0.4**
NLAI	**Namlea**	**3.97**	**159**	S	**Sn**	**13 24 57.7**	**-0.8**
APSI	**Ampana**	**4.25**	**251**	P	**Pn**	**13 24 21.1**	**+4.1**
WRA	**Warramunga Arr**	**22.01**	**158**	P	**P**	**13 28 04.2**	**-1.3**
	0.8nm,0.6s,baz=337,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**25.31**	**162**	P	**P**	**13 28 38.1**	**+0.7**
	0.6nm,0.6s,baz=343,slow=8.9,SNR=8.9						
MKAR	**Makanchi Array**	**59.63**	**327**	P	**P**	**13 33 11.5**	**-2.8**
	0.4nm,0.5s,baz=120,slow=8.2,SNR=5.9						

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*IASPEI **11** 13:25:25.5±0.8, 32°.64N±

Error ellipse: s-maj=2.8km s-min=2.6km az=0.7
*NEIC **11** 13:25:27.2±0.0, 32.°66N×115.°95W, h6km, ML3.1(ECX), ML3.1(PAS), After PAS.*
*ECX **11** 13:25:27.4±0.6, 32.°64N×115.°94W, h4km, MD2.9, ML3.1*
*MEX **11** 13:25:28.7±0.6, 32.°37N×115.°87W, h16km±9km, MD3.8*
ISC 11 13:25:25.6±0.8, 32.°63N±0.°02×115.°90W±0.°02, h16km±5km, n58, σ0.997/88, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.03**	**312**	⇓*iP*	**Pg**	**13 25 28.4**	**0.0**
RMX	**La Rumorosa**	**0.15**	**260**	⇓*eP*	**Pg**	**13 25 29.6**	**-0.1**
RMX				*eS*	**Sg**	**13 25 31.6**	**-1.0**
RMX				⇓*e*		13 25 32.0	
RMX				IAML		13 25 32.0	
	comp=N,7μm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.18**	**277**	P	**Pg**	**13 25 30.3**	**+0.3**
	baz=88,SNR=794						
IKP				S	**Sg**	**13 25 32.8**	**-0.2**
	baz=88						
IKP	**In-Ko-Pah, Jac**	**0.18**	**277**	⇑*iP*	**Pg**	**13 25 30.4**	**+0.3**
IKP				*eS*	**Sg**	**13 25 32.6**	**-0.4**
WESC	**Westside Schoo**	**0.19**	**48**	⇑*iP*	**Pb**	**13 25 31.3**	**+0.5**
WESC				*eS*	**Sb**	**13 25 35.1**	**+0.8**
ERPC	**Ernies Place**	**0.23**	**60**	⇑*iP*	**Pb**	**13 25 32.3**	**+0.9**
COK	**Cook Ranch**	**0.26**	**34**	⇑*iP*	**Pb**	**13 25 32.5**	**+0.5**
CRR	**Carrizo Plain**	**0.26**	**347**	⇓*iP*	**Pg**	**13 25 31.7**	**+0.4**
SWSC	**Sam W. Stewart**	**0.33**	**15**	P	**Pb**	**13 25 33.0**	**-0.1**
	baz=203,SNR=283						
SWSC				S	**Sg**	**13 25 37.3**	**+0.2**
	baz=203						
DREC	**Desert Rsrch C**	**0.42**	**65**	⇑*iP*	**Pb**	**13 25 36.1**	**+1.4**
MONP2	**Monument Peak**	**0.51**	**301**	P	**Pg**	**13 25 36.0**	**+0.1**
	baz=121,SNR=66						
MONP2				S	**Sg**	**13 25 42.1**	**-0.7**
	baz=121						
CPBX	**Cerro Prieto**	**0.55**	**113**	*eP*	**Pn**	**13 25 38.1**	**-0.7**
CPBX				*eS*	**Sb**	**13 25 46.0**	**+1.6**
CPBX				⇓*e*		13 25 51.4	
CPBX				IAML		13 25 51.4	
	comp=N,3μm,0.1s						
MBIG	**Mexicali**	**0.63**	**110**	*eP*	**Pg**	**13 25 38.2**	**+0.1**
MBIG				*eS*	**Sg**	**13 25 44.8**	**-1.6**
BAR	**Barrett**	**0.65**	**275**	⇑*iP*	**Pb**	**13 25 38.7**	**0.0**
BAR	**Barrett**	**0.65**	**275**	*ep*Pg	**Pb**	**13 25 38.7**	**0.0**
BAR				*ep*Pn	Pn	13 25 46.8	+6.5
TJIG	**Tijuana**	**0.68**	**254**	*eS*	**Sg**	**13 25 47.8**	**-0.2**
CBX	**Cerro Bola**	**0.72**	**244**	*eP*	**Pb**	**13 25 40.1**	**+0.2**
CBX				*eS*	**Sg**	**13 25 47.4**	**-1.8**
CBX	**Cerro Bola**	**0.72**	**244**	⇑*eP*	**Pb**	**13 25 40.3**	**+0.5**
CBX				*eS*	**Sb**	**13 25 49.7**	**+0.1**
CBX				IAML		13 25 52.4	
	comp=E,690nm,0.2s						
CBX				⇓*e*		13 25 52.4	
SDRC	**San Diego Road**	**0.89**	**277**	*eP*	**Pb**	**13 25 42.5**	**-0.1**
GLA	**Glamis**	**1.00**	**65**	P	**Pb**	**13 25 44.6**	**0.0**
	baz=248,SNR=97						
GLA				S	**Sb**	**13 25 57.5**	**0.0**
	baz=248						
GLA	**Glamis**	**1.00**	**65**	*ep*Pg	**Pb**	**13 25 44.6**	**0.0**
109C	**Camp Elliot, M**	**1.05**	**285**	P	**Pb**	**13 25 45.2**	**-0.2**
	baz=103,SNR=31						
109C				S	**Sb**	**13 25 58.1**	**-0.8**
	baz=103						
PFO	**Pinyon Flats O**	**1.09**	**335**	P	**Pb**	**13 25 45.3**	**-0.8**
	baz=156,SNR=114						
PFO				S	**Sb**	**13 25 59.9**	**-0.3**
	baz=156						
PFO	**Pinyon Flats O**	**1.09**	**335**	*ep*Pg	**Pb**	**13 25 45.3**	**-0.8**
PFO				*ep*Pn	**Pn**	**13 25 46.5**	**+0.2**
BC3	**Big Chuckawall**	**1.09**	**20**	P	**Pb**	**13 25 45.8**	**-0.4**
	baz=203						
BC3				S	**Sb**	**13 25 58.8**	**-1.5**
	baz=203						
PBX	**Punta Banda**	**1.13**	**219**	*eP*	**Pn**	**13 25 47.0**	**+0.2**
PBX				*eS*	**Sn**	**13 26 01.9**	**-0.1**
ECNX	**Esteban Cantu**	**1.14**	**212**	*eP*	**Pn**	**13 25 47.2**	**+0.2**
ECNX				*eS*	**Sb**	**13 26 01.9**	**+0.3**
ZAX	**El Zacaton**	**1.16**	**196**	*eP*	**Pg**	**13 25 47.8**	**-0.2**
ZAX				*eS*	**Sn**	**13 26 03.0**	**+0.1**
ZAX				*e*		13 26 05.6	
ZAX				IAML		13 26 05.6	
	comp=N,388nm,0.3s						
ZAX				IAML		13 26 07.8	
	comp=E,512nm,0.8s						
ZAX				⇑*e*		13 26 07.8	
ECBX	**El Chinero**	**1.36**	**148**	*eP*	**Pb**	**13 25 51.2**	**+0.4**
ECBX				*eS*	**Sg**	**13 26 09.9**	**+0.4**
BELC	**Belle Mtn. Jos**	**1.37**	**357**	P	**Pn**	**13 25 49.6**	**-0.7**
	baz=178,SNR=52						
BELC				S	**Sn**	**13 26 05.7**	**-2.5**
	baz=178						
MURC	**Murrieta**	**1.46**	**312**	P	**Pn**	**13 25 51.2**	**-0.2**
	baz=132						
MURC				Sb	**Sb**	**13 26 10.9**	**+0.2**
	baz=132						
Y12C	**Blythe**	**1.61**	**46**	P	**Pn**	**13 25 53.4**	**+0.1**
	baz=228						
Y12C				S	**Sn**	**13 26 14.0**	**+0.2**
	baz=228						
Y12C	**Blythe**	**1.61**	**46**	*ep*Pn	**Pn**	**13 25 53.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.62**	**167**	*eP*	**Pb**	**13 25 55.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.62**	**167**	*eP*	**Pb**	**13 25 55.6**	**+0.3**
SPX	**San Pedro Mart**	**1.62**	**167**	*eP*	**Pb**	**13 25 55.7**	**+0.3**
IRM	**Iron Mountain**	**1.65**	**22**	P	**Pn**	**13 25 54.2**	**+0.2**
	baz=204						
IRM				S	**Sn**	**13 26 15.0**	**+0.1**
	baz=204						
113A	**Mohawk Valley,**	**1.80**	**85**	*i*P	**Pn**	**13 25 56.4**	**+0.3**
113A				*i*S	**Sn**	**13 26 16.9**	**-1.8**
113A	**Mohawk Valley,**	**1.80**	**85**	*ep*Pn	**Pn**	**13 25 56.3**	**+0.3**
113A				*ep*Pg	**Pn**	**13 25 56.4**	**+0.3**
BBRC	**Big Bear Solar**	**1.84**	**333**	P	**Pn**	**13 25 57.1**	**+0.3**
	baz=153,SNR=41						
BBRC				Sb	**Sb**	**13 26 22.9**	**+1.0**
	baz=153						
GMRC	**Granite Mounta**	**2.16**	**5**	S	**Sn**	**13 26 24.1**	**-3.5**
	baz=186						
BFSC	**Mount Baldy Ra**	**2.18**	**318**	Pb	**Pb**	**13 26 05.0**	**+0.3**
	baz=138						
BFSC				Sb	**Sb**	**13 26 32.1**	**+0.5**
	baz=138						
HEC	**Hector,Ludlow**	**2.22**	**351**	S	**Sn**	**13 26 28.3**	**-0.9**
	baz=172						
CIS	**Catalina Islan**	**2.25**	**291**	S	**Sn**	**13 26 31.1**	**+1.4**
	baz=109						
SCI2	**San Clemente I**	**2.26**	**280**	S	**Sn**	**13 26 30.6**	**+0.7**
	baz=98						
MWC	**Mount Wilson**	**2.41**	**312**	*ep*Pn	**Pb**	**13 26 08.6**	**-0.1**
PASC	**Pasadena Art C**	**2.45**	**309**	*ep*Pn	**Pb**	**13 26 09.0**	**-0.4**
PASC				*ep*Sn	**Sb**	**13 26 40.8**	**+1.4**
LDFC	**Landfair**	**2.53**	**15**	*ep*Pn	**Pg**	**13 26 14.2**	**0.0**
DECC	**Green Verdugo**	**2.60**	**309**	Sb	**Sb**	**13 26 44.9**	**+1.3**
	baz=128						
214A	**Organ Pipe Nat**	**2.70**	**104**	P	**Pn**	**13 26 08.5**	**+0.1**
	baz=286						
214A	**Organ Pipe Nat**	**2.70**	**104**	*eP*	**Pn**	**13 26 08.3**	**-0.1**
214A				*eS*	**Sn**	**13 26 37.4**	**-3.4**
214A	**Organ Pipe Nat**	**2.70**	**104**	Pn	**Pn**	**13 26 08.0**	**-0.5**
GSC	**Goldstone, Bar**	**2.77**	**344**	*ep*Pn	**Pb**	**13 26 15.6**	**+0.7**
EDW2	**Edwards Air Fo**	**2.84**	**323**	Pb	**Pb**	**13 26 17.1**	**+1.1**
	baz=142,SNR=8.1						
EDW2				Sb	**Sb**	**13 26 52.7**	**+2.0**
	baz=142						
BLG	**Laguna Peak, P**	**3.03**	**300**	Sb	**Sb**	**13 26 56.7**	**+0.7**
	baz=118						
X16A	**Lo Mia Camp, P**	**4.13**	**63**	*ep*Pn	**Pn**	**13 26 30.1**	**+1.9**
U15A	**North Rim**	**4.82**	**37**	*ep*Pn	**Pn**	**13 26 39.1**	**+1.3**
KNB	**Kanab**	**5.05**	**29**	*ep*Pn	**Pn**	**13 26 43.1**	**+2.1**

*MOS **11** 13:40:28.9±1.0, 13.°72N×93.°89E, h87km, mb4.6/17, Error ellipse: s-maj=10.2km s-min=6.3km az=97.7*
*ISCJB **11** 13:40:28.6±0.3, 13.°79N±0.°02×93.°78E±0.°02, h82km±3km, mb4.5/68, Error ellipse: s-maj=3.8km s-min=3.2km az=43.5*
*IDC **11** 13:40:29.3±0.4, 13.°69N×93.°89E, h72km±3km, mb4.2/36, mb1 4.3/39, mb1mx4.2/49, mbtmp4.5/39, MS3.6/2, Ms1 3.7/2, ms1mx3.3/46, Error ellipse: s-maj=9.6km s-min=7.1km az=56.0*
*NEIC **11** 13:40:29.4±0.2, 13.°72N×93.°82E, mb4.9/11, Error ellipse: s-maj=5.1km s-min=4.5km az=70.0*
*DJA **11** 13:40:29.3±0.4, 14.°N±2.°×9.°4E±.°, h88km±5km, M5.3/12, mb5.2/12, mB5.5/6, MLv5.6/2, Mw(mB)4.9/6*
*BKK **11** 13:40:31.4±0.5, 14.°N±3.°×9.°4E±.°, h10km, M5.2/25, mB5.6/18, mb5.3/25, MLv5.3/16, Mw(mB)5.1/18*
*KLM **11** 13:40:31.4, 13.°18N×93.°49E, h13km, mb4.8*
*BJI **11** 13:40:38.3, 13.°95N×95.°27E, h95km, mb4.9/40, mB5.0/18*
ISC 11 13:40:29.5±0.3, 13.°75N±0.°04×93.°80E±0.°04, h74km±3km, h74km:pP-P, n244, σ1.974/256, mb4.6/82, 13C-14D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.02**	**236**	*eP*	**Pn**	**13 40 48.3**	**-0.1**
DGPR				*eS*	**Sn**	**13 41 04.3**	**+1.8**
DGPR				IAML		13 41 09.4	
	comp=N,27μm,0.3s						
DGPR				IAML		13 41 10.2	
	comp=E,19μm,0.2s						
PBA	**Port Blair**	**2.32**	**206**	*eP*	Pn	13 41 05.1	-0.5
PBA				*eS*	Sn	13 41 33.0	-0.2
PBA				AML	AML	13 41 45.5	
	comp=E,5μm,1.1s						
PBA				AML	AML	13 41 46.6	
	comp=N,6μm,0.5s						
SRDT	**SRDT**	**5.20**	**83**	P	**Pn**	**13 41 45.4**	**+0.6**
UMPA	**Umpang Tak**	**5.47**	**63**	P	**Pn**	**13 41 48.3**	**-0.2**
	comp=N,530nm,0.8s,comp=N,7μmcomp=N,2.9nm						
PHET	**Kaeng Krachan**	**5.74**	**98**	P	**Pn**	**13 41 53.2**	**+1.0**
	comp=N,298nm,0.5s,comp=N,5μmcomp=N,1.5nm						
UTHA	**Uthaitani**	**5.75**	**71**	P	**Pn**	**13 41 53.0**	**+0.6**
	comp=N,703nm,0.7s,comp=N,8μmcomp=N,2.8nm						
CMBY	**CAMPBELL BAY**	**6.70**	**179**	*eP*	**Pn**	**13 42 03.5**	**-1.8**
CM01	**Chiang Mai Arr**	**6.79**	**46**	*ep*Pn	**Pn**	**13 42 06.4**	**-0.3**
CM31	**Chiang Mai Arr**	**6.81**	**46**	*ep*Pn	**Pn**	**13 42 07.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**6.81**	**46**	P	**Pn**	**13 42 07.4**	**+0.6**
	comp=N,19nm,0.3s,baz=236,slow=15,SNR=538						
CMAR				S	**Sn**	**13 43 20.5**	**-2.4**
	comp=N,5.1nm,0.3s,baz=236,slow=28,SNR=7.4						
CMAR				LR	LR	13 45 20.4	
	comp=N,176nm,18.3s,baz=65,slow=43						
CMAR				ScP	**ScP**	**13 52 19.6**	**+0.9**
	comp=N,0.1nm,0.3s,baz=257,slow=2.6,SNR=9.0						
CHTO	**Chiang Mai**	**7.05**	**44**	P	**Pn**	**13 42 10.0**	**-0.2**
	comp=N,541nm,0.8s,comp=N,7μmcomp=N,2.2nm						
CHTO	**Chiang Mai**	**7.05**	**44**	*eP*	**Pn**	**13 42 10.4**	**+0.2**
CHTO	**Chiang Mai**	**7.05**	**44**	*ep*Pn	**Pn**	**13 42 10.4**	**+0.2**
PHIT	**Phitsanulok**	**7.24**	**61**	P	**Pn**	**13 42 13.9**	**+1.2**
	comp=N,510nm,0.8s,comp=N,5μmcomp=N,1.5nm						
NAYO	**Nakonayok**	**7.32**	**85**	P	**Pn**	**13 42 14.7**	**+0.8**
	comp=N,147nm,0.6s,comp=N,4μmcomp=N,0.6nm						
LAMP	**Lampang**	**7.34**	**49**	P	**Pn**	**13 42 14.8**	**+0.7**
	comp=N,128nm,0.8s,comp=N,1μmcomp=N,0.4nm						
PBKT	**Sadao Pong**	**7.47**	**67**	P	**Pn**	**13 42 16.8**	**+0.9**
	comp=N,961nm,0.7s,comp=N,8μmcomp=N,3.0nm						
UTTA	**Uttaradit**	**7.62**	**58**	P	**Pn**	**13 42 18.4**	**+0.5**
	comp=N,71nm,0.8s,comp=N,574nmcomp=N,0.2nm						
CHAI	**Chaiyaphum**	**8.20**	**74**	P	**Pn**	**13 42 28.0**	**+2.1**
	comp=N,159nm,0.7s,comp=N,1μmcomp=N,0.6nm						
TRTT	**Trang**	**8.25**	**135**	P	**Pn**	**13 42 28.1**	**+1.6**
	comp=N,97nm,0.8s,comp=N,0.4nm						
LHMI	**Lhok Sumawe**	**9.02**	**160**	P	**Pn**	**13 42 38.6**	**+1.6**
LHMI	**Lhok Sumawe**	**9.02**	**160**	*ep*Pn	**Pn**	**13 42 40.6**	**+3.6**
KHON	**Khomkaen**	**9.09**	**72**	P	**Pn**	**13 42 40.9**	**+2.9**
	comp=N,243nm,0.7s,comp=N,4μmcomp=N,1.0nm						
SKLT	**Songkhla**	**9.37**	**134**	P	**Pn**	**13 42 44.0**	**+2.2**
	comp=N,61nm,0.8s						
SKNT	**Sakolnakorn**	**10.33**	**71**	P	**Pn**	**13 42 57.3**	**+2.3**
	comp=N,241nm,1.1s,comp=N,4μm						
CHLP	**Challavanipeta**	**10.48**	**298**	*ep*Pn	**Pn**	**13 42 54.2**	**-2.7**
CHLP				IAmb	IAmb	13 42 56.1	
	comp=Z,82nm,0.8s						
CHLP				*e*		13 44 39.8	
KULM	**Kulim**	**10.79**	**141**	*ep*Pn	**Pn**	**13 43 02.7**	**+1.5**
VIS	**Vishakhapatnam**	**10.82**	**293**	*i* P	**Pn**	**13 42 59.5**	**-2.1**
VIS				*i* x	x	13 44 48.2	
VIS				*ex*	x	13 44 51.9	
	comp=N,436nm,0.4s						
VIS				*ex*	x	13 44 54.6	
	comp=E,428nm,0.7s						
KCSI	**Kotacane, Aceh**	**10.90**	**159**	P	**Pn**	**13 43 06.4**	**+3.7**
TPTI		**10.95**	**162**	P	**Pn**	**13 43 06.6**	**+3.2**
IMP	**Imphal**	**11.02**	**1**	*ex*	Pn	13 42 55.7	-8.7
TSI	**Tuntungan**	**11.22**	**155**	P	**Pn**	**13 43 10.5**	**+3.4**
	comp=E,176nm,1.1s						
UBPT	**Khong Chiam**	**11.41**	**81**	P	**Pn**	**13 43 12.1**	**+2.5**
	comp=E,75nm,0.9s						
IPM	**Ipoh**	**11.65**	**142**	*ep*Pn	**Pn**	**13 43 13.3**	**+0.3**
IPM	**Ipoh**	**11.65**	**142**	⇓P	**Pn**	**13 43 14.1**	**+1.2**
SHL	**Shillong**	**11.89**	**352**	*eP*	**Pn**	**13 43 12.1**	**-4.3**
SHL				IAmb	IAmb	13 43 14.8	
	comp=Z,49nm,0.7s						
SHL				*ex*	x	13 45 15.5	
SHL				AML	AML	13 45 27.0	
	comp=N,259nm,0.8s						
SHL				AML	AML	13 45 28.4	
	comp=E,263nm,0.5s						
PSI	**Prapat**	**12.00**	**155**	P	**Pn**	**13 43 19.4**	**+1.6**
	comp=E,1.7nm,0.3s,baz=332,slow=12,SNR=20						
PSI				LR	LR	13 48 44.6	
	comp=E,620nm,18.0s,baz=100,slow=41						
SLVN	**Son La**	**12.23**	**51**	*ep*Pn	**Pn**	**13 43 21.9**	**+1.0**
KTGM	**Kuala Trenggan**	**12.44**	**131**	⇑P	**Pn**	**13 43 26.6**	**+2.9**
BOK	**Bokaro**	**12.48**	**324**	*ep*P	**Pn**	**13 43 20.7**	**-3.6**
BOK				IAmb	IAmb	13 43 25.1	
	comp=Z,194nm,0.9s						
FRIM	**Kepong**	**13.00**	**143**	⇓P	**Pn**	**13 43 33.0**	**+1.7**
ADKI	**Addanki**	**13.53**	**281**	*ep*Pn	**Pn**	**13 43 36.2**	**-2.1**
ADKI				IAmb	IAmb	13 43 42.4	
	comp=Z,12nm,0.7s						
ADKI				*e*		13 45 50.2	
MNSI	**Mandailing Nat**	**14.09**	**156**	P	**Pn**	**13 43 45.2**	**-0.5**
	comp=Z,78nm,0.7s,comp=Z,1μm						
KMI	**Kunming**	**14.10**	**35**	P	**P**	**13 43 53.8**	**+2.3**
KMI				pP	pP	13 44 02.9	
KMI				PP	PnPn	13 44 06.4	+11
KMI				sP	sP	13 44 20.4	
KMI				pmax	pmax		
	comp=Z,47nm,1.0s						
NJS	**Nagarjunasagar**	**14.26**	**283**	*ep*Pn	**Pn**	**13 43 46.3**	**-1.7**
NJS				IAmb	IAmb	13 43 55.7	
	comp=Z,23nm,0.8s						
NJS				*e*		13 46 09.8	
ODAN	**Odare**	**14.35**	**336**	*eP*	**Pn**	**13 43 44.9**	**-4.4**
	comp=Z,804nm,0.4s						
PALK	**Pallekele**	**14.39**	**245**	P	**Pn**	**13 43 49.0**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=116,slow=7.1,SNR=15						
PALK				S	Sn	13 46 16.6	-11
	comp=Z,2.1nm,0.3s,baz=116,slow=20,SNR=9.2						
PALK	**Pallekele**	**14.39**	**245**	*i* P	**P**	**13 43 54.3**	**-0.2**
PBSI	**Pulau Batu**	**14.42**	**162**	P	**P**	**13 43 56.2**	**+1.4**
SRLM	**Srisailam**	**14.59**	**281**	*ep*Pn	**Pn**	**13 43 51.1**	**-1.1**
SRLM				IAmb	IAmb	13 43 59.1	
	comp=Z,20nm,0.6s						
SRLM				*e*		13 46 16.4	
TAPN	**Taplejung**	**14.68**	**338**	*eP*	**Pn**	**13 43 49.6**	**-4.0**
	comp=Z,427nm,0.6s						
RAMN	**Ramite**	**14.76**	**334**	*eP*	Pn	13 43 49.8	-4.8
	comp=Z,483nm,0.4s						
RPR	**Rampur**	**14.81**	**292**	*ep*Pn	**Pn**	**13 43 54.6**	**-0.5**
RPR				IAmb	IAmb	13 44 04.5	
	comp=Z,25nm,0.7s						
RPR				*e*		13 46 23.6	
KGM	**Kluang**	**14.99**	**140**	⇓P	**P**	**13 44 01.0**	**-0.2**
HYB	**Hyderabad**	**15.13**	**286**	*i* P	**P**	**13 44 01.5**	**-1.2**
HYB				*e*		13 46 28.0	
HYB				*eS*	**Sn**	**13 46 46.5**	**+0.5**
HYBB	**Hyderabad (bro**	**15.13**	**286**	*ep*Pn	**Pn**	**13 43 58.8**	**-0.4**
HYBB				IAmb	IAmb	13 44 05.3	
	comp=Z,21nm,0.8s						
HYBB				*e*		13 46 30.3	
BKNI	**Bangkinang**	**15.14**	**151**	P	**P**	**13 44 07.3**	**+4.4**
BKNI	**Bangkinang**	**15.14**	**151**	*eP*	**P**	**13 44 02.7**	**-0.2**
MYKOM	**Kota Tinggi**	**15.50**	**139**	*eP*	**P**	**13 44 08.0**	**+1.2**
MYKOM	**Kota Tinggi**	**15.50**	**139**	⇓P	**P**	**13 44 06.9**	**+0.2**
JIRN	**Jiri**	**15.55**	**334**	*eP*	**Pn**	**13 44 01.8**	**-3.1**
	comp=Z,919nm,0.4s						
SRSP	**Sriramsagar**	**15.70**	**291**	*ep*Pn	**Pn**	**13 44 05.0**	**-1.4**
SRSP				IAmb	IAmb	13 44 09.2	
	comp=Z,19nm,0.5s						
SRSP				*e*		13 46 43.8	
PKI	**Pulchoki**	**15.82**	**332**	*eP*	**Pn**	**13 44 04.8**	**-3.4**
	comp=Z,284nm,0.4s						
PKIN	**Phulchoki**	**15.83**	**332**	*eP*	**Pn**	**13 44 04.3**	**-4.0**
	comp=Z,333nm,0.4s						
NGP	**Nagpur**	**15.87**	**300**	*eP*	**Pn**	**13 44 08.4**	**-0.1**
NGP				IAmb	IAmb	13 44 10.5	
NGP				*ex*	x	13 46 50.5	
SISI	**Saibi**	**15.87**	**160**	P	**P**	**13 44 10.6**	**-0.3**
	comp=Z,43nm,1.2s						
GUN	**Gumba**	**15.90**	**334**	*eP*	**Pn**	**13 44 06.0**	**-3.3**
	comp=Z,424nm,0.7s						
DMN	**Daman**	**16.00**	**331**	*eP*	**Pn**	**13 44 06.5**	**-3.9**
	comp=Z,477nm,0.7s						
PDSI	**Padang**	**16.00**	**155**	P	**Pn**	**13 44 10.4**	**+0.2**
LSA	**Lhasa**	**16.06**	**352**	P	**Pn**	**13 44 08.9**	**-2.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
URV	**Uravakonda**	**16.07**	**276**	*ep*Pn	**Pn**	**13 44 10.1**	**-1.0**
URV				IAmb	IAmb	13 44 16.0	
	comp=Z,17nm,1.0s						
URV				*e*		13 46 50.3	
KKN	**Kakani**	**16.07**	**332**	*eP*	**Pn**	**13 44 08.6**	**-2.6**
	comp=Z,173nm,0.6s						
SDSI	**Sungai Dareh**	**16.43**	**152**	P	**Pn**	**13 44 16.1**	**+0.5**
GKN	**Gorkha**	**16.55**	**330**	*eP*	**Pn**	**13 44 14.0**	**-3.2**
	comp=Z,217nm,0.5s						
TPRI	**Tanjung Pinang**	**16.59**	**139**	P	**P**	**13 44 25.5**	**+6.5**
KOLN	**Koldanda**	**16.88**	**327**	*eP*	**Pn**	**13 44 17.7**	**-3.6**
KLRI	**Killari**	**17.09**	**287**	*ep*Pn	**P**	**13 44 24.9**	**+0.5**
KLRI				IAmb	IAmb	13 44 42.2	
	comp=Z,24nm,0.8s						
KLRI				*e*		13 47 16.6	
DANN	**Dangsing**	**17.27**	**329**	*eP*	**Pn**	**13 44 23.3**	**-2.9**
	comp=Z,26nm,1.0s						
PYUN	**Piuthan**	**17.47**	**327**	*eP*	**Pn**	**13 44 25.5**	**-3.0**
	comp=Z,312nm,0.5s						
GYA	**Guiyang**	**17.47**	**42**	⇑*iP*	**P**	**13 44 29.0**	**+0.3**
GYA				pP	pP	13 44 43.2	-0.3
GYA				S	Sn	13 47 29.5	-13
GYA				sS	S	13 47 51.0	+4.9
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,11.8s						
GYA				LR	LR		
	comp=E,1μm,12.0s						
GYA				LR	LR		
	comp=Z,1μm,12.6s						
PPSI	**Pulau Pagai**	**17.53**	**159**	P	**P**	**13 44 29.6**	**+0.4**
PPSI				S	**S**	**13 47 52.7**	**+5.6**
JMBI	**JAMBI**	**18.14**	**147**	P	**Pn**	**13 44 43.1**	**+6.6**
BHPL	**Bhopal**	**18.15**	**304**	*eP*	**Pn**	**13 44 37.5**	**+0.7**
MASI	**Maura Aman, Be**	**18.76**	**153**	P	**Pn**	**13 44 44.1**	**+0.1**
	comp=Z,203nm,0.8s						
KAD	**Karad**	**19.22**	**283**	*eP*	**Pn**	**13 44 49.3**	**-0.3**
KAD				*ex*	x	13 48 06.0	
CD2	**Chengdu**	**19.38**	**27**	*eP*	**Pn**	**13 44 53.2**	**+1.8**
PPBI	**Pangkal Pinang**	**19.99**	**141**	P	**Pn**	**13 44 57.8**	**-0.8**
MNAI	**Manna**	**20.16**	**153**	P	**P**	**13 44 59.2**	**+1.1**
MNAI	**Manna**	**20.16**	**153**	*eP*	**P**	**13 44 55.8**	**-2.3**
	comp=Z,212nm,0.8s						
MDSI	**Maura Dua**	**20.84**	**150**	P	**P**	**13 45 03.2**	**-2.2**
	comp=Z,25nm,0.7s						
LWLI	**Liwa**	**21.25**	**151**	P	P	13 45 17.6	+7.7
KLSI		**21.29**	**149**	P	**P**	**13 45 10.1**	**-0.2**
SBUM	**Sibu**	**21.39**	**120**	*eP*	**P**	**13 45 04.6**	**-6.8**
BTM	**Bintulu**	**21.74**	**117**	⇑P	P	13 45 23.0	+7.8
KASI	**Kota Agung**	**21.90**	**150**	P	**P**	**13 45 11.8**	**-4.9**
ENH	**Enshi**	**21.91**	**39**	*eP*	**P**	**13 45 16.1**	**-0.7**
	comp=Z,164nm,0.8s						
DDI	**Dehra Dun**	**21.98**	**321**	*eP*	**P**	**13 45 18.5**	**+1.0**
DDI				IAmb	IAmb	13 45 31.3	
	comp=Z,49nm,0.9s						
LZH	**Lanzhou**	**24.00**	**20**	*eP*	**P**	**13 45 39.4**	**+1.8**
LZH				pP	pP	13 45 57.6	+3.1
LZH				sP	sP	13 46 09.4	+5.9
LZH				pmax	pmax		
	comp=Z,44nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,5.3s						
DHRM	**DHARAMSHALA**	**24.40**	**322**	*eP*	**P**	**13 45 42.5**	**+1.3**
DHRM				IAmb	IAmb	13 45 44.5	
	comp=Z,17nm,0.5s						
XAN	**Xi'an**	**24.42**	**32**	P	**P**	**13 45 40.4**	**-0.9**
XAN				pmax	pmax		
	comp=Z,140nm,0.9s						
WHN	**Wuhan**	**25.26**	**45**	⇑P	**P**	**13 45 49.7**	**+0.8**
GTA	**Gaotai**	**26.11**	**11**	*eP*	**P**	**13 45 58.0**	**+1.4**
GTA				pP	sP	13 46 20.3	-2.2
GTA				sP	pP	13 46 32.1	+18
GTA				S	**S

comp=Z,3.8nm,0.4s,baz=198,slow=9.5,SNR=27
SONM ScP **ScP** 13 53 27.3 +0.3
comp=Z,1.6nm,0.7s,baz=216,slow=3.5,SNR=7.3
ULN Ulaanbaatar 35.76 15*d* *i*P **P** 13 47 22.3 +0.8
ULN pmax pmax
comp=Z,21nm,2.5s
ZAK Zakamensk 37.34 10 *e*P **P** 13 47 34.9 0.0
ZAK pmax pmax
comp=Z,6.0nm,1.1s
SOEI Soe 38.21 126 P **P** 13 47 44.8 +2.2
KS15 Wonju Array Si 38.42 46 *e*P **P** 13 47 42.9 -1.1
KSAR Wonju Array Be 38.42 46 P **P** 13 47 44.2 +0.2
KSAR Wonju Array Be 38.42 46 P **P** 13 47 44.1 +0.2
KS01 Wonju Array Si 38.44 46 *e*P **P** 13 47 43.2 -1.0
KSRS Korea Array 38.45 46 P **P** 13 47 44.1 -0.1
comp=Z,13nm,0.7s,baz=242,slow=8.8,SNR=49
TLY Talaya 38.66 10 P **P** 13 47 46.6 +0.8
comp=Z,5.9nm,0.8s,baz=212,slow=8.5,SNR=12
KURBB Kurchatov Arra 38.81 344 P **P** 13 47 47.9 +0.8
comp=Z,7.3nm,0.8s,baz=159,slow=8.0,SNR=56
KURBB ScP **S** 13 53 39.9 +0.6
comp=Z,1.5nm,0.7s,baz=36,slow=5.1,SNR=12
KURK Kurchatov 38.88 345 P **P** 13 47 47.9 +0.3
KURK 13 53 39.9
KURK Kurchatov 38.88 345 P **P** 13 47 47.9 +0.3
KURK ScP **S** 13 53 39.9 -0.3
GEYT Alibeck 39.76 314 P **P** 13 47 57.0 +1.8
comp=Z,5.0nm,0.8s,baz=134,slow=8.3,SNR=6.6
CN2 Changchun 40.37 36 *e*P **P** 13 48 00.8 +0.6
CN2 pmax pmax
comp=Z,30nm,1.2s
ZALV Zalesovo Beam 40.72 352 P **P** 13 48 03.8 +0.9
comp=Z,13nm,0.6s,baz=170,slow=9.7,SNR=56
ZALV pP **pP** 13 48 20.9 +0.1
comp=Z,14nm,0.7s,baz=177,slow=8.4,SNR=10
GIRL Giralia 41.34 151 P **P** 13 48 08.1 -0.2
baz=41,SNR=8.3
NVS Novosibirsk 41.82 351 *e*P **P** 13 48 12.1 +0.2
NVS pmax pmax
comp=Z,13nm,1.1s
BVAR Borovoye Array 43.37 340 P **P** 13 48 24.2 -0.3
comp=Z,0.6nm,0.5s,baz=146,slow=9.5,SNR=5.8
BRVK Borovoye 43.44 339 *i*P **P** 13 48 25.4 +0.4
BRVK pmax pmax
comp=Z,6.0nm,1.7s
USRK Ussuriysk Ar. 44.49 39 P **P** 13 48 32.3 -1.2
comp=Z,4.9nm,0.8s,baz=240,slow=8.1,SNR=9.8
AB31 Akbulak array 44.99 329 P **P** 13 48 38.3 +0.8
AB31 pmax pmax
comp=Z,8.0nm,0.7s
MJB9 Matsu-Tunnel 45.65 52 *e*P **P** 13 48 41.9 -1.1
comp=Z,3.7nm,1.1s
MAJO Matsushiro 45.65 52 *i*P **P** 13 48 43.8 +0.8
MAJO pmax pmax
comp=Z,67nm,0.9s
MAJO Matsushiro 45.65 52 *e*P **P** 13 48 41.9 -1.1
comp=Z,14nm,1.0s
MAT Matsushiro 45.65 52 P **P** 13 48 43.4 +0.4
MJAR Matsushiro Arr 45.65 52 P **P** 13 48 41.8 -1.2
comp=Z,3.2nm,0.9s,baz=265,slow=9.5,SNR=13
MJAR pP **pP** 13 49 00.5 -0.8
comp=Z,6.0nm,0.9s,baz=264,slow=9.7,SNR=5.0
MJAR PcP **PcP** 13 50 20.9 +0.8
comp=Z,0.8nm,0.4s,baz=234,slow=2.2,SNR=4.7
MJAR pPcP 13 50 42.4
comp=Z,2.7nm,0.8s,baz=237,slow=3.2,SNR=5.4
MJAR ScP **ScP** 13 54 06.0 -0.7
comp=Z,2.4nm,0.8s,baz=234,slow=3.3,SNR=7.7
BOD Bodaibo 46.56 15 *e*P **P** 13 48 49.5 -0.2
BOD pmax pmax
comp=Z,12nm,1.3s
AKTO Aktyubinsk 46.71 329 P **P** 13 48 50.2 -0.8
comp=Z,1.5nm,0.7s,baz=108,slow=9.6,SNR=5.1
AKTO pP **pP** 13 49 10.0 +0.7
comp=Z,4.4nm,0.6s,baz=148,slow=4.5,SNR=7.1
MORW Morawa 47.69 153 P **P** 13 48 58.5 -0.4
baz=48,SNR=11
BLDU Ballidu 49.31 154 P **P** 13 49 10.0 -1.3
baz=49,SNR=4.6
GNI Garni 50.22 311 P **P** 13 49 19.4 +1.0
comp=Z,4.8nm,0.3s,baz=153,slow=9.0,SNR=3.7
ARU Arti 50.41 335*c* *i*P **P** 13 49 20.5 +1.2
ARU *PP **pP** 13 49 40.8 +3.0
ARU 13 51 11.7
ARU S **S** 13 56 30.7 +3.7
ARU SS **SS** 14 00 00.7 -0.9
ARU pmax pmax
comp=Z,11nm,2.5s
KLBR Kellerberrin 50.61 153 P **P** 13 49 20.6 -0.5
baz=51,SNR=10
WRKA Warakurna 51.17 139 P **P** 13 49 24.7 -0.8
baz=51,SNR=39
NWAO Narrogin (SRO) 51.54 155 P **P** 13 49 27.0 -1.0
comp=Z,32nm,0.8s,baz=197,slow=7.7,SNR=17
NWAO Narrogin (SRO) 51.54 155 P **P** 13 49 27.3 -0.7
baz=52,SNR=13
NWAO P **P** 13 49 27.3 -0.7
baz=52,SNR=13
NWAO Narrogin (SRO) 51.54 155 *e*P **P** 13 49 27.0 -1.0
NWAO pmax pmax
comp=Z,31nm,0.8s
NWAO Narrogin (SRO) 51.54 155 *e*P **P** 13 49 27.0 -1.0
comp=Z,31nm,0.8s
ZEI Tsey 51.63 314 *e*P **P** 13 49 29.4 +0.4
ZEI pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 52.08 129 P **P** 13 49 31.6 -0.8
comp=Z,6.1nm,0.4s,baz=306,slow=9.4,SNR=155
WRA pP **pP** 13 49 51.2 +0.3
comp=Z,5.4nm,0.9s,baz=300,slow=10,SNR=6.2
WRA PcP **PcP** 13 50 43.0 -0.6
comp=Z,2.1nm,0.4s,baz=318,slow=3.0,SNR=10
WRA ScP **ScP** 13 54 31.8 -2.4
comp=Z,1.1nm,0.8s,baz=312,slow=4.0,SNR=4.6
WRA S **S** 13 56 47.4 -3.6
comp=Z,1.6nm,1.1s,baz=304,slow=15,SNR=3.5
WRAB Tennant Creek 52.08 129*ce*P **P** 13 49 31.1 -1.2
WRAB pmax pmax
comp=Z,59nm,1.7s
WRAB Tennant Creek 52.08 129 *e*P **P** 13 49 31.2 -1.1
comp=Z,15nm,0.8s
WB2 Warramunga Arr 52.09 129 *e*P **P** 13 49 30.9 -1.4
YSS Yuzh-Sakhalins 52.47 41 *i*P **P** 13 49 36.0 +1.1
YSS pmax pmax
comp=Z,15nm,0.7s
KBZ Khabaz 52.63 315 P **P** 13 49 36.6 +0.6
comp=Z,1.0nm,0.5s,baz=105,slow=12,SNR=2.3
KVAR Kislovodsk Arr 52.84 315 P **P** 13 49 38.6 +0.8
comp=Z,5.1nm,0.4s,baz=268,slow=5.4,SNR=3.0
AS31 Alice Springs 54.05 133 *e*P **P** 13 49 45.8 -1.0
comp=Z,4.1nm,0.6s
ASAR Alice Springs 54.05 133 P **P** 13 49 46.1 -0.6
comp=Z,12nm,0.6s,baz=310,slow=7.0,SNR=217
ASAR PcP **PcP** 13 50 50.8 -0.2
comp=Z,2.6nm,0.6s,baz=307,slow=4.9,SNR=4.7
ASAR ScP **ScP** 13 54 41.1 -1.6
comp=Z,1.3nm,1.0s,baz=302,slow=4.0,SNR=5.6
ASAR S **S** 13 57 15.8 -2.0
comp=Z,1.3nm,0.9s,baz=307,slow=14,SNR=8.8
AS01 Alice Springs 54.08 133 *e*P **P** 13 49 45.7 -1.3
YAK Yakutsk 54.59 20 *e*P **P** 13 49 48.2 -1.8
YAK pmax pmax
comp=Z,17nm,1.4s
YAK pmax pmax
comp=N,4.0nm,0.9s
NRIK Noril'sk 55.69 357 P **P** 13 49 57.7 -0.2
comp=N,3.7nm,0.5s,baz=173,slow=8.1,SNR=4.2
NRIK pP **pP** 13 50 15.5 -1.2
comp=N,6.2nm,0.7s,baz=160,slow=5.0,SNR=3.2
COEN Coen 56.11 117 P **P** 13 50 01.1 -0.7
baz=56,SNR=15
QIS Mount Isa 56.48 126 P **P** 13 50 03.8 -0.5
baz=56,SNR=7.9
BRTR Keskin Array B 58.45 308 P **P** 13 50 17.8 -0.3
comp=N,3.1nm,0.7s,baz=122,slow=7.9,SNR=15
BRTR pP **pP** 13 50 36.5 -0.5
comp=N,5.2nm,0.8s,baz=124,slow=8.3,SNR=6.7
BRTR Keskin Array B 58.45 308*ce*P **P** 13 50 18.1 0.0
BRTR pmax pmax
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 61.07 333 *e*P **P** 13 50 34.1 -1.4
KLMR *e* 13 51 16.1
KLMR pmax pmax
comp=Z,14nm,1.4s
BBOO Buckleboo 61.43 140 P **P** 13 50 36.8 -1.6
baz=62,SNR=4.6
TIXI Tiksi 61.58 12 *i*P **P** 13 50 38.1 -0.6
TIXI pmax pmax
comp=Z,22nm,2.5s
MA2 Magadan 61.78 29 *e*P **P** 13 50 40.3 0.0
QLP Quilpie 63.32 129 P **P** 13 50 51.4 +0.3
baz=63,SNR=13
AKASG Malin Array Be 63.41 320 P **P** 13 50 50.5 -0.8
comp=Z,0.3nm,0.3s,baz=90,slow=5.4,SNR=3.6
AKASG Malin Array Be 63.41 320*ce*P **P** 13 50 53.7 +2.4
PETK Petropavlovsk- 63.50 37 P **P** 13 50 51.0 -1.0
comp=Z,5.4nm,1.0s,baz=256,slow=5.8,SNR=5.1
PETK Petropavlovsk- 63.50 37 P **P** 13 50 51.0 -1.0
HTT Hallett 63.65 139 P **P** 13 50 53.1 -0.1
baz=64,SNR=5.1
SEY Seymchan 63.79 26 *e*P **P** 13 50 52.7 -0.9
VRI Vrincioaia 64.31 314 *i*P pP 13 51 16.9 +0.3
PLOR Plostina 64.36 314 *i*P pP 13 51 17.6 +0.7
TESR Tescani 64.44 315 *i*P pP 13 51 13.3 -4.1
STKA Stephens Creek 64.46 136 P **P** 13 50 57.6 -0.8
comp=Z,3.5nm,0.6s,baz=310,slow=5.8,SNR=20
STKA pP **pP** 13 51 16.8 -0.9
comp=Z,3.7nm,0.9s,baz=326,slow=9.9,SNR=2.9
STKA Stephens Creek 64.46 136 P **P** 13 50 57.9 -0.6
baz=64,SNR=14
MLR Muntele Rosu 64.81 314 P **P** 13 51 00.8 0.0
comp=Z,0.5nm,0.5s,baz=96,slow=16,SNR=4.0
MLR Muntele Rosu 64.81 314 *i*P pP 13 51 16.9 -3.1
IDI Anoyia 65.04 303 P **P** 13 51 01.8 -0.6
comp=Z,18nm,1.0s,baz=45,slow=8.6,SNR=2.7
BURAR Bucovina Array 65.54 316 *i*P **P** 13 51 06.0 +0.5
VTS Vitosha 66.56 311 *e*P pP 13 51 32.7 +1.3
RMQ Roma 66.72 127 P **P** 13 51 14.5 +1.3
baz=67,SNR=5.4
CMSA Cobar Meteorol 67.10 133 P **P** 13 51 15.4 -0.1
baz=67,SNR=19
DRGR 67.17 315 *i*P **P** 13 51 16.4 +0.6
FINES FINESS Array B 67.41 331 P **P** 13 51 16.8 -0.1
comp=Z,2.5nm,0.9s,baz=224,slow=5.3,SNR=4.4
CRVS Cervenica-Dubn 68.16 317 *e* pP 13 51 41.8 +0.5
ARCES ARCESS Array B 69.66 340 P **P** 13 51 31.9 +1.0
comp=Z,2.0nm,0.5s,baz=88,slow=6.1,SNR=20
ARCES pP **pP** 13 51 50.0 -0.3
comp=Z,3.8nm,0.6s,baz=99,slow=6.3,SNR=6.1
MORC Moravsky Berou 70.76 318 *e*P **P** 13 51 37.6 -0.4
MORC *e**PP **pP** 13 51 57.8 +0.3
MORC pmax pmax
comp=Z,35nm,0.9s
MORC Moravsky Berou 70.76 318 *e*P **P** 13 51 37.5 -0.4
comp=Z,34nm,0.9s
MORC *e*pP **pP** 13 51 57.8 +0.3
BILL Bilibino 70.80 22 *e*P **P** 13 51 35.1 -2.7
BILL *i* 13 51 56.8
BILL *i* 13 54 15.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
LSZ Lusaka 71.01 248 P **P** 13 51 40.9 +0.8
comp=Z,1.6nm,0.4s,baz=58,slow=4.8,SNR=4.6
LSZ pP **PcP** 13 52 00.0 -0.1
comp=Z,5.7nm,0.7s,baz=51,slow=4.4,SNR=3.1
DPC Dobruska-Polom 71.56 319 *e*pP **pP** 13 52 03.6 +1.3
DPC *ex* x 13 52 14.2
CONA Conrad Observa 71.86 316 *i*pP pP 13 52 05.2 +1.0
comp=Z,5.0nm,1.1s
ARSA Arzberg 72.09 315 *i*pP pP 13 52 07.4 +1.8
comp=Z,4.8nm,1.1s
SOKA Soboth 72.44 315 *i*pP pP 13 52 09.9 +2.1
comp=Z,7.6nm,1.1s
GOPC GO Pecny, Ondr 72.54 318 *e*P P 13 51 58.3 +10
MATP Matopo 72.61 243 P **P** 13 51 50.0 +0.3
comp=Z,2.3nm,0.5s,baz=86,slow=6.1,SNR=10
PRU Pruhonice 72.70 318 *e*pP pP 13 52 10.4 +1.3
OBKA Obir 72.78 315 *i*pP pP 13 52 10.0 +0.2
comp=Z,7.8nm,1.0s
MOA Molln 72.93 316 *i* PcP **PcP** 13 52 08.2 +0.5
comp=Z,4.5nm,0.8s
BRG Bergqiesshubel 73.07 319 *e*P **pP** 13 52 12.7 +1.4
comp=Z,8.6nm,0.9s
comp=N,911nm,18.2s
comp=E,768nm,21.2s
comp=Z,1μm,17.7s
GEC2 GERESS Array S 73.28 317 *e*P pP 13 52 12.4 -0.3
GERES GERESS Array B 73.28 317 P **P** 13 51 53.9 +0.7
comp=Z,1.9nm,0.6s,baz=85,slow=5.9,SNR=9.9
GERES pP **pP** 13 52 13.3 +0.6
comp=Z,5.4nm,0.7s,baz=86,slow=6.8,SNR=12
KHC Kasperske Hory 73.35 317 *e*pP pP 13 52 13.9 +0.8
CLL Collm 73.65 320 *e*P **P** 13 51 53.0 -2.2
CLL *e**PP **pP** 13 52 16.0 +1.2
CLL Collm 73.65 320 *e*P **P** 13 51 53.0 -2.2
CLL *e*pP **pP** 13 52 16.0 +1.2
ABTA Abfaltersbach 74.17 315 *i*pP pP 13 52 18.8 +0.8
comp=Z,2.8nm,0.4s
NB2 NORSAR Subarra 74.49 330 P pP 13 52 18.8 -0.8
comp=Z,5.4nm,0.9s,baz=90,slow=6.2
NOA NORSAR Array B 74.49 330 P P **13 51 59.9 0.0**
comp=Z,1.1nm,0.8s,baz=91,slow=5.8,SNR=2.6
NOA pP **pP** 13 52 19.0 -0.5
comp=Z,0.6nm,0.6s,baz=315,slow=20,SNR=1.5
WTTA Wattenberg 74.74 316 *i*pP pP 13 52 20.8 -0.6
comp=Z,6.6nm,0.9s
MOTA Moosalm 75.09 316 *i*pP pP 13 52 23.6 +0.1
comp=Z,6.4nm,0.9s
FETA Feichten 75.37 315 *i*pP pP 13 52 25.1 0.0
comp=Z,11nm,1.6s
DAVA Damuels 75.93 316 *e*pP pP 13 52 28.1 -0.2
comp=Z,1.8nm,0.5s
LHI Lord Howe Isla 77.04 127 P **P** 13 52 14.4 -0.5
baz=77,SNR=3.3
KEST Kesra 77.66 304 P **P** 13 52 18.3 -0.1
comp=Z,8.8nm,1.2s,baz=22,slow=5.4,SNR=2.0
SENIN Lac Senin/Sane 77.79 315 *e*P pP 13 52 39.0 0.0
BNI Bardonecchia 78.39 314 *e*pP pP 13 52 42.4 +0.2
comp=Z,11nm,1.1s
BOSA Boshof 78.46 237 P **P** 13 52 22.4 -0.7
comp=Z,4.0nm,0.7s,baz=57,slow=4.6,SNR=6.6
BOSA pP **pP** 13 52 42.0 -0.8
comp=Z,7.3nm,0.7s,baz=83,slow=4.5,SNR=3.7
MAW Mawson 84.19 191 P **P** 13 52 52.8 +0.5
comp=Z,2.2nm,0.6s,baz=20,slow=4.1,SNR=16
MAW Mawson 84.19 191 P **P** 13 52 52.7 +0.4
baz=84,SNR=6.3
ESDC Sonseca Array 87.19 310 P **P** 13 53 09.0 +0.9
comp=Z,0.2nm,0.3s,baz=67,slow=3.7,SNR=2.7
SUMG Summit 88.37 347 *i* P pP 13 53 32.6 -1.0
comp=Z,13nm,1.0s
TOA0 Torodi Ar. Sit 88.93 283 *e*P pP 13 53 35.7 -1.1
TORD Torodi Ar. Bea 88.93 283 P **P** 13 53 17.5 +0.8
comp=Z,0.4nm,0.7s,baz=57,slow=5.3,SNR=2.6
TORD pP **pP** 13 53 36.7 -0.1
comp=Z,4.7nm,0.9s,baz=83,slow=3.6,SNR=14
ILAR Eielson Array 89.46 22 P **P** 13 53 17.9 -0.2
comp=Z,1.9nm,0.7s,baz=300,slow=4.3,SNR=22
ILAR PP **PP** 13 56 48.2 -1.5
comp=Z,0.8nm,0.9s,baz=291,slow=7.4,SNR=5.1
SYO Syowa Base 90.89 197 *e*P **P** 13 53 25.0 +0.5
VNDA Vanda 98.72 168 P **P** 13 53 59.2 -0.9
comp=Z,0.7nm,0.8s,baz=322,slow=8.1,SNR=5.1
PDAR Pinedale Array 119.81 20 PKP **PKPdf** 13 59 12.2 +0.2
comp=Z,0.2nm,0.4s,baz=332,slow=1.3,SNR=3.0
PDAR pPKP **pPKPdf** 13 59 31.9 -1.1
comp=Z,0.7nm,0.6s,baz=346,slow=1.9,SNR=4.6
TXAR Lajitas Array 133.97 21 PKP **PKPdf** 13 59 40.7 +1.6
comp=Z,0.3nm,0.5s,baz=41,slow=0.1,SNR=12
TXAR pPKP **pPKPdf** 14 00 00.7 +0.5
comp=Z,0.6nm,0.6s,baz=297,slow=0.4,SNR=5.3
TXAR SKPbc **SKPbc** 14 03 02.8 +0.8
comp=Z,0.5nm,0.7s,baz=266,slow=2.6,SNR=5.1
PLCA Paso Flores 149.83 204 PKPbc **PKPbc** 14 00 11.9 +0.3
comp=Z,3.2nm,0.7s,baz=156,slow=1.6,SNR=11
CPUP Villa Florida 150.21 241 PKPbc **PKPbc** 14 00 12.8 0.0
comp=Z,4.2nm,0.8s,baz=123,slow=2.6,SNR=7.7

*ISCJB **11** 13:44:31.5±0.6, 39°.65N±0°.03×38°.71E±0°.04, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.9km az=38.9*
*CSEM **11** 13:44:31.5±0.2, 39°.65N×38°.71E, h8km, ML2.9, Error ellipse: s-maj=5.0km s-min=3.9km az=48.0*
*DDA **11** 13:44:31.4, 39°.63N×38°.72E, h7km, ML2.9*
*ISK **11** 13:44:31.1, 39°.67N×38°.73E, h10km, MD2.8*
ISC 11 13:44:31.8±1.0, 39°.64N±0°.03×38°.72E±0°.03, h14km±9km, n27, σ0°44/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.24**	**172**	*i* P	**Pg**	**13 44 37.2**	**0.0**
REFA	**Refahiye_ERZ**	**0.24**	**172**	P	**Pg**	**13 44 37.2**	**0.0**
KEMA	**Kemaliye**	**0.41**	**206**	*i* P	**Pg**	**13 44 39.3**	**-0.7**
KEMA				*i* S	**Sg**	**13 44 45.8**	**+0.2**
KEMA	**Kemaliye**	**0.41**	**206**	P	**Pg**	**13 44 39.3**	**-0.7**
KEMA				S	**Sg**	**13 44 45.8**	**+0.2**
KELT	**Kelkit**	**0.65**	**39**	*i* P	**Pg**	**13 44 44.3**	**-0.3**
KELT				*i* S	**Sb**	**13 44 54.4**	**+0.3**
KELT	**Kelkit**	**0.65**	**39**	P	**Pg**	**13 44 44.3**	**-0.3**
KELT				S	**Sb**	**13 44 54.4**	**+0.3**
SUSE	**Susehri**	**0.70**	**325**	*i* P	**Pg**	**13 44 44.9**	**-0.5**
SUSE	**Susehri**	**0.70**	**325**	P	**Pg**	**13 44 44.9**	**-0.5**
ERZN	**Erzincan**	**0.77**	**94**	*e*PG	**Pg**	**13 44 46.8**	**-0.1**
ERZN				*e*SG	**Sb**	**13 44 57.6**	**+0.2**
CUZAR	**Zara_SIVAS**	**0.78**	**289**	*i* P	**Pg**	**13 44 46.2**	**-0.7**
CUZAR	**Zara_SIVAS**	**0.78**	**289**	P	**Pg**	**13 44 46.2**	**-0.7**
TNCL	**Tunceli-Merkez**	**0.82**	**129**	*i* P	**Pn**	**13 44 49.0**	**0.0**
TNCL	**Tunceli-Merkez**	**0.82**	**129**	P	**Pn**	**13 44 49.0**	**0.0**
PTK	**Pertek**	**0.91**	**145**	*e*PG	**Pg**	**13 44 48.9**	**-0.5**
PTK				*e*SG	**Sn**	**13 45 03.2**	**-0.1**
PTK	**Pertek**	**0.91**	**145**	*e*Pg	**Pg**	**13 44 48.9**	**-0.5**
PTK				*e*Sg	**Sn**	**13 45 03.2**	**-0.1**
ELZG	**Elazig**	**1.16**	**170**	*i* P	**Pb**	**13 44 53.1**	**-0.5**
ELZG	**Elazig**	**1.16**	**170**	P	**Pb**	**13 44 53.1**	**-0.5**
SCER	**sogukcermik**	**1.25**	**281**	*i* P	**Pb**	**13 44 55.4**	**+0.2**
SCER	**sogukcermik**	**1.25**	**281**	P	**Pb**	**13 44 55.4**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.34**	**160**	*e*PN	**Pn**	**13 44 56.8**	**+0.6**
SVRC				*e*SN	**Sg**	**13 45 15.6**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.34**	**160**	*e*Pn	**Pn**	**13 44 56.8**	**+0.6**
SVRC				*e*Sn	**Sg**	**13 45 15.6**	**+0.6**
SVSK	**Karacayir**	**1.36**	**282**	*e*PN	**Pn**	**13 44 56.8**	**+0.5**
SVSK				*e*SN	**Sg**	**13 45 15.6**	**0.0**
SVSK	**Karacayir**	**1.36**	**282**	*e*Pn	**Pn**	**13 44 56.8**	**+0.5**
SVSK				*e*Sn	**Sg**	**13 45 15.6**	**0.0**
YEDI	**Yedisu-Bingol**	**1.42**	**98**	*e*PN	**Pn**	**13 44 57.0**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.42**	**98**	*e*Pn	**Pn**	**13 44 57.0**	**-0.3**
DARE	**Darende-Malaty**	**1.44**	**223**	*e*PN	**Pg**	**13 44 59.1**	**-0.3**
DARE	**Darende-Malaty**	**1.44**	**223**	*e*Pn	**Pg**	**13 44 59.1**	**-0.3**

MEX 11 13:48:35.1±0.3, 16°.81N×99°.67W, h20km±19km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**287**	*i* P	Pb	13 48 41.6	+1.5
ACX				*i* S	Sb	13 48 45.5	+2.0
CAIG	**El Cayaco**	**0.61**	**292**	*e*P	Pb	13 48 45.3	-1.9
CAIG				*e*S	Sb	13 48 52.7	-2.7
MEIG	**Mezcala**	**1.11**	**3**	*i* P	Pn	13 48 52.3	-3.3
MEIG				*e*S	Sb	13 49 05.8	-3.8
TLIG	**Tlapa**	**1.29**	**55**	*i* P	Pn	13 48 54.9	-3.2
TLIG				*i* S	Sn	13 49 10.6	-4.4
PNIG	**Pinotepa**	**1.54**	**106**	*i* P	Pn	13 48 58.6	-2.9
PNIG				*e*S	Sn	13 49 16.4	-4.6
PLIG	**Platanillo**	**1.58**	**6**	*i* P	Pn	13 48 59.6	-2.5
PLIG				*e*S	Sn	13 49 17.7	-4.3
ARIG	**Puente Sto Nin**	**1.59**	**336**	*e*P	Pn	13 48 59.5	-2.8
ARIG				*e*S	Sn	13 49 17.9	-4.4

*IDC **11** 13:49:49.2±4.8, 2°.07S×138°.78E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=195.4km s-min=29.9km az=86.0*
*DJA **11** 13:49:52.0±1.5, 2°.5±15°×13°.9E±°, h14km±8km, M3.7/4, mb3.9/1, MLv3.6/4*
*ISCJB **11** 13:49:53.2±0.7, 2°.24S±0°.07×138°.80E±0°.05, h29km, mb3.3/2, Error ellipse: s-maj=10.9km s-min=6.7km az=23.9*
ISC 11 13:49:53.6±1.0, 2°.1S±0°.2×138°.94E±0°.06, h29km, n7, σ0°99/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.24**	**288**	P	**Pb**	**13 49 59.8**	**-0.3**
SMPI				S	**Sb**	**13 50 05.7**	**+1.1**
GENI	**Genyem**	**1.34**	**113**	P	**Pn**	**13 50 16.9**	**+0.6**
GENI				S	**Sb**	**13 50 36.2**	**+1.4**
JAY	**Jayapura**	**1.82**	**104**	P	**Pn**	**13 50 24.0**	**+0.9**
JAY				S	**Sb**	**13 50 48.1**	**-0.7**
FAKI	**Fak Fak**	**6.73**	**263**	P	**Pn**	**13 51 31.3**	**+0.7**
FAKI				S	Sn	13 52 37.0	-9.4
WRA	**Warramunga Arr**	**18.33**	**194**	P	**P**	**13 54 05.2**	**-0.5**
0.3nm,0.3s,baz=17,slow=13,SNR=9.5							
ASAR	**Alice Springs**	**22.02**	**192**	P	**P**	**13 54 45.1**	**-0.8**
0.4nm,0.5s,baz=16,slow=9.7,SNR=6.4							
MKAR	**Makanchi Array**	**69.42**	**322**	P	**P**	**14 00 58.4**	**-0.7**
0.5nm,0.9s,baz=109,slow=7.8,SNR=4.2							

*IDC **11** 14:08:35.5±1.2, 38°.88N×143°.02E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/41, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=54.7km s-min=22.4km az=111.0*
*ISCJB **11** 14:08:39.2±1.3, 39°.21N±0°.04×142°.42E±0°.08, h30km±6km, mb3.6/3, Error ellipse: s-maj=11.2km s-min=5.8km az=18.8*
*JMA **11** 14:08:39.5±0.1, 39°.21N×142°.39E, h34km±1km, M3.4*
ISC 11 14:08:39.9±2.0, 39°.21N±0°.05×142°.4E±0°.1, h28km±13km, n21, σ1°46/24, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.56**	**311**	P	**Pb**	**14 08 50.9**	**-0.3**
MIYJ				S	**Sb**	**14 08 59.1**	**+0.2**
OFUJ	**Ofunato**	**0.56**	**256**	P	**Pb**	**14 08 51.1**	**-0.1**
OFUJ				S	**Sb**	**14 08 59.1**	**+0.2**
JTH	**Tanohata**	**0.82**	**332**	P	**Pb**	**14 08 54.9**	**-0.7**
JTH				*e*S	**Sb**	**14 09 06.2**	**-0.1**
JOM	**Ohasama**	**0.87**	**288**	P	**Pb**	**14 08 55.9**	**-0.5**
JOM				S	**Sb**	**14 09 07.6**	**-0.1**
JMK	**Ichinoseki**	**0.93**	**254**	P	**Pb**	**14 08 56.5**	**-0.9**
JMK				S	**Sb**	**14 09 09.1**	**-0.2**
JIO	**Ouri**	**1.10**	**227**	P	**Pn**	**14 08 58.3**	**-1.1**
JKZ	**Kuzumaki**	**1.11**	**314**	P	**Pn**	**14 08 59.7**	**+0.1**
JKZ				S	**Sb**	**14 09 14.2**	**-0.4**
JANG	**Nango**	**1.33**	**331**	P	**Pn**	**14 09 02.4**	**-0.2**
JANG				S	**Sn**	**14 09 19.7**	**+0.3**
JRG	**Rokugo**	**1.36**	**278**	P	**Pn**	**14 09 03.5**	**+0.5**
MAT	**Matsushiro**	**4.23**	**232**	P	**Pn**	**14 09 46.0**	**+3.4**
MAT				S	**Sn**	**14 10 32.8**	**+1.7**
MJAR	**Matsushiro Arr**	**4.23**	**232**	Pn	**Pn**	**14 09 45.3**	**+2.8**
4.9nm,0.3s,baz=39,slow=12,SNR=68							
ASAJ	**Asahikawa**	**4.90**	**2**	Pn	**Pn**	**14 09 54.1**	**+2.4**
0.4nm,0.3s,baz=216,slow=15,SNR=8.2							
ASAJ				Sn	**Sn**	**14 10 49.1**	**+1.7**
0.5nm,0.3s,baz=162,slow=20,SNR=2.3							
H11N2	**WAKE ISLAND Hy 28.71**	**125**		T	T	14 44 57.1	
baz=318,slow=75,SNR=59							
H11N1	**WAKE ISLAND Hy 28.72**	**126**		T	T	14 44 57.8	
baz=318,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy 28.73**	**125**		T	T	14 45 00.7	
baz=318,slow=75,SNR=44							
H11S1	**WAKE ISLAND Hy 29.50**	**127**		T	T	14 45 57.1	
baz=319,slow=76,SNR=8.8							
H11S3	**WAKE ISLAND Hy 29.50**	**127**		T	T	14 45 57.2	
baz=319,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy 29.52**	**127**		T	T	14 45 58.3	
baz=319,slow=76,SNR=7.4							
ILAR	**Eielson Array**	**47.26**	**33**	P	**P**	**14 17 10.4**	**+0.2**
0.3nm,0.6s,baz=267,slow=5.4,SNR=8.8							
WRA	**Warramunga Arr**	**59.32**	**189**	P	**P**	**14 18 37.6**	**-1.7**
0.8nm,0.6s,baz=5.3,slow=6.9,SNR=7.6							
ASAR	**Alice Springs**	**63.05**	**189**	P	**P**	**14 19 02.2**	**-2.3**
0.2nm,0.6s,baz=10,slow=5.7,SNR=5.8							

*ATH **11** 14:25:42.5, 38°.86N×24°.94E, h30km±1km, ML2.8/10, Error ellipse: s-maj=1.7km s-min=0.9km az=84.0*
*ISK **11** 14:25:42.5, 38°.92N×24°.97E, h12km, MD3.2*
*ISCJB **11** 14:25:43.6±0.4, 38°.87N±0°.02×24°.94E±0°.03, h25km±4km, Error ellipse: s-maj=4.5km s-min=2.8km az=147.5*
*THE **11** 14:25:43.2, 38°.88N×24°.96E, h7km±2km, ML3.0/8, Error ellipse: s-maj=2.1km s-min=0.6km az=127.0*
*CSEM **11** 14:25:43.

SKY	**Skiros Island**	**0.32 273**	P	**Pb**	**14 25 50.0**	**-0.3**
SKY			S	**Sb**	**14 25 54.8**	**-0.5**
SKY			AML	AML	14 25 56.5	
	comp=N,16778μm,0.2s					
SKY			AML	AML	14 25 56.9	
	comp=E,10882μm,0.2s					
SKY	**Skiros Island**	**0.32 273**	P	**Pb**	**14 25 50.0**	**-0.3**
SKY			S	**Sg**	**14 25 54.4**	**+0.2**
SIGR	**SIGRI**	**0.78 63**	*e*PG	**Pg**	**14 25 57.3**	**-1.0**
SIGR			*e*SG	**Sb**	**14 26 08.6**	**-0.1**
SIGR	**SIGRI**	**0.78 63**	P	**Pb**	**14 25 58.2**	**-0.1**
SIGR			S	**Sb**	**14 26 08.6**	**-0.1**
SIGR	**SIGRI**	**0.78 63**	P	**Pg**	**14 25 57.9**	**-0.4**
SIGR			S	**Sb**	**14 26 08.9**	**+0.2**
SIGR			AML	AML	14 26 11.4	
	comp=E,1019μm,0.4s					
SIGR			AML	AML	14 26 12.2	
	comp=N,2908μm,0.6s					
SIGR	**SIGRI**	**0.78 63**	*e*Pg	**Pg**	**14 25 57.3**	**-1.0**
SIGR	**SIGRI**	**0.78 63**	P	**Pb**	**14 25 58.2**	**-0.1**
SIGR			*e*Sg	**Sb**	**14 26 08.6**	**-0.1**
EREA	**Eretria**	**0.92 241**	P	**Pb**	**14 26 00.6**	**0.0**
EREA			S	**Sg**	**14 26 13.6**	**+0.8**
EREA	**Eretria**	**0.92 241**	P	**Pg**	**14 26 01.1**	**+0.3**
EREA			S	**Sb**	**14 26 12.5**	**-0.1**
EREA			AML	AML	14 26 15.8	
	comp=N,1864μm,0.3s					
EREA			AML	AML	14 26 16.4	
	comp=E,1674μm,0.3s					
EREA	**Eretria**	**0.92 241**	P	**Pb**	**14 26 00.6**	**0.0**
EREA			S	**Sb**	**14 26 12.5**	**-0.1**
KARY	**Karystos**	**0.93 206**	P	**Pb**	**14 26 00.7**	**0.0**
KARY			S	**Sg**	**14 26 13.6**	**+0.5**
KARY	**Karystos**	**0.93 206**	P	**Pg**	**14 26 01.1**	**+0.1**
KARY			S	**Sn**	**14 26 14.2**	**-0.2**
KARY			AML	AML	14 26 14.4	
	comp=N,924μm,0.3s					
KARY			AML	AML	14 26 15.7	
	comp=E,1212μm,0.2s					
KARY	**Karystos**	**0.93 206**	P	**Pg**	**14 26 01.1**	**+0.1**
KARY			S	**Sg**	**14 26 13.6**	**+0.5**
CHOS	**Chios island**	**0.99 119**	*e*PG	**Pg**	**14 26 02.1**	**0.0**
CHOS			*e*SG	**Sn**	**14 26 16.3**	**+0.3**
CHOS	**Chios island**	**0.99 119**	P	**Pn**	**14 26 02.4**	**0.0**
CHOS			S	**Sn**	**14 26 16.1**	**+0.1**
CHOS	**Chios island**	**0.99 119**	P	**Pn**	**14 26 03.0**	**+0.7**
CHOS			AML	AML	14 26 20.9	
	comp=N,1080μm,0.3s					
CHOS			AML	AML	14 26 20.9	
	comp=E,1640μm,0.3s					
CHOS	**Chios island**	**0.99 119**	*e*Pg	**Pg**	**14 26 02.1**	**0.0**
CHOS	**Chios island**	**0.99 119**	P	**Pn**	**14 26 02.4**	**0.0**
CHOS			*e*Sg	**Sn**	**14 26 16.3**	**+0.3**
LIA	**Limnos Island**	**1.05 10**	P	**Pb**	**14 26 02.7**	**-0.1**
LIA			S	**Sg**	**14 26 16.7**	**-0.3**
LIA	**Limnos Island**	**1.05 10**	P	**Pg**	**14 26 03.3**	**-0.1**
LIA			S	**Sn**	**14 26 18.4**	**+0.9**
LIA			AML	AML	14 26 19.8	
	comp=N,710μm,0.3s					
LIA			AML	AML	14 26 20.5	
	comp=E,670μm,0.3s					
LIA	**Limnos Island**	**1.05 10**	P	**Pb**	**14 26 02.7**	**-0.1**
LIA			S	**Sg**	**14 26 16.7**	**-0.3**
PRK	**Paraskevi**	**1.09 69**	P	**Pn**	**14 26 03.7**	**-0.1**
PRK			S	**Sn**	**14 26 19.0**	**+0.4**
PRK	**Paraskevi**	**1.09 69**	P	**Pg**	**14 26 04.2**	**0.0**
PRK			S	**Sn**	**14 26 18.9**	**+0.3**
PRK			AML	AML	14 26 20.9	
	comp=N,1005μm,0.5s					
PRK			AML	AML	14 26 25.1	
	comp=E,1188μm,0.9s					
PRK	**Paraskevi**	**1.09 69**	P	**Pn**	**14 26 03.7**	**-0.1**
PRK			S	**Sn**	**14 26 18.9**	**+0.3**
PTL	**Penteli**	**1.18 227**	P	**Pn**	**14 26 03.8**	**-1.2**
PTL			S	**Sn**	**14 26 20.9**	**+0.1**
PTL			AML	AML	14 26 24.9	
	comp=N,597μm,0.4s					
PTL			AML	AML	14 26 25.2	
	comp=E,550μm,0.4s					
PTL	**Penteli**	**1.18 227**	P	**Pn**	**14 26 03.8**	**-1.2**
PTL			S	**Sn**	**14 26 20.9**	**+0.1**
SKIA	**Skiathos**	**1.20 285**	P	**Pn**	**14 26 04.9**	**-0.3**
SKIA			S	**Sg**	**14 26 23.2**	**+1.4**
SKIA	**Skiathos**	**1.20 285**	P	**Pn**	**14 26 05.0**	**-0.2**
SKIA			S	**Sb**	**14 26 19.7**	**-1.0**
SKIA			AML	AML	14 26 25.1	
	comp=E,647μm,0.3s					
SKIA			AML	AML	14 26 25.2	
	comp=N,879μm,0.6s					
SKIA	**Skiathos**	**1.20 285**	P	**Pn**	**14 26 05.0**	**-0.2**
SKIA			S	**Sb**	**14 26 19.7**	**-1.0**
ATHU	**Athens Univers**	**1.28 226**	P	**Pn**	**14 26 05.2**	**-1.2**
ATHU	**Athens Univers**	**1.28 226**	P	**Pn**	**14 26 05.2**	**-1.2**
BOZC	**Bozcaada**	**1.30 41**	*e*PN	**Pn**	**14 26 06.2**	**-0.4**
BOZC	**Bozcaada**	**1.30 41**	*e*Pn	**Pn**	**14 26 06.2**	**-0.4**
ATH	**Athens Observa**	**1.32 228**	P	**Pn**	**14 26 06.2**	**-0.6**
ATH			S	**Sn**	**14 26 23.4**	**-0.6**
ATH			AML	AML	14 26 29.2	
	comp=N,575μm,0.4s					
ATH			AML	AML	14 26 29.4	
	comp=E,522μm,0.8s					
ATH	**Athens Observa**	**1.32 228**	P	**Pn**	**14 26 06.2**	**-0.6**
ATH			S	**Sn**	**14 26 23.5**	**-0.6**
VLY	**Voula,Athens**	**1.36 222**	P	**Pn**	**14 26 06.8**	**-0.6**
VLY	**Voula,Athens**	**1.36 222**	P	**Pn**	**14 26 06.3**	**-1.1**
VLY	**Voula,Athens**	**1.36 222**	P	**Pn**	**14 26 06.8**	**-0.6**
SMIA	**Simia**	**1.36 271**	P	**Pn**	**14 26 07.4**	**-0.1**
SMIA			S	**Sg**	**14 26 26.9**	**-0.1**
SMIA	**Simia**	**1.36 271**	P	**Pn**	**14 26 07.4**	**-0.1**
SMIA	**Simia**	**1.36 271**	P	**Pn**	**14 26 07.4**	**-0.1**
SMIA			S	**Sg**	**14 26 26.9**	**-0.1**
URLA	**Izmir**	**1.38 111**	*e*PN	**Pg**	**14 26 09.3**	**-0.4**
URLA	**Izmir**	**1.38 111**	*e*Pn	**Pg**	**14 26 09.3**	**-0.4**
NEO	**Neokhori**	**1.42 289**	P	**Pb**	**14 26 09.3**	**+0.1**
NEO	**Neokhori**	**1.42 289**	P	**Pb**	**14 26 09.3**	**+0.1**
EZN	**Ezine**	**1.43 47**	*e*PN	**Pn**	**14 26 08.4**	**0.0**
EZN	**Ezine**	**1.43 47**	*e*Pn	**Pn**	**14 26 08.4**	**0.0**
XOR	**Xorichti**	**1.46 291**	P	**Pn**	**14 26 08.9**	**+0.1**
XOR	**Xorichti**	**1.46 291**	P	**Pb**	**14 26 09.5**	**-0.4**
XOR	**Xorichti**	**1.46 291**	P	**Pn**	**14 26 08.9**	**+0.1**
VILL	**Villia**	**1.47 242**	P	**Pn**	**14 26 08.5**	**-0.4**
VIL2	**Platees**	**1.47 244**	P	**Pn**	**14 26 08.5**	**-0.5**
GADA	**Gvkgeada**	**1.51 29**	*e*PN	**Pn**	**14 26 09.6**	**0.0**
GADA	**Gvkgeada**	**1.51 29**	*e*Pn	**Pn**	**14 26 09.6**	**0.0**
DKL	**Dikili**	**1.54 82**	*e*PN	**Pn**	**14 26 09.6**	**-0.2**
DKL	**Dikili**	**1.54 82**	*e*Pn	**Pn**	**14 26 09.6**	**-0.2**
LKR	**Lokris**	**1.54 263**	P	**Pn**	**14 26 09.2**	**-0.7**
LKR	**Lokris**	**1.54 263**	P	**Pn**	**14 26 09.2**	**-0.7**
OUR	**Ouranopolis**	**1.65 333**	*e*PN	**Pn**	**14 26 11.7**	**+0.3**
OUR	**Ouranopolis**	**1.65 333**	P	**Pn**	**14 26 11.4**	**0.0**
OUR	**Ouranopolis**	**1.65 333**	P	**Pn**	**14 26 11.8**	**+0.4**
OUR	**Ouranopolis**	**1.65 333**	P	**Pn**	**14 26 11.4**	**0.0**
OUR	**Ouranopolis**	**1.65 333**	*e*Pn	**Pn**	**14 26 11.7**	**+0.3**
FYTO	**Fytoko, Volos**	**1.66 290**	P	**Pn**	**14 26 11.3**	**-0.2**
FYTO	**Fytoko, Volos**	**1.66 290**	P	**Pn**	**14 26 11.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.67 15**	P	**Pn**	**14 26 10.4**	**-1.2**
SMTH	**Samothraki Isl**	**1.67 15**	P	**Pn**	**14 26 10.4**	**-1.2**
PROD	**Prodromos**	**1.72 250**	P	**Pn**	**14 26 12.5**	**+0.1**
PROD	**Prodromos**	**1.72 250**	P	**Pn**	**14 26 12.5**	**+0.1**
GMLD	**Gumuldur**	**1.73 116**	*e*PN	**Pn**	**14 26 13.4**	**+0.9**
GMLD	**Gumuldur**	**1.73 116**	*e*Pn	**Pn**	**14 26 13.4**	**+0.9**
LTK	**Loutraki**	**1.77 242**	P	**Pn**	**14 26 12.4**	**-0.7**
LTK	**Loutraki**	**1.77 242**	P	**Pn**	**14 26 12.4**	**-0.7**
APE	**Apeiranthos**	**1.85 166**	P	**Pn**	**14 26 13.8**	**-0.4**
APE	**Apeiranthos**	**1.85 166**	P	**Pn**	**14 26 13.5**	**-0.7**
APE	**Apeiranthos**	**1.85 166**	P	**Pn**	**14 26 13.8**	**-0.4**
PLG	**Polygyros**	**1.91 323**	P	**Pn**	**14 26 14.4**	**-0.6**
PLG	**Polygyros**	**1.91 323**	P	**Pn**	**14 26 14.4**	**-0.6**
DID	**Didima**	**1.92 225**	P	**Pn**	**14 26 14.0**	**-1.1**
DID	**Didima**	**1.92 225**	P	**Pn**	**14 26 14.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.93 37**	*e*PN	**Pn**	**14 26 15.3**	**0.0**
GELI	**Tayfur-Gelibol**	**1.93 37**	*e*Pn	**Pn**	**14 26 15.3**	**0.0**
DSF	**Desfina**	**1.95 257**	P	**Pn**	**14 26 14.9**	**-0.7**
DSF	**Desfina**	**1.95 257**	P	**Pn**	**14 26 14.9**	**-0.7**
THAL	**Thalero**	**1.98 246**	P	**Pn**	**14 26 17.3**	**+1.4**
THAL	**Thalero**	**1.98 246**	P	**Pn**	**14 26 17.3**	**+1.4**
LPK	**Lapseki**	**2.05 42**	*e*PN	**Pn**	**14 26 17.3**	**+0.3**
LPK	**Lapseki**	**2.05 42**	*e*Pn	**Pn**	**14 26 17.3**	**+0.3**
ENEZ	**Enez**	**2.08 26**	*e*PN	**Pn**	**14 26 17.0**	**-0.4**
ENEZ	**Enez**	**2.08 26**	*e*Pn	**Pn**	**14 26 17.0**	**-0.4**
KAVA	**Kavala**	**2.16 351**	P	**Pn**	**14 26 17.6**	**-0.8**
KAVA	**Kavala**	**2.16 351**	P	**Pn**	**14 26 17.6**	**-0.8**
ERIK	**Erikli-Kesan**	**2.17 33**	*e*PN	**Pn**	**14 26 18.7**	**+0.2**
ERIK	**Erikli-Kesan**	**2.17 33**	*e*Pn	**Pn**	**14 26 18.7**	**+0.2**
ALN	**Alexandroupoli**	**2.20 22**	*e*PN	**Pn**	**14 26 19.1**	**+0.1**
ALN	**Alexandroupoli**	**2.20 22**	P	**Pn**	**14 26 18.3**	**-0.6**
ALN	**Alexandroupoli**	**2.20 22**	P	**Pn**	**14 26 18.3**	**-0.6**
ALN	**Alexandroupoli**	**2.20 22**	*e*Pn	**Pn**	**14 26 19.1**	**+0.1**
HORT	**Hortiatis**	**2.25 321**	P	**Pn**	**14 26 20.8**	**+1.1**
HORT	**Hortiatis**	**2.25 321**	P	**Pn**	**14 26 20.8**	**+1.1**
GUR	**Goura**	**2.25 247**	P	**Pn**	**14 26 20.2**	**+0.4**
GUR	**Goura**	**2.25 247**	P	**Pn**	**14 26 20.2**	**+0.4**
KALE	**Kalithea**	**2.25 259**	P	**Pn**	**14 26 19.8**	**0.0**
KALE	**Kalithea**	**2.25 259**	P	**Pn**	**14 26 19.8**	**0.0**
LIT	**Litokhoron**	**2.27 304**	P	**Pn**	**14 26 20.3**	**+0.3**
LIT	**Litokhoron**	**2.27 304**	P	**Pn**	**14 26 20.3**	**+0.3**
TRIZ	**Trizonia**	**2.31 258**	P	**Pn**	**14 26 21.5**	**+1.0**
TRIZ	**Trizonia**	**2.31 258**	P	**Pn**	**14 26 21.5**	**+1.0**
RDO	**Rodhopi**	**2.32 11**	P	**Pn**	**14 26 19.8**	**-0.9**
RDO	**Rodhopi**	**2.32 11**	P	**Pn**	**14 26 19.8**	**-0.9**
KLV	**Kalavryta, Ach**	**2.35 250**	P	**Pn**	**14 26 20.6**	**-0.5**
KLV	**Kalavryta, Ach**	**2.35 250**	P	**Pn**	**14 26 20.6**	**-0.5**
KRBG	**Karabiga-Canak**	**2.37 49**	*e*PN	**Pn**	**14 26 21.6**	**+0.3**
KRBG	**Karabiga-Canak**	**2.37 49**	*e*Pn	**Pn**	**14 26 21.6**	**+0.3**
ANX	**Ano Chora**	**2.39 264**	P	**Pn**	**14 26 22.5**	**+0.9**
ANX	**Ano Chora**	**2.39 264**	P	**Pn**	**14 26 22.5**	**+0.9**
THL	**Klokotos Trika**	**2.39 288**	P	**Pn**	**14 26 22.6**	**+1.1**
THL	**Klokotos Trika**	**2.39 288**	P	**Pn**	**14 26 22.6**	**+1.1**
LAKA	**Lakka**	**2.42 256**	P	**Pn**	**14 26 23.3**	**+1.3**
LAKA	**Lakka**	**2.42 256**	P	**Pn**	**14 26 23.3**	**+1.3**
SRS	**Serrai**	**2.48 335**	P	**Pn**	**14 26 22.8**	**-0.1**
SRS	**Serrai**	**2.48 335**	P	**Pn**	**14 26 22.8**	**-0.1**
TRIP	**Tripoli**	**2.50 239**	P	**Pn**	**14 26 24.6**	**+1.4**
TRIP	**Tripoli**	**2.50 239**	P	**Pn**	**14 26 24.6**	**+1.4**
VLI	**Veliai**	**2.67 217**	P	**Pn**	**14 26 24.3**	**-1.2**
VLI	**Veliai**	**2.67 217**	P	**Pn**	**14 26 24.3**	**-1.2**
KNT	**Kendrikon**	**2.79 326**	P	**Pn**	**14 26 28.6**	**+1.6**
KNT	**Kendrikon**	**2.79 326**	P	**Pn**	**14 26 28.6**	**+1.6**
KCTX	**Karacabey (Bur**	**2.98 61**	*e*PN	**Pn**	**14 26 30.3**	**+0.6**
KCTX	**Karacabey (Bur**	**2.98 61**	*e*Pn	**Pn**	**14 26 30.3**	**+0.6**
KYTH	**Kithira**	**3.00 211**	P	**Pn**	**14 26 30.3**	**+0.2**
KYTH	**Kithira**	**3.00 211**	P	**Pn**	**14 26 30.3**	**+0.2**
DSL	**Palaion Diasel**	**3.02 276**	P	**Pn**	**14 26 31.6**	**+1.3**
DSL	**Palaion Diasel**	**3.02 276**	P	**Pn**	**14 26 31.6**	**+1.3**

CSEM ***11*** *14:28:10.6, 45°.66N×26°.43E, h153km, MD3.4/3*
BUC 11 14:28:10.6±0.9, 45°.66N×26°.43E, h153km±7km, MD3.4/3, 36C-3D, Error ellipse: s-maj=5.9km s-min=5.5km az=321.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.25**	**39**	⇑*i*P	Pn	14 28 31.6	+0.2
PLOR				*i* S	Sn	14 28 46.5	-0.8
PLOR	**Plostina**	**0.25**	**39**	⇑*i*P	Pn	14 28 31.6	+0.2
PLOR	**Plostina**	**0.25**	**39**	⇑*i*P	Pn	14 28 31.6	+0.2
PLOR				*i* S	Sn	14 28 46.5	-0.8
VRI	**Vrincioaia**	**0.29**	**46**	⇑*i*P	Pn	14 28 31.8	+0.3
VRI				*i* S	Sn	14 28 46.6	-0.9
VRI	**Vrincioaia**	**0.29**	**46**	⇑*i*P	Pn	14 28 31.8	+0.3
VRI	**Vrincioaia**	**0.29**	**46**	⇑*i*P	Pn	14 28 31.8	+0.3
VRI				*i* S	Sn	14 28 46.6	-0.9
MLR	**Muntele Rosu**	**0.38**	**244**	⇑*i*P	Pn	14 28 32.0	+0.1
MLR				*i* S	Sn	14 28 47.6	-0.6
MLR	**Muntele Rosu**	**0.38**	**244**	⇑*i*P	Pn	14 28 32.0	+0.1
MLR	**Muntele Rosu**	**0.38**	**244**	⇑*i*P	Pn	14 28 32.0	+0.1
MLR				*i* S	Sn	14 28 47.6	-0.6
ODBI	**Odobesti**	**0.45**	**77**	⇑*i*P	Pn	14 28 32.7	+0.7
ODBI				*i* S	Sn	14 28 47.7	-0.7
ODBI	**Odobesti**	**0.45**	**77**	⇑*i*P	Pn	14 28 32.7	+0.7
ODBI	**Odobesti**	**0.45**	**77**	S	Sn	14 28 47.7	-0.7
ODBI	**Odobesti**	**0.45**	**77**	⇑*i*P	Pn	14 28 32.7	+0.7
ODBI				*i* S	Sn	14 28 47.7	-0.7
ISR	**Istrita**	**0.55**	**171**	⇑*i*P	Pn	14 28 32.7	+0.1
ISR	**Istrita**	**0.55**	**171**	⇑*i*P	Pn	14 28 32.7	+0.1
ISR	**Istrita**	**0.55**	**171**	⇑*i*P	Pn	14 28 32.7	+0.1
PETR	**Petresti**	**0.57**	**83**	⇑*i*P	Pn	14 28 31.9	-0.7
PETR				*i* S	Sn	14 28 48.9	-0.5
PETR	**Petresti**	**0.57**	**83**	⇑*i*P	Pn	14 28 31.9	-0.7
PETR	**Petresti**	**0.57**	**83**	⇑*i*P	Pn	14 28 31.9	-0.7
PETR				*i* S	Sn	14 28 48.9	-0.5
SECR		**0.67**	**202**	*i* S	Sn	14 28 49.2	-1.4
SECR		**0.67**	**202**	S	Sn	14 28 49.2	-1.4
SECR		**0.67**	**202**	*i* S	Sn	14 28 49.2	-1.4
TESR	**Tescani**	**0.87**	**10**	⇓*i*P	Pn	14 28 34.6	0.0
TESR				*i* S	Sn	14 28 51.7	-1.3
TESR	**Tescani**	**0.87**	**10**	⇓*i*P	Pn	14 28 34.6	0.0
TESR	**Tescani**	**0.87**	**10**	⇓*i*P	Pn	14 28 34.6	0.0
TESR				*i* S	Sn	14 28 51.7	-1.3
SULR		**0.99**	**187**	*i* S	Sn	14 28 54.5	-0.1
SULR		**0.99**	**187**	S	Sn	14 28 54.5	-0.1
VOIR		**0.99**	**258**	⇑*i*P	Pn	14 28 35.0	-0.7
VOIR				*i* S	Sn	14 28 53.8	-1.0
VOIR		**0.99**	**258**	⇑*i*P	Pn	14 28 35.0	-0.7
VOIR		**0.99**	**258**	⇑*i*P	Pn	14 28 35.0	-0.7
VOIR				*i* S	Sn	14 28 53.8	-1.0
CFR	**Carcaliu**	**1.30**	**111**	⇑*i*P	Pn	14 28 38.2	-0.1
CFR				*i* S	Sn	14 28 58.3	-1.2
CFR	**Carcaliu**	**1.30**	**111**	⇑*i*P	Pn	14 28 38.2	-0.1
CFR	**Carcaliu**	**1.30**	**111**	⇑*i*P	Pn	14 28 38.2	-0.1
CFR				*i* S	Sn	14 28 58.3	-1.2
BUC1	**Bucharest**	**1.34**	**192**	*i* S	Sn	14 28 59.4	-0.9
BUC1	**Bucharest**	**1.34**	**192**	S	Sn	14 28 59.4	-0.9
BUC1	**Bucharest**	**1.34**	**192**	*i* S	Sn	14 28 59.4	-0.9
HARR	**Harsova**	**1.44**	**132**	⇑*i*P	Pn	14 28 39.8	+0.1
HARR	**Harsova**	**1.44**	**132**	⇑*i*P	Pn	14 28 39.8	+0.1
HARR	**Harsova**	**1.44**	**132**	⇑*i*P	Pn	14 28 39.8	+0.1
LEOM	**Leova**	**1.51**	**57**	*i* S	Sn	14 29 02.2	-1.1
LEOM	**Leova**	**1.51**	**57**	S	Sn	14 29 02.2	-1.1
LEOM	**Leova**	**1.51**	**57**	*i* S	Sn	14 29 02.2	-1.1
TLCR		**1.75**	**105**	⇑*i*P	Pn	14 28 43.1	+0.1
TLCR				*i* S	Sn	14 29 06.7	-1.2
TLCR		**1.75**	**105**	⇑*i*P	Pn	14 28 43.1	+0.1
TLCR		**1.75**	**105**	⇑*i*P	Pn	14 28 43.1	+0.1
TLCR				*i* S	Sn	14 29 06.7	-1.2
TIRR	**Tirgusor**	**1.85**	**130**	⇑*i*P	Pn	14 28 44.3	+0.1
TIRR				*i* S	Sn	14 29 08.2	-1.7
TIRR	**Tirgusor**	**1.85**	**130**	⇑*i*P	Pn	14 28 44.3	+0.1
TIRR	**Tirgusor**	**1.85**	**130**	⇑*i*P	Pn	14 28 44.3	+0.1
TIRR				*i* S	Sn	14 29 08.2	-1.7
MILM	**Milestii Mici**	**2.08**	**52**	⇑*i*P	Pn	14 28 46.4	-0.3
MILM				*i* S	Sn	14 29 12.9	-1.7
MILM	**Milestii Mici**	**2.08**	**52**	⇑*i*P	Pn	14 28 46.4	-0.3
MILM	**Milestii Mici**	**2.08**	**52**	⇑*i*P	Pn	14 28 46.4	-0.3
MILM				*i* S	Sn	14 29 12.9	-1.7

IDC ***11*** *14:38:35.0±3.3, 3°.34S×99°.83E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/38, mbtmp3.4/6, Error ellipse: s-maj=131.0km s-min=20.1km az=57.0*
ISCJB ***11*** *14:38:37.4±0.8, 3°.27S±0°.06×99°.93E±0°.07, h27km, mb3.4/6, Error ellipse: s-maj=11.5km s-min=5.2km az=144.1*
DJA ***11*** *14:38:38.8±0.7, 3°S±4°×10°0E±°, h27km±5km, M3.9/6, mb4.3/1, MLv3.7/6*
ISC 11 14:38:39.5±1.1, 3°.22S±0°.08×99°.96E±0°.09, h27km, n21, σ0°.66/18, mb3.4/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.46**	**7**	P	**Pb**	**14 38 49.3**	**+0.2**
SISI	**Saibi**	**2.07**	**335**	P	**Pn**	**14 39 12.0**	**-0.5**
SISI				S	**Sn**	**14 39 37.8**	**+0.4**
PDSI	**Padang**	**2.35**	**12**	P	**Pn**	**14 39 15.2**	**-1.2**
PDSI				S	**Sn**	**14 39 44.5**	**+0.2**
SDSI	**Sungai Dareh**	**2.71**	**33**	S	**Sn**	**14 39 53.2**	**0.0**
MNAI	**Manna**	**3.20**	**111**	P	**Pn**	**14 39 27.4**	**-0.6**
MNAI				S	**Sn**	**14 40 04.8**	**-0.5**
PBSI	**Pulau Batu**	**3.56**	**332**	S	**Sn**	**14 40 13.4**	**-0.9**
MDSI	**Maura Dua**	**4.40**	**107**	P	**Pn**	**14 39 45.0**	**+0.5**
KASI	**Kota Agung**	**5.07**	**117**	P	**Pn**	**14 39 53.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**21.57**	**357**	P	**P**	**14 43 27.6**	**+0.5**
	0.2nm,0.3s,baz=179,slow=8.1,SNR=2.2						
H08S2	**Diego Garcia H**	**27.68**	**260**	T	T	15 13 26.2	
	baz=82,slow=75,SNR=152						
H08S3	**Diego Garcia H**	**27.69**	**260**	T	T	15 13 21.2	
	baz=82,slow=75,SNR=232						
H08S1	**Diego Garcia H**	**27.70**	**260**	T	T	15 13 24.8	
	baz=82,slow=75,SNR=195						
H01W3	**Cape Leeuwin H**	**34.15**	**159**	T	T	15 21 22.0	
	baz=335,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**34.16**	**159**	T	T	15 21 15.4	
	baz=335,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**34.16**	**159**	T	T	15 21 24.5	
	baz=335,slow=76,SNR=15						
WRA	**Warramunga Arr**	**37.43**	**119**	P	**P**	**14 45 49.9**	**-0.9**
	0.1nm,0.5s,baz=302,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**38.58**	**125**	P	**P**	**14 46 00.9**	**+0.4**
	0.2nm,0.3s,baz=300,slow=8.1,SNR=3.1						
SONM	**Songino Array**	**51.16**	**6**	P	**P**	**14 47 41.0**	**+0.8**
	0.5nm,0.4s,baz=193,slow=5.6,SNR=2.1						
MKAR	**Makanchi Array**	**52.19**	**345**	P	**P**	**14 47 48.1**	**+0.2**
	0.2nm,0.3s,baz=167,slow=8.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**58.35**	**350**	P	**P**	**14 48 31.7**	**-0.4**
	0.3nm,0.3s,baz=152,slow=6.5,SNR=2.6						
TXAR	**Lajitas Array**	**145.69**	**38**	PKPbc	**PKPab**	**14 58 17.5**	**+0.5**
	1.2nm,1.1s,baz=299,slow=1.8,SNR=3.7						

WEL 11 14:38:59.0±0.6, 47°.29S×165°.54E, h33km, ML3.5/10, Error ellipse: s-maj=5.7km s-min=3.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.37**	**35**	PN	Pn	14 39 21.0	-0.9
PYZ				SN	Sn	14 39 37.9	-1.0
APZ	**The Paps**	**1.74**	**76**	PN	Pn	14 39 26.2	-0.7
APZ				SN	Sn	14 39 46.7	-1.2
APZ				AML	AML	14 39 48.7	
DCZ	**Deep Cove**	**2.14**	**32**	PN	Pn	14 39 31.9	-0.5
WHZ	**Wether Hill Ro**	**2.17**	**51**	PN	Pn	14 39 32.7	-0.1
WHZ				SN	Sn	14 39 57.0	-1.5
WHZ				AML	AML	14 40 00.2	
SYZ	**Scrubby Hill**	**2.58**	**74**	PN	Pn	14 39 39.1	+0.7
MLZ	**Mavora Lakes**	**2.63**	**44**	PN	Pn	14 39 40.0	+0.9
TUZ	**Tuapeka**	**3.12**	**66**	AML	AML	14 39 38.3	
TUZ				AML	AML	14 39 44.6	
TUZ				PN	Pn	14 39 45.9	+0.1
EAZ	**Earnscleugh**	**3.33**	**53**	PN	Pn	14 39 49.1	+0.4
WKZ	**Wanaka**	**3.46**	**46**	PN	Pn	14 39 52.1	+1.6
ODZ	**Otahua Downs**	**4.20**	**59**	AML	AML	14 39 37.6	
ODZ				PN	Pn	14 39 59.5	-1.2
ODZ				AML	AML	14 45 03.9	

NSSP ***11*** *14:40:53.9, 41°.40N×46°.80E, h10km, Ms3.1*
AZER ***11*** *14:40:54.3±0.5, 41°.41N×46°.86E, h10km, Error ellipse: s-maj=0.8km s-min=0.5km az=229.0*
TIF ***11*** *14:40:55.2, 41°.37N×46°.91E, h19km±2km*
ISCJB ***11*** *14:40:55.8±0.4, 41°.41N±0°.01×46°.87E±0°.02, h0km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=31.1*
MOS ***11*** *14:40:56.3±0.7, 41°.35N×47°.03E, h16km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=6.7km az=98.1*
CSEM ***11*** *14:40:56.5±0.1, 41°.42N×46°.89E, h10km, mb4.0, Error ellipse: s-maj=3.3km s-min=2.8km az=70.0*
ISC 11 14:40:56.0±1.0, 41°.41N±0°.01×46°.87E±0°.01, h9km±8km, n92, σ1°.02/164, 33C-21D, Eastern Caucasus

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

QZX	**Qazax, Azerbai**	**1.18**	**253**	⇓P		**Pb**	**14 41 17.8**	**-0.8**
	SNR=3.3							
QZX				⇓S		**Sn**	**14 41 34.9**	**-0.1**
QZX	**Qazax, Azerbai**	**1.18**	**253**	P		**Pb**	**14 41 17.8**	**-0.8**
	SNR=3.3							
QZX				S		**Sn**	**14 41 34.9**	**-0.1**
ARKR	**Arakani**	**1.20**	**4**	*e*PG		**Pg**	**14 41 19.0**	**-0.1**
ARKR				*i* S		**Sn**	**14 41 37.0**	**+1.5**
ARKR				pmax	pmax			
	comp=Z,60nm,0.2s							
ARKR	**Arakani**	**1.20**	**4**	*e*Pg		**Pg**	**14 41 19.0**	**-0.1**
	comp=Z,60nm,0.2s							
ARKR				*i* Sg		**Sn**	**14 41 37.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**1.22**	**92**	⇑P		**Pn**	**14 41 18.4**	**-0.9**
QUBA				⇑S		**Sn**	**14 41 37.1**	**+1.1**
QUBA	**Quba, Azerbaij**	**1.22**	**92**	P		**Pn**	**14 41 18.4**	**-0.9**
QUBA				S		**Sn**	**14 41 37.1**	**+1.1**
DRN	**Derbent**	**1.26**	**60**	⇓*i*PG		**Pg**	**14 41 23.4**	**+3.3**
DRN				*e*			14 41 38.1	
DRN				pmax	pmax			
	comp=Z,213nm,0.4s							
DRN				smax	smax			
	comp=N,258nm,0.4s							
DRN				smax	smax			
	comp=N,259nm,0.7s							
DRN				smax	smax			
	comp=E,181nm,0.6s							
DRN	**Derbent**	**1.26**	**60**	*i* Pg		**Pg**	**14 41 23.4**	**+3.3**
	comp=E,213nm,0.4s							
DRN				*e*Sg		**Sg**	**14 41 38.1**	**+1.6**
	comp=E,259nm,0.7s							
ZRD	**Zardab**	**1.28**	**151**	⇑P		**Pg**	**14 41 20.7**	**+0.1**
	SNR=15							
ZRD				⇓S		**Sg**	**14 41 39.7**	**+2.5**
ZRD	**Zardab**	**1.28**	**151**	P		**Pg**	**14 41 20.7**	**+0.1**
	SNR=15							
ZRD				S		**Sg**	**14 41 39.7**	**+2.5**
UNCR	**Uncukul**	**1.31**	**358**	*e*PG		**Pb**	**14 41 20.7**	**-0.1**
UNCR				*e*S		**Sg**	**14 41 38.0**	**-0.1**
UNCR				pmax	pmax			
	comp=Z,99nm,0.5s							
UNCR	**Uncukul**	**1.31**	**358**	*e*Pg		**Pb**	**14 41 20.7**	**-0.1**
	comp=Z,99nm,0.5s							
UNCR				*e*Sg		**Sg**	**14 41 38.0**	**-0.1**
KRNR	**Karanay**	**1.42**	**1**	*e*PG		**Pg**	**14 41 23.0**	**-0.3**
KRNR				*e*S		**Sg**	**14 41 43.0**	**+1.3**
KRNR				pmax	pmax			
	comp=Z,39nm,0.3s							
KRNR	**Karanay**	**1.42**	**1**	*e*Pg		**Pg**	**14 41 23.0**	**-0.3**
	comp=Z,39nm,0.3s							
KRNR				*e*Sg		**Sg**	**14 41 43.0**	**+1.3**
KDMR	**Kurdemir**	**1.43**	**135**	⇑P		**Pn**	**14 41 20.9**	**-1.2**
KDMR				⇑S		**Sg**	**14 41 42.4**	**+0.4**
KDMR	**Kurdemir**	**1.43**	**135**	P		**Pn**	**14 41 20.9**	**-1.2**
KDMR				S		**Sg**	**14 41 42.4**	**+0.4**
PQL	**Pirkuli**	**1.44**	**115**	⇑P		**Pn**	**14 41 22.3**	**-0.1**
	SNR=4.4							
PQL				⇑S		**Sg**	**14 41 43.8**	**+1.5**
PQL	**Pirkuli**	**1.44**	**115**	P		**Pn**	**14 41 22.3**	**-0.1**
	SNR=4.4							
PQL				S		**Sg**	**14 41 43.8**	**+1.5**
VADZ	**Vardenis**	**1.50**	**215**	*e*P		**Pg**	**14 41 25.0**	**+0.2**
VADZ				⇓S		**Sg**	**14 41 46.0**	**+1.8**
VADZ	**Vardenis**	**1.50**	**215**	P		**Pg**	**14 41 25.0**	**+0.2**
VADZ				S		**Sg**	**14 41 46.0**	**+1.8**
SIZA	**Siyzn**	**1.56**	**101**	⇑Pn		**Pb**	**14 41 25.3**	**+0.1**
	SNR=6.8							
SIZA				⇑Sn		**Sg**	**14 41 47.7**	**+1.4**
SIZA	**Siyzn**	**1.56**	**101**	Pn		**Pb**	**14 41 25.3**	**+0.1**
	SNR=6.8							
SIZA				Sn		**Sg**	**14 41 47.7**	**+1.4**
SEAG	**Tbilisi Sea**	**1.59**	**284**	P		**Pn**	**14 41 24.7**	**+0.3**
SEAG				S		**Sg**	**14 41 47.1**	**0.0**
TBLG	**Delisi**	**1.63**	**282**	P		**Pn**	**14 41 25.1**	**+0.1**
TBLG				S		**Sg**	**14 41 48.1**	**-0.4**
TBLG	**Delisi**	**1.63**	**282**	PN		**Pn**	**14 41 25.0**	**+0.1**
TBLG	**Delisi**	**1.63**	**282**	P		**Pn**	**14 41 25.0**	**+0.1**
TBLG				S		**Sb**	**14 41 47.8**	**+0.8**
ATGJ	**Altiaghaj**	**1.65**	**109**	⇑Pn		**Pg**	**14 41 27.2**	**-0.5**
	SNR=4.0							
ATGJ				⇓Sn		**Sb**	**14 41 47.8**	**+0.1**
ATGJ	**Altiaghaj**	**1.65**	**109**	Pn		**Pg**	**14 41 27.2**	**-0.5**
	SNR=4.0							
ATGJ				Sn		**Sb**	**14 41 47.8**	**+0.1**
DLMR	**Dylym**	**1.67**	**354**	*e*PN		**Pg**	**14 41 28.0**	**-0.1**
DLMR				*i* S		**Sg**	**14 41 51.0**	**+1.2**
DLMR	**Dylym**	**1.67**	**354**	*e*Pn		**Pg**	**14 41 28.0**	**-0.1**
DLMR				*i* Sg		**Sg**	**14 41 51.0**	**+1.2**
GBS	**Qobustan**	**1.79**	**118**	⇑Pn		**Pb**	**14 41 28.8**	**-0.3**
GBS				⇓Sn		**Sb**	**14 41 51.0**	**-0.7**
GBS	**Qobustan**	**1.79**	**118**	Pn		**Pb**	**14 41 28.8**	**-0.3**
GBS				Sn		**Sb**	**14 41 51.0**	**-0.7**
STEZ	**Stepenevan**	**1.91**	**259**	⇑*i*P		**Pn**	**14 41 28.0**	**-0.9**
STEZ				⇑*i*S		**Sn**	**14 41 54.0**	**+0.9**
STE	**Stepanavan**	**1.93**	**259**	⇑P		**Pn**	**14 41 28.0**	**-1.2**
STE				S		**Sn**	**14 41 54.0**	**+0.4**
GROC	**Groznyy**	**1.96**	**336**	PN		**Pb**	**14 41 31.0**	**-1.0**
GROC				pmax	pmax			
	comp=Z,27nm,0.3s							
GROC	**Groznyy**	**1.96**	**336**	Pn		**Pb**	**14 41 31.0**	**-1.0**
	comp=Z,27nm,0.3s							
GNI	**Garni**	**2.05**	**233**	⇑*i*P		**Pb**	**14 41 33.0**	**-0.5**
GNI				⇑*i*S		**Sg**	**14 42 02.2**	**+0.4**
GNI	**Garni**	**2.05**	**233**	⇓*e*PN		**Pb**	**14 41 32.5**	**-0.9**
GNI	**Garni**	**2.05**	**233**	*e*Pn		**Pb**	**14 41 32.5**	**-0.9**
GNI	**Garni**	**2.05**	**233**	⇑P		**Pb**	**14 41 33.0**	**-0.5**
GNI				S		**Sg**	**14 42 02.2**	**+0.4**
ALIB	**Äli-Bayra**	**2.17**	**131**	⇓Pn		**Pn**	**14 41 32.3**	**0.0**
ALIB				⇑Sn		**Sb**	**14 42 02.3**	**-0.3**
ALIB	**Äli-Bayra**	**2.17**	**131**	Pn		**Pn**	**14 41 32.3**	**0.0**
ALIB				Sn		**Sb**	**14 42 02.3**	**-0.3**
LACR	**Lac**	**2.38**	**307**	*i* PN		**Pb**	**14 41 39.3**	**+0.1**
LACR	**Lac**	**2.38**	**307**	*i* Pn		**Pb**	**14 41 39.3**	**+0.1**
GLBA	**Clilabad**	**2.45**	**151**	⇓Pn		**Pn**	**14 41 37.9**	**+1.7**
GLBA				⇑Sn		**Sb**	**14 42 08.1**	**-2.5**
GLBA				⇑Sg		**Sg**	**14 42 13.4**	**-1.4**
GLBA	**Clilabad**	**2.45**	**151**	Pn		**Pn**	**14 41 37.9**	**+1.7**
GLBA				Sn		**Sb**	**14 42 08.1**	**-2.5**
GLBA				Sg		**Sg**	**14 42 13.4**	**-1.4**
BGD	**Bogdanovka**	**2.47**	**268**	P		**Pb**	**14 41 38.8**	**-1.8**
AKH	**Akhalkalaki**	**2.54**	**271**	P		**Sb**	**14 42 13.3**	**0.0**
ZEI	**Tsey**	**2.61**	**303**	*e*PN		**Pb**	**14 41 42.3**	**-0.7**
ZEI	**Tsey**	**2.61**	**303**	*e*Pn		**Pb**	**14 41 42.3**	**-0.7**
ONI	**Oni**	**2.81**	**296**	P		**Pb**	**14 41 44.0**	**-2.4**
ONI	**Oni**	**2.81**	**296**	PN		**Pb**	**14 41 44.1**	**-2.3**
ONI				S		**Sb**	**14 42 22.4**	**+1.5**
ONI	**Oni**	**2.81**	**296**	Pn		**Pb**	**14 41 44.1**	**-2.3**
LSNR	**Lesken**	**2.93**	**311**	*e*PN		**Pb**	**14 41 47.0**	**-1.5**
LSNR	**Lesken**	**2.93**	**311**	*e*Pn		**Pb**	**14 41 47.0**	**-1.5**
LRK	**Lerik**	**2.98**	**157**	⇑Pn		**Pn**	**14 41 44.3**	**+0.7**
LRK				⇑Sn		**Sn**	**14 42 20.9**	**+1.3**
LRK	**Lerik**	**2.98**	**157**	Pn		**Pn**	**14 41 44.3**	**+0.7**
LRK				Sn		**Sn**	**14 42 20.9**	**+1.3**
LKRN	**Lenkeran, Azer**	**3.06**	**151**	⇓Pn		**Pn**	**14 41 45.6**	**+1.0**
LKRN				⇓Sn		**Sn**	**14 42 22.6**	**+1.2**
LKRN	**Lenkeran, Azer**	**3.06**	**151**	Pn		**Pn**	**14 41 45.6**	**+1.0**
LKRN				Sn		**Sn**	**14 42 22.6**	**+1.2**
VSR	**Storozhevoye**	**11.16**	**334**	*e*P		**Pn**	**14 43 35.7**	**+0.1**

IDC 11 14:44:00.8±1.9, 17°.89S×167°.61E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/27, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=66.1km s-min=30.9km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**195**	Pn		14 45 06.6	-1.0
	1.0nm,0.3s,baz=27,slow=18,SNR=17						
DZM				Sn		14 45 52.5	-6.0
	1.9nm,0.3s,baz=357,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**27.31**	**234**	P		14 49 48.7	+1.4
	2.3nm,0.9s,baz=49,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**31.98**	**254**	P		14 50 28.1	-0.8
	1.1nm,0.8s,baz=80,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**89.42**	**18**	P		14 56 59.0	0.0
	0.2nm,0.6s,baz=238,slow=5.6,SNR=3.6						

NEIC 11 14:50:59.1±0.0, 39°.32N×115°.24W, h0km, ML3.6(REN), After REN., Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11A	**Troy Canyon, C**	**1.00**	**195**	*e*Pg		14 51 17.6	-0.8
R11A				*e*Sg		14 51 32.0	+0.6
PSUT	**Pine Spring**	**1.34**	**125**	*e*Pn		14 51 23.5	-1.2
PSUT				*e*Sn		14 51 41.8	-0.3
DUG	**Dugway, Tooele**	**2.07**	**64**	*e*Pn		14 51 32.7	-2.6
TCRU	**Three Creeks R**	**2.29**	**107**	*e*Pn		14 51 37.1	-1.4
CCUT	**Cedar City**	**2.30**	**139**	*e*Pn		14 51 37.4	-1.1
BGU	**Big Grassy Mou**	**2.34**	**46**	*e*Pn		14 51 35.7	-3.3
SZCU	**Shurtz Canyon**	**2.41**	**135**	*e*Pn		14 51 39.1	-1.0
TPNV	**Topopah Spring**	**2.50**	**199**	*e*Pn		14 51 40.6	-0.6
NLU	**North Lily Min**	**2.53**	**74**	*e*Pn		14 51 43.3	+1.6
LCMT	**Little Creek M**	**2.79**	**145**	*e*Pn		14 51 44.4	-0.8
SHPR	**Sheep Range**	**2.81**	**179**	*e*Pn		14 51 44.7	-0.7
TVH2	**Borealis Mine**	**2.90**	**252**	*e*Pn		14 51 46.6	-0.1
SPUT	**South Promonto**	**2.92**	**46**	*e*Pn		14 51 44.5	-2.5
PKCU	**Pink Cliffs**	**2.97**	**128**	*e*Pn		14 51 46.5	-1.4
PKCU				*e*Sn		14 52 29.6	-0.5
KNB	**Kanab**	**2.99**	**140**	*e*Pn		14 51 47.4	-0.5
HVU	**Hansel Valley**	**3.10**	**37**	*e*Pn		14 51 46.1	-3.3
YERR	**Yerington**	**3.12**	**265**	*e*Pn		14 51 49.7	-0.2
TMUT	**Trail Mountain**	**3.13**	**89**	*e*Pn		14 51 49.9	-0.1
PAHR	**Pah Rah Range**	**3.23**	**278**	*e*Pn		14 51 49.3	-1.9
WAKR	**Walker**	**3.37**	**257**	*e*Pn		14 51 50.7	-2.5
PNTR	**Pine Nut**	**3.39**	**267**	*e*Pn		14 51 51.3	-2.2
P17A	**Butcher Ranch,**	**3.49**	**86**	*e*Pn		14 51 51.0	-3.9
HWUT	**Hardware Ranch**	**3.62**	**50**	*e*Pn		14 51 52.7	-4.0
SRU	**San Rafael Swe**	**3.67**	**92**	*e*Pn		14 51 54.9	-2.5
U15A	**North Rim**	**3.71**	**140**	*e*Pn		14 51 58.6	+0.6
P18A	**Preston Nutter**	**3.88**	**84**	*e*Pn		14 52 03.4	+3.1
P18A				*e*Sg		14 53 01.8	-2.0
MFID	**Camas Ranch**	**4.12**	**354**	*e*Pn		14 52 01.9	-1.5
GSC	**Goldstone, Bar**	**4.20**	**198**	*e*Pn		14 52 00.8	-3.8
LDFC	**Landfair**	**4.24**	**179**	*e*Pn		14 52 01.3	-3.7
HLID	**Hailey**	**4.29**	**8**	*e*Pn		14 52 01.7	-4.1
AFDM	**Forest Hills D**	**4.47**	**267**	*e*Pn		14 52 06.1	-2.1
AFDM				*e*Sg		14 53 17.5	+4.6

NEIC 11 14:53:59.4±0.0, 31°.83N×115°.03W, h10km, ML2.9(PAS), ML3.2(ECX), After ECX.

ECX 11 14:53:59.4±0.7, 31°.83N×115°.03W, h10km, MD2.9, ML3.2, 1C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.35**	**184**	⇓*e*P		14 54 05.8	-0.6
ECBX				*e*S		14 54 10.8	-0.3
CPBX	**Cerro Prieto**	**0.64**	**338**	*e*P		14 54 11.4	-0.4
CPBX				*e*S		14 54 19.7	-0.4
CPBX				⇓*e*		14 54 24.5	
CPBX				IAML		14 54 24.5	
	comp=N,5μm,0.4s						
SPIG	**San Pedro Mart**	**0.86**	**206**	⇓*e*P		14 54 15.1	-1.0
SPIG				*e*S		14 54 27.1	-0.3
SPX	**San Pedro Mart**	**0.86**	**206**	*e*P		14 54 15.1	-1.0
SPX				*e*S		14 54 26.8	-0.6
EMSC	**East Mesa**	**0.91**	**2**	*e*Pg		14 54 16.4	-0.6
ZAX	**El Zacaton**	**1.11**	**254**	*e*P		14 54 18.4	-2.4
ZAX				*e*S		14 54 33.3	-1.9
ZAX				IAML		14 54 39.0	
	comp=E,430nm,1.0s						
ZAX				⇑*e*		14 54 39.0	
YUH	**Yuha Desert**	**1.12**	**317**	*e*Pn	Pb	14 54 19.8	-1.0
YUH				*e*Sn	Sg	14 54 34.2	-1.3
RMX	**La Rumorosa**	**1.18**	**311**	*e*P	Pb	14 54 20.3	-1.7
RMX				*e*S	Sb	14 54 35.6	-1.9
GLA	**Glamis**	**1.23**	**8**	*e*Pn	Pn	14 54 19.9	-2.8
GLA				*e*Sn	Sb	14 54 37.4	-1.4
113A	**Mohawk Valley,**	**1.42**	**48**	*e*Pn	Pn	14 54 21.9	-3.4
CBX	**Cerro Bola**	**1.47**	**290**	*e*P	Pn	14 54 24.0	-2.1
CBX				*e*		14 54 49.1	
CBX				IAML		14 54 49.1	
	comp=N,414nm,0.3s						
CBKC	**Canebrake**	**1.49**	**316**	*e*Pn	Pb	14 54 27.2	-0.1
BAR	**Barrett**	**1.63**	**302**	*e*Pn	Pn	14 54 25.7	-2.6
EML	**El Monte Cty P**	**1.87**	**305**	*e*Pn	Pn	14 54 30.6	-0.9
EML				*e*Sn	Sb	14 54 56.8	-0.3
214A	**Organ Pipe Nat**	**1.89**	**85**	*e*Pn	Pn	14 54 29.0	-2.7
Y12C	**Blythe**	**1.96**	**12**	*e*Pn	Pn	14 54 31.5	-1.3
XPFO	**Piæon Flat**	**2.15**	**326**	*e*Pn	Pn	14 54 35.4	-0.1
PFO	**Pinyon Flats O**	**2.15**	**326**	*e*Pn	Pn	14 54 34.8	-0.7
Y14A	**Wickenburg**	**2.71**	**38**	*e*Pn	Pn	14 54 43.3	+0.2

IDC 11 14:55:12.8±2.3, 17°.23S×178°.64W, h538km±68km, mb3.4/3, mb1 3.5/5, mb1mx3.0/34, mbtmp4.3/5, Error ellipse: s-maj=121.0km s-min=53.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.39**	**64**	P	P	14 57 04.3	0.0
	2.1nm,0.3s,baz=259,slow=16,SNR=4.1						
AFI				S	S	14 58 28.7	-6.9
	0.8nm,0.3s,baz=233,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**14.85**	**249**	P	P	14 58 20.5	-0.5
	0.5nm,0.3s,baz=68,slow=15,SNR=10.0						
STKA	**Stephens Creek**	**38.76**	**240**	P	P	15 01 51.5	+0.2
	1.4nm,0.5s,baz=99,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**44.54**	**259**	P	P	15 02 36.4	-0.7
	1.5nm,0.6s,baz=96,slow=6.9,SNR=37						
ASAR	**Alice Springs**	**44.76**	**254**	P	P	15 02 38.9	+0.1
	12nm,0.5s,baz=89,slow=8.0,SNR=213						

NIED 11 14:59:00, 38°.80N×142°.40E, h20km, Mw3.7 Best double couple: M0=3.63000×10^14 NP1:φ=224.00000°, δ=27.00000°, λ=159.00000°. NP2:φ=333.00000°, δ=81.00000°, λ=65.00000°.
JMA 11 14:59:23.3±0.1, 38°.77N×142°.40E, h30km±2km, M3.8
JMA Felt II J1.
IDC 11 14:59:25.6±2.7, 38°.68N×142°.41E, h41km±25km, mb3.4/6, mb1 3.6/10, mb1mx3.4/39, mbtmp3.7/10, ML3.3/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/24, Error ellipse: s-maj=28.5km s-min=17.5km az=92.0

ISC 11 14:59:21.6±2.3, 38°.70N±0°.04×142°.46E±0°.07, h14km±13km, n28, σ1§57/32, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.72**	**302**	P	**Pb**	**14 59 36.1**	**+0.1**
OFUJ				S	**Sg**	**14 59 44.6**	**-0.6**
JIO	**Ouri**	**0.90**	**255**	P	**Pn**	**14 59 39.3**	**-0.5**
JIO				S	**Sg**	**14 59 50.0**	**-0.9**
JMK	**Ichinoseki**	**1.00**	**285**	P	**Pb**	**14 59 40.6**	**-0.1**
JMK				S	**Sb**	**14 59 52.5**	**-1.2**
JOM	**Ohasama**	**1.19**	**311**	P	**Pn**	**14 59 43.3**	**-0.5**
JOM				S	**Sb**	**14 59 57.5**	**-1.7**
JTH	**Tanohata**	**1.32**	**340**	P	**Pn**	**14 59 44.3**	**-1.3**
JOU	**Okura**	**1.45**	**257**	P	**Pn**	**14 59 47.4**	**+0.1**
JOU				S	**Sn**	**15 00 05.7**	**-0.4**
JMM	**Marumori**	**1.55**	**238**	P	**Pb**	**14 59 49.2**	**-0.9**
JMM				S	**Sb**	**15 00 08.6**	**-1.0**
JRG	**Rokugo**	**1.58**	**297**	P	**Pn**	**14 59 49.6**	**+0.4**
JRG				S	**Sn**	**15 00 09.2**	**-0.3**
JYK	**Kaneyama**	**1.66**	**278**	P	**Pn**	**14 59 50.5**	**+0.3**
JANG	**Nango**	**1.82**	**337**	P	**Pn**	**14 59 52.1**	**-0.4**
MAT	**Matsushiro**	**4.00**	**239**	P	**Pn**	**15 00 24.8**	**+2.3**
MAT				S	**Sn**	**15 01 07.0**	**-2.2**
MJAR	**Matsushiro Arr**	**4.00**	**239**	P	**Pn**	**15 00 24.4**	**+1.9**
	3.8nm,0.3s,baz=43,slow=10,SNR=36						
MJAR				LR	LR	15 02 17.1	
	comp=Z,109nm,18.5s,baz=65,slow=44						
ASAJ	**Asahikawa**	**5.41**	**1**	P	**Pn**	**15 00 43.3**	**+1.5**
	0.2nm,0.3s,baz=215,slow=9.9,SNR=3.5						
ASAJ				S	**Sn**	**15 01 41.6**	**-2.3**
	0.3nm,0.3s,baz=108,slow=20,SNR=1.6						
JHJ	**Hachijo jima 2**	**5.98**	**202**	P	**Pn**	**15 00 49.5**	**0.0**
	14nm,0.3s,baz=313,slow=22,SNR=7.4						
JHJ				S	**Sn**	**15 01 55.5**	**-2.4**
	5.0nm,0.3s,baz=90,slow=20,SNR=2.6						
JNU	**Nakatsue**	**10.91**	**243**	P	**Pn**	**15 02 00.2**	**+2.9**
	0.3nm,0.3s,baz=119,slow=5.3,SNR=4.9						
KSRS	**Korea Array**	**11.53**	**268**	P	**Pn**	**15 02 10.2**	**+4.5**
	0.1nm,0.3s,baz=75,slow=14,SNR=3.8						
KSRS				LR	LR	15 06 26.5	
	comp=Z,65nm,19.9s,baz=336,slow=36						
SONM	**Songino Array**	**27.59**	**301**	P	**P**	**15 05 08.5**	**+0.2**
	0.3nm,0.4s,baz=105,slow=8.8,SNR=2.6						
H11N2	**WAKE ISLAND Hy 28.35**	**125**		T	T	15 35 40.3	
	baz=315,slow=75						
H11N1	**WAKE ISLAND Hy 28.36**	**125**		T	T	15 35 38.5	
	baz=315						
H11N3	**WAKE ISLAND Hy 28.37**	**125**		T	T	15 35 06.8	
	baz=315,slow=75						
H11S1	**WAKE ISLAND Hy 29.13**	**127**		T	T	15 36 39.3	
	baz=318,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy 29.13**	**127**		T	T	15 36 39.1	
	baz=318,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy 29.15**	**127**		T	T	15 36 40.6	
	baz=318,slow=76,SNR=65						
ZALV	**Zalesovo Beam**	**41.43**	**311**	P	**P**	**15 07 07.4**	**0.0**
	1.1nm,0.6s,baz=88,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**15 07 28.1**	**0.0**
	0.7nm,0.6s,baz=84,slow=10,SNR=7.6						
ILAR	**Eielson Array**	**47.65**	**33**	P	**P**	**15 07 58.0**	**+1.1**
	0.5nm,0.8s,baz=262,slow=7.3,SNR=6.6						
WRA	**Warramunga Arr**	**58.83**	**189**	P	**P**	**15 09 18.9**	**-0.7**
	0.6nm,0.7s,baz=6.3,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**62.55**	**189**	P	**P**	**15 09 45.7**	**+0.7**
	0.3nm,0.6s,baz=12,slow=12,SNR=5.3						

IDC 11 14:59:34.3±5.0, 3°.64S×131°.62E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=350.9km s-min=29.5km az=73.0
ISCJB 11 14:59:37.8±0.6, 4°.30S±0°.07×129°.59E±0°.06, h10km, mb3.1/1, MS2.8/1, Error ellipse: s-maj=11.9km s-min=5.0km az=39.7
DJA 11 14:59:38.3±0.4, 4°S±6°×13°0E±°, h11km±6km, M3.4/6, MLv3.4/6

ISC 11 14:59:38.3±0.9, 4°29S±0°.08×129°.60E±0°.07, h10km, n9, σ0§65/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.38**	**127**	P	**Pb**	**14 59 46.7**	**-0.4**
BNDI				S	**Sb**	**14 59 53.0**	**-0.1**
MSAI	**Masohi**	**1.16**	**324**	P	**Pb**	**14 59 59.7**	**-0.7**
MSAI				S	**Sb**	**15 00 15.3**	**-0.1**
AAI	**Ambon**	**1.53**	**293**	P	**Pn**	**15 00 05.5**	**-0.2**
AAI				S	**Sn**	**15 00 25.3**	**-0.3**
FAKI	**Fak Fak**	**2.97**	**63**	P	**Pn**	**15 00 25.3**	**-0.3**
SWI	**Sorong**	**3.79**	**26**	P	**Pn**	**15 00 36.6**	**-0.2**
WRA	**Warramunga Arr**	**16.23**	**164**	Pn	**Pn**	**15 03 26.4**	**-0.2**
	baz=351,slow=14,SNR=2.5						
ASAR	**Alice Springs**	**19.70**	**168**	P	**Pn**	**15 04 09.1**	**-0.4**
	0.4nm,0.5s,baz=352,slow=11,SNR=5.7						
TGY	**Tagaytay City**	**20.20**	**335**	LR	LR	15 12 42.8	
	comp=Z,37nm,18.3s,baz=137,slow=38						
MKAR	**Makanchi Array**	**65.76**	**326**	P	**P**	**15 10 25.1**	**+1.5**
	0.1nm,0.5s,baz=131,slow=6.5,SNR=2.5						

IDC 11 15:08:14.3±1.3, 5°.72S×131°.84E, h0km, mb3.9/3, mb1 4.2/6, mb1mx3.7/34, mbtmp4.1/6, ML4.4/3, Error ellipse: s-maj=41.7km s-min=25.1km az=77.0
ISCJB 11 15:08:15.5±0.7, 5°.40S±0°.05×131°.87E±0°.04, h33km, mb3.7/3, Error ellipse: s-maj=7.2km s-min=5.9km az=170.6
DJA 11 15:08:20.8±0.6, 5°S±3°×13°2E±°, h80km±22km, M4.3/10, mB4.8/1, mb4.2/2, MLv4.4/10, Mw(mB)4.1/1

ISC 11 15:08:19.9±1.0, 5°.20S±0°.06×131°.86E±0°.05, h35km, n16, σ1§78/20, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.06**	**289**	P	**Pn**	**15 08 53.8**	**+1.6**
FAKI	**Fak Fak**	**2.30**	**10**	P	**Pn**	**15 08 56.3**	**+0.9**
FAKI				S	**Sn**	**15 09 22.9**	**+0.4**
KMPI	**Kaimana, Papua**	**2.39**	**50**	P	**Pn**	**15 08 57.6**	**+1.0**
KMPI				S	**Sn**	**15 09 25.1**	**+0.4**
SAUI	**Saumlaki**	**2.82**	**191**	P	**Pn**	**15 09 03.2**	**+0.6**
MSAI	**Masohi**	**3.46**	**302**	P	**Pn**	**15 09 12.3**	**+1.0**
MSAI				S	**Sn**	**15 09 50.0**	**-1.1**
AAI	**Ambon**	**3.96**	**292**	P	**Pn**	**15 09 19.8**	**+1.6**
AAI				S	**Sn**	**15 10 02.1**	**-1.3**
RKPI	**Ransiki, Papua**	**4.33**	**32**	S	**Sn**	**15 10 12.7**	**0.0**
SWI	**Sorong**	**4.35**	**352**	P	**Pn**	**15 09 23.5**	**-0.1**

MJAR Matsushiro Arr 2.56 261 Pn Pn 15 28 55.1 +0.6
1.8nm,0.3s,baz=83,slow=16,SNR=17
MJAR Sn **Sn 15 29 25.9 +0.4**
2.8nm,0.3s,baz=77,slow=17,SNR=4.8
MAT Matsushiro 2.56 261 P Pn 15 28 55.6 +1.0
MAT S **Sn 15 29 25.8 +0.2**
JHJ Hachijo jima 2 4.08 199 Pn **Pn 15 29 16.6 +1.2**
3.3nm,0.3s,baz=76,slow=19,SNR=3.4
JHJ Sn **Sn 15 30 01.6 -1.3**
6.6nm,0.3s,baz=108,slow=20,SNR=3.2
H11N2 WAKE ISLAND Hy 28.17 121 T T 16 03 40.4
baz=313
H11N1 WAKE ISLAND Hy 28.18 121 T T 16 03 39.7
baz=313
H11N3 WAKE ISLAND Hy 28.19 121 T T 16 03 40.5
baz=313
H11S1 WAKE ISLAND Hy 28.88 123 T T 16 04 34.4
baz=314,slow=75,SNR=28
H11S3 WAKE ISLAND Hy 28.88 123 T T 16 04 33.4
baz=314,slow=75,SNR=29
H11S2 WAKE ISLAND Hy 28.90 123 T T 16 04 33.6
baz=314,slow=75,SNR=16
WRA Warramunga Arr 57.02 188 P **P 15 37 58.6 -0.2**
0.4nm,0.7s,baz=3.7,slow=7.3,SNR=6.1
ASAR Alice Springs 60.75 188 P **P 15 38 24.7 0.0**
0.2nm,0.8s,baz=9.9,slow=5.9,SNR=2.8

*IDC **11** 15:29:22.8±2.1, 41°.87N×142°.68E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/30, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=65.1km s-min=26.1km az=79.0*
*ISCJB **11** 15:29:27.7±0.9, 42°.09N±0°.06×143°.1E±0°.1, h64km±7km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=10.7km az=10.4*
*JMA **11** 15:29:29.5±0.1, 42°.17N×143°.13E, h48km±1km, M3.2*
ISC 11 15:29:28.7±1.2, 42°.11N±0°.07×143°.11E±0°.08, h56km±9km, n17, σ0°79/15, mb3.4/3, 4C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.10**	**159**	⇓P	**Pn**	**15 29 37.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.32**	**303**	⇓P	**Pn**	**15 29 38.6**	**0.0**
JCH	**Churui**	**0.54**	**20**	⇑P	**Pn**	**15 29 40.3**	**-0.6**
JBT2	**Biratori 2**	**0.87**	**321**	⇑P	**Pn**	**15 29 45.5**	**+0.6**
JOB	**Onbets**	**0.96**	**34**	⇑P	**Pn**	**15 29 46.4**	**+0.3**
JOB				*eS*	**Sn**	**15 30 00.0**	**+1.1**
JFR	**Furan**	**1.12**	**340**	P	**Pn**	**15 29 47.7**	**-0.6**
JFR				*eS*	**Sn**	**15 30 01.4**	**-1.4**
JAR	**Ashorobuto**	**1.28**	**22**	⇑P	**Pn**	**15 29 50.0**	**-0.4**
JAR				*eS*	**Sn**	**15 30 06.2**	**-0.4**
ASAJ	**Asahikawa**	**2.04**	**350**	Pn	**Pn**	**15 30 01.3**	**+0.6**
7.2nm,0.3s,baz=191,slow=9.2,SNR=71							
ASAJ				Sn	**Sn**	**15 30 26.4**	**+1.3**
5.4nm,0.3s,baz=165,slow=20,SNR=8.0							
H11N2	**WAKE ISLAND Hy 30.05 131**			T	T	16 07 00.6	
baz=324,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy 30.06 131**			T	T	16 07 03.0	
baz=324,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy 30.07 131**			T	T	16 07 02.1	
baz=324,slow=75,SNR=25							
H11S1	**WAKE ISLAND Hy 30.92 132**			T	T	16 08 07.6	
baz=325,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy 30.92 132**			T	T	16 08 06.7	
baz=325,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy 30.94 132**			T	T	16 08 13.2	
baz=325,slow=76,SNR=21							
ZALV	**Zalesovo Beam 39.64 308**			P	**P**	**15 36 54.4**	**-0.3**
0.6nm,0.5s,baz=73,slow=7.4,SNR=3.5							
MKAR	**Makanchi Array 42.72 298**			P	**P**	**15 37 20.3**	**+0.2**
0.2nm,0.3s,baz=84,slow=9.4,SNR=3.1							
WRA	**Warramunga Arr 62.27 189**			P	**P**	**15 39 44.6**	**-0.2**
0.2nm,0.8s,baz=6.3,slow=7.2,SNR=2.3							

IDC 11 16:03:36.9±3.2, 22°.94N×11°.65W, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.1/28, mbtmp3.7/3, ML3.4/2, Error ellipse: s-maj=114.7km s-min=41.5km az=79.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.98**	**125**	Pn	Pn	16 07 23.4	+0.1
0.1nm,0.3s,baz=314,slow=13,SNR=3.1							
DBIC	**Dimbokro**	**17.45**	**157**	P	Pn	16 07 41.8	-0.1
0.2nm,0.3s,baz=333,slow=14,SNR=3.1							
MKAR	**Makanchi Array**	**76.22**	**45**	P	P	16 15 27.4	0.0
0.2nm,0.4s,baz=306,slow=6.5,SNR=3.2							
WRA	**Warramunga Arr**	**148.24**	**91**	PKPbc	PKPbc	16 23 25.1	-0.7
0.2nm,0.3s,baz=284,slow=2.7,SNR=8.1							
ASAR	**Alice Springs**	**148.40**	**98**	PKPbc	PKPbc	16 23 25.5	-0.6
0.2nm,0.8s,baz=297,slow=2.6,SNR=5.1							

DJA 11 16:21:09.5±0.8, 8°S±6°×111°8E±°, h28km±11km, M3.6/10, mB4.7/1, MLv3.6/10, Mw(mB)3.9/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.62**	**168**	P	Pn	16 21 22.3	-0.1
PLAI				S	Sn	16 21 31.6	+0.2
TWSI	**Taliwang, Sumb**	**0.92**	**236**	P	Pn	16 21 26.3	-0.3
TWSI				S	Sn	16 21 38.9	+0.1
SRBI	**Singaraja**	**2.42**	**273**	P	Pn	16 21 47.2	0.0
SRBI				S	Sn	16 22 16.1	+0.2
IGBI	**Denpasar**	**2.55**	**256**	P	Pn	16 21 49.8	+0.8
IGBI				S	Sb	16 22 24.2	-1.3
JAGI	**Jajag, Banyuwa**	**3.47**	**266**	P	Pn	16 22 01.5	-0.2
JAGI				S	Sn	16 22 40.9	-1.0
SPSI	**Sidrap Palu**	**4.72**	**27**	P	Pn	16 22 18.4	-0.5
TTSI	**Tana Toraja**	**5.58**	**23**	P	Pn	16 22 31.8	+1.1

*NIED **11** 16:25:00, 37°.20N×141°.50E, h32km, Mw3.6 Best double couple: M0=2.57000×10^14 NP1:φ=64.00000°, δ=25.00000°, λ=127.00000°. NP2:φ=204.00000°, δ=71.00000°, λ=75.00000°.*
*IDC **11** 16:25:43.8±0.9, 37°.14N×141°.60E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.6/48, mbtmp3.7/11, ML3.3/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/42, Error ellipse: s-maj=21.1km s-min=16.5km az=93.0*
*ISCJB **11** 16:25:47.3±0.8, 37°.18N±0°.03×141°.59E±0°.07, h39km±8km, mb3.6/7, MS3.9/1, Error ellipse: s-maj=9.4km s-min=4.8km az=21.3*
*JMA **11** 16:25:49.2±0.1, 37°.23N×141°.45E, h47km±2km, M3.8*
JMA Felt II J1.
ISC 11 16:25:47.8±1.7, 37°.19N±0°.04×141°.57E±0°.07, h27km±11km, n31, σ0°77/36, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**288**	P	**Pb**	**16 25 59.9**	**+0.5**
JFK				S	**Sb**	**16 26 07.2**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.62**	**262**	P	**Pb**	**16 26 00.6**	**+0.4**
ONAJ				S	**Sb**	**16 26 08.5**	**0.0**
JMM	**Marumori**	**0.91**	**318**	P	**Pn**	**16 26 04.3**	**-0.6**
JMM				S	**Sb**	**16 26 15.5**	**-1.2**
JHO	**Hitachi**	**0.99**	**234**	P	**Pn**	**16 26 05.3**	**-0.7**
JHO				*eS*	**Sb**	**16 26 17.5**	**-1.4**
JFT	**Otama**	**1.03**	**289**	P	**Pn**	**16 26 06.8**	**+0.2**
JFT				*eS*	**Sn**	**16 26 19.0**	**-1.1**
JIO	**Ouri**	**1.27**	**352**	P	**Pn**	**16 26 09.9**	**+0.1**
JIO				*eS*	**Sn**	**16 26 24.4**	**-1.6**
JOU	**Okura**	**1.37**	**329**	P	**Pn**	**16 26 11.2**	**0.0**
JOU				*eS*	**Sn**	**16 26 27.7**	**-0.8**
JFY	**Yanaizu**	**1.50**	**279**	P	**Pn**	**16 26 13.2**	**+0.2**
JFY				*eS*	**Sn**	**16 26 30.6**	**-1.1**
JYS	**Shiratake**	**1.57**	**311**	P	**Pn**	**16 26 14.3**	**+0.3**
JMK	**Ichinoseki**	**1.78**	**351**	P	**Pn**	**16 26 17.1**	**+0.3**
JMK				*eS*	**Sn**	**16 26 38.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.77**	**257**	**Pn**	**Pn**	**16 26 30.4**	**-0.1**
5.3nm,0.3s,baz=332,slow=15,SNR=27							
MJAR				Sn	**Sn**	**16 27 03.6**	**+0.6**
7.5nm,0.3s,baz=309,slow=25,SNR=7.3							
MJAR				LR	LR	16 27 56.2	
comp=Z,80nm,21.8s,baz=60,slow=48							
MAT	**Matsushiro**	**2.77**	**257**	P	**Pn**	**16 26 31.8**	**+1.3**
MAT				S	**Sn**	**16 27 02.9**	**-0.2**
JHJ	**Hachijo jima 2**	**4.32**	**200**	Pn	**Pn**	**16 26 51.8**	**0.0**
16nm,0.3s,baz=357,slow=23,SNR=20							
JHJ				Sn	**Sn**	**16 27 40.0**	**-1.3**
49nm,0.3s,baz=53,slow=22,SNR=8.3							
ASAJ	**Asahikawa**	**6.96**	**6**	Pn	**Pn**	**16 27 27.4**	**-0.6**
0.7nm,0.3s,baz=259,slow=6.5,SNR=6.9							
ASAJ				Sn	**Sn**	**16 28 46.2**	**-0.1**
0.5nm,0.3s,baz=261,slow=19,SNR=2.9							
USRK	**Ussuriysk Ar.**	**10.09**	**317**	Pn	**Pn**	**16 28 12.4**	**+1.6**
0.3nm,0.3s,baz=134,slow=12,SNR=4.7							
KSRS	**Korea Array**	**10.87**	**275**	Pn	Pn	16 28 28.2	+6.6
0.2nm,0.3s,baz=90,slow=14,SNR=3.5							
SONM	**Songino Array**	**27.80**	**304**	P	**P**	**16 31 35.3**	**+0.6**
1.3nm,0.7s,baz=105,slow=9.2,SNR=7.7							
H11N2	**WAKE ISLAND Hy 28.13 121**			T	T	17 01 11.5	
baz=314,slow=75,SNR=53							
H11N1	**WAKE ISLAND Hy 28.13 121**			T	T	17 01 12.8	
baz=314,slow=75,SNR=51							
H11N3	**WAKE ISLAND Hy 28.14 121**			T	T	17 01 14.2	
baz=314,slow=75,SNR=50							
H11S1	**WAKE ISLAND Hy 28.84 123**			T	T	17 02 06.0	
baz=316,slow=76,SNR=61							
H11S3	**WAKE ISLAND Hy 28.85 123**			T	T	17 02 06.8	
baz=316,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy 28.86 123**			T	T	17 02 03.8	
baz=316,slow=76,SNR=53							
ZALV	**Zalesovo Beam 41.90 312**			P	**P**	**16 33 35.9**	**+0.3**
0.3nm,0.3s,baz=90,slow=4.9,SNR=2.8							
MKAR	**Makanchi Array 44.14 302**			P	**P**	**16 33 53.5**	**-0.4**
0.3nm,0.5s,baz=90,slow=9.8,SNR=5.2							
KURBB	**Kurchatov Arra 46.00 308**			P	**P**	**16 34 08.5**	**-0.1**
baz=79,slow=7.9							
ILAR	**Eielson Array 49.29 32**			P	**P**	**16 34 34.3**	**+0.2**
0.8nm,0.7s,baz=269,slow=6.6,SNR=9.3							
WRA	**Warramunga Arr 57.24 188**			P	**P**	**16 35 32.2**	**-0.6**
0.9nm,0.6s,baz=6.8,slow=7.5,SNR=13							
ASAR	**Alice Springs 60.96 188**			P	**P**	**16 35 58.4**	**-0.3**
0.3nm,0.5s,baz=14,slow=11,SNR=8.6							
TXAR	**Lajitas Array 89.93 52**			P	**P**	**16 38 45.6**	**+0.6**
0.2nm,0.7s,baz=310,slow=3.2,SNR=2.9							
TKL	**Tuckaleechee C 96.19 36**			LR	LR	17 23 24.5	
comp=Z,40nm,18.1s,baz=335,slow=36							

*IDC **11** 16:35:55.2±1.5, 36°.18N×141°.14E, h0km, mb3.4/3, mb1 3.4/6, mb1mx3.3/52, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=33.1km s-min=20.4km az=75.0*
*ISCJB **11** 16:36:00.2±0.7, 36°.19N±0°.04×140°.94E±0°.07, h47km±6km, mb3.4/3, Error ellipse: s-maj=9.6km s-min=5.9km az=162.3*
*NIED **11** 16:36:00, 36°.20N×141°.00E, h14km, Mw3.6 Best double couple: M0=2.70000×10^14 NP1:φ=208.00000°, δ=16.00000°, λ=127.00000°. NP2:φ=350.00000°, δ=77.00000°, λ=80.00000°.*
*JMA **11** 16:36:01.0±0.1, 36°.20N×140°.88E, h45km±1km, M3.3*
JMA Felt I J1.
ISC 11 16:35:59.0±1.5, 36°.26N±0°.04×141°.01E±0°.06, h28km±11km, n20, σ1°59/24, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.50**	**315**	P	**Pn**	**16 36 11.3**	**+1.0**
JHO				S	**Sn**	**16 36 18.3**	**+0.3**
CHOJ	**Chosi**	**0.57**	**193**	P	**Pn**	**16 36 11.8**	**+0.6**
CHOJ				S	**Sn**	**16 36 19.3**	**-0.3**
JYT	**Yasato**	**0.66**	**268**	P	**Pb**	**16 36 12.8**	**+0.8**
JYT				S	**Sb**	**16 36 20.5**	**-0.4**
JFK	**Kawauchi**	**1.11**	**354**	P	**Pb**	**16 36 19.9**	**+0.2**
JAG	**Ashikaga**	**1.27**	**278**	P	**Pb**	**16 36 21.4**	**-0.9**
JAG				*eS*	**Sn**	**16 36 34.7**	**-2.3**
JFT	**Otama**	**1.37**	**337**	P	**Pb**	**16 36 24.8**	**+0.8**
JFT				S	**Sb**	**16 36 42.0**	**+0.9**
JKT	**Katashina**	**1.51**	**290**	P	**Pb**	**16 36 25.7**	**-0.7**
JKT				S	**Sn**	**16 36 43.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.28**	**278**	Pn	**Pn**	**16 36 35.7**	**+1.0**
7.1nm,0.3s,baz=99,slow=8.7,SNR=57							
MJAR				Sn	**Sb**	**16 37 04.1**	**-3.1**
5.8nm,0.3s,baz=122,slow=16,SNR=7.5							
MAT	**Matsushiro**	**2.28**	**278**	P	**Pn**	**16 36 36.4**	**+1.6**
MAT				S	**Sn**	**16 37 01.8**	**-0.2**
JHJ	**Hachijo jima 2**	**3.29**	**198**	Pn	**Pn**	**16 36 49.5**	**+0.8**
7.3nm,0.3s,baz=338,slow=22,SNR=6.7							
JHJ				Sn	**Sn**	**16 37 26.6**	**-0.2**
6.2nm,0.3s,baz=240,slow=20,SNR=4.1							
ASAJ	**Asahikawa**	**7.94**	**8**	Pn	**Pn**	**16 37 52.6**	**+0.1**
0.2nm,0.3s,baz=246,slow=18,SNR=3.1							
ASAJ				Sn	**Sn**	**16 39 16.6**	**-4.7**
0.1nm,0.3s,baz=296,slow=15,SNR=1.6							
H11N2	**WAKE ISLAND Hy 28.04 119**			T	T	17 11 07.2	
baz=312,slow=75,SNR=9.7							
H11N1	**WAKE ISLAND Hy 28.05 119**			T	T	17 11 32.9	
baz=312,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy 28.06 119**			T	T	17 11 25.2	
baz=312,slow=75,SNR=9.3							
H11S1	**WAKE ISLAND Hy 28.72 121**			T	T	17 12 01.4	
baz=314,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy 28.72 121**			T	T	17 12 04.0	
baz=314,slow=76,SNR=23							
H11S2	**WAKE ISLAND Hy 28.74 121**			T	T	17 12 02.9	
baz=314,slow=76,SNR=16							
ZALV	**Zalesovo Beam 42.20 313**			P	**P**	**16 43 50.8**	**+1.7**
0.5nm,0.5s,baz=72,slow=9.4,SNR=2.7							
WRA	**Warramunga Arr 56.25 188**			P	**P**	**16 45 36.0**	**-0.8**
0.2nm,0.5s,baz=2.8,slow=7.5,SNR=5.6							
ASAR	**Alice Springs 59.98 188**			P	**P**	**16 46 03.1**	**+0.2**
0.2nm,0.8s,baz=356,slow=5.6,SNR=3.0							

*NIED **11** 16:39:00, 38°.00N×141°.80E, h53km, Mw4.2 Best double couple: M0=2.08000×10^15 NP1:φ=79.00000°, δ=53.00000°, λ=151.00000°. NP2:φ=187.00000°, δ=67.00000°, λ=41.00000°.*
*ISCJB **11** 16:39:50.9±0.6, 38°.01N±0°.03×141°.88E±0°.06, h53km±5km, mb4.2/29, MS2.6/2, Error ellipse: s-maj=8.0km s-min=4.9km az=14.3*
*BJI **11** 16:39:51.5, 37°.71N×141°.76E, h58km, mb4.5/24, mB4.7/12, Ms4.7/1, Ms7 4.3/1*
*JMA **11** 16:39:52.0±0.1, 38°.04N×141°.81E, h48km±1km, M4.3*
JMA Felt II J1.
*NEIC **11** 16:39:52.9±0.7, 37°.99N×141°.91E, h55km±7km, mb4.5/4, Error ellipse: s-maj=8.2km s-min=6.2km az=111.0*
NEIC Recorded [2 JMA] in Miyagi.
*IDC **11** 16:39:52.9±0.7, 38°.01N×141°.88E, h52km±7km, mb3.8/22, mb1 4.0/29, mb1mx3.9/52, mbtmp4.1/29, MS2.9/5, Ms1 2.9/5, ms1mx2.7/52, Error ellipse: s-maj=13.8km s-min=11.9km az=108.0*
ISC 11 16:39:52.6±0.7, 38°.03N±0°.04×141°.86E±0°.06, h49km±6km, n63, σ1°27/72, mb4.2/29, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.59**	**317**	P	**Pn**	**16 40 04.0**	**-0.8**
JIO				*eS*	**Sn**	**16 40 11.8**	**-1.8**
JMM	**Marumori**	**0.86**	**259**	P	**Pn**	**16 40 07.2**	**-1.1**
JMM				*eS*	**Sn**	**16 40 18.2**	**-1.7**
JOU	**Okura**	**1.00**	**290**	P	**Pn**	**16 40 09.7**	**-0.6**
JFK	**Kawauchi**	**1.02**	**230**	P	**Pn**	**16 40 09.4**	**-1.2**
JMK	**Ichinoseki**	**1.05**	**332**	P	**Pn**	**16 40 10.3**	**-0.6**
JMK				*eS*	**Sn**	**16 40 23.3**	**-1.2**
JFT	**Otama**	**1.31**	**248**	P	**Pn**	**16 40 14.2**	**-0.3**
JFT				*eS*	**Sn**	**16 40 30.6**	**-0.2**
JYS	**Shiratake**	**1.43**	**278**	P	**Pn**	**16 40 15.5**	**-0.6**
JYS				*eS*	**Sn**	**16 40 33.2**	**-0.5**
JYK	**Kaneyama**	**1.48**	**308**	P	**Pn**	**16 40 16.2**	**-0.5**
JYK				*eS*	**Sn**	**16 40 34.7**	**-0.2**
JOM	**Ohasama**	**1.51**	**343**	P	**Pn**	**16 40 16.9**	**-0.3**
JOM				*eS*	**Sn**	**16 40 35.5**	**-0.2**
JRG	**Rokugo**	**1.67**	**325**	P	**Pn**	**16 40 19.4**	**0.0**
JRG				*eS*	**Sn**	**16 40 39.8**	**+0.2**
JYA	**Atsumi**	**1.78**	**289**	P	**Pn**	**16 40 20.5**	**-0.4**
JYA				*eS*	**Sn**	**16 40 41.3**	**-1.0**
JFY	**Yanaizu**	**1.82**	**251**	P	**Pn**	**16 40 21.2**	**-0.2**
JFY				*eS*	**Sn**	**16 40 42.6**	**-0.7**
MJAR	**Matsushiro Arr**	**3.27**	**244**	P	**Pn**	**16 40 41.6**	**+0.3**
7.6nm,0.3s,baz=64,slow=11,SNR=39							
MJAR				LR	LR	16 42 13.7	
comp=Z,252nm,20.7s,baz=70,slow=43							
MAJO	**Matsushiro**	**3.27**	**244**	*e*Pn	**Pn**	**16 40 41.9**	**+0.6**
MAT	**Matsushiro**	**3.27**	**244**	P	**Pn**	**16 40 41.9**	**+0.6**
MAT				S	**Sn**	**16 41 24.4**	**+5.5**
JHJ2	**Mitsune**	**5.18**	**199**	*e*Pn	**Pn**	**16 41 07.4**	**-0.1**
48nm,0.4s							
JHJ	**Hachijo jima 2**	**5.18**	**200**	P	**Pn**	**16 41 07.2**	**-0.3**
35nm,0.3s,baz=119,slow=23,SNR=19							
JHJ				S	**Sn**	**16 42 00.8**	**-5.2**
23nm,0.3s,baz=73,slow=19,SNR=2.5							
ASAJ	**Asahikawa**	**6.11**	**5**	P	**Pn**	**16 41 19.1**	**-1.1**
3.8nm,0.3s,baz=210,slow=9.9,SNR=33							
ASAJ				S	**Sn**	**16 42 26.8**	**-1.9**
4.0nm,0.3s,baz=104,slow=21,SNR=4.9							
USRK	**Ussuriysk Ar.**	**9.66**	**313**	P	**Pn**	**16 42 09.7**	**+0.8**
2.9nm,0.3s,baz=122,slow=14,SNR=18							
JNU	**Nakatsue**	**10.19**	**245**	P	**Pn**	**16 42 18.1**	**+1.9**
0.2nm,0.3s,baz=50,slow=6.8,SNR=4.7							
CBIJ	**Chichi jima**	**10.90**	**178**	*e*Pn	**Pn**	**16 42 25.4**	**-0.5**
KSRS	**Korea Array**	**11.05**	**271**	P	**Pn**	**16 42 28.1**	**+0.2**
0.3nm,0.3s,baz=79,slow=14,SNR=6.7							
KSRS				LR	LR	16 46 26.7	
comp=Z,76nm,19.9s,baz=80,slow=36							
KSAR	**Wonju Array Be**	**11.09**	**271**	P	**Pn**	**16 42 28.1**	**-0.3**
MDJ	**Mudanjiang**	**11.32**	**309**	*e*Pn	**Pn**	**16 42 35.6**	**+4.0**
12nm,0.9s							
PETK	**Petropavlovsk-**	**18.65**	**31**	P	**P**	**16 44 06.4**	**+0.2**
0.2nm,0.3s,baz=215,slow=12,SNR=3.9							
PETK				LR	LR	16 51 11.9	
comp=Z,41nm,18.3s,baz=203,slow=36							
MA2	**Magadan**	**22.31**	**12**	P	**P**	**16 44 45.7**	**+0.1**
17nm,1.1s,baz=187,slow=19,SNR=2.0							
MA2				LR	LR	16 53 36.6	
comp=Z,12nm,21.5s,baz=108,slow=37							
SEY	**Seymchan**	**25.75**	**11**	P	**P**	**16 45 18.7**	**+0.5**
6.3nm,0.9s,baz=191,slow=11,SNR=5.9							
XAN	**Xi'an**	**26.85**	**272**	P	**P**	**16 45 27.5**	**-1.0**
XAN				pmax	pmax		
comp=Z,8.0nm,0.7s							
ULN	**Ulaanbaatar**	**27.11**	**302**	*e*P	**P**	**16 45 30.5**	**-0.3**
SONM	**Songino Array**	**27.54**	**302**	P	**P**	**16 45 35.3**	**+0.6**
1.6nm,0.7s,baz=105,slow=8.4,SNR=7.6							
SONM				LR	LR	16 55 44.2	
comp=Z,40nm,19.8s,baz=86,slow=34							
ENH	**Enshi**	**27.78**	**264**	*e*P	**P**	**16 45 35.0**	**-1.9**
13nm,0.6s							
H11N2	**WAKE ISLAND Hy 28.37 123**			T	T	17 16 02.0	
baz=316,slow=75,SNR=947							
H11N1	**WAKE ISLAND Hy 28.38 123**			T	T	17 15 53.8	
baz=316,slow=75,SNR=1080							
H11N3	**WAKE ISLAND Hy 28.39 123**			T	T	17 16 03.5	
baz=316,slow=75,SNR=1263							
H11S1	**WAKE ISLAND Hy 29.12 125**			T	T	17 16 57.0	
baz=318,slow=76,SNR=526							
H11S3	**WAKE ISLAND Hy 29.12 125**			T	T	17 16 53.8	
baz=318,slow=76,SNR=823							
H11S2	**WAKE ISLAND Hy 29.14 125**			T	T	17 16 54.5	
baz=318,slow=76,SNR=716							
GTA	**Gaotai**	**32.62**	**286**	*e*P	**P**	**16 46 19.4**	**-0.3**
GTA				pmax	pmax		
comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**41.52**	**312**	P	**P**	**16 47 34.6**	**-0.2**
1.7nm,0.5s,baz=79,slow=7.5,SNR=8.3							
CHTO	**Chiang Mai**	**41.88**	**255**	P	**P**	**16 47 38.3**	**+0.1**
2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.10**	**255**	P	**P**	**16 47 39.8**	**-0.1**
0.2nm,0.5s,baz=40,slow=20,SNR=3.4							
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**16 47 54.0**	**-0.2**
1.7nm,0.6s,baz=86,slow=9.7,SNR=20							
KURK	**Kurchatov**	**45.60**	**307**	*e*P	**P**	**16 48 06.6**	**-1.0**
44nm,0.6s							
KURBB	**Kurchatov Arra**	**45.68**	**307**	P	**P**	**16 48 08.1**	**-0.2**
3.4nm,0.4s,baz=82,slow=8.0,SNR=52							
KDAK	**Kodiak Island**	**46.13**	**43**	P	**P**	**16 48 11.6**	**0.0**
8.5nm,0.9s,baz=306,slow=7.9,SNR=6.6							
ILAR	**Eielson Array**	**48.47**	**33**	P	**P**	**16 48 30.0**	**+0.2**
2.0nm,0.7s,baz=268,slow=6.4,SNR=24							
BVAR	**Borovoye Array**	**50.17**	**312**	P	**P**	**16 48 43.3**	**+0.3**
1.9nm,0.6s,baz=126,slow=7.3,SNR=4.3							
KSH	**Kashi**	**50.33**	**293**	*e*P	P	16 48 53.2	+8.7
KSH				pmax	pmax		
comp=Z,3.0nm,0.8s							
KSH				pmax	pmax		
comp=Z,100nm,5.0s							
AAK	**Ala-Archa**	**50.34**	**298**	P	**P**	**16 48 44.8**	**+0.3**
2.3nm,0.7s,baz=102,slow=5.6,SNR=7.9							
AAK	**Ala-Archa**	**50.34**	**298**	*e*P	**P**	**16 48 45.0**	**+0.4**
ABKAR	**Akbulak array**	**57.57**	**310**	*e*P	**P**	**16 49 36.7**	**-0.4**
1.6nm,0.5s							
WRA	**Warramunga Arr**	**58.09**	**188**	P	**P**	**16 49 40.2**	**-0.7**
2.2nm,0.9s,baz=5.9,slow=7.2,SNR=28							
WRA				pP	**pP**	**16 49 54.9**	**+0.3**
3.4nm,0.5s,baz=4.3,slow=7.2,SNR=15							
AKTO	**Aktyubinsk**	**58.28**	**312**	P	**P**	**16 49 43.7**	**+1.7**
0.4nm,0.3s,baz=47,slow=19,SNR=2.1							
ASAR	**Alice Springs**	**61.82**	**188**	P	**P**	**16 50 06.1**	**-0.3**
0.6nm,0.8s,baz=6.0,slow=4.5,SNR=9.4							
ASAR				pP	**pP**	**16 50 21.0**	**+0.8**
1.5nm,0.8s,baz=11,slow=6.7,SNR=9.2							
YKA	**Yellowknife Ar**	**62.77**	**31**	P	**P**	**16 50 11.9**	**-0.5**
1.1nm,0.6s,baz=304,slow=5.3,SNR=2.7							
ARCES	**ARCESS Array B**	**63.19**	**339**	P	**P**	**16 50 15.0**	**-0.1**
0.8nm,0.5s,baz=58,slow=8.6,SNR=5.3							
FINES	**FINESS Array B**	**68.10**	**332**	P	**P**	**16 50 46.4**	**-0.4**
2.3nm,0.7s,baz=31,slow=11,SNR=6.7							
STKA	**Stephens Creek**	**69.55**	**180**	P	**P**	**16 50 55.8**	**-0.

baz=329
TWT S Sb 16 46 24.3 -0.5
baz=329
STYT Tauyuan 0.87 247 *e*P Pn 16 46 13.6 0.0
baz=246
STYT *e*S Sb 16 46 25.0 -0.2
baz=246
TTN Taitung 0.87 211 *e*S Sb 16 46 27.0 +1.9
baz=210
CHN5 Tsauling 0.87 276 *i* P Pb 16 46 14.1 +0.1
baz=275
CHN5 S Sn 16 46 25.9 +0.5
baz=275
ENA Nanau 0.92 7 *e*P Pn 16 46 14.3 0.0
baz=6.0
WNT Mingjian 0.94 293 *e*P Pb 16 46 15.1 +0.1
baz=292
NNS Nan Shan 0.96 346 *e*P Pn 16 46 14.7 -0.1
baz=345
NNS *e*S Sn 16 46 26.9 -0.7
baz=345
CHN4 Tsaushan 0.96 261 P Pb 16 46 15.1 -0.3
baz=260
CHN4 S Sb 16 46 29.0 +1.2
baz=260
WTP Ta-pu 0.96 255 P Pb 16 46 15.3 -0.1
baz=253
WTP S Sb 16 46 29.0 +1.1
baz=253
WGK Gukeng 0.99 281 *e*P Pb 16 46 15.8 -0.1
baz=279
WGK *e*S Sb 16 46 29.7 +1.0
baz=279
SGST Jiashian 1.05 246 *e*P Pb 16 46 17.4 +0.5
baz=245
SGST *e*S Sb 16 46 31.6 +1.3
baz=245
CHN1 Nanshi 1.06 253 *e*P Pb 16 46 17.2 +0.2
baz=252
CHN1 *e*S Sb 16 46 31.1 +0.6
baz=252
TWK Hsinying 1.07 257 *e*P Pb 16 46 17.3 0.0
baz=256
TWK *e*S Sb 16 46 32.0 +1.0
baz=256
TCU Taichung 1.08 306 *e*P Pb 16 46 17.6 +0.2
baz=305
ECL Taimali 1.10 215 *e*S Sn 16 46 28.2 -2.6
baz=214
TWC Suao 1.12 10 *e*P Pn 16 46 16.6 -0.3
baz=10.0
ENTT Nioudou 1.13 357 *e*P Pn 16 46 17.5 +0.4
baz=357
ENTT *e*S Sb 16 46 32.4 -0.2
baz=357
TWQ1 Liyutan 1.15 317 P Pb 16 46 18.3 -0.2
baz=316
TWQ1 *e*S Sb 16 46 34.2 +1.2
baz=316
SSD Sandimen 1.19 231 ⇑P Pb 16 46 19.1 -0.2
baz=229
SSD S Sb 16 46 34.1 -0.1
baz=229
NSK Sanguang 1.19 348 P Pn 16 46 18.5 +0.5
baz=348
NSK S Sn 16 46 32.5 -0.7
baz=348
TWE Neicheng 1.21 2 *e*P Pb 16 46 20.3 +0.7
baz=2.0
TWE *e*S Sb 16 46 35.1 +0.2
baz=2.0
NSTT Nanjuang 1.26 333 *e*P Pb 16 46 19.9 -0.5
baz=332
NSTT *e*S Sb 16 46 35.9 -0.4
baz=332
CHN8 Yiju 1.31 263 *e*S Sb 16 46 37.1 -0.6
baz=262
EAST Anshuo 1.33 213 *e*P Pb 16 46 22.3 +0.7
baz=212
SCZT Fangliau 1.46 220 *e*P Pb 16 46 23.6 -0.2
baz=219
SCZT *e*S Sb 16 46 42.5 +0.4
baz=219
JYNG Yonagunijimaku 1.53 52 P Pn 16 46 22.5 -0.1
JYNG *e*S Sn 16 46 41.9 +0.4
YOJ Yonaguni jima 1.58 53 *e*S Sn 16 46 42.9 0.0
IRIF Iriomote-Funau 2.10 66 P Pn 16 46 31.0 +0.6
IRIF *e*S Sn 16 46 56.1 +0.6
JKRS Kuro-shima 2.30 71 P Pn 16 46 33.9 +0.7
JKRS *e*S Sn 16 47 00.3 -0.2
JIJ Ishigaki jima 2.46 69 P Pn 16 46 35.1 -0.3
JIJ S Sn 16 47 03.2 -1.2
JISG Ishigakijimahi 2.68 66 P Pn 16 46 38.1 -0.3
JISG *e*S Sn 16 47 08.5 -1.4
JTJ Tarama 3.03 67 P Pn 16 46 43.6 +0.4
JTJ S Sn 16 47 18.5 0.0

NEIC ***11*** *16:46:08.7±3.2,26°.98N×66°.68E,h4km±20km,mb4.9/47, Error ellipse: s-maj=6.2km s-min=4.5km az=180.0*
NEIC Felt at Khuzdar.
IDC ***11*** *16:46:08.4±0.4,26°.94N×66°.69E,h0km,mb4.5/40, mb1 4.5/43,mb1mx4.5/50,mbtmp4.5/43,ML4.4/3,MS4.0/21, Ms1 4.0/21,ms1mx3.8/45,Error ellipse: s-maj=11.8km s-min=9.4km az=178.0*
ISCJB ***11*** *16:46:10.3±0.1,26°.99N±0°.03×66°.78E±0°.02,h25km, mb4.7/135,MS4.0/29,Error ellipse: s-maj=3.8km s-min=2.3km az=18.1*
MOS ***11*** *16:46:12.0±1.1,27°.05N×66°.80E,h33km,mb4.8/54, MS4.1/12,Error ellipse: s-maj=6.4km s-min=4.1km az=107.1*
BJI ***11*** *16:46:15.3,27°.21N×67°.08E,h33km,mb4.8/62,mB4.8/38, Ms4.3/38,Ms7 4.0/38*
ISC 11 16:46:11.3±1.7,26°.97N±0°.04×66°.74E±0°.04,h20km±10km, n371,σ1§53/383,mb4.8/142,MS4.0/30,41C-15D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**7.80**	**14**	*e*P	**Pn**	**16 48 04.7**	**+0.9**
KBL	**Kabul**	**7.80**	**14**	*e*Pn	**Pn**	**16 48 04.7**	**+0.9**
CEP	**Cherat**	**8.16**	**32**	P	**Pn**	**16 48 08.9**	**+0.2**
CEP				S	**Sn**	**16 49 43.0**	**+2.7**
WSAR	**Wadi Sarin**	**8.24**	**245**	Pn	**Pn**	**16 48 06.3**	**-3.4**
	24nm,0.3s,baz=102,slow=11,SNR=166						
WSAR				Sn	Sn	16 49 29.8	-12
	2.2nm,0.3s,baz=115,slow=15,SNR=4.3						
BIDO	**Bidbid**	**8.52**	**248**	P	**Pn**	**16 48 13.0**	**-0.6**
	SNR=9.7						
BIDO	**Bidbid**	**8.52**	**248**	Pn	**Pn**	**16 48 13.0**	**-0.6**
	SNR=9.7						
CHCP	**Chirah Chowk**	**8.73**	**39**	P	**Pn**	**16 48 16.2**	**-0.2**
BANOM	**Banah**	**9.42**	**266**	P	**Pn**	**16 48 24.5**	**-1.4**
	SNR=50						
BANOM				S	Sn	16 50 02.3	-8.9
NDI	**New Delhi**	**9.43**	**77**	*e*P	**Pn**	**16 48 25.0**	**-1.0**
THN	**Thein Dam**	**9.51**	**53**	*e*P	**Pn**	**16 48 25.9**	**-1.2**
THN				*e*x	**Sn**	**16 50 16.7**	**+3.3**
BHK	**Bhakra**	**9.54**	**60**	*e*P	**Pn**	**16 48 26.0**	**-1.6**
BHK				*e*x	**Sn**	**16 50 14.8**	**+0.5**
UOSS	**Minazif**	**9.69**	**260**	*e*Pn	**Pn**	**16 48 26.9**	**-2.8**
HATD	**Hatta, Dubai**	**9.79**	**260**	P	**Pn**	**16 48 28.6**	**-2.3**
DHRM	**DHARAMSHALA**	**9.84**	**55**	*e*P	**Pn**	**16 48 31.9**	**+0.1**
DHRM				*e*S	**Sn**	**16 50 18.7**	**-3.2**
DHRM				IAML		16 52 11.6	
	comp=N,363nm,1.3s						
DHRM				IAML		16 52 13.6	
	comp=E,344nm,2.7s						
ASHO	**Ashiyiah**	**9.89**	**259**	P	**Pn**	**16 48 30.9**	**-1.4**
	SNR=28						
SDNR	**Sundarnagar**	**10.01**	**61**	*e*P	**Pn**	**16 48 35.0**	**+1.0**
SDNR				*e*x	x	16 50 57.6	
SMLA	**Simla**	**10.02**	**63**	*e*P	**Pn**	**16 48 34.5**	**+0.4**
SMLA				*e*S	**Sn**	**16 50 23.4**	**-2.5**
NAZ	**Nazwa, Dubai**	**10.16**	**261**	*i* P	**Pn**	**16 48 36.4**	**+0.3**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**10.28**	**260**	*i* P	**Pn**	**16 48 37.6**	**-0.1**
	SNR=10						
BHPL	**Bhopal**	**10.37**	**109**	*e*P	**Pn**	**16 48 39.2**	**+0.2**
BHPL				IAmb	IAmb	16 48 40.0	
	comp=Z,62nm,1.0s						
DDI	**Dehra Dun**	**10.48**	**69**	*e*P	**Pn**	**16 48 39.8**	**-0.7**
DDI				*e*S	**Sn**	**16 50 35.0**	**-2.5**
DDI				IAML		16 52 22.0	
	comp=N,363nm,1.0s						
DDI				IAML		16 52 28.9	
	comp=E,310nm,1.2s						
POO	**Poona**	**10.66**	**141**	*e*P	**Pn**	**16 48 42.0**	**-0.9**
	comp=E,3.0nm,1.0s						
POO				*e*PP	**PnPn**	**16 48 50.0**	**-0.7**
POO				*e*PPP	PPP	16 48 57.0	
POO				*e*LQ	LQ	16 50 26.0	
POO				*i* S	Sn	16 50 35.0	-6.7
POO				*e*SS	**SnSn**	**16 50 48.0**	**-5.8**
POO				*i* LR	LR	16 50 53.5	
POO				*i* SSS	SSS	16 50 59.0	
NGP	**Nagpur**	**12.65**	**115**	*ex*	**Pn**	**16 49 07.6**	**-2.5**
NGP				*e*S	**Sn**	**16 51 27.4**	**-3.0**
NGP				IAML		16 53 20.7	
	comp=E,180nm,0.8s						
NGP				IAML		16 53 21.5	
	comp=N,113nm,1.5s						
KLRI	**Killari**	**12.70**	**132**	*e*Pn	**Pn**	**16 49 11.6**	**+0.7**
KLRI				*e*		16 51 28.2	
GEYT	**Alibeck**	**13.12**	**329**	Pn	**Pn**	**16 49 16.7**	**+0.2**
	comp=N,0.3nm,0.3s,baz=177,slow=8.9,SNR=8.8						
GOA	**Goa**	**13.19**	**149**	*ex*	**Pn**	**16 49 19.1**	**+1.6**
GOA				IAmb	IAmb	16 49 20.9	
	comp=Z,28nm,0.8s						
SRSP	**Sriramsagar**	**13.35**	**124**	*e*Pn	**Pn**	**16 49 19.6**	**-0.1**
RPR	**Rampur**	**14.10**	**122**	*e*Pn	**Pn**	**16 49 30.1**	**+0.2**
RPR				*e*		16 52 01.9	
PYUN	**Piuthan**	**14.46**	**82**	*e*P	**Pn**	**16 49 32.9**	**-2.2**
	comp=Z,201nm,0.7s						
HYBB	**Hyderabad (bro**	**14.48**	**129**	*e*Pn	**Pn**	**16 49 32.7**	**-2.5**
HYBB				*e*		16 52 10.8	
HYB	**Hyderabad**	**14.48**	**129**	*i* P	**Pn**	**16 49 38.0**	**+2.7**
HYB				*e*S	**Sn**	**16 52 10.0**	**-5.4**
HYB	**Hyderabad**	**14.48**	**129**	*ex*	**Pn**	**16 49 32.4**	**-2.9**
HYB				IAmb	IAmb	16 49 41.9	
KSH	**Kashi**	**14.69**	**29**	P	Pn	16 49 31.6	-6.5
KSH				pP	P	16 49 40.9	-3.2
KSH				sP		16 49 44.6	
KSH				S	Sn	16 52 05.8	-14
KSH				sS	S	16 52 18.3	-21
KSH				pmax	pmax		
	comp=Z,74nm,0.8s						
KSH				LR	LR		
	comp=Z,520nm,6.0s						
KSH				LR	LR		
	comp=Z,630nm,9.1s						
KSH				LR	LR		
	comp=Z,760nm,11.4s						
KOLN	**Koldanda**	**15.00**	**83**	*e*P	**Pn**	**16 49 39.7**	**-2.7**
	comp=Z,152nm,0.8s						
DANN	**Dangsing**	**15.15**	**81**	*e*P	**Pn**	**16 49 42.1**	**-2.3**
	comp=Z,19nm,0.9s						
NJS	**Nagarjunasagar**	**15.60**	**129**	*e*Pn	**Pn**	**16 49 50.1**	**0.0**
NJS				*e*		16 52 34.0	
SRLM	**Srisailam**	**15.63**	**131**	*e*Pn	**Pn**	**16 49 52.1**	**+1.5**
SRLM				*e*		16 52 35.1	
GKN	**Gorkha**	**15.92**	**82**	*e*P	**Pn**	**16 49 50.8**	**-3.5**
	comp=Z,66nm,0.6s						
MNAS	**Manas**	**16.18**	**15**	P	**Pn**	**16 49 56.2**	**-1.4**
MNAS				pmax	pmax		
	comp=Z,38nm,1.0s						
DMN	**Daman**	**16.34**	**84**	*e*P	**Pn**	**16 49 56.9**	**-3.0**
	comp=Z,115nm,0.9s						
KK31	**Karatay Array**	**16.38**	**10**	P	**Pn**	**16 49 59.7**	**-0.4**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KKAR	**Karatay Array**	**16.38**	**10**	*e*P	**Pn**	**16 49 58.3**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,120nm,0.5s						
KKAR	**Karatay Array**	**16.38**	**10**	*e*Pn	**Pn**	**16 49 58.3**	**-1.7**
	comp=Z,120nm,0.5s						
KKN	**Kakani**	**16.49**	**83**	*e*P	**Pn**	**16 49 58.2**	**-3.5**
	comp=Z,92nm,0.7s						
ADKI	**Addanki**	**16.55**	**129**	*e*Pn	**Pn**	**16 50 00.8**	**-1.5**
ADKI				*e*		16 52 58.5	
PKIN	**Phulchoki**	**16.60**	**84**	*e*P	**Pn**	**16 49 59.4**	**-3.8**
	comp=Z,48nm,0.5s						
AAK	**Ala-Archa**	**16.86**	**20**	Pn	**Pn**	**16 50 05.2**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=190,slow=7.6,SNR=40						
AAK				Sn	**Sn**	**16 53 07.7**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=302,slow=13,SNR=3.9						
AAK				LR	LR	16 58 22.5	
	comp=Z,347nm,19.7s,baz=200,slow=43						
AAK	**Ala-Archa**	**16.86**	**20**	*d i*P	**Pn**	**16 50 04.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,61nm,0.9s						
AAK	**Ala-Archa**	**16.86**	**20**	*e*Pn	**Pn**	**16 50 04.5**	**-1.7**
	comp=Z,25nm,0.9s						
AAK				Sn	**Sn**	**16 53 07.7**	**-5.4**
AAK				*e*Sn	**Sn**	**16 53 13.6**	**+0.5**
AAK	**Ala-Archa**	**16.86**	**20**	P	**Pn**	**16 50 05.0**	**-1.3**
	SNR=16						
AAK	**Ala-Archa**	**16.86**	**20**	Pn	**Pn**	**16 50 05.0**	**-1.3**
	SNR=16						
GUN	**Gumba**	**17.02**	**82**	*e*P	**Pn**	**16 50 06.0**	**-2.5**
	comp=Z,373nm,0.9s						
FRU	**Bishkek**	**17.08**	**20**	⇓*e*P	**Pn**	**16 50 07.0**	**-1.8**
FRU				*e*S	**Sn**	**16 53 11.0**	**-7.1**
FRU				pmax	pmax		
	comp=Z,110nm,2.2s						
FRU				pmax	pmax		
	comp=E,120nm,1.8s						
FRU				MLR	MLR		
	comp=E,2μm,12.0s						
JIRN	**Jiri**	**17.30**	**83**	*e*P	**Pn**	**16 50 09.6**	**-2.5**
	comp=E,1μm,0.6s						
TKM2	**Tokmak 2**	**17.47**	**22**	P	**Pn**	**16 50 11.0**	**-2.9**
TKM2				pmax	pmax		
	comp=Z,33nm,1.0s						
BOK	**Bokaro**	**17.59**	**96**	*e*P	**Pn**	**16 50 14.3**	**-1.0**
BOK				IAmb	IAmb	16 50 16.9	
	comp=Z,74nm,1.5s						
RAMN	**Ramite**	**17.71**	**86**	*e*P	**Pn**	**16 50 13.9**	**-3.1**
	comp=Z,131nm,0.7s						
VIS	**Vishakhapatnam**	**17.88**	**118**	*e*P	**P**	**16 50 20.7**	**+1.2**
VIS				*ex*	x	16 50 24.8	
	comp=Z,31nm,1.4s						
CHLP	**Challavanipeta**	**18.05**	**114**	*e*Pn	**P**	**16 50 21.7**	**+0.4**
CHLP				*e*		16 53 40.2	
AAA	**Alma-Ata**	**18.19**	**24**	*e*P	**Pn**	**16 50 22.1**	**-0.5**
AAA				*e*S	**Sn**	**16 53 45.4**	**+0.3**
AAA				pmax	pmax		
	comp=Z,400nm,1.6s						
AAA				smax	smax		
	comp=N,600nm,4.4s						
AAA				MLR	MLR		
	comp=Z,800nm,11.0s						
ODAN	**Odare**	**18.42**	**86**	*e*P	**P**	**16 50 23.5**	**-2.1**
	comp=Z,156nm,0.9s						
TAPN	**Taplejung**	**18.67**	**84**	*e*P	**P**	**16 50 27.3**	**-1.1**
	comp=Z,75nm,0.7s						
MDRS	**Chennai**	**18.75**	**135**	*e*P	**P**	**16 50 28.7**	**-0.3**
PDGK	**Podgornoye**	**19.33**	**29**	P	**P**	**16 50 35.2**	**-0.2**
PDGK				pmax	pmax		
	comp=Z,41nm,0.9s						
RAYN	**Ar Rayn**	**19.51**	**265**	*e*P	**P**	**16 50 35.6**	**-1.9**
	comp=Z,42nm,1.3s						
LSA	**Lhasa**	**21.65**	**77**	P	**P**	**16 51 03.5**	**+2.5**
LSA				pmax	pmax		
	comp=Z,59nm,0.9s						
LSA	**Lhasa**	**21.65**	**77**	*e*P	**P**	**16 51 03.3**	**+2.3**
LSA				pmax	pmax		
	comp=Z,79nm,1.0s						
LSA	**Lhasa**	**21.65**	**77**	*e*P	**P**	**16 51 03.3**	**+2.3**
	comp=Z,79nm,1.0s						
MAK	**Makhachkala**	**22.34**	**320**	*e*P	**P**	**16 51 09.0**	**+1.2**
MAK				*e*S	**S**	**16 55 10.7**	**-1.7**
MAK				pmax	pmax		
	comp=Z,267nm,1.2s						
GNI	**Garni**	**22.48**	**311**	P	**P**	**16 51 10.5**	**+1.0**
	comp=Z,22nm,0.9s,baz=178,slow=1.1,SNR=14						
GNI				LR	LR	17 01 16.8	
	comp=Z,317nm,18.2s,baz=120,slow=40						
GNI	**Garni**	**22.48**	**311**	*i* P	**P**	**16 51 08.1**	**-1.4**
	SNR=19						
GNI	**Garni**	**22.48**	**311**	*e*P	**P**	**16 51 10.1**	**+0.6**
GNI				pmax	pmax		
	comp=Z,384nm,1.0s						
GNI	**Garni**	**22.48**	**311**	*e*P	**P**	**16 51 10.1**	**+0.6**
	comp=Z,384nm,1.0s						
GNI	**Garni**	**22.48**	**311**	P	P	16 51 02.4	-7.2
	SNR=9.9						
GNI	**Garni**	**22.48**	**311**	P	P	16 51 02.4	-7.2
	SNR=9.9						
SHL	**Shillong**	**22.58**	**88**	*e*P	**P**	**16 51 11.9**	**+1.1**
SHL				IAmb	IAmb	16 51 13.1	
	comp=Z,395nm,2.2s						
AB31	**Akbulak array**	**22.86**	**348**	*i* P	**P**	**16 51 13.1**	**-0.2**
AB31				pmax	pmax		
	comp=Z,18nm,0.7s						
ABKAR	**Akbulak array**	**22.86**	**348**	*e*P	**P**	**16 51 13.0**	**-0.3**
	comp=Z,220nm,0.6s						
MAKZ	**Makanchi**	**23.17**	**27**	*e*P	**P**	**16 51 15.9**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,35nm,1.0s						
MAKZ	**Makanchi**	**23.17**	**27**	*e*P	**P**	**16 51 15.9**	**-0.6**
	comp=Z,35nm,1.0s						
MK01	**Makanchi Array**	**23.27**	**28**	*e*P	**P**	**16 51 16.9**	**-0.7**
MK31	**Makanchi Array**	**23.29**	**28**	*i* P	**P**	**16 51 17.2**	**-0.5**
MK31				pmax	pmax		
	comp=Z,14nm,0.7s						
MK31	**Makanchi Array**	**23.29**	**28**	*e*P	**P**	**16 51 17.2**	**-0.5**
MKAR	**Makanchi Array**	**23.29**	**28**	P	**P**	**16 51 17.8**	**+0.1**
	comp=Z,15nm,0.8s,baz=210,slow=10,SNR=61						
MKAR				LR	LR	17 02 19.0	
	comp=Z,318nm,19.6s,baz=226,slow=42						
MKAR	**Makanchi Array**	**23.29**	**28**	*e*P	**P**	**16 51 17.4**	**-0.3**
	comp=Z,104nm,0.8s						
GROC	**Groznyy**	**23.48**	**319**	*e*P	**P**	**16 51 19.8**	**+0.2**
GROC				*e*S	**S**	**16 55 33.0**	**+0.9**
GROC				pmax	pmax		
	comp=Z,72nm,1.1s						
PALK	**Pallekele**	**23.66**	**143**	P	**P**	**16 51 21.6**	**0.0**
	comp=Z,4.3nm,0.8s,baz=117,slow=10,SNR=2.5						
PALK				LR	LR	17 02 01.6	
	comp=Z,889nm,18.0s,baz=296,slow=40						
WMQ	**Urumqi**	**23.86**	**40**	P	**P**	**16 51 25.5**	**+2.2**
WMQ				pP	pP	16 51 32.2	+2.8
WMQ				sP	sP	16 51 38.2	+6.2
WMQ				S	**S**	**16 55 37.4**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,66nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,280nm,3.8s						
WMQ				LR	LR		
	comp=Z,440nm,12.9s						
WMQ				LR	LR		
	comp=Z,310nm,9.7s						
WMQ				LR	LR		
	comp=Z,370nm,17.5s						
MARD	**Mardin**	**24.21**	**302**	*e*P	**P**	**16 51 27.1**	**+0.3**
	comp=Z,145nm,1.4s						
DAMY	**Dhamar**	**24.22**	**244**	*e*P	**P**	**16 51 28.0**	**+0.9**
	comp=Z,69nm,1.3s						
AKTO	**Aktyubinsk**	**24.36**	**346**	P	**P**	**16 51 28.2**	**+0.4**
	comp=Z,9.5nm,0.7s,baz=153,slow=12,SNR=17						
AKTO				LR	LR	17 02 29.3	
	comp=Z,584nm,19.9s,baz=155,slow=40						
ZEI	**Tsey**	**24.38**	**316**	*e*P	**P**	**16 51 29.8**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARTV	**Artvin**	**24.86**	**311**	*e*P	**P**	**16 51 32.9**	**+0.2**
	comp=Z,9.3nm,0.7s						
NCK	**Nalchik**	**24.96**	**317**	⇓*e*P	**P**	**16 51 33.2**	**-0.2**
NCK				pmax	pmax		
	comp=Z,48nm,1.0s						
KURBB	**Kurchatov Arra**	**25.28**	**18**	P	**P**	**16 51 37.0**	**+0.9**
	comp=Z,11nm,0.7s,baz=212,slow=9.0,SNR=55						
KURBB				PcP	**PcP**	**16 55 09.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=225,slow=3.4,SNR=3.1						
NEY	**Neytrino**	**25.36**	**316**	⇓*e*P	**P**	**16 51 39.3**	**+2.1**
NEY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**25.39**	**18**	P	**P**	**16 51 37.0**	**-0.1**
KURK						16 55 09.2	
KURK				pmax	pmax		
	comp=Z,11nm,0.7s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**25.39**	**18**	P	**P**	**16 51 37.0**	**-0.1**
KURK				PcP	**PcP**	**16 55 09.2**	**+0.1**
KBZ	**Khabaz**	**25.51**	**317**	P	**P**	**16 51 39.7**	**+1.5**
	comp=Z,11nm,0.7s,baz=110,slow=10,SNR=14						
KVAR	**Kislovodsk Arr**	**25.76**	**317**	P	**P**	**16 51 42.4**	**+1.7**
	comp=Z,26nm,1.1s,baz=75,slow=22,SNR=14						
KVAR				LR	LR	17 03 41.4	
	comp=Z,100nm,20.6s,baz=104,slow=41						
BVAR	**Borovoye Array**	**26.16**	**5**	P	**P**	**16 51 45.2**	**+1.1**
	comp=Z,19nm,0.7s,baz=170,slow=9.6,SNR=48						
BVAR				PcP	**PcP**	**16 55 11.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=202,slow=1.6,SNR=2.6						
BVAR				LR	LR	17 03 37.6	
	comp=Z,802nm,20.1s,baz=194,slow=40						
BRVK	**Borovoye**	**26.19**	**5**	*c e*P	**P**	**16 51 45.1**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,96nm,1.0s						
BRVK	**Borovoye**	**26.19**	**5**	*e*P	**P**	**16 51 41.9**	**-2.5**
	comp=Z,28nm,0.7s						
BRVK	**Borovoye**	**26.19**	**5**	P	**P**	**16 51 43.9**	**-0.5**
BRVK	SNR=13			P	**P**	**16 51 43.9**	**-0.5**
	SNR=13						
BRVK	**Borovoye**	**26.19**	**5**	P	**P**	**16 51 43.9**	**-0.5**
	SNR=13						
ASF	**Jabal al Asfar**	**26.42**	**288**	P	**P**	**16 51 47.9**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=118,slow=4.4,SNR=2.8						
ATD	**Arta Tunnel**	**27.21**	**240**	P	**P**	**16 51 54.6**	**+0.6**
	comp=Z,11nm,0.7s,baz=7.0,slow=7.7,SNR=4.5						
MMAI	**Mount Meron Ar**	**27.74**	**290**	P	**P**	**16 51 59.8**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=132,slow=8.2,SNR=4.1						
MMAI				LR	LR	17 05 07.1	
	comp=Z,215nm,19.9s,baz=100,slow=41						
EIL	**Elat**	**28.07**	**283**	P	**P**	**16 52 03.1**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=213,slow=1.7,SNR=4.4						
EIL				LR	LR	17 04 51.4	
	comp=Z,195nm,21.8s,baz=83,slow=40						
ARU	**Arti**	**30.02**	**351**	*c i*P	**P**	**16 52 17.2**	**-1.3**
ARU						16 55 18.9	
ARU				S	**S**	**16 57 12.0**	**-3.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,707nm,19.0s						
ARU	**Arti**	**30.02**	**351**	*e*P	P	16 52 14.2	-4.3
	comp=Z,4.7nm,0.8s						
ZAA0	**Zalesovo Array**	**30.07**	**21**	*e*P	**P**	**16 52 19.0**	**0.0**
ZALV	**Zalesovo Beam**	**30.07**	**21**	P	**P**	**16 52 19.4**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=220,slow=9.8,SNR=16						
SVE	**Sverdlovsk**	**30.15**	**353**	*e*P	**P**	**16 52 20.1**	**+0.4**
GTA	**Gaotai**	**30.16**	**57**	*e*P	**P**	**16 52 22.2**	**+2.0**
GTA				pP	sP	16 52 31.2	+2.3
GTA				sP	sP	16 52 35.5	+6.6
GTA				S	**S**	**16 57 18.1**	**-0.2**
GTA				sS	sS	16 57 33.0	+4.5
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA				pmax	pmax		
	comp=Z,82nm,6.2s						
GTA				LR	LR		
	comp=Z,140nm,10.5s						
GTA				LR	LR		
	comp=Z,180nm,10.5s						
GTA				LR	LR		
	comp=Z,180nm,10.9s						
BRTR	**Keskin Array B**	**30.26**	**303**	P	**P**	**16 52 20.6**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=118,slow=8.4,SNR=9.4						
BRTR				LR	LR	17 06 15.4	
	comp=Z,166nm,19.1s,baz=96,slow=40						
BRTR	**Keskin Array B**	**30.26**	**303**	*i* P	**P**	**16 52 21.2**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVS	**Novosibirsk**	**30.34**	**19**	*e*P	**P**	**16 52 21.7**	**+0.3**
CHTO	**Chiang Mai**	**30.69**	**99**	P	**P**	**16 52 26.2**	**+1.3**
	comp=Z,104nm,1.3s,comp=Z,1μm						
CHTO	**Chiang Mai**	**30.69**	**99**	*e*P	**P**	**16 52 25.5**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,23nm,1.1s						
CHTO	**Chiang Mai**	**30.69**	**99**	*e*P	**P**	**16 52 25.4**	**+0.6**
	comp=Z,23nm,1.1s						
CHTO	**Chiang Mai**	**30.69**	**99**	P	**P**	**16 52 26.6**	**+1.7**
	SNR=16						
CHTO	**Chiang Mai**	**30.69**	**99**	P	**P**	**16 52 26.6**	**+1.7**
	SNR=16						
CM31	**Chiang Mai Arr**	**30.82**	**99**	*e*P	**P**	**16 52 27.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.82**	**99**	P	**P**	**16 52 27.4**	**+1.3**
	comp=Z,5.9nm,0.9s,baz=294,slow=8.6,SNR=48						
CMAR				PcP	**PcP**	**16 55 24.4**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=281,slow=4.3,SNR=9.4						

comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CM01 Chiang Mai Arr 30.85 99 *eP* **P 16 52 26.8 +0.5**
CM01 *ePcP* **PcP 16 55 24.1 +0.9**
BR231 Keskin MP Arra 30.93 303 *eP* P 16 52 20.5 -6.5
SIM Simferopol' 31.64 313 *eP* **P 16 52 33.7 +0.8**
SIM pmax pmax
comp=Z,11nm,1.0s
UMPA Umpang Tak 31.64 103 P **P 16 52 37.6 +4.3**
comp=Z,4.0nm,1.4s,comp=Z,530nm
NANT Nan 32.25 97 P **P 16 52 41.2 +2.6**
comp=Z,3.9nm,0.9s
KMI Kunming 32.33 85 P **P 16 52 40.7 +1.2**
KMI pP pP 16 52 50.7 +5.0
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=Z,260nm,13.5s
KMI LR LR
comp=Z,160nm,18.2s
KMI LR LR
comp=Z,260nm,16.5s
UTHA Uthaitani 32.43 104 P **P 16 52 42.8 +2.6**
comp=Z,5.4nm,1.2s,comp=Z,51nm
UTTA Uttaradit 32.51 99 P **P 16 52 42.8 +1.9**
comp=Z,5.7nm,1.0s
CD2 Chengdu 32.54 74 *eP* **P 16 52 40.8 -0.3**
LZH Lanzhou 32.74 65 *eP* P 16 52 48.8 +5.8
LZH pP pP 16 52 58.2 +9.0
LZH sP sP 16 53 03.1 +11
LZH pmax pmax
comp=Z,13nm,1.0s
PBKT Sadao Pong 33.34 101 P **P 16 52 49.8 +1.7**
comp=Z,19nm,1.0s
PHET Kaeng Krachan 33.81 108 P **P 16 52 55.4 +3.1**
comp=Z,7.1nm,0.8s
SLVN Son La 34.29 91 *eP* **P 16 52 58.0 +1.5**
comp=Z,13nm,1.2s
CHAI Chaiyaphum 34.50 101 P **P 16 53 00.6 +2.4**
comp=Z,4.9nm,1.1s,comp=Z,86nm
NAYO Nakonayok 34.60 104 P **P 16 53 02.4 +3.3**
comp=Z,33nm,1.1s
TIRR Tirgusor 35.29 310⇑ *iP* **P 16 53 04.9 +0.2**
TIRR Tirgusor 35.29 310⇑ P **P 16 53 04.9 +0.2**
GYA Guiyang 35.56 82 *eP* **P 16 53 09.2 +1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MOS Moscow 35.61 332 *eP* **P 16 53 07.0 -0.3**
MOS *e* 16 54 24.0
MOS pmax pmax
comp=Z,58nm,1.3s
SKNT Sakolnakorn 35.83 98 P **P 16 53 11.5 +1.8**
comp=Z,21nm,1.5s
MLSI Meulaboh, Aceh 36.22 123 P **P 16 53 13.9 +0.8**
PANO Nakornpanom 36.32 98 P **P 16 53 16.0 +2.1**
comp=Z,60nm,1.1s,comp=Z,5μm
ZAK Zakamensk 36.33 40 *eP* **P 16 53 13.8 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ISR Istrita 36.75 310⇑ *iP* **P 16 53 18.6 +1.2**
ISR Istrita 36.75 310⇑ P **P 16 53 18.6 +1.2**
XAN Xi'an 36.82 68 P **P 16 53 18.8 +0.7**
XAN pP pP 16 53 25.3 +1.0
XAN pmax pmax
comp=Z,22nm,1.3s
VRI Vrincioaia 36.84 311⇑ *iP* **P 16 53 19.5 +1.5**
VRI Vrincioaia 36.84 311⇑ P **P 16 53 19.5 +1.5**
PLOR Plostina 36.88 311⇑ *iP* **P 16 53 19.1 +0.6**
PLOR Plostina 36.88 311⇑ P **P 16 53 19.1 +0.6**
AKASG Malin Array Be 37.03 320 P **P 16 53 19.0 -0.6**
comp=Z,5.5nm,0.9s,baz=108,slow=7.3,SNR=14
AKASG PcP **PcP 16 55 40.9 +0.8**
comp=Z,0.3nm,0.2s,baz=96,slow=2.6,SNR=5.3
AKBB Malin Array Si 37.03 320 *eP* **P 16 53 18.3 -1.3**
AKBB pmax pmax
comp=Z,11nm,0.9s
AKBB Malin Array Si 37.03 320 *eP* **P 16 53 18.3 -1.3**
comp=Z,11nm,0.9s
KIEV Kiev 37.04 320⇓ *eP* **P 16 53 19.1 -0.5**
KIEV pmax pmax
comp=Z,13nm,1.0s
KIEV Kiev 37.04 320 *eP* **P 16 53 18.2 -1.4**
comp=Z,9.4nm,0.9s
SECR 37.05 310⇑ *iP* **P 16 53 22.4 +2.5**
TESR Tescani 37.08 312⇑ *iP* **P 16 53 21.1 +1.0**
TLY Talaya 37.12 38 *eP* **P 16 53 18.8 -1.6**
TLY pmax pmax
comp=Z,17nm,1.7s
TLY MLR MLR
comp=Z,172nm,18.0s
SONM Songino Array 37.22 45 P **P 16 53 22.6 +1.2**
comp=Z,6.0nm,1.1s,baz=245,slow=8.9,SNR=29
SONM LR LR 17 12 20.8
comp=Z,353nm,18.9s,baz=248,slow=42
SONA1 Songino Array 37.23 45 *eP* **P 16 53 22.6 +1.1**
MLR Muntele Rosu 37.26 311⇑ *iP* **P 16 53 23.7 +1.9**
MLR Muntele Rosu 37.26 311⇑ P **P 16 53 23.7 +1.9**
ENH Enshi 37.51 75 *eP* **P 16 53 23.5 -0.5**
comp=Z,4.2nm,0.5s
PRAR RASCA 37.62 314⇑ *iP* **P 16 53 26.1 +1.5**
ULN Ulaanbaatar 37.65 45⇓ *iP* **P 16 53 27.3 +2.2**
ULN pmax pmax
comp=Z,16nm,1.7s
ULN Ulaanbaatar 37.65 45 *eP* **P 16 53 26.5 +1.4**
comp=Z,7.8nm,1.0s
ULN Ulaanbaatar 37.65 45 P **P 16 53 27.2 +2.1**
SNR=5.2
ULN P **P 16 53 27.2 +2.1**
SNR=5.2
ULN Ulaanbaatar 37.65 45 P **P 16 53 27.2 +2.1**
SNR=5.2
HUMR Humele 37.68 309⇑ *iP* **P 16 53 26.4 +1.2**
DOPR Dopca 37.76 311⇑ *iP* **P 16 53 26.7 +0.8**
VOIR 37.85 310⇑ *iP* **P 16 53 27.6 +0.9**
VOIR 37.85 310⇑ P **P 16 53 27.6 +0.9**
ARR Arges 38.12 310⇓ *iP* **P 16 53 29.4 +0.4**
BURAR Bucovina Array 38.35 314⇑ *iP* **P 16 53 31.0 +0.1**
BURAR Bucovina Array 38.35 314⇑ P **P 16 53 31.0 +0.1**
BUR08 Bucovina Ar. S 38.37 314 *eP* **P 16 53 30.7 -0.4**
VTS Vitosha 38.55 305⇑ *iP* **P 16 53 33.2 +0.4**
VTS Vitosha 38.55 305 *eP* **P 16 53 32.5 -0.3**
VTS pmax pmax
comp=Z,11nm,1.0s
VTS Vitosha 38.55 305 *eP* **P 16 53 32.5 -0.3**
comp=Z,11nm,1.0s
KLMR Klimovskoe 38.57 339 *eP* **P 16 53 30.3 -2.1**
KLMR *e* 16 54 58.7
KLMR pmax pmax
comp=Z,15nm,0.9s
LOT Lotru 38.73 310⇑ *iP* **P 16 53 34.5 +0.3**
KULM Kulim 38.84 118 *eP* **P 16 53 38.6 +3.4**
comp=Z,18nm,1.2s
CJR Cluj-Napoca 39.16 312⇑ *iP* **P 16 53 38.7 +1.1**
CJR Cluj-Napoca 39.16 312⇑ P **P 16 53 38.7 +1.1**
HHC Hu-ho-hao-te 39.27 58 *eP* **P 16 53 41.3 +2.5**
HHC PP **PnPn 16 55 17.7 +6.1**
HHC S **S 16 59 40.0 +1.4**
HHC pmax pmax
comp=Z,33nm,1.2s
HHC pmax pmax
comp=Z,130nm,4.9s
HHC LR LR
comp=Z,160nm,13.6s
HHC LR LR
comp=Z,120nm,11.1s
HHC LR LR
comp=Z,130nm,12.3s
DRGR 39.77 312⇑ *iP* **P 16 53 43.8 +1.1**
DRGR 39.77 312⇑ P **P 16 53 43.8 +1.1**
LVV L'vov 39.78 317 *eP* **P 16 53 44.3 +1.6**
KMBO Kilima Mbogo 39.84 230 P **P 16 53 44.9 +1.0**
comp=Z,2.0nm,0.7s,baz=32,slow=11,SNR=5.2
MDVR Moldovita 40.01 308⇑ *iP* **P 16 53 45.4 +0.6**
TRPA Tarpa 40.22 314⇓ *eP* **P 16 53 46.8 +0.4**
BZS Buzias 40.24 310⇑ *iP* **P 16 53 46.6 0.0**
BZS Buzias 40.24 310⇑ P **P 16 53 46.6 0.0**
QIZ Qiongzhong 40.30 92 P **P 16 53 48.0 +0.6**
QIZ S **S 16 59 54.5 +0.3**
QIZ LR LR
comp=Z,200nm,13.8s
SIRR Siria 40.35 311⇑ *iP* **P 16 53 48.7 +1.2**
UZH Uzhgorod 40.51 314 *eP* P 16 53 45.0 -3.8
UZH *e* 16 53 53.5
UZH *i* 16 53 59.1

KWP Kalwaria Pacla 40.54 316 *eP* P 16 53 45.3 -3.7
KWP Kalwaria Pacla 40.54 316 *eP* P 16 53 45.3 -3.7
MNSI Mandailing Nat 40.89 124 P **P 16 53 53.4 +1.1**
CRVS Cervenica-Dubn 41.12 315 *eP* **P 16 53 55.0 +1.2**
CRVS Cervenica-Dubn 41.12 315 *eP* **P 16 53 55.0 +1.2**
PDG Podgorica 41.43 304⇑ *iP* **P 16 53 55.5 -0.9**
TMCR Tamitsa 41.54 341 *eP* **P 16 53 56.9 -0.1**
KECS Kecovo 41.64 314 *eP* **P 16 53 59.3 +1.2**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 41.64 314 *eP* **P 16 53 59.3 +1.2**
PSZ Piszkesteto 41.89 313⇑ *iP* **P 16 54 01.3 +1.0**
PSZ Piszkesteto 41.89 313⇑ P **P 16 54 01.3 +1.0**
PSZ Piszkesteto 41.89 313⇓ *eP* **P 16 54 00.9 +0.6**
PSZ Piszkesteto 41.89 313⇓ *eP* **P 16 54 00.9 +0.6**
PSZ Piszkesteto 41.89 313 *eP* **P 16 54 00.8 +0.5**
comp=Z,14nm,0.9s
NIE Niedzica 41.99 315 *eP* **P 16 54 02.6 +1.6**
NIE Niedzica 41.99 315 *eP* **P 16 54 02.6 +1.6**
VSU Vasula 42.00 330⇓ *eP* **P 16 54 00.5 -0.4**
VSU pmax pmax
comp=Z,176nm,1.8s
OJC Ojcow 42.51 316 *eP* P 16 54 02.3 -2.9
OJC Ojcow 42.51 316 *eP* P 16 54 02.3 -2.9
OJC Ojcow 42.51 316 *eP* **P 16 54 05.4 +0.2**
comp=Z,10.0nm,0.9s
PDSI Padang 42.69 125 P **P 16 54 08.1 +1.1**
VYHS Vyhne 42.71 313 *eP* **P 16 54 07.5 +0.7**
VYHS pmax pmax
comp=Z,6.0nm,0.8s
VYHS Vyhne 42.71 313 *eP* **P 16 54 07.5 +0.7**
BJI Beijing 42.72 59 P **P 16 54 09.1 +2.1**
BJI S **S 17 00 27.6 -2.0**
BJI pmax pmax
comp=Z,19nm,1.3s
BJI pmax pmax
comp=Z,110nm,4.4s
BJI LR LR
comp=Z,160nm,12.8s
BJI LR LR
comp=Z,140nm,9.3s
BJI LR LR
comp=Z,97nm,18.4s
CSKK Cs´ţkako 42.86 312⇓ *eP* **P 16 54 09.6 +1.5**
CSKK Cs´ţkako 42.86 312⇓ *eP* **P 16 54 09.6 +1.5**
BLY Banja Luka 43.19 308 *eP* **P 16 54 10.9 +0.1**
comp=Z,34nm,1.3s
OKC Ostrava-Krasne 43.45 315 *eP* **P 16 54 13.8 +1.0**
OKC *ex* x 16 54 19.7
OKC Ostrava-Krasne 43.45 315 *eP* **P 16 54 13.8 +1.0**
OKC *e* 16 54 19.7
TIA Tai'an 43.48 65 *eP* **P 16 54 14.6 +1.3**
TIA pmax pmax
comp=Z,30nm,1.3s
BEHE Becsehely 43.71 310⇓ *eP* **P 16 54 15.8 +0.8**
BEHE Becsehely 43.71 310⇓ *eP* **P 16 54 15.8 +0.8**
MORC Moravsky Berou 43.82 315⇑ *iP* P 16 54 12.1 -3.7
MORC Moravsky Berou 43.82 315⇑ P P 16 54 12.2 -3.6
MORC Moravsky Berou 43.82 315 *eP* **P 16 54 15.7 -0.1**
comp=Z,55nm,1.1s
FINES FINESS Array B 43.87 333 P **P 16 54 15.6 -0.3**
comp=Z,4.0nm,0.6s,baz=128,slow=9.2,SNR=15
FINES LR LR 17 14 14.6
comp=Z,163nm,19.2s,baz=118,slow=38
FINES FINESS Array B 43.87 333 *iP* **P 16 54 18.0 +2.0**
FINES pmax pmax
comp=Z,4.0nm,0.6s
SOP Sopron 44.05 312⇑ *eP* **P 16 54 18.3 +0.6**
SOP Sopron 44.05 312⇑ *eP* **P 16 54 18.3 +0.6**
KOGS Kog 44.07 310 *eP* **P 16 54 18.2 +0.4**
NRIK Noril'sk 44.12 10 P **P 16 54 18.6 +0.7**
comp=Z,10nm,0.9s,baz=122,slow=4.8,SNR=6.2
NRIK LR LR 17 15 30.0
comp=Z,337nm,18.3s,baz=222,slow=40
CONA Conrad Observa 44.55 312 *iP* **P 16 54 20.8 -1.0**
comp=Z,11nm,1.3s
GROS Grobnik 44.58 310 *eP* **P 16 54 22.1 +0.1**
ARSA Arzberg 44.68 311 *iP* **P 16 54 22.8 +0.1**
comp=Z,27nm,1.1s,SNR=8.9
DPC Dobruska-Polom 44.71 315 *eP* **P 16 54 24.2 +1.3**
DPC *ex* x 16 54 30.3
DPC Dobruska-Polom 44.71 315 *eP* **P 16 54 24.2 +1.3**
DPC *e* 16 54 30.3
KSP Ksiaz 44.83 316 *eP* **P 16 54 26.3 +2.5**
KSP Ksiaz 44.83 316 *eP* **P 16 54 26.3 +2.5**
SOKA Soboth 44.93 310 *iP* **P 16 54 25.3 +0.5**
comp=Z,26nm,1.7s,SNR=9.3
UPC Upice 44.93 316 *eP* **P 16 54 26.0 +1.3**
UPC *ex* x 16 54 29.8
UPC Upice 44.93 316 *eP* **P 16 54 26.0 +1.3**
UPC *e* 16 54 32.5
TREC Trest 45.03 314 *eP* **P 16 54 26.3 +0.8**
TREC Trest 45.03 314 *eP* **P 16 54 26.3 +0.8**
LJU Ljubljana 45.20 309 *eP* **P 16 54 27.5 +0.6**
OBKA Obir 45.24 310 *iP* **P 16 54 27.9 +0.6**
comp=Z,19nm,0.9s,SNR=8.6
NJ2 Nanjing 45.28 71 *eP* **P 16 54 29.4 +1.7**
NJ2 pmax pmax
comp=Z,26nm,0.7s
APA Apatity 45.35 343⇑ *iP* P 16 54 22.6 -5.1
APA pmax pmax
comp=Z,8.0nm,0.7s
APA MLR MLR
comp=Z,900nm,11.0s
MOA Molln 45.60 312 *iP* **P 16 54 30.4 +0.4**
comp=Z,16nm,1.2s
PRU Pruhonice 45.76 315 *eP* **P 16 54 31.8 +0.6**
PRU *ex* x 16 54 37.3
PRU Pruhonice 45.76 315 *eP* **P 16 54 31.8 +0.6**
PRU *e* 16 54 37.3
PVCC Panska Ves 45.84 315 *eP* **P 16 54 33.1 +1.2**
PVCC Panska Ves 45.84 315 *eP* **P 16 54 33.1 +1.2**
MYKA Terra Mystica 45.88 310 *iP* **P 16 54 33.3 +1.0**
comp=Z,6.6nm,0.6s
GEA0 GERESS Array S 46.12 313 *eP* **P 16 54 33.2 -0.9**
GEC2 GERESS Array S 46.12 313 *eP* **P 16 54 34.1 -0.1**
GEC2 pmax pmax
comp=Z,15nm,1.1s
GEC2 GERESS Array S 46.12 313 *eP* **P 16 54 34.1 -0.1**
comp=Z,15nm,1.1s
GERES GERESS Array B 46.12 313 P **P 16 54 33.5 -0.7**
comp=Z,3.2nm,0.8s,baz=98,slow=7.0,SNR=25
KBA Koelnbreinsper 46.13 310 *iP* **P 16 54 35.4 +1.0**
comp=Z,16nm,0.7s
KHC Kasperske Hory 46.24 313 *eP* **P 16 54 35.5 +0.4**
KHC *ex* x 16 54 42.2
KHC Kasperske Hory 46.24 313 *eP* **P 16 54 35.5 +0.4**
KHC *e* 16 54 42.2
KHC Kasperske Hory 46.24 313 *eP* **P 16 54 35.1 0.0**
comp=Z,9.1nm,1.7s
BRG Berggiesshubel 46.30 316 *eP* **P 16 54 36.4 +1.0**
comp=Z,29nm,1.4s
BRG Berggiesshubel 46.30 316 *eP* **P 16 54 36.4 +1.0**
BRG pmax pmax
comp=Z,29nm,1.5s
ABTA Abfaltersbach 46.66 310 *iP* **P 16 54 38.9 +0.4**
comp=Z,29nm,0.9s,SNR=15
CLL Collm 46.96 316 *eP* **P 16 54 41.0 +0.4**
CLL *i* 16 54 49.2
CLL Collm 46.96 316 *eP* **P 16 54 41.0 +0.4**
CLL *i* 16 54 49.2
comp=Z,7.0nm,0.9s
NKC Novy Kostel 47.13 315 *eP* **P 16 54 43.4 +1.4**
NKC Novy Kostel 47.13 315 *eP* **P 16 54 43.4 +1.4**
WTTA Wattenberg 47.31 311 *iP* **P 16 54 43.3 -0.3**
comp=Z,17nm,0.9s,SNR=5.6
WATA Walderalm 47.35 311 *iP* **P 16 54 44.3 +0.4**
comp=Z,4.6nm,0.5s
MOTA Moosalm 47.67 311 *iP* **P 16 54 45.9 -0.6**
comp=Z,15nm,0.8s,SNR=10.0
FETA Feichten 47.90 310 *iP* **P 16 54 47.8 -0.5**
comp=Z,17nm,0.8s,SNR=7.2
RETA Reutte 47.92 311 *iP* **P 16 54 48.1 -0.2**
comp=Z,12nm,0.8s
LWLI Liwa 48.10 126 P **P 16 54 49.8 -0.2**
FUORN Ofenpass-Fuorn 48.20 310 *eP* **P 16 54 51.3 +0.7**
comp=Z,10nm,0.8s
KLSI 48.37 125 P **P 16 54 50.5 -1.5**
DAVA Damuels 48.50 310 *iP* **P 16 54 52.6 -0.3**
comp=Z,28nm,0.8s,SNR=11
ARA0 ARCESS Array S 48.83 342 *eP* **P 16 54 54.1 -0.7**
ARCES ARCESS Array B 48.83 342 P **P 16 54 54.5 -0.3**
comp=Z,7.5nm,0.6s,baz=138,slow=7.5,SNR=66
ARCES LR LR 17 17 53.6

comp=Z,376nm,18.5s,baz=112,slow=39
ARE0 ARCESS Array S 48.83 342 *eP* **P 16 54 54.2 -0.6**
comp=Z,120nm,1.8s
VSL Villasalto 48.84 300 *eP* **P 16 54 55.1 -0.3**
comp=Z,70nm,1.4s
OPO Ambohidratompo 49.09 205 LR LR 17 12 50.0
comp=Z,88nm,19.6s,baz=343,slow=33
KEST Kesra 49.19 295 P **P 16 54 58.9 +0.7**
comp=Z,15nm,0.7s,baz=231,slow=2.4,SNR=12
KEST Kesra 49.19 295 *eP* **P 16 54 59.0 +0.7**
comp=Z,26nm,0.9s
BFO Black Forest 49.61 312 *iP* **P 16 55 02.0 +0.8**
SBUM Sibu 49.88 111 *eP* **P 16 55 04.6 +1.0**
comp=Z,10nm,1.0s
LANF Langenberg 50.00 313 *eP* **P 16 55 04.8 +0.7**
NB2 NORSAR Subarra 50.21 329 P **P 16 55 04.3 -1.3**
comp=Z,3.7nm,0.8s,baz=85,slow=7.4
NOA NORSAR Array B 50.21 329 P **P 16 55 04.2 -1.3**
comp=Z,3.9nm,0.7s,baz=108,slow=7.5,SNR=12
NOA LR LR 17 20 05.9
comp=Z,182nm,18.3s,baz=110,slow=41
SENIN Lac Senin/Sane 50.23 309 *eP* **P 16 55 05.4 -0.7**
comp=Z,9.2nm,0.8s
ECH Echery 50.39 312 *eP* **P 16 55 07.6 +0.5**
MOF Molkenrain 50.39 311 *eP* **P 16 55 07.4 +0.2**
LOMF Lomont 50.58 310 *eP* **P 16 55 07.0 -1.6**
OG01 Vacheresse 50.66 309 *eP* **P 16 55 09.2 0.0**
BNI Bardonecchia 50.66 307 *eP* **P 16 55 08.2 -1.1**
BNI pmax pmax
comp=Z,18nm,1.0s
BNI Bardonecchia 50.66 307 *eP* **P 16 55 08.2 -1.1**
comp=Z,18nm,1.0s
RSL Roselend 50.69 308 *eP* **P 16 55 09.0 -0.6**
KKM Kota Kinabalu 51.40 105 *eP* **P 16 55 17.1 +1.8**
comp=Z,13nm,1.3s
KSAR Wonju Array Be 51.98 62 P **P 16 55 19.9 +0.7**
KSAR Wonju Array Be 51.98 62 P **P 16 55 19.9 +0.7**
KS01 Wonju Array Si 51.98 62 *eP* **P 16 55 17.1 -2.1**
KSRS Korea Array 52.01 62 P **P 16 55 19.9 +0.5**
comp=Z,6.9nm,0.9s,baz=268,slow=7.7,SNR=19
SSB Saint Sauveur 52.17 308 *eP* **P 16 55 18.5 -2.0**
SSB pmax pmax
comp=Z,12nm,1.1s
SSB Saint Sauveur 52.17 308 *eP* **P 16 55 18.5 -2.0**
comp=Z,12nm,1.1s
YAK Yakutsk 53.90 31 P **P 16 55 32.4 -0.5**
comp=Z,2.7nm,0.3s,baz=287,slow=19,SNR=4.1
YAK Yakutsk 53.90 31 *eP* **P 16 55 32.6 -0.3**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK Yakutsk 53.90 31 *eP* **P 16 55 31.9 -1.0**
comp=N,58nm,1.2s
USRK Ussuriysk Ar. 54.40 53 P **P 16 55 38.1 +1.3**
comp=N,4.0nm,0.8s,baz=270,slow=8.2,SNR=7.1
JNU Nakatsue 55.11 67 P **P 16 55 43.7 +1.5**
comp=N,10.0nm,0.9s,baz=245,slow=3.2,SNR=10
JNU Nakatsue 55.11 67 *eP* **P 16 55 42.6 +0.4**
comp=N,15nm,1.1s
TAM Tamanrasset 55.23 280 *eP* **P 16 55 43.3 -0.1**
TAM pmax pmax
comp=Z,17nm,1.4s
TAM Tamanrasset 55.23 280 *eP* **P 16 55 43.3 -0.1**
comp=Z,17nm,1.4s
TIXI Tiksi 55.94 20⇑ *eP* **P 16 55 47.3 -0.2**
TIXI pmax pmax
comp=Z,22nm,2.5s
LSZ Lusaka 56.26 226 LR LR 17 20 28.4
comp=Z,61nm,18.1s,baz=26,slow=37
ESDC Sonseca Array 59.04 302 P **P 16 56 08.5 -1.5**
comp=Z,0.8nm,0.5s,baz=64,slow=7.1,SNR=9.6
PAB San Pablo 59.35 302 *eP* **P 16 56 10.4 -1.8**
PAB pmax pmax
comp=Z,17nm,1.5s
PAB San Pablo 59.35 302 *eP* **P 16 56 10.4 -1.8**
comp=Z,17nm,1.5s
MAT Matsushiro 60.27 62 P **P 16 56 18.3 -0.2**
MJAR Matsushiro Arr 60.27 62 P **P 16 56 19.5 +1.0**
comp=Z,1.4nm,0.7s,baz=280,slow=7.3,SNR=4.4
TYV Tymovskoe 60.88 45 *eP* P 16 56 31.9 +10
TYV pmax pmax
comp=Z,23nm,2.4s
YSS Yuzh-Sakhalins 61.55 49 *eP* **P 16 56 27.8 +0.9**
YSS pmax pmax
comp=Z,35nm,1.7s
MTE Manteigas 61.58 303 *eP* **P 16 56 27.3 -0.1**
comp=Z,14nm,1.7s
PCBR Castelo Branco 61.66 303 *eP* **P 16 56 27.4 -0.4**
comp=Z,26nm,1.2s
PMRV Marv??o 61.68 302 *eP* **P 16 56 26.9 -1.1**
comp=Z,11nm,1.6s
PBAR Barrancos 61.70 301 *eP* **P 16 56 26.7 -1.4**
comp=Z,51nm,1.8s
ASAJ Asahikawa 61.96 52 P **P 16 56 30.1 +0.3**
comp=Z,2.7nm,0.6s,baz=337,slow=3.8,SNR=5.6
TOA0 Torodi Ar. Sit 62.05 271 *eP* **P 16 56 29.4 -1.4**
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 62.05 271 P **P 16 56 29.8 -1.0**
comp=Z,7.6nm,0.7s,baz=61,slow=6.2,SNR=38
TORD LR LR 17 28 04.9
comp=Z,41nm,20.9s,baz=0.0,slow=41
DAG Danmarks Havn 62.90 345 *iP* **P 16 56 34.7 -0.8**
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 62.90 345 *iP* **P 16 56 34.7 -0.8**
DAG pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 64.39 30 P **P 16 56 46.6 +1.0**
comp=Z,5.8nm,0.7s,baz=272,slow=4.9,SNR=21
SEY Seymchan 64.39 30⇑ *iP* **P 16 56 45.5 -0.1**
BOSA Boshof 68.11 219 P **P 16 57 09.2 -0.8**
comp=Z,2.3nm,0.8s,baz=64,slow=2.0,SNR=5.1
BILL Bilibino 68.75 23 *eP* P 16 57 10.6 -2.8
BILL pmax pmax
comp=Z,9.0nm,1.4s
BILL MLR MLR
comp=Z,189nm,18.0s
PETK Petropavlovsk- 69.45 40 LR LR 17 30 52.8
comp=Z,94nm,21.3s,baz=295,slow=39
DBIC Dimbokro 70.61 268 P **P 16 57 24.7 -1.0**
comp=Z,10nm,0.9s,baz=24,slow=6.3,SNR=8.3
DBIC LR LR 17 33 04.5
comp=Z,60nm,18.5s,baz=42,slow=40
KIC Kosan Boka 70.65 267 *eP* **P 16 57 25.1 -0.9**
comp=Z,27nm,1.1s
TIC Toumodi 70.77 268 *eP* **P 16 57 25.8 -0.9**
LIC Lamto 70.96 267 *eP* **P 16 57 26.8 -1.1**
comp=Z,36nm,0.9s
WRA Warramunga Arr 80.39 118 P **P 16 58 21.9 +0.2**
comp=Z,3.4nm,0.8s,baz=315,slow=4.8,SNR=29
WRA Warramunga Arr 80.39 118 P **P 16 58 21.9 +0.2**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 80.39 118 *eP* **P 16 58 20.3 -1.4**
WRAB pmax pmax
comp=Z,40nm,1.8s
WRAB Tennant Creek 80.39 118 *eP* **P 16 58 20.3 -1.4**
comp=Z,40nm,1.8s
WB2 Warramunga Arr 80.40 118 *eP* **P 16 58 21.1 -0.6**
comp=Z,32nm,1.7s
COLD Coldfoot 82.08 14 *eP* **P 16 58 30.5 +0.6**
comp=Z,13nm,1.2s
ASAR Alice Springs 82.10 121 P **P 16 58 30.6 -0.1**
comp=Z,2.4nm,0.7s,baz=309,slow=5.3,SNR=44
AS31 Alice Springs 82.10 121 *eP* **P 16 58 30.2 -0.5**
comp=Z,1.2nm,0.9s
AS01 Alice Springs 82.13 121 *eP* **P 16 58 29.7 -1.2**
COLA College 84.59 14 *eP* **P 16 58 43.6 +0.8**
COLA pmax pmax
comp=Z,5.0nm,0.5s
ILAR Eielson Array 84.89 14 P **P 16 58 44.0 -0.4**
comp=Z,1.0nm,0.9s,baz=325,slow=3.2,SNR=8.3
PMG Port Moresby 85.80 103 *eP* **P 16 58 50.4 +0.7**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 85.80 103 *eP* **P 16 58 50.4 +0.7**
comp=Z,12nm,0.8s
DAWY Dawson 86.97 11 *eP* **P 16 58 55.3 +0.5**
SCHQ Schefferville 89.31 335 LR LR 17 40 55.1
comp=Z,145nm,19.4s,baz=76,slow=37
YKA Yellowknife Ar 90.84 1 P **P 16 59 13.6 +0.6**
comp=Z,1.4nm,0.6s,baz=345,slow=5.2,SNR=3.3
MAW Mawson 94.33 181 P **P 16 59 29.6 +1.0**
comp=Z,1.2nm,0.7s,baz=355,slow=11,SNR=4.4
MAW Mawson 94.33 181 *eP* **P 16 59 29.1 +0.5**
MAW pmax pmax
comp=Z,3.0nm,1.5s

MAW	Mawson	94.33	181	eP	P	16 59 29.1	+0.5
	comp=Z,2.6nm,1.5s						
TXAR	Lajitas Array	123.26	350	PKP	PKPdf	17 05 07.3	-0.1
	comp=Z,0.4nm,0.6s,baz=211,slow=0.8,SNR=5.4						

*IDC **11** 17:13:39.6±0.4,27°.13S×109°.34W,h0km,mb4.5/16, mb1 4.6/16,mb1mx4.2/34,mbtmp4.5/16,MS4.1/15, Ms1 4.1/15,ms1mx4.1/21, Error ellipse: s-maj=17.6km s-min=3.8km az=101.0*

*ISCJB **11** 17:13:40.9±0.2,26°.90S±0°.03×109°.28W±0°.05,h10km, mb5.0/183,MS4.3/19, Error ellipse: s-maj=6.7km s-min=4.7km az=178.0*

*MOS **11** 17:13:40.7±0.7,26°.89S×109°.30W,h10km,mb5.1/36, Error ellipse: s-maj=18.8km s-min=6.9km az=88.3*

*GCMT **11** 17:13:43.1±0.2,27°.02S×109°.10W,h13km±1km,MW5.0/83, Moment Tensor Solution. s45,c68; s83,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.58±.15; $M_{\theta\theta}$2.77±.13; $M_{\phi\phi}$-0.19±.13; $M_{r\theta}$0.69±.28; $M_{\theta\phi}$3.89±.11; $M_{r\phi}$0.93±.32; Best double couple: $M_0$4.38700×10^{16} NP1:ϕ_s199.00000°,δ57.00000°,λ-145.00000°. NP2: ϕ_s96.00000°,δ57.00000°,λ-25.00000°. Principal axes: T 5.5980, Plg8.0000°, Azm325.0000°; N -2.4250, Plg50.0000°, Azm226.0000°; P -3.1770, Plg39.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **11** 17:13:43.5,27°.05S×109°.30W,h14km,mB5.2/11,Ms5.1/8, Ms7 4.8/10*

*NEIC **11** 17:13:43.1±0.6,26°.99S×109°.37W,h15km±3km,mb5.1/170, Error ellipse: s-maj=6.6km s-min=5.0km az=64.0*

NEIC Felt [III] on Easter Island.

ISC 11 17:13:42.7±0.3,27°.03S±0°.07×109°.14W±0°.05,h10km, n604,σ1$04/598,mb5.1/183,MS4.2/19,1C-3D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	0.20	240	Pn	Pg	17 13 47.3	+0.4
	41μm,0.3s,baz=293,slow=22						
RPN				Sn	Sg	17 13 50.9	+1.2
	72μm,0.3s,baz=311,slow=19,SNR=286						
RPN	Rapa Nui	0.20	240	eP	Pg	17 13 46.6	-0.3
RPN				eS	Sg	17 13 50.9	+1.2
RPN	Rapa Nui	0.20	240	ePg	Pg	17 13 47.0	+0.1
RPN				eSg	Sg	17 13 50.9	+1.2
RKT	Rikitea	23.71	274	eLQ	LQ	17 23 43.4	
	438nm,21.2s						
RKT				eLR	LR	17 24 41.2	
	1μm,27.2s,baz=93						
NNA	Nana	33.79	70	LR	LR	17 30 19.2	
	comp=Z,226nm,20.6s,baz=236,slow=29						
TAOE	Nuku Hiva Isla	34.45	296	eS	S	17 26 01.9	+2.6
	209nm,26.8s						
TAOE				eLR	LR	17 29 42.8	
	1μm,26.9s,baz=135						
PLCA	Paso Flores	34.55	123	LR	LR	17 30 55.8	
	comp=Z,1μm,20.4s,baz=324,slow=30						
PLCA	Paso Flores	34.55	123	eP	P	17 20 32.4	+0.9
PLCA				pmax	pmax		
	comp=Z,45nm,1.8s						
PLCA	Paso Flores	34.55	123	eP	P	17 20 32.4	+0.9
	comp=Z,45nm,1.8s						
ATAH	Atahualpa	35.26	62	P	P	17 20 38.4	+0.2
	comp=Z,9.0nm,0.8s,baz=290,slow=9.4,SNR=5.0						
ATAH				LR	LR	17 31 09.1	
	comp=Z,411nm,21.8s,baz=233,slow=30						
TBI	Tubuai	36.56	267	eLQ	LQ	17 29 06.5	
	comp=Z,963nm,30.2s						
TBI				eLR	LR	17 30 32.2	
	comp=Z,190nm,26.5s						
TBI	Tubuai	36.56	267	eT	T	17 59 11.6	
	comp=Z,11nm,0.2s						
LVC	Limon Verde	36.67	92	P	P	17 20 51.6	+1.3
	comp=Z,14nm,0.7s,baz=265,slow=11,SNR=2.7						
LVC	Limon Verde	36.67	92	eP	P	17 20 53.8	+3.5
	comp=Z,13nm,0.9s						
PB11	IPOC Station P	36.84	87	eP	P	17 20 52.9	+1.4
	comp=Z,14nm,0.9s						
MNMC	Minye Minye	37.10	86	eP	P	17 20 56.1	+2.2
	comp=Z,16nm,1.0s						
PPT2	Papeete2	38.43	276	eS	S	17 27 03.9	+3.7
	comp=Z,101nm,25.8s						
PPT2				eLQ	LQ	17 29 37.6	
	comp=Z,935nm,31.0s						
PPT2				eLR	LR	17 31 30.6	
	comp=Z,1μm,24.8s,baz=105						
PPT	Papeete	38.44	276	LR	LR	17 32 26.5	
	comp=Z,818nm,21.6s,baz=108,slow=29						
LPAZ	La Paz	39.43	83	P	P	17 21 13.9	0.0
	comp=Z,2.7nm,0.6s,baz=248,slow=7.3,SNR=12						
LPAZ				LR	LR	17 33 44.1	
	comp=Z,178nm,20.1s,baz=246,slow=30						
OTAV	Otavalo	40.07	52	eP	P	17 21 21.2	+2.1
	comp=Z,20nm,1.1s						
USHA	Ushuaia	40.55	145	P	P	17 21 21.5	-0.5
	comp=Z,56nm,0.8s,baz=280,slow=11,SNR=4.1						
TRQA	Tornquist	40.86	118	eP	P	17 21 28.3	+3.5
	comp=Z,48nm,1.8s						
PRAC	Prado	45.03	53	eP	P	17 22 01.7	+2.8
	comp=Z,47nm,1.2s						
TLIG	Tlapa	45.50	14	eP	P	17 22 03.1	+0.6
	comp=Z,32nm,1.0s						
SIV	San Ignacio	45.81	86	P	P	17 22 05.8	+0.8
	comp=Z,7.8nm,0.8s,baz=255,slow=13,SNR=6.0						
BCIP	Isla Barro Col	45.85	42	eP	P	17 22 07.0	+1.8
	comp=Z,86nm,1.6s						
CMIG	Matias Romero	45.99	19	P	P	17 22 06.0	-0.2
	comp=Z,4.2nm,0.8s,baz=230,slow=2.8,SNR=4.9						
CPUP	Villa Florida	46.02	101	P	P	17 22 07.6	+0.9
	comp=Z,0.5nm,0.4s,baz=239,slow=18,SNR=1.6						
CPUP				LR	LR	17 38 10.8	
	comp=Z,295nm,18.9s,baz=258,slow=32						
CPUP	Villa Florida	46.02	101	eP	P	17 22 09.0	+2.3
CPUP	Villa Florida	46.02	101	eP	P	17 22 09.0	+2.3
TGUH	Tegucigalpa,Un	46.03	30	eP	P	17 22 08.5	+1.8
	comp=Z,96nm,1.7s						
CCIG	Comitan	46.11	23	eP	P	17 22 07.0	-0.5
	comp=Z,29nm,1.1s						
ROSC	El Rosal	46.22	52	P	P	17 22 09.6	+0.9
	comp=Z,5.7nm,0.4s,baz=89,slow=9.9,SNR=6.8						
ROSC				LR	LR	17 38 11.3	
	comp=Z,114nm,18.9s,baz=227,slow=32						
ROSC	El Rosal	46.22	52	eP	P	17 22 08.2	-0.5
	comp=Z,34nm,1.5s						
NORC	Norcasia	46.35	51	eP	P	17 22 02.3	-7.1
HELC	Santa Helena	46.35	50	eP	P	17 22 10.6	+0.8
	comp=Z,87nm,1.7s						
CHIC	Chingaza	46.49	53	eP	P	17 22 14.2	+3.4
SAML	Samuel	46.96	76	eP	P	17 22 13.0	-1.1
	comp=Z,15nm,1.2s						
TUIG	Tuzandepetl	47.01	19	eP	P	17 22 16.7	+2.4
	comp=Z,102nm,0.6s						
MOIG	Morelia	47.06	10	eP	P	17 22 15.1	+0.1
	comp=Z,36nm,0.6s						
PMSA	Palmer Station	47.29	156	eP	P	17 22 16.7	+0.7
	comp=Z,10nm,1.2s						
ZARC	Zaragoza, Cauc	47.76	49	eP	P	17 22 18.2	-2.0
RUSC	La Rusia	47.83	52	eP	P	17 22 22.2	+0.8
	comp=Z,7.4nm,1.2s						
MOTC	Monteria, Cord	48.17	47	eP	P	17 22 24.9	+1.4
GIRC	Giron, Santand	48.59	51	eP	P	17 22 26.2	-0.7
PAMC	Pamplona, Colo	49.12	51	eP	P	17 22 27.5	-3.8
SJCC	San Jacinto, C	49.32	47	eP	P	17 22 31.5	-0.8
SDV	Santo Domingo	51.65	52	eP	P	17 22 48.7	-1.5
	comp=Z,18nm,1.4s						
LNIG	Linares	52.46	11	eP	P	17 22 54.4	-1.3
	comp=Z,14nm,1.2s						
HPIG		53.76	4	eP	P	17 23 04.7	-0.8
	comp=Z,8.8nm,1.0s						
PTGA	Pitinga	53.92	69	eP	P	17 23 06.0	-0.8
	comp=Z,13nm,1.1s						
MTDJ	Mount Denham	54.44	38	eP	P	17 23 09.4	-1.1
	comp=Z,50nm,1.4s						
035A	Encino	54.70	12	P	P	17 23 11.4	-0.7
	baz=192						
034A	Hebbronville	54.71	11	P	P	17 23 11.7	-0.5
	baz=192						
933A	Laredo	55.15	11	P	P	17 23 15.3	0.0
	baz=191						
934A	Benavides	55.27	11	P	P	17 23 16.2	0.0
	baz=192						
936A	North Padre Is	55.32	13	P	P	17 23 16.8	+0.3
	baz=193						
832A	Faith Ranch, C	55.70	10	P	P	17 23 19.0	-0.3
	baz=190						
HSIG		55.76	358	eP	P	17 23 19.0	-0.7
	comp=Z,12nm,1.0s						
833A	Chaparral WMA,	55.83	10	P	P	17 23 20.0	-0.2
	baz=191						
835A	Beeville	56.06	12	P	P	17 23 21.9	+0.1
	baz=192						
733A	Divot King Ran	56.23	10	P	P	17 23 23.0	0.0
	baz=191						
LTX	Lajitas	56.29	6	eP	P	17 23 23.6	0.0
LTX	Lajitas	56.29	6	eP	P	17 23 23.6	0.0
TX31	Lajitas Ar. Si	56.29	6	eP	P	17 23 22.7	-0.9
TXAR	Lajitas Array	56.29	6	P	P	17 23 23.6	0.0
	comp=Z,1.9nm,0.9s,baz=194,slow=8.6,SNR=17						
TXAR				LR	LR	17 41 42.1	
	comp=Z,70nm,20.5s,baz=0.0,slow=30						
735A	Kenedy	56.62	12	P	P	17 23 25.4	-0.5
	baz=192						
737A	Port Lavaca	56.80	13	P	P	17 23 27.2	+0.1
	baz=194						
736A	Circle Diamond	56.85	13	P	P	17 23 26.7	-0.8
	baz=193						
633A	Saathoff Ranch	56.97	10	P	P	17 23 28.2	-0.2
	baz=191						
636A	Smothers Creek	57.37	13	P	P	17 23 31.5	+0.3
	baz=193						
637A	Eagle Lake	57.47	13	P	P	17 23 32.4	+0.6
	baz=194						
JCT	Junction City	57.88	10	P	P	17 23 35.0	+0.2
	baz=190						
JCT	Junction City	57.88	10	eP	P	17 23 34.6	-0.2
JCT				pmax	pmax		
	comp=Z,25nm,0.9s						
JCT	Junction City	57.88	10	eP	P	17 23 34.5	-0.2
	comp=Z,25nm,0.9s						
536A	Bastrop	57.95	12	P	P	17 23 35.5	+0.3
	baz=193						
HKT	Hockley	58.07	14	eP	P	17 23 35.6	-0.4
HKT				pmax	pmax		
	comp=Z,38nm,1.6s						
HKT	Hockley	58.07	14	eP	P	17 23 35.6	-0.4
	comp=Z,38nm,1.6s						
319A	Douglas	58.08	360	eP	P	17 23 36.0	-0.3
	comp=Z,24nm,0.7s						
537A	Green Hill Far	58.10	13	P	P	17 23 36.6	+0.3
	baz=194						
539A	Cross D Ranch,	58.47	15	P	P	17 23 38.5	-0.3
	baz=195						
MNTX	Cornudas Mount	58.51	4	P	P	17 23 38.5	-0.6
	baz=184						
MNTX	Cornudas Mount	58.51	4	eP	P	17 23 37.7	-1.5
	comp=Z,11nm,0.9s						
EPT	El Paso	58.53	3	eP	P	17 23 38.5	-0.9
	comp=Z,10nm,0.8s						
HOPE	Hope Point	58.53	139	eP	P	17 23 37.9	-1.2
	comp=Z,285nm,2.0s						
435B	Jarrell	58.54	12	P	P	17 23 39.4	+0.1
	baz=192						
436A	Wall Ranch, Ga	58.67	12	P	P	17 23 40.4	+0.1
	baz=193						
214A	Organ Pipe Nat	58.76	356	P	P	17 23 41.0	+0.1
	baz=176						
438A	Sam Houston St	58.92	14	P	P	17 23 42.0	0.0
	baz=194						
TUC	Tucson	59.03	358	P	P	17 23 42.8	0.0
	baz=178						
TUC	Tucson	59.03	358	eP	P	17 23 41.9	-0.9
TUC				pmax	pmax		
	comp=Z,13nm,0.9s						
TUC	Tucson	59.03	358	eP	P	17 23 41.9	-0.9
	comp=Z,13nm,0.9s						
GDL2	Guadalupe Moun	59.08	5	eP	P	17 23 42.6	-0.6
439A	Center Grove,	59.12	14	P	P	17 23 43.2	-0.1
	baz=195						
121A	Cookes Peak, D	59.24	1	P	P	17 23 43.8	-0.7
	baz=182						
441A	DeRidder	59.44	16	P	P	17 23 46.2	+0.6
	baz=197						
113A	Mohawk Valley,	59.63	355	eP	P	17 23 46.8	-0.1
	comp=Z,14nm,1.0s						
IKP	In-Ko-Pah, Jac	59.72	353	P	P	17 23 47.9	+0.3
	baz=173						
WHTX	Lake Whitney,	59.74	11	eP	P	17 23 46.8	-0.9
	comp=Z,23nm,1.1s						
RAO	Raoul Island	59.87	250	eP	P	17 23 47.0	-1.9
RAO				pmax	pmax		
	comp=Z,603nm,0.9s						
RAO	Raoul Island	59.87	250	eP	P	17 23 47.0	-1.9
	comp=Z,603nm,0.9s						
340A	Bronson	59.91	15	P	P	17 23 48.7	-0.1
	baz=196						
236A	Katherine and	59.92	12	P	P	17 23 49.0	+0.1
	baz=193						
CPRX	Cap Rock	59.94	5	eP	P	17 23 48.1	-1.1
SWSC	Sam W. Stewart	59.98	354	P	P	17 23 49.1	-0.2
	baz=173						
MONP2	Monument Peak	59.99	353	P	P	17 23 49.0	-0.7
	baz=173						
GLA	Glamis	59.99	354	P	P	17 23 49.4	-0.1
	baz=174						
GLA	Glamis	59.99	354	eP	P	17 23 48.3	-1.1
GLA				pmax	pmax		
	comp=Z,45nm,1.9s						
GLA	Glamis	59.99	354	eP	P	17 23 48.3	-1.1
	comp=Z,45nm,1.9s						
341A	Kurthwood	60.00	16	P	P	17 23 48.6	-0.9
	baz=197						
ABTX	Abilene, Hawle	60.01	9	P	P	17 23 49.0	-0.6
	baz=190						
ABTX	Abilene, Hawle	60.01	9	eP	P	17 23 48.7	-0.8
	comp=Z,37nm,1.4s						
237A	Washetta, Mont	60.06	13	P	P	17 23 49.6	-0.2
	baz=194						
NATX	Nacogdoches	60.07	14	P	P	17 23 49.5	-0.5
	baz=195						
NATX	Nacogdoches	60.07	14	eP	P	17 23 50.4	+0.5
	comp=Z,17nm,0.8s						
238A	Jacksonville	60.20	14	P	P	17 23 51.5	+0.6
	baz=195						
SCI2	San Clemente I	60.34	351	P	P	17 23 52.7	+0.9
	baz=171						
239A	Gary	60.36	14	P	P	17 23 52.6	+0.7
	baz=195						
136A	Ennis	60.38	12	P	P	17 23 52.1	0.0
	baz=193						
446A	Poplarville	60.52	20	P	P	17 23 53.9	+0.9
	baz=200						
240A	Hunter Patters	60.54	15	P	P	17 23 53.3	+0.2
	baz=196						
IDE	Isla Desecheo	60.59	46	eP	P	17 23 53.4	-0.4
BC3	Big Chuckawall	60.65	354	P	P	17 23 53.7	-0.3
	baz=174,SNR=13						
137A	Heron Place, G	60.65	13	P	P	17 23 53.9	+0.1
	baz=194						
Y12C	Blythe	60.66	355	P	P	17 23 54.0	+0.1
	baz=175						
Y12C	Blythe	60.66	355	eP	P	17 23 53.8	-0.1
	comp=Z,14nm,0.8s						
XPFO	Piæon Flat	60.70	353	eP	P	17 23 54.0	-0.4
	comp=Z,10.0nm,1.1s						
PFO	Pinyon Flats O	60.71	353	P	P	17 23 54.0	-0.4
	comp=Z,3.6nm,0.6s,baz=151,slow=7.2,SNR=5.3						
PFO	Pinyon Flats O	60.71	353	P	P	17 23 54.3	-0.1
	baz=173						
PFO	Pinyon Flats O	60.71	353	eP	P	17 23 53.7	-0.7
PFO				eSP	P	17 23 53.8	-0.7
PFO	Pinyon Flats O	60.71	353	eP	P	17 23 53.7	-0.7
PFO				eSP	P	17 23 53.8	-0.7
241A	Mo Tay, Goldon	60.72	16	P	P	17 23 55.5	+1.2
	baz=197						
CIS	Catalina Islan	60.74	351	P	P	17 23 54.1	-0.5
	baz=171						
Y14A	Wickenburg	60.74	356	eP	P	17 23 54.3	-0.3
	comp=Z,128nm,1.5s						
SNCC	San Nicolas Is	60.75	350	P	P	17 23 53.8	-0.8
	baz=170						
SNCC	San Nicolas Is	60.75	350	eP	P	17 23 53.3	-1.3
	comp=Z,103nm,1.3s						
MURC	Murrieta	60.78	352	P	P	17 23 54.0	-0.8
	baz=172						
138A	Matatall Enter	60.85	14	P	P	17 23 55.9	+0.7
	baz=194						
BNM	Barren Site	60.89	2	eP	P	17 23 54.9	-0.9
MSTX	Muleshoe	60.96	6	P	P	17 23 55.4	-0.8
	baz=187						
MSTX	Muleshoe	60.96	6	eP	P	17 23 55.1	-1.1
	comp=Z,33nm,0.8s						
139A	Bunkhouse Ranc	61.01	14	P	P	17 23 55.9	-0.4
	baz=195						
BELC	Belle Mtn. Jos	61.04	353	P	P	17 23 56.8	+0.1
	baz=173,SNR=13						
LPM	Los Pinos Moun	61.05	2	eP	P	17 23 55.9	-0.9
IRM	Iron Mountain	61.12	354	P	P	17 23 57.3	+0.2
	baz=174						
LAZ	Ladron	61.12	2	eP	P	17 23 55.6	-1.8
X16A	Lo Mia Camp, P	61.15	358	eP	P	17 23 56.9	-0.6
	comp=Z,8.2nm,1.1s						
Z36A	Blue Ridge	61.17	12	P	P	17 23 57.4	0.0
	baz=193						
PDMCI	Parker Dam,Lak	61.18	355	P	P	17 23 57.7	+0.2
	baz=175						
X18A	Snowflake	61.23	359	eP	P	17 23 57.6	-0.4
	comp=Z,18nm,0.7s						
141A	Papa Simpson,	61.28	16	P	P	17 23 57.8	-0.3
	baz=197						
BBRC	Big Bear Solar	61.40	353	P	P	17 23 58.6	-0.7
	baz=172						
BFSC	Mount Baldy Ra	61.47	352	P	P	17 23 59.5	0.0
	baz=172						
PASC	Pasadena Art C	61.47	351	eP	P	17 23 58.3	-1.1
	comp=Z,16nm,0.4s						
MWC	Mount Wilson	61.50	352	eP	P	17 23 58.7	-1.2
MWC				pmax	pmax		
	comp=Z,12nm,0.8s						
MWC	Mount Wilson	61.50	352	eP	P	17 23 58.7	-1.2
	comp=Z,12nm,0.8s						
BLG	Laguna Peak, P	61.53	351	P	P	17 24 00.2	+0.3
	baz=170						
Z39A	Irene McRaven,	61.60	14	P	P	17 24 00.8	+0.4
	baz=195						
NEE2	Needles Airpor	61.68	355	P	P	17 24 01.3	+0.5
	baz=175						
Y35A	Marietta	61.68	11	P	P	17 24 01.1	+0.3
	baz=192						
ANMO	Albuquerque	61.69	3⇑	eP	P	17 24 00.6	-0.6
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GMRC	Granite Mounta	61.79	354	P	P	17 24 01.9	+0.2
	baz=174,SNR=9.4						
Z40A	Long Farm, Mag	61.79	15	P	P	17 24 02.4	+0.8
	baz=196						
Y36A	Durant	61.81	12	P	P	17 24 01.7	0.0
	baz=193						
W18A	Petrified Fore	61.81	359	P	P	17 24 01.7	-0.3
	baz=180						
W18A	Petrified Fore	61.81	359	eP	P	17 24 00.6	-1.4
	comp=Z,23nm,1.4s						
HEC	Hector,Ludlow	61.90	353	P	P	17 24 02.7	+0.3
	baz=173						
Z41A	Richland Creek	61.93	15	P	P	17 24 03.4	+0.8
	baz=197						
W13A	Hualapai Mount	61.95	356	eP	P	17 24 02.0	-0.9
	comp=Z,17nm,1.6s						
OSI	Osito Audit: C	61.98	351	P	P	17 24 02.5	-0.4
	baz=171						
OSI	Osito Audit: C	61.98	351	eP	P	17 24 01.5	-1.4
	comp=Z,24nm,0.3s						
AMTX	Amarillo	61.98	7	P	P	17 24 03.0	0.0
	baz=188						
AMTX	Amarillo	61.98	7	eP	P	17 24 02.8	-0.2
	comp=Z,12nm,0.8s						
Y37A	Hugo	62.01	13	P	P	17 24 03.4	+0.3
	baz=194						
LDFC	Landfair	62.03	354	eP	P	17 24 04.0	+0.7
	comp=Z,35nm,1.0s						
EDW2	Edwards Air Fo	62.14	352	P	P	17 24 03.5	-0.5
	baz=171,SNR=5.2						
Y38A	Idabel	62.14	14	P	P	17 24 03.8	-0.2
	baz=195						
Z42A	Norrel Spur, H	62.16	16	P	P	17 24 04.1	0.0
	baz=198						
X35A	Drake	62.17	11	P	P	17 24 03.8	-0.4
	baz=192						
WMOK	Wichita Mounta	62.21	10	P	P	17 24 03.9	-0.5
	baz=191						
WMOK	Wichita Mounta	62.21	10	eP	P	17 24 03.1	-1.3
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMOK	Wichita Mounta	62.21	10	eP	P	17 24 03.1	-1.3
	comp=Z,4.1nm,0.9s						
248A	Dixon Mills	62.23	20	P	P	17 24 04.3	-0.3
	baz=202						
WUAZ	Wupatki	62.24	358	P	P	17 24 04.7	-0.1
	baz=178						
WUAZ	Wupatki	62.24	358	eP	P	17 24 04.5	-0.3
	comp=Z,11nm,1.0s						
WLAR	White Oak Lake	62.27	15	eP	P	17 24 05.3	+0.5
	comp=Z,34nm,1.1s						
Y39A	Lockesburg	62.29	14	P	P	17 24 05.4	+0.4
	baz=195						
146A	Union	62.34	19	P	P	17 24 04.8	-0.5
	baz=200						
PKM	Mcpherson Peak	62.40	350	P	P	17 24 05.3	-0.7
	baz=170						
GSC	Goldstone, Bar	62.41	353	P	P	17 24 05.8	-0.1
	baz=172,SNR=9.8						
GSC	Goldstone, Bar	62.41	353	eP	P	17 24 05.7	-0.2
GSC				pmax	pmax		
	comp=Z,23nm,1.1s						
GSC	Goldstone, Bar	62.41	353	eP	P	17 24 05.7	-0.2
	comp=Z,23nm,1.1s						
X36A	Centrahoma	62.45	12	P	P	17 24 05.7	-0.3
	baz=193						
TUQ	Turquoise Moun	62.46	354	P	P	17 24 05.7	-0.5
	baz=173,SNR=7.5						
Y40A	Okolona	62.54	15	P	P	17 24 06.8	+0.1
	baz=196						
Y41A	Eaglette Beard	62.57	15	P	P	17 24 06.8	-0.1
	baz=197						
147A	Livingston	62.60	20	P	P	17 24 07.1	0.0
	baz=201						
X37A	Clayton	62.65	13	P	P	17 24 06.8	-0.5
	baz=194						
LRMC	Laurel Mtn Rad	62.69	352	P	P	17 24 06.9	-0.9
	baz=172,SNR=20						
X39A	Fountain Ranch	62.84	14	P	P	17 24 08.4	-0.3
	baz=195						
X38A	Whitesboro	62.84	13	P	P	17 24 08.5	-0.1
	baz=194						
SABA	Saba	62.87	50	eP	P	17 24 08.5	-0.7
	comp=Z,142nm,1.4s						
Z46A	Louisville	62.89	19	P	P	17 24 09.0	0.0
	baz=200						
W35A	Tecumseh	62.92	11	P	P	17 24 08.2	-0.9
	baz=192						
SHOC	Shoshone, Teco	62.95	353	P	P	17 24 09.5	+0.1
	baz=173,SNR=6.4						
ISA	Isabella, Lake	62.97	351	P	P	17 24 09.1	-0.5
	baz=171						
ISA	Isabella, Lake	62.97	351	eP	P	17 24 08.4	-1.2
ISA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ISA	Isabella, Lake	62.97	351	eP	P	17 24 08.4	-1.2
	comp=Z,6.1nm,0.7s						
MIAR	Mount Ida	62.99	14	P	P	17 24 10.1	+0.5
	baz=196						
MIAR	Mount Ida	62.99	14	eP	P	17 24 09.7	+0.1
MIAR				pmax	pmax		
	comp=Z,23nm,1.4s						
MIAR	Mount Ida	62.99	14	eP	P	17 24 09.7	+0.1
	comp=Z,23nm,1.4s						
W36A	Wetumka	63.02	12	P	P	17 24 09.6	-0.3
	baz=193						
Z47A	Carrollton	63.16	20	P	P	17 24 10.5	-0.3
	baz=201						
U15A	North Rim	63.19	357	eP	P	17 24 10.9	-0.4
	comp=Z,13nm,1.0s						
VES	Vestal, Richgr	63.23	351	P	P	17 24 09.6	-1.6
	baz=170						
MPMC	Manual Prospec	63.24	352	P	P	17 24 10.6	-0.9
	baz=172,SNR=24						
PAGB	Antelope Grade	63.30	350	eP	P	17 24 11.4	-0.3
	comp=Z,13nm,0.8s						
LRAL

CWC	Cottonwood Cre	63.69	352	P		P	17 24 13.9	-0.6
	baz=171							
V36A	Jenks	63.71	12	P		P	17 24 14.1	-0.3
	baz=193							
U32A	Winter Ranch,	63.79	9	P		P	17 24 14.8	-0.1
	baz=190							
KNB	Kanab	63.80	357	eP		P	17 24 14.4	-0.8
KNB				pmax		pmax		
	comp=Z,17nm,1.1s							
KNB	Kanab	63.80	357	eP		P	17 24 14.4	-0.8
	comp=Z,17nm,1.1s							
LCMT	Little Creek M	63.82	356	eP		P	17 24 14.6	-0.6
	comp=Z,30nm,0.4s							
TUL1	Leonard	63.85	12	P		P	17 24 14.8	-0.6
	baz=193							
TUL1	Leonard	63.85	12	eP		P	17 24 14.6	-0.8
	comp=Z,55nm,1.1s							
W41B	Gary Mavity, V	63.89	15	P		P	17 24 15.0	-0.6
	baz=197							
MVCO	Mesa Verde	63.90	1	P		P	17 24 15.3	-0.6
	baz=181,SNR=13							
MVCO	Mesa Verde	63.90	1	eP		P	17 24 15.2	-0.6
	comp=Z,23nm,0.8s							
X301	Greenbrier Sit	63.92	15	eP		P	17 24 15.6	-0.2
	comp=Z,13nm,1.0s							
MHTCO	State Highway	63.95	4	eP		P	17 24 15.9	-0.3
	comp=Z,15nm,1.1s							
T25A	Trinidad	63.98	4	P		P	17 24 16.0	-0.4
	baz=185							
T25A	Trinidad	63.98	4	eP		P	17 24 16.5	+0.1
	comp=Z,13nm,1.0s							
TPNV	Topopah Spring	63.99	354	P		P	17 24 15.2	-1.1
	baz=173,SNR=9.3							
TPNV	Topopah Spring	63.99	354	eP		P	17 24 16.8	+0.4
TPNV				pmax		pmax		
	comp=Z,18nm,1.4s							
TPNV	Topopah Spring	63.99	354	eP		P	17 24 16.8	+0.4
	comp=Z,18nm,1.4s							
OXF	Oxford	63.99	18	eP		P	17 24 16.7	+0.4
OXF				pmax		pmax		
	comp=Z,58nm,1.4s							
OXF	Oxford	63.99	18	eP		P	17 24 16.7	+0.4
	comp=Z,58nm,1.4s							
WHAR	Wooly Hollow	64.00	15	eP		P	17 24 15.9	-0.3
	comp=Z,33nm,1.4s							
V38A	Canehill	64.08	13	P		P	17 24 16.7	-0.1
	baz=195							
U35A	Pawnee	64.14	11	P		P	17 24 16.5	-0.6
	baz=192							
GRAC	Grapevine Rang	64.15	353	P		P	17 24 16.2	-1.1
	baz=172							
V39A	Pettigrew	64.22	14	P		P	17 24 17.2	-0.5
	baz=196							
TIN	Tinemaha, Big	64.31	352	P		P	17 24 17.6	-0.9
	baz=171							
U36A	Oologah	64.33	12	P		P	17 24 17.8	-0.7
	baz=193							
CCUT	Cedar City	64.36	356	eP		P	17 24 18.8	-0.2
	comp=Z,18nm,0.9s							
V40A	Witts Springs	64.36	15	P		P	17 24 18.0	-0.8
	baz=196							
SZCU	Shurtz Canyon	64.39	357	eP		P	17 24 18.8	-0.3
	comp=Z,16nm,0.5s							
U37A	Salina	64.46	13	P		P	17 24 18.2	-1.1
	baz=194							
S22A	4UR Ranch, Cre	64.47	2	P		P	17 24 18.9	-0.7
	baz=182,SNR=8.7							
S22A	4UR Ranch, Cre	64.47	2	eP		P	17 24 19.1	-0.6
	comp=Z,15nm,1.1s							
V41A	Mountainview	64.50	15	P		P	17 24 18.7	-0.9
	baz=197							
SAO	San Andreas Ge	64.50	349	eP		P	17 24 18.8	-0.8
SAO				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SAO	San Andreas Ge	64.50	349	eP		P	17 24 18.8	-0.8
	comp=Z,9.4nm,1.0s							
SDCO	Great Sand Dun	64.52	3	P		P	17 24 18.3	-1.8
	baz=184,SNR=9.8							
SDCO	Great Sand Dun	64.52	3	eP		P	17 24 19.2	-0.8
	comp=Z,18nm,1.4s							
MWH	Moku'aweowe	64.54	311	eP		P	17 24 19.4	-1.4
	comp=Z,178nm,1.2s							
HHAR	Hobbs	64.58	14	eP		P	17 24 19.6	-0.5
	comp=Z,30nm,1.1s							
U38A	Gravette	64.64	13	P		P	17 24 19.4	-1.1
	baz=195							
T34A	McClaskey Farm	64.69	11	P		P	17 24 19.9	-0.9
	baz=192							
T35A	Sooner Cattle	64.70	11	P		P	17 24 20.0	-0.9
	baz=193							
V42A	Cord	64.70	16	P		P	17 24 19.7	-1.2
	baz=198							
U39A	Green Forest	64.78	14	P		P	17 24 20.4	-1.0
	baz=196							
PV01	Paradox Valley	64.82	0	eP		P	17 24 20.8	-1.2
GOGA	Godfrey	64.87	24	eP		P	17 24 22.4	+0.4
GOGA				pmax		pmax		
	comp=Z,42nm,1.6s							
GOGA	Godfrey	64.87	24	eP		P	17 24 22.4	+0.4
	comp=Z,42nm,1.6s							
U40A	Yellville	64.89	14	P		P	17 24 21.7	-0.4
	baz=196							
T36A	Boggs Farm, Ca	64.96	12	P		P	17 24 21.6	-1.0
	baz=193							
U41A	Viola	65.09	15	P		P	17 24 22.6	-0.8
	baz=197							
PV09	Paradox Valley	65.18	0	eP		P	17 24 23.4	-1.0
T37A	Cheneyville 18	65.20	12	P		P	17 24 24.0	0.0
	baz=194							
T38A	Diamond	65.24	13	P		P	17 24 23.8	-0.5
	baz=195							
MSU	Marysvale	65.26	357	eP		P	17 24 24.5	-0.3
MSU	Marysvale	65.26	357	eP		P	17 24 24.5	-0.3
U42A	Revenden	65.26	16	P		P	17 24 23.9	-0.6
	baz=198							
R11A	Troy Canyon, C	65.31	354	P		P	17 24 24.4	-0.6
	baz=174,SNR=11							
R11A	Troy Canyon, C	65.31	354	eP		P	17 24 24.7	-0.4
	comp=Z,8.6nm,1.2s							
TCRU	Three Creeks R	65.37	357	eP		P	17 24 24.7	-0.8
	comp=Z,33nm,1.3s							
S34A	Willow Spring	65.37	10	P		P	17 24 24.2	-1.0
	baz=192							
T39A	Clever	65.42	14	P		P	17 24 25.0	-0.5
	baz=196							
S35A	Otter Creek Ra	65.48	11	P		P	17 24 25.3	-0.6
	baz=193							
CMB	Columbia Colle	65.57	350	eP		P	17 24 25.8	-0.8
CMB				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CMB	Columbia Colle	65.57	350	eP		P	17 24 25.8	-0.8
	comp=Z,10.0nm,0.9s							
S36A	Lake Cedric, C	65.65	12	P		P	17 24 26.4	-0.6
	baz=193							
TVH2	Borealis Mine	65.68	352	eP		P	17 24 27.3	-0.2
	comp=Z,15nm,0.4s							
T40A	Mansfield	65.72	15	P		P	17 24 26.8	-0.7
	baz=196							
Q24A	Divide	65.75	3	P		P	17 24 27.5	-0.6
	baz=184							
Q24A	Divide	65.75	3	eP		P	17 24 26.8	-1.2
	comp=Z,28nm,1.8s							
T41A	Mountain View	65.79	15	P		P	17 24 27.0	-1.0
	baz=197							
SRU	San Rafael Swe	65.81	359	eP		P	17 24 26.9	-1.4
SRU				pmax		pmax		
	comp=Z,17nm,0.9s							
SRU	San Rafael Swe	65.81	359	eP		P	17 24 26.9	-1.4
	comp=Z,17nm,0.9s							
S37A	Fort Scott	65.83	12	P		P	17 24 27.4	-0.8
	baz=194							
PBMO	Poplar Bluff	65.87	16	eP		P	17 24 27.9	-0.5
	comp=Z,31nm,1.3s							
S38A	Stockton	65.89	13	P		P	17 24 28.0	-0.5
	baz=195							
SMCO	Snowmass	65.89	2	eP		P	17 24 27.8	-1.2
	comp=Z,7.4nm,0.9s							
WAKR	Walker	65.90	351	eP		P	17 24 28.7	-0.2
	comp=Z,16nm,1.3s							
R34A	Isabella, Hill	65.94	10	P		P	17 24 28.4	-0.4
	baz=192							
WVT	Waverly	65.96	19	eP		P	17 24 27.4	-1.6
WVT				pmax		pmax		
	comp=Z,47nm,2.0s							
WVT	Waverly	65.96	19	eP		P	17 24 27.4	-1.6
	comp=Z,46nm,2.0s							
TMUT	Trail Mountain	66.01	358	eP		P	17 24 28.7	-1.0
	comp=Z,16nm,1.2s							
S39A	Bolivar	66.07	14	P		P	17 24 29.1	-0.6
	baz=196							
R35A	Emporia Munici	66.13	11	P		P	17 24 28.9	-1.2
	baz=193							
S40A	Lebanon	66.16	14	P		P	17 24 29.3	-1.0
	baz=196							
P17A	Butcher Ranch,	66.17	359	eP		P	17 24 29.3	-1.2
	comp=Z,8.8nm,0.8s							
T43A	Greenville	66.19	16	P		P	17 24 29.8	-0.7
	baz=198							
R36A	Gordon, Harris	66.25	12	P		P	17 24 29.9	-0.9
	baz=193							
S41A	Jillco Farms,	66.32	15	P		P	17 24 30.6	-0.8
	baz=197							
P18A	Preston Nutter	66.32	359	eP		P	17 24 30.3	-1.4
	comp=Z,10.0nm,0.3s							
YERR	Yerington	66.34	351	eP		P	17 24 30.4	-1.4
	comp=Z,33nm,1.2s							
CPCT	Cooper Cave	66.35	22	eP		P	17 24 33.1	+1.5
	comp=Z,59nm,1.8s							
R37A	Teagarden Farm	66.37	12	P		P	17 24 31.4	-0.2
	baz=194							
T44A	Benton	66.37	17	P		P	17 24 31.1	-0.5
	baz=199							
R38A	Fenwick Farm,	66.42	13	P		P	17 24 31.4	-0.6
	baz=195							
PNTR	Pine Nut	66.50	351	eP		P	17 24 32.5	-0.2
	comp=Z,20nm,0.9s							
AFDM	Forest Hills D	66.56	350	eP		P	17 24 31.6	-1.3
	comp=Z,7.8nm,1.0s							
ISCO	Idaho Springs	66.56	3	P		P	17 24 32.1	-1.2
	baz=184,SNR=5.8							
ISCO	Idaho Springs	66.56	3	eP		P	17 24 32.0	-1.2
ISCO				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ISCO	Idaho Springs	66.56	3	eP		P	17 24 32.0	-1.2
	comp=Z,9.4nm,0.9s							
Q34A	Chapman	66.59	10	P		P	17 24 32.2	-0.8
	baz=192							
Q35A	Mercer Eighty,	66.68	11	P		P	17 24 33.3	-0.3
	baz=193							
NLU	North Lily Min	66.69	358	eP		P	17 24 33.5	-0.5
	comp=Z,24nm,1.4s							
S43A	Fulton Ridge,	66.71	16	P		P	17 24 33.8	0.0
	baz=199							
S42A	Caledonia	66.72	16	P		P	17 24 33.9	+0.1
	baz=198							
MPU	Maple Canyon	66.74	358	eP		P	17 24 33.0	-1.3
	comp=Z,8.1nm,0.9s							
TKL	Tuckaleechee C	66.79	22	P		P	17 24 33.9	-0.5
	comp=Z,2.3nm,0.5s,baz=172,slow=7.1,SNR=3.0							
TKL	Tuckaleechee C	66.79	22	eP		P	17 24 33.1	-1.3
TKL				pmax		pmax		
	comp=Z,46nm,1.8s							
TKL	Tuckaleechee C	66.79	22	eP		P	17 24 33.1	-1.3
	comp=Z,46nm,1.8s							
KSU1	Kansas State U	66.82	11	P		P	17 24 33.6	-0.9
	baz=192							
O20A	White River Ci	66.82	1	P		P	17 24 34.1	-0.6
	baz=181							
O20A	White River Ci	66.82	1	eP		P	17 24 34.0	-0.7
	comp=Z,9.4nm,0.8s							
R40A	Maddies Statio	66.87	14	P		P	17 24 34.4	-0.4
	baz=196							
CCM	Cathedral Cave	66.88	15	eP		P	17 24 34.5	-0.4
CCM				pmax		pmax		
	comp=Z,12nm,0.8s							
CCM	Cathedral Cave	66.88	15	eP		P	17 24 34.5	-0.4
	comp=Z,12nm,0.8s							
DUG	Dugway, Tooele	66.97	357	P		P	17 24 35.2	-0.3
	baz=177,SNR=6.7							
DUG	Dugway, Tooele	66.97	357	eP		P	17 24 34.6	-0.9
DUG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
DUG	Dugway, Tooele	66.97	357	eP		P	17 24 34.6	-0.9
	comp=Z,10nm,1.1s							
Q37A	Longview Farm,	66.98	12	P		P	17 24 35.6	+0.1
	baz=194							
PAHR	Pah Rah Range	67.07	351	eP		P	17 24 35.8	-0.4
	comp=Z,7.0nm,0.9s							
MSVF	Nonsavu	67.17	261	eP		P	17 24 37.9	+0.5
MSVF				pmax		pmax		
	comp=Z,16nm,1.4s							
MSVF	Nonsavu	67.17	261	eP		P	17 24 37.9	+0.5
	comp=Z,16nm,1.4s							
KMSC	Kings Mountain	67.19	25	eP		P	17 24 38.6	+1.7
	comp=Z,78nm,1.9s							
P34A	Walnut Farm, R	67.22	10	P		P	17 24 36.6	-0.4
	baz=192							
Q38A	Cooks Store, C	67.23	13	P		P	17 24 36.1	-1.0
	baz=195							
ORV	Oroville	67.23	350	eP		P	17 24 36.8	-0.3
ORV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ORV	Oroville	67.23	350	eP		P	17 24 36.8	-0.3
	comp=Z,8.9nm,1.2s							
JLU	Jordanelle	67.32	358	eP		P	17 24 37.3	-0.6
	comp=Z,16nm,1.0s							
P35A	Duane Minner,	67.33	11	P		P	17 24 36.6	-1.2
	baz=193							
BEKR	Beckworth	67.37	351	eP		P	17 24 37.8	-0.4
	comp=Z,6.9nm,0.7s							
Q39A	Willow Grove F	67.44	14	P		P	17 24 38.1	-0.3
	baz=196							
P36A	Good Intent, A	67.57	12	P		P	17 24 38.5	-0.7
	baz=194							
N23A	Red Feather La	67.64	3	P		P	17 24 39.0	-1.0
	baz=183							
N23A	Red Feather La	67.64	3	eP		P	17 24 39.5	-0.5
	comp=Z,18nm,1.0s							
P37A	Lathrop	67.69	12	P		P	17 24 39.5	-0.5
	baz=194							
BGU	Big Grassy Mou	67.70	357	eP		P	17 24 39.7	-0.6
	comp=Z,20nm,1.4s							
USIN	University of	67.72	18	eP		P	17 24 40.0	-0.2
	comp=Z,37nm,1.3s							
Q41A	Truxton	67.74	15	P		P	17 24 39.6	-0.7
	baz=197							
O34A	Beatrice	67.86	10	P		P	17 24 40.6	-0.5
	baz=192							
Q42A	Golden Eagle	67.86	16	P		P	17 24 41.4	+0.3
	baz=198							
P38A	Dawn	67.89	13	P		P	17 24 40.5	-0.8
	baz=195							
P39B	Salisbury	67.92	14	P		P	17 24 41.7	+0.3
	baz=196							
OGNE	Ogallala	67.95	6	P		P	17 24 40.9	-0.9
	baz=187							
OGNE	Ogallala	67.95	6	eP		P	17 24 40.8	-0.9
	comp=Z,139nm,1.8s							
SPUT	South Promonto	68.06	357	eP		P	17 24 41.9	-0.6
	comp=Z,16nm,1.1s							
PHWY	Pilot Hill	68.07	3	eP		P	17 24 42.4	-0.3
	comp=Z,19nm,0.7s							
O35A	Humboldt	68.07	11	P		P	17 24 42.1	-0.3
	baz=193							
Q43A	New Douglas	68.10	16	P		P	17 24 42.1	-0.4
	baz=199							
O36A	Bolckow	68.11	12	P		P	17 24 42.2	-0.4
	baz=194							
Q44A	Meyer Farm, Va	68.23	17	P		P	17 24 43.5	+0.1
	baz=199							
O37A	Wolven Farm, M	68.29	12	P		P	17 24 43.6	-0.2
	baz=195							
OLIL	Olney	68.32	18	eP		P	17 24 45.1	+1.1
	comp=Z,34nm,1.3s							
HWUT	Hardware Ranch	68.33	358	eP		P	17 24 42.7	-1.5
	comp=Z,5.0nm,0.6s							
WCI	Wyandotte Cave	68.35	19	eP		P	17 24 44.8	+0.6
WCI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WCI	Wyandotte Cave	68.35	19	eP		P	17 24 44.8	+0.6
	comp=Z,10nm,0.8s							
O38A	Galt	68.38	13	P		P	17 24 44.1	-0.2
	baz=195							
RWWY	Rawlins	68.39	2	eP		P	17 24 43.5	-1.2
	comp=Z,15nm,0.6s							
WDC	Whiskeytown Da	68.41	349	eP		P	17 24 42.9	-1.6
WDC				pmax		pmax		
	comp=Z,10.0nm,1.1s							
WDC	Whiskeytown Da	68.41	349	eP		P	17 24 42.9	-1.6
	comp=Z,10.0nm,1.1s							
P41A	Barry, Barry	68.47	15	P		P	17 24 44.5	-0.3
	baz=198							
N34A	Lincoln	68.53	10	P		P	17 24 44.7	-0.6
	baz=192							
HVU	Hansel Valley	68.54	357	eP		P	17 24 44.3	-1.2
HVU				pmax		pmax		
	comp=Z,16nm,1.7s							
HVU	Hansel Valley	68.54	357	eP		P	17 24 44.3	-1.2
	comp=Z,16nm,1.7s							
O39A	Kirksville	68.70	14	P		P	17 24 46.5	+0.2
	baz=196							
O40A	La Belle	68.71	14	P		P	17 24 46.2	-0.2
	baz=197							
N02D	Trinity Center	68.82	349	P		P	17 24 46.9	-0.3
	baz=167							
BGNE	Belgrade	68.85	9	P		P	17 24 46.6	-0.6
	baz=191							
BGNE	Belgrade	68.85	9	eP		P	17 24 46.0	-1.3
	comp=Z,30nm,1.1s							
N37A	Lee Faris, Mou	68.85	12	P		P	17 24 47.3	+0.1
	baz=194							
JCC	Jacoby Creek,	68.90	348	eP		P	17 24 46.3	-1.2
	comp=Z,93nm,1.5s							
KHMM	Horse Mountain	68.90	348	eP		P	17 24 47.3	-0.5
	comp=Z,31nm,1.2s							
O41A	Passleys Farm,	68.93	15	P		P	17 24 47.5	-0.2
	baz=198							
N38A	Joes South For	69.07	13	P		P	17 24 48.1	-0.6
	baz=195							
M02C	Callahan	69.25	349	P		P	17 24 49.6	-0.2
	baz=167							
N39A	Derby Farms, D	69.30	13	P		P	17 24 50.1	+0.1
	baz=196							
MOD	Modoc Plateau	69.36	351	eP		P	17 24 50.6	0.0
	comp=Z,17nm,0.9s							
K22A	Casper	69.37	2	P		P	17 24 49.9	-0.7
	baz=183							
K22A	Casper	69.37	2	eP		P	17 24 48.9	-1.8
	comp=Z,66nm,1.7s							
BW06	Boulder Array	69.45	360	P		P	17 24 51.0	-0.2
	baz=180							
BW06	Boulder Array	69.45	360	eP		P	17 24 49.2	-2.0
	comp=Z,8.1nm,1.0s							
PD31	Pinedale Array	69.45	360	eP		P	17 24 49.1	-2.2
PDAR	Pinedale Array	69.45	360	P		P	17 24 49.8	-1.4
	comp=Z,3.0nm,0.7s,baz=164,slow=7.2,SNR=20							
PDAR				LR		LR	17 50 29.1	
	comp=Z,288nm,19.8s,baz=250,slow=32							
PDAR	Pinedale Array	69.45	360	eP		P	17 24 49.2	-2.0
M04C	Macdoel	69.47	350	P		P	17 24 50.8	-0.4
	baz=168							
SNAA	Sanae	69.54	161	eP		P	17 24 51.1	-0.3
SNAA	Sanae	69.54	161	eP		P	17 24 51.0	-0.3
	comp=Z,7.6nm,1.2s							
VWCC	Virginia Weste	69.56	25	eP		P	17 24 53.3	+1.6
WVOR	Wild Horse Val	69.67	353	eP		P	17 24 51.5	-0.9
WVOR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
WVOR	Wild Horse Val	69.67	353	eP		P	17 24 51.5	-0.9
	comp=Z,8.2nm,0.9s							
M38A	Pleasantville	69.68	13	P		P	17 24 52.5	+0.1
	baz=195							
N42A	Yates City	69.80	15	P		P	17 24 53.2	+0.1
	baz=198							
L35A	Bielow Farm, R	69.93	11	P		P	17 24 53.8	-0.1
	baz=193							
K31A	O'Neill	69.96	8	P		P	17 24 54.9	+0.8
	baz=190							
LAB	Little Aspen B	69.97	350	eP		P	17 24 55.1	+0.7
REDW	Red Top Meadow	70.06	359	eP		P	17 24 53.8	-1.2
	comp=Z,10nm,1.2s							
K32A	Verdigre	70.10	9	P		P	17 24 55.4	+0.4
	baz=191							
L02D	Cave Junction,	70.12	349	P		P	17 24 55.9	+0.8
	baz=167							
SFIN	Lafayette	70.13	18	eP		P	17 24 55.9	+0.8
	comp=Z,38nm,1.6s							
SCIA	State Center	70.15	13	eP		P	17 24 55.6	+0.3
	comp=Z,97nm,1.9s							
SNOW	Snow King Moun	70.16	359	eP		P	17 24 54.4	-1.2
	comp=Z,8.6nm,0.7s							
TPAW	Teton Pass	70.19	359	eP		P	17 24 54.4	-1.4
	comp=Z,14nm,0.8s							
LOHW	Long Hollow	70.31	359	eP		P	17 24 55.2	-1.2
	comp=Z,7.6nm,0.8s							
FXWY	Fox Creek	70.34	359	eP		P	17 24 55.2	-1.5
	comp=Z,8.7nm,1.1s							
MFID	Camas Ranch	70.36	355	eP		P	17 24 56.0	-0.7
	comp=Z,15nm,1.2s							
HLID	Hailey	70.41	356	P		P	17 24 57.1	0.0
	baz=175							
HLID	Hailey	70.41	356	eP		P	17 24 56.7	-0.4
	comp=Z,16nm,1.0s							
MOOW	Moose Ponds	70.44	359	eP		P	17 24 56.4	-0.9
	comp=Z,30nm,1.8s							
HUMO	Hull Mountain	70.45	349	eP		P	17 24 57.1	0.0
	comp=Z,19nm,1.2s							
IMW	Indian Meadow	70.60	359	eP		P	17 24 57.2	-1.2
	comp=Z,48nm,1.9s							
L39A	Vinton	70.60	13	P		P	17 24 58.8	+0.8
	baz=196							
J31A	Geddes	70.62	8	P		P	17 24 58.8	+0.7
	baz=190							
K36A	Gilmore City	70.63	11	P		P	17 24 58.9	+0.7
	baz=194							
L40A	Anamosa	70.71	14	P		P	17 24 59.5	+0.8
	baz=197							
J32A	Parkston	70.82	9	P		P	17 24 59.6	+0.3
	baz=191							
J05D	Fort Rock, OR	70.84	351	P		P	17 24 59.7	+0.1
	baz=169							
IP05	Hopewell Churc	70.92	26	eP		P	17 25 01.0	+1.0
	comp=Z,42nm,1.6s							
RSSD	Black Hills	70.95	4	P		P	17 25 00.5	+0.1
	baz=185							
RSSD	Black Hills	70.95	4	eP		P	17 24 59.4	-1.0
RSSD				pmax		pmax		
	comp=Z,15nm,1.0s							
RSSD	Black Hills	70.95	4	eP		P	17 24 59.4	-1.0
	comp=Z,15nm,1.0s							
IP04	Greensprings	71.02	25	eP		P	17 25 01.1	+0.5
	comp=Z,15nm,1.1s							
CVRD	Centerville Ro	71.11	26	eP		P	17 25 00.8	-0.4
	comp=Z,34nm,1.5s							
PTRD	Partlow Road	71.22	26	eP		P	17 25 01.3	-0.5
	comp=Z,56nm,0.2s							
SPFD	Spotsylvania F	71.27	26	eP		P	17 25 00.4	-1.7
	comp=Z,38nm,1.4s							
J36A	Seneca 1, Swea	71.32	11	P		P	17 25 03.1	+0.7
	baz=194							
ECSD	EROS Data Cent	71.35	10	P		P	17 25 02.5	0.0
	baz=192							
ECSD	EROS Data Cent	71.35	10	eP		P	17 25 01.9	-0.6
	comp=Z,12nm,1.0s							
YMR	Madison River	71.37	359	eP		P	17 25 01.9	-0.9
	comp=Z,68nm,2.0s							
I31A	Royce, Wessing	71.38	8	P		P	17 25 03.6	+0.9
	baz=190							
YHB	Horse Butte	71.46	358	eP		P	17 25 02.6	-0.8
	comp=Z,24nm,1.6s							
YHH	Holmes Hill	71.48	359	eP		P	17 25 03.6	-0.1
	comp=Z,21nm,1.3s							
QLMT	Earthquake Lak	71.54	358	eP		P	17 25 03.5	-0.4
MCMT	McKenzie Canyo	71.59	357	eP		P	17 25 03.9	-0.3
J38A	Wedel Dairy, R	71.66	13	P		P	17 25 04.6	+0.2
	baz=196							
RLMT	Red Lodge	71.80	360	P		P	17 25 04.8	-0.7
	baz=180							
RLMT	Red Lodge	71.80	360	eP		P	17 25 03.6	-1.9
	comp=Z,10nm,0.8s							
I05D	Terrebonne, OR	71.89	351	P		P	17 25 05.7	-0.2
	baz=169							
BMO	Blue Mountains	71.92

LRM	Limekiln Ridge	72.56	358	eP		P	17 25 09.8	-0.3
G31A	Conde	72.59	8	P		P	17 25 10.0	+0.1
	baz=190							
SDMD	Soldier's Deli	72.64	26	eP		P	17 25 09.6	-0.8
	comp=Z,9.8nm,1.3s							
H37A	Dierke Farm, C	72.79	12	P		P	17 25 11.1	-0.1
	baz=195							
G33A	Ortonville	72.80	9	P		P	17 25 11.0	-0.2
	baz=192							
N54A	Moraine State	72.85	23	P		P	17 25 11.4	-0.2
	baz=207							
TDH	Tom, Dick, Har	72.89	351	eP		P	17 25 12.9	+1.0
H38A	Maiden Rock	73.00	12	P		P	17 25 11.8	-0.6
	baz=196							
G35A	Watkins	73.13	11	P		P	17 25 12.6	-0.6
	baz=194							
F31A	Hecla	73.21	8	P		P	17 25 13.1	-0.5
	baz=190							
LAO	LASA Array	73.42	2	P		P	17 25 15.3	+0.4
	baz=183							
LAO	LASA Array	73.42	2	eP		P	17 25 15.2	+0.3
	comp=Z,25nm,1.1s							
HRY	Holter Researc	73.43	358	eP		P	17 25 14.8	-0.2
F33A	5 Mile Ranch,	73.45	9	P		P	17 25 15.2	+0.2
	baz=192							
F04A	Amboy	73.61	350	eP		P	17 25 15.7	-0.2
	comp=Z,28nm,0.9s							
MSO	Missoula	73.64	357	P		P	17 25 16.2	0.0
	baz=176							
MSO	Missoula	73.64	357	eP		P	17 25 15.3	-0.9
	comp=Z,13nm,1.0s							
HAWA	Hanford	73.68	353	eP		P	17 25 16.9	+0.6
	comp=Z,39nm,1.8s							
CHMT	Chamberlain Mo	73.69	357	eP		P	17 25 15.9	-0.8
F03A	Seaside	73.78	350	eP		P	17 25 17.4	+0.4
	comp=Z,427nm,1.6s							
E07A	Sunnyside	73.88	352	eP		P	17 25 16.5	-1.1
	comp=Z,16nm,1.1s							
F36A	Milaca	73.92	11	P		P	17 25 17.9	+0.2
	baz=195							
E31A	Nome	73.94	8	P		P	17 25 18.0	+0.1
	baz=191							
G40A	Rib Lake	73.99	14	P		P	17 25 18.4	+0.1
	baz=198							
SLMT	Seeley Lake	74.03	357	eP		P	17 25 17.9	-0.7
F38A	Pierce - Schro	74.31	12	P		P	17 25 20.9	+0.8
	baz=196							
SWMT	Swartz Lake	74.32	357	eP		P	17 25 21.4	+1.1
E35A	Pequot Lakes	74.44	10	P		P	17 25 20.2	-0.7
	baz=194							
F39A	Loretta	74.46	13	P		P	17 25 21.4	+0.5
	baz=197							
E36A	McGregor	74.60	11	P		P	17 25 22.1	+0.4
	baz=195							
F40A	Park Falls	74.63	14	P		P	17 25 21.7	-0.2
	baz=198							
F41A	Three Lakes	74.68	14	P		P	17 25 22.2	0.0
	baz=199							
BSMT	Bassoo Peak	74.70	356	eP		P	17 25 22.4	-0.2
D34A	Park Rapids	74.83	10	P		P	17 25 23.5	+0.4
	baz=193							
BLMT	Blacktail Moun	74.84	356	eP		P	17 25 21.4	-1.9
E38A	The Farm, Brul	75.00	12	P		P	17 25 23.2	-0.9
	baz=196							
E40A	Wakefield	75.18	14	P		P	17 25 25.5	+0.4
	baz=198							
C31A	Landman Farms,	75.18	8	P		P	17 25 25.5	+0.5
	baz=191							
DGMT	Dagmar	75.28	3	P		P	17 25 26.1	+0.5
	baz=185							
DGMT	Dagmar	75.28	3	eP		P	17 25 25.9	+0.3
	comp=Z,30nm,0.9s							
NEW	Newport	75.29	354	P		P	17 25 26.3	+0.6
	baz=173							
NEW	Newport	75.29	354	eP		P	17 25 25.6	-0.1
NEW					pmax	pmax		
	comp=Z,15nm,1.0s							
NEW	Newport	75.29	354	eP		P	17 25 25.6	-0.1
	comp=Z,15nm,1.0s							
D37A	Cotton	75.37	12	P		P	17 25 26.5	+0.3
	baz=196							
E41A	Kenton	75.40	14	P		P	17 25 26.5	+0.2
	baz=199							
C33A	Trail	75.41	9	P		P	17 25 26.6	+0.2
	baz=192							
C34A	RKJ Ranch, Bem	75.43	10	P		P	17 25 26.7	+0.2
	baz=193							
F45A	CMU Biological	75.49	17	P		P	17 25 27.1	+0.3
	baz=202							
DZM	Mont Dzumac	75.56	252	P		P	17 25 26.6	-1.5
	comp=Z,3.6nm,0.9s,baz=87,slow=17,SNR=3.4							
DZM	Mont Dzumac	75.56	252	eLR		LR	17 48 42.0	
	comp=Z,213nm,22.8s							
DZM	Mont Dzumac	75.56	252	eP		P	17 25 26.1	-2.0
	comp=Z,41nm,1.9s							
E42A	Champion	75.60	15	P		P	17 25 27.4	-0.1
	baz=200							
C35A	Jirik Farms, M	75.62	11	P		P	17 25 27.5	-0.1
	baz=194							
E43A	Lone Tree Farm	75.77	16	P		P	17 25 28.6	+0.2
	baz=200							
WALA	Waterton Lakes	75.86	357	eP		P	17 25 29.0	-0.1
	comp=Z,11nm,0.9s							
AGMN	Agassiz Nation	75.92	9	P		P	17 25 29.2	-0.1
	baz=192							
AGMN	Agassiz Nation	75.92	9	eP		P	17 25 30.5	+1.2
B32A	Ashes, Strandq	75.92	9	P		P	17 25 29.6	+0.3
	baz=192							
C37A	Embarrass	75.96	12	P		P	17 25 29.3	-0.2
	baz=196							
D41A	Chassel	76.05	14	P		P	17 25 30.3	+0.3
	baz=199							
C38A	Sawbill Land.	76.12	12	P		P	17 25 30.3	-0.1
	baz=196							
B34A	Aery, Baudette	76.28	10	P		P	17 25 31.0	-0.3
	baz=193							
EYMN	Ely	76.30	12	P		P	17 25 31.5	0.0
	baz=196							
EYMN	Ely	76.30	12	eP		P	17 25 32.8	+1.4
	comp=Z,37nm,1.8s							
B35A	Bob, Littlefor	76.31	11	P		P	17 25 32.0	+0.5
	baz=194							
A32A	Rocking H Ranc	76.44	9	P		P	17 25 31.9	-0.3
	baz=192							
A33A	Warroad	76.61	9	P		P	17 25 33.2	0.0
	baz=193							
ULM	Lac du Bonnet	77.83	9	P		P	17 25 39.2	-0.8
	comp=Z,3.4nm,0.6s,baz=187,slow=9.3,SNR=4.3							
ULM					LR	LR	17 56 59.9	
	comp=Z,162nm,18.2s,baz=218,slow=33							
ULM	Lac du Bonnet	77.83	9	eP		P	17 25 40.2	+0.2
ULM					pmax	pmax		
	comp=Z,40nm,1.5s							
ULM	Lac du Bonnet	77.83	9	eP		P	17 25 40.2	+0.2
	comp=Z,40nm,1.5s							
LONY	Lake Ozonia	77.98	24	eP		P	17 25 41.4	+0.4
	comp=Z,18nm,1.2s							
LLLB	Lillooet	78.11	352	eP		P	17 25 39.6	-2.0
	comp=Z,8.9nm,0.8s							
TRQ	Mont Tremblant	79.36	24	eP		P	17 25 46.1	-2.5
MAW	Mawson	85.47	177	P		P	17 26 20.1	-0.2
	comp=Z,1.7nm,1.0s,baz=128,slow=8.2,SNR=2.6							
MAW					LR	LR	18 00 09.0	
	comp=Z,117nm,19.9s,baz=236,slow=33							
MAW	Mawson	85.47	177	eP		P	17 26 21.3	+1.0
MAW					pmax	pmax		
	comp=Z,3.0nm,1.6s							
MAW	Mawson	85.47	177	eP		P	17 26 21.3	+1.0
	comp=Z,3.0nm,1.6s							
YKA	Yellowknife Ar	89.31	357	P		P	17 26 38.4	-0.2
	comp=Z,2.0nm,0.8s,baz=170,slow=3.5,SNR=4.0							
YKA					LR	LR	18 02 31.2	
	comp=Z,22nm,18.4s,baz=180,slow=33							
YKB5	Yellowknife Ar	89.31	357	eP		P	17 26 38.4	-0.2
STKA	Stephens Creek	90.74	233	LR		LR	17 59 06.2	
	comp=Z,98nm,19.6s,baz=43,slow=30							
H11S2	WAKE ISLAND Hy 93.23	289		T		T	19 10 11.5	
	baz=118,slow=75,SNR=4365							
H11S1	WAKE ISLAND Hy 93.24	289		T		T	19 10 10.6	
	baz=118,slow=75,SNR=2914							
H11S3	WAKE ISLAND Hy 93.24	289		T		T	19 10 12.8	
	baz=118,slow=75,SNR=2686							
H11N3	WAKE ISLAND Hy 93.61	290		T		T	19 10 44.9	
	baz=114,slow=78,SNR=191							
H11N1	WAKE ISLAND Hy 93.63	290		T		T	19 10 39.5	
	baz=114,slow=78,SNR=134							
H11N2	WAKE ISLAND Hy 93.63	290		T		T	19 10 46.3	
	baz=114,slow=78,SNR=382							
ILAR	Eielson Array	96.09	345	LR		LR	18 01 58.9	
	comp=Z,155nm,18.7s,baz=140,slow=30							
H01W1	Cape Leeuwin H	106.04	216	T		T	19 26 35.3	
	baz=138,slow=76,SNR=30							
H01W2	Cape Leeuwin H	106.05	216	T		T	19 26 35.8	
	baz=138,slow=76,SNR=26							
H01W3	Cape Leeuwin H	106.06	216	T		T	19 26 36.6	
	baz=138,slow=76,SNR=32							
TOA1	Torodi Ar. Sit	114.28	87	ePKiKP		PKiKP	17 32 24.5	+1.2
TORD	Torodi Ar. Bea	114.28	87	PKP		PKPdf	17 32 24.5	+1.2
	comp=Z,0.7nm,0.7s,baz=277,slow=3.2,SNR=2.6							
MDJ	Mudanjiang	130.32	307	PKP		PKPdf	17 32 53.0	-0.2
KECS	Kecovo	135.72	47	ePKIKP		PKPdf	17 33 04.6	+1.3
KECS	Kecovo	135.72	47	ePKP		PKPdf	17 33 04.5	+1.3
NJ2	Nanjing	138.21	289	ePKP		PKPdf	17 33 07.9	-0.5
KLMR	Klimovskoe	140.09	23	ePKIKP		PKPdf	17 33 07.7	-3.2
KLMR					pmax	pmax		
	comp=Z,11nm,1.2s							
QIZ	Qiongzhong	143.37	266	PKP		PKPdf	17 33 17.2	-0.8
QIZ				PP		PP	17 36 28.0	-1.5
QIZ				SS		SS	17 55 09.8	-1.2
QIZ				AMB		AMB		
	comp=Z,150nm,3.7s							
QIZ				LR		LR		
	comp=Z,44nm,28.8s							
HHC	Hu-ho-hao-te	143.85	303	ePKP		PKPab	17 33 14.6	-0.9
HHC				PP		PP	17 36 31.2	-0.8
HHC				AMB		AMB		
	comp=Z,26nm,4.0s							
HHC				LR		LR		
	comp=Z,120nm,14.8s							
HHC				LR		LR		
	comp=Z,85nm,13.6s							
HHC				LR		LR		
	comp=Z,98nm,14.8s							
ULN	Ulaanbaatar	144.98	316	‖ ePKIKP		PKPab	17 33 18.3	-1.2
ULN	Ulaanbaatar	144.98	316	ePKPdf		PKPab	17 33 17.5	-2.0
TLY	Talaya	145.15	324	PKPbc		PKPbc	17 33 17.7	-2.1
	comp=Z,7.6nm,0.7s,baz=312,slow=6.4,SNR=4.2							
SONA1	Songino Array	145.38	316	ePKPbc		PKPbc	17 33 17.2	-3.5
SONA0	Songino Array	145.39	316	ePKPbc		PKPbc	17 33 19.5	-1.3
SONM	Songino Array	145.39	316	PKPbc		PKPbc	17 33 19.5	-1.3
	comp=Z,3.5nm,0.9s,baz=83,slow=2.3,SNR=12							
BR231	Keskin MP Arra	146.00	58	ePKPdf		PKPdf	17 33 21.0	-1.2
XAN	Xi'an	146.62	291	PKPbc		PKPab	17 33 27.6	+1.6
BR101	Keskin Array S	146.67	58	ePKPdf		PKPbc	17 33 24.6	-0.4
BRTR	Keskin Array B	146.67	58	PKPbc		PKPbc	17 33 24.6	-0.4
	comp=Z,2.6nm,0.9s,baz=254,slow=0.9,SNR=6.5							
GYA	Guiyang	148.09	277	ePKPbc		PKPdf	17 33 24.8	-1.3
GYA				PP		PP	17 36 59.0	+1.3
GYA				AMB		AMB		
	comp=Z,120nm,7.9s							
EIL	Elat	148.36	77	PKPbc		PKPbc	17 33 28.4	-1.3
	comp=Z,2.5nm,0.7s,baz=9.2,slow=16,SNR=2.8							
ARU	Arti	149.32	13	i PKIKP		PKPdf	17 33 27.5	+0.5
ARU							17 36 59.0	
ARU	Arti	149.32	13	ePKPbc		PKPbc	17 33 29.0	-2.3
SVE	Sverdlovsk	149.34	11	ePKP2		PKPab	17 33 33.5	-2.4
SVE				pmax		pmax		
	comp=Z,16nm,1.6s							
ASF	Jabal al Asfar	150.10	72	PKPbc		PKPbc	17 33 35.2	+1.0
	comp=Z,8.5nm,0.9s,baz=210,slow=4.3,SNR=4.1							
LZH	Lanzhou	150.59	296	ePKPbc		PKPbc	17 33 34.1	-1.2
LZH				pPKP		pPKPbc	17 33 38.3	-0.4
LZH				LR		LR		
	comp=Z,91nm,17.5s							
LZH				LR		LR		
	comp=Z,130nm,18.0s							
LZH				LR		LR		
	comp=Z,230nm,21.0s							
CD2	Chengdu	151.02	286	PKPbc		PKPdf	17 33 29.2	-1.3
ZAA1	Zalesovo Array	151.19	343	ePKPbc		PKPbc	17 33 34.5	-1.3
ZAA0	Zalesovo Array	151.20	343	ePKPdf		pPKPdf	17 33 34.3	+0.9
ZALV	Zalesovo Beam	151.20	343	PKPbc		PKPbc	17 33 34.5	-1.4
	comp=Z,2.5nm,0.6s,baz=3.7,slow=2.5,SNR=10							
KBZ	Khabaz	151.95	46	PKPbc		PKPbc	17 33 37.8	-0.1
	comp=Z,2.5nm,0.7s,baz=230,slow=16,SNR=4.2							
CM01	Chiang Mai Arr	152.75	258	ePKPdf		PKPdf	17 33 32.4	-1.0
CM01				ePKPbc		PKPbc	17 33 39.3	-1.3
CM31	Chiang Mai Arr	152.78	258	ePKPbc		PKPbc	17 33 39.0	-1.6
CMAR	Chiang Mai Arr	152.78	258	PKPbc		PKPbc	17 33 40.4	-0.2
	comp=Z,2.7nm,0.9s,baz=180,slow=1.0,SNR=16							
CHTO	Chiang Mai	152.92	258	ePKIKP		PKPbc	17 33 40.7	-0.2
CHTO	Chiang Mai	152.92	258	ePKPbc		PKPbc	17 33 40.7	-0.2
GTA	Gaotai	152.93	304	ePKPbc		PKPbc	17 33 40.3	-0.2
GTA				pPKP		PKPab	17 33 50.4	-1.3
GTA				sPKP			17 33 54.0	
BRVK	Borovoye	154.00	1	‖ i PKIKP		PKPbc	17 33 42.2	0.0
BRVK	Borovoye	154.00	1	ePKPdf		PKPdf	17 33 35.4	+1.2
BRVK				ePKPab		PKPab	17 33 55.3	-0.2
BVAR	Borovoye Array	154.03	1	PKPbc		PKPbc	17 33 40.3	-2.0
	comp=Z,0.8nm,0.7s,baz=300,slow=2.8,SNR=3.2							
KURK	Kurchatov	155.62	348	ePKIKP		PKPdf	17 33 38.5	+2.1
KURK	Kurchatov	155.62	348	ePKPdf		PKPdf	17 33 38.5	+2.1
KURK				ePKPab		PKPab	17 34 01.2	-1.2
KURK				ePKPab		pPKPab	17 34 02.4	-3.4
KURBB	Kurchatov Arra	155.72	348	PKPab		PKPab	17 34 02.4	-0.5
	comp=Z,4.2nm,0.9s,baz=18,slow=4.3,SNR=14							
WMQ	Urumqi	158.41	325	ePKP		PKPdf	17 33 39.4	-0.9
WMQ				pPKP		sPKPdf	17 33 49.4	+4.4
WMQ				LR		LR		
	comp=Z,110nm,28.5s							
WMQ				LR		LR		
	comp=Z,83nm,21.9s							
WMQ				LR		LR		
	comp=Z,110nm,25.9s							
GEYT	Alibeck	164.73	41	PKP		PKPdf	17 33 47.2	+0.1
	comp=Z,1.7nm,0.8s,baz=287,slow=20,SNR=4.6							
KSH	Kashi	166.84	342	ePKP		PKPdf	17 33 49.1	+0.2
KSH				PKS		PKSdf	17 37 23.7	+2.1
KSH				PP		PP	17 38 45.6	+6.6
KSH				SKS		SKSdf	17 40 54.2	+1.1
KSH				SKKS		SKKSac	17 45 31.5	+4.1
KSH				SS		SS	17 59 29.3	+7.1
KSH				AMB		AMB		
	comp=Z,80nm,5.1s							
KSH				LR		LR		
	comp=Z,87nm,5.4s							
KSH				LR		LR		
	comp=Z,66nm,6.7s							
KSH				LR		LR		
	comp=Z,88nm,7.9s							

MEX 11 17:15:05.8±0.7, 16°.90N×95°.09W, h124km±10km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.27	47	i P	Pn	17 15 21.9	-1.1
CMIG				i S	Sn	17 15 34.0	-2.1
HUIG	Huatulco	1.49	221	i P	Pn	17 15 32.3	-1.1
HUIG				eS	Sn	17 15 52.4	-1.9
VHO	Vista Hermosa	1.58	276	eP	Pn	17 15 34.1	-0.5
VHO				eS	Sn	17 15 54.6	-1.8
TGIG		1.89	94	eP	Pn	17 15 36.9	-1.3
TGIG				eS	Sn	17 16 01.9	-1.0
PNIG	Pinotepa	2.95	261	eP	Pn	17 15 49.5	-2.1
PNIG				i S	Sn	17 16 25.5	-1.4
TLIG	Tlapa	3.38	282	i P	Pn	17 15 55.8	-1.6
TLIG				i S	Sn	17 16 35.6	-1.6

IDC 11 17:23:23.4±1.9, 5°.00N×133°.48E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/52, mbtmp3.7/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=83.7km s-min=20.2km az=72.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	14.11	52	LR	LR	17 31 10.1	
	comp=Z,36nm,20.7s,baz=274,slow=33						
WRA	Warramunga Arr	24.80	178	P		P	17 28 47.4	+0.1
	2.3nm,1.0s,baz=0.2,slow=11,SNR=14						
ASAR	Alice Springs	28.49	179	P		P	17 29 20.9	+0.2
	0.9nm,0.6s,baz=10.0,slow=10,SNR=22						
H11S3	WAKE ISLAND Hy 35.08	65		T		T	18 06 38.3	
	baz=252,slow=75,SNR=88						
H11S2	WAKE ISLAND Hy 35.10	65		T		T	18 06 38.6	
	baz=252,slow=75,SNR=35						
H11S1	WAKE ISLAND Hy 35.10	65		T		T	18 06 39.2	
	baz=252,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy 35.66	63		T		T	18 07 20.9	
	baz=246,slow=75						
H11N2	WAKE ISLAND Hy 35.67	63		T		T	18 07 18.1	
	baz=246						
H11N3	WAKE ISLAND Hy 35.68	63		T		T	18 07 18.5	
	baz=246,slow=75						
CMAR	Chiang Mai Arr	36.27	295	P		P	17 30 28.7	-0.2
	0.4nm,0.8s,baz=125,slow=7.8,SNR=4.1						
SONM	Songino Array	48.58	336	P		P	17 32 10.7	+1.8
	1.3nm,0.8s,baz=146,slow=10,SNR=2.8						
MKAR	Makanchi Array	60.54	322	P		P	17 33 33.9	-1.8
	0.8nm,0.7s,baz=101,slow=7.5,SNR=7.7						
GNI	Garni	85.85	310	LR		LR	18 16 51.1	
	comp=Z,20nm,21.7s,baz=240,slow=37							

*ISCJB **11** 17:37:58.0±0.3, 32°.56S±0°.03×178°.59W±0°.07, h33km, mb4.8/23, MS3.0/2, Error ellipse: s-maj=8.6km s-min=3.4km az=20.0*

*NEIC **11** 17:37:58.2±1.8, 32°.55S×178°.53W, h23km±13km, mb4.8/22, Error ellipse: s-maj=8.3km s-min=6.1km az=116.0*

*IDC **11** 17:38:02.6±2.3, 32°.39S×178°.62W, h53km±19km, mb4.1/6, mb1 4.2/8, mb1mx3.9/23, mbtmp4.3/8, ML4.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=24.3km s-min=13.9km az=114.0*

ISC 11 17:37:59.8±0.4, 32°.51S±0°.05×178°.57W±0°.08, h33km, n96, σ2.9 02/104, mb4.9/23, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.29	10	P		Pn	17 38 50.6	+1.6
	137nm,0.3s,baz=104,slow=11,SNR=6.8						
RAO				S		Sn	17 39 27.4	+0.4
	155nm,0.3s,baz=180,slow=20,SNR=4.6						
RAO	Raoul Island	3.29	10	ePn		Pn	17 38 48.9	-0.1
RAO				eSn		Sn	17 39 23.4	-3.6
MXZ	Matakaoa Point	5.66	206	ePn		Pn	17 39 22.8	+1.3
WMGZ	Waiomatatini S	5.85	204	PN		Pn	17 39 27.4	+3.3
WMGZ				SN		Sn	17 40 31.1	+1.0
HAZ	Te Kaha	6.03	209	PN		Pn	17 39 28.7	+2.1
HAZ				SN		Sn	17 40 35.6	+1.1
TWGZ	Tauwhareparae	6.32	206	PN		Pn	17 39 30.6	-0.1
CNGZ	Carnagh Statio	6.52	203	PN		Pn	17 39 33.4	0.0
MWZ	Matawai	6.63	208	PN		Pn	17 39 35.8	+0.9
URZ	Urewera	6.74	210	P		Pn	17 39 38.2	+1.9
	3.5nm,0.3s,baz=258,slow=4.5,SNR=10						
URZ				S		Sn	17 40 50.9	-1.0
	4.8nm,0.3s,baz=139,slow=21,SNR=7.3						
URZ	Urewera	6.74	210	ePn		Pn	17 39 36.4	+0.1
URZ				eSn		Sn	17 40 49.0	-2.9
URZ				eSn		Sn	17 40 50.9	-1.0
URZ	Urewera	6.74	210	PN		Pn	17 39 38.7	+2.3
WCZ	Waipu Caves	6.79	238	PN		Pn	17 39 41.0	+3.9
RIGZ	Rimuhau	6.87	205	PN		Pn	17 39 37.8	-0.4
RIGZ				SN		Sn	17 40 52.7	-2.5
OUZ	Omahuta	7.06	245	ePn		Pn	17 39 44.6	+3.9
SNGZ	Shannon Statio	7.09	207	PN		Pn	17 39 41.4	+0.1
KNZ	Kokohu	7.18	204	PN		Pn	17 39 40.0	-2.4
ARHZ	Aropaoanui	7.64	207	PN		Pn	17 39 51.0	+2.2
BKZ	Black Stump Fm	7.76	210	ePn		Pn	17 39 49.2	-1.3
BKZ				eSn		Sn	17 41 10.3	-6.9
MCHZ	McNeill Hill	7.92	208	PN		Pn	17 39 54.0	+1.5
KWHZ	Kaweka Forest	8.01	209	PN		Pn	17 39 53.7	-0.2
HIZ	Hauiti	8.04	220	ePn		Pn	17 39 54.4	+0.1
PNHZ	Pukenui	8.51	208	PN		Pn	17 39 59.1	-1.7
DUWZ	D'Urville Isla	10.24	214	PN		Pn	17 40 21.5	-2.9
SNZO	South Karori	10.30	210	ePn		Pn	17 40 21.1	-4.1
SNZO				eSn		Sn	17 42 09.9	-10
TCW	Tory Channel	10.40	211	PN		Pn	17 40 23.3	-3.3
NNZ	Nelson	10.82	214	PN		Pn	17 40 26.9	-5.4
THZ	Tophouse	11.47	214	ePn		Pn	17 40 36.9	-4.3
THZ				eSn		Sn	17 42 38.2	-10
THZ	Tophouse	11.47	214	PN		Pn	17 40 36.9	-4.3
KHZ	Kahutara	11.71	210	ePn		Pn	17 40 38.9	-5.5
KHZ	Kahutara	11.71	210	PN		Pn	17 40 40.4	-4.0
LTZ	Lake Taylor	12.56	213	ePn		Pn	17 40 54.5	-1.6
CRLZ	Canterbury Las	13.04	210	ePn		Pn	17 41 02.0	-0.7
MQZ	McQueen's Vall	13.13	209	ePn		Pn	17 40 59.2	-4.7
RPZ	Rata Peaks	13.84	213	P		Pn	17 41 08.6	-5.0
	0.5nm,0.3s,baz=356,slow=19,SNR=2.3						
RPZ				S		Sn	17 43 31.1	-15
	0.3nm,0.3s,baz=35,slow=19,SNR=3.1						
LBZ	Lake Benmore	14.76	213	ePn		Pn	17 41 23.4	-2.7
MSVF	Nonsavu	15.02	347	ePn		Pn	17 41 29.6	-0.2
ODZ	Otahua Downs	15.06	211	ePn		Pn	17 41 27.7	-2.5
	180nm,1.8s						
WKZ	Wanaka	15.64	215	ePn		Pn	17 41 37.0	-0.7
	290nm,1.9s						
MLZ	Mavora Lakes	16.47	215	ePn		Pn	17 41 47.6	-0.7
	108nm,1.6s						
DZM	Mont Dzumac	16.88	304	P		P	17 41 55.9	+0.5
	baz=130,slow=19,SNR=2.0						
DZM	Mont Dzumac	16.88	304	ePn		P	17 41 55.5	+0.1
	16nm,1.2s						
RAR	Rarotonga	20.16	61	LR		LR	17 51 12.0	
	comp=Z,53nm,18.4s,baz=238,slow=39						
EIDS	Eidsvold	27.43	277	eP		P	17 43 43.7	+1.1
	25nm,1.8s						
PPTF	Pamatai, Papee	30.06	67	eP		P	17 44 05.3	-0.8
	87nm,1.4s						
PPT	Papeete	30.06	67	LR		LR	17 55 46.7	
	comp=Z,41nm,19.3s,baz=358,slow=35						
PPT	Papeete	30.06	67	eP		P	17 44 05.1	-1.0
STKA	Stephens Creek	33.58	260	P		P	17 44 38.2	+1.2
	1.1nm,0.6s,baz=109,slow=4.7,SNR=5.0						
STKA	Stephens Creek	33.58	260	eP		P	17 44 38.3	+1.4
	4.1nm,1.7s						
CTA

DNR	Dunn Ranch,Anz	87.85	48	*e*P	P	17 50 45.7	-0.3
BBRC	Big Bear Solar	88.13	47	*e*P	P	17 50 48.3	+0.9
JCW	Jim Creek	94.97	34	*e*P	P	17 51 18.4	-0.2
KURK	Kurchatov	122.14	313	*e*PKPdf	PKPdf	17 56 49.7	-0.9
KURBB	Kurchatov Arra	122.17	313	PKP	PKPdf	17 56 49.7	-1.0
	0.6nm,0.5s,baz=115,slow=2.0,SNR=6.5						
BVAR	Borovoye Array	127.55	315	PKP	PKPdf	17 57 00.6	-0.3
	0.8nm,0.4s,baz=16,slow=2.0,SNR=4.1						
ARCES	ARCESS Array B	140.53	347	PKhKP	PKPpre	17 57 18.4	
	2.1nm,0.8s,baz=28,slow=1.7,SNR=6.7						
ARCES				PKP	PKPdf	17 57 24.8	+0.1
	1.3nm,0.7s,baz=42,slow=1.5,SNR=6.8						
FIA0	FINESS Array S	146.94	338	*e*PKPdf	PKPbc	17 57 37.6	-0.5
FINES	FINESS Array B	146.94	338	PKPbc	PKPbc	17 57 37.6	-0.5
	5.4nm,0.6s,baz=54,slow=4.1,SNR=41						
NB2	NORSAR Subarra	150.75	350	PKP	PKPbc	17 57 47.8	-0.2
	comp=Z,1.6nm,0.5s,baz=16,slow=2.6						
NB200	NORSAR Array S	150.75	350	*e*PKPbc	PKPbc	17 57 47.8	-0.2
NOA	NORSAR Array B	150.75	350	PKPbc	PKPbc	17 57 47.8	-0.2
	comp=Z,0.9nm,0.5s,baz=62,slow=1.9,SNR=6.2						
HFS	Hagfors	151.19	347	PKPbc	PKPbc	17 57 48.4	-0.5
	comp=Z,5.7nm,0.8s,baz=164,slow=1.0,SNR=9.5						
BR101	Keskin Array S	153.10	295	*e*PKPbc	PKPbc	17 57 53.2	-0.9
BRTR	Keskin Array B	153.10	295	PKPbc	PKPbc	17 57 53.2	-0.9
	comp=Z,0.6nm,0.5s,baz=141,slow=3.9,SNR=5.6						
TORD	Torodi Ar. Bea	160.73	181	PKPab	PKPab	17 58 39.5	+0.8
	comp=Z,3.2nm,0.7s,baz=179,slow=3.3,SNR=18						
TOA1	Torodi Ar. Sit	160.74	181	*e*PKPab	PKPab	17 58 39.5	+0.8

DJA 11 17:42:26.6±0.4, 2°N±4°×12°7E±°, h10km, M3.9/6, mB5.1/1, mb4.2/1, MLv3.7/6, Mw(mB)4.5/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	2.21	172	P	Pn	17 43 04.8	+1.5
LBMI				S	Sg	17 43 36.7	-0.9
KMSI	Cibinong	3.34	253	P	Pn	17 43 19.8	+0.8
SANI	Sanana	3.78	198	P	Pn	17 43 24.8	-0.2
SANI				S	Sn	17 44 08.9	-0.6
NLAI	Namlea	4.77	181	P	Pn	17 43 39.2	+0.6
NLAI				S	Sn	17 44 35.3	+1.4
APSI	Ampana	6.05	246	P	Pn	17 43 56.3	+0.1
TTSI	Tana Toraja	8.66	238	P	Pn	17 44 31.2	-0.9

MAN 11 17:47:05, 16°95N×120°07E, h51km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.58	195	*e*P	Pn	17 47 19.8	+2.4
BOLP				*e*S	Sn	17 47 30.0	+3.8
ABRA	Dolores	0.93	41	*e*P	Pn	17 47 23.5	+1.7
ABRA				*e*S	Sn	17 47 44.6	+10
CAUP	Cauayan	1.68	90	*e*P	Pn	17 47 33.6	+1.7

KRSC 11 18:20:41.6±1.1, 49°31N×156°68E, h93km±20km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.42	345	*e*P	Pn	18 21 07.3	+0.8
SKR				*e*S	Sn	18 21 26.3	+1.0
RUS	Russkaya	3.34	20	*e*P	Pn	18 21 34.1	+2.5
RUS				*e*S	Sn	18 22 12.0	+1.8
DALK	Dalny	3.95	18	*e*P	Pn	18 21 42.2	+2.3
DALK				*e*S	Sn	18 22 26.9	+1.9
AVH	Avacha	4.17	17	*e*P	Pn	18 21 45.6	+2.7
SDLR	Sedlovina	4.21	18	*e*P	Pn	18 21 45.9	+2.4
SDLR				*e*S	Sn	18 22 34.6	+3.1
SPN	Mys Shipunski	4.34	28	*e*P	Pn	18 21 47.3	+2.2
SPN				*e*S	Sn	18 22 36.6	+2.1

KRSC 11 18:31:16.7±1.4, 53°96N×161°77E, h15km±29km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.35	231	*e*P	Pn	18 31 41.1	0.0
SPN				*e*S	Sn	18 31 58.5	-0.3
KII	Karymskiy	1.37	274	*e*P	Pn	18 31 41.6	+0.2
KII				*e*S	Sb	18 31 59.6	+0.2
KZV	Kizimen	1.44	324	*e*P	Pn	18 31 41.7	-0.6
KZV				*e*S	Sn	18 31 59.7	-1.3
TUMD	Tumrok D	1.48	328	*e*P	Pn	18 31 42.3	-0.5
TUMD				*e*S	Sn	18 32 00.8	-1.0
TUMR	Tumrok	1.62	325	*e*P	Pn	18 31 45.6	+0.7
NLC	Nalytchevo	1.65	242	*e*P	Pn	18 31 45.6	+0.5
SDLR	Sedlovina	1.85	249	*e*P	Pn	18 31 49.0	+1.0
SDLR				*e*S	Sb	18 32 13.5	+0.3
UGLR	Uglovaya	1.91	248	*e*P	Pb	18 31 50.3	-1.0
KRER	Koryakskii	1.91	251	P	Pn	18 31 50.1	+1.1
KRER				S	Sb	18 32 15.2	0.0
AVH	Avacha	1.94	250	*e*P	Pb	18 31 50.7	-1.0
AVH				*e*S	Sb	18 32 15.7	0.0
KRX	Arik	1.95	253	*e*P	Pn	18 31 50.3	+0.9
KRX				*e*S	Sb	18 32 15.2	-1.0
KOK	Koryaka	1.98	251	*e*P	Pn	18 31 50.9	+1.1
KOK				S	Sb	18 32 17.2	+0.2
KMNR	Kamenistaya	2.00	334	P	Pb	18 31 51.9	-1.0
KMNR				S	Sb	18 32 17.1	-0.5
DALK	Dalny	2.03	244	*e*P	Pn	18 31 51.3	+1.0
DALK				*e*S	Sb	18 32 16.9	-1.3
PET	Petropavlovsk	2.08	244	P	Pn	18 31 51.8	+0.7
PET				S	Sn	18 32 17.4	+0.7
BZMR	Bezymyannaya	2.11	340	*e*P	Pb	18 31 53.8	-0.9
ZLN	Zelenaya	2.13	345	*e*P	Pb	18 31 54.0	-1.1
KIRR	Kirishev	2.16	338	*e*P	Pb	18 31 54.9	-0.6
KPT	Kopyto	2.19	337	*e*P	Pn	18 31 52.4	-0.3
GNL	Ganaly	2.28	265	*e*P	Pb	18 31 56.0	-1.7
KBTR	Krutoberegovo	2.33	15	*e*P	Pn	18 31 56.2	+1.7
KBTR				S	Sb	18 32 26.1	-0.8
KRSR	Krestovskiy	2.36	343	*e*P	Pb	18 31 57.3	-1.7
KOZ	Kozyrevsk	2.37	333	*e*S	Sn	18 32 25.7	+2.0
KLY	Klyuchi	2.44	345	*e*S	Sn	18 32 25.2	-0.3
KRMR	Karymshinskiy	2.46	244	*e*P	Pn	18 31 57.5	+1.3
KRMR				S	Sn	18 32 28.0	+2.1
RUS	Russkaya	2.49	233	P	Pn	18 31 57.6	+1.0
ASAK	Asacha	2.81	237	*e*P	Pb	18 32 05.2	-1.5
APC	Apacha	2.95	251	*e*P	Pn	18 32 05.6	+2.7

*IDC **11** 18:36:36.4±0.6, 2°10S×138°86E, h0km, mb4.1/14, mb1 4.2/17, mb1mx4.1/38, mbtmp4.1/17, ML4.3/2, MS3.8/12, Ms1 3.7/12, ms1mx3.5/30, Error ellipse: s-maj=20.5km s-min=12.0km az=68.0*
*ISCJB **11** 18:36:39.2±0.2, 2°17S±0°03×138°85E±0°03, h29km, mb4.3/29, MS3.7/10, Error ellipse: s-maj=5.2km s-min=3.6km az=23.4*
*NEIC **11** 18:36:39.5±2.5, 2°14S×138°79E, h20km±19km, mb4.6/18, Error ellipse: s-maj=7.5km s-min=7.3km az=213.0*
*DJA **11** 18:36:39.8±0.5, 2°S±8°×13°9E±°, h14km±2km, M4.6/20, mb4.6/20, mB5.3/6, MLv4.6/6, Mw(mB)4.7/6*
*BJI **11** 18:36:40.4, 1°85S×138°40E, h10km, mb4.5/10, mB4.8/9, Ms5.0/3, Ms7 4.6/3*

ISC 11 18:36:41.1±0.4, 2°15S±0°05×138°85E±0°04, h29km, n88, σ1°74/92, mb4.4/29, MS3.8/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.21	318	P	Pb	18 36 46.2	-1.1
SMPI				S	Sb	18 36 51.7	+0.2
GENI	Genyem	1.39	109	P	Pn	18 37 03.4	-1.1
GENI				S	Sn	18 37 22.1	+0.2
JAY	Jayapura	1.89	101	Pn	Pn	18 37 09.7	-1.8
	449nm,0.3s,baz=247,slow=11,SNR=174						
JAY				Sn	Sn	18 37 33.9	-0.4
	998nm,0.3s,baz=115,slow=19,SNR=18						
JAY				LR	LR	18 38 17.1	
	comp=Z,10μm,19.8s,baz=228,slow=54						
JAY	Jayapura	1.89	101	P	Pn	18 37 10.0	-1.4
JAY				S	Sn	18 37 34.1	-0.2
FAKI	Fak Fak	6.64	263	P	Pn	18 38 17.7	+0.9
	62nm,0.8s,690nm0.2nm						
FAKI				S	Sn	18 39 30.8	-0.7
	62nm,0.8s,690nm0.2nm						
FAKI	Fak Fak	6.64	263	*e*Pn	Pn	18 38 16.9	+0.1
SWI	Sorong	7.69	279	P	Pn	18 38 32.3	+1.1
	20nm,0.8s,0.1nm						
MANU	Manus Island	8.51	89	*e*Pn	Pn	18 38 44.2	+1.7
AAI	Ambon	10.75	262	P	Pn	18 39 14.5	+1.3
PMG	Port Moresby	10.97	131	Pn	Pn	18 39 17.0	+0.9
	0.3nm,0.3s,baz=33,slow=16,SNR=2.1						
PMG				Sn	Sn	18 41 20.4	+2.5
	1.0nm,0.3s,baz=307,slow=15,SNR=5.9						
NLAI	Namlea	11.79	264	P	Pn	18 39 29.5	+2.1
	41nm,0.9s						
SANI	Sanana	12.85	270	P	Pn	18 39 46.0	+4.0
	15nm,0.8s						
MTN	Manton Dam	13.09	215	*e*Pn	Pn	18 39 43.9	-1.2
KDI	Kendari	16.31	263	P	Pn	18 40 29.1	+0.9
SOEI	Soe	16.35	242	P	P	18 40 33.3	+1.9
	52nm,0.9s						
SOEI	Soe	16.35	242	*e*Pn	Pn	18 40 27.1	-1.6
	45nm,0.9s						
BBSI	Bau Bau	16.58	258	P	P	18 40 33.6	-0.3
GUMO	Guam	16.73	21	LR	LR	18 46 47.7	
	comp=Z,134nm,19.2s,baz=200,slow=37						
MRSI	Marisa	17.11	279	P	Pn	18 40 38.6	+0.4
APSI	Ampana	17.24	274	P	P	18 40 50.7	+9.5
WRAB	Tennant Creek	18.22	194	*e*Pn	P	18 40 50.7	-1.3
	15nm,0.6s						
WB2	Warramunga Arr	18.23	194	*e*Pn	P	18 40 50.8	-1.3
	14nm,0.6s						
WR1	Warramunga Arr	18.23	194	*e*Pn	P	18 40 50.5	-1.6
	13nm,0.8s						
WR1				*e*Sn	Sn	18 44 00.9	-14
WRA	Warramunga Arr	18.23	194	P	P	18 40 50.5	-1.6
	1.2nm,0.3s,baz=18,slow=12,SNR=33						
WRA				S	Sn	18 44 00.9	-14
	0.1nm,0.3s,baz=10,slow=22,SNR=4.4						
WRA				LR	LR	18 48 32.6	
	comp=Z,473nm,18.2s,baz=5.0,slow=39						
BSSI	Bau Bau, Buton	18.73	257	P	Pn	18 41 00.2	+1.9
BNSI	Bone	18.84	263	P	P	18 40 59.7	+0.8
TTSI	Tana Toraja	19.03	267	P	Pn	18 41 06.0	+4.1
	16nm,1.0s						
PCI	Palu	19.05	273	P	Pn	18 41 05.6	+3.5
MPSI	Mapaga	19.11	277	P	Pn	18 41 06.0	+3.2
SPSI	Sidrap Palu	19.14	264	P	Pn	18 41 05.5	+2.3
CTA	Charters Tower	19.24	158	P	Pn	18 41 04.4	+0.1
	0.4nm,0.3s,baz=337,slow=9.4,SNR=5.9						
AS01	Alice Springs	21.91	192	*e*P	P	18 41 30.9	-1.3
AS31	Alice Springs	21.92	192	*e*P	P	18 41 31.5	-0.7
	4.1nm,0.5s						
ASAR	Alice Springs	21.92	192	P	P	18 41 31.4	-0.9
	3.1nm,0.5s,baz=15,slow=9.9,SNR=56						
ASAR				S	S	18 45 28.1	-5.0
	1.5nm,0.9s,baz=12,slow=24,SNR=3.2						
ASAR				LR	LR	18 50 38.9	
	comp=Z,361nm,18.4s,baz=18,slow=38						
HNR	Honiara	22.19	110	LR	LR	18 51 06.5	
	comp=Z,101nm,18.2s,baz=330,slow=39						
KKM	Kota Kinabalu	24.02	290	*e*P	P	18 41 54.1	+0.3
	8.7nm,0.7s						
SRBI	Singaraja	24.26	255	P	P	18 41 56.8	+0.8
EIDS	Eidsvold	25.92	154	*e*P	P	18 42 13.5	+2.6
	17nm,0.9s						
STKA	Stephens Creek	29.68	175	P	P	18 42 44.4	-0.1
	2.4nm,0.7s,baz=349,slow=5.8,SNR=8.9						
STKA				LR	LR	18 56 06.9	
	comp=Z,245nm,20.1s,baz=11,slow=39						
STKA	Stephens Creek	29.68	175	*e*P	P	18 42 44.0	-0.5
	4.5nm,1.9s						
H11S3	WAKE ISLAND Hy	34.22	52	T	T	19 19 27.3	
	baz=236,slow=76,SNR=9.8						
H11S2	WAKE ISLAND Hy	34.23	52	T	T	19 19 19.7	
	baz=236,slow=76,SNR=6.4						
H11S1	WAKE ISLAND Hy	34.24	52	T	T	19 19 17.6	
	baz=236,slow=76,SNR=6.9						
MDSI	Maura Dua	34.69	265	P	P	18 43 29.6	+1.0
	7.9nm,1.1s						
LHSI	Lahat	35.32	266	P	P	18 43 35.6	+1.5
	39nm,1.1s						
JNU	Nakatsue	35.88	349	P	P	18 43 36.6	-2.0
	2.6nm,0.8s,baz=170,slow=10,SNR=3.6						
NWAO	Narrogin (SRO)	36.73	211	LR	LR	18 59 58.9	
	comp=Z,371nm,19.6s,baz=190,slow=38						
PDSI	Padang	38.39	271	P	P	18 44 00.5	+0.2
MJAR	Matsushiro Arr	38.49	359	P	P	18 43 59.2	-1.6
	1.0nm,0.7s,baz=182,slow=9.6,SNR=3.0						
MJAR				LR	LR	18 57 40.5	
	comp=Z,68nm,20.4s,baz=150,slow=33						
KSRS	Korea Array	40.69	347	LR	LR	18 58 35.4	
	comp=Z,62nm,21.6s,baz=170,slow=32						
CM01	Chiang Mai Arr	44.26	299	*e*P	P	18 44 48.2	-0.1
CM31	Chiang Mai Arr	44.28	299	*e*P	P	18 44 47.8	-0.8
CMAR	Chiang Mai Arr	44.28	299	P	P	18 44 48.3	-0.3
	1.5nm,0.6s,baz=118,slow=6.6,SNR=17						
CMAR				PcP	PcP	18 46 34.4	+1.6
	0.2nm,0.3s,baz=98,slow=2.0,SNR=4.6						
USRK	Ussuriysk Ar.	46.55	353	P	P	18 45 05.9	-0.2
	2.7nm,0.9s,baz=165,slow=8.5,SNR=3.6						
GTA	Gaotai	54.70	323	*e*P	P	18 46 08.4	+0.4
GTA				pP	pP	18 46 12.8	-4.1
GTA				sP	sP	18 46 16.4	-3.9
LSA	Lhasa	55.47	309	*e*P	P	18 46 14.6	+0.5
	2.2nm,0.6s						
ULN	Ulaanbaatar	57.02	335	*e*P	P	18 46 24.4	0.0
	28nm,2.0s						
SONA0	Songino Array	57.27	335	*e*P	P	18 46 26.5	+0.3
SONM	Songino Array	57.27	335	P	P	18 46 26.5	+0.3
	0.6nm,0.6s,baz=142,slow=7.6,SNR=3.8						
SONM				LR	LR	19 10 28.2	
	comp=Z,66nm,20.3s,baz=159,slow=36						
SONA1	Songino Array	57.28	335	*e*P	P	18 46 26.0	-0.3
PETK	Petropavlovsk-	57.28	13	LR	LR	19 07 16.0	
	comp=Z,39nm,21.5s,baz=220,slow=32						
MK01	Makanchi Array	69.42	322	*e*P	P	18 47 45.7	-0.8
MK31	Makanchi Array	69.43	322	*e*P	P	18 47 46.5	-0.2
MK32	Makanchi Array	69.43	322	*e*P	P	18 47 47.0	+0.4
MKAR	Makanchi Array	69.43	322	P	P	18 47 47.0	+0.4
	2.5nm,0.8s,baz=110,slow=8.5,SNR=17						
MKAR	Makanchi Array	69.43	322	*e*P	P	18 47 46.5	-0.2
	14nm,0.8s						
MAKZ	Makanchi	69.63	322	*e*P	P	18 47 47.8	0.0
	5.4nm,1.0s						
KSH	Kashi	70.80	313	*e*P	P	18 47 55.9	+0.6
KSH				pP	pP	18 48 01.9	-2.5
KSH				sP	sP	18 48 03.4	-4.4
KSH				PcP	PcP	18 48 17.3	+1.4
KSH				PP	PP	18 50 36.4	+3.9
KSH				S	S	18 57 05.1	-3.5
KSH				SKS	SKSac	18 57 48.9	-7.0
KSH				SS	SS	19 01 41.9	+0.4
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,54nm,6.6s						
KSH				LR	LR		
	comp=N,130nm,6.6s						
KSH				LR	LR		
	comp=E,98nm,4.7s						
KSH				LR	LR		
	comp=Z,120nm,6.6s						
ZAA0	Zalesovo Array	71.52	330	*e*P	P	18 47 56.8	-2.3
ZALV	Zalesovo Beam	71.52	330	P	P	18 47 57.5	-1.6
	0.9nm,0.5s,baz=133,slow=6.3,SNR=3.6						
ZALV	Zalesovo Beam	71.52	330	*e*P	P	18 47 57.2	-1.9
ZAA1	Zalesovo Array	71.53	330	*e*P	P	18 47 57.5	-1.7
KURK	Kurchatov	73.34	325	*e*P	P	18 48 08.7	-1.4
	5.8nm,1.1s						
TIXI	Tiksi	73.95	357	P	P	18 48 14.2	+1.0
	1.6nm,0.6s,baz=159,slow=1.7,SNR=3.8						
KKAR	Karatay Array	75.83	315	*e*P	P	18 48 23.8	-1.0
	14nm,1.0s						
VNDA	Vanda	76.32	175	P	P	18 48 26.3	-0.5
	0.7nm,0.7s,baz=323,slow=7.1,SNR=7.6						
VNDA				LR	LR	19 22 41.1	
	comp=Z,74nm,18.0s,baz=292,slow=36						
VNDA	Vanda	76.32	175	*e*P	P	18 48 26.7	-0.2
BRVK	Borovoye	79.00	325	*e*P	P	18 48 42.0	-0.3
	5.5nm,1.0s						
MAW	Mawson	82.69	202	P	P	18 49 01.6	0.0
	0.8nm,0.6s,baz=68,slow=2.6,SNR=3.5						
MAW				LR	LR	19 24 24.4	
	comp=Z,63nm,18.6s,baz=58,slow=35						
GEYT	Alibeck	84.00	308	P	P	18 49 08.7	-0.5
	1.4nm,0.5s,baz=186,slow=3.0,SNR=6.3						
CCB	Clear Creek Bu	84.85	24	*e*P	P	18 49 12.1	-0.6
	5.3nm,1.2s						
IL1	Eielson Array	85.27	24	*e*P	P	18 49 13.4	-1.5
ILAR	Eielson Array	85.27	24	P	P	18 49 13.6	-1.2
	2.0nm,1.0s,baz=270,slow=5.0,SNR=9.4						
ILB	Eielson Array	85.27	24	*e*P	P	18 49 13.6	-1.2
PAX	Paxson	85.42	26	*e*P	P	18 49 17.0	+1.2
	23nm,0.7s						
DAWY	Dawson	88.31	26	*e*P	P	18 49 30.3	+0.6
	6.7nm,1.1s						
LPAZ	La Paz	147.66	125	PKPbc	PKPbc	18 56 25.1	+0.5
	1.4nm,0.8s,baz=109,slow=3.7,SNR=3.4						
LPAZ	La Paz	147.66	125	*e*PKPbc	PKPab	18 56 26.0	-0.9

*ISCJB **11** 18:37:17.6±0.6, 50°26N±0°04×18°84E±0°03, h0km, Error ellipse: s-maj=6.2km s-min=2.6km az=16.7*
*CSEM **11** 18:37:18.5±0.3, 50°28N×18°88E, h1km, ML2.6/4, Error ellipse: s-maj=7.3km s-min=3.1km az=12.0*
*PRU **11** 18:37:19.4, 50°25N×18°87E, h0km*

ISC 11 18:37:18.8±0.8, 50°18N±0°04×18°86E±0°02, h0km, n29, σ0°80/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.57	234	*e*PG	Pb	18 37 31.6	0.0
OKC				*e*SG	Sb	18 37 41.7	+1.4
	comp=Z,11nm,0.3s						
OKC	Ostrava-Krasne	0.57	234	Pg	Pb	18 37 31.6	0.0
OKC				Sg	Sb	18 37 41.7	+1.4
	11nm,0.3s						
OJC	Ojcow	0.61	86	*e*Pg	Pg	18 37 30.0	-0.4
OJC				*e*Sg	Sg	18 37 38.0	-0.3
OJC	Ojcow	0.61	86	*e*Pg	Pg	18 37 30.0	-0.4
OJC				*e*Sg	Sg	18 37 38.0	-0.3
MORC	Moravsky Berou	0.94	245	*e*Pg	Pb	18 37 37.6	-0.4
MORC				*e*Sg	Sb	18 37 52.2	+1.2
LANS	Liptovska Anna	1.10	159	*e*Pg	Pn	18 37 41.3	-0.2
LANS				*e*Sg	Sn	18 37 56.8	-0.7
LANS	Liptovska Anna	1.10	159	*e*PG	Pn	18 37 41.3	-0.2
LANS				*e*SG	Sn	18 37 56.8	-0.7
NIE	Niedzica	1.21	129	*e*Pg	Pn	18 37 42.8	-0.1
NIE				*e*Sg	Sn	18 38 00.0	0.0
DPC	Dobruska-Polom	1.64	277	*e*PG	Pn	18 37 48.7	-0.2
DPC				*e*SG	Sg	18 38 11.6	+0.3
	comp=Z,7.0nm,0.4s						
DPC	Dobruska-Polom	1.64	277	Pg	Pn	18 37 48.7	-0.2
DPC				Sg	Sg	18 38 11.6	+0.3
	7.0nm,0.4s						
VYHS	Vyhne	1.68	180	*e*Pg	Pn	18 37 49.7	+0.2
VYHS				*e*Sn	Sg	18 38 12.8	-0.1
VYHS	Vyhne	1.68	180	*e*PG	Pn	18 37 49.7	+0.2
VYHS				*e*SN	Sg	18 38 12.8	-0.1
VYHS				*e*LG	Lg	18 38 16.7	
VRAC	Vranov	1.71	240	*e*Pn	Pb	18 37 51.0	0.0
VRAC				*e*Sg	Sg	18 38 15.1	+1.5
STHS	Stebnicka Huta	1.72	115	*e*Pg	Pg	18 37 51.6	-0.2
STHS				*e*Sn	Sg	18 38 15.7	+1.5
STHS	Stebnicka Huta	1.72	115	*e*PG	Pg	18 37 51.6	-0.2
STHS				*e*SN	Sg	18 38 15.7	+1.5
STHS				*e*LG	Lg	18 38 19.2	
KSP	Ksiaz	1.77	293	*e*Pg	Pb	18 37 52.3	+0.2
KSP				*e*Sg	Sb	18 38 15.4	+0.6
KSP	Ksiaz	1.77	293	*e*Pg	Pb	18 37 52.3	+0.2
KSP				*e*Sg	Sb	18 38 15.4	+0.6
UPC	Upice	1.85	281	*e*SG	Sg	18 38 19.1	+0.8
UPC	Upice	1.85	281	Sg	Sg	18 38 19.1	+0.8
KECS	Kecovo	2.00	147	*e*Sn	Sn	18 38 18.3	-1.3
KECS	Kecovo	2.00	147	*e*SN	Sn	18 38 18.3	-1.3
KECS				*e*LG	Lg	18 38 25.7	
GOPC	GO Pecny, Ondr	2.64	266	*e*SG	Sg	18 38 42.6	-0.9
GOPC	GO Pecny, Ondr	2.64	266	Sg	Sg	18 38 42.6	-0.9
PVCC	Panska Ves	2.77	279	*e*SG	Sg	18 38 48.7	+1.0
	comp=Z,5.5nm,0.3s						
PVCC	Panska Ves	2.77	279	Sg	Sg	18 38 48.7	+1.0
	5.5nm,0.3s						
PRU	Pruhonice	2.79	268	*e*SG	Sg	18 38 47.1	-1.1
PRU	Pruhonice	2.79	268	Sg	Sg	18 38 47.1	-1.1
KHC	Kasperske Hory	3.58	255	*e*SG	Sg	18 39 13.2	-0.7
	comp=Z,5.1nm,0.5s						
KHC	Kasperske Hory	3.58	255	Sg	Sg	18 39 13.2	-0.7
	5.1nm,0.5s						

*ISK **11** 18:38:26.1, 39°19N×27°70E, h6km, MD2.6*
*ISCJB **11** 18:38:27.9±0.5, 39°23N±0°03×27°84E±0°04, h7km±5km, Error ellipse: s-maj=5.5km s-min=3.8km az=41.7*
*CSEM **11** 18:38:27.8±0.2, 39°22N×27°82E, h10km, ML2.7, Error ellipse: s-maj=4.4km s-min=3.1km az=36.0*
*DDA **11** 18:38:27.5, 39°24N×27°85E, h12km, Ml2.7*

ISC 11 18:38:27.8±0.9, 39°22N±0°03×27°82E±0°02, h13km±7km, n30, σ0°34/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	BALIKESIR_Sava	0.17	334	*i* P	Pg	18 38 31.6	-0.2
STEP				*i* S	Sg	18 38 34.9	+0.2
STEP	BALIKESIR_Sava	0.17	334	P	Pg	18 38 31.6	-0.2
STEP				S	Sg	18 38 34.8	+0.2
AKHS	Akhisar	0.34	180	*i* P	Pg	18 38 34.8	0.0
AKHS				*i* S	Sb	18 38 40.6	-0.5
AKHS	Akhisar	0.34	180	P	Pg	18 38 34.8	0.0
AKHS				S	Sb	18 38 40.6	-0.5
BALB	Balikesir	0.42	7	*e*PG	Pg	18 38 35.8	-0.4
BALB				*e*SG	Sb	18 38 43.0	-0.4
BALB	Balikesir	0.42	7	*e*Pg	Pg	18 38 35.8	-0.4
BALB				*e*Sg	Sb	18 38 43.0	-0.4

*TAP **11** 19:02:00.5,24.°13N×122.°23E,h20km,ML3.1,D*
ISC 11 19:01:59.4±1.2,24.°08N±0.°03×122.°29E±0.°02,h18km±7km, n52,σ0.°96/96,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.61**	**305**	P	**Pb**	**19 02 11.3**	**-0.3**
	baz=314						
ENA				*e*S	**Sg**	**19 02 19.5**	**-0.2**
	baz=314						
TWD	**Chiawan**	**0.63**	**270**	*e*P	**Pg**	**19 02 12.8**	**+0.8**
	baz=249						
TWD				*e*S	**Sn**	**19 02 22.9**	**-0.3**
	baz=249						
TWC	**Suao**	**0.66**	**323**	P	**Pb**	**19 02 11.9**	**-0.5**
	baz=332						
TWC				S	**Sb**	**19 02 20.2**	**-1.1**
	baz=332						
JYNG	**Yonagunijimaku**	**0.70**	**58**	P	**Pb**	**19 02 13.2**	**0.0**
JYNG				*e*S	**Sb**	**19 02 22.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.76**	**60**	P	**Pb**	**19 02 14.4**	**+0.2**
YOJ				*e*S	**Sb**	**19 02 23.7**	**-0.5**
ESL	**Shilin**	**0.83**	**252**	*e*P	**Pb**	**19 02 14.8**	**-0.5**
	baz=235						
ESL				*e*S	**Sb**	**19 02 27.0**	**+0.9**
	baz=235						
ILA	**Ilan**	**0.84**	**324**	*e*S	**Sn**	**19 02 27.9**	**-0.5**
	baz=325						
TWE	**Neicheng**	**0.85**	**319**	P	**Pb**	**19 02 15.8**	**+0.1**
	baz=325						
TWE				*e*S	**Sb**	**19 02 26.4**	**-0.5**
	baz=325						
ENTT	**Nioudou**	**0.86**	**310**	P	**Pg**	**19 02 16.3**	**0.0**
	baz=318						
ENTT				S	**Sb**	**19 02 26.8**	**-0.4**
	baz=318						
NNS	**Nan Shan**	**0.91**	**293**	P	**Pb**	**19 02 17.1**	**+0.3**
	baz=292						
NNS				*e*S	**Sn**	**19 02 29.6**	**-0.6**
	baz=292						
WHF	**Hehuan Shan**	**0.94**	**274**	*e*P	**Pb**	**19 02 17.6**	**+0.2**
	baz=257						
TWB1	**Santiao Chiao**	**0.96**	**344**	P	**Pn**	**19 02 17.8**	**-0.3**
	baz=345						
TWB1				*e*S	**Sg**	**19 02 30.0**	**-0.9**
	baz=345						
TWT	**Tachien**	**1.03**	**280**	*e*P	**Pg**	**19 02 20.1**	**+0.6**
	baz=267						
NSK	**Sanguang**	**1.04**	**305**	P	**Pn**	**19 02 19.1**	**0.0**
	baz=305						
NSK				*e*S	**Sg**	**19 02 32.5**	**-0.7**
	baz=305						
EHY	**Hungye**	**1.05**	**237**	P	**Pb**	**19 02 18.5**	**-0.7**
	baz=225						
EHY				S	**Sb**	**19 02 32.0**	**-0.6**
	baz=225						
NWF	**Wu-fen Shan**	**1.09**	**335**	*e*P	**Pn**	**19 02 19.9**	**0.0**
	baz=336						
NWF				*e*S	**Sn**	**19 02 33.6**	**-1.0**
	baz=336						
TWA	**Mucha**	**1.10**	**325**	*e*P	**Pg**	**19 02 20.7**	**-0.1**
	baz=334						
TWA				*e*S	**Sg**	**19 02 34.7**	**-0.6**
	baz=334						
TWF1	**Yuli**	**1.16**	**232**	P	**Pn**	**19 02 20.2**	**-0.6**
	baz=216						
TWF1				*e*S	**Sb**	**19 02 35.0**	**-0.7**
	baz=216						
SMLT	**Sun Moon Lake**	**1.29**	**262**	*e*P	**Pn**	**19 02 23.1**	**+0.5**
	baz=260						
SMLT				*e*S	**Sn**	**19 02 39.5**	**0.0**
	baz=260						
TWS1	**Kuangyinshan**	**1.29**	**322**	P	**Pb**	**19 02 23.4**	**+0.2**
	baz=336						
TWS1				*e*S	**Sg**	**19 02 40.6**	**-0.5**
	baz=336						
CHKT	**Chengkung**	**1.29**	**221**	*e*P	**Pn**	**19 02 21.5**	**-1.1**
	baz=207						
CHKT				*e*S	**Sn**	**19 02 36.4**	**-3.1**
	baz=207						
NSTT	**Nanjuang**	**1.30**	**295**	*e*P	**Pb**	**19 02 23.7**	**+0.4**
	baz=295						
NSTT				*e*S	**Sg**	**19 02 41.2**	**-0.3**
	baz=295						
TYC	**Yuchr**	**1.32**	**263**	*e*P	**Pn**	**19 02 23.4**	**+0.4**
	baz=261						
TYC				*e*S	**Sn**	**19 02 40.7**	**+0.5**
	baz=261						
IRIF	**Iriomote-Funau**	**1.34**	**79**	P	**Pn**	**19 02 23.7**	**+0.4**
IRIF				S	**Sn**	**19 02 41.4**	**+0.8**
TWY	**Chenhua**	**1.35**	**332**	*e*P	**Pb**	**19 02 24.5**	**+0.3**
	baz=345						
TWY				*e*S	**Sg**	**19 02 41.3**	**-1.7**
	baz=345						
YUS	**Yu-Shan**	**1.36**	**245**	P	**Pn**	**19 02 24.2**	**+0.2**
	baz=243						
YUS				S	**Sn**	**19 02 41.0**	**-0.8**
	baz=243						
HATJ	**Hateruma jima**	**1.39**	**91**	P	**Pn**	**19 02 24.9**	**+1.0**
HATJ				S	**Sn**	**19 02 42.2**	**+0.4**
TWQ1	**Liyutan**	**1.41**	**281**	P	**Pb**	**19 02 26.0**	**+0.8**
	baz=266						
TWQ1				*e*S	**Sg**	**19 02 44.3**	**-0.7**
	baz=266						
ELDTW	**Lidau**	**1.47**	**233**	*e*P	**Pn**	**19 02 24.9**	**-0.2**
	baz=218						
ELDTW				*e*S	**Sn**	**19 02 43.1**	**-0.9**
	baz=218						
ALS	**Alishan**	**1.47**	**248**	⇑P	**Pn**	**19 02 26.1**	**+0.7**
	baz=246						
ALS				S	**Sn**	**19 02 44.4**	**0.0**
	baz=246						
TCU	**Taichung**	**1.48**	**273**	*e*S	**Sg**	**19 02 47.4**	**+0.3**
	baz=272						
WNT	**Mingjian**	**1.48**	**263**	*e*P	**Pn**	**19 02 25.6**	**+0.3**
	baz=261						
WNT				*e*S	**Sb**	**19 02 46.1**	**+1.2**
	baz=261						
CHN5	**Tsauling**	**1.55**	**252**	P	**Pb**	**19 02 27.9**	**+0.2**
	baz=239						
CHN5				S	**Sb**	**19 02 47.8**	**+0.7**
	baz=239						
JKRS	**Kuro-shima**	**1.58**	**84**	P	**Pn**	**19 02 27.6**	**+1.0**
JKRS				S	**Sn**	**19 02 47.0**	**+0.4**
WGK	**Gukeng**	**1.63**	**256**	*e*P	**Pn**	**19 02 28.0**	**+0.7**
	baz=241						
WGK				*e*S	**Sb**	**19 02 50.3**	**+1.1**
	baz=241						
STYT	**Tauyuan**	**1.68**	**237**	*e*P	**Pn**	**19 02 28.9**	**+0.9**
	baz=236						
STYT				*e*S	**Sn**	**19 02 49.4**	**+0.4**
	baz=236						
TWG	**Pinlang**	**1.68**	**222**	*e*P	**Pn**	**19 02 27.1**	**-0.8**
	baz=221						
TWG				*e*S	**Sn**	**19 02 47.4**	**-1.7**
	baz=221						
CHN4	**Tsaushan**	**1.72**	**245**	*e*P	**Pn**	**19 02 30.3**	**+1.8**
	baz=233						
CHN4				S	**Sb**	**19 02 53.2**	**+1.5**
	baz=233						
JIJ	**Ishigaki jima**	**1.72**	**80**	P	**Pn**	**19 02 28.7**	**+0.3**
JIJ				*e*S	**Sn**	**19 02 49.5**	**-0.4**
WTP	**Ta-pu**	**1.75**	**242**	*e*P	**Pn**	**19 02 30.4**	**+1.5**
	baz=241						
WTP				*e*S	**Sn**	**19 02 52.7**	**+1.9**
	baz=241						
TWK	**Hsinying**	**1.84**	**244**	*e*P	**Pn**	**19 02 31.7**	**+1.5**
	baz=242						
TWK				S	**Sb**	**19 02 55.2**	**-0.1**
	baz=242						
CHN1	**Nanshi**	**1.84**	**241**	P	**Pn**	**19 02 32.2**	**+1.9**
	baz=240						
CHN1				*e*S	**Sb**	**19 02 55.9**	**+0.4**
	baz=240						
SGST	**Jiashian**	**1.85**	**238**	*e*P	**Pb**	**19 02 32.7**	**-0.1**
	baz=237						
SGST				*e*S	**Sb**	**19 02 56.4**	**+0.7**
	baz=237						
JISG	**Ishigakijimahi**	**1.91**	**74**	P	**Pn**	**19 02 31.1**	**0.0**
JISG				S	**Sn**	**19 02 54.2**	**-0.6**
ECL	**Taimali**	**1.92**	**220**	*e*P	**Pn**	**19 02 30.8**	**-0.5**
	baz=220						
ECL				*e*S	**Sn**	**19 02 53.6**	**-1.4**
	baz=220						
WSF	**Szhu**	**1.94**	**257**	*e*S	**Sb**	**19 02 58.8**	**+0.5**
	baz=240						
LAY	**Lan-yu**	**2.14**	**199**	*e*P	**Pn**	**19 02 33.1**	**-1.2**
	baz=209						
LAY				*e*S	**Sn**	**19 02 57.0**	**-3.5**
	baz=209						
EAST	**Anshuo**	**2.15**	**218**	*e*P	**Pn**	**19 02 34.2**	**-0.3**
	baz=218						
JTJ	**Tarama**	**2.27**	**75**	P	**Pn**	**19 02 37.0**	**+0.9**
JTJ				*e*S	**Sn**	**19 03 03.8**	**+0.2**
SCZT	**Fangliau**	**2.29**	**222**	*e*P	**Pn**	**19 02 39.1**	**+2.7**
	baz=216						
SCZT				*e*S	**Sn**	**19 03 05.3**	**+1.2**
	baz=216						
JIRB	**Irabujima**	**2.73**	**74**	S	**Sn**	**19 03 14.8**	**-0.2**
JIKM	**Ikemajima**	**2.82**	**72**	S	**Sn**	**19 03 17.3**	**0.0**

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*IDC **11** 19:04:24.8±2.2,43.°46N×105.°20W,h0km,mb4.1/1, mb1 3.9/3,mb1mx3.5/43,mbtmp3.7/3,ML3.1/2,Error ellipse: s-maj=53.6km s-min=9.5km az=153.0*
*ISCJB **11** 19:04:25.5±0.6,43.°60N±0.°05×105.°19W±0.°07,h0km, mb4.3/1,Error ellipse: s-maj=7.3km s-min=6.8km az=32.3*
*NEIC **11** 19:04:26.3±0.6,43.°59N×105.°15W,h0km,ML3.2,Error ellipse: s-maj=8.5km s-min=7.6km az=175.0,Suspected Mining explosion.*
NEIC 81 km [50 miles] WSW of Newcastle.
ISC 11 19:04:25.3±0.9,43.°55N±0.°05×105.°17W±0.°05,h0km,n28, σ1.°94/27,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**55**	*e*Pg	**Pn**	**19 04 46.6**	**-0.2**
K22A	**Casper**	**1.34**	**228**	*e*Pn	**Pb**	**19 04 51.7**	**+0.4**
RWWY	**Rawlins**	**2.39**	**220**	*e*Pn	**Pb**	**19 05 09.8**	**+0.4**
LAO	**LASA Array**	**3.22**	**347**	*e*Pn	**Pn**	**19 05 19.2**	**+2.0**
PDAR	**Pinedale Array**	**3.30**	**258**	Pn	**Pn**	**19 05 20.6**	**+2.2**
	1.0nm,0.3s,baz=80,slow=15,SNR=25						
PDAR				Lg	Lg	19 06 06.6	
	16nm,0.3s,baz=76,slow=34,SNR=11						
BW06	**Boulder Array**	**3.30**	**258**	*e*Pn	**Pn**	**19 05 20.6**	**+2.1**
RLMT	**Red Lodge**	**3.33**	**300**	*e*Pn	**Pn**	**19 05 20.9**	**+2.0**
OGNE	**Ogallala**	**3.50**	**137**	*e*Pn	**Pn**	**19 05 21.9**	**+0.9**
ISCO	**Idaho Springs**	**3.77**	**185**	*e*Pn	**Pn**	**19 05 26.4**	**+1.5**
LOHW	**Long Hollow**	**3.95**	**273**	*e*Pn	**Pn**	**19 05 26.1**	**-1.2**
H17A	**Grant Village**	**3.99**	**284**	*e*Pn	**Pn**	**19 05 28.8**	**+0.8**
MOOW	**Moose Ponds**	**4.05**	**275**	*e*Pn	**Pn**	**19 05 30.8**	**+2.0**
SNOW	**Snow King Moun**	**4.06**	**271**	*e*Pg	**Pb**	**19 05 38.7**	**+0.9**
REDW	**Red Top Meadow**	**4.14**	**269**	*e*Pn	**Pn**	**19 05 30.1**	**+0.1**
IMW	**Indian Meadow**	**4.19**	**277**	*e*Pn	**Pn**	**19 05 30.3**	**-0.5**
TPAW	**Teton Pass**	**4.20**	**271**	Pn	**Pn**	**19 05 33.1**	**+2.2**
KSCO	**Kaye Shedlock'**	**4.93**	**156**	*e*Pn	**Pn**	**19 05 43.6**	**+2.9**
DGMT	**Dagmar**	**4.96**	**8**	*e*Pn	**Pn**	**19 05 39.8**	**-1.3**
BOZ	**Bozeman (W)**	**5.04**	**296**	*e*Pn	**Pn**	**19 05 44.8**	**+2.5**
	6.4nm,0.6s						
HWUT	**Hardware Ranch**	**5.11**	**250**	*e*Pn	**Pn**	**19 05 41.4**	**-1.8**
	10nm,0.5s						
SDCO	**Great Sand Dun**	**5.81**	**183**	Pn	**Pn**	**19 05 57.2**	**+4.3**
	1.9nm,0.5s						
PV04	**Paradox Valley**	**5.88**	**210**	*e*Pn	**Pn**	**19 05 55.9**	**+2.1**
CBKS	**Cedar Bluff**	**6.26**	**137**	*e*Pg	**Pg**	**19 06 25.1**	**-0.1**
	23nm,0.5s						
DUG	**Dugway, Tooele**	**6.62**	**242**	Pn	**Pn**	**19 06 05.0**	**+1.1**
	1.7nm,0.4s						
MVCO	**Mesa Verde**	**6.83**	**203**	*e*Pg	**Pg**	**19 06 32.9**	**-3.2**
	5.8nm,0.6s						
I10CA	**LAC DU BONNET**	**9.13**	**40**	*i*		19 57 50.0	
	baz=221,slow=296,SNR=1.0						
ULM	**Lac du Bonnet**	**9.23**	**40**	Pn	**Pn**	**19 06 37.6**	**-2.0**
	0.8nm,0.3s,baz=224,slow=10,SNR=5.4						
ULM				Lg	Lg	19 09 13.2	
	0.2nm,0.3s,baz=330,slow=18,SNR=2.6						
ARCES	**ARCESS Array B**	**61.57**	**18**	P	**P**	**19 14 44.0**	**+0.2**
	1.9nm,0.9s,baz=333,slow=4.2,SNR=3.9						

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*NIED **11** 19:14:00,35.°20N×142.°30E,h8km,Mw4.0 Best double couple: M01.28000×10^15 NP1:φs27.00000°,δ33.00000°, λ-77.00000°. NP2:φs192.00000°,δ58.00000°, λ-98.00000°.*
*IDC **11** 19:14:48.7±0.6,35.°10N×142.°25E,h0km,mb3.9/16, mb1 4.0/22,mb1mx3.9/47,mbtmp3.9/22,ML3.8/5,MS3.0/7, Ms1 3.1/7,ms1mx2.8/49,Error ellipse: s-maj=17.6km s-min=13.3km az=94.0*
*ISCJB **11** 19:14:51.0±1.3,35.°04N±0.°04×142.°17E±0.°05,h24km±8km, mb4.1/26,MS3.2/4,Error ellipse: s-maj=6.8km s-min=6.2km az=171.0*
*JMA **11** 19:14:50.4±0.3,35.°16N×142.°31E,h66km,M4.1*
*NEIC **11** 19:14:54.2±0.5,35.°07N×142.°20E,h35km,mb4.4/12,Error ellipse: s-maj=10.0km s-min=8.6km az=69.0*
ISC 11 19:14:50.2±1.9,35.°14N±0.°05×142.°20E±0.°06,h9km±11km, n68,σ1.°81/77,mb4.1/26,MS3.2/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.12**	**245**	P	**Pg**	**19 15 11.2**	**-0.4**
CHOJ	**Chosi**	**1.24**	**298**	P	**Pg**	**19 15 13.3**	**-0.6**
CHOJ				S	**Sg**	**19 15 29.4**	**-0.6**
BSO3	**Boso 3**	**1.43**	**257**	P	**Pn**	**19 15 16.2**	**+0.1**
BSO3				*e*S	**Sn**	**19 15 36.0**	**+1.1**
BSO4	**Boso 4**	**1.54**	**265**	P	**Pn**	**19 15 18.0**	**+0.3**
KTR	**Katsuura**	**1.55**	**271**	P	**Pn**	**19 15 17.7**	**-0.3**
KTR				*e*S	**Sn**	**19 15 38.0**	**-0.2**
JCN	**Nagara**	**1.66**	**280**	P	**Pn**	**19 15 20.0**	**+0.5**
JIM2	**Oshima 3**	**2.32**	**260**	P	**Pn**	**19 15 27.4**	**-1.2**
JIM2				S	**Sn**	**19 15 54.0**	**-3.2**
JFK	**Kawauchi**	**2.47**	**335**	P	**Pn**	**19 15 28.5**	**-2.2**
JOD2	**Odawara 2**	**2.56**	**274**	P	**Pn**	**19 15 31.1**	**-0.7**
JOD2				S	**Sn**	**19 16 00.7**	**-2.4**
JAG	**Ashikaga**	**2.58**	**301**	P	**Pn**	**19 15 31.8**	**-0.4**
JAG				S	**Sn**	**19 16 02.2**	**-1.5**
JHJ2	**Mitsune**	**2.83**	**225**	*e*Pn	**Pn**	**19 15 35.0**	**-0.5**
JHJ2				*e*Sn	**Sn**	**19 16 07.9**	**-1.8**
JHJ	**Hachijo jima 2**	**2.84**	**226**	Pn	**Pn**	**19 15 34.0**	**-1.7**
	32nm,0.3s,baz=340,slow=20,SNR=30						
JHJ				Sn	**Sn**	**19 16 05.7**	**-4.4**
	100nm,0.3s,baz=282,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**3.54**	**295**	Pn	**Pn**	**19 15 45.1**	**-0.2**
	9.8nm,0.3s,baz=158,slow=25,SNR=84						
MJAR				Sn	**Sn**	**19 16 25.6**	**-1.7**
	8.2nm,0.3s,baz=190,slow=21,SNR=6.1						
MJAR				LR	LR	19 17 31.4	
	comp=Z,166nm,20.6s,baz=90,slow=46						
MAJO	**Matsushiro**	**3.54**	**295**	*e*Pn	**Pn**	**19 15 45.8**	**+0.4**
MAT	**Matsushiro**	**3.54**	**295**	P	**Pn**	**19 15 45.4**	**0.0**
MAT				S	**Sn**	**19 16 23.6**	**-3.8**
MJB9	**Matsu-Tunnel**	**3.54**	**295**	*e*Pn	**Pn**	**19 15 45.9**	**+0.5**
INU	**Inuyama**	**4.25**	**274**	*e*Pn	**Pn**	**19 15 56.4**	**+1.2**
CBIJ	**Chichi jima**	**8.01**	**180**	*e*Pn	**Pn**	**19 16 45.5**	**-1.4**
CBIJ				*e*Sn	Sn	19 18 06.5	-11
ASAJ	**Asahikawa**	**8.97**	**2**	Pn	**Pn**	**19 16 58.6**	**-1.3**
	2.4nm,0.3s,baz=198,slow=11,SNR=15						
ASAJ				Sn	**Sn**	**19 18 34.9**	**-6.2**
	1.1nm,0.3s,baz=270,slow=20,SNR=4.6						
JNU	**Nakatsue**	**9.60**	**261**	Pn	**Pn**	**19 17 08.6**	**0.0**
	0.6nm,0.3s,baz=67,slow=5.1,SNR=6.0						
KSRS	**Korea Array**	**11.76**	**286**	Pn	**Pn**	**19 17 40.8**	**+2.7**
	0.1nm,0.3s,baz=101,slow=14,SNR=4.4						
KSRS				LR	LR	19 22 17.3	
	comp=Z,54nm,21.0s,baz=122,slow=38						
KS15	**Wonju Array Si**	**11.78**	**285**	*e*Pn	**Pn**	**19 17 40.2**	**+1.8**
KSAR	**Wonju Array Be**	**11.78**	**285**	Pn	**Pn**	**19 17 40.8**	**+2.3**
USRK	**Ussuriysk Ar.**	**11.99**	**322**	Pn	**Pn**	**19 17 41.6**	**+0.4**
	0.2nm,0.3s,baz=135,slow=22,SNR=2.7						
USRK				LR	LR	19 21 53.0	
	comp=Z,40nm,18.6s,baz=210,slow=35						
BJT	**Baijiatuau**	**21.17**	**291**	*e*P	**P**	**19 19 33.8**	**-2.0**
	7.9nm,0.6s						
SEY	**Seymchan**	**28.54**	**10**	P	**P**	**19 20 46.7**	**+0.8**
	3.3nm,1.1s,baz=37,slow=10,SNR=3.6						
ULN	**Ulaanbaatar**	**28.98**	**307**	*e*P	**P**	**19 20 53.8**	**+3.6**
	5.2nm,1.3s						
SONA1	**Songino Array**	**29.40**	**307**	*e*P	**P**	**19 20 56.0**	**+2.1**
SONA0	**Songino Array**	**29.40**	**307**	*e*P	**P**	**19 20 55.4**	**+1.5**
	7.1nm,1.6s						
SONM	**Songino Array**	**29.40**	**307**	P	**P**	**19 20 55.4**	**+1.5**
	1.3nm,0.8s,baz=99,slow=9.2,SNR=7.5						
SONM				LR	LR	19 34 05.2	
	comp=Z,33nm,18.9s,baz=66,slow=39						
KKM	**Kota Kinabalu**	**37.57**	**226**	*e*P	**P**	**19 22 06.3**	**+1.1**
	3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.68**	**258**	P	**P**	**19 22 38.6**	**-0.8**
	0.4nm,0.6s,baz=45,slow=6.5,SNR=4.7						
CMAR				LR	LR	19 41 44.7	
	comp=Z,14nm,19.2s,baz=50,slow=39						
ZAA0	**Zalesovo Array**	**43.68**	**314**	*e*P	**P**	**19 22 58.8**	**+3.6**
ZAA1	**Zalesovo Array**	**43.68**	**314**	*e*P	**P**	**19 22 56.4**	**+1.2**
ZALV	**Zalesovo Beam**	**43.68**	**314**	*e*P	**P**	**19 22 56.4**	**+1.2**
	0.7nm,0.5s,baz=87,slow=7.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.68**	**314**	*e*P	**P**	**19 22 57.5**	**+2.4**
MK01	**Makanchi Array**	**45.68**	**304**	*e*P	**P**	**19 23 13.3**	**+1.9**
MK31	**Makanchi Array**	**45.69**	**304**	*e*P	**P**	**19 23 14.1**	**+2.7**
MK32	**Makanchi Array**	**45.69**	**304**	*e*P	**P**	**19 23 12.9**	**+1.5**
MKAR	**Makanchi Array**	**45.69**	**304**	P	**P**	**19 23 12.9**	**+1.5**
	0.9nm,0.6s,baz=90,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**45.69**	**304**	*e*P	**P**	**19 23 14.0**	**+2.6**
	11nm,0.8s						
MAKZ	**Makanchi**	**45.90**	**304**	*e*P	**P**	**19 23 15.5**	**+2.5**
	3.7nm,1.1s						
KURK	**Kurchatov**	**47.62**	**310**	*e*P	**P**	**19 23 29.4**	**+3.0**
	3.8nm,0.7s						
ILAR	**Eielson Array**	**50.76**	**32**	P	**P**	**19 23 50.3**	**0.0**
	0.9nm,0.7s,baz=261,slow=5.8,SNR=11						
KKAR	**Karatay Array**	**54.65**	**302**	*e*P	**P**	**19 24 21.5**	**+2.2**
	21nm,1.0s						
FITZ	**Fitzroy Crossi**	**55.23**	**199**	P	**P**	**19 24 23.7**	**0.0**
	baz=180,slow=20						
WR1	**Warramunga Arr**	**55.28**	**189**	*e*P	**P**	**19 24 23.5**	**-0.5**
	30nm,2.0s						
WRA	**Warramunga Arr**	**55.28**	**189**	P	**P**	**19 24 23.5**	**-0.5**
	0.8nm,0.4s,baz=6.5,slow=7.4,SNR=25						
AS31	**Alice Springs**	**59.01**	**189**	*e*P	**P**	**19 24 50.2**	**-0.1**
	1.2nm,1.2s						
ASAR	**Alice Springs**	**59.01**	**189**	P	**P**	**19 24 50.2**	**-0.1**
	0.4nm,0.4s,baz=359,slow=5.7,SNR=20						
GEYT	**Alibeck**	**65.33**	**300**	LR	LR	19 54 32.6	
	comp=Z,29nm,20.5s,baz=135,slow=36						
STKA	**Stephens Creek**	**66.66**	**181**	P	**P**	**19 25 41.1**	**-0.1**
	0.8nm,0.6s,baz=35,slow=2.9,SNR=4.3						
STKA	**Stephens Creek**	**66.66**	**181**	*e*P	**P**	**19 25 41.2**	**+0.1**
	5.8nm,1.9s						
FIA0	**FINESS Array S**	**70.79**	**333**	*e*P	**P**	**19 26 06.8**	**+0.1**
FINES	**FINESS Array B**	**70.79**	**333**	P	**P**	**19 26 06.8**	**+0.1**
	4.5nm,1.1s,baz=103,slow=4.4,SNR=3.5						
GNI	**Garni**	**73.36**	**308**	LR	LR	19 59 59.4	
	comp=Z,25nm,18.3s,baz=230,slow=37						
NB200	**NORSAR Array S**	**76.18**	**338**	*e*P	**P**	**19 26 38.3**	**-0.2**
NOA	**NORSAR Array B**	**76.18**	**338**	P	**P**	**19 26 38.3**	**-0.2**
	1.2nm,0.8s,baz=260,slow=2.8,SNR=3.8						
AKASG	**Malin Array Be**	**76.19**	**323**	P	**P**	**19 26 38.3**	**-0.3**
	0.3nm,0.3s,baz=49,slow=6.1,SNR=3.1						
AKBB	**Malin Array Si**	**76.19**	**323**	*e*P	**P**	**19 26 39.4**	**+0.8**
	18nm,1.6s						
PDAR	**Pinedale Array**	**78.54**	**46**	P	**P**	**19 26 51.9**	**-0.4**
	0.9nm,0.6s,baz=332,slow=5.1,SNR=2.3						
BR101	**Keskin Array S**	**80.59**	**312**	*e*P	**P**	**19 27 01.8**	**-1.6**
BRTR	**Keskin Array B**	**80.59**	**312**	P	**P**	**19 27 01.8**	**-1.6**
	0.5nm,0.9s,baz=14,slow=6.7,SNR=3.5						
GERES	**GERESS Array B**	**84.66**	**329**	P	**P**	**19 27 22.8**	**-1.5**
	0.3nm,0.2s,baz=263,slow=34,SNR=3.8						
LTX	**Lajitas**	**90.76**	**53**	*e*P	**P**	**19 27 55.0**	**+0.9**
TXAR	**Lajitas Array**	**90.76**	**53**	P	**P**	**19 27 55.0**	**+0.9**
	0.5nm,0.7s,baz=308,slow=6.2,SNR=3.8						
LPAZ	**La Paz**	**147.04**	**63**	PKPbc	**PKPdf**	**19 34 34.7**	**+2.0**
	1.0nm,0.7s,baz=0.9,slow=12,SNR=5.5						
LPAZ	**La Paz**	**147.04**	**63**	*e*PKPdf	**PKPdf**	**19 34 33.5**	**+0.8**

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*ISCJB **11** 19:34:12.2±1.5,18.°32N±0.°08×146.°2E±0.°4,h100km, mb3.6/6,Error ellipse: s-maj=59.0km s-min=10.4km az=2.9*
*IDC **11** 19:34:13.3±4.5,18.°36N×145.°94E,h82km±36km,mb3.3/6, mb1 3.5/7,mb1mx3.3/51,mbtmp3.7/7,MS2.7/2,Ms1 2.8/2, ms1mx2.4/20,Error ellipse: s-maj=51.8km s-min=18.9km az=79.0*
ISC 11 19:34:14.2±1.1,18.°3N±0.°1×146.°2E±0.°3,h100km,n17, σ1.°21/11,mb3.7/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.84**	**196**	P	**Pn**	**19 35 22.9**	**-1.9**
	8.2nm,0.3s,baz=336,slow=8.2,SNR=6.4						
GUMO				S	**Sn**	**19 36 20.8**	**+1.1**
	4.7nm,0.3s,baz=163,slow=19,SNR=2.4						
H11S3	**WAKE ISLAND Hy 19.45**	**86**		T	T	19 59 34.4	
	baz=272						
H11S1	**WAKE ISLAND Hy 19.46**	**86**		T	T	19 59 33.4	
	baz=272,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy 19.46**	**86**		T	T	19 59 39.4	
	baz=272,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hy 19.62**	**83**		T	T	19 59 33.2	
	baz=267,slow=75,SNR=4.3						
H11N2	**WAKE ISLAND Hy 19.62**	**82**		T	T	19 59 25.4	
	baz=267,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy 19.64**	**82**		T	T	19 59 36.0	
	baz=267,slow=75,SNR=7.2						
KSRS	**Korea Array**	**24.93**	**324**	LR	LR	19 48 56.1	
	comp=Z,16nm,19.1s,baz=110,slow=36						
WRA	**Warramunga Arr**	**39.73**	**198**	P	**P**	**19 41 36.9**	**-0.3**
	0.8nm,0.8s,baz=30,slow=8.7,SNR=6.7						
WRA				PcP	**PcP**	**19 43 43.7**	**+1.8**
	0.3nm,0.7s,baz=16,slow=3.8,SNR=2.9						
FITZ	**Fitzroy Crossi**	**41.42**	**210**	P	**P**	**19 41 51.7**	**+0.7**
	baz=82,slow=7.1						
ASAR	**Alice Springs**	**43.39**	**197**	P

σ1§10/27, **mb4.7**/15, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.91**	**219**	P	**Pn**	**19 41 53.3**	**+1.7**
	3.3nm,0.3s,baz=39,slow=5.6,SNR=28						
DZM				S	**Sn**	**19 42 37.1**	**-0.3**
	5.1nm,0.3s,baz=32,slow=14,SNR=8.4						
DZM	**Mont Dzumac**	**3.91**	**219**	*e*Pn	**Pn**	**19 41 52.1**	**+0.5**
DZM				*e*Sn	**Sn**	**19 42 36.4**	**-1.1**
MSVF	**Nonsavu**	**8.59**	**83**	*e*Pn	**Pn**	**19 42 54.7**	**+0.8**
CTA	**Charters Tower**	**21.56**	**263**	P	**P**	**19 45 31.6**	**+1.0**
	2.9nm,0.5s,baz=88,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**21.56**	**263**	*e*P	**P**	**19 45 32.1**	**+1.5**
	46nm,2.0s						
THZ	**Tophouse**	**22.86**	**173**	*e*P	**P**	**19 45 43.0**	**-0.3**
	77nm,1.7s						
COEN	**Coen**	**25.37**	**278**	*e*P	**P**	**19 46 09.0**	**+2.7**
	6.4nm,1.3s						
STKA	**Stephens Creek**	**27.84**	**237**	P	**P**	**19 46 27.9**	**-0.4**
	1.7nm,0.6s,baz=63,slow=9.7,SNR=9.7						
STKA	**Stephens Creek**	**27.84**	**237**	*e*P	**P**	**19 46 28.3**	**-0.1**
	6.8nm,1.8s						
BBOO	**Buckleboo**	**32.58**	**239**	*e*P	**P**	**19 47 09.7**	**-0.4**
	79nm,1.9s						
WB2	**Warramunga Arr**	**32.75**	**263**	*e*P	**P**	**19 47 10.6**	**-1.1**
WRAB	**Tennant Creek**	**32.75**	**263**	*e*P	**P**	**19 47 10.7**	**-1.0**
	5.1nm,0.9s						
WR1	**Warramunga Arr**	**32.76**	**263**	*e*P	**P**	**19 47 10.6**	**-1.2**
	12nm,1.4s						
WRA	**Warramunga Arr**	**32.76**	**263**	P	**P**	**19 47 10.6**	**-1.2**
	1.3nm,0.5s,baz=92,slow=8.2,SNR=28						
AS01	**Alice Springs**	**33.01**	**256**	*e*P	**P**	**19 47 13.2**	**-0.8**
AS31	**Alice Springs**	**33.05**	**256**	*e*P	**P**	**19 47 13.8**	**-0.6**
	6.3nm,0.4s						
ASAR	**Alice Springs**	**33.06**	**256**	P	**P**	**19 47 13.7**	**-0.7**
	9.5nm,0.6s,baz=84,slow=8.8,SNR=195						
MTN	**Manton Dam**	**36.98**	**274**	*e*P	**P**	**19 47 48.0**	**-0.1**
	16nm,1.0s						
FAKI	**Fak Fak**	**39.45**	**289**	*e*P	**P**	**19 48 08.6**	**-0.1**
	20nm,1.2s						
FITZ	**Fitzroy Crossi**	**41.14**	**264**	P	**P**	**19 48 23.0**	**+0.4**
	3.3nm,0.7s,baz=102,slow=8.9						
MBWA	**Marble Bar**	**46.27**	**259**	*e*P	**P**	**19 49 03.5**	**-0.1**
	19nm,1.1s						
HPO	**Honuapo**	**51.37**	**44**	*e*P	**P**	**19 49 43.2**	**+0.8**
UWE	**Uwekahuna**	**51.78**	**44**	*e*P	**P**	**19 49 44.0**	**-1.7**
	2μm,1.6s						
ARCES	**ARCESS Array B**	**124.86**	**345**	PKP	**PKPdf**	**19 59 32.8**	**-1.6**
	2.2nm,1.0s,baz=92,slow=2.7,SNR=5.1						
GERES	**GERESS Array B**	**144.28**	**332**	PKP	**PKPab**	**20 00 09.2**	**-0.3**
	0.5nm,0.7s,baz=37,slow=6.9,SNR=3.7						

*ISCJB **11** 19:43:39.5±1.2, 18°.8S±0°.2×177°.9W±0°.2, h557km, mb3.9/8, Error ellipse: s-maj=32.5km s-min=22.3km az=179.0*
*IDC **11** 19:43:42.7±12.0, 18°.73S×177°.90W, h581km±153km, mb3.1/7, mb1 3.3/7, mb1mx3.0/28, mbtmp4.1/7, Error ellipse: s-maj=49.0km s-min=28.9km az=79.0*

ISC 11 19:43:40.6±1.3, **18°.7S**±0°.2×**177.8W**±0°.2, **h557**km, **n9,** σ0§53/9, **mb4.1**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.86**	**262**	P	**P**	**19 49 38.2**	**+0.5**
	1.9nm,0.3s,baz=80,slow=9.9,SNR=4.2						
PMG	**Port Moresby**	**35.13**	**280**	P	**P**	**19 49 47.9**	**-0.5**
	3.8nm,0.4s,baz=110,slow=2.4,SNR=7.0						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**19 50 17.3**	**-0.4**
	0.6nm,0.4s,baz=81,slow=8.4,SNR=4.7						
JAY	**Jayapura**	**43.65**	**287**	P	**P**	**19 50 57.6**	**+0.8**
	63nm,0.5s,baz=90,slow=20,SNR=9.3						
WRA	**Warramunga Arr**	**45.02**	**260**	P	**P**	**19 51 07.0**	**-0.4**
	2.4nm,0.4s,baz=97,slow=7.2,SNR=45						
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**19 51 07.8**	**-0.1**
	3.1nm,0.6s,baz=90,slow=7.7,SNR=40						
FITZ	**Fitzroy Crossi**	**53.43**	**261**	P	**P**	**19 52 08.9**	**-0.4**
	baz=270,slow=20						
VNDA	**Vanda**	**59.70**	**185**	P	**P**	**19 52 51.7**	**+0.3**
	0.3nm,0.5s,baz=8.4,slow=6.4,SNR=5.8						
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	**19 55 22.6**	**-0.2**
	0.3nm,0.7s,baz=217,slow=6.0,SNR=3.9						

*THE **11** 19:49:03.7, 43°.85N×28°.64E, h1km±7km, ML4.0/2, Error ellipse: s-maj=11.3km s-min=2.3km az=46.0*
*MOS **11** 19:49:05.8±1.1, 43°.63N×28°.63E, h11km, mb4.0/8, Error ellipse: s-maj=5.4km s-min=4.7km az=96.5*
*IDC **11** 19:49:07.0±0.7, 43°.78N×28°.86E, h0km, mb3.7/13, mb1 3.8/21, mb1mx3.7/38, mbtmp3.7/21, ML3.3/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/45, Error ellipse: s-maj=11.7km s-min=6.9km az=43.0*
*BUC **11** 19:49:07.2±1.0, 43°.52N×28°.58E, h18km±3km, MD4.2/8, Error ellipse: s-maj=8.9km s-min=4.2km az=317.0*
*CSEM **11** 19:49:08.1±0.1, 43°.59N×28°.52E, h15km, mb3.9/7, Error ellipse: s-maj=2.9km s-min=2.5km az=8.0*
*SOF **11** 19:49:10.2, 43°.65N×28°.32E, h28km, MD3.6*
*DDA **11** 19:50:06.6, 43°.03N×28°.96E, h11km, Ml3.9*

ISC 11 19:49:08.6±0.8, **43°.60N**±0°.02×**28°.48E**±0°.03, **h24**km±6km, **n268,** σ1§48/330, **mb3.8**/13, **40C-42D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANR	**Mangalia**	**0.23**	**20**	⇑*i*P	**Pb**	**19 49 14.8**	**+0.3**
MANR	**Mangalia**	**0.23**	**20**	⇑*i*P	**Pb**	**19 49 14.8**	**+0.3**
MANR	**Mangalia**	**0.23**	**20**	⇑*i*P	**Pb**	**19 49 14.8**	**+0.3**
PSN	**Preselentsi**	**0.23**	**290**	P	**Pb**	**19 49 14.7**	**+0.2**
PSN	**Preselentsi**	**0.23**	**290**	P	**Pb**	**19 49 14.9**	**+0.4**
PSN	**Preselentsi**	**0.23**	**290**	P	**Pb**	**19 49 14.7**	**+0.2**
EFOR	**EFORIE**	**0.49**	**13**	⇑*i*P	**Pb**	**19 49 18.9**	**+0.3**
EFOR	**EFORIE**	**0.49**	**13**	⇑*i*P	**Pb**	**19 49 18.9**	**+0.3**
EFOR	**EFORIE**	**0.49**	**13**	⇑*i*P	**Pb**	**19 49 18.9**	**+0.3**
AVR	**AVREN**	**0.77**	**231**	P	**Pb**	**19 49 23.5**	**+0.3**
AVR	**AVREN**	**0.77**	**231**	P	**Pb**	**19 49 23.5**	**+0.3**
CVDA	**Cernavoda**	**0.80**	**336**	⇓*i*P	**Pb**	**19 49 23.8**	**0.0**
CVDA	**Cernavoda**	**0.80**	**336**	⇓*i*P	**Pb**	**19 49 23.8**	**0.0**
CVDA	**Cernavoda**	**0.80**	**336**	⇓*i*P	**Pb**	**19 49 23.8**	**0.0**
TIRR	**Tirgusor**	**0.85**	**357**	⇓*i*P	**Pb**	**19 49 24.9**	**+0.1**
TIRR				*i* S	**Sn**	**19 49 38.2**	**+1.3**
TIRR	**Tirgusor**	**0.85**	**357**	⇓*i*P	**Pb**	**19 49 24.9**	**+0.1**
TIRR	**Tirgusor**	**0.85**	**357**	P	**Pn**	**19 49 26.0**	**+0.9**
TIRR	**Tirgusor**	**0.85**	**357**	⇓*i*P	**Pb**	**19 49 24.9**	**+0.1**
TIRR				*i* S	**Sn**	**19 49 38.2**	**+1.3**
PRD	**Provadia**	**0.89**	**243**	P	**Pn**	**19 49 25.7**	**+0.2**
PRD	**Provadia**	**0.89**	**243**	P	**Pn**	**19 49 26.0**	**+0.5**
PRD	**Provadia**	**0.89**	**243**	P	**Pn**	**19 49 25.7**	**+0.2**
ROIA	**ROIAK**	**0.95**	**238**	P	**Pn**	**19 49 27.2**	**+0.7**
HARR	**Harsova**	**1.16**	**340**	⇓*i*P	**Pb**	**19 49 29.9**	**+0.1**
HARR	**Harsova**	**1.16**	**340**	⇓*i*P	**Pb**	**19 49 29.9**	**+0.1**
HARR	**Harsova**	**1.16**	**340**	P	**Pb**	**19 49 30.0**	**+0.1**
HARR	**Harsova**	**1.16**	**340**	P	**Pb**	**19 49 30.0**	**+0.1**
AMRR	**Amara**	**1.30**	**321**	⇓*i*P	**Pb**	**19 49 32.4**	**0.0**
AMRR	**Amara**	**1.30**	**321**	⇓*i*P	**Pb**	**19 49 32.4**	**0.0**
AMRR	**Amara**	**1.30**	**321**	⇓*i*P	**Pb**	**19 49 32.4**	**0.0**
CFR	**Carcaliu**	**1.59**	**351**	⇑*i*P	**Pn**	**19 49 35.8**	**+0.5**
CFR				*i* S	**Sb**	**19 49 58.2**	**+1.2**
CFR	**Carcaliu**	**1.59**	**351**	⇑*i*P	**Pn**	**19 49 35.8**	**+0.5**
CFR	**Carcaliu**	**1.59**	**351**	P	**Pn**	**19 49 35.7**	**+0.5**
CFR	**Carcaliu**	**1.59**	**351**	⇑*i*P	**Pn**	**19 49 35.8**	**+0.5**
CFR				*i* S	**Sb**	**19 49 58.2**	**+1.2**
TLCR		**1.60**	**8**	⇑*i*P	**Pb**	**19 49 36.5**	**-0.9**
TLCR				*i* S	**Sb**	**19 49 57.6**	**+0.4**
TLCR		**1.60**	**8**	⇑*i*P	**Pb**	**19 49 36.5**	**-0.9**
TLCR		**1.60**	**8**	P	**Pb**	**19 49 36.6**	**-0.9**
TLCR		**1.60**	**8**	⇑*i*P	**Pb**	**19 49 36.5**	**-0.9**
TLCR				*i* S	**Sb**	**19 49 57.6**	**+0.4**
PGOR	**Pogoanele**	**1.69**	**321**	⇓*i*P	**Pb**	**19 49 38.5**	**-0.5**
PGOR	**Pogoanele**	**1.69**	**321**	⇓*i*P	**Pb**	**19 49 38.5**	**-0.5**
PGOR	**Pogoanele**	**1.69**	**321**	⇓*i*P	**Pb**	**19 49 38.5**	**-0.5**
JMB	**Yambol**	**1.80**	**231**	P	**Pb**	**19 49 40.8**	**0.0**
JMB				S	**Sb**	**19 50 04.9**	**+2.0**
JMB	**Yambol**	**1.80**	**231**	P	**Pn**	**19 49 39.2**	**+1.1**
JMB	**Yambol**	**1.80**	**231**	P	**Pn**	**19 49 39.5**	**+1.4**
JMB	**Yambol**	**1.80**	**231**	P	**Pn**	**19 49 39.2**	**+1.1**
JMB				S	**Sb**	**19 50 04.9**	**+2.0**
SZH	**Strazhica**	**1.89**	**261**	P	**Pn**	**19 49 40.3**	**+1.0**
SZH	**Strazhica**	**1.89**	**261**	P	**Pn**	**19 49 40.7**	**+1.4**
SZH	**Strazhica**	**1.89**	**261**	P	**Pn**	**19 49 40.3**	**+1.0**
BUC1	**Bucharest**	**1.92**	**294**	⇓*i*P	**Pn**	**19 49 40.9**	**+1.1**
BUC1				*i* S	**Sb**	**19 50 06.0**	**-0.4**
BUC1	**Bucharest**	**1.92**	**294**	⇓*i*P	**Pn**	**19 49 40.9**	**+1.1**
BUC1	**Bucharest**	**1.92**	**294**	⇓*i*P	**Pn**	**19 49 40.9**	**+1.1**
BUC1				*i* S	**Sb**	**19 50 06.0**	**-0.4**
SULR		**1.93**	**305**	⇑*i*P	**Pb**	**19 49 41.7**	**-1.4**
SULR		**1.93**	**305**	⇑*i*P	**Pb**	**19 49 41.7**	**-1.4**
SULR		**1.93**	**305**	⇑*i*P	**Pb**	**19 49 41.7**	**-1.4**
ISR	**Istrita**	**2.06**	**318**	⇓*i*P	**Pb**	**19 49 43.7**	**-1.5**
ISR	**Istrita**	**2.06**	**318**	⇓*i*P	**Pb**	**19 49 43.7**	**-1.5**
ISR	**Istrita**	**2.06**	**318**	P	**Pb**	**19 49 43.8**	**-1.5**
ISR	**Istrita**	**2.06**	**318**	⇓*i*P	**Pb**	**19 49 43.7**	**-1.5**
EDRB	**Edirne**	**2.17**	**217**	P	**Pn**	**19 49 44.1**	**+0.8**
EDRB	**Edirne**	**2.17**	**217**	P	**Pn**	**19 49 44.1**	**+0.8**
ZIMR		**2.26**	**272**	⇑*i*P	**Pn**	**19 49 45.4**	**+0.9**
ZIMR		**2.26**	**272**	⇑*i*P	**Pn**	**19 49 45.4**	**+0.9**
ZIMR		**2.26**	**272**	P	**Pn**	**19 49 48.4**	**-0.3**
ZIMR		**2.26**	**272**	⇑*i*P	**Pn**	**19 49 45.4**	**+0.9**
PETR	**Petresti**	**2.30**	**338**	⇓*i*P	**Pn**	**19 49 46.8**	**+1.8**
PETR	**Petresti**	**2.30**	**338**	⇓*i*P	**Pn**	**19 49 46.8**	**+1.8**
PETR	**Petresti**	**2.30**	**338**	⇓*i*P	**Pn**	**19 49 46.8**	**+1.8**
PVL	**Pavlikeni**	**2.33**	**262**	P	**Pb**	**19 49 48.2**	**-1.6**
PVL	**Pavlikeni**	**2.33**	**262**	P	**Pn**	**19 49 47.8**	**+2.4**
PVL	**Pavlikeni**	**2.33**	**262**	P	**Pb**	**19 49 48.2**	**-1.6**
ISK	**Istanbul-Kandi**	**2.57**	**170**	P	**Pn**	**19 49 49.4**	**+0.7**
ISK	**Istanbul-Kandi**	**2.57**	**170**	P	**Pn**	**19 49 49.4**	**+0.7**
VRI	**Vrincioaia**	**2.58**	**332**	⇓*i*P	**Pn**	**19 49 50.3**	**+1.4**
VRI	**Vrincioaia**	**2.58**	**332**	⇓*i*P	**Pn**	**19 49 50.3**	**+1.4**
VRI	**Vrincioaia**	**2.58**	**332**	P	**Pn**	**19 49 49.9**	**+1.0**
VRI	**Vrincioaia**	**2.58**	**332**	⇓*i*P	**Pn**	**19 49 50.3**	**+1.4**
PLOR	**Plostina**	**2.60**	**330**	⇓*i*P	**Pn**	**19 49 50.7**	**+1.5**
PLOR	**Plostina**	**2.60**	**330**	⇓*i*P	**Pn**	**19 49 50.7**	**+1.5**
PLOR	**Plostina**	**2.60**	**330**	P	**Pn**	**19 49 50.6**	**+1.4**
PLOR	**Plostina**	**2.60**	**330**	P	**Pn**	**19 49 50.6**	**+1.4**
MLR	**Muntele Rosu**	**2.62**	**317**	Pn	**Pn**	**19 49 50.7**	**+1.2**
	0.8nm,0.3s,baz=210,slow=16,SNR=13						
MLR				Sn	**Sb**	**19 50 27.1**	**+0.5**
	3.8nm,0.3s,baz=205,slow=16,SNR=3.8						
MLR	**Muntele Rosu**	**2.62**	**317**	⇓*i*P	**Pn**	**19 49 51.5**	**+2.0**
MLR	**Muntele Rosu**	**2.62**	**317**	⇓*i*P	**Pn**	**19 49 51.5**	**+2.0**
DIM	**Dimitrovgrad**	**2.67**	**235**	P	**Pn**	**19 49 50.3**	**+0.2**
DIM	**Dimitrovgrad**	**2.67**	**235**	P	**Pn**	**19 49 50.4**	**+0.3**
DIM	**Dimitrovgrad**	**2.67**	**235**	P	**Pn**	**19 49 50.3**	**+0.2**
BUY	**Buyukada**	**2.79**	**170**	*i* P	**Pn**	**19 49 52.6**	**+0.9**
BUY				*i* S	**Sn**	**19 50 26.2**	**+1.6**
BUY	**Buyukada**	**2.79**	**170**	P	**Pn**	**19 49 52.6**	**+0.9**
BUY				S	**Sn**	**19 50 26.2**	**+1.6**
KAND	**Kocaeli-Kandir**	**2.81**	**153**	*i* P	**Pn**	**19 49 52.6**	**+0.6**
KAND				*i* S	**Sn**	**19 50 24.3**	**-0.8**
KAND	**Kocaeli-Kandir**	**2.81**	**153**	P	**Pn**	**19 49 52.6**	**+0.6**
KAND				S	**Sn**	**19 50 24.3**	**-0.8**
LEOM	**Leova**	**2.87**	**357**	⇑*i*P	**Pn**	**19 49 54.3**	**+1.4**
LEOM	**Leova**	**2.87**	**357**	⇑*i*P	**Pn**	**19 49 54.3**	**+1.4**
LEOM	**Leova**	**2.87**	**357**	⇑*i*P	**Pn**	**19 49 54.3**	**+1.4**
KDZ	**Kurdzhali**	**2.99**	**230**	P	**Pn**	**19 49 56.1**	**+1.6**
KDZ	**Kurdzhali**	**2.99**	**230**	P	**Pn**	**19 49 56.2**	**+1.7**
KDZ	**Kurdzhali**	**2.99**	**230**	P	**Pn**	**19 49 56.1**	**+1.6**
VOIR		**3.06**	**308**	⇑*i*P	**Pn**	**19 49 57.3**	**+1.7**
VOIR		**3.06**	**308**	⇑*i*P	**Pn**	**19 49 57.3**	**+1.7**
VOIR		**3.06**	**308**	P	**Pn**	**19 49 57.8**	**+2.2**
VOIR		**3.06**	**308**	⇑*i*P	**Pn**	**19 49 57.3**	**+1.7**
PLD	**Plovdiv**	**3.16**	**243**	P	**Pn**	**19 49 56.3**	**-0.5**
DOPR	**Dopca**	**3.23**	**318**	⇑*i*P	**Pn**	**19 49 59.5**	**+1.7**
DOPR				*i* S	**Sn**	**19 50 37.6**	**+2.1**
DOPR	**Dopca**	**3.23**	**318**	⇑*i*P	**Pn**	**19 49 59.5**	**+1.7**
DOPR	**Dopca**	**3.23**	**318**	⇑*i*P	**Pn**	**19 49 59.5**	**+1.7**
DOPR				*i* S	**Sn**	**19 50 37.6**	**+2.1**
ALN	**Alexandroupoli**	**3.25**	**215**	P	**Pn**	**19 49 58.5**	**+0.4**
ALN				S	**Sb**	**19 50 41.7**	**-3.1**
ALN	**Alexandroupoli**	**3.25**	**215**	P	**Pn**	**19 49 58.5**	**+0.4**
ALN				S	**Sb**	**19 50 41.7**	**-3.1**
SAHE	**Sakarya_HENDEK**	**3.27**	**147**	*i* P	**Pn**	**19 49 58.8**	**+0.5**
SAHE				*i* S	**Sn**	**19 50 39.0**	**+2.6**
SAHE	**Sakarya_HENDEK**	**3.27**	**147**	P	**Pn**	**19 49 58.8**	**+0.5**
SAHE				S	**Sn**	**19 50 39.0**	**+2.6**
ARR	**Arges**	**3.27**	**304**	⇓*i*P	**Pn**	**19 49 59.7**	**+1.3**
ARR	**Arges**	**3.27**	**304**	⇓*i*P	**Pn**	**19 49 59.7**	**+1.3**
ARR	**Arges**	**3.27**	**304**	⇓*i*P	**Pn**	**19 49 59.7**	**+1.3**
RDO	**Rodhopi**	**3.29**	**223**	P	**Pn**	**19 49 59.0**	**+0.5**
RDO				S	**Sb**	**19 50 43.7**	**-2.0**
RDO	**Rodhopi**	**3.29**	**223**	P	**Pn**	**19 49 59.0**	**+0.5**
MILM	**Milestii Mici**	**3.32**	**4**	⇑*i*P	**Pn**	**19 50 00.4**	**+1.3**
MILM	**Milestii Mici**	**3.32**	**4**	⇑*i*P	**Pn**	**19 50 00.4**	**+1.3**
MILM	**Milestii Mici**	**3.32**	**4**	⇑*i*P	**Pn**	**19 50 00.4**	**+1.3**
GEYV	**SAKARYA_Geyve**	**3.40**	**156**	*i* P	**Pn**	**19 50 01.8**	**+1.7**
GEYV				*i* S	**Sn**	**19 50 39.0**	**-0.6**
GEYV	**SAKARYA_Geyve**	**3.40**	**156**	P	**Pn**	**19 50 01.8**	**+1.7**
GEYV				S	**Sn**	**19 50 39.0**	**-0.6**
KIS	**Kishinev**	**3.40**	**4**	*e*P	**Pn**	**19 50 02.0**	**+1.9**
KIS				*e*S	**Sn**	**19 50 42.0**	**+2.3**
	2μm,1.0s						
KIS				LRM	MLR	19 51 14.0	
	600nm,6.0s						
KIS	**Kishinev**	**3.40**	**4**	*e*P	**Pn**	**19 50 02.0**	**+1.9**
KIS				*e*S	**Sn**	**19 50 42.0**	**+2.3**
KIS				smax	smax		
	comp=E,3μm,1.0s						
KIS				MLR	MLR		
	comp=Z,600nm,6.0s						
KIS	**Kishinev**	**3.40**	**4**	*e*P	**Pn**	**19 50 02.0**	**+1.9**
KIS				*e*S	**Sn**	**19 50 42.0**	**+2.3**
	comp=Z,600nm,6.0s						
BTIN	**Bart¨–n**	**3.41**	**124**	*i* P	**Pn**	**19 50 00.1**	**-0.1**
BTIN				*i* S	**Sn**	**19 50 39.9**	**0.0**
BTIN	**Bart¨–n**	**3.41**	**124**	P	**Pn**	**19 50 00.1**	**-0.1**
BTIN				S	**Sn**	**19 50 39.8**	**0.0**
BTAS	**Taskesti**	**3.56**	**147**	*i* P	**Pn**	**19 50 03.2**	**+0.7**
BTAS				*i* S	**Sn**	**19 50 46.8**	**+3.0**
BTAS	**Taskesti**	**3.56**	**147**	P	**Pn**	**19 50 03.2**	**+0.7**
BTAS				S	**Sn**	**19 50 46.8**	**+3.0**
LOT	**Lotru**	**3.84**	**300**	⇓*i*P	**Pn**	**19 50 07.7**	**+1.4**
LOT	**Lotru**	**3.84**	**300**	⇓*i*P	**Pn**	**19 50 07.7**	**+1.4**
LOT	**Lotru**	**3.84**	**300**	⇓*i*P	**Pn**	**19 50 07.7**	**+1.4**
BCAM	**Yenicaga**	**3.85**	**135**	*i* P	**Pn**	**19 50 07.9**	**+1.4**
BCAM				*i* S	**Sn**	**19 50 52.4**	**+1.3**
BCAM	**Yenicaga**	**3.85**	**135**	P	**Pn**	**19 50 07.9**	**+1.4**
BCAM				S	**Sn**	**19 50 52.3**	**+1.3**
SEV	**Sevastopol'**	**3.85**	**74**	*e*P	**Pn**	**19 50 05.6**	**-0.7**
SEV				*e*S	**Sn**	**19 50 48.6**	**-2.2**
SEV	**Sevastopol'**	**3.85**	**74**	*e*P	**Pn**	**19 50 05.6**	**-0.7**
SEV				*e*S	**Sn**	**19 50 48.6**	**-2.2**
KAVA	**Kavala**	**3.93**	**230**	P	**Pn**	**19 50 08.2**	**+0.8**
KAVA	**Kavala**	**3.93**	**230**	P	**Pn**	**19 50 08.2**	**+0.8**
VTS	**Vitosha**	**3.99**	**257**	P	**Pn**	**19 50 09.0**	**+0.6**
VTS	**Vitosha**	**3.99**	**257**	⇑*i*P	**Pn**	**19 50 09.4**	**+1.0**
VTS	**Vitosha**	**3.99**	**257**	⇑*i*P	**Pn**	**19 50 09.4**	**+1.0**
VTS	**Vitosha**	**3.99**	**257**	⇑*i*P	**Pn**	**19 50 09.4**	**+1.0**
MMB	**Musomiste**	**4.05**	**242**	P	**Pn**	**19 50 10.1**	**+1.1**
NVR	**Nevrokopi**	**4.09**	**238**	P	**Pn**	**19 50 10.4**	**+0.7**
NVR	**Nevrokopi**	**4.09**	**238**	P	**Pn**	**19 50 10.4**	**+0.7**
YAL	**Yalta**	**4.18**	**76**	*e*P	**Pn**	**19 50 10.9**	**0.0**
YAL				*e*S	**Sn**	**19 50 58.1**	**-0.9**
YAL	**Yalta**	**4.18**	**76**	*e*P	**Pn**	**19 50 10.9**	**0.0**
YAL				*e*S	**Sn**	**19 50 58.1**	**-0.9**
SIM	**Simferopol'**	**4.26**	**70**	*e*P	**Pn**	**19 50 12.4**	**+0.4**
SIM				*e*S	**Sn**	**19 51 00.4**	**-0.6**
SIM				*e*S	**Sn**	**19 51 02.2**	**+1.2**
SIM				pmax	pmax		
	comp=Z,123nm,0.3s						
SIM				smax	smax		
	comp=N,88μm,0.9s						
SIM				smax	smax		
	comp=E,125μm,1.1s						
SIM	**Simferopol'**	**4.26**	**70**	*e*P	**Pn**	**19 50 12.4**	**+0.4**
	comp=E,123nm,0.3s						
SIM				*e*S	**Sn**	**19 51 02.2**	**+1.2**
ZAPS	**Zavoj**	**4.27**	**268**	⇓*i*Pn	**Pn**	**19 50 12.8**	**+0.7**
CMDR	**Camlidere-ANKA**	**4.30**	**135**	*i* P	**Pn**	**19 50 13.8**	**+1.1**
CMDR				*i* S	**Sn**	**19 51 05.4**	**+3.3**
CMDR	**Camlidere-ANKA**	**4.30**	**135**	P	**Pn**	**19 50 13.8**	**+1.1**
CMDR				S	**Sn**	**19 51 05.4**	**+3.3**
SRS	**Serrai**	**4.39**	**237**	P	**Pn**	**19 50 14.5**	**+0.7**
SRS	**Serrai**	**4.39**	**237**	P	**Pn**	**19 50 14.5**	**+0.7**
ALU	**Alushta**	**4.40**	**74**	*e*P	**Pn**	**19 50 12.5**	**-1.3**
ALU				*e*S	**Sn**	**19 51 01.7**	**-2.5**
ALU	**Alushta**	**4.40**	**74**	*e*P	**Pn**	**19 50 12.5**	**-1.3**
ALU				*e*S	**Sn**	**19 51 01.7**	**-2.5**
ZAGS	**Zajecar**	**4.54**	**275**	⇓*i*Pn	**Pn**	**19 50 14.5**	**-1.2**
ARCR	**ARCALIA**	**4.54**	**322**	*i* S	**Sn**	**19 51 08.1**	**+0.4**
ARCR	**ARCALIA**	**4.54**	**322**	S	**Sn**	**19 51 08.1**	**+0.4**
ARCR	**ARCALIA**	**4.54**	**322**	*i* S	**Sn**	**19 51 08.1**	**+0.4**
BURAR	**Bucovina Array**	**4.62**	**331**	*i* S	**Sn**	**19 51 10.5**	**+0.6**
BURAR	**Bucovina Array**	**4.62**	**331**	S	**Sn**	**19 51 10.5**	**+0.6**
BURAR	**Bucovina Array**	**4.62**	**331**	*i* S	**Sn**	**19 51 10.5**	**+0.6**
CJR	**Cluj-Napoca**	**4.65**	**314**	⇑*i*P	**Pn**	**19 50 18.7**	**+1.4**
CJR	**Cluj-Napoca**	**4.65**	**314**	⇑*i*P	**Pn**	**19 50 18.7**	**+1.4**
CJR	**Cluj-Napoca**	**4.65**	**314**	⇑*i*P	**Pn**	**19 50 18.7**	**+1.4**
SOH	**Sokhos**	**4.71**	**236**	P	**Pn**	**19 50 18.7**	**+0.4**
SOH	**Sokhos**	**4.71**	**236**	P	**Pn**	**19 50 18.7**	**+0.4**
BOLS	**Boljevac**	**4.74**	**275**	*e*Pn	**Pn**	**19 50 16.7**	**-1.8**
KNT	**Kendrikon**	**4.80**	**241**	P	**Pn**	**19 50 20.2**	**+0.8**
KNT	**Kendrikon**	**4.80**	**241**	P	**Pn**	**19 50 20.2**	**+0.8**
SUDU	**Sudak**	**4.86**	**72**	*e*P	**Pn**	**19 50 20.0**	**-0.1**
SUDU				*e*S	**Sn**	**19 51 15.0**	**-0.6**
SUDU	**Sudak**	**4.86**	**72**	*e*P	**Pn**	**19 50 20.0**	**-0.1**
SUDU				*e*S	**Sn**	**19 51 15.0**	**-0.6**
BOVS	**Bovan**	**4.92**	**273**	*i* Pn	**Pn**	**19 50 21.5**	**+0.5**
VAY	**Valandovo**	**4.93**	**244**	*e*Pn	**Pn**	**19 50 21.8**	**+0.6**
VAY	**Valandovo**	**4.93**	**244**	*e*Pn	**Pn**	**19 50 21.8**	**+0.6**
BARS	**Barje**	**4.94**	**263**	⇓*i*Pn	**Pn**	**19 50 22.4**	**+1.2**
KUBS	**Kucevo**	**4.98**	**282**	*e*Pn	**Pn**	**19 50 20.1**	**-1.7**
FEO	**Feodosiya**	**5.16**	**72**	*e*P	**Pn**	**19 50 25.1**	**+0.9**
FEO				*e*S	**Sn**	**19 51 24.0**	**+1.1**
FEO	**Feodosiya**	**5.16**	**72**	*e*P	**Pn**	**19 50 25.1**	**+0.9**
FEO				*e*S	**Sn**	**19 51 24.0**	**+1.1**
GRG	**Griva**	**5.23**	**242**	P	**Pn**	**19 50 25.4**	**+0.1**
GRG	**Griva**	**5.23**	**242**	P	**Pn**	**19 50 25.4**	**+0.1**
SVIS	**Svilajnac**	**5.29**	**280**	*e*Pn	**Pn**	**19 50 28.9**	**+2.8**
SELS	**Selova**	**5.38**	**268**	*i* Pn	**Pn**	**19 50 27.7**	**+0.4**

comp=Z,0.1nm,0.3s,baz=123,slow=26,SNR=3.4
NOA NORSAR Array B 20.29 335 P P 19 53 42.8 +0.4
comp=Z,2.3nm,1.1s,baz=146,slow=10,SNR=2.8
NOA LR LR 20 02 28.9
comp=Z,43nm,18.6s,baz=275,slow=40
AKTK Aktyubinsk 21.17 61 P P 19 53 50.8 -1.1
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 21.17 61 P P 19 53 50.8 -1.1
comp=Z,2.7nm,0.6s,baz=260,slow=12,SNR=4.5
ARU Arti 22.98 45 P P 19 54 10.0 -1.2
comp=Z,1.8nm,0.4s,baz=237,slow=6.0,SNR=5.1
ARU Arti 22.98 45*d* *i*P P 19 54 10.1 -1.1
ARU S S 19 58 21.2 +1.3
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 22.98 45 *i* P P 19 54 10.1 -1.1
comp=Z,8.0nm,1.2s
ARU S S 19 58 21.2 +1.3
GEYT Alibeck 23.08 94 P P 19 54 12.7 +0.3
comp=Z,2.6nm,0.7s,baz=289,slow=9.2,SNR=4.6
EKA Eskdalemuir Ar 23.45 311 P P 19 54 19.4 +3.4
comp=Z,1.2nm,0.7s,baz=89,slow=30,SNR=3.2
EKA Eskdalemuir Ar 23.45 311 P P 19 54 19.4 +3.4
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 23.45 311 P P 19 54 19.4 +3.4
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 26.04 358 P P 19 54 38.7 -0.9
comp=Z,1.6nm,0.8s,baz=165,slow=9.8,SNR=5.0
ARCES ARCESS Array B 26.04 358 *e*P P 19 54 37.9 -1.7
ARCES pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 37.43 66 P P 19 56 19.9 +0.2
comp=Z,0.8nm,0.6s,baz=281,slow=7.8,SNR=7.9
MKAR Makanchi Array 37.43 66 *e*P P 19 56 20.8 +1.0
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 37.43 66 *e*P P 19 56 20.8 +1.0
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 37.59 54 P P 19 56 22.0 +1.0
comp=Z,0.7nm,0.5s,baz=258,slow=7.9,SNR=3.2
ZALV Zalesovo Beam 37.59 54 P P 19 56 22.0 +1.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 37.59 54 P P 19 56 22.0 +1.0
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 38.09 225 P P 19 56 31.1 +5.6
comp=Z,0.5nm,0.6s,baz=33,slow=8.6,SNR=6.9
SONM Songino Array 52.39 56 P P 19 58 19.4 +0.6
comp=Z,0.7nm,0.8s,baz=82,slow=40,SNR=4.7
CMAR Chiang Mai Arr 63.46 89 P P 19 59 36.5 -0.1
comp=Z,0.9nm,0.6s,baz=301,slow=7.5,SNR=11
CMAR Chiang Mai Arr 63.46 89 *e*P P 19 59 37.1 +0.4
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 63.46 89 *e*P P 19 59 37.1 +0.4
comp=Z,1.0nm,0.6s
KSRS Korea Array 71.26 56 P P 20 00 26.3 +0.5
comp=Z,1.6nm,0.9s,baz=12,slow=41,SNR=4.3
ILAR Eielson Array 71.90 358 P P 20 00 29.8 +0.6
comp=Z,0.1nm,0.5s,baz=356,slow=5.1,SNR=3.4

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*ISCJB **11** 19:54:47.9±0.5, 44°.09N±0°.04×105°.28W±0°.05, h0km, Error ellipse: s-maj=5.7km s-min=4.9km az=138.7*
*NEIC **11** 19:54:49.3±0.3, 44°.09N×105°.28W, h0km, ML3.1, Error ellipse: s-maj=4.6km s-min=4.2km az=217.0, Suspected Mining explosion.*
NEIC 29 km [18 miles] SE of Gillette.
*IDC **11** 19:54:49.6±1.2, 44°.39N×105°.70W, h0km, mb1 3.6/3, mb1mx3.3/40, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=30.1km s-min=9.7km az=146.0*
ISC 11 19:54:48.9±1.0, 44°.09N±0°.06×105°.28W±0°.06, h0km, n50, σ0s95/48, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**87**	*e*Pg	**Pb**	**19 55 07.4**	**-0.1**
K22A	**Casper**	**1.70**	**213**	*e*Pn	**Pn**	**19 55 19.2**	**-0.8**
LAO	**LASA Array**	**2.69**	**346**	*e*Pn	**Pn**	**19 55 33.9**	**+0.5**
RWWY	**Rawlins**	**2.79**	**211**	*e*Pn	**Pn**	**19 55 36.0**	**+1.0**
PHWY	**Pilot Hill**	**2.79**	**183**	*e*Pn	**Pn**	**19 55 35.2**	**+0.2**
RLMT	**Red Lodge**	**3.03**	**291**	*e*Pn	**Pn**	**19 55 38.8**	**+0.4**
N23A	**Red Feather La**	**3.23**	**189**	*e*Pn	**Pn**	**19 55 41.9**	**+0.8**
BW06	**Boulder Array**	**3.39**	**249**	*e*Pn	**Pn**	**19 55 43.7**	**+0.4**
PD31	**Pinedale Array**	**3.39**	**249**	*e*Pn	**Pn**	**19 55 43.3**	**+0.1**
PDAR	**Pinedale Array**	**3.39**	**249**	Pn	**Pn**	**19 55 44.4**	**+1.2**
	3.2nm,0.3s,baz=64,slow=16,SNR=48						
PDAR				Lg	Lg	19 56 31.2	
	8.6nm,0.3s,baz=66,slow=31,SNR=13						
PDAR	**Pinedale Array**	**3.39**	**249**	*e*Pn	**Pn**	**19 55 43.7**	**+0.4**
PDAR				Lg	Lg	19 56 31.2	
GCMT	**Greycliff**	**3.55**	**300**	*e*Pn	**Pn**	**19 55 46.1**	**+0.6**
H17A	**Grant Village**	**3.82**	**276**	*e*Pn	**Pn**	**19 55 50.8**	**+1.5**
LOHW	**Long Hollow**	**3.88**	**265**	*e*Pn	**Pn**	**19 55 50.8**	**+0.8**
OGNE	**Ogallala**	**3.95**	**142**	*e*Pn	**Pn**	**19 55 51.8**	**+0.9**
MOOW	**Moose Ponds**	**3.96**	**267**	*e*Pn	**Pn**	**19 55 51.7**	**+0.5**
YFT	**Old Faithful**	**4.01**	**277**	*e*Pn	**Pn**	**19 55 50.2**	**-1.6**
SNOW	**Snow King Moun**	**4.02**	**263**	*e*Pn	**Pn**	**19 55 49.4**	**-2.5**
YHH	**Holmes Hill**	**4.05**	**282**	*e*Pn	**Pn**	**19 55 51.7**	**-0.8**
IMW	**Indian Meadow**	**4.09**	**269**	*e*Pn	**Pn**	**19 55 52.7**	**-0.3**
REDW	**Red Top Meadow**	**4.11**	**262**	*e*Pn	**Pn**	**19 55 53.6**	**+0.5**
YMR	**Madison River**	**4.12**	**280**	*e*Pn	**Pn**	**19 55 53.4**	**+0.1**
TPAW	**Teton Pass**	**4.15**	**264**	*e*Pn	**Pn**	**19 55 54.5**	**+0.7**
FXWY	**Fox Creek**	**4.18**	**266**	*e*Pn	**Pn**	**19 55 56.6**	**+2.5**
YHB	**Horse Butte**	**4.29**	**281**	*e*Pn	**Pn**	**19 55 57.1**	**+1.4**
ISCO	**Idaho Springs**	**4.29**	**183**	*e*Pn	**Pn**	**19 55 56.2**	**+0.4**
DGMT	**Dagmar**	**4.45**	**9**	*e*Pn	**Pn**	**19 55 57.3**	**-0.3**
O20A	**White River Ci**	**4.52**	**210**	*e*Pn	**Pn**	**19 55 59.2**	**+0.4**
BOZ	**Bozeman (W)**	**4.76**	**291**	*e*Pn	**Pn**	**19 56 04.2**	**+2.1**
Q24A	**Divide**	**5.12**	**179**	*e*Pn	**Pn**	**19 56 08.6**	**+1.5**
HWUT	**Hardware Ranch**	**5.25**	**244**	*e*Pn	**Pn**	**19 56 09.3**	**+0.6**
MCU	**Monte Cristo P**	**5.28**	**242**	*e*Pn	**Pn**	**19 56 10.0**	**+0.6**
HRY	**Holter Researc**	**5.31**	**302**	*e*Pn	**Pn**	**19 56 09.7**	**+0.2**
LRM	**Limekiln Ridge**	**5.38**	**291**	*e*Pn	**Pn**	**19 56 10.8**	**+0.2**
KSCO	**Kaye Shedlock'**	**5.45**	**158**	*e*Pn	**Pn**	**19 56 10.7**	**-0.8**
MDND	**Maddock**	**5.46**	**44**	*e*Pn	**Pn**	**19 56 11.5**	**+0.1**
MCMT	**McKenzie Canyo**	**5.47**	**280**	*e*Pn	**Pn**	**19 56 12.5**	**+0.6**
N16A	**Rees Ranch, Co**	**5.56**	**237**	*e*Pn	Pn	19 56 08.5	-4.6
HTU	**Hoyt Peak**	**5.57**	**234**	*e*Pn	**Pn**	**19 56 13.6**	**+0.4**
P18A	**Preston Nutter**	**5.80**	**221**	*e*Pn	**Pn**	**19 56 15.3**	**-1.1**
HVU	**Hansel Valley**	**5.97**	**250**	*e*Pn	**Pn**	**19 56 18.1**	**-0.6**
MPU	**Maple Canyon**	**6.24**	**231**	*e*Pn	**Pn**	**19 56 21.9**	**-0.6**
CHMT	**Chamberlain Mo**	**6.28**	**300**	*e*Pn	**Pn**	**19 56 22.6**	**-0.3**
SDCO	**Great Sand Dun**	**6.34**	**182**	*e*Pn	**Pn**	**19 56 24.6**	**+0.7**
SRU	**San Rafael Swe**	**6.34**	**220**	*e*Pn	**Pn**	**19 56 24.4**	**+0.6**
DUG	**Dugway, Tooele**	**6.82**	**238**	*e*Pn	**Pn**	**19 56 29.7**	**-0.6**
I10CA	**LAC DU BONNET**	**8.78**	**43**	*i*		20 49 10.0	
	baz=225,slow=314,SNR=3.3						
ULM	**Lac du Bonnet**	**8.88**	**43**	Pn	**Pn**	**19 56 57.3**	**-1.1**
	0.8nm,0.3s,baz=228,slow=12,SNR=7.4						
LTX	**Lajitas**	**14.78**	**174**	*e*Pn	**P**	**19 58 26.0**	**+0.4**
TXAR	**Lajitas Array**	**14.78**	**174**	Pn	**P**	**19 58 26.0**	**+0.4**
	0.0nm,0.3s,baz=355,slow=9.1,SNR=2.8						

IDC 11 20:14:48.1±2.9, 4°.13S×133°.93E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=136.7km s-min=30.5km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.72**	**179**	Pn	Pn	20 18 33.2	+2.0
	0.1nm,0.3s,baz=358,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**19.43**	**180**	P	P	20 19 15.4	-0.8
	0.1nm,0.3s,baz=1.1,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**68.08**	**324**	P	P	20 25 49.8	0.0
	0.2nm,0.4s,baz=107,slow=4.8,SNR=3.1						

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*GUC **11** 20:17:08.2±3.1, 26°.14S×69°.84W, h99km±196km, ML4.6*
*IDC **11** 20:17:08.6±1.3, 26°.47S×69°.16W, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=46.9km s-min=34.9km az=28.0*
*ISCJB **11** 20:17:09.1±0.4, 26°.47S±0°.03×69°.56W±0°.05, h10km, mb4.4/6, Error ellipse: s-maj=6.4km s-min=3.9km az=4.6*
*NEIC **11** 20:17:11.8±1.9, 26°.54S×69°.23W, h21km±14km, mb5.0/4, ML4.8(GUC), Error ellipse: s-maj=17.3km s-min=6.2km az=96.0*
NEIC Felt [III] at Copiapo and Tierra Amarilla; [II] at Diego de Almagro.
*SJA **11** 20:17:12.5±0.9, 26°.56S×69°.74W, h90km, ML3.5, MW4.4*
ISC 11 20:17:07.1±1.7, 26°.33S±0°.05×69°.72W±0°.06, h2km±12km, n46, σ1s78/44, mb4.7/6, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.17**	**209**	⇓*i*P	Pn	20 17 26.7	-3.9
CPCH				*i* S	**Sb**	**20 17 41.4**	**-4.3**
CDCH	**Caldera**	**1.23**	**233**	⇑*i*P	**Pn**	**20 17 31.9**	**+0.6**
CDCH				*i* S	**Sg**	**20 17 49.3**	**+2.7**
VACH	**Vallenar**	**2.42**	**202**	⇑*i*P	**Pn**	**20 17 48.8**	**+1.0**
VACH				*i* S	**Sn**	**20 18 18.9**	**+0.9**
ANCH	**Antofagasta**	**2.71**	**347**	*e*P	**Pg**	**20 18 00.3**	**+1.3**
ANCH				*i* S	Sg	20 18 39.4	+5.3
VCA	**Vinchina**	**2.75**	**151**	*e*P	**Pn**	**20 17 54.2**	**+1.7**
VCA				IAML		20 17 59.1	
	comp=Z,206nm,0.8s						
VCA				*e*S	**Sn**	**20 18 24.6**	**-1.8**
LCO	**Las Campanas**	**2.81**	**198**	⇑*i*P	**Pn**	**20 17 54.4**	**+1.0**
LCO				*i* S	**Sn**	**20 18 29.2**	**+1.2**
LCO				IAML		20 18 32.1	
	comp=E,1μm,0.6s						
LCO	**Las Campanas**	**2.81**	**198**	*e*Pn	**Pn**	**20 17 54.2**	**+0.8**
LCO				*e*Sn	**Sn**	**20 18 26.8**	**-1.2**
PB10	**IPOC Station P**	**2.90**	**345**	*e*Pn	**Pg**	**20 18 00.8**	**-1.9**
PB10				*e*Sn	**Sg**	**20 18 39.6**	**-0.7**
FSA	**Cafayete**	**3.37**	**87**	*e*P	**Pn**	**20 18 04.8**	**+3.8**
LVC	**Limon Verde**	**3.77**	**12**	*e*P	**Pb**	**20 18 13.8**	**-1.0**
LVC	**Limon Verde**	**3.77**	**12**	*e*Pn	**Pb**	**20 18 13.7**	**-1.0**
LVC				*e*Sg	**Sg**	**20 19 11.4**	**+2.9**
ACLC	**CERRO LA CRUZ**	**3.94**	**142**	*e*P	**Pn**	**20 18 09.3**	**+0.4**
TLL	**Tololo Astrono**	**3.94**	**194**	*e*P	**Pn**	**20 18 09.3**	**+0.3**
AHML	**Horco Molle**	**3.96**	**98**	*e*P	**Pn**	**20 18 12.9**	**+3.9**
PB04	**IPOC Station P**	**3.99**	**354**	*e*Pn	**Pb**	**20 18 16.6**	**-1.8**
AMOG	**MOGNA**	**4.72**	**167**	*e*P	**Pn**	**20 18 19.7**	**+0.3**
AVFE	**Valle Fertil**	**4.76**	**156**	*e*P	**Pn**	**20 18 19.9**	**0.0**
AVFE				IAML		20 19 15.7	
	comp=Z,64nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.94**	**146**	*e*P	**Pn**	**20 18 22.1**	**-0.4**
APLL				IAML		20 18 22.1	
	comp=Z,16nm,0.4s						
PB01	**IPOC Station P**	**5.26**	**2**	*e*Pn	Pb	20 18 32.4	-7.6
ACHE	**Chepes**	**5.51**	**152**	*e*P	**Pn**	**20 18 31.0**	**+0.5**
RTCV	**Cerro Valdivia**	**5.61**	**170**	*e*P	**Pn**	**20 18 31.8**	**+0.1**
AUSP	**Uspallata**	**5.88**	**177**	*e*P	**Pn**	**20 18 34.6**	**-1.1**
ASAL	**Salagasta**	**6.29**	**173**	*e*P	**Pn**	**20 18 41.5**	**+0.5**
PB11	**IPOC Station P**	**6.54**	**1**	*e*Pn	Pn	20 18 48.9	+4.4
ROC1	**El Roble**	**6.72**	**189**	*e*Pn	**Pn**	**20 18 47.7**	**+0.6**
MNMC	**Minye Minye**	**7.16**	**1**	*e*Pn	Pn	20 18 58.1	+4.9
GO05	**HualaæØ**	**8.86**	**192**	*e*Pn	**Pn**	**20 19 17.4**	**+1.1**
LPAZ	**La Paz**	**10.10**	**9**	Pn	Pn	20 19 37.5	+3.7
	comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=8.0						
SAML	**Samuel**	**18.36**	**21**	*e*P	**Pn**	**20 21 19.9**	**-3.2**
	comp=Z,3.0nm,1.0s						
GO09	**Cerro Castillo**	**24.99**	**184**	*e*P	**P**	**20 22 34.0**	**+1.9**
	comp=Z,80nm,1.8s						
LTX	**Lajitas**	**64.21**	**327**	*e*P	P	20 27 47.8	+4.1
TXAR	**Lajitas Array**	**64.21**	**327**	P	P	20 27 47.8	+4.1
	comp=Z,0.3nm,0.7s,baz=159,slow=7.7,SNR=2.7						
MSTX	**Muleshoe**	**67.67**	**331**	*e*P	**P**	**20 28 08.9**	**+3.0**
	comp=Z,14nm,1.6s						
DBIC	**Dimbokro**	**70.87**	**72**	P	**P**	**20 28 25.3**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=233,slow=7.0,SNR=3.8						
DBIC	**Dimbokro**	**70.87**	**72**	*e*P	**P**	**20 28 24.9**	**-1.2**
	comp=Z,53nm,1.8s						
X16A	**Lo Mia Camp, P**	**72.20**	**325**	*e*P	P	20 28 38.2	+4.3
	comp=Z,3.8nm,0.9s						
CTW	**Cottonwood Mou**	**74.04**	**321**	*e*P	P	20 28 50.4	+5.8
PTRM	**Twissleman Ran**	**77.93**	**320**	*e*P	P	20 29 14.7	+7.9
TOA0	**Torodi Ar. Sit**	**79.70**	**70**	*e*P	**P**	**20 29 16.3**	**-0.6**
TOA1	**Torodi Ar. Sit**	**79.70**	**70**	*e*P	**P**	**20 29 16.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**79.70**	**70**	P	**P**	**20 29 16.2**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=259,slow=5.2,SNR=27						
ASAR	**Alice Springs**	**125.30**	**207**	PKP	**PKPdf**	**20 36 12.4**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=127,slow=0.9,SNR=3.4						
ZAA1	**Zalesovo Array**	**146.59**	**27**	*e*PKPdf	**PKPab**	**20 36 50.0**	**-0.9**
ZALV	**Zalesovo Beam**	**146.59**	**27**	PKPbc	**PKPab**	**20 36 50.0**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=305,slow=3.3,SNR=10.0						
MK32	**Makanchi Array**	**149.88**	**40**	*e*PKPbc	**PKPbc**	**20 37 00.0**	**+1.1**
MKAR	**Makanchi Array**	**149.88**	**40**	PKPbc	**PKPbc**	**20 37 00.0**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=301,slow=2.4,SNR=11						

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*ISCJB **11** 20:31:07.4±0.4, 26°.88N±0°.05×66°.75E±0°.04, h8km, mb4.0/24, MS3.1/5, Error ellipse: s-maj=7.3km s-min=5.0km az=10.3*
*IDC **11** 20:31:08.5±0.7, 26°.87N×66°.67E, h0km, mb3.8/16, mb1 3.9/19, mb1mx3.8/54, mbtmp3.8/19, ML3.8/3, MS3.1/7, Ms1 3.2/7, ms1mx2.8/52, Error ellipse: s-maj=18.8km s-min=14.2km az=49.0*
*NEIC **11** 20:31:13.2±0.4, 26°.92N×66°.65E, h35km, mb4.4/14, Error ellipse: s-maj=8.6km s-min=6.9km az=165.0*
ISC 11 20:31:09.3±0.6, 26°.99N±0°.07×66°.73E±0°.06, h8km, n67, σ1s54/69, mb4.0/24, MS3.3/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.24**	**36**	P	**Pn**	**20 32 57.0**	**+1.5**
KBL	**Kabul**	**7.78**	**14**	*e*Pn	**Pn**	**20 33 05.2**	**+2.0**
KBL				*e*Sn	**Sn**	**20 34 27.8**	**-3.8**
CEP	**Cherat**	**8.15**	**32**	P	**Pn**	**20 33 09.4**	**+1.3**
WSAR	**Wadi Sarin**	**8.23**	**245**	Pn	**Pn**	**20 33 07.3**	**-1.8**
	4.1nm,0.3s,baz=112,slow=8.9,SNR=45						
WSAR				Sn	Sn	20 34 31.1	-11
	1.4nm,0.3s,baz=166,slow=9.9,SNR=4.5						
CHCP	**Chirah Chowk**	**8.72**	**39**	P	**Pn**	**20 33 17.7**	**+1.9**
THN	**Thein Dam**	**9.51**	**53**	*e*P	**Pn**	**20 33 23.4**	**-3.2**
THN				*e*S		20 33 33.2	
UOSS	**Minazif**	**9.69**	**260**	*e*Pn	**Pn**	**20 33 26.6**	**-2.5**
UOSS				*e*Sn	Sn	20 35 05.7	-12
GEYT	**Alibeck**	**13.10**	**329**	Pn	**Pn**	**20 34 16.2**	**+0.4**
	0.1nm,0.3s,baz=263,slow=12,SNR=2.6						
GEYT				LR	LR	20 39 59.8	
	comp=Z,94nm,19.3s,baz=165,slow=40						
PYUN	**Piuthan**	**14.47**	**82**	*e*P	**Pn**	**20 34 33.3**	**-1.5**
	34nm,0.7s						
KOLN	**Koldanda**	**15.01**	**83**	*e*P	**Pn**	**20 34 40.5**	**-1.6**
	18nm,0.7s						
DANN	**Dangsing**	**15.16**	**81**	*e*P	**Pn**	**20 34 41.3**	**-2.8**
	3.6nm,1.0s						
GKN	**Gorkha**	**15.93**	**82**	*e*P	**Pn**	**20 34 51.8**	**-2.3**
	9.4nm,0.7s						
DMN	**Daman**	**16.35**	**84**	*e*P	**Pn**	**20 34 57.7**	**-1.9**
	15nm,0.8s						
KKAR	**Karatay Array**	**16.37**	**10**	*e*Pn	**Pn**	**20 34 59.0**	**-0.5**
	28nm,0.4s						
KKN	**Kakani**	**16.50**	**83**	*e*P	**Pn**	**20 34 59.4**	**-2.1**
	11nm,0.7s						
PKIN	**Phulchoki**	**16.61**	**84**	*e*P	**Pn**	**20 35 00.6**	**-2.3**
	6.7nm,0.4s						
AAK	**Ala-Archa**	**16.85**	**20**	Pn	**Pn**	**20 35 06.2**	**+0.5**
	0.4nm,0.3s,baz=184,slow=14,SNR=9.8						
AAK				Sn	**Sn**	**20 38 10.8**	**-2.3**
	0.1nm,0.3s,baz=185,slow=12,SNR=3.6						
AAK				LR	LR	20 43 15.7	
	comp=Z,39nm,21.3s,baz=182,slow=43						
AAK	**Ala-Archa**	**16.85**	**20**	*e*Pn	**Pn**	**20 35 04.8**	**-0.9**
	3.9nm,0.9s						
AAK				*e*Sn	**Sn**	**20 38 10.8**	**-2.3**
GUN	**Gumba**	**17.03**	**83**	*e*P	**Pn**	**20 35 06.7**	**-1.6**
	59nm,0.9s						
JIRN	**Jiri**	**17.31**	**83**	*e*P	**Pn**	**20 35 09.9**	**-1.9**
	256nm,0.6s						
RAMN	**Ramite**	**17.72**	**86**	*e*P	**Pn**	**20 35 16.5**	**-0.3**
	21nm,0.7s						
ODAN	**Odare**	**18.43**	**86**	*e*P	**P**	**20 35 24.6**	**-0.9**
	19nm,0.9s						
TAPN	**Taplejung**	**18.68**	**84**	*e*P	**P**	**20 35 27.6**	**-0.7**
	11nm,0.8s						
RAYN	**Ar Rayn**	**19.50**	**264**	*e*P	**P**	**20 35 36.9**	**-0.2**
	2.9nm,1.0s						
LSA	**Lhasa**	**21.66**	**77**	*e*P	**P**	**20 36 03.0**	**+2.1**
ABKAR	**Akbulak array**	**22.84**	**349**	*e*P	**P**	**20 36 13.3**	**+0.5**
	39nm,0.6s						
MAKZ	**Makanchi**	**23.16**	**27**	*e*P	**P**	**20 36 16.5**	**+0.3**
	4.1nm,0.8s						
MK01	**Makanchi Array**	**23.26**	**28**	*e*P	**P**	**20 36 18.7**	**+1.4**
MK31	**Makanchi Array**	**23.28**	**28**	*e*P	**P**	**20 36 18.1**	**+0.7**
MK32	**Makanchi Array**	**23.28**	**28**	*e*P	**P**	**20 36 17.7**	**+0.3**
MKAR	**Makanchi Array**	**23.28**	**28**	P	**P**	**20 36 17.7**	**+0.3**
	1.7nm,0.6s,baz=210,slow=10,SNR=12						
MKAR	**Makanchi Array**	**23.28**	**28**	*e*P	**P**	**20 36 18.3**	**+0.9**
	31nm,1.1s						
PALK	**Pallekele**	**23.68**	**143**	P	**P**	**20 36 20.9**	**-0.8**
	4.4nm,0.8s,baz=114,slow=6.1,SNR=2.7						
PALK	**Pallekele**	**23.68**	**143**	*e*P	**P**	**20 36 20.7**	**-1.0**
	24nm,1.3s						
AKTO	**Aktyubinsk**	**24.34**	**346**	P	**P**	**20 36 29.1**	**+1.6**
	2.4nm,0.6s,baz=164,slow=7.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**25.26**	**18**	P	**P**	**20 36 37.5**	**+1.6**
	1.2nm,0.6s,baz=210,slow=8.9,SNR=13						
KOPT	**Kop Dagi**	**25.33**	**308**	*e*P	**P**	**20 36 37.2**	**+0.2**
	19nm,1.3s						
KURK	**Kurchatov**	**25.37**	**18**	*e*P	**P**	**20 36 37.5**	**+0.6**
KBZ	**Khabaz**	**25.49**	**317**	P	**P**	**20 36 39.6**	**+1.7**
	2.1nm,0.7s,baz=102,slow=11,SNR=7.3						
BVAR	**Borovoye Array**	**26.15**	**5**	P	**P**	**20 36 45.7**	**+1.8**
	1.9nm,0.5s,baz=167,slow=7.3,SNR=11						
BRVK	**Borovoye**	**26.17**	**5**	*e*P	**P**	**20 36 45.3**	**+1.2**
	4.2nm,0.8s						
ZALV	**Zalesovo Beam**	**30.06**	**21**	P	**P**	**20 37 19.8**	**+1.0**
	0.6nm,0.5s,baz=202,slow=3.1,SNR=2.6						
ZALV				LR	LR	20 52 19.7	
	comp=Z,17nm,20.2s,baz=66,slow=42						
ZALV	**Zalesovo Beam**	**30.06**	**21**	*e*P	**P**	**20 37 19.3**	**+0.5**
ZAA1	**Zalesovo Array**	**30.07**	**21**	*e*P	**P**	**20 37 19.8**	**+1.0**
CHTO	**Chiang Mai**	**30.71**	**99**	*e*P	**P**	**20 37 25.2**	**+0.3**
	1.7nm,0.9s						
CM31	**Chiang Mai Arr**	**30.84**	**99**	*e*P	**P**	**20 37 26.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.84**	**99**	P	**P**	**20 37 27.8**	**+1.7**
	0.4nm,0.7s,baz=298,slow=9.8,SNR=4.6						
CMAR				PcP	**PcP**	**20 40 24.9**	**+1.6**
	0.1nm,0.3s,baz=283,slow=4.3,SNR=4.5						
CMAR				LR	LR	20 52 39.9	
	comp=Z,17nm,18.4s,baz=225,slow=42						
BR231	**Keskin MP Arra**	**30.91**	**303**	*e*P	**P**	**20 37 25.8**	**-0.8**
SONA0	**Songino Array**	**37.22**	**45**	*e*P	**P**	**20 38 23.3**	**+1.9**
	5.9nm,1.7s						
SONM	**Songino Array**	**37.22**	**45**	P	**P**	**20 38 23.3**	**+1.9**
	0.6nm,0.9s,baz=233,slow=9.1,SNR=4.0						
BUR08	**Bucovina Ar. S**	**38.34**	**314**	*e*P	**P**	**20 38 31.4**	**+0.5**
PSZ	**Piszkesteto**	**41.87**	**313**	*e*P	**P**	**20 39 01.6**	**+1.6**
	20nm,1.9s						
FIA0	**FINESS Array S**	**43.85**	**333**	*e*P	**P**	**20 39 18.6**	**+2.9**
FINES	**FINESS Array B**	**43.85**	**333**	P	**P**	**20 39 18.6**	**+2.9**
	1.6nm,0.7s,baz=133,slow=11,SNR=8.4						
GEA0	**GERESS Array S**	**46.09**	**313**	*e*P	**P**	**20 39 33.5**	**-0.4**
GEC2	**GERESS Array S**	**46.10**	**313**	*e*P	**P**	**20 39 34.6**	**+0.6**
	19nm,1.9s						
GERES	**GERESS Array B**	**46.10**	**313**	P	**P**	**20 39 34.4**	**+0.4**
	0.4nm,0.4s,baz=101,slow=6.9,SNR=4.8						
ARCES	**ARCESS Array B**	**48.80**	**342**	P	**P**	**20 39 55.0**	**+0.3**
	1.7nm,0.7s,baz=139,slow=8.1,SNR=15						
ARCES				LR	LR	21 04 56.6	
	comp=Z,32nm,18.8s,baz=109,slow=42						
NB200	**NORSAR Array S**	**50.19**	**329**	*e*P	**P**	**20 40 05.1**	**-0.2**
NOA	**NORSAR Array B**	**50.19**	**329**	P	**P**	**20 40 05.1**	**-0.2**
	0.8nm,0.6s,baz=154,slow=7.0,SNR=2.9						
TGY	**Tagaytay City**	**52.00**	**93**	LR	LR	21 06 09.2	
	comp=Z,37nm,18.1s,baz=183,slow=40						
KSRS	**Korea Array**	**52.01**	**62**	LR	LR	21 04 49.7	
	comp=Z,46nm,20.8s,baz=126,slow=39						
TOA1	**Torodi Ar. Sit**	**62.03**	**271**	*e*P	**P**	**20 41 30.7**	**0.0**
TORD	**Torodi Ar. Bea**	**62.03**	**271**	P	**P**	**20 41 30.7**	**0.0**
	0.9nm,0.6s,baz=64,slow=5.5,SNR=8.2						
WR1	**Warramunga Arr**	**80.41**	**118**	*e*P	**P**	**20 43 21.7**	**-0.1**
	16nm,1.8s						
WRA	**Warramunga Arr**	**80.41**	**118**	P	**P**	**20 43 21.7**	**-0.1**
	0.4nm,0.8s,baz=325,slow=5.1,SNR=4.1						
ASAR	**Al

WRA	**Warramunga Arr**	**14.19**	**157**	Pn	Pn	20 52 22.1	+0.1
	0.2nm,0.3s,baz=331,slow=14,SNR=8.3						
WRA				Sn	Sn	20 54 42.8	-17
	0.4nm,0.3s,baz=331,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.50**	**163**	P	Pn	20 53 04.9	-0.1
	0.2nm,0.3s,baz=340,slow=12,SNR=36						
ASAR				S	Sn	20 56 05.1	-15
	0.2nm,0.3s,baz=316,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**67.28**	**328**	P	P	20 59 56.0	0.0
	0.1nm,0.6s,baz=123,slow=7.9,SNR=2.8						

*ISCJB **11** 20:49:23.8±0.6, 45°.93N±0°.06×106°.45W±0°.10, h0km, Error ellipse: s-maj=10.4km s-min=7.1km az=28.7*
*IDC **11** 20:49:23.2±2.1, 46°.16N×107°.07W, h0km, mb1 3.5/2, mb1mx3.2/65, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=62.2km s-min=9.3km az=130.0*
*NEIC **11** 20:49:25.0±0.4, 45°.93N×106°.46W, h0km, ML2.8, Error ellipse: s-maj=7.8km s-min=5.2km az=120.0, Suspected Mining explosion.*
NEIC 14 km [8 miles] ENE of Colstrip.
ISC 11 20:49:24.8±1.3, 45°.92N±0°.06×106°.49W±0°.08, h0km, n14, σ0°74/13, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.79**	**13**	*e*Pg	**Pg**	**20 49 40.0**	**0.0**
RLMT	**Red Lodge**	**2.11**	**249**	*e*Pn	**Pn**	**20 50 00.5**	**-1.1**
RSSD	**Black Hills**	**2.50**	**135**	*e*Pn	**Pn**	**20 50 07.2**	**+0.3**
DGMT	**Dagmar**	**2.99**	**31**	*e*Pn	**Pn**	**20 50 13.2**	**-0.3**
EGMT	**Eagleton**	**3.07**	**314**	*e*Pn	**Pn**	**20 50 15.8**	**+1.1**
K22A	**Casper**	**3.27**	**180**	*e*Pn	**Pn**	**20 50 17.9**	**+0.4**
BOZ	**Bozeman (W)**	**3.62**	**267**	Pn	**Pn**	**20 50 22.3**	**+0.1**
MOOW	**Moose Ponds**	**3.73**	**236**	Pn	**Pn**	**20 50 25.0**	**+1.2**
LOHW	**Long Hollow**	**3.73**	**233**	*e*Pn	**Pn**	**20 50 23.9**	**0.0**
BW06	**Boulder Array**	**3.85**	**216**	*e*Pn	**Pn**	**20 50 24.8**	**-0.6**
PDAR	**Pinedale Array**	**3.85**	**216**	Pn	**Pn**	**20 50 26.0**	**+0.6**
	0.8nm,0.3s,baz=43,slow=12,SNR=20						
PDAR				Lg	Lg	20 51 22.7	
	1.5nm,0.3s,baz=30,slow=33,SNR=6.4						
RWWY	**Rawlins**	**4.26**	**187**	*e*Pn	**Pn**	**20 50 31.6**	**+0.4**
I10CA	**LAC DU BONNET**	**8.21**	**55**	*i*		21 38 25.0	
	baz=240,slow=311,SNR=13						
ULM	**Lac du Bonnet**	**8.32**	**55**	Pn	**Pn**	**20 51 25.9**	**-0.6**
	0.3nm,0.3s,baz=243,slow=14,SNR=3.0						
ULM				Lg	Lg	20 53 46.6	
	0.2nm,0.3s,baz=294,slow=17,SNR=2.9						

MEX 11 20:52:54.4±0.3, 17°.16N×101°.22W, h20km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**332**	*e*P	Pb	20 53 02.9	-1.7
ZIIG				*e*S	Sb	20 53 09.3	-2.1
CAIG	**El Cayaco**	**0.91**	**97**	*e*P	Pb	20 53 08.7	-2.9
CAIG				*e*S	Sb	20 53 19.7	-3.6
ACX	**Acapulco**	**1.33**	**102**	*e*P	Pb	20 53 19.3	+0.6
ACX				*i* SG	Sn	20 53 35.0	0.0
ARIG	**Puente Sto Nin**	**1.39**	**37**	*e*P	Pn	20 53 15.6	-3.1
ARIG				*e*S	Sn	20 53 31.9	-4.5
MEIG	**Mezcala**	**1.70**	**63**	*e*P	Pn	20 53 20.2	-2.9
MEIG				*i* S	Sn	20 53 40.1	-4.1
PLIG	**Platanillo**	**2.04**	**53**	*i* P	Pn	20 53 24.0	-3.7
PLIG				*e*S	Sn	20 53 47.9	-4.7
TLIG	**Tlapa**	**2.56**	**81**	*i* P	Pn	20 53 32.9	-2.0
TLIG				*i* S	Sn	20 54 02.1	-3.5

*IDC **11** 20:54:51.6±3.4, 6°.86N×73°.05W, h158km±40km, mb1 3.7/2, mb1mx2.9/35, mbtmp4.1/2, Error ellipse: s-maj=299.1km s-min=8.0km az=132.0*
*ISCJB **11** 20:54:52.4±0.8, 6°.82N±0°.04×73°.12W±0°.04, h145km±7km, Error ellipse: s-maj=7.5km s-min=5.3km az=25.2*
*RSNC **11** 20:54:53.8±0.9, 6°.79N×73°.14W, h140km±6km, ML3.5*
ISC 11 20:54:51.9±1.0, 6°.83N±0°.04×73°.10W±0°.05, h151km±6km, n19, σ1°03/34, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**198**	*i* P	**Pn**	**20 55 13.0**	**+0.3**
BARC				*e*S	**Sn**	**20 55 27.3**	**-1.3**
BARC				*i*		20 55 29.0	
	comp=Z,666nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	*e*P	**Pn**	**20 55 15.8**	**+1.0**
PAMC				*e*S	**Sn**	**20 55 32.5**	**+0.4**
PAMC				*i*		20 55 35.0	
	comp=Z,308nm,0.4s						
BRRC	**Barranca, Sant**	**0.66**	**294**	⇑*i* P	**Pn**	**20 55 14.8**	**+0.5**
BRRC				*i*		20 55 15.1	
	comp=Z,1μm,0.2s						
BRRC				*e*S	**Sn**	**20 55 31.3**	**0.0**
RUSC	**La Rusia**	**0.93**	**179**	*e*P	**Pn**	**20 55 17.1**	**+0.3**
RUSC				*e*S	**Sn**	**20 55 34.7**	**-1.1**
RUSC				*i*		20 55 37.3	
	comp=Z,276nm,0.3s						
OCAC	**Ocana**	**1.42**	**351**	*e*P	**Pn**	**20 55 21.4**	**+0.6**
OCAC				*e*S	**Sn**	**20 55 42.8**	**-0.2**
OCAC				*i*		20 55 48.1	
	comp=Z,684nm,0.3s						
YOPC	**Yopal, Colombi**	**1.62**	**155**	*e*P	**Pn**	**20 55 23.9**	**+1.0**
YOPC				*e*S	**Sn**	**20 55 46.0**	**-0.7**
YOPC				*i*		20 55 48.9	
	comp=Z,238nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**20 55 25.6**	**+0.1**
ZARC				*e*S	**Sn**	**20 55 50.7**	**-0.7**
ZARC				*i*		20 55 56.7	
	comp=Z,356nm,0.3s						
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**20 55 29.2**	**+0.1**
NORC				*e*S	**Sn**	**20 55 56.3**	**-1.3**
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**20 55 31.4**	**+0.6**
CHIC				*i*		20 55 34.1	
	comp=Z,119nm,0.2s						
CHIC				*e*S	**Sn**	**20 55 59.9**	**-0.8**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**20 55 33.0**	**+1.7**
	comp=Z,46nm,0.3s,baz=105,slow=19,SNR=102						
ROSC				S	**Sn**	**20 56 03.2**	**+1.7**
	comp=Z,20nm,0.3s,baz=162,slow=23,SNR=6.9						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**20 55 33.5**	**+0.1**
HELC				*e*S	**Sn**	**20 56 05.5**	**+0.3**
HELC				*i*		20 56 12.5	
	comp=Z,312nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**20 55 36.9**	**+0.3**
VILC				*e*S	**Sn**	**20 56 10.5**	**-0.5**
VILC				*i*		20 56 23.8	
	comp=Z,97nm,0.6s						
GUYC	**Guyana, Colomb**	**2.78**	**235**	*e*P	**Pn**	**20 55 37.8**	**+0.7**
TOLC	**Tolima**	**3.14**	**225**	*e*P	**Pn**	**20 55 42.7**	**+1.3**
TOLC				*e*S	**Sn**	**20 56 19.7**	**0.0**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**20 55 42.6**	**+0.7**
	comp=Z,17nm,0.3s,baz=241,slow=13,SNR=22						
SDV				S	**Sn**	**20 56 19.3**	**-1.3**
	comp=Z,20nm,0.3s,baz=63,slow=21,SNR=20						
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**20 55 46.5**	**-0.2**
PRAC				*e*S	**Sn**	**20 56 27.7**	**-1.5**
PRAC				*i*		20 56 36.9	
	comp=Z,449nm,0.3s						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**21 13 28.1**	**-1.3**
	comp=Z,0.1nm,0.2s,baz=0.2,slow=2.1,SNR=2.9						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**	**21 14 21.6**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=117,slow=3.5,SNR=9.2						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**21 14 24.9**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=108,slow=2.6,SNR=9.5						

*NIED **11** 20:57:00, 35°.10N×142°.30E, h8km, Mw4.0 Best double couple: M0 8.68000×10^14 NP1:φ0=33.00000°, δ40.00000°, λ-78.00000°. NP2:φ0=197.00000°, δ51.00000°, λ-100.00000°.*
*IDC **11** 20:57:21.6±0.8, 34°.95N×142°.30E, h0km, mb3.6/9, mb1 3.8/13, mb1mx3.7/45, mbtmp3.6/13, ML2.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/44, Error ellipse: s-maj=20.0km s-min=19.1km az=109.0*
*ISCJB **11** 20:57:23.1±1.4, 35°.09N±0°.05×142°.23E±0°.05, h22km±9km, mb3.5/9, MS3.1/2, Error ellipse: s-maj=8.3km s-min=7.3km az=160.3*
*JMA **11** 20:57:23.1±0.2, 35°.13N×142°.32E, h50km, M3.5*
ISC 11 20:57:22.8±2.5, 35°.11N±0°.05×142°.23E±0°.07, h9km±14km, n34, σ1°88/37, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.12**	**246**	P	**Pb**	**20 57 43.7**	**-0.4**
BSO1				*e*S	**Sg**	**20 57 59.0**	**0.0**
CHOJ	**Chosi**	**1.26**	**298**	P	**Pn**	**20 57 45.9**	**-0.8**
CHOJ				*e*S	**Sg**	**20 58 02.3**	**-1.2**
BSO3	**Boso 3**	**1.45**	**258**	P	**Pn**	**20 57 48.9**	**0.0**
BSO3				S	**Sn**	**20 58 07.1**	**-0.8**
BSO4	**Boso 4**	**1.56**	**266**	P	**Pn**	**20 57 50.2**	**-0.4**
BSO4				*e*S	**Sn**	**20 58 10.1**	**-0.7**
JCN	**Nagara**	**1.69**	**281**	P	**Pn**	**20 57 52.3**	**-0.2**
JCN				*e*S	**Sn**	**20 58 13.2**	**-1.0**
JOD2	**Odawara 2**	**2.58**	**274**	P	**Pn**	**20 58 03.8**	**-0.9**
JAG	**Ashikaga**	**2.61**	**301**	P	**Pn**	**20 58 04.6**	**-0.6**
JHJ2	**Mitsune**	**2.83**	**226**	*e*S	**Sn**	**20 58 41.5**	**-0.8**
JHJ	**Hachijo jima 2**	**2.84**	**226**	Pn	**Pn**	**20 58 05.7**	**-2.6**
	13nm,0.3s,baz=152,slow=23,SNR=12						
JHJ				Sn	**Sn**	**20 58 38.2**	**-4.4**
	49nm,0.3s,baz=91,slow=23,SNR=9.2						
JFT	**Otama**	**2.84**	**328**	P	**Pn**	**20 58 07.5**	**-0.9**
JRY	**Ryogami san**	**2.86**	**289**	P	**Pn**	**20 58 08.7**	**+0.1**
JRY				*e*S	**Sn**	**20 58 42.4**	**-0.8**
JYN	**Shimob**	**3.04**	**278**	P	**Pn**	**20 58 10.5**	**-0.6**
JYN				S	**Sn**	**20 58 47.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.56**	**295**	Pn	**Pn**	**20 58 17.9**	**-0.4**
	1.6nm,0.3s,baz=97,slow=12,SNR=9.8						
MJAR				Sn	**Sn**	**20 58 59.3**	**-1.3**
	1.5nm,0.3s,baz=286,slow=30,SNR=4.7						
MAT	**Matsushiro**	**3.56**	**295**	P	**Pn**	**20 58 18.6**	**+0.3**
MAT				S	**Sn**	**20 58 56.0**	**-4.6**
ASAJ	**Asahikawa**	**9.00**	**2**	Pn	**Pn**	**20 59 30.1**	**-2.7**
	0.5nm,0.3s,baz=213,slow=11,SNR=5.6						
ASAJ				Sn	**Sn**	**21 01 08.8**	**-5.4**
	0.4nm,0.3s,baz=330,slow=20,SNR=3.2						
KSRS	**Korea Array**	**11.78**	**286**	Pn	**Pn**	**21 00 13.4**	**+2.4**
	baz=89,slow=15,SNR=2.8						
USRK	**Ussuriysk Ar.**	**12.02**	**322**	Pn	**Pn**	**21 00 16.0**	**+1.8**
	0.1nm,0.3s,baz=134,slow=13,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**26.62**	**119**	T	T	21 31 15.1	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**26.63**	**119**	T	T	21 31 18.2	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**26.64**	**119**	T	T	21 31 10.2	
	baz=310						
H11S3	**WAKE ISLAND Hy**	**27.29**	**121**	T	T	21 31 59.6	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.29**	**121**	T	T	21 31 58.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.30**	**121**	T	T	21 32 00.8	
	baz=312						
SONM	**Songino Array**	**29.43**	**307**	P	**P**	**21 03 28.1**	**+1.3**
	0.4nm,0.6s,baz=91,slow=8.5,SNR=5.1						
TLY	**Talaya**	**32.10**	**313**	LR	LR	21 18 34.6	
	comp=Z,19nm,19.2s,baz=169,slow=40						
CMAR	**Chiang Mai Arr**	**41.70**	**258**	P	**P**	**21 05 12.1**	**0.0**
	0.3nm,0.6s,baz=45,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**43.71**	**314**	P	**P**	**21 05 30.7**	**+2.7**
	1.1nm,0.6s,baz=103,slow=6.4,SNR=4.2						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**21 05 45.6**	**+1.4**
	0.5nm,0.7s,baz=96,slow=9.9,SNR=5.9						
ILAR	**Eielson Array**	**50.77**	**32**	P	**P**	**21 06 23.0**	**+0.1**
	0.5nm,0.7s,baz=258,slow=6.1,SNR=5.7						
WRA	**Warramunga Arr**	**55.26**	**189**	P	**P**	**21 06 55.4**	**-1.1**
	1.2nm,0.8s,baz=5.8,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**58.99**	**189**	P	**P**	**21 07 22.5**	**-0.3**
	0.3nm,0.6s,baz=7.5,slow=7.9,SNR=6.4						
PDAR	**Pinedale Array**	**78.54**	**46**	P	**P**	**21 09 25.7**	**+0.8**
	0.5nm,0.7s,baz=269,slow=3.6,SNR=5.1						
MMAI	**Mount Meron Ar**	**83.62**	**306**	LR	LR	21 48 39.9	
	comp=Z,15nm,20.6s,baz=165,slow=37						
TXAR	**Lajitas Array**	**90.76**	**53**	P	**P**	**21 10 26.9**	**+0.2**
	0.2nm,0.7s,baz=333,slow=5.2,SNR=2.6						

*IDC **11** 21:27:49.9±0.9, 26°.90S×178°.56W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/27, mbtmp4.0/4, ML4.3/1, MS3.7/14, Ms1 3.7/14, ms1mx3.6/24, Error ellipse: s-maj=31.1km s-min=26.0km az=70.0*
*NEIC **11** 21:27:54.0±0.8, 26°.74S×178°.54W, h35km, mb4.3/2, Error ellipse: s-maj=26.1km s-min=13.7km az=72.0*
ISC 11 21:27:53.7±0.7, 26°.77S±0°.08×178°.7W±0°.1, h35km, n41, σ2°15/22, mb4.1/6, MS3.7/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.57**	**164**	Pn	**Pn**	**21 28 31.2**	**-1.6**
	62nm,0.3s,baz=140,slow=17,SNR=3.2						
RAO				Sn	**Sn**	**21 29 00.4**	**-2.5**
	92nm,0.3s,baz=59,slow=19,SNR=3.0						
RAO				LR	LR	21 29 26.9	
	comp=Z,2μm,20.2s,baz=46,slow=40						
RAO	**Raoul Island**	**2.57**	**164**	*e*Pn	**Pn**	**21 28 31.0**	**-1.9**
RAO				*e*S	**Sn**	**21 29 03.5**	**+0.6**
MSVF	**Nonsavu**	**9.48**	**341**	*e*Pn	**Pn**	**21 30 06.6**	**-1.2**
	44nm,1.3s						
MSVF				*e*S	**Sn**	**21 31 51.6**	**-1.5**
DZM	**Mont Dzumac**	**14.29**	**286**	Pn	**P**	**21 31 21.2**	**+0.9**
	0.1nm,0.3s,baz=185,slow=3.9,SNR=3.2						
DZM				LR	LR	21 35 02.7	
	comp=Z,277nm,19.0s,baz=40,slow=30						
DZM	**Mont Dzumac**	**14.29**	**286**	*e*P	**Pn**	**21 31 11.4**	**-2.2**
	28nm,1.6s						
DZM				*e*LR	LR	21 34 32.6	
	355nm,25.6s						
AFI	**Afiamalu**	**14.36**	**28**	LR	LR	21 35 45.7	
	comp=Z,191nm,20.1s,baz=195,slow=33						
RAR	**Rarotonga**	**18.18**	**76**	LR	LR	21 36 38.4	
	comp=Z,284nm,21.2s,baz=259,slow=29						
TBI	**Tubuai**	**26.71**	**89**	*e*LQ	LQ	21 38 28.6	
	802nm,27.0s						
TBI				*e*LR	LR	21 39 35.6	
	337nm,31.8s						
TBI	**Tubuai**	**26.71**	**89**	*e*T	T	21 59 52.3	
	25nm,0.3s						
PAE	**Paea**	**28.42**	**77**	*e*T	T	22 01 53.4	
	8.1nm,0.3s						
PPT2	**Papeete2**	**28.45**	**77**	*e*LQ	LQ	21 39 11.4	
	556nm,24.0s						
PPT2				*e*LR	LR	21 40 25.3	
	465nm,27.0s						
PPT2	**Papeete2**	**28.45**	**77**	*e*T	T	22 01 56.6	
	9.6nm,0.3s						
PPT	**Papeete**	**28.46**	**77**	LR	LR	21 41 08.8	
	comp=Z,172nm,21.3s,baz=255,slow=28						
TVO	**Taravao**	**28.66**	**78**	*e*T	T	22 02 11.9	
	6.6nm,0.3s						
TIAR	**Tiarei**	**28.66**	**77**	*e*T	T	22 02 11.7	
	3.2nm,0.3s						
VAH	**Vaihoa**	**31.14**	**75**	*e*T	T	22 05 16.0	
	8.1nm,0.2s						
STKA	**Stephens Creek**	**34.82**	**252**	LR	LR	21 48 09.7	
	comp=Z,206nm,18.3s,baz=31,slow=35						
RKT	**Rikitea**	**39.70**	**95**	*e*T	T	22 16 09.6	
	3.8nm,0.2s						
TAOE	**Nuku Hiva Isla**	**40.61**	**71**	*e*LR	LR	21 46 00.1	
	253nm,29.7s						
ASAR	**Alice Springs**	**42.77**	**263**	P	**P**	**21 35 50.5**	**+2.5**
	1.8nm,0.8s,baz=104,slow=7.7,SNR=11						
ASAR				LR	LR	21 53 32.4	
	comp=Z,69nm,19.3s,baz=102,slow=36						
WRAB	**Tennant Creek**	**43.42**	**269**	*e*P	**P**	**21 35 55.0**	**+1.7**
	10nm,1.3s						
WRA	**Warramunga Arr**	**43.42**	**269**	P	**P**	**21 35 55.1**	**+1.7**
	1.9nm,0.8s,baz=104,slow=7.6,SNR=9.8						
SBA	**Scott Base**	**51.59**	**184**	*e*P	**P**	**21 36 56.5**	**+0.5**
	2.8nm,1.0s						
VNDA	**Vanda**	**51.63**	**185**	LR	LR	21 55 05.5	
	comp=Z,52nm,19.7s,baz=71,slow=32						
QSPA	**South Pole Qui**	**63.32**	**180**	*e*P	**P**	**21 38 18.6**	**-0.3**
	51nm,1.4s						
MJAR	**Matsushiro Arr**	**74.90**	**325**	LR	LR	22 08 09.0	
	comp=Z,24nm,21.7s,baz=105,slow=32						
MAW	**Mawson**	**75.47**	**200**	LR	LR	22 14 18.5	
	comp=Z,82nm,18.1s,baz=64,slow=37						
KSRS	**Korea Array**	**81.17**	**320**	LR	LR	22 15 09.3	
	comp=Z,21nm,18.0s,baz=160,slow=35						
SNAA	**Sanae**	**81.78**	**179**	*e*P	P	21 40 11.1	+2.5
PETK	**Petropavlovsk-**	**82.15**	**346**	LR	LR	22 15 30.0	
	comp=Z,48nm,18.2s,baz=118,slow=35						
PLCA	**Paso Flores**	**85.45**	**134**	LR	LR	22 09 42.4	
	comp=Z,39nm,20.9s,baz=326,slow=30						
TXAR	**Lajitas Array**	**90.99**	**58**	LR	LR	22 12 14.8	
	comp=Z,46nm,21.8s,baz=0.0,slow=29						
PDAR	**Pinedale Array**	**93.96**	**44**	P	**P**	**21 41 08.1**	**0.0**
	0.6nm,0.9s,baz=204,slow=2.0,SNR=3.0						
KURK	**Kurchatov**	**118.05**	**315**	PKP	**PKPdf**	**21 46 39.8**	**+3.3**
KURBB	**Kurchatov Arra**	**118.09**	**315**	PKP	**PKPdf**	**21 46 39.8**	**+3.2**
	0.1nm,0.3s,baz=93,slow=1.9,SNR=4.1						
NB2	**NORSAR Subarra**	**145.08**	**352**	PKP	**PKPdf**	**21 47 28.4**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=13,slow=3.6						
NOA	**NORSAR Array B**	**145.08**	**352**	PKPbc	**PKPdf**	**21 47 28.4**	**+1.6**
	comp=Z,5.2nm,0.9s,baz=16,slow=2.4,SNR=6.5						
HFS	**Hagfors**	**145.57**	**349**	PKPbc	**PKPab**	**21 47 30.9**	**+2.8**
	comp=Z,4.4nm,0.8s,baz=71,slow=9.3,SNR=3.8						
AKASG	**Malin Array Be**	**147.99**	**326**	PKPbc	**PKPab**	**21 47 34.8**	**-3.0**
	comp=Z,0.2nm,0.2s,baz=38,slow=3.2,SNR=3.2						
BRTR	**Keskin Array B**	**150.17**	**304**	PKPbc	**PKPab**	**21 47 44.4**	**-2.9**
	comp=Z,1.2nm,0.9s,baz=100,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**166.44**	**182**	PKPab	**PKPab**	**21 48 58.7**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=156,slow=4.6,SNR=4.7						

*IDC **11** 21:31:55.9±1.5, 38°.32N×138°.37E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/49, mbtmp3.8/10, ML3.5/2, MS2.8/4, Ms1 2.9/4, ms1mx2.6/42, Error ellipse: s-maj=40.9km s-min=17.0km az=68.0*
*ISCJB **11** 21:31:59.6±0.7, 38°.19N±0°.04×138°.04E±0°.04, h28km±4km, mb3.9/10, MS2.6/3, Error ellipse: s-maj=7.4km s-min=4.6km az=25.2*
*NIED **11** 21:32:00, 38°.00N×137°.90E, h20km, Mw3.9 Best double couple: M0 7.71000×10^14 NP1:φ0=252.00000°, δ40.00000°, λ163.00000°. NP2:φ0=355.00000°, δ80.00000°, λ51.00000°.*
*JMA **11** 21:32:00.8, 38°.11N×138°.00E, h23km±1km, M4.2*
JMA Felt III J1.
*NEIC **11** 21:32:01.1±0.9, 38°.22N×138°.28E, h35km, mb4.2/2, Error ellipse: s-maj=18.8km s-min=9.1km az=67.0*
NEIC Recorded [3 JMA] in Niigata.
ISC 11 21:32:00.6±1.0, 38°.16N±0°.06×138°.09E±0°.04, h24km±7km, n28, σ1°19/36, mb4.1/10, MS2.6/3, 4C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.18**	**132**	⇑P	**Pb**	**21 32 06.0**	**+0.1**
JSD				S	**Sb**	**21 32 09.5**	**+0.1**
JIZZ	**Izumozaki**	**0.79**	**142**	⇓P	**Pb**	**21 32 15.8**	**+0.1**
JSZ	**Suzu**	**0.91**	**220**	⇑P	**Pb**	**21 32 16.4**	**-1.3**
JAW	**Awa shima**	**0.96**	**71**	⇓P	**Pn**	**21 32 19.0**	**+0.5**
JHG	**Hegura jima**	**0.98**	**252**	⇑P	**Pn**	**21 32 17.2**	**-1.6**
JHG				*e*S	**Sb**	**21 32 29.1**	**-2.1**
JNS	**Sasagawa**	**1.02**	**109**	⇓P	**Pn**	**21 32 19.5**	**0.0**
JNS				S	**Sn**	**21 32 33.6**	**+0.5**
JJN	**Nakama**	**1.05**	**177**	⇑P	**Pn**	**21 32 18.9**	**-0.9**
JJN				S	**Sb**	**21 32 32.6**	**-0.8**
JHK	**Hiroka**	**1.17**	**141**	⇓P	**Pn**	**21 32 20.9**	**-0.5**
JHK				S	**Sn**	**21 32 36.0**	**-0.5**
MAJO	**Matsushiro**	**1.61**	**177**	*e*Pn	**Pn**	**21 32 26.8**	**-0.8**
MAJO				*e*S	Sn	21 32 37.5	-10
MAT	**Matsushiro**	**1.61**	**177**	P	**Pn**	**21 32 26.7**	**-0.9**
MAT				S	**Sn**	**21 32 47.9**	**+0.3**
MJAR	**Matsushiro Arr**	**1.61**	**177**	Pn	**Pn**	**21 32 27.1**	**-0.5**
	43nm,0.3s,baz=173,slow=14,SNR=218						
MJAR				Sn	**Sb**	**21 32 48.5**	**-1.2**
	104nm,0.3s,baz=34,slow=19,SNR=21						
MJAR				LR	LR	21 33 17.0	
	comp=Z,150nm,18.2s,baz=35,slow=45						
JHJ	**Hachijo jima 2**	**5.21**	**164**	Pn	**Pn**	**21 33 19.5**	**+2.5**
	9.8nm,0.3s,baz=253,slow=19,SNR=5.2						
JNU	**Nakatsue**	**7.73**	**232**	Pn	**Pn**	**21 33 53.8**	**+2.2**
	0.5nm,0.3s,baz=98,slow=3.9,SNR=5.8						
KSRS	**Korea Array**	**8.08**	**268**	Pn	**Pn**	**21 33 58.5**	**+2.1**
	1.0nm,0.3s,baz=82,slow=14,SNR=8.8						
KSRS				Sn	**Sn**	**21 35 28.9**	**+2.0**
	0.6nm,0.3s,baz=86,slow=24,SNR=4.1						
KSRS				LR	LR	21 36 48.9	
	comp=Z,87nm,18.0s,baz=110,slow=35						
KSAR	**Wonju Array Be**	**8.11**	**268**	Pn	**Pn**	**21 33 58.5**	**+1.6**
KSAR				Sn	**Sn**	**21 35 28.9**	**+1.2**
PETK	**Petropavlovsk-**	**20.19**	**36**	LR	LR	21 45 51.4	
	comp=Z,23nm,18.2s,baz=274,slow=42						
ENH	**Enshi**	**24.86**	**260**	*e*P	**P**	**21 37 20.8**	**-0.5**
	3.8nm,0.7s						
SONM	**Songino Array**	**24.97**	**303**	P	**P**	**21 37 23.0**	**+0.8**
	1.0nm,0.9s,baz=101,slow=9.7,SNR=5.0						
GUMO	**Guam**	**25.20**	**164**	LR	LR	21 46 23.7	
	comp=Z,20nm,20.4s,baz=316,slow=34						
CMAR	**Chiang Mai Arr**	**39.29**	**251**	P	**P**	**21 39 28.8**	**+1.1**
	0.5nm,0.6s,baz=47,slow=8.8,SNR=4.9						
CMAR				LR	LR	21 57 09.2	
	comp=Z,14nm,21.5s,baz=190,slow=38						
MKAR	**Makanchi Array**	**41.28**	**301**	P	**P**	**21 39 42.9**	**-1.0**
	0.3nm,0.4s,baz=83,slow=12,SNR=4.1						
M

FID			S	Sb	21 35 21.3	-0.6
PS11	**TAPS Pump St11**	**1.31 325**	P	Pn	21 35 03.7	+0.2
JPK	**Jack Peak**	**1.33 272**	P	Pn	21 35 02.7	-1.1
LOGN	**Logan Glacier**	**1.42 97**	P	Pn	21 35 04.3	-0.8
LOGN			S	Sn	21 35 23.0	+0.3
HIN	**Hinchinbrook I**	**1.44 245**	P	Pn	21 35 03.9	-1.4
RKAV	**Rock Avalanche**	**1.44 119**	P	Pn	21 35 04.8	-0.7
TABL	**Table Mountain**	**1.46 113**	P	Pn	21 35 04.5	-1.4
TABL			S	Sn	21 35 24.7	+0.8
HARP	**HAARP**	**1.52 337**	P	Pn	21 35 06.6	+0.2
GLI	**Glacier Island**	**1.58 266**	P	Pn	21 35 05.9	-1.4
GLI			S	Sn	21 35 25.7	-0.8
SCM	**Sheep Creek Mo**	**1.85 297**	P	Pn	21 35 10.1	-0.9
BVCY	**Beaver Creek**	**2.00 45**	P	Pn	21 35 13.7	+0.7
PCA	**Pinnacle**	**2.01 116**	P	Pn	21 35 12.1	-1.2
MID	**Middleton Isla**	**2.02 219**	*e*Pn	Pn	21 35 12.2	-1.1
MID			*e*S	Sn	21 35 31.2	-6.2
PAX	**Paxson**	**2.09 340**	*e*Pn	Pn	21 35 14.6	+0.2
PAX			*e*S	Sn	21 35 39.6	+0.4
PWL	**Port Wells**	**2.19 268**	P	Pn	21 35 14.3	-1.3
PWL			S	Sn	21 35 41.0	-0.4
KNK	**Knik Glacier**	**2.25 282**	P	Pn	21 35 15.8	-0.7
KNK			S	Sn	21 35 42.8	-0.3
BCA3	**Beaver Creek A**	**2.27 25**	P	Pn	21 35 16.6	-0.2
SML	**Sawmill**	**2.28 292**	*e*Pn	Pn	21 35 15.5	-1.4
SML			*e*S	Sb	21 35 47.3	-2.6
BCPM	**Bancas Point**	**2.36 115**	P	Pn	21 35 16.6	-1.3
GHO	**Glory Hole Cre**	**2.54 289**	P	Pn	21 35 19.5	-1.0
PMR	**Palmer**	**2.60 285**	*e*Pn	Pn	21 35 21.4	+0.2
PMR			*e*S	Sn	21 35 50.1	-1.6
PNL	**Peninsula**	**2.61 120**	P	Pn	21 35 19.2	-2.2
DOT	**Dot Lake**	**2.63 358**	*e*Pn	Pn	21 35 22.6	+0.9
DOT			*e*S	Sn	21 35 53.8	+1.3
RC01	**Rabbit Creek A**	**2.85 274**	*e*Pn	Pn	21 35 24.5	-0.2
RC01			*e*S	Sn	21 35 56.8	-1.1
SEW	**Seward**	**2.91 254**	*e*Pn	Pn	21 35 23.6	-1.8
SEW			*e*S	Sn	21 35 55.4	-3.8
SLKM	**Skilak Lake**	**3.16 263**	P	Pn	21 35 27.7	-1.3
RND	**Reindeer**	**3.34 318**	P	Pn	21 35 31.4	0.0
MCK	**McKinley**	**3.60 321**	P	Pn	21 35 34.9	-0.1
DAWY	**Dawson**	**3.69 32**	*e*Pn	Pn	21 35 36.3	0.0
DAWY			*e*S	Sn	21 36 18.1	-0.4
BRLK	**Bradley Lake**	**3.71 253**	P	Pn	21 35 34.6	-1.9
SKT	**Skwentna**	**3.79 288**	P	Pn	21 35 37.0	-0.7
TRF	**Thorsbane Moun**	**3.86 312**	P	Pn	21 35 38.8	0.0
STLK	**Strandline Lak**	**3.88 280**	P	Pn	21 35 37.9	-0.9
EGAK	**Eagle**	**3.96 17**	*e*Pn	Pn	21 35 40.2	+0.3
ILB	**Eielson Array**	**4.00 341**	P	Pn	21 35 39.9	-0.6
CKL	**Chakachamna La**	**4.11 276**	P	Pn	21 35 41.5	-0.6
KTH	**Kantishna Hill**	**4.16 311**	P	Pn	21 35 42.6	0.0
COLA	**College**	**4.27 337**	*e*Pn	Pn	21 35 42.1	-2.0
COLA			*e*S	Sb	21 36 49.7	+3.0
DFR	**Drift River**	**4.34 268**	P	Pn	21 35 43.4	-1.9
PPLA	**Purkeypile**	**4.35 299**	*e*Pn	Pn	21 35 45.1	-0.3
PPLA			*e*S	Sb	21 36 51.5	+2.2
RDWB	**Redoubt West**	**4.43 267**	P	Pn	21 35 44.6	-1.9
SKAG	**Skagway**	**4.54 107**	*e*Pn	Pn	21 35 46.1	-1.7
SKAG			*e*S	Sn	21 36 37.6	-1.8
CHUM	**Lake Minchumin**	**4.86 310**	P	Pn	21 35 51.6	-0.6
KDAK	**Kodiak Island**	**5.51 238**	*e*Pn	Pn	21 35 59.4	-1.8
KDAK			*e*S	Sn	21 36 58.5	-4.8
IM3	**Indian Mountai**	**6.65 323**	P	Pn	21 36 15.2	-1.6
COLD	**Coldfoot**	**6.81 339**	P	Pn	21 36 18.6	-0.4

*IDC **11** 21:57:46.6±3.3, 36°.34N×70°.31E, h177km±30km, mb3.2/4, mb1 3.2/9, mb1mx2.9/45, mbtmp3.7/9, Error ellipse: s-maj=30.8km s-min=16.6km az=161.0*
*ISCJB **11** 21:57:49.8±0.5, 36°.63N±0°.04×70°.20E±0°.06, h213km, mb3.2/3, Error ellipse: s-maj=7.2km s-min=5.4km az=155.1*
*NNC **11** 21:57:49.8±12.0, 36°.88N×70°.11E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=104.8km s-min=87.1km az=142.0*

ISC 11 21:57:50.5±0.8, 36°.63N±0°.07×70°.18E±0°.07, h213km, n22, σ1§17/27, mb3.3/3, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.12**	**16**	⇓Pn	**Pn**	**21 59 20.2**	**+0.6**
MNAS	5.5nm,0.4s			⇓Sn	**S**	**22 00 28.6**	**-1.4**
KK31	24nm,0.5s **Karatay Array**	**6.47**	**2**	Pn	**Pn**	**21 59 25.0**	**+1.1**
KK31	1.6nm,0.2s,baz=173,slow=12,SNR=42			Sn	**S**	**22 00 36.2**	**-1.8**
AAK	3.3nm,0.3s,baz=188,slow=30,SNR=6.4 **Ala-Archa**	**6.86**	**28**	P	**Pn**	**21 59 29.4**	**+0.3**
AAK	3.2nm,0.3s,baz=186,slow=10,SNR=49			S	**S**	**22 00 45.1**	**-2.3**
AAK	1.8nm,0.3s,baz=318,slow=19,SNR=20 **Ala-Archa**	**6.86**	**28**	⇑Pn	**Pn**	**21 59 29.7**	**+0.6**
AAK	8.7nm,0.5s			⇑Sn	**S**	**22 00 45.6**	**-1.9**
GEYT	23nm,0.6s **Alibeck**	**9.70**	**281**	P	**Pn**	**22 00 05.3**	**-0.4**
GEYT	0.2nm,0.3s,baz=106,slow=9.1,SNR=2.5			S	**S**	**22 01 52.9**	**-1.7**
MAKZ	0.3nm,0.3s,baz=95,slow=28,SNR=1.8 **Makanchi**	**13.44**	**37**	⇑Pn	**Pn**	**22 00 52.8**	**-1.1**
MKAR	2.6nm,0.7s **Makanchi Array**	**13.58**	**38**	P	**Pn**	**22 00 54.8**	**+0.1**
KOLN	0.3nm,0.3s,baz=218,slow=15,SNR=13 **Koldanda**	**14.38**	**124**	*e*P	**Pn**	**22 01 04.0**	**-0.9**
GKN	**Gorkha**	**14.94**	**121**	*e*P	**P**	**22 01 12.0**	**-0.1**
KURBB	3.3nm,0.2s **Kurchatov Arra**	**15.22**	**21**	P	**Pn**	**22 01 14.2**	**-0.4**
DMN	0.1nm,0.3s,baz=211,slow=10,SNR=7.8 **Daman**	**15.50**	**121**	*e*P	**Pn**	**22 01 18.9**	**+0.3**
KKN	**Kakani**	**15.51**	**120**	*e*P	**Pn**	**22 01 19.3**	**+0.6**
PKIN	4.0nm,0.3s **Phulchoki**	**15.72**	**121**	*e*P	**Pn**	**22 01 21.6**	**+0.3**
JIRN	2.9nm,0.2s **Jiri**	**16.23**	**119**	*e*P	**Pn**	**22 01 28.2**	**+0.8**
BVAR	73nm,0.5s **Borovoye Array**	**16.39**	**0**	P	**Pn**	**22 01 30.5**	**+1.7**
RAMN	0.3nm,0.3s,baz=168,slow=15,SNR=5.1 **Ramite**	**16.95**	**120**	*e*P	**Pn**	**22 01 35.3**	**-0.6**
TAPN	6.7nm,0.6s **Taplejung**	**17.49**	**117**	*e*P	**P**	**22 01 41.2**	**+0.9**
ODAN	2.5nm,0.3s **Odare**	**17.56**	**119**	*e*P	**P**	**22 01 41.2**	**+0.2**
ZALV	4.5nm,0.6s **Zalesovo Beam**	**20.08**	**26**	P	**P**	**22 02 08.6**	**+1.0**
ARCES	1.9nm,0.4s,baz=212,slow=11,SNR=11 **ARCESS Array B**	**40.77**	**338**	P	**P**	**22 05 12.5**	**+2.1**
TORD	1.1nm,0.8s,baz=106,slow=8.9,SNR=5.5 **Torodi Ar. Bea**	**65.06**	**268**	P	**P**	**22 08 08.6**	**+0.1**
WRA	0.2nm,0.4s,baz=51,slow=5.3,SNR=7.2 **Warramunga Arr**	**82.62**	**121**	P	**P**	**22 09 48.7**	**-1.5**
	0.4nm,0.8s,baz=325,slow=4.4,SNR=3.1						

*IDC **11** 22:16:13.7±0.7, 5°.80S×151°.44E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/28, mbtmp4.1/12, ML3.0/2, MS3.4/14, Ms1 3.4/14, ms1mx3.3/32, Error ellipse: s-maj=25.3km s-min=13.3km az=114.0*
*NEIC **11** 22:16:15.2±0.4, 5°.83S×151°.40E, h0km, mb4.3/2, Error ellipse: s-maj=12.7km s-min=8.1km az=108.0*
*ISCJB **11** 22:16:17.8±0.6, 5°.91S±0°.08×151°.34E±0°.09, h41km, mb4.2/13, MS3.5/12, Error ellipse: s-maj=14.5km s-min=8.7km az=34.8*

ISC 11 22:16:20.2±0.6, 5°.90S±0°.09×151°.4E×0°.1, h41km, n41, σ2§16/39, mb4.4/13, MS3.5/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**230**	Pn	**Pn**	**22 17 38.4**	**-0.1**
PMG	11nm,0.3s,baz=51,slow=8.9,SNR=24			Sn	**Sn**	**22 18 38.9**	**-0.9**
PMG	16nm,0.3s,baz=137,slow=20,SNR=11			LR	LR	22 19 30.5	
PMG	comp=Z,166nm,21.5s,baz=35,slow=35 **Port Moresby**	**5.42**	**230**	*e*Pn	**Pn**	**22 17 39.0**	**+0.5**
PMG	63nm,0.6s			*e*S	**Sn**	**22 18 39.5**	**-0.2**
HNR	**Honiara**	**9.21**	**113**	LR	LR	22 21 37.7	
CTA	comp=Z,289nm,20.0s,baz=308,slow=35 **Charters Tower**	**14.95**	**199**	Pn	**Pn**	**22 19 48.0**	**-0.8**
EIDS	0.1nm,0.3s,baz=8.1,slow=14,SNR=2.0 **Eidsvold**	**19.36**	**181**	*e*P	**P**	**22 20 41.6**	**-0.9**
GUMO	16nm,1.1s **Guam**	**20.41**	**342**	LR	LR	22 26 53.1	
	comp=Z,86nm,21.6s,baz=150,slow=31						
WRAB	**Tennant Creek**	**21.62**	**228**	*e*P	**P**	**22 21 06.2**	**-0.9**
WRA	13nm,0.8s **Warramunga Arr**	**21.64**	**228**	P	**P**	**22 21 06.5**	**-0.8**
WRA	17nm,1.0s,baz=54,slow=11,SNR=26			S	**S**	**22 25 02.1**	**-2.7**
WRA	2.9nm,1.2s,baz=52,slow=19,SNR=5.2			PcP	**PcP**	**22 25 08.6**	**+0.6**
WRA	1.5nm,0.9s,baz=52,slow=1.3,SNR=5.1			ScP	**ScP**	**22 28 47.4**	**+5.3**
WRA	1.3nm,0.8s,baz=42,slow=2.7,SNR=6.5			LR	LR	22 30 51.8	
DZM	comp=Z,174nm,18.8s,baz=55,slow=40 **Mont Dzumac**	**21.71**	**139**	P	**P**	**22 21 07.8**	**-0.3**
DZM	2.5nm,0.7s,baz=284,slow=2.9,SNR=3.8			LR	LR	22 27 49.7	
ASAR	comp=Z,245nm,21.4s,baz=16,slow=32 **Alice Springs**	**24.37**	**222**	P	**P**	**22 21 34.4**	**-0.4**
ASAR	9.3nm,0.7s,baz=53,slow=9.6,SNR=41			S	**S**	**22 25 59.7**	**+8.0**
ASAR	0.5nm,0.9s,baz=38,slow=20,SNR=5.1			ScP	**ScP**	**22 28 55.0**	**+5.8**
STKA	0.6nm,0.8s,baz=62,slow=2.2,SNR=5.0 **Stephens Creek**	**27.41**	**198**	P	**P**	**22 22 00.5**	**-1.5**
STKA	1.7nm,0.6s,baz=5.0,slow=12,SNR=5.4			LR	LR	22 32 41.1	
FITZ	comp=Z,120nm,19.5s,baz=24,slow=36 **Fitzroy Crossi**	**27.87**	**242**	P	**P**	**22 22 05.7**	**-0.7**
MBWA	baz=60,slow=11 **Marble Bar**	**34.17**	**241**	*e*P	**P**	**22 23 01.6**	**-0.4**
MJAR	42nm,1.2s **Matsushiro Arr**	**43.98**	**345**	LR	LR	22 42 46.2	
KSRS	comp=Z,45nm,18.1s,baz=160,slow=36 **Korea Array**	**48.35**	**335**	LR	LR	22 43 47.4	
CMAR	comp=Z,27nm,20.2s,baz=216,slow=34 **Chiang Mai Arr**	**57.05**	**296**	LR	LR	22 50 33.1	
PETK	comp=Z,15nm,19.1s,baz=190,slow=36 **Petropavlovsk-**	**59.03**	**4**	P	**P**	**22 26 15.5**	**-0.4**
PETK	3.2nm,0.7s,baz=164,slow=5.8,SNR=2.8			LR	LR	22 45 49.1	
SONM	comp=Z,23nm,20.7s,baz=152,slow=30 **Songino Array**	**66.50**	**329**	P	**P**	**22 27 06.1**	**+0.2**
SONM	1.0nm,0.6s,baz=138,slow=5.9,SNR=6.7			LR	LR	22 55 49.6	
TLY	comp=Z,37nm,19.3s,baz=128,slow=36 **Talaya**	**70.32**	**331**	LR	LR	22 58 46.5	
VNDA	comp=Z,25nm,19.0s,baz=166,slow=36 **Vanda**	**71.79**	**178**	P	**P**	**22 27 38.2**	**+0.2**
MKAR	0.4nm,0.9s,baz=350,slow=3.8,SNR=2.4 **Makanchi Array**	**80.21**	**319**	P	**P**	**22 28 26.6**	**0.0**
ZALV	0.4nm,0.6s,baz=97,slow=7.3,SNR=6.0 **Zalesovo Beam**	**81.27**	**327**	P	**P**	**22 28 30.3**	**-1.7**
ILAR	1.0nm,0.5s,baz=117,slow=5.6,SNR=5.7 **Eielson Array**	**83.72**	**22**	P	**P**	**22 28 42.9**	**-1.7**
QSPA	2.6nm,0.6s,baz=251,slow=5.0,SNR=22 **South Pole Qui**	**84.06**	**180**	*e*P	**P**	**22 28 45.9**	**-0.6**
ARU	11nm,1.1s **Arti**	**96.42**	**326**	LR	LR	23 12 13.8	
AKTO	comp=Z,41nm,19.2s,baz=148,slow=35 **Aktyubinsk**	**96.64**	**320**	LR	LR	23 13 57.1	
PDAR	comp=Z,29nm,19.6s,slow=36 **Pinedale Array**	**100.65**	**48**	P	**Pdif**	**22 30 04.4**	**-0.2**
AKASG	0.6nm,1.0s,baz=274,slow=3.5,SNR=2.4 **Malin Array Be**	**114.54**	**324**	PKP	PKPdf	22 34 55.2	-0.7
BRTR	0.8nm,0.6s,baz=65,slow=2.0,SNR=3.9 **Keskin Array B**	**114.95**	**311**	PKP	PKPdf	22 34 55.5	-1.8
BRG	1.4nm,1.0s,baz=28,slow=6.5,SNR=3.8 **Berggiesshubel**	**122.89**	**329**	*e*(P)	**PKPdf**	**22 35 12.3**	**+0.3**
KHC	4.0nm,1.1s **Kasperske Hory**	**124.12**	**328**	*e*PKPdf	**PKPdf**	**22 35 14.9**	**+0.4**
KHC				*e*pPKP	**PKiKP**	**22 35 19.1**	**+4.3**
GERES	1.9nm,0.6s,baz=48,slow=1.5,SNR=11 **GERESS Array B**	**124.22**	**327**	PKP	**PKPdf**	**22 35 14.8**	**0.0**
ABTA	5.3nm,1.0s **Abfaltersbach**	**126.10**	**326**	*i* PKiKP	**PKPdf**	**22 35 18.0**	**-0.4**
WATA	1.3nm,0.5s **Walderalm**	**126.26**	**327**	*i* PKiKP	**PKPdf**	**22 35 18.2**	**-0.6**
WTTA	8.6nm,1.3s **Wattenberg**	**126.27**	**327**	*i* PKiKP	**PKPdf**	**22 35 18.9**	**0.0**
MOTA	4.4nm,0.8s **Moosalm**	**126.51**	**327**	*i* PKiKP	**PKiKP**	**22 35 19.5**	**-0.2**
RETA	**Reutte**	**126.61**	**328**	*e*PKPdf	**PKPdf**	**22 35 18.4**	**-1.0**
FETA	2.0nm,0.6s **Feichten**	**126.91**	**327**	*i* PKiKP	**PKiKP**	**22 35 20.6**	**+0.1**
DAVA	4.5nm,1.1s **Damuels**	**127.20**	**328**	*e*PKiKP	**PKPdf**	**22 35 20.6**	**0.0**
LPAZ	5.0nm,1.0s **La Paz**	**135.14**	**120**	PKP	**PKPdf**	**22 35 37.9**	**+0.8**
TORD	0.8nm,0.8s,baz=270,slow=8.1,SNR=3.0 **Torodi Ar. Bea**	**149.25**	**286**	PKPbc	**PKPbc**	**22 36 05.0**	**-0.5**
	5.7nm,0.6s,baz=78,slow=2.4,SNR=41						

*ISCJB **11** 22:51:41.1±0.5, 23°.29N±0°.02×122°.17E±0°.02, h18km±4km, Error ellipse: s-maj=3.8km s-min=2.4km az=148.7*
*JMA **11** 22:51:42.2±0.1, 23°.34N×122°.07E, h46km, M2.6*
*TAP **11** 22:51:43.1, 23°.31N×122°.12E, h37km, ML3.3, C*

ISC 11 22:51:41.5±1.3, 23°.28N±0°.03×122°.14E±0°.03, h23km±14km, n48, σ0§70/91, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.70**	**308**	*e*P	**Pn**	**22 51 56.0**	**0.0**
TEGC	baz=306			*e*S	**Sb**	**22 52 05.1**	**+0.9**
CHKT	baz=306 **Chengkung**	**0.73**	**256**	*i* P	**Pb**	**22 51 55.8**	**+0.2**
CHKT	baz=246			*e*S	**Sb**	**22 52 04.7**	**-0.5**
TWF1	baz=246 **Yuli**	**0.78**	**275**	*i* P	**Pb**	**22 51 56.6**	**+0.3**
TWF1	baz=267			S	**Sb**	**22 52 06.9**	**+0.4**
EHY	baz=267 **Hungye**	**0.78**	**287**	⇑*i* P	**Pb**	**22 51 56.6**	**+0.1**
EHY	baz=284			S	**Sb**	**22 52 07.0**	**+0.3**
ESF	baz=284 **Shoufeng Towns**	**0.83**	**315**	*e*P	**Pb**	**22 51 56.9**	**-0.3**
ESF	baz=306			S	**Sb**	**22 52 07.7**	**-0.2**
ESL	baz=306 **Shilin**	**0.84**	**309**	*e*P	**Pb**	**22 51 56.9**	**-0.5**
ESL	baz=308			S	**Sb**	**22 52 07.4**	**-0.9**
HWA	baz=308 **Hwalien**	**0.85**	**325**	*e*P	**Pb**	**22 51 57.2**	**-0.3**
HWA	baz=324			S	**Sb**	**22 52 08.2**	**-0.4**
TWD	baz=324 **Chiawan**	**0.94**	**328**	⇑*i*P	**Pb**	**22 51 58.6**	**-0.5**
TWD	baz=328			S	**Sb**	**22 52 09.7**	**-1.4**
ELDTW	baz=328 **Lidau**	**1.04**	**265**	P	**Pn**	**22 52 00.2**	**-0.6**
TTN	baz=263 **Taitung**	**1.05**	**240**	*e*P	**Pb**	**22 52 02.1**	**+1.1**
TWG	baz=238 **Pinlang**	**1.08**	**245**	P	**Pn**	**22 52 01.5**	**+0.2**
TWG	baz=236			S	**Sb**	**22 52 14.5**	**-0.8**
YUS	baz=236 **Yu-Shan**	**1.11**	**281**	*i* P	**Pn**	**22 52 02.3**	**+0.1**
YUS	baz=279			*e*S	**Sb**	**22 52 16.5**	**0.0**
WHF	baz=279 **Hehuan Shan**	**1.18**	**317**	*e*P	**Pn**	**22 52 02.5**	**-0.5**
WHF	baz=316			*e*S	**Sn**	**22 52 16.7**	**-1.8**
ENA	baz=316 **Nanau**	**1.20**	**342**	P	**Pn**	**22 52 02.8**	**-0.1**
ENA	baz=334			*e*S	**Sn**	**22 52 17.7**	**-0.8**
ALS	baz=334 **Alishan**	**1.25**	**281**	P	**Pb**	**22 52 04.5**	**0.0**
ALS	baz=279			*e*S	**Sn**	**22 52 20.1**	**0.0**
STYT	baz=279 **Tauyuan**	**1.28**	**265**	*e*P	**Pn**	**22 52 04.5**	**+0.5**
STYT	baz=258			*e*S	**Sn**	**22 52 20.6**	**+0.1**
SMLT	baz=258 **Sun Moon Lake**	**1.29**	**298**	*e*P	**Pb**	**22 52 05.7**	**+0.6**
SMLT	baz=302			*e*S	**Sn**	**22 52 20.9**	**+0.1**
ECL	baz=302 **Taimali**	**1.29**	**238**	*e*P	**Pn**	**22 52 03.7**	**-0.4**
ECL	baz=247			*e*S	**Sn**	**22 52 18.6**	**-2.1**
TWT	**Tachien**	**1.31**	**318**	P	**Pn**	**22 52 05.1**	**+0.5**
TWT	baz=316			S	**Sn**	**22 52 20.4**	**-1.1**
TYC	baz=316 **Yuchr**	**1.33**	**298**	*e*P	**Pn**	**22 52 05.2**	**+0.6**
TYC	baz=297			*e*S	**Sn**	**22 52 21.9**	**+0.2**
TWC	baz=297 **Suao**	**1.35**	**349**	⇑P	**Pb**	**22 52 05.7**	**-0.4**
TWC	baz=359			*e*S	**Sn**	**22 52 22.1**	**-0.1**
LAY	baz=359 **Lan-yu**	**1.35**	**204**	*e*P	**Pn**	**22 52 04.4**	**-0.6**
NNS	baz=202 **Nan Shan**	**1.35**	**329**	⇑P	**Pn**	**22 52 05.3**	**+0.2**
NNS	baz=318			S	**Sn**	**22 52 21.1**	**-1.4**
CHN5	baz=318 **Tsauling**	**1.38**	**283**	P	**Pb**	**22 52 06.9**	**+0.2**
CHN5	baz=286			S	**Sb**	**22 52 24.2**	**+0.4**
JYNG	baz=286 **Yonaguni jima**	**1.38**	**32**	P	**Pb**	**22 52 06.0**	**-0.6**
JYNG				S	**Sn**	**22 52 22.4**	**-0.5**
WTP	**Ta-pu**	**1.40**	**269**	P	**Pb**	**22 52 07.0**	**0.0**
WTP	baz=262			*e*S	**Sb**	**22 52 24.8**	**+0.2**
YOJ	baz=262 **Yonaguni jima**	**1.42**	**34**	P	**Pn**	**22 52 06.3**	**+0.4**
YOJ				*e*S	**Sn**	**22 52 23.7**	**-0.3**
CHN4	**Tsaushan**	**1.42**	**273**	P	**Pb**	**22 52 07.5**	**+0.2**
CHN4	baz=266			*e*S	**Sb**	**22 52 25.6**	**+0.5**
SGST	baz=266 **Jiashian**	**1.45**	**262**	*e*P	**Pb**	**22 52 07.7**	**0.0**
SGST	baz=257			*e*S	**Sb**	**22 52 26.7**	**+1.0**
ENTT	baz=257 **Nioudou**	**1.45**	**339**	*e*P	**Pn**	**22 52 06.8**	**+0.4**
ENTT	baz=339			*e*S	**Sn**	**22 52 24.2**	**-0.5**
CHN1	baz=339 **Nanshi**	**1.48**	**267**	⇑P	**Pb**	**22 52 08.7**	**+0.3**
CHN1	baz=256			*e*S	**Sb**	**22 52 27.3**	**+0.5**
EAST	baz=256 **Anshuo**	**1.49**	**233**	*e*P	**Pn**	**22 52 07.1**	**+0.1**
EAST	baz=239			*e*S	**Sn**	**22 52 24.8**	**-1.0**
TWE	baz=239 **Neicheng**	**1.50**	**343**	*e*P	**Pn**	**22 52 07.7**	**+0.7**
TWE	baz=344			*e*S	**Sn**	**22 52 26.3**	**+0.4**
TWK	baz=344 **Hsinying**	**1.52**	**270**	P	**Pb**	**22 52 09.1**	**0.0**
TWK	baz=268			*e*S	**Sb**	**22 52 28.1**	**+0.2**
NSK	baz=268 **Sanguang**	**1.56**	**333**	⇑*i*P	**Pn**	**22 52 08.5**	**+0.5**
NSK	baz=332			S	**Sn**	**22 52 26.2**	**-1.3**
TCU	baz=332 **Taichung**	**1.59**	**303**	*e*P	**Pn**	**22 52 09.4**	**+1.1**
TCU	baz=302			*e*S	**Sn**	**22 52 29.5**	**+1.2**
TWQ1	baz=302 **Liyutan**	**1.64**	**311**	*e*P	**Pn**	**22 52 09.8**	**+0.8**
TWQ1	baz=318			*e*S	**Sn**	**22 52 30.6**	**+1.1**
SCZT	baz=318 **Fangliau**	**1.67**	**237**	*e*P	**Pb**	**22 52 11.0**	**-0.6**
SCZT	baz=236			*e*S	**Sn**	**22 52 30.2**	**+0.1**
NSTT	baz=236 **Nanjuang**	**1.70**	**322**	*e*P	**Pb**	**22 52 11.2**	**-0.9**
NSTT	baz=321			*e*S	**Sn**	**22 52 31.2**	**+0.4**
HATJ	baz=321 **Hateruma jima**	**1.71**	**63**	P	**Pn**	**22 52 10.9**	**+1.0**
HATJ				*e*S	**Sn**	**22 52 31.2**	**+0.1**
IRIF	**Iriomote-Funau**	**1.79**	**54**	P	**Pn**	**22 52 12.0**	**+0.9**
IRIF				S	**Sn**	**22 52 33.2**	**0.0**
NWF	**Wu-fen Shan**	**1.81**	**350**	*e*P	**Pn**	**22 52 12.6**	**+1.2**
NWF	baz=350			*e*S	**Sn**	**22 52 34.9**	**+1.1**
TWK1	baz=350 **Hengchun**	**1.81**	**223**	*e*S	**Sn**	**22 52 33.6**	**0.0**
JKRS	baz=232 **Kuro-shima**	**1.96**	**61**	P	**Pn**	**22 52 14.7**	**+1.3**
JKRS				S	**Sn**	**22 52 37.2**	**-0.1**
JIJ	**Ishigaki jima**	**2.13**	**59**	P	**Pn**	**22 52 16.3**	**+0.6**
JIJ				S	**Sn**	**22 52 40.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.37**	**56**	P	**Pn**	**22 52 19.3**	**+0.2**
JISG				*e*S	**Sn**	**22 52 46.6**	**-0.9**
JTJ	**Tarama**	**2.71**	**59**	P	**Pn**	**22 52 24.5**	**+0.9**
JTJ				S	**Sn**	**22 52 55.4**	**-0.3**
JIRB	**Irabujima**	**3.17**	**60**	P	**Pn**	**22 52 30.7**	**+0.7**

IDC 11 22:52:05.2±2.1, 5°.58S×150°.96E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/20, Error ellipse: s-maj=136.9km s-min=30.0km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**225**	Sn	Sn	22 54 28.6	-0.1
HNR	1.9nm,0.3s,baz=92,slow=23,SNR=7.2 **Honiara**	**9.70**	**114**	LR	LR	22 57 30.1	
WRA	comp=Z,49nm,21.7s,baz=236,slow=34 **Warramunga Arr**	**21.56**	**227**	P	P	22 56 56.4	-0.1
ASAR	0.6nm,0.6s,baz=53,slow=11,SNR=5.8 **Alice Springs**	**24.35**	**221**	P	P	22 57 25.2	+0.2
ILAR	1.1nm,0.8s,baz=56,slow=9.4,SNR=13 **Eielson Array**	**83.57**	**22**	P	P	23 04 34.8	-0.2
TORD	0.2nm,0.5s,baz=226,slow=4.9,SNR=4.2 **Torodi Ar. Bea**	**148.78**	**286**	PKPbc	PKPbc	23 11 55.2	-0.5
	0.7nm,0.6s,baz=60,slow=2.5,SNR=11						

GUC 11 22:56:14.0±0.6, 20°.18S×69°.11W, h104km±3km, ML3.9, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.06**	**316**	⇓*i*P	Pn	22 56 29.2	+0.3
PB08				*i* S	Sn	22 56 40.7	+0.7
PB08				IAML		22 56 41.0	
PB11	comp=E,6μm,0.2s **IPOC Station P**	**0.67**	**309**	⇑*i*P	Pn	22 56 31.9	+0.2
PB11				*i* S	Sn	22 56 45.8	+0.9
HMBC	**Humberstone**	**0.74**	**263**	⇑*i*P	Pn	22 56 32.6	+0.3
HMBC				*i* S	Sn	22 56 47.0	+1.0
PB01	**IPOC Station P**	**0.93**	**202**	⇑*i*P	Pn	22 56 34.7	+0.6
PB01				*i* S	Sn	22 56 50.0	+0.8
PSGC	**Pisagua**	**1.12**	**301**	⇑*i*P	Pn	22 56 36.3	+0.2
PSGC				*i* S	Sn	22 56 53.5	+0.7
MNMC	**Minye Minye**	**1.14**	**336**	⇓*i*P	Pn	22 56 37.2	+0.5
MNMC				*i* S	Sn	22 56 54.6	+1.0
MNMC				IAML		22 56 55.8	
PB09	comp=N,6μm,0.2s **IPOC Station P**	**1.61**	**184**	⇑*i*P	Pn	22 56 43.0	+0.9
PB09				*e*S	Sn	22 57 04.6	+1.3
PB09				IAML		22 57 09.0	
PB07	comp=E,1μm,0.4s **IPOC Station P**	**1.70**	**205**	⇑*i*P	Pn	22 56 43.6	+0.5
PB07				*i* S	Sn	22 57

DZM	Mont Dzumac	14.35	284	eLR	LR	23 06 59.1	
	comp=Z,53nm,18.8s,baz=30,slow=31						
DZM	Mont Dzumac	14.35	284	eLR	LR	23 05 44.8	
	97nm,24.7s						
RAR	Rarotonga	17.96	77	LR	LR	23 08 09.1	
	comp=Z,157nm,21.8s,baz=219,slow=29						
HNR	Honiara	26.47	306	LR	LR	23 14 38.8	
	comp=Z,55nm,19.3s,baz=146,slow=34						
TBI	Tubuai	26.55	90	eT	T	23 31 43.6	
	16nm,0.4s						
PAE	Paea	28.20	78	eT	T	23 33 46.0	
	4.9nm,0.2s						
PPT2	Papeete2	28.23	78	eLQ	LQ	23 11 06.0	
	186nm,23.8s						
PPT2				eLR	LR	23 12 09.3	
	182nm,27.0s						
PPT2	Papeete2	28.23	78	eT	T	23 33 49.4	
	9.0nm,0.3s						
PPT	Papeete	28.24	78	LR	LR	23 16 21.6	
	comp=Z,28nm,18.5s,baz=263,slow=36						
TVO	Taravao	28.44	78	eT	T	23 34 04.2	
	2.8nm,0.3s						
VAH	Vaihoa	30.91	75	eT	T	23 37 08.7	
	8.6nm,0.3s						
STKA	Stephens Creek	35.07	252	LR	LR	23 19 05.3	
	comp=Z,124nm,18.6s,baz=32,slow=34						
RKT	Rikitea	39.58	95	eT	T	23 48 00.7	
	5.9nm,0.3s						
ASAR	Alice Springs	42.96	263	P	P	23 07 33.3	-0.1
	5.5nm,1.2s,baz=109,slow=8.7,SNR=16						
WRA	Warramunga Arr	43.59	268	P	P	23 07 38.3	-0.1
	2.6nm,0.7s,baz=107,slow=7.8,SNR=14						
VNDA	Vanda	51.96	185	P	P	23 08 42.8	+0.1
	0.3nm,0.6s,baz=14,slow=7.7,SNR=3.7						
MJAR	Matsushiro Arr	74.73	325	LR	LR	23 39 52.2	
	comp=Z,12nm,21.0s,baz=210,slow=32						
USHA	Ushuaia	79.47	146	LR	LR	23 41 08.0	
	comp=Z,383nm,18.7s,baz=250,slow=31						
KSRS	Korea Array	81.03	320	LR	LR	23 44 12.3	
	comp=Z,9.4nm,19.7s,baz=40,slow=33						
CMIG	Matias Romero	92.01	72	LR	LR	23 49 42.7	
	comp=Z,32nm,18.5s,baz=204,slow=33						
NNA	Nana	94.98	106	LR	LR	23 49 49.6	
	comp=Z,19nm,18.6s,baz=126,slow=32						
SONM	Songino Array	99.87	319	LR	LR	23 54 34.8	
	comp=Z,32nm,19.9s,baz=44,slow=33						
NB2	NORSAR Subarra	144.79	352	PKP	PKPdf	23 19 10.7	0.0
	comp=Z,1.6nm,0.8s,baz=18,slow=3.3						
NOA	NORSAR Array B	144.79	352	PKP	PKPdf	23 19 10.4	-0.3
	comp=Z,1.1nm,0.8s,baz=15,slow=5.0,SNR=6.4						
TORD	Torodi Ar. Bea	166.76	181	PKPab	PKPab	23 20 42.2	-1.0
	comp=Z,0.5nm,0.7s,baz=176,slow=5.8,SNR=2.9						

DJA 11 23:02:16.7±0.7, 0°S±6°×12°3E±°, h145km±8km, M3.7/6, mB5.5/1, MLv3.7/6, Mw(mB)5.0/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.06	299	P	Pn	23 02 42.1	+0.6
MRSI				S	Sn	23 03 01.5	+1.1
APSI	Ampana	1.50	235	P	Pn	23 02 46.3	+0.5
APSI				S	Sn	23 03 08.1	0.0
MPSI	Mapaga	3.00	277	P	Pn	23 03 03.9	+0.1
MPSI				S	Sn	23 03 39.6	-0.6
PCI	Palu	3.15	254	P	Pn	23 03 06.3	+0.5
PCI				S	Sn	23 03 43.6	-0.2
TTSI	Tana Toraja	4.27	226	P	Pn	23 03 20.5	+0.1
LBMI	Labuha	4.67	97	S	Sn	23 04 18.4	-1.0
NLAI	Namlea	5.29	127	P	Pn	23 03 34.5	+0.6
NLAI				S	Sn	23 04 35.3	+1.2

MEX 11 23:11:13.7±0.3, 23°59N×110°38W, h20km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	0.52	7	i P	Pb	23 11 22.4	-1.7
	baz=187,slow=7.4						
LPIG				eS	Sb	23 11 29.2	-2.0

MEX 11 23:16:30.7±0.5, 17°34N×100°60W, h38km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.43	133	i P	Pn	23 16 39.1	-1.1
CAIG				eS	Sn	23 16 45.1	-2.0
ACX	Acapulco	0.85	124	i P	Pn	23 16 47.0	+0.8
ACX				i S	Sn	23 16 56.6	-0.9
ZIIG	Zihuatanejo	0.87	288	eP	Pn	23 16 44.5	-1.9
ZIIG				i S	Sn	23 16 55.5	-2.3
ARIG	Puente Sto Nin	0.96	14	eP	Pn	23 16 46.4	-1.3
ARIG				eS	Sn	23 16 57.6	-2.6
MEIG	Mezcala	1.10	58	i P	Pn	23 16 48.1	-1.5
MEIG				eS	Sn	23 17 01.1	-2.5
PLIG	Platanillo	1.48	45	i P	Pn	23 16 53.5	-1.3
PLIG				i S	Sn	23 17 10.8	-2.2
TLIG	Tlapa	1.95	83	eP	Pn	23 17 00.2	-1.2
TLIG				eS	Sn	23 17 22.7	-2.0
PNIG	Pinotepa	2.55	111	i P	Pn	23 17 08.2	-1.3
PNIG				i S	Sn	23 17 37.6	-1.7

ISCJB 11 23:26:00.5±0.4, 15°.55S±0°.07×74°.83W±0°.08, h54km, mb4.4/20, MS3.3/4, Error ellipse: s-maj=14.6km s-min=4.9km az=138.8
NEIC 11 23:26:01.7±0.8, 15°.31S×74°.57W, h42km±7km, mb4.4/13, Error ellipse: s-maj=11.2km s-min=6.2km az=60.0
NEIC Felt [II] at Lomas.
IDC 11 23:26:02.0±2.7, 15°.31S×74°.60W, h42km±23km, mb3.9/7, mb1 4.1/10, mb1mx3.9/32, mbtmp4.2/10, ML3.9/2, MS3.2/10, Ms1 3.2/10, ms1mx3.1/38, Error ellipse: s-maj=34.5km s-min=19.5km az=36.0
BJI 11 23:26:01.4, 15°.30S×74°.60W, h35km, mB5.3/4, Ms5.2/2, Ms7 5.2/1
SCB 11 23:26:08.6±0.7, 15°.46S×74°.01W, h45km, Ml3.6/1, Error ellipse: s-maj=17.8km s-min=11.6km az=135.0

ISC 11 23:26:02.7±0.5, 15°.52S±0°.07×74°.67W±0°.08, h54km, n63, σ2°10/64, mb4.3/20, MS3.2/4, 5C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.09	329	P	Pn	23 27 00.7	-2.2
	18nm,0.3s,baz=149,slow=11,SNR=24						
NNA				S	Sn	23 27 49.2	-0.3
	35nm,0.3s,baz=235,slow=19,SNR=4.2						
NNA				LR	LR	23 28 36.8	
	comp=Z,129nm,21.6s,baz=194,slow=39						
NNA	Nana	4.09	329	ePn	Pn	23 27 00.3	-2.5
NNA				eSn	Sn	23 27 44.2	-5.3
BBOD	La Paz, Gloria	5.94	102	⇑iPn	Pn	23 27 32.0	+3.3
BBOB	La Paz, Bander	6.32	97	⇑iPn	Pn	23 27 36.8	+3.0
BBOB				eSn	Sn	23 28 41.1	-3.9
	25nm,0.6s						
LPAZ	La Paz	6.34	98	P	Pn	23 27 38.2	+4.0
	1.5nm,0.3s,baz=311,slow=7.0,SNR=34						
LPAZ				LR	LR	23 30 13.0	
	comp=Z,117nm,20.5s,baz=278,slow=40						
LPAZ	La Paz	6.34	98	⇑iPn	Pn	23 27 37.8	+3.6
PB11	IPOC Station P	6.38	132	ePn	Pn	23 27 33.9	-0.3
BBOJ	La Paz, Jacaqu	6.39	104	⇑iPn	Pn	23 27 38.3	+3.5
BBOE	La Paz, Chanca	6.55	102	⇑iPn	Pn	23 27 40.3	+3.3
PB01	IPOC Station P	7.38	139	ePn	Pn	23 27 48.1	+0.2
PB04	IPOC Station P	8.02	148	ePn	Pn	23 27 56.9	+0.2
LVC	Limon Verde	8.91	143	P	Pn	23 28 10.5	+1.3
	56nm,0.3s,baz=326,slow=12,SNR=22						
LVC				S	Sn	23 29 45.7	-2.6
	48nm,0.3s,baz=57,slow=17,SNR=2.5						
LVC				LR	LR	23 30 54.7	
	comp=Z,384nm,18.6s,baz=341,slow=32						
LVC	Limon Verde	8.91	143	ePn	Pn	23 28 10.4	+1.3
LVC				eSn	Sn	23 29 46.6	-1.8
ATAH	Atahualpa	9.10	336	P	Pn	23 28 15.9	+4.2
	1.3nm,0.3s,baz=128,slow=3.9,SNR=5.4						
ATAH				S	Sn	23 29 54.4	+1.5
	0.8nm,0.3s,baz=319,slow=19,SNR=2.0						
ATAH				LR	LR	23 31 44.9	
	comp=Z,95nm,21.9s,baz=171,slow=38						
MOCB	Mochara	10.30	125	eP	Pn	23 28 30.5	+2.3
SAML	Samuel	12.98	61	ePn	Pn	23 29 00.5	-4.0
SIV	San Ignacio	13.10	94	P	Pn	23 29 04.0	-2.2
	0.4nm,0.3s,baz=286,slow=13,SNR=6.4						
SIV				LR	LR	23 33 46.2	
	comp=Z,55nm,20.4s,baz=272,slow=36						
SIV	San Ignacio	13.10	94	eP	Pn	23 29 05.9	-0.3
CPUP	Villa Florida	19.42	126	LR	LR	23 38 57.3	
	comp=Z,62nm,20.7s,baz=273,slow=40						
ROSC	El Rosal	20.23	1	LR	LR	23 38 40.2	
	comp=Z,49nm,21.8s,baz=56,slow=38						
PTGA	Pitinga	20.65	46	P	P	23 30 36.0	-2.1
	4.0nm,0.4s,baz=244,slow=12,SNR=16						
PTGA				LR	LR	23 38 39.1	
	comp=Z,57nm,19.1s,baz=237,slow=37						
RUSC	La Rusia	21.33	4	eP	P	23 30 45.8	-0.1
	18nm,1.3s						
RCBR	Riachuelo	39.23	80	LR	LR	23 50 35.7	
	comp=Z,82nm,20.8s,baz=245,slow=38						
TXAR	Lajitas Array	52.65	328	P	P	23 35 11.2	-0.5
	2.3nm,0.6s,baz=150,slow=8.5,SNR=23						
TX31	Lajitas Ar. Si	52.65	328	eP	P	23 35 11.5	-0.2
TX31				eS	S	23 42 39.8	+4.2
WCI	Wyandotte Cave	54.56	349	eP	P	23 35 23.0	-2.5
MNTX	Cornudas Mount	55.43	328	eP	P	23 35 30.9	-0.9
	1.5nm,0.8s						
SDCO	Great Sand Dun	60.39	332	eP	P	23 36 05.9	-0.9
	3.8nm,0.8s						
RSSD	Black Hills	65.13	337	eP	P	23 36 37.3	-0.8
	2.3nm,0.6s						
DUG	Dugway, Tooele	65.81	329	eP	P	23 36 42.9	+0.4
	2.2nm,0.8s						
PDAR	Pinedale Array	66.27	333	P	P	23 36 44.4	-1.2
	0.5nm,0.5s,baz=136,slow=7.4,SNR=4.3						
LOHW	Long Hollow	67.41	333	eP	P	23 36 52.0	-0.7
	1.8nm,0.7s						
MOOW	Moose Ponds	67.58	333	eP	P	23 36 51.5	-2.3
	2.3nm,0.9s						
ULM	Lac du Bonnet	68.09	346	P	P	23 36 55.3	-1.3
	1.2nm,0.4s,baz=176,slow=8.6,SNR=4.1						
YHH	Holmes Hill	68.44	333	eP	P	23 37 00.0	+0.7
	15nm,1.8s						
HLID	Hailey	69.13	330	eP	P	23 37 03.5	0.0
	1.9nm,0.6s						
BOZ	Bozeman (W)	69.42	333	eP	P	23 37 04.7	-0.5
	2.1nm,0.7s						
SNAA	Sanae	69.68	161	eP	P	23 37 07.9	+1.5
	277nm,1.1s						
MFID	Camas Ranch	69.71	329	eP	P	23 37 07.2	+0.2
	7.6nm,1.0s						
ORV	Oroville	70.05	323	eP	P	23 37 08.3	-0.7
	5.1nm,0.9s						
DBIC	Dimbokro	72.56	78	P	P	23 37 23.7	-1.0
	6.4nm,1.0s,baz=163,slow=12,SNR=3.2						
QSPA	South Pole Qui	74.64	180	eP	P	23 37 38.3	+2.1
	9.8nm,1.3s						
TORD	Torodi Ar. Bea	80.72	74	P	P	23 38 11.0	+0.2
	3.0nm,0.7s,baz=270,slow=6.1,SNR=27						
ESDC	Sonseca Array	85.60	47	P	P	23 38 36.4	+0.9
	0.1nm,0.4s,baz=261,slow=4.0,SNR=3.9						
JMIC	Jan Mayen	97.09	18	LR	LR	00 16 45.8	
	comp=Z,46nm,21.2s,baz=250,slow=31						
H11N3	WAKE ISLAND Hyl	21.44	284	T	T	01 57 45.5	
	baz=108						
H11N2	WAKE ISLAND Hyl	21.44	284	T	T	01 57 47.2	
	baz=108						
H11N1	WAKE ISLAND Hyl	21.44	284	T	T	01 57 46.7	
	baz=108						
H11S2	WAKE ISLAND Hyl	21.47	282	T	T	01 57 57.0	
	baz=100						
H11S1	WAKE ISLAND Hyl	21.48	282	T	T	01 57 56.0	
	baz=100						
H11S3	WAKE ISLAND Hyl	21.49	282	T	T	01 57 49.8	
	baz=100						
ASAR	Alice Springs	132.07	216	PKP	PKPdf	23 45 11.6	+0.3
	0.6nm,0.8s,baz=131,slow=1.8,SNR=4.9						
WRA	Warramunga Arr	134.67	220	PKP	PKPdf	23 45 16.6	+0.5
	1.2nm,0.7s,baz=129,slow=2.1,SNR=9.2						
WRAB	Tennant Creek	134.67	220	ePKPdf	PKPdf	23 45 17.3	+1.2
ZALV	Zalesovo Beam	138.43	18	PKP	PKPdf	23 45 21.2	-0.8
	1.3nm,0.6s,baz=319,slow=3.1,SNR=5.5						
MBWA	Marble Bar	140.91	202	ePKPdf	PKPdf	23 45 29.4	+1.9
MKAR	Makanchi Array	143.39	27	PKP	PKPbc	23 45 29.4	+0.9
	0.2nm,0.3s,baz=343,slow=4.1,SNR=2.6						
KSH	Kashi	144.93	41	PKP	PKPdf	23 45 34.7	+0.4
KSH				pPKP	pPKPdf	23 45 45.7	-4.8
KSH				sPKP		23 45 48.5	
KSH				PP	PP	23 48 55.3	+3.2
KSH				PKS	PKSdf	23 49 08.7	-1.2
KSH				SKS	SKSdf	23 52 36.4	-2.9
KSH				SKKS	SKKSac	23 55 41.5	+1.0
KSH				SS	SS	00 07 39.4	+1.9
KSH				AMB	AMB		
	comp=Z,100nm,6.9s						
KSH				LR	LR		
	comp=N,120nm,4.9s						
KSH				LR	LR		
	comp=E,59nm,6.2s						
ULN	Ulaanbaatar	147.71	358	ePKPbc	PKPbc	23 45 42.4	+0.8
SONM	Songino Array	147.76	359	PKPbc	PKPbc	23 45 42.1	+0.4
	2.1nm,0.5s,baz=335,slow=2.1,SNR=12						
WMQ	Urumqi	148.04	24	ePKPbc	PKPdf	23 45 38.8	-0.5
WMQ				pPKP	PKPab	23 45 49.8	+4.5
KSRS	Korea Array	150.38	322	PKPbc	PKPbc	23 45 48.6	+0.3
	0.9nm,0.5s,baz=321,slow=1.6,SNR=5.9						
KSAR	Wonju Array Be	150.41	322	PKPbc	PKPbc	23 45 48.6	+0.2

HEL 11 23:42:14.4, 67°.79N×19°.92E, h0km, ML1.5, Explosion
CSEM 11 23:42:16.7±0.3, 67°.82N×20°.28E, h2km, ML1.5, Error ellipse: s-maj=6.7km s-min=5.2km az=71.0, Mining explosion.
BER 11 23:42:19.5±1.2, 67°.91N×20°.09E, h0km, ML1.2, Suspected explosion

UPP 11 23:42:16.4±0.1, 67°.84N×20°.19E, h0km, ML1.5, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	25	P	Pg	23 42 19.2	+0.3
KUA				S	Sg	23 42 21.1	+0.5
KUA	Kurravaara	0.13	25	i P	Pg	23 42 19.2	+0.3
KUA				i S	Sg	23 42 21.1	+0.5
KUA	Kurravaara	0.13	25	P	Pg	23 42 19.2	+0.3
KUA				S	Sg	23 42 21.1	+0.5
NIKU	Nikkaluokta	0.44	275	P	Pg	23 42 24.8	0.0
NIKU	Nikkaluokta	0.44	275	P	Pn	23 42 30.9	+1.0
NIKU				S	Sb	23 42 35.9	+1.7
NIKU	Nikkaluokta	0.44	275	i P	Pg	23 42 24.8	0.0
NIKU	Nikkaluokta	0.44	275	P	Pn	23 42 30.9	+0.9
NIKU				S	Sb	23 42 35.9	+1.8
NIKU	Nikkaluokta	0.44	275	P	Pg	23 42 24.8	0.0
LANU	Lannavaara	0.71	72	P	Pg	23 42 29.7	-0.3
LANU	Lannavaara	0.71	72	eP	Pg	23 42 29.6	-0.4
LANU				eS	Sg	23 42 38.8	-0.4
LANU	Lannavaara	0.71	72	P	Pg	23 42 29.7	-0.3
LANU				S	Sg	23 42 38.8	-0.4
MASU	Masugnsbyn	0.79	118	P	Pg	23 42 31.3	-0.2
MASU	Masugnsbyn	0.79	118	i P	Pg	23 42 31.3	-0.2
MASU	Masugnsbyn	0.79	118	P	Pg	23 42 31.2	-0.3
KIF	Kilpisjarvi	1.20	11	eP	Pg	23 42 39.6	+0.3
KIF				eS	Sb	23 42 55.5	-0.3
KIF	Kilpisjarvi	1.20	11	ePB	Pg	23 42 39.4	+0.1
KIF				eSB	Sg	23 42 55.3	+0.5
KIF	Kilpisjarvi	1.20	11	eP	Pb	23 42 39.6	-0.3
	SNR=90						
KIF				eS	Sb	23 42 55.5	-0.4
	SNR=90						
PAJU	Pajala	1.39	124	P	Pg	23 42 41.7	-1.3
PAJU	Pajala	1.39	124	P	Pb	23 42 46.2	+3.0
PAJU	Pajala	1.39	124	eP	Pg	23 42 41.7	-1.3
PAJU	Pajala	1.39	124	P	Pb	23 42 46.2	+3.0
PAJU	Pajala	1.39	124	P	Pg	23 42 41.7	-1.3
HEF	Hetta	1.42	65	ePG	Pn	23 42 42.4	-1.0
HEF				MSG		23 43 00.5	
	comp=Z,4.0nm,0.2s						
HEF				eSN	Sn	23 43 05.5	+2.7
HEF	Hetta	1.42	65	Pg	Pn	23 42 42.4	-1.0
KTK1	Kautokeino	1.63	42	eP	Pn	23 42 46.3	-0.1
KTK1				eSg	Sg	23 43 09.4	+0.6
KTK1				IAML		23 43 16.4	
	comp=Z,3.3nm,0.3s						
KTK1	Kautokeino	1.63	42	eP	Pn	23 42 46.3	0.0
	SNR=50						
KTK1				eSg	Sg	23 43 09.4	+0.6
	SNR=90						
TRO	Tromso	1.86	346	eP	Pg	23 42 54.2	+2.1
TRO				eSg	Sg	23 43 19.2	+3.0
TRO				IAML		23 43 21.1	
	comp=Z,5.7nm,0.5s						
TRO	Tromso	1.86	346	eP	Pg	23 42 54.2	+2.1
	SNR=50						
TRO	Tromso	1.86	346	eSg	Sg	23 43 19.2	+3.0
	SNR=90						
KALU	Kalix	2.35	146	P	Pn	23 42 57.0	+1.0
KALU	Kalix	2.35	146	ePB	Pn	23 42 57.1	+1.1
KALU				eSG	Sb	23 43 28.8	0.0
KALU	Kalix	2.35	146	Pb	Pn	23 42 57.1	+1.0
KALU	Kalix	2.35	146	P	Pn	23 42 57.0	+0.9
KALU				Sg	Sb	23 43 28.8	-0.1
TOF	Tornio	2.40	135	ePB	Pn	23 42 58.2	+1.4
TOF				eSB	Sb	23 43 29.4	-1.0
TOF	Tornio	2.40	135	Pb	Pn	23 42 58.2	+1.4
TOF	Tornio	2.40	135	Sb	Sb	23 43 29.4	-1.0
SJUU	Sjulsmark	2.40	166	P	Pn	23 42 58.0	+1.1
SJUU	Sjulsmark	2.40	166	eP	Pn	23 42 58.0	+1.1
SJUU	Sjulsmark	2.40	166	P	Pn	23 42 57.9	+1.0
SGF	Sodankyl	2.45	96	ePG	Pb	23 43 00.4	-0.9
SGF				eSG	Sb	23 43 32.5	+0.5
SGF	Sodankyl	2.45	96	Pg	Pb	23 43 00.4	-0.9
ARE0	ARCESS Array S	2.58	46	eP	Pn	23 43 00.9	+1.5
ARE0	ARCESS Array S	2.58	46	eP	Pn	23 43 00.9	+1.5
	SNR=50						

UPP 11 23:42:21.5±0.2, 67°.86N×20°.31E, h0km, ML2.1, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.10	6	P	Pg	23 42 23.6	+0.2
KUA				S	Sg	23 42 25.4	+0.8

IDC 11 23:45:23.4±3.1, 20°.47S×177°.93W, h512km±28km, mb3.6/7, mb1 3.6/8, mb1mx3.2/31, mbtmp4.5/8, Error ellipse: s-maj=53.5km s-min=25.7km az=155.0

ISC 11 23:45:25.1±2.0, 20°.5S±0°.4×178°.0W±0°.3, h534km, n10, σ0°99/12, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.63	261	P	P	23 48 30.2	-1.0
	0.4nm,0.3s,baz=82,slow=18,SNR=8.5						
CTA	Charters Tower	33.53	264	P	P	23 51 20.9	0.0
	8.3nm,0.4s,baz=94,slow=9.3,SNR=16						
PMG	Port Moresby	35.37	283	P	P	23 51 35.8	-0.4
	11nm,0.8s,baz=151,slow=4.3,SNR=5.2						
STKA	Stephens Creek	37.84	244	P	P	23 51 56.7	+0.3
	2.1nm,0.9s,baz=86,slow=13,SNR=3.5						
ASAR	Alice Springs	44.57	257	P	P	23 52 49.8	-0.1
	7.1nm,0.7s,baz=92,slow=8.2,SNR=84						
ASAR				PcP	PcP	23 54 21.6	+0.2
	0.8nm,0.5s,baz=104,slow=4.3,SNR=5.5						
ASAR				S	S	23 58 48.7	+1.8
	0.4nm,0.8s,baz=101,slow=13,SNR=5.5						
WRA	Warramunga Arr	44.64	262	P	P	23 52 49.5	-1.0
	2.5nm,0.6s,baz=98,slow=7.9,SNR=50						
WRA				PcP	PcP	23 54 22.0	+0.2
	0.3nm,0.5s,baz=98,slow=3.1,SNR=3.5						
NWAO	Narrogin (SRO)	58.42	243	P	P	23 54 29.4	-0.4
	4.0nm,0.7s,baz=14,slow=8.3,SNR=3.1						
CMAR	Chiang Mai Arr	90.14	290	P	P	23 57 30.5	+1.6
	1.1nm,0.6s,baz=129,slow=2.4,SNR=8.5						
AKASG	Malin Array Be	143.00	331	PKhKP	PKPpre	00 03 54.0	
	1.5nm,0.5s,baz=43,slow=4.4,SNR=6.8						
BRTR	Keskin Array B	146.84	312	PKPbc	PKPbc	00 04 07.2	-0.7
	1.0nm,0.5s,baz=124,slow=4.9,SNR=8.5						

ISCJB 11 23:45:39.3±0.7, 10°.36N±0°.03×62°.42W±0°.03, h18km±7km, mb3.8/13, MS3.4/2, Error ellipse: s-maj=6.2km s-min=3.3km az=139.1
TRN 11 23:45:39.5, 10°.38N×62°.32W, h3km, MD4.1
NEIC 11 23:45:39.6±0.0, 10°.38N×62°.31W, h3km, mb3.8/5, MD4.1(TRN), After TRN.
IDC 11 23:45:42.9±3.0, 10°.35N×62°.28W, h34km±24km, mb3.6/9, mb1 3.9/13, mb1mx3.7/44, mbtmp3.9/13, ML3.7/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=21.6km s-min=19.0km az=39.0

ISC 11 23:45:39.9±1.1, 10°33N±0°.04×62°32W±0°.03, h15km±8km, n88, σ1°40/108, mb3.9/13, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.67	57	⇑iP	Pg	23 45 52.2	-0.7
TCE	Chacachacare	0.67	57	i P	Pg	23 45 52.2	-0.7
TPP	Pointe-a-Pierr	0.85	91	⇑iP	Pb	23 45 57.0	+0.6
TPP	Pointe-a-Pierr	0.85	91	i P	Pb	23 45 57.0	+0.6
TRN	Trinidad (W)	0.96	70	⇑iP	Pg	23 45 57.1	-1.3
TRN				eS	Sg	23 46 10.4	-0.5
TRN	Trinidad (W)	0.96	70	i P	Pg	23 45 57.1	-1.3
TRN				eS	Sg	23 46 10.4	-0.5
TBH	Brigand Hill	1.24	83	eP	Pg	23 46 03.9	+0.1
TBH	Brigand Hill	1.24	83	eP	Pg	23 46 03.9	+0.1
TPR	Prospect	1.74	60	eP	Pb	23 46 11.1	-0.4
TPR				eS	Sb	23 46 33.0	-0.2
TPR	Prospect	1.74	60	eP	Pb	23 46 11.1	-0.4
TPR				eS	Sb	23 46 33.0	-0.2
BOT	Bacolet	1.78	62	eP	Pb	23 46 11.9	-0.3
BOT				eS	Sb	23 46 35.0	+0.6
BOT	Bacolet	1.78	62	eP	Pb	23 46 11.9	-0.3
GRW	Mount Saint Ca	1.93	19	eP	Pn	23 46 12.9	+0.6
GRW	Mount Saint Ca	1.93	19	eP	Pn	23 46 12.9	+0.6
GRHS	Sauteurs	2.00	19	eP	Pn	23 46 13.6	+0.5
GRHS				eS	Sn	23 46 37.5	-0.4
GRHS	Sauteurs	2.00	19	eP	Pn	23 46 13.6	+0.5
GRHS				eS	Sn	23 46 37.5	-0.4
GRSS	Sisters	2.08	19	eP	Pn	23 46 14.8	+0.6
GRSS				eS	Sb	23 46 41.6	-1.3
GRSS	Sisters	2.08	19	eP	Pn	23 46 13.7	-0.5
GRSS				eS	Sb	23 46 41.6	-1.3
PCRV	Puerto La Cruz	2.29	266	Pn	Pb	23 46 19.5	-1.4
	7.6nm,0.3s,baz=87,slow=3.5,SNR=74						
PCRV				Pg	Pg	23 46 25.0	+1.2
	16nm,0.3s,baz=151,slow=9.9,SNR=30						
PCRV			

SDV Santo Domingo 8.32 261 Pn **Pn 23 47 42.7 +2.4**
4.1nm,0.3s,baz=84,slow=9.7,SNR=9.0
SDV Sn **Sn 23 49 12.8 -1.3**
1.1nm,0.3s,baz=66,slow=20,SNR=2.3
SDV LR LR 23 51 50.6
comp=Z,164nm,20.1s,baz=86,slow=44
SDV Santo Domingo 8.32 261 *e*Pn **Pn 23 47 41.7 +1.4**
40nm,0.8s
SJG San Juan 8.58 335 Pn **Pn 23 47 45.1 +1.4**
1.4nm,0.3s,baz=349,slow=10,SNR=3.1
SJG Sn **Sn 23 49 16.3 -4.0**
3.2nm,0.3s,baz=308,slow=19,SNR=2.6
SJG LR LR 23 51 32.1
comp=Z,50nm,20.9s,baz=98,slow=41
URIC Uribia, Colomb 9.60 279 *e*P **Pn 23 47 57.2 -0.3**
PAMC Pamplona, Colo 10.68 255 *e*P **Pn 23 48 12.2 -0.7**
OCAC Ocana 11.05 260 *e*P **Pn 23 48 14.3 -3.4**
PTGA Pitinga 11.23 168 Pn **Pn 23 48 19.3 -0.7**
1.6nm,0.3s,baz=3.9,slow=16,SNR=28
PTGA Sn **Sn 23 50 18.7 -6.6**
0.9nm,0.3s,baz=342,slow=20,SNR=3.6
PTGA LR LR 23 52 46.0
comp=Z,85nm,18.6s,baz=290,slow=38
BARC Barichara 11.37 252 *e*P **Pn 23 48 21.8 -0.3**
RUSC La Rusia 11.53 248 *e*P **Pn 23 48 25.9 +1.4**
SDDR Presa de Saban 12.21 316 *e*Pn **Pn 23 48 33.7 +0.2**
9.2nm,0.4s
SJCC San Jacinto, C 12.67 269 *e*P **Pn 23 48 39.6 -0.1**
ZARC Zaragoza, Cauc 12.70 258 *e*P **Pn 23 48 38.9 -1.2**
ROSC El Rosal 13.08 246 LR LR 23 55 01.7
comp=Z,272nm,18.8s,baz=48,slow=43
MOTC Monteria, Cord 13.25 264 *e*P **Pn 23 48 47.1 -0.5**
NORC Norcasia 13.30 250 *e*P Pn 23 48 42.5 -5.8
GUYC Guyana, Colomb 13.90 250 *e*P **Pn 23 48 57.4 +0.5**
PRAC Prado 14.09 243 *e*P **Pn 23 49 00.2 +1.0**
OTAV Otavalo 18.92 239 *e*P **Pn 23 50 02.7 +1.4**
3.6nm,0.7s
SAML Samuel 19.17 183 *e*P **P 23 50 04.1 +1.1**
3.5nm,0.8s
JTS JuntasAbangare 22.27 272 *e*P **P 23 50 38.3 +1.7**
0.9nm,0.6s
SIV San Ignacio 26.18 177 P **P 23 51 13.9 -0.1**
2.0nm,0.8s,baz=23,slow=3.5,SNR=3.9
LPAZ La Paz 27.06 192 LR LR 00 02 37.5
comp=Z,121nm,19.8s,baz=2.5,slow=38
HKT Hockley 36.82 307 *e*P **P 23 52 48.7 +1.3**
7.4nm,0.7s
TXAR Lajitas Array 42.96 302 P **P 23 53 39.6 +0.9**
0.2nm,0.4s,baz=116,slow=6.1,SNR=3.8
TXAR PcP **PcP 23 55 29.4 +0.2**
0.6nm,0.7s,baz=120,slow=5.0,SNR=5.2
SDCO Great Sand Dun 47.36 312 *e*P **P 23 54 14.2 +0.4**
0.9nm,0.6s
ULM Lac du Bonnet 48.47 332 P **P 23 54 20.9 -0.9**
2.6nm,0.7s,baz=130,slow=10.0,SNR=4.1
PDAR Pinedale Array 52.23 317 P **P 23 54 50.4 -0.4**
0.9nm,0.6s,baz=111,slow=8.6,SNR=7.5
ESDC Sonseca Array 59.22 50 P **P 23 55 39.8 -1.0**
0.2nm,0.5s,baz=242,slow=5.7,SNR=3.2
TORD Torodi Ar. Bea 62.60 81 P **P 23 56 04.5 +0.5**
0.5nm,0.6s,baz=289,slow=6.2,SNR=9.3
NOA NORSAR Array B 73.06 29 P **P 23 57 12.0 +2.8**
1.1nm,0.8s,baz=261,slow=5.8,SNR=2.6
VRAC Vranov 75.02 42 LR LR 00 27 18.9
comp=Z,18nm,18.5s,baz=1.5,slow=33
ILAR Eielson Array 78.41 334 P **P 23 57 38.5 -1.2**
0.5nm,0.8s,baz=114,slow=4.8,SNR=4.7
FINES FINESS Array B 80.25 29 P **P 23 57 49.9 +0.2**
1.6nm,0.6s,baz=300,slow=3.8,SNR=8.7
BRTR Keskin Array B 88.02 50 P **P 23 58 31.4 +1.4**
0.6nm,0.7s,baz=258,slow=3.1,SNR=3.1
CMAR Chiang Mai Arr 145.94 33 PKPbc **PKPab 00 05 20.6 +0.3**
0.5nm,0.3s,baz=316,slow=6.3,SNR=4.1

IDC 11 23:57:48.2±8.1, 22°.40S×178°.98E, h629km±86km, mb2.9/3, mb1 3.2/4, mb1mx2.8/26, mbtmp3.9/4, Error ellipse: s-maj=240.4km s-min=37.8km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.61**	**269**	P	P	00 00 23.3	-0.2
0.5nm,0.3s,baz=78,slow=20,SNR=6.6							
ASAR	**Alice Springs**	**41.37**	**259**	P	P	00 04 41.4	-0.5
0.4nm,0.3s,baz=91,slow=7.1,SNR=7.5							
WRA	**Warramunga Arr**	**41.59**	**265**	P	P	00 04 44.0	+0.4
1.7nm,0.5s,baz=101,slow=8.3,SNR=20							
TXAR	**Lajitas Array**	**90.45**	**58**	P	P	00 09 44.7	0.0
0.3nm,0.7s,baz=202,slow=8.0,SNR=5.0							

*IDC **12** 00:13:03.7±2.5, 5°.96S×104°.72E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.6/51, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/32, Error ellipse: s-maj=151.7km s-min=25.7km az=51.0*
*ISCJB **12** 00:13:15.3±0.5, 6°.07S±0°.08×105°.07E±0°.07, h100km±4km, mb4.0/7, Error ellipse: s-maj=16.8km s-min=4.3km az=39.5*
*NEIC **12** 00:13:17.2±0.8, 5°.50S×105°.44E, h96km±11km, mb4.0/3, Error ellipse: s-maj=32.7km s-min=7.5km az=220.0*
*DJA **12** 00:13:17.8±0.4, 6°.S±4°×10°.5E±°, h50km±10km, M3.9/10, MLv3.9/10*
ISC 12 00:13:15.7±0.9, 6°.07S±0°.08×105°.06E±0°.07, h94km±7km, n30, σ1.9 34/36, mb4.0/7, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.72**	**15**	P	**Pn**	**00 13 33.6**	**+0.8**
BLSI				S	**Sn**	**00 13 45.3**	**-0.3**
KASI	**Kota Agung**	**0.78**	**314**	P	**Pn**	**00 13 33.3**	**0.0**
KASI				S	**Sn**	**00 13 45.5**	**-1.0**
CGJI	**Cibinong**	**0.83**	**130**	P	**Pn**	**00 13 33.9**	**+0.1**
CGJI				S	**Sn**	**00 13 46.0**	**-1.4**
SBJI	**Serang**	**1.07**	**93**	P	**Pn**	**00 13 37.4**	**+1.0**
SBJI				S	**Sn**	**00 13 52.4**	**+0.4**
KLSI		**1.41**	**347**	P	**Pn**	**00 13 42.0**	**+1.4**
KLSI				S	**Sn**	**00 14 00.4**	**+1.1**
LWLI	**Liwa**	**1.44**	**316**	P	**Pn**	**00 13 42.2**	**+1.1**
LWLI				S	**Sn**	**00 14 00.6**	**+0.4**
SKJI	**Sukabumi**	**1.75**	**122**	P	**Pn**	**00 13 46.2**	**+1.3**
SKJI				S	**Sn**	**00 14 08.1**	**+1.0**
MDSI	**Maura Dua**	**1.80**	**331**	P	**Pn**	**00 13 47.0**	**+1.5**
MDSI				S	**Sn**	**00 14 10.0**	**+1.9**
CNJI	**Cibinong**	**2.40**	**121**	P	**Pn**	**00 13 54.5**	**+1.2**
MNAI	**Manna**	**2.70**	**309**	P	**Pn**	**00 13 58.1**	**+0.8**
MNAI	**Manna**	**2.70**	**309**	*e*Pn	**Pn**	**00 13 59.2**	**+1.9**
MNAI				*e*Sn	**Sn**	**00 14 29.8**	**+0.5**
CISI	**Cisompet, Garu**	**3.11**	**118**	P	**Pn**	**00 14 04.2**	**+1.3**
CISI				S	**Sn**	**00 14 39.4**	**+0.1**
CISI	**Cisompet, Garu**	**3.11**	**118**	*e*Pn	**Pn**	**00 14 04.5**	**+1.6**
CISI				*e*Sn	**Sn**	**00 14 38.9**	**-0.4**
CMJI	**Cimerak**	**3.77**	**117**	P	**Pn**	**00 14 13.7**	**+1.9**
CMJI				S	**Sn**	**00 14 54.0**	**-1.1**
TGY	**Tagaytay City**	**25.50**	**38**	LR	LR	00 30 50.5
comp=Z,71nm,18.8s,baz=318,slow=42							
H01W3	**Cape Leeuwin H**	**29.87**	**165**	T	T	00 51 11.1
baz=342,slow=76,SNR=4.8							
H01W1	**Cape Leeuwin H**	**29.89**	**165**	T	T	00 51 12.1
baz=342,slow=76,SNR=7.9							
H01W2	**Cape Leeuwin H**	**29.89**	**165**	T	T	00 51 12.1
baz=342,slow=76,SNR=5.0							
WRA	**Warramunga Arr**	**31.61**	**119**	P	**P**	**00 19 31.2**	**+1.2**
1.1nm,0.7s,baz=294,slow=9.7,SNR=13							
WRA				PcP	**PcP**	**00 22 21.3**	**+0.9**
0.2nm,0.4s,baz=300,slow=1.9,SNR=4.5							
WRAB	**Tennant Creek**	**31.62**	**119**	*e*P	**P**	**00 19 30.7**	**+0.7**
2.2nm,0.8s							
H08S2	**Diego Garcia H**	**32.36**	**265**	T	T	00 53 23.5
baz=89,slow=75,SNR=6.5							
H08S3	**Diego Garcia H**	**32.37**	**265**	T	T	00 53 24.2
baz=89,slow=75,SNR=7.1							
H08S1	**Diego Carcia H**	**32.38**	**265**	T	T	00 53 24.9
baz=89,slow=75,SNR=5.9							
ASAR	**Alice Springs**	**32.80**	**125**	P	**P**	**00 19 42.0**	**+1.7**
2.0nm,0.3s,baz=293,slow=7.6,SNR=28							
COEN	**Coen**	**38.30**	**105**	*e*P	**P**	**00 20 26.5**	**-1.1**
3.0nm,0.8s							
STKA	**Stephens Creek**	**42.69**	**132**	P	**P**	**00 21 05.8**	**+2.2**
3.9nm,0.6s,baz=312,slow=6.8,SNR=11							
MKAR	**Makanchi Array**	**56.38**	**341**	P	**P**	**00 22 45.5**	**-1.7**
0.4nm,0.8s,baz=151,slow=7.8,SNR=5.1							
YSS	**Yuzh-Sakhalins**	**62.45**	**28**	*e*P	**P**	**00 23 26.0**	**-3.0**
ABKAR	**Abkulak array**	**67.64**	**330**	*e*P	**P**	**00 24 01.6**	**-1.0**
0.6nm,0.6s							
TXAR	**Lajitas Array**	**144.36**	**46**	PKP	**PKPdf**	**00 32 41.7**	**-0.1**
0.6nm,0.7s,baz=262,slow=1.4,SNR=8.3							

*ISCJB **12** 00:22:28.4±0.6, 43°.18N±0°.04×143°.07E±0°.05, h163km±4km, mb3.6/3, Error ellipse: s-maj=7.3km s-min=5.7km az=143.8*
*JMA **12** 00:22:29.5±0.1, 43°.20N×143°.04E, h160km±1km, M3.0*
*IDC **12** 00:22:30.4±3.6, 43°.24N×142°.84E, h158km±14km, mb3.3/3, mb1 3.3/4, mb1mx3.0/50, mbtmp3.8/4, Error ellipse: s-maj=89.1km s-min=26.3km az=90.0*
ISC 12 00:22:29.0±1.0, 43°.18N±0°.05×143°.08E±0°.04, h164km±7km, n23, σ0.9 76/38, mb3.6/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFR	**Furan**	**0.35**	**267**	*e*S	**Sn**	**00 23 08.1**	**-0.3**
JAR	**Ashorobuto**	**0.52**	**77**	P	**Pn**	**00 22 52.1**	**+0.1**
JAR				*e*S	**Sn**	**00 23 09.0**	**-0.6**
JCH	**Churui**	**0.60**	**160**	P	**Pn**	**00 22 52.5**	**+0.1**
JCH				*e*S	**Sn**	**00 23 09.5**	**-0.9**
JOB	**Onbets**	**0.62**	**116**	P	**Pn**	**00 22 53.2**	**+0.7**
JOB				*e*S	**Sn**	**00 23 10.9**	**+0.4**
JBT2	**Biratori 2**	**0.66**	**233**	P	**Pn**	**00 22 52.9**	**+0.2**
JBT2				*e*S	**Sn**	**00 23 10.3**	**-0.6**
JKK2	**Kamakawa 2**	**0.73**	**341**	P	**Pn**	**00 22 53.3**	**+0.1**
JKK2				*e*S	**Sn**	**00 23 11.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.93**	**195**	P	**Pn**	**00 22 55.2**	**+0.6**
JNBK				*e*S	**Sn**	**00 23 14.9**	**+0.7**
JTKR	**Abashiri--Toko**	**0.99**	**37**	P	**Pn**	**00 22 55.2**	**+0.2**
JTKR				*e*S	**Sn**	**00 23 14.1**	**-0.9**
ASAJ	**Asahikawa**	**1.00**	**340**	P	**Pn**	**00 22 55.3**	**+0.3**
12nm,0.3s,baz=205,slow=7.3,SNR=21							
ASAJ				S	**Sn**	**00 23 14.6**	**-0.5**
7.4nm,0.3s,baz=106,slow=26,SNR=24							
JHR	**Hokuryu**	**1.13**	**300**	P	**Pn**	**00 22 56.3**	**+0.2**
JHR				*e*S	**Sn**	**00 23 16.8**	**-0.3**
JAK	**Akkeshi**	**1.20**	**98**	P	**Pn**	**00 22 56.6**	**-0.1**
JAK				*e*S	**Sn**	**00 23 17.7**	**-0.3**
JEW	**Eniwo**	**1.24**	**255**	P	**Pn**	**00 22 57.2**	**+0.1**
JEW				*e*S	**Sn**	**00 23 17.9**	**-0.8**
JRA	**Rausu**	**1.67**	**62**	*e*S	**Sn**	**00 23 26.8**	**+0.6**
JSE	**Soyaes**	**1.81**	**349**	P	**Pn**	**00 23 02.5**	**-0.3**
JSE				*e*S	**Sn**	**00 23 28.0**	**-1.0**
JSK	**Shakotan**	**1.91**	**276**	P	**Pn**	**00 23 03.7**	**-0.2**
NEM2	**Nemuro 2**	**1.96**	**84**	P	**Pn**	**00 23 03.9**	**-0.5**
NEM2				*e*S	**Sn**	**00 23 29.4**	**-2.3**
JKB	**Kayabe**	**1.99**	**230**	P	**Pn**	**00 23 04.8**	**0.0**
JKB				*e*S	**Sn**	**00 23 31.0**	**-1.4**
JWK2	**Keihoku**	**2.30**	**339**	P	**Pn**	**00 23 08.8**	**+0.5**
JOT	**Ohata**	**2.35**	**221**	P	**Pn**	**00 23 08.7**	**-0.2**
JOT				*e*S	**Sn**	**00 23 38.2**	**-1.6**
MJAR	**Matsushiro Arr**	**7.61**	**211**	P	**Pn**	**00 24 18.2**	**+1.0**
1.0nm,0.3s,baz=31,slow=11,SNR=12							
SONM	**Songino Array**	**25.96**	**293**	P	**P**	**00 27 46.8**	**+0.6**
1.3nm,0.5s,baz=90,slow=8.8,SNR=8.7							
ZALV	**Zalesovo Beam**	**38.97**	**307**	P	**P**	**00 29 39.5**	**+0.7**
0.6nm,0.4s,baz=88,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**42.21**	**297**	P	**P**	**00 30 05.4**	**-0.1**
0.4nm,0.4s,baz=81,slow=12,SNR=7.9							

IDC 12 00:24:36.4±8.8, 32°.51S×178°.80W, h42km±71km, mb3.6/2, mb1 3.9/3, mb1mx3.5/28, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=59.0km s-min=40.2km az=51.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.64**	**209**	P	Pn	00 26 12.0	+0.6
1.0nm,0.3s,baz=252,slow=5.4,SNR=3.1							
URZ				S	Sn	00 27 25.5	-0.2
2.8nm,0.3s,baz=156,slow=17,SNR=4.7							
ASAR	**Alice Springs**	**42.36**	**270**	P	P	00 32 26.7	0.0
0.7nm,0.5s,baz=110,slow=7.6,SNR=9.4							
WRA	**Warramunga Arr**	**43.54**	**275**	P	P	00 32 36.2	-0.1
0.6nm,0.3s,baz=114,slow=7.9,SNR=15							
FINES	**FINESS Array B**	**146.86**	**338**	PKPbc	PKPdf	00 44 12.1	+0.7
1.9nm,0.6s,baz=46,slow=4.0,SNR=7.0							
TORD	**Torodi Ar. Bea**	**160.73**	**181**	PKPab	PKPab	00 45 14.0	-0.3
0.4nm,0.6s,baz=174,slow=5.4,SNR=3.8							

*IDC **12** 00:30:24.1±9.1, 40°.72N×139°.33E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/38, mbtmp3.6/3, Error ellipse: s-maj=335.1km s-min=30.1km az=61.0*
*ISCJB **12** 00:30:45.0±0.6, 41°.01N±0°.05×139°.4E±0°.1, h206km±6km, mb3.2/3, Error ellipse: s-maj=16.6km s-min=8.3km az=169.5*
*JMA **12** 00:30:46.3±0.1, 41°.03N×139°.47E, h200km±2km, M3.0*
ISC 12 00:30:45.9±1.0, 41°.01N±0°.06×139°.4E±0°.1, h202km±8km, n17, σ0.8 40/23, mb3.4/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.61**	**133**	P	**Pn**	**00 31 14.0**	**+0.3**
JSI2	**Shiura 2**	**0.75**	**86**	P	**Pn**	**00 31 14.6**	**+0.3**
JSI2				*e*S	**S**	**00 31 36.0**	**-0.3**
JSR	**Shiriuchi**	**0.92**	**55**	P	**Pn**	**00 31 15.4**	**+0.2**
JSR				*e*S	**S**	**00 31 37.5**	**-0.5**
JOSM	**Okushiri--Mats**	**1.07**	**2**	P	**Pn**	**00 31 16.3**	**0.0**
JOSM				*e*S	**S**	**00 31 39.0**	**-0.9**
JAH	**Hinai**	**1.24**	**131**	P	**Pn**	**00 31 17.9**	**+0.3**
JTM	**Tenmabayashi**	**1.27**	**100**	P	**Pn**	**00 31 18.0**	**+0.2**
JOT	**Ohata**	**1.29**	**73**	P	**Pn**	**00 31 18.0**	**+0.1**
JYM2	**Yakumo 2**	**1.32**	**33**	P	**Pn**	**00 31 18.6**	**+0.5**
JYM2				*e*S	**S**	**00 31 43.3**	**+0.3**
JKB	**Kayabe**	**1.50**	**54**	P	**Pn**	**00 31 19.9**	**+0.3**
JANG	**Nango**	**1.72**	**111**	P	**Pn**	**00 31 21.4**	**-0.4**
JOM	**Ohasama**	**2.10**	**136**	P	**Pn**	**00 31 25.7**	**+0.1**
JYK	**Kaneyama**	**2.21**	**161**	*e*S	**S**	**00 31 58.6**	**+0.6**
JMK	**Ichinoseki**	**2.48**	**145**	P	**Pn**	**00 31 29.7**	**0.0**
JMK				*e*S	**S**	**00 32 03.2**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.80**	**62**	P	**Pn**	**00 31 33.6**	**+0.4**
JNBK				*e*S	**S**	**00 32 09.6**	**-0.1**
ZALV	**Zalesovo Beam**	**38.15**	**309**	P	**P**	**00 37 45.9**	**+0.5**
1.1nm,0.5s,baz=91,slow=8.0,SNR=5.6							
MKAR	**Makanchi Array**	**40.78**	**298**	P	**P**	**00 38 07.4**	**+0.1**
0.3nm,0.7s,baz=83,slow=12,SNR=3.1							
WRA	**Warramunga Arr**	**60.82**	**185**	P	**P**	**00 40 36.1**	**-0.6**
0.4nm,0.6s,baz=5.8,slow=7.7,SNR=4.0							

MEX 12 00:51:23.4±0.5, 17°.21N×94°.79W, h151km±4km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.14**	**218**	*i* P	Pn	00 51 42.5	-1.2
CMIG				*e*S	Sn	00 51 57.1	-2.0
TGIG		**1.65**	**105**	*i* P	Pn	00 51 53.0	-1.7
TGIG				*i* S	Sn	00 52 15.4	-3.3
VHO	**Vista Hermosa**	**1.86**	**266**	*e*P	Pn	00 51 57.5	+0.3
VHO				*e*S	Sn	00 52 20.6	-2.5
HUIG	**Huatulco**	**1.91**	**222**	*e*P	Pn	00 51 56.5	-1.1
HUIG				*e*S	Sn	00 52 21.4	-2.3
PCIG		**2.12**	**134**	*e*P	Pn	00 51 58.9	-1.1
PCIG				*e*S	Sn	00 52 26.4	-1.7
CCIG	**Comitan**	**2.70**	**109**	*e*P	Pn	00 52 05.7	-1.6
CCIG				*e*S	Sn	00 52 38.9	-2.1
PNIG	**Pinotepa**	**3.30**	**256**	*i* P	Pn	00 52 13.2	-1.4
PNIG				*i* S	Sn	00 52 52.4	-1.9

*IDC **12** 00:54:02.8±0.7, 0°.15S×120°.01E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/34, mbtmp4.0/11, MS3.3/7, Ms1 3.3/7, ms1mx3.0/30, Error ellipse: s-maj=39.6km s-min=14.6km az=72.0*
*ISCJB **12** 00:54:03.3±0.3, 0°.06S±0°.03×119°.87E±0°.04, h10km, mb4.1/17, MS3.2/7, Error ellipse: s-maj=5.2km s-min=3.9km az=165.0*
*DJA **12** 00:54:05.0±0.3, 0°.S±2°×120°.0E±°, h10km, M4.6/13, mb4.7/6, mB5.1/3, MLv4.6/13, Mw(mB)4.5/3*
*BJI **12** 00:54:05.2, 0°.10S×119°.90E, h10km, mb4.3/6, mB4.7/3, Ms4.7/1, Ms7 4.6/1*
*NEIC **12** 00:54:09.0±0.9, 0°.09S×120°.10E, h45km±10km, mb4.3/4, Error ellipse: s-maj=19.2km s-min=6.0km az=68.0*
ISC 12 00:54:04.7±0.6, 0°.09S±0°.03×119°.88E±0°.06, h10km, n39, σ1.9 33/41, mb4.1/17, MS3.2/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.42**	**2**	P	**Pg**	**00 54 12.6**	**-0.4**
MPSI				S	**Sg**	**00 54 18.5**	**-0.1**
PCI	**Palu**	**0.81**	**183**	P	**Pg**	**00 54 18.9**	**-1.5**
PCI				S	**Sg**	**00 54 32.4**	**+1.3**
APSI	**Ampana**	**1.94**	**115**	P	**Pn**	**00 54 38.0**	**+0.2**
APSI				S	**Sb**	**00 55 04.8**	**+0.2**
MRSI	**Marisa**	**2.13**	**75**	P	**Pn**	**00 54 39.8**	**-0.6**
MRSI				S	**Sn**	**00 55 07.7**	**+0.8**
TTSI	**Tana Toraja**	**2.94**	**181**	P	**Pn**	**00 54 53.9**	**+2.4**
SPSI	**Sidrap Palu**	**3.85**	**182**	P	**Pn**	**00 55 05.2**	**+1.1**
KMSI	**Cibinong**	**4.15**	**81**	P	**Pn**	**00 55 09.0**	**+0.8**
BNSI	**Bone**	**4.29**	**177**	P	**Pn**	**00 55 12.8**	**+2.7**
KDI	**Kendari**	**4.72**	**145**	P	**Pn**	**00 55 17.3**	**+1.3**
KAPI	**Kappang**	**4.90**	**182**	*e*Pn	**Pn**	**00 55 21.4**	**+2.9**
MTKI	**Muara Teweh, K**	**5.06**	**260**	P	**Pn**	**00 55 21.2**	**+0.5**
BBSI	**Bau Bau**	**6.00**	**153**	P	**Pn**	**00 55 35.3**	**+1.7**
26nm,0.9s,1μm0.1nm							
BSSI	**Bau Bau, Buton**	**6.04**	**174**	P	**Pn**	**00 55 35.7**	**+1.4**
KKM	**Kota Kinabalu**	**7.11**	**329**	*e*Pn	**Pn**	**00 55 51.6**	**+2.7**
LBMI	**Labuha**	**7.64**	**94**	P	**Pn**	**00 55 56.0**	**-0.1**
22nm,0.5s,0.2nm							
LBMI				S	**Sn**	**00 57 24.4**	**+1.6**
22nm,0.5s,0.2nm							
NLAI	**Namlea**	**7.86**	**114**	P	**Pn**	**00 55 59.8**	**+0.6**
NLAI				S	**Sn**	**00 57 30.7**	**+2.3**
SOEI	**Soe**	**10.55**	**156**	*e*Pn	**Pn**	**00 56 35.9**	**-0.3**
WRAB	**Tennant Creek**	**24.29**	**145**	*e*P	**P**	**00 59 20.7**	**-1.8**
13nm,1.2s							
WRA	**Warramunga Arr**	**24.29**	**145**	P	**P**	**00 59 20.9**	**-1.6**
4.5nm,0.9s,baz=334,slow=9.4,SNR=21							
ASAR	**Alice Springs**	**27.11**	**151**	P	**P**	**00 59 46.7**	**-1.3**
0.9nm,0.7s,baz=330,slow=9.2,SNR=10							
ASAR				LR	LR	01 11 16.4
comp=Z,63nm,18.7s,baz=332,slow=38							
CMAR	**Chiang Mai Arr**	**27.62**	**313**	LR	LR	01 13 38.2
comp=Z,38nm,18.0s,baz=135,slow=42							
GUMO	**Guam**	**28.23**	**60**	LR	LR	01 09 37.0
comp=Z,30nm,20.3s,baz=264,slow=33							
STKA	**Stephens Creek**	**37.70**	**149**	P	**P**	**01 01 18.8**	**-1.8**
2.3nm,0.9s,baz=323,slow=14,SNR=4.4							
STKA				LR	LR	01 20 32.6
comp=Z,50nm,18.5s,baz=3.7,slow=42							
KSAR	**Wonju Array Be**	**38.07**	**10**	P	**P**	**01 01 24.3**	**+0.7**
KSRS	**Korea Array**	**38.09**	**10**	P	**P**	**01 01 24.3**	**+0.6**
1.0nm,0.6s,baz=191,slow=9.1,SNR=2.8							
KSRS				LR	LR	01 18 12.3
comp=Z,18nm,18.8s,baz=186,slow=38							
MJAR	**Matsushiro Arr**	**40.22**	**23**	P	**P**	**01 01 41.1**	**-0.5**
0.7nm,0.3s,baz=197,slow=9.9,SNR=5.2							
ULN	**Ulaanbaatar**	**49.05**	**349**	*e*P	**P**	**01 02 52.4**	**+0.3**
1.7nm,0.6s							
SONM	**Songino Array**	**49.15**	**348**	P	**P**	**01 02 52.6**	**-0.3**
0.9nm,0.6s,baz=172,slow=8.5,SNR=5.8							
KSH	**Kashi**	**56.20**	**320**	*e*P	**P**	**01 03 45.6**	**+0.4**
KSH				pmax	pmax		
comp=Z,2.0nm,0.8s							
KSH				pmax	pmax		
comp=Z,75nm,3.9s							
MKAR	**Makanchi Array**	**57.09**	**330**	P	**P**	**01 03 51.8**	**+0.5**
1.2nm,0.6s,baz=130,slow=8.8,SNR=9.2							
AAK	**Ala-Archa**	**58.85**	**322**	P	**P**	**01 04 05.0**	**+1.1**
0.9nm,0.4s,baz=96,slow=7.5,SNR=4.4							
ZALV	**Zalesovo Beam**	**61.15**	**337**	P	**P**	**01 04 18.8**	**-0.4**
1.7nm,0.7s,baz=146,slow=7.6,SNR=6.1							
KURK	**Kurchatov**	**61.53**	**332**	*e*P	**P**	**01 04 20.6**	**-1.3**
27nm,0.8s							
BRVK	**Borovoye**	**67.05**	**330**	*e*P	**P**	**01 04 58.0**	**-0.1**
2.9nm,0.6s							
ABKAR	**Abkulak array**	**70.91**	**323**	*e*P	**P**	**01 05 21.9**	**-0.3**
1.0nm,0.7s							
MAW	**Mawson**	**77.88**	**199**	P	**P**	**01 06 02.2**	**-0.1**
1.8nm,0.6s,baz=56,slow=6.3,SNR=5.1							
VNDA	**Vanda**	**80.61**	**172**	P	**P**	**01 06 16.6**	**-0.5**
0.7nm,0.8s,baz=300,slow=8.0,SNR=4.8							
RAR	**Rarotonga**	**80.96**	**111**	LR	LR	01 43 55.3
comp=Z,26nm,18.3s,baz=175,slow=37							
NOA	**NORSAR Array B**	**99.04**	**332**	LR	LR	01 59 32.2
comp=Z,17nm,18.6s,baz=320,slow=40							

*ISK **12** 01:28:55.6, 37°.60N×37°.94E, h5km, MD3.0*
*DDA **12** 01:28:56.6, 37°.58N×37°.93E, h7km, Ml3.1*
*ISCJB **12** 01:28:57.3±0.5, 37°.51N±0°.03×37°.99E±0°.02, h10km±3km, Error ellipse: s-maj=4.4km s-min=2.9km az=160.4*
*CSEM **12** 01:28:57.0±0.1, 37°.57N×37°.93E, h5km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.3km az=159.0*
*NSSC **12** 01:28:58.7±1.6, 37°.36N×38°.10E, h2km±6km, ML2.2*
ISC 12 01:28:57.4±0.9, 37°.55N±0°.02×37°.95E±0°.02, h14km±7km, n45, σ1.9 07/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.28**	**106**	*i* P	**Pg**	**01 29 03.3**	**-0.1**
ATAB				*i* S	**Sg**	**01 29 07.6**	**+0.2**
ATAB	**Bozova**	**0.28**	**106**	P	**Pg**	**01 29 03.3**	**-0.1**
ATAB				S	**Sg**	**01 29 07.6**	**+0.2**
GZT	**Gaziantep**	**0.36**	**238**	*i* P	**Pg**	**01 29 04.1**	**-0.8**
GZT				*i* S	**Sg**	**01 29 09.9**	**+0.1**
GAZ	**Gaziantep**	**0.70**	**238**	*e*PG	**Pg**	**01 29 10.5**	**-0.6**
GAZ				*e*S

	comp=Z,102nm,0.4s					
BNN	Bunyan	2.11	309	*e*PN	Pn	01 29 32.6 +0.1
BNN	Bunyan	2.11	309	*e*Pn	Pn	01 29 32.6 +0.1
KBSD	Kabsdagh	2.14	104	*e*P	Pn	01 29 33.2 +0.4
KBSD				*e*S	Sn	01 29 58.2 -0.9
KBSD				AML	AML	01 30 11.1
	comp=Z,51nm,0.3s					
ARNB	Al Arnab	2.32	224	*e*P	Pb	01 29 38.5 -0.6
ARNB				*e*S	Sn	01 30 05.1 +1.4
ARNB				AML	AML	01 30 19.0
	comp=E,26nm,0.7s					
ARNB				AML	AML	01 30 21.3
	comp=N,28nm,0.7s					
SVAN	Silvan-Diyarba	2.64	76	*e*PN	Pn	01 29 41.1 +1.4
SVAN	Silvan-Diyarba	2.64	76	*e*Pn	Pn	01 29 41.1 +1.4
MZRK	Al-Mazaregh	2.77	128	*e*P	Pn	01 29 40.9 -0.5
MZRK				*e*S	Sn	01 30 12.7 -2.0
MZRK				AML	AML	01 30 29.5
	comp=Z,36nm,0.6s					
RABH	Abou Rabah	3.16	191	*e*P	Pn	01 29 48.8 +1.9
RABH				AML	AML	01 30 50.3
	comp=E,11nm,0.6s					
RABH				AML	AML	01 31 03.0
	comp=N,7.7nm,0.5s					
ROOS	tl_alroos	3.41	189	*e*P	Pn	01 29 52.1 +1.7
ROOS				*e*S	Sn	01 30 28.8 -2.0
ROOS				AML	AML	01 30 51.4
	comp=N,16nm,0.5s					
ROOS				AML	AML	01 31 00.0
	comp=E,12nm,0.5s					
MARH	Ras Al Marh	3.71	199	*e*P	Pn	01 29 55.3 +0.6
MARH				*e*S	Sn	01 30 37.0 -1.4
MARH				AML	AML	01 30 57.4
	comp=N,19nm,0.6s					
MARH				AML	AML	01 31 00.5
	comp=E,5.8nm,0.8s					

MEX 12 01:44:01.3±0.5, 29°.43N×113°.81W, h7km±15km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	2.51	146	*i* P	Pn	01 44 38.9	-3.7
SRIG				*e*S	Sn	01 45 08.8	-4.7
HSIG		2.54	98	*i* P	Pn	01 44 39.7	-3.2
HSIG				*i* S	Sn	01 45 09.8	-4.3

*ISCJB **12** 01:47:53.6±0.7, 32°.79N±0°.04×116°.14W±0°.04, h13km±4km, Error ellipse: s-maj=7.3km s-min=4.7km az=149.1*
*ECX **12** 01:47:54.7±0.7, 32°.79N×116°.15W, h4km, MD2.0, ML2.3*
*MEX **12** 01:47:55.7±0.4, 32°.82N×116°.15W, h16km±11km, MD3.7*
ISC 12 01:47:53.1±1.2, 32°.80N±0°.05×116°.14W±0°.03, h16km±7km, n19, σ0$53/30, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKP	In-Ko-Pah, Jac	0.15	171	⇓*i*P	Pb	01 47 57.7	+0.1
IKP				*e*S	Sg	01 48 00.0	0.0
CRR	Carrizo Plain	0.17	59	⇑*i*P	Pb	01 47 57.8	0.0
RMX	La Rumorosa	0.20	166	⇓*e*P	Pg	01 47 58.0	-0.1
RMX				*e*S	Sg	01 48 01.2	-0.2
RMX				IAML		01 48 01.3	
	comp=N,752nm,0.1s						
RMX				⇓*e*		01 48 01.3	
YUH	Yuha Desert	0.24	130	⇓*i*P	Pb	01 47 59.0	0.0
SWSC	Sam W. Stewart	0.32	63	⇑*i*P	Pb	01 48 00.4	0.0
WESC	Westside Schoo	0.35	97	⇑*i*P	Pb	01 48 01.5	+0.6
WESC				*i* S	Sb	01 48 07.0	+0.8
COK	Cook Ranch	0.35	82	⇑*i*P	Pb	01 48 01.4	+0.5
BAR	Barrett	0.47	255	⇑*i*P	Pb	01 48 03.0	+0.1
TJIG	Tijuana	0.58	231	*e*P	Pb	01 48 05.0	+0.1
TJIG				*e*S	Sg	01 48 12.0	-0.4
TJIG	Tijuana	0.58	231	*e*P	Pb	01 48 04.8	-0.2
TJIG				*e*S	Sg	01 48 12.4	0.0
CBX	Cerro Bola	0.66	222	*i* P	Pb	01 48 06.6	+0.3
CBX				*e*S	Sg	01 48 14.8	0.0
CBX	Cerro Bola	0.66	222	*e*P	Pb	01 48 06.5	+0.2
CBX				*e*S	Sb	01 48 15.5	+0.3
CBX				⇑*e*		01 48 18.8	
CBX				IAML		01 48 18.8	
	comp=N,157nm,0.4s						
SDRC	San Diego Road	0.68	265	*e*P	Pb	01 48 06.6	0.0
MBIG	Mexicali	0.89	116	*e*P	Pb	01 48 09.3	-0.8
PBX	Punta Banda	1.17	205	*e*P	Pn	01 48 14.8	0.0
PBX				*e*S	Sn	01 48 30.6	+0.3
ECNX	Esteban Cantu	1.21	199	*e*P	Pb	01 48 15.6	0.0
ECNX				*e*S	Sb	01 48 31.3	+0.3
ZAX	El Zacaton	1.29	185	*e*P	Pn	01 48 16.9	+0.3
ZAX				*e*S	Sn	01 48 33.8	+0.3
ZAX				IAML		01 48 37.0	
	comp=E,59nm,0.5s						
SPIG	San Pedro Mart	1.84	162	*e*P	Pn	01 48 23.9	-0.5
SPIG				*i* S	Sn	01 48 45.6	-1.9
SPX	San Pedro Mart	1.84	162	*e*P	Pb	01 48 27.6	+1.0

MEX 12 02:10:02.1±0.5, 17°.13N×95°.15W, h52km±4km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.26	100	*i* P	Pn	02 10 09.3	-1.8
CMIG				*i* S	Sn	02 10 15.8	-1.6
TUIG	Tuzandepetl	1.13	38	*e*P	Pn	02 10 19.7	-2.0
TUIG				*i* S	Sn	02 10 34.4	-1.8
VHO	Vista Hermosa	1.52	268	*e*P	Pn	02 10 26.1	-0.9
VHO				*e*S	Sn	02 10 43.6	-2.2
HUIG	Huatulco	1.64	214	*i* P	Pn	02 10 26.1	-2.4
HUIG				*e*S	Sn	02 10 46.7	-1.8
TGIG		1.97	100	*e*P	Pn	02 10 31.8	-1.4
TGIG				*i* S	Sn	02 10 54.8	-2.0
PCIG		2.34	127	*e*P	Pn	02 10 36.2	-1.8
PCIG				*i* S	Sn	02 11 03.7	-1.8
TPIG	Tehuac#an	2.46	302	*e*P	Pn	02 10 39.1	-0.9
PNIG	Pinotepa	2.95	256	*i* P	Pn	02 10 43.9	-2.6
PNIG				*i* S	Sn	02 11 17.5	-3.1
CCIG	Comitan	3.01	106	*e*P	Pn	02 10 45.8	-1.7
CCIG				*e*S	Sn	02 11 20.4	-2.1
CAIG	El Cayaco	4.89	270	*e*P	Pn	02 11 11.0	-2.2

*JMA **12** 02:14:38.8±0.1, 24°.72N×121°.30E, h0km, M3.4*
*TAP **12** 02:14:38.8, 24°.71N×121°.34E, h9km, ML3.8, A*
*IASPEI **12** 02:14:39.4±0.8, 24°.71N±0°.02×121°.32E±0°.02, h13km±6km, Error ellipse: s-maj=3.4km s-min=2.5km az=125.7, GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **12** 02:14:39.9±0.3, 24°.72N±0°.02×121°.34E±0°.02, h6km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=138.8*
ISC 12 02:14:39.4±0.9, 24°.72N±0°.02×121°.32E±0°.02, h11km±6km, n55, σ0$79/86, 7C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSK	Sanguang	0.05	139	⇑*i*P	Pg	02 14 41.2	-0.5
	baz=142						
ENTT	Nioudou	0.24	109	⇓*i*P	Pg	02 14 44.8	+0.4
	baz=108						
ENTT				*i* S	Sg	02 14 48.3	+0.6
	baz=108						
NCU	National Centr	0.28	335	⇑*i*P	Pb	02 14 45.6	-0.9
	baz=333						
NCU				S	Sb	02 14 50.7	-0.5
	baz=333						
NNS	Nan Shan	0.28	170	⇑*i*P	Pb	02 14 45.5	-1.0
	baz=171						
NNS				S	Sg	02 14 49.6	+0.5
	baz=171						
NSTT	Nanjuang	0.30	254	⇓*i*P	Pb	02 14 45.7	-1.2
	baz=255						
NSTT				*i* S	Sg	02 14 50.2	+0.6
	baz=255						
TWE	Neicheng	0.32	89	⇓*i*P	Pb	02 14 46.2	-0.9
	baz=88						
TWE				*i* S	Sb	02 14 51.1	-1.1
	baz=88						
HSN	Hsinchu	0.33	285	*i* P	Pg	02 14 46.2	+0.1
	baz=292						
HSN				S	Sb	02 14 51.6	-1.0
	baz=292						
TWA	Mucha	0.36	42	⇓*i*P	Pb	02 14 46.7	-1.1
	baz=40						
TWA				*i* S	Sb	02 14 52.4	-1.0
	baz=40						
TAP	Taipei	0.36	28	*e*P	Pg	02 14 46.7	-0.1
	baz=26						
TAP				S	Sb	02 14 52.5	-1.1
	baz=26						
TAP1	Taipei	0.37	30	P	Pg	02 14 46.9	+0.1
	baz=26						
TAP1				*e*S	Sg	02 14 52.1	+0.3
	baz=26						
ILA	Ilan	0.39	83	*e*P	Pg	02 14 47.3	+0.1
	baz=81						
TWS1	Kuangyinshan	0.39	13	*i* P	Pb	02 14 48.0	-0.4
	baz=11						
TWS1				*i* S	Sb	02 14 54.4	-0.1
	baz=11						
TWT	Tachien	0.48	196	⇑*i*P	Pb	02 14 48.9	-1.1
	baz=199						
TWT				S	Sg	02 14 55.3	0.0
	baz=199						
ENA	Nanau	0.48	127	*e*P	Pb	02 14 49.3	-0.6
	baz=126						
ENA				*e*S	Sb	02 14 56.0	-1.0
	baz=126						
TWC	Suao	0.49	102	⇓*i*P	Pb	02 14 49.4	-0.8
	baz=101						
TWC				S	Sb	02 14 56.8	-0.6
	baz=101						
NWF	Wu-fen Shan	0.55	50	⇓*i*P	Pb	02 14 50.4	-0.7
	baz=48						
NWF				*i* S	Sg	02 14 57.6	+0.2
	baz=48						
WHF	Hehuan Shan	0.57	185	⇑*i*P	Pb	02 14 51.2	-0.5
	baz=186						
WHF				S	Sb	02 14 59.1	-0.9
	baz=186						
NSY	Sanyi	0.59	240	*e*P	Pb	02 14 51.8	+0.1
	baz=240						
TWY	Chenhua	0.61	25	*e*P	Pg	02 14 51.3	-0.1
	baz=23						
TWQ1	Liyutan	0.62	234	⇓P	Pb	02 14 52.2	-0.1
	baz=234						
TWQ1				S	Sb	02 15 00.5	-0.5
	baz=234						
TWB1	Santiao Chiao	0.67	64	P	Pg	02 14 52.4	-0.1
	baz=63						
TWD	Chiawan	0.68	158	⇑*i*P	Pb	02 14 53.1	-0.3
	baz=158						
TWD				*i* S	Sg	02 15 01.7	+0.1
	baz=158						
HWA	Hwalien	0.78	160	*e*P	Pn	02 14 55.7	-0.6
	baz=160						
TCU	Taichung	0.81	226	P	Pn	02 14 56.9	0.0
	baz=226						
TCU				*e*S	Sn	02 15 08.2	-0.7
	baz=226						
ESL	Shilin	0.91	173	*e*P	Pg	02 14 56.5	-0.4
	baz=173						
TYC	Yuchr	0.91	208	*e*P	Pg	02 14 56.5	-0.6
	baz=208						
SMLT	Sun Moon Lake	0.91	205	P	Pb	02 14 57.0	-0.4
	baz=205						
WDT	Danda	0.97	190	⇑*i*P	Pg	02 14 57.4	-0.8
	baz=190						
WNT	Mingjian	1.02	215	*e*P	Pn	02 14 59.8	+0.2
	baz=215						
WNT				*e*S	Sn	02 15 15.5	+1.6
	baz=215						
PCYT	Pengchaiyu	1.14	37	*e*P	Pb	02 15 01.0	-0.1
	baz=36						
PCYT				*e*S	Sn	02 15 17.1	+0.2
	baz=36						
CHN5	Tsauling	1.26	208	*e*P	Pn	02 15 03.7	+0.7
	baz=208						
CHN5				*e*S	Sn	02 15 21.7	+1.7
	baz=208						
YUS	Yu-Shan	1.27	195	*e*P	Pg	02 15 03.0	-0.9
	baz=195						
WTCT	Ta-ch'eng	1.27	228	*e*P	Pg	02 15 02.5	-1.4
	baz=228						
WTCT				*e*S	Sn	02 15 20.7	+0.6
	baz=228						
ALS	Alishan	1.29	201	P	Pn	02 15 04.5	+0.9
	baz=201						
ALS				S	Sn	02 15 23.4	+2.3
	baz=201						
TWF1	Yuli	1.36	181	P	Pg	02 15 05.0	-0.6
	baz=181						
JYNG	Yonagunijimaku	1.50	100	P	Pn	02 15 06.8	+0.5
JYNG				*e*S	Sg	02 15 26.9	-1.0
CHN4	Tsaushan	1.51	206	*e*P	Pg	02 15 07.6	-0.9
	baz=206						
CHN4				*e*S	Sg	02 15 29.1	+1.0
	baz=206						
ELDTW	Lidau	1.54	190	*e*P	Pb	02 15 08.1	0.0
	baz=190						
YOJ	Yonaguni jima	1.56	99	*e*P	Pn	02 15 07.4	+0.3
	baz=98						
YOJ				*e*S	Sn	02 15 27.8	+0.4
	baz=98						
WTP	Ta-pu	1.60	204	*e*P	Pb	02 15 09.1	+0.1
	baz=204						
WTP				*e*S	Sg	02 15 31.2	+0.3
	baz=204						
CHKT	Chengkung	1.61	178	*e*P	Pg	02 15 10.7	+0.3
	baz=178						
STYT	Tauyuan	1.63	199	*e*P	Pg	02 15 10.0	-0.7
	baz=198						
TWK	Hsinying	1.63	208	*e*P	Pg	02 15 09.9	-0.9
	baz=207						
CHN1	Nanshi	1.69	206	*e*P	Pb	02 15 09.8	-0.8
	baz=206						
CHN8	Yiju	1.70	217	*e*P	Pn	02 15 09.2	+0.2
	baz=216						
CHN8				*e*S	Sb	02 15 32.8	+0.7
	baz=216						
SGST	Jiashian	1.76	203	*e*P	Pb	02 15 11.3	-0.5
	baz=202						
TWG	Pinlang	1.90	187	*e*P	Pb	02 15 14.4	+0.3
	baz=187						
ECL	Taimali	2.14	189	*e*P	Pb	02 15 18.3	+0.2
	baz=189						
IRIF	Iriomote-Funau	2.23	99	P	Pn	02 15 16.8	+0.5
IRIF				*e*S	Sn	02 15 43.4	-0.4
HATJ	Hateruma jima	2.36	106	*e*S	Sb	02 15 50.1	-1.0
EAST	Anshuo	2.36	191	*e*P	Pb	02 15 21.6	-0.4
	baz=190						
SCZT	Fangliau	2.42	196	*e*P	Pb	02 15 22.4	-0.6
	baz=195						
JKRS	Kuro-shima	2.50	100	P	Pn	02 15 21.7	+1.7
JKRS				S	Sn	02 15 52.1	+1.7
JIJ	Ishigaki jima	2.60	97	P	Pn	02 15 22.1	+0.8
JIJ				S	Sn	02 15 53.1	+0.2
JISG	Ishigakijimahi	2.73	92	P	Pn	02 15 24.4	+1.3

*CRAAG **12** 02:27:50.1, 36°.16N×6°.65E, MI3.4*
*CSEM **12** 02:27:50.1, 36°.16N×6°.65E, h0km, ML3.4*
*IDC **12** 02:27:51.2±2.3, 35°.85N×6°.64E, h0km, mb3.1/1, mb1 3.2/3, mb1mx3.0/37, mbtmp3.1/3, ML3.5/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/18, Error ellipse: s-maj=44.5km s-min=25.6km az=177.0*
ISC 12 02:27:50.7±1.4, 36°.14N±0°.05×6°.66E±0°.03, h7km±13km, n27, σ1$01/26, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASM	Ain Smara	0.18	311	P	Pg	02 27 54.2	-0.1
CASM	Ain Smara	0.18	311	P	Pg	02 27 54.2	-0.1
CTEI	Djebel Teioual	0.22	248	P	Pg	02 27 55.5	+0.4
CTEI	Djebel Teioual	0.22	248	P	Pg	02 27 55.5	+0.4
CKFL	Kef-Lekhel	0.26	11	P	Pg	02 27 55.6	-0.3
CKFL	Kef-Lekhel	0.26	11	P	Pg	02 27 55.6	-0.3
CAEH	'Ain El Ouahch	0.65	14	P	Pb	02 28 03.8	-0.7
CAEH	'Ain El Ouahch	0.65	14	P	Pb	02 28 03.8	-0.7
ABSA	Djebel Ababsia	0.68	79	P	Pg	02 28 03.7	0.0
ABSA	Djebel Ababsia	0.68	79	P	Pg	02 28 03.7	0.0
DFRA	Djebel Bou Aff	0.75	303	P	Pb	02 28 05.4	-0.7
DFRA	Djebel Bou Aff	0.75	303	P	Pb	02 28 05.4	-0.7
CMAH	Djebel Manchou	0.78	52	P	Pb	02 28 06.5	-0.2
CMAH	Djebel Manchou	0.78	52	P	Pb	02 28 06.5	-0.2
CKHR	Kef el Ahmar	0.94	263	P	Pg	02 28 07.7	-1.0
CKHR	Kef el Ahmar	0.94	263	P	Pg	02 28 07.7	-1.0
SET	Setif	1.02	274	P	Pn	02 28 13.0	+1.5
SET	Setif	1.02	274	P	Pn	02 28 13.0	+1.5
ATAF	Djebel Tarf	1.95	263	P	Pb	02 28 25.8	-0.8
ATAF	Djebel Tarf	1.95	263	P	Pb	02 28 25.8	-0.8
KEST	Kesra	2.22	100	Pn	Pn	02 28 28.7	+0.6
	6.6nm,0.3s,baz=194,slow=3.7,SNR=52						
KEST				Sn	Sb	02 28 59.0	0.0
	1.5nm,0.3s,baz=270,slow=14,SNR=4.6						
AKET	Djebel Ketaf	2.25	268	P	Pn	02 28 29.3	+0.8
AKET	Djebel Ketaf	2.25	268	P	Pn	02 28 29.3	+0.8
ESDC	Sonseca Array	9.10	296	Pn	Pn	02 30 05.5	+2.9
	0.2nm,0.3s,baz=118,slow=12,SNR=5.5						
IDI	Anoyia	14.84	88	LR	LR	02 37 35.2	
	comp=Z,23nm,21.0s,baz=85,slow=39						
TORD	Torodi Ar. Bea	23.33	192	P	P	02 32 58.2	-1.4
	0.4nm,0.6s,baz=12,slow=10,SNR=6.3						
MMAI	Mount Meron Ar	23.84	89	LR	LR	02 43 56.0	
	comp=Z,17nm,20.6s,baz=55,slow=40						

*NEIC **12** 03:00:47.6±1.0, 26°.74S×178°.03W, h63km±9km, mb4.8/37, Error ellipse: s-maj=7.4km s-min=6.1km az=155.0*
*BJI **12** 03:00:47.4, 26°.85S×178°.38W, h58km, mb5.0/15, mB5.2/8, Ms5.0/5, Ms7 4.7/3*
*IDC **12** 03:00:49.4±7.4, 26°.75S×177°.99W, h81km±62km, mb4.1/13, mb1 4.3/14, mb1mx4.2/24, mbtmp4.4/14, ML3.3/1, MS3.8/20, Ms1 3.8/20, ms1mx3.7/35, Error ellipse: s-maj=24.9km s-min=21.5km az=67.0*
*ISCJB **12** 03:00:58.9±0.3, 26°.85S±0°.07×178°.26W±0°.06, h174km, mb4.6/51, Error ellipse: s-maj=10.2km s-min=6.9km az=162.3*
ISC 12 03:01:00.1±0.4, 26°.84S±0°.10×178°.15W±0°.08, h174km, n150, σ1$40/130, mb4.5/51, 4C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.41	175	LR	LR	03 02 30.7	
	comp=Z,2μm,18.4s,baz=21,slow=40						
MSVF	Nonsavu	9.72	338	*e*Pn	Pn	03 03 03.4	-13
OUZ	Omahuta	10.95	218	*e*Pn	Pn	03 03 22.6	-9.3
URZ	Urewera	12.07	198	LR	LR	03 07 51.7	
	comp=Z,544nm,21.9s,baz=26,slow=35						
HIZ	Hauiti	13.04	205	*e*Pn	Pn	03 03 52.3	-6.6
DZM	Mont Dzumac	14.81	285	P	Pn	03 04 17.9	-3.4
	0.1nm,0.3s,baz=75,slow=20,SNR=14						
DZM				LR	LR	03 08 39.5	
	comp=Z,792nm,21.9s,baz=104,slow=32						
DZM	Mont Dzumac	14.81	285	*e*P	Pn	03 04 16.9	-4.3
	44nm,1.4s						
DZM				*e*LR	LR	03 07 37.0	
	1μm,26.4s						
DZM	Mont Dzumac	14.81	285	*e*Pn	Pn	03 04 15.1	-6.1
	15nm,0.9s						
RAR	Rarotonga	17.69	75	LR	LR	03 10 33.6	
	comp=Z,98nm,18.8s,baz=238,slow=33						
TBI	Tubuai	26.18	89	*e*LR	LR	03 12 33.9	
	428nm,27.5s,baz=252						
TBI	Tubuai	26.18	89	*e*T	T	03 33 01.8	
	20nm,0.3s						
HNR	Honiara	27.00	306	*e*P	P	03 06 24.0	-1.9
	78nm,0.8s						
PAE	Paea	27.92	77	*e*T	T	03 35 07.7	
	6.1nm,0.3s						
PPT2	Papeete2	27.95	77	*e*LQ	LQ	03 12 14.3	
	286nm,24.0s						
PPT2				*e*LR	LR	03 13 19.5	
	505nm,27.0s,baz=238						
PPT2	Papeete2	27.95	77	*e*T	T	03 35 10.8	
	6.0nm,0.3s						
PPT	Papeete	27.96	77	LR	LR	03 14 25.3	
	comp=Z,126nm,19.9s,baz=236,slow=29						
TVO	Taravao	28.15	77	*e*T	T	03 35 25.0	
	3.4nm,0.2s						
VAH	Vaihoa	30.65	74	*e*T	T	03 38 30.8	
	11nm,0.2s						
CTA	Charters Tower	33.26	274	P	P	03 07 20.4	-0.6
	5.2nm,0.8s,baz=102,slow=13,SNR=4.7						
CTAO	Charters Tower	33.26	274	*e*P	P	03 07 19.7	-1.4
	32nm,1.6s						
STKA	Stephens Creek	35.30	252	P	P	03 07 38.1	-0.4
	9.6nm,1.1s,baz=87,slow=8.6,SNR=11						
STKA				LR	LR	03 20 15.6	
	comp=Z,193nm,20.4s,baz=33,slow=33						
STKA	Stephens Creek	35.30	252	*e*P	P	03 07 39.1	+0.6
	5.0nm,1.3s						
PMG	Port Moresby	37.08	291	P	P	03 07 52.1	-1.6
	5.6nm,0.6s,baz=124,slow=4.0,SNR=6.5						
PMG				LR	LR	03 21 26.4	
	comp=Z,222nm,19.8s,baz=150,slow=33						
PMG	Port Moresby	37.08	291	*e*P	P	03 07 52.7	-1.1
	14nm,1.0s						
COEN	Coen	38.30	282	*e*P	P	03 08 04.0	0.0
	19nm,1.0s						
RKT	Rikitea	39.17	94	*e*LR	LR	03 18 42.4	
	298nm,28.2s						
RKT	Rikitea	39.17	94	*e*T	T	03 49 14.4	
	3.4nm,0.2s						
MANU	Manus Island	41.24	301	*e*P	P	03 08 27.2	-1.1
	39nm,1.3s						
PTCN	Pitcairn Islan	43.04	99	*e*P	P	03 08 38.1	-4.6
	571nm,1.1s						
AS01	Alice Springs	43.24	263	*e*P	P	03 08 42.7	-1.7
AS31	Alice Springs	43.28	263	*e*P	P	03 08 44.4	-0.4
	8.0nm,1.1s						
ASAR	Alice Springs	43.29	263	P	P	03 08 44.4	-0.4
	21nm,1.1s,baz=108,slow=8.3,SNR=78						
ASAR				LR	LR	03 27 53.7	
	comp=Z,175nm,18.1s,baz=124,slow=37						
WB2	Warramunga Arr	43.94	269	*e*P	P	03 08 49.1	-0.9
WRAB	Tennant Creek	43.94	269	*e*P	P	03 08 49.0	-1.0
	39nm,1.3s						
WR1	Warramunga Arr	43.95	269	*e*P	P	03 08 49.1	-0.9
	35nm,1.0s						
WR1				*e*PP	PP	03 10 34.5	-1.5
WRA	Warramunga Arr	43.95	269	P	P	03 08 49.1	-0.9
	18nm,0.9s,baz=104,slow=8.2,SNR=55						
WRA				PcP	PP	03 10 34.5	-1.5
	1.8nm,1.0s,baz=103,slow=3.3,SNR=4.0						
WRA				LR	LR	03 25 25.4	
	comp=Z,129nm,21.6s,baz=155,slow=34						
JAY	Jayapura	46.23	294	LR	LR	03 27 03.6	
	comp=Z,1μm,21.6s,slow=34						
FORT	Forrest	46.93	252	*e*P	P	03 09 12.1	-1.2
	293nm,1.2s						
SBA	Scott Base	51.57	184	*e*P	P	03 09 49.4	+1.6
	14nm,1.1s						
VNDA	Vanda	51.62	185	P	P	03 09 48.2	+0.1
	1.3nm,1.0s,baz=11,slow=7.0,SNR=4.1						
VNDA				LR	LR	03 26 42.0	
	comp=Z,60nm,20.9s,baz=300,slow=30						
VNDA	Vanda	51.62	185	*e*P	P	03 09 49.2	+1.1
	7.0nm,1.4s						
RPN	Rapa Nui	60.56	107	LR	LR	03 29 05.3	
	comp=Z,91nm,21.4s,baz=274,slow=28						
QSPA	South Pole Qui	63.26	180	*e*P	P	03 11 10.4	+0.6
MJAR	Matsushiro Arr	75.26	325	LR	LR	03 41 12.6	
	comp=Z,19nm,22.0s,baz=105,slow=32						
MAW	Mawson	75.59	200	P	P	03 12 25.3	+0.1
	1.5nm,0.6s,baz=123,slow=9.3,SNR=4.6						
MAW				LR	LR	03 45 57.2	
	comp=Z,96nm,18.1s,baz=48,slow=36						
MAW	Mawson	75.59	200	*e*P	P	03 12 25.3	+0.1
	3.2nm,1.8s						
NIKH	Nikolski High	79.88	6	*e*P	P	03 12 48.4	-0.5
	221nm,1.6s						
SYO	Syowa Base	80.55	193	⇑*e*P	P	03 12 50.4	-2.0
KSRS	Korea Array	81.56	319	P	P	03 12 59.0	+0.8
	0.4nm,0.4s,baz=142,slow=6.3,SNR=4.7						
KSRS				L

CRY	Cary Ranch	83.69	48	eP	P	03 13 07.0	-2.4
NJ2	Nanjing	83.84	310	eP	P	03 13 10.9	+0.8
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	Ussuriysk Ar.	84.13	326	LR	LR	03 46 57.4	
	comp=Z,17nm,19.2s,baz=131,slow=33						
CMB	Columbia Colle	84.21	42	eP	P	03 13 11.7	-0.2
	5.1nm,1.0s						
AFDM	Forest Hills D	84.46	41	eP	P	03 13 13.3	+0.2
	5.2nm,1.2s						
GSC	Goldstone, Bar	84.71	46	eP	P	03 13 14.8	+0.2
	14nm,1.5s						
PLCA	Paso Flores	85.03	133	P	P	03 13 16.4	+0.1
	3.9nm,1.0s,baz=270,slow=4.0,SNR=5.1						
PLCA	Paso Flores	85.03	133	eP	P	03 13 16.4	+0.1
	45nm,2.0s						
WAKR	Walker	85.08	42	eP	P	03 13 16.7	+0.2
	12nm,1.3s						
PNTR	Pine Nut	85.36	42	eP	P	03 13 17.9	0.0
	12nm,1.0s						
BEKR	Beckworth	85.42	41	eP	P	03 13 18.3	+0.2
	9.7nm,1.3s						
YERR	Yerington	85.51	42	eP	P	03 13 18.8	+0.2
	6.2nm,1.1s						
LDFC	Landfair	85.68	47	eP	P	03 13 20.6	+1.2
	16nm,1.0s						
PAHR	Pah Rah Range	85.89	41	eP	P	03 13 20.6	+0.2
	11nm,1.3s						
TPNV	Topopah Spring	86.08	45	eP	P	03 13 21.9	+0.5
	6.4nm,1.1s						
Y14A	Wickenburg	86.40	49	eP	P	03 13 23.3	+0.3
	39nm,1.4s						
W13A	Hualapai Mount	86.49	48	eP	P	03 13 23.9	+0.4
	11nm,1.5s						
SHPR	Sheep Range	86.50	46	eP	P	03 13 23.0	-0.5
	6.0nm,1.3s						
TUC	Tucson	87.00	52	eP	P	03 13 26.7	+0.8
	9.7nm,1.0s						
319A	Douglas	87.54	53	eP	P	03 13 29.4	+0.8
	8.9nm,1.1s						
X16A	Lo Mia Camp, P	87.74	49	eP	P	03 13 30.2	+0.8
	4.8nm,0.9s						
U15A	North Rim	88.32	47	eP	P	03 13 32.9	+0.6
	4.1nm,1.1s						
GYA	Guiyang	89.67	300	eP	P	03 13 40.2	+1.5
GYA				pP	pP	03 13 57.4	-25
GYA				PP	PP	03 17 16.0	+2.5
GYA				SKS	SKSac	03 24 04.8	+12
GYA				S	ScS	03 24 24.2	+4.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	Magadan	89.83	345	LR	LR	03 46 44.0	
	comp=Z,35nm,21.6s,baz=133,slow=31						
MFID	Camas Ranch	90.29	40	eP	P	03 13 41.6	+0.5
	9.2nm,1.4s						
MNTX	Cornudas Mount	90.52	55	eP	P	03 13 42.6	+0.2
	6.3nm,1.1s						
TX31	Lajitas Ar. Si	90.58	57	eP	P	03 13 42.5	-0.3
TXAR	Lajitas Array	90.58	57	P	P	03 13 42.6	-0.2
	2.7nm,1.0s,baz=223,slow=6.0,SNR=16						
LTX	Lajitas	90.58	57	eP	P	03 13 42.6	-0.2
HLID	Hailey	91.20	41	eP	P	03 13 45.5	+0.1
	4.8nm,1.1s						
LNIG	Linares	91.65	63	eP	P	03 13 46.7	-1.0
	7.5nm,1.1s						
CM01	Chiang Mai Arr	92.07	289	eP	P	03 13 50.5	+0.7
KMI	Kunming	92.10	297	P	P	03 13 53.2	+3.1
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
CM31	Chiang Mai Arr	92.10	290	eP	P	03 13 51.8	+1.8
CMAR	Chiang Mai Arr	92.10	290	P	P	03 13 51.8	+1.8
	1.1nm,0.3s,baz=142,slow=3.7,SNR=11						
CHTO	Chiang Mai	92.26	290	eP	P	03 13 53.2	+2.5
	10.0nm,1.1s						
BW06	Boulder Array	93.65	43	eP	P	03 13 55.3	-1.5
PD31	Pinedale Array	93.65	43	eP	P	03 13 56.1	-0.7
PDAR	Pinedale Array	93.65	43	P	P	03 13 56.1	-0.7
	1.6nm,1.0s,baz=224,slow=4.7,SNR=7.3						
HHC	Hu-ho-hao-te	93.67	314	eP	P	03 13 59.2	+2.4
HHC				S	S	03 25 01.2	+11
HHC				SS	SS	03 31 25.6	+12
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,54nm,5.0s						
HHC				LR	LR		
	comp=N,97nm,14.1s						
HHC				LR	LR		
	comp=E,110nm,15.3s						
ILAR	Eielson Array	94.50	13	P	P	03 13 58.4	-1.4
	1.0nm,1.0s,baz=222,slow=5.9,SNR=5.6						
ILAR				LR	LR	03 51 41.5	
	comp=Z,56nm,18.6s,baz=188,slow=32						
ILB	Eielson Array	94.50	13	eP	P	03 13 58.4	-1.4
LZH	Lanzhou	96.49	307	eP	P	03 14 11.8	+1.9
LZH				pP	pP	03 14 25.8	-28
LZH				sP	sP	03 14 31.7	-40
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.4s						
LPAZ	La Paz	99.70	114	LR	LR	03 49 25.5	
	comp=Z,31nm,21.8s,baz=193,slow=29						
WMQ	Urumqi	110.90	309	PKP		03 19 13.6	
WMQ				LR	LR		
	comp=N,39nm,25.5s						
WMQ				LR	LR		
	comp=E,41nm,22.3s						
MK32	Makanchi Array	115.36	311	ePKPdf	PKPdf	03 19 21.1	+0.3
MKAR	Makanchi Array	115.36	311	PKP	PKPdf	03 19 21.1	+0.3
	0.4nm,0.5s,baz=340,slow=2.8,SNR=5.3						
KSH	Kashi	118.28	302	ePKP	PKPdf	03 19 30.5	+3.7
KSH				PP	PP	03 20 52.5	+6.9
KSH				PKS	PKSdf	03 23 07.2	+3.7
KSH				AMB	AMB		
	comp=Z,66nm,7.1s						
KSH				LR	LR		
	comp=N,53nm,4.8s						
KSH				LR	LR		
	comp=E,41nm,4.4s						
KSH				LR	LR		
	comp=Z,69nm,8.2s						
ARCES	ARCESS Array B	135.09	348	PKP	PKPdf	03 19 57.5	-0.2
	5.3nm,0.9s,baz=28,slow=4.1,SNR=6.8						
H10S3	ASCENSION HYDR	140.98	154	T	T	05 58 03.1	
	baz=204,slow=75,SNR=56						
H10S2	ASCENSION HYDR	140.98	154	T	T	05 58 09.4	
	baz=204,slow=75,SNR=60						
H10S1	ASCENSION HYDR	140.99	154	T	T	05 58 10.9	
	baz=204,slow=75,SNR=60						
H10N3	ASCENSION HYDR	142.05	153	T	T	05 59 21.2	
	baz=203,slow=75,SNR=50						
H10N1	ASCENSION HYDR	142.06	153	T	T	05 59 14.0	
	baz=203,slow=75,SNR=24						
H10N2	ASCENSION HYDR	142.07	153	T	T	05 59 27.1	
	baz=203,slow=75,SNR=32						
NB2	NORSAR Subarra	145.22	352	PKP	PKPab	03 20 15.8	-0.8
	comp=Z,28nm,0.9s,baz=19,slow=3.7						
NB2	NORSAR Subarra	145.22	352	PKP	PKPab	03 20 15.8	-0.8
	baz=19,slow=3.7						
NB200	NORSAR Array S	145.22	352	ePKPbc	PKPab	03 20 15.8	-0.8
NOA	NORSAR Array B	145.22	352	PKPbc	PKPab	03 20 15.8	-0.8
	comp=Z,20nm,0.9s,baz=15,slow=4.9,SNR=22						
AKASG	Malin Array Be	148.34	326	PKPbc	PKPbc	03 20 25.3	-0.2
	comp=Z,5.5nm,0.9s,baz=42,slow=3.3,SNR=16						
AKBB	Malin Array Si	148.34	326	ePKPbc	PKPbc	03 20 25.8	+0.3
KIEV	Kiev	148.35	326	ePKPdf	PKPbc	03 20 22.7	-2.7
SORM	Soroca	150.35	323	⇓iP	PKPbc	03 20 30.2	-0.3
BR101	Keskin Array S	150.65	304	ePKPbc	PKPbc	03 20 32.5	+0.8
BRTR	Keskin Array B	150.65	304	PKPbc	PKPbc	03 20 32.5	+0.8
	comp=Z,4.3nm,1.1s,baz=146,slow=2.4,SNR=9.6						
CFR	Carcaliu	152.14	318	⇑iP	PKPbc	03 20 32.4	-2.3
BURAR	Bucovina Array	152.33	325	⇓iP	PKPbc	03 20 37.2	+2.0
OJC	Ojcow	152.90	334	ePKP	PKPbc	03 20 37.1	+0.8
STHS	Stebnicka Huta	152.94	332	ePKP	PKPbc	03 20 37.8	+1.4
CRVS	Cervenica-Dubn	153.23	331	ePKP	PKPab	03 20 50.5	+1.0
NIE	Niedzica	153.33	333	ePKP	PKPbc	03 20 39.0	+1.8
DPC	Dobruska-Polom	154.03	339	ePKPDF	PKPdf	03 20 31.1	+0.5
DPC				⇑ePKP	PKiKP	03 20 39.9	+1.1
DPC				ePKPAB	PKPab	03 20 53.5	+0.6
CLL	Collm	154.14	344	ePKPdf	PKPdf	03 20 33.0	+2.4
CLL				⇓iPKPbc	PKiKP	03 20 39.3	+0.4
	comp=Z,11nm,1.0s						
CLL				e		03 20 48.0	
CLL				ePKPab	PKPab	03 20 52.0	-1.2
	comp=Z,5.0nm,1.0s						
DRGR		154.15	326	⇑iP	PKPbc	03 20 39.2	0.0
BRG	Berggiesshubel	154.29	342	ePKP	PKPbc	03 20 40.3	+1.1
	comp=Z,8.6nm,1.3s						
BRG				e		03 20 44.3	
	comp=Z,7.1nm,1.2s						
BRG				e		03 33 48.3	
	comp=Z,5.7nm,1.0s						
VYHS	Vyhne	154.65	333	ePKP	PKPab	03 20 55.9	+0.3
NKC	Novy Kostel	155.26	344	ePKPAB	PKPab	03 20 57.8	-0.3
KHC	Kasperske Hory	155.96	341	ePKPDF	PKPdf	03 20 34.9	+1.7
KHC				ePKPAB	PKPab	03 21 01.4	+0.2
CONA	Conrad Observa	156.26	336	iPKPab	PKPab	03 21 03.4	+0.8
	comp=Z,5.4nm,1.1s						
MOA	Molln	156.88	338	ePKPab	PKPab	03 21 05.8	+0.6
	comp=Z,4.4nm,1.2s						
ARSA	Arzberg	156.95	336	iPKPab	PKPab	03 21 05.6	+0.1
	comp=Z,3.4nm,1.1s						
SOKA	Soboth	157.62	336	iPKPab	PKPab	03 21 08.1	-0.3
	comp=Z,3.2nm,1.0s						
OBKA	Obir	157.94	336	ePKPab	PKPab	03 21 08.8	-1.1
	comp=Z,2.2nm,1.1s						
MYKA	Terra Mystica	158.15	338	ePKPab	PKPab	03 21 11.6	+0.9
	comp=Z,1.6nm,0.4s						
RETA	Reutte	158.23	344	iPKPab	PKPab	03 21 11.1	+0.1
	comp=Z,5.4nm,1.1s						
MOTA	Moosalm	158.27	343	iPKPab	PKPab	03 21 11.5	+0.1
	comp=Z,6.4nm,1.2s						
ABTA	Abfaltersbach	158.41	340	iPKPab	PKPab	03 21 11.1	-0.8
	comp=Z,4.5nm,1.3s						
DAVA	Damuels	158.63	345	iPKPab	PKPab	03 21 12.7	-0.2
	comp=Z,6.7nm,1.0s						
FETA	Feichten	158.67	343	ePKPab	PKPab	03 21 13.0	-0.1
	comp=Z,3.2nm,1.1s						
ESDC	Sonseca Array	166.31	19	PKPab	PKPab	03 21 45.8	-0.9
	comp=Z,0.3nm,0.6s,baz=333,slow=5.0,SNR=4.3						
TORD	Torodi Ar. Bea	166.38	179	PKP	PKPdf	03 20 45.4	+0.2
	comp=Z,2.0nm,1.1s,baz=281,slow=0.7,SNR=7.4						
TORD				PKPab	sPKPdf	03 21 47.3	-1.4
	comp=Z,2.8nm,0.9s,baz=166,slow=3.3,SNR=10						
TOA1	Torodi Ar. Sit	166.38	179	ePKPdf	PKPdf	03 20 45.4	+0.2
TOA1				ePKPab	sPKPdf	03 21 47.3	-1.4

*ISCJB **12** 03:02:12.8±0.6, 23°.95N±0°.02×122°.30E±0°.02, h4km±4km, Error ellipse: s-maj=3.8km s-min=2.3km az=163.6*
*JMA **12** 03:02:13.7±0.2, 23°.96N×122°.28E, h14km±4km, M2.5*
*TAP **12** 03:02:14.4, 24°.02N×122°.30E, h23km, ML3.0, D*

ISC 12 03:02:13.9±1.2, 23°.97N±0°.03×122°.29E±0°.02, h19km±3km, n39, σ0°67/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.64	280	S	Sg	03 02 35.9	+0.7
	baz=276						
ENA	Nanau	0.68	313	P	Pb	03 02 26.9	-0.1
	baz=318						
ENA				eS	Sb	03 02 35.7	-0.3
	baz=318						
TWC	Suao	0.75	328	P	Pb	03 02 27.9	-0.5
	baz=325						
TWC				eS	Sg	03 02 38.2	-0.5
	baz=325						
JYNG	Yonagunijimaku	0.77	51	P	Pb	03 02 28.6	-0.1
JYNG				S	Sb	03 02 37.9	-0.9
ESL	Shilin	0.80	259	eS	Sg	03 02 40.6	+0.5
	baz=245						
YOJ	Yonaguni jima	0.82	53	P	Pb	03 02 29.6	0.0
YOJ				S	Sb	03 02 39.5	-0.9
EGS		0.93	340	P	Pb	03 02 31.2	-0.3
	baz=327						
EGS				eS	Sg	03 02 44.2	-0.1
	baz=327						
ENTT	Nioudou	0.94	316	P	Pn	03 02 32.0	-0.1
	baz=324						
ENTT				eS	Sn	03 02 44.8	-0.3
	baz=324						
TWE	Neicheng	0.94	323	P	Pg	03 02 32.1	0.0
	baz=328						
TWE				eS	Sn	03 02 44.9	-0.1
	baz=328						
WHF	Hehuan Shan	0.95	281	P	Pb	03 02 31.6	-0.4
	baz=277						
WHF				eS	Sb	03 02 44.5	+0.1
	baz=277						
NNS	Nan Shan	0.96	300	P	Pb	03 02 32.1	+0.1
	baz=283						
NNS				S	Sg	03 02 45.1	-0.1
	baz=283						
TWT	Tachien	1.05	286	P	Pg	03 02 34.6	+0.2
	baz=273						
TWT				eS	Sg	03 02 48.4	+0.1
	baz=273						
TWB1	Santiao Chiao	1.07	345	eP	Pb	03 02 33.7	-0.1
	baz=330						
TWB1				eS	Sn	03 02 47.9	-0.3
	baz=330						
WDT	Danda	1.08	259	P	Pb	03 02 33.5	-0.6
	baz=256						
WDT				eS	Sb	03 02 47.7	-0.2
	baz=256						
TWF1	Yuli	1.09	236	P	Pn	03 02 34.2	-0.1
	baz=223						
TWF1				eS	Sb	03 02 48.3	+0.1
	baz=223						
NSK	Sanguang	1.10	310	P	Pb	03 02 34.4	-0.1
	baz=307						
NWF	Wu-fen Shan	1.19	337	eP	Pb	03 02 35.9	-0.1
	baz=333						
NWF				S	Sn	03 02 51.5	+0.2
	baz=333						
CHKT	Chengkung	1.21	224	eP	Pn	03 02 34.5	-1.3
	baz=212						
CHKT				eS	Sb	03 02 49.9	-1.6
	baz=212						
SMLT	Sun Moon Lake	1.27	266	eP	Pn	03 02 36.6	-0.2
	baz=254						
SMLT				eS	Sb	03 02 53.1	-0.3
	baz=254						
TYC	Yuchr	1.31	267	iP	Pn	03 02 37.5	+0.4
	baz=265						
YUS	Yu-Shan	1.31	249	eS	Sb	03 02 54.4	-0.5
	baz=247						
NSTT	Nanjuang	1.34	300	eP	Pb	03 02 38.8	+0.3
	baz=284						
NSTT				eS	Sn	03 02 55.0	-0.1
	baz=284						
IRIF	Iriomote-Funau	1.37	74	P	Pb	03 02 38.7	-0.2
IRIF				eS	Sb	03 02 56.5	+0.5
HATJ	Hateruma jima	1.39	86	P	Pb	03 02 39.2	-0.1
ELDTW	Lidau	1.40	237	eP	Pn	03 02 37.3	-1.3
	baz=236						
ELDTW				eS	Sn	03 02 55.2	-1.4
	baz=236						
ALS	Alishan	1.43	252	eP	Pn	03 02 39.7	+0.5
	baz=250						
ALS				eS	Sn	03 02 57.9	+0.2
	baz=250						
TWQ1	Liyutan	1.43	286	eP	Pn	03 02 39.1	+0.2
	baz=282						
TWQ1				eS	Sb	03 02 58.1	+0.2
	baz=282						
TCU	Taichung	1.48	277	eS	Sg	03 03 01.6	-0.2
	baz=275						
CHN5	Tsauling	1.52	256	eP	Pn	03 02 40.6	+0.4
	baz=255						
JKRS	Kuro-shima	1.60	80	P	Pb	03 02 43.3	+0.5
JKRS				eS	Sg	03 03 04.1	-1.4
STYT	Tauyuan	1.62	241	eS	Sn	03 03 02.8	+0.9
	baz=229						
CHN4	Tsaushan	1.67	249	eP	Pb	03 02 43.9	-0.2
	baz=248						
CHN4				eS	Sg	03 03 06.8	-1.0
	baz=248						
WTP	Ta-pu	1.69	245	eP	Pn	03 02 43.5	+1.0
	baz=244						
WTP				eS	Sb	03 03 05.9	+0.4
	baz=244						
JIJ	Ishigaki jima	1.74	77	P	Pn	03 02 44.0	+0.9
JIJ				S	Sb	03 03 06.2	-0.6
CHN1	Nanshi	1.79	245	eP	Pb	03 02 46.5	+0.3
	baz=244						
CHN1				eS	Sb	03 03 09.7	+1.4
	baz=244						
SGST	Jiashian	1.79	241	eS	Sb	03 03 09.4	+1.0
	baz=229						
JISG	Ishigakijimahi	1.95	71	P	Pn	03 02 46.3	+0.3
JISG				eS	Sn	03 03 10.5	+0.6
SSD	Sandimen	1.95	232	eS	Sb	03 03 13.8	+1.0
	baz=225						
JTJ	Tarama	2.30	73	eS	Sn	03 03 20.6	+1.9

*IDC **12** 03:18:50.3±1.1, 6°.50N×127°.21E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.5/5, MS3.3/2, Ms1 3.3/2, ms1mx2.6/32, Error ellipse: s-maj=67.0km s-min=22.1km az=75.0*
*ISCJB **12** 03:19:01.3±0.8, 5°.74N±0°.07×126°.51E±0°.09, h71km, mb3.4/5, Error ellipse: s-maj=13.8km s-min=7.6km az=150.9*
*MAN **12** 03:19:02, 6°.26N×126°.50E, h118km, mb4.7, ML3.6, MS3.6*

ISC 12 03:19:02.0±1.0, 5°.84N±0°.08×126°.46E±0°.10, h71km, n12, σ2°37/13, mb3.3/5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.11	350	eP	Pn	03 19 22.9	+0.9
MATI				eS	Sn	03 19 38.9	+2.0
GSPH	General Santos	1.52	279	⇓iP	Pn	03 19 28.5	+1.2
GSPH				iS	Sn	03 19 47.6	+1.2
DMPH	Davao City--Mi	1.55	323	⇓eP	Pn	03 19 30.9	+3.2
DMPH				eS	Sn	03 19 50.9	+3.8
BUKP	Musuan	2.45	326	eP	Pn	03 19 39.6	-0.2
BUKP				eS	Sn	03 20 05.5	-3.3
CTBH	Cotabato--PC H	2.59	302	⇑iP	Pn	03 19 41.2	-0.4
GUMO	Guam	19.70	66	LR	LR	03 29 48.6	
	comp=Z,112nm,21.5s,baz=119,slow=35						
WRA	Warramunga Arr	26.77	163	P	P	03 24 35.7	+0.3
	0.2nm,0.4s,baz=346,slow=10,SNR=4.3						
ASAR	Alice Springs	30.22	166	P	P	03 25 06.7	+0.7
	0.2nm,0.3s,baz=345,slow=7.1,SNR=4.7						
STKA	Stephens Creek	40.19	160	P	P	03 26 31.8	+0.3
	1.2nm,0.5s,baz=324,slow=10,SNR=5.2						
MKAR	Makanchi Array	55.68	325	P	P	03 28 27.6	-3.4
	0.1nm,0.3s,baz=114,slow=6.5,SNR=2.5						
TIXI	Tiksi	65.75	1	LR	LR	04 00 55.6	
	comp=Z,20nm,19.1s,baz=97,slow=39						
ILAR	Eielson Array	83.33	26	P	P	03 31 14.3	-6.6
	0.3nm,0.5s,baz=249,slow=5.5,SNR=9.3						

*IDC **12** 03:21:57.7±2.2, 32°.69S×71°.30W, h0km, mb3.9/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=112.7km s-min=32.9km az=92.0*
*SJA **12** 03:22:01.4±0.7, 32°.75S×71°.75W, h10km, ML3.6, MW4.0*
*GUC **12** 03:22:01.4±0.4, 32°.66S×71°.56W, h18km±2km, ML3.6*

ISC 12 03:21:58.9±2.1, 32°.59S±0°.05×71°.72W±0°.08, h13km±11km, n26, σ1°31/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	El Roble	0.70	123	eP	Pn	03 22 14.4	-0.4
ROC1				eS	Sn	03 22 24.3	-1.3
ROCH	El Roble	0.70	123	eP	Pb	03 22 13.6	+0.4
ROCH				iS	Sb	03 22 22.6	-0.3
ROCH				IAML		03 22 29.9	
	comp=E,3μm,0.4s						
PEL	Peldehue	1.03	123	eP	Pb	03 22 18.6	0.0
PEL				iS	Sn	03 22 33.4	+0.1
PEL				IAML		03 22 35.8	
	comp=E,6μm,0.4s						
CLCH	Cerro Calan	1.27	129	eP	Pb	03 22 22.8	-0.1
CLCH				iS	Sn	03 22 41.4	+1.9
CLCH				IAML		03 22 45.1	
	comp=N,4μm,0.5s						
ANTU	Antumapu	1.33	137	eP	Pb	03 22 23.7	-0.1
ANTU				iS	Sn	03 22 40.6	-0.2
ANTU				IAML		03 22 45.5	
	comp=E,4μm,0.4s						
FSR	Penalolen	1.33	132	eP	Pg	03 22 25.8	+1.3
FSR				iS	Sn	03 22 44.2	+3.2
FCH	Farellones	1.41	122	eP	Pg	03 22 25.3	-0.7
FCH				iS	Sn	03 22 43.9	+0.8
FCH				IAML		03 22 48.2	
	comp=N,2μm,0.2s						
YECH	El Yeso	1.74	128	eP	Pg	03 22 32.0	-0.3
YECH				iS	Sg	03 22 57.4	+2.4
RTLS	Leoncito	2.20	70	eP	Pg	03 22 41.6	+0.5
ARCO	CERRO ARCO	2.36	97	eP	Pg	03 22 43.1	-1.1
ARCO				IAML		03 22 50.8	
	comp=Z,298nm,0.5s						
ASAL	Salagasta	2.43	91	eP	Pb	03 22 44.2	+1.7
ASAL				eS	Sg	03 23 16.1	-1.1
AAGR	Agrelo	2.48	102	eP	Pg	03 22 45.0	-1.5
RTCV	Cerro Valdivia	2.79	76	eP	Pb	03 22 49.7	+1.1
RTLL	Cerro Villicun	3.03	66	eP	Pb	03 22 53.9	+1.2
AMOG	MOGNA	3.20	60	eP	Pb	03 22 56.0	+0.3
ACAN	Cantantal	3.84	86	eP	Pb	03 23 04.3	-2.3
APLL	PUNTA DE LOS L	4.94	65	eP	Pn	03 23 20.6	+7.7
PLCA	Paso Flores	8.18	174	Pn	Pn	03 23 56.2	-1.1
	comp=Z,0.8nm,0.3s,baz=2.9,slow=11,SNR=12						
SNAA	Sanae	52.79	158	P	P	03 31 12.6	-0.8
	comp=Z,0.8nm,1.0s,baz=291,slow=7.7,SNR=4.8						
TORD	Torodi Ar. Bea	83.48	70	P	P	03 34 26.1	-0.5
	comp=Z,1.0nm,0.8s,baz=248,slow=5.0,SNR=6.0						
H11S2	WAKE ISLAND Hyl	26.05	270	T	T	05 59 56.6	
	baz=120						
H11S1	WAKE ISLAND Hyl	26.06	270	T	T	05 59 56.9	
	baz=120						
H11S3	WAKE ISLAND Hyl	26.07	270	T	T	05 59 56.8	
	baz=120						
BVAR	Borovoye Array	146.06	42	PKPbc	PKPdf	03 41 39.0	+1.8
	comp=Z,0.4nm,0.4s,baz=298,slow=3.2,SNR=4.4						
KURBB	Kurchatov Arra	151.65	42	PKPbc	PKPbc	03 41 52.7	+0.2
	comp=Z,1.4nm,0.7s,baz=301,slow=3.2,SNR=6.8						
ZALV	Zalesovo Beam	152.89	31	PKPbc	PKPbc	03 41 55.2	0.0
	comp=Z,0.7nm,0.4s,baz=316,slow=4.0,SNR=3.2						

TAP 12 03:52:53.6, 24°.92N×122°.04E, h11km, ML2.2, 1D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.10	333	⇓iP	Pg	03 52 57.0	+0.5
	baz=336						
TWB1				iS	Sg	03 52 59.3	+0.7
	baz=336						
EGS		0.12	235	P	Pg	03 52 57.3	+0.6
	baz=230						
EGS				S	Sg	03 52 59.9	+1.1
	baz=230						
NWF	Wu-fen Shan	0.28	304	P	Pb	03 53 00.5	-0.3
	baz=303						
NWF				iS	Sb	03 53 05.2	-0.4
	baz=303						
TWC	Suao	0.35	210	eP	Pg	03 53 00.8	+0.1
	baz=208						
TWC				eS	Sb	03 53 07.2	-0.2
	baz=208						
TWE	Neicheng	0.39	240	eP	Pb	03 53 02.0	-0.6
	baz=238						
TWE				eS	Sb	03 53 08.1	-0.4
	baz=238						
ENTT	Nioudou	0.51	238	eP	Pb	03 53 04.1	-0.5
	baz=236						
ENTT				eS	Sb	03 53 12.1	+0.1
	baz=236						
TWY	Chenhua	0.54	312	eP	Pb	03 53 06.1	+1.0
	baz=312						
ENA	Nan

EGS		**0.22 221**	*e*P	Pg	03 53 07.7 0.0
	baz=218				
EGS			*e*S	Sb	03 53 12.9 +1.3
	baz=218				
NWF	**Wu-fen Shan**	**0.29 282**	*e*P	Pb	03 53 09.1 -0.1
	baz=282				
NWF			*e*S	Sb	03 53 14.7 +1.1
	baz=282				
TWC	**Suao**	**0.46 209**	*e*P	Pb	03 53 12.2 +0.2
	baz=207				
TWC			*e*S	Sb	03 53 19.4 +0.9
	baz=207				
TWY	**Chenhua**	**0.52 301**	*e*P	Pg	03 53 12.8 -0.1
	baz=300				
TWY			*e*S	Sb	03 53 20.8 +0.5
	baz=300				

NIED ***12*** *04:07:00, 32.°00N×140.°70E, h71km, Mw3.9 Best double couple: M0=7.26000×10^14 NP1:φs=183.00000°, δ30.00000°, λ126.00000°. NP2:φs=323.00000°, δ66.00000°, λ72.00000°.*
ISCJB ***12*** *04:07:27.1±1.1, 31.°47N×0.°10×141.°0E±0.°3, h57km, mb3.6/5, Error ellipse: s-maj=34.1km s-min=11.8km az=166.3*
IDC ***12*** *04:07:29.4±6.2, 31.°47N×140.°76E, h58km±28km, mb3.4/5, mb1 3.5/6, mb1mx3.3/31, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=252.7km s-min=21.0km az=79.0*
JMA ***12*** *04:07:33.8±0.3, 31.°98N×140.°73E, h28km, M3.5*
ISC 12 04:07:29.9±1.3, 31.°6N±0.°1×140.°8E±0.°2, h57km, n16, σ1§52/10, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.71**	**330**	P	**Pn**	**04 07 57.6**	**+0.2**
JHJ	**Hachijo jima 2**	**1.73**	**330**	P	**Pn**	**04 07 57.6**	**0.0**
	69nm,0.3s,baz=61,slow=19,SNR=5.6						
JHJ				S	**Sn**	**04 08 16.4**	**-2.3**
	96nm,0.3s,baz=244,slow=23,SNR=9.2						
BSO1	**Boso 1**	**3.02**	**2**	P	**Pn**	**04 08 15.8**	**+1.0**
TK02	**Tokai 2**	**3.47**	**313**	P	**Pn**	**04 08 23.2**	**+2.0**
MJAR	**Matsushiro Arr**	**5.36**	**337**	P	**Pn**	**04 08 49.6**	**+2.2**
	1.1nm,0.3s,baz=158,slow=14,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**26.24**	**111**	T	T	04 41 05.2	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.25**	**111**	T	T	04 41 06.7	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**26.26**	**111**	T	T	04 41 05.7	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	04 41 46.3	
	baz=302						
H11S1	**WAKE ISLAND Hy**	**26.75**	**113**	T	T	04 41 46.7	
	baz=302						
H11S2	**WAKE ISLAND Hy**	**26.77**	**113**	T	T	04 41 47.9	
	baz=302						
WRA	**Warramunga Arr**	**51.65**	**188**	P	**P**	**04 16 30.3**	**-0.7**
	0.4nm,0.5s,baz=5.3,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**55.38**	**188**	P	P	04 16 55.3	-3.0
	0.2nm,0.5s,baz=4.0,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**73.38**	**333**	P	**P**	**04 18 55.7**	**+0.3**
	0.8nm,0.5s,baz=42,slow=6.4,SNR=5.4						
AKASG	**Malin Array Be**	**78.29**	**323**	P	**P**	**04 19 23.1**	**-0.5**
	0.4nm,0.4s,baz=51,slow=5.6,SNR=2.5						
BRTR	**Keskin Array B**	**82.08**	**312**	P	**P**	**04 19 44.7**	**+0.2**
	0.2nm,0.3s,baz=48,slow=6.4,SNR=2.8						

IDC ***12*** *04:23:07.2±1.1, 27.°19N×92.°86E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/47, mbtmp3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=70.4km s-min=21.4km az=55.0*
NDI ***12*** *04:23:07.9±2.2, 26.°94N×92.°69E, h29km±7km, ML3.3*
ISCJB ***12*** *04:23:08.8±0.5, 27.°01N±0.°04×92.°65E±0.°04, h10km, mb3.3/5, MS2.8/1, Error ellipse: s-maj=5.6km s-min=4.4km az=160.4*
ISC 12 04:23:09.5±0.7, 26.°97N±0.°05×92.°77E±0.°04, h10km, n19, σ1§37/25, mb3.4/5, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**0.35**	**175**	*e*P	**Pg**	**04 23 16.4**	**-0.1**
TEZP				*e*S	**Sg**	**04 23 21.7**	**+0.5**
ITAN	**ITANAGAR**	**0.87**	**78**	*e*P	**Pn**	**04 23 27.7**	**-0.1**
ZIRO	**ZIRO**	**1.11**	**60**	*e*P	**Pg**	**04 23 31.0**	**+0.1**
ZIRO				*e*S	**Sn**	**04 23 47.2**	**+0.4**
JORH	**JORHAT**	**1.35**	**99**	*e*S	**Sg**	**04 23 55.5**	**+2.7**
JORH				AML	AML	04 23 59.3	
	comp=E,993nm,0.6s						
SHL	**Shillong**	**1.61**	**210**	*e*PN	**Pn**	**04 23 37.5**	**-0.6**
SHL				*e*P	**Pn**	**04 23 37.8**	**-0.4**
SHL				*e*SN	**Sn**	**04 23 58.0**	**-1.0**
SHL				*e*S	**Sn**	**04 23 59.5**	**+0.4**
SHL				AML	AML	04 24 01.1	
	comp=N,547nm,0.4s						
SHL				AML	AML	04 24 01.1	
	comp=E,473nm,0.3s						
KOHI	**KOHIMA**	**1.73**	**136**	AML	AML	04 23 58.0	
	comp=N,65nm,0.3s						
TURI	**Tura**	**2.60**	**238**	*e*P	**Pb**	**04 23 55.7**	**-0.6**
TURI				*e*S	**Sn**	**04 24 25.5**	**+2.1**
TURI				AML	AML	04 24 31.8	
	comp=N,248nm,0.2s						
TURI				AML	AML	04 24 31.9	
	comp=E,160nm,0.0s						
TAPN	**Taplejung**	**4.52**	**276**	*e*Pn	**Pn**	**04 24 17.7**	**-0.6**
TAPN				*e*Sn	**Sb**	**04 25 26.1**	**+2.3**
ODAN	**Odare**	**4.80**	**270**	*e*Pn	**Pn**	**04 24 21.9**	**-0.2**
ODAN				*e*Sn	**Sb**	**04 25 34.5**	**+2.6**
	comp=E,231nm,0.8s						
RAMN	**Ramite**	**5.50**	**271**	*e*Pn	**Pn**	**04 24 32.3**	**+0.5**
JIRN	**Jiri**	**5.89**	**278**	*e*Pn	**Pn**	**04 24 37.2**	**0.0**
GUN	**Gumba**	**6.19**	**280**	*e*Pn	**Pn**	**04 24 41.5**	**+0.2**
PKIN	**Phulchoki**	**6.59**	**277**	*e*Pn	**Pn**	**04 24 45.7**	**-1.0**
MKAR	**Makanchi Array**	**21.45**	**340**	P	**P**	**04 27 56.7**	**-1.2**
	comp=E,1.0nm,0.6s,baz=150,slow=12,SNR=5.1						
AAK	**Ala-Archa**	**21.59**	**321**	LR	LR	04 37 47.3	
	comp=E,34nm,18.3s,baz=175,slow=41						
KURBB	**Kurchatov Arra**	**26.00**	**339**	P	**P**	**04 28 39.1**	**-3.4**
	comp=E,0.4nm,0.6s,baz=149,slow=8.3,SNR=3.6						
WRA	**Warramunga Arr**	**61.63**	**135**	P	**P**	**04 33 27.4**	**-0.2**
	comp=E,0.2nm,0.4s,baz=325,slow=7.0,SNR=7.6						
ASAR	**Alice Springs**	**64.14**	**138**	P	**P**	**04 33 44.5**	**+0.2**
	comp=E,0.1nm,0.4s,baz=315,slow=6.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.08**	**282**	P	**P**	**04 35 45.7**	**-0.5**
	comp=E,0.4nm,0.9s,baz=64,slow=5.0,SNR=2.8						

IDC ***12*** *04:37:29.9±3.6, 3.°81S×104.°09E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/40, mbtmp3.7/5, Error ellipse: s-maj=198.8km s-min=21.7km az=54.0*
DJA ***12*** *04:37:31.4±0.9, 5.°5±4.°×10.°3E±.°, h21km±5km, M3.5/7, MLv3.5/7*
ISC 12 04:37:27.7±2.1, 5.°02S±0.°06×102.°65E±0.°07, h13km±12km, n13, σ0§87/19, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.72**	**25**	P	**Pn**	**04 37 44.9**	**+1.2**
MNAI				S	**Sn**	**04 37 54.5**	**-0.1**
LWLI	**Liwa**	**1.41**	**90**	P	**Pg**	**04 37 54.2**	**-0.6**
LWLI				S	**Sn**	**04 38 11.0**	**-0.6**
LHSI	**Lahat**	**1.47**	**36**	P	**Pg**	**04 37 55.9**	**-0.2**
LHSI				S	**Sb**	**04 38 13.7**	**+0.1**
MDSI	**Maura Dua**	**1.61**	**71**	P	**Pb**	**04 37 57.4**	**0.0**
MDSI				S	**Sn**	**04 38 16.2**	**-0.4**
KASI	**Kota Agung**	**1.91**	**105**	S	**Sn**	**04 38 23.0**	**-0.8**
MASI	**Maura Aman, Be**	**1.91**	**348**	P	**Pb**	**04 38 02.4**	**-0.1**
MASI				S	**Sb**	**04 38 27.3**	**+1.0**
KLSI		**2.10**	**81**	P	**Pn**	**04 38 03.6**	**+1.0**
CGJI	**Cibinong**	**3.42**	**118**	P	**Pn**	**04 38 22.0**	**+1.3**
CGJI				S	**Sn**	**04 39 01.9**	**+0.8**
WRA	**Warramunga Arr**	**34.21**	**118**	P	**P**	**04 44 13.2**	**-0.2**
	0.1nm,0.3s,baz=298,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**35.36**	**125**	P	**P**	**04 44 23.3**	**0.0**
	0.2nm,0.4s,baz=298,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**45.18**	**131**	P	**P**	**04 45 45.0**	**+0.5**
	1.0nm,0.4s,baz=311,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**54.65**	**343**	P	**P**	**04 46 54.9**	**-1.4**
	0.6nm,0.4s,baz=154,slow=8.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.63**	**348**	P	**P**	**04 47 36.9**	**-1.3**
	0.8nm,0.4s,baz=145,slow=5.3,SNR=2.9						

NIED ***12*** *04:41:00, 39.°30N×142.°30E, h29km, Mw3.6 Best double couple: M0=3.13000×10^14 NP1:φs=283.00000°, δ29.00000°, λ-94.00000°. NP2:φs=108.00000°, δ61.00000°, λ-88.00000°.*
IDC ***12*** *04:41:19.3±1.2, 38.°85N×143.°13E, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/39, mbtmp3.4/5, ML3.4/1, MS2.4/2, Ms1 2.4/2, ms1mx2.3/18, Error ellipse: s-maj=58.2km s-min=22.3km az=129.0*
ISCJB ***12*** *04:41:21.4±1.1, 39.°26N±0.°04×142.°39E±0.°07, h29km±6km, mb3.5/4, Error ellipse: s-maj=9.6km s-min=5.9km az=14.7*
JMA ***12*** *04:41:22.4±0.1, 39.°29N×142.°34E, h30km±1km, M3.7*
JMA Felt I J1.
ISC 12 04:41:20.1±2.0, 39.°27N±0.°04×142.°38E±0.°07, h12km±12km, n22, σ1§37/26, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.53**	**305**	P	**Pn**	**04 41 32.5**	**-1.0**
MIYJ				S	**Sb**	**04 41 39.4**	**+0.5**
OFUJ	**Ofunato**	**0.58**	**251**	P	**Pn**	**04 41 33.5**	**-0.7**
OFUJ				S	**Sb**	**04 41 41.2**	**+0.7**
JTH	**Tanohata**	**0.77**	**329**	P	**Pn**	**04 41 36.4**	**-0.5**
JTH				*e*S	**Sb**	**04 41 46.6**	**+0.6**
JOM	**Ohasama**	**0.86**	**284**	P	**Pn**	**04 41 37.9**	**-0.2**
JOM				S	**Sg**	**04 41 49.0**	**+1.0**
JMK	**Ichinoseki**	**0.95**	**251**	P	**Pn**	**04 41 39.2**	**-0.1**
JMK				S	**Sb**	**04 41 51.2**	**0.0**
JKZ	**Kuzumaki**	**1.08**	**312**	P	**Pn**	**04 41 41.2**	**+0.1**
JKZ				S	**Sb**	**04 41 54.9**	**+0.1**
JIO	**Ouri**	**1.15**	**225**	P	**Pn**	**04 41 41.5**	**-0.4**
JIO				S	**Sg**	**04 41 55.8**	**-1.2**
JANG	**Nango**	**1.28**	**329**	P	**Pb**	**04 41 44.0**	**-0.2**
JANG				S	**Sb**	**04 41 59.8**	**-0.9**
JRG	**Rokugo**	**1.36**	**276**	P	**Pg**	**04 41 46.1**	**-0.1**
JRG				*e*S	**Sn**	**04 42 03.2**	**+0.4**
MAT	**Matsushiro**	**4.28**	**232**	P	**Pn**	**04 42 28.4**	**+3.3**
MAT				*e*S	**Sn**	**04 43 14.3**	**-0.6**
MJAR	**Matsushiro Arr**	**4.28**	**232**	Pn	**Pn**	**04 42 28.6**	**+3.5**
	1.9nm,0.3s,baz=43,slow=12,SNR=29						
MJAR				Sn	**Sb**	**04 43 24.3**	**-2.6**
	0.4nm,0.3s,baz=92,slow=28,SNR=2.5						
MJAR				LR	LR	04 44 30.3	
	comp=Z,48nm,20.4s,baz=40,slow=42						
KSRS	**Korea Array**	**11.49**	**265**	LR	LR	04 48 10.7	
	comp=Z,17nm,21.9s,baz=215,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.74**	**126**	T	T	05 17 39.0	
	baz=318,slow=75,SNR=246						
H11N1	**WAKE ISLAND Hy**	**28.75**	**126**	T	T	05 17 38.1	
	baz=318,slow=75,SNR=199						
H11N3	**WAKE ISLAND Hy**	**28.75**	**126**	T	T	05 17 41.8	
	baz=318,slow=75,SNR=310						
H11S1	**WAKE ISLAND Hy**	**29.53**	**128**	T	T	05 18 38.1	
	baz=319,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**29.53**	**128**	T	T	05 18 38.2	
	baz=319,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**29.55**	**128**	T	T	05 18 39.3	
	baz=319,slow=76,SNR=60						
ILAR	**Eielson Array**	**47.20**	**33**	P	**P**	**04 49 53.2**	**+0.8**
	0.2nm,0.6s,baz=263,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**59.38**	**189**	P	**P**	**04 51 21.5**	**-0.9**
	0.5nm,0.6s,baz=7.3,slow=7.0,SNR=6.5						
ASAR	**Alice Springs**	**63.11**	**189**	P	**P**	**04 51 46.1**	**-1.5**
	0.2nm,0.5s,baz=359,slow=4.6,SNR=3.9						
TXAR	**Lajitas Array**	**88.16**	**53**	P	**P**	**04 54 11.7**	**+0.5**
	0.1nm,0.5s,baz=289,slow=2.8,SNR=2.4						

PGC 12 05:03:33.3±1.9, 48.°89N×129.°21W, h10km, ML3.2/13, Mw3.8, 239km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.68**	**53**	Pn	Pn	05 03 60.0	-2.8
EDB				Sn	Sn	05 04 19.3	-5.0
WOSB	**Woss**	**2.14**	**52**	Pn	Pn	05 04 07.4	-1.7
WOSB				Sn	Sn	05 04 31.9	-3.8
TOFB	**Tofino**	**2.19**	**82**	Pn	Pn	05 04 07.7	-2.0
TOFB				Sn	Sn	05 04 32.1	-4.6
GDR	**Gold River**	**2.26**	**66**	Pn	Pn	05 04 08.7	-2.0
TLCB	**Telegraph Cove**	**2.26**	**42**	Pn	Pn	05 04 08.9	-1.8
TLCB				Sn	Sn	05 04 33.5	-5.1
SPLB	**Strathcona Par**	**2.53**	**65**	Pn	Pn	05 04 13.1	-1.3
SPLB				Sn	Sn	05 04 42.5	-2.8
NCRB	**Newcastle Ridg**	**2.55**	**52**	Pn	Pn	05 04 13.5	-1.3
NCRB				Sn	Sn	05 04 42.7	-3.2
B928	**Bamfield**	**2.69**	**90**	Pn	Pn	05 04 14.7	-1.8
B928				Sn	Sn	05 04 44.6	-4.4
MWAB	**Mount Washingt**	**2.69**	**70**	Pn	Pn	05 04 16.0	-0.7
MWAB				Sn	Sn	05 04 47.5	-1.9
CBB	**Campbell River**	**2.75**	**64**	Pn	Pn	05 04 16.2	-1.3
CBB				Sn	Sn	05 04 48.4	-2.4
TXB	**Texada**	**3.23**	**74**	Pn	Pn	05 04 22.7	-1.3
TXB				Sn	Sn	05 04 59.0	-3.4
YOUB	**Youbou, Lake C**	**3.26**	**88**	Pn	Pn	05 04 24.0	-0.5
YOUB				Sn	Sn	05 05 00.0	-3.4
B926	**Mesachie Lake**	**3.35**	**89**	Pn	Pn	05 04 25.2	-0.4
B926				Sn	Sn	05 05 02.3	-3.2
NLLB	**Nanaimo Lost L**	**3.45**	**82**	Pn	Pn	05 04 26.9	-0.1
NLLB				Sn	Sn	05 05 05.5	-2.3
SHB	**Sechelt**	**3.56**	**77**	Pn	Pn	05 04 28.3	-0.4
MBW	**Mount Baker**	**4.83**	**88**	Pn	Pn	05 04 46.3	+0.2
LLLB	**Lillooet**	**5.05**	**67**	Pn	Pn	05 04 49.5	+0.4

NSSP ***12*** *05:12:20.2, 41.°28N×46.°88E, h10km, Ms3.0*
TIF ***12*** *05:12:21.3, 41.°37N×46.°90E, h18km±1km*
ISC 12 05:12:18.1±3.4, 41.°53N±0.°09×47.°2E±0.°1, h9km±14km, n8, σ1§66/13, 4C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**1.35**	**267**	P	**Pg**	**05 12 44.0**	**+0.1**
DGRG				S	**Sg**	**05 13 02.1**	**+0.8**
SEAG	**Tbilisi Sea**	**1.78**	**278**	P	**Pg**	**05 12 51.6**	**-0.6**
SEAG				S	**Sb**	**05 13 13.9**	**+0.4**
TBLG	**Delisi**	**1.83**	**277**	P	**Pb**	**05 12 51.5**	**-0.3**
TBLG				S	**Sb**	**05 13 14.4**	**-0.4**
STEZ	**Stepenevan**	**2.15**	**257**	⇑*i*P	**Pn**	**05 12 54.5**	**+0.3**
STEZ				⇑*i*S	**Sn**	**05 13 20.5**	**-0.6**
GUDG	**Gudauri**	**2.21**	**296**	P	**Sb**	**05 13 29.3**	**+3.4**
GNI	**Garni**	**2.29**	**234**	⇑*i*P	**Pb**	**05 12 59.2**	**-0.5**
GNI				⇑*i*S	**Sb**	**05 13 30.3**	**+2.0**
AKH	**Akhalkalaki**	**2.76**	**269**	P	**Sb**	**05 13 39.1**	**-2.6**
ONI	**Oni**	**2.96**	**292**	P	**Pb**	**05 13 10.1**	**-0.9**

IDC 12 05:48:56.3±999.0, 51.°51N×115.°14E, h0km, Error ellipse: s-maj=710.7km s-min=199.3km az=104.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.45**	**116**	*i*		07 12 00.0	
	baz=308,slow=318,SNR=2.8						
I30JP	**ISUMI INFRASON**	**24.25**	**122**	*i*		08 16 50.0	
	baz=322,slow=318,SNR=1.4						
I44RU	**PETROPAVLOVSK**	**25.80**	**70**	*i*		08 27 40.0	
	baz=285,slow=318,SNR=0.6						

SOME ***12*** *06:22:16.0, 49.°70N×83.°48E, h0km*
NNC ***12*** *06:22:17.8±4.9, 49.°51N×83.°62E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=45.8km s-min=12.5km az=66.0*
ISC 12 06:22:18.7±3.0, 49.°9N±0.°2×83.°7E±0.°2, h0km, n5, σ0§25/6, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.54**	**161**	*e*P	**Pn**	**06 23 01.1**	**-0.1**
	3.0nm,0.5s						
ZSN				*e*S	**Sn**	**06 23 32.8**	**+0.1**
	7.1nm,0.6s						
MK31	**Makanchi Array**	**3.19**	**197**	⇓Pg	**Pn**	**06 23 10.4**	**+0.3**
	1.9nm,0.6s,baz=23,slow=14,SNR=30						
MK31				⇑Lg	Lg	06 23 47.9	
	6.1nm,0.5s,baz=24,slow=28,SNR=19						
MAKZ	**Makanchi**	**3.25**	**201**	⇓Pg	**Pn**	**06 23 10.5**	**-0.3**
	2.7nm,0.6s						
MAKZ				⇓Lg	Lg	06 23 51.2	
	8.0nm,0.8s						
KURK	**Kurchatov**	**3.34**	**287**	⇑Pg	**Pb**	**06 23 18.7**	**0.0**
	0.9nm,0.3s						
KURK				⇑Lg	Lg	06 24 06.2	
	3.6nm,0.5s						
KURBB	**Kurchatov Arra**	**3.37**	**285**	⇑Pg	**Pg**	**06 23 23.3**	**+0.1**
	1.1nm,0.3s						
KURBB				⇑Lg	Lg	06 24 06.3	
	13nm,0.7s						

DDA ***12*** *06:50:44.6, 37.°48N×42.°48E, h15km, Md2.8*
CSEM ***12*** *06:50:45.1±0.3, 37.°52N×42.°50E, h2km, MD2.8, Error ellipse: s-maj=12.1km s-min=6.8km az=36.0*
ISN ***12*** *06:50:46.6±0.3, 36.°87N×44.°25E, h0km, ML1.6*
ISC 12 06:50:44.9±1.8, 37.°41N±0.°07×42.°45E±0.°03, h1km±12km, n10, σ0§92/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S¨–rnak**	**0.09**	**343**	*i* P	**Pg**	**06 50 45.9**	**-0.8**
SIRN				*i* S	**Sg**	**06 50 49.5**	**+1.6**
SIRN	**S¨–rnak**	**0.09**	**343**	P	**Pg**	**06 50 45.9**	**-0.8**
SIRN				S	**Sg**	**06 50 49.5**	**+1.6**
HAKT	**HAKKARI**	**1.01**	**81**	*i* P	**Pg**	**06 51 03.8**	**-0.5**
HAKT				*i* S	**Sn**	**06 51 22.4**	**+0.9**
HAKT	**HAKKARI**	**1.01**	**81**	P	**Pg**	**06 51 03.8**	**-0.5**
HAKT				S	**Sn**	**06 51 22.5**	**+0.9**
BTMN	**Batman**	**1.05**	**298**	*i* P	**Pg**	**06 51 04.7**	**-0.4**
BTMN				*i* S	**Sb**	**06 51 20.5**	**+0.2**
BTMN	**Batman**	**1.05**	**298**	P	**Pg**	**06 51 04.7**	**-0.4**
BTMN				S	**Sb**	**06 51 20.5**	**+0.2**
MARD	**Mardin**	**1.33**	**266**	*i* P	**Pg**	**06 51 10.1**	**-0.4**
MARD				*i* S	**Sn**	**06 51 29.8**	**+0.6**
BNGL	**BINGOL**	**1.85**	**327**	*i* P	**Pn**	**06 51 17.4**	**-0.6**
BNGL				*i* S	**Sb**	**06 51 42.9**	**-0.5**
EKAR	**Karacoban**	**1.87**	**351**	*i* P	**Pn**	**06 51 17.4**	**-0.9**
EKAR	**Karacoban**	**1.87**	**351**	P	**Pn**	**06 51 17.4**	**-0.9**

IDC ***12*** *07:37:56.5±2.1, 1.°59N×126.°27E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/34, mbtmp3.5/3, Error ellipse: s-maj=184.2km s-min=25.5km az=65.0*
DJA ***12*** *07:38:02.6±0.5, 2.°N±4.°×12.°7E±.°, h10km, M4.0/6, mB5.0/1, mb4.3/1, MLv3.9/6, Mw(mB)4.4/1*
ISC 12 07:37:57.7±1.1, 1.°57N±0.°06×126.°1E±0.°1, h10km, n7, σ1§70/9, mb3.6/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.18**	**345**	P	**Pb**	**07 38 36.5**	**-0.8**
LBMI	**Labuha**	**2.60**	**147**	P	**Pg**	**07 38 47.4**	**-0.3**
LBMI				S	**Sg**	**07 39 22.6**	**+1.1**
SANI	**Sanana**	**3.59**	**182**	P	**Pg**	**07 39 05.8**	**-0.8**
SANI				S	**Sb**	**07 39 47.6**	**+2.5**
NLAI	**Namlea**	**4.88**	**168**	P	**Pb**	**07 39 21.5**	**-1.8**
WRA	**Warramunga Arr**	**22.86**	**160**	P	**P**	**07 42 59.8**	**-1.7**
	0.8nm,0.4s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.21**	**164**	P	**P**	**07 43 34.2**	**+1.3**
	0.1nm,0.3s,baz=342,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**58.97**	**326**	P	**P**	**07 47 58.3**	**+0.8**
	0.5nm,0.4s,baz=121,slow=7.8,SNR=5.5						

TAP 12 07:40:12.2, 23.°10N×121.°09E, h5km, ML3.6, 1C-10D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**323**	⇑*i*P	Pg	07 40 14.8	+0.3
ELDTW				*i* S	Sg	07 40 16.5	+0.4
	baz=325						
CHKT	**Chengkung**	**0.26**	**91**	P	Pb	07 40 19.0	-0.3
CHKT				S	Sb	07 40 24.1	+0.1
	baz=92						
TWG	**Pinlang**	**0.28**	**183**	P	Pg	07 40 17.6	-0.1
TWG				*e*S	Sg	07 40 21.3	-0.1
	baz=182						
STYT	**Tauyuan**	**0.31**	**281**	⇓*i*P	Pg	07 40 18.6	+0.4
STYT				*i* S	Sg	07 40 23.2	+0.8
	baz=281						
TWF1	**Yuli**	**0.31**	**38**	P	Pg	07 40 18.9	+0.6
TWF1				S	Sg	07 40 23.3	+0.8
	baz=29						
TTN	**Taitung**	**0.35**	**171**	*e*P	Pb	07 40 20.9	0.0
	baz=172						
YUS	**Yu-Shan**	**0.40**	**342**	⇓*i*P	Pg	07 40 20.7	+0.5
YUS				S	Sg	07 40 26.3	+0.8
	baz=342						
EHY	**Hungye**	**0.46**	**28**	*e*P	Pg	07 40 21.6	+0.6
EHY				*e*S	Sg	07 40 26.9	0.0
	baz=28						
WTP	**Ta-pu**	**0.46**	**288**	⇓*i*P	Pb	07 40 22.0	-0.7
WTP				S	Sb	07 40 29.2	-0.7
	baz=288						
SGST	**Jiashian**	**0.47**	**267**	⇓*i*P	Pb	07 40 22.1	-0.8
SGST				*i* S	Sb	07 40 28.9	-1.1
	baz=271						
ALS	**Alishan**	**0.48**	**327**	⇓*i*P	Pb	07 40 22.5	-0.8
ALS				*e*S	Sg	07 40 29.2	+1.4
	baz=336						
CHN4	**Tsaushan**	**0.52**	**299**	⇓*i*P	Pb	07 40 23.4	-0.3
CHN4				S	Sb	07 40 31.5	0.0
	baz=307						
ECL	**Taimali**	**0.52**	**194**	*e*P	Pg	07 40 21.6	-0.6
	baz=182						
CHN1	**Nanshi**	**0.52**	**279**	⇓*i*P	Pb	07 40 23.5	-0.3
CHN1				*e*S	Sb	07 40 32.6	+1.0
	baz=279						
SSD	**Sandimen**	**0.55**	**230**	⇓*e*P	Pg	07 40 21.2	-1.6
	baz=231						
TWK	**Hsinying**	**0.57**	**286**	⇓*i*P	Pb	07 40 24.5	-0.2
TWK				*e*S	Sb	07 40 33.2	-0.1
	baz=287						
CHN5	**Tsauling**	**0.62**	**323**	⇓*i*P	Pb	07 40 25.3	-0.2
	baz=311						
WDT	**Danda**	**0.65**	**4**	*e*P	Pg	07 40 24.9	+0.2
	baz=11

SCZT	Fangliau	0.85	211	eP		Pg	07 40 27.8 -0.6
	baz=212						
WNT	Mingjian	0.85	334	eP		Pn	07 40 30.3 -0.6
	baz=335						
WNT				eS		Sn	07 40 44.1 +0.4
	baz=335						
WSF	Szhu	0.96	304	eP		Pn	07 40 31.7 -0.5
	baz=304						
WSF				eS		Sn	07 40 46.4 +0.2
	baz=304						
TWP	Hsiaoliuchiu	1.01	222	eP		Pn	07 40 34.9 +2.0
	baz=222						
WHF	Hehuan Shan	1.05	9	eP		Pg	07 40 32.5 +0.2
	baz=20						
WTCT	Ta-ch'eng	1.06	316	eP		Pn	07 40 34.0 +0.4
	baz=316						
WTCT				eS		Sn	07 40 48.9 +0.2
	baz=316						
TWD	Chiawan	1.08	26	eP		Pn	07 40 33.6 -0.3
	baz=41						
TCU	Taichung	1.10	340	eP		Pn	07 40 35.8 +1.5
	baz=339						
HEN	Hengchun	1.14	197	eP		Pn	07 40 36.5 +1.7
	baz=188						
LAY	Lan-yu	1.14	158	eP		Pg	07 40 31.4 -2.7
	baz=160						
TWT	Tachien	1.15	4	eP		Pg	07 40 34.3 +0.1
	baz=13						
TWK1	Hengchun	1.18	193	eP		Pn	07 40 35.8 +0.4
	baz=183						
TSEB	Hengchuen, Pin	1.21	188	eP		Pn	07 40 36.1 +0.4
	baz=181						
TWQ1	Liyutan	1.27	347	eP		Pb	07 40 38.1 +1.5
	baz=349						
TWQ1				eS		Sn	07 40 56.6 +2.6
	baz=349						
WDGT	Dungji	1.32	277	eP		Pn	07 40 36.5 -0.7
	baz=276						
WDGT				eS		Sb	07 40 54.6 0.0
	baz=276						
NSY	Sanyi	1.34	347	eP		Pg	07 40 39.0 +1.1
	baz=350						
NSY				eS		Sn	07 40 59.4 +3.7
	baz=350						
NNS	Nan Shan	1.36	11	eP		Pb	07 40 38.1 -0.1
	baz=12						
ENA	Nanau	1.45	24	eP		Pn	07 40 39.3 +0.3
	baz=25						
PNG	Penghu	1.48	288	P		Pn	07 40 39.3 -0.2
	baz=288						
PNG				eS		Sn	07 40 58.9 -0.3
	baz=288						
NSTT	Nanjuang	1.52	357	eP		Pg	07 40 41.7 +0.3
	baz=9.0						
NSTT				eS		Sg	07 41 03.1 +1.9
	baz=9.0						
NSK	Sanguang	1.58	9	eP		Pb	07 40 41.8 -0.2
	baz=10.0						
ENTT	Nioudou	1.59	16	eP		Pb	07 40 42.4 +0.3
	baz=32						
TWC	Suao	1.65	25	eP		Pg	07 40 44.0 +0.1
	baz=27						
TWC				eS		Sg	07 41 05.3 -0.1
	baz=27						
TWE	Neicheng	1.69	18	eP		Pb	07 40 44.3 +0.4
	baz=35						
EGS		1.90	24	eP		Pg	07 40 48.4 -0.2
	baz=26						
TWA	Mucha	1.92	14	eP		Pg	07 40 49.0 -0.1
	baz=31						
NWF	Wu-fen Shan	2.06	18	eP		Pb	07 40 50.6 +0.5
	baz=33						

IDC 12 07:41:05.8±25.0, 18°.19S×172°.70W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/30, mbtmp4.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=468.2km s-min=160.5km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.89	202	LR	LR	07 55 48.6	
	comp=Z,35nm,18.7s,baz=89,slow=40						
CTA	Charters Tower	38.76	260	P	P	07 48 32.7	+0.4
	1.9nm,0.3s,baz=108,slow=6.4,SNR=3.9						
STKA	Stephens Creek	43.29	243	P	P	07 49 09.4	-0.1
	0.7nm,0.4s,baz=73,slow=14,SNR=4.0						
WRA	Warramunga Arr	49.92	259	P	P	07 50 01.3	-0.5
	0.9nm,0.3s,baz=97,slow=7.5,SNR=36						
ASAR	Alice Springs	49.94	254	P	P	07 50 01.7	-0.2
	2.2nm,0.5s,baz=89,slow=8.0,SNR=52						

CASC 12 08:01:35.8±2.1, 12°.74N×88°.67W, h36km±999km, MD3.5, ML2.9, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	Lacayo	0.77	28	eP		Pn	08 01 50.5 +0.3
VSM	San Miguel	0.79	30	eP		Pn	08 01 51.0 +0.4
VSM				ij P		Pn	08 01 51.1 +0.5
PACA	Pacayal	0.80	25	eP		Pn	08 01 51.0 +0.4
SNVI	San Vicente	0.88	349	eP		Pn	08 01 52.2 +0.3
SNVI				eS		Sn	08 02 03.6 0.0
LFRS	El Faro	0.96	337	i P		Pn	08 01 53.1 +0.3
LFRS				eS		Sn	08 02 05.0 -0.2
CNCH	Conchagua	0.97	57	eP		Pn	08 01 53.3 +0.2
CNCH				eS		Sn	08 02 08.0 +2.3
CNCH					AML	AML	08 02 09.8
	comp=Z,315nm,0.3s						
LBRS	Las Brisas	1.05	340	eP		Pn	08 01 54.7 +0.5
LFU	La Fuente	1.09	337	i P		Pn	08 01 55.2 +0.6
OPAM	San Salvador	1.10	332		AML	AML	08 02 11.3
	comp=Z,698nm,0.2s						
CAHU	Cacacuatique	1.12	24	eP		Pn	08 01 55.5 +0.4
CAHU				eS		Sn	08 02 09.9 +0.5
CAHU					AML	AML	08 02 12.0
	comp=Z,304nm,0.3s						
BOQS	Boqueron	1.15	329	eP		Pn	08 01 56.2 +0.6
BOQS				eS		Sn	08 02 10.9 +0.6
BOQS					AML	AML	08 02 11.7
	comp=Z,218nm,0.4s						
COPN	Copaltepe	2.11	105	eP		Pn	08 02 09.2 +0.6
COPN				eS		Sn	08 02 32.0 -1.5
COPN					AML	AML	08 02 42.8
	comp=Z,92nm,0.3s						

IDC 12 08:14:58.6±3.1, 10°.28S×120°.49E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=268.7km s-min=30.9km az=50.0
ISCJB 12 08:14:59.9±1.1, 10°.64S±0°.09×120°.50E±0°.08, h10km, mb3.7/1, Error ellipse: s-maj=12.6km s-min=10.8km az=156.3
DJA 12 08:15:04.3±0.8, 10°.5±8°.5×12°.0E±°, h11km±4km, M3.5/7, MLv3.5/7

ISC 12 08:14:58.2±1.0, 10°.73S±0°.07×120°.61E±0°.07, h10km, n10, σ3°.27/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.51	357	P	Pg	08 15 09.2	+1.1
EDFI	Ende, Flores	2.24	29	P	Pb	08 15 37.8	-1.1
EDFI				S	Sn	08 16 04.2	+0.9
MMRI	Maumere	2.63	38	P	Pb	08 15 44.5	-1.0
PLAI	Plampang	3.37	304	P	Pn	08 15 52.0	+1.1
PLAI				S	Sn	08 16 26.6	-4.4
SOEI	Soe	3.73	75	P	Pb	08 16 03.1	-1.2
TWSI	Taliwang, Sumb	4.17	298	P	Pn	08 16 03.6	+1.7
BSSI	Bau Bau, Buton	4.56	359	P	Pn	08 16 07.5	+0.2
WRA	Warramunga Arr	16.09	126	Pn	P	08 18 49.4	+1.3
	0.1nm,0.3s,baz=301,slow=14,SNR=5.6						
WRA				Sn	Sn	08 21 38.5	-4.9
	0.1nm,0.3s,baz=306,slow=26,SNR=3.2						
ASAR	Alice Springs	18.06	137	P	P	08 19 17.0	+7.1
	0.2nm,0.3s,baz=311,slow=12,SNR=14						
ASAR				S	Sn	08 22 27.6	-3.5
	0.1nm,0.3s,baz=312,slow=22,SNR=3.5						
MKAR	Makanchi Array	66.71	332	P	P	08 25 48.6	-0.9
	0.6nm,0.7s,baz=125,slow=6.1,SNR=4.6						

ISCJB 12 08:20:23.7±0.4, 59°.62N±0°.02×25°.61E±0°.06, h0km, Error ellipse: s-maj=4.3km s-min=3.3km az=30.3
NAO 12 08:20:24.2±0.9, 59°.58N×25°.95E, ML2.3
CSEM 12 08:20:24.7±0.2, 59°.59N×25°.72E, h2km, ML2.1, Error ellipse: s-maj=5.4km s-min=4.7km az=100.0, Mining explosion.
BER 12 08:20:25.5±3.3, 59°.54N×25°.74E, h0km, ML2.3(NAO), Suspected explosion
HEL 12 08:20:25.2±0.1, 59°.59N×25°.66E, h0km, ML2.1, ML2.1(UPP), Explosion
IDC 12 08:20:26.8±2.3, 59°.74N×25°.59E, h0km, mb1 3.4/3, mb1mx3.1/46, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=23.8km s-min=9.1km az=151.0
UPP 12 08:20:29.1±2.0, 59°.61N×25°.15E, h0km, ML2.1

ISC 12 08:20:24.2±0.8, 59°.59N±0°.03×25°.66E±0°.03, h0km, n96, σ1°.57/125, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.89	315	eP	Pg	08 20 41.4	+0.1
MEF	Metsahovi	0.89	315	eP	Pg	08 20 41.4	+0.1
	SNR=90						
PVF	Pernaja	0.96	6	eP	Pg	08 20 42.5	-0.1
VSU	Vasula	1.27	153	Pg	Pg	08 20 47.8	-0.6
VSU				Lg	Lg	08 21 02.5	
VSU	Vasula	1.27	153	Pg	Pg	08 20 47.8	-0.6
VSU				Lg	Lg	08 21 02.5	
VSU	Vasula	1.27	153	ePB	Pg	08 20 48.1	-0.3
VSU	Vasula	1.27	153	Pg	Pg	08 20 47.8	-0.6
	SNR=90						
VSU	Vasula	1.27	153	eP	Pg	08 20 48.0	-0.4
	SNR=90						
VSU	Vasula	1.27	153	Pb	Pg	08 20 48.1	-0.3
VSU				Lg	Lg	08 21 02.5	
	SNR=49						
VSU				eS	Sb	08 21 06.2	+0.5
	123nm,0.2s,SNR=90						
MTSE	Matsula	1.29	228	eP	Pg	08 20 48.2	-0.7
MTSE				eS	Sg	08 21 05.2	-0.6
MTSE	Matsula	1.29	228	eP	Pg	08 20 48.3	-0.7
	SNR=90						
MTSE				S	Sg	08 21 05.2	-0.6
VJF	Virojoki	1.34	44	eP	Pg	08 20 49.1	-0.9
VJF				eS	Sg	08 21 06.6	-0.7
VJF	Virojoki	1.34	44	P	Pg	08 20 49.1	-0.9
VJF				S	Sg	08 21 06.6	-0.7
FIA0	FINESS Array S	1.87	6	Pn	Pn	08 20 58.4	+1.0
	baz=176,slow=18						
FIA0				Sn	Sn	08 21 21.9	+0.3
	baz=178,slow=37						
FIA0	FINESS Array S	1.87	6	Pn	Pn	08 20 58.4	+1.0
	baz=176,slow=18						
FIA0				Sn	Sn	08 21 21.9	+0.3
	baz=178,slow=37						
FIA0	FINESS Array S	1.87	6	eP	Pn	08 20 58.1	+0.7
FIA0				eSG	Sn	08 21 22.8	+1.1
FIA0				MSG		08 21 26.9	
	comp=Z,6.2nm,0.3s						
FIA0	FINESS Array S	1.87	6	P	Pn	08 20 58.1	+0.7
FIA0	FINESS Array S	1.87	6	Pn	Pn	08 20 58.4	+1.0
	SNR=50						
FIA0				Sn	Sn	08 21 22.0	+0.3
	SNR=50						
FINES	FINESS Array B	1.87	6	Pn	Pn	08 20 58.5	+1.0
	comp=Z,2.4nm,0.3s,baz=187,slow=16,SNR=199						
FINES				Sn	Sn	08 21 22.7	+1.1
	comp=Z,3.5nm,0.3s,baz=186,slow=25,SNR=29						
RAF	Rauma	2.41	308	ePB	Pn	08 21 06.8	+2.0
RAF				eSG	Sb	08 21 39.1	+0.5
RAF				MSG		08 21 39.8	
	comp=Z,9.4nm,0.1s						
RAF	Rauma	2.41	308	Pb	Pn	08 21 06.8	+2.0
RAF	Rauma	2.41	308	eP	Pb	08 21 07.4	-1.0
	SNR=68						
RAF				eS	Sb	08 21 39.0	+0.5
	comp=Z,19nm,0.3s,SNR=68						
RAF				Sg	Sb	08 21 39.1	+0.5
KAF	Kangasniemi	2.55	7	eP	Pn	08 21 08.1	+1.4
KAF				MSG		08 21 40.2	
	comp=Z,11nm,0.2s						
KAF				eSB	Sn	08 21 40.5	+2.0
KAF	Kangasniemi	2.55	7	P	Pn	08 21 08.1	+1.4
KAF				Sb	Sn	08 21 40.4	+2.0
KEF	Keuruu	2.61	352	ePB	Pn	08 21 10.1	+2.5
KEF				MSG		08 21 42.1	
	comp=Z,7.0nm,0.2s						
KEF				eSG	Sb	08 21 44.6	+0.2
KEF	Keuruu	2.61	352	Pb	Pn	08 21 10.1	+2.5
KEF				Sg	Sb	08 21 44.6	+0.2
SLIT	Slitere, Latvi	2.64	223	eP	Pn	08 21 10.3	+2.3
	SNR=48						
SUF	Sumiainen	3.15	4	eP	Pn	08 21 16.6	+1.6
SUF				MSG		08 21 57.6	
	comp=Z,3.1nm,0.2s						
SUF	Sumiainen	3.15	4	P	Pn	08 21 16.5	+1.6
NRTU	Norrtaelje	3.57	274	P	Pn	08 21 22.9	+2.1
NRTU	Norrtaelje	3.57	274	eP	Pn	08 21 22.9	+2.1
NRTU	Norrtaelje	3.57	274	P	Pn	08 21 22.8	+2.1
GRAU	Graesoe	3.65	285	P	Pn	08 21 21.9	0.0
GRAU				S	Sn	08 22 05.5	-0.1
GRAU	Graesoe	3.65	285	eP	Pn	08 21 21.9	0.0
GRAU				eS	Sn	08 22 05.5	-0.1
GRAU	Graesoe	3.65	285	P	Pn	08 21 21.9	0.0
GRAU				S	Sn	08 22 05.5	-0.1
VAF	Ylistaro	3.75	339	eP	Pn	08 21 25.4	+2.2
VAF	Ylistaro	3.75	339	P	Pn	08 21 25.4	+2.2
FLYU	Flymyra	3.96	281	P	Pn	08 21 26.2	+0.1
FLYU	Flymyra	3.96	281	eP	Pn	08 21 26.2	+0.1
FLYU	Flymyra	3.96	281	P	Pn	08 21 26.2	+0.1
NYNU	Nynaeshamn	3.97	265	P	Pn	08 21 27.9	+1.6
NYNU	Nynaeshamn	3.97	265	eP	Pn	08 21 27.9	+1.6
NYNU	Nynaeshamn	3.97	265	P	Pn	08 21 27.8	+1.6
GOTU	Gotland	4.17	246	P	Pn	08 21 29.5	+0.5
GOTU	Gotland	4.17	246	eP	Pn	08 21 29.5	+0.5
GOTU	Gotland	4.17	246	P	Pn	08 21 29.4	+0.5
FIBU	Brunna	4.21	278	P	Pn	08 21 30.0	+0.4
JOF	Joensuu	4.31	37	eP	Pn	08 21 31.4	+0.5
JOF				eSG	Sb	08 22 38.4	+5.1
JOF	Joensuu	4.31	37	P	Pn	08 21 31.4	+0.5
BACU	Backbrunna	4.34	277	P	Pn	08 21 32.4	+1.1
BACU	Backbrunna	4.34	277	eP	Pn	08 21 32.4	+1.1
BACU	Backbrunna	4.34	277	P	Pn	08 21 32.3	+1.1
OSTU	Oestervaala	4.34	282	P	Pn	08 21 31.6	+0.3
OSTU	Oestervaala	4.34	282	eP	Pn	08 21 31.6	+0.3
OSTU	Oestervaala	4.34	282	P	Pn	08 21 31.6	+0.3
IGGU	Iggoen	4.35	291	P	Pn	08 21 31.8	+0.3
IGGU				S	Sn	08 22 23.1	+0.3
IGGU	Iggoen	4.35	291	eP	Pn	08 21 31.8	+0.3
IGGU				eS	Sn	08 22 23.1	+0.3
IGGU	Iggoen	4.35	291	P	Pn	08 21 31.8	+0.3
IGGU				S	Sn	08 22 23.1	+0.3
ESKU	Eskilstuna	4.75	270	P	Pn	08 21 38.0	+1.0
ESKU	Eskilstuna	4.75	270	eP	Pn	08 21 38.0	+1.0
ESKU	Eskilstuna	4.75	270	P	Pn	08 21 37.9	+1.0
VIKU	Vikbolandet	4.75	261	P	Pn	08 21 39.1	+2.0
VIKU	Vikbolandet	4.75	261	eP	Pn	08 21 39.1	+2.0
VIKU	Vikbolandet	4.75	261	P	Pn	08 21 39.0	+2.0
HEMU	Hemsoen	4.81	313	P	Pn	08 21 39.7	+1.8
HEMU	Hemsoen	4.81	313	eP	Pn	08 21 39.7	+1.8
HEMU	Hemsoen	4.81	313	P	Pn	08 21 39.7	+1.8
HUSU	Husum	4.86	323	P	Pn	08 21 40.8	+2.2
HUSU	Husum	4.86	323	eP	Pn	08 21 40.8	+2.2
HUSU	Husum	4.86	323	P	Pn	08 21 40.7	+2.2
FALU	Falun	5.01	285	P	Pn	08 21 40.9	+0.4
FALU	Falun	5.01	285	eP	Pn	08 21 40.9	+0.4
FALU	Falun	5.01	285	P	Pn	08 21 40.9	+0.4
HASU	Hassela	5.11	304	P	Pn	08 21 43.4	+1.5
HASU	Hassela	5.11	304	eP	Pn	08 21 43.4	+1.5
HASU	Hassela	5.11	304	P	Pn	08 21 43.3	+1.5
ROTU	Roteberg	5.20	295	P	Pn	08 21 45.0	+1.9
ROTU	Roteberg	5.20	295	eP	Pn	08 21 45.0	+1.9
ROTU	Roteberg	5.20	295	P	Pn	08 21 45.0	+1.9
ASKU	Askersund	5.60	267	P	Pn	08 21 49.4	+0.8
ASKU	Askersund	5.60	267	eP	Pn	08 21 49.4	+0.8
ASKU	Askersund	5.60	267	P	Pn	08 21 49.4	+0.8
HFS	Hagfors	6.05	280	Pn	Pn	08 21 55.1	+0.2
	baz=108,slow=12						
HFS				Sn	Sn	08 23 01.8	-3.0
	baz=98,slow=28						
HFS	Hagfors	6.05	280	Pn	Pn	08 21 54.1	-0.7
	comp=Z,0.2nm,0.3s,baz=84,slow=12,SNR=5.4						
HFS				Sn	Sn	08 23 01.4	-3.3
	comp=Z,0.3nm,0.3s,baz=86,slow=19,SNR=3.3						
HFS				Lg	Lg	08 23 34.2	
	comp=Z,0.4nm,0.3s,baz=85,slow=31,SNR=3.6						
HFS	Hagfors	6.05	280	Pn	Pn	08 21 55.1	+0.2
	baz=108,slow=12						
HFS				Sn	Sn	08 23 01.8	-3.0
	baz=98,slow=28						
HFS	Hagfors	6.05	280	Pn	Pn	08 21 55.1	+0.2
	SNR=50						
NASU	Vaermlandsnaes	6.43	269	P	Pn	08 22 01.2	+1.2
NASU	Vaermlandsnaes	6.43	269	eP	Pn	08 22 01.2	+1.2
NASU	Vaermlandsnaes	6.43	269	P	Pn	08 22 01.2	+1.2
NB2	NORSAR Subarra	7.32	288	Pn	Pn	08 22 11.6	-0.6
	baz=94,slow=14						
NB2	NORSAR Subarra	7.32	288	Pn	Pn	08 22 11.6	-0.6
	baz=94,slow=14						
NB2	NORSAR Subarra	7.32	288	Pn	Pn	08 22 11.6	-0.6
	SNR=50						
NOA	NORSAR Array B	7.32	288	Pn	Pn	08 22 11.3	-0.9
	comp=Z,0.2nm,0.3s,baz=127,slow=17,SNR=5.3						
NOA				Sn	Sn	08 23 32.4	-3.6
	comp=Z,0.1nm,0.3s,baz=318,slow=10,SNR=2.7						
NOA				Lg	Lg	08 24 10.3	
	comp=Z,0.4nm,0.3s,baz=91,slow=18,SNR=3.0						
ARA0	ARCESS Array S	9.98	360	Pn	Pn	08 22 47.0	-1.7
	baz=175,slow=14						
ARA0	ARCESS Array S	9.98	360	Pn	Pn	08 22 47.0	-1.7
	baz=175,slow=14						
ARCES	ARCESS Array B	9.98	360	Pn	Pn	08 22 47.4	-1.4
	comp=Z,0.4nm,0.3s,baz=180,slow=13,SNR=28						
ARCES				Sn	Sn	08 24 33.2	-8.1
	comp=Z,0.1nm,0.3s,baz=181,slow=22,SNR=3.1						

NIED 12 08:29:00, 37°.60N×141°.90E, h29km, Mw3.8 Best double couple: M0=6.19000×10^14 NP1:φs=305.00000°, δ21.00000°, λ-120.00000°. NP2:φs=157.00000°, δ72.00000°, λ-79.00000°.
ISCJB 12 08:29:05.6±1.0, 37°.55N±0°.04×141°.94E±0°.07, h36km±9km, mb3.8/10, Error ellipse: s-maj=10.0km s-min=5.6km az=24.0
JMA 12 08:29:05.6±0.1, 37°.55N×141°.91E, h33km±3km, M4.0
JMA Felt II J1.
IDC 12 08:29:08.1±2.3, 37°.54N×141°.83E, h41km±20km, mb3.5/10, mb1 3.8/14, mb1mx3.6/49, mbtmp3.8/14, ML3.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/36, Error ellipse: s-maj=21.7km s-min=13.5km az=99.0

ISC 12 08:29:05.8±2.8, 37°.54N±0°.05×141°.94E±0°.07, h24km±20km, n35, σ1°.54/40, mb3.7/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.87	259	P	Pn	08 29 21.2	-1.4
JFK				eS	Sb	08 29 32.0	-1.4
JMM	Marumori	0.97	290	P	Pn	08 29 22.7	-1.2
JMM				S	Sn	08 29 34.5	-2.4
ONAJ	Iwakimizuishiy	1.01	245	P	Pn	08 29 23.3	-1.3
ONAJ				S	Sn	08 29 35.3	-2.8
JIO	Ouri	1.02	333	P	Pn	08 29 23.5	-1.2
JIO				eS	Sn	08 29 35.5	-2.8
JFT	Otama	1.27	269	P	Pn	08 29 28.0	-0.2
JFT				S	Sn	08 29 43.5	-1.0
JOU	Okura	1.30	310	P	Pn	08 29 28.2	-0.3
JOU				S	Sn	08 29 44.0	-1.2
JMK	Ichinoseki	1.52	338	P	Pn	08 29 31.0	-0.5
JMK				eS	Sn	08 29 48.9	-1.6
JYS	Shirataka	1.63	295	P	Pn	08 29 33.3	+0.2
JYS				eS	Sn	08 29 53.7	+0.4
JFY	Yanaizu	1.78	266	P	Pn	08 29 35.1	-0.1
JFY				eS	Sn	08 29 56.9	-0.2
JYK	Kaneyama	1.85	318	P	Pn	08 29 35.9	-0.2
JOM	Ohasama	1.99	345	P	Pn	08 29 38.0	0.0
MJAR	Matsushiro Arr	3.15	253	P	Pn	08 29 54.9	+0.9
	8.1nm,0.3s,baz=84,slow=16,SNR=28						
MJAR				S	Sn	08 30 34.6	+3.9
	6.6nm,0.3s,baz=87,slow=27,SNR=4.0						
MJAR				LR	LR	08 31 25.3	
	comp=Z,305nm,18.1s,baz=85,slow=45						
JHJ	Hachijo jima 2	4.75	202	P	Pn	08 30 15.7	-0.3
	66nm,0.3s,baz=297,slow=22,SNR=16						
JHJ				S	Sn	08 31 07.7	-2.6
	44nm,0.3s,baz=83,slow=20,SNR=6.4						
ASAJ	Asahikawa	6.59	4	P	Pn	08 30 42.1	+1.0
	0.7nm,0.3s,baz=224,slow=12,SNR=4.5						
ASAJ				S	Sn	08 31 56.3	+0.9
	0.5nm,0.3s,baz=326,slow=3.6,SNR=3.2						
USRK	Ussuriysk Ar.	10.05	315	P	Pn	08 31 29.6	+1.0
	0.1nm,0.3s,baz=125,slow=12,SNR=2.1						
JNU	Nakatsue	10.05	247	P	Pn	08 31 31.4	+2.7
	0.2nm,0.3s,baz=206,slow=12,SNR=5.5						
KSRS	Korea Array	11.14	274	P	Pn	08 31 47.4	+3.8
	0.0nm,0.3s,baz=90,slow=11,SNR=3.1						
KSRS				LR	LR	08 35 35.0	
	comp=Z,82nm,19.2s,baz=135,slow=35						
PETK	Petropavlovsk-	19.04	30	LR	LR	08 40 11.2	
	comp=Z,34nm,21.6s,baz=202,slow=35						
H11N2	WAKE ISLAND Hy	28.05	122	T	T	09 04 23.6	
	baz=315,slow=75,SNR=193						
H11N1	WAKE ISLAND Hy	28.06	122	T	T	09 04 24.3	
	baz=315,slow=75,SNR=284						
H11N3	WAKE ISLAND Hy	28.07	122	T	T	09 04 25.1	
	baz=315,slow=75,SNR=173						
H11S1	WAKE ISLAND Hy	28.79	124	T	T	09 05 21.5	
	baz=317,slow=76,SNR=153						
H11S3	WAKE ISLAND Hy	28.79	124	T	T	09 05 20.8	
	baz=317,slow=76,SNR=177						
H11S2	WAKE ISLAND Hy	28.81	124	T	T	09 05 18.7	
	baz=317,slow=76,SNR=128						
ZALV	Zalesovo Beam	41.88	312	P	P	08 36 52.6	-1.3
	0.6nm,0.4s,baz=98,slow=8.9,SNR=3.0						
MKAR	Makanchi Array	44.21	302	P	P	08 37 12.6	-0.3
	0.8nm,0.5s,baz=82,slow=9.9,SNR=5.9						
KURBB	Kurchatov Arra	46.02	308	P	P	08 37 26.8	-0.4
	1.3nm,0.4s,baz=83,slow=8.0,SNR=11						
ILAR	Eielson Array	48.84	33	P	P	08 37 49.3	+0.4
	0.5nm,0.6s,baz=264,slow=6.3,SNR=9.5						
WRA	Warramunga Arr	57.62	188	P	P	08 38 53.4	-0.6
	0.5nm,0.5s,baz=6.5,slow=7.0,SNR=12						
ASAR	Alice Springs	61.35	188	P	P	08 39 19.8	+0.1
	0.5nm,0.8s,baz=14,slow=7.0,SNR=7.3						
FINES	FINESS Array B	68.56	332	P	P	08 40 05.7	-0.4
	2.5nm,0.9s,baz=1.9,slow=4.2,SNR=2.7						
AKASG	Malin Array Be	74.15	322	P	P	08 40 39.7	-0.3
	0.2nm,0.3s,baz=45,slow=6.9,SNR=3.3						
PDAR	Pinedale Array	77.01	46	P	P	08 40 57.6	+0.6
	0.5nm,0.6s,baz=273,slow=2.5,SNR=6.6						
TXAR	Lajitas Array	89.48	53	P	P	08 42 01.7	+0.4
	0.2nm,0.5s,baz=300,slow=2.7,SNR=6.0						
LPAZ	La Paz	146.07	60	PKPbc	PKPbc	08 48 44.

BVAR	**Borovoye Array**	26.46	5	P	P	08 35 20.7	+0.2
	2.4nm,0.7s,baz=157,slow=8.0,SNR=8.8						
FINES	**FINESS Array B**	44.25	333	P	P	08 37 52.8	+0.3
	1.4nm,0.6s,baz=126,slow=9.7,SNR=4.0						
GERES	**GERESS Array B**	46.49	313	P	P	08 38 10.8	+0.1
	0.5nm,0.5s,baz=93,slow=8.8,SNR=2.1						
ARCES	**ARCESS Array B**	49.19	342	P	P	08 38 30.6	-0.5
	1.2nm,0.6s,baz=134,slow=6.9,SNR=8.8						
TORD	**Torodi Ar. Bea**	62.26	271	P	P	08 40 05.7	0.0
	1.0nm,0.7s,baz=64,slow=6.6,SNR=9.8						
WRA	**Warramunga Arr**	80.05	118	P	P	08 41 53.4	+0.2
	0.6nm,0.9s,baz=313,slow=5.1,SNR=2.8						
ASAR	**Alice Springs**	81.75	122	P	P	08 42 02.4	+0.1
	0.1nm,0.3s,baz=308,slow=5.6,SNR=3.4						

MEX 12 08:34:38.5±0.4, 29°.39N×113°.77W, h10km±16km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		2.49	98	*i* P	Pn	08 35 15.6	-3.5
HSIG				*i* S	Sn	08 35 45.4	-4.1

MEX 12 08:42:51.0±0.3, 16°.10N×95°.83W, h25km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	0.42	220	*e*P	Pb	08 42 58.5	-1.5
HUIG				*e*S	Sb	08 43 04.5	-1.7
VHO	**Vista Hermosa**	1.30	318	*i* P	Pn	08 43 11.2	-2.6
VHO				*e*S	Sn	08 43 26.9	-3.7
PNIG	**Pinotepa**	2.23	278	*i* P	Pn	08 43 23.4	-3.0
PNIG				*i* S	Sn	08 43 50.3	-2.9

IDC 12 08:44:18.6±2.6, 50°.46N×175°.94W, h0km, mb3.3/3, mb1 4.0/5, mb1mx3.6/43, mbtmp3.7/5, ML3.4/2, MS3.0/6, Ms1 3.0/6, ms1mx2.8/20, Error ellipse: s-maj=60.3km s-min=38.9km az=179.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	15.47	53	Pn	Pn	08 47 58.3	+0.4
	0.4nm,0.3s,baz=253,slow=4.2,SNR=11						
KDAK				Sn	S	08 51 04.1	-2.0
	0.3nm,0.3s,baz=206,slow=24,SNR=10						
PETK	**Petropavlovsk-**	16.50	289	Pn	Pn	08 48 10.4	-0.8
	0.3nm,0.3s,baz=111,slow=16,SNR=3.5						
ILAR	**Eielson Array**	20.88	36	P	Pn	08 49 03.3	-1.2
	0.2nm,0.6s,baz=228,slow=9.4,SNR=3.7						
ILAR				S	Sn	08 52 59.6	-0.9
	0.2nm,0.6s,baz=231,slow=17,SNR=2.8						
YKA	**Yellowknife Ar**	34.56	46	LR	LR	09 05 41.2	
	comp=Z,8.6nm,18.5s,baz=180,slow=37						
MJAR	**Matsushiro Arr**	35.47	265	LR	LR	09 03 57.4	
	comp=Z,29nm,21.5s,baz=70,slow=33						
KSRS	**Korea Array**	41.49	274	LR	LR	09 06 30.5	
	comp=Z,14nm,20.9s,baz=205,slow=32						
PDAR	**Pinedale Array**	44.85	73	P	P	08 52 35.2	+0.5
	1.0nm,0.8s,baz=286,slow=3.7,SNR=9.1						
PDAR				LR	LR	09 08 55.7	
	comp=Z,23nm,19.4s,baz=263,slow=33						
TLY	**Talaya**	48.09	304	LR	LR	09 14 48.7	
	comp=Z,35nm,19.3s,baz=71,slow=38						
TXAR	**Lajitas Array**	56.99	83	P	P	08 54 05.5	-0.5
	0.4nm,0.6s,baz=310,slow=5.5,SNR=6.6						
NOA	**NORSAR Array B**	68.71	356	LR	LR	09 28 00.6	
	comp=Z,8.4nm,18.1s,baz=320,slow=38						

IDC 12 08:49:26.0±3.1, 10°.31S×120°.51E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/29, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=274.1km s-min=31.1km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	16.42	127	Pn	Pn	08 53 16.4	-1.6
	0.1nm,0.3s,baz=299,slow=14,SNR=7.6						
WRA				Sn	Sn	08 56 04.2	-17
	0.1nm,0.3s,baz=307,slow=25,SNR=3.0						
ASAR	**Alice Springs**	18.43	138	P	P	08 53 43.9	+0.7
	0.2nm,0.3s,baz=317,slow=12,SNR=15						
ASAR				S	Sn	08 56 54.7	-15
	0.0nm,0.3s,baz=305,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	66.30	332	P	P	09 00 16.2	0.0
	0.6nm,0.8s,baz=141,slow=7.1,SNR=4.2						

BJI ***12*** *08:59:50.5, 4°.39S×100°.77E, h32km, mb5.0/58, mB4.9/38, Ms4.7/43, Ms7 4.4/37*
IDC ***12*** *08:59:52.4±0.5, 3°.69S×100°.73E, h0km, mb4.7/29, mb1 4.7/30, mb1mx4.6/46, mbtmp4.7/30, ML4.1/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/32, Error ellipse: s-maj=17.0km s-min=10.0km az=50.0*
NEIC ***12*** *08:59:53.9±0.2, 3°.80S×100°.62E, h10km, mb5.0/33, Error ellipse: s-maj=5.8km s-min=4.2km az=51.0*
ISCJB ***12*** *08:59:54.9±0.9, 3°.77S±0°.03×100°.63E±0°.03, h28km±6km, mb4.9/86, MS4.2/25, Error ellipse: s-maj=6.4km s-min=3.2km az=135.8*
MOS ***12*** *08:59:55.8±1.0, 3°.68S×100°.71E, h33km, mb5.1/34, Error ellipse: s-maj=10.5km s-min=6.0km az=104.8*
DJA ***12*** *08:59:55.2±0.8, 4°.S±2°.×10°.1E±°., h14km±6km, M4.7/30, mb4.9/30, mB5.2/17, MLv5.1/25, Mw(mB)4.5/17*
KLM ***12*** *09:00:03.3, 3°.37S×100°.78E, h53km, mb4.6*
ISC 12 08:59:56.9±0.5, 3°.77S±0°.04×100°.57E±0°.04, h32km±3km, h32km:pP-P, n462, σ1$30/471, mb4.9/86, MS4.1/25, 27C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	1.15	331	P	Pb	09 00 18.4	+0.1
MASI	**Maura Aman, Be**	1.78	69	P	Pn	09 00 26.1	+0.6
MASI				S	Sb	09 00 50.4	-0.5
MNAI	**Manna**	2.45	104	P	Pn	09 00 35.0	+0.3
MNAI				S	Sn	09 01 04.7	+1.1
MNAI	**Manna**	2.45	104	*e*Pn	Pn	09 00 34.3	-0.4
PDSI	**Padang**	2.84	358	P	Pn	09 00 39.7	-0.5
SISI	**Saibi**	2.84	329	P	Pn	09 00 40.6	+0.4
LHSI	**Lahat**	2.94	91	P	Pn	09 00 42.2	+0.7
SDSI	**Sungai Dareh**	2.95	17	P	Pn	09 00 42.1	+0.5
MDSI	**Maura Dua**	3.67	101	P	Pn	09 00 51.6	+0.1
LWLI	**Liwa**	3.69	110	P	Pn	09 00 52.1	+0.2
JMBI	**JAMBI**	3.73	55	P	Pn	09 00 52.4	+0.1
RGRI	**Rengat**	3.83	27	P	Pn	09 00 54.2	+0.5
BKNI	**Bangkinang**	4.10	7	P	Pn	09 00 57.6	+0.2
BKNI	**Bangkinang**	4.10	7	*e*Pn	Pn	09 00 57.4	0.0
KLSI		4.25	103	P	Pn	09 01 00.4	+0.9
PMBI	**Palembang**	4.28	79	P	Pn	09 00 59.8	-0.1
KASI	**Kota Agung**	4.28	114	P	Pn	09 00 59.0	-0.9
PBSI	**Pulau Batu**	4.34	328	P	Pn	09 01 00.6	-0.2
BLSI	**Bandar Lampung**	4.92	109	P	Pn	09 01 09.6	+0.9
DSRI	**Dabo**	5.17	51	P	Pn	09 01 12.9	+0.8
CGJI	**Cibinong**	5.83	119	P	Pn	09 01 19.6	-1.6
	183nm,0.6s,2μm0.7nm						
SBJI	**Serang**	6.01	113	P	Pn	09 01 23.7	0.0
TPRI	**Tanjung Pinang**	6.11	40	P	Pn	09 01 25.8	+0.7
	156nm,0.6s,41μm2.1nm						
KGM	**Kluang**	6.37	26	⇑P	Pn	09 01 29.2	+0.5
MYKOM	**Kota Tinggi**	6.42	31	*e*Pn	Pn	09 01 29.7	+0.3
MYKOM	**Kota Tinggi**	6.42	31	⇓P	Pn	09 01 29.8	+0.4
PSI	**Prapat**	6.73	346	Pn	Pn	09 01 30.7	-3.1
	3.8nm,0.3s,baz=177,slow=13,SNR=8.5						
DBJI	**Dramaga**	6.74	114	P	Pn	09 01 34.1	+0.3
	89nm,0.6s,0.8nm						
SKJI	**Sukabumi**	6.77	119	P	Pn	09 01 33.0	-1.1
FRIM	**Kepong**	7.04	9	⇑P	Pn	09 01 38.6	+0.7
CNJI	**Cibinong**	7.41	119	P	Pn	09 01 41.3	-1.7
	198nm,0.9s,2μm0.9nm						
SNSI	**Sinabang, Aceh**	7.46	325	P	Pn	09 01 44.3	+0.6
TSI	**Tuntungan**	7.50	344	P	Pn	09 01 44.8	+0.6
TPTI		7.76	334	P	Pn	09 01 49.4	+1.6
	177nm,0.6s,2μm0.7nm						
KCSI	**Kotacane, Aceh**	7.77	339	P	Pn	09 01 50.3	+2.4
	45nm,0.7s,715nm0.4nm						
CISI	**Cisompet, Garu**	8.13	118	P	Pn	09 01 50.2	-2.7
	285nm,0.6s						
CISI	**Cisompet, Garu**	8.13	118	*e*Pn	Pn	09 01 50.6	-2.3
IPM	**Ipoh**	8.21	3	*e*Pn	Pn	09 01 56.2	+2.3
IPM	**Ipoh**	8.21	3	⇑P	Pn	09 01 56.4	+2.4
CMJI	**Cimerak**	8.79	117	P	Pn	09 02 01.8	-0.1
KULM	**Kulim**	9.00	0	*e*Pn	Pn	09 02 05.5	+0.7
KULM				*e*Sn	Sn	09 03 45.9	+0.8
KULM	**Kulim**	9.00	0	⇓P	Pn	09 02 06.2	+1.4
MLSI	**Meulaboh, Aceh**	9.01	332	P	Pn	09 02 05.6	+0.7
	146nm,0.8s						
COCO	**West Island**	9.15	204	*c*eP	Pn	09 02 08.8	+2.0
COCO	**West Island**	9.15	204	*e*Pn	Pn	09 02 03.6	-3.2
KTGM	**Kuala Trenggan**	9.39	16	⇑P	Pn	09 02 07.7	-2.5
UGM	**Wanagama**	10.72	113	P	Pn	09 02 42.6	+14
WOJI	**Wonogiri, Jawa**	11.06	112	P	Pn	09 02 31.6	-1.4
STKI	**Sintang**	11.54	71	P	Pn	09 02 54.4	+15
SBUM	**Sibu**	13.18	62	*e*Pn	Pn	09 03 01.9	-0.1
SBUM	**Sibu**	13.18	62	⇑P	Pn	09 03 04.4	+2.4
JAGI	**Jajag, Banyuwa**	14.28	110	P	P	09 03 25.0	+1.1
JAGI	**Jajag, Banyuwa**	14.28	110	*e*Pn	Pn	09 03 15.3	-1.8
DLV	**T Lat**	17.48	27	*e*Pn	P	09 04 00.5	+0.9
	21nm,0.8s						
KKM	**Kota Kinabalu**	18.41	58	*e*P	P	09 04 09.7	-0.2
	38nm,1.2s						
KKM	**Kota Kinabalu**	18.41	58	⇓P	Pn	09 04 10.6	+0.5
TSM	**Tawau**	19.05	65	⇓P	Pn	09 04 18.2	+0.6
SPSI	**Sidrap Palu**	19.15	91	P	P	09 04 18.0	+0.1
	59nm,1.0s						
KAPI	**Kappang**	19.16	94	*e*P	P	09 04 17.2	-0.8
	109nm,1.3s						
TTSI	**Tana Toraja**	19.23	88	P	P	09 04 18.6	-0.1
	49nm,1.1s,999nm						
UTHA	**Uthaitani**	19.24	357	P	Pn	09 04 21.0	+1.1
	6.1nm,0.9s,86nm						
BNSI	**Bone**	19.49	93	P	P	09 04 19.8	-1.8
UBPT	**Khong Chiam**	19.54	14	P	P	09 04 21.6	-0.4
	40nm,1.2s						
MPSI	**Mapaga**	19.74	78	P	Pn	09 04 26.2	+0.3
	92nm,1.2s,867nm						
UMPA	**Umpang Tak**	19.92	355	P	Pn	09 04 28.5	+0.5
	6.1nm,0.7s						
MYLDM	**Lahad Datu**	19.99	64	*e*P	P	09 04 27.7	+0.6
	120nm,1.2s						
KHON	**Khomkaen**	20.10	6	P	P	09 04 28.0	-0.2
	17nm,1.0s,990nm						
PBKT	**Sadao Pong**	20.21	1	P	P	09 04 30.0	+0.6
	18nm,0.7s						
PANO	**Nakornpanom**	21.16	11	P	P	09 04 38.1	-1.6
	72nm,1.2s						
APSI	**Ampana**	21.25	83	P	P	09 04 41.7	+1.1
	70nm,1.0s,882nm						
UTTA	**Uttaradit**	21.38	360	P	P	09 04 41.4	-0.5
	6.6nm,0.9s						
MRSI	**Marisa**	21.77	79	P	P	09 04 47.5	+1.3
	30nm,0.8s						
KDI	**Kendari**	22.00	91	P	P	09 04 53.6	+4.9
CM01	**Chiang Mai Arr**	22.11	356	*e*P	P	09 04 48.5	-1.3
CM31	**Chiang Mai Arr**	22.15	356	*e*P	P	09 04 48.6	-1.6
CMAR	**Chiang Mai Arr**	22.15	356	P	P	09 04 48.2	-2.0
	15nm,0.7s,baz=186,slow=9.8,SNR=30						
CMAR				PcP	PcP	09 08 48.6	+1.7
	0.9nm,0.4s,baz=213,slow=3.2,SNR=4.4						
CMAR				LR	LR	09 14 11.8	
	comp=Z,200nm,20.6s,baz=186,slow=39						
CMAR	**Chiang Mai Arr**	22.15	356	*c*eP	P	09 04 49.2	-1.0
CMAR				pmax	pmax		
	comp=Z,27nm,1.0s						
LAMP	**Lampang**	22.17	358	P	P	09 04 52.1	+1.6
	comp=Z,14nm,1.0s,comp=Z,107nm						
CHTO	**Chiang Mai**	22.50	356	P	P	09 04 54.5	+0.5
	comp=Z,118nm,1.1s						
CHTO	**Chiang Mai**	22.50	356	*e*P	P	09 04 53.2	-0.8
CHTO				pmax	pmax		
	comp=Z,31nm,1.1s						
CHTO	**Chiang Mai**	22.50	356	*e*P	P	09 04 53.2	-0.8
	comp=Z,31nm,1.1s						
PALK	**Pallekele**	22.66	299	LR	LR	09 12 51.4	
	comp=Z,345nm,21.1s,baz=116,slow=34						
SOEI	**Soe**	24.26	105	P	P	09 05 16.2	+4.6
SOEI	**Soe**	24.26	105	*e*P	P	09 05 10.3	-1.2
	comp=Z,20nm,0.9s						
QIZ	**Qiongzhong**	24.43	22	P	P	09 05 14.3	+1.4
QIZ				S	S	09 09 34.1	+3.2
QIZ				LR	LR		
	comp=Z,420nm,12.0s						
QIZ				LR	LR		
	comp=Z,280nm,15.3s						
TGY	**Tagaytay City**	26.89	48	P	P	09 05 34.5	-0.8
	comp=Z,111nm,0.3s,baz=160,slow=12,SNR=3.1						
H08S2	**Diego Garcia H**	28.20	261	T	T	09 35 16.1	
	baz=84,slow=75,SNR=5689						
H08S3	**Diego Garcia H**	28.20	261	T	T	09 35 16.7	
	baz=84,slow=75,SNR=3661						
H08S1	**Diego Carcia H**	28.22	261	T	T	09 35 17.5	
	baz=84,slow=75,SNR=1048						
KMI	**Kunming**	28.80	4	P	P	09 05 54.2	+1.7
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
HYB	**Hyderabad**	30.26	315	*i* P	P	09 06 07.5	+2.2
GYA	**Guiyang**	30.62	11	*e*P	P	09 06 11.8	+3.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SWI	**Sorong**	30.79	85	P	P	09 06 08.9	-1.2
	comp=Z,30nm,1.2s						
NWAO	**Narrogin (SRO)**	32.93	154	LR	LR	09 19 27.9	
	comp=Z,277nm,19.7s,baz=180,slow=36						
H01W3	**Cape Leeuwin H**	33.42	160	T	T	09 41 47.0	
	baz=336,slow=76,SNR=65						
H01W2	**Cape Leeuwin H**	33.43	160	T	T	09 41 48.1	
	baz=336,slow=76,SNR=77						
H01W1	**Cape Leeuwin H**	33.43	159	T	T	09 41 48.3	
	baz=336,slow=76,SNR=53						
WRKA	**Warakurna**	34.03	131	P	P	09 06 39.0	+0.7
	baz=34,SNR=14						
JIRN	**Jiri**	34.19	337	*e*P	P	09 06 42.2	+2.1
PKI	**Pulchoki**	34.42	336	*e*P	P	09 06 43.3	+1.3
PKIN	**Phulchoki**	34.43	336	*e*P	P	09 06 43.2	+1.1
LSA	**Lhasa**	34.48	345	P	P	09 06 44.1	+1.4
LSA				pmax	pmax		
	comp=Z,14nm,1.0s						
LSA	**Lhasa**	34.48	345	*e*P	P	09 06 44.3	+1.6
LSA				pmax	pmax		
	comp=Z,19nm,1.1s						
LSA	**Lhasa**	34.48	345	*e*P	P	09 06 44.3	+1.6
	comp=Z,19nm,1.1s						
GUN	**Gumba**	34.53	337	*e*P	P	09 06 45.0	+2.0
	comp=Z,68nm,0.5s						
DMN	**Daman**	34.58	335	*e*P	P	09 06 44.9	+1.6
	comp=Z,72nm,1.1s						
CD2	**Chengdu**	34.62	5	P	P	09 06 44.4	+1.0
CD2				sP	sP	09 06 57.8	+1.3
CD2				PP	PP	09 08 03.8	+1.5
CD2				S	S	09 12 14.0	+3.1
CD2				sS	sS	09 12 29.9	+3.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=Z,560nm,15.9s						
CD2				LR	LR		
	comp=Z,890nm,17.9s						
CD2				LR	LR		
	comp=Z,600nm,14.9s						
KKN	**Kakani**	34.67	336	*e*P	P	09 06 45.5	+1.5
	comp=Z,58nm,0.7s						
ENH	**Enshi**	34.91	14	*e*P	P	09 06 45.0	-0.9
	comp=Z,73nm,1.4s						
GKN	**Gorkha**	35.12	335	*e*P	P	09 06 49.6	+1.7
	comp=Z,82nm,1.0s						
KOLN	**Koldanda**	35.37	333	*e*P	P	09 06 51.9	+1.8
	comp=Z,48nm,0.8s						
DANN	**Dangsing**	35.80	334	*e*P	P	09 06 55.7	+1.8
PYUN	**Piuthan**	35.93	333	*e*P	P	09 06 56.6	+1.7
	comp=Z,73nm,0.9s						
WHN	**Wuhan**	36.57	20	⇓P	P	09 07 00.2	+0.1
WHN				S	S	09 12 51.9	+11
WHN				LR	LR		
	comp=Z,2μm,17.8s						
WHN				LR	LR		
	comp=Z,630nm,10.6s						
WHN				LR	LR		
	comp=Z,1μm,15.9s						
WR1	**Warramunga Arr**	36.63	119	*e*P	P	09 06 60.0	-0.8
	comp=Z,8.4nm,0.6s						
WR1				*e*PcP	PcP	09 09 22.6	-1.0
WR1				*e*S	S	09 12 40.5	-1.4
WRA	**Warramunga Arr**	36.63	119	P	P	09 06 60.0	-0.8
	comp=Z,8.3nm,0.7s,baz=305,slow=9.2,SNR=41						
WRA				PcP	PcP	09 09 22.6	-1.0
	comp=Z,1.4nm,0.6s,baz=301,slow=2.3,SNR=4.6						
WRA				S	S	09 12 40.5	-1.4
	comp=Z,1.1nm,0.9s,baz=289,slow=16,SNR=5.4						
WRA				LR	LR	09 24 25.5	
	comp=Z,148nm,20.0s,baz=300,slow=40						
WRA	**Warramunga Arr**	36.63	119	*c*eP	P	09 07 00.0	-0.8
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRAB	**Tennant Creek**	36.63	119	⇓*i*P	P	09 07 00.8	0.0
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	36.63	119	*e*P	P	09 07 00.1	-0.7
	comp=Z,8.4nm,0.6s						
WB2	**Warramunga Arr**	36.64	119	*e*P	P	09 06 60.0	-0.9
WB2				*e*S	S	09 12 41.7	-0.5
ASAR	**Alice Springs**	37.77	125	P	P	09 07 10.5	+0.1
	comp=Z,3.7nm,0.8s,baz=298,slow=8.1,SNR=42						
ASAR				PcP	PcP	09 09 27.9	+0.9
	comp=Z,1.6nm,0.5s,baz=308,slow=2.4,SNR=5.5						
ASAR				S	S	09 13 01.6	+2.2
	comp=Z,1.2nm,0.8s,baz=303,slow=15,SNR=7.3						
ASAR				LR	LR	09 24 12.6	
	comp=Z,224nm,21.2s,baz=304,slow=39						
AS31	**Alice Springs**	37.77	125	*e*P	P	09 07 10.3	-0.1
	comp=Z,2.2nm,0.6s						
AS01	**Alice Springs**	37.80	125	*e*P	P	09 07 10.4	-0.3
XAN	**Xi'an**	38.42	11	P	P	09 07 14.9	-0.9
XAN				pP	pP	09 07 22.9	-2.2
XAN				PP	PnPn	09 08 46.8	+0.7
XAN				pmax	pmax		
	comp=Z,95nm,0.9s						
XAN				pmax	pmax		
	comp=Z,110nm,8.7s						
XAN				LR	LR		
	comp=Z,200nm,19.0s						
XAN				LR	LR		
	comp=Z,510nm,20.1s						
XAN				LR	LR		
	comp=Z,650nm,14.8s						
NJ2	**Nanjing**	39.64	25	*e*P	P	09 07 32.8	+6.9
NJ2				pmax	pmax		
	comp=Z,24nm,0.7s						
LZH	**Lanzhou**	39.77	4	*e*P	P	09 07 27.4	+0.3
LZH				PP	PnPn	09 09 03.2	+1.0
LZH				SS	SS	09 16 22.0	-4.1
LZH				pmax	pmax		
	comp=Z,75nm,1.0s						
LZH				LR	LR		
	comp=Z,490nm,15.3s						
LZH				LR	LR		
	comp=Z,690nm,16.0s						
LZH				LR	LR		
	comp=Z,510nm,14.2s						
JOW	**Kunigami**	40.53	40	*e*P	P	09 07 32.8	-0.6
	comp=Z,18nm,0.8s						
QIS	**Mount Isa**	41.48	117	P	P	09 07 40.9	-0.5
	baz=42,SNR=4.6						
GTA	**Gaotai**	42.97	359	P	P	09 07 53.9	+0.5
GTA				pP	pP	09 08 03.5	+0.7
GTA				sP	sP	09 08 07.2	+0.6
GTA				S	S	09 14 18.5	+1.8
GTA				sS	sS	09 14 36.0	+3.7
GTA				SS	SS	09 17 24.5	-5.0
GTA				pmax	pmax		
	comp=Z,21nm,1.1s						
GTA				pmax	pmax		
	comp=Z,120nm,7.4s						
GTA				LR	LR		
	comp=Z,330nm,14.5s						
GTA				LR	LR		
	comp=Z,470nm,21.1s						
GTA				LR	LR		
	comp=Z,350nm,17.6s						
COEN	**Coen**	43.22	106	P	P	09 07 54.0	-1.6
	baz=43,SNR=3.8						
MTSU	**Mount Surprise**	45.11	112	P	P	09 08 10.3	-0.5
	baz=45,SNR=7.0						
HHC	**Hu-ho-hao-te**	45.53	12	*e*P	P	09 08 16.0	+2.2
HHC				PP	PP	09 10 03.6	+2.8
HHC				S	S	09 14 56.8	+2.9
HHC				sS	sS	09 15 13.2	+3.7
HHC				SS	SS	09 18 13.1	-5.1
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,58nm,5.1s						
HHC				LR	LR		
	comp=Z,470nm,14.8s						
HHC				LR	LR		
	comp=Z,850nm,15.9s						
HHC				LR	LR		
	comp=Z,310nm,14.9s						
BJT	**Baijiatuau**	45.87	17	*e*P	P	09 08 15.7	-0.6
BJT				pmax	pmax		
	comp=Z,39nm,1.1s						
BJT	**Baijiatuau**	45.87	17	*e*P	P	09 08 15.7	-0.6
	comp=Z,39nm,1.1s						
BJI	**Beijing**	45.89	17	P	P	09 08 16.8	+0.3
BJI				PP	PP	09 10 08.6	+4.1
BJI				S	S	09 15 00.8	+1.9
BJI				pmax	pmax		
	comp=Z,31nm,0.7s						
BJI				pmax	pmax		
	comp=Z,100nm,3.9s						
BJI				LR	LR		
	comp=Z,490nm,16.9s						
BJI				LR	LR		
	comp=Z,97nm,11.7s						
BJI				LR	LR		
	comp=Z,350nm,16.1s						
HTT	**Hallett**	46.35	134	P	P	09 08 21.2	+0.8
	baz=46						
JNU	**Nakatsue**	46.57	36	P	P	09 08 20.3	-1.8
	comp=Z,25nm,1.0s,baz=198,slow=3.9,SNR=19						
JNU	**Nakatsue**	46.57	36	*e*P	P	09 08 21.3	-0.8
	comp=Z,34nm,1.0s						
PMG	**Port Moresby**	46.58	99	P	P	09 08 20.6	-1.8
	comp=Z,4.2nm,0.7s,baz=292,slow=10,SNR=6.5						
PMG	**Port Moresby**	46.58	99	⇑*i*P	P	09 08 22.7	+0.3
PMG				pmax	pmax		
	comp=Z,24nm,1.2s						
CTA	**Charters Tower**	47.35	114	P	P	09 08 27.0	-1.3
	comp=Z,2.5nm,0.3s,baz=269,slow=13,SNR=4.9						
QLP	**Quilpie**	47.51	123	P	P	09 08 30.2	+0.8
	baz=48,SNR=9.7						
STKA	**Stephens Creek**	47.56	131	P	P	09 08 30.1	+0.3
	comp=Z,3.1nm,0.6s,baz=299,slow=8.6,SNR=11						
STKA				LR	LR	09 30 01.1	
	comp=Z,185nm,20.3s,baz=287,slow=38						
STKA	**Stephens Creek**	47.56	131	P	P	09 08 30.7	+0.9
	baz=48,SNR=6.8						
STKA	**Stephens Creek**	47.56	131	*e*P	P	09 08 30.4	+0.6
STKA				pmax	pmax	

WMQ SS **SS** **09 19 07.2 -3.7**
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ LR LR
comp=Z,120nm,23.7s
WMQ LR LR
comp=Z,110nm,21.9s
WMQ LR LR
comp=Z,100nm,23.7s
CMSA Cobar Meteorol 50.56 128 P **P** **09 08 54.0 +1.3**
baz=51,SNR=11
SONA0 Songino Array 51.64 5 *e*P **P** **09 09 01.5 +0.7**
comp=Z,50nm,1.2s
SONA0 *e*PcP **PcP** **09 10 14.5 +0.4**
SONM Songino Array 51.64 5 P **P** **09 09 01.5 +0.7**
comp=Z,21nm,0.8s,baz=187,slow=9.0,SNR=37
SONM PcP **PcP** **09 10 14.5 +0.4**
comp=Z,4.8nm,0.8s,baz=199,slow=3.1,SNR=2.4
SONA1 Songino Array 51.66 5 *e*P **P** **09 09 01.8 +0.9**
SONA1 *e*pP **pP** **09 09 09.6 -0.8**
ULN Ulaanbaatar 51.73 6*c i*P **P** **09 09 02.3 +0.9**
ULN pmax pmax
comp=Z,33nm,1.7s
ULN Ulaanbaatar 51.73 6 *e*P **P** **09 09 02.3 +0.9**
comp=Z,22nm,1.1s
AAK Ala-Archa 51.88 336⇑*i*P **P** **09 09 04.0 +1.4**
AAK *i* *PP **pP** **09 09 13.1 +0.8**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 51.88 336 *e*P **P** **09 09 04.1 +1.4**
comp=Z,12nm,1.1s
CN2 Changchun 52.38 23 *e*P **P** **09 09 04.2 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
MK01 Makanchi Array 52.85 344 *e*P **P** **09 09 10.2 +0.6**
MK31 Makanchi Array 52.88 344 *i* P **P** **09 09 10.1 +0.3**
MK31 pmax pmax
comp=Z,29nm,0.9s
MK31 Makanchi Array 52.88 344 *e*P **P** **09 09 10.6 +0.8**
MK32 Makanchi Array 52.88 344 *e*P **P** **09 09 10.5 +0.7**
MKAR Makanchi Array 52.88 344 P **P** **09 09 10.5 +0.7**
comp=Z,20nm,0.8s,baz=149,slow=8.3,SNR=114
MKAR Makanchi Array 52.88 344 *e*P **P** **09 09 10.6 +0.7**
comp=Z,125nm,0.9s
MAKZ Makanchi 52.98 344 *e*P **P** **09 09 11.0 +0.5**
MAKZ pmax pmax
comp=Z,15nm,1.0s
MAKZ Makanchi 52.98 344 *e*P **P** **09 09 11.0 +0.5**
comp=Z,15nm,1.0s
MAJO Matsushiro 53.30 38*de*P **P** **09 09 11.9 -1.2**
MAJO *i* *PP **pP** **09 09 19.9 -2.8**
MAJO *i* *SP **sP** **09 09 26.0 -0.5**
MAJO pmax pmax
comp=Z,103nm,1.2s
MAJO Matsushiro 53.30 38 *e*P **P** **09 09 11.4 -1.6**
comp=Z,10.0nm,0.8s
MAT Matsushiro 53.30 38 P **P** **09 09 10.7 -2.4**
MAT *e*S **S** **09 16 43.0 +0.3**
MJAR Matsushiro Arr 53.30 38 P **P** **09 09 11.5 -1.6**
comp=Z,14nm,1.0s,baz=220,slow=8.2,SNR=32
MJAR PcP **PcP** **09 10 19.8 -0.7**
comp=Z,2.0nm,0.8s,baz=206,slow=3.6,SNR=2.6
MJB9 Matsu-Tunnel 53.30 38 *e*P **P** **09 09 11.9 -1.1**
comp=Z,2.6nm,0.8s
MSHR Mys Shultsa 53.81 28⇓*i*P **P** **09 09 18.0 +1.3**
MSHR *i* *PP **pP** **09 09 25.0 -1.3**
KKAR Karatay Array 53.98 333 *e*P **P** **09 09 18.3 +0.3**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 53.98 333 *e*P **P** **09 09 18.3 +0.3**
comp=Z,22nm,0.8s
ZAK Zakamensk 53.99 2 *e*P **P** **09 09 18.0 0.0**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 55.30 2 P **P** **09 09 25.7 -1.7**
comp=Z,7.2nm,0.9s,baz=211,slow=6.4,SNR=6.7
TLY Talaya 55.30 2 *e*P P 09 09 19.7 -7.7
TLY *e* 09 11 28.2
TLY *e*PPP PPP 09 12 45.0
TLY *e*S S 09 17 20.9 +12
TLY pmax pmax
comp=Z,14nm,1.1s
TLY MLR MLR
comp=Z,296nm,16.0s
USRK Ussuriysk Ar. 55.45 27 P **P** **09 09 28.3 -0.3**
comp=Z,23nm,0.5s,baz=224,slow=5.8,SNR=66
USRK LR LR 09 36 17.2
comp=Z,116nm,18.5s,baz=214,slow=40
GEYT Alibeck 57.17 321 P **P** **09 09 41.8 +0.8**
comp=Z,3.3nm,0.7s,baz=138,slow=6.9,SNR=7.9
KURK Kurchatov 57.46 344*c i*P **P** **09 09 43.2 +0.5**
KURK pmax pmax
comp=Z,138nm,1.0s
KURK Kurchatov 57.46 344 *e*P **P** **09 09 43.0 +0.3**
comp=Z,32nm,0.9s
ZAA0 Zalesovo Array 59.00 349 *e*P **P** **09 09 53.5 +0.1**
ZAA0 *e*P **P** **09 09 53.7 +0.3**
ZALV Zalesovo Beam 59.00 349 P **P** **09 09 53.8 +0.3**
comp=Z,39nm,0.9s,baz=175,slow=5.2,SNR=33
ZAA1 Zalesovo Array 59.01 349 *e*P **P** **09 09 53.8 +0.3**
HNR Honiara 59.19 99 P **P** **09 09 54.3 -1.3**
comp=Z,24nm,0.4s,baz=275,slow=0.7,SNR=5.1
RAYN Ar Rayn 60.10 300 *e*P **P** **09 10 03.5 +1.8**
RAYN *e*pP **pP** **09 10 10.9 -0.6**
NVS Novosibirsk 60.15 349 *e*P **P** **09 10 00.5 -0.8**
ASAJ Asahikawa 60.75 34 P **P** **09 10 05.1 -0.6**
comp=Z,7.7nm,0.7s,baz=172,slow=5.0,SNR=6.4
ASAJ Asahikawa 60.75 34 *e*P **P** **09 10 05.1 -0.6**
comp=Z,66nm,1.8s
BVA0 Borovoye Array 62.03 340 P **P** **09 10 11.3 -2.9**
BVA0 pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 62.10 340*d i*P **P** **09 10 15.0 +0.4**
BRVK pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 62.10 340 *e*P **P** **09 10 14.6 0.0**
comp=Z,12nm,0.8s
BOD Bodaibo 62.34 8 *e*P **P** **09 10 15.7 -0.4**
BOD pmax pmax
comp=Z,15nm,1.0s
YSS Yuzh-Sakhalins 62.68 31 *e*P **P** **09 10 18.3 -0.3**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS Yuzh-Sakhalins 62.68 31 *e*P **P** **09 10 18.6 0.0**
comp=Z,50nm,0.9s
AB31 Akbulak array 63.46 332 *i* P **P** **09 10 23.4 -0.3**
AB31 pmax pmax
comp=Z,24nm,1.0s
ABKAR Akbulak array 63.46 332 *e*P **P** **09 10 24.0 +0.3**
comp=Z,140nm,0.8s
AKTO Aktyubinsk 65.18 332 P **P** **09 10 33.8 -1.2**
AKTO pmax pmax
comp=Z,10.0nm,1.1s
SVE Sverdlovsk 68.53 338 *e*P **P** **09 10 56.9 +0.7**
SVE pmax pmax
comp=Z,36nm,1.2s
ZEI Tsey 68.94 319 *e*P **P** **09 11 00.4 +1.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 69.05 337*c i*P **P** **09 10 58.5 -0.9**
ARU S **S** **09 20 02.9 +0.6**
ARU SS **SS** **09 24 23.6 -5.1**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 69.05 337 *e*P **P** **09 10 58.6 -0.9**
comp=Z,13nm,1.0s
YAK Yakutsk 69.30 14 P **P** **09 10 59.8 -1.1**
comp=Z,2.0nm,0.3s,baz=149,slow=19,SNR=2.9
YAK Yakutsk 69.30 14 *e*P **P** **09 10 58.9 -2.0**
YAK pmax pmax
comp=Z,40nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK Yakutsk 69.30 14 *e*P **P** **09 10 59.8 -1.1**
comp=N,39nm,0.9s
NEY Neytrino 69.92 319⇑P **P** **09 11 06.0 +0.7**
NEY pmax pmax
comp=Z,2.0nm,1.1s

KBZ Khabaz 70.01 319 P **P** **09 11 06.8 +1.1**
comp=Z,6.0nm,0.8s,baz=120,slow=6.8,SNR=9.2
SOKR Solikamsk 71.93 338 *e*P **P** **09 11 15.4 -1.5**
SOKR pmax pmax
comp=Z,33nm,1.3s
NRIK Noril'sk 73.50 355 P **P** **09 11 25.7 -0.4**
comp=Z,12nm,0.8s,baz=169,slow=7.2,SNR=5.8
NRIK LR LR 09 46 36.7
comp=Z,96nm,18.6s,baz=142,slow=38
PETK Petropavlovsk- 74.07 32 P **P** **09 11 29.6 -0.2**
comp=Z,5.7nm,0.9s,baz=195,slow=4.5,SNR=3.4
PEA1 Petropavlovsk- 74.08 32 *e*P **P** **09 11 29.6 -0.3**
MA2 Magadan 74.40 24⇓*e*P **P** **09 11 33.0 +1.4**
PET Petropavlovsk 74.54 32 *e*P **P** **09 11 34.1 +1.7**
PET pmax pmax
comp=Z,44nm,1.0s
BR101 Keskin Array S 74.93 313 *e*P **P** **09 11 35.5 +0.2**
BR131 Keskin Array S 74.93 313 *e*P **P** **09 11 35.6 +0.3**
BRTR Keskin Array B 74.93 313 P **P** **09 11 35.5 +0.3**
comp=Z,4.7nm,0.8s,baz=126,slow=7.5,SNR=21
BOSA Bonhof 75.31 242 P **P** **09 11 38.5 +0.7**
comp=Z,4.2nm,1.1s,baz=135,slow=10.0,SNR=2.8
BOSA LR LR 09 38 28.5
comp=Z,84nm,18.8s,baz=86,slow=31
BKZ Black Stump Fm 76.71 129 *e*P **P** **09 11 46.3 +0.9**
comp=Z,18nm,0.6s
SEY Seymchan 77.05 22 P **P** **09 11 46.5 -0.2**
comp=Z,3.2nm,0.6s,baz=300,slow=4.1,SNR=6.2
SEY Seymchan 77.05 22⇑*i*P **P** **09 11 47.5 +0.9**
MOS Moscow 78.30 329 *e*P **P** **09 11 53.1 -0.6**
KLMR Klimovskoe 79.66 334 *e*P **P** **09 12 00.8 -0.3**
KLMR pmax pmax
comp=Z,14nm,1.1s
TIRR Tirgusor 80.02 316⇑*i*P **P** **09 12 03.5 +0.1**
TIRR Tirgusor 80.02 316⇑P **P** **09 12 03.5 +0.1**
VNDA Vanda 80.32 169 P **P** **09 12 05.8 +1.3**
comp=Z,0.6nm,0.8s,baz=279,slow=6.5,SNR=4.5
VNDA LR LR 09 41 45.2
comp=Z,53nm,21.1s,baz=289,slow=31
SORM Soroca 81.05 320⇓*i*P **P** **09 12 08.8 0.0**
SORM Soroca 81.05 320⇓P **P** **09 12 08.8 0.0**
AKASG Malin Array Be 81.23 322 P **P** **09 12 09.9 +0.2**
comp=Z,3.0nm,0.7s,baz=84,slow=5.1,SNR=8.1
AKASG Malin Array Be 81.23 322*ce*P **P** **09 12 10.3 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 81.23 322 *e*P **P** **09 12 09.9 +0.2**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
AKBB Malin Array Si 81.23 322 *e*P **P** **09 12 09.9 +0.2**
comp=Z,8.1nm,1.0s
KIEV Kiev 81.23 322⇓*i*P **P** **09 12 10.2 +0.4**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
VRI Vrincioaia 81.53 317⇑*i*P **P** **09 12 13.0 +1.5**
VRI Vrincioaia 81.53 317⇑P **P** **09 12 13.0 +1.5**
BURAR Bucovina Array 82.96 319⇑*i*P **P** **09 12 20.4 +1.3**
BURAR Bucovina Array 82.96 319⇑P **P** **09 12 20.4 +1.3**
BUR08 Bucovina Ar. S 82.98 319 *e*P **P** **09 12 21.1 +1.9**
VTS Vitosha 83.27 313⇑*i*P **P** **09 12 21.5 +0.6**
VTS Vitosha 83.27 313⇑P **P** **09 12 21.5 +0.6**
VTS Vitosha 83.27 313 *e*P **P** **09 12 21.2 +0.4**
comp=Z,10nm,1.1s
DRGR 84.45 318⇑*i*P **P** **09 12 28.5 +1.8**
DRGR 84.45 318⇑P **P** **09 12 28.5 +1.8**
BILL Bilibino 84.61 20 *i* P **P** **09 12 22.7 -4.2**
BILL pmax pmax
comp=Z,4.0nm,0.9s
MDVR Moldovita 84.75 315⇓*i*P **P** **09 12 29.8 +1.6**
BZS Buzias 84.97 316⇓*i*P **P** **09 12 30.8 +1.6**
BZS Buzias 84.97 316⇓P **P** **09 12 30.8 +1.6**
CRVS Cervenica-Dubn 85.68 319 *e*P P 09 12 38.8 +6.1
CRVS Cervenica-Dubn 85.68 319 *e*P P 09 12 38.8 +6.1
STHS Stebnicka Huta 85.92 320 *e*P **P** **09 12 36.3 +2.3**
STHS Stebnicka Huta 85.92 320 *e*P **P** **09 12 36.2 +2.3**
FIA0 FINESS Array S 85.94 332 *e*P **P** **09 12 34.1 +0.4**
FIA0 FINESS Array S 85.94 332 *e*P **P** **09 12 34.1 +0.4**
FINES FINESS Array B 85.94 332 P **P** **09 12 34.1 +0.4**
comp=Z,6.0nm,0.9s,baz=100,slow=11,SNR=6.7
FINES LR LR 09 55 09.3
comp=Z,70nm,20.0s,baz=109,slow=39
FINES FINESS Array B 85.94 332*ce*P **P** **09 12 34.5 +0.8**
FINES pmax pmax
comp=Z,6.0nm,0.9s
ARA0 ARCESS Array S 88.32 340 *e*P **P** **09 12 45.6 +0.5**
ARCES ARCESS Array B 88.32 340 P **P** **09 12 45.6 +0.5**
comp=Z,9.1nm,0.8s,baz=43,slow=5.5,SNR=11
ARCES LR LR 09 56 30.6
comp=Z,117nm,20.5s,baz=87,slow=38
GEA0 GERESS Array S 90.75 319 *e*P **P** **09 12 58.3 +1.3**
GEC2 GERESS Array S 90.75 319 *e*P **P** **09 12 58.0 +1.0**
GEC2 pmax pmax
comp=Z,19nm,1.7s
GEC2 GERESS Array S 90.75 319 *e*P **P** **09 12 58.0 +1.0**
comp=Z,19nm,1.7s
GERES GERESS Array B 90.75 319 P **P** **09 12 58.0 +1.0**
comp=Z,2.6nm,0.8s,baz=114,slow=3.3,SNR=7.5
VNA2 Neumayer--Watz 92.26 198 PKiKP **PKiKP** **09 17 47.9 -4.9**
baz=270,slow=4.3
NOA NORSAR Array B 92.96 331 LR LR 09 57 36.6
comp=Z,26nm,20.6s,baz=50,slow=37
TORD Torodi Ar. Bea 99.48 283 LR LR 09 54 38.0
comp=Z,47nm,21.8s,baz=125,slow=33
M02C Callahan 126.04 40 P **PKPdf** **09 18 55.2 -1.3**
baz=302
M04C Macdoel 126.47 39 P **PKPdf** **09 18 57.0 -0.3**
baz=303
MSO Missoula 127.74 29 P **PKPdf** **09 18 59.7 +0.1**
baz=314
EGMT Eagleton 128.80 26 P **PKPdf** **09 19 01.8 +0.3**
baz=320
HLID Hailey 129.73 33 P **PKPdf** **09 19 04.2 +0.7**
baz=312
BOZ Bozeman (W) 129.74 29 P **PKPdf** **09 19 03.8 +0.3**
baz=316
YHH Holmes Hill 130.71 29 *e*PKPdf **PKPdf** **09 19 07.5 +1.9**
GATR Gnd/Air Tx Cnt 131.13 46 *e*PKPdf **PKPdf** **09 19 07.2 +0.9**
LAO LASA Array 131.34 24 P **PKPdf** **09 19 07.8 +1.5**
baz=323
LAO LASA Array 131.34 24 *e*PKPdf **PKPdf** **09 19 08.8 +2.4**
SCZ2 Santa Cruz Isl 132.03 46 P **PKPdf** **09 19 08.5 +0.5**
baz=300
WHFM Hanning Flat 132.06 44 *e*PKPdf **PKPdf** **09 19 07.9 -0.2**
R11A Troy Canyon, C 132.36 39 *e*PKPdf **PKPdf** **09 19 10.8 +2.0**
PD31 Pinedale Array 132.82 30 *e*PKPdf **PKPdf** **09 19 10.6 +1.0**
PDAR Pinedale Array 132.82 30 PKP **PKPdf** **09 19 10.6 +1.0**
comp=Z,0.3nm,0.6s,baz=129,slow=2.1,SNR=4.5
A33A Warroad 132.98 14 P **PKPdf** **09 19 10.0 +0.7**
baz=338
C31A Landman Farms, 133.40 17 P **PKPdf** **09 19 10.8 +0.7**
baz=334
RSSD Black Hills 134.32 25 P **PKPdf** **09 19 12.7 +0.4**
baz=324
D37A Cotton 135.34 13 P **PKPdf** **09 19 14.1 +0.3**
baz=341
O20A White River Ci 135.42 32 P **PKPdf** **09 19 15.5 +1.0**
baz=317
PHWY Pilot Hill 135.93 28 *e*PKPdf **PKPdf** **09 19 16.5 +1.0**
N23A Red Feather La 136.01 29 P **PKPdf** **09 19 15.1 -0.5**
baz=320
E38A The Farm, Brul 136.05 12 P **PKPdf** **09 19 15.7 +0.6**
baz=342
E39A Mellen 136.47 11 P **PKPdf** **09 19 16.8 +0.9**
baz=344
H34A Spellman Lake, 136.80 17 P **PKPdf** **09 19 17.8 +1.2**
baz=336
I39A Houston 138.67 13 P **PKPdf** **09 19 21.6 +1.5**
baz=342
S37A Fort Scott 143.35 21 P PKPbc 09 19 25.7 0.0
baz=334
R39A Chumby, Stover 143.44 18 P PKPab 09 19 25.5 +0.5
baz=337
T35A Sooner Cattle 143.47 23 P PKPbc 09 19 25.8 -0.3
baz=330
T36A Boggs Farm, Ca 143.59 22 P PKPbc 09 19 26.5 +0.1
baz=332
Q42A Golden Eagle 143.59 15 P PKPbc 09 19 26.4 0.0
baz=341
O56A Blue Knob Stat 143.66 359 P PKPab 09 19 26.1 +0.3
baz=1.4
R40A Maddies Statio 143.70 17 P PKPab 09 19 26.3 +0.4
baz=338
S38A Stockton 143.78 20 P PKPab 09 19 26.4 +0.1
baz=335
U35A Pawnee 143.85 24 P PKPbc 09 19 27.2 -0.1
baz=330,SNR=7.5

T37A Cheneyville 18 143.89 21 P PKPab 09 19 26.9 +0.2
baz=333
S39A Bolivar 143.92 19 P PKPab 09 19 27.0 +0.1
baz=336
R41A Rosebud 143.94 16 P PKPab 09 19 27.1 +0.2
baz=339,SNR=6.4
Q44A Meyer Farm, Va 143.96 13 P PKPab 09 19 27.1 +0.2
baz=344
R42A Luebbering 144.12 15 P **PKPab** **09 19 27.5 0.0**
baz=340,SNR=8.2
T38A Diamond 144.19 21 P **PKPab** **09 19 27.6 -0.3**
baz=334
CCM Cathedral Cave 144.21 16 *e*PKIKP PKPbc 09 19 28.2 -0.1
CCM Cathedral Cave 144.21 16 *e*PKPdf PKPbc 09 19 28.2 -0.1
U36A Oologah 144.23 23 P **PKPab** **09 19 28.1 +0.1**
baz=331
S40A Lebanon 144.26 18 P **PKPab** **09 19 27.9 -0.2**
baz=337,SNR=6.9
V35A Meyer Ranch, C 144.33 25 P PKPbc 09 19 28.7 -0.1
baz=329,SNR=7.2
WMOK Wichita Mounta 144.33 28 P **PKPab** **09 19 28.5 0.0**
baz=326,SNR=27
R43A Red Bud 144.34 14 P **PKPab** **09 19 28.4 +0.1**
baz=342
U37A Salina 144.45 22 P PKPbc 09 19 29.0 -0.1
baz=332,SNR=10
S41A Jillco Farms, 144.50 17 P **PKPab** **09 19 28.5 -0.5**
baz=338,SNR=25
T39A Clever 144.51 19 P **PKPab** **09 19 28.9 -0.2**
baz=336,SNR=10
R44A Waltonville 144.57 13 P **PKPab** **09 19 29.1 -0.1**
baz=343
S42A Caledonia 144.60 16 P **PKPab** **09 19 29.0 -0.4**
baz=340,SNR=14
TUL1 Leonard 144.63 23 P PKPbc 09 19 29.8 +0.1
baz=331,SNR=13
TUL1 Leonard 144.63 23 *e*PKPdf PKPbc 09 19 29.8 +0.1
T40A Mansfield 144.67 18 P **PKPab** **09 19 29.2 -0.4**
baz=337,SNR=9.7
V36A Jenks 144.68 24 P PKPbc 09 19 29.9 +0.1
baz=331,SNR=22
U38A Gravette 144.69 21 P **PKPab** **09 19 29.5 -0.3**
baz=334
W35A Tecumseh 144.84 25 P **PKPab** **09 19 30.2 -0.1**
baz=329,SNR=9.7
V37A Hulbert 144.90 22 P **PKPab** **09 19 30.4 -0.1**
baz=332,SNR=24
S43A Fulton Ridge, 144.97 15 P **PKPab** **09 19 30.0 -0.7**
baz=341
HHAR Hobbs 144.99 21 *e*PKPdf **PKPab** **09 19 30.8 -0.1**
T41A Mountain View 145.00 17 P **PKPab** **09 19 30.5 -0.3**
baz=338,SNR=23
U39A Green Forest 145.06 20 P **PKPbc** **09 19 30.7 -0.4**
baz=335,SNR=26
S44A Carbondale 145.06 14 P **PKPbc** **09 19 30.9 -0.1**
baz=343,SNR=10
W36A Wetumka 145.12 24 P **PKPbc** **09 19 31.2 -0.1**
baz=330,SNR=10
WCI Wyandotte Cave 145.13 9 *e*PKIKP **PKPbc** **09 19 30.9 -0.4**
WCI Wyandotte Cave 145.13 9 *e*PKPbc **PKPbc** **09 19 30.9 -0.4**
USIN University of 145.14 11 *e*PKPbc **PKPab** **09 19 31.5 +0.2**
V38A Canehill 145.20 22 P **PKPbc** **09 19 31.1 -0.4**
baz=333,SNR=21
S45A Carrier Mills 145.23 13 P **PKPbc** **09 19 31.1 -0.4**
baz=344
U40A Yellville 145.29 19 P **PKPbc** **09 19 31.5 -0.3**
baz=336,SNR=25
T43A Greenville 145.38 15 P **PKPbc** **09 19 31.4 -0.6**
baz=341,SNR=12
X35A Drake 145.43 26 P **PKPbc** **09 19 32.1 -0.2**
baz=328,SNR=29
W37B Quinton 145.44 23 P **PKPbc** **09 19 32.4 0.0**
baz=331,SNR=10
V39A Pettigrew 145.49 21 P **PKPbc** **09 19 32.1 -0.4**
baz=334,SNR=38
T44A Benton 145.56 14 P **PKPdf** **09 19 32.0 -0.5**
baz=342
X36A Centrahoma 145.56 25 P **PKPdf** **09 19 32.7 +0.1**
baz=329,SNR=8.9
U41A Viola 145.60 18 P **PKPdf** **09 19 32.6 -0.1**
baz=338,SNR=16
ABTX Abilene, Hawle 145.61 31 P **PKPbc** **09 19 33.1 +0.1**
baz=322
ABTX Abilene, Hawle 145.61 31 *e*PKPdf **PKPab** **09 19 33.5 +0.2**
PBMO Poplar Bluff 145.63 16 *e*PKPdf **PKPdf** **09 19 32.5 -0.1**
LTX Lajitas 145.72 40 *e*PKP2 **PKPab** **09 19 34.9 +1.0**
LTX Lajitas 145.72 40 *e*PKPdf **PKPab** **09 19 34.9 +1.0**
TX31 Lajitas Ar. Si 145.72 40 *e*PKPdf **PKPab** **09 19 34.5 +0.6**
TXAR Lajitas Array 145.72 40 PKPbc **PKPab** **09 19 34.9 +1.0**
comp=Z,18nm,0.7s,baz=272,slow=0.7,SNR=296
U42A Revenden 145.80 17 P **PKPdf** **09 19 33.1 +0.2**
baz=339,SNR=22
V40A Witts Springs 145.80 20 P **PKPdf** **09 19 33.2 +0.2**
baz=336,SNR=17
IP04 Greensprings 145.82 358 *e*PKPdf **PKPab** **09 19 34.0 +0.2**
Y35A Marietta 145.82 27 P **PKPdf** **09 19 33.1 0.0**
baz=328
W38A Poteau 145.86 22 P **PKPbc** **09 19 33.8 +0.2**
baz=332
PARMO Parma 145.91 15 *e*PKPdf **PKPab** **09 19 34.0 -0.1**
HPIG 145.94 45 *e*PKPdf **PKPab** **09 19 35.2 +0.3**
X37A Clayton 145.95 24 P **PKPbc** **09 19 34.1 +0.1**
baz=331
U43A Rector 146.02 16 P **PKPdf** **09 19 33.6 +0.3**
baz=340
W39A Magazine 146.02 21 P **PKPbc** **09 19 34.0 -0.1**
baz=334
V41A Mountainview 146.04 19 P **PKPdf** **09 19 33.8 +0.4**
baz=337,SNR=14
IP05 Hopewell Churc 146.07 358 *e*PKPdf **PKPab** **09 19 34.6 -0.1**
X38A Whitesboro 146.09 23 P **PKPbc** **09 19 34.3 -0.1**
baz=332
Y36A Durant 146.16 26 P **PKPbc** **09 19 34.2 -0.4**
baz=329,SNR=12
V42A Cord 146.26 18 P **PKPbc** **09 19 34.5 -0.3**
baz=338,SNR=8.9
W40A Ferguson Farm, 146.28 20 P **PKPbc** **09 19 35.1 +0.3**
baz=335,SNR=7.7
U44B Burton Farm, H 146.32 15 P **PKPbc** **09 19 35.0 0.0**
baz=342
Y37A Hugo 146.37 25 P **PKPbc** **09 19 35.1 -0.1**
baz=330
WHAR Wooly Hollow 146.45 19 *e*PKPdf **PKPbc** **09 19 35.9 +0.5**
U45A Rockin P Farm, 146.46 14 P **PKPbc** **09 19 35.2 -0.1**
baz=343
X301 Greenbrier Sit 146.46 19 *e*PKPdf **PKPbc** **09 19 35.4 0.0**
X39A Fountain Ranch 146.51 22 P **PKPbc** **09 19 36.0 +0.4**
baz=333,SNR=13
W41B Gary Mavity, V 146.57 19 P **PKPbc** **09 19 35.6 -0.2**
baz=336
Z36A Blue Ridge 146.63 26 P **PKPbc** **09 19 36.1 +0.1**
baz=328
MIAR Mount Ida 146.68 22 P **PKPbc** **09 19 36.4 +0.3**
baz=334,SNR=18
MIAR Mount Ida 146.68 22 *e*PKP2 **PKPab** **09 19 36.7 -0.5**
MIAR Mount Ida 146.68 22 *e*PKPdf **PKPab** **09 19 36.7 -0.5**
Y38A Mabel 146.78 24 P **PKPbc** **09 19 36.3 -0.1**
baz=331
WVT Waverly 146.88 13 *e*PKP2 **PKPbc** **09 19 36.6 0.0**
WVT Waverly 146.88 13 *e*PKPdf **PKPbc** **09 19 36.6 0.0**
UALR University of 146.90 20 *e*PKPdf **PKPbc** **09 19 37.0 +0.3**
V45A Humboldt 146.99 14 P **PKPbc** **09 19 37.1 +0.2**
baz=342
X40A Basin Creek Fa 146.99 21 P **PKPbc** **09 19 37.2 +0.2**
baz=335
Y39A Lockesburg 147.02 23 P **PKPbc** **09 19 37.1 0.0**
baz=332
Z37A Pogue Cattle C 147.04 25 P **PKPbc** **09 19 37.4 +0.2**
baz=329
X41A Kaden, Bauxite 147.10 20 P **PKPbc** **09 19 37.5 +0.2**
baz=335
JCT Junction City 147.20 34 P **PKPbc** **09 19 38.0 +0.2**
baz=320
JCT Junction City 147.20 34 *e*PKP2 **PKPbc** **09 19 36.8 -1.0**
JCT Junction City 147.20 34 *e*PKPdf **PKPbc** **09 19 36.8 -1.0**
WHTX Lake Whitney, 147.22 29 P **PKPbc** **09 19 37.9 +0.2**
baz=325
136A Ennis 147.25 27 P **PKPbc** **09 19 37.7 0.0**
baz=327
Y40A Okolona 147.26 22 P **PKPbc** **09 19 37.7 0.0**
baz=334
Z38A Mt. Pleasant 147.27 25 P **PKPbc** **09 19 37.8 0.0**
baz=330
W45A Hickory Valley 147.49 15 P **PKPbc** **09 19 38.2 -0.1**
baz=342
WLAR White Oak Lake 147.61 22 *e*PKPbc **PKPbc** **09 19 39.3 +0.5**
Y41A Eaglette Beard 147.62 21 P **PKPbc** **09 19 38.9 +0.2**

	baz=335							
236A	Katherine and baz=327	147.65	28	P		PKPbc	09 19 38.8	-0.1
X44A	Crenshaw baz=340	147.84	17	P		PKPbc	09 19 39.2	-0.2
CCAR	Cane Creek	147.88	20	*e*PKPdf		PKPdf	09 19 36.6	+0.1
CCAR				*e*PKPbc		PKPbc	09 19 40.1	+0.7
Z40A	Long Farm, Mag baz=333	147.89	22	P		PKPbc	09 19 39.7	+0.2
336A	Riesel baz=326	148.01	29	P		PKPbc	09 19 39.1	-0.8
OXF	Oxford	148.04	16	*e*PKP2		PKPbc	09 19 40.0	+0.1
OXF	Oxford	148.04	16	*e*PKPbc		PKPbc	09 19 40.0	+0.1
Z41A	Richland Creek baz=334	148.11	22	P		PKPbc	09 19 39.8	-0.3
X45A	UM Field Stati baz=341	148.12	16	P		PKPbc	09 19 40.0	-0.1
CPCT	Cooper Cave	148.13	8	*e*PKPbc		PKPbc	09 19 40.3	+0.2
435B	Jarrell baz=324	148.13	31	P		PKPbc	09 19 40.6	+0.3
SWET	Sewanee	148.13	10	*e*PKPbc		PKPbc	09 19 39.9	-0.2
Y43A	Makayla and Ka baz=338	148.15	18	P		PKPbc	09 19 40.6	+0.4
140A	Cam and Jess, baz=332	148.37	23	P		PKPbc	09 19 41.2	+0.4
436A	Wall Ranch, Ga baz=325	148.54	29	P		PKPbc	09 19 41.8	+0.6
239A	Gary baz=330	148.55	25	P		PKPbc	09 19 41.7	+0.5
Y45A	Yeager Farm, C baz=340	148.61	16	P		PKPbc	09 19 42.0	+0.7
141A	Papa Simpson, baz=334	148.66	22	P		PKPbc	09 19 41.6	+0.1
NATX	Nacogdoches baz=330	148.69	26	P		PKPbc	09 19 41.7	0.0
KMSC	Kings Mountain baz=356	148.74	3	P		PKPbc	09 19 41.3	-0.4
KMSC	Kings Mountain	148.74	3	*e*PKPbc		PKPbc	09 19 41.7	0.0
832A	Faith Ranch, C baz=318	148.74	37	P		PKPbc	09 19 42.2	+0.3
338A	Crockett baz=328	148.75	27	P		PKPbc	09 19 41.5	-0.3
BG3	Lake Jocassee	148.76	6	*e*PKPbc		PKPbc	09 19 42.4	+0.6
Y46A	Houston baz=342	148.78	15	P		PKPbc	09 19 41.6	-0.2
Z44A	Pea Ridge, Bel baz=338	148.90	18	P		PKPbc	09 19 42.5	+0.4
Y47A	UCPARC, Winfie baz=344	149.01	14	P		PKPbc	09 19 42.4	0.0
833A	Chaparral WMA, baz=319	149.06	36	P		PKPbc	09 19 43.4	+0.8
142A	Monroe baz=335	149.06	21	P		PKPbc	09 19 43.0	+0.4
143A	Socs Landing, baz=336	149.11	20	P		PKPbc	09 19 43.1	+0.5
438A	Sam Houston St baz=327	149.19	28	P		PKPbc	09 19 44.0	+1.0
340A	Bronson baz=331	149.31	25	P		PKPbc	09 19 43.8	+0.6
Z46A	Louisville baz=341	149.41	16	P		PKPbc	09 19 43.9	+0.5
242A	Grayson baz=334	149.43	22	P		PKPbc	09 19 44.2	+0.7
636A	Smothers Creek baz=324	149.45	31	P		PKPbc	09 19 45.2	+1.5
439A	Center Grove, baz=329	149.47	27	P		PKPbc	09 19 44.9	+1.2
735A	Kenedy baz=322	149.55	33	P		PKPbc	09 19 45.3	+1.4
Z48A	Northport baz=344	149.58	14	P		PKPbc	09 19 43.3	-0.6
Z47A	Carrollton baz=343	149.63	14	P		PKPbc	09 19 43.9	0.0
933A	Laredo baz=318	149.66	37	P		PKPbc	09 19 45.5	+1.3
145A	Houston Renfro baz=339	149.68	18	P		PKPbc	09 19 44.7	+0.6
341A	Kurthwood baz=332	149.68	24	P		PKPbc	09 19 44.9	+0.7
HKT	Hockley	149.68	29	*e*PKP2		PKPbc	09 19 45.0	+0.9
HKT	Hockley	149.68	29	*e*PKPbc		PKPbc	09 19 45.0	+0.9
637A	Eagle Lake baz=325	149.85	30	P		PKPbc	09 19 46.2	+1.6
736A	Circle Diamond baz=323	149.87	32	P		PKPbc	09 19 46.5	+1.9
146A	Union baz=341	149.90	16	P		PKPbc	09 19 45.4	+0.8
244A	Avery, Jackson baz=337	149.95	19	P		PKPbc	09 19 45.9	+1.1
835A	Beeville baz=321	149.98	34	P		PKPbc	09 19 46.6	+1.7
539A	Cross D Ranch, baz=328	150.07	27	P		PKPbc	09 19 47.0	+1.9
147A	Livingston baz=342	150.08	15	P		PKPbc	09 19 45.3	+0.3
934A	Benavides baz=319	150.11	36	P		PKPbc	09 19 47.1	+1.8
441A	DeRidder baz=332	150.19	24	P		PKPbc	09 19 46.8	+1.5
034A	Hebbronville baz=318	150.41	37	P		PKPbc	09 19 47.5	+1.4
344A	Westbrook Farm baz=337	150.48	20	P		PKPbc	09 19 47.0	+0.9
247A	Quitman baz=341	150.57	16	P		PKPbc	09 19 47.2	+1.0
345A	Thompson Farm, baz=338	150.84	19	P		PKPbc	09 19 48.0	+1.1
035A	Encino baz=319	150.85	36	P		PKPbc	09 19 47.9	+0.8
346A	Big Creek Wild baz=339	150.95	18	P		PKPbc	09 19 48.0	+0.8
347A	Saraland baz=341	151.21	16	P		PKPbc	09 19 48.6	+0.9
035Z	Hargill baz=319	151.23	37	P		PKPbc	09 19 49.9	+2.0
LNIG	Linares	151.48	41	*e*PKPbc		PKPbc	09 19 47.9	-0.8
TIGA	Tifton baz=351	152.20	8	P		PKPbc	09 19 51.3	+1.2

MEX 12 09:05:32.0±0.3, 15°.84N×96°.70W, h16km±5km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.57	97	*e*P	Pg	09 05 41.4	-2.0
HUIG				*e*S	Sg	09 05 48.6	-2.5
VHO	Vista Hermosa	1.23	359	*e*P	Pn	09 05 51.0	-3.7
VHO				*i* S	Sb	09 06 05.5	-5.1
PNIG	Pinotepa	1.48	292	*e*P	Pn	09 05 54.3	-3.7
PNIG				*i* S	Sn	09 06 11.9	-5.1
TLIG	Tlapa	2.48	314	*e*P	Pn	09 06 06.3	-5.5

IDC 12 09:08:41.7±2.8, 5°.67S×147°.00E, h182km±30km, mb3.4/1, mb1 3.6/3, mb1mx3.1/32, mbtmp4.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/14, Error ellipse: s-maj=66.1km s-min=21.0km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.71	178	P	Pn	09 09 40.0	+0.7
	5.0nm,0.3s,baz=14,slow=8.3,SNR=10						
PMG				S	Sn	09 10 24.0	-0.4
	8.3nm,0.3s,baz=4.5,slow=8.8,SNR=9.8						
WRA	Warramunga Arr	18.78	220	P	P	09 12 48.6	+1.2
	0.7nm,0.3s,baz=45,slow=11,SNR=26						
WRA				S	S	09 16 11.2	-0.4
	0.1nm,0.3s,baz=36,slow=23,SNR=4.8						
ASAR	Alice Springs	21.89	214	P	P	09 13 21.4	+0.9
	2.3nm,0.4s,baz=49,slow=8.2,SNR=28						
ASAR				S	S	09 17 10.8	+1.3
	0.2nm,0.5s,baz=29,slow=23,SNR=3.5						
MJAR	Matsushiro Arr	42.79	350	LR	LR	09 32 58.8	
	comp=Z,38nm,20.3s,baz=210,slow=34						
TORD	Torodi Ar. Bea	145.01	285	PKPbc	PKPbc	09 27 56.0	-2.0
	0.3nm,0.8s,baz=65,slow=5.0,SNR=4.2						

*NEIC **12** 09:57:03.7±0.0, 10°.56N×62°.07W, h3km, MD4.0(TRN), After TRN.*
TRN 12 09:57:02.2, 10°.52N×62°.17W, h2km, MD4.0, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.45	67	*e*P	Pg	09 57 11.3	+0.6
TCE	Chacachacare	0.45	67	*e*P	Pg	09 57 11.3	+0.6
TPP	Pointe-a-Pierr	0.74	106	*e*P	Pg	09 57 16.7	+0.4
TPP	Pointe-a-Pierr	0.74	106	*e*P	Pg	09 57 16.7	+0.4
TRN	Trinidad (W)	0.76	81	*e*P	Pg	09 57 16.4	-0.5
TRN	Trinidad (W)	0.76	81	*e*P	Pg	09 57 16.4	-0.5
TBH	Brigand Hill	1.08	92	*e*P	Pg	09 57 23.3	+0.3
TBH	Brigand Hill	1.08	92	*e*P	Pg	09 57 23.3	+0.3
BOT	Bacolet	1.56	66	*e*P	Pn	09 57 31.1	+0.1
BOT				*e*S	Sg	09 57 54.0	+1.5
BOT	Bacolet	1.56	66	*e*P	Pn	09 57 31.1	+0.1
GRW	Mount Saint Ca	1.70	17	*e*P	Pn	09 57 33.3	+0.3
GRW	Mount Saint Ca	1.70	17	*e*P	Pn	09 57 33.3	+0.3
GRHS	Sauteurs	1.77	17	*e*P	Pn	09 57 34.4	+0.6
GRHS				*e*S	Sb	09 57 57.9	-0.1
GRHS	Sauteurs	1.77	17	*e*P	Pn	09 57 34.4	+0.6
GRHS				*e*S	Sb	09 57 57.9	-0.1
TOSP	Speyside	1.78	64	*e*P	Pn	09 57 34.7	+0.7
TOSP				*e*S	Sb	09 57 58.5	+0.1
TOSP	Speyside	1.78	64	*e*P	Pn	09 57 34.7	+0.7
TOSP				*e*S	Sb	09 57 58.5	+0.1
GRSS	Sisters	1.85	17	*e*P	Pn	09 57 35.5	+0.6
GRSS	Sisters	1.85	17	*e*P	Pn	09 57 35.5	+0.6
SVB	Belmont	2.88	18	*e*P	Pn	09 57 49.7	+0.6
SVB				*e*S	Sn	09 58 23.9	-0.4
SVB	Belmont	2.88	18	*e*P	Pn	09 57 49.7	+0.6
SVB				*e*S	Sn	09 58 23.9	-0.4
SLDE	Delcer	3.44	18	*e*P	Pn	09 57 57.1	+0.3
SLDE	Delcer	3.44	18	*e*P	Pn	09 57 58.6	+1.8
SLPA	Patience	3.53	20	*e*P	Pn	09 57 59.7	+1.6
TRMF	Trois Ilets	4.13	15	*e*P	Pn	09 58 07.5	+1.1
ZAM	Aeronautique	4.18	15	*e*P	Pn	09 58 08.1	+1.1
MVM	Montagne Vaucl	4.20	17	*e*P	Pn	09 58 08.3	+1.0
FDF	Fort de France	4.30	13	*e*P	Pn	09 58 09.0	+0.3
GBMF	Grand Be	4.36	13	*e*P	Pn	09 58 09.9	+0.3
PCM	Pelee Case Pet	4.37	12	*e*P	Pn	09 58 10.3	+0.6
PCM	Pelee Case Pet	4.37	12	*e*P	Pn	09 58 10.3	+0.7
CXM	Morne La Croix	4.37	13	*e*P	Pn	09 58 11.2	+1.4
BAMF	Morne Balai	4.38	13	*e*P	Pn	09 58 10.1	+0.2

*CSEM **12** 10:13:12.6±0.7, 51°.47N×16°.14E, h1km, ML2.7/6, Error ellipse: s-maj=9.5km s-min=5.3km az=178.0*
*WAR **12** 10:13:13.9, 51°.44N×16°.16E, h1km, Mw2.2*
PRU 12 10:13:14.3, 51°.43N×16°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.60	171	*e*Pg	Pg	10 13 25.3	-0.4
KSP				*e*Sg	Sg	10 13 33.5	+0.1
KSP	Ksiaz	0.60	171	*e*Pg	Pg	10 13 25.3	-0.4
KSP				*e*Sg	Sg	10 13 33.5	+0.1
KSP	Ksiaz	0.60	171	*e*Pg	Pg	10 13 25.3	-0.4
KSP				*e*Sg	Sg	10 13 33.5	+0.1
UPC	Upice	0.93	185	*e*PG	Pg	10 13 32.3	+0.3
UPC				*e*SG	Sg	10 13 44.5	+0.5
	comp=Z,14nm,0.4s						
UPC	Upice	0.93	185	Pg	Pg	10 13 32.3	+0.3
	6.0nm,0.2s						
UPC				Sg	Sg	10 13 44.5	+0.5
	14nm,0.4s						
DPC	Dobruska-Polom	1.09	174	*e*PG	Pg	10 13 34.2	-0.9
DPC				*e*SG	Sg	10 13 49.4	+0.2
	comp=Z,7.3nm,0.4s						
DPC	Dobruska-Polom	1.09	174	Pg	Pg	10 13 34.2	-0.9
DPC				Sg	Sg	10 13 49.4	+0.2
	7.3nm,0.4s						
PVCC	Panska Ves	1.34	228	*e*SG	Sb	10 13 57.9	-0.1
	comp=Z,22nm,0.3s						
PVCC	Panska Ves	1.34	228	Sg	Sb	10 13 57.9	-0.1
	22nm,0.3s						
KRLC	Kraliky	1.42	163	*e*PG	Pn	10 13 40.4	-1.0
KRLC				*e*SG	Sg	10 13 59.2	-0.6
KRLC	Kraliky	1.42	163	Pg	Pn	10 13 40.4	-1.0
KRLC				Sg	Sg	10 13 59.2	-0.6
GOPC	GO Pecny, Ondr	1.75	210	*e*PG	Pn	10 13 46.5	+0.7
GOPC				*e*SG	Sb	10 14 09.5	-0.1
	comp=Z,4.0nm,0.2s						
GOPC	GO Pecny, Ondr	1.75	210	Pg	Pn	10 13 46.5	+0.7
GOPC				Sg	Sb	10 14 09.5	-0.1
	4.0nm,0.2s						
PRU	Pruhonice	1.77	216	*e*SG	Sb	10 14 10.1	-0.1
	comp=Z,5.8nm,0.5s						
PRU	Pruhonice	1.77	216	Sg	Sb	10 14 10.1	-0.1
	5.8nm,0.5s						
MORC	Moravsky Berou	1.88	151	*e*Pn	Pn	10 13 46.2	-1.5
MORC				*e*Sg	Sn	10 14 12.6	+0.4
NKC	Novy Kostel	2.63	244	*e*SG	Sg	10 14 37.9	-0.8
	comp=Z,7.0nm,0.3s						
NKC	Novy Kostel	2.63	244	Sg	Sg	10 14 37.9	-0.8
	7.0nm,0.3s						
KHC	Kasperske Hory	2.83	217	*e*SN	Sn	10 14 33.5	-2.0
KHC				*e*SG	Sg	10 14 43.1	-2.0
KHC	Kasperske Hory	2.83	217	Sn	Sn	10 14 33.5	-2.0
KHC				Sg	Sg	10 14 43.1	-2.0

*IDC **12** 10:27:19.8±2.2, 27°.95N×75°.72E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/49, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=89.9km s-min=23.1km az=69.0*
*ISCJB **12** 10:27:23.3±0.5, 28°.00N±0°.03×75°.87E±0°.04, h35km±6km, mb3.6/4, Error ellipse: s-maj=6.1km s-min=4.7km az=169.1*
*NDI **12** 10:27:25.3±3.0, 28°.10N×75°.97E, h13km±5km, ML3.5*
ISC 12 10:27:23.2±0.8, 27°.99N±0°.03×75°.85E±0°.04, h28km±6km, n43, σ2°.72/70, mb3.5/4, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHET	Khetri	0.10	338	*e*P	Pn	10 27 28.9	+0.7
KHET				*e*S	Sb	10 27 31.4	-0.3
KHET				IAML		10 27 31.8	
	comp=N,6μm,0.1s						
KHET				IAML		10 27 31.9	
	comp=E,5μm,0.1s						
KUDL	Kundal	0.59	74	*e*P	Pb	10 27 35.2	+0.2
KUDL				*e*S	Sb	10 27 41.8	-1.2
KUDL				AML	AML	10 27 42.7	
	comp=N,4μm,0.3s						
KUDL				AML	AML	10 27 42.9	
	comp=E,1μm,0.2s						
SONA	Sohna	1.12	76	*e*P	Pb	10 27 44.1	+0.1
SONA				*e*S	Sn	10 27 57.3	-0.2
SONA				AML	AML	10 27 57.9	
	comp=N,995nm,0.2s						
SONA				AML	AML	10 28 01.1	
	comp=E,1μm,0.3s						
RTK	Rohtak	1.16	25	*e*P	Pb	10 27 44.6	0.0
RTK				*e*S	Sn	10 27 56.9	-1.5
BHGR	Bahadurgarh	1.19	54	*e*P	Pb	10 27 45.8	+0.7
BHGR				*e*S	Sn	10 27 58.9	-0.3
AYAN	Aya Nagar	1.23	66	*e*P	Pn	10 27 41.3	-3.2
AYAN				*e*S	Sn	10 27 55.5	-4.8
NDI	New Delhi	1.39	60	*e*P	Pn	10 27 47.0	+0.2
NDI				*e*S	Sn	10 28 03.0	-1.3
KKR	Kurukshetra	2.15	23	*e*P	Pn	10 27 51.0	-6.1
KKR				*e*S	Sn	10 28 12.8	-10
DDI	Dehra Dun	3.03	39	*e*P	Pn	10 28 11.4	+2.1
DDI				*e*S	Sn	10 28 44.8	+0.1
SMLA	Simla	3.34	20	*e*P	Pn	10 28 14.7	+1.3
SMLA				*e*S	Sn	10 28 51.3	-0.9
SMLA				IAML		10 29 06.9	
	comp=E,425nm,0.5s						
SMLA				IAML		10 29 07.5	
	comp=N,349nm,0.5s						
BHK	Bhakra	3.46	8	*ex*	Pb	10 28 23.2	-0.5
BHK				*ex*	Sn	10 28 51.0	-4.2
SDNR	Sundarnagar	3.64	15	*e*P	Pn	10 28 20.6	+3.0
SDNR				*ex*	Sb	10 29 16.0	+5.5
JWA	Jwalamukhi	3.89	6	*e*P	Pb	10 28 33.0	+1.9
JWA				*e*S	Sb	10 29 18.0	+0.3
JOSI	Joshimath	4.13	51	*e*P	Pn	10 28 27.5	+2.9
JOSI				*e*S	Sn	10 29 11.4	-0.8
DHRM	DHARAMSHALA	4.27	5	*e*P	Pn	10 28 28.7	+2.2
DHRM				*e*S	Sn	10 29 15.9	+0.4
THN	Thein Dam	4.43	359	*ex*	Pn	10 28 26.0	-2.6
THN				*ex*	Sb	10 29 35.0	+1.6
JASL	Jaisalmer	4.52	258	*ex*	Pb	10 28 49.6	+7.9
JASL				*ex*	Sb	10 29 36.6	+0.8
BHPL	Bhopal	4.93	163	*e*P	Pn	10 28 38.8	+3.2
BHPL				*e*S	Sn	10 29 34.6	+2.9
THW	Thamme Wali	5.96	325	P	Pn	10 28 50.6	+1.0
PYUN	Piuthan	6.32	87	*e*Pn	Pn	10 28 57.2	+2.6
PYUN				*e*Sn	Sn	10 30 04.0	-2.0
	comp=N,114nm,0.3s						
CEP	Cherat	6.73	331	P	Pn	10 29 01.4	+1.1
CEP				S	Sn	10 30 11.0	-5.1
KOLN	Koldanda	6.87	90	*e*Pn	Pn	10 29 05.0	+2.8
NGP	Nagpur	7.40	156	*e*S	Sn	10 30 34.0	+1.5
GKN	Gorkha	7.77	88	*e*Pn	Pn	10 29 16.6	+2.0
GKN				*e*Sn	Sn	10 30 39.3	-2.5
	comp=N,60nm,0.3s						
DMN	Daman	8.21	90	*e*Pn	Pn	10 29 22.9	+2.2
KKN	Kakani	8.35	89	*e*Pn	Pn	10 29 24.6	+2.0
PKIN	Phulchoki	8.47	91	*e*Pn	Pn	10 29 26.4	+2.1
PKIN				*e*Sn	Sn	10 30 55.0	-4.1
	comp=N,48nm,0.3s						
PKI	Pulchoki	8.48	91	*e*Pn	Pn	10 29 26.2	+1.7
PKI				*e*Sn	Sn	10 30 55.4	-4.0
	comp=N,48nm,0.4s						
GUN	Gumba	8.87	88	*e*Pn	Pn	10 29 31.2	+1.3
GUN				*e*Sn	Sn	10 31 06.2	-2.9
	comp=N,42nm,0.3s						
JIRN	Jiri	9.16	90	*e*Pn	Pn	10 29 35.5	+1.6
POO	Poona	9.59	191	*e*P	Pn	10 29 39.0	-0.4
	comp=N,3.0nm,1.0s						
POO				*e*PP	PnPn	10 29 47.0	-0.3
POO				*e*LQ	LQ	10 31 15.0	
POO				*i* S	Sn	10 31 24.0	-2.3
POO				*i* SS	SnSn	10 31 37.0	-1.4
POO				*e*LR	LR	10 31 40.0	
POO				*i* SSS	SSS	10 31 50.0	
RAMN	Ramite	9.61	94	*e*Pn	Pn	10 29 40.7	+0.8
RAMN				*e*Sn	Sn	10 31 21.5	-5.5
	comp=N,110nm,0.4s						
BOK	Bokaro	9.96	113	*e*P	Pn	10 29 45.0	+0.6
BOK				*e*S	Sn	10 31 30.1	-5.1
BOK				IAML		10 31 50.8	
	comp=E,14nm,0.5s						
BOK				IAML		10 31 52.0	
	comp=N,16nm,0.4s						
ODAN	Odare	10.32	94	*e*Pn	Pn	10 29 51.0	+1.4
ODAN				*e*Sn	Sn	10 31 40.1	-4.4
	comp=N,57nm,0.5s						
TAPN	Taplejung	10.54	91	*e*Pn	Pn	10 29 54.8	+2.2
HYB	Hyderabad	10.81	166	*i* P	Pn	10 30 03.5	+7.3
HYB				*e*		10 31 54.0	
HYB				*e*S	Sn	10 32 05.0	+8.7
BWNR	Bhubaneshwar	11.88	128	*e*S	Sn	10 32 15.9	-6.6
AAK	Ala-Archa	14.66	356	Pn	Pn	10 30 48.2	-0.6
	comp=N,0.2nm,0.3s,baz=201,slow=14,SNR=2.4						
AAK				Sn	Sn	10 33 20.2	-10
	comp=N,0.2nm,0.3s,baz=323,slow=15,SNR=2.0						
MKAR	Makanchi Array	19.45	13	P	P	10 31 47.8	+0.3
	comp=N,0.1nm,0.3s,baz=203,slow=12,SNR=5.5						
KURBB	Kurchatov Arra	22.70	4	P	P	10 32 23.3	+0.8
	comp=N,0.5nm,0.3s,baz=192,slow=11,SNR=4.0						
ARCES	ARCESS Array B	50.55	339	P	P	10 36 19.1	+0.4
	comp=N,1.9nm,0.8s,baz=128,slow=5.8,SNR=5.0						
WRA	Warramunga Arr	73.95	123	P	P	10 38 57.7	+1.5
	comp=N,0.2nm,0.4s,baz=322,slow=5.7,SNR=6.4						
ASAR	Alice Springs	75.95	127	P	P	10 39 09.4	+1.7
	comp=N,0.2nm,0.4s,baz=308,slow=6.0,SNR=4.5						

*NIED **12** 10:45:00, 22°.30N×123°.70E, h17km, Mw3.6 Best double couple: M0=3.19000×10^14 NP1:φ0=58.00000°, δ59.00000°, λ-160.00000°. NP2:φ0=318.00000°, δ73.00000°, λ-32.00000°.*
*IDC **12** 10:45:51.4±1.4, 22°.12N×123°.76E, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/50, mbtmp3.6/5, ML3.7/2, MS2.7/1, Ms1 2.9/1, ms1mx2.3/27, Error ellipse: s-maj=31.5km s-min=27.0km az=85.0*
*JMA **12** 10:45:53.7±0.6, 22°.30N×123°.73E, h53km, M4.1*
*ISCJB **12** 10:45:54.9±1.1, 22°.37N±0°.06×124°.04E±0°.05, h53km±14km, mb3.1/3, MS2.5/1, Error ellipse: s-maj=10.3km s-min=7.8km az=165.3*
ISC 12 10:45:56.7±2.9, 22°.4N±0°.2×123°.93E±0°.06, h57km±35km, n24, σ1°.59/39, mb3.2/3, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.65	356	P	Pn	10 46 22.8	-0.5
HATJ				S	Sn	10 46 43.2	-0.2
JKRS	Kuro-shima	1.83	2	P	Pn	10 46 25.3	-0.4
JKRS				S	Sn	10 46 48.3	+0.6
IRIF	Iriomote-Funau	1.93	355	P	Pn	10 46 27.0	-0.1
IRIF				*e*S	Sn	10 46 49.7	-0.6
JIJ	Ishigaki jima	1.96	6	P	Pn	10 46 27.1	-0.4
JIJ				*e*S	Sn	10 46 50.1	-0.9
JISG	Ishigakijimahi	2.20	9	P	Pn	10 46 30.2	-0.6
JISG				S	Sn	10 46 56.8	-0.1
YOJ	Yonaguni jima	2.22	338	P	Pn	10 46 30.5	-0.5
YOJ				S	Sn	10 46 55.9	-1.4
JYNG	Yonagunijimaku	2.23	336	P	Pn	10 46 30.5	-0.7
JYNG				S	Sn	10 46 56.0	-1.6
JTJ	Tarama	2.34	17	P	Pn	10 46 32.4	-0.3
JTJ				*e*S	Sn	10 47 00.9	+0.7
JIRB	Irabujima	2.67	25	P	Pn	10 46 37.6	+0.4
JIRB				*e*S	Sn	10 47 08.7	+0.4
JMJ	Miyako jima 2	2.71	27	P	Pn	10 46 38.5	+0.8
JMJ				*e*S	Sn	10 47 11.3	+2.0
JOGS	Gusukube	2.71	30	P	Pn	10 46 38.2	+0.5
JOGS				S	Sn	10 47 11.2	+1.9
JIKM	Ikemajima	2.78	25	*e*S	Sn	10 47 12.4	+1.2
JKE	Kume jima 2	4.69	33	P	Pn	10 47 04.2	-0.7
JKE				*e*S	Sn	10 47 57.1	-1.0
JAGN	Aguni-jima	5.14	35	P	Pn	10 47 10.8	-0.3
JAGN				*e*S	Sn	10 48 08.0	-1.1
JNTH	Nagotoyohara	5.54	41	P	Pn	10 47 16.0	-0.5
JNTH				*e*S	Sn	10 48 16.7	-2.1
JOW	Kunigami	5.92	41	P	Pn	10 47 21.1	-0.7
JOW				*e*S	Sn	10 48 26.1	-2.2
JOKE	Okinoerabujima	6.49	40	P	Pn	10 47 28.3	-1.3
JTK	Tokunoshima	7.03	39	P	Pn	10 47 35.4	-1.5
JTK				*e*S	Sn	10 48 50.5	-5.0
JAM	Amami Oshima	7.88	39	P	Pn	10 47 46.9	-1.7
KSRS	Korea Array	15.39	12	Pn	P	10 49 32.2	-1.6
	0.2nm,0.3s,baz=191,slow=13,SNR=13						
MJAR	Matsushiro Arr	18.75	38	P	Pn	10 50 16.8	+4.8
	0.3nm,0.3s,baz=230,slow=9.5,SNR=10						
CMAR	Chiang Mai Arr	23.73	265	P	P	10 51 04.4	+0.6
	0.4nm,0.3s,baz=74,slow=8.3,SNR=7.8						
CMAR				LR	LR	11 01 11.0	
	comp=Z,16nm,18.5s,baz=270,slow=39						
MKAR	Makanchi Array	41.37	316	P	P	10 53 39.3	+2.2
	0.3nm,0.6s,baz=100,slow=7.7,SNR=2.7						
WRA	Warramunga Arr	43.30	166	P	P	10 53 52.8	-0.2
	0.3nm,0.8s,baz=346,slow=9.2,SNR=3.2						

*IDC **12** 10:54:31.9±1.4, 18°.73N×106°.74W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.7/38, mbtmp3.9/8, ML3.8/3, MS4.3/29, Ms1 4.3/29, ms1mx4.2/37, Error

H06E1	SOCORRO T-PHAS	4.18	274		T	T	10 59 32.5	
	SNR=80							
H06S1	SOCORRO T	4.21	274		T	T	10 59 33.7	
	SNR=34							
H06N1	SOCORRO T-PHAS	4.25	275		T	T	10 59 37.3	
	SNR=17							
MOIG	Morelia	5.17	76	eP		Pn	10 55 50.6	-1.0
MOIG	Morelia	5.17	76	ePn		Pn	10 55 54.9	+3.3
ZAIG	Zacatecas	5.62	41	ePn		Pn	10 55 58.6	+0.7
ARIG	Puente Sto Nin	5.87	91	eP		Pn	10 56 00.4	-0.6
TLIG	Tlapa	7.63	96	ePn		Pn	10 56 27.8	+2.5
HPIG		8.42	5	ePn		Pn	10 56 39.0	+2.8
LNIG	Linares	9.13	45	ePn		Pn	10 56 47.7	+1.9
TX31	Lajitas Ar. Si	11.08	13	ePn		Pn	10 57 14.8	+2.2
TXAR	Lajitas Array	11.08	13	Pn		Pn	10 57 12.2	-0.3
	0.1nm,0.3s,baz=198,slow=13,SNR=8.1							
TXAR				Lg		Lg	11 00 10.8	
	0.1nm,0.3s,baz=193,slow=27,SNR=4.1							
034A	Hebbronville	11.16	39	P		Pn	10 57 15.5	+1.9
	baz=222							
CMIG	Matias Romero	11.18	95	Pn		Pn	10 57 16.8	+3.0
	2.1nm,0.3s,baz=260,slow=12,SNR=20							
CMIG				Sn		Sn	10 59 27.5	+8.5
	0.2nm,0.3s,baz=76,slow=17,SNR=1.7							
CMIG				Lg		Lg	11 00 23.5	
	0.1nm,0.3s,baz=15,slow=20,SNR=2.6							
CMIG				LR		LR	11 01 00.8	
	comp=Z,1μm,18.4s,baz=274,slow=34							
933A	Laredo	11.24	35	P		Pn	10 57 16.8	+2.1
	baz=218							
035A	Encino	11.43	41	P		Pn	10 57 19.2	+2.0
	baz=225							
832A	Faith Ranch, C	11.43	30	P		Pn	10 57 19.5	+2.2
	baz=214							
TUIG	Tuzandepetl	11.51	90	ePn		Pn	10 57 20.8	+2.5
934A	Benavides	11.66	38	P		Pn	10 57 21.7	+1.2
	baz=221							
833A	Chaparral WMA,	11.75	32	P		Pn	10 57 24.5	+2.9
	baz=216,SNR=9.7							
835A	Beeville	12.58	38	P		Pn	10 57 35.4	+2.4
	baz=222							
633A	Saathoff Ranch	12.79	30	P		Pn	10 57 37.9	+2.0
	baz=214							
735A	Kenedy	13.02	36	P		Pn	10 57 41.2	+2.2
	baz=220							
319A	Douglas	13.05	349	ePn		Pn	10 57 39.4	-0.1
MNTX	Cornudas Mount	13.17	4	P		Pn	10 57 41.5	+0.4
	baz=185,SNR=7.2							
MNTX	Cornudas Mount	13.17	4	ePn		Pn	10 57 42.1	+1.1
JCT	Junction City	13.39	26	P		Pn	10 57 46.0	+2.0
	baz=209,SNR=9.4							
JCT	Junction City	13.39	26	ePn		Pn	10 57 47.0	+3.0
736A	Circle Diamond	13.52	38	P		Pn	10 57 47.3	+1.5
	baz=222,SNR=13							
CCIG	Comitan	13.91	97	ePn		P	10 57 55.3	-4.4
636A	Smothers Creek	13.92	37	P		Pn	10 57 52.9	+1.6
	baz=221							
121A	Cookes Peak, D	14.01	356	P		Pn	10 57 52.6	-0.1
	baz=176							
121A	Cookes Peak, D	14.01	356	ePn		Pn	10 57 51.9	-0.7
	26nm,1.4s							
TUC	Tucson	14.27	345	P		Pn	10 57 55.4	-0.7
	baz=164							
TUC	Tucson	14.27	345	ePn		Pn	10 57 56.7	+0.6
637A	Eagle Lake	14.31	39	P		Pn	10 57 57.9	+1.3
	baz=223							
536A	Bastrop	14.37	35	P		Pn	10 57 59.0	+1.5
	baz=219							
214A	Organ Pipe Nat	14.54	338	P		Pn	10 57 58.9	-0.9
	baz=156							
435B	Jarrell	14.66	32	P		Pn	10 58 02.4	+1.0
	baz=216							
537A	Green Hill Far	14.79	37	P		Pn	10 58 04.2	+0.9
	baz=222							
HKT	Hockley	14.98	39	ePn		Pn	10 58 05.9	+0.2
	72nm,1.8s							
436A	Wall Ranch, Ga	15.06	34	P		Pn	10 58 07.2	+0.4
	baz=218							
ABTX	Abilene, Hawle	15.35	22	P		Pn	10 58 11.2	+0.5
	baz=206							
ABTX	Abilene, Hawle	15.35	22	ePn		Pn	10 58 10.8	0.0
	16nm,1.0s							
437A	Phantom Ranch,	15.46	36	P		Pn	10 58 12.4	+0.3
	baz=220							
Y22D	IRIS PASSCAL I	15.50	359	P		Pn	10 58 12.5	-0.3
	baz=179							
336A	Riesel	15.52	32	P		Pn	10 58 13.4	+0.5
	baz=217							
BNM	Barren Site	15.57	360	ePn		Pn	10 58 14.1	+0.3
113A	Mohawk Valley,	15.62	337	ePn		Pn	10 58 12.5	-1.6
	34nm,1.5s							
WHTX	Lake Whitney,	15.71	30	P		Pn	10 58 15.6	+0.2
	baz=214							
WHTX	Lake Whitney,	15.71	30	ePn		Pn	10 58 14.9	-0.5
	45nm,1.4s							
MSTX	Muleshoe	15.75	12	P		Pn	10 58 16.7	+0.7
	baz=194,SNR=9.1							
MSTX	Muleshoe	15.75	12	ePn		Pn	10 58 17.5	+1.5
	81nm,1.4s							
539A	Cross D Ranch,	15.76	41	P		Pn	10 58 16.5	+0.4
	baz=226							
438A	Sam Houston St	15.78	37	P		Pn	10 58 16.4	+0.2
	baz=222							
236A	Katherine and	16.17	32	P		Pn	10 58 21.1	-0.3
	baz=217							
439A	Center Grove,	16.22	39	P		Pn	10 58 21.7	-0.2
	baz=224							
X18A	Snowflake	16.24	350	ePn		Pn	10 58 23.2	+0.8
	15nm,1.3s							
GLA	Glamis	16.28	334	P		Pn	10 58 21.3	-1.4
	baz=151							
GLA	Glamis	16.28	334	ePn		Pn	10 58 21.0	-1.8
	33nm,1.4s							
338A	Crockett	16.32	36	P		Pn	10 58 24.0	+0.8
	baz=221							
Y14A	Wickenburg	16.42	341	ePn		Pn	10 58 24.9	+0.4
	105nm,1.7s							
X16A	Lo Mia Camp, P	16.44	345	ePn		Pn	10 58 25.4	+0.5
	14nm,1.4s							
IKP	In-Ko-Pah, Jac	16.51	330	P		Pn	10 58 24.9	-0.8
	baz=147							
237A	Washetta, Mont	16.55	34	P		Pn	10 58 26.7	+0.6
	baz=219							
136A	Ennis	16.56	31	P		Pn	10 58 26.9	+0.7
	baz=216							
SWSC	Sam W. Stewart	16.61	332	P		Pn	10 58 26.2	-0.8
	baz=148							
440A	Kirbyville	16.68	41	P		Pn	10 58 27.8	0.0
	baz=226							
339A	Huntington	16.74	38	P		Pn	10 58 28.9	+0.4
	baz=223							
Y12C	Blythe	16.78	336	P		Pn	10 58 28.2	-0.8
	baz=153							
Y12C	Blythe	16.78	336	ePn		Pn	10 58 28.1	-0.8
	60nm,1.8s							
W18A	Petrified Fore	16.78	351	ePn		Pn	10 58 32.3	+3.0
	8.2nm,0.9s							
BAR	Barrett	16.80	329	ePn		Pn	10 58 28.2	-1.1
	38nm,1.8s							
MONP2	Monument Peak	16.86	330	P		Pn	10 58 28.9	-1.3
	baz=146							
AMTX	Amarillo	16.86	14	ePn		Pn	10 58 32.3	+2.1
	69nm,1.5s							
NATX	Nacogdoches	16.99	37	P		Pn	10 58 32.1	+0.4
	baz=222							
NATX	Nacogdoches	16.99	37	ePn		Pn	10 58 31.4	-0.3
	106nm,1.5s							
137A	Heron Place, G	17.04	33	P		Pn	10 58 33.1	+0.7
	baz=218							
BC3	Big Chuckawall	17.07	334	P		Pn	10 58 31.5	-1.3
	baz=150							
PDMCI	Parker Dam,Lak	17.13	338	P		Pn	10 58 32.1	-1.4
	baz=155							
441A	DeRidder	17.16	42	P		Pn	10 58 34.2	+0.3
	baz=228							
109C	Camp Elliot, M	17.18	328	P		Pn	10 58 32.6	-1.5
	baz=144							
340A	Bronson	17.19	39	P		Pn	10 58 35.0	+0.8
	baz=225,SNR=5.4							
Z36A	Blue Ridge	17.25	30	P		Pn	10 58 34.7	-0.3
	baz=214							
239A	Gary	17.29	37	P		Pn	10 58 35.2	-0.3
	baz=222							
IRM	Iron Mountain	17.38	335	P		Pn	10 58 34.8	-1.8
	baz=152							
138A	Matatall Enter	17.44	34	P		Pn	10 58 37.5	+0.2
	baz=219							
PFO	Pinyon Flats O	17.47	331	P		Pn	10 58 35.4	-2.4
	0.1nm,0.3s,baz=154,slow=14,SNR=7.0							
PFO				LR		LR	11 04 26.8	
	comp=Z,2μm,19.7s,baz=145,slow=35							
PFO	Pinyon Flats O	17.47	331	P		Pn	10 58 36.4	-1.4
	baz=147							
PFO	Pinyon Flats O	17.47	331	ePn		Pn	10 58 37.5	-0.3
	27nm,1.6s							
WUAZ	Wupatki	17.47	347	P		Pn	10 58 37.3	-0.6
	baz=165							
WUAZ	Wupatki	17.47	347	ePn		Pn	10 58 37.8	-0.1
	21nm,1.4s							
Y35A	Marietta	17.52	27	P		Pn	10 58 38.4	+0.2
	baz=212,SNR=9.0							
WMOK	Wichita Mounta	17.57	22	P		Pn	10 58 38.9	-0.1
	baz=205							
WMOK	Wichita Mounta	17.57	22	ePn		Pn	10 58 39.2	+0.3
	34nm,1.7s							
341A	Kurthwood	17.57	41	P		Pn	10 58 39.1	+0.1
	baz=227							
Z37A	Pogue Cattle C	17.59	32	P		Pn	10 58 39.3	+0.1
	baz=217							
BELC	Belle Mtn. Jos	17.59	333	P		Pn	10 58 38.2	-1.2
	baz=149							
240A	Hunter Patters	17.71	38	P		Pn	10 58 41.6	+0.9
	baz=224							
139A	Bunkhouse Ranc	17.83	35	P		Pn	10 58 42.5	+0.4
	baz=221							
Y36A	Durant	17.85	29	P		Pn	10 58 42.5	+0.2
	baz=214							
Z38A	Mt. Pleasant	17.95	33	P		Pn	10 58 44.0	+0.3
	baz=218							
X35A	Drake	17.97	26	P		Pn	10 58 43.9	0.0
	baz=211							
SCI2	San Clemente I	18.00	325	P		Pn	10 58 42.4	-1.9
	baz=141							
443A	Delano Plantat	18.09	45	P		Pn	10 58 45.4	0.0
	baz=231							
GMRC	Granite Mounta	18.13	335	P		Pn	10 58 44.1	-1.9
	baz=152							
342A	Flagon Creek P	18.13	42	P		Pn	10 58 46.0	+0.1
	baz=229							
241A	Mo Tay, Goldon	18.20	40	P		Pn	10 58 46.6	-0.1
	baz=226							
Y37A	Hugo	18.22	30	P		Pn	10 58 46.3	-0.7
	baz=215							
140A	Cam and Jess,	18.26	37	P		Pn	10 58 47.4	0.0
	baz=223							
Z39A	Irene McRaven,	18.37	35	P		P	10 58 48.7	-0.2
	baz=220							
X36A	Centrahoma	18.38	28	P		P	10 58 48.6	-0.3
	baz=212							
HEC	Hector,Ludlow	18.45	334	P		P	10 58 48.2	-1.6
	baz=150							
343A	Vidalia	18.53	44	P		P	10 58 50.9	+0.2
	baz=230							
U15A	North Rim	18.56	345	eP		P	10 58 52.9	+1.8
	38nm,1.8s							
Y38A	Idabel	18.62	32	P		P	10 58 51.2	-0.3
	baz=218							
W35A	Tecumseh	18.66	25	P		P	10 58 51.4	-0.6
	baz=210							
242A	Grayson	18.70	41	P		P	10 58 51.2	-1.3
	baz=228							
MVCO	Mesa Verde	18.71	355	P		P	10 58 51.5	-1.3
	baz=175							
MVCO	Mesa Verde	18.71	355	eP		P	10 58 50.9	-1.8
	77nm,2.0s							
TUQ	Turquoise Moun	18.80	336	P		P	10 58 51.8	-2.0
	baz=152							
Z40A	Long Farm, Mag	18.81	36	P		P	10 58 53.4	-0.3
	baz=222							
X37A	Clayton	18.84	30	P		P	10 58 54.2	+0.2
	baz=215,SNR=8.6							
W36A	Wetumka	18.92	27	P		P	10 58 55.2	+0.4
	baz=212,SNR=9.9							
Y39A	Lockesburg	18.95	33	P		P	10 58 55.1	-0.2
	baz=219							
U32A	Winter Ranch,	18.99	19	P		P	10 58 56.1	+0.4
	baz=203							
243A	Waterproof	19.00	43	P		P	10 58 56.4	+0.6
	baz=229							
GSC	Goldstone, Bar	19.05	333	P		P	10 58 55.3	-1.1
	baz=149							
GSC	Goldstone, Bar	19.05	333	eP		P	10 58 55.5	-0.9
	9.9nm,1.2s							
445A	Amite	19.06	47	P		P	10 58 57.0	+0.6
	baz=234							
Z41A	Richland Creek	19.15	37	P		P	10 58 58.1	+0.7
	baz=224							
142A	Monroe	19.16	40	P		P	10 58 58.5	+1.0
	baz=227							
X38A	Whitesboro	19.16	31	P		P	10 58 58.1	+0.5
	baz=216,SNR=15							
S22A	4UR Ranch, Cre	19.16	359	P		P	10 58 57.2	-0.6
	baz=180							
S22A	4UR Ranch, Cre	19.16	359	eP		P	10 59 00.1	+2.2
	26nm,1.7s							
SDCO	Great Sand Dun	19.18	2	P		P	10 58 57.5	-0.5
	baz=183							
SDCO	Great Sand Dun	19.18	2	eP		P	10 58 57.7	-0.3
	46nm,2.0s							
V35A	Meyer Ranch, C	19.20	25	P		P	10 58 58.2	+0.3
	baz=209							
344A	Westbrook Farm	19.23	45	P		P	10 58 58.7	+0.5
	baz=232							
EDW2	Edwards Air Fo	19.23	330	P		P	10 58 57.9	-0.5
	baz=146							
KNB	Kanab	19.25	345	eP		P	10 58 59.0	+0.3
	24nm,1.4s							
W37B	Quinton	19.27	29	P		P	10 58 58.1	-0.6
	baz=214,SNR=8.1							
WLAR	White Oak Lake	19.29	36	eP		P	10 59 00.1	+1.1
	106nm,1.5s							
LCMT	Little Creek M	19.35	344	eP		P	10 59 00.2	+0.5
	19nm,1.7s							
X39A	Fountain Ranch	19.39	32	P		P	10 59 00.2	+0.2
	baz=218,SNR=6.4							
Y40A	Okolona	19.44	35	P		P	10 59 00.4	-0.2
	baz=221							
SHPR	Sheep Range	19.47	339	eP		P	10 59 00.9	-0.3
	15nm,1.6s							
PKCU	Pink Cliffs	19.53	346	eP		P	10 59 02.5	+0.6
	33nm,1.5s							
LRMC	Laurel Mtn Rad	19.58	332	P		P	10 59 00.4	-1.8
	baz=147							
V36A	Jenks	19.59	26	P		P	10 59 02.0	-0.2
	baz=212,SNR=5.8							
143A	Socs Landing,	19.60	41	P		P	10 59 02.6	+0.2
	baz=228							
345A	Thompson Farm,	19.61	46	P		P	10 59 01.7	-0.8
	baz=234							
244A	Avery, Jackson	19.63	44	P		P	10 59 01.8	-0.8
	baz=231							
PV01	Paradox Valley	19.63	355	eP		P	10 59 03.8	+0.9
W38A	Poteau	19.64	31	P		P	10 59 01.9	-0.9
	baz=216							
Z42A	Normel Spur, H	19.66	39	P		P	10 59 04.0	+1.0
	baz=225							
MIAR	Mount Ida	19.69	33	P		P	10 59 03.7	+0.3
	baz=219							
MIAR	Mount Ida	19.69	33	eP		P	10 59 05.6	+2.2
	16nm,1.3s							
TUL1	Leonard	19.76	27	P		P	10 59 03.7	-0.3
	baz=212							
TUL1	Leonard	19.76	27	eP		P	10 59 04.0	0.0
	108nm,1.8s							
U35A	Pawnee	19.77	24	P		P	10 59 04.2	0.0
	baz=209,SNR=7.6							
446A	Poplarville	19.78	49	P		P	10 59 04.7	+0.4
	baz=236							
ARVC	Arvin	19.83	329	P		P	10 59 02.5	-2.3
	baz=144							
VBMS	Vicksburg	19.85	43	P		P	10 59 05.4	+0.4
	baz=231							
SZCU	Shurtz Canyon	19.86	344	eP		P	10 59 05.8	+0.4
	25nm,1.7s							
CCUT	Cedar City	19.89	344	eP		P	10 59 06.4	+0.7
	12nm,1.4s							
MPMC	Manual Prospec	19.98	333	P		P	10 59 06.1	-0.6
	baz=148							
V37A	Hulbert	20.02	28	P		P	10 59 06.6	-0.2
	baz=213,SNR=8.6							
X40A	Basin Creek Fa	20.04	35	P		P	10 59 08.1	+1.0
	baz=221							
W39A	Magazine	20.10	32	P		P	10 59 08.1	+0.3
	baz=218							
Y42A	Garnett, Star	20.16	38	P		P	10 59 09.9	+1.5
	baz=225							
144A	Alexander Plac	20.17	43	P		P	10 59 09.6	+1.0
	baz=230							
T34A	McClaskey Farm	20.18	22	P		P	10 59 10.0	+1.3
	baz=207							
U36A	Oologah	20.19	26	P		P	10 59 09.7	+0.9
	baz=211							
TPNV	Topopah Spring	20.26	337	P		P	10 59 09.9	+0.2
	baz=153							
TPNV	Topopah Spring	20.26	337	eP		P	10 59 09.8	+0.2
	19nm,1.5s							
V38A	Canehill	20.33	29	P		P	10 59 10.6	+0.3
	baz=215							
T35A	Sooner Cattle	20.34	24	P		P	10 59 10.6	+0.3
	baz=209							
Q24A	Divide	20.41	3	P		P	10 59 11.7	+0.2
	baz=184							
W40A	Ferguson Farm,	20.46	33	P		P	10 59 11.8	+0.2
	baz=219,SNR=8.7							
U37A	Salina	20.47	27	P		P	10 59 12.7	+0.9
	baz=213							
UALR	University of	20.53	35	eP		P	10 59 12.7	+0.2
	96nm,1.9s							
MSU	Marysvale	20.53	347	eP		P	10 59 13.8	+1.2
VES	Vestal, Richgr	20.53	330	P		P	10 59 12.4	0.0
	baz=144							
CWC	Cottonwood Cre	20.56	333	P		P	10 59 13.0	0.0
	baz=148							
246A	Jackson Lee, B	20.65	46	P		P	10 59 14.7	+0.9
	baz=234							
V39A	Pettigrew	20.68	31	P		P	10 59 15.1	+1.0
	baz=217							
KSCO	Kaye Shedlock'	20.70	9	eP		P	10 59 15.3	+0.8
	35nm,1.3s							
T36A	Boggs Farm, Ca	20.71	25	P		P	10 59 15.3	+0.9
	baz=210							
Y43A	Makayla and Ka	20.72	39	P		P	10 59 14.9	+0.4
	baz=226							
GRAC	Grapevine Rang	20.73	335	P		P	10 59 14.3	-0.4
	baz=150							
S34A	Willow Spring	20.82	21	P		P	10 59 16.4	+0.9
	baz=206							
SRU	San Rafael Swe	20.82	351	eP		P	10 59 15.3	-0.4
	13nm,1.3s							
U38A	Gravette	20.82	28	P		P	10 59 15.3	-0.2
	baz=214,SNR=5.9							
X301	Greenbrier Sit	20.84	34	eP		P	10 59 14.9	-0.9
	28nm,1.1s							
W41B	Gary Mavity, V	20.88	35	P		P	10 59 16.2	+0.1
	baz=221							
HHAR	Hobbs	20.89	30	eP		P	10 59 16.1	-0.3
	69nm,1.8s							
WHAR	Wooly Hollow	20.94	34	eP		P	10 59 17.6	+0.7
	80nm,1.5s							
247A	Quitman	21.03	47	P		P	10 59 18.0	+0.1
	baz=235							
V40A	Witts Springs	21.06	32	P		P	10 59 18.6	+0.4
	baz=219,SNR=9.5							
CBKS	Cedar Bluff	21.07	15	eP		P	10 59 19.0	+0.7
146A	Union	21.07	45	P		P	10 59 18.8	+0.4
	baz=233							
S35A	Otter Creek Ra	21.08	23	P		P	10 59 19.2	+0.7
	baz=208							
TMUT	Trail Mountain	21.11	350	eP		P	10 59 20.6	+1.6
	30nm,1.5s							
Z45A	Winona	21.12	42	P		P	10 59 19.7	+0.8
	baz=230							
T37A	Cheneyville 18	21.16	26	P		P	10 59 20.3	+1.1
	baz=212							
X43A	Marvell	21.17	38	P		P	10 59 20.5	+1.2
	baz=225							
348A	Jackson	21.17	49	P		P	10 59 19.9	+0.5
	baz=237							
Y44A	Strider, Charl	21.18	40	P		P	10 59 20.5	+0.9
	baz=228							
U39A	Green Forest	21.19	30	P		P	10 59 19.9	+0.3
	baz=217,SNR=9.9							
P17A	Butcher Ranch,	21.20	351	eP		P	10 59 19.6	-0.3
	32nm,1.4s							
ISCO	Idaho Springs	21.23	2	P		P	10 59 20.5	+0.2
	baz=183							
ISCO	Idaho Springs	21.23	2	eP		P	10 59 19.5	-0.8
	8.8nm,1.0s							
R11A	Troy Canyon, C	21.29	340	P		P	10 59 20.0	-0.8
	baz=156							
R11A	Troy Canyon, C	21.29	340	eP		P	10 59 17.8	-3.0
	16nm,1.5s							
P18A	Preston Nutter	21.29	352	eP		P	10 59 18.8	-2.1
	15nm,1.2s							
R34A	Isabella, Hill	21.31	20	P		P	10 59 21.7	+0.8
	baz=205							
W42A	Bald Knob	21.35	36	P		P	10 59 21.9	+0.6
	baz=223							
T38A	Diamond	21.35	28	P		P	10 59 21.6	+0.3
	baz=214							
V41A	Mountainview	21.39	34	P		P	10 59 21.5	-0.2
	baz=220,SNR=8.4							
S36A	Lake Cedric, C	21.40	24	P		P	10 59 22.1	+0.3
	baz=210,SNR=6.0							
U40A	Yellville	21.48	31	P		P	10 59 23.0	+0.3
	baz=218							
Z46A	Louisville	21.49	44	P		P	10 59 23.1	+0.2
	baz=232							
Y45A	Yeager Farm, C	21.54	41	P		P	10 59 23.6	+0.3
	baz=229							
X44A	Crenshaw	21.59	39	P		P	10 59 24.5	+0.6
	baz=227							
O20A	White River Ci	21.60	356	P		P	10 59 23.9	-0.3
	baz=176							
O20A	White River Ci	21.60	356	eP		P	10 59 24.9	+0.7
	36nm,1.4s							
147A	Livingston	21.63	46	P		P	10 59 25.1	+0.8
	baz=234							
248A	Dixon Mills	21.66	48	P		P	10 59 25.4	+0.7
	baz=236							
R35A	Emporia Munici	21.70	22	P		P	10 59 25.9	+0.9
	baz=208							
S37A	Fort Scott	21.73	26	P		P	10 59 25.7	+0.3
	baz=212							
T39A	Clever	21.76	29	P		P	10 59 26.6	+0.9
	baz=216							
V42A	Cord	21.81	35	P		P	10 59 26.0	-0.2
	baz=222							
MLAC	Mammoth, Mammo	21.89	333	P		P	10 59 25.7	-1.6
	baz=148							
U41A	Viola	21.94	33	P		P	10 59 28.0	+0.4
	baz=220							
R36A	Gordon, Harris	21.95	24	P		P	10 59 28.2	+0.5
	baz=209							
Q34A	Chapman	21.98	20	P		P	10 59 27.7	-0.3
	baz=205							
Y46A	Houston	21.98	42	P		P	10 59 27.8	-0.3
	baz=230							
X45A	UM Field Stati	22.00	41	P		P	10 59 27.9	-0.3
	baz=228							
S38A	Stockton	22.02	28	P		P	10 59 28.8	+0.3
	baz=214							
Z47A	Carrollton	22.07	45	P		P	10 59 29.4	+0.3
	baz=233							
R37A	Teagarden Farm	22.21	25	P		P	10 59 30.8	+0.3
	baz=211							
Q35A	Mercer Eighty,	22.23	22	P		P	10 59 30.5	-0.2
	baz=207							
KSU1	Kansas State U	22.25	21	P		P	10 59 31.8	+0.8
	baz=206							
KSU1	Kansas State U	22.25	21	eP		P	10 59 33.4	+2.4
	12nm,0.9s							
T40A	Mansfield	22.27	31	P		P	10 59 31.5	+0.4
	baz=218							
DUG	Dugway, Tooele	22.28	347	P		P	10 59 30.8	-0.6
	baz=164							
DUG	Dugway, Tooele	22.28	347	eP		P	10 59 31.6	+0.2
	18nm,1.4s							
U42

T41A	Mountain View baz=219	22.56	32	P	P	10 59 34.6	+0.4
P34A	Walnut Farm, R baz=205	22.58	20	P	P	10 59 34.6	+0.1
W45A	Hickory Valley baz=228	22.61	39	P	P	10 59 35.2	+0.3
S40A	Lebanon baz=217,SNR=5.1	22.63	30	P	P	10 59 35.1	+0.1
Y47A	UCPARC, Winfie baz=232	22.65	44	P	P	10 59 35.1	-0.1
LRAL	Lakeview Retre 30nm,1.3s	22.71	47	eP	P	10 59 36.0	+0.1
PHWY	Pilot Hill 26nm,1.6s	22.73	2	eP	P	10 59 37.2	+0.8
WAKR	Walker 33nm,1.6s	22.88	333	eP	P	10 59 37.2	-0.7
CMB	Columbia Colle 14nm,1.5s	22.91	331	eP	P	10 59 34.2	-3.9
R39A	Chumby, Stover baz=215	22.97	28	P	P	10 59 38.5	-0.1
S41A	Jillco Farms, baz=218	22.99	31	P	P	10 59 39.0	+0.2
PBMO	Poplar Bluff 38nm,1.8s	23.05	35	eP	P	10 59 40.5	+1.1
YERR	Yerington 26nm,1.6s	23.20	334	eP	P	10 59 40.6	-0.6
O34A	Beatrice baz=204	23.20	19	P	P	10 59 40.5	-0.5
P36A	Good Intent, A baz=208	23.20	23	P	P	10 59 41.1	+0.1
Q38A	Cooks Store, C baz=213	23.26	26	P	P	10 59 41.4	-0.1
R40A	Maddies Statio baz=216	23.30	29	P	P	10 59 42.4	+0.4
U44B	Burton Farm, H baz=225	23.34	37	P	P	10 59 42.9	+0.6
T43A	Greenville baz=222	23.36	34	P	P	10 59 43.1	+0.5
PNTR	Pine Nut 28nm,1.5s	23.44	334	eP	P	10 59 42.9	-0.6
N33A	J Bar K, Exete baz=202	23.48	17	P	P	10 59 44.7	+0.9
P37A	Lathrop baz=210	23.50	24	P	P	10 59 44.5	+0.6
O35A	Humboldt baz=206	23.53	21	P	P	10 59 44.0	-0.2
Q39A	Willow Grove F baz=214	23.60	27	P	P	10 59 45.3	+0.3
CCM	Cathedral Cave 20nm,1.3s	23.60	31	eP	P	10 59 46.4	+1.4
S42A	Caledonia baz=220,SNR=5.8	23.61	32	P	P	10 59 45.2	+0.1
U45A	Rockin P Farm, baz=226	23.68	38	P	P	10 59 45.5	-0.3
R41A	Rosebud baz=218	23.73	31	P	P	10 59 45.9	-0.3
T44A	Benton baz=224	23.74	35	P	P	10 59 46.0	-0.3
O36A	Bolckow baz=208	23.74	22	P	P	10 59 45.7	-0.5
HVU	Hansel Valley 10nm,1.3s	23.80	348	eP	P	10 59 45.3	-1.7
S43A	Fulton Ridge, baz=222	23.83	34	P	P	10 59 46.7	-0.5
P38A	Dawn baz=212	23.85	25	P	P	10 59 47.1	-0.3
N34A	Lincoln baz=204	23.86	19	P	P	10 59 47.1	-0.3
PAHR	Pah Rah Range 62nm,1.9s	23.87	335	eP	P	10 59 46.5	-1.2
Q40A	Laux Farm, Aux baz=216	23.96	29	P	P	10 59 48.2	-0.2
R42A	Luebbering baz=219	24.00	32	P	P	10 59 48.4	-0.4
K22A	Casper baz=180	24.06	360	P	P	10 59 48.7	-0.8
K22A	Casper 47nm,1.6s	24.06	360	eP	P	10 59 48.9	-0.7
P39B	Salisbury baz=214	24.06	27	P	P	10 59 48.6	-0.7
O37A	Wolven Farm, M baz=210	24.07	24	P	P	10 59 49.0	-0.5
WVT	Waverly 12nm,1.1s	24.09	39	eP	P	10 59 48.9	-0.7
O38A	Galt baz=212	24.30	25	P	P	10 59 51.4	-0.1
PDAR	Pinedale Array 0.6nm,0.7s,baz=175,slow=8.6,SNR=6.7	24.31	355	P	P	10 59 49.7	-2.2
PDAR	comp=Z,808nm,21.8s,baz=186,slow=36			LR	LR	11 08 58.5	
Q41A	Truxton baz=218	24.32	30	P	P	10 59 51.8	+0.1
N36A	Muff Farm, Cla baz=208	24.34	22	P	P	10 59 52.1	+0.2
TIGA	Tifton baz=244	24.39	54	P	P	10 59 53.1	+0.7
TIGA	Tifton 202nm,1.8s	24.39	54	eP	P	10 59 52.3	-0.2
P40A	Paris baz=215	24.41	28	P	P	10 59 53.6	+1.1
BEKR	Beckworth 8.7nm,1.2s	24.41	334	eP	P	10 59 53.5	+0.8
R43A	Red Bud baz=221	24.43	33	P	P	10 59 52.9	+0.1
M34A	Aspy Farms, Fr baz=204	24.44	18	P	P	10 59 53.3	+0.5
N37A	Lee Faris, Mou baz=209	24.57	23	P	P	10 59 54.7	+0.7
Q42A	Golden Eagle baz=219	24.62	31	P	P	10 59 54.6	+0.1
ORV	Oroville 14nm,1.3s	24.65	331	eP	P	10 59 57.0	+2.2
M35A	Neola baz=206	24.68	20	P	P	10 59 56.1	+1.1
SWET	Sewanee 12nm,1.6s	24.70	44	eP	P	10 59 54.7	-0.6
S45A	Carrier Mills baz=224	24.72	36	P	P	10 59 56.2	+0.8
R44A	Waltonville baz=223	24.86	34	P	P	10 59 57.8	+1.2
K31A	O'Neill baz=198	24.92	14	P	P	10 59 57.9	+0.7
L34A	Svendsen Farm, baz=204	24.93	18	P	P	10 59 57.9	+0.6
M36A	Felix, Anita baz=207	24.97	21	P	P	10 59 59.2	+1.6
N38A	Joes South For baz=211	24.97	24	P	P	10 59 58.3	+0.7
O40A	La Belle baz=215	24.97	27	P	P	10 59 58.9	+1.4
P41A	Barry, Barry baz=217	24.97	29	P	P	10 59 59.2	+1.6
REDW	Red Top Meadow 21nm,1.4s	25.04	353	eP	P	10 59 59.5	+1.0
Q43A	New Douglas baz=221	25.06	32	P	P	10 59 59.5	+1.1
SNOW	Snow King Moun 28nm,1.3s	25.13	353	eP	P	11 00 01.0	+1.7
K32A	Verdigre baz=200	25.14	15	P	P	11 00 00.7	+1.6
TPAW	Teton Pass 20nm,1.3s	25.18	352	eP	P	11 00 02.1	+2.3
P42A	Winchester baz=218	25.24	30	P	P	11 00 01.1	+1.0
LOHW	Long Hollow 14nm,1.1s	25.26	353	eP	P	11 00 01.0	+0.6
N39A	Derby Farms, D baz=213	25.33	25	P	P	11 00 01.5	+0.6
FXWY	Fox Creek 9.8nm,1.2s	25.33	352	eP	P	11 00 01.3	+0.1
Q44A	Meyer Farm, Va baz=222	25.38	33	P	P	11 00 02.2	+0.8
O03D	Paynes Creek baz=145	25.39	332	P	P	11 00 01.2	-0.3
O41A	Passleys Farm, baz=217	25.41	29	P	P	11 00 01.9	+0.4
GOGA	Godfrey 30nm,1.4s	25.41	50	eP	P	11 00 05.2	+3.5
MOOW	Moose Ponds 11nm,1.3s	25.41	353	eP	P	11 00 00.8	-1.1
IMW	Indian Meadow 11nm,1.4s	25.58	353	eP	P	11 00 04.3	+0.8
P43A	Skaggs, Pawnee baz=220	25.68	31	P	P	11 00 04.8	+0.8
O42A	Bath baz=218	25.84	30	P	P	11 00 06.7	+1.2
HLID	Hailey baz=163	25.84	347	P	P	11 00 06.0	+0.3
HLID	Hailey 11nm,1.5s	25.84	347	eP	P	11 00 04.3	-1.4
N41A	Harden Midland baz=216	25.89	28	P	P	11 00 07.3	+1.3
L37A	Phoenix Point, baz=209	25.93	22	P	P	11 00 06.9	+0.6
WVOR	Wild Horse Val 24nm,1.7s	25.97	339	eP	P	11 00 06.8	0.0
M40A	Post Highland baz=214	26.18	26	P	P	11 00 10.1	+1.5
TKL	Tuckaleechee C comp=Z,422nm,19.8s,baz=244,slow=40	26.39	45	LR	LR	11 12 20.1	
BOZ	Bozeman (W) baz=170	27.34	352	P	P	11 00 19.1	-0.1
I40A	Norwalk baz=213	28.62	24	P	P	11 00 30.6	+0.1
SPMN	Marine on St. baz=206	28.98	20	P	P	11 00 34.4	+0.7
H39A	Augusta baz=211	29.04	23	P	P	11 00 34.9	+0.8
VWCC	Virginia Weste	29.82	46	eP	P	11 00 44.9	+3.7
F44A	Big Bay de Noc baz=218	32.04	27	P	P	11 01 02.0	+1.3
ULM	Lac du Bonnet 2.0nm,0.8s,baz=192,slow=11,SNR=2.0	32.79	13	P	P	11 01 03.7	-3.4
ULM	comp=Z,1μm,18.6s,baz=198,slow=37			LR	LR	11 14 34.6	
OTAV	Otavalo 32nm,1.3s	33.01	120	eP	P	11 01 13.5	+3.4
RUSC	La Rusia 7.7nm,1.3s	34.93	107	eP	P	11 01 28.7	+1.9
SDV	Santo Domingo 20nm,1.1s	36.09	100	eP	P	11 01 38.7	+2.3
TAOE	Nuku Hiva Isla 82nm,26.7s	42.90	234	eS	S	11 08 49.8	-8.4
TAOE	1μm,25.8s			eLR	LR	11 14 11.8	
TAOE	Nuku Hiva Isla 225nm,0.3s	42.90	234	eT	T	11 48 01.3	
YKA	Yellowknife Ar comp=Z,62nm,19.1s,baz=180,slow=36	44.30	355	LR	LR	11 21 23.8	
SCHQ	Schefferville comp=Z,164nm,19.7s,baz=256,slow=39	47.16	30	LR	LR	11 25 10.9	
RKT	Rikitea 984nm,26.0s,baz=31	49.85	215	eLR	LR	11 17 34.4	
RKT	Rikitea 5.6nm,0.3s	49.85	215	eT	T	11 56 43.9	
SAML	Samuel 6.3nm,1.3s	50.72	119	eP	P	11 03 33.5	-0.8
LPAZ	La Paz comp=Z,320nm,18.3s,baz=312,slow=34	51.22	130	LR	LR	11 24 01.3	
KDAK	Kodiak Island comp=Z,304nm,19.9s,baz=120,slow=33	51.74	331	LR	LR	11 22 31.8	
IL1	Eielson Array	53.49	340	eP	P	11 03 53.6	-0.5
ILAR	Eielson Array 0.6nm,0.8s,baz=150,slow=7.4,SNR=6.7	53.49	340	P	P	11 03 51.7	-2.4
ILAR	comp=Z,174nm,20.5s,baz=130,slow=37			LR	LR	11 27 09.4	
PPT	Papeete comp=Z,269nm,19.8s,baz=28,slow=29	55.48	232	LR	LR	11 21 17.5	
PPT2	Papeete2 164nm,26.5s	55.49	232	eS	S	11 11 50.9	-4.0
PPT2	1μm,26.2s,baz=43			eLR	LR	11 20 01.7	
TBI	Tubuai 1μm,28.8s,baz=39	59.06	227	eLR	LR	11 21 36.7	
CPUP	Villa Florida 1.3nm,0.8s,baz=286,slow=7.4,SNR=2.9	65.34	132	P	P	11 05 17.9	+1.3
CPUP	comp=Z,222nm,18.1s,baz=326,slow=35			LR	LR	11 33 11.6	
RAR	Rarotonga comp=Z,392nm,21.1s,baz=74,slow=29	65.41	235	LR	LR	11 25 48.1	
PLCA	Paso Flores 5.2nm,1.0s,baz=341,slow=8.8,SNR=4.3	67.76	151	P	P	11 05 33.6	+1.7
PLCA	comp=Z,468nm,19.0s,baz=347,slow=30			LR	LR	11 29 02.4	
AFI	Afiamalu comp=Z,245nm,18.5s,baz=92,slow=30	71.92	248	LR	LR	11 29 57.1	
PETK	Petropavlovsk- comp=Z,129nm,21.5s,baz=84,slow=30	78.80	322	LR	LR	11 33 06.4	
RAO	Raoul Island comp=Z,248nm,21.6s,baz=17,slow=28	83.62	236	LR	LR	11 34 13.9	
ARCES	ARCESS Array B comp=Z,179nm,19.1s,baz=284,slow=36	85.87	15	LR	LR	11 46 32.0	
NOA	NORSAR Array B comp=Z,101nm,18.0s,baz=295,slow=36	86.52	26	LR	LR	11 45 57.4	
URZ	Urewera comp=Z,199nm,20.9s,baz=70,slow=29	91.06	230	LR	LR	11 39 02.3	
NRIK	Noril'sk comp=Z,215nm,20.1s,baz=357,slow=37	91.81	355	LR	LR	11 50 37.7	
FINES	FINESS Array B comp=Z,244nm,18.4s,baz=316,slow=36	91.82	21	LR	LR	11 48 48.1	
DZM	Mont Dzumac	94.15	248	LR	LR	11 40 33.9	
DZM	Mont Dzumac comp=Z,297nm,20.9s,baz=40,slow=29	94.15	248	eLR	LR	11 38 10.0	
GERES	GERESS Array B 818nm,26.8s	94.51	35	LR	LR	11 48 48.5	
HNR	Honiara comp=Z,117nm,21.9s,baz=292,slow=34	96.26	262	LR	LR	11 43 04.9	
USRK	Ussuriysk Ar. comp=Z,103nm,20.7s,baz=47,slow=30	97.89	322	LR	LR	11 46 38.0	
MJAR	Matsushiro Arr comp=Z,75nm,21.8s,baz=43,slow=32	98.00	313	LR	LR	11 43 26.1	
KEST	Kesra comp=Z,118nm,21.9s,baz=40,slow=30	98.82	48	LR	LR	11 53 39.3	
DBIC	Dimbokro comp=Z,51nm,19.3s,baz=264,slow=36	98.87	80	LR	LR	11 50 00.9	
HHC	Hu-ho-hao-te comp=Z,50nm,18.5s,baz=243,slow=34	111.16	330	ePKP	PKiKP	11 13 09.0	+0.7
HHC				PP	PP	11 13 51.3	+4.9
HHC				SKS	SKSdf	11 20 20.1	-0.7
HHC	Hu-ho-hao-te comp=Z,62nm,5.4s	111.16	330	SS	SS	11 29 20.8	+2.4
HHC				AMB	AMB		
HHC	comp=N,74nm,16.9s			LR	LR		
HHC	comp=E,97nm,17.5s			LR	LR		
HHC	comp=Z,70nm,16.3s			LR	LR		
QIZ	Qiongzhong	128.36	314	PKPbc	PKPdf	11 13 40.1	-1.6
QIZ				PP	PP	11 15 43.6	-1.7
QIZ	Qiongzhong comp=Z,150nm,26.2s	128.36	314	SS	SS	11 32 59.2	-1.7
QIZ				LR	LR		

*ISCJB **12** 11:11:01.3±1.4, 16°.44N±0°.05×119°.49E±0°.07, h25km±7km, mb3.5/4, Error ellipse: s-maj=12.0km s-min=9.0km az=2.9*
*MAN **12** 11:11:05, 16°.50N×119°.85E, h15km, mb4.4, ML3.2, MS3.1*
*IDC **12** 11:11:08.4±5.9, 16°.58N×120°.51E, h112km±46km, mb3.3/4, mb1 3.5/5, mb1mx3.2/58, mbtmp3.7/5, Error ellipse: s-maj=179.5km s-min=18.8km az=63.0*

ISC 12 11:11:01.5±1.6, 16°.36N±0°.06×119°.49E±0°.09, h31km±10km, n11, σ1°.56/17, mb3.5/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.41	87	eP	Pb	11 11 10.4	-0.2
BOLP				eS	Sb	11 11 16.3	-0.6
SCZP	Santa Cruz	0.71	145	eP	Pb	11 11 16.0	+0.5
SCZP				eS	Sb	11 11 25.5	+0.5
ABRA	Dolores	1.74	42	eP	Pn	11 11 29.5	0.0
ABRA				eS	Sn	11 11 50.4	-0.3
BALP	Baler	2.10	107	eP	Pn	11 11 35.2	+0.7
BALP				eS	Sn	11 12 00.3	+0.7
CAUP	Cauayan	2.31	75	eP	Pn	11 11 38.7	+1.3
CAUP				eS	Sn	11 12 06.7	+1.8
TGY	Tagaytay City 48nm,0.3s,baz=333,slow=6.8,SNR=2.5	2.65	148	P	Pb	11 11 48.9	+0.6
TGY				S	Sb	11 12 18.6	-1.8
LUBP	7.2nm,0.3s,baz=109,slow=18,SNR=2.9 Lubang	2.71	164	eP	Pb	11 11 50.6	+1.2
WRA	Warramunga Arr 0.4nm,0.5s,baz=339,slow=9.0,SNR=7.6	38.92	157	P	P	11 18 22.0	-2.6
ASAR	Alice Springs 0.9nm,0.8s,baz=339,slow=7.1,SNR=13	42.20	160	P	P	11 18 49.6	-2.1
MKAR	Makanchi Array 0.2nm,0.4s,baz=126,slow=9.5,SNR=3.3	43.21	323	P	P	11 19 02.3	+2.6
FINES	FINESS Array B 1.4nm,0.8s,baz=80,slow=3.1,SNR=3.7	77.40	331	P	P	11 22 51.9	-1.3

*IDC **12** 11:23:58.2±5.5, 21°.47S×179°.05W, h558km±62km, mb3.2/7, mb1 3.5/7, mb1mx3.2/24, mbtmp4.1/7, Error ellipse: s-maj=71.9km s-min=25.4km az=155.0*

*ISCJB **12** 11:24:00.9±1.5, 21°.5S±0°.6×179°.2W±0°.3, h602km, mb3.7/7, Error ellipse: s-maj=84.9km s-min=18.2km az=153.1*

ISC 12 11:24:01.8±1.5, 21°.6S±0°.5×179°.1W±0°.3, h602km, n10, σ0°.93/11, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.6nm,0.4s,baz=95,slow=9.9,SNR=9.2	36.41	245	P	P	11 30 16.9	-0.3
ASAR	Alice Springs 2.5nm,0.6s,baz=95,slow=8.2,SNR=61	43.30	258	P	P	11 31 11.8	-0.5
ASAR	0.9nm,0.8s,baz=108,slow=4.1,SNR=7.3			PcP	PcP	11 32 47.2	-0.1
WRA	Warramunga Arr 1.8nm,0.6s,baz=96,slow=7.8,SNR=54	43.46	263	P	P	11 31 12.8	-0.8
WRA	0.6nm,0.8s,baz=99,slow=4.3,SNR=4.0			PcP	PcP	11 32 47.8	0.0
TXAR	Lajitas Array 0.9nm,0.9s,baz=225,slow=5.1,SNR=9.1	88.49	58	P	P	11 35 52.4	+0.7
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=115,slow=2.3,SNR=8.3	89.53	290	P	P	11 35 58.6	+2.0
ILAR	Eielson Array 0.4nm,0.9s,baz=228,slow=6.6,SNR=3.0	89.60	13	P	P	11 35 54.6	-1.2
PDAR	Pinedale Array 0.4nm,0.8s,baz=197,slow=5.6,SNR=2.8	90.45	44	P	P	11 36 00.2	-0.4
AKASG	Malin Array Be 3.1nm,0.7s,baz=42,slow=4.6,SNR=9.7	143.46	330	PKhKP	PKPpre	11 42 25.9	
BRTR	Keskin Array B 1.0nm,0.6s,baz=106,slow=5.0,SNR=5.3	146.80	310	PKPbc	PKPbc	11 42 37.7	-0.1
GERES	GERESS Array B 0.4nm,0.2s,baz=7.8,slow=11,SNR=3.5	150.96	342	PKPbc	PKPbc	11 42 47.7	+0.2

IDC 12 11:27:47.1±3.2, 36°.94S×78°.49E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/41, mbtmp4.0/6, MS3.9/6, Ms1 3.9/6, ms1mx3.4/38, Error ellipse: s-maj=126.2km s-min=27.1km az=31.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H baz=254,slow=75,SNR=76	28.84	97	T	T	12 03 59.6	
H01W3	Cape Leeuwin H baz=254,slow=75,SNR=96	28.85	97	T	T	12 04 00.0	
H01W1	Cape Leeuwin H baz=254,slow=75,SNR=114	28.86	97	T	T	12 04 00.9	
H08S2	Diego Garcia H baz=171,slow=76,SNR=42	29.66	348	T	T	12 05 18.1	
H08S1	Diego Carcia H baz=171,slow=76,SNR=41	29.67	348	T	T	12 05 18.4	
H08S3	Diego Garcia H baz=171,slow=76,SNR=389	29.68	348	T	T	12 05 19.5	
MAW	Mawson comp=Z,216nm,19.0s,baz=62,slow=31	31.96	191	LR	LR	11 44 23.6	
PSI	Prapat comp=Z,142nm,19.0s,baz=238,slow=32	43.88	30	LR	LR	11 51 17.6	
BOSA	Boshof comp=Z,104nm,20.3s,baz=202,slow=30	45.03	265	LR	LR	11 50 05.5	
ASAR	Alice Springs 1.8nm,0.9s,baz=236,slow=6.4,SNR=12	49.02	91	P	P	11 36 36.0	+0.2
WRA	Warramunga Arr 2.3nm,0.7s,baz=238,slow=7.7,SNR=9.6	51.25	87	P	P	11 36 52.8	0.0
STKA	Stephens Creek 2.0nm,0.9s,baz=242,slow=6.5,SNR=4.3	51.48	104	P	P	11 36 53.9	-0.5
PMG	Port Moresby comp=Z,72nm,20.0s,baz=271,slow=34	67.38	85	LR	LR	12 05 53.5	
MKAR	Makanchi Array 1.4nm,0.9s,baz=177,slow=4.7,SNR=5.6	83.42	3	P	P	11 40 15.7	-0.2
BRTR	Keskin Array B 0.6nm,0.7s,baz=104,slow=6.1,SNR=3.6	86.72	327	P	P	11 40 33.0	+0.2
KURBB	Kurchatov Arra 1.0nm,0.8s,baz=193,slow=4.5,SNR=5.7	87.19	0	P	P	11 40 34.5	-0.1
TORD	Torodi Ar. Bea comp=Z,122nm,18.0s,baz=290,slow=34	87.53	288	LR	LR	12 18 09.4	
DBIC	Dimbokro comp=Z,69nm,18.4s,baz=104,slow=34	88.67	279	LR	LR	12 17 55.7	

*IDC **12** 11:33:17.2±2.1, 25°.93S×177°.44W, h145km±16km, mb4.1/8, mb1 4.4/11, mb1mx4.0/32, mbtmp4.8/11, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=21.2km s-min=16.6km az=65.0*
*ISCJB **12** 11:33:20.2±0.7, 26°.52S±0°.04×178°.0W±0°.1, h161km, mb4.5/14, Error ellipse: s-maj=15.5km s-min=5.9km az=178.6*
*NEIC **12** 11:33:21.0±1.2, 26°.20S×177°.49W, h179km±9km, mb4.6/6, Error ellipse: s-maj=16.4km s-min=10.1km az=69.0*

ISC 12 11:33:20.4±0.7, 26°.38S±0°.06×177°.8W±0°.1, h161km, n59, σ2°.33/60, mb4.5/14, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island 376nm,0.3s,baz=80,slow=6.7,SNR=15	2.86	181	P	Pn	11 34 09.2	+2.9
RAO	930nm,0.3s,baz=85,slow=23,SNR=13			S	Sn	11 34 49.0	+6.8
MSVF	Nonsavu 39nm,0.9s	9.41	335	ePn	Pn	11 35 32.8	+0.2
HAZ	Te Kaha	11.93	197	PN	P	11 36 14.5	+2.9
PUZ	Puketiti	12.11	195	PN	P	11 36 13.9	+0.2
RUGZ	Raukumara Rang	12.15	197	PN	Pn	11 36 06.9	-1.4
TWGZ	Tauwhareparae	12.28	196	PN	P	11 36 18.0	+2.4
TWGZ				SN	Sn	11 38 18.9	-6.8
TKGZ	Te Karaka	12.56	196	PN	Pn	11 36 13.4	0.0
TKGZ				SN	Sn	11 38 25.9	-6.5
URZ	Urewera 13nm,0.3s,baz=283,slow=2.0,SNR=30	12.58	199	P	P	11 36 18.5	-0.3
URZ	5.4nm,0.3s,baz=150,slow=22,SNR=14			S	Sn	11 38 28.6	-4.4
SNGZ	Shannon Statio	13.01	197	PN	P	11 36 25.2	+1.6
AFI	Afiamalu 12nm,0.3s,baz=192,slow=5.1,SNR=12	13.65	26	P	Pn	11 36 16.1	-11
AFI	11nm,0.3s,baz=221,slow=19,SNR=7.7			S	Sn	11 38 31.1	-28
AFI	Afiamalu 41nm,0.6s	13.65	26	P	Pn	11 36 16.1	-11
AFI				S	Sn	11 38 31.1	-28
DZM	Mont Dzumac 10nm,0.8s	14.96	283	eP	P	11 36 48.5	+2.9
BFZ	Birch Farm	15.08	198	PN	P	11 36 47.5	+0.9
BFZ				SN	Sn	11 39 19.9	-13
MRZ	Mangatainoka R	15.25	199	PN	Pn	11 36 46.4	-0.8
TIWZ	Tintock	15.27	198	SN	Sn	11 39 26.3	-11
HOWZ	Holdsworth Sta	15.49	199	PN	Pn	11 36 50.5	+0.3
KIW	Kapiti Island	15.64	201	PN	Pn	11 36 51.6	-0.5
CAW	Cannon Point	15.81	200	PN	P	11 36 54.7	0.0
DUWZ	D'Urville Isla	15.92	203	PN	Pn	11 36 53.5	-2.0
DUWZ				SN	S	11 39 39.3	-13
TCW	Tory Channel	16.16	202	PN	Pn	11 36 56.7	-1.7
PLWZ	Palliser	16.18	199	PN	P	11 36 59.5	+0.7
QRZ	Quartz Range	16.47	207	PN	P	11 37 01.4	-0.5
NNZ	Nelson	16.48	204	PN	P	11 36 58.1	-3.9
NNZ				SN	S	11 39 53.1	-12
THZ	Tophouse	17.13	204	PN	P	11 37 06.5	-2.8
KHZ	Kahutara	17.49	202	PN	P	11 37 10.7	-2.4
OXZ	Oxford	18.81	203	PN	P	11 37 25.0	-2.5
OXZ				SN	S	11 40 42.2	-11
PPT	Papeete comp=Z,42nm,18.2s,baz=344,slow=32	27.59	77	LR	LR	11 47 52.3	
CTA	Charters Tower 8.0nm,0.5s,baz=101,slow=11,SNR=18	33.51	273	P	P	11 39 46.8	+2.0
STKA	Stephens Creek 2.4nm,0.7s,baz=106,slow=11,SNR=6.0	35.70	251	P	P	11 40 05.4	+1.9
PMG	Port Moresby 2.3nm,0.5s,baz=142,slow=5.0,SNR=3.8	37.17	290	P	P	11 40 16.2	+0.1
ASAR	Alice Springs 7.5nm,0.8s,baz=107,slow=8.0,SNR=72	43.61	263	P	P	11 41 10.1	+1.1
WRAB	Tennant Creek 8.6nm,0.6s	44.23	268	eP	P	11 41 14.1	+0.2
WRA	Warramunga Arr 7.7nm,0.4s,baz=102,slow=7.7,SNR=73	44.23	268	P	P	11 41 14.3	+0.4
WRA	1.6nm,0.8s,baz=100,slow=3.6,SNR=6.0			PcP	PcP	11 42 55.8	+0.1
WRA	0.6nm,0.8s,baz=99,slow=15,SNR=3.1			S	S	11 47 34.8	-0.7
FORT	Forrest 400nm,0.6s	47.33	251	eP	P	11 41 38.3	+0.2
SBA	Scott Base 9.1nm,1.2s	52.04	184	eP	P	11 42 14.0	+1.1
VNDA	Vanda 3.0nm,0.7s,baz=7.9,slow=7.7,SNR=33	52.09	185	P	P	11 42 16.0	+2.7
MAW	Mawson 8.2nm,0.5s,baz=126,slow=6.1,SNR=44	76.11	200	P	P	11 44 51.3	+1.4
YULB	Yu-li 14nm,0.7s	76.89	305	eP	P	11 44 52.4	-2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	Syowa Base	81.05	193	⇑eP	P	11 45 15.9	-1.0
KSRS	Korea Array	81.40	319	P	P	11 45 20.4	+1.3
	0.6nm,0.5s,baz=129,slow=6.4,SNR=4.4						
KSAR	Wonju Array Be	81.41	319	P	P	11 45 20.4	+1.2
SNAA	Sanae	82.15	178	P	P	11 45 22.6	-0.1
SNAA	Sanae	82.15	178	eP	P	11 45 22.4	-0.3
	684nm,1.3s						
VNA3	Neumayer Olymp	82.29	176	P	P	11 45 22.7	-0.7
VNA2	Neumayer--Watz	82.73	177	P	P	11 45 26.3	+0.7
	baz=189,slow=2.5						
VNA1	Neumayer--Stat	82.95	177	P	P	11 45 27.1	+0.3
CMAR	Chiang Mai Arr	92.21	289	P	P	11 46 13.5	+1.2
	0.8nm,0.7s,baz=147,slow=3.3,SNR=7.1						
MKAR	Makanchi Array	115.26	312	PKP	PKPdf	11 51 40.2	-2.3
	0.5nm,0.6s,baz=243,slow=4.0,SNR=3.7						
KURK	Kurchatov	118.34	315	PKP	PKPdf	11 51 46.3	-1.9
KURBB	Kurchatov Arra	118.38	315	PKP	PKPdf	11 51 46.3	-2.0
	0.3nm,0.6s,baz=112,slow=2.1,SNR=6.3						
BVAR	Borovoye Array	123.59	318	PKP	PKPdf	11 51 56.8	-1.5
	1.3nm,0.6s,baz=90,slow=0.1,SNR=5.8						
ARCES	ARCESS Array B	134.70	349	PKP	PKPdf	11 52 18.2	-0.7
	4.4nm,1.0s,baz=23,slow=4.0,SNR=4.1						
FINES	FINESS Array B	141.41	342	PKhKP	PKPpre	11 52 23.4	
	1.8nm,0.7s,baz=72,slow=4.5,SNR=4.0						
NB2	NORSAR Subarra	144.81	352	PKP	PKPab	11 52 34.6	-2.4
	comp=Z,1.6nm,0.6s,baz=12,slow=3.3						
NOA	NORSAR Array B	144.81	352	PKP	PKPab	11 52 34.3	-2.6
	comp=Z,1.3nm,0.7s,baz=23,slow=3.9,SNR=5.2						
HFS	Hagfors	145.34	350	PKP	PKPdf	11 52 36.6	-1.8
	comp=Z,5.4nm,0.4s,baz=66,slow=3.6,SNR=2.2						
AKASG	Malin Array Be	148.11	327	PKPbc	PKPbc	11 52 44.8	-2.0
	comp=Z,1.8nm,0.4s,baz=46,slow=4.2,SNR=10						
MMAI	Mount Meron Ar	150.46	291	PKPbc	PKPbc	11 52 53.4	+0.1
	comp=Z,3.2nm,0.5s,baz=83,slow=7.1,SNR=4.1						
TORD	Torodi Ar. Bea	166.82	178	PKPab	PKPab	11 54 09.3	-1.9
	comp=Z,0.9nm,0.7s,baz=193,slow=3.8,SNR=5.3						

SJA 12 11:33:50.7±0.5, 32°.34S×66°.96W, h40km±999km, ML3.1, MW3.5, San Luis Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRA	San Martin	1.05	95	i P	Pn	11 34 10.5	+1.4
MRA				i S	Sn	11 34 24.8	+2.1
MRA				IAML		11 34 26.9	
	comp=Z,480nm,0.4s						
RTCV	Cerro Valdivia	1.43	289	i P	Pn	11 34 15.4	+1.3
AMOG	MOGNA	1.92	316	i P	Pn	11 34 22.6	+1.7
RTLS	Leoncito	2.06	285	i P	Pn	11 34 25.4	+2.4
RTLS				IAML		11 34 56.4	
	comp=Z,114nm,0.6s						
AUSP	Uspallata	2.06	273	i P	Pn	11 34 25.2	+2.1

IDC 12 11:43:11.2±25.0, 17°.46N×120°.98E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.3/54, mbtmp3.8/3, Error ellipse: s-maj=460.9km s-min=276.3km az=151.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.41	160	P	P	11 50 42.8	-0.4
	1.1nm,0.8s,baz=341,slow=9.0,SNR=8.5						
ASAR	Alice Springs	42.78	162	P	P	11 51 10.8	0.0
	0.7nm,0.7s,baz=340,slow=6.7,SNR=11						
STKA	Stephens Creek	52.89	158	P	P	11 52 29.1	0.0
	1.6nm,0.8s,baz=0.0,slow=7.1,SNR=3.3						

PRE 12 11:54:21.8±2.7, 26°.36S×27°.45E, h2km, ML2.8
ISCJB 12 11:54:22.1±0.5, 26°.36S±0°.03×27°.47E±0°.03, h10km±3km, Error ellipse: s-maj=6.1km s-min=4.3km az=138.4

ISC 12 11:54:21.7±0.8, 26°.33S±0°.03×27°.47E±0°.03, h13km±6km, n16, σ2°.05/32, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.10	204	eP	Pg	11 54 25.1	+0.2
WDLM				eS	Sg	11 54 26.0	-1.3
WDLM				AML	AML	11 54 27.4	
	comp=Z,4μm,0.8s						
KLOF	Kloof	0.13	98	eP	Pg	11 54 25.8	+0.5
KLOF				eS	Sg	11 54 26.9	-0.9
KLOF				AML	AML	11 54 27.1	
	comp=Z,2μm,0.2s						
PRYS	Parys	0.60	189	eP	Pb	11 54 34.6	+0.4
PRYS				eS	Sg	11 54 40.8	-0.7
PRYS				AML	AML	11 54 46.5	
	comp=Z,487nm,0.7s						
ERPM	east rand prop	0.69	91	eP	Pg	11 54 35.9	+0.6
ERPM				eS	Sg	11 54 44.4	-0.1
ERPM				AML	AML	11 54 52.0	
	comp=Z,96nm,0.8s						
KSR	Koster	0.70	313	eP	Pb	11 54 36.8	+0.9
KSR				eS	Sg	11 54 45.9	+1.2
KSR				AML	AML	11 54 53.5	
	comp=Z,167nm,0.8s						
SLR	Silverton	0.94	51	eP	Pb	11 54 41.4	+1.4
SLR				eS	Sg	11 54 52.6	+0.3
SLR				AML	AML	11 55 02.5	
	comp=Z,46nm,0.5s						
SEK	Senekal	1.99	176	eP	Pb	11 54 57.3	-0.6
SEK				eS	Sb	11 55 22.1	-0.6
SEK				AML	AML	11 55 24.5	
	comp=Z,101nm,0.2s						
SWZ	Schweizer	2.09	246	eP	Pb	11 54 58.9	-0.7
SWZ				eS	Sb	11 55 25.3	-0.3
SWZ				AML	AML	11 55 27.6	
	comp=Z,165nm,0.2s						
BOSA	Boshof	3.00	220	i P	Pn	11 55 10.9	+1.8
BOSA				i S	Sb	11 55 53.7	+1.9
BOSA	Boshof	3.00	220	eP	Pn	11 55 09.8	+0.6
BOSA				eS	Sn	11 55 45.4	+0.3
BOSA				AML	AML	11 55 53.9	
	comp=Z,34nm,0.3s						
HVD	Gariep Dam	4.60	202	eP	Pn	11 55 32.2	+1.1
HVD				eS	Sn	11 56 22.2	-2.3
HVD				AML	AML	11 56 24.3	
	comp=Z,8.6nm,0.3s						
PKA	Prieska	5.33	230	eP	Pn	11 55 41.7	+0.6
PKA				eS	Sn	11 56 40.9	-1.5
PKA				AML	AML	11 57 13.7	
	comp=Z,214nm,0.5s						
UPI	Upington	5.89	248	eP	Pn	11 55 50.4	+1.6
UPI				eS	Sn	11 56 53.6	-2.5
UPI				AML	AML	11 57 28.5	
	comp=Z,9.1nm,0.6s						
MATP	Matopo	5.95	9	i P	Pn	11 55 52.5	+2.8
MATP				i S	Sb	11 57 12.9	-3.8
BLWY	Bulawayo	6.25	10	i P	Pn	11 55 57.0	+3.2
BLWY				i S	Sb	11 57 19.6	-5.8
SUR	Sutherland	8.37	222	eP	Pn	11 56 25.0	+2.1
SUR				eS	Sn	11 57 53.8	-3.6

IDC 12 12:00:27.1±1.2, 36°.05N×27°.33E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.4/34, mbtmp3.7/7, ML3.3/4, Error ellipse: s-maj=24.4km s-min=19.4km az=149.0
ATH 12 12:00:29.8, 35°.91N×27°.17E, h27km±3km, ML3.3/4, Error ellipse: s-maj=4.4km s-min=0.9km az=122.0
ISK 12 12:00:29.4, 35°.86N×27°.16E, h7km, ML3.2
CSEM 12 12:00:30.4±0.1, 35°.91N×27°.12E, h5km, ML3.5, Error ellipse: s-maj=2.9km s-min=1.9km az=153.0
ISCJB 12 12:00:31.1±0.4, 35°.87N±0°.03×27°.14E±0°.02, h19km±5km, mb3.5/4, Error ellipse: s-maj=4.9km s-min=2.9km az=145.0
THE 12 12:00:31.3, 35°.85N×27°.27E, h15km±1km, ML3.5/5, Error ellipse: s-maj=1.8km s-min=0.4km az=144.0
DDA 12 12:01:20.5, 35°.99N×27°.26E, h7km, Ml3.2

ISC 12 12:00:30.8±0.9, 35°.87N±0°.02×27°.22E±0°.02, h24km±8km, n101, σ1°.56/138, mb3.7/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.32	189	P	Pb	12 00 37.9	-0.3
KARP				S	Sb	12 00 42.9	-0.3
KARP	Karpathos	0.32	189	P	Pb	12 00 37.8	-0.3
KARP				S	Sb	12 00 43.2	0.0
KARP	Karpathos	0.32	189	P	Pb	12 00 37.9	-0.3
KARP				S	Sb	12 00 42.9	-0.3
NIS1	Nisyros Isl.	0.73	357	ePG	Pb	12 00 44.1	-0.9
NIS1				eSG	Sn	12 00 54.9	-1.3
NIS1	Nisyros Isl.	0.73	357	P	Pb	12 00 44.1	-0.9
NIS1	Nisyros Isl.	0.73	357	ePg	Pb	12 00 44.1	-0.9
NIS1				eSg	Sn	12 00 54.9	-1.3
ARG	Arkhangelos	0.81	64	P	Pb	12 00 46.2	-0.1
ARG				S	Sb	12 00 57.2	+0.3
ARG	Arkhangelos	0.81	64	P	Pn	12 00 46.4	-0.4
ARG				S	Sb	12 00 57.0	+0.2
ARG				AML	AML	12 01 00.8	
	comp=E,11361μm,0.6s						
ARG				AML	AML	12 01 01.7	
	comp=N,4055μm,0.5s						
ARG	Arkhangelos	0.81	64	P	Pn	12 00 46.4	-0.4
ARG				S	Sb	12 00 57.2	+0.3
DAT	Datca	0.91	18	ePG	Pb	12 00 47.6	-0.4
DAT				eSG	Sn	12 01 01.1	+0.5
DAT	Datca	0.91	18	i P	Pb	12 00 47.6	-0.4
DAT				i S	Sn	12 01 01.6	+1.0
DAT	Datca	0.91	18	P	Pb	12 00 47.6	-0.4
DAT				eSg	Sn	12 01 01.1	+0.5
ZKR	Zakros	1.11	228	P	Pb	12 00 51.6	+0.2
ZKR				S	Sn	12 01 06.5	+1.1
ZKR	Zakros	1.11	228	P	Pb	12 00 52.0	+0.7
ZKR				S	Sn	12 01 06.0	+0.6
ZKR				AML	AML	12 01 09.4	
	comp=E,3895μm,0.5s						
ZKR				AML	AML	12 01 10.2	
	comp=N,1545μm,0.7s						
ZKR	Zakros	1.11	228	P	Pb	12 00 51.6	+0.2
ZKR				S	Sn	12 01 06.0	+0.6
BODT	Bodrum	1.20	3	ePN	Pb	12 00 52.9	+0.1
BODT				eSN	Sn	12 01 09.9	+2.4
BODT	Bodrum	1.20	3	P	Pb	12 00 52.6	-0.2
BODT				S	Sn	12 01 07.9	+0.4
BODT	Bodrum	1.20	3	P	Pb	12 00 52.6	-0.2
BODT	Bodrum	1.20	3	ePn	Pb	12 00 52.9	+0.1
BODT				S	Sn	12 01 07.9	+0.4
BODT				eSn	Sn	12 01 09.9	+2.4
BDRM	Kayabasi	1.21	9	i P	Pn	12 00 51.8	-0.5
BDRM	Kayabasi	1.21	9	P	Pn	12 00 51.8	-0.5
NPS	Neapolis	1.44	246	P	Pn	12 00 55.9	+0.4
NPS				S	Sn	12 01 14.2	+0.6
NPS	Neapolis	1.44	246	P	Pn	12 00 55.9	+0.4
NPS				S	Sn	12 01 13.4	-0.3
NPS				AML	AML	12 01 14.3	
	comp=N,3074μm,0.3s						
NPS				AML	AML	12 01 14.4	
	comp=E,4439μm,0.4s						
NPS	Neapolis	1.44	246	P	Pn	12 00 55.9	+0.4
NPS				S	Sn	12 01 14.2	+0.6
MLSB	Milas	1.49	17	ePN	Pb	12 00 57.6	-0.3
MLSB				eSN	Sb	12 01 18.2	+1.7
MLSB	Milas	1.49	17	ePn	Pb	12 00 57.6	-0.3
MLSB				eSn	Sb	12 01 18.2	+1.7
DALY	Dalyan (Mu¨la	1.50	50	ePN	Pb	12 00 57.9	0.0
DALY				eSN	Sb	12 01 18.7	+2.2
DALY	Dalyan (Mu¨la	1.50	50	i P	Pb	12 00 57.7	-0.2
DALY				i S	Sb	12 01 18.4	+1.9
DALY	Dalyan (Mu¨la	1.50	50	ePn	Pb	12 00 57.9	0.0
DALY				S	Sb	12 01 18.4	+1.9
TURN	Turunc	1.50	48	i P	Pn	12 00 52.7	-3.5
TURN				i S	Sn	12 01 10.0	-5.0
SANT	Santorini	1.51	290	P	Pn	12 00 56.6	+0.2
SANT	Santorini	1.51	290	P	Pn	12 00 56.6	+0.2
THR6	Thira Island,	1.56	289	P	Pb	12 00 58.0	-0.9
THR6	Thira Island,	1.56	289	P	Pn	12 00 57.2	+0.2
THR6	Thira Island,	1.56	289	P	Pn	12 00 57.2	+0.2
THR2	Thira island,	1.56	292	P	Pn	12 00 57.1	+0.1
THR2	Thira island,	1.56	292	P	Pn	12 00 57.1	+0.1
THR3	Thira Island,	1.57	291	P	Pn	12 00 57.5	+0.4
THR3	Thira Island,	1.57	291	P	Pn	12 00 57.6	+0.4
THR3	Thira Island,	1.57	291	P	Pn	12 00 57.5	+0.4
LAST	Lasithi	1.59	244	P	Pn	12 00 58.3	+0.8
LAST				S	Sn	12 01 17.6	+0.3
LAST	Lasithi	1.59	244	P	Pn	12 00 58.2	+0.8
LAST				AML	AML	12 01 18.6	
	comp=E,607μm,0.4s						
LAST				AML	AML	12 01 22.6	
	comp=N,868μm,0.5s						
LAST	Lasithi	1.59	244	P	Pn	12 00 58.3	+0.8
LAST				S	Sn	12 01 17.6	+0.3
CMBO	Columbo, Santo	1.59	293	P	Pn	12 00 57.7	+0.3
CMBO	Columbo, Santo	1.59	293	P	Pn	12 00 57.7	+0.3
FETY	Fethiye	1.69	62	ePN	Pb	12 01 00.7	-0.5
FETY				eSN	Sb	12 01 23.6	+1.5
FETY	Fethiye	1.69	62	P	Pb	12 01 00.7	-0.5
FETY	Fethiye	1.69	62	P	Pb	12 01 00.7	-0.5
FETY				S	Sb	12 01 23.6	+1.5
FETI	Fethiye-Mugla	1.72	61	ePN	Pb	12 01 01.2	-0.6
FETI	Fethiye-Mugla	1.72	61	ePn	Pb	12 01 01.2	-0.6
APE	Apeiranthos	1.81	312	ePN	Pn	12 01 01.3	+0.7
APE	Apeiranthos	1.81	312	P	Pn	12 01 00.1	-0.5
APE	Apeiranthos	1.81	312	P	Pn	12 01 00.1	-0.5
APE	Apeiranthos	1.81	312	ePn	Pn	12 01 01.3	+0.7
AYDN	Tasoluk	1.87	16	i P	Pb	12 01 04.2	-0.1
AYDN	Tasoluk	1.87	16	P	Pb	12 01 04.2	-0.1
AKAS	Kas	1.97	79	ePN	Pb	12 01 04.7	-1.4
AKAS	Kas	1.97	79	i P	Pb	12 01 05.0	-1.1
AKAS				i S	Sb	12 01 32.9	+2.6
AKAS	Kas	1.97	79	P	Pb	12 01 04.9	-1.1
AKAS				S	Sb	12 01 32.8	+2.6
IDI	Anoyia	1.99	254	Pn	Pn	12 01 03.6	+0.6
	comp=N,16nm,0.3s,baz=64,slow=17,SNR=51						
IDI				Sn	Sn	12 01 26.9	-0.2
	comp=N,13nm,0.3s,baz=352,slow=11,SNR=6.9						
IDI	Anoyia	1.99	254	P	Pn	12 01 03.6	+0.6
IDI	Anoyia	1.99	254	P	Pn	12 01 03.6	+0.6
TAVA	DENIZLI_Tavas	2.10	40	i P	Pb	12 01 07.1	-1.2
TAVA	DENIZLI_Tavas	2.10	40	P	Pb	12 01 07.1	-1.2
GLHS	Glhisar (BURDU	2.24	54	ePN	Pb	12 01 08.4	-2.2
GLHS	Glhisar (BURDU	2.24	54	ePn	Pb	12 01 08.5	-2.2
GOLH	Golhisar	2.33	53	i P	Pb	12 01 10.6	-1.6
GOLH	Golhisar	2.33	53	P	Pb	12 01 10.6	-1.6
ELL	Elmali	2.34	67	ePN	Pb	12 01 10.0	-2.4
ELL	Elmali	2.34	67	ePn	Pb	12 01 10.0	-2.4
MHLO	Agia Marina, M	2.42	291	P	Pn	12 01 08.9	0.0
MHLO	Agia Marina, M	2.42	291	P	Pn	12 01 08.9	0.0
URLA	Izmir	2.54	349	ePN	Pn	12 01 12.2	+1.7
URLA	Izmir	2.54	349	ePn	Pn	12 01 12.2	+1.7
IMMV	Iera Moni Meta	2.67	262	P	Pn	12 01 13.3	+1.0
IMMV	Iera Moni Meta	2.67	262	P	Pn	12 01 13.3	+1.0
KORT	Korkueli	2.77	65	ePN	Pn	12 01 16.0	+2.2
KORT	Korkueli	2.77	65	ePn	Pn	12 01 16.0	+2.2
BCK	Bucak	3.14	59	ePN	Pn	12 01 21.4	+2.5
BCK	Bucak	3.14	59	ePn	Pn	12 01 21.4	+2.5
ANKY	Antikythira Is	3.18	271	P	Pn	12 01 20.5	+1.1
ANKY	Antikythira Is	3.18	271	P	Pn	12 01 20.5	+1.1
SUTC	Sutluce-Ispart	3.44	61	ePN	Pn	12 01 25.6	+2.6
SUTC	Sutluce-Ispart	3.44	61	ePn	Pn	12 01 25.6	+2.6
VLI	Veliai	3.56	285	P	Pn	12 01 25.8	+1.2
VLI	Veliai	3.56	285	P	Pn	12 01 25.8	+1.2
BOZY	Bozyazi-Mersin	4.67	85	ePN	Pn	12 01 43.2	+3.4
BOZY	Bozyazi-Mersin	4.67	85	ePn	Pn	12 01 43.2	+3.4
TEKE	Tekeli-Mersin	4.79	85	ePN	Pn	12 01 44.6	+3.3
TEKE	Tekeli-Mersin	4.79	85	ePn	Pn	12 01 44.7	+3.3
BERE	Bereket-Mersin	4.88	83	ePN	Pn	12 01 46.4	+3.5
BERE	Bereket-Mersin	4.88	83	ePn	Pn	12 01 46.4	+3.5
TEVE	Tevekalti-Mers	5.07	82	ePN	Pn	12 01 49.2	+3.9
TEVE	Tevekalti-Mers	5.07	82	ePn	Pn	12 01 49.2	+3.9
BRTR	Keskin Array B	6.38	51	Pn	Pn	12 02 00.6	-2.7
	comp=N,0.1nm,0.3s,baz=229,slow=14,SNR=2.6						
BRTR				Sn	Sn	12 03 16.1	+0.7
	baz=211,slow=23,SNR=2.1						
MMAI	Mount Meron Ar	7.33	110	Pn	Pn	12 02 16.1	-0.4
	comp=N,1.4nm,0.3s,baz=301,slow=11,SNR=2.3						
MMAI				Sn	Sn	12 03 38.1	-0.9
	comp=N,3.0nm,0.3s,baz=284,slow=24,SNR=3.0						
EIL	Elat	8.97	131	Pn	Pn	12 02 39.1	+0.2
	comp=N,0.3nm,0.3s,baz=180,slow=6.1,SNR=2.8						
EIL				Sn	Sn	12 04 14.5	-4.7
	comp=N,1.0nm,0.3s,baz=337,slow=7.7,SNR=4.8						
ESDC	Sonseca Array	24.88	288	P	P	12 05 51.9	+0.2
	comp=N,0.1nm,0.3s,baz=74,slow=8.2,SNR=3.7						
FINES	FINESS Array B	25.61	359	P	P	12 05 55.7	-2.3
	comp=N,2.2nm,0.8s,baz=186,slow=13,SNR=3.1						
TORD	Torodi Ar. Bea	32.24	232	P	P	12 06 58.3	+0.9
	comp=N,0.2nm,0.3s,baz=40,slow=9.8,SNR=4.3						
ARCES	ARCESS Array B	33.74	359	P	P	12 07 09.5	-0.5
	comp=N,2.8nm,1.1s,baz=160,slow=8.6,SNR=2.3						

ISK 12 12:05:56.9, 39°.39N×38°.59E, h3km, ML2.2
DDA 12 12:05:57.1, 39°.48N×38°.55E, h7km, Md2.5

ISCJB 12 12:05:59.5±0.7, 39°.29N±0°.06×38°.55E±0°.05, h10km±6km, Error ellipse: s-maj=9.7km s-min=5.9km az=175.9
CSEM 12 12:05:59.2±0.4, 39°.24N×38°.49E, h5km, MD2.5, Error ellipse: s-maj=11.2km s-min=8.8km az=174.0

ISC 12 12:05:58.5±1.2, 39°.36N±0°.04×38°.56E±0°.03, h14km±8km, n19, σ1°.06/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	Kemaliye	0.11	209	i P	Pg	12 06 02.1	+0.2
KEMA	Kemaliye	0.11	209	P	Pg	12 06 02.1	+0.2
REFA	Refahiye_ERZ¨	0.16	78	i P	Pg	12 06 06.1	+3.4
REFA	Refahiye_ERZ¨	0.16	78	P	Pg	12 06 06.1	+3.4
EZC	Erzincan	0.73	57	ePg	Pn	12 06 15.0	+0.5
EZC				eSg	Sn	12 06 28.2	+2.8
PTK	Pertek	0.80	126	ePG	Pg	12 06 13.1	-1.0
PTK				eSG	Sb	12 06 24.7	-0.3
PTK	Pertek	0.80	126	ePg	Pg	12 06 13.1	-1.0
PTK				eSg	Sb	12 06 24.7	-0.3
TNCL	Tunceli-Merkez	0.80	108	i P	Pn	12 06 15.3	-0.1
TNCL				i S	Sb	12 06 26.1	+1.1
TNCL	Tunceli-Merkez	0.80	108	P	Pn	12 06 15.4	-0.1
TNCL				S	Sb	12 06 26.1	+1.1
ELZG	Elazig	0.92	159	i P	Pn	12 06 16.9	-0.3
ELZG				i S	Sn	12 06 31.3	+1.0
ELZG	Elazig	0.92	159	P	Pn	12 06 16.9	-0.3
ERZN	Erzincan	0.93	76	ePG	Pg	12 06 14.9	-1.5
ERZN				eSG	Sb	12 06 28.7	-0.4
SVRC	Sivrice-ELAZID	1.14	149	ePN	Pb	12 06 19.7	-0.4
SVRC	Sivrice-ELAZID	1.14	149	ePn	Pb	12 06 19.7	-0.4
DARE	Darende-Malaty	1.15	227	ePN	Pn	12 06 20.1	-0.1
DARE				eSN	Sn	12 06 37.4	+1.6
DARE	Darende-Malaty	1.15	227	ePn	Pn	12 06 20.1	-0.1
DARE				eSn	Sn	12 06 37.4	+1.6
SVSK	Karacayir	1.33	295	ePN	Pg	12 06 23.4	-0.7
SVSK	Karacayir	1.33	295	ePn	Pg	12 06 23.4	-0.7
SARI	SarD1z-Kayseri	1.92	241	ePN	Pb	12 06 31.9	-1.5

ISCJB 12 12:29:41.4±0.6, 29°.00S±0°.04×178°.8W±0°.1, h300km, mb3.9/8, Error ellipse: s-maj=14.4km s-min=5.2km az=9.9
IDC 12 12:29:43.1±0.8, 28°.70S×178°.73W, h301km±9km, mb3.6/8, mb1 3.7/11, mb1mx3.5/23, mbtmp4.4/11, Error ellipse: s-maj=24.1km s-min=17.4km az=138.0

ISC 12 12:29:42.2±0.6, 29°.08S±0°.06×178°.8W±0°.1, h300km, n36, σ2°.33/48, mb4.1/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.77	103	P	Pn	12 30 23.3	+1.7
	358nm,0.3s,baz=51,slow=23,SNR=13						
RAO				S	S	12 30 51.7	-1.2
	464nm,0.3s,baz=76,slow=16,SNR=5.5						
WMGZ	Waiomatatini S	9.02	194	ePN	Pn	12 31 48.5	+0.3
WMGZ				SN	S	12 33 32.6	+1.8
WMGZ	Waiomatatini S	9.02	194	PN	Pn	12 31 48.7	+0.4
RUGZ	Raukumara Rang	9.34	198	SN	S	12 33 35.2	-2.9
MWZ	Matawai	9.73	197	ePN	P	12 32 00.2	-0.6
MWZ				SN	S	12 33 45.9	-0.9
URZ	Urewera	9.77	199	P	P	12 32 02.4	+1.2
	1.2nm,0.3s,baz=281,slow=6.4,SNR=6.2						
URZ				S	S	12 33 48.2	+0.5
	2.1nm,0.3s,baz=341,slow=23,SNR=12						
KNZ	Kokohu	10.34	196	ePN	P	12 32 08.5	+1.0
KNZ				SN	S	12 33 53.0	-7.5
BFZ	Birch Farm	12.27	198	ePN	P	12 32 29.3	+0.4
BFZ				SN	S	12 34 39.3	-4.9
MRZ	Mangatainoka R	12.44	200	PN	P	12 32 30.6	-0.3
MRZ				SN	S	12 34 42.1	-6.0
NNZ	Nelson	13.69	206	SN	S	12 35 12.6	-3.2
THZ	Tophouse	14.34	206	ePN	Pn	12 32 53.1	+0.3
THZ				SN	S	12 35 26.7	-2.9
KHZ	Kahutara	14.69	203	ePN	Pn	12 32 56.5	-0.3
KHZ				SN	S	12 35 33.5	-2.7
DZM	Mont Dzumac	15.04	294	P	Pn	12 33 01.4	+0.1
	0.8nm,0.3s,baz=106,slow=12,SNR=17						
AFI	Afiamalu	16.43	25	P	P	12 33 11.1	-4.0
	3.7nm,0.3s,baz=84,slow=8.6,SNR=6.1						
AFI				S	S	12 36 00.2	-12
	4.6nm,0.3s,baz=85,slow=18,SNR=6.0						
STKA	Stephens Creek	34.14	255	P	P	12 36 02.0	+2.5
	0.9nm,0.5s,baz=17,slow=4.1,SNR=3.3						
ASAR	Alice Springs	42.51	266	P	P	12 37 10.2	+1.1
	0.9nm,0.5s,baz=96,slow=7.0,SNR=36						
ASAR				PcP	PcP	12 38 55.9	+0.2
	0.5nm,0.8s,baz=98,slow=5.7,SNR=3.5						
WRA	Warramunga Arr	43.38	271	P	P	12 37 16.4	+0.4
	1.1nm,0.4s,baz=109,slow=7.9,SNR=27						
WRA				PcP	PcP	12 38 59.2	+0.6
	1.0nm,0.7s,baz=108,slow=3.0,SNR=6.2						
MJAR	Matsushiro Arr	76.77	326	P	P	12 41 00.1	-0.9
	4.6nm,0.8s,baz=158,slow=5.6,SNR=14						
MAT	Matsushiro	76.78	326	P	P	12 41 00.1	-0.9
JNU	Nakatsue	78.12	319	P	P	12 41 07.4	-1.1
	2.1nm,0.4s,baz=38,slow=1.1,SNR=4.9						

CAW				AML	AML	12 31 43.9	
MTVZ	**Mangateitei**	**1.62**	**65**	PN	Pn	12 31 18.6	-0.2
MRZ	**Mangatainoka R**	**1.63**	**111**	⇓PN	Pn	12 31 18.5	-0.3
MRZ				AML	AML	12 31 44.5	
MRZ				AML	AML	12 31 45.8	
BSWZ	**Blackbirch Sta**	**1.63**	**172**	PN	Pn	12 31 18.8	+0.1
BHW	**Baring Head**	**1.64**	**144**	PN	Pn	12 31 18.5	-0.3
BHW				AML	AML	12 31 44.7	
HOWZ	**Holdsworth Sta**	**1.68**	**119**	PN	Pn	12 31 18.9	-0.3
WNVZ	**Wahianoa**	**1.74**	**64**	PN	Pn	12 31 19.8	-0.2
FWVZ	**Far West T-bar**	**1.74**	**62**	⇓PN	Pn	12 31 19.8	-0.3
THZ	**Tophouse**	**1.74**	**197**	⇑PN	Pn	12 31 19.4	-0.4
MTW	**Mount Morrison**	**1.81**	**127**	PN	Pn	12 31 19.5	-0.9
MTW				AML	AML	12 31 48.5	
MTW				AML	AML	12 31 48.7	
MOVZ	**Moawhango**	**1.81**	**68**	⇓PN	Pn	12 31 20.0	-0.5
TSZ	**Takapari Road**	**1.83**	**90**	PN	Pn	12 31 20.3	-0.4
MSWZ	**Moikau Station**	**1.83**	**137**	PN	Pn	12 31 20.8	+0.2
PRWZ	**Pori Road**	**1.89**	**105**	PN	Pn	12 31 21.3	+0.2
PRWZ				AML	AML	12 31 51.3	
TIWZ	**Tintock**	**1.89**	**112**	PN	Pn	12 31 21.0	-0.2
TIWZ				AML	AML	12 31 50.9	
PAWZ	**Paruwai Farm**	**1.90**	**133**	PN	Pn	12 31 21.1	-0.3
PLWZ	**Palliser**	**1.95**	**140**	PN	Pn	12 31 21.0	-0.7
DVHZ	**Dannevirke**	**1.99**	**97**	PN	Pn	12 31 21.9	-0.4
BHHZ	**Black Hill Sta**	**2.01**	**73**	PN	Pn	12 31 21.8	-0.7
PNHZ	**Pukenui**	**2.02**	**86**	PN	Pn	12 31 22.4	-0.2
BFZ	**Birch Farm**	**2.12**	**107**	PN	Pn	12 31 23.2	-0.4
DSZ	**Denniston Nort**	**2.13**	**219**	⇑PN	Pn	12 31 23.0	-0.6
KRHZ	**Kereru**	**2.20**	**79**	PN	Pn	12 31 24.0	-0.3
WPHZ	**Waipukurau**	**2.20**	**90**	PN	Pn	12 31 24.3	-0.1
KWHZ	**Kaweka Forest**	**2.29**	**74**	PN	Pn	12 31 25.3	-0.2
KHZ	**Kahutara**	**2.32**	**181**	⇑PN	Pn	12 31 24.7	-0.8
KHZ				AML	AML	12 33 55.4	
PRHZ	**Porangahau**	**2.35**	**95**	PN	Pn	12 31 25.9	0.0
BKZ	**Black Stump Fm**	**2.44**	**69**	PN	Pn	12 31 26.2	-0.7
KAHZ	**Kahuranaki**	**2.55**	**84**	PN	Pn	12 31 28.3	0.0
ARHZ	**Aropaoanui**	**2.77**	**74**	PN	Pn	12 31 30.5	-0.1
LTZ	**Lake Taylor**	**2.86**	**200**	PN	Pn	12 31 30.7	-1.0
INZ	**Inchbonnie**	**3.08**	**211**	PN	Pn	12 31 32.9	-1.2
KNZ	**Kokohu**	**3.34**	**73**	⇓PN	Pn	12 31 36.6	-0.7
OXZ	**Oxford**	**3.43**	**199**	⇑PN	Pn	12 31 36.4	-1.8
MWZ	**Matawai**	**3.54**	**61**	PN	Pn	12 31 38.7	-1.0
CRLZ	**Canterbury Las**	**3.55**	**191**	PN	Pn	12 31 38.1	-1.5
WVZ	**Waitaha Valley**	**3.66**	**215**	⇓PN	Pn	12 31 39.4	-1.6
MQZ	**McQueen's Vall**	**3.67**	**191**	PN	Pn	12 31 38.6	-2.6
FOZ	**Fox Glacier**	**4.44**	**218**	PN	Pn	12 31 49.1	-1.5
ODZ	**Otahua Downs**	**5.40**	**203**	⇑PN	Pn	12 32 01.3	-1.5

*IDC **12** 12:53:31.3±8.7, 32°.69S×179°.91E, h229km±59km, mb3.4/3, mb1 3.5/4, mb1mx3.2/33, mbtmp4.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=87.3km s-min=22.0km az=45.0*

ISC 12 12:53:41.8±1.8, 33°.3S±0°.2×179°.2E±0°.3, h300km, n10, σ1§08/10, mb3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.25**	**198**	P	**Pn**	**12 55 00.3**	**-1.8**
URZ	2.0nm,0.3s,baz=266,slow=3.3,SNR=8.0			S	**S**	**12 56 08.0**	**+1.3**
PPT	3.9nm,0.3s,baz=193,slow=23,SNR=15 **Papeete**	**32.08**	**69**	LR	LR	13 11 49.8	
ASAR	comp=Z,26nm,18.0s,baz=152,slow=35 **Alice Springs**	**40.70**	**272**	P	**P**	**13 00 54.6**	**+0.6**
WRA	0.6nm,0.6s,baz=108,slow=7.6,SNR=26 **Warramunga Arr**	**41.96**	**277**	P	**P**	**13 01 03.9**	**-0.2**
SNAA	0.8nm,0.3s,baz=114,slow=8.0,SNR=52 **Sanae**	**75.33**	**179**	P	**P**	**13 04 52.6**	**+0.6**
SNAA	**Sanae**	**75.33**	**179**	P	**P**	**13 04 52.3**	**+0.3**
VNA3	1.3nm,0.6s,baz=200,slow=15,SNR=7.7 **Neumayer Olymp**	**75.57**	**177**	P	**P**	**13 04 54.2**	**+0.9**
VNA2	**Neumayer--Watz**	**75.98**	**178**	P	**P**	**13 04 55.9**	**+0.3**
VNA1	baz=174,slow=3.7 **Neumayer--Stat**	**76.22**	**177**	P	**P**	**13 04 58.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**159.83**	**187**	PKPab	**PKPab**	**13 13 45.8**	**-0.3**
	0.3nm,0.4s,baz=170,slow=3.0,SNR=4.8						

*IDC **12** 13:07:24.3±1.3, 0°.75S×124°.00E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, Error ellipse: s-maj=71.4km s-min=23.8km az=74.0*
*ISCJB **12** 13:07:29.5±0.5, 0°.80S±0°.05×124°.38E±0°.04, h33km, mb3.2/4, Error ellipse: s-maj=7.5km s-min=4.8km az=21.9*
*DJA **12** 13:07:30.2±1.4, 1°.S±3°.×12°.4E±°, h28km±12km, M4.1/7, mB4.5/1, mb4.2/3, MLv4.0/7, Mw(mB)3.7/1*

ISC 12 13:07:30.3±0.9, 0°.76S±0°.06×124°.38E±0°.04, h35km, n14, σ1§49/20, mb3.3/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.39**	**343**	P	**Pn**	**13 07 53.6**	**+0.4**
KMSI				S	**Sn**	**13 08 11.0**	**+0.8**
SANI	**Sanana**	**2.05**	**129**	P	**Pn**	**13 08 02.3**	**0.0**
SANI				S	**Sn**	**13 08 26.9**	**+0.1**
MRSI	**Marisa**	**2.73**	**297**	P	**Pn**	**13 08 11.3**	**-0.4**
MRSI				S	**Sn**	**13 08 46.6**	**+3.0**
APSI	**Ampana**	**2.74**	**267**	P	**Pn**	**13 08 13.1**	**+1.3**
APSI				S	**Sn**	**13 08 41.2**	**-2.5**
LBMI	**Labuha**	**3.12**	**88**	P	**Pn**	**13 08 18.3**	**+1.3**
LBMI				S	**Sn**	**13 08 54.0**	**+0.9**
PCI	**Palu**	**4.55**	**268**	P	**Pn**	**13 08 35.9**	**-0.8**
MPSI	**Mapaga**	**4.62**	**284**	P	**Pn**	**13 08 39.8**	**+2.2**
TTSI	**Tana Toraja**	**5.09**	**243**	P	**Pn**	**13 08 45.9**	**+1.7**
BNSI	**Bone**	**5.60**	**230**	P	**Pn**	**13 08 51.9**	**+0.8**
SPSI	**Sidrap Palu**	**5.60**	**235**	P	**Pn**	**13 08 52.9**	**+1.7**
WRA	**Warramunga Arr**	**21.41**	**154**	P	**P**	**13 12 15.5**	**+0.2**
	0.6nm,1.0s,baz=328,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.57**	**159**	P	**P**	**13 12 47.8**	**+0.6**
ASAR	0.2nm,0.4s,baz=342,slow=12,SNR=6.1			PcP	**PcP**	**13 16 24.6**	**-0.3**
MJAR	0.3nm,0.4s,baz=355,slow=2.1,SNR=14 **Matsushiro Arr**	**39.27**	**18**	P	**P**	**13 14 55.7**	**-0.1**
MKAR	0.4nm,0.4s,baz=200,slow=11,SNR=4.2 **Makanchi Array**	**59.98**	**328**	P	**P**	**13 17 31.1**	**-2.3**
	0.3nm,0.5s,baz=124,slow=8.7,SNR=4.2						

*NIED **12** 13:41:00, 35°.10N×142°.30E, h8km, Mw3.7 Best double couple: M0=4.03000×10^14 NP1:φs=27.00000°, δ=32.00000°, λ=-73.00000°. NP2:φs=186.00000°, δ=59.00000°, λ=-101.00000°.*
*IDC **12** 13:41:12.0±0.9, 35°.17N×142°.15E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/58, mbtmp3.7/9, ML3.6/3, MS2.8/2, Ms1 2.9/2, ms1mx2.4/40, Error ellipse: s-maj=24.2km s-min=19.1km az=82.0*
*JMA **12** 13:41:13.4±0.3, 35°.14N×142°.34E, h57km, M3.6*
*ISCJB **12** 13:41:14.0±0.7, 35°.20N±0°.05×142°.23E±0°.06, h29km, mb3.6/6, MS2.9/1, Error ellipse: s-maj=7.6km s-min=6.3km az=34.4*

ISC 12 13:41:16.0±0.9, 35°.18N±0°.06×142°.18E±0°.07, h29km, n22, σ1§41/26, mb3.7/6, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.12**	**242**	P	**Pn**	**13 41 34.4**	**-0.8**
CHOJ	**Chosi**	**1.20**	**296**	P	**Pn**	**13 41 36.5**	**-0.2**
CHOJ				*e*S	**Sb**	**13 41 53.0**	**-0.1**
BSO3	**Boso 3**	**1.42**	**255**	P	**Pn**	**13 41 39.4**	**-0.2**
BSO3				S	**Sb**	**13 41 58.8**	**-0.5**
JIM2	**Oshima 3**	**2.30**	**259**	P	**Pn**	**13 41 50.8**	**-1.2**
JFK	**Kawauchi**	**2.42**	**335**	S	**Sn**	**13 42 18.9**	**-3.4**
JOD2	**Odawara 2**	**2.53**	**273**	P	**Pn**	**13 41 54.6**	**-0.5**
JOD2				S	**Sn**	**13 42 24.2**	**-0.8**
JAG	**Ashikaga**	**2.54**	**300**	P	**Pn**	**13 41 55.0**	**-0.2**
JFT	**Otama**	**2.76**	**328**	S	**Sn**	**13 42 29.2**	**-1.5**
JRY	**Ryogami san**	**2.80**	**288**	S	**Sn**	**13 42 32.4**	**+0.8**
JHJ	**Hachijo jima 2**	**2.86**	**225**	Pn	**Pn**	**13 41 58.6**	**-1.1**
JHJ	12nm,0.3s,baz=1.6,slow=21,SNR=13			Sn	**Sn**	**13 42 30.3**	**-2.8**
JYN	25nm,0.3s,baz=76,slow=23,SNR=15 **Shimob**	**2.99**	**277**	S	**Sn**	**13 42 37.2**	**+0.9**
MJAR	**Matsushiro Arr**	**3.50**	**294**	Pn	**Pn**	**13 42 07.6**	**-0.8**
MJAR	2.6nm,0.3s,baz=97,slow=12,SNR=23			Sn	**Sn**	**13 42 50.5**	**+1.6**
MAT	3.0nm,0.3s,baz=135,slow=13,SNR=7.8 **Matsushiro**	**3.50**	**294**	P	**Pn**	**13 42 09.2**	**+0.8**
MAT				*e*S	**Sn**	**13 42 49.5**	**+0.6**
ASAJ	**Asahikawa**	**8.93**	**2**	Pn	**Pn**	**13 43 21.0**	**-2.0**
	1.7nm,0.3s,baz=202,slow=12,SNR=18						
KSRS	**Korea Array**	**11.72**	**285**	LR	LR	13 48 39.1	
	comp=Z,29nm,18.8s,baz=150,slow=38						
CMAR	**Chiang Mai Arr**	**41.67**	**258**	LR	LR	14 09 18.2	
	comp=Z,16nm,18.4s,baz=185,slow=40						
ZALV	**Zalesovo Beam**	**43.63**	**314**	P	**P**	**13 49 15.8**	**-1.8**
	0.5nm,0.4s,baz=88,slow=7.0,SNR=2.7						
KURBB	**Kurchatov Arra**	**47.64**	**309**	P	**P**	**13 49 51.1**	**+1.8**
	0.6nm,0.5s,baz=85,slow=7.9,SNR=9.5						
WRA	**Warramunga Arr**	**55.33**	**189**	P	**P**	**13 50 46.9**	**-0.2**
	0.5nm,0.6s,baz=5.8,slow=7.5,SNR=9.1						
ASAR	**Alice Springs**	**59.05**	**189**	P	**P**	**13 51 13.7**	**+0.3**
	0.2nm,0.5s,baz=360,slow=5.6,SNR=13						
PDAR	**Pinedale Array**	**78.52**	**46**	P	**P**	**13 53 16.1**	**+1.3**
	0.3nm,0.4s,baz=317,slow=4.9,SNR=2.9						
TXAR	**Lajitas Array**	**90.75**	**53**	P	**P**	**13 54 17.9**	**+1.2**
	0.1nm,0.4s,baz=205,slow=2.6,SNR=3.6						

*SOME **12** 13:48:14.9, 44°.55N×79°.57E, h15km*

ISC 12 13:48:12.9±1.2, 44°.61N±0°.04×79°.62E±0°.04, h11km±11km, n12, σ0§85/23, 4C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.30**	**156**	*e*P	**Pb**	**13 48 20.2**	**-0.1**
DJR	105nm,0.1s			*e*S	**Sg**	**13 48 24.1**	**+1.1**
TDK	147nm,0.1s **Taldyqorghan**	**0.95**	**295**	*e*P	**Pn**	**13 48 31.7**	**-0.5**
TDK	11nm,0.1s			*e*S	**Sb**	**13 48 43.6**	**-0.4**
KPKS	31nm,0.1s **Kokpek**	**1.33**	**211**	*e*P	**Pg**	**13 48 37.9**	**-0.4**
KPKS	107nm,0.1s			*e*S	**Sb**	**13 48 54.5**	**-0.3**
ARXS	59nm,0.3s **Arharly**	**1.34**	**254**	*e*P	**Pg**	**13 48 38.7**	**0.0**
ARXS	6.0nm,0.3s			*e*S	**Sn**	**13 48 55.7**	**+0.2**
SHLS	16nm,0.3s **Shalkode**	**1.45**	**185**	*e*P	**Pg**	**13 48 40.4**	**-0.4**
SHLS	3.2nm,0.2s			*e*S	**Sn**	**13 48 58.4**	**+0.1**
KURS	39nm,0.3s **Kuram**	**1.53**	**224**	*e*P	**Pg**	**13 48 41.9**	**-0.4**
KURS	9.3nm,0.3s			*e*S	**Sg**	**13 49 01.6**	**-0.5**
SATY	13nm,0.3s **Saty**	**1.78**	**210**	*e*P	**Pg**	**13 48 46.2**	**-0.8**
SATY	52nm,0.2s			*e*S	**Sg**	**13 49 09.1**	**-1.0**
CHKK	77nm,0.2s **Chushkaly**	**2.04**	**249**	*e*P	**Pb**	**13 48 50.4**	**+0.5**
CHKK	5.2nm,0.2s			*e*S	**Sb**	**13 49 15.6**	**+0.3**
KOTS	32nm,0.3s **Kotyrbulak**	**2.27**	**234**	*e*P	**Pb**	**13 48 54.5**	**+0.5**
KOTS				*e*S	**Sb**	**13 49 23.2**	**+1.0**
TNSS	**Tian-Shan**	**2.49**	**232**	*e*P	**Pb**	**13 48 58.9**	**+1.0**
TNSS	3.1nm,0.3s			*e*S	**Sb**	**13 49 30.0**	**+1.3**
MAKZ	25nm,0.5s **Makanchi**	**2.75**	**36**	⇓Pg	**Pg**	**13 49 04.3**	**-1.3**
MAKZ	0.8nm,0.5s			⇑Lg	Lg	13 49 38.8	
MK31	2.5nm,0.6s **Makanchi Array**	**2.88**	**40**	⇑Pn	**Pb**	**13 49 03.8**	**-0.4**
MK31	0.4nm,0.4s,baz=224,slow=16,SNR=13			⇑Pg	**Pg**	**13 49 09.8**	**+1.8**
MK31	0.6nm,0.3s,baz=216,slow=16,SNR=5.0			⇑Lg	Lg	13 49 42.8	
	0.5nm,0.3s,baz=218,slow=28,SNR=10						

*ISCJB **12** 13:48:50.8±0.6, 31°.73S±0°.05×67°.60W±0°.04, h10km, mb3.6/1, Error ellipse: s-maj=6.6km s-min=5.1km az=168.4*
*SJA **12** 13:48:50.4±1.4, 31°.69S×67°.62W, h23km±5km, ML3.9, MW4.0*
*IDC **12** 13:48:56.6±2.2, 32°.14S×67°.18W, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.3/27, mbtmp3.8/4, ML4.0/3, MS2.8/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=59.6km s-min=22.9km az=121.0*

ISC 12 13:48:52.6±0.9, 31°.70S±0°.04×67°.63W±0°.03, h10km, n15, σ2§20/18, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.69**	**147**	*i* P	**Pg**	**13 49 04.3**	**-1.5**
RTCV	**Cerro Valdivia**	**0.79**	**258**	*i* P	**Pg**	**13 49 06.4**	**-1.5**
RTLL	**Cerro Villicun**	**0.81**	**297**	*i* P	**Pg**	**13 49 06.8**	**-1.3**
RTLL				*i* S	**Sg**	**13 49 18.5**	**-0.2**
RTLL				IAML		13 49 19.8	
SJA	comp=Z,11μm,0.1s **San Juan**	**0.81**	**282**	*i* P	**Pg**	**13 49 06.9**	**-1.3**
SJA				IAML		13 49 07.5	
ACHE	comp=Z,3μm,0.3s **Chepes**	**0.98**	**57**	*i* P	**Pg**	**13 49 09.2**	**-2.4**
AVFE	**Valle Fertil**	**1.04**	**8**	*i* P	**Pg**	**13 49 10.7**	**-1.9**
AVFE				*i* S	**Sg**	**13 49 24.9**	**-1.4**
AVFE				IAML		13 49 25.4	
AMOG	comp=Z,2μm,0.3s **MOGNA**	**1.06**	**315**	*i* P	**Pg**	**13 49 11.3**	**-1.6**
RTLS	**Leoncito**	**1.42**	**265**	*i* P	**Pn**	**13 49 17.1**	**-1.7**
RTLS				*i* S	**Sb**	**13 49 38.3**	**+0.6**
RTLS				IAML		13 49 38.4	
AUSP	comp=Z,940nm,0.4s **Uspallata**	**1.58**	**250**	*i* P	**Pn**	**13 49 19.7**	**-1.3**
APLL	**PUNTA DE LOS L**	**1.60**	**36**	*i* P	**Pn**	**13 49 19.1**	**-2.0**
ACDV	**Cuesta del Vie**	**1.99**	**320**	*i* P	**Pn**	**13 49 25.4**	**-1.0**
PLCA	**Paso Flores**	**9.32**	**194**	Pn	**Pn**	**13 51 05.9**	**-1.1**
PLCA	comp=Z,0.1nm,0.3s,baz=18,slow=11,SNR=4.2			Lg	Lg	13 53 43.4	
CPUP	comp=Z,0.2nm,0.3s,baz=84,slow=19,SNR=3.0 **Villa Florida**	**10.48**	**62**	Pn	**Pn**	**13 51 25.4**	**+2.5**
CPUP	comp=Z,0.4nm,0.3s,baz=234,slow=16,SNR=5.8			Lg	Lg	13 54 24.3	
LPAZ	comp=Z,0.6nm,0.3s,baz=315,slow=20,SNR=3.6 **La Paz**	**15.35**	**358**	Pn	**P**	**13 52 40.1**	**+5.5**
LPAZ	comp=Z,0.8nm,0.3s,baz=192,slow=6.3,SNR=13			LR	LR	13 58 38.1	
TORD	comp=Z,39nm,20.6s,baz=90,slow=37 **Torodi Ar. Bea**	**79.92**	**68**	P	P	14 01 07.6	+5.5
	comp=Z,0.7nm,0.9s,baz=222,slow=5.8,SNR=2.9						

*SKHL **12** 13:56:06.6±1.6, 46°.08N×153°.77E, h44km±6km, mb5.4/4*
*ISCJB **12** 13:56:07.5±0.7, 46°.60N±0°.08×153°.2E±0°.1, h24km, mb4.3/35, MS3.4/8, Error ellipse: s-maj=15.1km s-min=4.1km az=138.8*
*MOS **12** 13:56:10.5±1.1, 46°.76N×152°.95E, h40km, mb4.7/21, Error ellipse: s-maj=10.7km s-min=7.3km az=89.7*
*IDC **12** 13:56:11.8±2.4, 46°.71N×153°.16E, h45km±21km, mb4.0/19, mb1 4.1/24, mb1mx3.9/53, mbtmp4.2/24, ML3.4/4, MS3.3/10, Ms1 3.4/10, ms1mx3.2/31, Error ellipse: s-maj=24.2km s-min=13.5km az=152.0*
*BJI **12** 13:56:11.0, 47°.10N×152°.80E, h10km, mb4.5/25, mB4.7/18, Ms4.6/4, Ms7 4.4/2*
*NEIC **12** 13:56:12.4±1.1, 46°.72N×153°.19E, h50km±7km, mb4.5/5, Error ellipse: s-maj=14.7km s-min=6.0km az=144.0*

ISC 12 13:56:08.6±0.7, 46°.55N±0°.09×153°.32E±0°.07, h24km, n122, σ1§49/121, mb4.5/35, MS3.4/8, 6C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**253**	*d* iPN	**Pn**	**13 57 10.3**	**+1.6**
KUR				*i* S	**Sn**	**13 57 56.6**	**+1.5**
KUR				pmax	pmax		
KUR	comp=Z,186nm,0.4s			pmax	pmax		
KUR	comp=E,14nm,0.5s			pmax	pmax		
KUR	comp=N,45nm,0.3s			smax	smax		
KUR	comp=N,181nm,0.5s			smax	smax		
KUR	comp=E,172nm,0.6s						
KUR	**Kuril'sk**	**4.03**	**253**	*i* P	**Pn**	**13 57 10.0**	**+1.3**
KUR				AMB	AMB	13 57 11.1	
KUR	comp=E,651nm,0.3s			*i* S	**Sn**	**13 57 56.6**	**+1.5**
KUR				A	A	13 58 09.7	
KUR	comp=E,353nm,0.5s			A	A	13 58 09.7	
SKR	comp=E,287nm,0.5s **Severo-Kuril's**	**4.53**	**23**	*e*PN	**Pn**	**13 57 17.9**	**+2.3**
SKR				pmax	pmax		
SKR	comp=Z,94nm,0.8s			MLR	MLR		
SKR	comp=Z,500nm,12.0s **Severo-Kuril's**	**4.53**	**23**	*e*P	**Pn**	**13 57 17.9**	**+2.3**
SKR				AMB	AMB	13 57 20.2	
SKR	comp=Z,94nm,0.7s			*e*S	**Sn**	**13 58 10.4**	**+2.9**
SKR				A	A	13 58 18.1	
SKR	comp=Z,230nm,0.7s			A	A	13 58 18.1	
SHO	comp=Z,330nm,0.7s **Shikotan**	**5.31**	**242**	*d* iPN	**Pn**	**13 57 24.9**	**-1.4**
SHO				pmax	pmax		
SHO	comp=Z,89nm,0.3s			pmax	pmax		
SHO	comp=N,53nm,0.4s			pmax	pmax		
SHO	comp=E,37nm,0.4s						
SHO	**Shikotan**	**5.31**	**242**	*i* P	**Pn**	**13 57 24.9**	**-1.4**
SHO				AMB	AMB	13 57 29.3	
SHO	comp=E,89nm,0.3s			*i* S	**Sn**	**13 58 25.1**	**-1.6**
SHO				A	A	13 58 35.1	
SHO	comp=E,200nm,0.4s			A	A	13 58 35.1	
YUK	comp=E,230nm,0.4s **Yuzh-Kuril'sk**	**5.83**	**247**	*d* iPN	**Pn**	**13 57 33.9**	**+0.4**
YUK				*i* S	**Sn**	**13 58 39.8**	**+0.3**
YUK				pmax	pmax		
YUK	comp=N,71nm,0.2s			pmax	pmax		
YUK	comp=Z,225nm,0.2s			smax	smax		
YUK	comp=E,9.0nm,0.3s			smax	smax		
YUK	comp=N,309nm,0.4s **Yuzh-Kuril'sk**	**5.83**	**247**	*i* P	**Pn**	**13 57 33.9**	**+0.4**
YUK				AMB	AMB	13 57 38.0	
YUK	comp=N,225nm,0.3s			*i* S	**Sn**	**13 58 39.8**	**+0.3**
YUK				A	A	13 58 49.1	
YUK	comp=N,900nm,0.4s			A	A	13 58 49.1	
PETK	comp=N,309nm,0.4s **Petropavlovsk-**	**7.15**	**22**	P	**Pn**	**13 57 51.7**	**+0.2**
YSS	comp=N,0.9nm,0.3s,baz=169,slow=13,SNR=15 **Yuzh-Sakhalins**	**7.27**	**277**	*e*PN	Pn	13 58 00.1	+6.9
YSS				pmax	pmax		
YSS	comp=Z,20nm,1.0s			MLR	MLR		
YSS	comp=Z,500nm,17.0s **Yuzh-Sakhalins**	**7.27**	**277**	*e*Pn	**Pn**	**13 57 54.7**	**+1.5**
PET	comp=Z,53nm,1.1s **Petropavlovsk**	**7.34**	**26**	*e*PN	**Pn**	**13 57 57.9**	**+3.7**
PET				MLR	MLR		
PET	comp=Z,200nm,18.0s **Petropavlovsk**	**7.34**	**26**	*e*P	**Pn**	**13 57 53.4**	**-0.8**
PET	**Petropavlovsk**	**7.34**	**26**	*e*Pn	**Pn**	**13 57 55.4**	**+1.2**
ASAJ	**Asahikawa**	**7.94**	**256**	P	**Pn**	**13 58 03.9**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=68,slow=19,SNR=15						
ASAJ	**Asahikawa**	**7.94**	**256**	*e*Pn	**Pn**	**13 58 04.7**	**+2.3**
UGL	**Uglegorsk**	**7.99**	**293**	*e*PN	Pb	13 58 17.9	-8.2
HABR	**Khabarovsk**	**12.50**	**285**	*e*PN	Pn	13 58 59.5	-5.3
HABR				*e*SS	**Sn**	**14 01 28.6**	**+5.4**
HABR				pmax	pmax		
HABR	comp=Z,47nm,2.0s			pmax	pmax		
HABR	comp=N,40nm,2.0s			pmax	pmax		
HABR	comp=E,39nm,2.0s			MLR	MLR		
MA2	comp=Z,198nm,13.0s **Magadan**	**13.14**	**354**	P	**Pn**	**13 59 13.8**	**+0.3**
MA2	comp=Z,1.2nm,0.3s,baz=118,slow=22,SNR=7.1			LR	LR	14 04 28.7	
MJAR	comp=Z,88nm,18.1s,baz=172,slow=38 **Matsushiro Arr**	**15.07**	**234**	LR	LR	14 06 52.9	
USRK	comp=Z,53nm,18.2s,baz=0.0,slow=42 **Ussuriysk Ar.**	**15.17**	**269**	P	**Pn**	**13 59 42.2**	**+1.1**
USRK	comp=Z,0.4nm,0.3s,baz=60,slow=12,SNR=4.8			LR	LR	14 05 25.2	
SEY	comp=Z,117nm,19.0s,baz=64,slow=37 **Seymchan**	**16.43**	**358**	P	**Pn**	**13 59 57.0**	**-0.2**
SEY	comp=Z,0.1nm,0.3s,baz=210,slow=20,SNR=7.8 **Seymchan**	**16.43**	**358**	P	**Pn**	**13 59 57.0**	**-0.2**
MDJ	**Mudanjiang**	**16.71**	**272**	*e*P	**P**	**14 00 03.0**	**-0.1**
YAK	comp=Z,9.7nm,0.8s **Yakutsk**	**20.57**	**327**	*e*P	Pn	14 00 53.0	+5.5
YAK				pmax	pmax		
YAK	comp=Z,16nm,0.9s			pmax	pmax		
KSRS	comp=N,4.0nm,1.1s **Korea Array**	**20.87**	**253**	P	**P**	**14 00 49.2**	**+0.4**
KSRS	comp=N,4.3nm,0.7s,baz=57,slow=10,SNR=21			LR	LR	14 07 39.4	
KSRS	comp=N,52nm,22.0s,baz=56,slow=33 **Korea Array**	**20.87**	**253**	*e*P	**P**	**14 00 50.2**	**+1.4**
KSAR	**Wonju Array Be**	**20.91**	**253**	P	**P**	**14 00 49.2**	**+0.1**
KSAR	**Wonju Array Be**	**20.91**	**253**	P	**P**	**14 00 49.2**	**+0.1**
JNU	**Nakatsue**	**21.74**	**240**	P	**P**	**14 00 58.4**	**+0.2**
	comp=N,4.4nm,0.9s,baz=58,slow=3.7,SNR=4.9						
BILL	**Biibino**	**22.55**	**13**	*e*P	**P**	**14 01 07.8**	**+1.2**
BILL				*i*		14 01 29.3	
BILL				pmax	pmax		
BILL	comp=Z,5.0nm,1.0s			MLR	MLR		
H11N2	comp=Z,94nm,15.0s **WAKE ISLAND Hy**	**28.98**	**153**	T	T	14 33 43.4	
H11N1	baz=340,slow=76,SNR=4.7 **WAKE ISLAND Hy**	**28.99**	**153**	T	T	14 33 50.2	
H11N3	baz=340,slow=76,SNR=8.4 **WAKE ISLAND Hy**	**28.99**	**153**	T	T	14 33 55.5	
H11S1	baz=340,slow=76,SNR=7.2 **WAKE ISLAND Hy**	**30.07**	**154**	T	T	14 35 13.4	
H11S3	baz=341,slow=76,SNR=6.5 **WAKE ISLAND Hy**	**30.07**	**154**	T	T	14 35 20.3	
H11S2	baz=341,slow=76,SNR=7.0 **WAKE ISLAND Hy**	**30.09**	**154**	T	T	14 35 18.6	
ULN	baz=341,slow=76,SNR=6.9 **Ulaanbaatar**	**31.10**	**290**	⇑*i* P	**P**	**14 02 23.0**	**-2.0**
ULN				pmax	pmax		
SONM	comp=Z,3.0nm,0.9s **Songino Array**	**31.53**	**290**	P	**P**	**14 02 27.8**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=68,slow=8.0,SNR=3.0						
XAN	**Xi'an**	**35.64**	**266**	P	**P**	**14 03 05.0**	**+0.4**
XAN				pP	pP	14 03 09.5	-2.3
XAN				pmax	pmax		
ILAR	comp=Z,4.0nm,0.7s **Eielson Array**	**36.62**	**38**	P	**P**	**

KURK	Kurchatov	47.59	304	eP	P	14 04 41.2 -0.9
KURK	Kurchatov	47.59	304	P	P	14 04 41.7 -0.4
KURBB	Kurchatov Arra	47.68	304	P	P	14 04 41.7 -1.1
	comp=Z,5.1nm,0.7s,baz=68,slow=8.5,SNR=23					
LSA	Lhasa	50.42	273	eP	P	14 05 05.7 +1.0
LSA				pmax	pmax	
	comp=Z,8.0nm,0.7s					
LSA	Lhasa	50.42	273	eP	P	14 05 05.7 +1.0
	comp=Z,7.9nm,0.7s					
BRVK	Borovoye	51.13	310	⇓iP	P	14 05 08.5 -0.6
BRVK				pmax	pmax	
	comp=Z,12nm,0.9s					
BRVK	Borovoye	51.13	310	eP	P	14 05 08.5 -0.6
CMAR	Chiang Mai Arr	52.46	257	P	P	14 05 20.5 +1.0
	comp=Z,3.2nm,0.8s,baz=36,slow=7.3,SNR=27					
AAK	Ala-Archa	54.05	297	⇓iP	P	14 05 31.4 +0.3
AAK				pmax	pmax	
	comp=Z,9.0nm,0.8s					
AAK	Ala-Archa	54.05	297	eP	P	14 05 31.4 +0.3
AAK	Ala-Archa	54.05	297	eP	P	14 05 30.6 -0.5
	comp=Z,4.1nm,0.8s					
TAPN	Taplejung	54.25	274	eP	P	14 05 33.5 +0.6
	comp=Z,14nm,0.6s					
ODAN	Odare	54.78	273	eP	P	14 05 37.5 +0.8
KSH	Kashi	54.86	293	eP	P	14 05 37.1 +0.1
KSH				pmax	pmax	
	comp=Z,4.0nm,0.6s					
KSH				pmax	pmax	
	comp=Z,92nm,6.0s					
JIRN	Jiri	55.10	275	eP	P	14 05 40.1 +0.9
	comp=Z,232nm,0.6s					
GUN	Gumba	55.16	275	eP	P	14 05 40.3 +0.8
	comp=Z,8.6nm,0.3s					
ARU	Arti	55.25	318c	iP	P	14 05 37.6 -1.8
ARU				S	S	14 13 18.9 -2.4
ARU				SS	SS	14 16 56.0 -8.9
ARU				pmax	pmax	
	comp=Z,5.0nm,0.9s					
RAMN	Ramite	55.27	274	eP	P	14 05 40.9 +0.7
	comp=Z,35nm,0.5s					
KKN	Kakani	55.65	276	eP	P	14 05 44.3 +1.4
	comp=Z,22nm,0.6s					
PKIN	Phulchoki	55.70	275	eP	P	14 05 43.6 +0.3
	comp=Z,18nm,0.8s					
DMN	Daman	55.88	276	eP	P	14 05 45.7 +1.1
	comp=Z,17nm,0.5s					
GKN	Gorkha	55.95	276	eP	P	14 05 45.9 +0.9
	comp=Z,23nm,0.5s					
KKAR	Karatay Array	56.22	299	eP	P	14 05 45.4 -1.1
KKAR	Karatay Array	56.22	299	eP	P	14 05 45.4 -1.1
DANN	Dangsing	56.34	277	eP	P	14 05 49.0 +1.1
	comp=Z,1.8nm,0.7s					
KOLN	Koldanda	56.81	277	eP	P	14 05 52.2 +1.0
	comp=Z,17nm,0.7s					
PYUN	Piuthan	57.02	277	eP	P	14 05 53.6 +0.9
	comp=Z,8.3nm,0.4s					
ARCES	ARCESS Array B	58.09	341	P	P	14 05 58.9 -0.5
	comp=Z,2.2nm,0.8s,baz=49,slow=8.5,SNR=3.3					
ABKAR	Akbulak array	58.66	310	eP	P	14 06 02.6 -1.0
	comp=Z,5.6nm,0.7s					
KLMR	Klimovskoe	60.35	329	eP	P	14 06 09.5 -5.6
KLMR				e		14 06 56.8
KLMR				pmax	pmax	
	comp=Z,11nm,1.4s					
FINES	FINESS Array B	64.28	335	P	P	14 06 40.7 -0.6
	comp=Z,4.2nm,0.4s,baz=32,slow=6.9,SNR=39					
FINES				LR	LR	14 36 29.3
	comp=Z,56nm,18.1s,baz=341,slow=38					
PDAR	Pinedale Array	64.75	54	P	P	14 06 45.5 +0.4
	comp=Z,0.3nm,0.6s,baz=270,slow=1.8,SNR=3.0					
GEYT	Alibeck	66.83	301	P	P	14 06 58.9 +0.6
	comp=Z,3.0nm,0.5s,baz=43,slow=5.0,SNR=5.8					
NB2	NORSAR Subarra	68.46	341	P	P	14 07 07.7 -0.5
	comp=Z,2.8nm,0.7s,baz=28,slow=6.5					
NOA	NORSAR Array B	68.46	341	P	P	14 07 08.0 -0.2
	comp=Z,3.9nm,0.7s,baz=28,slow=6.3,SNR=12					
NOA				LR	LR	14 39 45.1
	comp=Z,24nm,18.4s,baz=315,slow=38					
NEY	Neytrino	71.54	314	⇑iP	P	14 07 25.1 -2.5
NEY				pmax	pmax	
	comp=Z,1.0nm,1.2s					
AKASG	Malin Array Be	71.79	326	P	P	14 07 28.0 -0.7
	comp=Z,6.4nm,0.6s,baz=34,slow=6.3,SNR=20					
AKASG	Malin Array Be	71.79	326	eP	P	14 07 27.9 -0.7
AKASG				pmax	pmax	
	comp=Z,5.0nm,0.5s					
KIEV	Kiev	71.80	326	⇓iP	P	14 07 28.3 -0.4
KIEV				pmax	pmax	
	comp=Z,9.0nm,0.9s					
KIEV	Kiev	71.80	326	eP	P	14 07 28.3 -0.4
STHS	Stebnicka Huta	75.76	330	eP	P	14 07 53.1 +1.1
STHS				pmax	pmax	
	comp=Z,3.0nm,0.6s					
STHS	Stebnicka Huta	75.76	330	eP	P	14 07 53.1 +1.1
BURAR	Bucovina Array	75.83	327	⇓iP	P	14 07 52.4 -0.2
CRVS	Cervenica-Dubn	76.12	330	eP	P	14 07 54.1 0.0
CRVS	Cervenica-Dubn	76.12	330	eP	P	14 07 54.1 0.0
DPC	Dobruska-Polom	76.56	333	eP	P	14 07 57.5 +0.9
DPC	Dobruska-Polom	76.56	333	eP	P	14 07 57.5 +0.9
EKA	Eskdalemuir Ar	76.56	346	P	P	14 07 57.6 +1.2
	comp=Z,1.9nm,0.9s,baz=34,slow=6.1,SNR=3.5					
LANS	Liptovska Anna	76.59	331	eP	P	14 07 57.6 +0.8
LANS	Liptovska Anna	76.59	331	eP	P	14 07 57.6 +0.8
CLL	Collm	76.70	336	iP	P	14 07 56.8 -0.5
CLL				pmax	pmax	
	comp=Z,8.0nm,0.9s					
CLL	Collm	76.70	336	iP	P	14 07 56.8 -0.5
	comp=Z,8.0nm,0.9s					
MLR	Muntele Rosu	77.31	325	⇑iP	P	14 08 01.8 +0.8
VYHS	Vyhne	77.37	331	eP	P	14 08 01.2 +0.1
VYHS	Vyhne	77.37	331	eP	P	14 08 01.2 +0.1
PRU	Pruhonice	77.43	334	eP	P	14 08 02.3 +0.9
PRU	Pruhonice	77.43	334	eP	P	14 08 02.3 +0.9
DRGR		77.46	328	⇑iP	P	14 08 01.9 +0.2
TXAR	Lajitas Array	77.47	61	P	P	14 08 02.0 -0.1
	comp=Z,0.9nm,0.6s,baz=305,slow=4.4,SNR=14					
TXAR	Lajitas Array	77.47	61	P	P	14 08 02.0 -0.1
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
VOIR		77.70	326	⇓iP	P	14 08 04.2 +1.0
ARR	Arges	77.92	326	⇓iP	P	14 08 06.5 +2.1
SADO	Sadowa	77.97	35	LR	LR	14 45 13.4
	comp=Z,26nm,18.6s,baz=60,slow=38					
KHC	Kasperske Hory	78.48	334	eP	P	14 08 08.2 +0.9
KHC				ePCP	pP	14 08 14.2 -0.9
KHC	Kasperske Hory	78.48	334	eP	P	14 08 08.2 +0.9
KHC				e		14 08 14.2
KHC	Kasperske Hory	78.48	334	eP	P	14 08 07.6 +0.3
	comp=Z,1.8nm,0.8s					
BRTR	Keskin Array B	78.63	317	P	P	14 08 06.2 -2.3
	comp=Z,1.6nm,1.0s,baz=51,slow=6.5,SNR=4.0					
BRTR	Keskin Array B	78.63	317	eP	P	14 08 09.1 +0.6
BRTR				pmax	pmax	
	comp=Z,2.0nm,1.0s					
GERES	GERESS Array B	78.70	334	P	P	14 08 06.9 -1.7
	comp=Z,1.5nm,0.7s,baz=4.6,slow=6.7,SNR=6.8					
GERES				LR	LR	14 44 60.0
	comp=Z,37nm,18.4s,baz=292,slow=37					
GERES	GERESS Array B	78.70	334	eP	P	14 08 09.5 +0.9
GERES				pmax	pmax	
	comp=Z,1.0nm,0.7s					
GERES	GERESS Array B	78.70	334	eP	P	14 08 09.5 +0.9
BZS	Buzias	78.86	328	⇓iP	P	14 08 09.9 +0.5
VTS	Vitosha	80.81	325	⇑iP	P	14 08 20.9 +0.6
PLCA	Paso Flores	148.05	96	PKPbc	PKPbc	14 15 53.1 +1.5
	comp=Z,1.7nm,0.9s,baz=310,slow=8.4,SNR=3.1					

NIED ***12*** *13:57:00,37.40N×142.70E,h8km,Mw3.9 Best double couple: M07.62000×10^14 NP1:φs220.00000°,δ35.00000°, λ-113.00000°. NP2:φs68.00000°,δ59.00000°, λ-75.00000°.*
ISCJB ***12*** *13:57:02.0±1.5,37.30N±0.04×142.67E±0.05, h17km±11km,mb4.0/10,Error ellipse: s-maj=6.9km s-min=6.5km az=33.6*
JMA ***12*** *13:57:01.6±0.3,37.38N×142.67E,h14km,M4.1*
IDC ***12*** *13:57:01.5±0.8,37.33N×142.62E,h0km,mb4.0/9, mb1 4.2/13,mb1mx3.9/55,mbtmp4.0/13,ML3.0/4,Error ellipse: s-maj=20.2km s-min=16.3km az=113.0*
NEIC ***12*** *13:57:05.4±3.7,37.31N×142.57E,h26km±27km,mb4.3/1, Error ellipse: s-maj=14.3km s-min=9.1km az=106.0*
ISC 12 13:57:01.5±2.7,37.36N±0.05×142.61E±0.06,h1km±16km, n39,σ1.9°30/42,mb4.1/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.38	271	P	Pb	13 57 27.6	-0.6
JFK				eS	Sg	13 57 46.1	+0.2
ONAJ	Iwakimizuishiy	1.47	260	P	Pb	13 57 29.0	-0.6
ONAJ				S	Sb	13 57 47.9	-0.9
JIO	Ouri	1.48	318	P	Pn	13 57 27.7	-1.5
JIO				eS	Sn	13 57 48.3	-0.9
JMM	Marumori	1.53	290	P	Pn	13 57 28.3	-1.6
JMM				S	Sn	13 57 49.6	-0.8
JFT	Otama	1.82	276	P	Pn	13 57 33.5	-0.4
JFT				eS	Sn	13 57 57.2	-0.4
JOU	Okura	1.84	304	P	Pb	13 57 34.7	-1.2
JOU				S	Sb	13 57 59.0	-0.4
JMK	Ichinoseki	1.93	326	P	Pn	13 57 35.4	0.0
JYS	Shirataka	2.19	294	P	Pb	13 57 40.1	-1.8
JYS				S	Sn	13 58 06.0	-0.8
JOM	Ohasama	2.35	334	P	Pn	13 57 41.2	0.0
JYK	Kaneyama	2.36	312	P	Pn	13 57 42.0	+0.7
JAG	Ashikaga	2.70	251	P	Pn	13 57 46.7	+0.7
MJAR	Matsushiro Arr	3.62	258	Pn	Pn	13 58 00.4	+1.7
	3.1nm,0.3s,baz=91,slow=13,SNR=14						
MAJO	Matsushiro	3.62	258	ePn	Pn	13 57 57.5	-1.2
MAT	Matsushiro	3.62	258	P	Pn	13 58 01.7	+3.0
MAT				eS	Sn	13 58 44.0	+1.9
JHJ2	Mitsune	4.82	209	ePn	Pn	13 58 14.8	-0.3
JHJ	Hachijo jima 2	4.83	209	Pn	Pn	13 58 14.2	-1.0
	4.6nm,0.3s,baz=58,slow=21,SNR=11						
JHJ				Sn	Sn	13 59 08.2	-3.6
	14nm,0.3s,baz=253,slow=19,SNR=4.2						
USRK	Ussuriysk Ar.	10.55	314	Pn	Pn	13 59 35.3	+1.5
	0.2nm,0.3s,baz=112,slow=16,SNR=2.9						
KSRS	Korea Array	11.68	275	Pn	Pn	13 59 51.9	+2.6
	0.1nm,0.3s,baz=93,slow=14,SNR=3.7						
KSAR	Wonju Array Be	11.71	275	Pn	Pn	13 59 51.9	+2.2
PETK	Petropavlovsk-	18.93	29	P	Pn	14 01 25.4	+1.2
	baz=184,slow=9.8,SNR=3.9						
SEY	Seymchan	26.29	10	P	P	14 02 38.8	+0.6
	3.4nm,0.7s,baz=182,slow=7.5,SNR=8.2						
H11N2	WAKE ISLAND Hy	27.51	123	T	T	14 31 33.1	
	baz=315,slow=75,SNR=486						
H11N1	WAKE ISLAND Hy	27.52	123	T	T	14 31 35.0	
	baz=315,slow=75,SNR=222						
H11N3	WAKE ISLAND Hy	27.53	123	T	T	14 31 36.7	
	baz=315,slow=75,SNR=312						
H11S1	WAKE ISLAND Hy	28.25	125	T	T	14 32 30.6	
	baz=317,slow=76,SNR=256						
H11S3	WAKE ISLAND Hy	28.25	125	T	T	14 32 29.3	
	baz=317,slow=76,SNR=290						
H11S2	WAKE ISLAND Hy	28.27	125	T	T	14 32 28.3	
	baz=317,slow=76,SNR=228						
SONM	Songino Array	28.40	303	P	P	14 02 57.7	+0.2
	3.5nm,0.8s,baz=114,slow=10,SNR=6.8						
ZALV	Zalesovo Beam	42.40	312	P	P	14 04 57.5	+0.2
	1.7nm,0.7s,baz=107,slow=7.9,SNR=5.3						
KURK	Kurchatov	46.48	308	P	P	14 05 29.5	-0.5
KURBB	Kurchatov Arra	46.55	308	P	P	14 05 29.5	-1.0
	2.7nm,0.6s,baz=82,slow=7.9,SNR=8.5						
ILAR	Eielson Array	48.70	33	P	P	14 05 46.6	-0.5
	1.1nm,0.8s,baz=258,slow=5.9,SNR=8.5						
WRAB	Tennant Creek	57.52	189	eP	P	14 06 52.3	-0.2
	2.4nm,0.7s						
WRA	Warramunga Arr	57.53	189	P	P	14 06 52.1	-0.5
	1.5nm,0.8s,baz=9.2,slow=7.3,SNR=14						
ASAR	Alice Springs	61.25	189	P	P	14 07 18.5	+0.2
	0.9nm,0.8s,baz=12,slow=8.3,SNR=12						
MBWA	Marble Bar	62.07	204	eP	P	14 07 24.0	+0.2
PDAR	Pinedale Array	76.75	46	P	P	14 08 55.7	+0.8
	0.4nm,0.2s,baz=285,slow=10,SNR=4.2						
TXAR	Lajitas Array	89.16	53	P	P	14 09 59.5	+0.3
	0.4nm,0.6s,baz=299,slow=3.7,SNR=4.0						
LPAZ	La Paz	145.70	61	PKPbc	PKPab	14 16 43.0	-0.6
	0.8nm,0.3s,baz=292,slow=6.9,SNR=3.6						

GUC 12 14:01:23.7±0.5,20.50S×69.32W,h84km±2km,ML3.5, 4C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.39	23	⇓iP	Pn	14 01 37.8	+0.3
PB08				i S	Sn	14 01 48.7	+1.0
PB01	IPOC Station P	0.56	196	⇓iP	Pn	14 01 39.1	+0.5
PB01				eS	Sn	14 01 50.5	+0.9
PB01				IAML		14 01 52.6	
	comp=E,2μm,0.2s						
HMBC	Humberstone	0.58	292	⇑iP	Pn	14 01 39.2	+0.5
HMBC				i S	Sn	14 01 50.8	+0.9
HMBC				IAML		14 01 51.6	
	comp=E,2μm,0.4s						
PB11	IPOC Station P	0.80	336	⇓iP	Pn	14 01 41.4	+0.5
PB11				i S	Sn	14 01 54.8	+1.0
PSGC	Pisagua	1.17	320	⇑iP	Pn	14 01 45.4	+0.2
PSGC				i S	Sn	14 02 02.1	+0.8
PB09	IPOC Station P	1.29	177	⇑iP	Pn	14 01 47.6	+0.8
PB09				i S	Sn	14 02 05.4	+1.3
PB09				IAML		14 02 08.1	
	comp=E,2μm,0.3s						
PB07	IPOC Station P	1.33	203	⇑iP	Pn	14 01 47.8	+0.5
PB07				i S	Sn	14 02 06.0	+1.0
MNMC	Minye Minye	1.39	349	eP	Pn	14 01 48.7	+0.6
MNMC				i S	Sn	14 02 07.4	+1.1
MNMC				IAML		14 02 14.2	
	comp=N,1μm,0.3s						
PB04	IPOC Station P	1.98	203	eP	Pn	14 01 56.7	+1.0
PB04				i S	Sn	14 02 21.5	+1.4
PB06	IPOC Station P	2.21	186	eP	Pn	14 01 59.3	+0.6

IDC ***12*** *14:01:27.4±1.1,34.36N×26.13E,h0km,mb4.2/9, mb1 4.1/14,mb1mx3.8/45,mbtmp4.0/14,ML3.9/5,Error ellipse: s-maj=22.6km s-min=17.1km az=177.0*
ISCJB ***12*** *14:01:29.2±0.3,34.21N±0.03×26.43E±0.03,h25km, mb4.0/9,Error ellipse: s-maj=5.0km s-min=2.6km az=36.2*
ATH ***12*** *14:01:30.9,34.27N×26.18E,h23km±3km,ML3.2/3,Error ellipse: s-maj=4.9km s-min=1.6km az=355.0*
HLW ***12*** *14:01:30.1,34.29N×26.29E,h40km±24km,Md2.7,Ml3.0*
CSEM ***12*** *14:01:32.2±0.2,34.24N×26.32E,h40km,ML3.2,Error ellipse: s-maj=9.6km s-min=3.5km az=37.0*
GII ***12*** *14:01:38.1±0.0,33.88N×26.76E,h23km,MD3.2/2*
ISC 12 14:01:29.7±0.6,34.19N±0.04×26.31E±0.03,h25km,n87, σ1.8°80/108,mb4.1/9,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.92	355	P	Pn	14 01 47.2	+0.1
ZKR				S	Sb	14 01 58.2	-0.8
ZKR				AML	AML	14 02 01.4	
	comp=N,2086μm,0.3s						
ZKR				AML	AML	14 02 07.0	
	comp=E,4512μm,0.3s						
ZKR	Zakros	0.92	355	P	Pn	14 01 47.2	+0.1
ZKR				S	Sb	14 01 58.2	-0.8
LAST	Lasithi	1.18	325	P	Pn	14 01 50.7	-0.1
LAST				S	Sn	14 02 06.0	-0.1
LAST				AML	AML	14 02 12.2	
	comp=E,2706μm,0.6s						
LAST				AML	AML	14 02 14.3	
	comp=N,2461μm,0.7s						
LAST	Lasithi	1.18	325	P	Pn	14 01 50.7	-0.1
LAST				S	Sn	14 02 06.0	-0.1
NPS	Neapolis	1.21	332	P	Pb	14 01 52.1	+0.2
NPS				S	Sb	14 02 07.7	+0.5
NPS				AML	AML	14 02 14.2	
	comp=E,1453μm,0.6s						
NPS				AML	AML	14 02 21.9	
	comp=N,1876μm,1.2s						
NPS	Neapolis	1.21	332	P	Pb	14 01 52.2	+0.2
NPS				S	Sb	14 02 07.7	+0.5
SIVA	Sivas	1.48	304	P	Pb	14 01 57.2	+0.6
SIVA	Sivas	1.48	304	P	Pb	14 01 57.2	+0.6
KARP	Karpathos	1.52	27	P	Pb	14 01 59.1	+1.8
KARP	Karpathos	1.52	27	P	Pb	14 01 59.1	+1.8
IDI	Anoyia	1.60	314	Pn	Pb	14 01 58.2	-0.4
	comp=N,14nm,0.3s,baz=177,slow=17,SNR=83						
IDI				Sn	Sb	14 02 18.4	-0.1
	comp=N,17nm,0.3s,baz=193,slow=23,SNR=7.3						
IDI	Anoyia	1.60	314	P	Pb	14 01 58.4	-0.2
IDI	Anoyia	1.60	314	P	Pb	14 01 58.4	-0.2
GVD	Gavdhos	1.94	290	P	Pn	14 02 02.7	+1.6
GVD	Gavdhos	1.94	290	P	Pn	14 02 02.7	+1.6
VAM	Vamos	2.12	306	P	Pn	14 02 04.4	+0.9
VAM	Vamos	2.12	306	P	Pn	14 02 04.4	+0.9
IMMV	Iera Moni Meta	2.29	304	P	Pn	14 02 07.7	+1.7
IMMV	Iera Moni Meta	2.29	304	P	Pn	14 02 07.7	+1.7
ARG	Arkhangelos	2.51	36	P	Pb	14 02 13.0	-1.1
SLUM	Salum	2.85	199	P	Pn	14 02 15.2	+1.7
	baz=199						
SLUM				AMP		14 02 00.0	
	comp=N,80μm,0.3s,logA/T=5.4,baz=199						
SLUM				S	Sn	14 02 48.3	+1.3
	baz=199						
MHLO	Agia Marina, M	2.94	329	P	Pn	14 02 13.6	-1.2
MHLO	Agia Marina, M	2.94	329	P	Pn	14 02 13.6	-1.2
ANKY	Antikythira Is	2.98	305	P	Pn	14 02 18.5	+3.1
ANKY	Antikythira Is	2.98	305	P	Pn	14 02 18.5	+3.1
KYTH	Kithira	3.38	309	P	Pn	14 02 21.6	+0.7
SWA2		4.99	189	P	Pn	14 02 44.7	+1.7
	baz=189						
AKMC	Akamas	5.04	79	P	Pn	14 02 46.9	+3.2
ALFC	Alefka	5.27	78	P	Pn	14 02 50.2	+3.3
SZAC	Souni	5.46	82	P	Pn	14 02 51.7	+2.2
CSS	Mathiatis	5.84	80	P	Pn	14 02 58.6	+3.8
KOT	Kottamia	6.33	131	P	Pn	14 03 03.1	+1.6
	baz=131						
KOT	Kottamia	6.33	131	P	Pn	14 03 03.1	+1.6
HHAG	Hagoal	6.48	129	P	Pn	14 03 05.7	+2.1
	baz=129						
HHAG	Hagoal	6.48	129	P	Pn	14 03 05.7	+2.1
GLL	Jalalah	6.50	134	P	Pn	14 03 05.3	+1.5
	baz=134						
GLL	Jalalah	6.50	134	P	Pn	14 03 05.3	+1.5
NBNS	Bani Suef	7.00	141	P	Pn	14 03 12.5	+1.9
	baz=141						
NBNS	Bani Suef	7.00	141	P	Pn	14 03 12.5	+1.9
RSH		7.04	115	P	Pn	14 03 12.7	+1.5
	baz=115						
RSH		7.04	115	P	Pn	14 03 12.7	+1.5
HFRF	Wahat Farafira	7.23	166	P	Pn	14 03 15.9	+2.1
	baz=165						
HFRF	Wahat Farafira	7.23	166	P	Pn	14 03 15.9	+2.1
HNTI	Hanita	7.48	96	Sn	Sn	14 04 40.7	-0.5
HNTI	Hanita	7.48	96	Sn	Sn	14 04 40.7	-0.5
SLTI	Sal'it	7.57	102	Pn	Pn	14 03 20.0	+1.5
SLTI				Sn	Sn	14 04 42.3	-1.2
SLTI	Sal'it	7.57	102	Pn	Pn	14 03 20.0	+1.5
SLTI				Sn	Sn	14 04 42.3	-1.2
MMA0B	Mount Meron ar	7.68	96	Pn	Pn	14 03 21.6	+1.6
MMA0B	Mount Meron ar	7.68	96	Pn	Pn	14 03 21.6	+1.6
MMAI	Mount Meron Ar	7.68	96	Pn	Pn	14 03 22.2	+2.1
	comp=N,2.7nm,0.3s,baz=276,slow=12,SNR=11						
MMAI				Sn	Sn	14 04 45.5	-0.7
	comp=N,4.1nm,0.3s,baz=301,slow=20,SNR=4.7						
HNKL	Nakhl	7.78	121	P	Pn	14 03 22.9	+1.6
	baz=121						
HNKL	Nakhl	7.78	121	P	Pn	14 03 22.9	+1.6
MMLI	Mount Malkishu	7.83	100	Pn	Pn	14 03 23.8	+1.8
MMLI				Sn	Sn	14 04 47.3	-2.6
MMLI	Mount Malkishu	7.83	100	Pn	Pn	14 03 23.8	+1.8
KSDI	Kefar Szold	7.86	95	Sn	Sn	14 04 48.7	-1.8
HMDT	Nahal Hemdat	7.96	102	Pn	Pn	14 03 25.7	+1.8
HMDT				Sn	Sn	14 04 51.9	-1.2
HMDT	Nahal Hemdat	7.96	102	Pn	Pn	14 03 25.7	+1.8
HMDT				Sn	Sn	14 04 51.9	-1.2
DSI	Dead Sea	8.07	106	Pn	Pn	14 03 27.0	+1.7
DSI				Sn	Sn	14 04 53.9	-1.8
DSI	Dead Sea	8.07	106	Pn	Pn	14 03 27.0	+1.7
GRB	Gharib	8.10	135	P	Pn	14 03 27.4	+1.6
	baz=135						
GRB	Gharib	8.10	135	P	Pn	14 03 27.4	+1.6
MZDA	Masada	8.15	108	Pn	Pn	14 03 28.3	+1.9
MZDA				Sn	Sn	14 04 55.8	-1.9
MZDA	Masada	8.15	108	Pn	Pn	14 03 28.3	+1.9
PRNI	Paran	8.30	115	Pn	Pn	14 03 30.8	+2.3
PRNI				Sn	Sn	14 04 58.0	-3.5
PRNI	Paran	8.30	115	Pn	Pn	14 03 30.8	+2.3
ZFRI	Zfri	8.33	113	Sn	Sn	14 04 59.8	-2.4
HRFI	Mount Harif	8.48	117	Pn	Pn	14 03 33.1	+2.1
HRFI				Sn	Sn	14 05 03.3	-2.7
HRFI	Mount Harif	8.48	117	Pn	Pn	14 03 33.1	+2.1
MBRI	Mt Berech	8.52	119	Pn	Pn	14 03 33.8	+2.2
MBRI				Sn	Sn	14 05 03.5	-3.5
MBRI	Mt Berech	8.52	119	Pn	Pn	14 03 33.8	+2.2
EIL	Elat	8.62	119	Pn	Pn	14 03 34.6	+1.8
	comp=N,0.7nm,0.3s,baz=230,slow=3.7,SNR=11						
EIL				Sn	Sn	14 05 05.6	-3.6
	comp=N,1.3nm,0.3s,baz=292,slow=19,SNR=4.6						
EIL	Elat	8.62	119	Pn	Pn	14 03 34.2	+1.3
EIL				Sn	Sn	14 05 05.8	-3.5
EIL	Elat	8.62	119	Pn	Pn	14 03 34.2	+1.3
STON	Ston	10.97	325	ePn	Pn	14 04 02.0	-3.0
STON				Sn	Sn	14 05 56.1	-11
KEST	Kesra	14.00	281	Pn	Pn	14 04 45.5	-1.0
	comp=N,0.2nm,0.3s,baz=86,slow=15,SNR=2.1						
AKASG	Malin Array Be	16.64	6	Pn	Pn	14 05 20.9	-0.1
	comp=N,1.9nm,0.3s,baz=194,slow=11,SNR=6.4						
GERES	GERESS Array B	17.38	331	P	Pn	14 05 29.9	-0.6
	comp=N,0.2nm,0.3s,baz=138,slow=11,SNR=3.2						
ESDC	Sonseca Array	24.74	292	P	P	14 06 49.5	+0.3
	comp=N,1.5nm,0.6s,baz=80,slow=9.0,SNR=15						
HFS	Hagfors	27.23	346	P	P	14 07 09.4	-2.0
	comp=N,9.2nm,0.7s,baz=42,slow=6.7,SNR=24						
HFS	Hagfors	27.23	346	P	P	14 07 09.1	-2.3
	comp=N,8.5nm,0.7s,baz=152,slow=6.5,SNR=24						
FINES	FINESS Array B	27.27	360	P	P	14 07 10.8	-0.9
	comp=N,3.0nm,0.9s,baz=171,slow=11,SNR=5.5					

*ISCJB **12** 14:25:16.6±0.8, 52°.9N±0°.2×35°.1W±0°.1, h13km, mb3.6/8, MS3.0/1, Error ellipse: s-maj=26.3km s-min=14.0km az=7.0*
*IDC **12** 14:25:16.2±0.9, 52°.87N×35°.13W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.5/48, mbtmp3.6/9, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/44, Error ellipse: s-maj=33.6km s-min=18.1km az=13.0*
ISC 12 14:25:18.3±0.8, 52°.9N±0°.2×35°.1W±0°.1, h13km, n12, σ0°72/13, mb3.7/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**18.82**	**70**	P	**P**	**14 29 36.9**	**-0.5**
	baz=287,slow=9.5,SNR=5.0						
FRB	**Frobisher Bay**	**20.38**	**315**	LR	LR	14 35 22.6	
	comp=Z,75nm,21.9s,baz=110,slow=30						
ESDC	**Sonseca Array**	**25.04**	**109**	P	**P**	**14 30 41.6**	**-0.4**
	2.0nm,0.8s,baz=311,slow=8.3,SNR=16						
NOA	**NORSAR Array B**	**26.04**	**53**	P	**P**	**14 30 51.2**	**+0.3**
	1.2nm,0.8s,baz=278,slow=9.4,SNR=2.7						
BRTR	**Keskin Array B**	**47.50**	**77**	P	**P**	**14 33 54.5**	**+1.5**
	1.0nm,0.9s,baz=286,slow=5.6,SNR=3.8						
PDAR	**Pinedale Array**	**48.85**	**290**	P	**P**	**14 34 03.0**	**-0.5**
	0.4nm,0.5s,baz=61,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**49.28**	**130**	P	**P**	**14 34 06.4**	**-0.3**
	0.5nm,0.7s,baz=322,slow=6.9,SNR=2.7						
ILAR	**Eielson Array**	**51.51**	**329**	P	**P**	**14 34 23.2**	**+0.2**
	0.8nm,1.0s,baz=42,slow=5.3,SNR=6.9						
ILAR				PcP	**PcP**	**14 35 36.4**	**-0.5**
	0.5nm,0.9s,baz=53,slow=3.5,SNR=3.7						
TXAR	**Lajitas Array**	**54.46**	**273**	P	**P**	**14 34 46.2**	**+0.9**
	0.2nm,0.8s,baz=27,slow=10,SNR=3.0						
TXAR				PcP	**PcP**	**14 35 48.8**	**0.0**
	0.4nm,0.8s,baz=54,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**67.28**	**41**	P	**P**	**14 36 11.8**	**-0.5**
	0.4nm,0.8s,baz=335,slow=6.0,SNR=2.4						
WRA	**Warramunga Arr**	**146.12**	**18**	PKPbc	**PKPbc**	**14 44 57.6**	**-0.4**
	1.1nm,0.8s,baz=342,slow=3.2,SNR=8.2						
ASAR	**Alice Springs**	**149.66**	**20**	PKPbc	**PKPbc**	**14 45 06.8**	**-0.7**
	1.0nm,0.7s,baz=351,slow=2.1,SNR=16						

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*NIED **12** 14:30:00, 42°.30N×143°.00E, h53km, Mw3.7 Best double couple: M0=4.06000×10^14 NP1:φs=191.00000°, δ20.00000°, λ71.00000°. NP2:φs=32.00000°, δ72.00000°, λ97.00000°.*
*ISCJB **12** 14:30:43.7±0.7, 42°.22N±0°.06×143°.02E±0°.05, h65km±4km, mb3.7/7, Error ellipse: s-maj=10.1km s-min=6.0km az=164.5*
*SKHL **12** 14:30:45.7±0.4, 41°.78N×143°.66E, h35km, mb4.3/3*
*JMA **12** 14:30:45.4±0.1, 42°.30N×143°.02E, h50km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs=33.00000°, δ59.00000°, λ87.00000°. NP2:φs=219.00000°, δ31.00000°, λ95.00000°. Principal axes: T Plg76.0000°, Azm293.0000°; N Plg3.0000°, Azm34.0000°; P Plg14.0000°, Azm125.0000°;*
JMA Felt I J1.
*IDC **12** 14:30:49.8±2.3, 42°.57N×142°.89E, h92km±14km, mb3.5/7, mb1 3.6/9, mb1mx3.3/41, mbtmp3.7/9, MS2.9/2, Ms1 2.9/2, ms1mx2.4/37 Error ellipse: s-maj=29.2km s-min=17.4km az=116.0*
ISC 12 14:30:44.1±0.9, 42°.21N±0°.07×142°.99E±0°.04, h57km±7km, n30, σ1°47/31, mb3.9/7, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.19**	**291**	⇑P	**Pn**	**14 30 53.6**	**+0.4**
JNBK				eS	**Sn**	**14 31 00.3**	**+0.5**
JEM	**Erimo**	**0.23**	**148**	⇑P	**Pn**	**14 30 54.6**	**+1.2**
JCH	**Churui**	**0.49**	**34**	⇑P	**Pn**	**14 30 55.6**	**-0.1**
JCH				eS	**Sn**	**14 31 03.6**	**-0.5**
JBT2	**Biratori 2**	**0.73**	**321**	⇓P	**Pn**	**14 30 58.9**	**+0.3**
JOB	**Onbets**	**0.93**	**42**	⇑P	**Pn**	**14 31 01.7**	**+0.6**
JOB				eS	**Sn**	**14 31 14.3**	**+0.7**
JFR	**Furan**	**1.00**	**343**	P	**Pn**	**14 31 01.2**	**-0.8**
JAR	**Ashorobuto**	**1.23**	**27**	⇓P	**Pn**	**14 31 04.7**	**-0.3**
JAR				eS	**Sn**	**14 31 20.0**	**-0.7**
JEW	**Eniwo**	**1.30**	**299**	⇓P	**Pn**	**14 31 07.2**	**+1.1**
JEW				eS	**Sn**	**14 31 24.6**	**+2.1**
JAB	**Ashibetsu**	**1.41**	**337**	P	**Pn**	**14 31 08.5**	**+1.0**
JAB				eS	**Sn**	**14 31 27.7**	**+2.6**
ASAJ	**Asahikawa**	**1.93**	**351**	P	**Pn**	**14 31 15.6**	**+1.1**
	35nm,0.3s,baz=201,slow=16,SNR=147						
ASAJ				S	**Sn**	**14 31 36.8**	**-0.8**
	13nm,0.3s,baz=189,slow=18,SNR=7.3						
YUK	**Yuzh-Kuril'sk**	**2.78**	**48**	*i* P	**Pn**	**14 31 27.3**	**+1.2**
YUK				AMB	AMB	14 31 28.1	
	91nm,0.2s						
YUK				*i* S	**Sn**	**14 31 58.8**	**+0.3**
YUK				A	A	14 32 02.0	
	330nm,0.6s						
SHO	**Shikotan**	**3.26**	**58**	*e*P	**Pn**	**14 31 33.0**	**+0.2**
SHO				AMB	AMB	14 31 35.9	
	26nm,0.5s						
SHO				*i* S	**Sn**	**14 32 08.2**	**-2.1**
SHO				A	A	14 32 12.2	
	160nm,0.2s						
SHO				A	A	14 32 12.2	
	230nm,0.2s						
KUR	**Kuril'sk**	**4.65**	**48**	*e*P	**Pn**	**14 31 54.4**	**+2.7**
KUR				AMB	AMB	14 31 55.3	
	17nm,0.5s						
KUR				*e*S	**Sn**	**14 32 47.6**	**+3.3**
KUR				A	A	14 32 52.6	
	42nm,0.5s						
KUR				A	A	14 32 52.6	
	23nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.75**	**358**	*e*P	Sn	14 32 35.3	-11
MJAR	**Matsushiro Arr**	**6.77**	**215**	P	Pn	14 32 29.3	+8.5
	0.3nm,0.3s,baz=19,slow=12,SNR=4.1						
KSRS	**Korea Array**	**12.52**	**253**	P	**P**	**14 33 46.7**	**-2.5**
	0.2nm,0.3s,baz=64,slow=15,SNR=3.0						
KSRS				LR	LR	14 38 10.7	
	comp=Z,16nm,18.6s,baz=80,slow=35						
SEY	**Seymchan**	**21.48**	**12**	P	**P**	**14 35 25.4**	**-2.2**
	1.5nm,0.3s,baz=191,slow=19,SNR=12						
H11N2	**WAKE ISLAND Hy 30.18**	**131**		T	T	15 08 27.0	
	baz=324,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy 30.19**	**131**		T	T	15 08 24.9	
	baz=324,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy 30.20**	**131**		T	T	15 08 25.7	
	baz=324,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy 31.05**	**132**		T	T	15 09 25.2	
	baz=326,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy 31.06**	**132**		T	T	15 09 27.7	
	baz=326,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy 31.07**	**132**		T	T	15 09 26.5	
	baz=326,slow=76,SNR=65						
ZALV	**Zalesovo Beam**	**39.51**	**308**	P	**P**	**14 38 08.9**	**0.0**
	0.9nm,0.4s,baz=83,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**42.60**	**298**	P	**P**	**14 38 34.6**	**+0.2**
	0.7nm,0.6s,baz=85,slow=9.5,SNR=5.4						
ILAR	**Eielson Array**	**44.52**	**35**	P	**P**	**14 38 50.9**	**+1.4**
	0.3nm,0.7s,baz=258,slow=5.2,SNR=4.6						
AAK	**Ala-Archa**	**49.26**	**295**	LR	LR	15 01 20.4	
	comp=Z,32nm,18.6s,baz=149,slow=37						
ARCES	**ARCESS Array B**	**59.60**	**339**	P	**P**	**14 40 41.0**	**-0.4**
	3.6nm,1.0s,baz=50,slow=8.4,SNR=2.7						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**14 41 15.7**	**-0.7**
	1.2nm,0.4s,baz=57,slow=6.5,SNR=16						
TXAR	**Lajitas Array**	**86.03**	**53**	P	**P**	**14 43 19.5**	**+0.9**
	0.1nm,0.4s,baz=298,slow=2.7,SNR=3.5						

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*CSEM **12** 14:47:11.0±0.2, 37°.19N×22°.02E, h2km, ML1.5, Error ellipse: s-maj=5.4km s-min=4.5km az=95.0*
ATH 12 14:47:10.9, 37°.19N×22°.00E, h8km±2km, ML1.5/3, Error ellipse: s-maj=3.0km s-min=0.9km az=258.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.06**	**262**	P	Pg	14 47 12.8	0.0
ITM				S	Sg	14 47 14.0	0.0
ITM	**Ithomi**	**0.06**	**262**	P	Pg	14 47 12.8	+0.1
ITM				S	Sg	14 47 14.0	0.0
VLX	**Vlachokerasia**	**0.35**	**59**	P	Pg	14 47 17.9	+0.1
VLX				S	Sg	14 47 23.0	+0.5
VLX				AML	AML	14 47 23.2	
	comp=N,186μm,0.3s						
VLX				AML	AML	14 47 24.0	
	comp=E,253μm,0.3s						
VLX	**Vlachokerasia**	**0.35**	**59**	P	Pg	14 47 17.9	+0.1
VLX				S	Sg	14 47 23.0	+0.5
PYL	**PYLOS**	**0.36**	**216**	P	Pg	14 47 18.4	+0.5
PYL				S	Sg	14 47 22.6	-0.1
PYL				AML	AML	14 47 26.4	
	comp=E,141μm,0.3s						
PYL				AML	AML	14 47 27.3	
	comp=N,73μm,0.2s						
PYL	**PYLOS**	**0.36**	**216**	P	Pg	14 47 18.4	+0.5
PYL				S	Sg	14 47 22.6	-0.1
TRIP	**Tripoli**	**0.40**	**32**	P	Pg	14 47 18.7	0.0
TRIP	**Tripoli**	**0.40**	**32**	P	Pg	14 47 18.7	0.0
AMT	**Artemida-Makis**	**0.42**	**326**	P	Pg	14 47 18.7	-0.3
AMT				S	Sg	14 47 25.0	+0.5
AMT				AML	AML	14 47 26.7	
	comp=N,468μm,0.2s						
AMT				AML	AML	14 47 27.9	
	comp=E,364μm,0.4s						
AMT	**Artemida-Makis**	**0.42**	**326**	P	Pg	14 47 18.7	-0.3
AMT				S	Sg	14 47 25.0	+0.5
DRO	**Drossia**	**0.80**	**343**	P	Pg	14 47 26.7	+0.4
DRO	**Drossia**	**0.80**	**343**	P	Pb	14 47 26.7	-0.4
KLV	**Kalavryta, Ach**	**0.86**	**8**	P	Pg	14 47 26.6	-0.9
KLV	**Kalavryta, Ach**	**0.86**	**8**	P	Pg	14 47 26.6	-0.9
VLI	**Veliai**	**0.88**	**122**	P	Pg	14 47 27.4	-0.4
VLI	**Veliai**	**0.88**	**122**	P	Pg	14 47 27.4	-0.5

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*THE **12** 14:47:33.9, 39°.39N×21°.56E, h16km, ML2.3/5, Error ellipse: s-maj=0.8km s-min=0.3km az=280.0*
*CSEM **12** 14:47:33.9±0.2, 39°.38N×21°.61E, h15km, ML2.2, Error ellipse: s-maj=4.0km s-min=3.4km az=52.0*
ATH 12 14:47:33.8, 39°.37N×21°.58E, h20km±3km, ML2.2/6, Error ellipse: s-maj=3.5km s-min=0.8km az=133.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.39**	**59**	P	Pb	14 47 41.8	-0.1
THL				S	Sb	14 47 47.8	+0.4
THL	**Klokotos Trika**	**0.39**	**59**	P	Pb	14 47 41.7	-0.2
THL				S	Sb	14 47 48.5	+1.1
THL				AML	AML	14 47 49.4	
	comp=E,295μm,0.2s						
THL				AML	AML	14 47 50.0	
	comp=N,285μm,0.3s						
THL	**Klokotos Trika**	**0.39**	**59**	P	Pb	14 47 41.7	-0.2
THL				S	Sb	14 47 47.8	+0.4
DSL	**Palaion Diasel**	**0.44**	**238**	P	Pb	14 47 42.8	0.0
DSL				S	Sb	14 47 49.2	+0.2
DSL	**Palaion Diasel**	**0.44**	**238**	P	Pb	14 47 42.6	-0.3
DSL				S	Sb	14 47 49.2	+0.2
DSL				AML	AML	14 47 50.1	
	comp=E,631μm,0.6s						
DSL				AML	AML	14 47 51.5	
	comp=N,729μm,0.2s						
DSL	**Palaion Diasel**	**0.44**	**238**	P	Pb	14 47 42.6	-0.2
DSL				S	Sb	14 47 49.2	+0.2
EVR	**Evrytania**	**0.48**	**158**	P	Pb	14 47 43.6	0.0
EVR				S	Sb	14 47 51.5	+1.2
EVR	**Evrytania**	**0.48**	**158**	P	Pb	14 47 43.5	-0.1
EVR				S	Sb	14 47 50.3	0.0
EVR				AML	AML	14 47 52.6	
	comp=N,613μm,0.3s						
EVR				AML	AML	14 47 52.9	
	comp=E,618μm,0.2s						
EVR	**Evrytania**	**0.48**	**158**	P	Pb	14 47 43.5	-0.1
EVR				S	Sb	14 47 50.3	0.0
EVR	**Evrytania**	**0.48**	**158**	P	Pb	14 47 43.6	0.0
KPRO	**Kipourio**	**0.61**	**344**	P	Pb	14 47 45.1	-0.8
KPRO				S	Sb	14 47 54.2	0.0
KPRO	**Kipourio**	**0.61**	**344**	P	Pb	14 47 44.7	-1.2
KPRO				S	Sn	14 47 55.7	-1.0
KPRO				AML	AML	14 47 58.4	
	comp=N,585μm,0.2s						
KPRO				AML	AML	14 48 00.4	
	comp=E,438μm,0.4s						
KPRO	**Kipourio**	**0.61**	**344**	P	Pb	14 47 45.1	-0.8
KPRO				S	Sb	14 47 54.2	0.0
JAN	**Janina**	**0.64**	**297**	P	Pn	14 47 47.6	0.0
JAN	**Janina**	**0.64**	**297**	P	Pn	14 47 47.6	-0.1
AGG	**Agios Georgios**	**0.68**	**120**	P	Pb	14 47 47.5	+0.6
AGG				S	Sn	14 47 57.6	-0.6
AGG	**Agios Georgios**	**0.68**	**120**	P	Pn	14 47 48.0	-0.2
AGG				S	Sb	14 47 56.7	+0.8
AGG				AML	AML	14 47 59.7	
	comp=N,1680μm,0.3s						
AGG				AML	AML	14 47 60.0	
	comp=E,1540μm,0.2s						
AGG	**Agios Georgios**	**0.68**	**120**	P	Pb	14 47 47.5	+0.6
AGG				S	Sb	14 47 56.7	+0.8
PVO	**Paravola**	**0.75**	**183**	P	Pb	14 47 47.9	-0.2
PVO	**Paravola**	**0.75**	**183**	P	Pb	14 47 47.9	-0.2
PENT	**Pentalofos**	**0.90**	**338**	P	Pb	14 47 50.1	-0.6
PENT	**Pentalofos**	**0.90**	**338**	P	Pb	14 47 49.3	-1.4
PENT				S	Sn	14 48 04.3	+0.5
PENT				AML	AML	14 48 05.1	
	comp=E,172μm,0.2s						
PENT				AML	AML	14 48 05.7	
	comp=N,336μm,0.2s						
PENT	**Pentalofos**	**0.90**	**338**	P	Pb	14 47 50.1	-0.6
PENT				S	Sn	14 48 04.3	+0.6
LKD2	**Lefkada island**	**0.92**	**232**	P	Pn	14 47 53.1	+1.6
LKD2	**Lefkada island**	**0.92**	**232**	P	Pn	14 47 53.1	+1.5
EFP	**Efpalio**	**0.97**	**165**	P	Pn	14 47 52.2	0.0
EFP	**Efpalio**	**0.97**	**165**	P	Pn	14 47 52.4	+0.1
EFP	**Efpalio**	**0.97**	**165**	P	Pn	14 47 52.4	+0.2
LIT	**Litokhoron**	**1.01**	**43**	P	Pb	14 47 52.3	-0.4
LIT	**Litokhoron**	**1.01**	**43**	P	Pn	14 47 53.4	+0.6
LIT	**Litokhoron**	**1.01**	**43**	P	Pb	14 47 52.3	-0.4
SERG	**Sergoula**	**1.02**	**159**	P	Pn	14 47 53.3	+0.4
SERG	**Sergoula**	**1.02**	**159**	P	Pn	14 47 53.3	+0.3
FYTO	**Fytoko, Volos**	**1.05**	**87**	P	Pn	14 47 53.4	+0.1
FYTO	**Fytoko, Volos**	**1.05**	**87**	P	Pn	14 47 53.4	0.0
SGD	**Sagiada**	**1.07**	**284**	P	Pn	14 47 54.3	+0.7
SGD	**Sagiada**	**1.07**	**284**	P	Pn	14 47 54.3	+0.7
DSF	**Desfina**	**1.21**	**142**	P	Pb	14 47 55.8	-0.1
DSF	**Desfina**	**1.21**	**142**	P	Pb	14 47 55.8	-0.1
XOR	**Xorichti**	**1.25**	**90**	P	Pb	14 47 56.7	+0.1
XOR	**Xorichti**	**1.25**	**90**	P	Pb	14 47 56.5	-0.2
XOR	**Xorichti**	**1.25**	**90**	P	Pb	14 47 56.7	+0.1
KEK	**Kerkira**	**1.42**	**285**	P	Pb	14 48 01.0	+1.4
KEK	**Kerkira**	**1.42**	**285**	P	Pb	14 48 01.0	+1.4

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*KLM **12** 14:51:08.4, 0°.30S×124°.81E, h68km, mb4.8*
*ISCJB **12** 14:51:14.3±0.3, 0°.35S±0°.02×124°.15E±0°.02, h76km±3km, mb4.5/31, Error ellipse: s-maj=3.7km s-min=3.1km az=32.8*
*IDC **12** 14:51:15.8±0.8, 0°.23S×124°.12E, h80km±7km, mb4.1/19, mb1 4.3/20, mb1mx4.0/41, mbtmp4.5/20, MS3.2/4, Ms1 3.3/4, ms1mx2.8/44, Error ellipse: s-maj=19.9km s-min=9.1km az=71.0*
*NEIC **12** 14:51:15.9±0.7, 0°.27S×124°.20E, h82km±7km, mb4.6/11, Error ellipse: s-maj=8.5km s-min=4.9km az=47.0*
*BJI **12** 14:51:15.7, 0°.40S×124°.20E, h73km, mb4.7/13, mB4.8/10, Ms4.7/5, Ms7 4.6/3*
*DJA **12** 14:51:16.0±0.2, 0°.S±2°.×12°.4E±°., h42km±20km, M4.8/18, mb5.1/14, mB5.3/11, MLv5.0/18, Mw(mB)4.7/11, Mwp5.8/1*
ISC 12 14:51:16.0±0.6, 0°.34S±0°.04×124°.16E±0°.04, h78km±5km, n108, σ1°67/143, mb4.6/31, 6C-2D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.93**	**349**	P	**Pn**	**14 51 32.6**	**-1.6**
KMSI				S	**Sn**	**14 51 46.4**	**-1.2**
MRSI	**Marisa**	**2.36**	**290**	P	**Pn**	**14 51 50.1**	**-2.6**
MRSI				S	**Sn**	**14 52 16.2**	**-4.7**
SANI	**Sanana**	**2.49**	**133**	P	**Pn**	**14 51 52.6**	**-1.9**
SANI				S	**Sn**	**14 52 20.3**	**-3.7**
APSI	**Ampana**	**2.57**	**257**	P	**Pn**	**14 51 55.1**	**-0.5**
APSI				S	**Sn**	**14 52 28.7**	**+2.8**
LBMI	**Labuha**	**3.36**	**95**	P	**Pn**	**14 52 05.2**	**-1.0**
LBMI				S	**Sn**	**14 52 43.9**	**-1.1**
KDI	**Kendari**	**3.91**	**203**	P	**Pn**	**14 52 12.8**	**-0.9**
NLAI	**Namlea**	**4.11**	**134**	P	**Pn**	**14 52 16.4**	**-0.1**
NLAI				S	**Sn**	**14 53 02.0**	**-1.4**
SGSI	**Sangihe**	**4.23**	**19**	P	**Pn**	**14 52 19.4**	**+1.2**
SGSI				S	**Sn**	**14 53 07.7**	**+1.3**
MPSI	**Mapaga**	**4.31**	**279**	P	**Pn**	**14 52 18.4**	**-0.8**
PCI	**Palu**	**4.36**	**263**	P	**Pn**	**14 52 19.1**	**-0.8**
TTSI	**Tana Toraja**	**5.10**	**238**	P	**Pn**	**14 52 29.7**	**-0.3**
TTSI				S	**Sn**	**14 53 27.1**	**-0.5**
AAI	**Ambon**	**5.22**	**130**	P	**Pn**	**14 52 32.0**	**+0.3**
AAI				S	**Sn**	**14 53 29.6**	**-1.1**
BBSI	**Bau Bau**	**5.35**	**197**	P	**Pn**	**14 52 33.5**	**+0.1**
BBSI				S	**Sn**	**14 53 34.3**	**+0.6**
MSAI	**Masohi**	**5.62**	**122**	P	**Pn**	**14 52 38.0**	**+0.9**
MSAI				S	**Sn**	**14 53 40.8**	**+0.4**
SPSI	**Sidrap Palu**	**5.67**	**231**	P	**Pn**	**14 52 38.0**	**+0.2**
	292nm,0.5s,4μm1.2nm						
SPSI				S	**Sn**	**14 53 40.6**	**-1.0**
	292nm,0.5s,4μm1.2nm						
BNSI	**Bone**	**5.71**	**225**	P	**Pn**	**14 52 38.3**	**0.0**
	200nm,0.6s,2μm0.8nm						
BNSI				S	**Sn**	**14 53 40.5**	**-2.0**
	200nm,0.6s,2μm0.8nm						
KAPI	**Kappang**	**6.39**	**223**	*e*Pn	**Pn**	**14 52 47.4**	**-0.2**
	56nm,0.4s						
BSSI	**Bau Bau, Buton**	**6.83**	**212**	P	**Pn**	**14 52 53.7**	**+0.1**
BSSI				S	**Sn**	**14 54 09.5**	**-0.3**
BNDI	**Bandanaira**	**7.08**	**126**	P	**Pn**	**14 52 57.9**	**+0.8**
	301nm,0.6s,3μm1.0nm						
BNDI				S	**Sn**	**14 54 16.1**	**-0.1**
	301nm,0.6s,3μm1.0nm						
SWI	**Sorong**	**7.12**	**94**	P	**Pn**	**14 52 57.9**	**+0.3**
SWI				S	**Sn**	**14 54 17.6**	**+0.5**
CTBH	**Cotabato--PC H**	**7.52**	**1**	⇑*i*P	**Pn**	**14 53 05.8**	**+2.8**
MATI	**Mati**	**7.54**	**16**	*e*P	**Pn**	**14 53 06.9**	**+3.6**
TSM	**Tawau**	**7.79**	**306**	⇑P	**Pn**	**14 53 06.3**	**-0.4**
MYLDM	**Lahad Datu**	**7.88**	**314**	*e*Pn	**Pn**	**14 53 09.3**	**+1.4**
PAGZ	**Pagadian**	**8.18**	**355**	*e*P	**Pn**	**14 53 11.4**	**-0.6**
BUKP	**Musuan**	**8.22**	**6**	*e*P	**Pn**	**14 53 14.6**	**+1.9**
MMRI	**Maumere**	**8.46**	**193**	*e*Pn	**Pn**	**14 53 11.2**	**-4.6**
FAKI	**Fak Fak**	**8.48**	**108**	P	**Pn**	**14 53 14.7**	**-1.5**
	18nm,0.6s						
FAKI				S	**Sn**	**14 54 44.5**	**-5.9**
	18nm,0.6s						
FAKI	**Fak Fak**	**8.48**	**108**	*e*Pn	**Pn**	**14 53 14.2**	**-2.0**
MTKI	**Muara Teweh, K**	**9.28**	**266**	P	**Pn**	**14 53 31.3**	**+4.2**
SOEI	**Soe**	**9.35**	**179**	*e*Pn	**Pn**	**14 53 30.1**	**+1.9**
KKM	**Kota Kinabalu**	**10.16**	**309**	*e*Pn	**Pn**	**14 53 38.0**	**-1.1**
KKM	**Kota Kinabalu**	**10.16**	**309**	⇑P	**Pn**	**14 53 38.4**	**-0.8**
SAUI	**Saumlaki**	**10.40**	**137**	P	**Pn**	**14 53 43.9**	**+1.4**
SAUI	**Saumlaki**	**10.40**	**137**	*e*Pn	**Pn**	**14 53 42.1**	**-0.3**
BTM	**Bintulu**	**11.62**	**288**	⇑P	**Pn**	**14 53 60.0**	**+1.0**
SBUM	**Sibu**	**12.25**	**283**	⇑P	**Pn**	**14 54 09.3**	**+1.7**
STKI	**Sintang**	**12.69**	**272**	P	**Pn**	**14 54 14.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**12.83**	**231**	*e*Pn	**Pn**	**14 54 15.7**	**+0.3**
KSM	**Kuching**	**13.96**	**277**	*e*Pn	**Pn**	**14 54 32.1**	**+1.6**
MTN	**Manton Dam**	**14.21**	**151**	P	**Pn**	**14 54 34.6**	**+0.9**
	baz=15,SNR=11						
MTN	**Manton Dam**	**14.21**	**151**	*e*Pn	**Pn**	**14 54 34.2**	**+0.5**
SMPI	**Sarmi**	**14.64**	**97**	P	**Pn**	**14 54 40.3**	**+1.1**
JAY	**Jayapura**	**16.68**	**98**	P	**Pn**	**14 55 04.9**	**-0.2**
	4.6nm,0.3s,baz=211,slow=9.1,SNR=5.0						
DLV	**T Lat**	**19.78**	**309**	*e*P	**P**	**14 55 40.7**	**+0.4**
	54nm,1.4s						
MYKOM	**Kota Tinggi**	**20.41**	**276**	*e*P	**P**	**14 55 46.2**	**-0.9**
	28nm,1.1s						
MYKOM	**Kota Tinggi**	**20.41**	**276**	⇓P	**P**	**14 55 46.9**	**-0.2**
KGM	**Kluang**	**20.97**	**276**	⇓P	**P**	**14 55 52.8**	**-0.3**
WRAB	**Tennant Creek**	**21.88**	**153**	*e*P	**P**	**14 56 02.0**	**-0.6**
	27nm,1.0s						
WRA	**Warramunga Arr**	**21.88**	**154**	P	**P**	**14 56 01.9**	**-0.8**
	22nm,0.9s,baz=339,slow=11,SNR=94						
WRA				PcP	**PcP**	**14 59 58.5**	**-1.2**
	0.8nm,0.5s,baz=328,slow=2.1,SNR=5.6						
WRA				ScP	**ScP**	**15 03 29.8**	**-0.4**
	0.9nm,0.8s,baz=343,slow=2.8,SNR=4.0						
WB2	**Warramunga Arr**	**21.89**	**153**	*e*P	**P**	**14 56 01.6**	**-1.1**
COEN	**Coen**	**23.18**	**127**	P	**P**	**14 56 16.0**	**-0.3**
	baz=24,SNR=27						
COEN	**Coen**	**23.18**	**127**	*e*P	**P**	**14 56 15.8**	**-0.6**
	18nm,0.6s						
IPM	**Ipoh**	**23.60**	**282**	⇑P	**P**	**14 56 18.9**	**-1.3**
PMG	**Port Moresby**	**24.60**	**112**	P	**P**	**14 56 30.1**	**+0.9**
	27nm,0.7s,baz=320,slow=4.9,SNR=34						
PMG	**Port Moresby**	**24.60**	**112**	*e*P	**P**	**14 56 29.7**	**+0.5**
	29nm,0.8s						
WRKA	**Warakurna**	**24.87**	**171**	P	**P**	**14 56 31.7**	**+0.1**
	baz=26,SNR=27						
AS31	**Alice Springs**	**25.04**	**158**	*e*P	**P**	**14 56 33.1**	**0.0**
	18nm,1.1s						
ASAR	**Alice Springs**	**25.04**	**158**	P	**P**	**14 56 33.5**	**+0.3**
	34nm,0.7s,baz=337,slow=7.2,SNR=310						
ASAR				PcP	**PcP**	**15 00 06.2**	**0.0**
	3.1nm,0.6s,baz=348,slow=2.0,SNR=14						
ASAR				S	**S**	**15 00 53.5**	**+1.6**
	1.3nm,1.1s,baz=351,slow=23,SNR=4.8						
ASAR				ScP	**ScP**	**15 03 38.5**	**-0.1**
	0.4nm,0.8s,baz=336,slow=2.0,SNR=4.4						
ASAR				LR	LR	15 06 57.4	
	comp=Z,84nm,18.4s,baz=314,slow=37						
AS01	**Alice Springs**	**25.05**	**158**	*e*P	**P**	**14 56 33.2**	**0.

HHC				LR	LR		
	comp=N,110nm,14.1s						
HHC				LR	LR		
	comp=E,130nm,14.7s						
USRK	**Ussuriysk Ar.**	**44.90**	**8**	P	**P**	**14 59**	**21.8 -1.1**
	4.9nm,0.7s,baz=200,slow=7.8,SNR=10						
WMQ	**Urumqi**	**54.69**	**328**	P	**P**	**15 00**	**39.0 +1.7**
WMQ				pP	pP	15 00	57.2 +0.2
WMQ				sP	sP	15 01	07.2 +1.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
KSH	**Kashi**	**59.21**	**318**	*e*P	**P**	**15 01**	**10.4 +1.0**
KSH				pP	pP	15 01	29.7 +0.4
KSH				sP	sP	15 01	38.5 +0.5
KSH				PcP	**PcP**	**15 01**	**57.8 +0.7**
KSH				PP	**PP**	**15 03**	**24.0 +3.0**
KSH				PcS	**PcS**	**15 05**	**54.8 -4.4**
KSH				S	**S**	**15 09**	**08.1 -3.4**
KSH				SS	**SS**	**15 13**	**07.7 +0.5**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,130nm,5.9s						
KSH				LR	LR		
	comp=N,84nm,6.3s						
KSH				LR	LR		
	comp=E,77nm,6.3s						
KSH				LR	LR		
	comp=Z,130nm,5.8s						
MKAR	**Makanchi Array**	**59.52**	**328**	P	**P**	**15 01**	**08.5 -2.8**
	1.7nm,0.4s,baz=118,slow=8.9,SNR=17						
MKAR				pP	**pP**	**15 01**	**31.4 +0.3**
	1.1nm,0.5s,baz=124,slow=9.0,SNR=3.5						
PETK	**Petropavlovsk-**	**60.15**	**23**	P	**P**	**15 01**	**13.6 -1.9**
	4.6nm,0.8s,baz=197,slow=3.0,SNR=2.9						
PETK				PcP	**PcP**	**15 01**	**59.9 -0.4**
	2.7nm,0.7s,baz=207,slow=2.9,SNR=2.5						
AAK	**Ala-Archa**	**61.73**	**320**	LR	LR	15 32	16.7
	comp=Z,20nm,18.1s,baz=116,slow=40						
AAK	**Ala-Archa**	**61.73**	**320**	*e*P	**P**	**15 01**	**25.8 -0.8**
	7.6nm,1.0s						
ZALV	**Zalesovo Beam**	**63.11**	**335**	P	**P**	**15 01**	**32.4 -2.8**
	0.5nm,0.3s,baz=134,slow=4.2,SNR=2.4						
MA2	**Magadan**	**63.26**	**15**	P	**P**	**15 01**	**35.6 -0.6**
	8.9nm,0.8s,baz=184,slow=5.2,SNR=6.3						
SEY	**Seymchan**	**66.56**	**14**	P	**P**	**15 01**	**57.6 +0.1**
	1.5nm,0.7s,baz=138,slow=6.2,SNR=4.5						
VNDA	**Vanda**	**79.75**	**172**	P	**P**	**15 03**	**15.2 +0.2**
	1.5nm,0.7s,baz=320,slow=6.7,SNR=17						
VNDA	**Vanda**	**79.75**	**172**	*e*P	**P**	**15 03**	**14.8 -0.3**
	6.0nm,1.5s						
KDAK	**Kodiak Island**	**86.68**	**32**	P	**P**	**15 03**	**50.7 -0.3**
	8.3nm,1.0s,baz=303,slow=2.2,SNR=6.1						
ILAR	**Eielson Array**	**89.86**	**25**	P	**P**	**15 04**	**03.8 -2.3**
	0.5nm,0.6s,baz=239,slow=5.2,SNR=12						
INK	**Inuvik**	**94.87**	**21**	P	**P**	**15 04**	**27.1 -1.9**
	0.8nm,0.5s,baz=358,slow=8.3,SNR=3.5						
PDAR	**Pinedale Array**	**116.09**	**41**	PKP	**PKPdf**	**15 09**	**49.8 -1.0**
	0.2nm,0.5s,baz=220,slow=0.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.61**	**285**	PKP	**PKPdf**	**15 10**	**00.1 -1.7**
	0.7nm,0.8s,baz=119,slow=1.9,SNR=4.3						
TORD				pPKP	**pPKPdf**	**15 10**	**22.5 -1.4**
	0.6nm,0.6s,baz=65,slow=1.0,SNR=3.3						
TORD				PKKPbc	**PKKPab**	**15 20**	**02.3 -0.1**
	0.6nm,0.7s,baz=301,slow=5.6,SNR=4.2						
TXAR	**Lajitas Array**	**126.10**	**53**	PKP	**PKPdf**	**15 10**	**10.3 +0.1**
	0.4nm,0.8s,baz=223,slow=5.1,SNR=5.6						
CPUP	**Villa Florida**	**153.44**	**177**	PKPbc	**PKPbc**	**15 11**	**06.4 +0.2**
	1.1nm,0.5s,baz=125,slow=3.5,SNR=3.4						

NIED ***12*** *14:51:00,36.°70N×143.°60E,h5km,Mw4.0 Best double couple: M0 9.58000×10^14 NP1:φs78.00000°,δ26.00000°, λ-87.00000°. NP2:φs254.00000°,δ64.00000°, λ-92.00000°.*
IDC ***12*** *14:51:55.1±0.6,36.°58N×143.°89E,h0km,mb4.0/18, mb1 4.2/23,mb1mx4.1/45,mbtmp4.0/23,ML3.5/5,MS3.0/3, Ms1 3.0/3,ms1mx2.6/54,Error ellipse: s-maj=17.5km s-min=15.1km az=123.0*
ISCJB ***12*** *14:51:59.0±0.4,36.°71N±0.°03×143.°60E±0.°04,h33km, mb4.0/20,MS3.5/1,Error ellipse: s-maj=5.0km s-min=4.5km az=145.0*
NEIC ***12*** *14:51:58.1±3.5,36.°54N×143.°87E,h20km±25km,mb4.1/1, Error ellipse: s-maj=13.2km s-min=9.3km az=70.0*
JMA ***12*** *14:51:58.5±0.1,36.°74N×143.°63E,h52km,M4.3*
ISC 12 14:52:00.6±0.6,36.°70N±0.°05×143.°73E±0.°07,h35km,n56, σ2.°22/60,mb4.1/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.38**	**287**	S	**Sn**	**14 53 01.6**	**-3.5**
ONAJ	**Iwakimizuishiy**	**2.38**	**281**	*e*S	**Sn**	**14 53 02.0**	**-3.2**
CHOJ	**Chosi**	**2.53**	**248**	P	**Pn**	**14 52 37.5**	**-1.6**
JFT	**Otama**	**2.83**	**288**	*e*S	**Sn**	**14 53 13.2**	**-3.1**
JMK	**Ichinoseki**	**3.00**	**319**	P	**Pn**	**14 52 43.8**	**-1.8**
JMK				*e*S	**Sn**	**14 53 17.8**	**-2.6**
BSO1	**Boso 1**	**3.03**	**228**	P	**Pn**	**14 52 44.2**	**-1.3**
BSO1				*e*S	**Sn**	**14 53 19.6**	**-0.7**
JOM	**Ohasama**	**3.37**	**326**	P	**Pn**	**14 52 49.1**	**-1.6**
JOM				*e*S	**Sn**	**14 53 26.7**	**-2.8**
JAG	**Ashikaga**	**3.45**	**267**	P	**Pn**	**14 52 50.4**	**-1.5**
JAG				*e*S	**Sn**	**14 53 29.1**	**-2.5**
JYK	**Kaneyama**	**3.47**	**311**	P	**Pn**	**14 52 50.8**	**-1.3**
JYK				*e*S	**Sn**	**14 53 28.8**	**-3.1**
JRY	**Ryogami san**	**3.96**	**262**	P	**Pn**	**14 52 57.4**	**-1.4**
JOD2	**Odawara 2**	**4.03**	**251**	P	**Pn**	**14 52 58.7**	**-1.1**
JOD2				*e*S	**Sn**	**14 53 43.7**	**-2.0**
JANG	**Nango**	**4.06**	**335**	P	**Pn**	**14 52 57.7**	**-2.5**
MJAR	**Matsushiro Arr**	**4.44**	**270**	Pn	**Pn**	**14 53 05.4**	**-0.1**
	10nm,0.3s,baz=97,slow=11,SNR=73						
MJAR				Sn	**Sn**	**14 53 55.3**	**-0.7**
	2.0nm,0.3s,baz=96,slow=11,SNR=3.6						
MAJO	**Matsushiro**	**4.45**	**270**	*e*Pn	**Pn**	**14 53 05.4**	**-0.2**
MAT	**Matsushiro**	**4.45**	**270**	P	**Pn**	**14 53 05.5**	**0.0**
MAT				*e*S	**Sn**	**14 53 53.6**	**-2.5**
JHJ2	**Mitsune**	**4.81**	**223**	P	**Pn**	**14 53 08.3**	**-2.2**
JHJ2	**Mitsune**	**4.81**	**223**	*e*Pn	**Pn**	**14 53 08.1**	**-2.4**
JHJ	**Hachijo jima 2**	**4.82**	**223**	Pn	**Pn**	**14 53 08.4**	**-2.3**
	25nm,0.3s,baz=324,slow=17,SNR=16						
JHJ				Sn	**Sn**	**14 53 58.6**	**-6.7**
	133nm,0.3s,baz=275,slow=23,SNR=13						
JOT	**Ohata**	**5.12**	**337**	P	**Pn**	**14 53 13.3**	**-1.4**
ASAJ	**Asahikawa**	**7.46**	**354**	Pn	**Pn**	**14 53 44.4**	**-2.5**
	3.8nm,0.3s,baz=203,slow=12,SNR=41						
ASAJ				Sn	**Sn**	**14 55 04.7**	**-5.5**
	1.9nm,0.3s,baz=115,slow=10,SNR=3.8						
ASAJ	**Asahikawa**	**7.46**	**354**	*e*Pn	**Pn**	**14 53 44.3**	**-2.5**
	4.7nm,0.4s						
ASAJ				Sn	**Sn**	**14 55 04.7**	**-5.5**
CBIJ	**Chichi jima**	**9.66**	**188**	Pn	**Pn**	**14 54 14.2**	**-3.0**
JNU	**Nakatsue**	**11.14**	**255**	Pn	**Pn**	**14 54 37.2**	**-0.2**
	0.2nm,0.3s,baz=66,slow=12,SNR=5.5						
USRK	**Ussuriysk Ar.**	**11.66**	**314**	Pn	**Pn**	**14 54 44.8**	**+0.4**
	0.4nm,0.3s,baz=117,slow=13,SNR=6.5						
KSRS	**Korea Array**	**12.65**	**278**	Pn	**Pn**	**14 55 00.4**	**+2.4**
	0.2nm,0.3s,baz=92,slow=15,SNR=6.1						
KSRS				LR	LR	15 00	09.4
	comp=Z,45nm,18.0s,baz=358,slow=38						
KSAR	**Wonju Array Be**	**12.68**	**278**	Pn	**Pn**	**14 55 00.4**	**+2.0**
PETK	**Petropavlovsk-**	**19.10**	**26**	LR	LR	15 04	57.6
	comp=Z,22nm,18.5s,baz=275,slow=41						
H11N2	**WAKE ISLAND Hy 26.40**	**124**		T	T	15 24	52.3
	baz=314,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy 26.41**	**124**		T	T	15 24	54.0
	baz=314,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy 26.41**	**124**		T	T	15 24	50.4
	baz=314,slow=75,SNR=10						
SEY	**Seymchan**	**26.80**	**9**	P	**P**	**14 57 38.3**	**+1.3**
	1.0nm,0.6s,baz=247,slow=11,SNR=4.4						
H11S1	**WAKE ISLAND Hy 27.14**	**126**		T	T	15 25	49.5
	baz=316,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy 27.14**	**126**		T	T	15 25	50.7
	baz=316,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy 27.15**	**126**		T	T	15 25	48.4
	baz=316,slow=76,SNR=4.9						
SONM	**Songino Array**	**29.51**	**304**	P	**P**	**14 58**	**03.9 +2.3**
	1.0nm,0.4s,baz=108,slow=9.3,SNR=3.1						
GTA	**Gaotai**	**34.44**	**288**	*e*P	**P**	**14 58**	**46.2 +1.3**
GTA				pP	sP	14 59	05.1 +5.9
GTA				sP	pP	14 59	13.2 +18
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**43.22**	**258**	P	**P**	**14 59**	**59.5 +0.9**
	comp=Z,0.7nm,0.7s,baz=55,slow=8.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**43.51**	**313**	P	**P**	**15 00**	**01.8 +1.4**
	comp=Z,0.3nm,0.3s,baz=96,slow=3.0,SNR=3.8						
ZALV				PcP	**PcP**	**15 01**	**47.9 +0.1**
	comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=4.0						
NRIK	**Noril'sk**	**44.35**	**335**	LR	LR	15 20	56.8
	comp=Z,48nm,18.1s,baz=112,slow=39						
MKAR	**Makanchi Array**	**45.87**	**303**	P	**P**	**15 00**	**20.1 +0.8**
	comp=Z,0.8nm,0.9s,baz=93,slow=9.5,SNR=4.4						
ILAR	**Eielson Array**	**48.78**	**32**	P	**P**	**15 00**	**41.9 +0.1**
	comp=Z,1.3nm,0.6s,baz=259,slow=6.5,SNR=18						
INK	**Inuvik**	**53.84**	**27**	P	**P**	**15 01**	**20.0 +0.5**
	comp=Z,1.7nm,0.6s,baz=333,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**57.03**	**191**	P	**P**	**15 01**	**41.7 -1.3**
	comp=Z,1.6nm,0.6s,baz=11,slow=7.3,SNR=11						
ABKAR	**Akbulak array**	**59.57**	**311**	*e*P	**P**	**15 02**	**00.8 +0.3**
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**60.75**	**190**	P	**P**	**15 02**	**08.2 -0.6**
	comp=Z,0.7nm,0.6s,baz=3.9,slow=7.2,SNR=6.0						
GEYT	**Alibeck**	**65.62**	**300**	P	**P**	**15 02**	**42.3 +1.2**
	comp=Z,2.5nm,0.7s,baz=45,slow=2.5,SNR=4.8						
STKA	**Stephens Creek**	**68.25**	**182**	P	**P**	**15 02**	**57.7 +0.1**
	comp=Z,2.2nm,0.7s,baz=0.9,slow=5.3,SNR=4.2						
FINES	**FINESS Array B**	**69.97**	**333**	P	**P**	**15 03**	**08.5 +0.5**
	comp=Z,2.9nm,0.8s,baz=114,slow=9.2,SNR=3.9						
KBZ	**Khabaz**	**72.52**	**312**	P	**P**	**15 03**	**24.0 +0.2**
	comp=Z,4.0nm,0.9s,baz=30,slow=2.7,SNR=4.0						
NB2	**NORSAR Subarra**	**75.20**	**338**	P	**P**	**15 03**	**39.7 +0.5**
	comp=Z,0.9nm,0.5s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**75.20**	**338**	P	**P**	**15 03**	**40.0 +0.8**
	comp=Z,2.1nm,0.8s,baz=40,slow=5.7,SNR=3.5						
AKASG	**Malin Array Be**	**75.69**	**323**	P	**P**	**15 03**	**42.6 +0.5**
	comp=Z,0.3nm,0.4s,baz=47,slow=6.1,SNR=4.0						
PDAR	**Pinedale Array**	**76.56**	**46**	P	**P**	**15 03**	**47.9 +0.3**
	comp=Z,0.5nm,0.5s,baz=265,slow=1.5,SNR=6.8						
BRTR	**Keskin Array B**	**80.45**	**313**	P	**P**	**15 04**	**09.5 +0.6**
	comp=Z,1.0nm,0.8s,baz=41,slow=3.9,SNR=4.5						
TXAR	**Lajitas Array**	**88.84**	**54**	P	**P**	**15 04**	**52.0 +0.7**
	comp=Z,0.9nm,0.7s,baz=296,slow=3.4,SNR=14						
LPAZ	**La Paz**	**145.23**	**63**	PKPbc	**PKPbc**	**15 11**	**32.1 -3.2**
	comp=Z,1.1nm,0.5s,baz=315,slow=4.3,SNR=2.9						

ISK ***12*** *15:12:59.2,40.°41N×39.°80E,h5km,MD2.6*
DDA ***12*** *15:13:00.5,40.°37N×39.°65E,h7km,Md2.8*
CSEM ***12*** *15:13:01.3±0.3,40.°41N×39.°63E,h2km,MD2.8,Error ellipse: s-maj=9.4km s-min=5.3km az=115.0*
ISC 12 15:13:00.2±1.2,40.°42N±0.°03×39.°67E±0.°03,h6km±15km, n15,σ0.°61/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.42**	**230**	*i* P	**Pg**	**15 13 08.2**	**-0.1**
KELT				*i* S	**Sg**	**15 13 13.7**	**-0.2**
KELT	**Kelkit**	**0.42**	**230**	P	**Pg**	**15 13 08.2**	**-0.1**
KELT				S	**Sg**	**15 13 13.7**	**-0.2**
MACK	**Trabzon**	**0.53**	**8**	*i* P	**Pb**	**15 13 11.9**	**-0.1**
MACK				*i* S	**Sb**	**15 13 20.3**	**+0.3**
MACK	**Trabzon**	**0.53**	**8**	P	**Pb**	**15 13 11.9**	**-0.1**
MACK				S	**Sb**	**15 13 20.3**	**+0.3**
KTUT	**Trabzon**	**0.57**	**7**	*e*PG	**Pg**	**15 13 11.6**	**+0.3**
KTUT				*e*SG	**Sb**	**15 13 20.8**	**-0.3**
KTUT	**Trabzon**	**0.57**	**7**	*e*Pg	**Pg**	**15 13 11.6**	**+0.3**
KTUT				*e*Sg	**Sb**	**15 13 20.8**	**-0.3**
EZC	**Erzincan**	**0.71**	**200**	*e*Pg	**Pb**	**15 13 16.1**	**+1.0**
KOPT	**Kop Dagi**	**0.75**	**122**	*i* P	**Pg**	**15 13 12.9**	**-1.6**
KOPT				*i* S	**Sg**	**15 13 25.6**	**+1.4**
ERZN	**Erzincan**	**0.83**	**177**	*e*PG	**Pg**	**15 13 16.1**	**-0.1**
SUSE	**Susehri**	**1.14**	**260**	*i* P	**Pg**	**15 13 21.9**	**-0.2**
SUSE				*i* S	**Sb**	**15 13 37.9**	**+0.2**
SUSE	**Susehri**	**1.14**	**260**	P	**Pg**	**15 13 22.0**	**-0.2**
SUSE				S	**Sb**	**15 13 37.9**	**+0.2**
PTK	**Pertek**	**1.54**	**188**	*e*PN	**Pb**	**15 13 29.5**	**+0.2**
PTK	**Pertek**	**1.54**	**188**	*e*Pn	**Pb**	**15 13 29.5**	**+0.2**
SVSK	**Karacayir**	**2.11**	**257**	*e*PN	**Pb**	**15 13 38.2**	**-0.7**
SVSK	**Karacayir**	**2.11**	**257**	*e*Pn	**Pb**	**15 13 38.2**	**-0.7**

ISCJB ***12*** *15:15:06.3±0.5,46.°53N±0.°02×21.°14E±0.°04,h3km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=44.0*
CSEM ***12*** *15:15:07.5±0.3,46.°54N×21.°17E,h2km,ML2.5,Error ellipse: s-maj=5.7km s-min=4.9km az=98.0*
BUC ***12*** *15:15:09.4±1.1,46.°57N×21.°42E,h4km,MD2.7/2,Error ellipse: s-maj=9.6km s-min=4.3km az=126.0*
BEO ***12*** *15:15:09.3±0.6,46.°50N×21.°25E,h7km±4km,M2.1/7*
ISC 12 15:15:08.8±1.0,46.°58N±0.°02×21.°28E±0.°02,h13km±8km, n50,σ1.°27/72,9C-13D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRR	**Siria**	**0.41**	**140**	⇓*i*P	**Pg**	**15 15 16.6**	**-0.3**
SIRR				*i* S	**Sg**	**15 15 21.7**	**-0.7**
SIRR	**Siria**	**0.41**	**140**	⇓*i*P	**Pg**	**15 15 16.6**	**-0.3**
SIRR				S	**Sg**	**15 15 21.7**	**-0.7**
SIRR	**Siria**	**0.41**	**140**	⇓*i*P	**Pg**	**15 15 16.6**	**-0.3**
SIRR				S	**Sg**	**15 15 21.7**	**-0.7**
TIM	**Timisoara**	**0.84**	**183**	⇑*i*P	**Pn**	**15 15 26.5**	**+0.1**
TIM	**Timisoara**	**0.84**	**183**	⇑*i*P	**Pn**	**15 15 26.5**	**+0.1**
TIM	**Timisoara**	**0.84**	**183**	⇑*i*P	**Pn**	**15 15 26.5**	**+0.1**
BZS	**Buzias**	**0.99**	**166**	*e*Pg	**Pb**	**15 15 25.9**	**-1.9**
BZS				*e*Sg	**Sb**	**15 15 39.0**	**-1.8**
BZS	**Buzias**	**0.99**	**166**	*e*Pg	**Pb**	**15 15 25.9**	**-1.9**
BZS				*e*Sg	**Sb**	**15 15 39.0**	**-1.8**
DRGR		**1.01**	**77**	⇓*i*Pg	**Pb**	**15 15 27.5**	**-0.7**
DRGR				*e*Sg	**Sg**	**15 15 41.5**	**+0.1**
DRGR		**1.01**	**77**	⇓*i*P	**Pb**	**15 15 27.7**	**-0.5**
DRGR				*i* S	**Sg**	**15 15 41.8**	**+0.4**
DRGR		**1.01**	**77**	⇓*i*P	**Pb**	**15 15 27.7**	**-0.5**
DRGR		**1.01**	**77**	⇓*i*P	**Pb**	**15 15 27.7**	**-0.5**
DRGR				*e*Sg	**Sg**	**15 15 41.5**	**+0.1**
BANR	**Banloc**	**1.20**	**185**	*i* S	**Sg**	**15 15 49.0**	**+1.5**
BANR	**Banloc**	**1.20**	**185**	S	**Sg**	**15 15 49.0**	**+1.5**
BANR	**Banloc**	**1.20**	**185**	S	**Sg**	**15 15 49.0**	**+1.5**
DEV	**Deva**	**1.32**	**121**	⇑*i*P	**Pn**	**15 15 32.3**	**-0.7**
DEV	**Deva**	**1.32**	**121**	⇑*i*P	**Pn**	**15 15 32.3**	**-0.7**
DEV	**Deva**	**1.32**	**121**	⇑*i*P	**Pn**	**15 15 32.3**	**-0.7**
PSZ	**Piszkesteto**	**1.64**	**325**	⇓*e*Pn	**Pn**	**15 15 35.9**	**-1.5**
PSZ	**Piszkesteto**	**1.64**	**325**	*e*Pg	**Pg**	**15 15 40.2**	**-0.1**
PSZ				⇓*e*Sn	**Sn**	**15 15 56.0**	**-2.4**
PSZ	**Piszkesteto**	**1.64**	**325**	⇓*e*Pn	**Pn**	**15 15 35.9**	**-1.5**
PSZ				*ex*	x	15 15 40.2	
PSZ				*e*Sn	**Sn**	**15 15 56.0**	**-2.4**
FGSL	**Fruska Gora**	**1.75**	**216**	*e*Pg	**Pn**	**15 15 39.7**	**+0.7**
FGSL				*e*Sg	**Sn**	**15 16 01.2**	**0.0**
FRGS	**Fruska Gora**	**1.75**	**216**	*e*Pg	**Pn**	**15 15 39.7**	**+0.7**
FRGS				*e*Sg	**Sn**	**15 16 01.2**	**0.0**
KECS	**Kecovo**	**1.98**	**344**	*e*Pg	**Pg**	**15 15 47.1**	**+0.3**
KECS	**Kecovo**	**1.98**	**344**	*e*	**Pn**	**15 15 41.6**	**-0.5**
KECS	**Kecovo**	**1.98**	**344**	*e*PG	**Pg**	**15 15 47.1**	**+0.3**
KECS				*e*LG	Lg	15 16 36.8	
LOT	**Lotru**	**2.07**	**122**	⇓*i*P	**Pb**	**15 15 45.5**	**-0.8**
LOT				*i* S	**Sb**	**15 16 10.9**	**-1.1**
LOT	**Lotru**	**2.07**	**122**	⇓*i*P	**Pb**	**15 15 45.5**	**-0.8**
LOT				S	**Sb**	**15 16 10.9**	**-1.1**
LOT	**Lotru**	**2.07**	**122**	⇓*i*P	**Pb**	**15 15 45.5**	**-0.8**
LOT				S	**Sb**	**15 16 10.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**2.33**	**3**	*e*PG	**Pg**	**15 15 57.5**	**+4.1**
CRVS				*e*SN	**Sg**	**15 16 24.6**	**+1.0**
TEKS	**Tekeris**	**2.38**	**212**	*e*Pg	**Pb**	**15 15 51.6**	**+0.1**
TEKS				*e*Sg	**Sb**	**15 16 21.3**	**+0.6**
TEKS	**Tekeris**	**2.38**	**212**	*e*Pg	**Pb**	**15 15 51.6**	**+0.1**
TEKS				*e*Sg	**Sb**	**15 16 21.3**	**+0.6**
TRUS	**Trudelj**	**2.44**	**195**	*e*Pg	**Pb**	**15 15 51.9**	**-0.6**
TRUS	**Trudelj**	**2.44**	**195**	*e*Pg	**Pb**	**15 15 51.9**	**-0.6**
VYHS	**Vyhne**	**2.53**	**320**	*e*Pn	**Pn**	**15 15 48.5**	**-1.2**
VYHS	**Vyhne**	**2.53**	**320**	*e*PN	**Pn**	**15 15 48.5**	**-1.2**
DIVS	**Divibare**	**2.64**	**201**	*e*Pg	**Pb**	**15 15 56.5**	**+0.4**
DIVS				*e*Sg	**Sb**	**15 16 30.0**	**+1.6**
DIVS	**Divibare**	**2.64**	**201**	*e*Pg	**Pb**	**15 15 56.5**	**+0.4**
DIVS				*e*Sg	**Sb**	**15 16 30.0**	**+1.6**
VOIR		**2.86**	**112**	*i* S	**Sn**	**15 16 29.9**	**+1.3**
VOIR		**2.86**	**112**	S	**Sn**	**15 16 29.9**	**+1.3**
VOIR		**2.86**	**112**	S	**Sn**	**15 16 29.9**	**+1.3**
BURAR	**Bucovina Array**	**2.88**	**67**	⇑*i*P	**Pn**	**15 15 56.3**	**+1.8**
BURAR	**Bucovina Array**	**2.88**	**67**	⇑*i*P	**Pn**	**15 15 56.3**	**+1.8**
BURAR	**Bucovina Array**	**2.88**	**67**	⇑*i*P	**Pn**	**15 15 56.3**	**+1.8**
BOVS	**Bovan**	**2.96**	**174**	*e*Pn	**Pn**	**15 15 57.4**	**+1.9**
BOVS	**Bovan**	**2.96**	**174**	*e*Pn	**Pn**	**15 15 57.4**	**+1.9**
BBLS	**Lazići**	**3.02**	**207**	*e*Pn	**Pn**	**15 15 57.8**	**+1.4**
BBLS				*e*Sn	**Sn**	**15 16 30.9**	**-1.6**
BBLS	**Lazići**	**3.02**	**207**	*e*Pn	**Pn**	**15 15 57.8**	**+1.4**
BBLS				*e*Sn	**Sn**	**15 16 30.9**	**-1.6**
IVAS	**Ivanjica**	**3.11**	**195**	*e*Pn	**Pn**	**15 15 56.3**	**-1.3**
IVAS	**Ivanjica**	**3.11**	**195**	*e*Pn	**Pn**	**15 15 56.3**	**-1.3**

NIED ***12*** *15:15:00,35.°50N×140.°90E,h14km,Mw3.4 Best double couple: M0 1.49000×10^14 NP1:φs194.00000°,δ21.00000°, λ176.00000°. NP2:φs287.00000°,δ89.00000°,λ69.00000°.*
IDC ***12*** *15:15:55.8±2.0,35.°34N×141.°30E,h0km,mb3.5/3, mb1 3.5/6,mb1mx3.3/63,mbtmp3.4/6,ML3.1/3,Error ellipse: s-maj=49.3km s-min=23.2km az=79.0*
ISCJB ***12*** *15:15:57.9±1.2,35.°47N±0.°04×141.°1E±0.°1,h26km±7km, mb3.5/3,Error ellipse: s-maj=15.4km s-min=6.6km az=179.6*
JMA ***12*** *15:15:59.7±0.1,35.°50N×140.°93E,h23km±1km,M3.4*
JMA Felt I J1.
ISC 12 15:15:58.0±1.7,35.°44N±0.°05×141.°07E±0.°09,h16km±9km, n19,σ1.°48/18,mb3.6/3,3C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.32**	**327**	⇑P	**Pg**	**15 16 05.3**	**+0.6**
CHOJ				S	**Sg**	**15 16 09.4**	**+0.1**
KTR	**Katsuura**	**0.68**	**245**	P	**Pg**	**15 16 11.6**	**+0.2**
KTR				S	**Sg**	**15 16 20.1**	**-0.4**
BSO4	**Boso 4**	**0.75**	**234**	P	**Pn**	**15 16 13.8**	**0.0**
BSO3	**Boso 3**	**0.78**	**216**	⇑P	**Pn**	**15 16 14.4**	**+0.3**
BSO1	**Boso 1**	**0.78**	**186**	⇑P	**Pn**	**15 16 14.4**	**+0.6**
JYT	**Yasato**	**1.07**	**318**	⇓P	**Pb**	**15 16 16.7**	**-1.3**
JYT				S	**Sb**	**15 16 29.7**	**-2.0**
JHO	**Hitachi**	**1.24**	**341**	⇓P	**Pn**	**15 16 19.6**	**-1.1**
JHJ	**Hachijo jima 2**	**2.55**	**205**	Pn	**Pn**	**15 16 36.8**	**-1.8**
	9.0nm,0.3s,baz=64,slow=16,SNR=7.3						
JHJ				Sn	**Sn**	**15 17 07.0**	**-2.2**
	13nm,0.3s,baz=73,slow=19,SNR=3.8						
MJAR	**Matsushiro Arr**	**2.57**	**296**	Pn	**Pn**	**15 16 41.2**	**+2.3**
	2.3nm,0.3s,baz=116,slow=8.0,SNR=12						
MJAR				Sn	**Sb**	**15 17 15.0**	**-0.1**
	2.6nm,0.3s,baz=136,slow=14,SNR=6.9						
ASAJ	**Asahikawa**	**8.75**	**7**	Pn	**Pn**	**15 18 03.5**	**-0.3**
	0.3nm,0.3s,baz=203,slow=13,SNR=3.6						
H11N2	**WAKE ISLAND Hy 27.61**	**118**		T	T	15 50 41.9	
	baz=310,slow=75,SNR=181						
H11N1	**WAKE ISLAND Hy 27.61**	**118**		T	T	15 50 41.3	
	baz=310,slow=75,SNR=158						
H11N3	**WAKE ISLAND Hy 27.63**	**118**		T	T	15 50 44.7	
	baz=310,slow=75,SNR=153						
H11S3	**WAKE ISLAND Hy 28.26**	**120**		T	T	15 51 32.4	
	baz=312,slow=76,SNR=437						
H11S1	**WAKE ISLAND Hy 28.26**	**120**		T	T	15 51 30.7	
	baz=312,slow=76,SNR=631						
H11S2	**WAKE ISLAND Hy 28.28**	**120**		T	T	15 51 31.9	
	baz=312,slow=76,SNR=584

*ISCJB **12** 16:06:08.0±0.3,24.°28N±0.°03×122.°97E±0.°02,h41km±7km, Error ellipse: s-maj=5.9km s-min=2.2km az=172.4*
*TAP **12** 16:06:07.6,24.°32N×122.°97E,h55km±1km,ML3.6,D*
*JMA **12** 16:06:07.8±0.1,24.°38N×122.°97E,h49km±1km,M2.6*

ISC 12 16:06:08.9±1.2,24.°26N±0.°04×122.°98E±0.°02,h34km±2km, n55,σ1§40/98,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.19**	**351**	P	**Pb**	**16 06 15.2**	**-0.4**
JYNG				S	**Sb**	**16 06 20.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.20**	**8**	P	**Pb**	**16 06 15.5**	**-0.2**
YOJ				S	**Sb**	**16 06 20.7**	**+0.5**
IRIF	**Iriomote-Funau**	**0.69**	**84**	P	**Pn**	**16 06 21.3**	**-0.9**
IRIF				S	**Sn**	**16 06 31.3**	**-0.4**
HATJ	**Hateruma jima**	**0.78**	**105**	P	**Pn**	**16 06 23.1**	**-0.4**
HATJ				*e*S	**Sb**	**16 06 35.9**	**+1.4**
JKRS	**Kuro-shima**	**0.94**	**91**	P	**Pn**	**16 06 25.3**	**-0.4**
JKRS				S	**Sn**	**16 06 38.2**	**+0.2**
JIJ	**Ishigaki jima**	**1.07**	**84**	P	**Pn**	**16 06 26.2**	**-1.2**
JIJ				S	**Sn**	**16 06 39.6**	**-1.5**
TWC	**Suao**	**1.09**	**289**	*e*P	**Pn**	**16 06 26.0**	**-1.7**
TWC	baz=295			S	**Sn**	**16 06 39.1**	**-2.5**
EGS	**baz=295**	**1.12**	**302**	*e*P	**Pn**	**16 06 26.8**	**-1.3**
EGS	baz=304			S	**Sn**	**16 06 40.9**	**-1.4**
ENA	**baz=304 Nanau**	**1.14**	**279**	P	**Pn**	**16 06 27.4**	**-1.1**
ENA	baz=283			*e*S	**Sn**	**16 06 41.1**	**-1.8**
TWB1	**baz=283 Santiao Chiao**	**1.17**	**310**	*i* P	**Pn**	**16 06 27.3**	**-1.5**
TWB1	baz=314			*i* S	**Sn**	**16 06 40.8**	**-2.8**
JISG	**baz=314 Ishigakijimahi**	**1.26**	**75**	P	**Pn**	**16 06 28.8**	**-1.3**
JISG				S	**Sn**	**16 06 44.4**	**-1.4**
TWD	**Chiawan**	**1.28**	**262**	*e*P	**Pn**	**16 06 29.2**	**-1.1**
TWD	baz=248			*e*S	**Sn**	**16 06 45.2**	**-1.1**
TWE	**baz=248 Neicheng**	**1.28**	**291**	*e*P	**Pn**	**16 06 29.1**	**-1.3**
TWE	baz=296			*e*S	**Sn**	**16 06 43.9**	**-2.5**
ENTT	**baz=296 Nioudou**	**1.34**	**287**	P	**Pn**	**16 06 30.8**	**-0.5**
ENTT	baz=290			*e*S	**Sn**	**16 06 46.9**	**-1.0**
NNS	**baz=290 Nan Shan**	**1.48**	**277**	*e*P	**Pn**	**16 06 32.6**	**-0.6**
NNS	baz=264			*e*S	**Sn**	**16 06 51.2**	**-0.2**
ESL	**baz=264 Shilin**	**1.48**	**253**	*e*P	**Pn**	**16 06 31.6**	**-1.6**
ESL	baz=250			*e*S	**Sn**	**16 06 49.4**	**-2.0**
NSK	**baz=250 Sanguang**	**1.53**	**286**	*e*P	**Pn**	**16 06 33.8**	**-0.2**
NSK	baz=291			*e*S	**Sn**	**16 06 52.1**	**-0.6**
WHF	**baz=291 Hehuan Shan**	**1.57**	**266**	*e*P	**Pn**	**16 06 33.7**	**-1.0**
WHF	baz=253			*e*S	**Sn**	**16 06 52.5**	**-1.6**
JTJ	**baz=253 Tarama**	**1.62**	**76**	P	**Pn**	**16 06 34.3**	**-0.7**
JTJ				*e*S	**Sn**	**16 06 53.3**	**-1.3**
TWT	**Tachien**	**1.65**	**270**	*e*P	**Pn**	**16 06 35.4**	**-0.2**
TWT	baz=267			*e*S	**Sn**	**16 06 55.3**	**-0.3**
EHY	**baz=267 Hungye**	**1.69**	**244**	*e*P	**Pn**	**16 06 34.8**	**-1.3**
EHY	baz=252			*e*S	**Sn**	**16 06 54.8**	**-1.8**
EHY	**baz=252 Hungye**	**1.69**	**244**	S	**Pn**	**16 06 34.5**	**-1.6**
TWF1	**baz=336 Yuli**	**1.79**	**240**	*e*P	**Pn**	**16 06 36.3**	**-1.0**
TWF1	baz=237			*e*S	**Sn**	**16 06 57.5**	**-1.4**
NSTT	**baz=237 Nanjuang**	**1.84**	**282**	*e*P	**Pn**	**16 06 38.6**	**+0.6**
NSTT	baz=280			*e*S	**Sn**	**16 07 02.2**	**+2.0**
CHKT	**baz=280 Chengkung**	**1.88**	**232**	*e*S	**Sn**	**16 06 57.5**	**-3.6**
SMLT	**baz=221 Sun Moon Lake**	**1.94**	**259**	*e*P	**Pn**	**16 06 39.4**	**-0.1**
SMLT	baz=250			*e*S	**Sn**	**16 07 01.7**	**-1.1**
TYC	**baz=250 Yuchr**	**1.97**	**260**	*e*P	**Pn**	**16 06 39.5**	**-0.3**
TYC	baz=250			*e*S	**Sn**	**16 07 03.2**	**-0.2**
YUS	**baz=250 Yu-Shan**	**2.01**	**248**	*e*P	**Pn**	**16 06 40.5**	**-0.3**
YUS	baz=245			*e*S	**Sn**	**16 07 03.5**	**-1.6**
YUS	**baz=245 Yu-Shan**	**2.01**	**248**	*e*S	**Pn**	**16 06 40.7**	**-0.1**
TWQ1	**baz=303 Liyutan**	**2.01**	**273**	*e*P	**Pn**	**16 06 40.7**	**+0.2**
TWQ1	baz=270			*e*S	**Sn**	**16 07 05.6**	**+1.1**
JIRB	**baz=270 Irabujima**	**2.08**	**74**	P	**Pn**	**16 06 40.5**	**-0.8**
JIRB				S	**Sn**	**16 07 05.7**	**-0.3**
ELDTW	**Lidau**	**2.09**	**240**	P	**Pn**	**16 06 40.3**	**-1.4**
ELDTW	baz=237			S	**Sn**	**16 07 04.5**	**-2.1**
TCU	**baz=237 Taichung**	**2.11**	**267**	*e*P	**Pn**	**16 06 42.5**	**+0.8**
TCU	baz=279			*e*S	**Sn**	**16 07 08.5**	**+1.7**
ALS	**baz=279 Alishan**	**2.12**	**250**	*e*P	**Pn**	**16 06 42.6**	**+0.3**
ALS	baz=247			*e*S	**Sn**	**16 07 06.5**	**-1.2**
ALS	**baz=247 Alishan**	**2.12**	**250**	*e*S	**Pn**	**16 06 42.6**	**+0.3**
WNT	**baz=309 Mingjian**	**2.13**	**260**	*e*P	**Pn**	**16 06 43.3**	**+1.2**
WNT	baz=247			*e*S	**Sn**	**16 07 09.0**	**+1.6**
JIKM	**baz=247 Ikemajima**	**2.17**	**72**	P	**Pn**	**16 06 42.2**	**-0.4**
JIKM				*e*S	**Sn**	**16 07 08.3**	**0.0**
CHN5	**Tsauling**	**2.21**	**253**	*e*P	**Pn**	**16 06 43.7**	**+0.5**
CHN5	baz=250			*e*S	**Sn**	**16 07 10.0**	**+0.7**
JOGS	**baz=250 Gusukube**	**2.27**	**77**	P	**Pn**	**16 06 43.9**	**-0.1**
JOGS				S	**Sn**	**16 07 11.2**	**+0.5**
WGK	**Gukeng**	**2.28**	**256**	*e*S	**Sn**	**16 07 12.6**	**+1.5**
STYT	**baz=253 Tauyuan**	**2.31**	**242**	*e*P	**Pn**	**16 06 44.4**	**-0.2**
STYT	baz=234			S	**Sn**	**16 07 11.4**	**-0.5**
CHN4	**baz=234 Tsaushan**	**2.37**	**248**	*e*P	**Pn**	**16 06 45.9**	**+0.6**
CHN4	baz=245			*e*S	**Sn**	**16 07 14.9**	**+1.7**
WTP	**baz=245 Ta-pu**	**2.39**	**245**	*e*P	**Pn**	**16 06 46.5**	**+0.7**
WTP	baz=249			*e*S	**Sn**	**16 07 15.0**	**+1.1**
TWK	**baz=249 Hsinying**	**2.49**	**247**	*e*P	**Pn**	**16 06 48.5**	**+1.4**
TWK	baz=244			*e*S	**Sn**	**16 07 17.2**	**+0.9**
TWK	**baz=244 Hsinying**	**2.49**	**247**	*e*S	**Pn**	**16 06 48.9**	**+1.8**
CHN1	**baz=298 Nanshi**	**2.49**	**245**	*e*P	**Pn**	**16 06 47.6**	**+0.6**
CHN1	baz=242			*e*S	**Sn**	**16 07 17.1**	**+0.9**
ECL	**baz=242 Taimali**	**2.49**	**229**	*e*S	**Sn**	**16 07 13.1**	**-3.1**
SGST	**baz=235 Jiashian**	**2.49**	**242**	*e*P	**Pn**	**16 06 48.0**	**+0.9**
SGST	baz=240			S	**Sn**	**16 07 17.7**	**+1.5**
LAY	**Lan-yu**	**2.57**	**211**	*e*P	**Pn**	**16 06 46.0**	**-2.2**
LAY	baz=209			*e*S	**Sn**	**16 07 13.8**	**-4.6**
WSF	**baz=209 Szhu**	**2.60**	**257**	S	**Sn**	**16 07 20.3**	**+1.5**
CHN8	**baz=267 Yiju**	**2.69**	**251**	*e*S	**Sn**	**16 07 22.3**	**+1.1**
TWM1	**baz=248 Shoushan**	**2.75**	**239**	*e*S	**Sn**	**16 07 26.0**	**+3.4**
SCZT	**baz=236 Fangliau**	**2.87**	**230**	*e*P	**Pn**	**16 06 52.6**	**+0.3**
SCZT	baz=223			*e*S	**Sn**	**16 07 25.0**	**-0.6**
HEN	**baz=223 Hengchun**	**3.05**	**223**	*e*S	**Sn**	**16 07 29.1**	**-0.9**
PNG	**baz=220 Penghu**	**3.21**	**258**	*e*S	**Sn**	**16 07 32.8**	**-1.2**
	baz=255						

TAP 12 16:06:14.0,22.°93N×121.°61E,h11km,ML2.5,3C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.28**	**307**	⇑*i* P	Pg	16 06 19.9	+0.2
CHKT	baz=308			*i* S	Sg	16 06 24.1	+0.5
TWF1	**baz=308 Yuli**	**0.51**	**326**	⇑P	Pg	16 06 24.3	+0.4
TWF1	baz=328			S	Sg	16 06 31.4	+0.7
TWG	**baz=328 Pinlang**	**0.51**	**257**	*e*P	Pg	16 06 24.1	+0.2
TWG	baz=258			*e*S	Sg	16 06 31.1	+0.5
ELDTW	**baz=258 Lidau**	**0.60**	**295**	*e*P	Pg	16 06 25.0	-0.8
EHY	**baz=296 Hungye**	**0.63**	**335**	⇑P	Pb	16 06 26.7	-0.3
ECL	**baz=336 Taimali**	**0.69**	**241**	*e*P	Pg	16 06 26.9	-0.5
ECL	baz=241			*e*S	Sg	16 06 35.1	-1.3
STYT	**baz=241 Tauyuan**	**0.82**	**286**	*e*P	Pg	16 06 28.9	-0.9
YUS	**baz=287 Yu-Shan**	**0.82**	**313**	*e*P	Pg	16 06 29.8	-0.2
ALS	**baz=303 Alishan**	**0.94**	**308**	*e*P	Pg	16 06 31.8	-0.4
WTP	**baz=309 Ta-pu**	**0.97**	**289**	*e*P	Pg	16 06 32.7	0.0
WTP	baz=290			*e*S	Sg	16 06 45.5	+0.2
CHN4	**baz=290 Tsaushan**	**1.02**	**294**	*e*P	Pg	16 06 33.6	-0.2
CHN4	baz=304			*e*S	Sg	16 06 47.1	0.0
CHN1	**baz=304 Nanshi**	**1.03**	**284**	*e*P	Pg	16 06 33.7	-0.1
CHN1	baz=295			*e*S	Sg	16 06 46.9	-0.3
CHN5	**baz=295 Tsauling**	**1.08**	**308**	*e*P	Pb	16 06 34.6	-0.2
CHN5	baz=309			*e*S	Sg	16 06 49.3	+0.3
TWK	**baz=309 Hsinying**	**1.08**	**288**	*e*P	Pn	16 06 35.1	-0.1
	baz=298						

IDC 12 16:23:36.8±2.1,47.°41S×165.°28E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.5/32,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=61.9km s-min=29.9km az=165.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**5.48**	**50**	Pn	Pn	16 25 00.3	+0.6
RPZ	2.5nm,0.3s,baz=301,slow=2.2,SNR=12			Sn	Sn	16 26 04.2	+0.8
ASAR	7.4nm,0.3s,baz=15,slow=17,SNR=8.9 **Alice Springs**	**34.45**	**302**	P	P	16 30 27.4	+1.3
WRA	0.9nm,0.6s,baz=135,slow=7.8,SNR=16 **Warramunga Arr**	**37.16**	**307**	P	P	16 30 47.7	-1.8
H01W1	0.3nm,0.7s,baz=138,slow=7.6,SNR=5.1 **Cape Leeuwin H**	**39.79**	**269**	T	T	17 13 26.4	
H01W2	baz=125,slow=75,SNR=106 **Cape Leeuwin H**	**39.80**	**269**	T	T	17 13 27.4	
H01W3	baz=125,slow=75,SNR=83 **Cape Leeuwin H**	**39.81**	**269**	T	T	17 13 28.0	
BRTR	baz=125,slow=75,SNR=116 **Keskin Array B**	**144.61**	**276**	PKP	PKPbc	16 43 13.7	0.0
AKASG	1.0nm,0.8s,baz=139,slow=4.0,SNR=3.7 **Malin Array Be**	**151.33**	**293**	PKPbc	PKPbc	16 43 31.1	-0.3
FINES	0.6nm,0.4s,baz=83,slow=2.5,SNR=4.6 **FINESS Array B**	**152.96**	**316**	PKPbc	PKPbc	16 43 35.0	+0.2
	3.9nm,1.0s,baz=156,slow=10.0,SNR=3.4						

MEX 12 16:47:19.9±0.4,14.°47N×92.°54W,h16km±24km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.39**	**332**	*i* P	Pn	16 47 41.0	-3.7
PCIG				*e*S	Sn	16 47 57.2	-5.5
CCIG	**Comitan**	**1.84**	**12**	*e*P	Pn	16 47 48.1	-2.9
CCIG				*i* S	Sn	16 48 09.2	-4.9
TGIG		**2.36**	**346**	*i* P	Pn	16 47 55.8	-2.3
TGIG				*i* S	Sn	16 48 22.6	-4.2

*NIED **12** 16:57:00,36.°50N×142.°70E,h8km,Mw3.9 Best double couple: M0 8.80000×10^14 NP1:φs209.00000°,δ40.00000°, λ100.00000°. NP2:φs16.00000°,δ51.00000°,λ82.00000°.*
*IDC **12** 16:57:40.6±1.0,36.°39N×142.°83E,h0km,mb3.8/7, mb1 3.9/12,mb1mx3.7/42,mbtmp3.8/12,ML3.5/4,MS2.8/2, Ms1 2.8/2,ms1mx2.5/40,Error ellipse: s-maj=22.7km s-min=18.0km az=112.0*
*ISCJB **12** 16:57:42.6±0.6,36.°46N±0.°04×142.°76E±0.°05,h29km, mb4.0/9,Error ellipse: s-maj=6.7km s-min=5.8km az=144.3*
*JMA **12** 16:57:42.5±0.2,36.°52N×142.°74E,h32km,M3.6*
*NEIC **12** 16:57:45.5±0.7,36.°44N×142.°75E,h35km,mb4.7/2,Error ellipse: s-maj=13.7km s-min=10.2km az=128.0*

ISC 12 16:57:44.2±0.9,36.°46N±0.°06×142.°80E±0.°08,h29km,n37, σ1§66/40,mb3.9/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.73**	**292**	P	**Pn**	**16 58 10.4**	**-2.0**
CHOJ	**Chosi**	**1.74**	**245**	P	**Pn**	**16 58 11.7**	**-0.8**
CHOJ				*e*S	**Sn**	**16 58 33.4**	**-0.4**
JFK	**Kawauchi**	**1.79**	**301**	P	**Pn**	**16 58 11.0**	**-2.2**
JFK				*e*S	**Sn**	**16 58 32.6**	**-2.4**
JHO	**Hitachi**	**1.80**	**276**	P	**Pn**	**16 58 11.5**	**-1.8**
JHO				*e*S	**Sn**	**16 58 33.3**	**-2.0**
JFT	**Otama**	**2.24**	**299**	P	**Pn**	**16 58 18.3**	**-1.0**
JFT				*e*S	**Sn**	**16 58 45.1**	**-0.9**
BSO1	**Boso 1**	**2.33**	**220**	P	**Pn**	**16 58 19.8**	**-0.3**
JAG	**Ashikaga**	**2.70**	**270**	P	**Pn**	**16 58 24.3**	**-1.4**
JMK	**Ichinoseki**	**2.79**	**334**	P	**Pn**	**16 58 25.4**	**-1.5**
JYK	**Kaneyama**	**3.13**	**322**	P	**Pn**	**16 58 30.4**	**-1.1**
JRY	**Ryogami san**	**3.18**	**263**	P	**Pn**	**16 58 31.0**	**-1.3**
JOD2	**Odawara 2**	**3.24**	**250**	P	**Pn**	**16 58 32.5**	**-0.6**
JOD2				*e*S	**Sn**	**16 59 09.9**	**-0.9**
JYN	**Shimob**	**3.58**	**256**	P	**Pn**	**16 58 37.7**	**-0.2**
JYN				*e*S	**Sn**	**16 59 18.8**	**-0.5**
MJAR	**Matsushiro Arr**	**3.70**	**273**	Pn	**Pn**	**16 58 39.0**	**-0.4**
MJAR	2.8nm,0.3s,baz=93,slow=8.6,SNR=28			LR	LR	17 00 21.9	
MAJO	comp=Z,133nm,20.8s,baz=100,slow=44 **Matsushiro**	**3.70**	**273**	*e*P	**Pn**	**16 58 39.3**	**-0.1**
MAT	**Matsushiro**	**3.70**	**273**	P	**Pn**	**16 58 39.2**	**-0.3**
MAT				*e*S	**Sn**	**16 59 20.6**	**-1.5**
MAT	**Matsushiro**	**3.70**	**273**	P	**Pn**	**16 58 39.5**	**0.0**
JHJ2	**Mitsune**	**4.14**	**217**	*e*Pn	**Pn**	**16 58 44.7**	**-0.8**
JHJ	**Hachijo jima 2**	**4.15**	**218**	Pn	**Pn**	**16 58 44.0**	**-1.7**
JHJ	12nm,0.3s,baz=103,slow=23,SNR=17			Sn	**Sn**	**16 59 28.5**	**-4.8**
ASAJ	35nm,0.3s,baz=316,slow=22,SNR=7.9 **Asahikawa**	**7.65**	**359**	Pn	**Pn**	**16 59 32.1**	**-1.6**
ASAJ	1.6nm,0.3s,baz=228,slow=10,SNR=16			Sn	**Sn**	**17 00 54.8**	**-4.5**
	0.4nm,0.3s,baz=166,slow=19,SNR=2.8						
JNU	**Nakatsue**	**10.35**	**255**	Pn	**Pn**	**17 00 10.3**	**-0.5**
	0.1nm,0.3s,baz=103,slow=12,SNR=2.5						
KSRS	**Korea Array**	**11.95**	**279**	Pn	**Pn**	**17 00 34.7**	**+2.2**
KSRS	baz=96,slow=14,SNR=9.8			LR	LR	17 04 27.5	
KSAR	comp=Z,48nm,18.3s,baz=94,slow=34 **Wonju Array Be**	**11.98**	**279**	Pn	**Pn**	**17 00 34.7**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**26.90**	**122**	T	T	17 31 34.7	
H11N1	baz=313,slow=74,SNR=20 **WAKE ISLAND Hy**	**26.91**	**122**	T	T	17 31 35.0	
H11N3	baz=313,slow=74,SNR=16 **WAKE ISLAND Hy**	**26.91**	**122**	T	T	17 31 36.0	
H11S1	baz=313,slow=74,SNR=14 **WAKE ISLAND Hy**	**27.61**	**124**	T	T	17 32 29.3	
H11S3	baz=316,slow=76,SNR=13 **WAKE ISLAND Hy**	**27.61**	**124**	T	T	17 32 26.6	
H11S2	baz=316,slow=76,SNR=15 **WAKE ISLAND Hy**	**27.63**	**124**	T	T	17 32 30.6	
SONM	baz=316,slow=76,SNR=17 **Songino Array**	**29.03**	**305**	P	**P**	**17 03 43.5**	**+1.7**
ZALV	1.5nm,0.6s,baz=108,slow=9.5,SNR=3.3 **Zalesovo Beam**	**43.12**	**313**	P	**P**	**17 05 42.6**	**+0.9**
MKAR	0.6nm,0.5s,baz=119,slow=9.0,SNR=3.5 **Makanchi Array**	**45.37**	**303**	P	**P**	**17 06 00.3**	**+0.5**
KURK	0.4nm,0.6s,baz=87,slow=8.5,SNR=4.7 **Kurchatov**	**47.16**	**309**	*e*P	**P**	**17 06 13.9**	**+0.1**
ILAR	37nm,0.8s **Eielson Array**	**49.39**	**32**	P	**P**	**17 06 32.2**	**+1.4**
INK	0.9nm,0.8s,baz=270,slow=6.4,SNR=9.4 **Inuvik**	**54.39**	**27**	P	**P**	**17 07 09.3**	**+1.4**
WRA	2.3nm,1.1s,baz=285,slow=12,SNR=2.2 **Warramunga Arr**	**56.66**	**190**	P	**P**	**17 07 24.8**	**-0.1**
ABKAR	0.8nm,0.6s,baz=7.4,slow=7.1,SNR=5.6 **Akbulak array**	**59.16**	**311**	*e*P	**P**	**17 07 42.6**	**+0.5**
ASAR	0.5nm,0.6s **Alice Springs**	**60.39**	**189**	P	**P**	**17 07 51.5**	**+0.7**
	0.9nm,1.1s,baz=7.0,slow=8.4,SNR=4.9						

*SOME **12** 17:14:55.9,43.°52N×78.°68E,h15km*
*KRNET **12** 17:14:56.1±0.1,43.°39N×78.°71E,h9km,mb2.6*

ISC 12 17:14:54.5±0.9,43.°44N±0.°04×78.°79E±0.°03,h18km±1km, n20,σ0§99/40,12C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.09**	**290**	*e*P	**Pb**	**17 14 59.1**	**+0.8**
KPKS	1μm,0.1s			*e*S	**Sb**	**17 15 01.4**	**+0.7**
UZB	2μm,0.1s **Uzynbulak**	**0.34**	**150**	*e*P	**Pn**	**17 15 04.7**	**+0.1**
UZB	29nm,0.1s			*e*S	**Sn**	**17 15 10.9**	**-0.2**
KURS	134nm,0.1s **Kuram**	**0.46**	**277**	*e*P	**Pg**	**17 15 03.6**	**-0.3**
KURS	5.2nm,0.3s			*e*S	**Sg**	**17 15 09.2**	**-1.0**
SATY	20nm,0.3s **Saty**	**0.47**	**217**	*e*P	**Pn**	**17 15 05.8**	**-0.7**
SATY	25nm,0.1s			*e*S	**Sn**	**17 15 12.8**	**-1.6**
PDGK	389nm,0.1s **Podgornoye**	**0.52**	**102**	⇑*e*P	**Pn**	**17 15 07.4**	**+0.3**
PDGK	baz=96			⇑*e*S	**Sn**	**17 15 15.5**	**-0.1**
ANVS	baz=96 **Anan'yevo**	**1.05**	**232**	⇓*e*P	**Pg**	**17 15 15.5**	**+0.5**
ANVS	baz=232			⇓*e*S	**Sn**	**17 15 29.6**	**+0.8**
DJR	baz=232 **Jarkent**	**1.15**	**38**	*e*P	**Pg**	**17 15 16.2**	**-0.6**
DJR	9.2nm,0.2s			*e*S	**Sb**	**17 15 30.9**	**+0.4**
KOTS	20nm,0.4s **Kotyrbulak**	**1.24**	**261**	*e*P	**Pn**	**17 15 17.0**	**-0.2**
KOTS				*e*S	**Sb**	**17 15 31.7**	**-1.6**
MDOK	**Medeo**	**1.30**	**258**	*e*P	**Pb**	**17 15 18.7**	**+0.1**
MDOK	26nm,0.3s			*e*S	**Sb**	**17 15 35.1**	**+0.1**
CHKK	21nm,0.5s **Chushkaly**	**1.38**	**288**	*e*P	**Pn**	**17 15 19.0**	**+0.2**
CHKK	4.0nm,0.2s			*e*S	**Sn**	**17 15 35.6**	**-0.9**
AAA	26nm,0.2s **Alma-Ata**	**1.39**	**261**	*e*P	**Pb**	**17 15 20.4**	**+0.4**
AAA	20nm,0.1s			*e*S	**Sb**	**17 15 38.8**	**+1.4**
TNSS	34nm,0.1s **Tian-Shan**	**1.41**	**254**	*e*P	**Pb**	**17 15 20.6**	**+0.1**
TNSS	5.8nm,0.2s			*e*S	**Sb**	**17 15 38.7**	**+0.5**
KDJ	7.2nm,0.2s **Kajisay**	**1.77**	**223**	⇑*i*P	**Pg**	**17 15 28.1**	**-0.4**
KDJ	baz=222			⇑*i*S	**Sg**	**17 15 51.8**	**+0.3**
KUU	baz=222 **Kurty**	**1.84**	**285**	*e*P	**Pn**	**17 15 26.5**	**+1.3**
KUU	6.3nm,0.3s			*e*S	**Sn**	**17 15 48.5**	**+0.5**
KST	17nm,0.3s **Kastek**	**2.11**	**260**	*e*P	**Pb**	**17 15 32.2**	**-0.1**
KST	3.1nm,0.6s			*e*S	**Sb**	**17 15 58.2**	**+0.1**
ULHL	5.7nm,0.5s **Ulahol**	**2.22**	**238**	⇓*i*P	**Pb**	**17 15 34.9**	**+0.6**
ULHL	baz=239			⇓*i*S	**Sg**	**17 16 04.9**	**-1.2**
BOOM	**Boomskoye usch**	**2.30**	**247**	⇑*e*P	**Pb**	**17 15 36.0**	**+0.5**
BOOM	baz=247			⇑*i*S	**Sg**	**17 16 06.3**	**-2.2**
TKM2	baz=247 **Tokmak 2**	**2.40**	**259**	⇑*i*P	**Pb**	**17 15 37.0**	**-0.2**
TKM2	baz=260			⇑*i*S	**Sb**	**17 16 08.9**	**+2.4**
KBK	baz=260 **Karagaybulak**	**2.92**	**256**	⇑*i*P	**Pb**	**17 15 45.9**	**-0.3**
KBK	baz=256			⇑*i*S	**Sb**	**17 16 22.9**	**+1.2**
KZA	baz=256 **Kyzart**	**2.94**	**244**	⇑*i*P	**Pb**	**17 15 46.9**	**+0.2**
KZA	baz=244			⇑*i*S	**Sb**	**17 16 24.9**	**+2.5**
	baz=244						

*NIED **12** 17:22:00,37.°90N×144.°30E,h5km,Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φs360.00000°,δ22.00000°, λ-89.00000°. NP2:φs179.00000°,δ68.00000°, λ-90.00000°.*
*IDC **12** 17:22:00.6±0.7,37.°72N×144.°56E,h0km,mb4.0/14, mb1 4.2/19,mb1mx4.0/42,mbtmp4.1/19,ML3.9/5,MS2.8/4, Ms1 2.9/4,ms1mx2.7/32,Error ellipse: s-maj=18.8km s-min=13.9km az=127.0*
*ISCJB **12** 17:22:03.7±0.4,37.°81N±0.°04×144.°36E±0.°04,h33km, mb4.2/20,MS3.0/1,Error ellipse: s-maj=5.4km s-min=4.3km az=145.3*
*JMA **12** 17:22:04.8±0.2,37.°89N×144.°29E,h48km,M4.3*
*NEIC **12** 17:22:05.9±0.4,37.°77N×144.°42E,h35km,mb5.0/6,Error ellipse: s-maj=7.9km s-min=5.4km az=137.0*

ISC 12 17:22:06.2±0.7,37.°87N±0.°05×144.°35E±0.°07,h35km,n63, σ2§12/76,mb4.1/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.43**	**301**	P	**Pn**	**17 22 42.5**	**-0.8**
JIO	**Ouri**	**2.44**	**285**	P	**Pn**	**17 22 42.6**	**-0.8**
JIO				*e*S	**Sn**	**17 23 10.2**	**-1.8**
MIYJ	**Miyakonagasawa**	**2.61**	**311**	P	**Pn**	**17 22 44.6**	**-1.2**
MIYJ				*e*S	**Sn**	**17 23 14.5**	**-1.8**
JMK	**Ichinoseki**	**2.69**	**295**	P	**Pn**	**17 22 46.2**	**-0.6**
JOM	**Ohasama**	**2.88**	**305**	P	**Pn**	**17 22 49.1**	**-0.4**
JFT	**Otama**	**3.20**	**265**	P	**Pn**	**17 22 53.7**	**-0.3**
JFT				*e*S	**Sn**	**17 23 29.6**	**-1.4**
JYK	**Kaneyama**	**3.31**	**290**	P	**Pn**	**17 22 55.4**	**0.0**
JYK				*e*S	**Sn**	**17 23 33.8**	**+0.3**
BSO1	**Boso 1**	**4.21**	**221**	P	**Pn**	**17 23 05.3**	**-2.1**
JOT	**Ohata**	**4.33**	**325**	P	**Pn**	**17 23 09.4**	**-0.1**
JOT				*e*S	**Sn**	**17 23 55.4**	**-3.4**
JRY	**Ryogami san**	**4.74**	**249**	P	**Pn**	**17 23 13.9**	**-1.3**
JRY				*e*S	**Sn**	**17 24 05.5**	**-3.4**
JKB	**Kayabe**	**4.75**	**329**	*e*S	**Sn**	**17 24 05.4**	**-3.7**
JCH	**Churui**	**4.80**	**351**	P	**Pn**	**17 23 14.2**	**-1.7**
JCH				*e*S	**Sn**	**17 24 05.4**	**-4.8**
JOD2	**Odawara 2**	**4.97**	**240**	P	**Pn**	**17 23 16.9**	**-1.4**

JOD2 *e*S **Sn** **17 24 11.4 -3.2**
MJAR Matsushiro Arr 5.08 257 Pn **Pn** **17 23 20.0 +0.2**
11nm,0.3s,baz=72,slow=10,SNR=139
MJAR Sn **Sn** **17 24 18.9 +1.7**
1.4nm,0.3s,baz=95,slow=28,SNR=5.0
MJAR LR LR 17 25 53.6
comp=Z,122nm,18.9s,baz=90,slow=45
MAJO Matsushiro 5.08 257 *e*Pn **Pn** **17 23 20.4 +0.5**
MAT Matsushiro 5.08 257 P **Pn** **17 23 20.5 +0.7**
MAT *e*S **Sn** **17 24 19.1 +1.8**
MJB9 Matsu-Tunnel 5.08 257 *e*Pn **Pn** **17 23 20.6 +0.8**
NEM2 Nemuro 2 5.59 10 P **Pn** **17 23 22.7 -4.0**
NEM2 *e*S Sn 17 24 21.4 -8.2
JHJ2 Mitsune 6.02 219 P **Pn** **17 23 29.8 -2.9**
JHJ2 *e*S **Sn** **17 24 33.5 -6.9**
JHJ2 Mitsune 6.02 219 *e*Pn **Pn** **17 23 30.1 -2.5**
JHJ Hachijo jima 2 6.03 220 Pn **Pn** **17 23 29.9 -2.9**
30nm,0.3s,baz=276,slow=23,SNR=17
JHJ Sn **Sn** **17 24 33.7 -6.9**
50nm,0.3s,baz=48,slow=23,SNR=7.4
JTKR Abashiri--Toko 6.10 357 P **Pn** **17 23 31.8 -2.0**
JTKR *e*S **Sn** **17 24 36.4 -5.9**
JHR Hokuryu 6.19 342 *e*S **Sn** **17 24 42.7 -1.9**
ASAJ Asahikawa 6.38 349 Pn **Pn** **17 23 36.9 -0.7**
6.9nm,0.3s,baz=198,slow=16,SNR=94
ASAJ Sn **Sn** **17 24 45.4 -3.8**
2.4nm,0.3s,baz=348,slow=20,SNR=4.3
ASAJ Asahikawa 6.38 349 *e*Pn **Pn** **17 23 37.2 -0.4**
ASAJ *e*Sn **Sn** **17 24 50.2 +1.1**
INU Inuyama 6.41 249 *e*Pn **Pn** **17 23 39.0 +0.9**
YSS Yuzh-Sakhalins 9.15 353 *e*Pn **Pn** **17 24 15.2 -0.4**
JNU Nakatsue 11.96 251 Pn **Pn** **17 24 53.6 -0.5**
0.1nm,0.3s,baz=66,slow=12,SNR=3.7
KSRS Korea Array 13.03 273 Pn **Pn** **17 25 09.3 +0.7**
0.1nm,0.3s,baz=87,slow=13,SNR=8.8
KSRS LR LR 17 29 46.9
comp=Z,24nm,19.5s,baz=97,slow=35
KS01 Wonju Array Si 13.05 273 *e*Pn **Pn** **17 25 08.8 -0.2**
KS15 Wonju Array Si 13.06 273 *e*Pn **Pn** **17 25 08.7 -0.4**
KSAR Wonju Array Be 13.06 273 Pn **Pn** **17 25 09.3 +0.2**
PETK Petropavlovsk- 17.83 27 LR LR 17 32 05.5
comp=Z,30nm,20.0s,baz=212,slow=34
SEY Seymchan 25.57 9 P **P** **17 27 32.8 +1.3**
3.1nm,0.8s,baz=201,slow=17,SNR=6.3
H11N2 WAKE ISLAND Hy 26.66 126 T T 17 55 27.5
baz=318,slow=75,SNR=17
H11N1 WAKE ISLAND Hy 26.67 126 T T 17 55 23.8
baz=318,slow=75,SNR=10
H11N3 WAKE ISLAND Hy 26.68 126 T T 17 55 41.0
baz=318,slow=75,SNR=14
ZAA1 Zalesovo Array 43.09 312 *e*P **P** **17 30 03.4 +0.8**
ZALV Zalesovo Beam 43.09 312 P **P** **17 30 03.4 +0.8**
0.7nm,0.5s,baz=91,slow=6.5,SNR=4.1
ZALV PcP **PcP** **17 31 52.5 +0.6**
2.2nm,0.5s,baz=101,slow=2.9,SNR=9.3
CMAR Chiang Mai Arr 43.97 257 P **P** **17 30 12.2 +2.1**
0.5nm,0.6s,baz=48,slow=6.9,SNR=5.8
CMAR LR LR 17 50 06.9
comp=Z,18nm,18.1s,baz=205,slow=38
KDAK Kodiak Island 44.91 43 P **P** **17 30 16.2 -0.9**
8.0nm,0.6s,baz=274,slow=3.3,SNR=7.2
MK01 Makanchi Array 45.66 302 *e*P **P** **17 30 24.2 +1.0**
MK32 Makanchi Array 45.66 302 *e*P **P** **17 30 24.4 +1.2**
MKAR Makanchi Array 45.66 302 P **P** **17 30 24.4 +1.2**
1.2nm,0.7s,baz=84,slow=9.3,SNR=8.3
KURK Kurchatov 47.26 308 *e*P **P** **17 30 36.9 +1.2**
3.9nm,0.8s
KURBB Kurchatov Arra 47.33 308 P **P** **17 30 37.3 +1.0**
3.5nm,0.6s,baz=82,slow=8.0,SNR=24
ILAR Eielson Array 47.53 33 P **P** **17 30 37.8 +0.1**
2.2nm,0.8s,baz=262,slow=6.5,SNR=22
ILB Eielson Array 47.53 33 *e*P **P** **17 30 37.8 +0.1**
BVAR Borovoye Array 51.74 312 P **P** **17 31 11.2 +1.4**
1.2nm,0.6s,baz=67,slow=11,SNR=8.1
BVAR PcP **PcP** **17 32 23.7 +0.9**
1.1nm,0.6s,baz=83,slow=3.7,SNR=5.5
HYT Haines Junctio 52.22 37 *e*P **P** **17 31 15.6 +2.1**
16nm,1.3s
INK Inuvik 52.57 28 P **P** **17 31 16.1 +0.4**
1.3nm,0.6s,baz=333,slow=5.6,SNR=5.9
WB2 Warramunga Arr 58.27 191 *e*P **P** **17 31 56.4 -0.8**
39nm,1.8s
WR1 Warramunga Arr 58.27 191 *e*P **P** **17 31 55.8 -1.5**
50nm,2.0s
WRA Warramunga Arr 58.27 191 P **P** **17 31 55.8 -1.5**
3.0nm,0.8s,baz=12,slow=7.3,SNR=17
ABKAR Akbulak array 59.18 311 *e*P **P** **17 32 04.5 +1.1**
12nm,0.6s
AS31 Alice Springs 61.99 191 *e*P **P** **17 32 21.8 -1.0**
1.8nm,1.4s
ASAR Alice Springs 61.99 191 P **P** **17 32 21.8 -1.0**
0.4nm,0.6s,baz=8.7,slow=7.1,SNR=17
NB200 NORSAR Array S 74.30 338 *e*P **P** **17 33 40.2 +0.7**
NOA NORSAR Array B 74.30 338 P **P** **17 33 40.2 +0.7**
2.0nm,0.8s,baz=39,slow=5.7,SNR=4.2
AKASG Malin Array Be 75.04 323 P **P** **17 33 44.9 +0.9**
0.6nm,0.4s,baz=43,slow=6.4,SNR=3.4
LTX Lajitas 87.75 54 *e*P **P** **17 34 51.5 -0.2**
TXAR Lajitas Array 87.75 54 P **P** **17 34 51.5 -0.2**
0.1nm,0.5s,baz=306,slow=3.1,SNR=2.9
LPAZ La Paz 144.24 62 PKP **PKPab** **17 41 36.9 -0.5**
0.4nm,0.5s,baz=236,slow=3.6,SNR=2.6

*ISCJB **12** 17:32:58.6±0.6,50.°10N±0.°04×18.°39E±0.°03,h0km, Error ellipse: s-maj=5.3km s-min=3.0km az=11.9*
*IPEC **12** 17:32:59.8±0.2,50.°10N×18.°45E,h0km±2km,ML1.4/2, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*CSEM **12** 17:32:59.6±0.3,50.°08N×18.°41E,h1km,ML2.6/5, Error ellipse: s-maj=5.7km s-min=3.2km az=12.0*
*PRU **12** 17:33:00.6,50.°07N×18.°41E,h0km*
ISC 12 17:32:59.1±0.9,50.°12N±0.°04×18.°47E±0.°03,h0km,n26, σ0s81/45,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.18**	**260**	*e*Sg	**Sg**	**17 33 07.5**	**+2.6**
OKC	**Ostrava-Krasne**	**0.35**	**217**	*i* PG	**Pg**	**17 33 06.4**	**+0.7**
OKC				*e*SG	**Sg**	**17 33 11.1**	**+0.9**
	comp=Z,34nm,0.6s						
OKC	**Ostrava-Krasne**	**0.35**	**217**	Pg	**Pg**	**17 33 06.4**	**+0.7**
OKC				Sg	**Sg**	**17 33 11.1**	**+0.9**
	34nm,0.6s						
MORC	**Moravsky Berou**	**0.69**	**241**	*e*Pg	**Pg**	**17 33 12.5**	**+0.2**
MORC				*e*Sg	**Sg**	**17 33 20.6**	**-0.6**
	7.8nm,0.2s,baz=61						
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**17 33 16.9**	**+0.1**
OJC				*e*Sg	**Sb**	**17 33 29.1**	**+0.2**
OJC	**Ojcow**	**0.86**	**83**	*e*Pg	**Pb**	**17 33 16.9**	**+0.1**
OJC				*e*Sg	**Sb**	**17 33 29.1**	**+0.2**
KRLC	**Kraliky**	**1.09**	**269**	*e*PG	**Pg**	**17 33 19.8**	**-0.1**
KRLC				*e*SG	**Sg**	**17 33 33.5**	**-0.6**
KRLC	**Kraliky**	**1.09**	**269**	Pg	**Pg**	**17 33 19.8**	**-0.1**
KRLC				Sg	**Sg**	**17 33 33.5**	**-0.6**
LANS	**Liptovska Anna**	**1.16**	**146**	*e*Pg	**Pb**	**17 33 22.1**	**0.0**
LANS				*e*Sg	**Sb**	**17 33 38.2**	**+0.5**
LANS	**Liptovska Anna**	**1.16**	**146**	*e*PG	**Pb**	**17 33 22.0**	**0.0**
LANS				*e*SG	**Sb**	**17 33 38.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.40**	**280**	*e*PG	**Pn**	**17 33 26.1**	**+0.2**
DPC				*e*SG	**Sg**	**17 33 44.5**	**+0.5**
	comp=Z,9.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.40**	**280**	Pg	**Pn**	**17 33 26.1**	**+0.2**
DPC				Sg	**Sg**	**17 33 44.5**	**+0.5**
	9.8nm,0.4s						
VRAC	**Vranov**	**1.46**	**237**	*e*Pg	**Pn**	**17 33 26.3**	**-0.4**
VRAC				*e*Sg	**Sg**	**17 33 45.0**	**-1.0**
	4.2nm,0.2s,baz=56						
UPC	**Upice**	**1.63**	**285**	*e*PG	**Pb**	**17 33 30.1**	**+0.2**
UPC				*e*SG	**Sg**	**17 33 51.6**	**+0.3**
UPC	**Upice**	**1.63**	**285**	Pg	**Pb**	**17 33 30.1**	**+0.2**
UPC				Sg	**Sg**	**17 33 51.6**	**+0.3**
VYHS	**Vyhne**	**1.64**	**172**	*e*Pg	**Pn**	**17 33 29.0**	**-0.2**
VYHS				*e*Sn	**Sn**	**17 33 50.7**	**-0.3**
VYHS	**Vyhne**	**1.64**	**172**	*e*PN	**Pn**	**17 33 29.0**	**-0.2**
VYHS				*e*SN	**Sn**	**17 33 50.7**	**-0.3**
KRUC	**Moravsky**	**1.71**	**233**	*e*Pn	**Pn**	**17 33 30.4**	**+0.2**
	baz=51						
KRUC				*e*Sg	**Sn**	**17 33 52.7**	**-0.1**
	baz=51						
GOPC	**GO Pecny, Ondr**	**2.39**	**267**	*e*SG	**Sb**	**17 34 13.5**	**+0.6**
	comp=Z,2.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.39**	**267**	Sg	**Sb**	**17 34 13.5**	**+0.6**
	2.5nm,0.2s						
PVCC	**Panska Ves**	**2.54**	**281**	*e*SG	**Sg**	**17 34 20.9**	**+0.4**
	comp=Z,7.1nm,0.2s						
PVCC	**Panska Ves**	**2.54**	**281**	Sg	**Sg**	**17 34 20.9**	**+0.4**
	7.1nm,0.2s						
PRU	**Pruhonice**	**2.54**	**269**	*e*SG	**Sb**	**17 34 17.9**	**+0.7**
PRU	**Pruhonice**	**2.54**	**269**	Sg	**Sb**	**17 34 17.9**	**+0.7**
KHC	**Kasperske Hory**	**3.33**	**255**	*e*PG	**Pg**	**17 34 01.3**	**-1.6**
KHC				*e*SG	**Sg**	**17 34 44.1**	**-1.9**
KHC	**Kasperske Hory**	**3.33**	**255**	Pg	**Pg**	**17 34 01.3**	**-1.6**
KHC				Sg	**Sg**	**17 34 44.1**	**-1.9**

*IDC **12** 17:44:04.3±1.3,37.°05N×140.°61E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.4/27,mbtmp3.3/3,Error ellipse: s-maj=34.1km s-min=23.7km az=139.0*
*ISCJB **12** 17:44:05.0±0.5,37.°08N±0.°04×140.°61E±0.°04,h16km±6km, mb3.5/3,Error ellipse: s-maj=6.1km s-min=5.5km az=147.0*
*JMA **12** 17:44:05.1,37.°08N×140.°55E,h7km±1km,M3.0*
JMA Felt III J1.
ISC 12 17:44:04.8±1.3,37.°05N±0.°06×140.°55E±0.°03,h4km±12km, n12,σ0s73/20,mb3.5/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.20**	**74**	P	**Pg**	**17 44 09.3**	**+0.5**
ONAJ				S	**Sg**	**17 44 12.5**	**+1.0**
JFK	**Kawauchi**	**0.41**	**39**	P	**Pg**	**17 44 12.6**	**-0.1**
JFK				S	**Sg**	**17 44 17.9**	**-0.2**
JHO	**Hitachi**	**0.43**	**178**	P	**Pb**	**17 44 14.1**	**-0.9**
JHO				S	**Sb**	**17 44 20.5**	**-1.4**
JFT	**Otama**	**0.50**	**340**	P	**Pg**	**17 44 14.3**	**-0.1**
JFT				S	**Sg**	**17 44 20.8**	**-0.2**
JSB	**Shiboa**	**0.51**	**261**	P	**Pb**	**17 44 15.9**	**-0.5**
JSB				S	**Sb**	**17 44 23.4**	**-0.7**
JFY	**Yanaizu**	**0.77**	**298**	P	**Pg**	**17 44 19.7**	**+0.2**
JFY				S	**Sg**	**17 44 29.3**	**-0.2**
JMM	**Marumori**	**0.84**	**13**	P	**Pg**	**17 44 20.1**	**-0.8**
MJAR	**Matsushiro Arr**	**1.95**	**256**	Pn	**Pn**	**17 44 39.4**	**+0.7**
	7.8nm,0.3s,baz=75,slow=15,SNR=52						
MJAR				Sn	**Sn**	**17 45 04.1**	**+0.6**
	12nm,0.3s,baz=156,slow=28,SNR=15						
MJAR				LR	LR	17 45 40.0	
	comp=Z,56nm,19.1s,baz=25,slow=49						
MAT	**Matsushiro**	**1.95**	**256**	P	**Pn**	**17 44 39.6**	**+1.0**
MAT				S	**Sb**	**17 45 06.1**	**+0.6**
ILAR	**Eielson Array**	**49.85**	**32**	P	**P**	**17 52 58.7**	**+0.1**
	0.2nm,0.7s,baz=278,slow=6.8,SNR=2.5						
WRA	**Warramunga Arr**	**56.98**	**187**	P	**P**	**17 53 50.8**	**-0.7**
	0.3nm,0.4s,baz=3.6,slow=7.4,SNR=8.2						
ASAR	**Alice Springs**	**60.71**	**187**	P	**P**	**17 54 17.9**	**+0.5**
	0.3nm,0.8s,baz=6.6,slow=3.5,SNR=3.2						

*IDC **12** 18:00:43.8±1.1,35.°91N×141.°63E,h0km,mb3.9/6, mb1 3.9/9,mb1mx3.6/45,mbtmp3.8/9,ML3.0/3,MS3.1/3, Ms1 3.1/3,ms1mx2.8/27,Error ellipse: s-maj=27.2km s-min=20.8km az=77.0*
*ISCJB **12** 18:00:46.7±0.6,35.°81N±0.°04×141.°41E±0.°06,h26km, mb4.1/8,MS3.3/1,Error ellipse: s-maj=7.3km s-min=5.9km az=169.5*
*NEIC **12** 18:00:50.8±1.0,35.°83N×141.°31E,h45km±9km,mb4.8/2, Error ellipse: s-maj=13.5km s-min=8.3km az=72.0*
*JMA **12** 18:00:50.9±0.1,35.°76N×141.°01E,h35km±1km,M3.0*
ISC 12 18:00:48.6±0.8,35.°81N±0.°06×141.°33E±0.°08,h26km,n35, σ1s21/32,mb4.1/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.40**	**255**	P	**Pb**	**18 00 56.9**	**-0.2**
CHOJ				*e*S	**Sb**	**18 01 01.5**	**-1.4**
JCN	**Nagara**	**1.00**	**247**	P	**Pn**	**18 01 05.4**	**-1.4**
JHO	**Hitachi**	**1.01**	**323**	P	**Pn**	**18 01 07.4**	**+0.3**
JYT	**Yasato**	**1.01**	**295**	P	**Pn**	**18 01 05.7**	**-1.4**
BSO1	**Boso 1**	**1.19**	**194**	P	**Pn**	**18 01 09.3**	**+0.3**
BSO3	**Boso 3**	**1.21**	**214**	P	**Pn**	**18 01 09.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.63**	**287**	Pn	**Pn**	**18 01 29.2**	**-0.1**
	3.9nm,0.3s,baz=113,slow=7.7,SNR=39						
MJAR				LR	LR	18 02 34.8	
	comp=Z,222nm,20.0s,baz=120,slow=40						
MAJO	**Matsushiro**	**2.63**	**287**	*e*Pn	**Pn**	**18 01 29.7**	**+0.4**
MAT	**Matsushiro**	**2.63**	**287**	P	**Pn**	**18 01 29.7**	**+0.3**
MAT				*e*S	**Sn**	**18 02 01.5**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.63**	**287**	*e*Pn	**Pn**	**18 01 29.8**	**+0.4**
JHJ2	**Mitsune**	**2.96**	**205**	*e*Pn	**Pn**	**18 01 36.7**	**+2.7**
JHJ	**Hachijo jima 2**	**2.97**	**206**	Pn	**Pn**	**18 01 34.7**	**+0.7**
	5.5nm,0.3s,baz=93,slow=19,SNR=6.4						
JHJ				Sn	**Sn**	**18 02 08.6**	**-0.2**
	24nm,0.3s,baz=190,slow=23,SNR=7.0						
INU	**Inuyama**	**3.54**	**264**	*e*Pn	**Pn**	**18 01 42.8**	**+0.9**
ASAJ	**Asahikawa**	**8.36**	**6**	Pn	**Pn**	**18 02 48.3**	**+0.3**
	0.6nm,0.3s,baz=234,slow=8.5,SNR=5.8						
ASAJ	**Asahikawa**	**8.36**	**6**	*e*Pn	**Pn**	**18 02 50.4**	**+2.4**
CBIJ	**Chichi jima**	**8.71**	**175**	*e*Pn	**Pn**	**18 02 54.3**	**+1.3**
KSRS	**Korea Array**	**10.90**	**283**	Pn	**Pn**	**18 03 25.2**	**+2.4**
	0.1nm,0.3s,baz=92,slow=13,SNR=4.6						
KSRS				LR	LR	18 07 32.9	
	comp=Z,75nm,20.2s,baz=112,slow=37						
KSAR	**Wonju Array Be**	**10.93**	**283**	Pn	**Pn**	**18 03 25.2**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**27.60**	**119**	T	T	18 35 36.6	
	baz=311,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy**	**27.61**	**119**	T	T	18 35 36.2	
	baz=311,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**27.62**	**119**	T	T	18 35 37.3	
	baz=311,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	18 36 31.9	
	baz=312,slow=75,SNR=76						
H11S3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	18 36 31.9	
	baz=312,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	18 36 30.6	
	baz=312,slow=75,SNR=45						
ZAA1	**Zalesovo Array**	**42.70**	**313**	*e*P	**P**	**18 08 43.7**	**+0.6**
ZALV	**Zalesovo Beam**	**42.70**	**313**	P	**P**	**18 08 43.7**	**+0.6**
	1.8nm,0.7s,baz=90,slow=7.6,SNR=7.7						
MK32	**Makanchi Array**	**44.72**	**303**	*e*P	**P**	**18 08 59.9**	**+0.4**
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**18 08 59.9**	**+0.4**
	3.0nm,0.7s,baz=93,slow=9.1,SNR=19						
MKAR				LR	LR	18 28 29.6	
	comp=Z,33nm,18.5s,baz=183,slow=37						
KURK	**Kurchatov**	**46.64**	**309**	*e*P	**P**	**18 09 14.2**	**-0.4**
	5.2nm,0.4s						
WR1	**Warramunga Arr**	**55.84**	**188**	*e*P	**P**	**18 10 23.6**	**-0.2**
	14nm,1.4s						
WRA	**Warramunga Arr**	**55.84**	**188**	P	**P**	**18 10 23.6**	**-0.2**
	0.8nm,0.9s,baz=5.2,slow=7.5,SNR=5.5						
ASAR	**Alice Springs**	**59.56**	**188**	P	**P**	**18 10 50.6**	**+0.7**
	0.3nm,0.7s,baz=18,slow=9.3,SNR=6.3						
DLBC	**Dease Lake**	**59.64**	**38**	P	**P**	**18 10 47.9**	**-2.3**
	1.3nm,0.4s,baz=255,slow=1.4,SNR=6.9						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**18 12 27.8**	**-1.0**
	0.6nm,0.5s,baz=45,slow=6.4,SNR=4.1						
CLL	**Collm**	**82.12**	**330**	*e*P	**P**	**18 13 07.0**	**+0.3**

WEL 12 18:05:32.7±0.4,38.°15S×176.°25E,h162km±3km,ML3.5/29, 3C-6D,Error ellipse: s-maj=1.9km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.69**	**100**	⇓PN	Pn	18 05 56.2	-0.2
URZ				SN	Sn	18 06 14.1	-0.5
URZ				AML	AML	18 06 14.9	
MRHZ	**Matea Rd**	**0.70**	**169**	PN	Pn	18 05 56.6	0.0
MRHZ				SN	Sn	18 06 14.5	-0.5
MRHZ				AML	AML	18 06 15.5	
TOZ	**Tahuroa Road**	**0.72**	**305**	PN	Pn	18 05 57.0	+0.3
RTZ	**Ruatahuna**	**0.74**	**129**	⇓PN	Pn	18 05 57.0	+0.1
RAGZ	**Rawiri**	**0.98**	**111**	PN	Pn	18 05 58.7	+0.1
RAGZ				SN	Sn	18 06 18.6	+0.1
RAGZ				AML	AML	18 06 20.9	
MWZ	**Matawai**	**1.03**	**101**	⇓PN	Pn	18 05 58.9	0.0
MWZ				AML	AML	18 06 20.0	
MWZ				AML	AML	18 06 20.8	
BKZ	**Black Stump Fm**	**1.03**	**169**	⇓PN	Pn	18 05 59.0	0.0
BKZ				AML	AML	18 06 19.0	
BKZ				AML	AML	18 06 19.2	
NMHZ	**Naumai**	**1.05**	**155**	PN	Pn	18 05 60.0	+0.9
NMHZ				AML	AML	18 06 22.3	
NMHZ				AML	AML	18 06 22.7	
SNGZ	**Shannon Statio**	**1.07**	**127**	⇓PN	Pn	18 05 59.8	+0.6
SNGZ				AML	AML	18 06 23.3	
SNGZ				AML	AML	18 06 24.6	
TWVZ	**Taurewa**	**1.12**	**214**	PN	Pn	18 05 59.7	0.0
RUGZ	**Raukumara Rang**	**1.15**	**81**	PN	Pn	18 05 59.0	-1.0
ARHZ	**Aropaoanui**	**1.26**	**152**	PN	Pn	18 06 00.9	+0.1
ARHZ				AML	AML	18 06 23.6	
ARHZ				AML	AML	18 06 24.3	
HAZ	**Te Kaha**	**1.28**	**73**	PN	Pn	18 06 00.2	-0.8
HAZ				AML	AML	18 06 22.4	
HAZ				AML	AML	18 06 24.1	
WNVZ	**Wahianoa**	**1.28**	**203**	⇑PN	Pn	18 06 01.1	-0.1
KWHZ	**Kaweka Forest**	**1.28**	**174**	PN	Pn	18 06 01.4	+0.2
KWHZ				AML	AML	18 06 23.7	
KWHZ				AML	AML	18 06 26.8	
TKGZ	**Te Karaka**	**1.29**	**104**	⇑PN	Pn	18 06 01.5	+0.4
TKGZ				AML	AML	18 06 26.9	
TKGZ				AML	AML	18 06 27.2	
MOVZ	**Moawhango**	**1.31**	**197**	PN	Pn	18 06 01.0	-0.5
MCHZ	**McNeill Hill**	**1.34**	**165**	PN	Pn	18 06 02.4	+0.8
MCHZ				AML	AML	18 06 27.0	
BHHZ	**Black Hill Sta**	**1.35**	**186**	PN	Pn	18 06 01.4	-0.3
BHHZ				AML	AML	18 06 24.4	
BHHZ				AML	AML	18 06 25.5	
TWGZ	**Tauwhareparae**	**1.37**	**92**	PN	Pn	18 06 02.3	+0.4
TWGZ				AML	AML	18 06 28.3	
TWGZ				AML	AML	18 06 28.6	
KNZ	**Kokohu**	**1.42**	**128**	⇓PN	Pn	18 06 02.5	+0.2
PKGZ	**Pakihiroa**	**1.47**	**80**	PN	Pn	18 06 02.9	0.0
PKGZ				AML	AML	18 06 27.7	
PKGZ				AML	AML	18 06 28.0	
KRHZ	**Kereru**	**1.50**	**176**	PN	Pn	18 06 03.1	-0.1
KRHZ				AML	AML	18 06 28.7	
KRHZ				AML	AML	18 06 29.0	
CNGZ	**Carnagh Statio**	**1.58**	**103**	PN	Pn	18 06 04.5	+0.5
PUZ	**Puketiti**	**1.59**	**88**	PN	Pn	18 06 03.7	-0.4
MHGZ	**Mahia Peninsul**	**1.64**	**128**	PN	Pn	18 06 05.1	+0.4
KAHZ	**Kahuranaki**	**1.72**	**164**	PN	Pn	18 06 05.7	+0.2
KAHZ				AML	AML	18 06 33.5	
KAHZ				AML	AML	18 06 37.1	
WMGZ	**Waiomatatini S**	**1.75**	**80**	PN	Pn	18 06 05.6	-0.1
WMGZ				AML	AML	18 06 32.6	
PNHZ	**Pukenui**	**1.76**	**181**	PN	Pn	18 06 05.5	-0.4
PXZ	**Pawanui**	**1.94**	**166**	PN	Pn	18 06 07.6	-0.2
PXZ				AML	AML	18 06 36.2	
PRHZ	**Porangahau**	**2.14**	**172**	PN	Pn	18 06 09.5	-0.6
PRHZ				AML	AML	18 06 40.6	
PRHZ				AML	AML	18 06 40.8	
DVHZ	**Dannevirke**	**2.15**	**182**	PN	Pn	18 06 09.2	-1.1
DVHZ				AML	AML	18 06 38.6	
DVHZ				AML	AML	18 06 40.7	
OHWZ	**Ohakea**	**2.18**	**199**	PN	Pn	18 06 09.8	-0.8
PRWZ	**Pori Road**	**2.41**	**185**	PN	Pn	18 06 12.3	-1.0
PRWZ				AML	AML	18 06 45.9	
BFZ	**Birch Farm**	**2.53**	**180**	PN	Pn	18 06 13.3	-1.5
MRZ	**Mangatainoka R**	**2.56**	**191**	⇑PN	Pn	18 06 13.4	-1.7
MRZ				AML	AML	18 06 46.8	
MRZ				AML	AML	18 06 47.1	
TIWZ	**Tintock**	**2.64**	**186**	PN	Pn	18 06 14.6	-1.5
TIWZ				AML	AML	18 06 49.1	
OGWZ	**Otaki Gorge**	**2.79**	**197**	PN	Pn	18 06 16.1	-1.8
OGWZ				AML	AML	18 06 51.3	
OGWZ				AML	AML	18 06 51.9	
HOWZ	**Holdsworth Sta**	**2.80**	**191**	PN	Pn	18 06 15.9	-2.2
HOWZ				AML	AML	18 06 51.5	
KIW	**Kapiti Island**	**2.90**	**200**	PN	Pn	18 06 16.9	-2.4
MTW	**Mount Morrison**	**3.06**	**191**	PN	Pn	18 06 18.7	-2.6
CAW	**Cannon Point**	**3.09**	**197**	PN	Pn	18 06 19.2	-2.4
CAW				AML	AML	18 06 57.2	
CAW				AML	AML	18 06 57.4	
TRWZ	**Traveller**	**3.27**	**187**	PN	Pn	18 06 21.1	-2.5
TRWZ				AML	AML	18 07 02.1	
PAWZ	**Paruwai Farm**	**3.29**	**191**	PN	Pn	18 06 21.5	-2.7
MSWZ	**Moikau Station**	**3.35**	**193**	PN	Pn	18 06 22.0	-2.9
MSWZ				AML	AML	18 07 01.2	
MSWZ				AML	AML	18 07 01.6	
TCW	**Tory Channel**	**3.42**	**206**	PN	Pn	18 06 23.1	-2.6
BHW	**Baring Head**	**3.42**	**198**	PN	Pn	18 06 22.8	-3.0
PLWZ	**Palliser**	**3.50**	**192**	PN	Pn	18 06 23.7	-3.1
TUWZ	**Tuamarina**	**3.73**	**208**	PN	Pn	18 06 26.7	-3.0
THZ	**Tophouse**	**4.43**	**214**	PN	Pn	18 06 36.2	-2.6
KHZ	**Kahutara**	**4.74**	**205**	PN	Pn	18 06 39.2	-3.6

*ISCJB **12** 18:09:19.9±0.5,43.°77N±0.°06×105.°10W±0.°06,h0km,Error ellipse: s-maj=8.4km s-min=6.1km az=164.8*
*IDC **12** 18:09:19.3±2.5,43.°56N×105.°30W,h0km,mb1 3.9/2, mb1mx3.4/44,mbtmp3.7/2,ML3.5/2,Error ellipse: s-maj=64.3km s-min=9.1km az=153.0*
*NEIC **12** 18:09:21.1±0.5,43.°71N×105.°13W,h0km,ML3.0,Error ellipse: s-maj=8.7km s-min=6.3km az=150.0,Suspected Mining explosion.*
NEIC 71 km [44 miles] SSE of Gillette.
ISC 12 18:09:21.5±1.0,43.°90N±0.°06×105.°23W±0.°05,h0km,n22, σ1s54/21,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**75**	*e*P	**Pb**	**18 09 39.3**	**-0.7**
K22A	**Casper**	**1.56**	**218**	*e*P	**Pn**	**18 09 46.9**	**-3.8**
PHWY	**Pilot Hill**	**2.60**	**184**	*e*P	**Pn**	**18 10 03.6**	**-1.4**
RWWY	**Rawlins**	**2.64**	**214**	*e*P	**Pn**	**18 10 04.5**	**-1.1**

PB09 IAML 18 20 24.6
comp=N,12μm,0.8s
PB04 IPOC Station P 1.50 294 *e*Pn **Pn 18 20 05.5 -0.5**
PB07 IPOC Station P 1.66 317 ⇑*i*P **Pn 18 20 08.0 0.0**
PB07 *i* S **Sn 18 20 29.4 -0.3**
PB07 IAML 18 20 32.0
comp=E,5μm,0.2s
PB10 IPOC Station P 1.81 252 *e*P **Pn 18 20 08.8 -1.0**
PB10 *i* S **Sn 18 20 30.2 -2.7**
PB10 IAML 18 20 38.0
comp=N,7μm,0.5s
PB10 IPOC Station P 1.81 252 *e*Pn **Pn 18 20 09.3 -0.4**
PB02 IPOC Station P 1.98 325 ⇓*i*P **Pn 18 20 12.1 0.0**
PB02 *i* S **Sn 18 20 37.4 +0.4**
PB02 IAML 18 20 45.9
comp=E,4μm,0.8s
PB01 IPOC Station P 2.05 338 *e*P **Pn 18 20 13.4 +0.6**
PB01 *e*S **Sn 18 20 39.4 +1.0**
PB01 IAML 18 20 42.9
comp=E,3μm,0.3s
PB01 IPOC Station P 2.05 338 *e*Pn **Pn 18 20 13.5 +0.6**
PB14 IPOC Station P 2.29 223 *e*P **Pn 18 20 15.5 -0.7**
HJA Humahuaca 3.02 95 *e*P **Pn 18 20 28.7 +2.9**
HJA IAML 18 20 30.2
comp=Z,71nm,0.5s
HJA *e*S **Sn 18 20 57.1 -4.5**
YJA Yavi 3.02 76 *e*P **Pn 18 20 29.2 +3.3**
YJA IAML 18 20 29.7
comp=Z,35nm,0.4s
PB11 IPOC Station P 3.31 344 *e*Pn **Pn 18 20 30.1 +0.6**
SLA San Lorenzo 3.39 122 *e*P **Pn 18 20 35.0 +4.4**
AZAP Zapla 3.54 112 *e*P **Pn 18 20 35.4 +2.7**
AZAP IAML 18 20 36.6
comp=Z,48nm,0.6s
MNMC Minye Minye 3.90 347 *e*P **Pn 18 20 37.0 -0.6**
MNMC Minye Minye 3.90 347 *e*Pn **Pn 18 20 37.8 +0.2**
FSA Cafayete 3.99 143 IAML 18 21 17.8
comp=Z,4.3nm,0.6s
ASTB Santa Barbara 4.00 105 *e*P **Pn 18 20 40.2 +1.4**
LCO Las Campanas 6.30 196 *e*Pn **Pn 18 21 13.5 +3.5**
LPAZ La Paz 6.66 5 P **Pn 18 21 14.4 -0.8**
comp=Z,1.5nm,0.3s,baz=188,slow=5.9,SNR=20
LPAZ LR LR 18 24 30.4
comp=Z,97nm,19.6s,baz=172,slow=45
LPAZ La Paz 6.66 5 *e*Pn **Pn 18 21 15.7 +0.4**
SIV San Ignacio 9.97 47 P **Pn 18 21 57.6 -2.1**
comp=Z,8.2nm,0.3s,baz=252,slow=12,SNR=69
SIV S Sn 18 23 37.2 -13
comp=Z,0.2nm,0.3s,baz=277,slow=17,SNR=2.2
CPUP Villa Florida 10.85 110 P **Pn 18 22 12.2 +0.6**
comp=Z,0.1nm,0.3s,baz=282,slow=12,SNR=6.9
PLCA Paso Flores 17.79 185 P **Pn 18 23 41.1 +0.8**
comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=4.8
PLCA Paso Flores 17.79 185 *e*P **Pn 18 23 41.9 +1.5**
comp=Z,29nm,1.6s
BDFB Brasília 20.80 73 P **P 18 24 10.5 -2.1**
comp=Z,0.9nm,0.5s,baz=146,slow=3.6,SNR=2.8
PTGA Pitinga 23.66 22 P **P 18 24 38.3 -3.2**
comp=Z,2.0nm,0.3s,baz=204,slow=20,SNR=10
PTGA Pitinga 23.66 22 *e*P **P 18 24 38.5 -3.0**
comp=Z,3.8nm,0.8s
DBIC Dimbokro 68.95 73 P **P 18 30 33.3 -0.5**
comp=Z,2.9nm,0.8s,baz=217,slow=6.3,SNR=4.3
DBIC Dimbokro 68.95 73 *e*P **P 18 30 33.3 -0.5**
comp=Z,46nm,1.8s
TOA1 Torodi Ar. Sit 77.65 70 *e*P **P 18 31 24.9 +0.1**
TORD Torodi Ar. Bea 77.65 70 P **P 18 31 24.9 +0.1**
comp=Z,11nm,0.5s,baz=255,slow=5.4,SNR=102
BOSA Boshof 82.58 118 P **P 18 31 51.9 +0.5**
comp=Z,1.8nm,0.7s,baz=230,slow=2.9,SNR=6.4
MAW Mawson 82.88 163 P **P 18 31 53.1 +1.1**
comp=Z,1.6nm,0.9s,baz=207,slow=9.7,SNR=4.8
MAW Mawson 82.88 163 *e*P **P 18 31 53.1 +1.1**
comp=Z,3.7nm,1.9s
ASAR Alice Springs 128.72 207 PKP **PKPdf 18 38 35.9 +0.6**
comp=Z,0.3nm,0.7s,baz=120,slow=1.8,SNR=4.1
WR1 Warramunga Arr 131.81 210 *e*PKPdf **PKPdf 18 38 42.0 +0.8**
WRA Warramunga Arr 131.81 210 PKP **PKPdf 18 38 42.0 +0.8**
comp=Z,0.4nm,0.7s,baz=148,slow=1.4,SNR=4.8
ZAA1 Zalesovo Array 143.16 26 *e*PKPdf PKPbc 18 38 59.3 +1.2
ZALV Zalesovo Beam 143.17 26 PKP PKPbc 18 38 59.3 +1.2
comp=Z,1.0nm,0.6s,baz=302,slow=3.6,SNR=6.2
MK32 Makanchi Array 146.67 37 *e*PKPdf **PKPbc 18 39 09.0 0.0**
MKAR Makanchi Array 146.67 37 PKPbc **PKPbc 18 39 09.0 0.0**
comp=Z,8.2nm,1.1s,baz=323,slow=3.2,SNR=16

IDC 12 18:33:31.5±1.7, 38°48'S×46°45'E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/31, mbtmp3.8/6, MS3.7/5, Ms1 3.7/5, ms1mx3.3/30, Error ellipse: s-maj=167.0km s-min=19.9km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.18**	**293**	P	P	18 38 08.2	+0.4
BOSA	5.3nm,0.9s,baz=131,slow=16,SNR=4.5			LR	LR	18 45 02.7	
	comp=Z,181nm,18.6s,baz=134,slow=34						
SUR	**Sutherland**	**21.72**	**278**	LR	LR	18 45 36.7	
	comp=Z,8.7nm,20.9s,baz=118,slow=33						
LBTB	**Lobatse**	**22.17**	**301**	P	P	18 38 29.4	+0.1
LBTB	3.2nm,0.7s,baz=139,slow=11,SNR=3.0			LR	LR	18 46 33.3	
	comp=Z,120nm,19.0s,baz=132,slow=35						
MATP	**Matopo**	**23.75**	**314**	P	P	18 38 45.9	+0.2
MATP	2.5nm,0.8s,baz=134,slow=8.3,SNR=5.8			LR	LR	18 46 14.6	
	comp=Z,116nm,19.4s,baz=139,slow=32						
LSZ	**Lusaka**	**28.16**	**320**	LR	LR	18 49 32.8	
	comp=Z,182nm,18.4s,baz=132,slow=34						
H01W2	**Cape Leeuwin H**	**53.28**	**108**	T	T	19 39 31.6	
	baz=243,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**53.29**	**108**	T	T	19 39 39.4	
	baz=243,slow=75,SNR=40						
H01W1	**Cape Leeuwin H**	**53.30**	**108**	T	T	19 39 40.6	
	baz=243,slow=75,SNR=42						
TORD	**Torodi Ar. Bea**	**66.24**	**311**	P	P	18 44 21.0	-0.5
	0.3nm,0.4s,baz=143,slow=6.4,SNR=3.8						
ASAR	**Alice Springs**	**73.78**	**107**	P	P	18 45 07.3	-0.7
	0.6nm,0.8s,baz=231,slow=5.9,SNR=3.9						
ASAR				LR	LR	19 11 42.6	
	comp=Z,81nm,20.5s,baz=236,slow=31						
WRA	**Warramunga Arr**	**76.28**	**105**	P	P	18 45 23.3	+0.9
	0.5nm,0.8s,baz=229,slow=4.4,SNR=3.9						

*ISCJB **12** 18:39:43.5±0.6, 58°.75N±0°.03×134°.61W±0°.09, h10km, Error ellipse: s-maj=7.3km s-min=3.6km az=159.7*
*NEIC **12** 18:39:43.0±0.0, 58°.76N×134°.47W, h7km, ML2.6(AEIC), ML2.8(OTT), After AEIC.*
*PGC **12** 18:39:43.9±0.3, 58°.76N×134°.49W, h1km, ML2.8/8, 51km northeast of Juneau, Ak Southeastern Alaska*
ISC 12 18:39:42.7±0.9, 58°.79N±0°.03×134°.45W±0°.03, h10km, n24, σ1°.71/43, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**0.30**	**225**	P	**Pg**	**18 39 48.5**	**-0.2**
BESE				S	**Sg**	**18 39 52.0**	**-0.7**
BESE	**Bessie Mountai**	**0.30**	**225**	*e*Pg	**Pg**	**18 39 48.5**	**-0.2**
BESE				*e*Sg	**Sg**	**18 39 51.4**	**-1.3**
JIS	**Juneau Island**	**0.52**	**176**	*e*Pg	**Pg**	**18 39 52.0**	**-0.7**
JIS				*e*Sg	**Sg**	**18 39 58.5**	**-1.1**
SKAG	**Skagway**	**0.81**	**326**	*e*Pg	**Pg**	**18 39 58.5**	**+0.2**
SKAG				*e*Sg	**Sg**	**18 40 09.7**	**+0.9**
PLBC	**Pleasant Camp**	**1.19**	**305**	P	**Pn**	**18 40 05.0**	**-0.4**
PLBC				S	**Sb**	**18 40 20.3**	**-0.4**
PLBC	**Pleasant Camp**	**1.19**	**305**	*e*Pg	**Pn**	**18 40 05.3**	**-0.1**
PLBC				*e*Sn	**Sb**	**18 40 20.8**	**0.0**
WHY	**Whitehorse**	**1.89**	**354**	Pn	**Pb**	**18 40 16.5**	**-0.7**
WHY				Sg	**Sg**	**18 40 43.2**	**-0.1**
WHY	**Whitehorse**	**1.89**	**354**	*e*Pn	**Pb**	**18 40 16.6**	**-0.7**
WHY				*e*Sn	**Sg**	**18 40 43.1**	**-0.2**
DHAK	**Deception Hill**	**1.97**	**280**	*e*Pn	**Pb**	**18 40 18.2**	**-0.4**
DHAK				*e*Sn	**Sb**	**18 40 45.4**	**+2.1**
DLBC	**Dease Lake**	**2.34**	**97**	Pn	**Pb**	**18 40 25.2**	**+0.2**
DLBC				Sg	**Sg**	**18 40 56.4**	**-1.5**
HYT	**Haines Junctio**	**2.56**	**324**	Pn	**Pb**	**18 40 27.0**	**-1.7**
HYT				Sg	**Sg**	**18 41 03.6**	**-1.2**
HYT	**Haines Junctio**	**2.56**	**324**	*e*Pn	**Pb**	**18 40 27.0**	**-1.7**
YUK7	**Dusty Glacier**	**2.56**	**315**	Pg	**Pb**	**18 40 29.9**	**+1.2**
YUK7				Sg	**Sg**	**18 41 05.1**	**+0.3**
WRAK	**Wrangell Islan**	**2.63**	**154**	*e*Pn	**Pn**	**18 40 25.8**	**+0.6**
PNL	**Peninsula**	**2.69**	**291**	Pn	**Pn**	**18 40 27.5**	**+1.5**
PNL				Sg	**Sb**	**18 41 06.0**	**+2.1**
PNL	**Peninsula**	**2.69**	**291**	*e*Pn	**Pn**	**18 40 27.1**	**+1.1**
YUK5	**Granite Creek**	**2.91**	**325**	Pn	**Pn**	**18 40 32.1**	**+3.0**
YUK5				Sg	**Sg**	**18 41 13.9**	**-2.1**
YUK6	**Outpost Mounta**	**2.92**	**319**	Pn	**Pb**	**18 40 32.7**	**-2.3**
YUK6				Sg	**Sg**	**18 41 15.1**	**-1.4**
PCA	**Pinnacle**	**3.24**	**296**	Pn	**Pn**	**18 40 35.9**	**+2.3**
PCA				Pg	**Pg**	**18 40 43.5**	**-1.2**
PCA				Sg	**Sg**	**18 41 25.5**	**-1.1**
PCA	**Pinnacle**	**3.24**	**296**	*e*Pn	**Pn**	**18 40 35.6**	**+2.0**
CTGM	**Chitina Glacie**	**4.09**	**305**	Pn	**Pn**	**18 40 48.0**	**+2.6**
YUK3	**Moose Creek**	**4.23**	**318**	Pn	**Pn**	**18 40 49.9**	**+2.6**
YUK3				Sg	**Sg**	**18 41 57.5**	**-0.9**
YUK2	**White River**	**4.37**	**316**	Pn	**Pn**	**18 40 52.5**	**+3.3**
YUK2				Sg	**Sg**	**18 41 59.6**	**-3.4**
DAWY	**Dawson**	**5.80**	**338**	Sg	**Sg**	**18 42 44.3**	**-4.2**

RSNC 12 18:43:39.4±1.0, 3°.55N×74°.57W, h2km±6km, ML3.7, 1C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.36**	**298**	⇓*i*P	Pg	18 43 46.3	-0.1
PRAC				*i*		18 43 46.9	
	comp=Z,7μm,0.2s						
PRAC				*e*S	Sg	18 43 52.4	+1.3
VILC	**Villavicencio,**	**1.04**	**57**	*e*P	Pg	18 43 57.8	-1.5
VILC				*e*S	Sg	18 44 12.2	-0.6
BETC	**Betania**	**1.23**	**226**	*e*P	Pg	18 44 00.5	-2.5
TOLC	**Tolima**	**1.28**	**324**	*i* P	Pg	18 44 02.0	-2.0
ROSC	**El Rosal**	**1.31**	**11**	⇑*i*P	Pg	18 44 03.5	-1.0
ROSC				*e*S	Sg	18 44 20.6	-0.9
CHIC	**Chingaza**	**1.36**	**38**	*e*P	Pg	18 44 03.0	-2.5
GUYC	**Guyana, Colomb**	**1.86**	**334**	*i* P	Pn	18 44 12.1	-0.7
GUYC				*e*S	Sn	18 44 36.2	-0.9
GUYC				*i*		18 44 39.9	
	comp=Z,630nm,0.4s						
NORC	**Norcasia**	**2.03**	**351**	*e*P	Pn	18 44 12.9	-1.7
NORC				*e*S	Sn	18 44 39.2	-1.5
GUVC	**San Jose del G**	**2.17**	**117**	*e*P	Pn	18 44 15.2	-1.4
FLOC	**Florencia**	**2.23**	**209**	*e*P	Pn	18 44 16.6	-0.9
FLOC				*e*S	Sn	18 44 45.1	-0.5
POPC	**Popayan, Colom**	**2.33**	**245**	*e*P	Pn	18 44 17.6	-1.5
POPC				*i*		18 44 52.9	
	comp=Z,322nm,0.2s						
RUSC	**La Rusia**	**2.76**	**32**	*e*S	Sn	18 44 59.3	0.0
HELC	**Santa Helena**	**2.80**	**340**	*e*P	Pn	18 44 24.8	-0.8
HELC				*i*		18 45 04.4	
	comp=Z,248nm,0.5s						
CRUC	**La Cruz**	**3.09**	**231**	*e*P	Pn	18 44 27.8	-1.7
BRRC	**Barranca, Sant**	**3.64**	**13**	*e*P	Pn	18 44 36.1	-0.7

*KRNET **12** 19:11:25.8±0.1, 41°.05N×71°.04E, h19km, mb2.3*
*NNC **12** 19:11:30.5±5.5, 41°.15N×71°.28E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=39.8km s-min=20.7km az=0.0*
ISC 12 19:11:25.9±1.4, 41°.08N±0°.04×71°.08E±0°.05, h1km±19km, n11, σ0°.80/20, 18C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.98**	**42**	⇑*i*P	**Pb**	**19 11 45.8**	**-0.1**
ARK	baz=44			⇑*e*S	**Sb**	**19 11 59.2**	**-0.2**
	baz=44						
BTK	**Batken**	**1.04**	**191**	⇑*e*P	**Pg**	**19 11 45.7**	**-0.1**
BTK	baz=190			⇑*i*S	**Sg**	**19 11 59.1**	**-0.1**
	baz=190						
ARSB	**Arslanbob**	**1.46**	**80**	⇑*e*P	**Pg**	**19 11 54.0**	**+0.1**
ARSB	baz=79			⇑*i*S	**Sg**	**19 12 14.8**	**+2.0**
	baz=79						
MNAS	**Manas**	**1.77**	**37**	⇑*e*P	**Pg**	**19 11 59.9**	**+0.1**
MNAS	baz=37			⇑*i*S	**Sg**	**19 12 23.2**	**+0.5**
	baz=37						
MNAS	**Manas**	**1.77**	**37**	⇓P	**Pg**	**19 12 00.1**	**+0.3**
MNAS	1.0nm,0.3s			⇓S	**Sg**	**19 12 23.2**	**+0.5**
	1.1nm,0.3s						
KK31	**Karatay Array**	**2.07**	**348**	⇓Pn	**Pb**	**19 12 04.7**	**+0.4**
KK31	1.5nm,0.3s,baz=156,slow=15,SNR=14			⇑Sn	**Sg**	**19 12 32.5**	**+0.1**
	5.7nm,0.3s,baz=153,slow=26,SNR=17						
AML	**Almayashu**	**2.23**	**61**	⇑*i*P	**Pg**	**19 12 07.8**	**-0.8**
AML	baz=61			⇑*i*S	**Sg**	**19 12 36.8**	**-0.7**
	baz=61						
ARLS	**Aral**	**2.56**	**71**	⇑*i*P	**Pb**	**19 12 12.8**	**0.0**
ARLS	baz=71			⇑*i*S	**Sb**	**19 12 45.3**	**+0.4**
	baz=71						
EKS2	**Erkin-Say**	**2.56**	**51**	⇑*i*P	**Pb**	**19 12 12.1**	**-0.7**
EKS2	baz=51			⇑*i*S	**Sb**	**19 12 44.5**	**-0.4**
	baz=51						
AAK	**Ala-Archa**	**2.99**	**57**	⇑Pg	**Pb**	**19 12 21.2**	**+1.1**
AAK	1.1nm,0.8s			⇓Lg	Lg	19 12 59.1	
	3.0nm,0.8s						
TKM2	**Tokmak 2**	**3.84**	**60**	⇑Pg	**Pg**	**19 12 38.0**	**-1.5**
TKM2	1.2nm,1.1s			⇑Lg	Lg	19 13 28.5	
	1.2nm,0.8s						

WEL 12 19:16:38.3±0.5, 37°.78S×176°.06E, h188km±4km, ML3.5/14, 7C-7D, Error ellipse: s-maj=4.6km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.96**	**120**	PN	Pn	19 17 06.9	+0.4
URZ				SN	Sn	19 17 27.9	-0.5
URZ				AML	AML	19 17 29.4	
MRHZ	**Matea Rd**	**1.09**	**165**	⇑PN	Pn	19 17 07.9	+0.3
MRHZ				SN	Sn	19 17 29.5	-0.9
MRHZ				AML	AML	19 17 31.5	
RTZ	**Ruatahuna**	**1.11**	**139**	⇑PN	Pn	19 17 07.9	+0.2
MWZ	**Matawai**	**1.29**	**116**	PN	Pn	19 17 09.2	+0.1
MWZ				AML	AML	19 17 34.8	
MWZ				AML	AML	19 17 36.2	
RUGZ	**Raukumara Rang**	**1.30**	**99**	PN	Pn	19 17 08.6	-0.6
HAZ	**Te Kaha**	**1.37**	**90**	PN	Pn	19 17 09.8	+0.1
HAZ				AML	AML	19 17 46.0	
HAZ				AML	AML	19 17 46.0	
SNGZ	**Shannon Statio**	**1.42**	**135**	PN	Pn	19 17 11.9	+1.7
SNGZ				AML	AML	19 17 35.8	
SNGZ				AML	AML	19 17 36.2	
BKZ	**Black Stump Fm**	**1.43**	**166**	⇑PN	Pn	19 17 10.2	-0.1
BKZ				AML	AML	19 17 34.1	
BKZ				AML	AML	19 17 34.3	
NMHZ	**Naumai**	**1.44**	**156**	PN	Pn	19 17 11.2	+0.8
NMHZ				AML	AML	19 17 36.2	
NMHZ				AML	AML	19 17 41.2	
TWGZ	**Tauwhareparae**	**1.57**	**105**	PN	Pn	19 17 11.9	+0.2
TWGZ				AML	AML	19 17 39.7	
TWGZ				AML	AML	19 17 41.9	
WNVZ	**Wahianoa**	**1.59**	**193**	PN	Pn	19 17 12.1	+0.2
WHHZ	**Waihua**	**1.59**	**145**	PN	Pn	19 17 11.9	+0.2
WHHZ				AML	AML	19 17 39.8	
RIGZ	**Rimuhau**	**1.63**	**125**	PN	Pn	19 17 12.5	+0.3
RIGZ				AML	AML	19 17 39.5	
RIGZ				AML	AML	19 17 39.6	
MOVZ	**Moawhango**	**1.64**	**188**	PN	Pn	19 17 12.0	-0.4
ARHZ	**Aropaoanui**	**1.66**	**154**	PN	Pn	19 17 12.5	+0.1
ARHZ				AML	AML	19 17 38.4	
ARHZ				AML	AML	19 17 40.1	
KWHZ	**Kaweka Forest**	**1.67**	**170**	PN	Pn	19 17 12.7	+0.1
KWHZ				AML	AML	19 17 38.6	
KWHZ				AML	AML	19 17 38.7	
BHHZ	**Black Hill Sta**	**1.71**	**180**	⇑PN	Pn	19 17 12.5	-0.4
MCHZ	**McNeill Hill**	**1.74**	**163**	PN	Pn	19 17 13.5	+0.3
PUZ	**Puketiti**	**1.77**	**100**	PN	Pn	19 17 13.2	-0.3
KNZ	**Kokohu**	**1.78**	**135**	⇓PN	Pn	19 17 13.3	-0.2
PRGZ	**Paritu Road**	**1.84**	**129**	PN	Pn	19 17 14.0	-0.2
CNGZ	**Carnagh Statio**	**1.84**	**113**	⇓PN	Pn	19 17 14.7	+0.5
WMGZ	**Waiomatatini S**	**1.87**	**92**	PN	Pn	19 17 14.5	0.0
WMGZ				AML	AML	19 17 43.2	
WMGZ				AML	AML	19 17 43.5	
KRHZ	**Kereru**	**1.88**	**173**	⇑PN	Pn	19 17 14.2	-0.5
KRHZ				AML	AML	19 17 43.9	
MHGZ	**Mahia Peninsul**	**2.00**	**134**	PN	Pn	19 17 15.6	-0.3
KAHZ	**Kahuranaki**	**2.11**	**163**	PN	Pn	19 17 16.6	-0.5
PNHZ	**Pukenui**	**2.13**	**177**	PN	Pn	19 17 16.4	-1.0
TSZ	**Takapari Road**	**2.28**	**182**	⇑PN	Pn	19 17 17.8	-1.1
WPHZ	**Waipukurau**	**2.30**	**173**	⇓PN	Pn	19 17 18.2	-1.0
PXZ	**Pawanui**	**2.33**	**165**	PN	Pn	19 17 18.3	-1.2
DVHZ	**Dannevirke**	**2.52**	**178**	PN	Pn	19 17 20.0	-1.7
PRHZ	**Porangahau**	**2.52**	**170**	PN	Pn	19 17 20.2	-1.5
POWZ	**Post Office Ro**	**2.62**	**185**	PN	Pn	19 17 21.0	-1.7
PRWZ	**Pori Road**	**2.77**	**181**	PN	Pn	19 17 22.8	-1.7
MRZ	**Mangatainoka R**	**2.90**	**187**	⇑PN	Pn	19 17 23.8	-2.2
BFZ	**Birch Farm**	**2.90**	**177**	PN	Pn	19 17 23.8	-2.3
TIWZ	**Tintock**	**3.00**	**182**	PN	Pn	19 17 24.9	-2.4
OGWZ	**Otaki Gorge**	**3.11**	**192**	⇓PN	Pn	19 17 26.4	-2.1
HOWZ	**Holdsworth Sta**	**3.14**	**187**	PN	Pn	19 17 26.3	-2.6
KIW	**Kapiti Island**	**3.20**	**196**	PN	Pn	19 17 27.0	-2.7
TMWZ	**Te Maipa**	**3.33**	**182**	PN	Pn	19 17 26.4	-4.8
MTW	**Mount Morrison**	**3.40**	**187**	PN	Pn	19 17 28.9	-3.2
CAW	**Cannon Point**	**3.41**	**193**	⇓PN	Pn	19 17 29.4	-2.8
DUWZ	**D'Urville Isla**	**3.44**	**208**	⇓PN	Pn	19 17 30.0	-2.7
TRWZ	**Traveller**	**3.63**	**184**	PN	Pn	19 17 31.8	-3.1
MSWZ	**Moikau Station**	**3.69**	**189**	PN	Pn	19 17 32.2	-3.4
TCW	**Tory Channel**	**3.69**	**201**	PN	Pn	19 17 32.8	-2.9
BHW	**Baring Head**	**3.74**	**194**	PN	Pn	19 17 32.3	-3.9
PLWZ	**Palliser**	**3.84**	**189**	PN	Pn	19 17 33.9	-3.7
TUWZ	**Tuamarina**	**3.99**	**203**	PN	Pn	19 17 36.3	-3.1
NNZ	**Nelson**	**4.01**	**210**	PN	Pn	19 17 36.8	-2.9
QRZ	**Quartz Range**	**4.09**	**221**	PN	Pn	19 17 37.7	-3.1
THZ	**Tophouse**	**4.66**	**210**	PN	Pn	19 17 44.8	-3.2
KHZ	**Kahutara**	**5.02**	**202**	⇓PN	Pn	19 17 48.9	-3.6

*ISCJB **12** 19:17:17.6±0.5, 50°.27N±0°.04×18°.72E±0°.03, h0km, Error ellipse: s-maj=5.4km s-min=2.5km az=17.9*
*CSEM **12** 19:17:18.9±0.3, 50°.25N×18°.75E, h2km, ML2.8/7, Error ellipse: s-maj=7.4km s-min=3.4km az=15.0*
*WAR **12** 19:17:19.5, 50°.27N×18°.83E, h1km, Mw2.6*
*PRU **12** 19:17:19.6, 50°.24N×18°.74E, h0km*
ISC 12 19:17:19.0±0.8, 50°.17N±0°.04×18°.75E±0°.02, h0km, n37, σ0°.72/63, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.51**	**230**	*i* PG	**Pb**	**19 17 31.3**	**+0.4**
OKC				*e*SG	**Sb**	**19 17 38.0**	**-0.8**
	comp=Z,17nm,0.4s						
OKC	**Ostrava-Krasne**	**0.51**	**230**	Pg	**Pb**	**19 17 31.3**	**+0.4**
OKC				Sg	**Sb**	**19 17 38.0**	**-0.8**
	17nm,0.4s						
OJC	**Ojcow**	**0.68**	**85**	*e*Pg	**Pg**	**19 17 31.3**	**-0.7**
OJC				*e*Sg	**Sg**	**19 17 41.3**	**+0.5**
OJC	**Ojcow**	**0.68**	**85**	*e*Pg	**Pg**	**19 17 31.3**	**-0.7**
OJC				*e*Sg	**Sg**	**19 17 41.3**	**+0.5**
OJC	**Ojcow**	**0.68**	**85**	*e*Pg	**Pg**	**19 17 31.3**	**-0.7**
OJC				*e*Sg	**Sg**	**19 17 41.3**	**+0.5**
MORC	**Moravsky Berou**	**0.87**	**244**	*e*Pg	**Pb**	**19 17 36.9**	**-0.2**
MORC				*e*Sg	**Sb**	**19 17 50.1**	**+0.8**
LANS	**Liptovska Anna**	**1.12**	**155**	*e*Pg	**Pn**	**19 17 42.1**	**+0.1**
LANS				*e*Sg	**Sn**	**19 17 58.9**	**+0.7**
LANS	**Liptovska Anna**	**1.12**	**155**	*e*PG	**Pn**	**19 17 42.1**	**+0.1**
LANS				*e*SG	**Sn**	**19 17 58.9**	**+0.7**
NIE	**Niedzica**	**1.25**	**126**	*e*Pg	**Pn**	**19 17 43.6**	**-0.3**
NIE				*e*Sg	**Sn**	**19 18 02.3**	**+0.8**
NIE	**Niedzica**	**1.25**	**126**	*e*Pg	**Pn**	**19 17 43.6**	**-0.3**
NIE				*e*Sg	**Sn**	**19 18 02.3**	**+0.8**
NIE	**Niedzica**	**1.25**	**126**	*e*Pg	**Pn**	**19 17 43.6**	**-0.3**
NIE				*e*Sg	**Sn**	**19 18 02.3**	**+0.8**
KRLC	**Kraliky**	**1.27**	**267**	*e*PG	**Pg**	**19 17 43.2**	**-0.1**
KRLC				*e*SG	**Sg**	**19 17 59.9**	**+0.1**
KRLC	**Kraliky**	**1.27**	**267**	Pg	**Pg**	**19 17 43.2**	**-0.1**
KRLC				Sg	**Sg**	**19 17 59.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.57**	**278**	*e*PG	**Pn**	**19 17 48.0**	**-0.2**
DPC				*e*SG	**Sn**	**19 18 08.8**	**-0.4**
	comp=Z,15nm,0.4s						
DPC	**Dobruska-Polom**	**1.57**	**278**	Pg	**Pn**	**19 17 48.0**	**-0.2**
DPC				Sg	**Sn**	**19 18 08.8**	**-0.4**
	15nm,0.4s						
VRAC	**Vranov**	**1.64**	**239**	*e*Pn	**Pg**	**19 17 50.6**	**+0.1**
VRAC				*e*Sg	**Sg**	**19 18 12.9**	**+1.2**
VYHS	**Vyhne**	**1.68**	**178**	*e*Pg	**Pb**	**19 17 50.2**	**-0.6**
VYHS				*e*Sn	**Sn**	**19 18 11.7**	**-0.1**
VYHS	**Vyhne**	**1.68**	**178**	*e*PG	**Pb**	**19 17 50.2**	**-0.6**
VYHS				*e*SN	**Sn**	**19 18 11.7**	**-0.1**
VYHS				*e*LG	Lg	19 18 18.2	
KSP	**Ksiaz**	**1.71**	**294**	*e*Pg	**Pb**	**19 17 51.1**	**-0.2**
KSP				*e*Sg	**Sg**	**19 18 13.9**	**+0.1**
KSP	**Ksiaz**	**1.71**	**294**	*e*Pg	**Pb**	**19 17 51.1**	**-0.2**
KSP				*e*Sg	**Sg**	**19 18 13.9**	**+0.1**
KSP	**Ksiaz**	**1.71**	**294**	*e*Pg	**Pb**	**19 17 51.1**	**-0.2**
KSP				*e*Sg	**Sg**	**19 18 13.9**	**+0.1**
STHS	**Stebnicka Huta**	**1.78**	**114**	*e*Pn	**Pb**	**19 17 52.4**	**-0.2**
STHS	**Stebnicka Huta**	**1.78**	**114**	*e*PN	**Pb**	**19 17 52.4**	**-0.2**
STHS				*e*LG	Lg	19 18 23.9	
UPC	**Upice**	**1.79**	**282**	*e*PG	**Pb**	**19 17 52.5**	**-0.1**
UPC				*e*SG	**Sg**	**19 18 17.0**	**+0.6**
	comp=Z,5.2nm,0.3s						
UPC	**Upice**	**1.79**	**282**	Pg	**Pb**	**19 17 52.5**	**-0.1**
UPC			

TWA	**Mucha**	**0.19 310⇑**	*e*P	**Pn**	**19 29 44.5**	**-0.1**
	baz=314					
TWA			*e*S	**Sn**	**19 29 53.3**	**+0.1**
	baz=314					
NWF	**Wu-fen Shan**	**0.21 10⇓**	*e*P	**Pn**	**19 29 44.8**	**0.0**
	baz=18					
NWF			*e*S	**Sn**	**19 29 53.8**	**+0.2**
	baz=18					
TAP1	**Taipei**	**0.27 312**	*e*P	**Pn**	**19 29 44.6**	**-0.4**
	baz=312					
TAP1			*e*S	**Sn**	**19 29 53.5**	**-0.3**
	baz=312					
TWB1	**Santiao Chiao**	**0.27 57**	*e*P	**Pn**	**19 29 45.0**	**+0.1**
	baz=62					
TWB1			*e*S	**Sn**	**19 29 54.2**	**+0.4**
	baz=62					
TWC	**Suao**	**0.27 159**	*e*P	**Pn**	**19 29 45.4**	**+0.5**
	baz=152					
TWC			*e*S	**Sn**	**19 29 54.9**	**+1.0**
	baz=152					
ENTT	**Nioudou**	**0.27 216**	⇓P	**Pn**	**19 29 44.8**	**-0.2**
	baz=207					
TAP	**Taipei**	**0.28 310**	*e*P	**Pn**	**19 29 44.7**	**-0.3**
	baz=312					
TAP			*e*S	**Sn**	**19 29 53.9**	**-0.1**
	baz=312					
TWS1	**Kuangyinshan**	**0.38 309**	P	**Pn**	**19 29 45.7**	**0.0**
	baz=311					
TWS1			*e*S	**Sn**	**19 29 55.4**	**+0.3**
	baz=311					
NSK	**Sanguang**	**0.39 242⇓**	*e*P	**Pn**	**19 29 45.3**	**-0.6**
	baz=237					
NSK			*e*S	**Sn**	**19 29 54.2**	**-1.2**
	baz=237					
ENA	**Nanau**	**0.43 180**	*e*P	**Pn**	**19 29 46.4**	**+0.3**
	baz=175					
TWY	**Chenhua**	**0.43 343**	⇓P	**Pn**	**19 29 46.0**	**0.0**
	baz=347					
TWY			*e*S	**Sn**	**19 29 56.1**	**+0.4**
	baz=347					
NCU	**National Centr**	**0.52 282**	*e*P	**Pn**	**19 29 46.6**	**-0.1**
	baz=281					
NCU			*e*S	**Sn**	**19 29 57.2**	**+0.2**
	baz=281					
NNS	**Nan Shan**	**0.54 219**	*e*P	**Pn**	**19 29 46.9**	**-0.3**
	baz=214					
NNS			*e*S	**Sn**	**19 29 57.1**	**-0.5**
	baz=214					
HSN	**Hsinchu**	**0.70 265⇓**	*e*P	**Pn**	**19 29 48.0**	**-0.6**
	baz=266					
HSN			*e*S	**Sn**	**19 29 59.5**	**-0.7**
	baz=266					
NSTT	**Nanjuang**	**0.71 251⇓**	*e*P	**Pn**	**19 29 48.3**	**-0.4**
	baz=249					
NSTT			*e*S	**Sn**	**19 29 59.6**	**-0.7**
	baz=249					
TWD	**Chiawan**	**0.79 190**	*e*P	**Pn**	**19 29 49.5**	**0.0**
	baz=186					
TWD			*e*S	**Sn**	**19 30 01.4**	**-0.4**
	baz=186					
TWT	**Tachien**	**0.79 221**	*e*P	**Pn**	**19 29 50.0**	**+0.2**
	baz=218					
TWT			*e*S	**Sn**	**19 30 02.5**	**+0.3**
	baz=218					
WHF	**Hehuan Shan**	**0.83 211**	*e*P	**Pn**	**19 29 50.4**	**-0.1**
	baz=208					
WHF			*e*S	**Sn**	**19 30 03.3**	**-0.2**
	baz=208					
NSY	**Sanyi**	**1.00 244⇓**	*e*P	**Pn**	**19 29 51.7**	**-0.2**
	baz=241					
NSY			*e*S	**Sn**	**19 30 06.4**	**+0.3**
	baz=241					
TWQ1	**Liyutan**	**1.02 240⇓**	*e*P	**Pn**	**19 29 51.8**	**-0.3**
	baz=238					
TWQ1			*e*S	**Sn**	**19 30 06.1**	**-0.4**
	baz=238					
ESL	**Shilin**	**1.08 195**	*e*P	**Pn**	**19 29 52.3**	**-0.6**
	baz=192					
JYNG	**Yonagunijimaku**	**1.17 110**	P	**Pn**	**19 29 53.4**	**-0.6**
JYNG			S	**Sn**	**19 30 09.1**	**-0.7**
YOJ	**Yonaguni jima**	**1.22 109**	P	**Pn**	**19 29 54.1**	**-0.6**
YOJ			S	**Sn**	**19 30 10.1**	**-0.9**
SMLT	**Sun Moon Lake**	**1.24 218⇓**	*e*P	**Pn**	**19 29 54.8**	**-0.2**
	baz=216					
SMLT			*e*S	**Sn**	**19 30 11.8**	**+0.2**
	baz=216					
TYC	**Yuchr**	**1.25 220**	⇓P	**Pn**	**19 29 54.9**	**-0.1**
	baz=218					
TYC			*e*S	**Sn**	**19 30 11.6**	**0.0**
	baz=218					
WNT	**Mingjian**	**1.37 225⇓**	*e*P	**Pn**	**19 29 56.5**	**-0.1**
	baz=223					
WNT			*e*S	**Sn**	**19 30 14.4**	**0.0**
	baz=223					
EHY	**Hungye**	**1.40 196**	*e*P	**Pn**	**19 29 56.4**	**-0.6**
	baz=194					
YUS	**Yu-Shan**	**1.54 208**	*e*P	**Pn**	**19 29 59.8**	**+0.5**
	baz=206					
TWF1	**Yuli**	**1.56 195**	*e*P	**Pn**	**19 29 58.2**	**-0.8**
	baz=193					
CHN5	**Tsauling**	**1.59 218⇓**	*e*P	**Pn**	**19 29 59.2**	**-0.3**
	baz=216					
CHN5			*e*S	**Sn**	**19 30 19.6**	**+0.1**
	baz=216					
WGK	**Gukeng**	**1.59 223⇓**	*e*P	**Pn**	**19 29 59.3**	**-0.1**
	baz=221					
WGK			*e*S	**Sn**	**19 30 19.6**	**+0.2**
	baz=221					
ALS	**Alishan**	**1.59 213**	*e*P	**Pn**	**19 29 59.7**	**0.0**
	baz=211					
ALS			*e*S	**Sn**	**19 30 20.2**	**+0.2**
	baz=211					
CHKT	**Chengkung**	**1.79 191**	*e*P	**Pn**	**19 30 02.0**	**0.0**
	baz=189					
ELDTW	**Lidau**	**1.79 202**	*e*P	**Pn**	**19 30 02.0**	**-0.2**
	baz=200					
CHN4	**Tsaushan**	**1.83 215**	*e*P	**Pn**	**19 30 02.7**	**+0.1**
	baz=213					
CHN4			*e*S	**Sn**	**19 30 26.9**	**+1.7**
	baz=213					
IRIF	**Iriomote-Funau**	**1.88 106**	P	**Pn**	**19 30 02.5**	**-0.8**
IRIF			S	**Sn**	**19 30 25.5**	**-0.8**
WTP	**Ta-pu**	**1.91 213**	*e*P	**Pn**	**19 30 03.6**	**-0.1**
	baz=211					
STYT	**Tauyuan**	**1.91 208**	*e*P	**Pn**	**19 30 03.8**	**0.0**
	baz=206					
TWK	**Hsinying**	**1.96 216**	*e*P	**Pn**	**19 30 04.5**	**+0.2**
	baz=214					
CHN1	**Nanshi**	**2.00 214**	*e*P	**Pn**	**19 30 05.1**	**+0.2**
	baz=212					
HATJ	**Hateruma jima**	**2.04 113**	S	**Sn**	**19 30 30.0**	**-0.1**
SGST	**Jiashian**	**2.06 211**	*e*P	**Pn**	**19 30 05.8**	**+0.1**
	baz=209					
TWG	**Pinlang**	**2.12 197**	*e*P	**Pn**	**19 30 06.9**	**+0.4**
	baz=195					
JKRS	**Kuro-shima**	**2.16 106**	P	**Pn**	**19 30 07.1**	**+0.2**
JKRS			*e*S	**Sn**	**19 30 32.9**	**+0.1**
JIJ	**Ishigaki jima**	**2.24 102**	P	**Pn**	**19 30 07.6**	**-0.4**
JIJ			S	**Sn**	**19 30 33.8**	**-1.1**
JISG	**Ishigakijimahi**	**2.35 96**	P	**Pn**	**19 30 09.5**	**0.0**
JISG			S	**Sn**	**19 30 38.4**	**+0.9**
ECL	**Taimali**	**2.37 198**	*e*P	**Pn**	**19 30 09.2**	**-0.5**
	baz=196					
EAST	**Anshuo**	**2.60 199**	*e*P	**Pn**	**19 30 14.3**	**+1.3**
	baz=197					
JTJ	**Tarama**	**2.70 94**	P	**Pn**	**19 30 15.1**	**+0.9**
JTJ			*e*S	**Sn**	**19 30 47.0**	**+1.1**
LAY	**Lan-yu**	**2.81 184**	*e*P	**Pn**	**19 30 15.3**	**-0.5**
	baz=182					
JIRB	**Irabujima**	**3.12 90**	*e*S	**Sn**	**19 30 56.2**	**+0.1**

*TIF **12** 19:33:41.1, 42.°54N×42.°99E, h11km*
*CSEM **12** 19:33:43.5, 42.°31N×43.°10E, h7km, MD2.6*
*DDA **12** 19:33:43.5, 42.°31N×43.°10E, h7km, Md2.6*
ISC 12 19:33:41.3±1.7, 42.°53N±0.°09×42.°98E±0.°05, h16km±15km, n11, σ0.°70/20, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.35**	**80**	P	**Pg**	**19 33 48.6**	**-0.1**
ONI				S	**Sb**	**19 33 54.3**	**-0.5**
BGD	**Bogdanovka**	**1.34**	**160**	P	**Pg**	**19 34 07.0**	**-0.3**
BGD				S	**Sg**	**19 34 25.6**	**+0.8**
DBOC	**Borcka**	**1.54**	**220**	*i* S	**Sg**	**19 34 31.0**	**+0.2**
DBOC	**Borcka**	**1.54**	**220**	S	**Sg**	**19 34 31.0**	**+0.2**
ARTV	**Artvin**	**1.56**	**211**	*i* P	**Pb**	**19 34 10.2**	**+0.3**
ARTV				*i* S	**Sg**	**19 34 31.9**	**+0.4**
ARTV	**Artvin**	**1.56**	**211**	P	**Pb**	**19 34 10.2**	**+0.3**
ARTV				S	**Sg**	**19 34 31.9**	**+0.4**
DAGI	**Agillar**	**1.65**	**209**	*i* P	**Pb**	**19 34 12.5**	**+1.0**
DAGI				*i* S	**Sg**	**19 34 33.9**	**-0.7**
DDEM	**Demirkent**	**1.88**	**210**	*i* P	**Pb**	**19 34 16.1**	**+0.8**
DDEM				*i* S	**Sg**	**19 34 40.9**	**-0.8**
DDEM	**Demirkent**	**1.88**	**210**	P	**Pb**	**19 34 16.1**	**+0.8**
DDEM				S	**Sg**	**19 34 40.9**	**-0.8**
DGRG	**David-gareji**	**2.08**	**120**	P	**Pg**	**19 34 20.1**	**-1.2**
DGRG				S	**Sg**	**19 34 48.4**	**0.0**
DGRG	**David-gareji**	**2.08**	**120**	P	**Pb**	**19 34 19.3**	**+0.5**
DGRG				S	**Sg**	**19 34 49.1**	**+0.7**

*IDC **12** 20:05:02.0±1.2, 27.°95N×54.°22E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/59, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=33.4km s-min=25.3km az=45.0*
*ISCJB **12** 20:05:05.1±0.6, 27.°83N±0.°05×54.°15E±0.°06, h26km, mb3.7/4, Error ellipse: s-maj=9.4km s-min=5.0km az=43.9*
*TEH **12** 20:05:06.5, 27.°81N×54.°13E, h22km, ML3.2*
*CSEM **12** 20:05:06.6±0.3, 27.°94N×54.°22E, h15km, ML3.2, Error ellipse: s-maj=9.8km s-min=4.4km az=22.0*
ISC 12 20:05:07.1±0.8, 27.°92N±0.°06×54.°24E±0.°04, h26km, n43, σ1.9/85/50, mb3.7/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.17**	**288**	*e*Pg	**Pb**	**20 05 28.6**	**-0.1**
GHIR				*e*Sg	**Sb**	**20 05 47.6**	**+4.1**
ISRV	**Sarvestan**	**1.76**	**326**	*e*Pn	**Pn**	**20 05 36.3**	**+0.1**
ISRV				*e*Sg	**Sb**	**20 06 03.2**	**+2.5**
ISRV				*e*AMB	AMB	20 06 16.7	
	comp=Z,2μm,0.2s						
ISRV	**Sarvestan**	**1.76**	**326**	*e*Pn	**Pn**	**20 05 36.3**	**+0.1**
ISRV				*e*Sg	**Sb**	**20 06 03.2**	**+2.5**
IBND	**Bandar-abas**	**2.09**	**102**	*e*Pn	**Pn**	**20 05 42.2**	**+1.5**
IBND				*e*Sg	**Sb**	**20 06 14.2**	**+4.3**
IBND				*e*AMB	AMB	20 06 20.9	
	comp=Z,3μm,0.3s						
IBND	**Bandar-abas**	**2.09**	**102**	*e*Pn	**Pn**	**20 05 42.0**	**+1.5**
IBND				*e*Sg	**Sb**	**20 06 14.2**	**+4.3**
IPAR	**Pars**	**2.18**	**332**	*e*Pn	**Pn**	**20 05 42.5**	**+0.5**
IPAR				*e*AMB	AMB	20 06 24.8	
	comp=Z,2μm,0.6s						
IPAR	**Pars**	**2.18**	**332**	*e*Pn	**Pn**	**20 05 42.5**	**+0.5**
NIAN	**Nian**	**2.33**	**98**	*e*Pn	**Pn**	**20 05 43.9**	**+0.2**
NIAN	**Nian**	**2.33**	**98**	*e*Pn	**Pn**	**20 05 43.9**	**+0.2**
KHSK	**Kohestak**	**2.76**	**114**	*e*Pn	**Pn**	**20 05 49.9**	**+0.3**
KHSK	**Kohestak**	**2.76**	**114**	*e*Pn	**Pn**	**20 05 49.9**	**+0.3**
AHBU	**AHRAM**	**2.76**	**291**	*e*Pn	**Pn**	**20 05 51.5**	**+1.8**
AHBU				*e*Sg	**Sb**	**20 06 36.3**	**+7.1**
NGRK	**Negar Kerman**	**2.78**	**51**	*e*Pn	**Pn**	**20 05 50.6**	**+0.3**
NGRK	**Negar Kerman**	**2.78**	**51**	*e*Pn	**Pn**	**20 05 50.6**	**+0.3**
TVBK	**TV Kerman**	**3.02**	**46**	*e*Pn	**Pn**	**20 05 55.4**	**+1.8**
TVBK	**TV Kerman**	**3.02**	**46**	*e*Pn	**Pn**	**20 05 55.4**	**+1.8**
KHGB	**Koh Gabri**	**3.13**	**38**	*e*Pn	**Pn**	**20 05 55.9**	**+0.9**
KHGB	**Koh Gabri**	**3.13**	**38**	*e*Pn	**Pn**	**20 05 55.9**	**+0.9**
IMEH	**Mehriz**	**3.47**	**5**	*e*Pn	**Pn**	**20 06 00.8**	**+1.1**
IMEH				*e*AMB	AMB	20 06 04.5	
	comp=Z,390nm,0.1s						
IMEH	**Mehriz**	**3.47**	**5**	*e*Pn	**Pn**	**20 06 00.8**	**+1.1**
CHMN	**Cheshme madani**	**3.48**	**55**	*e*Pn	**Pn**	**20 06 01.7**	**+1.8**
CHMN	**Cheshme madani**	**3.48**	**55**	*e*Pn	**Pn**	**20 06 01.7**	**+1.8**
IBAF	**Bafgh**	**3.83**	**17**	*e*Pn	**Pn**	**20 06 05.0**	**+0.4**
IBAF				*e*AMB	AMB	20 06 52.3	
	comp=Z,285nm,0.2s						
IBAF	**Bafgh**	**3.83**	**17**	*e*Pn	**Pn**	**20 06 05.0**	**+0.4**
IRAM	**Ramesheh**	**4.20**	**338**	*e*Pn	**Pn**	**20 06 10.0**	**+0.3**
IRAM				*e*AMB	AMB	20 06 18.6	
	comp=Z,184nm,0.2s						
IRAM	**Ramesheh**	**4.20**	**338**	*e*Pn	**Pn**	**20 06 10.0**	**+0.3**
ICHK	**Chekchek**	**4.31**	**2**	*e*Pn	**Pn**	**20 06 11.9**	**+0.7**
ICHK				*e*AMB	AMB	20 06 52.9	
	comp=Z,200nm,0.3s						
ICHK	**Chekchek**	**4.31**	**2**	*e*Pn	**Pn**	**20 06 11.9**	**+0.7**
IGAR	**Gharneh**	**4.86**	**337**	*e*Pn	**Pn**	**20 06 19.2**	**+0.5**
IGAR				*e*AMB	AMB	20 06 27.2	
	comp=Z,156nm,0.1s						
NASN	**Na'in**	**5.02**	**346**	*e*Pn	**Pn**	**20 06 21.2**	**+0.2**
IZEF	**Zefreh**	**5.22**	**342**	*e*Pn	**Pn**	**20 06 22.7**	**-1.1**
IZEF				*e*AMB	AMB	20 06 37.1	
	comp=Z,76nm,0.2s						
IZEF	**Zefreh**	**5.22**	**342**	*e*Pn	**Pn**	**20 06 22.7**	**-1.1**
IPIR	**Pirpir**	**5.56**	**329**	*e*Pn	**Pn**	**20 06 27.7**	**-0.8**
IPIR				*e*AMB	AMB	20 07 35.8	
	comp=Z,200nm,0.2s						
IPIR	**Pirpir**	**5.56**	**329**	*e*Pn	**Pn**	**20 06 27.7**	**-0.8**
IKLH	**Kolahrood**	**5.85**	**338**	*e*Pn	**Pn**	**20 06 32.0**	**-0.4**
IKLH				*e*AMB	AMB	20 06 39.3	
	comp=Z,84nm,0.2s						
IKLH	**Kolahrood**	**5.85**	**338**	*e*Pn	**Pn**	**20 06 32.0**	**-0.4**
WSAR	**Wadi Sarin**	**6.12**	**139**	Pn	**Pn**	**20 06 36.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=354,slow=5.6,SNR=23						
WSAR				Sn	**Sn**	**20 07 44.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=106,slow=19,SNR=2.8						
QAM	**Ghamsar**	**6.30**	**338**	*e*Pn	**Pn**	**20 06 39.1**	**+0.6**
QAM				*e*AMB	AMB	20 06 54.2	
	comp=Z,128nm,0.1s						
BRTR	**Keskin Array B**	**20.72**	**310**	P	**P**	**20 09 45.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=123,slow=13,SNR=3.7						
BVAR	**Borovoye Array**	**27.79**	**21**	P	**P**	**20 10 52.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=202,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**38.43**	**339**	P	**P**	**20 12 24.3**	**-2.0**
	comp=Z,3.4nm,1.0s,baz=143,slow=9.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**50.99**	**264**	P	**P**	**20 14 05.3**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=59,slow=7.2,SNR=7.9						
ASAR	**Alice Springs**	**92.31**	**115**	P	**P**	**20 18 14.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=308,slow=4.6,SNR=4.1						

*IDC **12** 20:13:53.0±1.0, 0.°53N×125.°23E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/59, mbtmp3.9/7, Error ellipse: s-maj=88.7km s-min=16.1km az=63.0*
*NEIC **12** 20:13:58.3±3.1, 0.°25S×123.°85E, h26km±24km, mb4.1/6, Error ellipse: s-maj=19.1km s-min=6.5km az=53.0*
*ISCJB **12** 20:14:02.9±0.3, 0.°25S±0.°04×124.°14E±0.°03, h88km, mb4.0/12, Error ellipse: s-maj=5.9km s-min=3.7km az=14.6*
*DJA **12** 20:14:04.5±0.2, 0.°S±2.°×12.°4E±.°, h45km±7km, M4.3/17, mb4.5/13, mB4.5/4, MLv4.3/17, Mw(mB)3.7/4*
ISC 12 20:14:04.6±0.7, 0.°28S±0.°05×124.°15E±0.°04, h88km, n38, σ1.9/79/46, mb4.0/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.87**	**349**	P	**Pn**	**20 14 21.4**	**-1.3**
KMSI				S	**Sn**	**20 14 34.1**	**-2.1**
MRSI	**Marisa**	**2.33**	**289**	P	**Pn**	**20 14 39.2**	**-2.0**
MRSI				S	**Sn**	**20 15 06.0**	**-3.2**
SANI	**Sanana**	**2.54**	**134**	P	**Pn**	**20 14 41.7**	**-2.3**
SANI				S	**Sn**	**20 15 09.4**	**-4.9**
APSI	**Ampana**	**2.58**	**256**	P	**Pn**	**20 14 44.1**	**-0.3**
APSI				S	**Sn**	**20 15 15.1**	**+0.1**
LBMI	**Labuha**	**3.37**	**96**	P	**Pn**	**20 14 54.3**	**-0.9**
LBMI				S	**Sn**	**20 15 33.6**	**-0.7**
KDI	**Kendari**	**3.96**	**203**	P	**Pn**	**20 15 01.9**	**-1.2**
NLAI	**Namlea**	**4.16**	**135**	P	**Pn**	**20 15 05.6**	**-0.3**
NLAI				S	**Sn**	**20 15 50.6**	**-2.9**
MPSI	**Mapaga**	**4.29**	**278**	P	**Pn**	**20 15 07.5**	**-0.2**
PCI	**Palu**	**4.35**	**262**	P	**Pn**	**20 15 08.0**	**-0.5**
TTSI	**Tana Toraja**	**5.12**	**238**	P	**Pn**	**20 15 18.9**	**-0.1**
TTSI				S	**Sn**	**20 16 13.0**	**-3.9**
AAI	**Ambon**	**5.27**	**130**	P	**Pn**	**20 15 21.7**	**+0.7**
	44nm,0.8s,0.2nm						
BBSI	**Bau Bau**	**5.41**	**197**	P	**Pn**	**20 15 21.1**	**-1.7**
MSAI	**Masohi**	**5.67**	**123**	P	**Pn**	**20 15 27.2**	**+0.8**
MSAI				S	**Sn**	**20 16 29.7**	**-0.4**
SPSI	**Sidrap Palu**	**5.70**	**230**	P	**Pn**	**20 15 27.4**	**+0.5**
	56nm,0.8s,0.2nm						
SPSI				S	**Sn**	**20 16 30.4**	**-0.6**
	56nm,0.8s,0.2nm						
BNSI	**Bone**	**5.75**	**225**	P	**Pn**	**20 15 27.5**	**0.0**
	32nm,0.7s,0.2nm						
BSSI	**Bau Bau, Buton**	**6.87**	**212**	P	**Pn**	**20 15 42.2**	**-0.6**
BNDI	**Bandanaira**	**7.13**	**126**	P	**Pn**	**20 15 47.1**	**+0.8**
SWI	**Sorong**	**7.14**	**95**	P	**Pn**	**20 15 47.0**	**+0.6**
MYLDM	**Lahad Datu**	**7.83**	**314**	*e*Pn	Pn	20 15 47.5	-8.3
FAKI	**Fak Fak**	**8.51**	**108**	P	**Pn**	**20 16 04.0**	**-1.2**
FAKI	**Fak Fak**	**8.51**	**108**	*e*Pn	**Pn**	**20 16 04.2**	**-1.0**
FAKI				*e*Sn	**Sn**	**20 17 34.3**	**-5.3**
TPRI	**Tanjung Pinang**	**19.66**	**273**	P	**Pn**	**20 18 29.9**	**+1.0**
	15nm,1.1s						
WR1	**Warramunga Arr**	**21.94**	**154**	*e*P	**P**	**20 18 51.2**	**0.0**
	9.1nm,1.1s						
WRA	**Warramunga Arr**	**21.94**	**154**	P	**P**	**20 18 51.2**	**0.0**
	3.1nm,0.6s,baz=334,slow=10,SNR=30						
WB2	**Warramunga Arr**	**21.95**	**154**	*e*P	**P**	**20 18 51.6**	**+0.3**
	13nm,1.4s						
PMG	**Port Moresby**	**24.63**	**112**	*e*P	**P**	**20 19 19.5**	**+2.4**
	5.8nm,0.8s						
AS31	**Alice Springs**	**25.10**	**159**	*e*P	**P**	**20 19 22.9**	**+1.6**
	1.9nm,0.5s						
ASAR	**Alice Springs**	**25.10**	**159**	P	**P**	**20 19 22.7**	**+1.3**
	5.7nm,0.8s,baz=336,slow=7.0,SNR=77						
ASAR				PcP	**PcP**	**20 22 55.4**	**+1.6**
	0.3nm,0.6s,baz=348,slow=1.6,SNR=5.4						
AS01	**Alice Springs**	**25.12**	**158**	*e*P	**P**	**20 19 23.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.99**	**308**	P	**P**	**20 20 15.2**	**+1.2**
	0.3nm,0.7s,baz=138,slow=8.4,SNR=4.1						
STKA	**Stephens Creek**	**35.49**	**154**	P	**P**	**20 20 54.2**	**+1.2**
	2.2nm,0.7s,baz=334,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**35.49**	**154**	*e*P	**P**	**20 20 54.6**	**+1.7**
	1.8nm,1.4s						
SONA0	**Songino Array**	**50.35**	**345**	*e*P	P	20 22 47.2	-5.6
	11nm,0.9s						
SONM	**Songino Array**	**50.35**	**345**	P	P	20 22 47.2	-5.6
	2.0nm,0.5s,baz=134,slow=8.3,SNR=3.6						
MK32	**Makanchi Array**	**59.46**	**328**	*e*P	**P**	**20 23 58.0**	**-0.4**
MKAR	**Makanchi Array**	**59.46**	**328**	P	**P**	**20 23 58.0**	**-0.4**
	0.4nm,0.5s,baz=129,slow=7.4,SNR=6.0						
KURBB	**Kurchatov Arra**	**63.78**	**330**	P	**P**	**20 24 26.1**	**-1.2**
	0.4nm,0.5s,baz=137,slow=6.4,SNR=6.0						
KURK	**Kurchatov**	**63.79**	**330**	*e*P	**P**	**20 24 26.1**	**-1.3**

*ISCJB **12** 20:20:54.5±0.4, 46.°02N±0.°02×16.°25E±0.°03, h9km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=136.0*
*VIE **12** 20:20:54.8±0.6, 46.°06N×16.°24E, h9km±3km, mb1.9/5, ML2.1/7, Error ellipse: s-maj=3.9km s-min=3.7km az=92.0*
*LJU **12** 20:20:54.8, 46.°00N×16.°25E, h14km, ML2.1*
*CSEM **12** 20:20:55.2±0.1, 46.°02N×16.°21E, h10km, ML2.7/6, Error ellipse: s-maj=2.8km s-min=2.5km az=3.0*
*PRU **12** 20:20:56.7, 46.°10N×16.°25E, h12km*
ISC 12 20:20:55.3±1.0, 46.°04N±0.°02×16.°23E±0.°02, h10km±8km, n56, σ0.°83/92, 18C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAG	**Zagreb**	**0.27**	**220⇓**	*i*Pg	**Pg**	**20 21 00.4**	**-0.4**
ZAG				*e*Sg	**Sg**	**20 21 04.8**	**+0.4**
KOGS	**Kog**	**0.41**	**2**	*i* Sg	**Sb**	**20 21 10.4**	**-0.7**
	comp=Z,115nm,0.1s						
KOGS	**Kog**	**0.41**	**2**	*i* Sg	**Sb**	**20 21 10.3**	**-0.7**
GOLS	**Golise**	**0.42**	**267⇑**	*i*Pg	**Pg**	**20 21 03.7**	**0.0**
GOLS				*i* Sg	**Sb**	**20 21 10.7**	**-0.7**
	comp=Z,161nm,0.3s						
GOLS	**Golise**	**0.42**	**267⇑**	*i*Pg	**Pg**	**20 21 03.6**	**0.0**
GOLS				*i* Sg	**Sb**	**20 21 10.7**	**-0.7**
	comp=Z,161nm,0.3s						
GCIS	**Gornji Cirnik**	**0.46**	**248⇑**	*i*Pg	**Pg**	**20 21 03.8**	**-0.5**
GCIS				*i* Sg	**Sg**	**20 21 10.8**	**+0.6**
	comp=Z,21nm,0.1s						
GCIS	**Gornji Cirnik**	**0.46**	**248⇑**	*i*Pg	**Pg**	**20 21 03.7**	**-0.5**
GCIS				*i* Sg	**Sg**	**20 21 10.8**	**+0.6**
	comp=Z,21nm,0.1s						
CESS	**Cesta pri Krsk**	**0.54**	**264**	*i* Pg	**Pg**	**20 21 05.7**	**-0.1**
	comp=Z,115nm,0.2s						
CESS	**Cesta pri Krsk**	**0.54**	**264**	*i* Pg	**Pg**	**20 21 05.7**	**-0.1**
	comp=Z,115nm,0.2s						
DOBS	**Dobrina**	**0.54**	**282⇑**	*i*Pg	**Pg**	**20 21 05.8**	**-0.1**
	comp=Z,70nm,0.1s						
DOBS	**Dobrina**	**0.54**	**282⇑**	*i*Pg	**Pg**	**20 21 05.8**	**-0.1**
	comp=Z,70nm,0.1s						
SISC	**Sisak**	**0.57**	**170**	Sg	**Sg**	**20 21 14.4**	**+0.4**
SISC	**Sisak**	**0.57**	**170**	Sg	**Sg**	**20 21 14.3**	**+0.4**
BEHE	**Becsehely**	**0.57**	**41⇑**	*i*Pg	**Pb**	**20 21 07.0**	**-0.4**
BEHE				*e*Sg	**Sb**	**20 21 15.3**	**-0.4**
BEHE				*e*Sn	**Sb**	**20 21 16.0**	**+0.3**
BEHE	**Becsehely**	**0.57**	**41**	*e*Pg	**Pb**	**20 21 07.1**	**-0.4**
BEHE				*ex*	x	20 21 08.7	
BEHE				*e*Sg	**Sb**	**20 21 16.0**	**+0.3**
BEHE	**Becsehely**	**0.57**	**41**	*e*Pg	**Pb**	**20 21 07.1**	**-0.4**
BEHE				*ex*	x	20 21 08.7	
BEHE				*e*Sg	**Sb**	**20 21 16.0**	**+0.3**
CRES	**Cresnjev**	**0.58**	**249⇑**	*i*Pg	**Pg**	**20 21 06.0**	**-0.6**
	comp=Z,49nm,0.1s						
CRES	**Cresnjev**	**0.58**	**249⇑**	*i*Pg	**Pg**	**20 21 06.0**	**-0.6**
	comp=Z,49nm,0.1s						
CRES				*e*Sg	**Sg**	**20 21 14.9**	**+0.7**
LEGS	**Legarje**	**0.65**	**263⇑**	*i*Pg	**Pg**	**20 21 07.4**	**-0.4**
LEGS				*i* Sg	**Sb**	**20 21 17.3**	**-0.4**
LEGS	**Legarje**

KHC				*e*SG	**Sg**	**20 22 49.5**	**-0.7**
KHC	**Kasperske Hory**	**3.58**	**331**	Pn	**Pn**	**20 21 52.0**	**+1.1**
KHC				Sn	**Sn**	**20 22 32.3**	**-1.0**
KHC				Sg	**Sg**	**20 22 49.5**	**-0.7**
GRUS	**Gruza**	**3.84**	**122**	*e*Pn	**Pn**	**20 21 55.9**	**+1.5**
MORC	**Moravsky Berou**	**3.84**	**13**	*e*Pn	**Pn**	**20 21 54.6**	**0.0**
BOVS	**Bovan**	**4.57**	**120**	*e*Pn	**Pn**	**20 22 03.6**	**-0.9**

IDC ***12*** *20:27:41.4±0.8, 52°.93N×35°.05W, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/56, mbtmp3.9/12, ML4.0/1, MS3.5/15, Ms1 3.5/15, ms1mx3.2/56, Error ellipse: s-maj=29.2km s-min=16.4km az=4.0*

ISCJB ***12*** *20:27:42.2±0.5, 53°.1N±0°.1×35°.06W±0°.10, h13km, mb4.2/18, MS3.4/13, Error ellipse: s-maj=15.0km s-min=8.4km az=3.1*

NEIC ***12*** *20:27:43.1±0.4, 53°.00N×35°.11W, h10km, mb4.6/5, Error ellipse: s-maj=14.2km s-min=7.8km az=190.0*

CSEM ***12*** *20:27:43.2, 53°.00N×35°.11W, h10km, mb4.6/5*

ISC 12 20:27:43.7±0.6, **53°.1N**±0°.1×**35°.13W**±0°.08, **h13km, n69,**
σ1§**07**/60, **mb4.3**/18, **MS3.4**/13, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.89**	**337**	LR	LR	20 36 19.5	
	comp=Z,184nm,20.1s,baz=152,slow=32						
SCHQ	**Schefferville**	**18.66**	**288**	LR	LR	20 38 12.1	
	comp=Z,84nm,18.5s,baz=93,slow=34						
EKA	**Eskdalemuir Ar**	**18.75**	**70**	P	**Pn**	**20 32 02.4**	**-0.1**
	baz=278,slow=8.8,SNR=9.7						
FRB	**Frobisher Bay**	**20.24**	**315**	LR	LR	20 38 21.9	
	comp=Z,158nm,19.5s,baz=72,slow=31						
JMIC	**Jan Mayen**	**21.54**	**24**	LR	LR	20 38 43.8	
	comp=Z,76nm,21.8s,baz=260,slow=31						
ESDC	**Sonseca Array**	**25.10**	**110**	P	**P**	**20 33 05.6**	**-2.4**
	2.6nm,0.9s,baz=316,slow=9.1,SNR=14						
ESDC				LR	LR	20 41 27.0	
	comp=Z,107nm,18.2s,baz=185,slow=33						
ESLA	**Sonseca Array**	**25.10**	**110**	*e*P	**P**	**20 33 08.8**	**+0.8**
	5.1nm,1.1s						
ESLA	**Sonseca Array**	**25.10**	**110**	*e*P	**P**	**20 33 08.8**	**+0.8**
	5.1nm,1.1s						
ES19	**SONSECA Array**	**25.12**	**110**	*e*P	**P**	**20 33 08.6**	**+0.4**
ES19	**SONSECA Array**	**25.12**	**110**	*e*P	**P**	**20 33 08.7**	**+0.4**
NOA	**NORSAR Array B**	**25.93**	**54**	LR	LR	20 41 23.9	
	comp=Z,38nm,18.2s,baz=270,slow=32						
HFS	**Hagfors**	**27.23**	**55**	LR	LR	20 41 51.0	
	comp=Z,39nm,19.1s,baz=283,slow=31						
CLL	**Collm**	**29.12**	**74**	*e*P	**P**	**20 33 44.0**	**0.0**
	comp=Z,5.0nm,0.9s						
BBSR	**BB Station**	**29.66**	**238**	*e*P	**P**	**20 33 52.0**	**+3.2**
	comp=Z,145nm,0.6s						
SADO	**Sadowa**	**29.68**	**272**	LR	LR	20 44 40.2	
	comp=Z,87nm,21.1s,baz=346,slow=34						
GERES	**GERESS Array B**	**30.56**	**78**	LR	LR	20 46 41.4	
	comp=Z,49nm,18.2s,baz=283,slow=37						
VRAC	**Vranov**	**32.05**	**76**	LR	LR	20 46 15.6	
	comp=Z,91nm,18.9s,baz=279,slow=35						
FIA0	**FINESS Array S**	**32.97**	**51**	*e*P	**P**	**20 34 18.0**	**+0.3**
FIA0	**FINESS Array S**	**32.97**	**51**	*e*P	**P**	**20 34 18.0**	**+0.3**
FINES	**FINESS Array B**	**32.97**	**51**	P	**P**	**20 34 18.0**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=305,slow=9.8,SNR=3.7						
FINES				LR	LR	20 45 32.2	
	comp=Z,54nm,19.5s,baz=229,slow=32						
FINES	**FINESS Array B**	**32.97**	**51**	P	**P**	**20 34 18.0**	**+0.3**
BLA	**Blacksburg**	**35.01**	**262**	*e*P	**P**	**20 34 31.7**	**-4.0**
	comp=Z,32nm,0.8s						
BUR08	**Bucovina Ar. S**	**37.87**	**73**	*e*P	**P**	**20 35 00.9**	**+0.8**
BUR08	**Bucovina Ar. S**	**37.87**	**73**	*e*P	**P**	**20 35 00.9**	**+0.8**
AKASG	**Malin Array Be**	**38.60**	**67**	P	**P**	**20 35 05.2**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=302,slow=8.5,SNR=4.2						
BR231	**Keskin MP Arra**	**46.87**	**78**	*e*P	P	20 36 18.4	+4.9
BR101	**Keskin Array S**	**47.46**	**77**	*e*P	**P**	**20 36 18.9**	**+0.8**
BR101	**Keskin Array S**	**47.46**	**77**	*e*P	**P**	**20 36 18.9**	**+0.8**
BR131	**Keskin Array S**	**47.46**	**77**	*e*P	**P**	**20 36 19.1**	**+1.0**
BR131	**Keskin Array S**	**47.46**	**77**	*e*P	**P**	**20 36 19.1**	**+1.0**
BRTR	**Keskin Array B**	**47.46**	**77**	P	**P**	**20 36 18.9**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=312,slow=5.0,SNR=13						
BRTR				LR	LR	20 55 39.7	
	comp=Z,493nm,19.1s,baz=200,slow=35						
PDAR	**Pinedale Array**	**48.79**	**289**	P	**P**	**20 36 28.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=48,slow=4.8,SNR=3.7						
PDAR				LR	LR	20 55 03.6	
	comp=Z,105nm,18.1s,baz=160,slow=34						
PDAR	**Pinedale Array**	**48.79**	**289**	*e*P	**P**	**20 36 28.0**	**-0.5**
PDAR	**Pinedale Array**	**48.79**	**289**	*e*P	**P**	**20 36 28.0**	**-0.5**
TOA1	**Torodi Ar. Sit**	**49.40**	**130**	*e*P	**P**	**20 36 32.0**	**-1.1**
TOA1	**Torodi Ar. Sit**	**49.40**	**130**	*e*P	**P**	**20 36 32.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**49.40**	**130**	P	**P**	**20 36 32.0**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=326,slow=7.0,SNR=5.9						
ARU	**Arti**	**50.10**	**46**	*e*P	**P**	**20 36 37.0**	**-1.0**
	comp=Z,4.4nm,0.8s						
ARU	**Arti**	**50.10**	**46**	*e*P	**P**	**20 36 37.0**	**-1.0**
	comp=Z,4.4nm,0.8s						
HWUT	**Hardware Ranch**	**50.68**	**290**	*e*P	**P**	**20 36 44.9**	**+2.1**
	comp=Z,4.1nm,0.9s						
HWUT	**Hardware Ranch**	**50.68**	**290**	*e*P	**P**	**20 36 44.9**	**+2.1**
	comp=Z,4.1nm,0.9s						
IL1	**Eielson Array**	**51.34**	**329**	*e*P	**P**	**20 36 47.7**	**+0.5**
IL1	**Eielson Array**	**51.34**	**329**	*e*P	**P**	**20 36 47.7**	**+0.5**
ILAR	**Eielson Array**	**51.34**	**329**	P	**P**	**20 36 47.8**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=38,slow=4.7,SNR=7.6						
ILAR				PcP	**PcP**	**20 38 01.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=25,slow=3.2,SNR=4.6						
PAX	**Paxson**	**52.15**	**327**	*e*P	P	20 36 47.8	-5.6
	comp=Z,19nm,0.7s						
LTX	**Lajitas**	**54.45**	**273**	*e*P	**P**	**20 37 11.5**	**+0.7**
LTX	**Lajitas**	**54.45**	**273**	*e*PcP	**PcP**	**20 38 14.3**	**0.0**
LTX	**Lajitas**	**54.45**	**273**	*e*P	**P**	**20 37 11.5**	**+0.7**
LTX				*e*PcP	**PcP**	**20 38 14.3**	**0.0**
TXAR	**Lajitas Array**	**54.45**	**273**	P	**P**	**20 37 11.5**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=46,slow=3.9,SNR=2.4						
TXAR				PcP	**PcP**	**20 38 14.3**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=91,slow=3.9,SNR=5.3						
TXAR				LR	LR	21 00 09.4	
	comp=Z,72nm,18.0s,baz=0.0,slow=36						
TIXI	**Tiksi**	**55.06**	**6**	LR	LR	20 58 23.6	
	comp=Z,43nm,18.9s,baz=266,slow=33						
DNR	**Dunn Ranch,Anz**	**59.12**	**286**	*e*P	**P**	**20 37 42.6**	**-1.3**
DNR	**Dunn Ranch,Anz**	**59.12**	**286**	*e*P	**P**	**20 37 42.6**	**-1.3**
KURK	**Kurchatov**	**62.54**	**41**	*e*P	**P**	**20 38 07.2**	**+0.4**
KURK	**Kurchatov**	**62.54**	**41**	*e*P	**P**	**20 38 07.2**	**+0.4**
KURBB	**Kurchatov Arra**	**62.58**	**41**	P	**P**	**20 38 07.2**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=324,slow=7.2,SNR=11						
AAK	**Ala-Archa**	**67.13**	**49**	P	**P**	**20 38 38.0**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=63,slow=1.4,SNR=3.9						
MK32	**Makanchi Array**	**67.14**	**41**	*e*P	**P**	**20 38 36.5**	**-0.4**
MK32	**Makanchi Array**	**67.14**	**41**	*e*P	**P**	**20 38 36.5**	**-0.4**
MKAR	**Makanchi Array**	**67.14**	**41**	P	**P**	**20 38 36.5**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=331,slow=6.1,SNR=8.9						
MK01	**Makanchi Array**	**67.16**	**41**	*e*P	**P**	**20 38 37.0**	**0.0**
MK01	**Makanchi Array**	**67.16**	**41**	*e*P	**P**	**20 38 37.0**	**0.0**
WR1	**Warramunga Arr**	**145.94**	**18**	*e*PKIKP	**PKPdf**	**20 47 22.2**	**0.0**
WR1	**Warramunga Arr**	**145.94**	**18**	*e*PKPdf	**PKPdf**	**20 47 22.2**	**0.0**
WRA	**Warramunga Arr**	**145.94**	**18**	PKPbc	**PKPdf**	**20 47 22.2**	**0.0**
	comp=Z,5.2nm,1.0s,baz=343,slow=3.3,SNR=26						
WRA	**Warramunga Arr**	**145.94**	**18**	*e*P	**PKPdf**	**20 47 22.2**	**0.0**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AS31	**Alice Springs**	**149.48**	**20**	*e*PKPbc	**PKPbc**	**20 47 31.8**	**-0.7**
AS31	**Alice Springs**	**149.48**	**20**	*e*PKPbc	**PKPbc**	**20 47 31.8**	**-0.7**
ASAR	**Alice Springs**	**149.48**	**20**	PKPbc	**PKPbc**	**20 47 31.8**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=352,slow=2.4,SNR=34						
ASAR	**Alice Springs**	**149.48**	**20**	*e*P	**PKPbc**	**20 47 31.7**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

IDC ***12*** *20:29:01.8±1.6, 3°.76S×129°.43E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/34, mbtmp3.9/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/32, Error ellipse: s-maj=110.8km s-min=26.6km az=65.0*

DJA ***12*** *20:29:04.8±0.4, 4°.5±3°×12°.9E±°, h11km±3km, M3.8/8, MLv3.8/8*

ISCJB ***12*** *20:29:05.6±0.6, 4°.14S±0°.05×128°.82E±0°.04, h32km, mb3.7/3, MS3.6/1, Error ellipse: s-maj=7.1km s-min=4.6km az=24.8*

ISC 12 20:29:07.0±0.8, **4°.14S**±0°.06×**128°.82E**±0°.04, **h32km, n14,**
σ1§**48**/22, **mb4.0**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.77**	**306**	P	**Pn**	**20 29 19.4**	**-2.2**
AAI				S	**Sn**	**20 29 31.1**	**-0.9**
MSAI	**Masohi**	**0.80**	**8**	P	**Pn**	**20 29 19.5**	**-2.5**
MSAI				S	**Sb**	**20 29 30.5**	**-2.4**
BNDI	**Bandanaira**	**1.15**	**109**	P	**Pn**	**20 29 26.0**	**-0.9**
BNDI				S	**Sn**	**20 29 41.4**	**-0.1**
NLAI	**Namlea**	**1.93**	**297**	P	**Pn**	**20 29 38.0**	**+0.4**
NLAI				S	**Sb**	**20 30 06.2**	**+0.9**
SANI	**Sanana**	**3.50**	**306**	P	**Pn**	**20 29 58.8**	**-0.5**
SANI				S	**Sn**	**20 30 40.3**	**+0.6**
FAKI	**Fak Fak**	**3.63**	**71**	P	**Pn**	**20 30 02.4**	**+1.3**
FAKI				S	**Sn**	**20 30 42.8**	**-0.1**
LBMI	**Labuha**	**3.72**	**339**	P	**Pn**	**20 30 03.4**	**+1.2**
LBMI				S	**Sn**	**20 30 46.7**	**+1.7**
SWI	**Sorong**	**4.07**	**37**	P	**Pn**	**20 30 08.1**	**+1.1**
SWI				S	**Sn**	**20 30 54.1**	**+0.5**
WRA	**Warramunga Arr**	**16.61**	**162**	Pn	**Pn**	**20 32 54.8**	**-2.8**
	0.2nm,0.3s,baz=332,slow=14,SNR=17						
WRA				Sn	Sn	20 35 51.6	-10
	0.0nm,0.3s,baz=332,slow=21,SNR=3.2						
ASAR	**Alice Springs**	**20.03**	**166**	P	**P**	**20 33 39.1**	**+1.8**
	3.3nm,0.5s,baz=347,slow=9.8,SNR=80						
ASAR				PcP	**PcP**	**20 37 52.9**	**+0.1**
	0.5nm,0.6s,baz=354,slow=1.9,SNR=7.7						
NWAO	**Narrogin (SRO)**	**30.62**	**199**	LR	LR	20 49 03.8	
	comp=Z,136nm,19.3s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**37.02**	**308**	P	**P**	**20 36 15.7**	**+1.6**
	0.5nm,0.7s,baz=146,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**65.20**	**327**	P	**P**	**20 39 45.5**	**+0.2**
	0.9nm,0.7s,baz=122,slow=8.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**68.51**	**334**	P	**P**	**20 40 05.3**	**-0.8**
	0.7nm,0.5s,baz=134,slow=6.4,SNR=4.9						

MOS ***12*** *20:35:58.5±0.7, 48°.41N×155°.55E, h19km, mb4.3/4, Error ellipse: s-maj=27.3km s-min=6.1km az=76.2*

KRSC ***12*** *20:36:04.0±2.3, 48°.81N×156°.48E, h17km±32km, ML4.4*

IDC ***12*** *20:36:06.5±5.1, 48°.83N×155°.04E, h72km±44km, mb3.2/3, mb1 3.6/5, mb1mx3.2/53, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=105.1km s-min=21.7km az=147.0*

ISC 12 20:36:04.9±2.3, **48°.9N**±0°.1×**156°.2E**±0°.2, **h10km, n42,**
σ2§**72**/41, **mb3.5**/3, **1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.83**	**358**	*e*PN	**Pn**	**20 36 34.5**	**-1.9**
SKR				pmax	pmax		
	comp=Z,69nm,0.7s						
SKR	**Severo-Kuril's**	**1.83**	**358**	*e*P	**Pn**	**20 36 35.6**	**-0.8**
SKR				*e*S	**Sn**	**20 36 58.2**	**-1.3**
ASAK	**Asacha**	**3.69**	**16**	PN	**Pn**	**20 37 04.5**	**+2.4**
ASAK	**Asacha**	**3.69**	**16**	*e*P	**Pn**	**20 37 04.5**	**+2.4**
MTVR	**Mutnovka**	**3.84**	**18**	PN	**Pn**	**20 37 06.7**	**+2.5**
MTVR	**Mutnovka**	**3.84**	**18**	*e*P	**Pn**	**20 37 06.7**	**+2.5**
MTVR				*e*S	**Sn**	**20 37 52.9**	**+3.4**
RUS	**Russkaya**	**3.87**	**22**	PN	**Pn**	**20 37 05.5**	**+1.1**
RUS	**Russkaya**	**3.87**	**22**	*e*P	**Pn**	**20 37 05.5**	**+1.1**
RUS				*e*S	**Sn**	**20 37 50.7**	**+0.8**
APC	**Apacha**	**4.12**	**8**	PN	**Pn**	**20 37 09.6**	**+1.8**
APC	**Apacha**	**4.12**	**8**	*e*P	**Pn**	**20 37 09.6**	**+1.8**
KRMR	**Karymshinskiy**	**4.16**	**16**	PN	**Pn**	**20 37 11.2**	**+2.8**
KRMR	**Karymshinskiy**	**4.16**	**16**	*e*P	**Pn**	**20 37 11.2**	**+2.8**
KRMR				*e*S	**Sn**	**20 38 00.7**	**+3.6**
PETK	**Petropavlovsk-**	**4.36**	**12**	P	**Pn**	**20 37 13.4**	**+2.2**
	comp=Z,1.5nm,0.3s,baz=173,slow=11,SNR=8.0						
PET	**Petropavlovsk**	**4.45**	**20**	*e*S	**Sb**	**20 38 09.7**	**-7.1**
DALK	**Dalny**	**4.48**	**20**	PN	**Pn**	**20 37 15.0**	**+2.2**
DALK	**Dalny**	**4.48**	**20**	*e*P	**Pn**	**20 37 15.0**	**+2.2**
DALK				*e*S	**Sn**	**20 38 08.4**	**+3.5**
AVH	**Avacha**	**4.70**	**19**	PN	**Pn**	**20 37 18.9**	**+3.0**
AVH	**Avacha**	**4.70**	**19**	*e*P	**Pn**	**20 37 18.9**	**+3.0**
AVH				*e*S	**Sn**	**20 38 13.2**	**+2.8**
KOK	**Koryaka**	**4.70**	**18**	PN	**Pn**	**20 37 19.4**	**+3.5**
KOK	**Koryaka**	**4.70**	**18**	*e*P	**Pn**	**20 37 19.4**	**+3.5**
KOK				*e*S	**Sn**	**20 38 14.0**	**+3.5**
KRER	**Koryakskii**	**4.73**	**19**	PN	**Pn**	**20 37 19.4**	**+2.9**
KRER	**Koryakskii**	**4.73**	**19**	*e*P	**Pn**	**20 37 19.4**	**+2.9**
SDLR	**Sedlovina**	**4.74**	**20**	PN	**Pn**	**20 37 18.3**	**+1.8**
SDLR	**Sedlovina**	**4.74**	**20**	*e*P	**Pn**	**20 37 18.3**	**+1.8**
SDLR				*e*S	**Sn**	**20 38 13.5**	**+2.0**
NLC	**Nalytchevo**	**4.75**	**24**	*e*S	**Sn**	**20 38 13.4**	**+1.7**
SPN	**Mys Shipunski**	**4.88**	**28**	PN	**Pn**	**20 37 20.4**	**+2.0**
SPN	**Mys Shipunski**	**4.88**	**28**	*e*P	**Pn**	**20 37 20.4**	**+2.0**
SPN				*e*S	**Sn**	**20 38 17.7**	**+2.8**
GNL	**Ganaly**	**4.97**	**12**	PN	**Pn**	**20 37 21.9**	**+2.3**
GNL	**Ganaly**	**4.97**	**12**	*e*P	**Pn**	**20 37 21.9**	**+2.3**
MKZ	**Mys Kozlova**	**6.66**	**29**	*e*S	**Sn**	**20 38 58.3**	**-0.3**
ASAJ	**Asahikawa**	**10.50**	**248**	P	Pn	20 38 24.9	-11
	comp=Z,0.6nm,0.3s,baz=66,slow=10.0,SNR=5.7						
ASAJ	**Asahikawa**	**10.50**	**248**	PN	Pn	20 38 25.0	-10
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**11.19**	**346**	‖*e*PN	**Pn**	**20 38 45.3**	**+0.5**
KSRS	**Korea Array**	**23.43**	**251**	P	P	20 41 01.6	-12
	comp=Z,0.6nm,0.6s,baz=51,slow=11,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**30.31**	**160**	T	T	21 14 36.5	
	baz=345,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**30.33**	**160**	T	T	21 14 23.6	
	baz=345,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**30.33**	**160**	T	T	21 14 33.6	
	baz=345,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**31.45**	**161**	T	T	21 16 05.9	
	baz=346,slow=76,SNR=600						
H11S3	**WAKE ISLAND Hy**	**31.46**	**161**	T	T	21 16 03.1	
	baz=346,slow=76,SNR=781						
H11S2	**WAKE ISLAND Hy**	**31.47**	**161**	T	T	21 15 55.8	
	baz=346,slow=76,SNR=449						
CMAR	**Chiang Mai Arr**	**54.87**	**257**	P	P	20 45 24.6	-11
	comp=Z,0.7nm,0.7s,baz=31,slow=7.6,SNR=5.2						
TXAR	**Lajitas Array**	**74.66**	**63**	P	**P**	**20 47 42.3**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.8,SNR=3.6						

NIED ***12*** *20:49:00.37°.90N×144°.30E, h8km, Mw4.1 Best double couple: M0 1.84000×10¹⁵ NP1:φs3.00000°, δ24.00000°, λ-80.00000°. NP2:φs173.00000°, δ66.00000°, λ-94.00000°.*

IDC ***12*** *20:49:44.9±0.7, 37°.71N×144°.55E, h0km, mb4.2/19, mb1 4.3/25, mb1mx4.1/74, mbtmp4.2/25, ML4.2/5, MS3.1/5, Ms1 3.2/5, ms1mx2.9/33, Error ellipse: s-maj=17.7km s-min=13.7km az=130.0*

ISCJB ***12*** *20:49:48.9±0.3, 37°.81N±0°.04×144°.30E±0°.03, h33km, mb4.3/33, MS3.4/3, Error ellipse: s-maj=5.6km s-min=3.9km az=10.8*

NEIC ***12*** *20:49:49.1±0.2, 37°.69N×144°.48E, h19km±23km, mb4.6/14, Error ellipse: s-maj=9.8km s-min=7.1km az=118.0*

JMA ***12*** *20:49:49.1±0.2, 37°.88N×144°.27E, h37km, M4.5*

ISC 12 20:49:50.8±0.6, **37°.80N**±0°.05×**144°.36E**±0°.06, **h35km, n81,**
σ1§**72**/94, **mb4.4**/33, **MS3.2**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.46**	**286**	P	**Pn**	**20 50 27.0**	**-1.4**
JIO				S	**Sn**	**20 50 55.3**	**-1.9**
OFUJ	**Ofunato**	**2.47**	**302**	P	**Pn**	**20 50 26.8**	**-1.7**
MIYJ	**Miyakonagasawa**	**2.67**	**313**	P	**Pn**	**20 50 29.3**	**-1.9**
MIYJ				S	**Sn**	**20 50 59.0**	**-3.3**
JMK	**Ichinoseki**	**2.72**	**296**	P	**Pn**	**20 50 30.8**	**-1.2**
JOM	**Ohasama**	**2.93**	**306**	P	**Pn**	**20 50 33.7**	**-1.1**
JOM				S	**Sn**	**20 51 07.5**	**-1.2**
JOU	**Okura**	**2.97**	**282**	P	**Pn**	**20 50 34.8**	**-0.6**
JFT	**Otama**	**3.21**	**266**	P	**Pn**	**20 50 38.0**	**-0.6**
JFT				S	**Sn**	**20 51 15.0**	**-0.6**
JRG	**Rokugo**	**3.33**	**300**	P	**Pn**	**20 50 39.5**	**-0.8**
JRG				S	**Sn**	**20 51 17.7**	**-0.9**
JYK	**Kaneyama**	**3.34**	**291**	P	**Pn**	**20 50 39.8**	**-0.6**
JYK				S	**Sn**	**20 51 17.7**	**-1.2**
JANG	**Nango**	**3.39**	**320**	P	**Pn**	**20 50 39.7**	**-1.5**
JANG				S	**Sn**	**20 51 16.5**	**-3.7**
JAH	**Hinai**	**3.76**	**311**	P	**Pn**	**20 50 46.1**	**-0.1**
JAH				S	**Sn**	**20 51 28.2**	**-1.0**
JTM	**Tenmabayashi**	**3.93**	**320**	P	**Pn**	**20 50 47.6**	**-0.9**
JTM				S	**Sn**	**20 51 29.0**	**-4.4**
BSO1	**Boso 1**	**4.16**	**222**	P	**Pn**	**20 50 49.5**	**-1.8**
JOT	**Ohata**	**4.40**	**325**	P	**Pn**	**20 50 53.7**	**-1.3**
JOT				S	**Sn**	**20 51 41.4**	**-3.6**
MJAR	**Matsushiro Arr**	**5.07**	**258**	Pn	**Pn**	**20 51 04.4**	**+0.1**
	19nm,0.3s,baz=70,slow=11,SNR=89						
MAJO	**Matsushiro**	**5.07**	**258**	*e*Pn	**Pn**	**20 51 05.0**	**+0.7**
MAT	**Matsushiro**	**5.07**	**258**	P	**Pn**	**20 51 04.9**	**+0.6**
MAT				*e*S	**Sn**	**20 51 56.5**	**-5.1**
MJB9	**Matsu-Tunnel**	**5.07**	**258**	*e*Pn	**Pn**	**20 51 05.1**	**+0.8**
JHJ2	**Mitsune**	**5.97**	**220**	*e*Pn	**Pn**	**20 51 14.0**	**-2.6**
JHJ	**Hachijo jima 2**	**5.98**	**220**	Pn	**Pn**	**20 51 13.9**	**-2.8**
	52nm,0.3s,baz=312,slow=22,SNR=29						
JHJ				Sn	**Sn**	**20 52 18.1**	**-5.8**
	50nm,0.3s,baz=352,slow=23,SNR=7.2						
INU	**Inuyama**	**6.39**	**250**	*e*Pn	**Pn**	**20 51 23.1**	**+0.7**
ASAJ	**Asahikawa**	**6.45**	**349**	Pn	**Pn**	**20 51 21.4**	**-1.8**
	11nm,0.3s,baz=199,slow=15,SNR=39						
ASAJ				Sn	**Sn**	**20 52 31.1**	**-4.5**
	4.5nm,0.3s,baz=332,slow=28,SNR=5.1						
USRK	**Ussuriysk Ar.**	**11.32**	**308**	Pn	**Pn**	**20 52 30.8**	**+0.9**
	0.4nm,0.3s,baz=111,slow=14,SNR=5.7						
JNU	**Nakatsue**	**11.94**	**251**	Pn	**Pn**	**20 52 37.7**	**-0.8**
	0.4nm,0.3s,baz=176,slow=9.6,SNR=5.0						
KSRS	**Korea Array**	**13.04**	**274**	Pn	**Pn**	**20 52 53.9**	**+0.5**
	0.3nm,0.3s,baz=88,slow=13,SNR=13						
KSRS				LR	LR	20 57 40.9	
	comp=Z,22nm,18.6s,baz=102,slow=36						
KSAR	**Wonju Array Be**	**13.07**	**273**	Pn	**Pn**	**20 52 53.9**	**0.0**
PETK	**Petropavlovsk-**	**17.90**	**27**	LR	LR	21 01 15.8	
	comp=Z,38nm,20.3s,baz=225,slow=39						
MA2	**Magadan**	**22.18**	**9**	LR	LR	21 03 28.6	
	comp=Z,38nm,19.5s,baz=158,slow=37						
SEY	**Seymchan**	**25.64**	**8**	P	**P**	**20 55 16.7**	**0.0**
	5.1nm,0.9s,baz=184,slow=8.6,SNR=8.3						
ENH	**Enshi**	**29.73**	**266**	*e*P	**P**	**20 55 57.5**	**+3.8**
	11nm,1.2s						
ZAA1	**Zalesovo Array**	**43.14**	**312**	*e*P	**P**	**20 57 47.7**	**+0.1**
ZALV	**Zalesovo Beam**	**43.15**	**312**	P	**P**	**20 57 47.7**	**+0.1**
	0.7nm,0.5s,baz=90,slow=7.2,SNR=4.9						
ZALV				PcP	**PcP**	**20 59 36.9**	**+0.2**
	2.3nm,0.5s,baz=98,slow=2.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**43.15**	**312**	*e*P	**P**	**20 57 48.2**	**+0.6**
ZALV				PcP	**PcP**	**20 59 36.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**43.96**	**257**	P	**P**	**20 57 55.7**	**+1.1**
	1.0nm,0.8s,baz=45,slow=6.7,SNR=8.4						
CMAR				LR	LR	21 17 50.7	
	comp=Z,29nm,21.0s,baz=190,slow=38						
KDAK	**Kodiak Island**	**44.96**	**43**	P	**P**	**20 58 00.9**	**-1.1**
	14nm,0.7s,baz=277,slow=5.9,SNR=11						
KDAK	**Kodiak Island**	**44.96**	**43**	*e*P	**P**	**20 58 00.9**	**-1.1**
	108nm,1.7s						
MK01	**Makanchi Array**	**45.70**	**302**	*e*P	**P**	**20 58 09.1**	**+0.9**
MK31	**Makanchi Array**	**45.70**	**302**	*e*P	**P**	**20 58 09.2**	**+1.0**
MK32	**Makanchi Array**	**45.70**	**302**	*e*P	**P**	**20 58 09.0**	**+0.8**
MKAR	**Makanchi Array**	**45.70**	**302**	P	**P**	**20 58 09.0**	**+0.8**
	1.7nm,0.8s,baz=84,slow=9.4,SNR=8.1						
MKAR	**Makanchi Array**	**45.70**	**302**	*e*P	**P**	**20 58 09.2**	**+1.0**
	32nm,0.6s						
SUA	**Susitna One**	**45.84**	**37**	*e*P	**P**	**20 58 05.4**	**-3.7**
	641nm,1.5s						
MDM	**Murphy Dome**

comp=N,94μm,0.3s
DSL Palaion Diasel 1.36 39 P Pb 20 50 23.9 +0.3
DSL S Sb 20 50 40.4 -0.7
AMT Artemida-Makis 1.46 111 P Pg 20 50 27.3 +1.2
AMT S Sg 20 50 45.9 +0.9
AMT AML AML 20 50 49.4
comp=N,64μm,0.7s
AMT AML AML 20 50 50.7
comp=E,57μm,0.8s
AMT Artemida-Makis 1.46 111 P Pg 20 50 27.3 +1.2
AMT S Sg 20 50 45.9 +0.9
EFP Efpalio 1.54 76 P Pb 20 50 27.1 +0.4
EFP S Sg 20 50 47.9 +0.2
EFP AML AML 20 50 51.1
comp=E,37μm,0.8s
EFP AML AML 20 50 53.6
comp=N,22μm,0.4s
EFP Efpalio 1.54 76 P Pb 20 50 27.1 +0.4
EFP S Sg 20 50 47.9 +0.3
LAKA Lakka 1.57 84 P Pn 20 50 26.2 +0.2
LAKA Lakka 1.57 84 P Pn 20 50 26.2 +0.2
ANX Ano Chora 1.59 71 P Pg 20 50 28.9 +0.2
ANX Ano Chora 1.59 71 P Pg 20 50 28.9 +0.2
KEK Kerkira 1.64 355 P Pg 20 50 30.5 +1.0
KEK AML AML 20 50 58.7
comp=N,52μm,1.0s
KEK AML AML 20 51 09.2
comp=E,55μm,1.0s
KEK Kerkira 1.64 355 P Pg 20 50 30.5 +1.0
SERG Sergoula 1.65 78 P Pb 20 50 28.9 +0.2
SERG AML AML 20 50 53.2
comp=E,25μm,0.3s
SERG AML AML 20 50 55.4
comp=N,32μm,0.4s
SERG Sergoula 1.65 78 P Pb 20 50 28.9 +0.3
KLV Kalavryta, Ach 1.70 91 P Pb 20 50 29.8 +0.4
KLV AML AML 20 50 51.8
comp=N,13μm,0.6s
KLV AML AML 20 50 55.4
comp=E,22μm,1.0s
KLV Kalavryta, Ach 1.70 91 P Pb 20 50 29.8 +0.4
KALE Kalithea 1.71 79 P Pn 20 50 28.7 +0.7
KALE AML AML 20 50 55.7
comp=E,46μm,1.2s
KALE AML AML 20 50 59.6
comp=N,41μm,1.2s
KALE Kalithea 1.71 79 P Pn 20 50 28.7 +0.7
GUR Goura 1.86 94 P Pg 20 50 33.2 -0.5
GUR AML AML 20 51 06.3
comp=E,30μm,0.5s
GUR AML AML 20 51 08.7
comp=N,35μm,0.6s
GUR Goura 1.86 94 P Pg 20 50 33.2 -0.5
AGG Agios Georgios 2.06 62 P Pb 20 50 35.1 -0.4
AGG Agios Georgios 2.06 62 P Pb 20 50 35.1 -0.4

BJI ***12*** *20:51:29.3, 36°.02N×29°.48E, h36km, mb4.5/19, mB4.9/12, Ms4.5/3, Ms7 4.3/3*
DDA ***12*** *20:51:30.2, 35°.43N×30°.13E, h38km, Ml4.2*
ISK ***12*** *20:51:30.9, 35°.44N×30°.15E, h20km, ML4.1*
ISN ***12*** *20:51:31.9±0.8, 35°.36N×30°.49E, h0km±170km, ML4.5*
ISCJB ***12*** *20:51:32.4±0.2, 35°.44N±0°.01×30°.14E±0°.01, h41km±2km, mb4.5/44, MS3.6/7, Error ellipse: s-maj=2.7km s-min=1.5km az=31.4*
CSEM ***12*** *20:51:33.5±0.1, 35°.49N×30°.15E, h30km, mb4.9/16, Error ellipse: s-maj=2.7km s-min=1.8km az=23.0*
IDC ***12*** *20:51:33.9±2.2, 35°.66N×30°.18E, h33km±17km, mb4.2/25, mb1 4.3/35, mb1mx4.1/68, mbtmp4.4/35, ML4.2/9, MS3.6/13, Ms1 3.6/13, ms1mx3.3/46, Error ellipse: s-maj=12.2km s-min=9.8km az=171.0*
NIC ***12*** *20:51:35.0±0.1, 35°.76N×30°.20E, h25km, mb4.7, ML4.5*
THE ***12*** *20:51:35.2, 35°.66N×30°.16E, h27km±15km, ML4.1/2, Error ellipse: s-maj=15.8km s-min=1.4km az=113.0*
NEIC ***12*** *20:51:35.4±0.5, 35°.57N×30°.18E, h50km±4km, mb4.4/29, Error ellipse: s-maj=5.6km s-min=3.9km az=190.0*
GII ***12*** *20:51:36.0±0.0, 35°.45N×30°.33E, h30km, mb4.2/5, MD4.1/5*
HLW ***12*** *20:51:37.5, 35°.09N×30°.04E, h33km±23km, Md3.6, Ml3.6*
NSSC ***12*** *20:51:38.2±1.3, 35°.37N×30°.95E, h0km±118km, ML3.3*
ISC 12 20:51:33.9±0.5, 35°.52N±0°.03×30°.13E±0°.03, h38km±1km, h39km:pP-P, n681, σ1§40/746, mb4.5/44, MS3.7/7, 11C-19D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.77**	**325**	P			**Pn**	**20 51 46.1**	**-2.2**
KSL				S			**Sn**	**20 51 57.2**	**-1.4**
AKAS	**Kas**	**0.83**	**329**	*e*PG			**Pn**	**20 51 49.0**	**-0.2**
AKAS				*e*SG			**Sn**	**20 52 02.1**	**+1.8**
AKAS	**Kas**	**0.83**	**329**	*i* P			**Pn**	**20 51 47.9**	**-1.3**
AKAS				*i* S			**Sn**	**20 52 02.8**	**+2.4**
AKAS	**Kas**	**0.83**	**329**	*e*Pn			**Pn**	**20 51 47.4**	**-1.8**
AKAS	**Kas**	**0.83**	**329**	P			**Pn**	**20 51 47.9**	**-1.3**
AKAS	**Kas**	**0.83**	**329**	*e*Pg			**Pn**	**20 51 49.0**	**-0.2**
AKAS				*e*Sg			**Sn**	**20 52 02.1**	**+1.8**
AKAS	**Kas**	**0.83**	**329**	*e*Pn			**Pn**	**20 51 47.4**	**-1.8**
ELL	**Elmali**	**1.24**	**352**	*e*PN			**Pn**	**20 51 55.4**	**+0.6**
ELL				*e*SN			**Sn**	**20 52 12.2**	**+1.9**
ELL	**Elmali**	**1.24**	**352**	*e*Pn			**Pn**	**20 51 55.4**	**+0.6**
ELL				*e*Sn			**Sn**	**20 52 12.2**	**+1.9**
FETY	**Fethiye**	**1.40**	**323**	*e*PN			**Pn**	**20 51 56.8**	**-0.1**
FETY	**Fethiye**	**1.40**	**323**	P			**Pn**	**20 51 56.4**	**-0.5**
FETY				S			**Sn**	**20 52 12.4**	**-1.8**
FETY	**Fethiye**	**1.40**	**323**	*e*Pn			**Pn**	**20 51 56.8**	**-0.1**
KORT	**Korkueli**	**1.49**	**7**	*e*PN			**Pn**	**20 51 58.4**	**+0.2**
KORT	**Korkueli**	**1.49**	**7**	*i* P			**Pn**	**20 51 58.2**	**0.0**
KORT	**Korkueli**	**1.49**	**7**	*e*Pn			**Pn**	**20 51 58.4**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.71**	**343**	*e*PN			**Pn**	**20 52 02.1**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.71**	**343**	*e*Pn			**Pn**	**20 52 02.1**	**+0.8**
DALY	**Dalyan (Mu¨la**	**1.76**	**318**	*e*PN			**Pn**	**20 52 02.5**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.76**	**318**	*i* P			**Pn**	**20 52 01.6**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.76**	**318**	P			**Pn**	**20 52 01.6**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.76**	**318**	*e*Pn			**Pn**	**20 52 02.5**	**+0.7**
ARG	**Arkhangelos**	**1.77**	**294**	P			**Pn**	**20 52 02.0**	**0.0**
ARG				S			**Sn**	**20 52 23.5**	**+0.2**
ARG	**Arkhangelos**	**1.77**	**294**	P			**Pn**	**20 52 02.0**	**0.0**
ARG				S			**Sn**	**20 52 23.5**	**+0.2**
TURN	**Turunc**	**1.83**	**318**	*i* P			**Pn**	**20 52 04.7**	**+1.9**
TURN	**Turunc**	**1.83**	**318**	P			**Pn**	**20 52 04.7**	**+1.9**
AKMC	**Akamas**	**1.86**	**105**	P			**Pn**	**20 52 04.0**	**+0.7**
AKMC	**Akamas**	**1.86**	**105**	P			**Pn**	**20 52 04.0**	**+0.7**
	baz=293								
GAZI	**Gazipasa**	**1.91**	**68**	*e*PN			**Pn**	**20 52 04.1**	**+0.2**
GAZI	**Gazipasa**	**1.91**	**68**	*i* P			**Pn**	**20 52 03.4**	**-0.6**
PPCY	**Paphos**	**1.92**	**109**	P			**Pn**	**20 52 05.2**	**+1.1**
PPCY	**Paphos**	**1.92**	**109**	P			**Pn**	**20 52 05.2**	**+1.1**
	baz=297								
BCK	**Bucak**	**1.97**	**11**	*e*PN			**Pn**	**20 52 05.7**	**+0.9**
BCK	**Bucak**	**1.97**	**11**	*e*Pn			**Pn**	**20 52 05.7**	**+0.9**
ALFC	**Alefka**	**2.05**	**100**	P			**Pn**	**20 52 06.3**	**+0.4**
ALFC				S			**Sn**	**20 52 30.9**	**+0.7**
ALFC	**Alefka**	**2.05**	**100**	P			**Pn**	**20 52 06.3**	**+0.4**
	baz=287								
ALFC				S			**Sn**	**20 52 30.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.07**	**19**	*e*PN			**Pn**	**20 52 06.5**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.07**	**19**	*e*Pn			**Pn**	**20 52 06.5**	**+0.2**
BRDR	**BURDUR-Merkez**	**2.17**	**359**	*i* P			**Pn**	**20 52 08.8**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.17**	**359**	P			**Pn**	**20 52 08.8**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.17**	**334**	*i* P			**Pn**	**20 52 08.5**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.17**	**334**	P			**Pn**	**20 52 08.5**	**+0.8**
LEF	**Lefka**	**2.29**	**99**	*e*PN			**Pn**	**20 52 07.7**	**-1.5**
LEF	**Lefka**	**2.29**	**99**	*e*Pn			**Pn**	**20 52 07.7**	**-1.5**
LEF	**Lefka**	**2.29**	**99**	P			**Pn**	**20 52 08.8**	**-0.4**
ISP	**Isparta**	**2.32**	**8**	*e*PN			**Pn**	**20 52 10.3**	**+0.7**
ISP	**Isparta**	**2.32**	**8**	P			**Pn**	**20 52 08.9**	**-0.7**
ISP	**Isparta**	**2.32**	**8**	Pn			**Pn**	**20 52 11.1**	**+1.5**
ISP	**Isparta**	**2.32**	**8**	P			**Pn**	**20 52 08.9**	**-0.7**
ISP	**Isparta**	**2.32**	**8**	*e*Pn			**Pn**	**20 52 10.3**	**+0.7**
ISP	**Isparta**	**2.32**	**8**	*e*Pn			**Pn**	**20 52 11.4**	**+1.7**
DNZL	**Cakiroluk**	**2.33**	**338**	*i* P			**Pn**	**20 52 10.4**	**+0.5**
DNZL	**Cakiroluk**	**2.33**	**338**	P			**Pn**	**20 52 10.4**	**+0.5**
SZAC	**Souni**	**2.38**	**108**	P			**Pn**	**20 52 11.5**	**+1.1**
SZAC				S			**Sn**	**20 52 40.2**	**+1.8**
SZAC	**Souni**	**2.38**	**108**	P			**Pn**	**20 52 11.5**	**+1.1**
	baz=295								
SZAC				S			**Sn**	**20 52 40.2**	**+1.8**
DAT	**Datca**	**2.39**	**301**	*e*PN			**Pn**	**20 52 11.3**	**+0.6**
DAT	**Datca**	**2.39**	**301**	*i* P			**Pn**	**20 52 11.1**	**+0.4**
DAT	**Datca**	**2.39**	**301**	*e*Pn			**Pn**	**20 52 11.3**	**+0.6**
DENT	**Denizli**	**2.40**	**339**	*e*PN			**Pn**	**20 52 11.3**	**+0.6**
DENT	**Denizli**	**2.40**	**339**	*e*Pn			**Pn**	**20 52 11.3**	**+0.6**
KARP	**Karpathos**	**2.42**	**271**	*e*PN			**Pn**	**20 52 11.1**	**+0.1**
KARP	**Karpathos**	**2.42**	**271**	P			**Pn**	**20 52 12.3**	**+1.3**
KARP	**Karpathos**	**2.42**	**271**	*e*Pn			**Pn**	**20 52 11.1**	**+0.1**
KARP	**Karpathos**	**2.42**	**271**	P			**Pn**	**20 52 12.3**	**+1.3**
KARP	**Karpathos**	**2.42**	**271**	*e*Pn			**Pn**	**20 52 12.3**	**+1.3**
TEKE	**Tekeli-Mersin**	**2.50**	**75**	*e*PN			**Pn**	**20 52 12.2**	**+0.1**
ERMK	**Ermenek**	**2.52**	**63**	*i* P			**Pn**	**20 52 13.4**	**+1.0**
ERMK	**Ermenek**	**2.52**	**63**	P			**Pn**	**20 52 13.4**	**+1.0**
BAGO	**Egridir - ISPA**	**2.52**	**12**	*i* P			**Pn**	**20 52 14.0**	**+1.6**
MAMC	**Mammari**	**2.55**	**97**	P			**Pn**	**20 52 13.3**	**+0.6**
MAMC	**Mammari**	**2.55**	**97**	P			**Pn**	**20 52 13.3**	**+0.6**
	baz=284								
MLSB	**Milas**	**2.60**	**314**	*e*PN			**Pn**	**20 52 14.1**	**+0.7**
MLSB	**Milas**	**2.60**	**314**	*e*Pn			**Pn**	**20 52 14.1**	**+0.7**
NIS1	**Nisyros Isl.**	**2.62**	**295**	*e*PN			**Pn**	**20 52 14.3**	**+0.5**
NIS1	**Nisyros Isl.**	**2.62**	**295**	P			**Pn**	**20 52 13.7**	**-0.1**
NIS1	**Nisyros Isl.**	**2.62**	**295**	P			**Pn**	**20 52 13.7**	**-0.1**
NIS1	**Nisyros Isl.**	**2.62**	**295**	*e*Pn			**Pn**	**20 52 14.3**	**+0.5**
BERE	**Bereket-Mersin**	**2.64**	**71**	*e*PN			**Pn**	**20 52 14.1**	**0.0**
CSS	**Mathiatis**	**2.68**	**101**	P			**Pn**	**20 52 15.1**	**+0.6**
CSS	**Mathiatis**	**2.68**	**101**	Pn			**Pn**	**20 52 14.0**	**-0.5**
CSS				Sn			**Sn**	**20 52 44.9**	**-0.8**
CSS	**Mathiatis**	**2.68**	**101**	*e*Pn			**Pn**	**20 52 14.5**	**0.0**
CSS	**Mathiatis**	**2.68**	**101**	P			**Pn**	**20 52 15.2**	**+0.7**
CSS				Sn			**Sn**	**20 52 44.9**	**-0.8**
CSS				S			**Sn**	**20 52 46.7**	**+1.0**
CSS	**Mathiatis**	**2.68**	**101**	*e*Pn			**Pn**	**20 52 14.5**	**0.0**
CSS	**Mathiatis**	**2.68**	**101**	P			**Pn**	**20 52 15.2**	**+0.7**
	baz=288								
CSS				S			**Sn**	**20 52 46.7**	**+1.0**
KZIL	**AFYON_Kizioren**	**2.73**	**0**	*i* P			**Pn**	**20 52 15.6**	**+0.3**
KZIL	**AFYON_Kizioren**	**2.73**	**0**	P			**Pn**	**20 52 15.6**	**+0.3**
YORU	**Yoruktepe-Mers**	**2.73**	**76**	*e*PN			**Pn**	**20 52 15.7**	**+0.4**
BODT	**Bodrum**	**2.75**	**305**	*e*PN			**Pn**	**20 52 15.9**	**+0.4**
BODT	**Bodrum**	**2.75**	**305**	*e*Pn			**Pn**	**20 52 15.9**	**+0.4**
AYDN	**Tasoluk**	**2.80**	**320**	*i* P			**Pn**	**20 52 16.8**	**+0.6**
AYDN				*i* S			**Sn**	**20 52 52.0**	**+3.2**
AYDN	**Tasoluk**	**2.80**	**320**	P			**Pn**	**20 52 16.8**	**+0.6**
AYDN				S			**Sn**	**20 52 52.0**	**+3.2**
YKAV	**Yalikavak-Bodr**	**2.80**	**306**	*e*PN			**Pn**	**20 52 16.9**	**+0.7**
YKAV	**Yalikavak-Bodr**	**2.80**	**306**	*e*Pn			**Pn**	**20 52 16.9**	**+0.7**
TEVE	**Tevekalti-Mers**	**2.84**	**70**	*e*PN			**Pn**	**20 52 16.9**	**+0.1**
AKK1	**Akkuyu-Mersin**	**2.84**	**76**	*e*PN			**Pn**	**20 52 16.4**	**-0.2**
GULN	**MERSIN_Gulnar**	**2.85**	**76**	*i* P			**Pn**	**20 52 16.2**	**-0.6**
AKKU	**Akkuyu-Mersin**	**2.85**	**76**	*e*PN			**Pn**	**20 52 16.9**	**0.0**
DOGA	**KONYA_Doganhis**	**2.86**	**25**	*i* P			**Pn**	**20 52 18.8**	**+1.7**
DOGA	**KONYA_Doganhis**	**2.86**	**25**	P			**Pn**	**20 52 18.8**	**+1.7**
KMER	**Konya-Meram**	**2.87**	**38**	*i* P			**Pn**	**20 52 18.6**	**+1.3**
KMER	**Konya-Meram**	**2.87**	**38**	P			**Pn**	**20 52 18.6**	**+1.3**
KHAL	**Karahalli**	**2.89**	**350**	*i* P			**Pn**	**20 52 17.0**	**-0.5**
KHAL	**Karahalli**	**2.89**	**350**	P			**Pn**	**20 52 17.0**	**-0.5**
YESI	**Yesilovacik-Me**	**2.93**	**76**	*e*PN			**Pn**	**20 52 17.6**	**-0.3**
IKL	**Isikli**	**2.97**	**75**	*e*PN			**Pn**	**20 52 18.1**	**-0.5**
KONT	**Konya--Tatoy**	**3.01**	**36**	*e*PN			**Pn**	**20 52 20.0**	**+0.9**
KONT	**Konya--Tatoy**	**3.01**	**36**	*i* P			**Pn**	**20 52 20.5**	**+1.4**
KONT	**Konya--Tatoy**	**3.01**	**36**	*e*Pn			**Pn**	**20 52 20.0**	**+0.9**
SHUT	**Suhut-Afyon**	**3.04**	**6**	*e*PN			**Pn**	**20 52 20.4**	**+0.8**
SHUT	**Suhut-Afyon**	**3.04**	**6**	*e*Pn			**Pn**	**20 52 20.4**	**+0.8**
KEBE	**Keben-Mersin**	**3.05**	**71**	*e*PN			**Pn**	**20 52 19.6**	**0.0**
GCAM	**G?zelcaml?**	**3.19**	**314**	*i* P			**Pn**	**20 52 21.8**	**+0.3**
GCAM	**G?zelcaml?**	**3.19**	**314**	P			**Pn**	**20 52 21.8**	**+0.3**
SILI	**Silifke-Mersin**	**3.19**	**74**	*e*PN			**Pn**	**20 52 21.6**	**+0.1**
KULA	**Kula-Manisa**	**3.21**	**339**	*e*PN			**Pn**	**20 52 23.2**	**+1.3**
KULA	**Kula-Manisa**	**3.21**	**339**	*e*Pn			**Pn**	**20 52 23.2**	**+1.3**
LADK	**Ladik-KONYA**	**3.22**	**33**	*e*PN			**Pn**	**20 52 22.4**	**+0.4**
LADK	**Ladik-KONYA**	**3.22**	**33**	*e*Pn			**Pn**	**20 52 22.4**	**+0.4**
ZKR	**Zakros**	**3.23**	**264**	P			**Pn**	**20 52 23.4**	**+1.4**
ZKR	**Zakros**	**3.23**	**264**	P			**Pn**	**20 52 23.4**	**+1.4**
BOLV	**Bolvadin**	**3.26**	**11**	*i* P			**Pn**	**20 52 24.4**	**+1.8**
BOLV	**Bolvadin**	**3.26**	**11**	*e*Pn			**Pn**	**20 52 24.2**	**+1.6**
BOLV	**Bolvadin**	**3.26**	**11**	*e*Pn			**Pn**	**20 52 24.2**	**+1.6**
KDHN	**Kadinhani**	**3.39**	**27**	*i* P			**Pn**	**20 52 24.9**	**+0.5**
KDHN	**Kadinhani**	**3.39**	**27**	P			**Pn**	**20 52 24.9**	**+0.5**
GEDZ	**Gediz**	**3.56**	**351**	*e*PN			**Pn**	**20 52 28.0**	**+1.3**
GEDZ	**Gediz**	**3.56**	**351**	*e*Pn			**Pn**	**20 52 28.0**	**+1.3**
GDZ	**Gediz**	**3.60**	**352**	*i* P			**Pn**	**20 52 26.7**	**-0.6**
GDZ	**Gediz**	**3.60**	**352**	P			**Pn**	**20 52 26.7**	**-0.6**
GMLD	**Gumuldur**	**3.63**	**316**	*e*PN			**Pn**	**20 52 28.4**	**+0.9**
GMLD	**Gumuldur**	**3.63**	**316**	*e*Pn			**Pn**	**20 52 28.4**	**+0.9**
DGB	**¨zmir**	**3.63**	**315**	*i* P			**Pn**	**20 52 27.2**	**-0.3**
SIMA	**Simav-Kutahya**	**3.67**	**346**	*e*PN			**Pn**	**20 52 29.6**	**+1.4**
SIMA	**Simav-Kutahya**	**3.67**	**346**	*e*Pn			**Pn**	**20 52 29.6**	**+1.4**
DEMI	**Demirci**	**3.69**	**343**	*i* P			**Pn**	**20 52 27.8**	**-0.7**
DEMI	**Demirci**	**3.69**	**343**	P			**Pn**	**20 52 27.8**	**-0.7**
NPS	**Neapolis**	**3.70**	**267**	P			**Pn**	**20 52 30.1**	**+1.5**
NPS	**Neapolis**	**3.70**	**267**	P			**Pn**	**20 52 30.1**	**+1.5**
KERG	**Konya-Eregli**	**3.73**	**58**	*i* P			**Pn**	**20 52 30.0**	**+0.9**
KERG	**Konya-Eregli**	**3.73**	**58**	P			**Pn**	**20 52 30.0**	**+0.9**
CHBY	**Cihanbeyli**	**3.77**	**35**	*e*PN			**Pn**	**20 52 30.0**	**+0.4**
CHBY	**Cihanbeyli**	**3.77**	**35**	*e*Pn			**Pn**	**20 52 30.0**	**+0.4**
MERS	**Mersin**	**3.80**	**68**	*e*PN			**Pn**	**20 52 30.4**	**+0.5**
MERS	**Mersin**	**3.80**	**68**	*e*Pn			**Pn**	**20 52 30.4**	**+0.5**
SULT	**Sultanhani-AKS**	**3.81**	**44**	*e*PN			**Pn**	**20 52 30.8**	**+0.7**
SULT	**Sultanhani-AKS**	**3.81**	**44**	*e*Pn			**Pn**	**20 52 30.8**	**+0.7**
LAST	**Lasithi**	**3.82**	**266**	P			**Pn**	**20 52 31.5**	**+1.2**
LAST	**Lasithi**	**3.82**	**266**	P			**Pn**	**20 52 31.5**	**+1.2**
SANT	**Santorini**	**3.88**	**284**	*e*PN			**Pn**	**20 52 31.3**	**+0.2**
SANT	**Santorini**	**3.88**	**284**	*e*Pn			**Pn**	**20 52 31.3**	**+0.2**
THR2	**Thira island,**	**3.92**	**285**	P			**Pn**	**20 52 31.5**	**0.0**
THR2	**Thira island,**	**3.92**	**285**	P			**Pn**	**20 52 31.5**	**0.0**
THR6	**Thira Island,**	**3.93**	**284**	P			**Pn**	**20 52 32.3**	**+0.6**
THR6	**Thira Island,**	**3.93**	**284**	P			**Pn**	**20 52 32.3**	**+0.6**
SAP1	**Santorini-Akro**	**3.93**	**284**	P			**Pn**	**20 52 31.6**	**-0.1**
THR3	**Thira Island,**	**3.94**	**284**	P			**Pn**	**20 52 31.9**	**+0.1**
THR3	**Thira Island,**	**3.94**	**284**	P			**Pn**	**20 52 31.9**	**+0.1**
CMBO	**Columbo, Santo**	**3.95**	**285**	P			**Pn**	**20 52 32.6**	**+0.7**
CMBO	**Columbo, Santo**	**3.95**	**285**	P			**Pn**	**20 52 32.6**	**+0.7**
TVSB	**Tavsanli**	**3.96**	**352**	*e*PN			**Pn**	**20 52 33.6**	**+1.4**
TVSB	**Tavsanli**	**3.96**	**352**	*e*Pn			**Pn**	**20 52 33.6**	**+1.4**
ZEY	**¨zmir**	**3.98**	**314**	*i* P			**Pn**	**20 52 32.1**	**-0.2**
THR5	**Thira Island,**	**3.98**	**284**	P			**Pn**	**20 52 33.2**	**+0.8**
THR5	**Thira Island,**	**3.98**	**284**	P			**Pn**	**20 52 33.2**	**+0.8**
URLA	**Izmir**	**4.01**	**316**	*i* P			**Pn**	**20 52 32.3**	**-0.5**
URLA	**Izmir**	**4.01**	**316**	P			**Pn**	**20 52 32.3**	**-0.5**
APE	**Apeiranthos**	**4.02**	**294**	*e*PN			**Pn**	**20 52 33.6**	**+0.6**
APE	**Apeiranthos**	**4.02**	**294**	P			**Pn**	**20 52 33.2**	**+0.2**
APE	**Apeiranthos**	**4.02**	**294**	||*i*P		**Pn**	**20 52 33.9**	**+0.9**
APE	**Apeiranthos**	**4.02**	**294**	P			**Pn**	**20 52 33.2**	**+0.2**
APE	**Apeiranthos**	**4.02**	**294**	*e*Pn			**Pn**	**20 52 33.6**	**+0.6**
ESKT	**Eskisehir**	**4.03**	**8**	*i* P			**Pn**	**20 52 34.1**	**+0.9**
SEYT	**Eskypehyr**	**4.03**	**8**	P			**Pn**	**20 52 34.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**4.07**	**15**	*e*PN			**Pn**	**20 52 34.8**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.07**	**15**	*e*Pn			**Pn**	**20 52 34.8**	**+1.1**
KKUL	**Konya-Kulu**	**4.26**	**31**	*i* P			**Pn**	**20 52 37.4**	**+1.0**
KKUL	**Konya-Kulu**	**4.26**	**31**	P			**Pn**	**20 52 37.4**	**+1.0**
IDI	**Anoyia**	**4.29**	**268**	Pn			**Pn**	**20 52 37.2**	**+0.5**
	30nm,0.3s,baz=65,slow=13,SNR=149								
IDI				Sn			**Sn**	**20 53 24.8**	**-0.7**
	12nm,0.3s,baz=90,slow=20,SNR=2.5								
IDI	**Anoyia**	**4.29**	**268**	P			**Pn**	**20 52 37.5**	**+0.8**
IDI	**Anoyia**	**4.29**	**268**	*e*Pn			**Pn**	**20 52 37.1**	**+0.4**
STEP	**BALIKESIR_Sava**	**4.30**	**334**	*i* P			**Pn**	**20 52 36.2**	**-0.6**
STEP	**BALIKESIR_Sava**	**4.30**	**334**	P			**Pn**	**20 52 36.2**	**-0.6**
CHOS	**Chios island**	**4.34**	**312**	*e*PN			**Pn**	**20 52 39.1**	**+1.7**
CHOS	**Chios island**	**4.34**	**312**	*e*Pn			**Pn**	**20 52 39.1**	**+1.7**
KRTS	**Karatas**	**4.38**	**75**	*e*PN			**Pn**	**20 52 37.9**	**+0.1**
DKL	**Dikili**	**4.38**	**325**	*e*PN			**Pn**	**20 52 39.7**	**+1.9**
DKL	**Dikili**	**4.38**	**325**	*e*Pn			**Pn**	**20 52 39.7**	**+1.9**
SERE	**Sereflikochisa**	**4.38**	**38**	*e*PN			**Pn**	**20 52 39.2**	**+1.2**
SERE	**Sereflikochisa**	**4.38**	**38**	*e*Pn			**Pn**	**20 52 39.2**	**+1.2**
SIVA	**Sivas**	**4.38**	**265**	P			**Pn**	**20 52 39.4**	**+1.5**
SIVA	**Sivas**	**4.38**	**265**	P			**Pn**	**20 52 39.4**	**+1.5**
BALB	**Balikesir**	**4.48**	**337**	*e*PN			**Pn**	**20 52 40.8**	**+1.5**
BALB	**Balikesir**	**4.48**	**337**	*e*Pn			**Pn**	**20 52 40.8**	**+1.5**
AFSR	**Af¨ar-Bala (A**	**4.56**	**30**	*e*PN			**Pn**	**20 52 41.1**	**+0.6**
AFSR	**Af¨ar-Bala (A**	**4.56**	**30**	*e*Pn			**Pn**	**20 52 41.1**	**+0.6**
CAVI	**Cavuskoy**	**4.68**	**357**	*e*PN			**Pn**	**20 52 43.5**	**+1.5**
CAVI	**Cavuskoy**	**4.68**	**357**	*e*Pn			**Pn**	**20 52 43.5**	**+1.5**
AKO	**Adana**	**4.70**	**64**	*i* P			**Pn**	**20 52 43.4**	**+1.1**
CEYT	**Ceyhan**	**4.78**	**70**	*e*PN			**Pn**	**20 52 43.5**	**+0.2**
BR231	**Keskin MP Arra**	**4.79**	**25**	*e*Pn			**Pn**	**20 52 46.3**	**+2.6**
BR231	**Keskin MP Arra**	**4.79**	**25**	*e*Pn			**Pn**	**20 52 46.3**	**+2.6**
PRK	**Paraskevi**	**4.82**	**322**	P			**Pn**	**20 52 43.8**	**-0.1**
PRK	**Paraskevi**	**4.82**	**322**	P			**Pn**	**20 52 43.8**	**-0.1**
ANTO	**Ankara**	**4.83**	**25**	*e*Pn			**Pn**	**20 52 45.7**	**+1.6**
ANTO	**Ankara**	**4.83**	**25**	*e*Pn			**Pn**	**20 52 45.7**	**+1.6**
HNTI	**Hanita**	**4.83**	**119**	Pn			**Pn**	**20 52 44.9**	**+0.8**
HNTI				Sn			**Sn**	**20 53 36.7**	**-2.1**
HNTI	**Hanita**	**4.83**	**119**	Sn			**Sn**	**20 53 36.7**	**-2.1**
DQRL	**Deir Qamar**	**4.84**	**110**	*e*P			**Pn**	**20 52 44.3**	**0.0**
VAM	**Vamos**	**4.84**	**270**	P			**Pn**	**20 52 45.1**	**+0.9**
VAM	**Vamos**	**4.84**	**270**	P			**Pn**	**20 52 45.1**	**+0.9**
YAYL	**Yayladag**	**4.88**	**82**	*i* P			**Pn**	**20 52 42.7**	**-2.3**
YAYL	**Yayladag**	**4.88**	**82**	P			**Pn**	**20 52 42.7**	**-2.3**
GULT	**Gulveren**	**4.91**	**3**	*e*PN			**Pn**	**20 52 47.3**	**+2.0**
GULT	**Gulveren**	**4.91**	**3**	*e*Pn			**Pn**	**20 52 47.3**	**+2.0**
HWQ	**Hawqa**	**4.94**	**103**	*e*P			**Pn**	**20 52 45.8**	**+0.2**
HWQ	**Hawqa**	**4.94**	**103**	*e*P			**Pn**	**20 52 45.8**	**+0.2**
OFRI	**'Ofer**	**4.96**	**124**	Pn			**Pn**	**20 52 45.4**	**-0.5**
KOZT	**Kozan**	**4.99**	**65**	*e*PN			**Pn**	**20 52 46.5**	**+0.3**
KOZT	**Kozan**	**4.99**	**65**	*e*Pn			**Pn**	**20 52 46.5**	**+0.3**
GVD	**Gavdhos**	**5.00**	**264**	P			**Pn**	**20 52 47.9**	**+1.5**
GVD	**Gavdhos**	**5.00**	**264**	P

SALA *e*S Sn 20 54 02.1 -9.5
SALA AML AML 20 54 29.2
comp=E,9.8nm,0.7s
SALA AML AML 20 54 34.7
comp=N,69nm,0.6s
ALN Alexandroupoli 6.26 330 *e*PN **Pn 20 53 06.6 +3.0**
ALN Alexandroupoli 6.26 330 *e*Pn **Pn 20 53 06.6 +3.0**
LTK Loutraki 6.27 296 P **Pn 20 53 05.5 +1.7**
LTK Loutraki 6.27 296 P **Pn 20 53 05.5 +1.7**
HNKL Nakhl 6.45 149 P **Pn 20 53 06.6 +0.2**
baz=146
HNKL S **Sn 20 54 14.3 -4.4**
baz=146
HNKL Nakhl 6.45 149 P **Pn 20 53 06.6 +0.2**
VLX Vlachokerasia 6.51 289 P **Pn 20 53 08.4 +1.1**
VLX Vlachokerasia 6.51 289 P **Pn 20 53 08.4 +1.1**
ZFRI Zfri 6.52 138 Pn **Pn 20 53 07.1 -0.1**
ZFRI Sn **Sn 20 54 18.6 -1.7**
ZFRI Zfri 6.52 138 Pn **Pn 20 53 07.1 -0.1**
ZFRI Sn **Sn 20 54 18.6 -1.7**
ASF Jabal al Asfar 6.54 119 Pn **Pn 20 53 09.0 +1.3**
comp=N,2.8nm,0.3s,baz=267,slow=5.1,SNR=19
ASF Sn **Sn 20 54 21.9 +0.7**
baz=258,slow=19,SNR=2.7
PRNI Paran 6.58 140 Pn **Pn 20 53 08.5 +0.3**
PRNI Sn **Sn 20 54 18.6 -3.4**
PRNI Paran 6.58 140 Pn **Pn 20 53 08.5 +0.3**
GUR Goura 6.70 293 P **Pn 20 53 10.8 +0.9**
GUR Goura 6.70 293 P **Pn 20 53 10.8 +0.9**
DSF Desfina 6.74 298 P **Pn 20 53 11.7 +1.4**
DSF Desfina 6.74 298 P **Pn 20 53 11.7 +1.4**
ITM Ithomi 6.83 286 P **Pn 20 53 12.0 +0.5**
ITM Ithomi 6.83 286 P **Pn 20 53 12.0 +0.5**
EDRB Edirne 6.85 338 *e*PN **Pn 20 53 13.8 +2.1**
EDRB Edirne 6.85 338 *e*Pn **Pn 20 53 13.8 +2.1**
HRFI Mount Harif 6.85 142 Pn **Pn 20 53 12.2 +0.3**
HRFI Sn **Sn 20 54 27.2 -1.4**
HRFI Mount Harif 6.85 142 Pn **Pn 20 53 12.2 +0.3**
HRFI Sn **Sn 20 54 27.2 -1.4**
KLV Kalavryta, Ach 6.88 294 P **Pn 20 53 13.7 +1.4**
KLV Kalavryta, Ach 6.88 294 P **Pn 20 53 13.7 +1.4**
MBRI Mt Berech 6.99 143 Pn **Pn 20 53 14.2 +0.4**
MBRI Sn **Sn 20 54 31.4 -0.7**
MBRI Mt Berech 6.99 143 Pn **Pn 20 53 14.2 +0.4**
MBRI Sn **Sn 20 54 31.4 -0.7**
AMT Artemida-Makis 7.07 289 P **Pn 20 53 16.4 +1.5**
AMT Artemida-Makis 7.07 289 P **Pn 20 53 16.4 +1.5**
LAKA Lakka 7.08 295 P **Pn 20 53 17.2 +2.3**
LAKA Lakka 7.08 295 P **Pn 20 53 17.2 +2.3**
EIL Elat 7.11 144 Pn **Pn 20 53 16.1 +0.7**
comp=N,5.0nm,0.3s,baz=346,slow=3.5,SNR=60
EIL Sn **Sn 20 54 33.4 -1.6**
comp=N,5.2nm,0.3s,baz=167,slow=19,SNR=5.1
EIL Elat 7.11 144 Pn **Pn 20 53 15.5 +0.1**
EIL Elat 7.11 144 Pn **Pn 20 53 15.5 +0.1**
EIL *e*Sn **Sn 20 54 33.4 -1.6**
AGG Agios Georgios 7.13 302 *e*PN **Pn 20 53 17.7 +2.0**
AGG Agios Georgios 7.13 302 P **Pn 20 53 16.6 +0.9**
AGG Agios Georgios 7.13 302 P **Pn 20 53 16.6 +0.9**
AGG Agios Georgios 7.13 302 *e*Pn **Pn 20 53 17.7 +2.0**
AGG Agios Georgios 7.13 302 *e*Pn **Pn 20 53 18.8 +3.0**
EFP Efpalio 7.19 296 P **Pn 20 53 17.6 +1.1**
EFP Efpalio 7.19 296 P **Pn 20 53 17.6 +1.1**
ANX Ano Chora 7.25 297 P **Pn 20 53 19.0 +1.7**
ANX Ano Chora 7.25 297 P **Pn 20 53 19.0 +1.7**
SWA2 7.40 214 P **Pn 20 53 18.9 -0.5**
baz=215
SWA2 7.40 214 P **Pn 20 53 18.9 -0.5**
EVR Evrytania 7.45 299 P **Pn 20 53 22.2 +2.0**
EVR Evrytania 7.45 299 P **Pn 20 53 22.2 +2.0**
NUB 7.52 148 P **Pn 20 53 21.6 +0.6**
baz=146
NVR Nevrokopi 7.62 322 P **Pn 20 53 22.5 +0.1**
NVR Nevrokopi 7.62 322 P **Pn 20 53 22.5 +0.1**
HDHB Dhahab 7.77 149 P **Pn 20 53 24.7 +0.2**
baz=147
HDHB Dhahab 7.77 149 P **Pn 20 53 24.7 +0.2**
MMB Musomiste 7.86 322 *e*P **Pn 20 53 26.2 +0.5**
KFL Anninata 7.93 292 P **Pn 20 53 27.2 +0.6**
KFL Anninata 7.93 292 P **Pn 20 53 27.2 +0.6**
KNT Kendrikon 8.00 317 *e*PN **Pn 20 53 29.1 +1.5**
KNT Kendrikon 8.00 317 *e*Pn **Pn 20 53 29.1 +1.5**
LKD2 Lefkada island 8.24 296 P **Pn 20 53 32.1 +1.3**
LKD2 Lefkada island 8.24 296 P **Pn 20 53 32.1 +1.3**
KKB Krupnik 8.39 321 *e*P **Pn 20 53 34.0 +1.0**
FNA Florina 8.67 310 *e*PN **Pn 20 53 38.1 +1.3**
FNA Florina 8.67 310 *e*Pn **Pn 20 53 38.1 +1.3**
BIA Bitola 8.84 311 *i* P Pn 20 53 47.6 +8.6
SGD Sagiada 8.85 300 P **Pn 20 53 40.7 +1.4**
SGD Sagiada 8.85 300 P **Pn 20 53 40.7 +1.4**
VTS Vitosha 8.88 325 ⇓ *i*P **Pn 20 53 41.9 +2.2**
VTS Vitosha 8.88 325 *e*P **Pn 20 53 41.2 +1.5**
VTS Vitosha 8.88 325 *e*Pn **Pn 20 53 41.8 +2.1**
VTS Vitosha 8.88 325 *e*Pn **Pn 20 53 41.8 +2.1**
KRUS Krusevo 9.09 313 *i* P Pn 20 53 51.4 +8.8
TLB Topalu 9.19 351 ⇑ *i*P **Pn 20 53 45.9 +2.0**
TLB Topalu 9.19 351 ⇑ *i*P **Pn 20 53 45.9 +2.0**
OHR Ohrid 9.21 310 *i* P Pn 20 53 51.3 +7.0
TLCR 9.71 354 ⇓ *i*P Pn 20 53 56.8 +5.9
BARS Barje 9.73 321 *e*Pn **Pn 20 53 52.3 +1.0**
CFR Carcaliu 9.76 352 ⇓ *i*P Pn 20 53 57.8 +6.1
TIR Tirane 9.93 309 ⇓ *i*P **Pn 20 53 57.2 +3.2**
TIR Tirane 9.93 309 *e*Pn **Pn 20 53 57.0 +3.0**
TIR Tirane 9.93 309 *e*Pn **Pn 20 53 57.0 +3.0**
BOVS Bovan 10.38 324 *e*Pn **Pn 20 54 01.1 +0.9**
MLR Muntele Rosu 10.45 344 ⇓ *i*P **Pn 20 54 05.2 +3.9**
VOIR 10.63 340 ⇑ *i*P Pn 20 54 08.4 +4.7
PLOR Plostina 10.65 347 ⇑ *i*P **Pn 20 54 08.2 +4.3**
VRI Vrincioaia 10.65 347 ⇑ *i*P **Pn 20 54 07.9 +4.0**
ARR Arges 10.69 339 ⇑ *i*P **Pn 20 54 08.9 +4.5**
PDG Podgorica 10.91 312 ⇓ *i*P **Pn 20 54 08.4 +0.9**
PDG Podgorica 10.91 312 ⇓ *i*P **Pn 20 54 08.4 +0.9**
DOPR Dopca 11.03 342 ⇓ *i*P **Pn 20 54 13.5 +4.4**
GRUS Gruza 11.06 322 *e*Pn **Pn 20 54 12.3 +2.9**
IVAS Ivanjica 11.13 319 *e*Pn **Pn 20 54 11.6 +1.1**
MDVR Moldovita 11.26 328 ⇓ *i*P **Pn 20 54 13.9 +1.6**
MDVR Moldovita 11.26 328 ⇓ *i*P **Pn 20 54 13.9 +1.6**
TESR Tescani 11.29 348 ⇑ *i*P **Pn 20 54 17.1 +4.5**
FASA Fasano 11.36 302 *e*Pn **Pn 20 54 12.7 -0.8**
MASS Massafra 11.43 300 *e*Pn **Pn 20 54 13.2 -1.4**
DIVS Divibare 11.57 321 *e*Pn **Pn 20 54 18.1 +1.5**
BAI Bari 11.80 302 *e*Pn **Pn 20 54 18.5 -1.1**
SG1 Sgolgore (BA) 11.84 301 *i* Pn **Pn 20 54 18.7 -1.5**
BZS Buzias 11.97 330 ⇓ *i*P **Pn 20 54 22.9 +1.0**
BZS Buzias 11.97 330 ⇓ *i*P **Pn 20 54 22.9 +1.0**
STON Ston 12.11 311 *e*Pn **Pn 20 54 24.4 +0.6**
STON Sn **Sn 20 56 37.2 -0.3**
STON Ston 12.11 311 *e*Pn **Pn 20 54 24.4 +0.6**
STON Sn **Sn 20 56 37.1 -0.3**
CDT Castel del Mon 12.21 301 *e*Pn **Pn 20 54 23.7 -1.6**
FGSL Fruska Gora 12.42 324 *e*Pn **Pn 20 54 29.2 +1.1**
GNI Garni 12.44 64 LR LR 21 00 27.1
comp=N,409nm,18.2s,baz=243,slow=43
DRGR 12.56 336 ⇑ *i*P **Pn 20 54 31.6 +1.5**
DRGR 12.56 336 ⇑ *i*P **Pn 20 54 31.6 +1.5**
BURAR Bucovina Array 12.63 345 ⇓ *i*P **Pn 20 54 35.4 +4.5**
KBZ Khabaz 12.79 46 Pn **Pn 20 54 35.1 +2.0**
comp=N,0.1nm,0.3s,baz=254,slow=13,SNR=3.8
KBZ LR LR 21 00 11.7
comp=N,111nm,21.7s,baz=261,slow=41
VAE Valguarnera 12.80 283 Pn **Pn 20 54 33.6 +0.3**
comp=N,2.0nm,0.3s,baz=190,slow=7.5,SNR=4.9
VAE Sn **Sn 20 56 48.8 -5.7**
comp=N,2.0nm,0.3s,baz=162,slow=20,SNR=6.3
KIV Kislovodsk 12.81 45 *e*Pn **P 20 54 43.7 -0.1**
KVAR Kislovodsk Arr 12.81 45 Pn **P 20 54 43.7 -0.2**
baz=345,slow=3.3,SNR=8.9
BLY Banja Luka 13.51 317 *e*Pn **Pn 20 54 46.9 +4.0**
CLTB Caltabellotta 13.76 284 *e*Pn **Pn 20 54 47.9 +1.5**
CLTB Caltabellotta 13.76 284 *e*Pn **Pn 20 54 47.9 +1.5**
NSR Nassriya 14.13 104 *e*Pn **Pn 20 54 50.0 -1.4**
SNR=4.0
NSR *i* Sn **Sn 20 57 26.0 -0.8**
SNR=4.0
UDBI Udbina 14.20 314 *i* Pn **Pn 20 54 54.8 +2.4**
UDBI Udbina 14.20 314 *i* Pn **Pn 20 54 54.8 +2.4**
PSZ Piszkesteto 14.54 332 ⇑ *i*P **Pn 20 54 56.4 -0.5**
PSZ Piszkesteto 14.54 332 *e*Pn **Pn 20 54 56.5 -0.5**
PSZ Piszkesteto 14.54 332 ⇓ *e*P **P 20 55 03.6 +0.6**
PSZ Piszkesteto 14.54 332 ⇓ *e*Pn **P 20 55 03.6 +0.6**
PSZ Piszkesteto 14.54 332 *e*Pn **Pn 20 54 56.5 -0.5**

AQU L'Aquila 14.69 303 *e*Pn **Pn 20 55 01.3 +2.3**
AQU L'Aquila 14.69 303 *e*Pn **Pn 20 55 01.3 +2.3**
NVLJ Novalja 14.75 312 *e*Pn **Pn 20 55 00.1 +0.3**
NVLJ Sn **Sn 20 57 40.6 -1.2**
NVLJ Novalja 14.75 312 *e*Pn **Pn 20 55 00.0 +0.3**
NVLJ Sn **Sn 20 57 40.6 -1.2**
CSKK Cs¨ˇtkako 14.78 327 ⇓ *e*P **P 20 55 06.6 +1.0**
CSKK Cs¨ˇtkako 14.78 327 ⇓ *e*Pn **P 20 55 06.6 +1.0**
CSKK Cs¨ˇtkako 14.78 327 ⇓ *e*Pn **P 20 55 06.6 +1.0**
CRVS Cervenica-Dubn 14.82 337 *e*P **P 20 55 07.5 +1.5**
CRVS Cervenica-Dubn 14.82 337 *e*P **P 20 55 07.5 +1.5**
AK11 Malin Array Si 15.17 358 *e*Pn **P 20 55 08.8 -1.0**
KIEV Kiev 15.18 358 *e*Pn **P 20 55 09.7 -0.3**
comp=N,14nm,0.9s
AKASG Malin Array Be 15.19 358 Pn **P 20 55 09.3 -0.8**
comp=N,1.5nm,0.3s,baz=174,slow=9.1,SNR=20
AKBB Malin Array Si 15.19 358 *e*Pn **P 20 55 09.7 -0.3**
comp=N,13nm,0.8s
STHS Stebnicka Huta 15.34 338 *e*P **P 20 55 14.0 +2.2**
STHS Stebnicka Huta 15.34 338 *e*P **P 20 55 14.0 +2.2**
VYHS Vyhne 15.42 331 *e*P **P 20 55 13.3 +0.6**
VYHS Vyhne 15.42 331 *e*P **P 20 55 13.3 +0.6**
PERS Pernice 15.83 319 *e*Pn **P 20 55 17.5 +0.2**
SOKA Soboth 15.90 319 *i* Pn **P 20 55 16.6 -1.5**
comp=N,28nm,1.0s,SNR=16
SOKA Soboth 15.90 319 P **P 20 55 16.6 -1.5**
comp=N,28nm,1.0s,SNR=16
ARSA Arzberg 16.02 321 *i* P **P 20 55 20.4 +1.1**
comp=N,16nm,1.0s,SNR=9.2
ARSA Arzberg 16.02 321 P **P 20 55 20.4 +1.1**
comp=N,16nm,1.0s,SNR=9.2
SMOL Smolenice 16.02 328 *e*P **P 20 55 19.9 +0.5**
SMOL Smolenice 16.02 328 *e*P **P 20 55 19.9 +0.5**
TRI Trieste 16.03 314 *e*Pn **Pn 20 55 17.1 +0.6**
comp=N,13nm,0.8s
TRI Trieste 16.03 314 *e*Pn **Pn 20 55 17.1 +0.6**
comp=N,13nm,0.8s
OBKA Obir 16.05 318 *i* Pn **Pn 20 55 17.5 +0.6**
comp=N,7.2nm,1.2s
OBKA Obir 16.05 318 Pn **Pn 20 55 17.5 +0.6**
comp=N,7.2nm,1.2s
CONA Conrad Observa 16.31 324 P **P 20 55 23.2 +0.6**
comp=N,5.2nm,1.3s
CONA Conrad Observa 16.31 324 P **P 20 55 23.2 +0.6**
comp=N,5.2nm,1.3s
OJC Ojcow 16.50 336 *e*Pn **P 20 55 25.8 +1.2**
comp=N,9.7nm,0.9s
MYKA Terra Mystica 16.63 317 *i* Pn **P 20 55 25.3 -0.9**
comp=N,6.5nm,1.0s
MYKA Terra Mystica 16.63 317 P **P 20 55 25.3 -0.9**
comp=N,6.5nm,1.0s
OKC Ostrava-Krasne 16.77 332 *e*P **P 20 55 28.2 +0.6**
OKC Ostrava-Krasne 16.77 332 P **P 20 55 28.2 +0.6**
KEST Kesra 16.90 277 Pn **Pn 20 55 28.2 +0.6**
comp=N,1.4nm,0.3s,baz=119,slow=1.0,SNR=36
KEST LR LR 21 03 41.1
comp=N,130nm,20.1s,baz=352,slow=43
KEST Kesra 16.90 277 *e*Pn **Pn 20 55 27.2 -0.4**
comp=N,38nm,0.8s
KEST Kesra 16.90 277 *e*Pn **Pn 20 55 27.2 -0.4**
comp=N,38nm,0.8s
VSL Villasalto 16.93 290 *e*Pn **P 20 55 30.9 +1.4**
comp=N,32nm,1.2s
VSL Villasalto 16.93 290 *e*Pn **P 20 55 30.9 +1.4**
comp=N,32nm,1.2s
MORC Moravsky Berou 16.96 331 *e*Pn **P 20 55 29.4 -0.3**
comp=N,24nm,1.1s
MORC Moravsky Berou 16.96 331 *e*P **P 20 55 30.2 +0.5**
MORC Moravsky Berou 16.96 331 *e*Pn **P 20 55 29.4 -0.3**
comp=N,24nm,1.1s
VRAC Vranov 16.98 328 Pn **P 20 55 30.5 +0.5**
comp=N,0.3nm,0.3s,baz=142,slow=12,SNR=10
VRAC LR LR 21 03 15.0
comp=N,192nm,19.4s,baz=150,slow=42
MOA Molln 17.05 321 *i* P **P 20 55 30.4 -0.4**
comp=N,11nm,0.9s,SNR=8.6
MOA Molln 17.05 321 P **P 20 55 30.4 -0.4**
comp=N,11nm,0.9s,SNR=8.6
KBA Koelnbreinsper 17.06 318 *i* Pn **P 20 55 32.0 +1.0**
comp=N,26nm,0.8s
KBA Koelnbreinsper 17.06 318 P **P 20 55 32.0 +1.0**
comp=N,26nm,0.8s
ABTA Abfaltersbach 17.33 316 *i* P **P 20 55 33.8 -0.2**
comp=N,6.3nm,0.7s,SNR=5.4
ABTA Abfaltersbach 17.33 316 P **P 20 55 33.8 -0.2**
comp=N,6.3nm,0.7s,SNR=5.4
KRLC Kraliky 17.50 330 *e*P **P 20 55 38.0 +2.3**
KRLC Kraliky 17.50 330 P **P 20 55 38.0 +2.3**
DPC Dobruska-Polom 17.89 330 *e*P **P 20 55 40.5 +0.4**
DPC *e*pP **sP 20 55 52.8 -1.7**
DPC AMS AMS 21 05 20.0
comp=N,400nm,12.2s
DPC Dobruska-Polom 17.89 330 P **P 20 55 40.5 +0.4**
RAYN Ar Rayn 17.91 128 *e*Pn **P 20 55 43.1 +2.6**
comp=N,5.4nm,1.0s
GEA0 GERESS Array S 17.98 323 *e*Pn **P 20 55 41.4 +0.3**
GEA0 GERESS Array S 17.98 323 *e*Pn **P 20 55 41.4 +0.3**
GEC2 GERESS Array S 17.99 323 *e*Pn **P 20 55 41.9 +0.7**
comp=N,8.6nm,0.9s
GEC2 GERESS Array S 17.99 323 *e*Pn **P 20 55 41.9 +0.7**
comp=N,8.6nm,0.9s
GERES GERESS Array B 17.99 323 P **P 20 55 41.4 +0.2**
comp=N,0.8nm,0.3s,baz=140,slow=10,SNR=25
GERES LR LR 21 02 26.1
comp=N,82nm,20.9s,baz=118,slow=36
WTTA Wattenberg 18.12 316 *i* Pn **P 20 55 44.5 +1.7**
comp=N,13nm,1.1s
WTTA Wattenberg 18.12 316 P **P 20 55 44.5 +1.7**
comp=N,13nm,1.1s
UPC Upice 18.14 330 *e*P **P 20 55 43.6 +0.8**
UPC *e*pP **sP 20 55 55.5 -1.7**
UPC Upice 18.14 330 P **P 20 55 43.6 +0.8**
GOPC GO Pecny, Ondr 18.22 327 *e*P **Pn 20 55 44.5 +0.7**
GOPC AMS AMS 21 04 20.0
comp=N,400nm,12.0s
GOPC GO Pecny, Ondr 18.22 327 P **Pn 20 55 44.5 +0.7**
KHC Kasperske Hory 18.24 323 *e*P **Pn 20 55 44.1 +0.1**
KHC *e*pP **pP 20 55 53.1 -0.4**
KHC *ex* x 20 55 55.8
KHC AMS AMS 21 04 00.0
KHC Kasperske Hory 18.24 323 *e*P **Pn 20 55 44.2 +0.2**
comp=N,3.2nm,0.8s
KHC Kasperske Hory 18.24 323 *e*P **Pn 20 55 44.2 +0.2**
comp=N,3.2nm,0.8s
PRU Pruhonice 18.39 327 *e*P **Pn 20 55 45.7 0.0**
PRU *e*pP **pP 20 55 54.9 -0.2**
PRU AMS AMS 21 04 20.0
comp=N,300nm,9.8s
PRU Pruhonice 18.39 327 P **Pn 20 55 45.7 0.0**
MOTA Moosalm 18.47 316 *i* P **P 20 55 46.5 0.0**
comp=N,13nm,0.9s,SNR=12
MOTA Moosalm 18.47 316 P **P 20 55 46.5 0.0**
comp=N,13nm,0.9s,SNR=12
FETA Feichten 18.51 314 P **P 20 55 47.0 0.0**
comp=N,30nm,0.9s,SNR=20
FETA Feichten 18.51 314 P **P 20 55 47.0 0.0**
comp=N,30nm,0.9s,SNR=20
FUORN Ofenpass-Fuorn 18.58 313 *e*P **Pn 20 55 49.6 +1.2**
comp=N,16nm,0.8s
FUORN Ofenpass-Fuorn 18.58 313 *e*P **Pn 20 55 49.6 +1.2**
comp=N,16nm,0.8s
RETA Reutte 18.74 316 *i* P **P 20 55 49.4 -0.1**
comp=N,4.0nm,0.4s
RETA Reutte 18.74 316 P **P 20 55 49.4 -0.1**
comp=N,4.0nm,0.4s
PVCC Panska Ves 18.77 328 *e*P **Pn 20 55 50.3 0.0**
PVCC *e*pP **pP 20 55 58.9 -0.4**
PVCC AMS AMS 21 04 50.0
PVCC Panska Ves 18.77 328 P **Pn 20 55 50.3 0.0**
DAVA Damuels 19.14 314 *i* P **P 20 55 54.3 +0.3**
comp=N,9.1nm,0.6s
DAVA Damuels 19.14 314 P **P 20 55 54.3 +0.3**
comp=N,9.1nm,0.6s
BRG Berggiesshubel 19.29 328 *e*P **P 20 55 55.5 +0.2**
comp=N,4.5nm,0.8s
BRG *e* 20 55 57.9
comp=N,11nm,1.0s
NKC Novy Kostel 19.52 324 *e*P **P 20 55 57.9 -0.1**
NKC Novy Kostel 19.52 324 P **P 20 55 57.9 -0.1**
GRFO Grafenberg 19.78 322 *e*P **P 20 56 00.7 0.0**
comp=N,31nm,1.0s
GRFO Grafenberg 19.78 322 *e*P **P 20 56 00.7 0.0**
comp=N,31nm,1.0s
CLL Collm 20.02 327 *e*P **P 20 56 03.3 0.0**
comp=N,13nm,1.0s
CLL Collm 20.02 327 ⇑ *i*P **P 20 56 03.3 0.0**

comp=Z,13nm,1.0s
CLL *e*S **S 20 59 42.0 -4.1**
CLL *es*S **sS 21 00 00.0 -1.5**
CLL Collm 20.02 327 *e*P **P 20 56 03.3 0.0**
comp=Z,13nm,1.0s
BNI Bardonecchia 20.21 305 *e*P **P 20 56 05.7 +0.1**
comp=Z,22nm,1.0s
BNI Bardonecchia 20.21 305 *e*P **P 20 56 05.7 +0.1**
comp=Z,22nm,1.0s
SENIN Lac Senin/Sane 20.30 309 *e*P **P 20 56 05.8 -0.8**
comp=Z,27nm,0.8s
SENIN Lac Senin/Sane 20.30 309 *e*P **P 20 56 05.8 -0.8**
comp=Z,27nm,0.8s
STU Stuttgart 20.32 317 *e*P **P 20 56 07.2 +0.6**
comp=Z,44nm,1.0s
STU Stuttgart 20.32 317 *e*P **P 20 56 07.2 +0.6**
comp=Z,44nm,1.0s
BFO Black Forest 20.57 315 *e*P **P 20 56 10.6 +1.2**
comp=Z,9.7nm,1.0s
BFO Black Forest 20.57 315 *e*P **P 20 56 10.6 +1.2**
comp=Z,9.7nm,1.0s
SSB Saint Sauveur 21.71 304 *e*P **P 20 56 21.0 -0.6**
comp=Z,9.9nm,0.9s
SSB Saint Sauveur 21.71 304 *e*P **P 20 56 21.0 -0.6**
comp=Z,9.9nm,0.9s
EMHD Djebel Mahouad 22.02 280 P **P 20 56 25.5 +0.4**
EMHD Djebel Mahouad 22.02 280 P **P 20 56 25.5 +0.4**
WLF Walferdange 22.48 316 *e*P **P 20 56 30.1 +0.2**
comp=Z,17nm,1.1s
WLF Walferdange 22.48 316 *e*P **P 20 56 30.1 +0.2**
comp=Z,17nm,1.1s
GEYT Alibeck 22.53 76 P **P 20 56 30.0 -0.5**
comp=Z,4.5nm,0.5s,baz=282,slow=10,SNR=14
EBNR Beni Rached 23.15 280 P **P 20 56 37.9 +0.9**
EBNR Beni Rached 23.15 280 P **P 20 56 37.9 +0.9**
ECHA Ech Chlef 23.30 280 P **P 20 56 40.1 +1.8**
ECHA Ech Chlef 23.30 280 P **P 20 56 40.1 +1.8**
TAM Tamanrasset 24.88 246 *e*P **P 20 56 56.2 +2.9**
comp=Z,28nm,1.2s
AKTO Aktyubinsk 25.07 45 P **P 20 56 54.5 -0.1**
comp=Z,14nm,0.7s,baz=248,slow=8.7,SNR=37
ABKAR Akbulak array 25.75 49 *e*P **P 20 57 00.9 +0.1**
comp=Z,54nm,0.6s
ABKAR Akbulak array 25.75 49 *e*P **P 20 57 00.9 +0.1**
comp=Z,54nm,0.6s
FIA0 FINESS Array S 26.07 356 *e*P **P 20 57 02.7 -0.9**
FIA0 FINESS Array S 26.07 356 *e*PcP **PcP 21 00 30.6 +0.2**
FIA0 FINESS Array S 26.07 356 *e*P **P 20 57 02.6 -0.9**
FIA0 *e*PcP **PcP 21 00 30.6 +0.2**
FINES FINESS Array B 26.07 356 P **P 20 57 02.6 -0.9**
comp=Z,5.0nm,0.8s,baz=145,slow=7.0,SNR=14
FINES PcP **PcP 21 00 30.6 +0.2**
comp=Z,3.7nm,1.0s,baz=197,slow=5.8,SNR=4.3
ATD Arta Tunnel 26.52 151 LR LR 21 08 44.0
comp=Z,94nm,19.7s,baz=11,slow=39
HFS Hagfors 26.83 342 P **P 20 57 10.8 +0.4**
comp=Z,6.8nm,0.8s,baz=134,slow=10,SNR=14
ES19 SONSECA Array 27.18 289 *e*P **P 20 57 14.7 +0.8**
ES19 SONSECA Array 27.18 289 *e*P **P 20 57 14.7 +0.8**
ESDC Sonseca Array 27.23 289 P **P 20 57 15.0 +0.6**
comp=Z,7.1nm,0.7s,baz=81,slow=9.2,SNR=40
ESLA Sonseca Array 27.23 289 *e*P **P 20 57 15.1 +0.7**
comp=Z,15nm,0.9s
ESLA Sonseca Array 27.23 289 *e*P **P 20 57 15.1 +0.7**
comp=Z,15nm,0.9s
PAB San Pablo 27.53 289 *e*P **P 20 57 18.1 +1.0**
comp=Z,11nm,1.0s
PAB San Pablo 27.53 289 *e*P **P 20 57 18.1 +1.0**
comp=Z,11nm,1.0s
WSAR Wadi Sarin 27.58 109 LR LR 21 11 16.2
comp=Z,292nm,20.9s,baz=344,slow=43
NB2 NORSAR Subarra 28.25 341 P **P 20 57 22.1 -1.1**
comp=Z,1.9nm,0.6s,baz=142,slow=9.3
NB2 NORSAR Subarra 28.25 341 P **P 20 57 22.1 -1.1**
comp=Z,1.9nm,0.6s,SNR=7.3
NB200 NORSAR Array S 28.25 341 *e*P **P 20 57 22.8 -0.5**
NB200 NORSAR Array S 28.25 341 *e*P **P 20 57 22.8 -0.5**
NOA NORSAR Array B 28.25 341 P **P 20 57 22.8 -0.5**
comp=Z,3.9nm,0.8s,baz=144,slow=8.9,SNR=8.0
NOA LR LR 21 09 57.0
comp=Z,57nm,18.6s,baz=135,slow=39
ARU Arti 28.42 34 P **P 20 57 22.8 -2.0**
comp=Z,3.6nm,0.4s,baz=240,slow=8.6,SNR=14
ARU Arti 28.42 34 *e*P **P 20 57 22.5 -2.2**
comp=Z,4.9nm,0.7s
PBRG Braganca 29.31 294 *e*P **P 20 57 34.5 +1.7**
PBRG Braganca 29.31 294 *e*P **P 20 57 34.5 +1.7**
MVO Moncorvo 29.53 292 *e*P **P 20 57 35.6 +0.8**
MVO Moncorvo 29.53 292 *e*P **P 20 57 35.6 +0.8**
PBAR Barrancos 29.74 286 *e*P **P 20 57 37.0 +0.4**
comp=Z,48nm,1.2s
PBAR Barrancos 29.74 286 *e*P **P 20 57 37.0 +0.4**
comp=Z,48nm,1.2s
PMRV Marv??o 29.89 289 *e*P **P 20 57 37.4 -0.6**
PMRV Marv??o 29.89 289 *e*P **P 20 57 37.4 -0.6**
PCBR Castelo Branco 29.93 290 *e*P P 20 57 44.2 +5.9
PESTR Estremoz 30.09 288 *e*P **P 20 57 40.3 +0.5**
comp=Z,18nm,1.0s
PESTR Estremoz 30.09 288 *e*P **P 20 57 40.3 +0.5**
comp=Z,18nm,1.0s
POLO Lamas de Olo 30.10 293 *e*P **P 20 57 39.5 -0.4**
POLO Lamas de Olo 30.10 293 *e*P **P 20 57 39.5 -0.4**
EKA Eskdalemuir Ar 30.20 321 P **P 20 57 38.7 -1.8**
comp=Z,0.8nm,0.5s,baz=121,slow=9.6,SNR=9.1
EKA PcP **PcP 21 00 42.0 +1.3**
comp=Z,0.6nm,0.6s,baz=95,slow=3.6,SNR=4.7
PVIS Viseu 30.20 291 *e*P **P 20 57 40.5 -0.2**
PVIS Viseu 30.20 291 *e*P **P 20 57 40.5 -0.2**
PVAQ Vaqueiros 30.37 285 *e*P **P 20 57 42.5 +0.3**
comp=Z,36nm,1.2s
PVAQ Vaqueiros 30.37 285 *e*P **P 20 57 42.5 +0.3**
comp=Z,36nm,1.2s
PBEJ Beja 30.40 286 *e*P **P 20 57 43.2 +0.7**
PBEJ Beja 30.40 286 *e*P **P 20 57 43.2 +0.7**
EVO Evora 30.46 287 *e*P **P 20 57 42.8 -0.2**
EVO Evora 30.46 287 *e*P **P 20 57 42.8 -0.2**
PBDV Barranco-do-Ve 30.56 285 *e*P **P 20 57 44.8 +0.9**
comp=Z,41nm,1.1s
PBDV Barranco-do-Ve 30.56 285 *e*P **P 20 57 44.8 +0.9**
comp=Z,41nm,1.1s
PMTG Montargil 30.57 288 *e*P **P 20 57 44.0 +0.1**
PMTG Montargil 30.57 288 *e*P **P 20 57 44.0 +0.1**
PCVE Castro Verde 30.59 285 *e*P **P 20 57 44.2 0.0**
PCVE Castro Verde 30.59 285 *e*P **P 20 57 44.2 0.0**
PTOM Tomar 30.66 289 *e*P **P 20 57 45.2 +0.4**
PTOM Tomar 30.66 289 *e*P **P 20 57 45.2 +0.4**
PCAS Casmilo, Conde 30.70 290 *e*P **P 20 57 44.2 -0.9**
PCAS Casmilo, Conde 30.70 290 *e*P **P 20 57 44.2 -0.9**
PNCL Nicolau / Gran 30.91 286 *e*P **P 20 57 47.9 +0.9**
PNCL Nicolau / Gran 30.91 286 *e*P **P 20 57 47.9 +0.9**
PTEO Sao Teotonio 31.14 285 *e*P **P 20 57 48.9 -0.1**
PTEO Sao Teotonio 31.14 285 *e*P **P 20 57 48.9 -0.1**
KKAR Karatay Array 31.90 64 *e*P **P 20 57 56.9 +1.2**
comp=Z,61nm,0.7s
KKAR Karatay Array 31.90 64 *e*P **P 20 57 56.9 +1.2**
comp=Z,61nm,0.7s
BVAR Borovoye Array 33.17 46 P **P 20 58 06.1 -0.6**
comp=Z,1.2nm,0.7s,baz=243,slow=7.9,SNR=5.3
TOA1 Torodi Ar. Sit 33.95 236 *e*P **P 20 58 15.4 +1.6**
TOA1 Torodi Ar. Sit 33.95 236 *e*PcP **PcP 21 00 52.4 +0.8**
TOA1 Torodi Ar. Sit 33.95 236 *e*P **P 20 58 15.4 +1.6**
TOA1 *e*PcP **PcP 21 00 52.4 +0.8**
TOA0 Torodi Ar. Sit 33.95 236 *e*P **P 20 58 15.4 +1.5**
TOA0 Torodi Ar. Sit 33.95 236 *e*P **P 20 58 15.3 +1.5**
TORD Torodi Ar. Bea 33.95 236 P **P 20 58 15.4 +1.6**
comp=Z,13nm,0.8s,baz=33,slow=8.9,SNR=75
TORD PcP **PcP 21 00 52.4 +0.8**
comp=Z,1.1nm,1.0s,baz=42,slow=1.8,SNR=3.5
ARA0 ARCESS Array S 34.16 357 *e*P **P 20 58 14.4 -0.7**
ARA0 ARCESS Array S 34.16 357 *e*P **P 20 58 14.3 -0.7**
ARCES ARCESS Array B 34.16 357 P **P 20 58 14.3 -0.7**
comp=Z,3.7nm,0.7s,baz=162,slow=8.3,SNR=20
ARCES LR LR 21 13 37.1
comp=Z,164nm,18.1s,baz=202,slow=39
AAK Ala-Archa 34.84 65 P **P 20 58 22.8 +1.3**
comp=Z,6.1nm,0.5s,baz=214,slow=3.0,SNR=21
KSH Kashi 36.28 70 *e*P **P 20 58 33.1 -0.7**
KSH *e*PcP **PcP 21 01 00.7 +2.5**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH pmax pmax
comp=Z,53nm,5.7s
KURBB Kurchatov Arra 37.73 51 P **P 20 58 45.1 -0.7**
comp=Z,2.8nm,0.6s,baz=272,slow=9.0,SNR=9.7
KURBB PcP **PcP 21 01 02.9 +0.7**

comp=Z,1.3nm,0.7s,baz=268,slow=3.7,SNR=4.6
KURK Kurchatov 37.80 51 *e*P **P 20 58 45.1 -1.3**
KURK Kurchatov 37.80 51 *e*PcP **PcP 21 01 02.9 +0.5**
KURK Kurchatov 37.80 51 *e*P **P 20 58 45.1 -1.3**
KURK *e*PcP **PcP 21 01 02.9 +0.5**
MK31 Makanchi Array 40.17 57 *e*P **P 20 59 06.8 +0.4**
MK31 Makanchi Array 40.17 57 *e*P **P 20 59 06.8 +0.4**
MK32 Makanchi Array 40.17 57 *e*P **P 20 59 06.3 -0.1**
MK32 *e*ScP **ScP 21 04 56.2 0.0**
MK32 Makanchi Array 40.17 57 *e*P **P 20 59 06.3 -0.1**
MK32 *e*ScP **ScP 21 04 56.2 0.0**
MKAR Makanchi Array 40.17 57 P **P 20 59 06.3 -0.1**
comp=Z,3.6nm,0.6s,baz=268,slow=8.5,SNR=29
MKAR ScP **ScP 21 04 56.2 0.0**
comp=Z,0.6nm,0.6s,baz=259,slow=5.0,SNR=7.4
MKAR Makanchi Array 40.17 57 *e*P **P 20 59 06.8 +0.4**
comp=Z,32nm,0.6s
MKAR ScP **ScP 21 04 56.2 0.0**
MKAR Makanchi Array 40.17 57 *e*P **P 20 59 06.8 +0.4**
comp=Z,32nm,0.6s
MKAR ScP **ScP 21 04 56.2 0.0**
MK01 Makanchi Array 40.18 57 *e*P **P 20 59 06.5 +0.1**
MK01 Makanchi Array 40.18 57 *e*P **P 20 59 06.5 +0.1**
ZAA1 Zalesovo Array 41.82 46 *e*P **P 20 59 17.9 -1.8**
ZAA1 Zalesovo Array 41.82 46 *e*P **P 20 59 17.9 -1.8**
ZALV Zalesovo Beam 41.82 46 P **P 20 59 17.9 -1.8**
comp=Z,2.3nm,0.3s,baz=268,slow=9.4,SNR=12
ZALV Zalesovo Beam 41.82 46 *e*P **P 20 59 18.5 -1.3**
ZALV Zalesovo Beam 41.82 46 *e*P **P 20 59 18.4 -1.3**
DBIC Dimbokro 43.06 237 P **P 20 59 31.1 +0.8**
comp=Z,12nm,1.0s,baz=2.7,slow=7.4,SNR=5.6
DBIC Dimbokro 43.06 237 *e*P **P 20 59 31.1 +0.8**
comp=Z,21nm,1.1s
DBIC Dimbokro 43.06 237 *e*P **P 20 59 31.1 +0.8**
comp=Z,21nm,1.1s
SPA0 Spitsbergen Ar 43.17 356 *e*P **P 20 59 29.9 -0.5**
SPA0 Spitsbergen Ar 43.17 356 *e*P **P 20 59 29.9 -0.5**
SPITS Spitsbergen Ar 43.17 356 P **P 20 59 28.8 -1.6**
comp=Z,1.3nm,0.4s,baz=141,slow=9.3,SNR=8.9
TIC Toumodi 43.19 237 *e*P **P 20 59 32.4 +1.0**
KIC Kosan Boka 43.21 236 *e*P **P 20 59 32.7 +1.2**
comp=Z,126nm,1.8s
LIC Lamto 43.50 236 *e*P **P 20 59 34.9 +1.0**
comp=Z,65nm,1.1s
PYUN Piuthan 45.08 84 *e*P **P 20 59 48.2 +1.6**
comp=Z,22nm,0.8s
DANN Dangsing 45.60 83 *e*P **P 20 59 52.9 +2.0**
comp=Z,3.7nm,0.9s
KOLN Koldanda 45.70 84 *e*P **P 20 59 53.0 +1.4**
comp=Z,11nm,0.6s
NRIK Noril'sk 45.84 25 LR LR 21 22 34.1
comp=Z,78nm,19.1s,baz=140,slow=41
GKN Gorkha 46.45 83 *e*P **P 20 59 58.6 +1.2**
DMN Daman 46.99 84 *e*P **P 21 00 03.2 +1.4**
comp=Z,23nm,0.8s
KKN Kakani 47.06 83 *e*P **P 21 00 03.3 +1.1**
comp=Z,9.1nm,0.6s
PKIN Phulchoki 47.24 84 *e*P **P 21 00 04.8 +1.1**
comp=Z,21nm,0.9s
GUN Gumba 47.49 83 *e*P **P 21 00 07.0 +1.2**
JIRN Jiri 47.85 83 *e*P **P 21 00 09.7 +1.1**
RAMN Ramite 48.47 84 *e*P **P 21 00 13.7 +0.5**
comp=Z,24nm,0.8s
ODAN Odare 49.15 83 *e*P **P 21 00 18.9 +0.5**
TAPN Taplejung 49.20 83 *e*P **P 21 00 19.5 +0.6**
comp=Z,15nm,1.0s
SUMG Summit 50.11 339 *i* P P 21 00 37.7 +12
GTA Gaotai 54.18 64 *e*P **P 21 00 55.8 +0.1**
GTA pP pP 21 01 01.8 -5.1
GTA sP sP 21 01 05.7 -5.6
GTA pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 58.36 66 *e*P P 21 01 36.0 +10
LZH pP sP 21 01 41.0 -0.3
LZH sP pP 21 01 43.5 +6.6
LZH pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 62.31 86 *e*P **P 21 01 52.8 +0.2**
comp=Z,8.1nm,1.4s
CHTO Chiang Mai 62.31 86 *e*P **P 21 01 52.8 +0.2**
comp=Z,8.1nm,1.4s
CM31 Chiang Mai Arr 62.49 86 *e*P **P 21 01 54.0 +0.2**
CM31 Chiang Mai Arr 62.49 86 *e*P **P 21 01 54.0 +0.2**
CMAR Chiang Mai Arr 62.49 86 P **P 21 01 53.9 0.0**
comp=Z,2.3nm,0.7s,baz=296,slow=8.5,SNR=19
CMAR LR LR 21 34 53.4
comp=Z,42nm,20.5s,baz=185,slow=42
CM01 Chiang Mai Arr 62.52 86 *e*P **P 21 01 53.7 -0.4**
CM01 Chiang Mai Arr 62.52 86 *e*P **P 21 01 53.7 -0.4**
XAN Xi'an 63.00 66 P **P 21 01 57.3 +0.2**
XAN pP pP 21 02 04.5 -4.0
XAN pmax pmax
comp=Z,7.0nm,1.2s
BOSA Boshof 63.96 185 P **P 21 02 04.8 +1.4**
comp=Z,2.5nm,0.7s,baz=300,slow=1.5,SNR=6.0
SCHQ Schefferville 65.51 321 P **P 21 02 13.3 +0.2**
comp=Z,14nm,0.7s,baz=61,slow=7.7,SNR=5.0
USRK Ussuriysk Ar. 73.66 47 P **P 21 03 02.8 -0.8**
comp=Z,4.3nm,0.6s,baz=288,slow=5.5,SNR=14
KS15 Wonju Array Si 74.78 55 *e*P **P 21 03 09.9 -0.3**
KS15 Wonju Array Si 74.78 55 *e*P **P 21 03 09.9 -0.3**
KS15 Wonju Array Si 74.78 55 *e*Pn **P 21 03 09.9 -0.2**
KSAR Wonju Array Be 74.78 55 P **P 21 03 09.9 -0.3**
KSAR Wonju Array Be 74.78 55 P **P 21 03 09.9 -0.3**
KSRS Korea Array 74.80 55 P **P 21 03 09.9 -0.4**
comp=Z,2.9nm,0.7s,baz=307,slow=4.8,SNR=13
ILAR Eielson Array 80.01 359 P **P 21 03 38.9 -0.1**
comp=Z,0.2nm,0.7s,baz=350,slow=4.6,SNR=2.7
ILB Eielson Array 80.01 359 *e*P **P 21 03 40.0 +1.0**
ILB Eielson Array 80.01 359 *e*P **P 21 03 40.0 +1.0**
MJAR Matsushiro Arr 82.01 51 P **P 21 03 49.6 -0.6**
comp=Z,1.5nm,0.7s,baz=303,slow=5.0,SNR=5.2
MJAR LR LR 21 44 16.2
comp=Z,63nm,20.1s,baz=65,slow=39
ULM Lac du Bonnet 82.20 328 P **P 21 03 49.8 -1.1**
comp=Z,4.8nm,0.9s,baz=115,slow=7.5,SNR=3.2
PDAR Pinedale Array 93.83 331 P **P 21 04 47.4 -0.1**
comp=Z,0.2nm,0.5s,baz=39,slow=3.6,SNR=2.2

*GUC **12** 20:51:57.7±0.3,32°.43S×70°.80W,h67km±4km,ML2.8*
*ISCJB **12** 20:51:58.1±1.5,32°.47S±0°.08×70°.9W±0°.1,h82km±15km,*
Error ellipse: s-maj=19.0km s-min=10.7km az=30.9
*SJA **12** 20:51:58.1±0.5,32°.41S×70°.76W,h24km±6km,ML2.5,*
MW2.9
ISC 12 20:51:59.1±2.9,32°.47S±0°.08×70°.9W±0°.1,h73km±24km,
n16,σ0°73/21,3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.51**	**189**	‖*i*P	**Pn**	**20 52 12.4**	**-0.1**
ROCH				*i* S	**Sn**	**20 52 23.6**	**+1.3**
ROCH				IAML		20 52 24.1	
comp=N,1μm,0.1s							
PEL	**Peldehue**	**0.70**	**164**	*e*P	**Pn**	**20 52 13.6**	**-0.7**
PEL				*i* S	**Sn**	**20 52 25.6**	**+0.1**
PEL				IAML		20 52 26.8	
comp=N,594nm,0.2s							
CLCH	**Cerro Calan**	**0.97**	**161**	‖*i*P	**Pn**	**20 52 17.1**	**-0.4**
CLCH				*i* S	**Sn**	**20 52 31.8**	**+0.5**
CLCH				IAML		20 52 34.0	
comp=N,260nm,0.5s							
FCH	**Farellones**	**1.00**	**148**	‖*i*P	**Pn**	**20 52 17.9**	**-0.2**
FCH				*i* S	**Sn**	**20 52 33.0**	**+0.8**
FCH				IAML		20 52 33.3	
comp=N,567nm,0.2s							
RCDM	**Rinconada Maip**	**1.02**	**175**	*e*P	**Pn**	**20 52 16.5**	**-1.5**
RCDM				*i* S	**Sn**	**20 52 32.0**	**-0.1**
ANTU	**Antumapu**	**1.12**	**168**	*e*P	**Pn**	**20 52 19.1**	**-0.2**
ANTU				*i* S	**Sn**	**20 52 35.1**	**+0.8**
ANTU				IAML		20 52 36.0	
comp=N,358nm,0.3s							
AUSP	**Uspallata**	**1.32**	**80**	*e*P	**Pn**	**20 52 21.1**	**-1.0**
AUSP				*e*S	**Sn**	**20 52 38.2**	**-1.1**
RTLS	**Leoncito**	**1.53**	**64**	*e*P	**Pn**	**20 52 24.3**	**-0.5**
RTLS				IAML		20 52 44.6	
comp=Z,45nm,0.2s							
ARCO	**CERRO ARCO**	**1.71**	**103**	*e*P	**Pn**	**20 52 27.3**	**+0.2**
ARCO				IAML		20 52 51.5	
comp=Z,56nm,0.4s							
ASAL	**Salagasta**	**1.76**	**94**	*e*P	**Pn**	**20 52 27.6**	**-0.1**
AAGR	**Agrelo**	**1.86**	**110**	*e*P	**Pn**	**20 52 29.4**	**+0.4**
RTCV	**Cerro Valdivia**	**2.10**	**74**	*e*P	**Pn**	**20 52 32.0**	**-0.3**
RTLL	**Cerro Villicun**	**2.37**	**62**	*e*P	**Pn**	**20 52 36.3**	**+0.4**
AMOG	**MOGNA**	**2.57**	**54**	*e*P	**Pn**	**20 52 39.0**	**+0.4**
AVFE	**Valle Fertil**	**3.46**	**59**	IAML		20 53 32.5	
comp=Z,11nm,0.3s							
MRA	**San Martin**	**4.40**	**91**	IAML		20 53 52.4	
comp=Z,9.8nm,0.6s							

IDC 12 20:54:39.3±3.6,5°.38S×151°.12E,h0km,mb3.2/2,
mb1 3.6/3,mb1mx3.4/42,mbtmp3.5/3,ML2.0/1,Error
ellipse: s-maj=147.3km s-min=43.4km az=120.0,New
Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**224**	Pn	Pn	20 56 05.9	+1.9
3.2nm,0.3s,baz=57,slow=5.4,SNR=7.3							
PMG				Sn	Sn	20 57 05.9	-3.2
3.2nm,0.3s,baz=92,slow=23,SNR=6.2							
WRA	**Warramunga Arr**	**21.82**	**227**	P	P	20 59 32.6	-0.7
0.7nm,0.6s,baz=53,slow=10,SNR=11							
ASAR	**Alice Springs**	**24.61**	**221**	P	P	21 00 01.2	-0.3
0.3nm,0.4s,baz=50,slow=8.6,SNR=9.8							
TORD	**Torodi Ar. Bea**	**148.88**	**287**	PKPbc	PKPbc	21 14 29.8	-0.4
0.5nm,0.6s,baz=78,slow=2.6,SNR=6.8							

*NIED **12** 20:59:00,22°.30N×123°.80E,h8km,Mw4.0 Best double*
couple: M0=1.23000×10^15 NP1:φs=60.00000°,δ=31.00000°,
λ=-143.00000°. NP2:φs=297.00000°,δ=72.00000°,
λ=-64.00000°.
*ISCJB **12** 20:59:30.7±0.5,22°.34N±0°.03×123°.99E±0°.04,h11km,*
mb3.8/7,MS2.7/1,Error ellipse: s-maj=5.8km s-min=4.3km
az=26.8
*NEIC **12** 20:59:31.8±0.7,22°.31N×123°.89E,h10km,mb4.2/2,Error*
ellipse: s-maj=12.4km s-min=9.5km az=55.0
*IDC **12** 20:59:31.6±1.1,22°.14N×124°.01E,h0km,mb3.8/5,*
mb1 4.0/6,mb1mx3.7/45,mbtmp3.8/6,ML3.7/1,MS2.8/2,
Ms1 2.8/2,ms1mx2.6/30,Error ellipse: s-maj=33.1km
s-min=20.9km az=66.0
*JMA **12** 20:59:33.4±0.6,22°.32N×123°.77E,h54km,M4.0*
ISC 12 20:59:32.7±0.9,22°.35N±0°.07×123°.93E±0°.05,h11km,n47,
σ1°67/57,mb3.8/7,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.70**	**356**	P	**Pn**	**21 00 02.2**	**-0.2**
HATJ				*e*S	**Sn**	**21 00 22.5**	**-1.6**
JKRS	**Kuro-shima**	**1.88**	**2**	P	**Pn**	**21 00 04.7**	**-0.1**
JKRS				*e*S	**Sn**	**21 00 27.2**	**-1.3**
IRIF	**Iriomote-Funau**	**1.98**	**355**	P	**Pn**	**21 00 06.3**	**+0.1**
IRIF				*e*S	**Sn**	**21 00 29.4**	**-1.7**
JIJ	**Ishigaki jima**	**2.01**	**6**	P	**Pn**	**21 00 06.1**	**-0.6**
JIJ				S	**Sn**	**21 00 29.3**	**-2.5**
JISG	**Ishigakijimahi**	**2.25**	**9**	P	**Pn**	**21 00 09.1**	**-0.9**
JISG				*e*S	**Sn**	**21 00 35.7**	**-2.1**
YOJ	**Yonaguni jima**	**2.26**	**338**	P	**Pn**	**21 00 10.0**	**-0.1**
YOJ				*e*S	**Sn**	**21 00 35.3**	**-2.7**
YOJ	**Yonaguni jima**	**2.26**	**338**	*e*Pn	**Pn**	**21 00 09.6**	**-0.5**
JYNG	**Yonagunijimaku**	**2.28**	**337**	P	**Pn**	**21 00 10.0**	**-0.3**
JYNG				*e*S	**Sn**	**21 00 35.5**	**-2.8**
JTJ	**Tarama**	**2.39**	**17**	P	**Pn**	**21 00 12.2**	**+0.4**
JTJ				S	**Sn**	**21 00 40.1**	**-1.0**
YULB	**Yu-li**	**2.64**	**294**	*e*Pn	**Pn**	**21 00 12.5**	**-2.8**
TWG	**Pinlang**	**2.68**	**281**	*e*Pn	**Pn**	**21 00 12.8**	**-3.0**
JIRB	**Irabujima**	**2.72**	**25**	P	**Pn**	**21 00 16.1**	**-0.2**
JIRB				S	**Sn**	**21 00 48.0**	**-1.2**
JMJ	**Miyako jima 2**	**2.75**	**27**	*e*S	**Sn**	**21 00 49.3**	**-0.8**
JOGS	**Gusukube**	**2.76**	**29**	P	**Pn**	**21 00 16.9**	**0.0**
JOGS				S	**Sn**	**21 00 49.2**	**-1.0**
NACB	**Ninganchiao**	**2.81**	**311**	*e*Pn	**Pn**	**21 00 15.6**	**-2.0**
JIKM	**Ikemajima**	**2.83**	**25**	P	**Pn**	**21 00 18.2**	**+0.3**
JIKM				*e*S	**Sn**	**21 00 51.1**	**-1.0**
SSLB	**Suanglung**	**3.09**	**298**	*e*Pn	**Pn**	**21 00 19.6**	**-1.8**
TPUB	**Ta-pu**	**3.19**	**288**	*e*Pn	**Pn**	**21 00 22.6**	**-0.2**
YHNB	**Yeheng**	**3.29**	**315**	*e*Pn	**Pn**	**21 00 24.0**	**-0.3**
TATO	**Taipei**	**3.44**	**320**	*e*Pn	**Pn**	**21 00 26.8**	**+0.6**
JKE	**Kume jima 2**	**4.74**	**33**	P	**Pn**	**21 00 43.0**	**-1.1**
JAGN	**Aguni-jima**	**5.19**	**35**	P	**Pn**	**21 00 49.1**	**-1.2**
JNTH	**Nagotoyohara**	**5.58**	**41**	P	**Pn**	**21 00 54.6**	**-1.1**
JIH	**Iheya**	**5.94**	**37**	P	**Pn**	**21 00 59.4**	**-1.2**
JOW	**Kunigami**	**5.96**	**41**	P	**Pn**	**21 00 59.8**	**-1.2**
JOW	**Kunigami**	**5.96**	**41**	*e*Pn	**Pn**	**21 01 00.5**	**-0.5**
JOKE	**Okinoerabujima**	**6.53**	**39**	P	**Pn**	**21 01 07.6**	**-1.2**
JTK	**Tokunoshima**	**7.07**	**39**	P	**Pn**	**21 01 14.3**	**-1.9**
JMZ	**Minamidaito 2**	**7.51**	**61**	P	**Pn**	**21 01 18.6**	**-3.6**
JAMN	**Amaminishikomi**	**7.55**	**38**	P	**Pn**	**21 01 20.2**	**-2.5**
JAM	**Amami Oshima**	**7.92**	**39**	P	**Pn**	**21 01 25.6**	**-2.3**
KSAR	**Wonju Array Be**	**15.43**	**12**	Pn	**P**	**21 03 17.1**	**+2.3**
KSRS	**Korea Array**	**15.44**	**12**	Pn	**P**	**21 03 17.1**	**+2.1**
0.5nm,0.3s,baz=197,slow=11,SNR=10.0							
KSRS				LR	LR	21 09 10.9	
comp=Z,28nm,18.9s,baz=198,slow=37							
KS01	**Wonju Array Si**	**15.46**	**12**	*e*Pn	**Pn**	**21 03 09.0**	**-1.7**
MJAR	**Matsushiro Arr**	**18.80**	**38**	P	**Pn**	**21 03 55.0**	**+2.3**
0.2nm,0.3s,baz=224,slow=9.9,SNR=11							
GUMO	**Guam**	**21.72**	**110**	LR	LR	21 10 48.6	
comp=Z,28nm,20.2s,baz=156,slow=31							
CMAR	**Chiang Mai Arr**	**23.72**	**265**	P	**P**	**21 04 47.0**	**+2.0**
1.7nm,0.7s,baz=69,slow=8.2,SNR=15							
MK01	**Makanchi Array**	**41.39**	**316**	*e*P	**P**	**21 07 19.4**	**+0.4**
MK32	**Makanchi Array**	**41.40**	**316**	*e*P	**P**	**21 07 20.5**	**+1.4**
MKAR	**Makanchi Array**	**41.40**	**316**	P	**P**	**21 07 20.5**	**+1.4**
1.9nm,0.6s,baz=102,slow=9.5,SNR=18							
ZALV	**Zalesovo Beam**	**43.15**	**327**	P	**P**	**21 07 35.4**	**+2.2**
2.3nm,0.6s,baz=116,slow=7.6,SNR=9.5							
ZALV	**Zalesovo Beam**	**43.15**	**327**	*e*P	**P**	**21 07 35.3**	**+2.1**
ZAA1	**Zalesovo Array**	**43.15**	**327**	*e*P	**P**	**21 07 35.4**	**+2.2**
WR1	**Warramunga Arr**	**43.25**	**166**	*e*P	**P**	**21 07 32.4**	**-2.0**
20nm,1.7s							
WRA	**Warramunga Arr**	**43.25**	**166**	P	**P**	**21 07 32.4**	**-2.0**
0.8nm,0.9s,baz=345,slow=8.9,SNR=7.0							
AS31	**Alice Springs**	**46.76**	**167**	*e*P	**P**	**21 08 02.5**	**+0.2**
1.2nm,1.2s							
ASAR	**Alice Springs**	**46.76**	**167**	P	**P**	**21 08 01.4**	**-0.9**
0.3nm,0.6s,baz=354,slow=9.0,SNR=5.7							

*ISCJB **12** 21:20:10.5±0.5,43°.15N±0°.03×13°.54E±0°.04,h8km±7km,*
Error ellipse: s-maj=5.9km s-min=4.5km az=18.8
*CSEM **12** 21:20:11.0±0.2,43°.14N×13°.52E,h10km,ML2.6/6,Error*
ellipse: s-maj=3.7km s-min=3.4km az=176.0
*ROM **12** 21:20:11.4±0.1,43°.14N×13°.42E,h25km,Md2.4/18,*
Ml1.9/18,Error ellipse: s-maj=0.9km s-min=0.6km az=74.0
ISC 12 21:20:10.0±0.9,43°.13N±0°.03×13°.57E±0°.02,h15km±9km,
n40,σ0°50/56,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.28**	**104**	Pg	**Pb**	**21 20 16.2**	**-0.6**
GUMA				Sg	**Sg**	**21 20 19.8**	**-0.3**
28nm,0.1s							
GUMA	**Gualdo di Mace**	**0.28**	**104**	Pg	**Pb**	**21 20 16.2**	**-0.6**
GUMA				Sg	**Sg**	**21 20 19.8**	**-0.3**
28nm,0.1s							
FDMO	**Fiordimonte**	**0.36**	**255**	Pg	**Pb**	**21 20 17.9**	**-0.3**
FDMO				Sg	**Sg**	**21 20 22.8**	**+0.3**
178nm,0.4s							
FDMO	**Fiordimonte**	**0.36**	**255**	Pg	**Pb**	**21 20 17.9**	**-0.3**
FDMO				Sg	**Sg**	**21 20 22.8**	**+0.3**
178nm,0.4s							
CING	**Cingoli**	**0.36**	**312**	Pg	**Pb**	**21 20 18.5**	**+0.2**
CING				Sg	**Sb**	**21 20 23.7**	**-0.1**
253nm,0.2s							
CING	**Cingoli**	**0.36**	**312**	Pg	**Pb**	**21 20 18.5**	**+0.2**
CING				Sg	**Sb**	**21 20 23.7**	**-0.1**
253nm,0.2s							
AOI	**Ancona**	**0.42**	**4**	Pg	**Pn**	**21 20 20.9**	**-0.7**
57nm,0.1s							
AOI	**Ancona**	**0.42**	**4**	Pg	**Pn**	**21 20 20.9**	**-0.7**
57nm,0.1s							
NRCA	**Norcia**	**0.44**	**228**	Pg	**Pb**	**21 20 19.7**	**+0.1**
NRCA				Sg	**Sb**	**21 20 26.1**	**0.0**
252nm,0.1s							
NRCA	**Norcia**	**0.44**	**228**	Pg	**Pb**	**21 20 19.7**	**+0.1**
NRCA				Sg	**Sb**	**21 20 26.1**	**0.0**
252nm,0.1s							
SNTG	**Esanatoglia**	**0.47**	**286**	Pg	**Pg**	**21 20 19.5**	**0.0**
SNTG				Sg	**Sg**	**21 20 25.8**	**-0.1**
133nm,0.2s							
SNTG	**Esanatoglia**	**0.47**	**286**	Pg	**Pg**	**21 20 19.5**	**0.0**
SNTG				Sg	**Sg**	**21 20 25.8**	**-0.1**
133nm,0.2s							
CESI	**CESI - Serrava**	**0.50**	**256**	Pg	**Pg**	**21 20 20.1**	**+0.1**
CESI				Sg	**Sg**	**21 20 26.8**	**+0.1**
72nm,0.4s							
CESI	**CESI - Serrava**	**0.50**	**256**	Pg	**Pg**	**21 20 20.1**	**+0.1**
CESI				Sg	**Sg**	**21 20 26.8**	**+0.1**
72nm,0.4s							
TERO	**Teramo**	**0.51**	**177**	Pg	**Pn**	**21 20 22.3**	**-0.5**
31nm,0.3s							
TERO	**Teramo**	**0.51**	**177**	Pg	**Pn**	**21 20 22.3**	**-0.5**
31nm,0.3s							
SMA1	**SAN MARTINO**	**0.53**	**199**	Pg	**Pb**	**21 20 21.8**	**+0.8**
43nm,0.3s							
SMA1	**SAN MARTINO**	**0.53**	**199**	Pg	**Pb**	**21 20 21.8**	**+0.8**
43nm,0.3s							
ARVD	**Arcevia**	**0.58**	**309**	Pg	**Pg**	**21 20 21.7**	**+0.1**
20nm,0.2s							
ARVD	**Arcevia**	**0.58**	**309**	Pg	**Pg**	**21 20 21.7**	**+0.1**
20nm,0.2s							
SSFR	**Montelago di S**	**0.65**	**298**	Pg	**Pg**	**21 20 22.7**	**-0.1**
95nm,0.2s							
SSFR	**Montelago di S**	**0.65**	**298**	Pg	**Pg**	**21 20 22.7**	**-0.1**
95nm,0.2s							
LNSS	**Leonessa**	**0.65**	**216**	Pg	**Pb**	**21 20 23.5**	**+0.3**
41nm,0.4s							
LNSS	**Leonessa**	**0.65**	**216**	Pg	**Pb**	**21 20 23.5**	**+0.3**
41nm,0.4s							
ATCC	**AVT- Casa Cast**	**0.68**	**275**	Pg	**Pg**	**21 20 22.9**	**-0.4**
74nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.68**	**275**	Pg	**Pg**	**21 20 22.9**	**-0.4**
74nm,0.3s							
FRON	**Frontone**	**0.72**	**303**	Pg	**Pg**	**21 20 24.0**	**-0.2**
39nm,0.7s							
FRON	**Frontone**	**0.72**	**303**	Pg	**Pg**	**21 20 24.0**	**-0.2**
39nm,0.7s							
MPAG	**Monte Paganucc**	**0.77**	**311**	Pg	**Pg**	**21 20 25.0**	**-0.1**
40nm,0.9s							
MPAG	**Monte Paganucc**	**0.77**	**311**	Pg	**Pg**	**21 20 25.0**	**-0.1**
40nm,0.9s							
MURB	**Monte Urbino**	**0.77**	**280**	Pg	**Pg**	**21 20 24.7**	**-0.4**
240nm,0.3s							
MURB	**Monte Urbino**	**0.77**	**280**	Pg	**Pg**	**21 20 24.7**	**-0.4**
240nm,0.3s							
PIEI	**Pieia**	**0.85**	**299**	Pg	**Pg**	**21 20 25.8**	**-0.8**
22nm,0.2s							
PIEI	**Pieia**	**0.85**	**299**	Pg	**Pg**	**21 20 25.8**	**-0.8**
22nm,0.2s							
ATVO	**AVT- Monte Val**	**0.88**	**287**	Pg	**Pg**	**21 20 26.3**	**-0.9**
35nm,0.3s							
ATVO	**AVT- Monte Val**	**0.88**	**287**	Pg	**Pg**	**21 20 26.3**	**-0.9**
35nm,0.3s							
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn	**Pb**	**21 20 41.3**	**+0.1**
NVLJ				Sn	**Sb**	**21 21 02.7**	**0.0**
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn	**Pb**	**21 20 41.3**	**+0.1**
NVLJ				Sn	**Sb**	**21 21 02.6**	**0.0**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn	**Pn**	**21 20 46.5**	**+1.6**
UDBI				Sn	**Sb**	**21 21 14.5**	**+0.2**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn	**Pn**	**21 20 46.5**	**+1.6**
UDBI				Sn	**Sb**	**21 21 14.5**	**+0.2**

WEL 12 21:35:15.1±0.1,38°.07S×178°.24E,h26km±1km,ML3.2/12,
4C-4D,Error ellipse: s-maj=1.5km s-min=0.8km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.01**	**112**	P*	Pb	21 35 18.6	-0.9
PUZ				S*	Sb	21 35 22.4	-0.1
PUZ				AML	AML	21 35 22.5	
PKGZ	**Pakihiroa**	**0.22**	**324**	‖P*	Pb	21 35 21.0	-0.2
PKGZ				S*	Sb	21 35 26.3	+1.0
PKGZ				AML	AML	21 35 26.8	
TWGZ	**Tauwhareparae**	**0.23**	**242**	‖P*	Pb	21 35 21.3	0.0
TWGZ				AML	AML	21 35 28.0	
TWGZ				AML	AML	21 35 28.2	
WMGZ	**Waiomatatini S**	**0.28**	**29**	‖P*	Pb	21 35 21.7	-0.2
WMGZ				AML	AML	21 35 28.4	
CNGZ	**Carnagh Statio**	**0.42**	**184**	⇑P*	Pb	21 35 24.1	+0.1
CNGZ				AML	AML	21 35 34.2	
CNGZ				AML	AML	21 35 35.4	
RUGZ	**Raukumara Rang**	**0.46**	**283**	⇑P*	Pb	21 35 24.4	-0.3
RUGZ				S*	Sb	21 35 32.1	+0.8
HAZ	**Te Kaha**	**0.48**	**310**	⇑P*	Pb	21 35 24.6	-0.3
HAZ				AML	AML	21 35 33.6	
HAZ				AML	AML	21 35 33.6	
HAZ				AML	AML	21 35 34.2	
HAZ				AML	AML	21 35 34.2	
TKGZ	**Te Karaka**	**0.48**	**220**	P*	Pb	21 35 25.1	0.0
TKGZ				AML	AML	21 35 35.3	
TKGZ				AML	AML	21 35 35.5	
MXZ	**Matakaoa Point**	**0.51**	**6**	P*	Pb	21 35 25.5	+0.1
MXZ				AML	AML	21 35 35.7	
MXZ				AML	AML	21 35 36.1	
MWZ	**Matawai**	**0.62**	**244**	P*	Pb	21 35 27.0	-0.4
MWZ				AML	AML	21 35 39.1	
MWZ				AML	AML	21 35 40.2	
RIGZ	**Rimuhau**	**0.74**	**210**	⇑P*	Pb	21 35 29.0	-0.4
RIGZ				AML	AML	21 35 42.6	
RAGZ	**Rawiri**	**0.78**	**236**	‖P*	Pb	21 35 29.9	-0.2
RAGZ				AML	AML	21 35 42.9	
RAGZ				AML	AML	21 35 43.6	
URZ	**Urewera**	**0.91**	**257**	PN	Pn	21 35 31.9	-0.3
URZ				AML	AML	21 35 46.2	
URZ				AML	AML	21 35 48.6	

*CRAAG **12** 21:42:58.0,35°.29N×2°.08E,Ml3.0*
*MDD **12** 21:43:01.2±2.4,35°.25N×1°.96E,h0km,mb4.0/6,Error*
ellipse: s-maj=24.6km s-min=9.4km az=176.0,PRXIMO
*CSEM **12** 21:43:02.0±0.8,35°.34N×1°.96E,h10km,mb4.0,Error*
ellipse: s-maj=16.0km s-min=7.9km az=172.0
ISC 12 21:43:01.0±2.2,35°.3N±0°.1×1°.97E±0°.05,h10km,n30,

ETOS	**Mallorca**	**4.51**	**8**	P	**Pn**	**21 44 09.2**	**-0.1**
	0.0nm,0.0s,SNR=7.9						
ETOS				S	**Sn**	**21 44 58.8**	**-3.0**
	0.1nm,0.0s,SNR=7.9						
ETOS	**Mallorca**	**4.51**	**8**	P	**Pn**	**21 44 09.2**	**-0.1**
	SNR=7.9						
SESP	**Santiago Espad**	**4.59**	**309**	P	**Pn**	**21 44 12.3**	**+1.7**
	2.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 45 04.2**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**4.59**	**309**	P	**Pn**	**21 44 12.3**	**+1.7**
	2.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 45 04.2**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.77**	**303**	P	**Pn**	**21 44 14.5**	**+1.6**
	1.3nm,0.2s,SNR=20						
EQES				S	**Sn**	**21 45 08.2**	**-0.1**
	0.1nm,0.1s						
EQES	**Quesada**	**4.77**	**303**	P	**Pn**	**21 44 14.5**	**+1.6**
	1.3nm,0.2s,SNR=20						
EQES				S	**Sn**	**21 45 08.2**	**-0.1**
	0.1nm,0.1s						
EMOS	**Mosqueruela**	**5.41**	**340**	P	**Pn**	**21 44 23.6**	**+1.8**
	0.9nm,0.1s,SNR=7.5						
EMOS	**Mosqueruela**	**5.41**	**340**	P	**Pn**	**21 44 23.6**	**+1.8**
	0.9nm,0.1s,SNR=7.5						

*IDC **12** 21:46:52.6±2.1, 38.°37N×142.°72E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/30, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=45.3km s-min=27.2km az=70.0*
*NIED **12** 21:47:00, 38.°30N×142.°00E, h35km, Mw3.5 Best double couple: M0=1.79000×10^14 NP1:φ=223.00000°, δ=40.00000°, λ=145.00000°. NP2:φ=341.00000°, δ=68.00000°, λ=55.00000°.*
*JMA **12** 21:47:00.1±0.1, 38.°26N×142.°04, h43km±1km, M3.7*
ISC 12 21:46:57.4±2.0, 38.°26N±0.°05×142.°08E±0.°09, h15km±11km, n17, σ1°52/27, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.61**	**289**	P	**Pn**	**21 47 12.1**	**+0.6**
JIO				S	**Sn**	**21 47 20.3**	**-0.8**
OFUJ	**Ofunato**	**0.88**	**339**	P	**Pn**	**21 47 15.9**	**+0.6**
OFUJ				*e*S	**Sn**	**21 47 27.2**	**-0.6**
JMK	**Ichinoseki**	**0.96**	**316**	P	**Pn**	**21 47 17.4**	**+1.0**
JMM	**Marumori**	**1.09**	**249**	P	**Pn**	**21 47 18.3**	**+0.1**
JMM				*e*S	**Sb**	**21 47 31.7**	**-0.3**
JOU	**Okura**	**1.12**	**276**	P	**Pg**	**21 47 19.5**	**+0.5**
JFK	**Kawauchi**	**1.31**	**227**	P	**Pn**	**21 47 21.1**	**-0.1**
JFK				S	**Sb**	**21 47 36.5**	**-1.8**
JOM	**Ohasama**	**1.36**	**333**	P	**Pg**	**21 47 23.2**	**-0.3**
JOM				S	**Sg**	**21 47 40.0**	**-1.2**
JYK	**Kaneyama**	**1.50**	**296**	P	**Pb**	**21 47 24.9**	**-0.1**
JFT	**Otama**	**1.57**	**242**	P	**Pb**	**21 47 25.7**	**-0.4**
JFT				*e*S	**Sn**	**21 47 44.4**	**-0.4**
JYS	**Shiratake**	**1.59**	**269**	P	**Pb**	**21 47 26.1**	**-0.4**
JYS				*e*S	**Sb**	**21 47 45.0**	**-1.4**
JRG	**Rokugo**	**1.60**	**316**	P	**Pb**	**21 47 26.7**	**0.0**
JRG				*e*S	**Sb**	**21 47 46.3**	**-0.4**
MJAR	**Matsushiro Arr**	**3.53**	**242**	Pn	**Pn**	**21 47 54.7**	**+3.0**
	2.7nm,0.3s,baz=54,slow=10,SNR=24						
MJAR				Sn	**Sb**	**21 48 44.4**	**+2.2**
	1.4nm,0.3s,baz=294,slow=26,SNR=3.3						
MAT	**Matsushiro**	**3.53**	**242**	P	**Pn**	**21 47 54.8**	**+3.1**
MAT				*e*S	**Sb**	**21 48 39.4**	**-2.9**
USRK	**Ussuriysk Ar.**	**9.64**	**311**	Pn	**Pn**	**21 49 18.5**	**+3.0**
	0.2nm,0.3s,baz=121,slow=13,SNR=2.3						
ZALV	**Zalesovo Beam**	**41.49**	**311**	P	**P**	**21 54 42.7**	**-0.9**
	0.4nm,0.6s,baz=81,slow=8.9,SNR=2.3						
MKAR	**Makanchi Array**	**43.93**	**301**	P	**P**	**21 55 04.4**	**+0.8**
	0.4nm,0.6s,baz=88,slow=10.0,SNR=3.1						
WRA	**Warramunga Arr**	**58.35**	**189**	P	**P**	**21 56 51.0**	**-1.0**
	0.2nm,0.4s,baz=7.8,slow=7.7,SNR=8.3						

*IDC **12** 22:01:59.3±1.2, 37.°69N×144.°59E, h0km, mb3.8/5, mb1 3.9/9, mb1mx3.6/42, mbtmp3.9/9, ML4.0/3, MS2.4/2, Ms1 2.4/2, ms1mx2.3/36, Error ellipse: s-maj=27.0km s-min=21.6km az=113.0*
*NIED **12** 22:02:00, 37.°90N×144.°30E, h8km, Mw3.8 Best double couple: M0=5.21000×10^14 NP1:φ=25.00000°, δ=27.00000°, λ=-63.00000°. NP2:φ=175.00000°, δ=66.00000°, λ=-103.00000°.*
*ISCJB **12** 22:02:01.5±0.7, 37.°84N±0.°03×144.°43E±0.°06, h33km, mb3.8/5, Error ellipse: s-maj=6.8km s-min=4.4km az=18.9*
*JMA **12** 22:02:03.0±0.2, 37.°87N×144.°34E, h47km, M3.8*
ISC 12 22:02:03.7±1.1, 37.°86N±0.°05×144.°44E±0.°09, h35km, n35, σ2°48/48, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.49**	**300**	P	**Pn**	**22 02 41.3**	**-0.5**
OFUJ				*e*S	**Sn**	**22 03 09.8**	**-1.2**
JIO	**Ouri**	**2.51**	**285**	P	**Pn**	**22 02 41.4**	**-0.6**
MIYJ	**Miyakonagasawa**	**2.67**	**311**	P	**Pn**	**22 02 43.5**	**-0.8**
MIYJ				*e*S	**Sn**	**22 03 13.7**	**-1.7**
JMK	**Ichinoseki**	**2.76**	**294**	P	**Pn**	**22 02 45.3**	**-0.1**
JOM	**Ohasama**	**2.94**	**304**	P	**Pn**	**22 02 47.9**	**-0.1**
JFT	**Otama**	**3.27**	**265**	P	**Pn**	**22 02 52.8**	**+0.3**
JFT				*e*S	**Sn**	**22 03 29.1**	**-1.1**
JYK	**Kaneyama**	**3.38**	**290**	P	**Pn**	**22 02 54.2**	**+0.3**
JYK				*e*S	**Sn**	**22 03 32.7**	**-0.1**
JANG	**Nango**	**3.39**	**319**	P	**Pn**	**22 02 54.0**	**-0.1**
JANG				*e*S	**Sn**	**22 03 31.4**	**-1.7**
BSO1	**Boso 1**	**4.25**	**222**	P	**Pn**	**22 03 04.1**	**-1.3**
BSO1				*e*S	**Sn**	**22 03 51.9**	**-1.6**
JOT	**Ohata**	**4.39**	**324**	P	**Pn**	**22 03 08.3**	**+0.5**
JOT				*e*S	**Sn**	**22 03 55.0**	**-2.6**
JRY	**Ryogami san**	**4.80**	**249**	P	**Pn**	**22 03 12.7**	**-0.9**
JRY				*e*S	**Sn**	**22 04 04.1**	**-3.9**
JKB	**Kayabe**	**4.80**	**328**	P	**Pn**	**22 03 14.8**	**+1.3**
JKB				*e*S	**Sn**	**22 04 04.7**	**-3.2**
JCH	**Churui**	**4.82**	**350**	P	**Pn**	**22 03 13.0**	**-0.8**
JCH				*e*S	**Sn**	**22 04 04.7**	**-3.7**
JOD2	**Odawara 2**	**5.03**	**241**	P	**Pn**	**22 03 15.7**	**-0.9**
JOD2				*e*S	**Sn**	**22 04 09.2**	**-4.3**
MJAR	**Matsushiro Arr**	**5.14**	**257**	Pn	**Pn**	**22 03 19.0**	**+0.8**
	4.9nm,0.3s,baz=74,slow=13,SNR=48						
MJAR				Sn	**Sn**	**22 04 18.2**	**+1.8**
	0.9nm,0.3s,baz=55,slow=23,SNR=5.4						
MJAR				LR	LR	22 05 52.1	
	comp=Z,42nm,19.9s,baz=95,slow=45						
MAT	**Matsushiro**	**5.15**	**257**	P	**Pn**	**22 03 19.3**	**+1.0**
MAT				*e*S	**Sn**	**22 04 16.0**	**-0.4**
NEM2	**Nemuro 2**	**5.59**	**10**	P	**Pn**	**22 03 21.7**	**-2.6**
NEM2				*e*S	**Sn**	**22 04 20.7**	**-6.6**
JOSM	**Okushiri--Mats**	**5.69**	**319**	P	**Pn**	**22 03 26.2**	**+0.6**
JHJ2	**Mitsune**	**6.05**	**220**	P	**Pn**	**22 03 28.6**	**-2.1**
JHJ2				*e*S	**Sn**	**22 04 32.2**	**-6.5**
JHJ	**Hachijo jima 2**	**6.06**	**220**	Pn	**Pn**	**22 03 28.7**	**-2.1**
	6.9nm,0.3s,baz=55,slow=16,SNR=10.0						
JHJ				Sn	**Sn**	**22 04 32.6**	**-6.4**
	32nm,0.3s,baz=309,slow=23,SNR=8.5						
JTKR	**Abashiri--Toko**	**6.12**	**356**	P	**Pn**	**22 03 30.8**	**-0.8**
JTKR				*e*S	**Sn**	**22 04 35.2**	**-5.1**
JHR	**Hokuryu**	**6.23**	**342**	P	**Pn**	**22 03 34.9**	**+1.8**
JHR				*e*S	**Sn**	**22 04 42.5**	**-0.5**
ASAJ	**Asahikawa**	**6.41**	**348**	Pn	**Pn**	**22 03 36.1**	**+0.5**
	3.3nm,0.3s,baz=190,slow=11,SNR=6.4						
ASAJ				Sn	**Sn**	**22 04 48.2**	**+0.8**
	0.6nm,0.3s,baz=24,slow=20,SNR=3.3						
KSRS	**Korea Array**	**13.10**	**273**	Pn	**Pn**	**22 05 09.1**	**+2.0**
	0.0nm,0.3s,baz=89,slow=12,SNR=4.3						
KSRS				LR	LR	22 10 30.7	
	comp=Z,18nm,19.5s,baz=65,slow=39						
H11N2	**WAKE ISLAND Hy 26.60**	**127**		T	T	22 35 23.7	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy 26.61**	**127**		T	T	22 35 17.0	
	baz=317,slow=75						
H11N3	**WAKE ISLAND Hy 26.61**	**127**		T	T	22 35 15.0	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy 27.38**	**129**		T	T	22 36 20.0	
	baz=319						
H11S3	**WAKE ISLAND Hy 27.39**	**129**		T	T	22 36 29.2	
	baz=319						
H11S2	**WAKE ISLAND Hy 27.40**	**129**		T	T	22 36 22.5	
	baz=319						
ZALV	**Zalesovo Beam**	**43.15**	**312**	P	**P**	**22 10 02.3**	**+1.7**
	0.2nm,0.3s,baz=80,slow=7.3,SNR=2.5						
ZALV				PcP	**PcP**	**22 11 51.4**	**+1.7**
	0.9nm,0.5s,baz=80,slow=4.0,SNR=3.9						
MKAR	**Makanchi Array**	**45.73**	**302**	P	P	22 10 24.8	+3.5
	0.8nm,0.7s,baz=86,slow=8.6,SNR=5.3						
KURBB	**Kurchatov Arra**	**47.40**	**308**	P	**P**	**22 10 36.4**	**+2.0**
	1.1nm,0.6s,baz=82,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**47.51**	**33**	P	**P**	**22 10 36.4**	**+1.4**
	0.9nm,0.9s,baz=264,slow=6.4,SNR=6.6						
WRA	**Warramunga Arr**	**58.27**	**191**	P	**P**	**22 11 54.5**	**-0.3**
	0.9nm,0.5s,baz=12,slow=7.2,SNR=11						

WEL 12 22:10:49.2±0.3, 37.°29S×179.°81E, h12km, ML3.5/10, 3C, Error ellipse: s-maj=3.1km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.23**	**257**	P*	Pn	22 11 11.2	-0.9
MXZ				S*	Sb	22 11 27.4	-0.7
MXZ				AML	AML	22 11 31.0	
WMGZ	**Waiomatatini S**	**1.23**	**244**	P*	Pn	22 11 11.4	-0.7
WMGZ				S*	Sb	22 11 28.1	-0.1
WMGZ				AML	AML	22 11 30.2	
PUZ	**Puketiti**	**1.46**	**237**	PN	Pn	22 11 14.3	-1.1
PUZ				AML	AML	22 11 34.9	
PUZ				AML	AML	22 11 36.7	
PKGZ	**Pakihiroa**	**1.50**	**246**	PN	Pn	22 11 14.8	-1.2
PKGZ				AML	AML	22 11 35.9	
PKGZ				AML	AML	22 11 36.6	
HAZ	**Te Kaha**	**1.68**	**253**	⇑PN	Pn	22 11 17.9	-0.4
HAZ				AML	AML	22 11 41.6	
HAZ				AML	AML	22 11 42.3	
TWGZ	**Tauwhareparae**	**1.70**	**238**	⇑PN	Pn	22 11 18.0	-0.7
TWGZ				AML	AML	22 11 42.4	
TWGZ				AML	AML	22 11 45.6	
CNGZ	**Carnagh Statio**	**1.74**	**226**	PN	Pn	22 11 18.5	-0.7
RUGZ	**Raukumara Rang**	**1.82**	**248**	PN	Pn	22 11 19.4	-1.0
TKGZ	**Te Karaka**	**1.93**	**233**	PN	Pn	22 11 20.8	-1.0
TKGZ				AML	AML	22 11 49.5	
TKGZ				AML	AML	22 11 50.8	
MWZ	**Matawai**	**2.09**	**239**	PN	Pn	22 11 22.8	-1.3
RIGZ	**Rimuhau**	**2.15**	**228**	PN	Pn	22 11 23.6	-1.3
RIGZ				AML	AML	22 11 51.6	
PRGZ	**Paritu Road**	**2.23**	**222**	PN	Pn	22 11 24.5	-1.5
RAGZ	**Rawiri**	**2.25**	**237**	PN	Pn	22 11 25.2	-1.1
RAGZ				AML	AML	22 11 54.7	
RAGZ				AML	AML	22 11 59.6	
URZ	**Urewera**	**2.35**	**245**	PN	Pn	22 11 27.0	-0.5
MHGZ	**Mahia Peninsul**	**2.39**	**218**	PN	Pn	22 11 26.3	-1.8
KNZ	**Kokohu**	**2.42**	**224**	⇑PN	Pn	22 11 26.6	-1.8
SNGZ	**Shannon Statio**	**2.46**	**232**	PN	Pn	22 11 27.7	-1.3
SNGZ				AML	AML	22 11 58.5	
SNGZ				AML	AML	22 11 59.7	
RTZ	**Ruatahuna**	**2.60**	**238**	PN	Pn	22 11 30.3	-0.8
TARZ	**Mount Tarawera**	**2.78**	**249**	PN	Pn	22 11 33.1	-0.5
ARHZ	**Aropaoanui**	**2.97**	**227**	PN	Pn	22 11 34.5	-1.5
MRHZ	**Matea Rd**	**3.09**	**239**	PN	Pn	22 11 36.3	-1.6
BKZ	**Black Stump Fm**	**3.22**	**233**	PN	Pn	22 11 37.4	-2.2
MCHZ	**McNeill Hill**	**3.26**	**228**	PN	Pn	22 11 38.5	-1.6
KAHZ	**Kahuranaki**	**3.40**	**222**	PN	Pn	22 11 39.5	-2.6
KWHZ	**Kaweka Forest**	**3.41**	**230**	PN	Pn	22 11 40.4	-1.9
KRHZ	**Kereru**	**3.58**	**228**	PN	Pn	22 11 42.3	-2.3
PXZ	**Pawanui**	**3.58**	**219**	PN	Pn	22 11 41.1	-3.4
BHHZ	**Black Hill Sta**	**3.67**	**232**	PN	Pn	22 11 43.8	-2.1
MKAZ	**Moumakai**	**3.71**	**271**	PN	Pn	22 11 45.8	-0.6
PNHZ	**Pukenui**	**3.86**	**226**	PN	Pn	22 11 45.6	-2.7
WNVZ	**Wahianoa**	**3.89**	**237**	PN	Pn	22 11 47.7	-1.2
MRZ	**Mangatainoka R**	**4.71**	**223**	PN	Pn	22 11 56.6	-3.5
HOWZ	**Holdsworth Sta**	**4.92**	**221**	PN	Pn	22 11 58.7	-4.2

*NIED **12** 22:16:00, 34.°80N×142.°80E, h5km, Mw4.2 Best double couple: M0=2.32000×10^15 NP1:φ=25.00000°, δ=23.00000°, λ=-99.00000°. NP2:φ=215.00000°, δ=67.00000°, λ=-86.00000°.*
*IDC **12** 22:16:04.3±0.6, 34.°71N×142.°75E, h0km, mb4.2/17, mb1 4.2/22, mb1mx4.1/47, mbtmp4.1/22, ML3.6/5, MS3.4/7, Ms1 3.4/7, ms1mx3.1/39, Error ellipse: s-maj=16.9km s-min=13.5km az=124.0*
*ISCJB **12** 22:16:05.5±1.3, 34.°74N±0.°04×142.°70E±0.°04, h19km±9km, mb4.1/21, MS3.6/5, Error ellipse: s-maj=7.0km s-min=5.2km az=23.0*
*NEIC **12** 22:16:05.8±0.4, 34.°71N×142.°74E, h10km, mb4.2/4, Error ellipse: s-maj=8.1km s-min=7.5km az=97.0*
*JMA **12** 22:16:07.1±0.3, 34.°76N×142.°75E, h50km, M4.1*
ISC 12 22:16:06.9±4.6, 34.°72N±0.°05×142.°75E±0.°06, h17km±29km, n59, σ1°82/69, mb4.3/21, MS3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.46**	**268**	P	**Pn**	**22 16 31.4**	**-0.6**
BSO1				S	**Sn**	**22 16 49.4**	**-1.0**
CHOJ	**Chosi**	**1.83**	**303**	P	**Pn**	**22 16 36.8**	**-0.7**
CHOJ				*e*S	**Sn**	**22 16 58.9**	**-1.4**
BSO3	**Boso 3**	**1.84**	**273**	P	**Pn**	**22 16 37.5**	**0.0**
BSO4	**Boso 4**	**2.00**	**278**	P	**Pn**	**22 16 39.9**	**+0.1**
BSO4				S	**Sn**	**22 17 04.9**	**+0.5**
KTR	**Katsuura**	**2.04**	**283**	P	**Pn**	**22 16 40.6**	**+0.1**
KTR				*e*S	**Sn**	**22 17 04.7**	**-0.9**
JHJ2	**Mitsune**	**2.92**	**237**	P	**Pn**	**22 16 51.7**	**-0.8**
JHJ	**Hachijo jima 2**	**2.94**	**238**	Pn	**Pn**	**22 16 52.0**	**-0.9**
	52nm,0.3s,baz=78,slow=18,SNR=79						
JHJ				Sn	**Sn**	**22 17 24.1**	**-3.6**
	102nm,0.3s,baz=39,slow=22,SNR=11						
JOD2	**Odawara 2**	**3.05**	**281**	P	**Pn**	**22 16 53.2**	**-1.2**
JOD2				*e*S	**Sn**	**22 17 27.1**	**-3.4**
JAG	**Ashikaga**	**3.18**	**303**	P	**Pn**	**22 16 55.4**	**-0.7**
JAG				S	**Sn**	**22 17 31.0**	**-2.6**
JRY	**Ryogami san**	**3.40**	**293**	P	**Pn**	**22 16 59.2**	**0.0**
JRY				*e*S	**Sn**	**22 17 38.8**	**-0.3**
JFT	**Otama**	**3.41**	**326**	P	**Pn**	**22 16 58.3**	**-0.9**
JFT				S	**Sn**	**22 17 35.0**	**-4.2**
JYN	**Shimob**	**3.53**	**284**	P	**Pn**	**22 17 00.4**	**-0.6**
JYN				*e*S	**Sn**	**22 17 40.0**	**-2.4**
MJAR	**Matsushiro Arr**	**4.12**	**297**	Pn	**Pn**	**22 17 08.1**	**-1.0**
	2.6nm,0.3s,baz=91,slow=12,SNR=31						
MJAR				Sn	**Sn**	**22 17 55.5**	**-1.3**
	4.6nm,0.3s,baz=184,slow=17,SNR=4.9						
MAJO	**Matsushiro**	**4.12**	**297**	*e*Pn	**Pn**	**22 17 09.0**	**-0.1**
MAJO				*e*S	**Sn**	**22 17 58.0**	**+1.2**
MAT	**Matsushiro**	**4.12**	**297**	P	**Pn**	**22 17 08.9**	**-0.2**
MAT				*e*S	**Sn**	**22 17 54.5**	**-2.4**
MAT	**Matsushiro**	**4.12**	**297**	P	**Pn**	**22 17 08.7**	**-0.4**
MAT				*e*S	**Sn**	**22 17 55.3**	**-1.6**
JNS	**Sasagawa**	**4.15**	**319**	P	**Pn**	**22 17 09.1**	**-0.3**
JNS				S	**Sn**	**22 17 54.8**	**-2.8**
TK02	**Tokai 2**	**4.20**	**261**	S	**Sn**	**22 17 55.9**	**-2.6**
JMK	**Ichinoseki**	**4.39**	**344**	P	**Pn**	**22 17 10.2**	**-2.6**
JMK				S	**Sn**	**22 17 58.7**	**-4.9**
JYK	**Kaneyama**	**4.60**	**336**	P	**Pn**	**22 17 14.7**	**-1.0**
JYK				*e*S	**Sn**	**22 18 04.4**	**-4.4**
CBIJ	**Chichi jima**	**7.62**	**184**	*e*Pn	**Pn**	**22 17 55.8**	**-1.3**
CBIJ				*e*S	**Sn**	**22 19 16.6**	**-6.4**
ASAJ	**Asahikawa**	**9.38**	**359**	Pn	**Pn**	**22 18 18.9**	**-2.3**
	2.8nm,0.3s,baz=223,slow=15,SNR=7.5						
ASAJ				Sn	Sn	22 19 58.4	-7.9
	0.9nm,0.3s,baz=94,slow=19,SNR=3.5						
JNU	**Nakatsue**	**9.99**	**264**	Pn	**Pn**	**22 18 27.7**	**-2.0**
	0.1nm,0.3s,baz=63,slow=14,SNR=2.9						
KSRS	**Korea Array**	**12.30**	**287**	Pn	**Pn**	**22 19 00.2**	**-1.0**
	0.3nm,0.3s,baz=85,slow=15,SNR=2.6						
KSRS				LR	LR	22 24 32.1	
	comp=Z,52nm,19.4s,baz=90,slow=41						
KSAR	**Wonju Array Be**	**12.33**	**287**	Pn	**Pn**	**22 19 00.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**12.59**	**322**	LR	LR	22 23 43.2	
	comp=Z,55nm,21.4s,baz=153,slow=36						
H11N2	**WAKE ISLAND Hy 26.06**	**119**		T	T	22 48 55.7	
	baz=310,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 26.07**	**119**		T	T	22 48 54.3	
	baz=310,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 26.08**	**119**		T	T	22 48 54.6	
	baz=310,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 26.72**	**121**		T	T	22 49 40.1	
	baz=312,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy 26.72**	**121**		T	T	22 49 49.6	
	baz=312,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy 26.73**	**121**		T	T	22 49 45.8	
	baz=312,slow=75,SNR=20						
SEY	**Seymchan**	**28.87**	**9**	P	**P**	**22 22 04.6**	**+0.3**
	3.1nm,0.8s,baz=168,slow=6.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**42.04**	**259**	P	**P**	**22 23 57.6**	**-0.1**
	0.9nm,0.3s,baz=54,slow=9.1,SNR=4.0						
CMAR				LR	LR	22 43 02.1	
	comp=Z,74nm,18.6s,baz=180,slow=38						
ZALV	**Zalesovo Beam**	**44.28**	**314**	P	**P**	**22 24 16.3**	**+0.9**
	3.0nm,0.7s,baz=96,slow=7.3,SNR=13						
ZALV				PcP	**PP**	**22 25 58.6**	**+0.1**
	1.3nm,0.7s,baz=90,slow=4.3,SNR=3.5						
KSM	**Kuching**	**44.81**	**230**	*e*P	**P**	**22 24 21.2**	**+1.1**
	3.0nm,0.6s						
MKAR	**Makanchi Array**	**46.29**	**304**	P	**P**	**22 24 32.1**	**+0.6**
	1.5nm,0.8s,baz=82,slow=9.2,SNR=7.7						
KDAK	**Kodiak Island**	**48.12**	**41**	P	**P**	**22 24 45.5**	**0.0**
	3.9nm,0.5s,baz=268,slow=9.2,SNR=5.4						
KURK	**Kurchatov**	**48.23**	**310**	*e*P	**P**	**22 24 48.9**	**+2.4**
ILAR	**Eielson Array**	**50.88**	**31**	P	**P**	**22 25 06.8**	**+0.3**
	3.1nm,1.1s,baz=274,slow=6.2,SNR=10						
AAK	**Ala-Archa**	**52.56**	**300**	*e*P	**P**	**22 25 20.5**	**+0.8**
	2.1nm,0.8s						
WRAB	**Tennant Creek**	**54.94**	**190**	*e*P	**P**	**22 25 36.6**	**-0.3**
	8.3nm,1.0s						
WRA	**Warramunga Arr**	**54.95**	**190**	P	**P**	**22 25 37.0**	**+0.1**
	8.1nm,1.0s,baz=8.9,slow=7.6,SNR=38						
KKAR	**Karatay Array**	**55.24**	**302**	*e*P	**P**	**22 25 40.0**	**+0.9**
INK	**Inuvik**	**55.96**	**26**	P	**P**	**22 25 43.5**	**-0.1**
	2.7nm,0.8s,baz=299,slow=4.9,SNR=6.4						
ASAR	**Alice Springs**	**58.67**	**190**	P	**P**	**22 26 03.2**	**-0.2**
	2.5nm,0.9s,baz=9.1,slow=5.4,SNR=23						
DLBC	**Dease Lake**	**59.78**	**37**	P	**P**	**22 26 11.3**	**+0.4**
	2.2nm,0.9s,baz=323,slow=5.1,SNR=3.1						
ABKAR	**Akbulak array**	**60.27**	**312**	*e*P	**P**	**22 26 14.6**	**+0.4**
	1.2nm,0.7s						
DZM	**Mont Dzumac**	**60.80**	**155**	LR	LR	22 50 34.7	
	comp=Z,53nm,19.8s,baz=198,slow=34						
GEYT	**Alibeck**	**65.92**	**300**	P	**P**	**22 26 52.8**	**+0.8**
	1.2nm,0.5s,baz=53,slow=5.8,SNR=4.6						
STKA	**Stephens Creek**	**66.26**	**181**	P	**P**	**22 26 54.6**	**+0.7**
	2.8nm,0.8s,baz=333,slow=7.3,SNR=5.5						
FINES	**FINESS Array B**	**71.36**	**333**	P	**P**	**22 27 25.7**	**+0.2**
	2.1nm,0.8s,baz=39,slow=7.1,SNR=5.9						
NOA	**NORSAR Array B**	**76.73**	**338**	P	**P**	**22 27 57.5**	**+0.6**
	1.5nm,0.8s,baz=40,slow=5.7,SNR=3.2						
NOA				LR	LR	23 04 33.6	
	comp=Z,21nm,22.0s,baz=35,slow=38						
AKASG	**Malin Array Be**	**76.79**	**323**	P	**P**	**22 27 57.8**	**+0.5**
	0.2nm,0.3s,baz=42,slow=6.0,SNR=5.2						
AKASG				LR	LR	23 05 18.8	
	comp=Z,26nm,18.3s,baz=210,slow=38						
PDAR	**Pinedale Array**	**78.50**	**46**	P	**P**	**22 28 08.2**	**+0.7**
	0.2nm,0.4s,baz=310,slow=4.5,SNR=3.1						
PPT	**Papeete**	**82.62**	**117**	LR	LR	22 55 34.0	
	comp=Z,42nm,21.2s,baz=274,slow=29						
TXAR	**Lajitas Array**	**90.65**	**53**	P	**P**	**22 29 08.3**	**-0.6**
	0.2nm,0.6s,baz=316,slow=3.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**119.73**	**315**	PKP	**PKPdf**	**22 34 55.3**	**-1.3**
	0.2nm,0.6s,baz=20,slow=3.5,SNR=2.6						
LPAZ	**La Paz**	**146.82**	**64**	PKPbc	**PKPdf**	**22 35 49.2**	**+1.6**
	2.1nm,0.6s,baz=298,slow=1.6,SNR=8.0						

*WAR **12** 22:27:08.3, 51.°49N×16.°09E, h1km, Mw2.2*
*CSEM **12** 22:27:08.0±0.5, 51.°46N×16.°10E, h1km, ML2.9/9, Error ellipse: s-maj=7.2km s-min=3.7km az=5.0*
PRU 12 22:27:08.6, 51.°46N×16.°09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	Pg	22 27 20.7	0.0
KSP				*e*Sg	Sg	22 27 29.5	+0.7
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	Pg	22 27 20.7	0.0
KSP				*e*Sg	Sg	22 27 29.5	+0.7
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	Pg	22 27 20.7	0.0
KSP				*e*Sg	Sg	22 27 29.5	+0.7
UPC	**Upice**	**0.95**	**183**	*e*PG	Pg	22 27 27.4	+0.5
UPC				*e*SG	Sg	22 27 39.6	+0.4
	comp=Z,19nm,0.2s

0.2nm,0.3s,baz=7.1,slow=3.2,SNR=2.8

ISCJB 12 22:51:12.7±0.5,20°.77S±0°.04×67°.45W±0°.05,h202km±7km, mb2.9/2, Error ellipse: s-maj=8.8km s-min=5.3km az=136.1
GUC 12 22:51:13.7±0.6,20°.75S×67°.84W,h223km±6km,ML3.9
SJA 12 22:51:15.1±0.8,20°.89S×67°.07W,h217km±15km,ML3.3, MW3.6
IDC 12 22:51:23.4±3.1,19°.87S×67°.22W,h264km±20km,mb2.7/2, mb1 3.1/4,mb1mx2.9/28,mbtmp3.5/4, Error ellipse: s-maj=66.4km s-min=21.9km az=47.0
ISC 12 22:51:12.9±0.9,20.77S±0°.05×67.40W±0°.05,h198km±9km, n21,σ1°28/34,6C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.76**	**290**	⇑*i*P	**Pn**	**22 51 50.2**	**+0.9**
PB08				*i* S	**Sn**	**22 52 17.9**	**+0.5**
PB01	**IPOC Station P**	**1.97**	**262**	⇑*i*P	**Pn**	**22 51 51.2**	**+0.2**
PB01				*i* S	**Sn**	**22 52 20.1**	**-0.6**
PB01				IAML		22 52 22.8	
	comp=E,568nm,0.1s						
PB09	**IPOC Station P**	**2.00**	**239**	⇓*i*P	**Pn**	**22 51 52.6**	**+1.2**
PB09				*i* S	**Sn**	**22 52 22.1**	**+0.7**
PB09				IAML		22 52 24.6	
	comp=E,494nm,0.3s						
YJA	**Yavi**	**2.25**	**129**	*e*P	**Pn**	**22 51 55.5**	**+1.2**
YJA				*e*S	**Sn**	**22 52 26.2**	**-0.4**
YJA				IAML		22 52 28.3	
	comp=Z,86nm,0.2s						
PB11	**IPOC Station P**	**2.34**	**295**	*i* P	**Pn**	**22 51 55.3**	**+0.2**
PB11				*i* S	**Sn**	**22 52 27.1**	**-0.8**
HMBC	**Humberstone**	**2.38**	**281**	⇑*i*P	**Pn**	**22 51 55.2**	**-0.3**
HMBC				*i* S	**Sn**	**22 52 26.9**	**-1.7**
HMBC				IAML		22 52 29.5	
	comp=N,688nm,0.5s						
PB02	**IPOC Station P**	**2.40**	**256**	*e*P	**Pn**	**22 51 56.0**	**+0.4**
PB02				*i* S	**Sn**	**22 52 27.5**	**-1.3**
PB02				IAML		22 52 30.0	
	comp=E,717nm,0.2s						
PB07	**IPOC Station P**	**2.51**	**247**	*e*P	**Pn**	**22 51 57.4**	**+0.5**
PB07				*e*S	**Sn**	**22 52 29.8**	**-1.4**
PB07				IAML		22 52 30.5	
	comp=N,307nm,0.3s						
MNMC	**Minye Minye**	**2.63**	**308**	⇑*i*P	**Pn**	**22 51 59.0**	**+0.6**
MNMC				*i* S	**Sn**	**22 52 33.1**	**-0.8**
MNMC				IAML		22 52 38.7	
	comp=N,336nm,0.2s						
PB06	**IPOC Station P**	**2.79**	**226**	⇑*i*P	**Pn**	**22 52 00.8**	**+0.7**
PB06				*i* S	**Sn**	**22 52 36.5**	**-0.6**
PB06				IAML		22 52 37.4	
	comp=E,271nm,0.1s						
PSGC	**Pisagua**	**2.81**	**294**	⇑*i*P	**Pn**	**22 51 59.8**	**-0.5**
PSGC				*i* S	**Sn**	**22 52 35.2**	**-2.1**
PSGC				IAML		22 52 36.4	
	comp=E,239nm,0.4s						
PB04	**IPOC Station P**	**3.00**	**238**	*e*P	**Pn**	**22 52 03.1**	**+0.6**
HJA	**Humahuaca**	**3.05**	**143**	*e*P	**Pn**	**22 52 05.0**	**+1.7**
HJA				*e*S	**Sn**	**22 52 40.9**	**-2.0**
AZAP	**Zapla**	**4.06**	**148**	*e*P	**Pn**	**22 52 15.9**	**+0.4**
AZAP				IAML		22 53 06.5	
	comp=Z,40nm,0.4s						
ASTB	**Santa Barbara**	**4.18**	**140**	*e*P	**Pn**	**22 52 17.2**	**+0.2**
ASTB				*e*S	**Sn**	**22 53 03.2**	**-4.2**
LPAZ	**La Paz**	**4.51**	**351**	P	**Pn**	**22 52 22.8**	**+1.1**
	comp=Z,5.3nm,0.3s,baz=176,slow=7.7,SNR=100						
LPAZ				S	**Sn**	**22 53 14.6**	**-1.0**
	baz=288,slow=20,SNR=3.0						
FSA	**Cafayete**	**5.48**	**167**	*e*P	**Pn**	**22 52 35.0**	**+1.5**
CPUP	**Villa Florida**	**10.77**	**123**	P	P	22 53 57.2	+8.3
	comp=Z,0.2nm,0.3s,baz=309,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**60.86**	**324**	P	**P**	**23 01 04.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=7.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**75.78**	**70**	P	**P**	**23 02 38.2**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=254,slow=5.4,SNR=4.5						
MKAR	**Makanchi Array**	**144.21**	**36**	PKP	**PKPdf**	**23 10 25.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=298,slow=2.7,SNR=3.0						

ISCJB 12 22:53:09.6±0.6,56°.18S±0°.09×25°.7W±0°.2,h10km,mb4.3/9, MS3.7/2, Error ellipse: s-maj=20.5km s-min=9.5km az=151.1
IDC 12 22:53:09.7±0.8,56°.19S×25°.60W,h0km,mb4.3/7, mb1 4.3/8,mb1mx4.0/27,mbtmp4.2/8,ML3.8/1,MS3.6/3, Ms1 3.6/3,ms1mx3.3/27, Error ellipse: s-maj=27.9km s-min=20.2km az=88.0
NEIC 12 22:53:14.9±0.5,56°.24S×25°.66W,h35km,mb4.3/3, Error ellipse: s-maj=15.9km s-min=10.5km az=65.0
ISC 12 22:53:11.1±0.8,56°.2S±0°.1×25°.6W±0°.2,h10km,n26, σ0°52/17,mb4.3/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.34**	**159**	P	**P**	**22 57 03.6**	**+0.5**
VNA3	**Neumayer Olymp**	**16.57**	**162**	P	**Pn**	**22 57 03.9**	**+0.6**
VNA2	**Neumayer--Watz**	**16.74**	**159**	P	**Pn**	**22 57 05.1**	**-0.2**
	baz=316,slow=10						
SNAA	**Sanae**	**18.26**	**157**	P	**Pn**	**22 57 24.1**	**-0.2**
SNAA	**Sanae**	**18.26**	**157**	P	**Pn**	**22 57 24.1**	**-0.2**
	0.3nm,0.3s,baz=315,slow=12,SNR=15						
SNAA				LR	LR	23 03 20.3	
	comp=Z,88nm,18.9s,baz=350,slow=33						
SNAA	**Sanae**	**18.26**	**157**	*e*Pn	**Pn**	**22 57 24.0**	**-0.3**
	247nm,1.0s						
PMSA	**Palmer Station**	**20.47**	**230**	P	**P**	**22 57 48.4**	**-0.1**
	6.1nm,0.7s,baz=83,slow=8.5,SNR=3.0						
USHA	**Ushuaia**	**24.00**	**255**	LR	LR	23 06 39.5	
	comp=Z,457nm,18.6s,baz=84,slow=34						
TRQA	**Tornquist**	**30.19**	**291**	Pn	**P**	**22 59 21.1**	**-0.2**
	2.4nm,0.8s						
CPUP	**Villa Florida**	**37.57**	**309**	P	**P**	**23 00 25.4**	**-0.1**
	2.9nm,0.7s,baz=144,slow=6.9,SNR=7.6						
BDFB	**Brasilia**	**43.94**	**328**	LR	LR	23 19 21.1	
	comp=Z,44nm,19.1s,baz=249,slow=36						
LVC	**Limon Verde**	**46.13**	**299**	*e*P	**P**	**23 01 36.4**	**+0.4**
	7.7nm,0.6s						
VNDA	**Vanda**	**46.47**	**182**	P	**P**	**23 01 37.0**	**-0.4**
	1.7nm,0.7s,baz=186,slow=6.2,SNR=11						
H10S2	**ASCENSION HYDR**	**47.90**	**15**	T	T	23 54 31.0	
	baz=188						
H10S3	**ASCENSION HYDR**	**47.91**	**15**	T	T	23 54 33.4	
	baz=188						
H10S1	**ASCENSION HYDR**	**47.92**	**15**	T	T	23 54 32.3	
	baz=188						
H10N1	**ASCENSION HYDR**	**49.02**	**15**	T	T	23 55 58.9	
	baz=188						
H10N3	**ASCENSION HYDR**	**49.02**	**15**	T	T	23 55 55.1	
	baz=188						
H10N2	**ASCENSION HYDR**	**49.04**	**15**	T	T	23 55 57.0	
	baz=188						
LPAZ	**La Paz**	**51.18**	**304**	P	**P**	**23 02 15.7**	**+0.6**
	5.4nm,0.6s,baz=141,slow=6.3,SNR=23						
SAML	**Samuel**	**55.53**	**313**	*e*P	**P**	**23 02 46.3**	**0.0**
	3.2nm,1.1s						
DBIC	**Dimbokro**	**64.95**	**23**	P	**P**	**23 03 49.7**	**-1.0**
	5.4nm,1.1s,baz=208,slow=8.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**72.76**	**28**	P	**P**	**23 04 40.4**	**+1.0**
	1.8nm,0.6s,baz=199,slow=6.1,SNR=22						
ASAR	**Alice Springs**	**98.58**	**161**	P	Pdif	23 06 51.4	+1.2
	0.3nm,0.7s,baz=189,slow=4.7,SNR=3.8						
ILAR	**Eielson Array**	**150.87**	**311**	PKPbc	**PKPbc**	**23 13 02.3**	**0.0**
	2.6nm,0.9s,baz=123,slow=3.3,SNR=20						
BPAW	**Bear Paw Mtn.**	**152.50**	**309**	*e*PKPbc	**PKPbc**	**23 13 06.2**	**+0.1**

WEL 12 23:11:14.5±0.7,36°.26S×177°.20E,h208km±11km,ML3.6/6, Error ellipse: s-maj=12.2km s-min=11.5km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.57**	**163**	PN	PN	23 11 49.6	+0.2
HAZ				SN	S	23 12 16.6	+0.2
HAZ				AML	AML	23 12 24.2	
RUGZ	**Raukumara Rang**	**1.75**	**168**	PN	Pn	23 11 50.7	-0.5
PKGZ	**Pakihiroa**	**1.77**	**157**	PN	Pn	23 11 51.8	+0.4
PKGZ				AML	AML	23 12 22.0	
PKGZ				AML	AML	23 12 23.0	
WMGZ	**Waiomatatini S**	**1.84**	**148**	PN	Pn	23 11 51.7	-0.2
WMGZ				SN	S	23 12 20.9	+0.1
WMGZ				AML	AML	23 12 25.1	
PUZ	**Puketiti**	**2.00**	**155**	PN	Pn	23 11 53.2	-0.3
PUZ				SN	S	23 12 22.7	-1.0
URZ	**Urewera**	**2.00**	**182**	PN	Pn	23 11 54.0	+0.5
TWGZ	**Tauwhareparae**	**2.01**	**162**	PN	Pn	23 11 54.2	+0.5
TWGZ				AML	AML	23 12 29.0	
TWGZ				AML	AML	23 12 29.4	
MWZ	**Matawai**	**2.09**	**173**	PN	Pn	23 11 55.0	+0.6
MWZ				SN	S	23 12 25.9	+0.5
TKGZ	**Te Karaka**	**2.24**	**167**	PN	Pn	23 11 55.9	-0.1
TKGZ				AML	AML	23 12 29.1	
TKGZ				AML	AML	23 12 30.8	
CNGZ	**Carnagh Statio**	**2.36**	**161**	PN	Pn	23 11 57.4	+0.1
RIGZ	**Rimuhau**	**2.48**	**170**	PN	Pn	23 11 58.3	-0.4
RIGZ				AML	AML	23 12 34.5	
RIGZ				AML	AML	23 12 35.6	
SNGZ	**Shannon Statio**	**2.52**	**178**	PN	Pn	23 11 58.6	-0.5
KNZ	**Kokohu**	**2.79**	**172**	PN	Pn	23 12 01.1	-0.9
BKZ	**Black Stump Fm**	**2.96**	**191**	PN	Pn	23 12 02.1	-1.9
MCHZ	**McNeill Hill**	**3.21**	**187**	PN	Pn	23 12 06.5	-0.4
BHHZ	**Black Hill Sta**	**3.35**	**195**	PN	Pn	23 12 07.6	-1.1
BFZ	**Birch Farm**	**4.48**	**189**	PN	Pn	23 12 19.8	-2.7
MRZ	**Mangatainoka R**	**4.58**	**196**	PN	Pn	23 12 20.8	-2.9
DUWZ	**D'Urville Isla**	**5.21**	**209**	PN	Pn	23 12 30.7	-1.1

MEX 12 23:12:34.0±0.4,17°.15N×94°.92W,h138km±4km,MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.07**	**154**	*i* P	Pn	23 12 51.5	-1.2
CMIG				*e*S	Sn	23 13 04.4	-2.3
VHO	**Vista Hermosa**	**1.74**	**268**	*e*P	Pn	23 13 04.3	-1.3
VHO				*e*S	Sn	23 13 28.2	-1.5
TGIG		**1.76**	**102**	*e*P	Pn	23 13 04.2	-1.4
TGIG				*i* S	Sn	23 13 27.1	-2.6
HUIG	**Huatulco**	**1.79**	**220**	*e*P	Pn	23 13 04.4	-1.6
HUIG				*e*S	Sn	23 13 28.5	-1.9
PCIG		**2.17**	**131**	*e*P	Pn	23 13 09.6	-1.0
PCIG				*e*S	Sn	23 13 36.5	-2.0
PNIG	**Pinotepa**	**3.17**	**257**	*e*P	Pn	23 13 21.7	-1.4
PNIG				*i* S	Sn	23 13 59.3	-1.8

NIED 12 23:32:00,42°.70N×147°.00E,h29km,Mw3.6 Best double couple: M0 3.13000×10^14 NP1:φ0=228.00000°,δ40.00000°, λ100.00000°. NP2:φ0=35.00000°,δ51.00000°,λ82.00000°.
JMA 12 23:32:22.1±0.3,42°.74N×147°.02E,h39km,M3.5
SKHL 12 23:32:25.5±0.1,42°.72N×146°.79E,h33km±1km,mb4.7/2
ISC 12 23:32:24.5±3.1,42°.79N±0°.09×146°.75E±0°.08,h16km±16km, n13,σ0°83/19,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.94**	**308**	P	**Pb**	**23 32 41.9**	**-0.4**
NEM2				*e*S	**Sg**	**23 32 55.4**	**+0.5**
SHO	**Shikotan**	**1.08**	**3**	*i* P	**Pb**	**23 32 44.1**	**-0.7**
SHO				AMB	AMB	23 32 45.0	
	350nm,0.4s						
SHO				*i* S	**Sb**	**23 32 58.0**	**-0.7**
SHO				A	A	23 33 01.3	
	2μm,0.4s						
SHO				A	A	23 33 01.3	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.40**	**333**	*e*P	**Pn**	**23 32 49.1**	**-0.3**
YUK				AMB	AMB	23 32 49.7	
	210nm,0.3s						
YUK				*e*S	**Sn**	**23 33 06.9**	**-0.6**
YUK				A	A	23 33 10.9	
	2μm,0.7s						
YUK				A	A	23 33 10.9	
	2μm,0.7s						
JAK	**Akkeshi**	**1.52**	**279**	P	**Pn**	**23 32 50.4**	**-0.6**
JRA	**Rausu**	**1.65**	**315**	*e*S	**Sb**	**23 33 15.1**	**0.0**
JNK	**Nakash**	**1.69**	**299**	P	**Pn**	**23 32 52.4**	**-0.9**
JOB	**Onbets**	**2.15**	**274**	P	**Pn**	**23 32 59.2**	**-0.4**
JAR	**Ashorobuto**	**2.24**	**284**	P	**Pn**	**23 33 00.4**	**-0.5**
JAR				*e*S	**Sn**	**23 33 29.0**	**+0.7**
JTKR	**Abashiri--Toko**	**2.38**	**301**	P	**Pn**	**23 33 02.9**	**+0.1**
JCH	**Churui**	**2.50**	**267**	P	**Pn**	**23 33 04.7**	**+0.2**
JCH				*e*S	**Sn**	**23 33 35.8**	**+1.1**
KUR	**Kuril'sk**	**2.57**	**18**	*e*P	**Pn**	**23 33 06.4**	**+1.0**
KUR				*e*S	**Sn**	**23 33 36.0**	**-0.4**
KUR				A	A	23 33 37.0	
	92nm,0.3s						
KUR				A	A	23 33 37.0	
	99nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.00**	**262**	P	**Pn**	**23 33 11.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.04**	**327**	*e*P	**Pn**	**23 33 41.3**	**+2.0**

IDC 12 23:49:53.6±1.9,1°.04N×127°.11E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/29,mbtmp3.7/3,Error ellipse: s-maj=165.9km s-min=24.1km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.02**	**162**	P	P	23 54 49.5	-0.4
	2.4nm,0.7s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.43**	**165**	P	P	23 55 23.9	+0.6
	0.5nm,0.4s,baz=353,slow=16,SNR=8.8						
MKAR	**Makanchi Array**	**59.97**	**326**	P	P	00 00 02.3	+0.3
	0.2nm,0.4s,baz=122,slow=7.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.08**	**287**	PKP	PKPdf	00 08 54.2	-1.0
	0.2nm,0.7s,baz=77,slow=3.1,SNR=2.4						

WEL 13 00:10:37.2±0.4,38°.06S×175°.96E,h194km±3km,ML3.8/41, 18C-4D,Error ellipse: s-maj=2.7km s-min=2.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.49**	**312**	PN	Pn	00 11 03.8	+0.2
TOZ				SN	Sn	00 11 24.4	+0.5
MRHZ	**Matea Rd**	**0.85**	**155**	⇑PN	Pn	00 11 05.3	-0.1
MRHZ				SN	Sn	00 11 26.0	-1.4
MRHZ				AML	AML	00 11 30.5	
URZ	**Urewera**	**0.93**	**103**	⇑PN	Pn	00 11 05.6	-0.2
URZ				SN	Sn	00 11 26.8	-1.2
URZ				AML	AML	00 11 27.9	
RTZ	**Ruatahuna**	**0.97**	**125**	⇑PN	Pn	00 11 06.2	0.0
RTZ				SN	Sn	00 11 28.5	-0.3
NGZ	**Ngauruhoe**	**1.15**	**194**	PN	Pn	00 11 07.6	0.0
BKZ	**Black Stump Fm**	**1.18**	**159**	PN	Pn	00 11 07.5	-0.1
BKZ				AML	AML	00 11 30.3	
BKZ				AML	AML	00 11 33.1	
RAGZ	**Rawiri**	**1.22**	**111**	⇓PN	Pn	00 11 08.4	+0.3
RAGZ				SN	Sn	00 11 31.8	-0.2
RAGZ				AML	AML	00 11 33.6	
TUVZ	**Tukino**	**1.23**	**191**	⇓PN	Pn	00 11 08.3	+0.1
TUVZ				SN	Sn	00 11 32.1	-0.3
MWZ	**Matawai**	**1.26**	**103**	⇑PN	Pn	00 11 08.4	0.0
MWZ				AML	AML	00 11 32.9	
MWZ				AML	AML	00 11 33.0	
WNVZ	**Wahianoa**	**1.30**	**193**	PN	Pn	00 11 08.7	-0.1
SNGZ	**Shannon Statio**	**1.30**	**124**	⇑PN	Pn	00 11 09.1	+0.4
SNGZ				AML	AML	00 11 35.0	
SNGZ				AML	AML	00 11 35.7	
MOVZ	**Moawhango**	**1.35**	**187**	⇑PN	Pn	00 11 08.6	-0.5
RUGZ	**Raukumara Rang**	**1.36**	**87**	PN	Pn	00 11 08.1	-1.1
MTVZ	**Mangateitei**	**1.38**	**196**	PN	Pn	00 11 09.2	-0.1
KWHZ	**Kaweka Forest**	**1.41**	**165**	PN	Pn	00 11 09.6	+0.1
KWHZ				AML	AML	00 11 42.1	
KWHZ				AML	AML	00 11 44.3	
WHHZ	**Waihua**	**1.42**	**136**	PN	Pn	00 11 09.6	0.0
WHHZ				AML	AML	00 11 37.6	
WHHZ				AML	AML	00 11 56.6	
BHHZ	**Black Hill Sta**	**1.43**	**177**	⇑PN	Pn	00 11 09.3	-0.5
BHHZ				AML	AML	00 11 43.9	
ARHZ	**Aropaoanui**	**1.45**	**146**	PN	Pn	00 11 10.5	+0.6
ARHZ				SN	Sn	00 11 34.8	-0.5
ARHZ				AML	AML	00 11 36.2	
HAZ	**Te Kaha**	**1.47**	**79**	PN	Pn	00 11 09.8	-0.3
HAZ				AML	AML	00 11 41.2	
HAZ				AML	AML	00 11 41.2	
HAZ				AML	AML	00 11 41.5	
HAZ				AML	AML	00 11 41.5	
MCHZ	**McNeill Hill**	**1.50**	**158**	⇑PN	Pn	00 11 10.9	+0.6
MCHZ				AML	AML	00 11 36.7	
MCHZ				AML	AML	00 11 37.8	
TKGZ	**Te Karaka**	**1.53**	**105**	PN	Pn	00 11 10.9	+0.3
TKGZ				AML	AML	00 11 39.3	
TKGZ				AML	AML	00 11 40.0	
TWGZ	**Tauwhareparae**	**1.60**	**95**	PN	Pn	00 11 11.8	+0.5
TWGZ				AML	AML	00 11 41.0	
TWGZ				AML	AML	00 11 41.3	
KRHZ	**Kereru**	**1.61**	**169**	PN	Pn	00 11 11.3	-0.1
KRHZ				AML	AML	00 11 45.9	
KRHZ				AML	AML	00 11 46.3	
KNZ	**Kokohu**	**1.65**	**126**	⇑PN	Pn	00 11 11.8	+0.1
PRGZ	**Paritu Road**	**1.74**	**120**	PN	Pn	00 11 12.7	+0.2
PRGZ				AML	AML	00 11 42.2	
PUZ	**Puketiti**	**1.81**	**91**	PN	Pn	00 11 13.1	-0.2
PUZ				AML	AML	00 11 48.1	
CKHZ	**Cape Kidnapper**	**1.82**	**152**	⇑PN	Pn	00 11 13.7	+0.4
CKHZ				AML	AML	00 11 43.1	
CKHZ				AML	AML	00 11 43.2	
CNGZ	**Carnagh Statio**	**1.82**	**104**	PN	Pn	00 11 14.1	+0.8
WAZ	**Wanganui**	**1.85**	**204**	PN	Pn	00 11 13.4	-0.3
PNHZ	**Pukenui**	**1.86**	**174**	PN	Pn	00 11 13.2	-0.6
PNHZ				AML	AML	00 11 42.5	
PNHZ				AML	AML	00 11 45.0	
KAHZ	**Kahuranaki**	**1.87**	**158**	PN	Pn	00 11 14.1	+0.2
KAHZ				AML	AML	00 11 46.0	
KAHZ				AML	AML	00 11 46.9	
MHGZ	**Mahia Peninsul**	**1.88**	**126**	PN	Pn	00 11 14.4	+0.5
WMGZ	**Waiomatatini S**	**1.96**	**84**	PN	Pn	00 11 14.7	-0.1
WMGZ				AML	AML	00 11 44.3	
WMGZ				AML	AML	00 11 45.3	
TSZ	**Takapari Road**	**2.00**	**180**	⇑PN	Pn	00 11 14.5	-0.7
TSZ				AML	AML	00 11 45.7	
WPHZ	**Waipukurau**	**2.04**	**170**	PN	Pn	00 11 15.1	-0.5
WPHZ				AML	AML	00 11 47.9	
PXZ	**Pawanui**	**2.09**	**161**	⇑PN	Pn	00 11 15.8	-0.3
PXZ				AML	AML	00 11 47.0	
PXZ				AML	AML	00 11 47.0	
PXZ				AML	AML	00 11 47.9	
PXZ				AML	AML	00 11 47.9	
OHWZ	**Ohakea**	**2.20**	**193**	PN	Pn	00 11 16.8	-0.5
DVHZ	**Dannevirke**	**2.24**	**176**	⇑PN	Pn	00 11 16.7	-1.1
DVHZ				AML	AML	00 11 49.3	
DVHZ				AML	AML	00 11 51.4	
PRHZ	**Porangahau**	**2.27**	**167**	⇑PN	Pn	00 11 17.4	-0.6
PRHZ				AML	AML	00 11 50.7	
PRHZ				AML	AML	00 11 51.1	
POWZ	**Post Office Ro**	**2.33**	**184**	PN	Pn	00 11 17.5	-1.3
POWZ				AML	AML	00 11 53.5	
POWZ				AML	AML	00 11 55.0	
ANWZ	**Angora Road**	**2.43**	**171**	⇑PN	Pn	00 11 19.1	-0.8
ANWZ				AML	AML	00 11 53.0	
ANWZ				AML	AML	00 11 55.4	
PRWZ	**Pori Road**	**2.49**	**180**	⇓PN	Pn	00 11 19.6	-1.0
PRWZ				AML	AML	00 11 56.1	
PRWZ				AML	AML	00 11 57.0	
MRZ	**Mangatainoka R**	**2.61**	**186**	⇑PN	Pn	00 11 20.2	-1.7
MRZ				AML	AML	00 11 55.4	
MRZ				AML	AML	00 11 56.4	
BFZ	**Birch Farm**	**2.63**	**175**	AML	AML	00 11 57.5	
BFZ				AML	AML	00 11 59.0	
TIWZ	**Tintock**	**2.71**	**181**	PN	Pn	00 11 21.5	-1.7
TIWZ				AML	AML	00 11 56.2	
TIWZ				AML	AML	00 11 58.9	
OGWZ	**Otaki Gorge**	**2.82**	**192**	PN	Pn	00 11 22.6	-1.7
OGWZ				AML	AML	00 11 58.4	
OGWZ				AML	AML	00 11 59.5	
CPWZ	**Castlepoint**	**2.85**	**176**	PN	Pn	00 11 23.8	-0.9
CPWZ				AML	AML	00 12 02.5	
CPWZ				AML	AML	00 12 03.2	
HOWZ	**Holdsworth Sta**	**2.85**	**187**	⇑PN	Pn	00 11 22.6	-2.1
HOWZ				AML	AML	00 11 58.3	
HOWZ				AML	AML	00 11 59.0	
KIW	**Kapiti Island**	**2.91**	**196**	⇑PN	Pn	00 11 23.2	-2.3
TMWZ	**Te Maipa**	**3.04**	**181**	PN	Pn	00 11 25.0	-2.0
TMWZ				AML	AML	00 12 03.6	
TMWZ				AML	AML	00 12 03.7	
MTW	**Mount Morrison**	**3.11**	**186**	PN	Pn	00 11 25.3	-2.5
MTW				AML	AML	00 12 04.9	
MTW				AML	AML	00 12 05.4	
CAW	**Cannon Point**	**3.12**	**193**	PN	Pn	00 11 25.8	-2.1
CAW				AML	AML	00 12 05.4	
CAW				AML	AML	00 12 05.7	
DUWZ	**D'Urville Isla**	**3.16**	**209**	PN	Pn	00 11 26.0	-2.4
TRWZ	**Traveller**	**3.34**	**184**	PN	Pn	00 11 28.3	-2.3
PAWZ	**Paruwai Farm**	**3.34**	**187**	PN	Pn	00 11 28.1	-2.5
MSWZ	**Moikau Station**	**3.40**	**189**	PN	Pn	00 11 28.5	-2.8
MSWZ				AML	AML	00 12 09.6	
MSWZ				AML	AML	00 12 10.3	
TCW	**Tory Channel**	**3.40**	**202**	⇓PN	Pn	00 11 28.8	-2.5
TCW				AML	AML	00 12 11.5	
TCW				AML	AML	00 12 14.3	
BHW	**Baring Head**	**3.45**	**194**	PN	Pn	00 11 29.0	-2.9
PLWZ	**Palliser**	**3.55**	**189**	PN	Pn	00 11 30.2	-2.9
TUWZ	**Tuamarina**	**3.71**	**204**	PN	Pn	00 11 32.3	-2.7
TUWZ				AML	AML	00 12 18.9	
NNZ	**Nelson**	**3.73**	**211**	PN	Pn	00 11 33.2	-2.1
QRZ	**Quartz Range**	**3.83**	**223**	PN	Pn	00 11 34.1	-2.5
BSWZ	**Blackbirch Sta**	**3.99**	**203**	PN	Pn	00 11 35.5	-3.0
THZ	**Tophouse**	**4.38**	**211**	PN	Pn	00 11 41.7	-1.8
KHZ	**Kahutara**	**4.73**	**202**	PN	Pn	00 11 44.7	-3.2
INZ	**Inchbonnie**	**5.79**	**215**	PN	Pn	00 11 58.1	-3.5
OXZ	**Oxford**	**6.04**	**208**	PN	Pn	00 12 00.4	-4.5
MQZ	**McQueen's Vall**	**6.17**	**203**	PN	Pn	00 12 01.8	-4.6

ISCJB 13 00:13:46.0±0.5,24°.42N±0°.02×122°.02E±0°.02,h5km±4km, Error ellipse: s-maj=4.2km s-min=2.8km az=151.9
JMA 13 00:13:46.2,24°.35N×121°.89E,h35km,M2.0
TAP 13 00:13:46.7,24°.43N×121°.91E,h20km,ML3.0,B
**ISC 13 00:13:46.5±0.9,

baz=321
TWS1 eS **Sn** **00 14 15.5 -0.2**
baz=321
JYNG Yonagunijimaku 0.89 88 P **Pb** **00 14 03.8 +0.3**
JYNG S **Sg** **00 14 16.2 +0.8**
NSTT Nanjuang 0.91 283 eP **Pn** **00 14 04.5 -0.2**
baz=278
NSTT eS **Sn** **00 14 16.9 -0.5**
baz=278
TWY Chenhua 0.91 338 eP **Pg** **00 14 04.4 +0.2**
baz=333
YOJ Yonaguni jima 0.95 88 eP **Pb** **00 14 03.9 -0.6**
baz=80
YOJ Yonaguni jima 0.95 88 P **Pb** **00 14 04.2 -0.3**
YOJ eS **Sb** **00 14 17.3 +0.5**
WDT Danda 1.02 229 eP **Pb** **00 14 05.4 -0.5**
baz=229
WDT eS **Sn** **00 14 20.8 +0.3**
baz=229
EHY Hungye 1.09 213 eP **Pb** **00 14 06.8 -0.1**
baz=211
TWQ1 Liyutan 1.10 266 eP **Pg** **00 14 08.2 +0.6**
baz=273
SMLT Sun Moon Lake 1.12 241 eP **Pg** **00 14 08.2 +0.1**
baz=246
SMLT eS **Sb** **00 14 22.3 +0.4**
baz=246
TYC Yuchr 1.14 243 eP **Pb** **00 14 08.0 +0.1**
baz=253
TYC eS **Sg** **00 14 24.1 +0.6**
baz=253
TWF1 Yuli 1.23 210 eP **Pg** **00 14 10.6 +0.3**
baz=222
ALS Alishan 1.40 230 eP **Pg** **00 14 13.1 -0.4**
baz=217
CHN5 Tsauling 1.44 235 eP **Pg** **00 14 13.9 -0.3**
baz=237
CHN5 eS **Sg** **00 14 34.4 +1.3**
baz=237
IRIF Iriomote-Funau 1.60 93 P **Pn** **00 14 13.7 -0.5**
IRIF eS **Sn** **00 14 34.5 -0.1**
CHN4 Tsaushan 1.65 230 eP **Pb** **00 14 16.3 -0.3**
baz=231
CHN4 eS **Sg** **00 14 39.2 -0.6**
baz=231
WTP Ta-pu 1.71 227 eP **Pb** **00 14 17.4 -0.2**
baz=226
CHN1 Nanshi 1.81 227 eP **Pb** **00 14 19.9 +0.7**
baz=226
JKRS Kuro-shima 1.87 95 S **Sn** **00 14 40.8 -0.2**
JIJ Ishigaki jima 1.98 91 P **Pn** **00 14 19.0 -0.3**
JIJ S **Sn** **00 14 42.8 -1.0**
JISG Ishigakijimahi 2.14 85 eS **Sn** **00 14 47.5 -0.2**

CASC 13 00:14:41.3±1.8, 8°.68N×82°.71W, h13km±3km, MD3.8, 6C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.12**	**9**	||i P	Pb	00 14 45.2 -0.3
BRU2				eS	Sb	00 14 48.2 0.0
ACR	**Cerro Adams**	**0.46**	**267**	||i P	Pg	00 14 49.9 -0.4
ACR				eS	Sg	00 14 56.4 -0.1
PTJ1	**Puerto Jim¨ne**	**0.60**	**256**	||i P	Pg	00 14 52.8 -0.3
PTJ1				eS	Sb	00 15 01.8 -0.4
BUS	**Buena Vista**	**1.35**	**310**	||eP	Pn	00 15 05.1 -1.2
BUS				eS	Sb	00 15 23.8 -0.4
URSC	**Urasca**	**1.56**	**317**		i P	Pn	00 15 08.6 -0.3
URSC				eS	Sn	00 15 29.5 +0.4
QCR1	**Quepos**	**1.62**	**297**	eP	Pn	00 15 08.4 -1.2
LCR2	**La Lucha 2**	**1.66**	**310**	||eP	Pn	00 15 09.3 -1.0
LCR2				eS	Sn	00 15 31.3 -0.2
VTR0	**Volcan Turrial**	**1.69**	**322**	||i P	Pn	00 15 11.6 +0.7
CVTR	**Volcan Turrial**	**1.69**	**322**		i P	Pn	00 15 11.1 +0.2
CVTR				eS	Sb	00 15 34.3 +0.5
SJS	**Escuela Geolog**	**1.82**	**313**	||eP	Pn	00 15 12.8 +0.3
SJS				eS	Sn	00 15 36.1 +0.5
HDC	**Heredia**	**1.91**	**314**	i P	Pn	00 15 13.9 +0.2
HDC				eS	Sb	00 15 38.9 -1.1
TRT1	**Tortuguero**	**2.14**	**333**	||eP	Pn	00 15 17.2 +0.5
CGA2	**Cerro Gallo 2**	**2.18**	**308**	eP	Pn	00 15 17.5 0.0
ZANG	**Zanguenga, Cho**	**2.82**	**84**	eP	Pn	00 15 25.5 -0.6
ZANG				eS	Sn	00 16 00.4 +0.3
BCIP	**Isla Barro Col**	**2.88**	**80**		i P	Pn	00 15 27.9 +1.0
BCIP				eS	Sn	00 16 01.0 -0.5
CUI	**Cuipilapa**	**3.12**	**309**	eP	Pn	00 15 31.6 +1.4
UPA	**Univ. de Panam**	**3.15**	**84**	eP	Pn	00 15 30.4 -0.3
UPA				eS	Sn	00 16 08.4 +0.2

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*NEIC **13** 00:21:40.5±0.0, 19°.60N×65°.52W, h57km, MD3.5(RSPR), After RSPR.*

RSPR 13 00:21:40.5, 19°.60N×65°.52W, h57km±11km, MD3.5/14, 21C-18D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.35**	**157**	||eP	Pn	00 22 02.4 -0.6
STVI	**Saint Thomas**	**1.35**	**157**	eP	Pn	00 22 02.4 -0.6
STVI	**Saint Thomas**	**1.35**	**157**	eP	Pn	00 22 02.4 -0.6
CBYP	**Canovanas**	**1.36**	**194**	||eP	Pn	00 22 02.4 -0.9
CBYP	**Canovanas**	**1.36**	**194**	||eP	Pn	00 22 02.4 -0.9
CBYP	**Canovanas**	**1.36**	**194**	||eP	Pn	00 22 02.4 -0.9
HUMP	**Col San Antoni**	**1.48**	**192**	eS	Sn	00 22 22.3 -0.9
HUMP	**Col San Antoni**	**1.48**	**192**	||eP	Pn	00 22 03.7 -1.1
HUMP	**Col San Antoni**	**1.48**	**192**	||eP	Pn	00 22 03.7 -1.1
HUMP				eS	Sn	00 22 22.3 -0.9
HUMP	**Col San Antoni**	**1.48**	**192**	||eP	Pn	00 22 03.7 -1.1
HUMP				eS	Sn	00 22 22.3 -0.9
MTP	**Monte Pirata**	**1.49**	**181**	eS	Sn	00 22 22.7 -0.7
MTP	**Monte Pirata**	**1.49**	**181**	||eP	Pn	00 22 04.1 -1.0
MTP	**Monte Pirata**	**1.49**	**181**	||eP	Pn	00 22 04.1 -1.0
MTP				eS	Sn	00 22 22.7 -0.7
MTP	**Monte Pirata**	**1.49**	**181**	||eP	Pn	00 22 04.1 -1.0
MTP				eS	Sn	00 22 22.7 -0.7
SJG	**San Juan**	**1.59**	**202**	eS	Sn	00 22 25.1 -0.8
SJG	**San Juan**	**1.59**	**202**	||eP	Pn	00 22 05.3 -1.0
SJG	**San Juan**	**1.59**	**202**	||eP	Pn	00 22 05.3 -1.1
SJG				eS	Sn	00 22 25.1 -0.8
SJG	**San Juan**	**1.59**	**202**	ePn	Pn	00 22 05.2 -1.2
SJG				eS	Sn	00 22 25.8 -0.2
AOPR	**Arecibo Observ**	**1.71**	**223**	||eP	Pn	00 22 07.2 -0.8
AOPR	**Arecibo Observ**	**1.71**	**223**	||eP	Pn	00 22 07.2 -0.8
AOPR	**Arecibo Observ**	**1.71**	**223**	||eP	Pn	00 22 07.2 -0.8
CELP	**Cerrillos**	**1.82**	**214**	||eP	Pn	00 22 08.6 -0.8
CELP				eS	Sn	00 22 30.7 -0.6
CELP	**Cerrillos**	**1.82**	**214**	||eP	Pn	00 22 08.6 -0.8
CELP				eS	Sn	00 22 30.7 -0.6
CELP	**Cerrillos**	**1.82**	**214**	||eP	Pn	00 22 08.6 -0.8
OBIP	**Obispado Ponce**	**1.86**	**214**	eS	Sn	00 22 31.8 -0.6
OBIP	**Obispado Ponce**	**1.86**	**214**	||eP	Pn	00 22 09.3 -0.7
OBIP	**Obispado Ponce**	**1.86**	**214**	||eP	Pn	00 22 09.3 -0.7
OBIP				eS	Sn	00 22 31.8 -0.6
OBIP	**Obispado Ponce**	**1.86**	**214**	||eP	Pn	00 22 09.3 -0.7
OBIP				eS	Sn	00 22 31.8 -0.6
ICMP	**Isla Caja de M**	**1.95**	**209**	||eP	Pn	00 22 10.8 -0.4
ICMP	**Isla Caja de M**	**1.95**	**209**	||eP	Pn	00 22 10.8 -0.4
LSP	**Las Mesas**	**2.05**	**227**	||eP	Pn	00 22 12.1 -0.5
LSP	**Las Mesas**	**2.05**	**227**	eS	Sn	00 22 36.1 -1.0
LSP	**Las Mesas**	**2.05**	**227**	||eP	Pn	00 22 12.1 -0.5
LSP				eS	Sn	00 22 36.1 -1.0
LSP	**Las Mesas**	**2.05**	**227**	||eP	Pn	00 22 12.1 -0.5
LSP				eS	Sn	00 22 36.1 -1.0
GBPR	**Guanica, Bosqu**	**2.06**	**219**	||eP	Pn	00 22 12.4 -0.4
GBPR	**Guanica, Bosqu**	**2.06**	**219**	||eP	Pn	00 22 12.4 -0.4
GBPR	**Guanica, Bosqu**	**2.06**	**219**	||eP	Pn	00 22 12.4 -0.4
CRPR	**Cabo Rojo, PR**	**2.19**	**224**	||eP	Pn	00 22 13.7 -0.7
CRPR	**Cabo Rojo, PR**	**2.19**	**224**	eS	Sn	00 22 39.8 -0.6
CRPR	**Cabo Rojo, PR**	**2.19**	**224**	||eP	Pn	00 22 13.7 -0.7
CRPR				eS	Sn	00 22 39.8 -0.6
CRPR	**Cabo Rojo, PR**	**2.19**	**224**	||eP	Pn	00 22 13.7 -0.7
CRPR				eS	Sn	00 22 39.8 -0.6
IDE	**Isla Desecheo**	**2.21**	**237**	||eP	Pn	00 22 14.1 -0.7
IDE	**Isla Desecheo**	**2.21**	**237**	||eP	Pn	00 22 14.1 -0.7
IDE	**Isla Desecheo**	**2.21**	**237**	||eP	Pn	00 22 14.1 -0.7
DR12	**Loma Pena Alta**	**3.74**	**258**	||eP	Pn	00 22 35.2 -0.5
DR12	**Loma Pena Alta**	**3.74**	**258**	||eP	Pn	00 22 35.2 -0.5
SDDR	**Presa de Saban**	**5.48**	**265**	ePn	Pn	00 23 00.7 +1.0
SDDR	54nm,0.4s			eS	Sn	00 24 03.9 +2.4

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*ISCJB **13** 00:24:51.0±0.5, 37°.18N±0°.02×22°.04E±0°.03, h6km±4km, Error ellipse: s-maj=4.6km s-min=4.1km az=173.4*
*ATH **13** 00:24:51.0, 37°.17N×22°.04E, h8km±3km, ML2.0/13, Error ellipse: s-maj=3.2km s-min=0.8km az=246.0*
*THE **13** 00:24:51.1, 37°.19N×22°.04E, h5km±4km, ML2.2/7, Error ellipse: s-maj=4.2km s-min=0.6km az=252.0*
*CSEM **13** 00:24:51.0±0.2, 37°.20N×22°.04E, h5km, ML2.0, Error ellipse: s-maj=3.8km s-min=2.9km az=69.0*

ISC 13 00:24:51.2±0.9, 37°.20N±0°.02×22°.04E±0°.02, h5km±7km, n47, σ0°62/77, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.09**	**261**	P	**Pg**	**00 24 52.4**	**-0.8**
ITM				S	**Sg**	**00 24 55.0**	**+0.5**
ITM	**Ithomi**	**0.09**	**261**	P	**Pg**	**00 24 52.6**	**-0.6**
ITM				S	**Sg**	**00 24 55.1**	**+0.5**
ITM				AML	AML	00 24 55.5	
	comp=E,4821μm,0.3s						
ITM				AML	AML	00 24 55.5	
	comp=N,5423μm,0.3s						
ITM	**Ithomi**	**0.09**	**261**	P	**Pg**	**00 24 52.6**	**-0.6**
ITM				S	**Sg**	**00 24 55.1**	**+0.5**
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**00 24 57.6**	**0.0**
VLX				S	**Sg**	**00 25 02.6**	**+0.8**
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**00 24 57.5**	**0.0**
VLX				S	**Sg**	**00 25 02.8**	**+1.0**
VLX				AML	AML	00 25 03.9	
	comp=E,768μm,0.5s						
VLX				AML	AML	00 25 08.7	
	comp=N,562μm,0.5s						
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**00 24 57.5**	**0.0**
VLX				S	**Sg**	**00 25 02.6**	**+0.8**
TRIP	**Tripoli**	**0.38**	**29**	P	**Pg**	**00 24 58.9**	**+0.3**
TRIP				S	**Sg**	**00 25 04.4**	**+0.8**
TRIP	**Tripoli**	**0.38**	**29**	P	**Pg**	**00 24 58.9**	**+0.3**
TRIP				S	**Sg**	**00 25 04.4**	**+0.8**
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**00 24 58.4**	**-0.2**
PYL				S	**Sg**	**00 25 04.4**	**+0.8**
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**00 24 58.3**	**-0.3**
PYL				S	**Sg**	**00 25 04.5**	**+0.8**
PYL				AML	AML	00 25 09.0	
	comp=E,569μm,0.4s						
PYL				AML	AML	00 25 10.6	
	comp=N,665μm,0.9s						
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**00 24 58.4**	**-0.2**
PYL				S	**Sg**	**00 25 04.4**	**+0.8**
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**00 24 59.6**	**+0.1**
AMT				S	**Sg**	**00 25 05.5**	**+0.4**
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**00 24 59.4**	**-0.1**
AMT				S	**Sb**	**00 25 06.9**	**-1.1**
AMT				AML	AML	00 25 08.4	
	comp=N,1971μm,0.3s						
AMT				AML	AML	00 25 09.8	
	comp=E,1329μm,0.6s						
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**00 24 59.4**	**-0.1**
AMT				S	**Sg**	**00 25 05.5**	**+0.4**
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**00 25 05.8**	**-0.4**
GUR				S	**Sb**	**00 25 17.3**	**-0.9**
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**00 25 05.2**	**-1.0**
GUR				S	**Sb**	**00 25 17.6**	**-0.5**
GUR				AML	AML	00 25 28.8	
	comp=N,286μm,0.5s						
GUR				AML	AML	00 25 34.7	
	comp=E,238μm,0.5s						
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**00 25 05.8**	**-0.4**
GUR				S	**Sb**	**00 25 17.3**	**-0.9**
DRO	**Drossia**	**0.80**	**341**	P	**Pg**	**00 25 06.4**	**-0.2**
DRO				S	**Sb**	**00 25 17.9**	**-0.8**
DRO	**Drossia**	**0.80**	**341**	P	**Pg**	**00 25 07.0**	**+0.4**
DRO				S	**Sb**	**00 25 18.7**	**0.0**
DRO				AML	AML	00 25 28.4	
	comp=E,396μm,0.4s						
DRO				AML	AML	00 25 28.4	
	comp=N,315μm,0.4s						
DRO	**Drossia**	**0.80**	**341**	P	**Pg**	**00 25 06.4**	**-0.2**
DRO				S	**Sb**	**00 25 17.9**	**-0.8**
KLV	**Kalavryta, Ach**	**0.85**	**6**	P	**Pg**	**00 25 06.5**	**-1.1**
KLV				S	**Sb**	**00 25 20.8**	**+0.5**
KLV				AML	AML	00 25 21.7	
	comp=E,159μm,0.7s						
KLV				AML	AML	00 25 24.4	
	comp=N,115μm,0.5s						
KLV	**Kalavryta, Ach**	**0.85**	**6**	P	**Pg**	**00 25 06.5**	**-1.1**
KLV				S	**Sb**	**00 25 20.8**	**+0.5**
VLI	**Veliai**	**0.86**	**123**	P	**Pg**	**00 25 07.2**	**-0.5**
VLI				S	**Sg**	**00 25 19.3**	**+0.4**
VLI	**Veliai**	**0.86**	**123**	P	**Pg**	**00 25 07.5**	**-0.3**
VLI				S	**Sg**	**00 25 18.7**	**-0.2**
VLI				AML	AML	00 25 24.5	
	comp=E,172μm,0.7s						
VLI				AML	AML	00 25 25.7	
	comp=N,108μm,0.5s						
VLI	**Veliai**	**0.86**	**123**	P	**Pg**	**00 25 07.5**	**-0.3**
VLI				S	**Sg**	**00 25 18.7**	**-0.2**
RLS	**Riolos of Patr**	**0.97**	**332**	P	**Pg**	**00 25 09.6**	**-0.3**
RLS				S	**Sg**	**00 25 23.0**	**+0.5**
RLS				AML	AML	00 25 29.5	
	comp=E,114μm,0.4s						
RLS				AML	AML	00 25 32.3	
	comp=N,94μm,0.7s						
RLS	**Riolos of Patr**	**0.97**	**332**	P	**Pg**	**00 25 09.6**	**-0.3**
RLS				S	**Sg**	**00 25 23.0**	**+0.5**
DID	**Didima**	**1.00**	**72**	P	**Pg**	**00 25 09.9**	**-0.6**
DID	**Didima**	**1.00**	**72**	P	**Pg**	**00 25 09.8**	**-0.7**
DID	**Didima**	**1.00**	**72**	P	**Pg**	**00 25 09.9**	**-0.6**
LAKA	**Lakka**	**1.04**	**357**	P	**Pg**	**00 25 10.3**	**-1.0**
LAKA				S	**Sn**	**00 25 27.1**	**-0.4**
LAKA	**Lakka**	**1.04**	**357**	P	**Pg**	**00 25 10.3**	**-1.0**
LAKA				S	**Sn**	**00 25 27.1**	**-0.4**
LTK	**Loutraki**	**1.11**	**41**	P	**Pg**	**00 25 11.6**	**-0.9**
LTK	**Loutraki**	**1.11**	**41**	P	**Pg**	**00 25 11.6**	**-0.9**
AXS	**Araxos**	**1.13**	**332**	P	**Pg**	**00 25 12.9**	**0.0**
AXS	**Araxos**	**1.13**	**332**	P	**Pg**	**00 25 12.9**	**0.0**
TRIZ	**Trizonia**	**1.17**	**1**	P	**Pg**	**00 25 13.2**	**-0.4**
TRIZ	**Trizonia**	**1.17**	**1**	P	**Pg**	**00 25 13.2**	**-0.4**
KALE	**Kalithea**	**1.20**	**4**	P	**Pg**	**00 25 14.0**	**-0.2**
KALE				S	**Sn**	**00 25 32.5**	**+1.2**
KALE				AML	AML	00 25 36.5	
	comp=E,96μm,0.6s						
KALE				AML	AML	00 25 41.7	
	comp=N,127μm,0.8s						
KALE	**Kalithea**	**1.20**	**4**	P	**Pg**	**00 25 14.0**	**-0.2**
KYTH	**Kithira**	**1.23**	**139**	P	**Pn**	**00 25 15.7**	**+0.7**
EFP	**Efpalio**	**1.23**	**355**	P	**Pg**	**00 25 13.8**	**-1.1**
EFP	**Efpalio**	**1.23**	**355**	P	**Pg**	**00 25 13.8**	**-1.1**
PROD	**Prodromos**	**1.26**	**32**	P	**Pn**	**00 25 15.9**	**+0.4**
PROD				AML	AML	00 25 36.0	
	comp=E,79μm,0.6s						
PROD				AML	AML	00 25 39.7	
	comp=N,93μm,0.9s						
PROD	**Prodromos**	**1.26**	**32**	P	**Pn**	**00 25 15.9**	**+0.4**
VILL	**Villia**	**1.40**	**46**	P	**Pn**	**00 25 17.2**	**-0.2**
VIL2	**Platees**	**1.41**	**43**	P	**Pn**	**00 25 17.2**	**-0.3**
VIL2				AML	AML	00 25 47.6	
	comp=E,81μm,0.8s						
VIL2				AML	AML	00 25 47.7	
	comp=N,126μm,0.6s						

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*ISCJB **13** 00:34:02.7±0.8, 36°.10N±0°.05×140°.09E±0°.07, h77km±6km, mb3.7/2, Error ellipse: s-maj=10.0km s-min=7.7km az=13.5*
*IDC **13** 00:34:02.5±5.5, 36°.19N×140°.25E, h70km±42km, mb3.4/2, mb1 3.6/2, mb1mx3.1/45, mbtmp3.7/2, MS3.4/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=52.7km s-min=27.7km az=67.0*
*JMA **13** 00:34:04.1±0.1, 36°.15N×140°.03E, h68km±1km, M3.1*

ISC 13 00:34:03.4±1.2, 36°.11N±0°.05×140°.09E±0°.07, h72km±8km, n18, σ0°43/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.15**	**36**	P	**Pn**	**00 34 14.4**	**+0.3**
JYT				S	**Sn**	**00 34 22.1**	**+0.2**
JAG	**Ashikaga**	**0.60**	**302**	P	**Pn**	**00 34 17.3**	**-0.2**
JAG				S	**Sn**	**00 34 27.1**	**-0.7**
JKT	**Katashina**	**0.94**	**314**	P	**Pn**	**00 34 21.4**	**0.0**
JKT				S	**Sn**	**00 34 34.4**	**-0.4**
JRY	**Ryogami san**	**0.96**	**265**	P	**Pn**	**00 34 21.8**	**+0.2**
JRY				S	**Sn**	**00 34 34.9**	**-0.3**
JOD2	**Odawara 2**	**1.17**	**224**	P	**Pn**	**00 34 24.6**	**+0.4**
JOD2				S	**Sn**	**00 34 39.5**	**-0.2**
JFY	**Yanaizu**	**1.33**	**347**	P	**Pn**	**00 34 26.5**	**+0.2**
JFY				S	**Sn**	**00 34 44.2**	**+0.7**
JYN	**Shimob**	**1.39**	**245**	P	**Pn**	**00 34 27.9**	**+0.8**
JYN				S	**Sn**	**00 34 44.9**	**-0.1**
JHK	**Hiroka**	**1.43**	**323**	P	**Pn**	**00 34 27.5**	**0.0**
JIM2	**Oshima 3**	**1.49**	**201**	P	**Pn**	**00 34 28.4**	**+0.1**
MJAR	**Matsushiro Arr**	**1.58**	**287**	P	**Pn**	**00 34 29.6**	**+0.1**
	19nm,0.3s,baz=94,slow=12,SNR=64						
MJAR				S	**Sn**	**00 34 50.0**	**+0.8**
	7.9nm,0.3s,baz=97,slow=17,SNR=8.2						
MAT	**Matsushiro**	**1.58**	**287**	P	**Pn**	**00 34 29.8**	**+0.3**
MAT				eS	**Sn**	**00 34 49.3**	**0.0**
MAT	**Matsushiro**	**1.58**	**287**	P	**Pn**	**00 34 29.9**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.63**	**118**	T	T	01 10 05.6	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**28.64**	**118**	T	T	01 10 06.0	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**28.65**	**118**	T	T	01 10 03.5	
	baz=315						
MKAR	**Makanchi Array**	**43.71**	**303**	P	**P**	**00 42 01.4**	**+0.1**
	0.7nm,0.7s,baz=86,slow=9.3,SNR=3.9						
ILAR	**Eielson Array**	**50.84**	**32**	LR	LR	01 06 27.5	
	comp=Z,32nm,18.1s,baz=137,slow=38						
WRA	**Warramunga Arr**	**56.01**	**187**	P	**P**	**00 43 34.1**	**-0.5**
	0.5nm,0.4s,baz=0.4,slow=7.4,SNR=13						

JMA 13 00:47:22.7, 37°.66N×141°.74E, h46km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.75**	**247**	P	Pn	00 47 37.0	0.0
JFK				S	Sn	00 47 47.1	-0.2
JMM	**Marumori**	**0.78**	**286**	P	Pn	00 47 37.4	+0.1
JMM				S	Sn	00 47 48.1	+0.2
JIO	**Ouri**	**0.85**	**339**	P	Pn	00 47 38.4	+0.1
JIO				S	Sn	00 47 49.5	-0.2
ONAJ	**Iwakimizuishiy**	**0.93**	**234**	P	Pn	00 47 39.6	+0.1
ONAJ				S	Sn	00 47 51.8	0.0
JOU	**Okura**	**1.10**	**310**	P	Pn	00 47 42.1	+0.3
JOU				eS	Sn	00 47 56.5	+0.6
JFT	**Otama**	**1.12**	**263**	P	Pn	00 47 43.0	+1.0
JFT				S	Sn	00 47 57.5	+1.2
JMK	**Ichinoseki**	**1.35**	**343**	P	Pn	00 47 45.6	+0.5
JMK				S	Sn	00 48 02.6	+0.7
JFY	**Yanaizu**	**1.64**	**262**	P	Pn	00 47 50.0	+0.9
JFY				S	Sn	00 48 09.9	+1.0
JYK	**Kaneyama**	**1.66**	**320**	P	Pn	00 47 49.9	+0.5
JOM	**Ohasama**	**1.84**	**349**	P	Pn	00 47 52.8	+0.9
JYA	**Atsumi**	**1.85**	**301**	P	Pn	00 47 52.8	+0.9

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*IDC **13** 00:57:00.6±0.8, 2°.99S×141°.76E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/31, mbtmp4.2/10, ML4.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/27, Error ellipse: s-maj=33.2km s-min=18.2km az=82.0*
*ISCJB **13** 00:57:03.2±0.5, 2°.96S±0°.06×141°.76E±0°.05, h30km, mb4.4/14, MS3.5/7, Error ellipse: s-maj=9.4km s-min=5.6km az=35.4*
*DJA **13** 00:57:04.4±0.6, 3°.S±5°×14°.2E±°, h10km, M5.3/3, mB6.1/1, mb5.3/3, Mw(mB)5.8/1*
*NEIC **13** 00:57:08.3±2.1, 3°.03S×141°.58E, h59km±18km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=11.5km az=58.0*

ISC 13 00:57:05.1±0.6, 2°.92S±0°.06×141°.73E±0°.07, h30km, n49, σ2°42/44, mb4.3/14, MS3.3/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.10**	**291**	P	**Pn**	**00 57 20.9**	**-3.6**
JAY				S	**Sn**	**00 57 37.0**	**-1.8**
GENI	**Genyem**	**1.60**	**282**	P	**Pn**	**00 57 29.3**	**-2.0**
GENI				S	**Sn**	**00 57 51.5**	**+0.6**
SMPI	**Sarmi**	**3.16**	**287**	P	**Pn**	**00 57 53.1**	**+0.3**
SMPI				S	**Sn**	**00 58 31.2**	**+1.7**
MMPI	**Merauke**	**5.67**	**194**	P	**Pn**	**00 58 30.9**	**+3.5**
MMPI				S	**Sn**	**00 59 35.5**	**+3.9**
PMG	**Port Moresby**	**8.40**	**140**	LR	LR	01 03 31.8	
	comp=Z,630nm,18.9s,baz=65,slow=47						
FAKI	**Fak Fak**	**9.47**	**270**	P	**Pn**	**00 59 19.5**	**-0.1**
FAKI	**Fak Fak**	**9.47**	**270**	ePn	**Pn**	**00 59 20.9**	**+1.3**
	18nm,1.1s						
FAKI				eS	**Sn**	**01 01 11.1**	**+6.0**
COEN	**Coen**	**11.06**	**173**	ePn	**Pn**	**00 59 43.0**	**+1.7**
	25nm,1.3s						
LBMI	**Labuha**	**14.40**	**279**	P	**Pn**	**01 00 28.2**	**+1.1**
WRAB	**Tennant Creek**	**18.38**	**203**	ePn	**P**	**01 01 16.7**	**-1.0**
	17nm,0.8s						
WRAB				eS	Sn	01 04 33.6	-8.9
WRA	**Warramunga Arr**	**18.40**	**203**	P	**P**	**01 01 16.6**	**-1.2**
	0.7nm,0.3s,baz=20,slow=12,SNR=40						
WRA				S	**Sn**	**01 04 34.4**	**-8.4**
	0.0nm,0.3s,baz=14,slow=22,SNR=4.1						
SOEI	**Soe**	**18.63**	**248**	P	**Pn**	**01 01 21.8**	**+0.7**
SOEI	**Soe**	**18.63**	**248**	ePn	**P**	**01 01 18.5**	**-2.2**
	26nm,0.4s						
APSI	**Ampana**	**20.17**	**275**	P	Pn	01 01 39.0	-0.4
BSSI	**Bau Bau, Buton**	**21.41**	**261**	P	**P**	**01 01 52.4**	**+1.6**
BNSI	**Bone**	**21.63**	**265**	P	**P**	**01 01 54.7**	**+1.6**
TTSI	**Tana Toraja**	**21.89**	**269**	P	**P**	**01 02 00.8**	**+5.0**
SPSI	**Sidrap Palu**	**21.95**	**267**	P	**P**	**01 01 55.2**	**-1.3**
ASAR	**Alice Springs**	**21.97**	**200**	P	**P**	**01 01 55.8**	**-1.0**
	5.6nm,0.8s,baz=31,slow=9.4,SNR=62						
ASAR				S	**S**	**01 05 54.4**	**-3.5**
	0.8nm,0.9s,baz=19,slow=30,SNR=3.0						
ASAR				LR	LR	01 09 44.0	
	comp=Z,131nm,21.2s,baz=196,slow=35						
PCI	**Palu**	**21.98**	**275**	P	**P**	**01 01 55.3**	**-1.5**
	38nm,1.1s						
MPSI	**Mapaga**	**22.07**	**278**	P	**P**	**01 01 59.0**	**+1.2**
STKA	**Stephens Creek**	**28.81**	**180**	P	**P**	**01 02 58.0**	**-2.5**
	0.9nm,0.5s,baz=12,slow=12,SNR=3.7						
STKA				LR	LR	01 16 39.8	
	comp=Z,137nm,18.5s,baz=218,slow=41						
**FOR

LPAZ	La Paz	144.85	124	PKP	PKPdf	01 16 41.2	+0.2
	4.0nm,0.7s,baz=206,slow=2.0,SNR=16						
KIC	Kosan Boka	146.42	277	eP	PKPdf	01 16 43.8	+0.8
	16nm,0.9s						
DBIC	Dimbokro	146.51	278	PKPbc	PKPbc	01 16 44.5	-0.1
	8.6nm,1.0s,baz=55,slow=5.4,SNR=7.4						
TIC	Toumodi	146.67	278	eP	PKPbc	01 16 45.3	+0.2
LIC	Lamto	146.71	277	eP	PKPbc	01 16 45.5	+0.3
	54nm,1.5s						

MEX 13 01:25:44.5±0.6, 17°.15N×95°.36W, h125km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.46	97	i P	Pn	01 26 01.8	-1.0
TUIG	Tuzandepetl	1.26	45	i P	Pn	01 26 08.2	-1.4
TUIG				i S	Sn	01 26 26.8	-1.9
VHO	Vista Hermosa	1.31	267	eP	Pn	01 26 09.6	-0.8
VHO				eS	Sn	01 26 28.2	-1.9
HUIG	Huatulco	1.54	208	eP	Pn	01 26 11.5	-1.3
HUIG				eS	Sn	01 26 32.3	-2.1
TGIG		2.17	99	eP	Pn	01 26 19.0	-1.4
TGIG				i S	Sn	01 26 45.7	-2.3
TPIG	Tehuac#an	2.29	304	i P	Pn	01 26 21.0	-1.0
TPIG				i S	Sn	01 26 48.9	-1.8
PCIG		2.50	125	eP	Pn	01 26 25.4	+0.9
PCIG				eS	Sn	01 26 55.5	+0.2
PNIG	Pinotepa	2.75	255	i P	Pn	01 26 25.3	-2.5
PNIG				i S	Sn	01 26 57.9	-3.2
TLIG	Tlapa	3.09	278	eP	Pn	01 26 30.9	-1.3
TLIG				eS	Sn	01 27 07.1	-2.0

ISK 13 01:29:44.8, 35°.04N×30°.22E, h45km, ML3.1
DDA 13 01:29:46.7, 35°.32N×30°.25E, h7km, Md3.1
CSEM 13 01:29:48.1±0.8, 35°.33N×30°.03E, h10km, MD3.1, Error ellipse: s-maj=18.9km s-min=10.1km az=3.0

ISC 13 01:29:52.5±2.3, 35°.4N±0°.1×30°.02E±0°.05, h33km, n31, σ1°37/39, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.86	337	ePN	Pn	01 30 07.1	-1.4
AKAS				eSN	Sb	01 30 23.6	+3.1
AKAS	Kas	0.86	337	i P	Pn	01 30 08.0	-0.5
AKAS				i S	Sb	01 30 22.2	+1.7
AKAS	Kas	0.86	337	ePn	Pn	01 30 07.1	-1.4
AKAS	Kas	0.86	337	P	Pn	01 30 08.0	-0.5
AKAS				S	Sb	01 30 22.2	+1.7
AKAS				eSn	Sb	01 30 23.6	+3.1
ELL	Elmali	1.31	356	ePN	Pn	01 30 12.9	-1.7
ELL	Elmali	1.31	356	ePn	Pn	01 30 12.9	-1.7
FETY	Fethiye	1.42	328	ePN	Pn	01 30 15.2	-0.8
FETY	Fethiye	1.42	328	ePn	Pn	01 30 15.2	-0.8
FETY	Fethiye	1.42	328	P	Pn	01 30 15.8	-0.2
FETY				S	Sn	01 30 33.7	+0.2
KORT	Korkueli	1.58	10	ePN	Pn	01 30 16.7	-1.7
KORT	Korkueli	1.58	10	i P	Pn	01 30 17.9	-0.5
KORT				i S	Sb	01 30 41.7	+0.7
KORT	Korkueli	1.58	10	ePn	Pn	01 30 16.7	-1.7
KORT	Korkueli	1.58	10	P	Pn	01 30 17.9	-0.5
GLHS	Glhisar (BURDU	1.77	346	ePN	Pn	01 30 19.9	-1.0
GLHS	Glhisar (BURDU	1.77	346	ePn	Pn	01 30 19.9	-1.0
DALY	Dalyan (Mu¨la	1.77	322	ePN	Pn	01 30 19.9	-0.9
DALY	Dalyan (Mu¨la	1.77	322	ePn	Pn	01 30 19.9	-0.9
SUTC	Sutluce-Ispart	2.18	21	ePN	Pn	01 30 24.8	-1.8
SUTC	Sutluce-Ispart	2.18	21	ePn	Pn	01 30 24.8	-1.8
DAT	Datca	2.36	304	ePN	Pn	01 30 27.8	-1.3
DAT	Datca	2.36	304	ePn	Pn	01 30 27.8	-1.3
MLSB	Milas	2.59	316	ePN	Pn	01 30 31.2	-1.0
MLSB	Milas	2.59	316	ePn	Pn	01 30 31.2	-1.0
ERMK	Ermenek	2.63	62	i P	Pn	01 30 33.3	+0.5
ERMK	Ermenek	2.63	62	P	Pn	01 30 33.3	+0.5
BODT	Bodrum	2.73	307	ePN	Pn	01 30 32.9	-1.1
BODT	Bodrum	2.73	307	ePn	Pn	01 30 32.9	-1.1
DOGA	KONYA_Doganhis	2.97	26	i P	Pn	01 30 38.0	+0.5
DOGA				i S	Sn	01 31 10.6	-1.5
DOGA	KONYA_Doganhis	2.97	26	P	Pn	01 30 38.0	+0.5
DOGA				S	Sn	01 31 10.6	-1.5
KDHN	Kadinhani	3.51	28	i P	Pn	01 30 43.8	-1.0
KDHN	Kadinhani	3.51	28	P	Pn	01 30 43.8	-1.0

MAN 13 01:59:46, 16°.76N×121°.65E, h24km, mb4.4, ML3.2, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.25	42	eP	Pn	01 59 53.8	-0.4
CAUP				eS	Sb	02 00 00.9	+4.5
BALP	Baler	1.02	184	eP	Pn	02 00 04.3	-0.5
BALP				eS	Sn	02 00 19.3	+1.0
ABRA	Dolores	1.26	315	eP	Pn	02 00 08.4	+0.3
ABRA				eS	Sb	02 00 25.5	+0.7

IDC 13 02:08:46.7±3.9, 20°.60S×177°.89W, h382km±37km, mb3.6/8, mb1 3.8/9, mb1mx3.6/22, mbtmp4.4/9, Error ellipse: s-maj=23.1km s-min=13.5km az=87.0

ISC 13 02:08:48.0±0.7, 20°.6S±0°.1×177°.8W±0°.1, h400km, n16, σ1°30/21, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.84	42	S	S	02 12 34.7	-0.5
	6.8nm,0.3s,baz=233,slow=20,SNR=4.4						
URZ	Urewera	18.11	193	P	P	02 12 32.2	-1.4
	3.0nm,0.3s,baz=273,slow=4.8,SNR=12						
URZ				S	S	02 15 40.2	+0.1
	0.8nm,0.3s,baz=168,slow=19,SNR=4.3						
RPZ	Rata Peaks	24.82	199	P	P	02 13 37.3	+1.4
	4.9nm,0.4s,baz=284,slow=4.2,SNR=3.4						
STKA	Stephens Creek	37.87	244	P	P	02 15 29.1	+0.4
	3.0nm,0.6s,baz=92,slow=11,SNR=7.6						
STKA				PcP	PcP	02 17 36.5	+1.2
	0.5nm,0.3s,baz=89,slow=4.2,SNR=2.9						
ASAR	Alice Springs	44.63	257	P	P	02 16 23.2	0.0
	2.2nm,0.4s,baz=93,slow=8.0,SNR=40						
ASAR				PcP	PcP	02 17 58.1	+0.1
	1.5nm,0.6s,baz=106,slow=3.8,SNR=11						
WRA	Warramunga Arr	44.73	262	P	P	02 16 23.7	-0.3
	1.1nm,0.3s,baz=96,slow=7.8,SNR=40						
WRA				PcP	PcP	02 17 58.9	+0.6
	0.6nm,0.7s,baz=100,slow=3.1,SNR=3.2						
GUMO	Guam	49.99	310	P	P	02 17 01.6	-2.2
	30nm,0.8s,baz=323,slow=20,SNR=2.3						
KSRS	Korea Array	77.07	319	P	P	02 20 01.1	+2.6
	0.8nm,0.4s,baz=136,slow=8.5,SNR=3.3						
ILAR	Eielson Array	88.40	13	P	P	02 20 55.7	+0.3
	0.2nm,0.4s,baz=216,slow=5.6,SNR=5.7						
PDAR	Pinedale Array	88.95	43	P	P	02 21 00.1	+1.3
	0.3nm,0.7s,baz=186,slow=0.9,SNR=3.1						
CMAR	Chiang Mai Arr	90.29	290	P	P	02 21 05.8	+0.5
	1.4nm,0.3s,baz=106,slow=1.5,SNR=8.3						
ARCES	ARCESS Array B	129.07	350	PKP	PKPdf	02 27 08.2	-0.2
	0.9nm,0.6s,baz=14,slow=1.9,SNR=5.3						
AKASG	Malin Array Be	143.19	331	PKP	PKPdf	02 27 33.4	-1.7
	3.6nm,0.5s,baz=43,slow=4.3,SNR=24						
BRTR	Keskin Array B	147.03	312	PKPbc	PKPab	02 27 45.5	-2.1
	1.4nm,0.5s,baz=141,slow=4.7,SNR=12						
GERES	GERESS Array B	150.36	344	PKPbc	PKPbc	02 27 53.6	+0.7
	0.7nm,0.6s,baz=37,slow=2.5,SNR=5.3						
TORD	Torodi Ar. Bea	172.56	177	PKP	PKPdf	02 28 09.2	-1.5
	0.3nm,0.7s,baz=228,slow=1.1,SNR=2.8						
TORD				PKPab	PKPab	02 29 37.3	-0.9
	0.3nm,0.6s,baz=190,slow=4.0,SNR=3.5						

PRE 13 02:10:24.2±2.7, 17°.79S×27°.30E, h5km, ML5.1
IDC 13 02:10:25.7±1.1, 17°.71S×27°.28E, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.7/32, mbtmp3.8/8, ML4.1/4, Error ellipse: s-maj=35.1km s-min=13.9km az=105.0
BUL 13 02:10:28.8±11.0, 17°.66S×26°.68E, h0km±94km, MD3.9

ISC 13 02:10:25.0±1.4, 17°.77S±0°.03×27°.15E±0°.07, h10km±10km, n44, σ3°38/71, mb3.8/4, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	2.67	22	i P	Pg	02 11 14.9	-1.3
LSZ				i S	Sg	02 11 47.8	-3.0
LSZ	Lusaka	2.67	22	Pn	Pn	02 11 08.4	+0.3
	1.6nm,0.3s,baz=199,slow=13,SNR=58						
LSZ				Pg	Pg	02 11 14.0	-2.1
	26nm,0.3s,baz=196,slow=15,SNR=69						
LSZ				Lg	Lg	02 11 47.0	
	128nm,0.3s,baz=90,slow=23,SNR=19						
LSZ	Lusaka	2.67	22	eP	Pn	02 11 09.2	+1.1
LSZ				eS	Sn	02 11 39.3	-1.3
BLWY	Bulawayo	2.73	150	i P	Pb	02 11 13.1	-1.0
BLWY				i S	Sg	02 11 52.1	-0.8
BLWY	Bulawayo	2.73	150	i P	Pg	02 11 19.2	+1.8
BLWY				i S	Sg	02 11 53.5	+0.5
MATP	Matopo	2.94	155	i P	Pb	02 11 15.8	-1.8
MATP				i S	Sg	02 11 57.1	-2.3
MATP	Matopo	2.94	155	i P	Pg	02 11 21.6	+0.3
MATP				i S	Sg	02 12 00.9	+1.5
MSNA	Messina	5.29	150	eP	Pn	02 11 46.2	+2.0
MSNA				eS	Sn	02 12 44.5	-0.9
MSNA				AML	AML	02 13 16.0	
	comp=Z,486nm,0.5s						
LBTB	Lobatse	7.36	191	i P	Pn	02 12 17.0	+4.3
LBTB				i S	Sn	02 13 39.3	+3.0
LBTB	Lobatse	7.36	191	Pn	Pn	02 12 16.6	+4.0
	comp=Z,5.7nm,0.3s,baz=4.9,slow=16,SNR=58						
LBTB				Sn	Sn	02 13 38.0	+1.8
	comp=Z,5.0nm,0.3s,baz=281,slow=9.8,SNR=5.3						
LBTB				Lg	Lg	02 14 18.3	
	comp=Z,8.2nm,0.3s,baz=104,slow=22,SNR=10						
LBTB	Lobatse	7.36	191	eP	Pn	02 12 15.0	+2.4
LBTB				eS	Sn	02 13 34.1	-2.2
LBTB				AML	AML	02 14 40.8	
	comp=Z,66nm,0.6s						
SLR	Silverton	8.00	173	eP	Pn	02 12 22.4	+0.9
SLR				eS	Sn	02 13 46.7	-5.4
SLR				AML	AML	02 14 45.6	
	comp=Z,58nm,0.5s						
KSR	Koster	8.05	182	eP	Pn	02 12 24.3	+2.1
KSR				eS	Sn	02 13 50.5	-2.9
KSR				AML	AML	02 14 49.9	
	comp=Z,26nm,0.6s						
ERPM	east rand prop	8.60	173	eP	Pn	02 12 27.5	-2.2
ERPM				eS	Sn	02 14 01.0	-5.9
ERPM				AML	AML	02 14 60.0	
	comp=Z,42nm,0.5s						
PRYS	Parys	9.12	179	eP	Pn	02 12 38.0	+1.1
PRYS				eS	Sn	02 14 15.6	-4.1
PRYS				AML	AML	02 15 18.4	
	comp=Z,46nm,0.6s						
TSUM	Tsumeb	9.19	260	eP	Pn	02 12 39.3	+1.4
TSUM				eS	Sn	02 14 21.7	+0.2
TSUM				AML	AML	02 15 33.1	
SWZ	Schweizer	9.52	190	eP	Pn	02 12 41.4	-1.0
SWZ				eS	Sn	02 14 24.6	-4.9
SWZ				AML	AML	02 15 28.6	
	comp=Z,34nm,0.7s						
SEK	Senekal	10.52	178	eP	Pn	02 12 55.8	-0.2
SEK				eS	Sn	02 14 48.1	-5.9
SEK				AML	AML	02 16 16.1	
	comp=Z,40nm,0.8s						
WIN	Windhoek	10.58	242	i P	Pn	02 13 00.3	+3.4
WIN	Windhoek	10.58	242	i P	Pn	02 13 01.2	+4.3
BOSA	Boshof	10.94	189	i P	Pn	02 13 00.8	-1.0
BOSA				i S	Sn	02 14 57.2	-7.0
BOSA	Boshof	10.94	189	i P	Pn	02 13 04.1	+2.3
BOSA				i S	Sn	02 14 59.9	-4.3
BOSA	Boshof	10.94	189	Pn	Pn	02 13 04.5	+2.7
	comp=Z,2.0nm,0.3s,baz=4.3,slow=12,SNR=42						
BOSA				Sn	Sn	02 15 00.8	-3.4
	comp=Z,2.7nm,0.3s,baz=117,slow=10,SNR=5.1						
BOSA				Lg	Lg	02 16 10.8	
	comp=Z,4.4nm,0.3s,baz=115,slow=16,SNR=7.2						
BOSA	Boshof	10.94	189	eP	Pn	02 13 03.8	+2.1
BOSA				eS	Sn	02 14 57.5	-6.7
BOSA				AML	AML	02 16 14.1	
	comp=Z,34nm,0.6s						
KJAB	KAMANJAB	11.80	259	i P	Pn	02 13 15.5	+1.8
UPI	Upington	11.86	206	i P	Pn	02 13 04.2	-10
UPI				i S	Sn	02 15 19.4	-7.4
UPI	Upington	11.86	206	i P	Pn	02 13 17.1	+2.8
UPI	Upington	11.86	206	eP	Pn	02 13 15.4	+1.1
UPI				eS	Sn	02 15 21.5	-5.3
UPI				AML	AML	02 16 49.7	
	comp=Z,10.0nm,0.6s						
KEIM	Keimoes	12.28	206	eP	Pn	02 13 20.9	+0.8
KEIM				eS	Sn	02 15 32.7	-4.4
KEIM				AML	AML	02 16 54.9	
	comp=Z,12nm,0.7s						
ARMS	Ukamas	12.29	212	i P	Pn	02 13 23.2	+3.0
PKA	Prieska	12.51	198	eP	Pn	02 13 25.6	+2.3
PKA				eS	Sn	02 15 35.4	-7.4
PKA				AML	AML	02 17 18.8	
	comp=Z,312nm,0.7s						
KSD	Kokstad	12.88	171	eP	Pn	02 13 28.2	-0.1
KSD				eS	Sn	02 15 41.7	-10
KSD				AML	AML	02 17 30.9	
	comp=Z,9.8nm,0.8s						
AUSN	Aus	13.42	227	i P	Pn	02 13 37.5	+1.8
AUSN				i S	Sn	02 15 59.7	-5.4
AUSN	Aus	13.42	227	i P	Pn	02 13 37.0	+1.3
KOMG	Komaggas	14.88	215	i P	Pn	02 13 51.1	-4.4
KOMG	Komaggas	14.88	215	i P	Pn	02 13 57.0	+1.5
KOMG	Komaggas	14.88	215	eP	P	02 13 59.0	-2.4
KOMG				eS	Sn	02 16 34.7	-5.8
KOMG				AML	AML	02 18 40.4	
	comp=Z,6.5nm,0.7s						
SUR	Sutherland	15.64	200	eP	Pn	02 14 07.3	+1.6
SUR				eS	Sn	02 16 52.6	-6.6
SUR				AML	AML	02 18 48.7	
	comp=Z,22nm,0.7s						
KMBO	Kilima Mbogo	19.29	32	P	Pn	02 14 51.4	+0.1
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=3.8						
KMBO				Lg	Lg	02 20 26.3	
	comp=Z,0.1nm,0.3s,baz=159,slow=4.0,SNR=3.1						
TORD	Torodi Ar. Bea	39.69	319	P	P	02 17 59.9	+2.3
	comp=Z,1.0nm,0.6s,baz=140,slow=8.6,SNR=22						
MAW	Mawson	54.79	164	P	P	02 19 56.9	+2.2
	comp=Z,0.6nm,0.6s,baz=334,slow=9.2,SNR=3.8						
ESDC	Sonseca Array	64.10	334	P	P	02 21 01.8	+2.4
	comp=Z,0.2nm,0.6s,baz=164,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	81.15	35	P	P	02 22 42.0	+1.2
	comp=Z,0.7nm,0.7s,baz=234,slow=5.0,SNR=3.0						
TXAR	Lajitas Array	133.77	294	PKP	PKPdf	02 29 45.6	+2.7
	comp=Z,0.4nm,0.8s,baz=104,slow=2.2,SNR=4.7						

IDC 13 02:20:06.7±13.0, 18°.80S×167°.88E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=221.7km s-min=41.2km az=82.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.52	202	Pn	Pn	02 21 02.2	-0.6
	4.8nm,0.3s,baz=97,slow=9.5,SNR=32						
DZM				Sn	Sn	02 21 44.4	-0.8
	7.5nm,0.3s,baz=305,slow=21,SNR=14						
STKA	Stephens Creek	27.01	236	P	P	02 25 50.9	+0.5
	0.8nm,0.4s,baz=86,slow=13,SNR=4.0						
WRA	Warramunga Arr	31.63	262	P	P	02 26 31.3	-0.5
	0.4nm,0.4s,baz=89,slow=8.4,SNR=12						
ASAR	Alice Springs	31.99	255	P	P	02 26 35.2	+0.4
	2.2nm,0.6s,baz=83,slow=9.0,SNR=30						

IDC 13 02:22:27.8±1.2, 25°.57S×178°.27W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/31, mbtmp3.8/4, MS3.8/12, Ms1 3.8/12, ms1mx3.6/29, Error ellipse: s-maj=63.0km s-min=28.7km az=159.0

ISC 13 02:22:33.0±1.2, 25°.6S±0°.4×178°.3W±0°.3, h35km, n25, σ0°85/9, mb3.8/4, MS3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	13.11	29	LR	LR	02 29 32.7	
	comp=Z,91nm,19.1s,baz=200,slow=32						
URZ	Urewera	13.24	196	LR	LR	02 29 38.6	
	comp=Z,972nm,19.1s,baz=18,slow=32						
DZM	Mont Dzumac	14.39	281	LR	LR	02 29 52.6	
	comp=Z,211nm,18.9s,baz=59,slow=31						
RAR	Rarotonga	17.55	80	LR	LR	02 34 31.9	
	comp=Z,124nm,18.1s,baz=252,slow=41						
RPZ	Rata Peaks	20.08	203	LR	LR	02 33 29.8	
	comp=Z,391nm,21.9s,baz=32,slow=33						
HNR	Honiara	26.16	304	LR	LR	02 37 37.2	
	comp=Z,175nm,18.8s,baz=182,slow=35						
PPT	Papeete	27.83	79	LR	LR	02 37 27.4	
	comp=Z,78nm,18.7s,baz=260,slow=32						
STKA	Stephens Creek	35.58	250	P	P	02 29 27.7	+0.5
	0.8nm,0.6s,baz=124,slow=12,SNR=2.8						
STKA				LR	LR	02 41 40.5	
	comp=Z,301nm,21.4s,baz=62,slow=32						
ASAR	Alice Springs	43.31	262	P	P	02 30 32.0	+0.2
	1.6nm,1.0s,baz=108,slow=8.6,SNR=11						
ASAR				LR	LR	02 46 36.2	
	comp=Z,174nm,20.6s,baz=165,slow=33						
WRA	Warramunga Arr	43.85	267	P	P	02 30 36.0	-0.2
	4.2nm,0.9s,baz=106,slow=7.8,SNR=11						
VNDA	Vanda	52.87	185	LR	LR	02 51 07.9	
	comp=Z,171nm,19.8s,baz=256,slow=32						
KDAK	Kodiak Island	85.78	13	LR	LR	03 06 28.4	
	comp=Z,52nm,20.5s,baz=208,slow=31						
MA2	Magadan	88.57	345	LR	LR	03 08 33.6	
	comp=Z,54nm,21.4s,baz=135,slow=31						
PDAR	Pinedale Array	92.82	43	P	P	02 35 43.1	+0.9
	0.3nm,0.9s,baz=234,slow=5.5,SNR=2.1						
H10S3	ASCENSION HYDR	142.18	153	T	T	05 19 53.5	
	baz=205,slow=75,SNR=90						
H10S2	ASCENSION HYDR	142.18	153	T	T	05 19 49.1	
	baz=205,slow=75,SNR=87						
H10S1	ASCENSION HYDR	142.19	153	T	T	05 19 48.1	
	baz=205,slow=75,SNR=112						
H10N3	ASCENSION HYDR	143.25	152	T	T	05 21 11.7	
	baz=204,slow=75,SNR=94						
H10N1	ASCENSION HYDR	143.25	153	T	T	05 21 19.6	
	baz=204,slow=75,SNR=89						
H10N2	ASCENSION HYDR	143.26	152	T	T	05 21 18.1	
	baz=204,slow=75,SNR=79						
NB2	NORSAR Subarra	143.94	352	PKP	PKPdf	02 42 03.2	-1.0
	comp=Z,30nm,1.7s,baz=20,slow=3.6						
NOA	NORSAR Array B	143.94	352	PKP	PKPdf	02 42 03.4	-0.9
	comp=Z,0.5nm,0.8s,baz=21,slow=3.8,SNR=3.3						
HFS	Hagfors	144.46	350	PKP	PKPdf	02 42 05.4	+0.4
	comp=Z,6.3nm,1.1s,baz=121,slow=5.6,SNR=3.2						
AKASG	Malin Array Be	147.20	327	PKPbc	PKPbc	02 42 11.2	-1.1
	comp=Z,0.2nm,0.3s,baz=40,slow=3.6,SNR=3.4						
TORD	Torodi Ar. Bea	167.65	180	PKPab	PKPab	02 43 41.9	-0.4
	comp=Z,1.1nm,0.9s,baz=155,slow=4.5,SNR=5.2						

IDC 13 02:26:50.4±1.8, 3°.82N×127°.80E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/51, mbtmp3.8/5, Error ellipse: s-maj=163.2km s-min=19.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.47	165	P	P	02 32 11.6	+0.2
	0.5nm,0.4s,baz=344,slow=10.0,SNR=8.7						
ASAR	Alice Springs	27.96	168	P	P	02 32 43.2	+0.4
	0.5nm,0.4s,baz=352,slow=7.5,SNR=11						
STKA	Stephens Creek	37.85	161	P	P	02 34 08.1	-0.9
	0.8nm,0.5s,baz=0.1,slow=8.1,SNR=3.3						
MKAR	Makanchi Array	58.10	325	P	P	02 36 46.1	+0.4
	0.5nm,0.4s,baz=120,slow=8.1,SNR=6.5						
KURBB	Kurchatov Arra	62.25	327	P	P	02 37 13.6	-0.4
	0.3nm,0.3s,baz=118,slow=7.1,SNR=2.3						

ISCJB 13 02:38:20.2±0.3, 6°.08N±0°.03×73°.68W±0°.03, h132km±3km, mb3.4/7, Error ellipse: s-maj=6.4km s-min=3.9km az=34.4
IDC 13 02:38:20.7±0.6, 6°.08N×73°.62W, h126km±7km, mb3.4/7, mb1 3.7/11, mb1mx3.4/36, mbtmp3.9/11, MS3.6/1, Ms1 3.6/1, ms1mx2.7/15, Error ellipse: s-maj=18.4km s-min=8.3km az=132.0
RSNC 13 02:38:22.4±1.1, 6°.06N×73°.70W, h114km±7km, ML3.9

ISC 13 02:38:20.6±0.6, 6°.05N±0°.03×73°.65W±0°.04, h129km±5km, n37, σ1°27/58, mb3.4/7, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	La Rusia	0.59	106	⇑ i P	Pn	02 38 41.0	+0.3
RUSC				i		02 38 41.5	
	comp=Z,2μm,0.3s						
RUSC				eS	Sn	02 38 54.7	-1.1
BARC	Barichara	0.71	41	i P	Pn	02 38 41.8	+0.5
BARC				eS	Sn	02 38 56.5	-0.3
BARC				i		02 38 58.5	
	comp=Z,5μm,0.3s						
BTLC	Betulia, Santa	0.94	24	eP	Pn	02 38 43.8	+0.7
BRRC	Barranca, Sant	1.05	357	⇑ i P	Pn	02 38 44.0	+0.1
BRRC				eS	Sn	02 39 00.7	-0.9
BRRC				i		02 39 08.9	
	comp=Z,1μm,0.1s						
GIRC	Giron, Santand	1.11	24	eP	Pn	02 38 45.5	+0.7
GIRC				eS	Sn	02 39 02.2	-0.8
NORC	Norcasia	1.30	248	eP	Pn	02 38 45.5	-1.0
NORC				eS	Sn	02 39 04.7	-1.6
ROSC	El Rosal	1.38	209	P	Pn	02 38 48.5	+0.8
	comp=Z,90nm,0.3s,baz=305,slow=9.7,SNR=169						
ROSC				S	Sn	02 39 08.4	+0.1
	comp=Z,218nm,0.3s,baz=159,slow=22,SNR=11						
ROSC	El Rosal	1.38	209	⇓ i P	Pn	02 38 48.5	+0.8
ROSC				eS	Sn	02 39 08.6	+0.4
ROSC				i		02 39 17.1	
	comp=Z,966nm,0.4s						
YOPC	Yopal, Colombi	1.41	120	eP	Pn	02 38 49.1	+1.4
YOPC				i		02 39 12.0	
	comp=Z,796nm,0.2s						
CHIC	Chingaza	1.42	183	⇓ i P	Pn	02 38 48.4	+0.2
CHIC				eS	Sn	02 39 08.5	-0.7
CHIC				i		02 39 14.6	
	comp=Z,685nm,0.3s						
PAMC	Pamplona, Colo	1.59	36	eP	Pn	02 38 51.0	+0.9
PAMC				eS	Sn	02 39 12.3	-0.3
PAMC				i		02 39 18.7	
	comp=Z,483nm,0.3s						
CBRI	Barrientos, No	1.86	27	eP	Pn	02 38 54.2	+1.2
CBRI				eS	Sn	02 39 18.4	+0.7
ZARC	Zaragoza, Cauc	1.86	320	eP	Pn	02 38 52.4	-0.5
ZARC				eS	Sn	02 39 16.7	-0.9
ZARC				i		02 39 21.8	

TORD	**Torodi Ar. Bea**	74.41	78	P		P	02 49 43.8	-1.3
	comp=Z,0.1nm,0.5s,baz=280,slow=6.6,SNR=3.4							
ILAR	**Eielson Array**	77.43	335	P		P	02 50 01.1	-0.2
	comp=Z,0.2nm,0.7s,baz=108,slow=3.3,SNR=4.2							
NOA	**NORSAR Array B**	82.25	29	P		P	02 50 28.9	+1.5
	comp=Z,0.7nm,0.6s,baz=269,slow=5.5,SNR=3.9							
ASAR	**Alice Springs**	148.24	234	PKP		PKPdf	02 57 49.4	+0.4
	comp=Z,4.7nm,0.6s,baz=118,slow=3.7,SNR=56							
ASAR				PKPbc		PKPbc	02 57 52.2	-0.2
	comp=Z,5.1nm,0.6s,baz=119,slow=3.7,SNR=57							
ASAR				pPKPbc		pPKPdf	02 58 25.1	+1.4
	comp=Z,0.4nm,0.5s,baz=114,slow=3.6,SNR=1.4							
WRA	**Warramunga Arr**	149.50	240	PKP		PKPdf	02 57 51.7	+0.6
	comp=Z,4.9nm,0.5s,baz=110,slow=2.6,SNR=50							
WRA				PKPbc		PKPbc	02 57 55.8	+0.1
	comp=Z,4.1nm,0.4s,baz=109,slow=2.6,SNR=124							
WRA				pPKPbc		pPKPdf	02 58 27.8	+1.9
	comp=Z,0.8nm,0.6s,baz=109,slow=2.7,SNR=2.1							

*IDC **13** 02:38:19.3±1.6, 29°.89S×176°.34W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/35, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=37.5km s-min=21.9km az=44.0*
*NEIC **13** 02:38:24.4±2.7, 29°.93S×176°.37W, h35km±19km, mb4.2/4, Error ellipse: s-maj=25.3km s-min=14.9km az=66.0*

ISC 13 02:38:23.4±1.2, 30°.06S±0°.08×176°.5W±0°.1, h24km, n22, σ1§62/28, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.49	302	Pn		**Pb**	02 38 49.3	-1.0
	150nm,0.3s,baz=179,slow=21,SNR=3.7							
RAO				Sn		**Sb**	02 39 08.4	-0.5
	254nm,0.3s,baz=191,slow=20,SNR=3.5							
RAO	**Raoul Island**	1.49	302	*e*Pn		**Pb**	02 38 49.3	-1.0
RAO				*e*Sn		**Sn**	02 39 07.5	+0.2
RAO				*e*Sn		**Sb**	02 39 08.4	-0.5
URZ	**Urewera**	9.74	211	Pn		**Pn**	02 40 43.1	+1.1
	0.7nm,0.3s,baz=162,slow=20,SNR=2.8							
URZ				Sn		**Sn**	02 42 32.2	+1.5
	2.7nm,0.3s,baz=291,slow=18,SNR=6.8							
URZ	**Urewera**	9.74	211	*e*Pn		**Pn**	02 40 40.7	-1.3
URZ				*e*Sn		**Sn**	02 42 32.9	+2.2
OUZ	**Omahuta**	9.82	236	*e*Pn		**Pn**	02 40 44.4	+1.4
BKZ	**Black Stump Fm**	10.77	211	*e*Pn		**Pn**	02 40 52.7	-3.3
BFZ	**Birch Farm**	12.14	207	*e*Pn		**Pn**	02 41 13.2	-1.6
BFZ				*e*Sn		Sn	02 43 19.8	-9.5
THZ	**Tophouse**	14.48	213	*e*Pn		**Pn**	02 41 45.2	-1.7
THZ				*e*Sn		**Sn**	02 44 22.5	-4.2
RPZ	**Rata Peaks**	16.86	213	P		**Pn**	02 42 18.3	+0.7
	1.0nm,0.3s,baz=228,slow=11,SNR=4.1							
STKA	**Stephens Creek**	35.84	256	P		**P**	02 45 22.4	+1.2
	1.2nm,0.5s,baz=109,slow=14,SNR=3.7							
STKA	**Stephens Creek**	35.84	256	*e*P		**P**	02 45 22.4	+1.2
	4.9nm,1.9s							
COEN	**Coen**	40.45	284	*e*P		**P**	02 46 01.6	+1.3
	6.6nm,1.2s							
AS31	**Alice Springs**	44.44	266	*e*P		**P**	02 46 33.3	+0.6
	1.6nm,1.3s							
ASAR	**Alice Springs**	44.44	266	P		**P**	02 46 33.3	+0.6
	0.3nm,0.5s,baz=100,slow=8.3,SNR=6.0							
WB2	**Warramunga Arr**	45.39	271	*e*P		**P**	02 46 39.4	-0.8
WR1	**Warramunga Arr**	45.40	271	*e*P		**P**	02 46 40.1	-0.2
	24nm,1.9s							
WRA	**Warramunga Arr**	45.40	271	P		**P**	02 46 40.1	-0.2
	1.1nm,0.5s,baz=111,slow=7.3,SNR=17							
VNDA	**Vanda**	48.57	186	P		**P**	02 47 05.5	+1.2
	0.6nm,0.7s,baz=359,slow=4.5,SNR=2.8							
FIA0	**FINESS Array S**	145.27	341	*e*PKPbc		**PKPbc**	02 57 56.1	-1.9
FINES	**FINESS Array B**	145.27	341	PKPbc		**PKPbc**	02 57 56.1	-1.9
	1.9nm,0.7s,baz=67,slow=5.0,SNR=9.7							
TORD	**Torodi Ar. Bea**	163.08	174	PKPab		**PKPab**	02 59 14.7	+0.7
	2.8nm,0.8s,baz=191,slow=4.0,SNR=16							
TOA1	**Torodi Ar. Sit**	163.09	174	*e*PKPab		**PKPab**	02 59 14.7	+0.7

*ISCJB **13** 02:46:26.9±0.6, 37°.08N±0°.09×135°.13E±0°.09, h350km, mb3.1/4, Error ellipse: s-maj=12.0km s-min=9.4km az=178.6*
*JMA **13** 02:46:26.9±0.2, 36°.95N×135°.25E, h364km±2km, M2.6*
*IDC **13** 02:46:26.7±0.8, 36°.97N×135°.26E, h365km±14km, mb3.0/4, mb1 3.1/8, mb1mx2.9/46, mbtmp3.7/8, Error ellipse: s-maj=27.9km s-min=15.6km az=46.0*

ISC 13 02:46:26.6±0.9, 37°.0N±0°.1×135°.19E±0°.08, h350km, n12, σ1§66/14, mb3.2/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	1.72	174	P		**Pn**	02 47 17.8	+1.7
JWT				*e*S		**S**	02 47 56.9	+1.1
MJAR	**Matsushiro Arr**	2.47	100	P		**Pn**	02 47 22.7	+1.3
	0.3nm,0.3s,baz=281,slow=8.5,SNR=5.7							
MJAR				S		**S**	02 48 07.9	+2.4
	0.4nm,0.3s,baz=288,slow=18,SNR=5.1							
JSD	**Sado**	2.65	66	P		**Pn**	02 47 24.5	+1.7
JIE	**Ise**	2.88	154	P		**Pn**	02 47 26.2	+1.2
JMM	**Marumori**	4.54	77	*e*S		**S**	02 48 40.1	-1.4
KSRS	**Korea Array**	5.81	277	P		**Pn**	02 47 57.3	+2.1
	0.2nm,0.3s,baz=93,slow=12,SNR=6.0							
USRK	**Ussuriysk Ar.**	7.59	342	P		**Pn**	02 48 17.2	+1.5
	0.6nm,0.3s,baz=153,slow=10,SNR=8.8							
ASAJ	**Asahikawa**	9.07	36	P		**Pn**	02 48 33.6	+0.4
	2.5nm,0.3s,baz=221,slow=11,SNR=5.8							
CMAR	**Chiang Mai Arr**	36.73	250	P		**P**	02 53 00.9	-0.9
	1.0nm,0.3s,baz=49,slow=9.7,SNR=2.4							
MKAR	**Makanchi Array**	39.90	301	P		**P**	02 53 26.4	-1.2
	0.4nm,0.6s,baz=85,slow=9.3,SNR=4.5							
WRA	**Warramunga Arr**	56.64	181	P		**P**	02 55 32.8	-1.6
	0.6nm,0.4s,baz=357,slow=7.5,SNR=14							
ASAR	**Alice Springs**	60.35	181	P		**P**	02 55 58.8	-1.0
	0.3nm,0.6s,baz=16,slow=13,SNR=4.7							

MEX 13 02:47:13.5±1.3, 14°.45N×93°.45W, h17km±191km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.27	10	*e*P		Pn	02 47 32.4	-4.0
PCIG				*i* S		Sb	02 47 47.8	-5.2
CCIG	**Comitan**	2.22	35	*e*P		Pn	02 47 49.0	-0.8
CCIG				*i* S		Sn	02 48 12.3	-4.6
TGIG		2.34	8	*e*P		Pn	02 47 49.7	-1.5
TGIG				*e*S		Sn	02 48 16.2	-3.4

IDC 13 02:58:08.3±1.8, 2°.54S×141°.19E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/28, mbtmp3.6/3, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/22, Error ellipse: s-maj=149.6km s-min=29.1km az=111.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	9.04	139	LR		LR	03 05 09.8	
	comp=Z,112nm,19.6s,baz=144,slow=47							
WRA	**Warramunga Arr**	18.55	201	P		P	03 02 26.8	0.0
	0.4nm,0.3s,baz=23,slow=12,SNR=13							
ASAR	**Alice Springs**	22.16	198	P		P	03 03 05.5	-0.6
	0.9nm,0.6s,baz=32,slow=9.3,SNR=14							
H11S3	**WAKE ISLAND Hy**	32.66	49	T		T	03 38 51.8	
	baz=232,slow=76,SNR=173							
H11S2	**WAKE ISLAND Hy**	32.67	49	T		T	03 38 50.8	
	baz=232,slow=76,SNR=142							
H11S1	**WAKE ISLAND Hy**	32.68	49	T		T	03 38 51.4	
	baz=232,slow=76,SNR=172							
H11N1	**WAKE ISLAND Hy**	33.55	48	T		T	03 39 58.2	
	baz=230,slow=76,SNR=517							
H11N2	**WAKE ISLAND Hy**	33.57	48	T		T	03 39 57.5	
	baz=230,slow=76,SNR=720							
H11N3	**WAKE ISLAND Hy**	33.57	48	T		T	03 40 00.9	
	baz=230,slow=76,SNR=217							
ILAR	**Eielson Array**	84.65	24	P		P	03 10 44.0	+0.3
	0.5nm,0.8s,baz=269,slow=4.1,SNR=6.1							

*WAR **13** 03:06:56.3, 51°.48N×16°.11E, h1km*
*CSEM **13** 03:06:56.2±0.5, 51°.46N×16°.10E, h2km, ML2.7/4, Error ellipse: s-maj=6.7km s-min=3.7km az=2.0*

PRU 13 03:06:56.2, 51°.48N×16°.12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.65	170	*e*Pg	Pg	03 07 08.5	-0.1
KSP				*e*Sg	Sg	03 07 17.2	+0.3
KSP	**Ksiaz**	0.65	170	*e*Pg	Pg	03 07 08.5	-0.1
KSP				*e*Sg	Sg	03 07 17.2	+0.3
UPC	**Upice**	0.98	184	*e*PG	Pg	03 07 14.0	-0.9
UPC				*e*SG	Sg	03 07 27.6	+0.1
	comp=Z,12nm,0.4s						
UPC	**Upice**	0.98	184	Pg	Pg	03 07 14.0	-0.9
UPC				Sg	Sg	03 07 27.6	+0.1
	12nm,0.4s						
DPC	**Dobruska-Polom**	1.14	173	*e*PG	Pg	03 07 17.4	-0.6
DPC				*e*SG	Sg	03 07 32.3	-0.4
	comp=Z,3.3nm,0.2s						
DPC	**Dobruska-Polom**	1.14	173	Pg	Pg	03 07 17.4	-0.6
DPC				Sg	Sg	03 07 32.3	-0.4
	3.3nm,0.2s						
PVCC	**Panska Ves**	1.37	226	*e*PG	Pg	03 07 22.1	-0.3
PVCC				*e*SG	Sb	03 07 40.7	+0.1
	comp=Z,16nm,0.2s						
PVCC	**Panska Ves**	1.37	226	Pg	Pg	03 07 22.1	-0.3
PVCC				Sg	Sb	03 07 40.7	+0.1
	16nm,0.2s						
KRLC	**Kraliky**	1.47	163	*e*PG	Pn	03 07 23.8	-0.2
KRLC				*e*SG	Sg	03 07 42.2	-1.1
KRLC	**Kraliky**	1.47	163	Pg	Pn	03 07 23.8	-0.2
KRLC				Sg	Sg	03 07 42.2	-1.1
BRG	**Berggiesshubel**	1.50	247	PG	Pn	03 07 24.4	+0.1
BRG				SG	Sg	03 07 44.3	0.0
	8.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	1.78	209	*e*SG	Sb	03 07 52.7	+0.1
GOPC	**GO Pecny, Ondr**	1.78	209	Sg	Sb	03 07 52.7	+0.1
PRU	**Pruhonice**	1.80	214	*e*SG	Sb	03 07 53.2	+0.1
PRU	**Pruhonice**	1.80	214	Sg	Sb	03 07 53.2	+0.1
MORC	**Moravsky Berou**	1.93	151	*e*Pn	Pn	03 07 30.3	0.0
MORC				*e*Sg	Sn	03 07 53.7	-1.6
CLL	**Collm**	1.96	266	*e*Pg	Pb	03 07 32.0	-0.7
CLL				*e*Sg	Sg	03 07 59.0	-0.1
	comp=Z,4.0nm,0.5s						
OKC	**Ostrava-Krasne**	2.09	141	*e*SG	Sg	03 08 03.8	+0.5
OKC	**Ostrava-Krasne**	2.09	141	Sg	Sg	03 08 03.8	+0.5
NKC	**Novy Kostel**	2.64	243	*e*SG	Sg	03 08 20.2	-0.8
	comp=Z,3.8nm,0.3s						
NKC	**Novy Kostel**	2.64	243	Sg	Sg	03 08 20.2	-0.8
	comp=Z,3.8nm,0.3s						
KHC	**Kasperske Hory**	2.86	216	*e*SG	Sg	03 08 26.3	-1.8
KHC	**Kasperske Hory**	2.86	216	Sg	Sg	03 08 26.3	-1.8

DDA 13 03:13:10.2, 39°.61N×38°.62E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	0.36	196	*i* P		Pg	03 13 16.9	-0.3
KEMA				*i* S		Sg	03 13 23.3	+1.4
CUZAR	**Zara_SIVAS**	0.71	293	*i* P		Pg	03 13 23.7	-0.2
CUZAR				*i* S		Sb	03 13 34.8	-0.2
TNCL	**Tunceli-Merkez**	0.87	125	*i* P		Pb	03 13 27.6	-0.1
TNCL				*i* S		Sb	03 13 39.7	+0.2

*BJI **13** 03:16:24.7, 9°.30S×114°.60E, h5km, mb5.5/73, mB5.6/63, Ms5.8/91, Ms7 5.6/80*
*NEIC **13** 03:16:29.0±0.0, 9°.58S×114°.63E, h45km, Moment Tensor Solution. s28 Moment tensor: Scale 10^{18}Nm; M_{rr}0.60; $M_{\theta\theta}$0.80; $M_{\phi\phi}$-1.40; $M_{r\theta}$-1.00; $M_{\theta\phi}$1.50; $M_{\phi r}$-0.10; Best double couple: $M_0$2.00000×10^{18} NP1:ϕ_s292.00000°, δ74.00000°, λ28.00000°. NP2:ϕ_s194.00000°, δ62.00000°, λ162.00000°. Principal axes: T 2.1000, Plg31.0000°, Azm156.0000°; N 0.1000, Plg57.0000°, Azm318.0000°; P -2.2000, Plg7.0000°, Azm61.0000°;*
*MOS **13** 03:16:29.4±0.9, 9°.23S×114°.73E, h51km, mb6.1/68, MS5.8/51 Error ellipse: s-maj=7.6km s-min=4.6km az=117.1*
*GCMT **13** 03:16:30.2±0.1, 9°.69S×114°.65E, h58km, MW6.2/139, Moment Tensor Solution. s139,c307; s139,c486; Duration: 2≡9 Moment tensor: Scale 10^{18}Nm; M_{rr}0.46±.01; $M_{\theta\theta}$1.10±.01; $M_{\phi\phi}$-1.56±.01; $M_{r\theta}$-0.54±.01; $M_{\theta\phi}$1.65±.01; $M_{\phi r}$0.09±.01; Best double couple: $M_0$2.20200×10^{18} NP1:ϕ_s291.00000°, δ83.00000°, λ16.00000°. NP2:ϕ_s199.00000°, δ74.00000°, λ173.00000°. Principal axes: T 2.0190, Plg16.0000°, Azm156.0000°; N 0.3650, Plg73.0000°, Azm313.0000°; P -2.3840, Plg6.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **13** 03:16:30.2±0.1, 9°.35S×114°.59E, h39km, mb6.1/125, ME6.4, MS6.0/293, MW6.1, MW6.1 Error ellipse: s-maj=4.6km s-min=3.0km az=38.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{18}Nm; M_{rr}0.73; $M_{\theta\theta}$0.55; $M_{\phi\phi}$-1.27; $M_{r\theta}$-0.68; $M_{\theta\phi}$1.09; $M_{\phi r}$-0.18; Best double couple: $M_0$1.70000×10^{18} NP1:ϕ_s193.00000°, δ62.00000°, λ153.00000°. NP2:ϕ_s297.00000°, δ66.00000°, λ31.00000°. Principal axes: T 1.6000, Plg38.0000°, Azm157.0000°; N 0.1800, Plg51.0000°, Azm330.0000°; P -1.7900, Plg3.0000°, Azm64.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC At least 43 people injured in southern Bali. Felt [V] at Denpasar, Kuta and Tabanan; [IV] at Ubud; [III] at Singaraja. Also felt at Karangasem. Felt [V] at Mataram and [IV] at Praya, Lombok. Felt [IV] at Banyuwangi, Blitar, Jember, Karangkates, Madura, Malang and Surabaya; [III] at Bondowoso, Gresik and Wonogiri; [II] at Yogyakarta, Java. Also felt at Ambulu, Kraksaan, Porong, Probolinggo, Sidoarjo, Situbondo, Tulungagung and Wlingi. Felt [III] at Sumbawa, Sumbawa.
*ISCJB **13** 03:16:31.2±0.3, 9°.41S±0°.02×114°.55E±0°.02, h67km±2km, mb5.8/233 Error ellipse: s-maj=3.2km s-min=2.3km az=28.7*
*KLM **13** 03:16:31.5, 9°.67S×114°.49E, h57km, mb6.2*
*DJA **13** 03:16:31.0±0.2, 10°.5±2°×11°.4E±°, h73km±3km, M6.4/38, mb6.3/38, mB6.6/38, MLv6.8/20, Mw(mB)6.5/38, Mwp6.1/16*
*IDC **13** 03:16:33.5±0.3, 9°.28S×114°.71E, h70km±2km, mb5.4/40, mb1 5.4/41, mb1mx5.4/41, mbtmp5.7/41, MS5.4/30, Ms1 5.4/30, ms1mx5.3/39, Error ellipse: s-maj=11.1km s-min=8.0km az=75.0*

ISC 13 03:16:32.1±0.2, 9°.36S±0°.03×114°.56E±0°.03, h63km±1km, h63km:pP-P, n1880, σ1§98/2018, mb5.9/258, 65C-50D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	0.80	47	P		**Pn**	03 16 49.7	+2.0
IGBI				S		**Sn**	03 17 02.8	+3.6
DNP	**Denpasar**	0.94	44	P		**Pn**	03 16 52.7	+3.2
JAGI	**Jajag, Banyuwa**	0.97	336	P		**Pn**	03 16 53.0	+3.0
JAGI				S		**Sn**	03 17 08.8	+5.6
JAGI	**Jajag, Banyuwa**	0.97	336	*e*Pn		**Pn**	03 16 53.3	+3.3
JAGI				*e*Sn		**Sn**	03 17 08.4	+5.2
SRBI	**Singaraja**	1.43	27	P		**Pn**	03 16 59.7	+3.8
SRBI				S		**Sn**	03 17 20.5	+6.7
KMMI	**Kalianget**	2.37	346	P		Pn	03 17 13.7	+5.0
TWSI	**Taliwang, Sumb**	2.38	75	P		**Pn**	03 17 10.6	+1.8
PLAI	**Plampang**	3.23	81	P		**Pn**	03 17 21.7	+1.4
PLAI				S		**Sn**	03 18 00.6	+3.0
UGM	**Wanagama**	4.24	290	P		**Pn**	03 17 34.9	+0.6
UGM				S		**Sn**	03 18 22.1	-0.4
UGM	**Wanagama**	4.24	290	*e*Pn		**Pn**	03 17 35.2	+1.0
UGM				*e*Sn		**Sn**	03 18 21.1	-1.4
UWJI	**Ujung Watu**	4.62	309	P		**Pn**	03 17 41.4	+2.0
UWJI				S		**Sn**	03 18 35.0	+3.2
SMRI	**Semarang**	4.68	299	P		**Pn**	03 17 42.8	+2.6
SMRI				S		**Sn**	03 18 34.5	+1.2
SMRI	**Semarang**	4.68	299	*e*Pn		**Pn**	03 17 42.6	+2.4
SMRI				*e*Sn		**Sn**	03 18 35.9	+2.6
BASI	**Baing, Sumba**	6.00	99	P		**Pn**	03 17 55.1	-3.2
	9μm,0.8s,151μm90nm							
CMJI	**Cimerak**	6.24	284	P		**Pn**	03 18 00.4	-1.2
	5μm,0.6s,73μm32nm							
CMJI				S		**Sn**	03 19 06.6	-5.0
	5μm,0.6s,73μm32nm							
BSSI	**Bau Bau, Buton**	6.70	62	P		**Pn**	03 18 10.0	+2.1
	10μm,1.3s,128μm151μm46nm							
KAPI	**Kappang**	6.73	50	P		**Pn**	03 18 11.0	+2.7
	SNR=131							
CISI	**Cisompet, Garu**	6.91	285	P		**Pn**	03 18 10.1	-0.7
	10μm,0.7s,160μm67nm							
CISI				S		**Sn**	03 19 25.7	-2.3
	10μm,0.7s,160μm67nm							
CISI	**Cisompet, Garu**	6.91	285	*e*Pn		**Pn**	03 18 11.0	+0.2
CISI				*e*Sn		**Sn**	03 19 26.2	-1.8
EDFI	**Ende, Flores**	7.07	86	P		**Pn**	03 18 11.1	-2.0
	5μm,0.6s,85μm111μm23nm							
PBKI	**Pangkalan Bun**	7.21	336	P		**Pn**	03 18 19.6	+4.7
	5μm,1.1s,52μm98μm19nm							
BNSI	**Bone**	7.39	49	P		**Pn**	03 18 21.3	+3.9
	7μm,1.5s,153μm108μm33nm							
BNSI				S		**Sn**	03 19 46.7	+6.8
	7μm,1.5s,153μm108μm33nm							
SPSI	**Sidrap Palu**	7.45	44	P		**Pn**	03 18 21.6	+3.3
	1μm,1.8s,45μm7.8nm							
MMRI	**Maumere**	7.62	85	P		**Pn**	03 18 18.9	-1.7
	6μm,1.2s,203μm144μm55nm							
MMRI				S		**Sn**	03 19 44.3	-1.3
	6μm,1.2s,203μm144μm55nm							
MMRI	**Maumere**	7.62	85	*e*Pn		**Pn**	03 18 20.0	-0.6
MMRI				*e*Sn		**Sn**	03 19 45.6	+0.1
CNJI	**Cibinong**	7.63	285	P		**Pn**	03 18 19.7	-0.9
	5μm,0.5s,94μm32nm							
TTSI	**Tana Toraja**	8.17	40	P		**Pn**	03 18 32.4	+4.3
	1μm,0.9s,40μm							
DBJI	**Dramaga**	8.22	289	P		**Pn**	03 18 29.4	+0.7
	2μm,0.6s,50μm							
SKJI	**Sukabumi**	8.26	286	P		**Pn**	03 18 29.3	0.0
	4μm,0.6s,80μm42μm							
MTKI	**Muara Teweh, K**	8.37	2	P		Pn	03 18 36.3	+5.5
	4μm,0.7s,59μm39μm							
BKB	**Balikpapan**	8.38	16	P		Pn	03 18 41.3	+10
BBSI	**Bau Bau**	8.83	65	P		**Pn**	03 18 41.0	+3.9
	1μm,1.0s,25μm							
XMIS	**Christmas Isla**	8.84	262	*e*Pn		**Pn**	03 18 33.3	-4.0
XMIS				*e*Sn		Sn	03 20 01.8	-14
SBJI	**Serang**	8.95	291	P		**Pn**	03 18 39.2	+0.5
	2μm,1.6s,39μm							
CGJI	**Cibinong**	9.19	287	P		**Pn**	03 18 41.1	-0.9
	6μm,0.5s,55μm							
CGJI				S		**Sn**	03 20 19.7	-4.3
	6μm,0.5s,55μm							
SOEI	**Soe**	9.59	93	P		**Pn**	03 18 45.4	-2.1
	4μm,0.6s,110μm92μm							
SOEI	**Soe**	9.59	93	*e*Pn		**Pn**	03 18 44.9	-2.6
KDI	**Kendari**	9.64	57	P		**Pn**	03 18 51.7	+3.5
	1μm,2.0s,33μm134μm							
STKI	**Sintang**	9.86	342	P		Pn	03 18 56.7	+5.6
	2μm,1.0s,26μm53μm							
PCI	**Palu**	9.91	32	P		Pn	03 18 56.8	+4.9
	2μm,1.8s,41μm72μm							
BLSI	**Bandar Lampung**	10.05	293	P		**Pn**	03 18 54.3	+0.5
	1μm,0.7s,16μm							
KASI	**Kota Agung**	10.68	290	P		**Pn**	03 19 01.8	-0.6
	2μm,0.9s,17μm							
KLSI		10.80	295	P		**Pn**	03 19 04.1	+0.1
	453nm,0.7s,9μm							
APSI	**Ampana**	10.97	40	P		**Pn**	03 19 11.1	+4.8
	3μm,2.0s,79μm65μm							
MPSI	**Mapaga**	11.01	29	P		Pn	03 19 12.4	+5.5
	533nm,2.2s,23μm							
LWLI	**Liwa**	11.27	292	P		**Pn**	03 19 11.0	+0.4
	2μm,0.7s,33μm							
MDSI	**Maura Dua**	11.38	294	P		**Pn**	03 19 11.6	-0.4
	391nm,0.7s,9μm							
KSM	**Kuching**	11.57	338	*e*Pn		**Pn**	03 19 18.8	+4.2
KSM	**Kuching**	11.57	338	⇑P		**Pn**	03 19 18.1	+3.6
SBUM	**Sibu**	11.96	349	*e*Pn		Pn	03 19 25.0	+5.0
SBUM	**Sibu**	11.96	349	⇑P		Pn	03 19 25.4	+5.5
MRSI	**Marisa**	12.23	37	P		Pn	03 19 28.6	+5.0
	358nm,0.6s,28μm							
LHSI	**Lahat**	12.26	296	P		**Pn**	03 19 23.7	-0.3
	3μm,0.8s,30μm							
MNAI	**Manna**	12.54	293	*e*Pn		**Pn**	03 19 26.8	-1.0
MNAI				*e*Sn		**Sn**	03 21 43.1	-2.8
BTM	**Bintulu**	12.57	353	⇑P		**P**	03 19 34.6	-3.0
MBWA	**Marble Bar**	12.74	158	*e*Pn		Pn	03 19 21.3	-9.2
MBWA	**Marble Bar**	12.74	158	P		Pn	03 19 21.7	-8.9
	SNR=53							
DSRI	**Dabo**	13.29	311	P		**P**	03 19 44.9	-0.7
JMBI	**JAMBI**	13.30	305	P		P	03 19 54.5	+8.8
KMSI	**Cibinong**	13.62	44	P		**P**	03 19 50.5	+1.2
MASI	**Maura Aman, Be**	13.71	296	P		**Pn**	03 19 42.9	-0.8
	4μm,1.0s,46μm							
NLAI	**Namlea**	13.87	65	P		**Pn**	03 19 48.5	+2.7
TPRI	**Tanjung Pinang**	14.29	315	P		**Pn**	03 19 51.5	+0.2
AAI	**Ambon**	14.67	68	P		**Pn**	03 19 57.4	+1.1
MYLDM	**Lahad Datu**	14.97	15	*e*Pn		**P**	03 20 06.5	+2.2
	2μm,1.3s							
MYLDM	**Lahad Datu**	14.97	15	⇑P		**P**	03 20 06.4	+2.1
RGRI	**Rengat**	15.11	306	P		**Pn**	03 20 02.9	+1.0
KNRA	**Kununurra**	15.22	116	P		**Pn**	03 19 59.6	-3.7
	baz=15,SNR=137							
MYKOM	**Kota Tinggi**	15.38	316	*e*Pn		**Pn**	03 20 03.8	-1.6
	646nm,1.6s							
MYKOM	**Kota Tinggi**	15.38	316	⇓P		**Pn**	03 20 05.5	+0.1
KKM	**Kota Kinabalu**	15.39	6	*e*Pn		**P**

KCSI	Kotacane, Aceh	21.06	307	P	P	03 21 10.2 -1.0
	comp=Z,318nm,0.7s,comp=Z,6μm					
BLDU	Ballidu	21.24	175	P	P	03 21 11.1 -1.9
	baz=21,SNR=99					
TPTI		21.38	305	P	P	03 21 13.8 -0.8
GUIM	Jordan	21.41	22	eP	P	03 21 16.1 +1.3
SKLT	Songkhla	21.51	319	P	P	03 21 17.6 +1.7
SNSI	Sinabang, Aceh	21.60	302	P	P	03 21 22.3 +5.3
WR1	Warramunga Arr	21.81	121	eP	P	03 21 17.9 -1.4
	comp=Z,535nm,0.7s					
WR1				eS	S	03 25 11.1 -6.1
WRA	Warramunga Arr	21.81	121	P	P	03 21 17.9 -1.3
	comp=Z,360nm,0.7s,baz=298,slow=12,SNR=766					
WRA				S	S	03 25 11.1 -6.1
	comp=Z,74nm,0.7s,baz=296,slow=20,SNR=10					
WRA				PKiKP	PKiKP	03 33 03.1 -0.8
	comp=Z,2.8nm,0.6s,baz=294,slow=1.1,SNR=4.7					
WRA				P3KPbc		03 55 10.5
	comp=Z,2.0nm,0.7s,baz=114,slow=4.5,SNR=16					
WRA	Warramunga Arr	21.81	121	P	P	03 21 17.9 -1.3
WRA				S	S	03 25 11.1 -6.1
WRA				pmax	pmax	
	comp=Z,412nm,0.7s					
WRA				smax	smax	
	comp=N,74nm,0.7s					
WRAB	Tennant Creek	21.82	121⇑	iP	P	03 21 17.9 -1.4
WRAB				pmax	pmax	
	comp=Z,1μm,0.7s					
WRAB	Tennant Creek	21.82	121	eP	P	03 21 17.6 -1.7
	comp=Z,550nm,0.7s					
WB2	Warramunga Arr	21.82	121	eP	P	03 21 18.0 -1.3
MSLP	Maasin	21.92	28	eP	P	03 21 21.0 +0.7
BUSP	Coron	21.95	15	eP	P	03 21 23.1 +2.3
DLV	T Lat	22.01	344	eP	P	03 21 22.9 +1.4
	comp=Z,498nm,1.2s					
KLBR	Kellerberrin	22.32	173	P	P	03 21 22.4 -2.2
	baz=22,SNR=148					
RCP	Roxas	22.32	22⇓	eP	P	03 21 25.2 +0.5
MLSI	Meulaboh, Aceh	22.60	306	P	P	03 21 26.4 -1.3
OCLP	Ormoc	22.61	26	eP	P	03 21 29.7 +1.9
SJMP	San Jose	22.64	17	eP	P	03 21 29.5 +1.5
LHMI	Lhok Sumawe	22.76	309	P	P	03 21 29.4 0.0
LHMI	Lhok Sumawe	22.76	309	eP	P	03 21 28.9 -0.5
	comp=Z,980nm,0.8s					
LHMI				eS	S	03 25 34.5 +0.7
LHMI				LR	LR	
	comp=Z,17μm,21.0s					
OTRP	Odiongan	22.82	19	eP	P	03 21 31.3 +1.3
PLP	Palo	22.88	27⇑	eP	P	03 21 31.2 +0.6
KMBL	Kambalda	22.93	164	P	P	03 21 27.9 -3.1
	baz=23,SNR=59					
AS31	Alice Springs	23.33	130	eP	P	03 21 33.8 -1.3
	comp=Z,354nm,0.6s					
AS31				eS	S	03 25 38.5 -4.5
ASAR	Alice Springs	23.33	130	P	P	03 21 33.8 -1.3
	comp=Z,784nm,0.7s,baz=304,slow=9.0,SNR=3224					
ASAR				S	S	03 25 38.5 -4.5
	comp=Z,32nm,0.7s,baz=314,slow=15,SNR=2.9					
ASAR				LR	LR	03 31 02.1
	comp=Z,11μm,20.8s,baz=302,slow=37					
ASAR				P3KPbc		03 55 03.8
	comp=Z,1.6nm,0.7s,baz=130,slow=4.6,SNR=16					
AS01	Alice Springs	23.36	130	eP	P	03 21 34.3 -1.0
BESP	Borongan	23.47	28	eP	P	03 21 36.8 +0.5
NWAO	Narrogin (SRO)	23.58	174	P	P	03 21 35.7 -1.4
	comp=Z,189nm,0.8s,baz=220,slow=10,SNR=107					
NWAO				S	S	03 25 43.1 -3.7
	comp=Z,469nm,0.6s,baz=129,slow=5.6,SNR=7.2					
NWAO	Narrogin (SRO)	23.58	174	P	P	03 21 35.4 -1.8
	baz=23,SNR=17					
NWAO				P	P	03 21 35.4 -1.8
	baz=23,SNR=17					
NWAO	Narrogin (SRO)	23.58	174	eP	P	03 21 35.9 -1.2
	comp=Z,520nm,0.8s					
NWAO				eS	S	03 25 43.1 -3.7
NWAO				LR	LR	
	comp=Z,14μm,20.0s					
NWAO	Narrogin (SRO)	23.58	174	P	P	03 21 35.5 -1.7
	SNR=18					
NWAO				P	P	03 21 35.5 -1.7
	SNR=18					
NWAO	Narrogin (SRO)	23.58	174	P	P	03 21 35.5 -1.7
	SNR=18					
LUBP	Lubang	23.63	14	eP	P	03 21 38.4 +0.6
BOAC	Boac	23.80	18	eP	P	03 21 42.8 +3.5
CNP	Catarman	23.94	25	eP	P	03 21 41.8 +1.3
TGY	Tagaytay City	24.16	15	P	P	03 21 43.2 +0.7
	comp=Z,297nm,0.3s,baz=156,slow=10,SNR=8.7					
TGY				LR	LR	03 31 56.6
	comp=Z,12μm,21.4s,baz=184,slow=38					
GQP	Guinayangan	24.41	19⇑	eP	P	03 21 47.9 +3.1
PVCP	Virac	24.72	23	eP	P	03 21 47.8 +0.2
FORT	Forrest	24.75	151	eP	P	03 21 46.5 -1.3
	comp=Z,10μm,0.6s					
FORT				LR	LR	
	comp=Z,168μm,21.0s					
SMPI	Sarmi	25.11	75	P	P	03 21 50.3 -1.0
RKGY	Rocky Gully	25.23	175	P	P	03 21 51.8 -0.3
	baz=25,SNR=53					
H01W3	Cape Leeuwin H	25.40	181	P	P	03 21 53.8 +0.4
	baz=13,slow=8.2,SNR=33					
H01W1	Cape Leeuwin H	25.41	181	P	P	03 21 53.9 +0.3
	baz=13,slow=8.2,SNR=29					
H01W2	Cape Leeuwin H	25.42	181	P	P	03 21 53.3 -0.3
	baz=13,slow=8.2,SNR=37					
MMPI	Merauke	25.53	90	P	P	03 21 54.2 -0.9
SCZP	Santa Cruz	25.53	12	eP	P	03 21 57.5 +2.5
BALP	Baler	25.89	16	eP	P	03 22 00.9 +2.6
BOLP	Bolinao	26.12	12	eP	P	03 22 05.4 +5.1
GENI	Genyem	26.33	77	P	P	03 22 00.5 -1.9
QIS	Mount Isa	26.59	118	P	P	03 22 04.1 -0.6
	baz=26,SNR=139					
PHET	Kaeng Krachan	26.64	326	P	P	03 22 06.1 +1.1
	comp=Z,123nm,0.9s,comp=Z,985nm					
JAY	Jayapura	26.87	77	P	P	03 22 04.9 -2.3
NAYO	Nakonayok	26.94	331	P	P	03 22 08.6 +0.9
	comp=Z,130nm,1.4s,comp=Z,4μm					
CAUP	Cauayan	27.11	15	eP	P	03 22 11.2 +2.0
SZP	Santa	27.37	12	PFAKE		03 22 20.0 +8.4
SZP				LR	LR	
	comp=Z,12μm,22.0s					
ABRA	Dolores	27.52	13	eP	P	03 22 12.9 0.0
CHAI	Chaiyaphum	28.02	334	P	P	03 22 18.9 +1.5
	comp=Z,97nm,0.7s,comp=Z,756nm					
KHON	Khomkaen	28.05	335	P	P	03 22 18.8 +1.1
	comp=Z,78nm,0.9s,comp=Z,681nm					
PANO	Nakornpanom	28.12	339	P	P	03 22 19.0 +0.8
	comp=Z,90nm,1.0s,comp=Z,4μm					
SKNT	Sakolnakorn	28.18	338	P	P	03 22 19.9 +1.1
COEN	Coen	28.39	102	P	P	03 22 20.8 0.0
	baz=28,SNR=129					
COEN	Coen	28.39	102	eP	P	03 22 20.9 +0.2
	comp=Z,201nm,0.8s					
SGCP	Mt. Cagua	28.41	15	eP	P	03 22 21.3 +0.5
QIZ	Qiongzhong	28.59	351	P	P	03 22 23.8 +1.3
QIZ				S	S	03 27 12.3 +5.8
QIZ				LR	LR	
	comp=Z,4μm,22.6s					
QIZ				LR	LR	
	comp=Z,7μm,19.0s					
QIZ	Qiongzhong	28.59	351	eP	P	03 22 24.4 +2.0
	comp=Z,357nm,1.8s					
UTHA	Uthaitani	28.93	329	P	P	03 22 27.0 +1.5
	comp=Z,85nm,1.0s,comp=Z,809nm					
PBKT	Sadao Pong	29.06	332	P	P	03 22 27.7 +1.1
UMPA	Umpang Tak	29.78	328	P	P	03 22 33.1 0.0
	comp=Z,93nm,0.8s,comp=Z,1μm					
MTSU	Mount Surprise	30.16	110	P	P	03 22 37.0 +0.5
	baz=30,SNR=217					
UTTA	Uttaradit	30.28	333	P	P	03 22 39.0 +1.6
	comp=Z,123nm,0.7s,comp=Z,874nm					
BBOO	Buckleboo	30.64	143	P	P	03 22 39.2 -1.3
	baz=30,SNR=810					
BBOO	Buckleboo	30.64	143	eP	P	03 22 39.2 -1.3
	comp=Z,773nm,0.7s					
BBOO				LR	LR	
	comp=Z,41μm,19.0s					
LAMP	Lampang	31.38	332	P	P	03 22 48.9 +1.8
	comp=Z,66nm,0.7s,comp=Z,493nm					
CM01	Chiang Mai Arr	31.61	331	eP	P	03 22 50.5 +1.3
CM31	Chiang Mai Arr	31.65	331	eP	P	03 22 51.7 +2.2
CM31				eScP	ScP	03 29 19.6 +1.1
CMAR	Chiang Mai Arr	31.65	331	P	P	03 22 50.9 +1.3
	comp=Z,67nm,0.5s,baz=162,slow=8.5,SNR=131					
CMAR				S	S	03 27 54.2 -0.3
	comp=Z,1.1nm,0.3s,baz=159,slow=13,SNR=3.6					
CMAR				ScP	ScP	03 29 19.6 +1.1
	comp=Z,9.6nm,0.9s,baz=180,slow=3.3,SNR=5.0					
CMAR				P3KPbc		03 54 25.7
	comp=Z,1.2nm,0.3s,baz=318,slow=6.3,SNR=4.8					
CHTO	Chiang Mai	31.95	331	P	P	03 22 53.6 +1.4
CHTO	Chiang Mai	31.95	331	eP	P	03 22 53.4 +1.2
CHTO				pmax	pmax	
	comp=Z,100nm,0.9s					
CHTO	Chiang Mai	31.95	331	eP	P	03 22 53.4 +1.2
	comp=Z,102nm,0.9s					
CHTO				LR	LR	
	comp=Z,6μm,21.0s					
CHTO	Chiang Mai	31.95	331	P	P	03 22 53.7 +1.5
	SNR=39					
CHTO				P	P	03 22 53.7 +1.5
	SNR=39					
CHTO	Chiang Mai	31.95	331	P	P	03 22 53.7 +1.5
	SNR=39					
PMG	Port Moresby	32.16	93	eP	P	03 22 53.7 -0.4
PMG				pmax	pmax	
	comp=Z,300nm,1.1s					
PMG	Port Moresby	32.16	93	eP	P	03 22 53.7 -0.4
	comp=Z,301nm,1.1s					
SLVN	Son La	32.25	341	eP	P	03 22 56.3 +1.5
	comp=Z,199nm,1.3s					
SLVN				LR	LR	
	comp=Z,12μm,20.0s					
GZH	Guangzhou	32.27	358	P	P	03 23 00.6 +5.7
GZH				S	S	03 28 12.4 +8.4
GZH				pmax	pmax	
	comp=Z,690nm,3.4s					
GZH				LR	LR	
	comp=Z,27μm,22.6s					
CTAO	Charters Tower	32.40	113	eP	P	03 22 56.6 +0.4
CTAO				pmax	pmax	
	comp=Z,430nm,1.5s					
CTAO	Charters Tower	32.40	113	eP	P	03 22 56.6 +0.4
	comp=Z,430nm,1.5s					
CTAO				LR	LR	
	comp=Z,11μm,21.0s					
TWG	Pinlang	32.62	11	PFAKE		03 23 10.0 +12
TWG				LR	LR	
	comp=Z,15μm,19.0s					
HTT	Hallett	32.82	140	P	P	03 22 59.2 -0.5
	baz=33,SNR=227					
QLP	Quilpie	32.89	125	P	P	03 23 00.6 +0.2
	baz=33,SNR=138					
TPUB	Ta-pu	33.00	10	PFAKE		03 23 10.0 +8.7
TPUB				LR	LR	
	comp=Z,8μm,22.0s					
YULB	Yu-li	33.22	11	eP	P	03 23 04.0 +0.8
	comp=Z,31nm,0.7s					
MANU	Manus Island	33.42	79	eP	P	03 23 04.6 -0.6
	comp=Z,1μm,1.8s					
MANU				LR	LR	
	comp=Z,5μm,22.0s					
SSLB	Suanglung	33.54	11	eP	P	03 23 08.8 +2.9
SSLB				epP	pP	03 23 11.0 -11
SSLB				LR	LR	
	comp=Z,6μm,20.0s					
STKA	Stephens Creek	33.62	136	P	P	03 23 06.2 -0.4
	comp=Z,833nm,0.7s,baz=306,slow=9.3,SNR=1416					
STKA				LR	LR	03 37 11.2
	comp=Z,20μm,21.9s,baz=301,slow=37					
STKA	Stephens Creek	33.62	136	P	P	03 23 06.3 -0.4
	baz=34,SNR=730					
STKA	Stephens Creek	33.62	136	eP	P	03 23 06.2 -0.4
STKA				pmax	pmax	
	comp=Z,180nm,0.7s					
STKA	Stephens Creek	33.62	136	eP	P	03 23 06.2 -0.4
	comp=Z,182nm,0.7s					
NACB	Ninganchiao	34.03	12	eP	P	03 23 09.2 -1.1
	comp=Z,53nm,0.8s					
NACB				LR	LR	
	comp=Z,12μm,22.0s					
QZH	Quanzhou	34.33	7⇓	iP	P	03 23 12.1 -0.6
QZH				PP	PnPn	03 24 29.0 -0.2
QZH				S	S	03 28 33.3 -2.5
QZH				LR	LR	
	comp=Z,6μm,12.1s					
QZH				LR	LR	
	comp=Z,8μm,15.6s					
QZH				LR	LR	
	comp=Z,21μm,24.5s					
YHNB	Yeheng	34.47	11	eP	P	03 23 16.1 +2.0
	comp=Z,138nm,1.1s					
YHNB				LR	LR	
	comp=Z,7μm,20.0s					
YOJ	Yonaguni jima	34.62	14	eP	P	03 23 13.0 -2.3
YOJ				pmax	pmax	
	comp=Z,160nm,1.0s					
YOJ	Yonaguni jima	34.62	14	eP	P	03 23 13.0 -2.3
	comp=Z,157nm,1.0s					
YOJ				LR	LR	
	comp=Z,4μm,22.0s					
TATO	Taipei	34.79	11	PFAKE		03 23 30.0 +13
TATO				LR	LR	
	comp=Z,4μm,20.0s					
KMI	Kunming	36.16	342	P	P	03 23 31.6 +2.8
KMI				S	S	03 29 08.4 +3.9
KMI				sS	sS	03 29 21.4 -10
KMI				pmax	pmax	
	comp=Z,85nm,1.0s					
KMI				pmax	pmax	
	comp=Z,1μm,4.1s					
KMI				LR	LR	
	comp=Z,8μm,20.0s					
KMI				LR	LR	
	comp=Z,12μm,17.7s					
KMI				LR	LR	
	comp=Z,12μm,19.2s					
CMSA	Cobar Meteorol	36.35	132	P	P	03 23 30.6 +0.4
	baz=36,SNR=238					
GYA	Guiyang	36.42	348⇑	iP	P	03 23 31.5 +0.6
GYA				PcP	PcP	03 25 56.5 +2.4
GYA				S	S	03 29 09.0 +0.7
GYA				SS	SnSn	03 31 42.0 -0.1
GYA				ScS	ScS	03 33 41.8 -0.2
GYA				pmax	pmax	
	comp=Z,30nm,0.8s					
GYA				pmax	pmax	
	comp=Z,900nm,5.9s					
GYA				LR	LR	
	comp=Z,6μm,23.5s					
GYA				LR	LR	
	comp=Z,6μm,18.0s					
RMQ	Roma	36.56	122	P	P	03 23 33.3 +1.2
	baz=36,SNR=18					
ARPS	Mount Arapiles	36.81	142	P	P	03 23 33.8 -0.3
	baz=37,SNR=159					
PALK	Pallekele	37.56	295	LR	LR	03 39 27.9
	comp=Z,9μm,20.2s,baz=116,slow=36					
PALK	Pallekele	37.56	295	iP	P	03 23 41.2 +0.4
	SNR=16					
PALK	Pallekele	37.56	295	iP	P	03 23 41.9 +1.2
PALK	Pallekele	37.56	295	eP	P	03 23 41.1 +0.4
	comp=Z,257nm,1.0s					
PALK	Pallekele	37.56	295	P	P	03 23 41.3 +0.6
	SNR=12					
PALK	Pallekele	37.56	295	P	P	03 23 41.3 +0.6
	SNR=12					
RABL	Rabaul	37.68	85	eP	P	03 23 40.8 -0.9
	comp=Z,293nm,0.4s					
GUMO	Guam	37.75	53	eP	P	03 23 41.2 -1.1
GUMO				pmax	pmax	
	comp=Z,360nm,0.6s					
GUMO	Guam	37.75	53	eP	P	03 23 41.2 -1.1
	comp=Z,356nm,0.6s					
EIDS	Eidsvold	38.16	119	P	P	03 23 46.4 +0.8
	baz=38,SNR=8.7					
EIDS	Eidsvold	38.16	119	eP	P	03 23 46.0 +0.4
	comp=Z,358nm,2.0s					
JOW	Kunigami	38.37	20	eP	P	03 23 46.6 -0.6
	comp=Z,57nm,0.8s					
JOW				LR	LR	
	comp=Z,6μm,22.0s					
TOO	Toolangi	39.58	140	P	P	03 23 58.0 +0.6
	baz=39,SNR=81					
WHN	Wuhan	39.68	360	⇓P	P	03 23 59.8 +1.7
WHN				S	S	03 29 53.3 -3.8
WHN				pmax	pmax	
	comp=Z,82nm,1.0s					
WHN				LR	LR	
	comp=Z,10μm,12.6s					
WHN				LR	LR	
	comp=Z,6μm,11.4s					
WHN				LR	LR	
	comp=Z,22μm,22.4s					
ENH	Enshi	39.71	353	eP	P	03 23 58.5 +0.1
	comp=Z,383nm,1.5s					
ENH				LR	LR	
	comp=Z,6μm,22.0s					
ARMA	Armidale	40.40	127	eP	P	03 24 05.5 +1.2
	comp=Z,125nm,0.8s					
CAN	Canberra	40.66	135	eP	P	03 24 06.5 +0.1
CAN	Canberra	40.66	135	eP	P	03 24 06.5 +0.1
	comp=Z,181nm,0.6s					
CAN				LR	LR	
	comp=Z,16μm,20.0s					
MDRS	Chennai	40.71	303	eP	P	03 24 07.1 +0.2
SSE	Sheshan	40.73	9	P	P	03 24 07.0 +0.2
SSE				S	S	03 30 16.8 +4.1
SSE				pmax	pmax	
	comp=Z,49nm,1.0s					
SSE				pmax	pmax	
	comp=Z,720nm,11.4s					
SSE				LR	LR	
	comp=Z,3μm,34.3s					
SSE				LR	LR	
	comp=Z,5μm,34.3s					
SSE				LR	LR	
	comp=Z,4μm,24.8s					
CHLP	Challavanipeta	40.90	313	eP	P	03 24 09.0 +0.6
CHLP				IAmb	IAmb	03 24 11.2
	comp=Z,254nm,0.7s					
CHLP				eScP	ScP	03 29 54.1 +1.6
CHLP				eS	S	03 30 13.8 -1.9
CHLP				IVMs_BB	IVMs_BB	03 41 34.4
	comp=Z,2μm,20.6s					
CNB	Canberra Magne	40.92	135	P	P	03 24 08.6 +0.1
	baz=41,SNR=42					
VIS	Vishakhapatnam	40.94	311	eP	P	03 24 09.2 +0.5
VIS				i x	S	03 30 12.5 -3.8
SHL	Shillong	41.14	328	i P	P	03 24 11.0 +0.5
SHL				ex	S	03 30 17.0 -2.5
MGCD	Mangrove Creek	41.17	131	P	P	03 24 11.8 +1.2
	baz=41,SNR=27					
CD2	Chengdu	41.36	346	⇓P	P	03 24 12.8 +0.7
CD2				PcS	PcS	03 30 00.3 -0.5
CD2				S	S	03 30 22.0 -0.3
CD2				pmax	pmax	
	comp=Z,40nm,0.5s					
CD2				pmax	pmax	
	comp=Z,830nm,4.2s					
CD2				LR	LR	
	comp=Z,8μm,17.9s					
CD2				LR	LR	
	comp=Z,10μm,19.4s					
CD2				LR	LR	
	comp=Z,6μm,19.9s					
NJ2	Nanjing	41.38	6	eP	P	03 24 16.9 +4.7
NJ2				pP	pP	03 24 23.1 -5.0
NJ2				S	S	03 30 23.3 +0.8
NJ2				sS	sS	03 30 42.6 -6.9
NJ2				pmax	pmax	
	comp=Z,36nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,1μm,4.1s					
NJ2				LR	LR	
	comp=Z,3μm,17.3s					
NJ2				LR	LR	
	comp=Z,5μm,18.4s					
NJ2				LR	LR	
	comp=Z,8μm,23.3s					
TRD	Trivandrum	41.44	294	eP	P	03 24 14.1 +1.1
H08S2	Diego Garcia H	41.62	269	T	T	04 09 16.1
	baz=95,slow=76,SNR=160					
H08S3	Diego Garcia H	41.63	269	T	T	04 09 20.3
	baz=95,slow=76,SNR=128					
H08S1	Diego Garcia H	41.64	269	T	T	04 09 20.9
	baz=95,slow=76,SNR=117					
DGAR	Diego Garcia	41.68	269	PFAKE		03 24 30.0 +15
DGAR				LR	LR	
	comp=Z,9μm,20.0s					
MILA	Mila	41.68	137	P	P	03 24 15.0 +0.3
	baz=42,SNR=13					
ADKI	Addanki	42.43	306	eP	P	03 24 21.5 +0.6
ADKI				IAmb	IAmb	03 24 26.0
	comp=Z,230nm,0.8s					
ADKI				eScP	ScP	03 30 04.2 +5.6
ADKI				eS	S	03 30 34.2 -4.2
ADKI				IVMs_BB	IVMs_BB	03 39 50.0
	comp=Z,2μm,22.8s					
RCLA	Racherla	43.03	305	eP	P	03 24 25.5 -0.4
BOK	Bokaro	43.26	320	eP	P	03 24 28.1 +0.5
NJS	Nagarjunasagar	43.35	306	eP	P	03 24 28.2 -0.2
NJS				IAmb	IAmb	03 24 33.0
	comp=Z,174nm,0.7s					
NJS				eS	S	03 30 46.5 -5.4
NJS				IVMs_BB	IVMs_BB	03 41 22.1
	comp=Z,2μm,26.7s					
SRLM	Srisailam	43.43	305	eP	P	03 24 28.8 -0.3
SRLM				IAmb	IAmb	03 24 33.6
	comp=Z,194nm,1.0s					
SRLM				eS	S	03 30 47.8 -5.4
SRLM				IVMs_BB	IVMs_BB	03 40 17.7
	comp=Z,2μm,21.8s					
XAN	Xi'an	43.49	353	P	P	03 24 29.0 -0.4
XAN				pP	pP	03 24 39.0 -6.4
XAN				sP	sP	03 24 43.0 -10
XAN				PP	PP	03 26 14.0 +2.3
XAN				S	S	03 30 50.8 -2.8
XAN				pmax	pmax	
	comp=Z,55nm,0.7s					
XAN				pmax	pmax	
	comp=Z,260nm,5.3s					
XAN				LR	LR	
	comp=Z,5μm,18.2s					
XAN				LR	LR	
	comp=Z,6μm,19.3s					
XAN				LR	LR	
	comp=Z,12μm,22.6s					
MOO	Moorlands	43.63	145	P	P	03 24 31.1 +0.8
	baz=44,SNR=20					
TAU	Tasmania Unive	44.00	145	eP	P	03 24 33.6 +0.3
TAU				pmax	pmax	
	comp=Z,110nm,1.0s					
TAU	Tasmania Unive	44.00	145	eP	P	03 24 33.6 +0.3
	comp=Z,112nm,0.9s					
TAU				LR	LR	
	comp=Z,19μm,20.0s					
URV	Uravakonda	44.16	303	eP	P	03 24 34.2 -0.8
URV				IAmb	IAmb	03 24 38.5
	comp=Z,212nm,1.1s					
URV				eScP	ScP	03 30 10.2 +4.5
URV				eS	S	03 30 57.6 -6.2
URV				IVMs_BB	IVMs_BB	03 40 43.5
	comp=Z,2μm,23.7s					
HYB	Hyderabad	44.43	307⇑	iP	P	03 24 37.0 -0.1
	comp=Z,270nm,1.0s					
HYB				epP	pP	03 24 55.0 +1.8
HYB				eS	S	03 31 04.0 -3.7
HYB	Hyderabad	44.43	307	eP	P	03 24 37.2 +0.1
HYBB	Hyderabad (bro	44.43	307	eP	P	03 24 37.2 +0.1
HYBB				IAmb	IAmb	03 24 41.4
	comp=Z,236nm,0.7s					
HYBB				eS	S	03 31 02.2 -5.5
HYBB				IVMs_BB	IVMs_BB	03 41 04.4
	comp=Z,1μm,20.1s					
ODAN	Odare	44.63	325	eP	P	03 24 39.4 +0.6
RPR	Rampur	44.67	309	eP	P	03 24 39.1 +0.1
RPR				IAmb	IAmb	03 24 43.5
	comp=Z,264nm,0.7s					
RPR				eS	S	03 31 05.7 -5.5
RPR				IVMs_BB	IVMs_BB	03 42 39.1
	comp=Z,2μm,30.2s					
HNR	Honiara	44.76	94	eP	P	03 24 39.0 -0.8
HNR				eS	PP	03 26 24.0 -1.4
HNR	Honiara	44.76	94	eP	P	03 24 40.5 +0.7
HNR				pmax	pmax	
	comp=Z,790nm,0.7s					
HNR	Honiara	44.76	94	eP	P	03 24 40.5 +0.7
	comp=Z,790nm,0.7s					
TAPN	Taplejung	44.82	325	eP	P	03 24 41.5 +1.1
	comp=Z,2μm,1.1s					
LSA	Lhasa	44.90	331	P	P	03 24 42.6 +1.4
LSA				pP	pP	03 24 46.6 -11
LSA				sP	sP	03 24 52.0 -13
LSA				S	S	03 31 11.8 -3.3
LSA				pmax	pmax	
	comp=Z,120nm,1.8s					
LSA				pmax	pmax	

comp=Z,700nm,2.7s
LSA LR LR
comp=Z,4μm,23.1s
LSA LR LR
comp=Z,2μm,24.5s
LSA LR LR
comp=Z,10μm,21.6s
LSA Lhasa 44.90 331 *e*P **P 03 24 42.8 +1.6**
LSA pmax pmax
comp=Z,703nm,1.4s
LSA MLR MLR
comp=Z,5μm,22.0s
LSA Lhasa 44.90 331 *e*P **P 03 24 42.8 +1.6**
comp=Z,702nm,1.4s
LSA LR LR
comp=Z,5μm,22.0s
MNCY Minicoy 44.91 292 *e*P **P 03 24 42.4 +1.4**
JNU Nakatsue 45.02 19 *e*P **P 03 24 40.7 -0.9**
comp=Z,41nm,0.9s
CBIJ Chichi jima 45.07 36 *e*P **P 03 24 40.6 -1.4**
comp=Z,1μm,1.7s
RAMN Ramite 45.15 324 *e*P **P 03 24 43.7 +0.7**
comp=Z,730nm,0.6s
TIA Tai'an 45.40 3 *e*P **P 03 24 43.4 -1.0**
TIA S **S 03 31 18.3 -2.8**
TIA pmax pmax
comp=Z,30nm,1.1s
TIA pmax pmax
comp=Z,1μm,9.0s
TIA LR LR
comp=Z,3μm,25.0s
TIA LR LR
comp=Z,6μm,22.0s
TIA LR LR
comp=Z,5μm,30.0s
SRSP Sriramsagar 45.45 308 *e*P **P 03 24 44.6 -0.5**
SRSP IAmb IAmb 03 24 47.3
comp=Z,420nm,1.4s
SRSP *e*S **S 03 31 17.1 -5.3**
SRSP IVMs_BB IVMs_BB 03 42 45.8
comp=Z,2μm,22.6s
JIRN Jiri 45.92 324 *e*P **P 03 24 49.9 +0.7**
NGP Nagpur 46.22 311 *e*P **P 03 24 51.1 -0.1**
NGP *e*x x 03 31 15.6
GUN Gumba 46.29 324 *e*P **P 03 24 52.7 +0.6**
comp=Z,962nm,0.5s
PKI Pulchoki 46.31 323 *e*P **P 03 24 52.4 +0.1**
LZH Lanzhou 46.32 348 *e*P **P 03 24 53.0 +1.1**
LZH pP pP 03 25 03.6 -4.5
LZH sP sP 03 25 07.0 -8.3
LZH PcP **PcP 03 26 29.5 +3.2**
LZH PP **PP 03 26 44.3 +2.5**
LZH ScP **ScP 03 30 15.8 +1.4**
LZH S **S 03 31 34.3 -0.4**
LZH sS sS 03 31 50.0 -12
LZH SS **SS 03 34 58.3 -2.9**
LZH pmax pmax
comp=Z,390nm,1.6s
LZH pmax pmax
comp=Z,720nm,4.0s
LZH LR LR
comp=Z,4μm,12.4s
LZH LR LR
comp=Z,5μm,13.5s
LZH LR LR
comp=Z,8μm,19.2s
PKIN Phulchoki 46.33 323 *e*P **P 03 24 52.3 0.0**
comp=Z,611nm,0.8s
KLRI Killari 46.34 306 *e*P **P 03 24 51.9 -0.3**
KLRI IAmb IAmb 03 24 55.5
comp=Z,535nm,1.7s
KLRI *e*S **S 03 31 29.9 -5.4**
KLRI IVMs_BB IVMs_BB 03 43 11.1
comp=Z,2μm,26.0s
PATS Pohnpei 46.48 71 P **P 03 24 53.4 +0.1**
baz=47,SNR=9.2
PATS Pohnpei 46.48 71 *e*P **P 03 24 53.5 +0.1**
comp=Z,976nm,1.7s
DMN Daman 46.52 323 *e*P **P 03 24 54.2 +0.4**
comp=Z,1μm,0.7s
KKN Kakani 46.55 323 *e*P **P 03 24 54.3 +0.3**
comp=Z,652nm,0.7s
LHI Lord Howe Isla 46.75 125 *e*P **P 03 24 54.2 -1.1**
comp=Z,110nm,0.9s
JBP Jabalpur 46.80 314⇑ *e*P **P 03 24 55.9 +0.3**
JBP IAmb IAmb 03 24 58.5
JBP *e*x x 03 30 39.6
TIY Taiyuan 46.87 358 *e*P **P 03 24 57.0 +0.9**
TIY S **S 03 31 38.5 -3.8**
TIY ScS **ScS 03 34 46.4 +1.4**
TIY pmax pmax
comp=Z,40nm,0.5s
TIY pmax pmax
comp=Z,530nm,7.8s
TIY LR LR
comp=Z,3μm,12.7s
TIY LR LR
comp=Z,2μm,10.6s
TIY LR LR
comp=Z,6μm,22.0s
GKN Gorkha 47.09 323 *e*P **P 03 24 58.4 +0.3**
comp=Z,818nm,0.5s
GOA Goa 47.31 301 *e*P **P 03 25 00.9 +1.2**
KOLN Koldanda 47.55 322 *e*P **P 03 25 01.9 +0.2**
comp=Z,1μm,0.6s
DANN Dangsing 47.87 323 *e*P **P 03 25 04.3 0.0**
INCN Inchon 47.95 13 PFAKE 03 25 20.0 +16
INCN LR LR
comp=Z,2μm,20.0s
PYUN Piuthan 48.16 322 *e*P **P 03 25 06.5 +0.1**
comp=Z,792nm,0.6s
KS15 Wonju Array Si 48.21 14 *e*P **P 03 25 07.3 +0.9**
KS15 *e*PP **PP 03 26 54.9 -4.5**
KS15 *e*ScP **ScP 03 30 22.9 +0.9**
KSAR Wonju Array Be 48.21 14 P **P 03 25 05.6 -0.8**
KSAR 03 26 54.9
KSAR Wonju Array Be 48.21 14 P **P 03 25 05.6 -0.8**
KSAR PP **PP 03 26 54.9 -4.5**
KSAR ScP **ScP 03 30 22.9 +0.9**
KSRS Korea Array 48.23 14 P **P 03 25 05.6 -0.9**
comp=Z,7.6nm,0.6s,baz=196,slow=7.2,SNR=21
KSRS PP **PP 03 26 54.8 -4.7**
comp=Z,14nm,0.7s,baz=198,slow=4.3,SNR=4.1
KSRS ScP **ScP 03 30 22.9 +0.8**
comp=Z,10nm,0.9s,baz=196,slow=4.6,SNR=7.1
KSRS LR LR 03 47 49.3
comp=Z,879nm,19.4s,baz=200,slow=39
KS01 Wonju Array Si 48.24 14 *e*P **P 03 25 05.9 -0.7**
DL2 Dalian 48.47 7 P **P 03 25 04.8 -3.5**
DL2 pP sP 03 25 41.5 +10
DL2 S **S 03 31 59.0 -5.8**
DL2 pmax pmax
comp=Z,45nm,0.9s
DL2 pmax pmax
comp=Z,370nm,6.4s
DL2 LR LR
comp=N,2μm,26.4s
DL2 LR LR
comp=E,5μm,25.9s
DL2 LR LR
comp=Z,5μm,24.5s
BHPL Bhopal 48.68 312 *e*P **P 03 25 09.9 -0.5**
BHPL *e*x x 03 25 27.7
POO Poona 48.80 305 *e*P **P 03 25 11.4 +0.1**
BJT Baijiatuau 49.15 2 *e*P **P 03 25 13.4 -0.2**
BJT pmax pmax
comp=Z,79nm,0.9s
BJT MLR MLR
comp=Z,6μm,21.0s
BJT Baijiatuau 49.15 2 *e*P **P 03 25 13.4 -0.2**
comp=Z,79nm,0.9s
BJT LR LR
comp=Z,6μm,21.0s
BJI Beijing 49.18 2 P **P 03 25 13.0 -0.7**
BJI PP **PP 03 27 11.4 +3.2**
BJI S **S 03 32 10.4 -4.2**
BJI pmax pmax
comp=Z,300nm,5.2s
BJI LR LR
comp=Z,6μm,19.0s
BJI LR LR
comp=Z,3μm,17.1s
BJI LR LR
comp=Z,5μm,22.8s
INU Inuyama 49.27 24 *e*P **P 03 25 14.1 -0.5**
comp=Z,66nm,0.9s
INU LR LR
comp=Z,4μm,22.0s
BOM Bombay 49.83 304 *i* x P 03 25 10.1 -9.0
BOM IAmb IAmb 03 25 14.3
comp=Z,121nm,0.5s
BOM *e*x x 03 32 11.5
BTO Baotou 49.89 355 *e*P **P 03 25 20.8 +1.4**
HHC Hu-ho-hao-te 50.04 357 *e*P **P 03 25 24.4 +3.9**
HHC PP **PP 03 27 20.8 +4.6**
HHC S **S 03 32 26.8 -0.1**
HHC ScS **ScS 03 35 09.8 +3.7**
HHC SS **SS 03 36 04.3 +3.3**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.0s
HHC LR LR
comp=Z,5μm,20.2s
HHC LR LR
comp=Z,3μm,19.0s
HHC LR LR
comp=Z,7μm,22.9s
GTA Gaotai 50.42 345 *e*P **P 03 25 24.3 +0.9**
GTA pP pP 03 25 33.6 -6.2
GTA sP sP 03 25 37.5 -9.5
GTA PP **PP 03 27 21.4 +1.7**
GTA S **S 03 32 31.6 -0.8**
GTA sS sS 03 32 52.3 -7.8
GTA ScS **ScS 03 35 08.1 -0.8**
GTA SS **SS 03 36 05.6 -1.6**
GTA pmax pmax
comp=Z,56nm,1.3s
GTA pmax pmax
comp=Z,600nm,6.2s
GTA LR LR
comp=Z,3μm,22.3s
GTA LR LR
comp=Z,8μm,24.2s
GTA LR LR
comp=Z,5μm,24.2s
MAJO Matsushiro 50.79 25*c i*P **P 03 25 25.4 -0.7**
MAJO *i* *PP **pP 03 25 45.0 +2.5**
MAJO pmax pmax
comp=Z,177nm,0.8s
MAJO Matsushiro 50.79 25 *e*P **P 03 25 24.5 -1.6**
comp=Z,206nm,1.3s
MAJO LR LR
comp=Z,3μm,22.0s
MAT Matsushiro 50.79 25 P **P 03 25 23.8 -2.3**
MAT S **S 03 32 31.0 -6.4**
MJAR Matsushiro Arr 50.79 25 P **P 03 25 24.3 -1.8**
comp=Z,11nm,0.5s,baz=184,slow=8.7,SNR=41
MJAR pP **pP 03 25 44.7 +2.3**
comp=Z,45nm,0.8s,baz=197,slow=7.6,SNR=9.4
MJAR ScP **ScP 03 30 33.2 0.0**
comp=Z,10nm,1.0s,baz=198,slow=4.9,SNR=5.5
MJAR LR LR 03 50 01.8
comp=Z,1μm,19.3s,baz=235,slow=40
MJAR PKP2ab 03 56 59.7
comp=Z,2.4nm,1.0s,baz=342,slow=3.1,SNR=7.1
MJB9 Matsu-Tunnel 50.79 25 *e*P **P 03 25 24.5 -1.7**
comp=Z,55nm,1.3s
MJB9 LR LR
comp=Z,900nm,22.0s
PTH Pithoragarh 50.90 321 *e*P **P 03 25 26.5 -0.8**
DZM Mont Dzumac 51.29 111 *e*P **P 03 25 30.3 0.0**
comp=Z,160nm,1.2s
DZM *e*S **S 03 32 47.7 +2.7**
comp=Z,9μm,26.4s
DZM *e*LQ LQ 03 37 55.7
comp=Z,12μm,24.4s
DZM *e*LR LR 03 40 20.0
comp=Z,17μm,24.6s
DZM Mont Dzumac 51.29 111 *e*P **P 03 25 30.5 +0.2**
comp=Z,313nm,1.9s
DZM LR LR
comp=Z,9μm,20.0s
SNY Shenyang 51.61 9 ⇓P **P 03 25 30.0 -2.1**
SNY S **S 03 32 43.3 -5.1**
SNY pmax pmax
comp=Z,21nm,0.9s
SNY pmax pmax
comp=Z,2μm,3.5s
SNY LR LR
comp=Z,2μm,15.3s
SNY LR LR
comp=Z,3μm,20.2s
SNY LR LR
comp=Z,5μm,16.7s
JOSI Joshimath 52.01 321 *e*P **P 03 25 34.7 -0.8**
JOSI *e*x x 03 25 54.6
NDI New Delhi 52.25 318 *e*P **P 03 25 34.5 -2.6**
NDI *e*x x 03 25 48.0
KUDL Kundal 52.39 317 *e*P **P 03 25 34.9 -3.2**
KUDL IAmb IAmb 03 25 37.1
comp=Z,239nm,1.2s
KUDL *e*x x 03 25 50.0
BHGR Bahadurgarh 52.44 317 *e*P **P 03 25 37.6 -0.9**
BHGR IAmb IAmb 03 25 39.4
comp=Z,187nm,0.5s
BHGR *e*x x 03 25 55.1
DDI Dehra Dun 52.79 320 *e*P **P 03 25 38.8 -2.4**
DDI *e*x x 03 25 55.2
KHET Khetri 52.81 316 *e*P **P 03 25 40.1 -1.3**
KHET IAmb IAmb 03 25 42.8
comp=Z,59nm,0.6s
KHET *e*x x 03 25 56.8
CN2 Changchun 53.83 10 *e*P **P 03 25 48.0 -0.5**
CN2 *e*sP pP 03 26 02.5 -2.5
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,9.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
MSHR Mys Shultsa 53.88 15⇑ *i*P **P 03 25 48.9 +0.1**
SMLA Simla 53.90 320 *e*P **P 03 25 48.4 -0.8**
SDNR Sundarnagar 54.27 320 *e*P **P 03 25 51.6 -0.4**
BHK Bhakra 54.57 320 *e*P **P 03 25 53.4 -0.7**
JWA Jwalamukhi 54.92 320 *e*P **P 03 25 55.0 -1.6**
JWA *e*x x 03 27 14.0
DHRM DHARAMSHALA 55.19 320 *e*P **P 03 25 58.6 -0.3**
MDJ Mudanjiang 55.42 13 P **P 03 25 58.8 -1.2**
MDJ pP pP 03 26 07.9 -8.7
MDJ sP sP 03 26 11.8 -12
MDJ PcP **PcP 03 27 01.9 +2.3**
MDJ S **S 03 33 36.3 -3.7**
MDJ pmax pmax
comp=Z,27nm,0.7s
MDJ pmax pmax
comp=Z,290nm,8.0s
MDJ LR LR
comp=Z,6μm,31.4s
MDJ LR LR
comp=Z,7μm,32.6s
MDJ LR LR
comp=Z,7μm,32.6s
MDJ Mudanjiang 55.42 13 *e*P **P 03 25 59.2 -0.8**
comp=Z,104nm,0.8s
MDJ LR LR
comp=Z,3μm,19.0s
USRK Ussuriysk Ar. 55.60 15 P **P 03 26 00.6 -0.7**
comp=Z,27nm,0.4s,baz=194,slow=6.9,SNR=51
USRK pP **pP 03 26 17.3 -0.5**
comp=Z,70nm,0.7s,baz=183,slow=6.4,SNR=11
USRK S **S 03 33 38.5 -4.0**
comp=Z,0.9nm,0.7s,baz=202,slow=7.3,SNR=4.3
USRK LR LR 03 53 19.5
comp=Z,973nm,18.7s,baz=192,slow=40
THN Thein Dam 55.69 320 *e*P **P 03 25 59.7 -2.4**
THN *e*x x 03 33 35.0
KWAJ Kwajalein Atol 55.83 73 *i*P **P 03 26 04.5 +1.0**
KWAJ Kwajalein Atol 55.83 73 *e*P **P 03 26 03.5 0.0**
comp=Z,1μm,1.6s
MRIV Mauritius Mete 55.98 252 *e*P **P 03 26 06.2 +1.6**
MCQ Macquarie Isla 57.14 151 P **P 03 26 13.1 +1.0**
baz=57,SNR=5.3
MCQ Macquarie Isla 57.14 151 *e*P **P 03 26 13.1 +1.0**
MCQ pmax pmax
comp=Z,1μm,1.8s
MCQ Macquarie Isla 57.14 151 *e*P **P 03 26 13.1 +1.0**
comp=Z,1μm,1.8s
ULN Ulaanbaatar 57.36 354*c i*P **P 03 26 15.0 +1.1**
ULN pmax pmax
comp=Z,99nm,1.2s
ULN Ulaanbaatar 57.36 354 *e*P **P 03 26 14.1 +0.1**
comp=Z,116nm,0.9s
ULN LR LR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 57.36 354 P **P 03 26 14.2 +0.3**
SNR=30
ULN P **P 03 26 14.2 +0.3**
SNR=30
ULN Ulaanbaatar 57.36 354 P **P 03 26 14.2 +0.3**
SNR=30
SONA0 Songino Array 57.40 353 *e*P **P 03 26 14.7 +0.5**
comp=Z,94nm,0.8s
SONA0 *e*ScP **ScP 03 31 02.5 +0.5**
SONM Songino Array 57.40 353 P **P 03 26 14.7 +0.5**
comp=Z,47nm,0.7s,baz=176,slow=8.4,SNR=58
SONM pP **pP 03 26 33.1 +2.2**
comp=Z,93nm,0.8s,baz=175,slow=7.3,SNR=12
SONM ScP **ScP 03 31 02.5 +0.5**
comp=Z,10nm,1.0s,baz=181,slow=4.7,SNR=4.6
SONM LR LR 03 52 52.9
comp=Z,5μm,21.1s,baz=172,slow=38
SONM Songino Array 57.40 353 P **P 03 26 14.7 +0.5**
SONM *PP **pP 03 26 33.1 +2.2**
SONM pmax pmax
comp=Z,49nm,0.7s
SONM pmax pmax
comp=Z,93nm,0.8s
SONM pmax pmax
comp=N,11nm,1.0s
SONM MLR MLR
comp=Z,5μm,21.1s
SONA1 Songino Array 57.41 353 *e*P **P 03 26 14.3 +0.1**
ERM Erimo 57.46 25 PFAKE 03 26 30.0 +15
ERM LR LR
comp=Z,4μm,22.0s
PYZ Puysegur Point 57.50 139 PFAKE 03 26 30.0 +15
PYZ LR LR
comp=Z,13μm,21.0s
DCZ Deep Cove 57.54 139 *e*P **P 03 26 15.6 +0.5**
comp=Z,546nm,2.0s
DCZ LR LR
comp=Z,8μm,18.0s
RER Riviere de l'E *e*P **P 03 26 18.6 +2.1**
comp=Z,368nm,0.9s
MLZ Mavora Lakes 58.14 138 *e*P **P 03 26 19.8 +0.4**
comp=Z,91nm,0.8s
MLZ LR LR
comp=Z,12μm,21.0s
WHZ Wether Hill Ro 58.22 139 *e*P **P 03 26 20.4 +0.5**
comp=Z,226nm,1.5s
WHZ LR LR
comp=Z,11μm,22.0s
WMQ Urumqi 58.28 337 P **P 03 26 22.1 +1.7**
WMQ S **S 03 34 18.6 +0.6**
WMQ pmax pmax
comp=Z,150nm,0.7s
WMQ pmax pmax
comp=Z,680nm,3.7s
WMQ LR LR
comp=Z,6μm,17.1s
WMQ LR LR
comp=Z,5μm,22.7s
WMQ LR LR
comp=Z,3μm,22.7s
WKZ Wanaka 58.55 137 *e*P **P 03 26 21.7 -0.6**
comp=Z,940nm,1.9s
WKZ LR LR
comp=Z,21μm,21.0s
HIA Hailar 58.56 4 *e*P **P 03 26 21.8 -0.3**
HIA pmax pmax
comp=Z,32nm,0.9s
HIA MLR MLR
comp=Z,3μm,22.0s
HIA Hailar 58.56 4 *e*P **P 03 26 21.8 -0.3**
comp=Z,32nm,0.9s
HIA LR LR
comp=Z,3μm,22.0s
FOZ Fox Glacier 58.67 136 *e*P **P 03 26 22.6 -0.4**
comp=Z,71nm,1.1s
FOZ LR LR
comp=Z,11μm,20.0s
MSEY Mahe Island 58.77 270 *i* P **P 03 26 25.8 +1.5**
SNR=8.7
MSEY Mahe Island 58.77 270*c e*P **P 03 26 26.5 +2.2**
MSEY Mahe Island 58.77 270 *e*P **P 03 26 25.9 +1.5**
comp=Z,118nm,0.7s
MIR Mirnyy 58.97 190 *i* P **P 03 26 23.0 -1.7**
MIR pmax pmax
comp=Z,18nm,2.5s
ASAJ Asahikawa 58.99 23 P **P 03 26 24.4 -0.8**
comp=Z,14nm,0.5s,baz=192,slow=12,SNR=13
ASAJ Asahikawa 58.99 23 *e*P **P 03 26 24.1 -1.1**
comp=Z,40nm,0.7s
H11N1 WAKE ISLAND Hy 59.08 60 P **P 03 26 26.5 +0.5**
baz=231,slow=9.1,SNR=6.8
H11N2 WAKE ISLAND Hy 59.09 60 P **P 03 26 26.7 +0.6**
baz=231,slow=9.1,SNR=4.6
H11N3 WAKE ISLAND Hy 59.09 60 P **P 03 26 26.7 +0.6**
baz=231,slow=9.1,SNR=8.4
TARA Tarawa 59.09 83 PFAKE 03 26 40.0 +13
TARA LR LR
comp=Z,2μm,21.0s
LBZ Lake Benmore 59.19 136 *e*P **P 03 26 26.6 -0.1**
comp=Z,449nm,2.0s
LBZ LR LR
comp=Z,16μm,20.0s
OUZ Omahuta 59.44 125 PFAKE 03 26 40.0 +11
OUZ LR LR
comp=Z,12μm,18.0s
RPZ Rata Peaks 59.58 135 LR LR 03 51 44.0
comp=Z,14μm,21.0s,baz=284,slow=35
RPZ Rata Peaks 59.58 135 *e*P **P 03 26 29.2 -0.3**
comp=Z,273nm,1.2s
ODZ Otahua Downs 59.71 137 *e*P **P 03 26 31.0 +0.7**
comp=Z,362nm,2.0s
ODZ LR LR
comp=Z,17μm,20.0s
OXZ Oxford 60.16 135 *e*P **P 03 26 33.2 -0.2**
comp=Z,130nm,0.7s
OXZ LR LR
comp=Z,7μm,20.0s
LTZ Lake Taylor 60.17 134 *e*P **P 03 26 33.5 0.0**
comp=Z,176nm,1.7s
LTZ LR LR
comp=Z,11μm,20.0s
YUK Yuzh-Kuril'sk 60.25 26 *e*P P 03 26 28.9 -4.9
YUK *e*S **S 03 34 37.0 -6.2**
YUK MLR MLR
comp=Z,1μm,22.0s
ZAK Zakamensk 60.30 352 *e*P **P 03 26 34.2 0.0**
ZAK pmax pmax
comp=Z,40nm,1.3s
ZAK pmax pmax
comp=Z,16nm,1.5s
THZ Tophouse 60.35 133 *e*P **P 03 26 35.2 +0.5**
comp=Z,744nm,1.9s
THZ LR LR
comp=Z,10μm,20.0s
HABR Khabarovsk 60.36 16 *e*P **P 03 26 32.3 -2.2**
HABR *e**PP **pP 03 26 48.3 -3.0**
HABR *e**SP **sP 03 26 55.4 -3.0**
HABR *e* 03 27 17.0
HABR *e* 03 28 45.4
HABR *e*S **S 03 34 42.1 -2.3**
HABR *e* 03 35 01.1
HABR *e**SS **sS 03 35 09.9 -2.9**
HABR *e* 03 36 17.2
HABR *e*SS **SS 03 38 41.5 -1.8**
HABR pmax pmax
comp=E,38nm,2.0s
HABR pmax pmax
comp=N,46nm,2.0s
HABR pmax pmax
comp=Z,202nm,2.0s
HABR pmax pmax
comp=Z,558nm,3.1s
HABR MLR MLR
comp=Z,2μm,21.0s
KSH Kashi 60.38 326 P **P 03 26 34.1 -0.9**
KSH pP pP 03 26 43.4 -8.4
KSH sP sP 03 26 47.0 -12
KSH PcP **PcP 03 27 19.4 -0.1**
KSH PP **PP 03 28 48.6 -0.3**

KSH S **S** **03 34 40.4 -4.9**
KSH sS pS 03 34 59.4 -5.4
KSH pmax pmax
comp=Z,240nm,1.3s
KSH LR LR
comp=Z,3μm,19.1s
KSH LR LR
comp=Z,4μm,20.9s
KSH LR LR
comp=Z,7μm,31.4s
CRLZ Canterbury Las 60.63 135 *e*P **P** **03 26 37.1 +0.6**
comp=Z,768nm,1.9s
CRLZ LR LR
comp=Z,8μm,19.0s
MQZ McQueen's Vall 60.69 135 *e*P **P** **03 26 37.7 +0.7**
comp=Z,112nm,1.0s
MQZ LR LR
comp=Z,6μm,21.0s
KHZ Kahutara 60.98 133 *e*P **P** **03 26 38.9 0.0**
comp=Z,489nm,1.9s
KHZ LR LR
comp=Z,14μm,20.0s
HIZ Hauiti 61.07 129 *e*P **P** **03 26 43.9 +4.3**
comp=Z,102nm,0.9s
HIZ LR LR
comp=Z,8μm,20.0s
CIT Chita 61.14 359 *e*P **P** **03 26 40.8 +1.0**
CIT *e* 03 27 01.4
CIT *e* 03 27 23.3
KBL Kabul 61.34 318 *e*P **P** **03 26 40.7 -1.0**
KBL Kabul 61.34 318 *e*P **P** **03 26 40.7 -1.0**
comp=Z,332nm,1.5s
KBL LR LR
comp=Z,2μm,20.0s
PDGK Podgornoye 61.39 331 P **P** **03 26 42.1 +0.3**
PDGK pmax pmax
comp=Z,206nm,1.1s
YSS Yuzh-Sakhalins 61.44 22⇑ *e*P **P** **03 26 41.4 -0.5**
YSS *e**SP **sP** **03 27 06.3 +0.5**
YSS *e*S **S** **03 34 51.5 -6.7**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS smax smax
comp=N,1μm,10.0s
YSS smax smax
comp=E,1μm,10.0s
YSS Yuzh-Sakhalins 61.44 22 *e*P **P** **03 26 41.5 -0.4**
comp=E,338nm,1.5s
UZB Uzynbulak 61.47 331 *i* P **P** **03 26 40.8 -1.6**
comp=E,993nm,0.8s
UZB *i* sP **pP** **03 27 00.6 +1.4**
UZB *i* S **S** **03 34 58.1 -1.0**
UZB LR LR 03 53 51.8
comp=E,900nm,16.0s
TLY Talaya 61.52 352*c* *i*P **P** **03 26 43.4 +1.0**
TLY *e* 03 29 02.6
TLY *e*S **S** **03 34 59.0 -0.2**
TLY *e* 03 36 26.9
TLY *e*SS **SS** **03 38 56.9 -4.6**
TLY pmax pmax
comp=Z,78nm,1.4s
TLY MLR MLR
comp=Z,3μm,21.0s
TLY Talaya 61.52 352 *e*P **P** **03 26 44.0 +1.6**
comp=Z,64nm,1.0s
TLY LR LR
comp=Z,3μm,20.0s
TLY Talaya 61.52 352 P **P** **03 26 43.7 +1.3**
SNR=10
TLY P **P** **03 26 43.7 +1.3**
SNR=10
TLY Talaya 61.52 352 P **P** **03 26 43.7 +1.3**
SNR=10
SNZO South Karori 61.55 132 *e*P **P** **03 26 42.2 -0.6**
comp=Z,104nm,0.8s
SNZO LR LR
comp=Z,6μm,20.0s
SATY Saty 61.70 331 *i* P **P** **03 26 42.2 -1.7**
comp=Z,609nm,1.1s
KPKS Kokpek 61.87 331 *i* P **P** **03 26 43.2 -1.8**
comp=Z,1μm,0.6s
MOY Mondy 61.90 350 *e*P **P** **03 26 45.4 +0.4**
MOY pmax pmax
comp=Z,114nm,2.4s
IRK Irkutsk 61.99 353 *e*P **P** **03 26 46.2 +0.7**
IRK *e* 03 27 02.7
IRK *e*S **S** **03 35 04.9 -0.2**
IRK pmax pmax
comp=Z,126nm,2.0s
MSVF Nonsavu 62.05 105 *e*P **P** **03 26 48.6 +1.9**
MSVF Nonsavu 62.05 105 *e*P **P** **03 26 48.6 +1.9**
comp=Z,95nm,1.1s
KUR Kuril'sk 62.07 26*d* *i*P **P** **03 26 45.0 -1.1**
KUR *i* 03 27 30.8
KUR *i* 03 28 58.5
KUR *i* PPP PPP 03 30 27.2
KUR *e*S **S** **03 35 03.6 -2.6**
KUR pmax pmax
comp=Z,2μm,3.0s
ZSN Zaisan 62.41 338 *i* P **P** **03 26 47.8 -0.6**
comp=Z,244nm,0.7s
ZSN *i* sP **pP** **03 27 07.7 +2.4**
ZSN *e*S **S** **03 35 12.1 +1.6**
ZSN LRM MLR 03 56 25.8
comp=Z,376nm,16.1s
MDOK Medeo 62.44 330 *i* P **P** **03 26 46.7 -2.2**
comp=Z,486nm,1.7s
MDOK *i* pP **pP** **03 27 01.2 -4.6**
MDOK *i* sP **sP** **03 27 07.2 -5.7**
MDOK *i* S **S** **03 35 10.2 -1.2**
MDOK *i* sS **pS** **03 35 35.7 +4.5**
MDOK LR LR 03 53 42.2
comp=Z,881nm,20.0s
BKZ Black Stump Fm 62.45 129 *e*P **P** **03 26 48.9 -0.1**
comp=Z,170nm,1.0s
BKZ LR LR
comp=Z,8μm,19.0s
BFZ Birch Farm 62.56 131 *e*P **P** **03 26 50.9 +1.3**
comp=Z,94nm,0.7s
BFZ LR LR
comp=Z,9μm,18.0s
URZ Urewera 62.76 128 LR LR 03 55 16.4
comp=Z,5μm,19.1s,baz=293,slow=37
URZ Urewera 62.76 128 *e*P **P** **03 26 50.9 -0.1**
comp=Z,80nm,0.7s
MK01 Makanchi Array 62.85 336 *e*P **P** **03 26 50.5 -0.9**
MK31 Makanchi Array 62.88 336 P **P** **03 26 51.3 -0.3**
MK31 pmax pmax
comp=Z,31nm,0.6s
MK31 Makanchi Array 62.88 336 *e*P **P** **03 26 51.6 0.0**
MK32 Makanchi Array 62.88 336 *e*P **P** **03 26 51.8 +0.2**
MK32 *e*PP **PP** **03 29 09.8 -0.9**
MKAR Makanchi Array 62.88 336 P **P** **03 26 51.8 +0.2**
comp=Z,64nm,0.5s,baz=150,slow=6.7,SNR=341
MKAR pP **pP** **03 27 10.8 +2.4**
comp=Z,41nm,0.6s,baz=141,slow=7.8,SNR=4.2
MKAR PP **PP** **03 29 09.8 -0.9**
comp=Z,6.6nm,0.6s,baz=138,slow=6.7,SNR=1.8
MKAR S **S** **03 35 16.4 -0.1**
comp=Z,3.7nm,0.9s,baz=152,slow=12,SNR=4.9
MKAR PKPPKP **P'P'df** **03 55 43.5 -7.6**
comp=Z,1.1nm,0.9s,baz=328,slow=2.2,SNR=3.1
MKAR Makanchi Array 62.88 336*ce*P **P** **03 26 51.5 0.0**
MKAR pmax pmax
comp=Z,64nm,0.5s
MKAR Makanchi Array 62.88 336 *e*P **P** **03 26 51.6 0.0**
comp=Z,454nm,0.6s
MKAR pP **pP** **03 27 10.8 +2.4**
MKAR PP **PP** **03 29 09.8 -0.9**
MKAR S **S** **03 35 16.4 -0.1**
MKAR P'P' 03 55 43.5
MKAR LR LR
comp=Z,600nm,22.0s
TKM2 Tokmak 2 63.00 329 P **P** **03 26 53.3 +0.6**
TKM2 pmax pmax
comp=Z,182nm,1.3s
MAKZ Makanchi 63.02 335 P **P** **03 26 52.0 -0.5**
MAKZ pmax pmax
comp=Z,39nm,0.7s
MAKZ Makanchi 63.02 335 *e*P **P** **03 26 53.6 +1.2**
comp=Z,37nm,0.7s
MAKZ LR LR
comp=Z,3μm,22.0s
KUU Kurty 63.33 330 *i* P **P** **03 26 52.6 -2.0**
comp=Z,492nm,0.6s
AAK Ala-Archa 63.37 328 P **P** **03 26 56.0 +0.9**
comp=Z,55nm,0.8s,baz=137,slow=4.6,SNR=113
AAK pP **pP** **03 27 14.1 +2.1**
comp=Z,71nm,0.9s,baz=183,slow=3.9,SNR=8.3
AAK PKPPKP **P'P'df** **03 55 48.7 -2.3**
comp=Z,0.9nm,0.4s,baz=14,slow=1.0,SNR=4.1
AAK LR LR 03 57 46.1
comp=Z,5μm,21.8s,baz=138,slow=39
AAK Ala-Archa 63.37 328⇑ *i*P **P** **03 26 56.6 +1.5**
AAK *i* *PP **pP** **03 27 13.9 +1.9**
AAK pmax pmax
comp=Z,150nm,1.2s
AAK Ala-Archa 63.37 328 *e*P **P** **03 26 55.7 +0.6**
comp=Z,279nm,1.3s
AAK pP **pP** **03 27 14.1 +2.1**
AAK P'P' 03 55 48.7
AAK Ala-Archa 63.37 328 P **P** **03 26 55.9 +0.9**
SNR=75
AAK Ala-Archa 63.37 328 P **P** **03 26 55.9 +0.9**
SNR=75
FRU Bishkek 63.44 328⇑ *i*P **P** **03 26 56.0 +0.6**
FRU *i* 03 27 13.5
FRU *i* 03 27 30.0
FRU *e*S **S** **03 35 20.0 -3.7**
FRU *e*SS **SS** **03 39 34.0 +2.1**
FRU pmax pmax
comp=Z,700nm,2.5s
FRU smax smax
comp=E,2μm,8.0s
FRU smax smax
comp=E,320nm,3.0s
FRU MLR MLR
comp=E,8μm,25.0s
WSAR Wadi Sarin 63.57 302 P **P** **03 26 57.1 +0.5**
comp=E,135nm,0.8s,baz=135,slow=6.3,SNR=94
WSAR pP **pP** **03 27 16.2 +2.7**
comp=E,413nm,0.7s,baz=153,slow=6.8,SNR=21
WSAR LR LR 03 53 44.8
comp=E,5μm,20.8s,baz=130,slow=35
MXZ Matakaoa Point 63.58 127 *e*P **P** **03 26 57.2 +0.8**
comp=E,167nm,0.7s
MXZ LR LR
comp=Z,9μm,20.0s
FUNA Funafuti 63.78 95 *e*P **P** **03 27 00.7 +2.5**
comp=Z,211nm,0.9s
BIDO Bidbid 64.10 302 P **P** **03 27 01.0 +0.9**
SNR=54
BIDO Bidbid 64.10 302 P **P** **03 27 01.0 +0.9**
SNR=54
MNAS Manas 64.33 327 P **P** **03 27 02.2 +0.9**
MNAS pmax pmax
comp=Z,288nm,1.2s
CRZF Crozet Islands 64.54 223 *e*P **P** **03 27 02.7 +0.1**
comp=Z,159nm,0.8s
CRZF LR LR
comp=Z,10μm,20.0s
TYV Tymovskoe 64.75 19*c* *i*P **P** **03 27 06.5 +2.8**
TYV *e*S **S** **03 35 32.8 -6.5**
TYV pmax pmax
comp=Z,600nm,8.6s
TYV pmax pmax
comp=Z,37nm,2.0s
BTLS Baital 65.30 330 *i* P **P** **03 27 05.9 -1.5**
comp=Z,395nm,1.6s
BTLS *i* sP **pP** **03 27 25.9 +1.6**
BTLS *i* PP **PP** **03 29 29.6 -2.3**
BTLS LR LR 03 55 59.1
comp=Z,421nm,14.8s
IUG Iuzhnay 65.47 325 *i* P **P** **03 27 07.1 -1.6**
comp=Z,1μm,0.7s
IUG *i* sP **pP** **03 27 27.1 +1.4**
IUG *i* S **S** **03 35 48.6 -0.3**
IUG LRM MLR 03 57 55.5
comp=Z,895nm,20.9s
ABPO Ambohimpanom 65.66 253 *e*P **P** **03 27 11.7 +1.2**
ABPO Ambohimpanom 65.66 253 *e*P **P** **03 27 11.7 +1.2**
comp=Z,107nm,0.8s
ABPO LR LR
comp=Z,4μm,20.0s
KK31 Karatay Array 65.83 326 *i* P **P** **03 27 10.6 -0.3**
KK31 pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 65.83 326 *e*P **P** **03 27 11.1 +0.2**
KKAR pmax pmax
comp=Z,372nm,0.6s
KKAR Karatay Array 65.83 326 *e*P **P** **03 27 11.1 +0.2**
comp=Z,372nm,0.6s
RAO Raoul Island 65.91 118 LR LR 03 54 50.8
comp=Z,3μm,20.1s,baz=280,slow=35
NKL Nikolayevsk 66.13 17 *e*P **P** **03 27 12.0 -0.6**
NKL *e* 03 36 00.5
NKL pmax pmax
comp=E,130nm,1.0s
NKL pmax pmax
comp=Z,120nm,1.0s
BRLS Borolday 66.15 326 *i* P **P** **03 27 11.5 -1.6**
comp=Z,74nm,2.2s
BRLS *i* pP **pP** **03 27 25.2 -4.8**
BRLS *i* sP **sP** **03 27 31.1 -6.0**
BRLS *i* S **S** **03 35 56.2 -0.8**
BRLS *i* sS **pS** **03 36 20.6 +3.3**
BRLS LR LR 03 56 10.5
comp=Z,133nm,18.2s
UOSS Minazif 66.28 302 *e*P **P** **03 27 13.8 -0.3**
comp=Z,1μm,1.6s
UOSS LR LR
comp=Z,2μm,21.0s
HATD Hatta, Dubai 66.29 302 *i* P **P** **03 27 15.0 +0.7**
SNR=51
HATD Hatta, Dubai 66.29 302 P **P** **03 27 14.4 +0.1**
SNR=35
HATD Hatta, Dubai 66.29 302 P **P** **03 27 14.4 +0.1**
SNR=35
ASHO Ashiyiah 66.30 302 P **P** **03 27 14.5 +0.1**
SNR=30
ASHO Ashiyiah 66.30 302 P **P** **03 27 14.5 +0.1**
SNR=30
CLNS Chul'man 66.51 6 *e*P **P** **03 27 14.6 -0.4**
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.0s
SEM Semipalatinsk 66.58 337 *i* P **P** **03 27 14.5 -1.4**
comp=N,663nm,0.8s
SEM *i* pP **pP** **03 27 28.2 -4.7**
SEM *i* sP **sP** **03 27 34.0 -5.9**
SEM LR LR 03 56 33.2
comp=N,2μm,19.6s
BANOM Banah 66.59 303 P **P** **03 27 16.2 0.0**
SNR=10
BANOM P **P** **03 27 16.2 0.0**
SNR=10
BANOM Banah 66.59 303 P **P** **03 27 16.2 0.0**
SNR=10
FAQ Al Faqa, Dubai 66.71 302 *i* P **P** **03 27 17.0 +0.1**
SNR=141
FAQ Al Faqa, Dubai 66.71 302 P **P** **03 27 17.0 +0.1**
SNR=34
FAQ Al Faqa, Dubai 66.71 302 P **P** **03 27 17.0 +0.1**
SNR=34
NAZ Nazwa, Dubai 66.75 302 *i* P **P** **03 27 17.0 -0.2**
SNR=20
NAZ Nazwa, Dubai 66.75 302 P **P** **03 27 17.2 0.0**
SNR=12
NAZ P **P** **03 27 17.2 0.0**
SNR=12
NAZ Nazwa, Dubai 66.75 302 P **P** **03 27 17.2 0.0**
SNR=12
BOD Bodaibo 66.95 360⇓ *i*P **P** **03 27 17.7 0.0**
BOD *e*S **S** **03 36 03.8 -2.1**
BOD pmax pmax
comp=Z,128nm,1.6s
KURBB Kurchatov Arra 67.43 336 P **P** **03 27 20.8 -0.1**
comp=Z,25nm,0.7s,baz=152,slow=5.5,SNR=162
KURBB pP **pP** **03 27 40.0 +2.0**
comp=Z,31nm,0.8s,baz=148,slow=5.5,SNR=7.5
KURBB S **S** **03 36 07.5 -4.5**
comp=Z,0.9nm,0.9s,baz=142,slow=11,SNR=4.4
KURBB PKP2bc 03 55 39.2
comp=Z,0.3nm,0.5s,baz=310,slow=2.6,SNR=4.4
MAW Mawson 67.43 199 P **P** **03 27 20.5 -0.2**
comp=Z,47nm,0.7s,baz=73,slow=7.2,SNR=67
MAW LR LR 03 51 47.0
comp=Z,5μm,21.7s,baz=53,slow=31
MAW PKP2bc 03 55 46.4
comp=Z,12nm,1.2s,baz=217,slow=3.2,SNR=5.9
MAW Mawson 67.43 199 P **P** **03 27 20.0 -0.7**
baz=67,SNR=63
MAW Mawson 67.43 199 *e*P **P** **03 27 19.8 -0.9**
MAW Mawson 67.43 199 *e*P **P** **03 27 19.8 -0.9**
comp=Z,16nm,0.9s
KURK Kurchatov 67.47 336*c* *i*P **P** **03 27 21.3 +0.1**
KURK pmax pmax
comp=Z,724nm,2.5s
KURK Kurchatov 67.47 336 *e*P **P** **03 27 21.0 -0.2**
KURK pP **pP** **03 27 40.0 +1.8**
KURK S **S** **03 36 07.5 -4.9**
KURK ⇑*e* 03 55 39.2
KURK LR LR
comp=Z,4μm,20.0s
KURK Kurchatov 67.47 336 P **P** **03 27 21.3 +0.1**
SNR=48
KURK Kurchatov 67.47 336 P **P** **03 27 21.3 +0.1**
SNR=48
ZAA0 Zalesovo Array 67.91 342 *e*P **P** **03 27 23.1 -0.7**
ZALV Zalesovo Beam 67.91 342 P **P** **03 27 23.1 -0.7**
comp=Z,61nm,0.5s,baz=152,slow=5.2,SNR=136
ZALV pP **pP** **03 27 42.9 +1.9**
comp=Z,70nm,0.8s,baz=149,slow=3.5,SNR=5.6
ZALV S **S** **03 36 14.9 -2.7**
comp=Z,4.0nm,0.8s,baz=156,slow=11,SNR=4.9
ZALV PKPPKP **P'P'df** **03 55 46.4 +3.9**
comp=Z,2.5nm,0.5s,baz=340,slow=4.2,SNR=7.8
ZALV Zalesovo Beam 67.91 342 *e*P **P** **03 27 22.5 -1.4**
ZALV pP **pP** **03 27 42.9 +1.9**
ZALV S **S** **03 36 14.9 -2.7**
ZALV P'P' 03 55 46.4
ZAA1 Zalesovo Array 67.91 342 *e*P **P** **03 27 23.1 -0.7**
NVS Novosibirsk 69.16 341⇑ *i*P **P** **03 27 31.4 -0.2**
NVS *e* 03 30 12.5
NVS *e*S **S** **03 36 31.6 -0.8**
NVS pmax pmax
comp=N,74nm,2.0s
NVS pmax pmax
comp=E,126nm,2.0s
NVS pmax pmax
comp=Z,178nm,2.0s
NVS pmax pmax
comp=Z,65nm,1.7s
NVS pmax pmax
comp=N,26nm,1.3s
NVS pmax pmax
comp=E,44nm,1.6s
NVS smax smax
comp=N,47nm,1.9s
NVS smax smax
comp=E,142nm,1.9s
SKR Severo-Kuril's 69.82 27 *e*P **P** **03 27 34.8 -0.9**
SKR *e* 03 27 56.0
SKR *i* S **S** **03 36 38.1 -2.1**
SKR *e* 03 37 04.0
SKR pmax pmax
comp=Z,600nm,4.3s
SKR pmax pmax
comp=Z,104nm,0.9s
SKR pmax pmax
comp=Z,600nm,11.1s
SKR MLR MLR
comp=Z,1μm,21.0s
GEYT Alibeck 70.58 316 P **P** **03 27 41.7 +0.9**
comp=Z,120nm,0.6s,baz=156,slow=5.4,SNR=129
GEYT pP **PcP** **03 28 00.8 -0.8**
comp=Z,182nm,0.7s,baz=140,slow=5.6,SNR=9.6
YAK Yakutsk 72.15 7 P **P** **03 27 49.6 0.0**
comp=Z,8.0nm,0.4s,baz=344,slow=23,SNR=10
YAK S **S** **03 37 02.6 -4.3**
comp=Z,3.8nm,0.4s,baz=58,slow=23,SNR=24
YAK LR LR 04 01 53.8
comp=Z,1μm,19.5s,baz=342,slow=38
YAK Yakutsk 72.15 7 *e*P **P** **03 27 49.4 -0.2**
YAK *e**PP **pP** **03 28 04.5 -2.3**
YAK *e* 03 28 09.1
YAK *e*S **S** **03 37 01.4 -5.4**
YAK *e**SS **sS** **03 37 33.7 -2.3**
YAK *e* 03 37 45.7
YAK pmax pmax
comp=Z,94nm,0.9s
YAK pmax pmax
comp=N,50nm,1.4s
YAK pmax pmax
comp=Z,301nm,1.3s
YAK pmax pmax
comp=N,92nm,0.9s
YAK smax smax
comp=N,572nm,1.6s
YAK Yakutsk 72.15 7 *e*P **P** **03 27 48.7 -0.9**
comp=N,268nm,1.3s
YAK S **S** **03 37 02.6 -4.3**
PEA0 Petropavlovsk- 72.23 26 *e*P **P** **03 27 50.1 -0.3**
PEA0B Petropavlovsk- 72.23 26 PFAKE 03 28 00.0 +10
PEA0B LR LR
comp=Z,2μm,22.0s
PETK Petropavlovsk- 72.23 26 P **P** **03 27 50.5 +0.1**
comp=Z,14nm,0.6s,baz=213,slow=1.7,SNR=20
PETK LR LR 04 00 58.7
comp=Z,1μm,21.9s,baz=227,slow=37
PETK Petropavlovsk- 72.23 26 *e*P **P** **03 27 50.1 -0.3**
PETK Petropavlovsk- 72.23 26 *e*P **P** **03 27 50.1 -0.3**
PEA1 Petropavlovsk- 72.24 26 *e*P **P** **03 27 50.5 0.0**
BDHA Al Bayda' 72.26 288⇑ *e*P **P** **03 27 53.0 +1.4**
VNDA Vanda 72.34 170 P **P** **03 27 50.2 -0.4**
comp=Z,30nm,0.8s,baz=310,slow=5.6,SNR=66
VNDA LR LR 03 57 18.4
comp=Z,4μm,20.3s,baz=322,slow=34
VNDA Vanda 72.34 170 *e*P **P** **03 27 50.4 -0.3**
VNDA Vanda 72.34 170 *e*P **P** **03 27 50.4 -0.4**
comp=Z,44nm,0.8s
PET Petropavlovsk 72.58 26 *e*P **P** **03 27 50.9 -1.5**
PET *e*S **S** **03 37 10.4 -1.8**
PET *e*SS **SS** **03 41 45.1 -7.6**
PET pmax pmax
comp=Z,71nm,1.3s
PET pmax pmax
comp=Z,500nm,11.3s
PET MLR MLR
comp=Z,1μm,22.0s
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 72.58 26 *e*P **P** **03 27 52.6 +0.1**
comp=Z,233nm,1.7s
PET LR LR
comp=Z,1μm,22.0s
BVA0 Borovoye Array 72.62 334 P **P** **03 27 52.3 -0.4**
BVA0 pmax pmax
comp=Z,86nm,0.9s
BVAR Borovoye Array 72.62 334 P **P** **03 27 53.2 +0.5**
comp=Z,50nm,0.7s,baz=134,slow=8.5,SNR=176
BVAR pP **pP** **03 28 10.9 +1.0**
comp=Z,65nm,0.8s,baz=147,slow=7.6,SNR=8.0
BRVK Borovoye 72.69 334*c* *i*P **P** **03 27 52.8 -0.3**
BRVK pmax pmax
comp=Z,385nm,2.5s
BRVK Borovoye 72.69 334 *e*P **P** **03 27 52.9 -0.1**
comp=Z,94nm,1.0s
BRVK Borovoye 72.69 334 P **P** **03 27 53.3 +0.2**
SNR=44
BRVK Borovoye 72.69 334 P **P** **03 27 53.3 +0.2**
SNR=44
SBA Scott Base 73.38 170 *e*P **P** **03 27 57.3 +0.5**
SBA Scott Base 73.38 170 *e*P **P** **03 27 57.3 +0.5**
comp=Z,120nm,1.3s
SBA LR LR
comp=Z,3μm,18.0s
DAMY Dhamar 73.51 288 *e*P **P** **03 28 00.9 +1.8**
comp=Z,144nm,0.9s
DAMY LR LR
comp=Z,2μm,21.0s
ATD Arta Tunnel 74.25 285 LR LR 03 56 40.1
comp=Z,2μm,20.9s,baz=94,slow=32
MA2 Magadan 74.57 18 LR LR 04 03 13.3
comp=Z,640nm,20.4s,baz=221,slow=38
MA2 Magadan 74.57 18⇑ *i*P **P** **03 28 04.2 +0.2**
RAYN Ar Rayn 74.95 297 *e*P **P** **03 28 07.0 -0.1**
comp=Z,237nm,0.9s
RAYN LR LR
comp=Z,4μm,21.0s
AB31 Akbulak array 75.38 326 P **P** **03 28 08.8 -0.1**
AB31 pmax pmax
comp=Z,125nm,0.7s
ABKAR Akbulak array 75.38 326 *e*P **P** **03 28 08.9 0.0**
comp=Z,2μm,0.8s
ABKAR LR LR

comp=Z,700nm,20.0s
SYO Syowa Base 75.94 201 ||*i* X **P 03 28 09.6 -2.1**
SYO Syowa Base 75.94 201 ||*i* X **PcP 03 28 22.0 -1.9**
AKTO Aktyubinsk 77.07 327 P **P 03 28 19.0 +0.5**
comp=Z,48nm,0.7s,baz=113,slow=5.0,SNR=123
AKTO pP **pP 03 28 38.2 +2.4**
comp=Z,60nm,0.6s,baz=128,slow=5.3,SNR=7.6
AKTO S **S 03 37 57.9 -4.4**
comp=Z,3.0nm,0.9s,baz=254,slow=19,SNR=8.7
AKTO LR LR 04 08 17.7
comp=Z,2μm,18.5s,baz=131,slow=40
KMBO Kilima Mbogo 77.29 271 P **P 03 28 22.3 +1.5**
comp=Z,40nm,0.9s,baz=79,slow=6.0,SNR=78
KMBO LR LR 03 58 52.5
comp=Z,5μm,19.7s,baz=98,slow=33
KMBO Kilima Mbogo 77.29 271 *e*P **P 03 28 22.4 +1.6**
KMBO Kilima Mbogo 77.29 271 *e*P **P 03 28 22.4 +1.6**
comp=Z,56nm,0.9s
KMBO Kilima Mbogo 77.29 271 P **P 03 28 22.4 +1.6**
SNR=19
KMBO Kilima Mbogo 77.29 271 P **P 03 28 22.4 +1.6**
SNR=19
SEY Seymchan 77.71 17 P **P 03 28 21.6 -0.1**
comp=Z,21nm,0.4s,baz=200,slow=5.6,SNR=65
SEY LR LR 04 02 10.1
comp=Z,765nm,21.3s,baz=229,slow=35
SEY Seymchan 77.71 17 ||*i* P **P 03 28 21.8 +0.1**
KSMR Kasumkent 79.10 316 PG **P 03 28 32.0 +2.0**
KSMR S **pP 03 28 47.0 -0.4**
KSMR Kasumkent 79.10 316 Pg **P 03 28 32.0 +2.0**
KSMR Sg **pP 03 28 47.0 -0.4**
SVE Sverdlovsk 79.37 333*d i*P **P 03 28 31.1 +0.1**
SVE *e* 03 31 38.9
SVE *e*S **S 03 38 23.4 -3.3**
SVE pmax pmax
comp=Z,105nm,1.0s
SVE MLR MLR
comp=Z,3μm,24.0s
URKR Urkarakh 79.66 316 *i* PG **P 03 28 34.0 +0.9**
URKR pmax pmax
comp=Z,252nm,0.3s
URKR Urkarakh 79.66 316 *i* Pg **P 03 28 34.0 +0.9**
comp=Z,252nm,0.3s
KMKR Kumukh 80.01 316 *e*PG **P 03 28 36.5 +1.4**
KMKR *e*S **pP 03 28 55.5 +2.9**
KMKR pmax pmax
comp=Z,109nm,0.4s
KMKR Kumukh 80.01 316 *e*Pg **P 03 28 36.5 +1.4**
comp=Z,109nm,0.4s
KMKR *e*Sg **pP 03 28 55.5 +2.9**
MAK Makhachkala 80.05 317 *e*P P 03 28 40.1 +5.1
MAK *e* 03 31 45.4
MAK *e*PPP PPP 03 33 37.3
MAK *e*S S 03 38 49.7 +15
MAK pmax pmax
comp=Z,2μm,2.2s
ARU Arti 80.08 332 P **P 03 28 35.5 +0.6**
comp=Z,25nm,0.5s,baz=120,slow=3.7,SNR=34
ARU S **S 03 38 31.7 -2.6**
comp=Z,1.5nm,0.3s,baz=216,slow=23,SNR=24
ARU LR LR 04 06 23.9
comp=Z,2μm,20.9s,baz=131,slow=37
ARU Arti 80.08 332*c i*P **P 03 28 35.2 +0.3**
ARU *e**PP **pP 03 28 52.8 +0.4**
ARU 03 31 35.2
ARU S **S 03 38 35.4 +1.2**
ARU pmax pmax
comp=Z,143nm,1.7s
ARU Arti 80.08 332 *e*P **P 03 28 34.6 -0.3**
comp=Z,310nm,1.4s
ARU S **S 03 38 31.7 -2.6**
GNBR Gunib 80.20 316 ||*i* PG **P 03 28 37.7 +1.7**
GNBR *i* S **sP 03 28 57.7 -2.7**
GNBR pmax pmax
comp=Z,165nm,0.6s
GNBR Gunib 80.20 316 *i* Pg **P 03 28 37.7 +1.7**
comp=Z,165nm,0.6s
GNBR *i* Sg **sP 03 28 57.7 -2.7**
ARKR Arakani 80.27 316 *e*PG **P 03 28 37.5 +1.2**
ARKR *e*S **pP 03 28 58.0 +4.3**
ARKR pmax pmax
comp=Z,124nm,0.3s
ARKR Arakani 80.27 316 *e*Pg **P 03 28 37.5 +1.2**
comp=Z,124nm,0.3s
ARKR *e*Sg **pP 03 28 58.0 +4.3**
BUJR Buynaksk 80.27 316 PG **P 03 28 36.5 +0.2**
BUJR *e*S **pP 03 28 55.5 +1.8**
BUJR Buynaksk 80.27 316 Pg **P 03 28 36.5 +0.2**
BUJR *e*Sg **pP 03 28 55.5 +1.8**
KRNR Karanay 80.41 316 *e*PG **P 03 28 39.5 +2.4**
KRNR *e*S **sP 03 29 02.0 +0.5**
KRNR pmax pmax
comp=Z,195nm,0.5s
KRNR Karanay 80.41 316 *e*Pg **P 03 28 39.5 +2.4**
comp=Z,195nm,0.5s
KRNR *e*Sg **sP 03 29 02.0 +0.5**
UNCR Uncukul 80.44 316 *i* PG **P 03 28 40.0 +2.8**
UNCR *e*S **sP 03 29 02.0 +0.4**
UNCR pmax pmax
comp=Z,199nm,0.5s
UNCR Uncukul 80.44 316 *i* Pg **P 03 28 40.0 +2.8**
comp=Z,199nm,0.5s
UNCR *e*Sg **sP 03 29 02.0 +0.4**
QSPA South Pole Qui 80.64 180 *e*P **P 03 28 37.5 -0.4**
QSPA LR LR
comp=Z,4μm,22.0s
DLMR Dylym 80.69 317 *i* PG **P 03 28 39.5 +1.0**
DLMR Dylym 80.69 317 *i* Pg **P 03 28 39.5 +1.0**
NRIK Noril'sk 80.74 351 P **P 03 28 38.9 +0.8**
comp=Z,50nm,0.8s,baz=140,slow=4.8,SNR=24
NRIK pP **pP 03 28 56.7 +1.0**
comp=Z,58nm,1.0s,baz=173,slow=5.6,SNR=5.3
NRIK S **S 03 38 37.5 -3.1**
comp=Z,2.2nm,0.4s,baz=337,slow=18,SNR=7.7
GNI Garni 80.95 313 P **P 03 28 41.3 +1.2**
comp=Z,40nm,0.9s,baz=177,slow=2.2,SNR=18
GNI Garni 80.95 313 *i* P **P 03 28 41.4 +1.2**
SNR=15
GNI Garni 80.95 313*c i*P **P 03 28 41.9 +1.7**
GNI pmax pmax
comp=Z,482nm,1.7s
GNI Garni 80.95 313 *e*P **P 03 28 41.9 +1.7**
GNI LR LR
comp=Z,1μm,22.0s
GNI Garni 80.95 313 P **P 03 28 41.4 +1.2**
SNR=16
GNI Garni 80.95 313 P **P 03 28 41.4 +1.2**
SNR=16
DGRG David-gareji 80.96 315 P **P 03 28 39.3 -0.7**
DGRG David-gareji 80.96 315 P **P 03 28 39.3 -0.7**
KSD Kokstad 81.15 240 *e*P **P 03 28 41.9 +0.4**
KSD IAmb IAmb 03 28 44.0
comp=Z,41nm,0.8s
GROC Groznyy 81.31 316 *e*P **P 03 28 42.5 +0.8**
GROC *e*S **S 03 38 45.7 -1.9**
GROC pmax pmax
comp=Z,207nm,1.1s
TIXI Tiksi 81.40 5 P **P 03 28 41.0 -0.6**
comp=Z,60nm,0.8s,baz=150,slow=4.4,SNR=15
TIXI Tiksi 81.40 5*ceP* **P 03 28 40.9 -0.6**
TIXI pmax pmax
comp=Z,132nm,1.2s
TIXI Tiksi 81.40 5 *e*P **P 03 28 40.8 -0.7**
comp=Z,78nm,0.8s
TIXI LR LR
comp=Z,2μm,19.0s
MSNA Messina 81.48 249 *e*P **P 03 28 43.4 +0.2**
TBLG Delisi 81.51 315 P **P 03 28 43.3 +0.4**
TBLG Delisi 81.51 315 P **P 03 28 43.3 +0.4**
GUDG Gudauri 81.95 315 P **P 03 28 47.1 +1.7**
BGD Bogdanovka 82.15 314 P **P 03 28 47.5 +1.0**
AKH Akhalkalaki 82.28 314 P **P 03 28 47.6 +0.5**
AKH Akhalkalaki 82.28 314 P **P 03 28 47.6 +0.5**
ZEI Tsey 82.46 316 *e*P **P 03 28 46.9 -1.2**
ZEI *e**SP **pP 03 29 08.9 +3.3**
ZEI *e*S **S 03 38 59.2 -0.7**
ZEI pmax pmax
comp=Z,80nm,0.6s
ZEI pmax pmax
comp=N,84nm,0.8s
ZEI pmax pmax
comp=E,52nm,0.7s
SOKR Solikamsk 82.61 334*c i*P **P 03 28 46.2 -1.9**
SOKR PPP PPP 03 33 48.1
SOKR S **S 03 38 52.9 -7.3**
SOKR SSS SSS 03 47 55.4
SOKR pmax pmax
comp=Z,31nm,1.0s
ERPM east rand prop 82.63 245 *e*P **P 03 28 49.9 +0.5**
ERPM IAmb IAmb 03 28 51.4
comp=Z,350nm,1.8s
SLR Silverton 82.67 245 *e*P **P 03 28 49.4 -0.1**
SLR IAmb IAmb 03 28 51.4
comp=Z,103nm,0.7s
ONI Oni 82.70 315 P **P 03 28 49.3 +0.1**
ONI Oni 82.70 315 P **P 03 28 49.3 +0.1**
NCK Nalchik 82.91 316 ||*i* P **P 03 28 52.0 +1.8**
NCK *i **PP **pP 03 29 11.2 +3.5**
SEK Senekal 82.94 243 *e*P **P 03 28 50.8 -0.1**
SEK IAmb IAmb 03 28 52.8
comp=Z,100nm,0.8s
MARD Mardin 82.98 310 *e*P **P 03 28 52.2 +1.4**
comp=Z,196nm,0.8s
MARD LR LR
comp=Z,2μm,20.0s
BLWY Bulawayo 83.06 251 *i* P **P 03 28 52.6 +0.9**
MATP Matopo 83.12 250 *i* P **P 03 28 53.1 +1.2**
ARTV Artvin 83.32 314 *e*P **P 03 28 54.4 +1.8**
comp=Z,508nm,2.0s
ARTV LR LR
comp=Z,600nm,20.0s
PRYS Parys 83.34 244 *e*P **P 03 28 53.2 +0.2**
PRYS IAmb IAmb 03 28 54.6
comp=Z,150nm,0.8s
WDLM Western Deep L 83.35 244 *e*P **P 03 28 54.0 +0.9**
NEY Neytrino 83.43 316*d i*P **P 03 28 55.9 +2.9**
KBZ Khabaz 83.47 316 P **P 03 28 54.0 +1.1**
comp=Z,45nm,0.7s,baz=115,slow=5.3,SNR=61
KBZ pP **pP 03 29 13.1 +2.6**
comp=Z,102nm,0.7s,baz=78,slow=4.7,SNR=15
KVAR Kislovodsk Arr 83.68 316 P **P 03 28 55.1 +0.9**
comp=Z,23nm,0.6s,baz=283,slow=1.4,SNR=15
KVAR pP **pP 03 29 14.3 +2.5**
comp=Z,55nm,0.8s,baz=66,slow=6.4,SNR=6.3
KIV Kislovodsk 83.69 316 *i* P **P 03 28 55.1 +0.9**
SNR=15
KIV Kislovodsk 83.69 316 *e*P **P 03 28 55.8 +1.6**
KIV *e* 03 32 08.3
KIV *e*S **S 03 39 12.1 0.0**
KIV *e*SS **SS 03 44 42.8 +2.4**
KIV pmax pmax
comp=Z,65nm,1.1s
KIV pmax pmax
comp=Z,104nm,3.5s
KIV Kislovodsk 83.69 316 *e*P **P 03 28 55.7 +1.4**
comp=Z,716nm,1.9s
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 83.69 316 P **P 03 28 55.3 +1.1**
SNR=10
KIV Kislovodsk 83.69 316 P **P 03 28 55.3 +1.1**
SNR=10
GOF Gofitskoye 83.81 317 ⇑*i* P **P 03 28 55.9 +1.2**
GOF *e*S **S 03 39 11.1 -2.0**
GOF pmax pmax
comp=Z,360nm,1.8s
GOF smax smax
comp=E,124nm,1.6s
KSR Koster 83.89 245 *e*P **P 03 28 56.7 +0.9**
KSR IAmb IAmb 03 28 57.9
comp=Z,41nm,0.8s
KSRV Kasrt alli 83.93 308 *e*P **P 03 28 57.8 +2.2**
LSZ Lusaka 84.11 256 P **P 03 28 58.0 +1.0**
comp=Z,86nm,0.6s,baz=90,slow=4.7,SNR=247
LSZ pP **sP 03 29 18.6 -3.0**
comp=Z,94nm,0.7s,baz=101,slow=3.8,SNR=7.1
LSZ Lusaka 84.11 256 *e*P **P 03 28 57.8 +0.7**
LSZ *PP **sP 03 29 18.6 -3.0**
LSZ pmax pmax
comp=Z,108nm,0.8s
LSZ MLR MLR
comp=Z,5μm,22.0s
LSZ Lusaka 84.11 256 *e*P **P 03 28 57.8 +0.7**
comp=Z,108nm,0.8s
LSZ pP **sP 03 29 18.6 -3.0**
LSZ LR LR
comp=Z,5μm,22.0s
LSZ Lusaka 84.11 256 P **P 03 28 58.1 +1.0**
SNR=20
LSZ Lusaka 84.11 256 P **P 03 28 58.1 +1.0**
SNR=20
JHLN Al Jahlan 84.32 307 *e*P **P 03 28 57.0 -0.5**
HVD Gariep Dam 84.50 240 *e*P **P 03 28 59.0 +0.1**
ADK Adak 84.56 35 PFAKE 03 29 10.0 +12
ADK LR LR
comp=Z,2μm,20.0s
ASF Jabal al Asfar 84.65 304 P **P 03 29 01.6 +2.2**
comp=Z,81nm,0.9s,baz=66,slow=2.3,SNR=94
ROOS tl_alroos 84.84 306 *e*P **P 03 28 59.8 -0.4**
SALA Sala 84.92 304 *e*P **P 03 29 02.3 +1.5**
BOSA Boshof 84.97 242 *i* P **P 03 29 02.0 +0.8**
BOSA Boshof 84.97 242 P **P 03 29 02.0 +0.8**
comp=Z,100nm,0.8s,baz=96,slow=4.5,SNR=152
BOSA LR LR 03 59 49.8
comp=Z,7μm,21.9s,baz=104,slow=30
BOSA Boshof 84.97 242 *e*P **P 03 29 01.9 +0.8**
BOSA Boshof 84.97 242 P **P 03 29 02.0 +0.8**
BOSA pmax pmax
comp=Z,100nm,0.8s
SWZ Schweizer 85.10 243 *e*P **P 03 29 01.1 -0.9**
LBTB Lobatse 85.17 246 *e*P **P 03 29 03.5 +1.3**
LBTB IAmb IAmb 03 29 04.7
comp=Z,85nm,0.8s
LBTB Lobatse 85.17 246 *e*P **P 03 29 03.3 +1.0**
LBTB pmax pmax
comp=Z,86nm,0.8s
LBTB Lobatse 85.17 246 *e*P **P 03 29 03.2 +1.0**
comp=Z,86nm,0.8s
TOTH TOTAH 85.33 305 *e*P **P 03 29 00.9 -1.8**
NVL N'lazarevskaya 85.38 199 ||*i* P **P 03 29 05.3 +3.1**
NVL *e**PP **pP 03 29 22.2 +2.4**
NVL *e**SP **sP 03 29 29.1 +2.3**
NVL *e*S **S 03 39 24.1 -3.8**
BILL Bilibino 85.40 17 *e*P **P 03 29 00.2 -2.0**
BILL *i* 03 32 23.9
BILL *e*S **SKSac 03 39 15.6 -5.9**
BILL *i* SS **SS 03 45 10.3 +6.0**
BILL pmax pmax
comp=Z,8.0nm,0.8s
BILL MLR MLR
comp=Z,2μm,23.0s
MARH Ras Al Marh 85.45 305 *e*P P 03 28 58.3 -5.3
QASN Qassioun 85.49 305 *e*P P 03 28 57.4 -6.2
TCHB Talchebab 85.53 304 *e*P **P 03 29 01.8 -2.0**
SOC Sochi 85.61 315*c i*P **P 03 29 04.1 +0.3**
SOC *e**PP **pP 03 29 20.9 -0.6**
SOC *e**SP **sP 03 29 26.9 -1.5**
SOC *e* 03 32 18.7
SOC *e*S **SKSac 03 39 23.5 -0.3**
SOC pmax pmax
comp=Z,142nm,0.8s
EIL Elat 85.68 301 P **P 03 29 06.1 +1.7**
comp=Z,80nm,0.8s,baz=71,slow=1.4,SNR=72
EIL pP **sP 03 29 26.0 -3.0**
comp=Z,61nm,0.7s,baz=105,slow=1.7,SNR=6.4
EIL LR LR 04 06 33.4
comp=Z,2μm,21.6s,baz=98,slow=35
BRBR Barbar 85.73 305 *e*S pP 03 29 21.1 -1.4
RCY Rachaya 85.84 305 *e*P **P 03 29 07.7 +2.3**
HWQ Hawqa 85.94 306 *e*P **P 03 29 07.8 +1.9**
DRWC Darouich 85.95 308 *e*P **P 03 29 07.4 +1.6**
DRWC *e*S **pP 03 29 25.3 +1.8**
BTCH Batrach 85.97 307 *e*P **P 03 29 08.3 +2.4**
BTCH *e*S **pP 03 29 25.4 +1.8**
MMAI Mount Meron Ar 86.08 304 P **P 03 29 08.8 +2.3**
comp=Z,39nm,0.6s,baz=97,slow=6.8,SNR=90
BHL Bhannes 86.09 305 *e*P **P 03 29 08.4 +1.9**
DQRL Deir Qamar 86.11 305 *e*P **P 03 29 08.7 +2.1**
ARNB Al Arnab 86.31 307 *e*P **P 03 29 09.2 +1.6**
TOKA Tokat 87.04 311 *e*P **P 03 29 12.8 +1.8**
comp=Z,2μm,2.0s
ANN Anapa 87.53 316 *e*P **P 03 29 13.2 +0.1**
ANN *e**PP **pP 03 29 31.1 +0.3**
ANN *e* 03 32 35.1
ANN *e* 03 39 34.3
ANN *e* 03 39 46.8
ANN pmax pmax
comp=Z,233nm,1.3s
ANN pmax pmax
comp=N,93nm,1.4s
ANN pmax pmax
comp=E,61nm,1.4s
PHNC Paralimni 87.65 306 P **P 03 29 15.1 +1.1**
SUR Sutherland 88.19 238 *e*P **P 03 29 18.5 +1.6**
comp=E,90nm,1.0s
SUR LR LR
comp=Z,7μm,21.0s
CSS Mathiatis 88.20 306 *e*P **P 03 29 17.5 +0.9**
comp=Z,105nm,1.3s
CSS LR LR
comp=Z,800nm,21.0s
CSS Mathiatis 88.20 306 P **P 03 29 17.5 +0.9**
MAMC Mammari 88.33 306 P **P 03 29 19.4 +2.2**
VORR Voronezh 88.34 323 ⇑*i* P **P 03 29 17.0 +0.2**
VORR *e*S **S 03 39 53.0 -3.9**
VORR pmax pmax
comp=Z,750nm,2.0s
UPI Upington 88.49 242 *e*P **P 03 29 19.6 +1.3**
UPI IAmb IAmb 03 29 21.0
comp=Z,1μm,2.6s
SZAC Souni 88.51 305 P **P 03 29 19.4 +1.3**
KEIM Keimoes 88.68 241 *e*P **P 03 29 20.1 +0.9**
KEIM IAmb IAmb 03 29 22.1
comp=Z,91nm,0.8s
ALFC Alefka 88.83 306 P **P 03 29 20.5 +0.9**
BR101 Keskin Array S 89.01 310 *e*P **P 03 29 21.1 +0.5**
BR101 *e*PP **PP 03 32 51.6 +0.4**
BR101 *e*PKKPdf **PKKPbc 03 46 59.2 -0.8**
BR131 Keskin Array S 89.01 310 *e*P **P 03 29 20.6 +0.1**
BRTR Keskin Array B 89.01 310 P **P 03 29 21.1 +0.5**
comp=Z,58nm,0.8s,baz=133,slow=5.6,SNR=255
BRTR pP **pP 03 29 41.1 +2.9**
comp=Z,96nm,0.7s,baz=131,slow=4.1,SNR=12
BRTR PP **PP 03 32 51.6 +0.4**
comp=Z,6.3nm,0.9s,baz=124,slow=7.2,SNR=3.6
BRTR PKKPbc **PKKPbc 03 46 59.2 -0.8**
comp=Z,1.3nm,0.8s,baz=197,slow=1.3,SNR=4.3
BRTR LR LR 04 12 27.6
comp=Z,1μm,20.9s,baz=100,slow=38
AKMC Akamas 89.01 306 P **P 03 29 21.1 +0.6**
CVNA Calvinia 89.22 238 *e*P **P 03 29 23.4 +1.7**
CVNA IAmb IAmb 03 29 24.4
comp=Z,108nm,1.0s
AUGR Augrabies 89.25 241 *e*P **P 03 29 23.5 +1.7**
AUGR IAmb IAmb 03 29 24.5
comp=Z,84nm,0.9s
ILGA Ilgaz 89.25 312 *e*P **P 03 29 23.1 +1.4**
comp=Z,987nm,2.0s
CER Ceres 89.27 236 *e*P **P 03 29 23.0 +1.2**
SNAA Sanae 89.44 196 P **P 03 29 22.7 +0.8**
SNAA Sanae 89.44 196 PKKPbc PKKPbc 03 46 56.3 -3.3
comp=Z,1.9nm,0.5s,baz=275,slow=6.8,SNR=18
SNAA Sanae 89.44 196*c i*P **P 03 29 22.4 +0.5**
SNAA Sanae 89.44 196 *e*P **P 03 29 20.9 -0.9**
comp=Z,200nm,0.8s
SNAA *e*PKKPdf **PKKPdf 03 46 56.0 +2.0**
SNAA LR LR
comp=Z,6μm,20.0s
NIKH Nikolski High 89.45 36 PFAKE 03 29 30.0 +8.0
NIKH LR LR
comp=Z,2μm,22.0s
ANTO Ankara 89.68 310 *e*P **P 03 29 24.8 +1.3**
ANTO pmax pmax
comp=Z,1μm,1.9s
ANTO Ankara 89.68 310 *e*P **P 03 29 24.8 +1.3**
comp=Z,1μm,1.9s
ANTO Ankara 89.68 310 P **P 03 29 24.0 +0.5**
SNR=9.9
ANTO Ankara 89.68 310 P **P 03 29 24.0 +0.5**
SNR=9.9
BR231 Keskin MP Arra 89.69 310 *e*P **P 03 29 24.9 +1.2**
SIM Simferopol' 89.85 316 P **P 03 29 23.7 -0.4**
SIM *PP **pP 03 29 43.6 +1.7**
SIM S **SKSac 03 39 48.6 -0.9**
SIM *SS **ScS 03 40 15.1 -0.4**
SIM pmax pmax
comp=Z,91nm,0.7s
ARMS Ukamas 89.86 242 *e*P **P 03 29 26.5 +1.7**
MOS Moscow 90.41 327 *e*P **P 03 29 26.2 -0.2**
MOS *e**PP **pP 03 29 43.2 -1.0**
MOS *e* 03 33 00.8
MOS *e*PPP PPP 03 35 00.9
MOS *e*S **SKSac 03 39 49.6 -2.5**
MOS *e* 03 40 13.2
MOS pmax pmax
comp=Z,148nm,1.5s
MOS pmax pmax
comp=Z,400nm,2.1s
OBN Obninsk 90.82 326 P **P 03 29 28.6 +0.2**
comp=Z,42nm,0.5s,baz=72,slow=2.8,SNR=19
OBN pP **pP 03 29 47.5 +1.4**
comp=Z,49nm,0.6s,baz=91,slow=2.7,SNR=3.4
OBN PKKPbc **PKKPdf 03 46 54.0 +1.6**
comp=Z,16nm,0.4s,baz=95,slow=23,SNR=3.3
OBN Obninsk 90.82 326*d i*P **P 03 29 29.2 +0.9**
OBN *i* 03 29 46.5
OBN *i* 03 33 06.7
OBN pmax pmax
comp=Z,46nm,0.8s
OBN Obninsk 90.82 326 *e*P **P 03 29 28.5 +0.2**
comp=Z,797nm,1.8s
OBN pP **pP 03 29 47.5 +1.4**
OBN *e*PKKPdf **PKKPdf 03 46 54.0 +1.6**
OBN LR LR
comp=Z,2μm,22.0s
BOLV Bolvadin 90.84 309 *e*P **P 03 29 30.2 +1.1**
comp=Z,832nm,2.0s
KLMR Klimovskoe 90.93 332 *e*P **P 03 29 27.0 -1.7**
KLMR *e*S **SKSac 03 39 52.7 -2.2**
KLMR *e*SSS SSS 03 50 00.0
KLMR pmax pmax
comp=Z,56nm,1.3s
ISP Isparta 91.00 308 PFAKE 03 29 40.0 +10
ISP LR LR
comp=Z,2μm,20.0s
UNV Unalaska Valle 91.03 36 PFAKE 03 29 40.0 +11
UNV LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 91.09 196 P **P 03 29 30.4 +1.0**
baz=99,slow=3.8
GAMB Gambell 91.27 25 PFAKE 03 29 40.0 +10
GAMB LR LR
comp=Z,2μm,22.0s
AKAS Kas 91.43 306 *e*P **P 03 29 34.8 +2.9**
KOMG Komaggas 91.47 240 *e*P **P 03 29 34.0 +1.9**
KOMG IAmb IAmb 03 29 34.6
comp=Z,69nm,1.1s
VNA1 Neumayer--Stat 91.48 196 P **P 03 29 32.2 +0.9**
AKUT Akutan 91.52 35 PFAKE 03 29 40.0 +8.4
AKUT LR LR
comp=Z,2μm,22.0s
VNA3 Neumayer Olymp 91.53 196 P **P 03 29 32.0 +0.5**
TBI Tubuai 91.77 114 *e*PP PP 03 33 12.8 -0.2
comp=Z,466nm,27.2s
TBI *e*SKSac **SKSac 03 40 04.6 +3.2**
comp=Z,998nm,26.2s
TBI *e*S **ScS 03 40 31.2 -1.2**
comp=Z,2μm,29.2s
TBI Tubuai 91.77 114 *e*PS PS 03 41 49.0 +1.6
comp=Z,551nm,30.2s
TBI *e*SS SS 03 46 43.7 +5.1
comp=Z,3μm,26.8s
TBI *e*LQ LQ 03 55 07.5
comp=Z,7μm,35.8s
TBI *e*LR LR 03 59 01.8
comp=Z,3μm,27.8s
FETY Fethiye 91.91 307 P sP 03 29 54.9 -3.7
FETY Fethiye 91.91 307 P sP 03 29 54.9 -3.7
TMCR Tamitsa 92.55 335 *e*P **P 03 29 35.3 -0.9**
TMCR pmax pmax
comp=Z,30nm,0.7s
KULA Kula-Manisa 92.57 308 P **P 03 29 37.5 +0.5**
KULA Kula-Manisa 92.57 308 P **P 03 29 37.5 +0.5**
PPT2 Papeete2 92.73 108 *e*P **P 03 29 41.6 +3.4**
comp=Z,65nm,1.0s
PPT2 Papeete2 92.73 108 *e*PP PP 03 33 20.3 -0.6
comp=Z,477nm,24.0s
PPT2 *e*SKSac **SKSac 03 40 10.5 +3.3**
comp=Z,1μm,25.8s
PPT2 Papeete2 92.73 108 *e*PS PS 03 42 01.3 +2.9
comp=Z,850nm,26.2s
PPT2 Papeete2 92.73 108 *e*LQ LQ 03 55 35.2
comp=Z,12μm,38.2s
PPT2 *e*LR LR 03 59 24.2
comp=Z,5μm,24.5s

PPT Papeete 92.74 108 P **P 03 29 40.3 +2.2**
comp=Z,28nm,0.8s,baz=73,slow=17,SNR=3.5
PPT LR LR 04 06 44.2
comp=Z,2μm,19.9s,baz=254,slow=32
MWH Moku'aweowe 92.93 71 PFAKE 03 29 50.0 +10
MWH LR LR
comp=Z,2μm,21.0s
TIAR Tiarei 92.95 108 *e*P **P 03 29 42.5 +3.3**
comp=Z,15nm,0.7s
TVO Taravao 93.00 108 *e*P **P 03 29 42.8 +3.4**
comp=Z,20nm,0.8s
FALS False Pass 93.02 35 PFAKE 03 29 50.0 +11
FALS LR LR
comp=Z,2μm,21.0s
AUSN Aus 93.17 242 *e*P **P 03 29 41.4 +1.2**
UWB Uwekahuna B 93.22 71 PFAKE 03 29 50.0 +10
UWB LR LR
comp=Z,2μm,18.0s
KARP Karpathos 93.27 305 *e*P **P 03 29 41.4 +1.2**
comp=Z,44nm,0.8s
KARP LR LR
comp=Z,500nm,22.0s
TSUM Tsumeb 93.46 250 *e*P **P 03 29 42.8 +1.2**
comp=Z,23nm,0.9s
TSUM LR LR
comp=Z,6μm,21.0s
TLCR 93.58 315⇑*i*P **P 03 29 42.7 +1.3**
TLCR 93.58 315⇑P **P 03 29 42.7 +1.3**
TIRR Tirgusor 93.74 314 *e*P **P 03 29 42.7 +0.6**
TIRR pmax pmax
comp=Z,72nm,1.0s
TIRR Tirgusor 93.74 314 *e*P **P 03 29 42.7 +0.6**
comp=Z,72nm,1.0s
KIS Kishinev 93.88 317 *e*P **P 03 29 41.0 -1.7**
comp=Z,100nm,1.8s
KIS Kishinev 93.88 317 *e*PP PP 03 33 30.0 +0.8
KIS Kishinev 93.88 317 *e*PS PS 03 41 59.0 -11
KIS Kishinev 93.88 317 *e*P **P 03 29 41.0 -1.7**
KIS *e* 03 29 59.0
KIS *e* 03 33 30.0
KIS *e* 03 40 10.0
KIS *e*S **S 03 40 42.0 -5.5**
KIS *e*PS **PS 03 41 59.0 -11**
KIS pmax pmax
comp=Z,130nm,1.8s
CFR Carcaliu 94.05 315⇑*i*P **P 03 29 43.8 +0.3**
CFR Carcaliu 94.05 315⇑P **P 03 29 43.8 +0.3**
HARR Harsova 94.12 314⇑*i*P **P 03 29 45.2 +1.3**
HARR Harsova 94.12 314⇑P **P 03 29 45.2 +1.3**
LEOM Leova 94.18 316⇑*i*P **P 03 29 45.3 +1.2**
LEOM Leova 94.18 316⇑P **P 03 29 45.3 +1.2**
AKASG Malin Array Be 94.22 321 P **P 03 29 44.1 0.0**
comp=Z,23nm,0.6s,baz=82,slow=4.6,SNR=82
AKASG pP **pP 03 30 03.7 +1.7**
comp=Z,51nm,0.8s,baz=82,slow=4.7,SNR=12
AKASG PP **PP 03 33 31.2 -0.6**
comp=Z,2.3nm,0.7s,baz=15,slow=25,SNR=7.0
AKASG PKiKP **PKiKP 03 34 27.7 -0.1**
comp=Z,2.7nm,0.6s,baz=70,slow=2.8,SNR=4.0
AKASG PKKPbc **PKKPdf 03 46 45.0 -1.2**
comp=Z,1.7nm,0.7s,baz=290,slow=2.9,SNR=4.6
AKASG LR LR 04 19 52.8
comp=Z,919nm,20.0s,baz=120,slow=40
AKASG Malin Array Be 94.22 321*ce*P **P 03 29 43.7 -0.5**
AKASG pmax pmax
comp=Z,23nm,0.6s
AKBB Malin Array Si 94.22 321 *e*P **P 03 29 44.1 -0.1**
AKBB *e* 03 33 31.2
AKBB Malin Array Si 94.22 321 *e*P **P 03 29 44.1 -0.1**
AKBB *e*PP **PP 03 33 31.2 -0.6**
AKBB *e*PKiKP **PKiKP 03 34 27.7 -0.1**
AKBB *e*PKKPdf **PKKPdf 03 46 45.0 -1.2**
KIEV Kiev 94.23 321*d i*P **P 03 29 44.6 +0.4**
KIEV pmax pmax
comp=Z,34nm,0.8s
KIEV Kiev 94.23 321 *e*P **P 03 29 44.0 -0.2**
comp=Z,81nm,0.9s
KIEV LR LR
comp=Z,2μm,21.0s
AK11 Malin Array Si 94.26 321 *e*P **P 03 29 44.1 -0.2**
PRD Provadia 94.27 313 *e*P **P 03 29 45.6 +1.0**
SORM Soroca 94.37 318⇓*i*P **P 03 29 45.0 +0.1**
SORM Soroca 94.37 318⇓P **P 03 29 45.1 +0.1**
EDRB Edirne 94.55 311 P **P 03 29 45.5 -0.4**
EDRB Edirne 94.55 311 P **P 03 29 45.5 -0.4**
CHOS Chios island 94.57 308 P **P 03 29 46.5 +0.3**
CHOS Chios island 94.57 308 P **P 03 29 46.5 +0.3**
SANT Santorini 94.75 306 PFAKE 03 30 00.0 +13
SANT LR LR
comp=Z,900nm,21.0s
SDPT Sand Point 94.78 35 *e*P **P 03 29 45.3 -1.3**
comp=Z,208nm,0.8s
SDPT LR LR
comp=Z,2μm,21.0s
PMOR Pomariorio Ree 94.80 106 *e*P **P 03 29 50.8 +3.2**
comp=Z,70nm,0.9s
ODBI Odobesti 94.89 315⇓*i*P **P 03 29 49.3 +1.9**
ALN Alexandroupoli 94.93 310 P **P 03 29 46.5 -1.2**
ALN Alexandroupoli 94.93 310 P **P 03 29 46.5 -1.2**
ALN Alexandroupoli 94.93 310 P **P 03 29 46.5 -1.2**
GADA Gvkgeada 94.94 310 P **P 03 29 47.6 -0.2**
GADA Gvkgeada 94.94 310 P **P 03 29 47.6 -0.2**
VAH Vaihoa 95.01 106 *e*P **P 03 29 51.7 +3.1**
comp=Z,50nm,1.0s
IDI Anoyia 95.06 305 P **P 03 29 49.3 +0.7**
comp=Z,14nm,0.6s,baz=61,slow=7.7,SNR=18
IDI PKiKP **PKiKP 03 34 31.4 +1.5**
comp=Z,4.0nm,0.5s,baz=153,slow=2.3,SNR=4.4
IDI PKKPbc **PKKPdf 03 46 44.3 0.0**
comp=Z,6.1nm,0.5s,baz=329,slow=6.1,SNR=10
IDI Anoyia 95.06 305 *e*P **P 03 29 49.3 +0.7**
comp=Z,300nm,2.0s
IDI *e*PKiKP **PKiKP 03 34 31.4 +1.5**
IDI *e*PKKPdf **PKKPdf 03 46 44.3 0.0**
IDI LR LR
comp=Z,1μm,22.0s
SIVA Sivas 95.09 305 P **P 03 29 50.2 +1.6**
SIVA Sivas 95.09 305 P **P 03 29 50.2 +1.6**
VRI Vrincioaia 95.14 315⇓*i*P **P 03 29 49.8 +1.3**
VRI Vrincioaia 95.14 315⇓P **P 03 29 49.8 +1.3**
ISR Istrita 95.16 315⇓*i*P **P 03 29 50.2 +1.5**
ISR Istrita 95.16 315⇓P **P 03 29 50.2 +1.5**
PLOR Plostina 95.19 315⇓*i*P **P 03 29 49.5 +0.7**
PLOR Plostina 95.19 315⇓P **P 03 29 49.5 +0.7**
SMTH Samothraki Isl 95.26 310 P **P 03 29 48.6 -0.6**
SMTH Samothraki Isl 95.26 310 P **P 03 29 48.6 -0.6**
TESR Tescani 95.28 316⇓*i*P **P 03 29 49.8 +0.6**
RDO Rodhopi 95.35 311 P **P 03 29 49.2 -0.4**
RDO Rodhopi 95.35 311 P **P 03 29 49.2 -0.4**
LIA Limnos Island 95.45 309 P **P 03 29 50.2 +0.1**
LIA Limnos Island 95.45 309 P **P 03 29 50.2 +0.1**
SECR 95.48 315⇓*i*P **P 03 29 51.6 +1.5**
KDZ Kurdzhali 95.50 311 *e*P **P 03 29 50.1 -0.2**
MICGM Minsk 95.62 324⇓*e*P **P 03 29 52.0 +1.5**
MICGM PM 03 29 54.0
comp=Z,0.1nm,2.0s
MICGM *e*pP **pP 03 30 10.0 +1.7**
MICGM *e*PP **PP 03 33 39.0 -3.5**
MICGM *e*SKS **SKSac 03 40 18.0 -3.0**
MICGM *e*S **S 03 41 02.0 -0.3**
MICGM *e*sS ScS 03 41 14.0 +11
MICGM *e*PS **PS 03 42 20.0 -8.8**
MICGM *e*PPS PPS 03 43 12.0
MICGM *e*SS SS 03 46 20.0 -72
MICGM *e*SSS SSS 03 49 32.0
MICGM *e*LQ LQ 04 05 52.0
MICGM *e*LR LR 04 10 44.0
MICGM LRM MLR 04 16 24.0
comp=Z,4.4nm,23.0s
MICGM LRM MLR 04 16 30.0
comp=E,3.9nm,22.0s
MNK Minsk 95.62 324⇓*e*P **P 03 29 52.0 +1.5**
MNK *e**PP **pP 03 30 10.0 +1.7**
MNK *e* 03 33 39.0
MNK *e* 03 40 18.0
MNK *e*S **S 03 41 02.0 -0.3**
MNK *e*PS **PS 03 42 20.0 -8.8**
MNK *e*PPS PPS 03 43 12.0
MNK pmax pmax
comp=Z,130nm,2.0s
MNK MLR MLR
comp=Z,4μm,23.0s
MNK MLR MLR
comp=E,4μm,22.0s

MLR Muntele Rosu 95.63 315 P **P 03 29 51.8 +0.8**
comp=E,2.9nm,0.7s,baz=106,slow=18,SNR=9.7
MLR PP **PP 03 33 41.8 -1.2**
comp=E,5.9nm,1.0s,baz=278,slow=10.0,SNR=3.2
MLR Muntele Rosu 95.63 315⇓*i*P **P 03 29 51.8 +0.8**
MLR Muntele Rosu 95.63 315 *e*P **P 03 29 51.8 +0.8**
comp=E,300nm,1.9s
MLR *e*PP **PP 03 33 41.8 -1.2**
PRAR RASCA 95.68 317⇑*i*P **P 03 29 51.9 +0.9**
RZN Rozhen 96.03 311 *e*P **P 03 29 52.7 -0.2**
CHGN Chignik 96.07 34 *e*P **P 03 29 51.5 -1.0**
comp=E,69nm,1.2s
CHGN LR LR
comp=Z,2μm,21.0s
VOIR 96.25 315⇑*i*P **P 03 29 54.2 +0.5**
VOIR 96.25 315⇑P **P 03 29 54.2 +0.5**
NACGM Naroch 96.30 325 *e* **P 03 29 54.0 +0.4**
NACGM *e*LQ LQ 04 02 11.0
NACGM *e*LR LR 04 13 06.0
NACGM LRM MLR 04 17 00.0
comp=Z,7.6nm,24.0s
IDID Didziasalis 96.38 325 *e*P **P 03 29 54.7 +0.8**
IDID IAmb IAmb 03 30 16.6
comp=Z,34nm,1.1s
BURAR Bucovina Array 96.39 317⇑*i*P **P 03 29 55.2 +0.9**
BURAR Bucovina Array 96.39 317⇑P **P 03 29 55.2 +0.9**
BUR08 Bucovina Ar. S 96.41 317 *e*P **P 03 29 55.5 +1.1**
ARR Arges 96.53 315⇓*i*P **P 03 29 55.2 +0.2**
PAIG Paliouri 96.60 309 P **P 03 29 54.1 -1.2**
PAIG Paliouri 96.60 309 P **P 03 29 54.1 -1.2**
PAIG Paliouri 96.60 309 P **P 03 29 54.1 -1.2**
IZAR Zarasai 96.71 325 *e*P **P 03 29 56.2 +0.8**
IZAR IAmb IAmb 03 30 18.0
comp=Z,18nm,1.0s
MMB Musomiste 96.75 311 *e*P **P 03 29 55.6 -0.4**
ISAL Salakas 96.76 325 *e*P **P 03 29 56.4 +0.7**
ISAL IAmb IAmb 03 30 18.2
comp=Z,13nm,0.9s
SRS Serrai 96.80 310 P **P 03 29 54.5 -1.7**
SRS Serrai 96.80 310 P **P 03 29 54.5 -1.7**
SRS Serrai 96.80 310 P **P 03 29 54.5 -1.7**
ARCR ARCALIA 96.91 316⇑*i*P **P 03 29 58.4 +1.8**
MPEP Malo Peshtene 96.94 313 *e*P **P 03 29 57.0 +0.2**
SOH Sokhos 96.95 310 P **P 03 29 56.8 -0.1**
SOH Sokhos 96.95 310 P **P 03 29 56.8 -0.1**
SOH Sokhos 96.95 310 P **P 03 29 56.8 -0.1**
LOT Lotru 97.14 315⇑*i*P Pdif 03 29 58.6 +0.7
VTS Vitosha 97.25 312 P **P 03 29 58.2 -0.2**
VTS Vitosha 97.25 312⇑*i*P Pdif 03 29 58.5 0.0
VTS Vitosha 97.25 312⇑P Pdif 03 29 58.5 0.0
VTS Vitosha 97.25 312 *e*P **P 03 29 58.1 -0.3**
VTS Vitosha 97.25 312 *e*P **P 03 29 57.9 -0.5**
comp=Z,120nm,1.7s
VTS LR LR
comp=Z,800nm,20.0s
KKB Krupnik 97.26 311 *e*P **P 03 29 57.9 -0.4**
KNT Kendrikon 97.33 310 P **P 03 29 58.0 -0.6**
KNT Kendrikon 97.33 310 P **P 03 29 58.0 -0.6**
KNT Kendrikon 97.33 310 P **P 03 29 58.0 -0.6**
VLX Vlachokerasia 97.33 307 P Pdif 03 29 59.2 +0.3
VLX Vlachokerasia 97.33 307 P Pdif 03 29 59.2 +0.3
CJR Cluj-Napoca 97.39 316⇑*i*P Pdif 03 30 00.6 +1.7
CJR Cluj-Napoca 97.39 316⇑P Pdif 03 30 00.6 +1.7
LVV L'vov 97.41 319 *e*P Pdif 03 30 00.7 +1.9
LVV *e* 03 40 31.3
LVV *e*S **S 03 41 16.4 -1.6**
LVV *e*PS **PS 03 42 51.6 +3.0**
GUR Goura 97.42 307 P **P 03 29 57.4 -1.8**
GUR Goura 97.42 307 P **P 03 29 57.4 -1.8**
FIA1 FINESS Array S 97.42 331 *e*P Pdif 03 29 59.0 +0.5
FIA0 FINESS Array S 97.42 331 *e*P Pdif 03 29 58.6 0.0
FIA0 FINESS Array S 97.42 331 *e*P Pdif 03 29 58.6 0.0
FIA0 *e*PKiKP **PKiKP 03 34 34.1 +1.1**
FIA0 *e*PKKPbc **PKKPbc 03 46 36.5 -2.2**
FINES FINESS Array B 97.42 331 P Pdif 03 29 58.6 0.0
comp=Z,21nm,0.6s,baz=108,slow=5.4,SNR=75
FINES PKiKP **PKiKP 03 34 34.2 +1.1**
comp=Z,3.8nm,0.6s,baz=108,slow=3.3,SNR=9.3
FINES PKKPbc **PKKPbc 03 46 36.5 -2.2**
comp=Z,3.6nm,0.8s,baz=284,slow=1.8,SNR=13
FINES LR LR 04 19 20.7
comp=Z,1μm,18.8s,baz=106,slow=39
LIT Litokhoron 97.53 309 P **P 03 29 58.8 -0.8**
LIT Litokhoron 97.53 309 P **P 03 29 58.8 -0.8**
LIT Litokhoron 97.53 309 P **P 03 29 58.8 -0.8**
AGG Agios Georgios 97.54 308 P **P 03 29 59.0 -0.6**
AGG Agios Georgios 97.54 308 *e*P **P 03 29 59.1 -0.6**
AGG pmax pmax
comp=Z,401nm,1.8s
AGG MLR MLR
comp=Z,2μm,20.0s
AGG Agios Georgios 97.54 308 *e*P **P 03 29 59.1 -0.6**
comp=Z,401nm,1.8s
AGG LR LR
comp=Z,2μm,20.0s
KLV Kalavryta, Ach 97.58 307 P **P 03 29 59.4 -0.5**
KLV Kalavryta, Ach 97.58 307 P **P 03 29 59.4 -0.5**
VAY Valandovo 97.59 311 *i* P Pdif 03 30 00.6 +0.8
GRG Griva 97.68 310 P **P 03 29 59.4 -0.8**
GRG Griva 97.68 310 P **P 03 29 59.4 -0.8**
GRG Griva 97.68 310 P **P 03 29 59.4 -0.8**
LAKA Lakka 97.73 307 P **P 03 29 56.2 -4.3**
LAKA Lakka 97.73 307 P **P 03 29 56.2 -4.3**
ANX Ano Chora 97.81 308 P Pdif 03 30 01.5 +0.5
KEV Kevo 97.86 339 PFAKE 03 30 10.0 +10
KEV LR LR
comp=Z,3μm,22.0s
DRO Drossia 97.92 307 P **P 03 30 01.3 0.0**
EVR Evrytania 97.93 308 P **P 03 30 01.1 -0.4**
EVR Evrytania 97.93 308 P **P 03 30 01.1 -0.4**
TT01 Tatalina 98.00 28 *e*P Pdif 03 30 01.2 +0.1
DRGR 98.00 316⇑*i*P Pdif 03 30 02.3 +0.7
DRGR 98.00 316⇑P Pdif 03 30 02.3 +0.7
TTA Tatalina 98.00 28 *e*P Pdif 03 30 02.6 +1.3
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 98.00 28 *e*P Pdif 03 30 02.6 +1.3
comp=Z,18nm,1.0s
SVW2 Sparrevohn 98.06 29 PFAKE 03 30 10.0 +8.6
SVW2 LR LR
comp=Z,900nm,21.0s
TRPA Tarpa 98.24 317⇑*e*P pP 03 30 22.7 +2.4
KWP Kalwaria Pacla 98.25 319 *e*P Pdif 03 30 03.6 +1.0
KWP *e*pP pP 03 30 23.0 +2.6
KWP *e*PP **PP 03 34 02.4 -0.6**
KWP Kalwaria Pacla 98.25 319 *e*P Pdif 03 30 03.6 +1.0
KWP *e* 03 34 02.4
SUW Suwalki 98.31 323 *e*P **P 03 30 02.6 0.0**
SUW *e*pP **pP 03 30 22.8 +2.3**
SUW *e*PP **PP 03 34 06.3 +3.1**
SUW Suwalki 98.31 323 *e*P **P 03 30 02.6 0.0**
SUW *e* 03 34 06.3
ARA0 ARCESS Array S 98.37 339 *e*P **P 03 30 01.8 -0.9**
ARA0 *e*PKiKP **PKiKP 03 34 34.5 0.0**
ARA0 *e*PKKPbc **PKKPbc 03 46 33.0 -3.3**
ARCES ARCESS Array B 98.37 339 P **P 03 30 01.8 -0.9**
comp=Z,12nm,0.9s,baz=94,slow=7.7,SNR=12
ARCES PKiKP **PKiKP 03 34 34.5 0.0**
comp=Z,2.9nm,0.6s,baz=73,slow=1.6,SNR=9.5
ARCES PKKPbc **PKKPbc 03 46 33.0 -3.3**
comp=Z,3.0nm,0.8s,baz=249,slow=1.0,SNR=7.2
ARCES LR LR 04 18 10.0
comp=Z,3μm,21.9s,baz=110,slow=38
ARE0 ARCESS Array S 98.37 339 PFAKE 03 30 10.0 +7.3
ARE0 LR LR
comp=Z,4μm,22.0s
FNA Florina 98.44 310 P P 03 29 55.6 -8.1
FNA Florina 98.44 310 P P 03 29 55.6 -8.1
FNA Florina 98.44 310 P P 03 29 55.6 -8.1
UZH Uzhgorod 98.44 318 *e*P Pdif 03 30 06.5 +3.1
UZH *e* 03 30 47.7
UZH *i* 03 34 03.3
UZH *e* 03 40 36.5
UZH *e*S **S 03 41 27.5 +0.7**
UZH *e* 03 43 38.0
UZH MLR MLR
comp=N,1μm,20.0s
UZH MLR MLR
comp=E,850nm,20.0s
UZH MLR MLR
comp=Z,350nm,20.0s
SKO Skopje 98.49 311 *i* P Pdif 03 30 04.5 +0.6
BIA Bitola 98.50 310 *i* P Pdif 03 30 04.1 +0.2

DSL Palaion Diasel 98.51 308 P **P 03 30 03.9 -0.1**
DSL Palaion Diasel 98.51 308 P **P 03 30 03.9 -0.1**
MDVR Moldovita 98.53 314⇓*i*P Pdif 03 30 04.6 +0.6
KRUS Krusevo 98.58 311 *i* P **P 03 30 04.2 -0.2**
BZS Buzias 98.66 315⇓*i*P Pdif 03 30 04.8 +0.3
BZS Buzias 98.66 315⇓P Pdif 03 30 04.8 +0.3
SIRR Siria 98.69 316⇓*i*P Pdif 03 30 05.1 +0.5
OHR Ohrid 98.90 310 *i* P **P 03 30 05.3 -0.4**
OHAK Old Harbor 98.97 33 PFAKE 03 30 20.0 +14
OHAK LR LR
comp=Z,2μm,22.0s
CRVS Cervenica-Dubn 99.01 318 *e*P **Pdif 03 30 08.0 +2.0**
CRVS *e* 03 34 09.1
CRVS Cervenica-Dubn 99.01 318 *e*PDIFF **Pdif 03 30 08.0 +2.0**
CRVS *e*PP **PP 03 34 09.1 +0.3**
HAMF Hammerfest 99.06 340 *e* **Pdif 03 30 20.0 +14**
HAMF *e* 03 39 31.2
HAMF *e*SKSac **SKSac 03 40 40.9 +2.9**
IMAR Indian Mountai 99.17 24 *e*P **Pdif 03 30 06.4 +0.1**
STHS Stebnicka Huta 99.19 319 *e*P **Pdif 03 30 08.3 +1.5**
STHS *e* 03 34 12.3
STHS Stebnicka Huta 99.19 319 *e*PDIFF **Pdif 03 30 08.3 +1.5**
STHS *e*PP **PP 03 34 12.3 +2.2**
SGD Sagiada 99.21 309 P **Pdif 03 30 07.2 +0.1**
KDAK Kodiak Island 99.37 33*ce*P **Pdif 03 30 08.0 +0.7**
KDAK Kodiak Island 99.37 33 PFAKE 03 30 20.0 +13
KDAK LR LR
comp=Z,1μm,20.0s
RSO Redoubt South 99.40 30 *e*P **Pdif 03 30 11.4 +3.8**
BEL Belsk 99.61 321 *e*P **Pdif 03 30 10.9 +2.4**
BEL *e*pP **pP 03 30 28.9 +2.5**
BEL *e*PP **PP 03 34 12.0 -1.2**
BEL Belsk 99.61 321 *e*P **Pdif 03 30 10.9 +2.4**
BEL *e* 03 34 12.0
TIR Tirane 99.62 310⇓*i*P **Pdif 03 30 09.0 +0.1**
TIR Tirane 99.62 310⇓P **Pdif 03 30 09.0 +0.1**
TIR Tirane 99.62 310 PFAKE 03 30 20.0 +11
TIR LR LR
comp=Z,2μm,22.0s
KECS Kecovo 99.63 318 *e*P **Pdif 03 30 09.9 +1.2**
KECS *e* 03 34 15.2
KECS Kecovo 99.63 318 *e*PDIFF **Pdif 03 30 09.9 +1.2**
KECS *e*PP **PP 03 34 15.2 +1.7**
PPLA Purkeypile 99.75 28 *e*Pdif **Pdif 03 30 10.8 +1.7**
comp=Z,82nm,1.8s
PPLA LR LR
comp=Z,1μm,20.0s
NIE Niedzica 99.80 319 *e*P **Pdif 03 30 10.3 +0.8**
NIE *e*pP **pP 03 30 30.4 +3.0**
NIE *e*PP **PP 03 34 15.2 +0.4**
NIE Niedzica 99.80 319 *e*P **Pdif 03 30 10.3 +0.8**
NIE *e* 03 34 15.2
CAST Castle Rocks 99.81 27 *e*Pdif **Pdif 03 30 09.3 +0.1**
comp=Z,9.2nm,0.7s
PSZ Piszkesteto 99.99 317⇓*i*P **Pdif 03 30 09.8 -0.7**
PSZ Piszkesteto 99.99 317⇓P **Pdif 03 30 09.8 -0.7**
PSZ Piszkesteto 99.99 317⇓*e*Pdiff pP 03 30 29.5 +1.2
PSZ Piszkesteto 99.99 317⇓*e*Pdiff pP 03 30 29.5 +1.2
PSZ Piszkesteto 99.99 317 *e*Pdif **Pdif 03 30 10.9 +0.4**
PSZ LR LR
comp=Z,1μm,20.0s
CNPM China Poot 100.14 31 *e*Pdif **Pdif 03 30 10.2 -0.5**
PDG Podgorica 100.14 312⇑*i*P **Pdif 03 30 11.2 +0.1**
OJC Ojcow 100.16 319 *e*P **Pdif 03 30 12.2 +1.2**
OJC *e*pP pP 03 30 30.4 +1.5
OJC Ojcow 100.16 319 *e*P **Pdif 03 30 12.2 +1.2**
OJC Ojcow 100.16 319 *e*Pdif **Pdif 03 30 12.3 +1.2**
BPAW Bear Paw Mtn. 100.31 26 *e*Pdif **Pdif 03 30 11.5 +0.1**
BRLK Bradley Lake 100.32 31 *e*Pdif **Pdif 03 30 12.0 +0.4**
BRLK LR LR
comp=Z,5μm,19.0s
KTH Kantishna Hill 100.33 27 *e*Pdif **Pdif 03 30 12.0 +0.4**
LANS Liptovska Anna 100.33 318 *e*P **Pdif 03 30 12.6 +0.7**
LANS *e* 03 34 18.6
LANS Liptovska Anna 100.33 318 *e*PDIFF **Pdif 03 30 12.6 +0.7**
LANS *e*PP **PP 03 34 18.6 -0.2**
SUA Susitna One 100.41 29 PFAKE 03 30 20.0 +8.0
SUA LR LR
comp=Z,1μm,19.0s
MLY Manley 100.41 25 *e*Pdif **Pdif 03 30 12.4 +0.5**
MLY LR LR
comp=Z,1μm,22.0s
BUD Budapest 100.56 317 *e*Pdiff pP 03 30 32.4 +1.6
BUD Budapest 100.56 317 *e*Pdiff pP 03 30 32.4 +1.6
COLD Coldfoot 100.60 23 *e*Pdif **Pdif 03 30 14.5 +1.9**
COLD LR LR
comp=Z,800nm,20.0s
TRF Thorofare Moun 100.62 27 *e*Pdif **Pdif 03 30 12.8 -0.2**
TRF LR LR
comp=Z,900nm,20.0s
VYHS Vyhne 100.73 318 *e*P **Pdif 03 30 13.7 +0.1**
VYHS *e* 03 34 21.8
VYHS Vyhne 100.73 318 *e*PDIFF **Pdif 03 30 13.7 +0.1**
VYHS *e*PP **PP 03 34 21.8 0.0**
SPA0 Spitsbergen Ar 100.79 348 *e* 03 40 47.1
SPA0 Spitsbergen Ar 100.79 348 *e*Pdif **Pdif 03 30 14.2 +0.9**
SPA0 *e*PKiKP **PKiKP 03 34 39.8 +1.1**
SPA0 *e*PKKPbc **PKKPbc 03 46 26.0 -3.6**
SPITS Spitsbergen Ar 100.79 348 P **Pdif 03 30 13.2 -0.1**
comp=Z,17nm,0.6s,baz=89,slow=8.5,SNR=41
SPITS PKiKP **PKiKP 03 34 39.8 +1.1**
comp=Z,2.7nm,0.5s,baz=113,slow=5.6,SNR=4.3
SPITS PKKPbc **PKKPbc 03 46 26.0 -3.6**
comp=Z,11nm,1.0s,baz=29,slow=1.9,SNR=4.2
TOLK Toolik Lake Re 100.80 22 P **Pdif 03 30 13.9 +0.3**
baz=272
RC01 Rabbit Creek A 100.89 29 *e*Pdif **Pdif 03 30 14.5 +0.4**
RC01 LR LR
comp=Z,4μm,19.0s
SEW Seward 101.04 31 *e*Pdif **Pdif 03 30 14.4 -0.3**
SEW LR LR
comp=Z,4μm,18.0s
CSKK Cs¨‡kako 101.08 316 *e*Pdiff pP 03 30 34.8 +1.7
CSKK Cs¨‡kako 101.08 316 *e*Pdiff pP 03 30 34.8 +1.7
HSPB Hornsund (broa 101.10 347 *e*PP PP 03 34 24.5 +0.8
HSPB *e*SKSac **SKSac 03 40 52.7 +4.9**
HSPB *e*SS **SS 03 48 52.2 +4.1**
PMR Palmer 101.18 29 *e*P **Pdif 03 30 15.7 +0.5**
PMR MLR MLR
comp=Z,4μm,21.0s
PMR Palmer 101.18 29 *e*Pdif **Pdif 03 30 15.7 +0.5**
PMR LR LR
comp=Z,4μm,21.0s
OKC Ostrava-Krasne 101.22 319 *e*PDIFF **Pdif 03 30 16.6 +0.9**
OKC *e*sP pP 03 30 35.7 +2.0
OKC *e*PP **PP 03 34 21.5 -3.9**
OKC *ex* x 03 41 24.9
OKC AMS AMS 04 24 50.0
comp=Z,1μm,22.3s
OKC Ostrava-Krasne 101.22 319 *i* P **Pdif 03 30 16.6 +0.9**
OKC *e* 03 34 21.5
OKC MLR MLR
comp=Z,1μm,22.3s
MCK McKinley 101.22 27 *e*P **Pdif 03 30 15.4 -0.1**
MCK MLR MLR
comp=Z,1μm,22.0s
MCK McKinley 101.22 27 *e*Pdif **Pdif 03 30 15.4 -0.1**
MCK LR LR
comp=Z,1μm,22.0s
RND Reindeer 101.26 27 PFAKE 03 30 30.0 +14
RND LR LR
comp=Z,2μm,22.0s
MDM Murphy Dome 101.48 26 *e*Pdif **Pdif 03 30 17.4 +0.8**
KBS Kingsbay 101.55 349 *e*PP PP 03 34 26.1 -1.0
KBS *e*SKSac **SKSac 03 40 50.8 +0.8**
KBS *e*SS **SS 03 48 53.8 -0.7**
KBS Kingsbay 101.55 349 PFAKE 03 30 30.0 +13
KBS LR LR
comp=Z,2μm,22.0s
SML Sawmill 101.55 29 PFAKE 03 30 30.0 +13
SML LR LR
comp=Z,4μm,21.0s
WRH Wood River Hil 101.56 26 *e*Pdif **Pdif 03 30 16.6 -0.3**
WRH LR LR
comp=Z,1μm,22.0s
MORC Moravsky Berou 101.61 319⇓*i*P **Pdif 03 30 18.7 +1.1**
MORC Moravsky Berou 101.61 319⇓P **Pdif 03 30 18.7 +1.1**
MORC Moravsky Berou 101.61 319 *e*Pdif **Pdif 03 30 18.6 +1.1**
MORC LR LR
comp=Z,5μm,21.0s
COLA College 101.64 26 PFAKE 03 30 30.0 +13
COLA LR LR

comp=Z,1µm,22.0s
CCB Clear Creek Bu 101.68 26 *e*Pdif **Pdif 03 30 17.0 -0.5**
CCB LR LR
comp=Z,1µm,20.0s
BLY Banja Luka 101.75 314 *e*Pdif **Pdif 03 30 18.6 +0.4**
GKP Gorka Klasztor 101.81 323 *e*Pdiff pP 03 30 36.5 +0.2
DHY Denali Highway 101.95 27 *e*Pdif **Pdif 03 30 19.1 +0.2**
SCM Sheep Creek Mo 102.03 29 PFAKE 03 30 30.0 +11
SCM LR LR
comp=Z,4µm,21.0s
HDA Harding Lake 102.06 26 PFAKE 03 30 30.0 +11
HDA LR LR
comp=Z,1µm,21.0s
ILAR Eielson Array 102.06 26 P **Pdif 03 30 18.1 -1.1**
comp=Z,1.4nm,0.5s,baz=254,slow=4.4,SNR=19
ILAR PKiKP **PKiKP 03 34 40.8 -0.5**
comp=Z,0.9nm,0.7s,baz=260,slow=2.7,SNR=5.0
ILAR PKKPbc **PKKPbc 03 46 23.2 -2.4**
comp=Z,3.6nm,0.7s,baz=123,slow=1.8,SNR=17
ILB Eielson Array 102.06 26 *e*Pdif **Pdif 03 30 17.8 -1.4**
ILB *e*PKiKP **PKiKP 03 34 40.8 -0.5**
ILB *e*PKKPbc **PKKPbc 03 46 23.5 -2.1**
BEHE Becsehely 102.07 316 *e*Pdiff pPdif 03 30 39.6 +2.2
BEHE Becsehely 102.07 316 *e*Pdiff pPdif 03 30 39.6 +2.2
KRLC Kraliky 102.10 319 *e*PDIFF **Pdif 03 30 21.4 +1.7**
KRLC *es*P **pPdif 03 30 39.9 +2.4**
KRLC *e*PP **PP 03 34 28.8 -3.3**
KRLC Kraliky 102.10 319 *i* P **Pdif 03 30 21.4 +1.7**
KRLC *e* 03 34 28.8
GLI Glacier Island 102.19 30 PFAKE 03 30 30.0 +10
GLI LR LR
comp=Z,3µm,18.0s
VRAC Vranov 102.22 318 P **Pdif 03 30 21.5 +1.3**
comp=Z,1.3nm,0.4s,baz=88,slow=2.7,SNR=4.2
VRAC PP **PP 03 34 30.6 -2.4**
comp=Z,6.8nm,0.8s,baz=82,slow=7.3,SNR=11
DPC Dobruska-Polom 102.39 320 *e*PDIFF **Pdif 03 30 22.5 +1.5**
DPC *es*P **pPdif 03 30 41.2 +2.4**
DPC *e*PP **PP 03 34 32.2 -2.1**
DPC *e*SKS 03 40 56.4
DPC AMS AMS 04 20 50.0
comp=Z,2µm,21.1s
DPC Dobruska-Polom 102.39 320 *i* P **Pdif 03 30 22.5 +1.5**
DPC *e* 03 34 32.2
DPC *e* 03 40 56.4
DPC MLR MLR
comp=Z,2µm,21.1s
KSP Ksiaz 102.41 320 *e*Pdiff **Pdif 03 30 22.7 +1.7**
KSP *ep*P **pPdif 03 30 41.4 +2.6**
KSP *e*PP **PP 03 34 34.5 +0.1**
KSP Ksiaz 102.41 320 *e*P **Pdif 03 30 22.7 +1.7**
KSP *e* 03 34 34.5
KOGS Kog 102.44 316 *i* Pdiff **Pdif 03 30 21.3 +0.1**
KOGS *ep*Pdiff **pPdif 03 30 41.1 +2.1**
KOGS *e* 03 33 30.1
KOGS *e*SKSac **SKSac 03 40 54.9 -0.6**
KOGS *e* 03 41 26.0
FID Port Fidalgo 102.49 30 PFAKE 03 30 30.0 +8.8
FID LR LR
comp=Z,4µm,18.0s
UPC Upice 102.59 320 *e*SKS **SKSac 03 40 52.8 -3.3**
UPC AMS AMS 04 23 50.0
comp=Z,2µm,18.5s
MID Middleton Isla 102.64 31 PFAKE 03 30 30.0 +8.2
MID LR LR
comp=Z,5µm,19.0s
CONA Conrad Observa 102.71 317 *i* Pdiff **Pdif 03 30 23.0 +0.5**
comp=Z,6.7nm,1.1s
CONA *e*PP **PP 03 34 35.3 -1.5**
comp=Z,26nm,1.3s
CONA *e*PKKPbc **PKKPbc 03 46 22.1 -1.1**
comp=Z,3.2nm,0.7s
KLU Klutina 102.72 29 PFAKE 03 30 30.0 +7.7
KLU LR LR
comp=Z,3µm,19.0s
DIV Divide 102.81 29 *e*Pdif **Pdif 03 30 24.2 +1.5**
DIV LR LR
comp=Z,4µm,20.0s
PAX Paxson 102.82 27 PFAKE 03 30 30.0 +7.3
PAX LR LR
comp=Z,2µm,18.0s
EYAK Cordova Ski Ar 102.86 30 PFAKE 03 30 40.0 +17
EYAK LR LR
comp=Z,8µm,21.0s
ARSA Arzberg 102.94 316 *i* PP PP 03 34 36.0 -2.5
comp=Z,50nm,1.9s
TREC Trest 102.94 318 *e*PDIFF **Pdif 03 30 23.7 +0.2**
TREC *es*P **pPdif 03 30 43.7 +2.4**
TREC *e*SKS 03 40 59.8
TREC AMS AMS 04 24 30.0
comp=Z,1µm,18.7s
TREC Trest 102.94 318 *i* P **Pdif 03 30 23.7 +0.2**
TREC *e* 03 40 59.8
TREC MLR MLR
comp=Z,1µm,18.7s
HARP HAARP 103.01 28 PFAKE 03 30 40.0 +17
HARP LR LR
comp=Z,3µm,21.0s
SOKA Soboth 103.28 316 *i* Pdiff **Pdif 03 30 25.6 +0.5**
comp=Z,6.7nm,1.4s
SOKA *i* PP **PP 03 34 40.6 -0.5**
comp=Z,27nm,1.5s
DOT Dot Lake 103.39 27 *e*Pdif **Pdif 03 30 25.5 +0.4**
DOT LR LR
comp=Z,13µm,20.0s
GOPC GO Pecny, Ondr 103.39 319 *e*PDIFF **Pdif 03 30 26.9 +1.5**
GOPC *ex* x 03 30 45.9
GOPC *ex* x 03 34 27.4
GOPC AMS AMS 04 24 30.0
comp=Z,2µm,21.3s
GOPC GO Pecny, Ondr 103.39 319 *i* P **Pdif 03 30 26.9 +1.5**
GOPC MLR MLR
comp=Z,2µm,21.3s
BMRM Bremner River 103.39 30 PFAKE 03 30 40.0 +15
BMRM LR LR
comp=Z,4µm,20.0s
RAGM Ragged Mountai 103.41 30 PFAKE 03 30 40.0 +15
RAGM LR LR
comp=Z,7µm,22.0s
TAOE Nuku Hiva Isla 103.45 101 *e*Pdif **Pdif 03 30 30.5 +3.9**
comp=Z,206nm,26.8s
TAOE Nuku Hiva Isla 103.45 101 *e*PP PP 03 34 42.7 -0.5
comp=Z,572nm,25.2s
TAOE *e*SKSac **SKSac 03 41 06.0 +4.2**
comp=Z,1µm,25.9s
TAOE *e*Sdif **Sdif 03 42 13.0 +2.6**
comp=Z,2µm,27.7s
TAOE *e*SS **SS 03 49 26.5 +2.7**
comp=Z,2µm,27.2s
TAOE Nuku Hiva Isla 103.45 101 *e*LQ LQ 03 59 38.5
comp=Z,4µm,27.8s
TAOE *e*LR LR 04 04 28.2
comp=Z,4µm,25.1s
HFS Hagfors 103.47 330 Pdiff **Pdif 03 30 26.1 +0.6**
comp=Z,11nm,0.8s,baz=112,slow=3.9,SNR=13
HFS PP **PP 03 34 42.0 0.0**
comp=Z,5.0nm,0.6s,baz=76,slow=8.0,SNR=3.1
PVCC Panska Ves 103.51 320 *e*PDIFF **Pdif 03 30 27.1 +1.2**
PVCC *ex* x 03 30 47.0
PVCC AMS AMS 04 24 20.0
comp=Z,2µm,22.6s
PVCC Panska Ves 103.51 320 *i* P **Pdif 03 30 27.1 +1.2**
PVCC MLR MLR
comp=Z,2µm,22.6s
WDD Wied Dalam 103.53 305 PFAKE 03 30 40.0 +14
WDD LR LR
comp=Z,1µm,20.0s
PRU Pruhonice 103.55 319 *e*PDIFF **Pdif 03 30 27.1 +1.0**
PRU *es*P **pPdif 03 30 46.4 +2.5**
PRU *e*PP PP 03 34 34.8 -8.1
PRU *ex* x 03 40 20.7
PRU *ex* x 03 44 08.0
PRU AMS AMS 04 24 30.0
comp=Z,2µm,21.9s
PRU Pruhonice 103.55 319 *i* P **Pdif 03 30 27.1 +1.0**
PRU MLR MLR
comp=Z,2µm,21.9s
OBKA Obir 103.61 316 *i* Pdiff **Pdif 03 30 29.9 +3.3**
comp=Z,6.6nm,1.4s
OBKA *i* PP **PP 03 34 42.9 -0.7**
comp=Z,38nm,1.5s
OBKA *i* SKSac **SKSac 03 41 01.7 +0.5**
comp=Z,10nm,1.6s
PRA Prague 103.61 319 *e*PP PP 03 34 35.4 -8.0
PRA AMS AMS 04 21 50.0
comp=Z,2µm,23.6s
LJU Ljubljana 103.63 315 *e*Pdiff **Pdif 03 30 27.0 +0.4**
LJU *ep*Pdiff **pPdif 03 30 46.8 +2.4**
LJU *e* 03 34 32.7
LJU *e*PP **PP 03 34 42.2 -1.5**
LJU *e* 03 34 56.7
LJU *e*SKSac **SKSac 03 41 01.1 0.0**
LJU *e* 03 41 32.5
MOA Molln 103.78 317 *i* Pdiff **Pdif 03 30 27.3 +0.1**
comp=Z,4.9nm,0.8s
MOA *i* PP **PP 03 34 43.8 -1.0**
comp=Z,14nm,1.1s
MOA *e*PKKPbc **PKKPbc 03 46 18.3 -1.6**
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 103.90 320 *i* PP 03 35 02.2 +17
comp=Z,25nm,1.1s
BRG SKS **SKSac 03 41 09.0 +6.9**
BRG SDIFF **Sdif 03 42 09.0 -3.4**
BRG PS **PS 03 43 53.0 -4.8**
BRG *e* 03 46 38.4
comp=Z,8.7nm,1.4s
comp=N,3µm,26.1s
comp=E,2µm,26.3s
comp=Z,3µm,37.2s
BRG Berggiesshubel 103.90 320 *e*P **Pdif 03 30 28.4 +0.8**
BRG S **Sdif 03 42 09.0 -3.4**
BRG PS **PS 03 43 53.0 -4.8**
BRG pmax pmax
comp=Z,11nm,1.4s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG MLR MLR
comp=N,3µm,26.1s
BRG MLR MLR
comp=E,2µm,26.3s
BRG Berggiesshubel 103.90 320 *e*PDIFF **Pdif 03 30 28.4 +0.8**
comp=E,11nm,1.4s
BRG pP **pPdif 03 30 44.0 -1.4**
RGN Rugen 104.09 324 PFAKE 03 30 40.0 +12
RGN LR LR
comp=Z,2µm,20.0s
CRQM Cirque 104.13 30 PFAKE 03 30 40.0 +11
CRQM LR LR
comp=Z,1µm,22.0s
GEA0 GERESS Array S 104.13 318 *e*Pdif **Pdif 03 30 29.1 +0.3**
GEC2 GERESS Array S 104.13 318 *e*P **Pdif 03 30 30.3 +1.5**
GEC2 *i* 03 34 45.6
GEC2 MLR MLR
comp=Z,2µm,22.0s
GEC2 GERESS Array S 104.13 318 *e*Pdif **Pdif 03 30 30.3 +1.5**
GEC2 *e*PKiKP **PKiKP 03 34 45.6 -0.1**
GEC2 *e*PKKPbc **PKKPbc 03 46 18.3 -0.7**
GEC2 LR LR
comp=Z,2µm,22.0s
GERES GERESS Array B 104.13 318 Pdiff **Pdif 03 30 30.0 +1.1**
comp=Z,1.8nm,0.6s,baz=116,slow=3.1,SNR=13
GERES PKiKP **PKiKP 03 34 45.6 -0.1**
comp=Z,3.3nm,0.7s,baz=93,slow=5.3,SNR=6.5
GERES PKKPbc **PKKPbc 03 46 18.3 -0.7**
comp=Z,1.2nm,0.7s,baz=256,slow=2.8,SNR=7.1
GERES GERESS Array B 104.13 318 P **Pdif 03 30 30.0 +1.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
TRI Trieste 104.17 315 PFAKE 03 30 40.0 +11
TRI LR LR
comp=Z,1µm,21.0s
KHC Kasperske Hory 104.20 318 *e*PDIFF **Pdif 03 30 29.5 +0.4**
KHC *es*P **pPdif 03 30 49.1 +2.2**
KHC *e*PP **PP 03 34 46.8 -1.0**
KHC *e*SKS 03 41 05.0
KHC *e*PKKP **PKKPbc 03 46 18.0 -0.7**
KHC *ex* x 03 46 37.1
KHC AMS AMS 04 21 50.0
comp=Z,2µm,20.3s
KHC Kasperske Hory 104.20 318 *i* P **Pdif 03 30 29.5 +0.4**
KHC *e* 03 34 46.8
KHC *e* 03 41 05.0
KHC MLR MLR
comp=Z,2µm,20.3s
MYKA Terra Mystica 104.23 316 *i* Pdiff **Pdif 03 30 28.9 -0.4**
comp=Z,4.3nm,0.8s
MYKA *i* PKiKP **PP 03 34 47.2 -1.1**
comp=Z,14nm,1.0s
MYKA *i* PKKPbc **PKKPbc 03 46 18.1 -0.5**
comp=Z,6.2nm,0.9s
KBA Koelnbreinsper 104.43 316 *i* SKSac **SKSac 03 41 05.8 +0.7**
comp=Z,13nm,0.8s
CLL Collm 104.47 321 *e*P **Pdif 03 30 31.0 +0.8**
CLL *e* 03 34 49.0
CLL *e*S **Sdif 03 42 17.0 -0.1**
CLL pmax pmax
comp=Z,125nm,2.2s
CLL MLR MLR
comp=Z,2µm,21.3s
CLL Collm 104.47 321 *e*Pdif **Pdif 03 30 31.0 +0.8**
CLL *i* sPdif **pPdif 03 30 49.7 +1.7**
comp=Z,108nm,2.5s
CLL *e* 03 34 10.0
CLL *e*PP **PP 03 34 49.0 -0.7**
comp=Z,125nm,2.2s
CLL *ep*PP 03 35 02.0
CLL *i* sPP 03 35 07.7
CLL *i* 03 35 26.1
CLL *e*PPP PPP 03 37 00.0
CLL *e* 03 40 36.0
CLL *e*SKSac **SKSac 03 41 09.0 +4.3**
CLL *e*(sSKSac) 03 41 35.0
CLL *e*(SKKSac) 03 42 04.0
CLL *e*Sdif **Sdif 03 42 17.0 -0.1**
CLL *e*PS **PS 03 44 00.0 -3.7**
CLL *e*PPS PPS 03 45 00.0
CLL *e*PKKPbc **PKKPbc 03 46 18.0 +0.1**
CLL *e*(SS) 03 49 18.0
CLL *e* 03 50 24.0
CLL *e* 03 55 24.0
CLL LmV 04 26 00.0
comp=Z,2µm,21.3s
CLL Collm 104.47 321 PFAKE 03 30 40.0 +10
CLL LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 104.48 311 PFAKE 03 30 40.0 +9.5
AQU LR LR
comp=Z,800nm,20.0s
EGAK Eagle 104.50 25 PFAKE 03 30 40.0 +10
EGAK LR LR
comp=Z,4µm,20.0s
NB2 NORSAR Subarra104.60 331 P **Pdif 03 30 31.2 +0.7**
comp=Z,49nm,2.0s,baz=79,slow=4.3
NB2 NORSAR Subarra104.60 331 P **Pdif 03 30 31.2 +0.7**
baz=79,slow=4.3
NB200 NORSAR Array S 104.60 331 *e*Pdif **Pdif 03 30 31.3 +0.7**
NB200 *e*PKiKP **PKiKP 03 34 45.4 -0.7**
NB200 *e*PKKPbc **PKKPbc 03 46 15.0 -2.9**
NOA NORSAR Array B 104.60 331 Pdiff **Pdif 03 30 31.3 +0.7**
comp=Z,0.9nm,0.7s,baz=140,slow=4.7,SNR=3.2
NOA PKiKP **PKiKP 03 34 45.4 -0.7**
comp=Z,2.5nm,0.7s,baz=258,slow=2.9,SNR=5.1
NOA PKKPbc **PKKPbc 03 46 15.0 -2.9**
comp=Z,1.4nm,0.8s,baz=58,slow=2.7,SNR=3.4
RKT Rikitea 104.75 117 *e*PP PP 03 34 54.3 +1.9
comp=Z,425nm,26.8s
RKT *e*SKSac **SKSac 03 41 10.3 +3.0**
comp=Z,988nm,27.8s
RKT *e*Sdif **Sdif 03 42 21.5 +0.8**
comp=Z,1µm,28.8s
RKT Rikitea 104.75 117 *e*PS PS 03 44 05.8 -1.7
comp=Z,1µm,26.0s
RKT *e*SS SS 03 49 47.6 +6.8
comp=Z,2µm,27.2s
RKT Rikitea 104.75 117 *e*LQ LQ 04 00 38.7
comp=Z,5µm,37.0s
RKT *e*LR LR 04 05 05.4
comp=Z,4µm,34.2s
NKC Novy Kostel 104.88 319 *ex* PKiKP 03 34 37.5 -9.4
NKC *e*SKS **SKSac 03 41 10.5 +3.8**
NKC *e*PKKP **PKKPbc 03 46 17.0 +0.3**
NKC *ex* x 03 46 34.3
NKC AMS AMS 04 27 50.0
comp=Z,2µm,18.1s
ABTA Abfaltersbach 105.01 316 *i* Pdiff **Pdif 03 30 35.2 +2.4**
comp=Z,5.3nm,1.2s
ABTA *i* PKiKP **PKiKP 03 34 46.0 -1.4**
comp=Z,6.0nm,0.7s
ABTA *e*SKSac **SKSac 03 41 05.8 -1.7**
comp=Z,13nm,1.8s
DAWY Dawson 105.38 26 PFAKE 03 35 00.0
DAWY LR LR
comp=Z,6µm,18.0s
WTTA Wattenberg 105.58 316 *i* Pdiff **Pdif 03 30 35.0 -0.5**
comp=Z,7.6nm,0.9s
WTTA *i* PKiKP **PKiKP 03 34 49.1 +0.6**
comp=Z,12nm,0.8s
WTTA *e*SKSac **SKSac 03 41 10.2 -0.1**
comp=Z,10nm,1.4s
PCA Pinnacle 105.63 30 PFAKE 03 35 00.0
PCA LR LR
comp=Z,3µm,18.0s
GRFO Grafenberg 105.71 319 PFAKE 03 35 00.0
GRFO LR LR
comp=Z,2µm,21.0s
MOTA Moosalm 105.94 317 *i* Pdiff **Pdif 03 30 38.2 +1.1**
comp=Z,3.9nm,1.0s
MOTA *i* PKiKP **PKiKP 03 34 49.3 +0.1**
comp=Z,9.0nm,0.6s
MOTA *e*SKSac **SKSac 03 41 12.2 +0.4**
comp=Z,6.4nm,1.2s
MOTA *e*PKKPbc **PKKPbc 03 46 12.8 -0.7**
comp=Z,1.3nm,0.5s
YKU2 Yakutat 106.01 31 PFAKE 03 35 00.0
YKU2 LR LR
comp=Z,3µm,18.0s
RETA Reutte 106.16 317 *i* Pdiff **Pdif 03 30 34.5 -3.4**
comp=Z,3.4nm,0.5s
RETA *i* PKiKP **PKiKP 03 34 50.0 +0.6**
comp=Z,13nm,0.8s
RETA *e*SKSac **SKSac 03 41 13.2 +0.5**
comp=Z,5.0nm,0.6s
RETA *e*PKKPab **PKKPab 03 46 30.0 +2.8**
comp=Z,2.2nm,0.6s
FETA Feichten 106.22 316 *i* Pdiff **Pdif 03 30 37.1 -1.2**
comp=Z,2.5nm,0.8s
FETA *i* PKiKP **PKiKP 03 34 51.2 +1.5**
comp=Z,14nm,1.2s
FETA *e*SKSac **SKSac 03 41 13.9 +0.8**
comp=Z,5.1nm,1.4s
FETA *e*PKKPbc **PKKPbc 03 46 11.7 -1.0**
comp=Z,7.7nm,1.6s
FUORN Ofenpass-Fuorn 106.56 316 *e*Pdif **Pdif 03 30 42.7 +2.7**
FUORN LR LR
comp=Z,1µm,22.0s
INK Inuvik 106.68 21 Pdiff **Pdif 03 30 40.5 +0.9**
comp=Z,1.6nm,0.8s,baz=287,slow=4.0,SNR=2.7
INK PKiKP **PKiKP 03 34 51.0 +1.3**
comp=Z,2.4nm,0.5s,baz=327,slow=3.8,SNR=11
DAVA Damuels 106.77 317 *i* Pdiff **Pdif 03 30 38.8 -1.9**
comp=Z,3.2nm,1.0s
DAVA *i* PKiKP **PKiKP 03 34 51.3 +0.6**
comp=Z,10nm,0.6s
DAVA *e*SKSac **SKSac 03 41 17.1 +1.6**
comp=Z,13nm,1.9s
DAVA *e*PKKPdf **PKKPdf 03 46 22.3 -1.0**
comp=Z,5.4nm,0.7s
DHAK Deception Hill 106.82 31 PFAKE 03 35 00.0
DHAK LR LR
comp=Z,2µm,22.0s
HYT Haines Junctio 106.85 29 PFAKE 03 35 00.0
HYT LR LR
comp=Z,6µm,20.0s
STU Stuttgart 107.11 318 PFAKE 03 35 00.0
STU LR LR
comp=Z,2µm,22.0s
BER Bergen 107.56 331 *e*PP PP 03 35 19.6 +7.6
VSL Villasalto 107.60 308 PFAKE 03 35 10.0
VSL LR LR
comp=Z,400nm,19.0s
BFO Black Forest 107.72 318 PFAKE 03 35 00.0
BFO LR LR
comp=Z,1µm,22.0s
KEST Kesra 107.73 304 Pdiff **Pdif 03 30 46.1 +0.9**
comp=Z,2.6nm,1.0s,baz=24,slow=20,SNR=2.0
KEST PKiKP **PKiKP 03 34 54.4 +1.6**
comp=Z,3.2nm,0.8s,baz=30,slow=8.1,SNR=4.0
KEST PKKPbc **PKKPbc 03 46 08.8 +1.3**
comp=Z,2.0nm,0.5s,baz=209,slow=2.4,SNR=8.2
LANF Langenberg 108.00 318 PKP PKiKP 03 35 04.4 +12
SKAG Skagway 108.20 30 PFAKE 03 35 10.0
SKAG LR LR
comp=Z,6µm,18.0s
DAG Danmarks Havn 108.23 350 *i* P **PKKPbc 03 46 03.0 -3.9**
ECH Echery 108.51 318 PKP PKiKP 03 35 06.2 +12
MOF Molkenrain 108.57 317 PKP **PKiKP 03 34 59.7 +5.8**
LOMF Lomont 108.83 317 PKP PKiKP 03 35 11.8 +17
MEM Membach 108.94 320 PKiKP **PKiKP 03 34 55.8 +1.4**
MEM Membach 108.94 320 PP PP 03 35 22.2 -0.3
MEM Membach 108.94 320 E 03 35 39.2
WLF Walferdange 108.98 319 PP PP 03 35 21.6 -1.3
WLF Walferdange 108.98 319 PFAKE 03 35 10.0
WLF LR LR
comp=Z,2µm,22.0s
BNI Bardonecchia 109.19 314 PFAKE 03 35 10.0
BNI LR LR
comp=Z,2µm,22.0s
BCLA Clavier 109.41 320 PP PP 03 35 25.6 -0.3
BCLA E 03 35 42.7
DOU Dourbes 109.91 320 PKiKP **PKiKP 03 34 58.0 +1.8**
DOU PP **PP 03 35 29.7 +0.1**
DOU E 03 35 46.1
CRAG Craig 110.26 34 PFAKE 03 35 10.0
CRAG LR LR
comp=Z,12µm,19.0s
WRAK Wrangell Islan 110.46 33 PFAKE 03 35 10.0
WRAK LR LR
comp=Z,11µm,18.0s
LRW Lerwick 110.75 331 *e*P **PKiKP 03 34 58.2 +0.7**
SET Setif 110.91 305 P PKiKP 03 34 43.2 -16
TAM Tamanrasset 111.05 291 PFAKE 03 35 10.0
TAM LR LR
comp=Z,2µm,21.0s
HOPE Hope Point 112.05 198 PFAKE 03 35 10.0
HOPE LR LR
comp=Z,4µm,22.0s
MCD Coleburn Disti 112.59 329 *e*P **PKiKP 03 35 01.2 +0.1**
EMHD Djebel Mahouad 112.89 305 P **PKiKP 03 34 55.1 -7.4**
EKA Eskdalemuir Ar 113.26 327 Pdiff **Pdif 03 31 11.7 +2.5**
comp=Z,0.6nm,0.6s,baz=226,slow=26,SNR=4.3
EKA PKKPbc **PKKPbc 03 45 48.8 -1.1**
comp=Z,1.9nm,0.8s,baz=260,slow=2.8,SNR=4.4
ESK Eskdalemuir 113.29 327 PFAKE 03 35 20.0
ESK LR LR
comp=Z,4µm,21.0s
KESW Keswick, Cumbr 113.46 326 *e*P **PKiKP 03 35 04.3 +1.5**
EAB Aberfoyle 113.62 328 *e*P **PKiKP 03 35 03.6 +0.6**
KSB Sheil Bridge 113.82 329 *e*P **PKiKP 03 35 03.7 +0.3**
KPL Plockton 113.89 329 *e*P **PKiKP 03 35 04.3 +0.8**
HLM1 Long Mynd 113.94 324 *e*P **PKiKP 03 35 04.2 +0.4**
FOEL Foel Wylfa 114.02 324 *e*P PKPdf 03 35 04.7 +0.7
EBNR Beni Rached 114.02 306 P PKPdf 03 34 51.0 -14
HGH Gray Hill 114.15 323 *e*P PKPdf 03 35 05.0 +0.8
MCH1 Michaelchurch 114.16 323 *e*P PKPdf 03 35 05.3 +1.0
ECHA Ech Chlef 114.17 305 P PKPdf 03 34 59.8 -5.0
TOC3 Torodi Ar. Sit 114.18 280 PFAKE 03 35 20.0 +15
TOC3 LR LR
comp=Z,2µm,19.0s
TOC2 Torodi Ar. Sit 114.18 280 PFAKE 03 35 20.0 +15
TOC2 LR LR
comp=Z,2µm,20.0s
TOB2 Torodi Ar. Sit 114.19 280 PFAKE 03 35 20.0 +15
TOB2 LR LR
comp=Z,2µm,20.0s
TOB3 Torodi Ar. Sit 114.19 280 PFAKE 03 35 20.0 +15
TOB3 LR LR
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 114.20 280 PFAKE 03 35 20.0 +15
TOC4 LR LR
comp=Z,3µm,20.0s
TOC1 Torodi Ar. Sit 114.20 280 PFAKE 03 35 20.0 +15
TOC1 LR LR
comp=Z,3µm,19.0s
TOA0 Torodi Ar. Sit 114.20 280 PFAKE 03 35 20.0 +15
TOA0 LR LR
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 114.20 280 Pdiff **Pdif 03 31 16.9 +2.6**
comp=Z,0.4nm,0.8s,baz=73,slow=4.9,SNR=2.3
TORD PKP **PKiKP 03 35 05.5 0.0**
comp=Z,10nm,0.4s,baz=36,slow=1.7,SNR=130
TORD pPKP **pPKiKP 03 35 26.0 +2.1**
comp=Z,11nm,0.7s,baz=79,slow=1.5,SNR=5.4
TORD PKKPbc **PKKPbc 03 45 45.3 -0.3**
comp=Z,2.5nm,0.5s,baz=311,slow=3.3,SNR=30
TORD PKKP **PKKPdf 03 46 07.5 -1.0**

comp=Z,2.4nm,0.7s,baz=298,slow=4.2,SNR=3.7
TOA1 Torodi Ar. Sit 114.21 280 *e*Pdif **Pdif 03 31 16.9 +2.6**
TOA1 *e*PKiKP **PKiKP 03 35 05.5 0.0**
TOA1 *e*PKKPbc **PKKPbc 03 45 45.3 -0.3**
TOA1 *e*PKKPdf **PKKPdf 03 46 07.5 -1.0**
TOB4 Torodi Ar. Sit 114.22 280 PFAKE 03 35 20.0 +15
TOB4 LR LR
comp=Z,2μm,20.0s
TOB5 Torodi Ar. Sit 114.22 280 PFAKE 03 35 20.0 +15
TOB5 LR LR
comp=Z,2μm,20.0s
TOC7 Torodi Ar. Sit 114.22 280 PFAKE 03 35 20.0 +15
TOC7 LR LR
comp=Z,2μm,20.0s
TOC5 Torodi Ar. Sit 114.22 280 PFAKE 03 35 20.0 +15
TOC5 LR LR
comp=Z,3μm,19.0s
LLW Llanuwychllyn 114.30 324 *e*P PKPdf 03 35 05.2 +0.7
WPM1 Penmaenmawr 114.31 325 *e*P PKPdf 03 35 04.8 +0.3
WME Myndd Eilian 114.50 325 *e*P PKPdf 03 35 05.5 +0.7
GMK Mull of Kintyr 114.57 327 *e*P PKPdf 03 35 05.9 +1.0
WLF1 Llynfaes 114.59 325 *e*P PKPdf 03 35 05.5 +0.5
WPS Cemaes, Angles 114.61 325 *e*P PKPdf 03 35 05.3 +0.3
SUMG Summit 114.78 351 *i* P PKPdf 03 35 06.7 +1.3
SUMG Summit 114.78 351 *i* P **PKKPbc 03 45 43.1 -2.7**
comp=Z,6.6nm,0.8s
SUMG Summit 114.78 351 *i* PKIKP PKPdf 03 35 06.7 +1.3
GCL Cushendall 114.95 327 *e*P PKPdf 03 35 05.9 +0.2
GMM Mts of Mourne 115.15 326 *e*P **PKPdf 03 35 06.7 +0.6**
DYA Yadsworthy 115.17 322 *e*P **PKPdf 03 35 06.5 +0.3**
DYA Yadsworthy 115.17 322 PFAKE 03 35 20.0 +14
DYA LR LR
comp=Z,2μm,21.0s
DSB Dublin 115.72 325 *e*PKPdf **PKPdf 03 35 08.5 +1.3**
CCA1 Carnmenellis 116.03 322 *e*P **PKPdf 03 35 08.3 +0.4**
YKW3 Yellowknife Ar 116.24 23 *e*PKPdf **PKPdf 03 35 09.1 +1.2**
YKW3 LR LR
comp=Z,2μm,18.0s
YKA Yellowknife Ar 116.28 23 PKP **PKPdf 03 35 08.1 +0.1**
comp=Z,15nm,0.7s,baz=320,slow=1.9,SNR=41
YKA pPKP pPKPdf 03 35 28.5 +2.0
comp=Z,8.0nm,0.5s,baz=307,slow=1.8,SNR=4.9
YKA PKKP **PKKPdf 03 46 03.7 -1.7**
comp=Z,1.4nm,0.6s,baz=262,slow=23,SNR=4.0
YKA Yellowknife Ar 116.28 23 PKIKP **PKPdf 03 35 08.1 +0.1**
YKA pmax pmax
comp=Z,16nm,0.6s
YKB5 Yellowknife Ar 116.28 23 *e*PKPdf **PKPdf 03 35 08.2 +0.2**
ES19 SONSECA Array 117.75 310 *e*PKPdf **PKPdf 03 35 11.3 -0.3**
ESDC Sonseca Array 117.80 310 Pdiff **Pdif 03 31 33.2 +3.4**
comp=Z,0.1nm,0.4s,baz=26,slow=1.7,SNR=2.6
ESDC PKP **PKiKP 03 35 12.0 +0.2**
comp=Z,2.8nm,0.6s,baz=20,slow=2.9,SNR=28
ESDC pPKP **pPKPdf 03 35 32.5 +2.3**
comp=Z,3.3nm,0.6s,baz=21,slow=2.8,SNR=8.4
ESDC PKKPbc **PKKPbc 03 45 32.7 -1.1**
comp=Z,2.2nm,0.6s,baz=278,slow=3.5,SNR=28
ESDC PKKP **PKKPdf 03 45 55.1 -7.0**
comp=Z,1.1nm,0.6s,baz=277,slow=3.4,SNR=6.1
ESLA Sonseca Array 117.80 310 *e*PKPdf **PKPdf 03 35 13.2 +1.4**
NLWA Neilton Lookou 118.01 41 PFAKE 03 35 20.0 +8.1
NLWA LR LR
comp=Z,14μm,18.0s
PAB San Pablo 118.12 310 *e*PKIKP **PKPdf 03 35 13.7 +1.3**
PAB San Pablo 118.12 310 *e*PKPdf **PKPdf 03 35 13.7 +1.3**
E03A Lebam 118.47 42 PFAKE 03 35 30.0 +17
E03A LR LR
comp=Z,18μm,21.0s
F03A Seaside 118.66 42 PFAKE 03 35 30.0 +17
F03A LR LR
comp=Z,25μm,19.0s
B05A Bryant 118.86 40 P **PKPdf 03 35 14.7 +1.3**
baz=290
JCW Jim Creek 118.99 40 *e*PKPdf **PKPdf 03 35 15.4 +1.6**
B06A Marblemount 119.16 39 *e*PKPdf **PKPdf 03 35 15.0 +1.0**
B06A LR LR
comp=Z,1μm,20.0s
KBO Bosley Butte 119.22 47 PFAKE 03 35 30.0 +16
KBO LR LR
comp=Z,3μm,18.0s
COR Corvallis 119.22 44 PFAKE 03 35 30.0 +16
COR LR LR
comp=Z,31μm,19.0s
D05A Enumclaw 119.29 41 *e*PKPdf **PKPdf 03 35 16.7 +2.4**
D05A LR LR
comp=Z,14μm,18.0s
FL2 Flat Top 2 119.38 42 *e*PKPdf **PKPdf 03 35 16.5 +1.8**
PBRG Braganca 119.38 313 *e*PKPdf **PKPdf 03 35 15.5 +0.8**
F04A Amboy 119.42 42 *e*PKPdf **PKPdf 03 35 16.1 +1.5**
F04A LR LR
comp=Z,26μm,20.0s
I03D Drain, OR 119.44 45 P **PKPdf 03 35 16.5 +1.8**
baz=286
MDT Midelt 119.48 302 PKP **PKPdf 03 35 16.1 +0.8**
comp=Z,5.2nm,0.5s,baz=168,slow=0.9,SNR=36
MDT pPKP **pPKPdf 03 35 36.9 +3.1**
comp=Z,5.6nm,0.7s,baz=75,slow=2.8,SNR=7.7
MDT PKKPbc **PKKPbc 03 45 27.1 -0.5**
comp=Z,1.9nm,0.6s,baz=254,slow=4.3,SNR=14
LON Longmire 119.55 41 *e*PKIKP **PKPdf 03 35 16.2 +1.3**
LON MLR MLR
comp=Z,22μm,22.0s
LON Longmire 119.55 41 *e*PKPdf **PKPdf 03 35 16.2 +1.3**
LON LR LR
comp=Z,22μm,22.0s
L02D Cave Junction, 119.68 47 P **PKPdf 03 35 16.4 +1.2**
baz=285
JCC Jacoby Creek, 119.71 48 PFAKE 03 35 30.0 +15
JCC LR LR
comp=Z,33μm,18.0s
C06D Leavenworth 119.74 40 P **PKPdf 03 35 16.4 +1.2**
baz=291
MVO Moncorvo 119.75 312 *e*PKPdf **PKPdf 03 35 17.5 +2.0**
MVO *e*P **sPKPdf 03 35 38.5 -2.2**
KIC Kosan Boka 119.85 272 *e*PKIKP **PKPdf 03 35 16.6 +0.2**
comp=Z,53nm,0.6s
KIC Kosan Boka 119.85 272 *e*P **PKKPab 03 45 29.1 +1.4**
comp=Z,25nm,1.0s
KHMM Horse Mountain 119.92 48 PFAKE 03 35 30.0 +14
KHMM LR LR
comp=Z,16μm,19.0s
DBIC Dimbokro 120.00 272 PKP **PKPdf 03 35 16.9 +0.3**
comp=Z,23nm,0.5s,baz=64,slow=1.8,SNR=88
DBIC pPKP **pPKPdf 03 35 37.0 +2.0**
comp=Z,21nm,0.6s,baz=58,slow=2.5,SNR=7.1
DBIC PKKPbc **PKKPab 03 45 28.4 +1.4**
comp=Z,5.4nm,0.8s,baz=275,slow=5.5,SNR=8.2
DBIC PKKP **PKKPdf 03 45 55.7 -1.7**
comp=Z,3.3nm,0.6s,baz=246,slow=7.0,SNR=4.6
HUMO Hull Mountain 120.02 46 *e*PKPdf **PKPdf 03 35 17.8 +1.9**
HUMO LR LR
comp=Z,15μm,21.0s
TDH Tom, Dick, Har 120.04 43 *e*PKPdf **PKPdf 03 35 16.7 +0.7**
KMRM Mail Ridge 120.09 49 PFAKE 03 35 30.0 +14
KMRM LR LR
comp=Z,28μm,19.0s
LTY Liberty 120.11 40 *e*PKPdf **PKPdf 03 35 16.8 +0.8**
LTY LR LR
comp=Z,18μm,18.0s
LIC Lamto 120.12 272 *e*PKIKP **PKPdf 03 35 17.0 +0.1**
comp=Z,130nm,0.6s
LIC Lamto 120.12 272 *e*P **PKKPab 03 45 27.6 +1.0**
comp=Z,60nm,1.2s
TIC Toumodi 120.16 272 *e*PKIKP **PKPdf 03 35 17.1 +0.1**
TIC Toumodi 120.16 272 *e*P **PKKPab 03 45 27.7 +1.3**
VFP Flag Point 120.24 43 P **PKPdf 03 35 17.8 +1.3**
POLO Lamas de Olo 120.25 313 *e*PKPdf **PKPdf 03 35 18.3 +1.8**
POLO *e*P **sPKPdf 03 35 39.1 -2.6**
POLO Lamas de Olo 120.25 313 *e*PP PP 03 36 43.9 +1.2
KCPM Cahto Peak 120.32 49 PFAKE 03 35 30.0 +13
KCPM LR LR
comp=Z,26μm,19.0s
PCAB Cabril 120.33 313 *e*PKPdf **PKPdf 03 35 18.5 +2.0**
PCAB *e*P **sPKPdf 03 35 39.3 -2.4**
G05D Wamic, OR 120.37 43 P **PKPdf 03 35 18.2 +1.7**
baz=289
PCBR Castelo Branco 120.41 311 *e*PKPdf **PKPdf 03 35 17.9 +1.2**
PCBR *e*P **sPKPdf 03 35 39.3 -2.5**
WTV Waterville 120.41 40 *e*PKPdf **PKPdf 03 35 18.0 +1.5**
M02C Callahan 120.42 47 P **PKPdf 03 35 18.4 +1.6**
baz=285
YBH Yreka Blue Hor 120.44 47 *e*PKIKP **PKPdf 03 35 19.5 +2.7**
YBH MLR MLR
comp=Z,10μm,18.0s
YBH Yreka Blue Hor 120.44 47 *e*PKPdf **PKPdf 03 35 19.5 +2.7**
YBH LR LR
comp=Z,10μm,18.0s
J04D Umpqua Nationa 120.44 45 P **PKPdf 03 35 17.9 +1.0**
baz=287
PGAV Gavieira, Arco 120.44 313 *e*PKPdf **PKPdf 03 35 18.1 +1.3**
PGAV *e*P **sPKPdf 03 35 39.2 -2.8**
PMRV Marv??o 120.44 310 *e*PKPdf **PKPdf 03 35 17.7 +0.9**
PMRV Marv??o 120.44 310 *e*PP PP 03 36 43.4 -0.6
PBAR Barrancos 120.46 309 *e*PKPdf **PKPdf 03 35 18.5 +1.7**
PBAR *e*P **sPKPdf 03 35 39.3 -2.7**
PBAR Barrancos 120.46 309 *e*PP PP 03 36 43.7 -0.5
PVIS Viseu 120.50 312 *e*PKPdf **PKPdf 03 35 18.2 +1.3**
PVIS *e*P **sPKPdf 03 35 39.5 -2.6**
B08A Colville Reser 120.55 39 *e*PKPdf **PKPdf 03 35 17.3 +0.5**
I05D Terrebonne, OR 120.64 44 P **PKPdf 03 35 18.4 +1.3**
baz=288
N02D Trinity Center 120.64 48 P **PKPdf 03 35 18.4 +1.1**
baz=285
PESTR Estremoz 120.72 310 *e*PKPdf **PKPdf 03 35 19.0 +1.6**
PESTR *e*P **sPKPdf 03 35 39.6 -2.9**
HOPS Hopland Field 120.87 50 PFAKE 03 35 30.0 +12
HOPS LR LR
comp=Z,2μm,18.0s
WDC Whiskeytown Da 120.87 48 *e*PKIKP **PKPdf 03 35 18.7 +1.2**
WDC MLR MLR
comp=Z,8μm,19.0s
WDC Whiskeytown Da 120.87 48 *e*PKPdf **PKPdf 03 35 18.7 +1.2**
WDC LR LR
comp=Z,8μm,19.0s
K04D Chiloquin, OR 120.87 46 P **PKPdf 03 35 18.5 +0.8**
baz=287
J05D Fort Rock, OR 121.04 45 P **PKPdf 03 35 19.3 +1.3**
baz=288
M04C Macdoel 121.05 47 P **PKPdf 03 35 18.8 +0.7**
baz=286
PCAS Casmilo, Conde 121.11 311 *e*PKPdf **PKPdf 03 35 19.2 +1.1**
PCAS *e*P **sPKPdf 03 35 40.4 -2.8**
GDXM Geysers 121.12 50 PFAKE 03 35 30.0 +12
GDXM LR LR
comp=Z,20μm,18.0s
EVO Evora 121.13 309 *e*PKPdf **PKPdf 03 35 19.2 +1.1**
PBEJ Beja 121.13 309 *e*PKPdf **PKPdf 03 35 19.6 +1.5**
HAWA Hanford 121.15 41 *e*PKPdf **PKPdf 03 35 19.8 +1.9**
HAWA LR LR
comp=Z,22μm,20.0s
RTC Rabat Centre 121.15 304 PFAKE 03 35 30.0 +12
RTC LR LR
comp=Z,4μm,20.0s
PVAQ Vaqueiros 121.16 308 *e*PKPdf **PKPdf 03 35 19.9 +1.7**
PMTG Montargil 121.16 310 *e*PKPdf **PKPdf 03 35 19.2 +1.1**
PMTG *e*P **pPKPdf 03 35 40.2 +3.6**
PTOM Tomar 121.16 311 *e*PKPdf **PKPdf 03 35 19.7 +1.6**
PTOM *e*P **sPKPdf 03 35 41.3 -2.0**
MCCM Marconi Confer 121.21 51 PFAKE 03 35 30.0 +12
MCCM LR LR
comp=Z,14μm,18.0s
H2OWA Water 121.22 41 P **PKPdf 03 35 19.5 +1.5**
D08A Wollman Farm, 121.30 40 PFAKE 03 35 30.0 +12
D08A LR LR
comp=Z,18μm,19.0s
PCVE Castro Verde 121.36 308 *e*PKPdf **PKPdf 03 35 20.1 +1.5**
PCVE *e*P **sPKPdf 03 35 41.6 -2.1**
PBDV Barranco-do-Ve 121.36 308 *e*PKPdf **PKPdf 03 35 20.4 +1.8**
O03D Paynes Creek 121.49 48 P **PKPdf 03 35 19.6 +0.8**
baz=286
SFJD Kangerlussuaq 121.57 353 PKP **PKPdf 03 35 18.3 +0.2**
comp=Z,15nm,0.6s,baz=73,slow=3.5,SNR=10
SFJD Kangerlussuaq 121.57 353 *i* P **PKPdf 03 35 18.3 +0.2**
PNCL Nicolau / Gran 121.62 309 *e*PKPdf **PKPdf 03 35 20.5 +1.4**
PNCL *e*P **sPKPdf 03 35 41.9 -2.3**
MORF Marmelete 121.90 308 *e*P **PKPdf 03 35 20.4 +0.7**
MORF AMS AMS 04 41 37.4
comp=Z,1μm,18.6s
MORF Marmelete 121.90 308 *e*PKPdf **PKPdf 03 35 21.7 +2.0**
MORF *e*P **sPKPdf 03 35 42.7 -2.2**
MORF Marmelete 121.90 308 *e*PKIKP **PKPdf 03 35 20.4 +0.7**
ORV Oroville 121.91 49 *e*PKIKP **PKPdf 03 35 20.6 +1.0**
ORV MLR MLR
comp=Z,9μm,21.0s
ORV Oroville 121.91 49 *e*PKPdf **PKPdf 03 35 20.6 +1.0**
ORV LR LR
comp=Z,9μm,21.0s
NEW Newport 121.95 38 P **PKPdf 03 35 20.3 +0.9**
baz=294
NEW Newport 121.95 38 *e*PKIKP **PKPdf 03 35 20.5 +1.0**
NEW MLR MLR
comp=Z,15μm,19.0s
NEW Newport 121.95 38 *e*PKPdf **PKPdf 03 35 20.5 +1.0**
NEW LR LR
comp=Z,15μm,19.0s
PMAFR Mafra 121.98 310 *e*PKPdf **PKPdf 03 35 19.3 -0.5**
PMAFR *e*P **sPKPdf 03 35 42.6 -2.3**
PFVI Vila Bisbo 122.08 308 *e*PKPdf **PKPdf 03 35 21.5 +1.5**
PFVI *e*P **sPKPdf 03 35 42.8 -2.3**
PFVI Vila Bisbo 122.08 308 PFAKE 03 35 30.0 +10
PFVI LR LR
comp=Z,2μm,21.0s
MOD Modoc Plateau 122.11 46 *e*PKPdf **PKPdf 03 35 21.5 +1.4**
MOD LR LR
comp=Z,3μm,22.0s
AFDM Forest Hills D 122.46 50 *e*PKPdf **PKPdf 03 35 22.2 +1.4**
AFDM LR LR
comp=Z,9μm,18.0s
SAO San Andreas Ge 122.64 52 PFAKE 03 35 30.0 +8.9
SAO LR LR
comp=Z,9μm,22.0s
BEKR Beckworth 122.67 48 *e*PKPdf **PKPdf 03 35 22.6 +1.4**
BEKR LR LR
comp=Z,2μm,22.0s
WVOR Wild Horse Val 123.12 45 *e*PKIKP **PKPdf 03 35 23.8 +1.8**
WVOR MLR MLR
comp=Z,13μm,20.0s
WVOR Wild Horse Val 123.12 45 *e*PKPdf **PKPdf 03 35 23.8 +1.8**
WVOR LR LR
comp=Z,13μm,20.0s
CMB Columbia Colle 123.15 51 *e*PKIKP **PKPdf 03 35 23.3 +1.2**
CMB MLR MLR
comp=Z,14μm,18.0s
CMB Columbia Colle 123.15 51 *e*PKPdf **PKPdf 03 35 23.3 +1.2**
CMB LR LR
comp=Z,14μm,18.0s
BMO Blue Mountains 123.17 42 *e*PKIKP **PKPdf 03 35 22.5 +0.5**
BMO MLR MLR
comp=Z,12μm,19.0s
BMO Blue Mountains 123.17 42 *e*PKPdf **PKPdf 03 35 22.5 +0.5**
BMO LR LR
comp=Z,12μm,19.0s
PMPB Monarch Peak 123.28 53 PFAKE 03 35 30.0 +7.6
PMPB LR LR
comp=Z,2μm,20.0s
PAHR Pah Rah Range 123.43 48 *e*PKPdf **PKPdf 03 35 24.3 +1.6**
PAHR LR LR
comp=Z,3μm,20.0s
PNTR Pine Nut 123.45 49 *e*PKPdf **PKPdf 03 35 24.8 +1.9**
PNTR LR LR
comp=Z,7μm,22.0s
WALA Waterton Lakes 123.52 36 *e*PKPdf **PKPdf 03 35 24.1 +1.6**
WALA LR LR
comp=Z,14μm,20.0s
BSMT Bassoo Peak 123.54 38 *e*PKPdf **PKPdf 03 35 23.3 +0.6**
BLMT Blacktail Moun 123.73 37 *e*PKPdf **PKPdf 03 35 24.4 +1.3**
WAKR Walker 123.74 50 *e*PKPdf **PKPdf 03 35 25.1 +1.7**
WAKR LR LR
comp=Z,9μm,22.0s
YERR Yerington 123.75 49 *e*PKPdf **PKPdf 03 35 25.1 +1.7**
YERR LR LR
comp=Z,4μm,18.0s
PAGB Antelope Grade 123.83 53 *e*PKPdf **PKPdf 03 35 25.8 +2.4**
PAGB LR LR
comp=Z,6μm,18.0s
SMMC Simmler 124.13 54 P **PKPdf 03 35 25.9 +1.8**
baz=284
SWMT Swartz Lake 124.17 38 *e*PKPdf **PKPdf 03 35 24.5 +0.6**
TVH2 Borealis Mine 124.29 50 *e*PKPdf **PKPdf 03 35 26.6 +2.1**
TVH2 LR LR
comp=Z,3μm,21.0s
PKM Mcpherson Peak 124.38 54 P **PKPdf 03 35 26.1 +1.3**
baz=284
RCTC Rector, Farmer 124.48 52 P **PKPdf 03 35 25.6 +1.0**
baz=285
MSO Missoula 124.51 39 P **PKPdf 03 35 25.1 +0.6**
baz=296
MSO Missoula 124.51 39 *e*PKPdf **PKPdf 03 35 25.5 +1.0**
MSO LR LR
comp=Z,12μm,20.0s
SBC Santa Barbara 124.56 55 P **PKPdf 03 35 25.4 +0.6**
baz=283
SLMT Seeley Lake 124.60 38 *e*PKPdf **PKPdf 03 35 25.4 +0.7**
MFID Camas Ranch 124.70 43 *e*PKPdf **PKPdf 03 35 27.0 +2.0**
VES Vestal, Richgr 124.72 53 P **PKPdf 03 35 25.8 +0.7**
baz=285
SCZ2 Santa Cruz Isl 124.73 55 P **PKPdf 03 35 26.1 +0.9**
baz=283
CHMT Chamberlain Mo 124.89 38 *e*PKPdf **PKPdf 03 35 26.0 +0.6**
SNCC San Nicolas Is 124.98 56 PFAKE 03 35 40.0 +14
SNCC LR LR
comp=Z,6μm,20.0s
ARVC Arvin 125.10 54 P **PKPdf 03 35 26.9 +1.0**
baz=284
ISA Isabella, Lake 125.25 53 P **PKPdf 03 35 27.0 +0.7**
baz=285
ISA Isabella, Lake 125.25 53 PFAKE 03 35 40.0 +14
ISA LR LR
comp=Z,8μm,19.0s
OSI Osito Audit: C 125.31 54 PFAKE 03 35 40.0 +14
OSI LR LR
comp=Z,7μm,21.0s
CWC Cottonwood Cre 125.35 52 P **PKPdf 03 35 27.9 +1.4**
baz=286
HLID Hailey 125.59 42 P **PKPdf 03 35 28.8 +2.0**
baz=294
HLID Hailey 125.59 42 *e*PKPdf **PKPdf 03 35 28.9 +2.1**
HLID LR LR
comp=Z,13μm,19.0s
DECC Green Verdugo 125.72 54 P **PKPdf 03 35 28.1 +1.0**
baz=284
GRAC Grapevine Rang 125.74 51 P **PKPdf 03 35 28.5 +1.4**
baz=287
EDW2 Edwards Air Fo 125.83 54 P **PKPdf 03 35 28.6 +1.2**
baz=285
SCI2 San Clemente I 125.84 56 P **PKPdf 03 35 28.8 +1.4**
baz=283
HRY Holter Researc 125.85 38 *e*PKPdf **PKPdf 03 35 28.2 +1.1**
CIS Catalina Islan 125.85 55 P **PKPdf 03 35 28.5 +1.2**
baz=284
PASC Pasadena Art C 125.85 55 *e*PKPdf **PKPdf 03 35 29.3 +1.9**
PASC LR LR
comp=Z,8μm,20.0s
LRM Limekiln Ridge 125.88 39 *e*PKPdf **PKPdf 03 35 28.7 +1.3**
MPMC Manual Prospec 125.91 52 P **PKPdf 03 35 29.0 +1.3**
baz=286
LRMC Laurel Mtn Rad 125.92 53 P **PKPdf 03 35 29.0 +1.4**
baz=286
MWC Mount Wilson 125.94 54 *e*PKIKP **PKPdf 03 35 29.5 +1.8**
MWC MLR MLR
comp=Z,9μm,21.0s
MWC Mount Wilson 125.94 54 *e*PKPdf **PKPdf 03 35 29.5 +1.8**
MWC LR LR
comp=Z,9μm,21.0s
DLMT Dillon 126.00 40 *e*PKPdf **PKPdf 03 35 29.3 +1.8**
DLMT LR LR
comp=Z,10μm,18.0s
MCMT McKenzie Canyo 126.08 40 P **PKPdf 03 35 29.5 +1.7**
NRS Narsarsuaq 126.22 348 *i* P **PKPdf 03 35 28.5 +1.4**
NRS Narsarsuaq 126.22 348 *i* PKIKP **PKPdf 03 35 28.5 +1.4**
LCCM Lewis and Clar 126.23 39 *e*PKPdf **PKPdf 03 35 29.3 +1.4**
BFSC Mount Baldy Ra 126.26 54 P **PKPdf 03 35 29.3 +1.0**
baz=285
FFC Flin Flon 126.27 25 *e*PKIKP **PKPdf 03 35 28.7 +1.2**
FFC MLR MLR
comp=Z,6μm,19.0s
FFC Flin Flon 126.27 25 *e*PKPdf **PKPdf 03 35 28.7 +1.2**
FFC LR LR
comp=Z,6μm,19.0s
FURC Furnace Creek, 126.28 51 P **PKPdf 03 35 29.5 +1.5**
baz=287
ASCN Ascension 126.29 253 *e*PKPdf **PKPdf 03 35 31.2 +2.5**
ASCN LR LR
comp=Z,3μm,20.0s
EGMT Eagleton 126.43 36 P **PKPdf 03 35 28.7 +0.6**
baz=301
EGMT Eagleton 126.43 36 *e*PKPdf **PKPdf 03 35 29.6 +1.5**
EGMT LR LR
comp=Z,9μm,19.0s
BOZ Bozeman (W) 126.50 39 P **PKPdf 03 35 29.8 +1.3**
baz=298
BOZ Bozeman (W) 126.50 39 PFAKE 03 35 40.0 +12
BOZ LR LR
comp=Z,9μm,19.0s
TPNV Topopah Spring 126.61 51 P **PKPdf 03 35 30.4 +1.5**
baz=288
TPNV Topopah Spring 126.61 51 *e*PKIKP **PKPdf 03 35 29.9 +1.0**
TPNV MLR MLR
comp=Z,5μm,20.0s
TPNV Topopah Spring 126.61 51 *e*PKPdf **PKPdf 03 35 29.9 +1.0**
TPNV LR LR
comp=Z,5μm,20.0s
RRX Edison Barstow 126.62 53 P **PKPdf 03 35 30.5 +1.7**
baz=286
GSC Goldstone, Bar 126.66 53 P **PKPdf 03 35 30.6 +1.6**
baz=286
GSC Goldstone, Bar 126.66 53 *e*PKIKP **PKPdf 03 35 30.9 +1.9**
GSC Goldstone, Bar 126.66 53 *e*PKPdf **PKPdf 03 35 30.9 +1.9**
R11A Troy Canyon, C 126.67 49 P **PKPdf 03 35 30.3 +1.3**
baz=289
R11A Troy Canyon, C 126.67 49 *e*PKPdf **PKPdf 03 35 30.5 +1.5**
R11A LR LR
comp=Z,3μm,20.0s
MURC Murrieta 126.79 55 P **PKPdf 03 35 30.5 +1.3**
baz=285
BBRC Big Bear Solar 126.84 54 P **PKPdf 03 35 30.6 +1.1**
baz=285
SHOC Shoshone, Teco 126.90 52 P **PKPdf 03 35 30.7 +1.4**
baz=287
QLMT Earthquake Lak 126.98 40 *e*PKPdf **PKPdf 03 35 31.7 +2.2**
109C Camp Elliot, M 127.04 56 P **PKPdf 03 35 30.7 +1.1**
baz=284
HEC Hector,Ludlow 127.16 53 P **PKPdf 03 35 31.4 +1.5**
baz=286
YHB Horse Butte 127.16 40 *e*PKPdf **PKPdf 03 35 32.6 +2.8**
YHB LR LR
comp=Z,13μm,19.0s
TUQ Turquoise Moun 127.31 52 P **PKPdf 03 35 31.5 +1.3**
baz=287
YMR Madison River 127.34 40 *e*PKPdf **PKPdf 03 35 32.8 +2.6**
YMR LR LR
comp=Z,13μm,18.0s
YHH Holmes Hill 127.36 40 *e*PKPdf **PKPdf 03 35 32.5 +2.2**
YHH LR LR
comp=Z,12μm,19.0s
PFO Pinyon Flats O 127.39 55 P **PKPdf 03 35 32.1 +1.7**
baz=285
PFO Pinyon Flats O 127.39 55 *e*PKIKP **PKPdf 03 35 32.3 +1.9**
PFO MLR MLR
comp=Z,8μm,20.0s
PFO Pinyon Flats O 127.39 55 *e*PKPdf **PKPdf 03 35 32.3 +1.9**
PFO LR LR
comp=Z,8μm,20.0s
XPFO Piæon Flat 127.39 55 *e*PKPdf **PKPdf 03 35 32.3 +1.9**
XPFO LR LR
comp=Z,9μm,20.0s
HVU Hansel Valley 127.41 44 *e*PKIKP **PKPdf 03 35 31.3 +1.0**
HVU MLR MLR
comp=Z,10μm,19.0s
HVU Hansel Valley 127.41 44 *e*PKPdf **PKPdf 03 35 31.3 +1.0**
HVU LR LR
comp=Z,10μm,19.0s
BAR Barrett 127.45 56 *e*PKPdf **PKPdf 03 35 32.6 +2.1**
BAR LR LR
comp=Z,6μm,22.0s
YNR Norris Junctio 127.50 40 PFAKE 03 35 40.0 +10
YNR LR LR
comp=Z,14μm,19.0s
YFT Old Faithful 127.53 40 PFAKE 03 35 40.0 +9.5
YFT LR LR
comp=Z,12μm,19.0s
BGU Big Grassy Mou 127.58 45 *e*PKPdf **PKPdf 03 35 32.4 +1.8**
BGU LR LR
comp=Z,4μm,18.0s
SHPR Sheep Range 127.58 51 *e*PKPdf **PKPdf 03 35 31.9 +1.2**
SHPR LR LR
comp=Z,5μm,21.0s
MONP2 Monument Peak 127.60 56 P **PKPdf 03 35 32.7 +1.7**
baz=285
GCMT Greycliff 127.61 38 *e*PKPdf **PKPdf 03 35 32.4 +1.8**
BELC Belle Mtn. Jos 127.65 54 P **PKPdf 03 35 33.0 +2.0**
baz=286
MTUT Morton Thiokol 127.66 44 *e*PKPdf **PKPdf 03 35 32.7 +1.9**
GMRC Granite Mounta 127.70 53 P **PKPdf 03 35 32.9 +1.9**
baz=287

IMW	Indian Meadow	127.72	41	ePKPdf	PKPdf	03 35 32.9	+1.9
H17A	Grant Village	127.72	40	P	PKPdf	03 35 33.1	+2.2
	baz=298						
H17A	Grant Village	127.72	40	PFAKE		03 35 40.0	+9.1
H17A				LR	LR		
	comp=Z,17µm,19.0s						
LKWY	Lake	127.75	40	PFAKE		03 35 40.0	+9.0
LKWY				LR	LR		
	comp=Z,12µm,19.0s						
FXWY	Fox Creek	127.78	41	ePKPdf	PKPdf	03 35 32.8	+1.7
FXWY				LR	LR		
	comp=Z,10µm,22.0s						
SPUT	South Promonto	127.83	44	ePKPdf	PKPdf	03 35 32.7	+1.6
SPUT				LR	LR		
	comp=Z,6µm,21.0s						
PSUT	Pine Spring	127.88	48	PFAKE		03 35 40.0	+8.6
PSUT				LR	LR		
	comp=Z,5µm,18.0s						
TPAW	Teton Pass	127.89	41	ePKPdf	PKPdf	03 35 33.1	+1.8
TPAW				LR	LR		
	comp=Z,11µm,22.0s						
MOOW	Moose Ponds	127.91	41	ePKPdf	PKPdf	03 35 32.5	+1.2
MOOW				LR	LR		
	comp=Z,11µm,22.0s						
IKP	In-Ko-Pah, Jac	127.92	56	P	PKPdf	03 35 33.1	+1.7
	baz=285						
BEI	Bear River Ran	127.95	43	ePKPdf	PKPdf	03 35 33.5	+2.1
DUG	Dugway, Tooele	128.01	46	P	PKPdf	03 35 33.0	+1.6
	baz=293						
DUG	Dugway, Tooele	128.01	46	ePKIKP	PKPdf	03 35 33.3	+1.8
DUG				MLR	MLR		
	comp=Z,1µm,22.0s						
DUG	Dugway, Tooele	128.01	46	ePKPdf	PKPdf	03 35 33.3	+1.8
DUG				LR	LR		
	comp=Z,1µm,22.0s						
REDW	Red Top Meadow	128.02	41	ePKPdf	PKPdf	03 35 33.3	+1.8
REDW				LR	LR		
	comp=Z,11µm,22.0s						
SNOW	Snow King Moun	128.03	41	ePKPdf	PKPdf	03 35 33.5	+1.9
SNOW				LR	LR		
	comp=Z,11µm,22.0s						
LDFC	Landfair	128.05	53	PFAKE		03 35 40.0	+8.3
LDFC				LR	LR		
	comp=Z,7µm,20.0s						
LOHW	Long Hollow	128.06	41	ePKPdf	PKPdf	03 35 33.3	+1.7
LOHW				LR	LR		
	comp=Z,8µm,19.0s						
SWSC	Sam W. Stewart	128.09	55	P	PKPdf	03 35 33.0	+1.4
	baz=285						
BC3	Big Chuckawall	128.18	54	P	PKPdf	03 35 33.6	+1.7
	baz=286						
RLMT	Red Lodge	128.19	39	P	PKPdf	03 35 33.3	+1.5
	baz=300						
RLMT	Red Lodge	128.19	39	PFAKE		03 35 40.0	+8.3
RLMT				LR	LR		
	comp=Z,8µm,18.0s						
IRM	Iron Mountain	128.29	54	P	PKPdf	03 35 33.9	+1.9
	baz=286						
HWUT	Hardware Ranch	128.31	44	ePKPdf	PKPdf	03 35 33.5	+1.4
HWUT				LR	LR		
	comp=Z,8µm,21.0s						
BMUT	Black Mountain	128.38	43	ePKPdf	PKPdf	03 35 33.9	+1.6
CCUT	Cedar City	128.59	49	ePKPdf	PKPdf	03 35 35.2	+2.4
CCUT				LR	LR		
	comp=Z,2µm,19.0s						
NLU	North Lily Min	128.63	46	ePKPdf	PKPdf	03 35 34.8	+2.1
NLU				LR	LR		
	comp=Z,3µm,20.0s						
SZCU	Shurtz Canyon	128.78	49	PFAKE		03 35 50.0	+17
SZCU				LR	LR		
	comp=Z,3µm,18.0s						
JLU	Jordanelle	128.81	45	ePKPdf	PKPdf	03 35 35.4	+2.3
JLU				LR	LR		
	comp=Z,5µm,21.0s						
GLA	Glamis	128.85	55	P	PKPdf	03 35 34.8	+1.7
	baz=286						
GLA	Glamis	128.85	55	ePKIKP	PKPdf	03 35 35.7	+2.6
GLA				MLR	MLR		
	comp=Z,6µm,19.0s						
GLA	Glamis	128.85	55	ePKPdf	PKPdf	03 35 35.7	+2.6
GLA				LR	LR		
	comp=Z,6µm,19.0s						
LCMT	Little Creek M	128.87	50	ePKPdf	PKPdf	03 35 34.8	+1.6
LCMT				LR	LR		
	comp=Z,2µm,18.0s						
TCRU	Three Creeks R	128.88	47	PFAKE		03 35 50.0	+17
TCRU				LR	LR		
	comp=Z,2µm,18.0s						
Y12C	Blythe	128.90	54	P	PKPdf	03 35 34.5	+1.4
	baz=287						
Y12C	Blythe	128.90	54	ePKPdf	PKPdf	03 35 35.4	+2.2
Y12C				LR	LR		
	comp=Z,5µm,21.0s						
MPU	Maple Canyon	128.92	45	ePKPdf	PKPdf	03 35 35.7	+2.4
MPU				LR	LR		
	comp=Z,3µm,19.0s						
W13A	Hualapai Mount	129.00	52	ePKPdf	PKPdf	03 35 35.9	+2.3
W13A				LR	LR		
	comp=Z,8µm,20.0s						
PDMCI	Parker Dam,Lak	129.04	53	P	PKPdf	03 35 34.5	+1.1
	baz=287						
MSU	Marysvale	129.11	47	ePKIKP	PKPdf	03 35 36.0	+2.3
MSU	Marysvale	129.11	47	ePKPdf	PKPdf	03 35 36.0	+2.3
BW06	Boulder Array	129.13	41	P	PKPdf	03 35 34.4	+0.7
	baz=298						
BW06	Boulder Array	129.13	41	ePKPdf	PKPdf	03 35 34.6	+1.0
BW06				LR	LR		
	comp=Z,10µm,22.0s						
PD31	Pinedale Array	129.13	41	ePKPdf	PKPdf	03 35 34.2	+0.5
PDAR	Pinedale Array	129.13	41	PKP	PKPdf	03 35 34.7	+1.1
	comp=Z,3.8nm,0.5s,baz=157,slow=1.5,SNR=29						
PDAR				SKPbc	SKPbc	03 38 49.1	-0.5
	comp=Z,4.5nm,0.7s,baz=131,slow=0.5,SNR=5.8						
PDAR				PKKPbc	PKKPbc	03 44 48.0	
	comp=Z,1.3nm,0.8s,baz=104,slow=6.3,SNR=4.7						
PDAR	Pinedale Array	129.13	41	ePKPdf	PKPdf	03 35 33.9	+0.2
PDAR				SKPbc	SKPbc	03 38 49.1	-0.5
PDAR				PKKPbc	PKKPbc	03 44 48.0	
LAO	LASA Array	129.17	35	P	PKPdf	03 35 34.9	+1.5
	baz=304						
LAO	LASA Array	129.17	35	ePKPdf	PKPdf	03 35 35.0	+1.7
LAO				LR	LR		
	comp=Z,6µm,18.0s						
KNB	Kanab	129.18	49	ePKIKP	PKPdf	03 35 36.6	+2.8
KNB				MLR	MLR		
	comp=Z,2µm,18.0s						
KNB	Kanab	129.18	49	ePKPdf	PKPdf	03 35 36.6	+2.8
KNB				LR	LR		
	comp=Z,2µm,18.0s						
DGMT	Dagmar	129.26	33	ePKPdf	PKPdf	03 35 35.4	+1.9
DGMT				LR	LR		
	comp=Z,5µm,18.0s						
MTPU	Mount Pierson	129.28	48	PFAKE		03 35 50.0	+16
MTPU				LR	LR		
	comp=Z,4µm,18.0s						
PKCU	Pink Cliffs	129.41	49	PFAKE		03 35 50.0	+16
PKCU				LR	LR		
	comp=Z,21µm,18.0s						
TMUT	Trail Mountain	129.51	46	ePKPdf	PKPdf	03 35 36.4	+1.8
TMUT				LR	LR		
	comp=Z,3µm,22.0s						
P17A	Butcher Ranch,	129.77	46	ePKPdf	PKPdf	03 35 36.8	+1.9
P17A				LR	LR		
	comp=Z,3µm,21.0s						
113A	Mohawk Valley,	129.79	55	ePKPdf	PKPdf	03 35 37.5	+2.6
113A				LR	LR		
	comp=Z,4µm,20.0s						
U15A	North Rim	129.79	50	ePKPpre	PKPpre	03 35 25.9	
U15A				LR	LR		
	comp=Z,3µm,22.0s						
PLCA	Paso Flores	129.93	175	PKP	PKPdf	03 35 36.5	+1.4
	comp=Z,6.8nm,0.6s,baz=156,slow=12,SNR=3.0						
PLCA				pPKP	pPKPdf	03 35 56.9	+3.4
	comp=Z,12nm,0.9s,baz=264,slow=1.6,SNR=5.3						
PLCA				SKPbc	SKPbc	03 38 53.8	+1.4
	comp=Z,10.0nm,1.1s,baz=188,slow=3.5,SNR=3.7						
P18A	Preston Nutter	130.05	45	ePKPdf	PKPdf	03 35 38.1	+2.6
P18A				LR	LR		
	comp=Z,4µm,20.0s						
Y14A	Wickenburg	130.05	53	ePKPdf	PKPdf	03 35 35.2	-0.2
Y14A				LR	LR		
	comp=Z,20µm,18.0s						
SRU	San Rafael Swe	130.07	46	PFAKE		03 35 50.0	+15
SRU				LR	LR		
	comp=Z,3µm,20.0s						
214A	Organ Pipe Nat	130.79	56	P	PKPdf	03 35 38.3	+1.4
	baz=286						
WUAZ	Wupatki	130.80	51	P	PKPdf	03 35 38.5	+1.5
	baz=291						
WUAZ	Wupatki	130.80	51	ePKPdf	PKPdf	03 35 39.1	+2.1
X16A	Lo Mia Camp, P	131.12	52	ePKPdf	PKPdf	03 35 37.6	0.0
X16A				LR	LR		
	comp=Z,10µm,20.0s						
K22A	Casper	131.14	40	P	PKPdf	03 35 37.6	+0.3
	baz=301						
K22A	Casper	131.14	40	ePKPdf	PKPdf	03 35 38.1	+0.7
K22A				LR	LR		
	comp=Z,6µm,21.0s						
RWWY	Rawlins	131.18	42	ePKPdf	PKPdf	03 35 39.3	+1.7
RWWY				LR	LR		
	comp=Z,10µm,19.0s						
O20A	White River Ci	131.22	44	P	PKPdf	03 35 39.1	+1.5
	baz=297						
O20A	White River Ci	131.22	44	ePKPdf	PKPdf	03 35 39.8	+2.2
O20A				LR	LR		
	comp=Z,5µm,19.0s						
PV09	Paradox Valley	131.31	46	ePKPdf	PKPdf	03 35 40.9	+2.9
PV10	Paradox Valley	131.43	46	ePKPpre	PKPpre	03 35 29.2	
PV05	Paradox Valley	131.51	47	ePKPdf	PKPdf	03 35 40.9	+2.6
PV01	Paradox Valley	131.87	46	ePKPdf	PKPdf	03 35 40.8	+1.8
RSSD	Black Hills	131.89	37	P	PKPdf	03 35 39.8	+1.0
	baz=304						
RSSD	Black Hills	131.89	37	ePKIKP	PKPdf	03 35 37.5	-1.3
RSSD				MLR	MLR		
	comp=Z,5µm,20.0s						
RSSD	Black Hills	131.89	37	ePKPdf	PKPdf	03 35 37.5	-1.3
RSSD				LR	LR		
	comp=Z,5µm,20.0s						
MDND	Maddock	132.03	31	P	PKPdf	03 35 40.0	+1.4
	baz=312						
MDND	Maddock	132.03	31	ePKPdf	PKPdf	03 35 40.3	+1.7
MDND				LR	LR		
	comp=Z,7µm,19.0s						
ULM	Lac du Bonnet	132.08	26	PKhKP	PKPpre	03 35 31.9	
	comp=Z,1.2nm,0.4s,baz=325,slow=6.4,SNR=5.3						
ULM				PKP	PKiKP	03 35 39.9	+0.2
	comp=Z,7.1nm,0.6s,baz=7.6,slow=0.6,SNR=12						
ULM				SKPbc	SKPbc	03 38 58.0	-1.6
	comp=Z,38nm,1.0s,baz=309,slow=3.6,SNR=12						
ULM	Lac du Bonnet	132.08	26	PKPpre	PKPpre	03 35 31.9	
ULM				ePKPdf	PKPdf	03 35 39.1	+0.5
ULM				SKPbc	SKPbc	03 38 58.0	-1.6
ULM				LR	LR		
	comp=Z,8µm,18.0s						
W18A	Petrified Fore	132.19	51	P	PKPdf	03 35 41.2	+1.6
	baz=292						
X18A	Snowflake	132.24	51	ePKPdf	PKPdf	03 35 38.5	-1.2
X18A				LR	LR		
	comp=Z,4µm,21.0s						
MVCO	Mesa Verde	132.30	47	P	PKPdf	03 35 41.5	+1.7
	baz=294						
MVCO	Mesa Verde	132.30	47	ePKPdf	PKPdf	03 35 42.0	+2.2
MVCO				LR	LR		
	comp=Z,3µm,18.0s						
TUC	Tucson	132.33	55	P	PKPdf	03 35 41.6	+1.8
	baz=288						
TUC	Tucson	132.33	55	ePKIKP	PKPdf	03 35 39.6	-0.2
TUC				MLR	MLR		
	comp=Z,4µm,19.0s						
TUC	Tucson	132.33	55	ePKPdf	PKPdf	03 35 39.6	-0.2
TUC				LR	LR		
	comp=Z,4µm,19.0s						
N23A	Red Feather La	132.40	42	P	PKPdf	03 35 41.3	+1.3
	baz=300						
N23A	Red Feather La	132.40	42	ePKPdf	PKPdf	03 35 42.5	+2.6
N23A				LR	LR		
	comp=Z,6µm,20.0s						
SRIG	Santa Rosalia	132.44	62	PFAKE		03 35 50.0	+10
SRIG				LR	LR		
	comp=Z,3µm,18.0s						
PHWY	Pilot Hill	132.51	41	ePKPdf	PKPdf	03 35 42.0	+1.8
PHWY				LR	LR		
	comp=Z,11µm,19.0s						
SMCO	Snowmass	132.53	44	ePKPdf	PKPdf	03 35 43.2	+2.8
B31A	Greenbush Farm	132.59	29	P	PKPdf	03 35 41.0	+1.3
	baz=314						
TRQA	Tornquist	132.72	184	PFAKE		03 35 50.0	+10
TRQA				LR	LR		
	comp=Z,2µm,19.0s						
C31A	Landman Farms,	132.99	30	P	PKPdf	03 35 41.7	+1.3
	baz=314						
B32A	Ashes, Strandq	133.14	28	P	PKPdf	03 35 41.8	+1.0
	baz=316						
HSIG		133.14	59	PFAKE		03 35 50.0	+8.7
HSIG				LR	LR		
	comp=Z,4µm,20.0s						
ISCO	Idaho Springs	133.16	43	P	PKPdf	03 35 42.8	+1.3
	baz=299						
ISCO	Idaho Springs	133.16	43	ePKIKP	PKPdf	03 35 42.5	+1.0
ISCO				MLR	MLR		
	comp=Z,6µm,20.0s						
ISCO	Idaho Springs	133.16	43	ePKPdf	PKPdf	03 35 42.5	+1.0
ISCO				LR	LR		
	comp=Z,6µm,20.0s						
A33A	Warroad	133.26	27	P	PKPdf	03 35 42.4	+1.5
	baz=318						
S22A	4UR Ranch, Cre	133.27	46	P	PKPdf	03 35 43.3	+1.6
	baz=296						
S22A	4UR Ranch, Cre	133.27	46	ePKPdf	PKPdf	03 35 43.5	+1.8
S22A				LR	LR		
	comp=Z,3µm,20.0s						
AGMN	Agassiz Nation	133.52	28	ePKPdf	PKPdf	03 35 44.5	+3.0
AGMN				LR	LR		
	comp=Z,7µm,18.0s						
B33A	Robert and Kas	133.66	28	P	PKPdf	03 35 43.0	+1.3
	baz=317						
E31A	Nome	133.76	31	P	PKPdf	03 35 43.5	+1.5
	baz=313						
319A	Douglas	133.84	55	ePKPdf	PKPdf	03 35 45.2	+2.4
319A				LR	LR		
	comp=Z,4µm,19.0s						
Q24A	Divide	133.88	44	P	PKPdf	03 35 44.3	+1.4
	baz=299						
Q24A	Divide	133.88	44	ePKPdf	PKPdf	03 35 45.5	+2.7
Q24A				LR	LR		
	comp=Z,4µm,19.0s						
B34A	Aery, Baudette	133.93	27	P	PKPdf	03 35 43.7	+1.5
	baz=318						
C33A	Trail	133.95	28	P	PKPdf	03 35 43.5	+1.2
	baz=316						
SDCO	Great Sand Dun	134.21	45	P	PKPdf	03 35 44.1	+0.7
	baz=298						
SDCO	Great Sand Dun	134.21	45	PFAKE		03 36 00.0	+17
SDCO				LR	LR		
	comp=Z,2µm,20.0s						
CMLA	Cha da Macela	134.30	315	ePP	PP	03 38 13.9	-1.3
PSMN	Pico do Norte,	134.32	314	ePP	PP	03 38 14.4	-0.9
D33A	AnnSam, Waubun	134.36	29	P	PKPdf	03 35 43.9	+0.9
	baz=316						
PSET	Sete Cidades	134.41	315	ePP	PP	03 38 12.9	-3.0
C34A	RKJ Ranch, Bem	134.43	28	P	PKPdf	03 35 44.6	+1.4
	baz=317						
B35A	Bob, Littlefor	134.43	26	P	PKPdf	03 35 44.7	+1.6
	baz=319						
LAZ	Ladron	134.44	50	ePKPdf	PKPdf	03 35 47.3	+3.4
SCHQ	Schefferville	134.64	1	PKP	PKPdf	03 35 45.5	+2.1
	comp=Z,11nm,0.5s,baz=293,slow=2.4,SNR=15						
SCHQ				SKPbc	SKPbc	03 39 09.3	+1.2
	comp=Z,26nm,0.9s,baz=61,slow=4.1,SNR=5.6						
SCHQ	Schefferville	134.64	1	ePKPdf	PKPdf	03 35 45.8	+2.4
SCHQ				SKPbc	SKPbc	03 39 09.3	+1.2
SCHQ				LR	LR		
	comp=Z,5µm,18.0s						
121A	Cookes Peak, D	134.64	53	P	PKPdf	03 35 46.0	+1.8
	baz=291						
D34A	Park Rapids	134.71	28	P	PKPdf	03 35 45.7	+1.9
	baz=316						
E33A	Westby DABS, E	134.74	30	P	PKPdf	03 35 45.6	+1.8
	baz=315						
Y22D	IRIS PASSCAL I	134.74	51	PFAKE		03 36 00.0	+16
Y22D				LR	LR		
	comp=Z,2µm,20.0s						
ANMO	Albuquerque	134.74	49c	iPKIKP	PKPdf	03 35 46.9	+2.5
ANMO				pmax	pmax		
	comp=Z,20nm,1.7s						
ANMO	Albuquerque	134.74	49	PFAKE		03 36 00.0	+16
ANMO				LR	LR		
	comp=Z,2µm,19.0s						
C35A	Jirik Farms, M	134.81	27	P	PKPdf	03 35 44.9	+1.0
	baz=318						
OGNE	Ogallala	134.89	40	PFAKE		03 36 00.0	+16
OGNE				LR	LR		
	comp=Z,6µm,19.0s						
BNM	Barren Site	134.93	50	ePKPpre	PKPpre	03 35 38.5	
F33A	5 Mile Ranch,	135.06	30	P	PKPdf	03 35 45.8	+1.4
	baz=314						
MHTCO	State Highway	135.07	46	ePKPpre	PKPpre	03 35 34.8	
MHTCO				LR	LR		
	comp=Z,4µm,22.0s						
HGTCO	Madrid Canyon	135.09	46	PFAKE		03 36 00.0	+15
HGTCO				LR	LR		
	comp=Z,2µm,21.0s						
D35A	Remer	135.24	28	P	PKPdf	03 35 46.6	+1.9
	baz=318						
T25A	Trinidad	135.26	46	P	PKPdf	03 35 45.9	+0.5
	baz=298						
T25A	Trinidad	135.26	46	ePKPpre	PKPpre	03 35 37.6	
T25A				LR	LR		
	comp=Z,4µm,19.0s						
C36A	Pine Crest Far	135.28	26	P	PKPdf	03 35 45.6	+0.9
	baz=320						
PGRA	Graciosa	135.35	318	ePP	PP	03 38 21.1	-0.6
H32A	Carlson Farm,	135.38	33	P	PKPdf	03 35 46.7	+1.6
	baz=312						
G33A	Ortonville	135.44	31	P	PKPdf	03 35 46.9	+1.7
	baz=314						
GO05	HualaæØ	135.44	172	PFAKE		03 36 00.0	+14
GO05				LR	LR		
	comp=Z,3µm,22.0s						
J31A	Geddes	135.46	35	P	PKPdf	03 35 47.1	+1.8
	baz=310						
E35A	Pequot Lakes	135.47	28	P	PKPdf	03 35 47.2	+2.0
	baz=317						
KSCO	Kaye Shedlock'	135.55	42	P	PKPdf	03 35 47.4	+1.7
	baz=302						
KSCO	Kaye Shedlock'	135.55	42	PFAKE		03 36 00.0	+14
KSCO				LR	LR		
	comp=Z,6µm,20.0s						
C37A	Embarrass	135.58	26	P	PKPdf	03 35 46.9	+1.5
	baz=321						
H33A	Prehn Over Nor	135.63	32	P	PKPdf	03 35 46.5	+1.0
	baz=313						
I32A	Karley and Nic	135.68	33	P	PKPdf	03 35 47.6	+1.9
	baz=312						
ROSA	Rosais	135.69	317	ePP	PP	03 38 24.7	+0.9
EYMN	Ely	135.70	25	P	PKPdf	03 35 47.3	+1.8
	baz=322						
EYMN	Ely	135.70	25	ePKPdf	PKPdf	03 35 48.0	+2.4
EYMN				LR	LR		
	comp=Z,7µm,20.0s						
G34A	Benson	135.81	31	P	PKPdf	03 35 47.6	+1.8
	baz=315						
K31A	O'Neill	135.87	36	P	PKPdf	03 35 47.9	+1.9
	baz=309						
F35A	Swanville	135.89	29	P	PKPdf	03 35 46.9	+0.9
	baz=316						
J32A	Parkston	135.90	34	P	PKPdf	03 35 46.7	+0.6
	baz=311						
D37A	Cotton	135.91	26	P	PKPdf	03 35 47.3	+1.3
	baz=320						
EPT	El Paso	135.93	54	PFAKE		03 36 00.0	+13
EPT				LR	LR		
	comp=Z,5µm,21.0s						
C38A	Sawbill Land.	135.97	25	P	PKPdf	03 35 47.8	+1.7
	baz=322						
E36A	McGregor	136.03	28	P	PKPdf	03 35 47.9	+1.7
	baz=318						
H34A	Spellman Lake,	136.14	31	P	PKPdf	03 35 48.0	+1.5
	baz=314						
K32A	Verdigre	136.29	35	P	PKPdf	03 35 48.0	+1.2
	baz=310						
ECSD	EROS Data Cent	136.34	33	P	PKPdf	03 35 47.9	+1.1
	baz=312						
ECSD	EROS Data Cent	136.34	33	ePKPpre	PKPpre	03 35 37.3	
ECSD				LR	LR		
	comp=Z,4µm,20.0s						
C39A	Grand Marais	136.36	24	P	PKPdf	03 35 47.8	+1.0
	baz=323						
F36A	Milaca	136.39	28	P	PKPdf	03 35 48.1	+1.2
	baz=318						
G35A	Watkins	136.40	30	P	PKPdf	03 35 48.3	+1.4
	baz=316						
J33A	Davis	136.42	34	P	PKPdf	03 35 48.2	+1.1
	baz=312						
I34A	Hadley	136.53	32	P	PKPdf	03 35 49.1	+1.9
	baz=314						
H35A	Sunnyside Ranc	136.60	31	P	PKPdf	03 35 48.8	+1.5
	baz=315						
G36A	St. Michael	136.74	29	P	PKPdf	03 35 49.4	+1.8
	baz=317						
MNTX	Cornudas Mount	136.84	53	P	PKPdf	03 35 50.0	+1.8
	baz=292						
MNTX	Cornudas Mount	136.84	53	ePKPpre	PKPpre	03 35 38.5	
MNTX				LR	LR		
	comp=Z,4µm,19.0s						
K33A	Hardington	136.88	34	P	PKPdf	03 35 49.5	+1.6
	baz=311						
F37A	Hinrichs Farm,	136.91	28	P	PKPdf	03 35 49.3	+1.5
	baz=319						
BGNE	Belgrade	136.98	37	P	PKPdf	03 35 49.5	+1.3
	baz=309						
BGNE	Belgrade	136.98	37	ePKPdf	PKPdf	03 35 49.3	+1.1
BGNE				LR	LR		
	comp=Z,8µm,22.0s						
J34A	George	136.99	33	P	PKPdf	03 35 49.5	+1.4
	baz=313						
F38A	Pierce - Schro	137.08	27	P	PKPdf	03 35 49.8	+1.6
	baz=320						
H36A	Jessenland, He	137.13	30	P	PKPdf	03 35 50.3	+2.0
	baz=316						
E39A	Mellen	137.33	26	P	PKPdf	03 35 50.2	+1.5
	baz=322						
CPRX	Cap Rock	137.49	51	ePKPdf	PKPdf	03 35 52.2	+2.7
F39A	Loretta	137.53	26	P	PKPdf	03 35 50.9	+1.9
	baz=321						
CBKS	Cedar Bluff	137.55	41	PFAKE		03 36 00.0	+11
CBKS				LR	LR		
	comp=Z,6µm,19.0s						
E40A	Wakefield	137.56	25	P	PKPdf	03 35 51.3	+2.3
	baz=323						
ROC1	El Roble	137.56	173	ePKPpre	PKPpre	03 35 40.6	
D41A	Chassel	137.60	23	P	PKPdf	03 35 51.2	+2.1
	baz=325						
M34A	Aspy Farms, Fr	137.83	35	P	PKPdf	03 35 52.0	+2.3
	baz=311						
H38A	Maiden Rock	137.86	29	P	PKPdf	03 35 52.5	+2.8
	baz=319						
F40A	Park Falls	137.88	26	P	PKPdf	03 35 52.4	+2.7
	baz=322						
MSTX	Muleshoe	137.91	49	P	PKPdf	03 35 52.2	+2.0
	baz=297						
MSTX	Muleshoe	137.91	49	ePKPpre	PKPpre	03 35 42.8	
MSTX				LR	LR		
	comp=Z,2µm,18.0s						
G39A	Holcombe	137.91	27	P	PKPdf	03 35 53.1	+3.4
	baz=320						
E41A	Kenton	137.93	24	P	PKPdf	03 35 52.7	+3.0
	baz=324						
O33A	Hebron	138.15	38	P	PKPdf	03 35 52.9	+2.5
	baz=308						
HPIG		138.20	60	ePKPdf	PKPdf	03 35 50.3	-0.8
HPIG				LR	LR		
	comp=Z,5µm,22.0s						
J37A	Redenius Farm,	138.23	31	P	PKPdf	03 35 53.3	+3.0
	baz=316						
K36A	Gilmore City	138.24	32	P	PKPdf	03 35 53.4	+2.9
	baz=314						
AMTX	Amarillo	138.28	47	ePKPpre	PKPpre	03 35 43.0	
AMTX				LR	LR		
	comp=Z,1µm,20.0s						
N34A	Lincoln	138.31	36	P	PKPdf	03 35 53.6	+3.0
	baz=310						
I38A	Scanlan Farm,	138.31	29	P	PKPdf	03 35 53.3	+2.8
	baz=318						
H39A	Augusta	138.32	28	P	PKPdf	03 35 53.7	+3.2
	baz=320						
G40A	Rib Lake	138.36	26	P	PKPdf	03 35 53.6	+3.1
	baz=322						
M35A	Neola	138.36	35	P	PKPdf	03 35 53.5	+2.8
	baz=312						
E42A	Champion	138.37

baz=317
E43A **Lone Tree Farm** 138.77 23 P **PKPdf** 03 35 53.5 +2.3
baz=327
SACV **Santiago Islan** 138.77 282 PFAKE 03 36 10.0 +18
SACV LR LR
comp=Z,1μm,20.0s
H40A **Chili** 138.78 27 P **PKPdf** 03 35 54.4 +3.1
baz=321
N35A **Tabor** 138.79 35 P **PKPdf** 03 35 54.5 +3.0
baz=311
F42A **Maple Grove Fa** 138.84 24 P **PKPdf** 03 35 54.6 +3.2
baz=325
I39A **Houston** 138.84 29 P **PKPdf** 03 35 54.4 +3.0
baz=319
G41A **Antigo** 138.84 26 P **PKPdf** 03 35 54.7 +3.2
baz=323
M36A **Felix, Anita** 138.86 34 P **PKPdf** 03 35 54.5 +2.9
baz=313
P34A **Walnut Farm, R** 138.93 38 P **PKPdf** 03 35 54.6 +2.8
baz=309
L37A **Phoenix Point,** 138.97 33 P **PKPdf** 03 35 54.8 +3.1
baz=315
TX31 **Lajitas Ar. Si** 139.09 56 *e*PKPpre PKPpre 03 35 43.8
TXAR **Lajitas Array** 139.09 56 PKhKP PKPpre 03 35 43.4
comp=Z,2.3nm,0.5s,baz=246,slow=3.6,SNR=28
TXAR PKP **PKPdf** 03 35 52.7 +0.2
comp=Z,3.7nm,0.6s,baz=250,slow=0.6,SNR=18
TXAR SKPbc **SKPbc** 03 39 21.5 -0.9
comp=Z,7.0nm,1.0s,baz=254,slow=0.9,SNR=3.9
H41A **Junction City** 139.11 27 P **PKPdf** 03 35 54.9 +3.0
baz=322
K38A **Parkersburg** 139.11 31 P **PKPdf** 03 35 54.9 +2.9
baz=316
G42A **Mountain** 139.13 25 P **PKPdf** 03 35 55.1 +3.1
baz=324
J39A **Decorah** 139.14 30 P **PKPdf** 03 35 54.7 +2.7
baz=318
F43A **Flat Rock, Esc** 139.16 23 P **PKPdf** 03 35 55.3 +3.4
baz=326
N36A **Muff Farm, Cla** 139.20 35 P **PKPdf** 03 35 55.4 +3.1
baz=312
I40A **Norwalk** 139.23 28 P **PKPdf** 03 35 55.2 +3.0
baz=320
Q34A **Chapman** 139.25 39 P **PKPdf** 03 35 55.6 +3.2
baz=308
M37A **Trindle Farm,** 139.31 34 P **PKPdf** 03 35 55.9 +3.5
baz=314
F44A **Big Bay de Noc** 139.33 23 P **PKPdf** 03 35 55.8 +3.5
baz=327
KSU1 **Kansas State U** 139.34 38 P **PKPdf** 03 35 55.6 +3.1
baz=308
KSU1 **Kansas State U** 139.34 38 *e*PKPpre PKPpre 03 35 46.1
KSU1 LR LR
comp=Z,4μm,19.0s
L38A **Oak Wood Farm,** 139.38 32 P **PKPdf** 03 35 55.5 +3.0
baz=316
U32A **Winter Ranch,** 139.39 43 P **PKPdf** 03 35 56.3 +3.6
baz=303
SCIA **State Center** 139.41 32 *e*PKPdf **PKPdf** 03 35 53.3 +0.7
SCIA LR LR
comp=Z,7μm,19.0s
G43A **Wallace** 139.43 24 P **PKPdf** 03 35 56.0 +3.5
baz=325
P35A **Duane Minner,** 139.43 37 P **PKPdf** 03 35 55.6 +2.9
baz=310
R34A **Isabella, Hill** 139.43 40 P **PKPdf** 03 35 56.0 +3.3
baz=307
E45A **Wooded Hills,** 139.46 21 P **PKPdf** 03 35 56.4 +3.9
baz=329
K39A **Oelwein** 139.51 30 P **PKPdf** 03 35 55.2 +2.5
baz=318
J40A **Soldiers Grove** 139.55 29 P **PKPdf** 03 35 55.6 +2.8
baz=320
O36A **Bolckow** 139.66 36 P **PKPdf** 03 35 56.3 +3.2
baz=311
N37A **Lee Faris, Mou** 139.66 34 P **PKPdf** 03 35 56.2 +3.1
baz=313
H42A **Shiocton** 139.68 26 P **PKPdf** 03 35 56.5 +3.6
baz=323
M38A **Pleasantville** 139.76 33 P **PKPdf** 03 35 56.6 +3.4
baz=315
Q35A **Mercer Eighty,** 139.84 38 P **PKPdf** 03 35 56.7 +3.2
baz=309
P36A **Good Intent, A** 139.85 36 P **PKPdf** 03 35 56.5 +3.1
baz=311
L39A **Vinton** 139.88 31 P **PKPdf** 03 35 56.4 +3.0
baz=317
K40A **Colesburg** 139.89 30 P **PKPdf** 03 35 56.0 +2.6
baz=318
H43A **Windswept, Lux** 140.03 25 P **PKPdf** 03 35 57.1 +3.5
baz=324
VLDQ **Val d'Or** 140.07 13 *e*PKPdf **PKPdf** 03 35 54.2 +0.7
VLDQ LR LR
comp=Z,3μm,21.0s
O37A **Wolven Farm, M** 140.10 35 P **PKPdf** 03 35 57.1 +3.2
baz=312
Q36A **Arnold C. Orve** 140.12 37 P **PKPdf** 03 35 56.7 +2.7
baz=310
JFWS **Jewell Farm** 140.15 29 *e*PKHKP PKPpre 03 35 48.1
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS **Jewell Farm** 140.15 29 *e*PKPpre PKPpre 03 35 48.1
JFWS LR LR
comp=Z,2μm,20.0s
N38A **Joes South For** 140.18 34 P **PKPdf** 03 35 57.4 +3.4
baz=314
T34A **McClaskey Farm** 140.23 41 P **PKPdf** 03 35 57.6 +3.4
baz=306
M39A **Webster** 140.26 32 P **PKPdf** 03 35 57.4 +3.3
baz=316
K41A **Shullsburg** 140.36 29 P **PKPdf** 03 35 57.4 +3.1
baz=320
WMOK **Wichita Mounta** 140.41 45 *e*PKHKP PKPpre 03 35 48.9
WMOK MLR MLR
comp=Z,3μm,22.0s
WMOK **Wichita Mounta** 140.41 45 *e*PKPpre PKPpre 03 35 48.9
WMOK LR LR
comp=Z,3μm,22.0s
R36A **Gordon, Harris** 140.50 38 P **PKPdf** 03 35 57.5 +2.8
baz=309
N39A **Derby Farms, D** 140.51 33 P **PKPdf** 03 35 57.9 +3.3
baz=315
T35A **Sooner Cattle** 140.73 41 P **PKPdf** 03 35 58.9 +3.7
baz=306
P38A **Dawn** 140.81 35 P **PKPdf** 03 35 58.7 +3.5
baz=313
ABTX **Abilene, Hawle** 140.85 49 PFAKE 03 36 10.0 +14
ABTX LR LR
comp=Z,3μm,20.0s
U35A **Pawnee** 140.90 42 P **PKPdf** 03 35 59.2 +3.7
baz=306
R37A **Teagarden Farm** 140.92 38 P **PKPdf** 03 35 58.6 +3.2
baz=310
O39A **Kirksville** 140.93 34 P **PKPdf** 03 35 58.6 +3.2
baz=315
GLMI **Grayling** 140.98 22 *e*PKPdf **PKPdf** 03 35 57.7 +2.3
GLMI LR LR
comp=Z,5μm,19.0s
N40A **Mertquake, Sal** 141.00 32 P **PKPdf** 03 35 58.7 +3.3
baz=316
V35A **Meyer Ranch, C** 141.18 43 P **PKPdf** 03 35 59.9 +3.9
baz=305
S37A **Fort Scott** 141.27 38 P **PKPdf** 03 35 59.2 +3.1
baz=309
P39B **Salisbury** 141.35 35 P **PKPdf** 03 35 59.5 +3.4
baz=314
L43A **Garden Prairie** 141.43 28 P **PKPdf** 03 35 59.7 +3.5
baz=321
LCO **Las Campanas** 141.51 173 *e*PKPpre PKPpre 03 35 52.3
Q39A **Willow Grove F** 141.52 35 P **PKPdf** 03 36 00.1 +3.6
baz=313
U36A **Oologah** 141.54 41 P **PKPdf** 03 36 00.6 +4.0
baz=307
P40A **Paris** 141.71 34 P **PKPdf** 03 36 00.3 +3.5
baz=315
JCT **Junction City** 141.71 52 *e*PKHKP PKPpre 03 35 51.9
JCT MLR MLR
comp=Z,4μm,19.0s
JCT **Junction City** 141.71 52 *e*PKPpre PKPpre 03 35 51.9
JCT LR LR
comp=Z,4μm,19.0s
V36A **Jenks** 141.76 42 P **PKPdf** 03 36 01.1 +4.1
baz=306
TUL1 **Leonard** 141.79 42 P **PKPdf** 03 36 00.6 +3.5
baz=306
TUL1 **Leonard** 141.79 42 *e*PKPpre PKPpre 03 35 53.4
TUL1 LR LR
comp=Z,3μm,19.0s

X35A **Drake** 141.85 44 P **PKPdf** 03 36 01.1 +3.9
baz=303
S38A **Stockton** 141.91 38 P **PKPdf** 03 36 01.1 +3.8
baz=310
U37A **Salina** 141.93 40 P **PKPdf** 03 36 01.2 +3.9
baz=308
W36A **Wetumka** 141.95 43 P **PKPdf** 03 36 01.4 +4.0
baz=305
T38A **Diamond** 142.06 39 P **PKPdf** 03 36 01.2 +3.7
baz=309
Y35A **Marietta** 142.08 45 P **PKPdf** 03 36 01.5 +3.8
baz=303
HDIL **Hopedale** 142.41 30 *e*PKPpre PKPpre 03 35 54.3
HDIL LR LR
comp=Z,8μm,19.0s
TRQ **Mont Tremblant** 142.45 10 *e*PKPpre PKPpre 03 35 54.4
HHAR **Hobbs** 142.75 40 *e*PKPpre PKPpre 03 35 55.2
HHAR LR LR
comp=Z,6μm,18.0s
WHTX **Lake Whitney,** 142.77 48 PFAKE 03 36 10.0 +11
WHTX LR LR
comp=Z,4μm,18.0s
SADO **Sadowa** 142.79 16 PKP **PKPdf** 03 35 56.2 -2.3
comp=Z,14nm,0.6s,baz=310,slow=7.9,SNR=4.0
SADO SKPbc **SKPbc** 03 39 31.1 -0.2
comp=Z,14nm,0.5s,baz=329,slow=6.1,SNR=6.9
SPB **Sao Paulo** 142.81 208 PFAKE 03 36 10.0 +11
SPB LR LR
comp=Z,3μm,21.0s
PLVO **Plevna** 143.06 14 *e*PKPpre PKPpre 03 35 56.2
CCM **Cathedral Cave** 143.19 35 *e*PKHKP PKPpre 03 35 56.2
CCM MLR MLR
comp=Z,4μm,18.0s
CCM **Cathedral Cave** 143.19 35 *e*PKPpre PKPpre 03 35 56.2
CCM LR LR
comp=Z,4μm,18.0s
SLM **Saint Louis** 143.34 33 *e*PKHKP PKPpre 03 35 57.2
SLM MLR MLR
comp=Z,8μm,21.0s
SLM **Saint Louis** 143.34 33 *e*PKPpre PKPpre 03 35 57.2
SLM LR LR
comp=Z,8μm,21.0s
AAM **Ann Arbor** 143.50 23 PFAKE 03 36 10.0 +10
AAM LR LR
comp=Z,3μm,22.0s
SFIN **Lafayette** 143.61 28 PFAKE 03 36 10.0 +10
SFIN LR LR
comp=Z,8μm,19.0s
LMN **Caledonia Moun** 143.64 359 *e*PKPdf **PKPdf** 03 35 59.0 -1.0
LMN LR LR
comp=Z,5μm,20.0s
CPUP **Villa Florida** 143.65 192 PKP PKPbc 03 35 58.6 +0.5
comp=Z,22nm,0.6s,baz=179,slow=2.2,SNR=98
FRNY **Flat Rock** 143.96 10 *e*PKPdf **PKPdf** 03 36 00.5 -0.1
FRNY LR LR
comp=Z,8μm,19.0s
MOIG **Morelia** 143.99 69 *e*PKPdf **PKPdf** 03 36 01.7 0.0
MOIG LR LR
comp=Z,2μm,19.0s
W40A **Ferguson Farm,** 143.99 40 PFAKE 03 36 10.0 +9.1
W40A LR LR
comp=Z,5μm,19.0s
LONY **Lake Ozonia** 143.99 11 PFAKE 03 36 10.0 +9.3
LONY LR LR
comp=Z,4μm,19.0s
MIAR **Mount Ida** 144.06 42 PFAKE 03 36 10.0 +8.9
MIAR LR LR
comp=Z,4μm,18.0s
PKME **Peaks-Kenny Pk** 144.08 5 *e*PKPdf **PKPdf** 03 36 00.3 -0.5
PKME LR LR
comp=Z,4μm,22.0s
Y39A **Lockesburg** 144.08 43 P **PKPdf** 03 36 00.2 -0.9
baz=315
138A **Matatall Enter** 144.12 45 P **PKPdf** 03 36 01.8 +0.5
baz=304
LNIG **Linares** 144.14 60 *e*PKPdf PKPbc 03 36 00.3 +0.6
LNIG LR LR
comp=Z,2μm,22.0s
V41A **Mountainview** 144.18 39 P PKPbc 03 36 00.0 +0.5
baz=311
S43A **Fulton Ridge,** 144.19 34 P PKPbc 03 36 00.0 +0.6
baz=315
835A **Beeville** 144.21 54 P **PKPdf** 03 36 03.3 +1.8
baz=295
R44A **Waltonville** 144.24 33 P PKPbc 03 36 00.4 +0.8
baz=318
337A **Centerville** 144.27 48 P **PKPdf** 03 36 02.8 +1.3
baz=301
636A **Smothers Creek** 144.28 52 P **PKPdf** 03 36 03.4 +1.7
baz=298
437A **Phantom Ranch,** 144.33 49 P **PKPdf** 03 36 02.8 +1.2
baz=300
GGN **Saint George** 144.35 2 *e*PKPdf PKPbc 03 36 00.4 +0.7
GGN LR LR
comp=Z,4μm,21.0s
U42A **Revenden** 144.36 37 P **PKPdf** 03 36 01.1 -0.5
baz=313
X301 **Greenbrier Sit** 144.38 40 PFAKE 03 36 10.0 +8.4
X301 LR LR
comp=Z,4μm,20.0s
T43A **Greenville** 144.41 35 P PKPbc 03 36 00.3 +0.2
baz=315
WHAR **Wooly Hollow** 144.42 39 PFAKE 03 36 10.0 +8.3
WHAR LR LR
comp=Z,4μm,20.0s
Z39A **Irene McRaven,** 144.43 44 P **PKPdf** 03 36 02.6 +0.8
baz=306
JRQG **Juriquilla Cam** 144.45 67 *e*PKPdf **PKPdf** 03 36 02.1 -0.3
JRQG LR LR
comp=Z,4μm,20.0s
238A **Jacksonville** 144.46 46 P **PKPdf** 03 36 02.4 +0.5
baz=303
KVTX **Kingsville** 144.47 55 *e*PKPdf **PKPdf** 03 36 04.0 +2.0
KVTX LR LR
comp=Z,2μm,19.0s
736A **Circle Diamond** 144.52 52 P **PKPdf** 03 36 04.3 +2.2
baz=297
W41B **Gary Mavity, V** 144.52 40 P **PKPdf** 03 36 01.8 -0.1
baz=310
PBMO **Poplar Bluff** 144.54 36 PFAKE 03 36 10.0 +8.1
PBMO LR LR
comp=Z,5μm,19.0s
035A **Encino** 144.54 56 P **PKPdf** 03 36 04.1 +1.9
baz=294
S44A **Carbondale** 144.55 34 P **PKPdf** 03 36 01.4 -0.4
baz=317
BUF **Buffalo** 144.57 17 *e*PKPdf **PKPdf** 03 36 01.3 -0.5
537A **Green Hill Far** 144.57 50 P **PKPdf** 03 36 04.1 +2.0
baz=299
Y40A **Okolona** 144.57 42 P **PKPdf** 03 36 02.1 +0.1
baz=307
X40A **Basin Creek Fa** 144.58 41 P **PKPdf** 03 36 02.1 +0.1
baz=308
139A **Bunkhouse Ranc** 144.60 45 P **PKPdf** 03 36 03.1 +1.0
baz=305
V42A **Cord** 144.63 38 P **PKPdf** 03 36 01.6 -0.4
baz=312
338A **Crockett** 144.67 47 P **PKPdf** 03 36 03.3 +1.0
baz=302
NCB **Newcomb** 144.69 11 *e*PKPdf **PKPdf** 03 36 01.6 -0.4
UALR **University of** 144.71 40 *e*PKPdf **PKPdf** 03 36 02.0 -0.2
UALR LR LR
comp=Z,5μm,20.0s
WVL **Waterville** 144.74 5 *e*PKPdf **PKPdf** 03 36 01.8 -0.2
WVL LR LR
comp=Z,5μm,18.0s
EMMW **East Machias** 144.74 2 *e*PKPdf **PKPdf** 03 36 01.9 0.0
EMMW LR LR
comp=Z,3μm,21.0s
035Z **Hargill** 144.75 57 P **PKPdf** 03 36 03.8 +1.3
baz=293
X41A **Kaden, Bauxite** 144.78 41 P **PKPdf** 03 36 02.8 +0.4
baz=309
LBNH **Lisbon** 144.80 8 *e*PKIKP **PKPdf** 03 36 02.9 +0.8
LBNH MLR MLR
comp=Z,9μm,18.0s
LBNH **Lisbon** 144.80 8 *e*PKPdf **PKPdf** 03 36 02.9 +0.8
LBNH LR LR
comp=Z,9μm,18.0s
T44A **Benton** 144.80 35 P PKPbc 03 36 01.8 +0.4
baz=316
BLO **Bloomington** 144.83 29 *e*PKIKP PKPbc 03 36 01.5 0.0
BLO MLR MLR
comp=Z,9μm,19.0s
BLO **Bloomington** 144.83 29 *e*PKPdf PKPbc 03 36 01.5 0.0
BLO LR LR

comp=Z,9μm,19.0s
U43A **Rector** 144.84 36 P PKPbc 03 36 02.0 +0.4
baz=314
MDV **Middlebury** 144.84 10 *e*PKPdf **PKPdf** 03 36 02.0 -0.2
637A **Eagle Lake** 144.86 51 P **PKPdf** 03 36 04.6 +2.0
baz=298
438A **Sam Houston St** 144.86 48 P **PKPdf** 03 36 04.7 +2.1
baz=301
WLAR **White Oak Lake** 144.88 42 *e*PKPdf **PKPdf** 03 36 03.2 +0.7
WLAR LR LR
comp=Z,3μm,22.0s
W42A **Bald Knob** 144.90 39 P **PKPdf** 03 36 02.6 +0.1
baz=311
239A **Gary** 144.91 46 P **PKPdf** 03 36 03.5 +0.9
baz=304
NATX **Nacogdoches** 144.92 46 P **PKPdf** 03 36 03.5 +0.9
baz=303
NATX **Nacogdoches** 144.92 46 *e*PKPbc **PKPdf** 03 36 04.0 +1.3
NATX LR LR
comp=Z,3μm,20.0s
S45A **Carrier Mills** 144.93 33 P **PKPdf** 03 36 02.5 0.0
baz=318
Z40A **Long Farm, Mag** 144.95 43 P **PKPdf** 03 36 04.0 +1.3
baz=306
ERPA **Erie** 144.95 19 *e*PKPbc **PKPdf** 03 36 02.8 +0.4
ERPA LR LR
comp=Z,4μm,18.0s
HKT **Hockley** 145.00 50 *e*PKIKP **PKPdf** 03 36 03.8 +1.0
HKT MLR MLR
comp=Z,3μm,18.0s
HKT **Hockley** 145.00 50 *e*PKPbc **PKPdf** 03 36 03.8 +1.0
HKT LR LR
comp=Z,3μm,18.0s
PARMO **Parma** 145.01 35 *e*PKPbc **PKPbc** 03 36 01.6 -0.5
PARMO LR LR
comp=Z,4μm,19.0s
MMNY **Mt. Morris Dam** 145.01 16 *e*PKPbc **PKPdf** 03 36 02.4 -0.1
737A **Port Lavaca** 145.09 52 P **PKPdf** 03 36 05.5 +2.5
baz=298
Y41A **Eaglette Beard** 145.09 42 P **PKPdf** 03 36 03.8 +0.8
baz=308
538A **Harpers Horsep** 145.12 49 P **PKPdf** 03 36 05.1 +2.1
baz=300
V43A **Jonesboro** 145.16 37 P **PKPdf** 03 36 03.5 +0.6
baz=313
U44A **Portageville** 145.16 35 P **PKPdf** 03 36 03.1 +0.2
baz=315
140A **Cam and Jess,** 145.19 44 P **PKPdf** 03 36 04.4 +1.3
baz=306
USIN **University of** 145.19 32 *e*PKPbc **PKPdf** 03 36 03.2 +0.3
USIN LR LR
comp=Z,8μm,20.0s
PVMO **Portageville** 145.22 36 *e*PKPbc **PKPdf** 03 36 04.5 +1.5
PVMO LR LR
comp=Z,5μm,20.0s
339A **Huntington** 145.23 47 P **PKPdf** 03 36 04.4 +1.2
baz=303
HBAR **Harrisburg** 145.24 38 *e*PKPbc **PKPdf** 03 36 04.3 +1.2
HBAR LR LR
comp=Z,6μm,19.0s
HNH **Hanover** 145.27 9 *e*PKPbc **PKPdf** 03 36 03.9 +1.0
HNH LR LR
comp=Z,5μm,22.0s
X42A **Stuttgart** 145.31 40 P **PKPab** 03 36 04.4 +1.2
baz=310
ALLY **Alegheny Colle** 145.32 20 *e*PKPbc **PKPab** 03 36 03.6 +0.4
GNAR **Gosnell** 145.34 36 *e*PKPbc **PKPab** 03 36 04.6 +1.2
GNAR LR LR
comp=Z,4μm,20.0s
Z41A **Richland Creek** 145.35 43 P **PKPab** 03 36 04.5 +1.0
baz=307
ACCN **Adirondack Com** 145.36 11 *e*PKPdf **PKPab** 03 36 03.8 +0.6
ACCN LR LR
comp=Z,2μm,21.0s
439A **Center Grove,** 145.36 48 P **PKPab** 03 36 05.2 +1.6
baz=302
240A **Hunter Patters** 145.40 45 P **PKPab** 03 36 04.4 +0.7
baz=305
U44B **Burton Farm, H** 145.47 35 P **PKPab** 03 36 04.3 +0.4
baz=315
V44A **Blytheville** 145.51 36 P **PKPab** 03 36 03.9 -0.1
baz=314
ACSO **Alum Creek Sta** 145.53 24 *e*PKPdf **PKPab** 03 36 04.1 +0.2
ACSO LR LR
comp=Z,3μm,19.0s
W43A **Forest City** 145.53 38 P **PKPab** 03 36 04.1 0.0
baz=312
638A **Rosharon** 145.55 50 P **PKPab** 03 36 06.4 +2.1
baz=299
GLAT **Glass** 145.55 35 *e*PKPdf **PKPab** 03 36 05.3 +1.2
GLAT LR LR
comp=Z,6μm,19.0s
FFD **Franklin Falls** 145.59 8 *e*PKPdf **PKPab** 03 36 05.3 +1.3
FFD LR LR
comp=Z,6μm,18.0s
M54A **Oil Creek Stat** 145.61 19 P **PKPab** 03 36 04.3 +0.1
baz=335
CCAR **Cane Creek** 145.62 41 *e*PKPdf **PKPab** 03 36 06.2 +1.8
CCAR LR LR
comp=Z,5μm,20.0s
340A **Bronson** 145.66 46 P **PKPab** 03 36 05.2 +0.5
baz=304
Y42A **Garnett, Star** 145.66 41 P **PKPab** 03 36 05.1 +0.5
baz=309
141A **Papa Simpson,** 145.67 44 P **PKPab** 03 36 05.6 +0.9
baz=306
738A **Farr-Stevens R** 145.67 52 P **PKPab** 03 36 06.5 +1.7
baz=298
WCI **Wyandotte Cave** 145.68 30 *e*PKP2 **PKPbc** 03 36 04.3 +0.1
WCI MLR MLR
comp=Z,10μm,20.0s
WCI **Wyandotte Cave** 145.68 30 *e*PKPdf **PKPbc** 03 36 04.3 +0.1
WCI LR LR
comp=Z,10μm,20.0s
539A **Cross D Ranch,** 145.75 49 P **PKPab** 03 36 06.5 +1.5
baz=301
HALT **Halls** 145.78 36 *e*PKPdf **PKPab** 03 36 05.8 +0.8
HALT LR LR
comp=Z,4μm,18.0s
U45A **Rockin P Farm,** 145.79 35 P **PKPab** 03 36 04.9 -0.1
baz=316
X43A **Marvell** 145.80 39 P **PKPab** 03 36 05.2 +0.1
baz=311
Z42A **Norrel Spur, H** 145.91 42 P **PKPab** 03 36 06.2 +0.7
baz=308
UNM **Universidad Na** 145.91 69 *e*PKP2 **PKPab** 03 36 08.0 +1.7
UNM MLR MLR
comp=Z,2μm,21.0s
UNM **Universidad Na** 145.91 69 *e*PKPdf **PKPab** 03 36 08.0 +1.7
UNM LR LR
comp=Z,2μm,21.0s
MET **Memphis--Engin** 145.97 37 PFAKE 03 36 20.0 +14
MET LR LR
comp=Z,4μm,19.0s
440A **Kirbyville** 145.97 47 P **PKPab** 03 36 06.6 +0.7
baz=303
TRY **Troy** 145.99 11 *e*PKPdf **PKPab** 03 36 06.8 +1.2
TRY LR LR
comp=Z,5μm,18.0s
N54A **Moraine State** 145.99 20 P **PKPab** 03 36 06.0 +0.4
baz=334
241A **Mo Tay, Goldon** 146.00 44 P **PKPab** 03 36 07.5 +1.6
baz=306
BINY **Binghamton** 146.00 14 *e*PKPdf **PKPab** 03 36 05.6 -0.1
BINY LR LR
comp=Z,5μm,19.0s
W44A **Shelby Farms P** 146.03 37 P **PKPbc** 03 36 05.5 +0.2
baz=313
V45A **Humboldt** 146.12 36 P **PKPbc** 03 36 05.3 -0.2
baz=315
Y43A **Makayla and Ka** 146.16 40 P **PKPab** 03 36 06.9 +0.5
baz=310
341A **Kurthwood** 146.22 46 P **PKPab** 03 36 07.8 +1.0
baz=304
540A **Vidor** 146.25 48 P **PKPab** 03 36 08.9 +2.0
baz=302
X44A **Crenshaw** 146.26 38 P **PKPab** 03 36 06.7 -0.2
baz=312
142A **Monroe** 146.35 43 P **PKPab** 03 36 07.9 +0.7
baz=308
W45A **Hickory Valley** 146.39 37 P **PKPab** 03 36 06.9 -0.4
baz=314
Z43A **Armstrong Fami** 146.41 41 P **PKPab** 03 36 07.5 +0.1
baz=309
WVT **Waverly** 146.47 34 *e*PKIKP **PKPbc** 03 36 06.0 -0.6
WVT MLR MLR
comp=Z,3μm,19.0s

WVT	Waverly	146.47	34	ePKPdf	PKPbc	03 36 06.0	-0.6
WVT				LR	LR		
comp=Z,3μm,19.0s							
242A	Grayson	146.50	44	P	PKPab	03 36 08.3	+0.4
baz=307							
441A	DeRidder	146.53	47	P	PKPab	03 36 09.1	+1.1
baz=304							
HRV	Adam Dziewonsk	146.55	8	ePKP2	PKPab	03 36 07.8	+0.1
HRV				MLR	MLR		
comp=Z,2μm,22.0s							
HRV	Adam Dziewonsk	146.55	8	ePKPdf	PKPab	03 36 07.8	+0.1
HRV				LR	LR		
comp=Z,2μm,22.0s							
Y44A	Strider, Charl	146.58	39	P	PKPab	03 36 08.2	+0.1
baz=312							
143A	Socs Landing,	146.62	42	P	PKPab	03 36 08.4	+0.1
baz=308							
QUA2	Belchertown	146.66	9	ePKPdf	PKPab	03 36 08.2	+0.1
QUA2				LR	LR		
comp=Z,4μm,18.0s							
KSPA	Keystone Colle	146.66	14	ePKPdf	PKPbc	03 36 06.7	-0.3
KSPA				LR	LR		
comp=Z,3μm,22.0s							
OXF	Oxford	146.70	38	ePKIKP	PKPbc	03 36 06.5	-0.9
OXF				MLR	MLR		
comp=Z,4μm,18.0s							
OXF	Oxford	146.70	38	ePKPdf	PKPbc	03 36 06.5	-0.9
OXF				LR	LR		
comp=Z,4μm,18.0s							
WES	Weston	146.71	8	ePKP2	PKPab	03 36 08.2	-0.1
WES				MLR	MLR		
comp=Z,2μm,21.0s							
WES	Weston	146.71	8	ePKPdf	PKPab	03 36 08.2	-0.1
WES				LR	LR		
comp=Z,2μm,21.0s							
X45A	UM Field Stati	146.77	38	P	PKPbc	03 36 07.9	+0.3
baz=313							
BCX	Boston College	146.78	8	ePKPdf	PKPab	03 36 08.2	-0.3
342A	Flagon Creek P	146.78	45	P	PKPab	03 36 09.6	+0.6
baz=306							
TLIG	Tlapa	146.82	72	ePKPdf	PKPab	03 36 09.1	-0.5
TLIG				LR	LR		
comp=Z,2μm,19.0s							
Z44A	Pea Ridge, Bel	146.89	40	P	PKPab	03 36 08.8	-0.5
baz=310							
541A	Lake Charles	146.91	48	P	PKPab	03 36 10.2	+0.8
baz=303							
RCBR	Riachuelo	146.91	244	PKPbc	PKPbc	03 36 08.8	+0.2
comp=Z,45nm,0.8s,baz=111,slow=3.0,SNR=22							
RCBR				pPKPbc	sPKPdf	03 36 30.4	-1.4
comp=Z,46nm,0.7s,baz=104,slow=10,SNR=4.4							
RCBR	Riachuelo	146.91	244	ePKPdf	PKPbc	03 36 08.8	+0.2
RCBR				ePKPdf	PKPab	03 36 09.1	-0.9
RCBR				pPKPbc	sPKPdf	03 36 30.4	-1.4
RCBR				LR	LR		
comp=Z,3μm,21.0s							
PB10	IPOC Station P	146.94	171	ePKPdf	PKPab	03 36 09.2	-0.5
Y45A	Yeager Farm, C	147.06	39	P	PKPbc	03 36 09.1	+0.7
baz=312							
243A	Waterproof	147.06	43	P	PKPab	03 36 09.6	-0.4
baz=307							
O56A	Blue Knob Stat	147.08	19	P	PKPbc	03 36 08.9	+0.5
baz=336							
BRYW	Bryant College	147.13	8	PFAKE		03 36 20.0	+10
BRYW				LR	LR		
comp=Z,5μm,18.0s							
MCWV	Mont Chateau	147.21	21	PFAKE		03 36 20.0	+10
MCWV				LR	LR		
comp=Z,2μm,18.0s							
N59A	State Game Lan	147.27	15	P	PKPab	03 36 09.8	-0.8
baz=341							
Z45A	Winona	147.29	39	P	PKPab	03 36 10.1	-0.8
baz=312							
144A	Alexander Plac	147.31	41	P	PKPab	03 36 10.3	-0.7
baz=310							
343A	Vidalia	147.33	44	P	PKPab	03 36 10.8	-0.4
baz=306							
ODNJ	Ogdensburg	147.38	13	ePKPdf	PKPbc	03 36 08.5	-0.5
ODNJ				LR	LR		
comp=Z,2μm,20.0s							
Y46A	Houston	147.47	38	P	PKPbc	03 36 10.0	+0.5
baz=313							
YLE	Yale	147.50	11	PFAKE		03 36 20.0	+8.6
YLE				LR	LR		
comp=Z,2μm,18.0s							
244A	Avery, Jackson	147.50	42	P	PKPab	03 36 11.0	-0.8
baz=309							
VBMS	Vicksburg	147.50	42	P	PKPab	03 36 10.9	-0.9
baz=309							
VBMS	Vicksburg	147.50	42	ePKPdf	PKPbc	03 36 09.1	-0.5
443A	Delano Plantat	147.52	45	P	PKPab	03 36 11.7	-0.2
baz=306							
PAL	Palisades	147.61	12	ePKP2	PKPbc	03 36 10.7	+1.1
PAL				MLR	MLR		
comp=Z,3μm,18.0s							
PAL	Palisades	147.61	12	ePKPbc	PKPbc	03 36 10.7	+1.1
PAL				LR	LR		
comp=Z,3μm,18.0s							
145A	Houston Renfro	147.64	41	P	PKPab	03 36 11.2	-1.1
baz=310							
BRNJ	Basking Ridge	147.78	13	ePKPbc	PKPbc	03 36 11.1	+1.0
BRNJ				LR	LR		
comp=Z,3μm,21.0s							
CPNY	Central Park	147.80	12	ePKPbc	PKPab	03 36 12.0	-0.6
344A	Westbrook Farm	147.83	43	P	PKPab	03 36 12.3	-0.9
baz=308							
543A	St. Martinvill	147.85	46	P	PKPab	03 36 13.0	-0.3
baz=304							
Z46A	Louisville	147.88	39	P	PKPbc	03 36 11.9	+1.3
baz=312							
MVL	Millersville	147.98	16	ePKPdf	PKPdf	03 36 09.1	+1.5
MVL				LR	LR		
comp=Z,3μm,18.0s							
245A	Little AP, Sta	148.03	42	P	PKPbc	03 36 12.0	+0.9
baz=310							
LVC	Limon Verde	148.04	174	PKPbc	PKPab	03 36 13.5	-1.1
comp=Z,900nm,0.7s,baz=258,slow=3.0,SNR=178							
LVC	Limon Verde	148.04	174	ePKPdf	PKPbc	03 36 11.2	-0.7
LVC				ePKPbc	PKPab	03 36 13.5	-1.1
Y47A	UCPARC, Winfie	148.06	37	P	PKPbc	03 36 11.4	+0.3
baz=315							
PB04	IPOC Station P	148.16	172	ePKPbc	PKPbc	03 36 11.9	0.0
146A	Union	148.18	40	P	PKPbc	03 36 12.6	+1.2
baz=312							
SWET	Sewanee	148.18	33	ePKPdf	PKPdf	03 36 08.7	+0.6
SWET				LR	LR		
comp=Z,3μm,19.0s							
444A	Pine Grove	148.27	44	P	PKPab	03 36 13.5	-1.4
baz=307							
PSUB	Penn St. - Bra	148.28	15	ePKPdf	PKPdf	03 36 09.5	+1.4
PSUB				LR	LR		
comp=Z,2μm,19.0s							
544A	White Castle	148.33	46	P	PKPab	03 36 14.0	-1.1
baz=306							
LVIG	Laguna Verde	148.36	68	ePKPbc	PKPbc	03 36 13.0	+0.7
LVIG				LR	LR		
comp=Z,2μm,18.0s							
SDMD	Soldier's Deli	148.39	17	ePKPbc	PKPbc	03 36 12.4	+0.6
SDMD				LR	LR		
comp=Z,1μm,22.0s							
345A	Thompson Farm,	148.39	43	P	PKPbc	03 36 13.6	+1.5
baz=308							
Z47A	Carrollton	148.41	38	P	PKPbc	03 36 12.8	+0.7
baz=314							
445A	Amite	148.54	44	P	PKPbc	03 36 13.8	+1.4
baz=307							
246A	Jackson Lee, B	148.54	41	P	PKPbc	03 36 13.2	+0.8
baz=311							
Z48A	Northport	148.60	37	P	PKPbc	03 36 12.7	+0.2
baz=315							
147A	Livingston	148.65	39	P	PKPbc	03 36 13.1	+0.4
baz=313							
346A	Big Creek Wild	148.72	42	P	PKPbc	03 36 13.8	+0.9
baz=309							
CPCT	Cooper Cave	148.74	31	ePKPdf	PKPdf	03 36 10.4	+1.4
CPCT				LR	LR		
comp=Z,4μm,22.0s							
247A	Quitman	148.85	40	P	PKPbc	03 36 14.4	+1.2
baz=312							
TKL	Tuckaleechee C	148.95	30	PKP	PKPdf	03 36 10.1	+0.7
comp=Z,46nm,0.5s,baz=144,slow=7.2,SNR=26							
TKL				PKPbc	PKiKP	03 36 14.2	-0.5
comp=Z,110nm,0.5s,baz=150,slow=8.0,SNR=130							
TKL	Tuckaleechee C	148.95	30	ePKPdf	PKPdf	03 36 10.6	+1.3
TKL				LR	LR		
comp=Z,6μm,22.0s							
645A	Chauvin	149.11	46	P	PKPbc	03 36 15.4	+1.5
baz=305							
BLA	Blacksburg	149.14	24	ePKIKP	PKPdf	03 36 10.7	+1.0
BLA				MLR	MLR		
comp=Z,5μm,18.0s							
BLA	Blacksburg	149.14	24	ePKPdf	PKPdf	03 36 10.7	+1.0
BLA				LR	LR		
comp=Z,5μm,18.0s							
446A	Poplarville	149.16	43	P	PKPbc	03 36 15.0	+1.0
baz=309							
LRAL	Lakeview Retre	149.17	37	ePKPdf	PKPdf	03 36 10.8	+1.0
LRAL				LR	LR		
comp=Z,4μm,21.0s							
IP04	Greensprings	149.21	20	PFAKE		03 36 20.0	+1.6
IP04				LR	LR		
comp=Z,4μm,22.0s							
546A	Slidell	149.26	44	P	PKPbc	03 36 15.2	+0.9
baz=308							
VWCC	Virginia Weste	149.28	23	ePKPbc	PKPbc	03 36 14.9	+0.7
IP03	Louisa	149.30	20	ePKPdf	PKPdf	03 36 11.7	+1.9
IP03				LR	LR		
comp=Z,4μm,21.0s							
347A	Saraland	149.32	41	P	PKPbc	03 36 14.9	+0.5
baz=311							
CVRD	Centerville Ro	149.33	19	ePKPdf	PKPdf	03 36 11.8	+2.0
CVRD				LR	LR		
comp=Z,5μm,19.0s							
PTRD	Partlow Road	149.34	19	PFAKE		03 36 20.0	+1.1
PTRD				LR	LR		
comp=Z,4μm,19.0s							
CBN	Corbin Frederi	149.34	19	ePKPdf	PKPdf	03 36 11.4	+1.6
CBN				LR	LR		
comp=Z,4μm,19.0s							
SPFD	Spotsylvania F	149.36	19	ePKPdf	PKPdf	03 36 11.5	+1.6
SPFD				LR	LR		
comp=Z,4μm,20.0s							
248A	Dixon Mills	149.37	39	P	PKPbc	03 36 15.1	+0.6
baz=313							
IP07	Quail	149.39	20	ePKPdf	PKPdf	03 36 11.8	+1.8
IP07				LR	LR		
comp=Z,4μm,20.0s							
IP06	Yanceyville	149.39	20	ePKPdf	PKPdf	03 36 11.8	+1.8
IP06				LR	LR		
comp=Z,4μm,21.0s							
IP01	Cuckoo	149.39	20	ePKPdf	PKPdf	03 36 11.8	+1.9
IP01				LR	LR		
comp=Z,4μm,21.0s							
PB01	IPOC Station P	149.52	173	ePKPdf	PKPdf	03 36 12.6	+1.8
IP05	Hopewell Churc	149.56	19	ePKPdf	PKPdf	03 36 11.6	+1.4
IP05				LR	LR		
comp=Z,4μm,21.0s							
646A	Port Sulphur	149.58	45	P	PKPbc	03 36 16.1	+1.0
baz=307							
447A	Lucedale	149.63	42	P	PKPbc	03 36 15.5	+0.3
baz=310							
JSRW	J. Sargeant Re	149.64	20	ePKPdf	PKPdf	03 36 11.4	+1.0
348A	Jackson	149.72	40	P	PKPbc	03 36 15.9	+0.5
baz=312							
BDFB	Brasilia	149.75	215	PKP	PKPdf	03 36 12.3	+1.0
comp=Z,28nm,0.5s,baz=92,slow=1.2,SNR=23							
BDFB				PKPbc	PKiKP	03 36 16.6	-0.4
comp=Z,61nm,0.6s,baz=207,slow=0.7,SNR=123							
BDFB				pPKPbc	sPKPdf	03 36 37.7	+1.2
comp=Z,49nm,0.7s,baz=342,slow=2.9,SNR=6.5							
BDFB	Brasilia	149.75	215	ePKPdf	PKPdf	03 36 12.3	+1.0
BDFB				ePKPdf	PKPbc	03 36 12.5	-3.5
BDFB				ePKPbc	PKiKP	03 36 16.6	-0.4
BDFB				pPKPbc	sPKPdf	03 36 37.6	+1.2
BDFB				LR	LR		
comp=Z,3μm,20.0s							
URVA	University of	149.87	19	ePKPbc	PKPbc	03 36 16.4	+0.8
BG3	Lake Jocassee	149.89	29	ePKPdf	PKPdf	03 36 12.6	+1.7
BG3				LR	LR		
comp=Z,6μm,22.0s							
448A	Bay Minette	150.07	41	P	PKPbc	03 36 16.9	+0.7
baz=311							
CMIG	Matias Romero	150.36	72	PKP	PKPdf	03 36 13.1	+1.0
comp=Z,7.0nm,0.6s,baz=249,slow=3.3,SNR=3.2							
CMIG				PKPbc	PKPbc	03 36 17.0	-0.4
comp=Z,23nm,0.6s,baz=286,slow=5.0,SNR=14							
BRAL	Brewton	150.43	40	ePKPbc	PKPbc	03 36 18.9	+1.8
BRAL				LR	LR		
comp=Z,4μm,20.0s							
KMSC	Kings Mountain	150.51	27	P	PKPbc	03 36 17.9	+0.7
baz=327							
KMSC	Kings Mountain	150.51	27	ePKPdf	PKPdf	03 36 13.1	+1.3
KMSC				LR	LR		
comp=Z,7μm,21.0s							
TUIG	Tuzandepetl	150.59	70	PFAKE		03 36 20.0	+2.2
TUIG				LR	LR		
comp=Z,2μm,18.0s							
PB11	IPOC Station P	150.76	172	ePKPdf	PKPdf	03 36 14.3	+1.5
GOGA	Godfrey	150.87	32	ePKIKP	PKPdf	03 36 14.0	+1.6
GOGA				MLR	MLR		
comp=Z,3μm,19.0s							
GOGA	Godfrey	150.87	32	ePKPdf	PKPdf	03 36 14.0	+1.6
GOGA				LR	LR		
comp=Z,3μm,19.0s							
JSC	Jenkinsville	151.26	28	PFAKE		03 36 30.0	+3.0
JSC				LR	LR		
comp=Z,4μm,21.0s							
MNMC	Minye Minye	151.39	172	ePKPdf	PKPdf	03 36 16.0	+2.0
CNNC	Cliffs of the	151.84	22	ePKPbc	PKPbc	03 36 21.2	+1.0
CNNC				LR	LR		
comp=Z,9μm,19.0s							
TIGA	Tifton	152.31	35	P	PKPbc	03 36 22.5	+1.0
baz=319							
TIGA	Tifton	152.31	35	ePKPdf	PKPdf	03 36 16.3	+1.7
TIGA				LR	LR		
comp=Z,4μm,18.0s							
NHSC	New Hope	152.74	28	ePKPbc	PKPbc	03 36 23.8	+1.5
NHSC				LR	LR		
comp=Z,4μm,20.0s							
CSU	Charleston Sou	152.89	28	ePKPbc	PKPbc	03 36 22.4	-0.2
RGRS	Roger Stewart	152.90	28	ePKPbc	PKPbc	03 36 24.1	+1.4
CCIG	Comitan	153.10	72	PFAKE		03 36 30.0	-5.5
CCIG				LR	LR		
comp=Z,2μm,22.0s							
SCIG	Sabancuy	153.31	66	PFAKE		03 36 30.0	+6.0
SCIG				LR	LR		
comp=Z,1μm,22.0s							
PAYG	Puerto Ayora	153.33	111	ePKPbc	PKPbc	03 36 27.4	+3.1
LPAZ	La Paz	154.38	174	PKP	PKPdf	03 36 20.1	+1.3
comp=Z,6.0nm,0.8s,baz=261,slow=2.7,SNR=20							
LPAZ				PKPbc	PKiKP	03 36 28.4	+1.3
comp=Z,12nm,0.6s,baz=144,slow=0.4,SNR=29							
LPAZ				PKPab	PKPab	03 36 42.3	+1.1
comp=Z,60nm,0.6s,baz=210,slow=7.2,SNR=37							
SIV	San Ignacio	154.44	190	PKP	PKPdf	03 36 20.0	+1.8
comp=Z,7.0nm,0.8s,baz=170,slow=1.7,SNR=12							
SIV				PKPab	PKPab	03 36 40.0	-0.8
comp=Z,14nm,0.6s,baz=259,slow=1.9,SNR=6.5							
NNA	Nana	155.95	152	PKP	PKPdf	03 36 22.3	+2.0
comp=Z,15nm,0.8s,baz=265,slow=2.8,SNR=5.6							
NNA				PKPab	pPKPbc	03 36 48.0	-0.3
comp=Z,22nm,0.7s,baz=245,slow=6.7,SNR=6.1							
NNA	Nana	155.95	152	ePKPdf	PKPdf	03 36 22.3	+2.0
NNA				ePKPab	pPKPbc	03 36 48.0	-0.3
NNA				LR	LR		
comp=Z,3μm,20.0s							
DWPF	Disney Wildern	156.03	37	ePKPab	PKPab	03 36 48.7	+1.3
DWPF				LR	LR		
comp=Z,3μm,21.0s							
BBSR	BB Station	157.09	358	PFAKE		03 36 30.0	+8.8
BBSR				LR	LR		
comp=Z,2μm,20.0s							
ATAH	Atahualpa	159.14	141	PKP	PKPdf	03 36 26.8	+2.0
comp=Z,22nm,0.9s,baz=323,slow=2.3,SNR=14							
SAML	Samuel	161.67	187	ePKPdf	PKPdf	03 36 27.9	+0.9
OTAV	Otavalo	164.19	124	ePKPdf	PKPdf	03 36 31.5	+1.4
CMBC	Cumbal	165.11	123	eP	PKPdf	03 36 32.5	+1.7
MTDJ	Mount Denham	165.33	52	ePKPdf	PKPdf	03 36 31.3	+0.9
BCIP	Isla Barro Col	165.79	90	ePKPdf	PKPdf	03 36 31.4	+0.6
POPC	Popayan, Colom	166.94	121	eP	PKPdf	03 36 30.1	-2.0
FLOC	Florencia	167.24	127	eP	PKPdf	03 36 32.1	+0.1
PTGA	Pitinga	168.58	209	PKP	PKPdf	03 36 33.7	+0.7
comp=Z,9.3nm,1.0s,baz=117,slow=1.2,SNR=13							
PTGA				PKPab	PKPab	03 37 42.5	0.0
comp=Z,13nm,0.7s,baz=141,slow=6.2,SNR=12							
SDDR	Presa de Saban	168.89	30	ePKPdf	PKPdf	03 36 34.1	+1.1
PRAC	Prado	169.07	120	eP	PKPdf	03 36 32.9	-0.4
HELC	Santa Helena	169.52	107	eP	PKPdf	03 36 33.0	-1.0
MOTC	Monteria, Cord	169.89	92	eP	PKPdf	03 36 33.3	-0.4
ROSC	El Rosal	170.11	116	PKP	PKPdf	03 36 33.0	-1.4
comp=Z,2.6nm,0.5s,baz=100,slow=1.5,SNR=12							
ROSC				PKPab	PKPab	03 37 50.3	+0.2
comp=Z,8.4nm,0.8s,baz=107,slow=19,SNR=3.0							
ROSC	El Rosal	170.11	116	eP	PKPdf	03 36 34.1	-0.2
ROSC	El Rosal	170.11	116	ePKPdf	PKPdf	03 36 35.5	+1.2
ROSC				ePKPab	PKPab	03 37 50.3	+0.2
CHIC	Chingaza	170.53	119	eP	PKPdf	03 36 33.8	-0.8
SMRT	St. Maarten	171.06	345	ePKPdf	PKPdf	03 36 35.7	+1.5
HUMP	Col San Antoni	171.26	3	ePKPdf	PKPdf	03 36 34.6	+0.4
CELP	Cerrillos	171.27	7	ePKPdf	PKPdf	03 36 34.4	+0.1
SJG	San Juan	171.28	4	PKP	PKPdf	03 36 34.9	+0.6
comp=Z,12nm,0.8s,baz=354,slow=17,SNR=5.1							
MTP	Monte Pirata	171.32	1	ePKPdf	PKPdf	03 36 35.9	+1.6
BRRC	Barranca, Sant	171.52	105	eP	PKPdf	03 36 34.8	+0.3
RUSC	La Rusia	171.68	114	eP	PKPdf	03 36 34.2	-1.0
RUSC	La Rusia	171.68	114	ePKPdf	PKPdf	03 36 34.6	-0.7
OCAC	Ocana	172.14	98	eP	PKPdf	03 36 37.0	+2.0
PAMC	Pamplona, Colo	172.54	105	eP	PKPdf	03 36 36.6	+1.0
GBMF	Grand Be	173.17	323	eP	PKPdf	03 36 37.5	+2.2
PCM	Pelee Case Pet	173.18	323	eP	PKPdf	03 36 37.3	+2.1
PCM	Pelee Case Pet	173.18	323	eP	PKPdf	03 36 37.5	+2.3
FDF	Fort de France	173.21	322	eP	PKPdf	03 36 36.0	+0.7
FDF	Fort de France	173.21	322	ePKIKP	PKPdf	03 36 36.9	+1.7
FDF	Fort de France	173.21	322	ePKPdf	PKPdf	03 36 36.9	+1.7
ZAM	Aeronautique	173.26	321	eP	PKPdf	03 36 37.7	+2.5
TRMF	Trois Ilets	173.30	321	eP	PKPdf	03 36 38.0	+2.8
SDV	Santo Domingo	174.85	95	PKP	PKPdf	03 36 36.3	+0.2
comp=Z,5.2nm,0.7s,baz=323,slow=0.5,SNR=14							
SDV				PKPab	PKPab	03 38 11.7	+0.7
comp=Z,6.4nm,0.5s,baz=210,slow=2.5,SNR=6.2							
SDV	Santo Domingo	174.85	95	ePKPdf	PKPdf	03 36 35.9	-0.2
SDV				ePKPab	PKPab	03 38 12.6	+1.7

CSEM ***13*** *03:27:08.6, 36°.71N×25°.79E, h6km, ML1.8/1*

THE 13 03:27:08.6, 36°.71N×25°.79E, h6km±17km, ML1.8/1, Error ellipse: s-maj=17.7km s-min=0.6km az=89.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	Thira island,	0.38	228	P	Pg	03 27 16.1	+0.1
THR2	Thira island,	0.38	228	P	Pg	03 27 16.1	+0.1
THR7	Fira-Santorini	0.40	226	P	Pg	03 27 16.6	+0.2
THR7	Fira-Santorini	0.40	226	P	Pg	03 27 16.6	+0.2
APE	Apeiranthos	0.42	331	P	Pg	03 27 17.3	+0.6
APE				S	Sg	03 27 23.3	+1.1
APE	Apeiranthos	0.42	331	P	Pg	03 27 17.3	+0.6
APE				S	Sg	03 27 23.3	+1.1
THR3	Thira Island,	0.43	227	P	Pg	03 27 16.8	-0.1
THR3	Thira Island,	0.43	227	P	Pg	03 27 16.8	-0.1
SAP1	Santorini-Akro	0.47	222	P	Pg	03 27 17.8	+0.2
SAP1				S	Sb	03 27 25.1	-1.3
THR6	Thira Island,	0.47	222	P	Pg	03 27 17.8	+0.2
THR6	Thira Island,	0.47	222	P	Pg	03 27 17.8	+0.2

MEX 13 03:30:17.6±0.5, 17°.96N×98°.78W, h53km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTT	Tlapaneco	0.27	128	eP	Pn	03 30 25.2	-1.7
TLIG	Tlapa	0.45	153	i P	Pn	03 30 27.4	-1.3
TLIG				eS	Sn	03 30 34.8	-1.8
MEIG	Mezcala	0.80	267	i P	Pn	03 30 31.5	-1.4
MEIG				eS	Sn	03 30 42.4	-1.7
PLIG	Platanillo	0.81	302	i P	Pn	03 30 31.6	-1.4
PLIG				eS	Sn	03 30 42.4	-1.8
YAIG	Yautepec	0.93	343	i P	Pn	03 30 33.1	-1.6
YAIG				i S	Sn	03 30 45.1	-2.2
PPM	Popocatepetl	1.11	7	i P	Pn	03 30 35.7	-1.6
PPM				i S	Sn	03 30 49.6	-2.2
MAVM	Malinalco, Edo	1.20	326	eP	Pn	03 30 37.4	-0.9
TPIG	Tehuac#an	1.42	71	i P	Pn	03 30 39.9	-1.4
TPIG				i S	Sn	03 30 56.5	-2.5
ARIG	Puente Sto Nin	1.52	282	i P	Pn	03 30 41.6	-0.9
ARIG				i S	Sn	03 30 58.9	-2.4
TOVM	TOLUCA	1.56	327	i P	Pn	03 30 42.9	-0.5
AZVM	Cuida Lopez Ma	1.68	344	i P	Pn	03 30 38.9	-6.0
PNIG	Pinotepa	1.68	158	eP	Pn	03 30 43.2	-1.5
PNIG				i S	Sn	03 31 02.5	-2.7
CAIG	El Cayaco	1.69	238	eP	Pn	03 30 42.6	-2.1
CAIG				eS	Sn	03 31 02.7	-2.5
VHO	Vista Hermosa	2.14	114	eP	Pn	03 30 50.2	-0.9
VHO				i S	Sn	03 31 14.7	-2.0

KRSC 13 03:38:54.0±1.5, 52°.97N×160°.29E, h42km±11km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.21	310	eP	Pn	03 39 03.4	+1.9
SPN				eS	Sn	03 39 08.6	+1.8
NLC	Nalytchevo	0.60	290	eP	Pn	03 39 07.2	+1.0
NLC				eS	Sn	03 39 15.4	+0.6
SDLR	Sedlovina	0.90	291	eP	Pn	03 39 11.5	+1.2
SDLR				eS	Sn	03 39 23.0	+0.8
UGLR	Uglovaya	0.92	286	eP	Pn	03 39 11.7	+1.2
UGLR				eS	Sn	03 39 23.2	+0.6
DALK	Dalny	0.93	275	eP	Pn	03 39 11.5	+0.9
DALK				eS	Sn	03 39 23.4	+0.7
AVH	Avacha	0.98	288	eP	Pn	03 39 12.8	+1.4
AVH				eS	Sn	03 39 24.9	+0.8
KRER	Koryakskii	0.99	291	eP	Pn	03 39 13.2	+1.6
KRER				eS	Sn	03 39 25.2	+0.8
PET	Petropavlovsk	0.99	274	eP	Pn	03 39 12.3	+0.9
PET				eS	Sn	03 39 24.5	+0.4
KOK	Koryaka	1.05	289	eP	Pn	03 39 13.7	+1.4
KOK				eS	Sn	03 39 26.8	+1.0
KRX	Arik	1.06	292	eP	Pn	03 39 13.5	+1.0
KRX				eS	Sn	03 39 26.1	-0.1
KII	Karymskiy	1.18	335	eP	Pn	03 39 15.6	+1.4
KII				eS	Sn	03 39 29.7	+0.6
RUS	Russkaya	1.20	244	eP	Pn	03 39 15.8	+1.5
RUS				eS	Sn	03 39 30.6	+1.2
KRMR	Karymshinskiy	1.31	265	eP	Pn	03 39 17.1	+1.3
KRMR				eS	Sn	03 39 33.0	+0.9

MWZ	Matawai	1.32 134	PN	Pn	03 41 29.2	+0.5
BKZ	Black Stump Fm	1.75 176	⇑PN	Pn	03 41 31.4	-0.2
ARHZ	Aropaoanui	1.91 164	PN	Pn	03 41 33.2	+0.3
KNZ	Kokohu	1.92 147	PN	Pn	03 41 33.0	0.0
KWHZ	Kaweka Forest	2.00 178	PN	Pn	03 41 33.4	-0.3
BHHZ	Black Hill Sta	2.07 185	⇓PN	Pn	03 41 33.8	-0.6
KAHZ	Kahuranaki	2.41 170	PN	Pn	03 41 36.9	-0.3
MRZ	Mangatainoka R	3.29 190	⇓PN	Pn	03 41 43.7	-2.2
OGWZ	Otaki Gorge	3.51 194	PN	Pn	03 41 46.0	-2.2
KIW	Kapiti Island	3.60 197	PN	Pn	03 41 46.8	-2.5
DUWZ	D'Urville Isla	3.86 208	PN	Pn	03 41 49.7	-2.4
TCW	Tory Channel	4.10 202	PN	Pn	03 41 52.1	-2.7
TUWZ	Tuamarina	4.41 204	PN	Pn	03 41 55.3	-2.9
THZ	Tophouse	5.07 210	PN	Pn	03 42 02.5	-3.7

SJA ***13*** *03:58:50.0±0.6, 29.°82S×72.°21W, h41km±999km, ML2.8*
GUC ***13*** *03:58:54.9±0.3, 29.°85S×71.°25W, h100km±3km, ML3.7*
ISC 13 03:58:52.2±2.6, 29.°76S±0.°07×72.°2W±0.°2, h43km, n9, σ1§27/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.50**	**61**	*e*P	**Pn**	**03 59 16.7**	**-0.2**
LCO				*e*S	**Sn**	**03 59 36.6**	**+1.2**
VACH	**Vallenar**	**1.72**	**47**	*i* P	**Pn**	**03 59 19.9**	**+0.2**
VACH				*e*S	**Sn**	**03 59 39.0**	**-1.5**
VACH				IAML		03 59 49.9	
	comp=N,1μm,0.5s						
AGUA	**GUANDACOL**	**3.23**	**86**	*e*P	**Pn**	**03 59 41.4**	**+0.8**
ROCH	**El Roble**	**3.36**	**163**	*i* P	**Pn**	**03 59 44.1**	**+1.7**
ROCH				*e*S	**Sn**	**04 00 21.6**	**+0.4**
ROCH				IAML		04 00 34.8	
	comp=N,150nm,0.9s						
AMOG	**MOGNA**	**3.41**	**111**	*e*P	**Pn**	**03 59 43.4**	**+0.5**
AUSP	**Uspallata**	**3.44**	**136**	*e*P	**Pn**	**03 59 43.6**	**0.0**
AUSP				*e*S	**Sn**	**04 00 23.6**	**+0.3**
PEL	**Peldehue**	**3.61**	**159**	*i* P	**Pn**	**03 59 46.4**	**+0.7**
PEL				*e*S	**Sn**	**04 00 25.4**	**-1.8**
PEL				IAML		04 00 47.9	
	comp=E,128nm,0.6s						
CLCH	**Cerro Calan**	**3.89**	**159**	*e*P	**Pn**	**03 59 49.9**	**+0.3**
CLCH				*e*S	**Sn**	**04 00 31.6**	**-2.5**
APLL	**PUNTA DE LOS L**	**4.95**	**99**	IAML		04 01 11.4	
	comp=Z,7.1nm,0.6s						

NIED ***13*** *04:05:00, 23.°90N×122.°50E, h32km, Mw4.3 Best double couple: M0=3.57000×10^15 NP1:φ=240.00000°, δ=10.00000°, λ=87.00000°. NP2:φ=64.00000°, δ=80.00000°, λ=91.00000°.*
BJI ***13*** *04:05:22.6, 24.°02N×122.°45E, h5km, mb4.2/10, ML4.0/4, Ms4.0/1, Ms7 4.0/1*
TAP ***13*** *04:05:24.5, 23.°96N×122.°52E, h25km, ML4.6, D*
NEIC ***13*** *04:05:24.3±1.7, 24.°05N×122.°58E, h27km±12km, mb4.9/14, Error ellipse: s-maj=6.7km s-min=5.6km az=71.0*
JMA ***13*** *04:05:24.2±0.2, 23.°93N×122.°50E, h22km±4km, M4.2*
MOS ***13*** *04:05:24.6±1.0, 24.°12N×122.°69E, h45km, mb4.8/8, Error ellipse: s-maj=19.4km s-min=9.1km az=111.4*
ISCJB ***13*** *04:05:25.3±0.2, 23.°94N±0.°02×122.°56E±0.°01, h51km±2km, mb4.4/36, Error ellipse: s-maj=2.8km s-min=1.8km az=155.6*
IDC ***13*** *04:05:27.0±0.8, 24.°12N×122.°67E, h49km±7km, mb4.0/22, mb1 4.1/22, mb1mx4.0/44, mbtmp4.2/22, Error ellipse: s-maj=19.3km s-min=12.2km az=62.0*
ISC 13 04:05:25.1±0.5, 23.°95N±0.°03×122.°55E±0.°02, h40km±4km, h41km:pP-P, n179, σ1§81/274, mb4.4/36, 6C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.62**	**36**	P	**Pn**	**04 05 36.8**	**-0.7**
JYNG				S	**Sn**	**04 05 45.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.67**	**39**	P	**Pn**	**04 05 37.7**	**-0.4**
YOJ				S	**Sn**	**04 05 46.0**	**-1.4**
YOJ	**Yonaguni jima**	**0.67**	**39**	*e*P	**Pn**	**04 05 37.7**	**-0.4**
YOJ				*e*		04 05 46.5	
YOJ	**Yonaguni jima**	**0.67**	**39**	*e*Pn	**Pn**	**04 05 37.7**	**-0.4**
YOJ				*e*Sn	**Sn**	**04 05 46.5**	**-0.9**
EHP	**Heping Village**	**0.82**	**296**	P	**Pn**	**04 05 40.7**	**+0.5**
	baz=297						
EHP				*e*S	**Sn**	**04 05 52.8**	**+1.7**
	baz=297						
HWA	**Hwalien**	**0.86**	**272**	*e*P	**Pn**	**04 05 40.0**	**-0.7**
	baz=258						
HWA				*e*S	**Sn**	**04 05 52.5**	**+0.4**
	baz=258						
ENA	**Nanau**	**0.88**	**303**	P	**Pn**	**04 05 40.5**	**-0.4**
	baz=304						
ENA				*e*S	**Sn**	**04 05 53.2**	**+0.7**
	baz=304						
TWD	**Chiawan**	**0.88**	**279**	⇓*i*P	**Pn**	**04 05 40.1**	**-0.9**
	baz=279						
TWD				*e*S	**Sn**	**04 05 51.7**	**-0.9**
	baz=279						
NACB	**Ninganchiao**	**0.90**	**285**	*e*Pn	**Pn**	**04 05 40.4**	**-0.9**
NACB				*e*Sn	**Sn**	**04 05 53.1**	**+0.1**
TWC	**Suao**	**0.92**	**316**	*i* P	**Pn**	**04 05 41.0**	**-0.5**
	baz=317						
TWC				S	**Sn**	**04 05 53.2**	**-0.3**
	baz=317						
TEGC	**Jichi Village**	**0.95**	**256**	*e*S	**Sn**	**04 05 54.5**	**+0.2**
	baz=255						
ESF	**Shoufeng Towns**	**0.95**	**266**	*e*S	**Sn**	**04 05 54.6**	**+0.2**
	baz=265						
ESL	**Shilin**	**1.03**	**263**	*e*P	**Pn**	**04 05 41.5**	**-1.5**
	baz=261						
EGS		**1.06**	**328**	*i* P	**Pn**	**04 05 44.0**	**+0.6**
	baz=316						
EGS				*e*S	**Sn**	**04 05 59.3**	**+2.4**
	baz=316						
ILA	**Ilan**	**1.09**	**318**	*e*P	**Pn**	**04 05 44.9**	**+1.0**
	baz=310						
ILA				*e*S	**Sn**	**04 06 01.1**	**+3.3**
	baz=310						
TWE	**Neicheng**	**1.11**	**314**	*e*P	**Pn**	**04 05 44.8**	**+0.6**
	baz=315						
TWE				*e*S	**Sn**	**04 06 01.0**	**+2.6**
	baz=315						
ENTT	**Nioudou**	**1.13**	**308**	P	**Pn**	**04 05 44.9**	**+0.4**
	baz=294						
ENTT				*e*S	**Sn**	**04 06 00.5**	**+1.7**
	baz=294						
IRIF	**Iriomote-Funau**	**1.15**	**70**	P	**Pn**	**04 05 45.9**	**+1.2**
IRIF				S	**Sn**	**04 06 01.8**	**+2.6**
HATJ	**Hateruma jima**	**1.16**	**84**	P	**Pn**	**04 05 46.3**	**+1.5**
HATJ				*e*S	**Sn**	**04 06 01.8**	**+2.4**
TWB1	**Santiao Chiao**	**1.17**	**334**	P	**Pn**	**04 05 45.5**	**+0.4**
	baz=352						
TWB1				*e*S	**Sn**	**04 06 02.8**	**+2.9**
	baz=352						
NNS	**Nan Shan**	**1.18**	**295**	*i* P	**Pn**	**04 05 45.4**	**+0.2**
	baz=283						
NNS				*e*S	**Sn**	**04 06 00.9**	**+0.7**
	baz=283						
WHF	**Hehuan Shan**	**1.19**	**280**	P	**Pn**	**04 05 45.1**	**-0.5**
	baz=280						
WHF				*e*S	**Sn**	**04 06 01.1**	**+0.3**
	baz=280						
EHY	**Hungye**	**1.20**	**249**	P	**Pn**	**04 05 45.0**	**-0.4**
	baz=248						
EHY				*e*S	**Sn**	**04 06 00.5**	**-0.1**
	baz=248						
YULB	**Yu-li**	**1.27**	**245**	*e*Pn	**Pn**	**04 05 45.8**	**-0.6**
YULB				*e*Sn	**Sn**	**04 06 01.4**	**-0.8**
TWF1	**Yuli**	**1.29**	**243**	P	**Pn**	**04 05 46.4**	**-0.2**
	baz=242						
TWF1				*e*S	**Sn**	**04 06 02.8**	**+0.1**
	baz=242						
TWT	**Tachien**	**1.29**	**284**	*e*P	**Pn**	**04 05 47.5**	**+0.7**
	baz=271						
TWT				*e*S	**Sn**	**04 06 03.4**	**+0.4**
	baz=271						
YHNB	**Yeheng**	**1.29**	**304**	*e*Pn	**Pn**	**04 05 46.9**	**+0.2**
YHNB				*e*Sn	**Sn**	**04 06 02.5**	**-0.3**
NSK	**Sanguang**	**1.30**	**304**	P	**Pn**	**04 05 47.3**	**+0.4**
	baz=305						
NSK				*e*S	**Sn**	**04 06 03.5**	**+0.4**
	baz=305						
WDT	**Danda**	**1.31**	**262**	P	**Pn**	**04 05 46.9**	**-0.3**
	baz=261						
WDT				*e*S	**Sn**	**04 06 02.6**	**-1.0**
	baz=261						
NWF	**Wu-fen Shan**	**1.32**	**328**	P	**Pn**	**04 05 47.6**	**+0.5**
	baz=329						
NWF				*e*S	**Sn**	**04 06 06.1**	**+2.5**
	baz=329						
TWA	**Mucha**	**1.35**	**320**	*e*P	**Pn**	**04 05 48.6**	**+1.1**
	baz=321						
TWA				*e*S	**Sn**	**04 06 07.2**	**+2.9**
	baz=321						
JKRS	**Kuro-shima**	**1.37**	**77**	P	**Pn**	**04 05 49.2**	**+1.5**
JKRS				S	**Sn**	**04 06 07.6**	**+3.0**
CHKT	**Chengkung**	**1.37**	**232**	*e*P	**Pn**	**04 05 46.8**	**-1.0**
	baz=219						
CHKT				*e*S	**Sn**	**04 06 02.7**	**-2.0**
	baz=219						
TATO	**Taipei**	**1.41**	**317**	*e*Pn	**Pn**	**04 05 49.2**	**+0.9**
TATO				*e*Sn	**Sn**	**04 06 06.5**	**+0.9**
TAP1	**Taipei**	**1.43**	**320**	P	**Pn**	**04 05 50.0**	**+1.4**
	baz=320						
TAP1				S	**Sn**	**04 06 09.3**	**+3.1**
	baz=320						
TAP	**Taipei**	**1.44**	**319**	*e*P	**Pn**	**04 05 50.2**	**+1.5**
	baz=320						
TAP				*e*S	**Sn**	**04 06 09.3**	**+2.8**
	baz=320						
SSLB	**Suanglung**	**1.47**	**264**	*e*Pn	**Pn**	**04 05 48.8**	**-0.3**
SSLB				*e*Sn	**Sn**	**04 06 06.2**	**-0.8**
SMLT	**Sun Moon Lake**	**1.51**	**268**	*e*P	**Pn**	**04 05 50.1**	**+0.4**
	baz=267						
SMLT				*e*S	**Sn**	**04 06 10.2**	**+1.9**
	baz=267						
JIJ	**Ishigaki jima**	**1.52**	**74**	P	**Pn**	**04 05 50.7**	**+1.0**
JIJ				S	**Sn**	**04 06 10.0**	**+1.7**
YUS	**Yu-Shan**	**1.53**	**253**	P	**Pn**	**04 05 50.6**	**+0.3**
	baz=252						
YUS				*e*S	**Sn**	**04 06 09.2**	**0.0**
	baz=252						
TWS1	**Kuangyinshan**	**1.54**	**318**	*e*P	**Pn**	**04 05 50.8**	**+0.7**
	baz=336						
TYC	**Yuchr**	**1.55**	**269**	P	**Pn**	**04 05 50.6**	**+0.5**
	baz=268						
NSTT	**Nanjuang**	**1.57**	**296**	P	**Pn**	**04 05 52.0**	**+1.5**
	baz=296						
NSTT				*e*S	**Sn**	**04 06 10.9**	**+1.4**
	baz=296						
TWY	**Chenhua**	**1.58**	**327**	*e*P	**Pn**	**04 05 51.9**	**+1.3**
	baz=327						
ELDTW	**Lidau**	**1.59**	**242**	P	**Pn**	**04 05 50.3**	**-0.5**
	baz=240						
ALS	**Alishan**	**1.65**	**255**	*e*P	**Pn**	**04 05 52.7**	**+0.8**
	baz=254						
ALS				*e*S	**Sn**	**04 06 11.9**	**-0.1**
	baz=254						
TWQ1	**Liyutan**	**1.67**	**284**	*e*P	**Pn**	**04 05 53.8**	**+1.9**
	baz=284						
TWQ1				*e*S	**Sn**	**04 06 14.3**	**+2.2**
	baz=284						
HSN	**Hsinchu**	**1.67**	**301**	*e*P	**Pn**	**04 05 53.0**	**+1.1**
	baz=303						
HSN				*e*S	**Sn**	**04 06 14.9**	**+2.8**
	baz=303						
NSY	**Sanyi**	**1.70**	**286**	*e*P	**Pn**	**04 05 54.2**	**+2.0**
	baz=286						
NSY				*e*S	**Sn**	**04 06 15.6**	**+2.9**
	baz=286						
WNT	**Mingjian**	**1.71**	**268**	*e*P	**Pn**	**04 05 54.2**	**+1.9**
	baz=268						
WNT				*e*S	**Sn**	**04 06 15.4**	**+2.5**
	baz=268						
TCU	**Taichung**	**1.72**	**277**	*e*P	**Pn**	**04 05 54.6**	**+2.1**
	baz=277						
TCU				S	**Sn**	**04 06 16.3**	**+3.0**
	baz=277						
PCYT	**Pengchaiyu**	**1.73**	**346**	P	**Pn**	**04 05 53.6**	**+0.9**
	baz=346						
JISG	**Ishigakijimahi**	**1.73**	**68**	P	**Pn**	**04 05 53.5**	**+0.8**
JISG				S	**Sn**	**04 06 15.3**	**+1.7**
CHN5	**Tsauling**	**1.75**	**259**	*e*P	**Pn**	**04 05 54.3**	**+1.3**
	baz=248						
CHN5				*e*S	**Sn**	**04 06 16.1**	**+2.1**
	baz=248						
TTN	**Taitung**	**1.75**	**228**	*e*P	**Pn**	**04 05 54.2**	**+1.2**
	baz=226						
TTN				*e*S	**Sn**	**04 06 14.7**	**+0.7**
	baz=226						
TWG	**Pinlang**	**1.76**	**231**	P	**Pn**	**04 05 52.8**	**-0.3**
	baz=244						
TWG				*e*S	**Sn**	**04 06 13.0**	**-1.3**
	baz=244						
TWG	**Pinlang**	**1.76**	**231**	*e*Pn	**Pn**	**04 05 51.9**	**-1.2**
TWG				*e*Sn	**Sn**	**04 06 12.9**	**-1.3**
STYT	**Tauyuan**	**1.82**	**245**	*e*P	**Pn**	**04 05 55.0**	**+1.0**
	baz=234						
STYT				*e*S	**Sn**	**04 06 16.4**	**+0.6**
	baz=234						
WGK	**Gukeng**	**1.83**	**262**	*e*P	**Pn**	**04 05 56.1**	**+2.0**
	baz=262						
WGK				*e*S	**Sn**	**04 06 19.2**	**+3.0**
	baz=262						
TPUB	**Ta-pu**	**1.87**	**250**	*e*Pn	**Pn**	**04 05 55.9**	**+1.3**
TPUB				*e*Sn	**Sn**	**04 06 18.8**	**+1.7**
CHN4	**Tsaushan**	**1.89**	**252**	*e*P	**Pn**	**04 05 56.6**	**+1.7**
	baz=252						
CHN4				*e*S	**Sn**	**04 06 19.8**	**+2.4**
	baz=252						
WTP	**Ta-pu**	**1.90**	**249**	*e*P	**Pn**	**04 05 56.9**	**+1.8**
	baz=238						
WTP				*e*S	**Sn**	**04 06 20.6**	**+2.6**
	baz=238						
CHN2	**Minshiung**	**1.94**	**258**	*e*P	**Pn**	**04 05 58.1**	**+2.5**
	baz=258						
CHN2				*e*S	**Sn**	**04 06 22.6**	**+3.9**
	baz=258						
ECL	**Taimali**	**1.99**	**228**	*e*P	**Pn**	**04 05 55.3**	**-0.8**
	baz=227						
ECL				*e*S	**Sn**	**04 06 18.3**	**-1.6**
	baz=227						
CHY	**Chiayi**	**2.00**	**258**	*e*P	**Pn**	**04 05 58.5**	**+2.2**
	baz=257						
CHY				*e*S	**Sn**	**04 06 23.1**	**+3.1**
	baz=257						
SGST	**Jiashian**	**2.00**	**245**	*e*P	**Pn**	**04 05 58.7**	**+2.3**
	baz=244						
SGST				*e*S	**Sn**	**04 06 24.4**	**+4.2**
	baz=244						
CHN1	**Nanshi**	**2.00**	**248**	*e*P	**Pn**	**04 05 58.8**	**+2.4**
	baz=248						
CHN1				*e*S	**Sn**	**04 06 23.4**	**+3.1**
	baz=248						
TWK	**Hsinying**	**2.00**	**251**	*e*P	**Pn**	**04 05 58.6**	**+2.1**
	baz=250						
TWK				*e*S	**Sn**	**04 06 23.4**	**+3.0**
	baz=250						
WTCT	**Ta-ch'eng**	**2.07**	**268**	*e*P	**Pn**	**04 05 59.3**	**+1.9**
	baz=268						
WTCT				*e*S	**Sn**	**04 06 25.2**	**+3.2**
	baz=268						
JTJ	**Tarama**	**2.09**	**70**	P	**Pn**	**04 05 59.2**	**+1.6**
JTJ				S	**Sn**	**04 06 25.3**	**+3.0**
LAY	**Lan-yu**	**2.11**	**206**	P	**Pn**	**04 05 56.6**	**-1.3**
	baz=205						
WSF	**Szhu**	**2.15**	**262**	*e*P	**Pn**	**04 06 00.3**	**+1.8**
	baz=262						
WSF				*e*S	**Sn**	**04 06 27.5**	**+3.6**
	baz=262						
CHN3	**Shinhua**	**2.18**	**247**	*e*P	**Pn**	**04 06 01.8**	**+3.0**
	baz=247						
CHN3				*e*S	**Sn**	**04 06 29.5**	**+4.9**
	baz=247						
TAW	**Tawu**	**2.19**	**224**	*e*P	**Pn**	**04 05 59.3**	**+0.3**
	baz=234						
TAW				*e*S	**Sn**	**04 06 25.2**	**+0.3**
	baz=234						
EAST	**Anshuo**	**2.20**	**225**	P	**Pn**	**04 05 58.9**	**-0.4**
	baz=224						
CHN8	**Yiju**	**2.22**	**255**	*e*S	**Sn**	**04 06 28.3**	**+2.7**
	baz=254						
TWM1	**Shoushan**	**2.25**	**241**	*e*P	**Pn**	**04 06 03.6**	**+3.8**
	baz=240						
TWM1				*e*S	**Sn**	**04 06 31.1**	**+4.8**
	baz=240						
SCLT	**Jiali**	**2.29**	**251**	*e*P	**Pn**	**04 06 02.2**	**+1.9**
	baz=250						
SCLT				*e*S	**Sn**	**04 06 30.8**	**+3.5**
	baz=250						
TAI1	**Yung-k'ang**	**2.31**	**248**	*e*P	**Pn**	**04 06 03.5**	**+2.8**
	baz=247						
TAI1				*e*S	**Sn**	**04 06 31.1**	**+3.3**
	baz=247						
TSEB	**Hengchuen, Pin**	**2.54**	**217**	*e*P	**Pn**	**04 06 04.9**	**+1.1**
	baz=226						
TSEB				*e*S	**Sn**	**04 06 34.8**	**+1.4**
	baz=226						
HEN	**Hengchun**	**2.55**	**221**	*e*P	**Pn**	**04 06 05.0**	**+1.1**
	baz=220						
HEN				*e*S	**Sn**	**04 06 34.8**	**+1.1**
	baz=220						
JIRB	**Irabujima**	**2.55**	**69**	P	**Pn**	**04 06 05.4**	**+1.4**
JIRB				S	**Sn**	**04 06 36.3**	**+2.5**
TWK1	**Hengchun**	**2.56**	**219**	*e*P	**Pn**	**04 06 04.0**	**-0.1**
	baz=218						
TWK1				*e*S	**Sn**	**04 06 34.9**	**+0.9**
	baz=218						
TWP	**Hsiaoliuchiu**	**2.56**	**232**	*e*P	**Pn**	**04 06 08.4**	**+4.3**
	baz=247						
TWP				*e*S	**Sn**	**04 06 38.9**	**+4.8**
	baz=247						
JIKM	**Ikemajima**	**2.65**	**68**	*e*S	**Sn**	**04 06 39.2**	**+3.0**
JOGS	**Gusukube**	**2.73**	**72**	*e*S	**Sn**	**04 06 41.4**	**+3.1**
WDGT	**Dungji**	**2.73**	**256**	*e*P	**Pn**	**04 06 07.5**	**+1.0**
	baz=256						
WDGT				*e*S	**Sn**	**04 06 38.5**	**+0.2**
	baz=256						
PNG	**Penghu**	**2.77**	**263**	*e*P	**Pn**	**04 06 08.2**	**+1.3**
	baz=262						
PNG				*e*S	**Sn**	**04 06 39.5**	**+0.4**
	baz=262						
QZH	**Quanzhou**	**3.74**	**286**	⇑*i*Pn	**Pn**	**04 06 19.1**	**-1.2**
QZH				Sn	**Sn**	**04 06 58.6**	**-4.4**
QZH				smax	smax		
	comp=N,640nm,0.4s						
QZH				smax	smax		
	comp=E,660nm,0.4s						
KNM	**Kinmen**	**3.79**	**278**	*e*P	**Pn**	**04 06 22.7**	**+1.8**
	baz=277						
JKE	**Kume jima 2**	**4.51**	**57**	P	**Pn**	**04 06 29.6**	**-1.4**
JKE				S	**Sn**	**04 07 23.2**	**+1.0**
JAGN	**Aguni-jima**	**5.00**	**57**	P	**Pn**	**04 06 37.9**	**+0.3**
JAGN				S	**Sn**	**04 07 37.1**	**+2.9**
JNTH	**Nagotoyohara**	**5.58**	**62**	P	**Pn**	**04 06 45.7**	**+0.1**
JIH	**Iheya**	**5.79**	**57**	P	**Pn**	**04 06 48.5**	**+0.1**
JOW	**Kunigami**	**5.92**	**60**	P	**Pn**	**04 06 49.8**	**-0.5**
JOW				S	**Sn**	**04 07 56.8**	**-0.2**
JOW	**Kunigami**	**5.92**	**60**	*e*Pn	**Pn**	**04 06 49.2**	**-1.1**
JOW				*e*Sn	**Sn**	**04 07 54.6**	**-2.4**
SZP	**Santa**	**6.66**	**197**	*e*Pn	**Pn**	**04 07 04.1**	**+3.7**
JAMN	**Amaminishikomi**	**7.34**	**53**	P	**Pn**	**04 07 08.3**	**-1.4**
JAM	**Amami Oshima**	**7.75**	**53**	P	**Pn**	**04 07 13.8**	**-1.5**
GZH	**Guangzhou**	**8.49**	**266**	*e*P	**Pn**	**04 07 21.4**	**-4.1**
GZH				S	Sn	04 08 47.9	-12
GZH				pmax	pmax		
	comp=Z,11nm,0.6s						
KS15	**Wonju Array Si**	**14.21**	**18**	*e*Pn	**P**	**04 08 49.7**	**-0.6**
KSAR	**Wonju Array Be**	**14.21**	**18**	P	**Pn**	**04 08 46.7**	**+3.0**
KSAR	**Wonju Array Be**	**14.21**	**18**	P	**Pn**	**04 08 46.7**	**+3.0**
KSRS	**Korea Array**	**14.23**	**18**	P	**Pn**	**04 08 46.7**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=198,slow=13,SNR=12						
KS01	**Wonju Array Si**	**14.25**	**18**	*e*Pn	**P**	**04 08 48.8**	**-1.9**
XAN	**Xi'an**	**15.58**	**313**	P	**P**	**04 09 07.8**	**+2.2**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
DAV	**Davao City (W)**	**17.03**	**170**	*e*Pn	**Pn**	**04 09 19.2**	**-1.2**
	comp=Z,299nm,0.4s						
CD2	**Chengdu**	**18.05**	**297**	*e*P	**P**	**04 09 33.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**21.64**	**19**	P	**P**	**04 10 10.5**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=196,slow=12,SNR=6.9						
CM31	**Chiang Mai Arr**	**22.66**	**261**	*e*P	**P**	**04 10 25.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**22.66**	**261**	P	**P**	**04 10 25.5**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=65,slow=8.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**22.66**	**261**	*e*P	**P**	**04 10 28.0**	**+5.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**24.64**	**314**	*e*P	**P**	**04 10 43.3**	**+1.3**
GTA				pP	pP	04 10 48.0	-5.0
GTA				sP	sP	04 10 51.3	-6.6
GTA				pmax	pmax		
	comp=Z,13nm,0.9s						
ULN	**Ulaanbaatar**	**26.86**	**337**	⇑*i*P	**P**	**04 11 01.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONA0	**Songino Array**	**27.08**	**336**	*e*P	**P**	**04 11 02.7**	**-1.3**
	comp=Z,9.7nm,0.6s						
SONM	**Songino Array**	**27.08**	**336**	P	**P**	**04 11 02.7**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=152,slow=9.6,SNR=4.5						
SONA1	**Songino Array**	**27.09**	**336**	*e*P	**P**	**04 11 03.8**	**-0.3**
YAK	**Yakutsk**	**38.38**	**5**	*i* P	**P**	**04 12 41.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,25nm,0.7s						
MK01	**Makanchi Array**	**39.36**	**316**	*e*P	**P**	**04 12 51.1**	**+0.5**
MK32	**Makanchi Array**	**39.38**	**316**	*e*P	**P**	**04 12 51.4**	**+0.6**
MK32				*e*PcP	**PcP**	**04 14 59.4**	**+0.9**
MKAR	**Makanchi Array**	**39.38**	**316**	P	**P**	**04 12 51.4**	**+0.6**
	comp=Z,5.6nm,0.6s,baz=99,slow=9.9,SNR=65						
MKAR				PcP	**PcP**	**04 14 59.4**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=126,slow=2.9,SNR=3.7						
MKAR	**Makanchi Array**	**39.38**	**316**	*e*P	**P**	**04 12 51.6**	**+0.9**
	comp=Z,34nm,0.6s						
MKAR				PcP	**PcP**	**04 14 59.4**	**+0.9**
ZAA0	**Zalesovo Array**	**41.12**	**327**	*e*P	**P**	**04 13 05.0**	**0.0**
ZALV	**Zalesovo Beam**	**41.12**	**327**	P	**P**	**04 13 04.3**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=119,slow=8.1,SNR=10.0						
ZALV				PcP	**PcP**	**04 15 04.2**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=104,slow=2.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.12**	**327**	*e*P	**P**	**04 13 04.6**	**-0.4**
ZALV						04 15 04.2	
ZAA1	**Zalesovo Array**	**41.13**	**327**	*e*P	**P**	**04 13 04.3**	**-0.8**
ZAA1				*e*PcP	**PcP**	**04 15 04.2**	**+0.3**
KSH	**Kashi**	**42.07**	**303**	P	**P**	**04 13 17.3**	**+4.1**
KSH				pP	pP	04 13 25.1	+0.5
KSH				sP	sP	04 13 28.1	-1.3
KURK	**Kurchatov**	**43.08**	**320**	*d* *i* P	**P**	**04 13 21.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,43nm,2.5s						
KURK	**Kurchatov**	**43.08**	**320**	*e*P	**P**	**04 13 21.0**	**0.0**
	comp=Z,4.9nm,0.4s						
KURK				*e*PcP	**PcP**	**04 15 10.6**	**+0.2**
KURBB	**Kurchatov Arra**	**43.09**	**320**	P	**P**	**04 13 21.5**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=106,slow=7.8,SNR=18						
KURBB				PcP	**PcP**	**04 15 10.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=111,slow=2.7,SNR=4.4						
AAK	**Ala-Archa**	**43.64**	**307**	P

ARU SS SS 04 26 26.1 -5.4
ARU pmax pmax
comp=Z,2.0nm,0.3s
STKA Stephens Creek 58.42 161 P **P** 04 15 18.2 +1.5
comp=Z,1.5nm,0.6s,baz=346,slow=11,SNR=4.6
STKA Stephens Creek 58.42 161 *e*P **P** 04 15 18.2 +1.5
STKA pmax pmax
comp=Z,7.0nm,2.0s
STKA Stephens Creek 58.42 161 *e*P **P** 04 15 18.2 +1.5
comp=Z,6.8nm,2.0s
KBZ Khabaz 66.60 309 P **P** 04 16 11.8 +0.5
comp=Z,2.4nm,0.9s,baz=291,slow=17,SNR=3.1
KDAK Kodiak Island 67.38 35 P **P** 04 16 16.5 +0.5
comp=Z,6.8nm,0.9s,baz=277,slow=4.6,SNR=4.4
KDAK Kodiak Island 67.38 35 *e*P **P** 04 16 16.5 +0.5
comp=Z,115nm,1.9s
ILAR Eielson Array 68.85 27 P **P** 04 16 24.6 -0.6
comp=Z,0.3nm,0.4s,baz=268,slow=4.8,SNR=10
ILB Eielson Array 68.85 27 *e*P **P** 04 16 24.6 -0.6
ARA0 ARCESS Array S 70.22 338 *e*P **P** 04 16 33.5 0.0
ARCES ARCESS Array B 70.22 338 P **P** 04 16 33.5 0.0
comp=Z,1.0nm,0.7s,baz=66,slow=6.2,SNR=6.0
MSEY Mahe Island 71.17 256 *i* P P 04 16 46.9 +6.6
FIA0 FINESS Array S 72.28 330 *e*P **P** 04 16 47.0 +0.9
FIA0 FINESS Array S 72.28 330 *e*P **P** 04 16 47.0 +0.9
FINES FINESS Array B 72.28 330 P **P** 04 16 47.0 +0.9
comp=Z,2.0nm,0.4s,baz=54,slow=5.8,SNR=28
FINES FINESS Array B 72.28 330 P **P** 04 16 47.0 +0.9
INK Inuvik 72.98 22 P **P** 04 16 50.1 0.0
comp=Z,2.0nm,0.9s,baz=298,slow=7.8,SNR=5.3
AKASG Malin Array Be 73.87 319 P **P** 04 16 55.7 0.0
comp=Z,0.6nm,0.4s,baz=68,slow=6.3,SNR=4.1
AKASG Malin Array Be 73.87 319 *c*e**P** **P** 04 16 56.7 +1.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 73.87 319 *e*P **P** 04 16 55.7 0.0
AKBB pmax pmax
comp=Z,20nm,1.8s
AKBB Malin Array Si 73.87 319 *e*P **P** 04 16 55.7 0.0
comp=Z,20nm,1.8s
BR101 Keskin Array S 74.31 307 *e*P **P** 04 17 00.0 +1.3
BR101 *e*pP **sP** 04 17 14.3 -1.2
BR131 Keskin Array S 74.31 307 *e*P **P** 04 17 00.1 +1.4
BRTR Keskin Array B 74.31 307 P **P** 04 17 00.0 +1.3
comp=Z,2.2nm,0.5s,baz=104,slow=2.8,SNR=17
BRTR pP **sP** 04 17 14.3 -1.2
comp=Z,1.8nm,0.8s,baz=98,slow=3.5,SNR=3.3
BR231 Keskin MP Arra 74.91 307 *e*P **P** 04 17 00.7 -1.4
WHY Whitehorse 75.34 30 *e*P **P** 04 17 05.1 +0.9
comp=Z,81nm,1.1s
NB2 NORSAR Subarra 79.01 332 P **P** 04 17 24.5 -0.2
comp=Z,1.7nm,0.8s,baz=57,slow=5.3
NB200 NORSAR Array S 79.01 332 *e*P **P** 04 17 25.1 +0.4
NOA NORSAR Array B 79.01 332 P **P** 04 17 25.1 +0.4
comp=Z,2.0nm,0.7s,baz=58,slow=5.5,SNR=5.9
YKA Yellowknife Ar 82.70 23 P **P** 04 17 44.7 +0.4
comp=Z,1.1nm,0.5s,baz=310,slow=4.7,SNR=5.0
YKB5 Yellowknife Ar 82.70 23 *e*P **P** 04 17 44.7 +0.4
GEC2 GERESS Array S 83.81 321 *e*P **P** 04 17 51.6 +1.2
comp=Z,2.5nm,0.9s
GERES GERESS Array B 83.81 321 P **P** 04 17 51.6 +1.2
comp=Z,0.8nm,0.6s,baz=65,slow=6.3,SNR=8.2

BJI ***13*** *04:13:56.9, 43°.50N×127°.10W, h22km, mb5.1/55, mB5.4/36, Ms5.3/34, Ms7 5.0/33*

IDC ***13*** *04:13:56.4±0.5, 43°.42N×127°.24W, h0km, mb4.8/34, mb1 4.9/36, mb1mx4.8/44, mbtmp4.8/36, ML4.7/2, MS4.8/29, Ms1 4.8/29, ms1mx4.7/37, Error ellipse: s-maj=14.2km s-min=9.9km az=33.0*

ISCJB ***13*** *04:13:57.9±0.6, 43°.46N±0°.01×127°.09W±0°.02, h13km±3km, mb5.2/226, MS5.0/165, Error ellipse: s-maj=2.5km s-min=1.7km az=142.4*

MOS ***13*** *04:13:58.0±1.0, 43°.47N×127°.12W, h16km, mb5.4/52, MS4.9/22, Error ellipse: s-maj=4.9km s-min=4.0km az=121.0*

NEIC ***13*** *04:14:00.5±0.7, 43°.46N×127°.14W, h21km±5km, mb5.4/200, MS5.0/121, Error ellipse: s-maj=3.3km s-min=1.8km az=58.0*

NEIC Felt [II] at Florence and Portland. Felt in parts of southwestern Oregon and the Willamette River Valley. Also felt at Crescent City, California and at Vancouver, Washington.

GCMT ***13*** *04:14:00.5±0.2, 43°.29N×127°.44W, h14km±1km, MW5.6/119, Moment Tensor Solution. s42,c56; s119,c232; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.24±.06; $M_{\theta\theta}$=1.59±.05; $M_{\phi\phi}$=1.83±.06; $M_{r\theta}$=0.81±.16; $M_{r\phi}$=1.83±.05; $M_{\theta\phi}$=0.37±.14; Best double couple: M_0=2.66500×10^{17} NP1:ϕ_s=20.00000°, δ=76.00000°, λ=-15.00000°. NP2:ϕ_s=113.00000°, δ=76.00000°, λ=-166.00000°. Principal axes: T 2.6250, Plg0.0000°, Azm67.0000°; N 0.0850, Plg70.0000°, Azm158.0000°; P -2.7060, Plg20.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 13 04:13:58.7±0.5, 43°.42N±0°.04×127°.26W±0°.04, h13km±2km, h14km:pP-P, n1311, σ1§29/1245, mb5.3/235, MS5.0/165, 25C-17D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.21**	**103**	*e*Pn	**Pn**	04 14 31.4	-3.7
KEBM				*e*Sn	**Sn**	04 14 57.7	-4.6
KBO	**Bosley Butte**	**2.54**	**117**	*e*Pn	**Pn**	04 14 36.1	-3.5
KBO				*e*Sn	**Sn**	04 15 05.4	-5.0
I03D	**Drain, OR**	**2.85**	**83**	P	**Pn**	04 14 41.2	-2.7
baz=266,SNR=1000							
DBO	**Dodson Butte**	**2.95**	**95**	*e*Pn	**Pn**	04 14 42.4	-2.8
L02D	**Cave Junction,**	**2.97**	**114**	P	**Pn**	04 14 42.5	-3.0
baz=298,SNR=1000							
L02D				S	**Sn**	04 15 16.6	-4.4
baz=298							
HSO	**Harness Mounta**	**3.03**	**87**	*e*P	**Pn**	04 14 43.5	-3.0
HSO	**Harness Mounta**	**3.03**	**87**	*e*Pn	**Pn**	04 14 43.5	-3.0
COR	**Corvallis**	**3.08**	**66**	*e*P	**Pn**	04 14 45.2	-1.8
COR	**Corvallis**	**3.08**	**66**	*e*Pn	**Pn**	04 14 45.2	-1.8
COR				*e*Sn	**Sn**	04 15 21.5	-2.1
KRMB	**Red Mountain**	**3.12**	**126**	*e*Pn	**Pn**	04 14 44.2	-3.4
KTRM	**Thompson Ridge**	**3.24**	**117**	*e*Pn	**Pn**	04 14 46.1	-3.2
HUMO	**Hull Mountain**	**3.26**	**103**	*e*Pn	**Pn**	04 14 46.5	-3.0
HUMO				*e*Sn	**Sn**	04 15 25.9	-2.1
G03D	**McMinnville, O**	**3.38**	**57**	P	**Pn**	04 14 49.4	-1.7
baz=239,SNR=1000							
G03D				S	**Sn**	04 15 29.1	-1.9
baz=239							
TCBU	**Trout Butte**	**3.42**	**75**	*e*Pn	**Pb**	04 15 01.3	+2.1
KMOR	**Kings Mountain**	**3.48**	**49**	*e*Pn	**Pn**	04 14 50.6	-2.1
JCC	**Jacoby Creek,**	**3.54**	**136**	*e*Pn	**Pn**	04 14 51.5	-1.8
F03A	**Seaside**	**3.64**	**45**	*e*Pn	**Pn**	04 14 53.5	-1.2
F03A				*e*Sn	**Sn**	04 15 33.9	-3.5
KHMM	**Horse Mountain**	**3.65**	**133**	*e*Pn	**Pn**	04 14 52.7	-2.3
IRO	**Indian Ridge**	**3.67**	**79**	*e*Pn	**Pn**	04 14 53.6	-1.7
YBH	**Yreka Blue Hor**	**3.76**	**115**	*e*P	**Pn**	04 14 54.8	-1.6
YBH	**Yreka Blue Hor**	**3.76**	**115**	*e*Pn	**Pn**	04 14 54.8	-1.6
YBH				*e*Sn	**Sn**	04 15 36.5	-4.1
J04D	**Umpqua Nationa**	**3.76**	**91**	P	**Pn**	04 14 55.4	-1.2
baz=275,SNR=587							
FRIS	**Frissel Point**	**3.81**	**76**	*e*Pn	**Pn**	04 14 56.3	-1.0
M02C	**Callahan**	**3.84**	**120**	P	**Pn**	04 14 55.1	-2.4
baz=305,SNR=88							
M02C				S	**Sn**	04 15 39.0	-3.5
baz=305							
G04A	**Mulino**	**3.86**	**61**	*e*Pn	**Pn**	04 14 57.0	-0.8
B040	**Montague**	**3.91**	**112**	*e*Pn	**Pn**	04 14 56.5	-1.9
PRLK	**Prince Lake**	**3.91**	**77**	*e*Pn	**Pn**	04 14 57.2	-1.3
WIFE	**Three Sisters-**	**3.99**	**79**	*e*Pn	**Pn**	04 14 58.4	-1.3
B023	**Clatskanie**	**4.01**	**46**	*e*Pn	**Pn**	04 14 58.3	-1.4
F04D	**Rainier, OR**	**4.03**	**47**	P	**Pn**	04 14 58.7	-1.3
baz=230,SNR=60							
F04D				S	**Sn**	04 15 46.5	-0.5
baz=230							
E03A	**Lebam**	**4.08**	**39**	*e*Pn	**Pn**	04 14 59.3	-1.4
E03A				*e*Sn	**Sn**	04 15 44.8	-3.4
MOON	**Moon Mountain**	**4.10**	**79**	*e*Pn	**Pn**	04 15 00.1	-0.9
K04D	**Chiloquin, OR**	**4.11**	**99**	P	**Pn**	04 14 59.5	-1.8
baz=284,SNR=94							
KMRM	**Mail Ridge**	**4.15**	**139**	*e*Pn	**Pn**	04 15 00.7	-1.1
N02D	**Trinity Center**	**4.17**	**124**	P	**Pn**	04 14 59.5	-2.6
baz=309,SNR=38							
LMPM	**Military Pass**	**4.23**	**115**	*e*Pn	**Pn**	04 15 03.2	+0.2
F04A	**Amboy**	**4.26**	**52**	*e*Pn	**Pn**	04 15 02.7	-0.6
LGBM	**Gray Butte**	**4.29**	**117**	*e*Pn	**Pn**	04 15 02.5	-1.4
M04C	**Macdoel**	**4.32**	**110**	P	**Pn**	04 15 02.3	-1.9
baz=295,SNR=110							
TDH	**Tom, Dick, Har**	**4.34**	**63**	*e*Pn	**Pn**	04 15 03.9	-0.6
LVP	**Lakeview Peak**	**4.35**	**51**	*e*Pn	**Pn**	04 15 04.0	-0.6
I05D	**Terrebonne, OR**	**4.37**	**76**	P	**Pn**	04 15 03.3	-1.5
baz=260,SNR=792							
J05D	**Fort Rock, OR**	**4.39**	**90**	P	**Pn**	04 15 03.2	-2.0
baz=274,SNR=824							
MTMW	**Mount Mitchell**	**4.44**	**52**	*e*Pn	**Pn**	04 15 05.2	-0.6
B203	**Quarry, Mount**	**4.45**	**50**	*e*Pn	**Pn**	04 15 05.4	-0.5
FL2	**Flat Top 2**	**4.46**	**50**	*e*Pn	**Pn**	04 15 05.6	-0.5
LBFM	**Black Fox Moun**	**4.48**	**116**	*e*P	**Pn**	04 15 05.9	-0.6
LBFM	**Black Fox Moun**	**4.48**	**116**	*e*Pn	**Pn**	04 15 05.9	-0.6
WDC	**Whiskeytown Da**	**4.52**	**127**	*e*P	**Pn**	04 15 05.0	-1.8
WDC	**Whiskeytown Da**	**4.52**	**127**	*e*Pn	**Pn**	04 15 05.0	-1.8
SHW	**Mount Saint He**	**4.52**	**50**	*e*P	**Pn**	04 15 06.8	-0.1
SHW	**Mount Saint He**	**4.52**	**50**	*e*Pn	**Pn**	04 15 06.8	-0.1
ERK	**Elk Rock**	**4.53**	**49**	*e*Pn	**Pn**	04 15 06.3	-0.8
SEPW	**September Lobe**	**4.55**	**51**	*e*Pn	**Pn**	04 15 07.4	0.0
B201	**Coldwater, Mou**	**4.57**	**49**	*e*Pn	**Pn**	04 15 06.8	-0.7
KIPM	**Iron Peak**	**4.59**	**141**	*e*Pn	**Pn**	04 15 05.7	-2.2
TDL	**Tradedollar La**	**4.62**	**49**	*e*Pn	**Pn**	04 15 07.8	-0.6
NLWA	**Neilton Lookou**	**4.63**	**30**	*e*Pn	**Pn**	04 15 07.8	-0.6
NLWA				*e*Sn	**Sn**	04 15 57.7	-4.3
G05D	**Wamic, OR**	**4.63**	**65**	P	**Pn**	04 15 07.6	-0.8
baz=249,SNR=851							
KCPM	**Cahto Peak**	**4.64**	**142**	*e*Pn	**Pn**	04 15 06.6	-2.0
GMO	**Grizzlie Mount**	**4.66**	**75**	*e*Pn	**Pn**	04 15 07.4	-1.6
GULW	**Guler Mountain**	**4.75**	**56**	*e*Pn	**Pn**	04 15 09.5	-0.5
OFR	**Olym-F Res Ctr**	**4.94**	**23**	*e*Pn	**Pn**	04 15 12.9	+0.4
B941	**Kapowsin**	**5.04**	**43**	*e*Pn	**Pn**	04 15 13.1	-0.8
VGB	**Gordon Butte**	**5.09**	**63**	*e*P	**Pn**	04 15 13.8	-0.8
VGB	**Gordon Butte**	**5.09**	**63**	*e*Pn	**Pn**	04 15 13.8	-0.8
LON	**Longmire**	**5.09**	**47**	*e*P	**Pn**	04 15 14.3	-0.4
LON	**Longmire**	**5.09**	**47**	*e*Pn	**Pn**	04 15 14.3	-0.4
LON				*e*Sn	**Sn**	04 16 10.5	-2.9
LBCM	**Butte Creek Ri**	**5.09**	**118**	*e*Pn	**Pn**	04 15 13.7	-1.2
O03D	**Paynes Creek**	**5.13**	**126**	P	**Pn**	04 15 12.9	-2.4
baz=310,SNR=51							
GNW	**Green Mountain**	**5.18**	**35**	*e*Pn	**Pn**	04 15 14.9	-0.9
OBSR	**Observation Ro**	**5.18**	**46**	*e*Pn	**Pn**	04 15 15.9	-0.3
C04A	**Brinnon**	**5.24**	**33**	*e*Pn	**Pn**	04 15 16.0	-0.7
PANH	**Panhandle Gap,**	**5.25**	**47**	*e*Pn	**Pn**	04 15 16.9	-0.2
D05A	**Enumclaw**	**5.29**	**43**	*e*Pn	**Pn**	04 15 17.5	+0.2
D05A				*e*Sn	**Sn**	04 16 17.1	-1.0
B04A	**Port Angeles**	**5.33**	**28**	*e*Pn	**Pn**	04 15 17.6	-0.3
MOD	**Modoc Plateau**	**5.35**	**104**	*e*Pn	**Pn**	04 15 15.8	-2.5
SP2	**Seward Park 2**	**5.43**	**39**	*e*Pn	**Pn**	04 15 19.2	0.0
HOPS	**Hopland Field**	**5.43**	**143**	*e*Pn	**Pn**	04 15 17.6	-1.8
BLN	**Blyn Mountain**	**5.48**	**32**	*e*Pn	**Pn**	04 15 19.9	-0.1
BLN				*e*Pg	**Pg**	04 15 42.8	-0.8
CDMR	**Cedar Moraine**	**5.56**	**42**	*e*Pn	**Pn**	04 15 21.1	-0.1
GRTM	**Round Top Moun**	**5.66**	**141**	*e*Pn	**Pn**	04 15 23.2	+0.7
YA2	**Yakima**	**5.69**	**55**	*e*Pn	**Pn**	04 15 22.7	-0.2
GDXM	**Geysers**	**5.71**	**142**	*e*Pn	**Pn**	04 15 22.3	-0.9
C05A	**Tolt Reservoir**	**5.79**	**41**	*e*Pn	**Pn**	04 15 23.8	-0.4
ORV	**Oroville**	**5.80**	**130**	*e*P	**Pn**	04 15 23.4	-1.0
ORV	**Oroville**	**5.80**	**130**	*e*Pn	**Pn**	04 15 23.4	-1.0
ORV				*e*Sn	**Sn**	04 16 29.6	-1.0
HTW	**Haystack Looko**	**5.83**	**39**	*e*Pn	**Pn**	04 15 24.1	-0.8
PAT2	**Paterson 2**	**5.89**	**63**	*e*Pn	**Pn**	04 15 24.9	-0.6
LTY	**Liberty**	**6.02**	**48**	*e*Pn	**Pn**	04 15 27.2	-0.2
B05A	**Bryant**	**6.04**	**35**	P	**Pn**	04 15 27.3	-0.3
baz=218,SNR=279							
JCW	**Jim Creek**	**6.05**	**36**	*e*Pn	**Pn**	04 15 27.3	-0.5
E07A	**Sunnyside**	**6.11**	**57**	*e*Pn	**Pn**	04 15 28.3	-0.4
A04D	**Lummi Island**	**6.17**	**29**	P	**Pn**	04 15 29.2	-0.3
baz=212,SNR=13							
MDW	**Midway**	**6.20**	**56**	*e*P	**Pn**	04 15 29.5	-0.3
MDW	**Midway**	**6.20**	**56**	*e*Pn	**Pn**	04 15 29.5	-0.3
MCCM	**Marconi Confer**	**6.23**	**146**	*e*Pn	**Pn**	04 15 29.9	-0.3
VT2	**Vantage 2**	**6.23**	**53**	*e*Pn	**Pn**	04 15 30.6	+0.2
HAWA	**Hanford**	**6.24**	**59**	*e*Pn	**Pn**	04 15 29.8	-0.6
BEKR	**Beckworth**	**6.27**	**122**	*e*Pn	**Pn**	04 15 30.5	-0.5
C06D	**Leavenworth**	**6.33**	**42**	P	**Pn**	04 15 31.4	-0.3
baz=227,SNR=160							
GPW	**Glacier Peak**	**6.35**	**40**	*e*Pn	**Pn**	04 15 31.9	-0.3
WVOR	**Wild Horse Val**	**6.40**	**96**	*e*P	**Pn**	04 15 30.3	-2.5
WVOR	**Wild Horse Val**	**6.40**	**96**	*e*Pn	**Pn**	04 15 30.3	-2.5
RPW	**Rockport**	**6.42**	**37**	*e*Pn	**Pn**	04 15 32.7	-0.3
B06A	**Marblemount**	**6.49**	**36**	*e*Pn	**Pn**	04 15 33.4	-0.5
B06A				*e*Sn	**Sn**	04 16 45.2	-2.5
AFDM	**Forest Hills D**	**6.51**	**131**	*e*Pn	**Pn**	04 15 34.7	+0.4
FHE	**Frenchman Hill**	**6.52**	**55**	*e*Pn	**Pn**	04 15 34.5	+0.2
DONR	**Donner Summit**	**6.61**	**126**	*e*Pn	**Pn**	04 15 37.2	+1.4
AASM	**Arroyo Seco**	**6.82**	**135**	*e*Pn	**Pn**	04 15 39.7	+1.3
LNOR	**Lincton Mounta**	**6.85**	**66**	*e*P	**Pn**	04 15 37.2	-1.7
LNOR	**Lincton Mounta**	**6.85**	**66**	*e*Pn	**Pn**	04 15 37.2	-1.7
D08A	**Wollman Farm,**	**6.92**	**55**	*e*Pn	**Pn**	04 15 39.1	-0.6
PAHR	**Pah Rah Range**	**6.97**	**119**	*e*Pn	**Pn**	04 15 41.3	+0.6
CVLM	**Vallecito**	**7.11**	**143**	*e*Pn	**Pn**	04 15 43.2	+0.8
PNTR	**Pine Nut**	**7.21**	**124**	*e*Pn	**Pn**	04 15 44.5	+0.6
BMO	**Blue Mountains**	**7.30**	**75**	*e*P	**Pn**	04 15 43.6	-1.5
BMO	**Blue Mountains**	**7.30**	**75**	*e*Pn	**Pn**	04 15 43.6	-1.5
B08A	**Colville Reser**	**7.41**	**45**	*e*Pn	**Pn**	04 15 45.0	-1.5
MHC	**Mount Hamilton**	**7.43**	**143**	*e*P	**Pn**	04 15 46.7	-0.2
MHC	**Mount Hamilton**	**7.43**	**143**	*e*Pn	**Pn**	04 15 46.7	-0.2
ARN	**Arnold Ranch**	**7.47**	**142**	*e*P	**Pn**	04 15 47.7	+0.3
ARN	**Arnold Ranch**	**7.47**	**142**	*e*Pn	**Pn**	04 15 47.7	+0.3
CMB	**Columbia Colle**	**7.49**	**134**	*e*P	**Pn**	04 15 48.9	+1.2
CMB	**Columbia Colle**	**7.49**	**134**	*e*Pn	**Pn**	04 15 48.9	+1.2
YERR	**Yerington**	**7.49**	**124**	*e*Pn	**Pn**	04 15 47.9	0.0
WAKR	**Walker**	**7.69**	**127**	*e*Pn	**Pn**	04 15 51.8	+1.3
DPW	**Davenport**	**7.75**	**52**	*e*P	**Pn**	04 15 50.7	-0.5
DPW	**Davenport**	**7.75**	**52**	*e*Pn	**Pn**	04 15 50.7	-0.5
PNT	**Penticton**	**7.91**	**39**	*e*P	**Pn**	04 15 52.9	-0.5
PNT	**Penticton**	**7.91**	**39**	*e*Pn	**Pn**	04 15 52.9	-0.5
SAO	**San Andreas Ge**	**8.00**	**144**	*e*P	**Pn**	04 15 51.9	-2.7
SAO	**San Andreas Ge**	**8.00**	**144**	*e*Pn	**Pn**	04 15 51.9	-2.7
BMN	**Battle Mountai**	**8.05**	**108**	*e*P	**Pn**	04 15 55.1	-0.4
BMN	**Battle Mountai**	**8.05**	**108**	*e*Pn	**Pn**	04 15 55.1	-0.4
LLLB	**Lillooet**	**8.07**	**25**	*e*Pn	**Pn**	04 15 56.1	+0.5
TVH2	**Borealis Mine**	**8.17**	**125**	*e*Pn	**Pn**	04 15 58.2	+1.1
MFID	**Camas Ranch**	**8.32**	**86**	*e*Pn	**Pn**	04 15 57.0	-2.1
NEW	**Newport**	**8.57**	**52**	Pn	**Pn**	04 16 01.5	-1.0
8.6nm,0.3s,baz=226,slow=12,SNR=239							
NEW				LR	LR	04 19 21.3	
comp=Z,16μm,20.7s,baz=240,slow=38							
NEW	**Newport**	**8.57**	**52**	P	**Pn**	04 16 01.4	-1.0
baz=239							
NEW	**Newport**	**8.57**	**52**	*e*Pn	**Pn**	04 16 01.4	-1.0
MLAC	**Mammoth, Mammo**	**8.63**	**129**	P	**Pn**	04 16 06.8	+3.3
baz=315							
PMPB	**Monarch Peak**	**8.74**	**143**	*e*Pn	**Pn**	04 16 05.2	+0.4
BBB	**Bella Bella**	**8.79**	**357**	Pn	**Pn**	04 16 07.5	+2.2
7.2nm,0.3s,baz=199,slow=11,SNR=32							
BBB				Sn	**Sn**	04 17 42.5	-1.6
2.7nm,0.3s,baz=108,slow=21,SNR=7.0							
BBB				LR	LR	04 18 52.0	
comp=Z,9μm,19.6s,baz=188,slow=34							
HLID	**Hailey**	**9.34**	**85**	P	**Pn**	04 16 11.3	-1.8
baz=274							
HLID	**Hailey**	**9.34**	**85**	*e*Pn	**Pn**	04 16 11.2	-1.9
TIN	**Tinemaha, Big**	**9.38**	**130**	P	**Pn**	04 16 16.5	+2.8
baz=316							
PAGB	**Antelope Grade**	**9.39**	**143**	*e*Pn	**Pn**	04 16 13.4	-0.3
RCTC	**Rector, Farmer**	**9.40**	**136**	P	**Pn**	04 16 14.9	+1.1
baz=322							
BSMT	**Bassoo Peak**	**9.79**	**59**	*e*Pn	**Pn**	04 16 18.3	-0.9
VES	**Vestal, Richgr**	**9.85**	**138**	P	**Pn**	04 16 21.0	+1.1
baz=323							
SMMC	**Simmler**	**9.85**	**143**	P	**Pn**	04 16 20.1	0.0
baz=328							
CWC	**Cottonwood Cre**	**9.91**	**132**	P	**Pn**	04 16 24.4	+3.5
baz=318							
GRAC	**Grapevine Rang**	**9.91**	**127**	P	**Pn**	04 16 24.5	+3.6
baz=314							
MSO	**Missoula**	**10.01**	**65**	P	**Pn**	04 16 21.1	-1.1
baz=255							
MSO	**Missoula**	**10.01**	**65**	*e*Pn	**Pn**	04 16 20.6	-1.5
JTMT	**Jette**	**10.07**	**60**	*e*Pn	**Pn**	04 16 22.5	-0.6
BLMT	**Blacktail Moun**	**10.11**	**59**	*e*Pn	**Pn**	04 16 22.8	-0.9
SWMT	**Swartz Lake**	**10.17**	**62**	*e*Pn	**Pn**	04 16 23.2	-1.2
R11A	**Troy Canyon, C**	**10.18**	**116**	P	**Pn**	04 16 25.4	+0.7
baz=304							
R11A	**Troy Canyon, C**	**10.18**	**116**	*e*Pn	**Pn**	04 16 25.4	+0.7
YBMT	**Yellow Bay**	**10.28**	**60**	*e*Pn	**Pn**	04 16 25.4	-0.6
PKM	**Mcpherson Peak**	**10.29**	**143**	P	**Pn**	04 16 25.8	-0.4
baz=329							
ISA	**Isabella, Lake**	**10.29**	**136**	P	**Pn**	04 16 28.5	+2.4
baz=322							
ISA	**Isabella, Lake**	**10.29**	**136**	*e*P	**Pn**	04 16 28.4	+2.4
ISA	**Isabella, Lake**	**10.29**	**136**	*e*Pn	**Pn**	04 16 28.4	+2.4
WHFM	**Hanning Flat**	**10.33**	**135**	*e*Pn	**Pn**	04 16 30.8	+4.2
H02S1	**DAWSON INLET T**	**10.38**	**342**	Pn	**Pn**	04 16 30.3	+3.1
SNR=32							
H02S1				Sn	**Sn**	04 18 21.1	-2.2
SLMT	**Seeley Lake**	**10.41**	**64**	*e*Pn	**Pn**	04 16 25.8	-2.0
H02N1	**VAN INLET T-PH**	**10.44**	**342**	Pn	**Pn**	04 16 31.5	+3.4
SNR=16							
H02N1				Sn	**Sn**	04 18 20.4	-4.5
MCMT	**McKenzie Canyo**	**10.46**	**77**	*e*Pn	**Pn**	04 16 28.0	-0.5
CHMT	**Chamberlain Mo**	**10.49**	**66**	*e*Pn	**Pn**	04 16 27.2	-1.7
MPMC	**Manual Prospec**	**10.51**	**131**	P	**Pn**	04 16 32.7	+3.5
baz=318							
ARVC	**Arvin**	**10.54**	**139**	P	**Pn**	04 16 30.5	+1.1
baz=325							
FURC	**Furnace Creek,**	**10.57**	**128**	P	**Pn**	04 16 33.7	+3.9
baz=315							
TPNV	**Topopah Spring**	**10.61**	**124**	P	**Pn**	04 16 32.3	+1.7
baz=312							
TPNV	**Topopah Spring**	**10.61**	**124**	*e*P	**Pn**	04 16 32.2	+1.7
TPNV	**Topopah Spring**	**10.61**	**124**	*e*Pn	**Pn**	04 16 32.2	+1.7
DLMT	**Dillon**	**10.67**	**74**	*e*Pn	**Pn**	04 16 30.6	-0.7
HVU	**Hansel Valley**	**10.80**	**94**	*e*P	**Pn**	04 16 33.4	+0.3
HVU	**Hansel Valley**	**10.80**	**94**	*e*Pn	**Pn**	04 16 33.4	+0.3
WALA	**Waterton Lakes**	**10.82**	**54**	*e*Pn	**Pn**	04 16 32.9	-0.4
LRM	**Limekiln Ridge**	**10.82**	**72**	*e*Pn	**Pn**	04 16 32.5	-1.0
LRMC	**Laurel Mtn Rad**	**10.84**	**134**	P	**Pn**	04 16 35.7	+2.0
baz=320							
BGU	**Big Grassy Mou**	**10.85**	**98**	*e*Pn	**Pn**	04 16 34.0	+0.2
OSI	**Osito Audit: C**	**11.01**	**140**	P	**Pn**	04 16 36.7	+0.7
baz=326							
OSI	**Osito Audit: C**	**11.01**	**140**	*e*Pn	**Pn**	04 16 38.1	+2.2
FSU	**Fish Springs**	**11.02**	**105**	*e*Pn	**Pn**	04 16 36.7	+0.5
BGMT	**Barton Gulch**	**11.05**	**75**	*e*Pn	**Pn**	04 16 37.3	+0.7
MTUT	**Morton Thiokol**	**11.05**	**94**	*e*Pn	**Pn**	04 16 37.1	+0.6
SCZ2	**Santa Cruz Isl**	**11.13**	**145**	P	**Pn**	04 16 39.3	+1.7
baz=331							
FOXC	**Fox Airport**	**11.14**	**138**	*e*Pn	**Pn**	04 16 38.2	+0.6
EDW2	**Edwards Air Fo**	**11.15**	**137**	P	**Pn**	04 16 39.3	+1.5
baz=323							
SPUT	**South Promonto**	**11.16**	**96**	*e*Pn	**Pn**	04 16 38.6	+0.6
MLI	**Malad Range**	**11.22**	**92**	*e*Pn	**Pn**	04 16 40.0	+1.1
LCCM	**Lewis and Clar**	**11.22**	**72**	*e*Pn	Pn	04 16 33.8	-5.1
PSUT	**Pine Spring**	**11.24**	**111**	*e*Pn	**Pn**	04 16 40.6	+1.4
DUG	**Dugway, Tooele**	**11.25**	**102**	P	**Pn**	04 16 39.3	0.0

baz=316
CTCC Cactus City 13.13 134 *e*Sn **Sn 04 19 33.0 +2.2**
MMU Miners Mountai 13.16 108 *e*Pn **Pn 04 17 06.8 +1.3**
109C Camp Elliot, M 13.19 139 P **Pn 04 17 08.1 +2.4**
baz=326
IRM Iron Mountain 13.21 130 P **Pn 04 17 08.5 +2.6**
baz=318
IRM Iron Mountain 13.21 130 *e*Pn **Pn 04 17 07.7 +1.7**
W13A Hualapai Mount 13.27 124 *e*Pn **Pn 04 17 09.3 +2.3**
P18A Preston Nutter 13.29 101 *e*Pn **Pn 04 17 07.6 +0.3**
SRU San Rafael Swe 13.30 103 *e*P **Pn 04 17 07.9 +0.6**
SRU San Rafael Swe 13.30 103 *e*Pn **Pn 04 17 07.9 +0.6**
BC3 Big Chuckawall 13.42 133 P **Pn 04 17 10.3 +1.5**
baz=321
U15A North Rim 13.43 116 *e*Pn **Pn 04 17 10.9 +1.7**
MONP2 Monument Peak 13.52 137 P **Pn 04 17 11.3 +1.0**
baz=325
BAR Barrett 13.57 139 *e*Pn **Pn 04 17 12.4 +1.6**
PDMCI Parker Dam,Lak 13.67 127 P **Pn 04 17 14.2 +2.0**
baz=316
SWSC Sam W. Stewart 13.79 136 P **Pn 04 17 14.6 +0.8**
baz=323
Y12C Blythe 13.86 130 P **Pn 04 17 16.4 +1.7**
baz=318
Y12C Blythe 13.86 130 *e*Pn **Pn 04 17 16.9 +2.2**
IKP In-Ko-Pah, Jac 13.87 137 P **Pn 04 17 15.8 +0.8**
baz=324
GLA Glamis 14.22 133 P **Pn 04 17 21.3 +1.5**
baz=321
GLA Glamis 14.22 133 *e*P **Pn 04 17 21.6 +1.9**
GLA Glamis 14.22 133 *e*Pn **Pn 04 17 21.6 +1.9**
PV09 Paradox Valley 14.54 104 *e*Pn **Pn 04 17 24.0 -0.4**
O20A White River Ci 14.56 97 P **Pn 04 17 23.2 -1.4**
baz=290
O20A White River Ci 14.56 97 *e*Pn **Pn 04 17 23.3 -1.2**
WUAZ Wupatki 14.57 117 P **Pn 04 17 24.9 +0.2**
baz=308
WUAZ Wupatki 14.57 117 *e*Pn **Pn 04 17 26.0 +1.3**
Y14A Wickenburg 14.59 126 *e*Pn **Pn 04 17 26.4 +1.5**
PV10 Paradox Valley 14.66 104 *e*Pn **Pn 04 17 26.1 +0.1**
PV05 Paradox Valley 14.75 105 *e*Pn **Pn 04 17 27.2 0.0**
RWWY Rawlins 14.88 90 *e*Pn **Pn 04 17 26.2 -2.7**
113A Mohawk Valley, 15.01 131 *e*Pn **Pn 04 17 32.7 +2.2**
PV01 Paradox Valley 15.10 104 *e*Pn **Pn 04 17 30.9 -0.9**
DLBC Dease Lake 15.13 354 Pn **Pn 04 17 34.4 +2.3**
0.4nm,0.3s,baz=176,slow=12,SNR=27
DLBC LR LR 04 22 43.5
comp=Z,5μm,18.1s,baz=183,slow=35
K22A Casper 15.18 86 P **Pn 04 17 30.3 -2.5**
baz=280
K22A Casper 15.18 86 *e*Pn **Pn 04 17 30.6 -2.3**
65nm,1.0s
LAO LASA Array 15.21 70 P **Pn 04 17 31.1 -2.1**
baz=265
LAO LASA Array 15.21 70 *e*Pn **Pn 04 17 30.9 -2.2**
274nm,0.9s
X16A Lo Mia Camp, P 15.22 121 *e*Pn **Pn 04 17 33.9 +0.4**
61nm,0.9s
MVCO Mesa Verde 15.58 107 P **Pn 04 17 37.4 -0.8**
baz=300
MVCO Mesa Verde 15.58 107 *e*Pn **Pn 04 17 37.6 -0.6**
168nm,1.8s
SMCO Snowmass 15.81 99 *e*Pn **Pn 04 17 39.2 -2.2**
54nm,0.9s
W18A Petrified Fore 15.88 116 P **Pn 04 17 42.9 +0.9**
baz=307
W18A Petrified Fore 15.88 116 *e*Pn **Pn 04 17 43.5 +1.5**
94nm,1.0s
BESE Bessie Mountai 15.90 345 *e*Pn **P 04 17 44.2 -1.4**
562nm,1.4s
N23A Red Feather La 16.00 92 P **Pn 04 17 40.8 -2.8**
baz=286
N23A Red Feather La 16.00 92 *e*Pn **Pn 04 17 42.0 -1.7**
116nm,1.0s
X18A Snowflake 16.10 118 *e*Pn **P 04 17 46.5 -1.7**
183nm,1.1s
214A Organ Pipe Nat 16.15 130 P **Pn 04 17 46.4 +1.0**
baz=320
PHWY Pilot Hill 16.25 90 *e*Pn **Pn 04 17 43.5 -3.3**
194nm,1.8s
S22A 4UR Ranch, Cre 16.50 103 P **Pn 04 17 49.7 -0.4**
baz=297
S22A 4UR Ranch, Cre 16.50 103 *e*Pn **Pn 04 17 49.6 -0.5**
40nm,0.8s
ISCO Idaho Springs 16.58 95 P **Pn 04 17 49.0 -2.0**
baz=290
ISCO Idaho Springs 16.58 95 *e*P **Pn 04 17 48.8 -2.3**
ISCO pmax pmax
comp=Z,140nm,1.1s
ISCO Idaho Springs 16.58 95 *e*Pn **Pn 04 17 48.8 -2.3**
comp=Z,135nm,1.1s
RSSD Black Hills 16.78 80 P **Pn 04 17 51.0 -2.5**
baz=276
RSSD Black Hills 16.78 80 *e*P **Pn 04 17 51.2 -2.3**
RSSD pmax pmax
comp=Z,270nm,1.6s
RSSD Black Hills 16.78 80 *e*Pn **Pn 04 17 51.2 -2.3**
comp=Z,268nm,1.6s
DGMT Dagmar 16.79 64 P **Pn 04 17 51.2 -2.2**
baz=261
DGMT Dagmar 16.79 64 *e*Pn **Pn 04 17 51.6 -1.8**
comp=Z,1μm,1.9s
SKAG Skagway 16.81 346 *e*Pn **P 04 17 55.5 -0.1**
comp=Z,514nm,1.7s
TUC Tucson 17.06 125 P **P 04 17 57.7 -1.0**
baz=316
TUC Tucson 17.06 125 *e*P **P 04 17 58.0 -0.7**
TUC pmax pmax
comp=Z,240nm,1.9s
TUC Tucson 17.06 125 *e*Pn **P 04 17 58.0 -0.7**
comp=Z,240nm,1.9s
DHAK Deception Hill 17.09 340 *e*Pn **P 04 17 59.1 +0.3**
comp=Z,1μm,2.0s
Q24A Divide 17.21 97 P **Pn 04 17 57.8 -1.2**
baz=292
Q24A Divide 17.21 97 *e*Pn **Pn 04 17 57.9 -1.2**
comp=Z,199nm,1.0s
SDCO Great Sand Dun 17.45 102 P **Pn 04 18 01.6 -0.4**
baz=296
SDCO Great Sand Dun 17.45 102 *e*Pn **Pn 04 18 01.6 -0.4**
comp=Z,142nm,0.9s
WHY Whitehorse 17.87 348 *e*Pn **P 04 18 08.7 +1.2**
comp=Z,81nm,1.1s
LAZ Ladron 18.03 113 *e*Pn **P 04 18 10.0 +0.5**
ANMO Albuquerque 18.18 111 *c i*P **P 04 18 11.0 -0.2**
ANMO pmax pmax
comp=Z,91nm,1.2s
ANMO Albuquerque 18.18 111 *e*Pn **P 04 18 11.3 +0.1**
MHTCO State Highway 18.30 102 *e*Pn **Pn 04 18 12.3 -0.1**
comp=Z,116nm,1.4s
HGTCO Madrid Canyon 18.32 102 *e*Pn **Pn 04 18 11.9 -0.9**
comp=Z,148nm,1.4s
Y22D IRIS PASSCAL I 18.36 114 P **P 04 18 14.4 +1.3**
baz=307
Y22D IRIS PASSCAL I 18.36 114 *e*Pn **P 04 18 15.0 +1.8**
comp=Z,197nm,1.1s
LPM Los Pinos Moun 18.42 113 *e*Pn **Pn 04 18 14.9 +1.0**
PCA Pinnacle 18.48 339 *e*P **Pn 04 18 15.6 +1.4**
comp=Z,318nm,1.1s
HYT Haines Junctio 18.49 344 *e*P **Pn 04 18 16.0 +1.5**
comp=Z,231nm,1.3s
T25A Trinidad 18.50 102 P **P 04 18 14.5 -0.2**
baz=297
T25A Trinidad 18.50 102 *e*P **P 04 18 14.5 -0.2**
comp=Z,190nm,1.5s
BNM Barren Site 18.52 113 *e*P **Pn 04 18 16.3 +1.2**
319A Douglas 18.62 124 *e*P **Pn 04 18 18.2 +2.0**
comp=Z,227nm,1.5s
121A Cookes Peak, D 18.76 119 P **Pn 04 18 19.8 +1.7**
baz=311
OGNE Ogallala 18.84 89 P **P 04 18 15.9 -2.3**
baz=286
OGNE Ogallala 18.84 89 *e*P **P 04 18 16.0 -2.3**
comp=Z,132nm,1.1s
KSCO Kaye Shedlock' 19.02 95 P **P 04 18 19.5 -0.8**
baz=292
KSCO Kaye Shedlock' 19.02 95 *e*P **P 04 18 19.7 -0.6**
comp=Z,189nm,0.9s
HSIG 19.43 132 *e*P **Pn 04 18 26.3 +0.3**
comp=Z,41nm,1.1s
MDND Maddock 19.79 67 P **Pn 04 18 29.6 -0.5**
baz=267
MDND Maddock 19.79 67 *e*P **Pn 04 18 29.6 -0.5**
comp=Z,364nm,0.9s
CRQM Cirque 19.82 337 *e*P **Pn 04 18 30.3 -0.3**
comp=Z,662nm,1.6s
FFC Flin Flon 19.93 47 *e*P **P 04 18 30.1 0.0**
FFC pmax pmax
comp=Z,210nm,0.9s
FFC Flin Flon 19.93 47 *e*P **P 04 18 30.1 0.0**
comp=Z,210nm,0.8s
RAGM Ragged Mountai 19.99 334 *e*P **Pn 04 18 32.5 +0.1**
comp=Z,594nm,1.9s
EPT El Paso 20.08 118 *e*P Pn 04 18 34.5 +0.7
comp=Z,82nm,1.0s
SRIG Santa Rosalia 20.15 138 *e*P **P 04 18 32.2 -0.3**
comp=Z,330nm,1.7s
SUSD Miller 20.37 77 P **P 04 18 34.9 0.0**
baz=277
BMRM Bremner River 20.42 335 *e*P Pn 04 18 36.8 -0.7
comp=Z,127nm,1.2s
EYAK Cordova Ski Ar 20.46 333 *e*P Pn 04 18 37.6 -0.2
YKA Yellowknife Ar 20.50 17 P **P 04 18 36.6 +0.5**
comp=Z,29nm,0.7s,baz=206,slow=10,SNR=16
YKB5 Yellowknife Ar 20.50 17 *e*P Pn 04 18 38.6 +0.3
YKW3 Yellowknife Ar 20.55 17 *e*P **P 04 18 37.2 +0.5**
comp=Z,61nm,0.8s
J31A Geddes 20.70 80 P **P 04 18 38.0 -0.4**
baz=280
H31A Wolsey 20.70 77 P **P 04 18 38.4 -0.2**
baz=277
I31A Royce, Wessing 20.73 78 P **P 04 18 39.0 +0.3**
baz=278
F31A Hecla 20.73 73 P **P 04 18 39.3 +0.5**
baz=274
G31A Conde 20.81 75 P **P 04 18 39.9 +0.2**
baz=275
K31A O'Neill 20.82 82 P **P 04 18 40.2 +0.4**
baz=282
FID Port Fidalgo 20.85 333 *e*P Pn 04 18 42.0 -0.4
comp=Z,240nm,1.0s
MNTX Cornudas Mount 20.85 117 P Pn 04 18 41.9 -0.8
baz=311
MNTX Cornudas Mount 20.85 117 *e*P Pn 04 18 41.8 -0.9
comp=Z,36nm,0.9s
MNTX LR LR
comp=Z,4μm,19.0s
DIV Divide 20.91 334 *e*P Pn 04 18 42.4 -0.8
comp=Z,271nm,1.1s
E31A Nome 20.95 71 P **P 04 18 41.3 +0.1**
baz=272
C31A Landman Farms, 21.04 68 P **P 04 18 42.7 +0.6**
baz=269
D31A Mcclaflin, Tow 21.05 70 P **P 04 18 42.5 +0.3**
baz=271
B31A Greenbush Farm 21.12 66 P **P 04 18 43.3 +0.3**
baz=267
GLI Glacier Island 21.15 333 *e*P **P 04 18 44.9 +1.7**
comp=Z,136nm,1.0s
CBKS Cedar Bluff 21.19 93 P **P 04 18 44.1 +0.2**
baz=292
CBKS Cedar Bluff 21.19 93 *e*P **P 04 18 44.6 +0.7**
CBKS pmax pmax
comp=Z,170nm,1.0s
CBKS Cedar Bluff 21.19 93 *e*P **P 04 18 44.6 +0.7**
comp=Z,171nm,1.0s
CBKS LR LR
comp=Z,7μm,19.0s
KLU Klutina 21.23 335 *e*P **P 04 18 45.9 +1.7**
comp=Z,179nm,1.0s
MSTX Muleshoe 21.25 108 P **P 04 18 44.9 +0.3**
baz=304
MSTX Muleshoe 21.25 108 *e*P **P 04 18 45.2 +0.6**
comp=Z,71nm,1.1s
G32A Webster 21.31 75 P **P 04 18 45.1 0.0**
baz=276
J32A Parkston 21.32 80 P **P 04 18 44.7 -0.5**
baz=280
K32A Verdigre 21.37 82 P **P 04 18 45.5 -0.2**
baz=282
KDAK Kodiak Island 21.39 321 P **P 04 18 46.2 +0.5**
comp=Z,140nm,1.0s,baz=126,slow=6.8,SNR=48
KDAK Kodiak Island 21.39 321 *e*P **P 04 18 47.1 +1.4**
comp=Z,169nm,0.9s
KDAK LR LR
comp=Z,2μm,19.0s
OHAK Old Harbor 21.43 319 *e*P **P 04 18 47.2 +1.0**
comp=Z,171nm,1.0s
H32A Carlson Farm, 21.44 77 P **P 04 18 46.8 +0.3**
baz=278
SEW Seward 21.45 329 *e*P **P 04 18 47.8 +1.5**
comp=Z,210nm,1.0s
I32A Karley and Nic 21.49 78 P **P 04 18 47.0 0.0**
baz=279
L32A Elgin 21.49 84 P **P 04 18 46.8 -0.2**
baz=284
E32A Braaten, Kindr 21.51 71 P **P 04 18 47.3 +0.1**
baz=273
F32A Veblen 21.52 73 P **P 04 18 47.3 +0.1**
baz=274
AMTX Amarillo 21.52 105 P **P 04 18 48.2 +0.7**
baz=301
AMTX Amarillo 21.52 105 *e*P **P 04 18 48.3 +0.7**
comp=Z,137nm,0.8s
D32A Dogwood Acres, 21.53 70 P **P 04 18 47.5 +0.1**
baz=271
BGNE Belgrade 21.54 85 P **P 04 18 47.7 +0.1**
baz=285
BGNE Belgrade 21.54 85 *e*P **P 04 18 47.1 -0.5**
comp=Z,1μm,1.8s
HARP HAARP 21.72 337 *e*P **P 04 18 51.6 +2.3**
comp=Z,354nm,1.3s
CNPM China Poot 21.78 326 *e*P **P 04 18 51.8 +1.7**
comp=Z,177nm,1.2s
BRLK Bradley Lake 21.79 327 *e*P **P 04 18 51.4 +1.4**
comp=Z,242nm,1.2s
DAWY Dawson 21.82 346 *e*P **P 04 18 51.6 +1.3**
comp=Z,362nm,1.4s
C32A Crookston 21.86 68 P **P 04 18 50.9 0.0**
baz=270
B32A Ashes, Strandq 21.86 66 P **P 04 18 50.9 0.0**
baz=268
H33A Prehn Over Nor 21.91 76 P **P 04 18 51.5 0.0**
baz=278
A32A Rocking H Ranc 21.91 65 P **P 04 18 51.4 0.0**
baz=267
SCM Sheep Creek Mo 21.93 334 *e*P **P 04 18 53.3 +1.6**
SCM pmax pmax
comp=Z,420nm,1.0s
SCM Sheep Creek Mo 21.93 334 *e*P **P 04 18 53.3 +1.6**
comp=Z,420nm,1.1s
I33A Coleman 21.96 78 P **P 04 18 51.9 -0.1**
baz=279
J33A Davis 21.96 80 P **P 04 18 51.7 -0.5**
baz=281
L33A Hoskins 21.99 83 P **P 04 18 52.0 -0.4**
baz=284
HOM Homer 22.03 326 *e*P **P 04 18 54.9 +2.3**
comp=Z,503nm,1.0s
G33A Ortonville 22.06 75 P **P 04 18 53.2 +0.1**
baz=276
K33A Hardington 22.08 82 P **P 04 18 52.8 -0.6**
baz=283
F33A 5 Mile Ranch, 22.10 73 P **P 04 18 53.8 +0.3**
baz=275
ECSD EROS Data Cent 22.14 79 P **P 04 18 53.8 -0.2**
baz=280
ECSD EROS Data Cent 22.14 79 *e*P **P 04 18 53.7 -0.3**
comp=Z,110nm,0.8s
ECSD LR LR
comp=Z,4μm,20.0s
M33A Taylor Creek F 22.19 84 P **P 04 18 54.1 -0.4**
baz=285
RC01 Rabbit Creek A 22.21 331 *e*P **P 04 18 55.8 +1.2**
comp=Z,282nm,1.5s
N33A J Bar K, Exete 22.23 87 P **P 04 18 54.9 -0.1**
baz=287
SML Sawmill 22.24 333 *e*P **P 04 18 53.2 -1.7**
SML pmax pmax
comp=Z,300nm,1.0s
SML Sawmill 22.24 333 *e*P **P 04 18 53.2 -1.7**
comp=Z,299nm,1.1s
E33A Westby DABS, E 22.25 71 P **P 04 18 55.2 +0.1**
baz=274
PAX Paxson 22.26 338 *e*P **P 04 18 56.4 +1.2**
PAX pmax pmax
comp=Z,130nm,1.4s
PAX Paxson 22.26 338 *e*P **P 04 18 56.4 +1.2**
comp=Z,130nm,1.4s
AGMN Agassiz Nation 22.31 66 P **P 04 18 55.2 -0.5**
baz=269
AGMN Agassiz Nation 22.31 66 *e*P **P 04 18 54.2 -1.5**
comp=Z,633nm,1.1s
AGMN LR LR
comp=Z,6μm,19.0s
D33A AnnSam, Waubun 22.33 69 P **P 04 18 55.7 -0.3**
baz=272
O33A Hebron 22.33 88 P **P 04 18 55.4 -0.7**
baz=288
PMR Palmer 22.35 332 *e*P **P 04 18 57.3 +1.3**
PMR pmax pmax
comp=Z,420nm,1.6s
PMR Palmer 22.35 332 *e*P **P 04 18 57.3 +1.3**
comp=Z,424nm,1.7s
C33A Trail 22.37 68 P **P 04 18 55.9 -0.5**
baz=270
ULM Lac du Bonnet 22.41 61 P **P 04 18 56.1 -0.6**
comp=Z,129nm,0.7s,baz=272,slow=11,SNR=82
ULM LR LR 04 27 54.5
comp=Z,6μm,20.4s,baz=276,slow=37
ULM Lac du Bonnet 22.41 61 *e*P **P 04 18 56.2 -0.6**
ULM pmax pmax
comp=Z,400nm,1.3s
ULM Lac du Bonnet 22.41 61 *e*P **P 04 18 56.2 -0.6**
comp=Z,403nm,1.3s
DOT Dot Lake 22.45 340 *e*P **P 04 18 58.2 +1.0**
comp=Z,487nm,1.8s
B33A Robert and Kas 22.49 66 P **P 04 18 57.2 -0.5**
baz=269
H34A Spellman Lake, 22.59 76 P **P 04 18 58.7 -0.1**
baz=278
G34A Benson 22.62 74 P **P 04 18 59.3 +0.2**
baz=277
I34A Hadley 22.63 78 P **P 04 18 58.7 -0.5**
baz=280
A33A Warroad 22.64 65 P **P 04 18 58.1 -1.2**
baz=268
M34A Aspy Farms, Fr 22.65 84 P **P 04 18 58.5 -0.9**
baz=285
L34A Svendsen Farm, 22.68 83 P **P 04 18 58.9 -0.8**
baz=284
J34A George 22.70 79 P **P 04 18 59.1 -0.8**
baz=281
U32A Winter Ranch, 22.72 98 P **P 04 19 00.2 -0.1**
baz=297
K34A Le Mars 22.72 81 P **P 04 18 59.5 -0.6**
baz=283
D34A Park Rapids 22.78 70 P **P 04 19 00.3 -0.4**
baz=273
EGAK Eagle 22.79 345 *e*P **P 04 19 01.5 +0.8**
EGAK LR LR
comp=Z,4μm,20.0s
F34A Alexandria 22.82 73 P **P 04 19 01.3 +0.1**
baz=276
E34A Wadena 22.83 71 P **P 04 19 01.0 -0.3**
baz=274
SUA Susitna One 22.83 330 *e*P **P 04 19 02.3 +1.0**
comp=Z,354nm,1.3s
DHY Denali Highway 22.89 336 *e*P **P 04 19 03.0 +1.1**
comp=Z,336nm,1.1s
N34A Lincoln 22.89 86 P **P 04 19 01.5 -0.5**
baz=287
O34A Beatrice 22.95 88 P **P 04 19 02.2 -0.4**
baz=288
C34A RKJ Ranch, Bem 22.95 68 P **P 04 19 01.4 -1.1**
baz=271
RSO Redoubt South 22.96 327 *e*P **P 04 19 03.8 +1.1**
P34A Walnut Farm, R 23.06 89 P **P 04 19 03.3 -0.4**
baz=290
B34A Aery, Baudette 23.12 66 P **P 04 19 03.3 -1.0**
baz=270
SPU Mount Spurr 23.13 329 *e*P **P 04 19 05.1 +0.9**
Q34A Chapman 23.19 91 P **P 04 19 04.6 -0.4**
baz=291
R34A Isabella, Hill 23.19 92 P **P 04 19 04.6 -0.5**
baz=292
J35A Milford 23.22 79 P **P 04 19 04.7 -0.6**
baz=281
L35A Bielow Farm, R 23.25 82 P **P 04 19 04.9 -0.7**
baz=294
H35A Sunnyside Ranc 23.26 76 P **P 04 19 05.3 -0.4**
baz=278
I35A Creekview Farm 23.29 78 P **P 04 19 05.5 -0.5**
baz=280
F35A Swanville 23.30 73 P **P 04 19 05.8 -0.2**
baz=276
M35A Neola 23.30 84 P **P 04 19 05.7 -0.5**
baz=286
K35A Storm Lake 23.33 81 P **P 04 19 05.6 -0.8**
baz=283
E35A Pequot Lakes 23.35 71 P **P 04 19 06.3 -0.3**
baz=274
KSU1 Kansas State U 23.37 90 P **P 04 19 06.7 -0.2**
baz=291
KSU1 Kansas State U 23.37 90 *e*P **P 04 19 06.8 -0.1**
comp=Z,150nm,0.9s
KSU1 LR LR
comp=Z,4μm,19.0s
G35A Watkins 23.43 74 P **P 04 19 07.4 -0.1**
baz=277
O35A Humboldt 23.49 87 P **P 04 19 07.8 -0.3**
baz=288
N35A Tabor 23.51 85 P **P 04 19 08.6 +0.4**
baz=287
TX31 Lajitas Ar. Si 23.52 119 *e*P **P 04 19 08.6 0.0**
TXAR Lajitas Array 23.52 119 P **P 04 19 09.5 +0.9**
comp=Z,18nm,0.9s,baz=299,slow=8.2,SNR=95
TXAR PcP **PcP 04 22 53.2 -0.7**
comp=Z,1.6nm,1.0s,baz=343,slow=1.2,SNR=3.4
S34A Willow Spring 23.53 94 P **P 04 19 08.0 -0.4**
baz=294
D35A Remer 23.56 69 P **P 04 19 08.4 -0.3**
baz=273
RND Reindeer 23.57 336 *e*P **P 04 19 06.2 -2.6**
RND pmax pmax
comp=Z,120nm,1.1s
RND Reindeer 23.57 336 *e*P **P 04 19 06.2 -2.6**
comp=Z,115nm,1.1s
C35A Jirik Farms, M 23.58 68 P **P 04 19 08.2 -0.7**
baz=272
CHGN Chignik 23.62 314 *e*P **P 04 19 09.3 +0.2**
comp=Z,846nm,1.9s
P35A Duane Minner, 23.65 89 P **P 04 19 09.0 -0.7**
baz=290
WMOK Wichita Mounta 23.65 102 P **P 04 19 10.0 +0.2**
baz=300
WMOK Wichita Mounta 23.65 102 *e*P **P 04 19 09.9 +0.2**
WMOK pmax pmax
comp=Z,190nm,1.0s
WMOK Wichita Mounta 23.65 102 *e*P **P 04 19 09.9 +0.2**
comp=Z,188nm,1.0s
WMOK LR LR
comp=Z,3μm,22.0s
B35A Bob, Littlefor 23.73 66 P **P 04 19 09.4 -1.0**
baz=271
T34A McClaskey Farm 23.75 95 P **P 04 19 10.3 -0.3**
baz=295
LPIG La Paz 23.79 139 LR LR 04 27 42.5
comp=Z,2μm,18.4s,baz=307,slow=35
HDA Harding Lake 23.81 339 *e*P **P 04 19 11.8 +0.9**
comp=Z,92nm,1.2s
MCK McKinley 23.84 336 *e*P **P 04 19 12.4 +1.1**
MCK pmax pmax
comp=Z,160nm,1.1s
MCK McKinley 23.84 336 *e*P **P 04 19 12.4 +1.1**
comp=Z,160nm,1.2s
J36A Seneca 1, Swea 23.84 79 P **P 04 19 10.9 -0.5**
baz=282
Q35A Mercer Eighty, 23.87 90 P **P 04 19 11.3 -0.4**
baz=291
L36A Harm Buss Farm 23.88 82 P **P 04 19 11.2 -0.6**
baz=284
H36A Jessenland, He 23.91 76 P **P 04 19 11.6 -0.5**
baz=279
K36A Gilmore City 23.91 80 P **P 04 19 11.8 -0.3**
baz=283
G36A St. Michael 23.94 74 P **P 04 19 12.2 -0.2**
baz=278
I36A Fitzsimmons Fa 23.95 77 P **P 04 19 11.8 -0.6**
baz=280
R35A Emporia Munici 23.95 92 P **P 04 19 12.2 -0.3**
baz=292
M36A Felix, Anita 23.95 83 P **P 04 19 12.1 -0.5**
baz=286
HPIG 24.02 126 *e*P **P 04 19 13.8 +0.3**
comp=Z,43nm,0.9s
N36A Muff Farm, Cla 24.02 85 P **P 04 19 12.9 -0.2**
baz=287
F36A Milaca 24.02 72 P **P 04 19 12.8 -0.4**
baz=276
TRF Thorofare Moun 24.05 334 *e*P **P 04 19 14.2 +0.8**
comp=Z,227nm,1.4s
IL1 Eielson Array 24.08 339 *e*P **P 04 19 13.2 -0.3**

IL1			ePcP	PcP	04 22 56.2	+1.8
ILAR	Eielson Array	24.08 339	P	P	04 19 14.2	+0.7
	comp=Z,59nm,0.9s,baz=153,slow=8.4,SNR=397					
ILAR			PcP	PcP	04 22 55.0	+0.6
	comp=Z,4.8nm,0.7s,baz=188,slow=1.6,SNR=9.0					
ILAR			LR	LR	04 27 04.2	
	comp=Z,3μm,22.0s,baz=142,slow=33					
ILB	Eielson Array	24.08 339	eP	P	04 19 14.2	+0.7
ILB			ePcP	PcP	04 22 56.7	+2.3
S35A	Otter Creek Ra	24.11 93	P	P	04 19 13.9	-0.2
	baz=294					
E36A	McGregor	24.14 71	P	P	04 19 14.5	+0.3
	baz=275					
D36A	Goodland	24.16 69	P	P	04 19 14.3	0.0
	baz=274					
WRH	Wood River Hil	24.17 338	eP	P	04 19 15.0	+0.7
	comp=Z,261nm,1.4s					
ABTX	Abilene, Hawle	24.17 107	P	P	04 19 14.5	-0.1
	baz=305					
ABTX	Abilene, Hawle	24.17 107	eP	P	04 19 14.6	-0.1
	comp=Z,70nm,1.3s					
P36A	Good Intent, A	24.21 88	P	P	04 19 15.0	+0.1
	baz=290					
O36A	Bolckow	24.22 87	P	P	04 19 15.1	0.0
	baz=289					
CCB	Clear Creek Bu	24.23 338	eP	P	04 19 15.5	+0.7
	comp=Z,249nm,1.6s					
Q36A	Arnold C. Orve	24.25 90	P	P	04 19 15.2	-0.2
	baz=291					
T35A	Sooner Cattle	24.29 95	P	P	04 19 15.7	0.0
	baz=295					
PPLA	Purkeypile	24.29 332	eP	P	04 19 16.8	+1.2
	comp=Z,232nm,0.9s					
KTH	Kantishna Hill	24.32 334	eP	P	04 19 16.2	+0.4
	comp=Z,78nm,1.0s					
C36A	Pine Crest Far	24.35 68	P	P	04 19 15.8	-0.3
	baz=273					
U35A	Pawnee	24.36 96	P	P	04 19 16.5	+0.1
	baz=296					
I37A	Lemond, Waseca	24.38 77	P	P	04 19 16.4	-0.1
	baz=281					
J37A	Redenius Farm,	24.41 79	P	P	04 19 16.1	-0.6
	baz=282					
COLA	College	24.42 339	eP	P	04 19 17.2	+0.7
COLA			pmax	pmax		
	comp=Z,115nm,1.1s					
COLA			MLR	MLR		
	comp=Z,1μm,19.0s					
COLA	College	24.42 339	eP	P	04 19 17.2	+0.7
	comp=Z,115nm,1.1s					
COLA			LR	LR		
	comp=Z,1μm,19.0s					
SDPT	Sand Point	24.45 311	eP	P	04 19 17.6	+0.7
	comp=Z,294nm,1.4s					
R36A	Gordon, Harris	24.45 91	P	P	04 19 17.1	-0.1
	baz=292					
SVW2	Sparrevohn	24.46 326	eP	P	04 19 17.4	+0.4
	comp=Z,82nm,1.2s					
K37A	Belmond	24.47 80	P	P	04 19 16.9	-0.4
	baz=283					
M37A	Trindle Farm,	24.51 83	P	P	04 19 17.5	-0.1
	baz=286					
L37A	Phoenix Point,	24.54 81	P	P	04 19 17.8	0.0
	baz=285					
V35A	Meyer Ranch, C	24.56 98	P	P	04 19 17.9	-0.2
	baz=298					
N37A	Lee Faris, Mou	24.58 85	P	P	04 19 18.1	-0.2
	baz=287					
MDM	Murphy Dome	24.59 339	eP	P	04 19 18.9	+0.8
	comp=Z,95nm,1.1s					
SPMN	Marine on St.	24.61 74	P	P	04 19 18.3	-0.2
	baz=278					
SPMN	Marine on St.	24.61 74	eP	P	04 19 18.9	+0.4
	comp=Z,358nm,0.8s					
CAST	Castle Rocks	24.61 333	eP	P	04 19 18.8	+0.4
	comp=Z,39nm,0.8s					
S36A	Lake Cedric, C	24.62 93	P	P	04 19 18.5	-0.2
	baz=294					
H37A	Dierke Farm, C	24.62 75	P	P	04 19 19.0	+0.3
	baz=280					
D37A	Cotton	24.66 69	P	P	04 19 18.7	-0.2
	baz=274					
F37A	Hinrichs Farm,	24.66 73	P	P	04 19 18.8	-0.2
	baz=277					
T36A	Boggs Farm, Ca	24.68 94	P	P	04 19 18.9	-0.3
	baz=295					
E37A	Wrenshall	24.73 71	P	P	04 19 19.6	+0.1
	baz=276					
BPAW	Bear Paw Mtn.	24.73 335	eP	P	04 19 19.9	+0.4
	comp=Z,112nm,1.0s					
C37A	Embarrass	24.79 68	P	P	04 19 19.9	-0.3
	baz=273					
O37A	Wolven Farm, M	24.81 86	P	P	04 19 20.5	+0.1
	baz=289					
W35A	Tecumseh	24.82 99	P	P	04 19 20.7	+0.2
	baz=299					
P37A	Lathrop	24.85 88	P	P	04 19 20.9	+0.2
	baz=290					
R37A	Teagarden Farm	24.95 91	P	P	04 19 22.0	+0.3
	baz=292					
SCIA	State Center	24.98 82	eP	P	04 19 22.9	+1.0
	comp=Z,100nm,0.8s					
SCIA			LR	LR		
	comp=Z,7μm,19.0s					
Q37A	Longview Farm,	25.02 89	P	P	04 19 21.9	-0.4
	baz=291					
H38A	Maiden Rock	25.06 75	P	P	04 19 22.8	+0.2
	baz=280					
U36A	Oologah	25.08 96	P	P	04 19 22.6	-0.2
	baz=296					
L38A	Oak Wood Farm,	25.10 81	P	P	04 19 23.2	+0.2
	baz=285					
X35A	Drake	25.11 101	P	P	04 19 22.6	-0.6
	baz=300					
K38A	Parkersburg	25.12 80	P	P	04 19 22.9	-0.2
	baz=284					
M38A	Pleasantville	25.12 83	P	P	04 19 23.3	+0.1
	baz=286					
I38A	Scanlan Farm,	25.14 76	P	P	04 19 23.0	-0.3
	baz=281					
F38A	Pierce - Schro	25.15 72	P	P	04 19 23.7	+0.3
	baz=277					
INK	Inuvik	25.16 355	P	P	04 19 23.4	+0.1
	comp=Z,61nm,1.0s,baz=164,slow=11,SNR=43					
INK			LR	LR	04 28 57.2	
	comp=Z,5μm,18.1s,baz=174,slow=36					
S37A	Fort Scott	25.16 92	P	P	04 19 23.8	+0.2
	baz=293					
J38A	Wedel Dairy, R	25.18 78	P	P	04 19 23.5	-0.2
	baz=282					
FYU	Fort Yukon	25.18 343	eP	P	04 19 25.1	+1.7
	comp=Z,617nm,1.5s					
V36A	Jenks	25.19 97	P	P	04 19 23.9	0.0
	baz=297					
EYMN	Ely	25.24 67	P	P	04 19 23.9	-0.3
	baz=273					
EYMN	Ely	25.24 67	eP	P	04 19 24.4	+0.2
	comp=Z,257nm,1.2s					
EYMN			LR	LR		
	comp=Z,7μm,20.0s					
TUL1	Leonard	25.25 97	P	P	04 19 24.3	0.0
	baz=297					
TUL1	Leonard	25.25 97	eP	P	04 19 24.8	+0.5
	comp=Z,224nm,1.7s					
N38A	Joes South For	25.27 84	P	P	04 19 24.2	-0.4
	baz=287					
G38A	Ridgeland	25.28 74	P	P	04 19 24.4	-0.2
	baz=279					
W36A	Wetumka	25.29 99	P	P	04 19 25.0	+0.2
	baz=299					
E38A	The Farm, Brul	25.30 70	P	P	04 19 24.4	-0.4
	baz=276					
O38A	Galt	25.31 86	P	P	04 19 24.7	-0.2
	baz=289					
Y35A	Marietta	25.32 102	P	P	04 19 25.1	+0.1
	baz=301					
JCT	Junction City	25.33 112	P	P	04 19 25.3	+0.1
	baz=309					
JCT	Junction City	25.33 112	eP	P	04 19 25.3	+0.1
JCT			pmax	pmax		
	comp=Z,51nm,1.0s					
JCT	Junction City	25.33 112	eP	P	04 19 25.3	+0.1
	comp=Z,51nm,1.0s					
JCT			LR	LR		
	comp=Z,4μm,19.0s					
MLY	Manley	25.34 337	eP	P	04 19 26.2	+1.2
	comp=Z,220nm,1.1s					
T37A	Cheneyville 18	25.36 93	P	P	04 19 25.1	-0.2
	baz=295					
C38A	Sawbill Land.	25.40 68	P	P	04 19 25.4	-0.3
	baz=274					
P38A	Dawn	25.43 87	P	P	04 19 26.0	0.0
	baz=290					
X36A	Centrahoma	25.48 100	P	P	04 19 26.6	+0.2
	baz=300					
U37A	Salina	25.52 95	P	P	04 19 26.5	-0.3
	baz=296					
Q38A	Cooks Store, C	25.60 88	P	P	04 19 27.5	0.0
	baz=291					
TT01	Tatalina	25.66 329	eP	P	04 19 28.7	+0.9
R38A	Fenwick Farm,	25.67 90	P	P	04 19 27.6	-0.6
	baz=293					
TTA	Tatalina	25.67 329	eP	P	04 19 27.7	-0.4
TTA			pmax	pmax		
	comp=Z,157nm,1.1s					
TTA	Tatalina	25.67 329	eP	P	04 19 27.7	-0.4
	comp=Z,157nm,1.1s					
J39A	Decorah	25.72 78	P	P	04 19 28.0	-0.6
	baz=283					
V37A	Hulbert	25.73 96	P	P	04 19 28.4	-0.3
	baz=297					
K39A	Oelwein	25.73 79	P	P	04 19 28.0	-0.7
	baz=284					
G39A	Holcombe	25.74 73	P	P	04 19 28.1	-0.6
	baz=279					
I39A	Houston	25.74 77	P	P	04 19 28.5	-0.3
	baz=282					
H39A	Augusta	25.76 75	P	P	04 19 28.7	-0.2
	baz=280					
N39A	Derby Farms, D	25.78 84	P	P	04 19 28.6	-0.6
	baz=287					
L39A	Vinton	25.80 81	P	P	04 19 29.0	-0.3
	baz=285					
F39A	Loretta	25.82 72	P	P	04 19 29.3	-0.2
	baz=278					
M39A	Webster	25.85 82	P	P	04 19 29.4	-0.3
	baz=286					
T38A	Diamond	25.85 93	P	P	04 19 29.4	-0.4
	baz=295					
Y36A	Durant	25.86 101	P	P	04 19 30.1	+0.2
	baz=301					
W37B	Quinton	25.86 98	P	P	04 19 30.2	+0.2
	baz=298					
S38A	Stockton	25.89 91	P	P	04 19 29.4	-0.7
	baz=294					
O39A	Kirksville	25.94 85	P	P	04 19 30.2	-0.4
	baz=289					
E39A	Mellen	26.02 71	P	P	04 19 31.0	-0.2
	baz=277					
Q39A	Willow Grove F	26.03 88	P	P	04 19 31.2	-0.2
	baz=291					
U38A	Gravette	26.03 94	P	P	04 19 31.3	-0.2
	baz=296					
P39B	Salisbury	26.04 87	P	P	04 19 31.2	-0.3
	baz=290					
WHTX	Lake Whitney,	26.05 106	P	P	04 19 31.6	-0.1
	baz=305					
WHTX	Lake Whitney,	26.05 106	eP	P	04 19 31.8	0.0
	comp=Z,109nm,1.2s					
Z36A	Blue Ridge	26.08 102	P	P	04 19 31.8	-0.2
	baz=302					
C39A	Grand Marais	26.17 67	P	P	04 19 31.7	-0.8
	baz=274					
X37A	Clayton	26.17 99	P	P	04 19 33.0	+0.3
	baz=300					
R39A	Chumby, Stover	26.25 89	P	P	04 19 33.1	-0.4
	baz=292					
V38A	Canehill	26.27 96	P	P	04 19 33.3	-0.3
	baz=297					
K40A	Colesburg	26.27 79	P	P	04 19 33.2	-0.4
	baz=284					
S39A	Bolivar	26.29 91	P	P	04 19 33.2	-0.6
	baz=294					
Y37A	Hugo	26.30 100	P	P	04 19 34.2	+0.3
	baz=301					
M40A	Post Highland	26.34 82	P	P	04 19 34.0	-0.3
	baz=287					
F40A	Park Falls	26.37 72	P	P	04 19 34.3	-0.3
	baz=278					
L40A	Anamosa	26.37 80	P	P	04 19 34.5	0.0
	baz=285					
I40A	Norwalk	26.38 76	P	P	04 19 34.2	-0.4
	baz=282					
633A	Saathoff Ranch	26.39 113	P	P	04 19 34.6	-0.2
	baz=310					
H40A	Chili	26.39 75	P	P	04 19 34.5	-0.2
	baz=281					
J40A	Soldiers Grove	26.39 77	P	P	04 19 34.7	-0.1
	baz=283					
G40A	Rib Lake	26.42 73	P	P	04 19 34.8	-0.1
	baz=279					
HHAR	Hobbs	26.43 94	eP	P	04 19 34.7	-0.4
	comp=Z,69nm,1.0s					
136A	Ennis	26.44 104	P	P	04 19 35.0	-0.2
	baz=304					
N40A	Mertquake, Sal	26.44 83	P	P	04 19 34.4	-0.7
	baz=288					
E40A	Wakefield	26.46 70	P	P	04 19 35.2	0.0
	baz=277					
O40A	La Belle	26.47 85	P	P	04 19 34.6	-0.8
	baz=289					
T39A	Clever	26.52 92	P	P	04 19 35.6	-0.2
	baz=295					
X38A	Whitesboro	26.52 98	P	P	04 19 36.1	+0.2
	baz=299					
P40A	Paris	26.54 86	P	P	04 19 35.2	-0.8
	baz=290					
W38A	Poteau	26.56 97	P	P	04 19 36.5	+0.3
	baz=298					
435B	Jarrell	26.66 108	P	P	04 19 37.3	+0.1
	baz=307					
Z37A	Pogue Cattle C	26.70 102	P	P	04 19 37.2	-0.3
	baz=302					
236A	Katherine and	26.70 105	P	P	04 19 37.4	-0.1
	baz=304					
Q40A	Laux Farm, Aux	26.71 87	P	P	04 19 37.3	-0.3
	baz=291					
U39A	Green Forest	26.72 94	P	P	04 19 37.4	-0.3
	baz=296					
R40A	Maddies Statio	26.82 89	P	P	04 19 37.9	-0.7
	baz=292					
V39A	Pettigrew	26.84 95	P	P	04 19 38.4	-0.4
	baz=297					
JFWS	Jewell Farm	26.86 78	eP	P	04 19 39.0	+0.1
JFWS			pmax	pmax		
	comp=Z,55nm,0.7s					
JFWS	Jewell Farm	26.86 78	eP	P	04 19 39.0	+0.1
	comp=Z,54nm,0.7s					
JFWS			LR	LR		
	comp=Z,2μm,20.0s					
COLD	Coldfoot	26.86 340	eP	P	04 19 40.3	+1.6
	comp=Z,125nm,1.5s					
I41A	Arkdale	26.87 76	P	P	04 19 38.5	-0.5
	baz=282					
L41A	Preston	26.89 80	P	P	04 19 38.7	-0.4
	baz=286					
K41A	Shullsburg	26.89 79	P	P	04 19 38.9	-0.3
	baz=285					
IMAR	Indian Mountai	26.90 336	eP	P	04 19 38.8	-0.2
H41A	Junction City	26.91 74	P	P	04 19 39.2	-0.2
	baz=281					
J41A	Loganville	26.92 77	P	P	04 19 39.1	-0.3
	baz=283					
137A	Heron Place, G	26.92 103	P	P	04 19 39.6	+0.1
	baz=303					
S40A	Lebanon	26.92 91	P	P	04 19 39.0	-0.5
	baz=294					
Y38A	Idabel	26.96 100	P	P	04 19 39.6	-0.3
	baz=300					
833A	Chaparral WMA,	26.98 115	P	P	04 19 40.4	+0.3
	baz=312					
N41A	Harden Midland	27.02 83	P	P	04 19 39.8	-0.6
	baz=288					
W39A	Magazine	27.03 96	P	P	04 19 40.3	-0.2
	baz=298					
M41A	Milan	27.05 82	P	P	04 19 40.2	-0.4
	baz=287					
T40A	Mansfield	27.09 91	P	P	04 19 40.6	-0.5
	baz=294					
E41A	Kenton	27.10 70	P	P	04 19 40.9	-0.1
	baz=278					
F41A	Three Lakes	27.10 72	P	P	04 19 41.2	+0.1
	baz=279					
X39A	Fountain Ranch	27.12 98	P	P	04 19 41.6	+0.3
	baz=299					
Z38A	Mt. Pleasant	27.12 101	P	P	04 19 41.1	-0.2
	baz=302					
G41A	Antigo	27.14 73	P	P	04 19 41.0	-0.4
	baz=280					
U40A	Yellville	27.18 93	P	P	04 19 41.6	-0.3
	baz=296					
O41A	Passleys Farm,	27.19 84	P	P	04 19 41.1	-0.8
	baz=289					
P41A	Barry, Barry	27.21 85	P	P	04 19 41.1	-0.9
	baz=290					
237A	Washetta, Mont	27.21 104	P	P	04 19 42.6	+0.5
	baz=304					
436A	Wall Ranch, Ga	27.22 107	P	P	04 19 42.3	+0.1
	baz=306					
D41A	Chassel	27.29 69	P	P	04 19 42.8	0.0
	baz=277					
Q41A	Truxton	27.34 87	P	P	04 19 42.6	-0.6
	baz=291					
138A	Matatall Enter	27.36 102	P	P	04 19 43.2	-0.3
	baz=303					
Y39A	Lockesburg	27.41 99	P	P	04 19 43.6	-0.4
	baz=300					
536A	Bastrop	27.45 109	P	P	04 19 44.4	+0.1
	baz=308					
V40A	Witts Springs	27.45 94	P	P	04 19 43.8	-0.5
	baz=297					
R41A	Rosebud	27.47 88	P	P	04 19 43.8	-0.7
	baz=292					
S41A	Jillco Farms,	27.48 90	P	P	04 19 44.1	-0.5
	baz=294					
MIAR	Mount Ida	27.49 97	P	P	04 19 44.6	-0.1
	baz=299					
MIAR	Mount Ida	27.49 97	eP	P	04 19 44.9	+0.3
MIAR			pmax	pmax		
	comp=Z,38nm,0.9s					
MIAR	Mount Ida	27.49 97	eP	P	04 19 44.9	+0.3
	comp=Z,38nm,0.9s					
MIAR			LR	LR		
	comp=Z,2μm,19.0s					
933A	Laredo	27.53 116	P	P	04 19 45.6	+0.6
	baz=313					
337A	Centerville	27.54 106	P	P	04 19 45.6	+0.5
	baz=305					
W40A	Ferguson Farm,	27.55 96	P	P	04 19 45.1	0.0
	baz=298					
W40A	Ferguson Farm,	27.55 96	eP	P	04 19 41.6	-3.5
	comp=Z,65nm,0.9s					
I42A	Draeger Farm,	27.58 76	P	P	04 19 45.1	-0.3
	baz=283					
N42A	Yates City	27.58 82	P	P	04 19 45.1	-0.3
	baz=288					
M42A	Sheffield	27.59 81	P	P	04 19 45.4	-0.1
	baz=287					
UNV	Unalaska Valle	27.61 306	eP	P	04 19 46.8	+1.3
	comp=Z,132nm,1.0s					
437A	Phantom Ranch,	27.64 107	P	P	04 19 46.6	+0.6
	baz=306					
G42A	Mountain	27.66 73	P	P	04 19 46.2	+0.2
	baz=280					
CCM	Cathedral Cave	27.66 89	eP	P	04 19 45.7	-0.4
CCM			pmax	pmax		
	comp=Z,78nm,1.0s					
CCM	Cathedral Cave	27.66 89	eP	P	04 19 45.7	-0.4
	comp=Z,78nm,1.0s					
T41A	Mountain View	27.69 91	P	P	04 19 46.1	-0.3
	baz=295					
238A	Jacksonville	27.69 103	P	P	04 19 46.4	-0.1
	baz=304					
735A	Kenedy	27.70 112	P	P	04 19 46.9	+0.4
	baz=310					
Z39A	Irene McRaven,	27.70 100	P	P	04 19 46.7	+0.2
	baz=301					
H42A	Shiocton	27.72 74	P	P	04 19 46.6	0.0
	baz=282					
O42A	Bath	27.75 84	P	P	04 19 46.2	-0.7
	baz=289					
P42A	Winchester	27.76 85	P	P	04 19 46.1	-0.9
	baz=290					
F42A	Maple Grove Fa	27.77 71	P	P	04 19 47.0	0.0
	baz=279					
636A	Smothers Creek	27.82 110	P	P	04 19 48.7	+1.2
	baz=308					
E42A	Champion	27.82 70	P	P	04 19 47.5	0.0
	baz=278					
TOLK	Toolik Lake Re	27.84 343	P	P	04 19 48.6	+1.1
	baz=144					
139A	Bunkhouse Ranc	27.85 102	P	P	04 19 48.2	+0.4
	baz=302					
Q42A	Golden Eagle	27.86 87	P	P	04 19 47.4	-0.5
	baz=291					
U41A	Viola	27.87 93	P	P	04 19 47.7	-0.3
	baz=296					
R42A	Luebbering	27.90 88	P	P	04 19 47.4	-0.9
	baz=292					
338A	Crockett	27.92 105	P	P	04 19 48.9	+0.4
	baz=305					
V41A	Mountainview	27.94 94	P	P	04 19 47.9	-0.8
	baz=297					
Y40A	Okolona	27.96 98	P	P	04 19 48.5	-0.4
	baz=300					
537A	Green Hill Far	27.96 108	P	P	04 19 49.3	+0.4
	baz=307					
X301	Greenbrier Sit	28.01 95	eP	P	04 19 49.3	0.0
	comp=Z,50nm,1.0s					
934A	Benavides	28.04 115	P	P	04 19 50.8	+1.2
	baz=312					
835A	Beeville	28.05 113	P	P	04 19 50.9	+1.3
	baz=311					
X40A	Basin Creek Fa	28.05 97	P	P	04 19 49.7	0.0
	baz=299					
WHAR	Wooly Hollow	28.07 95	eP	P	04 19 49.7	-0.1
	comp=Z,33nm,0.8s					
S42A	Caledonia	28.10 89	P	P	04 19 48.8	-1.3
	baz=293					
L43A	Garden Prairie	28.12 79	P	P	04 19 49.5	-0.6
	baz=286					
736A	Circle Diamond	28.14 111	P	P	04 19 51.8	+1.3
	baz=309					
239A	Gary	28.15 103	P	P	04 19 51.0	+0.4
	baz=304					
W41B	Gary Mavity, V	28.15 95	P	P	04 19 50.2	-0.3
	baz=298					
438A	Sam Houston St	28.15 106	P	P	04 19 51.8	+1.2
	baz=306					
NATX	Nacogdoches	28.15 103	P	P	04 19 51.4	+0.9
	baz=304					
NATX	Nacogdoches	28.15 103	eP	P	04 19 51.7	+1.1
	comp=Z,141nm,1.4s					
NATX			LR	LR		
	comp=Z,3μm,20.0s					
G43A	Wallace	28.17 72	P	P	04 19 50.6	0.0
	baz=281					
T42A	Van Buren	28.18 91	P	P	04 19 49.8	-1.0
	baz=295					
HDIL	Hopedale	28.20 83	P	P	04 19 50.5	-0.4
	baz=289					
HDIL	Hopedale	28.20 83	eP	P	04 19 50.7	-0.2
	comp=Z,56nm,0.9s					
HDIL			LR	LR		
	comp=Z,8μm,19.0s					
WLAR	White Oak Lake	28.25 99	eP	P	04 19 52.3	+0.9
	comp=Z,157nm,0.9s					
Z40A	Long Farm, Mag	28.26 100	P	P	04 19 51.7	+0.2
	baz=301					
H43A	Windswept, Lux	28.26 74	P	P	04 19 51.4	0.0
	baz=282					
UALR	University of	28.27 96	eP	P	04 19 56.8	+5.2
	comp=Z,46nm,1.5s					
O43A	Sugar Creek Fa	28.27 83	P	P	04 19 51.1	-0.5
	baz=289					
X41A	Kaden, Bauxite	28.28 97	P	P	04 19 51.7	0.0
	baz=299					
034A	Hebbronville	28.29 116	P	P	04 19 52.6	+0.8
	baz=313					
P43A	Skaggs, Pawnee	28.34 85	P	P	04 19 51.3	-0.8
	baz=290					
637A	Eagle Lake	28.34 109	P	P	04 19 53.4	+1.2
	baz=308					
U42A	Revenden	28.36 92	P	P	04 19 52.0	-0.4
	baz=296					
HKT	Hockley	28.38 108	eP	P	04 19 53.5	+1.0
HKT			pmax	pmax		
	comp=Z,100nm,1.6s					
HKT	Hockley	28.38 108	eP	P	04 19 53.5	+1.0
	comp=Z,101nm,1.6s					
F43A	Flat Rock, Esc	28.43 71	P	P	04 19 52.4	-0.5
	baz=280					
140A	Cam and Jess,	28.45 101	P	P	04 19 53.8	+0.6
	baz=302					

538A **Harpers Horsep** 28.45 107 P P 04 19 54.6 +1.4
baz=307
Q43A **New Douglas** 28.45 86 P P 04 19 52.5 -0.7
baz=291
E43A **Lone Tree Farm** 28.46 70 P P 04 19 52.6 -0.6
baz=279
339A **Huntington** 28.47 104 P P 04 19 54.6 +1.2
baz=305
KVTX **Kingsville** 28.49 114 eP P 04 19 54.6 +1.1
comp=Z,229nm,1.6s
KVTX LR LR
comp=Z,2µm,19.0s
V42A **Cord** 28.49 93 P P 04 19 53.1 -0.4
baz=297
Y41A **Eaglette Beard** 28.51 98 P P 04 19 53.8 +0.1
baz=300
R43A **Red Bud** 28.53 88 P P 04 19 52.9 -1.0
baz=292
439A **Center Grove,** 28.62 105 P P 04 19 56.1 +1.4
baz=306
W42A **Bald Knob** 28.63 94 P P 04 19 54.6 -0.2
baz=298
240A **Hunter Patters** 28.64 102 P P 04 19 55.2 +0.3
baz=303
Z41A **Richland Creek** 28.68 99 P P 04 19 55.2 0.0
baz=301
S43A **Fulton Ridge,** 28.70 89 P P 04 19 54.5 -1.0
baz=294
T43A **Greenville** 28.75 90 P P 04 19 54.8 -1.0
baz=294
035A **Encino** 28.75 115 P P 04 19 56.7 +0.8
baz=313
PBMO **Poplar Bluff** 28.77 91 eP P 04 19 55.7 -0.3
comp=Z,42nm,1.1s
340A **Bronson** 28.89 103 P P 04 19 57.5 +0.4
baz=304
X42A **Stuttgart** 28.89 96 P P 04 19 56.9 -0.2
baz=299
F44A **Big Bay de Noc** 28.91 71 P P 04 19 56.9 -0.3
baz=280
141A **Papa Simpson,** 28.95 100 P P 04 19 58.2 +0.5
baz=302
U43A **Rector** 28.96 91 P P 04 19 56.9 -0.8
baz=296
638A **Rosharon** 28.96 108 P P 04 19 58.5 +0.8
baz=308
Q44A **Meyer Farm, Va** 28.96 86 P P 04 19 56.7 -1.0
baz=292
ZAIG **Zacatecas** 29.00 127 eP P 04 20 00.7 +2.2
comp=Z,66nm,2.0s
P44A **Sand Creek, Wi** 29.05 84 P P 04 19 58.1 -0.4
baz=291
539A **Cross D Ranch,** 29.05 106 P P 04 20 00.1 +1.5
baz=306
V43A **Jonesboro** 29.11 93 P P 04 19 58.6 -0.4
baz=297
Y42A **Garnett, Star** 29.13 97 P P 04 19 59.5 +0.3
baz=300
HBAR **Harrisburg** 29.14 93 eP P 04 19 56.9 -2.4
comp=Z,27nm,0.8s
E44A **Grand Marais A** 29.15 69 P P 04 20 00.2 +0.8
baz=279
R44A **Waltonville** 29.16 87 P P 04 19 58.2 -1.3
baz=293
738A **Farr-Stevens R** 29.18 109 P P 04 20 00.3 +0.6
baz=309
440A **Kirbyville** 29.22 105 P P 04 20 00.9 +0.8
baz=305
241A **Mo Tay, Goldon** 29.25 101 P P 04 19 59.6 -0.7
baz=303
S44A **Carbondale** 29.25 88 P P 04 19 59.2 -1.1
baz=294
LNIG **Linares** 29.29 120 eP P 04 20 00.4 -0.3
comp=Z,116nm,1.9s
Z42A **Norrel Spur, H** 29.29 98 P P 04 20 00.5 -0.2
baz=301
PARMO **Parma** 29.31 90 eP P 04 19 60.0 -0.8
comp=Z,128nm,0.8s
W43A **Forest City** 29.31 94 P P 04 19 59.1 -1.7
baz=298
U44A **Portageville** 29.43 91 P P 04 20 00.8 -1.1
baz=296
X43A **Marvell** 29.45 95 P P 04 20 01.0 -1.1
baz=299
540A **Vidor** 29.52 105 P P 04 20 02.9 +0.2
baz=306
V44A **Blytheville** 29.57 92 P P 04 20 03.0 -0.1
baz=297
F45A **CMU Biological** 29.59 71 P P 04 20 03.0 -0.2
baz=281
142A **Monroe** 29.67 100 P P 04 20 04.3 +0.3
baz=302
E45A **Wooded Hills,** 29.70 70 P P 04 20 03.3 -0.9
baz=280
Y43A **Makayla and Ka** 29.71 96 P P 04 20 05.0 +0.6
baz=300
U44B **Burton Farm, H** 29.74 91 P P 04 20 04.1 -0.5
baz=296
S45A **Carrier Mills** 29.75 88 P P 04 20 03.5 -1.2
baz=294
441A **DeRidder** 29.76 104 P P 04 20 05.0 +0.2
baz=305
242A **Grayson** 29.78 101 P P 04 20 03.2 -1.8
baz=303
SFIN **Lafayette** 29.84 82 P P 04 20 03.8 -1.7
baz=289
SFIN **Lafayette** 29.84 82 eP P 04 20 05.8 +0.2
comp=Z,31nm,0.7s
HALT **Halls** 29.93 92 eP P 04 20 05.2 -1.2
comp=Z,57nm,1.3s
W44A **Shelby Farms P** 29.94 93 P P 04 20 05.2 -1.1
baz=298
143A **Socs Landing,** 29.98 99 P P 04 20 06.8 +0.1
baz=302
X44A **Crenshaw** 30.00 95 P P 04 20 05.2 -1.7
baz=299
342A **Flagon Creek P** 30.03 102 P P 04 20 06.5 -0.7
baz=304
UTMT **University of** 30.09 90 eP P 04 20 04.2 -3.5
comp=Z,115nm,0.8s
541A **Lake Charles** 30.16 105 P P 04 20 07.5 -0.9
baz=306
U45A **Rockin P Farm,** 30.16 90 P P 04 20 07.6 -0.8
baz=296
Y44A **Strider, Charl** 30.21 96 P P 04 20 08.5 -0.2
baz=300
V45A **Humboldt** 30.29 92 P P 04 20 07.7 -1.8
baz=297
USIN **University of** 30.30 87 eP P 04 20 09.4 -0.2
comp=Z,102nm,0.8s
442A **Mamou** 30.32 103 P P 04 20 10.4 +0.6
baz=305
243A **Waterproof** 30.36 100 P P 04 20 10.4 +0.3
baz=303
Z44A **Pea Ridge, Bel** 30.39 97 P P 04 20 10.4 0.0
baz=300
W45A **Hickory Valley** 30.39 93 P P 04 20 09.6 -0.7
baz=298
OXF **Oxford** 30.52 94 eP P 04 20 12.0 +0.4
OXF pmax pmax
comp=Z,120nm,0.9s
OXF **Oxford** 30.52 94 eP P 04 20 12.0 +0.4
comp=Z,116nm,0.8s
X45A **UM Field Stati** 30.58 94 P P 04 20 11.6 -0.5
baz=299
343A **Vidalia** 30.58 101 P P 04 20 12.0 -0.1
baz=304
BLO **Bloomington** 30.68 84 eP P 04 20 12.5 -0.4
BLO pmax pmax
comp=Z,69nm,0.8s
BLO **Bloomington** 30.68 84 eP P 04 20 12.5 -0.4
comp=Z,69nm,0.8s
144A **Alexander Plac** 30.72 98 P P 04 20 12.3 -1.0
baz=302
Y45A **Yeager Farm, C** 30.74 95 P P 04 20 13.6 +0.2
baz=300
443A **Delano Plantat** 30.75 102 P P 04 20 14.2 +0.6
baz=304
244A **Avery, Jackson** 30.84 99 P P 04 20 14.9 +0.5
baz=302
VBMS **Vicksburg** 30.87 99 P P 04 20 14.5 -0.2
baz=302
VBMS **Vicksburg** 30.87 99 eP P 04 20 15.1 +0.5
comp=Z,99nm,1.4s
Z45A **Winona** 30.88 96 P P 04 20 13.8 -0.9
baz=300
WVT **Waverly** 30.94 90 eP P 04 20 15.0 -0.2
WVT pmax pmax
comp=Z,25nm,0.9s
WVT **Waverly** 30.94 90 eP P 04 20 15.0 -0.2
comp=Z,25nm,0.8s
543A **St. Martinvill** 31.09 103 P P 04 20 16.5 0.0
baz=305
145A **Houston Renfro** 31.09 98 P P 04 20 16.4 -0.2
baz=301
344A **Westbrook Farm** 31.12 100 P P 04 20 17.2 +0.3
baz=303
WCI **Wyandotte Cave** 31.20 85 eP P 04 20 17.2 -0.3
WCI **Wyandotte Cave** 31.20 85 eP P 04 20 17.2 -0.3
comp=Z,33nm,0.7s
Y46A **Houston** 31.23 95 P P 04 20 17.9 +0.2
baz=299
245A **Little AP, Sta** 31.41 99 P P 04 20 19.7 +0.2
baz=302
444A **Pine Grove** 31.52 101 P P 04 20 21.5 +1.2
baz=304
146A **Union** 31.70 97 P P 04 20 22.0 0.0
baz=301
345A **Thompson Farm,** 31.71 100 P P 04 20 22.5 +0.5
baz=303
AAM **Ann Arbor** 31.71 77 PFAKE 04 20 30.0 +8.0
AAM LR LR
comp=Z,3µm,22.0s
445A **Amite** 31.80 101 P P 04 20 23.6 +0.7
baz=304
Y47A **UCPARC, Winfie** 31.95 94 P P 04 20 23.4 -0.7
baz=299
246A **Jackson Lee, B** 31.98 98 P P 04 20 23.3 -1.1
baz=302
346A **Big Creek Wild** 32.07 99 P P 04 20 25.7 +0.5
baz=303
Z47A **Carrollton** 32.14 95 P P 04 20 24.9 -0.9
baz=300
MOIG **Morelia** 32.22 129 eP P 04 20 27.7 +0.9
comp=Z,123nm,1.8s
147A **Livingston** 32.26 96 P P 04 20 26.8 0.0
baz=301
247A **Quitman** 32.33 97 P P 04 20 27.5 0.0
baz=302
645A **Chauvin** 32.34 103 P P 04 20 27.5 -0.1
baz=306
Z48A **Northport** 32.42 94 P P 04 20 27.8 -0.5
baz=300
446A **Poplarville** 32.47 100 P P 04 20 28.1 -0.6
baz=304
347A **Saraland** 32.73 98 P P 04 20 31.2 +0.2
baz=303
SWET **Sewanee** 32.73 90 eP P 04 20 31.5 +0.4
comp=Z,28nm,1.0s
646A **Port Sulphur** 32.82 102 P P 04 20 32.5 +0.7
baz=305
ACSO **Alum Creek Sta** 32.85 80 eP P 04 20 31.7 -0.3
comp=Z,23nm,0.8s
ACSO LR LR
comp=Z,3µm,19.0s
248A **Dixon Mills** 32.94 97 P P 04 20 31.7 -1.1
baz=302
447A **Lucedale** 32.97 99 P P 04 20 34.2 +1.1
baz=304
LRAL **Lakeview Retre** 33.00 95 eP P 04 20 33.1 -0.3
comp=Z,42nm,1.4s
348A **Jackson** 33.18 98 P P 04 20 35.3 +0.4
baz=303
POHA **Pohakuloa** 33.44 234 PFAKE 04 20 50.0 +12
POHA LR LR
comp=Z,3µm,19.0s
448A **Bay Minette** 33.47 99 P P 04 20 37.7 +0.2
baz=303
CPCT **Cooper Cave** 33.65 89 eP P 04 20 39.1 +0.1
comp=Z,34nm,0.7s
BRAL **Brewton** 33.93 98 PFAKE 04 20 50.0 +8.6
BRAL LR LR
comp=Z,4µm,20.0s
TKL **Tuckaleechee C** 34.10 88 eP P 04 20 43.2 +0.2
TKL **Tuckaleechee C** 34.10 88 eP P 04 20 43.1 +0.2
comp=Z,14nm,0.8s
SADO **Sadowa** 34.18 71 P P 04 20 42.6 -0.9
comp=Z,16nm,0.9s,baz=305,slow=8.4,SNR=6.9
RES **Resolute Bay** 34.53 15 P P 04 20 47.1 +1.0
comp=Z,15nm,0.8s,baz=226,slow=7.1,SNR=4.2
N54A **Moraine State** 34.74 77 P P 04 20 47.6 -0.9
baz=290
M54A **Oil Creek Stat** 34.79 76 P P 04 20 48.4 -0.4
baz=290
BG3 **Lake Jocassee** 35.02 89 eP P 04 20 51.9 +1.0
comp=Z,26nm,0.8s
MCWV **Mont Chateau** 35.31 80 eP P 04 20 53.6 +0.2
comp=Z,36nm,1.4s
GOGA **Godfrey** 35.38 91 eP P 04 20 53.6 -0.4
GOGA **Godfrey** 35.38 91 eP P 04 20 53.6 -0.4
comp=Z,53nm,0.8s
GOGA LR LR
comp=Z,3µm,19.0s
BLA **Blacksburg** 35.87 84 eP P 04 20 58.6 +0.4
BLA **Blacksburg** 35.87 84 eP P 04 20 58.6 +0.4
comp=Z,26nm,0.6s
BLA LR LR
comp=Z,3µm,21.0s
O56A **Blue Knob Stat** 36.00 78 P P 04 20 58.0 -1.3
baz=292
KMSC **Kings Mountain** 36.11 87 P P 04 20 59.1 -1.2
baz=298
KMSC **Kings Mountain** 36.11 87 eP P 04 20 59.7 -0.6
comp=Z,28nm,0.8s
VWCC **Virginia Weste** 36.17 83 eP P 04 21 01.1 +0.3
TIGA **Tifton** 36.29 94 eP P 04 21 02.7 +0.9
comp=Z,24nm,0.7s
JSC **Jenkinsville** 36.57 89 eP P 04 21 03.5 -0.7
JSC **Jenkinsville** 36.57 89 eP P 04 21 03.5 -0.7
comp=Z,91nm,0.8s
TRQ **Mont Tremblant** 36.92 67 eP P 04 21 06.5 -0.6
BINY **Binghamton** 37.15 74 PFAKE 04 21 20.0 +11
BINY LR LR
comp=Z,5µm,19.0s
IP03 **Louisa** 37.27 81 eP P 04 21 11.6 +1.5
comp=Z,58nm,1.8s
IP06 **Yanceyville** 37.33 81 eP P 04 21 11.1 +0.6
comp=Z,79nm,1.7s
LONY **Lake Ozonia** 37.35 69 eP P 04 21 10.3 -0.5
comp=Z,16nm,0.9s
LONY LR LR
comp=Z,3µm,19.0s
IP01 **Cuckoo** 37.37 81 eP P 04 21 08.2 -2.7
comp=Z,97nm,1.9s
JSRW **J. Sargeant Re** 37.50 82 eP P 04 21 12.4 +0.4
IP05 **Hopewell Churc** 37.53 81 eP P 04 21 12.2 -0.1
comp=Z,64nm,1.7s
CBN **Corbin Frederi** 37.65 80 eP P 04 21 14.0 +0.7
comp=Z,32nm,0.8s
CBN LR LR
comp=Z,4µm,19.0s
N59A **State Game Lan** 37.75 76 P P 04 21 13.4 -0.7
baz=292
URVA **University of** 37.80 82 eP P 04 21 15.6 +1.0
NHSC **New Hope** 37.92 90 eP P 04 21 15.3 -0.4
comp=Z,142nm,0.8s
NHSC LR LR
comp=Z,4µm,20.0s
FRNY **Flat Rock** 37.96 69 eP P 04 21 15.6 -0.3
comp=Z,11nm,0.8s
ACCN **Adirondack Com** 38.36 71 eP P 04 21 19.1 -0.2
comp=Z,69nm,1.9s
CNNC **Cliffs of the** 38.57 85 PFAKE 04 21 30.0 +8.9
CNNC LR LR
comp=Z,9µm,19.0s
LBNH **Lisbon** 39.27 69 eP P 04 21 27.2 +0.3
LBNH pmax pmax
comp=Z,24nm,0.8s
LBNH **Lisbon** 39.27 69 eP P 04 21 27.2 +0.3
comp=Z,24nm,0.8s
DWPF **Disney Wildern** 39.69 97 eP P 04 21 30.7 +0.2
comp=Z,34nm,0.8s
SCHQ **Schefferville** 39.94 52 P P 04 21 31.7 -0.6
comp=Z,10nm,1.0s,baz=287,slow=11,SNR=4.7
SCHQ LR LR 04 38 40.1
comp=Z,3µm,18.5s,baz=5.0,slow=37
SCHQ **Schefferville** 39.94 52 eP P 04 21 31.9 -0.4
comp=Z,28nm,1.2s
PKME **Peaks-Kenny Pk** 40.72 67 PFAKE 04 21 50.0 +11
PKME LR LR
comp=Z,4µm,22.0s
BILL **Bilibino** 41.92 329 d iP P 04 21 48.3 -0.2
BILL i 04 21 58.1
BILL i 04 23 24.4
BILL pmax pmax
comp=Z,47nm,1.2s
BILL MLR MLR
comp=Z,1µm,16.0s
MIDW **Midway** 42.74 266 PFAKE 04 22 10.0 +14
MIDW LR LR
comp=Z,2µm,20.0s
LMN **Caledonia Moun** 43.50 64 eP P 04 22 01.7 +0.1
comp=Z,29nm,0.8s
TGUH **Tegucigalpa,Un** 45.00 118 eP P 04 22 15.1 +1.2
comp=Z,44nm,1.0s
SFJD **Kangerlussuaq** 45.89 32 P P 04 22 21.1 +0.7
comp=Z,25nm,0.9s,baz=308,slow=5.0,SNR=4.8
SFJD **Kangerlussuaq** 45.89 32 i P P 04 22 20.7 +0.4
comp=Z,93nm,1.4s
SFJD **Kangerlussuaq** 45.89 32 i P P 04 22 20.7 +0.4
SFJD pmax pmax
comp=Z,93nm,1.4s
SFJD **Kangerlussuaq** 45.89 32 eP P 04 22 21.9 +1.6
comp=Z,142nm,1.5s
PET **Petropavlovsk** 48.20 309 eP P 04 22 38.3 -0.3
PET eS S 04 29 31.1 -6.1
PET pmax pmax
comp=Z,76nm,1.2s
PET **Petropavlovsk** 48.20 309 eP P 04 22 38.4 -0.1
comp=Z,77nm,1.1s
PET LR LR
comp=Z,805nm,20.0s
SEY **Seymchan** 48.33 323 P P 04 22 39.0 -0.4
comp=Z,29nm,1.0s,baz=80,slow=8.2,SNR=38
SEY **Seymchan** 48.33 323 ‖ iP P 04 22 39.3 -0.1
MTDJ **Mount Denham** 48.65 105 PFAKE 04 22 50.0 +7.4
MTDJ LR LR
comp=Z,1µm,22.0s
PEA1 **Petropavlovsk-** 48.71 309 eP P 04 22 42.0 -0.5
PEA0 **Petropavlovsk-** 48.72 309 eP P 04 22 42.0 -0.5
PEA0B **Petropavlovsk-** 48.72 309 eP P 04 22 42.6 0.0
comp=Z,106nm,1.3s
PETK **Petropavlovsk-** 48.72 309 P P 04 22 42.0 -0.5
comp=Z,27nm,0.9s,baz=74,slow=16,SNR=16
PETK LR LR 04 39 56.4
comp=Z,640nm,21.5s,baz=68,slow=32
SUMG **Summit** 48.88 24 i P P 04 22 44.8 +0.8
comp=Z,66nm,1.1s
SUMG **Summit** 48.88 24 i P P 04 22 44.8 +0.8
SUMG pmax pmax
comp=Z,66nm,1.1s
SUMG **Summit** 48.88 24 eP P 04 22 44.2 +0.2
comp=Z,52nm,0.9s
GTBY **Guantanamo Bay** 49.25 101 PFAKE 04 23 00.0 +13
GTBY LR LR
comp=Z,3µm,19.0s
BBSR **BB Station** 49.53 81 PFAKE 04 23 00.0 +11
BBSR LR LR
comp=Z,1µm,20.0s
MA2 **Magadan** 50.11 319 P P 04 22 53.2 +0.1
comp=Z,30nm,0.9s,baz=71,slow=8.2,SNR=10
GRTK **Grand Turk** 51.10 97 PFAKE 04 23 10.0 +8.9
GRTK LR LR
comp=Z,1µm,22.0s
LGNH **LØogne** 51.96 101 eP P 04 23 09.0 +1.5
comp=Z,182nm,1.4s
DAG **Danmarks Havn** 52.19 16 i P P 04 23 09.4 +0.9
comp=Z,24nm,0.8s
DAG **Danmarks Havn** 52.19 16 i P P 04 23 09.4 +0.9
DAG pmax pmax
comp=Z,18nm,0.8s
SDDR **Presa de Saban** 52.60 99 eP P 04 23 12.7 +0.4
comp=Z,33nm,0.8s
SDDR LR LR
comp=Z,2µm,21.0s
TAOE **Nuku Hiva Isla** 53.33 196 eT T 05 20 28.9
comp=Z,171nm,0.2s
BCIP **Isla Barro Col** 53.47 115 PFAKE 04 23 30.0 +11
BCIP LR LR
comp=Z,1µm,20.0s
TIXI **Tiksi** 53.54 338 P P 04 23 18.2 -0.2
comp=Z,11nm,0.6s,baz=69,slow=8.4,SNR=4.7
TIXI **Tiksi** 53.54 338 ‖ iP P 04 23 18.8 +0.3
TIXI pmax pmax
comp=Z,28nm,1.7s
TIXI **Tiksi** 53.54 338 eP P 04 23 18.2 -0.2
TIXI LR LR
comp=Z,1µm,20.0s
SDD **Santo Domingo** 53.93 99 eP P 04 23 23.0 +1.0
comp=Z,207nm,1.1s
PAYG **Puerto Ayora** 54.96 133 PFAKE 04 23 40.0 +10
PAYG LR LR
comp=Z,2µm,20.0s
KBS **Kingsbay** 55.57 9 PFAKE 04 23 50.0 +17
KBS LR LR
comp=Z,700nm,20.0s
IDE **Isla Desecheo** 55.74 97 eP P 04 23 35.5 +0.3
AGP **Aguadilla** 55.97 97 eP P 04 23 36.6 -0.2
comp=Z,222nm,1.2s
SJCC **San Jacinto, C** 56.07 110 eP P 04 23 39.3 +1.7
MPR **Mayaguez** 56.09 97 eP P 04 23 37.5 -0.1
comp=Z,74nm,1.2s
MOTC **Monteria, Cord** 56.54 112 eP P 04 23 40.6 -0.3
CELP **Cerrillos** 56.59 96 eP P 04 23 40.8 -0.5
SJG **San Juan** 56.87 96 eP P 04 23 42.9 -0.4
SJG pmax pmax
comp=Z,92nm,1.2s
SJG MLR MLR
comp=Z,2µm,20.0s
SJG **San Juan** 56.87 96 eP P 04 23 42.9 -0.4
comp=Z,92nm,1.2s
SJG LR LR
comp=Z,2µm,20.0s
CBYP **Canovanas** 56.98 96 eP P 04 23 43.4 -0.8
comp=Z,300nm,1.8s
HUMP **Col San Antoni** 57.07 96 eP P 04 23 44.2 -0.4
comp=Z,78nm,1.0s
MTP **Monte Pirata** 57.32 96 eP P 04 23 46.3 -0.1
comp=Z,156nm,0.9s
NKL **Nikolayevsk** 57.93 315 eP P 04 23 48.0 -2.2
KUR **Kuril'sk** 57.95 304 i P P 04 23 51.6 +1.1
YAK **Yakutsk** 58.24 327 P P 04 23 50.8 -1.5
comp=Z,5.4nm,0.4s,baz=116,slow=23,SNR=4.6
YAK LR LR 04 47 02.0
comp=Z,992nm,21.9s,baz=92,slow=34
YAK **Yakutsk** 58.24 327 eP P 04 23 50.8 -1.5
comp=Z,121nm,1.3s
HELC **Santa Helena** 58.53 114 eP P 04 23 55.2 -0.2
HELC **Santa Helena** 58.53 114 eP P 04 23 55.2 -0.2
comp=Z,78nm,1.3s
BRRC **Barranca, Sant** 59.08 111 eP P 04 23 55.8 -3.0
SMRT **St. Maarten** 59.15 94 eP P 04 23 58.6 -0.6
comp=Z,266nm,1.7s
H11N3 **WAKE ISLAND Hy** 59.29 269 T T 05 28 11.5
baz=50,slow=75,SNR=7252
H11N2 **WAKE ISLAND Hy** 59.29 269 T T 05 28 11.2
baz=50,slow=75,SNR=3723
H11N1 **WAKE ISLAND Hy** 59.30 269 T T 05 28 06.6
baz=50,slow=75,SNR=4048
GUYC **Guyana, Colomb** 59.33 114 eP P 04 24 00.8 -0.3
NORC **Norcasia** 59.43 114 eP P 04 24 01.2 -0.1
PAMC **Pamplona, Colo** 59.60 110 eP P 04 24 02.8 -0.1
WAKE **Wake Island** 59.75 268 PFAKE 04 24 20.0 +17
WAKE LR LR
comp=Z,1µm,21.0s
BARC **Barichara** 59.81 111 eP P 04 24 02.4 -1.7
SDV **Santo Domingo** 59.92 108 eP P 04 24 05.0 +0.2
comp=Z,40nm,1.2s
SDV LR LR
comp=Z,6µm,22.0s
YSS **Yuzh-Sakhalins** 60.06 308 eP P 04 24 05.2 +0.1
YSS e 04 24 11.2
YSS MLR MLR
comp=Z,200nm,16.0s
YSS **Yuzh-Sakhalins** 60.06 308 eP P 04 24 07.8 +2.7
comp=Z,42nm,0.9s
YSS LR LR
comp=Z,192nm,22.0s
H11S1 **WAKE ISLAND Hy** 60.21 268 T T 05 29 15.7
baz=50,slow=75
H11S2 **WAKE ISLAND Hy** 60.22 268 T T 05 29 16.5
baz=50,slow=75
H11S3 **WAKE ISLAND Hy** 60.23 268 T T 05 29 17.0
baz=50,slow=75,SNR=9223
ANWB **Willy Bob** 60.33 93 PFAKE 04 24 20.0 +13
ANWB LR LR
comp=Z,2µm,21.0s
ROSC **El Rosal** 60.33 114 P P 04 24 08.4 +0.6
comp=Z,9.1nm,0.7s,baz=19,slow=6.5,SNR=15
ROSC **El Rosal** 60.33 114 eP P 04 24 09.3 +1.5
comp=Z,126nm,2.0s

RUSC	La Rusia	60.39	112	eP		P	04 24 06.1 -2.3
RUSC	La Rusia	60.39	112	eP		P	04 24 07.7 -0.7
	comp=Z,47nm,1.5s						
POPC	Popayan, Colom	60.50	118	eP		P	04 24 06.9 -1.9
PRAC	Prado	60.79	115	eP		P	04 24 09.8 -0.8
PRAC	Prado	60.79	115	eP		P	04 24 10.3 -0.2
	comp=Z,25nm,1.0s						
CHIC	Chingaza	60.88	113	eP		P	04 24 10.2 -1.4
CMBC	Cumbal	60.99	120	eP		P	04 24 11.8 -0.5
PMOR	Pomariorio Ree	61.14	203	eT		T	05 30 14.0
	comp=Z,33nm,0.3s						
OTAV	Otavalo	61.14	121	eP		P	04 24 14.2 +0.8
	comp=Z,38nm,1.2s						
OTAV					LR	LR	
	comp=Z,2μm,21.0s						
VAH	Vaihoa	61.28	203	eT		T	05 30 25.1
	comp=Z,23nm,0.4s						
ASAJ	Asahikawa	61.72	305	P		P	04 24 16.1 -0.4
	comp=Z,11nm,0.8s,baz=13,slow=14,SNR=5.5						
ASAJ	Asahikawa	61.72	305	eP		P	04 24 16.4 -0.1
	comp=Z,38nm,1.2s						
FLOC	Florencia	61.89	117	eP		P	04 24 19.2 +1.2
ERM	Erimo	62.57	303		PFAKE		04 24 40.0 +18
ERM					LR	LR	
	comp=Z,844nm,22.0s						
FDF	Fort de France	62.70	95		PFAKE		04 24 40.0 +17
FDF					LR	LR	
	comp=Z,2μm,22.0s						
CLNS	Chul'man	63.29	324	eP		P	04 24 24.2 -2.6
CLNS					pmax	pmax	
	comp=Z,32nm,1.0s						
CLNS					pmax	pmax	
	comp=E,18nm,1.0s						
CLNS					pmax	pmax	
	comp=N,12nm,0.9s						
HABR	Khabarovsk	63.49	313	eP		P	04 24 26.7 -1.5
HABR				e*SP		pP	04 24 31.3 -1.2
HABR				e			04 25 03.3
HABR				eS		S	04 33 00.5 -0.3
HABR				e			04 34 20.1
HABR				eSS		SS	04 37 08.9 +1.7
HABR					pmax	pmax	
	comp=N,24nm,1.4s						
HABR					pmax	pmax	
	comp=E,30nm,1.4s						
HABR					pmax	pmax	
	comp=Z,67nm,1.4s						
HABR					MLR	MLR	
	comp=Z,383nm,18.0s						
TIAR	Tiarei	63.98	204	eT		T	05 33 47.0
	comp=Z,30nm,0.3s						
PPT	Papeete	64.06	204		LR	LR	04 44 41.8
	comp=Z,196nm,20.6s,baz=13,slow=29						
GRGR	Grenville	64.06	98		PFAKE		04 24 40.0 +7.6
GRGR					LR	LR	
	comp=Z,2μm,21.0s						
PPT2	Papeete2	64.08	204	eLQ		LQ	04 40 34.3
	comp=Z,2μm,30.2s						
PPT2				eLR		LR	04 43 13.6
	comp=Z,560nm,23.0s						
PPT2	Papeete2	64.08	204	eT		T	05 33 52.0
	comp=Z,4.3nm,0.3s						
TVO	Taravao	64.16	203	eT		T	05 34 01.4
	comp=Z,4.5nm,0.3s						
NRIK	Noril'sk	64.66	347	P		P	04 24 35.0 -0.5
	comp=Z,24nm,1.0s,baz=43,slow=6.1,SNR=14						
NRIK					LR	LR	04 53 35.2
	comp=Z,409nm,20.6s,baz=31,slow=37						
BBGH	Gun Hill	64.91	96		PFAKE		04 24 50.0 +12
BBGH					LR	LR	
	comp=Z,4μm,19.0s						
KEV	Kevo	65.57	10		PFAKE		04 24 50.0 +8.6
KEV					LR	LR	
	comp=Z,728nm,19.0s						
ARA0	ARCESS Array S	65.59	10	eP		P	04 24 41.0 -0.6
ARCES	ARCESS Array B	65.59	10	P		P	04 24 41.0 -0.6
	comp=Z,2.6nm,0.8s,baz=12,slow=5.9,SNR=4.1						
ARCES					LR	LR	04 53 57.0
	comp=Z,662nm,19.4s,baz=335,slow=37						
RKT	Rikitea	66.59	188	eLQ		LQ	04 41 39.9
	comp=Z,3μm,31.2s						
RKT				eLR		LR	04 44 31.7
	comp=Z,744nm,30.5s						
RKT	Rikitea	66.59	188	eT		T	05 37 04.8
	comp=Z,12nm,0.3s						
BOD	Bodaibo	66.98	329⇑	iP		P	04 24 49.0 -1.7
BOD					pmax	pmax	
	comp=Z,38nm,1.2s						
TARA	Tarawa	67.53	249		PFAKE		04 25 10.0 +15
TARA					LR	LR	
	comp=Z,87nm,19.0s						
USRK	Ussuriysk Ar.	67.79	310	P		P	04 24 54.5 -1.6
	comp=Z,19nm,1.0s,baz=64,slow=4.4,SNR=33						
USRK					LR	LR	04 51 51.8
	comp=Z,550nm,21.6s,baz=38,slow=34						
LVZ	Lovozero	68.17	7		PFAKE		04 25 10.0 +12
LVZ					LR	LR	
	comp=Z,662nm,20.0s						
MDJ	Mudanjiang	68.84	312		P	P	04 25 01.8 -0.8
MDJ					PP	PP	04 27 32.8 -1.3
MDJ					S	S	04 34 00.3 -5.7
MDJ					ScS	SKiKP	04 34 57.9 +3.9
MDJ					SS	SS	04 38 30.1 -0.2
MDJ					pmax	pmax	
	comp=Z,8.0nm,0.6s						
MDJ					pmax	pmax	
	comp=Z,240nm,11.0s						
MDJ					LR	LR	
	comp=Z,550nm,26.6s						
MDJ					LR	LR	
	comp=Z,390nm,28.6s						
MDJ					LR	LR	
	comp=Z,530nm,33.8s						
MDJ	Mudanjiang	68.84	312		PFAKE		04 25 20.0 +17
MDJ					LR	LR	
	comp=Z,424nm,20.0s						
MJAR	Matsushiro Arr	68.92	301	P		P	04 25 02.9 -0.5
	comp=Z,7.3nm,0.9s,baz=41,slow=4.7,SNR=12						
MJAR					LR	LR	04 50 04.4
	comp=Z,222nm,22.0s,baz=200,slow=32						
MAJO	Matsushiro	68.92	301	c iP		P	04 25 02.9 -0.4
MAJO				i *PP		pP	04 25 04.8 -2.8
MAJO				i *SP		sP	04 25 08.9 -0.4
MAJO					pmax	pmax	
	comp=Z,342nm,1.1s						
MAJO	Matsushiro	68.92	301	eP		P	04 25 02.8 -0.4
	comp=Z,48nm,1.0s						
MAJO					LR	LR	
	comp=Z,499nm,20.0s						
MAT	Matsushiro	68.92	301	P		P	04 25 02.5 -0.8
MJB9	Matsu-Tunnel	68.92	301	eP		P	04 25 02.9 -0.4
	comp=Z,13nm,1.0s						
MSHR	Mys Shultsa	69.29	309⇑	iP		P	04 25 05.3 -0.1
TBI	Tubuai	69.51	202	eLQ		LQ	04 42 31.8
	comp=Z,2μm,30.0s						
TBI				eLR		LR	04 44 43.0
	comp=Z,394nm,31.0s						
TBI	Tubuai	69.51	202	eT		T	05 40 42.2
	comp=Z,7.4nm,0.3s						
NC303	NORSAR Array S	70.44	20	eP		P	04 25 14.2 +2.0
NBO02	NORSAR Array S	70.46	20	eP		P	04 25 12.8 +0.4
NB2	NORSAR Subarra	70.56	20	P		P	04 25 12.9 -0.1
	comp=Z,1.8nm,0.6s,baz=329,slow=5.9						
NB200	NORSAR Array S	70.56	20	eP		P	04 25 13.2 +0.3
NOA	NORSAR Array B	70.56	20	P		P	04 25 13.3 +0.3
	comp=Z,4.3nm,0.9s,baz=331,slow=5.7,SNR=8.2						
NOA					LR	LR	04 54 34.5
	comp=Z,291nm,20.1s,baz=10.0,slow=35						
NAO01	NORSAR Array S	70.64	20	eP		P	04 25 16.6 +3.1
HIA	Hailar	70.67	320		PFAKE		04 25 30.0 +16
HIA					LR	LR	
	comp=Z,578nm,19.0s						
FUNA	Funafuti	70.89	237		PFAKE		04 25 30.0 +14
FUNA					LR	LR	
	comp=Z,7μm,20.0s						
CN2	Changchun	71.61	313	eP		P	04 25 18.6 -1.0
CN2				eS		S	04 34 34.8 -3.6
CN2					pmax	pmax	
	comp=Z,20nm,1.2s						
CN2					pmax	pmax	
	comp=Z,200nm,5.0s						
CN2					LR	LR	
	comp=Z,300nm,17.0s						
CN2					LR	LR	
	comp=Z,300nm,17.0s						
CN2					LR	LR	
	comp=Z,500nm,21.0s						
NNA	Nana	71.76	127		PFAKE		04 25 30.0 +9.2
NNA					LR	LR	
	comp=Z,893nm,20.0s						
CMLA	Cha da Macela	72.53	54		PFAKE		04 25 40.0 +15
CMLA					LR	LR	
	comp=Z,2μm,20.0s						
FIA1	FINESS Array S	73.27	13	eP		P	04 25 32.6 +3.4
FIA0	FINESS Array S	73.27	13	eP		P	04 25 29.6 +0.4
FIA0	FINESS Array S	73.27	13	eP		P	04 25 29.6 +0.4
FINES	FINESS Array B	73.27	13	P		P	04 25 29.6 +0.4
	comp=Z,16nm,1.1s,baz=357,slow=5.6,SNR=13						
FINES					LR	LR	04 55 47.8
	comp=Z,567nm,21.0s,baz=328,slow=34						
FINES	FINESS Array B	73.27	13	P		P	04 25 29.6 +0.4
FINES					pmax	pmax	
	comp=Z,9.0nm,0.7s						
PTGA	Pitinga	74.18	107	eP		P	04 25 34.9 -0.3
	comp=Z,23nm,0.9s						
KSRS	Korea Array	74.55	307	P		P	04 25 37.1 0.0
	comp=Z,4.3nm,0.9s,baz=62,slow=6.2,SNR=18						
KS01	Wonju Array Si	74.55	307	eP		P	04 25 36.3 -0.8
KS15	Wonju Array Si	74.58	307	eP		P	04 25 37.1 -0.2
KSAR	Wonju Array Be	74.58	307	P		P	04 25 37.1 -0.2
KSAR	Wonju Array Be	74.58	307	P		P	04 25 37.1 -0.2
INCN	Inchon	75.28	308		PFAKE		04 25 50.0 +8.7
INCN					LR	LR	
	comp=Z,41nm,20.0s						
KLMR	Klimovskoe	75.52	7	eP		P	04 25 41.4 -0.9
KLMR				e			04 28 29.2
KLMR					pmax	pmax	
	comp=Z,39nm,1.3s						
TLY	Talaya	75.53	330		PFAKE		04 25 50.0 +7.4
TLY					LR	LR	
	comp=Z,704nm,20.0s						
JNU	Nakatsue	75.71	302	P		P	04 25 43.4 -0.5
	comp=Z,1.6nm,0.3s,baz=163,slow=3.5,SNR=2.8						
JNU	Nakatsue	75.71	302	eP		P	04 25 43.4 -0.5
	comp=Z,24nm,1.2s						
ZAK	Zakamensk	76.72	329	eP		P	04 25 49.1 -0.4
ZAK					pmax	pmax	
	comp=Z,9.0nm,1.5s						
ULN	Ulaanbaatar	77.28	326	d iP		P	04 25 52.5 -0.2
ULN					pmax	pmax	
	comp=Z,33nm,2.5s						
ULN	Ulaanbaatar	77.28	326	eP		P	04 25 52.8 +0.1
	comp=Z,9.1nm,0.8s						
ULN					LR	LR	
	comp=Z,1μm,22.0s						
SOKR	Solikamsk	77.29	358	eP		P	04 25 57.5 +5.2
SOKR					pmax	pmax	
	comp=Z,25nm,1.6s						
SOKR					MLR	MLR	
	comp=Z,272nm,15.0s						
SONA1	Songino Array	77.56	326	eP		P	04 25 54.2 0.0
SONA0	Songino Array	77.58	326	eP		P	04 25 54.3 0.0
	comp=Z,24nm,0.9s						
SONM	Songino Array	77.58	326	P		P	04 25 54.3 0.0
	comp=Z,10.0nm,0.8s,baz=50,slow=4.6,SNR=20						
SONM					LR	LR	04 59 57.9
	comp=Z,686nm,19.9s,baz=38,slow=36						
SONM	Songino Array	77.58	326	P		P	04 25 54.3 0.0
SONM					pmax	pmax	
	comp=Z,11nm,0.9s						
SONM					MLR	MLR	
	comp=Z,686nm,19.9s						
BCLA	Clavier	77.81	29	P		P	04 25 56.0 +0.6
	comp=Z,9.1nm,1.6s						
DOU	Dourbes	77.83	29	P		P	04 25 56.4 +0.9
	comp=Z,6.8nm,1.3s						
SAML	Samuel	77.94	115	eP		P	04 25 54.7 -1.9
	comp=Z,8.4nm,1.0s						
SAML					LR	LR	
	comp=Z,2μm,21.0s						
NVS	Novosibirsk	78.72	343⇑	iP		P	04 26 00.3 -0.1
NVS					pmax	pmax	
	comp=N,18nm,1.0s						
NVS					pmax	pmax	
	comp=Z,52nm,1.0s						
NVS					pmax	pmax	
	comp=E,27nm,1.2s						
WLF	Walferdange	78.74	29		PFAKE		04 26 10.0 +9.4
WLF					LR	LR	
	comp=Z,832nm,20.0s						
MSVF	Nonsavu	78.81	232		PFAKE		04 26 10.0 +8.6
MSVF					LR	LR	
	comp=Z,972nm,19.0s						
BJI	Beijing	79.12	316	P		P	04 26 02.5 -0.3
BJI					pmax	pmax	
	comp=Z,5.0nm,1.2s						
BJT	Baijiatuau	79.14	316		PFAKE		04 26 20.0 +17
BJT					LR	LR	
	comp=Z,617nm,21.0s						
ZAA1	Zalesovo Array	79.19	341	eP		P	04 26 03.0 +0.1
ZAA0	Zalesovo Array	79.19	341	eP		P	04 26 03.1 +0.1
ZALV	Zalesovo Beam	79.19	341	P		P	04 26 03.0 +0.1
	comp=Z,2.4nm,0.5s,baz=15,slow=6.2,SNR=6.8						
ZALV					LR	LR	05 03 19.0
	comp=Z,266nm,18.8s,baz=67,slow=37						
ZALV	Zalesovo Beam	79.19	341	eP		P	04 26 02.7 -0.3
ZALV	Zalesovo Beam	79.19	341	eP		P	04 26 02.7 -0.3
GUMO	Guam	79.27	279		PFAKE		04 26 20.0 +16
GUMO					LR	LR	
	comp=Z,663nm,21.0s						
CLL	Collm	79.54	24⇓	iP		P	04 26 05.5 +0.6
CLL				i			04 26 11.7
CLL					pmax	pmax	
	comp=Z,12nm,1.2s						
CLL	Collm	79.54	24⇓	iP		P	04 26 05.5 +0.6
	comp=Z,12nm,1.2s						
CLL				i	pP	sP	04 26 11.7 +0.8
CLL				e			04 26 27.0
CLL	Collm	79.54	24	eP		P	04 26 06.0 +1.1
	comp=Z,26nm,1.4s						
POLO	Lamas de Olo	79.56	42	eP		P	04 26 06.0 +0.7
	comp=Z,21nm,1.7s						
PVRL	Vila Real	79.67	42	eP		P	04 26 06.7 +0.8
	comp=Z,26nm,1.3s						
PBRG	Braganca	79.73	41	eP		P	04 26 05.9 -0.3
SVE	Sverdlovsk	79.90	356	eP		P	04 26 06.8 0.0
SVE					pmax	pmax	
	comp=Z,29nm,1.1s						
PVIS	Viseu	80.01	42	eP		P	04 26 08.4 +0.7
MVO	Moncorvo	80.08	41	eP		P	04 26 08.9 +0.7
	comp=Z,18nm,1.4s						
BRG	Berggiesshubel	80.20	24	eP		P	04 26 08.7 +0.2
	comp=Z,14nm,1.2s						
BRG	Berggiesshubel	80.20	24	eP		P	04 26 08.7 +0.2
BRG					pmax	pmax	
	comp=Z,14nm,1.3s						
PCAS	Casmilo, Conde	80.22	43	eP		P	04 26 09.5 +0.7
LPAZ	La Paz	80.32	123	P		P	04 26 09.4 -0.8
	comp=Z,7.4nm,0.8s,baz=345,slow=5.5,SNR=29						
LPAZ	La Paz	80.32	123	eP		P	04 26 09.5 -0.8
LPAZ					pmax	pmax	
	comp=Z,12nm,0.8s						
LPAZ	La Paz	80.32	123	eP		P	04 26 09.5 -0.8
	comp=Z,12nm,0.8s						
NKC	Novy Kostel	80.32	25	eP		P	04 26 09.2 0.0
NKC				epP		sP	04 26 14.7 -0.5
NKC					AMS	AMS	05 02 30.0
	comp=Z,700nm,19.0s						
NKC	Novy Kostel	80.32	25	eP		P	04 26 09.2 0.0
NKC				e			04 26 14.7
NKC					MLR	MLR	
	comp=Z,700nm,19.0s						
ARU	Arti	80.40	357	c iP		P	04 26 09.4 -0.1
ARU							04 29 08.0
ARU					S	S	04 36 17.7 +2.9
ARU					SS	SS	04 41 26.3 +1.4
ARU					pmax	pmax	
	comp=Z,12nm,0.8s						
ARU					MLR	MLR	
	comp=Z,544nm,22.0s						
ARU	Arti	80.40	357	eP		P	04 26 08.8 -0.7
	comp=Z,16nm,0.7s						
ARU					LR	LR	
	comp=Z,631nm,22.0s						
BFO	Black Forest	80.63	28	ceP		P	04 26 12.2 +1.3
BFO	Black Forest	80.63	28	eP		P	04 26 11.9 +1.0
	comp=Z,12nm,1.0s						
BFO					LR	LR	
	comp=Z,719nm,21.0s						
PVCC	Panska Ves	80.69	24	eP		P	04 26 14.5 +3.3
PVCC	Panska Ves	80.69	24	eP		P	04 26 14.5 +3.3
HHC	Hu-ho-hao-te	80.79	319	eP		P	04 26 12.0 0.0
HHC					S	S	04 36 16.8 -2.9
HHC					SS	SS	04 41 31.9 0.0
HHC					pmax	pmax	
	comp=Z,31nm,1.1s						
HHC					pmax	pmax	
	comp=Z,90nm,5.1s						
HHC					LR	LR	
	comp=Z,400nm,19.2s						
HHC					LR	LR	
	comp=Z,550nm,16.7s						
HHC					LR	LR	
	comp=Z,560nm,22.1s						
PMOZ	Porto Moniz, M	80.85	53	eP		P	04 26 13.7 +1.2
OBN	Obninsk	80.88	9	eP		P	04 26 13.0 +1.0
OBN				i			04 26 18.7
OBN				i S		S	04 36 07.6 -12
OBN					pmax	pmax	
	comp=Z,29nm,0.8s						
OBN					MLR	MLR	
	comp=Z,407nm,17.0s						
OBN	Obninsk	80.88	9		PFAKE		04 26 20.0 +8.0
OBN					LR	LR	
	comp=Z,553nm,20.0s						
PCBR	Castelo Branco	80.88	43	eP		P	04 26 12.7 +0.3
	comp=Z,20nm,1.2s						
KSP	Ksiaz	80.90	22	eP		P	04 26 13.8 +1.5
KSP	Ksiaz	80.90	22	eP		P	04 26 13.8 +1.5
UPC	Upice	81.13	23		AMS	AMS	04 57 40.0
	comp=Z,700nm,22.0s						
PRU	Pruhonice	81.17	24	eP		P	04 26 14.8 +1.1
PRU				epP		PcP	04 26 20.7 +0.7
PRU					AMS	AMS	05 01 40.0
	comp=Z,700nm,18.5s						
PRU	Pruhonice	81.17	24	eP		P	04 26 14.8 +1.1
PRU				e			04 26 20.7
PRU					MLR	MLR	
	comp=Z,700nm,18.5s						
PMRV	Marv??o	81.24	43	eP		P	04 26 14.5 +0.2
	comp=Z,21nm,1.8s						
GOPC	GO Pecny, Ondr	81.31	24	eP		P	04 26 15.2 +0.7
GOPC				epP		PcP	04 26 21.3 +0.7
GOPC					AMS	AMS	05 01 30.0
	comp=Z,600nm,17.9s						
GOPC	GO Pecny, Ondr	81.31	24	eP		P	04 26 15.2 +0.7
GOPC				e			04 26 21.3
GOPC					MLR	MLR	
	comp=Z,600nm,17.9s						
DPC	Dobruska-Polom	81.35	23	eP		P	04 26 15.8 +1.0
DPC				epP		sP	04 26 20.8 0.0
DPC					AMS	AMS	04 58 20.0
	comp=Z,600nm,17.2s						
DPC	Dobruska-Polom	81.35	23	eP		P	04 26 15.8 +1.0
DPC				e			04 26 20.8
DPC					MLR	MLR	
	comp=Z,600nm,17.2s						
PESTR	Estremoz	81.57	43	eP		P	04 26 16.5 +0.4
	comp=Z,23nm,2.2s						
EVO	Evora	81.62	44	eP		P	04 26 17.0 +0.7
	comp=Z,22nm,1.7s						
KHC	Kasperske Hory	81.64	25	eP		P	04 26 16.9 +0.6
KHC				epP		PcP	04 26 21.6 -0.6
KHC					AMS	AMS	05 03 50.0
	comp=Z,900nm,16.8s						
KHC	Kasperske Hory	81.64	25	eP		P	04 26 16.9 +0.6
KHC				e			04 26 21.6
KHC					MLR	MLR	
	comp=Z,900nm,16.8s						
KHC	Kasperske Hory	81.64	25	eP		P	04 26 17.2 +0.9
	comp=Z,4.6nm,1.2s						
MNMC	Minye Minye	81.64	126	eP		P	04 26 17.1 +0.2
	comp=Z,20nm,0.9s						
JOW	Kunigami	81.67	299	eP		P	04 26 16.9 +0.1
	comp=Z,83nm,1.4s						
PNCL	Nicolau / Gran	81.68	44	eP		P	04 26 17.1 +0.5
SSB	Saint Sauveur	81.83	32		PFAKE		04 26 30.0 +13
SSB					LR	LR	
	comp=Z,994nm,20.0s						
GEC2	GERESS Array S	81.93	25	eP		P	04 26 20.9 +3.0
GEC2					pmax	pmax	
	comp=Z,6.0nm,1.0s						
GEC2	GERESS Array S	81.93	25	eP		P	04 26 20.9 +3.0
	comp=Z,6.0nm,1.0s						
GERES	GERESS Array B	81.93	25	P		P	04 26 17.9 -0.1
	comp=Z,2.2nm,0.9s,baz=328,slow=4.9,SNR=9.1						
GERES					LR	LR	05 04 24.4
	comp=Z,774nm,18.4s,baz=333,slow=37						
GEA0	GERESS Array S	81.94	25	eP		P	04 26 17.8 -0.1
DAVA	Damuels	82.06	28	i PcP		P	04 26 20.1 +1.4
	comp=Z,7.9nm,1.1s						
TREC	Trest	82.06	24		AMS	AMS	05 06 30.0
	comp=Z,700nm,19.2s						
PB11	IPOC Station P	82.10	127	eP		P	04 26 18.7 -0.4
	comp=Z,59nm,1.1s						
RETA	Reutte	82.18	27	i PcP		P	04 26 21.7 +2.4
	comp=Z,6.3nm,1.1s						
MORC	Moravsky Berou	82.21	22	⇓iP		P	04 26 20.1 +0.8
MORC	Moravsky Berou	82.21	22	⇓P		P	04 26 20.2 +0.9
MORF	Marmelete	82.23	45	eP		P	04 26 19.8 +0.2
MORF					AMb	AMB	04 26 22.0
	comp=Z,31nm,1.8s						
MORF	Marmelete	82.23	45	eP		P	04 26 20.4 +0.8
	comp=Z,31nm,1.7s						
MORF	Marmelete	82.23	45	eP		P	04 26 19.8 +0.2
MORF					pmax	pmax	
	comp=Z,31nm,1.8s						
PCVE	Castro Verde	82.29	44	eP		P	04 26 20.6 +0.7
	comp=Z,24nm,1.6s						
OKC	Ostrava-Krasne	82.32	22		AMS	AMS	05 01 40.0
	comp=Z,600nm,19.1s						
PBAR	Barrancos	82.38	43	eP		P	04 26 20.6 +0.3
	comp=Z,40nm,1.7s						
OJC	Ojcow	82.41	21	eP		P	04 26 20.4 +0.2
OJC	Ojcow	82.41	21	eP		P	04 26 20.4 +0.2
MOTA	Moosalm	82.42	27	i PcP		P	04 26 22.1 +1.5
	comp=Z,6.4nm,1.1s						
FETA	Feichten	82.58	28	i P		P	04 26 21.2 -0.2
	comp=Z,11nm,1.2s						
PAB	San Pablo	82.63	41		PFAKE		04 26 30.0 +8.3
PAB					LR	LR	
	comp=Z,760nm,21.0s						
PVAQ	Vaqueiros	82.63	44	eP		P	04 26 21.4 -0.3
	comp=Z,28nm,1.7s						
WTTA	Wattenberg	82.67	27	i P		P	04 26 22.2 +0.3
	comp=Z,17nm,1.4s						
ESDC	Sonseca Array	82.71	41	P		P	04 26 22.4 +0.3
	comp=Z,2.9nm,1.0s,baz=316,slow=4.9,SNR=17						
ESDC					LR	LR	04 59 54.9
	comp=Z,456nm,20.6s,baz=310,slow=33						
BRVK	Borovoye	82.72	349⇑	iP		P	04 26 22.2 +0.4
BRVK					pmax	pmax	
	comp=Z,37nm,0.8s						
BRVK	Borovoye	82.72	349	eP		P	04 26 22.3 +0.4
	comp=Z,25nm,0.9s						
BRVK					LR	LR	
	comp=Z,464nm,19.0s						
ES19	SONSECA Array	82.72	41	eP		P	04 26 21.9 -0.2
FUORN	Ofenpass-Fuorn	82.77	28	eP		P	04 26 24.3 +1.8
	comp=Z,19nm,0.9s						
BNI	Bardonecchia	82.83	31		PFAKE		04 26 30.0 +7.3
BNI					LR	LR	
	comp=Z,2μm,19.0s						
MOA	Molln	82.99	25	i PcP		P	04 26 24.8 +1.5
	comp=Z,3.4nm,0.9s						
PB01	IPOC Station P	83.19	127	eP		P	04 26 24.4 -0.4
	comp=Z,33nm,1.2s						
NIE	Niedzica	83.27	21	eP		P	04 26 25.6 +0.8
NIE	Niedzica	83.27	21	eP		P	04 26 25.6 +0.8
LANS	Liptovska Anna	83.30	21	eP		P	04 26 27.6 +2.6
LANS				e			04 26 33.0
LANS	Liptovska Anna	83.30	21	eP		P	04 26 27.6 +2.6
LANS				e			04 26 33.0
KBA	Koelnbreinsper	83.39	26	ePcP		P	04 26 27.1 +1.5
	comp=Z,11nm,0.6s						
CONA	Conrad Observa	83.40	24	i PcP		P	04 26 26.5 +1.0
	comp=Z,7.3nm,1.1s						
ABTA	Abfaltersbach	83.41	27	i PcP		P	04 26 27.0 +1.4
	comp=Z,16nm,1.4s						
STHS	Stebnicka Huta	83.51	20	eP		P	04 26 28.2 +2.2
STHS				e			04 26 34.0
STHS					pmax	pmax	
	comp=Z,7.0nm,0.7s						
STHS	Stebnicka Huta	83.51	20	eP		P	04 26 28.2 +2.2
STHS				e			04 26 34.0
KURK	Kurchatov	83.57	344⇓	iP		P	04 26 25.2 -1.1
KURK					pmax	pmax	
	comp=Z,53nm,1.2s

KURK Kurchatov 83.57 344 eP P 04 26 26.2 -0.1
comp=Z,20nm,0.9s
KURK LR LR
comp=Z,773nm,19.0s
VYHS Vyhne 83.73 22 eP P 04 26 30.2 +3.0
VYHS e 04 26 34.5
VYHS Vyhne 83.73 22 eP P 04 26 30.2 +3.0
VYHS e 04 26 34.5
MYKA Terra Mystica 83.88 26 i PcP P 04 26 31.0 +2.9
comp=Z,20nm,1.6s
ARSA Arzberg 83.91 24 i PcP P 04 26 28.8 +0.7
comp=Z,12nm,1.2s
AKASG Malin Array Be 84.04 15 P P 04 26 28.8 +0.2
comp=Z,5.7nm,0.9s,baz=345,slow=4.5,SNR=9.5
AKASG LR LR 05 05 07.6
comp=Z,603nm,19.1s,baz=340,slow=36
AKASG Malin Array Be 84.04 15 ceP P 04 26 28.7 0.0
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 84.04 15 eP P 04 26 31.1 +2.4
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 84.04 15 eP P 04 26 31.1 +2.4
comp=Z,12nm,0.9s
KIEV Kiev 84.05 15⇑ i P P 04 26 30.8 +2.1
KIEV i *PP sP 04 26 34.2 -0.5
KIEV Kiev 84.05 15 eP P 04 26 30.7 +2.0
comp=Z,13nm,1.0s
KIEV LR LR
comp=Z,812nm,22.0s
AK11 Malin Array Si 84.06 15 eP P 04 26 32.2 +3.5
KECS Kecovo 84.18 21 eP P 04 26 31.1 +1.7
KECS e 04 26 37.3
KECS pmax pmax
comp=Z,6.0nm,0.7s
KECS Kecovo 84.18 21 eP P 04 26 31.1 +1.7
KECS e 04 26 37.2
HNR Honiara 84.20 251 PFAKE 04 26 40.0 +10
HNR LR LR
comp=Z,808nm,20.0s
SOKA Soboth 84.27 25 i P P 04 26 30.4 +0.4
comp=Z,16nm,1.2s
OBKA Obir 84.27 25 i P P 04 26 29.0 -1.0
comp=Z,19nm,1.2s
UZH Uzhgorod 84.50 20 eP P 04 26 28.9 -2.1
PSZ Piszkesteto 84.55 22⇑ i P P 04 26 32.7 +1.3
PSZ Piszkesteto 84.55 22 ⇑P P 04 26 32.7 +1.3
PSZ Piszkesteto 84.55 22⇑ eP P 04 26 32.3 +0.9
PSZ Piszkesteto 84.55 22 eP P 04 26 32.7 +1.3
comp=Z,32nm,1.2s
PSZ LR LR
comp=Z,573nm,19.0s
LVC Limon Verde 84.75 128 PFAKE 04 26 40.0 +7.0
LVC LR LR
comp=Z,1μm,20.0s
RTC Rabat Centre 85.71 46 PFAKE 04 26 50.0 +13
RTC LR LR
comp=Z,2μm,19.0s
BUR08 Bucovina Ar. S 86.11 18 eP P 04 26 43.6 +4.4
BURAR Bucovina Array 86.15 18⇑ i P P 04 26 42.0 +2.6
BURAR Bucovina Array 86.15 18 ⇑P P 04 26 42.0 +2.6
DRGR 86.32 20⇑ i P P 04 26 41.5 +1.3
DRGR 86.32 20 ⇑P P 04 26 41.5 +1.3
SORM Soroca 86.33 16⇑ i P P 04 26 39.8 -0.3
SORM Soroca 86.33 16 ⇑P P 04 26 39.9 -0.2
MK32 Makanchi Array 86.44 340 eP P 04 26 40.9 +0.1
MKAR Makanchi Array 86.44 340 P P 04 26 40.9 +0.1
comp=Z,2.9nm,0.9s,baz=3.8,slow=4.8,SNR=7.2
MKAR LR LR 05 07 09.8
comp=Z,300nm,18.3s,baz=16,slow=37
MK01 Makanchi Array 86.46 340 eP P 04 26 40.4 -0.5
MAKZ Makanchi 86.50 340 eP P 04 26 40.9 -0.2
MAKZ pmax pmax
comp=Z,26nm,1.1s
MAKZ Makanchi 86.50 340 eP P 04 26 40.9 -0.2
comp=Z,26nm,1.1s
BZS Buzias 87.13 21⇓ i P P 04 26 44.3 +0.2
BZS Buzias 87.13 21 ⇓P P 04 26 44.3 +0.2
GTA Gaotai 87.21 325 eP P 04 26 44.6 -0.2
GTA pP pP 04 26 49.1 -0.2
GTA sP sP 04 26 52.3 +1.4
GTA SKS **SKSac 04 37 07.4 -4.7**
GTA S **SKKSac 04 37 21.8 +0.8**
GTA SS **SS 04 43 09.9 +3.2**
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=Z,790nm,20.9s
GTA LR LR
comp=Z,610nm,20.7s
GTA LR LR
comp=Z,1μm,21.1s
TATO Taipei 87.26 302 PFAKE 04 27 00.0 +15
TATO LR LR
comp=Z,338nm,19.0s
WHN Wuhan 87.28 311 ⇑P P 04 26 44.0 -1.1
XAN Xi'an 87.43 316 P **P 04 26 45.1 -0.8**
XAN pmax pmax
comp=Z,14nm,1.1s
XAN pmax pmax
comp=Z,99nm,6.7s
ABKAR Akbulak array 87.49 355 eP P 04 26 45.9 +0.1
comp=Z,79nm,0.9s
YHNB Yeheng 87.55 302 PFAKE 04 27 00.0 +13
YHNB LR LR
comp=Z,329nm,20.0s
AQU L'Aquila 87.59 28 PFAKE 04 27 00.0 +13
AQU LR LR
comp=Z,807nm,22.0s
WMQ Urumqi 87.69 335 P **P 04 26 47.3 +0.3**
WMQ pP sP 04 26 53.9 +0.9
WMQ sP pP 04 26 56.9 +5.5
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=Z,600nm,21.7s
WMQ LR LR
comp=Z,570nm,16.9s
WMQ LR LR
comp=Z,820nm,19.5s
ARR Arges 88.12 19⇓ i P P 04 26 48.4 -0.6
PLOR Plostina 88.14 18⇑ i P P 04 26 50.7 +1.7
PLOR Plostina 88.14 18 ⇑P P 04 26 50.7 +1.7
VRI Vrincioaia 88.14 18⇓ i P P 04 26 49.8 +0.8
VRI Vrincioaia 88.14 18 ⇓P P 04 26 49.8 +0.8
VOIR 88.16 19⇓ i P P 04 26 50.1 +0.9
VOIR 88.16 19 ⇓P P 04 26 50.1 +0.9
LZH Lanzhou 88.22 321 eP P 04 26 50.3 +0.5
LZH pP pP 04 26 53.3 -0.9
LZH sP sP 04 26 56.3 +0.5
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,300nm,4.5s
LZH LR LR
comp=Z,480nm,12.0s
LZH LR LR
comp=Z,740nm,15.3s
LZH LR LR
comp=Z,970nm,16.6s
VSL Villasalto 88.62 32 PFAKE 04 27 00.0 +8.6
VSL LR LR
comp=Z,813nm,21.0s
LCO Las Campanas 88.78 133 PFAKE 04 27 00.0 +7.6
LCO LR LR
comp=Z,942nm,20.0s
DZM Mont Dzumac 89.10 238 eLR LR 04 55 13.4
comp=Z,2μm,25.1s
DZM Mont Dzumac 89.10 238 eP P 04 26 55.4 +1.6
comp=Z,82nm,1.5s
CFR Carcaliu 89.10 17⇑ i P P 04 26 53.9 +0.4
CFR Carcaliu 89.10 17 ⇑P P 04 26 53.9 +0.4
SACV Santiago Islan 89.44 70 PFAKE 04 27 10.0 +14
SACV LR LR
comp=Z,581nm,20.0s
ENH Enshi 90.12 314 eP P 04 26 57.8 -0.9
comp=Z,44nm,1.1s
ENH LR LR
comp=Z,375nm,21.0s
TIR Tirane 90.57 24 PFAKE 04 27 10.0 +10
TIR LR LR
comp=Z,721nm,20.0s
CLTB Caltabellotta 91.75 30 PFAKE 04 27 20.0 +14
CLTB LR LR
comp=Z,397nm,21.0s
KEST Kesra 91.86 34 LR LR 05 09 00.4
comp=Z,417nm,18.3s,baz=234,slow=36
AAK Ala-Archa 92.13 344 PFAKE 04 27 20.0 +12
AAK LR LR
comp=Z,665nm,19.0s
CD2 Chengdu 92.52 318 P **P 04 27 09.5 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
KIV Kislovodsk 92.54 7 PFAKE 04 27 20.0 +10
KIV LR LR
comp=Z,432nm,20.0s
KBZ Khabaz 92.79 7 LR LR 05 11 53.4
comp=Z,424nm,19.1s,baz=348,slow=38
PMG Port Moresby 93.20 260 PFAKE 04 27 30.0 +17
PMG LR LR
comp=Z,776nm,21.0s
WDD Wied Dalam 93.78 30 PFAKE 04 27 30.0 +15
WDD LR LR
comp=Z,442nm,20.0s
CPUP Villa Florida 94.46 122 P **P 04 27 18.8 +0.4**
comp=Z,1.5nm,0.7s,baz=231,slow=14,SNR=2.5
GYA Guiyang 94.65 313⇑ i P P 04 27 20.4 +0.7
GYA PP **PP 04 31 10.3 +3.1**
GYA SKS **SKSac 04 37 54.0 -1.1**
GYA S **S 04 38 29.6 -3.1**
GYA SS **SS 04 44 56.4 +1.7**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,140nm,6.3s
GYA LR LR
comp=Z,4μm,21.5s
GYA LR LR
comp=Z,3μm,22.7s
GYA LR LR
comp=Z,4μm,23.0s
KSH Kashi 94.81 342 eP P 04 27 18.8 -1.4
KSH pP pP 04 27 24.8 +0.1
KSH PP **PP 04 31 10.0 +2.2**
KSH SKS **SKSac 04 37 49.1 -6.5**
KSH S **SKKSac 04 38 25.6 +8.0**
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH pmax pmax
comp=Z,170nm,7.2s
KSH LR LR
comp=Z,680nm,19.0s
KSH LR LR
comp=Z,1μm,18.6s
KSH LR LR
comp=Z,400nm,14.9s
RCBR Riachuelo 94.94 93 PFAKE 04 27 30.0 +8.9
RCBR LR LR
comp=Z,1μm,21.0s
ANTO Ankara 95.15 15 PFAKE 04 27 30.0 +8.3
ANTO LR LR
comp=Z,570nm,20.0s
BR101 Keskin Array S 95.45 15 eP P 04 27 23.3 +0.1
BRTR Keskin Array B 95.45 15 P **P 04 27 23.3 +0.1**
comp=Z,0.7nm,0.8s,baz=214,slow=47,SNR=2.8
BRTR LR LR 05 12 08.1
comp=Z,343nm,19.8s,baz=326,slow=37
GNI Garni 96.50 6 PFAKE 04 27 40.0 +12
GNI LR LR
comp=Z,463nm,21.0s
ISP Isparta 96.66 18 PFAKE 04 27 40.0 +11
ISP LR LR
comp=Z,545nm,21.0s
SANT Santorini 96.79 22 PFAKE 04 27 40.0 +11
SANT LR LR
comp=Z,279nm,21.0s
DAV Davao City (W) 97.45 287 PFAKE 04 27 40.0 +7.4
DAV LR LR
comp=Z,449nm,21.0s
KMI Kunming 97.78 316 P Pdif 04 27 34.6 +0.4
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,130nm,5.1s
QIZ Qiongzhong 98.77 307 P **P 04 27 38.1 -0.2**
QIZ S **S 04 39 05.1 -2.9**
QIZ pmax pmax
comp=Z,16nm,1.6s
QIZ pmax pmax
comp=Z,240nm,12.9s
QIZ Qiongzhong 98.77 307 PFAKE 04 27 50.0 +12
QIZ LR LR
comp=Z,273nm,20.0s
GEYT Alibeck 98.88 356 LR LR 05 17 02.0
comp=Z,341nm,19.1s,baz=20,slow=38
SPB Sao Paulo 98.89 114 PFAKE 04 27 50.0 +11
SPB LR LR
comp=Z,999nm,22.0s
LSA Lhasa 99.16 327 PFAKE 04 27 50.0 +9.5
LSA LR LR
comp=Z,807nm,19.0s
SNZO South Karori 99.20 220 PFAKE 04 27 50.0 +11
SNZO LR LR
comp=Z,1μm,20.0s
CSS Mathiatis 100.00 16 PFAKE 04 28 00.0 +16
CSS LR LR
comp=Z,80nm,20.0s
TRQA Tornquist 100.36 133 PFAKE 04 28 00.0 +15
TRQA LR LR
comp=Z,1μm,21.0s
CTAO Charters Tower 101.07 253 PFAKE 04 28 00.0 +12
CTAO LR LR
comp=Z,1μm,20.0s
TAM Tamanrasset 101.12 44 PFAKE 04 28 00.0 +11
TAM LR LR
comp=Z,529nm,20.0s
KKM Kota Kinabalu 104.60 293 PFAKE 04 28 20.0 +16
KKM LR LR
comp=Z,127nm,20.0s
CHTO Chiang Mai 104.96 315 PFAKE 04 28 20.0 +14
CHTO LR LR
comp=Z,308nm,22.0s
CAN Canberra 109.23 239 PFAKE 04 32 40.0
CAN LR LR
comp=Z,513nm,22.0s
WRAB Tennant Creek 109.40 261 PFAKE 04 32 40.0
WRAB LR LR
comp=Z,1μm,21.0s
WR1 Warramunga Arr 109.42 261 eP KiKP **PKiKP 04 32 28.8 -0.2**
WRA Warramunga Arr 109.42 261 PKiKP **PKiKP 04 32 28.8 -0.2**
comp=Z,0.9nm,0.8s,baz=36,slow=2.0,SNR=7.4
KAPI Kappang 110.06 282 PFAKE 04 32 40.0
KAPI LR LR
comp=Z,185nm,20.0s
KSM Kuching 111.91 295 PFAKE 04 32 50.0
KSM LR LR
comp=Z,133nm,21.0s
AS31 Alice Springs 112.09 258 eP KiKP **PKiKP 04 32 34.0 0.0**
ASAR Alice Springs 112.09 258 PKiKP **PKiKP 04 32 34.0 +0.1**
comp=Z,1.5nm,1.0s,baz=85,slow=2.2,SNR=4.8
ASAR Alice Springs 112.09 258 i PKIKP **PKiKP 04 32 34.0 +0.1**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
RAYN Ar Rayn 113.06 7 PFAKE 04 32 50.0
RAYN LR LR
comp=Z,259nm,21.0s
TAU Tasmania Unive 114.96 234 PFAKE 04 32 50.0 +11
TAU LR LR
comp=Z,1μm,19.0s
KULM Kulim 115.07 305 PFAKE 04 32 50.0 +10
KULM LR LR
comp=Z,278nm,20.0s
MBWA Marble Bar 120.78 269 PFAKE 04 33 00.0 +9.4
MBWA LR LR
comp=Z,621nm,20.0s
VNDA Vanda 128.07 195 PKP **PKPdf 04 33 02.7 -0.3**
comp=Z,0.7nm,0.8s,baz=168,slow=0.7,SNR=3.9
NWAO Narrogin (SRO) 129.38 259 PFAKE 04 33 20.0 +13
NWAO LR LR
comp=Z,457nm,22.0s
QSPA South Pole Qui 133.23 180 PFAKE 04 33 30.0 +17
QSPA LR LR
comp=Z,602nm,21.0s
KMBO Kilima Mbogo 135.68 22 PFAKE 04 33 30.0 +10
KMBO LR LR
comp=Z,420nm,21.0s
VNA3 Neumayer Olymp 139.22 154 PKP **PKPdf 04 33 28.4 +4.3**
VNA1 Neumayer--Stat 139.77 153 PKP **PKPdf 04 33 23.2 -1.8**
VNA2 Neumayer--Watz 140.01 154 PKP **PKPdf 04 33 27.7 +2.2**
baz=334,slow=15
SNAA Sanae 141.26 155 PKP PKPdf 04 33 46.1 +18
SNAA Sanae 141.26 155 ePKIKP **PKPdf 04 33 27.1 -0.7**
SNAA Sanae 141.26 155 ePKPdf **PKPdf 04 33 27.1 -0.7**
TSUM Tsumeb 141.89 62 PFAKE 04 33 40.0 +9.4
TSUM LR LR
comp=Z,759nm,20.0s
LSZ Lusaka 144.98 44 ePKIKP PKPbc 04 33 35.6 +0.3
LSZ MLR MLR
comp=Z,654nm,21.0s
LSZ Lusaka 144.98 44 ePKPdf PKPbc 04 33 35.6 +0.3
LSZ LR LR
comp=Z,654nm,21.0s
NVL N'lazarevskaya 145.97 157 ePKP2 **PKPab 04 33 38.7 +1.5**
LBTB Lobatse 151.19 59 ePKIKP **PKPbc 04 33 53.7 +1.8**
LBTB Lobatse 151.19 59 ePKPbc **PKPbc 04 33 53.7 +1.8**
SYO Syowa Base 153.45 169⇓ epPKPbc pPKPbc 04 34 03.0 +3.0
BOSA Boshof 153.46 65 PKPbc **PKPbc 04 33 56.3 -0.6**
comp=Z,5.2nm,0.9s,baz=66,slow=0.6,SNR=5.3
MAW Mawson 155.16 189 PKP **PKPdf 04 33 51.5 +1.3**
comp=Z,5.6nm,1.1s,baz=352,slow=7.1,SNR=3.5
MAW PKPab **PKPab 04 34 14.2 -0.8**
comp=Z,4.9nm,1.0s,baz=201,slow=4.9,SNR=3.7
ABPO Ambohimpanom 155.23 13 PFAKE 04 34 00.0 +7.9
ABPO LR LR
comp=Z,253nm,19.0s

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*ISCJB **13** 04:27:52.3±0.3, 35°.62N±0°.04×115°.48E±0°.04, h10km, mb3.9/10, Error ellipse: s-maj=5.5km s-min=4.3km az=179.0*
*IDC **13** 04:27:53.4±0.8, 35°.58N×115°.74E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/37, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=24.2km s-min=18.7km az=57.0*
*BJI **13** 04:27:54.1, 35°.75N×115°.50E, h10km, mb4.0/4, mB4.3/1, ML4.3/24, Ms3.9/8, Ms7 3.8/8*
*NEIC **13** 04:27:54.6±0.5, 35°.64N×115°.71E, h10km, mb4.4/2, ML4.3(BJI), Error ellipse: s-maj=12.8km s-min=9.5km az=70.0*

ISC 13 04:27:55.7±0.5, 35°.70N±0°.03×115°.66E±0°.03, h10km, n42, σ2.32/62, mb4.0/10, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.29**	**66**	Pn	**Pn**	**04 28 19.1**	**-0.7**
TIA				Pg	**Pb**	**04 28 22.0**	**+1.9**
TIA				Sg	**Sb**	**04 28 38.8**	**+2.0**
TIA				smax	smax		
	comp=N,4μm,1.0s						
TIA				smax	smax		
	comp=E,2μm,0.6s						
TIA	**Tai'an**	**1.29**	**66**	Pn	**Pn**	**04 28 19.1**	**-0.7**
TIA				Pg	**Pb**	**04 28 22.0**	**+1.9**
TIA				Sg	**Sb**	**04 28 38.8**	**+2.0**
TIY	**Taiyuan**	**3.28**	**309**	Pn	**Pn**	**04 28 45.9**	**-1.4**
TIY				Pg	**Pb**	**04 28 52.8**	**-1.3**
TIY				Sg	**Sn**	**04 29 28.5**	**+2.1**
TIY	**Taiyuan**	**3.28**	**309**	Pn	**Pn**	**04 28 45.9**	**-1.4**
TIY				Pg	**Pb**	**04 28 52.8**	**-1.3**
TIY				Sg	**Sn**	**04 29 28.5**	**+2.1**
BJT	**Baijiatuau**	**4.33**	**5**	ePn	Pn	04 28 57.9	-3.7
BJT				eSn	**Sn**	**04 29 51.0**	**-1.2**
BJI	**Beijing**	**4.36**	**5**	Pn	Pn	04 28 57.3	-4.6
BJI				Pg	**Pb**	**04 29 12.3**	**0.0**
BJI				Sg	**Sb**	**04 30 05.0**	**+0.1**
BJI				smax	smax		
	comp=N,520nm,1.1s						
BJI				smax	smax		
	comp=E,190nm,0.6s						
NJ2	**Nanjing**	**4.50**	**143**	ePn	**Pn**	**04 29 03.0**	**-0.9**
NJ2				Pg	**Pb**	**04 29 18.4**	**+3.6**
NJ2				Sn	**Sn**	**04 29 56.1**	**-0.2**
NJ2				Sg	**Sg**	**04 30 17.3**	**-3.0**
NJ2				smax	smax		
	comp=N,310nm,0.6s						
NJ2				smax	smax		
	comp=E,320nm,0.5s						
NJ2	**Nanjing**	**4.50**	**143**	ePn	**Pn**	**04 29 03.0**	**-0.9**
NJ2				Pg	**Pb**	**04 29 18.4**	**+3.6**
NJ2				Sn	**Sn**	**04 29 56.1**	**-0.2**
NJ2				Sg	**Sg**	**04 30 17.3**	**-3.0**
WHN	**Wuhan**	**5.26**	**192**	Pn	Pn	04 29 09.8	-4.5
WHN				Pg	**Pb**	**04 29 30.8**	**+3.1**
WHN				Sg	**Sb**	**04 30 34.4**	**+3.6**
WHN				smax	smax		
	comp=N,1μm,0.7s						
WHN				smax	smax		
	comp=E,2μm,1.2s						
WHN	**Wuhan**	**5.26**	**192**	Pn	Pn	04 29 09.8	-4.5
WHN				Pg	**Pb**	**04 29 30.8**	**+3.1**
WHN				Sg	**Sb**	**04 30 34.4**	**+3.6**
XAN	**Xi'an**	**5.78**	**255**	Pn	Pn	04 29 16.9	-4.7
XAN				Pg	**Pb**	**04 29 37.8**	**+1.1**
XAN				Sn	**Sn**	**04 30 28.9**	**+0.9**
XAN				Sg	**Sb**	**04 30 53.8**	**+7.8**
XAN				smax	smax		
	comp=N,210nm,0.9s						
XAN				smax	smax		
	comp=E,150nm,0.9s						
XAN				LR	LR		
	comp=N,1μm,11.8s						
XAN				LR	LR		
	comp=E,600nm,11.8s						
XAN				LR	LR		
	comp=Z,820nm,12.4s						
HHC	**Hu-ho-hao-te**	**6.07**	**329**	ePg	**Pb**	**04 29 43.8**	**+2.2**
HHC				Sg	**Sb**	**04 30 57.1**	**+2.8**
HHC				smax	smax		
	comp=N,280nm,0.7s						
HHC				smax	smax		
	comp=E,430nm,0.9s						
ENH	**Enshi**	**7.49**	**226**	ePn	Pn	04 29 40.6	-4.5
ENH				eSn	**Sn**	**04 31 11.9**	**+1.7**
ENH				eSg	**Sg**	**04 31 51.8**	**-4.4**
LZH	**Lanzhou**	**9.60**	**276**	eP	**Pn**	**04 30 13.5**	**-0.6**
LZH				smax	smax		
	comp=N,270nm,1.1s						
LZH				smax	smax		
	comp=E,210nm,1.0s						
LZH				LR	LR		
	comp=E,610nm,6.8s						
LZH				LR	LR		
	comp=Z,460nm,9.9s						
KS15	**Wonju Array Si**	**9.98**	**76**	ePn	**Pn**	**04 30 22.4**	**+3.3**
KS15				eLg	Lg	04 33 14.3	
KSAR	**Wonju Array Be**	**9.98**	**76**	Pn	**Pn**	**04 30 22.4**	**+3.3**
KSAR				Lg	Lg	04 33 09.6	
KSRS	**Korea Array**	**10.02**	**76**	Pn	**Pn**	**04 30 22.4**	**+2.8**
	0.4nm,0.3s,baz=38,slow=49,SNR=4.1						
KSRS				Lg	Lg	04 33 09.5	
	0.3nm,0.3s,baz=259,slow=25,SNR=4.4						
CD2	**Chengdu**	**11.04**	**248**	eP	**Pn**	**04 30 30.8**	**-2.9**
GTA	**Gaotai**	**13.11**	**291**	eP	Pn	04 30 58.1	-3.9
GTA				pP	P	04 31 02.5	-10
GTA				sP		04 31 05.9	
GTA				S	**Sn**	**04 33 25.8**	**-2.2**
GTA				sS	S	04 33 31.3	-22
GTA				SS	**SnSn**	**04 33 39.8**	**-0.2**
GTA				LR	LR		
	comp=N,420nm,13.3s						
GTA				LR	LR		
	comp=E,560nm,11.4s						
GTA				LR	LR		
	comp=Z,540nm,12.4s						
JOW	**Kunigami**	**13.93**	**126**	ePn	Pn	04 31 07.2	-6.0
SONA0	**Songino Array**	**13.95**	**333**	ePn	**Pn**	**04 31 16.2**	**+2.8**
SONM	**Songino Array**	**13.95**	**333**	Pn	**Pn**	**04 31 16.2**	**+2.8**
	0.3nm,0.3s,baz=153,slow=14,SNR=2.1						
SONM				Lg	Lg	04 35 03.8	
	0.3nm,0.3s,baz=167,slow=21,SNR=4.6						
USRK	**Ussuriysk Ar.**	**15.11**	**51**	Lg	Lg	04 35 59.1	
	0.2nm,0.3s,baz=239,slow=24,SNR=4.2						
MJAR	**Matsushiro Arr**	**18.23**	**81**	P	**Pn**	**04 32 09.2**	**+0.4**
	0.5nm,0.3s,baz=271,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	**22.67**	**225**	P	**P**	**04 32 57.8**	**+0.5**
	1.0nm,0.3s,baz=26,slow=10,SNR=6.3						
WMQ	**Urumqi**	**22.90**	**299**	eP	**P**	**04 32 56.1**	**-3.5**
MK32	**Makanchi Array**	**27.24**	**304**	eP	**P**	**04 33 40.7**	**+0.8**
MKAR	**Makanchi Array**	**27.24**	**304**	P	**P**	**04 33 40.7**	**+0.8**

0.8nm,0.8s,baz=93,slow=13,SNR=3.3
KURK Kurchatov 30.52 311 *e*P **P 04 34 08.9 0.0**
KURBB Kurchatov Arra 30.55 311 P **P 04 34 08.9 -0.3**
0.6nm,0.6s,baz=109,slow=9.8,SNR=4.8
WR1 Warramunga Arr 58.10 159 *e*P **P 04 37 46.9 -2.4**
14nm,1.5s
WRA Warramunga Arr 58.10 159 P **P 04 37 46.9 -2.4**
1.6nm,0.8s,baz=348,slow=7.8,SNR=8.1
IL1 Eielson Array 61.34 29 *e*P **P 04 38 12.5 +1.3**
ILAR Eielson Array 61.34 29 P **P 04 38 11.2 0.0**
0.3nm,0.5s,baz=296,slow=5.9,SNR=7.4
ILB Eielson Array 61.34 29 *e*P **P 04 38 11.2 0.0**
AS31 Alice Springs 61.51 161 *e*P **P 04 38 11.1 -1.7**
2.3nm,1.4s
ASAR Alice Springs 61.52 161 P **P 04 38 11.1 -1.7**
1.5nm,0.8s,baz=336,slow=6.1,SNR=13
AS01 Alice Springs 61.53 161 *e*P **P 04 38 12.0 -0.9**
BR101 Keskin Array S 62.81 301 *e*P **P 04 38 20.9 -0.7**
BRTR Keskin Array B 62.81 301 P **P 04 38 21.0 -0.7**
1.3nm,1.0s,baz=31,slow=3.4,SNR=3.0
PD31 Pinedale Array 91.67 32 *e*P **P 04 41 03.1 -0.5**
PDAR Pinedale Array 91.67 32 P **P 04 41 03.1 -0.5**
0.4nm,0.8s,baz=20,slow=2.9,SNR=3.1

IDC 13 04:37:40.0±999.0, 51°.23N×114°.83E, h0km, Error ellipse: s-maj=692.8km s-min=195.0km az=104.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.50**	**115**	*i*		06 01 50.0	
baz=307,slow=325,SNR=1.8							
I30JP	**ISUMI INFRASON**	**24.27**	**121**	*i*		07 06 20.0	
baz=320,slow=324,SNR=0.7							
I44RU	**PETROPAVLOVSK**	**26.09**	**69**	*i*		07 17 10.0	
baz=283,slow=327,SNR=0.5							

*ISCJB **13** 04:38:05.9±0.5, 22°.30N±0°.02×121°.45E±0°.03, h19km±5km, Error ellipse: s-maj=4.4km s-min=4.2km az=8.6*
*TAP **13** 04:38:07.5, 22°.31N×121°.29E, h37km, ML3.5, B*
*JMA **13** 04:38:08.1±0.1, 22°.57N×121°.50E, h7km±3km, M3.4*
ISC 13 04:38:06.3±1.1, 22°.35N±0°.02×121°.40E±0°.03, h14km±9km, n46, σ0°.82/81, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**156**	*i* P	**Pb**	**04 38 15.7**	**+1.6**
baz=134							
LAY				S	**Sn**	**04 38 22.2**	**-1.3**
baz=134							
TTN	**Taitung**	**0.47**	**329**	P	**Pn**	**04 38 18.2**	**-0.3**
baz=334							
TTN				*e*S	**Sn**	**04 38 27.1**	**+0.5**
baz=334							
TAW	**Tawu**	**0.47**	**271**	*i* P	**Pg**	**04 38 16.1**	**+0.5**
baz=281							
TAW				*i* S	**Sg**	**04 38 22.4**	**+0.4**
baz=281							
ECL	**Taimali**	**0.48**	**300**	*i* P	**Pg**	**04 38 16.5**	**+0.6**
baz=313							
ECL				*e*S	**Sg**	**04 38 23.0**	**+0.7**
baz=313							
EAST	**Anshou**	**0.52**	**274**	*i* P	**Pg**	**04 38 16.8**	**+0.3**
baz=287							
EAST				*e*S	**Sg**	**04 38 23.5**	**+0.1**
baz=287							
TWG	**Pinlang**	**0.56**	**327**	*e*P	**Pb**	**04 38 18.0**	**+0.2**
baz=332							
TWG				*e*S	**Sb**	**04 38 26.2**	**+0.5**
baz=332							
TSEB	**Hengchuen, Pin**	**0.65**	**226**	P	**Pg**	**04 38 19.1**	**+0.1**
baz=225							
TSEB				*e*S	**Sb**	**04 38 28.3**	**+0.1**
baz=225							
TWK1	**Hengchun**	**0.69**	**234**	P	**Pg**	**04 38 19.1**	**-0.6**
baz=230							
TWK1				S	**Sg**	**04 38 27.6**	**-1.2**
baz=230							
HEN	**Hengchun**	**0.71**	**241**	P	**Pg**	**04 38 19.6**	**-0.5**
baz=246							
HEN				S	**Sg**	**04 38 28.4**	**-1.0**
baz=246							
SCZT	**Fangliau**	**0.73**	**272**	P	**Pg**	**04 38 20.0**	**-0.5**
baz=276							
SCZT				S	**Sg**	**04 38 29.1**	**-0.9**
baz=276							
CHKT	**Chengkung**	**0.74**	**357**	*e*P	**Pb**	**04 38 21.5**	**+0.5**
baz=355							
CHKT				*e*S	**Sb**	**04 38 32.2**	**+1.1**
baz=355							
SSD	**Sandimen**	**0.81**	**299**	P	**Pg**	**04 38 21.6**	**-0.5**
baz=306							
SSD				*e*S	**Sg**	**04 38 31.5**	**-1.3**
baz=306							
ELDTW	**Lidau**	**0.91**	**337**	*e*P	**Pg**	**04 38 22.9**	**-0.9**
baz=350							
TWF1	**Yuli**	**1.00**	**354**	*e*P	**Pb**	**04 38 24.3**	**-1.1**
baz=352							
STYT	**Tauyuan**	**1.00**	**324**	P	**Pb**	**04 38 25.2**	**-0.3**
baz=338							
STYT				*e*S	**Sg**	**04 38 39.3**	**+0.4**
baz=338							
TWM1	**Shoushan**	**1.02**	**298**	*e*P	**Pg**	**04 38 26.4**	**+0.3**
baz=303							
TWM1				*e*S	**Sg**	**04 38 39.6**	**+0.2**
baz=303							
SGST	**Jiashian**	**1.05**	**314**	P	**Pn**	**04 38 27.0**	**+0.4**
baz=320							
SGST				*e*S	**Sn**	**04 38 41.2**	**+0.1**
baz=320							
WTP	**Ta-pu**	**1.15**	**321**	*e*P	**Pb**	**04 38 28.2**	**+0.2**
baz=333							
WTP				*e*S	**Sb**	**04 38 43.1**	**+0.3**
baz=333							
EHY	**Hungye**	**1.15**	**356**	*e*P	**Pb**	**04 38 26.4**	**-1.6**
baz=353							
CHN1	**Nanshi**	**1.16**	**316**	*e*P	**Pb**	**04 38 28.0**	**-0.1**
baz=321							
CHN1				*e*S	**Sb**	**04 38 42.6**	**-0.4**
baz=321							
YUS	**Yu-Shan**	**1.21**	**340**	*e*P	**Pb**	**04 38 28.3**	**-0.9**
baz=348							
TWK	**Hsinying**	**1.24**	**317**	*e*P	**Pn**	**04 38 29.5**	**+0.2**
baz=322							
TWK				*e*S	**Sg**	**04 38 46.9**	**+0.5**
baz=322							
CHN4	**Tsaushan**	**1.24**	**323**	*e*P	**Pn**	**04 38 29.6**	**+0.3**
baz=327							
CHN4				*e*S	**Sg**	**04 38 47.6**	**+1.1**
baz=327							
ALS	**Alishan**	**1.28**	**335**	P	**Pn**	**04 38 30.0**	**0.0**
baz=339							
ALS				*e*S	**Sb**	**04 38 46.7**	**0.0**
baz=339							
CHN5	**Tsauling**	**1.41**	**332**	*e*P	**Pn**	**04 38 32.1**	**+0.5**
baz=320							
WDT	**Danda**	**1.42**	**350**	*e*P	**Pn**	**04 38 31.1**	**-0.8**
CHY	**Chiayi**	**1.46**	**322**	*e*P	**Pn**	**04 38 32.3**	**+0.2**
baz=325							
CHY				*e*S	**Sn**	**04 38 50.7**	**-0.3**
baz=325							
SMLT	**Sun Moon Lake**	**1.59**	**343**	P	**Pb**	**04 38 35.5**	**-0.1**
baz=346							
SMLT				*e*S	**Sb**	**04 38 56.0**	**+0.3**
baz=346							
TYC	**Yuchr**	**1.62**	**342**	P	**Pn**	**04 38 35.6**	**+1.1**
baz=345							
TYC				*e*S	**Sb**	**04 38 57.4**	**+1.0**
baz=345							
WNT	**Mingjian**	**1.66**	**337**	*e*P	**Pn**	**04 38 36.1**	**+1.2**
baz=339							
WNT				*e*S	**Sb**	**04 38 57.5**	**+0.1**
baz=339							
TWD	**Chiawan**	**1.73**	**6**	*e*S	**Sb**	**04 38 59.6**	**+0.2**
baz=360							
WHF	**Hehuan Shan**	**1.79**	**356**	*e*P	**Pn**	**04 38 36.5**	**-0.6**
baz=9.0							
WHF				*e*S	**Sn**	**04 38 59.3**	**-0.6**
baz=9.0							
TWT	**Tachien**	**1.90**	**354**	*e*P	**Pb**	**04 38 40.2**	**-0.8**
baz=354							
TWQ1	**Liyutan**	**2.07**	**344**	*e*P	**Pn**	**04 38 41.8**	**+1.1**
baz=345							
TWQ1				*e*S	**Sn**	**04 39 07.1**	**+0.9**
baz=345							
ENA	**Nanau**	**2.09**	**8**	*e*P	**Pn**	**04 38 41.5**	**+0.6**
baz=360							
ENA				*e*S	**Sn**	**04 39 06.8**	**+0.1**
baz=360							
PNG	**Penghu**	**2.09**	**306**	*e*P	**Pn**	**04 38 40.9**	**0.0**
baz=307							
NSY	**Sanyi**	**2.14**	**344**	*e*P	**Pn**	**04 38 42.2**	**+0.6**
baz=345							
NSY				*e*S	**Sb**	**04 39 10.3**	**-0.9**
baz=345							
NSTT	**Nanjuang**	**2.30**	**351**	*e*P	**Pb**	**04 38 46.2**	**-1.3**
baz=338							
NSTT				*e*S	**Sn**	**04 39 13.6**	**+1.7**
baz=338							
NSK	**Sanguang**	**2.31**	**359**	*e*P	**Pn**	**04 38 44.7**	**+0.7**
baz=12							
JYNG	**Yonagunijimaku**	**2.52**	**34**	P	**Pn**	**04 38 48.4**	**+1.6**
JYNG				S	**Sn**	**04 39 17.5**	**+0.1**
YOJ	**Yonaguni jima**	**2.57**	**35**	P	**Pn**	**04 38 48.8**	**+1.4**
YOJ				*e*S	**Sn**	**04 39 19.8**	**+1.3**
HATJ	**Hateruma jima**	**2.79**	**52**	P	**Pn**	**04 38 51.3**	**+0.9**
HATJ				S	**Sn**	**04 39 22.7**	**-1.2**
JKRS	**Kuro-shima**	**3.04**	**51**	P	**Pn**	**04 38 54.4**	**+0.4**
JKRS				*e*S	**Sn**	**04 39 29.3**	**-0.9**
JIJ	**Ishigaki jima**	**3.22**	**51**	P	**Pn**	**04 38 56.9**	**+0.5**
JIJ				S	**Sn**	**04 39 32.9**	**-1.6**
JISG	**Ishigakijimahi**	**3.47**	**50**	S	**Sn**	**04 39 40.1**	**-0.8**
JTJ	**Tarama**	**3.79**	**52**	P	**Pn**	**04 39 04.6**	**+0.4**
JTJ				S	**Sn**	**04 39 47.4**	**-1.2**

*ISCJB **13** 04:47:16.6±0.9, 26°.3N±0°.1×96°.78E±0°.09, h10km, mb3.3/4, Error ellipse: s-maj=16.2km s-min=10.8km az=15.4*
*IDC **13** 04:47:17.1±1.3, 26°.29N×96°.78E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/39, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=93.6km s-min=18.3km az=65.0*
ISC 13 04:47:18.5±1.3, 26°.3N±0°.1×96°.7E±0°.1, h10km, n6, σ0°.94/7, mb3.4/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.44**	**261**	*e*PN	**Pn**	**04 48 25.0**	**-1.1**
SHL				*e*SN	**Sn**	**04 49 19.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**8.10**	**165**	Pn	**Pn**	**04 49 16.7**	**+0.5**
0.5nm,0.3s,baz=336,slow=13,SNR=5.5							
CMAR				Lg	Lg	04 51 31.5	
0.5nm,0.3s,baz=6.3,slow=25,SNR=2.5							
MKAR	**Makanchi Array**	**23.41**	**334**	P	**P**	**04 52 27.7**	**+0.1**
0.4nm,0.5s,baz=151,slow=10,SNR=4.8							
KURBB	**Kurchatov Arra**	**27.98**	**335**	P	**P**	**04 53 10.1**	**+0.9**
0.1nm,0.4s,baz=156,slow=7.0,SNR=3.1							
WRA	**Warramunga Arr**	**58.71**	**138**	P	**P**	**04 57 16.1**	**-0.5**
0.5nm,0.6s,baz=328,slow=7.7,SNR=5.8							
ASAR	**Alice Springs**	**61.34**	**141**	P	**P**	**04 57 34.6**	**-0.1**
0.3nm,0.6s,baz=327,slow=6.7,SNR=3.7							

MEX 13 04:50:10.0±0.5, 16°.24N×97°.92W, h4km±4km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**307**	*i* P	Pg	04 50 14.4	-0.4
PNIG				*e*S	Sg	04 50 18.4	+0.3
TLIG	**Tlapa**	**1.45**	**335**	*e*P	Pn	04 50 33.1	-4.1
TLIG				*i* S	Sb	04 50 52.0	-4.7
MEIG	**Mezcala**	**2.33**	**316**	*e*P	Pn	04 50 46.8	-2.6
MEIG				*e*S	Sn	04 51 14.3	-4.3
CAIG	**El Cayaco**	**2.39**	**290**	*e*P	Pn	04 50 46.8	-3.2
CAIG				*e*S	Sn	04 51 15.0	-4.7
PLIG	**Platanillo**	**2.62**	**325**	*e*P	Pn	04 50 50.7	-2.6
PLIG				*e*S	Sn	04 51 21.7	-3.9
ARIG	**Puente Sto Nin**	**3.08**	**312**	*e*P	Pn	04 50 56.9	-2.7
ARIG				*e*S	Sn	04 51 33.2	-3.8
ZIIG	**Zihuatanejo**	**3.65**	**292**	*i* P	Pn	04 51 07.3	-0.1
ZIIG				*e*S	Sn	04 51 47.5	-3.6

IDC 13 04:59:07.7±999.0, 51°.74N×113°.35E, h0km, Error ellipse: s-maj=723.6km s-min=204.1km az=102.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**14.55**	**114**	*i*		06 29 30.0	
baz=308,slow=327,SNR=2.3							
I30JP	**ISUMI INFRASON**	**25.32**	**120**	*i*		07 34 20.0	
baz=319,slow=324,SNR=0.7							
I44RU	**PETROPAVLOVSK**	**26.77**	**69**	*i*		07 42 50.0	
baz=285,slow=375,SNR=0.6							

IDC 13 05:28:02.8±1.4, 14°.49N×54°.61E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/41, mbtmp3.9/7, MS3.7/1, Ms1 3.7/1, ms1mx2.9/41, Error ellipse: s-maj=42.2km s-min=26.7km az=48.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**26.30**	**141**	T	T	06 01 39.1	
baz=322,slow=76,SNR=6.9							
H08N3	**Diego Garcia H**	**26.31**	**141**	T	T	06 01 22.9	
baz=322,slow=76,SNR=7.6							
H08N1	**Diego Carcia H**	**26.33**	**141**	T	T	06 01 33.5	
baz=322,slow=76,SNR=5.4							
PALK	**Pallekele**	**26.59**	**103**	LR	LR	05 42 51.3	
comp=Z,143nm,19.4s,baz=295,slow=33							
MKAR	**Makanchi Array**	**39.65**	**30**	P	P	05 35 36.4	0.0
0.9nm,0.8s,baz=215,slow=10,SNR=3.1							
ZALV	**Zalesovo Beam**	**45.95**	**24**	P	P	05 36 26.9	-0.5
0.4nm,0.3s,baz=232,slow=11,SNR=3.0							
FINES	**FINESS Array B**	**51.18**	**343**	P	P	05 37 07.4	-0.2
2.6nm,0.7s,baz=152,slow=6.3,SNR=3.6							
ESDC	**Sonseca Array**	**56.78**	**308**	P	P	05 37 48.7	-0.3
0.1nm,0.3s,baz=82,slow=9.5,SNR=3.4							
ARCES	**ARCESS Array B**	**57.97**	**348**	P	P	05 37 57.3	+0.4
2.2nm,0.8s,baz=123,slow=6.4,SNR=5.7							
H01W3	**Cape Leeuwin H**	**74.79**	**133**	T	T	07 01 35.6	
baz=301,slow=75,SNR=13							
H01W2	**Cape Leeuwin H**	**74.80**	**133**	T	T	07 01 40.2	
baz=301,slow=75,SNR=13							
H01W1	**Cape Leeuwin H**	**74.81**	**133**	T	T	07 01 38.4	
baz=301,slow=75,SNR=15							
WRA	**Warramunga Arr**	**85.52**	**112**	P	P	05 40 43.4	0.0
0.9nm,0.8s,baz=302,slow=4.0,SNR=9.8							
ASAR	**Alice Springs**	**86.23**	**115**	P	P	05 40 46.9	0.0
0.7nm,0.7s,baz=298,slow=4.7,SNR=7.5							

IDC 13 05:33:10.9±999.0, 51°.38N×115°.40E, h0km, Error ellipse: s-maj=679.6km s-min=192.9km az=105.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.24**	**116**	*i*		06 55 00.0	
baz=308,slow=323,SNR=4.9							
I30JP	**ISUMI INFRASON**	**24.05**	**122**	*i*		08 00 20.0	
baz=320,slow=322,SNR=3.2							
I44RU	**PETROPAVLOVSK**	**25.70**	**69**	*i*		08 10 40.0	
baz=284,slow=322,SNR=1.0							

*CSEM **13** 05:38:27.1, 33°.81N×35°.78E, h22km, ML2.5*
*NSSC **13** 05:38:27.8±1.0, 33°.82N×35°.75E, h7km±7km, ML1.8*
*GRAL **13** 05:38:27.1±0.3, 33°.81N×35°.78E, h23km±6km, MD2.5*
*ISCJB **13** 05:38:28.2±0.8, 33°.78N±0°.04×35°.75E±0°.07, h15km±12km, Error ellipse: s-maj=9.4km s-min=6.1km az=4.0*
ISC 13 05:38:27.7±1.1, 33°.78N±0°.04×35°.74E±0°.06, h19km±3km, n9, σ0°.52/16, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**331**	*e*P	**Pg**	**05 38 31.6**	**-0.7**
BHL	**Bhannes**	**0.15**	**331**	*e*P	**Pg**	**05 38 31.6**	**-0.7**
DQRL	**Deir Qamar**	**0.16**	**244**	*e*P	**Pg**	**05 38 32.2**	**-0.1**
DQRL				*e*S	**Sg**	**05 38 36.1**	**+0.6**
DQRL	**Deir Qamar**	**0.16**	**244**	*e*P	**Pg**	**05 38 32.2**	**-0.1**
DQRL				*e*S	**Sg**	**05 38 36.1**	**+0.6**
RCY	**Rachaya**	**0.29**	**164**	*e*P	**Pb**	**05 38 33.8**	**-0.5**
RCY				*e*S	**Sg**	**05 38 38.7**	**-0.1**
BRBR	**Barbar**	**0.40**	**154**	*e*P	**Pb**	**05 38 36.1**	**-0.3**
BRBR				*e*S	**Sb**	**05 38 43.1**	**+0.8**
BRBR				AML	AML	05 38 44.7	
comp=N,92nm,0.3s							
BRBR				AML	AML	05 38 45.3	
comp=E,96nm,0.4s							
MARH	**Ras Al Marh**	**0.67**	**68**	*e*P	**Pg**	**05 38 41.0**	**0.0**
MARH				*e*S	**Sb**	**05 38 49.2**	**-0.5**
MARH				AML	AML	05 38 54.8	
comp=N,114nm,0.5s							
MARH				AML	AML	05 38 57.3	
comp=E,38nm,0.4s							
BIDA	**Albida**	**1.33**	**21**	*e*P	**Pb**	**05 38 52.4**	**+0.3**
BIDA				*e*S	**Sb**	**05 39 08.5**	**-0.1**
BIDA				AML	AML	05 39 15.7	
comp=N,72nm,0.4s							
BIDA				AML	AML	05 39 16.8	
comp=E,32nm,0.3s							
RABH	**Abou Rabah**	**1.38**	**61**	*e*P	**Pb**	**05 38 53.0**	**+0.1**
RABH				*e*S	**Sb**	**05 39 10.7**	**+0.4**
RABH				AML	AML	05 39 24.6	
comp=N,11nm,0.4s							
RABH				AML	AML	05 39 27.5	
comp=E,7.0nm,0.5s							

*ISCJB **13** 05:49:40.3±1.3, 32°.76S±0°.07×178°.2W±0°.2, h61km, mb4.3/3, Error ellipse: s-maj=29.4km s-min=6.8km az=16.8*
*IDC **13** 05:49:44.3±2.9, 32°.46S×178°.81W, h52km±25km, mb4.2/3, mb1 4.4/5, mb1mx3.9/23, mbtmp4.5/5, ML4.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/26, Error ellipse: s-maj=33.9km s-min=23.7km az=109.0*
ISC 13 05:49:42.8±1.0, 32°.65S±0°.08×178°.3W±0°.2, h61km, n18, σ1°.95/26, mb4.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.41**	**6**	P	**Pn**	**05 50 33.7**	**+0.2**
64nm,0.3s,baz=49,slow=17,SNR=3.5							
RAO				S	**Sn**	**05 51 08.7**	**-3.9**
72nm,0.3s,baz=8.2,slow=23,SNR=3.6							
RAO				LR	LR	05 51 28.2	
comp=Z,60nm,18.8s,baz=9.0,slow=32							
WMGZ	**Waiomatatini S**	**5.80**	**206**	*e*PN	**Pn**	**05 51 05.8**	**-0.5**
WMGZ				SN	**Sn**	**05 52 12.3**	**+0.8**
PKGZ	**Pakihiroa**	**6.00**	**208**	*e*PN	**Pn**	**05 51 07.6**	**-1.4**
PKGZ				SN	**Sn**	**05 52 13.6**	**-2.7**
HAZ	**Te Kaha**	**6.01**	**211**	*e*PN	**Pn**	**05 51 08.5**	**-0.6**
HAZ				SN	**Sn**	**05 52 17.8**	**+1.3**
PUZ	**Puketiti**	**6.09**	**206**	*e*PN	**Pn**	**05 51 07.8**	**-2.4**
PUZ				SN	**Sn**	**05 52 16.8**	**-1.7**
RUGZ	**Raukumara Rang**	**6.23**	**211**	*e*PN	**Pn**	**05 51 12.3**	**+0.1**
MWZ	**Matawai**	**6.60**	**210**	*e*PN	**Pn**	**05 51 15.9**	**-1.3**
MWZ				SN	**Sn**	**05 52 29.7**	**-1.4**
URZ	**Urewera**	**6.72**	**212**	P	**Pn**	**05 51 19.0**	**+0.2**
4.7nm,0.3s,baz=270,slow=4.6,SNR=17							
URZ				S	**Sn**	**05 52 30.8**	**-3.2**
4.9nm,0.3s,baz=73,slow=20,SNR=8.1							
URZ	**Urewera**	**6.72**	**212**	*e*PN	**Pn**	**05 51 18.9**	**+0.1**
URZ				SN	**Sn**	**05 52 32.0**	**-2.0**
KNZ	**Kokohu**	**7.14**	**206**	*e*PN	**Pn**	**05 51 21.7**	**-2.9**
OUZ	**Omahuta**	**7.18**	**247**	PN	**Pn**	**05 51 26.5**	**+1.3**
ASAR	**Alice Springs**	**42.76**	**270**	P	**P**	**05 57 33.6**	**-0.8**
4.7nm,0.6s,baz=108,slow=7.7,SNR=70							
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**05 57 43.0**	**-1.1**
7.6nm,0.5s,baz=114,slow=7.7,SNR=130							
MAW	**Mawson**	**70.11**	**201**	P	**P**	**06 00 50.9**	**+2.8**
1.2nm,0.8s,baz=152,slow=5.6,SNR=2.8							
FINES	**FINESS Array B**	**147.14**	**339**	PKPbc	**PKPbc**	**06 09 18.8**	**+0.6**
3.1nm,0.5s,baz=42,slow=3.4,SNR=22							
NB2	**NORSAR Subarra**	**150.92**	**350**	PKP	**PKPbc**	**06 09 28.5**	**+0.6**
comp=Z,0.8nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.92**	**350**	PKPbc	**PKPbc**	**06 09 29.0**	**+1.1**
comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**160.59**	**180**	PKPab	**PKPab**	**06 10 21.2**	**+3.4**
comp=Z,1.4nm,0.6s,baz=170,slow=4.1,SNR=12							

IDC 13 06:02:22.9±633.0, 51°.37N×133°.55E, h0km, Error ellipse: s-maj=229.8km s-min=139.2km az=179.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**7.25**	**189**	*i*		06 49 20.0	
baz=7.3,slow=324,SNR=2.9							
I44RU	**PETROPAVLOVSK**	**14.89**	**74**	*i*		07 35 40.0	
baz=272,slow=325,SNR=0.5							
I30JP	**ISUMI INFRASON**	**16.77**	**160**	*i*		07 44 50.0	
baz=345,slow=327,SNR=1.1							

IDC 13 06:21:14.2±3.8, 5°.82S×150°.80E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/37, mbtmp3.4/2, Error ellipse: s-maj=162.2km s-min=47.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.29**	**227**	P	P	06 26 03.0	+0.3
0.8nm,0.8s,baz=53,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**24.07**	**221**	P	P	06 26 31.2	-0.3
0.8nm,0.7s,baz=56,slow=8.9,SNR=13							
TORD	**Torodi Ar. Bea**	**148.70**	**286**	PKPbc	PKPbc	06 41 04.1	-0.5
0.4nm,0.7s,baz=90,slow=3.0,SNR=2.6							

IDC 13 06:22:29.1±5.4, 44°.31N×131°.57E, h0km, Error ellipse: s-maj=28.8km s-min=5.8km az=110.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**0.32**	**110**	*i*		06 24 25.5	
baz=291,slow=329,SNR=73							
USRK	**Ussuriysk Ar.**	**0.32**	**109**	Pg	Pg	06 22 35.3	0.0
baz=288,slow=19,SNR=2.6							
USRK				Lg	Lg	06 22 39.8	
0.3nm,0.3s,baz=310,slow=33,SNR=3.8							
USRK				*i*		06 24 26.5	
0.4nm,0.3s,baz=346,slow=31,SNR=5.4							
I30JP	**ISUMI INFRASON**	**11.22**	**140**	*i*		07 29 00.0	
baz=327,slow=324,SNR=1.1							

IDC 13 06:31:27.4±2.6, 54°.16N×86°.36E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.8km s-min=12.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**257**	*i*		06 36 40.0	
baz=76,slow=326,SNR=3.3							
ZALV	**Zalesovo Beam**	**0.93**	**257**	Pg	Pg	06 31 43.6	-1.6
3.0nm,0.3s,baz=73,slow=17,SNR=17							
ZALV				Lg	Lg	06 31 59.0	
6.8nm,0.3s,baz=78,slow=30,SNR=22							
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 32 58.2	+1.4
0.1nm,0.3s,baz=53,slow=13,SNR=4.5							
KURBB				Lg	Lg	06 34 41.0	
0.0nm,0.3s,baz=52,slow=30,SNR=3.6							
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 33 23.4	+1.0
0.2nm,0.3s,baz=25,slow=14,SNR=6.5							

IDC 13 06:34:00.1±999.0, 51°.57N×114°.96E, h0km, Error ellipse: s-maj=730.5km s-min=197.9km az=105.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.57**	**116**	*i*		07 59 25.0	
baz=308,slow=323,SNR=9.9							
I30JP	**ISUMI INFRASON**	**

0.6nm,0.7s,baz=218,slow=9.0,SNR=3.1
TORD Torodi Ar. Bea 52.14 275 LR LR 07 07 29.2
comp=Z,91nm,18.9s,baz=115,slow=36
ARCES ARCESS Array B 58.10 348 P P 06 46 09.0 -0.1
1.1nm,0.7s,baz=148,slow=8.6,SNR=3.8
H01W3 Cape Leeuwin H 74.20 133 T T 08 09 40.3
baz=299
H01W2 Cape Leeuwin H 74.21 133 T T 08 09 38.5
baz=299
H01W1 Cape Leeuwin H 74.22 133 T T 08 09 40.7
baz=299
WRA Warramunga Arr 84.75 112 P P 06 48 51.0 +0.1
0.3nm,0.8s,baz=299,slow=4.3,SNR=4.6
ASAR Alice Springs 85.49 116 P P 06 48 54.4 -0.2
0.3nm,0.7s,baz=293,slow=4.8,SNR=4.6

DJA 13 06:38:20.6±1.2, 10°S±5°×11°5E±°, h29km±14km, M3.8/6, MLv3.8/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.96**	**40**	P	Pn	06 38 37.9	-0.3
IGBI				S	Sb	06 38 51.2	+0.1
DNP	**Denpasar**	**1.11**	**38**	P	Pn	06 38 39.9	-0.3
DNP				S	Sb	06 38 56.4	+1.1
JAGI	**Jajag, Banyuwa**	**1.14**	**341**	P	Pn	06 38 40.9	+0.2
JAGI				S	Sb	06 38 56.0	-0.2
SRBI	**Singaraja**	**1.62**	**25**	P	Pn	06 38 39.9	-7.3
TWSI	**Taliwang, Sumb**	**2.47**	**71**	P	Pn	06 38 58.7	-0.2
PLAI	**Plampang**	**3.30**	**78**	P	Pn	06 39 10.2	-0.1

IDC 13 06:56:10.0±687.0, 48°97N×130°66E, h0km, Error ellipse: s-maj=254.6km s-min=99.2km az=164.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**4.86**	**169**	*i*		07 27 05.0	
	baz=349,slow=329,SNR=6.7						
I30JP	**ISUMI INFRASON**	**15.40**	**149**	*i*		08 28 20.0	
	baz=338,slow=324,SNR=0.8						
I44RU	**PETROPAVLOVSK**	**17.47**	**66**	*i*		08 49 30.0	
	baz=268,slow=351,SNR=0.4						

NNC 13 07:31:38.6±2.3, 50°23N×77°77E, h0km, mb3.7, mpv3.1, 4C-3D, Error ellipse: s-maj=23.5km s-min=8.7km az=118.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**51**	⇑P	Pg	07 31 51.3	+0.7
	34nm,0.7s						
KURBB				⇓S	Sg	07 32 00.0	+1.3
	155nm,0.6s						
KURK	**Kurchatov**	**0.73**	**48**	⇑P	Pg	07 31 52.4	-0.2
	15nm,0.7s						
KURK				⇑S	Sg	07 32 02.6	+0.6
	37nm,0.7s						
MAKZ	**Makanchi**	**4.42**	**139**	⇓Pg	Pb	07 32 57.0	-0.1
	7.4nm,0.6s						
MAKZ				⇑Sn	Sn	07 33 37.9	-1.2
	5.2nm,0.5s						
MK31	**Makanchi Array**	**4.57**	**137**	⇓Pn	Pn	07 32 52.0	+3.1
	1.4nm,0.6s,baz=322,slow=14,SNR=5.6						
MK31				Sn	Sn	07 33 44.9	+2.3
	8.1nm,0.6s,baz=323,slow=26,SNR=14						

DJA 13 07:46:27.2±0.8, 10°S±6°×11°5E±°, h40km±28km, M3.9/9, MLv3.9/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.92**	**33**	P	Pn	07 46 43.2	-0.5
IGBI				S	Sn	07 46 55.1	-0.7
DNP	**Denpasar**	**1.08**	**32**	P	Pn	07 46 46.2	+0.4
DNP				S	Sn	07 47 01.6	+2.1
SRBI	**Singaraja**	**1.61**	**21**	P	Pn	07 46 53.0	-0.1
SRBI				S	Sn	07 47 13.8	+1.1
TWSI	**Taliwang, Sumb**	**2.37**	**69**	P	Pn	07 47 03.7	0.0
TWSI				S	Sn	07 47 31.4	-0.2
KMMI	**Kalianget**	**2.62**	**345**	P	Pn	07 47 06.4	-0.6
PLAI	**Plampang**	**3.19**	**76**	P	Pn	07 47 14.9	0.0
PLAI				S	Sn	07 47 52.2	+0.5
UGM	**Wanagama**	**4.40**	**292**	S	Sn	07 48 16.8	-4.9

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*BJI **13** 07:52:42.3, 9°70S×114°40E, h30km, mb4.9/49, mB4.9/33, Ms4.6/24, Ms7 4.2/17*
*MOS **13** 07:52:43.7±1.5, 9°26S×114°52E, h33km, mb5.2/52, Error ellipse: s-maj=11.2km s-min=6.1km az=117.9*
*GCMT **13** 07:52:45.4±0.4, 9°61S×114°69E, h74km±3km, MW4.9/54, Moment Tensor Solution. s28,c34; s54,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.09±.16; $M_{\theta\theta}$-1.47±.14; $M_{\phi\phi}$-0.61±.19; $M_{r\theta}$-1.14±.09; $M_{\theta\phi}$2.15±.10; $M_{\phi r}$0.54±.14; Best double couple: $M_0$2.96500×10^{16} NP1:ϕ_s298.00000°, δ59.00000°, λ75.00000°. NP2: ϕ_s145.00000°, δ35.00000°, λ113.00000°. Principal axes: T 2.4280, Plg72.0000°, Azm171.0000°; N 1.0780, Plg13.0000°, Azm306.0000°; P -3.5030, Plg12.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 07:52:45.4±0.2, 9°43S×114°53E, h35km, mb5.0/41 Error ellipse: s-maj=7.0km s-min=4.2km az=38.0*
NEIC Felt [IV] at Denpasar and [III] at Kuta and Ubud. Also felt [IV] at Mataram, Lombok. Felt [III] at Banyuwangi, Java. Also felt at Balung and Tulungagung.
*ISCJB **13** 07:52:48.2±0.4, 9°44S±0°03×114°46E±0°02, h81km±3km, mb4.9/104, Error ellipse: s-maj=4.8km s-min=3.2km az=21.1*
*DJA **13** 07:52:48.6±0.2, 10°S±3°×11°4E±°, h62km±4km, M5.3/36, mb5.3/36, mB5.7/24, MLv5.6/19, Mw(mB)5.2/24*
*IDC **13** 07:52:49.3±0.4, 9°29S×114°62E, h73km±3km, mb4.6/33, mb1 4.6/34, mb1mx4.5/43, mbtmp4.9/34, MS3.8/19, Ms1 3.8/19, ms1mx3.7/29, Error ellipse: s-maj=13.4km s-min=8.4km az=59.0*

ISC 13 07:52:47.8±0.3, 9°57S±0°04×114°56E±0°03, h61km±2km, n553, σ1972/573, mb5.0/105, 13C-6D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.94**	**38**	P	**Pn**	**07 53 06.4**	**+1.2**
IGBI				S	**Sn**	**07 53 19.1**	**+1.1**
DNP	**Denpasar**	**1.10**	**36**	P	**Pn**	**07 53 09.4**	**+2.3**
DNP				S	**Sn**	**07 53 24.7**	**+3.2**
SRBI	**Singaraja**	**1.61**	**24**	P	**Pn**	**07 53 16.0**	**+2.0**
SRBI				S	**Sn**	**07 53 36.6**	**+2.8**
TWSI	**Taliwang, Sumb**	**2.44**	**70**	P	**Pn**	**07 53 27.6**	**+2.3**
KMMI	**Kalianget**	**2.57**	**347**	P	**Pn**	**07 53 30.0**	**+2.9**
PLAI	**Plampang**	**3.26**	**77**	P	**Pn**	**07 53 38.6**	**+2.1**
UGM	**Wanagama**	**4.31**	**292**	P	**Pn**	**07 53 51.2**	**+0.2**
UGM				S	**Sn**	**07 54 39.2**	**-0.8**
UGM	**Wanagama**	**4.31**	**292**	*e*Pn	**Pn**	**07 53 51.0**	**0.0**
SMRI	**Semarang**	**4.78**	**301**	P	**Pn**	**07 54 00.2**	**+2.9**
SMRI	**Semarang**	**4.78**	**301**	*e*Pn	Pn	07 53 52.5	-4.9
SMRI				*e*Sn	Sn	07 54 40.7	-11
CMJI	**Cimerak**	**6.29**	**286**	P	**Pn**	**07 54 17.3**	**-0.8**
BSSI	**Bau Bau, Buton**	**6.79**	**60**	P	**Pn**	**07 54 26.4**	**+1.5**
	1μm,0.4s,17μm5.4nm						
KAPI	**Kappang**	**6.86**	**49**	*e*Pn	**Pn**	**07 54 22.6**	**-3.2**
KAPI				*e*Sn	**Sn**	**07 55 42.4**	**-0.1**
KAPI	**Kappang**	**6.86**	**49**	P	**Pn**	**07 54 26.6**	**+0.8**
	SNR=9.2						
CISI	**Cisompet, Garu**	**6.96**	**286**	P	**Pn**	**07 54 26.5**	**-0.8**
	867nm,0.5s,19μm4.5nm						
CISI	**Cisompet, Garu**	**6.96**	**286**	*e*Pn	**Pn**	**07 54 26.7**	**-0.5**
CISI				*e*Sn	**Sn**	**07 55 43.1**	**-2.0**
EDFI	**Ende, Flores**	**7.09**	**84**	P	**Pn**	**07 54 28.4**	**-0.7**
	407nm,0.6s,6μm1.4nm						
BNSI	**Bone**	**7.53**	**47**	P	**Pn**	**07 54 38.0**	**+3.0**
	500nm,1.4s,7μm2.4nm						
BNSI				S	**Sn**	**07 56 02.5**	**+3.5**
	500nm,1.4s,7μm2.4nm						
SPSI	**Sidrap Palu**	**7.60**	**43**	P	**Pn**	**07 54 37.1**	**+1.1**
	114nm,0.9s,0.5nm						
MMRI	**Maumere**	**7.64**	**84**	P	**Pn**	**07 54 36.2**	**-0.3**
	526nm,0.9s,8μm2.5nm						
MMRI	**Maumere**	**7.64**	**84**	*e*Pn	**Pn**	**07 54 36.4**	**-0.1**
CNJI	**Cibinong**	**7.68**	**286**	P	**Pn**	**07 54 35.8**	**-1.3**
	341nm,0.4s,8μm1.8nm						
DBJI	**Dramaga**	**8.29**	**291**	P	**Pn**	**07 54 47.4**	**+2.0**
	236nm,0.8s						
TTSI	**Tana Toraja**	**8.33**	**39**	P	**Pn**	**07 54 49.5**	**+3.6**
	163nm,0.8s,2μm						
MTKI	**Muara Teweh, K**	**8.58**	**2**	P	**Pn**	**07 54 52.1**	**+2.8**
	865nm,0.8s,12μm						
XMIS	**Christmas Isla**	**8.82**	**263**	*e*Pn	**Pn**	**07 54 50.0**	**-2.7**
CGJI	**Cibinong**	**9.25**	**288**	P	**Pn**	**07 54 58.0**	**-0.6**
	476nm,0.5s,12μm						
SOEI	**Soe**	**9.57**	**92**	P	Pn	07 55 11.4	+8.3
SOEI	**Soe**	**9.57**	**92**	*e*Pn	**Pn**	**07 55 00.2**	**-2.9**
KDI	**Kendari**	**9.75**	**56**	P	Pn	07 55 10.7	+5.3
	67nm,1.1s,1μm						
STKI	**Sintang**	**10.05**	**342**	P	**Pn**	**07 55 13.5**	**+4.0**
	82nm,0.8s,17μm						
KASI	**Kota Agung**	**10.75**	**291**	P	**Pn**	**07 55 18.7**	**-0.4**
	94nm,0.5s,2μm						
KLSI		**10.89**	**296**	P	**Pn**	**07 55 21.5**	**+0.6**
	49nm,1.1s						
APSI	**Ampana**	**11.12**	**40**	P	Pn	07 55 29.6	+5.4
	174nm,1.0s,3μm						
MPSI	**Mapaga**	**11.19**	**29**	P	**Pn**	**07 55 27.4**	**+2.4**
	59nm,1.0s,1μm						
LWLI	**Liwa**	**11.35**	**293**	P	Pn	07 55 38.7	+11
MDSI	**Maura Dua**	**11.47**	**295**	P	**Pn**	**07 55 28.7**	**-0.2**
	37nm,0.7s						
KSM	**Kuching**	**11.76**	**339**	*e*Pn	Pn	07 55 26.6	-6.2
SBUM	**Sibu**	**12.16**	**349**	*e*Pn	**Pn**	**07 55 35.6**	**-2.8**
SBUM				*e*Sn	**S**	**07 58 10.5**	**-7.3**
LHSI	**Lahat**	**12.35**	**297**	P	**P**	**07 55 51.9**	**+0.9**
MRSI	**Marisa**	**12.39**	**37**	P	P	07 55 46.6	-4.9
	71nm,0.7s,1μm						
MBWA	**Marble Bar**	**12.55**	**157**	*e*Pn	Pn	07 55 38.7	-5.0
MBWA				*e*Sn	Sn	07 57 48.1	-14
MNAI	**Manna**	**12.62**	**293**	P	**Pn**	**07 55 42.3**	**-2.4**
	412nm,0.8s						
DSRI	**Dabo**	**13.42**	**312**	P	P	07 56 08.1	+5.2
FITZ	**Fitzroy Crossi**	**13.70**	**129**	P	**Pn**	**07 55 56.5**	**-2.6**
	4.5nm,0.3s,baz=322,slow=11,SNR=43						
FITZ				S	Sn	07 58 17.3	-12
	7.0nm,0.3s,baz=172,slow=14,SNR=6.1						
FITZ				LR	LR	08 01 48.7	
	comp=Z,255nm,19.1s,baz=290,slow=39						
MASI	**Maura Aman, Be**	**13.80**	**297**	P	**Pn**	**07 55 59.0**	**-1.7**
	261nm,0.8s,3μm						
NLAI	**Namlea**	**13.96**	**64**	P	**P**	**07 56 06.0**	**-2.8**
	111nm,0.6s,2μm						
AAI	**Ambon**	**14.75**	**68**	P	**P**	**07 56 19.8**	**+2.1**
KNRA	**Kununurra**	**15.13**	**115**	P	**P**	**07 56 19.6**	**-2.3**
	baz=15,SNR=14						
MYLDM	**Lahad Datu**	**15.17**	**15**	*e*Pn	**P**	**07 56 21.5**	**-0.9**
	191nm,1.3s						
MYKOM	**Kota Tinggi**	**15.53**	**316**	*e*Pn	**Pn**	**07 56 20.7**	**-2.4**
	47nm,1.3s						
MSAI	**Masohi**	**15.55**	**68**	P	**P**	**07 56 30.3**	**+3.7**
KKM	**Kota Kinabalu**	**15.60**	**6**	*e*Pn	**Pn**	**07 56 20.7**	**-3.4**
	149nm,1.4s						
LBMI	**Labuha**	**15.64**	**56**	P	**P**	**07 56 30.2**	**+2.6**
BNDI	**Bandanaira**	**16.03**	**73**	P	**P**	**07 56 33.4**	**+1.5**
	647nm,1.3s,6μm						
PDSI	**Padang**	**16.45**	**301**	P	**P**	**07 56 39.0**	**+2.4**
MTN	**Manton Dam**	**16.58**	**103**	P	**P**	**07 56 37.4**	**-0.7**
	baz=17,SNR=50						
MTN	**Manton Dam**	**16.58**	**103**	*e*Pn	**Pn**	**07 56 33.9**	**-2.5**
	115nm,0.4s						
SAUI	**Saumlaki**	**16.62**	**86**	P	**P**	**07 56 37.5**	**-1.0**
	1μm,0.9s,10μm						
SAUI	**Saumlaki**	**16.62**	**86**	*e*Pn	**P**	**07 56 38.5**	**0.0**
	928nm,0.8s						
SAUI				*e*Sn	**Sn**	**07 59 35.2**	**-5.7**
KDU	**Kakadu**	**17.85**	**102**	P	**Pn**	**07 56 55.0**	**+2.9**
	baz=18,SNR=6.6						
SWI	**Sorong**	**18.73**	**63**	P	**Pn**	**07 57 02.2**	**-0.6**
	263nm,0.8s,3μm						
FAKI	**Fak Fak**	**18.78**	**71**	P	**P**	**07 57 00.3**	**-2.0**
	172nm,1.0s,2μm						
FAKI	**Fak Fak**	**18.78**	**71**	*e*P	**P**	**07 57 00.5**	**-1.8**
	184nm,1.0s						
FAKI				*e*Sn	**S**	**08 00 25.6**	**-7.2**
IPM	**Ipoh**	**19.41**	**315**	*e*P	**P**	**07 57 08.4**	**-0.7**
	32nm,0.6s						
MORW	**Morawa**	**19.45**	**176**	P	**Pn**	**07 57 11.8**	**+0.7**
	baz=20,SNR=26						
PSI	**Prapat**	**19.84**	**308**	P	**P**	**07 57 11.1**	**-2.9**
	0.6nm,0.3s,baz=319,slow=9.3,SNR=3.0						
GSI	**Gunungsitoli**	**20.07**	**302**	*e*P	**P**	**07 57 15.4**	**-0.9**
	49nm,0.8s						
WRKA	**Warakurna**	**20.19**	**141**	P	Pn	07 57 19.2	-0.7
	baz=20,SNR=123						
BLDU	**Ballidu**	**21.04**	**175**	P	**P**	**07 57 28.7**	**+2.1**
	baz=21,SNR=17						
TPTI		**21.50**	**306**	P	**P**	**07 57 29.3**	**-2.4**
	52nm,0.7s						
WR1	**Warramunga Arr**	**21.71**	**121**	*e*P	**P**	**07 57 34.3**	**+0.3**
	80nm,1.3s						
WR1				*e*S	**S**	**08 01 27.2**	**-3.9**
WRA	**Warramunga Arr**	**21.71**	**121**	P	**P**	**07 57 34.3**	**+0.3**
	17nm,0.3s,baz=291,slow=13,SNR=228						
WRA				S	**S**	**08 01 27.2**	**-3.9**
	5.3nm,0.7s,baz=288,slow=19,SNR=7.9						
WRA				LR	LR	08 06 13.5	
	comp=Z,250nm,20.4s,baz=305,slow=37						
WRA	**Warramunga Arr**	**21.71**	**121**	P	**P**	**07 57 34.3**	**+0.3**
WRA				S	**S**	**08 01 27.2**	**-3.9**
WRA				pmax	pmax		
	comp=Z,18nm,0.3s						
WRA				smax	smax		
	comp=N,5.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,250nm,20.4s						
WRAB	**Tennant Creek**	**21.71**	**121⇑**	*e*P	**P**	**07 57 34.6**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,108nm,1.0s						
WRAB	**Tennant Creek**	**21.71**	**121**	*e*P	**P**	**07 57 34.7**	**+0.7**
	comp=Z,42nm,0.8s						
WRAB				*e*S	**S**	**08 01 32.4**	**+1.2**
WB2	**Warramunga Arr**	**21.72**	**121**	*e*P	**P**	**07 57 34.7**	**+0.6**
KMBL	**Kambalda**	**22.73**	**164**	P	**P**	**07 57 45.2**	**+0.4**
	baz=23,SNR=12						
TRTT	**Trang**	**22.77**	**319**	P	**P**	**07 57 46.2**	**+0.9**
	comp=Z,81nm,1.0s						
AS31	**Alice Springs**	**23.20**	**130**	*e*P	**P**	**07 57 50.2**	**+0.5**
	comp=Z,18nm,0.9s						
AS31				*e*PcP	**PcP**	**08 01 37.9**	**+1.7**
ASAR	**Alice Springs**	**23.20**	**130**	P	**P**	**07 57 50.2**	**+0.6**
	comp=Z,30nm,0.4s,baz=304,slow=8.4,SNR=568						
ASAR				pP	**sP**	**07 58 08.7**	**-2.2**
	comp=Z,35nm,0.7s,baz=303,slow=9.9,SNR=9.9						
ASAR				PcP	**PcP**	**08 01 37.0**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=337,slow=1.8,SNR=7.6						
ASAR				pPcP		08 01 57.7	
	comp=Z,9.6nm,0.8s,baz=331,slow=2.6,SNR=9.2						
ASAR				ScP	**ScP**	**08 05 09.0**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=269,slow=2.0,SNR=5.8						
ASAR				LR	LR	08 08 04.0	
	comp=Z,41nm,20.3s,baz=301,slow=39						
AS01	**Alice Springs**	**23.23**	**129**	*e*P	**P**	**07 57 50.1**	**+0.1**
KRAB	**Krabi**	**23.38**	**319**	P	**P**	**07 57 56.0**	**+4.7**
	comp=Z,232nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.38**	**174**	P	**P**	**07 57 52.7**	**+1.5**
	comp=Z,18nm,0.8s,baz=240,slow=8.3,SNR=10.0						
NWAO				LR	LR	08 08 04.7	
	comp=Z,478nm,18.7s,baz=272,slow=39						
NWAO	**Narrogin (SRO)**	**23.38**	**174**	P	**P**	**07 57 53.0**	**+1.8**
	baz=24,SNR=7.4						
NWAO				P	**P**	**07 57 53.0**	**+1.8**
	baz=24,SNR=7.4						
FORT	**Forrest**	**24.57**	**151**	*e*P	**P**	**07 58 03.4**	**+1.3**
	comp=Z,1μm,0.8s						
SMPI	**Sarmi**	**25.16**	**74**	P	**P**	**07 58 07.2**	**-0.5**
	comp=Z,119nm,1.5s,comp=Z,3μm						
GENI	**Genyem**	**26.38**	**76**	P	**P**	**07 58 22.0**	**+3.3**
QIS	**Mount Isa**	**26.50**	**117**	P	**P**	**07 58 21.0**	**+1.3**
	baz=27,SNR=13						
PHET	**Kaeng Krachan**	**26.81**	**326**	P	**P**	**07 58 26.4**	**+4.0**
	comp=Z,9.5nm,1.0s						
CHAI	**Chaiyaphum**	**28.20**	**334**	P	**P**	**07 58 36.1**	**+1.2**
	comp=Z,11nm,0.9s,comp=Z,167nm						
COEN	**Coen**	**28.34**	**102**	P	**P**	**07 58 37.6**	**+1.3**
	baz=28,SNR=12						
COEN	**Coen**	**28.34**	**102**	*e*P	**P**	**07 58 37.2**	**+1.0**
	comp=Z,19nm,0.8s						
SKNT	**Sakolnakorn**	**28.37**	**338**	P	**P**	**07 58 37.0**	**+0.6**
	comp=Z,23nm,0.7s						
QIZ	**Qiongzhong**	**28.80**	**351**	P	P	07 58 44.8	+4.6
QIZ				S	**S**	**08 03 32.5**	**+6.8**
QIZ				LR	LR		
	comp=Z,200nm,21.0s						
QIZ				LR	LR		
	comp=Z,120nm,15.6s						
UTHA	**Uthaitani**	**29.11**	**329**	P	**P**	**07 58 43.7**	**+0.7**
	comp=Z,9.6nm,0.7s,comp=Z,76nm						
PBKT	**Sadao Pong**	**29.24**	**333**	P	**P**	**07 58 45.6**	**+1.4**
	comp=Z,16nm,1.0s,comp=Z,755nm						
NONG	**Nongkai**	**29.68**	**338**	P	P	07 58 55.1	+7.1
	comp=Z,314nm,0.2s,comp=Z,18μm						
UMPA	**Umpang Tak**	**29.95**	**329**	P	**P**	**07 58 50.1**	**-0.4**
	comp=Z,9.0nm,0.8s,comp=Z,1μm						
MTSU	**Mount Surprise**	**30.08**	**110**	P	**P**	**07 58 53.6**	**+1.9**
	baz=30,SNR=28						
UTTA	**Uttaradit**	**30.46**	**333**	P	**P**	**07 58 55.5**	**+0.6**
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**30.48**	**143**	P	**P**	**07 58 55.7**	**+0.7**
	baz=31,SNR=45						
BBOO	**Buckleboo**	**30.48**	**143**	*e*P	**P**	**07 58 55.6**	**+0.6**
	comp=Z,53nm,0.9s						
LAMP	**Lampang**	**31.56**	**332**	P	**P**	**07 59 06.7**	**+2.1**
	comp=Z,7.8nm,1.1s						
CM01	**Chiang Mai Arr**	**31.79**	**331**	*e*P	**P**	**07 59 05.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.83**	**331**	P	**P**	**07 59 07.2**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=162,slow=8.2,SNR=21						
CMAR				pP	**pP**	**07 59 25.2**	**+3.1**
	comp=Z,21nm,1.0s,baz=164,slow=7.5,SNR=6.0						
CMAR				LR	LR	08 14 22.9	
	comp=Z,111nm,20.0s,baz=182,slow=41						
CMAR	**Chiang Mai Arr**	**31.83**	**331**	P	**P**	**07 59 07.2**	**+0.2**
CMAR				*PP	**pP**	**07 59 25.2**	**+3.1**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,21nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,111nm,20.0s						
CHTO	**Chiang Mai**	**32.13**	**331**	P	**P**	**07 59 11.2**	**+1.5**
	comp=Z,60nm,1.1s						
CHTO	**Chiang Mai**	**32.13**	**331**	*e*P	**P**	**07 59 09.4**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**32.13**	**331**	*e*P	**P**	**07 59 09.4**	**-0.3**
	comp=Z,16nm,0.9s						
PMG	**Port Moresby**	**32.15**	**92**	P	**P**	**07 59 12.2**	**+2.3**
	comp=Z,7.8nm,0.5s,baz=266,slow=6.4,SNR=4.6						
PMG	**Port Moresby**	**32.15**	**92⇑**	*e*P	**P**	**07 59 11.4**	**+1.5**
PMG				pmax	pmax		
	comp=Z,60nm,1.0s						
PMG	**Port Moresby**	**32.15**	**92**	*e*P	**P**	**07 59 12.6**	**+2.7**
	comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**32.31**	**113**	P	**P**	**07 59 13.1**	**+1.7**
	comp=Z,7.1nm,0.4s,baz=266,slow=8.2,SNR=20						
CTA				pP	**sP**	**07 59 32.3**	**-1.4**
	comp=Z,13nm,0.7s,baz=275,slow=12,SNR=6.6						
CTAO	**Charters Tower**	**32.31**	**113**	*e*P	**P**	**07 59 13.3**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,13nm,0.6s						
CTAO	**Charters Tower**	**32.31**	**113**	*e*P	**P**	**07 59 13.3**	**+2.0**
	comp=Z,13nm,0.6s						
SLVN	**Son La**	**32.44**	**341**	*e*P	**P**	**07 59 10.3**	**-2.1**
	comp=Z,14nm,1.2s						
HTT	**Hallett**	**32.66**	**140**	P	**P**	**07 59 15.8**	**+1.5**
	baz=33,SNR=21						
QLP	**Quilpie**	**32.77**	**125**	P	**P**	**07 59 17.1**	**+1.9**
	baz=33,SNR=3.2						
STKA	**Stephens Creek**	**33.47**	**135**	P	**P**	**07 59 22.9**	**+1.6**
	comp=Z,42nm,0.5s,baz=315,slow=8.9,SNR=207						
STKA				LR	LR	08 14 05.1	
	comp=Z,130nm,20.5s,baz=297,slow=38						
STKA	**Stephens Creek**	**33.47**	**135**	P	**P**	**07 59 22.7**	**+1.4**
	baz=34,SNR=173						
STKA	**Stephens Creek**	**33.47**	**135**	*e*P	**P**	**07 59 22.7**	**+1.4**
STKA				pmax	pmax		
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**33.47**	**135**	*e*P	**P**	**07 59 22.7**	**+1.4**
	comp=Z,23nm,1.2s						
CMSA	**Cobar Meteorol**	**36.22**	**132**	P	**P**	**07 59 46.8**	**+1.8**
	baz=36,SNR=14						
KMI	**Kunming**	**36.35**	**342**	P	**P**	**07 59 49.3**	**+2.9**
KMI				pmax	pmax		
	comp=Z,20nm,0.8s						
KMI				pmax	pmax		
	comp=Z,72nm,4.2s						
GYA	**Guiyang**	**36.62**	**348**	*e*P	**P**	**07 59 51.8**	**+3.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
ARPS	**Mount Arapiles**	**36.65**	**142**	P	**P**	**07 59 50.5**	**+1.9**
	baz=37,SNR=15						
PALK	**Pallekele**	**37.65**	**295**	P	**P**	**07 59 56.6**	**-0.7**
	comp=Z,18nm,0.9s,baz=113,slow=2.2,SNR=9.6						
PALK				pP	**pP**	**08 00 15.0**	**+2.3**
	comp=Z,14nm,0.8s,baz=115,slow=3.2,SNR=5.3						
PALK	**Pallekele**	**37.65**	**295**	*e*P	**P**	**07 59 57.9**	**+0.5**
JOW	**Kunigami**	**38.56**	**20**	*e*P	**P**	**08 00 03.8**	**-0.9**
	comp=Z,14nm,0.8s						
TOO	**Toolangi**	**39.42**	**140**	P	**P**	**08 00 15.0**	**+3.1**
	baz=40,SNR=20						
ENH	**Enshi**	**39.91**	**353**	*e*P	**P**	**08 00 14.2**	**-1.8**
	comp=Z,14nm,0.4s						
ARMA	**Armidale**	**40.27**	**126**	P	**P**	**08 00 21.3**	**+2.0**
	baz=40,SNR=7.4						
CNB	**Canberra Magne**	**40.77**	**134**	P	**P**	**08 00 25.1**	**+1.9**
	baz=41,SNR=5.1						
CD2	**Chengdu**	**41.56**	**346**	*e*P	**P**	**08 00 32.0**	**+2.4**
CD2				S	**S**	**08 06 48.3**	**+6.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=Z,310nm,18.9s						
CD2				LR	LR		
	comp=Z,180nm,18.9s						
NJ2	**Nanjing**	**41.59**	**6**

HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,62nm,5.3s
HHC LR LR
comp=Z,1μm,15.7s
GTA Gaotai 50.62 345 *e*P **P 08 01 40.8 0.0**
GTA pP pP 08 01 50.4 -6.3
GTA sP sP 08 01 54.6 -9.1
GTA S **S 08 08 55.4 +4.2**
GTA sS sS 08 09 09.6 -8.5
GTA SS **SS 08 12 25.1 -1.3**
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,80nm,5.0s
GTA LR LR
comp=Z,360nm,18.8s
GTA LR LR
comp=Z,480nm,26.1s
MAJO Matsushiro 50.98 25‖ *e*P **P 08 01 45.2 +1.8**
MAJO pmax pmax
comp=Z,30nm,0.7s
MAT Matsushiro 50.98 25 P **P 08 01 39.6 -3.8**
MJAR Matsushiro Arr 50.98 25 P **P 08 01 39.8 -3.6**
comp=Z,2.2nm,0.6s,baz=202,slow=8.4,SNR=11
MJAR PcP **PcP 08 02 59.4 +0.5**
comp=Z,4.5nm,0.8s,baz=194,slow=4.3,SNR=5.0
MJAR ScP **ScP 08 06 48.5 -1.7**
comp=Z,1.8nm,1.0s,baz=224,slow=6.7,SNR=4.1
MJB9 Matsu-Tunnel 50.98 25 *e*P P 08 01 47.4 +4.0
comp=Z,2.4nm,0.6s
CN2 Changchun 54.03 10 *e*P **P 08 02 05.8 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MSHR Mys Shultsa 54.07 15‖ *e*P **P 08 02 08.6 +2.4**
MDJ Mudanjiang 55.62 13 P **P 08 02 15.1 -2.2**
MDJ pP pP 08 02 24.3 -9.2
MDJ sP sP 08 02 28.0 -12
MDJ ScP **ScP 08 07 14.6 +4.4**
MDJ S **S 08 09 54.3 -4.5**
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,35nm,6.4s
MDJ LR LR
comp=Z,150nm,26.5s
MDJ LR LR
comp=Z,87nm,27.8s
MDJ LR LR
comp=Z,170nm,26.5s
USRK Ussuriysk Ar. 55.80 15 P **P 08 02 16.2 -2.5**
comp=Z,12nm,0.7s,baz=186,slow=7.1,SNR=24
THN Thein Dam 55.84 320 *e*P P 08 02 11.8 -7.4
ULN Ulaanbaatar 57.57 354 *d i*P **P 08 02 29.9 -1.4**
ULN pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 57.57 354 *e*P **P 08 02 29.8 -1.5**
comp=Z,8.5nm,0.6s
SONA0 Songino Array 57.61 353 *e*P **P 08 02 29.8 -1.7**
comp=Z,8.7nm,0.7s
SONM Songino Array 57.61 353 P **P 08 02 29.8 -1.7**
comp=Z,5.6nm,0.5s,baz=170,slow=9.5,SNR=8.4
SONM pP **pP 08 02 50.1 +2.3**
comp=Z,6.0nm,0.9s,baz=186,slow=8.9,SNR=3.2
SONA1 Songino Array 57.62 354 *e*P **P 08 02 30.1 -1.5**
WMQ Urumqi 58.47 337 P **P 08 02 37.3 -0.3**
WMQ pP pP 08 02 49.9 -4.0
WMQ sP sP 08 02 53.9 -6.8
WMQ S **S 08 10 39.4 +2.9**
WMQ SS **SS 08 14 33.8 +3.7**
WMQ pmax pmax
comp=Z,27nm,0.8s
WMQ pmax pmax
comp=Z,140nm,5.1s
WMQ LR LR
comp=Z,130nm,23.7s
WMQ LR LR
comp=Z,100nm,26.3s
KSH Kashi 60.55 326 P **P 08 02 50.8 -1.3**
KSH pP pP 08 03 01.3 -7.1
KSH sP sP 08 03 05.3 -10
KSH PcP **PcP 08 03 34.1 -2.0**
KSH PP **PP 08 05 07.4 +1.1**
KSH S **S 08 10 58.3 -5.3**
KSH SS **SS 08 14 59.1 -3.9**
KSH pmax pmax
comp=Z,22nm,0.8s
KSH pmax pmax
comp=Z,100nm,4.4s
KSH LR LR
comp=Z,91nm,7.4s
KSH LR LR
comp=Z,85nm,6.2s
KSH LR LR
comp=Z,410nm,6.2s
KBL Kabul 61.49 318 *e*P **P 08 02 57.6 -1.1**
KBL pmax pmax
comp=Z,28nm,1.3s
KBL Kabul 61.49 318 *e*P **P 08 02 57.6 -1.1**
comp=Z,28nm,1.3s
PDGK Podgornoye 61.57 332 P **P 08 02 56.8 -2.1**
PDGK pmax pmax
comp=Z,13nm,0.5s
YSS Yuzh-Sakhalins 61.63 22 *e*P **P 08 02 59.0 -0.1**
YSS pmax pmax
comp=Z,200nm,3.0s
TLY Talaya 61.72 352 P **P 08 02 58.6 -1.0**
comp=Z,4.6nm,0.9s,baz=189,slow=4.3,SNR=5.8
TLY Talaya 61.72 352 *e*P **P 08 02 56.9 -2.8**
TLY pmax pmax
comp=Z,9.0nm,1.0s
TLY MLR MLR
comp=Z,117nm,25.0s
MOY Mondy 62.10 350 *e*P **P 08 03 01.4 -0.9**
MK01 Makanchi Array 63.04 336 *e*P **P 08 03 07.2 -1.3**
MK31 Makanchi Array 63.06 336 *e*P **P 08 03 07.1 -1.6**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 63.06 336 *e*P **P 08 03 07.7 -1.1**
MK32 Makanchi Array 63.06 336 *e*P **P 08 03 07.4 -1.4**
MKAR Makanchi Array 63.06 336 P **P 08 03 07.4 -1.4**
comp=Z,13nm,0.5s,baz=148,slow=7.2,SNR=128
MKAR pP **pP 08 03 26.1 +0.9**
comp=Z,3.2nm,0.4s,baz=152,slow=8.1,SNR=4.2
MKAR LR LR 08 32 39.2
comp=Z,68nm,19.7s,baz=154,slow=38
MKAR Makanchi Array 63.06 336 *e*P **P 08 03 07.6 -1.1**
comp=Z,84nm,0.5s
TKM2 Tokmak 2 63.17 329 P **P 08 03 06.7 -3.1**
TKM2 pmax pmax
comp=Z,28nm,1.4s
AAK Ala-Archa 63.54 328 P **P 08 03 11.8 -0.4**
comp=Z,11nm,0.8s,baz=121,slow=6.7,SNR=13
AAK pP **pP 08 03 30.4 +1.8**
comp=Z,13nm,0.9s,baz=126,slow=3.7,SNR=6.5
AAK Ala-Archa 63.54 328 *c i*P **P 08 03 11.5 -0.6**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 63.54 328 *e*P **P 08 03 11.7 -0.4**
comp=Z,20nm,1.0s
AAK Ala-Archa 63.54 328 P **P 08 03 11.8 -0.4**
SNR=6.5
FRU Bishkek 63.62 328 *e*P **P 08 03 09.0 -3.5**
WSAR Wadi Sarin 63.67 302 P **P 08 03 12.3 -0.9**
comp=Z,16nm,0.7s,baz=142,slow=5.7,SNR=16
WSAR pP **pP 08 03 31.4 +1.8**
comp=Z,42nm,0.8s,baz=139,slow=5.7,SNR=14
MNAS Manas 64.50 327 P **P 08 03 17.5 -0.9**
MNAS pmax pmax
comp=Z,51nm,1.2s
KK31 Karatay Array 66.00 326 *e*P **P 08 03 26.6 -1.3**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 66.00 326 *e*P **P 08 03 26.8 -1.1**
KKAR pmax pmax
comp=Z,33nm,0.7s
KKAR Karatay Array 66.00 326 *e*P **P 08 03 26.8 -1.1**
comp=Z,32nm,0.7s
UOSS Minazif 66.39 302 *e*P **P 08 03 30.4 -0.4**
comp=Z,33nm,0.8s
HATD Hatta, Dubai 66.40 302 P pP 08 03 48.8 +1.3
SNR=5.6
ASHO Ashiyiah 66.41 302 P pP 08 03 48.9 +1.4
SNR=6.2
FAQ Al Faqa, Dubai 66.82 302 P pP 08 03 51.4 +1.3
SNR=6.0
BOD Bodaibo 67.15 360 *e*P **P 08 03 33.4 -1.5**
BOD pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 67.24 199 P **P 08 03 36.5 +1.0**
comp=Z,3.0nm,0.6s,baz=41,slow=6.1,SNR=12
MAW LR LR 08 28 35.1
comp=Z,151nm,21.7s,baz=37,slow=32
MAW Mawson 67.24 199 P **P 08 03 36.4 +1.0**
baz=67,SNR=8.8
MAW Mawson 67.24 199 *e*P **P 08 03 36.3 +0.9**
MAW pmax pmax
comp=Z,3.0nm,1.1s
MAW Mawson 67.24 199 *e*P **P 08 03 36.3 +0.9**
comp=Z,2.6nm,1.1s
KURBB Kurchatov Arra 67.62 336 P **P 08 03 36.8 -1.2**
comp=Z,5.2nm,0.7s,baz=153,slow=5.2,SNR=48
KURBB pP **pP 08 03 55.4 +0.8**
comp=Z,3.6nm,0.8s,baz=154,slow=5.7,SNR=5.2
KURK Kurchatov 67.66 336 *c e*P **P 08 03 37.0 -1.3**
KURK pmax pmax
comp=Z,36nm,0.8s
KURK Kurchatov 67.66 336 *e*P **P 08 03 37.2 -1.0**
KURK Kurchatov 67.66 336 P **P 08 03 37.5 -0.8**
SNR=5.1
KURK P **P 08 03 37.5 -0.8**
SNR=5.1
ZAA0 Zalesovo Array 68.10 342 *e*P **P 08 03 39.0 -2.0**
ZALV Zalesovo Beam 68.10 342 P **P 08 03 38.9 -2.1**
comp=Z,11nm,0.5s,baz=156,slow=5.2,SNR=24
ZALV pP **pP 08 03 58.1 +0.6**
comp=Z,4.4nm,0.5s,baz=140,slow=5.6,SNR=3.5
ZALV LR LR 08 37 32.8
comp=Z,50nm,18.5s,baz=68,slow=40
ZAA1 Zalesovo Array 68.10 342 *e*P **P 08 03 38.9 -2.1**
GEYT Alibeck 70.73 316 P **P 08 03 56.2 -1.4**
comp=Z,44nm,1.1s,baz=130,slow=6.0,SNR=13
GEYT pP **PcP 08 04 16.5 -1.7**
comp=Z,35nm,0.9s,baz=137,slow=7.1,SNR=10
GEYT LR LR 08 38 27.1
comp=Z,60nm,19.2s,baz=325,slow=39
VNDA Vanda 72.14 170 P **P 08 04 06.9 +1.5**
comp=Z,1.8nm,0.4s,baz=314,slow=7.1,SNR=16
VNDA LR LR 08 35 30.5
comp=Z,155nm,18.8s,baz=282,slow=35
VNDA Vanda 72.14 170 *e*P **P 08 04 06.3 +0.9**
VNDA pmax pmax
comp=Z,9.0nm,1.3s
VNDA Vanda 72.14 170 *e*P **P 08 04 06.3 +0.9**
comp=Z,8.6nm,1.3s
YAK Yakutsk 72.35 7 *e*P **P 08 04 05.4 -1.4**
YAK pmax pmax
comp=Z,19nm,1.0s
PETK Petropavlovsk- 72.42 26 P **P 08 04 06.4 -1.0**
comp=Z,4.3nm,0.9s,baz=222,slow=7.0,SNR=5.0
PETK LR LR 08 36 30.2
comp=Z,42nm,21.7s,baz=243,slow=36
PEA1 Petropavlovsk- 72.42 26 *e*P **P 08 04 06.4 -1.0**
BVA0 Borovoye Array 72.80 334 *i*P **P 08 04 08.4 -1.3**
BVA0 pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 72.80 334 P **P 08 04 08.7 -1.0**
comp=Z,9.4nm,0.7s,baz=139,slow=7.9,SNR=46
BRVK Borovoye 72.87 334 *c i*P **P 08 04 08.9 -1.2**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 72.87 334 *e*P **P 08 04 09.4 -0.7**
comp=Z,6.7nm,0.8s
MA2 Magadan 74.76 18 P **P 08 04 20.0 -1.0**
comp=Z,8.3nm,0.7s,baz=197,slow=5.6,SNR=6.0
MA2 Magadan 74.76 18‖ *e*P **P 08 04 19.2 -1.8**
RAYN Ar Rayn 75.04 297 *e*P **P 08 04 22.8 -0.7**
comp=Z,24nm,0.9s
AB31 Akbulak array 75.56 327 *i*P **P 08 04 24.9 -0.9**
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 75.56 327 *e*P **P 08 04 25.0 -0.8**
comp=Z,168nm,0.8s
SYO Syowa Base 75.75 201‖ *e*X **P 08 04 25.0 -1.6**
SYO Syowa Base 75.75 201‖ *e*pP pP 08 04 38.6 -4.8
AKTO Aktyubinsk 77.25 327 P **P 08 04 35.0 -0.3**
comp=Z,11nm,0.8s,baz=102,slow=4.6,SNR=17
AKTO Aktyubinsk 77.25 327 P **P 08 04 34.0 -1.4**
AKTO pmax pmax
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 77.30 271 P **P 08 04 38.1 +1.3**
comp=Z,4.5nm,0.8s,baz=55,slow=6.6,SNR=8.9
KMBO LR LR 08 35 17.8
comp=Z,64nm,18.5s,baz=86,slow=33
KMBO Kilima Mbogo 77.30 271 *e*P **P 08 04 38.1 +1.3**
comp=Z,12nm,1.1s
SEY Seymchan 77.91 17‖ *e*P **P 08 04 37.5 -1.3**
SVE Sverdlovsk 79.55 333 *e*P **P 08 04 47.8 -0.1**
SVE pmax pmax
comp=Z,27nm,0.9s
ARU Arti 80.26 332 P **P 08 04 50.8 -1.1**
comp=Z,2.6nm,0.2s,baz=139,slow=2.6,SNR=7.4
ARU Arti 80.26 332 *c i*P **P 08 04 50.7 -1.1**
ARU S **S 08 14 56.2 +3.9**
ARU SS **SS 08 20 04.2 -0.6**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 80.26 332 *e*P **P 08 04 50.8 -1.1**
comp=Z,21nm,1.3s
QSPA South Pole Qui 80.43 180 *e*P **P 08 04 54.1 +1.3**
NRIK Noril'sk 80.94 351 P **P 08 04 53.9 -1.2**
comp=Z,5.3nm,0.6s,baz=145,slow=7.5,SNR=6.2
NRIK LR LR 08 42 60.0
comp=Z,66nm,20.6s,baz=195,slow=37
TIXI Tiksi 81.60 5 P **P 08 04 56.4 -2.2**
comp=Z,16nm,0.8s,baz=188,slow=3.7,SNR=4.7
TIXI pP **pP 08 05 15.7 +0.1**
comp=Z,15nm,0.8s,baz=166,slow=3.1,SNR=3.2
TIXI Tiksi 81.60 5 *d e*P **P 08 04 56.9 -1.7**
TIXI pmax pmax
comp=Z,20nm,0.9s
TIXI MLR MLR
comp=Z,78nm,23.0s
ZEI Tsey 82.61 316 *e*P **P 08 05 04.4 -0.4**
ZEI pmax pmax
comp=Z,11nm,0.7s
MARD Mardin 83.11 310 *e*P **P 08 05 07.9 +0.5**
comp=Z,81nm,1.5s
NEY Neytrino 83.58 316‖ *e*P **P 08 05 10.5 +0.8**
NEY pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 83.61 316 P **P 08 05 10.4 +0.7**
comp=Z,12nm,0.9s,baz=173,slow=4.0,SNR=8.6
KIV Kislovodsk 83.83 316 *e*P **P 08 05 11.5 +0.6**
KIV pmax pmax
comp=Z,11nm,1.0s
LSZ Lusaka 84.06 256 *e*P **P 08 05 13.8 +1.0**
LSZ pmax pmax
comp=Z,11nm,1.0s
LSZ Lusaka 84.06 256 *e*P **P 08 05 13.8 +1.0**
comp=Z,11nm,1.0s
KOPT Kop Dagi 84.13 312 *e*P **P 08 05 11.8 -1.0**
comp=Z,77nm,1.5s
BOSA Boshof 84.88 242 P **P 08 05 17.8 +1.1**
comp=Z,7.4nm,0.7s,baz=96,slow=4.4,SNR=14
BOSA LR LR 08 38 34.7
comp=Z,97nm,18.3s,baz=52,slow=32
CSS Mathiatis 88.32 306 *e*P **P 08 05 34.1 +0.9**
comp=Z,8.1nm,1.0s
BR101 Keskin Array S 89.14 310 *e*P **P 08 05 36.8 -0.3**
BR131 Keskin Array S 89.14 310 *e*P **P 08 05 37.1 0.0**
BRTR Keskin Array B 89.14 310 P **P 08 05 36.8 -0.3**
comp=Z,13nm,0.8s,baz=125,slow=5.9,SNR=39
BRTR pP **pP 08 05 56.2 +1.9**
comp=Z,8.4nm,0.8s,baz=139,slow=6.9,SNR=6.7
BRTR LR LR 08 48 31.2
comp=Z,20nm,19.8s,baz=126,slow=38
SNAA Sanae 89.25 196 P **P 08 05 38.9 +2.0**
SNAA Sanae 89.25 196 *c i*P **P 08 05 38.7 +1.8**
SNAA pmax pmax
comp=Z,1μm,1.0s
SNAA Sanae 89.25 196 *e*P **P 08 05 38.6 +1.8**
comp=Z,48nm,1.3s
BR231 Keskin MP Arra 89.82 310 *e*P **P 08 05 37.2 -3.0**
VNA2 Neumayer--Watz 90.89 196 P **P 08 05 47.4 +2.9**
baz=265,slow=3.5
OBN Obninsk 90.99 326 *i*P **P 08 05 43.4 -1.7**
OBN pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 91.11 332 *e*P **P 08 05 43.3 -2.2**
KLMR pmax pmax
comp=Z,12nm,1.2s
VNA1 Neumayer--Stat 91.29 196 P **P 08 05 48.3 +2.0**
VNA3 Neumayer Olymp 91.33 196 P **P 08 05 48.4 +1.8**
TMCR Tamitsa 92.74 335 *e*P P 08 05 42.8 -10
TMCR pmax pmax
comp=Z,169nm,0.8s
AKASG Malin Array Be 94.38 321 P **P 08 05 59.9 -1.0**
comp=Z,5.3nm,0.7s,baz=80,slow=4.8,SNR=15
AKASG pP **pP 08 06 18.9 +0.8**
comp=Z,8.0nm,0.8s,baz=81,slow=4.6,SNR=7.6
AKASG LR LR 08 58 50.5
comp=Z,14nm,18.3s,baz=315,slow=42
AKASG Malin Array Be 94.38 321 P **P 08 05 59.9 -1.0**
AKASG *PP **pP 08 06 18.9 +0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 94.38 321 *e*P **P 08 05 59.7 -1.2**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 94.38 321 *e*P **P 08 05 59.7 -1.2**
comp=Z,8.8nm,0.8s
KIEV Kiev 94.39 321‖ *e*P **P 08 05 59.2 -1.7**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 94.39 321 *e*P **P 08 05 59.6 -1.3**
comp=Z,9.1nm,0.8s
AK11 Malin Array Si 94.42 321 *e*P **P 08 05 59.8 -1.3**
FIA0 FINESS Array S 97.60 331 *e*P **P 08 06 14.4 -0.8**
FIA0 FINESS Array S 97.60 331 *e*P **P 08 06 14.4 -0.8**
FINES FINESS Array B 97.60 331 P **P 08 06 14.4 -0.8**
comp=Z,4.1nm,0.6s,baz=102,slow=8.0,SNR=11
ARCES ARCESS Array B 98.56 339 LR LR 08 55 01.6
comp=Z,66nm,19.3s,baz=112,slow=38
ILAR Eielson Array 102.25 26 P **Pdif 08 06 33.1 -2.8**
comp=Z,0.3nm,0.5s,baz=268,slow=4.3,SNR=7.3
ILB Eielson Array 102.25 26 *e*Pdif **Pdif 08 06 33.5 -2.5**
TORD Torodi Ar. Bea 114.24 280 PKP PKPdf 08 11 21.4 -0.1
comp=Z,1.3nm,0.5s,baz=49,slow=1.8,SNR=25
TOA1 Torodi Ar. Sit 114.25 280 *e*PKIKP **PKiKP 08 11 21.4 -0.1**
YKA Yellowknife Ar 116.47 23 PKP **PKPdf 08 11 24.3 -0.1**
comp=Z,1.9nm,0.6s,baz=301,slow=0.9,SNR=4.2
YKA pPKP pPKPdf 08 11 44.4 +2.2
comp=Z,1.9nm,0.6s,baz=317,slow=2.0,SNR=3.7
YKA Yellowknife Ar 116.47 23 PKIKP **PKPdf 08 11 24.3 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKB5 Yellowknife Ar 116.47 23 *e*PKPdf **PKPdf 08 11 24.6 +0.2**
I03D Drain, OR 119.59 45 P **PKPdf 08 11 30.4 -0.5**
baz=286
KIC Kosan Boka 119.86 272 *e*PKP1 **PKPdf 08 11 32.1 -0.2**
comp=Z,59nm,1.6s
DBIC Dimbokro 120.01 272 PKP **PKPdf 08 11 32.8 +0.2**
comp=Z,2.4nm,0.4s,baz=38,slow=0.9,SNR=9.4
LIC Lamto 120.12 272 *e*PKP1 **PKPdf 08 11 32.9 +0.1**
comp=Z,61nm,1.7s
TIC Toumodi 120.17 272 *e*PKP1 **PKPdf 08 11 32.8 -0.1**
J04D Umpqua Nationa 120.58 45 P **PKPdf 08 11 34.0 +0.8**
baz=287
B08A Colville Reser 120.71 39 *e*PKPdf **PKPdf 08 11 33.8 +0.8**
J05D Fort Rock, OR 121.18 45 P **PKPdf 08 11 34.3 0.0**
baz=288
M04C Macdoel 121.19 47 P **PKPdf 08 11 32.9 -1.4**
baz=286
D08A Wollman Farm, 121.45 40 *e*PKPdf **PKPdf 08 11 36.0 +1.6**
O03D Paynes Creek 121.62 48 P **PKPdf 08 11 34.1 -1.0**
baz=286
NEW Newport 122.11 38 P **PKPdf 08 11 35.9 +0.1**
baz=294
AFDM Forest Hills D 122.59 50 *e*PKPdf **PKPdf 08 11 38.1 +1.1**
BEKR Beckworth 122.80 49 *e*PKPdf **PKPdf 08 11 38.1 +0.6**
PAHR Pah Rah Range 123.57 48 *e*PKPdf **PKPdf 08 11 40.3 +1.4**
PNTR Pine Nut 123.58 49 *e*PKPdf **PKPdf 08 11 40.6 +1.5**
PKM Mcpherson Peak 124.50 54 P **PKPdf 08 11 42.2 +1.3**
baz=284
MSO Missoula 124.67 39 P **PKPdf 08 11 40.6 -0.2**
baz=296
MSO Missoula 124.67 39 *e*PKPdf **PKPdf 08 11 41.5 +0.7**
MFID Camas Ranch 124.84 43 *e*PKPdf **PKPdf 08 11 42.8 +1.6**
CWC Cottonwood Cre 125.47 52 P **PKPdf 08 11 43.7 +1.0**
baz=286
HLID Hailey 125.73 42 P **PKPdf 08 11 44.1 +1.1**
baz=294
HLID Hailey 125.73 42 *e*PKPdf **PKPdf 08 11 44.8 +1.7**
DAC Darwin (Calif) 125.89 52 *e*PKIKP **PKPdf 08 11 45.5 +1.9**
DAC Darwin (Calif) 125.89 52 *e*PKPdf **PKPdf 08 11 45.5 +1.9**
EDW2 Edwards Air Fo 125.95 54 P **PKPdf 08 11 44.7 +1.2**
baz=285
MPMC Manual Prospec 126.04 52 P **PKPdf 08 11 44.7 +0.9**
baz=286
LRMC Laurel Mtn Rad 126.04 53 P **PKPdf 08 11 44.9 +1.1**
baz=286
MWC Mount Wilson 126.06 55 *e*PKIKP **PKPdf 08 11 45.5 +1.6**
MWC Mount Wilson 126.06 55 *e*PKPdf **PKPdf 08 11 45.5 +1.6**
DLMT Dillon 126.16 40 *e*PKPdf **PKPdf 08 11 45.2 +1.5**
BFSC Mount Baldy Ra 126.38 54 P **PKPdf 08 11 45.6 +1.1**
baz=285
FURC Furnace Creek, 126.41 52 P **PKPdf 08 11 45.8 +1.6**
baz=287
EGMT Eagleton 126.59 36 P **PKPdf 08 11 44.6 +0.2**
baz=301
EGMT Eagleton 126.59 36 *e*PKPdf **PKPdf 08 11 44.3 -0.1**
BOZ Bozeman (W) 126.66 39 P **PKPdf 08 11 45.6 +0.9**
baz=298
BOZ Bozeman (W) 126.66 39 *e*PKIKP **PKPdf 08 11 45.9 +1.2**
BOZ Bozeman (W) 126.66 39 *e*PKPdf **PKPdf 08 11 45.9 +1.2**
TPNV Topopah Spring 126.74 51 P **PKPdf 08 11 46.1 +1.0**
baz=288
GSC Goldstone, Bar 126.78 53 P **PKPdf 08 11 46.8 +1.6**
baz=286
GSC Goldstone, Bar 126.78 53 *e*PKIKP **PKPdf 08 11 47.6 +2.4**
GSC Goldstone, Bar 126.78 53 *e*PKPdf **PKPdf 08 11 47.5 +2.4**
R11A Troy Canyon, C 126.80 49 P **PKPdf 08 11 46.2 +1.0**
baz=289
R11A Troy Canyon, C 126.80 49 *e*PKPdf **PKPdf 08 11 46.4 +1.2**
SHOC Shoshone, Teco 127.03 52 P **PKPdf 08 11 45.3 -0.2**
baz=287
PFO Pinyon Flats O 127.50 55 P **PKPdf 08 11 47.8 +1.2**
baz=285
PFO Pinyon Flats O 127.50 55 *e*PKIKP **PKPdf 08 11 48.6 +2.0**
PFO Pinyon Flats O 127.50 55 *e*PKPdf **PKPdf 08 11 48.6 +2.0**
YMR Madison River 127.50 40 *e*PKPdf **PKPdf 08 11 45.8 -0.6**
XPFO Piæon Flat 127.50 55 *e*PKPdf **PKPdf 08 11 48.5 +1.8**
TPFO Pinon Flats 127.51 55 P **PKPdf 08 11 47.8 +1.2**
baz=285
YHH Holmes Hill 127.52 40 *e*PKPdf **PKPdf 08 11 48.4 +1.9**
HVU Hansel Valley 127.56 44 *e*PKIKP **PKPdf 08 11 48.4 +1.8**
HVU Hansel Valley 127.56 44 *e*PKPdf **PKPdf 08 11 48.4 +1.8**
SHPR Sheep Range 127.70 51 *e*PKPdf **PKPdf 08 11 49.4 +2.4**
BELC Belle Mtn. Jos 127.77 54 P **PKPdf 08 11 48.5 +1.4**
baz=286
GMRC Granite Mounta 127.82 53 P **PKPdf 08 11 48.4 +1.2**
baz=287
IMW Indian Meadow 127.87 41 *e*PKPdf **PKPdf 08 11 49.3 +2.1**
H17A Grant Village 127.87 40 P **PKPdf 08 11 48.4 +1.2**
baz=298
FXWY Fox Creek 127.93 41 *e*PKPdf **PKPdf 08 11 49.1 +1.8**
TPAW Teton Pass 128.05 41 *e*PKPdf **PKPdf 08 11 49.4 +1.8**
MOOW Moose Ponds 128.06 41 *e*PKPdf **PKPdf 08 11 48.4 +0.9**
DUG Dugway, Tooele 128.16 46 P **PKPdf 08 11 47.6 -0.1**
baz=293
DUG Dugway, Tooele 128.16 46 *e*PKIKP **PKPdf 08 11 49.7 +2.0**
DUG Dugway, Tooele 128.16 46 *e*PKPdf **PKPdf 08 11 49.7 +2.0**
REDW Red Top Meadow 128.17 41 *e*PKPdf **PKPdf 08 11 49.1 +1.3**
SNOW Snow King Moun 128.19 41 *e*PKPdf **PKPdf 08 11 49.6 +1.8**
SWSC Sam W. Stewart 128.21 55 P **PKPdf 08 11 49.9 +2.1**
baz=285
LOHW Long Hollow 128.22 41 *e*PKPdf **PKPdf 08 11 49.7 +1.9**
BC3 Big Chuckawall 128.30 55 P **PKPdf 08 11 49.8 +1.7**
baz=286
WESC Westside Schoo 128.31 56 *e*PKPpre PKPpre 08 11 38.5
IRM Iron Mountain 128.41 54 P **PKPdf 08 11 49.7 +1.5**
baz=286
HWUT Hardware Ranch 128.46 44 *e*PKPdf **PKPdf 08 11 50.0 +1.7**
NLU North Lily Min 128.77 46 *e*PKPdf **PKPdf 08 11 51.0 +2.0**
GLA Glamis 128.97 55 P **PKPdf 08 11 51.2 +1.8**
baz=286
LCMT Little Creek M 129.00 50 *e*PKPdf **PKPdf 08 11 52.0 +2.6**
Y12C Blythe 129.02 54 P **PKPdf 08 11 50.4 +1.1**
baz=287
W13A Hualapai Mount 129.12 52 *e*PKPdf **PKPdf 08 11 52.3 +2.5**
MSU Marysvale 129.25 48 *e*PKIKP **PKPdf 08 11 52.7 +2.7**
MSU Marysvale 129.25 48 *e*PKPdf **PKPdf 08 11 52.7 +2.7**

BW06	Boulder Array	129.28	41	P		PKPdf	08 11 50.5	+0.6
	baz=298							
PD31	Pinedale Array	129.28	41	ePKPdf		PKPdf	08 11 51.2	+1.3
PDAR	Pinedale Array	129.28	41	PKP		PKPdf	08 11 50.6	+0.7
	comp=Z,0.5nm,0.5s,baz=242,slow=3.2,SNR=6.4							
PDAR				pPKP		sPKPdf	08 12 11.1	-3.3
	comp=Z,0.6nm,0.6s,baz=8.5,slow=3.0,SNR=3.4							
PDAR	Pinedale Array	129.28	41	ePKPdf		PKPdf	08 11 50.4	+0.5
LAO	LASA Array	129.34	36	P		PKPdf	08 11 50.6	+1.0
	baz=304							
LAO	LASA Array	129.34	36	ePKPdf		PKPdf	08 11 51.9	+2.3
U15A	North Rim	129.91	50	ePKPdf		PKPdf	08 11 53.7	+2.4
WUAZ	Wupatki	130.93	51	P		PKPdf	08 11 54.7	+1.6
	baz=290							
X16A	Lo Mia Camp, P	131.25	52	ePKPdf		PKPdf	08 11 56.6	+2.8
O20A	White River Ci	131.36	44	P		PKPdf	08 11 55.9	+2.1
	baz=297							
O20A	White River Ci	131.36	44	ePKPdf		PKPdf	08 11 56.4	+2.5
PV01	Paradox Valley	132.00	47	ePKPdf		PKPdf	08 11 56.9	+1.7
RSSD	Black Hills	132.05	37	P		PKPdf	08 11 54.8	-0.3
	baz=304							
RSSD	Black Hills	132.05	37	ePKIKP		PKPdf	08 11 56.2	+1.1
RSSD	Black Hills	132.05	37	ePKPdf		PKPdf	08 11 56.2	+1.1
MVCO	Mesa Verde	132.44	48	P		PKPdf	08 11 56.1	0.0
	baz=294							
TUC	Tucson	132.44	55	P		PKPdf	08 11 55.8	-0.2
	baz=288							
TUC	Tucson	132.44	55	ePKIKP		PKPdf	08 11 56.3	+0.3
TUC	Tucson	132.44	55	ePKPdf		PKPdf	08 11 56.3	+0.3
C31A	Landman Farms,	133.17	30	P		PKPdf	08 11 57.5	+0.7
	baz=314							
S22A	4UR Ranch, Cre	133.41	46	P		PKPdf	08 11 59.7	+1.7
	baz=296							
SDCO	Great Sand Dun	134.35	46	P		PKPdf	08 12 00.5	+0.8
	baz=298							
SDCO	Great Sand Dun	134.35	46	ePKPdf		PKPdf	08 12 02.6	+2.9
ANMO	Albuquerque	134.87	50	⇑iPKIKP		PKPdf	08 12 01.7	+1.1
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ECSD	EROS Data Cent	136.51	33	P		PKPdf	08 12 04.4	+1.3
	baz=312							
ECSD	EROS Data Cent	136.51	33	ePKPdf		PKPdf	08 12 03.6	+0.4
I38A	Scanlan Farm,	138.49	29	P		PKPdf	08 12 08.7	+2.0
	baz=318							
L39A	Vinton	140.06	31	P		PKPdf	08 12 08.7	-1.0
	baz=317							
L40A	Anamosa	140.49	31	P		PKPdf	08 12 10.1	-0.4
	baz=318							
WMOK	Wichita Mounta	140.56	45	ePKIKP		PKPdf	08 12 08.5	-2.4
WMOK	Wichita Mounta	140.56	45	ePKPdf		PKPdf	08 12 08.5	-2.4
HHAR	Hobbs	142.91	40	ePKPpre		PKPpre	08 12 11.8	
CCM	Cathedral Cave	143.35	35	ePKIKP		PKPbc	08 12 12.2	-0.7
CCM	Cathedral Cave	143.35	35	ePKPpre		PKPbc	08 12 12.2	-0.7
CPUP	Villa Florida	143.46	192	PKP		PKPdf	08 12 14.8	-1.5
	comp=Z,5.2nm,1.0s,baz=252,slow=2.1,SNR=11							
336A	Riesel	143.66	49	P		PKPdf	08 12 15.1	-1.4
	baz=300							
P44A	Sand Creek, Wi	143.74	31	P		PKPdf	08 12 14.4	-2.0
	baz=319							
T41A	Mountain View	143.74	37	P		PKPbc	08 12 13.8	-0.3
	baz=313							
S42A	Caledonia	143.81	35	P		PKPbc	08 12 13.9	-0.3
	baz=315							
X39A	Fountain Ranch	143.88	42	P		PKPbc	08 12 14.5	-0.1
	baz=307							
V40A	Witts Springs	143.91	39	P		PKPbc	08 12 14.7	0.0
	baz=310							
R43A	Red Bud	143.93	34	P		PKPbc	08 12 14.5	-0.1
	baz=316							
934A	Benavides	144.05	56	P		PKPdf	08 12 16.1	-1.2
	baz=294							
U41A	Viola	144.12	38	P		PKPbc	08 12 15.1	-0.2
	baz=312							
034A	Hebbronville	144.13	57	P		PKPdf	08 12 18.1	+0.7
	baz=293							
W40A	Ferguson Farm,	144.14	40	P		PKPdf	08 12 15.9	-1.3
	baz=309							
MIAR	Mount Ida	144.21	42	P		PKPdf	08 12 16.2	-1.1
	baz=308							
MIAR	Mount Ida	144.21	42	ePKIKP		PKPdf	08 12 15.9	-1.4
MIAR	Mount Ida	144.21	42	ePKPdf		PKPdf	08 12 15.9	-1.4
Y39A	Lockesburg	144.23	43	P		PKPdf	08 12 16.2	-1.2
	baz=306							
LNIG	Linares	144.24	60	ePKPdf		PKPdf	08 12 17.2	-0.5
138A	Matatall Enter	144.27	46	P		PKPdf	08 12 16.5	-1.0
	baz=304							
835A	Beeville	144.33	54	P		PKPdf	08 12 16.1	-1.6
	baz=295							
V41A	Mountainview	144.34	39	P		PKPbc	08 12 15.8	-0.2
	baz=311							
S43A	Fulton Ridge,	144.35	35	P		PKPbc	08 12 15.8	-0.1
	baz=315							
636A	Smothers Creek	144.41	52	P		PKPdf	08 12 17.7	-0.1
	baz=298							
R44A	Waltonville	144.41	33	P		PKPbc	08 12 15.6	-0.5
	baz=318							
U42A	Revenden	144.52	37	P		PKPdf	08 12 16.5	-1.3
	baz=313							
X301	Greenbrier Sit	144.54	40	ePKPdf		PKPdf	08 12 16.7	-1.2
WHAR	Wooly Hollow	144.57	40	ePKPdf		PKPbc	08 12 16.3	-0.4
T43A	Greenville	144.57	35	P		PKPdf	08 12 16.6	-1.3
	baz=315							
238A	Jacksonville	144.60	47	P		PKPdf	08 12 17.4	-0.7
	baz=303							
035A	Encino	144.65	56	P		PKPbc	08 12 16.4	-0.8
	baz=293							
W41B	Gary Mavity, V	144.67	40	P		PKPbc	08 12 16.7	-0.4
	baz=310							
537A	Green Hill Far	144.70	50	P		PKPdf	08 12 17.3	-1.0
	baz=299							
PBMO	Poplar Bluff	144.71	36	ePKPdf		PKPbc	08 12 16.1	-0.9
S44A	Carbondale	144.72	34	P		PKPab	08 12 15.8	-1.2
	baz=317							
Y40A	Okolona	144.73	42	P		PKPdf	08 12 17.5	-0.8
	baz=307							
X40A	Basin Creek Fa	144.73	41	P		PKPdf	08 12 16.9	-1.4
	baz=308							
V42A	Cord	144.79	38	P		PKPbc	08 12 16.9	-0.5
	baz=312							
338A	Crockett	144.81	48	P		PKPdf	08 12 18.8	+0.3
	baz=302							
035Z	Hargill	144.87	57	P		PKPdf	08 12 19.0	+0.4
	baz=293							
UALR	University of	144.87	40	ePKPdf		PKPdf	08 12 17.8	-0.7
NCB	Newcomb	144.89	11	ePKPdf		PKPdf	08 12 17.5	-0.8
X41A	Kaden, Bauxite	144.93	41	P		PKPab	08 12 16.8	-1.0
	baz=309							
WVL	Waterville	144.94	5	ePKPdf		PKPdf	08 12 18.1	-0.1
EMMW	East Machias	144.94	3	ePKPdf		PKPdf	08 12 17.8	-0.4
T44A	Benton	144.97	35	P		PKPbc	08 12 17.4	-0.6
	baz=316							
637A	Eagle Lake	144.99	51	P		PKPdf	08 12 18.4	-0.4
	baz=299							
U43A	Rector	145.00	36	P		PKPdf	08 12 17.6	-1.0
	baz=314							
BLO	Bloomington	145.01	29	ePKIKP		PKPbc	08 12 16.6	-1.4
BLO	Bloomington	145.01	29	ePKPdf		PKPbc	08 12 16.6	-1.3
WLAR	White Oak Lake	145.03	42	ePKPdf		PKPdf	08 12 19.1	+0.4
MDV	Middlebury	145.05	10	ePKPdf		PKPdf	08 12 18.0	-0.5
239A	Gary	145.06	46	P		PKPdf	08 12 19.0	+0.1
	baz=304							
NATX	Nacogdoches	145.06	47	P		PKPdf	08 12 19.3	+0.4
	baz=303							
NATX	Nacogdoches	145.06	47	ePKPbc		PKPdf	08 12 19.5	+0.6
Z40A	Long Farm, Mag	145.09	43	P		PKPab	08 12 17.8	-0.7
	baz=306							
S45A	Carrier Mills	145.10	33	P		PKPdf	08 12 17.9	-0.9
	baz=318							
HKT	Hockley	145.13	50	ePKIKP		PKPdf	08 12 19.9	+0.9
HKT	Hockley	145.13	50	ePKPbc		PKPdf	08 12 19.9	+0.9
PARMO	Parma	145.18	35	ePKPbc		PKPdf	08 12 18.9	0.0
MMNY	Mt. Morris Dam	145.21	16	ePKPbc		PKPdf	08 12 18.5	-0.3
737A	Port Lavaca	145.22	52	P		PKPdf	08 12 19.7	+0.5
	baz=297							
Y41A	Eaglette Beard	145.25	42	P		PKPdf	08 12 19.6	+0.4
	baz=308							
V43A	Jonesboro	145.32	37	P		PKPdf	08 12 18.9	-0.3
	baz=313							
U44A	Portageville	145.32	36	P		PKPab	08 12 19.4	+0.1
	baz=315							
140A	Cam and Jess,	145.33	44	P		PKPab	08 12 19.2	-0.2
	baz=306							
339A	Huntington	145.37	47	P		PKPab	08 12 19.8	+0.2
	baz=303							
USIN	University of	145.37	32	ePKPbc		PKPab	08 12 19.7	+0.4
HBAR	Harrisburg	145.41	38	ePKPbc		PKPab	08 12 20.1	+0.5
HNH	Hanover	145.47	9	ePKPbc		PKPab	08 12 20.2	+0.7
439A	Center Grove,	145.50	48	P		PKPab	08 12 20.2	+0.2
	baz=302							
Z41A	Richland Creek	145.50	43	P		PKPab	08 12 20.1	+0.2
	baz=307							
ALLY	Alegheny Colle	145.52	20	ePKPbc		PKPab	08 12 20.0	+0.2
240A	Hunter Patters	145.54	45	P		PKPab	08 12 20.7	+0.5
	baz=305							
ACCN	Adirondack Com	145.56	11	ePKPbc		PKPab	08 12 19.8	0.0
U44B	Burton Farm, H	145.63	35	P		PKPab	08 12 20.6	+0.2
	baz=315							
ACSO	Alum Creek Sta	145.71	24	ePKPdf		PKPab	08 12 20.1	-0.5
CCAR	Cane Creek	145.77	41	ePKPdf		PKPab	08 12 21.9	+1.0
FFD	Franklin Falls	145.80	8	ePKPdf		PKPab	08 12 21.1	+0.3
340A	Bronson	145.80	46	P		PKPab	08 12 21.5	+0.3
	baz=304							
M54A	Oil Creek Stat	145.80	19	P		PKPab	08 12 20.3	-0.6
	baz=335							
Y42A	Garnett, Star	145.81	41	P		PKPab	08 12 21.4	+0.2
	baz=309							
141A	Papa Simpson,	145.81	44	P		PKPab	08 12 21.7	+0.6
	baz=306							
WCI	Wyandotte Cave	145.86	30	ePKP2		PKPab	08 12 20.5	-0.7
WCI	Wyandotte Cave	145.86	30	ePKPdf		PKPab	08 12 20.5	-0.7
UTMT	University of	145.91	35	ePKPdf		PKPab	08 12 21.8	+0.4
X43A	Marvell	145.95	39	P		PKPab	08 12 21.9	+0.3
	baz=311							
U45A	Rockin P Farm,	145.96	35	P		PKPab	08 12 21.4	-0.2
	baz=316							
Z42A	Norrel Spur, H	146.06	42	P		PKPab	08 12 21.9	-0.2
	baz=308							
241A	Mo Tay, Goldon	146.14	45	P		PKPab	08 12 22.9	+0.5
	baz=306							
N54A	Moraine State	146.18	20	P		PKPab	08 12 21.6	-0.7
	baz=334							
TRY	Troy	146.19	11	ePKPdf		PKPab	08 12 22.6	+0.4
W44A	Shelby Farms P	146.19	37	P		PKPab	08 12 22.5	-0.1
	baz=313							
BINY	Binghamton	146.20	14	ePKPdf		PKPab	08 12 22.2	-0.1
V45A	Humboldt	146.28	36	P		PKPab	08 12 22.5	-0.4
	baz=315							
Y43A	Makayla and Ka	146.32	40	P		PKPab	08 12 22.6	-0.5
	baz=310							
341A	Kurthwood	146.36	46	P		PKPbc	08 12 21.7	-0.7
	baz=304							
540A	Vidor	146.38	48	P		PKPab	08 12 23.0	-0.4
	baz=302							
X44A	Crenshaw	146.42	39	P		PKPbc	08 12 21.8	-0.7
	baz=312							
W45A	Hickory Valley	146.55	37	P		PKPbc	08 12 22.0	-0.9
	baz=314							
Y44A	Strider, Charl	146.74	39	P		PKPab	08 12 23.1	-1.5
	baz=311							
143A	Socs Landing,	146.77	42	P		PKPab	08 12 23.3	-1.5
	baz=308							
OXF	Oxford	146.86	38	ePKP2		PKPab	08 12 24.0	-1.2
OXF	Oxford	146.86	38	ePKPbc		PKPab	08 12 24.0	-1.2
342A	Flagon Creek P	146.93	45	P		PKPbc	08 12 23.7	-0.3
	baz=306							
X45A	UM Field Stati	146.93	38	P		PKPbc	08 12 23.6	-0.4
	baz=313							
Z44A	Pea Ridge, Bel	147.04	41	P		PKPbc	08 12 23.4	-0.9
	baz=310							
Y45A	Yeager Farm, C	147.22	39	P		PKPbc	08 12 24.5	-0.2
	baz=312							
O56A	Blue Knob Stat	147.28	19	P		PKPbc	08 12 24.0	-0.8
	baz=336							
MCWV	Mont Chateau	147.40	21	ePKPbc		PKPab	08 12 25.6	-1.5
N59A	State Game Lan	147.47	15	P		PKPbc	08 12 25.0	-0.3
	baz=341							
ODNJ	Ogdensburg	147.58	13	ePKPbc		PKPab	08 12 26.4	-1.3
Y46A	Houston	147.62	38	P		PKPbc	08 12 25.1	-0.8
	baz=313							
244A	Avery, Jackson	147.65	43	P		PKPbc	08 12 25.6	-0.4
	baz=308							
VBMS	Vicksburg	147.65	42	P		PKPbc	08 12 25.5	-0.5
	baz=309							
VBMS	Vicksburg	147.65	42	ePKPbc		PKPab	08 12 26.9	-1.5
145A	Houston Renfro	147.80	41	P		PKPbc	08 12 26.6	+0.2
	baz=310							
344A	Westbrook Farm	147.98	44	P		PKPbc	08 12 27.4	+0.4
	baz=308							
Z46A	Louisville	148.04	39	P		PKPbc	08 12 26.7	-0.3
	baz=312							
MVL	Millersville	148.18	16	ePKPbc		PKPbc	08 12 27.4	+0.3
Y47A	UCPARC, Winfie	148.22	37	P		PKPbc	08 12 26.2	-1.3
	baz=315							
146A	Union	148.33	40	P		PKPbc	08 12 27.3	-0.5
	baz=312							
SWET	Sewanee	148.35	33	ePKPbc		PKPbc	08 12 27.5	-0.4
345A	Thomson Farm,	148.54	43	P		PKPbc	08 12 28.4	0.0
	baz=308							
Z47A	Carrollton	148.57	38	P		PKPbc	08 12 28.3	-0.1
	baz=314							
Z48A	Northport	148.76	37	P		PKPbc	08 12 28.0	-0.9
	baz=315							
147A	Livingston	148.80	39	P		PKPbc	08 12 28.1	-0.9
	baz=313							
346A	Big Creek Wild	148.87	42	P		PKPbc	08 12 29.2	-0.1
	baz=309							
CPCT	Cooper Cave	148.91	31	ePKPdf		PKPdf	08 12 25.6	+0.4
CPCT				ePKPbc		PKiKP	08 12 29.3	-1.3
247A	Quitman	149.00	40	P		PKPbc	08 12 29.4	-0.2
	baz=312							
TKL	Tuckaleechee C	149.12	30	ePKIKP		PKPdf	08 12 26.1	+0.5
TKL				e			08 12 30.2	
TKL				e			08 12 33.5	
TKL	Tuckaleechee C	149.12	30	ePKPdf		PKPdf	08 12 26.1	+0.5
TKL				ePKPbc		PKiKP	08 12 30.2	-0.9
TKL				ePKPab		PKPab	08 12 33.5	-0.6
LRAL	Lakeview Retre	149.33	37	ePKPbc		PKPbc	08 12 30.4	0.0
347A	Saraland	149.47	41	P		PKPbc	08 12 29.9	-0.9
	baz=311							
IP03	Louisa	149.49	20	ePKPbc		PKPbc	08 12 30.9	+0.3
BDFB	Brasilia	149.58	215	PKPbc		PKPbc	08 12 33.1	+1.6
	comp=Z,4.2nm,0.4s,baz=272,slow=2.2,SNR=17							
BDFB				pPKPbc		pPKPab	08 12 54.5	+0.5
	comp=Z,4.4nm,0.5s,baz=335,slow=3.3,SNR=4.0							
BDFB	Brasilia	149.58	215	ePKHKP		PKPdf	08 12 28.0	+1.0
BDFB				e			08 12 33.2	
BDFB	Brasilia	149.58	215	ePKPdf		PKPdf	08 12 28.0	+1.0
BDFB				ePKPbc		PKPbc	08 12 32.9	+1.3
BDFB				ePKPbc		PKPbc	08 12 33.1	+1.6
IP01	Cuckoo	149.59	20	ePKPdf		PKPdf	08 12 25.7	-0.5
IP01				ePKPbc		PKPbc	08 12 31.1	+0.3
JSRW	J. Sargeant Re	149.83	20	ePKPbc		PKPbc	08 12 31.6	+0.2
URVA	University of	150.06	19	ePKPdf		PKPdf	08 12 28.2	+1.2
URVA				ePKPbc		PKPbc	08 12 32.6	+0.6
URVA				ePKPab		PKPab	08 12 37.8	-0.1
BG3	Lake Jocassee	150.07	30	ePKPdf		PKPdf	08 12 27.0	-0.1
BG3				ePKPbc		PKPbc	08 12 32.7	+0.6
BG3				ePKPab		PKPab	08 12 38.4	+0.3
BRAL	Brewton	150.58	40	ePKPbc		PKPbc	08 12 34.7	+1.3
KMSC	Kings Mountain	150.70	27	P		PKPbc	08 12 32.7	-0.9
	baz=327							
GOGA	Godfrey	151.04	32	ePKIKP		PKPbc	08 12 34.9	+0.5
GOGA	Godfrey	151.04	32	ePKPbc		PKPbc	08 12 34.9	+0.5
JSC	Jenkinsville	151.44	28	ePKIKP		PKPdf	08 12 29.1	-0.1
JSC				e			08 12 35.9	
JSC	Jenkinsville	151.44	28	ePKPdf		PKPdf	08 12 29.1	-0.1
JSC				ePKPbc		PKPbc	08 12 35.9	+0.5
TIGA	Tifton	152.47	35	P		PKPbc	08 12 37.1	-0.7
	baz=319							
TIGA	Tifton	152.47	35	ePKPbc		PKPbc	08 12 38.7	+0.9
TIGA				ePKPab		PKPab	08 12 47.9	-0.2
LPAZ	La Paz	154.17	174	PKPab		PKPab	08 12 58.4	+2.1
	comp=Z,6.5nm,0.5s,baz=107,slow=2.4,SNR=31							
OTAV	Otavalo	164.08	125	ePKPdf		PKPdf	08 12 42.7	-3.3
RUSC	La Rusia	171.59	115	ePKPdf		PKPdf	08 12 50.2	-0.9

*ISCJB **13** 08:05:57.6±0.7, 38°.86N±0°.03×26°.8E±0°.1, h10km±4km, Error ellipse: s-maj=14.1km s-min=4.5km az=8.1*
*DDA **13** 08:05:57.5, 38°.88N×26°.76E, h7km, Md2.5*
*ISK **13** 08:05:57.1, 38°.86N×26°.80E, h11km, MD2.3*
*CSEM **13** 08:05:57.5±0.1, 38°.84N×26°.84E, h13km±1km, MD2.3, Error ellipse: s-maj=7.8km s-min=2.4km az=105.0*

ISC 13 08:05:57.6±0.9, 38°.86N±0°.03×26°.79E±0°.07, h10km±7km, n16, σ0°39/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAND	Candarli	0.09	7	ePG	Pg	Pg	08 05 59.9	-0.2
CAND				eSG	Sg	Sg	08 06 01.9	-0.1
FOCM	Fo^§a	0.16	197	ePG	Pg	Pg	08 06 00.9	-0.2
FOCM				eSG	Sg	Sg	08 06 03.9	+0.4
FOCM	Fo^§a	0.16	197	ePg	Pg	Pg	08 06 00.9	-0.2
FOCM				eSg	Sg	Sg	08 06 03.9	+0.4
DKL	Dikili	0.23	23	ePG	Pg	Pg	08 06 02.5	+0.2
DKL				eSG	Sg	Sg	08 06 06.3	+0.8
DKL	Dikili	0.23	23	ePg	Pg	Pg	08 06 02.5	+0.2
DKL				eSg	Sg	Sg	08 06 06.3	+0.8
AYVA	Ayvalik	0.45	350	iP	Pb	Pb	08 06 07.2	-0.4
AYVA	Ayvalik	0.45	350	P	Pb	Pb	08 06 07.2	-0.4
URLA	Izmir	0.52	197	iP	Pg	Pg	08 06 08.1	+0.3
URLA	Izmir	0.52	197	P	Pg	Pg	08 06 08.1	+0.3
ZEY	¯zmir	0.66	200	iP	Pg	Pg	08 06 10.2	-0.2
ZEY				iS	Sb	Sb	08 06 20.9	+0.5
DGB	¯zmir	0.81	175	iP	Pg	Pg	08 06 13.2	0.0
BOZC	Bozcaada	1.13	330	ePN	Pg	Pg	08 06 19.6	+0.2
BOZC	Bozcaada	1.13	330	iP	Pb	Pb	08 06 19.1	-0.1
BOZC				iS	Sb	Sb	08 06 34.1	+0.1
BOZC	Bozcaada	1.13	330	ePn	Pg	Pg	08 06 19.6	+0.2
GONE	Gonen-Balikesi	1.37	30	ePN	Pn	Pn	08 06 22.4	-0.3
GONE	Gonen-Balikesi	1.37	30	ePn	Pn	Pn	08 06 22.4	-0.3

MEX 13 08:08:13.4±0.3, 24°.53N×110°.16W, h20km, MD3.8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPIG	La Paz	0.45	198	iP		Pb	08 08 21.1	-1.5
	baz=18,slow=5.3							
LPIG				iS		Sb	08 08 27.1	-1.7

*ISCJB **13** 08:12:24.3±0.4, 32°.18N±0°.03×115°.18W±0°.03, h26km±4km, Error ellipse: s-maj=5.7km s-min=4.8km az=23.0*
*ECX **13** 08:12:25.6±0.6, 32°.14N×115°.20W, h8km, MD2.9, ML3.1*
*MEX **13** 08:12:26.4±0.7, 32°.19N×115°.17W, h9km±8km, MD3.8*

ISC 13 08:12:24.1±1.0, 32°.18N±0°.03×115°.18W±0°.03, h26km±8km, n19, σ0°42/29, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.23	356	eP		Pb	08 12 30.8	+0.5
MBIG				eS		Sb	08 12 33.1	-1.4
CPBX	Cerro Prieto	0.26	336	eP		Pb	08 12 31.1	+0.3
CPBX				eS		Sb	08 12 35.4	+0.1
CPBX				⇓e			08 12 37.4	
CPBX				IAML			08 12 37.4	
	comp=N,6μm,0.1s							
EMSC	East Mesa	0.58	16	⇓iP		Pn	08 12 36.7	0.0
YMD	Yuma Desert	0.65	55	⇑iP		Pn	08 12 37.6	-0.1
COA	Coachella	0.69	4	eP		Pn	08 12 38.0	-0.2
ERPC	Ernies Place	0.70	324	eP		Pn	08 12 38.4	+0.2
ECBX	El Chinero	0.71	171	⇓eP		Pb	08 12 37.8	-0.2
ECBX				eS		Sb	08 12 47.4	0.0
YUH	Yuha Desert	0.79	307	⇓iP		Pb	08 12 38.9	-0.3
COK	Cook Ranch	0.81	325	eP		Pn	08 12 40.1	+0.2
RMX	La Rumorosa	0.87	299	⇑eP		Pb	08 12 40.2	-0.6
RMX				eS		Sb	08 12 51.9	-0.2
CRR	Carrizo Plain	0.97	317	eP		Pb	08 12 42.7	+0.3
SPIG	San Pedro Mart	1.16	192	eP		Pb	08 12 45.4	-0.3
SPIG				iS		Sn	08 12 59.9	-0.2
SPIG	San Pedro Mart	1.16	192	eP		Pb	08 12 45.4	-0.3
SPIG				eS		Sb	08 13 00.6	+0.2
SPX	San Pedro Mart	1.16	192	eP		Pb	08 12 45.4	-0.3
CBX	Cerro Bola	1.27	276	eP		Pn	08 12 46.6	+0.4
CBX				eS		Sn	08 13 02.6	+0.1
CBX	Cerro Bola	1.27	276	eP		Pb	08 12 47.1	-0.3
CBX				IAML			08 13 04.8	
	comp=N,622nm,0.2s							
TJIG	Tijuana	1.29	282	eP		Pn	08 12 46.9	+0.4
TJIG				iS		Sn	08 13 03.0	0.0
113A	Mohawk Valley,	1.33	63	iP		Pb	08 12 48.0	-0.5
113A				iS		Sn	08 13 04.3	+0.5
214A	Organ Pipe Nat	2.02	96	iP		Pn	08 12 56.8	+0.3
214A				iS		Sn	08 13 21.6	+0.6

*ISCJB **13** 08:51:33.7±1.3, 4°.1S±0°.2×154°.2E±0°.2, h476km, mb3.4/5, Error ellipse: s-maj=31.7km s-min=22.5km az=37.9*
*IDC **13** 08:51:34.7±6.7, 4°.12S×154°.27E, h474km±79km, mb2.9/5, mb1 3.1/6, mb1mx2.9/24, mbtmp3.9/6, Error ellipse: s-maj=46.1km s-min=23.9km az=174.0*

ISC 13 08:51:34.8±1.3, 4°.1S±0°.2×154°.3E±0°.3, h476km, n7, σ0°60/7, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.70	206	P		P	08 55 14.5	+0.9
	0.5nm,0.3s,baz=34,slow=11,SNR=7.5							
DZM	Mont Dzumac	21.39	148	P		P	08 55 47.5	-0.1
	6.1nm,0.5s,baz=350,slow=17,SNR=12							
WRA	Warramunga Arr	25.01	229	P		P	08 56 19.8	-0.2
	0.3

comp=Z,11nm,18.3s,baz=219,slow=35
PETK Petropavlovsk- 81.23 346 LR LR 09 54 30.7
comp=Z,22nm,20.2s,baz=171,slow=34
NB2 NORSAR Subarra144.16 352 PKP PKPpre 09 27 57.0
comp=Z,3.1nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B144.16 352 PKP PKPdf 09 28 04.1 -0.4

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*SOME **13** 09:16:35.8, 44°.55N×82°.65E, h25km*
ISC 13 09:16:31.7±3.3, 44°.6N±0°.1×83°.0E±0°.2, h17km, n5, σ2°10/8, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.29**	**347**	Pg	**Pb**	**09 17 13.7**	**+1.1**
	0.5nm,0.4s,baz=168,slow=17,SNR=8.7						
MK31				⇑Lg	Lg	09 17 46.9	
	1.3nm,0.3s,baz=170,slow=28,SNR=9.4						
DJR	**Jarkent**	**2.32**	**266**	*e*P	**Pn**	**09 17 12.0**	**+2.8**
	17nm,0.5s						
DJR				*e*S	**Sn**	**09 17 37.9**	**+0.5**
	5.8nm,0.3s						
MAKZ	**Makanchi**	**2.37**	**342**	⇑Pg	**Pn**	**09 17 08.4**	**-1.4**
	4.8nm,0.8s						
MAKZ				⇑Lg	Lg	09 17 47.6	
	2.8nm,0.6s						
SHLS	**Shalkode**	**2.92**	**243**	*e*P	**Pn**	**09 17 19.1**	**+1.6**
	5.3nm,0.4s						
SHLS				*e*S	**Sn**	**09 17 50.3**	**-2.1**
	20nm,0.3s						
UZB	**Uzynbulak**	**3.21**	**245**	*e*P	**Pb**	**09 17 27.8**	**-0.6**
	1.1nm,0.5s						
UZB				*e*S	**Sb**	**09 18 05.3**	**-1.9**
	3.6nm,0.6s						

IDC 13 09:20:14.3±2.4, 5°.94S×130°.13E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=158.3km s-min=30.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**164**	Pn	Pn	09 23 39.6	-1.5
	0.6nm,0.3s,baz=347,slow=13,SNR=26						
WRA				Sn	Sn	09 26 07.8	-15
	0.2nm,0.3s,baz=355,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**18.00**	**169**	P	P	09 24 26.9	+0.3
	0.3nm,0.3s,baz=349,slow=9.6,SNR=25						
MKAR	**Makanchi Array**	**67.42**	**327**	P	P	09 31 11.7	0.0
	0.3nm,0.5s,baz=124,slow=5.5,SNR=3.6						

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*ISCJB **13** 09:25:05.6±1.3, 10°.93S±0°.09×165°.1E±0°.1, h31km, mb3.7/4, MS3.6/1, Error ellipse: s-maj=18.8km s-min=8.5km az=141.2*
*IDC **13** 09:25:10.4±3.6, 10°.94S×165°.02E, h58km±30km, mb3.5/5, mb1 3.8/7, mb1mx3.5/29, mbtmp3.9/7, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/19, Error ellipse: s-maj=30.1km s-min=19.1km az=53.0*
ISC 13 09:25:07.4±1.5, 10°.8S±0°.1×165°.1E±0°.1, h31km, n15, σ1°59/11, mb3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.26**	**285**	P	**Pn**	**09 26 23.9**	**-0.1**
	18nm,0.3s,baz=69,slow=1.4,SNR=7.1						
HNR				S	**Sn**	**09 27 26.2**	**+2.5**
	9.8nm,0.3s,baz=46,slow=21,SNR=3.9						
HNR				LR	LR	09 28 43.4	
	comp=Z,262nm,18.5s,baz=103,slow=41						
HNR	**Honiara**	**5.26**	**285**	*e*P	**Pn**	**09 26 22.0**	**-2.0**
HNR				*e*S	**Sn**	**09 27 25.0**	**+1.3**
DZM	**Mont Dzumac**	**11.26**	**174**	P	**Pn**	**09 27 47.9**	**+1.6**
	0.8nm,0.3s,baz=320,slow=19,SNR=18						
DZM				S	**Sn**	**09 29 50.8**	**-0.4**
	0.2nm,0.3s,baz=100,slow=22,SNR=2.1						
PMG	**Port Moresby**	**17.73**	**273**	LR	LR	09 35 51.9	
	comp=Z,140nm,18.0s,baz=140,slow=36						
CTA	**Charters Tower**	**20.35**	**241**	P	**P**	**09 29 42.0**	**+0.5**
	5.9nm,0.9s,baz=67,slow=12,SNR=3.4						
H11S2	**WAKE ISLAND Hy 29.17**	**3**		T	T	10 01 38.2	
	baz=184,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy 29.18**	**3**		T	T	10 01 37.2	
	baz=184,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy 29.19**	**3**		T	T	10 01 38.3	
	baz=184,slow=76,SNR=30						
STKA	**Stephens Creek**	**30.17**	**222**	P	**P**	**09 31 14.3**	**-0.6**
	2.5nm,0.8s,baz=61,slow=13,SNR=7.0						
STKA				LR	LR	09 42 33.4	
	comp=Z,133nm,18.6s,baz=219,slow=35						
H11N1	**WAKE ISLAND Hy 30.40**	**3**		T	T	10 03 14.3	
	baz=182,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy 30.40**	**3**		T	T	10 03 11.1	
	baz=182,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy 30.42**	**3**		T	T	10 03 13.4	
	baz=182,slow=76,SNR=15						
WRA	**Warramunga Arr**	**30.97**	**249**	P	**P**	**09 31 20.6**	**-1.6**
	0.8nm,0.9s,baz=80,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**32.33**	**243**	P	**P**	**09 31 32.7**	**-1.4**
	0.8nm,0.8s,baz=72,slow=9.1,SNR=10						
ILAR	**Eielson Array**	**83.51**	**19**	P	**P**	**09 37 32.5**	**+0.6**
	0.4nm,0.8s,baz=226,slow=6.8,SNR=4.8						

IDC 13 09:39:57.6±2.1, 54°.22N×86°.02E, h0km, mb1 3.4/3, mb1mx3.2/37, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=16.8km s-min=10.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**249**	*i*		09 44 40.0	
	baz=67,slow=319,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.76**	**249**	Pg	Pg	09 40 10.6	-1.6
	2.8nm,0.3s,baz=66,slow=16,SNR=7.8						
ZALV				Lg	Lg	09 40 23.1	
	8.3nm,0.3s,baz=67,slow=29,SNR=28						
ZALV				Rg	Rg	09 40 25.3	
	49nm,0.5s,baz=67,slow=25,SNR=30						
KURBB	**Kurchatov Arra**	**5.83**	**235**	Pn	Pn	09 41 26.1	+0.8
	0.2nm,0.3s,baz=52,slow=14,SNR=25						
KURBB				Lg	Lg	09 43 03.7	
	0.1nm,0.3s,baz=50,slow=32,SNR=5.2						
MKAR	**Makanchi Array**	**7.81**	**199**	Pn	Pn	09 41 52.9	+0.5
	0.7nm,0.3s,baz=24,slow=12,SNR=25						
MKAR				Lg	Lg	09 44 01.9	
	0.1nm,0.3s,baz=16,slow=27,SNR=2.3						
BVAR	**Borovoye Array**	**9.37**	**269**	Pn	Pn	09 42 14.3	+0.5
	0.3nm,0.3s,baz=67,slow=13,SNR=3.5						

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*SOME **13** 09:46:44.8, 40°.95N×71°.17E, h0km*
*KRNET **13** 09:46:45.9±0.1, 41°.01N×71°.07E, h23km, mb3.1*
*NNC **13** 09:46:48.6±7.5, 41°.10N×71°.36E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=61.5km s-min=31.5km az=163.0*
ISC 13 09:46:45.2±1.0, 40°.97N±0°.04×71°.00E±0°.03, h10km, n27, σ2°29/50, 16C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.92**	**189**	⇓*e*P	**Pn**	**09 47 04.1**	**-0.2**
	baz=191						
BTK				⇓*i*S	**Sn**	**09 47 17.8**	**+0.2**
	baz=191						
ARK	**Arkit**	**1.10**	**41**	⇑*e*P	**Pb**	**09 47 04.2**	**-2.3**
	baz=41						
ARK				⇑*i*S	**Sg**	**09 47 20.1**	**-0.7**
	baz=41						
IUG	**Iuzhnay**	**1.39**	**329**	*e*P	**Pg**	**09 47 11.1**	**-0.8**
	400nm,0.2s						
IUG				*e*S	**Sg**	**09 47 29.2**	**-0.7**
	564nm,0.8s						
ARSB	**Arslanbob**	**1.54**	**76**	⇑*e*P	**Pn**	**09 47 12.8**	**-0.1**
	baz=77						
ARSB				⇑*e*S	**Sn**	**09 47 32.4**	**-0.6**
	baz=77						
TOKL	**Toktogul**	**1.71**	**55**	⇑*e*P	**Pn**	**09 47 15.4**	**+0.2**
	baz=55						
TOKL				⇑*i*S	**Sb**	**09 47 38.0**	**-0.4**
	baz=55						
MNAS	**Manas**	**1.89**	**36**	⇓*i*P	**Pn**	**09 47 18.5**	**+0.8**
	baz=36						
MNAS				⇓*i*S	**Sn**	**09 47 42.0**	**+0.3**
	baz=36						
MNAS	**Manas**	**1.89**	**36**	⇓P	**Pn**	**09 47 18.1**	**+0.4**
	17nm,0.3s						
MNAS				⇓S	**Sn**	**09 47 41.6**	**-0.1**
	29nm,0.3s						
KK31	**Karatay Array**	**2.17**	**350**	⇑Pn	**Pb**	**09 47 22.7**	**-1.8**
	13nm,0.3s,baz=155,slow=14						
KK31				⇓Pg	**Pg**	**09 47 26.9**	**+0.1**
	18nm,0.3s						
KK31				⇑Lg	Lg	09 47 52.4	
	24nm,0.2s,baz=151,slow=27						
BRLS	**Borolday**	**2.24**	**338**	*e*P	**Pn**	**09 47 22.3**	**-0.1**
	4.8nm,0.5s						
BRLS				*e*S	**Sn**	**09 47 48.3**	**-1.8**
	335nm,0.3s						
AML	**Almayashu**	**2.33**	**59**	⇑*i*P	**Pn**	**09 47 24.0**	**0.0**
	baz=59						
AML				⇑*i*S	**Sn**	**09 47 52.9**	**0.0**
	baz=59						
MRKS	**Merke**	**2.43**	**42**	*e*P	**Pb**	**09 47 27.6**	**-1.5**
	50nm,0.3s						
MRKS				*e*S	**Sb**	**09 47 57.6**	**-1.6**
	259nm,0.4s						
ARLS	**Aral**	**2.65**	**69**	⇑*i*P	**Pn**	**09 47 29.3**	**+1.1**
	baz=70						
ARLS				⇑*i*S	**Sn**	**09 48 00.7**	**+0.2**
	baz=70						
AAK	**Ala-Archa**	**3.10**	**56**	Pg	**Pb**	**09 47 40.7**	**+0.1**
	7.2nm,0.6s						
AAK				Lg	Lg	09 48 16.0	
	32nm,0.9s						
KZA	**Kyzart**	**3.38**	**69**	⇑*i*P	**Pn**	**09 47 39.1**	**+0.7**
	baz=70						
KZA				⇑*e*S	**Sn**	**09 48 17.1**	**-1.6**
	baz=70						
KBK	**Karagaybulak**	**3.40**	**59**	⇓*e*P	**Pn**	**09 47 39.5**	**+1.0**
	baz=59						
KBK				⇓*e*S	**Sn**	**09 48 18.4**	**-0.5**
	baz=59						
USP	**Ospenovka**	**3.47**	**47**	⇓*e*P	**Pn**	**09 47 41.0**	**+1.6**
	baz=47						
USP				⇓*i*S	**Sn**	**09 48 20.8**	**+0.2**
	baz=47						
DGS	**Degeres**	**4.21**	**56**	*e*P	**Pb**	**09 48 00.1**	**+0.6**
	6.2nm,0.4s						
DGS				*e*S	**Sb**	**09 48 52.5**	**+2.0**
	18nm,0.3s						
KST	**Kastek**	**4.24**	**59**	*e*P	**Pb**	**09 48 01.9**	**+2.0**
	1.8nm,0.4s						
KST				*e*S	**Sb**	**09 48 55.7**	**+4.5**
	22nm,0.3s						
MTBS	**Maitube**	**4.58**	**60**	*e*P	**Pb**	**09 48 08.2**	**+2.4**
	3.2nm,0.2s						
MTBS				*e*S	**Sb**	**09 49 06.3**	**+5.3**
	12nm,0.4s						
BTLS	**Baital**	**4.64**	**28**	*e*P	**Pb**	**09 48 09.0**	**+2.2**
	4.9nm,0.7s						
BTLS				*e*S	**Sb**	**09 49 07.3**	**+4.5**
	31nm,0.7s						
TNSS	**Tian-Shan**	**4.89**	**63**	*e*P	**Pg**	**09 48 15.2**	**-3.7**
	4.8nm,0.5s						
TNSS				*e*S	**Sg**	**09 49 17.9**	**-4.3**
	10.0nm,0.6s						
KUU	**Kurty**	**4.91**	**52**	*e*P	**Pb**	**09 48 12.0**	**+0.6**
	1.7nm,0.2s						
KUU				*e*S	**Sb**	**09 49 12.4**	**+1.9**
	15nm,0.6s						
MDOK	**Medeo**	**5.01**	**62**	*e*P	**Pb**	**09 48 16.8**	**+3.7**
	2.6nm,0.5s						
MDOK				*e*S	**Sg**	**09 49 20.4**	**-5.6**
	10nm,0.6s						
CHKK	**Chushkaly**	**5.29**	**55**	*e*P	**Pb**	**09 48 20.4**	**+2.6**
	2.3nm,0.3s						
CHKK				*e*S	**Sb**	**09 49 26.6**	**+5.3**
	13nm,0.5s						
ARXS	**Arharly**	**5.99**	**55**	*e*P	**Pb**	**09 48 31.4**	**+1.6**
	3.5nm,0.4s						
ARXS				*e*S	**Sb**	**09 49 45.1**	**+3.5**
	15nm,0.4s						
KURBB	**Kurchatov Arra**	**10.99**	**26**	⇓Pg	**Pn**	**09 49 23.0**	**+0.6**
	1.7nm,0.5s,baz=300,slow=16						
KURBB				⇓Lg	Lg	09 49 53.5	
	7.9nm,0.6s,baz=309,slow=28						
KURK	**Kurchatov**	**11.10**	**26**	⇑Pg	Pn	09 49 18.7	-5.2
	6.3nm,1.5s						
KURK				⇑Lg	Lg	09 49 53.2	
	6.2nm,0.9s						

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*KRNET **13** 09:56:10.0±0.1, 41°.02N×71°.14E, h13km, mb2.8*
*SOME **13** 09:56:12.2, 41°.07N×71°.10E, h15km*
*NNC **13** 09:56:15.4±4.6, 41°.20N×71°.23E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=33.9km s-min=17.8km az=1.0*
ISC 13 09:56:09.6±1.1, 41°.07N±0°.03×71°.17E±0°.03, h17km±11km, n24, σ1°57/46, 14C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.94**	**39**	⇓*e*P	**Pg**	**09 56 29.3**	**+1.4**
	baz=40						
ARK				⇓*i*S	**Sn**	**09 56 44.6**	**+3.3**
	baz=40						
BTK	**Batken**	**1.04**	**195**	⇓*e*P	**Pg**	**09 56 29.1**	**-0.7**
	baz=194						
BTK				⇓*i*S	**Sg**	**09 56 44.3**	**+0.8**
	baz=194						
IUG	**Iuzhnay**	**1.38**	**322**	*e*P	**Pg**	**09 56 36.1**	**0.0**
	111nm,0.3s						
IUG				*e*S	**Sb**	**09 56 53.0**	**+0.8**
	190nm,0.3s						
ARSB	**Arslanbob**	**1.39**	**79**	⇓*e*P	**Pg**	**09 56 37.0**	**+0.6**
	baz=77						
ARSB				⇓*i*S	**Sg**	**09 56 57.5**	**+2.9**
	baz=77						
TOKL	**Toktogul**	**1.55**	**55**	⇓*e*P	**Pg**	**09 56 40.6**	**+1.2**
	baz=54						
TOKL				⇓*i*S	**Sg**	**09 57 03.1**	**+3.6**
	baz=54						
MNAS	**Manas**	**1.73**	**35**	⇑*e*P	**Pg**	**09 56 44.0**	**+1.0**
	baz=35						
MNAS				⇑*i*S	**Sg**	**09 57 07.1**	**+1.6**
	baz=35						
MNAS	**Manas**	**1.73**	**35**	⇓P	**Pg**	**09 56 43.5**	**+0.5**
	4.6nm,0.3s						
MNAS				⇓S	**Sg**	**09 57 07.0**	**+1.4**
	10nm,0.3s						
KK31	**Karatay Array**	**2.09**	**347**	Pn	**Pb**	**09 56 48.3**	**+1.2**
	7.9nm,0.3s,baz=173,slow=13,SNR=225						
KK31				⇓Pg	Pg	09 56 54.7	+4.9
	13nm,0.4s,baz=325,slow=48,SNR=12						
KK31				⇑Sn	**Sg**	**09 57 16.3**	**-0.7**
	25nm,0.4s,baz=162,slow=26,SNR=8.9						
AML	**Almayashu**	**2.17**	**60**	⇑*i*P	**Pb**	**09 56 49.1**	**+0.4**
	baz=59						
AML				⇑*i*S	**Sg**	**09 57 19.9**	**+0.4**
	baz=59						
BRLS	**Borolday**	**2.20**	**334**	*e*P	**Pb**	**09 56 48.6**	**-0.3**
	2.1nm,0.3s						
BRLS				*e*S	**Sb**	**09 57 15.2**	**-0.6**
	55nm,0.3s						
MRKS	**Merke**	**2.27**	**42**	*e*P	**Pg**	**09 56 52.6**	**-0.6**
	15nm,0.2s						
MRKS				*e*S	**Sg**	**09 57 22.1**	**-0.6**
	112nm,0.5s						
ARLS	**Aral**	**2.50**	**70**	⇑*e*P	**Pg**	**09 56 55.8**	**-1.7**
	baz=69						
ARLS				⇑*e*S	**Sg**	**09 57 28.4**	**-1.6**
	baz=69						
EKS2	**Erkin-Say**	**2.52**	**50**	⇑*i*P	**Pb**	**09 56 55.0**	**+0.6**
	baz=49						
EKS2				⇑*i*S	**Sg**	**09 57 28.9**	**-1.6**
	baz=49						
AAK	**Ala-Archa**	**2.94**	**57**	⇓*i*P	**Pb**	**09 57 01.0**	**-0.6**
	baz=56						
AAK				⇓*i*S	**Sb**	**09 57 38.6**	**+1.3**
	baz=56						
AAK	**Ala-Archa**	**2.94**	**57**	⇑Pg	**Pg**	**09 57 05.3**	**-0.6**
	2.7nm,0.4s						
AAK				⇑Lg	Lg	09 57 43.1	
	15nm,0.8s						
KZA	**Kyzart**	**3.22**	**70**	⇑*i*P	**Pb**	**09 57 05.3**	**-1.3**
	baz=70						
KZA				⇑*e*S	**Sb**	**09 57 45.3**	**-0.4**
	baz=70						
KBK	**Karagaybulak**	**3.24**	**59**	⇓*i*P	**Pb**	**09 57 05.7**	**-1.0**
	baz=59						
KBK				⇓*i*S	**Sb**	**09 57 46.4**	**+0.5**
	baz=59						
USP	**Ospenovka**	**3.31**	**47**	⇓*i*P	**Pb**	**09 57 06.4**	**-1.5**
	baz=47						
USP				⇓*i*S	**Sb**	**09 57 47.3**	**-0.6**
	baz=47						
TKM2	**Tokmak 2**	**3.78**	**59**	⇑Pn	**Pb**	**09 57 17.7**	**+1.7**
	1.0nm,0.5s						
TKM2				⇓Lg	Lg	09 58 12.6	
	3.1nm,0.4s						
DGS	**Degeres**	**4.05**	**56**	*e*P	**Pg**	**09 57 24.8**	**-2.5**
	1.4nm,0.4s						
DGS				*e*S	**Sg**	**09 58 17.6**	**-2.2**
	9.6nm,0.7s						
KST	**Kastek**	**4.08**	**59**	*e*P	**Pg**	**09 57 26.9**	**-0.9**
	1.6nm,0.3s						
KST				*e*S	**Sg**	**09 58 20.5**	**0.0**
	12nm,0.4s						
BTLS	**Baital**	**4.50**	**27**	*e*P	**Pg**	**09 57 33.2**	**-2.5**
	3.5nm,0.4s						
BTLS				*e*S	**Sg**	**09 58 31.3**	**-2.6**
	10nm,0.6s						
KUU	**Kurty**	**4.75**	**52**	*e*P	**Pg**	**09 57 38.1**	**-2.5**
	1.2nm,0.3s						
KUU				*e*S	**Sg**	**09 58 39.8**	**-2.4**
	4.5nm,0.4s						
MDOK	**Medeo**	**4.85**	**62**	*e*P	**Pg**	**09 57 41.6**	**-0.8**
	2.9nm,0.6s						
MDOK				*e*S	**Sg**	**09 58 46.2**	**+1.0**

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*ISCJB **13** 10:07:49.0±0.4, 35°.37N±0°.01×92°.28W±0°.02, h3km±3km, Error ellipse: s-maj=2.3km s-min=2.1km az=44.8*
*IASPEI **13** 10:07:49.2±1.0, 35°.37N±0°.02×92°.28W±0°.02, h9km±8km, Error ellipse: s-maj=3.2km s-min=2.9km az=140.5, GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **13** 10:07:49.6±0.0, 35°.36N×92°.28W, h5km, MD2.5(CERI), After CERI.*
NEIC Felt [II] at Quitman. Also felt at Greenbrier.
ISC 13 10:07:49.4±1.1, 35°.37N±0°.02×92°.28W±0°.02, h3km±10km, n75, σ0°74/105, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.08**	**183**	*e*Pg	**Pg**	**10 07 51.3**	**+0.3**
WHAR				*e*Sg	**Sg**	**10 07 52.5**	**+0.4**
X301	**Greenbrier Sit**	**0.16**	**216**	*e*Pg	**Pg**	**10 07 52.8**	**+0.2**
W41B	**Gary Mavity, V**	**0.20**	**172**	P	**Pg**	**10 07 53.3**	**+0.1**
	baz=353,SNR=876						
W41B				S	**Sg**	**10 07 56.0**	**+0.2**
	baz=353						
V41A	**Mountainview**	**0.43**	**14**	P	**Pg**	**10 07 57.5**	**-0.1**
	baz=193						
V41A				S	**Sg**	**10 08 03.8**	**+0.6**
	baz=193						
UALR	**University of**	**0.60**	**185**	*e*Pg	**Pg**	**10 08 00.9**	**+0.2**
V40A	**Witts Springs**	**0.62**	**315**	P	**Pg**	**10 08 01.2**	**0.0**
	baz=135,SNR=432						
V40A				S	**Sg**	**10 08 09.9**	**+0.6**
	baz=135						
W42A	**Bald Knob**	**0.63**	**99**	P	**Pg**	**10 08 01.3**	**-0.1**
	baz=278,SNR=48						
W42A				S	**Sg**	**10 08 10.1**	**+0.5**
	baz=278						
W40A	**Ferguson Farm,**	**0.67**	**255**	P	**Pg**	**10 08 02.2**	**+0.1**
	baz=75,SNR=88						
W40A				S	**Sg**	**10 08 11.7**	**+0.9**
	baz=75						
V42A	**Cord**	**0.85**	**59**	P	**Pg**	**10 08 05.2**	**-0.4**
	baz=239						
V42A				S	**Sg**	**10 08 16.6**	**-0.1**
	baz=239						
X41A	**Kaden, Bauxite**	**0.89**	**192**	P	**Pg**	**10 08 06.1**	**-0.4**
	baz=12,SNR=75						
X41A				S	**Sg**	**10 08 18.4**	**+0.3**
	baz=12						
X42A	**Stuttgart**	**0.98**	**146**	P	**Pg**	**10 08 07.8**	**-0.3**
	baz=327,SNR=76						
X42A				S	**Sb**	**10 08 21.4**	**-0.9**
	baz=327						
X40A	**Basin Creek Fa**	**0.99**	**207**	P	**Pg**	**10 08 08.0**	**-0.4**
	baz=27,SNR=62						
X40A				S	**Sg**	**10 08 21.6**	**+0.4**
	baz=27						
U41A	**Viola**	**1.02**	**17**	P	**Pg**	**10 08 08.5**	**-0.4**
	baz=197						
U41A				S	**Sg**	**10 08 22.3**	**+0.2**
	baz=197						
U40A	**Yellville**	**1.09**	**335**	P	**Pg**	**10 08 09.9**	**-0.3**
	baz=155						
U40A				S	**Sg**	**10 08 24.3**	**0.0**
	baz=155						
V39A	**Pettigrew**	**1.20**	**293**	P	**Pg**	**10 08 12.0**	**-0.5**
	baz=113,SNR=202						
V39A				S	**Sg**	**10 08 27.9**	**-0.2**
	baz=113						
W39A	**Magazine**	**1.24**	**262**	P	**Pg**	**10 08 12.7**	**-0.5**
	baz=82,SNR=48						
W39A				S	**Sg**	**10 08 29.5**	**+0.3**
	baz=82						
U42A	**Revenden**	**1.30**	**41**	P	**Pn**	**10 08 13.4**	**-1.0**
	baz=221						
U42A				S	**Sg**	**10 08 30.4**	**-0.7**
	baz=221						
W43A	**Forest City**	**1.32**	**102**	P	**Pn**	**10 08 13.8**	**-1.0**
	baz=283,SNR=7.7						
W43A				S	**Sb**	**10 08 32.0**	**-0.2**
	baz=283						
HBAR	**Harrisburg**	**1.34**	**82**	*e*Pn	**Pn**	**10 08 14.3**	**-0.7**
HBAR				*e*Sn	**Sg**	**10 08 31.2**	**-1.3**
MIAR	**Mount Ida**	**1.34**	**233**	P	**Pn**	**10 08 14.2**	**-0.8**
	baz=52,SNR=80						
MIAR				S	**Sg**	**10 08 31.9**	**-0.6**
	baz=52						
MIAR	**Mount Ida**	**1.34**	**233**	*e*Pn	**Pn**	**10 08 14.3**	**-0.8**
MIAR				*e*Sn	**Sg**	**10 08 31.4**	**-1.2**
U39A	**Green Forest**	**1.40**	**316**	Pb	**Pn**	**10 08 15.3**	**-0.6**
	baz=136						
U39A				S	**Sb**	**10 08 34.0**	**-0.5**
	baz=136						
X43A	**Marvell**	**1.43**	**126**	Pb	**Pn**	**10 08 15.8**	**-0.4**
	baz=307,SNR=7.3						
X43A				Sb	**Sg**	**10 08 35.7**	**+0.3**
	baz=307						
V43A	**Jonesboro**	**1.48**	**73**	Pb	**Pn**	**10 08 16.5**	**-0.4**
	baz=254						
V43A				S	**Sn**	**10 08 36.4**	**-0.3**
	baz=254						
CCAR	**Cane Creek**	**1.51**	**164**	*e*Pn	**Pn**	**10 08 17.3**	**0.0**
Y41A	**Eaglette Beard**	**1.51**	**190**	Pb	**Pn**	**10 08 17.3**	**-0.1**
	baz=10,SNR=32						
Y41A				Sb	**Sg**	**10 08 38.8**	**+0.9**
	baz=10						
Y40A	**Okolona**	**1.58**	**212**	Pb	**Pn**	**10 08 18.4**	**+0.1**
	baz=31,SNR=28						
Y40A				Sb	**Sb**	**10 08 39.9**	**+0.1**
	baz=31						
Y42A	**Garnett, Star**	**1.58**	**165**	Pb	**Pn**	**10 08 18.4**	**+0.1**
	baz=345,SNR=62						
Y42A				Sb	**Sg**	**10 08 40.7**	**+0.5**
	baz=345						
HHAR	**Hobbs**	**1.62**	**305**	*e*Pn	**Pn**	**10 08 19.0**	**0.0**
HHAR				*e*Sn	**Sb**	**10 08 40.9**	**-0.1**
T41A	**Mountain View**	**1.72**	**14**	Pb	**Pn**	**10 08 20.6**	**+0.2**
	baz=194,SNR=116						
T41A				Sb	**Sb**	**10 08 43.8**	**0.0**
	baz=194						
X39A	**Fountain Ranch**	**1.73**	**241**	Pb	**Pn**	**10 08 20.8**	**+0.4**
	baz=60,SNR=146						
X39A				Sb	**Sb**	**10 08 44.1**	**+0.1**
	baz=60						
T40A	**Mansfield**	**1.79**	**354**	Pb	**Pn**	**10 08 21.7**	**+0.5**
	baz=174,SNR=26						
V38A	**Canehill**	**1.80**	**286**	Pb	**Pn**	**10 08 21.8**	**+0.4**
	baz=

GNAR	Gosnell	1.94	72	ePn	Pn	10 08 23.7	+0.4
GNAR				eSn	Sb	10 08 49.4	-0.6
MET	Memphis--Engin	1.94	97	ePn	Pn	10 08 22.7	-0.6
X44A	Crenshaw	1.96	116	P	Pn	10 08 23.4	-0.1
	baz=297,SNR=13						
PBMO	Poplar Bluff	2.06	46	ePn	Pn	10 08 25.9	+1.0
PBMO				eSn	Sn	10 08 52.0	+1.0
Y39A	Lockesburg	2.07	227	Pb	Pb	10 08 26.6	-0.9
	baz=46						
Z42A	Norrel Spur, H	2.11	172	P	Pn	10 08 25.6	0.0
	baz=353						
Z41A	Richland Creek	2.15	192	P	Pn	10 08 25.7	-0.4
	baz=12,SNR=9.2						
X38A	Whitesboro	2.20	252	Pb	Pb	10 08 29.2	-0.7
	baz=71,SNR=51						
S40A	Lebanon	2.23	356	P	Pn	10 08 28.1	+0.8
	baz=175,SNR=54						
S41A	Jillco Farms,	2.25	11	P	Pn	10 08 28.4	+0.7
	baz=191,SNR=38						
T38A	Diamond	2.32	316	P	Pn	10 08 29.0	+0.4
	baz=135,SNR=16						
T43A	Greenville	2.35	43	P	Pn	10 08 29.5	+0.5
	baz=224,SNR=24						
V37A	Hulbert	2.38	283	P	Pn	10 08 29.8	+0.4
	baz=102,SNR=32						
PARMO	Parma	2.42	57	ePn	Pn	10 08 30.7	+0.8
S39A	Bolivar	2.46	340	P	Pn	10 08 31.1	+0.6
	baz=160,SNR=31						
OXF	Oxford	2.51	109	ePn	Pn	10 08 30.6	-0.5
U37A	Salina	2.52	295	P	Pn	10 08 31.8	+0.5
	baz=114,SNR=9.6						
W45A	Hickory Valley	2.54	94	P	Pn	10 08 31.2	-0.4
	baz=276,SNR=7.8						
X45A	UM Field Stati	2.56	111	P	Pn	10 08 31.6	-0.2
	baz=292						
U44B	Burton Farm, H	2.57	67	P	Pn	10 08 32.1	+0.1
	baz=248,SNR=16						
W37B	Quinton	2.59	266	P	Pn	10 08 32.7	+0.5
	baz=84,SNR=10						
Z44A	Pea Ridge, Bel	2.59	143	P	Pn	10 08 32.3	+0.1
	baz=324						
GLAT	Glass	2.59	69	ePn	Pn	10 08 33.0	+0.8
S38A	Stockton	2.61	330	P	Pn	10 08 32.8	+0.3
	baz=150,SNR=15						
T37A	Cheneyville 18	2.76	310	P	Pn	10 08 35.0	+0.5
	baz=129,SNR=13						
CCM	Cathedral Cave	2.81	17	ePn	Pn	10 08 37.1	+1.9
TUL1	Leonard	2.91	282	P	Pn	10 08 36.9	+0.3
	baz=100,SNR=8.1						
TUL1	Leonard	2.91	282	ePn	Pn	10 08 37.0	+0.4
R39A	Chumby, Stover	3.00	349	P	Pn	10 08 38.4	+0.5
	baz=168,SNR=7.0						
V36A	Jenks	3.01	279	P	Pn	10 08 38.1	+0.1
	baz=97,SNR=11						
S37A	Fort Scott	3.14	320	P	Pn	10 08 39.9	+0.1
	baz=139,SNR=5.9						
W36A	Wetumka	3.23	267	P	Pn	10 08 40.8	-0.2
	baz=85,SNR=5.4						
WVT	Waverly	3.70	77	ePn	Pn	10 08 46.8	-0.7
W35A	Tecumseh	3.76	268	P	Pn	10 08 48.5	+0.2
	baz=86,SNR=8.2						
Q36A	Arnold C. Orve	4.39	326	P	Pn	10 08 57.3	+0.4
	baz=144,SNR=6.0						
Q35A	Mercer Eighty,	4.59	320	P	Pn	10 09 00.4	+0.6
	baz=138,SNR=5.7						
LRAL	Lakeview Retre	4.96	117	eSb	Sb	10 10 21.8	+4.9

KRNET ***13*** *10:16:07.7±0.1, 41°.07N×71°.02E, h10km, mb4.2*
MOS ***13*** *10:16:10.0±1.3, 41°.18N×70°.97E, h21km, mb4.5/26, Error ellipse: s-maj=7.8km s-min=5.9km az=100.1*
NNC ***13*** *10:16:10.7±0.9, 41°.03N×71°.24E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=6.1km s-min=3.5km az=9.0*
NEIC ***13*** *10:16:10.4±0.8, 41°.07N×71°.07E, h15km±5km, mb4.4/8, Error ellipse: s-maj=6.7km s-min=5.2km az=154.0*
IDC ***13*** *10:16:10.0±0.6, 41°.01N×71°.25E, h18km±3km, mb4.1/21, mb1 4.2/28, mb1mx4.1/57, mbtmp4.2/28, ML3.5/7, MS3.4/19, Ms1 3.5/19, ms1mx3.3/57, Error ellipse: s-maj=12.1km s-min=7.0km az=157.0*
SOME ***13*** *10:16:11.5, 41°.18N×71°.20E, h0km*
BJI ***13*** *10:16:13.0, 41°.05N×71°.29E, h11km, mb4.4/17, mB4.6/15, ML4.4/2, Ms3.9/9, Ms7 3.7/5*

ISC 13 10:16:09.7±0.5, 41°.07N±0°.02×71°.20E±0°.02, h16km±2km, h17km; pP-P, n182, σ2°15/228, mb4.4/39, MS3.5/18, 23C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.93	38	⇓iP	Pg	10 16 27.8	+0.1
	baz=45						
ARK				⇓iS	Sn	10 16 41.3	+0.1
	baz=45						
BTK	Batken	1.05	196	⇓iP	Pb	10 16 28.2	-1.4
	baz=189						
BTK				⇓iS	Sb	10 16 42.0	-1.1
	baz=189						
ARSB	Arslanbob	1.37	79	⇑iP	Pg	10 16 36.9	+0.8
	baz=79						
ARSB				⇑iS	Sg	10 16 57.6	+3.7
	baz=79						
IUG	Iuzhnay	1.39	321	eP	Pb	10 16 35.9	+0.5
	2μm,0.2s						
IUG				eS	Sb	10 16 53.1	+0.2
	4μm,0.8s						
TOKL	Toktogul	1.52	55	⇓iP	Pg	10 16 39.3	+0.2
	baz=57						
TOKL				⇓iS	Sg	10 17 02.7	+3.8
	baz=57						
MNAS	Manas	1.72	34	⇓iP	Pg	10 16 42.0	-0.8
	baz=38						
MNAS				⇓eS	Sg	10 17 06.1	+1.0
	baz=38						
MNAS	Manas	1.72	34	⇓P	Pg	10 16 42.4	-0.3
	173nm,0.4s						
MNAS				⇓S	Sg	10 17 05.7	+0.6
	694nm,0.6s						
MNAS	Manas	1.72	34	PN	Pg	10 16 42.0	-0.8
CHM	Chimkent	1.73	317	eP	Pg	10 16 49.8	+6.8
	568nm,0.4s						
CHM				eS	Sg	10 17 16.3	+11
	8μm,0.4s						
DZA	Taraz	1.82	3	eP	Pg	10 16 45.1	+0.4
	842nm,0.6s						
DZA				eS	Sg	10 17 09.3	+0.9
	7μm,0.2s						
KK31	Karatay Array	2.10	346	⇑Pn	Pb	10 16 47.4	+0.1
	224nm,0.5s,baz=165,slow=13,SNR=3362						
KK31				⇓Sn	Sg	10 17 16.1	-1.1
	326nm,0.3s,baz=173,slow=23,SNR=17						
KK31	Karatay Array	2.10	346	PN	Pb	10 16 47.0	-0.3
KKAR	Karatay Array	2.10	346	ePN	Pb	10 16 47.4	0.0
KKAR	Karatay Array	2.10	346	ePn	Pb	10 16 47.4	0.0
AML	Almayashu	2.15	60	⇑iP	Pb	10 16 49.0	+0.5
	baz=61						
AML				⇑iS	Sg	10 17 19.8	+0.9
	baz=61						
BRLS	Borolday	2.21	333	eP	Pb	10 16 48.0	-1.3
	34nm,0.4s						
BRLS				eS	Sn	10 17 14.3	+1.6
	2μm,0.2s						
MRKS	Merke	2.25	41	eP	Pg	10 16 52.5	-0.5
	405nm,0.5s						
MRKS				eS	Sg	10 17 21.4	-0.8
	2μm,0.5s						
ARLS	Aral	2.47	70	⇑iP	Pb	10 16 53.6	-0.3
	baz=71						
ARLS				⇑eS	Sg	10 17 28.2	-1.1
	baz=71						
EKS2	Erkin-Say	2.50	50	⇑iP	Pb	10 16 53.5	-0.7
	baz=51						
EKS2				⇑iS	Sb	10 17 26.2	+1.5
	baz=51						
AAK	Ala-Archa	2.92	56	Pn	Pb	10 16 59.5	-1.9
	2.8nm,0.3s,baz=218,slow=7.8,SNR=38						
AAK				Pg	Pg	10 17 04.7	-0.9
	27nm,0.3s,baz=222,slow=13,SNR=73						
AAK				Lg	Lg	10 17 41.2	
	55nm,0.3s,baz=192,slow=10,SNR=17						
AAK	Ala-Archa	2.92	56	⇑iP	Pb	10 17 00.4	-1.0
	baz=58						
AAK				⇑iS	Sb	10 17 38.6	+1.8
	baz=58						
AAK	Ala-Archa	2.92	56	Pg	Pg	10 17 04.4	-1.2
	144nm,0.7s						
AAK				Lg	Lg	10 17 42.0	
	554nm,0.8s						
AAK	Ala-Archa	2.92	56	c iPN	Pb	10 16 59.6	-1.8
FRU	Bishkek	3.10	54	ePN	Pn	10 17 01.0	+3.1
FRU				e		10 17 10.0	
FRU				eS	Sb	10 17 42.5	+0.6
FRU				eS	Sg	10 17 50.0	+0.8
FRU				pmax	pmax		
	comp=Z,330nm,1.8s						
FRU				smax	smax		
	comp=N,1μm,1.6s						
KZA	Kyzart	3.20	70	⇑iP	Pb	10 17 03.9	-2.5
	baz=71						
KZA				⇑iS	Sb	10 17 45.5	+0.3
	baz=71						
KBK	Karagaybulak	3.21	59	⇓eP	Pb	10 17 03.9	-2.6
	baz=60						
KBK				⇓iS	Sb	10 17 44.7	-0.8
	baz=60						
USP	Ospenovka	3.29	47	⇑iP	Pb	10 17 04.1	-3.6
	baz=49						
USP				⇑iS	Sb	10 17 46.6	-0.9
	baz=49						
TKM2	Tokmak 2	3.76	59	⇓eP	Pn	10 17 10.9	+3.7
	baz=60						
TKM2				⇓iS	Sb	10 17 59.8	-1.4
	baz=60						
TKM2	Tokmak 2	3.76	59	⇑Pg	Pb	10 17 18.6	+2.7
	comp=N,47nm,0.6s						
TKM2				⇓Lg	Lg	10 18 09.6	
	comp=N,197nm,0.8s						
KSH	Kashi	3.96	111	Pn	Pn	10 17 11.6	+1.7
KSH				Sn	Sn	10 17 54.6	-1.5
KSH				LR	LR		
	comp=N,770nm,4.8s						
KSH				LR	LR		
	comp=N,1μm,4.3s						
DGS	Degeres	4.03	56	eP	Pg	10 17 23.9	-3.0
	comp=N,48nm,0.7s						
DGS				eS	Sg	10 18 15.6	-3.5
	comp=N,334nm,0.6s						
KST	Kastek	4.05	59	eP	Pg	10 17 26.8	-0.6
	comp=N,15nm,0.6s						
KST				eS	Sg	10 18 19.6	-0.3
	comp=N,284nm,0.6s						
MTBS	Maitube	4.40	60	eP	Pg	10 17 32.7	-1.2
	comp=N,26nm,0.5s						
MTBS				eS	Sg	10 18 30.0	-0.9
	comp=N,116nm,0.5s						
BTLS	Baital	4.48	27	eP	Pg	10 17 32.2	-3.3
	comp=N,68nm,0.6s						
BTLS				eS	Sg	10 18 29.2	-4.3
	comp=N,415nm,0.9s						
KUU	Kurty	4.73	52	eP	Pg	10 17 37.1	-3.2
	comp=N,97nm,0.7s						
KUU				eS	Sg	10 18 38.0	-3.5
	comp=N,264nm,0.8s						
AAA	Alma-Ata	4.75	61	ePN	Pg	10 17 39.8	-0.9
AAA				pmax	pmax		
	comp=Z,92μm,0.4s						
AAA	Alma-Ata	4.75	61	eP	Pg	10 17 39.1	-1.6
	comp=Z,109nm,0.3s						
AAA				eS	Sg	10 18 40.7	-1.6
	comp=Z,314nm,0.5s						
KNDC	Almaty	4.79	61	⇓Pg	Pg	10 17 38.5	-3.0
	comp=Z,70nm,0.5s						
KNDC				⇓Lg	Lg	10 18 41.3	
	comp=Z,718nm,1.2s						
MDOK	Medeo	4.82	62	eP	Pg	10 17 41.1	-1.0
	comp=Z,36nm,0.6s						
MDOK				eS	Sg	10 18 44.4	-0.2
	comp=Z,134nm,1.0s						
CHKK	Chushkaly	5.10	55	eP	Pg	10 17 44.7	-2.7
	comp=Z,34nm,0.8s						
CHKK				eS	Sg	10 18 49.9	-3.5
	comp=Z,127nm,0.5s						
KURS	Kuram	5.71	63	eP	Pg	10 17 57.7	-1.2
	comp=Z,14nm,1.5s						
KURS				eS	Sg	10 19 12.7	0.0
	comp=Z,84nm,0.8s						
SATY	Saty	5.72	67	eP	Pg	10 17 57.9	-1.3
	comp=Z,16nm,0.1s						
SATY				eS	Sg	10 19 13.2	+0.1
	comp=Z,105nm,0.7s						
ZHN	Zhinishke	5.77	66	eP	Pg	10 17 57.4	-2.8
	comp=Z,7.5nm,0.5s						
ZHN				eS	Sg	10 19 12.1	-2.8
	comp=Z,71nm,0.6s						
KPKS	Kokpek	6.04	64	eP	Pg	10 18 02.1	-3.3
	comp=Z,56nm,0.5s						
KPKS				eS	Sg	10 19 20.4	-3.2
	comp=Z,165nm,0.6s						
UZB	Uzynbulak	6.17	68	eP	Pg	10 18 04.5	-3.4
	comp=Z,24nm,1.0s						
UZB				eS	Sg	10 19 24.5	-3.4
	comp=Z,76nm,0.6s						
PDGK	Podgornoye	6.55	67	⇓Pg	Pg	10 18 09.9	-5.3
	comp=Z,16nm,0.7s						
PDGK				⇓Lg	Lg	10 19 36.1	
	comp=Z,91nm,0.8s						
TDK	Taldyqorghan	6.58	51	eP	Pg	10 18 12.2	-3.4
	comp=Z,24nm,0.2s						
TDK				eS	Sg	10 19 38.0	-2.8
	comp=Z,131nm,0.7s						
KBL	Kabul	6.74	195	ePN	Pn	10 17 50.8	+2.6
KBL	Kabul	6.74	195	ePn	Pn	10 17 50.8	+2.6
DJR	Jarkent	7.12	60	eP	Pg	10 18 21.9	-4.0
	comp=Z,14nm,0.6s						
DJR				eS	Sg	10 19 54.4	-3.6
	comp=Z,70nm,1.0s						
CEP	Cherat	7.25	175	⇓P	Pn	10 17 57.0	+1.8
CEP				S	Sn	10 19 25.0	+7.7
THW	Thamme Wali	8.27	177	P	Pn	10 18 09.8	+0.8
MAKZ	Makanchi	9.65	50	⇑Lg	Lg	10 21 16.5	
	comp=Z,32nm,0.9s						
DHRM	DHARAMSHALA	9.71	153	eP	Pn	10 18 28.1	-0.7
DHRM				eS	Sn	10 20 10.6	-7.1
DHRM				IAML		10 20 31.1	
	comp=E,129nm,0.4s						
DHRM				IAML		10 20 33.6	
	comp=N,106nm,0.3s						
MK01	Makanchi Array	9.82	51	ePn	Pn	10 18 33.0	+2.8
MK31	Makanchi Array	9.83	51	⇓Pn	Pn	10 18 33.1	+2.7
	comp=N,2.8nm,0.6s,baz=193,slow=38,SNR=21						
MK31				⇑Lg	Lg	10 21 22.1	
	comp=N,26nm,0.8s						
MK31	Makanchi Array	9.83	51	eP	Pn	10 18 33.6	+3.3
MK31	Makanchi Array	9.83	51	ePn	Pn	10 18 33.6	+3.3
MK32	Makanchi Array	9.83	51	ePn	Pn	10 18 31.4	+1.1
MK32				eLg	Lg	10 21 18.2	
MKAR	Makanchi Array	9.83	51	Pn	Pn	10 18 31.4	+1.1
	comp=N,0.3nm,0.3s,baz=233,slow=13,SNR=15						
MKAR				Lg	Lg	10 21 18.2	
	comp=N,0.6nm,0.3s,baz=242,slow=24,SNR=4.4						
MKAR	Makanchi Array	9.83	51	i P	Pn	10 18 33.5	+3.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	9.83	51	ePn	Pn	10 18 33.5	+3.2
MKAR				Lg	Lg	10 21 18.2	
GEYT	Alibeck	10.59	257	Pn	Pn	10 18 39.2	-1.6
	comp=Z,1.3nm,0.3s,baz=66,slow=1.8,SNR=3.7						
GEYT				Sn	Sn	10 20 33.0	-6.0
	comp=Z,3.4nm,0.3s,baz=131,slow=15,SNR=4.8						
GEYT				LR	LR	10 23 29.7	
	comp=Z,112nm,19.7s,baz=55,slow=41						
KURBB	Kurchatov Arra	10.83	26	Pn	Pn	10 18 43.6	-0.3
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=14						
KURBB				Lg	Lg	10 21 54.3	
	comp=Z,0.4nm,0.3s,baz=174,slow=29,SNR=10						
KURK	Kurchatov	10.94	26	i P	Pn	10 18 45.6	+0.2
KURK	Kurchatov	10.94	26	ePn	Pn	10 18 43.6	-1.8
KURK				ePn	Pn	10 18 46.2	+0.8
KURK				eLg	Lg	10 21 54.4	
SMLA	Simla	11.03	152	eP	Pn	10 18 46.5	-0.2
SMLA				eS	Sn	10 20 42.1	-7.6
AB31	Akbulak array	11.40	320	⇓Pn	Pn	10 19 27.1	+35
	comp=Z,16nm,0.6s						
AB31				⇑Lg	Lg	10 20 48.4	
	comp=Z,14nm,0.7s						
ABKAR	Akbulak array	11.40	320	ePn	Pn	10 18 50.2	-1.5
BVAR	Borovoye Array	11.97	358	Pn	Pn	10 18 59.3	-0.3
	comp=Z,1.0nm,0.3s,baz=169,slow=12,SNR=35						
BVAR				Sn	Sn	10 21 08.3	-4.4
	comp=Z,0.7nm,0.3s,baz=166,slow=24,SNR=7.5						
BVAR				Lg	Lg	10 22 32.7	
	comp=Z,0.5nm,0.3s,baz=173,slow=25,SNR=5.4						
BRVK	Borovoye	12.01	357	⇑eP	Pn	10 18 59.2	-0.9
BRVK	Borovoye	12.01	357	ePn	Pn	10 18 59.9	-0.1
DDI	Dehra Dun	12.08	150	eP	Pn	10 19 00.5	-0.7
DDI				IAmb	IAmb	10 19 02.3	
WMQ	Urumqi	12.49	72	P	P	10 19 15.8	-2.7
WMQ				pP	pP	10 19 19.1	
WMQ				sP	sP	10 19 22.4	
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,98nm,4.1s						
WMQ				LR	LR		
	comp=Z,290nm,4.9s						
WMQ				LR	LR		
	comp=Z,320nm,6.1s						
AKTO	Aktyubinsk	13.12	320	Pn	Pn	10 19 13.7	-1.5
	comp=Z,1.2nm,0.3s,baz=137,slow=13,SNR=42						
AKTO				Sn	Sn	10 21 33.9	-6.7
	comp=Z,0.6nm,0.3s,baz=342,slow=20,SNR=4.5						
AKTO				LR	LR	10 25 07.2	
	comp=Z,106nm,18.4s,baz=128,slow=41						
ZAA0	Zalesovo Array	15.79	31	ePn	Pn	10 19 52.6	+1.4
ZAA0				ePn	P	10 19 52.7	-2.3
ZALV	Zalesovo Beam	15.79	31	Pn	Pn	10 19 52.5	+1.3
	comp=Z,0.7nm,0.3s,baz=224,slow=10,SNR=6.2						
ZALV				LR	LR	10 26 14.8	
	comp=Z,152nm,19.3s,baz=248,slow=38						
ZAA1	Zalesovo Array	15.79	31	ePn	Pn	10 19 52.5	+1.3
NVS	Novosibirsk	15.93	26	eP	P	10 19 57.6	+1.1
NVS				e		10 22 56.1	
PYUN	Piuthan	16.15	140	eP	Pn	10 19 51.6	-4.6
KOLN	Koldanda	16.73	139	eP	Pn	10 20 00.3	-3.2
	comp=Z,18nm,0.5s						
GKN	Gorkha	17.07	136	eP	Pn	10 20 04.6	-3.2
SVE	Sverdlovsk	17.19	340	eP	P	10 20 11.9	+1.4
ARU	Arti	17.44	336	LR	LR	10 27 11.4	
	comp=Z,241nm,18.8s,baz=160,slow=38						
ARU	Arti	17.44	336	d iP	Pn	10 20 10.9	-1.1
ARU				S	Sn	10 23 25.3	-0.3
ARU				pmax	pmax		
	comp=Z,37nm,1.2s						
ARU	Arti	17.44	336	ePn	Pn	10 20 10.8	-1.3
	comp=Z,28nm,1.0s						
KKN	Kakani	17.58	134	eP	Pn	10 20 10.2	-4.1
PKIN	Phulchoki	17.82	135	eP	Pn	10 20 13.1	-4.1
	comp=Z,16nm,0.4s						
GUN	Gumba	17.82	133	eP	Pn	10 20 14.2	-3.1
JIRN	Jiri	18.18	133	eP	Pn	10 20 18.2	-3.6
BHPL	Bhopal	18.53	162	eP	P	10 20 25.2	-0.3
BHPL				IAmb	IAmb	10 20 26.6	
	comp=Z,14nm,0.6s						
RAMN	Ramite	18.96	133	eP	P	10 20 26.5	-4.0
	comp=Z,48nm,0.8s						
TAPN	Taplejung	19.29	130	eP	P	10 20 31.4	-2.7
GNI	Garni	20.09	276	P	Pn	10 20 44.7	+0.2
	comp=Z,11nm,0.7s,baz=90,slow=4.0,SNR=4.2						
GNI				LR	LR	10 30 03.7	
	comp=Z,63nm,19.1s,baz=62,slow=41						
GNI	Garni	20.09	276	ceP	Pn	10 20 43.7	-0.8
GNI				pmax	pmax		
	comp=Z,85nm,1.4s						
ZEI	Tsey	20.36	284	eP	P	10 20 44.8	-0.8
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SOKR	Solikamsk	20.62	339	eP	P	10 20 48.3	+0.4
SOKR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SOKR				MLR	MLR		
	comp=Z,216nm,15.0s						
WSAR	Wadi Sarin	20.68	215	P	P	10 20 48.9	-0.1
	comp=Z,0.8nm,0.3s,baz=94,slow=11,SNR=2.6						
WSAR				Lg	Lg	10 26 53.4	
	comp=Z,1.2nm,0.6s,baz=166,slow=4.2,SNR=2.8						
WSAR				LR	LR	10 30 46.5	
	comp=Z,112nm,18.7s,baz=106,slow=42						
GOF	Gofitskoye	20.91	290	eP	P	10 20 50.5	-0.8
NGP	Nagpur	20.95	159	eP	P	10 20 51.7	-0.2
KBZ	Khabaz	21.03	287	P	P	10 20 53.6	+1.0
	comp=Z,5.3nm,0.8s,baz=109,slow=10,SNR=6.1						
BOK	Bokaro	21.17	140	eP	P	10 20 54.5	+0.3
KVAR	Kislovodsk Arr	21.17	287	P	P	10 20 54.2	-0.1
	comp=Z,12nm,0.7s,baz=235,slow=4.4,SNR=5.9						
KVAR				LR	LR	10 29 58.9	
	comp=Z,62nm,21.0s,baz=202,slow=39						
KIV	Kislovodsk	21.18	287	eP	P	10 20 53.8	-0.5
KIV				eS	S	10 24 47.2	-2.0
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,38nm,14.0s						
KIV	Kislovodsk	21.18	287	eP	P	10 20 53.9	-0.5
	comp=Z,14nm,0.6s						
NEY	Neytrino	21.18	285	⇓eP	P	10 20 52.0	-2.5
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	Gaotai	21.87	85	eP	P	10 21 05.3	+3.5
GTA				pP	sP	10 21 09.8	+1.3
GTA				sP	pP	10 21 12.8	+6.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
POO	Poona	22.58	173	eP	P	10 21 10.2	+0.8
SHL	Shillong	23.10	126	eP	P	10 21 18.1	+3.1
SHL				IAmb	IAmb	10 21 20.3	
	comp=Z,31nm,0.1s						
ZAK	Zakamensk	24.09	56	eP	P	10 21 25.7	+1.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
HYB	Hyderabad	24.41	163	i P	P	10 21 26.5	-1.0
HYB	Hyderabad	24.41	163	eP	P	10 21 28.4	+0.9
HYB				IAmb	IAmb	10 21 28.4	
	comp=Z,27nm,0.1s						
TLY	Talaya	24.57	53	LR	LR	10 31 43.9	
	comp=Z,113nm,18.6s,baz=254,slow=38						
VIS	Vishakhapatnam	25.50	152	eP	P	10 21 38.1	+0.8
GOA	Goa	25.59	174	eP	P	10 21 38.7	+0.6
ULN	Ulaanbaatar	26.29	63	⇓eP	P	10 21 46.2	+1.7
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
OBN	Obninsk	26.74	313	LR	LR	10 33 18.1	
	comp=Z,125nm,18.2s,baz=92,slow=38						
OBN	Obninsk	26.74	313	i P	P	10 21 48.2	0.0
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,111nm,16.0s						
KLMR	Klimovskoe	27.67	326	eP	P	10 21 54.9	-1.6
KLMR				pmax	pmax		
	comp=Z,16nm,1.4s						
RAYN	Ar Rayn	27.74	239	eP	P	10 21 58.0	+0.4
	comp=Z,4.4nm,1.1s						
BR101	Keskin Array S	28.50	280	eP	P	10 22 04.5	+0.2
BR131	Keskin Array S	28.50	280	eP	P	10 22 04.4	0.0
BRTR	Keskin Array B	28.50	280	P	P	10 22 04.5	+0.2
	comp=Z,2.4nm,0.8s,baz=90,slow=8.0,SNR=8.1						
BRTR				LR	LR	10 35 12.2	
	comp=Z,35nm,18.8s,baz=68,slow=40						
BR231	Keskin MP Arra	29.11	280	eP	P	10 22 05.0	-4.7
NRIK	Noril'sk	29.62	12	P	P	10 22 14.1	+0.3
	comp=Z,5.5nm,0.6s,baz=121,slow=9.6,SNR=4.7						
NRIK				LR	LR	10 35 21.6	
	comp=Z,53nm,20.4s,baz=181,slow=39						
HHC	Hu-ho-hao-te	30.29	77	eP	P	10 22 25.8	+5.6

comp=Z,8.6nm,0.7s
KIEV Kiev 30.41 303 *de*P **P 10 22 20.7 -0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 30.41 303 *e*P **P 10 22 20.6 -0.3**
comp=Z,8.9nm,0.7s
AK11 Malin Array Si 30.43 303 *e*P **P 10 22 20.8 -0.4**
CMAR Chiang Mai Arr 32.74 125 pP **pP 10 22 47.2 +0.4**
comp=Z,0.6nm,0.4s,baz=312,slow=8.9,SNR=2.4
CMAR LR LR 10 38 52.1
comp=Z,25nm,19.0s,baz=185,slow=42
CMAR Chiang Mai Arr 32.74 125 *i* P **P 10 22 44.0 +2.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
FIA0 FINESS Array S 33.87 322 *e*P **P 10 22 52.0 +0.8**
FIA0 FINESS Array S 33.87 322 *e*P **P 10 22 52.0 +0.8**
FINES FINESS Array B 33.87 322 P **P 10 22 52.0 +0.8**
comp=Z,3.5nm,0.7s,baz=113,slow=8.7,SNR=13
FINES LR LR 10 37 36.7
comp=Z,81nm,20.2s,baz=52,slow=38
FINES FINESS Array B 33.87 322 *i* P **P 10 22 51.5 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.7s
ARA0 ARCESS Array S 37.02 335 *e*P **P 10 23 19.3 +1.1**
ARCES ARCESS Array B 37.02 335 P **P 10 23 19.3 +1.1**
comp=Z,3.3nm,0.5s,baz=109,slow=8.1,SNR=27
ARCES LR LR 10 39 21.8
comp=Z,124nm,19.9s,baz=98,slow=38
VRAC Vranov 38.61 301 LR LR 10 42 01.9
comp=Z,99nm,19.4s,baz=50,slow=40
DPC Dobruska-Polom 38.63 303 *e*P **P 10 23 33.4 +1.3**
DPC *ex* x 10 23 41.0
DPC Dobruska-Polom 38.63 303 *e*P **P 10 23 33.4 +1.3**
DPC *e* 10 23 41.0
UPC Upice 38.81 303 *e*P **P 10 23 34.6 +1.1**
UPC Upice 38.81 303 *e*P **P 10 23 34.6 +1.1**
HFS Hagfors 39.66 319 P **P 10 23 41.4 +1.0**
comp=Z,4.8nm,0.4s,baz=102,slow=12,SNR=20
BRG Berggiesshubel 40.05 304 *e*P **P 10 23 44.5 +0.6**
comp=Z,7.7nm,0.9s
BRG Berggiesshubel 40.05 304 *e*P **P 10 23 44.5 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 40.22 38 *e*P **P 10 23 48.8 +3.7**
YAK pmax pmax
comp=Z,12nm,0.4s
GEC2 GERESS Array S 40.56 301 *e*P **P 10 23 49.2 +1.0**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 40.56 301 *e*P **P 10 23 49.2 +1.0**
comp=Z,6.1nm,0.8s
GERES GERESS Array B 40.56 301 P **P 10 23 49.3 +1.0**
comp=Z,5.3nm,0.8s,baz=71,slow=8.6,SNR=26
GERES pP **sP 10 23 56.0 +0.7**
comp=Z,1.5nm,0.6s,baz=69,slow=7.3,SNR=5.5
GEA0 GERESS Array S 40.56 301 *e*P **P 10 23 48.8 +0.5**
CLL Collm 40.57 305 *e*P **P 10 23 49.0 +0.8**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 40.57 305 *e*P **P 10 23 49.0 +0.8**
comp=Z,7.0nm,0.8s
CLL *es*P **pP 10 23 54.0 +0.8**
KHC Kasperske Hory 40.59 301 *e*P **P 10 23 49.3 +0.9**
KHC *ep*P **pP 10 23 54.4 +1.0**
KHC Kasperske Hory 40.59 301 *e*P **P 10 23 49.3 +0.9**
KHC *e* 10 23 54.4
KHC Kasperske Hory 40.59 301 *e*P **P 10 23 49.1 +0.7**
comp=Z,2.4nm,0.9s
NB2 NORSAR Subarra 40.91 320 P **P 10 23 50.6 -0.3**
comp=Z,3.0nm,0.8s,baz=92,slow=8.6
NB200 NORSAR Array S 40.91 320 *e*P **P 10 23 51.3 +0.4**
NOA NORSAR Array B 40.91 320 P **P 10 23 51.3 +0.4**
comp=Z,4.3nm,0.8s,baz=92,slow=8.2,SNR=9.5
NOA LR LR 10 41 36.4
comp=Z,90nm,20.4s,baz=75,slow=37
SPITS Spitsbergen Ar 43.10 346 LR LR 10 44 35.3
comp=Z,106nm,18.1s,baz=225,slow=40
DAVOX Davos/Dischmat 43.55 299 P **P 10 24 12.9 +0.1**
comp=Z,1.4nm,0.4s,baz=117,slow=16,SNR=3.7
BFO Black Forest 44.15 302 *i* P **P 10 24 18.8 +1.4**
EKA Eskdalemuir Ar 49.19 313 P **P 10 24 56.7 0.0**
comp=Z,0.5nm,0.4s,baz=60,slow=10,SNR=3.1
MJAR Matsushiro Arr 51.26 72 P **P 10 25 15.6 +3.0**
comp=Z,2.3nm,1.0s,baz=296,slow=6.6,SNR=4.1
ES19 SONSECA Array 55.50 295 *e*P **P 10 25 43.8 0.0**
ESDC Sonseca Array 55.56 295 P **P 10 25 44.4 +0.1**
comp=Z,0.3nm,0.3s,baz=53,slow=7.3,SNR=6.7
TOA1 Torodi Ar. Sit 66.06 267 *e*P **P 10 26 55.0 -1.0**
TOA1 *ep*P **pP 10 27 01.1 -0.2**
TORD Torodi Ar. Bea 66.06 267 P **P 10 26 55.0 -1.0**
comp=Z,3.0nm,0.7s,baz=50,slow=5.8,SNR=23
TORD pP **pP 10 27 01.1 -0.2**
comp=Z,2.4nm,0.6s,baz=52,slow=5.8,SNR=13
INK Inuvik 69.38 10 P **P 10 27 16.3 +0.2**
comp=Z,2.2nm,0.8s,baz=356,slow=5.9,SNR=4.9
ILAR Eielson Array 70.35 16 P **P 10 27 22.6 +0.5**
comp=Z,1.2nm,0.9s,baz=327,slow=5.9,SNR=11
ILB Eielson Array 70.35 16 *e*P **P 10 27 22.6 +0.5**
YKA Yellowknife Ar 76.68 3 P **P 10 28 00.2 +0.9**
comp=Z,5.2nm,0.8s,baz=354,slow=6.3,SNR=6.9
YKA Yellowknife Ar 76.68 3 *i* P **P 10 27 59.7 +0.3**
YKA pmax pmax
comp=Z,5.0nm,0.8s
WR1 Warramunga Arr 84.29 122 *e*P **P 10 28 40.7 -0.2**
WR1 *ep*P **pP 10 28 47.0 +0.7**
WRA Warramunga Arr 84.29 122 P **P 10 28 40.7 -0.1**
comp=Z,0.5nm,1.0s,baz=329,slow=6.0,SNR=3.4
WRA pP **pP 10 28 47.0 +0.7**
comp=Z,0.9nm,0.7s,baz=328,slow=5.0,SNR=6.1
WRA Warramunga Arr 84.29 122 *i* P P 10 28 47.0 +6.2
WRA pmax pmax
comp=Z,1.0nm,0.7s
AS31 Alice Springs 86.75 125 *e*P **P 10 28 52.8 -0.3**
comp=Z,2.6nm,1.6s
ASAR Alice Springs 86.75 125 P **P 10 28 52.8 -0.3**
comp=Z,0.7nm,0.9s,baz=328,slow=4.5,SNR=7.1
ASAR pP **pP 10 28 58.9 +0.4**
comp=Z,1.1nm,0.8s,baz=309,slow=4.7,SNR=8.7
PDAR Pinedale Array 96.54 1 LR LR 11 14 37.8
comp=Z,24nm,21.4s,baz=11,slow=36

SOME ***13*** *10:25:45.2,41°.08N×71°.20E, h10km*
NNC ***13*** *10:25:45.4±3.0,41°.09N×71°.26E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=24.9km s-min=13.4km az=20.0*
ISC 13 10:25:42.5±3.0, 40°.8N±0°.2×70°.89E±0°.07, h21km, n10, σ1º15/19, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.54**	**335**	*e*P	**Pn**	**10 26 09.5**	**+0.7**
IUG	219nm,0.3s			*e*S	**Sn**	**10 26 27.4**	**-0.8**
	216nm,0.6s						
MNAS	**Manas**	**2.12**	**34**	⇑Pn	**Pn**	**10 26 16.4**	**-0.4**
MNAS	8.2nm,0.3s			⇑Lg	Lg	10 26 39.8	
	12nm,0.2s						
KK31	**Karatay Array**	**2.37**	**353**	Pn	**Pn**	**10 26 20.9**	**+0.8**
	5.8nm,0.3s,baz=169,slow=12,SNR=200						
KK31				⇑Pg	**Pb**	**10 26 24.7**	**+0.3**
	7.5nm,0.3s,baz=162,slow=14,SNR=9.0						
KK31				Sn	**Sn**	**10 26 49.0**	**+0.4**
	39nm,0.3s,baz=170,slow=23,SNR=19						
BRLS	**Boroldoy**	**2.41**	**341**	*e*P	**Pn**	**10 26 21.3**	**+0.6**
BRLS	1.8nm,0.4s			*e*S	**Sn**	**10 26 47.6**	**-2.0**
	145nm,0.3s						
MRKS	**Merke**	**2.65**	**40**	*e*P	**Pn**	**10 26 26.1**	**+2.0**
MRKS	24nm,0.2s			*e*S	**Sn**	**10 26 56.3**	**+0.7**
	127nm,0.5s						
AAK	**Ala-Archa**	**3.29**	**54**	⇓Pg	**Pb**	**10 26 37.9**	**-2.4**
AAK	3.3nm,0.6s			⇓Lg	Lg	10 27 12.9	
	10nm,0.5s						
DGS	**Degeres**	**4.41**	**54**	*e*P	**Pb**	**10 26 58.9**	**-0.3**
DGS	2.1nm,0.3s			*e*S	**Sb**	**10 27 52.7**	**+0.7**
	8.7nm,0.2s						
KST	**Kastek**	**4.42**	**57**	*e*P	**Pb**	**10 26 59.6**	**+0.1**
KST	2.8nm,1.0s			*e*S	**Sb**	**10 27 53.7**	**+1.3**
	11nm,0.5s						
BTLS	**Baital**	**4.88**	**27**	*e*P	**Pb**	**10 27 06.6**	**-0.5**
	3.7nm,0.9s						
BTLS				*e*S	**Sb**	**10 28 05.2**	**0.0**
	13nm,0.6s						
KUU	**Kurty**	**5.12**	**50**	*e*P	**Pb**	**10 27 10.2**	**-1.1**
	2.5nm,0.2s						
KUU				*e*S	**Sb**	**10 28 11.3**	**-0.9**
	8.9nm,0.6s						

IDC ***13*** *10:30:50.8±0.7, 18°.74N×147°.21E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.0/60, mbtmp4.2/18, ML4.4/2, MS3.6/12, Ms1 3.6/12, ms1mx3.3/44, Error ellipse: s-maj=31.3km s-min=11.5km az=83.0*
ISCJB ***13*** *10:30:53.5±0.6, 18°.75N±0°.04×147°.3E±0°.1, h33km, mb4.4/22, MS3.6/11, Error ellipse: s-maj=17.4km s-min=6.3km az=3.3*
NEIC ***13*** *10:30:57.7±1.7, 18°.69N×147°.21E, h54km±15km, mb4.2/4, Error ellipse: s-maj=17.1km s-min=6.9km az=80.0*
ISC 13 10:30:55.8±0.7, 18°.76N±0°.06×147°.3E±0°.2, h35km, n37, σ0º85/34, mb4.2/22, MS3.6/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.64**	**205**	Pn	**Pn**	**10 32 17.5**	**+0.3**
GUMO	28nm,0.3s,baz=91,slow=3.6,SNR=30			Sn	**Sn**	**10 33 22.0**	**+1.1**
	5.2nm,0.3s,baz=315,slow=20,SNR=2.5						
GUMO				LR	LR	10 34 21.9	
	comp=Z,389nm,20.0s,baz=45,slow=38						
GUMO	**Guam**	**5.64**	**205**	Pn	**Pn**	**10 32 17.5**	**+0.3**
GUMO				*e*Pn	Pn	10 32 17.8	+0.6
GUMO				Sn	**Sn**	**10 33 22.0**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**18.39**	**88**	T	T	10 54 12.4	
	baz=276,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**18.40**	**88**	T	T	10 54 09.0	
	baz=276,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**18.41**	**88**	T	T	10 54 10.3	
	baz=276,slow=74,SNR=9.3						
MJAR	**Matsushiro Arr**	**19.43**	**338**	P	**P**	**10 35 19.0**	**-0.2**
	0.5nm,0.3s,baz=167,slow=9.9,SNR=8.8						
MAJO	**Matsushiro**	**19.43**	**338**	*e*P	**Pn**	**10 35 20.1**	**-0.4**
JNU	**Nakatsue**	**20.51**	**317**	P	Pn	10 35 33.2	-0.1
	6.3nm,1.0s,baz=322,slow=19,SNR=3.2						
KSRS	**Korea Array**	**25.18**	**322**	P	**P**	**10 36 17.6**	**-0.3**
	3.8nm,0.7s,baz=148,slow=9.2,SNR=20						
KSRS				LR	LR	10 45 55.4	
	comp=Z,131nm,21.3s,baz=130,slow=36						
KSAR	**Wonju Array Be**	**25.19**	**322**	P	**P**	**10 36 17.6**	**-0.5**
PMG	**Port Moresby**	**27.99**	**180**	P	**P**	**10 36 43.6**	**+0.2**
	12nm,0.6s,baz=37,slow=10,SNR=2.9						
USRK	**Ussuriysk Ar.**	**28.42**	**337**	P	**P**	**10 36 47.2**	**+0.2**
	1.2nm,0.6s,baz=133,slow=6.3,SNR=3.3						
HNR	**Honiara**	**30.67**	**155**	LR	LR	10 48 38.6	
	comp=Z,122nm,19.9s,baz=305,slow=35						
SOEI	**Soe**	**36.31**	**221**	*e*P	**P**	**10 37 56.0**	**-0.5**
	169nm,0.9s						
CTA	**Charters Tower**	**38.62**	**182**	P	**P**	**10 38 15.2**	**-0.7**
	4.0nm,0.9s,baz=30,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**40.51**	**199**	P	**P**	**10 38 31.4**	**-0.2**
	2.4nm,0.7s,baz=22,slow=8.6,SNR=15						
WRA				PcP	**PcP**	**10 40 34.2**	**+0.4**
	0.4nm,0.4s,baz=17,slow=3.5,SNR=4.8						
ULN	**Ulaanbaatar**	**43.66**	**321**	*e*P	**P**	**10 38 57.4**	**+0.1**
	2.9nm,0.8s						
SONM	**Songino Array**	**44.04**	**321**	P	**P**	**10 39 01.1**	**+0.9**
	1.8nm,0.5s,baz=140,slow=7.4,SNR=3.9						
ASAR	**Alice Springs**	**44.15**	**198**	P	**P**	**10 39 00.8**	**-0.4**
	0.9nm,0.8s,baz=22,slow=8.1,SNR=15						
ASAR				PcP	**PcP**	**10 40 47.5**	**+1.6**
	0.3nm,0.7s,baz=30,slow=4.5,SNR=4.1						
ASAR				LR	LR	10 59 47.6	
	comp=Z,88nm,18.0s,baz=328,slow=39						
TLY	**Talaya**	**47.38**	**324**	LR	LR	10 58 37.9	
	comp=Z,53nm,21.1s,baz=71,slow=35						
STKA	**Stephens Creek**	**50.64**	**186**	P	**P**	**10 39 50.5**	**-1.0**
	1.0nm,0.6s,baz=355,slow=11,SNR=3.2						
STKA				LR	LR	11 03 37.8	
	comp=Z,89nm,18.8s,baz=221,slow=39						
ZALV	**Zalesovo Beam**	**58.88**	**322**	P	**P**	**10 40 52.1**	**+1.1**
	2.1nm,0.7s,baz=102,slow=9.0,SNR=5.7						
ZALV				LR	LR	11 07 37.6	
	comp=Z,47nm,18.4s,baz=68,slow=38						
MKAR	**Makanchi Array**	**59.51**	**314**	P	**P**	**10 40 55.1**	**-0.5**
	1.1nm,0.6s,baz=95,slow=8.6,SNR=2.7						
BPAW	**Bear Paw Mtn.**	**61.03**	**26**	*e*P	**P**	**10 41 07.9**	**+2.2**
NRIK	**Noril'sk**	**62.07**	**340**	P	**P**	**10 41 13.3**	**+0.8**
	2.9nm,0.6s,baz=333,slow=2.3,SNR=2.1						
NRIK				LR	LR	11 12 23.8	
	comp=Z,23nm,18.8s,baz=67,slow=40						
KURK	**Kurchatov**	**62.23**	**318**	P	**P**	**10 41 13.7**	**-0.3**
KURBB	**Kurchatov Arra**	**62.28**	**318**	P	**P**	**10 41 13.7**	**-0.6**
	4.2nm,0.8s,baz=95,slow=7.1,SNR=31						
ILAR	**Eielson Array**	**62.93**	**26**	P	**P**	**10 41 19.1**	**+0.8**
	1.4nm,1.1s,baz=265,slow=4.9,SNR=7.8						
ILAR				LR	LR	11 05 57.8	
	comp=Z,28nm,20.6s,baz=280,slow=34						
BVAR	**Borovoye Array**	**67.39**	**320**	P	**P**	**10 41 47.6**	**+0.1**
	5.7nm,0.6s,baz=92,slow=7.4,SNR=16						
BVAR				LR	LR	11 11 34.2	
	comp=Z,85nm,20.9s,baz=74,slow=36						
BRVK	**Borovoye**	**67.45**	**320**	*e*P	**P**	**10 41 47.6**	**-0.3**
	12nm,0.7s						
KKAR	**Karatay Array**	**67.89**	**310**	*e*P	**P**	**10 41 50.2**	**-0.7**
	1.9nm,0.7s						
ABKAR	**Akbulak array**	**74.32**	**317**	*e*P	**P**	**10 42 28.6**	**-1.1**
	1.9nm,0.6s						
AKTO	**Aktyubinsk**	**75.32**	**319**	P	**P**	**10 42 34.6**	**-0.8**
	0.8nm,0.5s,baz=90,slow=12,SNR=3.3						
FINES	**FINESS Array B**	**87.45**	**336**	P	**P**	**10 43 40.2**	**+0.8**
	0.9nm,0.4s,baz=44,slow=4.2,SNR=7.8						
FINES				LR	LR	11 23 25.6	
	comp=Z,31nm,21.6s,baz=37,slow=36						
MDND	**Maddock**	**90.81**	**38**	*e*P	**P**	**10 43 54.1**	**-1.5**
	34nm,0.3s						
BRTR	**Keskin Array B**	**95.14**	**315**	LR	LR	11 31 33.0	
	comp=Z,23nm,19.0s,baz=85,slow=38						
LPAZ	**La Paz**	**146.17**	**91**	PKPbc	**PKPbc**	**10 50 34.1**	**0.0**
	1.4nm,1.0s,baz=225,slow=2.9,SNR=2.9						

ISCJB ***13*** *10:36:44.2±0.4, 8°.41S±0°.05×119°.69E±0°.03, h174km±5km, mb4.0/3, Error ellipse: s-maj=7.7km s-min=5.1km az=10.3*
IDC ***13*** *10:36:44.3±3.1, 8°.28S×119°.56E, h176km±27km, mb3.6/4, mb1 3.7/5, mb1mx3.2/44, mbtmp4.1/5, Error ellipse: s-maj=105.2km s-min=18.0km az=57.0*
DJA ***13*** *10:36:45.1±0.4, 8°.5S±4°×12°.0E±°, h167km±5km, M3.9/6, mb4.2/2, MLv3.8/6*
ISC 13 10:36:44.5±0.8, 8°.47S±0°.06×119°.70E±0°.04, h178km±7km, n23, σ1º51/31, mb4.0/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.94**	**154**	P	**Pn**	**10 37 20.8**	**+0.1**
BASI				S	**Sn**	**10 37 50.3**	**+1.4**
PLAI	**Plampang**	**1.94**	**259**	P	**Pn**	**10 37 22.0**	**+1.3**
PLAI				S	**Sn**	**10 37 49.5**	**+0.7**
EDFI	**Ende, Flores**	**1.98**	**98**	P	**Pn**	**10 37 21.1**	**-0.2**
EDFI				S	**Sn**	**10 37 48.7**	**-1.1**
BSSI	**Bau Bau, Buton**	**2.44**	**19**	P	**Pn**	**10 37 24.9**	**-1.5**
MMRI	**Maumere**	**2.51**	**94**	P	**Pn**	**10 37 27.1**	**-0.1**
MMRI				S	**Sn**	**10 37 59.9**	**-0.4**
TWSI	**Taliwang, Sumb**	**2.80**	**264**	P	**Pn**	**10 37 31.8**	**+1.2**
TWSI				S	**Sn**	**10 38 07.3**	**+0.8**
KAPI	**Kappang**	**3.44**	**1**	*e*P	**Pn**	**10 37 37.8**	**-0.6**
BNSI	**Bone**	**4.07**	**6**	P	**Pn**	**10 37 45.1**	**-1.3**
DNP	**Denpasar**	**4.45**	**267**	S	**Sn**	**10 38 42.6**	**-1.0**
SPSI	**Sidrap Palu**	**4.48**	**1**	P	**Pn**	**10 37 52.5**	**+0.8**
IGBI	**Denpasar**	**4.52**	**265**	S	**Sn**	**10 38 43.6**	**-1.6**
SOEI	**Soe**	**4.68**	**106**	P	**Pn**	**10 37 55.3**	**+0.9**
TTSI	**Tana Toraja**	**5.39**	**1**	P	**Pn**	**10 38 05.7**	**+2.2**
	40nm,1.2s,0.1nm						
JAGI	**Jajag, Banyuwa**	**5.49**	**270**	P	**Pn**	**10 38 03.3**	**-1.5**
SANI	**Sanana**	**8.94**	**45**	P	**Pn**	**10 38 51.1**	**+1.0**
BNDI	**Bandanaira**	**10.87**	**69**	P	**P**	**10 39 24.8**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.18**	**150**	P	**Pn**	**10 39 21.1**	**+1.7**
	baz=346,slow=7.7						
FITZ				S	**Sn**	**10 41 20.4**	**-3.2**
	baz=90,slow=19						
WRA	**Warramunga Arr**	**18.18**	**130**	P	**Pn**	**10 40 45.6**	**-0.4**
	0.5nm,0.3s,baz=304,slow=12,SNR=18						
WRA				S	**S**	**10 44 02.6**	**-0.3**
	0.3nm,0.3s,baz=305,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**20.33**	**140**	P	Pn	10 41 09.8	-1.7
	2.5nm,0.5s,baz=311,slow=8.7,SNR=24						
ASAR				S	**S**	**10 44 43.1**	**-2.2**
	2.0nm,1.0s,baz=310,slow=17,SNR=8.3						
ASAR				ScP	**ScP**	**10 48 32.1**	**-0.6**
	0.5nm,0.8s,baz=329,slow=1.6,SNR=4.6						
STKA	**Stephens Creek**	**30.93**	**142**	P	**P**	**10 42 47.6**	**+3.0**
	4.4nm,0.8s,baz=308,slow=10.0,SNR=8.9						
MKAR	**Makanchi Array**	**64.31**	**332**	P	**P**	**10 46 59.9**	**-1.0**
	0.9nm,0.7s,baz=128,slow=7.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**66.80**	**339**	P	**P**	**10 47 27.2**	**-2.0**
	0.9nm,0.3s,baz=151,slow=7.0,SNR=3.7						
TKL	**Tuckaleechee C**	**145.47**	**35**	PKPbc	**PKPdf**	**10 56 01.1**	**-0.8**
	7.0nm,0.7s,baz=337,slow=5.8,SNR=12						

ISCJB ***13*** *10:49:59.1±0.4, 32°.42N±0°.06×96°.49E±0°.05, h10km, mb3.8/10, MS3.4/4, Error ellipse: s-maj=9.0km s-min=6.4km az=7.4*
IDC ***13*** *10:50:00.0±0.8, 32°.51N×96°.63E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.8/48, mbtmp3.8/13, ML3.8/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/54, Error ellipse: s-maj=35.5km s-min=14.9km az=51.0*
BJI ***13*** *10:50:00.8, 32°.61N×96°.44E, h10km, mb3.9/1, ML3.8/4, Ms3.7/4, Ms7 3.5/2*
DMN ***13*** *10:51:01.6±9.4, 31°.08N×91°.14E, h10km, Mb4.7/4, Error ellipse: s-maj=238.2km s-min=19.3km az=53.0*
ISC 13 10:50:01.9±0.6, 32°.57N±0°.09×96°.59E±0°.06, h10km, n25, σ0º56/19, mb3.8/10, MS3.4/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**6.33**	**103**	Pn	**Pn**	**10 51 35.3**	**0.0**
CD2				Pg	Pb	10 52 00.0	+7.9
CD2				Sn	**Sn**	**10 52 48.0**	**+0.4**
CD2				Sg	**Sg**	**10 53 25.1**	**+0.1**
CD2				smax	smax		
	comp=N,70nm,1.3s						
CD2				smax	smax		
	comp=E,40nm,0.9s						
CD2				LR	LR		
	comp=N,1μm,8.2s						
CD2				LR	LR		
	comp=E,550nm,5.5s						
CD2				LR	LR		
	comp=Z,390nm,5.8s						
TAPN	**Taplejung**	**9.29**	**238**	*e*P	**Pn**	**10 52 16.0**	**-0.3**
ODAN	**Odare**	**9.81**	**237**	*e*P	**Pn**	**10 52 23.5**	**+0.1**
	12nm,0.4s						
JIRN	**Jiri**	**10.25**	**244**	*e*P	Pn	10 52 26.6	-2.8
	9.8nm,0.3s						
GUN	**Gumba**	**10.36**	**246**	*e*P	Pn	10 52 27.3	-3.6
	13nm,0.4s						
PKIN	**Phulchoki**	**10.90**	**246**	*e*P	Pn	10 52 34.3	-3.9
	9.9nm,0.5s						
KOLN	**Koldanda**	**12.21**	**250**	*e*P	Pn	10 52 51.6	-4.6
PYUN	**Piuthan**	**12.56**	**253**	*e*P	Pn	10 52 57.0	-3.9
WMQ	**Urumqi**	**13.22**	**331**	*e*P	**Pn**	**10 53 09.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.21**	**171**	Pn	**Pn**	**10 53 23.8**	**+0.5**
	0.2nm,0.3s,baz=340,slow=12,SNR=6.1						
CMAR				LR	LR	10 59 23.1	
	comp=Z,80nm,18.0s,baz=240,slow=40						
MKAR	**Makanchi Array**	**17.93**	**327**	P	**Pn**	**10 54 10.7**	**-0.6**
	0.2nm,0.3s,baz=137,slow=14,SNR=6.1						
AAK	**Ala-Archa**	**20.13**	**306**	P	**P**	**10 54 36.5**	**+0.3**
	1.3nm,0.5s,baz=108,slow=6.4,SNR=3.3						
AAK				LR	LR	11 03 41.5	
	comp=Z,54nm,18.6s,baz=122,slow=41						
KURBB	**Kurchatov Arra**	**22.43**	**329**	P	**P**	**10 55 00.1**	**-0.6**
	1.2nm,0.3s,baz=138,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**22.96**	**342**	P	**P**	**10 55 06.4**	**+0.1**
	1.9nm,0.6s,baz=146,slow=11,SNR=5.2						
KSRS	**Korea Array**	**26.05**	**70**	P	**P**	**10 55 35.4**	**0.0**
	0.8nm,0.6s,baz=263,slow=9.7,SNR=5.2						
TGY	**Tagaytay City**	**28.82**	**124**	LR	LR	11 07 36.5	
	comp=Z,151nm,21.7s,baz=53,slow=37						
PETK	**Petropavlovsk-**	**47.67**	**46**	LR	LR	11 19 58.0	
	comp=Z,26nm,19.4s,baz=307,slow=38						
AKASG	**Malin Array Be**	**51.68**	**312**	P	**P**	**10 59 08.9**	**+0.1**
	0.2nm,0.3s,baz=70,slow=6.9,SNR=2.4						
FINES	**FINESS Array B**	**52.76**	**325**	P	**P**	**10 59 17.4**	**+0.7**
	2.2nm,0.9s,baz=100,slow=5.8,SNR=6.8						
ARCES	**ARCESS Array B**	**53.29**	**335**	P	**P**	**10 59 21.1**	**+0.5**
	2.3nm,0.9s,baz=90,slow=8.1,SNR=2.6						
SPITS	**Spitsbergen Ar**	**56.37**	**346**	LR	LR	11 27 20.9	
	comp=Z,60nm,18.1s,baz=25,slow=40						
NOA	**NORSAR Array B**	**59.92**	**326**	P	**P**	**11 00 07.8**	**-0.1**
	0.7nm,0.6s,baz=75,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**63.48**	**140**	P	**P**	**11 00 31.0**	**-1.3**
	0.5nm,0.7s,baz=330,slow=7.7,SNR=8.4						
ASAR	**Alice Springs**	**66.30**	**143**	P	**P**	**11 00 49.8**	**-0.9**
	0.7nm,0.5s,baz=326,slow=6.9,SNR=18						
TORD	**Torodi Ar. Bea**	**87.08**	**284**	P	**P**	**11 02 48.9**	**+0.5**
	0.3nm,0.7s,baz=53,slow=4.9,SNR=3.0						

IDC 13 10:50:30.9±2.0, 3°.61N×125°.49E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=194.1km s-min=25.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.97**	**160**	P	P	10 55 55.9	-0.4
	1.2nm,0.6s,baz=338,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**28.32**	**164**	P	P	10 56 27.0	+0.4
	0.2nm,0.6s,baz=355,slow=7.7,SNR=6.8						
MKAR	**Makanchi Array**	**56.95**	**326**	P	P	11 00 18.2	0.0
	0.7nm,0.8s,baz=115,slow=6.5,SNR=3.0						

WAR 13 11:01:33.3, 51°.47N×16°.16E, h1km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**172**	*e*Pg	Pg	11 01 45.1	-0.3
KSP				*e*Sg	Sg	11 01 53.9	+0.4
KSP	**Ksiaz**	**0.63**	**172**	*e*Pg	Pg	11 01 45.1	-0.3
KSP				*e*Sg	Sg	11 01 53.9	+0.4
BRG	**Berggiesshubel**	**1.52**	**248**	PG	Pn	11 02 01.6	0.0
BRG				SG	Sg	11 02 21.9	0.0
	3.5nm,0.3s						

ISCJB ***13*** *11:01:57.8±0.8, 36°.89N±0°.04×142°.21E±0°.07, h19km, mb3.5/5, MS4.1/2, Error ellipse: s-maj=8.5km s-min=5.8km az=24.1*
IDC ***13*** *11:01:57.6±1.1, 36°.89N×142°.08E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/50, mbtmp

*IDC **13** 11:15:50.8±0.9,38°.08N×0°.50E,h0km,mb3.8/3,mb1 3.9/8, mb1mx3.6/51,mbtmp3.7/8,ML4.1/4,MS2.8/1,Ms1 2.8/1, ms1mx2.3/48,Error ellipse: s-maj=25.0km s-min=22.7km az=116.0*

*MDD **13** 11:15:51.7±0.6,38°.09N×0°.50E,h6km±4km,mbLg3.7/6, Error ellipse: s-maj=5.1km s-min=2.9km az=141.0, PRXIMO*

*CSEM **13** 11:15:51.5±0.2,38°.14N×0°.42E,h10km,ML3.9/32,Error ellipse: s-maj=4.5km s-min=2.7km az=145.0*

*INMG **13** 11:15:51.9±1.0,38°.09N×0°.49E,h10km,MD3.9,ML3.4, Error ellipse: s-maj=2.9km s-min=1.7km az=130.0*

*LDG **13** 11:15:52.0±0.1,38°.07N×0°.49E,h2km,Md3.6/2,Ml3.6/10, Error ellipse: s-maj=3.4km s-min=1.7km az=141.0*

*STR **13** 11:16:01.6±0.3,38°.81N×0°.39E,h10km,Ml3.5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 13 11:15:52.3±1.5,38°.16N±0°.04×0°.47E±0°.03,h14km±10km, n227,σ2°06/361,mb3.8/3,Spain

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFON	**Font Roja** 462nm,0.5s,SNR=18	**0.94**	**303**	Pg	**Pg**	**11 16 10.7**	**+0.3**
AFON	2μm,0.6s,SNR=9.2			Lg	Lg	11 16 24.4	
AFON	**Font Roja** 462nm,0.5s,SNR=18	**0.94**	**303**	Pg	**Pg**	**11 16 10.7**	**+0.3**
AFON	2μm,0.6s,SNR=9.2			Lg	Lg	11 16 24.4	
EIBI	**Ibiza** 114nm,0.1s,SNR=268	**1.10**	**38**	Pg	**Pg**	**11 16 12.0**	**-1.6**
EIBI	2μm,0.4s,SNR=16			Lg	Lg	11 16 28.6	
EIBI	**Ibiza** 114nm,0.1s,SNR=268	**1.10**	**38**	Pg	**Pg**	**11 16 12.0**	**-1.6**
EIBI	2μm,0.4s,SNR=16			Lg	Lg	11 16 28.6	
EMUR	**La Murta** 120nm,0.4s,SNR=52	**1.39**	**257**	Pg	**Pn**	**11 16 16.3**	**-0.9**
EMUR	2μm,0.7s,SNR=14			Lg	Lg	11 16 36.4	
EMUR	**La Murta** 120nm,0.4s,SNR=52	**1.39**	**257**	Pg	**Pn**	**11 16 16.3**	**-0.9**
EMUR	2μm,0.7s,SNR=14			Lg	Lg	11 16 36.4	
ETOB	**Tobarra** 56nm,0.4s,SNR=88	**1.65**	**288**	Pn	**Pn**	**11 16 20.6**	**-0.3**
ETOB	428nm,0.6s,SNR=9.7			Lg	Lg	11 16 45.5	
ETOB	**Tobarra** 56nm,0.4s,SNR=88	**1.65**	**288**	Pn	**Pn**	**11 16 20.6**	**-0.3**
ETOB	428nm,0.6s,SNR=9.7			Lg	Lg	11 16 45.5	
OKGL	**Djebel Kef Gue** 36nm,0.5s,SNR=7.9	**2.13**	**176**	Pn	**Pn**	**11 16 25.3**	**-2.1**
OKGL	577nm,0.5s,SNR=7.9			Sn	**Sn**	**11 16 50.7**	**-2.9**
OKGL	**Djebel Kef Gue** 36nm,0.5s,SNR=7.9	**2.13**	**176**	Pn	**Pn**	**11 16 25.3**	**-2.1**
OKGL	577nm,0.5s,SNR=7.9			Sn	**Sn**	**11 16 50.7**	**-2.9**
EMOS	**Mosqueruela** 4.1nm,0.2s,SNR=171	**2.31**	**342**	Pn	**Pn**	**11 16 30.1**	**0.0**
EMOS	46nm,0.2s,SNR=7.8			Sn	**Sn**	**11 16 59.0**	**+0.6**
EMOS	**Mosqueruela** 4.1nm,0.2s,SNR=171	**2.31**	**342**	Pn	**Pn**	**11 16 30.1**	**0.0**
EMOS	46nm,0.2s,SNR=7.8			Sn	**Sn**	**11 16 59.0**	**+0.6**
SESP	**Santiago Espad** 2.0nm,0.1s,SNR=7.9	**2.37**	**270**	Pn	**Pn**	**11 16 30.6**	**-0.3**
SESP	178nm,0.4s,SNR=7.9			Sn	**Sn**	**11 16 58.9**	**-1.0**
SESP	**Santiago Espad** 2.0nm,0.1s,SNR=7.9	**2.37**	**270**	Pn	**Pn**	**11 16 30.6**	**-0.3**
SESP	178nm,0.4s,SNR=7.9			Sn	**Sn**	**11 16 58.9**	**-1.0**
ETOS	**Mallorca** 24nm,0.1s,SNR=95	**2.43**	**48**	Pn	**Pn**	**11 16 30.8**	**-0.8**
ETOS	159nm,0.4s,SNR=5.0			Sn	**Sn**	**11 17 00.2**	**-0.9**
ETOS	**Mallorca** 24nm,0.1s,SNR=95	**2.43**	**48**	Pn	**Pn**	**11 16 30.8**	**-0.8**
ETOS	159nm,0.4s,SNR=5.0			Sn	**Sn**	**11 17 00.2**	**-0.9**
ENIJ	**Nijar** 0.4nm,0.2s,SNR=7.9	**2.43**	**242**	Pn	**Pn**	**11 16 30.1**	**-1.5**
ENIJ	239nm,0.6s,SNR=7.9			Sn	**Sn**	**11 16 57.4**	**-3.8**
ENIJ	**Nijar** 0.4nm,0.2s,SNR=7.9	**2.43**	**242**	Pn	**Pn**	**11 16 30.1**	**-1.5**
ENIJ	239nm,0.6s,SNR=7.9			Sn	**Sn**	**11 16 57.4**	**-3.8**
ERTA	**Horta de San J** 2.0nm,0.2s,SNR=34	**2.79**	**358**	Pn	**Pn**	**11 16 36.5**	**-0.1**
ERTA	58nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 09.8**	**-0.2**
ERTA	**Horta de San J** 2.0nm,0.2s,SNR=34	**2.79**	**358**	Pn	**Pn**	**11 16 36.5**	**-0.1**
ERTA	58nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 09.8**	**-0.2**
EQES	**Quesada** 3.0nm,0.2s,SNR=47	**2.82**	**264**	Pn	**Pn**	**11 16 37.2**	**+0.2**
EQES	150nm,0.4s,SNR=5.2			Sn	**Sn**	**11 17 08.5**	**-2.3**
EQES	**Quesada** 3.0nm,0.2s,SNR=47	**2.82**	**264**	Pn	**Pn**	**11 16 37.2**	**+0.2**
EQES	150nm,0.4s,SNR=5.2			Sn	**Sn**	**11 17 08.5**	**-2.3**
GORA	**Gorafe** 371nm,0.6s,SNR=7.9	**2.86**	**257**	Sn	**Sn**	**11 17 10.8**	**-1.0**
GORA	**Gorafe** 371nm,0.6s,SNR=7.9	**2.86**	**257**	Sn	**Sn**	**11 17 10.8**	**-1.0**
EBER	**Berja** 7.7nm,0.3s,SNR=17	**2.95**	**246**	Pn	**Pn**	**11 16 37.5**	**-1.4**
EBER	283nm,1.0s,SNR=5.0			Sn	**Sn**	**11 17 10.2**	**-4.0**
EBER	**Berja** 7.7nm,0.3s,SNR=17	**2.95**	**246**	Pn	**Pn**	**11 16 37.5**	**-1.4**
EBER	283nm,1.0s,SNR=5.0			Sn	**Sn**	**11 17 10.2**	**-4.0**
EPOB	**Poblet** 1.0nm,0.2s,SNR=73	**3.22**	**8**	Pn	**Pn**	**11 16 42.2**	**-0.3**
EPOB	78nm,0.3s,SNR=7.9			Sn	**Sn**	**11 17 19.1**	**-1.5**
EPOB	**Poblet** 1.0nm,0.2s,SNR=73	**3.22**	**8**	Pn	**Pn**	**11 16 42.2**	**-0.3**
EPOB	78nm,0.3s,SNR=7.9			Sn	**Sn**	**11 17 19.1**	**-1.5**
EQUE	**Quentar** 1.2nm,0.1s,SNR=7.9	**3.24**	**254**	Pn	**Pn**	**11 16 41.7**	**-1.1**
EQUE	149nm,0.5s,SNR=7.9			Sn	**Sn**	**11 17 18.5**	**-2.8**
EQUE	**Quentar** 1.2nm,0.1s,SNR=7.9	**3.24**	**254**	Pn	**Pn**	**11 16 41.7**	**-1.1**
EQUE	149nm,0.5s,SNR=7.9			Sn	**Sn**	**11 17 18.5**	**-2.8**
SELV	**Sierra Elvira** 2.0nm,0.2s,SNR=7.9	**3.45**	**256**	Sn	**Sn**	**11 17 23.6**	**-2.7**
SELV	**Sierra Elvira** 2.0nm,0.2s,SNR=7.9	**3.45**	**256**	Sn	**Sn**	**11 17 23.6**	**-2.7**
EALB	**Alboran** 7.1nm,0.6s,SNR=7.9	**3.57**	**233**	Pn	**Pn**	**11 16 46.1**	**-1.1**
EALB	31nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 24.7**	**-4.5**
EALB	**Alboran** 7.1nm,0.6s,SNR=7.9	**3.57**	**233**	Pn	**Pn**	**11 16 46.1**	**-1.1**
EALB	31nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 24.7**	**-4.5**
ESAC	**San Caprasio** 20nm,0.3s,SNR=7.9	**3.63**	**349**	Pn	**Pn**	**11 16 49.0**	**+1.0**
ESAC	94nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 28.8**	**-1.8**
ESAC	**San Caprasio** 20nm,0.3s,SNR=7.9	**3.63**	**349**	Pn	**Pn**	**11 16 49.0**	**+1.0**
ESAC	94nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 28.8**	**-1.8**
ESDC	**Sonseca Array** 12nm,0.3s,baz=110,slow=14,SNR=34	**3.77**	**295**	Pn	**Pn**	**11 16 49.6**	**-0.4**
ESDC	16nm,0.3s,baz=115,slow=28,SNR=5.4			Sn	**Sb**	**11 17 44.1**	**0.0**
ESDC	**Sonseca Array** 24nm,0.7s,baz=111,slow=13,SNR=26	**3.77**	**295**	Pn	**Pn**	**11 16 49.4**	**-0.6**
ESDC	31nm,0.7s,baz=113,slow=26,SNR=4.1			Sn	**Sn**	**11 17 32.8**	**-1.4**
ESDC	50nm,0.7s,baz=113,slow=29,SNR=4.7			Lg	Lg	11 17 49.2	
ESDC	**Sonseca Array** 31nm,0.7s,SNR=4.1	**3.77**	**295**	Sn	**Sn**	**11 17 32.8**	**-1.4**
ESDC	50nm,0.7s,SNR=4.7			Lg	Lg	11 17 49.2	
EGOR	**Sierra Gorda,** 14nm,0.5s,SNR=7.9	**3.78**	**255**	Pn	**Pn**	**11 16 50.1**	**-0.1**
EGOR	52nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 31.2**	**-3.4**
EGOR	**Sierra Gorda,** 14nm,0.5s,SNR=7.9	**3.78**	**255**	Pn	**Pn**	**11 16 50.1**	**-0.1**
EGOR	52nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 31.2**	**-3.4**
CFON	**Fontmartina** 44nm,0.2s,SNR=87	**3.90**	**22**	Pn	**Pn**	**11 16 51.5**	**-0.3**
CFON	56nm,0.3s,SNR=7.9			Sn	**Sn**	**11 17 33.6**	**-3.8**
EADA	**Adamuz** 0.5nm,0.3s,SNR=7.9	**3.97**	**272**	Pn	**Pn**	**11 16 50.7**	**-2.1**
EADA	18nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 37.0**	**-2.1**
EADA	35nm,0.4s,SNR=7.9			Lg	Lg	11 17 55.4	
CSOR	**Sort** 10nm,0.2s,SNR=33	**4.24**	**7**	Pn	**Pn**	**11 16 57.0**	**+0.5**
CSOR	29nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 45.4**	**-0.4**
GUD	**Guadarrama** 4.6nm,0.3s,SNR=13	**4.35**	**306**	Pn	**Pn**	**11 16 57.9**	**-0.2**
GUD	1.9nm,0.2s,SNR=7.9			Sn	**Sn**	**11 17 46.8**	**-1.8**
VALF	**Valcebollere**	**4.40**	**15**	P	**Pn**	**11 16 59.2**	**+0.5**
VALF				S	**Sn**	**11 17 48.7**	**-1.1**
VALF	**Valcebollere**	**4.40**	**15**	P	**Pn**	**11 16 59.2**	**+0.5**
VALF				S	**Sn**	**11 17 48.7**	**-1.1**
CLLI	**Llivia** 13nm,0.3s,SNR=17	**4.46**	**14**	Pn	**Pn**	**11 17 00.2**	**+0.6**
CLLI	13nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 50.3**	**-1.0**
EMIJ	**Mijas** 1.6nm,0.5s,SNR=7.9	**4.47**	**251**	Pn	**Pn**	**11 16 58.1**	**-1.5**
EMIJ	36nm,0.8s,SNR=7.9			Sn	**Sn**	**11 17 48.4**	**-2.9**
ECHI	**Chisagues Biel** 0.4nm,0.1s,SNR=7.9	**4.50**	**357**	Pn	**Pn**	**11 17 00.1**	**-0.1**
ECHI	10nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 50.8**	**-1.5**
DFRA	**Djebel Bou Aff**	**4.60**	**109**	P	**Pn**	**11 17 01.5**	**0.0**
DFRA	**Djebel Bou Aff**	**4.60**	**109**	Pn	**Pn**	**11 17 01.5**	**0.0**
DFRA	**Djebel Bou Aff**	**4.60**	**109**	P	**Pn**	**11 17 01.5**	**0.0**
SALF	**Salau**	**4.62**	**7**	P	**Pn**	**11 17 02.7**	**+0.9**
SALF				S	**Sn**	**11 17 53.6**	**-1.7**
SALF	**Salau**	**4.62**	**7**	P	**Pn**	**11 17 02.7**	**+0.9**
SALF				S	**Sn**	**11 17 53.6**	**-1.7**
ECAB	**El Cabril** 1.3nm,0.4s,SNR=7.9	**4.64**	**271**	Pn	**Pn**	**11 17 00.8**	**-1.2**
ECAB	20nm,0.6s,SNR=7.9			Sn	**Sn**	**11 17 52.2**	**-3.4**
EJON	**La Jonquera** 5.9nm,0.3s,SNR=7.9	**4.66**	**23**	Pn	**Pn**	**11 17 01.9**	**-0.3**
EJON	6.0nm,0.8s,SNR=7.9			Sn	**Sn**	**11 17 53.6**	**-2.6**
FILF	**Fillols**	**4.67**	**19**	P	**Pn**	**11 17 03.5**	**+1.1**
FILF				S	**Sn**	**11 17 54.4**	**-2.1**
FILF	**Fillols**	**4.67**	**19**	P	**Pn**	**11 17 03.5**	**+1.1**
FILF				S	**Sn**	**11 17 54.4**	**-2.1**
SJAF	**Saint Jean de** 7.5nm,0.4s,SNR=7.9	**4.69**	**22**	Pn	**Pn**	**11 17 02.5**	**-0.1**
SJAF	12nm,0.4s,SNR=7.9			Sn	**Sn**	**11 17 53.1**	**-3.8**
MELF	**Melles**	**4.71**	**3**	P	**Pn**	**11 17 03.8**	**+0.9**
MELF				S	**Sn**	**11 17 55.3**	**-2.1**
MELF	**Melles**	**4.71**	**3**	P	**Pn**	**11 17 03.8**	**+0.9**
MELF				S	**Sn**	**11 17 55.3**	**-2.1**
VIEF	**Viey**	**4.73**	**356**	P	**Pn**	**11 17 04.1**	**+0.9**
VIEF				S	**Sn**	**11 17 55.1**	**-2.7**
VIEF	**Viey**	**4.73**	**356**	P	**Pn**	**11 17 04.1**	**+0.9**
VIEF				S	**Sn**	**11 17 55.1**	**-2.7**
ETSF	**Etsaut** SNR=1.0	**4.79**	**351**	*e*Pn	**Pn**	**11 17 05.8**	**+1.7**
ETSF	28nm,0.5s			*e*Sn	**Sn**	**11 17 57.8**	**-1.6**
ETSF	**Etsaut**	**4.79**	**351**	Pn	**Pn**	**11 17 05.8**	**+1.7**
ETSF	14nm,0.5s			Sn	**Sn**	**11 17 57.8**	**-1.6**
ETSF	**Etsaut** SNR=1.0	**4.79**	**351**	*e*Pn	**Pn**	**11 17 05.8**	**+1.7**
ETSF	14nm,0.5s			*e*Sn	**Sn**	**11 17 57.8**	**-1.6**
IELO	**Elcoad** 0.4nm,0.1s,SNR=7.9	**4.85**	**345**	Pn	**Pn**	**11 17 05.5**	**+0.7**
IELO	9.4nm,0.3s,SNR=7.9			Sn	**Sn**	**11 17 58.8**	**-2.1**
EPF	**Esparros** SNR=1.0	**4.86**	**359**	*e*Pn	**Pn**	**11 17 05.9**	**+0.9**
EPF	21nm,0.4s			*e*Sn	**Sn**	**11 17 58.7**	**-2.4**
EPF	**Esparros**	**4.86**	**359**	Pn	**Pn**	**11 17 05.9**	**+0.9**
EPF	10nm,0.4s			Sn	**Sn**	**11 17 58.7**	**-2.4**
EPF	**Esparros** SNR=1.0	**4.86**	**359**	*e*Pn	**Pn**	**11 17 05.9**	**+0.9**
EPF	10nm,0.4s			*e*Sn	**Sn**	**11 17 58.7**	**-2.4**
LABF	**Labassere**	**4.89**	**357**	P	**Pn**	**11 17 06.7**	**+1.3**
LABF				S	**Sn**	**11 17 59.8**	**-1.9**
LABF	**Labassere**	**4.89**	**357**	P	**Pn**	**11 17 06.7**	**+1.3**
LABF				S	**Sn**	**11 17 59.8**	**-1.9**
EORO	**Oroz-Betelu** 0.2nm,0.2s,SNR=6.7	**4.91**	**345**	Pn	**Pn**	**11 17 07.9**	**+2.1**
EORO	0.6nm,0.6s,SNR=7.9			Sn	**Sn**	**11 18 00.9**	**-1.5**
LARF	**Larrau**	**4.99**	**348**	P	**Pn**	**11 17 07.6**	**+0.8**
LARF				S	**Sn**	**11 18 02.8**	**-1.5**
LARF	**Larrau**	**4.99**	**348**	P	**Pn**	**11 17 07.6**	**+0.8**
LARF				S	**Sn**	**11 18 02.8**	**-1.5**
ATE	**Arette**	**5.00**	**350**	P	**Pn**	**11 17 07.9**	**+1.0**
ATE				S	**Sn**	**11 18 02.6**	**-1.7**
ATE	**Arette** 1.2nm,0.1s,SNR=7.9	**5.00**	**350**	Pn	**Pn**	**11 17 07.8**	**+1.0**
ATE	20nm,0.5s,SNR=7.9			Sn	**Sn**	**11 18 02.6**	**-1.7**
ATE	**Arette** 1.2nm,0.1s,SNR=7.9	**5.00**	**350**	Pn	**Pn**	**11 17 07.8**	**+1.0**
ATE	20nm,0.5s,SNR=7.9			Sn	**Sn**	**11 18 02.6**	**-1.7**
SJPF	**Ste Jean** SNR=1.0	**5.11**	**346**	*e*Pn	**Pn**	**11 17 09.6**	**+1.2**
SJPF	24nm,0.5s			*e*Sn	**Sn**	**11 18 06.4**	**-0.7**
SJPF	**Ste Jean**	**5.11**	**346**	Pn	**Pn**	**11 17 09.6**	**+1.2**
SJPF	12nm,0.5s			Sn	**Sn**	**11 18 06.4**	**-0.7**
SJPF	**Ste Jean**	**5.11**	**346**	Pn	**Pn**	**11 17 09.6**	**+1.2**
SJPF	12nm,0.5s			Sn	**Sn**	**11 18 06.4**	**-0.7**
ORDF	**Ordiarp**	**5.16**	**349**	P	**Pn**	**11 17 10.1**	**+1.1**
ORDF				S	**Sn**	**11 18 06.2**	**-2.0**
ORDF	**Ordiarp**	**5.16**	**349**	P	**Pn**	**11 17 10.1**	**+1.1**
ORDF				S	**Sn**	**11 18 06.2**	**-2.0**
OSSF	**Osses**	**5.25**	**346**	P	**Pn**	**11 17 11.2**	**+0.9**
OSSF				S	**Sn**	**11 18 08.6**	**-2.0**
OSSF	**Osses**	**5.25**	**346**	P	**Pn**	**11 17 11.2**	**+0.9**
OSSF				S	**Sn**	**11 18 08.6**	**-2.0**
EALK	**Alkurruntz** 0.0nm,0.1s,SNR=7.9	**5.27**	**344**	Pn	**Pn**	**11 17 12.2**	**+1.6**
EALK	62nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 10.3**	**-0.9**
EALK	**Alkurruntz** SNR=7.9	**5.27**	**344**	Pn	**Pn**	**11 17 12.2**	**+1.6**
EALK	62nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 10.3**	**-0.9**
MTLF	**Montolieu** SNR=1.0	**5.34**	**14**	*e*Pn	**Pn**	**11 17 10.8**	**-0.7**
MTLF	16nm,0.5s			*e*Sn	**Sn**	**11 18 11.2**	**-1.6**
MTLF	**Montolieu**	**5.34**	**14**	Pn	**Pn**	**11 17 10.8**	**-0.7**
MTLF	8.1nm,0.5s			Sn	**Sn**	**11 18 11.2**	**-1.6**
MTLF	**Montolieu**	**5.34**	**14**	Pn	**Pn**	**11 17 10.8**	**-0.7**
MTLF	8.1nm,0.5s			Sn	**Sn**	**11 18 11.2**	**-1.6**
EPLA	**Plasencia** 0.7nm,0.2s,SNR=7.9	**5.43**	**292**	Pn	**Pn**	**11 17 13.3**	**+0.4**
EPLA	12nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 13.8**	**-1.3**
EPLA	**Plasencia** 0.7nm,0.2s,SNR=7.9	**5.43**	**292**	Pn	**Pn**	**11 17 13.3**	**+0.4**
EPLA	12nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 13.8**	**-1.3**
CMAH	**Djebel Manchou**	**5.75**	**103**	P	**Pn**	**11 17 16.2**	**-1.0**
CMAH	**Djebel Manchou**	**5.75**	**103**	Pn	**Pn**	**11 17 16.2**	**-1.0**
CMAH	**Djebel Manchou**	**5.75**	**103**	Pn	**Pn**	**11 17 16.2**	**-1.0**
ELAN	**Lanestosa** 1.4nm,0.3s,SNR=7.9	**5.87**	**331**	Pn	**Pn**	**11 17 20.3**	**+1.5**
ELAN	8.4nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 23.8**	**-2.0**
ELAN	**Lanestosa** 1.4nm,0.3s,SNR=7.9	**5.87**	**331**	Pn	**Pn**	**11 17 20.3**	**+1.5**
ELAN	8.4nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 23.8**	**-2.0**
PBAR	**Barrancos**	**5.91**	**272**	*e*Pn	**Pn**	**11 17 18.4**	**-1.0**
PBAR				*e*Sn	**Sn**	**11 18 23.9**	**-3.0**
PBAR	46nm,0.6s			A	A	11 19 12.8	
PBAR	**Barrancos**	**5.91**	**272**	Pn	**Pn**	**11 17 18.4**	**-1.0**
PBAR	46nm,0.6s			Sn	**Sn**	**11 18 23.9**	**-3.0**
PBAR	**Barrancos**	**5.91**	**272**	Pn	**Pn**	**11 17 18.4**	**-1.0**
PBAR	46nm,0.6s			Sn	**Sn**	**11 18 23.9**	**-3.0**
PMRV	**Marv??o**	**6.27**	**284**	*e*Pn	**Pn**	**11 17 23.5**	**-0.8**
PMRV				*e*Sn	**Sn**	**11 18 34.4**	**-1.2**
PMRV	39nm,0.6s			A	A	11 19 29.9	
PMRV	**Marv??o**	**6.27**	**284**	Pn	**Pn**	**11 17 23.5**	**-0.8**
PMRV	39nm,0.6s			Sn	**Sn**	**11 18 34.4**	**-1.2**
PMRV	**Marv??o**	**6.27**	**284**	Pn	**Pn**	**11 17 23.5**	**-0.8**
PMRV	39nm,0.6s			Sn	**Sn**	**11 18 34.4**	**-1.2**
PESTR	**Estremoz**	**6.36**	**279**	*e*Pn	**Pn**	**11 17 26.0**	**+0.5**
PESTR				*e*Sn	**Sn**	**11 18 35.9**	**-2.0**
PESTR	26nm,0.6s			A	A	11 19 21.9	
PESTR	**Estremoz**	**6.36**	**279**	*e*Pn	**Pn**	**11 17 26.0**	**+0.5**
PESTR	26nm,0.6s			*e*Sn	**Sn**	**11 18 35.9**	**-2.0**
PCBR	**Castelo Branco**	**6.41**	**288**	*e*Pn	**Pn**	**11 17 26.2**	**0.0**
PCBR				*e*Sn	**Sn**	**11 18 36.0**	**-3.1**
PCBR	28nm,0.7s			A	A	11 19 38.3	
PCBR	**Castelo Branco**	**6.41**	**288**	Pn	**Pn**	**11 17 26.2**	**0.0**
PCBR	14nm,0.7s			Sn	**Sn**	**11 18 36.0**	**-3.1**
PCBR	**Castelo Branco**	**6.41**	**288**	Pn	**Pn**	**11 17 26.2**	**0.0**
PCBR	14nm,0.7s			Sn	**Sn**	**11 18 36.0**	**-3.1**
LASF	**Ste Croix** SNR=1.0	**6.44**	**22**	*e*Pn	**Pn**	**11 17 26.4**	**-0.2**
LASF	**Ste Croix**	**6.44**	**22**	Pn	**Pn**	**11 17 26.4**	**-0.2**
LASF	**Ste Croix**	**6.44**	**22**	Pn	**Pn**	**11 17 26.4**	**-0.2**
MVO	**Moncorvo**	**6.51**	**300**	*e*Pn	**Pn**	**11 17 27.9**	**+0.2**
MVO				*e*Sn	**Sn**	**11 18 40.2**	**-1.6**
MVO	34nm,0.7s			A	A	11 19 34.9	
MVO	**Moncorvo** 3.8nm,0.3s,SNR=7.9	**6.51**	**300**	Pn	**Pn**	**11 17 28.0**	**+0.3**
MVO	0.0nm,0.4s,SNR=7.9			Sn	**Sn**	**11 18 39.0**	**-2.8**
MVO	**Moncorvo**	**6.51**	**300**	*e*Pn	**Pn**	**11 17 27.9**	**+0.2**
MVO	34nm,0.7s			*e*Sn	**Sn**	**11 18 40.2**	**-1.6**
PVAQ	**Vaqueiros**	**6.53**	**266**	*e*Pn	**Pn**	**11 17 26.6**	**-1.2**
PVAQ				*e*Sn	**Sn**	**11 18 38.1**	**-3.9**
PVAQ	13nm,0.6s			A	A	11 18 54.3	
PVAQ	**Vaqueiros**	**6.53**	**266**	Pn	**Pn**	**11 17 26.6**	**-1.2**
PVAQ	13nm,0.6s			Sn	**Sn**	**11 18 38.1**	**-3.9**
PVAQ	**Vaqueiros**	**6.53**	**266**	Pn	**Pn**	**11 17 26.6**	**-1.2**
PVAQ	13nm,0.6s			Sn	**Sn**	**11 18 38.1**	**-3.9**
MTE	**Manteigas**	**6.60**	**292**	*e*Pn	**Pn**	**11 17 29.5**	**+0.6**
MTE				*e*Sn	**Sn**	**11 18 37.6**	**-6.4**
MTE	41nm,0.7s			A	A	11 19 37.6	
MTE	**Manteigas**	**6.60**	**292**	Pn	**Pn**	**11 17 29.5**	**+0.6**
MTE	20nm,0.7s			Sn	**Sn**	**11 18 37.6**	**-6.4**
MTE	**Manteigas**	**6.60**	**292**	Pn	**Pn**	**11 17 29.5**	**+0.6**
MTE	41nm,0.7s			*e*Sn	**Sn**	**11 18 37.6**	**-6.4**
PBRG	**Braganca**	**6.62**	**306**	*e*Pn	**Pn**	**11 17 29.1**	**-0.1**
PBRG				*e*Sn	**Sn**	**11 18 44.3**	**-0.1**
PBRG	19nm,0.6s			A	A	11 19 31.5	
PBRG	**Braganca**	**6.62**	**306**	Pn	**Pn**	**11 17 29.1**	**-0.1**
PBRG	9.6nm,0.6s			Sn	**Sn**	**11 18 44.3**	**-0.1**
PBRG	**Braganca**	**6.62**	**306**	Pn	**Pn**	**11 17 29.1**	**-0.1**
PBRG	9.6nm,0.6s			Sn	**Sn**	**11 18 44.3**	**-0.1**
EVO	**Evora**	**6.67**	**276**	*e*Pn	**Pn**	**11 17 31.1**	**+1.2**
EVO				*e*Sn	**Sn**	**11 18 41.9**	**-3.8**
EVO	14nm,0.2s			A	A	11 19 33.1	
EVO	**Evora**	**6.67**	**276**	Pn	**Pn**	**11 17 31.1**	**+1.2**
EVO	14nm,0.2s			Sn	**Sn**	**11 18 41.9**	**-3.8**
EVO	**Evora**	**6.67**	**276**	Pn	**Pn**	**11 17 31.1**	**+1.2**
EVO	14nm,0.2s			Sn	**Sn**	**11 18 41.9**	**-3.8**
ECAL	**Calabor** 15nm,0.3s,SNR=7.9	**6.69**	**307**	Pn	**Pn**	**11 17 29.6**	**-0.6**
ECAL	5.4nm,0.5s,SNR=7.9			Sn	**Sn**	**11 18 43.4**	**-2.8**
ECAL	**Calabor** 15nm,0.3s,SNR=7.9	**6.69**	**307**	Pn	**Pn**	**11 17 29.6**	**-0.6**
ECAL	5.4nm,0.5s,SNR=7.9			Sn	**Sn**	**11 18 43.4**	**-2.8**
EARI	**Arriondas** 1.4nm,0.1s,SNR=7.9	**6.70**	**322**	Pn	**Pn**	**11 17 31.6**	**+1.3**
EARI	25nm,0.6s,SNR=7.9			Sn	**Sn**	**11 18 42.3**	**-4.0**
EARI	**Arriondas** 1.4nm,0.1s,SNR=7.9	**6.70**	**322**	Pn	**Pn**	**11 17 31.6**	**+1.3**
PBDV	**Barranco-do-Ve**	**6.72**	**265**	*e*Pn	**Pn**	**11 17 30.0**	**-0.5**
PBDV				*e*Sn	**Sn**	**11 18 41.8**	**-5.1**
PBDV	13nm,0.7s			A	A	11 19 47.4	
PBDV	**Barranco-do-Ve**	**6.72**	**265**	Pn	**Pn**	**11 17 30.0**	**-0.5**
PBDV	13nm,0.7s			Sn	**Sn**	**11 18 41.8**	**-5.1**
PBDV	**Barranco-do-Ve**	**6.72**	**265**	Pn	**Pn**	**11 17 30.0**	**-0.5**
PBDV	13nm,0.7s			*e*Sn	**Sn**	**11 18 41.8**	**-5.1**
PCVE	**Castro Verde**	**6.75**	**268**	*e*Pn	**Pn**	**11 17 31.2**	**+0.3**
PCVE				*e*Sn	**Sn**	**11 18 43.7**	**-3.8**

PCVE	Castro Verde	6.75	268	Pn	Pn	11 17 31.2	+0.3
PCVE				Sn	Sn	11 18 43.7	-3.8
PCVE	Castro Verde	6.75	268	Pn	Pn	11 17 31.2	+0.3
PCVE				Sn	Sn	11 18 43.7	-3.8
MDT	Midelt	6.75	219	Pn	Pn	11 17 30.5	-0.6
	0.2nm,0.3s,baz=61,slow=15,SNR=12						
MDT				LR	LR	11 19 59.2	
	comp=Z,79nm,19.0s,baz=110,slow=37						
LFF	La Frestale	6.77	2	ePn	Pn	11 17 31.6	+0.4
	SNR=1.0						
LFF	La Frestale	6.77	2	Pn	Pn	11 17 31.6	+0.4
LFF	La Frestale	6.77	2	Pn	Pn	11 17 31.6	+0.4
CAF	Calviac	6.86	10	ePn	Pn	11 17 32.7	+0.2
	SNR=1.0						
CAF				eSn	Sn	11 18 47.4	-2.9
	16nm,0.5s						
CAF	Calviac	6.86	10	Pn	Pn	11 17 32.7	+0.2
CAF				Sn	Sn	11 18 47.4	-2.9
	7.9nm,0.5s						
CAF	Calviac	6.86	10	Pn	Pn	11 17 32.7	+0.2
PMTG	Montargil	6.87	280	ePn	Pn	11 17 32.9	+0.4
PMTG				eSn	Sn	11 18 46.0	-4.4
PMTG				A	A	11 19 35.7	
	25nm,0.8s						
PMTG	Montargil	6.87	280	ePn	Pn	11 17 32.9	+0.4
PMTG				eSn	Sn	11 18 46.0	-4.4
	25nm,0.8s						
LMR	La Mourre	6.91	40	ePn	Pn	11 17 34.4	+1.4
	SNR=1.0						
LMR				eSn	Sn	11 18 45.8	-5.6
	12nm,0.3s						
LMR	La Mourre	6.91	40	Pn	Pn	11 17 34.4	+1.4
LMR				Sn	Sn	11 18 45.8	-5.6
	6.2nm,0.3s						
LMR	La Mourre	6.91	40	Pn	Pn	11 17 34.4	+1.4
PVIS	Viseu	6.95	294	ePn	Pn	11 17 33.4	-0.3
PVIS				eSn	Sn	11 18 50.3	-2.3
PVIS				A	A	11 19 50.0	
	12nm,0.5s						
PVIS	Viseu	6.95	294	Pn	Pn	11 17 33.4	-0.3
PVIS				Sn	Sn	11 18 50.3	-2.3
	6.2nm,0.5s						
PVIS	Viseu	6.95	294	Pn	Pn	11 17 33.4	-0.3
PVIS				Sn	Sn	11 18 50.3	-2.3
	6.2nm,0.5s						
SMRF	Simiane la Rot	6.97	32	ePn	Pn	11 17 34.1	+0.1
	SNR=1.0						
SMRF	Simiane la Rot	6.97	32	Pn	Pn	11 17 34.1	+0.1
SMRF	Simiane la Rot	6.97	32	Pn	Pn	11 17 34.1	+0.1
PVRL	Vila Real	7.03	299	ePn	Pn	11 17 34.6	-0.2
PVRL				A	A	11 19 55.6	
	20nm,0.6s						
PVRL	Vila Real	7.03	299	Pn	Pn	11 17 34.6	-0.2
PVRL	Vila Real	7.03	299	Pn	Pn	11 17 34.6	-0.2
PNCL	Nicolau / Gran	7.09	272	eSn	Sn	11 18 51.7	-4.2
PNCL				A	A	11 19 57.1	
	11nm,0.7s						
PNCL	Nicolau / Gran	7.09	272	eSn	Sn	11 18 51.7	-4.2
	11nm,0.7s						
POLO	Lamas de Olo	7.12	299	ePn	Pn	11 17 35.5	-0.6
POLO				eSn	Sn	11 18 54.0	-2.9
POLO				A	A	11 19 51.6	
	7.9nm,0.6s						
POLO	Lamas de Olo	7.12	299	ePn	Pn	11 17 35.5	-0.6
POLO				eSn	Sn	11 18 54.0	-2.9
	7.9nm,0.6s						
FRF	La Foret Royal	7.14	39	ePn	Pn	11 17 38.1	+1.8
FRF	La Foret Royal	7.14	39	Pn	Pn	11 17 38.1	+1.8
FRF	La Foret Royal	7.14	39	Pn	Pn	11 17 38.1	+1.8
RJF	Les Rejaudoux	7.18	6	ePn	Pn	11 17 36.6	-0.2
	SNR=1.0						
RJF				eSn	Sn	11 18 56.5	-1.6
	8.3nm,0.5s						
RJF	Les Rejaudoux	7.18	6	Pn	Pn	11 17 36.6	-0.2
RJF				Sn	Sn	11 18 56.5	-1.6
	4.2nm,0.5s						
RJF	Les Rejaudoux	7.18	6	Pn	Pn	11 17 36.6	-0.2
RJF				Sn	Sn	11 18 56.5	-1.6
	4.2nm,0.5s						
PCAS	Casmilo, Conde	7.22	288	ePn	Pn	11 17 37.3	-0.1
PCAS				eSn	Sn	11 18 55.1	-4.0
PCAS				A	A	11 20 07.4	
	35nm,0.6s						
PCAS	Casmilo, Conde	7.22	288	ePn	Pn	11 17 37.3	-0.1
PCAS				eSn	Sn	11 18 55.1	-4.0
	35nm,0.6s						
MORF	Marmelete	7.28	266	eSn	Sn	11 18 56.1	-4.4
MORF	Marmelete	7.28	266	Sn	Sn	11 18 56.1	-4.4
MORF	Marmelete	7.28	266	Sn	Sn	11 18 56.1	-4.4
VIVF	Saint-Julien-l	7.39	24	ePn	Pn	11 17 37.6	-2.1
	SNR=1.0						
VIVF	Saint-Julien-l	7.39	24	Pn	Pn	11 17 37.6	-2.1
VIVF	Saint-Julien-l	7.39	24	Pn	Pn	11 17 37.6	-2.1
PCAB	Cabril	7.42	301	ePn	Pn	11 17 40.0	-0.2
PCAB				eSn	Sn	11 19 02.0	-2.1
PCAB				A	A	11 20 06.5	
	16nm,0.6s						
PCAB	Cabril	7.42	301	Pn	Pn	11 17 40.0	-0.2
PCAB				Sn	Sn	11 19 02.0	-2.1
	7.8nm,0.6s						
PCAB	Cabril	7.42	301	Pn	Pn	11 17 40.0	-0.2
PCAB				Sn	Sn	11 19 02.0	-2.1
	7.8nm,0.6s						
KEST	Kesra	7.51	106	Pn	Pn	11 17 42.5	+1.0
	1.8nm,0.3s,baz=254,slow=4.5,SNR=8.4						
ELOB	Lobios	7.52	302	Pn	Pn	11 17 41.5	0.0
	1.0nm,0.1s,SNR=7.9						
ELOB	Lobios	7.52	302	Pn	Pn	11 17 41.5	0.0
	1.0nm,0.1s,SNR=7.9						
PGAV	Gavieira, Arco	7.70	302	ePn	Pn	11 17 43.8	-0.2
PGAV				eSn	Sn	11 19 07.4	-3.6
PGAV				A	A	11 20 17.4	
	15nm,0.6s						
PGAV	Gavieira, Arco	7.70	302	ePn	Pn	11 17 43.8	-0.2
PGAV				eSn	Sn	11 19 07.4	-3.6
	15nm,0.6s						
SBF	Sospel	7.76	41	ePn	Pn	11 17 45.9	+1.1
	SNR=1.0						
SBF	Sospel	7.76	41	Pn	Pn	11 17 45.9	+1.1
SBF	Sospel	7.76	41	Pn	Pn	11 17 45.9	+1.1
PGF	Pioggiola	7.85	53	ePn	Pn	11 17 47.4	+1.3
	SNR=1.0						
PGF	Pioggiola	7.85	53	Pn	Pn	11 17 47.4	+1.3
PGF	Pioggiola	7.85	53	Pn	Pn	11 17 47.4	+1.3
ORIF	Oris-en-Rattie	7.87	29	eSn	Sn	11 19 09.4	-5.9
	9.8nm,0.7s						
ORIF	Oris-en-Rattie	7.87	29	Sn	Sn	11 19 09.4	-5.9
	4.9nm,0.7s						
TCF	Toulx Ste Croi	8.22	8	ePn	Pn	11 17 50.3	-0.8
	SNR=1.0						
TCF				eSn	Sn	11 19 20.0	-3.7
	6.8nm,0.5s						
TCF	Toulx Ste Croi	8.22	8	Pn	Pn	11 17 50.3	-0.8
TCF				Sn	Sn	11 19 20.0	-3.7
	3.4nm,0.5s						
TCF	Toulx Ste Croi	8.22	8	Pn	Pn	11 17 50.3	-0.8
MFF	Saint Martin d	8.45	357	ePn	Pn	11 17 54.0	-0.1
	SNR=1.0						
MFF				eSn	Sn	11 19 23.3	-5.9
	5.3nm,0.4s						
MFF	Saint Martin d	8.45	357	Pn	Pn	11 17 54.0	-0.1
MFF				Sn	Sn	11 19 23.3	-5.9
	2.7nm,0.4s						
MFF	Saint Martin d	8.45	357	Pn	Pn	11 17 54.0	-0.1
BGF	Bois d'Agland	8.57	11	ePn	Pn	11 17 55.3	-0.6
BGF	Bois d'Agland	8.57	11	Pn	Pn	11 17 55.3	-0.6
BGF	Bois d'Agland	8.57	11	Pn	Pn	11 17 55.3	-0.6
EMAZ	Mazaricos	8.63	307	Pn	Pn	11 17 56.7	0.0
	1.1nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	8.63	307	Pn	Pn	11 17 56.7	0.0
	1.1nm,0.2s,SNR=7.9						
LPG	La Plagne	8.70	31	eP	Pn	11 18 03.4	+5.5
LPG	La Plagne	8.70	31	Pn	Pn	11 18 03.4	+5.5
SMF	Signal de Mont	8.84	15	ePn	Pn	11 18 00.2	+0.7
	SNR=1.0						
SMF	Signal de Mont	8.84	15	eP	Pn	11 18 06.1	+6.6
SMF	Signal de Mont	8.84	15	Pn	Pn	11 18 00.2	+0.7
SMF	Signal de Mont	8.84	15	Pn	Pn	11 18 00.2	+0.7
AVF	Avril sur Loir	8.88	13	ePn	Pn	11 18 00.5	+0.4
	SNR=1.0						
AVF	Avril sur Loir	8.88	13	Pn	Pn	11 18 00.5	+0.4
AVF	Avril sur Loir	8.88	13	Pn	Pn	11 18 00.5	+0.4
SSF	Saint Saulge	9.17	13	ePn	Pn	11 18 04.3	+0.2
SSF	Saint Saulge	9.17	13	Pn	Pn	11 18 04.3	+0.2
SSF	Saint Saulge	9.17	13	Pn	Pn	11 18 04.3	+0.2
LOR	Lormes	9.43	14	eP	Pn	11 18 14.0	+6.3
	baz=193						
LOR	Lormes	9.43	14	Pn	Pn	11 18 14.0	+6.3
LDF	La Druitiere	10.43	358	ePn	Pn	11 18 21.6	+0.2
	SNR=1.0						
GERES	GERESS Array B	14.34	38	Pn	Pn	11 19 16.6	+1.8
	0.3nm,0.3s,baz=222,slow=14,SNR=6.1						
EKA	Eskdalemuir Ar	17.35	353	P	Pn	11 19 55.4	+1.6
	baz=177,slow=17,SNR=2.2						
TORD	Torodi Ar. Bea	24.94	177	P	P	11 21 14.9	-0.2
	2.3nm,1.0s,baz=354,slow=11,SNR=7.4						
MKAR	Makanchi Array	58.39	53	P	P	11 25 47.3	+0.1
	2.4nm,0.8s,baz=293,slow=6.3,SNR=10						
PDAR	Pinedale Array	77.43	315	P	P	11 27 50.0	+2.8
	0.3nm,0.7s,baz=70,slow=18,SNR=3.4						
WRA	Warramunga Arr	136.27	79	PKP	PKPdf	11 35 14.5	+0.8
	0.2nm,0.7s,baz=332,slow=2.0,SNR=2.9						
ASAR	Alice Springs	137.95	84	PKP	PKPdf	11 35 17.8	+1.1
	0.2nm,0.6s,baz=308,slow=1.5,SNR=2.6						
CTA	Charters Tower	145.37	68	PKPbc	PKPbc	11 35 30.3	+0.4
	3.7nm,0.7s,baz=283,slow=8.6,SNR=4.4						
STKA	Stephens Creek	147.73	91	PKPbc	PKPdf	11 35 35.5	+1.8
	1.8nm,0.7s,baz=322,slow=5.2,SNR=3.8						

*IDC **13** 11:25:04.6±0.5, 0°.60S×119°.87E, h0km, mb4.3/17, mb1 4.3/17, mb1mx4.1/54, mbtmp4.3/17, Error ellipse: s-maj=28.2km s-min=12.5km az=66.0*
*ISCJB **13** 11:25:05.3±0.3, 0°.47S±0°.03×119°.76E±0°.04, h10km, mb4.2/21, Error ellipse: s-maj=6.1km s-min=4.7km az=164.7*
*DJA **13** 11:25:08.1±0.3, 1°.S±2°.×12°.0E±°., h10km, M4.7/9, mB4.9/2, mb4.9/2, MLv4.6/9, Mw(mB)4.2/2*
*NEIC **13** 11:25:09.8±0.4, 0°.52S×119°.99E, h35km, mb4.2/2, Error ellipse: s-maj=18.9km s-min=7.0km az=68.0*
NEIC Felt [III] at Palu.

ISC 13 11:25:05.7±0.5, 0°.58S±0°.04×119°.82E±0°.04, h10km, n39, σ2°60/49, mb4.3/21, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.33	177	P	Pn	11 25 15.1	-1.5
PCI				S	Sb	11 25 20.5	+1.5
MPSI	Mapaga	0.91	5	P	Pn	11 25 25.2	+0.6
MPSI				S	Sn	11 25 37.7	-0.1
APSI	Ampana	1.86	100	P	Pg	11 25 41.6	+0.2
APSI				S	Sg	11 26 07.0	+1.5
MRSI	Marisa	2.36	64	P	Pb	11 25 46.0	-2.4
MRSI				S	Sn	11 26 13.5	-0.2
TTSI	Tana Toraja	2.45	180	P	Pb	11 25 49.3	-0.6
BKB	Balikpapan	3.00	257	S	Sn	11 26 28.2	-1.3
SPSI	Sidrap Palu	3.37	181	P	Pb	11 26 01.6	-3.9
BNSI	Bone	3.81	176	P	Pb	11 26 09.0	-4.1
KMSI	Cibinong	4.31	75	P	Pb	11 26 17.5	-4.2
KDI	Kendari	4.37	140	P	Pn	11 26 15.3	+3.1
KAPI	Kappang	4.41	181	ePn	Pn	11 26 16.1	+3.3
SANI	Sanana	6.34	103	P	Pn	11 26 40.4	+1.1
SOEI	Soe	10.13	154	ePn	Pn	11 27 33.5	+2.0
	35nm,0.9s						
WRAB	Tennant Creek	23.93	144	eP	P	11 30 18.3	-1.8
	8.5nm,0.8s						
WRA	Warramunga Arr	23.93	144	P	P	11 30 20.3	+0.1
	4.0nm,0.6s,baz=323,slow=10,SNR=33						
WRA				PcP	PcP	11 34 02.5	-0.4
	0.5nm,0.5s,baz=326,slow=2.1,SNR=9.2						
ASAR	Alice Springs	26.71	150	P	P	11 30 45.7	+0.2
	2.2nm,0.5s,baz=343,slow=15,SNR=64						
ASAR				PcP	PcP	11 34 08.8	-0.3
	1.0nm,0.6s,baz=340,slow=2.2,SNR=18						
CMAR	Chiang Mai Arr	27.91	314	P	P	11 30 58.1	+1.8
	0.6nm,0.3s,baz=140,slow=7.0,SNR=2.7						
STKA	Stephens Creek	37.32	149	P	P	11 32 18.8	+0.4
	4.7nm,0.7s,baz=319,slow=9.6,SNR=16						
KSAR	Wonju Array Be	38.56	10	P	P	11 32 30.9	+2.2
KSRS	Korea Array	38.58	10	P	P	11 32 30.9	+2.1
	0.9nm,0.6s,baz=183,slow=9.5,SNR=6.9						
MJAR	Matsushiro Arr	40.69	23	P	P	11 32 45.3	-1.3
	1.7nm,0.8s,baz=189,slow=7.9,SNR=5.8						
GTA	Gaotai	43.81	337	eP	P	11 33 14.4	+2.3
GTA				pP	sP	11 33 19.3	+2.8
GTA				sP	pP	11 33 22.4	+7.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
USRK	Ussuriysk Ar.	45.88	12	P	P	11 33 29.1	+0.8
	comp=Z,2.4nm,0.6s,baz=170,slow=6.8,SNR=5.7						
KSH	Kashi	56.53	320	eP	P	11 34 50.9	+2.3
KSH				pP	sP	11 34 55.6	+2.6
KSH				sP	pP	11 34 57.3	+5.5
KSH				PcP	PcP	11 35 45.8	+0.5
KSH				PP	PP	11 37 00.3	+5.8
KSH				PcS	PcS	11 39 38.9	-7.1
KSH				S	S	11 42 35.5	-4.9
KSH				sS	pS	11 42 43.5	-0.8
KSH				ScS	ScS	11 44 30.0	-8.4
KSH	Kashi	56.53	320	SS	SS	11 46 24.3	-3.7
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,170nm,5.4s						
KSH				LR	LR		
	comp=N,88nm,6.1s						
KSH				LR	LR		
	comp=E,93nm,6.5s						
KSH				LR	LR		
	comp=Z,170nm,6.0s						
MKAR	Makanchi Array	57.48	330	P	P	11 34 56.4	+1.3
	comp=Z,2.4nm,0.8s,baz=128,slow=7.9,SNR=10						
AAK	Ala-Archa	59.20	322	P	P	11 35 09.2	+1.9
	comp=Z,0.5nm,0.3s,baz=60,slow=16,SNR=4.5						
ZALV	Zalesovo Beam	61.57	337	P	P	11 35 22.8	-0.3
	comp=Z,0.7nm,0.3s,baz=144,slow=5.5,SNR=5.0						
KURBB	Kurchatov Arra	61.91	332	P	P	11 35 26.0	+0.5
	comp=Z,2.2nm,0.7s,baz=139,slow=6.6,SNR=4.3						
KURK	Kurchatov	61.93	332	P	P	11 35 26.0	+0.4
BVAR	Borovoye Array	67.36	330	P	P	11 36 01.5	+0.4
	comp=Z,1.2nm,0.5s,baz=134,slow=6.2,SNR=2.6						
ABKAR	Akbulak array	71.26	323	eP	P	11 36 25.5	+0.2
	comp=Z,1.3nm,0.6s						
AKTO	Aktyubinsk	72.88	324	P	P	11 36 35.8	+0.9
	comp=Z,3.3nm,0.7s,baz=111,slow=6.5,SNR=9.3						
ARU	Arti	75.00	330	P	P	11 36 47.2	-0.1
	comp=Z,2.3nm,0.3s,baz=120,slow=20,SNR=5.4						
MAW	Mawson	77.40	199	P	P	11 37 01.3	+0.7
	comp=Z,5.3nm,0.9s,baz=52,slow=6.9,SNR=12						
KMBO	Kilima Mbogo	82.56	269	P	P	11 37 30.8	+0.7
	comp=Z,1.8nm,0.2s,baz=47,slow=9.8,SNR=3.5						
BRTR	Keskin Array B	87.42	310	P	P	11 37 53.3	-0.5
	comp=Z,1.9nm,0.8s,baz=126,slow=4.6,SNR=7.4						
CPUP	Villa Florida	153.11	186	PKPbc	PKPbc	11 45 04.6	+0.1
	comp=Z,1.3nm,0.7s,baz=292,slow=3.9,SNR=3.1						
LPAZ	La Paz	161.50	155	PKP	PKPdf	11 45 09.4	+0.7
	comp=Z,1.0nm,0.7s,baz=206,slow=6.0,SNR=4.1						

IDC 13 11:30:27.3±29.0, 24°.15S×175°.34W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse: s-maj=533.2km s-min=148.6km az=80.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.73	269	P	P	11 37 28.8	+0.8
	1.9nm,0.8s,baz=98,slow=11,SNR=5.5						
STKA	Stephens Creek	38.59	249	P	P	11 37 52.1	-0.1
	0.6nm,0.6s,baz=104,slow=12,SNR=3.0						
ASAR	Alice Springs	46.19	260	P	P	11 38 53.9	-0.4
	0.9nm,0.5s,baz=100,slow=8.4,SNR=31						
WRA	Warramunga Arr	46.63	265	P	P	11 38 57.4	-0.4
	1.8nm,0.6s,baz=104,slow=8.5,SNR=20						

*NNC **13** 11:33:38.6±8.3, 50°.18N×74°.80E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=106.4km s-min=12.5km az=17.0*
*IDC **13** 11:33:48.5±1.1, 51°.71N×75°.81E, h0km, mb1 3.3/4, mb1mx3.1/49, mbtmp3.3/4, ML2.1/4, Error ellipse: s-maj=24.6km s-min=9.9km az=27.0*

ISC 13 11:33:42.3±1.1, 52°.37N±0°.09×76°.20E±0°.05, h0km, n10, σ1°33/13, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.24	137	⇓Pg	Pb	11 34 23.2	-0.3
	4.4nm,1.0s						
KURK				⇓Lg	Lg	11 34 54.1	
	30nm,1.1s						
KURBB	Kurchatov Arra	2.27	139	Pn	Pb	11 34 23.3	-0.9
	0.2nm,0.3s,baz=304,slow=18,SNR=24						
KURBB				Pg	Pg	11 34 25.2	-0.6
	0.2nm,0.3s,baz=304,slow=18,SNR=22						
KURBB				Lg	Lg	11 34 54.3	
	0.2nm,0.3s,baz=303,slow=31,SNR=7.9						
KURBB	Kurchatov Arra	2.27	139	⇑Pg	Pb	11 34 24.6	+0.5
	4.2nm,0.5s						
KURBB				⇓Lg	Lg	11 34 57.7	
	27nm,0.7s						
BVA0	Borovoye Array	3.60	283	Pg	Pb	11 34 48.8	+2.1
	1.9nm,0.7s,baz=112,slow=14,SNR=6.0						
BVA0				⇓Sn	Sb	11 35 30.1	-0.8
	15nm,1.1s,baz=123,slow=25,SNR=15						
BVAR	Borovoye Array	3.60	283	Pn	Pb	11 34 44.7	-2.0
	0.3nm,0.3s,baz=111,slow=16,SNR=5.7						
BVAR				Sn	Sb	11 35 30.5	-0.4
	0.5nm,0.3s,baz=108,slow=28,SNR=3.8						
BRVK	Borovoye	3.67	283	⇑Pg	Pb	11 34 48.8	+0.9
	1.4nm,0.5s						
BRVK				⇑Sn	Sb	11 35 30.8	-2.1
	17nm,1.1s						
ZALV	Zalesovo Beam	5.42	70	Pn	Pb	11 35 17.6	-0.1
	0.3nm,0.3s,baz=254,slow=13,SNR=3.2						
MKAR	Makanchi Array	6.84	142	Pn	Pn	11 35 25.2	+1.4
	0.1nm,0.3s,baz=325,slow=12,SNR=3.1						
MKAR				Lg	Lg	11 37 12.2	
	0.2nm,0.3s,baz=326,slow=24,SNR=6.3						
AAK	Ala-Archa	9.80	187	Lg	Lg	11 38 30.7	
	0.9nm,0.3s,baz=83,slow=18,SNR=3.8						
GEYT	Alibeck	19.19	228	P	P	11 38 07.6	+0.2
	0.4nm,0.3s,baz=30,slow=12,SNR=2.3						

*ISCJB **13** 11:39:35.2±0.5, 37°.62N±0°.04×139°.45E±0°.08, h152km±3km, mb3.5/7, Error ellipse: s-maj=10.6km s-min=6.3km az=24.1*
*JMA **13** 11:39:36.4±0.1, 37°.62N×139°.45E, h144km±1km, M2.9*
*IDC **13** 11:39:37.0±2.9, 37°.58N×139°.40E, h155km±18km, mb3.4/7, mb1 3.4/8, mb1mx3.2/42, mbtmp3.8/8, Error ellipse: s-maj=50.6km s-min=14.9km az=72.0*

ISC 13 11:39:36.2±0.8, 37°.61N±0°.05×139°.45E±0°.07, h147km±6km, n25, σ0°61/37, mb3.4/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	Sasagawa	0.23	332	P	Pn	11 39 55.8	-0.4
JNS				S	Sn	11 40 10.8	-0.7
JFY	Yanaizu	0.29	136	P	Pn	11 39 56.4	0.0
JHK	Hiroka	0.50	224	P	Pn	11 39 57.2	0.0
JHK				S	Sn	11 40 12.9	-0.3
JIZZ	Izumozaki	0.60	263	P	Pn	11 39 58.3	+0.6
JIZZ				eS	Sn	11 40 15.0	+0.9
JFT	Otama	0.71	97	P	Pn	11 39 58.5	+0.1
JYS	Shirataka	0.78	38	P	Pn	11 39 59.1	+0.2
JYS				S	Sn	11 40 16.6	+0.3
JAW	Awa shima	0.86	349	P	Pn	11 39 59.5	0.0
JAW				eS	Sn	11 40 16.7	-0.7
JYA	Atsumi	1.00	12	P	Pn	11 40 01.1	+0.4
JYA				S	Sn	11 40 19.6	+0.1
JSD	Sado	1.04	295	P	Pn	11 40 00.6	-0.4
JSD				S	Sn	11 40 19.0	-0.9
JAG	Ashikaga	1.19	180	P	Pn	11 40 02.5	+0.1
MAT	Matsushiro	1.46	223	P	Pn	11 40 05.4	+0.3
MAT				S	Sn	11 40 26.6	-0.7
MAT	Matsushiro	1.46	223	P	Pn	11 40 05.4	+0.3
MAT				S	Sn	11 40 28.0	+0.7
MJAR	Matsushiro Arr	1.46	223	P	Pn	11 40 05.5	+0.4
	10nm,0.3s,baz=40,slow=12,SNR=112						
MJAR				S	Sn	11 40 28.1	+0.9
	1.5nm,0.3s,baz=50,slow=23,SNR=12						
JYK	Kaneyama	1.49	28	P	Pn	11 40 05.6	+0.3
JYK				S	Sn	11 40 28.3	+0.5
JRY	Ryogami san	1.65	196	P	Pn	11 40 07.8	+0.6
JRY				eS	Sn	11 40 31.1	+0.1
JSZ	Suzu	1.67	265	P	Pn	11 40 07.2	-0.1
JHG	Hegura jima	2.02	277	P	Pn	11 40 11.4	+0.1
USRK	Ussuriysk Ar.	8.67	322	P	Pn	11 41 40.5	+2.1
	0.1nm,0.3s,baz=129,slow=15,SNR=4.2						
SONM	Songino Array	26.16	304	P	P	11 44 57.6	+0.8
	2.4nm,0.5s,baz=97,slow=12,SNR=2.9						
MKAR	Makanchi Array	42.49	301	P	P	11 47 16.1	-0.6
	0.3nm,0.4s,baz=83,slow=9.8,SNR=2.3						
KURBB	Kurchatov Arra	44.41	307	P	P	11 47 31.4	-0.5
	1.1nm,0.5s,baz=84,slow=8.0,SNR=11						
WRA	Warramunga Arr	57.45	186	P	P	11 49 09.2	-0.3
	0.1nm,0.3s,baz=1.9,slow=7.4,SNR=6.9						
ASAR	Alice Springs	61.17	186	P	P	11 49 35.3	+0.2
	0.2nm,0.8s,baz=8.6,slow=6.8,SNR=3.2						
ARCES	ARCESS Array B	62.90	339	P	P	11 49 46.2	+0.1
	2.6nm,0.8s,baz=70,slow=7.8,SNR=3.0						
AKASG	Malin Array Be	72.88	321	P	P	11 50 48.2	-0.5
	0.3nm,0.4s,baz=53,slow=4.8,SNR=3.6						

IDC 13 11:56:21.1±1.9, 6°.48S×152°.24E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/29, mbtmp3.4/4, ML1.7/1, Error ellipse: s-maj=104.1km s-min=24.8km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.81	240	Pn	Pn	11 57 49.8	+1.3
	1.5nm,0.3s,baz=85,slow=14,SNR=5.0						
PMG				Sn	Sn	11 58 57.4	+1.5
	2.9nm,0.3s,baz=134,slow=20,SNR=6.2						
WRA	Warramunga Arr	21.93	231	P	P	12 01 16.3	-0.1
	1.0nm,0.8s,baz=56,slow=10,

ERIK	**Erikli-Kesan**	**1.01**	**65**	*e*PG	**Pb**	**11 58 56.1**	**+0.1**
ERIK	**Erikli-Kesan**	**1.01**	**65**	*e*Pg	**Pb**	**11 58 56.1**	**+0.1**
OUR	**Ouranopolis**	**1.02**	**275**	*e*PG	**Pn**	**11 58 56.7**	**+0.2**
OUR	**Ouranopolis**	**1.02**	**275**	*e*Pg	**Pn**	**11 58 56.7**	**+0.2**
SIGR	**SIGRI**	**1.12**	**158**	*e*PN	**Pg**	**11 58 58.7**	**+0.4**
SIGR	**SIGRI**	**1.12**	**158**	P	**Pb**	**11 58 57.4**	**-0.4**
SIGR				S	**Sb**	**11 59 11.5**	**-0.5**
SIGR				AML	AML	11 59 13.7	
	comp=E,51μm,0.5s						
SIGR				AML	AML	11 59 13.7	
	comp=N,62μm,0.4s						
SIGR	**SIGRI**	**1.12**	**158**	P	**Pb**	**11 58 57.4**	**-0.4**
SIGR				S	**Sb**	**11 59 11.5**	**-0.5**

IDC ***13*** *12:16:32.2±0.5, 11°.96S×119°.83E, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.4/29, mbtmp4.5/16, ML4.9/1, MS3.7/8, Ms1 3.7/8, ms1mx3.2/35, Error ellipse: s-maj=23.5km s-min=12.4km az=71.0*
BJI ***13*** *12:16:32.8, 12°.02S×120°.14E, h11km, mb4.6/33, mB4.8/23, Ms4.5/10, Ms7 4.3/8*
NEIC ***13*** *12:16:33.7±0.2, 12°.00S×119°.85E, h10km, mb4.6/27, Error ellipse: s-maj=7.2km s-min=4.3km az=49.0*
MOS ***13*** *12:16:34.4±1.2, 11°.93S×120°.00E, h30km, mb4.7/23, Error ellipse: s-maj=14.2km s-min=8.2km az=114.9*
ISCJB ***13*** *12:16:34.6±0.2, 11°.98S±0°.03×119°.85E±0°.03, h33km, mb4.6/46, MS3.8/7, Error ellipse: s-maj=4.6km s-min=3.8km az=143.8*
DJA ***13*** *12:16:37.4±0.4, 12°.5S±3°×12°.0E±°, h55km±12km, M4.7/19, mb5.0/19, mB5.2/12, MLv4.9/16, Mw(mB)4.6/12*
ISC 13 12:16:37.2±0.3, 12°.02S±0°.05×119°.80E±0°.05, h35km, n164, σ2°17/174, mb4.6/46, MS3.7/8, 8C-2D, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.94**	**23**	P	**Pn**	**12 17 06.5**	**-1.3**
EDFI	**Ende, Flores**	**3.74**	**30**	P	**Pn**	**12 17 29.7**	**-2.9**
EDFI				S	**Sn**	**12 18 12.2**	**-3.3**
PLAI	**Plampang**	**3.74**	**328**	P	**Pn**	**12 17 30.5**	**-2.0**
PLAI				S	**Sn**	**12 18 08.6**	**-6.8**
MMRI	**Maumere**	**4.13**	**36**	P	**Pn**	**12 17 34.1**	**-3.8**
MMRI	**Maumere**	**4.13**	**36**	*e*Pn	**Pn**	**12 17 35.0**	**-2.9**
TWSI	**Taliwang, Sumb**	**4.34**	**318**	P	**Pn**	**12 17 38.5**	**-2.3**
SOEI	**Soe**	**4.93**	**63**	P	**Pn**	**12 17 50.2**	**+1.3**
SOEI	**Soe**	**4.93**	**63**	*e*Pn	**Pn**	**12 17 50.3**	**+1.3**
IGBI	**Denpasar**	**5.57**	**304**	P	**Pn**	**12 17 55.7**	**-2.0**
IGBI				S	**Sn**	**12 18 55.2**	**-5.3**
DNP	**Denpasar**	**5.60**	**306**	S	**Sn**	**12 18 57.2**	**-4.1**
BSSI	**Bau Bau, Buton**	**5.88**	**7**	P	**Pn**	**12 17 59.3**	**-2.6**
	158nm,0.8s,2μm0.8nm						
BSSI				S	**Sn**	**12 19 07.0**	**-1.1**
	158nm,0.8s,2μm0.8nm						
SRBI	**Singaraja**	**5.97**	**310**	P	**Pn**	**12 18 01.7**	**-1.5**
	83nm,1.3s,1μm0.4nm						
SRBI				S	**Sn**	**12 19 08.0**	**-2.4**
	83nm,1.3s,1μm0.4nm						
JAGI	**Jajag, Banyuwa**	**6.58**	**302**	P	**Pn**	**12 18 09.5**	**-2.1**
	113nm,0.7s,3μm1.3nm						
JAGI				S	**Sn**	**12 19 17.5**	**-7.9**
	113nm,0.7s,3μm1.3nm						
JAGI	**Jajag, Banyuwa**	**6.58**	**302**	*e*Pn	**Pn**	**12 18 09.2**	**-2.3**
BBSI	**Bau Bau**	**7.04**	**23**	P	**Pn**	**12 18 16.8**	**-1.1**
	22nm,0.8s,234nm0.1nm						
BNSI	**Bone**	**7.57**	**2**	P	**Pn**	**12 18 26.5**	**+1.3**
	56nm,0.8s,690nm						
KMMI	**Kalianget**	**7.58**	**310**	P	**Pn**	**12 18 24.4**	**-0.9**
	102nm,1.2s						
SPSI	**Sidrap Palu**	**8.00**	**360**	P	**Pn**	**12 18 31.1**	**0.0**
	53nm,0.7s,4μm						
FITZ	**Fitzroy Crossi**	**8.27**	**138**	Pn	**Pn**	**12 18 33.2**	**-1.6**
	baz=360,slow=9.8						
KDI	**Kendari**	**8.48**	**19**	P	**Pn**	**12 18 38.7**	**+1.0**
	42nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**8.91**	**0**	P	**Pn**	**12 18 43.9**	**+0.3**
	48nm,0.6s,504nm						
MBWA	**Marble Bar**	**9.09**	**180**	*e*Pn	**Pn**	**12 18 44.0**	**-2.1**
UGM	**Wanagama**	**10.00**	**293**	P	**Pn**	**12 18 56.9**	**-1.7**
	175nm,0.9s						
UGM	**Wanagama**	**10.00**	**293**	*e*Pn	**Pn**	**12 18 57.0**	**-1.7**
PCI	**Palu**	**11.04**	**0**	P	Pn	12 19 20.2	+7.4
MTN	**Manton Dam**	**11.10**	**95**	*e*Pn	**Pn**	**12 19 13.1**	**-0.5**
SANI	**Sanana**	**11.65**	**32**	P	**Pn**	**12 19 19.7**	**-1.4**
	18nm,1.1s						
MPSI	**Mapaga**	**12.27**	**0**	P	P	12 19 51.0	+10
BNDI	**Bandanaira**	**12.46**	**54**	P	**Pn**	**12 19 31.9**	**-0.3**
	86nm,0.6s						
MSAI	**Masohi**	**12.49**	**47**	P	**Pn**	**12 19 32.8**	**+0.2**
	12nm,0.7s						
CISI	**Cisompet, Garu**	**12.61**	**289**	P	**Pn**	**12 19 32.6**	**-1.7**
	85nm,0.8s,5μm						
CISI	**Cisompet, Garu**	**12.61**	**289**	*e*Pn	**Pn**	**12 19 34.0**	**-0.3**
CISI				*e*Sn	**Sn**	**12 21 47.3**	**-6.4**
LBMI	**Labuha**	**13.65**	**35**	P	**Pn**	**12 19 49.0**	**+0.6**
	75nm,1.0s,849nm						
FAKI	**Fak Fak**	**15.29**	**55**	P	**Pn**	**12 20 07.0**	**-3.6**
	50nm,0.7s,548nm						
FAKI	**Fak Fak**	**15.29**	**55**	*e*Pn	**Pn**	**12 20 08.0**	**-2.6**
	39nm,0.7s						
SWI	**Sorong**	**15.88**	**47**	P	**Pn**	**12 20 14.2**	**-4.0**
	90nm,0.5s,1μm						
WR1	**Warramunga Arr**	**16.04**	**121**	*e*Pn	**Pn**	**12 20 16.4**	**-3.9**
	22nm,0.6s						
WR1				*e*Sn	Sn	12 23 03.4	-14
WRA	**Warramunga Arr**	**16.04**	**121**	Pn	**Pn**	**12 20 16.4**	**-3.9**
	3.0nm,0.3s,baz=294,slow=13,SNR=147						
WRA				Sn	Sn	12 23 03.4	-14
	1.7nm,0.3s,baz=296,slow=23,SNR=9.9						
WRA				LR	LR	12 26 21.9	
	comp=Z,124nm,19.5s,baz=280,slow=37						
WRAB	**Tennant Creek**	**16.04**	**121**	*c i*P	**Pn**	**12 20 16.2**	**-4.1**
WRAB				pmax	pmax		
	comp=Z,38nm,0.6s						
WRAB	**Tennant Creek**	**16.04**	**121**	*e*Pn	**Pn**	**12 20 16.7**	**-3.6**
	comp=Z,20nm,0.6s						
WB2	**Warramunga Arr**	**16.05**	**121**	*e*Pn	**Pn**	**12 20 16.0**	**-4.4**
WB2				*e*Pn	**P**	**12 20 16.8**	**-6.7**
SBUM	**Sibu**	**16.23**	**332**	*e*Pn	**Pn**	**12 20 23.4**	**+0.7**
	comp=Z,9.1nm,0.7s						
KSM	**Kuching**	**16.39**	**324**	*e*Pn	**Pn**	**12 20 24.0**	**-0.7**
	comp=Z,29nm,0.9s						
KLSI		**16.58**	**295**	P	P	12 20 38.9	+10
SGSI	**Sangihe**	**16.61**	**20**	P	**Pn**	**12 20 28.4**	**+0.9**
MYLDM	**Lahad Datu**	**17.13**	**356**	*e*Pn	**Pn**	**12 20 33.4**	**-0.6**
	comp=Z,29nm,1.0s						
MDSI	**Maura Dua**	**17.16**	**295**	P	P	12 20 44.5	+8.7
AS31	**Alice Springs**	**17.72**	**133**	*e*Pn	**Pn**	**12 20 39.9**	**-1.4**
	comp=Z,23nm,0.8s						
ASAR	**Alice Springs**	**17.72**	**133**	P	**Pn**	**12 20 40.5**	**-0.9**
	comp=Z,4.1nm,0.3s,baz=308,slow=12,SNR=545						
ASAR				S	Sn	12 23 46.5	-11
	comp=Z,0.9nm,0.3s,baz=315,slow=24,SNR=7.9						
ASAR				LR	LR	12 27 18.4	
	comp=Z,128nm,19.6s,baz=304,slow=36						
AS01	**Alice Springs**	**17.75**	**133**	*e*Pn	**Pn**	**12 20 39.7**	**-2.0**
LHSI	**Lahat**	**18.05**	**295**	P	**P**	**12 20 49.0**	**+3.4**
DSRI	**Dabo**	**18.96**	**306**	P	Pn	12 21 06.8	+10
FORT	**Forrest**	**20.18**	**159**	*e*P	**P**	**12 21 09.8**	**+1.0**
	comp=Z,522nm,0.6s						
NWAO	**Narrogin (SRO)**	**20.95**	**186**	P	**P**	**12 21 17.4**	**+0.3**
	comp=Z,32nm,0.6s,baz=242,slow=9.6,SNR=23						
NWAO				S	S	12 24 55.6	-13
	comp=Z,11nm,0.6s,baz=90,slow=4.0,SNR=3.4						
NWAO				LR	LR	12 28 29.2	
	comp=Z,256nm,20.9s,baz=220,slow=34						
NWAO	**Narrogin (SRO)**	**20.95**	**186**	*e*P	**P**	**12 21 17.4**	**+0.3**
NWAO				*e*P	**P**	**12 21 17.8**	**+0.7**
NWAO				*e*S	S	12 24 55.6	-13
MYKOM	**Kota Tinggi**	**20.96**	**310**	*e*P	**P**	**12 21 16.3**	**-1.1**
	comp=Z,26nm,0.9s						
COEN	**Coen**	**22.86**	**97**	*e*P	**P**	**12 21 37.4**	**-0.4**
	comp=Z,7.8nm,0.8s						
IPM	**Ipoh**	**24.84**	**310**	*e*P	**P**	**12 21 56.7**	**+0.1**
	comp=Z,29nm,0.8s						
PSI	**Prapat**	**25.44**	**304**	P	**P**	**12 22 03.4**	**+1.2**
	comp=Z,7.8nm,0.8s,baz=157,slow=13,SNR=6.1						
PSI				LR	LR	12 33 11.2	
	comp=Z,127nm,18.8s,baz=218,slow=39						
BBOO	**Buckleboo**	**25.51**	**147**	*e*P	**P**	**12 22 02.8**	**+0.3**
	comp=Z,21nm,0.7s						
TGY	**Tagaytay City**	**25.98**	**3**	P	**P**	**12 22 06.1**	**-0.7**
	comp=Z,246nm,0.3s,baz=187,slow=7.4,SNR=6.8						
CTA	**Charters Tower**	**26.63**	**111**	P	**P**	**12 22 13.6**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=263,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**28.17**	**138**	P	**P**	**12 22 27.1**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=317,slow=10,SNR=7.0						
STKA				LR	LR	12 35 35.0	
	comp=Z,128nm,18.1s,baz=309,slow=40						
STKA	**Stephens Creek**	**28.17**	**138**	*e*P	**P**	**12 22 26.5**	**+0.1**
	comp=Z,2.2nm,0.9s						
CM01	**Chiang Mai Arr**	**36.57**	**325**	*e*P	**P**	**12 23 41.0**	**+0.9**
CM31	**Chiang Mai Arr**	**36.61**	**325**	*e*P	**P**	**12 23 40.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**36.61**	**325**	P	**P**	**12 23 40.9**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=154,slow=6.1,SNR=11						
CMAR				LR	LR	12 38 45.9	
	comp=Z,72nm,18.8s,baz=184,slow=36						
ENH	**Enshi**	**43.20**	**347**	*e*P	**P**	**12 24 35.0**	**0.0**
	comp=Z,18nm,1.2s						
NJ2	**Nanjing**	**43.83**	**359**	*e*P	**P**	**12 24 40.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
CD2	**Chengdu**	**45.38**	**341**	*e*P	**P**	**12 24 53.6**	**+1.2**
JNU	**Nakatsue**	**46.11**	**13**	P	**P**	**12 24 54.2**	**-3.9**
	comp=Z,4.9nm,0.9s,baz=147,slow=2.6,SNR=3.9						
JNU	**Nakatsue**	**46.11**	**13**	*e*P	**P**	**12 24 56.9**	**-1.3**
	comp=Z,7.0nm,1.0s						
H08S2	**Diego Garcia H**	**46.77**	**271**	T	T	13 15 04.5	
	baz=97,slow=75,SNR=39						
H08S3	**Diego Garcia H**	**46.78**	**271**	T	T	13 15 06.6	
	baz=97,SNR=31						
H08S1	**Diego Garcia H**	**46.79**	**271**	T	T	13 15 05.0	
	baz=97,slow=75,SNR=37						
XAN	**Xi'an**	**46.95**	**348**	P	**P**	**12 25 06.8**	**+2.0**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,73nm,7.3s						
KS15	**Wonju Array Si**	**49.78**	**8**	*e*P	**P**	**12 25 26.1**	**-0.3**
KSAR	**Wonju Array Be**	**49.78**	**8**	P	**P**	**12 25 26.1**	**-0.3**
KSRS	**Korea Array**	**49.80**	**8**	P	**P**	**12 25 26.1**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=186,slow=8.4,SNR=13						
KS01	**Wonju Array Si**	**49.81**	**8**	*e*P	**P**	**12 25 25.3**	**-1.4**
TAPN	**Taplejung**	**50.00**	**322**	*e*P	**P**	**12 25 28.7**	**0.0**
	comp=Z,39nm,1.0s						
HYB	**Hyderabad**	**50.15**	**305**	*i* P	**P**	**12 25 28.5**	**-1.2**
LZH	**Lanzhou**	**50.16**	**343**	*e*P	**P**	**12 25 32.9**	**+3.3**
LZH				pP	pP	12 25 35.9	-4.2
LZH				sP	sP	12 25 37.8	-6.4
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
RAMN	**Ramite**	**50.39**	**321**	*e*P	**P**	**12 25 31.5**	**-0.1**
	comp=Z,24nm,0.7s						
JIRN	**Jiri**	**51.16**	**321**	*e*P	**P**	**12 25 37.1**	**-0.4**
	comp=Z,21nm,0.6s						
MJAR	**Matsushiro Arr**	**51.32**	**19**	P	**P**	**12 25 36.5**	**-1.7**
	comp=Z,3.9nm,0.9s,baz=188,slow=7.2,SNR=8.6						
MAJO	**Matsushiro**	**51.32**	**19**	*e*P	**P**	**12 25 35.8**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**51.53**	**321**	*e*P	**P**	**12 25 40.0**	**-0.2**
	comp=Z,24nm,0.6s						
PKIN	**Phulchoki**	**51.59**	**320**	*e*P	**P**	**12 25 40.4**	**-0.2**
DMN	**Daman**	**51.79**	**320**	*e*P	**P**	**12 25 41.9**	**-0.2**
KWAJ	**Kwajalein Atol**	**51.84**	**69**	*i* P	**P**	**12 25 41.2**	**-1.2**
GKN	**Gorkha**	**52.37**	**320**	*e*P	**P**	**12 25 45.6**	**-0.7**
KOLN	**Koldanda**	**52.86**	**319**	*e*P	**P**	**12 25 49.4**	**-0.6**
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**53.15**	**352**	*e*P	**P**	**12 25 54.4**	**+2.7**
HHC				S	**S**	**12 33 24.5**	**+4.4**
HHC				ScS	**ScS**	**12 35 40.1**	**+1.3**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,5.2s						
HHC				LR	LR		
	comp=Z,86nm,15.7s						
HHC				LR	LR		
	comp=Z,210nm,15.1s						
HHC				LR	LR		
	comp=Z,56nm,14.5s						
GTA	**Gaotai**	**54.44**	**341**	*e*P	**P**	**12 26 04.9**	**+3.6**
GTA				pP	pP	12 26 09.3	-2.6
GTA				sP	sP	12 26 12.4	-3.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**57.04**	**10**	P	**P**	**12 26 16.4**	**-3.2**
	comp=Z,1.4nm,0.6s,baz=141,slow=5.5,SNR=3.6						
MDJ	**Mudanjiang**	**57.06**	**8**	P	**P**	**12 26 21.5**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,45nm,4.2s						
ULN	**Ulaanbaatar**	**60.69**	**350**	*e*P	**P**	**12 26 45.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**60.69**	**350**	*e*P	**P**	**12 26 45.2**	**+0.1**
	comp=Z,7.2nm,1.0s						
SONA0	**Songino Array**	**60.77**	**350**	*e*P	**P**	**12 26 45.6**	**0.0**
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**60.77**	**350**	P	**P**	**12 26 45.6**	**0.0**
	comp=Z,11nm,0.8s,baz=168,slow=8.0,SNR=12						
SONA1	**Songino Array**	**60.78**	**350**	*e*P	**P**	**12 26 46.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**62.20**	**18**	*e*P	**P**	**12 26 52.9**	**-2.2**
YSS				pmax	pmax		
	comp=Z,13nm,1.2s						
WMQ	**Urumqi**	**62.80**	**334**	P	**P**	**12 27 01.1**	**+1.8**
WMQ				pP	pP	12 27 05.8	-4.2
WMQ				sP	sP	12 27 08.1	-6.0
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.9s						
WMQ				LR	LR		
	comp=Z,41nm,14.7s						
ZAK	**Zakamensk**	**63.79**	**348**	*e*P	**P**	**12 27 05.5**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TLY	**Talaya**	**64.96**	**349**	*e*P	**P**	**12 27 12.1**	**-1.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MOY	**Mondy**	**65.48**	**347**	*e*P	**P**	**12 27 21.1**	**+4.3**
KSH	**Kashi**	**65.49**	**324**	P	**P**	**12 27 20.3**	**+3.2**
KSH				pP	pP	12 27 24.5	-3.4
KSH				sP	sP	12 27 26.8	-5.2
KSH				*e*PcP	**PcP**	**12 27 49.4**	**+0.6**
KSH				PP	**PP**	**12 29 47.0**	**+5.3**
KSH				PcS		12 31 54.1	
KSH				S	**S**	**12 36 03.4**	**+3.6**
KSH				ScS	**ScS**	**12 37 11.4**	**+1.2**
KSH				SS	**SS**	**12 40 19.4**	**+5.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,88nm,5.1s						
KSH				LR	LR		
	comp=Z,75nm,6.6s						
KSH				LR	LR		
	comp=Z,90nm,8.2s						
KSH				LR	LR		
	comp=Z,160nm,5.9s						
MAW	**Mawson**	**66.69**	**200**	P	**P**	**12 27 24.2**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=64,slow=9.1,SNR=8.4						
MAW				LR	LR	12 53 20.0	
	comp=Z,138nm,18.4s,baz=54,slow=33						
MAW	**Mawson**	**66.69**	**200**	*e*P	**P**	**12 27 25.1**	**+0.9**
	comp=Z,0.8nm,0.9s						
MK01	**Makanchi Array**	**67.46**	**333**	*e*P	**P**	**12 27 29.1**	**-0.3**
MK31	**Makanchi Array**	**67.48**	**333**	*e*P	**P**	**12 27 29.4**	**-0.2**
MK32	**Makanchi Array**	**67.48**	**333**	*e*P	**P**	**12 27 29.4**	**-0.2**
MKAR	**Makanchi Array**	**67.48**	**333**	P	**P**	**12 27 29.4**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=148,slow=6.7,SNR=16						
MKAR	**Makanchi Array**	**67.48**	**333**	*c e*P	**P**	**12 27 29.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**67.48**	**333**	*e*P	**P**	**12 27 29.3**	**-0.3**
	comp=Z,34nm,0.8s						
AAK	**Ala-Archa**	**68.40**	**326**	P	**P**	**12 27 35.8**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=141,slow=2.9,SNR=4.7						
AAK	**Ala-Archa**	**68.40**	**326**	*e*P	**P**	**12 27 35.7**	**+0.1**
	comp=Z,3.3nm,0.7s						
VNDA	**Vanda**	**68.90**	**171**	P	**P**	**12 27 38.7**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=292,slow=5.5,SNR=6.7						
VNDA	**Vanda**	**68.90**	**171**	P	**P**	**12 27 38.7**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**68.90**	**171**	*e*P	**P**	**12 27 39.0**	**+1.0**
	comp=Z,9.1nm,1.5s						
BOD	**Bodaibo**	**69.75**	**357**	*e*P	**P**	**12 27 46.2**	**+2.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**72.03**	**334**	*e*P	**P**	**12 27 57.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,29nm,1.7s						
KURK	**Kurchatov**	**72.03**	**334**	*e*P	**P**	**12 27 57.3**	**-0.2**
	comp=Z,4.0nm,0.9s						
ZAA0	**Zalesovo Array**	**72.12**	**339**	*e*P	**P**	**12 27 56.9**	**-1.0**
ZAA0				*e*P	**P**	**12 27 57.3**	**-0.7**
ZALV	**Zalesovo Beam**	**72.12**	**339**	P	**P**	**12 27 56.8**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=153,slow=4.0,SNR=11						
ZAA1	**Zalesovo Array**	**72.13**	**339**	*e*P	**P**	**12 27 56.8**	**-1.2**
PETK	**Petropavlovsk-**	**72.52**	**23**	P	**P**	**12 28 01.2**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=229,slow=3.3,SNR=2.9						
PETK	**Petropavlovsk-**	**72.52**	**23**	P	**P**	**12 28 01.2**	**+0.9**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PEA1	**Petropavlovsk-**	**72.52**	**23**	*e*P	**P**	**12 28 01.2**	**+0.8**
NVS	**Novosibirsk**	**73.39**	**339**	*e*P	**P**	**12 28 04.1**	**-1.4**
BRVK	**Borovoye**	**77.38**	**332**	*e*P	**P**	**12 28 29.7**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRVK	**Borovoye**	**77.38**	**332**	*e*P	**P**	**12 28 28.9**	**+0.5**
	comp=Z,6.3nm,1.3s						
QSPA	**South Pole Qui**	**78.00**	**180**	*e*P	**P**	**12 28 32.7**	**+0.8**
	comp=Z,6.0nm,1.2s						
SEY	**Seymchan**	**78.86**	**15**	*i* P	**P**	**12 28 37.2**	**+0.8**
ABKAR	**Akbulak array**	**80.47**	**325**	*e*P	**P**	**12 28 45.8**	**+0.4**
	comp=Z,19nm,0.6s						
RAYN	**Ar Rayn**	**80.74**	**296**	*e*P	**P**	**12 28 48.0**	**+0.4**
	comp=Z,5.7nm,1.2s						
ARU	**Arti**	**84.86**	**331**	*c i*P	**P**	**12 29 08.2**	**+0.1**
ARU				S	**S**	**12 39 30.6**	**-3.3**
ARU				SS	**SS**	**12 45 03.5**	**-3.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BILL	**Bilibino**	**86.46**	**16**	*e*P	**P**	**12 29 14.0**	**-1.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BOSA	**Boshof**	**88.26**	**241**	LR	LR	13 03 22.0	
	comp=Z,44nm,18.5s,baz=89,slow=32						
SNAA	**Sanae**	**88.32**	**195**	*e*P	**P**	**12 29 25.4**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,260nm,1.0s						
SNAA	**Sanae**	**88.32**	**195**	*e*P	**P**	**12 29 26.6**	**+1.6**
	comp=Z,5.5nm,0.9s						
LSZ	**Lusaka**	**88.42**	**255**	*e*P	**P**	**12 29 27.6**	**+1.0**
	comp=Z,5.7nm,0.8s						
OBN	**Obninsk**	**95.92**	**325**	*i* P	**P**	**12 29 56.3**	**-3.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**99.56**	**320**	*e*P	**Pdif**	**12 30 15.6**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ILAR	**Eielson Array**	**102.19**	**26**	P	**Pdif**	**12 30 28.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=251,slow=5.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**119.72**	**278**	PKP	**PKPdf**	**12 35 24.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=40,slow=1.4,SNR=5.6						
TOA1	**Torodi Ar. Sit**	**119.72**	**278**	*e*PKPdf	**PKPdf**	**12 35 24.6**	**-0.1**
HLID	**Hailey**	**123.92**	**45**	*e*PKPdf	**PKPdf**	**12 35 33.7**	**+1.6**
LCMT	**Little Creek M**	**126.50**	**53**	*e*PKPdf	**PKPdf**	**12 35 39.2**	**+1.9**
U15A	**North Rim**	**127.38**	**53**	*e*PKPdf	**PKPdf**	**12 35 41.5**	**+2.3**
PD31	**Pinedale Array**	**127.53**	**45**	*e*PKPdf	**PKPdf**	**12 35 40.4**	**+1.2**
PDAR	**Pinedale Array**	**127.53**	**45**	PKP	**PKPdf**	**12 35 40.4**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=299,slow=1.5,SNR=3.6						
MNTX	**Cornudas Mount**	**134.11**	**57**	*e*PKPdf	**PKPdf**	**12 35 54.2**	**+2.6**
TXAR	**Lajitas Array**	**136.12**	**60**	PKP	**PKPdf**	**12 35 57.1**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=263,slow=1.9,SNR=6.2						
WCI	**Wyandotte Cave**	**145.03**	**37**	*e*PKPdf	**PKPdf**	**12 36 11.8**	**+0.5**
OXF	**Oxford**	**145.27**	**45**	*e*PKPbc	**PKPdf**	**12 36 12.8**	**+1.0**
WVT	**Waverly**	**145.40**	**41**	*e*PKPbc	**PKPab**	**12 36 13.1**	**+1.0**
SWET	**Sewanee**	**147.18**	**41**	*e*PKPdf	**PKPbc**	**12 36 17.3**	**0.0**
LRAL	**Lakeview Retre**	**147.76**	**45**	*e*PKPdf	**PKPdf**	**12 36 17.4**	**+1.4**
TKL	**Tuckaleechee C**	**148.25**	**38**	*e*PKPdf	**PKPdf**	**12 36 17.3**	**+0.5**
BDFB	**Brasilia**	**149.99**	**204**	PKPbc	**PKPbc**	**12 36 25.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=120,slow=20,SNR=3.1						
LPAZ	**La Paz**	**150.80**	**164**	PKPbc	**PKPbc**	**12 36 29.1**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=248,slow=5.2,SNR=11						
LPAZ	**La Paz**	**150.80**	**164**

JTJ	Tarama	1.93	89	S	Sn	12 19 26.0	-0.5
ALS	Alishan	1.97	236	eP	Pn	12 19 04.1	+0.4
	baz=228						
ALS				eS	Sn	12 19 28.7	+0.7
	baz=228						
CHN5	Tsauling	2.02	240	eP	Pn	12 19 04.6	+0.4
	baz=248						
CHN5				S	Sn	12 19 31.1	+2.1
	baz=248						
ELDTW	Lidau	2.03	225	eP	Pn	12 19 03.0	-1.3
	baz=221						
ELDTW				eS	Sn	12 19 28.2	-0.9
	baz=221						
STYT	Tauyuan	2.22	229	eP	Pn	12 19 08.2	+1.4
	baz=221						
CHN4	Tsaushan	2.22	235	eP	Pn	12 19 07.3	+0.5
	baz=234						
CHN4				eS	Sn	12 19 36.0	+2.4
	baz=234						
WTP	Ta-pu	2.27	233	eP	Pn	12 19 08.1	+0.7
	baz=231						
CHN1	Nanshi	2.37	233	eP	Pn	12 19 08.7	0.0
	baz=232						
CHN1				eS	Sn	12 19 39.6	+2.5
	baz=232						
LAY	Lan-yu	2.75	200	eP	Pn	12 19 12.6	-1.2
	baz=200						

*IDC **13** 12:51:09.0±1.5, 24.°10S×179.°99E, h496km±15km, mb3.5/13, mb1 3.7/15, mb1mx3.6/32, mbtmp4.4/15, Error ellipse: s-maj=15.4km s-min=13.6km az=101.0*
*ISCJB **13** 12:51:10.6±0.6, 24.°18S±0.°08×179.°8E±0.°1, h526km, mb3.9/13, Error ellipse: s-maj=13.2km s-min=10.1km az=8.5*
ISC 13 12:51:11.6±0.5, 24.°25S±0.°09×179.°9E±0.°1, h526km, n24, σ1s40/33, mb3.9/13, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.96	39	P	P	12 53 54.1	-6.1
	3.5nm,0.3s,baz=248,slow=5.4,SNR=7.4						
AFI				S	S	12 56 05.2	-14
	1.9nm,0.3s,baz=229,slow=19,SNR=4.5						
URZ	Urewera	14.16	189	P	P	12 54 11.4	-1.0
	4.3nm,0.3s,baz=28,slow=2.0,SNR=19						
URZ				S	S	12 56 38.9	-2.7
	0.8nm,0.3s,baz=25,slow=19,SNR=11						
HNR	Honiara	24.06	304	P	P	12 55 44.1	-1.3
	39nm,0.5s,baz=175,slow=3.2,SNR=7.5						
STKA	Stephens Creek	34.49	249	P	P	12 57 16.4	+0.7
	0.6nm,0.4s,baz=84,slow=8.4,SNR=6.2						
ASAR	Alice Springs	41.87	261	P	P	12 58 16.3	+0.5
	3.8nm,0.8s,baz=94,slow=7.6,SNR=51						
ASAR				ScP	ScP	13 03 03.0	+3.3
	2.5nm,0.9s,baz=110,slow=4.2,SNR=14						
ASAR				S	S	13 03 55.8	-0.1
	0.8nm,0.8s,baz=101,slow=14,SNR=6.1						
WRA	Warramunga Arr	42.28	267	P	P	12 58 18.9	-0.1
	9.3nm,0.6s,baz=103,slow=8.3,SNR=100						
WRA				ScP	ScP	13 03 04.1	+2.8
	4.5nm,1.0s,baz=99,slow=4.2,SNR=15						
WRA				S	S	13 04 00.0	-1.7
	3.1nm,1.2s,baz=100,slow=13,SNR=5.8						
VNDA	Vanda	54.02	185	P	P	12 59 47.3	+1.6
	1.1nm,0.5s,baz=26,slow=7.7,SNR=7.1						
VNDA				PcP	PcP	13 00 43.7	+1.2
	1.8nm,0.7s,baz=350,slow=5.8,SNR=5.5						
MJAR	Matsushiro Arr	72.13	326	P	P	13 01 42.7	0.0
	1.7nm,0.7s,baz=156,slow=6.2,SNR=7.0						
MAW	Mawson	77.38	200	P	P	13 02 12.8	+1.1
	4.1nm,0.6s,baz=131,slow=6.0,SNR=24						
KSRS	Korea Array	78.45	320	P	P	13 02 18.3	+0.4
	0.9nm,0.6s,baz=142,slow=5.5,SNR=6.4						
PFO	Pinyon Flats O	83.52	49	P	P	13 02 43.8	-0.6
	1.7nm,0.7s,baz=233,slow=2.2,SNR=3.5						
SNAA	Sanae	84.32	179	P	P	13 02 47.3	-0.3
	2.0nm,0.5s,baz=200,slow=8.7,SNR=19						
TXAR	Lajitas Array	90.71	58	P	P	13 03 19.2	+0.7
	3.0nm,0.7s,baz=212,slow=6.5,SNR=33						
ILAR	Eielson Array	92.40	14	P	P	13 03 23.2	-2.1
	0.3nm,0.6s,baz=228,slow=5.3,SNR=5.8						
PDAR	Pinedale Array	93.02	44	P	P	13 03 28.5	-0.5
	0.9nm,0.8s,baz=209,slow=3.9,SNR=7.9						
GEYT	Alibeck	129.05	300	PKP	PKPdf	13 09 20.2	+0.4
	2.1nm,0.7s,baz=73,slow=11,SNR=3.5						
GEYT				SKPbc	SKPbc	13 11 52.4	+0.6
	2.1nm,0.7s,baz=169,slow=2.9,SNR=3.7						
ARCES	ARCESS Array B	132.21	348	PKP	PKPdf	13 09 24.2	-0.6
	1.9nm,0.9s,baz=45,slow=1.6,SNR=6.2						
FINES	FINESS Array B	138.74	341	SKPbc	SKPbc	13 12 23.7	+1.3
	2.1nm,0.6s,baz=50,slow=3.0,SNR=8.2						
AKASG	Malin Array Be	145.21	327	PKPbc	PKPdf	13 09 49.2	+0.4
	1.4nm,0.5s,baz=45,slow=3.6,SNR=7.2						
AKASG				SKPbc	SKiKP	13 12 40.7	+1.5
	2.7nm,0.8s,baz=46,slow=2.2,SNR=8.0						
BRTR	Keskin Array B	147.70	307	PKPbc	PKPbc	13 09 57.4	+0.1
	1.2nm,0.6s,baz=143,slow=7.3,SNR=4.0						
CLL	Collm	151.16	343	⇑PKPbc	PKPbc	13 10 05.0	0.0
	comp=Z,9.0nm,0.8s						
CLL				i PKPab	PKPab	13 10 12.7	-2.5
CLL				eP PKPab	pPKPbc	13 12 10.0	+1.9
BRG	Berggiesshubel	151.28	341	i PKP	PKPbc	13 10 05.5	+0.2
	comp=Z,6.7nm,0.6s						
BRG				e		13 12 10.5	
	comp=Z,7.6nm,1.1s						
GERES	GERESS Array B	153.15	340	PKPbc	PKPbc	13 10 09.5	-0.1
	comp=Z,0.3nm,0.2s,baz=77,slow=4.2,SNR=3.8						
TORD	Torodi Ar. Bea	168.82	189	PKP	PKPdf	13 10 18.1	-0.8
	comp=Z,1.6nm,1.1s,baz=217,slow=3.6,SNR=5.5						
TORD				PKPab	PKPab	13 11 32.9	-0.1
	comp=Z,2.3nm,0.8s,baz=184,slow=3.8,SNR=13						

*NIED **13** 13:08:00, 38.°40N×142.°20E, h44km, Mw3.5 Best double couple: M0=1.93000×10^14 NP1:φ=64.00000°, δ=68.00000°, λ=159.00000°. NP2:φ=162.00000°, δ=71.00000°, λ=24.00000°.*
JMA 13 13:08:59.3±0.1, 38.°41N×142.°24E, h21km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.70	274	P	Pb	13 09 13.0	+0.2
JIO				eS	Sb	13 09 21.7	-0.4
OFUJ	Ofunato	0.80	326	P	Pb	13 09 14.6	0.0
OFUJ				eS	Sb	13 09 25.1	+0.1
JMK	Ichinoseki	0.96	304	P	Pb	13 09 17.2	-0.1
JMK				eS	Sb	13 09 29.9	+0.3
JOU	Okura	1.24	268	P	Pn	13 09 21.6	+0.2
JOU				eS	Sb	13 09 37.7	+0.2
JMM	Marumori	1.26	245	P	Pn	13 09 20.9	-0.8
JMM				eS	Sn	13 09 36.4	-1.6
JOM	Ohasama	1.29	325	P	Pn	13 09 22.3	+0.2
JOM				eS	Sb	13 09 39.2	+0.1
JFK	Kawauchi	1.50	226	P	Pn	13 09 23.7	-1.3
JYK	Kaneyama	1.56	290	P	Pn	13 09 26.1	+0.3

*IDC **13** 13:15:09.1±1.1, 10.°89N×125.°75E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/39, mbtmp4.0/8, Error ellipse: s-maj=66.0km s-min=17.4km az=64.0*
*ISCJB **13** 13:15:20.7±0.6, 10.°72N±0.°04×125.°59E±0.°07, h108km±5km, mb3.9/8, Error ellipse: s-maj=12.3km s-min=6.2km az=168.0*
*MAN **13** 13:15:21, 10.°75N×125.°51E, h99km, mb4.6, ML3.5, MS3.4*
ISC 13 13:15:21.1±0.9, 10.°79N±0.°04×125.°70E±0.°07, h96km±8km, n27, σ1s96/30, mb4.0/8, 2C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.80	298	⇑iP	Pn	13 15 39.1	0.0
PLP				i S	Sn	13 15 51.4	-1.2
BESP	Borongan	0.85	342	eP	Pn	13 15 41.2	+1.6
BESP				eS	Sn	13 15 55.8	+2.3
MSLP	Maasin	1.05	232	eP	Pn	13 15 41.6	-0.2
MSLP				eS	Sn	13 15 56.8	-0.5
OCLP	Ormoc	1.10	284	eP	Pn	13 15 42.6	+0.2
OCLP				eS	Sn	13 15 58.0	-0.4
LLP	Lapu-Lapu	1.77	255	⇓eP	Pn	13 15 49.9	-0.6
LLP				eS	Sn	13 16 09.3	-3.6
CNP	Catarman	1.99	329	eP	Pn	13 15 54.8	+1.4
CNP				eS	Sn	13 16 19.6	+1.5
BIPH	Bislig	2.67	166	⇓eP	Pn	13 16 02.2	0.0
BIPH				i S	Sn	13 16 31.3	-2.6
SNPH	Sibulan	2.82	240	⇓iP	Pn	13 16 05.9	+1.6
SNPH				i S	Sn	13 16 43.6	+5.9
BUKP	Musuan	2.96	192	eP	Pn	13 16 07.0	+0.8
BUKP				eS	Sn	13 16 44.1	+3.2
RCP	Roxas	3.00	285	⇑eP	Pn	13 16 06.9	+0.2
PVCP	Virac	3.18	332	eP	Pn	13 16 09.9	+0.8
PAGZ	Pagadian	3.71	218	eP	Pn	13 16 19.1	+2.8
MATI	Mati	3.85	172	eP	Pn	13 16 20.0	+1.7
MATI				eS	Sn	13 16 51.3	-11
CMAR	Chiang Mai Arr	26.96	290	P	P	13 20 52.4	-1.5
	0.7nm,0.6s,baz=108,slow=6.9,SNR=5.4						
WRA	Warramunga Arr	31.70	164	P	P	13 21 34.9	-0.8
	0.3nm,0.6s,baz=346,slow=8.1,SNR=5.6						
ASAR	Alice Springs	35.17	167	P	P	13 22 05.9	0.0
	0.5nm,0.5s,baz=345,slow=6.7,SNR=26						
H11S3	WAKE ISLAND Hy 40.32	74		T	T	14 06 16.5	
	baz=261,slow=74						
H11S1	WAKE ISLAND Hy 40.33	74		T	T	14 06 17.1	
	baz=261,slow=74						
H11S2	WAKE ISLAND Hy 40.33	74		T	T	14 06 17.6	
	baz=261						
H11N1	WAKE ISLAND Hy 40.63	72		T	T	14 06 45.8	
	baz=265,slow=74,SNR=8.3						
H11N2	WAKE ISLAND Hy 40.64	72		T	T	14 06 42.5	
	baz=265,slow=74,SNR=5.5						
H11N3	WAKE ISLAND Hy 40.65	72		T	T	14 06 47.0	
	baz=265,slow=74,SNR=6.8						
STKA	Stephens Creek	45.07	161	P	P	13 23 27.6	0.0
	0.8nm,0.4s,baz=333,slow=6.9,SNR=4.0						
MKAR	Makanchi Array	51.28	323	P	P	13 24 15.6	+0.4
	1.6nm,0.3s,baz=124,slow=8.2,SNR=22						
ZALV	Zalesovo Beam	53.91	331	P	P	13 24 33.0	-1.5
	0.6nm,0.4s,baz=130,slow=6.0,SNR=3.7						
ARCES	ARCESS Array B	83.52	340	P	P	13 27 38.1	+0.1
	2.3nm,0.7s,baz=81,slow=7.5,SNR=7.6						
FINES	FINESS Array B	85.17	332	P	P	13 27 46.1	-0.3
	2.6nm,0.9s,baz=72,slow=6.2,SNR=6.2						

DJA 13 13:19:50.4±0.9, 11.°S±6.°×11.°8E±.°, h21km, M3.7/7, MLv3.7/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.26	347	P	Pn	13 20 26.9	+0.4
PLAI				S	Sn	13 20 54.9	+1.1
TWSI	Taliwang, Sumb	2.68	328	P	Pn	13 20 32.4	+0.1
TWSI				S	Sn	13 21 04.2	0.0
IGBI	Denpasar	3.81	305	P	Pn	13 20 49.8	+1.9
IGBI				S	Sn	13 21 31.2	-0.9
JAGI	Jajag, Banyuwa	4.82	302	P	Pn	13 21 01.4	-0.4
JAGI				S	Sn	13 21 57.8	+0.7

*KRNET **13** 13:30:55.5±0.1, 41.°07N×71.°01E, h15km, mb3.0*
*SOME **13** 13:30:56.8, 40.°95N×71.°10E, h15km*
*ISCJB **13** 13:30:57.8±0.6, 41.°01N±0.°03×71.°02E±0.°04, h10km, Error ellipse: s-maj=4.7km s-min=4.3km az=168.8*
*NNC **13** 13:30:59.9±4.6, 41.°10N×71.°29E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=36.7km s-min=21.3km az=168.0*
ISC 13 13:30:57.3±0.9, 41.°02N±0.°03×71.°14E±0.°03, h10km, n25, σ2s12/48, 22C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.99	194	⇓iP	Pg	13 31 15.8	-0.5
	baz=188						
BTK				⇓iS	Sb	13 31 29.5	-0.2
	baz=188						
ARK	Arkit	1.00	38	⇓eP	Pg	13 31 15.6	-0.9
	baz=45						
ARK				⇓iS	Sg	13 31 29.2	-0.2
	baz=45						
IUG	Iuzhnay	1.40	324	eP	Pb	13 31 22.9	-0.7
	156nm,0.1s						
IUG				eS	Sn	13 31 40.6	-1.0
	183nm,0.2s						
ARSB	Arslanbob	1.43	77	⇑iP	Pg	13 31 24.4	-0.2
	baz=79						
ARSB				⇑iS	Sg	13 31 45.0	+1.9
	baz=79						
TOKL	Toktogul	1.59	54	⇑iP	Pb	13 31 26.8	-0.1
	baz=58						
TOKL				⇑iS	Sg	13 31 49.5	+1.0
	baz=58						
MNAS	Manas	1.79	34	⇑iP	Pb	13 31 29.9	-0.3
	baz=38						
MNAS				⇑iS	Sb	13 31 53.5	+0.7
	baz=38						
MNAS	Manas	1.79	34	⇑P	Pb	13 31 29.9	-0.3
	9.8nm,0.3s						
MNAS				⇑S	Sb	13 31 53.2	+0.4
	14nm,0.3s						
DZA	Taraz	1.88	4	eP	Pg	13 31 32.3	-1.0
	104nm,0.1s						
DZA				eS	Sg	13 31 56.5	-1.2
	726nm,0.3s						
KK31	Karatay Array	2.14	348	⇑Pn	Pb	13 31 34.7	-1.4
	4.8nm,0.3s,baz=149,slow=15,SNR=34						
KK31				⇑Pg	Pg	13 31 38.8	+0.6
	13nm,0.3s						
KK31				⇑Lg	Lg	13 32 03.1	
	38nm,0.3s,baz=140,slow=26,SNR=4.0						
AML	Almayashu	2.22	59	⇓iP	Pn	13 31 35.4	+0.9
	baz=61						
AML				⇓iS	Sb	13 32 06.1	+0.8
	baz=61						
BRLS	Borolday	2.23	335	eP	Pn	13 31 35.1	+0.7
	0.7nm,0.3s						
BRLS				eS	Sn	13 32 01.5	-0.5
	108nm,0.3s						
MRKS	Merke	2.33	41	eP	Pb	13 31 40.1	+0.7
	18nm,0.2s						
MRKS				eS	Sg	13 32 10.1	-1.9
	77nm,0.2s						
ARLS	Aral	2.54	70	⇑eP	Pb	13 31 40.9	-2.1
	baz=71						
ARLS				⇑iS	Sb	13 32 14.9	+0.6
	baz=71						
EKS2	Erkin-Say	2.57	49	⇑iP	Pn	13 31 40.9	+1.9
	baz=51						
EKS2				⇑iS	Sb	13 32 14.3	-0.8
	baz=51						
AAK	Ala-Archa	2.98	56	⇑iP	Pn	13 31 46.9	+2.1
	baz=58						
AAK				⇑iS	Sb	13 32 24.1	-3.1
	baz=58						
AAK	Ala-Archa	2.98	56	⇓Pg	Pb	13 31 51.5	+0.9
	2.9nm,0.4s						
AAK				⇑Lg	Lg	13 32 29.1	
	10nm,0.5s						
KZA	Kyzart	3.26	70	⇑iP	Pn	13 31 50.5	+1.6
	baz=71						
KZA				⇑eS	Sn	13 32 31.1	+3.2
	baz=71						
KBK	Karagaybulak	3.28	59	⇑iP	Pn	13 31 51.0	+2.1
	baz=60						
KBK				⇑iS	Sn	13 32 31.7	+3.6
	baz=60						
USP	Ospenovka	3.36	47	⇓iP	Pn	13 31 51.8	+1.9
	baz=49						
USP				⇓iS	Sn	13 32 32.9	+3.0
	baz=49						
TKM2	Tokmak 2	3.83	59	⇓Pg	Pg	13 32 07.8	-2.8
	1.9nm,0.7s						
TKM2				⇓Lg	Lg	13 32 56.2	
	9.7nm,0.5s						
KST	Kastek	4.12	59	eP	Pg	13 32 13.6	-2.7
	1.0nm,0.1s						
KST				eS	Sg	13 33 06.3	-3.4
	13nm,0.3s						
BTLS	Baital	4.55	27	eP	Pb	13 32 19.5	+2.3
	1.9nm,0.4s						
BTLS				eS	Sb	13 33 16.3	+4.2
	15nm,0.7s						
TNSS	Tian-Shan	4.77	63	eP	Pg	13 32 26.6	-2.1
	2.2nm,0.5s						
TNSS				eS	Sg	13 33 28.1	-2.4
	6.4nm,0.5s						
MDOK	Medeo	4.89	62	eP	Pg	13 32 27.6	-3.3
	2.3nm,0.6s						
MDOK				eS	Sg	13 33 29.5	-4.8
	5.0nm,1.5s						
CHKK	Chushkaly	5.17	55	eP	Pg	13 32 33.5	-2.8
	2.8nm,0.2s						
CHKK				eS	Sg	13 33 39.5	-3.9
	15nm,0.1s						

IDC 13 13:31:42.8±3.0, 8.°84S×110.°67E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/42, mbtmp3.4/3, Error ellipse: s-maj=161.2km s-min=26.2km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.41	118	P	P	13 37 12.5	+0.2
	0.9nm,0.9s,baz=291,slow=11,SNR=7.4						
ASAR	Alice Springs	26.67	126	P	P	13 37 23.6	-0.2
	0.3nm,0.5s,baz=304,slow=9.5,SNR=8.6						
MKAR	Makanchi Array	60.89	338	P	P	13 41 57.3	0.0
	0.2nm,0.4s,baz=148,slow=8.2,SNR=2.6						

IDC 13 13:34:16.2±2.2, 5.°77S×130.°42E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/36, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=96.2km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.12	200	Pn	Pn	13 37 23.1	-0.9
WRA	Warramunga Arr	14.60	165	Pn	Pn	13 37 42.5	-1.7
	0.1nm,0.3s,baz=349,slow=13,SNR=6.5						
WRA				Sn	Sn	13 40 24.3	-2.6
	0.2nm,0.3s,baz=342,slow=22,SNR=5.8						
ASAR	Alice Springs	18.11	170	P	P	13 38 30.6	+0.8
	0.1nm,0.3s,baz=352,slow=10,SNR=13						
MKAR	Makanchi Array	67.43	326	P	P	13 45 13.8	0.0
	0.2nm,0.5s,baz=120,slow=8.2,SNR=2.9						

*IDC **13** 13:36:24.8±1.0, 2.°14S×139.°04E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.0/33, mbtmp4.1/10, ML4.2/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=45.1km s-min=16.7km az=74.0*
*ISCJB **13** 13:36:28.0±0.7, 2.°28S±0.°08×138.°8E±0.°1, h32km, mb4.0/8, MS3.5/6, Error ellipse: s-maj=17.8km s-min=10.6km az=165.2*
*NEIC **13** 13:36:30.7±1.0, 2.°34S×138.°69E, h35km, mb4.1/1, Error ellipse: s-maj=21.9km s-min=13.8km az=62.0*
ISC 13 13:36:30.2±0.9, 2.°45S±0.°08×138.°7E±0.°1, h32km, n19, σ2s37/16, mb4.1/8, MS3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	6.50	266	ePn	Pn	13 38 05.5	+1.9
PMG	Port Moresby	10.86	130	LR	LR	13 44 36.0	
	comp=Z,266nm,20.4s,baz=323,slow=45						
SOEI	Soe	16.10	243	ePn	Pn	13 40 12.3	-2.3
GUMO	Guam	17.06	21	LR	LR	13 46 37.6	
	comp=Z,101nm,18.5s,baz=192,slow=37						
WRAB	Tennant Creek	17.90	194	ePn	Pn	13 40 36.9	+0.1
	8.7nm,0.6s						
WRA	Warramunga Arr	17.91	194	P	P	13 40 39.4	+2.0
	1.1nm,0.3s,baz=15,slow=11,SNR=22						
WRA				S	Sn	13 43 49.6	-6.2
	0.3nm,0.3s,baz=11,slow=22,SNR=4.9						
WRA				LR	LR	13 48 12.3	
	comp=Z,329nm,19.5s,baz=5.0,slow=39						
CTA	Charters Tower	19.01	158	P	Pn	13 40 51.3	+0.9
	0.2nm,0.3s,baz=333,slow=10,SNR=4.9						
ASAR	Alice Springs	21.60	192	P	P	13 41 19.6	+1.9
	1.8nm,0.5s,baz=15,slow=10,SNR=26						
ASAR				S	S	13 45 15.4	0.0
	1.8nm,0.8s,baz=14,slow=24,SNR=7.5						
ASAR				LR	LR	13 50 26.4	
	comp=Z,280nm,18.6s,baz=19,slow=38						
STKA	Stephens Creek	29.39	175	P	P	13 42 32.8	+2.1
	1.9nm,0.6s,baz=340,slow=8.9,SNR=8.1						
STKA				LR	LR	13 56 03.7	
	comp=Z,198nm,19.5s,baz=356,slow=40						
MJAR	Matsushiro Arr	38.79	359	LR	LR	13 57 29.8	
	comp=Z,40nm,20.1s,baz=145,slow=33						
KSRS	Korea Array	40.95	347	LR	LR	13 58 24.7	
	comp=Z,46nm,20.9s,baz=204,slow=32						
CMAR	Chiang Mai Arr	44.33	300	P	P	13 44 38.0	+0.3
	1.4nm,0.9s,baz=123,slow=6.7,SNR=9.0						
PETK	Petropavlovsk-	57.60	13	LR	LR	14 14 59.0	
	comp=Z,20nm,18.0s,baz=222,slow=40						
MKAR	Makanchi Array	69.60	322	P	P	13 47 35.4	-0.9
	2.8nm,0.8s,baz=108,slow=7.8,SNR=13						
ZALV	Zalesovo Beam	71.72	330	P	P	13 47 47.7	-1.3
	1.0nm,0.5s,baz=111,slow=6.3,SNR=5.5						
VNDA	Vanda	76.03	175	P	P	13 48 14.9	+1.0
	1.7nm,0.6s,baz=323,slow=6.8,SNR=9.2						
VNDA				LR	LR	14 21 23.2	
	comp=Z,59nm,18.8s,baz=272,slow=35						
GEYT	Alibeck	84.10	308	P	P	13 48 59.3	+1.0
	1.8nm,0.6s,baz=101,slow=7.5,SNR=4.9						
ILAR	Eielson Array	85.59	24	P	P	13 49 02.4	-2.8
	0.5nm,0.8s,baz=231,slow=5.7,SNR=4.3						
QSPA	South Pole Qui	87.49	180	eP	P	13 49 14.1	-0.5

*ISCJB **13** 13:43:43.7±0.8, 51.°43N±0.°04×16.°15E±0.°04, h0km, Error ellipse: s-maj=5.3km s-min=3.1km az=17.1*
*CSEM **13** 13:43:44.8±0.4, 51.°47N×16.°14E, h2km, ML2.9/9, Error ellipse: s-maj=6.3km s-min=3.7km az=5.0*
*WAR **13** 13:43:45.7, 51.°48N×16.°13E, h1km, Mw2.4*
*VIE **13** 13:43:46.0±0.8, 51.°34N×16.°06E, h0km, mb2.4/2, ML2.5/5, Error ellipse: s-maj=5.3km s-min=3.4km az=36.0, Suspected Mining explosion.*
ISC 13 13:43:45.4±1.1, 51.°46N±0.°05×16.°12E±0.°02, h0km, n31, σ0s79/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	170	ePg	Pg	13 43 57.9	+0.6
KSP				eSg	Sg	13 44 06.4	+1.0
KSP	Ksiaz	0.62	170	ePg	Pg	13 43 57.9	+0.6
KSP				eSg	Sg	13 44 06.4	+1.0
KSP	Ksiaz	0.62	170	ePg	Pg	13 43 57.9	+0.6
KSP				eSg	Sg	13 44 06.4	+1.0
UPC	Upice	0.95	184	ePG	Pg	13 44 04.0	+0.4
UPC				eSG	Sg	13 44 16.3	+0.4
	comp=Z,44nm,0.5s						
UPC	Upice	0.95	184	Pg	Pg	13 44 04.0	+0.4
UPC				Sg	Sg	13 44 16.3	+0.4
	44nm,0.5s						
DPC	Dobruska-Polom	1.11	173	ePG	Pg	13 44 06.4	-0.3
DPC				eSG	Sg	13 44 21.7	+0.5
	comp=Z,18nm,0.4s						
DPC	Dobruska-Polom	1.11	173	Pg	Pg	13 44 06.4	-0.3
DPC				Sg	Sg	13 44 21.7	+0.5
	18nm,0.4s						
PVCC	Panska Ves	1.35	227	ePG	Pb	13 44 11.6	+0.1
PVCC				eSG	Sn	13 44 30.0	0.0
PVCC	Panska Ves	1.35	227	Pg	Pb	13 44 11.6	+0.1
PVCC				Sg	Sn	13 44 30.0	0.0
KRLC	Kraliky	1.45	163	ePG	Pn	13 44 13.0	+0.2
KRLC				eSG	Sg	13 44 30.9	-0.9
KRLC	Kraliky	1.45	163	Pg	Pn	13 44 13.0	+0.2
KRLC				Sg	Sg	13 44 30.9	-0.9
BRG	Berggiesshubel	1.49	248	PN	Pn	13 44 12.7	-0.7
BRG				PG	Pg	13 44 14.2	+0.3

OJC				*e*Sg		**Sg**	**13 45 10.2 -0.1**
OJC	**Ojcow**	**2.64 117**		*e*Pg		**Pb**	**13 44 34.6 +1.0**
OJC				*e*Sg		**Sg**	**13 45 10.2 -0.1**
KHC	**Kasperske Hory**	**2.84 216**		*e*PN		**Pn**	**13 44 31.8 -0.2**
KHC				*e*PG		**Pb**	**13 44 38.0 +1.1**
KHC				*e*SN		**Sn**	**13 45 05.1 -1.8**
KHC				*e*SG		**Sg**	**13 45 15.8 -0.8**
	comp=Z,9.6nm,0.6s						
KHC	**Kasperske Hory**	**2.84 216**	Pn			**Pn**	**13 44 31.8 -0.2**
LANS	**Liptovska Anna**	**3.15 136**		*e*Pg		**Pg**	**13 44 46.5 +0.7**
LANS				*e*Sg		**Sg**	**13 45 24.6 -2.0**
LANS	**Liptovska Anna**	**3.15 136**		*e*PG		**Pg**	**13 44 46.5 +0.7**
LANS				*e*SG		**Sg**	**13 45 24.6 -2.0**
CONA	**Conrad Observa**	**3.54 183**	Pg			**Pg**	**13 44 52.3 -0.8**
	comp=Z,0.5nm,0.2s						
CONA			Sg			**Sg**	**13 45 40.2 +1.3**
	comp=Z,5.6nm,0.4s						
MOA	**Molln**	**3.81 199**	Sg			**Sg**	**13 45 47.2 -0.4**
	comp=Z,3.9nm,0.3s						
ARSA	**Arzberg**	**4.23 185**	Sg			**Sg**	**13 46 01.0 -0.1**
	comp=Z,1.3nm,0.3s						

*IDC **13** 13:55:30.0±1.4, 16°.12S×168°.52E, h268km±12km, mb3.9/9, mb1 4.0/12, mb1mx3.8/26, mbtmp4.6/12, Error ellipse: s-maj=13.8km s-min=11.2km az=49.0*
*ISCJB **13** 13:55:30.8±0.6, 16°.02S±0°.08×168°.44E±0°.06, h300km, mb4.6/14, Error ellipse: s-maj=11.5km s-min=6.8km az=30.2*
*NEIC **13** 13:55:30.1±1.1, 16°.11S×168°.48E, h274km±12km, mb4.7/3, Error ellipse: s-maj=13.8km s-min=10.0km az=180.0*
ISC 13 13:55:31.8±0.6, 16°.07S±0°.07×168°.39E±0°.07, h300km, n45, σ2§15/54, mb4.7/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.24 197**		P		**Pn**	**13 57 01.9 -2.2**
	4.0nm,0.3s,baz=38,slow=13,SNR=43						
DZM				S		**S**	**13 58 14.6 -4.0**
	1.9nm,0.3s,baz=118,slow=22,SNR=6.1						
DZM	**Mont Dzumac**	**6.24 197**		*e*Pn		**Pn**	**13 57 00.6 -3.5**
	506nm,1.4s						
DZM				*e*Sn		**S**	**13 58 13.5 -5.0**
	5.8nm,0.2s						
MSVF	**Nonsavu**	**9.39 101**		*e*Pn		**Pn**	**13 57 39.2 -3.4**
	76nm,1.0s						
HNR	**Honiara**	**10.55 308**		P		**P**	**13 57 57.0 -2.7**
	1.5nm,0.3s,baz=226,slow=5.4,SNR=8.3						
HNR	**Honiara**	**10.55 308**		*e*P		**Pn**	**13 57 52.0 -4.8**
EIDS	**Eidsvold**	**18.63 237**		*e*P		**P**	**13 59 29.7 +1.5**
	66nm,0.9s						
AFI	**Afiamalu**	**19.28 86**		P		**P**	**13 59 34.7 -0.6**
	2.6nm,0.3s,baz=92,slow=7.9,SNR=4.8						
ARMA	**Armidale**	**20.96 224**		*e*P		**P**	**13 59 53.3 +0.8**
	191nm,1.3s						
CTA	**Charters Tower**	**21.42 256**		P		**P**	**13 59 58.7 +2.1**
	17nm,0.8s,baz=80,slow=12,SNR=36						
CTAO	**Charters Tower**	**21.42 256**		*e*P		**P**	**13 59 55.4 -1.2**
	357nm,1.3s						
PMG	**Port Moresby**	**21.73 285**		P		**P**	**14 00 01.7 +2.2**
	7.0nm,0.6s,baz=90,slow=6.1,SNR=5.5						
HAZ	**Te Kaha**	**23.14 161**		PN		**P**	**14 00 13.3 +1.3**
HAZ				SN		**S**	**14 04 02.0 +1.5**
RUGZ	**Raukumara Rang**	**23.29 161**		*e*PN		**P**	**14 00 14.0 +0.4**
URZ	**Urewera**	**23.40 163**		P		**P**	**14 00 14.9 +0.6**
	11nm,0.3s,baz=286,slow=1.9,SNR=7.7						
URZ				S		**S**	**14 04 06.3 +1.6**
	11nm,0.9s,baz=126,slow=20,SNR=4.9						
MUGZ	**Murupara**	**23.50 163**		PN		**P**	**14 00 16.8 +1.4**
PUZ	**Puketiti**	**23.58 160**		PN		**P**	**14 00 16.2 +0.1**
PUZ				SN		**S**	**14 04 08.2 +0.6**
MWZ	**Matawai**	**23.59 162**		PN		**P**	**14 00 16.8 +0.6**
MWZ				SN		**S**	**14 04 09.8 +2.0**
MRHZ	**Matea Rd**	**23.74 164**		PN		**P**	**14 00 19.0 +1.4**
SNGZ	**Shannon Statio**	**23.95 163**		PN		**P**	**14 00 20.0 +0.7**
RIGZ	**Rimuhau**	**24.00 162**		PN		**P**	**14 00 20.3 +0.4**
BKZ	**Black Stump Fm**	**24.07 164**		PN		**P**	**14 00 21.4 +0.8**
MOVZ	**Moawhango**	**24.12 166**		PN		**P**	**14 00 23.0 +2.0**
BHHZ	**Black Hill Sta**	**24.27 165**		PN		**P**	**14 00 23.2 +0.8**
ARHZ	**Aropaoanui**	**24.30 164**		PN		**P**	**14 00 23.1 +0.5**
KAHZ	**Kahuranaki**	**24.77 164**		PN		**P**	**14 00 27.2 +0.4**
TSZ	**Takapari Road**	**24.79 166**		PN		**P**	**14 00 27.6 +0.6**
MRZ	**Mangatainoka R**	**25.28 167**		PN		**P**	**14 00 31.3 0.0**
OGWZ	**Otaki Gorge**	**25.35 168**		PN		**P**	**14 00 32.2 +0.3**
NNZ	**Nelson**	**25.42 171**		PN		**P**	**14 00 34.7 +2.1**
TCW	**Tory Channel**	**25.56 170**		PN		**P**	**14 00 34.8 +1.0**
CAW	**Cannon Point**	**25.61 168**		PN		**P**	**14 00 34.7 +0.5**
STKA	**Stephens Creek**	**28.99 232**		P		**P**	**14 01 06.5 +2.1**
	13nm,0.3s,baz=68,slow=9.1,SNR=156						
WRAB	**Tennant Creek**	**32.57 258**		*e*P		**P**	**14 01 35.3 -0.5**
	6.7nm,0.3s						
WRA	**Warramunga Arr**	**32.58 258**		P		**P**	**14 01 36.1 +0.2**
	5.6nm,0.3s,baz=83,slow=8.2,SNR=43						
WRA				S		**S**	**14 06 29.3 +0.2**
	1.0nm,0.9s,baz=75,slow=13,SNR=4.2						
WRA				ScP		**ScP**	**14 07 35.7 +6.0**
	1.5nm,0.9s,baz=92,slow=3.6,SNR=5.3						
ASAR	**Alice Springs**	**33.24 251**		P		**P**	**14 01 42.8 +1.1**
	69nm,0.4s,baz=76,slow=9.3,SNR=2741						
ASAR				S		**S**	**14 06 40.5 +1.3**
	0.3nm,0.6s,baz=210,slow=26,SNR=3.4						
ASAR				ScP		**ScP**	**14 07 37.8 +5.8**
	1.7nm,0.7s,baz=89,slow=3.6,SNR=12						
BBOO	**Buckleboo**	**33.65 234**		*e*P		**P**	**14 01 46.1 +1.1**
	25nm,0.8s						
FORT	**Forrest**	**39.57 241**		*e*P		**P**	**14 02 34.1 -0.6**
	330nm,0.6s						
VNDA	**Vanda**	**61.55 182**		P		**P**	**14 05 18.8 +1.6**
	2.7nm,0.7s,baz=4.8,slow=5.7,SNR=11						
QSPA	**South Pole Qui**	**73.96 180**		*e*P		**P**	**14 06 34.0 -0.5**
CMAR	**Chiang Mai Arr**	**76.48 294**		P		P	14 06 53.4 +3.9
	1.0nm,0.6s,baz=131,slow=4.4,SNR=7.5						
MAW	**Mawson**	**81.05 202**		P		**P**	**14 07 15.3 +2.1**
	1.0nm,0.5s,baz=129,slow=4.1,SNR=7.2						
ILAR	**Eielson Array**	**87.47 18**		P		**P**	**14 07 45.2 0.0**
	0.6nm,0.6s,baz=238,slow=5.1,SNR=16						
ARCES	**ARCESS Array B**	**121.82 346**		PKP		**PKPdf**	**14 13 50.8 +1.1**
	2.1nm,0.6s,baz=50,slow=1.9,SNR=10						
BRTR	**Keskin Array B**	**134.20 310**		PKP		**PKPdf**	**14 14 16.7 +2.4**
	0.3nm,0.4s,baz=125,slow=3.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**166.80 259**		PKPab		**PKPab**	**14 16 08.6 +1.1**
	0.6nm,0.8s,baz=116,slow=3.4,SNR=3.1						

DJA 13 14:18:04.8±0.8, 10°S±8°×11°5E±°, h41km±66km, M3.6/6, MLv3.6/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.02 35**		P		Pn	14 18 22.4 -0.2
IGBI				S		Sn	14 18 35.5 -0.2
DNP	**Denpasar**	**1.17 33**		P		Pn	14 18 25.2 +0.5
DNP				S		Sn	14 18 41.0 +1.6
JAGI	**Jajag, Banyuwa**	**1.25 341**		P		Pn	14 18 25.4 -0.4
JAGI				S		Sn	14 18 40.7 -0.7
SRBI	**Singaraja**	**1.69 22**		P		Pn	14 18 32.1 +0.2
SRBI				S		Sn	14 18 53.4 +1.0
TWSI	**Taliwang, Sumb**	**2.47 68**		P		Pn	14 18 43.0 +0.4
TWSI				S		Sn	14 19 11.0 -0.5
PLAI	**Plampang**	**3.28 76**		P		Pn	14 18 54.5 +0.8
PLAI				S		Sn	14 19 30.5 -1.1

IDC 13 14:30:52.5±1.3, 4°.85N×62°.19E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/39, mbtmp3.7/6, MS3.3/3, Ms1 3.4/3, ms1mx2.9/45, Error ellipse: s-maj=38.3km s-min=25.9km az=12.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**14.17 142**		T	T	14 49 06.2	
	baz=321,slow=76,SNR=68						
H08N3	**Diego Garcia H**	**14.18 142**		T	T	14 49 06.0	
	baz=321,slow=76,SNR=56						
H08N1	**Diego Carcia H**	**14.19 142**		T	T	14 49 11.2	
	baz=321,slow=76,SNR=71						
KMBO	**Kilima Mbogo**	**25.61 257**		LR	LR	14 45 48.0	
	comp=Z,88nm,18.7s,baz=76,slow=35						
CMAR	**Chiang Mai Arr**	**38.35 66**		P		P	14 38 16.5 +0.9
	0.6nm,0.8s,baz=255,slow=9.1,SNR=3.5						
CMAR				LR		LR	14 54 55.8
	comp=Z,22nm,18.9s,baz=170,slow=38						
AAK	**Ala-Archa**	**39.19 14**		LR		LR	14 56 17.1
	comp=Z,54nm,18.3s,baz=205,slow=39						

KURBB	**Kurchatov Arra**	**47.64 14**		P		P	14 39 30.4 +0.1
	0.2nm,0.3s,baz=211,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.31 17**		P		P	14 40 04.8 -1.0
	0.7nm,0.6s,baz=234,slow=6.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**60.19 282**		P		P	14 41 03.3 +0.5
	0.9nm,1.0s,baz=106,slow=6.2,SNR=4.0						
ESDC	**Sonseca Array**	**68.63 311**		P		P	14 41 57.7 -0.1
	0.6nm,0.5s,baz=88,slow=4.8,SNR=6.3						
ASAR	**Alice Springs**	**75.34 116**		P		P	14 42 38.0 -0.4
	1.7nm,0.8s,baz=280,slow=5.6,SNR=9.3						

*CSEM **13** 14:44:14.5, 40°.15N×23°.93E, h14km, ML2.2/5*
ATH 13 14:44:14.5, 40°.15N×23°.93E, h14km±5km, ML2.2/5, Error ellipse: s-maj=5.1km s-min=1.4km az=134.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.19 13**		P	Pg	14 44 19.2	+0.4
OUR				S	Sg	14 44 21.9	+0.1
OUR				AML	AML	14 44 22.7	
	comp=N,6937μm,0.4s						
OUR				AML	AML	14 44 22.8	
	comp=E,3360μm,0.2s						
OUR	**Ouranopolis**	**0.19 13**		P	Pg	14 44 19.2	+0.4
OUR				S	Sg	14 44 21.9	+0.1
PAIG	**Paliouri**	**0.29 221**		P	Pg	14 44 20.4	-0.2
PAIG				S	Sg	14 44 23.6	-1.0
PAIG				AML	AML	14 44 24.8	
	comp=N,1498μm,0.2s						
PAIG				AML	AML	14 44 25.0	
	comp=E,2490μm,0.2s						
PAIG	**Paliouri**	**0.29 221**		P	Pg	14 44 20.4	-0.1
PAIG				S	Sg	14 44 23.6	-1.0
PLG	**Polygyros**	**0.43 301**		P	Pb	14 44 23.6	-0.3
PLG				S	Sg	14 44 28.7	-0.2
PLG				AML	AML	14 44 29.9	
	comp=E,599μm,0.2s						
PLG				AML	AML	14 44 30.2	
	comp=N,542μm,0.3s						
PLG	**Polygyros**	**0.43 301**		P	Pb	14 44 23.6	-0.3
PLG				S	Sg	14 44 28.7	-0.2
HORT	**Hortiatis**	**0.78 306**		P	Pg	14 44 29.6	+0.1
HORT				S	Sg	14 44 39.0	-0.7
HORT				AML	AML	14 44 43.6	
	comp=E,288μm,0.3s						
HORT				AML	AML	14 44 44.2	
	comp=N,395μm,0.2s						
HORT	**Hortiatis**	**0.78 306**		P	Pg	14 44 29.6	+0.1
HORT				S	Sg	14 44 39.0	-0.7
SOH	**Sokhos**	**0.80 327**		P	Pb	14 44 30.2	0.0
SOH				S	Sg	14 44 39.8	-0.8
SOH				AML	AML	14 44 44.6	
	comp=E,349μm,0.4s						
SOH				AML	AML	14 44 45.2	
	comp=N,484μm,0.5s						
SOH	**Sokhos**	**0.80 327**		P	Pb	14 44 30.2	0.0
SOH				S	Sg	14 44 39.8	-0.8
THE	**Thessaloniki**	**0.88 304**		P	Pg	14 44 31.3	-0.2
THE	**Thessaloniki**	**0.88 304**		P	Pg	14 44 31.3	-0.2
KAVA	**Kavala**	**0.96 28**		P	Pb	14 44 32.1	-0.7
KAVA	**Kavala**	**0.96 28**		P	Pb	14 44 32.1	-0.8
SRS	**Serrai**	**1.00 345**		P	Pb	14 44 32.8	-0.9
SRS	**Serrai**	**1.00 345**		P	Pb	14 44 32.8	-0.8

*ISCJB **13** 14:44:41.9±0.3, 40°.26N±0°.01×25°.23E±0°.01, h6km±2km, mb3.6/11, MS3.2/8, Error ellipse: s-maj=2.1km s-min=1.5km az=24.1*
*PDG **13** 14:44:41.4±0.8, 40°.26N×25°.26E, h2km±1km, ML4.2/13, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
*ATH **13** 14:44:41.8, 40°.24N×25°.30E, h29km±1km, ML4.2/13, Error ellipse: s-maj=1.6km s-min=0.8km az=57.0*
*NEIC **13** 14:44:41.7±0.0, 40°.24N×25°.30E, h29km, ML4.2(THE), ML4.2(ATH), ML4.4(ISK), After ATH.*
*IDC **13** 14:44:41.7±0.8, 40°.25N×25°.31E, h0km, mb3.7/11, mb1 3.8/18, mb1mx3.7/45, mbtmp3.7/18, ML3.5/7, MS3.3/14, Ms1 3.3/14, ms1mx3.1/44, Error ellipse: s-maj=13.4km s-min=12.7km az=29.0*
*ISK **13** 14:44:41.2, 40°.21N×25°.25E, h5km, ML4.3*
*DDA **13** 14:44:42.4, 40°.24N×25°.32E, h30km, Ml4.3*
*CSEM **13** 14:44:42.5±0.1, 40°.22N×25°.23E, h2km, ML4.2, Error ellipse: s-maj=2.1km s-min=1.5km az=20.0*
*THE **13** 14:44:43.0, 40°.26N×25°.29E, h11km, ML4.2/10, Error ellipse: s-maj=0.6km s-min=0.2km az=55.0*
*SOF **13** 14:44:43.8, 40°.28N×25°.37E, h76km, MD4.3*
*TIR **13** 14:45:00.6±6.5, 40°.39N×22°.62E, h35km±40km, ML4.2*
ISC 13 14:44:43.0±0.9, 40°.25N±0°.01×25°.28E±0°.01, h10km±6km, n459, σ1§27/576, mb3.8/11, MS3.2/8, 34C-40D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.30 41**		P	**Pg**	**14 44 48.4**	**-0.6**
SMTH				S	**Sg**	**14 44 52.8**	**-0.2**
SMTH	**Samothraki Isl**	**0.30 41**		P	**Pg**	**14 44 47.8**	**-1.2**
SMTH	**Samothraki Isl**	**0.30 41**		P	**Pg**	**14 44 48.4**	**-0.6**
SMTH				S	**Sg**	**14 44 52.8**	**-0.2**
SMTH	**Samothraki Isl**	**0.30 41**		P	**Pg**	**14 44 48.4**	**-0.6**
SMTH				S	**Sg**	**14 44 52.8**	**-0.2**
LIA	**Limnos Island**	**0.36 192**		P	**Pg**	**14 44 50.4**	**+0.3**
LIA				S	**Sg**	**14 44 56.0**	**+1.2**
LIA	**Limnos Island**	**0.36 192**		P	**Pg**	**14 44 50.9**	**+0.8**
LIA				S	**Sg**	**14 44 55.4**	**+0.6**
LIA				AML	AML	14 44 56.1	
LIA				AML	AML	14 44 56.4	
LIA	**Limnos Island**	**0.36 192**		P	**Pg**	**14 44 50.4**	**+0.3**
LIA				S	**Sg**	**14 44 55.4**	**+0.6**
LIA	**Limnos Island**	**0.36 192**		P	**Pg**	**14 44 50.4**	**+0.3**
LIA				S	**Sg**	**14 44 56.0**	**+1.2**
GADA	**Gvkgeada**	**0.48 96**		*e*PG	**Pg**	**14 44 52.1**	**-0.3**
GADA	**Gvkgeada**	**0.48 96**		P	**Pg**	**14 44 52.1**	**-0.3**
GADA				S	**Sg**	**14 44 58.9**	**+0.1**
GADA	**Gvkgeada**	**0.48 96**		P	**Pg**	**14 44 52.1**	**-0.3**
GADA				S	**Sg**	**14 44 58.9**	**+0.1**
GADA	**Gvkgeada**	**0.48 96**		P	**Pg**	**14 44 52.1**	**-0.3**
GADA				S	**Sg**	**14 44 58.9**	**+0.1**
GOKC	**Gokceada-Canak**	**0.49 95**		*e*PG	**Pg**	**14 44 52.4**	**-0.3**
GOKC	**Gokceada-Canak**	**0.49 95**		*e*Pg	**Pg**	**14 44 52.4**	**-0.3**
BOZC	**Bozcaada**	**0.72 124**		*e*PG	**Pg**	**14 44 56.3**	**-0.7**
BOZC	**Bozcaada**	**0.72 124**		||*i*P	**Pg**	**14 44 56.6**	**-0.4**
BOZC				*i* S	**Sg**	**14 45 06.0**	**-0.4**
BOZC	**Bozcaada**	**0.72 124**		*e*Pg	**Pg**	**14 44 56.3**	**-0.7**
ENEZ	**Enez**	**0.83 54**		*e*PG	**Pg**	**14 44 58.8**	**-0.2**
ENEZ	**Enez**	**0.83 54**		P	**Pg**	**14 44 58.2**	**-0.8**
ENEZ				S	**Sg**	**14 45 10.2**	**+0.4**
ENEZ	**Enez**	**0.83 54**		P	**Pg**	**14 44 58.2**	**-0.8**
ENEZ	**Enez**	**0.83 54**		*e*Pg	**Pg**	**14 44 58.8**	**-0.2**
ENEZ				S	**Sg**	**14 45 10.2**	**+0.4**
ALN	**Alexandroupoli**	**0.88 42**		*e*PG	**Pg**	**14 44 60.0**	**+0.1**
ALN	**Alexandroupoli**	**0.88 42**		P	**Pg**	**14 44 59.0**	**-0.9**
ALN				S	**Sg**	**14 45 11.3**	**0.0**
ALN	**Alexandroupoli**	**0.88 42**		P	**Pg**	**14 44 59.1**	**-0.7**
ALN				S	**Sg**	**14 45 10.8**	**-0.5**
ALN				AML	AML	14 45 11.7	
	comp=E,13015μm,0.4s						
ALN				AML	AML	14 45 13.0	
	comp=N,12693μm,0.5s						
ALN	**Alexandroupoli**	**0.88 42**		P	**Pg**	**14 44 59.2**	**-0.7**
ALN	**Alexandroupoli**	**0.88 42**		*e*Pg	**Pg**	**14 45 00.0**	**+0.1**
ALN				S	**Sg**	**14 45 11.3**	**0.0**
ALN	**Alexandroupoli**	**0.88 42**		P	**Pg**	**14 44 59.0**	**-0.9**
ALN				S	**Sg**	**14 45 11.3**	**0.0**
EZN	**Ezine**	**0.91 117**		*e*PG	**Pg**	**14 44 59.8**	**-0.8**
EZN				*e*SG	**Sb**	**14 45 13.2**	**+0.2**
EZN	**Ezine**	**0.91 117**		P	**Pg**	**14 44 59.7**	**-0.8**
EZN				S	**Sb**	**14 45 13.5**	**+0.5**
EZN	**Ezine**	**0.91 117**		*e*Pg	**Pg**	**14 44 59.8**	**-0.8**
EZN				*e*Sg	**Sb**	**14 45 13.3**	**+0.2**
EZN	**Ezine**	**0.91 117**		P	**Pg**	**14 44 59.7**	**-0.8**
EZN				S	**Sb**	**14 45 13.5**	**+0.5**
RDO	**Rodhopi**	**0.92 12**		P	**Pg**	**14 44 59.6**	**-1.2**
RDO				S	**Sb**	**14 45 13.2**	**-0.2**
RDO	**Rodhopi**	**0.92 12**		P	**Pg**	**14 44 59.3**	**-1.5**
RDO				S	**Sg**	**14 45 11.8**	**-0.9**
RDO				AML	AML	14 45 16.2	
	comp=E,8454μm,0.3s						
RDO				AML	AML	14 45 17.6	
	comp=N,9925μm,0.4s						
RDO	**Rodhopi**	**0.92 12**		P	**Pg**	**14 44 59.6**	**-1.2**
RDO				S	**Sb**	**14 45 13.2**	**-0.2**
RDO	**Rodhopi**	**0.92 12**		P	**Pg**	**14 44 59.6**	**-1.2**
RDO				S	**Sb**	**14 45 13.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.93 80**		*e*PG	**Pg**	**14 44 60.0**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.93 80**		*e*Pg	**Pg**	**14 45 00.0**	**-0.9**
KAVA	**Kavala**	**0.95 323**		P	**Pg**	**14 45 00.8**	**-0.5**
KAVA				S	**Sb**	**14 45 14.4**	**+0.2**
KAVA	**Kavala**	**0.95 323**		P	**Pg**	**14 45 01.0**	**-0.3**
KAVA				S	**Sg**	**14 45 13.9**	**+0.3**
KAVA				AML	AML	14 45 16.4	
	comp=N,29848μm,0.4s						
KAVA				AML	AML	14 45 16.5	
	comp=E,40342μm,0.3s						
KAVA	**Kavala**	**0.95 323**		P	**Pg**	**14 45 01.0**	**-0.3**
KAVA				S	**Sg**	**14 45 13.9**	**+0.3**
KAVA	**Kavala**	**0.95 323**		P	**Pg**	**14 45 00.8**	**-0.5**
KAVA				S	**Sb**	**14 45 14.4**	**+0.2**
OUR	**Ouranopolis**	**0.99 275**		*e*PG	**Pg**	**14 45 01.2**	**-1.0**
OUR	**Ouranopolis**	**0.99 275**		P	**Pg**	**14 45 01.8**	**-0.3**
OUR				S	**Sn**	**14 45 16.6**	**-0.5**
OUR	**Ouranopolis**	**0.99 275**		P	**Pg**	**14 45 02.3**	**+0.1**
OUR				S	**Sb**	**14 45 16.1**	**+0.6**
OUR				AML	AML	14 45 18.7	
	comp=E,56781μm,0.8s						
OUR				AML	AML	14 45 19.0	
	comp=N,49926μm,0.8s						
OUR	**Ouranopolis**	**0.99 275**		*e*Pg	**Pg**	**14 45 01.2**	**-1.0**
OUR	**Ouranopolis**	**0.99 275**		P	**Pg**	**14 45 01.8**	**-0.3**
OUR				S	**Sb**	**14 45 16.1**	**+0.6**
OUR	**Ouranopolis**	**0.99 275**		P	**Pg**	**14 45 01.8**	**-0.3**
OUR				S	**Sn**	**14 45 16.6**	**-0.5**
GPNR	**Gulpinar-Canak**	**1.03 140**		*e*PG	**Pg**	**14 45 02.3**	**-0.5**
GPNR				*e*SG	**Sb**	**14 45 17.0**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.03 140**		*e*Pg	**Pg**	**14 45 02.3**	**-0.5**
GPNR				*e*Sg	**Sb**	**14 45 17.0**	**+0.5**
ERIK	**Erikli-Kesan**	**1.03 65**		*e*PG	**Pg**	**14 45 02.5**	**-0.4**
ERIK	**Erikli-Kesan**	**1.03 65**		*e*Pg	**Pg**	**14 45 02.5**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.10 117**		||*i*P	**Pg**	**14 45 03.2**	**-1.0**
BAYC				*i* S	**Sg**	**14 45 17.6**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.10 117**		P	**Pg**	**14 45 03.2**	**-1.0**
BAYC				S	**Sg**	**14 45 17.6**	**-0.8**
SIGR	**SIGRI**	**1.13 156**		*e*PN	**Pb**	**14 45 03.6**	**-1.0**
SIGR	**SIGRI**	**1.13 156**		P	**Pb**	**14 45 03.6**	**-1.0**
SIGR				S	**Sb**	**14 45 19.7**	**+0.4**
SIGR	**SIGRI**	**1.13 156**		P	**Pb**	**14 45 04.0**	**-0.6**
SIGR				S	**Sg**	**14 45 18.2**	**-1.1**
SIGR				AML	AML	14 45 19.7	
	comp=E,50976μm,0.5s						
SIGR				AML	AML	14 45 19.7	
	comp=N,50932μm,0.5s						
SIGR	**SIGRI**	**1.13 156**		P	**Pb**	**14 45 03.6**	**-1.0**
SIGR				S	**Sg**	**14 45 18.2**	**-1.1**
SIGR	**SIGRI**	**1.13 156**		P	**Pb**	**14 45 03.6**	**-1.0**
SIGR				S	**Sb**	**14 45 19.7**	**+0.4**
LPK	**Lapseki**	**1.14 83**		*e*PN	**Pb**	**14 45 04.3**	**-0.6**
LPK	**Lapseki**	**1.14 83**		*e*Pn	**Pb**	**14 45 04.3**	**-0.6**
KESN	**Edirne-Kesan**	**1.22 61**		||*i*P	**Pb**	**14 45 05.4**	**-1.0**
KESN				*i* S	**Sg**	**14 45 20.6**	**-1.7**
KESN	**Edirne-Kesan**	**1.22 61**		P	**Pb**	**14 45 05.4**	**-1.0**
KESN				S	**Sg**	**14 45 20.6**	**-1.7**
PRK	**Paraskevi**	**1.26 142**		P	**Pn**	**14 45 05.8**	**-0.9**
PRK				S	**Sb**	**14 45 23.4**	**+0.2**
PRK	**Paraskevi**	**1.26 142**		P	**Pn**	**14 45 06.7**	**0.0**
PRK				S	**Sb**	**14 45 21.8**	**-1.4**
PRK				AML	AML	14 45 26.3	
	comp=N,45158μm,0.7s						
PRK				AML	AML	14 45 27.9	
	comp=E,61051μm,0.6s						
PRK	**Paraskevi**	**1.26 142**		P	**Pn**	**14 45 06.7**	**0.0**
PRK				S	**Sb**	**14 45 23.4**	**+0.2**
PRK	**Paraskevi**	**1.26 142**		P	**Pn**	**14 45 05.8**	**-0.9**
PRK				S	**Sb**	**14 45 23.4**	**+0.2**
PAIG	**Paliouri**	**1.27 256**		P	**Pn**	**14 45 05.5**	**-1.3**
PAIG				S	**Sb**	**14 45 23.5**	**+0.2**
PAIG	**Paliouri**	**1.27 256**		P	**Pn**	**14 45 04.9**	**-1.9**
PAIG				S	**Sb**	**14 45 22.5**	**-0.8**
PAIG				AML	AML	14 45 27.1	
	comp=E,5448μm,0.6s						
PAIG				AML	AML	14 45 28.0	
	comp=N,6710μm,0.4s						
PAIG	**Paliouri**	**1.27 256**		P	**Pn**	**14 45 05.5**	**-1.3**
PAIG				S	**Sb**	**14 45 22.5**	**-0.8**
PAIG	**Paliouri**	**1.27 256**		P	**Pn**	**14 45 05.5**	**-1.3**
PAIG				S	**Sb**	**14 45 23.5**	**+0.2**
PLG	**Polygyros**	**1.41 276**		P	**Pn**	**14 45 08.0**	**-0.8**
PLG				S	**Sn**	**14 45 26.9**	**-0.5**
PLG	**Polygyros**	**1.41 276**		P	**Pn**	**14 45 08.4**	**-0.4**
PLG			

CAND	Candarli	1.75 137	ePN	Pn	14 45 14.1	+0.6
SKIA	Skiathos	1.76 233	P	Pn	14 45 11.6	-2.0
SKIA	Skiathos	1.76 233	P	Pn	14 45 11.6	-2.0
MMB	Musomiste	1.78 319	*i* P	Pn	14 45 13.0	-0.9
THE	Thessaloniki	1.81 283	P	Pn	14 45 13.6	-0.6
THE	Thessaloniki	1.81 283	P	Pn	14 45 13.6	-0.6
THE	Thessaloniki	1.81 283	P	Pn	14 45 13.6	-0.6
MRMT	Marmara Adasi	1.81 78	ePN	Pn	14 45 15.3	+1.0
MRMT	Marmara Adasi	1.81 78	ePN	Pn	14 45 15.3	+1.0
DIM	Dimitrovgrad	1.81 6	*i* P	Pn	14 45 13.5	-0.8
XOR	Xorichti	1.83 242	P	Pn	14 45 12.6	-2.0
XOR	Xorichti	1.83 242	P	Pn	14 45 12.6	-2.0
NEO	Neokhori	1.84 240	P	Pn	14 45 12.5	-2.2
NEO	Neokhori	1.84 240	P	Pn	14 45 12.5	-2.2
GONE	Gonen-Balikesi	1.86 95	ePN	Pn	14 45 15.4	+0.5
GONE	Gonen-Balikesi	1.86 95	ePN	Pn	14 45 15.4	+0.5
BALY	Balya	1.87 105	⇓*i*P	Pn	14 45 14.5	-0.7
BALY			*i* S	Sb	14 45 41.2	+0.4
BALY	Balya	1.87 105	P	Pn	14 45 14.5	-0.7
BALY			S	Sb	14 45 41.2	+0.4
FOCM	Fo˜§a	1.90 143	ePN	Pn	14 45 15.9	+0.4
FOCM	Fo˜§a	1.90 143	ePN	Pn	14 45 15.9	+0.4
KRBN	Karaburun	1.93 149	ePN	Pn	14 45 15.9	+0.1
KRBN	Karaburun	1.93 149	ePN	Pn	14 45 15.9	+0.1
EDRB	Edirne	1.95 34	ePN	Pb	14 45 17.6	-1.0
EDRB	Edirne	1.95 34	ePN	Pb	14 45 17.6	-1.0
CHOS	Chios island	1.95 162	ePN	Pn	14 45 16.9	+0.6
CHOS	Chios island	1.95 162	P	Pn	14 45 15.5	-0.8
CHOS			S	Sn	14 45 40.9	-0.1
CHOS	Chios island	1.95 162	P	Pn	14 45 16.1	-0.2
CHOS			S	Sn	14 45 38.1	-2.9
CHOS			AML	AML	14 45 50.8	
	comp=E,9583µm,0.6s					
CHOS			AML	AML	14 45 53.8	
	comp=N,13592µm,0.7s					
CHOS	Chios island	1.95 162	P	Pn	14 45 16.1	-0.2
CHOS	Chios island	1.95 162	ePN	Pn	14 45 16.9	+0.6
CHOS			S	Sn	14 45 40.9	-0.1
CHOS	Chios island	1.95 162	P	Pn	14 45 15.5	-0.8
CHOS			S	Sn	14 45 40.9	-0.1
EDC	Edincik	1.98 86	ePN	Pn	14 45 17.8	+1.2
EDC	Edincik	1.98 86	ePN	Pn	14 45 17.8	+1.2
FYTO	Fytoko, Volos	1.98 246	P	Pn	14 45 15.7	-1.0
FYTO	Fytoko, Volos	1.98 246	P	Pn	14 45 15.7	-1.0
FYTO	Fytoko, Volos	1.98 246	P	Pn	14 45 15.7	-1.0
KNT	Kendrikon	2.02 298	ePN	Pn	14 45 17.9	+0.6
KNT	Kendrikon	2.02 298	P	Pn	14 45 16.5	-0.8
KNT			S	Sn	14 45 42.2	-0.4
KNT	Kendrikon	2.02 298	P	Pn	14 45 16.5	-0.8
KNT	Kendrikon	2.02 298	ePn	Pn	14 45 17.9	+0.6
KNT			S	Sn	14 45 42.2	-0.4
KNT	Kendrikon	2.02 298	P	Pn	14 45 16.5	-0.8
KNT			S	Sn	14 45 42.2	-0.4
CRLT	Corlu	2.07 64	ePN	Pn	14 45 19.3	+1.4
CRLT	Corlu	2.07 64	ePn	Pn	14 45 19.3	+1.4
CESE	˜e˜me	2.07 157	ePN	Pn	14 45 17.9	0.0
CESE	˜e˜me	2.07 157	ePn	Pn	14 45 17.9	0.0
STEP	BALIKESIR_Sava	2.07 114	⇓*i*P	Pn	14 45 17.5	-0.4
STEP			*i* S	Sg	14 45 50.7	+1.1
STEP	BALIKESIR_Sava	2.07 114	P	Pn	14 45 17.5	-0.4
BALB	Balikesir	2.09 106	ePN	Pn	14 45 18.9	+0.8
BALB	Balikesir	2.09 106	ePn	Pn	14 45 18.9	+0.8
SMIA	Simia	2.10 230	P	Pn	14 45 17.8	-0.5
SMIA	Simia	2.10 230	P	Pn	14 45 17.8	-0.5
LIT	Litokhoron	2.14 267	P	Pn	14 45 18.3	-0.5
LIT			S	Sn	14 45 45.5	0.0
LIT	Litokhoron	2.14 267	P	Pn	14 45 18.3	-0.5
LIT			S	Sn	14 45 45.5	0.0
LIT	Litokhoron	2.14 267	P	Pn	14 45 18.3	-0.5
LIT			S	Sn	14 45 45.5	0.0
URLA	Izmir	2.15 151	⇓*i*P	Pn	14 45 18.3	-0.6
URLA			*i* S	Sn	14 45 43.4	-2.2
URLA	Izmir	2.15 151	P	Pn	14 45 18.3	-0.6
URLA			S	Sn	14 45 43.4	-2.2
SBT3	Marmara-Eregli	2.15 72	ePN	Pn	14 45 20.3	+1.5
SBT3	Marmara-Eregli	2.15 72	ePn	Pn	14 45 20.3	+1.5
BOTS	Marmara Eregli	2.19 69	ePN	Pn	14 45 20.6	+1.1
BOTS	Marmara Eregli	2.19 69	ePn	Pn	14 45 20.6	+1.1
PHSR	Pinarhisar	2.19 50	ePN	Pn	14 45 20.8	+1.2
PHSR	Pinarhisar	2.19 50	ePn	Pn	14 45 20.8	+1.2
ZEY	˜zmir	2.22 154	⇓*i*P	Pn	14 45 19.2	-0.7
ZEY			*i* S	Sn	14 45 44.7	-2.7
GRG	Griva	2.30 289	ePN	Pn	14 45 21.5	+0.4
GRG	Griva	2.30 289	ePn	Pn	14 45 21.5	+0.4
KARY	Karystos	2.31 197	P	Pn	14 45 19.3	-1.8
KARY	Karystos	2.31 197	P	Pn	14 45 19.3	-1.8
KKB	Krupnik	2.32 315	*i* P	Pn	14 45 20.6	-0.7
VAY	Valandovo	2.32 298	*i* Pn	Pn	14 45 21.6	+0.3
VAY	Valandovo	2.32 298	*i* Pn	Pn	14 45 21.6	+0.3
KCTX	Karacabey (Bur	2.36 89	ePN	Pn	14 45 22.6	+0.8
KCTX	Karacabey (Bur	2.36 89	ePn	Pn	14 45 22.6	+0.8
LKR	Lokris	2.38 229	P	Pn	14 45 20.6	-1.5
LKR	Lokris	2.38 229	P	Pn	14 45 20.6	-1.5
AKS	Akhisar	2.39 124	ePN	Pn	14 45 22.6	+0.3
AKS	Akhisar	2.39 124	ePn	Pn	14 45 22.6	+0.3
AKHS	Akhisar	2.39 124	⇓*i*P	Pn	14 45 21.8	-0.5
AKHS			*i* S	Sg	14 45 58.3	-1.6
AKHS	Akhisar	2.39 124	P	Pn	14 45 21.8	-0.5
SLVT	Silivri	2.44 65	ePN	Pn	14 45 24.3	+1.4
SLVT	Silivri	2.44 65	ePn	Pn	14 45 24.3	+1.4
GMLD	Gumuldur	2.52 149	ePN	Pn	14 45 24.6	+0.7
GMLD	Gumuldur	2.52 149	ePn	Pn	14 45 24.6	+0.7
SBT2	Guzelce-Avcila	2.55 75	ePN	Pn	14 45 25.6	+1.3
SBT2	Guzelce-Avcila	2.55 75	ePn	Pn	14 45 25.6	+1.3
VILL	Villia	2.58 217	P	Pn	14 45 24.2	-0.7
VILL	Villia	2.58 217	P	Pn	14 45 24.2	-0.7
AGG	Agios Georgios	2.58 243	ePN	Pn	14 45 25.2	+0.2
AGG	Agios Georgios	2.58 243	P	Pn	14 45 24.7	-0.2
AGG	Agios Georgios	2.58 243	P	Pn	14 45 24.6	-0.3
AGG	Agios Georgios	2.58 243	P	Pn	14 45 24.7	-0.2
AGG	Agios Georgios	2.58 243	ePn	Pn	14 45 25.2	+0.2
AGG	Agios Georgios	2.58 243	P	Pn	14 45 24.7	-0.2
CTYL	Yalikoy Yolu	2.59 61	ePN	Pn	14 45 26.9	+1.9
CTYL	Yalikoy Yolu	2.59 61	ePn	Pn	14 45 26.9	+1.9
SINB	Sinanoba-Istan	2.60 72	ePN	Pn	14 45 26.3	+1.2
SINB	Sinanoba-Istan	2.60 72	ePn	Pn	14 45 26.3	+1.2
THL	Klokotos Trika	2.60 256	P	Pn	14 45 24.4	-0.7
THL	Klokotos Trika	2.60 256	P	Pn	14 45 24.4	-0.7
CTKS	Kestanelik-??a	2.65 67	ePN	Pn	14 45 28.0	+2.2
CTKS	Kestanelik-??a	2.65 67	ePn	Pn	14 45 28.0	+2.2
DST	Dursunbey	2.65 103	ePN	Pn	14 45 27.0	+1.1
DST	Dursunbey	2.65 103	ePn	Pn	14 45 27.0	+1.1
VLY	Voula,Athens	2.66 206	P	Pn	14 45 25.5	-0.4
VLY	Voula,Athens	2.66 206	P	Pn	14 45 25.5	-0.4
VLY	Voula,Athens	2.66 206	P	Pn	14 45 25.5	-0.4
ARMT	Armutlu	2.76 82	ePN	Pn	14 45 29.0	+1.7
ARMT	Armutlu	2.76 82	ePn	Pn	14 45 29.0	+1.7
MDNY	Mudanya-Bursa	2.76 86	ePN	Pn	14 45 29.0	+1.6
MDNY	Mudanya-Bursa	2.76 86	ePn	Pn	14 45 29.0	+1.6
SBT5	Esenkoy-Cinarc	2.78 81	ePN	Pn	14 45 29.3	+1.8
SBT5	Esenkoy-Cinarc	2.78 81	ePn	Pn	14 45 29.3	+1.8
ORLT	Orhaneli	2.78 93	ePN	Pn	14 45 29.0	+1.3
ORLT	Orhaneli	2.78 93	ePn	Pn	14 45 29.0	+1.3
DSF	Desfina	2.81 230	P	Pn	14 45 26.3	-1.8
DSF	Desfina	2.81 230	P	Pn	14 45 26.3	-1.8
VTS	Vitosha	2.81 327	⇓*i*P	Pn	14 45 28.6	+0.4
VTS	Vitosha	2.81 327	*i* P	Pn	14 45 28.2	0.0
VTS	Vitosha	2.81 327	⇓*i*P	Pn	14 45 28.6	+0.4
DEMI	Demirci	2.92 113	⇓*i*P	Pn	14 45 29.3	-0.3
DEMI			*i* S	Sb	14 46 12.7	+1.8
DEMI	Demirci	2.92 113	P	Pn	14 45 29.3	-0.3
PVL	Pavlikeni	2.97 1	*i* P	Pn	14 45 28.3	-1.9
BUY	Buyukada	2.99 77	ePN	Pn	14 45 32.0	+1.5
BUY	Buyukada	2.99 77	ePn	Pn	14 45 32.0	+1.5
ISK	Istanbul-Kandi	2.99 73	ePN	Pn	14 45 32.0	+1.5
ISK	Istanbul-Kandi	2.99 73	ePn	Pn	14 45 32.0	+1.5
KAVV	Kandilli-Istan	2.99 73	ePN	Pn	14 45 31.7	+1.1
KAVV	Kandilli-Istan	2.99 73	ePn	Pn	14 45 31.7	+1.1
GEMT	Gemlik	3.00 85	ePN	Pn	14 45 32.7	+2.1
GEMT	Gemlik	3.00 85	ePn	Pn	14 45 32.7	+2.1
FNA	Florina	3.02 281	ePN	Pn	14 45 31.4	+0.5
FNA	Florina	3.02 281	ePn	Pn	14 45 31.5	+0.5
KLYT	Kilyos	3.03 69	ePN	Pn	14 45 32.7	+1.6
KLYT	Kilyos	3.03 69	ePn	Pn	14 45 32.7	+1.6
KALE	Kalithea	3.06 234	P	Pn	14 45 30.6	-0.9
KALE	Kalithea	3.06 234	P	Pn	14 45 30.6	-0.9
SZH	Strazhica	3.06 9	*i* P	Pn	14 45 30.7	-0.7
ANX	Ano Chora	3.08 239	P	Pn	14 45 31.7	-0.1
ANX	Ano Chora	3.08 239	P	Pn	14 45 31.7	-0.1
SIMA	Simav-Kutahya	3.09 111	ePN	Pn	14 45 33.0	+1.0
SIMA	Simav-Kutahya	3.09 111	ePn	Pn	14 45 33.0	+1.0
TUZL	Tuzla-Istanbul	3.09 78	ePN	Pn	14 45 33.7	+1.8
TUZL	Tuzla-Istanbul	3.09 78	ePn	Pn	14 45 33.7	+1.8
BIA	Bitola	3.10 286	*i* Pn	Pn	14 45 33.2	+1.0
BIA	Bitola	3.10 286	*i* Pn	Pn	14 45 33.1	+1.0
TRIZ	Trizonia	3.12 234	P	Pn	14 45 31.5	-0.7
TRIZ	Trizonia	3.12 234	P	Pn	14 45 31.5	-0.7
KULA	Kula-Manisa	3.14 122	ePN	Pn	14 45 34.0	+1.3
KULA	Kula-Manisa	3.14 122	ePn	Pn	14 45 34.0	+1.3
APE	Apeiranthos	3.18 176	ePN	Pn	14 45 33.7	+0.5
APE	Apeiranthos	3.18 176	⇓*i*P	Pn	14 45 32.3	-0.9
APE	Apeiranthos	3.18 176	P	Pn	14 45 31.0	-2.1
APE	Apeiranthos	3.18 176	P	Pn	14 45 31.0	-2.1
APE	Apeiranthos	3.18 176	ePn	Pn	14 45 33.7	+0.5
LAKA	Lakka	3.25 233	P	Pn	14 45 33.7	-0.4
LAKA	Lakka	3.25 233	P	Pn	14 45 33.9	-0.3
LAKA	Lakka	3.25 233	P	Pn	14 45 33.8	-0.4
LAKA	Lakka	3.25 233	P	Pn	14 45 33.7	-0.4
ROIA	ROIAK	3.25 28	*i* P	Pn	14 45 34.1	0.0
KRUS	Krusevo	3.25 291	*i* Pn	Pn	14 45 34.6	+0.3
KRUS	Krusevo	3.25 291	*i* Pn	Pn	14 45 34.5	+0.3
KLV	Kalavryta, Ach	3.28 229	P	Pn	14 45 33.9	-0.6
KLV	Kalavryta, Ach	3.28 229	P	Pn	14 45 33.9	-0.6
TVSB	Tavsanli	3.32 103	ePN	Pn	14 45 36.4	+1.2
TVSB	Tavsanli	3.32 103	ePn	Pn	14 45 36.4	+1.2
PRD	Provadia	3.35 28	*i* P	Pn	14 45 34.0	-1.5
SKO	Skopje	3.37 302	*i* Pn	Pn	14 45 36.2	+0.4
SKO	Skopje	3.37 302	*i* Pn	Pn	14 45 36.1	+0.4
ZIMR		3.41 1	⇑*i*P	Pn	14 45 36.3	+0.1
GEDZ	Gediz	3.41 109	ePN	Pn	14 45 37.7	+1.3
GEDZ	Gediz	3.41 109	ePn	Pn	14 45 37.7	+1.3
ADVT	Abdulvahap	3.42 85	ePN	Pn	14 45 38.0	+1.6
ADVT	Abdulvahap	3.42 85	ePn	Pn	14 45 38.0	+1.6
SILT	Sile	3.44 73	ePN	Pn	14 45 38.4	+1.7
SILT	Sile	3.44 73	ePn	Pn	14 45 38.4	+1.7
KBN	Korca	3.45 278	*i* PN	Pn	14 45 36.7	-0.1
KBN	Korca	3.45 278	*i* Pn	Pn	14 45 36.7	-0.1
	SNR=40					
CAVI	Cavuskoy	3.50 89	ePN	Pn	14 45 39.0	+1.5
CAVI	Cavuskoy	3.50 89	ePn	Pn	14 45 39.0	+1.5
OHR	Ohrid	3.51 286	*i* Pn	Pn	14 45 38.5	+0.7
OHR	Ohrid	3.51 286	*i* Pn	Pn	14 45 38.4	+0.7
MLSB	Milas	3.54 146	ePN	Pn	14 45 39.0	+1.0
MLSB	Milas	3.54 146	ePn	Pn	14 45 39.0	+1.0
BODT	Bodrum	3.56 153	ePN	Pn	14 45 39.0	+0.7
BODT	Bodrum	3.56 153	ePn	Pn	14 45 39.0	+0.7
BARS	Barje	3.65 316	⇓*i*Pn	Pn	14 45 39.5	-0.1
PHP	Peshkopia	3.93 293	*i* PN	Pn	14 45 44.6	+1.1
PHP	Peshkopia	3.93 293	*i* Pn	Pn	14 45 44.6	+1.1
	SNR=40					
NIS1	Nisyros Isl.	3.93 157	ePN	Pn	14 45 44.6	+1.1
NIS1	Nisyros Isl.	3.93 157	ePn	Pn	14 45 44.6	+1.1
DAT	Datca	3.95 152	ePN	Pn	14 45 44.4	+0.6
DAT	Datca	3.95 152	ePn	Pn	14 45 44.4	+0.6
GULT	Gulveren	4.01 86	ePN	Pn	14 45 46.7	+2.1
GULT	Gulveren	4.01 86	ePn	Pn	14 45 46.7	+2.1
PSN	Preselentsi	4.06 31	*i* P	Pn	14 45 43.6	-1.6
SRN	Sarande	4.06 267	*i* PN	Pn	14 45 47.3	+2.0
SRN	Sarande	4.06 267	*i* Pn	Pn	14 45 47.3	+2.0
	SNR=40					
ZAGS	Zajecar	4.22 329	*i* Pn	Pn	14 45 46.5	-0.9
TIR	Tirane	4.25 287	*i* PN	Pn	14 45 51.5	+3.7
TIR	Tirane	4.25 287	*i* Pn	Pn	14 45 51.5	+3.7
	SNR=40					
BOVS	Bovan	4.31 323	*i* Pn	Pn	14 45 48.4	-0.2
DALY	Dalyan (Mu˜la	4.33 141	ePN	Pn	14 45 50.8	+1.9
DALY	Dalyan (Mu˜la	4.33 141	ePn	Pn	14 45 50.8	+1.9
KYTH	Kithira	4.34 205	P	Pn	14 45 47.8	-1.4
KYTH	Kithira	4.34 205	P	Pn	14 45 47.8	-1.4
SHUT	Suhut-Afyon	4.42 111	ePN	Pn	14 45 52.1	+1.8
SHUT	Suhut-Afyon	4.42 111	ePn	Pn	14 45 52.1	+1.8
BCI	Bajram Curri	4.46 300	*i* PN	Pn	14 45 52.0	+1.3
BCI	Bajram Curri	4.46 300	*i* Pn	Pn	14 45 52.0	+1.3
	SNR=40					
MDUB	Mudurnu	4.53 85	ePN	Pn	14 45 54.1	+2.3
MDUB	Mudurnu	4.53 85	ePn	Pn	14 45 54.1	+2.3
EFOR	EFORIE	4.57 32	⇑*i*P	Pg	14 46 08.4	-2.2
PVY	Plav	4.63 302	⇓*i*Pn	Pn	14 45 53.6	+0.4
PVY			eSn	Sn	14 46 48.7	+1.5
PVY	Plav	4.63 302	⇓*i*Pn	Pn	14 45 53.6	+0.4
PVY			eSn	Sn	14 46 48.7	+1.5
SRE	Strehaia	4.67 342	⇑*i*P	Pn	14 45 54.1	+0.5
SRE	Strehaia	4.67 342	⇑*i*P	Pn	14 45 54.1	+0.5
FETY	Fethiye	4.68 139	ePN	Pn	14 45 55.1	+1.3
FETY	Fethiye	4.68 139	ePn	Pn	14 45 55.1	+1.3
ISP	Isparta	4.75 119	ePN	Pn	14 45 56.9	+2.1
ISP	Isparta	4.75 119	ePn	Pn	14 45 56.9	+2.1
ISP	Isparta	4.75 119	ePn	Pn	14 45 50.3	-4.5
TIRR	Tirgusor	4.81 28	ePn	Pn	14 45 51.8	-3.7
TIRR	Tirgusor	4.81 28	ePn	Pn	14 45 51.8	-3.7
TIRR			eSn	Sn	14 46 46.5	-4.7
BEY	Berane	4.81 305	ePn	Pn	14 45 56.4	+0.7
BEY			eSn	Sn	14 46 53.0	+1.5
IVA	Berane	4.81 305	ePn	Pn	14 45 56.4	+0.7
IVA			eSn	Sn	14 46 53.0	+1.5
HARR	Harsova	4.86 23	⇓*i*P	Pn	14 45 55.7	-0.4
HARR	Harsova	4.86 23	⇓*i*P	Pn	14 45 55.7	-0.4
ULC	Ulcinj	4.87 293	⇑*i*Pn	Pn	14 45 58.0	+1.6
ULC			eSn	Sn	14 46 54.3	+1.5
ULC	Ulcinj	4.87 293	⇑*i*Pn	Pn	14 45 58.0	+1.6
ULC			eSn	Sn	14 46 54.3	+1.5
SVRH	Sivrihisar-ESK	4.88 97	ePN	Pn	14 45 58.8	+2.3
SVRH	Sivrihisar-ESK	4.88 97	ePn	Pn	14 45 58.8	+2.3
KARP	Karpathos	4.92 162	ePN	Pn	14 45 59.0	+1.9
KARP	Karpathos	4.92 162	ePn	Pn	14 45 59.0	+1.9
KUBS	Kucevo	4.94 329	*i* Pn	Pn	14 45 56.0	-1.4
IDI	Anoyia	4.96 184	Pn	Pn	14 45 56.6	-1.0
	comp=N,2.6nm,0.3s,baz=339,slow=14,SNR=13					
IDI			Sn	Sn	14 46 51.3	-3.8
	comp=N,2.6nm,0.3s,baz=59,slow=20,SNR=3.7					
IDI			LR	LR	14 48 03.0	
	comp=N,257nm,21.4s,baz=334,slow=41					
IDI	Anoyia	4.96 184	ePn	Pn	14 45 53.8	-3.9
IDI			eSn	Sn	14 46 50.9	-4.2
IDI	Anoyia	4.96 184	ePn	Pn	14 45 53.8	-3.9
IDI			eSn	Sn	14 46 50.9	-4.2
GRUS	Gruza	4.97 318	⇓*i*Pn	Pn	14 45 57.2	-0.6
MTUR	Matau	4.98 358	⇑*i*P	Pn	14 45 57.7	-0.2
MTUR	Matau	4.98 358	⇑*i*P	Pn	14 45 57.7	-0.2
DRME	Dracevica, Mon	4.99 295	ePn	Pn	14 45 59.4	+1.5
DRME			eSn	Sn	14 46 57.2	+1.6
DRME	Dracevica, Mon	4.99 295	ePn	Pn	14 45 59.4	+1.5
DRME			eSn	Sn	14 46 57.2	+1.6
PDG	Podgorica	5.03 298	⇑*i*Pn	Pn	14 45 59.8	+1.3
PDG			eSn	Sn	14 46 57.9	+1.2
TTG	Podgorica	5.03 298	⇑*i*Pn	Pn	14 45 59.8	+1.3
TTG			eSn	Sn	14 46 57.9	+1.2
ELL	Elmali	5.04 132	ePN	Pn	14 46 00.8	+2.0
ELL	Elmali	5.04 132	ePn	Pn	14 46 00.8	+2.0
KOME	Kolasin	5.04 303	⇑*i*Pn	Pn	14 45 59.4	+0.6
KOME			eSn	Sn	14 46 57.7	+0.5
KOME	Kolasin	5.04 303	⇑*i*Pn	Pn	14 45 59.4	+0.6
KOME			eSn	Sn	14 46 57.7	+0.5
KORT	Korkueli	5.13 128	ePN	Pn	14 46 02.1	+2.1
KORT	Korkueli	5.13 128	ePn	Pn	14 46 02.1	+2.1
ARR	Arges	5.14 355	⇓*i*P	Pn	14 45 59.3	-0.8
ARR	Arges	5.14 355	⇓*i*P	Pn	14 45 59.3	-0.8
VOIR		5.19 358	⇑*i*P	Pn	14 46 00.5	-0.3
VOIR		5.19 358	⇑*i*P	Pn	14 46 00.5	-0.3
BUM	Brajici-Budva	5.23 295	ePn	Pn	14 46 02.5	+1.2
BUM			eSn	Sn	14 47 02.8	+1.1
BUM	Brajici-Budva	5.23 295	ePn	Pn	14 46 02.5	+1.2
BUM			eSn	Sn	14 47 02.8	+1.1
MDVR	Moldovita	5.24 331	⇓*i*P	Pn	14 46 01.4	-0.1
MDVR	Moldovita	5.24 331	⇓*i*P	Pn	14 46 01.4	-0.1
SUTC	Sutluce-Ispart	5.25 120	ePN	Pn	14 46 03.8	+2.0
SUTC	Sutluce-Ispart	5.25 120	ePn	Pn	14 46 03.8	+2.0
MLR	Muntele Rosu	5.26 5	Pn	Pn	14 46 02.4	+0.5
	comp=N,1.2nm,0.3s,baz=246,slow=11,SNR=58					
MLR			Lg	Lg	14 47 30.1	
	baz=194,slow=19,SNR=2.2					
CEME	Cevo	5.30 298	⇓*i*Pn	Pn	14 46 03.8	+1.4
CEME			eSn	Sn	14 47 04.8	+1.2
CEME	Cevo	5.30 298	⇓*i*Pn	Pn	14 46 03.8	+1.4
CEME			eSn	Sn	14 47 04.8	+1.2
LOT	Lotru	5.32 348	⇑*i*P	Pn	14 46 04.8	+2.2
LOT	Lotru	5.32 348	⇑*i*P	Pn	14 46 04.8	+2.2
CFR	Carcaliu	5.36 22	⇑*i*P	Pn	14 46 06.0	+3.0
CFR	Carcaliu	5.36 22	⇑*i*P	Pn	14 46 06.0	+3.0
NKY	Niksic	5.37 301	⇓*i*Pn	Pn	14 46 04.4	+1.1
NKY			eSn	Sn	14 47 06.2	+1.0
NKY	Niksic	5.37 301	⇓*i*Pn	Pn	14 46 04.4	+1.1
NKY			eSn	Sn	14 47 06.2	+1.0
PLE	Pljevlja	5.37 307	⇓*i*Pn	Pn	14 46 03.4	+0.1
PLE			eSn	Sn	14 47 06.5	+1.2
PLE	Pljevlja	5.37 307	⇓*i*Pn	Pn	14 46 03.4	+0.1
PLE			eSn	Sn	14 47 06.5	+1.2
TRUS	Trudelj	5.37 319	⇓*i*Pn	Pn	14 46 02.5	-0.7
NKME	Niksic	5.37 300	⇓*i*Pn	Pn	14 46 04.7	+1.4
NKME			eSn	Sn	14 47 06.4	+1.2
NKME	Niksic	5.37 300	⇓*i*Pn	Pn	14 46 04.7	+1.4
NKME			eSn	Sn	14 47 06.4	+1.2
DIVS	Divibare	5.50 316	⇓*i*Pn	Pn	14 46 04.5	-0.5
HCY	Herceg Novi	5.56 296	ePn	Pn	14 46 06.4	+0.6
HCY			eSn	Sn	14 47 10.7	+1.0
HCY	Herceg Novi	5.56 296	ePn	Pn	14 46 06.4	+0.6
HCY			eSn	Sn	14 47 10.7	+1.0
UPM	Unac-Piva	5.61 304	⇑*i*Pn	Pn	14 46 07.5	+0.8
UPM			eSn	Sn	14 47 12.0	+0.8
UPM	Unac-Piva	5.61 304	⇑*i*Pn	Pn	14 46 07.5	+0.8
UPM			eSn	Sn	14 47 12.0	+0.8
PLOR	Plostina	5.69 10	⇑*i*P	Pn	14 46 08.9	+1.2
PLOR	Plostina	5.69 10	⇑*i*P	Pn	14 46 08.9	+1.2
BRY	Bratogost	5.71 300	⇑*i*Pn	Pn	14 46 09.1	+1.1
BRY			eSn	Sn	14 47 14.4	+0.8
BRY	Bratogost	5.71 300	⇑*i*Pn	Pn	14 46 09.1	+1.1
BRY			eSn	Sn	14 47 14.4	+0.8
VRI	Vrincioaia	5.72 10	⇑*i*P	Pn	14 46 09.1	+1.1
VRI	Vrincioaia	5.72 10	⇑*i*P	Pn	14 46 09.1	+1.1
LADK	Ladik-KONYA	5.87 108	ePN	Pn	14 46 12.8	+2.6
LADK	Ladik-KONYA	5.87 108	ePn	Pn	14 46 12.8	+2.6
KONT	Konya--Tatoy	5.97 110	ePN	Pn	14 46 14.2	+2.7
KONT	Konya--Tatoy	5.97 110	ePn	Pn	14 46 14.2	+2.7
BZS	Buzias	6.00 335	⇓*i*P	Pn	14 46 12.1	+0.2
BZS	Buzias	6.00 335	⇓*i*P	Pn	14 46 12.1	+0.2
AFSR	Af˜ar-Bala (A	6.05 95	ePN	Pn	14 46 15.9	+3.2
AFSR	Af˜ar-Bala (A	6.05 95	ePn	Pn	14 46 15.9	+3.2
STON	Ston	6.26 297	P	Pn	14 46 17.5	+2.1
STON	Ston	6.26 297	*i* P	Pn	14 46 17.5	+2.1
TESR	Tescani	6.34 9	⇑*i*P	Pn	14 46 16.5	-0.1
TESR	Tescani	6.34 9	⇑*i*P	Pn	14 46 16.5	-0.1
BRTR	Keskin Array B	6.45 92	Pn	Pn	14 46 17.9	-0.2
	comp=N,1.6nm,0.3s,baz=268,slow=13,SNR=38					
BRTR			Lg	Lg	14 48 06.8	
	baz=253,slow=25,SNR=2.1					
SIRR	Siria	6.57 338	⇓*i*P	Pn	14 46 18.8	-0.9
SIRR	Siria	6.57 338	⇓*i*P	Pn	14 46 18.8	-0.9
DRGR		6.80 345	⇑*i*P	Pn	14 46 20.0	-2.9
AR

mb1 3.6/6, mb1mx3.2/47, mbtmp3.9/6, Error ellipse: s-maj=87.9km s-min=21.5km az=153.0
*NNC **13** 14:54:19.4±1.2, 38°.14N×72°.00E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=9.1km s-min=8.4km az=153.0*
ISC 13 14:54:13.0±0.8, 37°.47N±0°.06×72°.09E±0°.07, h130km, n21, σ1§98/28, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.02**	**3**	⇓Pn	**Pn**	**14 55 27.4**	**+0.9**
	10nm,0.4s						
MNAS				⇑Sn	**Sn**	**14 56 20.0**	**-3.8**
	18nm,0.4s						
AAK	**Ala-Archa**	**5.48**	**19**	P	**Pn**	**14 55 34.3**	**+1.6**
	8.0nm,0.3s,baz=156,slow=6.4,SNR=64						
AAK				S	**Sn**	**14 56 32.8**	**-2.0**
	1.9nm,0.3s,baz=308,slow=20,SNR=12						
AAK	**Ala-Archa**	**5.48**	**19**	⇑Pn	**Pn**	**14 55 34.0**	**+1.3**
	11nm,0.4s						
AAK				⇑Sn	**Sn**	**14 56 32.2**	**-2.6**
	12nm,0.6s						
KK31	**Karatay Array**	**5.76**	**348**	⇑Pn	**Pn**	**14 55 37.1**	**+0.9**
	23nm,0.5s,baz=168,slow=12,SNR=227						
KK31				⇓Sn	**Sn**	**14 56 37.1**	**-4.1**
	17nm,0.6s,baz=171,slow=24,SNR=11						
THN	**Thein Dam**	**5.84**	**148**	*e*P	**Pn**	**14 55 36.4**	**-1.0**
THN				*e*S	**Sn**	**14 56 38.8**	**-4.4**
TKM2	**Tokmak 2**	**6.07**	**25**	⇓Pn	**Pn**	**14 55 42.1**	**+1.5**
	7.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 56 48.3**	**-0.7**
	5.2nm,0.5s						
TKM2				⇓Lg	Lg	14 57 14.6	
	3.8nm,0.5s						
GEYT	**Alibeck**	**11.08**	**277**	P	**Pn**	**14 56 47.4**	**-0.4**
	1.4nm,0.3s,baz=101,slow=12,SNR=16						
GEYT				S	**Sn**	**14 58 47.8**	**-2.2**
	1.2nm,0.3s,baz=284,slow=31,SNR=5.8						
MKAR	**Makanchi Array**	**12.00**	**36**	P	**Pn**	**14 57 00.4**	**+0.7**
	0.1nm,0.3s,baz=206,slow=14,SNR=5.7						
PYUN	**Piuthan**	**13.08**	**132**	*e*P	**Pn**	**14 57 14.3**	**+0.1**
KOLN	**Koldanda**	**13.69**	**132**	*e*P	**Pn**	**14 57 21.8**	**-0.1**
	6.9nm,0.4s						
KURBB	**Kurchatov Arra**	**13.93**	**17**	P	**Pn**	**14 57 22.9**	**-1.8**
	0.0nm,0.3s,baz=203,slow=12,SNR=6.1						
GKN	**Gorkha**	**14.15**	**128**	*e*P	**Pn**	**14 57 27.9**	**+0.1**
	7.4nm,0.2s						
DMN	**Daman**	**14.72**	**128**	*e*P	**Pn**	**14 57 35.0**	**-0.1**
PKIN	**Phulchoki**	**14.93**	**128**	*e*P	**Pn**	**14 57 37.4**	**-0.3**
JIRN	**Jiri**	**15.38**	**125**	*e*P	**Pn**	**14 57 44.0**	**+0.6**
	96nm,0.4s						
BVAR	**Borovoye Array**	**15.60**	**356**	P	**Pn**	**14 57 46.1**	**+0.4**
	0.6nm,0.3s,baz=167,slow=13,SNR=5.8						
RAMN	**Ramite**	**16.13**	**126**	*e*P	**Pn**	**14 57 53.9**	**+1.3**
	8.2nm,0.3s						
TAPN	**Taplejung**	**16.58**	**123**	*e*P	**P**	**14 57 59.3**	**+0.8**
ODAN	**Odare**	**16.70**	**125**	*e*P	**Pn**	**14 58 00.3**	**+0.7**
	5.4nm,0.5s						
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**14 58 22.8**	**+2.0**
	0.4nm,0.3s,baz=216,slow=11,SNR=9.8						
TORD	**Torodi Ar. Bea**	**66.61**	**269**	P	**P**	**15 04 53.3**	**+3.5**
	0.4nm,0.5s,baz=48,slow=6.2,SNR=3.0						

*ISCJB **13** 14:56:21.2±0.4, 44°.08N±0°.02×8°.06E±0°.03, h14km±2km, Error ellipse: s-maj=3.7km s-min=2.8km az=148.6*
*CSEM **13** 14:56:21.5±0.2, 44°.08N×8°.07E, h5km, ML2.6/17, Error ellipse: s-maj=3.5km s-min=2.7km az=156.0*
*LDG **13** 14:56:21.3±0.3, 44°.07N×8°.14E, h3km, Md2.5/1, Ml2.5/10, Error ellipse: s-maj=6.1km s-min=3.7km az=49.0*
*ROM **13** 14:56:21.3±0.1, 44°.08N×8°.07E, h7km±1km, Md2.2/9, Ml2.0/9, Error ellipse: s-maj=2.7km s-min=1.4km az=144.0*
*GEN **13** 14:56:22.0, 44°.08N×8°.08E, h4km, ML1.9*
ISC 13 14:56:21.0±0.8, 44°.07N±0°.02×8°.08E±0°.02, h13km±4km, n44, σ0§65/88, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RORO	**Rocca Rossa**	**0.04**	**346**	Pg	**Pg**	**14 56 23.3**	**-0.2**
RORO				Sg	**Sg**	**14 56 24.0**	**-1.2**
	10μm,0.1s						
RORO	**Rocca Rossa**	**0.04**	**346**	P	**Pg**	**14 56 23.2**	**-0.2**
RORO				S	**Sg**	**14 56 24.0**	**-1.2**
FINB	**Finale Ligure**	**0.21**	**58**	Pg	**Pg**	**14 56 26.3**	**+0.7**
FINB				Sg	**Sg**	**14 56 29.2**	**+0.5**
	398nm,0.2s						
FINB	**Finale Ligure**	**0.21**	**58**	Pg	**Pg**	**14 56 26.3**	**+0.7**
FINB				Sg	**Sg**	**14 56 29.2**	**+0.5**
	398nm,0.2s						
IMI	**Imperia**	**0.21**	**221**	Pg	**Pg**	**14 56 26.6**	**+0.9**
IMI				Sg	**Sg**	**14 56 29.8**	**+1.0**
	182nm,0.2s						
IMI	**Imperia**	**0.21**	**221**	P	**Pg**	**14 56 26.5**	**+0.9**
IMI				S	**Sg**	**14 56 29.5**	**+0.7**
IMI				Sg	Sg	14 56 29.8	+1.0
	182nm,0.2s						
QLNO	**Quiliano**	**0.32**	**37**	Pg	**Pb**	**14 56 28.3**	**-0.3**
QLNO				Sg	**Sg**	**14 56 32.5**	**+0.5**
	87nm,0.2s						
QLNO	**Quiliano**	**0.32**	**37**	Pg	**Pb**	**14 56 28.3**	**-0.3**
QLNO				Sg	**Sg**	**14 56 32.5**	**+0.5**
	87nm,0.2s						
NEGI	**Seborga**	**0.35**	**231**	Pg	**Pb**	**14 56 29.1**	**-0.1**
	136nm,0.1s						
NEGI	**Seborga**	**0.35**	**231**	P	**Pb**	**14 56 29.1**	**-0.1**
NEGI				S	**Sb**	**14 56 34.5**	**-0.1**
ENR	**Entracque**	**0.50**	**289**	Pg	**Pb**	**14 56 31.4**	**-0.4**
ENR				Sg	**Sb**	**14 56 38.7**	**-0.3**
	84nm,0.1s						
ENR	**Entracque**	**0.50**	**289**	P	**Pb**	**14 56 31.1**	**-0.7**
ENR	**Entracque**	**0.50**	**289**	Pg	**Pb**	**14 56 31.4**	**-0.4**
ENR				S	**Sg**	**14 56 38.2**	**+0.6**
ENR				Sg	**Sb**	**14 56 38.7**	**-0.3**
	84nm,0.1s						
SBF	**Sospel**	**0.51**	**246**	*e*Pg	**Pb**	**14 56 31.9**	**0.0**
SBF				*e*Sg	**Sb**	**14 56 39.2**	**0.0**
	145nm,0.2s						
SBF	**Sospel**	**0.51**	**246**	*e*Pg	**Pb**	**14 56 31.9**	**0.0**
SBF				*e*Sg	**Sb**	**14 56 39.2**	**0.0**
	72nm,0.2s						
STV	**Sant Anna di V**	**0.57**	**288**	Pg	**Pb**	**14 56 32.9**	**-0.1**
STV				Sg	**Sb**	**14 56 41.0**	**-0.1**
	39nm,0.3s						
STV	**Sant Anna di V**	**0.57**	**288**	Pg	**Pb**	**14 56 32.9**	**-0.1**
STV				S	**Sb**	**14 56 40.4**	**-0.7**
STV				Sg	**Sb**	**14 56 41.0**	**-0.1**
	39nm,0.3s						
PCP	**Piancastagn**	**0.58**	**35**	Pg	**Pb**	**14 56 32.8**	**-0.3**
PCP				Sg	**Sb**	**14 56 42.5**	**+1.3**
	59nm,0.3s						
PCP	**Piancastagn**	**0.58**	**35**	P	**Pb**	**14 56 32.8**	**-0.3**
PCP				S	**Sb**	**14 56 41.0**	**-0.2**
PCP				Sg	**Sb**	**14 56 42.5**	**+1.3**
	59nm,0.3s						
DOI	**San Damiano**	**0.74**	**306**	Pg	**Pb**	**14 56 35.6**	**-0.3**
DOI				Sg	**Sb**	**14 56 46.5**	**+0.6**
	56nm,0.3s						
DOI	**San Damiano**	**0.74**	**306**	Pg	**Pb**	**14 56 35.6**	**-0.3**
DOI				Sg	**Sb**	**14 56 46.5**	**+0.6**
	56nm,0.3s						
PZZ	**Stroppo**	**0.82**	**303**	Pg	**Pb**	**14 56 37.4**	**+0.2**
PZZ				Sg	**Sb**	**14 56 49.6**	**+1.3**
	72nm,0.5s						
PZZ	**Stroppo**	**0.82**	**303**	P	**Pb**	**14 56 37.5**	**+0.2**
PZZ				S	**Sg**	**14 56 48.0**	**+0.3**
PZZ				Sg	**Sb**	**14 56 49.6**	**+1.3**
	72nm,0.5s						
BHB	**Bricherasio**	**0.97**	**323**	P	**Pg**	**14 56 39.3**	**-0.4**
BHB				S	**Sg**	**14 56 52.0**	**-0.4**
MBDF	**Montbardon**	**1.15**	**305**	*e*Pn	**Pb**	**14 56 42.8**	**0.0**
MBDF	**Montbardon**	**1.15**	**305**	*e*Pg	**Pn**	**14 56 43.2**	**+0.2**
MBDF				*e*Sg	**Sb**	**14 56 58.6**	**+0.9**
	39nm,0.7s						
MBDF	**Montbardon**	**1.15**	**305**	*e*Pn	**Pb**	**14 56 42.8**	**0.0**
MBDF	**Montbardon**	**1.15**	**305**	*e*Pg	**Pn**	**14 56 43.2**	**+0.2**
MBDF				*e*Sg	**Sb**	**14 56 58.6**	**+0.9**
	20nm,0.7s						
FRF	**La Foret Royal**	**1.16**	**244**	*e*Pg	**Pn**	**14 56 43.7**	**+0.8**
FRF				*e*Sg	**Sn**	**14 56 58.9**	**+0.3**
	47nm,0.2s						
FRF	**La Foret Royal**	**1.16**	**244**	*e*Pg	**Pn**	**14 56 43.7**	**+0.8**
FRF				*e*Sg	**Sn**	**14 56 58.9**	**+0.3**
	23nm,0.2s						
LMR	**La Mourre**	**1.36**	**238**	*e*Sn	**Sn**	**14 57 03.5**	**0.0**
LMR				*e*Sg	**Sg**	**14 57 05.5**	**+0.8**
	16nm,0.2s						
LMR	**La Mourre**	**1.36**	**238**	*e*Sn	**Sn**	**14 57 03.5**	**0.0**
LMR				*e*Sg	**Sg**	**14 57 05.5**	**+0.8**
	8.1nm,0.2s						
PGF	**Pioggiola**	**1.66**	**156**	*e*Pn	**Pb**	**14 56 49.9**	**-1.6**
PGF				*e*Sn	**Sn**	**14 57 10.1**	**-1.1**
	3.2nm,0.2s						
PGF	**Pioggiola**	**1.66**	**156**	*e*Pn	**Pb**	**14 56 49.9**	**-1.6**
PGF				*e*Sn	**Sn**	**14 57 10.1**	**-1.1**
	1.6nm,0.2s						
LPL	**La Plagne**	**1.74**	**327**	*e*Pg	**Pg**	**14 56 53.9**	**-0.5**
LPL				*e*Sg	**Sg**	**14 57 16.9**	**0.0**
	4.1nm,0.4s						
LPL	**La Plagne**	**1.74**	**327**	*e*Pg	**Pg**	**14 56 53.9**	**-0.5**
LPL				*e*Sg	**Sg**	**14 57 16.9**	**0.0**
	2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.79**	**299**	*e*Pg	**Pg**	**14 56 55.1**	**-0.3**
ORIF				*e*Sg	**Sg**	**14 57 18.9**	**+0.3**
	5.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.79**	**299**	*e*Pg	**Pg**	**14 56 55.1**	**-0.3**
ORIF				*e*Sg	**Sg**	**14 57 18.9**	**+0.3**
	2.8nm,0.3s						
SMRF	**Simiane la Rot**	**1.81**	**268**	*e*P	**Pg**	**14 56 54.5**	**-1.2**
SMRF				*e*Sg	**Sg**	**14 57 19.7**	**+0.5**
	16nm,0.3s						
SMRF	**Simiane la Rot**	**1.81**	**268**	*e*P	**Pg**	**14 56 54.5**	**-1.2**
SMRF				*e*Sg	**Sg**	**14 57 19.7**	**+0.5**
	7.8nm,0.3s						
VIVF	**Saint-Julien-I**	**2.56**	**289**	*e*Pn	**Pn**	**14 57 02.5**	**+0.2**
VIVF				*e*Sn	**Sn**	**14 57 33.1**	**-0.3**
	1.5nm,0.2s						
VIVF				*e*Sg	**Sg**	**14 57 43.2**	**-0.2**
	1.4nm,0.3s						
VIVF	**Saint-Julien-I**	**2.56**	**289**	*e*Pn	**Pn**	**14 57 02.5**	**+0.2**
VIVF				*e*Sn	**Sn**	**14 57 33.1**	**-0.3**
	0.8nm,0.2s						
VIVF				*e*Sg	**Sg**	**14 57 43.2**	**-0.2**
	0.7nm,0.3s						
LASF	**Ste Croix**	**3.04**	**272**	*e*Pn	**Pn**	**14 57 09.0**	**+0.1**
LASF	**Ste Croix**	**3.04**	**272**	*e*Pn	**Pn**	**14 57 09.0**	**+0.1**

*CSEM **13** 14:58:24.5±0.2, 40°.26N×25°.31E, h15km, ML1.7, Error ellipse: s-maj=5.5km s-min=3.8km az=84.0*
*ATH **13** 14:58:24.3, 40°.25N×25°.34E, h17km±5km, ML1.7/5, Error ellipse: s-maj=5.5km s-min=1.0km az=4.0*
THE 13 14:58:25.2, 40°.25N×25°.33E, h3km±9km, ML1.7/3, Error ellipse: s-maj=9.6km s-min=0.3km az=162.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.27**	**36**	P	Pg	14 58 30.4	0.0
SMTH				S	Sg	14 58 34.4	+0.5
SMTH	**Samothraki Isl**	**0.27**	**36**	P	Pg	14 58 30.0	-0.4
SMTH				AML	AML	14 58 35.2	
	comp=N,254μm,0.2s						
SMTH				AML	AML	14 58 35.2	
	comp=E,286μm,0.1s						
SMTH	**Samothraki Isl**	**0.27**	**36**	P	Pg	14 58 30.3	-0.1
SMTH				S	Sg	14 58 33.7	-0.2
SMTH				AML	AML	14 58 35.2	
	comp=N,254μm,0.2s						
SMTH				AML	AML	14 58 35.2	
	comp=E,286μm,0.1s						
SMTH	**Samothraki Isl**	**0.27**	**36**	P	Pg	14 58 30.4	0.0
SMTH				S	Sg	14 58 34.4	+0.5
LIA	**Limnos Island**	**0.37**	**197**	P	Pg	14 58 32.3	0.0
LIA				S	Sg	14 58 37.8	+0.7
LIA	**Limnos Island**	**0.37**	**197**	P	Pg	14 58 32.2	-0.1
LIA				S	Sg	14 58 37.1	0.0
LIA				AML	AML	14 58 38.0	
	comp=N,471μm,0.2s						
LIA				AML	AML	14 58 38.1	
	comp=E,365μm,0.3s						
LIA	**Limnos Island**	**0.37**	**197**	P	Pg	14 58 32.4	+0.1
LIA				S	Sg	14 58 36.9	-0.2
LIA				AML	AML	14 58 38.0	
	comp=N,471μm,0.2s						
LIA				AML	AML	14 58 38.1	
	comp=E,365μm,0.3s						
LIA	**Limnos Island**	**0.37**	**197**	P	Pg	14 58 32.3	0.0
LIA				S	Sg	14 58 37.8	+0.7
GADA	**Gvkgeada**	**0.44**	**98**	P	Pg	14 58 33.9	+0.2
GADA				S	Sg	14 58 40.1	+0.6
GADA	**Gvkgeada**	**0.44**	**98**	P	Pg	14 58 33.9	+0.2
GADA				S	Sg	14 58 40.1	+0.6
ALN	**Alexandroupoli**	**0.85**	**40**	P	Pg	14 58 40.8	-0.6
ALN				S	Sg	14 58 53.3	+0.9
ALN	**Alexandroupoli**	**0.85**	**40**	P	Pg	14 58 41.0	-0.4
ALN				S	Sg	14 58 52.6	+0.2
ALN				AML	AML	14 58 53.7	
	comp=E,43μm,0.4s						
ALN				AML	AML	14 58 54.9	
	comp=N,51μm,0.4s						
ALN	**Alexandroupoli**	**0.85**	**40**	P	Pg	14 58 41.0	-0.4
ALN				S	Sb	14 58 53.4	-1.0
ALN				AML	AML	14 58 53.7	
	comp=E,43μm,0.4s						
ALN				AML	AML	14 58 54.9	
	comp=N,51μm,0.4s						
ALN	**Alexandroupoli**	**0.85**	**40**	P	Pg	14 58 41.0	-0.4
ALN				S	Sg	14 58 53.3	+0.9
RDO	**Rodhopi**	**0.91**	**10**	P	Pg	14 58 40.8	-1.8
RDO	**Rodhopi**	**0.91**	**10**	P	Pg	14 58 40.7	-1.9
RDO	**Rodhopi**	**0.91**	**10**	P	Pg	14 58 40.7	-1.9
KAVA	**Kavala**	**0.97**	**321**	P	Pg	14 58 43.3	-0.4
KAVA	**Kavala**	**0.97**	**321**	P	Pg	14 58 42.8	-0.9
KAVA				S	Sg	14 58 55.8	-0.5
KAVA				AML	AML	14 58 57.5	
	comp=N,111μm,0.1s						
KAVA				AML	AML	14 58 57.6	
	comp=E,131μm,0.1s						
KAVA	**Kavala**	**0.97**	**321**	P	Pg	14 58 43.6	-0.1
KAVA				S	Sg	14 58 55.8	-0.5
KAVA				AML	AML	14 58 57.5	
	comp=N,111μm,0.1s						
KAVA				AML	AML	14 58 57.6	
	comp=E,131μm,0.1s						
KAVA	**Kavala**	**0.97**	**321**	P	Pg	14 58 43.3	-0.4
KAVA				S	Sg	14 58 55.8	-0.5
SIGR	**SIGRI**	**1.12**	**158**	P	Pg	14 58 44.2	-2.4
SIGR	**SIGRI**	**1.12**	**158**	P	Pg	14 58 44.6	-2.0
SIGR				S	Sg	14 59 00.5	-0.6
SIGR				AML	AML	14 59 01.9	
	comp=N,85μm,0.6s						
SIGR				AML	AML	14 59 03.3	
	comp=E,110μm,0.5s						
SIGR	**SIGRI**	**1.12**	**158**	P	Pg	14 58 44.6	-2.0
SIGR				S	Sg	14 59 00.5	-0.6
PRK	**Paraskevi**	**1.24**	**144**	P	Pg	14 58 47.3	-1.7
PRK	**Paraskevi**	**1.24**	**144**	P	Pg	14 58 47.5	-1.5
PRK				S	Sg	14 59 05.3	+0.2
PRK	**Paraskevi**	**1.24**	**144**	P	Pg	14 58 47.5	-1.5
PRK				S	Sg	14 59 05.3	+0.2

*BJI **13** 15:05:01.4, 6°.50S×103°.60E, h41km, mb4.7/29, mB4.9/18, Ms4.5/9, Ms7 4.2/8*
*MOS **13** 15:05:04.3±1.0, 6°.10S×103°.97E, h33km, mb4.9/16, Error ellipse: s-maj=14.4km s-min=7.9km az=113.0*
*NEIC **13** 15:05:04.2±2.2, 6°.46S×103°.66E, h33km±16km, mb4.7/18, Error ellipse: s-maj=10.7km s-min=6.5km az=51.0*
*DJA **13** 15:05:04.3±0.4, 6°.5±3°×10°.4E±°, h10km, M4.8/13, mB5.3/1, mb4.9/6, MLv4.8/13, Mw(mB)4.7/1*
*ISCJB **13** 15:05:06.2±0.7, 6°.36S±0°.05×103°.82E±0°.04, h62km±5km, mb4.6/49, Error ellipse: s-maj=9.7km s-min=3.9km az=39.8*
*IDC **13** 15:05:07.6±0.6, 6°.19S×103°.87E, h48km±3km, mb4.2/27, mb1 4.2/27, mb1mx4.0/51, mbtmp4.4/27, MS3.9/6, Ms1 4.0/6, ms1mx3.4/29, Error ellipse: s-maj=17.8km s-min=9.8km az=49.0*
ISC 13 15:05:06.9±0.5, 6°.36S±0°.05×103°.84E±0°.05, h48km±4km, h48km:pP-P, n137, σ1§42/155, mb4.6/49, MS3.8/8, 7C-2D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.06**	**38**	P	**Pn**	**15 05 23.2**	**-2.1**
KASI				S	**Sn**	**15 05 39.1**	**+0.2**
LWLI	**Liwa**	**1.35**	**9**	P	**Pn**	**15 05 30.1**	**+0.7**
LWLI				S	**Sn**	**15 05 49.5**	**+3.2**
BLSI	**Bandar Lampung**	**1.71**	**55**	P	**Pn**	**15 05 34.1**	**-0.2**
BLSI				S	**Sn**	**15 05 56.1**	**+1.1**
CGJI	**Cibinong**	**1.86**	**98**	P	**Pn**	**15 05 36.0**	**-0.3**
CGJI				S	**Sn**	**15 06 01.2**	**+2.6**
KLSI		**1.88**	**28**	P	**Pn**	**15 05 36.8**	**+0.2**
MDSI	**Maura Dua**	**1.89**	**10**	P	Pn	15 05 31.4	-5.3
MDSI				S	**Sn**	**15 06 03.7**	**+4.3**
MNAI	**Manna**	**2.17**	**336**	P	**Pn**	**15 05 40.4**	**-0.2**
SBJI	**Serang**	**2.29**	**84**	P	**Pn**	**15 05 44.3**	**+2.1**
SBJI				S	**Sn**	**15 06 12.1**	**+2.9**
LHSI	**Lahat**	**2.53**	**353**	P	**Pn**	**15 05 44.3**	**-1.3**
SKJI	**Sukabumi**	**2.77**	**104**	P	**Pn**	**15 05 49.3**	**+0.4**
DBJI	**Dramaga**	**2.90**	**94**	P	**Pn**	**15 05 52.4**	**+1.8**
CNJI	**Cibinong**	**3.40**	**106**	P	**Pn**	**15 05 56.9**	**-0.6**
CNJI				S	**Sn**	**15 06 37.8**	**+1.2**
PMBI	**Palembang**	**3.53**	**15**	P	**Pn**	**15 06 01.8**	**+2.5**
MASI	**Maura Aman, Be**	**3.57**	**333**	P	**Pn**	**15 06 00.6**	**+0.8**
MASI				S	**Sn**	**15 06 43.3**	**+2.5**
CISI	**Cisompet, Garu**	**4.12**	**107**	P	**Pn**	**15 06 07.7**	**+0.3**
CISI				S	**Sn**	**15 06 56.7**	**+2.2**
CISI	**Cisompet, Garu**	**4.12**	**107**	*e*Pn	**Pn**	**15 06 06.2**	**-1.2**
XMIS	**Christmas Isla**	**4.47**	**156**	*e*Pn	Pn	15 06 06.5	-5.7
CMJI	**Cimerak**	**4.79**	**107**	P	**Pn**	**15 06 17.1**	**+0.6**
PPSI	**Pulau Pagai**	**5.23**	**313**	P	**Pn**	**15 06 22.1**	**-0.4**
DSRI	**Dabo**	**5.89**	**7**	P	**Pn**	**15 06 33.9**	**+2.3**
UGM	**Wanagama**	**6.81**	**104**	*e*Pn	**Pn**	**15 06 46.1**	**+1.8**
BKNI	**Bangkinang**	**7.20**	**337**	*e*Pn	**Pn**	**15 06 48.1**	**-1.6**
MYKOM	**Kota Tinggi**	**8.09**	**0**	*e*Pn	**Pn**	**15 07 02.2**	**+0.3**
COCO	**West Island**	**9.02**	**230**	*e*P	Pn	15 07 09.6	-5.0
COCO	**West Island**	**9.02**	**230**	*e*Pn	Pn	15 07 09.6	-5.0
JAGI	**Jajag, Banyuwa**	**10.44**	**102**	P	**Pn**	**15 07 35.1**	**+1.0**
	60nm,0.8s						
JAGI	**Jajag, Banyuwa**	**10.44**	**102**	*e*Pn	**Pn**	**15 07 33.9**	**-0.2**
SRBI	**Singaraja**	**11.41**	**99**	P	**Pn**	**15 07 47.0**	**-0.4**
SBUM	**Sibu**	**12.11**	**44**	*e*Pn	**Pn**	**15 07 59.1**	**+2.2**
PLAI	**Plampang**	**14.03**	**101**	P	**Pn**	**15 08 18.8**	**-4.3**
MPSI	**Mapaga**	**17.35**	**68**	P	**P**	**15 09 08.1**	**+1.5**
MMRI	**Maumere**	**18.38**	**98**	*e*P	**P**	**15 09 15.7**	**-2.3**
	35nm,0.6s						
APSI	**Ampana**	**18.57**	**74**	P	**Pn**	**15 09 21.1**	**+0.4**
MYLDM	**Lahad Datu**	**18.59**	**52**	*e*P	**Pn**	**15 09 23.6**	**+2.6**
	30nm,1.1s						
MRSI	**Marisa**	**19.30**	**70**	P	**Pn**	**15 09 28.4**	**-1.1**
SOEI	**Soe**	**20.50**	**101**	*e*P	**P**	**15 09 40.1**	**-1.2**
	139nm,0.8s						
SOEI				*e*S	**S**	**15 13 22.5**	**-5.9**
CM01	**Chiang Mai Arr**	**25.09**	**349**	*e*P	**P**	**15 10 25.1**	**-2.1**
CM31	**Chiang Mai Arr**	**25.13**	**349**	*e*P	**P**	**15 10 25.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**25.13**	**349**	P	**P**	**15 10 25.7**	**-1.8**
	1.4nm,0.8s,baz=175,slow=8.7,SNR=5.0						
CMAR				pP	**pP**	**15 10 39.3**	**-0.7**
	14nm,0.8s,baz=182,slow=9.0,SNR=15						
CMAR				LR	LR	15 20 37.2	
	comp=Z,135nm,20.6s,baz=179,slow=37						
CHTO	**Chiang Mai**	**25.47**	**349**	*e*P	**P**	**15 10 28.6**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHTO	**Chiang Mai**	**25.47**	**349**	*e*P	**P**	**15 10 28.6**	**-2.1**
	comp=Z,9.9nm,0.8s						
PALK	**Pallekele**	**26.76**	**300**	LR	LR	15 20 02.6	
	comp=Z,70nm,21.4s,baz=116,slow=34						
NWAO	**Narrogin (SRO)**	**29.23**	**156**	LR	LR	15 21 17.5	
	comp=Z,229nm,21.1s,baz=333,slow=33						
H01W3	**Cape Leeuwin H**	**29.93**	**163**	T	T	15 42 26.8	
	baz=340,slow=76,SNR=9.5						
H01W2	**Cape Leeuwin H**	**29.95**	**163**	T	T	15 42 20.7	
	baz=340,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**29.95**	**163**	T	T	15 42 27.9	
	baz=340,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**31.13**	**266**	T	T	15 43 53.7	
	baz=90,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**31.14**	**266**	T	T	15 43 49.9	
	baz=90,slow=75,SNR=9.8						
H08S1	**Diego Garcia H**	**31.15**	**266**	T	T	15 43 56.8	
	baz=90,slow=75,SNR=12						
DGAR	**Diego Garcia**	**31.17**	**266⇑**	*e*P	P	15 11 17.3	-4.4
WRA	**Warramunga Arr**	**32.55**	**117**	P	**P**	**15 11 34.3**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=287,slow=12,SNR=18						
WRA				pP	**pP**	**15 11 47.4**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=286,slow=13,SNR=11						
WRAB	**Tennant Creek**	**32.55**	**117⇑**	*e*P	**P**	**15 11 33.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,37nm,2.5s						
WRAB	**Tennant Creek**	**32.55**	**117**	*e*P	**P**	**15 11 34.6**	**+0.8**
	comp=Z,6.6nm,0.7s						
WB2	**Warramunga Arr**	**32.56**	**117**	*e*P	**P**	**15 11 33.4**	**-0.4**
ASAR	**Alice Springs**	**33.63**	**124**	P	**P**	**15 11 44.0**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=304,slow=7.6,SNR=17						
ASAR				LR	LR	15 28 47.1	
	comp=Z,73nm,18.4s,baz=300,slow=42						
ASAR	**Alice Springs**	**33.63**	**124**	P	**P**	**15 11 44.0**	**+0.8**
ODAN	**Odare**	**36.66**	**335**	*e*P	**P**	**15 12 09.2**	**-0.3**
	comp=Z,38nm,0.7s						
ENH	**Enshi**	**36.82**	**8**	*e*P	**P**	**15 12 08.4**	**-2.1**
	comp=Z,7.7nm,0.7s						
TAPN	**Taplejung**	**36.97**	**336**	*e*P	**P**	**15 12 12

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	52.04	345	P	P		15 14 12.1	+0.3
WMQ				pP	pP		15 14 24.4	-0.6
WMQ				sP	sP		15 14 29.4	-1.1
WMQ				pmax	pmax			
	comp=Z,20nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,81nm,5.1s							
WMQ				LR	LR			
	comp=Z,58nm,21.9s							
KSH	**Kashi**	52.41	333	P	P		15 14 13.1	-1.6
KSH				pP	pP		15 14 20.6	-7.4
KSH				sP	sP		15 14 23.8	-10
KSH				*e*PcP	PcP		15 15 24.8	-0.3
KSH				PP	PP		15 16 14.6	+0.6
KSH				PcS	PcS		15 19 15.1	-8.5
KSH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,86nm,4.2s							
KSH				LR	LR			
	comp=Z,60nm,6.8s							
KSH				LR	LR			
	comp=Z,74nm,6.0s							
KSH				LR	LR			
	comp=Z,100nm,8.8s							
MJAR	**Matsushiro Arr**	53.45	34	P	P		15 14 20.9	-1.5
	comp=Z,2.6nm,0.7s,baz=205,slow=7.3,SNR=8.4							
CN2	**Changchun**	53.61	19	*e*P	P		15 14 22.0	-1.3
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SONM	**Songino Array**	54.01	2	P	P		15 14 26.0	-0.3
	comp=Z,14nm,0.8s,baz=180,slow=9.3,SNR=23							
SONM				pP	pP		15 14 39.9	+0.4
	comp=Z,4.1nm,0.8s,baz=188,slow=11,SNR=3.8							
SONA1	**Songino Array**	54.02	2	*e*P	P		15 14 25.2	-1.2
ULN	**Ulaanbaatar**	54.06	3	*c i*P	P		15 14 26.5	-0.3
ULN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar**	54.06	3	*e*P	P		15 14 26.7	0.0
	comp=Z,5.5nm,0.8s							
AAK	**Ala-Archa**	55.59	334	⇑ *i*P	P		15 14 37.6	-0.3
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AAK	**Ala-Archa**	55.59	334	*e*P	P		15 14 36.9	-1.0
	comp=Z,3.6nm,1.0s							
HNR	**Honiara**	55.62	97	P	P		15 14 38.5	+0.1
	comp=Z,18nm,0.6s,baz=284,slow=4.2,SNR=3.7							
MK01	**Makanchi Array**	56.25	342	*e*P	P		15 14 41.2	-1.2
MK31	**Makanchi Array**	56.27	342	*e*P	P		15 14 41.5	-1.0
MK31	**Makanchi Array**	56.27	342	*e*P	P		15 14 41.5	-1.0
MKAR	**Makanchi Array**	56.27	342	P	P		15 14 42.2	-0.3
	comp=Z,5.0nm,0.7s,baz=145,slow=9.2,SNR=26							
MKAR				pP	pP		15 14 56.4	+0.5
	comp=Z,4.8nm,0.8s,baz=148,slow=8.8,SNR=7.6							
MKAR	**Makanchi Array**	56.27	342	*e*P	P		15 14 41.5	-1.0
	comp=Z,32nm,0.8s							
MKAR				pP	pP		15 14 56.4	+0.5
USRK	**Ussuriysk Ar.**	56.37	24	P	P		15 14 43.0	-0.2
	comp=Z,10nm,0.6s,baz=216,slow=6.1,SNR=23							
OPO	**Ambohidratompo**	56.42	252	P	P		15 14 46.6	+2.3
	comp=Z,2.3nm,0.9s,baz=55,slow=19,SNR=2.2							
KKAR	**Karatay Array**	57.77	332	*e*P	P		15 14 52.3	-0.9
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	57.77	332	*e*P	P		15 14 52.3	-0.9
	comp=Z,1.6nm,0.6s							
TLY	**Talaya**	57.81	360	*e*P	P		15 14 51.7	-1.6
TLY				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KURK	**Kurchatov**	60.87	342	*d i*P	P		15 15 14.4	0.0
KURK				pmax	pmax			
	comp=Z,23nm,0.7s							
KURK	**Kurchatov**	60.87	342	*e*P	P		15 15 13.7	-0.7
	comp=Z,8.1nm,0.9s							
ASAJ	**Asahikawa**	61.19	31	P	P		15 15 16.1	-0.6
	comp=Z,5.0nm,0.6s,baz=238,slow=10,SNR=8.0							
ASAJ	**Asahikawa**	61.19	31	*e*P	P		15 15 15.6	-1.1
	comp=Z,2.7nm,0.8s							
GEYT	**Alibeck**	61.22	320	P	P		15 15 17.2	+0.1
	comp=Z,1.2nm,0.6s,baz=121,slow=5.6,SNR=4.1							
ZALV	**Zalesovo Beam**	62.18	347	P	P		15 15 22.5	-0.7
	comp=Z,3.4nm,0.3s,baz=157,slow=4.7,SNR=30							
ZALV				pP	pP		15 15 34.9	-1.8
	comp=Z,4.5nm,0.5s,baz=159,slow=4.5,SNR=7.7							
YSS	**Yuzh-Sakhalins**	63.28	29	*e*P	P		15 15 30.3	-0.3
YSS				pmax	pmax			
	comp=Z,15nm,0.9s							
BVAR	**Borovoye Array**	65.59	339	P	P		15 15 45.0	-0.6
	comp=Z,2.9nm,0.5s,baz=147,slow=8.7,SNR=15							
BVAR				pP	pP		15 15 57.8	-1.5
	comp=Z,2.3nm,0.6s,baz=145,slow=8.1,SNR=5.1							
BRVK	**Borovoye**	65.65	339	⇑ *e*P	P		15 15 45.3	-0.8
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MAW	**Mawson**	67.10	196	P	P		15 15 56.7	+1.6
	comp=Z,1.2nm,0.7s,baz=66,slow=8.2,SNR=4.3							
ABKAR	**Akbulak array**	67.28	330	*e*P	P		15 15 55.1	-1.5
	comp=Z,38nm,0.7s							
AKTO	**Aktyubinsk**	69.00	331	P	P		15 16 06.4	-0.9
	comp=Z,1.7nm,0.6s,baz=140,slow=6.8,SNR=3.9							
YAK	**Yakutsk**	71.05	13	*e*P	P		15 16 17.6	-2.0
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK	**Yakutsk**	71.05	13	*e*P	P		15 16 17.6	-2.0
	comp=Z,11nm,0.9s							
SVE	**Sverdlovsk**	72.16	337	*e*P	P		15 16 26.3	-0.1
SVE				pmax	pmax			
	comp=Z,11nm,0.9s							
ARU	**Arti**	72.72	336	P	P		15 16 29.5	-0.2
	comp=Z,1.9nm,0.5s,baz=118,slow=3.0,SNR=6.1							
ARU	**Arti**	72.72	336	*c i*P	P		15 16 29.5	-0.2
ARU							15 16 43.2	
ARU							15 19 06.8	
ARU				S	S		15 25 55.6	+4.1
ARU				SS	SS		15 30 32.4	+0.3
ARU				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ARU	**Arti**	72.72	336	*e*P	P		15 16 28.7	-1.0
	comp=Z,12nm,1.1s							
KBZ	**Khabaz**	74.09	319	P	P		15 16 38.6	+0.5
	comp=Z,2.9nm,0.8s,baz=87,slow=4.7,SNR=4.9							
SEY	**Seymchan**	78.28	20	P	P		15 17 01.0	-0.4
	comp=Z,0.7nm,0.6s,baz=241,slow=22,SNR=4.4							
SEY				pP	pP		15 17 15.2	-0.2
	comp=Z,1.6nm,0.8s,baz=304,slow=23,SNR=2.6							
BRTR	**Keskin Array B**	79.07	312	P	P		15 17 06.7	+0.2
	comp=Z,1.4nm,0.7s,baz=131,slow=7.9,SNR=3.6							
BRTR				pP	pP		15 17 20.8	+0.3
	comp=Z,2.2nm,0.7s,baz=142,slow=7.5,SNR=6.9							
OBN	**Obninsk**	82.50	328	*i* P	P		15 17 25.1	+0.9
OBN				*i*			15 17 30.1	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KLMR	**Klimovskoe**	83.40	334	*e*P	P		15 17 27.9	-0.9
KLMR				pmax	pmax			
	comp=Z,15nm,1.2s							
KLMR				pmax	pmax			
	comp=Z,14nm,1.5s							
AKASG	**Malin Array Be**	85.25	322	P	P		15 17 38.4	-0.1
	comp=Z,0.6nm,0.5s,baz=96,slow=3.1,SNR=5.1							
AKASG	**Malin Array Be**	85.25	322	*c e*P	P		15 17 39.7	+1.3
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	89.73	332	P	P		15 18 00.7	+0.9
	comp=Z,2.8nm,0.8s,baz=101,slow=7.2,SNR=4.1							
FINES				LR	LR		16 04 07.2	
	comp=Z,386nm,19.1s,baz=233,slow=40							
FINES	**FINESS Array B**	89.73	332	*i* P	P		15 18 01.1	+1.4
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	91.85	340	P	P		15 18 10.4	+0.9
	comp=Z,2.1nm,0.8s,baz=99,slow=5.6,SNR=4.6							
ARCES				LR	LR		16 04 10.4	
	comp=Z,262nm,19.8s,baz=265,slow=39							
HFS	**Hagfors**	95.54	330	P	P		15 18 26.0	-0.6
	comp=Z,4.8nm,1.0s,baz=95,slow=7.2,SNR=2.7							
HFS	**Hagfors**	95.54	330	P	P		15 18 26.0	-0.6
TXAR	**Lajitas Array**	145.43	45	PKPbc	PKPdf		15 24 41.4	+0.9
	comp=Z,4.9nm,0.7s,baz=282,slow=0.9,SNR=37							
TXAR				pPKPbc	pPKPdf		15 24 54.6	-0.5
	comp=Z,9.3nm,0.8s,baz=275,slow=1.8,SNR=18							

IDC ***13*** *15:06:14.5±0.5, 6°.60S×75°.54W, h0km, mb4.7/21, mb1 4.8/30, mb1mx4.8/40, mbtmp4.7/30, ML4.4/7, MS4.8/23, Ms1 4.8/23, ms1mx4.8/26, Error ellipse: s-maj=13.9km s-min=10.4km az=82.0*

NEIC ***13*** *15:06:16.0±1.4, 6°.61S×75°.55W, h12km±8km, mb5.3/170, ML5.5(ARE), Error ellipse: s-maj=4.3km s-min=2.8km az=66.0*

NEIC Felt at Contamana, Tarapoto and Yurimaguas.

BJI ***13*** *15:06:15.4, 6°.60S×75°.50W, h15km, mB5.3/20, Ms5.4/21, Ms7 5.1/22*

ISCJB ***13*** *15:06:16.8±0.1, 6°.55S±0°.02×75°.62W±0°.03, h29km, mb5.2/204, MS5.0/37, Error ellipse: s-maj=4.0km s-min=3.0km az=153.0*

GCMT ***13*** *15:06:16.0±0.2, 6°.65S×75°.73W, h12km, MW5.2/104, Moment Tensor Solution. s52, c68; s104, c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.23±.11; $M_{\theta\theta}$-1.12±.09; $M_{\phi\phi}$-5.10±.13; $M_{r\theta}$-1.40±.34; $M_{\theta\phi}$2.82±.09; $M_{\phi r}$0.46±.33; Best double couple: $M_0$6.56800×10^{16} NP1:ϕ_s323.00000°, δ50.00000°, λ78.00000°. NP2: ϕ_s162.00000°, δ41.00000°, λ104.00000°. Principal axes: T 6.4880, Plg79.0000°, Azm178.0000°; N 0.1700, Plg9.0000°, Azm331.0000°; P -6.6480, Plg5.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***13*** *15:06:20.1±0.8, 6°.26S×75°.79W, h36km, mb5.4/36, MS5.0/5 Error ellipse: s-maj=16.2km s-min=6.8km az=111.0*

ISC 13 15:06:18.4±0.3, 6°.62S±0°.04×75°.53W±0°.05, h29km, n791, σ1 25/784, mb5.2/214, MS5.1/37, 6C-5D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	2.89	260	Pn	Pn		15 07 01.9	-1.0
	83nm,0.3s,baz=86,slow=9.9,SNR=105							
ATAH				Sn	Sn		15 07 37.2	+0.3
	66nm,0.3s,baz=68,slow=19,SNR=4.4							
ATAH				Lg	Lg		15 07 40.9	
	282nm,0.3s,baz=253,slow=23,SNR=12							
ATAH				LR	LR		15 08 12.1	
	comp=Z,22μm,19.2s,baz=74,slow=41							
NNA	**Nana**	5.49	194	Pn	Pn		15 07 38.2	-0.2
	77nm,0.3s,baz=359,slow=14,SNR=45							
NNA				Sn	Sn		15 08 41.7	+1.1
	68nm,0.3s,baz=266,slow=19,SNR=8.0							
NNA				Lg	Lg		15 09 11.2	
	18nm,0.3s,baz=123,slow=7.9,SNR=4.4							
NNA				LR	LR		15 10 15.2	
	comp=Z,12μm,19.0s,baz=3.0,slow=44							
NNA	**Nana**	5.49	194	*e*P	Pn		15 07 36.8	-1.6
NNA	**Nana**	5.49	194	*e*Pn	Pn		15 07 36.8	-1.6
NNA				Sn	Sn		15 08 41.7	+1.1
NNA				Lg	Lg		15 09 11.2	
OTAV	**Otavalo**	7.41	337	*e*Pn	Pn		15 08 05.6	+0.6
CMBC	**Cumbal**	7.85	343	*e*P	Pn		15 08 10.4	-0.7
FLOC	**Florencia**	8.14	359	*e*P	Pn		15 08 21.0	+6.3
CRUC	**La Cruz**	8.25	350	*e*P	Pn		15 08 17.1	+0.5
PRAC	**Prado**	10.28	4	*e*P	Pn		15 08 43.6	-0.5
PRAC	**Prado**	10.28	4	*e*Pn	Pn		15 08 44.7	+0.7
VILC	**Villavicencio,**	10.81	10	*e*P	Pn		15 08 51.6	+0.2
CHIC	**Chingaza**	11.31	9	*e*P	Pn		15 08 59.6	+1.0
ROSC	**El Rosal**	11.44	6	Pn	Pn		15 09 00.8	+0.5
	2.0nm,0.3s,baz=147,slow=11,SNR=11							
ROSC				Lg	Lg		15 12 27.2	
	3.1nm,0.3s,baz=342,slow=23,SNR=3.5							
ROSC	**El Rosal**	11.44	6	*e*Pn	Pn		15 08 59.1	-1.2
ROSC				Lg	Lg		15 12 27.2	
PLMC	**San Jos^ del**	11.47	356	*e*P	Pn		15 09 03.6	+3.2
GUYC	**Guyana, Colomb**	11.76	1	*e*P	Pn		15 09 06.2	+1.5
LPAZ	**La Paz**	12.04	144	Pn	Pn		15 09 09.6	+1.0
	0.7nm,0.3s,baz=320,slow=8.6,SNR=16							
LPAZ				Lg	Lg		15 12 35.7	
	1.0nm,0.3s,baz=208,slow=20,SNR=4.3							
LPAZ				LR	LR		15 14 37.5	
	comp=Z,7μm,19.6s,baz=328,slow=42							
LPAZ	**La Paz**	12.04	144	*e*P	Pn		15 09 08.7	+0.1
LPAZ	**La Paz**	12.04	144	*e*Pn	Pn		15 09 08.7	+0.1
LPAZ				Lg	Lg		15 12 35.7	
NORC	**Norcasia**	12.12	3	*e*P	Pn		15 09 07.5	-1.7
SAML	**Samuel**	12.45	102	*e*Pn	Pn		15 09 11.2	-2.6
RUSC	**La Rusia**	12.66	11	*e*P	Pn		15 09 16.9	-0.2
RUSC	**La Rusia**	12.66	11	*e*Pn	Pn		15 09 12.9	-4.2
HELC	**Santa Helena**	12.72	360	*e*Pn	Pn		15 09 17.0	-0.8
ZARC	**Zaragoza, Cauc**	14.03	3	*e*P	Pn		15 09 32.8	-2.5
PAMC	**Pamplona, Colo**	14.15	12	*e*P	Pn		15 09 38.1	+0.8
PB11	**IPOC Station P**	14.26	157	*e*Pn	Pn		15 09 40.5	+1.9
MOTC	**Monteria, Cord**	15.29	359	*e*P	Pn		15 09 52.7	+0.4
PB01	**IPOC Station P**	15.49	158	*e*Pn	P		15 09 58.2	-1.0
	152nm,1.6s							
PAYG	**Puerto Ayora**	15.86	291	*e*Pn	Pn		15 09 58.9	-0.9
	654nm,2.0s							
SDV	**Santo Domingo**	16.15	18	Pn	Pn		15 10 02.4	-1.3
	4.4nm,0.3s,baz=192,slow=13,SNR=15							
SDV				Lg	Lg		15 14 44.0	
	0.6nm,0.3s,baz=5.9,slow=16,SNR=2.1							
SDV				LR	LR		15 17 26.2	
	comp=Z,14μm,18.1s,baz=180,slow=42							
SDV	**Santo Domingo**	16.15	18	*e*Pn	Pn		15 10 01.5	-2.1
	87nm,1.2s							
SDV				Lg	Lg		15 14 44.0	
BCIP	**Isla Barro Col**	16.25	345	*e*Pn	P		15 10 08.0	+0.4
	121nm,0.9s							
SJCC	**San Jacinto, C**	16.41	1	*e*P	Pn		15 10 07.3	+0.6
PB04	**IPOC Station P**	16.47	162	*e*Pn	Pn		15 10 07.1	-0.5
	221nm,1.4s							
PTGA	**Pitinga**	16.59	70	Pn	Pn		15 10 08.2	-0.8
	1.5nm,0.3s,baz=256,slow=15,SNR=18							
PTGA				Sn	Sn		15 13 13.2	+0.7
	1.1nm,0.3s,baz=336,slow=20,SNR=4.0							
PTGA				Lg	Lg		15 15 03.5	
	0.7nm,0.3s,baz=165,slow=23,SNR=3.9							
PTGA	**Pitinga**	16.59	70	*e*Pn	Pn		15 10 08.9	-0.1
	129nm,1.1s							
PTGA				Sn	Sn		15 13 13.2	+0.7
PTGA				Lg	Lg		15 15 03.5	
SIV	**San Ignacio**	16.95	125	Pn	Pn		15 10 13.5	-0.1
	0.8nm,0.3s,baz=308,slow=12,SNR=29							
SIV				Lg	Lg		15 15 11.1	
	1.7nm,0.3s,baz=52,slow=21,SNR=7.1							
SIV				LR	LR		15 17 00.7	
	comp=Z,4μm,20.9s,baz=310,slow=38							
LVC	**Limon Verde**	17.14	159	P	Pn		15 10 16.1	-0.2
	37nm,0.3s,baz=327,slow=8.7,SNR=34							
LVC				LR	LR		15 18 18.0	
	comp=Z,6μm,18.8s,baz=354,slow=42							
LVC	**Limon Verde**	17.14	159	*e*Pn	P		15 10 18.0	+0.3
	222nm,1.4s							
PB10	**IPOC Station P**	17.47	165	*e*Pn	P		15 10 20.9	-0.1
	395nm,1.8s							
PCRV	**Puerto La Cruz**	19.90	33	P	Pn		15 10 49.6	+0.1
	1.4nm,0.3s,baz=221,slow=7.4,SNR=7.4							
LCO	**Las Campanas**	22.74	169	*e*P	P		15 11 18.2	-0.3
	107nm,1.3s							
MTDJ	**Mount Denham**	24.76	355	*e*P	P		15 11 38.5	+0.7
SDDR	**Presa de Saban**	25.78	9	*e*P	P		15 11 48.0	+1.1
	98nm,1.5s							
MPR	**Mayaguez**	26.02	18	*e*P	P		15 11 48.8	-0.3
	450nm,1.9s							
CPUP	**Villa Florida**	26.18	141	P	P		15 11 50.0	-0.5
	17nm,1.2s,baz=333,slow=8.9,SNR=8.7							
CPUP				LR	LR		15 24 30.4	
	comp=Z,2μm,18.1s,baz=321,slow=42							
CPUP	**Villa Florida**	26.18	141	*e*P	P		15 11 49.1	-1.5
CPUP	**Villa Florida**	26.18	141	*e*P	P		15 11 49.1	-1.5
AGP	**Aguadilla**	26.20	18	*e*P	P		15 11 51.8	+1.0
	568nm,1.4s							
SJG	**San Juan**	26.25	21	P	P		15 11 51.5	+0.2
	19nm,0.6s,baz=209,slow=9.3,SNR=12							
SJG				LR	LR		15 24 34.7	
	comp=Z,1μm,19.9s,baz=176,slow=42							
SJG	**San Juan**	26.25	21	*e*P	P		15 11 51.2	0.0
SJG				pmax	pmax			
	comp=Z,50nm,1.0s							
SJG	**San Juan**	26.25	21	*e*P	P		15 11 51.2	0.0
	comp=Z,50nm,1.0s							
GTBY	**Guantanamo Bay**	26.38	1	*e*P	P		15 11 53.4	+1.0
	comp=Z,183nm,1.3s							
HUMP	**Col San Antonio**	26.39	21	*e*P	P		15 11 53.0	+0.5
	comp=Z,212nm,2.0s							
CBYP	**Canovanas**	26.51	21	*e*P	P		15 11 53.0	-0.6
	comp=Z,420nm,1.8s							
ROC1	**El Roble**	26.56	171	*e*P	P		15 11 53.4	-0.8
	comp=Z,43nm,1.1s							
STVI	**Saint Thomas**	26.91	23	*e*P	P		15 11 55.2	-2.0
	comp=Z,112nm,1.4s							
SKI	**Saint Kitts**	26.94	28	*e*P	P		15 11 55.5	-2.0
SKI				pmax	pmax			
	comp=Z,805nm,1.1s							
SKI	**Saint Kitts**	26.94	28	*e*P	P		15 11 55.5	-2.0
	comp=Z,805nm,1.1s							
SEUS	**St. Eustatius**	26.97	27	*e*P	P		15 11 57.7	0.0
	comp=Z,560nm,1.2s							
SMRT	**St. Maarten**	27.42	26	*e*P	P		15 12 00.9	-0.9
	comp=Z,282nm,1.0s							
ANWB	**Willy Bob**	27.68	29	*e*P	P		15 12 02.4	-1.7
	comp=Z,246nm,1.1s							
TRQA	**Tornquist**	33.63	160	*e*P	P		15 12 55.5	-1.0
	comp=Z,68nm,1.6s							
PLCA	**Paso Flores**	34.26	173	P	P		15 13 01.5	-0.5
	comp=Z,3.3nm,0.5s,baz=14,slow=10.0,SNR=7.8							
PLCA				LR	LR		15 25 35.7	
	comp=Z,545nm,19.4s,baz=12,slow=34							
PLCA	**Paso Flores**	34.26	173	*e*P	P		15 13 02.0	0.0
PLCA				pmax	pmax			
	comp=Z,47nm,1.4s							
PLCA	**Paso Flores**	34.26	173	*e*P	P		15 13 02.0	0.0
	comp=Z,47nm,1.4s							
LNIG	**Linares**	39.04	324	*e*P	P		15 13 43.2	+0.4
	comp=Z,92nm,1.9s							
RCBR	**Riachuelo**	39.40	91	P	P		15 13 46.3	+0.3
	comp=Z,7.6nm,0.7s,baz=268,slow=11,SNR=5.8							
GOGA	**Godfrey**	40.51	350	*e*P	P		15 13 55.2	+0.3
GOGA				pmax	pmax			
	comp=Z,32nm,1.3s							
GOGA	**Godfrey**	40.51	350	*e*P	P		15 13 55.2	+0.3
	comp=Z,32nm,1.3s							
344A	**Westbrook Farm**	40.55	340	P	P		15 13 55.7	+0.5
	baz=156							
934A	**Benavides**	40.64	328	P	P		15 13 56.1	+0.1
	baz=144							
147A	**Livingston**	40.91	343	P	P		15 13 59.0	+0.8
	baz=161							
LRAL	**Lakeview Retre**	40.91	345	*e*P	P		15 13 56.2	-1.9
	comp=Z,70nm,1.9s							
JSC	**Jenkinsville**	41.03	353	*e*P	P		15 13 59.4	+0.2
JSC				pmax	pmax			
	comp=Z,83nm,2.0s							
JSC	**Jenkinsville**	41.03	353	*e*P	P		15 13 59.4	+0.2
	comp=Z,83nm,2.0s							
342A	**Flagon Creek P**	41.05	338	P	P		15 14 00.3	+1.0
	baz=154							
933A	**Laredo**	41.05	327	P	P		15 13 59.5	0.0
	baz=143							
637A	**Eagle Lake**	41.05	332	P	P		15 14 00.4	+0.9
	baz=148							
244A	**Avery, Jackson**	41.07	340	P	P		15 14 00.2	+0.7
	baz=157							
243A	**Waterproof**	41.20	339	P	P		15 14 01.0	+0.4
	baz=156							
735A	**Kenedy**	41.28	330	P	P		15 14 01.4	0.0
	baz=145							
Z48A	**Northport**	41.38	345	P	P		15 14 02.0	0.0
	baz=162							
636A	**Smothers Creek**	41.43	331	P	P		15 14 03.6	+1.0
	baz=147							
833A	**Chaparral WMA,**	41.68	328	P	P		15 14 05.0	+0.4
	baz=143							
KMSC	**Kings Mountain**	41.89	353	P	P		15 14 06.4	+0.2
	baz=171,SNR=6.1							
KMSC	**Kings Mountain**	41.89	353	*e*P	P		15 14 06.0	-0.3
	comp=Z,26nm,1.0s							
536A	**Bastrop**	41.93	332	P	P		15 14 07.2	+0.6
	baz=147							
Y47A	**UCPARC, Winfie**	41.95	345	P	P		15 14 06.7	0.0
	baz=162							
Z44A	**Pea Ridge, Bel**	42.12	341	P	P		15 14 08.6	+0.4
	baz=158							
240A	**Hunter Patters**	42.19	337	P	P		15 14 08.9	+0.2
	baz=153							
Y46A	**Houston**	42.21	343	P	P		15 14 09.4	+0.6
	baz=160							
338A	**Crockett**	42.23	334	P	P		15 14 09.7	+0.6
	baz=150							
NATX	**Nacogdoches**	42.31	335	P	P		15 14 10.3	+0.7
	baz=151							
141A	**Papa Simpson,**	42.37	338	P	P		15 14 10.7	+0.6
	baz=154							
436A	**Wall Ranch, Ga**	42.39	332	P	P		15 14 11.2	+0.8
	baz=148							
337A	**Centerville**	42.44	334	P	P		15 14 11.7	+0.9
	baz=149							
239A	**Gary**	42.45	336	P	P		15 14 11.5	+0.7
	baz=152							
CPCT	**Cooper Cave**	42.69	349	*e*P	P		15 14 12.3	-0.4
	comp=Z,96nm,2.0s							
238A	**Jacksonville**	42.71	335	P	P		15 14 13.8	+0.9
	baz=151							
SWET	**Sewanee**	42.75	347	*e*P	P		15 14 12.1	-1.2
	comp=Z,17nm,1.5s							
TKL	**Tuckaleechee C**	42.76	350	*e*P	P		15 14 12.5	-0.8
TKL				pmax	pmax			
	comp=Z,79nm,1.7s							
TKL	**Tuckaleechee C**	42.76	350	*e*P	P		15 14 12.5	-0.8
	comp=Z,79nm,1.7s							
435B	**Jarrell**	42.77	332	P	P		15 14 14.0	+0.5
	baz=147							
Z41A	**Richland Creek**	42.91	339	P	P		15 14 15.1	+0.5
	baz=154							
336A	**Riesel**	42.93	333	P	P		15 14 15.4	+0.6
	baz=148							
237A	**Washet

WHAR	Wooly Hollow	44.57 340	eP	P	15 14 28.1	+0.2
	comp=Z,32nm,1.5s					
Y37A	Hugo	44.63 336	P	P	15 14 28.2	-0.2
	baz=151					
W40A	Ferguson Farm,	44.75 339	P	P	15 14 29.5	+0.2
	baz=155					
TXAR	Lajitas Array	44.83 324	P	P	15 14 30.4	+0.2
	comp=Z,3.2nm,0.8s,baz=148,slow=5.7,SNR=22					
TXAR		LR	LR		15 33 51.6	
	comp=Z,272nm,18.6s,baz=0.0,slow=37					
TX31	Lajitas Ar. Si	44.84 324	eP	P	15 14 30.0	-0.2
Y36A	Durant	44.84 335	P	P	15 14 30.1	+0.1
	baz=150					
X38A	Whitesboro	44.93 337	P	P	15 14 30.6	-0.1
	baz=152					
V41A	Mountainview	44.98 341	P	P	15 14 30.8	-0.3
	baz=156					
W39A	Magazine	45.01 339	P	P	15 14 31.3	-0.1
	baz=154					
X37A	Clayton	45.07 337	P	P	15 14 32.6	+0.7
	baz=152					
Y35A	Marietta	45.16 335	P	P	15 14 32.6	0.0
	baz=149					
W38A	Poteau	45.16 338	P	P	15 14 32.5	-0.1
	baz=153					
U42A	Revenden	45.21 342	P	P	15 14 32.8	-0.1
	baz=158					
V40A	Witts Springs	45.22 340	P	P	15 14 33.0	-0.1
	baz=156					
ABTX	Abilene, Hawle	45.27 331	P	P	15 14 33.3	-0.2
	baz=145,SNR=8.1					
ABTX	Abilene, Hawle	45.27 331	eP	P	15 14 33.6	+0.1
	comp=Z,167nm,1.8s					
U41A	Viola	45.42 341	P	P	15 14 33.9	-0.7
	baz=157					
T44A	Benton	45.42 344	P	P	15 14 34.0	-0.6
	baz=160					
X36A	Centrahoma	45.44 336	P	P	15 14 33.9	-0.9
	baz=150					
V39A	Pettigrew	45.53 339	P	P	15 14 35.3	-0.3
	baz=154					
X35A	Drake	45.55 335	P	P	15 14 35.4	-0.3
	baz=150					
W37B	Quinton	45.57 337	P	P	15 14 35.5	-0.4
	baz=152					
T43A	Greenville	45.61 343	P	P	15 14 35.4	-0.7
	baz=159					
WCI	Wyandotte Cave	45.73 348	eP	P	15 14 35.6	-1.5
WCI			pmax	pmax		
	comp=Z,10.0nm,0.8s					
WCI	Wyandotte Cave	45.73 348	eP	P	15 14 35.6	-1.5
	comp=Z,10.0nm,0.8s					
U40A	Yellville	45.73 340	P	P	15 14 36.9	-0.2
	baz=156					
V38A	Canehill	45.83 339	P	P	15 14 37.4	-0.5
	baz=154					
W36A	Wetumka	45.89 336	P	P	15 14 37.7	-0.7
	baz=151					
S44A	Carbondale	45.90 345	P	P	15 14 37.8	-0.6
	baz=161					
U39A	Green Forest	45.97 340	P	P	15 14 38.9	-0.1
	baz=155					
S43A	Fulton Ridge,	46.01 344	P	P	15 14 39.1	-0.1
	baz=160					
T41A	Mountain View	46.01 342	P	P	15 14 39.2	-0.1
	baz=157					
HHAR	Hobbs	46.04 339	eP	P	15 14 38.9	-0.6
	comp=Z,44nm,1.7s					
V37A	Hulbert	46.12 338	P	P	15 14 39.9	-0.2
	baz=153					
W35A	Tecumseh	46.16 336	P	P	15 14 39.7	-0.8
	baz=150					
U38A	Gravette	46.34 339	P	P	15 14 41.4	-0.5
	baz=154					
V36A	Jenks	46.34 337	P	P	15 14 41.5	-0.4
	baz=152					
T40A	Mansfield	46.35 341	P	P	15 14 41.9	-0.1
	baz=156					
R44A	Waltonville	46.38 345	P	P	15 14 41.7	-0.5
	baz=161					
MVL	Millersville	46.39 359	eP	P	15 14 43.4	+1.3
	comp=Z,43nm,1.3s					
TUL1	Leonard	46.39 337	P	P	15 14 42.5	+0.2
	baz=152					
S42A	Caledonia	46.40 343	P	P	15 14 41.8	-0.5
	baz=159					
S41A	Jillco Farms,	46.51 342	P	P	15 14 42.8	-0.4
	baz=158					
T39A	Clever	46.51 340	P	P	15 14 42.6	-0.7
	baz=155					
U37A	Salina	46.57 338	P	P	15 14 43.1	-0.6
	baz=153					
WMOK	Wichita Mounta	46.62 333	P	P	15 14 43.7	-0.5
	baz=148,SNR=8.5					
WMOK	Wichita Mounta	46.62 333	eP	P	15 14 43.7	-0.5
WMOK			pmax	pmax		
	comp=Z,12nm,1.1s					
WMOK	Wichita Mounta	46.62 333	eP	P	15 14 43.7	-0.5
	comp=Z,12nm,1.1s					
R43A	Red Bud	46.63 344	P	P	15 14 43.8	-0.3
	baz=160					
V35A	Meyer Ranch, C	46.67 336	P	P	15 14 43.7	-0.8
	baz=150					
O56A	Blue Knob Stat	46.73 357	P	P	15 14 45.4	+0.4
	baz=176					
S40A	Lebanon	46.75 341	P	P	15 14 44.9	-0.2
	baz=157					
U36A	Oologah	46.79 338	P	P	15 14 45.2	-0.2
	baz=152					
T38A	Diamond	46.84 339	P	P	15 14 45.1	-0.7
	baz=154					
R42A	Luebbering	46.87 344	P	P	15 14 45.3	-0.7
	baz=159					
Q44A	Meyer Farm, Va	46.98 346	P	P	15 14 46.6	-0.3
	baz=162					
R41A	Rosebud	47.05 343	P	P	15 14 46.8	-0.6
	baz=158					
S39A	Bolivar	47.10 341	P	P	15 14 47.1	-0.7
	baz=156					
ACSO	Alum Creek Sta	47.12 352	eP	P	15 14 47.0	-0.9
	comp=Z,23nm,1.0s					
T37A	Cheneyville 18	47.14 339	P	P	15 14 48.0	-0.1
	baz=153					
U35A	Pawnee	47.16 337	P	P	15 14 48.0	-0.3
	baz=151					
S38A	Stockton	47.24 340	P	P	15 14 48.6	-0.3
	baz=155					
N59A	State Game Lan	47.30 360	P	P	15 14 50.2	+0.8
	baz=180,SNR=5.8					
R40A	Maddies Statio	47.31 342	P	P	15 14 49.2	-0.3
	baz=157					
Q42A	Golden Eagle	47.39 344	P	P	15 14 50.1	0.0
	baz=160					
P44A	Sand Creek, Wi	47.42 346	P	P	15 14 49.7	-0.6
	baz=162					
T36A	Boggs Farm, Ca	47.44 338	P	P	15 14 50.3	-0.1
	baz=152					
N54A	Moraine State	47.52 355	P	P	15 14 51.1	+0.1
	baz=174,SNR=6.3					
T35A	Sooner Cattle	47.55 337	P	P	15 14 51.5	+0.1
	baz=151					
R39A	Chumby, Stover	47.58 341	P	P	15 14 51.2	-0.3
	baz=156					
MNTX	Cornudas Mount	47.58 325	P	P	15 14 51.3	-0.4
	baz=138,SNR=15					
MNTX	Cornudas Mount	47.58 325	eP	P	15 14 51.1	-0.6
	comp=Z,75nm,1.9s					
Q41A	Truxton	47.62 343	P	P	15 14 51.2	-0.6
	baz=159					
S37A	Fort Scott	47.67 339	P	P	15 14 51.7	-0.6
	baz=154					
R38A	Fenwick Farm,	47.74 340	P	P	15 14 52.5	-0.3
	baz=155					
P43A	Skaggs, Pawnee	47.81 345	P	P	15 14 53.3	+0.1
	baz=161					
MSTX	Muleshoe	47.90 329	P	P	15 14 53.9	-0.4
	baz=142,SNR=6.2					
MSTX	Muleshoe	47.90 329	eP	P	15 14 54.4	+0.1
	comp=Z,151nm,1.9s					
T34A	McClaskey Farm	47.91 337	P	P	15 14 54.1	0.0
	baz=150,SNR=6.1					
S36A	Lake Cedric, C	47.92 338	P	P	15 14 54.3	+0.1
	baz=153					
SFIN	Lafayette	47.96 348	P	P	15 14 54.3	-0.2
	baz=164					
M54A	Oil Creek Stat	48.04 356	P	P	15 14 54.8	-0.3
	baz=174,SNR=6.9					
AMTX	Amarillo	48.09 331	P	P	15 14 55.3	-0.4
	baz=144					
AMTX	Amarillo	48.09 331	eP	P	15 14 55.1	-0.6
	comp=Z,107nm,1.9s					
U32A	Winter Ranch,	48.10 334	P	P	15 14 55.4	-0.2
	baz=148					
S35A	Otter Creek Ra	48.15 338	P	P	15 14 55.6	-0.4
	baz=152					
R37A	Teagarden Farm	48.17 340	P	P	15 14 55.6	-0.6
	baz=154					
Q39A	Willow Grove F	48.23 342	P	P	15 14 55.8	-0.8
	baz=157					
P41A	Barry, Barry	48.25 344	P	P	15 14 56.1	-0.6
	baz=159					
Q38A	Cooks Store, C	48.35 341	P	P	15 14 56.8	-0.7
	baz=156					
O43A	Sugar Creek Fa	48.37 346	P	P	15 14 56.8	-0.8
	baz=162					
R36A	Gordon, Harris	48.42 339	P	P	15 14 57.3	-0.7
	baz=153					
S34A	Willow Spring	48.47 337	P	P	15 14 57.9	-0.5
	baz=151					
O42A	Bath	48.47 345	P	P	15 14 58.2	-0.2
	baz=161					
P39B	Salisbury	48.56 342	P	P	15 14 58.4	-0.8
	baz=157					
BINY	Binghamton	48.58 360	eP	P	15 15 00.7	+1.5
	comp=Z,68nm,1.1s					
O41A	Passleys Farm,	48.61 344	P	P	15 14 59.0	-0.5
	baz=160					
HDIL	Hopedale	48.62 346	P	P	15 14 58.7	-0.8
	baz=162					
HDIL	Hopedale	48.62 346	eP	P	15 14 58.3	-1.2
	comp=Z,24nm,0.8s					
ERPA	Erie	48.67 356	eP	P	15 15 00.5	+0.6
	comp=Z,87nm,1.4s					
R35A	Emporia Munici	48.67 338	P	P	15 14 59.9	-0.1
	baz=152					
O40A	La Belle	48.89 343	P	P	15 15 01.3	-0.4
	baz=158					
P38A	Dawn	48.93 342	P	P	15 15 01.7	-0.3
	baz=156					
Q36A	Arnold C. Orve	48.97 339	P	P	15 15 01.7	-0.6
	baz=153					
R34A	Isabella, Hill	49.04 337	P	P	15 15 02.0	-0.9
	baz=151					
N42A	Yates City	49.06 345	P	P	15 15 02.0	-0.9
	baz=161,SNR=6.2					
Q35A	Mercer Eighty,	49.08 339	P	P	15 15 02.3	-0.9
	baz=153					
N41A	Harden Midland	49.16 345	P	P	15 15 02.8	-0.8
	baz=160					
P37A	Lathrop	49.16 341	P	P	15 15 02.8	-0.9
	baz=155					
O39A	Kirksville	49.20 343	P	P	15 15 02.8	-1.2
	baz=158					
O38A	Galt	49.36 342	P	P	15 15 04.5	-0.8
	baz=156					
Q34A	Chapman	49.47 338	P	P	15 15 05.5	-0.6
	baz=152					
P36A	Good Intent, A	49.47 340	P	P	15 15 05.7	-0.4
	baz=154					
KSU1	Kansas State U	49.51 338	P	P	15 15 05.9	-0.5
	baz=152					
N40A	Mertquake, Sal	49.52 344	P	P	15 15 05.7	-0.7
	baz=159					
121A	Cookes Peak, D	49.58 324	P	P	15 15 06.5	-0.8
	baz=136,SNR=6.2					
121A	Cookes Peak, D	49.58 324	eP	P	15 15 06.7	-0.5
	comp=Z,69nm,1.7s					
M42A	Sheffield	49.58 346	P	P	15 15 06.2	-0.7
	baz=161					
O37A	Wolven Farm, M	49.62 341	P	P	15 15 06.0	-1.1
	baz=156					
319A	Douglas	49.67 321	eP	P	15 15 08.0	+0.1
	comp=Z,130nm,2.0s					
P35A	Duane Minner,	49.67 339	P	P	15 15 06.9	-0.7
	baz=153					
M41A	Milan	49.70 345	P	P	15 15 07.1	-0.7
	baz=160					
N39A	Derby Farms, D	49.77 343	P	P	15 15 07.0	-1.4
	baz=158					
ACCN	Adirondack Com	49.79 2	eP	P	15 15 08.9	+0.4
	comp=Z,60nm,1.6s					
N38A	Joes South For	49.91 342	P	P	15 15 08.6	-0.8
	baz=157					
P34A	Walnut Farm, R	49.98 338	P	P	15 15 09.5	-0.5
	baz=152					
M40A	Post Highland	49.98 344	P	P	15 15 08.6	-1.3
	baz=159					
L43A	Garden Prairie	50.04 347	P	P	15 15 09.5	-0.9
	baz=163					
BNM	Barren Site	50.09 326	eP	P	15 15 11.7	+0.4
N37A	Lee Faris, Mou	50.17 342	P	P	15 15 10.9	-0.5
	baz=156					
LPM	Los Pinos Moun	50.22 326	eP	P	15 15 12.6	+0.5
M39A	Webster	50.23 344	P	P	15 15 10.6	-1.2
	baz=158,SNR=5.9					
O35A	Humboldt	50.29 340	P	P	15 15 11.3	-1.1
	baz=153					
L41A	Preston	50.35 346	P	P	15 15 12.1	-0.6
	baz=161,SNR=5.3					
NCB	Newcomb	50.36 1	eP	P	15 15 13.9	+1.1
	comp=Z,2.9nm,2.0s					
N36A	Muff Farm, Cla	50.47 341	P	P	15 15 12.7	-0.9
	baz=155					
M38A	Pleasantville	50.47 343	P	P	15 15 12.8	-0.9
	baz=157					
O34A	Beatrice	50.49 339	P	P	15 15 13.3	-0.6
	baz=152					
L40A	Anamosa	50.52 345	P	P	15 15 13.7	-0.3
	baz=160,SNR=8.3					
LAZ	Ladron	50.57 326	eP	P	15 15 14.9	+0.2
ANMO	Albuquerque	50.59 327	P	P	15 15 13.7	-1.3
	baz=139					
ANMO	Albuquerque	50.59 327	c iP	P	15 15 15.2	+0.2
ANMO			pmax	pmax		
	comp=Z,15nm,1.2s					
ANMO	Albuquerque	50.59 327	eP	P	15 15 15.0	0.0
	comp=Z,20nm,1.2s					
M37A	Trindle Farm,	50.71 342	P	P	15 15 15.0	-0.5
	baz=156					
O33A	Hebron	50.72 338	P	P	15 15 14.8	-0.7
	baz=151					
N35A	Tabor	50.73 340	P	P	15 15 14.7	-0.9
	baz=154					
L39A	Vinton	50.78 344	P	P	15 15 15.3	-0.7
	baz=159					
K41A	Shullsburg	50.80 346	P	P	15 15 15.2	-0.9
	baz=161					
M36A	Felix, Anita	50.99 341	P	P	15 15 16.4	-1.2
	baz=155					
N34A	Lincoln	51.00 340	P	P	15 15 16.9	-0.8
	baz=153					
LONY	Lake Ozonia	51.01 1	eP	P	15 15 18.3	+0.7
	comp=Z,181nm,1.9s					
L38A	Oak Wood Farm,	51.07 343	P	P	15 15 17.0	-1.1
	baz=158					
K40A	Colesburg	51.10 345	P	P	15 15 17.5	-0.8
	baz=160					
T25A	Trinidad	51.22 330	P	P	15 15 18.7	-1.0
	baz=142,SNR=8.3					
T25A	Trinidad	51.22 330	eP	P	15 15 19.8	+0.1
	comp=Z,92nm,1.8s					
TUC	Tucson	51.24 321	P	P	15 15 18.1	-1.6
	baz=133					
TUC	Tucson	51.24 321	eP	P	15 15 19.5	-0.3
TUC			pmax	pmax		
	comp=Z,8.0nm,1.0s					
TUC	Tucson	51.24 321	eP	P	15 15 19.5	-0.3
	comp=Z,8.1nm,1.0s					
FRNY	Flat Rock	51.24 2	eP	P	15 15 20.5	+1.1
	comp=Z,89nm,1.4s					
N33A	J Bar K, Exete	51.25 339	P	P	15 15 19.6	0.0
	baz=152					
L37A	Phoenix Point,	51.28 343	P	P	15 15 19.3	-0.5
	baz=157					
M35A	Neola	51.29 341	P	P	15 15 19.1	-0.8
	baz=154					
K39A	Oelwein	51.30 345	P	P	15 15 19.1	-0.7
	baz=159					
J41A	Loganville	51.45 347	P	P	15 15 20.2	-0.8
	baz=162					
K38A	Parkersburg	51.48 344	P	P	15 15 20.8	-0.5
	baz=158					
L36A	Harm Buss Farm	51.54 342	P	P	15 15 20.3	-1.4
	baz=156					
M34A	Aspy Farms, Fr	51.62 340	P	P	15 15 21.4	-0.9
	baz=153					
J40A	Soldiers Grove	51.65 346	P	P	15 15 21.9	-0.6
	baz=161					
I42A	Draeger Farm,	51.71 348	P	P	15 15 22.2	-0.7
	baz=163					
L35A	Bielow Farm, R	51.82 341	P	P	15 15 22.7	-1.2
	baz=154					
J39A	Decorah	51.84 345	P	P	15 15 22.4	-1.4
	baz=160,SNR=6.3					
K37A	Belmond	51.84 343	P	P	15 15 22.8	-1.1
	baz=157					
KSCO	Kaye Shedlock'	51.88 333	P	P	15 15 23.5	-1.0
	baz=145					
KSCO	Kaye Shedlock'	51.88 333	P	P	15 15 25.1	+0.6
M33A	Taylor Creek F	51.90 339	P	P	15 15 23.5	-0.8
	baz=152					
K36A	Gilmore City	51.96 342	P	P	15 15 24.1	-0.8
	baz=156					
L34A	Svendsen Farm,	51.97 340	P	P	15 15 24.0	-0.9
	baz=153					
J38A	Wedel Dairy, R	52.02 344	P	P	15 15 24.3	-1.0
	baz=158					
I41A	Arkdale	52.08 347	P	P	15 15 25.1	-0.5
	baz=162					
I40A	Norwalk	52.09 346	P	P	15 15 25.5	-0.3
	baz=161					
BGNE	Belgrade	52.09 338	P	P	15 15 24.7	-1.1
	baz=151					
BGNE	Belgrade	52.09 338	eP	P	15 15 24.7	-1.1
	comp=Z,94nm,1.3s					
SDCO	Great Sand Dun	52.23 330	P	P	15 15 25.9	-1.4
	baz=141,SNR=27					
SDCO	Great Sand Dun	52.23 330	eP	P	15 15 27.6	+0.3
	comp=Z,77nm,1.8s					
X18A	Snowflake	52.27 324	eP	P	15 15 28.4	+1.0
	comp=Z,54nm,1.7s					
I39A	Houston	52.28 345	P	P	15 15 26.7	-0.5
	baz=160					
214A	Organ Pipe Nat	52.29 319	P	P	15 15 27.3	-0.2
	baz=131,SNR=15					
214A	Organ Pipe Nat	52.29 319	eP	P	15 15 27.7	+0.2
	comp=Z,369nm,1.6s					
J37A	Redenius Farm,	52.31 343	P	P	15 15 27.1	-0.4
	baz=157					
L33A	Hoskins	52.45 340	P	P	15 15 27.1	-1.3
	baz=152					
K34A	Le Mars	52.52 341	P	P	15 15 28.2	-0.8
	baz=154					
W18A	Petrified Fore	52.56 325	P	P	15 15 29.6	0.0
	baz=135					
W18A	Petrified Fore	52.56 325	eP	P	15 15 30.3	+0.7
	comp=Z,32nm,1.1s					
J36A	Seneca 1, Swea	52.56 343	P	P	15 15 27.9	-1.4
	baz=156					
H41A	Junction City	52.56 347	P	P	15 15 28.1	-1.2
	baz=162					
L32A	Elgin	52.56 339	P	P	15 15 28.1	-1.2
	baz=152					
TRQ	Mont Tremblant	52.61 1	eP	P	15 15 29.8	+0.1
I38A	Scanlan Farm,	52.66 345	P	P	15 15 28.8	-1.2
	baz=159					
H40A	Chili	52.73 347	P	P	15 15 29.4	-1.1
	baz=161,SNR=8.1					
S22A	4UR Ranch, Cre	52.91 329	P	P	15 15 31.9	-0.4
	baz=140,SNR=13					
S22A	4UR Ranch, Cre	52.91 329	eP	P	15 15 33.0	+0.7
	comp=Z,64nm,1.8s					
H39A	Augusta	52.99 346	P	P	15 15 32.0	-0.4
	baz=160					
Q24A	Divide	53.02 331	P	P	15 15 33.2	+0.1
	baz=142					
Q24A	Divide	53.02 331	eP	P	15 15 33.8	+0.6
	comp=Z,29nm,1.5s					
G41A	Antigo	53.03 348	P	P	15 15 32.3	-0.4
	baz=163					
K32A	Verdigre	53.13 339	P	P	15 15 33.6	+0.2
	baz=152					
OGNE	Ogallala	53.22 335	P	P	15 15 33.6	-0.7
	baz=146					
H38A	Maiden Rock	53.24 345	P	P	15 15 33.7	-0.6
	baz=159					
F44A	Big Bay de Noc	53.25 351	P	P	15 15 34.2	-0.1
	baz=166					
G40A	Rib Lake	53.30 347	P	P	15 15 34.8	+0.1
	baz=162					
H37A	Dierke Farm, C	53.31 345	P	P	15 15 34.7	-0.1
	baz=158					
F42A	Maple Grove Fa	53.34 349	P	P	15 15 34.6	-0.4
	baz=164					
K31A	O'Neill	53.37 339	P	P	15 15 34.6	-0.7
	baz=151					
MVCO	Mesa Verde	53.38 327	P	P	15 15 34.8	-1.0
	baz=138					
MVCO	Mesa Verde	53.38 327	eP	P	15 15 36.4	+0.6
	comp=Z,76nm,1.9s					
E45A	Wooded Hills,	53.43 352	P	P	15 15 34.9	-0.7
	baz=168					
113A	Mohawk Valley,	53.43 320	eP	P	15 15 36.1	+0.2
	comp=Z,9.4nm,1.1s					
G39A	Holcombe	53.54 346	P	P	15 15 35.6	-0.8
	baz=161,SNR=5.1					
G38A	Ridgeland	53.59 346	P	P	15 15 35.5	-1.3
	baz=160					
ECSD	EROS Data Cent	53.62 341	P	P	15 15 36.2	-0.9
	baz=154,SNR=6.4					
ECSD	EROS Data Cent	53.62 341	eP	P	15 15 35.5	-1.6
	comp=Z,72nm,1.9s					
Y14A	Wickenburg	53.71 321	eP	P	15 15 37.7	-0.3
	comp=Z,216nm,1.9s					
J32A	Parkston	53.71 340	P	P	15 15 37.9	+0.2
	baz=152					
WUAZ	Wupatki	53.79 324	P	P	15 15 38.4	-0.3
	baz=134,SNR=8.8					
WUAZ	Wupatki	53.79 324	eP	P	15 15 39.4	+0.7
	comp=Z,105nm,1.9s					
SPMN	Marine on St.	53.88 345	P	P	15 15 38.5	-0.4
	baz=159					
SPMN	Marine on St.	53.88 345	eP	P	15 15 38.1	-0.9
	comp=Z,34nm,1.4s					
ISCO	Idaho Springs	53.90 331	P	P	15 15 40.1	+0.6
	baz=142					
F40A	Park Falls	53.90 347	P	P	15 15 38.7	-0.4
	baz=162					
J31A	Geddes	53.95 339	P	P	15 15 39.2	-0.3
	baz=151					
H35A	Sunnyside Ranc	53.95 343	P	P	15 15 39.1	-0.4
	baz=156					
I33A	Coleman	53.97 341	P	P	15 15 39.6	-0.1
	baz=154					
SMCO	Snowmass	54.07 330	eP	P	15 15 41.4	+0.4
	comp=Z,28nm,1.4s					
F39A	Loretta	54.07 347	P	P	15 15 39.9	-0.4
	baz=161					
PV01	Paradox Valley	54.10 328	eP	P	15 15 41.8	+0.7
E41A	Kenton	54.18 349	P	P	15 15 40.3	-0.8
	baz=164					
H34A	Spellman Lake,	54.20 342	P	P	15 15 40.8	-0.5
	baz=155					
GLA	Glamis	54.30 319	P	P	15 15 41.7	-0.6
	baz=129					
G35A	Watkins	54.33 344	P	P	15 15 41.3	-1.0
	baz=157					
F38A	Pierce - Schro	54.34 346	P	P	15 15 41.6	-0.7
	baz=160,SNR=6.6					
E40A	Wakefield	54.35 348	P	P	15 15 42.1	-0.3
	baz=162					
E39A	Mellen	54.43 347	P	P	15 15 42.6	-0.3
	baz=162					
H33A	Prehn Over Nor	54.52 342	P	P	15 15 42.7	-0.9
	baz=154					
I31A	Royce, Wessing	54.53 340	P	P	15 15 43.4	-0.3
	baz=152					
Y12C	Blythe	54.55 320	P	P	15 15 43.7	-0.3
	baz=130					
Y12C	Blythe	54.55 320	eP	P	15 15 44.7	+0.7
	comp=Z,61nm,1.9s					
H32A	Carlson Farm,	54.58 341	P	P	15 15 44.1	+0.1
	baz=153					
PDMCI	Parker Dam,Lak	54.66 321	P	P	15 15 45.1	+0.2
	baz=131					
F36A	Milaca	54.66 345	P	P	15 15 43.7	-1.0
	baz=158					
G34A	Benson	54.68 343	P	P	15 15 44.3	-0.5
	baz=155					
SWSC	Sam W. Stewart	54.87 318	P	P	15 15 46.3	-0.1
	baz=128					
G33A	Ortonville	54.88 342	P	P	15 15 46.0	-0.3
	baz=154					
IKP	In-Ko-Pah, Jac	54.90 318	P	P	15 15 47.1	+0.4

	baz=128						
H31A	**Wolsey**	54.90	340	P	P	15 15 45.8	-0.6
	baz=152						
F35A	**Swanville**	54.94	344	P	P	15 15 46.8	+0.1
	baz=157						
U15A	**North Rim**	54.96	324	eP	P	15 15 47.9	+0.6
	comp=Z,57nm,1.8s						
W13A	**Hualapai Mount**	55.02	322	eP	P	15 15 48.6	+0.9
	comp=Z,52nm,1.8s						
SUSD	**Miller**	55.03	340	P	P	15 15 46.8	-0.6
	baz=151						
F34A	**Alexandria**	55.08	343	P	P	15 15 47.4	-0.2
	baz=156						
BC3	**Big Chuckawall**	55.09	319	P	P	15 15 47.6	-0.5
	baz=129,SNR=7.7						
E36A	**McGregor**	55.20	345	P	P	15 15 48.6	0.0
	baz=158,SNR=10						
IRM	**Iron Mountain**	55.20	320	P	P	15 15 47.7	-1.1
	baz=130,SNR=17						
NEE2	**Needles Airpor**	55.26	321	P	P	15 15 48.4	-0.8
	baz=130						
F33A	**5 Mile Ranch,**	55.42	342	P	P	15 15 49.4	-0.7
	baz=155						
O20A	**White River Ci**	55.44	330	P	P	15 15 50.9	+0.3
	baz=139						
O20A	**White River Ci**	55.44	330	eP	P	15 15 50.4	-0.2
	comp=Z,60nm,1.7s						
G31A	**Conde**	55.47	341	P	P	15 15 49.7	-0.8
	baz=152						
E35A	**Pequot Lakes**	55.54	344	P	P	15 15 50.4	-0.6
	baz=157						
D37A	**Cotton**	55.59	346	P	P	15 15 51.4	+0.1
	baz=160						
BELC	**Belle Mtn. Jos**	55.66	319	P	P	15 15 51.3	-0.9
	baz=129,SNR=8.4						
KNB	**Kanab**	55.67	324	eP	P	15 15 52.2	-0.1
KNB				pmax	pmax		
	comp=Z,140nm,2.0s						
KNB	**Kanab**	55.67	324	eP	P	15 15 52.1	-0.1
	comp=Z,140nm,2.0s						
E34A	**Wadena**	55.71	344	P	P	15 15 52.2	0.0
	baz=156						
PFO	**Pinyon Flats O**	55.72	319	P	P	15 15 53.0	+0.3
	baz=128						
PFO	**Pinyon Flats O**	55.72	319	eP	P	15 15 52.6	-0.1
PFO				pmax	pmax		
	comp=Z,13nm,1.2s						
PFO	**Pinyon Flats O**	55.72	319	eP	P	15 15 52.6	-0.1
	comp=Z,13nm,1.2s						
D36A	**Goodland**	55.79	346	P	P	15 15 52.8	0.0
	baz=159						
C38A	**Sawbill Land.**	55.86	347	P	P	15 15 53.0	-0.2
	baz=161						
SRU	**San Rafael Swe**	55.86	327	eP	P	15 15 53.6	0.0
SRU				pmax	pmax		
	comp=Z,76nm,1.9s						
SRU	**San Rafael Swe**	55.86	327	eP	P	15 15 53.6	0.0
	comp=Z,76nm,1.9s						
LCMT	**Little Creek M**	55.91	324	eP	P	15 15 54.6	+0.6
	comp=Z,61nm,1.8s						
GMRC	**Granite Mounta**	55.93	320	P	P	15 15 53.9	-0.2
	baz=130,SNR=8.3						
E33A	**Westby DABS, E**	55.94	343	P	P	15 15 53.3	-0.5
	baz=155						
F31A	**Hecla**	56.05	341	P	P	15 15 53.8	-0.8
	baz=152						
C37A	**Embarrass**	56.07	347	P	P	15 15 54.2	-0.6
	baz=160						
P18A	**Preston Nutter**	56.09	328	eP	P	15 15 54.3	-1.1
	comp=Z,19nm,1.4s						
EYMN	**Ely**	56.12	347	P	P	15 15 54.6	-0.6
	baz=161						
EYMN	**Ely**	56.12	347	eP	P	15 15 54.4	-0.8
	comp=Z,49nm,1.8s						
MURC	**Murrieta**	56.20	318	P	P	15 15 54.7	-1.3
	baz=128						
SZCU	**Shurtz Canyon**	56.22	324	eP	P	15 15 55.9	-0.4
	comp=Z,39nm,1.7s						
P17A	**Butcher Ranch,**	56.23	328	eP	P	15 15 56.0	-0.3
	comp=Z,82nm,1.9s						
D34A	**Park Rapids**	56.24	344	P	P	15 15 55.6	-0.4
	baz=156						
C36A	**Pine Crest Far**	56.26	346	P	P	15 15 56.4	+0.3
	baz=159,SNR=8.7						
MSU	**Marysvale**	56.34	326	eP	P	15 15 56.0	-1.1
MSU	**Marysvale**	56.34	326	eP	P	15 15 56.0	-1.1
CCUT	**Cedar City**	56.35	324	eP	P	15 15 56.6	-0.6
	comp=Z,54nm,1.8s						
TMUT	**Trail Mountain**	56.36	327	eP	P	15 15 57.3	-0.1
	comp=Z,16nm,1.3s						
HEC	**Hector,Ludlow**	56.39	320	P	P	15 15 59.1	+1.7
	baz=129,SNR=6.4						
BBRC	**Big Bear Solar**	56.42	319	P	P	15 15 58.6	+0.9
	baz=128						
C35A	**Jirik Farms, M**	56.48	345	P	P	15 15 57.7	0.0
	baz=158						
TUQ	**Turquoise Moun**	56.51	321	P	P	15 15 58.7	+0.4
	baz=130						
K22A	**Casper**	56.56	333	P	P	15 15 58.5	-0.1
	baz=142						
RSSD	**Black Hills**	56.68	336	P	P	15 15 59.4	-0.1
	baz=146						
RSSD	**Black Hills**	56.68	336	eP	P	15 15 58.6	-0.8
RSSD				pmax	pmax		
	comp=Z,21nm,1.3s						
RSSD	**Black Hills**	56.68	336	eP	P	15 15 58.5	-0.8
	comp=Z,21nm,1.3s						
C34A	**RKJ Ranch, Bem**	56.68	344	P	P	15 15 58.7	-0.3
	baz=157						
SHPR	**Sheep Range**	56.73	322	eP	P	15 15 59.6	-0.2
	comp=Z,49nm,1.7s						
SCI2	**San Clemente I**	56.74	317	P	P	15 15 59.6	-0.2
	baz=126						
BFSC	**Mount Baldy Ra**	56.89	318	P	P	15 16 01.5	+0.5
	baz=127						
CIS	**Catalina Islan**	56.89	317	P	P	15 16 02.0	+1.0
	baz=126						
D31A	**Mcclaflin, Tow**	56.94	342	P	P	15 16 01.1	+0.1
	baz=154						
GSC	**Goldstone, Bar**	56.99	320	P	P	15 16 01.3	-0.3
	baz=129,SNR=6.2						
GSC	**Goldstone, Bar**	56.99	320	eP	P	15 16 02.2	+0.6
GSC				pmax	pmax		
	comp=Z,59nm,1.8s						
GSC	**Goldstone, Bar**	56.99	320	eP	P	15 16 02.2	+0.6
	comp=Z,59nm,1.8s						
C33A	**Trail**	57.01	344	P	P	15 16 02.0	+0.5
	baz=156						
SHOC	**Shoshone, Teco**	57.03	321	P	P	15 16 02.2	+0.4
	baz=130						
B35A	**Bob, Littlefor**	57.03	346	P	P	15 16 01.5	-0.1
	baz=158						
MPU	**Maple Canyon**	57.10	327	eP	P	15 16 02.6	+0.1
	comp=Z,38nm,1.9s						
PASC	**Pasadena Art C**	57.20	318	eP	P	15 16 02.6	-0.4
NLU	**North Lily Min**	57.30	327	eP	P	15 16 03.1	-0.8
	comp=Z,32nm,1.8s						
DECC	**Green Verdugo**	57.34	318	P	P	15 16 04.2	+0.1
	baz=127						
B34A	**Aery, Baudette**	57.38	345	P	P	15 16 03.6	-0.5
	baz=157						
JLU	**Jordanelle**	57.43	328	eP	P	15 16 04.6	-0.3
	comp=Z,65nm,1.9s						
B33A	**Robert and Kas**	57.43	344	P	P	15 16 04.4	0.0
	baz=156						
EDW2	**Edwards Air Fo**	57.50	319	P	P	15 16 04.9	-0.3
	baz=128,SNR=7.2						
AGMN	**Agassiz Nation**	57.53	344	P	P	15 16 05.1	0.0
	baz=156,SNR=6.1						
AGMN	**Agassiz Nation**	57.53	344	eP	P	15 16 04.8	-0.3
	comp=Z,106nm,1.9s						
C31A	**Landman Farms,**	57.61	342	P	P	15 16 06.3	+0.6
	baz=154						
LRMC	**Laurel Mtn Rad**	57.66	320	P	P	15 16 06.8	+0.4
	baz=128,SNR=11						
TPNV	**Topopah Spring**	57.68	322	P	P	15 16 07.0	+0.4
	baz=130,SNR=7.5						
TPNV	**Topopah Spring**	57.68	322	eP	P	15 16 06.4	-0.2
TPNV				pmax	pmax		
	comp=Z,13nm,1.1s						
TPNV	**Topopah Spring**	57.68	322	eP	P	15 16 06.4	-0.2
	comp=Z,13nm,1.1s						
BLG	**Laguna Peak, P**	57.75	317	P	P	15 16 07.0	+0.1
	baz=126						
FURC	**Furnace Creek,**	57.75	321	P	P	15 16 07.6	+0.8
	baz=129						
B32A	**Ashes, Strandq**	57.81	344	P	P	15 16 06.5	-0.5
	baz=155						
DUG	**Dugway, Tooele**	57.87	327	P	P	15 16 07.7	-0.1
	baz=135,SNR=16						
DUG	**Dugway, Tooele**	57.87	327	eP	P	15 16 08.5	+0.7
DUG				pmax	pmax		
	comp=Z,89nm,1.8s						
DUG	**Dugway, Tooele**	57.87	327	eP	P	15 16 08.5	+0.7
	comp=Z,88nm,1.8s						
MPMC	**Manual Prospec**	57.89	320	P	P	15 16 07.5	-0.7
	baz=128						
A33A	**Warroad**	57.99	345	P	P	15 16 08.2	-0.1
	baz=157,SNR=6.1						
BW06	**Boulder Array**	58.07	331	P	P	15 16 09.0	-0.4
	baz=139						
BW06	**Boulder Array**	58.07	331	eP	P	15 16 08.6	-0.7
	comp=Z,11nm,1.3s						
PDAR	**Pinedale Array**	58.07	331	P	P	15 16 09.7	+0.4
	comp=Z,3.7nm,1.1s,baz=126,slow=7.5,SNR=9.3						
PDAR				PcP	PcP	15 17 02.3	+1.3
	comp=Z,11nm,1.2s,baz=130,slow=4.6,SNR=5.9						
PDAR				LR	LR	15 43 02.0	
	comp=Z,415nm,18.4s,baz=134,slow=38						
B31A	**Greenbush Farm**	58.15	343	P	P	15 16 09.4	0.0
	baz=154						
R11A	**Troy Canyon, C**	58.19	323	P	P	15 16 10.5	+0.3
	baz=131,SNR=17						
R11A	**Troy Canyon, C**	58.19	323	eP	P	15 16 10.2	0.0
	comp=Z,32nm,1.6s						
HWUT	**Hardware Ranch**	58.22	329	eP	P	15 16 10.2	-0.1
	comp=Z,37nm,1.3s						
MDND	**Maddock**	58.24	341	P	P	15 16 10.5	+0.4
	baz=152						
MDND	**Maddock**	58.24	341	eP	P	15 16 09.2	-0.9
	comp=Z,236nm,1.5s						
A32A	**Rocking H Ranc**	58.27	344	P	P	15 16 10.0	-0.2
	baz=155						
GRAC	**Grapevine Rang**	58.40	321	P	P	15 16 11.6	+0.2
	baz=129						
SPUT	**South Promonto**	58.46	328	eP	P	15 16 10.9	-1.1
	comp=Z,27nm,1.3s						
BGU	**Big Grassy Mou**	58.50	327	eP	P	15 16 11.0	-1.2
	comp=Z,20nm,1.4s						
CWC	**Cottonwood Cre**	58.50	320	P	P	15 16 11.6	-0.8
	baz=128						
PMSA	**Palmer Station**	58.63	174	P	P	15 16 14.4	+1.9
	comp=Z,4.0nm,0.8s,baz=355,slow=5.4,SNR=5.4						
PMSA	**Palmer Station**	58.63	174	eP	P	15 16 13.2	+0.7
	comp=Z,48nm,1.7s						
PKM	**Mcpherson Peak**	58.70	318	P	P	15 16 14.1	+0.2
	baz=126						
VES	**Vestal, Richgr**	58.78	319	P	P	15 16 15.4	+1.3
	baz=127						
HVU	**Hansel Valley**	58.97	328	eP	P	15 16 14.2	-1.3
HVU				pmax	pmax		
	comp=Z,19nm,1.3s						
HVU	**Hansel Valley**	58.97	328	eP	P	15 16 14.2	-1.3
	comp=Z,19nm,1.3s						
TIN	**Tinemaha, Big**	58.98	321	P	P	15 16 16.0	+0.4
	baz=128						
REDW	**Red Top Meadow**	59.15	331	eP	P	15 16 18.3	+1.5
LOHW	**Long Hollow**	59.21	331	eP	P	15 16 16.1	-1.2
	comp=Z,8.7nm,1.2s						
TPAW	**Teton Pass**	59.29	331	eP	P	15 16 21.1	+3.3
ULM	**Lac du Bonnet**	59.32	345	P	P	15 16 16.8	-0.7
	comp=Z,17nm,1.1s,baz=147,slow=6.9,SNR=11						
ULM				PcP	PcP	15 17 07.2	+1.8
	comp=Z,4.5nm,0.7s,baz=198,slow=4.5,SNR=3.1						
ULM				LR	LR	15 45 05.1	
	comp=Z,271nm,18.7s,baz=122,slow=39						
ULM	**Lac du Bonnet**	59.32	345	eP	P	15 16 16.4	-1.1
ULM						15 17 07.2	
ULM				pmax	pmax		
	comp=Z,94nm,1.6s						
ULM	**Lac du Bonnet**	59.32	345	eP	P	15 16 16.4	-1.1
	comp=Z,94nm,1.6s						
ULM				PcP	PcP	15 17 07.2	+1.8
RKT	**Rikitea**	59.36	247	eLR	LR	15 33 49.2	
	comp=Z,2μm,26.5s,baz=83						
MOOW	**Moose Ponds**	59.38	331	eP	P	15 16 17.1	-1.3
	comp=Z,11nm,1.4s						
FXWY	**Fox Creek**	59.44	331	eP	P	15 16 20.2	+1.4
	comp=Z,10nm,1.4s						
IMW	**Indian Meadow**	59.59	331	eP	P	15 16 18.5	-1.4
	comp=Z,37nm,1.6s						
LAO	**LASA Array**	59.66	336	P	P	15 16 20.7	+0.6
	baz=144						
MLAC	**Mammoth, Mammo**	59.71	321	P	P	15 16 20.8	0.0
	baz=128						
RLMT	**Red Lodge**	59.73	333	P	P	15 16 20.6	-0.1
	baz=140						
YHH	**Holmes Hill**	60.21	332	eP	P	15 16 24.4	+0.2
	comp=Z,24nm,1.4s						
YHB	**Horse Butte**	60.34	331	eP	P	15 16 24.9	-0.1
	comp=Z,22nm,1.1s						
DGMT	**Dagmar**	60.35	338	P	P	15 16 23.9	-0.8
	baz=147						
GCMT	**Greycliff**	60.43	333	eP	P	15 16 25.3	-0.1
QLMT	**Earthquake Lak**	60.52	331	eP	P	15 16 27.1	+0.9
WAKR	**Walker**	60.62	321	eP	P	15 16 28.0	+1.0
	comp=Z,50nm,1.7s						
YERR	**Yerington**	60.79	322	eP	P	15 16 29.1	+1.0
	comp=Z,43nm,1.6s						
CMB	**Columbia Colle**	60.93	320	eP	P	15 16 29.3	+0.4
CMB				pmax	pmax		
	comp=Z,38nm,1.9s						
CMB	**Columbia Colle**	60.93	320	eP	P	15 16 29.3	+0.4
	comp=Z,38nm,1.9s						
PNTR	**Pine Nut**	61.08	322	eP	P	15 16 30.0	-0.1
	comp=Z,52nm,1.7s						
HLID	**Hailey**	61.08	329	P	P	15 16 30.1	+0.1
	baz=135,SNR=7.3						
HLID	**Hailey**	61.08	329	eP	P	15 16 29.9	0.0
	comp=Z,38nm,1.9s						
BOZ	**Bozeman (W)**	61.18	332	P	P	15 16 30.7	+0.1
	baz=138,SNR=11						
BOZ	**Bozeman (W)**	61.18	332	eP	P	15 16 29.2	-1.4
BOZ				pmax	pmax		
	comp=Z,34nm,1.4s						
BOZ	**Bozeman (W)**	61.18	332	eP	P	15 16 29.2	-1.4
	comp=Z,34nm,1.4s						
MCMT	**McKenzie Canyo**	61.20	331	eP	P	15 16 31.3	+0.5
PAHR	**Pah Rah Range**	61.33	322	eP	P	15 16 31.2	-0.5
	comp=Z,90nm,1.7s						
DLMT	**Dillon**	61.47	331	eP	P	15 16 34.2	+1.7
SCHQ	**Schefferville**	61.65	6	P	P	15 16 34.8	+1.4
	comp=Z,16nm,0.8s,baz=190,slow=6.9,SNR=5.7						
SCHQ				LR	LR	15 42 58.7	
	comp=Z,1μm,21.7s,baz=195,slow=36						
SCHQ	**Schefferville**	61.65	6	eP	P	15 16 32.9	-0.5
	comp=Z,43nm,1.1s						
MFID	**Camas Ranch**	61.72	328	eP	P	15 16 34.1	-0.1
	comp=Z,26nm,0.9s						
AFDM	**Forest Hills D**	61.84	321	eP	P	15 16 34.7	-0.4
	comp=Z,35nm,1.8s						
BEKR	**Beckworth**	62.02	322	eP	P	15 16 35.3	-1.1
	comp=Z,57nm,1.8s						
HRY	**Holter Researc**	62.10	333	eP	P	15 16 36.7	0.0
EGMT	**Eagleton**	62.19	335	P	P	15 16 37.0	-0.2
	baz=141						
EGMT	**Eagleton**	62.19	335	eP	P	15 16 37.1	-0.1
	comp=Z,46nm,1.6s						
ORV	**Oroville**	62.53	321	eP	P	15 16 39.8	+0.2
ORV				pmax	pmax		
	comp=Z,76nm,1.4s						
ORV	**Oroville**	62.53	321	eP	P	15 16 39.8	+0.2
	comp=Z,76nm,1.4s						
WVOR	**Wild Horse Val**	62.61	325	eP	P	15 16 39.9	-0.3
WVOR				pmax	pmax		
	comp=Z,54nm,1.9s						
WVOR	**Wild Horse Val**	62.61	325	eP	P	15 16 39.9	-0.3
	comp=Z,54nm,1.9s						
O03D	**Paynes Creek**	63.16	322	P	P	15 16 43.5	-0.4
	baz=126						
MSO	**Missoula**	63.17	331	P	P	15 16 44.7	+0.8
	baz=136,SNR=7.9						
MSO	**Missoula**	63.17	331	eP	P	15 16 44.3	+0.4
	comp=Z,23nm,1.0s						
MOD	**Modoc Plateau**	63.24	324	eP	P	15 16 44.1	-0.3
	comp=Z,35nm,1.5s						
BMO	**Blue Mountains**	63.48	328	eP	P	15 16 46.0	+0.1
BMO				pmax	pmax		
	comp=Z,18nm,1.6s						
BMO	**Blue Mountains**	63.48	328	eP	P	15 16 46.0	+0.1
	comp=Z,18nm,1.6s						
SWMT	**Swartz Lake**	63.69	332	eP	P	15 16 47.0	-0.3
YBMT	**Yellow Bay**	63.96	332	eP	P	15 16 48.9	-0.2
JTMT	**Jette**	64.00	332	eP	P	15 16 49.0	-0.4
TAOE	**Nuku Hiva Isla**	64.00	263	eLR	LR	15 36 00.3	
	comp=Z,2μm,24.4s,baz=90						
M04C	**Macdoel**	64.07	323	P	P	15 16 50.2	+0.2
	baz=127,SNR=6.4						
N02D	**Trinity Center**	64.11	322	P	P	15 16 50.1	-0.1
	baz=126						
BSMT	**Bassoo Peak**	64.31	332	eP	P	15 16 50.9	-0.6
M02C	**Callahan**	64.45	322	P	P	15 16 52.0	-0.3
	baz=126						
K04D	**Chiloquin, OR**	64.53	324	P	P	15 16 52.8	-0.1
	baz=128						
YBH	**Yreka Blue Hor**	64.56	323	eP	P	15 16 52.1	-1.0
YBH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YBH	**Yreka Blue Hor**	64.56	323	eP	P	15 16 52.1	-1.0
	comp=Z,7.1nm,1.1s						
J05D	**Fort Rock, OR**	64.63	325	P	P	15 16 53.6	0.0
	baz=128						
WALA	**Waterton Lakes**	64.78	333	eP	P	15 16 54.3	-0.1
	comp=Z,80nm,1.9s						
FFC	**Flin Flon**	64.99	343	eP	P	15 16 56.0	+0.5
FFC				pmax	pmax		
	comp=Z,30nm,1.3s						
FFC	**Flin Flon**	64.99	343	eP	P	15 16 56.0	+0.5
	comp=Z,30nm,1.3s						
J04D	**Umpqua Nationa**	65.11	324	P	P	15 16 56.8	+0.1
	baz=127						
I05D	**Terrebonne, OR**	65.34	326	P	P	15 16 58.2	+0.2
	baz=128						
L02D	**Cave Junction,**	65.35	323	P	P	15 16 58.5	+0.4
	baz=126						
NEW	**Newport**	65.71	331	P	P	15 17 00.6	+0.2
	baz=134,SNR=5.2						
NEW	**Newport**	65.71	331	eP	P	15 17 00.5	+0.2
NEW				pmax	pmax		
	comp=Z,25nm,1.7s						
NEW	**Newport**	65.71	331	eP	P	15 17 00.5	+0.2
	comp=Z,25nm,1.7s						
I03D	**Drain, OR**	66.11	324	P	P	15 17 03.4	+0.5
	baz=126						
LTY	**Liberty**	66.83	328	eP	P	15 17 08.0	+0.4
	comp=Z,39nm,1.9s						
B08A	**Colville Reser**	66.86	330	eP	P	15 17 07.9	+0.1
	comp=Z,47nm,2.0s						
PMOZ	**Porto Moniz, M**	67.83	51	eS	S	15 26 05.6	-5.3
PMOZ				eLQ	LQ	15 33 46.2	
PMOZ				eLR	LR	15 36 01.5	
	comp=Z,573nm,20.0s						
A04D	**Lummi Island**	68.81	329	P	P	15 17 21.1	+1.2
	baz=129						
LLLB	**Lillooet**	69.59	331	eP	P	15 17 24.7	-0.1
	comp=Z,67nm,1.8s						
LIC	**Lamto**	71.50	81	eP	P	15 17 37.3	+0.2
	comp=Z,122nm,1.4s						
TIC	**Toumodi**	71.57	81	eP	P	15 17 38.9	+1.3
DBIC	**Dimbokro**	71.74	81	P	P	15 17 39.0	+0.5
	comp=Z,22nm,0.6s,baz=247,slow=5.5,SNR=47						
DBIC				LR	LR	15 47 08.0	
	comp=Z,3μm,21.0s,baz=237,slow=34						
DBIC	**Dimbokro**	71.74	81	eP	P	15 17 37.6	-0.9
DBIC				pmax	pmax		
	comp=Z,64nm,1.1s						
DBIC	**Dimbokro**	71.74	81	eP	P	15 17 37.6	-0.9
	comp=Z,64nm,1.1s						
KIC	**Kosan Boka**	71.80	81	eP	P	15 17 39.3	+0.3
	comp=Z,113nm,1.1s						
TBI	**Tubuai**	72.67	248	eLR	LR	15 40 02.0	
	comp=Z,2μm,25.2s,baz=89						
PPT	**Papeete**	72.86	254	LR	LR	15 41 40.8	
	comp=Z,1μm,20.3s,baz=98,slow=29						
PPT2	**Papeete2**	72.86	254	eS	S	15 27 06.8	-3.4
	comp=Z,148nm,26.5s						
PPT2	**Papeete2**	72.86	254	eLR	LR	15 40 05.6	
	comp=Z,2μm,24.5s,baz=93						
YKA	**Yellowknife Ar**	75.12	342	P	P	15 17 57.6	+0.1
	comp=Z,5.2nm,1.0s,baz=132,slow=6.0,SNR=8.2						
YKA				LR	LR	15 53 46.6	
	comp=Z,26nm,20.9s,baz=180,slow=38						
PFVI	**Vila Bisbo**	75.80	49	eP	P	15 18 05.1	+3.1
	comp=Z,62nm,1.5s						
PFVI	**Vila Bisbo**	75.80	49	eLR	LR	15 41 42.0	
	comp=Z,1μm,18.0s						
MORF	**Marmelete**	76.00	49	eP	P	15 18 02.5	-0.6
MORF				AMS	AMS	15 49 17.0	
	comp=Z,1μm,16.4s						
MORF	**Marmelete**	76.00	49	eP	P	15 18 05.7	+2.6
	comp=Z,92nm,1.6s						
MORF	**Marmelete**	76.00	49	eLR	LR	15 40 31.2	
	comp=Z,1μm,18.0s						
MORF	**Marmelete**	76.00	49	eP	P	15 18 02.5	-0.6
PMAFR	**Mafra**	76.09	47	eP	P	15 18 06.3	+2.7
	comp=Z,95nm,1.5s						
PMAFR	**Mafra**	76.09	47	eLR	LR	15 41 50.9	
	comp=Z,2μm,18.0s						
VNA3	**Neumayer Olymp**	76.13	162	P	P	15 18 04.5	+1.2
PNCL	**Nicolau / Gran**	76.36	48	eP	P	15 18 07.5	+2.4
	comp=Z,34nm,1.7s						
PNCL	**Nicolau / Gran**	76.36	48	eLR	LR	15 41 50.8	
	comp=Z,1μm,18.0s						
VNA1	**Neumayer--Stat**	76.36	162	P	P	15 18 04.5	0.0
PBDV	**Barranco-do-Ve**	76.52	49	eP	P	15 18 08.8	+2.8
	comp=Z,29nm,1.8s						
PBDV	**Barranco-do-Ve**	76.52	49	eLR	LR	15 41 50.9	
	comp=Z,1μm,22.0s						
PCVE	**Castro Verde**	76.56	49	eP	P	15 18 08.8	+2.5
	comp=Z,34nm,1.6s						
PCVE	**Castro Verde**	76.56	49	eLR	LR	15 41 50.6	
	comp=Z,1μm,20.0s						
VNA2	**Neumayer--Watz**	76.72	162	P	P	15 17 55.3	-11
	baz=269,slow=3.6						
PVAQ	**Vaqueiros**	76.73	49	eP	P	15 18 10.4	+3.2
PVAQ				eS	S	15 27 48.9	-3.6
PVAQ	**Vaqueiros**	76.73	49	eLR	LR	15 41 51.1	
	comp=Z,1μm,18.0s						
PBEJ	**Beja**	76.82	49	eP	P	15 18 10.5	+2.8
	comp=Z,24nm,1.7s						
EVO	**Evora**	76.88	48	eP	P	15 18 10.6	+2.6
	comp=Z,25nm,1.5s						
PMTG	**Montargil**	76.91	48	eP	P	15 18 09.9	+1.7
	comp=Z,36nm,1.9s						
PMTG	**Montargil**	76.91	48	eLR	LR	15 42 35.0	
	comp=Z,1μm,20.0s						
PCAS	**Casmilo, Conde**	77.04	46	eP	P	15 18 11.6	+2.7
	comp=Z,39nm,1.7s						
PCAS	**Casmilo, Conde**	77.04	46	eLR	LR	15 42 12.8	
	comp=Z,963nm,20.0s						
PESTR	**Estremoz**	77.30	48	eP	P	15 18 12.6	+2.2
	comp=Z,57nm,1.6s						
PESTR	**Estremoz**	77.30	48	eLR	LR	15 42 08.5	
	comp=Z,1μm,18.0s						
PBAR	**Barrancos**	77.49	49	eP	P	15 18 14.2	+2.8
	comp=Z,37nm,1.5s						
PBAR	**Barrancos**	77.49	49	eLR	LR	15 42 12.8	
	comp=Z,3μm,18.0s						
PMRV	**Marv??o**	77.64	47	eP	P

PBRG	**Braganca**	**78.89**	**45**	*e*LR	LR	15 43 14.9	
	comp=Z,487nm,24.0s						
TOA0	**Torodi Ar. Sit**	**79.16**	**75**	*e*P	**P**	**15 18 20.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**79.16**	**75**	P	**P**	**15 18 21.1**	**0.0**
	comp=Z,20nm,1.0s,baz=293,slow=6.7,SNR=66						
TORD				LR	LR	15 53 31.5	
	comp=Z,2μm,18.3s,baz=250,slow=36						
PAB	**San Pablo**	**79.91**	**48**	*e*P	**P**	**15 18 25.6**	**+0.7**
PAB				pmax	pmax		
	comp=Z,32nm,1.5s						
PAB	**San Pablo**	**79.91**	**48**	*e*P	**P**	**15 18 25.6**	**+0.7**
	comp=Z,32nm,1.5s						
ESDC	**Sonseca Array**	**80.23**	**48**	P	**P**	**15 18 28.1**	**+1.6**
	comp=Z,4.7nm,1.0s,baz=254,slow=4.9,SNR=20						
ESDC				LR	LR	15 52 17.7	
	comp=Z,923nm,18.8s,baz=250,slow=34						
ESLA	**Sonseca Array**	**80.23**	**48**	*e*P	**P**	**15 18 27.5**	**+1.0**
	comp=Z,18nm,1.4s						
ES19	**SONSECA Array**	**80.28**	**48**	*e*P	**P**	**15 18 27.5**	**+0.7**
BESE	**Bessie Mountai**	**80.33**	**333**	*e*P	**P**	**15 18 27.4**	**+0.8**
	comp=Z,36nm,1.3s						
SUMG	**Summit**	**82.55**	**11**	*i* P	**P**	**15 18 40.1**	**+1.5**
	comp=Z,68nm,1.2s						
SUMG	**Summit**	**82.55**	**11**	*i* P	**P**	**15 18 40.1**	**+1.5**
SUMG				pmax	pmax		
	comp=Z,68nm,1.2s						
SUMG	**Summit**	**82.55**	**11**	*e*P	**P**	**15 18 39.9**	**+1.3**
	comp=Z,351nm,1.9s						
HYT	**Haines Junctio**	**82.59**	**334**	*e*P	**P**	**15 18 40.2**	**+1.5**
	comp=Z,48nm,2.0s						
NVL	**N'lazarevskaya**	**82.93**	**161**	*e*P	**P**	**15 18 44.4**	**+4.3**
REYF	**Montagne du Re**	**83.75**	**45**	*e*P	**P**	**15 18 43.4**	**-1.6**
LABF	**Labassere**	**84.07**	**46**	*e*P	**P**	**15 18 45.1**	**-1.5**
TAM	**Tamanrasset**	**84.35**	**66**	*e*P	**P**	**15 18 50.2**	**+1.7**
	comp=Z,42nm,1.4s						
SALF	**Salau**	**84.80**	**46**	*e*P	**P**	**15 18 48.8**	**-1.5**
DAWY	**Dawson**	**84.86**	**337**	*e*P	**P**	**15 18 51.0**	**+0.9**
	comp=Z,36nm,1.8s						
INK	**Inuvik**	**84.86**	**342**	P	**P**	**15 18 50.3**	**+0.4**
	comp=Z,15nm,1.1s,baz=127,slow=5.5,SNR=12						
EKA	**Eskdalemuir Ar**	**85.53**	**33**	P	**P**	**15 18 53.4**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=270,slow=3.3,SNR=5.1						
EGAK	**Eagle**	**85.86**	**337**	*e*P	**P**	**15 18 55.0**	**0.0**
	comp=Z,93nm,2.0s						
DOT	**Dot Lake**	**86.57**	**335**	*e*P	**P**	**15 18 58.4**	**-0.2**
	comp=Z,69nm,1.4s						
KLU	**Klutina**	**86.59**	**333**	*e*P	**P**	**15 18 58.8**	**-0.1**
	comp=Z,26nm,1.3s						
PAX	**Paxson**	**86.91**	**335**	*e*P	**P**	**15 19 00.3**	**-0.1**
	comp=Z,36nm,1.4s						
SCM	**Sheep Creek Mo**	**87.33**	**333**	*e*P	**P**	**15 19 02.3**	**-0.1**
	comp=Z,81nm,1.8s						
DHY	**Denali Highway**	**87.76**	**334**	*e*P	**P**	**15 19 04.2**	**-0.3**
	comp=Z,18nm,1.6s						
SML	**Sawmill**	**87.78**	**333**	*e*P	**P**	**15 19 04.5**	**0.0**
	comp=Z,34nm,1.0s						
FYU	**Fort Yukon**	**88.11**	**338**	*e*P	**P**	**15 19 06.1**	**+0.2**
	comp=Z,142nm,1.9s						
IL1	**Eielson Array**	**88.13**	**336**	*e*P	**P**	**15 19 05.7**	**-0.4**
ILAR	**Eielson Array**	**88.13**	**336**	P	**P**	**15 19 05.7**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=132,slow=3.2,SNR=30						
ILAR				LR	LR	16 05 17.1	
	comp=Z,240nm,18.0s,baz=106,slow=40						
ILB	**Eielson Array**	**88.13**	**336**	*e*P	**P**	**15 19 06.2**	**+0.1**
BRLK	**Bradley Lake**	**88.37**	**331**	*e*P	**P**	**15 19 07.3**	**0.0**
	comp=Z,45nm,1.3s						
CCB	**Clear Creek Bu**	**88.46**	**336**	*e*P	**P**	**15 19 08.0**	**+0.4**
	comp=Z,16nm,1.1s						
RND	**Reindeer**	**88.50**	**334**	*e*P	**P**	**15 19 08.8**	**+0.8**
	comp=Z,91nm,1.6s						
WRH	**Wood River Hil**	**88.52**	**336**	*e*P	**P**	**15 19 08.6**	**+0.6**
	comp=Z,17nm,1.2s						
COLA	**College**	**88.55**	**336**	*e*P	**P**	**15 19 08.5**	**+0.5**
	comp=Z,43nm,1.4s						
MCK	**McKinley**	**88.64**	**335**	*e*P	**P**	**15 19 08.9**	**+0.4**
	comp=Z,17nm,1.3s						
DOU	**Dourbes**	**88.73**	**39**	P	**P**	**15 19 10.4**	**+1.2**
	comp=Z,8.2nm,1.5s						
TRF	**Thorofare Moun**	**89.13**	**334**	*e*P	**P**	**15 19 11.4**	**+0.3**
	comp=Z,35nm,1.3s						
DAG	**Danmarks Havn**	**89.22**	**11**	*i* P	**P**	**15 19 12.2**	**+1.2**
	comp=Z,64nm,1.5s						
DAG	**Danmarks Havn**	**89.22**	**11**	*i* P	**P**	**15 19 12.2**	**+1.2**
DAG				pmax	pmax		
	comp=Z,180nm,1.5s						
SPU	**Mount Spurr**	**89.31**	**332**	*e*P	**P**	**15 19 11.8**	**0.0**
KTH	**Kantishna Hill**	**89.44**	**334**	*e*P	**P**	**15 19 13.3**	**+1.0**
	comp=Z,16nm,1.0s						
RSO	**Redoubt South**	**89.46**	**331**	*e*P	**P**	**15 19 12.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**89.61**	**335**	*e*P	**P**	**15 19 12.7**	**-0.4**
WLF	**Walferdange**	**89.63**	**40**	P	**P**	**15 19 15.8**	**+2.3**
	comp=Z,20nm,2.0s						
LOMF	**Lomont**	**89.66**	**42**	*e*P	**P**	**15 19 12.5**	**-1.3**
KEST	**Kesra**	**89.67**	**54**	P	**P**	**15 19 15.6**	**+1.5**
	comp=Z,4.8nm,0.9s,baz=252,slow=6.4,SNR=2.8						
KEST				LR	LR	16 00 27.3	
	comp=Z,675nm,18.7s,baz=180,slow=36						
MLY	**Manley**	**89.77**	**336**	*e*P	**P**	**15 19 14.3**	**+0.4**
	comp=Z,11nm,1.0s						
PPLA	**Purkeypile**	**89.81**	**334**	*e*P	**P**	**15 19 14.4**	**+0.2**
	comp=Z,180nm,1.9s						
CAST	**Castle Rocks**	**89.90**	**334**	*e*P	**P**	**15 19 14.0**	**-0.5**
	comp=Z,20nm,0.8s						
ECH	**Echery**	**90.03**	**42**	*e*P	**P**	**15 19 14.1**	**-1.3**
COLD	**Coldfoot**	**90.18**	**338**	*e*P	**P**	**15 19 15.2**	**-0.5**
	comp=Z,55nm,1.9s						
VNDA	**Vanda**	**90.28**	**191**	P	**P**	**15 19 17.8**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=116,slow=4.4,SNR=4.9						
VNDA				LR	LR	15 51 53.6	
	comp=Z,234nm,21.5s,baz=126,slow=30						
VNDA	**Vanda**	**90.28**	**191**	*e*P	**P**	**15 19 16.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,11nm,1.5s						
VNDA	**Vanda**	**90.28**	**191**	*e*P	**P**	**15 19 16.6**	**+0.6**
	comp=Z,11nm,1.5s						
TOLK	**Toolik Lake Re**	**90.37**	**339**	P	**P**	**15 19 18.1**	**+1.5**
	baz=107						
LANF	**Langenberg**	**90.58**	**41**	*e*P	**P**	**15 19 16.2**	**-1.8**
SVW2	**Sparrevohn**	**90.95**	**331**	*e*P	**P**	**15 19 19.1**	**-0.3**
	comp=Z,32nm,1.6s						
DAVOX	**Davos/Dischmat**	**91.63**	**43**	P	**P**	**15 19 24.2**	**+1.0**
	comp=Z,4.3nm,0.7s,baz=227,slow=7.0,SNR=5.6						
DAVA	**Damuels**	**91.70**	**43**	*i* PcP	**P**	**15 19 24.8**	**+1.4**
	comp=Z,11nm,1.1s						
FETA	**Feichten**	**92.24**	**43**	*i* PcP	**P**	**15 19 27.7**	**+1.8**
	comp=Z,12nm,1.6s						
RETA	**Reutte**	**92.32**	**43**	*i* PcP	**P**	**15 19 27.9**	**+1.7**
	comp=Z,8.0nm,1.2s						
MOTA	**Moosalm**	**92.53**	**43**	*i* PcP	**P**	**15 19 28.6**	**+1.3**
	comp=Z,4.1nm,0.7s						
SYO	**Syowa Base**	**92.59**	**161‖**	*e*P	**P**	**15 19 28.0**	**+1.1**
SYO	**Syowa Base**	**92.59**	**161‖**	*e*pP	**P**	**15 19 30.4**	**+3.5**
WTTA	**Wattenberg**	**92.88**	**43**	*i* PcP	**P**	**15 19 31.0**	**+2.1**
	comp=Z,14nm,1.7s						
ABTA	**Abfaltersbach**	**93.42**	**44**	*i* PcP	**P**	**15 19 32.1**	**+0.9**
	comp=Z,15nm,1.4s						
NKC	**Novy Kostel**	**93.74**	**40**	AMS	AMS	16 00 50.0	
	comp=Z,1μm,18.6s						
NOA	**NORSAR Array B**	**94.16**	**29**	P	**P**	**15 19 35.8**	**+1.5**
	comp=Z,2.7nm,1.0s,baz=260,slow=4.7,SNR=3.4						
NOA				LR	LR	15 59 52.7	
	comp=Z,390nm,19.4s,baz=265,slow=34						
MYKA	**Terra Mystica**	**94.19**	**44**	*i* PcP	**P**	**15 19 36.7**	**+2.0**
	comp=Z,18nm,1.4s						
CLL	**Collm**	**94.19**	**39**	*e*P	**P**	**15 19 36.0**	**+1.4**
CLL				*e*S	**S**	**15 30 39.0**	**-4.8**
CLL				MLR	MLR		
	comp=Z,500nm,18.9s						
CLL	**Collm**	**94.19**	**39**	*e*P	**P**	**15 19 36.0**	**+1.4**
CLL				*e*PP	**PP**	**15 23 21.0**	**-0.5**
CLL				*e*S	**S**	**15 30 39.0**	**-4.8**
CLL				*e*PS	**PS**	**15 32 03.0**	**+0.6**
CLL				*e*SS	**SS**	**15 37 04.0**	**-1.0**
CLL				*e*SSS	SSS	15 40 48.0	
CLL				*e*		15 42 00.0	
CLL				*e*		15 45 18.0	
CLL				Lm	MLR	16 02 00.0	
	comp=N,300nm,18.8s						
CLL				Lm	MLR	16 02 00.0	
	comp=E,400nm,21.2s						
CLL				Lm	MLR	16 02 00.0	
	comp=Z,500nm,18.9s						
KHC	**Kasperske Hory**	**94.36**	**41**	*e*P	**P**	**15 19 32.5**	**-3.0**
KHC				*e*pP	**PcP**	**15 19 37.4**	**+1.5**
KHC				AMS	AMS	16 03 00.0	
	comp=Z,600nm,18.5s						
KHC	**Kasperske Hory**	**94.36**	**41**	*e*P	**P**	**15 19 32.5**	**-3.0**
KHC				MLR	MLR		
	comp=Z,600nm,18.5s						
GEA0	**GERESS Array S**	**94.42**	**42**	*e*P	**P**	**15 19 35.5**	**-0.3**
GERES	**GERESS Array B**	**94.42**	**41**	P	**P**	**15 19 36.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=244,slow=5.8,SNR=4.1						
GERES				LR	LR	16 01 42.5	
	comp=Z,540nm,18.7s,baz=244,slow=35						
MOA	**Molln**	**94.71**	**43**	*i* pP	**P**	**15 19 39.4**	**+2.3**
	comp=Z,0.1nm,0.2s						
BRG	**Berggiesshubel**	**94.75**	**39**	*e*P	**P**	**15 19 39.2**	**+2.1**
	comp=Z,24nm,1.7s						
	comp=N,208nm,18.0s						
	comp=E,424nm,16.2s						
	comp=Z,649nm,18.2s						
BRG	**Berggiesshubel**	**94.75**	**39**	*e*P	**P**	**15 19 39.2**	**+2.1**
BRG				pmax	pmax		
	comp=Z,24nm,1.7s						
BRG				MLR	MLR		
	comp=N,208nm,18.0s						
BRG				MLR	MLR		
	comp=E,424nm,16.2s						
BRG				MLR	MLR		
	comp=Z,649nm,18.2s						
OBKA	**Obir**	**94.80**	**44**	*i* P	**P**	**15 19 36.2**	**-1.4**
	comp=Z,15nm,1.8s						
PRA	**Prague**	**95.00**	**40**	AMS	AMS	16 00 00.0	
	comp=Z,900nm,16.5s						
PRU	**Pruhonice**	**95.06**	**40**	AMS	AMS	16 00 10.0	
	comp=Z,700nm,17.7s						
PVCC	**Panska Ves**	**95.12**	**40**	AMS	AMS	16 02 00.0	
	comp=Z,900nm,19.0s						
GOPC	**GO Pecny, Ondr**	**95.21**	**40**	AMS	AMS	16 02 50.0	
	comp=Z,900nm,23.2s						
ARSA	**Arzberg**	**95.52**	**43**	*i* PcP	**P**	**15 19 41.2**	**+0.4**
	comp=Z,6.3nm,1.1s						
TREC	**Trest**	**95.62**	**41**	AMS	AMS	16 02 20.0	
	comp=Z,800nm,21.2s						
CONA	**Conrad Observa**	**95.79**	**43**	*i* PcP	**P**	**15 19 43.7**	**+1.7**
	comp=Z,8.7nm,1.4s						
UPC	**Upice**	**96.03**	**40**	AMS	AMS	16 02 30.0	
	comp=Z,900nm,16.6s						
DPC	**Dobruska-Polom**	**96.22**	**40**	*e*P	**P**	**15 19 40.4**	**-3.5**
DPC				*e*pP	**PcP**	**15 19 46.4**	**+2.3**
DPC				AMS	AMS	16 00 50.0	
	comp=Z,900nm,24.1s						
DPC	**Dobruska-Polom**	**96.22**	**40**	*e*P	**P**	**15 19 40.4**	**-3.5**
DPC				MLR	MLR		
	comp=Z,900nm,24.1s						
BOSA	**Boshof**	**96.25**	**120**	LR	LR	16 01 04.4	
	comp=Z,508nm,18.5s,baz=263,slow=34						
KRLC	**Kraliky**	**96.51**	**40**	*e*P	P	15 19 39.6	-5.6
KRLC				*e*pP	**PcP**	**15 19 47.5**	**+2.1**
KRLC	**Kraliky**	**96.51**	**40**	*e*P	P	15 19 39.6	-5.6
KRLC				*e*		15 19 47.5	
MORC	**Moravsky Berou**	**96.99**	**41**	*e*P	**P**	**15 19 49.1**	**+1.7**
MORC				pmax	pmax		
	comp=Z,78nm,1.6s						
MORC	**Moravsky Berou**	**96.99**	**41**	*e*P	**P**	**15 19 49.0**	**+1.7**
	comp=Z,78nm,1.6s						
OKC	**Ostrava-Krasne**	**97.38**	**41**	AMS	AMS	16 01 20.0	
	comp=Z,600nm,18.8s						
VYHS	**Vyhne**	**97.80**	**42**	*e*P	Pdif	15 19 52.7	+1.6
VYHS	**Vyhne**	**97.80**	**42**	*e*PDIFF	Pdif	15 19 52.7	+1.6
LANS	**Liptovska Anna**	**98.23**	**41**	*e*P	Pdif	15 19 55.4	+2.3
LANS	**Liptovska Anna**	**98.23**	**41**	*e*PDIFF	Pdif	15 19 55.4	+2.3
ANN	**Anapa**	**110.87**	**45**	*i* PKIKP	**PKiKP**	**15 24 41.4**	**-7.5**
ANN				*e*		15 24 48.4	
ANN				pmax	pmax		
	comp=Z,50nm,1.2s						
ANN				MLR	MLR		
	comp=N,325nm,18.0s						
ANN				MLR	MLR		
	comp=Z,304nm,18.0s						
ANN				MLR	MLR		
	comp=E,151nm,18.0s						
DZM	**Mont Dzumac**	**112.97**	**243**	*e*LR	LR	15 58 41.4	
	comp=E,1μm,24.2s						
SEY	**Seymchan**	**113.98**	**338⇑**	*i*PKIKP	**PKiKP**	**15 24 53.5**	**-0.8**
GNI	**Garni**	**117.22**	**48**	*i* PKIKP	**PKPdf**	**15 25 00.5**	**-1.0**
ABKAR	**Akbulak array**	**123.40**	**33**	PKPdf	**PKPdf**	**15 25 13.4**	**+0.6**
BRVK	**Borovoye**	**125.96**	**25⇑**	*i*PKIKP	**PKPdf**	**15 25 19.3**	**+1.7**
STKA	**Stephens Creek**	**127.86**	**221**	PKP	**PKPdf**	**15 25 22.9**	**+0.9**
	comp=E,2.3nm,0.9s,baz=358,slow=3.0,SNR=8.3						
NVS	**Novosibirsk**	**128.97**	**16**	*e*PKIKP	**PKPdf**	**15 25 24.3**	**+1.0**
NVS				*e*		15 27 30.8	
ZAA0	**Zalesovo Array**	**130.19**	**15**	*e*PKPdf	**PKPdf**	**15 25 25.8**	**+0.1**
ZALV	**Zalesovo Beam**	**130.19**	**15**	PKP	**PKPdf**	**15 25 26.4**	**+0.7**
	comp=E,12nm,1.2s,baz=302,slow=2.8,SNR=17						
KURK	**Kurchatov**	**131.05**	**22‖**	*i*PKIKP	**PKPdf**	**15 25 28.7**	**+1.3**
KURK	**Kurchatov**	**131.05**	**22**	*e*PKPdf	**PKPdf**	**15 25 28.2**	**+0.8**
PMG	**Port Moresby**	**134.59**	**250⇑**	*i*PKIKP	**PKPdf**	**15 25 34.3**	**-0.8**
AAK	**Ala-Archa**	**135.42**	**32‖**	*i*PKIKP	**PKPdf**	**15 25 37.7**	**+1.6**
MKAR	**Makanchi Array**	**135.66**	**22**	PKP	**PKPdf**	**15 25 36.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=312,slow=2.4,SNR=3.6						
ASAR	**Alice Springs**	**138.38**	**223**	PKhKP	PKPpre	15 25 35.2	
	comp=E,0.6nm,0.6s,baz=137,slow=2.7,SNR=12						
ASAR				PKP	**PKiKP**	**15 25 43.1**	**-1.0**
	comp=E,4.2nm,1.1s,baz=134,slow=2.7,SNR=14						
ASAR				PP	**PP**	**15 28 31.4**	**+0.4**
	comp=E,0.5nm,1.0s,baz=120,slow=7.4,SNR=4.3						
KSH	**Kashi**	**138.41**	**34**	*e*PKP	**PKPdf**	**15 25 36.4**	**-5.3**
KSH				sPKP		15 25 50.3	
KSH				PP	**PP**	**15 28 30.6**	**-0.3**
KSH				PKS	**PKSdf**	**15 29 12.1**	**-5.8**
KSH				SKS	**SKSdf**	**15 32 42.8**	**-7.8**
KSH				SKKS	**SKKSac**	**15 35 18.6**	**-5.5**
KSH				SS	**SS**	**15 46 39.1**	**-2.9**
KSH				AMB	AMB		
	comp=E,240nm,5.4s						
KSH				LR	LR		
	comp=E,100nm,5.3s						
KSH				LR	LR		
	comp=E,98nm,6.6s						
KSH				LR	LR		
	comp=E,260nm,11.2s						
ULN	**Ulaanbaatar**	**138.84**	**357‖**	*i*PKIKP	**PKPdf**	**15 25 43.0**	**+0.7**
ULN	**Ulaanbaatar**	**138.84**	**357**	*e*PKPdf	**PKPdf**	**15 25 42.8**	**+0.5**
SONA1	**Songino Array**	**138.88**	**358**	*e*PKPdf	**PKPdf**	**15 25 43.5**	**+1.2**
SONM	**Songino Array**	**138.90**	**358**	PKP	**PKPdf**	**15 25 42.7**	**+0.3**
	comp=E,1.2nm,0.6s,baz=318,slow=1.9,SNR=3.5						
WMQ	**Urumqi**	**140.12**	**19**	PKP	**PKPdf**	**15 25 43.9**	**-0.7**
WMQ				LR	LR		
	comp=E,410nm,21.1s						
WMQ				LR	LR		
	comp=E,290nm,22.3s						
WMQ				LR	LR		
	comp=E,190nm,24.5s						
WB2	**Warramunga Arr**	**140.49**	**227**	*e*PKPpre	PKPpre	15 25 38.5	
WB2				*e*PKPdf	**PKPdf**	**15 25 44.9**	**-1.0**
WRAB	**Tennant Creek**	**140.50**	**227⇑**	*i*PKIKP	**PKPdf**	**15 25 46.6**	**+0.7**
WRAB	**Tennant Creek**	**140.50**	**227**	*e*PKPdf	**PKPdf**	**15 25 45.9**	**-0.1**
WRA	**Warramunga Arr**	**140.50**	**227**	PKhKP	PKPpre	15 25 39.8	
	comp=E,3.3nm,1.2s,baz=141,slow=1.7,SNR=6.8						
WRA				PKP	**PKiKP**	**15 25 47.5**	**-1.0**
	comp=E,1.8nm,0.5s,baz=124,slow=2.0,SNR=15						
KS01	**Wonju Array Si**	**142.61**	**329**	*e*PKPpre	PKPpre	15 25 43.1	
KSRS	**Korea Array**	**142.62**	**329**	PKhKP	PKPpre	15 25 45.5	
	comp=E,1.3nm,0.8s,baz=33,slow=3.0,SNR=9.6						
KSRS				PKP	**PKiKP**	**15 25 50.9**	**-1.4**
	comp=E,2.7nm,1.0s,baz=35,slow=2.7,SNR=7.8						
KSAR	**Wonju Array Be**	**142.64**	**329**	PKHKP	PKPpre	15 25 45.5	
KSAR						15 25 50.9	
KSAR	**Wonju Array Be**	**142.64**	**329**	PKPpre	PKPpre	15 25 45.5	
KSAR				PKP	**PKiKP**	**15 25 50.9**	**-1.5**
HHC	**Hu-ho-hao-te**	**145.33**	**351**	*e*PKPbc	**PKPbc**	**15 25 48.0**	**-5.7**
HHC				PP	**PP**	**15 29 11.5**	**-0.7**
HHC				AMB	AMB		
	comp=E,100nm,5.6s						
HHC				LR	LR		
	comp=E,270nm,19.6s						
HHC				LR	LR		
	comp=E,160nm,21.4s						
HHC				LR	LR		
	comp=E,240nm,18.4s						
BTO	**Baotou**	**145.79**	**352**	*e*PKPbc	**PKPab**	**15 25 56.0**	**+0.4**
GTA	**Gaotai**	**147.08**	**7**	*e*PKPbc	**PKPbc**	**15 25 59.1**	**0.0**
GTA				PP	**PP**	**15 29 25.3**	**+2.8**
GTA				SKKS		15 36 17.4	
GTA				SS	**SS**	**15 48 26.4**	**+5.4**
GTA				AMB	AMB		
	comp=E,120nm,8.1s						
GTA				LR	LR		
	comp=E,200nm,19.7s						
GTA				LR	LR		
	comp=E,210nm,20.7s						
GTA				LR	LR		
	comp=E,240nm,20.4s						
MTN	**Manton Dam**	**147.20**	**234**	*e*PKPbc	**PKPbc**	**15 25 59.3**	**-0.6**
MBWA	**Marble Bar**	**148.59**	**208**	*e*PKPbc	**PKPbc**	**15 26 02.7**	**-0.8**
PYUN	**Piuthan**	**150.49**	**41**	*e*P	**PKPdf**	**15 26 03.7**	**+0.7**
LZH	**Lanzhou**	**150.66**	**1**	*e*PKPbc	**PKPdf**	**15 26 02.3**	**-0.7**
LZH				pPKP	PKPbc	15 26 05.5	-2.9
LZH				sPKP		15 26 08.6	
LZH				PP	**PP**	**15 29 44.3**	**+0.9**
LZH				AMB	AMB		
	comp=E,210nm,5.0s						
LZH				LR	LR		
	comp=E,420nm,18.7s						
LZH				LR	LR		
	comp=E,330nm,19.4s						
LZH				LR	LR		
	comp=E,320nm,19.8s						
DANN	**Dangsing**	**150.82**	**40**	*e*P	**PKPdf**	**15 26 05.4**	**+1.8**
KOLN	**Koldanda**	**151.11**	**41**	*e*P	**PKPdf**	**15 26 05.4**	**+1.4**
NJ2	**Nanjing**	**151.35**	**334**	*e*PKPbc	**PKPdf**	**15 26 06.3**	**+2.4**
GKN	**Gorkha**	**151.61**	**39**	*e*P	**PKPdf**	**15 26 06.3**	**+1.7**
KKN	**Kakani**	**152.16**	**39**	*e*P	**PKPdf**	**15 26 07.1**	**+1.5**
PKIN	**Phulchoki**	**152.39**	**39**	*e*P	**PKPdf**	**15 26 07.0**	**+1.0**
GUN	**Gumba**	**152.44**	**38**	*e*P	**PKPdf**	**15 26 08.1**	**+2.0**
HYB	**Hyderabad**	**152.51**	**65**	*i* PKP	**PKPdf**	**15 26 07.5**	**+1.4**
HYB				*e*		15 26 14.0	
HYB				*e*PKPAB	**PKPab**	**15 26 24.5**	**+1.1**
JIRN	**Jiri**	**152.81**	**38**	*e*P	**PKPdf**	**15 26 08.0**	**+1.3**
RAMN	**Ramite**	**153.58**	**38**	*e*P	**PKPdf**	**15 26 09.5**	**+1.8**
TAPN	**Taplejung**	**153.95**	**36**	*e*P	**PKPdf**	**15 26 10.0**	**+1.7**
ODAN	**Odare**	**154.12**	**37**	*e*P	**PKPdf**	**15 26 10.0**	**+1.6**
CD2	**Chengdu**	**155.82**	**1**	PKP	**PKPdf**	**15 26 08.6**	**-1.8**
GYA	**Guiyang**	**160.16**	**354**	PKP	**PKPdf**	**15 26 14.0**	**-1.9**
GYA				PKPab	**PKPab**	**15 26 55.8**	**0.0**
GYA				PKS	**PKSdf**	**15 29 45.6**	**-4.0**
GYA				AMB	AMB		
	comp=E,140nm,8.2s						
KMI	**Kunming**	**161.52**	**5**	PKP	**PKPdf**	**15 26 15.4**	**-2.2**
SLVN	**Son La**	**165.36**	**2**	*e*PKPab	**PKPab**	**15 27 16.4**	**-2.2**
QIZ	**Qiongzhong**	**166.60**	**338**	PKP	**PKPdf**	**15 26 22.0**	**0.0**
QIZ				PP	**PP**	**15 31 09.8**	**-0.7**
QIZ				SS	SS	15 51 54.1	+3.5
QIZ				LR	LR		
	comp=E,210nm,20.9s						
QIZ				LR	LR		
	comp=E,270nm,20.7s						
QIZ				LR	LR		
	comp=E,380nm,16.8s						
CMAR	**Chiang Mai Arr**	**167.05**	**24**	PKP	**PKPdf**	**15 26 22.6**	**+0.1**
	comp=E,0.2nm,0.3s,baz=276,slow=2.4,SNR=8.3						
CMAR				PKPab	**PKPab**	**15 27 26.6**	**+0.5**
	comp=E,0.7nm,0.5s,baz=328,slow=5.9,SNR=9.5						
CM01	**Chiang Mai Arr**	**167.09**	**24**	*e*PKPab	**PKPab**	**15 27 26.7**	**+0.4**

IDC 13 15:07:39.3±10.0, 27.04S×178.22W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/31, mbtmp3.8/2, MS3.6/3, Ms1 3.5/3, ms1mx3.1/24, Error ellipse: s-maj=474.0km s-min=54.8km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**173**	LR	LR	15 08 56.1	
	comp=Z,2μm,21.9s,baz=332,slow=34						
HNR	**Honiara**	**27.06**	**306**	LR	LR	15 21 23.6	
	comp=Z,84nm,19.0s,baz=193,slow=30						
STKA	**Stephens Creek**	**35.18**	**252**	LR	LR	15 26 47.4	
	comp=Z,99nm,20.8s,baz=228,slow=33						
ASAR	**Alice Springs**	**43.20**	**263**	P	P	15 15 42.4	0.0
	1.1nm,0.8s,baz=109,slow=8.5,SNR=6.2						
WRA	**Warramunga Arr**	**43.88**	**269**	P	P	15 15 47.7	-0.2
	2.2nm,1.1s,baz=106,slow=8.3,SNR=2.9						
NOA	**NORSAR Array B**	**145.41**	**352**	PKPbc	PKPbc	15 27 17.8	-0.9
	1.2nm,0.8s,baz=18,slow=2.6,SNR=4.1						

RSNC 13 15:08:33.6±0.7, 6.76N×73.12W, h126km±7km, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.18**	**200**	*e*P	Pn	15 08 51.1	-0.2
BARC				*e*S	Sn	15 09 03.6	-0.8
BARC				*i*		15 09 06.5	
	comp=Z,18nm,0.3s						
BRRC	**Barranca, Sant**	**0.68**	**301**	*e*P	Pn	15 08 52.7	-0.7
BRRC				*e*S	Sn	15 09 08.4	+0.1
BRRC				*

JANG	Nango	1.76 295	P	Pn	15 40 51.4	+0.6
JOM	Ohasama	1.80 265	P	Pn	15 40 52.8	+1.4
JOM			eS	Sn	15 41 14.4	+1.2
JMK	Ichinoseki	1.98 250	P	Pn	15 40 55.2	+1.3
JIO	Ouri	2.13 236	P	Pn	15 40 56.6	+0.7
JTM	Tenmabayashi	2.25 301	P	Pn	15 40 59.2	+1.7
JRG	Rokugo	2.32 264	P	Pn	15 40 59.8	+1.3
JAH	Hinai	2.35 284	P	Pn	15 41 00.6	+1.7
JAH			S	Sn	15 41 28.5	+1.8
JOT	Ohata	2.60 312	P	Pn	15 41 04.0	+1.6
JYK	Kaneyama	2.63 255	P	Pn	15 41 04.5	+1.7
JCH	Churui	2.96 356	P	Pn	15 41 09.4	+2.1
MAT	Matsushiro	5.28 236	P	Pn	15 41 41.9	+2.7
MAT			eS	Sn	15 42 46.6	+7.6

*ISK **13** 15:40:39.2, 40°.21N×25°.17E, h14km, MD2.6*
*CSEM **13** 15:40:41.8±0.2, 40°.26N×25°.32E, h10km, ML1.6, Error ellipse: s-maj=3.5km s-min=3.3km az=76.0*
*ATH **13** 15:40:42.0, 40°.27N×25°.31E, h9km±11km, ML1.6/3, Error ellipse: s-maj=11.1km s-min=0.8km az=110.0*
*DDA **13** 15:40:41.5, 40°.26N×25°.35E, h7km, Md2.8*
*ISCJB **13** 15:40:41.7±0.6, 40°.25N±0°.03×25°.32E±0°.04, h8km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=3.7*
*THE **13** 15:40:42.2, 40°.26N×25°.34E, h3km±8km, ML1.7/4, Error ellipse: s-maj=8.3km s-min=0.3km az=121.0*

ISC 13 15:40:41.6±0.9, 40°.27N±0°.02×25°.28E±0°.02, h14km±7km, n33, σ0s94/56, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	Samothraki Isl	0.28	43	P	Pg	15 40 47.2	-0.3
SMTH				S	Sg	15 40 51.1	-0.4
SMTH	Samothraki Isl	0.28	43	P	Pg	15 40 47.3	-0.3
SMTH				S	Sg	15 40 51.0	-0.4
SMTH				AML	AML	15 40 51.1	
	comp=E,371μm,0.1s						
SMTH				AML	AML	15 40 51.3	
	comp=N,370μm,0.1s						
SMTH	Samothraki Isl	0.28	43	P	Pg	15 40 47.2	-0.3
SMTH				S	Sg	15 40 51.0	-0.4
LIA	Limnos Island	0.38	192	P	Pg	15 40 49.4	+0.1
LIA				S	Sg	15 40 55.1	+0.7
LIA	Limnos Island	0.38	192	P	Pg	15 40 49.4	+0.1
LIA				S	Sg	15 40 54.8	+0.4
LIA				AML	AML	15 40 55.0	
	comp=E,170μm,0.2s						
LIA				AML	AML	15 40 55.2	
	comp=N,283μm,0.2s						
LIA	Limnos Island	0.38	192	P	Pg	15 40 49.4	+0.1
LIA				S	Sg	15 40 54.8	+0.4
BOZC	Bozcaada	0.73	126	ePG	Pg	15 40 55.1	-0.7
BOZC				eSG	Sg	15 41 04.9	-0.5
BOZC	Bozcaada	0.73	126	i P	Pg	15 40 55.2	-0.6
BOZC				i S	Sg	15 41 04.7	-0.7
BOZC	Bozcaada	0.73	126	ePg	Pg	15 40 55.1	-0.7
BOZC				eSg	Sg	15 41 04.9	-0.5
ENEZ	Enez	0.81	55	ePG	Pb	15 40 57.5	0.0
ENEZ	Enez	0.81	55	ePg	Pb	15 40 57.5	0.0
ALN	Alexandroupoli	0.85	43	ePG	Pg	15 40 57.9	-0.3
ALN				eSG	Sn	15 41 11.7	+0.1
ALN	Alexandroupoli	0.85	43	P	Pg	15 40 57.7	-0.5
ALN				S	Sb	15 41 09.8	+0.2
ALN	Alexandroupoli	0.85	43	P	Pg	15 40 57.5	-0.7
ALN				S	Sb	15 41 10.3	+0.7
ALN	Alexandroupoli	0.85	43	P	Pg	15 40 57.7	-0.5
ALN	Alexandroupoli	0.85	43	ePg	Pg	15 40 57.9	-0.3
ALN				S	Sb	15 41 09.8	+0.2
ALN				eSg	Sn	15 41 11.7	+0.1
RDO	Rodhopi	0.90	12	P	Pg	15 40 58.9	-0.1
RDO				S	Sg	15 41 10.3	-0.4
RDO	Rodhopi	0.90	12	P	Pg	15 40 58.9	-0.1
RDO				S	Sg	15 41 10.4	-0.4
GELI	Tayfur-Gelibol	0.92	82	ePG	Pb	15 40 59.5	+0.1
GELI	Tayfur-Gelibol	0.92	82	ePg	Pb	15 40 59.5	+0.1
KAVA	Kavala	0.93	321	P	Pb	15 41 00.5	+0.9
KAVA				S	Sn	15 41 14.4	+0.9
KAVA	Kavala	0.93	321	P	Pb	15 41 01.0	+1.4
KAVA				S	Sg	15 41 12.1	+0.2
KAVA				AML	AML	15 41 14.3	
	comp=E,74μm,0.3s						
KAVA				AML	AML	15 41 15.3	
	comp=N,73μm,0.2s						
KAVA	Kavala	0.93	321	P	Pb	15 41 00.5	+0.9
KAVA				S	Sg	15 41 12.1	+0.2
OUR	Ouranopolis	1.00	274	ePG	Pg	15 40 57.3	-3.6
OUR	Ouranopolis	1.00	274	P	Pb	15 41 02.0	+1.3
OUR	Ouranopolis	1.00	274	ePg	Pg	15 40 57.3	-3.6
OUR	Ouranopolis	1.00	274	P	Pb	15 41 02.0	+1.3
BAYC	CANAKKALE_Bayr	1.10	118	i P	Pg	15 41 01.9	-1.0
BAYC				i S	Sg	15 41 16.4	-0.9
BAYC	CANAKKALE_Bayr	1.10	118	P	Pg	15 41 01.9	-1.0
BAYC				S	Sg	15 41 16.5	-0.9
LPK	Lapseki	1.13	84	ePN	Pg	15 41 02.4	-1.1
LPK	Lapseki	1.13	84	ePn	Pg	15 41 02.4	-1.1
SART	Tekirdag	1.51	73	i P	Pn	15 41 08.4	+0.1
SART				i S	Sg	15 41 30.2	0.0
SART	Tekirdag	1.51	73	P	Pn	15 41 08.4	+0.1
SART				S	Sg	15 41 30.2	0.0

*NEIC **13** 15:51:34.0±5.4, 7°.21S×144°.64E, h8km±35km, mb4.1/2, Error ellipse: s-maj=13.4km s-min=11.6km az=95.0*
*ISCJB **13** 15:51:35.6±0.4, 7°.27S±0°.04×144°.61E±0°.06, h33km, mb4.1/12, MS3.8/1, Error ellipse: s-maj=8.0km s-min=6.2km az=167.8*
*IDC **13** 15:51:38.6±2.6, 7°.27S×144°.70E, h44km±30km, mb3.9/12, mb1 4.0/15, mb1mx3.9/33, mbtmp4.1/15, ML2.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=22.0km s-min=16.0km az=88.0*

ISC 13 15:51:37.5±0.6, 7°.33S±0°.06×144°.47E±0°.07, h35km, n25, σ1s75/28, mb4.1/12, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.37	128	P	Pn	15 52 26.8	-0.9
	3.7nm,0.3s,baz=308,slow=15,SNR=17						
PMG				S	Sn	15 53 04.7	-1.8
	5.4nm,0.3s,baz=322,slow=18,SNR=4.4						
PMG	Port Moresby	3.37	128	ePn	Pn	15 52 26.3	-1.4
PMG				S	Sn	15 53 04.7	-1.8
COEN	Coen	6.70	191	ePn	Pn	15 53 16.3	+2.7
	22nm,0.7s						
CTA	Charters Tower	12.80	172	P	Pn	15 54 38.4	+1.3
	0.1nm,0.3s,baz=3.6,slow=16,SNR=2.1						
FAKI	Fak Fak	12.93	289	ePn	Pn	15 54 36.4	-2.6
WRAB	Tennant Creek	15.91	217	ePn	Pn	15 55 19.7	+0.7
	4.2nm,0.6s						
WRA	Warramunga Arr	15.93	217	P	Pn	15 55 19.4	+0.3
	0.3nm,0.3s,baz=41,slow=12,SNR=14						
WRA				S	Sn	15 58 10.8	-3.9
	0.3nm,0.3s,baz=37,slow=23,SNR=4.5						
ASAR	Alice Springs	19.15	211	P	Pn	15 56 01.6	+2.5
	1.2nm,0.3s,baz=42,slow=8.6,SNR=322						
ASAR				S	Sn	15 59 30.7	-2.0
	0.2nm,0.3s,baz=26,slow=27,SNR=6.3						
SOEI	Soe	20.12	262	ePn	Pn	15 56 13.6	+2.9
	25nm,0.9s						
GUMO	Guam	20.79	1	P	P	15 56 14.1	-1.8
	28nm,0.8s,baz=310,slow=23,SNR=2.4						
FITZ	Fitzroy Crossi	21.23	238	P	P	15 56 22.0	+1.4
	6.9nm,0.8s,baz=65,slow=9.8,SNR=14						
FITZ				S	S	16 00 12.8	-2.1
	6.2nm,1.1s,baz=86,slow=13,SNR=3.7						
STKA	Stephens Creek	24.57	186	P	P	15 56 55.1	+0.9
	1.3nm,0.9s,baz=27,slow=6.8,SNR=2.0						
JHJ	Hachijo jima 2	40.47	354	P	P	15 59 13.0	0.0
	15nm,0.3s						
JNU	Nakatsue	42.26	343	P	P	15 59 27.0	-0.6
	2.8nm,0.7s,baz=210,slow=24,SNR=3.0						
MJAR	Matsushiro Arr	44.04	353	LR	LR	16 16 32.1	
	comp=Z,138nm,21.6s,baz=75,slow=34						
KSRS	Korea Array	47.16	342	P	P	16 00 06.8	+0.2
	1.7nm,0.9s,baz=156,slow=9.5,SNR=7.1						
KSAR	Wonju Array Be	47.16	342	P	P	16 00 06.8	+0.2
CMAR	Chiang Mai Arr	51.70	300	P	P	16 00 43.6	+2.0
	3.4nm,0.9s,baz=126,slow=6.0,SNR=28						
USRK	Ussuriysk Ar.	52.52	349	P	P	16 00 48.1	+0.8
	0.8nm,0.5s,baz=174,slow=8.4,SNR=2.9						
VNDA	Vanda	70.75	176	P	P	16 02 49.7	0.0
	0.7nm,0.7s,baz=308,slow=6.0,SNR=5.7						
MKAR	Makanchi Array	76.94	321	P	P	16 03 26.9	+0.4
	2.0nm,0.8s,baz=102,slow=6.9,SNR=6.8						
ZALV	Zalesovo Beam	78.81	329	P	P	16 03 36.4	-0.3
	1.4nm,0.7s,baz=102,slow=5.3,SNR=7.1						
BVAR	Borovoye Array	86.37	324	P	P	16 04 16.9	+0.7
	1.3nm,0.8s,baz=109,slow=6.9,SNR=7.4						
ILAR	Eielson Array	87.69	24	P	P	16 04 21.1	-1.1
	1.3nm,0.8s,baz=278,slow=4.8,SNR=7.1						
TORD	Torodi Ar. Bea	142.94	282	PKPbc	PKPdf	16 11 11.6	+3.0
	0.2nm,0.5s,baz=76,slow=2.5,SNR=2.5						

*IDC **13** 15:55:36.7±1.1, 30°.43S×177°.42W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/29, mbtmp4.2/6, Error ellipse: s-maj=29.5km s-min=21.0km az=92.0*
*ISCJB **13** 15:55:40.6±1.3, 30°.61S±0°.06×177°.7W±0°.2, h33km, mb4.3/8, Error ellipse: s-maj=27.8km s-min=7.3km az=7.5*
*NEIC **13** 15:55:42.7±2.2, 30°.33S×177°.50W, h40km±18km, mb4.3/1, Error ellipse: s-maj=20.4km s-min=16.6km az=134.0*

ISC 13 15:55:42.0±1.1, 30°.53S±0°.07×177°.6W±0°.2, h33km, n16, σ1s56/19, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.30	348	Pn	Pn	15 56 02.3	-1.5
	692nm,0.3s,baz=98,slow=8.8,SNR=25						
RAO				Sn	Sn	15 56 18.6	-1.5
	2μm,0.3s,baz=97,slow=22,SNR=18						
URZ	Urewera	8.85	208	Pn	Pn	15 57 45.1	-2.4
	0.8nm,0.3s,baz=34,slow=7.3,SNR=6.6						
URZ				Sn	Sn	15 59 24.2	-1.9
	2.5nm,0.3s,baz=126,slow=20,SNR=8.7						
RPZ	Rata Peaks	15.94	211	Pn	Pn	15 59 20.7	-3.1
	0.2nm,0.3s,baz=18,slow=20,SNR=2.6						
RPZ				Sn	Sn	16 02 06.5	-13
	0.4nm,0.3s,baz=325,slow=23,SNR=3.3						
CTA	Charters Tower	34.15	279	P	P	16 02 25.7	+1.5
	3.9nm,0.6s,baz=106,slow=11,SNR=10						
STKA	Stephens Creek	34.77	257	P	P	16 02 31.8	+2.3
	3.5nm,0.6s,baz=99,slow=12,SNR=15						
ASAR	Alice Springs	43.43	267	P	P	16 03 41.9	-0.1
	0.9nm,0.4s,baz=105,slow=7.1,SNR=12						
ASAR				PcP	PcP	16 05 31.2	+1.2
	0.2nm,0.6s,baz=107,slow=4.0,SNR=2.5						
WRAB	Tennant Creek	44.43	272	eP	P	16 03 50.3	+0.3
	3.4nm,0.6s						
WRA	Warramunga Arr	44.43	272	P	P	16 03 49.9	-0.1
	3.3nm,0.6s,baz=110,slow=8.0,SNR=29						
FITZ	Fitzroy Crossi	52.69	270	P	P	16 04 54.5	+1.0
	2.4nm,0.9s,baz=106,slow=18,SNR=2.9						
QSPA	South Pole Qui	59.58	180	eP	P	16 05 43.7	+1.4
	19nm,0.9s						
MAW	Mawson	72.30	200	P	P	16 07 04.7	+0.9
	1.3nm,0.9s,baz=128,slow=6.1,SNR=4.0						
BVAR	Borovoye Array	126.73	316	PKP	PKPdf	16 14 41.8	+0.2
	0.2nm,0.3s,baz=106,slow=2.1,SNR=2.9						
FINES	FINESS Array B	145.38	340	PKPbc	PKPbc	16 15 15.2	-0.4
	3.1nm,0.4s,baz=53,slow=3.8,SNR=40						
NOA	NORSAR Array B	148.93	352	PKPbc	PKPbc	16 15 25.5	-0.2
	1.2nm,0.7s,baz=14,slow=4.3,SNR=3.9						
AKASG	Malin Array Be	151.61	323	PKPbc	PKPbc	16 15 31.0	-1.4
	0.5nm,0.3s,baz=50,slow=3.4,SNR=5.9						
BRTR	Keskin Array B	152.95	298	PKPbc	PKPbc	16 15 35.8	-0.2
	0.8nm,0.8s,baz=94,slow=4.3,SNR=3.0						

*NEIC **13** 15:57:14.4±0.0, 31°.77N×116°.03W, h6km, ML4.3(ECX), ML4.3(PAS), After ECX.*
NEIC Felt [II] at Ensenada. Also felt at Tecate. Felt [II] at El Cajon, California. Felt in parts of San Diego County.
*ECX **13** 15:57:14.4±0.6, 31°.77N×116°.03W, h6km, MD4.0, ML4.3, Fault plane solution: NP1φs276.67000°, δ90.00000°, λ30.00000°.*
*IDC **13** 15:57:15.9±2.5, 31°.97N×115°.63W, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.2/35, mbtmp3.3/3, ML3.9/2, MS3.0/2, Ms1 2.9/2, ms1mx2.7/34, Error ellipse: s-maj=41.1km s-min=10.5km az=39.0*
*MEX **13** 15:57:15.3±0.8, 31°.80N×116°.07W, h10km, MD4.3*

ISC 13 15:57:13.1±0.9, 31°.80N±0°.02×116°.01W±0°.02, h13km±8km, n107, σ1s59/138, 6C-8D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAX	El Zacaton	0.37	218⇑	eP	Pg	15 57 20.5	0.0
ZAX				eS	Sg	15 57 25.5	-0.1
ECNX	Esteban Cantu	0.53	254⇑	eP	Pg	15 57 23.2	-0.2
ECNX				eP	Pb	15 57 24.4	+0.1
ECNX				eS	Sg	15 57 30.2	-0.3
ECNX				eS	Sb	15 57 31.9	0.0
PBX	Punta Banda	0.62	264⇑	i P	Pg	15 57 24.9	-0.3
CBX	Cerro Bola	0.76	312	eP	Pg	15 57 27.8	0.0
CBX				i S	Sg	15 57 36.6	-1.1
CBX	Cerro Bola	0.76	312⇓	eP	Pg	15 57 27.8	0.0
CBX				eS	Sg	15 57 37.9	+0.1
CBX				⇓e		15 57 38.9	
CBX				IAML		15 57 38.9	
	comp=N,21μm,0.4s						
CBX				e		15 57 42.5	
CBX				IAML		15 57 42.5	
	comp=E,15μm,0.6s						
YUH	Yuha Desert	0.84	5⇓	i P	Pg	15 57 29.4	-0.1
TJIG	Tijuana	0.85	318	i P	Pg	15 57 29.1	-0.4
TJIG				eS	Sg	15 57 39.2	-1.4
IKP	In-Ko-Pah, Jac	0.85	354	P	Pg	15 57 29.6	0.0
	baz=175,SNR=686						
IKP				S	Sg	15 57 40.3	-0.4
	baz=175						
IKP	In-Ko-Pah, Jac	0.85	354⇓	iP	Pg	15 57 29.6	0.0
CPBX	Cerro Prieto	0.85	44⇑	eP	Pn	15 57 30.6	-0.3
SGL	Mount Signal	0.88	16⇑	iP	Pb	15 57 30.2	0.0
ECBX	El Chinero	0.88	112⇓	eP	Pg	15 57 30.0	-0.1
ECBX				eS	Sg	15 57 41.5	-0.1
SPIG	San Pedro Mart	0.89	148	i P	Pg	15 57 30.2	-0.1
SPIG				eS	Sg	15 57 41.6	-0.3
SPIG	San Pedro Mart	0.89	148	eP	Pg	15 57 30.0	-0.3
SPIG				eS	Sg	15 57 41.8	-0.2
SPX	San Pedro Mart	0.89	148⇓	eP	Pg	15 57 30.2	-0.1
SPX				eS	Sg	15 57 42.0	0.0
MBIG	Mexicali	0.91	49	eP	Pn	15 57 32.0	+0.4
MBIG				eS	Sb	15 57 43.4	+0.5
WESC	Westside Schoo	0.98	14⇑	iP	Pn	15 57 32.4	-0.2
BAR	Barrett	1.04	327⇓	iP	Pb	15 57 32.3	-0.7
BAR	Barrett	1.04	327	ePg	Pb	15 57 32.2	-0.9
BAR				eSn	Sg	15 57 45.6	-1.2
MONP2	Monument Peak	1.14	342	P	Pb	15 57 34.6	-0.3
	baz=162,SNR=618						
MONP2				S	Sb	15 57 49.3	-0.4
	baz=162						
SWSC	Sam W. Stewart	1.15	9	P	Pb	15 57 34.9	0.0
	baz=189,SNR=460						
SWSC				S	Sg	15 57 50.3	0.0
	baz=189						
SDRC	San Diego Road	1.22	320⇓	iP	Pn	15 57 35.3	-0.6
109C	Camp Elliot, M	1.43	320	P	Pn	15 57 38.8	0.0
	baz=139,SNR=78						
109C				S	Sn	15 57 56.8	-0.6
	baz=139						
GLA	Glamis	1.59	38	P	Pn	15 57 41.0	-0.1
	baz=219,SNR=80						
GLA				S	Sn	15 57 59.9	-1.7
	baz=219						
GLA	Glamis	1.59	38	ePn	Pn	15 57 40.8	-0.4
PFO	Pinyon Flats O	1.84	348	Pn	Pb	15 57 47.1	+0.3
	comp=E,47nm,0.3s,baz=176,slow=15,SNR=153						
PFO				Sn	Sb	15 58 10.4	+0.6
	comp=E,188nm,0.3s,baz=259,slow=17,SNR=23						
PFO	Pinyon Flats O	1.84	348	P	Pn	15 57 45.3	+0.6
	baz=168,SNR=237						
PFO				Sb	Sb	15 58 10.6	+0.8
	baz=168						
PFO	Pinyon Flats O	1.84	348	ePn	Pn	15 57 45.4	+0.8
PFO				eSn	Sn	15 58 08.3	+0.4
BC3	Big Chuckawall	1.90	14	P	Pn	15 57 46.0	+0.5
	baz=194,SNR=72						
MURC	Murrieta	2.05	331	P	Pb	15 57 49.0	-1.4
	baz=151,SNR=173						
MURC				Sb	Sb	15 58 15.5	-0.3
	baz=151						
113A	Mohawk Valley,	2.13	63	ePn	Pn	15 57 48.7	+0.3
BELC	Belle Mtn. Jos	2.19	0	P	Pn	15 57 50.5	+1.1
	baz=180,SNR=83						
Y12C	Blythe	2.31	32	ePn	Pn	15 57 51.1	+0.3
SCI2	San Clemente I	2.45	299	P	Pn	15 57 53.0	+0.2
	baz=118,SNR=34						
SCI2				S	Sn	15 58 23.1	+0.4
	baz=118						
IRM	Iron Mountain	2.46	17	P	Pn	15 57 53.9	+0.9
	baz=198,SNR=33						
BBRC	Big Bear Solar	2.57	343	P	Pn	15 57 54.2	-0.6
	baz=163						
BBRC				Sb	Sb	15 58 32.7	+1.8
	baz=163						
CIS	Catalina Islan	2.58	309	P	Pn	15 57 54.4	-0.3
	baz=128						
CIS				S	Sn	15 58 26.1	+0.1
	baz=128						
FMP	Fort Macarthur	2.71	315	S	Sn	15 58 28.3	-0.8
	baz=134						
214A	Organ Pipe Nat	2.72	86	P	Pn	15 57 56.4	-0.2
	baz=268,SNR=35						
214A				S	Sn	15 58 28.0	-1.5
	baz=268						
214A	Organ Pipe Nat	2.72	86	ePn	Pn	15 57 56.3	-0.4
BFSC	Mount Baldy Ra	2.80	331	P	Pn	15 57 59.2	+1.4
	baz=150						
BFSC				Sb	Sb	15 58 37.0	-0.3
	baz=150						
PDMCI	Parker Dam,Lak	2.94	32	P	Pn	15 58 01.0	+1.4
	baz=213						
MWC	Mount Wilson	2.97	325	ePn	Pn	15 57 58.4	-1.7
GMRC	Granite Mounta	2.99	5	P	Pn	15 58 01.7	+1.3
	baz=186,SNR=14						
PASC	Pasadena Art C	2.99	323	ePn	Pn	15 58 01.1	+0.9
HEC	Hector,Ludlow	3.03	355	P	Pn	15 58 02.2	+1.3
	baz=175						
DECC	Green Verdugo	3.13	322	P	Pn	15 58 03.1	+0.9
	baz=141						
DECC				Sb	Sb	15 58 47.8	+1.0
	baz=141						
RRX	Edison Barstow	3.17	345	P	Pn	15 58 03.6	+0.8
	baz=165						
RRX				Sb	Sb	15 58 50.8	+2.7
	baz=165						
NEE2	Needles Airpor	3.17	21	P	Pn	15 58 04.2	+1.3
	baz=202						
Y14A	Wickenburg	3.30	49	ePn	Pn	15 58 05.9	+1.3
SNCC	San Nicolas Is	3.30	297	P	Pn	15 58 04.8	+0.2
	baz=115						
SNCC				S	Sn	15 58 43.4	-0.4
	baz=115						
SNCC	San Nicolas Is	3.30	297	ePn	Pn	15 58 04.3	-0.3
BLG	Laguna Peak, P	3.45	313	P	Pn	15 58 06.7	+0.1
	baz=131						
EDW2	Edwards Air Fo	3.49	332	P	Pn	15 58 09.6	+2.3
	baz=151,SNR=28						
EDW2				Sb	Sb	15 58 58.0	+0.8
	baz=151						
GSC	Goldstone, Bar	3.55	349	P	Pn	15 58 09.4	+1.3
	baz=169						
GSC	Goldstone, Bar	3.55	349	ePn	Pn	15 58 09.1	+1.0
OSI	Osito Audit: C	3.61	322	P	Pn	15 58 09.9	+1.0
	baz=140						
OSI				S	Sn	15 58 51.5	+0.1
	baz=140						
OSI	Osito Audit: C	3.61	322	ePn	Pn	15 58 10.2	+1.3
TUQ	Turquoise Moun	3.62	1	P	Pn	15 58 10.5	+1.3
	baz=181,SNR=6.0						
W13A	Hualapai Mount	3.73	28	ePn	Pn	15 58 12.0	+1.3
SCZ2	Santa Cruz Isl	3.75	307	P	Pn	15 58 12.0	+1.2
	baz=125						
LRMC	Laurel Mtn Rad	3.92	340	P	Pn	15 58 14.6	+1.3
	baz=159						
ARVC	Arvin	4.07	325	Sb	Sb	15 59 16.7	+2.9
	baz=144						
SBC	Santa Barbara	4.07	311	Sb	Sb	15 59 18.2	+4.3
	baz=129						
SHOC	Shoshone, Teco	4.09	357	P	Pn	15 58 14.6	-0.8
	baz=177						
ISA	Isabella, Lake	4.36	333	Sb	Sb	15 59 25.7	+3.3
	baz=151						
ISA	Isabella, Lake	4.36	333	eSg	Sg	15 59 28.2	-5.0
MPMC	Manual Prospec	4.42	344	P	Pn	15 58 21.1	+0.9
	baz=164						
PKM	Mcpherson Peak	4.43	315	P	Pn	15 58 21.3	+1.1
	baz=133						
TUC	Tucson	4.46	82	P	Pn	15 58 21.7	+1.1
	baz=265						
TUC	Tucson	4.46	82	ePn	Pn	15 58 21.7	+1.1
SHPR	Sheep Range	4.74	8	ePn	Pn	15 58 26.9	+2.3
VES	Vestal, Richgr	4.77	328	P	Pn	15 58 26.9	+2.1
	baz=147						
SMMC	Simmler	4.83	317	P	Pn	15 58 27.2	+1.6
	baz=136						
CWC	Cottonwood Cre	4.93	340	P	Pn	15 58 27.9	+0.7
	baz=159						
TPNV	Topopah Spring	5.14	358	P	Pn	15 58 32.8	+2.8
	baz=178						
TPNV	Topopah Spring	5.14	358	ePn	Pn	15 58 33.2	+3.3
RCTC	Rector, Farmer	5.23	330	P	Pn	15 58 33.1	+2.0
	baz=148						
GRAC	Grapevine Rang	5.30	348	P	Pn	15 58 33.9	+1.8
	baz=168						
WUAZ	Wupatki	5.35	45	P	Pn	15 58 35.9	+3.0
	baz=228,SNR=10						
WUAZ	Wupatki	5.35	45	ePn	Pn	15 58 35.9	+3.0
U15A	North Rim	5.54	33	ePn	Pn	15 58 38.5	+2.9
LCMT	Little Creek M	5.67	23	ePn	Pn	15 58 40.1	+2.8
319A	Douglas	5.75	93	ePn	Pn	15 58 40.0	+1.6
X18A	Snowflake	5.76	60	ePn	Pn	15 58 40.5	+2.0
KNB	Kanab	5.83	26	ePn	Pn	15 58 42.5	+3.1
CCUT	Cedar City	6.13	20	ePn	Pn	15 58 46.4	+2.7
W18A	Petrified Fore	6.19	56	P	Pn	15 58 47.3	+2.8
	baz=240,SNR=5.8						
W18A	Petrified Fore	6.19	56	ePn	Pn	15 58 47.3	+2.8
SZCU	Shurtz Canyon	6.26	22	ePn	Pn	15 58 46.7	+1.3
PKCU	Pink Cliffs	6.40	27	ePn	Pn	15 58 49.6	+2.2
R11A	Troy Canyon, C	6.54	3	ePn	Pn	15 58 48.1	-1.1
121A	Cookes Peak, D	7.01	82	P	Pn	15 58 56.5	+0.8
	baz=266						
121A	Cookes Peak, D	7.01	82	ePn	Pn	15 58 56.6	+1.0
	comp=E,12nm,0.4s						
CMB	Columbia Colle	7.18	331	ePn	Pn	15 59 00.5	+2.6
	comp=E,28nm,0

CBX	**Cerro Bola**	**0.75 316**	*e*P	**Pb**	**16 01 02.2**	**0.0**
CBX			*e*S	**Sb**	**16 01 12.4**	**+0.4**
CBX			⇑*e*		16 01 14.9	
CBX			IAML		16 01 14.9	
	comp=N,257nm,0.5s					
TJIG	**Tijuana**	**0.85 321**	*i* P	**Pn**	**16 01 04.0**	**+0.1**
TJIG			*e*S	**Sb**	**16 01 13.8**	**-0.9**
IKP	**In-Ko-Pah, Jac**	**0.88 357**	⇓*i*P	**Pb**	**16 01 04.0**	**-0.3**
YUH	**Yuha Desert**	**0.88 7**	⇓*i*P	**Pb**	**16 01 03.8**	**-0.5**
SPIG	**San Pedro Mart**	**0.88 145**	*e*P	**Pn**	**16 01 04.6**	**0.0**
SPIG			*e*S	**Sb**	**16 01 15.7**	**-0.2**
SPIG	**San Pedro Mart**	**0.88 145**	⇓*e*P	**Pn**	**16 01 04.7**	**0.0**
SPIG			*e*S	**Sn**	**16 01 16.4**	**-0.3**
SPX	**San Pedro Mart**	**0.88 145**	⇓*i*Pg	**Pn**	**16 01 04.6**	**0.0**
SPX			*e*S	**Sb**	**16 01 16.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.90 44**	*e*P	**Pn**	**16 01 06.7**	**+2.1**
ECBX	**El Chinero**	**0.90 109**	⇑*e*P	**Pb**	**16 01 04.4**	**-0.2**
ECBX			*e*S	**Sb**	**16 01 16.3**	**+0.1**
ECBX			*e*		16 01 17.5	
ECBX			IAML		16 01 17.5	
	comp=E,114nm,0.2s					
SGL	**Mount Signal**	**0.92 17**	*e*P	**Pn**	**16 01 04.6**	**-0.2**
ERPC	**Ernies Place**	**1.02 19**	*e*P	**Pn**	**16 01 06.1**	**-0.2**

JMA 13 16:53:55.5±0.2, 34°.87N×140°.70E, h61km±2km, M2.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.17**	**246**	P	Pn	16 54 05.0	+0.4
BSO3				X		16 54 13.0	
BSO1	**Boso 1**	**0.32**	**133**	P	Pn	16 54 05.8	+0.6
BSO1				X		16 54 14.2	
BSO4	**Boso 4**	**0.32**	**292**	P	Pn	16 54 06.2	+0.5
BSO4				*e*X		16 54 14.5	
JCN	**Nagara**	**0.68**	**323**	P	Pn	16 54 10.4	+0.8
TATJ	**Tateyama 2**	**0.68**	**284**	P	Pn	16 54 10.4	+0.8
TATJ				*e*S	Sn	16 54 21.0	+1.1
JIM2	**Oshima 3**	**1.05**	**262**	P	Pn	16 54 14.1	-0.2
JIM2				*e*S	Sn	16 54 28.1	-0.2
JOD2	**Odawara 2**	**1.38**	**287**	P	Pn	16 54 18.5	-0.1

IDC 13 16:58:53.0±6.5, 19°.05S×178°.48E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=285.4km s-min=36.1km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.53**	**261**	P	P	17 06 42.7	+0.1
	0.1nm,0.3s,baz=96,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**41.65**	**256**	P	P	17 06 43.0	-0.4
	0.2nm,0.5s,baz=87,slow=7.7,SNR=7.5						
ILAR	**Eielson Array**	**87.68**	**14**	P	P	17 11 43.0	0.0
	0.4nm,0.7s,baz=210,slow=5.2,SNR=3.6						

JMA 13 17:10:12.7±0.1, 36°.51N×137°.65E, h1km±2km, M1.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.27**	**290**	P	Pg	17 10 18.8	+0.9
JTT				S	Sg	17 10 22.8	+1.3
JNG	**Nsakai**	**0.38**	**106**	P	Pg	17 10 20.5	+0.6
JNG				S	Sg	17 10 25.7	+0.9
JGN	**Niukaw**	**0.39**	**223**	P	Pg	17 10 20.5	+0.3
JGN				S	Sg	17 10 25.8	+0.5
MAT	**Matsushiro**	**0.45**	**86**	P	Pg	17 10 21.7	+0.4
MAT				S	Sg	17 10 27.7	+0.5
MAT	**Matsushiro**	**0.45**	**86**	P	Pg	17 10 21.7	+0.4
MAT				S	Sg	17 10 27.7	+0.5

ATH 13 17:11:35.3, 36°.43N×24°.58E, h65km±7km, ML1.6/1, Error ellipse: s-maj=7.7km s-min=2.8km az=197.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.30**	**332**	P	Pn	17 11 46.4	+0.4
THR5	**Thira Island,**	**0.62**	**91**	P	Pn	17 11 49.3	+0.3
THR5				P	Pn	17 11 49.7	+0.7
THR5				S	Sn	17 11 59.6	+0.6
THR5				S	Sn	17 12 01.1	+2.2
APE	**Apeiranthos**	**1.00**	**50**	P	Pn	17 11 54.5	+0.9
APE				S	Sn	17 12 08.0	+0.9
APE				AML	AML	17 12 44.1	
	comp=N,50μm,0.6s						
APE				AML	AML	17 12 51.1	
	comp=E,46μm,1.0s						

*SOME **13** 17:14:01.6, 41°.15N×71°.13E, h5km*

KRNET 13 17:13:58.4±0.1, 40°.93N×71°.39E, h19km, mb1.9, 14C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.97**	**26**	⇑*i*P	Pn	17 14 17.2	0.0
	baz=27						
ARK				⇑*i*S	Sn	17 14 30.4	-0.1
	baz=27						
BTK	**Batken**	**0.97**	**207**	⇑*e*P	Pg	17 14 17.4	0.0
	baz=207						
BTK				⇑*e*S	Sn	17 14 30.7	+0.3
	baz=207						
IUG	**Iuzhnay**	**1.59**	**321**	*e*P	Pn	17 14 25.5	-0.2
	7.3nm,0.3s						
IUG				*e*S	Sn	17 14 42.7	-3.0
	10.0nm,0.3s						
MNAS	**Manas**	**1.77**	**28**	⇑*i*P	Pg	17 14 31.5	-1.0
	baz=28						
MNAS				⇑*i*S	Sg	17 14 55.2	-0.3
	baz=28						
MNAS	**Manas**	**1.77**	**28**	⇑*i*P	Pg	17 14 31.9	-0.6
	baz=40						
MNAS				⇑*i*S	Sg	17 14 54.6	-0.9
	baz=40						
MNAS	**Manas**	**1.77**	**28**	⇓P	Pg	17 14 31.9	-0.6
	0.4nm,0.3s						
MNAS				⇓S	Sg	17 14 55.1	-0.4
	0.9nm,0.4s						
AML	**Almayashu**	**2.11**	**54**	⇓*i*P	Pg	17 14 40.9	+1.9
	baz=64						
AML				⇓*i*S	Sg	17 15 07.0	+0.6
	baz=64						
KK31	**Karatay Array**	**2.27**	**344**	⇑Pn	Pn	17 14 36.5	+1.5
	0.5nm,0.4s,baz=177,slow=14,SNR=5.0						
KK31				⇑Lg	Lg	17 15 04.9	
	1.4nm,0.3s,baz=166,slow=28,SNR=8.9						
MRKS	**Merke**	**2.28**	**37**	*e*P	Pg	17 14 42.7	+0.6
	1.1nm,0.1s						
MRKS				*e*S	Sg	17 15 12.2	+0.5
	5.6nm,0.3s						
BRLS	**Borolday**	**2.40**	**332**	*e*P	Pn	17 14 37.7	+1.0
	0.3nm,0.1s						
BRLS				*e*S	Sn	17 15 03.6	-2.0
	5.2nm,0.4s						
ARLS	**Aral**	**2.40**	**66**	⇑*e*P	Pg	17 14 44.9	+0.4
	baz=74						
ARLS				⇑*i*S	Sg	17 15 16.8	+1.2
	baz=74						
EKS2	**Erkin-Say**	**2.49**	**45**	⇑*e*P	Pg	17 14 44.5	-1.7
	baz=54						
EKS2				⇑*i*S	Sb	17 15 15.7	+2.8
	baz=54						
KZA	**Kyzart**	**3.12**	**67**	⇓*e*P	Pb	17 14 54.9	+1.4
	baz=74						
KZA				⇓*i*S	Sb	17 15 34.1	+2.7
	baz=74						

*ISCJB **13** 17:14:12.9±0.2, 35°.71N±0°.02×31°.93E±0°.02, h85km±3km, mb3.8/8, Error ellipse: s-maj=2.9km s-min=1.8km az=37.1*
*IDC **13** 17:14:13.7±1.4, 35°.76N×31°.97E, h69km±16km, mb3.7/8, mb1 3.8/13, mb1mx3.5/38, mbtmp4.0/13, Error ellipse: s-maj=17.0km s-min=10.1km az=61.0*
*NSSC **13** 17:14:14.0±1.4, 35°.69N×32°.22E, h0km±25km, ML3.4*
*CSEM **13** 17:14:14.2±0.1, 35°.72N×31°.87E, h30km, ML4.1, Error ellipse: s-maj=3.1km s-min=1.9km az=42.0*
*THE **13** 17:14:15.1, 35°.68N×31°.88E, h27km±7km, ML3.8/4, Error ellipse: s-maj=7.4km s-min=0.4km az=30.0*
*GII **13** 17:14:15.8±0.0, 35°.73N×32°.10E, h30km, mb4.0/2, MD3.7/7*
*HLW **13** 17:14:15.8, 35°.52N×31°.86E, h40km±25km, Md3.6, Ml3.8*
*NIC **13** 17:14:16.6±0.3, 35°.74N×32°.16E, h55km, mb4.3, ML4.1*
*DDA **13** 17:14:42.0, 35°.69N×31°.90E, h39km, Ml4.2*

ISC 13 17:14:13.9±0.7, 35°.73N±0°.02×31°.92E±0°.02, h69km±7km, n195, σ1°.44/287, mb3.7/9, 5C-9D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.60**	**32**	⇓*i*P	**Pn**	**17 14 27.1**	**-0.6**
GAZI				*i* S	**Sn**	**17 14 35.9**	**-1.8**
GAZI	**Gazipasa**	**0.60**	**32**	P	**Pn**	**17 14 27.1**	**-0.6**
GAZI				S	**Sn**	**17 14 35.9**	**-1.8**
AKMC	**Akamas**	**0.78**	**154**	P	**Pn**	**17 14 31.0**	**+1.3**
AKMC	**Akamas**	**0.78**	**154**	P	**Pn**	**17 14 31.0**	**+1.3**
	baz=348						
ALFC	**Alefka**	**0.80**	**136**	P	**Pn**	**17 14 30.4**	**+0.5**
ALFC				S	**Sn**	**17 14 41.5**	**-0.2**
ALFC	**Alefka**	**0.80**	**136**	P	**Pn**	**17 14 30.4**	**+0.5**
	baz=328						
ALFC				S	**Sn**	**17 14 41.5**	**-0.2**
PPCY	**Paphos**	**0.91**	**158**	P	**Pn**	**17 14 33.0**	**+1.7**
PPCY	**Paphos**	**0.91**	**158**	P	**Pn**	**17 14 33.0**	**+1.7**
	baz=349						
LEF	**Lefka**	**1.00**	**127**	P	**Pn**	**17 14 32.5**	**+0.2**
LEF				S	**Sn**	**17 14 44.7**	**-1.3**
MAMC	**Mammari**	**1.20**	**117**	P	**Pn**	**17 14 35.6**	**+0.7**
MAMC	**Mammari**	**1.20**	**117**	P	**Pn**	**17 14 35.6**	**+0.7**
	baz=303						
ERMK	**Ermenek**	**1.21**	**41**	⇑*i*P	**Pn**	**17 14 36.3**	**+1.0**
ERMK				*i* S	**Sn**	**17 14 52.5**	**+1.3**
ERMK	**Ermenek**	**1.21**	**41**	P	**Pn**	**17 14 36.3**	**+1.0**
ERMK				S	**Sn**	**17 14 52.5**	**+1.3**
SZAC	**Souni**	**1.25**	**141**	P	**Pn**	**17 14 37.5**	**+1.9**
SZAC				S	**Sn**	**17 14 54.8**	**+3.0**
SZAC	**Souni**	**1.25**	**141**	P	**Pn**	**17 14 37.5**	**+1.9**
	baz=329						
SZAC				S	**Sn**	**17 14 54.8**	**+3.0**
CSS	**Mathiatis**	**1.38**	**123**	P	**Pn**	**17 14 37.2**	**-0.1**
CSS				S	**Sn**	**17 14 54.3**	**-0.6**
CSS	**Mathiatis**	**1.38**	**123**	Pg	**Pn**	**17 14 37.4**	**+0.1**
CSS				Sg	**Sn**	**17 14 53.5**	**-1.4**
CSS	**Mathiatis**	**1.38**	**123**	P	**Pn**	**17 14 37.6**	**+0.3**
CSS				Sg	**Sn**	**17 14 53.5**	**-1.4**
CSS				S	**Sn**	**17 14 54.3**	**-0.6**
CSS	**Mathiatis**	**1.38**	**123**	P	**Pn**	**17 14 37.6**	**+0.3**
	baz=309						
CSS				S	**Sn**	**17 14 53.8**	**-1.1**
GULN	**MERSIN_Gulnar**	**1.39**	**71**	⇓*i*P	**Pn**	**17 14 38.0**	**+0.6**
GULN				*i* S	**Sn**	**17 14 55.7**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.39**	**71**	P	**Pn**	**17 14 38.0**	**+0.6**
GULN				S	**Sn**	**17 14 55.7**	**+0.6**
PHNC	**Paralimni**	**1.87**	**112**	P	**Pn**	**17 14 45.7**	**+1.9**
PHNC	**Paralimni**	**1.87**	**112**	P	**Pn**	**17 14 45.7**	**+1.9**
	baz=296						
PHNC				S	**Sn**	**17 15 12.6**	**+6.1**
KSL	**Kastellorizon**	**1.94**	**283**	P	**Pn**	**17 14 44.4**	**-0.4**
KSL				S	**Sn**	**17 15 07.4**	**-0.8**
KSL	**Kastellorizon**	**1.94**	**283**	P	**Pn**	**17 14 44.4**	**-0.4**
KSL				S	**Sn**	**17 15 07.4**	**-0.8**
AKAS	**Kas**	**1.95**	**286**	⇓*i*P	**Pn**	**17 14 44.5**	**-0.4**
AKAS				*i* S	**Sn**	**17 15 15.4**	**+6.9**
AKAS	**Kas**	**1.95**	**286**	P	**Pn**	**17 14 44.5**	**-0.4**
KIZK	**Mersin**	**1.95**	**67**	⇓*i*P	**Pn**	**17 14 46.3**	**+1.5**
KIZK				*i* S	**Sn**	**17 15 08.9**	**+0.5**
KIZK	**Mersin**	**1.95**	**67**	P	**Pn**	**17 14 46.3**	**+1.5**
KIZK				S	**Sn**	**17 15 08.9**	**+0.5**
KMER	**Konya-Meram**	**2.07**	**10**	⇑*i*P	**Pn**	**17 14 47.3**	**+0.7**
KMER				*i* S	**Sn**	**17 15 12.0**	**+0.6**
KMER	**Konya-Meram**	**2.07**	**10**	P	**Pn**	**17 14 47.3**	**+0.7**
KMER				S	**Sn**	**17 15 12.0**	**+0.6**
KONT	**Konya--Tatoy**	**2.24**	**9**	⇑*i*P	**Pn**	**17 14 49.8**	**+1.0**
KONT				*i* S	**Sn**	**17 15 20.7**	**+5.2**
ISP	**Isparta**	**2.37**	**332**	Pn	**Pn**	**17 14 52.4**	**+1.7**
ISP	**Isparta**	**2.37**	**332**	Pn	**Pn**	**17 14 52.4**	**+1.7**
DOGA	**KONYA_Doganhis**	**2.38**	**355**	⇑*i*P	**Pn**	**17 14 51.8**	**+1.0**
DOGA				*i* S	**Sn**	**17 15 19.1**	**+0.1**
DOGA	**KONYA_Doganhis**	**2.38**	**355**	P	**Pn**	**17 14 51.8**	**+1.0**
DOGA				S	**Sn**	**17 15 19.1**	**+0.1**
GOLH	**Golhisar**	**2.43**	**309**	⇓*i*P	**Pn**	**17 14 53.7**	**+2.3**
GOLH				*i* S	**Sn**	**17 15 22.0**	**+1.9**
GOLH	**Golhisar**	**2.43**	**309**	P	**Pn**	**17 14 53.7**	**+2.3**
GOLH				S	**Sn**	**17 15 22.0**	**+1.9**
BAGO	**Egridir - ISPA**	**2.43**	**338**	*i* P	**Pn**	**17 14 54.5**	**+3.0**
BAGO				*i* S	**Sn**	**17 15 22.1**	**+1.8**
KERG	**Konya-Eregli**	**2.44**	**46**	⇑*i*P	**Pn**	**17 14 52.7**	**+1.0**
KERG				*i* S	**Sn**	**17 15 20.5**	**-0.1**
KERG	**Konya-Eregli**	**2.44**	**46**	P	**Pn**	**17 14 52.7**	**+1.0**
KERG				S	**Sn**	**17 15 20.5**	**-0.1**
BRDR	**BURDUR-Merkez**	**2.47**	**323**	*i* P	**Pn**	**17 14 53.6**	**+1.6**
BRDR				*i* S	**Sn**	**17 15 21.6**	**+0.5**
BRDR	**BURDUR-Merkez**	**2.47**	**323**	P	**Pn**	**17 14 53.6**	**+1.6**
BRDR				S	**Sn**	**17 15 21.6**	**+0.5**
FETY	**Fethiye**	**2.47**	**292**	P	**Pn**	**17 14 52.1**	**+0.2**
FETY				S	**Sn**	**17 15 20.6**	**-0.4**
FETY	**Fethiye**	**2.47**	**292**	P	**Pn**	**17 14 52.1**	**+0.2**
FETY				S	**Sn**	**17 15 20.6**	**-0.4**
DED	**Mersin**	**2.63**	**61**	⇓*i*P	**Pn**	**17 14 55.4**	**+1.4**
DED				*i* S	**Sn**	**17 15 24.2**	**-0.6**
KDHN	**Kadinhani**	**2.79**	**3**	*i* P	**Pn**	**17 14 56.5**	**+0.1**
KDHN				*i* S	**Sn**	**17 15 28.0**	**-1.0**
KDHN	**Kadinhani**	**2.79**	**3**	P	**Pn**	**17 14 56.5**	**+0.1**
KDHN				S	**Sn**	**17 15 28.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**2.86**	**293**	⇓*i*P	**Pn**	**17 14 57.4**	**+0.3**
DALY				*i* S	**Sn**	**17 15 28.6**	**-1.7**
DALY	**Dalyan (Mu¨la**	**2.86**	**293**	P	**Pn**	**17 14 57.4**	**+0.3**
DALY				S	**Sn**	**17 15 28.6**	**-1.7**
TURN	**Turunc**	**2.91**	**294**	⇓*i*P	**Pn**	**17 15 01.5**	**+3.6**
TURN				*i* S	**Sn**	**17 15 35.5**	**+3.7**
TURN	**Turunc**	**2.91**	**294**	P	**Pn**	**17 15 01.5**	**+3.6**
TURN				S	**Sn**	**17 15 35.5**	**+3.7**
TAVA	**DENIZLI_Tavas**	**2.98**	**306**	⇓*i*P	**Pn**	**17 14 59.8**	**+0.9**
TAVA				*i* S	**Sn**	**17 15 32.5**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.98**	**306**	P	**Pn**	**17 14 59.8**	**+0.9**
TAVA				S	**Sn**	**17 15 32.5**	**-1.0**
DNZL	**Cakiroluk**	**3.03**	**311**	*i* P	**Pn**	**17 15 00.5**	**+0.8**
DNZL				*i* S	**Sn**	**17 15 32.7**	**-2.2**
DNZL	**Cakiroluk**	**3.03**	**311**	P	**Pn**	**17 15 00.5**	**+0.8**
DNZL				S	**Sn**	**17 15 32.7**	**-2.2**
BOLV	**Bolvadin**	**3.08**	**346**	*i* P	**Pn**	**17 15 01.4**	**+1.1**
BOLV				*i* S	**Sn**	**17 15 34.8**	**-1.3**
BOLV	**Bolvadin**	**3.08**	**346**	P	**Pn**	**17 15 01.5**	**+1.1**
BOLV				S	**Sn**	**17 15 34.8**	**-1.3**
ARG	**Arkhangelos**	**3.12**	**280**	P	**Pn**	**17 15 00.6**	**-0.1**
ARG				S	**Sn**	**17 15 36.7**	**-0.1**
ARG	**Arkhangelos**	**3.12**	**280**	P	**Pn**	**17 15 00.6**	**-0.1**
ARG				S	**Sn**	**17 15 36.7**	**-0.1**
YURE	**YUREGIR**	**3.19**	**69**	*i* P	**Pn**	**17 15 02.5**	**+0.8**
YURE				*i* S	Sn	17 15 55.9	+17
YURE	**YUREGIR**	**3.19**	**69**	P	**Pn**	**17 15 02.5**	**+0.8**
KHAL	**Karahalli**	**3.27**	**324**	*i* P	**Pn**	**17 15 04.3**	**+1.3**
KHAL				*i* S	**Sn**	**17 15 39.7**	**-1.1**
KHAL	**Karahalli**	**3.27**	**324**	P	**Pn**	**17 15 04.3**	**+1.3**
KHAL				S	**Sn**	**17 15 39.7**	**-1.1**
ARNB	**Al Arnab**	**3.29**	**87**	*e*P	**Pn**	**17 15 03.7**	**+0.5**
ARNB				*e*S	**Sn**	**17 15 40.7**	**-0.5**
ARNB				AML	AML	17 15 43.9	
	comp=N,164nm,0.7s						
ARNB				AML	AML	17 15 51.6	
	comp=E,75nm,0.5s						
YAYL	**Yayladag**	**3.41**	**84**	*i* P	**Pn**	**17 15 02.4**	**-2.4**
YAYL				*i* S	**Sn**	**17 15 41.9**	**-2.3**
YAYL	**Yayladag**	**3.41**	**84**	P	**Pn**	**17 15 02.4**	**-2.4**
YAYL				S	**Sn**	**17 15 41.9**	**-2.3**
BHL	**Bhannes**	**3.57**	**120**	*e*P	**Pn**	**17 15 07.1**	**+0.1**
BHL	**Bhannes**	**3.57**	**120**	*e*P	**Pn**	**17 15 07.1**	**+0.1**
HWQ	**Hawqa**	**3.61**	**113**	*e*P	**Pn**	**17 15 08.6**	**+1.1**
HWQ	**Hawqa**	**3.61**	**113**	*e*P	**Pn**	**17 15 08.6**	**+1.1**
DQRL	**Deir Qamar**	**3.62**	**123**	*e*P	**Pn**	**17 15 08.0**	**+0.3**
DQRL	**Deir Qamar**	**3.62**	**123**	*e*P	**Pn**	**17 15 08.0**	**+0.3**
DAT	**Datca**	**3.65**	**287**	*i* P	**Pn**	**17 15 08.6**	**+0.5**
DAT				*i* S	**Sn**	**17 15 47.6**	**-2.4**
DAT	**Datca**	**3.65**	**287**	P	**Pn**	**17 15 08.6**	**+0.5**
DAT				S	**Sn**	**17 15 47.6**	**-2.4**
BIDA	**Albida**	**3.67**	**100**	*e*P	**Pn**	**17 15 08.6**	**+0.3**
BIDA				*e*S	**Sn**	**17 15 48.0**	**-2.3**
BIDA				AML	AML	17 15 53.3	
	comp=N,549nm,0.6s						
BIDA				AML	AML	17 15 54.7	
	comp=E,140nm,0.7s						
BTCH	**Batrach**	**3.70**	**84**	*e*P	**Pn**	**17 15 08.9**	**+0.2**
BTCH				*e*S	**Sn**	**17 15 50.3**	**-0.7**
BTCH				AML	AML	17 15 57.5	
	comp=N,206nm,0.6s						
BTCH				AML	AML	17 16 05.0	
	comp=E,259nm,0.5s						
NAQL	**Naqoura**	**3.72**	**133**	*e*P	**Pn**	**17 15 09.8**	**+0.8**
NAQL	**Naqoura**	**3.72**	**133**	*e*P	**Pn**	**17 15 09.8**	**+0.8**
HNTI	**Hanita**	**3.77**	**134**	Pn	**Pn**	**17 15 10.9**	**+1.3**
HNTI				Sn	**Sn**	**17 15 52.0**	**-0.7**
HNTI	**Hanita**	**3.77**	**134**	Pn	**Pn**	**17 15 10.9**	**+1.3**
HNTI				Sn	**Sn**	**17 15 52.0**	**-0.7**
KULA	**Kula-Manisa**	**3.81**	**318**	P	**Pn**	**17 15 10.9**	**+0.7**
KULA	**Kula-Manisa**	**3.81**	**318**	P	**Pn**	**17 15 10.9**	**+0.7**
HAWK	**Haweek**	**3.87**	**107**	*e*P	**Pn**	**17 15 11.8**	**+0.7**
HAWK				*e*S	**Sn**	**17 15 53.0**	**-2.3**
HAWK				AML	AML	17 15 56.4	
	comp=N,92nm,0.9s						
HAWK				AML	AML	17 15 58.1	
	comp=E,71nm,0.4s						
KARP	**Karpathos**	**3.88**	**269**	P	**Pn**	**17 15 11.3**	**+0.1**
KARP				S	**Sn**	**17 15 54.8**	**-0.8**
KARP	**Karpathos**	**3.88**	**269**	P	**Pn**	**17 15 11.3**	**+0.1**
KARP				S	**Sn**	**17 15 54.8**	**-0.8**
RCY	**Rachaya**	**3.92**	**124**	*e*P	**Pn**	**17 15 12.7**	**+0.9**
RCY	**Rachaya**	**3.92**	**124**	*e*P	**Pn**	**17 15 12.7**	**+0.9**
NIS1	**Nisyros Isl.**	**3.94**	**284**	P	**Pn**	**17 15 12.1**	**+0.2**
NIS1	**Nisyros Isl.**	**3.94**	**284**	P	**Pn**	**17 15 12.1**	**+0.2**
DRWC	**Darouich**	**3.94**	**76**	*e*P	**Pn**	**17 15 12.0**	**0.0**
DRWC				*e*S	**Sn**	**17 15 55.8**	**-1.2**
DRWC				AML	AML	17 16 03.7	
	comp=E,75nm,0.6s						
DRWC				AML	AML	17 16 07.2	
	comp=N,120nm,0.4s						
BODT	**Bodrum**	**3.95**	**291**	P	**Pn**	**17 15 12.3**	**+0.2**
BODT	**Bodrum**	**3.95**	**291**	P	**Pn**	**17 15 12.3**	**+0.2**
MMA0B	**Mount Meron ar**	**3.95**	**132**	Pn	**Pn**	**17 15 13.3**	**+1.1**
MMA0B				Sn	**Sn**	**17 15 56.4**	**-0.9**
MMA0B	**Mount Meron ar**	**3.95**	**132**	Pn	**Pn**	**17 15 13.3**	**+1.1**
MMA0B				Sn	**Sn**	**17 15 56.4**	**-0.9**
MMAI	**Mount Meron Ar**	**3.95**	**132**	P	**Pn**	**17 15 13.3**	**+1.1**
	comp=N,35nm,0.3s,baz=308,slow=12,SNR=119						
MMAI				S	**Sn**	**17 15 56.9**	**-0.5**
	comp=N,101nm,0.3s,baz=338,slow=23,SNR=21						
FKH	**Fakeheh**	**3.97**	**111**	*e*P	**Pn**	**17 15 13.8**	**+1.3**
FKH	**Fakeheh**	**3.97**	**111**	*e*P	**Pn**	**17 15 13.8**	**+1.3**
KSDI	**Kefar Szold**	**3.99**	**128**	Pn	**Pn**	**17 15 13.9**	**+1.3**
KSDI				Sn	**Sn**	**17 15 57.8**	**-0.4**
KSDI	**Kefar Szold**	**3.99**	**128**	Pn	**Pn**	**17 15 13.9**	**+1.3**
KSDI				Sn	**Sn**	**17 15 57.8**	**-0.4**
OFRI	**'Ofer**	**4.01**	**140**	Pn	**Pn**	**17 15 13.4**	**+0.5**
OFRI	**'Ofer**	**4.01**	**140**	Pn	**Pn**	**17 15 13.4**	**+0.5**
KFRA	**Kufra**	**4.01**	**96**	*e*P	**Pn**	**17 15 13.2**	**+0.2**
KFRA				*e*S	**Sn**	**17 15 57.9**	**-1.0**
KFRA				AML	AML	17 16 04.2	
	comp=E,317nm,0.4s						
KFRA				AML	AML	17 16 06.8	
	comp=N,171nm,0.6s						
BLGI	**Bet Lehem HaGe**	**4.03**	**137**	Pn	**Pn**	**17 15 14.4**	**+1.2**
BLGI	**Bet Lehem HaGe**	**4.03**	**137**	Pn	**Pn**	**17 15 14.4**	**+1.2**
BRBR	**Barbar**	**4.05**	**124**	*e*P	**Pn**	**17 15 14.8**	**+1.1**
BRBR				*e*S	**Sn**	**17 15 57.7**	**-2.2**
BRBR				AML	AML	17 16 01.8	
	comp=N,344nm,0.7s						
BRBR				AML	AML	17 16 02.0	
	comp=E,269nm,0.9s						
MARH	**Ras Al Marh**	**4.12**	**113**	*e*P	**Pn**	**17 15 16.2**	**+1.6**
MARH				*e*S	**Sn**	**17 15 59.8**	**-1.9**
MARH				AML	AML	17 16 07.4	
	comp=N,160nm,0.6s						
MARH				AML	AML	17 16 16.1	
	comp=E,56nm,0.5s						
QASN	**Qassioun**	**4.21**	**120**	*e*P	**Pn**	**17 15 17.4**	**+1.7**
QASN				*e*S	**Sn**	**17 16 02.1**	**-1.5**
QASN				AML	AML	17 16 10.8	
	comp=E,686nm,0.4s						
QASN				AML	AML	17 16 15.2	
	comp=N,260nm,0.6s						
BRTR	**Keskin Array B**	**4.21**	**18**	P	**Pn**	**17 15 16.1**	**+0.3**
	comp=N,2.4nm,0.3s,baz=190,slow=15,SNR=61						
BRTR				S	**Sn**	**17 16 02.6**	**-1.2**
	comp=N,1.2nm,0.3s,baz=173,slow=21,SNR=7.5						
SLTI	**Sal'it**	**4.34**	**142**	Pn	**Pn**	**17 15 18.0**	**+0.6**
SLTI	**Sal'it**	**4.34**	**142**	Pn	**Pn**	**17 15 18.0**	**+0.6**
MMLI	**Mount Malkishu**	**4.38**	**138**	Pn	**Pn**	**17 15 19.4**	**+1.4**
MMLI				Sn	**Sn**	**17 16 07.9**	**+0.1**
MMLI	**Mount Malkishu**	**4.38**	**138**	Pn	**Pn**	**17 15 19.4**	**+1.4**
MMLI				Sn	**Sn**	**17 16 07.9**	**+0.1**
TOTH	**TOTAH**	**4.41**	**121**	*e*P	**Pn**	**17 15 20.3**	**+1.9**
TOTH				*e*S	**Sn**	**17 16 06.6**	**-1.8**
TOTH

baz=161
HNKL **Nakhl** 6.04 163 P Pn 17 15 41.3 +0.6
HSAF **As Saff** 6.10 183 P Pn 17 15 41.6 0.0
baz=183
HSAF **As Saff** 6.10 183 P Pn 17 15 41.6 0.0
GLL **Jalalah** 6.14 182 P Pn 17 15 42.4 +0.3
baz=182
GLL **Jalalah** 6.14 182 P Pn 17 15 42.4 +0.3
HRFI **Mount Harif** 6.25 154 Pn Pn 17 15 44.5 +0.9
HRFI **Mount Harif** 6.25 154 Pn Pn 17 15 44.5 +0.9
MBRI **Mt Berech** 6.43 156 Pn Pn 17 15 47.1 +1.0
MBRI **Mt Berech** 6.43 156 Pn Pn 17 15 47.1 +1.0
EIL **Elat** 6.56 156 P Pn 17 15 48.7 +0.9
comp=N,27nm,0.3s,baz=327,slow=4.8,SNR=229
EIL S Sn 17 16 58.9 -2.3
comp=N,20nm,0.3s,baz=81,slow=15,SNR=12
EIL **Elat** 6.56 156 Pn Pn 17 15 48.6 +0.8
EIL **Elat** 6.56 156 Pn Pn 17 15 48.6 +0.8
HBST **Basata** 6.91 159 P Pn 17 15 53.3 +0.7
baz=158
HBST **Basata** 6.91 159 P Pn 17 15 53.3 +0.7
SLUM **Salum** 7.01 235 P Pn 17 15 54.6 +0.6
baz=236
SLUM **Salum** 7.01 235 P Pn 17 15 54.6 +0.6
NUB 7.07 160 P Pn 17 15 55.5 +0.8
baz=159
SH2 **Sharm el Sheik** 8.04 166 P Pn 17 16 09.0 +1.0
baz=165
SH2 **Sharm el Sheik** 8.04 166 P Pn 17 16 09.0 +1.0
AKASG **Malin Array Be** 15.09 353 P P 17 17 46.3 -0.4
comp=N,4.7nm,0.3s,baz=176,slow=9.5,SNR=30
SOKA **Soboth** 16.73 316 *i* pP pP 17 18 17.4 -1.7
comp=N,7.0nm,1.4s
MYKA **Terra Mystica** 17.50 314 *i* P P 17 18 15.2 +1.6
comp=N,4.0nm,0.5s
MYKA **Terra Mystica** 17.50 314 P P 17 18 15.2 +1.6
comp=N,4.0nm,0.5s
MOA **Molln** 17.84 318 *i* Pn Pn 17 18 19.3 +1.9
comp=N,5.1nm,1.2s
MOA **Molln** 17.84 318 Pn Pn 17 18 19.3 +1.9
comp=N,5.1nm,1.2s
ABTA **Abfaltersbach** 18.23 313 *i* Pn Pn 17 18 22.8 +0.6
comp=N,7.4nm,1.4s
ABTA **Abfaltersbach** 18.23 313 Pn Pn 17 18 22.8 +0.6
comp=N,7.4nm,1.4s
KEST **Kesra** 18.33 277 P Pn 17 18 27.1 +3.7
comp=N,0.4nm,0.3s,baz=56,slow=7.5,SNR=4.4
GERES **GERESS Array B** 18.74 320 P P 17 18 27.5 +0.4
comp=N,0.6nm,0.3s,baz=123,slow=9.7,SNR=8.3
KHC **Kasperske Hory** 18.98 321 *e*P P 17 18 30.0 +0.3
WTTA **Wattenberg** 19.01 314 *i* P P 17 18 29.5 -0.7
comp=N,11nm,1.1s
WTTA **Wattenberg** 19.01 314 P P 17 18 29.5 -0.7
comp=N,11nm,1.1s
MOTA **Moosalm** 19.36 313 *i* P P 17 18 34.3 +0.2
comp=N,3.6nm,0.5s
MOTA **Moosalm** 19.36 313 P P 17 18 34.3 +0.2
comp=N,3.6nm,0.5s
FETA **Feichten** 19.43 312 *i* Pn Pn 17 18 36.1 -0.5
comp=N,10nm,1.1s
FETA **Feichten** 19.43 312 Pn Pn 17 18 36.1 -0.5
comp=N,10nm,1.1s
RETA **Reutte** 19.64 313 *i* P P 17 18 37.1 +0.1
comp=N,3.6nm,0.4s
DAVOX **Davos/Dischmat** 19.84 311 P P 17 18 39.8 +0.5
comp=N,0.6nm,0.3s,baz=143,slow=9.8,SNR=6.1
DAVA **Damuels** 20.07 312 *i* P P 17 18 41.7 0.0
comp=N,3.6nm,0.4s
DAVA **Damuels** 20.07 312 P P 17 18 41.7 0.0
comp=N,3.6nm,0.4s
GEYT **Alibeck** 21.06 76 P P 17 18 50.1 -2.3
comp=N,1.8nm,0.8s,baz=261,slow=9.6,SNR=2.3
FINES **FINESS Array B** 26.00 354 P P 17 19 39.0 -1.1
comp=N,4.0nm,0.7s,baz=161,slow=12,SNR=18
HFS **Hagfors** 27.11 340 P P 17 19 49.1 -0.9
comp=N,1.8nm,0.8s,baz=126,slow=9.1,SNR=4.8
ARU **Arti** 27.45 33 P P 17 19 53.4 +0.3
comp=N,3.5nm,0.6s,baz=225,slow=5.0,SNR=8.4
ESDC **Sonseca Array** 28.55 289 pP pP 17 20 23.6 +4.0
comp=N,0.4nm,0.4s,baz=80,slow=8.1,SNR=2.5
NB2 **NORSAR Subarra** 28.56 339 P P 17 20 01.9 -1.2
comp=Z,1.1nm,0.6s,baz=148,slow=11
NOA **NORSAR Array B** 28.56 339 P P 17 20 01.8 -1.2
comp=Z,0.6nm,0.5s,baz=144,slow=11,SNR=4.2
ARCES **ARCESS Array B** 34.05 356 P P 17 20 50.6 -0.4
comp=Z,2.6nm,0.4s,baz=164,slow=8.2,SNR=52
MKAR **Makanchi Array** 38.83 58 P P 17 21 32.8 +0.6
comp=Z,0.8nm,0.7s,baz=275,slow=6.6,SNR=3.3
CMAR **Chiang Mai Arr** 61.02 87 P P 17 24 19.0 -1.6
comp=Z,0.5nm,0.8s,baz=294,slow=9.5,SNR=5.0

*IDC **13** 17:22:52.8±1.6, 1°.96N×127°.39E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/29, mbtmp3.9/5, Error ellipse: s-maj=94.9km s-min=21.7km az=68.0*
*DJA **13** 17:23:05.4±1.5, 2°N±3°×12°7E±°, h22km±13km, M3.7/4, MLv3.7/4*
ISC 13 17:22:54.6±1.3, **1°.91N**±0°.08×**127°.2E**±0°.2, **h10**km, **n8, σ1§72/10, mb4.1/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	2.44	316	P	Pg	17 23 43.2	+1.8
SGSI				S	Sg	17 24 12.0	-1.0
LBMI	**Labuha**	2.55	174	P	Pg	17 23 45.7	+2.2
LBMI				S	Sg	17 24 16.1	-0.5
SANI	**Sanana**	4.12	197	P	Pb	17 24 04.9	-2.4
SANI				S	Sn	17 24 48.1	+2.1
FITZ	**Fitzroy Crossi**	19.95	184	P	Pn	17 27 27.5	-1.1
2.2nm,1.0s,baz=354,slow=13,SNR=5.1							
WRA	**Warramunga Arr**	22.82	162	P	P	17 27 57.5	-0.4
3.8nm,0.5s,baz=342,slow=11,SNR=24							
ASAR	**Alice Springs**	26.25	166	P	P	17 28 29.4	-0.7
0.3nm,0.5s,baz=342,slow=8.1,SNR=18							
STKA	**Stephens Creek**	36.27	159	P	P	17 29 57.7	-0.6
2.0nm,0.4s,baz=329,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	59.32	326	P	P	17 32 57.2	+0.4
0.4nm,0.4s,baz=117,slow=8.0,SNR=10.0							

*IDC **13** 17:24:19.8±4.5, 8°.31S×118°.01E, h72km±49km, mb3.2/2, mb1 3.4/4, mb1mx3.1/31, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=172.0km s-min=55.1km az=50.0*
*ISCJB **13** 17:24:27.5±0.5, 8°.62S±0°.10×118°.36E±0°.03, h143km, mb3.3/2, Error ellipse: s-maj=13.9km s-min=4.3km az=7.2*
*DJA **13** 17:24:29.1±0.4, 9°S±7°×11°8E±°, h119km±4km, M3.6/10, MLv3.6/10*
ISC 13 17:24:28.5±1.0, **8°.8S**±0°.1×**118°.38E**±0°.04, **h143**km, **n12, σ2§01/20, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	0.60	262	P	Pn	17 24 48.8	-0.7
PLAI				S	Sn	17 25 03.3	-2.3
TWSI	**Taliwang, Sumb**	1.48	270	P	Pn	17 24 57.2	0.0
TWSI				S	Sn	17 25 18.6	-0.6
IGBI	**Denpasar**	3.19	269	P	Pn	17 25 19.3	+1.3
IGBI				S	Sn	17 25 56.7	+0.3
SRBI	**Singaraja**	3.20	282	P	Pn	17 25 17.3	-0.8
SRBI				S	Sn	17 25 55.6	-0.9
EDFI	**Ende, Flores**	3.27	90	P	Pn	17 25 19.9	+0.7
EDFI				S	Sn	17 25 58.3	-0.1
BSSI	**Bau Bau, Buton**	3.33	39	P	Pn	17 25 18.6	-1.2
MMRI	**Maumere**	3.82	89	P	Pn	17 25 25.5	-0.7
JAGI	**Jajag, Banyuwa**	4.19	273	P	Pn	17 25 29.9	-1.1
JAGI				S	Sn	17 26 18.2	-1.4
FITZ	**Fitzroy Crossi**	11.67	144	P	Pn	17 27 11.6	+0.9
0.1nm,0.3s,baz=332,slow=14,SNR=3.1							
FITZ				S	Sn	17 29 14.2	-5.4
0.6nm,0.3s,baz=164,slow=22,SNR=7.8							
WRA	**Warramunga Arr**	19.03	127	P	Pn	17 28 41.5	-0.4
0.2nm,0.3s,baz=302,slow=13,SNR=5.3							
WRA				S	S	17 32 05.8	-2.4
0.1nm,0.3s,baz=317,slow=24,SNR=5.8							
ASAR	**Alice Springs**	21.00	137	P	P	17 29 03.5	+2.7
0.6nm,0.5s,baz=311,slow=9.3,SNR=20							
ASAR				S	Sn	17 32 59.6	-3.7
0.3nm,0.7s,baz=310,slow=23,SNR=4.7							
STKA	**Stephens Creek**	31.54	140	P	P	17 30 40.5	+3.2
0.4nm,0.4s,baz=315,slow=13,SNR=1.8							

*KRNET **13** 17:31:23.6±0.1, 41°.06N×71°.03E, h17km, mb2.6*
*SOME **13** 17:31:25.8, 41°.07N×71°.12E, h10km*

*NNC **13** 17:31:26.4±1.6, 41°.06N×71°.23E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=11.8km s-min=6.6km az=5.0*
ISC 13 17:31:24.4±1.3, **41°.04N**±0°.04×**71°.18E**±0°.03, **h1**km±13km, **n24, σ1§84/46, 21C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	0.96	38	⇓*e*P	Pg	17 31 43.5	+0.6
ARK				⇓*i*S	Sb	17 31 57.3	0.0
BTK	**Batken**	1.02	196	⇑*e*P	Pg	17 31 43.4	-0.5
BTK				⇑*i*S	Sg	17 31 57.1	+0.1
ARSB	**Arslanbob**	1.39	78	⇑*e*P	Pg	17 31 52.1	+1.0
ARSB				⇑*e*S	Sg	17 32 12.6	+3.4
IUG	**Iuzhnay**	1.40	323	*e*P	Pn	17 31 50.7	-0.5
IUG				*e*S	Sb	17 32 08.9	-1.0
TOKL	**Toktogul**	1.56	54	⇑*e*P	Pb	17 31 54.7	+0.6
TOKL				⇑*e*S	Sg	17 32 16.4	+1.8
MNAS	**Manas**	1.76	34	⇑*e*P	Pb	17 31 57.7	+0.2
MNAS				⇑*e*S	Sg	17 32 21.3	+0.4
MNAS	**Manas**	1.76	34	⇓P	Pb	17 31 57.9	+0.4
MNAS				⇑S	Sg	17 32 20.8	-0.1
DZA	**Taraz**	1.86	4	*e*P	Pb	17 31 59.7	+0.6
DZA				*e*S	Sg	17 32 24.1	0.0
KK31	**Karatay Array**	2.12	347	⇓Pn	Pn	17 32 02.6	+1.5
KK31				⇓Sn	Sb	17 32 30.8	+0.3
AML	**Almayashu**	2.18	59	⇑*i*P	Pb	17 32 05.4	+0.5
AML				⇑*i*S	Sg	17 32 35.3	+0.7
BRLS	**Borolday**	2.23	334	*e*P	Pn	17 32 02.8	+0.3
BRLS				*e*S	Sn	17 32 29.6	-1.0
MRKS	**Merke**	2.29	41	*e*P	Pb	17 32 07.7	+1.0
MRKS				*e*S	Sg	17 32 37.6	-0.4
ARLS	**Aral**	2.50	70	⇓*e*P	Pb	17 32 10.0	-0.3
ARLS				⇓*i*S	Sb	17 32 43.0	+1.4
EKS2	**Erkin-Say**	2.53	49	⇑*e*P	Pb	17 32 09.4	-1.3
EKS2				⇑*i*S	Sb	17 32 42.0	-0.4
AAK	**Ala-Archa**	2.95	56	⇑*i*P	Pb	17 32 15.7	-2.2
AAK				⇑*i*S	Sb	17 32 52.5	-2.0
AAK	**Ala-Archa**	2.95	56	⇑Pg	Pb	17 32 19.4	+1.5
AAK				⇑Lg	Lg	17 32 56.6	
7.0nm,0.8s							
KZA	**Kyzart**	3.23	70	⇓*e*P	Pb	17 32 20.2	-2.6
KZA				⇓*i*S	Sb	17 33 01.0	-1.7
KBK	**Karagaybulak**	3.25	59	⇑*i*P	Pn	17 32 19.5	+2.8
KBK				⇑*i*S	Sb	17 32 59.8	-3.3
TKM2	**Tokmak 2**	3.79	59	⇑Pg	Pb	17 32 34.4	+2.1
TKM2				⇑Lg	Lg	17 33 23.9	
4.3nm,0.5s							
DGS	**Degeres**	4.07	56	*e*P	Pb	17 32 38.8	+1.9
DGS				*e*S	Sg	17 33 31.8	-3.2
KST	**Kastek**	4.09	59	*e*P	Pg	17 32 41.0	-1.9
KST				*e*S	Sg	17 33 35.4	-0.4
BTLS	**Baital**	4.52	27	*e*P	Pb	17 32 48.5	+3.9
BTLS				*e*S	Sg	17 33 47.5	-2.1
TNSS	**Tian-Shan**	4.74	63	*e*P	Pg	17 32 52.7	-2.5
TNSS				*e*S	Sg	17 33 54.9	-1.8
KUU	**Kurty**	4.77	52	*e*P	Pb	17 32 52.6	+3.9
KUU				*e*S	Sg	17 33 54.5	-3.0

*ISCJB **13** 17:40:20.2±0.7, 33°.43N±0°.09×137°.3E±0°.1, h352km, mb2.7/2, Error ellipse: s-maj=15.1km s-min=8.0km az=41.2*
*IDC **13** 17:40:20.6±1.1, 33°.44N×137°.31E, h346km±27km, mb2.7/2, mb1 2.8/6, mb1mx2.6/41, mbtmp3.4/6, Error ellipse: s-maj=36.1km s-min=27.5km az=174.0*
*JMA **13** 17:40:21.2±0.4, 33°.54N×137°.22E, h361km±4km, M2.7*
ISC 13 17:40:20.7±1.1, **33°.5N**±0°.1×**137°.3E**±0°.1, **h352**km, **n13, σ1§52/18, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	1.10	312	P	Pn	17 41 08.8	+1.8
JWZ	**Kozaga**	1.29	271	P	Pn	17 41 09.4	+1.4
JWT	**Wachi**	2.34	320	P	Pn	17 41 15.9	+1.2
JRY	**Ryogami san**	2.85	28	P	Pn	17 41 20.7	+1.9
JRY				*e*S	S	17 42 06.7	+1.1
JHU	**Hanno**	2.87	35	P	Pn	17 41 20.8	+1.8
JHU				*e*S	S	17 42 05.3	-0.7
MJAR	**Matsushiro Arr**	3.13	14	P	Pn	17 41 22.6	+1.3
0.5nm,0.3s,baz=190,slow=9.3,SNR=11							
MJAR				S	S	17 42 10.0	-0.1
baz=175,slow=16,SNR=3.1							
JAG	**Ashikaga**	3.42	31	P	Pn	17 41 24.7	+0.6
JAG				*e*S	S	17 42 13.2	-1.9
JHO	**Hitachi**	4.12	40	P	Pn	17 41 31.3	+0.3
JHO				*e*S	S	17 42 24.1	-3.6
JNU	**Nakatsue**	5.36	268	P	Pn	17 41 44.0	-0.4
0.4nm,0.3s,baz=105,slow=3.7,SNR=4.0							
KSRS	**Korea Array**	8.57	300	P	Pn	17 42 22.2	+0.7
0.2nm,0.3s,baz=112,slow=12,SNR=10.0							
USRK	**Ussuriysk Ar.**	11.44	341	P	Pn	17 42 55.5	-0.1
0.1nm,0.3s,baz=171,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	53.22	183	P	P	17 49 03.9	-0.3
0.2nm,0.4s,baz=0.0,slow=7.7,SNR=5.7							
ASAR	**Alice Springs**	56.95	184	P	P	17 49 30.5	0.0
0.1nm,0.4s,baz=354,slow=4.7,SNR=13							

*SJA **13** 17:46:49.6±0.8, 33°.86S×73°.12W, h59km±80km, ML3.9, MW4.0*
*IDC **13** 17:46:55.7±1.3, 33°.82S×72°.01W, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/18, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=58.1km s-min=30.7km az=82.0*
*GUC **13** 17:47:00.2±0.6, 33°.95S×71°.71W, h45km±12km, ML3.6*
ISC 13 17:46:56.2±2.3, **33°.79S**±0°.06×**71°.99W**±0°.09, **h4**km±13km, **n19, σ1§27/25, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	1.15	79	*e*P	Pn	17 47 18.9	-0.3
ANTU				*i*S	Sg	17 47 32.7	-0.6
ANTU				IAML		17 47 36.2	
comp=N,4μm,0.2s							
ROCH	**El Roble**	1.16	45	⇓*i*P	Pn	17 47 19.6	+0.1
ROCH				*e*S	Sn	17 47 35.3	-0.5
GO05	**Hualaæø**	1.22	178	⇑*i*P	Pn	17 47 20.4	+0.3
GO05				*i*S	Sn	17 47 35.6	-1.4
PEL	**Peldehue**	1.27	60	*e*P	Pb	17 47 21.3	+0.6
PEL				*e*S	Sn	17 47 37.9	-0.4
PEL				IAML		17 47 43.5	
comp=N,3μm,0.8s							

CLCH **Cerro Calan** 1.28 72 ⇓*i*P Pb 17 47 21.4 +0.5
CLCH *e*S Sg 17 47 36.7 -0.6
CLCH IAML 17 47 43.3
comp=E,2μm,0.8s
FCH **Farellones** 1.49 72 ⇓*i*P Pg 17 47 24.9 0.0
FCH *i*S Sn 17 47 43.7 -0.5
FCH IAML 17 47 46.1
comp=N,2μm,0.3s
AUSP **Uspallata** 2.69 55 *e*P Pb 17 47 44.7 -0.4
ARCO **CERRO ARCO** 2.73 71 *e*P Pb 17 47 46.7 +0.9
ARCO IAML 17 47 51.8
comp=Z,173nm,0.3s
AAGR **Agrelo** 2.74 76 *e*P Pb 17 47 46.5 +0.7
ASAL **Salagasta** 2.90 67 *e*P Pb 17 47 48.6 0.0
RTLS **Leoncito** 3.02 50 *e*P Pb 17 47 49.5 -1.2
RTLS *e*S Sg 17 48 33.2 +0.1
RTLS IAML 17 48 41.6
comp=Z,175nm,0.6s
RTCV **Cerro Valdivia** 3.48 57 *e*P Pb 17 47 55.1 -3.4
AMOG **MOGNA** 4.11 47 *e*P Pn 17 48 03.1 +3.3
AVFE **Valle Fertil** 4.95 52 IAML 17 49 26.1
comp=Z,60nm,0.8s
PLCA **Paso Flores** 7.02 171 Pn Pn 17 48 41.5 +1.6
comp=Z,0.4nm,0.3s,baz=355,slow=10,SNR=5.6
PLCA Lg Lg 17 50 30.9
comp=Z,0.2nm,0.3s,baz=358,slow=12,SNR=3.1
LPAZ **La Paz** 17.77 12 P P 17 51 06.8 +0.7
comp=Z,0.2nm,0.3s,baz=180,slow=9.1,SNR=3.5
TXAR **Lajitas Array** 69.57 331 P P 17 58 07.0 +0.5
comp=Z,0.4nm,0.9s,baz=151,slow=7.9,SNR=2.9
TORD **Torodi Ar. Bea** 84.10 70 P P 17 59 28.6 -0.1
comp=Z,0.3nm,0.5s,baz=224,slow=4.0,SNR=3.7
WRA **Warramunga Arr** 120.96 209 PKP PKPdf 18 05 49.5 -1.0
comp=Z,0.4nm,0.9s,baz=152,slow=1.7,SNR=2.9

*IDC **13** 17:53:16.2±0.4, 14°.87N×147°.09E, h0km, mb4.8/35, mb1 4.9/37, mb1mx4.8/42, mbtmp4.8/37, ML4.9/2, MS3.9/22, Ms1 3.9/22, ms1mx3.9/28, Error ellipse: s-maj=13.5km s-min=7.9km az=84.0*
*ISCJB **13** 17:53:17.5±1.0, 14°.93N±0°.03×146°.97E±0°.02, h12km±6km, mb5.1/151, MS4.2/45, Error ellipse: s-maj=4.9km s-min=3.6km az=165.1*
*BJI **13** 17:53:19.2, 15°.17N×147°.23E, h23km, mb5.2/71, mB5.0/47, Ms4.6/62, Ms7 4.3/59*
*MOS **13** 17:53:20.2±1.0, 14°.94N×146°.92E, h33km, mb5.3/57, MS4.0/18, Error ellipse: s-maj=7.6km s-min=5.0km az=103.1*
*NEIC **13** 17:53:22.6±0.9, 14°.85N×146°.96E, h38km±8km, mb5.3/70, Error ellipse: s-maj=4.2km s-min=3.0km az=115.0*
*GCMT **13** 17:53:22.6±0.3, 14°.79N×147°.25E, h12km, MW4.9/74, Moment Tensor Solution. s15,c16; s74,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_n2.34±.08; $M_{\theta\theta}$-0.37±.07; $M_{\phi\phi}$-1.97±.07; $M_{r\theta}$0.58±.41; $M_{\theta\phi}$-0.71±.06; $M_{\phi r}$0.46±.28; Best double couple: M_o2.40300×10^{16} NP1:ϕ_s29.00000°, δ53.00000°, λ100.00000°. NP2: ϕ_s193.00000°, δ38.00000°, λ77.00000°. Principal axes: T 2.4810, Plg79.0000°, Azm338.0000°; N -0.1540, Plg8.0000°, Azm203.0000°; P -2.3250, Plg8.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 17:53:21.4±0.5, **14°.90N**±0°.04×**147°.06E**±0°.05, **h31**km±3km, **h31**km:**pP-P, n450, σ1§47/497, mb5.1/151, MS4.2/45, 16C-10D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	2.18	326	*e*Pn	Pn	17 53 57.0	+1.4
SARN				*e*Sn	Sn	17 54 15.2	-6.3
GUMO	**Guam**	2.49	239	Pn	Pn	17 53 59.4	-0.5
209nm,0.3s,baz=126,slow=5.1,SNR=101							
GUMO				Sn	Sn	17 54 29.4	+0.1
211nm,0.3s,baz=330,slow=23,SNR=6.7							
CBIJ	**Chichi jima**	12.96	340	*e*Pn	Pn	17 56 22.6	-0.9
PATS	**Pohnpei**	13.64	125	*e*Pn	Pn	17 56 25.5	-7.4
H11S3	**WAKE ISLAND Hy**	19.13	77	T	T	18 17 21.9	
baz=261,slow=20,SNR=20							
H11S1	**WAKE ISLAND Hy**	19.15	76	T	T	18 17 21.9	
baz=261,slow=20,SNR=21							
H11S2	**WAKE ISLAND Hy**	19.15	77	T	T	18 17 21.9	
baz=261,slow=20,SNR=18							
JHJ2	**Mitsune**	19.29	341	*e*P	P	17 57 43.2	-0.5
110nm,1.1s							
JHJ	**Hachijo jima 2**	19.31	341	P	P	17 57 43.9	-0.1
16nm,0.3s,baz=104,slow=12,SNR=9.8							
JHJ				S	Sn	18 01 23.1	+2.3
2.9nm,0.3s,baz=73,slow=19,SNR=2.3							
H11N1	**WAKE ISLAND Hy**	19.52	73	T	T	18 17 54.1	
baz=257,slow=74,SNR=14							
H11N2	**WAKE ISLAND Hy**	19.53	73	T	T	18 17 52.9	
baz=257,slow=74,SNR=14							
H11N3	**WAKE ISLAND Hy**	19.54	73	T	T	18 17 52.9	
baz=257,slow=74,SNR=21							
JOW	**Kunigami**	21.16	307	*e*P	P	17 58 04.8	+0.6
272nm,1.4s							
INU	**Inuyama**	22.27	338	*e*P	P	17 58 15.7	-0.3
64nm,1.0s							
MJAR	**Matsushiro Arr**	22.96	341	P	P	17 58 19.6	-3.7
12nm,0.8s,baz=166,slow=9.1,SNR=29							
MJAR				S	S	18 02 24.9	-6.7
0.4nm,0.4s,baz=159,slow=15,SNR=2.9							
MAJO	**Matsushiro**	22.96	341	*de*P	P	17 58 20.5	-2.8
MAJO				pmax	pmax		
comp=Z,83nm,0.5s							
MAJO	**Matsushiro**	22.96	341	*e*P	P	17 58 19.8	-3.5
comp=Z,31nm,0.8s							
MAT	**Matsushiro**	22.96	341	P	P	17 58 19.9	-3.4
MAT				S	S	18 02 31.0	-0.6
MJB9	**Matsu-Tunnel**	22.96	341	*e*P	P	17 58 19.4	-4.0
comp=Z,7.7nm,0.8s							
FAKI	**Fak Fak**	22.99	221	*e*P	P	17 58 24.8	+1.0
comp=Z,284nm,1.1s							
JNU	**Nakatsue**	23.35	324	P	P	17 58 26.0	-1.2
comp=Z,35nm,1.0s,baz=131,slow=4.5,SNR=18							
JNU				S	S	18 02 41.6	+3.6
comp=Z,2.8nm,0.9s,baz=89,slow=16,SNR=1.9							
JNU	**Nakatsue**	23.35	324	*e*P	P	17 58 26.4	-0.8
comp=Z,42nm,1.0s							
JNU				S	S	18 02 41.6	+3.6
CTBH	**Cotabato--PC H**	23.64	254	⇑*i*P	P	17 58 31.0	+0.8
PMG	**Port Moresby**	24.15	180	P	P	17 58 33.3	-1.6
comp=Z,68nm,0.8s,baz=13,slow=6.1,SNR=36							
PMG	**Port Moresby**	24.15	180	*ce*P	P	17 58 33.0	-1.8
PMG				pmax	pmax		
comp=Z,182nm,0.6s							
PMG	**Port Moresby**	24.15	180	*e*P	P	17 58 33.1	-1.8
comp=Z,211nm,1.1s							
YOJ	**Yonaguni jima**	24.53	297	*e*P	P	17 58 38.9	+0.5
YOJ				pmax	pmax		
comp=Z,206nm,1.1s							
YOJ	**Yonaguni jima**	24.53	297	*e*P	P	17 58 38.9	+0.5
comp=Z,206nm,1.1s							
TGY	**Tagaytay City**	25.30	272	P	P	17 58 45.3	-0.2
comp=Z,181nm,0.4s,baz=114,slow=12,SNR=3.1							
TGY				S	S	18 03 05.4	-4.4
comp=Z,115nm,0.3s,baz=198,slow=3.2,SNR=2.6							
TGY				LR	LR	18 07 39.0	
comp=Z,360nm,18.2s,baz=74,slow=34							
YULB	**Yu-li**	25.73	293	*e*P	P	17 58 49.5	+0.1
comp=Z,21nm,0.7s							
TWG	**Pinlang**	25.80	292	*e*P	P	17 58 48.9	-1.0
comp=Z,282nm,1.4s							
YHNB	**Yeheng**	26.01	296	*e*P	P	17 58 52.3	+0.4
comp=Z,27nm,0.7s							
SSLB	**Suanglung**	26.14	294	*e*P	P	17 58 52.9	-0.2
comp=Z,191nm,1.9s							
SSLB				*e*S	S	18 03 25.8	+2.9
TPUB	**Ta-pu**	26.30	293	*e*P	P	17 58 53.8	-0.8
comp=Z,30nm,1.0s							
HNR	**Honiara**	27.34	151	P	P	17 59 00.9	-3.0
comp=Z,11nm,0.7s,baz=333,slow=15,SNR=2.3							
HNR				LR	LR	18 08 37.8	
comp=Z,287nm,21.9s,baz=346,slow=34							
SAUI	**Saumlaki**	27.59	216	*e*P	P	17 59 06.8	+0.8
comp=Z,356nm,1.3s							
KSRS	**Korea Array**	28.17	326	P	P	17 59 09.4	-1.6
comp=Z,16nm,0.7s,baz=146,slow=9.0,SNR=87							
KSRS				ScP	ScP	18 06 05.4	+2.0
comp=Z,1.5nm,0.8s,baz=151,slow=2.8,SNR=8.9							
KSRS	**Korea Array**	28.17	326	P	P	17 59 09.5	-1.6
KSRS				pmax	pmax		
comp=Z,17nm,0.6s							
KSRS				pmax	pmax		

comp=N,2.0nm,0.8s
KS15 Wonju Array Si 28.18 326 *e*P **P 17 59 11.1 -0.1**
KSAR Wonju Array Be 28.18 326 P **P 17 59 09.5 -1.7**
KSAR Wonju Array Be 28.18 326 P **P 17 59 09.4 -1.7**
KSAR ScP **ScP 18 06 05.4 +1.9**
KS01 Wonju Array Si 28.20 326 *e*P **P 17 59 09.4 -1.9**
QZH Quanzhou 28.52 295 P **P 17 59 18.0 +3.7**
QZH S **S 18 04 04.3 +4.0**
QZH LR LR
comp=N,680nm,17.6s
QZH LR LR
comp=N,470nm,11.4s
QZH LR LR
comp=N,680nm,13.8s
COEN Coen 28.93 188 *e*P **P 17 59 18.0 0.0**
comp=N,22nm,1.2s
ASAJ Asahikawa 29.37 353 P **P 17 59 23.0 +1.3**
comp=N,30nm,0.7s,baz=177,slow=9.3,SNR=29
ASAJ Asahikawa 29.37 353 P **P 17 59 23.0 +1.3**
ASAJ pmax pmax
comp=Z,30nm,0.7s
ASAJ Asahikawa 29.37 353 *e*P **P 17 59 22.9 +1.3**
comp=Z,76nm,1.4s
KUR Kuril'sk 30.25 1 P **P 17 59 30.6 +1.2**
MSHR Mys Shultsa 30.80 337⇓*e*P **P 17 59 32.8 -1.5**
NJ2 Nanjing 30.86 309 *e*P **P 17 59 36.8 +1.8**
NJ2 pmax pmax
comp=Z,11nm,1.2s
MTN Manton Dam 31.76 211 *e*P **P 17 59 42.3 -0.7**
comp=Z,41nm,0.9s
USRK Ussuriysk Ar. 31.90 339 P **P 17 59 43.0 -1.0**
comp=Z,8.8nm,0.7s,baz=158,slow=8.8,SNR=18
YSS Yuzh-Sakhalins 32.16 354⇑*e*P **P 17 59 46.7 +0.5**
YSS *e*S **S 18 04 55.3 -1.6**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.3s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,600nm,17.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 32.16 354 *e*P **P 17 59 47.0 +0.8**
comp=E,63nm,1.2s
MDJ Mudanjiang 33.13 337 P **P 17 59 54.3 -0.5**
MDJ pP pP 18 00 02.9 -1.0
MDJ sP sP 18 00 06.9 -0.8
MDJ S **S 18 05 10.1 -2.0**
MDJ sS pS 18 05 20.8 -1.4
MDJ pmax pmax
comp=E,11nm,1.4s
MDJ LR LR
comp=E,450nm,16.0s
MDJ LR LR
comp=E,490nm,14.7s
MDJ LR LR
comp=E,670nm,15.8s
MDJ Mudanjiang 33.13 337 *e*P **P 17 59 54.6 -0.2**
comp=E,8.7nm,0.9s
SOEI Soe 33.32 224 *e*P **P 17 59 56.5 -0.4**
comp=E,66nm,0.9s
KAPI Kappang 33.53 236 *e*P **P 17 59 58.0 -0.6**
comp=E,45nm,1.0s
WHN Wuhan 33.80 303 P **P 18 00 01.3 +0.5**
WHN S **S 18 05 20.5 -2.3**
WHN LR LR
comp=E,370nm,10.5s
WHN LR LR
comp=E,670nm,15.8s
WHN LR LR
comp=E,790nm,15.4s
MMRI Maumere 33.95 228 *e*P **P 18 00 01.2 -1.0**
comp=E,88nm,1.1s
TIA Tai'an 34.12 314 *e*P **P 18 00 03.3 -0.3**
TIA pmax pmax
comp=E,30nm,1.2s
CN2 Changchun 34.21 332 *e*P **P 18 00 03.3 -0.9**
CN2 *e*S **S 18 05 27.8 -1.0**
CN2 pmax pmax
comp=E,10.0nm,0.7s
CN2 pmax pmax
comp=E,200nm,5.0s
CN2 LR LR
comp=E,500nm,14.0s
CN2 LR LR
comp=E,500nm,14.0s
CN2 LR LR
comp=E,600nm,16.0s
CTA Charters Tower 34.78 181 P **P 18 00 08.6 -0.7**
comp=E,2.7nm,0.4s,baz=0.1,slow=7.8,SNR=5.0
HABR Khabarovsk 34.92 346 *de*P **P 18 00 08.3 -1.9**
HABR *e**PP **pP 18 00 17.7 -1.6**
HABR *e**SP **sP 18 00 22.1 -1.0**
HABR *e* 18 01 25.9
HABR PPP PPP 18 01 39.5
HABR 18 02 40.1
HABR *e*S **S 18 05 39.0 -0.6**
HABR *e**SS **sS 18 05 55.2 +0.6**
HABR *e*SS **SnSn 18 07 57.0 +1.2**
HABR *e*SSS SSS 18 08 14.2
HABR *e* 18 10 26.3
HABR pmax pmax
comp=E,5.0nm,0.8s
HABR pmax pmax
comp=N,23nm,1.5s
HABR pmax pmax
comp=Z,47nm,1.5s
HABR MLR MLR
comp=Z,567nm,16.0s
QIZ Qiongzhong 35.79 282 P **P 18 00 18.5 +0.3**
QIZ S **S 18 05 57.4 +3.6**
QIZ pmax pmax
comp=Z,14nm,1.8s
QIZ LR LR
comp=Z,190nm,19.6s
QIZ LR LR
comp=Z,180nm,19.2s
QIZ LR LR
comp=Z,350nm,17.8s
SBUM Sibu 36.52 254 *e*P **P 18 00 24.4 -0.1**
comp=Z,19nm,1.2s
BJT Baijiatuau 36.80 319 *e*P **P 18 00 26.5 0.0**
BJT pmax pmax
comp=Z,86nm,1.3s
BJT Baijiatuau 36.80 319 *e*P **P 18 00 26.5 0.0**
comp=Z,86nm,1.3s
WRAB Tennant Creek 36.80 200 *c i*P **P 18 00 25.9 -0.8**
WRAB pmax pmax
comp=Z,164nm,1.2s
WRAB Tennant Creek 36.80 200 *e*P **P 18 00 26.1 -0.5**
comp=Z,74nm,1.3s
BJI Beijing 36.80 319 P **P 18 00 26.8 +0.3**
BJI S **S 18 06 06.9 -1.9**
BJI pmax pmax
comp=Z,41nm,0.9s
BJI pmax pmax
comp=Z,160nm,4.2s
BJI LR LR
comp=Z,250nm,13.1s
BJI LR LR
comp=Z,200nm,18.7s
BJI LR LR
comp=Z,230nm,17.9s
WB2 Warramunga Arr 36.81 200 *e*P **P 18 00 24.6 -2.2**
WRA Warramunga Arr 36.81 200 P **P 18 00 26.1 -0.6**
comp=Z,19nm,1.0s,baz=24,slow=9.3,SNR=57
WRA PcP **PcP 18 02 48.8 +0.2**
comp=Z,2.7nm,0.8s,baz=22,slow=3.7,SNR=4.6
WRA ScP **ScP 18 06 35.2 +1.9**
comp=Z,0.6nm,0.9s,baz=21,slow=5.4,SNR=3.1
ENH Enshi 37.72 300 *e*P **P 18 00 33.9 -0.6**
comp=Z,69nm,1.1s
TIY Taiyuan 38.14 313 *e*P **P 18 00 38.9 +0.9**
TIY pP **sP 18 00 49.8 -1.1**
TIY S **S 18 06 34.4 +5.1**
TIY pmax pmax
comp=Z,120nm,5.7s
TIY LR LR
comp=Z,110nm,9.5s
TIY LR LR
comp=Z,260nm,15.7s
TIY LR LR
comp=Z,240nm,19.4s
KSM Kuching 38.66 253 *e*P **P 18 00 41.5 -1.0**
comp=Z,44nm,1.3s
FITZ Fitzroy Crossi 39.00 214 P **P 18 00 44.8 -0.5**
comp=Z,13nm,0.9s,baz=30,slow=9.6,SNR=13
PEA0 Petropavlovsk- 39.04 10 *e*P **P 18 00 47.0 +1.8**
PETK Petropavlovsk- 39.04 10 P **P 18 00 46.1 +0.8**
comp=Z,11nm,0.9s,baz=198,slow=9.1,SNR=4.9
PETK LR LR 18 21 18.0
comp=Z,109nm,18.4s,baz=212,slow=43
PET Petropavlovsk 39.13 11 *e*P **P 18 00 48.0 +2.1**
PET pmax pmax
comp=Z,41nm,1.7s
XAN Xi'an 39.31 306 P **P 18 00 47.9 +0.1**
XAN pP pP 18 00 57.9 +0.9
XAN sP sP 18 01 01.8 +1.0
XAN PP **PnPn 18 02 21.4 +0.3**
XAN S **S 18 06 42.0 -5.0**
XAN sS pS 18 06 58.0 +0.6
XAN pmax pmax
comp=Z,23nm,0.8s
XAN LR LR
comp=Z,130nm,15.5s
XAN LR LR
comp=Z,250nm,18.9s
XAN LR LR
comp=Z,450nm,18.5s
GYA Guiyang 39.35 294⇑*i*P **P 18 00 49.5 +1.1**
GYA pP sP 18 01 00.3 -1.1
GYA PP **PnPn 18 02 24.0 +2.1**
GYA PcP **PcP 18 02 56.8 +0.2**
GYA ScP **ScP 18 06 42.4 -0.7**
GYA S **S 18 06 48.6 +0.6**
GYA sS sS 18 07 06.8 +3.6
GYA SS **SS 18 09 35.3 -7.1**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
GYA LR LR
comp=Z,1μm,17.9s
GYA LR LR
comp=Z,920nm,18.7s
GYA LR LR
comp=Z,1μm,18.0s
JAGI Jajag, Banyuwa 40.05 237 *e*P **P 18 00 53.3 -0.8**
comp=Z,50nm,1.2s
HHC Hu-ho-hao-te 40.22 317 *e*P **P 18 00 56.3 +0.9**
HHC S **S 18 07 01.4 +0.8**
HHC sS sS 18 07 17.3 +1.5
HHC pmax pmax
comp=Z,44nm,1.1s
HHC LR LR
comp=Z,1μm,14.1s
HHC LR LR
comp=Z,1μm,15.7s
HHC LR LR
comp=Z,1μm,13.9s
AS01 Alice Springs 40.41 199 *e*P **P 18 00 55.6 -1.4**
AS31 Alice Springs 40.43 199 *e*P **P 18 00 57.0 -0.2**
comp=Z,4.2nm,0.8s
ASAR Alice Springs 40.43 199 P **P 18 00 56.5 -0.6**
comp=Z,5.1nm,0.7s,baz=23,slow=8.9,SNR=131
ASAR PcP **PcP 18 03 00.3 +0.4**
comp=Z,2.9nm,1.0s,baz=18,slow=4.1,SNR=2.7
ASAR ScP **ScP 18 06 53.1 +6.0**
comp=Z,0.4nm,0.6s,baz=20,slow=4.4,SNR=5.5
PANO Nakornpanom 40.81 279 P **P 18 01 02.4 +2.0**
comp=Z,132nm,0.7s,comp=Z,12μm
HIA Hailar 40.91 333 *e*P **P 18 01 00.4 -0.5**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 40.91 333 *e*P **P 18 01 00.4 -0.5**
comp=Z,6.4nm,0.6s
BTO Baotou 41.13 316 *e*P **P 18 01 03.3 +0.4**
DZM Mont Dzumac 41.36 152 P **P 18 01 04.2 -0.7**
comp=Z,9.2nm,1.0s,baz=170,slow=2.5,SNR=9.8
DZM Mont Dzumac 41.36 152 *e*P **P 18 01 04.6 -0.3**
comp=Z,74nm,1.3s
DZM Mont Dzumac 41.36 152 *e*LR LR 18 12 32.0
comp=Z,660nm,27.4s
DZM Mont Dzumac 41.36 152 *e*P **P 18 01 03.5 -1.4**
comp=Z,36nm,1.2s
SLVN Son La 41.42 285 *e*P **P 18 01 06.5 +1.1**
comp=Z,32nm,1.1s
KHON Khomkaen 42.57 278 P **P 18 01 16.1 +1.3**
comp=Z,12nm,1.1s,comp=Z,940nm
CD2 Chengdu 42.67 300 P **P 18 01 16.0 +0.5**
CD2 pP pP 18 01 26.1 +1.3
CD2 PcS **PcS 18 06 59.3 -0.2**
CD2 S **S 18 07 37.9 +0.9**
CD2 sS sS 18 07 55.3 +3.0
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,150nm,7.3s
CD2 LR LR
comp=Z,390nm,14.9s
CD2 LR LR
comp=Z,270nm,15.4s
CD2 LR LR
comp=Z,240nm,14.9s
KMI Kunming 42.70 291 P **P 18 01 17.5 +1.4**
KMI pP sP 18 01 27.5 -1.7
KMI sP pP 18 01 31.3 +5.9
KMI PP **PP 18 02 59.0 +3.5**
KMI S **S 18 07 38.0 -0.1**
KMI sS sS 18 07 54.3 +1.0
KMI SS **SS 18 10 40.8 -8.4**
KMI pmax pmax
comp=Z,26nm,1.0s
KMI pmax pmax
comp=Z,120nm,4.6s
KMI LR LR
comp=Z,210nm,18.0s
KMI LR LR
comp=Z,190nm,15.2s
KMI LR LR
comp=Z,230nm,19.2s
CHAI Chaiyaphum 43.41 277 P **P 18 01 21.8 +0.2**
comp=Z,8.5nm,0.8s,comp=Z,86nm
CHBT CHBT 43.44 273 P **P 18 01 22.1 +0.2**
comp=Z,631nm,1.5s
LZH Lanzhou 43.90 307 ⇑P **P 18 01 27.0 +1.4**
LZH pP sP 18 01 37.4 -1.3
LZH sP pP 18 01 41.5 +6.6
LZH PP **PcP 18 03 10.1 -1.3**
LZH *e*S **S 18 07 54.0 -1.2**
LZH sS sS 18 08 11.0 +0.4
LZH SS **SS 18 11 08.1 -4.1**
LZH pmax pmax
comp=Z,91nm,1.0s
LZH pmax pmax
comp=Z,280nm,4.0s
LZH LR LR
comp=Z,240nm,12.3s
LZH LR LR
comp=Z,320nm,13.4s
LZH LR LR
comp=Z,360nm,15.8s
NAYO Nakonayok 44.21 275 P **P 18 01 30.2 +2.1**
comp=Z,16nm,1.3s,comp=Z,8μm
PBKT Sadao Pong 44.32 279 P **P 18 01 29.7 +0.7**
comp=Z,30nm,1.4s,comp=Z,995nm
MYKOM Kota Tinggi 44.58 257 *e*P **P 18 01 30.5 -0.6**
comp=Z,36nm,1.1s
UTTA Uttaradit 44.64 280 P **P 18 01 31.7 +0.2**
comp=Z,10nm,1.1s,comp=Z,96nm
MA2 Magadan 44.69 3 P **P 18 01 31.8 +0.5**
comp=Z,45nm,0.9s,baz=173,slow=6.2,SNR=18
MA2 Magadan 44.69 3 *ce*P **P 18 01 32.1 +0.8**
CISI Cisompet, Garu 44.85 243 *e*P **P 18 01 31.5 -1.8**
comp=Z,120nm,1.6s
LAMP Lampang 45.47 281 P **P 18 01 39.1 +1.0**
comp=Z,5.8nm,1.0s
CIT Chita 45.65 332 *e*P **P 18 01 39.0 -0.1**
CIT *e* 18 01 48.6
CIT *e* 18 01 55.4
CIT pmax pmax
comp=Z,52nm,1.7s
PHET Kaeng Krachan 46.02 274 P **P 18 01 44.3 +1.8**
comp=Z,7.6nm,0.9s
CHTO Chiang Mai 46.11 282 P **P 18 01 43.3 +0.1**
comp=Z,59nm,1.4s,comp=Z,1μm
CHTO Chiang Mai 46.11 282 *e*P **P 18 01 43.4 +0.2**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 46.11 282 *e*P **P 18 01 43.4 +0.2**
comp=Z,12nm,1.0s
CHTO Chiang Mai 46.11 282 P **P 18 01 43.3 +0.2**
SNR=5.9
CHTO Chiang Mai 46.11 282 P **P 18 01 43.3 +0.2**
SNR=5.9
CM01 Chiang Mai Arr 46.12 281 *e*P **P 18 01 43.8 +0.6**
CM31 Chiang Mai Arr 46.13 281 *e*P **P 18 01 44.5 +1.2**
CMAR Chiang Mai Arr 46.13 281 P **P 18 01 44.1 +0.7**
comp=Z,23nm,1.0s,baz=78,slow=6.1,SNR=97
CMAR PcP **PcP 18 03 20.9 +1.7**
comp=Z,2.4nm,0.6s,baz=96,slow=2.3,SNR=4.4
CMAR LR LR 18 21 49.6
comp=Z,115nm,18.2s,baz=96,slow=37
CMAR Chiang Mai Arr 46.13 281 *i* P **P 18 01 44.0 +0.7**
CMAR pmax pmax
comp=Z,15nm,0.8s
UMPA Umpang Tak 46.37 278 P **P 18 01 46.8 +1.5**
comp=Z,11nm,1.1s,comp=Z,91nm
ULN Ulaanbaatar 46.57 323 *c i*P **P 18 01 46.5 0.0**
ULN pmax pmax
comp=Z,20nm,0.6s
ULN Ulaanbaatar 46.57 323 *e*P **P 18 01 46.7 +0.1**
comp=Z,26nm,0.8s
ULN Ulaanbaatar 46.57 323 P **P 18 01 46.6 +0.1**
SNR=11
ULN Ulaanbaatar 46.57 323 P **P 18 01 46.6 +0.1**
SNR=11
KULM Kulim 46.59 263 *e*P **P 18 01 47.5 +0.4**
comp=Z,22nm,1.0s
STKA Stephens Creek 46.80 186 P **P 18 01 47.3 -1.0**
comp=Z,2.3nm,0.4s,baz=26,slow=6.7,SNR=20
STKA LR LR 18 24 55.9
comp=Z,123nm,18.1s,baz=320,slow=41
STKA Stephens Creek 46.80 186 *e*P **P 18 01 47.6 -0.7**
STKA pmax pmax
comp=Z,15nm,2.0s
STKA Stephens Creek 46.80 186 *e*P **P 18 01 47.6 -0.7**
comp=Z,14nm,2.0s
SONM Songino Array 46.93 323 P **P 18 01 49.3 -0.1**
comp=Z,25nm,0.7s,baz=135,slow=8.1,SNR=36
SONM LR LR 18 21 27.7
comp=Z,129nm,21.8s,baz=70,slow=36
SONA1 Songino Array 46.93 323 *e*P **P 18 01 49.4 0.0**
GTA Gaotai 47.93 310 *e*P **P 18 01 58.3 +1.0**
GTA pP pP 18 02 07.8 +1.1
GTA sP sP 18 02 11.8 +1.4
GTA S **S 18 08 53.3 +0.2**
GTA sS sS 18 09 10.5 +2.0
GTA SS **SS 18 12 16.0 -6.0**
GTA pmax pmax
comp=Z,30nm,1.4s
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=Z,140nm,15.4s
GTA LR LR
comp=Z,210nm,18.3s
GTA LR LR
comp=Z,290nm,19.0s
SEY Seymchan 48.12 3 P **P 18 01 59.1 +0.9**
comp=Z,36nm,1.0s,baz=187,slow=6.8,SNR=45
SEY LR LR 18 23 06.0
comp=Z,104nm,19.1s,baz=278,slow=37
SEY Seymchan 48.12 3⇓*e*P **P 18 01 59.8 +1.6**
BBOO Buckleboo 48.59 192 *e*P **P 18 02 01.7 -0.4**
comp=Z,41nm,0.6s
YAK Yakutsk 48.68 349 *e*P **P 18 02 01.7 -0.7**
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,37nm,0.9s
YAK Yakutsk 48.68 349 *e*P **P 18 02 02.3 -0.2**
comp=Z,48nm,0.7s
PSI Prapat 48.94 261 P **P 18 02 05.0 -0.3**
comp=Z,10nm,0.9s,baz=59,slow=2.7,SNR=10
BOD Bodaibo 49.50 337 *e*P **P 18 02 07.3 -1.5**
BOD pmax pmax
comp=Z,21nm,1.8s
ZAK Zakamensk 49.97 325 *e*P **P 18 02 12.0 -0.7**
ZAK pmax pmax
comp=Z,23nm,1.2s
IRK Irkutsk 50.38 327 *e*P **P 18 02 14.7 -0.9**
IRK pmax pmax
comp=Z,48nm,2.4s
TLY Talaya 50.42 326 *e*P **P 18 02 15.9 -0.1**
TLY *e*S **S 18 09 30.9 +3.5**
TLY pmax pmax
comp=Z,33nm,1.3s
TLY MLR MLR
comp=Z,438nm,21.0s
TLY Talaya 50.42 326 *e*P **P 18 02 15.6 -0.4**
comp=Z,54nm,1.5s
TLY Talaya 50.42 326 P **P 18 02 16.0 0.0**
SNR=9.8
TLY Talaya 50.42 326 P **P 18 02 16.0 0.0**
SNR=9.8
TLY P **P 18 02 16.0 0.0**
SNR=9.8
MOY Mondy 51.86 325 *e*P **P 18 02 27.0 +0.1**
MOY pmax pmax
comp=Z,31nm,1.9s
LSA Lhasa 53.32 296 P **P 18 02 39.9 +1.4**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 53.32 296 *e*P **P 18 02 39.6 +1.1**
LSA pmax pmax
comp=Z,32nm,0.7s
LSA Lhasa 53.32 296 *e*P **P 18 02 39.6 +1.1**
comp=Z,32nm,0.7s
BILL Bilibino 54.54 9 *c i*P **P 18 02 46.9 +0.7**
BILL *i* 18 03 50.7
BILL pmax pmax
comp=Z,20nm,1.1s
TAPN Taplejung 56.28 293 *e*P **P 18 03 00.1 +0.3**
comp=Z,157nm,1.1s
ODAN Odare 56.57 292 *e*P **P 18 03 02.0 +0.2**
comp=Z,106nm,0.8s
RAMN Ramite 57.27 293 *e*P **P 18 03 06.9 +0.1**
comp=Z,140nm,1.0s
JIRN Jiri 57.63 293 *e*P **P 18 03 09.8 +0.4**
comp=Z,915nm,0.9s
TIXI Tiksi 57.77 353 *c i*P **P 18 03 08.5 -0.7**
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI MLR MLR
comp=Z,96nm,17.0s
TIXI Tiksi 57.77 353 *e*P **P 18 03 08.6 -0.7**
comp=Z,30nm,1.3s
WMQ Urumqi 57.80 313 P **P 18 03 11.5 +1.5**
WMQ pP sP 18 03 21.9 -1.4
WMQ PcP **PcP 18 04 06.5 +4.0**
WMQ S **S 18 11 08.5 +1.1**
WMQ SS **SS 18 15 01.1 +2.9**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,180nm,3.6s
WMQ LR LR
comp=Z,150nm,20.3s
WMQ LR LR
comp=Z,250nm,23.5s
WMQ LR LR
comp=Z,190nm,20.3s
GUN Gumba 57.90 294 *e*P **P 18 03 11.7 +0.4**
comp=Z,164nm,0.9s
PKIN Phulchoki 58.33 293 *e*P **P 18 03 13.9 -0.4**
comp=Z,56nm,0.9s
KKN Kakani 58.43 294 *e*P **P 18 03 14.9 0.0**
DMN Daman 58.59 293 *e*P **P 18 03 16.1 0.0**
comp=Z,41nm,0.5s
GKN Gorkha 59.00 294 *e*P **P 18 03 18.8 0.0**
comp=Z,79nm,0.5s
DANN Dangsing 59.77 294 *e*P **P 18 03 24.7 +0.5**
KOLN Koldanda 59.92 294 *e*P **P 18 03 25.1 -0.1**
comp=Z,71nm,0.9s
PYUN Piuthan 60.45 294 *e*P **P 18 03 28.5 -0.3**
OHAK Old Harbor 61.31 32 *e*P **P 18 03 34.7 +0.9**
comp=Z,61nm,1.4s
ZALV Zalesovo Beam 61.82 324 P **P 18 03 36.9 -0.4**
comp=Z,4.7nm,0.4s,baz=98,slow=6.1,SNR=35
ZALV PcP **PcP 18 04 18.3 +0.1**
comp=Z,4.8nm,0.5s,baz=109,slow=2.4,SNR=5.5
ZALV LR LR 18 29 27.6
comp=Z,121nm,21.5s,baz=68,slow=35
KDAK Kodiak Island 61.84 32 P **P 18 03 37.6 +0.3**
comp=Z,7.4nm,0.5s,baz=271,slow=2.3,SNR=18
KDAK Kodiak Island 61.84 32 *i* P **P 18 03 37.8 +0.4**

MK31 Makanchi Array 62.05 315 P **P 18 03 39.6 +0.5**
MK31 pmax pmax
comp=Z,15nm,0.5s
MK31 Makanchi Array 62.05 315 *e*P **P 18 03 39.9 +0.8**
MKAR Makanchi Array 62.05 315 P **P 18 03 38.8 -0.3**
comp=Z,25nm,0.5s,baz=93,slow=9.7,SNR=8.3
MKAR Makanchi Array 62.05 315 *e*P **P 18 03 39.9 +0.8**
comp=Z,191nm,0.6s
TTA Tatalina 62.06 26 *e*P **P 18 03 39.6 +0.7**
TTA Tatalina 62.06 26 *e*P **P 18 03 39.6 +0.7**
MAKZ Makanchi 62.26 315 *e*P **P 18 03 41.5 +1.0**
MAKZ pmax pmax
comp=Z,50nm,0.6s
MAKZ Makanchi 62.26 315 *e*P **P 18 03 41.5 +1.0**
comp=Z,50nm,0.6s
RSO Redoubt South 62.61 29 *e*P **P 18 03 42.8 0.0**
NVS Novosibirsk 62.93 324 *i* P **P 18 03 44.8 +0.1**
NVS *e* 18 03 56.1
NVS pmax pmax
comp=Z,46nm,1.3s
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,23nm,1.2s
CNPM China Poot 63.04 30 *e*P **P 18 03 45.7 +0.3**
comp=E,40nm,1.2s
BRLK Bradley Lake 63.28 30 *e*P **P 18 03 47.0 0.0**
PDGK Podgornoye 63.65 311 P **P 18 03 50.1 +0.1**
PDGK pmax pmax
comp=Z,27nm,0.7s
PPLA Purkeypile 63.67 26 *e*P **P 18 03 50.9 +1.1**
comp=Z,85nm,1.6s
CAST Castle Rocks 63.90 26 *e*P **P 18 03 51.8 +0.7**
comp=Z,23nm,1.0s
SEW Seward 64.07 30 *e*P **P 18 03 52.7 +0.5**
comp=Z,31nm,1.1s
RC01 Rabbit Creek A 64.21 29 *e*P **P 18 03 53.5 +0.4**
comp=Z,36nm,1.1s
KTH Kantishna Hill 64.43 26 *e*P **P 18 03 55.2 +0.6**
PMR Palmer 64.63 28 *e*P **P 18 03 55.7 -0.1**
PMR pmax pmax
comp=Z,59nm,1.6s
PMR Palmer 64.63 28 *e*P **P 18 03 55.7 -0.1**
comp=Z,59nm,1.6s
TRF Thorofare Moun 64.67 26 *e*P **P 18 03 56.4 +0.1**
comp=Z,26nm,1.2s
KURK Kurchatov 64.97 319*c i*P **P 18 03 58.0 -0.3**
KURK pmax pmax
comp=Z,375nm,1.2s
KURK Kurchatov 64.97 319 *e*P **P 18 03 57.6 -0.7**
comp=Z,104nm,1.1s
KURK Kurchatov 64.97 319 P **P 18 03 58.1 -0.1**
SNR=54
KURK Kurchatov 64.97 319 P **P 18 03 58.1 -0.1**
SNR=54
SML Sawmill 65.06 28 *e*P **P 18 03 59.4 +0.7**
SML pmax pmax
comp=Z,36nm,1.0s
SML Sawmill 65.06 28 *e*P **P 18 03 59.4 +0.7**
comp=Z,36nm,1.0s
RND Reindeer 65.27 26 *e*P **P 18 04 00.6 +0.5**
RND pmax pmax
comp=Z,18nm,1.1s
RND Reindeer 65.27 26 *e*P **P 18 04 00.6 +0.5**
comp=Z,18nm,1.1s
MCK McKinley 65.33 26 *e*P **P 18 04 01.3 +0.9**
MCK pmax pmax
comp=Z,50nm,1.5s
MCK McKinley 65.33 26 *e*P **P 18 04 01.3 +0.9**
comp=Z,50nm,1.5s
SCM Sheep Creek Mo 65.52 28 *e*P **P 18 04 02.8 +1.0**
SCM pmax pmax
comp=Z,55nm,1.1s
SCM Sheep Creek Mo 65.52 28 *e*P **P 18 04 02.8 +1.0**
comp=Z,55nm,1.1s
HYB Hyderabad 65.53 283⇑ *i*P **P 18 04 02.5 0.0**
comp=Z,45nm,1.0s
HYB *es*P **sP 18 04 20.0 +4.1**
NRIK Noril'sk 65.61 340 P **P 18 04 01.8 -0.3**
comp=Z,18nm,1.0s,baz=108,slow=7.8,SNR=12
NRIK LR LR 18 34 31.7
comp=Z,103nm,18.4s,baz=108,slow=38
FID Port Fidalgo 65.66 30 *e*P **P 18 04 03.3 +0.7**
comp=Z,36nm,1.1s
DHY Denali Highway 65.82 27 *e*P **P 18 04 04.4 +0.6**
comp=Z,56nm,1.9s
WRH Wood River Hil 65.90 25 *e*P **P 18 04 04.0 0.0**
comp=Z,17nm,1.0s
EYAK Cordova Ski Ar 65.96 30 *e*P **P 18 04 05.6 +1.2**
comp=Z,22nm,1.0s
CCB Clear Creek Bu 66.07 25 *e*P **P 18 04 04.9 -0.2**
DIV Divide 66.08 29 *e*P **P 18 04 06.5 +1.2**
comp=Z,21nm,1.0s
KSH Kashi 66.15 307⇓P **P 18 04 09.5 +3.2**
KSH pP sP 18 04 19.8 +0.1
KSH sP pP 18 04 23.6 +7.6
KSH PcP **PcP 18 04 40.5 +4.0**
KSH PP **PP 18 06 36.8 +4.8**
KSH PcS 18 08 42.5
KSH S **S 18 12 55.8 +2.6**
KSH sS sS 18 13 14.3 +5.1
KSH ScS **SKSac 18 14 00.0 -0.6**
KSH SS **SS 18 17 14.1 +5.0**
KSH pmax pmax
comp=Z,130nm,2.2s
KSH pmax pmax
comp=Z,150nm,7.4s
KSH LR LR
comp=Z,87nm,8.7s
KSH LR LR
comp=Z,92nm,7.9s
KSH LR LR
comp=Z,130nm,6.2s
ILAR Eielson Array 66.48 25 P **P 18 04 06.8 -1.0**
comp=Z,6.8nm,1.0s,baz=256,slow=5.3,SNR=31
ILAR LR LR 18 31 12.4
comp=Z,75nm,20.6s,baz=276,slow=34
BMRM Bremner River 66.60 30 *e*P **P 18 04 09.8 +1.1**
comp=Z,34nm,1.2s
PAX Paxson 66.64 27 *e*P **P 18 04 09.7 +0.8**
PAX pmax pmax
comp=Z,18nm,1.1s
PAX Paxson 66.64 27 *e*P **P 18 04 09.7 +0.8**
comp=Z,18nm,1.1s
TOLK Toolik Lake Re 66.64 21 P **P 18 04 09.6 +0.8**
baz=250
HARP HAARP 66.65 28 *e*P **P 18 04 10.0 +1.1**
comp=Z,53nm,1.3s
FRU Bishkek 67.20 310 *e*P **P 18 04 13.0 +0.2**
AAK Ala-Archa 67.28 310*c i*P **P 18 04 13.7 +0.2**
AAK pmax pmax
comp=Z,24nm,1.1s
AAK Ala-Archa 67.28 310 *e*P **P 18 04 13.8 +0.3**
comp=Z,25nm,1.4s
AAK Ala-Archa 67.28 310 P **P 18 04 13.8 +0.3**
SNR=7.3
AAK Ala-Archa 67.28 310 P **P 18 04 13.8 +0.3**
SNR=7.3
DOT Dot Lake 67.41 27 *e*P **P 18 04 14.3 +0.5**
FYU Fort Yukon 67.61 24 *e*P **P 18 04 16.9 +2.0**
MNAS Manas 68.76 310 P **P 18 04 22.9 +0.2**
MNAS pmax pmax
comp=Z,17nm,1.3s
EGAK Eagle 68.88 26 *e*P **P 18 04 23.8 +0.9**
comp=Z,20nm,1.1s
DAWY Dawson 69.52 27 *e*P **P 18 04 27.8 +0.8**
comp=Z,14nm,1.1s
HYT Haines Junctio 70.01 30 *e*P **P 18 04 31.5 +1.4**
KK31 Karatay Array 70.21 311 *i* P **P 18 04 32.0 +0.5**
KK31 pmax pmax
comp=Z,16nm,0.6s
KKAR Karatay Array 70.21 311 *e*P **P 18 04 31.9 +0.4**
KKAR pmax pmax
comp=Z,20nm,0.6s
KKAR Karatay Array 70.21 311 *e*P **P 18 04 31.9 +0.4**
comp=Z,20nm,0.6s
BVAR Borovoye Array 70.23 321 LR LR 18 37 46.0
comp=Z,125nm,18.4s,baz=80,slow=38
BRVK Borovoye 70.30 321*c i*P **P 18 04 31.5 -0.3**
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK Borovoye 70.30 321 *e*P **P 18 04 31.7 -0.1**
comp=Z,55nm,1.4s
BRVK Borovoye 70.30 321 P **P 18 04 31.8 -0.1**
SNR=20
BRVK Borovoye 70.30 321 P **P 18 04 31.8 -0.1**
SNR=20
BRVK P **P 18 04 31.8 -0.1**
SNR=20
PPT Papeete 70.31 115 LR LR 18 27 45.9
comp=Z,298nm,20.1s,baz=312,slow=29
PPT2 Papeete2 70.32 115 *e*S **S 18 13 42.0 -1.3**
comp=Z,64nm,22.8s
PPT2 Papeete2 70.32 115 *e*LR LR 18 25 21.8
comp=Z,515nm,24.2s,baz=297
SKAG Skagway 71.00 32 *e*P **P 18 04 37.6 +1.6**
KBL Kabul 71.95 302 *e*P **P 18 04 42.8 +0.3**
KBL Kabul 71.95 302 *e*P **P 18 04 42.8 +0.3**
INK Inuvik 72.35 23 P **P 18 04 43.8 -0.2**
comp=Z,4.1nm,1.0s,baz=291,slow=6.2,SNR=4.4
SVE Sverdlovsk 75.73 326⇓ *e*P **P 18 05 04.1 +0.2**
SVE pmax pmax
comp=Z,51nm,1.3s
TAOE Nuku Hiva Isla 75.90 103 *e*S **S 18 14 47.2 +0.3**
comp=Z,138nm,29.5s
TAOE Nuku Hiva Isla 75.90 103 *e*LR LR 18 28 13.7
comp=Z,574nm,27.2s
ARU Arti 76.91 325*c i*P **P 18 05 09.7 -0.9**
ARU 18 05 19.9
ARU 18 07 58.8
ARU S **S 18 14 56.9 +0.5**
ARU SS **SS 18 19 48.5 -4.3**
ARU pmax pmax
comp=Z,76nm,1.7s
ARU Arti 76.91 325 *e*P **P 18 05 10.4 -0.2**
AB31 Akbulak array 77.01 318 *i* P **P 18 05 10.8 -0.5**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 77.01 318 *e*P **P 18 05 10.6 -0.7**
comp=Z,13nm,0.6s
SOKR Solikamsk 77.43 329 *e*P **P 18 05 11.5 -1.9**
SOKR pmax pmax
comp=Z,40nm,1.4s
SOKR MLR MLR
comp=Z,146nm,20.0s
E03A Lebam 78.92 45 *e*P **P 18 05 23.9 +1.9**
LLLB Lilloet 79.31 40 *e*P **P 18 05 25.5 +1.4**
MBW Mount Baker 79.63 42 P **P 18 05 26.6 +0.6**
F04A Amboy 79.81 45 *e*P **P 18 05 28.1 +1.2**
B201 Coldwater, Mou 79.85 45 P **P 18 05 28.6 +1.4**
RPW Rockport 79.94 43 P **P 18 05 27.9 +0.3**
HUMO Hull Mountain 80.06 49 *e*P **P 18 05 29.8 +1.4**
LON Longmire 80.07 44 *e*P **P 18 05 28.4 0.0**
LON Longmire 80.07 44 *e*P **P 18 05 28.4 0.0**
GEYT Alibeck 80.19 307 P **P 18 05 29.2 +0.1**
comp=Z,27nm,1.0s,baz=90,slow=1.5,SNR=34
GEYT LR LR 18 43 57.0
comp=Z,124nm,19.9s,baz=65,slow=38
M02C Callahan 80.37 50 P **P 18 05 30.8 +0.7**
baz=281
YBH Yreka Blue Hor 80.41 49 *e*P **P 18 05 31.4 +1.0**
YBH Yreka Blue Hor 80.41 49 *e*P **P 18 05 31.4 +1.0**
J04D Umpqua Nationa 80.55 48 P **P 18 05 31.1 -0.2**
baz=282
N02D Trinity Center 80.57 50 P **P 18 05 31.3 +0.1**
baz=282
VFP Flag Point 80.59 46 P **P 18 05 32.2 +0.9**
G05D Wamic, OR 80.71 46 P **P 18 05 32.1 +0.3**
baz=282
YKA Yellowknife Ar 80.72 28 P **P 18 05 31.4 0.0**
comp=Z,3.6nm,0.6s,baz=282,slow=5.2,SNR=8.2
YKA LR LR 18 40 50.0
comp=Z,5.5nm,19.6s,baz=0.0,slow=35
LTY Liberty 80.73 44 *e*P **P 18 05 32.7 +0.8**
WDC Whiskeytown Da 80.77 51 *e*P **P 18 05 33.4 +1.3**
WDC Whiskeytown Da 80.77 51 *e*P **P 18 05 33.4 +1.3**
I05D Terrebonne, OR 80.88 47 P **P 18 05 33.0 +0.3**
baz=282
ETW Entiat 80.89 43 P **P 18 05 33.1 +0.3**
GDXM Geysers 80.93 52 *e*P **P 18 05 35.3 +2.1**
M04C Macdoel 81.04 49 P **P 18 05 33.9 +0.1**
baz=282
J05D Fort Rock, OR 81.17 48 P **P 18 05 34.6 +0.1**
baz=282
O03D Paynes Creek 81.38 51 P **P 18 05 35.2 -0.3**
baz=282
B08A Colville Reser 81.38 42 *e*P **P 18 05 35.9 +0.5**
HAWA Hanford 81.68 44 *e*P **P 18 05 38.0 +1.1**
ORV Oroville 81.76 51 *e*P **P 18 05 37.8 +0.4**
ORV Oroville 81.76 51 *e*P **P 18 05 37.8 +0.4**
D08A Wollman Farm, 81.94 44 *e*P **P 18 05 39.2 +0.9**
MOD Modoc Plateau 82.14 49 *e*P **P 18 05 40.2 +0.6**
AFDM Forest Hills D 82.29 52 *e*P **P 18 05 41.2 +0.9**
BEKR Beckworth 82.55 51 *e*P **P 18 05 42.3 +0.5**
NEW Newport 82.84 42 P **P 18 05 42.8 -0.2**
baz=284
NEW Newport 82.84 42 *e*P **P 18 05 43.5 +0.5**
NEW Newport 82.84 42 *e*P **P 18 05 43.5 +0.5**
CMB Columbia Colle 82.95 53 *e*P **P 18 05 44.4 +0.7**
CMB Columbia Colle 82.95 53 *e*P **P 18 05 44.4 +0.7**
WVOR Wild Horse Val 83.22 48 *e*P **P 18 05 46.1 +0.9**
WVOR Wild Horse Val 83.22 48 *e*P **P 18 05 46.1 +0.9**
BIDO Bidbid 83.23 292 P **P 18 05 45.8 +0.4**
SNR=12
BIDO Bidbid 83.23 292 P **P 18 05 45.8 +0.4**
SNR=12
PAHR Pah Rah Range 83.32 51 *e*P **P 18 05 46.6 +0.9**
BMO Blue Mountains 83.56 45 *e*P **P 18 05 47.3 +0.4**
BMO Blue Mountains 83.56 45 *e*P **P 18 05 47.3 +0.4**
WAKR Walker 83.56 52 *e*P **P 18 05 47.1 0.0**
PAGB Antelope Grade 83.59 55 *e*P **P 18 05 48.6 +1.5**
YERR Yerington 83.60 52 *e*P **P 18 05 48.5 +1.2**
PKM Mcpherson Peak 84.14 56 P **P 18 05 50.5 +0.4**
baz=284
BSMT Bassoo Peak 84.46 42 P **P 18 05 52.2 +0.7**
BLMT Blacktail Moun 84.69 42 *e*P **P 18 05 53.7 +1.0**
HATD Hatta, Dubai 84.70 294 P **P 18 05 52.9 0.0**
SNR=5.9
HATD Hatta, Dubai 84.70 294 P **P 18 05 52.9 0.0**
SNR=5.9
TMCR Tamitsa 84.75 335 *e*P **P 18 05 51.1 -1.2**
TMCR pmax pmax
comp=Z,36nm,1.1s
ASHO Ashiyiah 84.80 294 P **P 18 05 52.0 -1.4**
SNR=7.1
JTMT Jette 84.82 42 *e*P **P 18 05 54.0 +0.8**
YBMT Yellow Bay 84.96 42 *e*P **P 18 05 54.6 +0.7**
MFID Camas Ranch 84.97 47 *e*P **P 18 05 54.7 +0.7**
APA Apatity 85.01 339⇓ *i*P **P 18 05 52.3 -1.3**
APA MLR MLR
comp=Z,800nm,27.0s
SWMT Swartz Lake 85.07 42 *e*P **P 18 05 54.8 +0.4**
RKT Rikitea 85.08 115 *e*LR LR 18 32 23.7
comp=Z,386nm,26.5s
CWC Cottonwood Cre 85.12 54 P **P 18 05 54.7 -0.3**
baz=285
MSO Missoula 85.30 43 P **P 18 05 55.1 -0.5**
baz=287
KLMR Klimovskoe 85.41 332 *e*P **P 18 05 53.4 -2.3**
KLMR *es*S S 18 16 15.1 -9.3
KLMR pmax pmax
comp=Z,46nm,1.3s
SLMT Seeley Lake 85.47 42 *e*P **P 18 05 56.7 +0.1**
GRAC Grapevine Rang 85.53 53 P **P 18 05 56.4 -0.5**
baz=285
EDW2 Edwards Air Fo 85.59 55 P **P 18 05 57.4 +0.2**
baz=285
LRMC Laurel Mtn Rad 85.68 55 P **P 18 05 58.0 +0.2**
baz=285
CHMT Chamberlain Mo 85.73 43 *e*P **P 18 05 57.9 0.0**
HLID Hailey 85.91 46 P **P 18 05 59.0 +0.2**
baz=287
HLID Hailey 85.91 46 *e*P **P 18 05 59.4 +0.5**
TPNV Topopah Spring 86.41 53 P **P 18 06 00.1 -1.3**
baz=286
TPNV Topopah Spring 86.41 53 *e*P **P 18 05 59.7 -1.7**
TPNV Topopah Spring 86.41 53 *e*P **P 18 05 59.6 -1.7**
GSC Goldstone, Bar 86.42 55 P **P 18 06 02.1 +0.7**
baz=286
GSC Goldstone, Bar 86.42 55 *e*P **P 18 06 01.4 0.0**
GSC Goldstone, Bar 86.42 55 *e*P **P 18 06 01.4 0.0**
ARCES ARCESS Array B 86.49 343 P **P 18 06 00.4 -0.5**
comp=Z,4.8nm,0.6s,baz=81,slow=6.6,SNR=21
ARCES LR LR 18 49 48.0
comp=Z,64nm,18.4s,baz=64,slow=39
R11A Troy Canyon, C 86.53 51 P **P 18 06 02.1 +0.1**
baz=286
R11A Troy Canyon, C 86.53 51 *e*P **P 18 06 02.5 +0.5**
LRM Limekiln Ridge 86.58 44 *e*P **P 18 06 02.5 +0.3**
MCMT McKenzie Canyo 86.62 45 *e*P **P 18 06 03.2 +0.8**
DLMT Dillon 86.63 44 *e*P **P 18 06 02.9 +0.6**
HRY Holter Researc 86.72 43 *e*P **P 18 06 03.3 +0.7**
HEC Hector,Ludlow 86.92 55 P **P 18 06 03.8 0.0**
baz=286
TUQ Turquoise Moun 87.07 54 P **P 18 06 04.9 +0.3**
baz=286
PFO Pinyon Flats O 87.15 56 P **P 18 06 05.0 -0.1**
baz=286
TPFO Pinon Flats 87.16 56 P **P 18 06 05.1 0.0**
baz=286
BOZ Bozeman (W) 87.20 44 P **P 18 06 05.4 +0.4**
baz=288
BOZ Bozeman (W) 87.20 44 *e*P **P 18 06 05.5 +0.4**
BOZ Bozeman (W) 87.20 44 *e*P **P 18 06 05.5 +0.4**
SHPR Sheep Range 87.37 53 *e*P **P 18 06 07.5 +1.4**
MONP2 Monument Peak 87.38 57 P **P 18 06 06.2 -0.1**
baz=286
BELC Belle Mtn. Jos 87.41 56 P **P 18 06 06.1 -0.2**
baz=286
GMRC Granite Mounta 87.46 55 P **P 18 06 06.7 +0.1**
baz=286
QLMT Earthquake Lak 87.58 44 *e*P **P 18 06 08.2 +1.2**
HVU Hansel Valley 87.59 47 *e*P **P 18 06 07.9 +0.8**
HVU Hansel Valley 87.59 47 *e*P **P 18 06 07.9 +0.8**
EGMT Eagleton 87.63 41 P **P 18 06 07.1 +0.1**
baz=290
EGMT Eagleton 87.63 41 *e*P **P 18 06 08.2 +1.3**
BGU Big Grassy Mou 87.67 48 *e*P **P 18 06 08.3 +0.8**
IKP In-Ko-Pah, Jac 87.70 57 P **P 18 06 07.8 +0.2**
baz=286
YHB Horse Butte 87.76 44 *e*P **P 18 06 09.6 +1.7**
BC3 Big Chuckawall 87.94 56 P **P 18 06 09.0 +0.1**
baz=286
YMR Madison River 87.94 44 *e*P **P 18 06 10.4 +1.6**
YHH Holmes Hill 87.98 44 *e*P **P 18 06 10.0 +0.9**
IRM Iron Mountain 88.05 55 P **P 18 06 09.6 +0.4**
baz=287
DUG Dugway, Tooele 88.05 49 P **P 18 06 10.0 +0.7**
baz=288
DUG Dugway, Tooele 88.05 49 *e*P **P 18 06 10.3 +1.0**
DUG Dugway, Tooele 88.05 49 *e*P **P 18 06 10.3 +1.0**
YFT Old Faithful 88.10 44 *e*P **P 18 06 12.5 +3.0**
YNR Norris Junctio 88.12 44 *e*P **P 18 06 12.2 +2.5**
IMW Indian Meadow 88.21 45 *e*P **P 18 06 10.6 +0.5**
FXWY Fox Creek 88.23 45 *e*P **P 18 06 11.0 +0.8**
H17A Grant Village 88.30 44 P **P 18 06 11.6 +1.1**
baz=289
TPAW Teton Pass 88.33 45 *e*P **P 18 06 12.0 +1.3**
MOOW Moose Ponds 88.39 45 *e*P **P 18 06 11.6 +0.7**
CCUT Cedar City 88.44 52 *e*P **P 18 06 12.6 +1.4**
REDW Red Top Meadow 88.44 46 *e*P **P 18 06 12.3 +1.1**
HWUT Hardware Ranch 88.51 47 *e*P **P 18 06 11.9 +0.5**
LOHW Long Hollow 88.53 45 *e*P **P 18 06 12.5 +1.0**
SZCU Shurtz Canyon 88.63 52 *e*P **P 18 06 13.4 +1.3**
NLU North Lily Min 88.66 49 *e*P **P 18 06 13.2 +0.9**
LCMT Little Creek M 88.69 52 *e*P **P 18 06 13.6 +1.3**
PDMCI Parker Dam,Lak 88.80 55 P **P 18 06 13.0 +0.3**
baz=287
JLU Jordanelle 88.91 48 *e*P **P 18 06 14.4 +1.0**
RLMT Red Lodge 88.93 43 P **P 18 06 13.9 +0.5**
baz=290
RLMT Red Lodge 88.93 43 *e*P **P 18 06 15.0 +1.6**
KNB Kanab 89.01 52 *e*P **P 18 06 15.2 +1.3**
KNB Kanab 89.01 52 *e*P **P 18 06 15.2 +1.3**
MSU Marysvale 89.04 50 *e*P **P 18 06 15.1 +1.0**
MSU Marysvale 89.04 50 *e*P **P 18 06 15.1 +1.0**
OBN Obninsk 89.16 327 *i* P **P 18 06 12.2 -1.7**
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,109nm,17.0s
GOF Gofitskoye 89.19 317⇑ *e*P P 18 06 07.3 -7.0
NCK Nalchik 89.35 315⇓ *e*P **P 18 06 14.2 -0.9**
NCK pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 89.38 314 *e*P **P 18 06 13.3 -2.2**
ZEI pmax pmax
comp=Z,14nm,1.6s
TMUT Trail Mountain 89.50 49 *e*P **P 18 06 17.4 +1.1**
PDAR Pinedale Array 89.54 46 P **P 18 06 14.7 -1.6**
comp=Z,0.5nm,0.3s,baz=165,slow=6.2,SNR=7.9
PDAR LR LR 18 44 30.2
comp=Z,47nm,19.2s,baz=301,slow=34
GNI Garni 89.66 312*d i*P **P 18 06 16.6 -0.2**
GNI pmax pmax
comp=Z,64nm,1.5s
KBZ Khabaz 89.74 315 P **P 18 06 16.1 -0.8**
comp=Z,5.5nm,1.0s,baz=48,slow=4.1,SNR=4.7
KBZ LR LR 18 49 59.1
comp=Z,58nm,19.0s,baz=54,slow=38
P17A Butcher Ranch, 89.79 49 *e*P **P 18 06 19.1 +1.6**
KIV Kislovodsk 89.81 316 *e*P **P 18 06 15.6 -1.8**
KIV pmax pmax
comp=Z,11nm,1.0s
SRU San Rafael Swe 90.07 49 *e*P **P 18 06 19.5 +0.7**
SRU San Rafael Swe 90.07 49 *e*P **P 18 06 19.5 +0.7**
214A Organ Pipe Nat 90.57 57 P **P 18 06 21.6 +0.5**
baz=288
WUAZ Wupatki 90.59 53 P **P 18 06 22.4 +1.1**
baz=289
WUAZ Wupatki 90.59 53 *e*P **P 18 06 22.6 +1.3**
FINES FINESS Array B 90.87 336 P **P 18 06 20.2 -1.5**
comp=Z,4.1nm,0.5s,baz=58,slow=4.5,SNR=38
FINES LR LR 18 47 26.9
comp=Z,74nm,21.6s,baz=59,slow=36
O20A White River Ci 91.38 48 P **P 18 06 25.1 +0.2**
baz=291
PV04 Paradox Valley 91.50 50 *e*P **P 18 06 25.8 +0.3**
TUC Tucson 92.09 56 P **P 18 06 28.5 +0.3**
baz=289
TUC Tucson 92.09 56 *e*P **P 18 06 29.3 +1.1**
TUC Tucson 92.09 56 *e*P **P 18 06 29.3 +1.1**
VNDA Vanda 92.64 177 P **P 18 06 28.7 -0.8**
comp=Z,2.9nm,1.1s,baz=314,slow=4.6,SNR=8.4
VNDA LR LR 18 45 49.3
comp=Z,51nm,18.9s,baz=311,slow=34
VNDA Vanda 92.64 177 *e*P **P 18 06 29.8 +0.3**
VNDA Vanda 92.64 177 *e*P **P 18 06 29.8 +0.3**
N23A Red Feather La 92.73 47 P **P 18 06 31.6 +0.3**
baz=292
RSSD Black Hills 92.77 43 P **P 18 06 30.9 -0.4**
baz=294
RSSD Black Hills 92.77 43 *e*P **P 18 06 31.2 -0.1**
RSSD Black Hills 92.77 43 *e*P **P 18 06 31.2 -0.1**
SBA Scott Base 93.26 176 *e*P **P 18 06 33.2 +0.8**
SBA Scott Base 93.26 176 *e*P **P 18 06 33.2 +0.8**
S22A 4UR Ranch, Cre 93.26 50 P **P 18 06 34.1 +0.3**
baz=292
ISCO Idaho Springs 93.38 47 P **P 18 06 34.5 +0.3**
baz=292
SDCO Great Sand Dun 94.24 49 P **P 18 06 38.0 -0.2**
baz=292
SDCO Great Sand Dun 94.24 49 *e*P **P 18 06 38.8 +0.5**
RAYN Ar Rayn 94.38 296 *e*P **P 18 06 38.6 -0.3**
121A Cookes Peak, D 94.40 55 P **P 18 06 39.1 +0.1**
baz=291
ANMO Albuquerque 94.57 52 P **P 18 06 40.2 +0.5**
baz=292
ANMO Albuquerque 94.57 52⇓ *e*P **P 18 06 40.5 +0.8**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ULM Lac du Bonnet 94.96 35 P **P 18 06 40.3 -0.6**
comp=Z,5.8nm,0.9s,baz=294,slow=5.2,SNR=3.3
ULM LR LR 18 51 57.5
comp=Z,46nm,19.0s,baz=304,slow=37
ULM Lac du Bonnet 94.96 35 P **P 18 06 40.3 -0.6**
ULM pmax pmax
comp=Z,1.0nm,0.3s
ULM MLR MLR
comp=Z,46nm,19.0s
AKASG Malin Array Be 95.16 326 P **P 18 06 40.2 -1.5**
comp=Z,0.5nm,0.5s,baz=52,slow=6.1,SNR=3.7
AKASG LR LR 18 52 11.1
comp=Z,78nm,19.5s,baz=30,slow=37
NB2 NORSAR Subarra 96.57 340 P **P 18 06 46.7 -1.4**
comp=Z,1.1nm,0.6s,baz=42,slow=5.1
NOA NORSAR Array B 96.57 340 P **P 18 06 46.6 -1.5**
comp=Z,0.7nm,0.5s,baz=44,slow=4.9,SNR=4.1
MNTX Cornudas Mount 96.60 55 P **P 18 06 48.6 -0.2**
baz=292
MNTX Cornudas Mount 96.60 55 *e*P **P 18 06 49.6 +0.7**
BRTR Keskin Array B 97.69 314 P **P 18 06 52.1 -1.6**
comp=Z,1.6nm,0.8s,baz=126,slow=1.7,SNR=7.4
BRTR LR LR 18 53 54.4
comp=Z,22nm,22.0s,baz=56,slow=37

TXAR	**Lajitas Array**	**98.86**	**57**	LR	LR	18 43 37.4
	comp=Z,68nm,21.8s,baz=0.0,slow=31					
KHC	**Kasperske Hory**	**104.14**	**331**	*e*PP	PP	18 11 39.8 +0.3
SNAA	**Sanae**	**120.46**	**191**	PKP	**PKPdf**	**18 12 08.1 -1.2**
LSZ	**Lusaka**	**121.16**	**261**	*e*PKIKP	**PKPdf**	**18 12 12.6 +0.3**
LSZ	**Lusaka**	**121.16**	**261**	*e*P	**PKPdf**	**18 12 12.6 +0.3**
VNA2	**Neumayer--Watz**	**121.88**	**190**	PKP	**PKPdf**	**18 12 11.9 0.0**
	baz=242,slow=2.0					
VNA3	**Neumayer Olymp**	**121.94**	**189**	PKP	**PKPdf**	**18 12 12.0 -0.1**
VNA1	**Neumayer--Stat**	**122.26**	**189**	PKP	**PKPdf**	**18 12 12.9 +0.3**
TORD	**Torodi Ar. Bea**	**135.82**	**307**	PKP	**PKPdf**	**18 12 40.1 0.0**
	comp=Z,1.1nm,0.7s,baz=83,slow=1.4,SNR=8.4					
DBIC	**Dimbokro**	**144.87**	**306**	PKP	**PKPab**	**18 12 55.3 -0.2**
	comp=Z,14nm,0.5s,baz=27,slow=4.0,SNR=38					
KIC	**Kosan Boka**	**144.96**	**305**	*e*PKP1	**PKPab**	**18 12 55.8 -0.1**
	comp=Z,143nm,1.2s					
TIC	**Toumodi**	**145.01**	**306**	*e*PKP1	**PKPbc**	**18 12 55.8 -0.2**
LVC	**Limon Verde**	**145.15**	**108**	*e*P	**PKPdf**	**18 12 57.6 +0.4**
LIC	**Lamto**	**145.27**	**305**	*e*PKP1	**PKPbc**	**18 12 56.6 -0.3**
	comp=Z,258nm,1.1s					
TRQA	**Tornquist**	**145.50**	**137**	*e*P	**PKPdf**	**18 12 56.4 -0.4**
LPAZ	**La Paz**	**146.10**	**97**	PKPbc	**PKPdf**	**18 12 59.4 +0.2**
	comp=Z,4.6nm,0.5s,baz=325,slow=4.0,SNR=20					
SAML	**Samuel**	**149.84**	**82**	*e*P	**PKPdf**	**18 13 04.7 0.0**
CPUP	**Villa Florida**	**154.54**	**120**	PKPab	**PKPab**	**18 13 34.9 +0.5**
	comp=Z,4.1nm,0.7s,baz=240,slow=4.5,SNR=6.6					

INMG ***13*** *17:54:34.4±0.7, 32°.53N×7°.76W, h0km, ML2.2, Error ellipse: s-maj=8.2km s-min=5.1km az=72.0*
CSEM ***13*** *17:54:36.4±0.4, 32°.65N×7°.64W, h10km, ML2.2, Error ellipse: s-maj=9.1km s-min=6.6km az=115.0*
MDD 13 17:54:32.7±3.3, 32°.37N×7°.72W, h0km, mb3.6/6, mbLg2.5/1, Error ellipse: s-maj=45.1km s-min=29.0km az=107.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**4.84**	**349**	*e*Pn	Pn	17 55 45.6	-1.1
PFVI	**Vila Bisbo**	**4.84**	**349**	P	Pn	17 55 46.0	-0.7
	0.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.84**	**349**	*e*Pn	Pn	17 55 45.6	-1.1
PFVI	**Vila Bisbo**	**4.84**	**349**	P	Pn	17 55 46.0	-0.7
	0.6nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.86**	**358**	*e*Pn	Pn	17 55 46.3	-0.8
PBDV	**Barranco-do-Ve**	**4.86**	**358**	P	Pn	17 55 46.3	-0.8
PBDV	**Barranco-do-Ve**	**4.86**	**358**	P	Pn	17 55 46.3	-0.8
MORF	**Marmelete**	**4.98**	**351**	*e*Pn	Pn	17 55 47.5	-1.3
MORF	**Marmelete**	**4.98**	**351**	P	Pn	17 55 47.5	-1.3
MORF	**Marmelete**	**4.98**	**351**	P	Pn	17 55 47.5	-1.3
PVAQ	**Vaqueiros**	**5.02**	**360**	*e*Pn	Pn	17 55 47.8	-1.4
PVAQ				*e*Sn	Sn	17 56 43.0	-5.0
PVAQ	**Vaqueiros**	**5.02**	**360**	P	Pn	17 55 47.8	-1.4
PVAQ				S	Sn	17 56 43.0	-5.0
PVAQ	**Vaqueiros**	**5.02**	**360**	P	Pn	17 55 47.8	-1.4
PVAQ				S	Sn	17 56 43.0	-5.0
EGRO	**El Granado**	**5.15**	**2**	P	Pn	17 55 49.3	-1.8
	0.2nm,0.1s,SNR=4.6						
EGRO				S	Sn	17 56 47.3	-4.0
	1.6nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.15**	**2**	P	Pn	17 55 49.3	-1.8
	0.2nm,0.1s,SNR=4.6						
EGRO				S	Sn	17 56 47.3	-4.0
	1.6nm,0.3s,SNR=7.9						
PCVE	**Castro Verde**	**5.25**	**357**	*e*Pn	Pn	17 55 51.5	-1.0
PCVE				*e*Sn	Sn	17 56 48.0	-5.8
PCVE	**Castro Verde**	**5.25**	**357**	P	Pn	17 55 51.5	-1.0
PCVE				S	Sn	17 56 48.0	-5.8
PCVE	**Castro Verde**	**5.25**	**357**	P	Pn	17 55 51.5	-1.0
PCVE				S	Sn	17 56 48.0	-5.8
EMIN	**Mina Concepcio**	**5.45**	**9**	P	Pn	17 55 53.5	-1.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 56 53.8	-4.8
	1.6nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.45**	**9**	P	Pn	17 55 53.5	-1.7
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 56 53.8	-4.8
	1.6nm,0.4s,SNR=7.9						
PBAR	**Barrancos**	**5.82**	**5**	*e*Pn	Pn	17 55 59.2	-1.0
PBAR				*e*Sn	Sn	17 57 02.7	-4.9
PBAR				A	A	17 57 05.6	
	1.7nm,0.3s						
PBAR	**Barrancos**	**5.82**	**5**	P	Pn	17 55 59.2	-1.0
PBAR				S	Sn	17 57 02.7	-4.9
	1.7nm,0.3s						
PBAR	**Barrancos**	**5.82**	**5**	P	Pn	17 55 59.2	-1.0
PBAR				S	Sn	17 57 02.7	-4.9
	1.7nm,0.3s						
ECAB	**El Cabril**	**5.99**	**18**	P	Pn	17 56 01.2	-1.5
	0.5nm,0.2s,SNR=7.9						
ECAB				S	Sn	17 57 06.8	-5.2
	3.1nm,0.7s,SNR=7.9						
ECAB	**El Cabril**	**5.99**	**18**	P	Pn	17 56 01.2	-1.4
	0.5nm,0.2s,SNR=7.9						
ECAB				S	Sn	17 57 06.8	-5.2
	3.1nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**6.33**	**23**	P	Pn	17 56 06.3	-0.9
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	17 57 14.9	-5.3
	4.4nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**6.33**	**23**	P	Pn	17 56 06.3	-0.9
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	17 57 14.9	-5.3
	4.4nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**6.39**	**5**	P	Pn	17 56 06.4	-1.8
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.39**	**5**	P	Pn	17 56 06.4	-1.7
	0.4nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**6.70**	**357**	*e*Pn	Pn	17 56 10.9	-1.4
PMTG	**Montargil**	**6.70**	**357**	*e*Pn	Pn	17 56 10.9	-1.4
PMRV	**Marv??o**	**7.05**	**2**	*e*Pn	Pn	17 56 16.1	-1.0
PMRV	**Marv??o**	**7.05**	**2**	P	Pn	17 56 16.1	-1.0
PMRV	**Marv??o**	**7.05**	**2**	P	Pn	17 56 16.1	-1.0

ISCJB ***13*** *18:08:59.6±1.0, 37°.65N±0°.03×142°.76E±0°.03, h6km±6km, mb4.7/79, MS4.2/14, Error ellipse: s-maj=5.5km s-min=3.9km az=141.5*
BJI ***13*** *18:08:59.2, 37°.62N×142°.85E, h16km, mb4.8/68, mB4.8/44, Ms4.4/51, Ms7 4.2/49*
IDC ***13*** *18:09:00.3±0.6, 37°.63N×142°.74E, h0km, mb4.5/24, mb1 4.6/29, mb1mx4.6/36, mbtmp4.5/29, ML4.1/5, MS3.6/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=15.2km s-min=12.0km az=115.0*
NIED ***13*** *18:09:00, 37°.60N×142°.80E, h8km, Mw4.5 Best double couple: M≈5.79000×10^15 NP1:φ=285.00000°, δ17.00000°, λ140.00000°. NP2:φ=54.00000°, δ79.00000°, λ77.00000°.*
JMA ***13*** *18:09:02.0±0.2, 37°.66N×142°.70E, h31km±4km, M4.6*
JMA Felt I J1.
NEIC ***13*** *18:09:04.3±1.7, 37°.64N×142°.76E, h26km±12km, mb4.9/29, Error ellipse: s-maj=7.3km s-min=5.0km az=114.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
MOS ***13*** *18:09:05.6±0.9, 37°.92N×142°.55E, h33km, mb5.1/33, Error ellipse: s-maj=9.3km s-min=5.7km az=119.2*
ISC 13 18:09:02.7±0.9, 37°.67N±0°.05×142°.81E±0°.05, h16km±5km, n224, σ1§66/255, mb4.8/83, MS4.4/14, 22C-18D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.39**	**304**	P	**Pn**	**18 09 25.0**	**-2.4**
JIO				*e*S	**Sn**	**18 09 41.9**	**-3.6**
JFK	**Kawauchi**	**1.57**	**259**	P	**Pn**	**18 09 27.1**	**-2.8**
JFK				*e*S	**Sn**	**18 09 45.4**	**-4.5**
JMM	**Marumori**	**1.61**	**277**	P	**Pn**	**18 09 27.7**	**-2.7**
JMM				*e*S	**Sn**	**18 09 46.7**	**-4.1**
JMK	**Ichinoseki**	**1.79**	**316**	P	**Pn**	**18 09 31.2**	**-1.7**
JOU	**Okura**	**1.83**	**293**	P	**Pn**	**18 09 31.6**	**-1.9**
JFT	**Otama**	**1.97**	**266**	P	**Pn**	**18 09 33.4**	**-2.0**
JOM	**Ohasama**	**2.15**	**327**	P	**Pn**	**18 09 36.8**	**-1.1**
JYS	**Shirataka**	**2.24**	**285**	P	**Pn**	**18 09 37.4**	**-1.7**
JYK	**Kaneyama**	**2.29**	**304**	P	**Pn**	**18 09 38.4**	**-1.4**
JNS	**Sasagawa**	**2.77**	**274**	P	**Pn**	**18 09 45.1**	**-1.3**
JANG	**Nango**	**2.88**	**340**	P	**Pn**	**18 09 46.4**	**-1.5**
JAW	**Awa shima**	**2.92**	**287**	P	**Pn**	**18 09 47.3**	**-1.1**
JAG	**Ashikaga**	**2.96**	**246**	P	**Pn**	**18 09 47.4**	**-1.6**
BSO1	**Boso 1**	**3.36**	**207**	P	**Pn**	**18 09 53.2**	**-0.8**
JRY	**Ryogami san**	**3.54**	**243**	P	**Pn**	**18 09 55.5**	**-1.6**
JRY				*e*S	**Sn**	**18 10 36.0**	**-2.6**
MJAR	**Matsushiro Arr**	**3.85**	**254**	Pn	**Pn**	**18 10 01.5**	**+0.3**
	29nm,0.3s,baz=76,slow=14,SNR=152						
MJAR				Sn	**Sn**	**18 10 46.9**	**+0.8**
	23nm,0.3s,baz=78,slow=17,SNR=5.5						
MAJO	**Matsushiro**	**3.85**	**254**	*c*eP	**Pn**	**18 10 01.1**	**-0.1**
MAJO	**Matsushiro**	**3.85**	**254**	*e*Pn	**Pn**	**18 10 01.7**	**+0.4**
MAT	**Matsushiro**	**3.85**	**254**	P	**Pn**	**18 10 01.5**	**+0.3**
MAT				S	**Sn**	**18 10 47.5**	**+1.4**
MJB9	**Matsu-Tunnel**	**3.85**	**254**	*e*Pn	**Pn**	**18 10 01.8**	**+0.5**
JHJ2	**Mitsune**	**5.17**	**209**	*e*Pn	**Pn**	**18 10 17.3**	**-2.0**
JHJ	**Hachijo jima 2**	**5.17**	**209**	Pn	**Pn**	**18 10 17.2**	**-2.2**
	52nm,0.3s,baz=101,slow=22,SNR=42						
JHJ				Sn	**Sn**	**18 11 14.1**	**-4.7**
	269nm,0.3s,baz=54,slow=21,SNR=11						
INU	**Inuyama**	**5.21**	**245**	*e*Pn	**Pn**	**18 10 20.8**	**+0.9**
ASAJ	**Asahikawa**	**6.44**	**359**	Pn	**Pn**	**18 10 36.7**	**-0.1**
	4.5nm,0.3s,baz=207,slow=14,SNR=35						
ASAJ				Sn	**Sn**	**18 11 50.9**	**+1.0**
	3.1nm,0.3s,baz=307,slow=30,SNR=3.8						
YUK	**Yuzh-Kuril'sk**	**6.76**	**19**	*c i*P	**Pn**	**18 10 38.5**	**-2.7**
YUK				*i* S	**Sn**	**18 11 52.7**	**-5.1**
YUK				pmax	pmax		
	comp=Z,137nm,0.5s						
YUK				pmax	pmax		
	comp=N,83nm,0.3s						
YUK				pmax	pmax		
	comp=E,53nm,0.5s						
SHO	**Shikotan**	**6.90**	**25**	P	**Pn**	**18 10 39.6**	**-3.5**
SHO				*i* S	**Sn**	**18 11 54.3**	**-6.9**
SHO				pmax	pmax		
	comp=Z,18nm,0.4s						
SHO				pmax	pmax		
	comp=E,40nm,0.5s						
SHO				pmax	pmax		
	comp=N,13nm,0.4s						
KUR	**Kuril'sk**	**8.45**	**25**	P	**Pn**	**18 11 03.5**	**-0.9**
KUR				*e*S	**Sn**	**18 12 34.9**	**-4.5**
KUR				smax	smax		
	comp=E,56nm,0.5s						
KUR				smax	smax		
	comp=N,20nm,0.3s						
KUR				MLR	MLR		
	comp=Z,709nm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.28**	**360**	*e*P	**Pn**	**18 11 16.1**	**+0.5**
YSS				*e*S	**Sn**	**18 12 52.7**	**-6.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				MLR	MLR		
	comp=Z,700nm,13.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.28**	**360**	*e*Pn	**Pn**	**18 11 16.0**	**+0.3**
MSHR	**Mys Shultsa**	**10.18**	**302**	*de*P	**Pn**	**18 11 28.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.46**	**312**	Pn	**Pn**	**18 11 32.7**	**+0.8**
	comp=E,3.7nm,0.3s,baz=118,slow=17,SNR=24						
USRK				LR	LR	18 15 17.1	
	comp=E,685nm,18.3s,baz=140,slow=36						
JNU	**Nakatsue**	**10.74**	**249**	Pn	**Pn**	**18 11 36.5**	**+0.6**
	comp=E,0.8nm,0.3s,baz=69,slow=4.6,SNR=8.7						
KSRS	**Korea Array**	**11.82**	**273**	Pn	**Pn**	**18 11 52.4**	**+1.9**
	comp=E,0.4nm,0.3s,baz=89,slow=13,SNR=28						
KS15	**Wonju Array Si**	**11.85**	**273**	*e*Pn	**Pn**	**18 11 53.5**	**+2.5**
KSAR	**Wonju Array Be**	**11.85**	**273**	P	**Pn**	**18 11 52.4**	**+1.4**
KSAR	**Wonju Array Be**	**11.85**	**273**	Pn	**Pn**	**18 11 52.4**	**+1.4**
MDJ	**Mudanjiang**	**12.13**	**309**	P	**Pn**	**18 11 58.5**	**+3.7**
MDJ				pmax	pmax		
	comp=E,23nm,1.2s						
MDJ				pmax	pmax		
	comp=E,98nm,6.3s						
MDJ	**Mudanjiang**	**12.13**	**309**	*e*Pn	**Pn**	**18 11 56.5**	**+1.7**
HABR	**Khabarovsk**	**12.19**	**335**	*de*P	**Pn**	**18 11 54.0**	**-1.5**
HABR				*e*S	**Sn**	**18 14 09.5**	**-1.4**
HABR				pmax	pmax		
	comp=N,21nm,1.5s						
HABR				pmax	pmax		
	comp=E,13nm,1.5s						
HABR				pmax	pmax		
	comp=Z,17nm,1.5s						
HABR				MLR	MLR		
	comp=Z,419nm,13.0s						
CN2	**Changchun**	**14.51**	**300**	*e*P	**Pn**	**18 12 29.8**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
DL2	**Dalian**	**16.68**	**281**	P	**Pn**	**18 12 55.6**	**0.0**
DL2				pmax	pmax		
	comp=Z,97nm,0.9s						
HIA	**Hailar**	**20.27**	**312**	*e*P	**P**	**18 13 34.8**	**-2.6**
HIA				pmax	pmax		
	comp=Z,26nm,0.7s						
HIA	**Hailar**	**20.27**	**312**	*e*P	**P**	**18 13 34.8**	**-2.6**
	comp=Z,26nm,0.7s						
NJ2	**Nanjing**	**20.42**	**261**	*e*P	**P**	**18 13 40.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIA	**Tai'an**	**20.57**	**274**	*e*P	**P**	**18 13 38.6**	**-2.1**
TIA				pmax	pmax		
	comp=Z,40nm,1.0s						
BJI	**Beijing**	**20.85**	**285**	P	**P**	**18 13 41.6**	**-2.1**
BJI				pmax	pmax		
	comp=Z,21nm,0.7s						
BJT	**Baijiatuau**	**20.86**	**285**	*e*P	**P**	**18 13 41.4**	**-2.4**
BJT				pmax	pmax		
	comp=Z,38nm,0.5s						
BJT	**Baijiatuau**	**20.86**	**285**	*e*P	**P**	**18 13 41.4**	**-2.4**
	comp=Z,38nm,0.5s						
MA2	**Magadan**	**22.51**	**11**	P	**P**	**18 13 59.4**	**-1.9**
	comp=Z,16nm,0.6s,baz=192,slow=9.4,SNR=13						
MA2	**Magadan**	**22.51**	**11**	⇓*e*P	**P**	**18 14 02.5**	**+1.2**
GUMO	**Guam**	**24.06**	**175**	LR	LR	18 21 34.8	
	comp=Z,65nm,20.4s,baz=6.5,slow=31						
HHC	**Hu-ho-hao-te**	**24.34**	**287**	*e*P	**P**	**18 14 19.9**	**+0.1**
HHC				S	**S**	**18 18 34.8**	**-3.6**
HHC				SS	**SnSn**	**18 19 27.3**	**+5.8**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,63nm,5.3s						
HHC				LR	LR		
	comp=Z,1μm,10.3s						
HHC				LR	LR		
	comp=Z,1μm,11.8s						
HHC				LR	LR		
	comp=Z,1μm,12.4s						
WHN	**Wuhan**	**24.55**	**262**	⇓P	**P**	**18 14 20.9**	**-0.8**
WHN				S	S	18 18 31.3	-11
WHN				pmax	pmax		
	comp=Z,62nm,0.9s						
WHN				LR	LR		
	comp=Z,710nm,16.9s						
WHN				LR	LR		
	comp=Z,670nm,12.7s						
WHN				LR	LR		
	comp=Z,700nm,15.7s						
CIT	**Chita**	**25.01**	**314**	*e*P	**P**	**18 14 24.8**	**-0.9**
CIT				*e*		18 14 31.4	
CIT				*e*		18 14 40.8	
CIT				*e*		18 15 07.0	
CIT				pmax	pmax		
	comp=Z,317nm,1.1s						
YAK	**Yakutsk**	**25.71**	**346**	P	**P**	**18 14 31.5**	**-0.3**
	comp=Z,11nm,0.7s,baz=304,slow=3.1,SNR=11						
YAK	**Yakutsk**	**25.71**	**346**	*e*P	**P**	**18 14 31.0**	**-0.8**
YAK				pmax	pmax		
	comp=Z,82nm,0.9s						
YAK				pmax	pmax		
	comp=N,33nm,1.5s						
YAK				pmax	pmax		
	comp=N,91nm,1.1s						
SEY	**Seymchan**	**25.96**	**10**	P	**P**	**18 14 34.9**	**+0.8**
	comp=N,9.5nm,0.5s,baz=193,slow=9.6,SNR=70						
SEY	**Seymchan**	**25.96**	**10**	⇓*e*P	**P**	**18 14 35.5**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**27.55**	**124**	T	T	18 43 51.7	
	baz=316,slow=75,SNR=491						
H11N1	**WAKE ISLAND Hy**	**27.56**	**124**	T	T	18 43 41.9	
	baz=316,slow=75,SNR=338						
H11N3	**WAKE ISLAND Hy**	**27.57**	**124**	T	T	18 43 47.2	
	baz=316,slow=75,SNR=279						
BOD	**Bodaibo**	**27.60**	**326**	*e*P	**P**	**18 14 48.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,53nm,0.9s						
XAN	**Xi'an**	**27.62**	**273**	P	**P**	**18 14 47.9**	**-1.5**
XAN				pmax	pmax		
	comp=Z,14nm,0.5s						
XAN				pmax	pmax		
	comp=Z,150nm,9.5s						
XAN				LR	LR		
	comp=Z,140nm,11.5s						
XAN				LR	LR		
	comp=Z,190nm,14.1s						
XAN				LR	LR		
	comp=Z,310nm,12.1s						
ULN	**Ulaanbaatar**	**27.93**	**303**	*c i*P	**P**	**18 14 52.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**27.93**	**303**	*e*P	**P**	**18 14 52.3**	**0.0**
	comp=Z,13nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**28.30**	**126**	T	T	18 44 43.1	
	baz=317,slow=76,SNR=137						
H11S3	**WAKE ISLAND Hy**	**28.30**	**126**	T	T	18 44 46.8	
	baz=317,slow=76,SNR=251						
H11S2	**WAKE ISLAND Hy**	**28.32**	**126**	T	T	18 44 42.7	
	baz=317,slow=76,SNR=170						
SONA1	**Songino Array**	**28.36**	**303**	*e*P	**P**	**18 14 56.0**	**0.0**
SONM	**Songino Array**	**28.36**	**303**	P	**P**	**18 14 56.2**	**+0.1**
	comp=Z,19nm,0.8s,baz=103,slow=9.2,SNR=40						
ENH	**Enshi**	**28.50**	**265**	*e*P	**P**	**18 14 56.5**	**-0.8**
	comp=Z,27nm,0.8s						
ZAK	**Zakamensk**	**30.76**	**307**	*e*P	**P**	**18 15 16.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,11nm,1.3s						
TLY	**Talaya**	**30.77**	**310**	*e*P	**P**	**18 15 17.7**	**+0.5**
TLY				pmax	pmax		
	comp=Z,12nm,0.9s						
TLY	**Talaya**	**30.77**	**310**	*e*P	**P**	**18 15 17.7**	**+0.5**
	comp=Z,9.9nm,0.9s						
MOY	**Mondy**	**32.39**	**309**	*e*P	**P**	**18 15 32.0**	**+0.5**
GYA	**Guiyang**	**32.42**	**260**	⇓*i*P	**P**	**18 15 31.3**	**-0.8**
GYA				PP	**PnPn**	**18 16 40.8**	**+1.7**
GYA				S	**S**	**18 20 45.3**	**-0.9**
GYA				ScP	**ScP**	**18 22 02.0**	**-0.4**
GYA				SS	**SnSn**	**18 22 40.4**	**+1.3**
GYA				ScS	**ScS**	**18 26 00.6**	**-1.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,680nm,17.0s						
GYA				LR	LR		
	comp=Z,620nm,17.6s						
GYA				LR	LR		
	comp=Z,540nm,17.4s						
CD2	**Chengdu**	**32.79**	**270**	*e*P	**P**	**18 15 34.5**	**-0.7**
CD2				S	**S**	**18 20 50.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,150nm,7.3s						
CD2				LR	LR		
	comp=Z,390nm,14.9s						
CD2				LR	LR		
	comp=Z,270nm,15.4s						
CD2				LR	LR		
	comp=Z,240nm,14.9s						
BILL	**Bilibino**	**33.10**	**16**	*e*P	**P**	**18 15 38.4**	**+0.9**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	**Gaotai**	**33.44**	**287**	*e*P	**P**	**18 15 40.8**	**-0.1**
GTA				pP	pP	18 15 45.4	-0.5
GTA				sP	sP	18 15 48.3	+0.4
GTA				S	**S**	**18 20 59.8**	**-2.0**
GTA				sS	sS	18 21 08.8	-1.1
GTA				SS	**SnSn**	**18 23 05.0**	**+1.4**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,100nm,5.5s						
GTA				LR	LR		
	comp=Z,240nm,18.8s						
GTA				LR	LR		
	comp=Z,220nm,16.6s						
GTA				LR	LR		
	comp=Z,240nm,16.6s						
KMI	**Kunming**	**36.16**	**262**	P	**P**	**18 16 05.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,75nm,4.5s						
KMI				LR	LR		
	comp=Z,220nm,16.8s						
KMI				LR	LR		
	comp=Z,230nm,13.6s						
KMI				LR	LR		
	comp=Z,360nm,16.2s						
SLVN	**Son La**	**37.27**	**255**	*e*P	**P**	**18 16 14.2**	**+0.3**
	comp=Z,5.3nm,1.2s						
WMQ	**Urumqi**	**41.55**	**296**	P	**P**	**18 16 50.8**	**+1.4**
WMQ				pP	sP	18 16 56.1	-0.3
WMQ				sP	pP	18 16 58.9	+4.5
WMQ				pmax	pmax		
	comp=Z,40nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.7s						
WMQ				LR	LR		
	comp=Z,140nm,21.3s						
WMQ				LR	LR		
	comp=Z,160nm,21.3s						
WMQ				LR	LR		
	comp=Z,190nm,21.3s						
ZAA0	**Zalesovo Array**	**42.31**	**312**	*e*P	**P**	**18 16 54.9**	**-0.5**
ZALV	**Zalesovo Beam**	**42.31**	**312**	P	**P**	**18 16 55.4**	**0.0**
	comp=Z,18nm,0.8s,baz=89,slow=7.0,SNR=73						
ZALV				PcP	**PcP**	**18 18 48.9**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=84,slow=2.8,SNR=4.3						
CHTO	**Chiang Mai**	**42.53**	**256**	*e*P	**P**	**18 16 57.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,1.8s						
CHTO	**Chiang Mai**	**42.53**	**256**	*e*P	**P**	**18 16 57.8**	**+0.2**
	comp=Z,14nm,1.8s						
CMAR	**Chiang Mai Arr**	**42.73**	**256**	P	**P**	**18 16 58.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=49,slow=6.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**42.73**	**256**	*i* P	**P**	**18 16 58.9**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**43.21**	**313**	⇓*i*P	**P**	**18 17 02.9**	**+0.2**
NVS				pmax	pmax		
	comp=Z,18nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
LSA	**Lhasa**	**43.26**	**275**	*e*P	**P**	**18 17 04.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s		

DOT Dot Lake 49.65 34 *eP* **P 18 17 53.6 +0.4**
comp=Z,38nm,1.7s
DANN Dangsing 49.67 277 *eP* **P 18 17 54.5 +0.3**
comp=Z,5.3nm,0.8s
KOLN Koldanda 50.06 277 *eP* **P 18 17 56.6 -0.4**
comp=Z,18nm,0.7s
SOEI Soe 50.27 204 *eP* **P 18 17 58.2 -0.3**
comp=Z,27nm,1.1s
PYUN Piuthan 50.39 278 *eP* **P 18 17 59.3 -0.2**
comp=Z,63nm,0.9s
BRVK Borovoye 51.02 312*c i*P **P 18 18 03.4 -0.3**
BRVK pmax pmax
comp=Z,24nm,0.9s
BRVK Borovoye 51.02 312 *eP* **P 18 18 03.5 -0.1**
comp=Z,12nm,1.0s
KSH Kashi 51.16 294 *eP* **P 18 18 09.3 +4.2**
KSH pP sP 18 18 15.3 +3.2
KSH sP pP 18 18 17.3 +7.1
KSH PcP **PcP 18 19 23.1 +2.6**
KSH PP **PP 18 20 07.3 +5.6**
KSH PcS **PcS 18 23 19.3 +1.1**
KSH S **S 18 25 26.1 +3.4**
KSH sS sS 18 25 36.4 +5.4
KSH ScS **ScS 18 27 55.1 -0.1**
KSH SS **SS 18 28 58.9 +1.2**
KSH pmax pmax
comp=Z,12nm,0.9s
KSH pmax pmax
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,160nm,12.9s
KSH LR LR
comp=Z,510nm,18.2s
KSH LR LR
comp=Z,330nm,15.1s
AAK Ala-Archa 51.17 298⇓*eP* **P 18 18 05.4 +0.2**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 51.17 298 *eP* **P 18 18 05.3 +0.2**
comp=Z,24nm,1.3s
HYT Haines Junctio 53.12 37 *eP* **P 18 18 22.8 +3.4**
comp=Z,9.4nm,1.2s
INK Inuvik 53.31 27 P **P 18 18 20.7 +0.3**
comp=Z,1.9nm,0.5s,baz=301,slow=6.7,SNR=11
KKAR Karatay Array 53.77 300 *eP* **P 18 18 24.2 0.0**
KKAR Karatay Array 53.77 300 *eP* **P 18 18 24.2 0.0**
SVE Sverdlovsk 55.41 319 *eP* **P 18 18 36.3 +0.5**
SVE pmax pmax
comp=Z,23nm,1.0s
SVE MLR MLR
comp=Z,328nm,16.0s
ARU Arti 56.62 319*c i*P **P 18 18 44.4 -0.1**
ARU 18 19 37.4
ARU 18 20 47.3
ARU S **S 18 26 36.7 +1.0**
ARU SS **SS 18 30 19.6 -3.1**
ARU pmax pmax
comp=Z,33nm,1.7s
ARU MLR MLR
comp=Z,289nm,17.0s
ARU Arti 56.62 319 *eP* **P 18 18 44.6 0.0**
comp=Z,13nm,0.7s
WRAB Tennant Creek 57.85 189*d i*P **P 18 18 52.5 -1.1**
WRAB pmax pmax
comp=Z,33nm,1.0s
WRAB Tennant Creek 57.85 189 *eP* **P 18 18 53.2 -0.4**
comp=Z,15nm,0.9s
WB2 Warramunga Arr 57.86 189 *eP* **P 18 18 52.1 -1.5**
WRA Warramunga Arr 57.86 189 P **P 18 18 52.9 -0.7**
comp=Z,12nm,0.8s,baz=7.3,slow=7.2,SNR=87
KBL Kabul 58.22 291 *eP* **P 18 18 56.3 -0.2**
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 58.22 291 *eP* **P 18 18 56.3 -0.2**
comp=Z,8.6nm,0.6s
ABKAR Akbulak array 58.38 310 *eP* **P 18 18 56.5 -0.6**
comp=Z,94nm,0.6s
HYB Hyderabad 59.33 269 *i* P **P 18 19 03.5 -0.7**
AS01 Alice Springs 61.58 189 *eP* **P 18 19 18.9 -0.4**
AS31 Alice Springs 61.58 189 *eP* **P 18 19 18.9 -0.4**
comp=Z,1.2nm,0.8s
ASAR Alice Springs 61.59 189 P **P 18 19 18.8 -0.5**
comp=Z,5.4nm,0.9s,baz=7.2,slow=6.7,SNR=52
YKA Yellowknife Ar 62.69 31 P **P 18 19 26.9 +0.6**
comp=Z,1.3nm,0.7s,baz=301,slow=5.0,SNR=2.7
TMCR Tamitsa 62.72 332 *eP* **P 18 19 25.9 -0.5**
TMCR pmax pmax
comp=Z,22nm,0.6s
ARCES ARCESS Array B 63.79 340 P **P 18 19 33.8 +0.4**
comp=Z,7.5nm,0.8s,baz=51,slow=7.9,SNR=9.1
KLMR Klimovskoe 63.81 328 *eP* **P 18 19 31.8 -1.9**
KLMR *e* 18 21 51.8
KLMR pmax pmax
comp=Z,16nm,1.4s
GEYT Alibeck 64.50 299 P **P 18 19 38.6 -0.1**
comp=Z,5.7nm,0.7s,baz=19,slow=5.0,SNR=11
FINES FINESS Array B 68.76 333 P **P 18 20 05.8 +0.3**
comp=Z,12nm,0.7s,baz=47,slow=8.4,SNR=22
STKA Stephens Creek 69.20 181 P **P 18 20 08.4 0.0**
comp=Z,3.7nm,1.0s,baz=357,slow=5.0,SNR=4.0
KIV Kislovodsk 71.32 311 *eP* **P 18 20 22.5 +0.9**
KIV pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 71.32 311 *eP* **P 18 20 22.5 +0.9**
comp=Z,20nm,0.8s
KBZ Khabaz 71.33 311 P **P 18 20 22.4 +0.9**
comp=Z,7.7nm,0.8s,baz=82,slow=4.7,SNR=16
NEY Neytrino 71.70 311⇑*eP* **P 18 20 22.1 -1.9**
NEY pmax pmax
comp=Z,2.0nm,1.0s
NC204 NORSAR Array S 73.97 338 *eP* **P 18 20 38.0 +1.0**
NB2 NORSAR Subarra 74.02 338 P **P 18 20 37.1 -0.2**
comp=Z,2.5nm,0.7s,baz=36,slow=6.2
NOA NORSAR Array B 74.02 338 P **P 18 20 37.5 +0.3**
comp=Z,5.6nm,0.8s,baz=38,slow=5.8,SNR=18
AKASG Malin Array Be 74.47 323 P **P 18 20 39.8 -0.2**
comp=Z,3.9nm,0.4s,baz=45,slow=6.3,SNR=23
AKBB Malin Array Si 74.47 323 *eP* **P 18 20 39.8 -0.2**
AKBB pmax pmax
comp=Z,18nm,1.2s
AKBB Malin Array Si 74.47 323 *eP* **P 18 20 39.8 -0.2**
comp=Z,18nm,1.2s
KIEV Kiev 74.48 323*c i*P **P 18 20 39.6 -0.4**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 74.48 323 *eP* **P 18 20 39.8 -0.3**
comp=Z,18nm,1.2s
AK11 Malin Array Si 74.51 323 *eP* **P 18 20 40.0 -0.2**
PDAR Pinedale Array 76.42 46 P **P 18 20 53.5 +1.8**
comp=Z,0.5nm,0.4s,baz=298,slow=1.9,SNR=3.7
SORM Soroca 76.60 321⇓*i*P **P 18 20 52.3 +0.1**
SORM Soroca 76.60 321⇓P **P 18 20 52.3 +0.1**
KWP Kalwaria Pacla 78.25 325 *eP* **P 18 21 02.6 +1.1**
KWP Kalwaria Pacla 78.25 325 *eP* **P 18 21 02.6 +1.1**
BUR08 Bucovina Ar. S 78.48 322 *eP* **P 18 21 03.5 +0.6**
BURAR Bucovina Array 78.49 322⇓*i*P **P 18 21 03.8 +0.8**
BURAR Bucovina Array 78.49 322⇓P **P 18 21 03.8 +0.8**
TESR Tescani 78.55 321⇑*i*P **P 18 21 03.8 +0.6**
VRI Vrincioaia 78.95 320⇓*i*P **P 18 21 06.6 +1.1**
VRI Vrincioaia 78.95 320⇓P **P 18 21 06.6 +1.1**
PLOR Plostina 79.00 320⇑*i*P **P 18 21 08.2 +2.4**
PLOR Plostina 79.00 320⇑P **P 18 21 08.2 +2.4**
STHS Stebnicka Huta 79.07 325 *eP* **P 18 21 05.5 -0.5**
STHS pmax pmax
comp=Z,89nm,3.7s
STHS Stebnicka Huta 79.07 325 *eP* **P 18 21 05.5 -0.5**
OJC Ojcow 79.12 327 *eP* **P 18 21 07.6 +1.3**
OJC Ojcow 79.12 327 *eP* **P 18 21 07.6 +1.3**
BRTR Keskin Array B 79.25 312 P **P 18 21 07.4 0.0**
comp=Z,1.5nm,0.9s,baz=103,slow=3.9,SNR=6.1
BRTR PP **PP 18 24 07.3 +0.7**
comp=Z,1.1nm,0.9s,baz=93,slow=4.9,SNR=4.1
NIE Niedzica 79.49 326 *eP* **P 18 21 09.8 +1.4**
NIE Niedzica 79.49 326 *eP* **P 18 21 09.8 +1.4**
BR231 Keskin MP Arra 79.69 313 *eP* **P 18 21 08.5 -1.2**
VOIR 80.10 321⇓*i*P **P 18 21 12.7 +0.9**
VOIR 80.10 321⇓P **P 18 21 12.7 +0.9**
OKC Ostrava-Krasne 80.12 327 AMS AMS 18 59 40.0
comp=Z,200nm,15.3s
DRGR 80.28 323⇓*i*P **P 18 21 13.5 +0.8**
DRGR 80.28 323⇓P **P 18 21 13.5 +0.8**
ARR Arges 80.36 321⇓*i*P **P 18 21 15.3 +2.1**
MORC Moravsky Berou 80.42 328⇑*i*P **P 18 21 14.1 +0.7**
MORC Moravsky Berou 80.42 328⇑P **P 18 21 14.1 +0.7**
MORC Moravsky Berou 80.42 328 *eP* **P 18 21 14.0 +0.7**
comp=Z,41nm,1.3s
DPC Dobruska-Polom 80.50 329 *eP* **P 18 21 14.7 +0.9**
DPC *ep*P **PcP 18 21 22.2 +1.5**
DPC Dobruska-Polom 80.50 329 *eP* **P 18 21 14.7 +0.9**
DPC *e* 18 21 22.2
PSZ Piszkesteto 80.78 325 *eP* **P 18 21 16.6 +1.2**
PSZ pmax pmax
comp=Z,16nm,1.4s
PSZ Piszkesteto 80.78 325 *eP* **P 18 21 16.6 +1.2**
comp=Z,16nm,1.4s
VYHS Vyhne 80.83 326 *eP* **P 18 21 16.2 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 80.83 326 *eP* **P 18 21 16.2 +0.7**
PVCC Panska Ves 81.08 330 *eP* **P 18 21 17.5 +0.7**
PVCC Panska Ves 81.08 330 *eP* **P 18 21 17.5 +0.7**
CLL Collm 81.09 331⇑*i*P **P 18 21 16.9 0.0**
CLL *i* 18 21 23.1
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL MLR MLR
comp=Z,200nm,18.5s
CLL Collm 81.09 331⇑*i*P **P 18 21 16.9 0.0**
comp=Z,8.0nm,1.0s
CLL *i* 18 21 20.7
CLL *i* PcP **sP 18 21 23.1 -1.0**
CLL Lm MLR 19 00 00.0
comp=Z,200nm,18.5s
RAYN Ar Rayn 81.44 293 *eP* **P 18 21 19.3 0.0**
comp=Z,7.3nm,0.9s
BZS Buzias 81.66 323⇑*i*P **P 18 21 20.0 0.0**
BZS Buzias 81.66 323⇑P **P 18 21 20.0 0.0**
MDVR Moldovita 82.22 322⇑*i*P **P 18 21 23.4 +0.4**
CONA Conrad Observa 82.55 327 *i* P **P 18 21 25.6 +0.9**
comp=Z,9.6nm,1.5s
KHC Kasperske Hory 82.57 329 *eP* **P 18 21 25.6 +0.8**
KHC *ep*P **PcP 18 21 31.6 +1.8**
KHC Kasperske Hory 82.57 329 *eP* **P 18 21 25.6 +0.8**
KHC *e* 18 21 31.6
KHC Kasperske Hory 82.57 329 *eP* **P 18 21 25.3 +0.5**
comp=Z,1.6nm,0.9s
GERES GERESS Array B 82.75 329 P **P 18 21 25.9 +0.1**
comp=Z,0.8nm,0.5s,baz=39,slow=5.6,SNR=8.3
VTS Vitosha 83.06 320⇑*i*P **P 18 21 28.3 +0.7**
VTS Vitosha 83.06 320⇑P **P 18 21 28.3 +0.7**
VTS Vitosha 83.06 320 *eP* **P 18 21 28.3 +0.7**
comp=Z,4.9nm,0.8s
ARSA Arzberg 83.22 327 *i* P **P 18 21 26.6 -1.6**
comp=Z,2.6nm,0.6s
MOA Molln 83.29 328 *eP* **P 18 21 25.4 -3.1**
comp=Z,3.6nm,1.2s
SOKA Soboth 83.88 327 *i* P **P 18 21 32.1 +0.5**
comp=Z,11nm,1.1s
OBKA Obir 84.22 327 P **P 18 21 30.3 -3.1**
comp=Z,5.7nm,0.8s
WTTA Wattenberg 84.85 329 *i* PcP **P 18 21 37.8 +1.2**
comp=Z,7.5nm,1.1s
MOTA Moosalm 85.00 329 *i* P **P 18 21 34.5 -2.9**
comp=Z,4.7nm,0.9s
RETA Reutte 85.02 330 *i* PcP **P 18 21 38.1 +0.8**
comp=Z,4.8nm,0.9s
BFO Black Forest 85.28 331 *i* P **P 18 21 39.6 +1.0**
BFO Black Forest 85.28 331 *eP* **P 18 21 38.7 +0.1**
comp=Z,4.4nm,0.9s
FETA Feichten 85.41 329 *i* PcP **P 18 21 39.8 +0.3**
comp=Z,2.5nm,0.7s
DAVA Damuels 85.53 330 *i* PcP **P 18 21 40.4 +0.4**
comp=Z,5.1nm,0.8s
FUORN Ofenpass-Fuorn 85.92 329 *eP* **P 18 21 42.7 +0.5**
comp=Z,17nm,1.4s
TXAR Lajitas Array 88.85 53 P **P 18 21 57.4 +1.0**
comp=Z,0.4nm,0.6s,baz=312,slow=3.8,SNR=5.9
TXAR PP **PP 18 25 28.0 +2.9**
comp=Z,0.2nm,0.7s,baz=342,slow=15,SNR=3.0
ESDC Sonseca Array 97.20 335 P **P 18 22 34.0 -0.6**
comp=Z,0.2nm,0.4s,baz=29,slow=2.9,SNR=4.3
ESDC PP **PP 18 26 32.0 +2.1**
comp=Z,0.1nm,0.3s,baz=43,slow=8.9,SNR=4.8
TORD Torodi Ar. Bea 117.65 316 PKP **PKPdf 18 27 48.1 -0.4**
comp=Z,0.4nm,0.7s,baz=110,slow=1.7,SNR=2.4
TORD PP **PP 18 29 02.5 +2.2**
comp=Z,0.9nm,0.8s,baz=31,slow=5.7,SNR=4.0
LPAZ La Paz 145.41 60 PKPbc **PKPbc 18 28 41.6 +0.6**
comp=Z,2.7nm,0.9s,baz=4.8,slow=5.9,SNR=8.7

GUC 13 18:36:43.4±0.4, 19°.76S×69°.18W, h97km±3km, ML3.9, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.38**	**177**	⇑*i*P	Pn	18 36 59.1	+0.5
PB08				*i* S	Sn	18 37 11.0	+1.2
PB08				IAML		18 37 11.4	
	comp=E,4μm,0.3s						
MNMC	**Minye Minye**	**0.74**	**328**	⇓*i*P	Pn	18 37 01.6	+0.4
MNMC				*i* S	Sn	18 37 15.3	+0.8
MNMC				IAML		18 37 16.6	
	comp=E,10μm,0.2s						
HMBC	**Humberstone**	**0.84**	**232**	⇑*i*P	Pn	18 37 01.9	-0.1
HMBC				*i* S	Sn	18 37 16.6	+0.6
HMBC				IAML		18 37 17.7	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**0.91**	**280**	⇑*i*P	Pn	18 37 02.5	-0.1
PSGC				*i* S	Sn	18 37 17.4	+0.3
PB01	**IPOC Station P**	**1.31**	**193**	⇑*i*P	Pn	18 37 07.5	+0.2
PB01				*i* S	Sn	18 37 26.2	+0.9
PB01				IAML		18 37 27.6	
	comp=E,4μm,0.6s						
PB12	**IPOC Station P**	**1.57**	**316**	⇓*i*P	Pn	18 37 09.9	-0.6
PB12				*i* S	Sn	18 37 30.9	-0.2
PB12				IAML		18 37 34.5	
	comp=E,5μm,0.5s						
PB09	**IPOC Station P**	**2.03**	**182**	*eP*	Pn	18 37 17.1	+0.7
PB09				*i* S	Sn	18 37 42.9	+1.3
PB09				IAML		18 37 46.4	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**2.07**	**199**	⇑*i*P	Pn	18 37 17.0	+0.1
PB07				*i* S	Sn	18 37 43.2	+0.8
PB07				IAML		18 37 48.1	
	comp=E,633nm,0.4s						
PB06	**IPOC Station P**	**2.96**	**187**	*eP*	Pn	18 37 28.3	-0.3

*ISCJB **13** 18:57:28.4±0.6, 31°.73N±0°.05×71°.93E±0°.06, h10km, mb3.8/8, MS3.0/1, Error ellipse: s-maj=9.6km s-min=4.2km az=135.1*
*NNC **13** 18:57:28.7±11.0, 34°.14N×71°.18E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=79.4km s-min=61.4km az=163.0*
*IDC **13** 18:57:29.5±0.9, 31°.76N×71°.80E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.6/45, mbtmp3.8/10, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/39, Error ellipse: s-maj=24.8km s-min=19.6km az=69.0*
*NDI **13** 18:57:31.8±2.9, 31°.77N×71°.56E, h37km±196km, ML4.1, mb4.1(NEIC)*
*NEIC **13** 18:57:36.2±3.2, 31°.89N×71°.81E, h48km±28km, mb4.1/1, Error ellipse: s-maj=23.3km s-min=16.9km az=201.0*

ISC 13 18:57:29.6±0.7, 31°.65N±0°.06×71°.72E±0°.05, h10km, n37, σ2°.11/42, mb3.9/8, 3C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.48**	**76**	*eP*	**Pn**	**18 58 25.3**	**+1.5**
THN				*ex*	**Sb**	**18 59 16.4**	**+2.7**
JWA	**Jwalamukhi**	**3.93**	**86**	*ex*	**Pb**	**18 58 41.0**	**+2.0**
JWA				*eS*	**Sn**	**18 59 16.0**	**-0.2**
BHK	**Bhakra**	**4.01**	**92**	*eP*	**Pn**	**18 58 30.8**	**-0.4**
BHK				*eS*	**Sn**	**18 59 15.2**	**-3.1**
SDNR	**Sundarnagar**	**4.48**	**90**	*eP*	**Pn**	**18 58 40.0**	**+2.4**
SDNR				*ex*	**Sb**	**18 59 45.0**	**+2.5**
KKR	**Kurukshetra**	**4.70**	**110**	*eS*	**Sn**	**18 59 34.0**	**-1.1**
KHET	**Khetri**	**5.02**	**134**	*eP*	**Pn**	**18 58 46.6**	**+1.5**
KHET				*eS*	**Sn**	**18 59 42.4**	**-0.8**
KUDL	**Kundal**	**5.41**	**129**	*eP*	**Pn**	**18 58 51.2**	**+0.8**
KUDL				*eS*	**Sn**	**18 59 50.9**	**-1.8**
NDI	**New Delhi**	**5.60**	**120**	*ex*	**Sg**	**19 00 25.5**	**-3.9**
JOSI	**Joshimath**	**6.81**	**97**	*eP*	**Pn**	**18 59 12.8**	**+3.0**
JOSI				*eS*	**Sn**	**19 00 24.1**	**-3.3**
JOSI				AML	AML	19 01 07.2	
	comp=N,179nm,0.7s						
JOSI				AML	AML	19 01 11.4	
	comp=E,218nm,0.7s						
PYUN	**Piuthan**	**10.40**	**107**	*eP*	**Pn**	**18 59 58.2**	**-0.8**
MNAS	**Manas**	**10.84**	**3**	⇓Pg	**Pn**	**19 00 04.7**	**-0.3**
	comp=E,1.3nm,0.4s						
MNAS				⇑Lg	Lg	19 01 59.6	
	comp=E,6.8nm,0.7s						
KOLN	**Koldanda**	**11.02**	**107**	*eP*	**Pn**	**19 00 06.7**	**-0.9**
AAK	**Ala-Archa**	**11.19**	**11**	Pn	**Pn**	**19 00 11.1**	**+1.4**
	comp=E,0.7nm,0.3s,baz=190,slow=11,SNR=9.9						
AAK				Sn	**Sn**	**19 02 08.8**	**-6.2**
	comp=E,0.6nm,0.3s,baz=51,slow=1.6,SNR=8.8						
AAK	**Ala-Archa**	**11.19**	**11**	⇑Pg	**Pn**	**19 00 11.2**	**+1.4**
	comp=E,1.4nm,0.4s						
AAK				⇓Lg	Lg	19 02 07.2	
	comp=E,6.1nm,0.9s						
KK31	**Karatay Array**	**11.48**	**356**	⇓Pg	**Pn**	**19 00 13.3**	**-0.2**
	comp=E,1.3nm,0.4s,baz=180,slow=15,SNR=38						
KK31				⇓Lg	Lg	19 02 14.8	
	comp=E,2.4nm,0.5s,baz=177,slow=25,SNR=7.2						
KKAR	**Karatay Array**	**11.48**	**356**	*e*Pn	**Pn**	**19 00 13.1**	**-0.4**
	comp=E,2.2nm,0.3s						
TKM2	**Tokmak 2**	**11.67**	**14**	⇑Pg	**Pn**	**19 00 16.3**	**-0.1**
	comp=E,2.8nm,0.8s						
TKM2				⇓Lg	Lg	19 02 24.1	
	comp=E,4.7nm,0.8s						
GKN	**Gorkha**	**11.79**	**105**	*eP*	**Pn**	**19 00 16.3**	**-1.7**
KKN	**Kakani**	**12.39**	**105**	*eP*	**Pn**	**19 00 24.6**	**-1.7**
PKIN	**Phulchoki**	**12.57**	**105**	*eP*	Pn	19 00 26.6	-2.1
GUN	**Gumba**	**12.85**	**103**	*eP*	**Pn**	**19 00 31.5**	**-1.1**
	comp=E,15nm,0.4s						
JIRN	**Jiri**	**13.19**	**104**	*eP*	**Pn**	**19 00 35.7**	**-1.7**
	comp=E,66nm,0.4s						
RAMN	**Ramite**	**13.80**	**106**	*eP*	Pn	19 00 41.8	-3.7
	comp=E,16nm,0.6s						
WSAR	**Wadi Sarin**	**14.32**	**237**	Sn	**Sn**	**19 03 27.4**	**-4.0**
	comp=E,0.2nm,0.3s,baz=279,slow=18,SNR=4.7						
MKAR	**Makanchi Array**	**17.18**	**25**	P	**Pn**	**19 01 30.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**19.62**	**13**	P	**P**	**19 01 56.7**	**-1.4**
	comp=E,0.1nm,0.3s,baz=205,slow=10,SNR=15						
KURK	**Kurchatov**	**19.73**	**13**	P	**P**	**19 01 56.7**	**-2.5**
AKTO	**Aktyubinsk**	**21.37**	**335**	P	**P**	**19 02 18.7**	**+1.7**
	comp=E,1.5nm,0.5s,baz=171,slow=10.0,SNR=5.4						
BVAR	**Borovoye Array**	**21.39**	**358**	P	**P**	**19 02 17.7**	**+0.5**
	comp=E,3.1nm,0.7s,baz=174,slow=12,SNR=16						
BRVK	**Borovoye**	**21.43**	**358**	*eP*	**P**	**19 02 17.9**	**+0.3**
	comp=E,7.0nm,0.7s						
ZALV	**Zalesovo Beam**	**24.20**	**19**	P	**P**	**19 02 45.5**	**-0.6**
	comp=E,2.8nm,0.6s,baz=216,slow=9.0,SNR=12						
PALK	**Pallekele**	**25.66**	**159**	LR	LR	19 13 06.4	
	comp=E,45nm,18.2s,baz=116,slow=36						
BRTR	**Keskin Array B**	**31.78**	**295**	P	**P**	**19 03 54.9**	**+0.6**
	comp=E,0.5nm,0.7s,baz=109,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**66.31**	**271**	P	**P**	**19 08 20.9**	**+2.2**
	comp=E,1.0nm,0.8s,baz=49,slow=5.1,SNR=7.6						
WRA	**Warramunga Arr**	**78.93**	**122**	P	**P**	**19 09 35.2**	**+1.6**
	comp=E,0.6nm,0.7s,baz=320,slow=5.5,SNR=12						
WRAB	**Tennant Creek**	**78.93**	**122**	*eP*	**P**	**19 09 35.3**	**+1.7**
ASAR	**Alice Springs**	**80.99**	**125**	P	**P**	**19 09 46.5**	**+1.8**
	comp=E,1.0nm,0.7s,baz=306,slow=5.6,SNR=18						

*ISK **13** 19:06:47.7, 37°.94N×30°.18E, h23km, MD2.3*
*DDA **13** 19:06:50.9, 37°.81N×30°.24E, h6km, Md2.6*
*CSEM **13** 19:06:50.6±0.2, 37°.77N×30°.22E, h8km, MD2.6, Error ellipse: s-maj=5.7km s-min=5.0km az=57.0*

ISC 13 19:06:50.6±0.9, 37.77N±0°.03×30.24E±0°.02, h14km±6km, n19, σ0°.79/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDR	**BURDUR-Merkez**	**0.16**	**242**	*i* P	**Pg**	**19 06 54.2**	**-0.4**
BRDR				*i* S	**Sg**	**19 06 57.6**	**+0.2**
BRDR	**BURDUR-Merkez**	**0.16**	**242**	P	**Pg**	**19 06 54.2**	**-0.4**
BRDR				S	**Sg**	**19 06 57.6**	**+0.2**
ISP	**Isparta**	**0.23**	**77**	*e*PG	**Pg**	**19 06 54.9**	**-0.8**
ISP				*e*SG	**Sg**	**19 07 00.1**	**+1.0**
ISP	**Isparta**	**0.23**	**77**	*e*Pg	**Pg**	**19 06 54.9**	**-0.8**
ISP				*e*Sg	**Sg**	**19 07 00.1**	**+1.0**
BCK	**Bucak**	**0.41**	**138**	*e*PG	**Pb**	**19 06 59.8**	**0.0**
BCK	**Bucak**	**0.41**	**138**	*e*Pg	**Pb**	**19 06 59.8**	**0.0**
BAGO	**Egridir - ISPA**	**0.48**	**63**	*i* P	**Pg**	**19 06 59.8**	**-0.4**
BAGO				*i* S	**Sn**	**19 07 10.3**	**-1.3**
KZIL	**AFYON_Kizioren**	**0.49**	**351**	*i* P	**Pg**	**19 06 59.8**	**-0.6**
KZIL				*i* S	**Sg**	**19 07 08.3**	**+1.3**
KZIL	**AFYON_Kizioren**	**0.49**	**351**	P	**Pg**	**19 06 59.8**	**-0.6**
KZIL				S	**Sg**	**19 07 08.3**	**+1.3**
SUTC	**Sutluce-Ispart**	**0.67**	**116**	*e*PG	**Pg**	**19 07 03.0**	**-0.7**
SUTC	**Sutluce-Ispart**	**0.67**	**116**	*e*Pg	**Pg**	**19 07 03.0**	**-0.7**
GOLH	**Golhisar**	**0.76**	**226**	*i* P	**Pg**	**19 07 04.9**	**-0.5**
GOLH				*i* S	**Sn**	**19 07 19.0**	**+0.6**
GOLH	**Golhisar**	**0.76**	**226**	P	**Pg**	**19 07 04.9**	**-0.5**
KORT	**Korkueli**	**0.78**	**174**	*e*PG	**Pb**	**19 07 06.2**	**+0.2**
KORT	**Korkueli**	**0.78**	**174**	*e*Pg	**Pb**	**19 07 06.2**	**+0.2**
KHAL	**Karahalli**	**0.84**	**315**	*i* P	**Pb**	**19 07 06.7**	**-0.4**
KHAL				*i* S	**Sn**	**19 07 20.6**	**+0.2**
KHAL	**Karahalli**	**0.84**	**315**	P	**Pb**	**19 07 06.7**	**-0.4**
KDHN	**Kadinhani**	**1.66**	**63**	*i* P	**Pb**	**19 07 20.9**	**-0.1**
KDHN				*i* S	**Sg**	**19 07 45.8**	**+1.8**
KDHN	**Kadinhani**	**1.66**	**63**	P	**Pb**	**19 07 20.9**	**-0.1**

*IDC **13** 19:07:32.7±7.8, 18°.01S×178°.36W, h546km±83km, mb3.0/7, mb1 3.3/7, mb1mx3.1/21, mbtmp3.9/7, Error ellipse: s-maj=43.6km s-min=27.9km az=114.0*
*ISCJB **13** 19:07:34.4±1.0, 17°.9S±0°.3×178°.5W±0°.2, h579km, mb3.5/7, Error ellipse: s-maj=38.6km s-min=20.4km az=142.5*

ISC 13 19:07:35.5±1.0, 18°.0S±0°.2×178°.4W±0°.2, h579km, n9, σ0°.41/10, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**19 14 10.1**	**+0.3**
	0.9nm,0.5s,baz=87,slow=7.1,SNR=6.2						
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**19 14 56.8**	**-0.5**
	0.6nm,0.5s,baz=98,slow=6.5,SNR=15						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**19 14 58.2**	**-0.3**
	4.7nm,0.7s,baz=88,slow=8.6,SNR=114						
ASAR				PcP	**PcP**	**19 16 28.3**	**+0.1**
	0.4nm,0.5s,baz=104,slow=3.7,SNR=7.0						
MJAR	**Matsushiro Arr**	**67.96**	**323**	P	**P**	**19 17 37.9**	**+0.3**
	0.4nm,0.3s,baz=157,slow=6.4,SNR=5.1						
MAW	**Mawson**	**83.77**	**200**	P	**P**	**19 19 04.0**	**-0.1**
	0.7nm,0.5s,baz=130,slow=4.6,SNR=6.3						
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**19 19 14.2**	**-0.5**
	1.2nm,1.0s,baz=224,slow=6.7,SNR=6.1						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**19 19 16.1**	**0.0**
	0.4nm,0.6s,baz=221,slow=6.4,SNR=5.3						
BRTR	**Keskin Array B**	**144.82**	**315**	PKP	**PKPdf**	**19 26 08.2**	**+0.6**
	0.8nm,0.7s,baz=108,slow=4.0,SNR=4.0						
GERES	**GERESS Array B**	**147.69**	**345**	PKPbc	**PKPbc**	**19 26 16.0**	**+0.2**
	0.6nm,0.5s,baz=25,slow=3.5,SNR=8.1						

NNC 13 19:23:14.3±13.0, 39°.14N×71°.49E, h0km, mb3.9, mpv3.5, 4C, Error ellipse: s-maj=129.4km s-min=90.5km az=146.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**3.43**	**13**	⇑Pn	Pn	19 24 10.0	+0.8
	3.7nm,0.4s						
MNAS				⇑Lg	Lg	19 24 60.0	
	5.5nm,0.5s						
KK31	**Karatay Array**	**4.03**	**350**	Pn	Pn	19 24 20.5	+3.2
	5.7nm,0.3s,baz=186,slow=13,SNR=52						
KK31				Lg	Lg	19 25 19.3	
	5.6nm,0.6s,baz=185,slow=27,SNR=9.6						
AAK	**Ala-Archa**	**4.17**	**32**	⇑Pn	Pn	19 24 15.0	-4.4
	4.9nm,0.5s						
AAK				⇑Sn	Sn	19 25 10.8	+1.9
	6.9nm,0.6s						

*ISCJB **13** 19:38:28.3±0.2, 55°.38N±0°.02×110°.53E±0°.04, h10km, mb3.9/12, MS3.1/4, Error ellipse:

σ2$55/137, mb4.1/12, MS3.1/4, 20C-7D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.60**	**40**	⇓*i*Pg	**Pg**	**19 38 40.7**	**-1.1**
KMO				Pmax		19 38 41.1	
	829nm,0.5s						
KMO				*e*Sg	**Sg**	**19 38 48.2**	**-1.5**
KMO				Smax		19 38 50.8	
	6μm,0.9s						
KMO	**Kumora**	**0.60**	**40**	⇓*i*PG	**Pg**	**19 38 40.7**	**-1.1**
KMO				*e*		19 38 48.2	
KMO				pmax	pmax		
	comp=Z,807nm,0.4s						
KMO				smax	smax		
	comp=N,6μm,0.9s						
NIZ	**Nizh Angarsk**	**0.65**	**303**	⇑*i*Pg	**Pg**	**19 38 41.5**	**-1.1**
NIZ				Pmax		19 38 45.0	
	comp=N,113nm,0.3s						
NIZ				*e*Sg	**Sg**	**19 38 50.0**	**-1.1**
NIZ				Smax		19 38 51.8	
	comp=N,2μm,0.4s						
NIZ	**Nizh Angarsk**	**0.65**	**303**	⇑*i*PG	**Pg**	**19 38 41.6**	**-1.1**
NIZ				*e*		19 38 50.1	
NIZ				pmax	pmax		
	comp=Z,280nm,1.0s						
NIZ				smax	smax		
	comp=N,2μm,0.4s						
YLYR	**Ulyunkhan**	**0.67**	**146**	⇑*i*Pg	**Pb**	**19 38 44.0**	**+0.1**
YLYR				*e*Sg	**Sb**	**19 38 53.5**	**+0.2**
YLYR	**Ulyunkhan**	**0.67**	**146**	⇑*i*PG	**Pb**	**19 38 44.0**	**+0.1**
YLYR				*e*		19 38 53.5	
YLYR				pmax	pmax		
	comp=Z,242nm,1.0s						
YLYR				smax	smax		
	comp=N,378nm,0.1s						
YOA	**Uoyan**	**0.98**	**44**	⇓*i*Pg	**Pg**	**19 38 47.9**	**-1.1**
YOA				Pmax		19 38 49.4	
	comp=N,684nm,0.5s						
YOA				*e*Sg	**Sb**	**19 39 01.4**	**-0.9**
YOA				Smax		19 39 14.5	
	comp=N,10μm,1.0s						
YOA	**Uoyan**	**0.98**	**44**	⇓*i*PG	**Pg**	**19 38 47.9**	**-1.1**
YOA				*i*		19 39 01.3	
YOA				pmax	pmax		
	comp=Z,740nm,0.3s						
YOA				smax	smax		
	comp=E,10μm,0.3s						
UKT	**Uakit**	**1.78**	**87**	⇓*i*Pg	**Pb**	**19 39 02.7**	**-0.1**
	comp=E,56nm,0.9s						
UKT				⇑*i*Pg	**Pb**	**19 39 02.7**	**-0.1**
	comp=E,385nm,0.9s						
UKT				⇑*i*Pg	**Pb**	**19 39 02.7**	**-0.1**
	comp=E,354nm,0.9s						
UKT				Pmax		19 39 04.0	
	comp=E,876nm,0.9s						
UKT				*e*Sg	**Sg**	**19 39 27.1**	**-0.1**
UKT				*e*		19 39 29.4	
UKT				max		19 39 29.5	
	comp=E,2μm,0.5s						
UKT	**Uakit**	**1.78**	**87**	⇑*i*PN	**Pb**	**19 39 02.8**	**-0.1**
UKT				*e*		19 39 25.0	
UKT				pmax	pmax		
	comp=Z,874nm,0.9s						
UKT				smax	smax		
	comp=N,2μm,0.5s						
SYVR	**Suvo**	**1.80**	**190**	*e*Pg	**Pg**	**19 39 04.2**	**-0.4**
SYVR				Pmax		19 39 08.5	
	comp=N,185nm,1.2s						
SYVR				*e*Sg	**Sg**	**19 39 29.3**	**+1.4**
SYVR				Smax		19 39 32.7	
	comp=N,2μm,1.2s						
SYVR	**Suvo**	**1.80**	**190**	*e*PN	**Pg**	**19 39 04.5**	**-0.1**
SYVR				*e*		19 39 30.5	
SYVR				pmax	pmax		
	comp=Z,186nm,1.2s						
SYVR				smax	smax		
	comp=E,2μm,1.3s						
SVKR	**Severomuysk**	**1.86**	**67**	⇑*i*Pg	**Pb**	**19 39 03.8**	**-0.4**
SVKR				Pmax		19 39 06.4	
	comp=E,573nm,0.9s						
SVKR				*i* Sg	**Sg**	**19 39 29.0**	**-0.7**
SVKR				Smax		19 39 31.4	
	comp=E,9μm,0.7s						
SVKR	**Severomuysk**	**1.86**	**67**	*e*PN	**Pb**	**19 39 03.7**	**-0.4**
SVKR				*e*		19 39 27.9	
SVKR				pmax	pmax		
	comp=Z,577nm,0.9s						
SVKR				smax	smax		
	comp=N,9μm,0.7s						
MXMB	**Maximikha**	**2.41**	**206**	*e*Pn	**Pn**	**19 39 10.1**	**+0.6**
MXMB				*e*Pg	**Pg**	**19 39 14.5**	**-1.6**
MXMB				*e*Sg	**Sg**	**19 39 48.5**	**+1.2**
OGRR	**Ongureny**	**2.47**	**225**	*e*Pn	**Pb**	**19 39 12.2**	**-2.3**
OGRR				*e*Pg	**Pg**	**19 39 15.2**	**-2.1**
OGRR				*e*		19 39 20.5	
OGRR				max		19 39 21.3	
	comp=N,63nm,0.9s						
OGRR				*e*Sg	**Sg**	**19 39 48.0**	**-1.3**
OGRR				Smax		19 39 56.9	
	comp=N,491nm,1.3s						
OGRR	**Ongureny**	**2.47**	**225**	*e*PN	**Pb**	**19 39 11.7**	**-2.8**
OGRR				*e*		19 39 15.7	
OGRR				*e*		19 39 48.5	
OGRR				pmax	pmax		
	comp=Z,10.0nm,0.2s						
OGRR				smax	smax		
	comp=N,491nm,1.5s						
KELR	**Kotokel**	**3.03**	**209**	*e*Pg	**Pg**	**19 39 25.5**	**-2.7**
KELR				*e*Sg	**Sg**	**19 40 05.7**	**-1.8**
BOD	**Bodaibo**	**3.08**	**37**	*e*Pn	**Pn**	**19 39 19.2**	**+0.5**
BOD				*e*Pg	**Pb**	**19 39 24.2**	**-0.7**
BOD				Pmax		19 39 29.8	
	comp=N,45nm,0.3s						
BOD				*e*Sn	**Sn**	**19 39 56.9**	**+1.4**
BOD				*e*Sg	**Sb**	**19 40 03.9**	**+1.5**
BOD				Smax		19 40 04.9	
	comp=N,739nm,0.7s						
BOD	**Bodaibo**	**3.08**	**37**	*e*PN	**Pn**	**19 39 18.8**	**+0.1**
BOD				*e*		19 39 24.7	
BOD				*e*S	**Sn**	**19 39 55.3**	**-0.2**
BOD				*e*		19 40 03.3	
BOD				pmax	pmax		
	comp=Z,47nm,0.3s						
BOD				smax	smax		
	comp=E,608nm,0.4s						
NLYR	**Nelyaty**	**3.11**	**68**	⇑*i*Pn	**Pn**	**19 39 20.5**	**+1.3**
NLYR				Pg	**Pb**	**19 39 25.5**	**+0.1**
NLYR				Pmax		19 39 30.2	
	comp=E,151nm,0.8s						
NLYR				*e*		19 39 51.6	
NLYR				*e*		19 40 00.3	
NLYR				*e*Sg	**Sg**	**19 40 06.8**	**-3.1**
NLYR				Smax		19 40 09.8	
	comp=E,1μm,0.7s						
NLYR				*e*		19 40 11.3	
NLYR	**Nelyaty**	**3.11**	**68**	*e*PN	**Pn**	**19 39 20.4**	**+1.3**
NLYR				*e*		19 39 27.0	
NLYR				*e*		19 40 06.8	
NLYR				pmax	pmax		
	comp=Z,150nm,1.3s						
NLYR				smax	smax		
	comp=N,1μm,1.8s						
TRG	**Tyrgan**	**3.63**	**224**	*e*Pn	**Pn**	**19 39 27.5**	**+1.2**
TRG				*e*Pg	**Pb**	**19 39 35.5**	**+1.2**
TRG				*e*		19 39 40.0	
TRG				max		19 39 41.0	
	comp=N,96nm,1.2s						
TRG				*e*Sg	**Sg**	**19 40 23.1**	**-3.4**
TRG				Smax		19 40 32.4	
	comp=N,253nm,1.0s						
TRG	**Tyrgan**	**3.63**	**224**	*e*PN	**Pn**	**19 39 25.9**	**-0.4**
TRG				*e*		19 39 34.5	
TRG				*e*S	**Sn**	**19 40 07.9**	**-1.3**
TRTB	**Turuntaevo**	**3.63**	**209**	⇓*i*Pn	**Pn**	**19 39 28.5**	**+2.1**
TRTB				*e*Pg	**Pb**	**19 39 35.4**	**+1.0**
TRTB				Pmax		19 39 43.8	
	comp=N,31nm,0.9s						
TRTB				*e*Sg	**Sg**	**19 40 24.7**	**-1.9**
TRTB				*e*		19 40 32.9	
TRTB				max		19 40 39.5	
	comp=N,224nm,1.6s						
CIT	**Chita**	**3.87**	**151**	*e*Sg	**Sg**	**19 40 31.2**	**-2.9**
CIT				Smax		19 40 36.4	
	comp=N,436nm,1.5s						
CIT	**Chita**	**3.87**	**151**	*e*PN	**Pn**	**19 39 31.2**	**+1.6**
CIT				*e*		19 39 39.9	
CIT				*e*		19 40 30.8	
CIT				pmax	pmax		
	comp=Z,148nm,1.2s						
CIT				smax	smax		
	comp=E,438nm,1.4s						
UUDB	**Ulan-Yde**	**3.95**	**207**	*e*Pn	**Pn**	**19 39 31.8**	**+1.0**
UUDB				*e*Pg	**Pg**	**19 39 42.2**	**-3.5**
UUDB				Pmax		19 39 44.8	
	comp=E,84nm,0.9s						
UUDB				*e*Sg	**Sg**	**19 40 34.5**	**-2.4**
UUDB				Smax		19 40 43.8	
	comp=E,483nm,1.5s						
KAB	**Kabansk**	**4.09**	**216**	*e*	**Pg**	**19 39 50.1**	**+1.8**
KAB				*e*Sg	**Sg**	**19 40 38.7**	**-2.5**
KAB				Smax		19 41 19.2	
	comp=E,878nm,1.2s						
STDB	**Stepnoy Dvoret**	**4.09**	**219**	*e*Sg	**Sg**	**19 40 37.1**	**-4.1**
VTMR	**Vitim**	**4.17**	**15**	*e*	**Pb**	**19 39 44.9**	**+1.4**
VTMR				*e*		19 40 22.5	
VTMR				*e*Sg	**Sg**	**19 40 39.9**	**-3.9**
HRMR	**Khuramsha**	**4.36**	**211**	*e*Pn	**Pn**	**19 39 37.1**	**+0.7**
HRMR				*e*		19 39 43.6	
HRMR				*e*Pg	**Pb**	**19 39 48.3**	**+1.6**
HRMR				Pmax		19 39 54.7	
	comp=E,20nm,0.3s						
HRMR				*e*Sg	**Sg**	**19 40 47.6**	**-2.4**
HRMR				Smax		19 40 55.5	
	comp=E,450nm,1.2s						
BGT	**Bolshoye Golou**	**4.55**	**224**	*e*Pn	**Pn**	**19 39 40.2**	**+1.3**
BGT				max		19 39 42.6	
	comp=E,24nm,0.7s						
BGT				*e*		19 39 51.3	
BGT				Sg	**Sg**	**19 40 52.5**	**-3.4**
BGT				*e*		19 40 54.4	
BGT				max		19 41 05.1	
	comp=E,278nm,1.4s						
CRS	**Chara**	**4.58**	**68**	*e*Pn	**Pn**	**19 39 40.4**	**+1.0**
CRS				*e*Pg	**Pg**	**19 39 53.8**	**-4.0**
CRS				Pmax		19 39 59.4	
	comp=E,145nm,0.9s						
CRS				*e*Sg	**Sg**	**19 40 52.4**	**-4.7**
CRS				Smax		19 40 58.9	
	comp=E,778nm,1.4s						
CRS	**Chara**	**4.58**	**68**	*e*PN	**Pg**	**19 39 54.6**	**-3.2**
CRS				*e*		19 40 51.6	
CRS				pmax	pmax		
	comp=Z,145nm,0.9s						
CRS				smax	smax		
	comp=E,779nm,1.0s						
IRK	**Irkutsk**	**4.88**	**232**	*e*	**Pg**	**19 40 00.7**	**-2.8**
IRK				*e*		19 40 44.4	
IRK				*e*Sg	**Sg**	**19 41 02.5**	**-4.2**
IRK				*e*		19 41 08.2	
IRK				max		19 41 09.2	
	comp=E,585nm,1.1s						
IRK	**Irkutsk**	**4.88**	**232**	*e*PN	**Pn**	**19 39 45.1**	**+1.6**
IRK				*e*		19 40 00.0	
IRK				*e*S	**Sn**	**19 40 39.1**	**-0.9**
IRK				*e*		19 41 02.9	
IRK				pmax	pmax		
	comp=Z,78nm,0.3s						
IRK				smax	smax		
	comp=N,584nm,1.1s						
IVK	**Ivanovka**	**5.13**	**227**	*e*Pn	**Pb**	**19 39 59.2**	**-0.7**
IVK				*e*Pg	**Pg**	**19 40 03.6**	**-4.8**
IVK				*e*		19 40 50.1	
IVK				*e*Sg	**Sg**	**19 41 12.1**	**-2.7**
IVK				Smax		19 41 15.5	
	comp=N,228nm,1.4s						
KHNR	**Khani**	**5.50**	**70**	*e*Pg	**Pb**	**19 40 08.9**	**+2.8**
KHNR				*e*		19 40 46.1	
KHNR				*e*		19 40 58.5	
KHNR				*e*Sg	**Sg**	**19 41 20.3**	**-6.2**
KHNR				*e*		19 41 26.7	
TUP	**Tupik**	**5.54**	**97**	⇑*i*Pn	**Pn**	**19 39 53.6**	**+1.0**
TUP				max		19 39 54.9	
	comp=N,48nm,0.7s						
TUP				*e*		19 40 02.1	
TUP				*e*Pg	**Pb**	**19 40 10.4**	**+3.5**
TUP				*e*Sn	**Sn**	**19 40 53.2**	**-3.1**
TUP				*e*Sg	**Sg**	**19 41 24.3**	**-3.5**
TUP				Smax		19 41 29.6	
	comp=N,431nm,1.3s						
TUP	**Tupik**	**5.54**	**97**	*e*PN	**Pn**	**19 39 53.5**	**+1.0**
TUP				*e*		19 40 10.4	
TUP				*e*S	**Sn**	**19 40 55.4**	**-0.9**
TUP				*e*		19 41 23.3	
TUP				pmax	pmax		
	comp=Z,39nm,0.7s						
TUP				smax	smax		
	comp=E,433nm,1.2s						
TLY	**Talaya**	**5.55**	**230**	Sn	**Sn**	**19 40 58.6**	**+2.1**
	comp=E,0.0nm,0.3s,baz=241,slow=13,SNR=6.2						
TLY				Lg	Lg	19 41 22.8	
	comp=E,0.0nm,0.3s,baz=232,slow=19,SNR=9.3						
TLY				LR	LR	19 42 20.9	
	comp=E,61nm,21.6s,baz=170,slow=42						
TLY	**Talaya**	**5.55**	**230**	*e*PN	Pb	19 40 00.2	-6.9
TLY				*e*		19 40 11.5	
TLY				*i* S	**Sn**	**19 40 56.2**	**-0.4**
TLY				*e*		19 41 21.2	
TLY				pmax	pmax		
	comp=Z,13nm,0.6s						
TLY				smax	smax		
	comp=E,61nm,1.1s						
KPC	**Khapcheranga**	**5.85**	**168**	*e*	**Pb**	**19 40 12.3**	**+0.1**
KPC				*e*		19 40 18.8	
KPC				max		19 40 21.0	
	comp=E,13nm,1.3s						
KPC				*e*Sn	**Sn**	**19 41 03.3**	**-0.7**
KPC				*e*Sg	**Sg**	**19 41 33.9**	**-3.8**
KPC				Smax		19 41 41.1	
	comp=E,294nm,1.2s						
ARS	**Arshan**	**5.95**	**237**	*e*Pn	**Pn**	**19 39 59.4**	**+1.1**
ARS				*e*Pg	**Pb**	**19 40 17.1**	**+3.2**
ARS				Pmax		19 40 22.5	
	comp=E,30nm,0.6s						
ARS				*e*Sn	**Sn**	**19 41 03.6**	**-2.9**
ARS				*e*Sg	**Sg**	**19 41 35.3**	**-5.8**
ARS				*e*		19 41 37.7	
ARS				max		19 41 48.5	
	comp=E,556nm,0.8s						
ARS	**Arshan**	**5.95**	**237**	*e*PN	**Pn**	**19 39 59.3**	**+1.0**
ARS				*e*S	**Sg**	**19 41 35.2**	**-5.8**
ARS				smax	smax		
	comp=E,556nm,0.8s						
ZAK	**Zakamensk**	**6.68**	**224**	*e*Pn	**Pn**	**19 40 09.7**	**+1.4**
ZAK				Pg	Pg	19 40 31.7	-6.3
ZAK				Pmax		19 40 42.6	
	comp=E,14nm,0.4s						
ZAK				*e*Sg	**Sg**	**19 41 59.0**	**-5.4**
ZAK				Smax		19 42 08.0	
	comp=E,136nm,1.1s						
ZAK	**Zakamensk**	**6.68**	**224**	*e*PN	**Pn**	**19 40 10.4**	**+2.1**
ZAK				*e*		19 40 32.1	
ZAK				*e*		19 41 58.2	
ZAK				pmax	pmax		
	comp=Z,14nm,0.4s						
ZAK				smax	smax		
	comp=E,135nm,1.1s						
MOY	**Mondy**	**6.81**	**240**	*e*Pn	**Pn**	**19 40 11.9**	**+1.9**
MOY				max		19 40 13.9	
	comp=E,56nm,1.1s						
MOY				*e*		19 40 20.6	
MOY				*e*		19 40 29.3	
MOY				*e*		19 41 30.6	
MOY				*e*Sg	**Sg**	**19 41 59.6**	**-8.8**
MOY				Smax		19 42 11.9	
	comp=E,206nm,1.3s						
MOY	**Mondy**	**6.81**	**240**	*e*PN	**Pn**	**19 40 12.5**	**+2.5**
MOY				*e*		19 40 34.9	
MOY				*e*S	**Sn**	**19 41 28.2**	**+0.6**
MOY				*e*		19 41 59.5	
MOY				pmax	pmax		
	comp=Z,32nm,1.2s						
MOY				smax	smax		
	comp=N,206nm,1.3s						
ORL	**Orlik**	**6.94**	**250**	⇓*i*Pn	**Pn**	**19 40 13.8**	**+1.9**
ORL				max		19 40 15.3	
	comp=N,72nm,1.3s						
ORL				Pg	**Pb**	**19 40 34.3**	**+3.6**
ORL				*e*Sn	**Sn**	**19 41 31.5**	**+0.6**
ORL				*e*Sg	**Sg**	**19 42 04.9**	**-7.8**
ORL				Smax		19 42 12.3	
	comp=N,294nm,1.3s						
ORL	**Orlik**	**6.94**	**250**	*e*PN	**Pn**	**19 40 14.0**	**+2.1**
ORL				*e*		19 40 36.8	
ORL				*e*		19 42 05.5	
ORL				pmax	pmax		
	comp=Z,72nm,1.2s						
ORL				smax	smax		
	comp=N,294nm,1.4s						
ULN	**Ulaanbaatar**	**7.88**	**197**	*ce*PN	**Pn**	**19 40 24.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SONM	**Songino Array**	**8.02**	**200**	Lg	Lg	19 42 46.3	
	comp=Z,0.5nm,0.3s,baz=12,slow=29,SNR=10						
IENR	**Ienigra**	**8.12**	**78**	*e*Sg	**Sg**	**19 42 41.5**	**-9.0**
IENR				*e*		19 42 50.5	
CLNS	**Chul'man**	**8.16**	**74**	*e*	Sb	19 42 30.8	+2.2
CLNS				*e*		19 42 37.8	
CLNS				*e*Sg	**Sg**	**19 42 44.6**	**-7.1**
YAK	**Yakutsk**	**11.92**	**49**	Lg	Lg	19 44 38.4	
	comp=Z,0.0nm,0.3s,baz=24,slow=23,SNR=9.7						
YAK	**Yakutsk**	**11.92**	**49**	*i* P	Pn	19 41 14.1	-5.8
ZALV	**Zalesovo Beam**	**14.90**	**275**	Pn	**Pn**	**19 42 00.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=8.4,SNR=40						
ZALV				Lg	Lg	19 46 14.7	
	comp=Z,0.1nm,0.3s,baz=92,slow=30,SNR=3.6						
ZALV				LR	LR	19 48 29.4	
	comp=Z,19nm,20.5s,baz=66,slow=41						
NVS	**Novosibirsk**	**15.57**	**279**	*e*P	**Pn**	**19 42 09.4**	**0.0**
HABR	**Khabarovsk**	**16.60**	**105**	*e*P	**Pn**	**19 42 22.5**	**-0.1**
HABR				*e*S	**Sn**	**19 45 29.2**	**+2.4**
HABR				pmax	pmax		
	comp=E,25nm,1.9s						
HABR				pmax	pmax		
	comp=N,10.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,31nm,1.9s						
HABR				MLR	MLR		
	comp=Z,17nm,14.0s						
NRIK	**Noril'sk**	**17.36**	**332**	LR	LR	19 49 07.5	
	comp=Z,23nm,21.7s,baz=198,slow=37						
MKAR	**Makanchi Array**	**19.59**	**256**	P	**Pn**	**19 42 58.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**19.59**	**256**	*ce*P	**Pn**	**19 43 02.5**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**19.62**	**269**	*ce*P	**Pn**	**19 42 59.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,60nm,2.5s						
KURBB	**Kurchatov Arra**	**19.71**	**269**	P	**Pn**	**19 42 59.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=26						
KSRS	**Korea Array**	**21.51**	**139**	LR	LR	19 52 33.8	
	comp=Z,45nm,19.3s,baz=320,slow=38						
MA2	**Magadan**	**21.77**	**62**	LR	LR	19 51 27.8	
	comp=Z,34nm,18.7s,baz=113,slow=35						
SEY	**Seymchan**	**22.36**	**53**	⇑*e*P	**P**	**19 43 28.6**	**+0.7**
BVAR	**Borovoye Array**	**23.35**	**281**	P	**P**	**19 43 38.5**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=65,slow=12,SNR=9.5						
BRVK	**Borovoye**	**23.39**	**281**	⇑*e*P	**P**	**19 43 38.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	**Ala-Archa**	**26.52**	**256**	⇑*e*P	**P**	**19 44 09.3**	**+1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**28.55**	**294**	*c i*P	**P**	**19 44 25.0**	**-0.6**
ARU						19 47 35.1	
ARU				S	**S**	**19 49 14.1**	**+0.8**
ARU				SS	**SnSn**	**19 50 32.4**	**+0.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,2.5s						
FINES	**FINESS Array B**	**41.65**	**314**	P	**P**	**19 46 17.9**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=64,slow=8.7,SNR=10						
FINES	**FINESS Array B**	**41.65**	**314**	*i* P	**P**	**19 46 16.7**	**-1.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**46.44**	**300**	P	**P**	**19 46 56.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=45,slow=8.8,SNR=7.8						
AKASG	**Malin Array Be**	**46.44**	**300**	*ce*P	**P**	**19 46 55.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**46.45**	**35**	P	**P**	**19 46 59.8**	**+3.2**
	comp=Z,0.7nm,0.9s,baz=283,slow=5.4,SNR=6.3						
KIEV	**Kiev**	**46.46**	**300**	⇑*e*P	**P**	**19 46 56.0**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**47.70**	**320**	P	**P**	**19 47 05.6**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=53,slow=7.9,SNR=3.0						
BRTR	**Keskin Array B**	**51.47**	**286**	*ce*P	**P**	**19 47 37.0**	**+1.5**
KECS	**Kecovo**	**52.17**	**303**	*e*P	**P**	**19 47 41.9**	**+1.4**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KECS	**Kecovo**	**52.17**	**303**	*e*P	**P**	**19 47 41.9**	**+1.4**
VRAC	**Vranov**	**53.43**	**306**	LR	LR	20 13 02.4	
	comp=Z,32nm,18.7s,baz=91,slow=39						
DAVOX	**Davos/Dischmat**	**58.35**	**307**	LR	LR	20 15 50.4	
	comp=Z,36nm,18.4s,baz=68,slow=39						
ESDC	**Sonseca Array**	**70.11**	**312**	P	**P**	**19 49 43.5**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**89.62**	**293**	P	**P**	**19 51 28.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=23,slow=4.7,SNR=2.5						

DDA ***13*** *19:38:57.6, 41°.21N×43°.58E, h7km, Ml3.3*
ISK ***13*** *19:38:57.6, 41°.50N×43°.30E, h19km, MD2.8*
IASPEI ***13*** *19:38:58.1±0.9, 41°.21N±0°.02×43°.59E±0°.03, h10km±5km, Error ellipse: s-maj=3.9km s-min=3.4km az=116.9, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
TIF ***13*** *19:38:58.5, 41°.26N×43°.65E, h5km*
CSEM ***13*** *19:38:58.4±0.2, 41°.21N×43°.58E, h10km, ML2.8, Error ellipse: s-maj=4.9km s-min=3.6km az=131.0*
ISCJB ***13*** *19:38:58.4±0.5, 41°.20N±0°.02×43°.59E±0°.03, h3km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=34.4*

ISC 13 19:38:58.4±0.8, 41°.22N±0°.02×43°.59E±0°.02, h9km±5km, n36, σ0°72/66, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.04**	**11**	P	**Pg**	**19 39 00.5**	**0.0**
BGD				S	**Sg**	**19 39 01.9**	**-0.1**
BGD	**Bogdanovka**	**0.04**	**11**	P	**Pg**	**19 39 00.5**	**0.0**
BGD				S	**Sg**	**19 39 02.2**	**+0.1**
AKH	**Akhalkalaki**	**0.20**	**339**	*e*PG	**Pg**	**19 39 02.9**	**+0.2**
AKH				*e*SG	**Sg**	**19 39 06.1**	**+0.4**
AKH	**Akhalkalaki**	**0.20**	**339**	P	**Pg**	**19 39 02.9**	**+0.2**
AKH				S	**Sg**	**19 39 05.7**	**0.0**
AKH	**Akhalkalaki**	**0.20**	**339**	P	**Pg**	**19 39 02.9**	**+0.2**
AKH				S	**Sg**	**19 39 06.2**	**+0.6**
EAK	**Akyaka**	**0.54**	**178**	*i* P	**Pg**	**19 39 08.3**	**-0.5**
EAK				*i* S	**Sg**	**19 39 15.8**	**-0.1**
EAK	**Akyaka**	**0.54**	**178**	P	**Pg**	**19 39 08.3**	**-0.5**
EAK				S	**Sg**	**19 39 15.8**	**-0.1**
EPOS	**Posof**	**0.71**	**294**	*i* P	**Pg**	**19 39 11.9**	**-0.1**
EPOS				*i* S	**Sb**	**19 39 22.0**	**-0.8**
EPOS	**Posof**	**0.71**	**294**	P	**Pg**	**19 39 11.9**	**-0.1**
EPOS				S	**Sb**	**19 39 22.0**	**-0.8**
DIGO	**Kars**	**0.82**	**191**	*i* P	**Pg**	**19 39 13.6**	**-0.6**
DIGO				*i* S	**Sg**	**19 39 24.5**	**-0.4**
DIGO	**Kars**	**0.82**	**191**	P	**Pg**	**19 39 13.6**	**-0.6**
DIGO				S	**Sg**	**19 39 24.5**	**-0.4**
TBLG	**Delisi**	**1.00**	**59**	*e*PN	**Pn**	**19 39 18.5**	**-0.1**
TBLG	**Delisi**	**1.00**	**59**	P	**Pg**	**19 39 17.5**	**-0.1**
TBLG				S	**Sb**	**19 39 31.2**	**0.0**
TBLG	**Delisi**	**1.00**	**59**	P	**Pg**	**19 39 17.5**	**-0.1**
TBLG

DAGI			*i* S	Sn	19 39 39.5	-0.1
ONI	**Oni**	**1.37 356**	P	**Pg**	19 39 23.9	-0.8
ONI			S	**Sg**	19 39 43.9	+1.4
ONI	**Oni**	**1.37 356**	P	**Pg**	19 39 23.8	-0.9
ONI			S	**Sg**	19 39 43.3	+0.8
GUDG	**Gudauri**	**1.41 28**	P	**Pg**	19 39 25.0	-0.4
GUDG			S	**Sg**	19 39 44.7	+0.9
GUDG	**Gudauri**	**1.41 28**	P	**Pg**	19 39 26.3	+0.9
GUDG			S	**Sg**	19 39 44.7	+0.9
DDEM	**Demirkent**	**1.43 257**	*i* P	**Pn**	19 39 24.2	-0.3
DDEM			*i* S	**Sb**	19 39 43.6	+0.1
DDEM	**Demirkent**	**1.43 257**	P	**Pn**	19 39 24.2	-0.3
DDEM			S	**Sb**	19 39 43.6	+0.1
DBOC	**Borcka**	**1.45 276**	*i* P	**Pn**	19 39 24.9	+0.1
DBOC			*i* S	**Sn**	19 39 43.7	-0.3
DBOC	**Borcka**	**1.45 276**	P	**Pn**	19 39 24.9	+0.1
DBOC			S	**Sn**	19 39 43.7	-0.3
EATA	**Eleskirt**	**1.59 212**	*i* P	**Pn**	19 39 27.6	+0.6
EATA			*i* S	**Sg**	19 39 50.3	+0.6
EATA	**Eleskirt**	**1.59 212**	P	**Pn**	19 39 27.6	+0.6
EATA			S	**Sg**	19 39 50.3	+0.6
AGRB	**Hanur-Agry**	**1.71 196**	*e*PN	**Pb**	19 39 30.3	+0.3
AGRB	**Hanur-Agry**	**1.71 196**	*e*Pn	**Pb**	19 39 30.3	+0.3
HOMI	**Horasan**	**1.74 228**	*i* P	**Pg**	19 39 31.8	+0.1
HOMI			*i* S	**Sb**	19 39 53.5	+1.0
EKAR	**Karacoban**	**2.28 211**	*i* P	**Pg**	19 39 42.1	0.0
EKAR			*i* S	**Sg**	19 40 15.7	+4.0

*IDC **13** 19:46:21.2±0.8, 0°.25S×125°.24E, h0km, mb4.1/8, mb1 4.3/9, mb1mx3.9/42, mbtmp4.1/9, ML4.1/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=49.4km s-min=14.8km az=77.0*
*ISCJB **13** 19:46:26.0±0.3, 0°.34S±0°.03×125°.17E±0°.03, h52km, mb4.2/12, MS3.4/5, Error ellipse: s-maj=4.9km s-min=3.6km az=10.6*
*DJA **13** 19:46:27.5±0.7, 0°.S±2°×12°.5E±°, h37km±16km, M4.3/17, mb4.4/7, mB4.8/5, MLv4.4/17, Mw(mB)4.0/5*
*NEIC **13** 19:46:28.4±2.3, 0°.29S×125°.23E, h57km±23km, mb4.4/4, Error ellipse: s-maj=19.2km s-min=9.6km az=60.0*
ISC 13 19:46:27.9±0.6, 0°.32S±0°.05×125°.18E±0°.04, h52km, n38, σ19 08/45, mb4.0/12, MS3.4/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.49 307**		P	**Pn**	**19 46 50.0**	**-2.4**
KMSI				S	**Sn**	**19 47 11.5**	**+0.8**
SANI	**Sanana**	**1.90 155**		P	**Pn**	**19 46 56.4**	**-1.5**
SANI				S	**Sn**	**19 47 18.6**	**-2.1**
LBMI	**Labuha**	**2.35 98**		P	**Pn**	**19 47 03.4**	**-0.7**
LBMI				S	**Sn**	**19 47 32.2**	**+0.5**
MRSI	**Marisa**	**3.33 284**		P	**Pn**	**19 47 15.3**	**-2.3**
APSI	**Ampana**	**3.57 261**		P	**Pn**	**19 47 21.7**	**+0.8**
APSI				S	**Sn**	**19 48 02.6**	**+0.7**
SGSI	**Sangihe**	**4.00 5**		P	**Pn**	**19 47 27.3**	**+0.5**
KDI	**Kendari**	**4.42 215**		P	**Pn**	**19 47 31.1**	**-1.5**
AAI	**Ambon**	**4.50 138**		P	**Pn**	**19 47 32.9**	**-0.8**
MSAI	**Masohi**	**4.80 129**		P	**Pn**	**19 47 38.7**	**+0.9**
MSAI				S	**Sn**	**19 48 33.0**	**+0.8**
MPSI	**Mapaga** 38nm,0.9s,669nm	**5.32 277**		P	**Pn**	**19 47 44.5**	**-0.3**
PCI	**Palu**	**5.37 264**		P	**Pn**	**19 47 45.9**	**+0.3**
BBSI	**Bau Bau** 4.8nm,0.8s,299nm	**5.75 207**		P	**Pn**	**19 47 49.0**	**-1.8**
TTSI	**Tana Toraja**	**6.00 243**		P	**Pn**	**19 47 55.0**	**+0.8**
TTSI				S	**Sn**	**19 49 00.5**	**-1.1**
SWI	**Sorong** 8.9nm,0.6s	**6.11 95**		P	**Pn**	**19 47 54.7**	**-1.0**
BNDI	**Bandanaira** 71nm,0.5s,1μm	**6.30 132**		P	**Pn**	**19 47 58.0**	**-0.4**
BNSI	**Bone** 29nm,0.7s	**6.48 231**		P	**Pn**	**19 48 00.9**	**+0.1**
BNSI	29nm,0.7s			S	**Sn**	**19 49 13.7**	**+0.2**
SPSI	**Sidrap Palu**	**6.50 236**		P	**Pn**	**19 48 02.6**	**+1.5**
SPSI				S	**Sn**	**19 49 14.0**	**+0.1**
KAPI	**Kappang** 8.7nm,0.4s	**7.14 229**		*e*Pn	**Pn**	**19 48 11.5**	**+1.6**
FAKI	**Fak Fak**	**7.53 110**		P	**Pn**	**19 48 13.5**	**-1.7**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=13,slow=8.6,SNR=17	**17.67 179**		P	**Pn**	**19 50 31.1**	**+0.6**
FITZ	comp=Z,76nm,19.5s,baz=272,slow=44			LR	LR	19 59 28.8	
MBWA	**Marble Bar**	**21.38 194**		*e*P	**P**	**19 51 11.6**	**+0.3**
WRAB	**Tennant Creek** 6.2nm,0.9s	**21.46 156**		*e*P	**P**	**19 51 11.2**	**-1.0**
WRA	**Warramunga Arr** 4.1nm,0.5s,baz=333,slow=11,SNR=39	**21.46 156**		P	**P**	**19 51 11.1**	**-1.1**
COEN	**Coen** 6.6nm,0.7s	**22.38 128**		*e*P	**P**	**19 51 23.9**	**+1.7**
ASAR	**Alice Springs** 3.8nm,0.9s,baz=347,slow=13,SNR=46	**24.70 161**		P	**P**	**19 51 44.8**	**+0.3**
ASAR	0.3nm,0.4s,baz=348,slow=2.0,SNR=5.0			PcP	**PcP**	**19 55 21.5**	**+0.8**
ASAR	comp=Z,110nm,18.2s,baz=320,slow=40			LR	LR	20 02 44.4	
STKA	**Stephens Creek** 4.5nm,0.6s,baz=324,slow=8.1,SNR=9.8	**35.02 155**		P	**P**	**19 53 16.3**	**+0.6**
STKA	comp=Z,84nm,18.8s,baz=212,slow=37			LR	LR	20 07 59.5	
KSAR	**Wonju Array Be**	**37.66 4**		P	**P**	**19 53 37.4**	**-0.7**
KSRS	**Korea Array** 1.2nm,0.8s,baz=185,slow=10,SNR=6.7	**37.68 4**		P	**P**	**19 53 37.4**	**-0.8**
KSRS	comp=Z,30nm,21.8s,baz=125,slow=34			LR	LR	20 07 25.1	
MJAR	**Matsushiro Arr** 1.4nm,0.6s,baz=182,slow=7.8,SNR=7.1	**38.63 17**		P	**P**	**19 53 45.0**	**-1.3**
USRK	**Ussuriysk Ar.** 0.8nm,0.5s,baz=199,slow=7.7,SNR=4.5	**44.74 7**		P	**P**	**19 54 36.6**	**+0.4**
RPZ	**Rata Peaks** comp=Z,68nm,18.3s,baz=356,slow=36	**59.43 143**		LR	LR	20 21 59.1	
MKAR	**Makanchi Array** 1.4nm,0.4s,baz=127,slow=7.7,SNR=23	**60.04 327**		P	**P**	**19 56 30.0**	**+0.5**
URZ	**Urewera** comp=Z,17nm,18.5s,baz=308,slow=37	**60.74 135**		LR	LR	20 24 15.1	
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=140,slow=5.3,SNR=4.3	**63.52 335**		P	**P**	**19 56 52.7**	**-0.1**
KURK	**Kurchatov** 21nm,0.6s	**64.35 329**		*e*P	**P**	**19 56 58.9**	**+0.6**
BRVK	**Borovoye** 13nm,1.4s	**69.96 328**		*e*P	**P**	**19 57 33.4**	**-0.4**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=63,slow=1.3,SNR=3.3	**122.59 285**		PKP	**PKPdf**	**20 05 18.9**	**+0.1**
CCM	**Cathedral Cave**	**129.69 38**		*e*P	**Pdif**	**20 02 19.5**	**-0.4**

*NIED **13** 19:54:00, 37°.10N×141°.50E, h5km, Mw3.3 Best double couple: M0 1.10000×10^14 NP1:φs55.00000°, δ32.00000°, λ-55.00000°. NP2:φs195.00000°, δ64.00000°, λ-110.00000°.*
JMA 13 19:54:30.8±0.1, 37°.15N×141°.41E, h29km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48 297**		P	Pb	19 54 40.4	-0.5
JFK				*e*S	Sb	19 54 47.1	-0.6
ONAJ	**Iwakimizuishiy**	**0.49 265**		P	Pb	19 54 40.6	-0.5
ONAJ				*e*S	Sb	19 54 47.9	-0.2
JHO	**Hitachi**	**0.86 232**		P	Pn	19 54 45.8	-1.2
JHO				*e*S	Sb	19 54 57.8	-0.6
JMM	**Marumori**	**0.87 326**		P	Pn	19 54 46.9	-0.1
JMM				S	Sn	19 54 58.7	0.0
JFT	**Otama**	**0.93 294**		P	Pb	19 54 48.5	+0.1
JFT				*e*S	Sb	19 55 01.0	+0.6
JIO	**Ouri**	**1.30 358**		P	Pn	19 54 53.2	+0.2
JIO				*e*S	Sn	19 55 09.6	+0.1
JOU	**Okura**	**1.35 334**		P	Pb	19 54 55.2	-0.3
JOU				*e*S	Sb	19 55 12.4	0.0
JFY	**Yanaizu**	**1.38 281**		P	Pb	19 54 55.9	-0.1
JFY				*e*S	Sb	19 55 13.8	+0.5
JYS	**Shiratake**	**1.51 315**		P	Pb	19 54 57.7	-0.5
JYS				*e*S	Sb	19 55 17.0	+0.1
MAT	**Matsushiro**	**2.64 258**		P	Pn	19 55 13.8	+2.4
MAT				S	Sb	19 55 47.5	-1.9

*CSEM **13** 20:03:16.7±0.2, 45°.57N×26°.41E, h145km±2km, MD4.2, Error ellipse: s-maj=4.1km s-min=3.1km az=170.0*
BUC 13 20:03:17.0±0.5, 45°.59N×26°.43E, h149km±5km, MD4.2/2, 78C-31D, Error ellipse: s-maj=4.2km s-min=3.4km

az=350.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.31**	**311**	⇑*i*P	Pn	20 03 37.1	-0.4
PLOR				*i* S	Sn	20 03 51.0	-2.2
PLOR	**Plostina**	**0.31**	**311**	⇑*i*P	Pn	20 03 37.1	-0.4
PLOR	**Plostina**	**0.31**	**311**	⇑*i*P	Pn	20 03 37.1	-0.4
PLOR				*i* S	Sn	20 03 51.0	-2.2
VRI	**Vrincioaia**	**0.35**	**37**	⇑*i*P	Pn	20 03 37.4	-0.2
VRI				*i* S	Sn	20 03 52.1	-1.3
VRI	**Vrincioaia**	**0.35**	**37**	⇑*i*P	Pn	20 03 37.4	-0.2
VRI	**Vrincioaia**	**0.35**	**37**	⇑*i*P	Pn	20 03 37.4	-0.2
VRI				*i* S	Sn	20 03 52.1	-1.3
MLR	**Muntele Rosu**	**0.35**	**254**	⇑*i*P	Pn	20 03 37.7	-0.1
MLR				*i* S	Sn	20 03 52.5	-1.1
MLR	**Muntele Rosu**	**0.35**	**254**	⇑*i*P	Pn	20 03 37.7	-0.1
MLR	**Muntele Rosu**	**0.35**	**254**	⇑*i*P	Pn	20 03 37.7	-0.1
MLR				*i* S	Sn	20 03 52.5	-1.1
GRER		**0.44**	**118**	⇓*i*P	Pn	20 03 38.6	+0.6
GRER				*i* S	Sn	20 03 51.7	-2.2
GRER		**0.44**	**118**	⇓*i*P	Pn	20 03 38.6	+0.6
GRER		**0.44**	**118**	⇓*i*P	Pn	20 03 38.6	+0.6
GRER				*i* S	Sn	20 03 51.7	-2.2
ODBI	**Odobesti**	**0.47**	**68**	⇑*i*P	Pn	20 03 38.7	+0.6
ODBI				*i* S	Sn	20 03 52.8	-1.4
ODBI	**Odobesti**	**0.47**	**68**	⇑*i*P	Pn	20 03 38.7	+0.6
ODBI	**Odobesti**	**0.47**	**68**	⇑*i*P	Pn	20 03 38.7	+0.6
ODBI				*i* S	Sn	20 03 52.8	-1.4
ISR	**Istrita**	**0.48**	**170**	⇑*i*P	Pn	20 03 38.2	-0.1
ISR				*i* S	Sn	20 03 53.1	-1.3
ISR	**Istrita**	**0.48**	**170**	⇑*i*P	Pn	20 03 38.2	-0.1
ISR	**Istrita**	**0.48**	**170**	⇑*i*P	Pn	20 03 38.2	-0.1
ISR				*i* S	Sn	20 03 53.1	-1.3
PETR	**Petresti**	**0.58**	**76**	⇑*i*P	Pn	20 03 38.9	+0.3
PETR				*i* S	Sn	20 03 54.7	-0.4
PETR	**Petresti**	**0.58**	**76**	⇑*i*P	Pn	20 03 38.9	+0.3
PETR	**Petresti**	**0.58**	**76**	⇑*i*P	Pn	20 03 38.9	+0.3
PETR				*i* S	Sn	20 03 54.7	-0.4
SECR		**0.61**	**205**	⇑*i*P	Pn	20 03 39.1	+0.2
SECR				*i* S	Sn	20 03 54.0	-1.5
SECR		**0.61**	**205**	⇑*i*P	Pn	20 03 39.1	+0.2
SECR		**0.61**	**205**	⇑*i*P	Pn	20 03 39.1	+0.2
SECR				*i* S	Sn	20 03 54.0	-1.5
PGOR	**Pogoanele**	**0.79**	**150**	⇑*i*P	Pn	20 03 40.1	+0.1
PGOR				*i* S	Sn	20 03 57.4	-0.1
PGOR	**Pogoanele**	**0.79**	**150**	⇑*i*P	Pn	20 03 40.1	+0.1
PGOR	**Pogoanele**	**0.79**	**150**	⇑*i*P	Pn	20 03 40.1	+0.1
PGOR				*i* S	Sn	20 03 57.4	-0.1
DOPR	**Dopca**	**0.82**	**298**	⇓*i*P	Pn	20 03 40.1	-0.2
DOPR				*i* S	Sn	20 03 56.8	-1.3
DOPR	**Dopca**	**0.82**	**298**	⇓*i*P	Pn	20 03 40.1	-0.2
DOPR	**Dopca**	**0.82**	**298**	⇓*i*P	Pn	20 03 40.1	-0.2
DOPR				*i* S	Sn	20 03 56.8	-1.3
SULR		**0.92**	**188**	⇑*i*P	Pn	20 03 41.1	+0.1
SULR				*i* S	Sn	20 03 59.2	-0.1
SULR		**0.92**	**188**	⇑*i*P	Pn	20 03 41.1	+0.1
SULR		**0.92**	**188**	⇑*i*P	Pn	20 03 41.1	+0.1
SULR				*i* S	Sn	20 03 59.2	-0.1
TESR	**Tescani**	**0.94**	**9**	⇑*i*P	Pn	20 03 40.8	-0.4
TESR	**Tescani**	**0.94**	**9**	⇑*i*P	Pn	20 03 40.8	-0.4
TESR	**Tescani**	**0.94**	**9**	⇑*i*P	Pn	20 03 40.8	-0.4
VOIR		**0.98**	**262**	⇓*i*P	Pn	20 03 41.3	-0.3
VOIR				*i* S	Sn	20 03 58.3	-2.1
VOIR		**0.98**	**262**	⇓*i*P	Pn	20 03 41.3	-0.3
VOIR		**0.98**	**262**	⇓*i*P	Pn	20 03 41.3	-0.3
VOIR				*i* S	Sn	20 03 58.3	-2.1
MTUR	**Matau**	**1.03**	**250**	⇑*i*P	Pn	20 03 41.9	-0.1
MTUR	**Matau**	**1.03**	**250**	⇑*i*P	Pn	20 03 41.9	-0.1
MTUR	**Matau**	**1.03**	**250**	⇑*i*P	Pn	20 03 41.9	-0.1
INCR	**INCERC-Sediu C**	**1.16**	**189**	*i* S	Sn	20 04 01.1	-2.0
INCR	**INCERC-Sediu C**	**1.16**	**189**	S	Sn	20 04 01.1	-2.0
INCR	**INCERC-Sediu C**	**1.16**	**189**	*i* S	Sn	20 04 01.1	-2.0
AMRR	**Amara**	**1.17**	**146**	⇑*i*P	Pn	20 03 43.2	0.0
AMRR				*i* S	Sn	20 04 02.4	-0.8
AMRR	**Amara**	**1.17**	**146**	⇑*i*P	Pn	20 03 43.2	0.0
AMRR	**Amara**	**1.17**	**146**	⇑*i*P	Pn	20 03 43.2	0.0
AMRR				*i* S	Sn	20 04 02.4	-0.8
BUC1	**Bucharest**	**1.27**	**193**	⇓*i*P	Pn	20 03 44.2	0.0
BUC1				*i* S	Sn	20 04 03.6	-1.3
BUC1	**Bucharest**	**1.27**	**193**	⇓*i*P	Pn	20 03 44.2	0.0
BUC1	**Bucharest**	**1.27**	**193**	⇓*i*P	Pn	20 03 44.2	0.0
BUC1				*i* S	Sn	20 04 03.6	-1.3
CFR	**Carcaliu**	**1.27**	**108**	⇑*i*P	Pn	20 03 43.6	-0.6
CFR				*i* S	Sn	20 04 02.7	-2.2
CFR	**Carcaliu**	**1.27**	**108**	⇑*i*P	Pn	20 03 43.6	-0.6
CFR	**Carcaliu**	**1.27**	**108**	⇑*i*P	Pn	20 03 43.6	-0.6
CFR				*i* S	Sn	20 04 02.7	-2.2
ARR	**Arges**	**1.28**	**261**	⇑*i*P	Pn	20 03 44.5	+0.1
ARR				*i* S	Sn	20 04 04.3	-0.9
ARR	**Arges**	**1.28**	**261**	⇑*i*P	Pn	20 03 44.5	+0.1
ARR	**Arges**	**1.28**	**261**	⇑*i*P	Pn	20 03 44.5	+0.1
ARR				*i* S	Sn	20 04 04.3	-0.9
HARR	**Harsova**	**1.39**	**130**	⇑*i*P	Pn	20 03 45.1	-0.3
HARR	**Harsova**	**1.39**	**130**	⇑*i*P	Pn	20 03 45.1	-0.3
HARR	**Harsova**	**1.39**	**130**	⇑*i*P	Pn	20 03 45.1	-0.3
HUMR	**Humele**	**1.48**	**225**	⇓*i*P	Pn	20 03 46.0	-0.2
HUMR				*i* S	Sn	20 04 07.3	-1.3
HUMR	**Humele**	**1.48**	**225**	⇓*i*P	Pn	20 03 46.0	-0.2
HUMR	**Humele**	**1.48**	**225**	⇓*i*P	Pn	20 03 46.0	-0.2
HUMR				*i* S	Sn	20 04 07.3	-1.3
LEOM	**Leova**	**1.55**	**54**	⇑*i*P	Pn	20 03 47.0	+0.1
LEOM				*i* S	Sn	20 04 08.1	-1.8
LEOM	**Leova**	**1.55**	**54**	⇑*i*P	Pn	20 03 47.0	+0.1
LEOM	**Leova**	**1.55**	**54**	⇑*i*P	Pn	20 03 47.0	+0.1
LEOM				*i* S	Sn	20 04 08.1	-1.8
CVDA	**Cernavoda**	**1.70**	**137**	⇑*i*P	Pn	20 03 48.5	-0.1
CVDA	**Cernavoda**	**1.70**	**137**	⇑*i*P	Pn	20 03 48.5	-0.1
CVDA	**Cernavoda**	**1.70**	**137**	⇑*i*P	Pn	20 03 48.5	-0.1
TLCR		**1.73**	**103**	⇑*i*P	Pn	20 03 48.6	-0.4
TLCR				*i* S	Sn	20 04 12.3	-1.1
TLCR		**1.73**	**103**	⇑*i*P	Pn	20 03 48.6	-0.4
TLCR		**1.73**	**103**	⇑*i*P	Pn	20 03 48.6	-0.4
TLCR				*i* S	Sn	20 04 12.3	-1.1
IAS	**Iasi**	**1.79**	**26**	*i* S	Sn	20 04 12.7	-2.0
IAS	**Iasi**	**1.79**	**26**	S	Sn	20 04 12.7	-2.0
IAS	**Iasi**	**1.79**	**26**	*i* S	Sn	20 04 12.7	-2.0
TIRR	**Tirgusor**	**1.81**	**128**	⇑*i*P	Pn	20 03 49.6	-0.2
TIRR				*i* S	Sn	20 04 12.5	-2.5
TIRR	**Tirgusor**	**1.81**	**128**	⇑*i*P	Pn	20 03 49.6	-0.2
TIRR				S	Sn	20 04 12.5	-2.5
TIRR	**Tirgusor**	**1.81**	**128**	⇑*i*P	Pn	20 03 49.6	-0.2
TIRR				*i* S	Sn	20 04 12.5	-2.5
LOT	**Lotru**	**1.87**	**267**	⇑*i*P	Pn	20 03 50.5	-0.2
LOT				*i* S	Sn	20 04 16.4	-0.2
LOT	**Lotru**	**1.87**	**267**	⇑*i*P	Pn	20 03 50.5	-0.2
LOT	**Lotru**	**1.87**	**267**	⇑*i*P	Pn	20 03 50.5	-0.2
LOT				*i* S	Sn	20 04 16.4	-0.2
ZIMR		**2.07**	**202**	⇓*i*P	Pn	20 03 52.8	-0.1
ZIMR				*i* S	Sn	20 04 18.6	-1.9
ZIMR		**2.07**	**202**	⇓*i*P	Pn	20 03 52.8	-0.1
MILM	**Milestii Mici**	**2.12**	**50**	⇓*i*P	Pn	20 03 53.5	0.0
MILM				*i* S	Sn	20 04 19.1	-2.5
MILM	**Milestii Mici**	**2.12**	**50**	⇓*i*P	Pn	20 03 53.5	0.0
MILM	**Milestii Mici**	**2.12**	**50**	⇓*i*P	Pn	20 03 53.5	0.0
EFOR	**EFORIE**	**2.18**	**133**	⇑*i*P	Pn	20 03 54.2	+0.1
EFOR	**EFORIE**	**2.18**	**133**	⇑*i*P	Pn	20 03 54.2	+0.1
EFOR	**EFORIE**	**2.18**	**133**	⇑*i*P	Pn	20 03 54.2	+0.1
KIS	**Kishinev** 500nm,0.6s	**2.18**	**49**	*i* S	Sn	20 04 20.0	-2.7
KIS	**Kishinev** 500nm,0.6s	**2.18**	**49**	*i* S	Sn	20 04 20.0	-2.7
BURAR	**Bucovina Array**	**2.19**	**338**	⇑*i*P	Pn	20 03 55.0	+0.6
BURAR	**Bucovina Array**	**2.19**	**338**	⇑*i*P	Pn	20 03 55.0	+0.6
BURAR	**Bucovina Array**	**2.19**	**338**	⇑*i*P	Pn	20 03 55.0	+0.6
MANR	**Mangalia**	**2.35**	**138**	⇑*i*P	Pn	20 03 56.2	0.0
MANR				*i* S	Sn	20 04 24.5	-1.8
MANR	**Mangalia**	**2.35**	**138**	⇑*i*P	Pn	20 03 56.2	0.0
MANR	**Mangalia**	**2.35**	**138**	⇑*i*P	Pn	20 03 56.2	0.0
MANR				*i* S	Sn	20 04 24.5	-1.8
SRE	**Strehaia**	**2.46**	**249**	⇓*i*P	Pn	20 03 57.4	-0.2
SRE				*i* S	Sn	20 04 27.5	-1.3
SRE	**Strehaia**	**2.46**	**249**	⇓*i*P	Pn	20 03 57.4	-0.2
SRE	**Strehaia**	**2.46**	**249**	⇓*i*P	Pn	20 03 57.4	-0.2
SRE				*i* S	Sn	20 04 27.5	-1.3
DRGR		**2.85**	**296**	⇑*i*P	Pn	20 04 02.5	+0.1
DRGR		**2.85**	**296**	⇑*i*P	Pn	20 04 02.5	+0.1
DRGR		**2.85**	**296**	⇑*i*P	Pn	20 04 02.5	+0.1
SORM	**Soroca**	**2.87**	**27**	⇓*i*P	Pn	20 04 02.3	-0.3
SORM				*i* S	Sn	20 04 34.8	-3.1
SORM	**Soroca**	**2.87**	**27**	⇓*i*P	Pn	20 04 02.3	-0.3
SORM	**Soroca**	**2.87**	**27**	⇓*i*P	Pn	20 04 02.3	-0.3
BZS	**Buzias**	**3.38**	**272**	⇑*i*P	Pn	20 04 09.1	0.0
BZS	**Buzias**	**3.38**	**272**	⇑*i*P	Pn	20 04 09.1	0.0
BZS	**Buzias**	**3.38**	**272**	⇑*i*P	Pn	20 04 09.1	0.0
MDVR	**Moldovita**	**3.43**	**258**	⇑*i*P	Pn	20 04 09.6	-0.2
MDVR	**Moldovita**	**3.43**	**258**	⇑*i*P	Pn	20 04 09.6	-0.2
MDVR	**Moldovita**	**3.43**	**258**	⇑*i*P	Pn	20 04 09.6	-0.2
ZAGS	**Zajecar**	**3.48**	**241**	⇓*i*Pn	Pn	20 04 08.8	-1.6
ZAPS	**Zavoj**	**3.57**	**231**	⇓*i*Pn	Pn	20 04 11.5	-0.1
KUBS	**Kucevo**	**3.57**	**252**	*e*Pn	Pn	20 04 09.4	-2.2
BOVS	**Bovan**	**3.90**	**242**	*i* Pn	Pn	20 04 15.4	-0.4
BARS	**Barje**	**4.32**	**232**	⇓*i*Pn	Pn	20 04 19.7	-1.7
GRUS	**Gruza**	**4.41**	**249**	⇓*i*Pn	Pn	20 04 22.2	-0.4
TRUS	**Trudelj**	**4.49**	**254**	⇓*i*Pn	Pn	20 04 23.2	-0.4
DIVS	**Divibare**	**4.81**	**254**	*e*Pn	Pn	20 04 27.4	-0.6
IVAS	**Ivanjica**	**4.91**	**248**	*e*Pn	Pn	20 04 29.2	-0.1
TEKS	**Tekeris**	**5.00**	**260**	*e*Pn	Pn	20 04 28.5	-1.8

*WAR **13** 20:07:13.8, 50°.10N×19°.22E, h1km, Mw2.5*
*ISCJB **13** 20:07:16.5±0.5, 50°.14N±0°.03×19°.06E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.2km az=17.7*
*CSEM **13** 20:07:17.6±0.3, 50°.14N×19°.10E, h2km, ML2.8/8, Error ellipse: s-maj=8.4km s-min=3.7km az=15.0*
*PRU **13** 20:07:18.7, 50°.12N×19°.12E, h0km*
ISC 13 20:07:18.1±0.8, 50°.08N±0°.03×19°.12E±0°.02, h0km, n41, σ0°76/78, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**71**	*e*Pg	**Pg**	**20 07 26.3**	**-0.7**
OJC				*e*Sg	**Sg**	**20 07 32.2**	**-0.7**
OJC	**Ojcow**	**0.46**	**71**	*e*Pg	**Pg**	**20 07 26.3**	**-0.7**
OJC				*e*Sg	**Sg**	**20 07 32.2**	**-0.7**
OJC	**Ojcow**	**0.46**	**71**	*e*Pg	**Pg**	**20 07 26.3**	**-0.7**
OJC				*e*Sg	**Sg**	**20 07 32.2**	**-0.7**
OKC	**Ostrava-Krasne**	**0.67**	**250**	*e*PG	**Pb**	**20 07 32.4**	**-0.3**
OKC				*e*SG	**Sb**	**20 07 42.4**	**-0.1**
OKC	**Ostrava-Krasne** comp=Z,19nm,0.3s	**0.67**	**250**	Pg	**Pb**	**20 07 32.4**	**-0.3**
OKC				Sg	**Sb**	**20 07 42.4**	**-0.1**
LANS	**Liptovska Anna** 19nm,0.3s	**0.95**	**166**	*e*Pg	**Pb**	**20 07 37.2**	**-0.3**
LANS				*e*Sg	**Sb**	**20 07 50.9**	**+0.2**
LANS	**Liptovska Anna**	**0.95**	**166**	*e*PG	**Pb**	**20 07 37.2**	**-0.3**
LANS				*e*SG	**Sb**	**20 07 50.9**	**+0.2**
NIE	**Niedzica**	**1.01**	**130**	*e*Pg	**Pg**	**20 07 37.6**	**+0.2**
NIE				*e*Sg	**Sb**	**20 07 52.4**	**+0.1**
NIE	**Niedzica**	**1.01**	**130**	*e*Pg	**Pg**	**20 07 37.6**	**+0.2**
NIE				*e*Sg	**Sb**	**20 07 52.4**	**+0.1**
NIE	**Niedzica**	**1.01**	**130**	*e*Pg	**Pg**	**20 07 37.6**	**+0.2**
NIE				*e*Sg	**Sb**	**20 07 52.4**	**+0.1**
MORC	**Moravsky Berou**	**1.06**	**254**	*e*Pg	**Pb**	**20 07 39.0**	**-0.4**
MORC				*e*Sg	**Sb**	**20 07 54.5**	**+0.7**
KRLC	**Kraliky**	**1.50**	**271**	*e*PG	**Pn**	**20 07 45.4**	**-1.0**
KRLC				*e*SG	**Sn**	**20 08 07.1**	**+0.3**
KRLC	**Kraliky**	**1.50**	**271**	Pg	**Pn**	**20 07 45.4**	**-1.0**
KRLC				Sg	**Sn**	**20 08 07.1**	**+0.3**
STHS	**Stebnicka

*ISCJB **13** 20:17:34.0±0.7, 31°.22S±0°.03×70°.91W±0°.05, h103km±9km, Error ellipse: s-maj=6.6km s-min=4.5km az=1.1*
*SJA **13** 20:17:35.1±1.2, 31°.36S×70°.75W, h112km±15km, ML3.4, MW3.5*

ISC 13 20:17:34.8±1.7, 31°.23S±0°.03×70°.96W±0°.05, h90km±20km, n26, σ1°39/42, 1C-25D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.07**	**7**	↓*i*P	**Pn**	**20 17 55.1**	**-0.4**
TLL				*i* S	**Sn**	**20 18 11.1**	**0.0**
TLL				IAML		20 18 13.7	
	comp=E,3μm,0.3s						
RTLS	**Leoncito**	**1.53**	**112**	↓*e*P	**Pn**	**20 18 01.0**	**-0.1**
RTLS				↓*e*S	**Sn**	**20 18 20.8**	**-0.3**
RTLS				IAML		20 18 22.7	
	comp=Z,389nm,0.2s						
AUSP	**Uspallata**	**1.67**	**127**	↓*e*P	**Pn**	**20 18 02.9**	**0.0**
AUSP				↓*e*S	**Sn**	**20 18 23.7**	**-0.6**
ROCH	**El Roble**	**1.74**	**181**	*i* P	**Pn**	**20 18 02.6**	**-1.2**
ROCH				*i* S	**Sn**	**20 18 24.9**	**-0.9**
ROCH				IAML		20 18 32.2	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.92**	**173**	*i* P	**Pn**	**20 18 05.2**	**-0.8**
PEL				*i* S	**Sn**	**20 18 29.3**	**-0.5**
PEL				IAML		20 18 33.4	
	comp=E,725nm,0.7s						
SJA	**San Juan**	**2.07**	**99**	↓*e*P	**Pn**	**20 18 09.0**	**+1.1**
SJA				↓*e*S	**Sn**	**20 18 33.3**	**0.0**
RTLL	**Cerro Villicun**	**2.13**	**93**	↓*e*P	**Pn**	**20 18 08.6**	**-0.1**
RTLL				↓*e*S	**Sn**	**20 18 34.0**	**-0.6**
AMOG	**MOGNA**	**2.13**	**83**	↓*e*P	**Pn**	**20 18 08.9**	**+0.1**
AMOG				*e*S	**Sn**	**20 18 35.4**	**+0.6**
RTCV	**Cerro Valdivia**	**2.16**	**108**	↓*e*P	**Pn**	**20 18 09.4**	**+0.3**
FCH	**Farellones**	**2.17**	**165**	*e*P	**Pn**	**20 18 09.8**	**+0.3**
FCH				*e*S	**Sn**	**20 18 37.2**	**+1.2**
FCH				IAML		20 18 42.1	
	comp=E,790nm,0.2s						
CLCH	**Cerro Calan**	**2.19**	**171**	↑*i*P	**Pn**	**20 18 09.4**	**-0.2**
LCO	**Las Campanas**	**2.22**	**6**	*e*P	**Pn**	**20 18 10.4**	**+0.2**
LCO				*e*S	**Sn**	**20 18 38.0**	**+0.8**
LCO				IAML		20 18 47.0	
	comp=E,598nm,0.1s						
LCO	**Las Campanas**	**2.22**	**6**	↓*e*P	**Sn**	**20 18 37.6**	**+0.4**
ASAL	**Salagasta**	**2.26**	**127**	↓*e*P	**Pn**	**20 18 11.5**	**+1.0**
ARCO	**CERRO ARCO**	**2.35**	**134**	↓*e*P	**Pn**	**20 18 13.5**	**+1.7**
ARCO				*e*S	**Sn**	**20 18 45.4**	**+5.3**
ARCO				IAML		20 18 46.0	
	comp=Z,144nm,0.3s						
AAGR	**Agrelo**	**2.59**	**136**	↓*e*P	**Pn**	**20 18 16.1**	**+1.2**
VACH	**Vallenar**	**2.65**	**4**	*e*P	**Pn**	**20 18 15.1**	**-0.6**
VACH				*i* S	**Sn**	**20 18 47.0**	**0.0**
AGUA	**GUANDACOL**	**2.75**	**51**	↓*e*P	**Pn**	**20 18 18.9**	**+1.9**
AVFE	**Valle Fertil**	**3.06**	**80**	↓*e*P	**Pn**	**20 18 20.7**	**-0.5**
AVFE				↓*e*S	**Sn**	**20 18 55.5**	**-1.5**
AVFE				IAML		20 19 01.4	
	comp=Z,168nm,0.3s						
ACAN	**Cantantal**	**3.38**	**109**	↓*e*P	**Pn**	**20 18 25.0**	**-0.4**
VCA	**Vinchina**	**3.45**	**45**	*i* P	**Pn**	**20 18 28.7**	**+2.3**
VCA	**Vinchina**	**3.45**	**45**	*e*P	**Pn**	**20 18 28.8**	**+2.3**
ACHE	**Chepes**	**3.68**	**90**	↓*e*P	**Pn**	**20 18 29.5**	**-0.1**
ACHE				↓*e*S	**Sn**	**20 19 09.3**	**-2.7**
APLL	**PUNTA DE LOS L**	**3.90**	**79**	*e*P	**Pn**	**20 18 31.9**	**-0.6**
APLL				↓*e*S	**Sn**	**20 19 15.7**	**-1.5**
ACLC	**CERRO LA CRUZ**	**3.90**	**64**	↓*e*P	**Pn**	**20 18 32.7**	**+0.1**
ACLC				↓*e*S	**Sn**	**20 19 15.6**	**-1.9**
MRA	**San Martin**	**4.62**	**106**	↓*e*P	**Pn**	**20 18 41.0**	**-1.2**

*ISCJB **13** 20:17:41.6±0.8, 21°.1S±0°.2×178°.7W±0°.2, h579km, mb3.9/9, Error ellipse: s-maj=24.6km s-min=16.3km az=149.7*
*IDC **13** 20:17:42.7±4.3, 21°.12S×178°.63W, h584km±49km, mb3.4/9, mb1 3.6/10, mb1mx3.3/33, mbtmp4.3/10, Error ellipse: s-maj=32.0km s-min=24.6km az=3.0*

ISC 13 20:17:42.3±0.8, 21°.1S±0°.2×178°.6W±0°.2, h579km, n15, σ0°58/15, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.49**	**191**	P	**P**	**20 21 13.8**	**-0.2**
	0.8nm,0.3s,baz=45,slow=2.9,SNR=3.2						
CTA	**Charters Tower**	**32.85**	**265**	P	**P**	**20 23 29.7**	**+0.1**
	9.9nm,0.5s,baz=93,slow=12						
PMG	**Port Moresby**	**34.91**	**284**	P	**P**	**20 23 47.2**	**+0.3**
	5.5nm,0.5s,baz=68,slow=9.1,SNR=5.5						
STKA	**Stephens Creek**	**37.00**	**245**	P	**P**	**20 24 04.1**	**+0.2**
	4.5nm,0.6s,baz=96,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**43.81**	**257**	P	**P**	**20 24 58.1**	**-0.1**
	8.2nm,0.8s,baz=98,slow=7.7,SNR=85						
ASAR				PcP	**PcP**	**20 26 31.9**	**+0.2**
	0.9nm,0.6s,baz=106,slow=3.5,SNR=8.2						
WRA	**Warramunga Arr**	**43.94**	**263**	P	**P**	**20 24 58.5**	**-0.8**
	6.3nm,0.8s,baz=96,slow=8.9,SNR=68						
TXAR	**Lajitas Array**	**87.87**	**58**	P	**P**	**20 29 31.9**	**+0.6**
	0.6nm,0.8s,baz=228,slow=4.9,SNR=5.6						
ILAR	**Eielson Array**	**89.03**	**13**	P	**P**	**20 29 34.9**	**-0.9**
	0.2nm,0.6s,baz=223,slow=4.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**20 29 41.3**	**+1.0**
	0.8nm,0.9s,baz=124,slow=2.7,SNR=6.0						
PDAR	**Pinedale Array**	**89.80**	**43**	P	**P**	**20 29 40.7**	**+0.5**
	0.6nm,0.6s,baz=237,slow=5.1,SNR=3.9						
BVAR	**Borovoye Array**	**119.16**	**320**	PKP	**PKPdf**	**20 35 25.2**	**-0.7**
	1.0nm,0.4s,baz=95,slow=2.5,SNR=4.3						
ARCES	**ARCESS Array B**	**129.41**	**349**	PKP	**PKPdf**	**20 35 44.7**	**-0.4**
	2.1nm,0.8s,baz=122,slow=1.6,SNR=3.6						
AKASG	**Malin Array Be**	**143.25**	**330**	PKP	PKPab	20 36 08.6	-0.7
	2.2nm,0.4s,baz=44,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**146.80**	**311**	PKPbc	**PKPbc**	**20 36 20.3**	**-0.3**
	1.2nm,0.6s,baz=140,slow=4.5,SNR=7.0						
GERES	**GERESS Array B**	**150.62**	**343**	PKPbc	**PKPbc**	**20 36 29.1**	**-0.5**
	0.8nm,0.7s,baz=43,slow=1.9,SNR=6.5						

DJA 13 20:23:07.9±1.5, 10°S±4°×12°2E±°, h30km±17km, M3.7/7, mb3.8/1, MLv3.6/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.26**	**337**	P	Pn	20 23 28.7	-0.9
EDFI				S	Sn	20 23 45.4	-0.2
MMRI	**Maumere**	**1.28**	**3**	P	Pn	20 23 30.2	+0.5
MMRI				S	Sb	20 23 47.0	-0.4
BASI	**Baing, Sumba**	**1.61**	**259**	P	Pn	20 23 33.2	-1.0
SOEI	**Soe**	**2.06**	**86**	P	Pn	20 23 40.5	-0.2
PLAI	**Plampang**	**4.48**	**284**	P	Pn	20 24 14.2	+0.4
PLAI				S	Sn	20 25 05.6	+0.7
TWSI	**Taliwang, Sumb**	**5.36**	**282**	P	Pn	20 24 26.1	+0.2
TWSI				S	Sn	20 25 27.5	+0.9

*NEIC **13** 20:23:49.4±0.0, 45°.01S×167°.47E, h100km, MG4.0(WEL), After WEL.*

WEL 13 20:23:49.3±0.3, 44°.99S×167°.48E, h101km±2km, ML3.9/19, 2C-9D, Error ellipse: s-maj=2.6km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.45**	**45**	Pn	Pn	20 24 05.0	+0.1
MSZ				Sn	Sn	20 24 16.2	-0.3
MSZ	**Milford Sound**	**0.45**	**45**	↑PN	Pn	20 24 05.0	+0.1
MSZ				AML	AML	20 24 05.4	
MSZ				SN	Sn	20 24 16.2	-0.3
MSZ				AML	AML	20 24 17.3	
MSZ				AML	AML	20 24 17.3	
DCZ	**Deep Cove**	**0.53**	**206**	Pn	Pn	20 24 04.9	-0.4
DCZ				Sn	Sn	20 24 16.8	-0.6
DCZ	**Deep Cove**	**0.53**	**206**	PN	Pn	20 24 04.9	-0.5
DCZ				SN	Sn	20 24 16.8	-0.6
DCZ				AML	AML	20 24 17.4	
DCZ				AML	AML	20 24 17.4	
DCZ				AML	AML	20 24 17.6	
MLZ	**Mavora Lakes**	**0.59**	**130**	Pn	Pn	20 24 05.8	-0.2
MLZ				Sn	Sn	20 24 17.9	-0.5
MLZ	**Mavora Lakes**	**0.59**	**130**	↓PN	Pn	20 24 05.8	-0.2
MLZ				SN	Sn	20 24 17.9	-0.5
MLZ				AML	AML	20 24 18.5	
WHZ	**Wether Hill Ro**	**0.96**	**160**	Pn	Pn	20 24 09.1	-0.2
WHZ	**Wether Hill Ro**	**0.96**	**160**	↓PN	Pn	20 24 09.1	-0.2
WHZ				AML	AML	20 24 24.9	
WHZ				AML	AML	20 24 25.6	
WKZ	**Wanaka**	**1.11**	**82**	Pn	Pn	20 24 11.1	0.0
WKZ	**Wanaka**	**1.11**	**82**	PN	Pn	20 24 11.0	0.0
WKZ				AML	AML	20 24 28.9	
WKZ				AML	AML	20 24 28.9	
WKZ				AML	AML	20 24 29.4	
WKZ				AML	AML	20 24 29.4	
PYZ	**Puysegur Point**	**1.30**	**205**	Pn	Pn	20 24 13.4	+0.2
PYZ	**Puysegur Point**	**1.30**	**205**	PN	Pn	20 24 13.4	+0.2
PYZ				AML	AML	20 24 31.5	
PYZ				AML	AML	20 24 31.5	
PYZ				AML	AML	20 24 38.4	
PYZ				AML	AML	20 24 38.4	
JCZ	**Jackson Bay**	**1.31**	**46**	Pn	Pn	20 24 12.8	-0.6
JCZ	**Jackson Bay**	**1.31**	**46**	↑PN	Pn	20 24 12.8	-0.6
JCZ				AML	AML	20 24 32.6	
JCZ				AML	AML	20 24 33.1	
EAZ	**Earnscleugh**	**1.32**	**101**	Pn	Pn	20 24 13.3	-0.2
EAZ	**Earnscleugh**	**1.32**	**101**	↓PN	Pn	20 24 13.3	-0.2
EAZ				AML	AML	20 24 30.9	
EAZ				AML	AML	20 24 30.9	
EAZ				AML	AML	20 24 31.2	
EAZ				AML	AML	20 24 31.3	
TUZ	**Tuapeka**	**1.80**	**123**	Pn	Pn	20 24 19.0	-0.3
TUZ	**Tuapeka**	**1.80**	**123**	↓PN	Pn	20 24 19.0	-0.3
TUZ				AML	AML	20 24 40.0	
TUZ				AML	AML	20 24 40.0	
TUZ				AML	AML	20 24 40.1	
TUZ				AML	AML	20 24 40.1	
APZ	**The Paps**	**1.88**	**169**	Pn	Pn	20 24 19.9	-0.4
APZ	**The Paps**	**1.88**	**169**	PN	Pn	20 24 19.9	-0.4
APZ				AML	AML	20 24 44.8	
APZ				AML	AML	20 24 46.8	
SYZ	**Scrubby Hill**	**1.94**	**144**	Pn	Pn	20 24 20.7	-0.3
SYZ	**Scrubby Hill**	**1.94**	**144**	↓PN	Pn	20 24 20.7	-0.3
SYZ				AML	AML	20 24 44.2	
SYZ				AML	AML	20 24 44.3	
SYZ				AML	AML	20 24 45.5	
SYZ				AML	AML	20 24 45.6	
LBZ	**Lake Benmore**	**2.02**	**74**	Pn	Pn	20 24 20.9	-1.4
LBZ	**Lake Benmore**	**2.02**	**74**	↓PN	Pn	20 24 20.9	-1.4
LBZ				AML	AML	20 24 45.2	
LBZ				AML	AML	20 24 45.2	
LBZ				AML	AML	20 24 45.2	
LBZ				AML	AML	20 24 46.2	
FOZ	**Fox Glacier**	**2.23**	**50**	Pn	Pn	20 24 23.3	-1.5
FOZ	**Fox Glacier**	**2.23**	**50**	↓PN	Pn	20 24 23.3	-1.5
FOZ				AML	AML	20 24 53.3	
FOZ				AML	AML	20 24 53.3	
FOZ				AML	AML	20 24 53.5	
FOZ				AML	AML	20 24 53.6	
ODZ	**Otahua Downs**	**2.25**	**92**	Pn	Pn	20 24 24.0	-1.1
ODZ	**Otahua Downs**	**2.25**	**92**	↓PN	Pn	20 24 24.0	-1.1
ODZ				AML	AML	20 24 49.5	
ODZ				AML	AML	20 24 49.5	
ODZ				AML	AML	20 24 49.6	
ODZ				AML	AML	20 24 49.6	
HHSZ	**Highcliff Hill**	**2.37**	**113**	Pn	Pn	20 24 26.4	-0.3
HHSZ	**Highcliff Hill**	**2.37**	**113**	↓PN	Pn	20 24 26.4	-0.3
HHSZ				AML	AML	20 24 54.3	
HHSZ				AML	AML	20 24 54.7	
RPZ	**Rata Peaks**	**2.87**	**65**	Pn	Pn	20 24 31.1	-2.2
RPZ	**Rata Peaks**	**2.87**	**65**	PN	Pn	20 24 31.1	-2.2
RPZ				AML	AML	20 25 04.3	
RPZ				AML	AML	20 25 05.2	
WVZ	**Waitaha Valley**	**3.03**	**52**	Pn	Pn	20 24 33.2	-2.2
WVZ	**Waitaha Valley**	**3.03**	**52**	PN	Pn	20 24 33.2	-2.2
INZ	**Inchbonnie**	**3.66**	**53**	PN	Pn	20 24 41.7	-2.2
OXZ	**Oxford**	**3.68**	**65**	Pn	Pn	20 24 43.2	-1.0
OXZ				AML	AML	20 25 24.0	
OXZ				AML	AML	20 25 24.1	
LTZ	**Lake Taylor**	**4.11**	**59**	Pn	Pn	20 24 47.1	-2.9
DSZ	**Denniston Nort**	**4.53**	**46**	Pn	Pn	20 24 53.4	-2.2
DSZ	**Denniston Nort**	**4.53**	**46**	PN	Pn	20 24 53.4	-2.2
DSZ				AML	AML	20 25 44.7	
THZ	**Tophouse**	**5.11**	**53**	Pn	Pn	20 25 00.3	-3.1
THZ	**Tophouse**	**5.11**	**53**	PN	Pn	20 25 00.4	-3.1
THZ				AML	AML	20 27 31.8	
QRZ	**Quartz Range**	**5.58**	**43**	Pn	Pn	20 25 08.6	-1.2
QRZ	**Quartz Range**	**5.58**	**43**	PN	Pn	20 25 08.6	-1.2

DJA 13 20:24:55.7±0.7, 6°S±3°×13°0E±°, h105km±17km, M3.6/5, mB4.5/1, mb3.5/1, MLv3.7/5, Mw(mB)3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.47**	**345**	P	Pn	20 25 21.9	0.0
SAUI	**Saumlaki**	**2.26**	**153**	P	Pn	20 25 32.9	+1.0
SAUI				S	Sn	20 25 59.4	-0.1
FAKI	**Fak Fak**	**3.59**	**33**	P	Pn	20 25 50.8	+1.2
FAKI				S	Sn	20 26 31.7	+0.5
SWI	**Sorong**	**5.15**	**11**	P	Pn	20 26 12.0	+1.5
SWI				S	Sn	20 27 07.8	-0.9

*ISCJB **13** 21:00:24.7±0.6, 50°.22N±0°.04×19°.18E±0°.03, h0km, Error ellipse: s-maj=6.1km s-min=2.4km az=17.6*
*CSEM **13** 21:00:25.8±0.4, 50°.21N×19°.24E, h2km, ML2.9/7, Error ellipse: s-maj=9.0km s-min=3.9km az=15.0*
*PRU **13** 21:00:26.9, 50°.22N×19°.23E, h0km*

ISC 13 21:00:26.7±0.8, 50°.13N±0°.04×19°.25E±0°.02, h0km, n39, σ1°09/65, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**76**	*e*Pg	**Pg**	**21 00 32.7**	**-0.9**
OJC				*e*Sg	**Sg**	**21 00 37.1**	**-1.2**
OJC	**Ojcow**	**0.36**	**76**	*e*Pg	**Pg**	**21 00 32.7**	**-0.9**
OJC				*e*Sg	**Sg**	**21 00 37.1**	**-1.2**
OJC	**Ojcow**	**0.36**	**76**	*e*Pg	**Pg**	**21 00 32.7**	**-0.9**
OJC				*e*Sg	**Sg**	**21 00 37.1**	**-1.2**
OKC	**Ostrava-Krasne**	**0.77**	**248**	*e*PG	**Pb**	**21 00 43.3**	**+0.3**
OKC				*e*SG	**Sb**	**21 00 54.1**	**+0.1**
	comp=Z,17nm,0.3s						
OKC	**Ostrava-Krasne**	**0.77**	**248**	Pg	**Pb**	**21 00 43.3**	**+0.3**
OKC				Sg	**Sb**	**21 00 54.1**	**+0.1**
	17nm,0.3s						
NIE	**Niedzica**	**0.99**	**136**	*e*Pg	**Pg**	**21 00 45.7**	**+0.1**
NIE				*e*Sg	**Sb**	**21 01 00.3**	**+0.1**
NIE	**Niedzica**	**0.99**	**136**	*e*Pg	**Pg**	**21 00 45.7**	**+0.1**
NIE				*e*Sg	**Sb**	**21 01 00.3**	**+0.1**
NIE	**Niedzica**	**0.99**	**136**	*e*Pg	**Pg**	**21 00 45.7**	**+0.1**
NIE				*e*Sg	**Sb**	**21 01 00.3**	**+0.1**
LANS	**Liptovska Anna**	**0.99**	**172**	*e*PG	**Pb**	**21 00 46.7**	**-0.1**
LANS				*e*SG	**Sb**	**21 01 00.9**	**+0.5**
LANS	**Liptovska Anna**	**0.99**	**172**	*e*PG	**Pb**	**21 00 46.7**	**-0.1**
LANS				*e*SG	**Sb**	**21 01 00.9**	**+0.5**
MORC	**Moravsky Berou**	**1.16**	**253**	*e*Pg	**Pg**	**21 00 49.0**	**+0.1**
MORC				*e*Sg	**Sb**	**21 01 05.1**	**-0.2**
STHS	**Stebnicka Huta**	**1.48**	**118**	*e*Pg	**Pb**	**21 00 55.1**	**+0.1**
STHS				*e*Sn	**Sn**	**21 01 17.2**	**+2.6**
STHS	**Stebnicka Huta**	**1.48**	**118**	*e*PG	**Pb**	**21 00 55.1**	**+0.1**
STHS				*e*SN	**Sn**	**21 01 17.2**	**+2.6**
STHS				*e*LG	Lg	21 01 17.3	
KRLC	**Kraliky**	**1.59**	**269**	*e*PG	**Pn**	**21 00 55.9**	**-0.3**
KRLC				*e*SG	**Sn**	**21 01 17.1**	**-0.4**
KRLC	**Kraliky**	**1.59**	**269**	Pg	**Pn**	**21 00 55.9**	**-0.3**
KRLC				Sg	**Sn**	**21 01 17.1**	**-0.4**
VYHS	**Vyhne**	**1.66**	**190**	*e*Pg	**Pn**	**21 00 56.7**	**-0.4**
VYHS	**Vyhne**	**1.66**	**190**	*e*PG	**Pn**	**21 00 56.7**	**-0.4**
VYHS				*e*LG	Lg	21 01 21.1	
KECS	**Kecovo**	**1.84**	**153**	*e*Sn	**Sb**	**21 01 24.6**	**-0.1**
KECS	**Kecovo**	**1.84**	**153**	*e*SN	**Sb**	**21 01 24.6**	**-0.1**
KECS				*e*LG	Lg	21 01 31.4	
DPC	**Dobruska-Polom**	**1.89**	**278**	*e*PG	**Pn**	**21 01 00.1**	**-0.2**
DPC				*e*SG	**Sb**	**21 01 25.8**	**-0.6**
	comp=Z,20nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**278**	Pg	**Pn**	**21 01 00.1**	**-0.2**
DPC				Sg	**Sb**	**21 01 25.8**	**-0.6**
	20nm,0.4s						
VRAC	**Vranov**	**1.91**	**245**	*e*Pn	**Pn**	**21 01 00.6**	**+0.1**
VRAC				*e*Sg	**Sb**	**21 01 27.7**	**+0.8**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**21 01 05.0**	**-0.4**
KSP				*e*Sg	**Sg**	**21 01 31.2**	**-0.3**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**21 01 05.0**	**-0.4**
KSP				*e*Sg	**Sg**	**21 01 31.2**	**-0.3**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**21 01 05.0**	**-0.4**
KSP				*e*Sg	**Sg**	**21 01 31.2**	**-0.3**
UPC	**Upice**	**2.11**	**281**	*e*SG	**Sb**	**21 01 32.6**	**0.0**
	comp=Z,12nm,0.6s						
UPC	**Upice**	**2.11**	**281**	Sg	**Sb**	**21 01 32.6**	**0.0**
	12nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	*e*SG	**Sb**	**21 01 57.1**	**+2.2**
	comp=Z,6.4nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	Sg	**Sb**	**21 01 57.1**	**+2.2**
	6.4nm,0.4s						
PVCC	**Panska Ves**	**3.03**	**279**	*e*PG	**Pb**	**21 01 22.7**	**+1.3**
PVCC				*e*SG	**Sg**	**21 02 03.6**	**-0.3**
	comp=Z,11nm,0.3s						
PVCC	**Panska Ves**	**3.03**	**279**	Pg	**Pb**	**21 01 22.7**	**+1.3**
PVCC				Sg	**Sg**	**21 02 03.6**	**-0.3**
	11nm,0.3s						
PRU	**Pruhonice**	**3.04**	**269**	*e*SG	**Sb**	**21 02 01.7**	**+2.4**
	comp=Z,6.3nm,0.6s						
PRU	**Pruhonice**	**3.04**	**269**	Sg	**Sb**	**21 02 01.7**	**+2.4**
	6.3nm,0.6s						
BRG	**Berggiesshubel**	**3.47**	**284**	SG	**Sg**	**21 02 16.9**	**-1.2**
	4.1nm,0.3s						
KHC	**Kasperske Hory**	**3.82**	**257**	*e*PN	**Pn**	**21 01 27.4**	**+0.6**
KHC				*e*PG	**Pg**	**21 01 38.1**	**-1.8**
KHC				*e*SG	**Sg**	**21 02 28.0**	**-1.4**
	comp=Z,5.0nm,0.5s						
KHC	**Kasperske Hory**	**3.82**	**257**	Pn	**Pn**	**21 01 27.4**	**+0.6**
KHC	**Kasperske Hory**	**3.82**	**257**	Pg	**Pg**	**21 01 38.1**	**-1.8**
KHC				Sg	**Sg**	**21 02 28.0**	**-1.4**
	5.0nm,0.5s						
NKC	**Novy Kostel**	**4.37**	**274**	*e*SG	**Sg**	**21 02 44.7**	**-2.4**
NKC	**Novy Kostel**	**4.37**	**274**	Sg	**Sg**	**21 02 44.7**	**-2.4**

*NIED **13** 21:05:00, 39°.70N×143°.70E, h17km, Mw4.5 Best double couple: M0:6.98000×10^15 NP1:φs198.00000°, δ28.00000°, λ79.00000°. NP2:φs30.00000°, δ62.00000°, λ96.00000°.*
*JMA **13** 21:05:09.1±0.1, 39°.68N×143°.66E, h27km, M4.6*
JMA Felt I J1.
*IDC **13** 21:05:09.2±0.7, 39°.62N×143°.45E, h0km, mb4.4/22, mb1 4.5/27, mb1mx4.4/41, mbtmp4.3/27, ML3.9/5, MS3.9/21, Ms1 3.9/21, ms1mx3.7/38, Error ellipse: s-maj=17.7km s-min=12.8km az=119.0*
*ISCJB **13** 21:05:10.3±0.9, 39°.74N±0°.03×143°.37E±0°.04, h13km±5km, mb4.6/85, MS4.2/34, Error ellipse: s-maj=6.5km s-min=3.7km az=41.1*
*BJI **13** 21:05:12.5, 39°.64N×143°.15E, h26km, mb4.6/63, mB4.9/44, Ms4.4/54, Ms7 4.3/52*
*NEIC **13** 21:05:13.3±1.6, 39°.72N×143°.36E, h21km±11km, mb4.8/25, Error ellipse: s-maj=7.6km s-min=4.7km az=136.0*
*MOS **13** 21:05:14.6±1.1, 39°.92N×143°.15E, h33km, mb4.8/42, Error ellipse: s-maj=8.2km s-min=5.5km az=107.1*

ISC 13 21:05:13.2±1.2, 39°.74N±0°.05×143°.37E±0°.04, h23km±7km, n229, σ1°47/254, mb4.6/87, MS4.2/35, 26C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.18**	**280**	P	**Pn**	**21 05 33.4**	**-0.8**
JTH				*e*S	**Sb**	**21 05 51.2**	**+1.5**
MIYJ	**Miyakonagasawa**	**1.21**	**263**	P	**Pn**	**21 05 33.9**	**-0.8**
JANG	**Nango**	**1.56**	**295**	P	**Pn**	**21 05 38.8**	**-0.7**
JOM	**Ohasama**	**1.63**	**261**	P	**Pn**	**21 05 40.4**	**0.0**
JOM				*e*S	**Sn**	**21 06 02.5**	**+1.8**
JMK	**Ichinoseki**	**1.84**	**245**	P	**Pn**	**21 05 42.8**	**-0.6**
JIO	**Ouri**	**2.03**	**231**	P	**Pn**	**21 05 44.1**	**-1.8**
JOT	**Ohata**	**2.41**	**314**	P	**Pn**	**21 05 51.4**	**+0.2**
JYK	**Kaneyama**	**2.48**	**252**	P	**Pn**	**21 05 51.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.58**	**350**	P	**Pn**	**21 05 52.0**	**-1.5**
JNBK				*e*S	**Sn**	**21 06 23.6**	**-0.6**
JKB	**Kayabe**	**2.79**	**321**	P	**Pn**	**21 05 57.1**	**+0.8**
JKB				*e*S	**Sn**	**21 06 30.6**	**+1.4**
JCH	**Churui**	**2.87**	**360**	P	**Pn**	**21 05 56.8**	**-0.7**
JCH				*e*S	**Sn**	**21 06 30.4**	**-0.9**
JFT	**Otama**	**3.25**	**228**	P	**Pn**	**21 06 01.6**	**-1.2**
JAK	**Akkeshi**	**3.40**	**17**	P	**Pn**	**21 06 03.3**	**-1.5**
JAK				*e*S	**Sn**	**21 06 41.7**	**-2.7**
ASAJ	**Asahikawa**	**4.41**	**353**	Pn	**Pn**	**21 06 19.9**	**+1.3**
	11nm,0.3s,baz=201,slow=10,SNR=28						
ASAJ				Sn	**Sn**	**21 07 10.7**	**+1.4**
	6.7nm,0.3s,baz=226,slow=15,SNR=3.9						
ASAJ	**Asahikawa**	**4.41**	**353**	*e*Pn	**Pn**	**21 06 19.6**	**+1.0**
ASAJ				Sn	**Sn**	**21 07 10.7**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**4.68**	**23**	*c i*P	**Pn**	**21 06 21.3**	**-1.0**
YUK				*i* S	**Sn**	**21 07 12.1**	**-3.7**
YUK				pmax	pmax		
	comp=Z,342nm,0.2s						
YUK				pmax	pmax		
	comp=E,57nm,0.1s						
YUK				pmax	pmax		
	comp=N,2μm,2.1s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.5s						

comp=Z,564nm,18.4s,baz=74,slow=36
KSAR Wonju Array Be 12.34 264 P **Pn 21 08 09.2 +1.9**
KSAR Wonju Array Be 12.34 264 Pn **Pn 21 08 09.2 +1.9**
CN2 Changchun 13.98 293 *e*P **Pn 21 08 30.9 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
SKR Severo-Kuril's 14.13 35 *e*P **Pn 21 08 34.9 +3.1**
SKR pmax pmax
comp=Z,400nm,1.7s
SKR MLR MLR
comp=Z,300nm,20.0s
SKR MLR MLR
comp=Z,500nm,14.0s
PETK Petropavlovsk- 16.58 32 Pn **Pn 21 09 01.8 -2.1**
comp=Z,0.3nm,0.3s,baz=204,slow=8.7,SNR=2.7
PETK LR LR 21 14 56.4
comp=Z,142nm,20.1s,baz=217,slow=35
DL2 Dalian 16.85 274 P **Pn 21 09 06.8 -0.6**
DL2 *e*S **Sn 21 12 08.9 -4.9**
DL2 pmax pmax
comp=Z,50nm,1.7s
DL2 pmax pmax
comp=Z,220nm,6.9s
DL2 LR LR
comp=Z,600nm,12.9s
DL2 LR LR
comp=Z,450nm,17.1s
DL2 LR LR
comp=Z,620nm,18.0s
HIA Hailar 19.29 307 *e*P **P 21 09 34.9 -1.4**
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 19.29 307 *e*P **P 21 09 34.9 -1.4**
comp=Z,20nm,0.8s
MA2 Magadan 20.40 11 P **P 21 09 49.0 +0.8**
comp=Z,31nm,0.8s,baz=195,slow=8.6,SNR=14
MA2 LR LR 21 19 23.7
comp=Z,166nm,18.1s,baz=197,slow=42
MA2 Magadan 20.40 11*ce*P Pn 21 09 49.8 -0.6
BJI Beijing 20.85 280 P **P 21 09 51.3 -1.9**
BJI S **S 21 13 42.3 -2.3**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,140nm,3.9s
BJI LR LR
comp=Z,230nm,12.9s
BJI LR LR
comp=Z,640nm,15.0s
BJI LR LR
comp=Z,370nm,16.5s
TIA Tai'an 20.96 269 ⇑P **P 21 09 53.0 -1.5**
TIA S S 21 13 31.1 -16
TIA pmax pmax
comp=Z,30nm,1.1s
TIA LR LR
comp=Z,380nm,14.0s
TIA LR LR
comp=Z,950nm,16.0s
TIA LR LR
comp=Z,1μm,16.0s
YAK Yakutsk 23.83 344 P **P 21 10 22.0 -2.2**
comp=Z,2.8nm,0.3s,baz=180,slow=5.1,SNR=2.9
YAK Yakutsk 23.83 344 *e*P **P 21 10 21.6 -2.6**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK Yakutsk 23.83 344 *e*P **P 21 10 23.7 -0.5**
comp=N,53nm,0.8s
SEY Seymchan 23.85 10 P **P 21 10 23.2 -1.2**
comp=N,18nm,0.8s,baz=195,slow=7.3,SNR=26
SEY Seymchan 23.85 10⇓*e*P **P 21 10 26.3 +1.9**
HHC Hu-ho-hao-te 24.22 283 *e*P **P 21 10 28.6 +0.4**
HHC S **S 21 14 41.1 -4.3**
HHC sS pS 21 14 52.6 -0.2
HHC pmax pmax
comp=N,15nm,1.1s
HHC pmax pmax
comp=N,62nm,5.4s
HHC LR LR
comp=N,810nm,11.2s
HHC LR LR
comp=N,680nm,15.7s
HHC LR LR
comp=N,760nm,15.5s
WHN Wuhan 25.36 258 ⇓P **P 21 10 38.3 -0.1**
WHN pmax pmax
comp=N,82nm,1.0s
WHN LR LR
comp=N,560nm,11.2s
WHN LR LR
comp=N,900nm,14.5s
WHN LR LR
comp=N,930nm,18.8s
GUMO Guam 26.08 177 LR LR 21 19 48.6
comp=N,96nm,20.6s,baz=8.0,slow=34
BOD Bodaibo 26.17 323 *e*P **P 21 10 45.5 0.0**
BOD pmax pmax
comp=Z,36nm,1.1s
ULN Ulaanbaatar 27.24 299*ce*P **P 21 10 56.1 +0.6**
ULN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 27.24 299 *e*P **P 21 10 56.1 +0.6**
comp=Z,18nm,1.1s
SONA1 Songino Array 27.68 299 *e*P **P 21 10 59.3 -0.1**
SONM Songino Array 27.68 299 P **P 21 11 00.6 +1.1**
comp=Z,7.2nm,0.8s,baz=93,slow=8.1,SNR=11
SONM LR LR 21 22 39.9
comp=Z,538nm,19.5s,baz=61,slow=38
SONM Songino Array 27.68 299 P **P 21 11 00.6 +1.1**
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM MLR MLR
comp=Z,539nm,19.5s
XAN Xi'an 28.02 269 P **P 21 11 01.8 -0.7**
XAN pP pP 21 11 09.8 +0.4
XAN sP sP 21 11 12.8 +0.5
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,61nm,7.1s
XAN LR LR
comp=Z,210nm,14.8s
XAN LR LR
comp=Z,440nm,15.0s
XAN LR LR
comp=Z,540nm,14.5s
H11N2 WAKE ISLAND Hy 28.40 128 T T 21 42 04.4
baz=318,slow=75,SNR=188
H11N1 WAKE ISLAND Hy 28.41 128 T T 21 42 05.0
baz=318,slow=75,SNR=196
H11N3 WAKE ISLAND Hy 28.41 128 T T 21 42 06.2
baz=318,slow=75,SNR=176
ENH Enshi 29.17 262 *e*P **P 21 11 11.8 -0.9**
comp=Z,15nm,0.8s
H11S1 WAKE ISLAND Hy 29.22 130 T T 21 43 02.3
baz=320,slow=76,SNR=42
H11S3 WAKE ISLAND Hy 29.22 130 T T 21 43 04.5
baz=320,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 29.23 130 T T 21 43 05.1
baz=320,slow=76,SNR=27
TLY Talaya 29.83 307 LR LR 21 24 00.6
comp=Z,140nm,18.9s,baz=108,slow=38
TLY Talaya 29.83 307 *e*P **P 21 11 15.9 -2.5**
TLY *e* 21 12 19.4
TLY pmax pmax
comp=Z,12nm,1.5s
TLY MLR MLR
comp=Z,251nm,16.0s
ZAK Zakamensk 29.91 304 *e*P **P 21 11 18.3 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
BILL Bilibino 31.00 17 *e*P **P 21 11 29.1 +0.6**
BILL pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 31.23 276 *e*P **P 21 11 31.3 +0.3**
LZH pP pP 21 11 36.0 -2.0
LZH sP sP 21 11 38.6 -2.3
LZH PP **PnPn 21 12 34.0 +0.9**
LZH *e*S **S 21 16 35.5 -0.6**
LZH sS pS 21 16 47.3 +3.4
LZH SS **SnSn 21 18 19.3 +0.2**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,73nm,4.0s
LZH LR LR
comp=Z,310nm,13.6s
LZH LR LR
comp=Z,560nm,12.8s
LZH LR LR
comp=Z,580nm,14.9s
GYA Guiyang 33.25 258⇑*i*P **P 21 11 47.8 -1.0**
GYA pP pP 21 11 58.0 +2.2
GYA PP **PnPn 21 13 01.8 +2.6**
GYA S **S 21 17 06.3 -1.4**
GYA ScP **ScP 21 18 14.8 +1.1**
GYA SS **SnSn 21 19 07.0 -1.3**
GYA ScS **ScS 21 22 12.3 -2.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,580nm,17.4s
GYA LR LR
comp=Z,520nm,17.8s
GYA LR LR
comp=Z,540nm,17.6s
CD2 Chengdu 33.28 267 *e*P **P 21 11 48.5 -0.4**
CD2 S **S 21 17 06.4 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,580nm,14.4s
CD2 LR LR
comp=Z,500nm,15.9s
CD2 LR LR
comp=Z,750nm,13.4s
GTA Gaotai 33.33 284 *e*P **P 21 11 50.3 +0.9**
GTA pP pP 21 11 55.6 -0.8
GTA sP sP 21 11 58.8 -0.5
GTA PcP **PcP 21 14 31.9 +0.9**
GTA S **S 21 17 06.8 -2.0**
GTA sS pS 21 17 17.0 +0.4
GTA SS **SnSn 21 19 07.5 -2.6**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,74nm,5.9s
GTA LR LR
comp=Z,150nm,15.2s
GTA LR LR
comp=Z,630nm,15.9s
GTA LR LR
comp=Z,760nm,16.4s
QIZ Qiongzhong 35.47 244 P **P 21 12 08.8 +0.9**
QIZ S **S 21 17 42.8 +1.0**
QIZ LR LR
comp=Z,190nm,14.4s
QIZ LR LR
comp=Z,190nm,14.1s
QIZ LR LR
comp=Z,250nm,14.8s
KMI Kunming 36.94 259 P **P 21 12 21.8 +1.1**
KMI pmax pmax
comp=Z,5.0nm,0.6s
KMI pmax pmax
comp=Z,40nm,4.1s
WMQ Urumqi 41.06 294 P **P 21 12 56.1 +1.3**
WMQ pP pP 21 13 03.6 +1.7
WMQ sP sP 21 13 08.8 +4.0
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.9s
WMQ LR LR
comp=Z,260nm,15.5s
WMQ LR LR
comp=Z,230nm,19.9s
WMQ LR LR
comp=Z,100nm,16.3s
ZAA0 Zalesovo Array 41.29 310 *e*P **P 21 12 56.9 +0.4**
ZALV Zalesovo Beam 41.29 310 P **P 21 12 56.9 +0.4**
comp=Z,5.6nm,0.6s,baz=90,slow=7.9,SNR=31
ZALV PcP **PcP 21 14 55.1 +0.4**
comp=Z,2.0nm,0.6s,baz=90,slow=2.9,SNR=3.7
ZALV LR LR 21 30 31.4
comp=Z,100nm,21.6s,baz=70,slow=37
NRIK Noril'sk 41.49 334 LR LR 21 31 16.0
comp=Z,194nm,19.0s,baz=131,slow=38
CHTO Chiang Mai 43.47 255 *e*P **P 21 13 15.0 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 43.47 255 *e*P **P 21 13 15.0 +0.3**
comp=Z,4.4nm,1.0s
LSA Lhasa 43.54 273 *e*P **P 21 13 16.4 +0.7**
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 43.54 273 *e*P **P 21 13 16.4 +0.7**
comp=Z,6.5nm,1.0s
CMAR Chiang Mai Arr 43.69 254 P **P 21 13 16.6 +0.1**
comp=Z,1.4nm,0.7s,baz=45,slow=7.5,SNR=15
CMAR LR LR 21 33 33.3
comp=Z,116nm,19.2s,baz=194,slow=39
CMAR Chiang Mai Arr 43.69 254 *i*P **P 21 13 16.7 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CM01 Chiang Mai Arr 43.70 254 *e*P **P 21 13 16.3 -0.3**
MK01 Makanchi Array 44.04 300 *e*P **P 21 13 19.1 +0.1**
MK31 Makanchi Array 44.04 300*ce*P **P 21 13 19.0 0.0**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 44.04 300 *e*P **P 21 13 19.6 +0.6**
MKAR Makanchi Array 44.04 300 P **P 21 13 19.3 +0.3**
comp=Z,6.8nm,0.8s,baz=82,slow=9.5,SNR=31
MKAR LR LR 21 32 37.8
comp=Z,276nm,18.9s,baz=81,slow=37
MKAR Makanchi Array 44.04 300*ce*P **P 21 13 19.5 +0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 44.04 300 *e*P **P 21 13 19.6 +0.6**
comp=Z,52nm,0.6s
KDAK Kodiak Island 44.07 44 P **P 21 13 19.2 +0.2**
comp=Z,5.0nm,0.8s,baz=273,slow=7.5,SNR=5.4
KDAK Kodiak Island 44.07 44 *i*P **P 21 13 20.4 +1.4**
KURK Kurchatov 45.52 306*c i*P **P 21 13 30.5 -0.2**
KURK pmax pmax
comp=Z,55nm,0.9s
KURK Kurchatov 45.52 306 *e*P **P 21 13 30.6 0.0**
comp=Z,19nm,0.9s
IL1 Eielson Array 46.39 34 *e*P **P 21 13 38.2 +0.8**
ILAR Eielson Array 46.39 34 P **P 21 13 37.7 +0.3**
comp=Z,1.6nm,0.7s,baz=263,slow=6.5,SNR=21
ILB Eielson Array 46.39 34 *e*P **P 21 13 38.6 +1.2**
PDGK Podgornoye 46.92 296 *i*P **P 21 13 41.5 -0.4**
PDGK pmax pmax
comp=Z,6.0nm,0.9s
TAPN Taplejung 47.32 273 *e*P **P 21 13 46.2 +0.7**
comp=Z,33nm,1.0s
ODAN Odare 47.82 272 *e*P **P 21 13 49.6 +0.3**
comp=Z,16nm,0.7s
JIRN Jiri 48.34 274 *e*P **P 21 13 53.9 +0.4**
comp=Z,182nm,0.6s
RAMN Ramite 48.38 273 *e*P **P 21 13 53.6 0.0**
comp=Z,58nm,1.0s
GUN Gumba 48.45 274 *e*P **P 21 13 54.7 +0.4**
comp=Z,76nm,0.7s
KKN Kakani 48.98 275 *e*P **P 21 13 58.4 +0.2**
comp=Z,31nm,0.6s
PKIN Phulchoki 48.99 274 *e*P **P 21 13 58.2 -0.2**
comp=Z,12nm,0.6s
DMN Daman 49.20 274 *e*P **P 21 13 59.9 0.0**
GKN Gorkha 49.36 275 *e*P **P 21 14 01.1 0.0**
TKM2 Tokmak 2 49.74 297 *i*P **P 21 14 04.5 +0.7**
TKM2 pmax pmax
comp=Z,19nm,0.8s
DANN Dangsing 49.87 276 *e*P **P 21 14 05.2 +0.1**
comp=Z,3.4nm,0.8s
BVAR Borovoye Array 49.93 311 P **P 21 14 05.6 +0.7**
comp=Z,5.1nm,0.6s,baz=71,slow=8.8,SNR=28
BRVK Borovoye 49.98 311*ce*P **P 21 14 05.7 +0.5**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 49.98 311 *e*P **P 21 14 05.4 +0.2**
comp=Z,9.2nm,0.8s
KOLN Koldanda 50.28 275 *e*P **P 21 14 08.5 +0.4**
comp=Z,21nm,0.7s
PYUN Piuthan 50.58 276 *e*P **P 21 14 10.6 +0.2**
comp=Z,65nm,1.0s
AAK Ala-Archa 50.60 297*c i*P **P 21 14 10.2 -0.1**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 50.60 297 *e*P **P 21 14 10.0 -0.3**
comp=Z,16nm,1.7s
KSH Kashi 50.75 293 P **P 21 14 15.8 +4.4**
KSH pP pP 21 14 23.3 +4.7
KSH sP sP 21 14 26.1 +4.7
KSH PcP **PcP 21 15 31.4 +3.1**
KSH PP **PP 21 16 12.1 +4.7**
KSH PcS **PcS 21 19 28.3 +2.5**
KSH S **S 21 21 28.1 +2.5**
KSH sS sS 21 21 41.4 +3.9
KSH ScS **ScS 21 23 59.9 -0.9**
KSH SS **SS 21 25 02.0 +2.2**
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH pmax pmax
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,140nm,7.7s
KSH LR LR
comp=Z,160nm,11.8s
KSH LR LR
comp=Z,310nm,18.7s
HYT Haines Junctio 51.22 38 *e*P **P 21 14 16.2 +1.6**
comp=Z,8.7nm,1.0s
INK Inuvik 51.28 28 P **P 21 14 15.6 +0.9**
comp=Z,1.8nm,0.7s,baz=314,slow=1.7,SNR=3.0
MNAS Manas 52.02 298 *i*P **P 21 14 21.1 +0.2**
MNAS pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 53.13 299*ce*P **P 21 14 28.9 -0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 53.13 299 *e*P **P 21 14 29.2 +0.2**
KKAR pmax pmax
comp=Z,37nm,0.8s
KKAR Karatay Array 53.13 299 *e*P **P 21 14 29.2 +0.2**
comp=Z,37nm,0.8s
SVE Sverdlovsk 54.16 318 *e*P **P 21 14 36.9 +0.6**
SVE pmax pmax
comp=Z,21nm,1.2s
SVE MLR MLR
comp=Z,594nm,14.0s
SOKR Solikamsk 55.14 322 *e*P P 21 14 53.2 +10
SOKR pmax pmax
comp=Z,6.0nm,0.6s
SOKR MLR MLR
comp=Z,135nm,15.0s
ARU Arti 55.38 318*c i*P **P 21 14 45.2 +0.1**
ARU 21 15 41.5
ARU 21 16 46.5
ARU S **S 21 22 30.1 +2.2**
ARU SS **SS 21 26 12.7 +0.8**
ARU pmax pmax
comp=Z,16nm,1.0s
ARU MLR MLR
comp=Z,517nm,16.0s
ARU Arti 55.38 318 *e*P **P 21 14 45.8 +0.8**
comp=Z,12nm,0.8s
AB31 Akbulak array 57.40 309*ce*P **P 21 14 59.6 0.0**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 57.40 309 *e*P **P 21 14 59.9 +0.3**
comp=Z,67nm,0.7s
KBL Kabul 57.91 290 *e*P **P 21 15 03.5 -0.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.91 290 *e*P **P 21 15 03.5 -0.1**
comp=Z,7.6nm,0.8s
AKTO Aktyubinsk 58.03 311 *i*P **P 21 15 03.8 -0.2**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 59.97 190 P **P 21 15 15.6 -2.1**
comp=Z,2.9nm,0.8s,baz=8.8,slow=7.1,SNR=24
WRA Warramunga Arr 59.97 190 *i*P **P 21 15 16.3 -1.4**
WRA pmax pmax
comp=Z,3.0nm,0.8s
TMCR Tamitsa 61.12 331 *e*P **P 21 15 25.7 +0.7**
TMCR pmax pmax
comp=Z,24nm,1.1s
ARCES ARCESS Array B 62.01 339 P **P 21 15 31.7 +0.7**
comp=Z,5.3nm,0.9s,baz=45,slow=9.0,SNR=3.4
ARCES LR LR 21 45 20.0
comp=Z,122nm,20.4s,baz=52,slow=39
KLMR Klimovskoe 62.30 328 *e*P **P 21 15 31.9 -1.1**
KLMR pmax pmax
comp=Z,16nm,1.4s
ASAR Alice Springs 63.69 190 P **P 21 15 41.6 -1.1**
comp=Z,1.1nm,0.7s,baz=9.6,slow=6.3,SNR=12
GEYT Alibeck 63.88 299 P **P 21 15 43.9 -0.2**
comp=Z,2.1nm,0.6s,baz=323,slow=2.2,SNR=6.3
GEYT LR LR 21 46 46.7
comp=Z,70nm,19.6s,baz=130,slow=39
OBN Obninsk 66.85 323 *i*P **P 21 16 03.3 +0.4**
OBN pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 67.14 332 P **P 21 16 04.3 -0.2**
comp=Z,6.3nm,0.7s,baz=46,slow=6.1,SNR=13
FINES LR LR 21 48 38.4
comp=Z,226nm,18.1s,baz=38,slow=39
FINES FINESS Array B 67.14 332 *i*P **P 21 16 05.0 +0.4**
FINES pmax pmax
comp=Z,6.0nm,0.7s
MAK Makhachkala 68.01 308 *e*P **P 21 16 06.4 -4.0**
MAK *e*S **S 21 25 02.8 -5.3**
MAK pmax pmax
comp=Z,150nm,1.3s
MAK MLR MLR
comp=Z,316nm,13.0s
NCK Nalchik 70.04 310⇓*e*P **P 21 16 23.1 +0.1**
NCK pmax pmax
comp=Z,4.0nm,0.9s
ZEI Tsey 70.27 310 *e*P **P 21 16 24.1 -0.6**
ZEI pmax pmax
comp=Z,2.0nm,0.5s
KIV Kislovodsk 70.30 311 *e*P **P 21 16 25.4 +0.7**
KIV *e*S **S 21 25 35.6 +0.2**
KIV pmax pmax
comp=Z,23nm,0.9s
KIV MLR MLR
comp=Z,192nm,18.0s
KIV Kislovodsk 70.30 311 *e*P **P 21 16 25.2 +0.5**
comp=Z,21nm,0.9s
KBZ Khabaz 70.31 311 P **P 21 16 25.3 +0.7**
comp=Z,8.1nm,0.9s,baz=43,slow=2.7,SNR=12
BOZ Bozeman (W) 71.74 46 *e*P **P 21 16 35.3 +1.7**
BOZ pmax pmax
comp=Z,4.0nm,1.1s
BOZ Bozeman (W) 71.74 46 *e*P **P 21 16 35.3 +1.7**
comp=Z,3.9nm,1.1s
NC204 NORSAR Array S 72.22 338 *e*P **P 21 16 36.7 +0.7**
NB2 NORSAR Subarra 72.28 338 P **P 21 16 36.3 0.0**
comp=Z,3.4nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 72.28 338 P **P 21 16 36.8 +0.4**
comp=Z,5.6nm,0.8s,baz=39,slow=6.0,SNR=20
NOA LR LR 21 53 59.7
comp=Z,89nm,18.8s,baz=20,slow=40
NBO02 NORSAR Array S 72.38 338 *e*P **P 21 16 37.5 +0.6**
AKASG Malin Array Be 73.09 323 P **P 21 16 41.2 -0.1**
comp=Z,4.7nm,0.8s,baz=45,slow=6.0,SNR=14
AKASG LR LR 21 53 49.0
comp=Z,73nm,19.2s,baz=325,slow=40
KIEV Kiev 73.11 323⇓*e*P **P 21 16 41.6 +0.3**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 74.69 47 P **P 21 16 52.2 +1.1**
comp=Z,0.5nm,0.3s,baz=258,slow=2.7,SNR=3.3
SORM Soroca 75.27 321⇑*i*P **P 21 16 54.3 +0.3**
SORM Soroca 75.27 321 ⇑P **P 21 16 54.4 +0.4**
MARD Mardin 75.50 307 *e*P **P 21 16 56.2 +0.4**
comp=Z,12nm,0.8s
BUR08 Bucovina Ar. S 77.12 322 *e*P **P 21 17 05.5 +0.8**
BURAR Bucovina Array 77.13 322⇓*i*P **P 21 17 05.9 +1.1**
BURAR Bucovina Array 77.13 322 ⇓P **P 21 17 05.9 +1.1**
U15A North Rim 77.14 53 *e*P **P 21 17 07.2 +1.9**
U15A *ep*P **PcP 21 17 16.1 +0.1**

TESR Tescani 77.23 321 ⇓iP P 21 17 05.8 +0.6
STHS Stebnicka Huta 77.62 326 *eP* **P 21 17 09.1 +1.7**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 77.62 326 *eP* **P 21 17 09.1 +1.7**
OJC Ojcow 77.64 327 *eP* **P 21 17 08.7 +1.3**
OJC Ojcow 77.64 327 *eP* **P 21 17 08.1 +0.7**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 77.64 327 *eP* **P 21 17 08.1 +0.7**
comp=Z,8.1nm,0.9s
CRVS Cervenica-Dubn 77.91 325 *eP* **P 21 17 10.2 +1.2**
CRVS Cervenica-Dubn 77.91 325 *eP* **P 21 17 10.2 +1.2**
PHWY Pilot Hill 77.94 46 *eP* **P 21 17 11.8 +2.1**
comp=Z,47nm,0.7s
NIE Niedzica 78.03 326 *eP* **P 21 17 11.1 +1.4**
NIE Niedzica 78.03 326 *eP* **P 21 17 11.1 +1.4**
BRTR Keskin Array B 78.20 312 P **P 21 17 11.3 +0.4**
comp=Z,1.0nm,0.7s,baz=57,slow=4.6,SNR=4.7
BRTR LR LR 21 57 12.8
comp=Z,63nm,19.2s,baz=58,slow=40
BRTR Keskin Array B 78.20 312 *ceP* **P 21 17 11.6 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 78.92 328 ⇓*iP* **P 21 17 15.9 +1.3**
MORC Moravsky Berou 78.92 328 ⇓P **P 21 17 15.9 +1.3**
MORC Moravsky Berou 78.92 328 *eP* **P 21 17 15.2 +0.6**
comp=Z,20nm,0.9s
DPC Dobruska-Polom 78.97 329 *eP* **P 21 17 15.8 +0.9**
DPC *ex* x 21 17 27.4
DPC Dobruska-Polom 78.97 329 *eP* **P 21 17 15.8 +0.9**
DPC *e* 21 17 27.4
ARR Arges 79.03 321 ⇑*iP* **P 21 17 17.4 +2.1**
PSZ Piszkesteto 79.34 325 ⇑*iP* **P 21 17 17.9 +1.0**
PSZ Piszkesteto 79.34 325 ⇑P **P 21 17 17.9 +1.0**
VYHS Vyhne 79.36 326 *eP* **P 21 17 18.0 +1.0**
VYHS pmax pmax
comp=Z,32nm,2.9s
VYHS Vyhne 79.36 326 *eP* **P 21 17 18.0 +1.0**
CLL Collm 79.50 331 *iP* **P 21 17 17.9 +0.2**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 79.50 331 *iP* **P 21 17 17.9 +0.2**
comp=Z,5.0nm,0.9s
CLL *e* 21 17 31.0
CLL LmH 21 51 00.0
comp=N,100nm,21.1s
CLL LmH 21 51 00.0
comp=E,200nm,18.6s
CLL LmV 21 55 00.0
comp=Z,100nm,21.6s
CLL Collm 79.50 331 *eP* **P 21 17 18.1 +0.5**
comp=Z,5.3nm,0.9s
PVCC Panska Ves 79.53 330 *eP* **P 21 17 18.8 +1.0**
PVCC Panska Ves 79.53 330 *eP* **P 21 17 18.8 +1.0**
PRU Pruhonice 79.96 329 *eP* **P 21 17 20.9 +0.7**
PRU *ex* x 21 17 34.0
PRU Pruhonice 79.96 329 *eP* **P 21 17 20.9 +0.7**
PRU *e* 21 17 34.0
BZS Buzias 80.28 323 ⇑*iP* **P 21 17 22.8 +0.8**
BZS Buzias 80.28 323 ⇑P **P 21 17 22.8 +0.8**
RAR Rarotonga 80.54 128 LR LR 21 47 48.0
comp=Z,76nm,19.3s,baz=281,slow=32
MDVR Moldovita 80.86 322 ⇓*iP* **P 21 17 25.7 +0.5**
KHC Kasperske Hory 81.03 329 *eP* **P 21 17 26.6 +0.6**
KHC AMS AMS 21 57 40.0
comp=Z,300nm,12.1s
KHC Kasperske Hory 81.03 329 *eP* **P 21 17 27.0 +1.0**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 81.03 329 *eP* **P 21 17 27.0 +1.0**
comp=Z,2.1nm,0.9s
RAYN Ar Rayn 81.04 293 *eP* **P 21 17 26.7 +0.2**
comp=Z,3.3nm,0.8s
CONA Conrad Observa 81.06 327 *iP* **P 21 17 27.7 +1.4**
comp=Z,0.7nm,0.3s
GERES GERESS Array B 81.21 329 P **P 21 17 27.2 +0.1**
comp=Z,1.1nm,0.7s,baz=32,slow=5.3,SNR=10.0
GERES LR LR 21 58 10.3
comp=Z,143nm,18.2s,baz=5.0,slow=39
GEA0 GERESS Array S 81.21 329 *eP* **P 21 17 27.1 0.0**
ARSA Arzberg 81.73 327 *iP* **P 21 17 30.9 +1.1**
comp=Z,0.8nm,0.3s
VTS Vitosha 81.76 320 ⇑*iP* **P 21 17 31.2 +1.0**
VTS Vitosha 81.76 320 ⇑P **P 21 17 31.2 +1.0**
VTS Vitosha 81.76 320 *eP* **P 21 17 30.1 0.0**
comp=Z,4.1nm,0.8s
SOKA Soboth 82.39 327 *iP* **P 21 17 33.8 +0.5**
comp=Z,4.2nm,0.7s
OBKA Obir 82.73 327 *iP* **P 21 17 36.1 +1.0**
comp=Z,3.5nm,0.7s
KBA Koelnbreinsper 82.77 328 *iP* **P 21 17 33.8 -1.6**
comp=Z,9.7nm,0.6s
MYKA Terra Mystica 83.01 328 *iPcP* **P 21 17 38.8 +2.3**
comp=Z,1.5nm,0.4s
WTTA Wattenberg 83.30 329 *iP* **P 21 17 39.0 +0.9**
comp=Z,1.0nm,0.3s
ABTA Abfaltersbach 83.37 328 *iP* **P 21 17 38.0 -0.3**
comp=Z,2.8nm,0.8s
MOTA Moosalm 83.44 330 *iP* **P 21 17 39.1 +0.3**
comp=Z,3.3nm,0.9s
BFO Black Forest 83.68 332 *iP* **P 21 17 40.9 +1.0**
FETA Feichten 83.86 330 *iP* **P 21 17 41.6 +0.7**
comp=Z,0.2nm,0.2s
DAVA Damuels 83.97 330 *iPcP* **P 21 17 42.8 +1.3**
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 87.27 54 P **P 21 17 58.8 +0.6**
comp=Z,0.1nm,0.5s,baz=270,slow=3.1,SNR=4.1
ESDC Sonseca Array 95.51 335 LR LR 22 07 14.3
comp=Z,81nm,18.4s,baz=320,slow=39
TORD Torodi Ar. Bea 116.45 318 PP PP 21 24 59.5 -1.7
comp=Z,1.3nm,1.1s,baz=23,slow=6.1,SNR=4.7
SNAA Sanae 143.78 197 PKP PKPbc 21 24 42.7 -0.1
VNA2 Neumayer--Watz 145.34 196 PKP **PKPbc 21 24 45.8 -2.0**
baz=262,slow=3.2
VNA1 Neumayer--Stat 145.74 196 PKP **PKPdf 21 24 48.7 +0.2**

MAN 13 21:05:22.8N64N×126°42E, h58km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.46**	**188**	⇑*eP*	Pn	21 05 35.4	+2.0
BIPH				*i* S	Sn	21 05 45.0	+3.4
BUKP	**Musuan**	**1.54**	**241**	*eP*	Pn	21 05 48.0	+0.7
BUKP				*eS*	Sn	21 06 08.4	+2.0
MATI	**Mati**	**1.69**	**186**	*eP*	Pn	21 05 51.0	+1.7
MATI				*eS*	Sn	21 06 12.4	+2.6

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*IDC **13** 21:35:17.6±1.0, 30°.02S×177°.26W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/29, mbtmp4.3/9, ML4.6/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/31, Error ellipse: s-maj=25.6km s-min=21.1km az=83.0*
*NEIC **13** 21:35:19.0±0.9, 30°.15S×177°.14W, h10km, mb4.5/4, Error ellipse: s-maj=23.2km s-min=16.8km az=87.0*
*ISCJB **13** 21:35:21.9±0.8, 30°.10S±0°.06×177°.4W±0°.2, h35km, mb4.3/11, MS3.7/5, Error ellipse: s-maj=19.6km s-min=8.4km az=167.3*
ISC 13 21:35:23.2±0.7, 30°.15S±0°.07×177°.4W±0°.1, h35km, n30, σ1§95/28, mb4.3/10, MS3.7/5, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**334**	Pn	**Pn**	**21 35 39.2**	**-1.5**
	879nm,0.3s,baz=36,slow=18,SNR=31						
RAO				Sn	**Sn**	**21 35 50.6**	**-3.0**
	4μm,0.3s,baz=107,slow=19,SNR=41						
URZ	**Urewera**	**9.27**	**208**	Pn	**Pn**	**21 37 31.7**	**-2.6**
	1.2nm,0.3s,baz=37,slow=13,SNR=3.8						
URZ				Sn	**Sn**	**21 39 12.7**	**-4.6**
	5.7nm,0.3s,baz=242,slow=20,SNR=9.8						
RPZ	**Rata Peaks**	**16.35**	**211**	Pn	**Pn**	**21 39 10.1**	**+0.1**
	2.0nm,0.3s,baz=327,slow=5.1,SNR=4.7						
RPZ				Sn	Sn	21 41 55.1	-15
	0.7nm,0.3s,baz=346,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**16.57**	**295**	Pn	**P**	**21 39 20.0**	**+4.8**
	0.2nm,0.3s,baz=77,slow=14,SNR=4.1						
DZM				LR	LR	21 44 11.6	
	comp=Z,173nm,19.2s,baz=62,slow=32						
DZM	**Mont Dzumac**	**16.57**	**295**	*eLR*	LR	21 42 58.8	
	276nm,23.6s						
TBI	**Tubuai**	**25.82**	**82**	*eT*	T	22 07 23.7	
	10nm,0.3s						
PPT2	**Papeete2**	**28.28**	**70**	*eLQ*	LQ	21 47 00.2	
	306nm,24.5s						
PPT2				*eLR*	LR	21 48 24.0	
	245nm,24.8s						
CTA	**Charters Tower**	**34.26**	**278**	P	**P**	**21 42 07.8**	**+1.8**
	8.6nm,0.8s,baz=98,slow=11,SNR=9.7						
CTAO	**Charters Tower**	**34.26**	**278**	*eP*	**P**	**21 42 07.4**	**+1.3**
	3.3nm,0.3s						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**21 42 14.4**	**+1.8**
	3.0nm,0.4s,baz=99,slow=11,SNR=12						
STKA				LR	LR	21 55 28.9	
	comp=Z,110nm,18.3s,baz=188,slow=34						
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**21 43 24.1**	**-0.3**
	2.0nm,0.7s,baz=105,slow=7.8,SNR=22						
ASAR				LR	LR	22 01 00.2	
	comp=Z,150nm,18.8s,baz=126,slow=35						
WRAB	**Tennant Creek**	**44.59**	**272**	*eP*	**P**	**21 43 32.9**	**+0.7**
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**21 43 32.2**	**-0.1**
	8.2nm,0.5s,baz=110,slow=8.1,SNR=181						
WRA				LR	LR	22 00 50.6	
	comp=Z,62nm,19.1s,baz=260,slow=34						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**21 44 02.6**	**+1.4**
	0.9nm,0.6s,baz=12,slow=4.8,SNR=4.5						
FITZ	**Fitzroy Crossi**	**52.87**	**269**	P	**P**	**21 44 36.1**	**+0.3**
	2.5nm,0.8s,baz=138,slow=12,SNR=3.3						
NWAO	**Narrogin (SRO)**	**54.96**	**249**	LR	LR	22 07 00.1	
	comp=Z,86nm,18.6s,slow=34						
QSPA	**South Pole Qui**	**59.96**	**180**	*eP*	**P**	**21 45 27.0**	**+1.2**
	4.3nm,1.0s						
SYO	**Syowa Base**	**77.47**	**193**	⇑*eP*	**P**	**21 47 15.0**	**+0.5**
SYO	**Syowa Base**	**77.47**	**193**	⇓*ePcP*	**PcP**	**21 47 24.6**	**-0.2**
MJAR	**Matsushiro Arr**	**78.33**	**325**	P	**P**	**21 47 20.7**	**+1.0**
	2.3nm,0.9s,baz=156,slow=5.7,SNR=5.0						
PDAR	**Pinedale Array**	**95.61**	**43**	LR	LR	22 25 53.1	
	comp=Z,27nm,19.4s,baz=256,slow=32						
ILAR	**Eielson Array**	**97.57**	**13**	P	**P**	**21 48 52.0**	**-1.2**
	0.2nm,0.5s,baz=241,slow=3.0,SNR=3.0						
COLD	**Coldfoot**	**99.23**	**10**	*eP*	**Pdif**	**21 49 00.9**	**+0.4**
	0.4nm,0.5s						
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc	**PKPdf**	**21 54 55.7**	**-0.4**
	5.4nm,0.6s,baz=53,slow=4.0,SNR=39						
NB2	**NORSAR Subarra**	**148.58**	**352**	PKP	**PKPab**	**21 55 07.3**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.58**	**352**	PKPbc	**PKPbc**	**21 55 04.6**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=7.0,slow=3.9,SNR=2.9						
AKASG	**Malin Array Be**	**151.41**	**323**	PKPbc	**PKPbc**	**21 55 11.2**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=51,slow=3.8,SNR=5.0						
AKASG				PKPab	**pPKPdf**	**21 55 19.3**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=48,slow=3.1,SNR=11						
BRTR	**Keskin Array B**	**152.92**	**299**	PKPbc	**PKPbc**	**21 55 16.9**	**0.0**
	comp=Z,0.8nm,0.7s,baz=143,slow=4.3,SNR=5.1						
GERES	**GERESS Array B**	**159.50**	**339**	PKPab	**PKPab**	**21 55 54.4**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=354,slow=8.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**163.06**	**177**	PKPab	**PKPab**	**21 56 14.6**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=191,slow=2.3,SNR=2.6						

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*CSEM **13** 21:37:39.2, 36°.98N×15°.03E, h10km, MD1.7/5*
ROM 13 21:37:39.2±0.1, 36°.98N×15°.03E, h10km, Md1.7/5, Ml1.8/4, Error ellipse: s-maj=0.9km s-min=0.6km az=162.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVL	**Avola**	**0.08**	**104**	Pg	Pg	21 37 41.9	+0.4
HAVL				Sg	Sg	21 37 43.5	+0.4
	378nm,0.1s						
HAVL	**Avola**	**0.08**	**104**	Pg	Pg	21 37 41.9	+0.4
HAVL				Sg	Sg	21 37 43.5	+0.4
	378nm,0.1s						
SSY	**Sortino**	**0.18**	**10**	Pg	Pg	21 37 43.7	+0.7
SSY				Sg	Sg	21 37 47.0	+1.3
	291nm,0.2s						
SSY	**Sortino**	**0.18**	**10**	Pg	Pg	21 37 43.7	+0.7
SSY				Sg	Sg	21 37 47.0	+1.3
	291nm,0.2s						
HMDC	**Modica**	**0.20**	**264**	Pg	Pg	21 37 44.1	+0.7
HMDC				Sg	Sg	21 37 47.5	+1.2
	60nm,0.2s						
HMDC	**Modica**	**0.20**	**264**	Pg	Pg	21 37 44.1	+0.7
HMDC				Sg	Sg	21 37 47.5	+1.2
	60nm,0.2s						
HCRL	**Carlentini**	**0.30**	**0**	Pg	Pg	21 37 46.0	+0.7
HCRL				Sg	Sb	21 37 51.2	-0.7
	469nm,0.2s						
HCRL	**Carlentini**	**0.30**	**0**	Pg	Pg	21 37 46.0	+0.7
HCRL				Sg	Sb	21 37 51.2	-0.7
	469nm,0.2s						
HAGA	**Augusta**	**0.32**	**18**	Pg	Pg	21 37 46.2	+0.6
HAGA				Sg	Sb	21 37 51.3	-1.1
	43nm,0.3s						
HAGA	**Augusta**	**0.32**	**18**	Pg	Pg	21 37 46.2	+0.6
HAGA				Sg	Sb	21 37 51.3	-1.1
	43nm,0.3s						

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*IDC **13** 21:43:45.5±9.6, 5°.58N×125°.78E, h75km±91km, mb3.6/9, mb1 3.8/9, mb1mx3.6/31, mbtmp3.9/9, MS3.4/1, Ms1 3.4/1, ms1mx2.6/40, Error ellipse: s-maj=47.2km s-min=18.7km az=78.0*
*DJA **13** 21:43:46.7±2.3, 6°N±7°×12°6E±°, h10km±23km, M4.7/7, mb4.8/4, mB5.1/4, MLv4.7/7, Mw(mB)4.5/4*
*ISCJB **13** 21:43:48.2±0.4, 5°.55N±0°.03×125°.73E±0°.08, h116km±5km, mb3.8/11, Error ellipse: s-maj=13.2km s-min=5.4km az=0.0*
ISC 13 21:43:48.8±0.8, 5°.56N±0°.04×125°.80E±0°.08, h103km±8km, n28, σ1§82/33, mb4.0/11, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.00**	**302**	⇑*iP*	**Pn**	**21 44 08.1**	**-1.4**
GSPH				*i* S	**Sn**	**21 44 22.8**	**-2.4**
MATI	**Mati**	**1.45**	**18**	*eP*	**Pn**	**21 44 12.0**	**-2.7**
MATI				*eS*	**Sn**	**21 44 37.7**	**+3.4**
KCP	**Kidapawan**	**1.61**	**334**	⇑*iP*	**Pn**	**21 44 16.1**	**-0.5**
KCP				*i* S	**Sn**	**21 44 39.3**	**+1.5**
SGSI	**Sangihe**	**1.88**	**188**	P	**Pn**	**21 44 20.5**	**+0.5**
SGSI				S	**Sn**	**21 44 45.2**	**+1.5**
CTBH	**Cotabato--PC H**	**2.26**	**317**	⇑*iP*	**Pn**	**21 44 24.8**	**-0.2**
BUKP	**Musuan**	**2.42**	**342**	*eP*	**Pn**	**21 44 27.2**	**+0.2**
BUKP				*eS*	**Sn**	**21 44 57.1**	**+0.7**
BIPH	**Bislig**	**2.67**	**12**	⇓*eP*	**Pn**	**21 44 31.0**	**+0.7**
BIPH				*eS*	**Sn**	**21 45 04.4**	**+2.3**
PAGZ	**Pagadian**	**3.31**	**314**	*eP*	**Pn**	**21 44 39.5**	**+0.7**
SCPH	**Surigao**	**4.21**	**356**	*eP*	**Pn**	**21 44 50.9**	**0.0**
MRSI	**Marisa**	**6.35**	**217**	P	**Pn**	**21 45 22.0**	**+2.1**
LBMI	**Labuha**	**6.38**	**165**	P	**Pn**	**21 45 20.2**	**-0.2**
SANI	**Sanana**	**7.56**	**179**	P	**Pn**	**21 45 35.1**	**-1.3**
SANI				S	**Sn**	**21 46 55.8**	**-4.7**
APSI	**Ampana**	**7.64**	**213**	P	Pn	21 45 42.7	+5.2
MPSI	**Mapaga**	**7.85**	**229**	P	**Pn**	**21 45 43.3**	**+3.0**
SPSI	**Sidrap Palu**	**11.21**	**213**	P	Pn	21 46 19.7	-6.3
BNSI	**Bone**	**11.41**	**210**	P	**P**	**21 46 40.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**23.51**	**180**	P	**P**	**21 48 49.5**	**-0.2**
	3.1nm,0.4s,baz=5.9,slow=11,SNR=8.6						
WRA	**Warramunga Arr**	**26.69**	**162**	P	**P**	**21 49 17.7**	**-0.9**
	1.3nm,0.9s,baz=336,slow=11,SNR=12						
ASAR	**Alice Springs**	**30.10**	**165**	P	**P**	**21 49 47.1**	**-1.7**
	0.3nm,0.5s,baz=343,slow=7.7,SNR=4.6						
KSRS	**Korea Array**	**31.81**	**3**	P	**P**	**21 50 05.2**	**+1.5**
	0.7nm,0.5s,baz=192,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**32.87**	**19**	P	**P**	**21 50 12.0**	**-1.0**
	1.3nm,0.8s,baz=198,slow=9.6,SNR=4.1						
USRK	**Ussuriysk Ar.**	**38.87**	**7**	P	**P**	**21 51 05.9**	**+1.8**
	1.7nm,0.6s,baz=178,slow=8.2,SNR=5.2						
STKA	**Stephens Creek**	**40.16**	**159**	P	**P**	**21 51 16.0**	**+1.1**
	2.0nm,0.7s,baz=340,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**55.54**	**325**	P	**P**	**21 53 13.3**	**-0.2**
	0.5nm,0.3s,baz=116,slow=7.2,SNR=13						
ZALV	**Zalesovo Beam**	**58.55**	**333**	P	**P**	**21 53 33.6**	**-0.9**
	0.7nm,0.4s,baz=130,slow=7.5,SNR=3.7						
ZALV				LR	LR	22 21 45.2	
	comp=Z,34nm,19.6s,baz=74,slow=39						
ILAR	**Eielson Array**	**83.86**	**26**	P	**P**	**21 56 07.0**	**+0.2**
	0.2nm,0.4s,baz=261,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**89.80**	**332**	P	**P**	**21 56 34.0**	**-1.6**
	2.5nm,0.8s,baz=76,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**121.46**	**289**	PKP	**PKPdf**	**22 02 31.2**	**-0.1**
	0.3nm,0.7s,baz=72,slow=1.8,SNR=3.4						

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*ISCJB **13** 21:53:57.5±0.4, 37°.81N±0°.02×27°.11E±0°.04, h5km±4km, Error ellipse: s-maj=6.0km s-min=2.8km az=145.7*

*CSEM **13** 21:53:57.8±0.2, 37°.82N×27°.14E, h5km, ML2.8, Error ellipse: s-maj=5.1km s-min=2.8km az=55.0*
*DDA **13** 21:53:57.0, 37°.82N×27°.09E, h10km, Ml2.8*
*ISK **13** 21:53:57.4, 37°.88N×27°.19E, h6km, MD2.9*
ISC 13 21:53:57.6±0.8, 37°.83N±0°.02×27°.12E±0°.02, h12km±6km, n51, σ0§72/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.15**	**145**	*iP*	**Pg**	**21 54 01.2**	**0.0**
GCAM				*i* S	**Sg**	**21 54 03.7**	**0.0**
GCAM	**G?zelcaml?**	**0.15**	**145**	P	**Pg**	**21 54 01.2**	**0.0**
GCAM				S	**Sg**	**21 54 03.7**	**0.0**
DGB	**˜zmir**	**0.29**	**320**	*iP*	**Pg**	**21 54 03.5**	**-0.1**
DGB				*i* S	**Sg**	**21 54 07.2**	**-0.4**
GMLD	**Gumuldur**	**0.30**	**327**	*ePG*	**Pg**	**21 54 04.1**	**+0.4**
GMLD				*eSG*	**Sg**	**21 54 07.8**	**0.0**
GMLD	**Gumuldur**	**0.30**	**327**	*ePg*	**Pg**	**21 54 04.1**	**+0.4**
GMLD				*eSg*	**Sg**	**21 54 07.8**	**0.0**
AYDN	**Tasoluk**	**0.62**	**105**	*iP*	**Pg**	**21 54 09.4**	**-0.3**
AYDN				*i* S	**Sb**	**21 54 18.7**	**-0.4**
AYDN	**Tasoluk**	**0.62**	**105**	P	**Pg**	**21 54 09.4**	**-0.3**
AYDN				S	**Sb**	**21 54 18.7**	**-0.4**
ZEY	**˜zmir**	**0.64**	**310**	*iP*	**Pg**	**21 54 09.7**	**-0.3**
ZEY				*i* S	**Sg**	**21 54 18.6**	**+0.2**
URLA	**Izmir**	**0.68**	**322**	*ePG*	**Pg**	**21 54 11.1**	**+0.4**
URLA				*eSG*	**Sg**	**21 54 20.1**	**+0.5**
URLA	**Izmir**	**0.68**	**322**	*iP*	**Pg**	**21 54 10.4**	**-0.3**
URLA				*i* S	**Sg**	**21 54 20.0**	**+0.4**
URLA	**Izmir**	**0.68**	**322**	P	**Pg**	**21 54 10.4**	**-0.3**
URLA	**Izmir**	**0.68**	**322**	*ePg*	**Pg**	**21 54 11.1**	**+0.4**
URLA				S	**Sg**	**21 54 20.0**	**+0.4**
MLSB	**Milas**	**0.74**	**135**	*ePG*	**Pb**	**21 54 12.3**	**-0.1**
MLSB	**Milas**	**0.74**	**135**	*ePg*	**Pb**	**21 54 12.3**	**-0.1**
BODT	**Bodrum**	**0.78**	**169**	*ePG*	**Pb**	**21 54 13.2**	**+0.2**
BODT	**Bodrum**	**0.78**	**169**	*ePg*	**Pb**	**21 54 13.2**	**+0.2**
BDRM	**Kayabasi**	**0.80**	**161**	*iP*	**Pg**	**21 54 12.8**	**-0.3**
BDRM				*i* S	**Sg**	**21 54 23.5**	**-0.1**
BDRM	**Kayabasi**	**0.80**	**161**	P	**Pg**	**21 54 12.8**	**-0.3**
BDRM				S	**Sg**	**21 54 23.5**	**-0.1**
KRBN	**Karaburun**	**0.89**	**330**	*ePG*	**Pg**	**21 54 14.7**	**0.0**
KRBN	**Karaburun**	**0.89**	**330**	*ePg*	**Pg**	**21 54 14.7**	**0.0**
CHOS	**Chios island**	**1.01**	**304**	*ePG*	**Pn**	**21 54 18.2**	**+0.6**
CHOS	**Chios island**	**1.01**	**304**	*ePg*	**Pn**	**21 54 18.2**	**+0.6**
DAT	**Datca**	**1.16**	**161**	*ePN*	**Pg**	**21 54 20.1**	**+0.3**
DAT	**Datca**	**1.16**	**161**	*iP*	**Pb**	**21 54 19.1**	**-0.4**
DAT				*i* S	**Sb**	**21 54 34.6**	**+0.2**
DAT	**Datca**	**1.16**	**161**	P	**Pb**	**21 54 19.1**	**-0.4**
DAT	**Datca**	**1.16**	**161**	*ePn*	**Pg**	**21 54 20.1**	**+0.3**
DAT				S	**Sb**	**21 54 34.6**	**+0.2**
DKL	**Dikili**	**1.25**	**352**	*ePN*	**Pn**	**21 54 20.7**	**-0.1**
DKL	**Dikili**	**1.25**	**352**	*ePn*	**Pn**	**21 54 20.7**	**-0.1**
MANT	**Manisa**	**1.31**	**59**	*iP*	**Pg**	**21 54 22.9**	**+0.1**
MANT				*i* S	**Sb**	**21 54 36.9**	**-2.2**
MANT	**Manisa**	**1.31**	**59**	P	**Pg**	**21 54 22.9**	**+0.1**
KULA	**Kula-Manisa**	**1.39**	**60**	*ePN*	**Pn**	**21 54 23.1**	**+0.3**
KULA	**Kula-Manisa**	**1.39**	**60**	*ePn*	**Pn**	**21 54 23.1**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.47**	**104**	*iP*	**Pn**	**21 54 22.6**	**-1.3**
TAVA				*i* S	**Sg**	**21 54 47.3**	**+2.5**
TAVA	**DENIZLI_Tavas**	**1.47**	**104**	P	**Pn**	**21 54 22.6**	**-1.3**
APE	**Apeiranthos**	**1.48**	**240**	*ePN*	**Pg**	**21 54 26.1**	**+0.2**
APE	**Apeiranthos**	**1.48**	**240**	*ePn*	**Pg**	**21 54 26.1**	**+0.2**
TURN	**Turunc**	**1.52**	**128**	*iP*	**Pn**	**21 54 22.3**	**-2.1**
TURN				*i* S	**Sn**	**21 54 42.9**	**-1.2**
DNZL	**Cakiroluk**	**1.53**	**95**	*iP*	**Pb**	**21 54 26.3**	**+0.3**
DNZL				*i* S	**Sg**	**21 54 49.1**	**+2.2**
DNZL	**Cakiroluk**	**1.53**	**95**	P	**Pb**	**21 54 26.3**	**+0.3**
DALY	**Dalyan (Mu˜la**	**1.58**	**129**	*ePN*	**Pb**	**21 54 27.0**	**+0.3**
DALY	**Dalyan (Mu˜la**	**1.58**	**129**	*ePn*	**Pb**	**21 54 27.0**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.62**	**17**	*iP*	**Pb**	**21 54 27.2**	**-0.1**
STEP				*i* S	**Sg**	**21 54 49.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.62**	**17**	P	**Pb**	**21 54 27.2**	**-0.1**
STEP				S	**Sg**	**21 54 49.9**	**+0.3**
SIGR	**SIGRI**	**1.70**	**325**	*ePN*	**Pb**	**21 54 28.5**	**-0.2**
SIGR	**SIGRI**	**1.70**	**325**	*ePn*	**Pb**	**21 54 28.5**	**-0.2**
DEMI	**Demirci**	**1.74**	**45**	*iP*	**Pg**	**21 54 30.8**	**-0.2**
DEMI				*i* S	**Sb**	**21 54 51.9**	**+0.5**
DEMI	**Demirci**	**1.74**	**45**	P	**Pg**	**21 54 30.8**	**-0.2**
DEMI				S	**Sb**	**21 54 51.9**	**+0.5**
FETY	**Fethiye**	**1.97**	**127**	*ePN*	**Pn**	**21 54 31.7**	**+1.0**
FETY	**Fethiye**	**1.97**	**127**	*ePn*	**Pn**	**21 54 31.7**	**+1.0**
AKAS	**Kas**	**2.55**	**128**	*ePN*	**Pn**	**21 54 40.0**	**+1.2**
AKAS	**Kas**	**2.55**	**128**	*ePn*	**Pn**	**21 54 40.0**	**+1.2**

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*NSSC **13** 22:08:34.1±2.0, 39°.65N×42°.92E, h0km±115km, ML3.0*
*NSSP **13** 22:08:44.4, 38°.80N×42°.28E, h5km, Ms3.3*
*ISK **13** 22:08:45.6, 38°.91N×42°.33E, h5km, ML3.3*
*CSEM **13** 22:08:47.1±0.2, 38°.89N×42°.34E, h2km, ML3.8, Error ellipse: s-maj=4.4km s-min=3.8km az=142.0*
*AZER **13** 22:08:52.0±3.2, 38°.91N×41°.98E, h4km, Error ellipse: s-maj=37.5km s-min=24.3km az=2.0*
*DDA **13** 22:09:41.2, 38°.88N×42°.32E, h4km, Ml3.8*
*ISN **13** 22:09:50.4±1.1, 38°.19N×42°.77E, h0km±4km, ML3.6*
ISC 13 22:08:46.9±1.1, 38°.90N±0°.01×42°.35E±0°.02, h2km±10km, n111, σ1§74/161, 8C-7D, Turkey

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

SIRN				S		Sg	22 09 33.4	+1.6
BINT	**Bingol**	**1.45**	**270**	*e*Pn		**Pn**	22 09 10.9	-3.4
YEDI	**Yedisu-Bingol**	**1.50**	**292**	*e*PN		**Pn**	22 09 13.6	-1.5
YEDI	**Yedisu-Bingol**	**1.50**	**292**	*e*Pn		**Pn**	22 09 13.6	-1.5
SENK	**Senkaya-Erzuru**	**1.66**	**0**	*e*PN		**Pn**	22 09 16.9	-0.5
SENK	**Senkaya-Erzuru**	**1.66**	**0**	*e*Pn		**Pn**	22 09 16.9	-0.5
DIGO	**Kars**	**1.71**	**27**	*i* P		**Pb**	22 09 19.2	-0.1
DIGO				*i* S		**Sg**	22 09 45.2	+3.2
DIGO	**Kars**	**1.71**	**27**	P		**Pb**	22 09 19.2	-0.1
KOPT	**Kop Dagi**	**1.82**	**309**	*i* P		**Pb**	22 09 20.5	-0.6
KOPT				*i* S		**Sg**	22 09 48.3	+3.0
KOPT	**Kop Dagi**	**1.82**	**309**	P		**Pb**	22 09 20.5	-0.6
CUKT	**Cukurca**	**1.92**	**148**	*e*PN		**Pb**	22 09 21.6	-1.2
CUKT	**Cukurca**	**1.92**	**148**	*e*Pn		**Pb**	22 09 21.6	-1.2
DIYA	**Diyarbakir**	**2.00**	**242**	*i* P		**Pb**	22 09 21.2	-0.6
DIYA				*i* S		**Sb**	22 09 48.0	-1.5
DIYA	**Diyarbakir**	**2.00**	**242**	P		**Pn**	22 09 21.2	-0.6
DIYA				S		**Sb**	22 09 48.0	-1.5
EAK	**Akyaka**	**2.04**	**28**	*i* P		**Pb**	22 09 24.9	+0.1
EAK				*i* S		**Sg**	22 09 58.3	+6.0
EAK	**Akyaka**	**2.04**	**28**	P		**Pb**	22 09 24.9	+0.1
DDEM	**Demirkent**	**2.05**	**347**	*i* P		**Pn**	22 09 23.0	+0.5
DDEM				*i* S		**Sg**	22 09 54.1	+1.4
DDEM	**Demirkent**	**2.05**	**347**	P		**Pn**	22 09 23.0	+0.5
MAZI	**Mazidag**	**2.07**	**227**	*e*PN		**Pn**	22 09 22.6	-0.2
MAZI	**Mazidag**	**2.07**	**227**	*e*Pn		**Pn**	22 09 22.7	-0.2
ERZN	**Erzincan**	**2.15**	**290**	*e*PN		**Pn**	22 09 23.8	-0.2
DAGI	**Agillar**	**2.21**	**351**	*i* P		**Pb**	22 09 26.4	-1.2
DAGI				*i* S		**Sg**	22 09 57.5	-0.3
EUZM	**Uzumlu**	**2.21**	**292**	*i* P		**Pn**	22 09 25.4	+0.6
EUZM				*i* S		**Sg**	22 09 59.9	+2.0
EUZM	**Uzumlu**	**2.21**	**292**	P		**Pn**	22 09 25.4	+0.6
GNI	**Garni**	**2.24**	**55**	⇑*i*P		**Pb**	22 09 28.1	-0.1
GNI				⇑*i*S		**Sg**	22 09 59.5	+0.7
GNI	**Garni**	**2.24**	**55**	⇑P		**Pb**	22 09 28.1	-0.1
PTK	**Pertek**	**2.31**	**271**	*e*PN		**Pn**	22 09 26.1	0.0
PTK	**Pertek**	**2.31**	**271**	*e*Pn		**Pn**	22 09 26.1	0.0
SVRC	**Sivrice-ELAZID**	**2.44**	**259**	*e*PN		**Pn**	22 09 28.1	+0.2
SVRC	**Sivrice-ELAZID**	**2.44**	**259**	*e*Pn		**Pn**	22 09 28.2	+0.2
NAX	**Nakhchivan**	**2.47**	**83**	⇓Pn		**Pg**	22 09 36.6	+2.4
NAX				⇓Sn		**Sg**	22 10 11.6	+5.4
NAX	**Nakhchivan**	**2.47**	**83**	Pn		**Pg**	22 09 36.6	+2.4
NAX				Sn		**Sg**	22 10 11.6	+5.4
EZC	**Erzincan**	**2.47**	**291**	*e*Pn		**Pn**	22 09 23.8	-4.6
BGD	**Bogdanovka**	**2.55**	**22**	P		**Pn**	22 09 31.0	+1.4
AKH	**Akhalkalaki**	**2.66**	**19**	*e*PN		**Pn**	22 09 31.3	+0.2
AKH	**Akhalkalaki**	**2.66**	**19**	P		**Pn**	22 09 32.2	+1.2
AKH	**Akhalkalaki**	**2.66**	**19**	*e*Pn		**Pn**	22 09 31.3	+0.2
KTUT	**Trabzon**	**2.88**	**317**	*e*PN		**Pn**	22 09 34.2	+0.3
KTUT	**Trabzon**	**2.88**	**317**	*e*Pn		**Pn**	22 09 34.2	+0.3
SFNV	**Sufian**	**3.04**	**216**	*e*P		**Pn**	22 09 35.8	-0.4
SFNV				*e*S		**Sb**	22 10 21.4	+1.8
SFNV				AML		AML	22 10 42.1	
	comp=Z,86nm,0.5s							
URFA	**Urfa**	**3.13**	**244**	*e*PN		**Pn**	22 09 38.5	+1.0
URFA	**Urfa**	**3.13**	**244**	*e*Pn		**Pn**	22 09 38.5	+1.0
QZX	**Qazax, Azerbai**	**3.17**	**46**	⇓Pn		**Pb**	22 09 45.2	+1.1
QZX				⇑Sn		**Sg**	22 10 26.7	-2.2
QZX	**Qazax, Azerbai**	**3.17**	**46**	Pn		**Pb**	22 09 45.2	+1.1
QZX				Sn		**Sg**	22 10 26.7	-2.2
GDB	**GEDABAY**	**3.20**	**54**	⇑Pn		**Pb**	22 09 46.3	+1.8
GDB				⇓Sn		**Sg**	22 10 29.2	-0.4
GDB	**GEDABAY**	**3.20**	**54**	Pn		**Pb**	22 09 46.3	+1.8
GDB				Sn		**Sg**	22 10 29.2	-0.4
MZRK	**Al-Mazaregh**	**3.35**	**204**	*e*P		**Pn**	22 09 41.1	+0.8
MZRK				*e*S		**Sb**	22 10 28.5	+0.2
MZRK				AML		AML	22 10 36.3	
	comp=Z,223nm,0.6s							
TBLG	**Delisi**	**3.37**	**32**	*e*PN		**Pn**	22 09 42.0	+1.3
TBLG	**Delisi**	**3.37**	**32**	P		**Pn**	22 09 42.2	+1.5
TBLG	**Delisi**	**3.37**	**32**	*e*Pn		**Pn**	22 09 42.0	+1.3
DGRG	**David-gareji**	**3.45**	**41**	P		**Pn**	22 09 44.0	+2.3
GANJ	**Ganja**	**3.53**	**59**	⇓Pn		**Pb**	22 09 51.1	+1.0
GANJ				⇑Sn		**Sg**	22 10 37.0	-3.2
GANJ	**Ganja**	**3.53**	**59**	Pn		**Pb**	22 09 51.1	+1.0
GANJ				Sn		**Sg**	22 10 37.0	-3.2
ONI	**Oni**	**3.79**	**12**	P		**Pn**	22 09 48.0	+1.6
DARE	**Darende-Malaty**	**3.82**	**267**	*e*PN		**Pn**	22 09 47.9	+1.1
DARE	**Darende-Malaty**	**3.82**	**267**	*e*Pn		**Pn**	22 09 47.9	+1.1
GUDG	**Gudauri**	**3.92**	**24**	P		**Pn**	22 09 50.1	+1.7
RSDY	**Resadiye-TOKAT**	**4.16**	**293**	*e*PN		**Pn**	22 09 52.8	+1.4
RSDY	**Resadiye-TOKAT**	**4.16**	**293**	*e*Pn		**Pn**	22 09 52.8	+1.4
SVSK	**Karacayir**	**4.27**	**286**	*e*PN		**Pn**	22 09 54.5	+1.6
SVSK	**Karacayir**	**4.27**	**286**	*e*Pn		**Pn**	22 09 54.5	+1.6
SEKA	**Sheki**	**4.38**	**57**	⇓Pn		**Pb**	22 10 03.4	-1.3
SEKA	**Sheki**	**4.38**	**57**	Pn		**Pb**	22 10 03.4	-1.3
GAZ	**Gaziantep**	**4.40**	**249**	*e*PN		**Pn**	22 09 56.8	+1.9
GAZ	**Gaziantep**	**4.40**	**249**	*e*Pn		**Pn**	22 09 56.8	+1.9
KMRS	**Kahramanmaras**	**4.51**	**254**	*e*PN		**Pn**	22 09 58.0	+1.7
KMRS	**Kahramanmaras**	**4.51**	**254**	*e*Pn		**Pn**	22 09 58.0	+1.7
SARI	**SarD1z-Kayseri**	**4.67**	**266**	*e*PN		**Pn**	22 09 60.0	+1.3
LRK	**Lerik**	**4.69**	**91**	⇑Pn		**Pb**	22 10 07.4	-2.6
LRK	**Lerik**	**4.69**	**91**	Pn		**Pb**	22 10 07.4	-2.6
GLBA	**Ciilabad**	**4.72**	**84**	⇑Pn		**Pb**	22 10 07.7	-2.7
GLBA	**Ciilabad**	**4.72**	**84**	Pn		**Pb**	22 10 07.7	-2.7
DRWC	**Darouich**	**5.04**	**245**	*e*P		**Pn**	22 10 02.5	-1.1
DRWC				*e*S		**Sn**	22 11 06.1	+3.6
DRWC				AML		AML	22 11 41.3	
	comp=N,27nm,0.5s							
DRWC				AML		AML	22 11 45.6	
	comp=E,25nm,0.5s							
ASTR	**Astara**	**5.05**	**92**	⇓Pn		**Pb**	22 10 12.4	-3.7
ASTR	**Astara**	**5.05**	**92**	Pn		**Pb**	22 10 12.4	-3.7
ROOS	**tl_alroos**	**6.23**	**222**	*e*P		**Pn**	22 10 19.3	-0.7
ROOS				*e*S		**Sn**	22 11 35.8	+4.0
ROOS				AML		AML	22 12 29.6	
	comp=E,24nm,0.6s							
ROOS				AML		AML	22 12 35.1	
	comp=N,34nm,0.7s							
HAWK	**Haweek**	**6.47**	**229**	*e*P		**Pn**	22 10 23.6	+0.4
HAWK				*e*S		**Sn**	22 11 41.2	+3.5
HAWK				AML		AML	22 12 23.4	
	comp=N,17nm,0.6s							
HAWK				AML		AML	22 12 28.6	
	comp=E,8.9nm,0.6s							
SALA	**Sala**	**7.67**	**218**	*e*P		**Pn**	22 10 39.3	-0.6
SALA				*e*S		**Sn**	22 12 11.3	+3.8
SALA				AML		AML	22 13 01.3	
	comp=N,12nm,0.6s							

NIED ***13*** *22:08:00, 39°.70N×143°.60E, h17km, Mw3.5 Best double couple: M0=1.72000×10^14 NP1:φs=176.00000°, δ32.00000°, λ65.00000°. NP2:φs=25.00000°, δ61.00000°, λ105.00000°.*

JMA 13 22:08:48.9±0.1, 39°.69N×143°.64E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.39**	**281**	P	Pn	22 09 12.9	+0.5
JTH				*e*S	Sn	22 09 30.5	+0.6
MIYJ	**Miyakonagasawa**	**1.41**	**266**	P	Pn	22 09 13.4	+0.7
MIYJ				*e*S	Sb	22 09 31.3	-0.8
JANG	**Nango**	**1.77**	**293**	P	Pn	22 09 18.4	+0.8
JOM	**Ohasama**	**1.83**	**264**	P	Pn	22 09 19.9	+1.5
JIO	**Ouri**	**2.17**	**236**	P	Pn	22 09 23.8	+0.7
JTM	**Tenmabayashi**	**2.25**	**300**	P	Pn	22 09 26.1	+1.8
JTM				*e*S	Sn	22 09 53.2	+2.1
JYK	**Kaneyama**	**2.66**	**254**	P	Pn	22 09 31.7	+1.8

ISCJB ***13*** *22:10:18.0±1.2, 3°.8S±0°.2×152°.9E±0°.2, h35km, mb3.9/4, Error ellipse: s-maj=43.1km s-min=13.5km az=40.7*
IDC ***13*** *22:10:27.2±5.0, 4°.02S×152°.88E, h102km±42km, mb3.7/4, mb1 3.9/6, mb1mx3.6/37, mbtmp4.2/6, MS2.9/2, Ms1 2.9/2, ms1mx2.7/24, Error ellipse: s-maj=54.5km s-min=27.6km az=124.0*

ISC 13 22:10:19.2±1.2, 3°.8S±0°.2×153°.0E±0°.3, h35km, n10, σ1§21/9, mb3.7/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**226**	P	Pn	22 12 18.7	+5.0
	8.1nm,0.3s,baz=34,slow=5.5,SNR=14						
PMG				S	**Sn**	**22 13 44.7**	**+1.3**
	7.2nm,0.3s,baz=5.1,slow=9.8,SNR=3.3						
PMG				LR	LR	22 15 03.8	
	comp=Z,94nm,20.6s,baz=110,slow=35						
HNR	**Honiara**	**8.85**	**129**	LR	LR	22 15 34.9	
	comp=Z,81nm,20.9s,baz=304,slow=35						
CTA	**Charters Tower**	**17.46**	**202**	P	**P**	**22 14 21.2**	**+0.1**
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=2.5						
WRA	**Warramunga Arr**	**24.26**	**227**	P	**P**	**22 15 32.8**	**-0.5**
	11nm,0.4s,baz=52,slow=10.0,SNR=200						
ASAR	**Alice Springs**	**27.02**	**221**	P	**P**	**22 15 56.5**	**-1.8**
	0.6nm,0.3s,baz=52,slow=8.5,SNR=8.2						
STKA	**Stephens Creek**	**29.90**	**200**	P	**P**	**22 16 24.0**	**+0.1**
	1.2nm,0.6s,baz=27,slow=9.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.33**	**240**	P	**P**	**22 16 27.9**	**+0.1**
	baz=51,slow=8.8,SNR=9.7						
ILAR	**Eielson Array**	**81.17**	**22**	P	**P**	**22 22 32.4**	**+1.3**
	0.4nm,0.6s,baz=244,slow=5.0,SNR=5.0						
H02S1	**DAWSON INLET T**	**83.83**	**36**	T	T	23 56 11.3	
TORD	**Torodi Ar. Bea**	**150.20**	**290**	PKPbc	**PKPbc**	**22 30 07.2**	**-0.5**
	1.0nm,0.8s,baz=72,slow=2.1,SNR=11						
TORD				PKPab	**PKPab**	**22 30 12.6**	**-1.2**
	0.3nm,0.3s,baz=90,slow=1.9,SNR=8.1						

IDC ***13*** *22:10:33.9±0.8, 22°.21N×144°.12E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/52, mbtmp4.0/10, MS2.5/1, Ms1 2.5/1, ms1mx2.1/29, Error ellipse: s-maj=36.6km s-min=16.5km az=84.0*
NEIC ***13*** *22:10:42.7±2.4, 22°.16N×143°.95E, h66km±21km, mb4.4/2, Error ellipse: s-maj=18.8km s-min=8.4km az=87.0*
ISCJB ***13*** *22:10:44.9±0.7, 22°.19N±0°.08×143°.9E±0°.2, h105km, mb4.1/12, Error ellipse: s-maj=25.8km s-min=10.2km az=171.2*

ISC 13 22:10:46.9±0.7, 22°.2N±0°.1×143°.8E±0°.2, h105km, n24, σ1§10/18, mb4.0/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.14**	**342**	P	**Pn**	**22 14 12.9**	**-2.2**
	0.3nm,0.3s,baz=164,slow=9.4,SNR=5.6						
KSRS	**Korea Array**	**20.51**	**322**	P	**P**	**22 15 16.0**	**-0.6**
	1.6nm,0.9s,baz=144,slow=13,SNR=4.3						
KSRS				LR	LR	22 22 39.4	
	comp=Z,12nm,19.7s,baz=235,slow=35						
KSAR	**Wonju Array Be**	**20.52**	**321**	P	**P**	**22 15 16.0**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**21.68**	**92**	T	T	22 38 04.8	
	baz=284						
H11N2	**WAKE ISLAND Hy**	**21.69**	**92**	T	T	22 38 05.1	
	baz=284						
H11N3	**WAKE ISLAND Hy**	**21.70**	**92**	T	T	22 38 03.0	
	baz=284						
H11S3	**WAKE ISLAND Hy**	**21.75**	**96**	T	T	22 38 05.6	
	baz=283,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**21.76**	**95**	T	T	22 38 04.9	
	baz=283,slow=75,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**21.77**	**96**	T	T	22 38 09.7	
	baz=283,slow=75,SNR=4.4						
USRK	**Ussuriysk Ar.**	**24.05**	**339**	P	**P**	**22 15 54.9**	**+2.6**
	3.8nm,0.6s,baz=170,slow=13,SNR=7.8						
CTA	**Charters Tower**	**42.06**	**177**	P	**P**	**22 18 28.3**	**-0.1**
	2.5nm,0.4s,baz=357,slow=8.3,SNR=6.4						
WRA	**Warramunga Arr**	**42.86**	**193**	P	**P**	**22 18 35.1**	**+0.2**
	1.6nm,0.3s,baz=16,slow=8.9,SNR=15						
FITZ	**Fitzroy Crossi**	**43.79**	**205**	P	**P**	**22 18 42.8**	**+0.5**
	1.3nm,0.5s,baz=18,slow=9.6						
ASAR	**Alice Springs**	**46.56**	**193**	P	**P**	**22 19 04.1**	**-0.2**
	1.1nm,0.6s,baz=11,slow=8.0,SNR=7.3						
STKA	**Stephens Creek**	**53.77**	**182**	P	**P**	**22 19 57.8**	**-0.8**
	2.0nm,0.5s,baz=6.6,slow=10,SNR=7.3						
ZALV	**Zalesovo Beam**	**54.22**	**321**	P	**P**	**22 20 02.0**	**+0.5**
	0.6nm,0.5s,baz=129,slow=7.7,SNR=3.0						
MKAR	**Makanchi Array**	**54.82**	**312**	P	**P**	**22 20 07.7**	**+1.6**
	0.6nm,0.6s,baz=92,slow=8.8,SNR=5.9						
KURK	**Kurchatov**	**57.54**	**317**	*e*P	**P**	**22 20 26.2**	**+0.9**
	2.0nm,0.2s						
MCK	**McKinley**	**60.30**	**28**	P	**P**	**22 20 45.1**	**+0.9**
	0.7nm,0.5s						
ILAR	**Eielson Array**	**61.36**	**27**	P	**P**	**22 20 50.8**	**-0.6**
	0.2nm,0.6s,baz=263,slow=5.2,SNR=4.0						
FINES	**FINESS Array B**	**83.02**	**335**	P	**P**	**22 23 00.2**	**-0.1**
	6.7nm,1.0s,baz=66,slow=9.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**128.90**	**310**	PKP	**PKPdf**	**22 29 43.2**	**+0.1**
	0.2nm,0.4s,baz=66,slow=2.6,SNR=3.8						
PLCA	**Paso Flores**	**145.61**	**131**	PKPbc	**PKPab**	**22 30 13.8**	**-0.1**
	0.9nm,0.5s,baz=344,slow=22,SNR=3.5						
LPAZ	**La Paz**	**149.31**	**85**	PKPbc	**PKPbc**	**22 30 24.8**	**-0.3**
	0.7nm,0.4s,baz=12,slow=4.8,SNR=4.3						

IDC 13 22:26:41.9±7.5, 35°.54N×84°.25E, h55km±66km, mb2.9/3, mb1 3.3/5, mb1mx3.0/41, mbtmp3.3/5, ML2.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/12, Error ellipse: s-maj=125.2km s-min=43.2km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.34**	**353**	P	Pn	22 29 21.1	+0.1
	0.1nm,0.3s,baz=180,slow=12,SNR=1.4						
MKAR				LR	LR	22 34 55.3	
	comp=Z,61nm,18.6s,baz=177,slow=44						
KURBB	**Kurchatov Arra**	**15.63**	**346**	P	Pn	22 30 17.9	-0.6
	0.0nm,0.3s,baz=171,slow=11,SNR=3.3						
BVAR	**Borovoye Array**	**20.04**	**335**	P	P	22 31 10.4	+0.3
	0.2nm,0.5s,baz=164,slow=5.7,SNR=3.0						
ILAR	**Eielson Array**	**72.33**	**20**	P	P	22 38 01.3	-0.1
	0.2nm,0.6s,baz=298,slow=4.0,SNR=2.4						
WRA	**Warramunga Arr**	**72.78**	**131**	P	P	22 38 04.7	+0.1
	0.4nm,0.9s,baz=322,slow=6.4,SNR=2.4						

ISCJB ***13*** *22:41:52.3±0.6, 50°.20N±0°.04×19°.19E±0°.03, h0km, Error ellipse: s-maj=6.3km s-min=2.7km az=14.8*
CSEM ***13*** *22:41:53.2±0.4, 50°.25N×19°.25E, h2km, ML2.7/6, Error ellipse: s-maj=9.7km s-min=3.9km az=12.0*
PRU ***13*** *22:41:53.9, 50°.19N×19°.24E, h0km*

ISC 13 22:41:53.5±0.8, 50°.14N±0°.05×19°.25E±0°.02, h0km, n29, σ0§92/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**77**	*e*Pg	**Pg**	**22 41 59.7**	**-0.7**
OJC				*e*Sg	**Sg**	**22 42 04.1**	**-0.9**
OJC	**Ojcow**	**0.36**	**77**	*e*Pg	**Pg**	**22 41 59.7**	**-0.7**
OJC				*e*Sg	**Sg**	**22 42 04.1**	**-0.9**
OKC	**Ostrava-Krasne**	**0.78**	**247**	*e*PG	**Pb**	**22 42 10.1**	**+0.3**
OKC				*e*SG	**Sb**	**22 42 22.0**	**+1.1**
	comp=Z,11nm,0.3s						
OKC	**Ostrava-Krasne**	**0.78**	**247**	Pg	**Pb**	**22 42 10.1**	**+0.3**
OKC				Sg	**Sb**	**22 42 22.0**	**+1.1**
	11nm,0.3s						
NIE	**Niedzica**	**0.99**	**136**	*e*Pg	**Pn**	**22 42 14.1**	**-0.6**
NIE				*e*Sg	**Sb**	**22 42 28.3**	**+1.1**
NIE	**Niedzica**	**0.99**	**136**	*e*Pg	**Pn**	**22 42 14.1**	**-0.6**
NIE				*e*Sg	**Sb**	**22 42 28.3**	**+1.1**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*Pg	**Pb**	**22 42 13.8**	**+0.1**
LANS				*e*Sn	**Sb**	**22 42 27.8**	**+0.4**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*PG	**Pb**	**22 42 13.8**	**+0.1**
LANS				*e*SN	**Sb**	**22 42 27.8**	**+0.4**
MORC	**Moravsky Berou**	**1.16**	**252**	*e*Pg	**Pb**	**22 42 16.5**	**0.0**
MORC				*e*Sg	**Sb**	**22 42 32.8**	**+0.7**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*Pn	**Pb**	**22 42 22.2**	**+0.3**
STHS				*e*Sn	**Sn**	**22 42 42.9**	**+1.5**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*PN	**Pb**	**22 42 22.2**	**+0.3**
STHS				*e*SN	**Sn**	**22 42 42.9**	**+1.5**
STHS				*e*LG	Lg	22 42 44.1	
KRLC	**Kraliky**	**1.59**	**269**	*e*PG	**Pn**	**22 42 22.9**	**-0.1**
KRLC				*e*SG	**Sg**	**22 42 44.7**	**+0.1**
KRLC	**Kraliky**	**1.59**	**269**	Pg	**Pn**	**22 42 22.9**	**-0.1**
KRLC				Sg	**Sg**	**22 42 44.7**	**+0.1**
VYHS	**Vyhne**	**1.67**	**190**	*e*Pg	**Pn**	**22 42 24.1**	**+0.1**
VYHS				*e*Sn	**Sn**	**22 42 46.1**	**0.0**
VYHS	**Vyhne**	**1.67**	**190**	*e*PG	**Pn**	**22 42 24.0**	**+0.1**
VYHS				*e*SN	**Sn**	**22 42 46.1**	**0.0**
VYHS				*e*LG	Lg	22 42 47.3	
DPC	**Dobruska-Polom**	**1.89**	**277**	*e*PG	**Pn**	**22 42 27.3**	**+0.2**
DPC				*e*SG	**Sb**	**22 42 53.2**	**+0.1**
	comp=Z,9.6nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**277**	Pg	**Pn**	**22 42 27.3**	**+0.2**
DPC				Sg	**Sb**	**22 42 53.2**	**+0.1**
	9.6nm,0.4s						
VRAC	**Vranov**	**1.92**	**245**	*e*Pn	**Pb**	**22 42 29.0**	**-0.3**
VRAC				*e*Sg	**Sg**	**22 42 55.6**	**+0.6**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**22 42 32.2**	**+0.1**
KSP				*e*Sg	**Sg**	**22 42 58.6**	**+0.4**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**22 42 32.2**	**+0.1**
KSP				*e*Sg	**Sg**	**22 42 58.6**	**+0.4**
UPC	**Upice**	**2.11**	**281**	*e*SG	**Sg**	**22 43 00.9**	**-0.3**
	comp=Z,4.3nm,0.4s						
UPC	**Upice**	**2.11**	**281**	Sg	**Sg**	**22 43 00.9**	**-0.3**
	4.3nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	*e*SG	**Sg**	**22 43 24.2**	**-2.0**
	comp=Z,4.5nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	Sg	**Sg**	**22 43 24.2**	**-2.0**
	4.5nm,0.4s						
PVCC	**Panska Ves**	**3.03**	**279**	*e*SG	**Sg**	**22 43 29.7**	**-0.9**
	comp=Z,8.9nm,0.5s						
PVCC	**Panska Ves**	**3.03**	**279**	Sg	**Sg**	**22 43 29.7**	**-0.9**
	8.9nm,0.5s						
PRU	**Pruhonice**	**3.04**	**269**	*e*SG	**Sg**	**22 43 29.1**	**-2.0**
	comp=Z,2.6nm,0.3s						
PRU	**Pruhonice**	**3.04**	**269**	Sg	**Sg**	**22 43 29.1**	**-2.0**
	2.6nm,0.3s						
KHC	**Kasperske Hory**	**3.82**	**257**	*e*SG	**Sg**	**22 43 53.7**	**-2.6**

ISCJB ***13*** *22:42:20.9±1.1, 33°.05N±0°.06×140°.6E±0°.1, h78km±11km, mb3.8/2, Error ellipse: s-maj=20.5km s-min=8.7km az=12.7*
JMA ***13*** *22:42:21.6±0.1, 33°.08N×140°.74E, h62km±5km, M3.0*
IDC ***13*** *22:42:24.6±1.3, 32°.72N×139°.60E, h67km±42km, mb3.4/2, mb1 3.6/4, mb1mx3.2/48, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=80.6km s-min=32.6km az=42.0*

ISC 13 22:42:21.4±1.8, 33°.04N±0°.08×140°.7E±0°.1, h62km±18km, n12, σ0§81/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.77**	**276**	P	**Pn**	**22 42 37.1**	**+0.4**
JHJ2				*e*S	**Sn**	**22 42 48.3**	**+0.4**
JHCJ	**Hachijojimakas**	**0.79**	**273**	P	**Pn**	**22 42 37.1**	**+0.3**
JHCJ				S	**Sn**	**22 42 48.0**	**-0.2**
JHJ	**Hachijo jima 2**	**0.80**	**276**	P	**Pn**	**22 42 37.2**	**+0.2**
	111nm,0.3s,baz=106,slow=23,SNR=54						
JHJ				S	**Sn**	**22 42 47.8**	**-0.8**
	139nm,0.3s,baz=158,slow=22,SNR=7.1						
BSO1	**Boso 1**	**1.63**	**7**	P	**Pn**	**22 42 47.5**	**+0.2**
BSO3	**Boso 3**	**1.77**	**354**	P	**Pn**	**22 42 49.8**	**+0.2**
BSO3				S	**Sn**	**22 43 10.9**	**0.0**
BSO4	**Boso 4**	**1.98**	**351**	P	**Pn**	**22 42 53.1**	**+0.6**
JIM2	**Oshima 3**	**2.00**	**328**	P	**Pn**	**22 42 53.0**	**+0.1**
JIM2				*e*S	**Sn**	**22 43 15.4**	**-1.4**
JOD2	**Odawara 2**	**2.61**	**329**	P	**Pn**	**22 43 01.6**	**+0.4**
JOD2				S	**Sn**	**22 43 30.8**	**-0.9**
MJAR	**Matsushiro Arr**	**4.07**	**330**	P	**Pn**	**22 43 23.1**	**+1.9**
	0.8nm,0.3s,baz=163,slow=12,SNR=5.4						
KSRS	**Korea Array**	**11.36**	**296**	P	Pn	22 44 54.9	-6.0
	0.3nm,0.3s,baz=96,slow=12,SNR=14						
WRA	**Warramunga Arr**	**53.03**	**188**	P	**P**	**22 51 31.6**	**-0.5**
	0.7nm,0.4s,baz=5.0,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**56.76**	**187**	P	**P**	**22 51 59.0**	**0.0**
	0.2nm,0.3s,baz=0.3,slow=5.8,SNR=4.5						

JMA 13 22:43:27.3±0.2, 37°.23N×135°.16E, h368km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.95**	**174**	P	Pn	22 44 20.2	+0.1
JIE	**Ise**	**3.10**	**156**	P	Pn	22 44 29.6	+0.6
JFT	**Otama**	**4.13**	**84**	P	P

LAY baz=205 eS **Sn** **22 47 04.7 -2.7**
baz=205

IDC 13 22:48:19.8±18.0, 17°.81S×178°.49W, h424km±202km, mb3.0/4, mb1 3.4/4, mbtmx3.1/26, mbtmp3.8/4, Error ellipse: s-maj=131.8km s-min=53.4km az=163.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.57**	**259**	P	P	22 55 52.2	-0.3
	0.5nm, 0.7s, baz=98, slow=6.8, SNR=5.5						
ASAR	**Alice Springs**	**44.74**	**254**	P	P	22 55 53.9	0.0
	2.0nm, 0.5s, baz=90, slow=8.3, SNR=28						
ILAR	**Eielson Array**	**85.81**	**13**	P	P	23 00 12.2	-0.4
	0.6nm, 0.9s, baz=225, slow=5.0, SNR=4.2						
TXAR	**Lajitas Array**	**86.01**	**58**	P	P	23 00 14.7	+0.2
	0.5nm, 0.7s, baz=205, slow=4.0, SNR=5.2						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	PKPbc	23 07 14.6	-0.6
	0.1nm, 0.3s, baz=353, slow=4.0, SNR=3.9						

WEL 13 23:13:41.6±0.2, 44°.61S×167°.59E, h5km, ML3.6/14, 1C, Error ellipse: s-maj=2.0km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.25**	**104**	PG	Pg	23 13 46.7	+0.2
MSZ				SG	Sg	23 13 49.9	+0.1
MSZ				AML	AML	23 13 49.9	
MSZ				AML	AML	23 13 50.0	
MSZ				AML	AML	23 13 50.0	
MLZ	**Mavora Lakes**	**0.84**	**153**	P*	Pg	23 13 57.6	-0.2
MLZ				S*	Sb	23 14 09.8	-0.6
MLZ				AML	AML	23 14 12.8	
DCZ	**Deep Cove**	**0.90**	**200**	P*	Pg	23 13 58.7	-0.3
DCZ				AML	AML	23 14 12.3	
DCZ				AML	AML	23 14 12.3	
DCZ				AML	AML	23 14 14.7	
DCZ				AML	AML	23 14 14.7	
JCZ	**Jackson Bay**	**1.02**	**58**	P*	Pg	23 14 01.0	-0.1
JCZ				S*	Sg	23 14 14.2	-0.1
JCZ				AML	AML	23 14 16.6	
WKZ	**Wanaka**	**1.04**	**102**	AML	AML	23 14 21.5	
WKZ				AML	AML	23 14 21.5	
WKZ				AML	AML	23 14 24.2	
WKZ				AML	AML	23 14 24.3	
WHZ	**Wether Hill Ro**	**1.30**	**169**	P*	Pn	23 14 06.2	-0.3
WHZ				AML	AML	23 14 28.7	
WHZ				AML	AML	23 14 29.6	
EAZ	**Earnscleugh**	**1.37**	**117**	PN	Pn	23 14 06.8	-0.6
EAZ				AML	AML	23 14 25.5	
EAZ				AML	AML	23 14 25.6	
EAZ				AML	AML	23 14 25.7	
EAZ				AML	AML	23 14 29.8	
PYZ	**Puysegur Point**	**1.68**	**202**	AML	AML	23 14 42.0	
PYZ				AML	AML	23 14 42.0	
PYZ				AML	AML	23 14 44.0	
PYZ				AML	AML	23 14 44.0	
LBZ	**Lake Benmore**	**1.87**	**84**	AML	AML	23 14 46.3	
LBZ				AML	AML	23 14 49.5	
FOZ	**Fox Glacier**	**1.94**	**57**	PN	Pb	23 14 17.9	+0.5
FOZ				AML	AML	23 14 43.3	
FOZ				AML	AML	23 14 45.6	
FOZ				AML	AML	23 14 45.6	
FOZ				AML	AML	23 14 45.7	
TUZ	**Tuapeka**	**1.97**	**134**	PN	Pb	23 14 17.3	-0.6
TUZ				AML	AML	23 14 42.8	
TUZ				AML	AML	23 14 42.9	
TUZ				AML	AML	23 14 46.9	
TUZ				AML	AML	23 14 46.9	
SYZ	**Scrubby Hill**	**2.21**	**151**	PN	Pb	23 14 20.8	-1.2
ODZ	**Otahua Downs**	**2.22**	**102**	⇑PN	Pn	23 14 20.2	+1.1
ODZ				AML	AML	23 15 01.4	
APZ	**The Paps**	**2.24**	**173**	PN	Pn	23 14 20.9	+1.6
HHSZ	**Highcliff Hill**	**2.48**	**122**	PN	Pn	23 14 23.9	+1.3
RPZ	**Rata Peaks**	**2.65**	**71**	PN	Pn	23 14 25.5	+0.5
RPZ				AML	AML	23 15 09.7	
RPZ				AML	AML	23 15 10.0	
WVZ	**Waitaha Valley**	**2.75**	**57**	AML	AML	23 15 09.9	
WVZ				AML	AML	23 15 09.9	

*ISCJB **13** 23:27:29.9±0.3, 53°.06S±0°.05×47°.04W±0°.09, h10km, mb4.8/23, MS4.2/14, Error ellipse: s-maj=9.2km s-min=6.5km az=135.4*
*IDC **13** 23:27:29.3±0.7, 53°.19S×47°.12W, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/21, mbtmp4.4/10, MS4.2/14, Ms1 4.2/14, ms1mx4.1/19, Error ellipse: s-maj=25.8km s-min=13.1km az=47.0*
*NEIC **13** 23:27:31.2±0.2, 53°.12S×47°.06W, h10km, mb4.8/16, Error ellipse: s-maj=8.0km s-min=5.9km az=217.0*
*BJI **13** 23:27:31.8, 53°.10S×47°.10W, h10km, mB5.3/6, Ms5.2/4, Ms7 4.7/6*

ISC 13 23:27:31.6±0.4, 53°.09S±0°.07×47°.09W±0°.07, h10km, n88, σ1§60/79, mb4.9/23, MS4.3/14, 1C, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.41**	**105**	*e*Pn	**Pn**	**23 29 06.4**	**+0.3**
EFI	**East Falkland**	**6.87**	**278**	*e*Pn	**Pn**	**23 29 11.6**	**-0.7**
USHA	**Ushuaia**	**12.68**	**254**	Pn	Pn	23 30 21.9	-10
	46nm, 0.3s, baz=77, slow=14, SNR=12						
USHA				Sn	Sn	23 32 39.7	-13
	613nm, 0.3s, baz=11, slow=3.9, SNR=14						
PMSA	**Palmer Station**	**14.55**	**210**	Pn	**Pn**	**23 30 58.3**	**+0.9**
	0.2nm, 0.3s, baz=46, slow=16, SNR=3.5						
PMSA				LR	LR	23 35 35.9	
	comp=Z, 2μm, 18.6s, baz=34, slow=34						
PMSA	**Palmer Station**	**14.55**	**210**	*e*Pn	**Pn**	**23 30 58.0**	**+0.7**
CHRN	**Cochrane**	**17.30**	**279**	*e*Pn	**Pn**	**23 31 34.5**	**+1.5**
	11nm, 0.7s						
TRQA	**Tornquist**	**18.23**	**320**	*e*Pn	**Pn**	**23 31 45.6**	**+0.9**
	24nm, 0.6s						
TRQA				*e*Sn	Sn	23 34 50.1	-18
PLCA	**Paso Flores**	**20.13**	**298**	P	**P**	**23 32 06.0**	**+0.4**
	5.0nm, 0.6s, baz=169, slow=9.2, SNR=18						
PLCA				LR	LR	23 40 42.7	
	comp=Z, 1μm, 18.8s, baz=164, slow=39						
PLCA	**Paso Flores**	**20.13**	**298**	*e*P	**P**	**23 32 05.1**	**-0.6**
	50nm, 1.5s						
VNA3	**Neumayer Olymp**	**24.54**	**152**	P	**P**	**23 32 51.6**	**+0.7**
VNA1	**Neumayer--Stat**	**24.68**	**150**	P	**P**	**23 32 53.1**	**+0.9**
VNA2	**Neumayer--Watz**	**25.06**	**150**	P	**P**	**23 32 57.1**	**+1.4**
	baz=294, slow=12						
SNAA	**Sanae**	**26.70**	**151**	P	**P**	**23 33 10.7**	**+0.1**
SNAA	**Sanae**	**26.70**	**151**	P	**P**	**23 33 09.9**	**-0.7**
	4.3nm, 0.6s, baz=296, slow=9.0, SNR=32						
SNAA				PcP	**PcP**	**23 36 32.4**	**-1.2**
	2.1nm, 0.6s, baz=249, slow=4.2, SNR=7.0						
SNAA				ScP	**ScP**	**23 40 08.0**	**-5.4**
	1.4nm, 0.8s, baz=266, slow=5.4, SNR=4.4						
SNAA				LR	LR	23 42 43.4	
	comp=Z, 176nm, 18.4s, baz=327, slow=34						
SNAA	**Sanae**	**26.70**	**151**	*e*P	**P**	**23 33 10.7**	**+0.1**
	5.4nm, 0.7s						
SNAA				PcP	**PcP**	**23 36 32.4**	**-1.2**
SNAA				ScP	**ScP**	**23 40 08.0**	**-5.4**
CPUP	**Villa Florida**	**27.80**	**340**	P	**P**	**23 33 21.2**	**+0.5**
	1.9nm, 0.6s, baz=157, slow=7.7, SNR=4.1						
CPUP				LR	LR	23 47 33.7	
	comp=Z, 245nm, 18.0s, baz=163, slow=43						
LVC	**Limon Verde**	**34.68**	**323**	P	**P**	**23 34 22.0**	**+0.2**
	22nm, 0.7s, baz=150, slow=8.8, SNR=8.4						
LVC	**Limon Verde**	**34.68**	**323**	*e*P	**P**	**23 34 22.5**	**+0.7**
	39nm, 1.8s						
QSPA	**South Pole Qui**	**37.16**	**180**	*e*P	**P**	**23 34 41.8**	**-0.6**
	50nm, 0.7s						
BDFB	**Brasilia**	**37.37**	**359**	P	**P**	**23 34 44.1**	**-0.4**
	0.0nm, 0.4s, baz=188, slow=7.1						
LPAZ	**La Paz**	**40.27**	**328**	P	**P**	**23 35 10.1**	**+0.6**
	3.7nm, 0.6s, baz=140, slow=6.4, SNR=16						
LPAZ	**La Paz**	**40.27**	**328**	*e*P	**P**	**23 35 10.6**	**+1.1**
	6.3nm, 0.8s						
SYO	**Syowa Base**	**40.83**	**147**	⇑*e*P	**P**	**23 35 11.9**	**-0.9**
SBA	**Scott Base**	**47.67**	**189**	*e*P	**P**	**23 36 07.9**	**+0.5**
	34nm, 2.0s						
RCBR	**Riachuelo**	**48.00**	**15**	P	**P**	**23 36 10.8**	**+0.1**
	8.9nm, 0.9s, baz=192, slow=7.7, SNR=5.2						
VNDA	**Vanda**	**48.41**	**188**	LR	LR	23 56 07.1	
	comp=Z, 224nm, 19.6s, baz=151, slow=36						
MAW	**Mawson**	**48.86**	**151**	P	**P**	**23 36 15.2**	**-1.5**
	1.7nm, 0.6s, baz=222, slow=6.3, SNR=10						
H10S3	**ASCENSION HYDR**	**51.23**	**43**	T	T	00 31 58.7	
	baz=204, slow=75, SNR=284						
H10S2	**ASCENSION HYDR**	**51.23**	**43**	T	T	00 31 58.8	
	baz=204, slow=75, SNR=282						
H10S1	**ASCENSION HYDR**	**51.24**	**43**	T	T	00 31 60.0	
	baz=204, slow=75, SNR=234						
SUR	**Sutherland**	**51.90**	**95**	P	**P**	**23 36 40.6**	**+0.1**
	0.3nm, 0.5s, baz=199, slow=8.0, SNR=9.2						
H10N3	**ASCENSION HYDR**	**52.30**	**42**	T	T	00 33 19.3	
	baz=204, slow=75, SNR=250						
H10N1	**ASCENSION HYDR**	**52.30**	**42**	T	T	00 33 19.8	
	baz=204, slow=75, SNR=367						
H10N2	**ASCENSION HYDR**	**52.31**	**42**	T	T	00 33 20.7	
	baz=204, slow=75, SNR=487						
ATAH	**Atahualpa**	**52.42**	**319**	P	**P**	**23 36 44.0**	**-0.7**
	52nm, 0.4s, baz=180, slow=8.1, SNR=28						
PTGA	**Pitinga**	**53.27**	**344**	P	**P**	**23 36 50.5**	**+0.1**
	3.0nm, 0.5s, baz=187, slow=11, SNR=8.1						
PTGA	**Pitinga**	**53.27**	**344**	*e*P	**P**	**23 36 50.8**	**+0.4**
	14nm, 1.4s						
BOSA	**Boshof**	**57.26**	**95**	P	**P**	**23 37 18.3**	**-1.1**
	4.4nm, 0.6s, baz=222, slow=7.7, SNR=18						
BOSA				LR	LR	23 58 02.6	
	comp=Z, 405nm, 19.5s, baz=220, slow=32						
OTAV	**Otavalo**	**59.22**	**323**	*e*P	**P**	**23 37 33.6**	**+0.1**
	10.0nm, 1.0s						
TSUM	**Tsumeb**	**59.70**	**82**	*e*P	**P**	**23 37 35.6**	**-0.8**
	1.2nm, 0.5s						
LBTB	**Lobatse**	**60.12**	**93**	LR	LR	23 59 15.2	
	comp=Z, 329nm, 20.6s, baz=221, slow=32						
LBTB	**Lobatse**	**60.12**	**93**	*e*P	**P**	**23 37 38.5**	**-0.8**
	55nm, 1.8s						
PRAC	**Prado**	**61.24**	**328**	*e*P	**P**	**23 37 47.1**	**+0.3**
	11nm, 0.6s						
RUSC	**La Rusia**	**62.74**	**331**	*e*P	**P**	**23 37 57.0**	**-0.4**
	3.4nm, 0.9s						
LIC	**Lamto**	**68.95**	**46**	*e*P	**P**	**23 38 36.9**	**+0.1**
	54nm, 1.0s						
LSZ	**Lusaka**	**69.10**	**88**	P	**P**	**23 38 38.1**	**+0.1**
	19nm, 0.6s, baz=217, slow=8.2, SNR=9.7						
KIC	**Kosan Boka**	**69.19**	**46**	*e*P	**P**	**23 38 38.3**	**-0.1**
	30nm, 1.0s						
TIC	**Toumodi**	**69.33**	**45**	*e*P	**P**	**23 38 39.1**	**-0.1**
DBIC	**Dimbokro**	**69.42**	**45**	P	**P**	**23 38 39.2**	**-0.5**
	6.3nm, 0.6s, baz=198, slow=6.6, SNR=11						
DBIC				LR	LR	00 02 17.7	
	comp=Z, 132nm, 21.4s, baz=186, slow=30						
TOA0	**Torodi Ar. Sit**	**78.06**	**49**	*e*P	**P**	**23 39 30.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**78.06**	**49**	P	**P**	**23 39 30.5**	**+0.1**
	1.9nm, 0.4s, baz=199, slow=6.3, SNR=53						
TORD				LR	LR	00 07 06.7	
	comp=Z, 267nm, 21.8s, baz=200, slow=30						
PPT2	**Papeete2**	**83.38**	**250**	*e*LR	LR	00 06 12.7	
	237nm, 27.0s						
PPT	**Papeete**	**83.40**	**250**	LR	LR	00 10 46.4	
	comp=Z, 89nm, 21.2s, baz=141, slow=31						
TAOE	**Nuku Hiva Isla**	**84.82**	**262**	*e*LR	LR	00 06 57.3	
	177nm, 25.0s						
KMBO	**Kilima Mbogo**	**85.70**	**86**	LR	LR	00 15 11.6	
	comp=Z, 208nm, 20.4s, baz=94, slow=33						
TAM	**Tamanrasset**	**88.24**	**47**	*e*P	**P**	**23 40 23.9**	**+0.8**
	14nm, 1.7s						
STKA	**Stephens Creek**	**95.05**	**187**	LR	LR	00 24 31.0	
	comp=Z, 106nm, 18.4s, baz=204, slow=36						
TXAR	**Lajitas Array**	**95.66**	**313**	LR	LR	00 21 16.2	
	comp=Z, 62nm, 18.7s, baz=0.0, slow=34						
ATD	**Arta Tunnel**	**99.08**	**83**	LR	LR	00 23 45.2	
	comp=Z, 124nm, 20.2s, slow=34						
H08N3	**Diego Garcia H**	**101.22**	**117**	T	T	01 35 25.0	
	baz=216						
H08N1	**Diego Carcia H**	**101.24**	**117**	T	T	01 35 25.9	
	baz=216						
H08N2	**Diego Garcia H**	**101.25**	**117**	T	T	01 35 26.8	
	baz=216						
ASAR	**Alice Springs**	**103.56**	**181**	Pdiff	**Pdif**	**23 41 30.7**	**-2.2**
	0.1nm, 0.4s, baz=169, slow=4.4, SNR=3.0						
WRA	**Warramunga Arr**	**107.26**	**181**	Pdiff	**Pdif**	**23 41 48.6**	**-0.7**
	0.3nm, 0.9s, baz=184, slow=4.1, SNR=2.8						
AKASG	**Malin Array Be**	**121.66**	**47**	PKP	**PKPdf**	**23 46 22.5**	**-2.0**
	0.2nm, 0.2s, baz=244, slow=2.2, SNR=3.5						
YKA	**Yellowknife Ar**	**126.82**	**328**	PKP	**PKPdf**	**23 46 33.1**	**-0.9**
	1.4nm, 0.6s, baz=124, slow=1.9, SNR=4.0						
FINES	**FINESS Array B**	**128.00**	**36**	PKP	**PKPdf**	**23 46 33.4**	**-2.9**
	5.0nm, 1.0s, baz=247, slow=3.9, SNR=3.6						
ARCES	**ARCESS Array B**	**133.10**	**27**	PKP	**PKPdf**	**23 46 45.3**	**-0.4**
	3.0nm, 0.9s, baz=178, slow=3.2, SNR=2.8						
ABKAR	**Akbulak array**	**135.92**	**64**	*e*PKPdf	**PKPdf**	**23 46 50.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**136.54**	**130**	PKP	**PKPdf**	**23 46 54.7**	**+0.9**
	0.9nm, 0.3s, baz=189, slow=2.4, SNR=6.2						
H11S2	**WAKE ISLAND Hyl**	**136.64**	**230**	T	T	02 18 58.4	
	baz=148						
H11S3	**WAKE ISLAND Hyl**	**136.66**	**230**	T	T	02 18 59.8	
	baz=148						
H11S1	**WAKE ISLAND Hyl**	**136.66**	**230**	T	T	02 19 03.8	
	baz=148						
H11N3	**WAKE ISLAND Hyl**	**137.61**	**231**	T	T	02 20 08.2	
	baz=148, slow=76, SNR=27						
H11N1	**WAKE ISLAND Hyl**	**137.61**	**231**	T	T	02 20 18.1	
	baz=148, slow=76, SNR=26						
H11N2	**WAKE ISLAND Hyl**	**137.62**	**231**	T	T	02 20 09.5	
	baz=148, slow=76, SNR=28						
DOT	**Dot Lake**	**138.28**	**318**	*e*PKPdf	**PKPdf**	**23 46 56.1**	**+0.4**
KSH	**Kashi**	**139.47**	**86**	*e*PKP	**PKPdf**	**23 46 58.0**	**-0.7**
KSH				PP	**PP**	**23 49 57.3**	**+3.4**
KSH				PKS	**PKSdf**	**23 50 36.0**	**+1.2**
KSH				SKS	**SKSdf**	**23 54 09.3**	**+0.3**
KSH				SKKS	**SKKSac**	**23 56 49.4**	**+2.2**
KSH				SS	**SS**	**00 08 13.3**	**+0.2**
ILAR	**Eielson Array**	**139.88**	**319**	PKhKP	PKPpre	23 46 51.4	
	0.1nm, 0.5s, baz=114, slow=1.3, SNR=2.7						
ILAR				PKP	**PKPdf**	**23 46 58.4**	**-0.1**
	0.6nm, 0.7s, baz=17, slow=0.6, SNR=8.1						
ILAR				SKPbc	**SKPbc**	**23 50 31.6**	**-2.5**
	0.7nm, 0.7s, baz=143, slow=2.3, SNR=5.9						
AAK	**Ala-Archa**	**140.48**	**81**	*e*PKPdf	**PKPdf**	**23 46 59.5**	**-1.0**
KURBB	**Kurchatov Arra**	**147.00**	**72**	PKPbc	**PKPdf**	**23 47 12.8**	**+1.5**
	6.6nm, 0.7s, baz=248, slow=4.8, SNR=61						
KURBB				PP	**PP**	**23 50 36.8**	**-2.2**
	0.5nm, 0.8s, baz=252, slow=6.4, SNR=4.1						
KURK	**Kurchatov**	**147.09**	**72**	*e*PKPbc	**PKPdf**	**23 47 13.1**	**+1.6**
KURK				PP	**PP**	**23 50 36.8**	**-2.8**
MKAR	**Makanchi Array**	**147.41**	**80**	PKPbc	**PKPdf**	**23 47 13.3**	**+1.1**
	1.3nm, 0.7s, baz=235, slow=2.8, SNR=7.2						
WMQ	**Urumqi**	**149.08**	**89**	PKPbc	**PKPdf**	**23 47 15.3**	**+0.1**
WMQ				LR	LR		
	comp=N, 110nm, 22.5s						
WMQ				LR	LR		
	comp=E, 54nm, 21.1s						
WMQ				LR	LR		
	comp=Z, 63nm, 23.9s						
ENH	**Enshi**	**151.51**	**134**	*e*PKPbc	**PKPbc**	**23 47 24.6**	**-1.0**
ENH				*e*PKPab	**sPKPbc**	**23 47 31.1**	**+0.9**
ZALV	**Zalesovo Beam**	**151.83**	**69**	PKPbc	**PKPdf**	**23 47 23.3**	**+4.3**
	0.6nm, 0.3s, baz=270, slow=2.9, SNR=2.7						
ZALV				PP	**PP**	**23 51 06.4**	**-0.5**
	0.6nm, 0.3s, baz=259, slow=6.8, SNR=3.6						
LZH	**Lanzhou**	**153.48**	**118**	*e*PKPbc	PKPdf	23 47 14.9	-7.4
LZH				pPKP	pPKPdf	23 47 19.1	-6.6
LZH				sPKP		23 47 22.8	
HHC	**Hu-ho-hao-te**	**161.06**	**122**	*e*PKP	**PKPdf**	**23 47 32.9**	**+1.3**
HHC				PP	**PP**	**23 52 02.5**	**+4.4**
HHC				SKS	**SKSdf**	**23 54 36.8**	**+0.3**
HHC				SS	**SS**	**00 12 15.1**	**+2.5**
HHC				AMB	AMB		
	comp=Z, 41nm, 5.9s						
HHC				LR	LR		
	comp=N, 99nm, 18.2s						
HHC				LR	LR		
	comp=E, 110nm, 18.0s						
HHC				LR	LR		
	comp=Z, 72nm, 18.0s						

*SOME **13** 23:40:24.8, 40°.83N×71°.13E, h20km*
*KRNET **13** 23:40:24.6±0.1, 41°.07N×71°.03E, h8km, mb2.4*
*NNC **13** 23:40:28.3±3.6, 41°.11N×71°.25E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=31.4km s-min=19.1km az=8.0*

ISC 13 23:40:25.8±1.4, 41°.02N±0°.04×71°.27E±0°.03, h18km±5km, n18, σ1§29/34, 12C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.93**	**34**	⇓*i*P	**Pn**	**23 40 44.4**	**+0.3**
	baz=45						
ARK				⇓*i*S	**Sn**	**23 40 57.7**	**+0.6**
	baz=45						
BTK	**Batken**	**1.02**	**200**	⇓*e*P	**Pb**	**23 40 44.6**	**-0.4**
	baz=189						
BTK				⇓*e*S	**Sb**	**23 40 58.2**	**0.0**
	baz=189						
ARSB	**Arslanbob**	**1.32**	**76**	⇑*e*P	**Pg**	**23 40 52.9**	**+1.5**
	baz=79						
ARSB				⇑*i*S	**Sg**	**23 41 13.4**	**+4.7**
	baz=79						
IUG	**Iuzhnay**	**1.46**	**321**	*e*P	**Pn**	**23 40 51.8**	**+0.5**
	31nm, 0.2s						
IUG				*e*S	**Sn**	**23 41 10.1**	**+0.1**
	40nm, 0.6s						
MNAS	**Manas**	**1.73**	**32**	⇓Pn	**Pg**	**23 40 58.9**	**-0.1**
	1.7nm, 0.3s						
MNAS				⇑Lg	Lg	23 41 22.1	
	4.1nm, 0.3s						
CHM	**Chimkent**	**1.80**	**317**	*e*P	**Pb**	**23 40 59.0**	**+0.8**
	20nm, 0.2s						
CHM				*e*S	**Sb**	**23 41 21.9**	**+1.4**
	114nm, 0.2s						
DZA	**Taraz**	**1.87**	**1**	*e*P	**Pb**	**23 41 00.8**	**+1.4**
	14nm, 0.1s						
DZA				*e*S	**Sg**	**23 41 25.4**	**-0.6**
	136nm, 0.2s						
AML	**Almayashu**	**2.13**	**58**	⇑*i*P	**Pg**	**23 41 06.2**	**-0.5**
	baz=61						
AML				⇑*i*S	**Sg**	**23 41 33.8**	**-0.5**
	baz=61						
KK31	**Karatay Array**	**2.15**	**345**	Pn	**Pb**	**23 41 03.5**	**-0.8**
	0.7nm, 0.3s, baz=179, slow=13, SNR=23						
KK31				⇑Pg	**Pg**	**23 41 08.0**	**+0.8**
	2.0nm, 0.3s, baz=169, slow=15, SNR=5.4						
KK31				⇓Lg	Lg	23 41 31.7	
	5.9nm, 0.3s, baz=172, slow=31, SNR=15						
MRKS	**Merke**	**2.25**	**40**	*e*P	**Pg**	**23 41 08.7**	**-0.4**
	6.7nm, 0.4s						
MRKS				*e*S	**Sg**	**23 41 38.9**	**+0.5**
	15nm, 0.2s						
BRLS	**Borolday**	**2.27**	**332**	*e*P	**Pn**	**23 41 03.0**	**+0.6**
	1.1nm, 0.5s						
BRLS				*e*S	**Sn**	**23 41 29.5**	**-0.5**
	25nm, 0.3s						
ARLS	**Aral**	**2.44**	**69**	⇓*e*P	**Pb**	**23 41 10.2**	**+1.0**
	baz=71						
ARLS				⇓*i*S	**Sg**	**23 41 43.0**	**-1.3**
	baz=71						
EKS2	**Erkin-Say**	**2.49**	**48**	⇑*i*P	**Pg**	**23 41 12.0**	**-1.5**
	baz=51						
EKS2				⇑*i*S	**Sg**	**23 41 43.5**	**-2.2**
	baz=51						
AAK	**Ala-Archa**	**2.90**	**55**	⇑*i*P	**Pb**	**23 41 17.6**	**+0.6**
	baz=58						
AAK				⇑*i*S	**Sb**	**23 41 53.2**	**+1.0**
	baz=58						
AAK	**Ala-Archa**	**2.90**	**55**	Pg	**Pg**	**23 41 20.4**	**-0.9**
	0.9nm, 0.5s						
AAK				Lg	Lg	23 41 58.0	
	2.5nm, 0.5s						
KZA	**Kyzart**	**3.17**	**69**	⇑*i*P	**Pb**	**23 41 21.7**	**0.0**
	baz=71						
KZA				⇑*i*S	**Sb**	**23 41 59.8**	**-0.3**
	baz=71						
DGS	**Degeres**	**4.01**	**55**	*e*P	**Pg**	**23 41 41.5**	**-1.2**
	0.9nm, 0.3s						
DGS				*e*S	**Sg**	**23 42 33.3**	**-1.3**
	2.4nm, 0.8s						
BTLS	**Baital**	**4.50**	**26**	*e*P	**Pg**	**23 41 51.0**	**-0.9**
	1.4nm, 0.9s						
BTLS				*e*S	**Sg**	**23 42 49.4**	**-0.8**
	3.5nm, 0.8s						

IDC 13 23:49:59.5±1.5, 2°.60S×139°.63E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=70.3km s-min=26.4km az=98.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**196**	P	Pn	23 54 10.7	-0.7
	0.1nm, 0.3s, baz=16, slow=12, SNR=4.1						
WRA				S	Sn	23 57 17.9	-15
	0.1nm, 0.3s, baz=8.9, slow=22, SNR=4.5						
ASAR	**Alice Springs**	**21.67**	**194**	P	P	23 54 52.4	+0.4
	0.4nm, 0.5s, baz=23, slow=9.7, SNR=3.5						
MKAR	**Makanchi Array**	**70.26**	**322**	P	P	00 01 15.0	+0.2
	0.8nm, 0.9s, baz=98, slow=7.9, SNR=3.3						
ILAR	**Eielson Array**	**85.35**	**24**	P	P	00 02 38.2	-0.2
	0.3nm, 0.7s, baz=256, slow=3.3, SNR=3.6						

KRSC 13 23:52:06.8±0.9, 52°.56N×159°.70E, h43km±13km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.57**	**20**	*e*P	Pn	23 52 19.9	+1.3
SPN				*e*S	Sn	23 52 28.2	+1.2
NLC	**Nalytchevo**	**0.65**	**341**	*e*P	Pn	23 52 20.8	+1.2
NLC				*e*S	Sn	23 52 29.9	+1.1
RUS	**Russkaya**	**0.74**	**260**	*e*P	Pn	23 52 21.9	+1.1
RUS				*e*S	Sn	23 52 31.8	+0.9
DALK	**Dalny**	**0.74**	**310**	*e*P	Pn	23 52 22.0	+1.1
DALK				*e*S	Sn	23 52 32.1	+1.0
PET	**Petropavlovsk**	**0.79**	**306**	*e*P	Pn	23 52 22.5	+1.0
PET				*e*S	Sn	23 52 32.9	+0.8
UGLR	**Uglovaya**	**0.84**	**321**	*e*P	Pn	23 52 23.8	+1.5
UGLR				*e*S	Sn	23 52 35.0	+1.4
SDLR	**Sedlovina**	**0.87**	**326**	*e*P	Pn	23 52 24.0	+

1.9nm,1.0s
SAML Samuel 34.93 129 eP P 00 07 27.0 -0.6
6.8nm,1.5s
SCHQ Schefferville 44.70 19 P P 00 08 48.9 +0.6
6.0nm,0.6s,baz=224,slow=11,SNR=5.5
FRB Frobisher Bay 52.03 12 LR LR 00 33 07.2
comp=Z,113nm,18.1s,baz=160,slow=38
ARCES ARCESS Array B 85.65 19 P P 00 13 12.4 -1.2
1.7nm,0.8s,baz=267,slow=3.6,SNR=3.6
WRA Warramunga Arr 137.27 256 PKP **PKPdf 00 20 00.2 +0.7**
0.7nm,0.8s,baz=90,slow=2.7,SNR=8.2

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*KRNET **14** 00:12:38.7±0.1,39.°86N×72.°51E,h22km,mb2.3*
*NNC **14** 00:12:39.4±2.0,39.°85N×72.°63E,h0km,mb2.7,mpv2.4,*
Error ellipse: s-maj=21.4km s-min=8.1km az=130.0
ISC 14 00:12:39.7±2.7,39.84N±0.08×72.66E±0.07,h14km±18km,
n12,σ1§46/21,17C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.43**	**279**	⇑*eP*	**Pn**	**00 13 04.2**	**-1.0**
	baz=279						
BTK				⇑*iS*	**Sn**	**00 13 23.0**	**-0.9**
	baz=279						
ARSB	**Arslanbob**	**1.50**	**9**	⇑*eP*	**Pb**	**00 13 07.7**	**+0.3**
	baz=13						
ARSB				⇑*eS*	**Sg**	**00 13 28.9**	**+0.7**
	baz=13						
ARK	**Arkit**	**2.03**	**345**	⇑*eP*	**Pb**	**00 13 15.4**	**-0.9**
	baz=348						
ARK				⇑*iS*	**Sb**	**00 13 41.6**	**+0.2**
	baz=348						
TOKL	**Toktogul**	**2.10**	**4**	⇑*eP*	**Pb**	**00 13 17.3**	**-0.3**
	baz=7.0						
TOKL				⇑*iS*	**Sg**	**00 13 45.7**	**-1.7**
	baz=7.0						
ARLS	**Aral**	**2.38**	**32**	⇓*eP*	**Pb**	**00 13 22.2**	**-0.2**
	baz=34						
ARLS				⇓*eS*	**Sb**	**00 13 54.0**	**+2.3**
	baz=34						
AML	**Almayashu**	**2.42**	**19**	⇑*iP*	**Pb**	**00 13 23.7**	**+0.5**
	baz=21						
AML				⇑*iS*	**Sb**	**00 13 53.4**	**+0.4**
	baz=21						
MNAS	**Manas**	**2.65**	**358**	⇓Pg	**Pb**	**00 13 27.2**	**+0.2**
	1.0nm,0.5s						
MNAS				⇑Lg	Lg	00 14 03.8	
	4.9nm,0.5s						
EKS2	**Erkin-Say**	**2.94**	**16**	⇑*iP*	**Pb**	**00 13 30.7**	**-1.2**
	baz=19						
EKS2				⇑*iS*	**Sb**	**00 14 05.3**	**-2.5**
	baz=19						
AAK	**Ala-Archa**	**3.12**	**26**	⇑*iP*	**Pb**	**00 13 33.8**	**-1.2**
	baz=28						
AAK				⇑*iS*	**Sb**	**00 14 10.9**	**-2.0**
	baz=28						
AAK	**Ala-Archa**	**3.12**	**26**	⇓Pg	**Pb**	**00 13 36.4**	**+1.4**
	1.5nm,0.8s						
AAK				⇓Lg	Lg	00 14 17.7	
	2.0nm,0.5s						
DZET	**Dzherino**	**3.15**	**252**	⇓Pg	**Pb**	**00 13 35.9**	**+0.5**
	1.9nm,0.5s						
DZET				⇓Lg	Lg	00 14 19.0	
	9.5nm,0.5s						
KK31	**Karatay Array**	**3.64**	**334**	⇑Pn	**Pn**	**00 13 38.1**	**+2.6**
	0.1nm,0.3s,baz=131,slow=13,SNR=2.9						
KK31				⇓Pg	**Pb**	**00 13 45.2**	**+1.5**
	0.3nm,0.3s,baz=162,slow=17,SNR=6.4						
KK31				⇑Lg	Lg	00 14 33.6	
	0.6nm,0.3s,baz=141,slow=29,SNR=5.1						

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*CSEM **14** 00:21:58.2,37.°21N×22.°02E,h10km,ML1.7/3*
ATH 14 00:21:58.2,37.°21N×22.°02E,h10km±3km,ML1.7/3,Error ellipse: s-maj=4.0km s-min=1.2km az=219.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**250**	P	Pg	00 21 59.9	-0.7
ITM				S	Sg	00 22 03.0	+0.7
ITM				AML	AML	00 22 03.5	
	comp=N,1173μm,0.2s						
ITM				AML	AML	00 22 05.0	
	comp=E,1508μm,0.3s						
ITM	**Ithomi**	**0.08**	**250**	P	Pg	00 22 00.5	-0.1
ITM				S	Sg	00 22 02.3	0.0
ITM				AML	AML	00 22 03.5	
	comp=N,1173μm,0.2s						
ITM				AML	AML	00 22 05.0	
	comp=E,1508μm,0.3s						
ITM	**Ithomi**	**0.08**	**250**	P	Pg	00 22 00.5	-0.1
ITM				S	Sg	00 22 02.3	0.0
VLX	**Vlachokerasia**	**0.33**	**60**	P	Pg	00 22 05.4	+0.6
VLX				S	Sg	00 22 09.8	+0.5
VLX				AML	AML	00 22 10.3	
	comp=N,235μm,0.3s						
VLX				AML	AML	00 22 10.5	
	comp=E,339μm,0.3s						
VLX	**Vlachokerasia**	**0.33**	**60**	P	Pg	00 22 04.9	+0.1
VLX				S	Sg	00 22 08.6	-0.7
VLX				AML	AML	00 22 10.3	
	comp=N,235μm,0.3s						
VLX				AML	AML	00 22 10.5	
	comp=E,339μm,0.3s						
VLX	**Vlachokerasia**	**0.33**	**60**	P	Pg	00 22 04.9	+0.1
VLX				S	Sg	00 22 08.6	-0.7
TRIP	**Tripoli**	**0.38**	**32**	P	Pg	00 22 06.0	+0.3
TRIP				S	Sg	00 22 11.0	+0.3
TRIP				AML	AML	00 22 13.4	
	comp=E,109μm,0.3s						
TRIP				AML	AML	00 22 14.6	
	comp=N,75μm,0.3s						
TRIP	**Tripoli**	**0.38**	**32**	P	Pg	00 22 06.2	+0.5
TRIP				S	Sg	00 22 11.5	+0.8
PYL	**PYLOS**	**0.38**	**216**	P	Pg	00 22 04.9	-0.9
PYL	**PYLOS**	**0.38**	**216**	P	Pg	00 22 04.9	-0.9
AMT	**Artemida-Makis**	**0.41**	**323**	P	Pg	00 22 06.4	+0.1
AMT				S	Sb	00 22 14.5	+0.6
AMT				AML	AML	00 22 16.4	
	comp=N,381μm,0.3s						
AMT				AML	AML	00 22 17.4	
	comp=E,250μm,0.3s						
AMT	**Artemida-Makis**	**0.41**	**323**	P	Pg	00 22 06.5	+0.2
AMT				S	Sg	00 22 12.3	+0.6
AMT				AML	AML	00 22 15.8	
	comp=E,209μm,0.2s						
AMT				AML	AML	00 22 16.5	
	comp=N,381μm,0.3s						
AMT	**Artemida-Makis**	**0.41**	**323**	P	Pg	00 22 06.5	+0.2
AMT				S	Sg	00 22 12.3	+0.6
GUR	**Goura**	**0.77**	**19**	P	Pg	00 22 11.9	-1.3
GUR				S	Sb	00 22 24.8	+0.4
GUR				AML	AML	00 22 30.6	
	comp=N,76μm,0.3s						
GUR				AML	AML	00 22 32.2	
	comp=E,86μm,0.6s						
GUR	**Goura**	**0.77**	**19**	P	Pg	00 22 12.3	-0.8
GUR	**Goura**	**0.77**	**19**	P	Pg	00 22 12.3	-0.8
DRO	**Drossia**	**0.78**	**342**	P	Pb	00 22 14.5	+0.5
DRO				S	Sb	00 22 24.5	-0.2
DRO				AML	AML	00 22 29.4	
	comp=E,134μm,0.3s						
DRO				AML	AML	00 22 32.8	
	comp=N,81μm,0.3s						
DRO	**Drossia**	**0.78**	**342**	P	Pg	00 22 13.4	0.0
DRO	**Drossia**	**0.78**	**342**	P	Pg	00 22 13.4	+0.1
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	00 22 13.4	-1.0
KLV				S	Sb	00 22 26.8	+0.5
KLV				AML	AML	00 22 31.2	
	comp=E,37μm,0.6s						
KLV				AML	AML	00 22 32.5	
	comp=N,20μm,0.4s						
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	00 22 13.6	-0.9
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	00 22 13.6	-0.9
VLI	**Veliai**	**0.88**	**123**	P	Pb	00 22 15.9	+0.3
VLI				S	Sg	00 22 26.1	-0.6
VLI	**Veliai**	**0.88**	**123**	P	Pb	00 22 16.0	+0.4
VLI	**Veliai**	**0.88**	**123**	P	Pb	00 22 16.0	+0.4
RLS	**Riolos of Patr**	**0.96**	**333**	P	Pn	00 22 17.4	-0.2
RLS	**Riolos of Patr**	**0.96**	**333**	P	Pn	00 22 17.4	-0.3
RLS	**Riolos of Patr**	**0.96**	**333**	P	Pn	00 22 17.4	-0.3
TRIZ	**Trizonia**	**1.16**	**2**	P	Pb	00 22 19.1	-1.2
KALE	**Kalithea**	**1.19**	**5**	P	Pb	00 22 19.2	-1.6
KALE				S	Sb	00 22 35.6	-0.6
KALE	**Kalithea**	**1.19**	**5**	P	Pb	00 22 19.5	-1.4
KALE	**Kalithea**	**1.19**	**5**	P	Pb	00 22 19.5	-1.3
EFP	**Efpalio**	**1.22**	**356**	P	Pn	00 22 19.8	-1.5
EFP				S	Sn	00 22 39.8	+1.9
ANX	**Ano Chora**	**1.39**	**357**	P	Pn	00 22 23.1	-0.6
ANX	**Ano Chora**	**1.39**	**357**	P	Pn	00 22 23.1	-0.6

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*SJA **14** 00:25:35.9±0.9,33.°59S×68.°52W,h16km±7km,ML3.2,*
MW3.4
*ISCJB **14** 00:25:38.7±2.3,33.°47S±0.°10×68.°43W±0.°05,h10km±11km,*
Error ellipse: s-maj=16.3km s-min=6.6km az=169.6
*GUC **14** 00:25:40.2±0.6,33.°46S×68.°51W,h31km±6km,ML2.7*
ISC 14 00:25:37.6±2.5,33.49S±0.10×68.48W±0.07,h3km±15km,
n18,σ0§74/22,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.50**	**324**	*eP*	**Pg**	**00 25 47.9**	**+0.6**
AAGR				*eS*	**Sb**	**00 25 55.7**	**-1.3**
ARCO	**CERRO ARCO**	**0.76**	**329**	*eP*	**Pg**	**00 25 52.1**	**0.0**
ARCO				IAML		00 25 53.0	
	comp=Z,558nm,0.3s						
ARCO				*eS*	**Sb**	**00 26 04.6**	**+0.3**
ASAL	**Salagasta**	**0.95**	**341**	*eP*	**Pg**	**00 25 55.7**	**-0.1**
AUSP	**Uspallata**	**1.48**	**329**	*eP*	**Pn**	**00 26 05.4**	**-0.1**
RTCV	**Cerro Valdivia**	**1.63**	**358**	*eP*	**Pn**	**00 26 07.2**	**-0.1**
ACAN	**Cantantal**	**1.63**	**42**	*eP*	**Pn**	**00 26 07.4**	**+0.1**
CLCH	**Cerro Calan**	**1.73**	**273**	*eP*	**Pn**	**00 26 09.3**	**+0.7**
CLCH				*i* S	**Sn**	**00 26 31.5**	**+0.3**
CLCH				IAML		00 26 35.4	
	comp=E,170nm,0.7s						
ANTU	**Antumapu**	**1.80**	**267**	*i* S	**Sn**	**00 26 33.6**	**+0.5**
RTLS	**Leoncito**	**1.83**	**338**	*eP*	**Pn**	**00 26 10.7**	**+0.5**
RTLS				IAML		00 26 38.1	
	comp=Z,107nm,0.3s						
PEL	**Peldehue**	**1.88**	**280**	*eP*	**Pn**	**00 26 11.4**	**+0.6**
PEL				*i* S	**Sb**	**00 26 35.9**	**-0.8**
PEL				IAML		00 26 37.2	
	comp=N,94nm,0.4s						
RTLL	**Cerro Villicun**	**2.16**	**0**	*eP*	**Pn**	**00 26 15.3**	**+0.7**
ROCH	**El Roble**	**2.19**	**283**	*eP*	**Pb**	**00 26 17.1**	**-0.9**
ROCH				*i* S	**Sb**	**00 26 44.1**	**-1.4**
ROCH				IAML		00 26 48.4	
	comp=E,86nm,0.5s						
ROC1	**El Roble**	**2.19**	**283**	*eP*	**Pb**	**00 26 18.2**	**+0.2**
AMOG	**MOGNA**	**2.55**	**360**	*eP*	**Pn**	**00 26 20.9**	**+1.0**
ACHE	**Chepes**	**2.79**	**34**	*eP*	**Pn**	**00 26 23.1**	**-0.2**
AVFE	**Valle Fertil**	**2.96**	**17**	*eP*	**Pn**	**00 26 25.9**	**+0.3**
AVFE				IAML		00 27 09.9	
	comp=Z,105nm,0.4s						
APLL	**PUNTA DE LOS L**	**3.50**	**29**	IAML		00 27 33.6	
	comp=Z,33nm,0.3s						
VCA	**Vinchina**	**4.75**	**3**	*eP*	**Pn**	**00 26 51.4**	**+1.1**
VCA				IAML		00 28 08.9	
	comp=Z,55nm,0.3s						

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*TIF **14** 00:52:05.0,41.°21N×43.°61E,h16km*
*ISCJB **14** 00:52:05.8±0.5,41.°20N±0.°02×43.°57E±0.°03,h5km±4km,*
Error ellipse: s-maj=4.3km s-min=3.5km az=40.4
*CSEM **14** 00:52:05.6±0.1,41.°21N×43.°56E,h2km,ML2.0,Error*
ellipse: s-maj=2.4km s-min=1.9km az=138.0
*DDA **14** 00:52:05.3,41.°20N×43.°56E,h7km,Ml2.9*
ISC 14 00:52:05.6±0.8,41.21N±0.°02×43.56E±0.°02,h9km±5km,
n27,σ0§42/54,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.06**	**28**	P	**Pg**	**00 52 07.9**	**0.0**
BGD				S	**Sg**	**00 52 09.4**	**-0.1**
BGD	**Bogdanovka**	**0.06**	**28**	P	**Pg**	**00 52 07.9**	**0.0**
BGD				S	**Sg**	**00 52 09.4**	**-0.1**
AKH	**Akhalkalaki**	**0.20**	**345**	P	**Pg**	**00 52 10.2**	**+0.2**
AKH				S	**Sg**	**00 52 13.3**	**+0.4**
AKH	**Akhalkalaki**	**0.20**	**345**	P	**Pg**	**00 52 10.2**	**+0.2**
AKH				S	**Sg**	**00 52 13.4**	**+0.4**
EAK	**Akyaka**	**0.53**	**176**	*i* P	**Pg**	**00 52 15.6**	**-0.3**
EAK				*i* S	**Sg**	**00 52 23.2**	**+0.3**
EAK	**Akyaka**	**0.53**	**176**	P	**Pg**	**00 52 15.6**	**-0.3**
EAK				S	**Sg**	**00 52 23.2**	**+0.3**
EPOS	**Posof**	**0.69**	**295**	*i* P	**Pb**	**00 52 19.4**	**-0.5**
EPOS				*i* S	**Sb**	**00 52 29.3**	**-0.3**
EPOS	**Posof**	**0.69**	**295**	P	**Pb**	**00 52 19.4**	**-0.5**
EPOS				S	**Sb**	**00 52 29.3**	**-0.3**
DIGO	**Kars**	**0.81**	**190**	*i* P	**Pg**	**00 52 21.0**	**-0.3**
DIGO				*i* S	**Sg**	**00 52 31.8**	**-0.1**
DIGO	**Kars**	**0.81**	**190**	P	**Pg**	**00 52 21.0**	**-0.3**
DIGO				S	**Sg**	**00 52 31.8**	**-0.1**
TBLG	**Delisi**	**1.02**	**59**	P	**Pg**	**00 52 24.8**	**-0.5**
TBLG				S	**Sg**	**00 52 38.4**	**-0.2**
TBLG	**Delisi**	**1.02**	**59**	P	**Pg**	**00 52 24.9**	**-0.5**
TBLG				S	**Sg**	**00 52 38.4**	**-0.2**
ARTV	**Artvin**	**1.23**	**269**	*i* P	**Pg**	**00 52 28.9**	**-0.4**
ARTV				*i* S	**Sb**	**00 52 45.5**	**+0.2**
ARTV	**Artvin**	**1.23**	**269**	P	**Pg**	**00 52 28.9**	**-0.4**
ARTV				S	**Sb**	**00 52 45.5**	**+0.2**
DAGI	**Agillar**	**1.25**	**264**	*i* P	**Pb**	**00 52 29.1**	**-0.4**
DAGI				*i* S	**Sn**	**00 52 47.1**	**+0.7**
ONI	**Oni**	**1.38**	**357**	P	**Pn**	**00 52 31.4**	**+0.3**
ONI				S	**Sg**	**00 52 50.2**	**+0.2**
ONI	**Oni**	**1.38**	**357**	P	**Pn**	**00 52 31.2**	**+0.1**
ONI				S	**Sg**	**00 52 50.4**	**+0.4**
DGRG	**David-gareji**	**1.39**	**80**	P	**Pg**	**00 52 31.9**	**-0.3**
DGRG				S	**Sg**	**00 52 50.8**	**+0.6**
DGRG	**David-gareji**	**1.39**	**80**	P	**Pg**	**00 52 31.8**	**-0.4**
DGRG				S	**Sg**	**00 52 51.2**	**+1.0**
DDEM	**Demirkent**	**1.41**	**257**	*i* P	**Pb**	**00 52 31.8**	**-0.3**
DDEM				*i* S	**Sg**	**00 52 50.6**	**-0.3**
DDEM	**Demirkent**	**1.41**	**257**	P	**Pb**	**00 52 31.8**	**-0.3**
DDEM				S	**Sg**	**00 52 50.6**	**-0.3**
GUDG	**Gudauri**	**1.43**	**28**	P	**Pn**	**00 52 32.0**	**+0.2**
GUDG				S	**Sb**	**00 52 50.9**	**0.0**
GUDG	**Gudauri**	**1.43**	**28**	P	**Pn**	**00 52 32.1**	**+0.2**
GUDG				S	**Sg**	**00 52 51.8**	**+0.3**
DBOC	**Borcka**	**1.43**	**276**	*i* P	**Pb**	**00 52 32.1**	**-0.4**
DBOC				*i* S	**Sn**	**00 52 51.1**	**+0.3**
DBOC	**Borcka**	**1.43**	**276**	P	**Pb**	**00 52 32.1**	**-0.4**
DBOC				S	**Sn**	**00 52 51.1**	**+0.3**
EATA	**Eleskirt**	**1.58**	**211**	*i* P	**Pb**	**00 52 34.9**	**-0.2**
EATA				*i* S	**Sg**	**00 52 57.4**	**+1.0**
EATA	**Eleskirt**	**1.58**	**211**	P	**Pb**	**00 52 34.9**	**-0.2**
EATA				S	**Sg**	**00 52 57.4**	**+1.0**

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*IDC **14** 01:11:31.4±0.9,38.°17N×20.°81E,h0km,mb3.8/11,*
mb1 3.7/16,mb1mx3.6/38,mbtmp3.6/16,ML2.9/4,MS3.0/3,
Ms1 3.0/3,ms1mx2.4/47,Error ellipse: s-maj=17.9km
s-min=14.6km az=171.0
*THE **14** 01:11:31.8,37.°95N×20.°79E,h13km,ML3.4/9,Error*
ellipse: s-maj=1.1km s-min=0.6km az=213.0
*TIR **14** 01:11:31.9,38.°17N×21.°45E,h28km,ML4.2*
*ISCJB **14** 01:11:31.4±0.5,37.°96N±0.°02×20.°74E±0.°02,h8km±3km,*
mb3.7/11,MS3.8/1,Error ellipse: s-maj=3.6km
s-min=2.4km az=27.8
*ATH **14** 01:11:31.8,37.°96N×20.°82E,h11km±1km,ML3.3/14,Error*
ellipse: s-maj=1.3km s-min=0.7km az=30.0
*CSEM **14** 01:11:33.4±0.3,37.°97N×20.°82E,h15km,ML3.3,Error*
ellipse: s-maj=7.5km s-min=4.0km az=38.0
ISC 14 01:11:32.7±0.7,38.00N±0.°02×20.84E±0.°02,h13km±4km,
n205,σ1§34/276,mb3.8/11,3D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.12**	**339**	P	**Pg**	**01 11 35.6**	**-0.4**
KFL				S	**Sg**	**01 11 38.7**	**+0.4**
KFL	**Anninata**	**0.12**	**339**	P	**Pg**	**01 11 35.8**	**-0.1**
KFL				S	**Sg**	**01 11 38.4**	**+0.1**
KFL	**Anninata**	**0.12**	**339**	P	**Pg**	**01 11 35.8**	**-0.1**
KFL				S	**Sg**	**01 11 38.4**	**+0.1**
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**01 11 37.8**	**-0.5**
VLS				S	**Sg**	**01 11 42.5**	**+0.3**
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**01 11 38.0**	**-0.3**
VLS				S	**Sg**	**01 11 42.2**	**+0.1**
VLS				AML	AML	01 11 43.5	
	comp=E,14852μm,0.1s						
VLS				AML	AML	01 11 43.7	
	comp=N,45187μm,0.2s						
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**01 11 37.8**	**-0.5**
VLS				S	**Sg**	**01 11 42.2**	**+0.1**
VTN	**Vitineika**	**0.28**	**106**	P	**Pb**	**01 11 38.9**	**-0.7**
VTN				S	**Sg**	**01 11 43.0**	**+0.5**
VTN	**Vitineika**	**0.28**	**106**	P	**Pb**	**01 11 38.9**	**-0.7**
VTN				S	**Sg**	**01 11 43.0**	**+0.5**
AXS	**Araxos**	**0.47**	**65**	P	**Pg**	**01 11 41.4**	**-0.5**
AXS				S	**Sb**	**01 11 50.0**	**+0.5**
AXS	**Araxos**	**0.47**	**65**	P	**Pg**	**01 11 41.6**	**-0.2**
AXS				S	**Sb**	**01 11 49.5**	**0.0**
AXS	**Araxos**	**0.47**	**65**	P	**Pg**	**01 11 41.7**	**-0.2**
AXS				S	**Sb**	**01 11 49.5**	**0.0**
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**01 11 41.8**	**-0.6**
RLS				S	**Sb**	**01 11 49.9**	**-0.5**
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**01 11 41.9**	**-0.6**
RLS				S	**Sb**	**01 11 49.7**	**-0.8**
RLS				AML	AML	01 11 51.3	
	comp=E,4542μm,0.2s						
RLS				AML	AML	01 11 51.6	
	comp=N,6173μm,0.3s						
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**01 11 41.9**	**-0.5**
RLS				S	**Sb**	**01 11 49.9**	**-0.5**
DRO	**Drossia**	**0.69**	**93**	P	**Pg**	**01 11 45.1**	**-0.9**
DRO				S	**Sb**	**01 11 56.9**	**+0.9**
DRO	**Drossia**	**0.69**	**93**	P	**Pg**	**01 11 45.2**	**-0.8**
DRO				S	**Sg**	**01 11 54.6**	**-0.5**
DRO				AML	AML	01 12 00.3	
	comp=N,6269μm,0.4s						
DRO				AML	AML	01 12 03.9	
	comp=E,6697μm,0.6s						
DRO	**Drossia**	**0.69**	**93**	P	**Pg**	**01 11 45.2**	**-0.8**
DRO				S	**Sb**	**01 11 56.9**	**+0.9**
UPR	**University Cam**	**0.80**	**69**	P	**Pb**	**01 11 48.2**	**-0.2**
UPR				S	**Sn**	**01 12 00.9**	**-0.5**
UPR	**University Cam**	**0.80**	**69**	P	**Pn**	**01 11 48.9**	**-0.7**
UPR				S	**Sg**	**01 11 58.6**	**0.0**
UPR	**University Cam**	**0.80**	**69**	P	**Pn**	**01 11 48.9**	**-0.7**
UPR				S	**Sn**	**01 12 00.9**	**-0.5**
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**01 11 47.2**	**-1.1**
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**01 11 46.9**	**-1.4**
LKD2				S	**Sb**	**01 12 00.4**	**+1.0**
LKD2				AML	AML	01 12 11.6	
	comp=N,4076μm,0.6s						
LKD2				AML	AML	01 12 12.5	
	comp=E,4279μm,0.7s						
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**01 11 47.2**	**-1.1**
LKD2				S	**Sb**	**01 12 00.4**	**+1.0**
PVO	**Paravola**	**0.82**	**41**	P	**Pg**	**01 11 48.4**	**-0.2**
PVO				S	**Sn**	**01 12 01.1**	**-0.8**
PVO	**Paravola**	**0.82**	**41**	P	**Pb**	**01 11 48.8**	**0.0**
PVO				S	**Sn**	**01 12 01.4**	**-0.5**
PVO				AML	AML	01 12 03.4	
	comp=E,7493μm,0.2s						
PVO				AML	AML	01 12 07.7	
	comp=N,4449μm,0.5s						
PVO	**Paravola**	**0.82**	**41**	P	**Pb**	**01 11 48.8**	**0.0**
PVO				S	**Sn**	**01 12 01.1**	**-0.8**
AMT	**Artemida-Makis**	**0.83**	**124**	P	**Pg**	**01 11 48.2**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**124**	P	**Pb**	**01 11 49.1**	**+0.1**
AMT	**Artemida-Makis**	**0.83**	**124**	P	**Pg**	**01 11 48.2**	**-0.5**
LAKA	**Lakka**	**0.93**	**74**	P	**Pg**	**01 11 49.5**	**-1.1**
LAKA				S	**Sn**	**01 12 04.5**	**-0.2**
LAKA	**Lakka**	**0.93**	**74**	P	**Pg**	**01 11 49.1**	**-1.5**
LAKA				S	**Sg**	**01 12 02.5**	**-0.3**
LAKA	**Lakka**	**0.93**	**74**	P	**Pg**	**01 11 49.5**	**-1.1**
LAKA				S	**Sn**	**01 12 04.5**	**-0.2**
EFP	**Efpalio**	**0.94**	**63**	P	**Pg**	**01 11 49.9**	**-1.0**
EFP				S	**Sn**	**01 12 05.3**	**+0.3**
EFP	**Efpalio**	**0.94**	**63**	P	**Pg**	**01 11 49.5**	**-1.3**
EFP				S	**Sn**	**01 12 05.2**	**+0.3**
EFP				AML	AML	01 12 06.3	
	comp=E,4359μm,0.2s						
EFP				AML	AML	01 12 12.0	
	comp=N,2689μm,0.6s						
EFP	**Efpalio**	**0.94**	**63**	P	**Pg**	**01 11 49.9**	**-1.0**
EFP				S	**Sn**	**01 12 05.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.03**	**87**	P	**Pb**	**01 11 51.1**	**-1.4**
KLV				S	**Sn**	**01 12 07.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.03**	**87**	P	**Pb**	**01 11 50.4**	**-2.1**
KLV				S	**Sn**	**01 12 08.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.03**	**87**	P	**Pb**	**01 11 51.1**	**-1.4**
KLV				S	**Sn**	**01 12 07.2**	**-0.1**
ANX	**Ano Chora**	**1.04**	**55**	P	**Pb**	**01 11 51.6**	**-1.0**
ANX				S	**Sn**	**01 12 07.8**	**+0.4**
ANX	**Ano Chora**	**1.04**	**55**	P	**Pb**	**01 11 51.2**	**-1.4**
ANX	**Ano Chora**	**1.04**	**55**	P	**Pb**	**01 11 51.6**	**-1.0**
ANX				S	**Sn**	**01 12 07.8**	**+0.4**
TRIZ	**Trizonia**	**1.04**	**69**	P	**Pb**	**01 11 50.8**	**-1.7**
TRIZ				S	**Sg**	**01 12 06.0**	**-0.2**
TRIZ	**Trizonia**	**1.04**	**69**	P	**Pb**	**01 11 50.8**	**-1.7**
TRIZ				S	**Sg**	**01 12 06.0**	**-0.2**
SERG	**Sergoula**	**1.04**	**66**	P	**Pb**	**01 11 51.5**	**-1.1**
SERG				S	**Sn**	**01 12 08.4**	**+0.9**
SERG	**Sergoula**	**1.04**	**66**	P	**Pb**	**01 11 50.9**	**-1.7**
SERG	**Sergoula**	**1.04**	**66**	P	**Pb**	**01 11 51.5**	**-1.1**
SERG				S	**Sn**	**01 12 08.4**	**+0.9**
KALE	**Kalithea**	**1.09**	**69**	P	**Pb**	**01 11 52.5**	**-1.0**
KALE	**Kalithea**	**1.09**	**69**	P	**Pb**	**01 11 51.6**	**-2.0**
KALE				S	**Sb**	**01 12 07.6**	**-0.1**
KALE				AML	AML	01 12 17.7	
	comp=E,2155μm,0.4s						
KALE				AML	AML	01 12 21.9	
	comp=N,1677μm,0.7s						
KALE	**Kalithea**	**1.09**	**69**	P	**Pb**	**01 11 52.5**	**-1.0**
KALE				S	**Sb**	**01 12 07.6**	**-0.1**
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**	**01 11 53.5**	**-1.0**
DSL				S	**Sn**	**01 12 10.8**	**+0.6**
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**	**01 11 52.4**	**-2.1**
DSL				S	**Sn**	**01 12 10.7**	**+0.4**
DSL				AML	AML	01 12 19.1	
	comp=E,2905μm,0.5s						
DSL				AML	AML	01 12 22.4	
	comp=N,3302μm,0.8s						
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**

	comp=E,4166μm,0.6s						
THAL	Thalero	1.44	88	P	Pn	01 11 58.0	-0.4
THAL				S	Sg	01 12 19.3	+0.3
AGG	Agios Georgios	1.55	48	P	Pb	01 12 01.0	-0.3
AGG				S	Sb	01 12 20.9	0.0
AGG	Agios Georgios	1.55	48	P	Pn	01 12 00.2	+0.2
AGG	Agios Georgios	1.55	48	P	Pb	01 12 01.0	-0.3
AGG				S	Sb	01 12 20.9	0.0
PROD	Prodromos	1.64	80	P	Pb	01 12 02.6	-0.2
PROD	Prodromos	1.64	80	P	Pb	01 12 02.7	-0.2
JAN	Janina	1.66	0	P	Pg	01 12 03.9	-0.6
JAN	Janina	1.66	0	P	Pg	01 12 03.9	-0.6
LTK	Loutraki	1.68	88	P	Pn	01 12 01.7	-0.1
LTK	Loutraki	1.68	88	P	Pn	01 12 01.7	-0.1
SGD	Sagiada	1.68	344	P	Pb	01 12 03.0	-0.5
SGD	Sagiada	1.68	344	P	Pn	01 12 02.4	+0.6
SGD	Sagiada	1.68	344	P	Pb	01 12 03.0	-0.5
LOUT	Loutraki	1.68	90	P	Pg	01 12 04.9	-0.1
LOUT	Loutraki	1.68	90	P	Pg	01 12 04.9	-0.1
THL	Klokotos Trika	1.81	30	P	Pb	01 12 06.1	+0.4
THL	Klokotos Trika	1.81	30	P	Pg	01 12 06.7	-0.8
THL				AML	AML	01 12 41.9	
	comp=N,777μm,0.7s						
THL				AML	AML	01 12 43.1	
	comp=E,954μm,0.6s						
THL	Klokotos Trika	1.81	30	P	Pb	01 12 06.1	+0.4
LKR	Lokris	1.82	68	P	Pb	01 12 05.0	-0.7
LKR				S	Sg	01 12 30.5	-0.6
LKR	Lokris	1.82	68	P	Pb	01 12 05.1	-0.7
LKR				S	Sg	01 12 30.5	-0.6
KEK	Kerkira	1.90	335	P	Pn	01 12 04.8	0.0
KEK	Kerkira	1.90	335	P	Pn	01 12 04.8	0.0
VIL2	Platees	1.93	83	P	Pg	01 12 08.9	-0.7
VILL	Villia	1.96	84	P	Pb	01 12 08.2	0.0
VILL	Villia	1.96	84	P	Pb	01 12 08.2	0.0
DID	Didima	1.96	104	P	Pb	01 12 07.6	-0.7
DID	Didima	1.96	104	P	Pb	01 12 08.5	+0.2
DID	Didima	1.96	104	P	Pb	01 12 07.6	-0.7
SRN	Sarande	1.99	341	*i* PN	Pb	01 12 07.5	-1.3
SRN				*i* SN	Sg	01 12 37.1	+0.3
SRN	Sarande	1.99	341	*i* Pn	Pb	01 12 07.5	-1.3
SRN				*i* Sn	Sg	01 12 37.1	+0.3
KPRO	Kipourio	2.00	12	P	Pb	01 12 09.2	+0.3
KPRO	Kipourio	2.00	12	P	Pg	01 12 10.2	-0.8
VLI	Veliai	2.10	127	P	Pb	01 12 10.2	-0.4
VLI	Veliai	2.10	127	P	Pb	01 12 10.2	-0.4
PENT	Pentalofos	2.21	6	P	Pb	01 12 12.7	+0.1
PENT	Pentalofos	2.21	6	P	Pb	01 12 12.7	+0.1
ATH	Athens Observa	2.27	90	P	Pb	01 12 12.0	-1.5
ATH	Athens Observa	2.27	90	P	Pb	01 12 12.0	-1.5
XOR	Xorichti	2.29	53	P	Pb	01 12 14.0	+0.1
XOR	Xorichti	2.29	53	P	Pb	01 12 14.0	+0.1
ATHU	Athens Univers	2.32	90	P	Pb	01 12 13.2	-1.3
ATHU	Athens Univers	2.32	90	P	Pb	01 12 13.1	-1.3
VLY	Voula,Athens	2.34	93	P	Pb	01 12 12.7	-2.0
VLY	Voula,Athens	2.34	93	P	Pb	01 12 13.1	-1.6
VLY	Voula,Athens	2.34	93	P	Pb	01 12 12.7	-2.0
PTL	Penteli	2.39	88	P	Pb	01 12 14.4	-1.1
PTL	Penteli	2.39	88	P	Pb	01 12 14.4	-1.1
KZN	Kozani	2.42	17	P	Pb	01 12 15.4	-0.7
KZN	Kozani	2.42	17	P	Pb	01 12 15.4	-0.7
LIT	Litokhoron	2.46	31	P	Pb	01 12 15.8	-1.0
LIT	Litokhoron	2.46	31	P	Pb	01 12 15.8	-1.0
EREA	Eretria	2.47	79	P	Pb	01 12 15.5	-1.5
EREA	Eretria	2.47	79	P	Pb	01 12 15.5	-1.5
KBN	Korca	2.62	359	*i* PN	Pb	01 12 17.4	-2.2
KBN	Korca	2.62	359	*i* Pn	Pb	01 12 17.4	-2.2
FNA	Florina	2.81	8	P	Pn	01 12 19.0	+1.6
FNA	Florina	2.81	8	P	Pn	01 12 19.0	+1.6
KARY	Karystos	2.84	88	P	Pn	01 12 19.9	+2.2
ANKY	Antikythira Is	2.90	136	P	Pb	01 12 21.6	-2.6
ANKY	Antikythira Is	2.90	136	P	Pb	01 12 21.6	-2.6
SERI	Serifos	3.01	105	P	Pn	01 12 20.8	+0.7
SERI	Serifos	3.01	105	P	Pn	01 12 20.8	+0.7
BIA	Bitola	3.04	7	*i* Pn	Pn	01 12 23.6	+3.1
BIA				*i* Sn	Sb	01 13 02.1	-1.6
BIA	Bitola	3.04	7	*i* Pn	Pn	01 12 23.6	+3.0
BIA				*i* Sn	Sb	01 13 02.1	-1.7
OHR	Ohrid	3.11	359	*i* Pn	Pn	01 12 23.8	+2.3
OHR				*e*Sn	Sn	01 13 01.4	+2.9
OHR	Ohrid	3.11	359	*i* Pn	Pn	01 12 23.7	+2.2
OHR				*e*Sn	Sn	01 13 01.4	+2.8
MHLA	Plaka, Milos I	3.11	113	P	Pb	01 12 25.3	-2.6
PLG	Polygyros	3.12	40	P	Pn	01 12 23.6	+2.0
PLG	Polygyros	3.12	40	P	Pn	01 12 23.6	+2.0
HORT	Hortiatis	3.13	33	P	Pn	01 12 23.4	+1.6
HORT	Hortiatis	3.13	33	P	Pn	01 12 23.4	+1.6
GRG	Griva	3.19	22	P	Pn	01 12 23.6	+1.0
GRG	Griva	3.19	22	P	Pn	01 12 23.6	+1.0
KRUS	Krusevo	3.38	5	*i* Pn	Pn	01 12 27.3	+2.0
KRUS				*i* Sn	Sn	01 13 08.7	+3.4
KRUS	Krusevo	3.38	5	*i* Pn	Pn	01 12 27.3	+2.0
KRUS				*i* Sn	Sn	01 13 08.6	+3.3
TIR	Tirane	3.43	348	*i* PN	Pn	01 12 28.1	+2.2
TIR	Tirane	3.43	348	*i* Pn	Pn	01 12 28.1	+2.2
KNT	Kendrikon	3.54	26	P	Pn	01 12 29.2	+1.9
KNT	Kendrikon	3.54	26	P	Pn	01 12 29.2	+1.9
IMMV	Iera Moni Meta	3.57	134	P	Pn	01 12 28.9	+1.1
IMMV	Iera Moni Meta	3.57	134	P	Pn	01 12 28.9	+1.1
APE	Apeiranthos	3.84	103	P	Pn	01 12 32.2	+0.7
APE	Apeiranthos	3.84	103	P	Pn	01 12 32.2	+0.7
PUK	Puka	4.11	350	*i* PN	Pn	01 12 37.0	+1.8
PUK	Puka	4.11	350	*i* Pn	Pn	01 12 37.0	+1.8
MMB	Musomiste	4.22	31	*e*P	Pn	01 12 38.0	+1.3
IDI	Anoyia	4.23	128	Pn	Pn	01 12 38.8	+1.9
	comp=E,0.3nm,0.3s,baz=265,slow=10.0,SNR=11						
IDI				Sn	Sn	01 13 30.8	+4.6
	comp=E,1.7nm,0.3s,baz=258,slow=11,SNR=6.4						
IDI				LR	LR	01 14 26.8	
	comp=E,54nm,21.0s,baz=268,slow=40						
IDI	Anoyia	4.23	128	P	Pn	01 12 38.4	+1.5
IDI	Anoyia	4.23	128	P	Pn	01 12 38.4	+1.5
KKB	Krupnik	4.23	23	*e*P	Pn	01 12 38.0	+1.1
BCI	Bajram Curri	4.41	352	*i* PN	Pn	01 12 41.3	+2.0
BCI	Bajram Curri	4.41	352	*i* Pn	Pn	01 12 41.3	+2.0
RZN	Rozhen	4.74	38	*e*P	Pn	01 12 48.0	+4.0
BARS	Barje	4.87	8	*e*Pn	Pn	01 12 46.6	+0.9
VTS	Vitosha	4.93	21	*e*P	Pn	01 12 48.5	+1.9
VAE	Valguarnera	5.12	266	Pn	Pn	01 12 49.1	-0.1
	comp=E,0.5nm,0.3s,baz=32,slow=13,SNR=3.9						
VAE				Sn	Sn	01 13 50.3	+2.1
	comp=E,0.8nm,0.3s,baz=134,slow=18,SNR=3.0						
SJES	Sjenica	5.30	353	*e*Pn	Pn	01 12 52.6	+1.0
STON	Ston	5.43	335	*e*Pn	Pn	01 12 52.4	-0.9
STON				Sn	Sn	01 13 47.1	-8.5
IVAS	Ivanjica	5.60	355	*e*Pn	Pn	01 12 55.7	0.0
MPEP	Malo Peshtene	5.79	21	*e*P	Pn	01 13 04.5	+6.3
GRUS	Gruza	5.89	359	‖ *i*Pn	Pn	01 12 59.8	+0.2
ZAGS	Zajecar	5.90	10	‖ *i*Pn	Pn	01 13 00.8	+1.0
BBLS	Lazići	5.96	350	*e*Pn	Pn	01 13 01.0	+0.3
DIVS	Divibare	6.13	354	*i* Pn	Pn	01 13 03.2	+0.2
TRUS	Trudelj	6.23	357	‖ *i*Pn	Pn	01 13 04.0	-0.3
TEKS	Tekeris	6.62	352	*i* Pn	Pn	01 13 09.3	-0.4
UDBI	Udbina	7.56	331	*e*Pn	Pn	01 13 23.5	+0.9
UDBI	Udbina	7.56	331	*e*Pn	Pn	01 13 23.5	+0.9
NVLJ	Novalja	7.95	327	*i* Pn	Pn	01 13 27.7	-0.2
NVLJ				Sn	Sn	01 14 54.6	-3.1
NVLJ	Novalja	7.95	327	*i* Pn	Pn	01 13 27.6	-0.3
OZLJ	Ozalj	8.60	334	*e*Pn	Pn	01 13 37.0	+0.2
SOKA	Soboth	9.68	336	*e*Pn	Pn	01 13 50.8	-0.9
	comp=E,5.3nm,0.7s						
SOKA	Soboth	9.68	336	Pn	Pn	01 13 50.8	-0.9
	comp=E,5.3nm,0.7s						
OBKA	Obir	9.70	333	*e*Pn	Pn	01 13 52.2	+0.2
	comp=E,1.2nm,0.3s						
OBKA	Obir	9.70	333	Pn	Pn	01 13 52.2	+0.2
	comp=E,1.2nm,0.3s						
BRTR	Keskin Array B	10.13	76	Pn	Pn	01 14 02.0	+4.1
	comp=E,0.1nm,0.3s,baz=258,slow=12,SNR=2.5						
MYKA	Terra Mystica	10.14	331	*e*Pn	Pn	01 13 58.1	+0.1
	comp=E,0.8nm,0.3s						
MYKA	Terra Mystica	10.14	331	Pn	Pn	01 13 58.1	+0.1
	comp=E,0.8nm,0.3s						
MOA	Molln	10.96	336	*e*Pn	Pn	01 14 08.8	-0.4
	comp=E,1.1nm,0.3s						
MOA	Molln	10.96	336	Pn	Pn	01 14 08.8	-0.4
	comp=E,1.1nm,0.3s						
VRAC	Vranov	11.72	346	LR	LR	01 20 19.0	
	comp=E,45nm,18.5s,baz=150,slow=46						
GERES	GERESS Array B	12.02	337	Pn	Pn	01 14 22.0	-1.6
	comp=E,0.1nm,0.3s,baz=159,slow=12,SNR=4.6						
ESDC	Sonseca Array	19.39	283	P	P	01 15 58.9	+0.5
	baz=85,slow=12,SNR=4.3						
MDT	Midelt	21.36	264	P	P	01 16 20.8	+1.0
	comp=E,0.8nm,0.9s,baz=31,slow=11,SNR=2.7						
HFS	Hagfors	22.62	351	P	P	01 16 31.6	-1.4
	comp=E,2.2nm,0.8s,baz=156,slow=14,SNR=5.0						
FINES	FINESS Array B	23.70	6	P	P	01 16 42.5	-1.4
	comp=E,4.9nm,1.0s,baz=186,slow=11,SNR=3.3						
EKA	Eskdalemuir Ar	23.72	325	P	P	01 16 44.3	0.0
	comp=E,2.0nm,0.7s,baz=116,slow=9.4,SNR=7.1						
NB2	NORSAR Subarra	23.85	348	P	P	01 16 45.3	-0.1
	comp=Z,2.1nm,0.9s,baz=161,slow=9.3						
NB2	NORSAR Subarra	23.85	348	P	P	01 16 45.3	-0.1
	comp=Z,2.1nm,0.9s,baz=161,slow=9.1,SNR=4.6						
NOA	NORSAR Array B	23.85	348	P	P	01 16 44.6	-0.9
	comp=Z,0.7nm,0.8s,baz=161,slow=10,SNR=3.5						
AKTO	Aktyubinsk	29.09	53	P	P	01 17 33.3	+0.5
	comp=Z,1.0nm,0.6s,baz=214,slow=3.6,SNR=3.0						
TORD	Torodi Ar. Bea	30.05	220	P	P	01 17 43.2	+1.6
	comp=Z,0.6nm,1.0s,baz=32,slow=8.5,SNR=3.3						
ARCESS	Array B	31.70	3	P	P	01 17 55.3	-0.3
	comp=Z,4.0nm,1.0s,baz=197,slow=2.5,SNR=3.7						
MKAR	Makanchi Array	45.18	58	P	P	01 19 48.3	-0.8
	comp=Z,0.7nm,0.6s,baz=271,slow=11,SNR=3.9						
ZALV	Zalesovo Beam	45.62	48	P	P	01 19 53.9	+1.5
	comp=Z,0.9nm,0.5s,baz=268,slow=8.2,SNR=2.7						
NRIK	Noril'sk	46.84	27	P	P	01 20 00.4	-1.5
	comp=Z,1.7nm,0.4s,baz=327,slow=3.3,SNR=3.8						
MJAR	Matsushiro Arr	85.93	46	LR	LR	02 06 32.9	
	comp=Z,33nm,18.9s,baz=150,slow=38						

DJA 14 01:32:19.5±1.3, 8°S±6°×11°7E±°, h11km±11km, M3.8/6, MLv3.8/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.98	163	P	Pg	01 32 38.4	-0.1
PLAI				S	Sb	01 32 52.2	+0.6
TWSI	Taliwang, Sumb	1.04	215	P	Pb	01 32 39.1	-0.5
TWSI				S	Sg	01 32 53.1	-0.1
SRBI	Singaraja	2.27	265	P	Pn	01 32 57.0	+0.1

CSEM 14 01:36:52.6±0.2, 42°.91N×13°.69E, h25km±2km, ML3.0/5, Error ellipse: s-maj=4.5km s-min=3.9km az=118.0
ROM 14 01:36:51.6±0.2, 42°.94N×13°.78E, h24km±2km, Md2.2/13, Ml2.4/6, Error ellipse: s-maj=1.9km s-min=1.2km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	Offida	0.07	268	Pg	Pb	01 36 55.9	-0.1
OFFI				Sg	Sb	01 36 59.3	+0.3
OFFI	Offida	0.07	268	Pg	Pb	01 36 55.9	-0.1
OFFI				Sg	Sb	01 36 59.3	+0.3
GUMA	Gualdo di Mace	0.17	42	Pg	Pn	01 36 59.5	+0.8
GUMA				Sg	Sb	01 37 05.5	+5.0
	553nm,0.3s						
GUMA	Gualdo di Mace	0.17	42	Pg	Pn	01 36 59.5	+0.8
GUMA				Sg	Sb	01 37 05.5	+5.0
	553nm,0.3s						
TERO	Teramo	0.34	202	Pg	Pb	01 36 59.3	+0.1
TERO				Sg	Sb	01 37 05.0	+0.6
	433nm,0.1s						
TERO	Teramo	0.34	202	Pg	Pb	01 36 59.3	+0.1
TERO				Sg	Sb	01 37 05.0	+0.6
	433nm,0.1s						
SMA1	SAN MARTINO	0.45	227	Pg	Pb	01 37 00.7	-0.3
SMA1				Sg	Sb	01 37 07.7	+0.3
	171nm,0.1s						
CAMP	Campotosto	0.48	214	Pg	Pb	01 37 01.4	-0.2
CAMP				Sg	Sb	01 37 08.8	+0.4
CAMP	Campotosto	0.48	214	Pg	Pb	01 37 01.4	-0.2
CAMP				Sg	Sb	01 37 08.8	+0.4
NRCA	Norcia	0.50	258	Pg	Pb	01 37 01.5	-0.4
NRCA				Sg	Sb	01 37 09.2	+0.4
	135nm,0.1s						
NRCA	Norcia	0.50	258	Pg	Pb	01 37 01.5	-0.4
NRCA				Sg	Sb	01 37 09.2	+0.4
	135nm,0.1s						
FDMO	Fiordimonte	0.52	281	Pg	Pb	01 37 01.8	-0.3
FDMO				Sg	Sb	01 37 09.7	+0.4
FDMO	Fiordimonte	0.52	281	Pg	Pb	01 37 01.8	-0.3
FDMO				Sg	Sb	01 37 09.7	+0.4
LNSS	Leonessa	0.64	239	Pg	Pb	01 37 03.9	-0.3
LNSS				Sg	Sb	01 37 13.5	+0.7
	68nm,0.3s						
LNSS	Leonessa	0.64	239	Pg	Pb	01 37 03.9	-0.3
LNSS				Sg	Sb	01 37 13.5	+0.7
	68nm,0.3s						
CESI	CESI - Serrava	0.65	276	Pg	Pb	01 37 04.1	-0.2
CESI				Sg	Sb	01 37 13.8	+0.9
CESI	CESI - Serrava	0.65	276	Pg	Pb	01 37 04.1	-0.2
CESI				Sg	Sb	01 37 13.8	+0.9
T0104	Madonna delle	0.66	210	Pg	Pb	01 37 05.0	+0.4
T0104				Sg	Sn	01 37 15.0	-0.1
FAGN	Fagnano	0.69	192	Pg	Pn	01 37 05.9	+0.1
FAGN				Sg	Sn	01 37 14.9	-0.8
FAGN	Fagnano	0.69	192	Pg	Pn	01 37 05.9	+0.1
FAGN				Sg	Sn	01 37 14.9	-0.8
SNTG	Esanatoglia	0.69	298	Pg	Pb	01 37 04.8	-0.3
SNTG				Sg	Sn	01 37 15.2	-0.7
SNTG	Esanatoglia	0.69	298	Pg	Pb	01 37 04.8	-0.3
SNTG				Sg	Sn	01 37 15.2	-0.7
SSFR	Montelago di S	0.88	305	Pg	Pn	01 37 08.6	0.0
SSFR				Sg	Sn	01 37 20.9	+0.3
	101nm,0.2s						
SSFR	Montelago di S	0.88	305	Pg	Pn	01 37 08.6	0.0
SSFR				Sg	Sn	01 37 20.9	+0.3
	101nm,0.2s						
NVLJ	Novalja	1.81	26	*e*Pn	Pb	01 37 23.0	-1.0
NVLJ				Sn	Sb	01 37 45.6	-0.6
NVLJ	Novalja	1.81	26	*e*Pn	Pb	01 37 22.9	-1.1
NVLJ				Sn	Sb	01 37 45.6	-0.6

IDC 14 01:37:20.2±4.8, 29°.54N×140°.09E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/32, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=400.8km s-min=33.1km az=85.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	7.16	348	Pn	Pn	01 39 05.8	-0.4
	0.7nm,0.3s,baz=172,slow=9.3,SNR=3.6						
WRA	Warramunga Arr	49.50	187	P	P	01 46 11.9	-0.7
	0.6nm,0.7s,baz=5.5,slow=8.8,SNR=6.8						
ASAR	Alice Springs	53.23	187	P	P	01 46 41.0	+0.5
	0.2nm,0.3s,baz=17,slow=6.8,SNR=3.7						

ISCJB 14 01:57:54.5±1.2, 7°.5N±0°.2×82°.46W±0°.09, h12km, mb3.5/5, MS3.2/7, Error ellipse: s-maj=31.8km s-min=10.8km az=12.7
IDC 14 01:57:54.1±2.4, 7°.50N×82°.32W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/39, mbtmp3.7/5, MS3.4/11, Ms1 3.4/11, ms1mx3.1/30, Error ellipse: s-maj=93.4km s-min=26.3km az=31.0
ISC 14 01:57:55.9±1.1, 7°.5N±0°.2×82°.6W±0°.1, h12km, n19, σ1992/11, mb3.9/5, MS3.2/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	8.62	107	Pn	Pn	02 00 00.9	-0.2
ROSC				Sn	Sn	02 01 42.6	+4.0
	0.8nm,0.3s,baz=214,slow=18,SNR=3.4						
ROSC				LR	LR	02 02 56.3	
	0.6nm,0.3s,baz=71,slow=20,SNR=2.6						
SDV	Santo Domingo	11.90	83	Pn	Pn	02 00 46.1	+0.2
	comp=Z,266nm,21.6s,baz=192,slow=36						
SDV				Sn	Sn	02 02 58.3	-0.5
	0.7nm,0.3s,baz=247,slow=12,SNR=2.2						
SDV				LR	LR	02 05 46.1	
	0.9nm,0.3s,baz=290,slow=11,SNR=2.1						
ATAH	Atahualpa	15.12	164	LR	LR	02 06 42.9	
	comp=Z,160nm,19.2s,baz=355,slow=35						
PCRV	Puerto La Cruz	17.93	80	LR	LR	02 10 20.6	
	comp=Z,186nm,18.0s,baz=278,slow=42						
PTGA	Pitinga	23.99	109	P	P	02 03 09.1	-1.6
	4.0nm,0.8s,baz=291,slow=11,SNR=6.9						
PTGA				LR	LR	02 12 07.8	
	comp=Z,78nm,21.6s,baz=296,slow=36						
LPAZ	La Paz	27.62	149	LR	LR	02 15 13.5	
	comp=Z,89nm,19.9s,baz=9.5,slow=38						
TKL	Tuckaleechee C	28.05	358	LR	LR	02 14 10.2	
	comp=Z,61nm,18.2s,baz=192,slow=35						
TXAR	Lajitas Array	29.42	320	P	P	02 04 01.9	+2.3
	0.1nm,0.6s,baz=137,slow=12,SNR=2.8						
TXAR				LR	LR	02 16 50.9	
	comp=Z,38nm,18.3s,baz=0.0,slow=38						
H06E1	SOCORRO T-PHAS	29.74	295	T	T	02 35 26.6	
	SNR=6.0						
PDAR	Pinedale Array	42.40	330	LR	LR	02 25 03.3	
	comp=Z,32nm,20.4s,baz=106,slow=38						
ILAR	Eielson Array	72.46	336	P	P	02 09 22.9	+0.7
	0.7nm,0.7s,baz=107,slow=4.7,SNR=11						
ESDC	Sonseca Array	76.50	51	P	P	02 09 45.2	-1.0
	0.7nm,0.6s,baz=277,slow=6.2,SNR=6.1						
TORD	Torodi Ar. Bea	82.78	78	P	P	02 10 19.2	-1.5
	0.5nm,0.9s,baz=292,slow=5.7,SNR=5.0						
TORD				LR	LR	02 49 12.1	
	comp=Z,13nm,18.1s,baz=95,slow=37						
TIXI	Tiksi	98.34	350	LR	LR	03 03 25.3	
	comp=Z,11nm,18.3s,baz=29,slow=40						
ASAR	Alice Springs	141.51	241	PKP	PKPdf	02 17 26.9	-1.1
	0.1nm,0.3s,baz=101,slow=3.9,SNR=3.2						
WRA	Warramunga Arr	142.16	247	PKP	PKPdf	02 17 28.6	-0.6
	0.8nm,1.1s,baz=108,slow=3.0,SNR=3.4						
H01W1	Cape Leeuwin H	148.69	207	T	T	05 04 43.4	
	baz=144,slow=76,SNR=21						
H01W2	Cape Leeuwin H	148.70	207	T	T	05 04 43.3	
	baz=144,slow=76,SNR=21						
H01W3	Cape Leeuwin H	148.71	207	T	T	05 04 44.7	
	baz=144,slow=76,SNR=18						

ISCJB 14 02:30:39.5±0.7, 51°.40N±0°.03×16°.17E±0°.04, h0km, Error ellipse: s-maj=4.8km s-min=3.2km az=33.3
WAR 14 02:30:41.4, 51°.44N×16°.20E, h1km, Mw2.3
CSEM 14 02:30:41.0±0.4, 51°.40N×16°.17E, h2km, ML2.9/14, Error ellipse: s-maj=6.7km s-min=4.4km az=24.0
PRU 14 02:30:42.4, 51°.37N×16°.16E, h0km
VIE 14 02:30:43.5±0.8, 51°.27N×15°.96E, h0km, mb2.2/2, ML2.4/5, Error ellipse: s-maj=5.5km s-min=4.2km az=177.0, Suspected Mining induced.
ISC 14 02:30:39.0±1.0, 51°.53N±0°.04×16°.27E±0°.03, h0km, n35, σ0991/70, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	179	*i* Pg	Pg	02 30 52.6	+0.5
KSP				*e*Sg	Sg	02 31 00.5	-0.4
KSP	Ksiaz	0.68	179	‖ *i*Pg	Pg	02 30 52.6	+0.5
KSP				*e*Sg	Sg	02 31 00.5	-0.4
KSP	Ksiaz	0.68	179	*i* Pg	Pg	02 30 52.6	+0.5
KSP				*e*Sg	Sg	02 31 00.5	-0.4
UPC	Upice	1.03	189	*e*PG	Pg	02 30 58.5	-0.2
UPC				*e*SG	Sg	02 31 10.8	-1.3
	comp=Z,49nm,0.3s						
UPC	Upice	1.03	189	Pg	Pg	02 30 58.5	-0.2
UPC				Sg	Sg	02 31 10.8	-1.3
	49nm,0.3s						
DPC	Dobruska-Polom	1.18	178	*e*PG	Pg	02 31 01.4	-0.1
DPC				*e*SG	Sg	02 31 16.2	-0.6
	comp=Z,14nm,0.3s						
DPC	Dobruska-Polom	1.18	178	Pg	Pg	02 31 01.4	-0.1
DPC				Sg	Sg	02 31 16.2	-0.6
	14nm,0.3s						
PVCC	Panska Ves	1.47	228	*e*PG	Pb	02 31 07.3	+0.2
PVCC				*e*SG	Sg	02 31 25.6	-0.5
	comp=Z,88nm,0.3s						
PVCC	Panska Ves	1.47	228	Pg	Pb	02 31 07.3	+0.2
PVCC				Sg	Sg	02 31 25.6	-0.5
	88nm,0.3s						
KRLC	Kraliky	1.49	167	*e*PG	Pb	02 31 07.5	0.0
KRLC				*e*SG	Sg	02 31 25.4	-1.3
KRLC	Kraliky	1.49	167	Pg	Pb	02 31 07.5	0.0
KRLC				Sg	Sg	02 31 25.4	-1.3
BRG	Berggiesshubel	1.60	247	PG	Pg	02 31 09.8	+0.1
BRG				SG	Sn	02 31 30.1	+0.1
	24nm,0.4s						
PRA	Prague	1.87	219	*e*PN	Pn	02 31 13.0	+0.8
PRA				*e*PG	Pb	02 31 14.3	+0.4
PRA				*e*SG	Sn	02 31 36.8	+0.4
	comp=Z,8.7nm,0.3s						
PRA	Prague	1.87	219	Pn	Pn	02 31 13.0	+0.8
GOPC	GO Pecny, Ondr	1.87	211	*e*PG	Pb	02 31 14.0	0.0
GOPC				*e*SG	Sn	02 31 37.1	+0.6
	comp=Z,10nm,0.2s						
GOPC	GO Pecny, Ondr	1.87	211	Pg	Pb	02 31 14.0	0.0
GOPC				Sg	Sn	02 31 37.1	+0.6
	10nm,0.2s						
PRU	Pruhonice	1.89	216	*e*PG	Pb	02 31 14.0	-0.4

NIED **14** *02:54:00, 40°.10N×142°.20E, h53km, Mw3.7 Best double couple: M0 3.62000×10^14 NP1:φ0 198.00000°, δ16.00000°, λ91.00000°. NP2:φ0 16.00000°, δ74.00000°, λ90.00000°.*

ISCJB **14** *02:54:17.8±0.7, 40°.07N±0°.03×142°.22E±0°.08, h52km±6km, mb3.8/6, Error ellipse: s-maj=10.6km s-min=5.7km az=2.8*

JMA **14** *02:54:18.5±0.1, 40°.06N×142°.21E, h44km±1km, M3.6*

JMA Felt I J1.

IDC **14** *02:54:21.4±2.9, 40°.14N×142°.14E, h70km±20km, mb3.6/6, mb1 3.7/9, mb1mx3.4/43, mbtmp3.8/9, Error ellipse: s-maj=35.8km s-min=17.5km az=121.0*

ISC 14 02:54:18.7±1.1, 40°.04N±0°.04×142°.17E±0°.08, h47km±8km, n26, σ1°930/32, mb3.9/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.25**	**247**	P	**Pn**	**02 54 27.2**	**+0.1**
JTH				S	**Sn**	**02 54 33.0**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.54**	**210**	P	**Pn**	**02 54 30.1**	**-0.1**
MIYJ				S	**Sn**	**02 54 38.1**	**-0.3**
JANG	**Nango**	**0.60**	**304**	P	**Pn**	**02 54 30.7**	**-0.4**
JANG				S	**Sn**	**02 54 39.3**	**-0.6**
JKZ	**Kuzumaki**	**0.65**	**265**	P	**Pn**	**02 54 32.0**	**+0.3**
JKZ				S	**Sn**	**02 54 41.5**	**+0.5**
JOM	**Ohasama**	**0.88**	**230**	P	**Pn**	**02 54 35.2**	**+0.4**
JOM				S	**Sn**	**02 54 47.0**	**+0.5**
OFUJ	**Ofunato**	**1.03**	**202**	P	**Pn**	**02 54 37.0**	**+0.2**
OFUJ				*e*S	**Sn**	**02 54 50.4**	**+0.3**
JTM	**Tenmabayashi**	**1.12**	**312**	P	**Pn**	**02 54 38.0**	**0.0**
JTM				S	**Sn**	**02 54 52.6**	**+0.3**
JAH	**Hinai**	**1.18**	**278**	P	**Pn**	**02 54 39.4**	**+0.5**
JAH				S	**Sn**	**02 54 54.2**	**+0.4**
JMK	**Ichinoseki**	**1.31**	**214**	P	**Pn**	**02 54 41.1**	**+0.5**
JMK				S	**Sn**	**02 54 57.5**	**+0.6**
JRG	**Rokugo**	**1.35**	**242**	P	**Pn**	**02 54 41.9**	**+0.8**
JRG				*e*S	**Sn**	**02 55 00.1**	**+2.3**
ASAJ	**Asahikawa**	**4.09**	**4**	P	**Pn**	**02 55 19.6**	**+0.9**
	1.3nm,0.3s,baz=158,slow=19,SNR=3.2						
ASAJ				S	**Sn**	**02 56 06.0**	**+0.9**
	1.3nm,0.3s,baz=153,slow=10,SNR=3.5						
MAT	**Matsushiro**	**4.68**	**223**	P	**Pn**	**02 55 30.0**	**+3.2**
MAT				*e*S	**Sn**	**02 56 18.4**	**-1.5**
MJAR	**Matsushiro Ar**	**4.68**	**223**	P	**Pn**	**02 55 29.9**	**+3.0**
	0.8nm,0.3s,baz=32,slow=13,SNR=16						
USRK	**Ussuriysk Ar.**	**8.63**	**302**	P	**Pn**	**02 56 24.4**	**+3.4**
	0.4nm,0.3s,baz=109,slow=15,SNR=5.8						
H11N2	**WAKE ISLAND Hy 29.32**	**126**		T	T	03 31 05.8	
	baz=319,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy 29.33**	**126**		T	T	03 31 05.8	
	baz=319,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy 29.34**	**126**		T	T	03 31 05.2	
	baz=319,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy 30.13**	**128**		T	T	03 32 07.3	
	baz=321,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy 30.13**	**128**		T	T	03 32 07.3	
	baz=321,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy 30.14**	**128**		T	T	03 32 07.3	
	baz=321,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**40.39**	**310**	P	**P**	**03 01 51.8**	**-0.1**
	0.5nm,0.3s,baz=79,slow=7.5,SNR=2.5						
MKAR	**Makanchi Array**	**43.09**	**300**	P	**P**	**03 02 12.6**	**-1.6**
	3.4nm,1.2s,baz=87,slow=9.4,SNR=3.2						
ILAR	**Eielson Array**	**46.66**	**34**	P	**P**	**03 02 42.1**	**-0.1**
	0.3nm,0.8s,baz=268,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**66.44**	**332**	P	**P**	**03 05 02.4**	**-0.3**
	4.2nm,1.0s,baz=67,slow=14,SNR=3.2						
KBZ	**Khabaz**	**69.41**	**310**	P	**P**	**03 05 22.2**	**+0.5**
	1.3nm,1.0s,baz=324,slow=14,SNR=2.6						
AKASG	**Malin Array Be**	**72.29**	**322**	P	**P**	**03 05 37.9**	**-1.2**
	0.9nm,0.6s,baz=38,slow=5.9,SNR=3.6						

WEL 14 02:54:58.1±0.1, 39°.32S×176°.90E, h27km, ML3.5/61, 9C-16D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARHZ	**Aropaoanui**	**0.10**	**51**	⇑P*	Pb	02 55 02.8	-0.2
ARHZ				S*	Sb	02 55 07.4	+1.0
ARHZ				AML	AML	02 55 07.9	
MCHZ	**McNeill Hill**	**0.20**	**233**	⇓P*	Pb	02 55 03.8	-0.2
MCHZ				AML	AML	02 55 09.2	
MCHZ				AML	AML	02 55 09.5	
NMHZ	**Naumai**	**0.24**	**342**	⇓P*	Pb	02 55 04.1	-0.4
NMHZ				AML	AML	02 55 10.0	
NMHZ				AML	AML	02 55 10.9	
BKZ	**Black Stump Fm**	**0.35**	**296**	⇓P*	Pb	02 55 05.2	-0.9
BKZ				AML	AML	02 55 11.4	
BKZ				AML	AML	02 55 11.7	
WHHZ	**Waihua**	**0.36**	**47**	⇑P*	Pb	02 55 06.2	0.0
WHHZ				AML	AML	02 55 17.4	
WHHZ				AML	AML	02 55 18.6	
CKHZ	**Cape Kidnapper**	**0.36**	**158**	⇑P*	Pn	02 55 06.9	-0.6
CKHZ				AML	AML	02 55 16.6	
CKHZ				AML	AML	02 55 17.8	
KWHZ	**Kaweka Forest**	**0.38**	**255**	⇓P*	Pb	02 55 05.9	-0.6
KWHZ				S*	Sb	02 55 12.8	+0.4
KWHZ				AML	AML	02 55 12.9	
KAHZ	**Kahuranaki**	**0.47**	**182**	P*	Pn	02 55 08.7	-0.4
KAHZ				AML	AML	02 55 20.3	
KAHZ				AML	AML	02 55 21.1	
KRHZ	**Kereru**	**0.52**	**232**	⇓P*	Pb	02 55 08.3	-0.5
KRHZ				AML	AML	02 55 18.8	
KRHZ				AML	AML	02 55 19.3	
MRHZ	**Matea Rd**	**0.62**	**322**	P*	Pb	02 55 09.5	-0.9
MRHZ				AML	AML	02 55 23.1	
MRHZ				AML	AML	02 55 24.7	
SNGZ	**Shannon Statio**	**0.64**	**32**	⇑P*	Pb	02 55 10.7	-0.1
SNGZ				AML	AML	02 55 22.4	
SNGZ				AML	AML	02 55 24.4	
BHHZ	**Black Hill Sta**	**0.67**	**255**	⇓P*	Pb	02 55 10.3	-1.0
BHHZ				AML	AML	02 55 21.4	
BHHZ				AML	AML	02 55 21.5	
KNZ	**Kokohu**	**0.67**	**64**	⇓P*	Pb	02 55 11.1	-0.2
KNZ				AML	AML	02 55 27.0	
KNZ				AML	AML	02 55 32.0	
PXZ	**Pawanui**	**0.71**	**182**	⇓P*	Pb	02 55 11.4	-0.4
PXZ				AML	AML	02 55 24.5	
PXZ				AML	AML	02 55 24.5	
PXZ				AML	AML	02 55 28.8	
PXZ				AML	AML	02 55 28.8	
RTZ	**Ruatahuna**	**0.71**	**5**	P*	Pb	02 55 11.2	-0.7
HATZ	**Hinemaiaia**	**0.76**	**304**	P*	Pb	02 55 12.1	-0.7
HATZ				AML	AML	02 55 26.9	
HATZ				AML	AML	02 55 28.1	
PNHZ	**Pukenui**	**0.80**	**222**	⇑Pn	Pb	02 55 12.8	-0.6
PNHZ				AML	AML	02 55 26.4	
PNHZ				AML	AML	02 55 27.2	
MHGZ	**Mahia Peninsul**	**0.80**	**78**	PN	Pb	02 55 12.9	-0.5
MHGZ				AML	AML	02 55 38.5	
MHGZ				AML	AML	02 55 39.9	
WPHZ	**Waipukurau**	**0.82**	**205**	PN	Pb	02 55 13.2	-0.5
WPHZ				AML	AML	02 55 29.6	
WPHZ				AML	AML	02 55 36.0	
MUGZ	**Murupara**	**0.85**	**353**	⇓PN	Pn	02 55 13.5	-0.8
PRGZ	**Paritu Road**	**0.86**	**63**	PN	Pn	02 55 13.6	-0.9
PRGZ				AML	AML	02 55 34.7	
PRGZ				AML	AML	02 55 34.7	
ALRZ	**Allen Road**	**0.88**	**330**	PN	Pn	02 55 14.1	-0.5
ALRZ				AML	AML	02 55 28.5	
ALRZ				AML	AML	02 55 28.8	
RITZ	**Rihia Road**	**0.88**	**293**	PN	Pn	02 55 14.5	-0.2
RITZ				AML	AML	02 55 32.2	
RITZ				AML	AML	02 55 34.0	
MOVZ	**Moawhango**	**0.89**	**264**	⇓PN	Pn	02 55 14.1	-0.8
MOVZ				AML	AML	02 55 29.4	
MOVZ				AML	AML	02 55 29.5	
RIGZ	**Rimuhau**	**0.91**	**48**	PN	Pn	02 55 14.6	-0.5
RIGZ				AML	AML	02 55 36.1	
RIGZ				AML	AML	02 55 36.6	
PRRZ	**Plateau Road**	**0.91**	**334**	⇓PN	Pn	02 55 14.8	-0.3
PRRZ				AML	AML	02 55 29.3	
PRRZ				AML	AML	02 55 29.4	
RAGZ	**Rawiri**	**0.92**	**26**	PN	Pn	02 55 14.9	-0.3
RAGZ				AML	AML	02 55 31.2	
RAGZ				AML	AML	02 55 32.7	
PRHZ	**Porangahau**	**0.96**	**192**	PN	Pn	02 55 14.8	-1.0
PRHZ				AML	AML	02 55 35.0	
PRHZ				AML	AML	02 55 37.9	
TUVZ	**Tukino**	**0.97**	**273**	PN	Pn	02 55 15.8	-0.1
TUVZ				AML	AML	02 55 31.9	
TUVZ				AML	AML	02 55 32.8	
OTVZ	**Oturere**	**0.97**	**279**	⇓PN	Pn	02 55 15.8	-0.2
OTVZ				AML	AML	02 55 34.4	
OTVZ				AML	AML	02 55 40.8	
WHTZ	**Whakaora**	**0.98**	**312**	PN	Pn	02 55 16.2	0.0
WPRZ	**Whakapapatarin**	**0.99**	**324**	PN	Pn	02 55 15.4	-0.7
WPRZ				AML	AML	02 55 34.4	
WPRZ				AML	AML	02 55 36.1	
RATZ	**Rangitukua**	**0.99**	**297**	⇑PN	Pn	02 55 16.1	-0.1
RATZ				AML	AML	02 55 22.9	
RATZ				AML	AML	02 55 42.7	
KRVZ	**Karewarewa**	**1.00**	**283**	PN	Pn	02 55 16.3	-0.1
KRVZ				AML	AML	02 55 35.3	
KRVZ				AML	AML	02 55 36.3	
WNVZ	**Wahianoa**	**1.01**	**269**	⇓PN	Pn	02 55 16.4	-0.2
WHVZ	**Whangaehu Hut**	**1.02**	**272**	PN	Pn	02 55 16.5	-0.2
WHVZ				AML	AML	02 55 33.0	
WHVZ				AML	AML	02 55 40.2	
NGZ	**Ngauruhoe**	**1.02**	**278**	⇓PN	Pn	02 55 16.6	-0.1
NGZ				AML	AML	02 55 33.2	
NGZ				AML	AML	02 55 34.0	
RRRZ	**Republican Roa**	**1.03**	**343**	PN	Pn	02 55 16.2	-0.6
RRRZ				AML	AML	02 55 31.6	
RRRZ				AML	AML	02 55 38.9	
TSZ	**Takapari Road**	**1.03**	**224**	PN	Pn	02 55 15.7	-1.1
TSZ				AML	AML	02 55 31.0	
TSZ				AML	AML	02 55 41.6	
DRZ	**Dome Shelter**	**1.04**	**272**	PN	Pn	02 55 17.0	-0.1
DRZ				AML	AML	02 55 34.6	
DRZ				AML	AML	02 55 43.8	
WTVZ	**West Tongariro**	**1.04**	**281**	PN	Pn	02 55 16.9	0.0
WTVZ				AML	AML	02 55 19.9	
WTVZ				AML	AML	02 55 21.1	
FWVZ	**Far West T-bar**	**1.05**	**273**	⇑PN	Pn	02 55 17.0	-0.1
FWVZ				AML	AML	02 55 18.1	
FWVZ				AML	AML	02 55 36.6	
TRVZ	**Turoa**	**1.05**	**271**	PN	Pn	02 55 17.2	0.0
TRVZ				AML	AML	02 55 33.9	
TRVZ				AML	AML	02 55 37.4	
URZ	**Urewera**	**1.08**	**9**	⇑PN	Pn	02 55 16.8	-0.5
URZ				AML	AML	02 55 35.8	
URZ				AML	AML	02 55 36.7	
WATZ	**Wairara**	**1.10**	**304**	PN	Pn	02 55 17.1	-0.6
MWZ	**Matawai**	**1.10**	**27**	⇓PN	Pn	02 55 17.3	-0.5
MWZ				AML	AML	02 55 36.1	
MWZ				AML	AML	02 55 41.7	
MTVZ	**Mangateitei**	**1.11**	**266**	⇓PN	Pn	02 55 18.0	+0.1
MTVZ				AML	AML	02 55 39.8	
MTVZ				AML	AML	02 55 43.4	
TARZ	**Mount Tarawera**	**1.13**	**344**	PN	Pn	02 55 17.9	-0.3
TARZ				AML	AML	02 55 22.8	
TARZ				AML	AML	02 55 41.6	
TWVZ	**Taurewa**	**1.16**	**282**	PN	Pn	02 55 18.1	-0.6
TWVZ				AML	AML	02 55 19.1	
TWVZ				AML	AML	02 55 23.2	
ANWZ	**Angora Road**	**1.18**	**196**	PN	Pn	02 55 17.8	-1.0
ANWZ				AML	AML	02 55 46.5	
ANWZ				AML	AML	02 55 50.0	
KUTZ	**Kaahu Road**	**1.18**	**314**	⇑PN	Pn	02 55 18.6	-0.2
KUTZ				AML	AML	02 55 21.9	
KUTZ				AML	AML	02 55 22.6	
CNGZ	**Carnagh Statio**	**1.32**	**51**	AML	AML	02 55 59.2	
CNGZ				AML	AML	02 56 02.4	
POWZ	**Post Office Ro**	**1.38**	**219**	PN	Pn	02 55 20.9	-0.6
POWZ				AML	AML	02 55 58.9	
POWZ				AML	AML	02 56 02.1	
PRWZ	**Pori Road**	**1.42**	**210**	PN	Pn	02 55 21.0	-1.1
PRWZ				AML	AML	02 55 60.0	
PRWZ				AML	AML	02 56 00.9	
BFZ	**Birch Farm**	**1.45**	**200**	PN	Pn	02 55 20.8	-1.6
BFZ				AML	AML	02 55 55.6	
BFZ				AML	AML	02 55 55.6	
BFZ				AML	AML	02 55 56.3	
BFZ				AML	AML	02 55 56.3	
TLZ	**Tolley Road**	**1.46**	**313**	PN	Pn	02 55 21.0	-1.6
TLZ				AML	AML	02 55 27.9	
TLZ				AML	AML	02 55 28.3	
RUGZ	**Raukumara Rang**	**1.49**	**24**	PN	Pn	02 55 22.7	-0.4
WAZ	**Wanganui**	**1.54**	**253**	PN	Pb	02 55 24.9	-1.0
WAZ				AML	AML	02 55 50.2	
WAZ				AML	AML	02 56 02.1	
VRZ	**Vera Road**	**1.68**	**276**	PN	Pn	02 55 25.6	+0.1
VRZ				AML	AML	02 55 41.2	
MRZ	**Mangatainoka R**	**1.68**	**217**	PN	Pn	02 55 23.9	-1.7
MRZ				AML	AML	02 55 57.1	
MRZ				AML	AML	02 55 58.1	
PKGZ	**Pakihiroa**	**1.71**	**33**	PN	Pn	02 55 25.3	-0.8
PKGZ				AML	AML	02 55 48.7	
PKGZ				AML	AML	02 55 49.5	
HAZ	**Te Kaha**	**1.71**	**24**	PN	Pn	02 55 26.3	+0.2
HAZ				AML	AML	02 56 01.5	
HAZ				AML	AML	02 56 01.8	
HIZ	**Hauiti**	**1.79**	**296**	PN	Pn	02 55 28.2	+1.1
HOWZ	**Holdsworth Sta**	**1.90**	**214**	PN	Pn	02 55 26.3	-2.3
HOWZ				AML	AML	02 56 05.7	
HOWZ				AML	AML	02 56 12.3	
WMGZ	**Waiomatatini S**	**1.92**	**39**	PN	Pn	02 55 27.7	-1.2
WMGZ				AML	AML	02 55 53.3	
WMGZ				AML	AML	02 55 56.1	
TOZ	**Tahuroa Road**	**1.93**	**325**	PN	Pn	02 55 28.6	-0.5
TMWZ	**Te Maipa**	**1.94**	**203**	PN	Pn	02 55 27.2	-2.0
TMWZ				AML	AML	02 56 15.9	
MTW	**Mount Morrison**	**2.12**	**210**	PN	Pn	02 55 29.1	-2.6
PREZ	**Palmer Road**	**2.12**	**269**	PN	Pn	02 55 32.4	+0.6
KIW	**Kapiti Island**	**2.16**	**224**	PN	Pn	02 55 30.3	-2.0
NEZ	**North Egmont**	**2.18**	**271**	PN	Pn	02 55 33.7	+1.2
KHEZ	**Kahui Hut**	**2.24**	**270**	PN	Pn	02 55 34.6	+1.3
CAW	**Cannon Point**	**2.27**	**218**	PN	Pn	02 55 31.0	-2.8
TRWZ	**Traveller**	**2.27**	**204**	PN	Pn	02 55 31.1	-2.7
PLWZ	**Palliser**	**2.57**	**209**	PN	Pn	02 55 34.4	-3.5
BHW	**Baring Head**	**2.59**	**216**	PN	Pn	02 55 35.2	-3.0
DUWZ	**D'Urville Isla**	**2.72**	**236**	AML	AML	02 56 26.8	
TUWZ	**Tuamarina**	**3.09**	**226**	PN	Pn	02 55 42.4	-2.6
THZ	**Tophouse**	**3.90**	**230**	PN	Pn	02 55 54.4	-1.8
THZ				AML	AML	02 57 26.2	
MQZ	**McQueen's Vall**	**5.41**	**215**	PN	Pn	02 56 12.7	-4.3

KRNET 14 03:10:42.9±0.1, 39°.23N×73°.44E, mb2.5, 4C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**2.71**	**14**	⇑*i*P	Pn	03 11 26.8	-1.0
	baz=14						
AML	**Almayashu**	**2.90**	**4**	⇑*i*P	Pn	03 11 29.7	-1.0
	baz=3.0						
AML				⇑*i*S	Sn	03 12 03.3	-3.2
	baz=3.0						
MNAS	**Manas**	**3.33**	**348**	⇑*i*P	Pn	03 11 35.3	-1.0
	baz=348						

KRNET 14 03:10:56.0±0.1, 39°.82N×73°.31E, mb1.9, 6C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.52**	**351**	⇓*e*P	Pn	03 11 23.2	-1.5
	baz=350						
ARSB				⇓*e*S	Sg	03 11 42.8	-2.3
	baz=350						
BTK	**Batken**	**1.93**	**278**	⇑*e*P	Pn	03 11 29.1	-1.1
	baz=278						
BTK				⇑*i*S	Sn	03 11 53.2	-2.0
	baz=278						
ARLS	**Aral**	**2.18**	**20**	⇑*e*P	Pn	03 11 32.7	-1.1
	baz=20						
ARLS				⇑*i*S	Sn	03 11 59.5	-2.1
	baz=20						
ARLS	**Aral**	**2.18**	**20**	⇑*i*S	Sn	03 11 59.2	-2.4
	baz=14						
ARK	**Arkit**	**2.23**	**333**	⇓*e*P	Pn	03 11 33.1	-1.2
	baz=333						
ARK				⇓*i*S	Sn	03 12 00.2	-2.4
	baz=333						
MNAS	**Manas**	**2.73**	**347**	⇓*e*P	Pn	03 11 40.6	-0.7
	baz=348						
MNAS				⇓*e*S	Sn	03 12 13.1	-2.1
	baz=348						
MNAS	**Manas**	**2.73**	**347**	⇑*i*S	Sn	03 12 13.5	-1.7
	baz=348						

ISCJB **14** *03:35:11.0±0.8, 6°.56S±0°.02×147°.90E±0°.02, h24km±5km, mb5.7/190, MS6.5/569, Error ellipse: s-maj=3.4km s-min=2.8km az=23.1*

BJI **14** *03:35:11.5, 6°.55S×148°.00E, h40km, mb5.9/73, mB6.4/83, Ms6.6/95, Ms7 6.6/86*

MOS **14** *03:35:12.1±1.2, 6°.54S×147°.83E, h31km, mb5.7/119, MS6.6/92, Error ellipse: s-maj=7.4km s-min=4.8km az=94.7*

GCMT **14** *03:35:14.8±0.0, 6°.90S×148°.15E, h33km, MW6.5/146, Moment Tensor Solution. s144,c363; s146,c576; Duration: 4±2 Moment tensor: Scale 10^18Nm; Mrr4.26±.03; Mθθ-2.49±.02; Mφφ-1.77±.02; Mrθ3.69±.04; Mrφ-2.38±.02; Mθφ2.51±.04; Best double couple: M0 6.26700×10^18 NP1:φ0 54.00000°, δ68.00000°, λ94.00000°. NP2:φ0 224.00000°, δ23.00000°, λ81.00000°. Principal axes: T 6.1440, Plg67.0000°, Azm331.0000°; N 0.2460, Plg4.0000°, Azm233.0000°; P -6.3900, Plg23.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **14** *03:35:14.8±0.1, 6°.57S×147°.88E, h37km, mb5.7/90, ME5.8, MS6.5/298, MW6.3, MW6.5, MW6.5 Error ellipse: s-maj=3.7km s-min=3.4km az=75.0, Moment Tension Solution. s30 Moment tensor: Scale 10^18Nm; Mrr2.18; Mθθ-0.60; Mφφ-1.58; Mrθ1.60; Mrφ-1.89; Mθφ0.99; Best double couple: M0 3.30000×10^18 NP1:φ0 197.00000°, δ31.00000°, λ58.00000°. NP2:φ0 53.00000°, δ64.00000°, λ107.00000°. Principal axes: T 2.9200, Plg66.0000°, Azm355.0000°; N 0.6700, Plg16.0000°, Azm225.0000°; P -3.5900, Plg17.0000°, Azm130.0000°; Broadband fault plane solution: P waves. NP1:φ0 230.00000°, δ15.00000°, λ90.00000°. NP2:φ0 50.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm320.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm140.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kainantu, Lae, Madang, Mount Hagen, Port Moresby and Wau.

IDC **14** *03:35:14.5±1.1, 6°.56S×147°.93E, h37km±8km, mb5.4/37, mb1 5.4/40, mb1mx5.4/43, mbtmp5.6/40, ML5.5/2, MS6.2/29, Ms1 6.2/29, ms1mx6.2/32 Error ellipse: s-maj=13.2km s-min=8.1km az=71.0*

DJA **14** *03:35:15.7±0.5, 7°.S±3°.×14°.8E±°, h61km±4km, M6.3/22, mb6.0/22, mB6.6/21, MLv6.1/1, Mw(mB)6.4/21, Mwp6.4/15*

NEIC **14** *03:35:15.0±0.0, 6°.73S×148°.03E, h35km, Moment Tensor Solution. s18 Moment tensor: Scale 10^18Nm; Mrr3.86; Mθθ-2.41; Mφφ-1.45; Mrθ4.70; Mrφ-1.90; Mθφ4.45; Best double couple: M0 7.50000×10^18 NP1:φ0 47.00000°, δ75.00000°, λ87.00000°. NP2:φ0 237.00000°, δ16.00000°, λ99.00000°. Principal axes: T 7.5400, Plg60.0000°, Azm313.0000°; N 0.0000, Plg2.0000°, Azm48.0000°; P -7.5400, Plg29.0000°, Azm139.0000°;*

NEIC **14** *03:35:24.9±0.0, 7°.57S×148°.21E, h30km, Moment Tensor Solution. s41 Moment tensor: Scale 10^18Nm; Mrr4.43; Mθθ-2.57; Mφφ-1.87; Mrθ5.91; Mrφ-2.10; Mθφ3.02; Best double couple: M0 8.00000×10^18 NP1:φ0 220.00000°, δ18.00000°, λ71.00000°. NP2:φ0 61.00000°, δ73.00000°, λ96.00000°. Principal axes: T 8.0700, Plg61.0000°, Azm339.0000°; N -0.2500, Plg6.0000°, Azm239.0000°; P -7.8300, Plg28.0000°, Azm146.0000°;*

ISC 14 03:35:15.1±0.3, 6°.63S±0°.03×147°.93E±0°.03, h43km±2km, h43km: pP-P, n1906, σ1°978/1873, mb5.8/202, MS6.5/577, 86C-22D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.87**	**195**	Pn	**Pn**	**03 35 59.2**	**+0.8**
	213nm,0.3s,baz=12,slow=9.8,SNR=155						
PMG				Sn	**Sn**	**03 36 33.3**	**+1.7**
	625nm,0.3s,baz=337,slow=14,SNR=6.7						
MMPI	**Merauke**	**7.70**	**256**	P	Pn	03 37 12.5	+7.7
MMPI				S	**Sn**	**03 38 35.7**	**+4.9**
JAY	**Jayapura**	**8.28**	**299**	P	**Pn**	**03 37 14.9**	**+2.2**
JAY				S	**Sn**	**03 38 47.7**	**+2.7**
COEN	**Coen**	**8.66**	**212**	P	**Pn**	**03 37 18.8**	**+0.9**
	baz=8.6						
GENI	**Genyem**	**8.71**	**297**	P	**Pn**	**03 37 20.3**	**+1.7**
MTSU	**Mount Surprise**	**11.97**	**197**	P	**Pn**	**03 38 05.0**	**+1.7**
	baz=12						
HNR	**Honiara**	**12.22**	**104**	Pn	**Pn**	**03 38 07.3**	**+0.7**
	43nm,0.3s,baz=158,slow=7.9,SNR=33						
HNR				LR	LR	03 41 01.6	
	comp=Z,29μm,21.9s,baz=276,slow=28						
HNR	**Honiara**	**12.22**	**104**	*e*P	**Pn**	**03 38 09.0**	**+2.3**
HNR				*e*S	**Sn**	**03 40 30.0**	**+8.4**
HNR	**Honiara**	**12.22**	**104**	*e*P	**Pn**	**03 38 06.9**	**+0.3**
HNR	**Honiara**	**12.22**	**104**	*e*Pn	**Pn**	**03 38 06.9**	**+0.3**
HNR				*e*Sn	**Sn**	**03 40 20.5**	**-1.1**
CTA	**Charters Tower**	**13.48**	**187**	P	**Pn**	**03 38 27.1**	**+3.2**
	baz=14						
CTAO	**Charters Tower**	**13.48**	**187**	*e*P	**Pn**	**03 38 24.4**	**+0.5**
CTAO	**Charters Tower**	**13.48**	**187**	*e*Pn	**Pn**	**03 38 24.4**	**+0.5**
CTAO				*e*Sn	**Sn**	**03 40 44.2**	**-8.2**
KMPI	**Kaimana, Papua**	**14.47**	**281**	P	**Pn**	**03 38 37.1**	**-0.2**
	1μm,1.0s,20μm						
KMPI				S	**S**	**03 41 38.8**	**+4.2**
	1μm,1.0s,20μm						
RKPI	**Ransiki, Papua**	**14.63**	**290**	P	**P**	**03 38 43.7**	**-1.2**
QIS	**Mount Isa**	**16.03**	**209**	P	**Pn**	**03 38 58.3**	**+0.7**
	baz=16						
FAKI	**Fak Fak**	**16.05**	**283**	P	**Pn**	**03 38 55.1**	**-2.9**
	1μm,1.1s,20μm155μm						
FAKI				S	**S**	**03 42 11.4**	**+4.3**
	1μm,1.1s,20μm155μm						
FAKI	**Fak Fak**	**16.05**	**283**	*e*Pn	**Pn**	**03 38 56.4**	**-1.6**
KDU	**Kakadu**	**16.38**	**247**	P	**Pn**	**03 39 01.5**	**-0.6**
	baz=16						
SAUI	**Saumlaki**	**16.55**	**264**	P	**Pn**	**03 39 04.1**	**-0.2**
SAUI	**Saumlaki**	**16.55**	**264**	*e*Pn	**Pn**	**03 39 03.7**	**-0.6**
SAUI				*e*Sn	Sn	03 41 56.0	-11
PATS	**Pohnpei**	**16.91**	**38**	*e*Pn	**Pn**	**03 39 08.8**	**0.0**
SWI	**Sorong**	**17.59**	**288**	P	**Pn**	**03 39 16.2**	**-1.0**
MTN	**Manton Dam**	**17.66**	**248**	P	**P**	**03 39

AS31 LR LR
comp=Z,1μm,19.0s
ASAR Alice Springs 21.65 217 P P 03 40 02.2 +0.2
comp=Z,222nm,0.6s,baz=53,slow=9.3,SNR=1085
ASAR S **S 03 44 02.9 +3.2**
comp=Z,78nm,0.9s,baz=31,slow=22,SNR=4.7
ASAR LR LR 03 49 37.5
comp=Z,86μm,19.9s,baz=45,slow=40
ASAR P3KP 04 14 40.8
comp=Z,0.6nm,0.8s,baz=199,slow=22,SNR=3.0
SANI Sanana 22.34 281 P P 03 40 09.1 -0.4
ANA2 Anatahan 22.93 355 *e*P **P 03 40 14.4 -1.2**
SARN Sarigan 23.27 355 *e*P **P 03 40 18.2 -0.9**
DZM Mont Dzumac 23.56 133 P P 03 40 20.5 -1.5
comp=Z,88nm,0.8s,baz=270,slow=6.0,SNR=36
DZM Mont Dzumac 23.56 133 *e*P **P 03 40 19.0 -3.0**
comp=Z,1μm,1.4s
DZM *e*S **S 03 44 28.4 -4.9**
comp=Z,96μm,26.4s
DZM *e*LQ LQ 03 45 11.5
comp=Z,68μm,30.6s
DZM *e*LR LR 03 46 13.2
comp=Z,356μm,23.4s
DZM Mont Dzumac 23.56 133 *e*P **P 03 40 19.1 -2.8**
SOEI Soe 23.62 261 P P 03 40 22.0 -0.7
SOEI Soe 23.62 261 *e*P **P 03 40 24.1 +1.4**
comp=Z,374nm,1.1s
SOEI LR LR
comp=Z,37μm,19.0s
ARMA Armidale 23.92 172 *e*P **P 03 40 25.7 +0.4**
ARMA LR LR
comp=Z,85μm,21.0s
KWAJ Kwajalein Atol 24.90 52 *e*P **P 03 40 33.1 -1.1**
KWAJ Kwajalein Atol 24.90 52 *e*P **P 03 40 33.5 -0.7**
comp=Z,404nm,1.1s
KWAJ LR LR
comp=Z,42μm,19.0s
BBSI Bau Bau 25.24 271 P P 03 40 38.6 +1.2
KDI Kendari 25.34 275 P P 03 40 38.5 +0.3
comp=Z,183nm,1.3s,comp=Z,17μmcomp=Z,89μm
MATI Mati 25.48 302 *e*P **P 03 40 46.6 +7.1**
MMRI Maumere 25.54 264 P P 03 40 39.5 -0.6
MMRI Maumere 25.54 264 *e*P **P 03 40 39.0 -1.1**
STKA Stephens Creek 25.81 192 P P 03 40 42.1 -0.2
comp=Z,94nm,0.7s,baz=3.3,slow=8.7,SNR=71
STKA LR LR 03 51 45.6
comp=Z,114μm,19.6s,baz=6.2,slow=38
STKA P3KP 04 14 32.9
comp=Z,1.8nm,0.8s,baz=319,slow=3.7,SNR=3.7
EDFI Ende, Flores 26.09 264 P P 03 40 44.3 -0.9
DAV Davao City (W) 26.12 301⇑*e*P **P 03 40 43.1 -2.2**
DAV Davao City (W) 26.12 301 *e*P **P 03 40 42.3 -3.1**
DAV LR LR
comp=Z,71μm,21.0s
TARA Tarawa 26.18 73 *e*P **P 03 40 44.5 -1.3**
comp=Z,7.7nm,1.0s
APSI Ampana 26.82 281 P P 03 40 52.5 +0.8
MRSI Marisa 26.88 284 P P 03 40 51.6 -0.6
BUKP Musuan 26.98 302 *e*P **P 03 40 54.6 +1.5**
BASI Baing, Sumba 27.29 261 P P 03 40 55.8 0.0
BNSI Bone 27.78 273 P P 03 41 00.4 +0.1
KAPI Kappang 28.08 272 *e*P **P 03 41 02.2 -0.7**
KAPI Kappang 28.08 272 P P 03 41 03.5 +0.6
SNR=47
KAPI P **P 03 41 03.5 +0.6**
SNR=47
KAPI Kappang 28.08 272 P P 03 41 03.5 +0.6
SNR=47
SPSI Sidrap Palu 28.16 274 P P 03 41 03.5 -0.2
TTSI Tana Toraja 28.23 276 P P 03 41 05.3 +1.0
BBOO Buckleboo 28.30 201 P P 03 41 03.9 -0.8
baz=28
MSLP Maasin 28.38 306 *e*P **P 03 41 04.5 -1.1**
PAGZ Pagadian 28.39 300 *e*P **P 03 41 05.2 -0.5**
CAN Canberra 28.57 178 *e*P **P 03 41 06.9 -0.3**
CAN pmax pmax
comp=Z,77nm,1.0s
CAN MLR MLR
comp=Z,151μm,22.0s
CAN Canberra 28.57 178 *e*P **P 03 41 06.9 -0.3**
comp=Z,77nm,1.0s
CAN LR LR
comp=Z,151μm,22.0s
CNB Canberra Magne 28.58 178 P P 03 41 08.5 +1.3
baz=29
PCI Palu 28.59 280 P P 03 41 08.9 +1.4
comp=Z,1μm,1.1s,comp=Z,18μmcomp=Z,77μm
BESP Borongan 28.79 309 *e*P **P 03 41 10.2 +1.0**
MPSI Mapaga 28.82 283 P P 03 41 08.9 -0.6
comp=Z,265nm,1.0s,comp=Z,5μm
CNP Cataman 29.94 309 *e*P P 03 41 12.9 -6.5
PLAI Plampang 29.96 264 P P 03 41 17.5 -2.1
FORT Forrest 30.41 215 P P 03 41 23.3 -0.1
baz=30
FORT Forrest 30.41 215 *e*P **P 03 41 23.1 -0.3**
comp=Z,2μm,0.8s
TWSI Taliwang, Sumb 30.84 264 P P 03 41 26.0 -1.4
comp=Z,84nm,1.0s
MBWA Marble Bar 30.87 239 *e*P **P 03 41 27.7 +0.1**
comp=Z,180nm,0.6s
MBWA LR LR
comp=Z,81μm,20.0s
MBWA Marble Bar 30.87 239 P P 03 41 27.8 +0.2
SNR=6.3
MBWA Marble Bar 30.87 239 P P 03 41 27.8 +0.2
SNR=6.3
TOO Toolangi 30.88 184 P P 03 41 28.5 +1.0
baz=31
RCP Roxas 30.89 306⇑*e*P **P 03 41 32.4 +4.6**
PVCP Virac 31.00 310 *e*P **P 03 41 25.7 -3.1**
FUNA Funafuti 31.05 95 *e*P **P 03 41 30.2 +1.0**
comp=Z,1μm,2.2s
FUNA LR LR
comp=Z,41μm,21.0s
MSVF Nonsavu 31.39 113 *e*P **P 03 41 33.0 +0.7**
MSVF pmax pmax
comp=Z,49nm,1.4s
MSVF Nonsavu 31.39 113 *e*P **P 03 41 33.0 +0.7**
comp=Z,49nm,1.4s
BKB Balikpapan 31.41 278 P P 03 41 33.6 +1.2
MYLDM Lahad Datu 31.63 291 *e*P **P 03 41 34.7 +0.3**
WAKE Wake Island 31.67 35 *e*P **P 03 41 33.8 -0.8**
WAKE LR LR
comp=Z,40μm,20.0s
OTRP Odiongan 31.93 306 *e*P **P 03 41 34.5 -2.4**
SRBI Singaraja 32.48 265 P P 03 41 40.2 -1.6
SJMP San Jose 32.71 305 *e*P **P 03 41 43.2 -0.6**
BUSP Coron 33.21 304 *e*P P 03 41 56.4 +8.2
ENPP El Nido 33.45 302 *e*P **P 03 41 48.1 -2.1**
JAGI Jajag, Banyuwa 33.53 265 P P 03 41 48.7 -2.3
JAGI Jajag, Banyuwa 33.53 265 *e*P **P 03 41 49.0 -2.0**
comp=Z,177nm,0.8s
JAGI *e*PP **PnPn 03 43 03.5 +0.1**
JAGI *e*PcP **PcP 03 44 27.1 -4.2**
JAGI LR LR
comp=Z,28μm,21.0s
KMMI Kalianget 33.72 267 P P 03 41 52.1 -0.6
comp=Z,180nm,1.4s,comp=Z,8μm
TGY Tagaytay City 33.79 308 P P 03 41 53.8 +0.6
comp=Z,131nm,0.3s,baz=293,slow=21,SNR=2.4
TGY LR LR 03 55 47.2
comp=Z,55μm,21.8s,baz=132,slow=36
CBIJ Chichi jima 33.98 351 *e*P **P 03 41 56.1 +1.4**
comp=Z,60nm,0.5s
CBIJ *e*PP **PnPn 03 43 04.5 -4.4**
CBIJ LR LR
comp=Z,33μm,22.0s
KKM Kota Kinabalu 34.06 291 *e*P **P 03 41 57.3 +1.5**
comp=Z,27nm,0.8s
KKM LR LR
comp=Z,35μm,22.0s
KKM Kota Kinabalu 34.06 291⇑P **P 03 41 57.5 +1.7**
LUBP Lubang 34.13 306 *e*P P 03 41 51.3 -4.8
BALP Baler 34.28 311 *e*P **P 03 41 57.2 -0.3**
KMBL Kambalda 34.63 221 P P 03 42 00.3 -0.1
baz=35
CAUP Cauayan 34.85 313 *e*P **P 03 42 01.3 -1.1**
SGCP Mt. Cagua 35.54 314 *e*P **P 03 42 06.3 -2.0**
ABRA Dolores 36.12 312 *e*P **P 03 42 13.2 0.0**
BTM Bintulu 36.13 285⇑P **P 03 42 14.6 +1.0**
TAU Tasmania Unive 36.14 181 *e*P **P 03 42 14.3 +1.2**
TAU pmax pmax
comp=Z,90nm,1.5s
TAU MLR MLR
comp=Z,91μm,20.0s
TAU Tasmania Unive 36.14 181 *e*P **P 03 42 14.3 +1.2**
comp=Z,90nm,1.5s
TAU LR LR
comp=Z,91μm,20.0s
GIRL Giralia 36.16 240 P P 03 42 10.9 -2.6
baz=36
SZP Santa 36.25 312 *e*P **P 03 42 13.0 -1.4**
SZP LR LR
comp=Z,40μm,20.0s
PBKI Pangkalan Bun 36.34 274 P P 03 42 16.3 +1.0
comp=Z,872nm,0.9s,comp=Z,18μmcomp=Z,40μm
SBUM Sibu 36.77 283 *e*P **P 03 42 20.3 +1.3**
SBUM Sibu 36.77 283⇓P **P 03 42 20.2 +1.3**
OUZ Omahuta 36.97 144 *e*P **P 03 42 22.0 +1.7**
OUZ LR LR
comp=Z,99μm,20.0s
UGM Wanagama 37.12 266 P P 03 42 20.0 -2.0
UGM Wanagama 37.12 266 *e*P **P 03 42 22.3 +0.4**
UGM *e*PcP **PcP 03 44 44.4 +2.5**
UGM LR LR
comp=Z,15μm,22.0s
SMRI Semarang 37.22 267 *e*P **P 03 42 23.4 +0.6**
comp=Z,147nm,1.0s
SMRI LR LR
comp=Z,21μm,21.0s
MORW Morawa 37.46 230 P P 03 42 24.6 0.0
baz=37
KLBR Kellerberrin 37.57 225 P P 03 42 25.1 -0.4
baz=38
BLDU Balidu 37.77 227 P P 03 42 26.8 -0.4
baz=38
JOW Kunigami 38.33 331 P P 03 42 30.9 -1.0
comp=Z,12nm,0.6s
JOW LR LR
comp=Z,129μm,22.0s
KSM Kuching 38.41 281 *e*P **P 03 42 33.5 +0.7**
comp=Z,201nm,1.3s
KSM Kuching 38.41 281⇑P **P 03 42 34.1 +1.3**
NWAO Narrogin (SRO) 38.70 223 *e*P **P 03 42 34.9 -0.1**
NWAO pmax pmax
comp=Z,394nm,1.1s
NWAO MLR MLR
comp=Z,122μm,18.0s
NWAO Narrogin (SRO) 38.70 223 *e*P **P 03 42 34.9 -0.1**
comp=Z,394nm,1.1s
NWAO LR LR
comp=Z,122μm,18.0s
CMJI Cimerak 39.18 266 P P 03 42 37.8 -1.5
RAO Raoul Island 39.27 129 *e*P **P 03 42 41.4 +1.5**
RAO pmax pmax
comp=Z,111nm,0.4s
RAO MLR MLR
comp=Z,31μm,20.0s
RAO Raoul Island 39.27 129 *e*P **P 03 42 41.4 +1.5**
comp=Z,111nm,0.4s
RAO LR LR
comp=Z,31μm,20.0s
YOJ Yonaguni jima 39.30 323 *e*P **P 03 42 40.0 -0.1**
YOJ pmax pmax
comp=Z,84nm,0.8s
YOJ MLR MLR
comp=Z,117μm,22.0s
YOJ Yonaguni jima 39.30 323 *e*P **P 03 42 40.0 -0.1**
comp=Z,84nm,0.8s
YOJ LR LR
comp=Z,117μm,22.0s
TWG Pinlang 39.33 319 *e*P **P 03 42 38.9 -1.5**
comp=Z,62nm,0.5s
TWG LR LR
comp=Z,224μm,22.0s
YULB Yu-li 39.59 320 *e*P **P 03 42 41.7 -0.8**
comp=Z,16nm,0.5s
YULB LR LR
comp=Z,74μm,20.0s
CISI Cisompet, Garu 39.81 266 *e*P **P 03 42 43.7 -0.9**
comp=Z,336nm,0.8s
CISI LR LR
comp=Z,7μm,18.0s
TPUB Ta-pu 39.96 319 *e*P **P 03 42 44.9 -0.7**
comp=Z,43nm,0.9s
TPUB *e*PP **PP 03 44 14.5 -3.6**
TPUB LR LR
comp=Z,53μm,20.0s
NACB Ninganchiao 39.96 321 *e*P **P 03 42 44.9 -0.8**
comp=Z,220nm,1.3s
NACB LR LR
comp=Z,64μm,20.0s
HIZ Hauiti 40.01 146 PFAKE 03 43 00.0 +14
HIZ LR LR
comp=Z,96μm,21.0s
SSLB Suanglung 40.09 320 *e*P **P 03 42 47.4 +0.7**
comp=Z,25nm,0.5s
SSLB LR LR
comp=Z,88μm,20.0s
AFI Afiamalu 40.26 104 P P 03 42 49.0 +0.8
comp=Z,86nm,0.6s,baz=43,slow=9.3,SNR=9.8
AFI LR LR 03 57 01.0
comp=Z,55μm,21.9s,baz=267,slow=32
AFI Afiamalu 40.26 104 *e*P **P 03 42 49.6 +1.3**
comp=Z,20nm,0.4s
JHJ2 Mitsune 40.26 349 *e*P **P 03 42 48.1 +0.2**
comp=Z,268nm,1.0s
JHJ Hachijo jima 2 40.28 349 P P 03 42 47.9 -0.2
comp=Z,189nm,0.9s
JHJ LR LR 03 59 26.8
comp=Z,130nm,18.5s,baz=177,slow=36
YHNB Yeheng 40.46 321 *e*P **P 03 42 49.3 -0.5**
comp=Z,318nm,1.1s
YHNB *e*PP PP 03 44 15.5 -8.1
YHNB LR LR
comp=Z,77μm,22.0s
CNJI Cibinong 40.50 267 P P 03 42 49.7 -0.5
TATO Taipei 40.61 322 *e*P **P 03 42 50.2 -0.8**
comp=Z,543nm,1.1s
TATO LR LR
comp=Z,96μm,22.0s
TATO Taipei 40.61 322 P P 03 42 50.8 -0.2
SNR=17
TATO P **P 03 42 50.8 -0.2**
SNR=17
TATO Taipei 40.61 322 P P 03 42 50.8 -0.2
SNR=17
SKJI Sukabumi 41.08 267 P P 03 42 53.1 -1.9
URZ Urewera 41.11 144 P P 03 42 55.2 +0.3
comp=Z,21nm,0.7s,baz=220,slow=2.5,SNR=11
URZ LR LR 03 59 40.8
comp=Z,87μm,18.6s,baz=326,slow=36
URZ Urewera 41.11 144 *e*P **P 03 42 53.7 -1.2**
MXZ Matakaoa Point 41.35 143 *e*P **P 03 42 56.9 -0.1**
MXZ LR LR
comp=Z,96μm,19.0s
BKZ Black Stump Fm 41.38 146 *e*P **P 03 42 58.0 +0.8**
BKZ LR LR
comp=Z,92μm,21.0s
THZ Tophouse 41.43 151 *e*P **P 03 42 58.4 +0.8**
THZ *e*PP **PP 03 44 29.4 -4.5**
THZ LR LR
comp=Z,47μm,21.0s
FOZ Fox Glacier 41.49 156 *e*P **P 03 42 58.8 +0.9**
FOZ LR LR
comp=Z,56μm,20.0s
LTZ Lake Taylor 41.93 153 *e*P **P 03 43 03.2 +1.5**
LTZ LR LR
comp=Z,84μm,20.0s
SNZO South Karori 41.97 150 *e*P **P 03 43 02.4 +0.5**
comp=Z,52nm,0.6s
SNZO LR LR
comp=Z,53μm,21.0s
DCZ Deep Cove 42.14 160 *e*P **P 03 43 04.7 +1.5**
RPZ Rata Peaks 42.15 155 P P 03 43 04.7 +1.3
comp=Z,150nm,0.7s,baz=312,slow=2.3,SNR=64
RPZ LR LR 03 59 07.1
comp=Z,127μm,21.4s,baz=323,slow=34
KHZ Kahutara 42.23 152 *e*P **P 03 43 04.2 +0.2**
KHZ LR LR
comp=Z,62μm,19.0s
WKZ Wanaka 42.26 158 *e*P **P 03 43 04.7 +0.5**
WKZ LR LR
comp=Z,48μm,20.0s
OXZ Oxford 42.26 154 *e*P **P 03 43 04.9 +0.6**
OXZ *e*PP **PP 03 44 38.3 -4.5**
OXZ LR LR
comp=Z,90μm,20.0s
BFZ Birch Farm 42.31 148 *e*P **P 03 43 03.3 -1.4**
BFZ LR LR
comp=Z,141μm,20.0s
LBZ Lake Benmore 42.34 156 *e*P **P 03 43 05.5 +0.5**
LBZ LR LR
comp=Z,67μm,20.0s
MLZ Mavora Lakes 42.39 159 *e*P **P 03 43 06.2 +0.9**
MLZ LR LR
comp=Z,35μm,19.0s
QZH Quanzhou 42.43 319⇑*i*P **P 03 43 04.8 -1.1**
QZH sP **sP 03 43 22.8 -0.1**
QZH S **S 03 49 23.4 -1.4**
QZH pmax pmax
comp=Z,360nm,1.0s
QZH pmax pmax
comp=Z,8μm,9.2s
QZH LR LR
comp=Z,98μm,24.6s
QZH LR LR
comp=Z,79μm,21.9s
QZH LR LR
comp=Z,105μm,26.1s
PYZ Puysegur Point 42.59 161 *e*P **P 03 43 08.7 +1.7**
CRLZ Canterbury Las 42.72 153 *e*P **P 03 43 08.7 +0.8**
CRLZ LR LR
comp=Z,73μm,20.0s
JNU Nakatsue 42.72 339 P P 03 43 07.1 -1.1
comp=Z,77nm,1.0s,baz=140,slow=4.7,SNR=3.9
JNU ScP **ScP 03 48 47.7 +0.7**
comp=Z,14nm,1.0s,baz=129,slow=6.4,SNR=4.9
JNU LR LR 03 59 44.3
comp=Z,126nm,19.6s,baz=164,slow=34
JNU Nakatsue 42.72 339 *e*P **P 03 43 07.3 -0.8**
comp=Z,74nm,1.4s
JNU ScP **ScP 03 48 47.7 +0.7**
WHZ Wether Hill Ro 42.78 159 *e*P **P 03 43 08.2 -0.3**
WHZ LR LR
comp=Z,24μm,18.0s
MQZ McQueen's Vall 42.84 154 *e*P **P 03 43 10.1 +1.2**
MQZ LR LR
comp=Z,64μm,20.0s
INU Inuyama 43.00 347 *e*P **P 03 43 10.2 -0.1**
INU *e*PP **PP 03 44 45.9 -4.9**
INU LR LR
comp=Z,43μm,21.0s
KLSI 43.02 270 P P 03 43 10.6 -0.3
ODZ Otahua Downs 43.07 156 *e*P **P 03 43 11.6 +0.7**
ODZ LR LR
comp=Z,56μm,20.0s
KASI Kota Agung 43.20 269 P P 03 43 10.9 -1.4
DLV T Lat 43.35 295 *e*P **P 03 43 13.7 0.0**
comp=Z,62nm,1.5s
MDSI Maura Dua 43.59 270 P P 03 43 14.8 -0.7
HKC Hong Kong Obse 43.81 312⇑P **P 03 43 19.0 +1.9**
MJAR Matsushiro Arr 43.90 349 P P 03 43 16.6 -1.0
comp=Z,204nm,1.1s,baz=172,slow=8.2,SNR=60
MJAR ScP **ScP 03 48 52.0 +0.3**
comp=Z,10nm,0.9s,baz=172,slow=4.4,SNR=6.4
MJAR S **S 03 49 46.1 0.0**
comp=Z,1.6nm,0.8s,baz=163,slow=13,SNR=2.4
MJAR LR LR 04 00 24.4
comp=Z,26μm,19.7s,baz=160,slow=34
MAJO Matsushiro 43.90 349 *e*P **P 03 43 16.8 -0.8**
MAJO Matsushiro 43.90 349 *e*P **P 03 43 16.8 -0.8**
comp=Z,443nm,1.2s
MAJO LR LR
comp=Z,57μm,22.0s
MAT Matsushiro 43.90 349 P P 03 43 16.6 -1.0
MAT S S 03 50 02.2 +16
MJB9 Matsu-Tunnel 43.90 349 *e*P **P 03 43 16.9 -0.8**
MJB9 LR LR
comp=Z,12μm,22.0s
LHSI Lahat 44.30 271 P P 03 43 20.3 -0.9
MYKOM Kota Tinggi 44.79 279 *e*P **P 03 43 26.4 +1.3**
MYKOM Kota Tinggi 44.79 279⇓P **P 03 43 26.5 +1.4**
MNAI Manna 44.81 270 P P 03 43 25.0 -0.3
MNAI Manna 44.81 270 *e*P **P 03 43 27.5 +2.2**
comp=Z,121nm,0.5s
MNAI LR LR
comp=Z,19μm,22.0s
GZH Guangzhou 44.89 312 P P 03 43 28.3 +2.6
GZH sP **sP 03 43 45.6 +2.8**
GZH S **S 03 50 06.8 +6.0**
GZH pmax pmax
comp=Z,11μm,9.0s
KGM Kluang 45.35 279⇑P **P 03 43 31.3 +1.7**
QIZ Qiongzhong 45.37 305 P P 03 43 29.8 +0.2
QIZ sP **sP 03 43 48.8 +2.1**
QIZ S **S 03 50 08.9 +1.0**
QIZ LR LR
comp=Z,21μm,25.5s
QIZ LR LR
comp=Z,27μm,22.1s
QIZ LR LR
comp=Z,68μm,24.4s
QIZ Qiongzhong 45.37 305 *e*P **P 03 43 30.4 +0.8**
comp=Z,16nm,0.8s
QIZ LR LR
comp=Z,69μm,22.0s
SSE Sheshan 45.40 327 P P 03 43 28.9 -0.7
SSE S **S 03 50 10.5 +2.5**
SSE pmax pmax
comp=Z,200nm,1.1s
SSE pmax pmax
comp=Z,4μm,12.0s
SSE LR LR
comp=Z,42μm,23.6s
SSE LR LR
comp=Z,36μm,23.6s
SSE LR LR
comp=Z,70μm,22.7s
MASI Maura Aman, Be 45.64 272 P P 03 43 31.0 -0.9
KTGM Kuala Trenggan 46.26 284⇓P **P 03 43 37.9 +1.1**
BKNI Bangkinang 47.30 277 *e*P **P 03 43 46.0 +1.2**
comp=Z,492nm,1.1s
NJ2 Nanjing 47.41 326 *e*P **P 03 43 45.4 0.0**
NJ2 pP **pP 03 43 58.6 +1.1**
NJ2 sP **sP 03 44 05.3 +2.8**
NJ2 S **S 03 50 39.8 +3.1**
NJ2 sS **sS 03 50 56.5 -0.4**
NJ2 pmax pmax
comp=Z,240nm,1.0s
NJ2 pmax pmax
comp=Z,5μm,3.6s
NJ2 LR LR
comp=Z,46μm,23.3s
NJ2 LR LR
comp=Z,29μm,22.2s
NJ2 LR LR
comp=Z,67μm,23.8s
KSRS Korea Array 47.67 338 P P 03 43 46.9 -0.4
comp=Z,92nm,1.1s,baz=152,slow=7.7,SNR=52
KSRS S **S 03 50 42.9 +2.8**
comp=Z,1.0nm,0.8s,baz=162,slow=17,SNR=3.3
KSRS LR LR 04 01 58.1
comp=Z,50μm,21.6s,baz=157,slow=34
KSRS PKPPKP **P'P'df 04 14 53.4 -5.3**
comp=Z,3.3nm,1.0s,baz=6.2,slow=2.8,SNR=6.1
KS15 Wonju Array Si 47.67 338 *e*P **P 03 43 47.3 0.0**
KSAR Wonju Array Be 47.67 338 P P 03 43 46.9 -0.4
KSAR S **S 03 50 42.9 +2.7**
KSAR Wonju Array Be 47.67 338 P P 03 43 46.9 -0.4
KSAR S **S 03 50 42.9 +2.7**
KSAR P'P' 04 14 53.4
KS01 Wonju Array Si 47.70 338 *e*P **P 03 43 46.8 -0.8**
KS01 *e*PcP **PcP 03 45 18.6 +2.3**
JOHN Johnston Islan 48.05 61 *e*P **P 03 43 49.8 -0.8**
JOHN LR LR
comp=Z,70μm,22.0s
IPM Ipoh 48.10 282 *e*P **P 03 43 52.1 +1.0**
comp=Z,501nm,1.2s
IPM *e*PcP **PcP 03 45 22.2 +3.8**
IPM LR LR
comp=Z,19μm,21.0s
IPM Ipoh 48.10 282⇓P **P 03 43 52.2 +1.0**
MIDW Midway 48.18 42 PFAKE 03 44 00.0 +8.6
MIDW LR LR
comp=Z,27μm,22.0s
INCN Inchon 48.18 337 *e*P **P 03 43 51.5 +0.2**
INCN LR LR
comp=Z,56μm,22.0s
MCQ Macquarie Isla 48.56 171 *e*P **P 03 43 55.2 +1.3**
MCQ Macquarie Isla 48.56 171 *e*P **P 03 43 55.2 +1.3**
comp=Z,4μm,1.3s
ERM Erimo 48.60 355 PFAKE 03 44 10.0 +16
ERM LR LR
comp=Z,60μm,22.0s
KULM Kulim 48.65 283 *e*P **P 03 43 56.2 +0.9**
comp=Z,440nm,1.2s

KULM				LR	LR	
	comp=Z,28μm,21.0s					
PANO	**Nakornpanom**	**48.90 299**		P	**P**	**03 43 59.9 +2.8**
	comp=Z,224nm,1.5s,comp=Z,6μm					
SISI	**Saibi**	**48.98 274**		P	**P**	**03 43 55.0 -2.9**
WHN	**Wuhan**	**49.00 321**	⇑	*i*P	**P**	**03 43 57.8 +0.1**
WHN				pmax	pmax	
	comp=Z,6μm,5.0s					
WHN				LR	LR	
	comp=Z,39μm,16.5s					
WHN				LR	LR	
	comp=Z,31μm,20.0s					
WHN				LR	LR	
	comp=Z,83μm,20.6s					
CHBT	**CHBT**	**49.23 293**		P	**P**	**03 44 02.2 +2.5**
	comp=Z,570nm,1.2s					
PBSI	**Pulau Batu**	**49.96 275**		P	**P**	**03 44 04.6 -0.8**
YUK	**Yuzh-Kuril'sk**	**50.46 358**	*c*	*i*P	**P**	**03 44 09.1 +0.6**
YUK				*i* S	**S**	**03 51 20.9 +1.8**
YUK				pmax	pmax	
	comp=Z,595nm,1.6s					
YUK				pmax	pmax	
	comp=N,464nm,1.5s					
YUK				pmax	pmax	
	comp=E,304nm,1.1s					
YUK				pmax	pmax	
	comp=Z,3μm,3.5s					
COCO	**West Island**	**50.65 260**		PFAKE		03 44 20.0 +9.5
COCO				LR	LR	
	comp=Z,26μm,22.0s					
CHAI	**Chaiyaphum**	**50.69 297**		P	**P**	**03 44 11.9 +1.1**
	comp=Z,30nm,0.9s,comp=Z,213nm					
NAYO	**Nakonayok**	**50.70 294**		P	**P**	**03 44 12.5 +1.6**
	comp=Z,193nm,1.4s,comp=Z,3μm					
ASAJ	**Asahikawa**	**50.74 355**		P	**P**	**03 44 12.5 +1.9**
	comp=Z,138nm,1.2s,baz=207,slow=0.9,SNR=22					
ASAJ				LR	LR	04 04 23.8
	comp=Z,86nm,20.4s,baz=174,slow=34					
ASAJ	**Asahikawa**	**50.74 355**		*e*P	**P**	**03 44 13.2 +2.6**
	comp=Z,49nm,1.3s					
KCSI	**Kotacane, Aceh**	**51.08 280**		P	**P**	**03 44 12.7 -1.1**
	comp=Z,405nm,0.8s,comp=Z,9μm					
MSHR	**Mys Shultsa**	**51.30 344**	*de*	P	**P**	**03 44 16.6 +1.7**
SLVN	**Son La**	**51.36 304**		*e*P	**P**	**03 44 17.8 +2.0**
	comp=Z,18nm,1.1s					
SLVN				LR	LR	
	comp=Z,44μm,22.0s					
DL2	**Dalian**	**51.45 334**	⇑	*i*P	**P**	**03 44 15.6 -0.5**
DL2				S	**S**	**03 51 33.1 0.0**
DL2				pmax	pmax	
	comp=Z,170nm,1.1s					
DL2				pmax	pmax	
	comp=Z,4μm,8.2s					
DL2				LR	LR	
	comp=Z,55μm,23.1s					
DL2				LR	LR	
	comp=Z,34μm,22.6s					
DL2				LR	LR	
	comp=Z,88μm,23.3s					
TIA	**Tai'an**	**51.49 328**	⇑	P	**P**	**03 44 15.3 -1.2**
TIA				sP	**sP**	**03 44 34.6 +0.9**
TIA				pmax	pmax	
	comp=Z,180nm,1.0s					
TIA				pmax	pmax	
	comp=Z,4μm,11.0s					
TIA				LR	LR	
	comp=Z,44μm,24.0s					
TIA				LR	LR	
	comp=Z,35μm,26.0s					
TIA				LR	LR	
	comp=Z,80μm,24.0s					
TPTI		**51.61 279**		P	**P**	**03 44 16.6 -1.1**
KUR	**Kuril'sk**	**51.62 360**	*c*	*i*P	**P**	**03 44 17.7 +0.5**
KUR				*i* *PP	**pP**	**03 44 29.4 0.0**
KUR				*i*		03 46 14.7
KUR				*i* S	**S**	**03 51 38.6 +3.4**
KUR				pmax	pmax	
	comp=Z,7μm,6.1s					
KUR				pmax	pmax	
	comp=N,3μm,5.8s					
KUR				pmax	pmax	
	comp=E,548nm,2.3s					
KUR				pmax	pmax	
	comp=N,228nm,1.1s					
KUR				pmax	pmax	
	comp=E,288nm,1.6s					
GYA	**Guiyang**	**51.79 311**	⇑	*i*P	**P**	**03 44 20.3 +1.3**
GYA				pP	sP	03 44 34.3 -2.0
GYA				PcP	**PcP**	**03 45 32.3 +0.5**
GYA				PP	**PP**	**03 46 20.8 +3.6**
GYA				ScP	**ScP**	**03 49 25.5 +0.2**
GYA				S	**S**	**03 51 39.0 +0.6**
GYA				sS	sS	03 52 00.6 +1.8
GYA				SS	**SS**	**03 55 14.0 -1.7**
GYA				pmax	pmax	
	comp=E,40nm,1.0s					
GYA				pmax	pmax	
	comp=E,4μm,10.9s					
GYA				LR	LR	
	comp=E,20μm,20.2s					
GYA				LR	LR	
	comp=E,18μm,26.1s					
GYA				LR	LR	
	comp=E,14μm,24.2s					
ENH	**Enshi**	**52.00 317**		*e*P	**P**	**03 44 20.1 -0.3**
	comp=E,63nm,0.8s					
ENH				LR	LR	
	comp=Z,79μm,22.0s					
LHMI	**Lhok Sumawe**	**52.23 282**		P	**P**	**03 44 22.3 -0.1**
LHMI	**Lhok Sumawe**	**52.23 282**		*e*P	**P**	**03 44 22.9 +0.5**
	comp=Z,171nm,0.8s					
SNSI	**Sinabang, Aceh**	**52.29 278**		P	**P**	**03 44 21.9 -0.9**
RAR	**Rarotonga**	**52.55 112**		LR	LR	04 02 49.5
	comp=Z,6μm,21.8s,baz=278,slow=32					
RAR	**Rarotonga**	**52.55 112**		*e*P	**P**	**03 44 23.8 -0.8**
RAR	**Rarotonga**	**52.55 112**		*e*P	**P**	**03 44 23.8 -0.8**
MLSI	**Meulaboh, Aceh**	**52.56 280**		P	**P**	**03 44 23.9 -1.0**
USRK	**Ussuriysk Ar.**	**52.60 346**		P	**P**	**03 44 24.5 -0.1**
	comp=Z,58nm,0.8s,baz=166,slow=8.3,SNR=40					
USRK				ScP	**ScP**	**03 49 29.9 +1.7**
	comp=Z,7.8nm,0.9s,baz=199,slow=3.4,SNR=4.3					
USRK				S	**S**	**03 51 48.4 -0.3**
	comp=Z,2.0nm,0.9s,baz=196,slow=18,SNR=3.5					
USRK				LR	LR	04 05 15.0
	comp=Z,22μm,20.4s,baz=150,slow=34					
UTTA	**Uttaradit**	**52.67 298**		P	**P**	**03 44 26.3 +0.8**
	comp=Z,41nm,1.0s,comp=Z,371nm					
UTHA	**Uthaitani**	**52.84 295**		P	**P**	**03 44 28.5 +1.7**
	comp=Z,31nm,1.0s,comp=Z,303nm					
SNY	**Shenyang**	**53.11 337**	⇑	P	**P**	**03 44 28.3 -0.1**
SNY				pmax	pmax	
	comp=Z,85nm,1.0s					
SNY				pmax	pmax	
	comp=Z,6μm,7.1s					
SNY				LR	LR	
	comp=Z,48μm,23.7s					
SNY				LR	LR	
	comp=Z,35μm,21.2s					
SNY				LR	LR	
	comp=Z,98μm,24.7s					
YSS	**Yuzh-Sakhalins**	**53.54 356**	*oe*	P	**P**	**03 44 31.0 -0.4**
YSS				*e*S	**S**	**03 52 02.9 +1.5**
YSS				pmax	pmax	
	comp=Z,30nm,0.9s					
YSS				pmax	pmax	
	comp=Z,3μm,6.0s					
YSS				MLR	MLR	
	comp=Z,7μm,19.0s					
YSS				MLR	MLR	
	comp=E,10μm,18.0s					
YSS	**Yuzh-Sakhalins**	**53.54 356**		*e*P	**P**	**03 44 31.4 -0.1**
	comp=E,382nm,1.6s					
YSS				LR	LR	
	comp=Z,10μm,21.0s					
UMPA	**Umpang Tak**	**53.60 296**		P	**P**	**03 44 34.0 +1.6**
	comp=Z,58nm,1.0s,comp=Z,1μm					
MDJ	**Mudanjiang**	**53.62 344**		P	**P**	**03 44 31.8 -0.2**
MDJ				pP	pP	03 44 42.1 -2.2
MDJ				sP	sP	03 44 48.1 -1.2
MDJ				ScP	**ScP**	**03 49 31.3 -1.4**
MDJ				S	**S**	**03 51 55.1 -7.4**
MDJ				sS	pS	03 52 19.3 +2.6
MDJ				pmax	pmax	
	comp=Z,4μm,7.8s					
MDJ				LR	LR	
	comp=Z,24μm,31.1s					
MDJ				LR	LR	
	comp=Z,24μm,27.1s					
MDJ				LR	LR	
	comp=Z,42μm,29.1s					
MDJ	**Mudanjiang**	**53.62 344**		*e*P	**P**	**03 44 31.6 -0.4**
	comp=Z,62nm,0.8s					
MDJ				LR	LR	
	comp=Z,25μm,21.0s					
LAMP	**Lampang**	**53.78 299**		P	**P**	**03 44 36.8 +3.1**
	comp=Z,26nm,1.1s,comp=Z,376nm					
KMI	**Kunming**	**54.11 307**		P	**P**	**03 44 37.1 +0.8**
KMI				pP	pP	03 44 51.1 +2.5
KMI				sP	sP	03 44 56.5 +2.9
KMI				PP	**PP**	**03 46 41.9 +3.6**
KMI				S	**S**	**03 52 07.8 -2.5**
KMI				sS	sS	03 52 28.3 -2.5
KMI				pmax	pmax	
	comp=Z,59nm,1.1s					
KMI				pmax	pmax	
	comp=Z,4μm,10.8s					
KMI				LR	LR	
	comp=Z,13μm,22.0s					
KMI				LR	LR	
	comp=Z,29μm,24.3s					
KMI				LR	LR	
	comp=Z,51μm,23.3s					
CN2	**Changchun**	**54.16 340**		*e*P	**P**	**03 44 35.6 -0.4**
CN2				*es*P	sP	03 44 53.8 +0.5
CN2				*e*PP	**PP**	**03 46 39.6 +1.5**
CN2				*e*S	**S**	**03 52 09.3 -0.6**
CN2				pmax	pmax	
	comp=Z,40nm,0.9s					
CN2				LR	LR	
	comp=Z,30μm,18.0s					
CN2				LR	LR	
	comp=Z,20μm,18.0s					
CN2				LR	LR	
	comp=Z,35μm,19.0s					
CM01	**Chiang Mai Arr**	**54.33 298**		*e*P	**P**	**03 44 38.1 +0.4**
CM31	**Chiang Mai Arr**	**54.36 298**		*e*P	**P**	**03 44 40.1 +2.1**
CMAR	**Chiang Mai Arr**	**54.36 298**		P	**P**	**03 44 38.2 +0.2**
	comp=Z,48nm,1.0s,baz=123,slow=5.6,SNR=43					
CMAR				ScP	**ScP**	**03 49 40.6 +4.1**
	comp=Z,6.1nm,0.8s,baz=111,slow=2.2,SNR=4.6					
CMAR				LR	LR	04 06 25.0
	comp=Z,24μm,21.8s,baz=111,slow=34					
CMAR				PKP2bc		04 15 10.1
	comp=Z,4.2nm,0.8s,baz=287,slow=3.4,SNR=7.8					
CMAR	**Chiang Mai Arr**	**54.36 298**		P	**P**	**03 44 38.2 +0.2**
CMAR				pmax	pmax	
	comp=Z,46nm,0.9s					
CMAR				pmax	pmax	
	comp=N,6.0nm,0.8s					
CHTO	**Chiang Mai**	**54.50 299**		P	**P**	**03 44 41.5 +2.6**
	comp=N,347nm,1.8s,comp=N,21μm					
CHTO	**Chiang Mai**	**54.50 299**		*e*P	**P**	**03 44 40.3 +1.3**
CHTO				pmax	pmax	
	comp=Z,48nm,1.1s					
CHTO				MLR	MLR	
	comp=Z,23μm,21.0s					
CHTO	**Chiang Mai**	**54.50 299**		*e*P	**P**	**03 44 40.2 +1.3**
	comp=Z,48nm,1.1s					
CHTO				LR	LR	
	comp=Z,23μm,21.0s					
CHTO	**Chiang Mai**	**54.50 299**		P	**P**	**03 44 39.4 +0.4**
	SNR=31					
CHTO				P	**P**	**03 44 39.4 +0.4**
	SNR=31					
CHTO	**Chiang Mai**	**54.50 299**		P	**P**	**03 44 39.4 +0.4**
	SNR=31					
XAN	**Xi'an**	**54.75 320**		P	**P**	**03 44 39.6 -1.0**
XAN				pP	pP	03 44 52.3 -0.6
XAN				sP	sP	03 44 57.6 -0.3
XAN				pmax	pmax	
	comp=Z,190nm,1.2s					
XAN				pmax	pmax	
	comp=Z,5μm,10.5s					
XAN				LR	LR	
	comp=Z,14μm,23.2s					
XAN				LR	LR	
	comp=Z,25μm,21.2s					
XAN				LR	LR	
	comp=Z,45μm,23.8s					
BJT	**Baijiatuau**	**54.88 330**		*e*P	**P**	**03 44 40.3 -1.0**
BJT				pmax	pmax	
	comp=Z,272nm,1.7s					
BJT				MLR	MLR	
	comp=Z,82μm,22.0s					
BJT	**Baijiatuau**	**54.88 330**		*e*P	**P**	**03 44 40.3 -1.0**
	comp=Z,272nm,1.7s					
BJT				LR	LR	
	comp=Z,82μm,22.0s					
BJI	**Beijing**	**54.90 330**		P	**P**	**03 44 40.3 -1.1**
BJI				PP	**PP**	**03 46 45.3 +0.5**
BJI				S	**S**	**03 52 21.6 +1.7**
BJI				pmax	pmax	
	comp=Z,6μm,6.7s					
BJI				LR	LR	
	comp=Z,49μm,22.1s					
BJI				LR	LR	
	comp=Z,37μm,20.5s					
BJI				LR	LR	
	comp=Z,80μm,23.7s					
TIY	**Taiyuan**	**55.14 326**		*e*P	**P**	**03 44 42.4 -0.9**
TIY				S	**S**	**03 52 28.5 +5.1**
TIY				sS	**sS**	**03 52 45.8 +1.9**
TIY				pmax	pmax	
	comp=Z,97nm,1.2s					
TIY				pmax	pmax	
	comp=Z,2μm,5.4s					
TIY				LR	LR	
	comp=Z,26μm,19.7s					
TIY				LR	LR	
	comp=Z,26μm,20.7s					
TIY				LR	LR	
	comp=Z,68μm,22.9s					
XMAS	**Kiritimati**	**55.20 83**		*e*P	**P**	**03 44 45.8 +1.7**
XMAS				LR	LR	
	comp=Z,29μm,21.0s					
CMBY	**CAMPBELL BAY**	**55.55 283**		*e*P	**P**	**03 44 44.0 -2.6**
CMBY				lAmb	lAmb	03 44 49.3
HABR	**Khabarovsk**	**56.02 350**	*c*	*i*P	**P**	**03 44 47.5 -1.8**
HABR				*e**PP	**pP**	**03 44 57.5 -4.2**
HABR				*e**SP	**sP**	**03 45 01.6 -5.1**
HABR						03 45 45.7
HABR				*e*		03 46 52.5
HABR				*e*S	**S**	**03 52 34.1 -0.5**
HABR				*e*		03 52 46.1
HABR				*e**SS	**pS**	**03 52 51.0 +1.9**
HABR				*e*		03 54 33.8
HABR				*e*SS	**SS**	**03 56 21.4 -0.1**
HABR				pmax	pmax	
	comp=Z,4μm,5.4s					
HABR				pmax	pmax	
	comp=E,42nm,1.5s					
HABR				pmax	pmax	
	comp=N,135nm,1.5s					
HABR				pmax	pmax	
	comp=Z,328nm,1.5s					
HABR				MLR	MLR	
	comp=Z,10μm,16.0s					
CD2	**Chengdu**	**56.37 314**	⇑	*i*P	**P**	**03 44 51.4 -0.9**
CD2				pP	pP	03 45 03.1 -1.5
CD2				sP	sP	03 45 08.0 -1.6
CD2				PcS	**PcS**	**03 49 49.3 -0.6**
CD2				S	**S**	**03 52 41.0 +0.9**
CD2				pmax	pmax	
	comp=Z,160nm,0.8s					
CD2				pmax	pmax	
	comp=Z,5μm,8.7s					
TYV	**Tymovskoe**	**57.44 356**	⇑	*i*P	**P**	**03 44 59.5 +0.2**
TYV				*e*S	S	03 53 15.7 +22
TYV				pmax	pmax	
	comp=Z,154nm,0.9s					
SKR	**Severo-Kuril's**	**57.52 6**		*e*P	**P**	**03 44 59.5 -0.4**
SKR				*e*		03 45 48.6
SKR				*e*S	**S**	**03 52 55.5 +1.3**
SKR				*e*		03 54 42.0
SKR				*e*SSS	SSS	03 58 59.3
SKR				pmax	pmax	
	comp=Z,5μm,5.8s					
SKR				pmax	pmax	
	comp=Z,322nm,1.1s					
SKR				MLR	MLR	
	comp=Z,10μm,18.0s					
PBA	**Port Blair**	**57.82 288**		*e*P	P	03 45 04.8 +2.0
HHC	**Hu-ho-hao-te**	**57.85 328**		*e*P	**P**	**03 45 02.1 -0.5**
HHC				sP	sP	03 45 21.8 +1.8
HHC				PP	**PP**	**03 47 09.0 -2.3**
HHC				S	**S**	**03 53 02.3 +3.0**
HHC				sS	sS	03 53 19.3 -0.6
HHC				pmax	pmax	
	comp=Z,97nm,1.1s					
HHC				pmax	pmax	
	comp=Z,3μm,8.8s					
HHC				LR	LR	
	comp=Z,27μm,22.8s					
HHC				LR	LR	
	comp=Z,26μm,22.4s					
HHC				LR	LR	
	comp=Z,49μm,23.1s					
DGPR	**DIGLIPUR**	**58.06 290**		*e*P	**P**	**03 45 03.9 -0.5**
BTO	**Baotou**	**58.51 327**		*e*P	**P**	**03 45 06.5 -0.7**
KEKH	**Kekaha**	**58.64 59**		PFAKE		03 45 20.0 +12
KEKH				LR	LR	
	comp=Z,56μm,22.0s					
LZH	**Lanzhou**	**59.29 319**	⇑	P	**P**	**03 45 12.8 0.0**
LZH				pP	pP	03 45 25.6 +0.4
LZH				sP	sP	03 45 30.5 +0.3
LZH				PP	**PP**	**03 47 26.0 +1.8**
LZH				S	**S**	**03 53 17.1 -1.2**
LZH				sS	sS	03 53 38.0 -1.0
LZH				SS	**SS**	**03 57 13.5 -0.2**
LZH				pmax	pmax	
	comp=Z,510nm,1.5s					
LZH				pmax	pmax	
	comp=Z,4μm,9.2s					
LZH				LR	LR	
	comp=Z,28μm,17.5s					
LZH				LR	LR	
	comp=Z,21μm,18.0s					
LZH				LR	LR	
	comp=Z,58μm,19.1s					
HON	**Honolulu**	**59.86 61**		PFAKE		03 45 30.0 +13
HON				LR	LR	
	comp=Z,38μm,22.0s					
NKL	**Nikolayevsk**	**59.87 355**		*e*P	**P**	**03 45 14.5 -1.7**
NKL				pmax	pmax	
	comp=N,70nm,1.0s					
NKL				pmax	pmax	
	comp=E,70nm,1.0s					
NKL				pmax	pmax	
	comp=Z,130nm,1.0s					
KIP	**Kipapa**	**59.89 61**	⇑	*e*P	**P**	**03 45 21.3 +4.3**
KIP				MLR	MLR	
	comp=Z,99μm,17.0s					
KIP	**Kipapa**	**59.89 61**		PFAKE		03 45 30.0 +13
KIP				LR	LR	
	comp=Z,34μm,21.0s					
OPA	**Opana**	**59.99 60**		PFAKE		03 45 30.0 +12
OPA				LR	LR	
	comp=Z,52μm,22.0s					
PEA0	**Petropavlovsk-**	**60.08 7**		*e*P	**P**	**03 45 17.9 +0.1**
PEA0B	**Petropavlovsk-**	**60.08 7**		*e*P	**P**	**03 45 19.2 +1.5**
PEA0B				LR	LR	
	comp=Z,54μm,22.0s					
PETK	**Petropavlovsk-**	**60.08 7**		P	**P**	**03 45 17.6 -0.1**
	comp=Z,133nm,0.8s,baz=160,slow=5.9,SNR=49					
PETK				LR	LR	04 07 50.0
	comp=Z,37μm,21.6s,baz=196,slow=33					
PET	**Petropavlovsk**	**60.12**	*7c*	*i*P	**P**	**03 45 18.1 +0.2**
PET				*e*		03 47 30.9
PET				*i* S	**S**	**03 53 28.0 +0.1**
PET				*e*SS	**SS**	**03 57 28.3 +2.6**
PET				pmax	pmax	
	comp=Z,5μm,6.6s					
PET				pmax	pmax	
	comp=Z,108nm,1.1s					
PET				pmax	pmax	
	comp=Z,5μm,18.0s					
PET	**Petropavlovsk**	**60.12 7**		*e*P	**P**	**03 45 20.0 +2.1**
	comp=Z,87nm,1.0s					
PET				LR	LR	
	comp=Z,27μm,22.0s					
HIA	**Hailar**	**60.86 339**		*e*P	**P**	**03 45 23.3 +0.1**
HIA				pmax	pmax	
	comp=Z,160nm,0.9s					
HIA				MLR	MLR	
	comp=Z,29μm,20.0s					
HIA	**Hailar**	**60.86 339**		*e*P	**P**	**03 45 23.3 +0.1**
	comp=Z,160nm,0.9s					
HIA				*e*PP	PP	03 47 29.6 -8.2
HIA				LR	LR	
	comp=Z,29μm,20.0s					
HLK	**Haleakala**	**61.19 62**		PFAKE		03 45 40.0 +14
HLK				LR	LR	
	comp=Z,56μm,22.0s					
MWH	**Moku'aweowe**	**61.34 64**		PFAKE		03 45 40.0 +12
MWH				LR	LR	
	comp=Z,35μm,22.0s					
MLOA	**Mauna Loa Obse**	**61.37 64**		*e*P	**P**	**03 45 27.8 +0.1**
MLOA				LR	LR	
	comp=Z,37μm,22.0s					
AIN	**Ainahou**	**61.42 64**		PFAKE		03 45 40.0 +12
AIN				LR	LR	
	comp=Z,34μm,22.0s					
HPAH	**Hawaii Prepara**	**61.43 63**		PFAKE		03 45 40.0 +12
HPAH				LR	LR	
	comp=Z,44μm,22.0s					
POHA	**Pohakuloa**	**61.48 63**		PFAKE		03 45 40.0 +12
POHA				LR	LR	
	comp=Z,45μm,22.0s					
MLH	**Mauna Loa**	**61.53 64**		PFAKE		03 45 40.0 +12
MLH				LR	LR	
	comp=Z,39μm,22.0s					
SDHHI	**Sand Hill**	**61.58 64**		PFAKE		03 45 40.0 +11
SDHHI				LR	LR	
	comp=Z,35μm,22.0s					
WRMHI	**West Rim**	**61.58 64**		PFAKE		03 45 40.0 +11
WRMHI				LR	LR	
	comp=Z,34μm,22.0s					
UWE	**Uwekahuna**	**61.59 64**		PFAKE		03 45 40.0 +11
UWE				LR	LR	
	comp=Z,36μm,22.0s					
OBL	**Observatory Le**	**61.59 64**		PFAKE		03 45 40.0 +11
OBL				LR	LR	
	comp=Z,36μm,22.0s					
NPH	**North Pit**	**61.59 64**		PFAKE		03 45 40.0 +11
NPH				LR	LR	
	comp=Z,33μm,22.0s					
RIM	**Rim**	**61.59 64**		PFAKE		03 45 40.0 +11
RIM				LR	LR	
	comp=Z,36μm,22.0s					
KKO	**Keanakako'i**	**61.60 64**		PFAKE		03 45 40.0 +11
KKO				LR	LR	
	comp=Z,30μm,21.0s					
SBLHI	**Steaming Bluff**	**61.61 64**		PFAKE		03 45 40.0 +11
SBLHI				LR	LR	
	comp=Z,37μm,22.0s					
BYL	**Byron's Ledge**	**61.61 64**		PFAKE		03 45 40.0 +11
BYL				LR	LR	
	comp=Z,37μm,22.0s					
HATHI	**Halema'uma'u T**	**61.62 64**		PFAKE		03 45 40.0 +11
HATHI				LR	LR	
	comp=Z,39μm,22.0s					
PUH	**Pauahi**	**61.64 64**		PFAKE		03 45 40.0 +11
PUH				LR	LR	
	comp=Z,37μm,22.0s					
STCH	**Steam Cracks**	**61.73 64**		PFAKE		03 45 40.0 +10
STCH				LR	LR	
	comp=Z,36μm,22.0s					
NPOC	**North of Pu'u**	**61.74 64**		PFAKE		03 45 40.0 +10
NPOC				LR	LR	
	comp=Z,36μm,22.0s					
JCUZ	**Jacuzzi**	**61.75 64**		PFAKE		03 45 40.0 +10
JCUZ				LR	LR	
	comp=Z,38μm,22.0s					
PPT2	**Papeete2**	**61.83 106**		*e*P	**P**	**03 45 31.2 +0.8**
	comp=Z,168nm,1.5s					
PPT2				*e*S	**S**	**03 53 53.6 +2.3**
	comp=Z,36μm,27.2s					
PPT2				*e*LQ	LQ	04 01 27.5
	comp=Z,38μm,37.8s					
PPT2				*e*LR	LR	04 04 10.6
	comp=Z,40μm,25.0s					
TIAR	**Tiarei**	**62.05 106**		*e*P	**P**	**03 45 32.0 +0.2**
	comp=Z,61nm,1.2s					
TVO	**Taravao**	**62.15 107**		*e*P	**P**	**03 45 32.7 +0.2**
	comp=Z,100nm,1.4s					
TBI	**Tubuai**	**62.27 113**		*e*S	**S**	**03 53 57.0 +0.4**
	comp=Z,30μm,29.0s					
TBI				*e*S	S	03 53 57.4 +0.8

TBI comp=Z,10μm,28.0s *e*SS **SS** **03 58 06.0 +5.4**
TBI comp=Z,13μm,30.0s *e*LQ LQ 04 01 32.2
TBI comp=Z,15μm,31.5s *e*LR LR 04 04 18.5
TBI comp=Z,21μm,35.0s
SHL Shillong 63.13 303 *e*P **P** **03 45 39.0 -0.1**
SHL *e*S **S** **03 54 10.0 +2.4**
SMY Shemya 63.18 17 *e*P **P** **03 45 40.1 +1.6**
SMY Shemya 63.18 17 *e*P **P** **03 45 40.1 +1.6**
SMY comp=Z,69nm,0.8s LR LR
SMY comp=Z,14μm,21.0s
PMOR Pomariorio Ree 63.41 103 *e*P **P** **03 45 41.2 +0.4**
PMOR Pomariorio Ree 63.41 103 *e*P'P'df P'P'df 04 14 33.4 -6.8
VAH Vaihoa 63.66 104 *e*P **P** **03 45 43.0 +0.5**
VAH Vaihoa 63.66 104 *e*P'P'df P'P'df 04 14 32.6 -7.1
GTA Gaotai 63.81 320 *e*P **P** **03 45 42.8 -0.4**
GTA pP pP 03 45 55.4 -0.4
GTA sP sP 03 46 01.6 +0.9
GTA PP **PP** **03 48 08.4 +4.3**
GTA S **S** **03 54 15.8 +0.3**
GTA sS sS 03 54 37.9 +1.5
GTA SS **SS** **03 58 27.4 +3.0**
GTA pmax pmax
GTA comp=Z,4μm,8.3s LR LR
GTA comp=Z,14μm,21.6s LR LR
GTA comp=Z,14μm,20.7s LR LR
GTA comp=Z,19μm,20.7s
ULN Ulaanbaatar 65.10 331 *e*P **P** **03 45 51.6 +0.1**
ULN pmax pmax
ULN comp=Z,101nm,1.2s MLR MLR
ULN comp=Z,48μm,20.0s
ULN Ulaanbaatar 65.10 331 *e*P **P** **03 45 51.6 +0.1**
ULN comp=Z,101nm,1.2s LR LR
ULN comp=Z,48μm,20.0s
ULN Ulaanbaatar 65.10 331 P **P** **03 45 51.8 +0.3**
ULN SNR=46 P **P** **03 45 51.8 +0.3**
ULN SNR=46
ULN Ulaanbaatar 65.10 331 P **P** **03 45 51.8 +0.3**
LSA Lhasa 65.35 307 P **P** **03 45 53.8 -0.1**
LSA pP **pP** **03 46 08.1 +1.6**
LSA pmax pmax
LSA comp=Z,4μm,9.5s LR LR
LSA comp=Z,9μm,22.7s LR LR
LSA comp=Z,9μm,24.7s LR LR
LSA comp=Z,35μm,23.4s
LSA Lhasa 65.35 307 PFAKE 03 46 10.0 +16
LSA comp=Z,38μm,22.0s LR LR
CIT Chita 65.39 337 *e*P **P** **03 45 55.3 +2.2**
CIT *e* 03 46 07.1
CIT *e* 03 46 21.3
CIT comp=Z,393nm,1.2s pmax pmax
SONM Songino Array 65.40 331 P **P** **03 45 53.0 -0.4**
SONM comp=Z,52nm,0.8s,baz=147,slow=7.4,SNR=57 LR LR 04 14 08.5
SONM comp=Z,54μm,20.9s,baz=130,slow=36 PKPPKP **P'P'df** **04 14 34.5 +1.6**
SONM comp=Z,2.5nm,1.0s,baz=293,slow=1.1,SNR=5.5 PKP2ab 04 14 46.2
SONM comp=Z,5.0nm,1.0s,baz=312,slow=1.4,SNR=8.3
SONM Songino Array 65.40 331 P **P** **03 45 53.0 -0.4**
SONM comp=Z,52nm,0.8s pmax pmax
SONM comp=Z,54μm,21.0s MLR MLR
SONA1 Songino Array 65.40 331 *e*P **P** **03 45 54.4 +0.9**
ADK Adak 65.67 23 *e*P **P** **03 45 56.1 +1.3**
ADK Adak 65.67 23 *e*P **P** **03 45 55.5 +0.7**
ADK comp=Z,130nm,1.3s LR LR
ADK comp=Z,38μm,22.0s
CLNS Chul'man 66.00 346 *e*P **P** **03 45 57.6 +0.6**
CLNS *e**PP **pP** **03 46 05.9 -3.7**
CLNS *e* 03 46 28.7
CLNS *e* 03 48 21.9
CLNS *e*S **S** **03 54 43.2 +1.6**
CLNS pmax pmax
CLNS comp=N,61nm,0.9s pmax pmax
CLNS comp=Z,139nm,1.0s pmax pmax
CLNS comp=E,30nm,1.0s pmax pmax
CLNS comp=Z,13nm,1.0s pmax pmax
CLNS comp=N,39nm,1.0s pmax pmax
CLNS comp=E,15nm,1.0s smax smax
CLNS comp=E,1μm,12.4s smax smax
CLNS comp=N,3μm,12.0s
MA2 Magadan 66.03 2 P **P** **03 45 56.6 -0.4**
MA2 comp=N,63nm,0.9s,baz=145,slow=7.4,SNR=12 LR LR 04 09 41.3
MA2 comp=N,3μm,20.5s,baz=192,slow=31
MA2 Magadan 66.03 2*d*e*P **P** **03 45 58.4 +1.4**
ATKA Atka Island 66.91 24 *e*P **P** **03 46 04.4 +1.7**
ATKA LR LR
ATKA comp=Z,24μm,20.0s
TAPN Taplejung 67.27 303 *e*P **P** **03 46 05.7 -0.3**
ODAN Odare 67.36 303 *e*P **P** **03 46 06.7 +0.2**
BOK comp=Z,420nm,1.2s
BOK Bokaro 67.63 299 *e*P **P** **03 46 08.6 +0.6**
BOK IAmb IAmb 03 46 13.0
BOK comp=Z,68nm,1.0s
CHLP Challavanipeta 67.73 293 *e*P **P** **03 46 10.4 +1.7**
CHLP IAmb IAmb 03 46 13.9
CHLP comp=Z,418nm,1.4s
CHLP *e*S **S** **03 55 03.6 -0.1**
CHLP IVMs_BB IVMs_BB 04 17 52.9
CHLP comp=Z,3μm,21.5s
RAMN Ramite 68.05 302 *e*P **P** **03 46 10.3 -0.6**
VIS Vishakhapatnam 68.20 292 *i* P **P** **03 46 12.2 +0.6**
VIS IAmb IAmb 03 46 16.6
VIS comp=Z,65nm,0.6s *e*x **S** **03 55 10.9 +1.6**
VIS comp=N,34nm,1.9s
PALK Pallekele 68.47 280 P **P** **03 46 14.6 +1.1**
PALK Pallekele 68.47 280 *i* P **P** **03 46 14.8 +1.3**
PALK comp=N,124nm,1.0s,baz=116,slow=6.3,SNR=31
PALK SNR=33
PALK Pallekele 68.47 280 *i* P **P** **03 46 15.0 +1.5**
PALK Pallekele 68.47 280 *e*P **P** **03 46 14.6 +1.1**
PALK comp=N,68nm,0.8s LR LR
PALK comp=Z,8μm,22.0s
ZAK Zakamensk 68.63 331 *e*P **P** **03 46 13.0 -0.9**
ZAK pmax pmax
ZAK comp=Z,97nm,1.1s
JIRN Jiri 68.64 303 *e*P **P** **03 46 14.4 -0.3**
GUN Gumba 68.98 303 *e*P **P** **03 46 16.5 -0.3**
PKI Pulchoki 69.26 303 *e*P **P** **03 46 18.4 -0.1**
PKIN Phulchoki 69.27 303 *e*P **P** **03 46 17.9 -0.6**
TLY Talaya 69.33 332 P **P** **03 46 18.5 +0.4**
TLY comp=Z,21nm,0.8s,baz=164,slow=4.4,SNR=9.8 LR LR 04 15 16.5
TLY comp=Z,16μm,21.5s,baz=121,slow=35
TLY Talaya 69.33 332*c i*P **P** **03 46 17.4 -0.6**
TLY *e* 03 48 52.9
TLY *e*S **S** **03 55 22.0 +0.4**
TLY *e* 03 55 56.2
TLY pmax pmax
TLY comp=Z,122nm,1.8s

TLY Talaya 69.33 332 *e*P **P** **03 46 19.0 +1.0**
TLY comp=Z,78nm,1.3s P **P** **03 46 18.0 -0.1**
TLY Talaya 69.33 332 P **P** **03 46 18.0 -0.1**
TLY SNR=12 P **P** **03 46 18.0 -0.1**
TLY SNR=12
TLY Talaya 69.33 332 P **P** **03 46 18.0 -0.1**
SNR=12
IRK Irkutsk 69.42 333 *e*P **P** **03 46 17.4 -1.2**
IRK *e* 03 55 21.7
KKN Kakani 69.44 303 *e*P **P** **03 46 19.3 -0.2**
comp=Z,230nm,1.1s
SEY Seymchan 69.44 2 P **P** **03 46 17.8 -0.7**
comp=Z,60nm,1.1s,baz=173,slow=4.3,SNR=16
SEY Seymchan 69.44 2⇑*e*P **P** **03 46 19.3 +0.8**
DMN Daman 69.53 303 *e*P **P** **03 46 19.8 -0.3**
comp=Z,383nm,1.1s
PVM Polavaram 69.66 291 *e*P **P** **03 46 17.8 -2.9**
NIKH Nikolski High 69.72 26 PFAKE 03 46 30.0 +10
NIKH LR LR
comp=Z,26μm,21.0s
BOD Bodaibo 69.86 341 *e*P **P** **03 46 19.8 -1.4**
BOD pmax pmax
comp=Z,108nm,1.4s
YAK Yakutsk 69.90 351 P **P** **03 46 20.7 -0.5**
comp=Z,41nm,0.5s,baz=16,slow=0.9,SNR=22
YAK LR LR 04 16 27.1
YAK comp=Z,9μm,19.3s,baz=160,slow=35
YAK Yakutsk 69.90 351 *e*P **P** **03 46 20.8 -0.5**
YAK *e**PP **sP** **03 46 37.0 -1.9**
YAK *e* 03 46 42.6
YAK *e*PPP PPP 03 50 37.9
YAK *e*S **S** **03 55 26.4 -1.4**
YAK *e**SS **sS** **03 55 52.3 +3.4**
YAK *e* 03 56 16.8
YAK *e*SS **SS** **03 59 59.1 +1.5**
YAK pmax pmax
YAK comp=Z,278nm,1.5s pmax pmax
YAK comp=N,119nm,1.5s
YAK Yakutsk 69.90 351 *e*P **P** **03 46 20.8 -0.5**
comp=N,814nm,1.8s
MDRS Chennai 70.01 286⇑*i*P **P** **03 46 22.8 -0.2**
MDRS *e*P **P** **03 46 24.5 +1.5**
MDRS IAmb IAmb 03 46 28.3
MDRS comp=Z,233nm,1.4s ⇓*i*S **S** **03 55 31.8 +0.9**
GKN Gorkha 70.05 303 *e*P **P** **03 46 22.8 -0.4**
comp=Z,504nm,1.3s
MIR Mirnyy 70.52 200⇑*i*P **P** **03 46 25.0 -0.1**
MIR *i* S **S** **03 55 36.0 +1.0**
MIR pmax pmax
MIR comp=Z,15nm,1.9s pmax pmax
MIR comp=Z,4μm,10.0s smax smax
MIR comp=E,10μm,9.0s MLR MLR
MIR comp=Z,24μm,17.0s
MOY Mondy 70.56 331 *e*P **P** **03 46 27.8 +2.0**
MOY pmax pmax
MOY comp=Z,324nm,3.6s
SKHT Srikalahasti 70.66 287 *e*P **P** **03 46 27.2 +0.2**
SKHT IAmb IAmb 03 46 31.5
SKHT comp=Z,98nm,0.9s
SKHT *e*S **S** **03 55 40.0 +1.5**
SKHT IVMs_BB IVMs_BB 04 18 38.6
SKHT comp=Z,5μm,30.2s
KOLN Koldanda 70.84 302 *e*P **P** **03 46 27.3 -0.8**
comp=Z,247nm,1.1s
ADKI Addanki 70.87 289 *e*P **P** **03 46 28.3 +0.1**
ADKI IAmb IAmb 03 46 32.8
ADKI comp=Z,264nm,1.2s
ADKI *e*S **S** **03 55 41.0 +0.1**
ADKI IVMs_BB IVMs_BB 04 19 12.9
ADKI comp=Z,4μm,27.0s
DANN Dangsing 70.89 303 *e*P **P** **03 46 28.0 -0.5**
TAOE Nuku Hiva Isla 71.20 97 *e*S **S** **03 55 47.6 +2.5**
TAOE comp=Z,9μm,28.4s *e*SS **SS** **04 00 17.3 -2.4**
TAOE comp=Z,8μm,31.4s *e*LQ LQ 04 05 29.8
TAOE comp=Z,9μm,30.7s *e*LR LR 04 08 27.9
TAOE comp=Z,19μm,22.1s,baz=266
TAOE Nuku Hiva Isla 71.20 97 *e*P **P** **03 46 30.7 +0.3**
TAOE LR LR
TAOE comp=Z,12μm,21.0s
VNDA Vanda 71.24 177 P **P** **03 46 29.7 +0.4**
comp=Z,9.7nm,0.6s,baz=331,slow=6.8,SNR=23
VNDA LR LR 04 15 57.6
VNDA comp=Z,13μm,19.4s,baz=350,slow=34
VNDA Vanda 71.24 177 *e*P **P** **03 46 29.6 +0.3**
VNDA Vanda 71.24 177 *e*P **P** **03 46 29.6 +0.3**
UNV Unalaska Valle 71.35 27 *e*P **P** **03 46 32.5 +2.1**
comp=Z,50nm,0.8s
UNV comp=Z,33μm,22.0s LR LR
PYUN Piuthan 71.46 302 *e*P **P** **03 46 30.9 -0.9**
comp=Z,372nm,1.0s
NJS Nagarjunasagar 71.65 290 *e*P **P** **03 46 33.2 +0.3**
NJS IAmb IAmb 03 46 37.0
NJS comp=Z,174nm,1.1s
NJS *e*S **S** **03 55 50.5 +0.6**
NJS IVMs_BB IVMs_BB 04 20 34.0
NJS comp=Z,4μm,24.8s
AKUT Akutan 71.87 27 *e*P **P** **03 46 35.4 +2.0**
comp=Z,222nm,1.1s
AKUT LR LR
AKUT comp=Z,32μm,22.0s
SBA Scott Base 71.87 176 *e*P **P** **03 46 34.9 +1.8**
SBA Scott Base 71.87 176 *e*P **P** **03 46 34.9 +1.8**
comp=Z,46nm,1.5s
SRLM Srisailam 71.94 289 *e*P **P** **03 46 34.1 -0.6**
SRLM IAmb IAmb 03 46 39.2
SRLM comp=Z,236nm,0.9s
SRLM *e*S **S** **03 55 55.1 +1.8**
SRLM IVMs_BB IVMs_BB 04 19 56.0
SRLM comp=Z,4μm,22.4s
SPIA Saint Paul Isl 72.12 22 PFAKE 03 46 50.0 +15
SPIA LR LR
SPIA comp=Z,25μm,22.0s
RPR Rampur 72.19 292 *e*P **P** **03 46 35.6 -0.5**
RPR IAmb IAmb 03 46 40.2
RPR comp=Z,185nm,1.3s
RPR *e*S **S** **03 55 56.4 +0.4**
RPR IVMs_BB IVMs_BB 04 20 45.5
RPR comp=Z,5μm,23.2s
TRD Trivandrum 72.33 281 *e*P **P** **03 46 38.1 +1.0**
HYB Hyderabad 72.55 290⇑*i*P **P** **03 46 39.0 +0.7**
HYB comp=Z,150nm,1.0s *e* 03 47 00.5
HYB *e*S **S** **03 55 56.0 -4.2**
HYB LR LR
HYB comp=Z,17nm,28.0s
HYB Hyderabad 72.55 290 *e*P **P** **03 46 38.7 +0.4**
HYB IAmb IAmb 03 46 42.1
HYB comp=Z,197nm,1.2s
HYBB Hyderabad (bro 72.55 291 *e*P **P** **03 46 38.5 +0.2**
HYBB IAmb IAmb 03 46 42.2
HYBB comp=Z,113nm,1.0s
HYBB *e*S **S** **03 55 59.5 -0.7**
HYBB IVMs_BB IVMs_BB 04 20 24.5
HYBB comp=Z,3μm,25.4s
JBP Jabalpur 72.64 297⇑*e*P **P** **03 46 38.2 -0.5**
JBP *e*x **S** **03 55 56.6 -4.3**
NGP Nagpur 72.96 294 *e*P **P** **03 46 38.4 -2.3**
NGP *e*x x 03 55 36.0
SRSP Sriramsagar 73.08 292 *e*P **P** **03 46 40.7 -0.7**
SRSP IAmb IAmb 03 46 45.2
SRSP comp=Z,204nm,1.2s
SRSP *e*S **S** **03 56 04.6 -1.6**
SRSP IVMs_BB IVMs_BB 04 21 27.8
SRSP comp=Z,4μm,24.4s
URV Uravakonda 73.23 288 *e*P **P** **03 46 42.2 -0.2**
URV IAmb IAmb 03 46 46.7
URV comp=Z,115nm,0.9s
URV *e*S **S** **03 56 08.3 +0.2**
URV IVMs_BB IVMs_BB 04 19 53.3
URV comp=Z,4μm,25.5s
FALS False Pass 73.39 27 PFAKE 03 46 50.0 +7.6
FALS LR LR
FALS comp=Z,39μm,22.0s
WMQ Urumqi 73.87 319 P **P** **03 46 45.4 -0.2**
WMQ pP pP 03 46 59.6 +1.2

WMQ sP sP 03 47 04.3 +1.0
WMQ PP **PP** **03 49 34.0 +3.0**
WMQ S **S** **03 56 14.1 -0.2**
WMQ sS sS 03 56 32.9 -2.7
WMQ pmax pmax
WMQ comp=Z,140nm,1.5s pmax pmax
WMQ comp=Z,5μm,5.9s LR LR
WMQ comp=Z,19μm,24.5s LR LR
WMQ comp=Z,8μm,20.3s LR LR
WMQ comp=Z,15μm,20.3s
LGTI Lohaghat 74.16 303 *e*P **P** **03 46 48.2 +0.7**
KLRI Killari 74.51 291 *e*P **P** **03 46 49.8 -0.1**
KLRI IAmb IAmb 03 46 53.6
KLRI comp=Z,106nm,0.9s *e*S **S** **03 56 21.9 -0.5**
KLRI IVMs_BB IVMs_BB 04 21 30.6
KLRI comp=Z,6μm,23.7s
DGAR Diego Garcia 74.83 264⇓*e*P **P** **03 46 52.7 +1.0**
DGAR Diego Garcia 74.83 264 PFAKE 03 47 00.0 +8.3
DGAR LR LR
DGAR comp=Z,12μm,21.0s
BHPL Bhopal 74.93 296 *e*P **P** **03 46 53.1 +0.9**
SDPT Sand Point 75.03 28 *e*P **P** **03 46 51.2 -0.7**
SDPT LR LR
SDPT comp=Z,28μm,22.0s
RKT Rikitea 75.58 112 *e*S **S** **03 56 34.9 +0.8**
RKT comp=Z,9μm,34.2s *e*SS **SS** **04 01 27.3 +1.4**
RKT comp=Z,8μm,35.8s *e*LQ LQ 04 07 12.5
RKT comp=Z,15μm,30.0s *e*LR LR 04 10 27.8
RKT comp=Z,40μm,31.8s,baz=281
BILL Bilibino 75.61 7*c i*P **P** **03 46 54.8 -0.3**
BILL *e* 03 47 02.6
BILL *e* 03 47 10.8
BILL *e* 03 49 51.5
BILL *i* S **S** **03 56 33.3 +0.6**
BILL *e*SS **SS** **04 01 21.2 -3.6**
BILL pmax pmax
BILL comp=Z,32nm,1.0s MLR MLR
BILL comp=Z,7μm,18.0s
MNCY Minicoy 76.12 280 *e*P **P** **03 47 01.0 +1.8**
DDI Dehra Dun 76.23 303 *e*P **P** **03 46 57.5 -2.1**
DDI IAmb IAmb 03 47 03.5
DDI comp=Z,180nm,1.2s
NDI New Delhi 76.49 301 *e*P **P** **03 47 01.5 +0.5**
CHGN Chignik 76.53 27 PFAKE 03 47 10.0 +10
CHGN LR LR
CHGN comp=Z,25μm,22.0s
GOA Goa 76.59 288 *e*P **P** **03 47 01.4 -0.4**
GOA IAmb IAmb 03 47 07.1
GOA comp=Z,215nm,1.3s
PAF Port-aux-Franc 77.00 221 PFAKE 03 47 20.0 +17
PAF LR LR
PAF comp=Z,22μm,20.0s
POO Poona 77.16 291 *e*P **P** **03 47 04.0 -0.9**
POO IAmb IAmb 03 47 09.9
POO comp=Z,12μm,4.5s
SMLA Simla 77.19 304 *e*P **P** **03 47 03.4 -1.4**
ZSN Zaisan 77.22 322 *i* P **P** **03 47 04.6 -0.1**
ZSN comp=Z,126nm,1.3s *i* S **S** **03 56 53.4 +2.3**
ZSN LR LR 04 21 43.6
ZSN comp=Z,1μm,18.3s
DHRM DHARAMSHALA 78.21 305 *e*P **P** **03 47 09.0 -1.8**
MK01 Makanchi Array 78.55 320 *e*P **P** **03 47 11.1 -1.1**
MK31 Makanchi Array 78.57 320 *e*P **P** **03 47 11.2 -1.0**
MK31 pmax pmax
MK31 comp=Z,194nm,1.4s
MK31 Makanchi Array 78.57 320 *e*P **P** **03 47 11.7 -0.6**
MKAR Makanchi Array 78.57 320 P **P** **03 47 11.6 -0.6**
comp=Z,41nm,0.8s,baz=97,slow=8.1,SNR=99
MKAR S **S** **03 57 07.0 +1.3**
comp=Z,4.7nm,1.0s,baz=116,slow=11,SNR=5.5
MKAR LR LR 04 20 18.9
comp=Z,14μm,22.0s,baz=94,slow=34
MKAR Makanchi Array 78.57 320 *e*P **P** **03 47 11.7 -0.6**
MKAR Makanchi Array 78.57 320 *e*P **P** **03 47 11.7 -0.6**
MKAR *e*PP PP 03 49 54.3 -16
MKAR S **S** **03 57 07.0 +1.3**
MAKZ Makanchi 78.77 320 *e*P **P** **03 47 13.1 -0.2**
MAKZ Makanchi 78.77 320 *e*P **P** **03 47 13.1 -0.2**
MAKZ LR LR
MAKZ comp=Z,14μm,20.0s
TIXI Tiksi 79.12 354 P **P** **03 47 13.3 -1.4**
comp=Z,48nm,0.9s,baz=153,slow=3.5,SNR=14
TIXI Tiksi 79.12 354⇑*e*P **P** **03 47 14.6 -0.1**
TIXI pmax pmax
TIXI comp=Z,72nm,1.2s MLR MLR
TIXI comp=Z,18μm,19.0s
TIXI Tiksi 79.12 354 *e*P **P** **03 47 15.0 +0.3**
TIXI comp=Z,74nm,1.1s LR LR
TIXI comp=Z,19μm,19.0s
SHLS Shalkode 79.12 316 *i* P **P** **03 47 12.6 -2.9**
comp=Z,312nm,1.2s
PDGK Podgornoye 79.16 316 P **P** **03 47 14.7 -1.0**
PDGK pmax pmax
PDGK comp=Z,120nm,1.2s
OHAK Old Harbor 79.40 28 *e*P **P** **03 47 17.4 +0.9**
comp=Z,24nm,1.1s
OHAK *e*PP PP 03 50 09.0 -8.1
OHAK LR LR
OHAK comp=Z,26μm,22.0s
UZB Uzynbulak 79.42 316 *i* P **P** **03 47 15.4 -1.8**
comp=Z,224nm,1.1s
UZB *i* S **S** **03 57 13.7 -1.6**
UZB LRM MLR 04 24 21.2
UZB comp=Z,2μm,19.6s
SATY Saty 79.82 316 *i* P **P** **03 47 17.9 -1.4**
comp=Z,549nm,1.1s
ZHN Zhinishke 79.84 316 *i* P **P** **03 47 17.8 -1.5**
comp=Z,211nm,1.2s
KDAK Kodiak Island 80.01 28 *i* P **P** **03 47 22.3 +2.5**
KDAK Kodiak Island 80.01 28 *e*P **P** **03 47 20.6 +0.8**
KDAK comp=Z,26nm,0.8s LR LR
KDAK comp=Z,33μm,22.0s
ZAA0 Zalesovo Array 80.03 328 *e*P **P** **03 47 18.3 -1.7**
ZALV Zalesovo Beam 80.03 328 P **P** **03 47 18.2 -1.8**
comp=Z,20nm,0.5s,baz=111,slow=5.3,SNR=32
ZALV S **S** **03 57 21.9 +1.0**
comp=Z,0.6nm,0.3s,baz=113,slow=3.3,SNR=2.7
ZALV LR LR 04 22 59.6
comp=Z,24μm,20.8s,baz=117,slow=36
SVW2 Sparrevohn 80.43 24 *e*P **P** **03 47 21.7 -0.3**
SVW2 LR LR
SVW2 comp=Z,26μm,20.0s
TDK Taldyqorghan 80.46 318 *i* P **P** **03 47 21.2 -1.3**
comp=Z,438nm,1.2s
TDK *i* S **S** **03 57 25.2 -0.6**
TDK LRM MLR 04 25 13.1
TDK comp=Z,2μm,20.7s
KSH Kashi 80.48 312 P **P** **03 47 23.8 +0.9**
KSH pP sP 03 47 39.8 -0.9
KSH sP pP 03 47 44.3 +8.5
KSH PP **PP** **03 50 32.4 +5.7**
KSH S **S** **03 57 24.0 -2.6**
KSH SKS **SKSac** **03 57 30.5 -7.4**
KSH sS sS 03 57 51.3 +3.2
KSH SS **SS** **04 02 40.1 +0.6**
KSH pmax pmax
KSH comp=Z,130nm,1.1s pmax pmax
KSH comp=Z,4μm,7.6s LR LR
KSH comp=Z,9μm,18.3s LR LR
KSH comp=Z,18μm,21.3s LR LR
KSH comp=Z,21μm,21.6s
MDOK Medeo 80.80 316 *i* P **P** **03 47 23.3 -1.3**
comp=Z,721nm,1.2s
MDOK *i* S **S** **03 57 29.1 -0.7**
MDOK LRM MLR 04 24 33.7
MDOK comp=Z,3μm,23.9s
AAA Alma-Ata 80.91 316 *i* P **P** **03 47 23.9 -1.1**
AAA *i* S **S** **03 57 32.4 +1.7**

AAA pmax pmax
comp=Z,6μm,6.3s
AAA smax smax
comp=N,2μm,6.5s
AAA Alma-Ata 80.91 316 *i* P **P 03 47 23.6 -1.5**
SEM Semipalatinsk 81.18 323 *i* P **P 03 47 25.0 -1.5**
comp=N,456nm,1.3s
SEM *i* S **S 03 57 32.7 -0.9**
SEM LRM MLR 04 25 10.8
comp=N,6μm,21.0s
TT01 Tatalina 81.25 23 *e*P **P 03 47 25.5 -0.8**
NVS Novosibirsk 81.25 328 *e*P **P 03 47 23.3 -3.2**
NVS *e*S **S 03 57 27.4 -6.2**
NVS pmax pmax
comp=Z,224nm,2.1s
NVS pmax pmax
comp=N,22nm,0.8s
NVS smax smax
comp=E,248nm,1.3s
RSO Redoubt South 81.28 26 *e*P **P 03 47 26.9 +0.1**
HOM Homer 81.36 27 PFAKE 03 47 40.0 +13
HOM LR LR
comp=Z,11μm,21.0s
CNPM China Poot 81.48 27 *e*P **P 03 47 27.1 -0.6**
CNPM LR LR
comp=Z,20μm,21.0s
KUU Kurty 81.51 316 *i* P **P 03 47 26.8 -1.4**
comp=Z,253nm,1.0s
KUU *i* S **S 03 57 36.0 -0.9**
KUU LRM MLR 04 24 55.6
comp=Z,3μm,22.6s
BMNS Besmoynak 81.74 315 *i* P **P 03 47 27.7 -1.9**
comp=Z,764nm,1.0s
BRLK Bradley Lake 81.75 27 *e*P **P 03 47 28.1 -1.0**
BRLK LR LR
comp=Z,22μm,22.0s
SPU Mount Spurr 81.94 25 *e*P **P 03 47 30.1 0.0**
MAW Mawson 82.03 203 P **P 03 47 30.2 -0.2**
comp=Z,9.6nm,0.7s,baz=106,slow=6.9,SNR=28
KURK Kurchatov 82.26 323 *e*P **P 03 47 30.9 -1.0**
KURK Kurchatov 82.26 323 *e*P **P 03 47 30.9 -1.0**
comp=Z,426nm,0.8s
KURK S **S 03 57 44.1 -0.1**
KURK P'P'
KURK LR LR 04 14 02.0
comp=Z,17μm,20.0s
KURK Kurchatov 82.26 323 P **P 03 47 31.4 -0.5**
SNR=51
KURK P **P 03 47 31.4 -0.5**
SNR=51
KURK Kurchatov 82.26 323 P **P 03 47 31.4 -0.5**
SNR=51
KURBB Kurchatov Arra 82.28 323 P **P 03 47 31.0 -1.0**
comp=Z,29nm,0.8s,baz=112,slow=4.2,SNR=50
KURBB S **S 03 57 44.1 -0.4**
comp=Z,3.1nm,1.1s,baz=107,slow=7.9,SNR=5.1
KURBB PKPPKP **P'P'df 04 14 02.0 -1.8**
comp=Z,0.6nm,0.8s,baz=275,slow=2.9,SNR=4.1
FRU Bishkek 82.41 315 *e*P **P 03 47 32.0 -0.9**
FRU *e*S **S 03 57 46.0 -0.2**
FRU pmax pmax
comp=Z,270nm,2.0s
FRU smax smax
comp=E,160nm,2.0s
FRU MLR MLR
comp=E,16μm,22.0s
AAK Ala-Archa 82.44 314 P **P 03 47 33.1 -0.2**
comp=E,47nm,0.8s,baz=115,slow=5.2,SNR=50
AAK S **S 03 57 47.6 +0.9**
comp=E,7.7nm,1.2s,baz=281,slow=20,SNR=10
AAK Ala-Archa 82.44 314 *c i*P **P 03 47 32.9 -0.4**
AAK pmax pmax
comp=Z,139nm,1.2s
AAK MLR MLR
comp=Z,42μm,22.0s
AAK Ala-Archa 82.44 314 *e*P **P 03 47 33.0 -0.2**
comp=Z,84nm,1.0s
AAK S **S 03 57 47.6 +0.9**
AAK LR LR
comp=Z,19μm,22.0s
AAK Ala-Archa 82.44 314 P **P 03 47 33.4 +0.2**
SNR=50
AAK P **P 03 47 33.4 +0.2**
SNR=50
AAK Ala-Archa 82.44 314 P **P 03 47 33.4 +0.2**
SNR=50
SEW Seward 82.55 27 *e*P **P 03 47 32.5 -0.7**
comp=Z,37nm,0.8s
SEW LR LR
comp=Z,37μm,22.0s
SUA Susitna One 82.63 25 *e*P **P 03 47 33.0 -0.8**
SUA LR LR
comp=Z,32μm,22.0s
PPLA Purkeypile 82.74 24 *e*P **P 03 47 34.1 -0.2**
comp=Z,32nm,1.1s
PPLA LR LR
comp=Z,25μm,20.0s
RC01 Rabbit Creek A 82.88 26 *e*P **P 03 47 35.2 +0.3**
comp=Z,78nm,1.3s
RC01 *e*PP **PP 03 50 47.1 +1.3**
RC01 LR LR
comp=Z,28μm,22.0s
CAST Castle Rocks 83.04 23 *e*P **P 03 47 34.5 -1.2**
CAST *e*PP **PP 03 50 46.1 -1.0**
CAST LR LR
comp=Z,20μm,22.0s
QSPA South Pole Qui 83.35 180 *e*P **P 03 47 37.0 -0.5**
comp=Z,40nm,0.4s
QSPA LR LR
comp=Z,23μm,20.0s
PMR Palmer 83.37 25 *e*P **P 03 47 36.1 -1.3**
PMR Palmer 83.37 25 *e*P **P 03 47 35.7 -1.7**
comp=Z,36nm,1.0s
PMR LR LR
comp=Z,33μm,22.0s
KTH Kantishna Hill 83.56 23 *e*P **P 03 47 36.8 -1.7**
comp=Z,74nm,1.1s
KTH LR LR
comp=Z,27μm,22.0s
MID Middleton Isla 83.67 28 PFAKE 03 47 50.0 +11
MID LR LR
comp=Z,11μm,22.0s
TRF Thorofare Moun 83.76 23 *e*P **P 03 47 37.9 -1.8**
comp=Z,25nm,0.9s
TRF LR LR
comp=Z,19μm,20.0s
SML Sawmill 83.81 25 *e*P **P 03 47 38.9 -0.8**
SML Sawmill 83.81 25 *e*P **P 03 47 38.9 -0.8**
comp=Z,20nm,1.0s
SML LR LR
comp=Z,34μm,22.0s
MNAS Manas 83.81 314 P **P 03 47 39.9 -0.5**
MNAS pmax pmax
comp=Z,315nm,1.1s
GLI Glacier Island 83.94 26 *e*P **P 03 47 39.6 -0.8**
GLI LR LR
comp=Z,26μm,22.0s
FID Port Fidalgo 84.16 27 *e*P **P 03 47 40.5 -1.0**
FID LR LR
comp=Z,20μm,21.0s
SCM Sheep Creek Mo 84.25 26 *e*P **P 03 47 41.4 -0.6**
SCM Sheep Creek Mo 84.25 26 *e*P **P 03 47 41.4 -0.6**
SCM LR LR
comp=Z,31μm,21.0s
RND Reindeer 84.31 24 *e*P **P 03 47 40.4 -1.9**
RND MLR MLR
comp=Z,35μm,22.0s
RND Reindeer 84.31 24 *e*P **P 03 47 40.4 -1.9**
RND LR LR
comp=Z,35μm,22.0s
EYAK Cordova Ski Ar 84.40 27 *e*P **P 03 47 42.2 -0.5**
EYAK *e*PP **PP 03 50 54.8 -3.4**
EYAK LR LR
comp=Z,19μm,19.0s
MCK McKinley 84.43 24 *e*P **P 03 47 41.2 -1.6**
MCK McKinley 84.43 24 *e*P **P 03 47 41.2 -1.6**
comp=Z,134nm,1.0s
MCK LR LR
comp=Z,24μm,22.0s
DIV Divide 84.63 27 *e*P **P 03 47 42.9 -1.0**
comp=Z,59nm,1.1s
DIV *e*PP **PP 03 51 01.6 +1.4**
DIV LR LR
comp=Z,20μm,21.0s
KBL Kabul 84.64 306 *e*P **P 03 47 43.5 -1.3**
KBL Kabul 84.64 306 *e*P **P 03 47 43.5 -1.3**

KBL LR LR
comp=Z,9μm,22.0s
KLU Klutina 84.71 26 *e*P **P 03 47 44.0 -0.4**
KLU LR LR
comp=Z,32μm,22.0s
DHY Denali Highway 84.77 24 *e*P **P 03 47 43.4 -1.3**
DHY LR LR
comp=Z,36μm,22.0s
RAGM Ragged Mountai 84.83 27 *e*P **P 03 47 44.9 0.0**
RAGM LR LR
comp=Z,24μm,20.0s
BMRM Bremner River 85.09 27 *e*P **P 03 47 45.6 -0.6**
comp=Z,54nm,1.1s
BMRM LR LR
comp=Z,16μm,22.0s
WRH Wood River Hil 85.09 23 *e*P **P 03 47 44.4 -1.7**
WRH LR LR
comp=Z,10μm,21.0s
CCB Clear Creek Bu 85.28 23 *e*P **P 03 47 44.7 -2.3**
COLA College 85.36 23 *e*P **P 03 47 45.3 -2.1**
COLA College 85.36 23 *e*P **P 03 47 45.3 -2.1**
comp=Z,51nm,1.0s
COLA LR LR
comp=Z,14μm,21.0s
KK31 Karatay Array 85.39 314 *i* P **P 03 47 47.2 -0.9**
KK31 pmax pmax
comp=Z,217nm,1.2s
KKAR Karatay Array 85.39 314 *e*P **P 03 47 47.3 -0.8**
KKAR Karatay Array 85.39 314 *e*P **P 03 47 47.3 -0.8**
comp=Z,373nm,1.3s
KKAR *e*PcP **PcP 03 47 49.9 -1.3**
KKAR LR LR
comp=Z,7μm,21.0s
HARP HAARP 85.42 25 *e*P **P 03 47 47.7 -0.1**
HARP LR LR
comp=Z,43μm,22.0s
PAX Paxson 85.51 25 *e*P **P 03 47 47.9 -0.5**
PAX Paxson 85.51 25 *e*P **P 03 47 47.9 -0.5**
comp=Z,14nm,1.0s
PAX LR LR
comp=Z,19μm,21.0s
HDA Harding Lake 85.51 23 *e*P **P 03 47 49.6 +1.4**
HDA LR LR
comp=Z,16μm,20.0s
IUG Iuzhnay 85.51 313 *i* P **P 03 47 47.2 -1.6**
comp=Z,604nm,1.0s
IUG *i* S **S 03 58 08.8 -8.7**
IUG LR LR 04 27 27.1
comp=Z,4μm,21.1s
COLD Coldfoot 85.60 20 *e*P **P 03 47 48.0 -0.5**
comp=Z,26nm,0.8s
COLD LR LR
comp=Z,34μm,22.0s
CRQM Cirque 85.67 27 *e*P **P 03 47 49.4 +0.1**
CRQM LR LR
comp=Z,23μm,21.0s
IL1 Eielson Array 85.69 23 *e*P **P 03 47 46.9 -2.2**
ILAR Eielson Array 85.69 23 P **P 03 47 46.4 -2.7**
comp=Z,54nm,1.0s,baz=254,slow=5.0,SNR=103
ILAR S **S 03 58 11.0 -7.1**
comp=Z,0.5nm,0.9s,baz=234,slow=5.5,SNR=2.6
ILAR PKKP **PKKPdf 04 05 47.5 +0.4**
comp=Z,0.5nm,0.8s,baz=242,slow=1.2,SNR=3.4
ILAR PKPPKP **P'P'df 04 13 58.1 +1.5**
comp=Z,0.8nm,1.0s,baz=89,slow=0.9,SNR=4.5
ILAR LR LR 04 21 11.4
comp=Z,11μm,21.9s,baz=252,slow=32
ILB Eielson Array 85.69 23 *e*P **P 03 47 46.5 -2.7**
ILB *e*PcP **PcP 03 47 46.9 -5.0**
BRLS Borolday 85.85 314 *i* P **P 03 47 49.6 -0.9**
comp=Z,41nm,1.3s
BRLS *i* S **S 03 58 11.7 -8.9**
BRLS LRM MLR 04 28 04.1
comp=Z,344nm,21.1s
CHM Chimkent 85.86 313 *i* P **P 03 47 49.7 -0.8**
comp=Z,2μm,1.2s
CHM LR MLR 04 27 05.9
comp=Z,4μm,22.6s
NRIK Noril'sk 86.15 342 P **P 03 47 50.4 -0.9**
comp=Z,59nm,1.0s,baz=119,slow=5.5,SNR=29
NRIK LR LR 04 26 38.9
comp=Z,6μm,20.0s,baz=126,slow=36
DOT Dot Lake 86.36 24 *e*P **P 03 47 51.4 -1.1**
comp=Z,158nm,0.9s
DOT LR LR
comp=Z,75μm,22.0s
TOLK Toolik Lake Re 86.48 19 P **P 03 47 52.3 -0.7**
baz=242
PCA Pinnacle 86.78 28 *e*P **P 03 47 54.4 -0.2**
PCA LR LR
comp=Z,12μm,21.0s
YKU2 Yakutat 86.87 29 PFAKE 03 48 10.0 +15
YKU2 LR LR
comp=Z,9μm,22.0s
FYU Fort Yukon 87.06 22 *e*P **P 03 47 55.5 -0.3**
FYU LR LR
comp=Z,33μm,22.0s
DHAK Deception Hill 87.45 30 *e*P **P 03 47 58.1 +0.2**
DHAK LR LR
comp=Z,9μm,19.0s
BVA0 Borovoye Array 87.82 324 P **P 03 47 57.7 -2.0**
BVA0 pmax pmax
comp=Z,132nm,1.3s
BVAR Borovoye Array 87.82 324 P **P 03 47 58.2 -1.5**
comp=Z,106nm,1.0s,baz=104,slow=6.3,SNR=72
BVAR S **SKSac 03 58 22.4 -2.1**
comp=Z,12nm,1.2s,baz=162,slow=7.0,SNR=12
BVAR LR LR 04 28 51.7
comp=Z,14μm,19.4s,baz=97,slow=37
BRVK Borovoye 87.89 324 *e*P **P 03 47 58.5 -1.5**
BRVK Borovoye 87.89 324 *e*P **P 03 47 58.5 -1.5**
comp=Z,138nm,1.0s
BRVK *e*PP PP 03 51 18.7 -7.9
BRVK LR LR
comp=Z,17μm,20.0s
EGAK Eagle 87.96 24 *e*P **P 03 47 59.2 -0.9**
EGAK LR LR
comp=Z,31μm,22.0s
MRIV Mauritius Mete 88.14 250 *e*P **P 03 48 03.5 +1.5**
HYT Haines Junctio 88.30 28 *e*P **P 03 48 02.3 +0.2**
HYT LR LR
comp=Z,11μm,22.0s
DAWY Dawson 88.45 25 *e*P **P 03 48 01.9 -0.6**
comp=Z,64nm,1.1s
DAWY LR LR
comp=Z,44μm,22.0s
SKAG Skagway 88.98 30 *e*P **P 03 48 04.7 -0.3**
comp=Z,34nm,1.1s
SKAG LR LR
comp=Z,10μm,21.0s
BESE Bessie Mountai 89.00 31 *e*P **P 03 48 05.6 +0.3**
BESE LR LR
comp=Z,14μm,21.0s
CRAG Craig 89.18 34 PFAKE 03 48 20.0 +14
CRAG LR LR
comp=Z,30μm,22.0s
CRZF Crozet Islands 89.42 223 PFAKE 03 48 20.0 +13
CRZF LR LR
comp=Z,22μm,22.0s
WHY Whitehorse 89.50 29 *e*P **P 03 48 07.6 0.0**
WHY LR LR
comp=Z,10μm,20.0s
RER Riviere de l'E 89.67 249 PFAKE 03 48 20.0 +11
RER LR LR
comp=Z,21μm,22.0s
WRAK Wrangell Islan 89.82 33 PFAKE 03 48 20.0 +11
WRAK LR LR
comp=Z,29μm,22.0s
SYO Syowa Base 90.33 200 ‖ *i* P **P 03 48 09.0 -2.2**
SYO Syowa Base 90.33 200 ‖ *i* PcP **PcP 03 48 14.0 +1.6**
INK Inuvik 91.90 21 P **P 03 48 16.7 -1.7**
comp=Z,31nm,1.1s,baz=244,slow=7.8,SNR=19
MSEY Mahe Island 91.90 265 PFAKE 03 48 30.0 +10
MSEY LR LR
comp=Z,10μm,21.0s
WSAR Wadi Sarin 91.94 293 P **P 03 48 18.6 -1.1**
comp=Z,42nm,0.9s,baz=120,slow=6.7,SNR=27
BIDO Bidbid 92.43 293 P **P 03 48 21.4 -0.5**
SNR=17
BIDO P **P 03 48 21.4 -0.5**
SNR=17
BIDO Bidbid 92.43 293 PcP **P 03 48 21.4 -0.5**
SNR=17
KEBM Edson Butte 92.80 47 PFAKE 03 48 30.0 +6.7
KEBM LR LR
comp=Z,15μm,20.0s

JCC Jacoby Creek, 92.80 49 PFAKE 03 48 30.0 +6.8
JCC LR LR
comp=Z,22μm,22.0s
KBO Bosley Butte 92.81 48 PFAKE 03 48 40.0 +17
KBO LR LR
comp=Z,13μm,21.0s
KRMB Red Mountain 92.97 49 PFAKE 03 48 40.0 +16
KRMB LR LR
comp=Z,23μm,21.0s
KMRM Mail Ridge 92.98 50 PFAKE 03 48 40.0 +16
KMRM LR LR
comp=Z,29μm,20.0s
KCPM Cahto Peak 93.02 51 PFAKE 03 48 40.0 +16
KCPM LR LR
comp=Z,33μm,20.0s
KHMM Horse Mountain 93.03 49 *e*P **P 03 48 26.8 +2.2**
KHMM LR LR
comp=Z,26μm,21.0s
L02D Cave Junction, 93.26 48 P **P 03 48 25.1 -0.3**
baz=264
HOPS Hopland Field 93.34 51 PFAKE 03 48 40.0 +14
HOPS LR LR
comp=Z,24μm,22.0s
MCCM Marconi Confer 93.41 52 PFAKE 03 48 40.0 +14
MCCM LR LR
comp=Z,26μm,22.0s
GDXM Geysers 93.54 52 PFAKE 03 48 40.0 +13
GDXM LR LR
comp=Z,32μm,21.0s
I03D Drain, OR 93.60 47 P **P 03 48 26.9 +0.1**
baz=264
NLWA Neilton Lookou 93.61 43 PFAKE 03 48 40.0 +13
NLWA LR LR
comp=Z,14μm,21.0s
ABKAR Akbulak array 93.66 319 *e*P **P 03 48 24.9 -2.1**
comp=Z,60nm,0.9s
ABKAR LR LR
comp=Z,4μm,22.0s
F03A Seaside 93.67 44 PFAKE 03 48 40.0 +13
F03A LR LR
comp=Z,23μm,22.0s
COR Corvallis 93.72 46 PFAKE 03 48 40.0 +13
COR LR LR
comp=Z,24μm,21.0s
E03A Lebam 93.73 44 PFAKE 03 48 40.0 +13
E03A LR LR
comp=Z,21μm,20.0s
M02C Callahan 93.74 49 P **P 03 48 26.8 -0.9**
baz=265
HUMO Hull Mountain 93.78 48 *e*P **P 03 48 29.0 +1.2**
comp=Z,55nm,1.2s
HUMO LR LR
comp=Z,23μm,22.0s
N02D Trinity Center 93.81 49 P **P 03 48 27.8 -0.3**
baz=265
GEYT Alibeck 93.88 308 P **P 03 48 27.2 -1.2**
comp=Z,50nm,1.0s,baz=114,slow=1.8,SNR=43
GEYT LR LR 04 34 04.5
comp=Z,18μm,21.0s,baz=50,slow=38
YBH Yreka Blue Hor 93.88 49 *e*P **P 03 48 29.2 +0.8**
YBH Yreka Blue Hor 93.88 49 *e*P **P 03 48 29.2 +0.8**
YBH LR LR
comp=Z,29μm,22.0s
WDC Whiskeytown Da 93.90 50 *e*P **P 03 48 30.1 +1.7**
WDC MLR MLR
comp=Z,28μm,22.0s
WDC Whiskeytown Da 93.90 50 *e*P **P 03 48 30.1 +1.7**
WDC LR LR
comp=Z,28μm,22.0s
BBOR Butler Butte 94.01 47 *e*P **P 03 48 28.7 -0.3**
SVE Sverdlovsk 94.01 327 *e*P **P 03 48 26.8 -1.7**
SVE *e* 03 52 09.7
SVE *e*S **SKSac 03 58 58.2 -1.6**
SVE pmax pmax
comp=Z,73nm,1.5s
SVE MLR MLR
comp=Z,22μm,23.0s
SVE MLR MLR
comp=N,6μm,18.0s
SVE MLR MLR
comp=E,18μm,21.0s
F04D Rainier, OR 94.07 44 P **P 03 48 28.1 -0.9**
baz=265
BANOM Banah 94.32 295 P **P 03 48 30.3 -0.4**
SNR=30
BANOM Banah 94.32 295 PcP **P 03 48 30.3 -0.4**
SNR=30
HATD Hatta, Dubai 94.37 294 *i* P **P 03 48 30.6 -0.3**
SNR=8.2
HATD Hatta, Dubai 94.37 294 P **P 03 48 29.8 -1.1**
SNR=7.6
HATD P **P 03 48 29.8 -1.1**
SNR=7.6
HATD Hatta, Dubai 94.37 294 P **P 03 48 29.8 -1.1**
SNR=7.6
SAO San Andreas Ge 94.41 54 PFAKE 03 48 40.0 +9.2
SAO LR LR
comp=Z,20μm,21.0s
O03D Paynes Creek 94.44 50 P **P 03 48 31.0 +0.1**
baz=265
J04D Umpqua Nationa 94.46 47 P **P 03 48 31.7 +0.6**
baz=265
F04A Amboy 94.47 44 PFAKE 03 48 40.0 +9.2
F04A LR LR
comp=Z,20μm,22.0s
A04D Lummi Island 94.51 42 P **P 03 48 31.2 +0.3**
baz=265
M04C Macdoel 94.53 49 P **P 03 48 29.9 -1.5**
baz=265
ORV Oroville 94.61 51 *e*P **P 03 48 31.9 +0.3**
ORV MLR MLR
comp=Z,20μm,22.0s
ORV Oroville 94.61 51 *e*P **P 03 48 31.9 +0.3**
ORV LR LR
comp=Z,20μm,22.0s
K04D Chiloquin, OR 94.67 48 P **P 03 48 30.0 -2.0**
baz=265
NAZ Nazwa, Dubai 94.81 294 *i* P **P 03 48 32.4 -0.5**
SNR=12
NAZ Nazwa, Dubai 94.81 294 P **P 03 48 32.0 -0.9**
SNR=7.3
NAZ P **P 03 48 32.0 -0.9**
SNR=7.3
NAZ Nazwa, Dubai 94.81 294 PcP **P 03 48 32.0 -0.9**
SNR=7.3
FAQ Al Faqa, Dubai 94.85 294 *i* P **P 03 48 32.3 -0.8**
SNR=8.1
FAQ Al Faqa, Dubai 94.85 294 P **P 03 48 31.8 -1.3**
SNR=7.2
FAQ Al Faqa, Dubai 94.85 294 P **P 03 48 31.8 -1.3**
SNR=7.2
B05A Bryant 94.87 42 P **P 03 48 33.0 +0.4**
baz=266
PMPB Monarch Peak 94.89 54 PFAKE 03 48 40.0 +6.9
PMPB LR LR
comp=Z,21μm,20.0s
LON Longmire 94.95 44 PFAKE 03 48 40.0 +6.9
LON LR LR
comp=Z,15μm,21.0s
AFDM Forest Hills D 94.97 51 *e*P **P 03 48 34.2 +0.9**
AKTO Aktyubinsk 95.00 320 P **P 03 48 30.7 -2.5**
comp=Z,18nm,1.1s,baz=86,slow=5.6,SNR=21
AKTO LR LR 04 33 46.9
comp=Z,8μm,18.9s,baz=81,slow=37
J05D Fort Rock, OR 95.10 47 P **P 03 48 34.9 +0.9**
baz=266
I05D Terrebonne, OR 95.10 46 P **P 03 48 32.9 -1.0**
baz=266
ARU Arti 95.12 326 P **P 03 48 31.4 -2.1**
comp=Z,18nm,0.8s,baz=100,slow=2.0,SNR=26
ARU LR LR 04 32 34.5
comp=Z,7μm,21.6s,baz=84,slow=36
ARU Arti 95.12 326 *c i*P **P 03 48 30.8 -2.8**
ARU 03 52 19.5
ARU S **SKSac 03 59 03.3 -2.4**
ARU SP **SP 04 00 58.1 -3.7**
ARU PS **PS 04 01 07.2 -0.6**
ARU SS **SS 04 06 19.8 +8.0**
ARU pmax pmax
comp=Z,59nm,1.2s
ARU pmax pmax
comp=Z,749nm,10.6s
ARU MLR MLR
comp=Z,27μm,24.0s
ARU Arti 95.12 326 *e*P **P 03 48 32.7 -0.9**
comp=Z,78nm,1.5s

G05D	Wamic, OR	95.18	45	P		P	03 48 35.2 +1.1
	baz=266						
LLLB	Lilloоet	95.19	40	eP		P	03 48 36.2 +2.1
LLLB				ePP		PP	03 52 24.8 +0.4
LLLB				LR		LR	
	comp=Z,16μm,21.0s						
PAGB	Antelope Grade	95.30	55	eP		P	03 48 36.9 +2.0
PAGB				LR		LR	
	comp=Z,23μm,20.0s						
B06A	Marblemount	95.30	42	eP		P	03 48 34.6 0.0
CMB	Columbia Colle	95.36	52	eP		P	03 48 37.5 +2.3
CMB	Columbia Colle	95.36	52	eP		P	03 48 35.9 +0.7
	comp=Z,23nm,1.0s						
CMB				LR		LR	
	comp=Z,25μm,21.0s						
SMMC	Simmler	95.47	55	P		P	03 48 35.5 -0.2
	baz=266						
BEKR	Beckworth	95.51	51	eP		P	03 48 37.9 +1.9
BEKR				LR		LR	
	comp=Z,27μm,22.0s						
PKM	Mcpherson Peak	95.59	56	P		P	03 48 37.4 +0.9
	baz=266						
SBC	Santa Barbara	95.64	56	P		P	03 48 36.9 +0.5
	baz=266						
C06D	Leavenworth	95.65	43	P		P	03 48 36.3 0.0
	baz=266						
SCZ2	Santa Cruz Isl	95.67	57	P		P	03 48 35.9 -0.7
	baz=266						
MOD	Modoc Plateau	95.69	49	eP		P	03 48 37.4 +0.7
	comp=Z,7.9nm,1.2s						
MOD				LR		LR	
	comp=Z,29μm,21.0s						
SNCC	San Nicolas Is	95.71	57	P		P	03 48 36.6 -0.2
	baz=266						
SNCC	San Nicolas Is	95.71	57	PFAKE			03 48 50.0 +13
SNCC				LR		LR	
	comp=Z,23μm,22.0s						
LTY	Liberty	95.76	43	eP		P	03 48 39.0 +2.1
LTY				LR		LR	
	comp=Z,15μm,20.0s						
PNTR	Pine Nut	96.04	51	eP		P	03 48 42.8 +4.3
PNTR				LR		LR	
	comp=Z,26μm,22.0s						
WAKR	Walker	96.13	52	eP		P	03 48 41.9 +3.0
WAKR				LR		LR	
	comp=Z,23μm,21.0s						
RCTC	Rector, Farmer	96.15	54	P		P	03 48 38.2 -0.5
	baz=266						
BLG	Laguna Peak, P	96.15	56	P		P	03 48 38.2 -0.6
	baz=266						
SOKR	Solikamsk	96.24	329c	iP		P	03 48 35.2 -3.3
SOKR							03 52 32.3
SOKR				S		SKSac	03 59 07.8 -3.6
SOKR				pmax		pmax	
	comp=Z,49nm,1.0s						
SOKR				MLR		MLR	
	comp=Z,26μm,19.0s						
PAHR	Pah Rah Range	96.25	51	eP		P	03 48 42.0 +2.7
PAHR				LR		LR	
	comp=Z,25μm,22.0s						
VES	Vestal, Richgr	96.25	55	P		P	03 48 38.4 -0.8
	baz=266						
E07A	Sunnyside	96.28	44	eP		P	03 48 41.9 +2.7
YERR	Yerington	96.32	52	eP		P	03 48 41.5 +1.8
YERR				LR		LR	
	comp=Z,19μm,21.0s						
ARVC	Arvin	96.41	55	P		P	03 48 40.0 0.0
	baz=266						
OSI	Osito Audit: C	96.47	56	P		P	03 48 40.3 0.0
	baz=266						
OSI	Osito Audit: C	96.47	56	PFAKE			03 48 50.0 +10
OSI				LR		LR	
	comp=Z,19μm,22.0s						
HAWA	Hanford	96.50	44	eP		P	03 48 43.1 +3.0
HAWA				LR		LR	
	comp=Z,15μm,20.0s						
SCI2	San Clemente I	96.51	58	P		P	03 48 40.1 -0.3
	baz=266						
MLAC	Mammoth, Mammo	96.56	53	P		P	03 48 40.7 -0.2
	baz=267						
TVH2	Borealis Mine	96.66	52	eP		P	03 48 42.0 +0.6
TVH2				LR		LR	
	comp=Z,16μm,22.0s						
B08A	Colville Reser	96.72	42	eP		P	03 48 42.0 +0.9
ISA	Isabella, Lake	96.73	55	eP		P	03 48 44.8 +3.3
ISA				MLR		MLR	
	comp=Z,19μm,20.0s						
ISA	Isabella, Lake	96.73	55	eP		P	03 48 44.8 +3.3
ISA				LR		LR	
	comp=Z,19μm,20.0s						
DECC	Green Verdugo	96.77	56	P		P	03 48 41.9 +0.2
	baz=267						
FMP	Fort Macarthur	96.77	57	P		P	03 48 42.2 +0.6
	baz=267						
PASC	Pasadena Art C	96.89	56	eP		P	03 48 43.7 +1.5
	comp=Z,15nm,0.9s						
PASC				LR		LR	
	comp=Z,20μm,22.0s						
D08A	Wollman Farm,	96.95	43	eP		P	03 48 42.8 +0.7
WVOR	Wild Horse Val	96.95	48	eP		P	03 48 44.7 +2.3
WVOR				pmax		pmax	
	comp=Z,5.0nm,1.1s						
WVOR				MLR		MLR	
	comp=Z,32μm,22.0s						
WVOR	Wild Horse Val	96.95	48	eP		P	03 48 44.7 +2.3
	comp=Z,4.6nm,1.1s						
WVOR				LR		LR	
	comp=Z,32μm,22.0s						
MWC	Mount Wilson	96.99	56	eP		P	03 48 44.9 +2.0
MWC				MLR		MLR	
	comp=Z,21μm,22.0s						
MWC	Mount Wilson	96.99	56	eP		P	03 48 44.9 +2.0
MWC				LR		LR	
	comp=Z,21μm,22.0s						
TIN	Tinemaha, Big	97.01	54	P		Pdif	03 48 43.4 +0.6
	baz=267						
EDW2	Edwards Air Fo	97.08	56	P		P	03 48 42.7 -0.4
	baz=267						
CWC	Cottonwood Cre	97.09	54	P		P	03 48 43.0 -0.3
	baz=267						
BFSC	Mount Baldy Ra	97.32	56	P		Pdif	03 48 44.5 +0.1
	baz=267						
LRMC	Laurel Mtn Rad	97.37	55	P		P	03 48 44.2 -0.3
	baz=267						
NVL	N'lazarevskaya	97.42	193	eP		Pdif	03 48 46.2 +2.4
NVL				e			03 52 43.7
NVL				eS		SKSac	03 59 19.3 +1.9
NVL				eSP		SP	04 01 29.6 +3.7
NVL				MLR		MLR	
	comp=Z,39μm,21.0s						
DAC	Darwin (Calif)	97.48	54	eP		P	03 48 45.0 0.0
DAC				pmax		pmax	
	comp=Z,22nm,1.3s						
DAC				MLR		MLR	
	comp=Z,24μm,20.0s						
DAC	Darwin (Calif)	97.48	54	eP		P	03 48 45.0 0.0
	comp=Z,22nm,1.3s						
DAC				LR		LR	
	comp=Z,24μm,20.0s						
MPMC	Manual Prospec	97.55	55	P		Pdif	03 48 45.6 +0.2
	baz=267						
MURC	Murrieta	97.68	57	P		P	03 48 45.7 -0.1
	baz=267						
GRAC	Grapevine Rang	97.69	54	P		Pdif	03 48 46.0 +0.1
	baz=268						
109C	Camp Elliot, M	97.72	58	P		P	03 48 45.1 -0.8
	baz=267						
ABPO	Ambohimpanom	97.90	250	PFAKE			03 49 00.0 +13
ABPO				LR		LR	
	comp=Z,22μm,22.0s						
RRX	Edison Barstow	97.90	56	P		Pdif	03 48 47.3 +0.5
	baz=268						
BBRC	Big Bear Solar	97.94	56	P		P	03 48 47.1 -0.1
	baz=268						
BMN	Battle Mountai	97.94	50	eP		Pdif	03 48 50.0 +3.0
BMN				MLR		MLR	
	comp=Z,20μm,20.0s						
BMN	Battle Mountai	97.94	50	eP		Pdif	03 48 50.0 +3.0
BMN				LR		LR	
	comp=Z,20μm,20.0s						
BMO	Blue Mountains	98.00	46	eP		Pdif	03 48 48.5 +1.4
BMO				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BMO				MLR		MLR	
	comp=Z,16μm,21.0s						
BMO	Blue Mountains	98.00	46	eP		Pdif	03 48 48.5 +1.4
	comp=Z,3.2nm,0.9s						
BMO				LR		LR	
	comp=Z,16μm,21.0s						
OPO	Ambohidratompo	98.01	250	P		Pdif	03 48 49.0 +1.2
	comp=Z,12nm,1.1s,baz=88,slow=10,SNR=8.0						
CRY	Cary Ranch	98.06	57	eP		P	03 48 45.0 -2.6
BAR	Barrett	98.07	58	PFAKE			03 49 00.0 +12
BAR				LR		LR	
	comp=Z,22μm,22.0s						
FURC	Furnace Creek,	98.08	54	P		P	03 48 47.1 -0.3
	baz=268						
GSC	Goldstone, Bar	98.08	55	P		Pdif	03 48 48.2 +0.5
	baz=268						
GSC	Goldstone, Bar	98.08	55	eP		Pdif	03 48 49.7 +2.1
GSC				MLR		MLR	
	comp=Z,16μm,20.0s						
GSC	Goldstone, Bar	98.08	55	eP		Pdif	03 48 49.7 +2.1
GSC				LR		LR	
	comp=Z,16μm,20.0s						
NEW	Newport	98.19	42	Pdiff		P	03 48 47.5 -0.3
	baz=269						
NEW	Newport	98.19	42	eP		Pdif	03 48 48.7 +0.9
NEW				pmax		pmax	
	comp=Z,22nm,1.6s						
NEW				MLR		MLR	
	comp=Z,13μm,20.0s						
NEW	Newport	98.19	42	eP		Pdif	03 48 48.7 +0.9
	comp=Z,22nm,1.6s						
NEW				LR		LR	
	comp=Z,13μm,20.0s						
RPN	Rapa Nui	98.23	119	PFAKE			03 49 00.0 +12
RPN				LR		LR	
	comp=Z,8μm,22.0s						
MONP2	Monument Peak	98.29	58	Pdiff		Pdif	03 48 48.9 +0.1
	baz=268						
PFO	Pinyon Flats O	98.29	57	P		Pdif	03 48 48.8 +0.1
	comp=Z,7.8nm,1.0s,baz=321,slow=6.5,SNR=3.2						
PFO	Pinyon Flats O	98.29	57	Pdiff		Pdif	03 48 49.1 +0.5
	baz=268						
PFO	Pinyon Flats O	98.29	57	eP		Pdif	03 48 50.3 +1.6
PFO				pmax		pmax	
	comp=Z,5.0nm,1.0s						
PFO				MLR		MLR	
	comp=Z,25μm,22.0s						
PFO	Pinyon Flats O	98.29	57	eP		Pdif	03 48 50.2 +1.6
	comp=Z,5.0nm,1.0s						
PFO				ePP		PP	03 52 37.1 -12
PFO				LR		LR	
	comp=Z,25μm,22.0s						
HEC	Hector,Ludlow	98.44	56	Pdiff		P	03 48 48.9 -0.3
	baz=268						
SHOC	Shoshone, Teco	98.53	55	Pdiff		P	03 48 47.8 -1.8
	baz=268						
IKP	In-Ko-Pah, Jac	98.54	58	Pdiff		P	03 48 49.5 -0.2
	baz=268						
TPNV	Topopah Spring	98.59	54	Pdiff		P	03 48 49.5 -0.5
	baz=268						
TPNV	Topopah Spring	98.59	54	eP		Pdif	03 48 51.1 +1.1
TPNV				MLR		MLR	
	comp=Z,19μm,22.0s						
TPNV	Topopah Spring	98.59	54	eP		Pdif	03 48 51.1 +1.1
TPNV				LR		LR	
	comp=Z,19μm,22.0s						
BELC	Belle Mtn. Jos	98.69	57	Pdiff		P	03 48 49.0 -1.4
	baz=268						
TUQ	Turquoise Moun	98.80	55	Pdiff		P	03 48 49.3 -1.6
	baz=268						
SWSC	Sam W. Stewart	98.82	58	Pdiff		P	03 48 49.0 -1.8
	baz=268						
GMRC	Granite Mounta	99.00	56	Pdiff		P	03 48 50.6 -1.2
	baz=268						
MFID	Camas Ranch	99.04	47	eP		Pdif	03 48 54.5 +2.7
MFID				LR		LR	
	comp=Z,19μm,21.0s						
BC3	Big Chuckawall	99.13	57	Pdiff		Pdif	03 48 50.6 -1.8
	baz=268						
R11A	Troy Canyon, C	99.15	52	Pdiff		Pdif	03 48 52.5 0.0
	baz=269						
R11A	Troy Canyon, C	99.15	52	eP		Pdif	03 48 55.5 +3.0
R11A				LR		LR	
	comp=Z,19μm,22.0s						
YKW3	Yellowknife Ar	99.28	28	eP		Pdif	03 48 53.7 +1.5
YKA	Yellowknife Ar	99.29	28	P		Pdif	03 48 51.2 -1.0
	comp=Z,9.1nm,1.0s,baz=275,slow=4.7,SNR=18						
YKA				PKiKP		PKiKP	03 53 23.4 +1.5
	comp=Z,1.5nm,0.6s,baz=265,slow=1.4,SNR=5.8						
YKA				PKKP		PKKPdf	04 05 22.5 -0.1
	comp=Z,2.7nm,0.7s,baz=93,slow=3.0,SNR=6.8						
YKA				LR		LR	04 30 51.4
	comp=Z,1μm,20.4s,baz=0.0,slow=34						
YKB5	Yellowknife Ar	99.29	28	eP		Pdif	03 48 51.4 -0.9
YKB5				ePP		PP	03 52 54.9 -0.5
IRM	Iron Mountain	99.40	57	Pdiff		Pdif	03 48 53.7 +0.2
	baz=268						
SHPR	Sheep Range	99.45	54	eP		Pdif	03 48 55.9 +2.1
SHPR				LR		LR	
	comp=Z,20μm,21.0s						
LDFC	Landfair	99.46	56	eP		Pdif	03 48 55.6 +1.8
LDFC				LR		LR	
	comp=Z,16μm,20.0s						
SNAA	Sanae	99.53	189	P		Pdif	03 48 57.4 +4.0
SNAA	Sanae	99.53	189	PKKPbc		PKKPbc	04 05 15.1 -3.3
	comp=Z,2.9nm,0.8s,baz=252,slow=3.2,SNR=7.7						
SNAA	Sanae	99.53	189	eP		Pdif	03 48 51.8 -1.5
SNAA	Sanae	99.53	189	ePdif		Pdif	03 48 52.5 -0.8
SNAA				ePP		PP	03 52 55.9 -0.9
SNAA				PKKPbc		PKKPbc	04 05 15.1 -3.3
SNAA				LR		LR	
	comp=Z,68μm,20.0s						
GLA	Glamis	99.64	58	Pdiff		Pdif	03 48 53.2 -1.3
	baz=268						
GLA	Glamis	99.64	58	PFAKE			03 49 10.0 +15
GLA				LR		LR	
	comp=Z,21μm,21.0s						
NEE2	Needles Airpor	99.85	56	Pdiff		Pdif	03 48 54.6 -0.9
	baz=269						
Y12C	Blythe	99.91	57	Pdiff		Pdif	03 48 54.2 -1.5
	baz=269						
Y12C	Blythe	99.91	57	ePdif		Pdif	03 48 57.2 +1.5
Y12C				LR		LR	
	comp=Z,20μm,22.0s						
HLID	Hailey	100.07	47	Pdiff		Pdif	03 48 55.4 -1.1
	baz=270						
HLID	Hailey	100.07	47	ePdif		Pdif	03 48 57.7 +1.3
HLID				LR		LR	
	comp=Z,22μm,21.0s						
PDMCI	Parker Dam,Lak	100.24	56	Pdiff		Pdif	03 48 57.8 +0.6
	baz=269						
YBMT	Yellow Bay	100.28	43	ePdif		Pdif	03 48 56.3 -0.9
SWMT	Swartz Lake	100.30	43	ePdif		Pdif	03 49 01.2 +4.0
WALA	Waterton Lakes	100.31	41	ePdif		Pdif	03 48 59.0 +1.6
WALA				LR		LR	
	comp=Z,15μm,20.0s						
MSO	Missoula	100.36	44	Pdiff		Pdif	03 48 57.3 -0.2
	baz=271						
MSO	Missoula	100.36	44	ePdif		Pdif	03 49 01.0 +3.4
MSO				LR		LR	
	comp=Z,14μm,21.0s						
W13A	Hualapai Mount	100.46	56	ePdif		Pdif	03 49 00.6 +2.1
W13A				LR		LR	
	comp=Z,18μm,21.0s						
113A	Mohawk Valley,	100.52	58	PFAKE			03 49 10.0 +12
113A				LR		LR	
	comp=Z,23μm,22.0s						
CHMT	Chamberlain Mo	100.83	44	ePdif		Pdif	03 49 00.3 +0.5
VNA2	Neumayer--Watz	100.87	188	P		Pdif	03 49 01.0 +1.8
	baz=179,slow=2.9						
VNA3	Neumayer Olymp	100.87	187	P		Pdif	03 48 57.7 -1.6
CCUT	Cedar City	100.90	53	ePdif		Pdif	03 49 05.4 +5.1
LCMT	Little Creek M	100.99	54	ePdif		Pdif	03 49 02.8 +2.1
SZCU	Shurtz Canyon	101.12	53	ePdif		Pdif	03 49 00.5 -0.8
Y14A	Wickenburg	101.17	57	ePdif		Pdif	03 49 03.4 +1.9
Y14A				LR		LR	
	comp=Z,85μm,22.0s						
DUG	Dugway, Tooele	101.31	50	Pdiff		Pdif	03 49 01.9 -0.1
	baz=271						
DUG	Dugway, Tooele	101.31	50	eP		Pdif	03 49 00.0 -2.0
DUG				MLR		MLR	
	comp=Z,18μm,22.0s						
DUG	Dugway, Tooele	101.31	50	ePdif		Pdif	03 49 00.0 -2.0
DUG				LR		LR	
	comp=Z,18μm,22.0s						
HVU	Hansel Valley	101.31	49	eP		Pdif	03 49 00.7 -1.3
HVU	Hansel Valley	101.31	49	ePdif		Pdif	03 49 00.7 -1.3
214A	Organ Pipe Nat	101.32	59	Pdiff		Pdif	03 49 03.3 +1.2
	baz=269						
KNB	Kanab	101.33	54	eP		Pdif	03 49 04.0 +1.8
KNB	Kanab	101.33	54	ePdif		Pdif	03 49 04.0 +1.8
DLMT	Dillon	101.33	45	ePdif		Pdif	03 49 05.0 +3.0
DLMT				LR		LR	
	comp=Z,16μm,21.0s						
SPUT	South Promonto	101.56	49	ePdif		Pdif	03 49 04.4 +1.3
SRIG	Santa Rosalia	101.72	64	PFAKE			03 49 20.0 +16
SRIG				LR		LR	
	comp=Z,48μm,22.0s						
U15A	North Rim	101.76	54	PFAKE			03 49 20.0 +16
U15A				LR		LR	
	comp=Z,19μm,21.0s						
MSU	Marysvale	101.83	52	eP		Pdif	03 49 09.0 +4.6
MSU	Marysvale	101.83	52	ePdif		Pdif	03 49 09.0 +4.6
NLU	North Lily Min	101.88	51	ePdif		Pdif	03 49 06.4 +1.8
BOZ	Bozeman (W)	102.00	45	Pdiff		Pdif	03 49 05.0 0.0
	baz=273						
BOZ	Bozeman (W)	102.00	45	eP		Pdif	03 49 06.5 +1.5
BOZ				MLR		MLR	
	comp=Z,16μm,21.0s						
BOZ	Bozeman (W)	102.00	45	ePdif		Pdif	03 49 06.5 +1.5
BOZ				LR		LR	
	comp=Z,16μm,21.0s						
MAK	Makhachkala	102.11	312	eP		Pdif	03 48 59.9 -5.3
MAK				e			03 53 20.6
MAK				ePPP		PPP	03 55 24.3
MAK				ePS		PS	04 02 27.5 +3.7
MAK				eSP		SP	04 03 08.7 +51
MAK				eSSS		SSS	04 11 46.9
MAK				pmax		pmax	
	comp=Z,29nm,0.4s						
QLMT	Earthquake Lak	102.18	46	ePdif		Pdif	03 49 06.3 +0.4
MPU	Maple Canyon	102.22	51	ePdif		Pdif	03 49 09.1 +3.0
HWUT	Hardware Ranch	102.22	49	ePdif		Pdif	03 49 07.0 +0.9
HWUT				LR		LR	
	comp=Z,14μm,19.0s						
JLU	Jordanelle	102.34	50	ePdif		Pdif	03 49 09.4 +2.8
YHB	Horse Butte	102.35	46	ePdif		Pdif	03 49 11.1 +4.5
X16A	Lo Mia Camp, P	102.47	56	ePdif		Pdif	03 49 12.2 +4.9
X16A				LR		LR	
	comp=Z,20μm,22.0s						
WUAZ	Wupatki	102.52	55	Pdiff		Pdif	03 49 05.8 -1.7
	baz=271						
WUAZ	Wupatki	102.52	55	ePdif		Pdif	03 49 12.4 +4.9
WUAZ				LR		LR	
	comp=Z,17μm,21.0s						
YMR	Madison River	102.52	46	ePdif		Pdif	03 49 10.3 +3.0
FXWY	Fox Creek	102.53	47	ePdif		Pdif	03 49 11.5 +4.1
FXWY				LR		LR	
	comp=Z,26μm,22.0s						
IMW	Indian Meadow	102.58	47	PFAKE			03 49 20.0 +12
IMW				LR		LR	
	comp=Z,22μm,22.0s						
TPAW	Teton Pass	102.59	47	ePdif		Pdif	03 49 09.5 +1.7
TPAW				LR		LR	
	comp=Z,25μm,21.0s						
YFT	Old Faithful	102.63	46	ePdif		Pdif	03 49 07.6 -0.3
REDW	Red Top Meadow	102.67	47	ePdif		Pdif	03 49 08.9 +0.8
REDW				LR		LR	
	comp=Z,24μm,20.0s						
YNR	Norris Junctio	102.72	46	ePdif		Pdif	03 49 08.8 +0.5
MOOW	Moose Ponds	102.73	47	ePdif		Pdif	03 49 07.4 -0.9
MOOW				LR		LR	
	comp=Z,28μm,22.0s						
SNOW	Snow King Moun	102.74	47	ePdif		Pdif	03 49 07.5 -0.9
SNOW				LR		LR	
	comp=Z,28μm,21.0s						
H17A	Grant Village	102.81	46	Pdiff		Pdif	03 49 07.7 -1.0
	baz=273						
H17A	Grant Village	102.81	46	ePdif		Pdif	03 49 09.7 +0.9
H17A				LR		LR	
	comp=Z,25μm,21.0s						
LOHW	Long Hollow	102.84	47	ePdif		Pdif	03 49 09.3 +0.5
LOHW				LR		LR	
	comp=Z,28μm,21.0s						
HSIG		102.89	62	PFAKE			03 49 20.0 +11
HSIG				LR		LR	
	comp=Z,34μm,21.0s						
TUC	Tucson	103.04	58	Pdiff		Pdif	03 49 10.4 +0.7
	baz=270						
TUC	Tucson	103.04	58	eP		Pdif	03 49 13.0 +3.2
TUC				MLR		MLR	
	comp=Z,24μm,22.0s						
TUC	Tucson	103.04	58	ePdif		Pdif	03 49 13.0 +3.2
TUC				LR		LR	
	comp=Z,24μm,22.0s						
SRU	San Rafael Swe	103.10	52	eP		Pdif	03 49 11.4 +1.4
SRU	San Rafael Swe	103.10	52	ePdif		Pdif	03 49 11.4 +1.4
EGMT	Eagleton	103.13	42	Pdiff		Pdif	03 49 09.4 -0.4
	baz=275						
EGMT	Eagleton	103.13	42	PFAKE			03 49 20.0 +10
EGMT				LR		LR	
	comp=Z,10μm,21.0s						
BW06	Boulder Array	103.65	48	Pdiff		Pdif	03 49 10.9 -1.6
	baz=274						
BW06	Boulder Array	103.65	48	ePdif		Pdif	03 49 11.9 -0.5
BW06				LR		LR	
	comp=Z,27μm,22.0s						
PD31	Pinedale Array	103.65	48	ePdif		Pdif	03 49 11.9 -0.6
PDAR	Pinedale Array	103.65	48	Pdiff		Pdif	03 49 11.8 -0.6
	comp=Z,2.3nm,0.8s,baz=268,slow=4.3,SNR=11						
PDAR				PKiKP		PP	03 53 29.0 -0.3
	comp=Z,0.3nm,0.4s,baz=237,slow=14,SNR=7.3						
RLMT	Red Lodge	103.70	45	Pdiff		Pdif	03 49 11.7 -0.9
	baz=274						
RLMT	Red Lodge	103.70	45	PFAKE			03 49 20.0 +7.4
RLMT				LR		LR	
	comp=Z,12μm,20.0s						
X18A	Snowflake	103.70	56	PFAKE			03 49 20.0 +7.2
X18A				LR		LR	
	comp=Z,19μm,22.0s						
SLBS	Sierra La Lagu	103.71	67	PFAKE			03 49 20.0 +7.1
SLBS				LR		LR	
	comp=Z,19μm,21.0s						
DGRG	David-gareji	103.77	311	P		PP	03 53 31.8 +1.9
W18A	Petrified Fore	103.86	56	Pdiff		Pdif	03 49 11.4 -2.1
	baz=272						
W18A	Petrified Fore	103.86	56	PFAKE			03 49 30.0 +16
W18A				LR		LR	
	comp=Z,18μm,22.0s						
RAYN	Ar Rayn	103.99	293	ePdif		Pdif	03 49 14.1 0.0
RAYN				LR		LR	
	comp=Z,6μm,20.0s						
TBLG	Delisi	104.22	311	P		PP	03 53 35.6 +2.3
GNI	Garni	104.32	310	eP		Pdif	03 49 16.4 +1.0
GNI				MLR		MLR	
	comp=Z,6μm,21.0s						
GNI	Garni	104.32	310	ePdif		Pdif	03 49 16.4 +1.0
GNI				LR		LR	
	comp=Z,6μm,21.0s						
319A	Douglas	104.33	59	ePdif		Pdif	03 49 17.4 +1.8
319A				LR		LR	
	comp=Z,27μm,22.0s						
KBS	Kingsbay	104.51	352	PFAKE			03 49 30.0 +15
KBS				LR		LR	
	comp=Z,6μm,20.0s						
TMCR	Tamitsa	104.55	335	eP		Pdif	03 49 13.9 -1.7
TMCR				pmax		pmax	
	comp=Z,86nm,1.3s						
KLMR	Klimovskoe	104.69	331	eP		Pdif	03 49 12.7 -3.6
KLMR				e			03 53 32.9
KLMR				eSS		SS	04 08 26.2 +1.3
KLMR				pmax		pmax	
	comp=Z,79nm,1.2s						
KLMR				MLR		MLR	
	comp=Z,5μm,20.0s						
DAMY	Dhamar	104.70	283	ePdif		Pdif	03 49 20.1 +2.3
DAMY				LR		LR	
	comp=Z,4μm,20.0s						
LVZ	Lovozero	104.75	339	PFAKE			03 49 30.0 +13
LVZ				LR		LR	
	comp=Z,10μm,20.0s						
ZEI	Tsey	104.77	312	eP		Pdif	03 49 17.0 -0.4
ZEI				pmax		pmax	
	comp=Z,8.0nm,1.0s						
MVCO	Mesa Verde	104.78	53	Pdiff		Pdif	03 49 16.0 -1.6
	baz=273						
MVCO	Mesa Verde	104.78	53	PFAKE			03 49 30.0 +12
MVCO				LR		LR	
	comp=Z,16μm,22.0s						
O20A	White River Ci	104.81	50	Pdiff		Pdif	03 49 15.9 -1.7
	baz=274						
O20A	White River Ci	104.81	50	PFAKE			03 49 30.0 +12
O20A				LR		LR	
	comp=Z,15μm,21.0s						

PMSA	**Palmer Station**	**104.92**	**166**	PFAKE		03 49 30.0	+13
PMSA				LR	LR		
comp=Z,12μm,21.0s							
BGD	**Bogdanovka**	**105.11**	**311**	P	**PP**	**03 53 42.5**	**+2.3**
ONI	**Oni**	**105.11**	**312**	P	**PP**	**03 53 41.0**	**+1.1**
AKH	**Akhalkalaki**	**105.18**	**311**	P	**PP**	**03 53 43.8**	**+3.2**
AKH	**Akhalkalaki**	**105.18**	**311⇑**	*i*P	**PP**	**03 53 36.5**	**-4.1**
APA	**Apatity**	**105.31**	**339**	*i* P	**Pdif**	**03 49 17.0**	**-1.9**
APA				*i*		03 53 41.0	
APA				*i*		03 59 57.0	
APA				*i* PS	**PS**	**04 02 53.0**	**-3.4**
APA				*i* SS	SS	04 08 39.0	+5.9
RWWY	**Rawlins**	**105.47**	**49**	PFAKE		03 53 50.0	
RWWY				LR	LR		
comp=Z,16μm,21.0s							
KIV	**Kislovodsk**	**105.54**	**314***c*	*i*P	**Pdif**	**03 49 20.4**	**-0.2**
KIV				*i*		03 53 44.1	
KIV				*e*PPP	PPP	03 56 06.4	
KIV				*i*		03 59 59.3	
KIV				*i* PS	**PS**	**04 03 00.7**	**+0.7**
KIV				*e*SS	SS	04 08 51.6	+14
KIV				pmax	pmax		
comp=Z,20nm,1.3s							
KIV	**Kislovodsk**	**105.54**	**314**	PFAKE		03 53 50.0	
KIV				LR	LR		
comp=Z,15μm,21.0s							
LAO	**LASA Array**	**105.66**	**43**	Pdiff	**PKiKP**	**03 53 32.5**	**-1.5**
baz=277							
LAO	**LASA Array**	**105.66**	**43**	PFAKE		03 53 50.0	
LAO				LR	LR		
comp=Z,15μm,20.0s							
SMCO	**Snowmass**	**105.86**	**51**	*e*Pdif	**Pdif**	**03 49 26.0**	**+3.5**
SMCO				LR	LR		
comp=Z,18μm,21.0s							
K22A	**Casper**	**105.89**	**48**	Pdiff	**PKiKP**	**03 53 32.5**	**-2.2**
baz=276							
K22A	**Casper**	**105.89**	**48**	*e*Pdif	**Pdif**	**03 49 23.6**	**+1.2**
K22A				LR	LR		
comp=Z,13μm,22.0s							
LAZ	**Ladron**	**106.03**	**56**	*e*Pdif	**Pdif**	**03 49 24.5**	**+1.3**
S22A	**4UR Ranch, Cre**	**106.07**	**53**	*e*Pdif	**Pdif**	**03 49 26.6**	**+3.2**
S22A				LR	LR		
comp=Z,26μm,22.0s							
Y22D	**IRIS PASSCAL I**	**106.22**	**57**	PKiKP	**PKiKP**	**03 53 33.4**	**-2.2**
baz=273							
Y22D	**IRIS PASSCAL I**	**106.22**	**57**	*e*Pdif	**Pdif**	**03 49 25.8**	**+1.8**
Y22D				LR	LR		
comp=Z,19μm,22.0s							
ARTV	**Artvin**	**106.37**	**311**	*e*Pdif	**Pdif**	**03 49 25.9**	**+1.3**
ARTV				LR	LR		
comp=Z,6μm,22.0s							
BNM	**Barren Site**	**106.46**	**56**	*e*Pdif	**Pdif**	**03 49 28.7**	**+3.5**
N23A	**Red Feather La**	**106.49**	**49**	*e*Pdif	**Pdif**	**03 49 27.4**	**+2.2**
N23A				LR	LR		
comp=Z,13μm,19.0s							
ANMO	**Albuquerque**	**106.56**	**56**	Pdiff	**Pdif**	**03 49 24.5**	**-1.0**
baz=274							
ANMO				PKiKP	**PKiKP**	**03 53 35.2**	**-1.1**
baz=274							
ANMO	**Albuquerque**	**106.56**	**56**	PFAKE		03 53 50.0	
ANMO				LR	LR		
comp=Z,11μm,21.0s							
KEV	**Kevo**	**106.57**	**342**	*e*P	**Pdif**	**03 49 25.2**	**+0.8**
KEV				MLR	MLR		
comp=Z,16μm,22.0s							
KEV	**Kevo**	**106.57**	**342**	*e*Pdif	**Pdif**	**03 49 25.2**	**+0.8**
KEV				LR	LR		
comp=Z,16μm,22.0s							
DGMT	**Dagmar**	**106.77**	**41**	Pdiff	**Pdif**	**03 49 21.9**	**-4.0**
baz=279							
DGMT	**Dagmar**	**106.77**	**41**	PFAKE		03 53 50.0	
DGMT				LR	LR		
comp=Z,10μm,21.0s							
PHWY	**Pilot Hill**	**106.82**	**49**	PFAKE		03 53 50.0	
PHWY				LR	LR		
comp=Z,15μm,22.0s							
ISCO	**Idaho Springs**	**106.85**	**51**	Pdiff	**Pdif**	**03 49 27.3**	**+0.4**
baz=276							
ISCO				PKiKP	**PKiKP**	**03 53 34.3**	**-2.5**
baz=276							
ISCO	**Idaho Springs**	**106.85**	**51**	PFAKE		03 53 50.0	
ISCO				LR	LR		
comp=Z,11μm,19.0s							
FFC	**Flin Flon**	**106.94**	**35**	PFAKE		03 53 50.0	
FFC				LR	LR		
comp=Z,18μm,21.0s							
SDCO	**Great Sand Dun**	**107.12**	**53**	Pdiff	**Pdif**	**03 49 24.8**	**-3.3**
baz=275							
SDCO				PKiKP	**PKiKP**	**03 53 36.0**	**-1.3**
baz=275							
SDCO	**Great Sand Dun**	**107.12**	**53**	PFAKE		03 53 50.0	
SDCO				LR	LR		
comp=Z,21μm,22.0s							
ARA0	**ARCESS Array S**	**107.14**	**342**	*e*Pdif	**Pdif**	**03 49 25.9**	**-1.1**
ARCES	**ARCESS Array B**	**107.14**	**342**	Pdiff	**Pdif**	**03 49 25.9**	**-1.1**
comp=Z,11nm,0.8s,baz=74,slow=9.0,SNR=13							
ARCES				PKiKP	**PKiKP**	**03 53 36.5**	**+0.4**
comp=Z,3.6nm,0.7s,baz=103,slow=1.1,SNR=18							
ARCES				PKKPbc	**PKKPbc**	**04 04 55.6**	**-0.2**
comp=Z,2.2nm,0.8s,baz=289,slow=3.7,SNR=3.8							
ARE0	**ARCESS Array S**	**107.14**	**342**	*e*Pdif	**Pdif**	**03 49 26.8**	**-0.2**
ARE0				LR	LR		
comp=Z,20μm,22.0s							
Q24A	**Divide**	**107.29**	**51**	PKiKP	**PKiKP**	**03 53 36.5**	**-1.1**
baz=276							
Q24A	**Divide**	**107.29**	**51**	PFAKE		03 53 50.0	
Q24A				LR	LR		
comp=Z,20μm,21.0s							
RSSD	**Black Hills**	**107.52**	**46**	PKiKP	**PKiKP**	**03 53 35.9**	**-1.8**
baz=278							
RSSD	**Black Hills**	**107.52**	**46**	PFAKE		03 53 50.0	
RSSD				LR	LR		
comp=Z,23μm,21.0s							
OBN	**Obninsk**	**107.56**	**326⇓**	*i*P	**Pdif**	**03 49 29.8**	**+0.6**
OBN				pmax	pmax		
comp=Z,10.0nm,0.7s							
OBN	**Obninsk**	**107.56**	**326**	PFAKE		03 53 50.0	
OBN				LR	LR		
comp=Z,20μm,22.0s							
KOPT	**Kop Dagi**	**107.58**	**310**	PFAKE		03 53 50.0	
KOPT				LR	LR		
comp=Z,12μm,22.0s							
HPIG		**107.58**	**64**	PFAKE		03 53 50.0	
HPIG				LR	LR		
comp=Z,45μm,22.0s							
MARD	**Mardin**	**107.62**	**307**	PFAKE		03 53 50.0	
MARD				LR	LR		
comp=Z,7μm,21.0s							
MNTX	**Cornudas Mount**	**107.64**	**59**	PKiKP	**PKiKP**	**03 53 38.2**	**0.0**
baz=273							
MNTX	**Cornudas Mount**	**107.64**	**59**	*e*Pdif	**Pdif**	**03 49 32.1**	**+2.0**
MNTX				LR	LR		
comp=Z,22μm,22.0s							
T25A	**Trinidad**	**108.04**	**53**	Pdiff	**Pdif**	**03 49 34.0**	**+1.9**
baz=276							
T25A	**Trinidad**	**108.04**	**53**	PFAKE		03 53 50.0	
T25A				LR	LR		
comp=Z,11μm,20.0s							
ANN	**Anapa**	**109.16**	**315**	*i* P	**Pdif**	**03 49 37.7**	**+1.2**
ANN				*e*PS	**PS**	**04 03 27.2**	**-10**
ANN				pmax	pmax		
comp=N,68nm,1.5s							
ANN				pmax	pmax		
comp=E,60nm,1.5s							
ANN				pmax	pmax		
comp=Z,83nm,1.5s							
ANN				pmax	pmax		
comp=E,609nm,8.4s							
ANN				pmax	pmax		
comp=Z,1μm,8.5s							
ANN				pmax	pmax		
comp=N,390nm,8.4s							
ANN				MLR	MLR		
comp=N,17μm,23.0s							
ANN				MLR	MLR		
comp=Z,18μm,23.0s							
ANN				MLR	MLR		
comp=E,8μm,23.0s							
KSCO	**Kaye Shedlock'**	**109.24**	**51**	Pdiff	**Pdif**	**03 49 37.7**	**+0.5**
baz=277							
KSCO	**Kaye Shedlock'**	**109.24**	**51**	PFAKE		03 53 50.0	
KSCO				LR	LR		
comp=Z,22μm,21.0s							
TX31	**Lajitas Ar. Si**	**109.25**	**61**	*e*Pdif	**Pdif**	**03 49 42.4**	**+4.9**
TXAR	**Lajitas Array**	**109.25**	**61**	PKiKP	**PKiKP**	**03 53 41.9**	**+0.6**
comp=Z,6.0nm,1.0s,baz=302,slow=0.8,SNR=19							
TXAR				PKKPab	**PKKPab**	**04 04 55.3**	**-4.2**
comp=Z,1.4nm,0.8s,baz=108,slow=5.2,SNR=10							
OGNE	**Ogallala**	**109.43**	**49**	Pdiff	**Pdif**	**03 49 37.3**	**-0.7**
baz=278							
OGNE	**Ogallala**	**109.43**	**49**	PFAKE		03 53 50.0	
OGNE				LR	LR		
comp=Z,13μm,20.0s							
MSTX	**Muleshoe**	**109.67**	**56**	Pdiff	**Pdif**	**03 49 37.0**	**-2.2**
baz=275							
MSTX				PKiKP	**PKiKP**	**03 53 40.8**	**-1.2**
baz=275							
MSTX	**Muleshoe**	**109.67**	**56**	PFAKE		03 53 50.0	
MSTX				LR	LR		
comp=Z,15μm,22.0s							
MDND	**Maddock**	**109.90**	**41**	PFAKE		03 53 50.0	
MDND				LR	LR		
comp=Z,11μm,21.0s							
KMBO	**Kilima Mbogo**	**110.39**	**266**	PKiKP	**PKiKP**	**03 53 44.9**	**+0.9**
comp=Z,1.8nm,0.7s,baz=40,slow=8.3,SNR=3.1							
KMBO	**Kilima Mbogo**	**110.39**	**266**	PKiKP	**PKiKP**	**03 53 44.9**	**+0.9**
KMBO				LR	LR		
comp=Z,7μm,21.0s							
AMTX	**Amarillo**	**110.47**	**55**	PFAKE		03 54 00.0	
AMTX				LR	LR		
comp=Z,15μm,22.0s							
ZAIG	**Zacatecas**	**110.50**	**68**	PFAKE		03 54 00.0	
ZAIG				LR	LR		
comp=Z,19μm,21.0s							
TOKA	**Tokat**	**110.59**	**311**	PFAKE		03 54 00.0	
TOKA				LR	LR		
comp=Z,6μm,22.0s							
FIA1	**FINESS Array S**	**110.64**	**334**	*e*Pdif	**Pdif**	**03 49 39.2**	**-3.5**
FINES	**FINESS Array B**	**110.64**	**334**	Pdiff	**Pdif**	**03 49 40.9**	**-1.9**
comp=Z,6.0nm,0.8s,baz=96,slow=3.8,SNR=9.8							
FINES				PKiKP	**PKiKP**	**03 53 42.4**	**-0.4**
comp=Z,4.1nm,0.6s,baz=92,slow=3.6,SNR=13							
B31A	**Greenbush Farm**	**111.04**	**41**	PKiKP	**PKiKP**	**03 53 44.3**	**+0.4**
baz=284							
E31A	**Nome**	**111.33**	**43**	PKiKP	**PKiKP**	**03 53 44.1**	**-0.5**
baz=284							
H31A	**Wolsey**	**111.39**	**45**	PKiKP	**PKiKP**	**03 53 44.2**	**-0.6**
baz=282							
SIM	**Simferopol'**	**111.44**	**316***de*P		**Pdif**	**03 49 48.9**	**+2.2**
SIM				*e*		03 54 26.0	
SIM				*e*		04 00 26.0	
SIM				*e*PS	**PS**	**04 03 52.0**	**-6.5**
SIM				*e*PPS	PPS	04 05 11.0	
SIM				pmax	pmax		
comp=Z,370nm,9.0s							
SIM				pmax	pmax		
comp=Z,1μm,11.1s							
CBKS	**Cedar Bluff**	**111.50**	**51**	PFAKE		03 54 00.0	
CBKS				LR	LR		
comp=Z,25μm,21.0s							
K31A	**O'Neill**	**111.56**	**47**	PKiKP	**PKiKP**	**03 53 43.7**	**-1.4**
baz=281							
A32A	**Rocking H Ranc**	**111.66**	**40**	PKiKP	**PKiKP**	**03 53 42.9**	**-2.2**
baz=286							
ULM	**Lac du Bonnet**	**111.68**	**38**	PKiKP	**PKiKP**	**03 53 44.7**	**-0.4**
comp=Z,15nm,0.9s,baz=238,slow=1.4,SNR=17							
B32A	**Ashes, Strandq**	**111.77**	**40**	PKiKP	**PKiKP**	**03 53 43.9**	**-1.4**
baz=285							
MOIG	**Morelia**	**111.84**	**72**	PFAKE		03 54 00.0	
MOIG				LR	LR		
comp=Z,16μm,22.0s							
C32A	**Crookston**	**111.92**	**41**	PKiKP	**PKiKP**	**03 53 45.8**	**+0.1**
baz=285							
GO10	**Punta Arenas**	**111.94**	**156**	PFAKE		03 54 00.0	
GO10				LR	LR		
comp=Z,16μm,20.0s							
F32A	**Veblen**	**112.01**	**43**	PKiKP	**PKiKP**	**03 53 46.3**	**+0.5**
baz=284							
H32A	**Carlson Farm,**	**112.11**	**45**	PKiKP	**PKiKP**	**03 53 44.4**	**-1.8**
baz=283							
K32A	**Verdigre**	**112.12**	**47**	PKiKP	**PKiKP**	**03 53 44.4**	**-1.8**
baz=282							
I32A	**Karley and Nic**	**112.19**	**45**	PKiKP	**PKiKP**	**03 53 46.1**	**-0.2**
baz=283							
AGMN	**Agassiz Nation**	**112.23**	**40**	PKiKP	**PKiKP**	**03 53 45.4**	**-0.9**
baz=286							
AGMN	**Agassiz Nation**	**112.23**	**40**	PFAKE		03 54 00.0	
AGMN				LR	LR		
comp=Z,15μm,21.0s							
L32A	**Elgin**	**112.23**	**47**	PKiKP	**PKiKP**	**03 53 42.8**	**-3.6**
baz=282							
BGNE	**Belgrade**	**112.24**	**48**	PKiKP	**PKiKP**	**03 53 43.8**	**-2.7**
baz=281							
BGNE	**Belgrade**	**112.24**	**48**	PFAKE		03 54 00.0	
BGNE				LR	LR		
comp=Z,15μm,20.0s							
A33A	**Warroad**	**112.35**	**40**	PKiKP	**PKiKP**	**03 53 44.6**	**-1.8**
baz=286							
B33A	**Robert and Kas**	**112.41**	**40**	PKiKP	**PKiKP**	**03 53 44.5**	**-2.0**
baz=286							
ABTX	**Abilene, Hawle**	**112.42**	**58**	PKiKP	**PKiKP**	**03 53 45.0**	**-2.1**
baz=277							
ABTX	**Abilene, Hawle**	**112.42**	**58**	*e*Pdif	**Pdif**	**03 49 53.6**	**+2.2**
ABTX				LR	LR		
comp=Z,10μm,19.0s							
C33A	**Trail**	**112.43**	**41**	PKiKP	**PKiKP**	**03 53 44.2**	**-2.4**
baz=286							
MMAI	**Mount Meron Ar**	**112.45**	**303**	PKiKP	**PKiKP**	**03 53 47.6**	**+0.4**
comp=Z,7.6nm,0.8s,baz=54,slow=4.2,SNR=7.5							
JCT	**Junction City**	**112.51**	**60**	PKiKP	**PKiKP**	**03 53 45.2**	**-2.2**
baz=276							
JCT	**Junction City**	**112.51**	**60**	PFAKE		03 54 00.0	
JCT				LR	LR		
comp=Z,36μm,21.0s							
JRQG	**Juriquilla Cam**	**112.52**	**70**	PFAKE		03 44 50.0	
JRQG				LR	LR		
comp=Z,22μm,22.0s							
ILGA	**Ilgaz**	**112.53**	**312**	PFAKE		03 54 00.0	
ILGA				LR	LR		
comp=Z,8μm,22.0s							
MICGM	**Minsk**	**112.53**	**327**	*e*P	**Pdif**	**03 49 50.0**	**-1.3**
MICGM				*e*PP	**PP**	**03 54 34.0**	**+0.8**
MICGM				PPM		03 54 35.0	
comp=Z,1.8nm,6.0s							
MICGM				*e*SKKKS		04 02 06.0	
MICGM				*e*PS	**PS**	**04 04 04.0**	**-4.1**
MICGM				*e*SS	SS	04 10 12.0	+1.2
MICGM				*e*SSS	SSS	04 14 26.0	
MICGM				*e*LQ	LQ	04 25 24.0	
MICGM				LQM		04 28 44.0	
comp=E,8.0nm,34.0s							
MICGM				*e*LR	LR	04 31 16.0	
MICGM				LRM	MLR	04 37 26.0	
comp=Z,24nm,22.0s							
MICGM				LRM	MLR	04 37 28.0	
comp=E,20nm,22.0s							
MICGM				LRM	MLR	04 37 28.0	
comp=E,30nm,24.0s							
MICGM				LRM	MLR	04 37 40.0	
comp=Z,44nm,24.0s							
MICGM				LRM	MLR	04 37 50.0	
comp=N,19nm,22.0s							
MICGM				LRM	MLR	04 37 52.0	
comp=N,22nm,24.0s							
MNK	**Minsk**	**112.53**	**327**	*e*P	**Pdif**	**03 49 50.0**	**-1.3**
MNK				*e*		03 54 34.0	
MNK				*e*PS	**PS**	**04 04 04.0**	**-4.1**
MNK				*e*SS	SS	04 10 12.0	+1.2
MNK				*e*SSS	SSS	04 14 26.0	
MNK				pmax	pmax		
comp=Z,2μm,6.0s							
D33A	**AnnSam, Waubun**	**112.55**	**42**	PKiKP	**PKiKP**	**03 53 45.6**	**-1.3**
baz=285							
F33A	**5 Mile Ranch,**	**112.58**	**43**	PKiKP	**PKiKP**	**03 53 45.8**	**-1.1**
baz=284							
E33A	**Westby DABS, E**	**112.61**	**42**	PKiKP	**PKiKP**	**03 53 45.5**	**-1.5**
baz=285							
G33A	**Ortonville**	**112.64**	**44**	PKiKP	**PKiKP**	**03 53 46.2**	**-0.9**
baz=284							
GO09	**Cerro Castillo**	**112.77**	**154**	PFAKE		03 54 00.0	
GO09				LR	LR		
comp=Z,22μm,21.0s							
K33A	**Hardington**	**112.83**	**47**	PKiKP	**PKiKP**	**03 53 46.7**	**-0.9**
baz=283							
BRTR	**Keskin Array B**	**112.84**	**310**	PKiKP	**PKiKP**	**03 53 47.0**	**-0.8**
comp=Z,8.6nm,1.1s,baz=122,slow=1.6,SNR=16							
BRTR				PKKPab	**PKKPab**	**04 04 43.4**	**0.0**
comp=Z,1.0nm,0.8s,baz=215,slow=4.6,SNR=3.7							
BRTR	**Keskin Array B**	**112.84**	**310**	*i* PKiKP	**PKiKP**	**03 53 47.0**	**-0.8**
BRTR				pmax	pmax		
comp=Z,9.0nm,1.1s							
ECSD	**EROS Data Cent**	**112.86**	**45**	PKiKP	**PKiKP**	**03 53 46.8**	**-0.8**
baz=283							
ECSD	**EROS Data Cent**	**112.86**	**45**	PFAKE		03 54 00.0	
ECSD				LR	LR		
comp=Z,16μm,22.0s							
WMOK	**Wichita Mounta**	**112.86**	**55**	PKiKP	**PKiKP**	**03 53 47.0**	**-0.9**
baz=278							
WMOK	**Wichita Mounta**	**112.86**	**55**	*e*P	**Pdif**	**03 49 54.7**	**+1.4**
WMOK				MLR	MLR		
comp=Z,15μm,22.0s							
WMOK	**Wichita Mounta**	**112.86**	**55**	*e*Pdif	**Pdif**	**03 49 54.7**	**+1.4**
WMOK				LR	LR		
comp=Z,15μm,22.0s							
M33A	**Taylor Creek F**	**112.91**	**48**	PKiKP	**PKiKP**	**03 53 47.3**	**-0.5**
baz=282							
O33A	**Hebron**	**112.92**	**49**	PKiKP	**PKiKP**	**03 53 47.1**	**-0.7**
baz=281							
B34A	**Aery, Baudette**	**112.95**	**40**	PKiKP	**PKiKP**	**03 53 46.9**	**-0.7**
baz=287							
NACGM	**Naroch**	**112.98**	**328**	*e*P	**Pdif**	**03 49 50.0**	**-3.3**
NACGM				*e*PKP	**PKiKP**	**03 53 48.0**	**+0.6**
NACGM				*e*PP	PP	03 54 24.0	-12
NACGM				*e*PPP	PPP	03 56 30.0	
NACGM				*e*SKS	**SKSac**	**04 00 22.0**	**-6.1**
NACGM				*e*SKKS	**SKKSac**	**04 01 33.0**	**-2.1**
NACGM				*e*PS	**PS**	**04 04 07.0**	**-5.1**
NACGM				*e*SS	SS	04 10 46.0	+29
NACGM				*e*SSS	SSS	04 14 46.0	
NACGM				*e*LQ	LQ	04 27 10.0	
NACGM				*e*LR	LR	04 34 16.0	
NACGM				LRM	MLR	04 39 23.0	
comp=N,16nm,25.0s							
NACGM				LRM	MLR	04 39 26.0	
comp=E,19nm,25.0s							
NACGM				LRM	MLR	04 39 33.0	
comp=Z,44nm,25.0s							
D34A	**Park Rapids**	**112.99**	**41**	PKiKP	**PKiKP**	**03 53 47.4**	**-0.3**
baz=286							
C34A	**RKJ Ranch, Bem**	**113.02**	**41**	PKiKP	**PKiKP**	**03 53 47.3**	**-0.5**
baz=286							
833A	**Chaparral WMA,**	**113.06**	**62**	PKiKP	**PKiKP**	**03 53 47.4**	**-1.0**
baz=275							
AKASG	**Malin Array Be**	**113.07**	**323**	Pdiff	**Pdif**	**03 49 53.9**	**0.0**
comp=Z,0.2nm,0.3s,baz=59,slow=4.7,SNR=5.9							
AKASG				PKiKP	**PKiKP**	**03 53 47.2**	**-0.5**
comp=Z,4.1nm,0.5s,baz=62,slow=2.2,SNR=13							
AKASG				PP	**PP**	**03 54 38.0**	**+0.8**
comp=Z,6.6nm,1.0s,baz=58,slow=6.8,SNR=7.9							
AKBB	**Malin Array Si**	**113.07**	**323**	*e*P	**Pdif**	**03 49 52.9**	**-0.9**
AKBB				MLR	MLR		
comp=Z,13μm,20.0s							
AKBB	**Malin Array Si**	**113.07**	**323**	*e*Pdif	**Pdif**	**03 49 52.9**	**-0.9**
AKBB				LR	LR		
comp=Z,13μm,20.0s							
KIEV	**Kiev**	**113.08**	**323⇓**	*i*PKIKP	**PKiKP**	**03 53 48.1**	**+0.4**
KIEV				MLR	MLR		
comp=Z,34μm,24.0s							
KIEV	**Kiev**	**113.08**	**323**	*e*Pdif	**Pdif**	**03 49 53.8**	**0.0**
KIEV				LR	LR		
comp=Z,13μm,21.0s							
AK11	**Malin Array Si**	**113.11**	**323**	*e*Pdif	**Pdif**	**03 49 53.7**	**-0.3**
G34A	**Benson**	**113.17**	**43**	PKiKP	**PKiKP**	**03 53 48.0**	**-0.2**
baz=285							
H34A	**Spellman Lake,**	**113.22**	**44**	PKiKP	**PKiKP**	**03 53 48.0**	**-0.2**
baz=284							
933A	**Laredo**	**113.23**	**63**	PKiKP	**PKiKP**	**03 53 46.3**	**-2.4**
baz=275							
LNIG	**Linares**	**113.25**	**66**	PFAKE		03 54 00.0	
LNIG				LR	LR		
comp=Z,20μm,20.0s							
F34A	**Alexandria**	**113.29**	**43**	PKiKP	**PKiKP**	**03 53 47.2**	**-1.1**
baz=285							
ANTO	**Ankara**	**113.45**	**311**	PFAKE		03 54 00.0	
ANTO				LR	LR		
comp=Z,4μm,22.0s							
K34A	**Le Mars**	**113.47**	**46**	PKiKP	**PKiKP**	**03 53 47.7**	**-1.0**
baz=283							
R34A	**Isabella, Hill**	**113.51**	**51**	PKiKP	**PKiKP**	**03 53 47.6**	**-1.4**
baz=281							
O34A	**Beatrice**	**113.57**	**49**	PKiKP	**PKiKP**	**03 53 48.5**	**-0.5**
baz=282							
B35A	**Bob, Littlefor**	**113.58**	**40**	PKiKP	**PKiKP**	**03 53 46.4**	**-2.4**
baz=288							
N34A	**Lincoln**	**113.58**	**48**	PKiKP	**PKiKP**	**03 53 48.1**	**-0.9**
baz=282							
P34A	**Walnut Farm, R**	**113.59**	**50**	PKiKP	**PKiKP**	**03 53 48.0**	**-1.1**
baz=282							
C35A	**Jirik Farms, M**	**113.61**	**41**	PKiKP	**PKiKP**	**03 53 48.6**	**-0.3**
baz=287							
Q34A	**Chapman**	**113.63**	**50**	PKiKP	**PKiKP**	**03 53 48.6**	**-0.5**
baz=281							
E35A	**Pequot Lakes**	**113.66**	**42**	PKiKP	**PKiKP**	**03 53 48.7**	**-0.3**
baz=286							
S34A	**Willow Spring**	**113.72**	**52**	PKiKP	**PKiKP**	**03 53 49.4**	**0.0**
baz=280							
F35A	**Swanville**	**113.73**	**43**	PKiKP	**PKiKP**	**03 53 49.2**	**0.0**
baz=286							
D35A	**Remer**	**113.74**	**41**	PKiKP	**PKiKP**	**03 53 48.4**	**-0.7**
baz=287							
UNM	**Universidad Na**	**113.74**	**72**	PFAKE		03 54 00.0	
UNM				LR	LR		
comp=Z,14μm,22.0s							
T34A	**McClaskey Farm**	**113.78**	**53**	PKiKP	**PKiKP**	**03 53 48.9**	**-0.6**
baz=280							
034A	**Hebbronville**	**113.80**	**63**	PKiKP	**PKiKP**	**03 53 49.4**	**-0.4**
baz=275							
KSU1	**Kansas State U**	**113.85**	**50**	PKiKP	**PKiKP**	**03 53 46.5**	**-3.1**
baz=281							
KSU1	**Kansas State U**	**113.85**	**50**	PFAKE		03 54 00.0	
KSU1				LR	LR		
comp=Z,20μm,22.0s							
H35A	**Sunnyside Ranc**	**113.87**	**44**	PKiKP	**PKiKP**	**03 53 47.5**	**-1.9**
baz=285							
CSS	**Mathiatis**	**113.89**	**305**	PFAKE		03 54 00.0	
CSS				LR	LR		
comp=Z,2μm,20.0s							
934A	**Benavides**	**113.90**	**63**	PKiKP	**PKiKP**	**03 53 49.8**	**-0.2**
baz=275							
G35A	**Watkins**	**113.97**	**43**	PKiKP	**PKiKP**	**03 53 48.7**	**-1.0**
baz=286							
I35A	**Creekview Farm**	**113.98**	**45**	PKiKP	**PKiKP**	**03 53 49.1**	**-0.6**
baz=285							
L35A	**Bielow Farm, R**	**114.00**	**47**	PKiKP	**PKiKP**	**03 53 49.1**	**-0.7**
baz=284							
SUMG	**Summit**	**114.00**	**2**	PFAKE		03 54 00.0	
SUMG				LR	LR		
comp=Z,10μm,20.0s							
M35A	**Neola**	**114.03**	**47**	PKiKP	PKPdf	03 53 49.0	-0.9
baz=283							
P35A	**Duane Minner,**	**114.21**	**50**	PKiKP	PKPdf	03 53 49.6	-0.7
baz=282							
U35A	**Pawnee**	**114.25**	**53**	PKiKP	PKPdf	03 53 49.7	-0.8
baz=280							
V35A	**Meyer Ranch, C**	**114.27**	**54**	PKiKP	PKPdf	03 53 49.7	-0.8
baz=280							
D36A	**Goodland**	**114.29**	**41**	PKiKP	PKPdf	03 53 49.1	-1.1
baz=288

SORM	Soroca	114.43	320	⇑PKIKP	PKPdf	03 53 50.3	-0.1
F36A	Milaca	114.44	42	PKiKP	PKPdf	03 53 50.2	-0.3
	baz=287						
KVTX	Kingsville	114.45	63	PFAKE		03 54 00.0	+8.9
KVTX				LR	LR		
	comp=Z,21μm,22.0s						
G36A	St. Michael	114.46	43	PKiKP	PKPdf	03 53 50.0	-0.6
	baz=286						
KIS	Kishinev	114.48	319	*e*P	Pdif	03 49 58.0	-2.2
KIS	Kishinev	114.48	319	*e*PP	PP	03 54 48.0	+0.7
KIS	Kishinev	114.48	319	*e*PKS		03 56 20.0	
KIS	Kishinev	114.48	319	*e*PS	PS	04 04 14.0	-12
KIS	Kishinev	114.48	319	*e*PPS	PPS	04 05 48.0	
KIS				LRM	MLR	04 42 00.0	
	comp=Z,16μm,24.0s						
KIS	Kishinev	114.48	319	*e*P	Pdif	03 49 58.0	-2.2
KIS				*e*		03 54 48.0	
KIS				*e*PPP	PPP	03 57 14.0	
KIS				*e*		04 00 34.0	
KIS				*e*PS	PS	04 04 14.0	-12
KIS				MLR	MLR		
	comp=Z,16μm,23.0s						
KIS				MLR	MLR		
	comp=N,5μm,20.0s						
KIS				MLR	MLR		
	comp=E,6μm,22.0s						
KIS				MLR	MLR		
	comp=Z,16μm,24.0s						
H36A	Jessenland, He	114.52	44	PKiKP	PKPdf	03 53 50.1	-0.6
	baz=286						
J36A	Seneca 1, Swea	114.56	45	PKiKP	PKPdf	03 53 50.4	-0.4
	baz=285						
L36A	Harm Buss Farm	114.63	47	PKiKP	PKPdf	03 53 50.2	-0.9
	baz=284						
BOSA	Boshof	114.64	235	PKP	PKPdf	03 53 53.6	+2.0
	comp=Z,4.4nm,0.7s,baz=135,slow=1.6,SNR=8.9						
BOSA				PKKPbc	PKKPbc	04 04 30.3	+0.2
	comp=Z,7.7nm,0.9s,baz=278,slow=1.2,SNR=5.7						
BOSA	Boshof	114.64	235	PKIKP	PKPdf	03 53 53.6	+2.0
BOSA						04 04 30.3	
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
K36A	Gilmore City	114.66	46	PKiKP	PKPdf	03 53 50.2	-0.8
	baz=285						
M36A	Felix, Anita	114.69	47	PKiKP	PKPdf	03 53 50.1	-1.1
	baz=284						
N36A	Muff Farm, Cla	114.72	48	PKiKP	PKPdf	03 53 50.5	-0.7
	baz=283						
Q36A	Arnold C. Orve	114.75	50	PKiKP	PKPdf	03 53 50.6	-0.7
	baz=282						
C37A	Embarrass	114.75	40	PKiKP	PKiKP	03 53 51.0	-0.1
	baz=289						
D37A	Cotton	114.78	41	PKiKP	PKiKP	03 53 51.0	-0.1
	baz=288						
P36A	Good Intent, A	114.80	49	PKiKP	PKiKP	03 53 50.9	-0.5
	baz=283						
T36A	Boggs Farm, Ca	114.80	52	PKiKP	PKiKP	03 53 51.5	0.0
	baz=281						
R36A	Gordon, Harris	114.85	51	PKiKP	PKPdf	03 53 51.6	0.0
	baz=282						
X36A	Centrahoma	114.86	55	PKiKP	PKiKP	03 53 52.0	+0.3
	baz=280						
W36A	Wetumka	114.87	54	PKiKP	PKPdf	03 53 50.2	-1.4
	baz=280						
S36A	Lake Cedric, C	114.90	51	PKiKP	PKiKP	03 53 49.5	-2.2
	baz=282						
336A	Riesel	114.93	59	PKiKP	PKPdf	03 53 51.5	-0.3
	baz=278						
E37A	Wrenshall	114.98	41	PKiKP	PKiKP	03 53 50.6	-0.9
	baz=288						
636A	Smothers Creek	114.98	61	PKiKP	PKiKP	03 53 53.0	+1.0
	baz=277						
V36A	Jenks	114.99	54	PKiKP	PKiKP	03 53 50.9	-1.0
	baz=280						
Z36A	Blue Ridge	115.00	56	PKiKP	PKPdf	03 53 51.5	-0.5
	baz=279						
LEOM	Leova	115.01	319	⇓*i*P	PKPdf	03 53 54.3	+2.7
LEOM	Leova	115.01	319	⇓PKIKP	PKPdf	03 53 54.3	+2.7
TLCR		115.02	317	⇑*i*P	PKPdf	03 53 51.9	+0.3
TLCR		115.02	317	⇑PKIKP	PKPdf	03 53 51.9	+0.3
Y36A	Durant	115.03	56	PKiKP	PKiKP	03 53 51.7	-0.3
	baz=279						
736A	Circle Diamond	115.03	61	PKiKP	PKiKP	03 53 52.3	+0.2
	baz=277						
I37A	Lemond, Waseca	115.04	44	PKiKP	PKiKP	03 53 51.3	-0.4
	baz=286						
136A	Ennis	115.04	57	PKiKP	PKPdf	03 53 50.6	-1.5
	baz=278						
U36A	Oologah	115.04	53	PKiKP	PKPdf	03 53 52.3	+0.4
	baz=281						
F37A	Hinrichs Farm,	115.08	42	PKiKP	PKiKP	03 53 50.6	-1.1
	baz=287						
TUL1	Leonard	115.08	53	PKiKP	PKiKP	03 53 50.1	-2.0
	baz=280						
TUL1	Leonard	115.08	53	PFAKE		03 54 00.0	+7.9
TUL1				LR	LR		
	comp=Z,18μm,22.0s						
SPMN	Marine on St.	115.11	43	PKiKP	PKiKP	03 53 51.3	-0.6
	baz=287						
SPMN	Marine on St.	115.11	43	PFAKE		03 54 00.0	+8.2
SPMN				LR	LR		
	comp=Z,19μm,22.0s						
236A	Katherine and	115.11	58	PKiKP	PKPdf	03 53 51.3	-0.9
	baz=278						
J37A	Redenius Farm,	115.12	45	PKiKP	PKiKP	03 53 50.5	-1.4
	baz=286						
EYMN	Ely	115.12	40	PKiKP	PKiKP	03 53 49.9	-1.9
	baz=289						
EYMN	Ely	115.12	40	PFAKE		03 54 00.0	+8.2
EYMN				LR	LR		
	comp=Z,18μm,21.0s						
K37A	Belmond	115.20	46	PKiKP	PKiKP	03 53 50.7	-1.4
	baz=285						
H37A	Dierke Farm, C	115.21	44	PKiKP	PKiKP	03 53 51.1	-1.0
	baz=287						
M37A	Trindle Farm,	115.25	47	PKiKP	PKiKP	03 53 51.9	-0.3
	baz=284						
SUW	Suwalki	115.26	328	*e*PKP	PKPdf	03 53 52.5	+0.7
SUW				*e*PP	PP	03 54 50.3	-2.1
SUW				*e*SKSac	SKSac	04 00 38.3	+1.3
SUW				*e*SP	SP	04 04 26.5	-0.4
SUW				LMZ	LR	04 40 13.2	
	comp=Z,35μm,27.5s						
N37A	Lee Faris, Mou	115.29	48	PKiKP	PKiKP	03 53 50.8	-1.5
	baz=284						
C38A	Sawbill Land.	115.34	40	PKiKP	PKiKP	03 53 51.3	-0.9
	baz=289						
R37A	Teagarden Farm	115.37	51	PKiKP	PKiKP	03 53 52.4	-0.2
	baz=282						
P37A	Lathrop	115.46	49	PKiKP	PKiKP	03 53 52.1	-0.5
	baz=283						
O37A	Wolven Farm, M	115.48	49	PKiKP	PKiKP	03 53 52.2	-0.5
	baz=284						
CFR	Carcaliu	115.48	317	⇓*i*P	PKPdf	03 53 53.5	+1.0
CFR	Carcaliu	115.48	317	⇓PKIKP	PKPdf	03 53 53.5	+1.0
S37A	Fort Scott	115.49	51	PKiKP	PKiKP	03 53 52.2	-0.6
	baz=282						
TIRR	Tirgusor	115.50	316	PFAKE		03 54 00.0	+7.4
TIRR				LR	LR		
	comp=Z,12μm,21.0s						
F38A	Pierce - Schro	115.51	42	PKiKP	PKiKP	03 53 52.4	-0.2
	baz=288						
W37B	Quinton	115.51	54	PKiKP	PKiKP	03 53 52.1	-0.9
	baz=280						
E38A	The Farm, Brul	115.52	41	PKiKP	PKiKP	03 53 51.2	-1.3
	baz=289						
U37A	Salina	115.53	53	PKiKP	PKiKP	03 53 52.1	-0.8
	baz=281						
Q37A	Longview Farm,	115.54	50	PKiKP	PKiKP	03 53 52.3	-0.6
	baz=283						
T37A	Cheneyville 18	115.55	52	PKiKP	PKiKP	03 53 52.7	-0.2
	baz=282						
Y37A	Hugo	115.56	56	PKiKP	PKPdf	03 53 52.0	-1.1
	baz=280						
ISP	Isparta	115.60	309	*e*PKIKP	PKPdf	03 53 53.8	+0.7
ISP				MLR	MLR		
	comp=Z,6μm,21.0s						
ISP	Isparta	115.60	309	*e*PKPdf	PKPdf	03 53 53.8	+0.7
ISP				*e*PP	PP	03 54 52.5	-3.3
ISP				LR	LR		
	comp=Z,6μm,21.0s						
V37A	Hulbert	115.61	53	PKiKP	PKPdf	03 53 52.4	-0.6
	baz=281						
H38A	Maiden Rock	115.62	43	PKiKP	PKiKP	03 53 52.2	-0.6
	baz=287						
X37A	Clayton	115.66	55	PKiKP	PKPdf	03 53 52.5	-0.7
	baz=280						
137A	Heron Place, G	115.67	57	PKiKP	PKPdf	03 53 53.0	-0.3
	baz=279						
Z37A	Pogue Cattle C	115.69	56	PKiKP	PKiKP	03 53 53.6	+0.3
	baz=279						
LBTB	Lobatse	115.71	238	*e*PKIKP	PKPdf	03 53 55.7	+1.9
LBTB	Lobatse	115.71	238	*e*PKPdf	PKPdf	03 53 55.7	+1.9
237A	Washetta, Mont	115.72	58	PKiKP	PKiKP	03 53 53.8	+0.5
	baz=279						
SCIA	State Center	115.73	47	*e*PKPdf	PKPdf	03 53 53.0	-0.1
SCIA				LR	LR		
	comp=Z,8μm,19.0s						
337A	Centerville	115.75	59	PKiKP	PKPdf	03 53 51.5	-1.9
	baz=278						
G38A	Ridgeland	115.76	43	PKiKP	PKiKP	03 53 52.1	-1.0
	baz=288						
I38A	Scanlan Farm,	115.77	44	PKiKP	PKiKP	03 53 51.9	-1.2
	baz=287						
K38A	Parkersburg	115.85	46	PKiKP	PKiKP	03 53 53.1	-0.3
	baz=286						
L38A	Oak Wood Farm,	115.85	46	PKiKP	PKiKP	03 53 52.7	-0.7
	baz=286						
M38A	Pleasantville	115.87	47	PKiKP	PKPdf	03 53 52.3	-1.1
	baz=285						
J38A	Wedel Dairy, R	115.88	45	PKiKP	PKiKP	03 53 52.5	-0.8
	baz=286						
HKT	Hockley	115.98	60	*e*PKIKP	PKPdf	03 53 55.5	+1.6
HKT				MLR	MLR		
	comp=Z,46μm,21.0s						
HKT	Hockley	115.98	60	*e*PKPdf	PKPdf	03 53 55.5	+1.6
HKT				LR	LR		
	comp=Z,46μm,21.0s						
O38A	Galt	115.99	49	PKiKP	PKPdf	03 53 53.1	-0.5
	baz=284						
N38A	Joes South For	116.00	48	PKiKP	PKiKP	03 53 53.8	+0.1
	baz=285						
TESR	Tescani	116.05	319	⇑*i*P	PKPdf	03 53 53.9	+0.3
T38A	Diamond	116.05	52	PKiKP	PKPdf	03 53 53.1	-0.8
	baz=282						
P38A	Dawn	116.06	49	PKiKP	PKPdf	03 53 53.3	-0.5
	baz=284						
X38A	Whitesboro	116.08	55	PKiKP	PKPdf	03 53 53.5	-0.5
	baz=281						
U38A	Gravette	116.10	53	PKiKP	PKPdf	03 53 53.0	-1.0
	baz=282						
R38A	Fenwick Farm,	116.11	51	PKiKP	PKPdf	03 53 53.2	-0.8
	baz=283						
Q38A	Cooks Store, C	116.15	50	PKiKP	PKPdf	03 53 53.1	-0.9
	baz=284						
F39A	Loretta	116.16	42	PKiKP	PKPdf	03 53 53.1	-0.8
	baz=289						
438A	Sam Houston St	116.18	59	PKiKP	PKPdf	03 53 54.1	-0.2
	baz=278						
G39A	Holcombe	116.19	42	PKiKP	PKPdf	03 53 53.1	-0.8
	baz=288						
V38A	Canehill	116.20	53	PKiKP	PKPdf	03 53 53.2	-1.1
	baz=281						
Z38A	Mt. Pleasant	116.20	56	PKiKP	PKPdf	03 53 53.0	-1.3
	baz=280						
VRI	Vrincioaia	116.21	318	⇑*i*P	PKPdf	03 53 53.7	-0.2
VRI	Vrincioaia	116.21	318	⇑PKIKP	PKPdf	03 53 53.7	-0.2
138A	Matatall Enter	116.22	57	PKiKP	PKiKP	03 53 54.6	+0.3
	baz=279						
S38A	Stockton	116.23	51	PKiKP	PKPdf	03 53 53.8	-0.4
	baz=283						
338A	Crockett	116.23	58	PKiKP	PKPdf	03 53 54.0	-0.4
	baz=279						
E39A	Mellen	116.24	41	PKiKP	PKPdf	03 53 52.4	-1.6
	baz=289						
W38A	Poteau	116.26	54	PKiKP	PKPdf	03 53 53.5	-0.8
	baz=281						
PLOR	Plostina	116.26	318	⇑*i*P	PKPdf	03 53 55.5	+1.4
PLOR	Plostina	116.26	318	⇑PKIKP	PKPdf	03 53 55.5	+1.4
238A	Jacksonville	116.29	58	PKiKP	PKPdf	03 53 54.3	-0.1
	baz=279						
Y38A	Idabel	116.30	55	PKiKP	PKPdf	03 53 53.0	-1.5
	baz=280						
H39A	Augusta	116.30	43	PKiKP	PKPdf	03 53 53.3	-0.8
	baz=288						
I39A	Houston	116.38	44	PKiKP	PKPdf	03 53 53.5	-0.8
	baz=287						
J39A	Decorah	116.41	45	PKiKP	PKPdf	03 53 53.9	-0.5
	baz=287						
K39A	Oelwein	116.46	45	PKiKP	PKPdf	03 53 54.0	-0.5
	baz=287						
LSZ	Lusaka	116.46	249	PKP	PKPdf	03 53 56.5	+1.1
	comp=Z,5.8nm,0.5s,baz=87,slow=1.3,SNR=11						
LSZ	Lusaka	116.46	249	*e*PKIKP	PKPdf	03 53 55.5	+0.1
LSZ				MLR	MLR		
	comp=Z,12μm,21.0s						
LSZ	Lusaka	116.46	249	*e*PKPdf	PKPdf	03 53 55.5	+0.1
LSZ				LR	LR		
	comp=Z,12μm,21.0s						
HHAR	Hobbs	116.48	53	*e*PKPdf	PKPdf	03 53 53.7	-1.0
SUR	Sutherland	116.50	229	PFAKE		03 54 10.0	+15
SUR				LR	LR		
	comp=Z,12μm,20.0s						
LVV	L'vov	116.50	323	*i* PKIKP	PKPdf	03 53 58.0	+3.6
LVV				*i*		04 04 41.8	
LVV				MLR	MLR		
	comp=N,10μm,23.0s						
LVV				MLR	MLR		
	comp=E,15μm,23.0s						
LVV				MLR	MLR		
	comp=Z,17μm,24.0s						
N39A	Derby Farms, D	116.51	47	PKiKP	PKPdf	03 53 54.0	-0.7
	baz=285						
L39A	Vinton	116.54	46	PKiKP	PKPdf	03 53 54.0	-0.7
	baz=286						
BUR08	Bucovina Ar. S	116.59	320	*e*PKPdf	PKPdf	03 53 56.3	+1.5
BUR08				*e*PP	PP	03 54 59.6	-2.6
BURAR	Bucovina Array	116.59	320	⇑*i*P	PKPdf	03 53 56.5	+1.8
BURAR	Bucovina Array	116.59	320	⇑PKIKP	PKPdf	03 53 56.5	+1.8
M39A	Webster	116.60	47	PKiKP	PKPdf	03 53 53.7	-1.1
	baz=286						
Q39A	Willow Grove F	116.62	50	PKiKP	PKPdf	03 53 54.4	-0.6
	baz=284						
O39A	Kirksville	116.64	48	PKiKP	PKiKP	03 53 55.0	0.0
	baz=285						
NC405	NORSAR Array S	116.64	338	*e*PKPdf	PKPdf	03 53 56.8	+2.5
E40A	Wakefield	116.65	41	PKiKP	PKPdf	03 53 52.6	-2.2
	baz=290						
AKAS	Kas	116.65	307	*e*PKPdf	PKPdf	03 53 54.6	-0.7
AKAS				LR	LR		
	comp=Z,3μm,20.0s						
S39A	Bolivar	116.67	51	PKiKP	PKPdf	03 53 54.8	-0.2
	baz=283						
P39B	Salisbury	116.68	49	PKiKP	PKPdf	03 53 54.9	-0.2
	baz=284						
F40A	Park Falls	116.68	42	PKiKP	PKPdf	03 53 54.3	-0.6
	baz=290						
X39A	Fountain Ranch	116.69	55	PKiKP	PKiKP	03 53 55.5	+0.3
	baz=281						
NC303	NORSAR Array S	116.70	338	*e*PKPdf	PKPdf	03 53 56.7	+2.3
NATX	Nacogdoches	116.72	58	PKiKP	PKiKP	03 53 55.6	+0.2
	baz=279						
NATX	Nacogdoches	116.72	58	*e*PKPdf	PKPdf	03 53 57.6	+2.3
NATX				LR	LR		
	comp=Z,8μm,20.0s						
R39A	Chumby, Stover	116.74	50	PKiKP	PKPdf	03 53 54.8	-0.4
	baz=284						
T39A	Clever	116.77	52	PKiKP	PKPdf	03 53 54.9	-0.4
	baz=283						
439A	Center Grove,	116.78	59	PKiKP	PKiKP	03 53 55.9	+0.4
	baz=279						
V39A	Pettigrew	116.81	53	PKiKP	PKPdf	03 53 54.3	-1.1
	baz=282						
Y39A	Lockesburg	116.81	55	PKiKP	PKPdf	03 53 54.8	-0.7
	baz=281						
U39A	Green Forest	116.83	53	PKiKP	PKPdf	03 53 55.0	-0.5
	baz=282						
W39A	Magazine	116.83	54	PKiKP	PKPdf	03 53 55.0	-0.5
	baz=282						
G40A	Rib Lake	116.84	42	PKiKP	PKPdf	03 53 54.8	-0.4
	baz=289						
NB201	NORSAR Array S	116.84	338	*e*PKPdf	PKPdf	03 53 55.8	+1.1
MLR	Muntele Rosu	116.85	318	⇑*i*P	PKPdf	03 53 55.5	+0.2
MLR	Muntele Rosu	116.85	318	⇑PKIKP	PKPdf	03 53 55.5	+0.2
MLR	Muntele Rosu	116.85	318	*e*PKPdf	PKPdf	03 53 54.5	-0.9
MLR				LR	LR		
	comp=Z,18μm,22.0s						
Z39A	Irene McRaven,	116.87	56	PKiKP	PKPdf	03 53 55.2	-0.3
	baz=280						
339A	Huntington	116.87	58	PKiKP	PKPdf	03 53 55.1	-0.5
	baz=279						
NB2	NORSAR Subarra	116.88	338	PKPdf	PKPdf	03 53 54.5	-0.3
	comp=Z,4.8nm,1.1s,baz=44,slow=1.9						
NOA	NORSAR Array B	116.88	338	PKP	PKPdf	03 53 54.0	-0.8
	comp=Z,2.7nm,0.9s,baz=87,slow=2.0,SNR=10.0						
NOA				PKKP	PKKPdf	04 04 50.7	+0.9
	comp=Z,1.3nm,1.0s,baz=28,slow=3.9,SNR=3.2						
NC204	NORSAR Array S	116.89	338	*e*PKPdf	PKPdf	03 53 55.9	+1.0
SECR		116.92	318	⇑*i*P	PKPdf	03 53 56.2	+0.9
H40A	Chili	116.92	43	PKiKP	PKPdf	03 53 55.1	-0.2
	baz=289						
NC602	NORSAR Array S	116.95	338	*e*PKPdf	PKPdf	03 53 55.2	+0.3
K40A	Colesburg	116.99	45	PKiKP	PKPdf	03 53 54.9	-0.7
	baz=287						
I40A	Norwalk	117.00	44	PKiKP	PKPdf	03 53 54.3	-1.2
	baz=288						
NBO02	NORSAR Array S	117.00	338	*e*PKPdf	PKPdf	03 53 55.2	+0.1
NBO00	NORSAR Array S	117.05	338	*e*PKPdf	PKPdf	03 53 56.4	+1.3
DOPR	Dopca	117.06	319	⇑*i*P	PKPdf	03 53 56.3	+0.7
J40A	Soldiers Grove	117.06	44	PKiKP	PKPdf	03 53 53.4	-2.2
	baz=288						
M40A	Post Highland	117.09	47	PKiKP	PKPdf	03 53 55.5	-0.3
	baz=286						
L40A	Anamosa	117.12	46	PKiKP	PKPdf	03 53 54.7	-1.1
	baz=287						
M1AR	Mount Ida	117.12	55	PKiKP	PKPdf	03 53 55.9	-0.1
	baz=281						
M1AR	Mount Ida	117.12	55	*e*PKIKP	PKPdf	03 53 57.4	+1.4
M1AR				*e*		03 55 05.4	
M1AR				MLR	MLR		
	comp=Z,16μm,22.0s						
M1AR	Mount Ida	117.12	55	*e*PKPdf	PKPdf	03 53 57.4	+1.4
M1AR				*e*PP	PP	03 55 05.3	-1.0
M1AR				LR	LR		
	comp=Z,16μm,22.0s						
O40A	La Belle	117.17	48	PKiKP	PKPdf	03 53 54.8	-1.1
	baz=285						
N40A	Mertquake, Sal	117.18	47	PKiKP	PKiKP	03 53 56.0	+0.1
	baz=286						
P40A	Paris	117.20	49	PKiKP	PKPdf	03 53 55.5	-0.6
	baz=285						
E41A	Kenton	117.25	41	PKiKP	PKPdf	03 53 55.6	-0.4
	baz=291						
Q40A	Laux Farm, Aux	117.31	49	PKiKP	PKPdf	03 53 56.1	-0.2
	baz=285						
S40A	Lebanon	117.32	51	PKiKP	PKPdf	03 53 55.9	-0.4
	baz=284						
U40A	Yellville	117.33	52	PKiKP	PKPdf	03 53 55.5	-0.9
	baz=283						
ARCR	ARCALIA	117.33	320	⇑*i*P	PKPdf	03 53 56.8	+0.7
R40A	Maddies Statio	117.34	50	PKiKP	PKPdf	03 53 54.4	-2.0
	baz=284						
KWP	Kalwaria Pacla	117.36	323	*e*PKPdf	PKPdf	03 53 56.5	+0.4
KWP				*e*PS	PKKPdf	04 04 50.1	+1.5
KWP				LMZ	LR	04 43 15.3	
	comp=Z,25μm,26.1s						
KWP	Kalwaria Pacla	117.36	323	*e*PKIKP	PKPdf	03 53 56.5	+0.4
KWP				*e*PS	PKKPdf	04 04 50.1	+1.5
W40A	Ferguson Farm,	117.40	54	PKiKP	PKPdf	03 53 55.7	-0.9
	baz=282						
F41A	Three Lakes	117.41	41	PKiKP	PKPdf	03 53 55.8	-0.4
	baz=290						
T40A	Mansfield	117.41	52	PKiKP	PKPdf	03 53 56.5	-0.1
	baz=283						
340A	Bronson	117.42	58	PKiKP	PKPdf	03 53 54.9	-1.7
	baz=280						
H41A	Junction City	117.42	43	PKiKP	PKPdf	03 53 55.7	-0.6
	baz=289						
240A	Hunter Patters	117.42	57	PKiKP	PKPdf	03 53 56.1	-0.5
	baz=280						
I41A	Arkdale	117.46	43	PKiKP	PKPdf	03 53 55.5	-0.8
	baz=289						
VOIR		117.46	318	⇑*i*P	PKPdf	03 53 57.9	+1.4
VOIR		117.46	318	⇑PKIKP	PKPdf	03 53 57.9	+1.4
Y40A	Okolona	117.47	55	PKiKP	PKPdf	03 53 55.0	-1.7
	baz=281						
V40A	Witts Springs	117.47	53	PKiKP	PKiKP	03 53 56.8	0.0
	baz=282						
140A	Cam and Jess,	117.48	57	PKiKP	PKPdf	03 53 55.4	-1.3
	baz=280						
Z40A	Long Farm, Mag	117.51	56	PKiKP	PKPdf	03 53 55.9	-0.9
	baz=281						
BEL	Belsk	117.52	326	*e*PKPdf	PKPdf	03 53 57.8	+1.5
BEL				*e*PP	PP	03 55 09.9	+1.5
BEL				*e*PS	PS	04 04 53.2	-0.4
BEL				LMZ	LR	04 40 24.8	
	comp=Z,19μm,27.7s						
BEL	Belsk	117.52	326	*e*PKIKP	PKPdf	03 53 57.7	+1.5
BEL				*e*		03 55 09.9	
BEL				*e*PS	PS	04 04 53.3	-0.4
G41A	Antigo	117.54	42	PKiKP	PKPdf	03 53 56.5	-0.1
	baz=290						
JFWS	Jewell Farm	117.55	45	*e*PKIKP	PKPdf	03 53 55.1	-1.5
JFWS				MLR	MLR		
	comp=Z,15μm,22.0s						
JFWS	Jewell Farm	117.55	45	*e*PKPdf	PKPdf	03 53 55.1	-1.5
JFWS				LR	LR		
	comp=Z,15μm,22.0s						
J41A	Loganville	117.58	44	PKiKP	PKPdf	03 53 56.6	-0.1
	baz=288						
K41A	Shullsburg	117.61	45	PKiKP	PKPdf	03 53 55.4	-1.3
	baz=288						
L41A	Preston	117.63	46	PKiKP	PKPdf	03 53 55.1	-1.7
	baz=287						
BMR	Baia Mare	117.65	321	⇑*i*P	PKPdf	03 53 58.5	+1.9
BMR	Baia Mare	117.65	321	⇑PKIKP	PKPdf	03 53 58.5	+1.9
WLAR	White Oak Lake	117.67	55	*e*PKPdf	PKPdf	03 53 59.2	+2.2
X40A	Basin Creek Fa	117.73	55	PKiKP	PKPdf	03 53 56.7	-0.5
	baz=282						
ARR	Arges	117.76	318	⇑*i*P	PKPdf	03 53 58.5	+1.5
N41A	Harden Midland	117.76	47	PKiKP	PKPdf	03 53 56.5	-0.5
	baz=286						
EFI	East Falkland	117.80	162	PFAKE		03 54 10.0	+13
EFI				LR	LR		
	comp=Z,12μm,22.0s						
M41A	Milan	117.80	46	PKiKP	PKPdf	03 53 56.6	-0.5
	baz=287						
CMIG	Matias Romero	117.88	74	PKP	PKPdf	03 53 58.8	+0.8
	comp=Z,3.2nm,0.5s,baz=245,slow=3.1,SNR=7.0						
P41A	Barry, Barry	117.89	48	PKiKP	PKPdf	03 53 56.8	-0.6
	baz=286						
O41A	Passleys Farm,	117.91	48	PKiKP	PKPdf	03 53 56.8	-0.5
	baz=286						
S41A	Jillco Farms,	117.91	51	PKiKP	PKPdf	03 53 56.4	-1.0
	baz=284						
X301	Greenbrier Sit	117.93	54	*e*PKPdf	PKPdf	03 53 57.4	-0.1
X301				LR	LR		
	comp=Z,11μm,22.0s						
E42A

I42A	Draeger Farm,	118.16	43	PKiKP	PKPdf	03 53 56.5	-1.2
	baz=290						
CCM	Cathedral Cave	118.18	50	ePKIKP	PKPdf	03 53 57.7	-0.3
CCM				MLR	MLR		
	comp=Z,31μm,21.0s						
CCM	Cathedral Cave	118.18	50	ePKPdf	PKPdf	03 53 57.7	-0.3
CCM				LR	LR		
	comp=Z,31μm,21.0s						
H42A	Shiocton	118.21	43	PKiKP	PKPdf	03 53 56.6	-1.2
	baz=290						
TUIG	Tuzandepetl	118.28	73	PFAKE		03 54 10.0	+11
TUIG				LR	LR		
	comp=Z,22μm,21.0s						
LOT	Lotru	118.30	319⇑	iP	PKPdf	03 53 57.9	-0.2
STHS	Stebnicka Huta	118.32	323	ePKIKP	PKPdf	03 53 59.0	+1.1
STHS	Stebnicka Huta	118.32	323	ePKP	PKPdf	03 53 59.0	+1.1
STHS				e		04 16 47.3	
N42A	Yates City	118.33	47	PKiKP	PKPdf	03 53 57.2	-0.9
	baz=287						
M42A	Sheffield	118.34	46	PKiKP	PKPdf	03 53 57.2	-0.9
	baz=288						
SFJD	Kangerlussuaq	118.39	8	ePKIKP	PKPdf	03 53 58.4	+0.9
SFJD				MLR	MLR		
	comp=Z,19μm,22.0s						
SFJD	Kangerlussuaq	118.39	8	ePKPdf	PKPdf	03 53 58.4	+0.9
SFJD				LR	LR		
	comp=Z,19μm,22.0s						
CRVS	Cervenica-Dubn	118.41	323	ePKIKP	PKPdf	03 53 57.9	-0.2
CRVS				e		04 05 08.3	
CRVS	Cervenica-Dubn	118.41	323	ePKP	PKPdf	03 53 57.9	-0.2
CRVS				e		04 05 08.3	
CRVS				eSS	SS	04 12 10.9	+43
CRVS				e		04 16 52.9	
P42A	Winchester	118.45	48	PKiKP	PKPdf	03 53 58.1	-0.4
	baz=286						
R42A	Luebbering	118.46	50	PKiKP	PKPdf	03 53 57.3	-1.2
	baz=285						
O42A	Bath	118.47	48	PKiKP	PKPdf	03 53 58.1	-0.3
	baz=287						
DRGR		118.48	320⇓	iP	PKPdf	03 53 58.1	-0.3
DRGR		118.48	320⇓	PKIKP	PKPdf	03 53 58.1	-0.3
Q42A	Golden Eagle	118.49	49	PKiKP	PKPdf	03 53 57.3	-1.2
	baz=286						
G43A	Wallace	118.51	42	PKiKP	PKPdf	03 53 57.4	-1.0
	baz=291						
E43A	Lone Tree Farm	118.55	40	PKiKP	PKPdf	03 53 57.8	-0.6
	baz=292						
S42A	Caledonia	118.59	50	PKiKP	PKPdf	03 53 58.1	-0.6
	baz=285						
U42A	Revenden	118.60	52	PKiKP	PKPdf	03 53 57.9	-0.8
	baz=284						
V42A	Cord	118.61	53	PKiKP	PKPdf	03 53 58.0	-0.9
	baz=283						
F43A	Flat Rock, Esc	118.64	41	PKiKP	PKPdf	03 53 58.4	-0.2
	baz=292						
X42A	Stuttgart	118.70	54	PKiKP	PKPdf	03 53 58.3	-0.7
	baz=283						
Z42A	Norrel Spur, H	118.70	56	PKiKP	PKPdf	03 53 58.2	-0.9
	baz=282						
DEV	Deva	118.71	319⇑	iP	PKPdf	03 53 59.2	+0.5
DEV	Deva	118.71	319⇑	PKIKP	PKPdf	03 53 59.2	+0.5
CCAR	Cane Creek	118.71	55	ePKPdf	PKPdf	03 54 00.2	+1.1
CCAR				LR	LR		
	comp=Z,14μm,20.0s						
Y42A	Garnett, Star	118.72	55	PKiKP	PKPdf	03 53 58.6	-0.5
	baz=282						
GKP	Gorka Klasztor	118.73	329	ePKPdf	PKPdf	03 54 00.4	+1.9
GKP				ePP	PP	03 55 19.2	+2.6
GKP				eSKSac	SKSac	04 00 52.3	+2.5
GKP				LMZ	LR	04 44 39.5	
	comp=Z,38μm,23.9s						
GKP	Gorka Klasztor	118.73	329	ePKIKP	PKPdf	03 54 00.4	+1.9
GKP				e		03 55 19.2	
GKP				e		04 00 52.3	
KARP	Karpathos	118.74	307	ePKPdf	PKPdf	03 54 00.3	+1.1
KARP				LR	LR		
	comp=Z,2μm,22.0s						
H43A	Windswept, Lux	118.74	42	PKiKP	PKPdf	03 53 57.8	-1.0
	baz=291						
342A	Flagon Creek P	118.75	58	PKiKP	PKPdf	03 53 58.6	-0.6
	baz=280						
242A	Grayson	118.77	57	PKiKP	PKiKP	03 53 59.5	+0.2
	baz=281						
SLM	Saint Louis	118.79	49	ePKIKP	PKPdf	03 54 00.5	+1.4
SLM				e		03 55 15.6	
SLM	Saint Louis	118.79	49	ePKPdf	PKPdf	03 54 00.5	+1.4
SLM				ePP	PP	03 55 15.6	-2.1
OJC	Ojcow	118.81	325	ePKPdf	PKPdf	03 53 58.9	+0.1
OJC				eSKSac	SKSac	04 00 50.0	-0.3
OJC				ePS	PS	04 05 03.8	-1.6
OJC				LMZ	LR	04 40 20.5	
	comp=Z,15μm,27.1s						
OJC	Ojcow	118.81	325	ePKIKP	PKPdf	03 53 58.9	+0.1
OJC				e		04 00 50.0	
OJC				ePS	PS	04 05 03.8	-1.6
OJC	Ojcow	118.81	325	ePKPdf	PKPdf	03 53 58.5	-0.3
L43A	Garden Prairie	118.84	45	PKiKP	PKiKP	03 53 59.2	0.0
	baz=289						
142A	Monroe	118.84	57	PKiKP	PKPdf	03 53 58.8	-0.5
	baz=281						
NIE	Niedzica	118.88	324	ePKPdf	PKPdf	03 53 59.2	+0.2
NIE				ePP	PP	03 55 21.9	+4.0
NIE				eSKSac	SKSac	04 00 51.9	+1.2
NIE				LMZ	LR	04 43 56.5	
	comp=Z,12μm,26.5s						
NIE	Niedzica	118.88	324	ePKIKP	PKPdf	03 53 59.2	+0.2
NIE				e		03 55 21.9	
NIE				e		04 00 51.9	
NIE				MLR	MLR		
	comp=Z,12μm,26.5s						
BSD	Bornholm Skovb	118.89	331	iP	PP	03 55 16.3	-1.3
	comp=Z,28μm,23.0s						
HDIL	Hopedale	118.95	47	PKiKP	PKPdf	03 53 59.0	-0.4
	baz=288						
HDIL	Hopedale	118.95	47	ePKPdf	PKPdf	03 53 59.2	-0.1
HDIL				LR	LR		
	comp=Z,12μm,20.0s						
O43A	Sugar Creek Fa	119.01	47	PKiKP	PKPdf	03 53 59.1	-0.4
	baz=287						
P43A	Skaggs, Pawnee	119.05	48	PKiKP	PKPdf	03 53 58.8	-0.8
	baz=287						
F44A	Big Bay de Noc	119.07	40	PKiKP	PKPdf	03 53 59.4	0.0
	baz=293						
Q43A	New Douglas	119.11	49	PKiKP	PKPdf	03 53 59.1	-0.6
	baz=286						
R43A	Red Bud	119.12	50	PKiKP	PKPdf	03 53 57.6	-2.2
	baz=286						
PBMO	Poplar Bluff	119.12	51	ePKPdf	PKPdf	03 53 58.9	-0.9
E44A	Grand Marais A	119.14	40	PKiKP	PKPdf	03 53 58.7	-0.8
	baz=293						
T43A	Greenville	119.16	51	PKiKP	PKiKP	03 54 00.2	+0.3
	baz=285						
KECS	Kecovo	119.17	323	ePKIKP	PKPdf	03 54 01.0	+1.5
KECS	Kecovo	119.17	323	ePKP	PKPdf	03 54 01.0	+1.5
KECS				e		04 16 49.4	
S43A	Fulton Ridge,	119.20	51	PKiKP	PKPdf	03 53 59.3	-0.6
	baz=285						
HOPE	Hope Point	119.20	177	PFAKE		03 54 10.0	+11
HOPE				LR	LR		
	comp=Z,20μm,20.0s						
HBAR	Harrisburg	119.24	53	PFAKE		03 54 10.0	+10
HBAR				LR	LR		
	comp=Z,13μm,19.0s						
U43A	Rector	119.25	52	PKiKP	PKPdf	03 53 59.2	-0.8
	baz=284						
143A	Socs Landing,	119.26	56	PKiKP	PKPdf	03 54 00.0	-0.1
	baz=282						
V43A	Jonesboro	119.28	53	PKiKP	PKiKP	03 54 01.0	+0.8
	baz=284						
Z43A	Armstrong Fami	119.29	56	PKiKP	PKPdf	03 53 59.9	-0.3
	baz=282						
X43A	Marvell	119.30	54	PKiKP	PKPdf	03 54 00.1	-0.1
	baz=283						
443A	Delano Plantat	119.31	58	PKiKP	PKiKP	03 54 00.9	+0.5
	baz=280						
SIRR	Siria	119.36	320⇑	iP	PKPdf	03 54 00.4	+0.4
243A	Waterproof	119.36	57	PKiKP	PKPdf	03 54 00.2	-0.2
	baz=281						
343A	Vidalia	119.36	58	PKiKP	PKPdf	03 54 00.4	0.0
	baz=281						
543A	St. Martinvill	119.37	59	PKiKP	PKPdf	03 53 59.1	-1.4
	baz=280						
Y43A	Makayla and Ka	119.40	55	PKiKP	PKPdf	03 53 58.3	-2.1
	baz=283						
LANS	Liptovska Anna	119.48	324	ePKIKP	PKPdf	03 54 01.8	+1.6
LANS	Liptovska Anna	119.48	324	ePKP	PKPdf	03 54 01.8	+1.6
LANS				e		04 16 37.2	
Q44A	Meyer Farm, Va	119.63	49	PKiKP	PKPdf	03 53 58.5	-2.2
	baz=287						
APE	Apeiranthos	119.64	309⇑	iP	PKPdf	03 54 02.1	+1.2
APE	Apeiranthos	119.64	309⇑	PKIKP	PKPdf	03 54 02.1	+1.2
BZS	Buzias	119.64	319⇑	iP	PKPdf	03 54 00.7	+0.2
BZS	Buzias	119.64	319⇑	PKIKP	PKPdf	03 54 00.7	+0.2
GNAR	Gosnell	119.65	52	ePKPdf	PKPdf	03 54 00.6	-0.2
VTS	Vitosha	119.68	316⇑	iP	PKPdf	03 53 59.4	-1.5
VTS	Vitosha	119.68	316⇑	PKIKP	PKPdf	03 53 59.4	-1.5
VTS	Vitosha	119.68	316	ePKPdf	PKPdf	03 53 60.0	-1.0
VTS				ePP	PP	03 55 21.9	-2.0
VTS				LR	LR		
	comp=Z,10μm,21.0s						
PARMO	Parma	119.68	51	ePKPdf	PKPdf	03 54 01.1	+0.2
PARMO				LR	LR		
	comp=Z,18μm,20.0s						
T44A	Benton	119.70	51	PKiKP	PKPdf	03 53 59.1	-1.8
	baz=285						
E45A	Wooded Hills,	119.72	40	PKiKP	PKPdf	03 54 00.6	0.0
	baz=294						
COP	Copenhagen	119.72	333	iP	PP	03 55 18.6	-4.7
	comp=Z,17μm,20.0s						
P44A	Sand Creek, Wi	119.76	48	PKiKP	PKPdf	03 54 00.4	-0.6
	baz=287						
F45A	CMU Biological	119.77	40	PKiKP	PKPdf	03 54 00.3	-0.4
	baz=293						
R44A	Waltonville	119.77	50	PKiKP	PKPdf	03 53 59.6	-1.4
	baz=286						
PSZ	Piszkesteto	119.77	322⇑	iP	PKPdf	03 54 03.2	+2.4
PSZ	Piszkesteto	119.77	322⇑	PKIKP	PKPdf	03 54 03.2	+2.4
PSZ	Piszkesteto	119.77	322⇑	ePKPdf	PKPdf	03 54 02.9	+2.1
PSZ	Piszkesteto	119.77	322⇑	ePKPdf	PKPdf	03 54 02.9	+2.1
PSZ	Piszkesteto	119.77	322	ePKPdf	PKPdf	03 54 00.9	+0.1
PSZ				LR	LR		
	comp=Z,15μm,21.0s						
U44A	Portageville	119.77	52	PKiKP	PKPdf	03 54 00.8	-0.3
	baz=285						
RAC	Raciborz	119.79	325	eP	Pdif	03 50 24.9	+1.2
RAC				e		03 55 25.4	
RAC				MLR	MLR		
	comp=Z,13μm,23.0s						
S44A	Carbondale	119.79	50	PKiKP	PKPdf	03 54 00.2	-0.8
	baz=286						
SANT	Santorini	119.88	308	ePKPdf	PKPdf	03 54 00.6	-0.8
SANT				LR	LR		
	comp=Z,4μm,22.0s						
X44A	Crenshaw	119.90	54	PKiKP	PKPdf	03 53 59.8	-1.5
	baz=284						
MDVR	Moldovita	119.90	318⇑	iP	PKPdf	03 54 01.3	+0.2
OKC	Ostrava-Krasne	119.93	325	ePKPdf	PKPdf	03 54 03.3	+2.4
OKC				ePP	PP	03 55 23.5	-1.5
OKC				ex	x	03 57 57.3	
OKC				eSP	SP	04 05 11.9	+2.6
OKC				ex	x	04 06 38.1	
OKC				AMS	AMS	04 49 40.0	
	comp=Z,9μm,18.3s						
OKC	Ostrava-Krasne	119.93	325	ePKIKP	PKPdf	03 54 03.3	+2.4
OKC				e		03 55 23.5	
OKC				e		03 57 57.3	
OKC				ePS	PS	04 05 11.9	-3.6
OKC				e		04 06 38.1	
OKC				MLR	MLR		
	comp=Z,9μm,18.3s						
Z44A	Pea Ridge, Bel	119.94	55	PKiKP	PKPdf	03 54 00.9	-0.5
	baz=283						
THR5	Thira Island,	119.95	308	P	PKPdf	03 54 03.6	+2.2
Y44A	Strider, Charl	119.97	55	PKiKP	PKPdf	03 54 00.6	-0.9
	baz=283						
RGN	Rugen	119.97	331	PFAKE		03 54 10.0	+9.2
RGN				LR	LR		
	comp=Z,28μm,19.0s						
LLD	Lille Linde	120.03	333	iP	PP	03 55 31.1	+5.7
344A	Westbrook Farm	120.07	58	PKiKP	PKiKP	03 54 02.0	+0.1
	baz=282						
U44B	Burton Farm, H	120.08	52	PKiKP	PKPdf	03 54 00.2	-1.5
	baz=285						
144A	Alexander Plac	120.09	56	PKiKP	PKPdf	03 54 00.0	-1.7
	baz=282						
VBMS	Vicksburg	120.09	57	PKiKP	PKPdf	03 54 01.0	-0.8
	baz=282						
VBMS	Vicksburg	120.09	57	ePKPdf	PKPdf	03 54 04.0	+2.2
VBMS				LR	LR		
	comp=Z,9μm,21.0s						
GLAT	Glass	120.14	52	ePKPdf	PKPdf	03 54 03.1	+1.4
VYHS	Vyhne	120.15	323	ePKIKP	PKPdf	03 54 01.6	+0.1
VYHS				e		04 05 07.2	
VYHS				MLR	MLR		
	comp=Z,10μm,26.6s						
VYHS	Vyhne	120.15	323	ePKP	PKPdf	03 54 01.6	+0.1
VYHS				e		04 05 07.2	
VYHS				eSS	SS	04 12 40.7	+50
VYHS				e		04 16 41.1	
LAST	Lasithi	120.16	307	P	PKPdf	03 54 01.6	-0.4
HALT	Halls	120.20	52	ePKPdf	PKPdf	03 54 02.1	+0.2
HALT				LR	LR		
	comp=Z,9μm,19.0s						
444A	Pine Grove	120.20	58	PKiKP	PKPdf	03 54 00.2	-1.8
	baz=281						
MORC	Moravsky Berou	120.30	325⇑	iP	PKPdf	03 54 02.8	+1.1
MORC	Moravsky Berou	120.30	325⇑	PKIKP	PKPdf	03 54 02.8	+1.1
MORC	Moravsky Berou	120.30	325	ePKPdf	PKPdf	03 54 02.2	+0.5
MORC				ePP	PP	03 55 27.2	-0.5
MORC				LR	LR		
	comp=Z,41μm,19.0s						
S45A	Carrier Mills	120.31	50	PKiKP	PKPdf	03 54 02.0	-0.1
	baz=286						
OLIL	Olney	120.37	49	ePKPdf	PKPdf	03 54 02.1	0.0
UTMT	University of	120.45	52	ePKPdf	PKPdf	03 54 03.5	+1.1
KSP	Ksiaz	120.47	327	ePKPdf	PKPdf	03 54 02.0	0.0
KSP				ePP	PP	03 55 31.5	+2.8
KSP				eSKSac	SKSac	04 00 51.4	-4.7
KSP				ePS	PS	04 05 16.3	-4.0
KSP				LMZ	LR	04 43 12.9	
	comp=Z,26μm,26.9s						
KSP	Ksiaz	120.47	327	ePKIKP	PKPdf	03 54 02.0	0.0
KSP				e		03 55 31.5	
KSP				e		04 00 51.4	
KSP				ePS	PS	04 05 16.3	-4.0
KSP				MLR	MLR		
	comp=Z,26μm,26.9s						
OXF	Oxford	120.49	54	ePKIKP	PKPdf	03 54 03.3	+0.8
OXF				MLR	MLR		
	comp=Z,12μm,20.0s						
OXF	Oxford	120.49	54	ePKPdf	PKPdf	03 54 03.3	+0.8
OXF				LR	LR		
	comp=Z,12μm,20.0s						
BUD	Budapest	120.49	322⇓	ePKPdf	PKPdf	03 54 03.7	+1.6
BUD	Budapest	120.49	322⇓	ePKPdf	PKPdf	03 54 03.7	+1.6
145A	Houston Renfro	120.50	56	PKiKP	PKPdf	03 54 01.6	-1.0
	baz=283						
W45A	Hickory Valley	120.51	53	PKiKP	PKPdf	03 54 01.2	-1.3
	baz=285						
X45A	UM Field Stati	120.52	54	PKiKP	PKPdf	03 54 00.4	-2.1
	baz=284						
Z45A	Winona	120.53	55	PKiKP	PKPdf	03 54 02.4	-0.2
	baz=283						
CCIG	Comitan	120.53	75	ePKPdf	PKPdf	03 54 04.4	+1.1
CCIG				LR	LR		
	comp=Z,15μm,22.0s						
Y45A	Yeager Farm, C	120.53	55	PKiKP	PKPdf	03 54 02.0	-0.5
	baz=284						
V45A	Humboldt	120.54	52	PKiKP	PKPdf	03 54 00.9	-1.7
	baz=285						
445A	Amite	120.54	58	PKiKP	PKPdf	03 54 00.7	-2.0
	baz=281						
VAY	Valandovo	120.56	314	iPKP	PKPdf	03 54 03.4	+1.0
KRLC	Kraliky	120.59	326	ePKPdf	PKPdf	03 54 02.8	+0.5
KRLC	Kraliky	120.59	326	ePKIKP	PKPdf	03 54 02.8	+0.5
SFIN	Lafayette	120.59	47	PKiKP	PKPdf	03 54 01.7	-0.8
	baz=289						
SFIN	Lafayette	120.59	47	ePKPdf	PKPdf	03 54 03.0	+0.5
SFIN				ePP	PP	03 55 29.0	-1.0
SFIN				LR	LR		
	comp=Z,16μm,20.0s						
IDI	Anoyia	120.60	307	P	PKPdf	03 54 01.9	-0.9
IDI	Anoyia	120.60	307	ePKPdf	PKPdf	03 54 02.8	0.0
245A	Little AP, Sta	120.65	57	PKiKP	PKPdf	03 54 02.9	0.0
	baz=282						
MUD	Monsted U'grnd	120.67	335	iP	PP	03 55 34.9	+5.2
	comp=Z,29μm,22.0s						
345A	Thompson Farm,	120.69	58	PKiKP	PKPdf	03 54 01.2	-1.8
	baz=282						
GLMI	Grayling	120.69	41	ePKPdf	PKPdf	03 54 02.3	-0.3
GLMI				LR	LR		
	comp=Z,15μm,20.0s						
DPC	Dobruska-Polom	120.70	326	ePKPdf	PKPdf	03 54 03.2	+0.7
DPC				ePP	PP	03 55 31.7	+1.3
DPC				ex	x	03 58 05.3	
DPC				eSP	SP	04 05 11.6	-4.7
DPC				ex	x	04 06 44.6	
DPC				AMS	AMS	04 44 50.0	
	comp=Z,18μm,23.4s						
DPC	Dobruska-Polom	120.70	326	ePKIKP	PKPdf	03 54 03.2	+0.7
DPC				e		03 55 31.7	
DPC				e		03 58 05.3	
DPC				ePS	PS	04 05 11.6	-11
DPC				e		04 06 44.6	
DPC				MLR	MLR		
	comp=Z,18μm,23.4s						
UPC	Upice	120.80	326	ePKPdf	PKPdf	03 54 03.3	+0.7
UPC				ePP	PP	03 55 27.9	-3.0
UPC				AMS	AMS	04 48 10.0	
	comp=Z,24μm,21.5s						
UPC	Upice	120.80	326	ePKIKP	PKPdf	03 54 03.3	+0.7
UPC				MLR	MLR		
	comp=Z,24μm,21.5s						
USIN	University of	120.92	49	ePKPdf	PKPdf	03 54 03.5	+0.3
CSKK	Cs¨‡kako	121.01	322⇑	ePKPdf	PKPdf	03 54 03.4	+0.3
CSKK	Cs¨‡kako	121.01	322⇑	ePKPdf	PKPdf	03 54 03.4	+0.3
Y46A	Houston	121.08	54	PKiKP	PKPdf	03 54 02.9	-0.8
	baz=284						
PLCA	Paso Flores	121.09	146	PKP	PKPdf	03 54 02.4	-1.2
	comp=Z,2.4nm,0.7s,baz=328,slow=8.6,SNR=5.0						
PLCA				PKKPab	PKKPab	04 04 08.7	+0.4
	comp=Z,14nm,1.0s,baz=80,slow=5.2,SNR=13						
PLCA	Paso Flores	121.09	146	ePKPdf	PKPdf	03 54 04.5	+0.9
PLCA				ePP	PP	03 55 29.8	-3.2
PLCA				PKKPab	PKKPab	04 04 08.7	+0.4
SKO	Skopje	121.13	316	iPKP	PKPdf	03 54 04.0	+0.4
346A	Big Creek Wild	121.14	57	PKiKP	PKPdf	03 54 03.2	-0.6
	baz=282						
Z46A	Louisville	121.18	55	PKiKP	PKPdf	03 54 02.7	-1.2
	baz=284						
146A	Union	121.21	56	PKiKP	PKiKP	03 54 05.1	+1.0
	baz=283						
IMMV	Iera Moni Meta	121.27	308	P	PKPdf	03 54 06.6	+2.6
DID	Didima	121.28	310	P	PKPdf	03 54 03.3	-0.7
246A	Jackson Lee, B	121.29	57	PKiKP	PKPdf	03 54 02.5	-1.6
	baz=283						
DIVS	Divibare	121.30	318	P	PKPdf	03 54 04.1	+0.2
SCIG	Sabancuy	121.31	72	PFAKE		03 54 20.0	+16
SCIG				LR	LR		
	comp=Z,19μm,21.0s						
WVT	Waverly	121.32	52	ePKIKP	PKPdf	03 54 03.3	-0.7
WVT				MLR	MLR		
	comp=Z,20μm,21.0s						
WVT	Waverly	121.32	52	ePKPdf	PKPdf	03 54 03.3	-0.7
WVT				LR	LR		
	comp=Z,20μm,21.0s						
GVD	Gavdhos	121.35	307	P	PKPdf	03 54 04.5	+0.4
446A	Poplarville	121.35	58	PKiKP	PKPdf	03 54 03.0	-1.2
	baz=282						
BLO	Bloomington	121.40	48	ePKIKP	PKPdf	03 54 04.2	+0.1
BLO	Bloomington	121.40	48	ePKPdf	PKPdf	03 54 04.2	+0.1
PAYG	Puerto Ayora	121.46	95	PFAKE		03 54 20.0	+15
PAYG				LR	LR		
	comp=Z,5μm,19.0s						
KRUS	Krusevo	121.47	315	iPKP	PKPdf	03 54 04.1	-0.2
AGG	Agios Georgios	121.49	312	ePKIKP	PKPdf	03 54 04.2	-0.2
AGG				e		03 55 38.9	
AGG				MLR	MLR		
	comp=Z,14μm,20.0s						
AGG	Agios Georgios	121.49	312	ePKPdf	PKPdf	03 54 04.2	-0.2
AGG				ePP	PP	03 55 38.9	+2.7
AGG				LR	LR		
	comp=Z,14μm,20.0s						
BIA	Bitola	121.55	315	iPKP	PKPdf	03 54 06.3	+1.9
PVCC	Panska Ves	121.57	327	ePKPdf	PKPdf	03 54 04.7	+0.6
PVCC				ePP	PP	03 55 35.3	-0.9
PVCC				ex	x	03 58 10.6	
PVCC				eSP	SP	04 05 26.1	+2.2
PVCC				AMS	AMS	04 52 00.0	
	comp=Z,18μm,18.2s						
PVCC	Panska Ves	121.57	327	ePKIKP	PKPdf	03 54 04.7	+0.6
PVCC				e		03 55 35.3	
PVCC				e		03 58 10.6	
PVCC				ePS	PS	04 05 26.1	-4.0
PVCC				MLR	MLR		
	comp=Z,18μm,18.2s						
FNA	Florina	121.59	314	P	PKPdf	03 54 03.1	-1.4
ANKY	Antikythira Is	121.69	308	P	PKPdf	03 54 05.6	+0.8
TREC	Trest	121.71	325	ePKPdf	PKPdf	03 54 04.8	+0.4
TREC				ePP	PP	03 55 32.9	-4.3
TREC				eSP	SP	04 05 22.5	-2.7
TREC				AMS	AMS	04 49 00.0	
	comp=Z,14μm,20.9s						
TREC	Trest	121.71	325	ePKIKP	PKPdf	03 54 04.8	+0.4
TREC				ePS	PS	04 05 22.5	-8.9
TREC				MLR	MLR		
	comp=Z,14μm,20.9s						
247A	Quitman	121.71	56	PKiKP	PKPdf	03 54 02.9	-2.0
	baz=283						
BRG	Berggiesshubel	121.72	328	PDIFF	Pdif	03 50 31.0	-1.3
BRG	Berggiesshubel	121.72	328	ePKP	PKPdf	03 54 04.2	-0.2
	comp=Z,13nm,0.8s						
BRG				i		03 54 07.9	
	comp=Z,45nm,1.1s						
BRG				PP	PP	03 55 34.0	-3.2
BRG				SKP		03 57 38.8	
	comp=Z,8.3nm,1.2s						
BRG	Berggiesshubel	121.72	328	ePKIKP	PKPdf	03 54 04.2	-0.2
BRG				pmax	pmax		
	comp=Z,45nm,1.1s						
BRG				pmax	pmax		
	comp=N,8.0nm,1.2s						
BRG				MLR	MLR		
	comp=N,27μm,24.5s						
BRG				MLR	MLR		
	comp=E,16μm,23.6s						
BRG				MLR	MLR		
	comp=Z,30μm,24.9s						
LRW	Lerwick	121.73	342	AMS	AMS	04 48 42.9	
	comp=Z,17μm,23.6s						
GOPC	GO Pecny, Ondr	121.78	326	ePKPdf	PKPdf	03 54 04.9	+0.4
GOPC				ePP	PP	03 55 36.1	-1.5
GOPC				ex	x	03 58 11.9	
GOPC				ex	x	04 06 55.5	
GOPC				AMS	AMS	04 45 20.0	
	comp=Z,22μm,23.5s						
GOPC	GO Pecny, Ondr	121.78	326	ePKIKP	PKPdf	03 54 04.9	+0.4
GOPC				e		03 55 36.1	
GOPC				e		03 58 11.9	
GOPC				e		04 06 55.5	
GOPC				MLR	MLR		
	comp=Z,22μm,23.5s						
KYTH	Kithira	121.78	309	P	PKPdf	03 54 05.0	0.0
GUR	Goura	121.82

comp=Z,21µm,21.2s
PRA Prague 121.89 327 *e*PKIKP **PKPdf 03 54 05.1 +0.4**
PRA *e* 03 55 41.2
PRA *e*PS **PS 04 05 28.1 -4.8**
PRA MLR MLR
comp=Z,21µm,21.2s
Y47A UCPARC, Winfie 121.89 54 PKiKP **PKPdf 03 54 02.5 -2.7**
baz=285
347A Saraland 121.91 57 PKiKP **PKPdf 03 54 02.3 -3.0**
baz=283
ANX Ano Chora 121.93 312 P **PKPdf 03 54 04.5 -0.8**
KLV Kalavryta, Ach 121.93 311 P **PKPdf 03 54 04.6 -0.7**
447A Lucedale 121.95 58 PKiKP **PKPdf 03 54 04.2 -1.2**
baz=282
VLX Vlachokerasia 121.97 310 P **PKPdf 03 54 05.5 +0.1**
CLL Collm 121.98 328 *e*PKIKP **PKPdf 03 54 04.7 -0.1**
CLL MLR MLR
comp=Z,33µm,20.0s
CLL Collm 121.98 328 *e*Pdif **Pdif 03 50 33.0 -0.4**
CLL *e*PKPdf **PKiKP 03 54 05.0 0.0**
comp=Z,33nm,0.8s
CLL *i* 03 54 08.3
CLL *e*PP **PP 03 55 39.0 +0.1**
comp=Z,2µm,10.5s
CLL *e*PPP PPP 03 58 14.0
CLL *e*SKSac **SKSac 04 01 00.0 -1.2**
CLL *e*PS **PS 04 05 29.0 -4.6**
CLL *e*PPS PPS 04 07 00.0
CLL *e*SS SS 04 12 36.0 +22
CLL *e*SSS SSS 04 17 00.0
CLL Lm MLR 04 49 00.0
comp=N,18µm,20.5s
CLL Lm MLR 04 49 00.0
comp=E,20µm,20.9s
CLL Lm MLR 04 49 00.0
comp=Z,32µm,20.9s
CLL Collm 121.98 328 *e*PKPdf **PKPdf 03 54 04.7 -0.1**
CLL LR LR
comp=Z,33µm,20.0s
CONA Conrad Observa 122.17 324 *e*PKiKP **PKPdf 03 54 05.3 -0.1**
comp=Z,25nm,0.8s,SNR=5.7
Z48A Northport 122.26 55 PKiKP **PKPdf 03 54 04.9 -1.0**
baz=285
BEHE Becsehely 122.32 322⇑ *e*PKPdf **PKPdf 03 54 07.9 +2.2**
BEHE Becsehely 122.32 322⇑ *e*PKPdf **PKPdf 03 54 07.9 +2.2**
AAM Ann Arbor 122.33 43 *e*PKIKP **PKPdf 03 54 05.3 -0.5**
AAM MLR MLR
comp=Z,18µm,22.0s
AAM Ann Arbor 122.33 43 *e*PKPdf **PKPdf 03 54 05.2 -0.5**
AAM LR LR
comp=Z,18µm,22.0s
ITM Ithomi 122.37 310 P **PKPdf 03 54 04.6 -1.5**
248A Dixon Mills 122.42 56 PKiKP **PKPdf 03 54 05.8 -0.4**
baz=284
348A Jackson 122.44 57 PKiKP **PKPdf 03 54 05.1 -1.2**
baz=283
TIR Tirane 122.45 315⇑ *i*P **PKPdf 03 54 07.4 +1.3**
TIR Tirane 122.45 315 ⇑PKIKP **PKPdf 03 54 07.4 +1.3**
TIR Tirane 122.45 315 PFAKE 03 54 20.0 +14
TIR LR LR
comp=Z,11µm,22.0s
PDG Podgorica 122.46 317⇑ *i*P **PKPdf 03 54 08.1 +2.1**
448A Bay Minette 122.58 58 PKiKP **PKPdf 03 54 05.4 -1.2**
baz=283
ARSA Arzberg 122.70 323 *e*PKPdf **PKPdf 03 54 06.0 -0.4**
comp=Z,23nm,1.4s
LRAL Lakeview Retre 122.80 55 *e*PKPdf **PKPdf 03 54 07.8 +0.8**
LRAL LR LR
comp=Z,14µm,20.0s
BLY Banja Luka 122.85 320 *e*PKPdf **PKPdf 03 54 06.8 0.0**
BLY LR LR
comp=Z,13µm,21.0s
KHC Kasperske Hory 122.86 326 *e*PDIFF **Pdif 03 50 38.4 +0.9**
KHC *ex* x 03 50 58.1
KHC *e*PKPdf **PKiKP 03 54 06.8 -0.1**
KHC *e*PP **PP 03 55 42.7 -2.3**
KHC *e*SP SP 04 05 38.2 +2.8
KHC AMS AMS 04 49 20.0
comp=Z,19µm,21.9s
KHC Kasperske Hory 122.86 326 *e*PKIKP **PKPdf 03 54 06.5 -0.2**
KHC MLR MLR
comp=Z,8µm,22.0s
KHC Kasperske Hory 122.86 326 *e*PKPdf **PKPdf 03 54 06.5 -0.2**
KHC LR LR
comp=Z,8µm,22.0s
NKC Novy Kostel 122.87 328 *e*PKPdf **PKPdf 03 54 06.7 +0.1**
NKC *e*PP **PP 03 55 43.4 -1.6**
NKC *ex* x 03 58 21.2
NKC AMS AMS 04 49 50.0
comp=Z,21µm,20.5s
NKC Novy Kostel 122.87 328 *e*PKIKP **PKPdf 03 54 06.7 +0.1**
NKC *e* 03 55 43.4
NKC *e* 03 58 21.2
NKC MLR MLR
comp=Z,21µm,20.5s
GEC2 GERESS Array S 122.94 326 *e*PKIKP **PKPdf 03 54 06.7 -0.2**
GEC2 MLR MLR
comp=Z,17µm,21.0s
GEC2 GERESS Array S 122.94 326 *e*PKPdf **PKPdf 03 54 06.7 -0.2**
GEC2 LR LR
comp=Z,17µm,21.0s
GERES GERESS Array B 122.94 326 PKP **PKPdf 03 54 06.7 -0.2**
comp=Z,13nm,0.6s,baz=75,slow=1.5,SNR=70
GERES PKKPab **PKKPbc 04 04 03.1 +2.7**
comp=Z,1.0nm,0.8s,baz=242,slow=2.9,SNR=2.7
GEA0 GERESS Array S 122.95 326 *e*PKPdf **PKPdf 03 54 06.9 0.0**
SWET Sewanee 123.06 52 *e*PKPdf **PKPdf 03 54 07.1 -0.4**
MOA Molln 123.14 324 *e*PKPdf **PKPdf 03 54 07.0 -0.2**
comp=Z,6.1nm,0.5s
BRAL Brewton 123.21 57 PFAKE 03 54 20.0 +12
BRAL LR LR
comp=Z,14µm,22.0s
PERS Pernice 123.25 323 *i*PKPdf **PKPdf 03 54 07.6 0.0**
SOKA Soboth 123.28 323 *e*PKiKP **PKiKP 03 54 08.0 +0.1**
comp=Z,42nm,1.1s,SNR=7.6
VLDQ Val d'Or 123.55 35 *e*PKPdf **PKPdf 03 54 06.8 -1.1**
VLDQ LR LR
comp=Z,13µm,19.0s
ACSO Alum Creek Sta 123.59 46 *e*PKPdf **PKPdf 03 54 08.0 -0.3**
ACSO *e*PP **PP 03 55 52.1 +1.8**
ACSO LR LR
comp=Z,9µm,20.0s
OBKA Obir 123.65 323 *e*PKiKP **PKiKP 03 54 08.7 +0.1**
comp=Z,37nm,1.4s
BOJS Bojanci 123.72 322 *i*PKPdf **PKPdf 03 54 09.1 +0.7**
VISS Visnje 123.83 322 *i*PKPdf **PKPdf 03 54 09.1 +0.5**
GRFO Grafenberg 123.83 328 *e*PKIKP **PKPdf 03 54 08.2 -0.3**
GRFO MLR MLR
comp=Z,20µm,21.0s
GRFO Grafenberg 123.83 328 *e*PKPdf **PKPdf 03 54 08.2 -0.3**
GRFO *e*PP **PP 03 55 49.3 -2.2**
GRFO LR LR
comp=Z,20µm,21.0s
KBA Koelnbreinsper 124.08 324 *e*PKPdf **PKPdf 03 54 08.8 -0.4**
comp=Z,46nm,1.2s
CPCT Cooper Cave 124.09 51 *e*PKPdf **PKPdf 03 54 08.6 -0.8**
GO05 HualaæØ 124.09 141 PFAKE 03 54 20.0 +11
GO05 LR LR
comp=Z,10µm,20.0s
MYKA Terra Mystica 124.13 323 *e*PKPdf **PKPdf 03 54 08.8 -0.4**
comp=Z,25nm,1.2s
MCD Coleburn Disti 124.43 342 *e*P **PKPdf 03 54 08.5 -0.9**
SCHQ Schefferville 124.45 24 PKP **PKPdf 03 54 09.8 +0.3**
comp=Z,14nm,0.9s,baz=346,slow=3.9,SNR=6.9
SCHQ Schefferville 124.45 24 *e*PKPdf **PKPdf 03 54 10.5 +1.0**
SCHQ LR LR
comp=Z,21µm,22.0s
TRI Trieste 124.53 322 *e*PKIKP **PKPdf 03 54 10.0 +0.1**
TRI MLR MLR
comp=Z,12µm,20.0s
TRI Trieste 124.53 322 *e*PKPdf **PKPdf 03 54 10.0 +0.1**
TRI LR LR
comp=Z,12µm,20.0s
MME1 Meikle Cairn 124.56 341 *e*P **PKPdf 03 54 08.4 -1.2**
TKL Tuckaleechee C 124.60 51 *e*PKIKP **PKPdf 03 54 10.9 +0.5**
TKL MLR MLR
comp=Z,25µm,21.0s
TKL Tuckaleechee C 124.60 51 *e*PKPdf **PKPdf 03 54 10.9 +0.5**
TKL LR LR
comp=Z,25µm,21.0s
WTSB Winterswijk 124.65 332 *e*Pdiff **Pdif 03 50 46.9 +1.6**
WTSB *e*PKPdf **PKiKP 03 54 10.3 +0.1**
WTSB *e*PP **PP 03 56 04.0 +7.2**
ABTA Abfaltersbach 124.73 324 *e*PKPdf **PKPdf 03 54 09.8 -0.6**
comp=Z,85nm,1.2s,SNR=9.7

TSUM Tsumeb 124.77 241 *e*PKPdf **PKPdf 03 54 12.2 +0.8**
TSUM *e*PP **PP 03 56 00.1 +1.1**
TSUM LR LR
comp=Z,21µm,22.0s
ERPA Erie 124.88 42 *e*PKPdf **PKPdf 03 54 11.1 +0.3**
ERPA LR LR
comp=Z,19µm,22.0s
WTTA Wattenberg 124.96 325 *e*PKiKP **PKPdf 03 54 11.1 +0.1**
comp=Z,68nm,1.1s,SNR=17
ALLY Alegheny Colle 124.98 43 *e*PKPdf **PKPdf 03 54 11.0 +0.1**
MOTA Moosalm 125.22 325 *e*PKiKP **PKPdf 03 54 11.5 0.0**
comp=Z,28nm,0.6s,SNR=29
BUF Buffalo 125.27 41 *e*PKPdf **PKPdf 03 54 11.3 -0.1**
TGUH Tegucigalpa,Un 125.30 78 *e*PKPdf **PKPdf 03 54 12.6 +0.4**
TGUH LR LR
comp=Z,7µm,20.0s
RETA Reutte 125.33 326 *e*PKiKP **PKiKP 03 54 11.7 -0.2**
comp=Z,29nm,1.3s,SNR=6.4
KPL Plockton 125.36 343 *e*P **PKPdf 03 54 14.3 +3.2**
KPL AMS AMS 04 49 50.7
comp=Z,16µm,22.5s
PLVO Plevna 125.37 38 *e*PKPdf **PKPdf 03 54 11.8 +0.2**
M54A Oil Creek Stat 125.37 43 PKiKP **PKPdf 03 54 09.6 -2.1**
baz=296
N54A Moraine State 125.38 44 PKiKP **PKPdf 03 54 10.4 -1.3**
baz=295
STU Stuttgart 125.45 328 *e*PKIKP **PKPdf 03 54 11.3 -0.3**
STU MLR MLR
comp=Z,17µm,20.0s
STU Stuttgart 125.45 328 *e*PKPdf **PKPdf 03 54 11.2 -0.3**
STU LR LR
comp=Z,17µm,20.0s
GOGA Godfrey 125.54 53 *e*PKIKP **PKPdf 03 54 12.3 +0.1**
GOGA MLR MLR
comp=Z,12µm,22.0s
GOGA Godfrey 125.54 53 *e*PKPdf **PKPdf 03 54 12.3 +0.1**
GOGA LR LR
comp=Z,12µm,22.0s
FETA Feichten 125.61 325 *e*PKiKP **PKiKP 03 54 12.8 +0.3**
comp=Z,61nm,1.1s,SNR=8.1
CUC Castrocucco 125.82 315 PFAKE 03 54 20.0 +7.4
CUC LR LR
comp=Z,8µm,22.0s
HGN Heimansgroeve 125.85 331 *e*Pdiff **Pdif 03 50 52.3 +1.6**
HGN *e*PKPdf **PKiKP 03 54 16.1 +3.4**
HGN *e*PP **PP 03 56 11.9 +7.1**
MEM Membach 125.92 331 PKP **PKPdf 03 54 12.8 +0.4**
DAVA Damuels 125.94 326 *e*PKiKP **PKiKP 03 54 13.4 +0.2**
comp=Z,30nm,0.7s,SNR=14
MMNY Mt. Morris Dam 125.98 41 *e*PKPdf **PKPdf 03 54 12.8 0.0**
TIGA Tifton 126.00 56 PKiKP **PKPdf 03 54 11.9 -1.3**
baz=286
TIGA Tifton 126.00 56 PFAKE 03 54 30.0 +17
TIGA LR LR
comp=Z,12µm,21.0s
MCWV Mont Chateau 126.03 45 *e*PKPdf **PKPdf 03 54 13.5 +0.5**
MCWV LR LR
comp=Z,8µm,19.0s
LANF Langenberg 126.05 329 PKP **PKPdf 03 54 13.5 +0.7**
FUORN Ofenpass-Fuorn 126.10 325 *e*PKPdf **PKPdf 03 54 13.7 +0.5**
FUORN *e*PP **PP 03 56 09.3 +2.2**
FUORN LR LR
comp=Z,18µm,22.0s
BFO Black Forest 126.17 328 *i*PKIKP **PKPdf 03 54 13.8 +0.8**
BFO Black Forest 126.17 328 *e*PKPdf **PKPdf 03 54 12.5 -0.6**
BFO LR LR
comp=Z,16µm,20.0s
EDMD Edmundbyers 126.21 339 *e*P **PKPdf 03 54 12.6 -0.2**
EDMD AMS AMS 04 44 35.3
comp=Z,11µm,27.1s
TRQ Mont Tremblant 126.24 36 *e*PKPdf **PKPdf 03 54 14.4 +1.2**
ESK Eskdalemuir 126.25 340 AMS AMS 04 52 09.0
comp=Z,14µm,21.4s
ESK Eskdalemuir 126.25 340 PFAKE 03 54 20.0 +7.1
ESK LR LR
comp=Z,16µm,18.0s
PGBU Glenifferbraes 126.27 341 *e*P **PKPdf 03 54 15.2 +2.3**
PGBU AMS AMS 04 51 12.4
comp=Z,18µm,21.3s
BCLA Clavier 126.38 331 PKP **PKPdf 03 54 13.7 +0.4**
BHH Howats Hill 126.44 340 *e*P **PKPdf 03 54 16.0 +2.7**
WLF Walferdange 126.46 330 PKP **PKPdf 03 54 14.7 +1.2**
WLF Walferdange 126.46 330 *e*PKIKP **PKPdf 03 54 14.9 +1.4**
WLF MLR MLR
comp=Z,56µm,22.0s
WLF Walferdange 126.46 330 *e*PKPdf **PKPdf 03 54 14.9 +1.4**
WLF LR LR
comp=Z,56µm,22.0s
BLA Blacksburg 126.59 48 *e*PKIKP **PKPdf 03 54 14.7 +0.5**
BLA MLR MLR
comp=Z,18µm,20.0s
BLA Blacksburg 126.59 48 *e*PKPdf **PKPdf 03 54 14.7 +0.5**
BLA LR LR
comp=Z,18µm,20.0s
KMSC Kings Mountain 126.65 51 PKiKP **PKPdf 03 54 13.9 -0.5**
baz=290
KMSC Kings Mountain 126.65 51 *e*PKPdf **PKPdf 03 54 14.2 -0.1**
KMSC LR LR
comp=Z,19µm,22.0s
O56A Blue Knob Stat 126.66 44 PKiKP **PKPdf 03 54 13.3 -1.0**
baz=296
LMK Market Rasen 126.66 337 AMS AMS 04 52 30.2
comp=Z,17µm,20.4s
SNF Seneffe 126.80 332 PKP **PKPdf 03 54 15.4 +1.3**
KESW Keswick, Cumbr 126.80 339 *e*P **PKPdf 03 54 14.6 +0.6**
KESW AMS AMS 04 44 50.5
comp=Z,12µm,27.6s
WACR West Acre 126.83 336 *e*P **PKPdf 03 54 17.2 +3.1**
WACR AMS AMS 04 50 01.3
comp=Z,15µm,22.0s
ECH Echery 126.86 328 PKP **PKPdf 03 54 12.2 -2.2**
VWCC Virginia Weste 126.90 48 *e*PKPdf **PKPdf 03 54 15.9 +1.2**
DOU Dourbes 126.93 331 PKP **PKPdf 03 54 15.1 +0.8**
SSPA Standing Stone 126.96 43 *e*PKPdf **PKPdf 03 54 16.5 +1.8**
SSPA LR LR
comp=Z,13µm,22.0s
JSC Jenkinsville 127.00 52 *e*PKIKP **PKPdf 03 54 15.8 +0.8**
JSC Jenkinsville 127.00 52 *e*PKPdf **PKPdf 03 54 15.8 +0.8**
LONY Lake Ozonia 127.10 37 *e*PKPdf **PKPdf 03 54 14.8 -0.1**
LONY LR LR
comp=Z,12µm,22.0s
MOF Molkenrain 127.10 328 PKP **PKPdf 03 54 14.8 -0.1**
GAL1 Galloway 127.13 341 AMS AMS 04 53 16.2
comp=Z,7µm,19.3s
VLC Villacollemand 127.38 322 PFAKE 03 54 30.0 +15
VLC LR LR
comp=Z,15µm,22.0s
GCL Cushendall 127.41 342 *e*P **PKPdf 03 54 15.5 +0.3**
BINY Binghamton 127.48 40 *e*PKPdf **PKPdf 03 54 15.9 +0.2**
BINY LR LR
comp=Z,16µm,21.0s
TRQA Tornquist 127.55 150 *e*PKPdf **PKPdf 03 54 16.5 +0.4**
TRQA LR LR
comp=Z,9µm,22.0s
FRNY Flat Rock 127.57 37 *e*PKPdf **PKPdf 03 54 16.4 +0.7**
LOMF Lomont 127.57 327 PKP **PKPdf 03 54 15.4 -0.4**
CWF Charnwood Fore 127.59 337 *e*P **PKPdf 03 54 15.9 +0.4**
CWF AMS AMS 04 53 28.0
comp=Z,14µm,20.6s
CWF Charnwood Fore 127.59 337 *e*PKPdf **PKPdf 03 54 16.4 +0.9**
CWF LR LR
comp=Z,19µm,21.0s
NCB Newcomb 127.66 38 *e*PKPdf **PKPdf 03 54 16.6 +0.6**
SENIN Lac Senin/Sane 127.92 326 *e*PKPdf **PKPdf 03 54 17.5 +0.8**
SENIN LR LR
comp=Z,16µm,20.0s
IP04 Greensprings 127.93 46 *e*PKPdf **PKPdf 03 54 17.4 +0.8**
IP04 LR LR
comp=Z,21µm,21.0s
KSPA Keystone Colle 127.94 41 *e*PKPdf **PKPdf 03 54 18.6 +2.0**
IP03 Louisa 128.01 46 *e*PKPdf **PKPdf 03 54 17.6 +0.8**
IP03 LR LR
comp=Z,21µm,21.0s
IP07 Quail 128.05 46 *e*PKPdf **PKPdf 03 54 17.8 +0.9**
IP07 *e*PP **PP 03 56 18.7 -1.3**
IP07 LR LR
comp=Z,18µm,19.0s
IP06 Yanceyville 128.07 46 *e*PKPdf **PKPdf 03 54 17.3 +0.3**
IP06 LR LR
comp=Z,18µm,20.0s
IP01 Cuckoo 128.12 46 *e*PKPdf **PKPdf 03 54 17.8 +0.8**
IP01 LR LR
comp=Z,20µm,21.0s
CVRD Centerville Ro 128.14 46 *e*PKPdf **PKPdf 03 54 18.9 +1.9**
CVRD LR LR

comp=Z,20µm,21.0s
WPM1 Penmaenmawr 128.16 339 *e*P **PKPdf 03 54 17.3 +0.7**
FOEL Foel Wylfa 128.19 338 *e*P **PKPdf 03 54 19.7 +3.0**
FOEL AMS AMS 04 46 32.7
comp=Z,11µm,25.3s
SDMD Soldier's Deli 128.23 44 *e*PKPdf **PKPdf 03 54 18.4 +1.2**
NHSC New Hope 128.25 53 PFAKE 03 54 30.0 +13
NHSC LR LR
comp=Z,18µm,22.0s
JSRW J. Sargeant Re 128.25 46 *e*PKPdf **PKPdf 03 54 17.6 +0.4**
WPS Cemaes, Angles 128.25 339 *e*P **PKPdf 03 54 17.3 +0.5**
WPS AMS AMS 04 55 45.6
comp=Z,11µm,19.7s
PTRD Partlow Road 128.25 46 PFAKE 03 54 30.0 +13
PTRD LR LR
comp=Z,17µm,21.0s
MDV Middlebury 128.28 37 *e*PKPdf **PKPdf 03 54 17.5 +0.4**
IP05 Hopewell Churc 128.28 46 *e*PKPdf **PKPdf 03 54 17.5 +0.2**
IP05 LR LR
comp=Z,17µm,19.0s
MVL Millersville 128.29 43 *e*PKPdf **PKPdf 03 54 18.5 +1.2**
WLF1 Llynfaes 128.31 339 *e*P **PKPdf 03 54 17.5 +0.6**
WLF1 AMS AMS 04 55 57.5
comp=Z,23µm,19.1s
ACCN Adirondack Com 128.32 38 *e*PKPdf **PKPdf 03 54 16.9 -0.3**
CSU Charleston Sou 128.37 53 *e*PKPdf **PKPdf 03 54 19.3 +1.7**
CBN Corbin Frederi 128.39 46 *e*PKPdf **PKPdf 03 54 17.0 -0.5**
CBN LR LR
comp=Z,17µm,20.0s
LLW Llanuwychllyn 128.40 338 *e*P **PKPdf 03 54 17.7 +0.7**
LLW AMS AMS 04 45 31.6
comp=Z,172µm,28.7s
WDD Wied Dalam 128.43 311 PFAKE 03 54 30.0 +12
WDD LR LR
comp=Z,3µm,21.0s
HDC Heredia 128.43 83 *e*PKPdf **PKPdf 03 54 20.2 +1.7**
HDC LR LR
comp=Z,10µm,22.0s
URVA University of 128.55 46 *e*PKPdf **PKPdf 03 54 18.3 +0.5**
LCO Las Campanas 128.64 136 PFAKE 03 54 30.0 +11
LCO LR LR
comp=Z,9µm,20.0s
STRD Stroud 128.67 337 *e*P **PKPdf 03 54 17.7 0.0**
STRD AMS AMS 04 53 20.3
comp=Z,15µm,20.5s
TRY Troy 128.67 39 *e*PKPdf **PKPdf 03 54 18.4 +0.5**
DWPF Disney Wildern 128.70 59 *e*PKPdf **PKPdf 03 54 20.1 +1.7**
DWPF LR LR
comp=Z,10µm,20.0s
RSL Roselend 128.70 326 PKP **PKPdf 03 54 19.8 +1.7**
MCH1 Michaelchurch 128.82 337 *e*P **PKPdf 03 54 18.1 +0.2**
MCH1 AMS AMS 04 53 07.6
comp=Z,13µm,22.1s
MONM Monmouth 128.87 337 *e*P **PKPdf 03 54 18.5 +0.5**
MONM AMS AMS 04 52 47.3
comp=Z,13µm,22.4s
LBNH Lisbon 128.89 36 *e*PKIKP **PKPdf 03 54 19.7 +1.4**
LBNH MLR MLR
comp=Z,14µm,21.0s
LBNH Lisbon 128.89 36 *e*PKPdf **PKPdf 03 54 19.7 +1.4**
LBNH LR LR
comp=Z,14µm,21.0s
ODNJ Ogdensburg 128.93 41 *e*PKPdf **PKPdf 03 54 19.5 +1.1**
PSUB Penn St. - Bra 128.94 43 *e*PKPdf **PKPdf 03 54 18.9 +0.4**
PSUB LR LR
comp=Z,22µm,22.0s
HNH Hanover 128.98 37 *e*PKPdf **PKPdf 03 54 20.1 +1.6**
DSB Dublin 129.02 340 PFAKE 03 54 30.0 +12
DSB LR LR
comp=Z,10µm,20.0s
HGH Gray Hill 129.03 337 *e*P **PKPdf 03 54 18.4 0.0**
BNI Bardonecchia 129.05 325 *e*PKIKP **PKPdf 03 54 20.3 +1.5**
BNI MLR MLR
comp=Z,22µm,19.0s
BNI Bardonecchia 129.05 325 *e*PKPdf **PKPdf 03 54 20.3 +1.5**
BNI LR LR
comp=Z,22µm,19.0s
LPW Lampeter 129.13 338 AMS AMS 04 46 13.6
comp=Z,13µm,27.0s
BRNJ Basking Ridge 129.16 41 *e*PKPdf **PKPdf 03 54 20.2 +1.3**
CNNC Cliffs of the 129.24 49 *e*PKPdf **PKPdf 03 54 20.3 +1.1**
CNNC LR LR
comp=Z,23µm,22.0s
PAL Palisades 129.42 41 *e*PKIKP **PKPdf 03 54 20.7 +1.3**
PAL MLR MLR
comp=Z,18µm,22.0s
PAL Palisades 129.42 41 *e*PKPdf **PKPdf 03 54 20.7 +1.3**
PAL LR LR
comp=Z,18µm,22.0s
CPNY Central Park 129.50 41 *e*PKPdf **PKPdf 03 54 21.3 +1.8**
QUA2 Belchertown 129.73 39 *e*PKPdf **PKPdf 03 54 22.0 +2.1**
PKME Peaks-Kenny Pk 129.78 34 *e*PKPdf **PKPdf 03 54 21.2 +1.2**
PKME LR LR
comp=Z,16µm,21.0s
YLE Yale 129.89 40 *e*PKPdf **PKPdf 03 54 22.5 +2.2**
WVL Waterville 130.00 35 *e*PKPdf **PKPdf 03 54 22.4 +2.0**
HRV Adam Dziewonsk 130.10 38 *e*PKIKP **PKPdf 03 54 22.7 +2.1**
HRV MLR MLR
comp=Z,15µm,20.0s
HRV Adam Dziewonsk 130.10 38 *e*PKPdf **PKPdf 03 54 22.7 +2.1**
HRV LR LR
comp=Z,15µm,20.0s
SSB Saint Sauveur 130.10 327 PKP **PKPdf 03 54 21.4 +0.7**
PLDF La Plantade 130.16 328 PKP **PKPdf 03 54 20.2 -0.6**
HTL Hartland 130.19 337 AMS AMS 04 53 59.1
comp=Z,8µm,21.2s
WES Weston 130.31 38 *e*PKIKP **PKPdf 03 54 22.4 +1.4**
WES Weston 130.31 38 *e*PKPdf **PKPdf 03 54 22.4 +1.4**
AGO Saint Agoulin 130.36 328 PKP **PKPdf 03 54 19.2 -1.9**
BRYW Bryant College 130.44 39 *e*PKPdf **PKPdf 03 54 22.3 +0.9**
VSL Villasalto 130.45 318 *e*PKPdf **PKPdf 03 54 23.2 +1.8**
VSL LR LR
comp=Z,7µm,20.0s
PYM Petit Puy Mans 130.62 328 PKP **PKPdf 03 54 21.8 +0.1**
LBL Lubilhac 130.84 327 PKP **PKPdf 03 54 20.7 -1.4**
FRNF Fournols 131.10 328 PKP **PKPdf 03 54 24.0 +1.5**
GGN Saint George 131.20 32 PFAKE 03 54 30.0 +7.4
GGN LR LR
comp=Z,12µm,21.0s
LMN Caledonia Moun 131.76 30 *e*PKPdf **PKPdf 03 54 26.2 +2.5**
LMN LR LR
comp=Z,20µm,20.0s
NNA Nana 131.79 112 PKP **PKPdf 03 54 26.2 +1.5**
comp=Z,57nm,1.0s,baz=258,slow=4.1,SNR=9.5
NNA SKP 03 57 56.4
comp=Z,101nm,1.1s,baz=260,slow=6.5,SNR=11
NNA Nana 131.79 112 *i*PKIKP **PKPdf 03 54 29.9 +5.2**
NNA Nana 131.79 112 *e*PKPdf **PKPdf 03 54 28.2 +3.5**
NNA SKP **SKPdf 03 57 56.4 -0.3**
NNA LR LR
comp=Z,5µm,21.0s
ATAH Atahualpa 131.81 106 SKP **SKPdf 03 57 57.8 +0.5**
comp=Z,205nm,1.0s,baz=300,slow=3.3,SNR=15
PB10 IPOC Station P 131.94 130 *e*PKPdf **PKPdf 03 54 25.4 +0.7**
PB10 *e*PP **PP 03 56 38.4 -7.1**
PB10 LR LR
comp=Z,6µm,20.0s
KEST Kesra 132.28 313 PKP **PKPdf 03 54 27.1 +2.0**
comp=Z,77nm,1.3s,baz=143,slow=1.3,SNR=19
KEST SKPab **SKPab 03 57 51.0 +1.5**
comp=Z,48nm,1.1s,baz=330,slow=1.3,SNR=6.3
KEST Kesra 132.28 313 *e*PKPdf **PKPdf 03 54 27.6 +2.5**
KEST SKPab **SKPab 03 57 51.0 +1.5**
KEST LR LR
comp=Z,10µm,22.0s
BCIP Isla Barro Col 132.64 84 *e*PKPpre PKPpre 03 54 29.2
BCIP *e*PKPdf **PKiKP 03 54 29.5 +2.2**
BCIP LR LR
comp=Z,8µm,20.0s
TRIS Tristan da Cun 132.77 202 PFAKE 03 54 40.0 +14
TRIS LR LR
comp=Z,12µm,22.0s
PB04 IPOC Station P 132.90 129 PFAKE 03 54 40.0 +13
PB04 LR LR
comp=Z,6µm,20.0s
OTAV Otavalo 133.30 96 *e*PKPdf **PKPdf 03 54 30.4 +2.3**
OTAV *e*PP **PP 03 56 54.2 -1.5**
OTAV LR LR
comp=Z,4µm,21.0s
ABSA Djebel Ababsia 133.36 315 P **SKPab 03 57 54.1 0.0**
LVC Limon Verde 133.70 130 SKP **SKPdf 03 58 02.4 +1.9**
comp=Z,132nm,1.0s,baz=281,slow=3.6,SNR=6.3
LVC Limon Verde 133.70 130 *e*PKPdf **PKPdf 03 54 29.5 +0.9**
LVC SKP 03 58 02.4

LVC LR LR
comp=Z,8μm,22.0s
CKFL Kef-Lekhel 133.82 316 P **SKPab 03 57 55.5 -0.7**
CMBC Cumbal 134.02 95 *e*P **PKPdf 03 54 28.5 -1.0**
PB01 IPOC Station P 134.11 128 *e*PKPdf **PKPdf 03 54 29.9 +0.9**
PB01 LR LR
comp=Z,8μm,22.0s
CTEI Djebel Teioual 134.21 315 P **SKPab 03 57 57.8 -0.1**
MTDJ Mount Denham 134.25 71 PFAKE 03 54 40.0 +11
MTDJ LR LR
comp=Z,5μm,21.0s
PB11 IPOC Station P 134.66 126 *e*PKPdf **PKPdf 03 54 27.6 -2.5**
PB11 LR LR
comp=Z,7μm,22.0s
CRUC La Cruz 134.97 94 *e*P **PKPdf 03 54 34.7 +3.6**
CAPC Capurgana 135.09 84 *e*P **PKPdf 03 54 27.4 -3.5**
POPC Popayan, Colom 135.37 93 *e*P **PKPdf 03 54 27.9 -3.8**
GTBY Guantanamo Bay 136.21 68 *e*PKPdf **PKPdf 03 54 33.7 +0.9**
GTBY LR LR
comp=Z,5μm,20.0s
FLOC Florencia 136.26 95 *e*P **PKPdf 03 54 35.9 +2.7**
MOTC Monteria, Cord 136.76 84 *e*P **PKPdf 03 54 33.0 -0.9**
HELC Santa Helena 136.82 88 *e*P PKPpre 03 54 29.6
HELC Santa Helena 136.82 88 *e*PKPpre PKPpre 03 54 27.2
GUYC Guyana, Colomb 136.90 89 *e*P **PKPdf 03 54 33.0 -1.8**
TOLC Tolima 136.92 90 *e*P **PKPdf 03 54 33.6 -1.1**
SJCC San Jacinto, C 137.24 83 *e*P **PKPdf 03 54 33.6 -1.3**
PRAC Prado 137.27 92 *e*P **PKPdf 03 54 34.7 -0.3**
PRAC Prado 137.27 92 *e*PKPpre PKPpre 03 54 27.6
PRAC *e*PKPdf **PKPdf 03 54 34.9 -0.1**
NORC Norcasia 137.44 89 *e*P **PKPdf 03 54 36.4 +1.1**
ZARC Zaragoza, Cauc 137.54 86 *e*P **PKPdf 03 54 31.9 -3.5**
LPAZ La Paz 137.67 123 PKhKP PKPpre 03 54 26.5
comp=Z,1.7nm,0.6s,baz=99,slow=2.3,SNR=10
LPAZ SKP 03 58 12.6
comp=Z,23nm,1.1s,baz=319,slow=0.5,SNR=3.6
LPAZ La Paz 137.67 123 *e*PKPpre PKPpre 03 54 28.4
LPAZ *e*PKPdf **PKPdf 03 54 34.7 -1.7**
LPAZ SKP 03 58 12.6
ROSC El Rosal 137.93 90 PKP **PKPdf 03 54 35.5 -1.2**
comp=Z,18nm,0.5s,baz=327,slow=23,SNR=17
ROSC El Rosal 137.93 90 *e*P **PKPdf 03 54 33.0 -3.6**
ROSC El Rosal 137.93 90 *e*PKPdf **PKPdf 03 54 35.1 -1.6**
ROSC LR LR
comp=Z,3μm,20.0s
PBRG Braganca 138.37 331 *e*PKPdf PKPpre 03 54 25.3
PBRG Braganca 138.37 331 *e*PP PP 03 57 26.8 +1.5
PBRG Braganca 138.37 331 *e*LR LR 04 40 54.1
comp=Z,27μm,20.0s
ES19 SONSECA Array 138.47 327 *e*PKPpre PKPpre 03 54 24.3
ES19 *e*PKPdf **PKPdf 03 54 33.6 -2.9**
ES19 *e*PP **PP 03 57 19.7 -6.4**
VILC Villavicencio, 138.49 91 *e*P **PKPdf 03 54 35.3 -2.1**
CHIC Chingaza 138.50 90 *e*P **PKPdf 03 54 34.7 -3.0**
ESDC Sonseca Array 138.52 327 PKhKP PKPpre 03 54 25.8
comp=Z,0.5nm,0.5s,baz=38,slow=2.6,SNR=8.5
ESDC SKP 03 58 10.4
comp=Z,3.2nm,0.8s,baz=29,slow=3.0,SNR=5.8
ESLA Sonseca Array 138.52 327 *e*PKPpre PKPpre 03 54 27.9
ESLA *e*PKPdf **PKiKP 03 54 37.8 -0.9**
ESLA LR LR
comp=Z,17μm,21.0s
BRRC Barranca, Sant 138.66 87 *e*P **PKPdf 03 54 34.7 -2.8**
LGNH LØogne 138.81 69 *e*PKPpre PKPpre 03 54 28.7
LGNH *e*PKPdf **PKPdf 03 54 38.5 +0.9**
LGNH LR LR
comp=Z,8μm,20.0s
PAB San Pablo 138.82 327 *e*PKIKP **PKPdf 03 54 37.8 +0.6**
PAB MLR MLR
comp=Z,18μm,22.0s
PAB San Pablo 138.82 327 *e*PKPdf **PKPdf 03 54 37.8 +0.6**
PAB LR LR
comp=Z,18μm,22.0s
PGAV Gavieira, Arco 138.96 333 *e*PKPdf PKPpre 03 54 30.9
PGAV Gavieira, Arco 138.96 333 *e*PP PP 03 57 31.2 +2.2
PGAV Gavieira, Arco 138.96 333 *e*LR LR 04 40 31.2
comp=Z,17μm,24.0s
MVO Moncorvo 139.00 331 *e*PKPdf PKPpre 03 54 30.0
MVO Moncorvo 139.00 331 *e*PP PP 03 57 30.2 +1.0
MVO Moncorvo 139.00 331 *e*LR LR 04 42 54.5
comp=Z,28μm,20.0s
PCAB Cabril 139.05 332 *e*PKPdf **PKPdf 03 54 39.9 +2.4**
CPUP Villa Florida 139.09 144 PKP **PKPdf 03 54 37.5 -0.5**
comp=Z,5.3nm,0.9s,baz=270,slow=2.7,SNR=8.5
CPUP SKPab **SKPab 03 58 20.2 +0.8**
comp=Z,32nm,1.2s,baz=332,slow=4.3,SNR=5.1
CPUP Villa Florida 139.09 144 *e*PKPdf **PKPdf 03 54 40.8 +2.8**
CPUP SKPab **SKPab 03 58 20.2 +0.8**
BARC Barichara 139.17 88 *e*P PKPpre 03 54 33.0
POLO Lamas de Olo 139.20 332 *e*PKPdf PKPpre 03 54 28.8
POLO Lamas de Olo 139.20 332 *e*PP PP 03 57 28.0 -2.5
POLO Lamas de Olo 139.20 332 *e*LR LR 04 41 47.8
comp=Z,13μm,24.0s
RUSC La Rusia 139.23 89 *e*P PKPpre 03 54 34.7
RUSC La Rusia 139.23 89 *e*PKPpre PKPpre 03 54 32.6
RUSC *e*PKPdf **PKPdf 03 54 38.0 -1.1**
PVRL Vila Real 139.24 332 *e*PKPdf **PKPdf 03 54 39.2 +1.3**
GRTK Grand Turk 139.47 65 PFAKE 03 54 50.0 +11
GRTK LR LR
comp=Z,11μm,21.0s
PAMC Pamplona, Colo 139.67 86 *e*P **PKPdf 03 54 39.2 -0.7**
PVIS Viseu 139.76 331 *e*PKPdf **PKPdf 03 54 40.8 +2.0**
PVIS Viseu 139.76 331 *e*PP PP 03 57 36.7 +2.8
MTE Manteigas 139.84 331 *e*PKPdf PKPpre 03 54 27.8
MTE Manteigas 139.84 331 *e*PP PP 03 57 35.8 +1.4
MTE Manteigas 139.84 331 *e*LR LR 04 41 33.4
comp=Z,29μm,20.0s
MTE Manteigas 139.84 331 *e*PKPpre PKPpre 03 54 26.6
MTE *e*PKPdf **PKPdf 03 54 39.4 +0.4**
MTE LR LR
comp=Z,29μm,20.0s
YOPC Yopal, Colombi 139.86 90 *e*P PKPpre 03 54 34.7
SDDR Presa de Saban 139.94 68 *e*PKPpre PKPpre 03 54 32.3
SDDR *e*PKPdf **PKPdf 03 54 38.0 -1.8**
SDDR LR LR
comp=Z,7μm,20.0s
PCBR Castelo Branco 140.23 330 *e*PKPdf **PKPdf 03 54 41.7 +2.1**
BBSR BB Station 140.27 46 PFAKE 03 54 50.0 +10
BBSR LR LR
comp=Z,9μm,19.0s
URIC Uribia, Colomb 140.29 80 *e*P PKPpre 03 54 33.6
TAM Tamanrasset 140.41 298 *e*PKIKP **PKPdf 03 54 38.9 -1.7**
TAM MLR MLR
comp=Z,5μm,22.0s
TAM Tamanrasset 140.41 298 *e*PKPdf **PKPdf 03 54 38.9 -1.7**
TAM LR LR
comp=Z,5μm,22.0s
PMRV Marv??o 140.50 329 *e*PKPdf PKPpre 03 54 32.3
PMRV Marv??o 140.50 329 *e*PP PP 03 57 39.3 +0.8
PMRV Marv??o 140.50 329 *e*LR LR 04 43 23.8
comp=Z,19μm,22.0s
PCAS Casmilo, Conde 140.57 331 *e*PKPdf PKPpre 03 54 34.1
PCAS Casmilo, Conde 140.57 331 *e*PP PP 03 57 38.0 -0.8
PCAS Casmilo, Conde 140.57 331 *e*LR LR 04 41 36.9
comp=Z,30μm,22.0s
PTOM Tomar 140.86 331 *e*PKPdf **PKPdf 03 54 37.0 -3.8**
PTOM Tomar 140.86 331 *e*PP PP 03 57 42.6 +2.0
PESTR Estremoz 141.03 329 *e*PKPdf PKPpre 03 54 35.8
PESTR Estremoz 141.03 329 *e*PP PP 03 57 40.8 -0.9
PESTR Estremoz 141.03 329 *e*LR LR 04 42 44.7
comp=Z,17μm,24.0s
PMTG Montargil 141.19 330 *e*PKPdf PKPpre 03 54 35.6
PMTG Montargil 141.19 330 *e*PP PP 03 57 42.2 -0.4
PMTG Montargil 141.19 330 *e*LR LR 04 42 37.0
PBAR Barrancos 141.26 328 *e*PKPdf PKPpre 03 54 32.5
PBAR Barrancos 141.26 328 *e*PP PP 03 57 45.0 +1.9
PBAR Barrancos 141.26 328 *e*LR LR 04 41 31.2
comp=Z,18μm,24.0s
EVO Evora 141.50 329 *e*PKPdf PKPpre 03 54 35.6
EVO Evora 141.50 329 *e*PP PP 03 57 44.5 0.0
SDV Santo Domingo 141.73 84 PKhKP PKPpre 03 54 38.8
comp=Z,19nm,0.7s,baz=270,slow=2.7,SNR=2.1
SDV SKPbc **SKiKP 03 58 20.7 +1.6**
comp=Z,149nm,1.1s,baz=199,slow=6.7,SNR=8.9
SDV Santo Domingo 141.73 84 *e*PKPpre PKPpre 03 54 38.8
SDV *e*PKPdf **PKPdf 03 54 44.6 +1.3**
SDV SKPbc **SKiKP 03 58 20.7 +1.6**
SDV LR LR
comp=Z,4μm,20.0s
PBEJ Beja 141.80 328 *e*PKPdf **PKPdf 03 54 38.6 -3.9**
PMAFR Mafra 141.80 331 *e*PKPdf PKPpre 03 54 35.4
PMAFR Mafra 141.80 331 *e*PP PP 03 57 48.6 +2.3
PMAFR Mafra 141.80 331 *e*LR LR 04 43 07.9
comp=Z,27μm,20.0s
LIS Lisbon 141.92 330 *e*P **PKPdf 03 54 40.5 -2.2**
LIS AMS AMS 05 02 33.0
comp=Z,28μm,16.7s
LIS Lisbon 141.92 330 *e*PKPdf **PKPdf 03 54 38.8 -3.9**
LIS Lisbon 141.92 330 *e*PP PP 03 57 48.7 +1.7
LIS Lisbon 141.92 330 *e*PKIKP **PKPdf 03 54 40.5 -2.2**
PMST Lisbon--Monsan 141.92 330 *e*PKPdf PKPpre 03 54 38.4
PNCL Nicolau / Gran 142.08 329 *e*PKPdf PKPpre 03 54 36.4
PNCL Nicolau / Gran 142.08 329 *e*PP PP 03 57 48.6 +0.6
PNCL Nicolau / Gran 142.08 329 *e*LR LR 04 43 14.4
comp=Z,22μm,22.0s
PCVE Castro Verde 142.19 328 *e*PKPdf PKPpre 03 54 36.3
PCVE Castro Verde 142.19 328 *e*PP PP 03 57 51.6 +2.8
PCVE Castro Verde 142.19 328 *e*LR LR 04 43 10.1
comp=Z,13μm,22.0s
PVAQ Vaqueiros 142.19 328 *e*PKPdf PKPpre 03 54 36.8
PVAQ Vaqueiros 142.19 328 *e*PP PP 03 57 52.3 +3.5
PVAQ Vaqueiros 142.19 328 *e*LR LR 04 43 12.0
comp=Z,14μm,24.0s
PBDV Barranco-do-Ve 142.42 328 *e*PKPdf PKPpre 03 54 37.8
PBDV Barranco-do-Ve 142.42 328 *e*PP PP 03 57 54.3 +4.1
PBDV Barranco-do-Ve 142.42 328 *e*LR LR 04 44 58.7
comp=Z,11μm,22.0s
MORF Marmelete 142.75 328 *e*P **PKPdf 03 54 41.8 -2.6**
MORF AMS AMS 05 00 26.3
comp=Z,15μm,22.8s
MORF Marmelete 142.75 328 *e*PKPdf PKPpre 03 54 39.3
MORF Marmelete 142.75 328 *e*PP PP 03 57 55.8 +3.6
MORF Marmelete 142.75 328 *e*LR LR 04 48 19.6
comp=Z,16μm,22.0s
MORF Marmelete 142.75 328 *e*PKIKP **PKPdf 03 54 41.7 -2.6**
PFVI Vila Bisbo 142.98 328 *e*PKPdf **PKPdf 03 54 40.5 -4.1**
PFVI Vila Bisbo 142.98 328 *e*PP PP 03 57 56.4 +2.9
PFVI Vila Bisbo 142.98 328 *e*LR LR 04 43 47.6
comp=Z,13μm,22.0s
PFVI Vila Bisbo 142.98 328 *e*PKPdf **PKPdf 03 54 44.1 -0.5**
PFVI LR LR
comp=Z,16μm,22.0s
SIV San Ignacio 143.54 128 PKP PKPbc 03 54 43.5 -0.1
comp=Z,9.9nm,0.6s,baz=258,slow=3.6,SNR=8.0
IDE Isla Desecheo 143.59 68 *e*PKPdf PKPbc 03 54 44.5 +0.8
AGP Aguadilla 143.89 68 *e*PKPpre PKPpre 03 54 43.2
MPR Mayaguez 143.94 68 *e*PKPdf **PKPdf 03 54 46.0 -0.8**
MPR LR LR
comp=Z,6μm,22.0s
RTC Rabat Centre 144.15 323 *e*PKPdf **PKPdf 03 54 46.7 -0.1**
RTC LR LR
comp=Z,27μm,22.0s
CELP Cerrillos 144.49 68 *e*PKPdf PKPbc 03 54 46.8 +0.4
SJG San Juan 144.88 68 *e*PKIKP PKPbc 03 54 47.6 0.0
SJG MLR MLR
comp=Z,9μm,21.0s
SJG San Juan 144.88 68 *e*PKPdf **PKPab 03 54 47.6 0.0**
SJG LR LR
comp=Z,9μm,21.0s
CBYP Canovanas 145.11 67 *e*PKPbc **PKPbc 03 54 47.5 -0.9**
CBYP LR LR
comp=Z,9μm,21.0s
HUMP Col San Antoni 145.15 68 *e*PKPbc **PKPab 03 54 48.5 0.0**
HUMP LR LR
comp=Z,9μm,21.0s
SAML Samuel 145.34 116 *e*PKPbc **PKPbc 03 54 49.0 -0.2**
SAML LR LR
comp=Z,2μm,21.0s
MTP Monte Pirata 145.43 68 *e*PKPbc **PKPab 03 54 50.6 +1.0**
MTP LR LR
comp=Z,12μm,22.0s
SHEL Horse Pasture 145.61 229 *i* PKP2 **PKPab 03 54 54.0 +3.6**
SHEL Horse Pasture 145.61 229 *e*PKPdf **PKPab 03 54 52.8 +2.4**
SHEL LR LR
comp=Z,13μm,21.0s
STVI Saint Thomas 145.91 67 *e*PKPdf **PKPab 03 54 51.2 -0.2**
STVI LR LR
comp=Z,8μm,21.0s
TOC2 Torodi Ar. Sit 146.11 284 PFAKE 03 55 00.0 +7.7
TOC2 LR LR
comp=Z,8μm,21.0s
TOC3 Torodi Ar. Sit 146.12 284 PFAKE 03 55 00.0 +7.7
TOC3 LR LR
comp=Z,8μm,21.0s
TOB2 Torodi Ar. Sit 146.13 284 PFAKE 03 55 00.0 +7.7
TOB2 LR LR
comp=Z,8μm,20.0s
TOC1 Torodi Ar. Sit 146.13 284 PFAKE 03 55 00.0 +7.7
TOC1 LR LR
comp=Z,8μm,20.0s
TOB3 Torodi Ar. Sit 146.13 284 PFAKE 03 55 00.0 +7.6
TOB3 LR LR
comp=Z,8μm,20.0s
TOC4 Torodi Ar. Sit 146.14 284 PFAKE 03 55 00.0 +7.6
TOC4 LR LR
comp=Z,8μm,20.0s
TOA0 Torodi Ar. Sit 146.14 284 *e*PKPdf **PKPbc 03 54 51.7 0.0**
TOA0 LR LR
comp=Z,8μm,21.0s
TORD Torodi Ar. Bea 146.14 284 PKP **PKPdf 03 54 49.9 -0.8**
comp=Z,83nm,0.6s,baz=74,slow=3.0,SNR=201
TORD PKPbc **PKPab 03 54 52.1 -0.2**
comp=Z,83nm,0.6s,baz=74,slow=3.2,SNR=199
TOB4 Torodi Ar. Sit 146.15 284 PFAKE 03 55 00.0 +7.6
TOB4 LR LR
comp=Z,8μm,21.0s
TOB5 Torodi Ar. Sit 146.15 284 PFAKE 03 55 00.0 +7.6
TOB5 LR LR
comp=Z,9μm,21.0s
TOC7 Torodi Ar. Sit 146.15 284 PFAKE 03 55 00.0 +7.6
TOC7 LR LR
comp=Z,8μm,21.0s
TOC5 Torodi Ar. Sit 146.16 284 PFAKE 03 55 00.0 +7.5
TOC5 LR LR
comp=Z,10μm,21.0s
CDVI St. Croix 146.25 68 *e*PKPdf **PKPbc 03 54 52.2 +0.3**
SPB Sao Paulo 146.43 154 *e*PKPdf **PKPab 03 54 54.7 +1.5**
SPB LR LR
comp=Z,13μm,22.0s
H07N1 FLORES T-PHASB 147.07 359 *e*PKiKP **PKiKP 03 54 55.8 -0.4**
H07S1 FLORES T-PHASB 147.38 359 *e*PKiKP **PKPbc 03 54 54.4 -0.2**
PGRA Graciosa 147.53 354 *e*PKiKP **PKPab 03 54 57.0 0.0**
PCRV Puerto La Cruz 147.60 81 PKP **PKPdf 03 54 52.5 -0.7**
comp=Z,40nm,1.0s,baz=14,slow=4.0,SNR=6.0
PCRV PKPbc **PKPbc 03 54 55.6 -0.3**
comp=Z,79nm,0.8s,baz=306,slow=1.6,SNR=21
SABA Saba 147.68 67 *e* **PKPab 03 54 58.5 -0.3**
SABA Saba 147.68 67 *e*PKPdf **PKPbc 03 54 55.5 -0.5**
SABA LR LR
comp=Z,8μm,21.0s
SMRT St. Maarten 147.71 67 *e* **PKPbc 03 54 55.5 -0.6**
SMRT St. Maarten 147.71 67 *e*PKPbc **PKPbc 03 54 55.8 -0.3**
ADH Angra Heroismo 147.82 353 *e*PKiKP **PKPbc 03 54 56.5 +0.7**
ROSA Rosais 147.86 354 *e*PKiKP **PKPab 03 54 59.2 +0.8**
ROSA Rosais 147.86 354 *e*PKPbc **PKPab 03 54 58.3 -0.1**
ROSA LR LR
comp=Z,10μm,22.0s
PMAN Manadas 147.93 354 *e*PKiKP **PKPab 03 54 58.4 -0.2**
SEUS St. Eustatius 147.95 68 *e*P **PKPdf 03 54 49.2 -4.5**
SEUS St. Eustatius 147.95 68 *e* **PKPbc 03 54 57.3 +0.6**
SEUS St. Eustatius 147.95 68 *e*PKPdf **PKPdf 03 54 55.1 +1.4**
SEUS LR LR
comp=Z,9μm,22.0s
PCED Cedros 148.00 355 *e*PKiKP **PKPab 03 54 59.5 +0.6**
HOR Horta 148.09 355 *e*PKiKP **PKPbc 03 54 55.1 -1.4**
PICO Pico 148.10 355 *e*PKiKP **PKPbc 03 54 57.5 +0.9**
PCAN Candelaria 148.14 355 *e*PKiKP **PKPdf 03 54 53.5 0.0**
SKI Saint Kitts 148.22 68 *e* **PKPbc 03 54 58.0 +0.6**
SKI Saint Kitts 148.22 68 *e*P **PKPbc 03 54 59.0 +1.5**
SKI Saint Kitts 148.22 68 *e*PKP2 **PKPbc 03 54 58.9 +1.5**
SKI Saint Kitts 148.22 68 *e*PKPbc **PKPbc 03 54 58.9 +1.5**
BART Pico Bartolome 148.36 350 *e*PKiKP **PKPbc 03 54 57.5 +0.1**
PCALD Caldeiras da R 148.40 350 *e*PKiKP **PKPbc 03 54 58.1 +0.7**
PSET Sete Cidades 148.41 350 *e*PKiKP **PKiKP 03 54 59.6 +0.6**
NEV Hard Times 148.43 68 *e*P **PKPab 03 55 01.5 +0.1**
NEV Hard Times 148.43 68 *e* **PKPab 03 55 02.2 +0.9**
CMLA Cha da Macela 148.44 350 *i* PKP2 **PKPab 03 55 00.9 +0.2**
CMLA Cha da Macela 148.44 350 *e*PKiKP **PKiKP 03 54 59.2 +0.1**
CMLA Cha da Macela 148.44 350 PFAKE 03 55 10.0 +9.3
CMLA LR LR
comp=Z,7μm,20.0s
PDA Ponta Delgada 148.48 350 *e*PKiKP **PKPbc 03 54 56.8 -0.7**
MLYT Lee's Yard 148.89 69 *e*P **PKPbc 03 55 00.2 +1.0**
MLYT Lee's Yard 148.89 69 *e* **PKPab 03 55 01.3 -1.9**
ANWB Willy Bob 149.00 67 *e*P **PKPbc 03 54 58.1 -1.3**
ANWB Willy Bob 149.00 67 *e* **PKPbc 03 54 58.4 -1.0**
ANWB Willy Bob 149.00 67 *e*P **PKPbc 03 54 59.0 -0.4**
ANWB Willy Bob 149.00 67 *e*PKPbc **PKPbc 03 55 00.7 +1.3**
ANWB LR LR
comp=Z,4μm,21.0s
PSMN Pico do Norte, 149.09 349 *e*PKiKP **PKPbc 03 54 58.4 -0.8**
BPA Boggy Peak 149.11 68 *e*P **PKPab 03 55 02.5 -1.6**
PSMA Santa Maria 149.12 349 *e*PKiKP **PKPbc 03 54 58.9 -0.3**
GDHS Morne Mazeau, 149.40 69 *e*PKPbc **PKPbc 03 55 01.2 +0.6**
GDHS LR LR
comp=Z,6μm,22.0s
TBG Guadaloupe-3 149.61 70 *e*P **PKPbc 03 54 60.0 -1.0**
TBG Guadaloupe-3 149.61 70 *e* **PKPbc 03 55 00.0 -1.0**
BBL Barber's Block 149.86 70 *e*P **PKPbc 03 55 01.6 -0.1**
BBL Barber's Block 149.86 70 *e* **PKPbc 03 55 03.5 +1.8**
MGG Marie-Galante 149.90 70 *e* **PKPbc 03 55 01.9 +0.2**
MGG Marie-Galante 149.90 70 *e*P **PKPbc 03 55 02.6 +0.9**
PMPS Porto Santo 149.91 333 *e*PKPdf **PKPdf 03 54 57.7 +1.3**
MDN Morne-Daniel 149.98 71 *e*P **PKPbc 03 55 02.6 +0.7**
MDN Morne-Daniel 149.98 71 *e* **PKPbc 03 55 02.8 +0.9**
DWS Wesley 150.00 70 *e* **PKPab 03 55 05.0 -2.7**
DWS Wesley 150.00 70 *e*P **PKPab 03 55 05.2 -2.5**
DPMT Pointe Michel 150.01 71 *e*P **PKPbc 03 55 01.3 -0.7**
DPMT Pointe Michel 150.01 71 *e* **PKPbc 03 55 01.6 -0.4**
DSHT Scott's Head 150.02 71 *e*P **PKPab 03 55 05.7 -2.2**
DBCT Belle View Cho 150.03 71 *e*P **PKPbc 03 55 02.6 +0.5**
DBCT Belle View Cho 150.03 71 *e* **PKPbc 03 55 04.6 +2.5**
DEG La Desirade 150.04 69 *e* **PKPbc 03 55 02.2 +0.1**
DEG La Desirade 150.04 69 *e*P **PKPbc 03 55 03.2 +1.1**
DLPL La Plaine 150.11 71 *e*P **PKPbc 03 55 03.0 +0.7**
PCM Pelee Case Pet 150.26 72 *e*P **PKPbc 03 55 03.8 +1.1**
PCM Pelee Case Pet 150.26 72 *e*P **PKPbc 03 55 04.0 +1.4**
CXM Morne La Croix 150.30 72 *e*P **PKPbc 03 55 04.4 +1.5**
GRW Mount Saint Ca 150.31 77 *e*P **PKPbc 03 55 02.4 -0.5**
GRW Mount Saint Ca 150.31 77 *e* **PKPbc 03 55 03.3 +0.5**
GBMF Grand Be 150.31 72 *e*P **PKPbc 03 55 03.2 +0.4**
GRGR Grenville 150.32 77 *e* **PKPbc 03 55 05.0 +2.3**
GRGR Grenville 150.32 77 *e*P PKPab 03 55 17.1 +7.9
GRGR Grenville 150.32 77 *e*P PKPab 03 55 22.1 +13
GRGR Grenville 150.32 77 *e*PKPbc **PKPbc 03 55 04.1 +1.4**
GRGR LR LR
comp=Z,6μm,21.0s
BAMF Morne Balai 150.32 72 *e*P **PKPbc 03 55 04.0 +1.2**
FDF Fort de France 150.34 72 *e*P **PKPdf 03 54 59.3 +1.7**
FDF Fort de France 150.34 72 *e* **PKPbc 03 55 01.1 -1.8**
FDF Fort de France 150.34 72 *e*P **PKPbc 03 55 04.0 +1.2**
FDF Fort de France 150.34 72 *e*PKIKP **PKPbc 03 55 04.9 +2.0**
FDF MLR MLR
comp=Z,6μm,21.0s
FDF Fort de France 150.34 72 *e*PKPbc **PKPbc 03 55 04.8 +2.0**
FDF LR LR
comp=Z,6μm,21.0s
PMAR Madeira 150.45 333 *e*PKPdf **PKPbc 03 55 00.5 -2.3**
TRMF Trois Ilets 150.47 72 *e*P **PKPbc 03 55 04.2 +1.2**
ZAM Aeronautique 150.49 72 *e*P **PKPbc 03 55 04.6 +1.4**
PMOZ Porto Moniz, M 150.49 334 *e*PKPdf **PKPdf 03 54 56.5 -1.0**
PMOZ Porto Moniz, M 150.49 334 *e*PKPab **PKPab 03 55 07.7 -1.7**
PMOZ Porto Moniz, M 150.49 334 *e*PP PP 03 58 36.2 -1.5
PMOZ Porto Moniz, M 150.49 334 *e*LR LR 04 48 32.0
comp=Z,11μm,22.0s
FUL Funchal 150.50 333 *e*PKPdf **PKPdf 03 54 58.0 +0.6**
SVB Belmont 150.53 75 *e* **PKPbc 03 55 01.0 -2.2**
SVB Belmont 150.53 75 *e*P **PKPbc 03 55 03.3 0.0**
SVB Belmont 150.53 75 *e*PKPdf **PKPbc 03 55 02.1 -1.1**
SVB *e*PKPbc **PKiKP 03 55 02.8 -1.2**
SVV Soufriere Volc 150.55 75 *e*P **PKPbc 03 55 06.3 +3.0**
SVV Soufriere Volc 150.55 75 *e* **PKPbc 03 55 06.5 +3.1**
MVM Montagne Vaucl 150.62 72 *e*P **PKPbc 03 55 03.7 +0.2**
SLB Belfond 150.63 74 *e* **PKPbc 03 55 04.8 +1.2**
SLB Belfond 150.63 74 *e*P **PKPbc 03 55 05.3 +1.7**
TPP Pointe-a-Pierr 150.72 81 *e*P **PKPbc 03 55 02.6 -1.1**
TPP Pointe-a-Pierr 150.72 81 *e* **PKPbc 03 55 06.2 +2.5**
TRN Trinidad (W) 150.73 80 *e* **PKPbc 03 55 05.1 +1.4**
TRN Trinidad (W) 150.73 80 *e*P **PKPab 03 55 07.8 -3.1**
MCLT Moule a Chique 150.75 74 *e* **PKPdf 03 54 58.0 -0.1**
MCLT Moule a Chique 150.75 74 *e*P **PKPdf 03 54 58.1 -0.1**
TBH Brigand Hill 151.08 80 *e*P **PKPbc 03 55 07.7 +3.1**
PTGA Pitinga 151.22 104 PKP **PKPdf 03 54 59.0 -0.1**
comp=Z,48nm,0.7s,baz=252,slow=2.9,SNR=16
PTGA PKPbc **PKPbc 03 55 05.0 0.0**
comp=Z,62nm,0.6s,baz=251,slow=2.5,SNR=37
PTGA Pitinga 151.22 104 PKP **PKPdf 03 54 59.0 -0.1**
PTGA *e*PKPbc **PKiKP 03 55 06.5 +1.0**
PTGA LR LR
comp=Z,8μm,22.0s
TPR Prospect 151.29 79 *e*P **PKPbc 03 55 06.0 +0.9**
TPR Prospect 151.29 79 *e* **PKPbc 03 55 07.2 +2.2**
BOT Bacolet 151.35 79 *e* **PKPbc 03 55 05.1 -0.1**
BOT Bacolet 151.35 79 *e*P **PKPbc 03 55 06.6 +1.4**
TOSP Speyside 151.51 79 *e* **PKPdf 03 55 02.0 +2.6**
TOSP Speyside 151.51 79 *e*P **PKPbc 03 55 03.5 -2.1**
BBGH Gun Hill 152.17 74 *e*P **PKPbc 03 55 03.9 -3.2**
BBGH Gun Hill 152.17 74 PFAKE 03 55 10.0 +2.9
BBGH LR LR
comp=Z,8μm,22.0s
KIC Kosan Boka 152.85 271 *e*P **PKPdf 03 54 59.8 -1.6**
comp=Z,236nm,1.0s
DBIC Dimbokro 152.97 272 PKP **PKPdf 03 55 01.1 -0.5**
comp=Z,22nm,1.0s,baz=83,slow=2.3,SNR=11
DBIC PKPbc **PKiKP 03 55 09.6 +0.6**
comp=Z,48nm,0.8s,baz=58,slow=2.4,SNR=46
LIC Lamto 153.13 271 *e*P **PKPdf 03 55 02.0 +0.2**
comp=Z,256nm,1.0s
TIC Toumodi 153.13 272 *e*P **PKPdf 03 55 02.0 +0.1**
ASCN Ascension 157.17 231 PFAKE 03 55 20.0 +13
ASCN LR LR
comp=Z,11μm,22.0s
RCBR Riachuelo 167.05 163 PKP **PKPdf 03 55 17.1 -0.3**
comp=Z,11nm,0.9s,baz=44,slow=3.0,SNR=2.9
SACV Santiago Islan 168.26 316 *e*PKPdf **PKPdf 03 55 18.7 +0.6**

ISCJB ***14*** *03:48:17.4±0.2, 18°.85S±0°.05×169°.55E±0°.04, h246km, mb4.7/84, Error ellipse: s-maj=6.6km s-min=4.4km az=164.4*
BJI ***14*** *03:48:20.7, 18°.90S×169°.60E, h276km, mb4.7/22, mB5.1/2*
IDC ***14*** *03:48:21.2±1.7, 18°.88S×169°.67E, h276km±16km, mb4.0/14, mb1 4.3/16, mb1mx4.0/38, mbtmp4.7/16, Error ellipse: s-maj=15.3km s-min=14.0km az=29.0*
NEIC ***14*** *03:48:22.5±0.5, 18°.94S×169°.54E, h286km±5km, mb4.9/70, Error ellipse: s-maj=5.0km s-min=3.5km az=171.0*
ISC 14 03:48:18.7±0.4, 18°.79S±0°.07×169°.63E±0°.05, h246km, n186, σ1°36/199, mb4.8/84, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
DZM	**Mont Dzumac**	**4.42**	**222**	P	**Pn**	**03 49 30.7 +3.3**
	59nm,0.3s,baz=56,slow=16,SNR=404					
DZM	**Mont Dzumac**	**4.42**	**222**	*e*Pn	**Pn**	**03 49 29.7 +2.3**
DZM				*e*S	**S**	**03 50 24.9 +2.8**
MSVF	**Nonsavu**	**8.07**	**84**	*e*Pn	**Pn**	**03 50 17.3 +4.3**
MSVF				*e*S	**S**	**03 51 44.5 -0.5**
HNR	**Honiara**	**13.21**	**313**	P	**P**	**03 51 21.5 +2.5**
	39nm,0.3s,baz=192,slow=1.6,SNR=16					
HNR	**Honiara**	**13.21**	**313**	*e*P	**P**	**03 51 21.0 +2.0**
HNR	**Honiara**	**13.21**	**313**	*e*Pn	**P**	**03 51 20.9 +1.8**
FUNA	**Funafuti**	**13.80**	**44**	*e*Pn	**P**	**03 51 25.4 -0.1**
	304nm,1.0s					
RAO	**Raoul Island**	**15.41**	**135**	*e*P	**Pn**	**03 51 43.6 -0.4**
OUZ	**Omahuta**	**16.74**	**169**	*e*P	**P**	**03 51 58.0 +0.2**
	56nm,0.7s					
AFI	**Afiamalu**	**18.49**	**78**	*e*P	**Pn**	**03 52 19.8 -0.7**
	65nm,1.1s					
ARMA	**Armidale**	**20.01**	**231**	*e*P	**P**	**03 52 33.9 +0.6**
	20nm,0.9s					
MXZ	**Matakaoa Point**	**20.19**	**160**	*e*P	**P**	**03 52 35.5 +0.5**
	351nm,1.6s					
URZ	**Urewera**	**20.47**	**163**	P	**P**	**03 52 38.0 +0.1**
	18nm,0.3s,baz=311,slow=3.1,SNR=13					
URZ	**Urewera**	**20.47**	**163**	*e*P	**P**	**03 52 38.4 +0.5**
	51nm,0.7s					
BKZ	**Black Stump Fm**	**21.16**	**165**	*e*P	**P**	**03 52 44.7 -0.4**
	45nm,0.5s					
CTAO	**Charters Tower**	**22.08**	**263**	*e*P	**P**	**03 52 54.6 +0.7**
	199nm,1.1s					
BFZ	**Birch Farm**	**22.55**	**167**	*e*P	**P**	**03 52 57.1 -0.9**
	55nm,0.5s					
SNZO	**South Karori**	**22.87**	**170**	*e*P	**P**	**03 52 59.6 -1.1**
	185nm,0.9s					
PMG	**Port Moresby**	**23.68**	**290**	P	**P**	**03 53 09.7 +1.3**
	72nm,0.8s,baz=89,slow=5.8,SNR=20					
PMG	**Port Mo

	8.7nm,0.7s					
STKA	**Stephens Creek**	**28.39 237**	P	**P**	**03 53 51.0 +0.5**	
	9.8nm,1.0s,baz=46,slow=6.6,SNR=6.2					
BBOO	**Buckleboo**	**33.13 238**	*e*P	**P**	**03 54 31.2 -0.8**	
	45nm,1.2s					
WB2	**Warramunga Arr**	**33.26 262**	*e*P	**P**	**03 54 32.1 -1.2**	
WB2			*e*S	**S**	**03 59 30.4 -4.8**	
WRAB	**Tennant Creek**	**33.27 262**	*e*P	**P**	**03 54 32.1 -1.2**	
	19nm,1.0s					
WRA	**Warramunga Arr**	**33.27 262**	P	**P**	**03 54 32.3 -1.1**	
	6.5nm,0.6s,baz=82,slow=6.1,SNR=34					
WRA			ScP	**ScP**	**04 00 27.1 -3.4**	
	1.3nm,0.9s,baz=95,slow=3.1,SNR=5.2					
AS01	**Alice Springs**	**33.55 255**	*e*P	**P**	**03 54 35.0 -0.8**	
AS01			*e*pP	**pP**	**03 55 31.3 +6.2**	
AS31	**Alice Springs**	**33.59 255**	*e*P	**P**	**03 54 35.5 -0.6**	
	10nm,0.5s					
ASAR	**Alice Springs**	**33.59 255**	P	**P**	**03 54 35.5 -0.6**	
	17nm,0.6s,baz=82,slow=9.0,SNR=103					
ASAR			pP	**pP**	**03 55 26.6 +1.0**	
	6.8nm,0.7s,baz=83,slow=8.9,SNR=2.8					
ASAR			ScP	**ScP**	**04 00 28.0 -3.6**	
	1.2nm,0.8s,baz=98,slow=3.9,SNR=6.8					
FAKI	**Fak Fak**	**39.82 289**	*e*P	**P**	**03 55 28.2 -0.4**	
	43nm,0.9s					
SOEI	**Soe**	**44.76 275**	*e*P	**P**	**03 56 07.7 -0.8**	
MBWA	**Marble Bar**	**46.80 258**	*e*P	**P**	**03 56 23.8 -0.4**	
	33nm,0.5s					
KAPI	**Kappang**	**50.50 279**	*e*P	**P**	**03 56 52.5 +0.1**	
	19nm,0.9s					
SBA	**Scott Base**	**59.12 181**	*e*P	**P**	**03 57 52.1 -0.9**	
	3.0nm,0.7s					
KSM	**Kuching**	**61.63 282**	*e*P	**P**	**03 58 10.4 -0.6**	
	22nm,0.9s					
MJAR	**Matsushiro Arr**	**62.53 332**	P	**P**	**03 58 16.2 -0.3**	
	5.7nm,0.9s,baz=170,slow=7.9,SNR=16					
MAJO	**Matsushiro**	**62.53 332**	*e*P	**P**	**03 58 16.7 +0.2**	
	17nm,0.9s					
MAT	**Matsushiro**	**62.53 332**	P	**P**	**03 58 16.6 +0.1**	
MJB9	**Matsu-Tunnel**	**62.53 332**	*e*P	**P**	**03 58 17.0 +0.4**	
	9.5nm,1.4s					
KSRS	**Korea Array**	**68.34 325**	P	**P**	**03 58 54.2 +0.6**	
	2.6nm,1.0s,baz=145,slow=6.1,SNR=5.6					
KSAR	**Wonju Array Be**	**68.36 325**	P	**P**	**03 58 54.2 +0.5**	
NJ2	**Nanjing**	**70.14 316**	*e*P	**P**	**03 59 06.8 +2.1**	
NJ2			pmax	pmax		
	comp=Z,19nm,0.8s					
IPM	**Ipoh**	**71.35 282**	*e*P	**P**	**03 59 11.8 -0.7**	
USRK	**Ussuriysk Ar.**	**71.51 332**	P	**P**	**03 59 13.8 +1.1**	
	2.1nm,0.7s,baz=114,slow=4.8,SNR=4.4					
MDJ	**Mudanjiang**	**72.90 331**	P	**P**	**03 59 22.1 +1.2**	
MDJ			pmax	pmax		
	comp=Z,6.0nm,0.8s					
MDJ			pmax	pmax		
	comp=Z,2μm,14.3s					
CN2	**Changchun**	**74.27 328**	*e*P	**P**	**03 59 27.6 -1.3**	
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GYA	**Guiyang**	**75.86 305**	*e*P	**P**	**03 59 40.0 +1.5**	
GYA			pP	pP	04 00 47.6 +11	
GYA			sP	sP	04 01 17.0 +15	
GYA			PP	**PP**	**04 02 36.8 +4.2**	
GYA			S	**S**	**04 08 58.9 -1.7**	
GYA			SKS	**SKSac**	**04 09 18.3 -7.4**	
GYA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
KMI	**Kunming**	**78.35 302**	P	**P**	**03 59 53.6 +1.1**	
KMI			pmax	pmax		
	comp=Z,20nm,0.7s					
KMI			pmax	pmax		
	comp=Z,3μm,14.3s					
CMAR	**Chiang Mai Arr**	**78.65 294**	P	**P**	**03 59 54.8 +0.8**	
	4.4nm,0.7s,baz=132,slow=4.2,SNR=14					
CHTO	**Chiang Mai**	**78.80 294**	*e*P	**P**	**03 59 54.6 -0.2**	
	4.8nm,0.5s					
HHC	**Hu-ho-hao-te**	**80.12 319**	*e*P	**P**	**04 00 03.1 +1.6**	
HHC			pmax	pmax		
	comp=Z,20nm,1.1s					
CD2	**Chengdu**	**80.25 307**	*e*P	**P**	**04 00 02.5 +0.1**	
LZH	**Lanzhou**	**82.70 312**	⇓P	**P**	**04 00 14.8 -0.5**	
LZH			pP	pP	04 01 23.0 +9.0	
LZH			sP	sP	04 01 52.5 +13	
LZH			PP	**PP**	**04 03 32.0 +2.9**	
LZH			pmax	pmax		
	comp=Z,21nm,1.0s					
LZH			pmax	pmax		
	comp=Z,78nm,6.3s					
SNCC	**San Nicolas Is**	**85.08 53**	P	**P**	**04 00 27.1 0.0**	
	baz=244					
SCZ2	**Santa Cruz Isl**	**85.33 52**	P	**P**	**04 00 28.2 -0.1**	
	baz=244					
KMRM	**Mail Ridge**	**85.33 45**	*e*P	**P**	**04 00 29.4 +1.1**	
	27nm,0.9s					
SYO	**Syowa Base**	**85.47 196**⇑	*e*P	**P**	**04 00 27.3 -1.1**	
PKM	**Mcpherson Peak**	**85.59 51**	P	**P**	**04 00 30.2 +0.3**	
	baz=244					
KHMM	**Horse Mountain**	**85.63 44**	*e*P	**P**	**04 00 31.1 +1.2**	
	27nm,0.8s					
SCI2	**San Clemente I**	**85.70 53**	P	**P**	**04 00 29.9 -0.3**	
	baz=244					
CIS	**Catalina Islan**	**85.98 53**	P	**P**	**04 00 31.0 -0.6**	
	baz=244					
WDC	**Whiskeytown Da**	**86.28 45**	*e*P	**P**	**04 00 33.5 +0.6**	
	14nm,1.0s					
L02D	**Cave Junction,**	**86.34 43**	P	**P**	**04 00 33.6 +0.5**	
	baz=241					
N02D	**Trinity Center**	**86.36 45**	P	**P**	**04 00 34.1 +0.7**	
	baz=241,SNR=13					
DECC	**Green Verdugo**	**86.41 52**	P	**P**	**04 00 34.0 +0.3**	
	baz=244					
ARVC	**Arvin**	**86.42 51**	P	**P**	**04 00 33.7 +0.1**	
	baz=244					
M02C	**Callahan**	**86.46 44**	P	**P**	**04 00 34.3 +0.5**	
	baz=241,SNR=13					
ORV	**Oroville**	**86.51 46**	*e*P	**P**	**04 00 33.9 0.0**	
	12nm,0.9s					
VES	**Vestal, Richgr**	**86.54 50**	P	**P**	**04 00 33.7 -0.5**	
	baz=244					
CMB	**Columbia Colle**	**86.58 48**	*e*P	**P**	**04 00 34.2 -0.2**	
	17nm,0.9s					
AFDM	**Forest Hills D**	**86.59 47**	*e*P	**P**	**04 00 34.7 +0.3**	
MWC	**Mount Wilson**	**86.61 52**	*e*P	**P**	**04 00 34.5 -0.3**	
	16nm,0.8s					
RCTC	**Rector, Farmer**	**86.63 50**	P	**P**	**04 00 34.6 0.0**	
	baz=244					
O03D	**Paynes Creek**	**86.65 45**	P	**P**	**04 00 34.6 -0.1**	
	baz=242,SNR=9.0					
YBH	**Yreka Blue Hor**	**86.72 44**	*e*P	**P**	**04 00 35.6 +0.5**	
	14nm,1.0s					
109C	**Camp Elliot, M**	**86.76 54**	P	**P**	**04 00 34.7 -0.6**	
	baz=245					
BFSC	**Mount Baldy Ra**	**86.91 52**	P	**P**	**04 00 35.7 -0.5**	
	baz=245					
ISA	**Isabella, Lake**	**86.91 51**	P	**P**	**04 00 36.2 +0.1**	
	baz=244					
EDW2	**Edwards Air Fo**	**86.93 52**	P	**P**	**04 00 36.0 -0.3**	
	baz=245					
HUMO	**Hull Mountain**	**86.98 43**	*e*P	**P**	**04 00 36.5 +0.3**	
	14nm,0.9s					
MURC	**Murrieta**	**86.99 53**	P	**P**	**04 00 36.0 -0.5**	
	baz=245					
BAR	**Barrett**	**87.01 54**	*e*P	**P**	**04 00 36.6 0.0**	
	12nm,1.0s					
SONM	**Songino Array**	**87.08 323**	P	**P**	**04 00 36.5 -0.2**	
	0.7nm,0.5s,baz=136,slow=5.7,SNR=4.5					
SONM			PKKPbc	**PKKPbc**	**04 18 29.4 -0.3**	
	0.6nm,0.3s,baz=270,slow=1.5,SNR=3.6					
GTA	**Gaotai**	**87.08 313**	*e*P	**P**	**04 00 37.0 +0.1**	
GTA			pP	pP	04 01 44.6 +8.3	
GTA			sP	sP	04 02 16.4 +14	
GTA			pmax	pmax		
	comp=Z,6.0nm,1.1s					
LBCM	**Butte Creek Ri**	**87.20 45**	P	**P**	**04 00 37.6 +0.2**	
I03D	**Drain, OR**	**87.26 42**	P	**P**	**04 00 37.4 0.0**	
	baz=241					
MONP2	**Monument Peak**	**87.29 54**	P	**P**	**04 00 37.8 -0.3**	
	baz=246					
M04C	**Macdoel**	**87.32 44**	P	**P**	**04 00 38.1 +0.1**	
	baz=242,SNR=7.0					
LRMC	**Laurel Mtn Rad**	**87.42 51**	P	**P**	**04 00 38.7 +0.2**	
	baz=245					
IKP	**In-Ko-Pah, Jac**	**87.43 54**	P	**P**	**04 00 38.4 -0.2**	
	baz=246					
BEKR	**Beckworth**	**87.43 46**	*e*P	**P**	**04 00 38.6 0.0**	
	7.2nm,0.7s					
WAKR	**Walker**	**87.46 48**	*e*P	**P**	**04 00 39.5 +0.7**	
	14nm,1.1s					
BBRC	**Big Bear Solar**	**87.47 53**	P	**P**	**04 00 38.9 -0.2**	
	baz=245					
CWC	**Cottonwood Cre**	**87.53 50**	P	**P**	**04 00 39.1 -0.1**	
	baz=244					
PFO	**Pinyon Flats O**	**87.56 53**	P	**P**	**04 00 39.3 0.0**	
	4.3nm,0.7s,baz=273,slow=4.7,SNR=13					
PFO	**Pinyon Flats O**	**87.56 53**	P	**P**	**04 00 39.1 -0.2**	
	baz=246					
PFO	**Pinyon Flats O**	**87.56 53**	*e*P	**P**	**04 00 39.4 +0.2**	
	11nm,1.0s					
PNTR	**Pine Nut**	**87.61 47**	*e*P	**P**	**04 00 40.1 +0.5**	
	12nm,1.0s					
K04D	**Chiloquin, OR**	**87.77 43**	P	**P**	**04 00 40.2 +0.1**	
	baz=242					
SWSC	**Sam W. Stewart**	**87.79 54**	P	**P**	**04 00 40.2 0.0**	
	baz=246					
MPMC	**Manual Prospec**	**87.81 51**	P	**P**	**04 00 40.3 -0.2**	
	baz=245					
YERR	**Yerington**	**87.81 48**	*e*P	**P**	**04 00 40.8 +0.3**	
	8.3nm,0.9s					
J04D	**Umpqua Nationa**	**87.83 43**	P	**P**	**04 00 40.3 -0.1**	
	baz=242					
TVH2	**Borealis Mine**	**87.89 48**	*e*P	**P**	**04 00 41.2 +0.4**	
	7.7nm,1.2s					
GSC	**Goldstone, Bar**	**87.99 52**	P	**P**	**04 00 41.1 -0.2**	
	baz=245					
PAHR	**Pah Rah Range**	**88.03 47**	*e*P	**P**	**04 00 41.8 +0.4**	
	32nm,1.2s					
G03D	**McMinnville, O**	**88.05 41**	P	**P**	**04 00 41.6 +0.4**	
	baz=241					
BELC	**Belle Mtn. Jos**	**88.06 53**	P	**P**	**04 00 41.6 -0.1**	
	baz=246					
HEC	**Hector,Ludlow**	**88.15 52**	P	**P**	**04 00 41.7 -0.3**	
	baz=246					
GRAC	**Grapevine Rang**	**88.29 50**	P	**P**	**04 00 42.5 0.0**	
	baz=245					
BC3	**Big Chuckawall**	**88.34 54**	P	**P**	**04 00 43.0 0.0**	
	baz=246					
MOD	**Modoc Plateau**	**88.39 45**	*e*P	**P**	**04 00 42.8 -0.2**	
	23nm,1.1s					
J05D	**Fort Rock, OR**	**88.42 43**	P	**P**	**04 00 43.4 +0.3**	
	baz=242,SNR=19					
FURC	**Furnace Creek,**	**88.44 51**	P	**P**	**04 00 43.3 +0.1**	
	baz=245					
E03A	**Lebam**	**88.52 39**	*e*P	**P**	**04 00 44.1 +0.8**	
	52nm,1.3s					
GLA	**Glamis**	**88.58 54**	P	**P**	**04 00 44.5 +0.5**	
	baz=246					
GLA	**Glamis**	**88.58 54**	*e*P	**P**	**04 00 44.9 +0.9**	
	16nm,0.8s					
SHOC	**Shoshone, Teco**	**88.63 51**	P	**P**	**04 00 44.2 0.0**	
	baz=246					
GMRC	**Granite Mounta**	**88.64 53**	P	**P**	**04 00 44.2 -0.2**	
	baz=246					
TUQ	**Turquoise Moun**	**88.70 52**	P	**P**	**04 00 44.4 -0.3**	
	baz=246					
IRM	**Iron Mountain**	**88.78 53**	P	**P**	**04 00 44.9 0.0**	
	baz=246					
I05D	**Terrebonne, OR**	**88.84 42**	P	**P**	**04 00 45.1 +0.1**	
	baz=242					
F04A	**Amboy**	**88.92 40**	*e*P	**P**	**04 00 45.6 +0.4**	
	24nm,1.0s					
TPNV	**Topopah Spring**	**89.08 50**	P	**P**	**04 00 46.5 +0.1**	
	baz=246					
TPNV	**Topopah Spring**	**89.08 50**	*e*P	**P**	**04 00 46.6 +0.1**	
	20nm,0.9s					
FL2	**Flat Top 2**	**89.09 40**	P	**P**	**04 00 46.8 +0.6**	
Y12C	**Blythe**	**89.09 54**	P	**P**	**04 00 46.6 +0.4**	
	baz=247					
Y12C	**Blythe**	**89.09 54**	*e*P	**P**	**04 00 46.7 +0.4**	
	16nm,1.0s					
LDFC	**Landfair**	**89.17 52**	*e*P	**P**	**04 00 47.6 +0.8**	
	34nm,0.9s					
VFP	**Flag Point**	**89.22 41**	P	**P**	**04 00 46.8 -0.1**	
TDL	**Tradedollar La**	**89.24 40**	P	**P**	**04 00 47.4 +0.5**	
G05D	**Wamic, OR**	**89.27 41**	P	**P**	**04 00 47.1 +0.2**	
	baz=242					
113A	**Mohawk Valley,**	**89.29 55**	*e*P	**P**	**04 00 47.5 +0.3**	
	33nm,1.6s					
NEE2	**Needles Airpor**	**89.42 53**	P	**P**	**04 00 47.9 +0.1**	
	baz=246					
BLN	**Blyn Mountain**	**89.58 38**	P	**P**	**04 00 49.2 +0.9**	
PDMCI	**Parker Dam,Lak**	**89.60 54**	P	**P**	**04 00 49.0 +0.3**	
	baz=247					
SNAA	**Sanae**	**89.62 182**	*e*P	**P**	**04 00 45.6 -2.6**	
	55nm,0.6s					
LON	**Longmire**	**89.68 40**	*e*P	**P**	**04 00 48.8 0.0**	
	5.2nm,0.8s					
ILAR	**Eielson Array**	**89.69 17**	P	**P**	**04 00 46.5 -1.9**	
	2.1nm,0.9s,baz=234,slow=5.1,SNR=10					
SHPR	**Sheep Range**	**89.70 51**	*e*P	**P**	**04 00 50.0 +0.7**	
	13nm,1.0s					
214A	**Organ Pipe Nat**	**89.72 56**	P	**P**	**04 00 49.7 +0.3**	
	baz=248					
WVOR	**Wild Horse Val**	**89.74 45**	*e*P	**P**	**04 00 49.5 +0.2**	
	21nm,1.1s					
D05A	**Enumclaw**	**89.78 39**	*e*P	**P**	**04 00 50.2 +1.0**	
	64nm,1.4s					
W13A	**Hualapai Mount**	**90.10 53**	*e*P	**P**	**04 00 51.8 +0.5**	
HSIG		**90.13 59**	*e*P	**P**	**04 00 51.6 +0.3**	
	26nm,1.2s					
R11A	**Troy Canyon, C**	**90.14 49**	P	**P**	**04 00 50.8 -0.5**	
	baz=246					
B05A	**Bryant**	**90.22 38**	P	**P**	**04 00 51.5 +0.3**	
	baz=242					
NAC	**Naches**	**90.27 40**	P	**P**	**04 00 52.0 +0.5**	
JCW	**Jim Creek**	**90.29 38**	P	**P**	**04 00 51.7 +0.1**	
Y14A	**Wickenburg**	**90.33 54**	*e*P	**P**	**04 00 52.2 0.0**	
	24nm,0.9s					
LTY	**Liberty**	**90.60 40**	*e*P	**P**	**04 00 53.2 +0.1**	
	10nm,0.9s					
E07A	**Sunnyside**	**90.78 41**	*e*P	**P**	**04 00 54.5 +0.5**	
	15nm,0.8s					
HAWA	**Hanford**	**90.91 41**	*e*P	**P**	**04 00 55.0 +0.5**	
	12nm,0.8s					
LCMT	**Little Creek M**	**91.32 51**	*e*P	**P**	**04 00 57.3 +0.5**	
	14nm,0.9s					
CCUT	**Cedar City**	**91.44 51**	*e*P	**P**	**04 00 58.2 +0.7**	
	10nm,1.0s					
TUC	**Tucson**	**91.45 56**	P	**P**	**04 00 57.9 +0.4**	
	baz=249					
TUC	**Tucson**	**91.45 56**	*e*P	**P**	**04 00 57.8 +0.4**	
	14nm,1.0s					
LLLB	**Lillooet**	**91.46 36**	*e*P	**P**	**04 00 57.2 +0.3**	
	6.9nm,1.0s					
SZCU	**Shurtz Canyon**	**91.66 51**	*e*P	**P**	**04 00 59.1 +0.7**	
	14nm,1.2s					
U15A	**North Rim**	**91.81 52**	*e*P	**P**	**04 00 59.6 +0.4**	
	15nm,0.8s					
MFID	**Camas Ranch**	**92.02 45**	*e*P	**P**	**04 00 59.9 0.0**	
	5.2nm,0.8s					
WUAZ	**Wupatki**	**92.16 53**	P	**P**	**04 01 01.2 +0.4**	
	baz=248					
WUAZ	**Wupatki**	**92.16 53**	*e*P	**P**	**04 01 01.4 +0.6**	
	8.9nm,0.9s					
319A	**Douglas**	**92.32 58**	*e*P	**P**	**04 01 02.2 +0.7**	
	23nm,0.8s					
X18A	**Snowflake**	**92.90 55**	*e*P	**P**	**04 01 04.8 +0.6**	
HLID	**Hailey**	**93.03 45**	P	**P**	**04 01 04.7 +0.1**	
	baz=247					
HLID	**Hailey**	**93.03 45**	*e*P	**P**	**04 01 04.7 +0.1**	
	3.7nm,0.9s					
NEW	**Newport**	**93.20 40**	P	**P**	**04 01 05.1 +0.1**	
	baz=245					
NEW	**Newport**	**93.20 40**	*e*P	**P**	**04 01 04.7 -0.4**	
	3.7nm,0.9s					
HVU	**Hansel Valley**	**93.46 47**	*e*P	**P**	**04 01 06.5 0.0**	
	4.1nm,0.9s					
HWUT	**Hardware Ranch**	**94.24 48**	*e*P	**P**	**04 01 09.2 -0.9**	
	1.6nm,0.6s					
MNTX	**Cornudas Mount**	**95.56 59**	P	**P**	**04 01 16.3 0.0**	
	baz=251					
ANMO	**Albuquerque**	**95.74 55**	P	**P**	**04 01 17.0 -0.2**	
	baz=251					
H17A	**Grant Village**	**95.91 45**	P	**P**	**04 01 18.2 +0.3**	
	baz=250					
PDAR	**Pinedale Array**	**96.04 47**	P	**P**	**04 01 16.7 -1.7**	
	1.0nm,0.9s,baz=270,slow=6.3,SNR=3.1					
TXAR	**Lajitas Array**	**96.23 61**	P	**P**	**04 01 18.5 -0.9**	
	0.8nm,0.8s,baz=216,slow=5.5,SNR=6.3					
WMQ	**Urumqi**	**97.16 314**	P	**P**	**04 01 22.6 -0.6**	
WMQ			PP	**PP**	**04 05 26.3 +3.1**	
WMQ			SKS	**SKSac**	**04 11 35.5 -0.9**	
WMQ			S	**S**	**04 12 20.6 -4.1**	
WMQ			pmax	pmax		
	comp=Z,11nm,0.7s					
WMQ			LR	LR		
	comp=N,4μm,20.9s					
WMQ			LR	LR		
	comp=E,3μm,22.9s					
WMQ			LR	LR		
	comp=Z,3μm,27.1s					
YKA	**Yellowknife Ar**	**100.10 27**	P	**Pdif**	**04 01 36.3 +0.5**	
	1.3nm,0.8s,baz=276,slow=3.7,SNR=3.8					
MKAR	**Makanchi Array**	**101.67 316**	PKKPbc	PKKPbc	04 17 46.1 -4.6	
	0.7nm,0.7s,baz=178,slow=40,SNR=2.5					
ARCES	**ARCESS Array B**	**124.72 345**	PKP	**PKPdf**	**04 06 46.0 -2.3**	
	4.5nm,0.9s,baz=74,slow=3.1,SNR=5.4					
FINES	**FINESS Array B**	**130.31 338**	SKPbc	**SKPbc**	**04 09 53.3 -5.7**	
	2.6nm,0.7s,baz=85,slow=4.2,SNR=7.7					
SANT	**Santorini**	**143.99 307**	*e*PKPdf	**PKPab**	**04 07 22.4 -0.8**	
GERES	**GERESS Array B**	**144.26 333**	PKP	**PKPab**	**04 07 23.3 -0.7**	
	2.3nm,1.0s,baz=29,slow=2.2,SNR=3.9					
RCBR	**Riachuelo**	**144.91 132**	PKP	PKPbc	04 07 24.4 -2.8	
	7.2nm,0.7s,baz=144,slow=2.3,SNR=6.0					
WLF	**Walferdange**	**146.46 340**	PKPbc	**PKPbc**	**04 07 30.9 +0.2**	
DOU	**Dourbes**	**146.55 342**	PKPbc	**PKPdf**	**04 07 30.0 +0.9**	

IDC 14 03:58:05.6±3.5, 6°.88S×148°.73E, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.5/34, mbtmp3.6/2, ML3.6/1, Error ellipse: s-maj=131.4km s-min=44.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.95**	**212**	Pn	Pb	03 58 57.4	-1.6
	2.6nm,0.3s,baz=34,slow=11,SNR=6.9						
PMG				Sn	Sn	03 59 31.8	+1.9
	18nm,0.3s,baz=14,slow=22,SNR=8.3						
WRA	**Warramunga Arr**	**19.07**	**226**	P	P	04 02 28.9	-0.9
	0.2nm,0.3s,baz=51,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**21.94**	**219**	P	P	04 03 01.0	0.0
	2.9nm,0.6s,baz=52,slow=9.4,SNR=41						
TORD	**Torodi Ar. Bea**	**146.97**	**283**	PKPbc	PKPbc	04 17 50.8	-0.5
	0.7nm,0.5s,baz=66,slow=3.0,SNR=12						

MAN 14 04:04:24, 10°.42N×125°.13E, h8km, mb4.5, ML3.3, MS3.2, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.39**	**224**	*e*P	Pg	04 04 31.9	+0.3
MSLP				*e*S	Sg	04 04 37.7	+0.9
SCPH	**Surigao**	**0.72**	**151**	*e*P	Pg	04 04 36.6	-1.4
SCPH				*i* S	Sb	04 04 49.9	+1.0
PLP	**Palo**	**0.76**	**349**⇑	*e*P	Pb	04 04 39.1	-0.3
PLP				*i* S	Sb	04 04 51.2	+1.2
OCLP	**Ormoc**	**0.81**	**321**	*e*P	Pb	04 04 40.9	+0.5
OCLP				*e*S	Sn	04 04 53.5	-0.6
LLP	**Lapu-Lapu**	**1.15**	**265**⇓	*e*P	Pg	04 04 45.4	-0.8
LLP				*e*S	Sn	04 05 02.4	0.0
BESP	**Borongan**	**1.21**	**14**	*e*P	Pb	04 04 46.0	-1.2
BESP				*e*S	Sn	04 05 03.6	-0.4
CNP	**Cataraman**	**2.13**	**348**	*e*P	Pb	04 05 01.8	-1.1
CNP				*e*S	Sb	04 05 30.5	+1.1
GUIM	**Jordan**	**2.51**	**275**	*e*P	Pn	04 05 06.5	+1.4
BUKP	**Musuan**	**2.52**	**182**	*e*P	Pn	04 05 05.2	-0.2
BUKP				*e*S	Sb	04 05 39.2	-1.7
RCP	**Roxas**	**2.60**	**296**⇓	*e*P	Pn	04 05 08.1	+1.6
PVCP	**Virac**	**3.30**	**343**	*e*P	Pb	04 05 21.5	-1.4

IDC 14 04:13:32.7±3.3, 6°.87S×148°.94E, h0km, mb3.5/1, mb1 3.8/2, mb1mx3.4/31, mbtmp3.5/2, ML3.6/1, Error ellipse: s-maj=119.8km s-min=44.1km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**215**	Pn	Pn	04 14 25.2	+2.6
	3.2nm,0.3s,baz=51,slow=6.5,SNR=4.8						
PMG				Sn	Sn	04 15 02.1	+2.0
	28nm,0.3s,baz=21,slow=16,SNR=6.9						
WRA	**Warramunga Arr**	**19.23**	**226**	P	P	04 17 58.2	-0.4
	0.2nm,0.3s,baz=52,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**22.08**	**219**	P	P	04 18 29.8	+0.1
	1.4nm,0.6s,baz=52,slow=9.4,SNR=19						
TORD	**Torodi Ar. Bea**	**147.17**	**284**	PKPbc	PKPbc	04 33 18.3	-0.7
	0.6nm,0.4s,baz=63,slow=4.1,SNR=17						

*ISCJB **14** 04:15:43.6±0.2, 51°.54N±0°.01×16°.16E±0°.02, h0km, mb3.9/14, MS4.3/1, Error ellipse: s-maj=1.9km s-min=1.6km az=12.1*
*LDG **14** 04:15:44.8±0.2, 51°.55N×16°.26E, h1km, Ml4.3/16, Error ellipse: s-maj=4.6km s-min=2.5km az=5.0, Suspected Mining induced.*
*BNS **14** 04:15:45.6±0.7, 51°.70N×16°.35E, h5km, ML3.4*
*NEIC **14** 04:15:45.8±0.0, 51°.62N×16°.17E, h2km, mb4.2/5, ML4.2(CSEM), After CSEM.*
*IPEC **14** 04:15:45.9±0.5, 51°.54N×16°.23E, h0km±2km, ML3.6/3, Error ellipse: s-maj=4.2km s-min=2.7km az=74.0*
*CSEM **14** 04:15:45.5±0.1, 51°.55N×16°.16E, h2km, mb4.2/5, ML4.1/18, Error ellipse: s-maj=2.0km s-min=1.9km az=169.0*
*WAR **14** 04:15:46.7, 51°.53N×16°.14E, h1km, Mw3.3*
*PRU **14** 04:15:46.7, 51°.50N×16°.15E, h0km, M4.2, Felt In Harrachov*
*BGR **14** 04:15:46.5±0.4, 51°.53N×16°.18E, h1km, ML3.9/14, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*IDC **14** 04:15:47.1±1.7, 51°.51N×16°.07E, h7km±13km, mb3.8/10, mb1 3.9/18, mb1mx3.7/50, mbtmp3.8/18, ML3.5/8, MS4.5/1, Ms1 4.5/1, ms1mx3.7/36, Error ellipse: s-maj=10.7km s-min=7.8km az=106.0*
*UPP **14** 04:15:51.5±3.1, 51°.91N×15°.63E, h0km, ML2.3*

ISC 14 04:15:45.0±0.5, 51°.56N±0°.02×16°.17E±0°.02, h0km, n283, σ1§82/424, mb3.9/14, 17C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pb**	**04 15 59.8**	**-0.6**
KSP				*i* Sg	**Sg**	**04 16 09.3**	**+1.2**
KSP				*e*		04 16 13.7	
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pb**	**04 15 59.9**	**-0.6**
KSP				*e*Sg	**Sg**	**04 16 08.7**	**+0.7**
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pb**	**04 15 59.8**	**-0.6**
KSP				Sg	**Sg**	**04 16 08.7**	**+0.7**
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg	**Pb**	**04 15 59.8**	**-0.6**
KSP				*i* Sg	**Sg**	**04 16 09.3**	**+1.2**
KSP				*e*		04 16 13.7	
UPC	**Upice**	**1.06**	**185**⇓	*i*PG	**Pb**	**04 16 05.9**	**-0.2**
U

PRA	**Prague**	**1.85 217**	⇓	*e*PN	**Pn**	**04 16 18.3 +0.4**
PRA				*e*PG	**Pb**	**04 16 20.2 +0.5**
PRA				*e*SG	**Sb**	**04 16 44.1 +0.8**
	comp=Z,564nm,1.0s					
PRA	**Prague**	**1.85 217**		Pn	**Pn**	**04 16 18.3 +0.4**
GOPC	**GO Pecny, Ondr**	**1.86 209**	⇓	*e*PN	**Pn**	**04 16 18.0 -0.2**
GOPC				*e*PG	**Pg**	**04 16 20.5 -0.2**
GOPC				*e*SG	**Sb**	**04 16 44.4 +0.6**
	comp=Z,293nm,0.6s					
GOPC	**GO Pecny, Ondr**	**1.86 209**		Pn	**Pn**	**04 16 18.0 -0.2**
GOPC	**GO Pecny, Ondr**	**1.86 209**		Pg	**Pg**	**04 16 20.5 -0.2**
GOPC				Sg	**Sb**	**04 16 44.4 +0.6**
	293nm,0.6s					
FBE	**Freiberg**	**1.88 251**		*e*Pn	**Pn**	**04 16 18.2 -0.1**
FBE				*e*Pg	**Pg**	**04 16 21.7 +0.7**
FBE				*e*Sg	**Sg**	**04 16 46.0 +0.7**
FBE	**Freiberg**	**1.88 251**		Pn	**Pn**	**04 16 18.2 -0.1**
FBE	**Freiberg**	**1.88 251**		Pg	**Pg**	**04 16 21.7 +0.7**
FBE				Sg	**Sg**	**04 16 46.0 +0.7**
PRU	**Pruhonice**	**1.88 214**	⇓	*e*PN	**Pn**	**04 16 18.2 -0.1**
PRU				*e*PG	**Pb**	**04 16 20.4 +0.3**
PRU				*e*SG	**Sb**	**04 16 44.8 +0.6**
	comp=Z,450nm,0.3s					
PRU	**Pruhonice**	**1.88 214**		Pn	**Pn**	**04 16 18.2 -0.1**
RAC	**Raciborz**	**1.96 138**		*e*Sg	**Sg**	**04 16 48.9 +1.1**
MORC	**Moravsky Berou**	**1.99 153**	⇓	*i*P	**Pn**	**04 16 20.0 +0.1**
MORC				S	**Sg**	**04 16 48.9 +0.2**
MORC	**Moravsky Berou**	**1.99 153**		*e*Pn	**Pn**	**04 16 20.0 +0.1**
MORC				*e*Sg	**Sg**	**04 16 49.2 +0.5**
MORC	**Moravsky Berou**	**1.99 153**	⇓	*i*P	**Pn**	**04 16 20.0 +0.1**
MORC				*e*Sn	**Sn**	**04 16 45.7 +0.2**
MORC				S	**Sg**	**04 16 48.9 +0.2**
MORC				Sg	**Sg**	**04 16 49.2 +0.5**
MORC	**Moravsky Berou**	**1.99 153**		*e*Pn	**Pn**	**04 16 19.9 +0.1**
MORC				*e*Sn	**Sn**	**04 16 45.6 +0.2**
MORC				*e*Sg	**Sg**	**04 16 48.5 -0.2**
CLL	**Collm**	**2.00 264**		*e*Pn	**Pn**	**04 16 19.6 -0.3**
CLL				*e*Pg	**Pg**	**04 16 23.5 +0.3**
CLL				*e*Sg	**Sg**	**04 16 50.2 +1.1**
CLL	**Collm**	**2.00 264**		Pn	**Pn**	**04 16 19.6 -0.3**
CLL	**Collm**	**2.00 264**		Pg	**Pg**	**04 16 23.5 +0.3**
CLL				Sg	**Sg**	**04 16 50.2 +1.1**
CLL	**Collm**	**2.00 264**		*i* Pn	**Pn**	**04 16 19.7 -0.3**
	comp=Z,64nm,0.5s					
CLL				*i* Pg	**Pg**	**04 16 23.4 +0.2**
CLL				*i*		04 16 27.1
CLL				*i* Sg	**Sg**	**04 16 50.3 +1.2**
	comp=Z,337nm,0.6s					
OKC	**Ostrava-Krasne**	**2.13 143**	⇓	*e*PN	**Pn**	**04 16 21.4 -0.4**
OKC				*e*PG	**Pg**	**04 16 25.9 +0.1**
OKC				*e*SG	**Sb**	**04 16 52.1 +0.7**
	comp=Z,436nm,0.6s					
OKC	**Ostrava-Krasne**	**2.13 143**		*e*Pn	**Pn**	**04 16 20.8 -1.0**
OKC				*e*Pg	**Pg**	**04 16 26.3 +0.4**
OKC				*e*Sg	**Sb**	**04 16 52.5 +1.1**
OKC	**Ostrava-Krasne**	**2.13 143**		Pn	**Pn**	**04 16 21.4 -0.4**
VRAC	**Vranov**	**2.27 173**		Pn	**Pn**	**04 16 24.1 +0.4**
	comp=Z,10nm,0.3s,baz=341,slow=14,SNR=34					
VRAC				Lg	Lg	04 16 56.6
	comp=Z,59nm,0.3s,baz=262,slow=23,SNR=15					
VRAC	**Vranov**	**2.27 173**		Pn	**Pn**	**04 16 24.1 +0.4**
VRAC				*e*Sg	**Sb**	**04 16 56.1 +0.7**
	comp=Z,284nm,0.5s					
VRAC				Lg	Lg	04 16 56.6
KRUC	**Moravsky**	**2.50 177**		*e*Pn	**Pn**	**04 16 27.6 +0.7**
KRUC				*e*Sg	**Sb**	**04 17 03.6 +1.5**
	comp=Z,240nm,0.8s					
OJC	**Ojcow**	**2.66 119**		*e*Pn	**Pn**	**04 16 28.0 -1.1**
OJC				*e*Pg	**Pg**	**04 16 36.6 +0.7**
OJC				*e*Sg	**Sg**	**04 17 11.8 +1.4**
OJC	**Ojcow**	**2.66 119**		*e*Pn	**Pn**	**04 16 28.2 -0.9**
OJC				*e*Pg	**Pg**	**04 16 35.7 -0.3**
OJC				*e*Sg	**Sg**	**04 17 11.5 +1.1**
OJC	**Ojcow**	**2.66 119**		Pn	**Pn**	**04 16 28.2 -0.9**
OJC	**Ojcow**	**2.66 119**		*e*Pn	**Pn**	**04 16 28.0 -1.1**
OJC				*e*Pg	**Pg**	**04 16 36.6 +0.7**
OJC				*e*Sg	**Sg**	**04 17 11.8 +1.4**
WERD	**Werda**	**2.68 247**		*e*Pn	**Pn**	**04 16 29.8 +0.4**
WERD				*e*Pg	**Pg**	**04 16 36.8 +0.5**
WERD				*e*Sg	**Sg**	**04 17 13.4 +2.4**
WERD	**Werda**	**2.68 247**		Pn	**Pn**	**04 16 29.8 +0.4**
NKC	**Novy Kostel**	**2.70 242**	⇓	*e*PN	**Pn**	**04 16 30.3 +0.6**
NKC				*e*PG	**Pg**	**04 16 37.4 +0.7**
NKC				*e*SG	**Sg**	**04 17 13.3 +1.5**
	comp=Z,541nm,0.5s					
KHC	**Kasperske Hory**	**2.94 215**	⇓	*e*PN	**Pn**	**04 16 32.9 -0.1**
KHC				*e*PG	**Pb**	**04 16 39.6 +1.3**
KHC				*e*SN	**Sn**	**04 17 04.5 -4.5**
KHC				*e*SG	**Sg**	**04 17 18.2 -1.2**
	comp=Z,138nm,0.5s					
KHC	**Kasperske Hory**	**2.94 215**		Pn	**Pn**	**04 16 32.9 -0.1**
KHC	**Kasperske Hory**	**2.94 215**		*e*Pb	**Pb**	**04 16 39.1 +0.8**
KHC				Sn	**Sn**	**04 17 04.5 -4.5**
KHC				*e*Sg	**Sg**	**04 17 18.3 -1.2**
KHC	**Kasperske Hory**	**2.94 215**		*e*Pn	**Pn**	**04 16 32.8 -0.1**
KHC				*e*Pb	**Pb**	**04 16 39.1 +0.8**
KHC				*e*Pg	**Pg**	**04 16 41.7 +0.4**
KHC				*e*Sn	**Sn**	**04 17 08.7 -0.4**
KHC				*e*Sg	**Sg**	**04 17 18.3 -1.1**
MOX	**Moxa**	**3.01 254**		*e*Pn	**Pn**	**04 16 34.1 +0.2**
MOX				*e*Pg	**Pg**	**04 16 42.9 +0.2**
MOX				*e*Sg	**Sg**	**04 17 22.8 +1.2**
MOX	**Moxa**	**3.01 254**		Pn	**Pn**	**04 16 34.1 +0.2**
MANZ	**Manzenberg**	**3.02 240**		*e*Pn	**Pn**	**04 16 34.9 +0.8**
MANZ				*e*Pg	**Pg**	**04 16 43.7 +0.9**
MANZ				*e*Sg	**Sg**	**04 17 22.6 +0.6**
MANZ	**Manzenberg**	**3.02 240**		Pn	**Pn**	**04 16 34.9 +0.8**
ROTZ	**Rotzenmuhle**	**3.09 236**		*e*Pn	**Pn**	**04 16 35.5 +0.5**
ROTZ				*e*Pg	**Pg**	**04 16 45.1 +0.9**
ROTZ				*e*Sg	**Sg**	**04 17 22.4 -1.9**
ROTZ	**Rotzenmuhle**	**3.09 236**		Pn	**Pn**	**04 16 35.5 +0.5**
GEC2	**GERESS Array S**	**3.14 211**		*e*Pn	**Pn**	**04 16 36.2 +0.4**
GEC2				*e*Pg	**Pg**	**04 16 43.8 -1.4**
GEC2				*e*Sg	**Sg**	**04 17 23.9 -2.0**
GEC2	**GERESS Array S**	**3.14 211**		Pn	**Pn**	**04 16 36.2 +0.4**
GERES	**GERESS Array B**	**3.14 211**		Pn	**Pn**	**04 16 36.2 +0.4**
	comp=Z,5.9nm,0.3s,baz=32,slow=12,SNR=145					
GERES				Pg	**Pb**	**04 16 43.2 +1.4**
	comp=Z,12nm,0.3s,baz=28,slow=15,SNR=56					
GERES				Lg	Lg	04 17 24.5
	comp=Z,21nm,0.3s,baz=33,slow=31,SNR=5.1					
SMOL	**Smolenice**	**3.15 165**		*e*Pg	**Pg**	**04 16 45.8 +0.4**
SMOL				*e*Sg	**Sg**	**04 17 27.2 +1.0**
SMOL	**Smolenice**	**3.15 165**		*e*PG	**Pg**	**04 16 45.8 +0.4**
SMOL				*e*SG	**Sg**	**04 17 27.2 +1.0**
LANS	**Liptovska Anna**	**3.21 137**		*e*Pg	**Pg**	**04 16 46.6 +0.2**
LANS				*e*Sg	**Sg**	**04 17 27.0 -0.9**
LANS	**Liptovska Anna**	**3.21 137**		*e*PG	**Pg**	**04 16 46.6 +0.2**
LANS				*e*SG	**Sg**	**04 17 27.0 -0.9**
NIE	**Niedzica**	**3.40 127**		*e*P	**Pg**	**04 16 49.8 -0.3**
NIE				*e*S	**Sg**	**04 17 35.2 +1.1**
NIE	**Niedzica**	**3.40 127**		*e*P	**Pg**	**04 16 49.8 -0.3**
NIE				*e*S	**Sg**	**04 17 35.2 +1.1**
VYHS	**Vyhne**	**3.52 150**		*e*Pg	**Pg**	**04 16 52.0 -0.3**
VYHS				*e*Sg	**Sg**	**04 17 39.0 +1.1**
VYHS	**Vyhne**	**3.52 150**		*e*PG	**Pg**	**04 16 52.0 -0.3**
VYHS				*e*SG	**Sg**	**04 17 39.0 +1.1**
VYHS				*e*LG	Lg	04 17 53.3
CONA	**Conrad Observa**	**3.64 183**		*e*Pn	**Pn**	**04 16 43.8 +1.2**
	comp=Z,22nm,0.6s,SNR=16					
CONA				*e*Sn	**Sn**	**04 17 30.0 +3.7**
	comp=Z,40nm,0.6s					
CONA				Sg	**Sg**	**04 17 40.9 -0.9**
	comp=Z,101nm,0.5s					
CONA	**Conrad Observa**	**3.64 183**		Pn	**Pn**	**04 16 43.8 +1.2**
	comp=Z,22nm,0.6s,SNR=16					
CONA				Sn	**Sn**	**04 17 30.0 +3.7**
	comp=Z,40nm,0.6s					
CONA				Sg	**Sg**	**04 17 40.9 -0.9**
	comp=Z,101nm,0.5s					
BSD	**Bornholm Skovb**	**3.64 349**		*i* P	**Pn**	**04 16 42.0 -0.5**
BSD				*i* S	**Sn**	**04 17 22.6 -3.5**
BSD	**Bornholm Skovb**	**3.64 349**		*i* P	**Pn**	**04 16 42.0 -0.5**
BSD				*i* S	**Sn**	**04 17 22.6 -3.5**
GRA1	**Grafenberg Arr**	**3.66 241**		Pn	**Pn**	**04 16 43.6 +0.8**
GRA1				Sg	**Sg**	**04 17 42.8 +0.3**
GRF	**Grafenberg Arr**	**3.66 241**		*e*Pn	**Pn**	**04 16 43.6 +0.8**
GRF				*e*Sg	**Sg**	**04 17 42.8 +0.3**
GRFO	**Grafenberg**	**3.66 241**		*e*Pn	**Pn**	**04 16 43.4 +0.5**
GRFO	**Grafenberg**	**3.66 241**		*e*Pg	**Pg**	**04 16 55.3 +0.2**
GRFO	**Grafenberg**	**3.66 241**		*e*Pn	**Pn**	**04 16 43.4 +0.5**
GRFO				*e*Pg	**Pg**	**04 16 55.3 +0.2**
GRFO				*e*Sn	**Sn**	**04 17 27.8 +1.0**
GRFO				*e*Sg	**Sg**	**04 17 39.6 -2.9**
STHS	**Stebnicka Huta**	**3.88 121**		*e*Pg	**Pg**	**04 17 00.7 +1.3**
STHS				*e*Sg	**Sg**	**04 17 52.5 +2.7**
STHS	**Stebnicka Huta**	**3.88 121**		*e*PG	**Pg**	**04 17 00.7 +1.3**
STHS				*e*SG	**Sg**	**04 17 52.4 +2.7**
STHS				*e*LG	Lg	04 18 05.9
SOP	**Sopron**	**3.89 176**	⇑	*e*Pn	**Pn**	**04 16 47.0 +1.1**
SOP	**Sopron**	**3.89 176**	⇑	*e*Pn	**Pn**	**04 16 47.0 +1.1**
SOP				*e*Sb	**Sg**	**04 17 48.1 -1.6**
SOP	**Sopron**	**3.89 176**	⇑	*e*Pn	**Pn**	**04 16 47.0 +1.1**
SOP				*e*Sb	**Sg**	**04 17 48.1 -1.6**
MOA	**Molln**	**3.91 199**		*i* Pn	**Pn**	**04 16 47.1 +0.8**
	comp=Z,44nm,0.7s,SNR=28					
MOA				Sg	**Sg**	**04 17 50.2 -0.3**
	comp=Z,163nm,0.7s					
MOA	**Molln**	**3.91 199**		Pn	**Pn**	**04 16 47.1 +0.8**
	comp=Z,44nm,0.7s,SNR=28					
MOA				Sg	**Sg**	**04 17 50.2 -0.3**
	comp=Z,163nm,0.7s					
KECS	**Kecovo**	**4.15 136**		*e*Pg	**Pg**	**04 17 05.6 +1.2**
KECS				*e*Sg	**Sg**	**04 17 57.5 -0.7**
KECS	**Kecovo**	**4.15 136**		*e*PG	**Pg**	**04 17 05.6 +1.2**
KECS				*e*SG	**Sg**	**04 17 57.5 -0.7**
KECS				*e*LG	Lg	04 18 12.4
CRVS	**Cervenica-Dubn**	**4.31 126**		*e*Pg	**Pg**	**04 17 09.2 +1.6**
CRVS				*e*Sg	**Sg**	**04 18 04.2 +0.7**
CRVS	**Cervenica-Dubn**	**4.31 126**		*e*PG	**Pg**	**04 17 09.2 +1.6**
CRVS				*e*SG	**Sg**	**04 18 04.2 +0.7**
ARSA	**Arzberg**	**4.33 186**		*e*Pn	**Pn**	**04 16 53.5 +1.4**
	comp=Z,6.1nm,0.4s					
ARSA				Sg	**Sg**	**04 18 03.6 -0.5**
	comp=Z,79nm,0.7s					
ARSA	**Arzberg**	**4.33 186**		Pn	**Pn**	**04 16 53.5 +1.4**
	comp=Z,6.1nm,0.4s					
ARSA				Sg	**Sg**	**04 18 03.6 -0.5**
	comp=Z,79nm,0.7s					
PSZ	**Piszkesteto**	**4.37 145**	⇑	*i*P	**Pn**	**04 16 53.7 +1.1**
PSZ	**Piszkesteto**	**4.37 145**	⇑	*i*P	**Pn**	**04 16 53.7 +1.1**
PSZ	**Piszkesteto**	**4.37 145**	⇑	*e*Pn	**Pn**	**04 16 53.7 +1.1**
PSZ	**Piszkesteto**	**4.37 145**	⇑	*e*Pn	**Pn**	**04 16 53.7 +1.1**
PSZ	**Piszkesteto**	**4.37 145**		*e*Pn	**Pn**	**04 16 53.8 +1.1**
CSKK	**Cs^tkako**	**4.41 161**	⇑	*e*Pn	**Pn**	**04 16 53.8 +0.6**
CSKK	**Cs^tkako**	**4.41 161**	⇑	*e*Pn	**Pn**	**04 16 53.8 +0.6**
KWP	**Kalwaria Pacla**	**4.59 112**		*e*Pn	**Pn**	**04 16 55.5 -0.1**
KWP				*e*Pg	**Pg**	**04 17 10.8 -2.0**
KWP				*e*Sn	**Sg**	**04 18 15.2 +2.8**
KWP	**Kalwaria Pacla**	**4.59 112**		*e*Pn	**Pn**	**04 16 55.5 -0.1**
KWP	**Kalwaria Pacla**	**4.59 112**		*e*Pn	**Pn**	**04 16 55.5 -0.1**
KWP				*e*Pg	**Pg**	**04 17 10.8 -2.0**
KWP				*e*Sn	**Sg**	**04 18 15.2 +2.8**
BLEU	**Blekinge**	**4.76 358**		P	**Pn**	**04 16 58.0 +0.1**
BLEU	**Blekinge**	**4.76 358**		P	**Pn**	**04 16 58.0 +0.1**
KBA	**Koelnbreinsper**	**4.85 203**		*e*Pn	**Pn**	**04 17 00.4 +1.1**
	comp=Z,27nm,0.5s,SNR=7.4					
KBA	**Koelnbreinsper**	**4.85 203**		Pn	**Pn**	**04 17 00.4 +1.1**
	comp=Z,27nm,0.5s,SNR=7.4					
SOKA	**Soboth**	**4.94 189**		*e*Pn	**Pn**	**04 17 02.6 +2.1**
	comp=Z,1.9nm,0.2s					
SOKA				Sg	**Sg**	**04 18 22.4 -1.2**
	comp=Z,27nm,0.5s					
SOKA	**Soboth**	**4.94 189**		Pn	**Pn**	**04 17 02.6 +2.1**
	comp=Z,1.9nm,0.2s					
SOKA				Sg	**Sg**	**04 18 22.4 -1.2**
	comp=Z,27nm,0.5s					
PERS	**Pernice**	**4.97 188**		*i* Pn	**Pn**	**04 17 02.9 +1.9**
DEL	**Delary**	**5.11 346**		P	**Pn**	**04 17 02.1 -0.5**
DEL				S	**Sn**	**04 17 58.0 -4.2**
DEL	**Delary**	**5.11 346**		P	**Pn**	**04 17 02.1 -0.5**
DEL				S	**Sn**	**04 17 58.0 -4.2**
OBKA	**Obir**	**5.16 193**		*e*Pn	**Pn**	**04 17 05.4 +1.8**
	comp=Z,1.9nm,0.3s					
OBKA				Sg	**Sg**	**04 18 30.9 +0.2**
	comp=Z,73nm,0.6s					
OBKA	**Obir**	**5.16 193**		Pn	**Pn**	**04 17 05.4 +1.8**
	comp=Z,1.9nm,0.3s					
OBKA				Sg	**Sg**	**04 18 31.0 +0.2**
	comp=Z,73nm,0.6s					
MYKA	**Terra Mystica**	**5.20 200**		*e*Pn	**Pn**	**04 17 05.2 +1.1**
	comp=Z,2.0nm,0.3s					
MYKA				Sg	**Sg**	**04 18 32.6 +0.6**
	comp=Z,94nm,1.0s					
MYKA	**Terra Mystica**	**5.20 200**		Pn	**Pn**	**04 17 05.2 +1.1**
	comp=Z,2.0nm,0.3s					
MYKA				Sg	**Sg**	**04 18 32.6 +0.6**
	comp=Z,94nm,1.0s					
WTTA	**Wattenberg**	**5.22 216**		*e*Pn	**Pn**	**04 17 05.9 +1.6**
	comp=Z,18nm,0.7s,SNR=6.2					
WTTA				Sg	**Sg**	**04 18 33.2 +0.8**
	comp=Z,22nm,0.5s					
WTTA	**Wattenberg**	**5.22 216**		Pn	**Pn**	**04 17 05.9 +1.6**
	comp=Z,18nm,0.7s,SNR=6.2					
WTTA				Sg	**Sg**	**04 18 33.2 +0.8**
	comp=Z,22nm,0.5s					
MOTA	**Moosalm**	**5.36 220**		*e*Pn	**Pn**	**04 17 06.8 +0.6**
	comp=Z,12nm,0.5s,SNR=11					
MOTA	**Moosalm**	**5.36 220**		Pn	**Pn**	**04 17 06.8 +0.6**
	comp=Z,12nm,0.5s,SNR=11					
TRPA	**Tarpa**	**5.36 127**	⇑	*e*Pn	**Pn**	**04 17 06.1 -0.1**
TRPA	**Tarpa**	**5.36 127**	⇑	*e*Pn	**Pn**	**04 17 06.1 -0.1**
ABTA	**Abfaltersbach**	**5.38 208**		*e*Pn	**Pn**	**04 17 08.1 +1.6**
	comp=Z,8.1nm,0.5s,SNR=6.8					
ABTA				*e*Sg	**Sg**	**04 18 37.9 +0.3**
	comp=Z,38nm,0.6s					
ABTA	**Abfaltersbach**	**5.38 208**		Pn	**Pn**	**04 17 08.1 +1.6**
	comp=Z,8.1nm,0.5s,SNR=6.8					
ABTA				Sg	**Sg**	**04 18 37.9 +0.3**
	comp=Z,38nm,0.6s					
RETA	**Reutte**	**5.38 223**		*e*Pn	**Pn**	**04 17 05.9 -0.6**
	comp=Z,4.4nm,0.5s					
RETA				Sg	**Sg**	**04 18 36.1 -1.7**
	comp=Z,31nm,0.4s					
RETA	**Reutte**	**5.38 223**		Pn	**Pn**	**04 17 05.9 -0.6**
	comp=Z,4.4nm,0.5s					
RETA				Sg	**Sg**	**04 18 36.1 -1.7**
	comp=Z,31nm,0.4s					
VXJU	**Vaexsjoe**	**5.42 353**		P	**Pn**	**04 17 07.2 +0.2**
VXJU	**Vaexsjoe**	**5.42 353**		P	**Pn**	**04 17 07.2 +0.2**
KOE	**Koeppel**	**5.45 261**		*e*Pn	**Pn**	**04 17 08.2 +0.8**
KOE	**Koeppel**	**5.45 261**		Pn	**Pn**	**04 17 08.2 +0.8**
HOBG	**Hohbusch**	**5.58 268**		*e*Pn	**Pn**	**04 17 09.0 -0.1**
HOBG	**Hohbusch**	**5.58 268**		Pn	**Pn**	**04 17 09.0 -0.1**
OSKU	**Oskarshamn**	**5.65 360**		P	**Pn**	**04 17 10.5 +0.4**
OSKU	**Oskarshamn**	**5.65 360**		P	**Pn**	**04 17 10.5 +0.4**
BNS	**Bensberg**	**5.68 268**		*e*Pn	**Pn**	**04 17 11.4 +0.9**
BNS	**Bensberg**	**5.68 268**		Pn	**Pn**	**04 17 11.4 +0.9**
BGG	**Burgeitz**	**5.75 260**		*e*Pn	**Pn**	**04 17 11.9 +0.4**
BGG				*e*Sn	**Sn**	**04 18 18.1 0.0**
	comp=Z,12nm,1.1s					
BGG	**Burgeitz**	**5.75 260**		Pn	**Pn**	**04 17 11.9 +0.4**
BGG				Sn	**Sn**	**04 18 18.1 0.0**
	comp=Z,12nm,1.1s					
BYXU	**Byxelkrok**	**5.77 5**		P	**Pn**	**04 17 12.4 +0.7**
BYXU	**Byxelkrok**	**5.77 5**		P	**Pn**	**04 17 12.4 +0.7**
FETA	**Feichten**	**5.77 220**		*e*Pn	**Pn**	**04 17 12.7 +0.8**
	comp=Z,6.5nm,0.7s					
FETA				Sg	**Sg**	**04 18 50.7 +0.6**
	comp=Z,15nm,0.7s					
FETA	**Feichten**	**5.77 220**		Pn	**Pn**	**04 17 12.7 +0.8**
	comp=Z,6.5nm,0.7s					
FETA				Sg	**Sg**	**04 18 50.7 +0.6**
	comp=Z,15nm,0.7s					
LAUG	**Laupendahl**	**5.77 272**		*e*Pn	**Pn**	**04 17 12.2 +0.4**
LAUG	**Laupendahl**	**5.77 272**		Pn	**Pn**	**04 17 12.2 +0.4**
FABU	**Falkenberg**	**5.82 341**		P	**Pn**	**04 17 11.7 -0.7**
FABU	**Falkenberg**	**5.82 341**		P	**Pn**	**04 17 11.7 -0.7**
VISS	**Visnje**	**5.83 189**		*i* Pn	**Pn**	**04 17 13.8 +1.3**
ASPU	**Aespoe**	**5.88 2**		P	**Pn**	**04 17 14.9 +1.7**
ASPU	**Aespoe**	**5.88 2**		P	**Pn**	**04 17 14.9 +1.7**
GNOU	**Gnosjoe**	**5.91 347**		P	**Pn**	**04 17 13.5 -0.3**
GNOU				S	**Sn**	**04 18 15.3 -6.8**
GNOU	**Gnosjoe**	**5.91 347**		P	**Pn**	**04 17 13.5 -0.3**
DAVA	**Damuels**	**5.92 226**		*e*Pn	**Pn**	**04 17 14.2 +0.2**
	comp=Z,5.9nm,0.5s					
DAVA				Sg	**Sg**	**04 19 03.8 +8.6**
	comp=Z,53nm,0.8s					
DAVA	**Damuels**	**5.92 226**		Pn	**Pn**	**04 17 14.2 +0.2**
	comp=Z,5.9nm,0.5s					
OZLJ	**Ozalj**	**5.96 185**		*i* P	**Pn**	**04 17 16.0 +1.6**
BFO	**Black Forest**	**6.00 241**		*e*Pn	**Pn**	**04 17 13.7 -1.3**
	comp=Z,18nm,0.6s					
BFO	**Black Forest**	**6.00 241**		*e*Pg	**Pg**	**04 17 39.8 -0.1**
BFO	**Black Forest**	**6.00 241**		*e*Pn	**Pn**	**04 17 13.7 -1.3**
	comp=Z,18nm,0.6s					
BFO				*e*Pg	**Pg**	**04 17 39.8 -0.1**
BFO				*e*Sg	**Sg**	**04 18 57.1 -0.6**
EKSU	**Eksjoe**	**6.05 356**		P	**Pn**	**04 17 15.8 +0.2**
EKSU	**Eksjoe**	**6.05 356**		P	**Pn**	**04 17 15.8 +0.2**
BOJS	**Bojanci**	**6.09 186**		*i* Pn	**Pn**	**04 17 17.9 +1.8**
BOJS	**Bojanci**	**6.09 186**		*i* Pn	**Pn**	**04 17 17.9 +1.8**
KLL	**Kalltalsperre**	**6.28 266**		*e*Pn	**Pn**	**04 17 18.9 +0.2**
KLL	**Kalltalsperre**	**6.28 266**		Pn	**Pn**	**04 17 18.9 +0.2**
DAVOX	**Davos/Dischmat**	**6.31 223**		Pn	**Pn**	**04 17 20.0 +0.6**
	comp=Z,1.1nm,0.3s,baz=37,slow=12,SNR=13					
DAVOX	**Davos/Dischmat**	**6.31 223**		Pn	**Pn**	**04 17 20.0 +0.6**
DREG	**Dreilaegerbach**	**6.32 266**		*e*Pn	**Pn**	**04 17 20.3 +0.9**
DREG	**Dreilaegerbach**	**6.32 266**		Pn	**Pn**	**04 17 20.3 +0.9**
SIRR	**Siria**	**6.41 144**	⇑	*i*P	**Pn**	**04 17 21.4 +0.8**
SIRR	**Siria**	**6.41 144**	⇑	*i*P	**Pn**	**04 17 21.4 +0.8**
DRGR		**6.41 135**	⇑	*i*P	**Pn**	**04 17 20.9 +0.2**
DRGR		**6.41 135**	⇑	*i*P	**Pn**	**04 17 20.9 +0.2**
MEM	**Membach**	**6.47 266**		PN	**Pn**	**04 17 22.1 +0.6**
MEM	**Membach**	**6.47 266**		Pn	**Pn**	**04 17 22.0 +0.6**
CDF	**Champ du Feu**	**6.54 245**		*e*Pn	**Pn**	**04 17 21.5 -1.0**
CDF				*e*Sg	**Sg**	**04 19 11.5 -3.4**
	comp=Z,95nm,0.9s					
CDF	**Champ du Feu**	**6.54 245**		*e*Pn	**Pn**	**04 17 21.5 -1.0**
CDF	**Champ du Feu**	**6.54 245**		*e*Pn	**Pn**	**04 17 21.5 -1.0**
CDF				*e*Sg	**Sg**	**04 19 11.5 -3.4**
WLF	**Walferdange**	**6.65 257**		PN	**Pn**	**04 17 24.9 +1.0**
WLF				SG	**Sg**	**04 19 18.1 -0.4**
	comp=E,30nm,0.0s					
WLF	**Walferdange**	**6.65 257**		Pn	**Pn**	**04 17 24.9 +1.0**
WLF				Sg	**Sg**	**04 19 18.0 -0.4**
LNKU	**Linkoeping**	**6.69 357**		P	**Pn**	**04 17 24.6 +0.2**
LNKU	**Linkoeping**	**6.69 357**		P	**Pn**	**04 17 24.6 +0.2**
FKPU	**Falk**	**6.76 349**		P	**Pn**	**04 17 25.9 +0.5**
FKPU	**Falk**	**6.76 349**		P	**Pn**	**04 17 25.9 +0.5**
BCLA	**Clavier**	**6.95 265**		PN	**Pn**	**04 17 29.0 +0.9**
BCLA				SG	**Sg**	**04 19 34.1 +6.0**
	comp=N,11nm,0.0s					
BCLA	**Clavier**	**6.95 265**		Pn	**Pn**	**04 17 28.9 +0.9**
BZS	**Buzias**	**6.96 147**	⇓	*i*P	**Pn**	**04 17 29.2 +1.1**
BZS	**Buzias**	**6.96 147**	⇓	*i*P	**Pn**	**04 17 29.2 +1.1**
VIKU	**Vikbolandet**	**6.97 2**		P	**Pn**	**04 17 28.8 +0.6**
VIKU	**Vikbolandet**	**6.97 2**		P	**Pn**	**04 17 28.8 +0.6**
NVLJ	**Novalja**	**7.05 188**		*i* P	**Pn**	**04 17 31.8 +2.4**
NVLJ	**Novalja**	**7.05 188**		*i* P	**Pn**	**04 17 31.8 +2.4**
BURAR	**Bucovina Array**	**7.08 120**	⇑	*i*P	**Pn**	**04 17 30.7 +0.8**
BURAR	**Bucovina Array**	**7.08 120**	⇑	*i*P	**Pn**	**04 17 30.7 +0.8**
HINF	**Hinteralfeld**	**7.11 242**		*e*Sg	**Sg**	**04 19 27.7 -5.4**
	comp=N,61nm,0.8s					
HINF	**Hinteralfeld**	**7.11 242**		*e*Sg	**Sg**	**04 19 27.7 -5.4**
ISAL	**Salakas**	**7.16 52**		*e*P	**Pg**	**04 18 01.2 -0.9**
HAU	**Haudompre**	**7.28 245**		*e*Pn	**Pn**	**04 17 30.8 -1.8**
HAU	**Haudompre**	**7.28 245**		*e*Pg	**P

comp=E,2.1nm,0.3s,baz=271,slow=8.6,SNR=4.8
ARU Arti 25.08 62 *e*P **P 04 21 11.5 +0.6**
comp=E,2.8nm,0.5s
ARU Arti 25.08 62 *e*P **P 04 21 11.5 +0.6**
comp=E,2.8nm,0.5s
AKTO Aktyubinsk 26.11 76 P **P 04 21 20.9 +0.7**
comp=E,2.0nm,0.5s,baz=296,slow=11,SNR=6.1
AKTO Aktyubinsk 26.11 76 P **P 04 21 21.0 +0.7**
ABKAR Akbulak array 27.69 77 *e*P **P 04 21 34.6 +0.2**
comp=E,0.4nm,0.4s
ABKAR Akbulak array 27.69 77 *e*P **P 04 21 34.6 +0.2**
comp=E,0.4nm,0.4s
BRVK Borovoye 32.47 66 *e*P **P 04 22 18.1 +1.4**
comp=E,7.4nm,0.9s
BRVK Borovoye 32.47 66 *e*P **P 04 22 18.1 +1.4**
comp=E,7.5nm,0.9s
BVAR Borovoye Array 32.54 66 P **P 04 22 19.3 +2.0**
comp=E,1.7nm,0.6s,baz=292,slow=7.8,SNR=10
KURBB Kurchatov Arra 38.12 66 P **P 04 23 06.4 +1.0**
comp=E,1.3nm,0.7s,baz=297,slow=9.0,SNR=10.0
KURK Kurchatov 38.13 66 *e*P **P 04 23 05.6 +0.1**
comp=E,12nm,0.7s
KURK Kurchatov 38.13 66 *e*P **P 04 23 05.6 +0.1**
comp=E,12nm,0.7s
AAK Ala-Archa 39.73 79 *e*P **P 04 23 20.9 +1.8**
comp=E,1.7nm,0.6s
AAK Ala-Archa 39.73 79 *e*P **P 04 23 20.9 +1.8**
comp=E,1.7nm,0.6s
TORD Torodi Ar. Bea 40.06 202 P **P 04 23 22.3 +0.5**
comp=E,0.9nm,0.8s,baz=14,slow=9.1,SNR=5.9
SONM Songino Array 54.86 55 P **P 04 25 18.4 +1.6**
comp=E,0.6nm,0.5s,baz=273,slow=8.6,SNR=5.0
YKA Yellowknife Ar 59.83 336 P **P 04 25 52.9 +1.4**
comp=E,1.0nm,0.6s,baz=16,slow=8.2,SNR=4.1
ILAR Eielson Array 63.27 352 P **P 04 26 15.8 +1.1**
comp=E,0.1nm,0.5s,baz=352,slow=5.5,SNR=4.5
PDAR Pinedale Array 74.92 322 P **P 04 27 28.9 +1.1**
comp=E,0.5nm,0.6s,baz=48,slow=6.0,SNR=7.4
TXAR Lajitas Array 83.71 310 P **P 04 28 17.3 +1.5**
comp=E,0.2nm,0.6s,baz=64,slow=2.9,SNR=4.2

DJA 14 04:35:14.4±1.0,10°S±4°×11°9E±°, h21km±8km, M4.0/9, mb4.2/1, MLv3.8/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.34**	**106**	P	Pn	04 35 38.1	+0.2
BASI				S	Sb	04 35 55.8	+0.2
PLAI	**Plampang**	**1.79**	**304**	P	Pn	04 35 42.8	-1.2
PLAI				S	Sn	04 36 07.1	+1.0
TWSI	**Taliwang, Sumb**	**2.60**	**295**	P	Pn	04 35 54.5	-0.7
TWSI				S	Sn	04 36 28.3	+2.1
EDFI	**Ende, Flores**	**2.62**	**66**	P	Pn	04 35 56.5	+0.8
EDFI				S	Sn	04 36 26.6	-0.3
BSSI	**Bau Bau, Buton**	**3.87**	**18**	P	Pn	04 36 12.9	+0.2
BSSI				S	Sn	04 36 57.5	0.0
IGBI	**Denpasar**	**4.20**	**284**	P	Pn	04 36 18.4	+1.2
IGBI				S	Sn	04 37 05.1	-0.5
BNSI	**Bone**	**5.47**	**9**	P	Pn	04 36 35.9	+1.2

*ISCJB **14** 04:43:49.9±0.5, 39°.48N±0°.02×37°.52E±0°.03, h3km±6km, Error ellipse: s-maj=4.3km s-min=3.8km az=171.4*
*DDA **14** 04:43:49.9, 39°.50N×37°.54E, h7km, Ml3.1*
*CSEM **14** 04:43:50.4±0.3, 39°.51N×37°.51E, h10km, ML3.1, Error ellipse: s-maj=6.0km s-min=5.8km az=25.0*
*ISK **14** 04:43:50.0, 39°.42N×37°.28E, h17km, MD3.0*
ISC 14 04:43:49.2±1.3, 39°.49N±0°.02×37°.52E±0°.02, h11km±11km, n29, σ0°95/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	**0.44**	**25**	*i* P	**Pb**	**04 43 58.6**	**-0.5**
CUZAR				*i* S	**Sb**	**04 44 05.5**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.44**	**25**	P	**Pb**	**04 43 58.7**	**-0.5**
CUZAR				S	**Sb**	**04 44 05.6**	**-0.3**
SCER	**sogukcermik**	**0.48**	**321**	*i* P	**Pg**	**04 43 58.6**	**-0.1**
SCER				*i* S	**Sb**	**04 44 06.0**	**-0.9**
SCER	**sogukcermik**	**0.48**	**321**	P	**Pg**	**04 43 58.6**	**-0.1**
SCER				S	**Sb**	**04 44 06.1**	**-0.9**
SVSK	**Karacayir**	**0.59**	**317**	*e*PG	**Pg**	**04 44 00.6**	**-0.1**
SVSK				*e*SG	**Sb**	**04 44 09.4**	**-0.4**
SVSK	**Karacayir**	**0.59**	**317**	*e*Pg	**Pg**	**04 44 00.6**	**-0.1**
SVSK				*e*Sg	**Sb**	**04 44 09.5**	**-0.4**
CUALT	**Altinyayla-SIV**	**0.63**	**250**	*i* P	**Pg**	**04 44 02.2**	**+0.8**
CUALT				*i* S	**Sb**	**04 44 12.8**	**+1.6**
CUALT	**Altinyayla-SIV**	**0.63**	**250**	P	**Pg**	**04 44 02.2**	**+0.8**
CUALT				S	**Sb**	**04 44 12.8**	**+1.6**
KEMA	**Kemaliye**	**0.78**	**106**	*i* P	**Pb**	**04 44 04.7**	**-0.2**
KEMA				*i* S	**Sb**	**04 44 16.1**	**+0.6**
KEMA	**Kemaliye**	**0.78**	**106**	P	**Pb**	**04 44 04.7**	**-0.2**
KEMA				S	**Sb**	**04 44 16.1**	**+0.6**
CUGUR	**Gurin_S¨VAS**	**0.79**	**194**	*i* P	**Pg**	**04 44 05.0**	**+0.6**
CUGUR				*i* S	**Sn**	**04 44 17.5**	**-0.7**
CUGUR	**Gurin_S¨VAS**	**0.79**	**194**	P	**Pg**	**04 44 05.0**	**+0.6**
CUGUR				S	**Sn**	**04 44 17.5**	**-0.7**
SUSE	**Susehri**	**0.89**	**36**	*i* P	**Pb**	**04 44 06.6**	**-0.1**
SUSE				*i* S	**Sn**	**04 44 20.9**	**+0.1**
SUSE	**Susehri**	**0.89**	**36**	P	**Pb**	**04 44 06.6**	**-0.1**
SUSE				S	**Sn**	**04 44 20.9**	**+0.1**
DARE	**Darende-Malaty**	**0.92**	**182**	*e*PG	**Pg**	**04 44 07.6**	**+0.8**
DARE				*e*SG	**Sb**	**04 44 19.7**	**+0.4**
DARE	**Darende-Malaty**	**0.92**	**182**	*e*Pg	**Pg**	**04 44 07.6**	**+0.8**
DARE				*e*Sg	**Sb**	**04 44 19.7**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.92**	**351**	*e*PG	**Pn**	**04 44 09.6**	**+1.5**
RSDY	**Resadiye-TOKAT**	**0.92**	**351**	*e*Pg	**Pn**	**04 44 09.6**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**0.99**	**266**	*i* P	**Pb**	**04 44 08.2**	**-0.3**
CUSAR				*i* S	**Sn**	**04 44 24.8**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**0.99**	**266**	P	**Pb**	**04 44 08.2**	**-0.3**
CUSAR				S	**Sn**	**04 44 24.8**	**+1.5**
TOKA	**Tokat**	**1.16**	**316**	*i* P	**Pb**	**04 44 10.5**	**-0.7**
TOKA				*i* S	**Sn**	**04 44 28.6**	**+1.3**
TOKA	**Tokat**	**1.16**	**316**	P	**Pb**	**04 44 10.5**	**-0.7**
TOKA				S	**Sn**	**04 44 28.6**	**+1.3**
SARI	**SarD1z-Kayseri**	**1.38**	**219**	*e*PN	**Pn**	**04 44 13.1**	**-1.5**
BNN	**Bunyan**	**1.45**	**245**	*e*PN	**Pn**	**04 44 13.1**	**-2.4**
BNN	**Bunyan**	**1.45**	**245**	*e*Pn	**Pn**	**04 44 13.1**	**-2.4**
PTK	**Pertek**	**1.57**	**112**	*e*PN	**Pg**	**04 44 19.5**	**+0.2**
PTK	**Pertek**	**1.57**	**112**	*e*Pn	**Pg**	**04 44 19.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.78**	**128**	*e*PN	**Pg**	**04 44 23.1**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.78**	**128**	*e*Pn	**Pg**	**04 44 23.1**	**-0.1**

MAN 14 04:46:13, 9°.41N×126°.39E, h24km, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.96**	**292**	*e*P	Pb	04 46 31.5	+0.4
SCPH				*e*S	Sn	04 46 44.9	+0.9
BUKP	**Musuan**	**2.01**	**221**	*e*P	Pn	04 46 46.2	+0.6
BUKP				*e*S	Sb	04 47 12.2	-1.5
BESP	**Borongan**	**2.37**	**337**	*e*P	Pn	04 46 52.1	+1.8

IDC 14 04:49:05.4±3.8, 6°.81S×148°.57E, h0km, mb3.4/1, mb1 3.6/2, mb1mx3.3/31, mbtmp3.3/2, ML3.3/1, Error ellipse: s-maj=145.9km s-min=46.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.94**	**208**	Pn	Pb	04 49 58.1	-0.5
PMG	4.6nm,0.3s,baz=1.4,slow=12,SNR=4.4			Sn	Sn	04 50 30.9	+1.6
WRA	**Warramunga Arr**	**19.01**	**225**	P	P	04 53 28.8	-0.1
ASAR	**Alice Springs**	**21.90**	**218**	P	P	04 54 00.1	-0.3
TORD	**Torodi Ar. Bea**	**146.80**	**284**	PKPbc	PKPbc	05 08 50.0	-0.6

*IDC **14** 04:58:36.7±10.0, 36°.00N×70°.95E, h128km±106km, mb3.3/5, mb1 3.3/8, mb1mx3.1/39, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=59.3km s-min=50.4km az=148.0*
*ISCJB **14** 04:58:44.7±0.6, 36°.61N±0°.05×70°.96E±0°.09, h188km, mb3.6/4, Error ellipse: s-maj=10.2km s-min=5.7km az=161.4*
*NNC **14** 04:58:50.5±3.1, 36°.99N×70°.85E, h197km±50km, mb3.0, mpv4.0, Error ellipse: s-maj=31.2km s-min=21.1km az=19.0*
ISC 14 04:58:45.4±0.8, 36°.60N±0°.07×70°.95E±0°.09, h188km, n23, σ1°64/28, mb3.5/4, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.00**	**11**	⇓P	**Pn**	**05 00 13.0**	**+0.4**
MNAS	7.2nm,0.3s			⇑S	**Sn**	**05 01 19.5**	**-2.0**
KK31	**Karatay Array**	**6.51**	**357**	P	**Pn**	**05 00 19.0**	**-0.1**
KK31	5.9nm,0.4s,baz=194,slow=14,SNR=148			S	**Sn**	**05 01 28.9**	**-4.3**
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**05 00 22.0**	**+1.2**
AAK	5.6nm,0.5s,baz=175,slow=14,SNR=6.6			S	**Sn**	**05 01 35.6**	**-0.5**
AAK	**Ala-Archa**	**6.62**	**23**	⇓P	**Pn**	**05 00 21.6**	**+0.9**
AAK	3.4nm,0.3s			⇑S	**Sn**	**05 01 35.3**	**-0.8**
TKM2	**Tokmak 2**	**7.26**	**28**	⇓P	**Pn**	**05 00 29.9**	**+0.8**
TKM2	4.8nm,0.5s			⇑S	**Sn**	**05 01 48.0**	**-3.2**
PYUN	**Piuthan**	**13.24**	**126**	*e*P	**Pn**	**05 01 45.3**	**-1.2**
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**05 01 44.4**	**-1.8**
KOLN	**Koldanda**	**13.86**	**126**	*e*P	**Pn**	**05 01 52.6**	**-1.7**
AB31	**Akbulak array**	**14.98**	**331**	⇑P	**Pn**	**05 02 08.6**	**+0.9**
PKIN	**Phulchoki**	**15.18**	**122**	*e*P	**P**	**05 02 12.2**	**+0.8**
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**P**	**05 02 12.6**	**+1.0**
RAMN	**Ramite**	**16.40**	**121**	*e*P	**P**	**05 02 24.7**	**-0.2**
BVAR	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**05 02 27.8**	**+2.5**
AKTO	**Aktyubinsk**	**16.67**	**330**	P	**Pn**	**05 02 29.4**	**+1.1**
AKTO	**Aktyubinsk**	**16.67**	**330**	⇑P	**P**	**05 02 27.5**	**+0.2**
TAPN	**Taplejung**	**16.93**	**118**	*e*P	**Pn**	**05 02 33.4**	**+1.6**
ODAN	**Odare**	**17.01**	**120**	*e*P	**P**	**05 02 31.4**	**-0.1**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**05 03 03.8**	**+2.1**
AKASG	**Malin Array Be**	**32.85**	**309**	P	**P**	**05 05 01.0**	**-0.2**
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**05 06 11.3**	**+1.4**
NB2	**NORSAR Subarra**	**44.28**	**323**	P	**P**	**05 06 36.1**	**0.0**
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**05 06 36.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**05 09 07.9**	**-2.0**

IDC 14 04:59:31.1±3.6, 7°.01S×149°.31E, h0km, mb3.2/1, mb1 3.5/2, mb1mx3.3/29, mbtmp3.2/2, ML3.4/1, Error ellipse: s-maj=131.4km s-min=46.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**222**	Pn	Pb	05 00 26.4	-2.3
PMG	4.1nm,0.3s,baz=28,slow=5.7,SNR=6.1			Sn	Sn	05 00 59.9	-1.4
WRA	**Warramunga Arr**	**19.39**	**227**	P	P	05 03 59.1	+0.3
ASAR	**Alice Springs**	**22.21**	**220**	P	P	05 04 28.8	-0.6
TORD	**Torodi Ar. Bea**	**147.56**	**283**	PKPbc	PKPbc	05 19 17.9	-0.5

*TIR **14** 05:25:05.2, 43°.38N×19°.11E, h8km, ML3.1*
*CSEM **14** 05:25:09.3±0.1, 43°.16N×19°.13E, h5km, ML2.0, Error ellipse: s-maj=2.7km s-min=1.8km az=121.0*
*PDG **14** 05:25:09.8±0.1, 43°.14N×19°.14E, h10km±1km, MD2.1/2, ML2.0/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **14** 05:25:10.5±0.3, 43°.14N×19°.16E, h4km±3km, M1.9/1*
ISC 14 05:25:10.0±0.9, 43°.16N±0°.02×19°.13E±0°.02, h10km±7km, n51, σ0°89/95, 17C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.17**	**284**	⇑*i*Pg	**Pg**	**05 25 13.5**	**-0.3**
UPM				*e*Sg	**Sg**	**05 25 16.9**	**+0.5**
UPM	**Unac-Piva**	**0.17**	**284**	⇑*i*Pg	**Pg**	**05 25 13.5**	**-0.3**
UPM				*e*Sg	**Sg**	**05 25 16.8**	**+0.3**
PLE	**Pljevlja**	**0.25**	**48**	⇓*i*Pg	**Pg**	**05 25 15.0**	**-0.1**
PLE				*e*Sg	**Sg**	**05 25 19.2**	**+0.6**
PLE	**Pljevlja**	**0.25**	**48**	⇓*i*Pg	**Pg**	**05 25 15.0**	**-0.1**
PLE				*e*Sg	**Sg**	**05 25 19.2**	**+0.6**
NKY	**Niksic**	**0.36**	**197**	⇑*i*Pg	**Pg**	**05 25 16.4**	**-0.8**
NKY				*e*Sg	**Sg**	**05 25 22.1**	**+0.1**
NKY	**Niksic**	**0.36**	**197**	⇑*i*Pg	**Pg**	**05 25 16.4**	**-0.8**
NKY				*e*Sg	**Sg**	**05 25 22.1**	**+0.1**
NKME	**Niksic**	**0.42**	**199**	⇓*i*Pg	**Pg**	**05 25 17.5**	**-0.6**
NKME				*e*Sg	**Sg**	**05 25 23.9**	**+0.3**
NKME	**Niksic**	**0.42**	**199**	⇓*i*Pg	**Pg**	**05 25 17.5**	**-0.6**
NKME				*e*Sg	**Sg**	**05 25 23.9**	**+0.3**
KOME	**Kolasin**	**0.42**	**138**	⇑*i*Pg	**Pg**	**05 25 17.7**	**-0.5**
KOME				*e*Sg	**Sg**	**05 25 23.5**	**-0.2**
BRY	**Bratogost**	**0.51**	**239**	⇑*i*Pg	**Pg**	**05 25 19.5**	**-0.4**
BRY				*e*Sg	**Sg**	**05 25 27.0**	**+0.4**
BRY	**Bratogost**	**0.51**	**239**	⇑*i*Pg	**Pg**	**05 25 19.5**	**-0.4**
BRY				*e*Sg	**Sg**	**05 25 26.6**	**0.0**
SJES	**Sjenica**	**0.62**	**80**	⇓*i*Pg	**Pb**	**05 25 22.3**	**-0.7**
SJES				*e*Sg	**Sg**	**05 25 30.4**	**+0.2**
BEY	**Berane**	**0.63**	**117**	⇑*i*Pg	**Pg**	**05 25 21.4**	**-0.7**
BEY				*e*Sg	**Sg**	**05 25 30.8**	**+0.4**
IVA	**Berane**	**0.63**	**117**	⇑*i*Pg	**Pg**	**05 25 21.4**	**-0.7**
IVA				*e*Sg	**Sg**	**05 25 30.8**	**+0.4**
CEME	**Cevo**	**0.64**	**195**	⇓*i*Pg	**Pg**	**05 25 20.8**	**-1.5**
CEME				*e*Sg	**Sg**	**05 25 31.1**	**+0.5**
CEME	**Cevo**	**0.64**	**195**	⇓*i*Pg	**Pg**	**05 25 20.8**	**-1.5**
CEME				*e*Sg	**Sg**	**05 25 31.1**	**+0.5**
TREB	**Trebinje**	**0.73**	**233**	*e*Pg	**Pg**	**05 25 24.0**	**0.0**
TREB				*e*Sg	**Sg**	**05 25 33.5**	**0.0**
TREB	**Trebinje**	**0.73**	**233**	⇑*i*Pg	**Pg**	**05 25 22.8**	**-1.2**
TREB				*e*Sg	**Sg**	**05 25 33.5**	**0.0**
BBLS	**Lazići**	**0.73**	**16**	⇑*i*Pg	**Pg**	**05 25 23.5**	**-0.6**
BBLS				*e*Sg	**Sg**	**05 25 33.2**	**-0.5**
BBLS	**Lazići**	**0.73**	**16**	⇑*i*Pg	**Pg**	**05 25 23.3**	**-0.8**
BBLS				*e*Sg	**Sg**	**05 25 33.2**	**-0.5**
PDG	**Podgorica**	**0.74**	**173**	*e*Pg	**Pg**	**05 25 22.8**	**-1.4**
PDG				*e*Sg	**Sb**	**05 25 34.4**	**-0.6**
PDG	**Podgorica**	**0.74**	**173**	*e*Pg	**Pg**	**05 25 22.9**	**-1.3**
PDG				*e*Sg	**Sg**	**05 25 33.6**	**-0.2**
TTG	**Podgorica**	**0.74**	**173**	⇓*i*Pg	**Pg**	**05 25 22.9**	**-1.3**
TTG				*e*Sg	**Sg**	**05 25 34.1**	**+0.3**
PVY	**Plav**	**0.83**	**133**	⇓*i*Pg	**Pg**	**05 25 24.9**	**-1.1**
PVY				*e*Sg	**Sb**	**05 25 37.6**	**-0.2**
PVY	**Plav**	**0.83**	**133**	⇓*i*Pg	**Pg**	**05 25 24.9**	**-1.1**
PVY				*e*Sg	**Sb**	**05 25 37.6**	**-0.2**
IVAS	**Ivanjica**	**0.85**	**60**	*e*Pg	**Pg**	**05 25 25.4**	**-1.0**
IVAS				*e*Sg	**Sg**	**05 25 36.6**	**-0.9**
IVAS	**Ivanjica**	**0.85**	**60**	*e*Pg	**Pg**	**05 25 25.4**	**-1.0**
IVAS				*e*Sg	**Sg**	**05 25 36.6**	**-0.9**
HCY	**Herceg Novi**	**0.85**	**214**	⇑*i*Pg	**Pg**	**05 25 25.8**	**-0.6**
HCY				*e*Sg	**Sb**	**05 25 38.7**	**+0.3**
HCY	**Herceg Novi**	**0.85**	**214**	⇑*i*Pg	**Pg**	**05 25 25.8**	**-0.6**
HCY				*e*Sg	**Sg**	**05 25 37.1**	**-0.5**
BUM	**Brajici-Budva**	**0.88**	**192**	⇑*i*Pg	**Pg**	**05 25 25.6**	**-1.3**
BUM				*e*Sg	**Sb**	**05 25 39.4**	**+0.2**
BUM	**Brajici-Budva**	**0.88**	**192**	⇑*i*Pg	**Pg**	**05 25 25.6**	**-1.3**
BUM				*e*Sg	**Sb**	**05 25 39.4**	**+0.2**
HAPS	**Han Pijesak,Bl**	**0.93**	**352**	⇑*i*Pg	**Pg**	**05 25 26.3**	**-1.7**
HAPS				*e*Sg	**Sg**	**05 25 40.1**	**0.0**
DRME	**Dracevica, Mon**	**0.97**	**178**	⇓*i*Pg	**Pg**	**05 25 27.7**	**-1.0**
DRME				*e*Sg	**Sb**	**05 25 42.6**	**+0.7**
DRME	**Dracevica, Mon**	**0.97**	**178**	⇓*i*Pg	**Pg**	**05 25 27.7**	**-1.0**
DRME				*e*Sg	**Sg**	**05 25 40.4**	**-1.0**
BCI	**Bajram Curri**	**1.05**	**139**	*i* PG	**Pg**	**05 25 29.0**	**-1.1**
BCI				*i* SG	**Sn**	**05 25 47.3**	**+1.8**
BCI	**Bajram Curri**	**1.05**	**139**	*i* Pg	**Pg**	**05 25 29.0**	**-1.2**
BCI				*i* Sg	**Sn**	**05 25 47.3**	**+1.8**
STON	**Ston**	**1.09**	**255**	*e*Pg	**Pg**	**05 25 29.3**	**-1.6**
STON				Sg	**Sn**	**05 25 47.2**	**+0.8**
STON	**Ston**	**1.09**	**255**	*e*Pg	**Pg**	**05 25 29.3**	**-1.6**
STON				Sg	**Sn**	**05 25 47.2**	**+0.8**
DIVS	**Divibare**	**1.12**	**33**	*e*Pg	**Pg**	**05 25 30.7**	**-0.9**
DIVS				*e*Sg	**Sn**	**05 25 46.9**	**-0.6**
DIVS	**Divibare**	**1.12**	**33**	*e*Pg	**Pg**	**05 25 30.7**	**-0.9**
DIVS				*e*Sg	**Sg**	**05 25 45.1**	**-1.1**
PUK	**Puka**	**1.25**	**153**	*i* PG	**Pn**	**05 25 33.3**	**-0.3**
PUK				*i* SG	**Sn**	**05 25 54.1**	**+3.5**
PUK	**Puka**	**1.25**	**153**	*i* Pg	**Pn**	**05 25 33.3**	**-0.3**
GRUS	**Gruza**	**1.36**	**57**	*e*Pg	**Pg**	**05 25 36.4**	**+0.3**
GRUS	**Gruza**	**1.36**	**57**	*e*Pg	**Pg**	**05 25 36.4**	**+0.3**
TRUS	**Trudelj**	**1.41**	**41**	⇓*i*Pg	**Pn**	**05 25 35.6**	**-0.1**
TRUS	**Trudelj**	**1.41**	**41**	⇓*i*Pg	**Pn**	**05 25 35.6**	**-0.1**
TEKS	**Tekeris**	**1.42**	**12**	*e*Pg	**Pb**	**05 25 36.6**	**+0.1**
TEKS				*e*Sg	**Sg**	**05 25 57.3**	**+1.8**
TEKS	**Tekeris**	**1.42**	**12**	*e*Pg	**Pb**	**05 25 36.6**	**+0.1**
TEKS				*e*Sg	**Sb**	**05 25 54.5**	**-0.1**
SELS	**Selova**	**1.45**	**87**	*e*Pg	**Pn**	**05 25 36.3**	**0.0**
SELS	**Selova**	**1.45**	**87**	*e*Pg	**Pn**	**05 25 36.3**	**0.0**
ZAPS	**Zavoj**	**2.56**	**86**	⇓*i*Pn	**Pn**	**05 25 52.9**	**+1.3**
ZAPS				*e*Sn	**Sn**	**05 26 22.8**	**0.0**

IDC 14 05:31:55.0±1.8, 1°.60N×126°.78E, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.8/44, mbtmp4.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/36, Error ellipse: s-maj=159.2km s-min=22.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**13.70**	**335**	LR	LR	05 41 23.3	
WRA	**Warramunga Arr**	**22.65**	**161**	P	P	05 36 58.5	+0.5
ASAR	**Alice Springs**	**26.05**	**165**	P	P	05 37 30.0	-0.3
STKA	**Stephens Creek**	**36.13**	**158**	P	P	05 38 58.8	-0.3
MKAR	**Makanchi Array**	**59.33**	**326**	P	P	05 41 59.0	0.0

IDC 14 05:39:34.8±2.7, 6°.58S×148°.43E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/33, Error ellipse: s-maj=77.8km s-min=37.2km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**204**	Pn	Pn	05 40 26.8	+2.1
PMG	7.6nm,0.3s,baz=47,slow=9.1,SNR=9.1			Sn	Sn	05 40 59.9	-2.3
WRA	**Warramunga Arr**	**19.07**	**225**	P	P	05 43 57.4	-1.6
GUMO	**Guam**	**20.35**	**350**	LR	LR	05 51 23.4	
ASAR	**Alice Springs**	**21.99**	**218**	P	P	05 44 29.3	-1.4
STKA	**Stephens Creek**	**25.96**	**193**	P	P	05 45 09.7	+0.5
TORD	**Torodi Ar. Bea**	**146.61**	**284**	PKPbc	PKPbc	05 59 19.1	-0.3

IDC 14 05:46:18.8±761.0, 50°.76N×130°.00E, h0km, Error ellipse: s-maj=283.7km s-min=130.0km az=160.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**6.70**	**168**	*i*		06 28 00.0	
I30JP	**ISUMI INFRASON**	**17.16**	**150**	*i*		07 35 30.0	
I44RU	**PETROPAVLOVSK**	**17.21**	**71**	*i*		07 34 00.0	

IDC 14 05:48:38.1±3.4, 7°.12S×149°.32E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/27, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=109.7km s-min=29.8km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**223**	Pn	Pb	05 49 32.8	-1.7
PMG	3.5nm,0.3s,baz=157,slow=18,SNR=4.8			Sn	Sn	05 50 07.3	+0.7
WRA	**Warramunga Arr**	**19.33**	**227**	P	P	05 53 03.5	-1.7
ASAR	**Alice Springs**	**22.13**	**220**	P	P	05 53 35.9	+0.4
SONM	**Songino Array**	**66.51**	**330**	P	P	05 59 29.5	-0.4
TORD	**Torodi Ar. Bea**	**147.59**	**283**	PKPbc	PKPbc	06 08 25.9	+0.3

KRSC 14 05:54:44.4±0.7, 52°.51N×159°.55E, h40km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.64**	**263**	*e*P	Pn	05 54 57.7	+0.7
RUS				*e*S	Sn	05 55 06.8	+0.8
SPN	**Mys Shipunski**	**0.65**	**26**	*e*P	Pn	05 54 58.3	+1.1
SPN				*e*S	Sn	05 55 07.8	+1.5
NLC	**Nalytchevo**	**0.67**	**349**	*e*P	Pn	05 54 58.2	+0.8
NLC				*e*S	Sn	05 55 07.6	+0.8
DALK	**Dalny**	**0.71**	**317**	*e*P	Pn	05 54 58.9	+0.9
DALK				*e*S	Sn	05 55 08.5	+0.8
PET	**Petropavlovsk**	**0.75**	**314**	*e*P	Pn	05 54 59.2	+0.7
PET				*e*S	Sn	05 55 09.3	+0.6
UGLR	**Uglovaya**	**0.83**	**328**	*e*P	Pn	05 55 00.8	+1.1
UGLR				*e*S	Sn	05 55 12.2	+1.5
MTVR	**Mutnovka**	**0.84**	**269**	*e*P	Pn	05 55 00.7	+0.9
MTVR				*e*S	Sn	05 55 12.0	+1.0
SDLR	**Sedlovina**	**0.87**	**332**	*e*P	Pn	05 55 01.0	+0.8
SDLR				*e*S	Sn	05 55 12.6	+0.8
AVH	**Avacha**	**0.90**	**327**	*e*P	Pn	05 55 02.0	+1.3
KRER	**Koryakskii**	**0.93**	**329**	*e*P	Pn	05 55 02.9	+1.7
KOK	**Koryaka**	**0.96**	**325**	*e*P	Pn	05 55 02.7	+1.2
KRX	**Arik**	**1.01**	**328**	*e*P	Pn	05 55 03.2	+1.0
KRX				*e*S	Sn	05 55 16.2	+0.9
ASAK	**Asacha**	**1.02**	**263**	*e*P	Pn	05 55 03.6	+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.64**	**255**	*eS*	**Sg**	**06 03 26.8**	**-0.4**
DJR	6.7nm,0.3s						
				eP	**Pn**	**06 03 04.0**	**+0.6**
	16nm,0.1s						
MK31	**Makanchi Array**	**2.04**	**6**	⇑Pn	**Pb**	**06 03 11.7**	**+0.1**
	2.2nm,0.3s,baz=186,slow=14,SNR=44						
MK31				⇑Lg	Lg	06 03 39.3	
	2.0nm,0.2s,baz=184,slow=26,SNR=24						
MAKZ	**Makanchi**	**2.04**	**360**	⇑Pn	**Pb**	**06 03 11.5**	**-0.2**
	5.2nm,0.6s						
MAKZ				⇓Lg	Lg	06 03 38.0	
	4.2nm,0.4s						
PDGK	**Podgornoye**	**2.31**	**232**	⇑Pn	**Pb**	**06 03 16.1**	**-0.2**
	0.6nm,0.2s						
PDGK				⇓Lg	Lg	06 03 48.1	
	12nm,0.7s						
SHLS	**Shalkode**	**2.44**	**230**	*eP*	**Pn**	**06 03 14.1**	**-0.4**
	6.8nm,0.1s						
SHLS				*eS*	**Sn**	**06 03 44.1**	**-0.4**
	15nm,0.2s						
UZB	**Uzynbulak**	**2.69**	**234**	*eP*	**Pb**	**06 03 22.6**	**-0.2**
	1.9nm,0.1s						
UZB				*eS*	**Sb**	**06 03 58.4**	**+2.4**
	2.4nm,0.1s						
KPKS	**Kokpek**	**2.72**	**243**	*eP*	**Pb**	**06 03 23.5**	**+0.3**
	7.9nm,0.1s						
KPKS				*eS*	**Sg**	**06 04 00.2**	**-1.6**
	19nm,0.3s						
ARXS	**Arharly**	**3.04**	**261**	*eP*	**Pb**	**06 03 29.3**	**+0.7**
	1.7nm,0.2s						
ARXS				*eS*	**Sg**	**06 04 10.0**	**-2.0**
	6.7nm,0.2s						

IDC ***14*** *06:06:28.5±2.0, 38.°37N×142.°77E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/52, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=46.6km s-min=28.0km az=131.0*
ISCJB ***14*** *06:06:29.6±1.5, 38.°30N±0.°05×142.°74E±0.°07, h17km±9km, mb3.6/3, Error ellipse: s-maj=10.4km s-min=7.7km az=29.4*
JMA ***14*** *06:06:30.7±0.2, 38.°36N×142.°70E, h21km±2km, M3.7*
ISC 14 06:06:28.5±3.0, 38.°36N±0.°06×142.°69E±0.°08, h3km±18km, n24, σ0s83/24, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.06**	**276**	P	**Pn**	**06 06 50.1**	**-0.2**
JIO				S	**Sb**	**06 07 03.7**	**0.0**
OFUJ	**Ofunato**	**1.08**	**313**	P	**Pn**	**06 06 50.4**	**-0.2**
OFUJ				*eS*	**Sb**	**06 07 04.5**	**+0.2**
JMK	**Ichinoseki**	**1.29**	**298**	P	**Pb**	**06 06 53.8**	**+0.3**
JMK				*eS*	**Sg**	**06 07 10.3**	**+0.2**
JOM	**Ohasama**	**1.56**	**316**	P	**Pb**	**06 06 58.0**	**0.0**
JOM				S	**Sb**	**06 07 18.2**	**0.0**
JMM	**Marumori**	**1.57**	**252**	P	**Pn**	**06 06 56.9**	**-0.5**
JMM				S	**Sn**	**06 07 17.2**	**-1.1**
JOU	**Okura**	**1.59**	**271**	P	**Pb**	**06 06 58.6**	**0.0**
JOU				*eS*	**Sn**	**06 07 18.3**	**-0.5**
JFK	**Kawauchi**	**1.74**	**236**	P	**Pn**	**06 06 59.7**	**0.0**
JFK				*eS*	**Sn**	**06 07 20.9**	**-1.6**
JYK	**Kaneyama**	**1.91**	**288**	P	**Pb**	**06 07 03.3**	**-0.7**
JRG	**Rokugo**	**1.91**	**304**	P	**Pb**	**06 07 03.5**	**-0.5**
JFT	**Otama**	**2.04**	**246**	*eS*	**Sn**	**06 07 30.7**	**+0.9**
JYS	**Shirataka**	**2.07**	**267**	P	**Pb**	**06 07 05.8**	**-0.9**
JANG	**Nango**	**2.21**	**336**	P	**Pb**	**06 07 08.4**	**-0.8**
MJAR	**Matsushiro Arr**	**4.00**	**244**	Pn	**Pn**	**06 07 33.1**	**+2.4**
	0.6nm,0.3s,baz=57,slow=12,SNR=3.6						
JHJ	**Hachijo jima 2**	**5.73**	**205**	Pn	**Pn**	**06 07 54.4**	**-0.2**
	3.9nm,0.3s,baz=61,slow=23,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.94**	**309**	Pn	Pn	06 09 00.3	+8.1
	0.3nm,0.3s,baz=119,slow=15,SNR=9.6						
H11N2	**WAKE ISLAND Hy 28.01**	**125**		T	T	06 41 35.6	
	baz=311,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy 28.02**	**125**		T	T	06 41 37.7	
	baz=311						
H11N3	**WAKE ISLAND Hy 28.03**	**125**		T	T	06 41 33.8	
	baz=311,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy 28.78**	**127**		T	T	06 42 31.9	
	baz=319,slow=76,SNR=4.6						
H11S3	**WAKE ISLAND Hy 28.78**	**127**		T	T	06 42 38.3	
	baz=319,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy 28.80**	**127**		T	T	06 42 36.0	
	baz=319,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**44.29**	**301**	P	**P**	**06 14 40.3**	**+0.8**
	0.3nm,0.6s,baz=85,slow=9.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.00**	**307**	P	**P**	**06 14 53.0**	**0.0**
	0.8nm,0.4s,baz=81,slow=8.1,SNR=7.7						
ILAR	**Eielson Array**	**47.84**	**33**	P	**P**	**06 15 07.3**	**+0.1**
	0.4nm,0.8s,baz=260,slow=5.7,SNR=5.1						

IDC ***14*** *06:09:17.4±1.9, 5.°73S×130.°77E, h0km, mb4.4/4, mb1 4.7/6, mb1mx4.4/45, mbtmp4.5/6, ML4.8/2, Error ellipse: s-maj=130.4km s-min=20.8km az=63.0*
ISCJB ***14*** *06:09:24.7±0.4, 5.°83S±0.°03×130.°86E±0.°04, h68km, mb5.0/10, Error ellipse: s-maj=5.0km s-min=4.4km az=5.3*
NEIC ***14*** *06:09:28.4±0.8, 5.°77S×130.°78E, h89km±8km, mb4.3/7, Error ellipse: s-maj=9.5km s-min=7.7km az=70.0*
DJA ***14*** *06:09:28.3±0.3, 6.°S±2.°×13.°1E±.°, h85km±10km, M4.9/12, mb5.1/5, mB5.3/3, MLv4.9/12, Mw(mB)4.8/3*
ISC 14 06:09:26.4±0.5, 5.°71S±0.°04×130.°81E±0.°05, h68km, n38, σ1s90/49, mb4.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.49**	**323**	P	**Pn**	**06 09 53.8**	**+2.7**
BNDI				S	**Sn**	**06 10 12.0**	**+2.2**
SAUI	**Saumlaki**	**2.31**	**168**	P	**Pn**	**06 10 05.3**	**+3.1**
SAUI				S	**Sn**	**06 10 32.5**	**+3.0**
SAUI	**Saumlaki**	**2.31**	**168**	*e*Pn	**Pn**	**06 10 05.4**	**+3.3**
SAUI				*e*Sn	**Sn**	**06 10 31.1**	**+1.6**
MSAI	**Masohi**	**3.01**	**321**	P	**Pn**	**06 10 14.2**	**+2.5**
MSAI				S	**Sn**	**06 10 48.4**	**+1.8**
FAKI	**Fak Fak**	**3.12**	**27**	P	**Pn**	**06 10 15.3**	**+2.0**
FAKI				S	**Sn**	**06 11 49.5**	**0.0**
FAKI	**Fak Fak**	**3.12**	**27**	*e*Pn	**Pn**	**06 10 15.3**	**+2.0**
FAKI				*e*Sn	**Sn**	**06 10 50.4**	**+0.9**
AAI	**Ambon**	**3.29**	**308**	P	**Pn**	**06 10 17.8**	**+2.2**
AAI				S	**Sn**	**06 10 55.3**	**+1.7**
KMPI	**Kaimana, Papua**	**3.53**	**55**	P	**Pn**	**06 10 21.9**	**+3.0**
KMPI				S	**Sn**	**06 11 00.7**	**+1.2**
SWI	**Sorong**	**4.84**	**5**	P	**Pn**	**06 10 37.9**	**+1.2**
SWI				S	**Sn**	**06 11 28.3**	**-3.2**
RKPI	**Ransiki, Papua**	**5.36**	**39**	P	**Pn**	**06 10 45.8**	**+1.9**
	428nm,0.7s,17μm6.9nm						
RKPI				S	**Sn**	**06 11 44.3**	**0.0**
	428nm,0.7s,17μm6.9nm						
LBMI	**Labuha**	**6.03**	**327**	P	**Pn**	**06 10 54.4**	**+1.4**
LBMI				S	**Sn**	**06 11 59.6**	**-1.1**
SANI	**Sanana**	**6.03**	**307**	P	**Pn**	**06 10 55.5**	**+2.4**
	45nm,0.5s,671nm0.2nm						
SANI				S	**Sn**	**06 12 01.0**	**+0.2**
	45nm,0.5s,671nm0.2nm						
SOEI	**Soe**	**7.62**	**238**	P	**Pn**	**06 11 17.4**	**+2.4**
SOEI				S	**Sn**	**06 12 42.1**	**+2.1**
SOEI	**Soe**	**7.62**	**238**	*e*Pn	**Pn**	**06 11 17.6**	**+2.7**
SOEI				*e*Sn	**Sn**	**06 12 42.2**	**+2.1**
WRAB	**Tennant Creek**	**14.55**	**167**	*e*Pn	**Pn**	**06 12 44.1**	**-4.7**
WRA	**Warramunga Arr**	**14.55**	**167**	Pn	Pn	06 12 43.8	-5.1
	4.1nm,0.3s,baz=351,slow=13,SNR=68						
WRA				Sn	Sn	06 15 15.7	-13
	4.4nm,0.3s,baz=349,slow=23,SNR=10						
WB2	**Warramunga Arr**	**14.56**	**167**	*e*Pn	Pn	06 12 43.9	-5.0
AS31	**Alice Springs**	**18.09**	**171**	*e*P	**P**	**06 13 31.9**	**-0.9**
	7.1nm,0.8s						
ASAR	**Alice Springs**	**18.10**	**171**	P	**P**	**06 13 31.2**	**-1.6**
	2.6nm,0.3s,baz=341,slow=8.9,SNR=116						
ASAR				S	Sn	06 16 41.0	-14
	0.7nm,0.3s,baz=353,slow=27,SNR=6.4						
AS01	**Alice Springs**	**18.10**	**171**	*e*P	**P**	**06 13 31.4**	**-1.4**
KKM	**Kota Kinabalu**	**18.67**	**308**	*e*P	**Pn**	**06 13 40.1**	**-0.2**
	40nm,0.8s						
MBWA	**Marble Bar**	**18.74**	**214**	*e*P	**P**	**06 13 39.1**	**-0.7**
	7.7nm,0.8s						
SBUM	**Sibu**	**20.26**	**293**	*e*P	**P**	**06 13 56.7**	**+0.2**
	13nm,0.9s						
SMRI	**Semarang**	**20.29**	**265**	*e*P	**P**	**06 13 56.0**	**-0.8**
	35nm,0.4s						
STKA	**Stephens Creek**	**27.92**	**160**	P	**P**	**06 15 09.9**	**-0.4**
	1.7nm,0.5s,baz=339,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**27.92**	**160**	*e*P	**P**	**06 15 09.8**	**-0.4**
	0.5nm,0.8s						
COCO	**West Island**	**34.15**	**257**	*e*P	**P**	**06 16 05.3**	**0.0**
	554nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.55**	**308**	P	**P**	**06 16 50.3**	**-0.8**
	1.8nm,0.5s,baz=137,slow=6.6,SNR=5.3						
HHC	**Hu-ho-hao-te**	**49.59**	**341**	*e*P	**P**	**06 18 13.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,230nm,0.9s						
HHC				pmax	pmax		
	comp=Z,9μm,8.3s						
WMQ	**Urumqi**	**62.77**	**326**	P	**P**	**06 19 46.3**	**+1.5**
WMQ				pP	sP	06 20 10.5	+0.2
WMQ				sP	PcP	06 20 19.5	-3.2
WMQ	**Urumqi**	**62.77**	**326**	SS	SS	06 32 14.9	0.0
WMQ				pmax	pmax		
	comp=Z,67nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,580nm,3.7s						
WMQ				LR	LR		
	comp=N,11μm,14.7s						
WMQ				LR	LR		
	comp=E,10μm,10.7s						
WMQ				LR	LR		
	comp=Z,2μm,17.3s						
MKAR	**Makanchi Array**	**67.61**	**326**	P	**P**	**06 20 16.1**	**+0.1**
	comp=Z,23nm,0.9s,baz=116,slow=6.9,SNR=6.5						
VNDA	**Vanda**	**73.62**	**173**	P	**P**	**06 20 51.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=305,slow=6.7,SNR=4.6						
QSPA	**South Pole Qui**	**84.25**	**180**	*e*P	**P**	**06 21 49.5**	**-1.0**
	comp=Z,2.3nm,0.8s						
PTCN	**Pitcairn Islan**	**95.80**	**116**	*e*P	**P**	**06 22 44.9**	**-0.9**
	comp=Z,218nm,0.8s						
SNAA	**Sanae**	**97.09**	**193**	*e*P	**P**	**06 22 50.6**	**-0.1**
	comp=Z,1.4nm,0.9s						
PB01	**IPOC Station P**	**146.77**	**144**	*e*PKPbc	**PKPbc**	**06 29 02.0**	**+0.2**
CPUP	**Villa Florida**	**147.18**	**166**	PKPbc	**PKPbc**	**06 29 02.5**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=194,slow=4.2,SNR=3.7						

BJI ***14*** *06:10:10.2, 54.°15N×123.°75E, h10km, mb5.7/72, mB5.8/51, ML6.9/2, Ms6.4/69, Ms7 6.2/78*
MOS ***14*** *06:10:12.7±1.0, 54.°06N×123.°75E, h16km, mb5.8/125, MS5.9/61, Error ellipse: s-maj=6.0km s-min=4.6km az=107.2 Broadband fault plane solution: P waves. M0 1.40000×10^18 NP1:φs264.00000°, δ89.00000°, λ12.00000°. NP2:φs173.00000°, δ78.00000°, λ179.00000°. Principal axes: T Plg9.0000°, Azm129.0000°; N Plg78.0000°, Azm270.0000°; P Plg7.0000°, Azm38.0000°;*
MOS Fault plane solution: P-wave C44, D51 . Felt (VI-VII) at Skovorodino; (V-VI) at Tynda, Magdagachi; (V) at Zeya; (IV) at Mogocha, Beregovoy, Zolotaya Gora, Ovsyanka, Chita; (III-IV) at Shimanovsk; (III) at Svobodniy, Snezhnogorskiy; (II-III) at Blagoveshchensk, Bomnak; (II) at Komsomol'sk-na-Amure, Krasnokamensk, Priargunsk, Neryungri.
IDC ***14*** *06:10:12.3±0.3, 54.°06N×123.°79E, h0km, mb5.1/43, mb1 5.2/52, mb1mx5.2/59, mbtmp5.2/52, ML4.7/7, MS5.6/35, Ms1 5.6/35, ms1mx5.4/45 Error ellipse: s-maj=8.9km s-min=8.0km az=141.0*
ISCJB ***14*** *06:10:13.3±0.1, 54.°07N±0.°01×123.°69E±0.°02, h15km, mb5.6/486, MS5.9/464, Error ellipse: s-maj=1.8km s-min=1.4km az=147.4*
SKHL ***14*** *06:10:13.8±0.7, 54.°10N×123.°81E, h18km±4km, mb6.4/13, Ms6.2/13, msh6.5/2*
SKHL Felt (II-III) at Svobodny,Blagoveschnsk; (II) at Komsomolsk-na-Amure. Felt (V) at Tynda,Magdagachi; (IV) Tygda,Zeya; (III) at Nerungri,Bomnak,Shimanovsk. Felt (VI) at Solov'evsk,Taezhny,Urusha,Dzhalinda; (V-VI) at Erofey Pavlovich. Felt (VII)at Bam,Solnechny,Takhtamygda; (VI-VII) at Skovorodimo,Never.
GCMT ***14*** *06:10:14.6±0.1, 54.°17N×123.°77E, h22km, MW6.0/137, Moment Tensor Solution. s116,c230; s137,c426; Duration: 28s5 Moment tensor: Scale 10^18Nm; Mrr-0.12±.01; Mθθ0.59±.01; Mφφ-0.47±.01; Mrθ0.02±.02; Mθφ1.26±.01; Mφr-0.18±.02; Best double couple: M0 1.38100×10^18 NP1:φs12.00000°, δ87.00000°, λ-172.00000°. NP2:φs281.00000°, δ82.00000°, λ-3.00000°. Principal axes: T 1.4320, Plg3.0000°, Azm146.0000°; N -0.1020, Plg82.0000°, Azm34.0000°; P -1.3300, Plg8.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***14*** *06:10:14.6±0.1, 54.°08N×123.°72E, h12km, mb5.7/299, ME6.0, MS5.9/297, MW6.0, MW6.1, MW6.0 Error ellipse: s-maj=2.1km s-min=1.7km az=149.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^18Nm; Mrr0.03; Mθθ0.15; Mφφ-0.18; Mrθ0.19; Mθφ1.22; Mφr0.01; Best double couple: M0 1.30000×10^18 NP1:φs44.00000°, δ81.00000°, λ179.00000°. NP2:φs94.00000°, δ89.00000°, λ9.00000°. Principal axes: T 1.2300, Plg7.0000°, Azm319.0000°; N 0.0300, Plg81.0000°, Azm102.0000°; P -1.2600, Plg5.0000°, Azm229.0000°; Broadband fault plane solution: P waves. NP1:φs273.00000°, δ80.00000°, λ-10.00000°. NP2:φs5.00000°, δ80.00000°, λ-170.00000°. Principal axes: T Plg0.0000°, Azm319.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm229.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Blagoveshchensk and Tynda. Also felt at Nenjiang and in Hulunbuir and Manzhouli, China.
NEIC ***14*** *06:10:15.0±0.0, 54.°14N×123.°75E, h15km Best double couple: NP1:φs14.00000°, δ75.00000°, λ-157.00000°. NP2:φs279.00000°, δ68.00000°, λ-15.00000°. Principal axes: T 1.0800, Plg5.0000°, Azm145.0000°; N 0.1200, Plg63.0000°, Azm45.0000°; P -1.2000, Plg25.0000°, Azm238.0000°;*
NEIC ***14*** *06:10:35.4±0.0, 54.°67N×123.°51E, h24km, Moment Tensor Solution. s18 Moment tensor: Scale 10^18Nm; Mrr-0.04; Mθθ0.49; Mφφ-0.45; Mrθ-1.45; Mθφ1.05; Mφr-0.43; Best double couple: M0 1.80000×10^18 NP1:φs183.00000°, δ38.00000°, λ180.00000°. NP2:φs274.00000°, δ90.00000°, λ52.00000°. Principal axes: T 2.1600, Plg34.0000°, Azm152.0000°; N -0.7200, Plg38.0000°, Azm274.0000°; P -1.4400, Plg34.0000°, Azm35.0000°;*
ISC 14 06:10:14.7±0.3, 54.°07N±0.°02×123.°81E±0.°02, h14km±1km, h14km:pP-P, n1795, σ1s55/1928, mb5.7/508, MS5.9/469, 92C-45D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNDR	**Tynda**	**1.20**	**26**	⇓*i*Pg	**Pn**	**06 10 35.7**	**-1.4**
TNDR				*e*Sg	**Sb**	**06 10 48.8**	**-3.8**
KROS	**Kirovskiy**	**1.89**	**78**	⇓*i*Pn	**Pn**	**06 10 45.0**	**-1.6**
ZEA	**Zeya**	**2.06**	**98**	*i* P	**Pn**	**06 10 48.4**	**-0.5**
ZEA				*e*S	**Sn**	**06 11 12.3**	**-2.1**
ZEA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,26μm,3.0s						
ZEA				smax	smax		
	comp=N,38nm,0.3s						
ZEA	**Zeya**	**2.06**	**98**	⇑*i*Pn	**Pn**	**06 10 48.4**	**-0.5**
	comp=Z,12μm,4.0s,comp=E,15μm,4.0s,comp=N,1μm,4.0s						
ZEA				⇑*i*Pn	**Pn**	**06 10 48.4**	**-0.5**
	comp=Z,1μm,0.8s,comp=E,830nm,0.8s,comp=N,210nm,0.8s						
ZEA				*e*Pg	**Pb**	**06 10 51.8**	**-0.1**
ZEA				AMB	AMB	06 10 53.5	
	comp=N,26μm,3.0s						
ZEA				*e*Sg	**Sb**	**06 11 18.8**	**+1.5**
ZEA				A	A	06 11 23.3	
	comp=N,914μm,0.9s						
IENR	**Iengra**	**2.24**	**15**	*e*Pn	**Pn**	**06 10 51.2**	**-0.2**
IENR				*e*Pg	**Pb**	**06 10 53.2**	**-1.7**
IENR				*e*Sn	**Sn**	**06 11 19.9**	**+1.1**
TUP	**Tupik**	**2.29**	**280**	*e*P	**Pn**	**06 10 51.6**	**-0.5**
TUP	**Tupik**	**2.29**	**280**	⇑*i*Pn	**Pn**	**06 10 51.6**	**-0.5**
TUP				*e*Pg	**Pb**	**06 10 55.1**	**-0.8**
TUP				AMB	AMB	06 10 56.3	
	comp=N,20μm,1.0s						
TUP				*e*Sn	**Sn**	**06 11 18.3**	**-1.9**
TUP				*e*Sg	**Sb**	**06 11 25.1**	**+1.0**
TUP	**Tupik**	**2.29**	**280**	*e*P	**Pn**	**06 10 51.6**	**-0.5**
CLNS	**Chul'man**	**2.84**	**12**	*e*P	**Pn**	**06 10 58.7**	**-0.9**
CLNS				*e*		06 11 32.2	
CLNS				pmax	pmax		
	comp=Z,3μm,0.4s						
CLNS				pmax	pmax		
	comp=E,2μm,0.4s						
CLNS				pmax	pmax		
	comp=N,2μm,0.3s						
CLNS				smax	smax		
	comp=Z,1μm,0.2s						
CLNS				smax	smax		
	comp=E,2μm,0.2s						
CLNS				smax	smax		
	comp=N,4μm,0.4s						
CLNS	**Chul'man**	**2.84**	**12**	*e*Pn	**Pn**	**06 10 58.7**	**-0.9**
CLNS				*e*Pg	**Pb**	**06 11 04.5**	**-0.7**
CLNS				*e*Sn	**Sn**	**06 11 32.3**	**-1.3**
CLNS	**Chul'man**	**2.84**	**12**	*e*P	**Pn**	**06 10 58.7**	**-0.9**
BMKR	**Bomnak**	**3.01**	**76**	*e*P	**Pn**	**06 11 01.5**	**-0.4**
BMKR	**Bomnak**	**3.01**	**76**	*e*Pn	**Pn**	**06 11 00.5**	**-1.4**
KHN	**Khani**	**3.66**	**323**	*e*Pn	**Pn**	**06 11 09.3**	**-1.6**
KHN				*e*Pg	**Pb**	**06 11 16.9**	**-2.2**
CRS	**Chara**	**4.24**	**314**	*e*P	**Pn**	**06 11 18.7**	**-0.2**
CRS	**Chara**	**4.24**	**314**	⇑*e*Pn	**Pn**	**06 11 18.4**	**-0.5**
CRS				pPn	**pPn**	**06 11 22.5**	**+0.3**
CRS				sPn	**Pb**	**06 11 28.1**	**-0.9**
CRS				*e*Pg	Pg	06 11 29.9	-6.0
CRS				*e*Sg	**Sg**	**06 12 25.8**	**-4.9**
CRS	**Chara**	**4.24**	**314**	*e*P	**Pn**	**06 11 18.7**	**-0.2**
HIA	**Hailar**	**5.44**	**209**	⇓*i*P	**Pn**	**06 11 32.8**	**-2.6**
HIA	**Hailar**	**5.44**	**209**	*e*P	**Pn**	**06 11 34.0**	**-1.4**
HIA	**Hailar**	**5.44**	**209**	⇓*i*Pn	**Pn**	**06 11 32.8**	**-2.6**
HIA				*e*Pg	**Pg**	**06 11 54.7**	**-4.1**
HIA				*e*Sg	**Sg**	**06 13 07.5**	**-1.8**
EKMR	**Ekimchan**	**5.54**	**97**	⇑*i*Pn	**Pn**	**06 11 35.8**	**-0.9**
CIT	**Chita**	**6.52**	**256**	*e*P	**Pn**	**06 11 49.0**	**-1.2**
CIT	**Chita**	**6.52**	**256**	*e*Pn	**Pn**	**06 11 49.0**	**-1.2**
CIT	**Chita**	**6.52**	**256**	*e*P	**Pn**	**06 11 49.0**	**-1.2**
BOD	**Bodaibo**	**6.67**	**308**	⇑*i*Pn	**Pn**	**06 11 51.0**	**-1.1**
BOD				pmax	pmax		
	comp=Z,10μm,1.7s						
BOD	**Bodaibo**	**6.67**	**308**	⇑*i*Pn	**Pn**	**06 11 51.0**	**-1.1**
BOD				sPn	**sPn**	**06 11 59.7**	**+2.3**
BOD				*e*Pg	**Pb**	**06 12 13.4**	**+3.1**
BOD				AMB	AMB	06 12 18.3	
	comp=Z,5μm,1.8s						
BOD				*e*Sg	**Sg**	**06 13 40.3**	**-8.1**
BOD				A	A	06 13 46.5	
	comp=Z,51μm,1.4s						
KPC	**Khapcheranga**	**8.31**	**243**	*e*Pn	**Pn**	**06 12 13.4**	**-1.5**
KPC				*e*Pg	**Pb**	**06 12 41.1**	**+2.7**
KPC				AMB	AMB	06 12 48.5	
	comp=Z,2μm,0.8s						
KPC				*e*Sn	**Sn**	**06 13 43.9**	**-4.6**
GRNR	**Gornyy**	**8.39**	**108**	*e*P	**Pn**	**06 12 15.0**	**-0.8**
GRNR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GRNR				pmax	pmax		
	comp=E,3.0nm,1.0s						
GRNR	**Gornyy**	**8.39**	**108**	⇑*i*Pn	**Pn**	**06 12 14.9**	**-0.8**
GRNR				AMB	AMB	06 12 16.0	
	comp=E,500nm,1.0s						
GRNR				pPn	**pPn**	**06 12 20.8**	**+1.7**
GRNR				*e*Sn	**Sn**	**06 13 48.4**	**-1.8**
GRNR				*e*Sg	**Sg**	**06 14 36.5**	**-7.1**
YAK	**Yakutsk**	**8.56**	**19**	Pn	**Pn**	**06 12 15.6**	**-2.5**
	comp=E,0.2nm,0.3s,baz=163,slow=1.7,SNR=56						
YAK				Lg	Lg	06 14 34.1	
	comp=E,2.1nm,0.3s,baz=124,slow=22,SNR=10						
YAK				LR	LR	06 15 40.4	
	comp=E,15μm,21.0s,baz=91,slow=38						
YAK	**Yakutsk**	**8.56**	**19**	*e*P	**Pn**	**06 12 16.4**	**-1.7**
YAK				*e*		06 14 04.1	
YAK				pmax	pmax		
	comp=Z,198nm,0.8s						
YAK				pmax	pmax		
	comp=N,52nm,0.9s						
YAK				smax	smax		
	comp=N,541nm,0.6s						
YAK				smax	smax		
	comp=Z,19μm,3.1s						
YAK	**Yakutsk**	**8.56**	**19**	*e*Pg	Pg	06 12 47.5	-11
YAK				*e*Sg	Sg	06 14 36.1	-13
YAK	**Yakutsk**	**8.56**	**19**	*e*Pn	**Pn**	**06 12 15.2**	**-2.8**
YAK				Lg	Lg	06 14 34.1	
HABR	**Khabarovsk**	**9.00**	**124**	*ce*P	**Pn**	**06 12 21.6**	**-2.5**
HABR				*e*		06 14 03.8	
HABR				pmax	pmax		
	comp=E,58nm,1.1s						
HABR				pmax	pmax		
	comp=N,55nm,1.1s						
HABR				pmax	pmax		
	comp=Z,158nm,1.1s						
HABR				MLR	MLR		
	comp=Z,131μm,8.0s						
NKL	**Nikolayevsk**	**10.07**	**88**	*i* P	**Pn**	**06 12 38.0**	**-0.7**
NKL				pmax	pmax		
	comp=E,86nm,1.8s						
NKL				pmax	pmax		
	comp=Z,1μm,1.8s						
NKL	**Nikolayevsk**	**10.07**	**88**	*e*Pn	**Pn**	**06 12 38.0**	**-0.7**
NKL				*er*x	rx	06 12 48.8	
NKL				*e*Sn	**Sn**	**06 14 38.0**	**+6.7**
NKL				*e*Sg		06 15 12.0	
NKL				AMS	AMS	06 17 20.0	
	comp=Z,80μm,6.5s						
MDJ	**Mudanjiang**	**10.19**	**156**	P	**Pn**	**06 12 38.8**	**-1.6**
MDJ				S	**Sn**	**06 14 31.8**	**-2.5**
MDJ				pmax	pmax		
	comp=Z,180nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,2μm,13.0s						
MDJ				LR	LR		
	comp=Z,116μm,7.3s						
MDJ				LR	LR		
	comp=Z,130μm,7.7s						
MDJ	**Mudanjiang**	**10.19**	**156**	*e*Pn	**Pn**	**06 12 39.8**	**-0.6**
MDJ	**Mudanjiang**	**10.19**	**156**	*e*Pn	**Pn**	**06 12 39.8**	**-0.6**
CN2	**Changchun**	**10.34**	**173**	*e*P	**Pn**	**06 12 39.4**	**-3.1**
CN2				*e*S	**Sn**	**06 14 37.0**	**-1.1**
CN2				pmax	pmax		
	comp=Z,80nm,1.1s						
CN2				LR	LR		
	comp=Z,191μm,10.0s						
CN2				LR	LR		
	comp=Z,262μm,10.0s						
CN2				LR	LR		
	comp=Z,229μm,10.0s						
I45RU	**USSURIYSK INFR**	**11.23**	**148**	Lg	Lg	06 16 15.0	
	baz=330,slow=20,SNR=5.3						
I45RU				*i*		07 06 20.0

TYV			*e*Pg			06 13 51.6
TYV			AMB	AMB		06 13 57.0
	comp=E,1μm,2.0s					
TYV			*e*S	**Sn**		**06 15 21.5 +4.6**
TYV			*e*Sg			06 16 27.4
TYV			AMS	AMS		06 18 28.0
	comp=E,160μm,8.0s					
TYV			AMS	AMS		06 18 28.0
	comp=E,130μm,5.0s					
ULN	**Ulaanbaatar**	**12.24 246**	*c*eP	**Pn**		**06 13 06.5 -2.1**
ULN			pmax	pmax		
	comp=Z,1μm,1.7s					
ULN	**Ulaanbaatar**	**12.24 246**	*e*P	**Pn**		**06 13 06.6 -2.1**
ULN	**Ulaanbaatar**	**12.24 246**	*e*Pn	**Pn**		**06 13 07.0 -1.8**
ULN	**Ulaanbaatar**	**12.24 246**	Pn	**Pn**		**06 13 06.9 -1.8**
	SNR=470					
ULN	**Ulaanbaatar**	**12.24 246**	P	**Pn**		**06 13 06.9 -1.8**
	SNR=470					
SNY	**Shenyang**	**12.26 181**	⇓P	**Pn**		**06 13 09.0 +0.3**
SNY			S	**Sn**		**06 15 22.8 -2.2**
SNY			pmax	pmax		
	comp=Z,140nm,1.6s					
SNY			LR	LR		
	comp=Z,111μm,6.9s					
SNY			LR	LR		
	comp=Z,91μm,9.6s					
TEY	**Ternei**	**12.26 132**	*e*P	**Pn**		**06 13 09.8 +1.0**
TEY			sP	**P**		**06 13 16.5 -4.6**
UGL	**Uglegorsk**	**12.39 106**	*e*P	**Pn**		**06 13 08.4 -2.2**
UGL			*e*S	**Sn**		**06 15 27.7 -0.6**
UGL	**Uglegorsk**	**12.39 106**	*e*P	**Pn**		**06 13 11.5 +0.9**
UGL			*e*Pg	P		06 13 47.8 +25
UGL			AMB	AMB		06 13 54.9
	comp=Z,2μm,2.5s					
UGL			*e*S	**Sn**		**06 15 33.7 +5.4**
UGL			A	A		06 15 58.0
	comp=Z,4μm,2.5s					
UGL			*e*Sg			06 16 40.3
UGL			AMS	AMS		06 18 37.0
	comp=Z,152μm,8.0s					
UGL			AMS	AMS		06 18 37.0
	comp=Z,149μm,8.0s					
TLY	**Talaya**	**12.41 267**	Pn	**Pn**		**06 13 09.6 -1.2**
	comp=Z,0.2nm,0.3s,baz=54,slow=7.9,SNR=38					
TLY			LR	LR		06 18 31.2
	comp=Z,27μm,19.4s,baz=62,slow=40					
TLY	**Talaya**	**12.41 267**	*e*P	**Pn**		**06 13 09.8 -1.1**
TLY			pmax	pmax		
	comp=Z,326nm,1.5s					
TLY	**Talaya**	**12.41 267**	*e*P	**Pn**		**06 13 10.9 0.0**
TLY			AMB	AMB		06 13 16.1
	comp=Z,750nm,1.4s					
TLY			AMB	AMB		06 13 17.0
	comp=Z,4μm,4.0s					
TLY			*e*S	**Sn**		**06 15 35.8 +6.9**
TLY			*e*Sg			06 16 13.3
TLY			AMS	AMS		06 17 06.9
	comp=Z,90μm,9.0s					
TLY	**Talaya**	**12.41 267**	*e*Pn	**Pn**		**06 13 09.8 -1.1**
TLY	**Talaya**	**12.41 267**	Pn	**Pn**		**06 13 10.2 -0.7**
	SNR=60					
TLY	**Talaya**	**12.41 267**	P	**Pn**		**06 13 10.2 -0.7**
	SNR=60					
MSHR	**Mys Shultsa**	**12.49 154**	*e*P	**Pn**		**06 13 13.3 +1.4**
MSHR			pmax	pmax		
	comp=Z,4μm,4.0s					
SONA1	**Songino Array**	**12.61 247**	*e*Pn	**Pn**		**06 13 12.4 -1.2**
SONM	**Songino Array**	**12.62 247**	Pn	**Pn**		**06 13 12.0 -1.8**
	comp=Z,85nm,0.3s,baz=54,slow=13,SNR=411					
SONM			Lg	Lg		06 16 46.3
	comp=Z,181nm,0.3s,baz=68,slow=23,SNR=9.5					
SONM			LR	LR		06 18 36.6
	comp=Z,37μm,21.3s,baz=7.0,slow=40					
ZAK	**Zakamensk**	**13.11 262**	*e*P	**Pn**		**06 13 17.4 -3.0**
ZAK			*e*			06 15 39.1
ZAK			pmax	pmax		
	comp=Z,136nm,1.3s					
YSS	**Yuzh-Sakhalins**	**13.97 113**	*e*P	**Pn**		**06 13 32.0 -0.1**
YSS			*e*S	**Sn**		**06 16 14.0 +7.1**
YSS			pmax	pmax		
	comp=Z,120nm,1.2s					
YSS			MLR	MLR		
	comp=Z,113μm,15.8s					
YSS			MLR	MLR		
	comp=N,82μm,15.5s					
YSS			MLR	MLR		
	comp=E,113μm,12.0s					
YSS	**Yuzh-Sakhalins**	**13.97 113**	*e*P	**Pn**		**06 13 32.1 -0.1**
YSS			AMB	AMB		06 13 43.6
	comp=E,1μm,3.5s					
YSS			*e*S	**Sn**		**06 16 12.9 +6.0**
YSS			*e*Sg			06 17 30.0
YSS			AMS	AMS		06 20 17.3
	comp=E,62μm,9.6s					
YSS	**Yuzh-Sakhalins**	**13.97 113**	*e*Pn	**Pn**		**06 13 32.2 +0.1**
MOY	**Mondy**	**13.98 269**	*e*P	**Pn**		**06 13 32.3 0.0**
MOY			*e*S	**Sn**		**06 16 11.7 +4.5**
BJI	**Beijing**	**14.96 203**	P	**Pn**		**06 13 43.1 -2.5**
BJI			S	**Sn**		**06 16 32.0 +1.0**
BJI			LR	LR		
	comp=E,28μm,18.4s					
BJT	**Baijiatuau**	**14.98 203**	*e*P	**Pn**		**06 13 44.4 -1.5**
BJT	**Baijiatuau**	**14.98 203**	*e*Pn	**Pn**		**06 13 44.4 -1.5**
DL2	**Dalian**	**15.24 186**	P	**Pn**		**06 13 48.8 -0.6**
DL2			S	**Sn**		**06 16 36.9 -1.0**
DL2			pmax	pmax		
	comp=E,140nm,1.0s					
DL2			pmax	pmax		
	comp=E,2μm,5.5s					
DL2			LR	LR		
	comp=E,133μm,10.9s					
DL2			LR	LR		
	comp=E,246μm,14.3s					
DL2			LR	LR		
	comp=E,81μm,6.9s					
HHC	**Hu-ho-hao-te**	**15.58 217**	*e*P	**Pn**		**06 13 53.0 -0.9**
HHC			sP	pP		06 14 00.6 -1.4
HHC			PP	**sP**		**06 14 05.9 +2.1**
HHC			S	**Sn**		**06 16 49.1 +2.9**
HHC			pmax	pmax		
	comp=E,79nm,1.2s					
HHC			pmax	pmax		
	comp=E,3μm,5.7s					
HHC			LR	LR		
	comp=E,53μm,12.1s					
HHC			LR	LR		
	comp=E,56μm,9.0s					
HHC			LR	LR		
	comp=E,52μm,9.7s					
MA2	**Magadan**	**15.68 59**	Pn	**Pn**		**06 13 53.6 -1.4**
	comp=E,1.0nm,0.3s,baz=258,slow=12,SNR=23					
MA2			Lg	Lg		06 18 24.7
	comp=E,4.5nm,0.3s,baz=333,slow=19,SNR=6.0					
MA2			LR	LR		06 20 13.7
	comp=E,13μm,18.8s,baz=262,slow=38					
ASAJ	**Asahikawa**	**15.78 121**	Pn	**Pn**		**06 13 56.0 -0.4**
	comp=E,3.1nm,0.3s,baz=338,slow=17,SNR=18					
ASAJ			Lg	Lg		06 18 34.5
	comp=E,0.5nm,0.3s,baz=97,slow=11,SNR=4.6					
ASAJ	**Asahikawa**	**15.78 121**	*e*Pn	**Pn**		**06 13 57.3 +0.9**
	comp=E,554nm,0.9s					
ASAJ			Lg	Lg		06 18 34.5
BTO	**Baotou**	**16.36 220**	*e*P	**Pn**		**06 14 03.9 0.0**
INCN	**Inchon**	**16.71 172**	⇑*i*P	**Pn**		**06 14 09.4 +1.2**
INCN			AMS	AMS		06 21 45.0
	comp=E,31μm,7.0s					
INCN			AMS	AMS		06 21 45.0
	comp=E,22μm,7.0s					
INCN			AMS	AMS		06 21 46.0
	comp=E,33μm,6.0s					
INCN	**Inchon**	**16.71 172**	*e*Pn	**Pn**		**06 14 09.5 +1.2**
	comp=E,674nm,1.3s					
KS01	**Wonju Array Si**	**16.84 169**	*e*Pn	**Pn**		**06 14 10.0 +0.2**
KSRS	**Korea Array**	**16.86 169**	Pn	**Pn**		**06 14 11.1 +1.0**
	comp=E,0.7nm,0.3s,baz=353,slow=11,SNR=84					
KSRS			Lg	Lg		06 19 01.8
	comp=E,3.3nm,0.3s,baz=347,slow=31,SNR=7.3					
KSRS			LR	LR		06 21 42.0
	comp=E,6μm,19.8s,baz=355,slow=41					
KS15	**Wonju Array Si**	**16.87 169**	*e*Pn	**P**		**06 14 11.4 -0.9**
KSAR	**Wonju Array Be**	**16.87 169**	P	**Pn**		**06 14 11.2 +0.9**
KSAR	**Wonju Array Be**	**16.87 169**	Pn	**Pn**		**06 14 11.2 +0.9**
KSAR			Lg	Lg		06 19 01.8
SEY	**Seymchan**	**17.22 48**	Pn	**Pn**		**06 14 12.9 -1.7**
	comp=E,1.5nm,0.3s,baz=254,slow=10,SNR=60					
SEY			Lg	Lg		06 19 13.2
	comp=E,9.1nm,0.3s,baz=355,slow=19,SNR=12					
SEY			LR	LR		06 20 52.4
	comp=E,23μm,19.3s,baz=258,slow=37					
SEY	**Seymchan**	**17.22 48**	⇓*i*P	**Pn**		**06 14 13.5 -1.0**
SEY	**Seymchan**	**17.22 48**	*e*P	**Pn**		**06 14 13.5 -1.0**
YUK	**Yuzh-Kuril'sk**	**17.53 116**	*c i*P	**Pn**		**06 14 18.6 +0.2**
YUK			*i* S	**Sn**		**06 17 36.5 +3.3**
YUK			pmax	pmax		
	comp=Z,5μm,2.8s					
YUK			pmax	pmax		
	comp=Z,3μm,1.6s					
YUK			pmax	pmax		
	comp=N,795nm,1.1s					
YUK			pmax	pmax		
	comp=E,1μm,1.0s					
YUK			MLR	MLR		
	comp=Z,51μm,14.0s					
YUK			MLR	MLR		
	comp=N,48μm,13.0s					
YUK			MLR	MLR		
	comp=E,49μm,13.0s					
YUK	**Yuzh-Kuril'sk**	**17.53 116**	*e*P	**Pn**		**06 14 18.7 +0.3**
YUK			AMB	AMB		06 14 27.2
	comp=E,5μm,2.8s					
YUK			AMB	AMB		06 14 40.9
	comp=E,3μm,1.6s					
YUK			*i* S	**Sn**		**06 17 36.5 +3.3**
YUK			AMS	AMS		06 21 50.1
	comp=E,48μm,14.0s					
YUK			AMS	AMS		06 21 50.1
	comp=E,49μm,14.0s					
YUK			AMS	AMS		06 21 50.1
	comp=E,51μm,14.0s					
TIXI	**Tiksi**	**17.78 5**	Pn	**Pn**		**06 14 16.0 -5.4**
	comp=E,7.1nm,0.3s,baz=191,slow=8.1,SNR=23					
TIXI			Lg	Lg		06 19 32.2
	baz=309,slow=16,SNR=3.2					
TIXI			LR	LR		06 21 22.8
	comp=E,31μm,20.1s,baz=206,slow=38					
TIXI	**Tiksi**	**17.78 5**	*e*P	**Pn**		**06 14 20.4 -1.0**
TIXI			pmax	pmax		
	comp=Z,575nm,1.0s					
TIXI	**Tiksi**	**17.78 5**	*e*P	**Pn**		**06 14 20.4 -1.0**
TIXI	**Tiksi**	**17.78 5**	*e*Pn	**Pn**		**06 14 19.7 -1.7**
	comp=Z,441nm,0.8s					
TIXI			Lg	Lg		06 19 32.2
KUR	**Kuril'sk**	**17.84 110**	*d i*P	**P**		**06 14 23.7 +0.8**
KUR			pmax	pmax		
	comp=Z,4μm,3.2s					
KUR			pmax	pmax		
	comp=Z,272nm,1.0s					
KUR			MLR	MLR		
	comp=N,24μm,12.0s					
KUR			MLR	MLR		
	comp=Z,20μm,12.0s					
KUR			MLR	MLR		
	comp=E,21μm,11.0s					
KUR	**Kuril'sk**	**17.84 110**	*e*P	**P**		**06 14 23.0 +0.1**
KUR			AMB	AMB		06 14 26.5
	comp=E,4μm,3.2s					
KUR			*e*rx	rx		06 14 40.4
KUR			*e*S	**S**		**06 17 45.0 -2.4**
KUR			A	A		06 18 06.0
	comp=E,9μm,6.2s					
KUR			A	A		06 18 06.0
	comp=E,24μm,6.2s					
KUR			AMS	AMS		06 22 13.0
	comp=E,50μm,13.0s					
KUR			AMS	AMS		06 22 13.0
	comp=E,40μm,13.0s					
KUR			AMS	AMS		06 22 13.0
	comp=E,28μm,13.0s					
TIY	**Taiyuan**	**18.14 210**	*e*P	**P**		**06 14 26.9 +0.5**
TIY			PP	**PnPn**		**06 14 41.3 +4.1**
TIY			S	**Sn**		**06 17 50.8 +2.5**
TIY			SS	**SnSn**		**06 18 07.1 +5.4**
TIY			pmax	pmax		
	comp=E,500nm,1.2s					
TIY			pmax	pmax		
	comp=E,4μm,4.1s					
TIY			LR	LR		
	comp=E,61μm,8.6s					
TIY			LR	LR		
	comp=E,80μm,8.7s					
SHO	**Shikotan**	**18.15 115**	*e*P	**Pn**		**06 14 25.5 -0.7**
SHO			*e*S	**Sn**		**06 17 50.2 +1.8**
SHO			pmax	pmax		
	comp=Z,5μm,5.5s					
SHO			smax	smax		
	comp=N,10μm,8.5s					
SHO			smax	smax		
	comp=E,29μm,8.5s					
SHO	**Shikotan**	**18.15 115**	⇑*i*P	**Pn**		**06 14 23.8 -2.4**
SHO			AMB	AMB		06 14 29.6
	comp=E,5μm,5.5s					
SHO			AMB	AMB		06 14 44.0
	comp=E,210nm,1.0s					
SHO			*e*S	**Sn**		**06 17 48.2 -0.2**
SHO			AMS	AMS		06 22 17.0
	comp=E,27μm,14.0s					
SHO			AMS	AMS		06 22 17.0
	comp=E,65μm,14.0s					
SHO			AMS	AMS		06 22 17.0
	comp=E,38μm,14.0s					
TIA	**Tai'an**	**18.46 197**	⇓P	**Pn**		**06 14 30.5 +0.5**
TIA			PP	**PnPn**		**06 14 47.5 +6.0**
TIA			S	**Sn**		**06 17 57.3 +1.4**
TIA			pmax	pmax		
	comp=E,130nm,1.2s					
TIA			pmax	pmax		
	comp=E,2μm,5.0s					
TIA			LR	LR		
	comp=E,110μm,14.0s					
TIA			LR	LR		
	comp=E,87μm,14.0s					
SKR	**Severo-Kuril's**	**19.91 87**	*e*P	**P**		**06 14 46.4 +0.8**
SKR			*e*S	**S**		**06 18 29.4 +0.3**
SKR			pmax	pmax		
	comp=Z,6μm,6.1s					
SKR			pmax	pmax		
	comp=Z,789nm,1.2s					
SKR			MLR	MLR		
	comp=Z,20μm,12.0s					
SKR	**Severo-Kuril's**	**19.91 87**	*e*P	**P**		**06 14 46.4 +0.8**
SKR			AMB	AMB		06 14 53.0
	comp=Z,6μm,6.0s					
SKR			AMB	AMB		06 14 55.4
	comp=Z,790nm,1.2s					
SKR			*e*S	**S**		**06 18 29.4 +0.3**
SKR			AMS	AMS		06 24 00.7
	comp=Z,91μm,13.0s					
PEA0	**Petropavlovsk-**	**20.03 79**	*e*P	Pn		06 14 48.7 -0.1
PEA0B	**Petropavlovsk-**	**20.03 79**	*e*P	Pn		06 14 48.4 -0.4
	comp=Z,1μm,1.1s					
PEA0B			LR	LR		
	comp=Z,28μm,19.0s					
PETK	**Petropavlovsk-**	**20.03 79**	P	Pn		06 14 48.2 -0.5
	comp=Z,276nm,0.7s,baz=288,slow=6.1,SNR=101					
PETK			LR	LR		06 22 24.8
	comp=Z,25μm,19.0s,baz=283,slow=36					
PAU	**Pauzhetka**	**20.03 84**	*e*P	**P**		**06 14 46.8 -0.2**
PAU			AMB	AMB		06 14 51.6
	comp=Z,6μm,6.2s					
MJB9	**Matsu-Tunnel**	**20.17 145**	*e*P	**P**		**06 14 46.4 -2.2**
	comp=Z,84nm,1.2s					
MJB9			LR	LR		
	comp=Z,1μm,20.0s					
MAJO	**Matsushiro**	**20.17 145**	*c i*P	**P**		**06 14 45.9 -2.8**
MAJO			pmax	pmax		
	comp=Z,216nm,1.0s					
MAJO			MLR	MLR		
	comp=Z,89μm,14.0s					
MAJO	**Matsushiro**	**20.17 145**	*e*P	**P**		**06 14 45.8 -2.9**
MAJO			AMB	AMB		06 14 56.2
	comp=Z,3μm,3.2s					
MAJO	**Matsushiro**	**20.17 145**	*e*P	**P**		**06 14 46.8 -1.9**
	comp=Z,311nm,1.1s					
MAJO			LR	LR		
	comp=Z,8μm,18.0s					
MAT	**Matsushiro**	**20.17 145**	P	**P**		**06 14 45.7 -3.0**
MAT			S	**S**		**06 18 32.8 -1.8**
MJAR	**Matsushiro Arr**	**20.18 145**	P	**P**		**06 14 46.3 -2.4**
	comp=Z,21nm,0.9s,baz=335,slow=11,SNR=44					
PET	**Petropavlovsk**	**20.61 79**	*c i*P	**P**		**06 14 53.6 +0.4**
PET			*e*S	**S**		**06 18 38.6 -4.3**
PET			pmax	pmax		
	comp=Z,3μm,7.2s					
PET			pmax	pmax		
	comp=Z,7μm,4.2s					
PET			pmax	pmax		
	comp=Z,1μm,1.0s					
PET			MLR	MLR		
	comp=Z,29μm,16.0s					
PET			MLR	MLR		
	comp=Z,28μm,15.0s					
PET	**Petropavlovsk**	**20.61 79**	*e*P	**P**		**06 14 53.9 +0.7**
PET	**Petropavlovsk**	**20.61 79**	*e*P	**P**		**06 14 53.4 +0.3**
	comp=Z,1μm,1.1s					
PET			LR	LR		
	comp=Z,28μm,18.0s					
INU	**Inuyama**	**20.88 148**	*e*P	**P**		**06 14 53.5 -2.8**
	comp=Z,822nm,1.3s					
INU			LR	LR		
	comp=Z,15μm,22.0s					
JNU	**Nakatsue**	**21.54 164**	P	**P**		**06 15 03.5 0.0**
	comp=Z,247nm,1.0s,baz=5.5,slow=7.3,SNR=64					
JNU			Lg	Lg		06 21 40.7
	comp=Z,14nm,0.9s,baz=23,slow=19,SNR=2.5					
JNU	**Nakatsue**	**21.54 164**	*e*P	**P**		**06 15 05.4 +2.0**
	comp=Z,664nm,1.0s					
JNU			Lg	Lg		06 21 40.7
GTA	**Gaotai**	**21.88 238**	⇓P	**P**		**06 15 07.0 -0.2**
GTA			pP	pP		06 15 11.3 +0.1
GTA			sP	sP		06 15 14.3 +1.3
GTA			S	**S**		**06 19 07.8 -0.8**
GTA			sS	sS		06 19 13.8 -1.1
GTA			pmax	pmax		
	comp=Z,270nm,1.4s					
GTA			pmax	pmax		
	comp=Z,3μm,5.9s					
GTA			LR	LR		
	comp=Z,79μm,9.7s					
GTA			LR	LR		
	comp=Z,69μm,10.9s					
GTA			LR	LR		
	comp=Z,115μm,11.2s					
KBG	**Krutoberegovo**	**22.12 68**	⇓*i*P	**P**		**06 15 07.8 -1.7**
KBG			AMB	AMB		06 15 13.7
	comp=Z,4μm,5.1s					
NJ2	**Nanjing**	**22.30 191**	*e*P	**P**		**06 15 13.0 +1.5**
NJ2			pP	**sP**		**06 15 16.6 -0.7**
NJ2			sP	**pP**		**06 15 17.6 +2.1**
NJ2			S	**S**		**06 19 18.4 +2.2**
NJ2			pmax	pmax		
	comp=Z,160nm,1.0s					
NJ2			pmax	pmax		
	comp=Z,1μm,3.7s					
NJ2			LR	LR		
	comp=Z,73μm,16.2s					
NJ2			LR	LR		
	comp=Z,61μm,18.1s					
NRIK	**Noril'sk**	**22.49 327**	P	**P**		**06 15 11.9 -1.4**
	comp=Z,260nm,0.7s,baz=119,slow=8.8,SNR=121					
NRIK			Lg	Lg		06 21 58.9
	comp=Z,507nm,1.0s,baz=222,slow=13,SNR=4.6					
NRIK			LR	LR		06 24 21.6
	comp=Z,23μm,20.5s,baz=114,slow=38					
XAN	**Xi'an**	**22.62 214**	P	**P**		**06 15 14.9 -0.1**
XAN			pP	pP		06 15 18.9 -0.1
XAN			sP	sP		06 15 21.9 +1.1
XAN			PP	**PnPn**		**06 15 44.0 +5.4**
XAN			S	**S**		**06 19 18.6 -3.7**
XAN			sS	pS		06 19 25.8 -2.2
XAN			SS	**SnSn**		**06 20 02.0 +10**
XAN			pmax	pmax		
	comp=Z,210nm,1.4s					
XAN			pmax	pmax		
	comp=Z,2μm,5.4s					
XAN			LR	LR		
	comp=Z,77μm,13.2s					
XAN			LR	LR		
	comp=Z,122μm,12.9s					
LZH	**Lanzhou**	**22.72 226**	⇓P	**P**		**06 15 17.0 +0.8**
LZH			pP	sP		06 15 21.3 -0.6
LZH			sP	pP		06 15 24.3 +4.2
LZH			PP	**PnPn**		**06 15 47.6 +7.6**
LZH			S	**S**		**06 19 22.0 -2.3**
LZH			sS	pS		06 19 28.1 -1.6
LZH			SS	**SnSn**		**06 20 04.3 +10**
LZH			pmax	pmax		
	comp=Z,300nm,1.0s					
LZH			pmax	pmax		
	comp=Z,2μm,4.2s					
LZH			LR	LR		
	comp=Z,47μm,11.7s					
LZH			LR	LR		
	comp=Z,41μm,12.1s					
LZH			LR	LR		
	comp=Z,50μm,12.4s					
ZAA0	**Zalesovo Array**	**22.72 286**	*e*P	**P**		**06 15 16.1 +0.2**
ZALV	**Zalesovo Beam**	**22.72 286**	P	**P**		**06 15 15.5 -0.4**
	comp=Z,17nm,0.8s,baz=74,slow=5.5,SNR=38					
ZALV			Lg	Lg		06 22 02.9
	comp=Z,281nm,1.1s,baz=84,slow=16,SNR=3.6					
ZALV			LR	LR		06 24 49.3
	comp=Z,10μm,21.7s,baz=68,slow=39					
ZALV	**Zalesovo Beam**	**22.72 286**	P	**P**		**06 15 15.5 -0.4**
ZALV			pmax	pmax		
	comp=Z,16nm,0.7s					
ZALV			MLR	MLR		
	comp=Z,10μm,21.7s					
SSE	**Sheshan**	**23.04 186**	P	**P**		**06 15 19.8 +0.4**
SSE			S	**S**		**06 19 31.5 +1.9**
SSE			pmax	pmax		
	comp=Z,110nm,1.1s					
SSE			pmax	pmax		
	comp=Z,770nm,10.5s					
SSE			LR	LR		
	comp=Z,20μm,15.8s					
SSE			LR	LR		
	comp=Z,75μm,15.8s					
SSE			LR	LR		
	comp=Z,36μm,11.6s					
NVS	**Novosibirsk**	**23.38 288**	*e*P	**P**		**06 15 24.1 +1.5**
NVS			*e*S	**S**		**06 19 34.4 -0.5**
NVS			pmax	pmax		
	comp=Z,576nm,2.1s					
NVS			pmax	pmax		
	comp=N,47nm,0.9s					
NVS			pmax	pmax		
	comp=E,247nm,1.3s					
NVS			smax	smax		
	comp=E,377nm,2.1s					
JHJ	**Hachijo jima 2**	**23.82 145**	P	**P**		**06 15 27.8 +0.7**
	comp=E,247nm,0.9s,baz=332,slow=5.8,SNR=5.0					
JHJ			LR	LR		06 23 13.5
	comp=E,31nm,21.6s,baz=7.5,slow=33					
JHJ2	**Mitsune**	**23.84 145**	*e*P	**P**		**06 15 28.8 +1.6**
	comp=E,373nm,0.9s					
BKI	**Bering**	**24.16 70**	⇑*i*P	**P**		**06 15 30.2 +0.1**
BKI			AMS	AMS		06 27 09.0
	comp=E,30μm,13.0s					
BKI			AMS	AMS		06 27 09.0
	comp=E,20μm,13.0s					
BILL	**Bilibino**	**24.20 38**	*d i*P	**P**		**06 15 30.5 +0.1**
BILL			*i* *PP	**pP**		**06 15 34.9 +0.3**
BILL			*i* *SP	**sP**		**06 15 38.9 +2.5**
BILL			*e*			06 15 59.4
BILL			*i* S	**S**		**06 19 50.1 +2.2**
BILL			*i*			06 19 59.8
BILL			*e*SS	**SnSn**		**06 20 32.2 +2.5**
BILL			pmax	pmax		
	comp=Z,149nm,1.6s					
BILL			MLR	MLR		
	comp=Z,25μm,17.0s					
BILL	**Bilibino**	**24.20 38**	⇓*i*P	**P**		**06 15 30.2 -0.2**
BILL			AMS	AMS		06 27 19.3
	comp=Z,26μm,11.0s					
WHN	**Wuhan**	**24.49 200**	⇓*i*P	**P**		**06 15 33.5 +0.2**
WHN			S	**S**		**06 19 52.4 -0.6**
WHN			pmax	pmax		
	comp=Z,630nm,1.3s					
WHN			pmax	pmax		
	comp=Z,4μm,2.7s					
WHN			LR	LR		
	comp=Z,137μm,14.4s					
WMQ	**Urumqi**	**25.58 261**	P	**P**		**06 15 44.0 +0.8**
WMQ			pP	pP		06 15 48.0 +0.6
WMQ			sP	sP		06 15 52.3 +3.2
WMQ			S	**S**		**06 20 12.5 +2.0**
WMQ			sS	sS		06 20 20.8 +3.4

WMQ				pmax	pmax	
	comp=Z,420nm,1.5s					
WMQ				pmax	pmax	
	comp=Z,2μm,3.8s					
WMQ				LR	LR	
	comp=Z,98μm,11.9s					
WMQ				LR	LR	
	comp=Z,91μm,5.5s					
WMQ				LR	LR	
	comp=Z,20μm,23.3s					
ENH	**Enshi**	**25.95**	**209**	*e*P	**P**	**06 15 47.7 +1.1**
	comp=Z,130nm,1.0s					
ENH				LR	LR	
	comp=Z,37μm,19.0s					
SEM	**Semipalatinsk**	**26.61**	**280**	*e*P	**P**	**06 15 49.2 -3.4**
MK31	**Makanchi Array**	**27.11**	**272**	*i* P	**P**	**06 15 56.0 -0.9**
MK31				pmax	pmax	
	comp=Z,64nm,0.9s					
MK31	**Makanchi Array**	**27.11**	**272**	*e*P	**P**	**06 15 57.4 +0.4**
MKAR	**Makanchi Array**	**27.11**	**272**	P	**P**	**06 15 56.5 -0.4**
	comp=Z,36nm,1.0s,baz=59,slow=8.4,SNR=71					
MKAR				Lg	Lg	06 24 28.8
	comp=Z,60nm,1.1s,baz=68,slow=16,SNR=5.1					
MKAR				LR	LR	06 26 04.2
	comp=Z,23μm,20.4s,baz=49,slow=35					
MKAR	**Makanchi Array**	**27.11**	**272**	*e*P	**P**	**06 15 57.2 +0.3**
	comp=Z,265nm,0.8s					
MKAR				Lg	Lg	06 24 28.8
MK01	**Makanchi Array**	**27.11**	**272**	*e*P	**P**	**06 15 57.2 +0.2**
CD2	**Chengdu**	**27.28**	**220**	⇓P	**P**	**06 15 58.8 +0.2**
CD2				pP	pP	06 16 03.0 +0.1
CD2				PcP	**PcP**	**06 19 17.9 -0.1**
CD2				S	**S**	**06 20 38.9 +1.4**
CD2				sS	sS	06 20 46.1 +1.6
CD2				PcS	**PcS**	**06 22 59.6 -0.2**
CD2				pmax	pmax	
	comp=Z,150nm,0.9s					
CD2				pmax	pmax	
	comp=Z,610nm,4.2s					
CD2				LR	LR	
	comp=Z,54μm,12.9s					
CD2				LR	LR	
	comp=Z,62μm,13.5s					
MAKZ	**Makanchi**	**27.28**	**272**	*e*P	**P**	**06 15 58.7 +0.2**
MAKZ				pmax	pmax	
	comp=Z,94nm,1.2s					
MAKZ	**Makanchi**	**27.28**	**272**	*e*P	**P**	**06 15 58.7 +0.2**
	comp=Z,94nm,1.2s					
MAKZ				LR	LR	
	comp=Z,3μm,20.0s					
JOW	**Kunigami**	**27.41**	**171**	PFAKE		06 16 10.0 +10
JOW				LR	LR	
	comp=Z,16μm,21.0s					
KURK	**Kurchatov**	**27.42**	**282**	*c i*P	**P**	**06 15 58.9 -0.8**
KURK				pmax	pmax	
	comp=Z,211nm,1.2s					
KURK				MLR	MLR	
	comp=Z,55μm,17.0s					
KURK	**Kurchatov**	**27.42**	**282**	*e*P	**P**	**06 15 58.9 -0.8**
KURK	**Kurchatov**	**27.42**	**282**	*e*P	**P**	**06 15 59.1 -0.6**
	comp=Z,121nm,1.0s					
KURK				Lg	Lg	06 24 32.0
KURK				LR	LR	
	comp=Z,2μm,20.0s					
KURK	**Kurchatov**	**27.42**	**282**	P	**P**	**06 15 59.2 -0.5**
	SNR=58					
KURK	**Kurchatov**	**27.42**	**282**	P	**P**	**06 15 59.2 -0.5**
	SNR=58					
KURBB	**Kurchatov Arra**	**27.51**	**282**	P	**P**	**06 15 60.0 -0.5**
	comp=Z,19nm,0.8s,baz=69,slow=9.2,SNR=50					
KURBB				Lg	Lg	06 24 32.0
	comp=Z,157nm,1.2s,baz=73,slow=31,SNR=4.2					
TATO	**Taipei**	**29.11**	**184**	*e*P	**P**	**06 16 15.5 +0.6**
	comp=Z,2μm,1.3s					
TATO				LR	LR	
	comp=Z,20μm,21.0s					
QZH	**Quanzhou**	**29.36**	**190⇑**	*i*P	**P**	**06 16 15.4 -1.6**
QZH				S	**S**	**06 21 06.5 -3.5**
QZH				LR	LR	
	comp=Z,77μm,11.8s					
YHNB	**Yeheng**	**29.42**	**185**	*e*P	**P**	**06 16 17.7 -0.1**
	comp=Z,137nm,0.9s					
YHNB				LR	LR	
	comp=Z,18μm,18.0s					
SMY	**Shemya**	**29.50**	**72**	*e*P	**P**	**06 16 17.8 -0.3**
SMY				pmax	pmax	
	comp=Z,270nm,0.9s					
SMY	**Shemya**	**29.50**	**72**	*e*P	**P**	**06 16 17.8 -0.3**
	comp=Z,273nm,0.9s					
YOJ	**Yonaguni jima**	**29.58**	**181**	*e*P	**P**	**06 16 21.1 +2.1**
YOJ				pmax	pmax	
	comp=Z,130nm,1.0s					
YOJ	**Yonaguni jima**	**29.58**	**181**	*e*P	**P**	**06 16 21.1 +2.1**
	comp=Z,129nm,1.0s					
YOJ				LR	LR	
	comp=Z,19μm,19.0s					
NACB	**Ninganchiao**	**29.91**	**184**	*e*P	**P**	**06 16 25.4 +3.5**
	comp=Z,66nm,1.1s					
NACB				LR	LR	
	comp=Z,41μm,20.0s					
SSLB	**Suanglung**	**30.32**	**185**	PFAKE		06 16 40.0 +14
SSLB				LR	LR	
	comp=Z,19μm,19.0s					
GYA	**Guiyang**	**30.36**	**212**	⇓*i*P	**P**	**06 16 25.8 -0.4**
GYA				pP	sP	06 16 33.0 +0.9
GYA				PP	**PnPn**	**06 17 27.8 +3.5**
GYA				PcP	**PcP**	**06 19 27.3 +1.4**
GYA				S	**S**	**06 21 25.0 -1.1**
GYA				SS	**ScP**	**06 23 07.5 0.0**
GYA				ScS	**ScS**	**06 27 03.0 -0.7**
GYA				pmax	pmax	
	comp=Z,60nm,1.0s					
GYA				pmax	pmax	
	comp=Z,480nm,6.8s					
GYA				LR	LR	
	comp=Z,77μm,15.8s					
GYA				LR	LR	
	comp=Z,157μm,17.7s					
GYA				LR	LR	
	comp=Z,37μm,12.7s					
PDGK	**Podgornoye**	**30.68**	**268**	P	**P**	**06 16 27.6 -1.2**
PDGK				pmax	pmax	
	comp=Z,138nm,1.5s					
YULB	**Yu-li**	**30.70**	**185**	*e*P	**P**	**06 16 33.2 +4.2**
	comp=Z,90nm,1.0s					
YULB				LR	LR	
	comp=Z,20μm,21.0s					
TPUB	**Ta-pu**	**30.82**	**186**	*e*P	**P**	**06 16 29.6 -0.5**
	comp=Z,142nm,1.1s					
TPUB				LR	LR	
	comp=Z,23μm,19.0s					
UZB	**Uzynbulak**	**31.06**	**268**	*e*P	**P**	**06 16 29.0 -3.3**
	comp=Z,439nm,1.4s					
UZB				*e*S	**S**	**06 21 32.2 -4.7**
UZB				LRM	MLR	06 30 24.8
	comp=Z,7μm,11.6s					
KPKS	**Kokpek**	**31.07**	**269**	*e*P	**P**	**06 16 29.2 -3.0**
	comp=Z,405nm,1.6s					
KPKS				*e*S	**S**	**06 21 32.8 -4.2**
KPKS				LRM	MLR	06 30 32.9
	comp=Z,8μm,10.9s					
BVA0	**Borovoye Array**	**31.13**	**290**	P	**P**	**06 16 31.3 -1.3**
BVA0				pmax	pmax	
	comp=Z,102nm,1.1s					
BVAR	**Borovoye Array**	**31.13**	**290**	P	**P**	**06 16 32.4 -0.2**
	comp=Z,23nm,0.5s,baz=70,slow=8.5,SNR=81					
BRVK	**Borovoye**	**31.18**	**290**	*c i*P	**P**	**06 16 32.9 -0.1**
BRVK				pmax	pmax	
	comp=Z,131nm,0.8s					
BRVK				MLR	MLR	
	comp=Z,35μm,16.0s					
BRVK	**Borovoye**	**31.18**	**290**	*e*P	**P**	**06 16 32.9 -0.1**
BRVK	**Borovoye**	**31.18**	**290**	*e*P	**P**	**06 16 33.2 +0.2**
	comp=Z,94nm,0.7s					
BRVK				LR	LR	
	comp=Z,21μm,18.0s					
BRVK	**Borovoye**	**31.18**	**290**	P	**P**	**06 16 32.9 -0.1**
	SNR=34					
BRVK	**Borovoye**	**31.18**	**290**	P	**P**	**06 16 32.9 -0.1**
	SNR=34					
TWG	**Pinlang**	**31.28**	**185**	PFAKE		06 16 50.0 +16
TWG				LR	LR	
	comp=Z,83μm,18.0s					
ZHN	**Zhinishke**	**31.39**	**269**	*e*P	**P**	**06 16 32.1 -3.1**
	comp=Z,391nm,1.3s					
ZHN				LRM	MLR	06 30 27.7
	comp=Z,7μm,11.1s					
SATY	**Saty**	**31.48**	**268**	*e*P	**P**	**06 16 32.7 -3.2**
	comp=Z,797nm,1.4s					
SATY				LRM	MLR	06 30 35.7
	comp=Z,8μm,9.5s					
GZH	**Guangzhou**	**31.93**	**198**	P	P	06 16 33.8 -6.0
GZH				PP	**PnPn**	**06 17 36.4 -8.3**
GZH				S	S	06 21 39.4 -11
GZH				SS	**SnSn**	**06 23 26.9 -12**
GZH				pmax	pmax	
	comp=Z,480nm,1.8s					
GZH				LR	LR	
	comp=Z,70μm,13.0s					
KUU	**Kurty**	**32.20**	**271**	*e*P	**P**	**06 16 39.0 -3.2**
	comp=Z,313nm,1.2s					
KUU				*e*S	**S**	**06 21 50.3 -4.2**
KUU				LRM	MLR	06 31 03.3
	comp=Z,5μm,9.8s					
MDOK	**Medeo**	**32.22**	**270**	*e*P	**P**	**06 16 39.0 -3.3**
	comp=Z,435nm,1.3s					
MDOK				*i* S	**S**	**06 21 50.5 -4.4**
MDOK				LRM	MLR	06 31 20.3
	comp=Z,6μm,12.1s					
AAA	**Alma-Ata**	**32.27**	**270**	*i* P	P	06 16 48.5 +5.8
AAA				*i* S	**S**	**06 22 00.0 +4.4**
AAA				pmax	pmax	
	comp=Z,1μm,0.9s					
AAA				smax	smax	
	comp=N,2μm,3.9s					
MCO	**Taipa Grande**	**32.84**	**198**	P	**P**	**06 16 47.0 -0.8**
KMI	**Kunming**	**32.90**	**217**	P	**P**	**06 16 47.9 -0.7**
KMI				pP	sP	06 16 54.0 -0.6
KMI				sP	pP	06 16 56.6 +3.7
KMI				PP	**PP**	**06 18 00.5 -2.4**
KMI				S	**S**	**06 22 02.8 -3.2**
KMI				sS	sS	06 22 12.3 -0.7
KMI				SS	**SnSn**	**06 24 02.6 -0.3**
KMI				pmax	pmax	
	comp=N,110nm,1.1s					
KMI				pmax	pmax	
	comp=N,840nm,5.0s					
KMI				LR	LR	
	comp=N,30μm,14.3s					
TKM2	**Tokmak 2**	**33.21**	**270**	P	**P**	**06 16 50.8 -0.4**
TKM2				pmax	pmax	
	comp=Z,99nm,1.0s					
GAMB	**Gambell**	**33.22**	**47**	PFAKE		06 17 00.0 +9.3
GAMB				LR	LR	
	comp=Z,14μm,20.0s					
FRU	**Bishkek**	**33.84**	**271⇓**	*e*P	**P**	**06 16 56.0 -0.5**
FRU				*e*		06 18 29.0
FRU				*e*S	**S**	**06 22 22.0 +2.0**
FRU				*e*SS	**SnSn**	**06 24 20.0 -5.1**
FRU				pmax	pmax	
	comp=Z,780nm,2.3s					
FRU				smax	smax	
	comp=E,2μm,6.5s					
FRU				MLR	MLR	
	comp=E,97μm,11.0s					
LSA	**Lhasa**	**33.91**	**237**	P	**P**	**06 16 58.6 +0.9**
LSA				pP	**pP**	**06 17 02.6 +0.7**
LSA				pmax	pmax	
	comp=E,79nm,1.2s					
LSA				LR	LR	
	comp=E,9μm,13.4s					
LSA				LR	LR	
	comp=E,6μm,18.0s					
LSA				LR	LR	
	comp=E,26μm,10.8s					
LSA	**Lhasa**	**33.91**	**237**	*e*P	**P**	**06 16 58.6 +0.9**
LSA				pmax	pmax	
	comp=Z,310nm,1.8s					
LSA	**Lhasa**	**33.91**	**237**	*e*P	**P**	**06 16 58.6 +0.9**
LSA	**Lhasa**	**33.91**	**237**	*e*P	**P**	**06 16 58.6 +0.9**
	comp=Z,310nm,1.8s					
LSA				LR	LR	
	comp=Z,27μm,19.0s					
AAK	**Ala-Archa**	**34.03**	**271**	P	**P**	**06 16 57.7 -0.6**
AAK				pmax	pmax	
	comp=Z,155nm,1.4s					
AAK	**Ala-Archa**	**34.03**	**271**	*e*P	**P**	**06 16 57.7 -0.6**
AAK	**Ala-Archa**	**34.03**	**271**	*e*P	**P**	**06 16 58.7 +0.5**
	comp=Z,140nm,1.3s					
AAK				LR	LR	
	comp=Z,27μm,18.0s					
AAK	**Ala-Archa**	**34.03**	**271**	P	**P**	**06 16 58.8 +0.5**
	SNR=78					
SVE	**Sverdlovsk**	**34.81**	**301**	*d i*P	**P**	**06 17 04.9 +0.3**
SVE				*e*S	**S**	**06 22 35.4 +0.9**
SVE				*e*		06 27 18.8
SVE				pmax	pmax	
	comp=Z,107nm,1.1s					
SVE				MLR	MLR	
	comp=Z,12μm,11.0s					
ADK	**Adak**	**34.98**	**69**	*e*P	**P**	**06 17 10.0 +3.9**
ADK				pmax	pmax	
	comp=Z,150nm,1.4s					
ADK	**Adak**	**34.98**	**69**	*e*P	**P**	**06 17 10.0 +3.9**
	comp=Z,152nm,1.4s					
ADK				LR	LR	
	comp=Z,6μm,22.0s					
KSH	**Kashi**	**35.12**	**265**	P	P	06 17 12.5 +4.9
KSH				pP	sP	06 17 17.4 +3.8
KSH				sP	pP	06 17 20.0 +8.1
KSH				PP	**PP**	**06 18 31.4 +4.2**
KSH				PcP	**PcP**	**06 19 42.5 +3.6**
KSH				S	**S**	**06 22 46.5 +6.6**
KSH				sS	sS	06 22 53.4 +6.5
KSH				PcS	**PcS**	**06 23 28.3 +2.5**
KSH				SS	**SS**	**06 25 05.1 -7.1**
KSH				ScS	**ScS**	**06 27 29.3 +1.5**
KSH				pmax	pmax	
	comp=Z,230nm,1.5s					
KSH				pmax	pmax	
	comp=Z,330nm,5.9s					
KSH				LR	LR	
	comp=Z,12μm,8.0s					
KSH				LR	LR	
	comp=Z,17μm,11.6s					
KSH				LR	LR	
	comp=Z,18μm,10.0s					
MNAS	**Manas**	**35.30**	**272**	P	**P**	**06 17 08.8 -0.4**
MNAS				pmax	pmax	
	comp=Z,145nm,1.2s					
SOKR	**Solikamsk**	**35.65**	**307**	*c i*P	**P**	**06 17 10.2 -1.6**
SOKR						06 18 26.2
SOKR				S	**S**	**06 22 46.2 -1.1**
SOKR				pmax	pmax	
	comp=Z,94nm,0.9s					
SOKR				MLR	MLR	
	comp=Z,6μm,13.0s					
SGCP	**Mt. Cagua**	**35.79**	**183**	*e*P	**P**	**06 17 13.0 -0.3**
ARU	**Arti**	**36.02**	**301**	*c i*P	**P**	**06 17 14.5 -0.5**
ARU						06 19 39.2
ARU				S	**S**	**06 22 55.3 +2.2**
ARU				SS	**SnSn**	**06 25 17.1 -0.2**
ARU				pmax	pmax	
	comp=Z,90nm,1.7s					
ARU				MLR	MLR	
	comp=Z,21μm,16.0s					
ARU	**Arti**	**36.02**	**301**	*e*P	**P**	**06 17 14.6 -0.4**
	comp=Z,120nm,1.2s					
ARU				LR	LR	
	comp=Z,14μm,19.0s					
SLVN	**Son La**	**36.02**	**213**	*e*P	**P**	**06 17 15.3 -0.2**
	comp=Z,124nm,1.3s					
SLVN				LR	LR	
	comp=Z,28μm,20.0s					
SPIA	**Saint Paul Isl**	**36.06**	**58**	PFAKE		06 17 30.0 +15
SPIA				LR	LR	
	comp=Z,9μm,19.0s					
KK31	**Karatay Array**	**36.10**	**275**	P	**P**	**06 17 15.0 -0.9**
KK31				pmax	pmax	
	comp=Z,61nm,1.0s					
KKAR	**Karatay Array**	**36.10**	**275**	*e*P	**P**	**06 17 16.4 +0.5**
KKAR				pmax	pmax	
	comp=Z,400nm,0.7s					
KKAR	**Karatay Array**	**36.10**	**275**	*e*P	**P**	**06 17 16.4 +0.5**
	comp=Z,397nm,0.7s					
KKAR				LR	LR	
	comp=Z,7μm,18.0s					
ATKA	**Atka Island**	**36.19**	**67**	*e*P	**P**	**06 17 16.5 0.0**
	comp=Z,112nm,0.7s					
ATKA				LR	LR	
	comp=Z,11μm,19.0s					
ABRA	**Dolores**	**36.43**	**185**	*e*P	**P**	**06 17 15.6 -3.2**
BRLS	**Borolday**	**36.54**	**275**	*e*P	**P**	**06 17 18.5 -1.2**
	comp=Z,16nm,1.2s					
BRLS				*e*S	**S**	**06 23 00.7 -0.8**
BRLS				LRM	MLR	06 33 51.2
	comp=Z,773nm,12.2s					
SZP	**Santa**	**36.54**	**185**	PFAKE		06 17 30.0 +10
SZP				LR	LR	
	comp=Z,22μm,19.0s					
QIZ	**Qiongzhong**	**36.59**	**203**	P	**P**	**06 17 20.8 +0.5**
QIZ				sP	**sP**	**06 17 27.9 +1.6**
QIZ				PP	**PP**	**06 18 45.6 +2.0**
QIZ				S	**S**	**06 23 01.3 -1.2**
QIZ				sS	**sS**	**06 23 09.5 -0.1**
QIZ				pmax	pmax	
	comp=Z,45nm,1.2s					
QIZ				LR	LR	
	comp=Z,26μm,17.4s					
QIZ				LR	LR	
	comp=Z,101μm,18.0s					
QIZ				LR	LR	
	comp=Z,36μm,15.4s					
QIZ	**Qiongzhong**	**36.59**	**203**	*e*P	**P**	**06 17 20.2 -0.1**
	comp=Z,53nm,1.1s					
QIZ				LR	LR	
	comp=Z,25μm,18.0s					
SHL	**Shillong**	**37.01**	**233**	*i* P	**P**	**06 17 24.0 0.0**
SHL				AMB	AMB	06 17 24.8
	comp=Z,191nm,2.2s					
SHL				*ex*	x	06 28 06.5
CAUP	**Cauayan**	**37.09**	**183**	*e*P	P	06 17 30.7 +6.3
GUN	**Gumba**	**38.04**	**242**	*e*P	**P**	**06 17 32.9 0.0**
	comp=Z,220nm,0.9s					
KKN	**Kakani**	**38.45**	**243**	*e*P	**P**	**06 17 36.3 +0.1**
	comp=Z,167nm,0.7s					
PKI	**Pulchoki**	**38.56**	**242**	*e*P	**P**	**06 17 37.1 -0.2**
	comp=Z,130nm,0.9s					
PKIN	**Phulchoki**	**38.56**	**242**	*e*P	**P**	**06 17 36.9 -0.3**
	comp=Z,270nm,1.4s					
GKN	**Gorkha**	**38.62**	**243**	*e*P	**P**	**06 17 38.0 +0.4**
	comp=Z,677nm,1.0s					
NIKH	**Nikolski High**	**38.67**	**63**	*e*P	**P**	**06 17 41.3 +3.8**
	comp=Z,208nm,0.7s					
NIKH				LR	LR	
	comp=Z,9μm,18.0s					
DMN	**Daman**	**38.69**	**243**	*e*P	**P**	**06 17 38.4 +0.1**
AB31	**Akbulak array**	**38.70**	**290**	*i* P	**P**	**06 17 37.4 -0.5**
AB31				pmax	pmax	
	comp=Z,63nm,0.7s					
ABKAR	**Akbulak array**	**38.70**	**290**	*e*P	**P**	**06 17 37.7 -0.2**
	comp=Z,633nm,0.7s					
ABKAR				LR	LR	
	comp=Z,5μm,18.0s					
DANN	**Dangsing**	**38.81**	**245**	*e*P	**P**	**06 17 40.7 +1.4**
AKTO	**Aktyubinsk**	**39.14**	**292**	P	**P**	**06 17 41.2 -0.3**
AKTO				pmax	pmax	
	comp=Z,30nm,0.7s					
KOLN	**Koldanda**	**39.36**	**244**	*e*P	**P**	**06 17 44.3 +0.5**
PYUN	**Piuthan**	**39.42**	**245**	*e*P	**P**	**06 17 44.9 +0.6**
	comp=Z,1μm,1.1s					
UNV	**Unalaska Valle**	**39.46**	**61**	*e*P	**P**	**06 17 43.6 -0.5**
	comp=Z,207nm,1.2s					
UNV				LR	LR	
	comp=Z,7μm,21.0s					
AKUT	**Akutan**	**39.70**	**60**	*e*P	**P**	**06 17 46.8 +0.8**
	comp=Z,422nm,1.4s					
AKUT				LR	LR	
	comp=Z,12μm,18.0s					
PANO	**Nakornpanom**	**39.75**	**209**	P	**P**	**06 17 47.0 +0.2**
	comp=Z,205nm,1.2s					
PTH	**Pithoragarh**	**39.80**	**250**	*e*P	**P**	**06 17 46.5 -0.9**
LGTI	**Lohaghat**	**39.86**	**250**	*e*P	**P**	**06 17 48.7 +1.0**
CHTO	**Chiang Mai**	**40.05**	**218**	P	**P**	**06 17 48.8 -0.6**
	comp=Z,486nm,1.4s,comp=Z,7μm					
CHTO	**Chiang Mai**	**40.05**	**218**	*e*P	**P**	**06 17 49.0 -0.4**
CHTO				pmax	pmax	
	comp=Z,200nm,1.3s					
CHTO	**Chiang Mai**	**40.05**	**218**	*e*P	**P**	**06 17 49.0 -0.4**
	comp=Z,197nm,1.4s					
CHTO				LR	LR	
	comp=Z,15μm,18.0s					
CHTO	**Chiang Mai**	**40.05**	**218**	P	**P**	**06 17 49.1 -0.3**
	SNR=46					
CHTO	**Chiang Mai**	**40.05**	**218**	P	**P**	**06 17 49.1 -0.3**
	SNR=46					
LAMP	**Lampang**	**40.07**	**217**	P	**P**	**06 17 49.5 -0.1**
	comp=Z,40nm,1.1s,comp=Z,406nm					
TOLK	**Toolik Lake Re**	**40.14**	**35**	P	**P**	**06 17 49.3 -0.4**
	baz=294					
TOLK				S	**S**	**06 23 48.4 -6.9**
	baz=294					
SDNR	**Sundarnagar**	**40.15**	**255**	*e*P	**P**	**06 17 50.0 -0.1**
TT01	**Tatalina**	**40.15**	**44**	*e*P	**P**	**06 17 49.6 -0.2**
THN	**Thein Dam**	**40.18**	**257**	*e*P	**P**	**06 17 49.0 -1.3**
THN				*ex*	x	06 29 40.6
SMLA	**Simla**	**40.31**	**255**	*e*P	**P**	**06 17 51.7 +0.2**
SMLA				AMB	AMB	06 17 52.9
	comp=Z,358nm,1.5s					
CMAR	**Chiang Mai Arr**	**40.38**	**218**	P	**P**	**06 17 52.0 -0.1**
	comp=Z,27nm,1.0s,baz=14,slow=7.8,SNR=88					
CMAR				LR	LR	06 35 01.1
	comp=Z,12μm,18.1s,baz=25,slow=37					
CMAR	**Chiang Mai Arr**	**40.38**	**218**	P	**P**	**06 17 52.0 -0.1**
CMAR				pmax	pmax	
	comp=Z,26nm,1.0s					
CMAR				MLR	MLR	
	comp=Z,12μm,18.1s					
PVCP	**Virac**	**40.38**	**179**	*e*P	**P**	**06 17 52.3 +0.2**
PONG	**Pong**	**40.40**	**257**	*e*P	**P**	**06 17 52.0 -0.1**
CM01	**Chiang Mai Arr**	**40.41**	**218**	*e*P	**P**	**06 17 52.7 +0.3**
DDI	**Dehra Dun**	**40.42**	**253**	*e*P	**P**	**06 17 52.6 +0.2**
DDI				AMB	AMB	06 17 54.3
	comp=Z,291nm,1.9s					
UTTA	**Uttaradit**	**40.47**	**215**	P	**P**	**06 17 52.7 -0.1**
	comp=Z,51nm,1.0s,comp=Z,432nm					
COLD	**Coldfoot**	**40.52**	**37**	*e*P	**P**	**06 17 53.0 +0.3**
	comp=Z,60nm,1.1s					
COLD				LR	LR	
	comp=Z,21μm,18.0s					
BHK	**Bhakra**	**40.52**	**256**	*e*P	**P**	**06 17 52.0 -1.2**
FALS	**False Pass**	**40.53**	**58**	*e*P	**P**	**06 17 54.3 +1.4**
	comp=Z,231nm,1.1s					
SPB1	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.5 +0.4**
KHON	**Khomkaen**	**41.05**	**212**	P	**P**	**06 17 57.6 0.0**
	comp=Z,64nm,1.0s,comp=Z,2μm					
SPA1	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.0 -0.1**
SPB5	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.4 +0.3**
SPB2	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.3 +0.2**
SPA0	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.2 +0.1**
SPA2	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.3 +0.3**
SPA3	**Spitsbergen Ar**	**41.05**	**343**	*e*P	**P**	**06 17 57.0 -0.1**
SPB4	**Spitsbergen Ar**	**41.06**	**343**	*e*P	**P**	**06 17 57.3 +0.2**
SPB3	**Spitsbergen Ar**	**41.06**	**343**	*e*P	**P**	**06 17 57.4 +0.3**
SVW2	**Sparrevohn**	**41.16**	**47**	*e*P	**P**	**06 17 58.5 +0.4**
	comp=Z,58nm,1.0s					
SVW2				LR	LR	
	comp=Z,14μm,19.0s					
LVZ	**Lovozero**	**41.32**	**325**	*e*P	**P**	**06 17 57.8 -1.6**
LVZ				pmax	pmax	
	comp=Z,50nm,1.0s					
LVZ				MLR	MLR	
	comp=Z,10μm,21.0s					
LVZ	**Lovozero**	**41.32**	**325**	*e*P	**P**	**06 18 00.1 +0.7**
	comp=Z,288nm,1.9s					
LVZ				LR	LR	
	comp=Z,11μm,22.0s					
KBS	**Kingsbay**	**41.39**	**344**	*e*P	**P**	**06 18 00.4 +0.6**
KBS				pmax	pmax	
	comp=Z,240nm,1.7s					
KBS	**Kingsbay**	**41.39**	**344**	*e*P	**P**	**06 17 59.4 -0.4**
KBS	**Kingsbay**	**41.39**	**344**	*e*P	**P**	**06 18 00.4 +0.6**
	comp=Z,237nm,1.7s					
KBS				LR	LR	
	comp=Z,17μm,21.0s					
CNP	**Catarman**	**41.47**	**179**	*e*P	**P**	**06 17 59.5 -1.6**
CAST	**Castle Rocks**	**41.52**	**42**	*e*P	**P**	**06 18 01.7 +0.6**
	comp=Z,46nm,0.9s					
CAST				LR	LR	
	comp=Z,16μm,21.0s					
SJMP	**San Jose**	**41.56**	**184**	*e*P	P	06 18 07.2 +5.3
CHAI	**Chaiyaphum**	**41.72**	**213**	P	**P**	**06 18 02.4 -0.7**
	comp=Z,77nm,1.0s,comp=Z,690nm					
PPLA	**Purkeypile**	**41.72**	**43**	*e*P	**P**	**06 18 04.1 +1.2**
	comp=Z,420nm,1.9s					
PPLA				LR	LR	
	comp=Z,18μm,19.0s					

SDPT	**Sand Point**	**41.73**	**56**	PFAKE			06 18 10.0	+7.1
SDPT				LR	LR			
	comp=Z,7μm,20.0s							
TMCR	**Tamitsa**	**41.82**	**319**	*e*P	**P**		**06 18 01.3**	**-2.2**
TMCR				*e*S	**S**		**06 24 19.3**	**-0.9**
TMCR				pmax	pmax			
	comp=Z,59nm,0.3s							
HSPB	**Hornsund (broa**	**41.83**	**341**	*e*P	**P**		**06 18 02.9**	**-0.5**
HSPB				*e*S	**S**		**06 24 20.1**	**-0.1**
APA	**Apatity**	**41.89**	**325**	⇑*i*P	**P**		**06 18 02.6**	**-1.4**
APA				*i*			06 19 39.4	
APA				*i* S	**S**		**06 24 21.0**	**-0.2**
APA				pmax	pmax			
	comp=Z,30nm,1.0s							
APA				MLR	MLR			
	comp=Z,11μm,24.0s							
KTH	**Kantishna Hill**	**41.91**	**42**	*e*P	**P**		**06 18 04.7**	**+0.3**
	comp=Z,113nm,1.2s							
KTH				LR	LR			
	comp=Z,13μm,18.0s							
BUSP	**Coron**	**42.06**	**185**	*e*P	P		06 17 59.5	-6.4
NDI	**New Delhi**	**42.14**	**252**	*e*P	**P**		**06 18 06.0**	**-0.5**
TRF	**Thorofare Moun**	**42.21**	**42**	*e*P	**P**		**06 18 07.4**	**+0.5**
	comp=Z,182nm,1.2s							
TRF				LR	LR			
	comp=Z,11μm,20.0s							
CHGN	**Chignik**	**42.24**	**54**	PFAKE			06 18 20.0	+13
CHGN				LR	LR			
	comp=Z,8μm,19.0s							
BESP	**Borongan**	**42.38**	**178**	*e*P	**P**		**06 18 08.2**	**-0.3**
COLA	**College**	**42.45**	**39**	*e*P	**P**		**06 18 08.5**	**-0.1**
COLA				pmax	pmax			
	comp=Z,50nm,0.8s							
COLA	**College**	**42.45**	**39**	*e*P	**P**		**06 18 08.5**	**-0.1**
	comp=Z,50nm,0.8s							
COLA				LR	LR			
	comp=Z,12μm,21.0s							
UMPA	**Umpang Tak**	**42.49**	**217**	P	**P**		**06 18 11.3**	**+1.9**
	comp=Z,38nm,1.1s,comp=Z,1μm							
KBL	**Kabul**	**42.56**	**266**	*e*P	**P**		**06 18 09.8**	**-0.3**
KBL				pmax	pmax			
	comp=Z,90nm,1.0s							
KBL	**Kabul**	**42.56**	**266**	*e*P	**P**		**06 18 09.8**	**-0.3**
	comp=Z,90nm,0.9s							
KBL				LR	LR			
	comp=Z,18μm,22.0s							
WRH	**Wood River Hil**	**42.56**	**40**	*e*P	**P**		**06 18 09.5**	**0.0**
	comp=Z,129nm,1.0s							
WRH				LR	LR			
	comp=Z,8μm,18.0s							
FYU	**Fort Yukon**	**42.56**	**36**	*e*P	**P**		**06 18 10.5**	**+1.0**
	comp=Z,292nm,1.2s							
FYU				LR	LR			
	comp=Z,19μm,20.0s							
CCB	**Clear Creek Bu**	**42.58**	**40**	*e*P	**P**		**06 18 09.6**	**-0.1**
	comp=Z,278nm,1.8s							
CCB				LR	LR			
	comp=Z,11μm,19.0s							
MCK	**McKinley**	**42.60**	**41**	*e*P	**P**		**06 18 10.2**	**+0.3**
MCK				pmax	pmax			
	comp=Z,160nm,1.4s							
MCK	**McKinley**	**42.60**	**41**	*e*P	**P**		**06 18 10.2**	**+0.3**
MCK	**McKinley**	**42.60**	**41**	*e*P	**P**		**06 18 10.2**	**+0.3**
	comp=Z,156nm,1.4s							
MCK				LR	LR			
	comp=Z,8μm,20.0s							
SPU	**Mount Spurr**	**42.62**	**45**	*e*P	**P**		**06 18 10.6**	**+0.5**
RSO	**Redoubt South**	**42.68**	**47**	*e*P	**P**		**06 18 11.4**	**+0.6**
RND	**Reindeer**	**42.80**	**41**	*e*P	**P**		**06 18 11.2**	**-0.3**
RND				pmax	pmax			
	comp=Z,38nm,0.9s							
RND	**Reindeer**	**42.80**	**41**	*e*P	**P**		**06 18 11.2**	**-0.3**
	comp=Z,38nm,0.9s							
RND				LR	LR			
	comp=Z,8μm,20.0s							
KLMR	**Klimovskoe**	**42.85**	**314**	*e*P	**P**		**06 18 09.5**	**-2.4**
KLMR				*e*S	**S**		**06 24 34.1**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,358nm,1.5s							
KLMR				MLR	MLR			
	comp=Z,3μm,13.0s							
KEV	**Kevo**	**42.86**	**329**	*e*P	**P**		**06 18 12.0**	**+0.2**
KEV				pmax	pmax			
	comp=Z,86nm,1.0s							
KEV	**Kevo**	**42.86**	**329**	*e*P	**P**		**06 18 12.0**	**+0.2**
	comp=Z,86nm,1.0s							
KEV				LR	LR			
	comp=Z,10μm,21.0s							
IL1	**Eielson Array**	**42.86**	**39**	*e*P	**P**		**06 18 11.9**	**0.0**
ILAR	**Eielson Array**	**42.86**	**39**	P	**P**		**06 18 11.3**	**-0.6**
	comp=Z,14nm,0.8s,baz=304,slow=8.3,SNR=104							
ILAR				LR	LR		06 37 45.8	
	comp=Z,10μm,19.3s,baz=323,slow=39							
ILB	**Eielson Array**	**42.86**	**39**	*e*P	**P**		**06 18 12.4**	**+0.4**
UTHA	**Uthaitani**	**42.88**	**216**	P	**P**		**06 18 13.1**	**+0.5**
	comp=Z,36nm,1.1s,comp=Z,354nm							
OCLP	**Ormoc**	**42.92**	**179**	*e*P	**P**		**06 18 12.4**	**-0.5**
SUA	**Susitna One**	**43.02**	**45**	*e*P	**P**		**06 18 13.4**	**0.0**
	comp=Z,315nm,1.6s							
SUA				LR	LR			
	comp=Z,6μm,18.0s							
HDA	**Harding Lake**	**43.02**	**40**	*e*P	**P**		**06 18 14.4**	**+1.1**
	comp=Z,159nm,1.0s							
HDA				LR	LR			
	comp=Z,12μm,19.0s							
ARA0	**ARCESS Array S**	**43.42**	**330**	*e*P	**P**		**06 18 16.1**	**-0.4**
ARCES	**ARCESS Array B**	**43.42**	**330**	P	**P**		**06 18 16.0**	**-0.4**
	comp=Z,18nm,0.8s,baz=60,slow=10,SNR=38							
ARCES				LR	LR		06 40 22.6	
	comp=Z,8μm,18.8s,baz=71,slow=42							
ARE0	**ARCESS Array S**	**43.42**	**330**	*e*P	**P**		**06 18 16.4**	**-0.1**
	comp=Z,109nm,1.3s							
ARE0				LR	LR			
	comp=Z,7μm,20.0s							
NAYO	**Nakonayok**	**43.42**	**213**	P	**P**		**06 18 17.3**	**+0.3**
	comp=Z,83nm,1.3s							
SRAK	**Srakaew**	**43.48**	**212**	P	**P**		**06 18 16.1**	**-1.3**
	comp=Z,84nm,1.0s							
DHY	**Denali Highway**	**43.54**	**41**	*e*P	**P**		**06 18 17.3**	**-0.3**
	comp=Z,263nm,1.6s							
DHY				LR	LR			
	comp=Z,8μm,18.0s							
HOM	**Homer**	**43.57**	**47**	PFAKE			06 18 30.0	+12
HOM				LR	LR			
	comp=Z,8μm,19.0s							
PMR	**Palmer**	**43.61**	**44**	*e*P	**P**		**06 18 17.8**	**-0.2**
PMR				pmax	pmax			
	comp=Z,140nm,1.2s							
PMR	**Palmer**	**43.61**	**44**	*e*P	**P**		**06 18 17.8**	**-0.2**
	comp=Z,139nm,1.3s							
PMR				LR	LR			
	comp=Z,9μm,18.0s							
RC01	**Rabbit Creek A**	**43.63**	**45**	*e*P	**P**		**06 18 18.0**	**-0.2**
	comp=Z,91nm,1.2s							
RC01				LR	LR			
	comp=Z,13μm,19.0s							
GUMO	**Guam**	**43.66**	**150**	P	**P**		**06 18 17.0**	**-1.9**
	comp=Z,135nm,1.1s,baz=202,slow=8.3,SNR=4.9							
GUMO				LR	LR		06 35 14.3	
	comp=Z,2μm,21.7s,baz=360,slow=34							
GUMO	**Guam**	**43.66**	**150**	*e*P	**P**		**06 18 17.6**	**-1.3**
GUMO				pmax	pmax			
	comp=Z,330nm,1.2s							
GUMO	**Guam**	**43.66**	**150**	*e*P	**P**		**06 18 17.6**	**-1.3**
	comp=Z,330nm,1.3s							
DLV	**T Lat**	**43.75**	**202**	PFAKE			06 18 30.0	+10
DLV				LR	LR			
	comp=Z,20μm,18.0s							
CNPM	**China Poot**	**43.82**	**47**	*e*P	**P**		**06 18 19.7**	**-0.1**
	comp=Z,392nm,1.6s							
CNPM				LR	LR			
	comp=Z,10μm,18.0s							
SML	**Sawmill**	**43.82**	**43**	*e*P	**P**		**06 18 19.7**	**-0.1**
SML				pmax	pmax			
	comp=Z,130nm,0.9s							
SML	**Sawmill**	**43.82**	**43**	*e*P	**P**		**06 18 19.7**	**-0.1**
	comp=Z,132nm,0.9s							
SML				LR	LR			
	comp=Z,12μm,19.0s							
MSLP	**Maasin**	**43.83**	**179**	*e*P	**P**		**06 18 20.7**	**+0.5**
BRLK	**Bradley Lake**	**43.84**	**47**	*e*P	**P**		**06 18 19.2**	**-0.8**
	comp=Z,180nm,1.0s							
BRLK				LR	LR			
	comp=Z,9μm,21.0s							
OHAK	**Old Harbor**	**44.15**	**51**	*e*P	**P**		**06 18 19.4**	**-3.0**
	comp=Z,93nm,1.1s							
OHAK				LR	LR			
	comp=Z,16μm,18.0s							
KDAK	**Kodiak Island**	**44.16**	**50**	P	**P**		**06 18 21.7**	**-0.8**
	comp=Z,29nm,1.0s,baz=345,slow=3.0,SNR=15							
KDAK	**Kodiak Island**	**44.16**	**50**	*i* P	**P**		**06 18 21.9**	**-0.6**
KDAK	**Kodiak Island**	**44.16**	**50**	*e*P	**P**		**06 18 21.9**	**-0.6**
KDAK	**Kodiak Island**	**44.16**	**50**	*e*P	**P**		**06 18 21.7**	**-0.8**
	comp=Z,310nm,1.6s							
KDAK				LR	LR			
	comp=Z,11μm,19.0s							
SCM	**Sheep Creek Mo**	**44.22**	**43**	*e*P	**P**		**06 18 22.8**	**-0.2**
SCM				pmax	pmax			
	comp=Z,170nm,1.1s							
SCM	**Sheep Creek Mo**	**44.22**	**43**	*e*P	**P**		**06 18 23.2**	**+0.2**
	comp=Z,173nm,1.1s							
SCM				LR	LR			
	comp=Z,11μm,18.0s							
SEW	**Seward**	**44.27**	**46**	*e*P	**P**		**06 18 22.6**	**-0.8**
	comp=Z,81nm,1.0s							
SEW				LR	LR			
	comp=Z,11μm,22.0s							
PAX	**Paxson**	**44.33**	**41**	*e*P	**P**		**06 18 23.7**	**-0.2**
PAX				pmax	pmax			
	comp=Z,46nm,0.9s							
PAX	**Paxson**	**44.33**	**41**	*e*P	**P**		**06 18 23.7**	**-0.2**
	comp=Z,46nm,0.9s							
PAX				LR	LR			
	comp=Z,11μm,19.0s							
DOT	**Dot Lake**	**44.50**	**40**	*e*P	**P**		**06 18 24.5**	**-0.7**
	comp=Z,132nm,0.9s							
DOT				LR	LR			
	comp=Z,33μm,20.0s							
HARP	**HAARP**	**44.76**	**41**	*e*P	**P**		**06 18 27.4**	**+0.1**
	comp=Z,188nm,1.3s							
HARP				LR	LR			
	comp=Z,10μm,18.0s							
GLI	**Glacier Island**	**44.83**	**44**	*e*P	**P**		**06 18 27.9**	**0.0**
	comp=Z,56nm,0.9s							
GLI				LR	LR			
	comp=Z,12μm,20.0s							
EGAK	**Eagle**	**44.94**	**37**	*e*P	**P**		**06 18 28.5**	**-0.1**
	comp=Z,64nm,1.0s							
EGAK				LR	LR			
	comp=Z,13μm,19.0s							
KLU	**Klutina**	**44.97**	**43**	*e*P	**P**		**06 18 29.5**	**+0.5**
	comp=Z,72nm,1.0s							
KLU				LR	LR			
	comp=Z,15μm,18.0s							
JBP	**Jabalpur**	**44.98**	**244**	⇓*e*P	**P**		**06 18 29.3**	**-0.1**
JBP				*ex*	x		06 24 48.4	
FID	**Port Fidalgo**	**45.15**	**44**	*e*P	**P**		**06 18 30.9**	**+0.5**
	comp=Z,67nm,1.0s							
FID				LR	LR			
	comp=Z,16μm,20.0s							
DIV	**Divide**	**45.23**	**43**	*e*P	**P**		**06 18 31.8**	**+0.8**
DIV	**Divide**	**45.23**	**43**	*e*P	**P**		**06 18 31.8**	**+0.8**
	comp=Z,44nm,1.0s							
DIV				LR	LR			
	comp=Z,13μm,20.0s							
PHET	**Kaeng Krachan**	**45.29**	**214**	P	**P**		**06 18 32.5**	**+0.6**
	comp=Z,44nm,1.0s,comp=Z,408nm							
INK	**Inuvik**	**45.42**	**31**	P	**P**		**06 18 32.2**	**-0.1**
	comp=Z,118nm,1.4s,baz=324,slow=11,SNR=23							
EYAK	**Cordova Ski Ar**	**45.56**	**44**	*e*P	**P**		**06 18 34.3**	**+0.7**
	comp=Z,114nm,1.0s							
EYAK				LR	LR			
	comp=Z,17μm,19.0s							
BMRM	**Bremner River**	**45.79**	**43**	*e*P	**P**		**06 18 36.0**	**+0.5**
	comp=Z,174nm,1.0s							
BMRM				LR	LR			
	comp=Z,14μm,20.0s							
MID	**Middleton Isla**	**45.96**	**45**	PFAKE			06 18 50.0	+13
MID				LR	LR			
	comp=Z,15μm,18.0s							
DAWY	**Dawson**	**45.98**	**37**	*e*P	**P**		**06 18 36.5**	**-0.5**
	comp=Z,34nm,1.1s							
DAWY				LR	LR			
	comp=Z,11μm,21.0s							
BUKP	**Musuan**	**46.08**	**178**	*e*P	**P**		**06 18 38.7**	**+0.5**
RAGM	**Ragged Mountai**	**46.09**	**44**	PFAKE			06 18 50.0	+12
RAGM				LR	LR			
	comp=Z,14μm,19.0s							
PAGZ	**Pagadian**	**46.10**	**181**	*e*P	**P**		**06 18 36.6**	**-1.7**
MOS	**Moscow**	**46.49**	**309**	*e*P	**P**		**06 18 40.0**	**-1.0**
MOS				*i*			06 18 45.8	
MOS				*e*			06 20 12.4	
MOS				*e*			06 20 30.2	
MOS				*e*PPP	PPP		06 21 12.4	
MOS				*e*S	**S**		**06 25 29.1**	**+0.7**
MOS				pmax	pmax			
	comp=Z,400nm,2.1s							
MOS				pmax	pmax			
	comp=Z,193nm,1.3s							
MOS				pmax	pmax			
	comp=N,41nm,0.6s							
MOS				MLR	MLR			
	comp=Z,17μm,15.0s							
MOS				MLR	MLR			
	comp=E,15μm,14.0s							
CRQM	**Cirque**	**46.49**	**43**	*e*P	**P**		**06 18 42.0**	**+0.7**
	comp=E,234nm,1.1s							
CRQM				LR	LR			
	comp=Z,11μm,20.0s							
GEYT	**Alibeck**	**46.66**	**278**	P	**P**		**06 18 43.5**	**+0.9**
	comp=Z,25nm,0.7s,baz=26,slow=3.8,SNR=20							
GEYT				LR	LR		06 38 56.7	
	comp=Z,11μm,18.9s,baz=35,slow=37							
CTBH	**Cotabato--PC H**	**46.72**	**179**	⇑*i*P	**P**		**06 18 43.9**	**+0.7**
CHLP	**Challavanipeta**	**46.78**	**236**	*e*P	**P**		**06 18 43.6**	**-0.1**
CHLP				IAmb	IAmb		06 18 44.6	
	comp=Z,135nm,1.0s							
CHLP				*e*S	**S**		**06 25 33.1**	**-0.1**
CHLP				IVMs_BB	IVMs_BB		06 40 03.7	
	comp=Z,3μm,12.2s							
DAV	**Davao City (W)**	**46.89**	**178**	PFAKE			06 19 00.0	+15
DAV				LR	LR			
	comp=Z,11μm,18.0s							
PUL	**Pulkovo**	**47.26**	**317**	*e*P	**P**		**06 18 45.7**	**-1.3**
PUL				pmax	pmax			
	comp=Z,140nm,1.2s							
PUL				MLR	MLR			
	comp=Z,8μm,18.0s							
DAG	**Danmarks Havn**	**47.27**	**349**	⇑*i*P	**P**		**06 18 46.4**	**-0.4**
	comp=Z,121nm,1.2s							
DAG	**Danmarks Havn**	**47.27**	**349**	⇑*i*P	**P**		**06 18 46.4**	**-0.4**
DAG				pmax	pmax			
	comp=Z,190nm,1.2s							
OBN	**Obninsk**	**47.35**	**309**	*c i*P	**P**		**06 18 47.2**	**-0.5**
OBN				*i* *PP	**pP**		**06 18 51.2**	**-0.8**
OBN				*e**SP	**sP**		**06 18 54.1**	**+0.3**
OBN				*i*			06 20 43.7	
OBN				*e*PPP	PPP		06 21 24.6	
OBN				*i* S	**S**		**06 25 42.7**	**+2.1**
OBN				*e*SS	**SS**		**06 29 05.1**	**-2.4**
OBN				*e*SSS	SSS		06 30 20.8	
OBN				pmax	pmax			
	comp=Z,43nm,0.8s							
OBN				MLR	MLR			
	comp=Z,9μm,15.0s							
OBN	**Obninsk**	**47.35**	**309**	*e*P	**P**		**06 18 47.6**	**-0.1**
	comp=Z,102nm,1.0s							
OBN				LR	LR			
	comp=Z,12μm,19.0s							
KDM	**Kudat**	**47.36**	**189**	⇑P	**P**		**06 18 49.3**	**+1.1**
DGPR	**DIGLIPUR**	**47.50**	**223**	*e*P	**P**		**06 18 48.9**	**-0.4**
DGPR				AMB	AMB		06 18 50.2	
	comp=Z,165nm,0.2s							
VIS	**Vishakhapatnam**	**47.81**	**237**	*e*P	**P**		**06 18 51.3**	**-0.3**
VIS				AMB	AMB		06 18 52.8	
	comp=Z,75nm,1.6s							
VIS				*i* x	S		06 25 57.7	+10
FIA1	**FINESS Array S**	**47.90**	**320**	*e*P	**P**		**06 18 51.8**	**-0.1**
FINES	**FINESS Array B**	**47.90**	**320**	P	**P**		**06 18 51.4**	**-0.5**
	comp=Z,76nm,0.8s,baz=45,slow=8.6,SNR=100							
FINES				LR	LR		06 40 10.2	
	comp=Z,7μm,21.3s,baz=51,slow=38							
FINES	**FINESS Array B**	**47.90**	**320**	P	**P**		**06 18 51.4**	**-0.5**
FINES				pmax	pmax			
	comp=Z,76nm,0.8s							
FINES				MLR	MLR			
	comp=Z,7μm,21.3s							
PCA	**Pinnacle**	**48.04**	**42**	*e*P	**P**		**06 18 54.9**	**+1.8**
	comp=Z,253nm,1.2s							
PCA				LR	LR			
	comp=Z,16μm,18.0s							
VORR	**Voronezh**	**48.19**	**304**	P	**P**		**06 18 52.0**	**-2.3**
VORR				pmax	pmax			
	comp=Z,480nm,1.4s							
KKM	**Kota Kinabalu**	**48.28**	**190**	*e*P	**P**		**06 18 56.5**	**+1.1**
	comp=Z,125nm,1.2s							
KKM				LR	LR			
	comp=Z,12μm,20.0s							
KKM	**Kota Kinabalu**	**48.28**	**190**	⇓P	**P**		**06 18 56.6**	**+1.1**
YKU2	**Yakutat**	**48.63**	**42**	PFAKE			06 19 10.0	+12
YKU2				LR	LR			
	comp=Z,10μm,19.0s							
HYT	**Haines Junctio**	**48.65**	**40**	*e*P	**P**		**06 18 58.8**	**+0.9**
	comp=Z,77nm,1.2s							
HYT				LR	LR			
	comp=Z,13μm,20.0s							
RPR	**Rampur**	**48.89**	**242**	*e*P	**P**		**06 18 59.5**	**-0.5**
RPR				IAmb	IAmb		06 18 59.9	
	comp=Z,56nm,0.9s							
RPR				*e*S	**S**		**06 26 01.7**	**-1.5**
RPR				IVMs_BB	IVMs_BB		06 41 30.0	
	comp=Z,8μm,12.4s							
MYLDM	**Lahad Datu**	**48.94**	**187**	*e*P	**P**		**06 19 02.7**	**+2.3**
	comp=Z,270nm,1.2s							
MYLDM				LR	LR			
	comp=Z,18μm,18.0s							
MYLDM	**Lahad Datu**	**48.94**	**187**	⇑P	**P**		**06 19 02.7**	**+2.3**
PBA	**Port Blair**	**48.95**	**222**	*e*P	P		06 18 59.6	-0.9
PBA				AMB	AMB		06 19 01.4	
	comp=Z,134nm,1.2s							
PVM	**Polavaram**	**49.05**	**238**	*e*P	**P**		**06 19 00.4**	**-0.9**
SURT	**Suratani**	**49.26**	**213**	P	**P**		**06 19 03.4**	**+0.5**
	comp=Z,46nm,1.2s,comp=Z,626nm							
SRSP	**Sriramsagar**	**49.33**	**243**	*e*P	**P**		**06 19 02.5**	**-0.9**
SRSP				IAmb	IAmb		06 19 03.0	
	comp=Z,99nm,0.9s							
SRSP				*e*S	**S**		**06 26 08.2**	**-1.2**
SRSP				IVMs_BB	IVMs_BB		06 41 24.3	
	comp=Z,8μm,13.8s							
MAK	**Makhachkala**	**49.38**	**290**	*e*P	**P**		**06 19 01.1**	**-2.4**
MAK				*e*			06 20 55.2	
MAK				*e*PPP	PPP		06 21 48.6	
MAK				*e*S	**S**		**06 26 09.2**	**-0.5**
MAK				*e*SS	**SS**		**06 29 38.0**	**-2.8**
MAK				pmax	pmax			
	comp=Z,105nm,1.2s							
MAK				MLR	MLR			
	comp=Z,20μm,12.0s							
DHAK	**Deception Hill**	**49.48**	**42**	*e*P	**P**		**06 19 05.7**	**+1.6**
	comp=Z,236nm,1.4s							
MIDW	**Midway**	**49.51**	**97**	PFAKE			06 19 20.0	+15
MIDW				LR	LR			
	comp=Z,6μm,22.0s							
VSU	**Vasula**	**49.52**	**317**	*c i*P	**P**		**06 19 03.9**	**-0.5**
VSU				pmax	pmax			
	comp=Z,326nm,1.2s							
VSU				MLR	MLR			
	comp=Z,14μm,14.0s							
WHY	**Whitehorse**	**49.74**	**39**	*e*P	**P**		**06 19 07.1**	**+0.9**
	comp=Z,27nm,0.9s							
WHY				LR	LR			
	comp=Z,10μm,22.0s							
TSM	**Tawau**	**49.86**	**188**	⇓P	**P**		**06 19 08.7**	**+1.3**
TRTT	**Trang**	**50.03**	**212**	P	**P**		**06 19 08.8**	**+0.1**
	comp=Z,103nm,1.3s							
SKAG	**Skagway**	**50.36**	**41**	*e*P	**P**		**06 19 11.8**	**+1.1**
	comp=Z,81nm,0.9s							
SKAG				LR	LR			
	comp=Z,12μm,22.0s							
GOF	**Gofitskoye**	**50.44**	**295**	⇑*e*P	**P**		**06 19 12.3**	**+0.8**
GOF				*e*S	S		06 26 15.3	-9.1
GOF				pmax	pmax			
	comp=Z,94nm,1.1s							
GOF				smax	smax			
	comp=N,129nm,1.1s							
GOF				smax	smax			
	comp=E,78nm,0.6s							
HYB	**Hyderabad**	**50.48**	**242**	⇓*i*P	**P**		**06 19 11.0**	**-1.2**
HYB				*e*			06 19 27.0	
HYB				*e*S	**S**		**06 26 24.0**	**-1.5**
HYB				*e*ScS	**ScS**		**06 29 02.0**	**-0.8**
HYB				*e*SS	**SS**		**06 29 56.0**	**-3.4**
HYB	**Hyderabad**	**50.48**	**242**	*e*P	**P**		**06 19 11.6**	**-0.6**
HYB				AMB	AMB		06 19 12.6	
	comp=Z,130nm,0.6s							
HYBB	**Hyderabad (bro**	**50.48**	**242**	*e*P	**P**		**06 19 11.6**	**-0.6**
HYBB				IAmb	IAmb		06 19 12.0	
	comp=Z,106nm,0.9s							
HYBB				*e*S	**S**		**06 26 21.8**	**-3.7**
HYBB				IVMs_BB	IVMs_BB		06 42 00.9	
	comp=Z,6μm,9.8s							
SEKA	**Sheki**	**50.72**	**289**	P	**P**		**06 19 11.8**	**-2.0**
NJS	**Nagarjunasagar**	**50.81**	**240**	*e*P	**P**		**06 19 14.2**	**-0.4**
NJS				IAmb	IAmb		06 19 14.7	
	comp=Z,116nm,1.0s							
NJS				*e*S	**S**		**06 26 27.5**	**-2.6**
NJS				IVMs_BB	IVMs_BB		06 41 40.5	
	comp=Z,7μm,12.4s							
KLRI	**Killari**	**50.96**	**244**	*e*P	**P**		**06 19 15.2**	**-0.6**
KLRI				IAmb	IAmb		06 19 15.6	
	comp=Z,125nm,0.9s							
KLRI				*e*S	**S**		**06 26 30.9**	**-1.3**
KLRI				IVMs_BB	IVMs_BB		06 42 01.6	
	comp=Z,7μm,11.3s							
ADKI	**Addanki**	**51.08**	**239**	*e*P	**P**		**06 19 16.4**	**-0.2**
ADKI				IAmb	IAmb		06 19 17.6	
	comp=Z,144nm,0.9s							
ADKI				*e*S	**S**		**06 26 34.0**	**+0.3**
ADKI				IVMs_BB	IVMs_BB		06 42 07.3	
	comp=Z,4μm,14.2s							
BESE	**Bessie Mountai**	**51.13**	**41**	*e*P	**P**		**06 19 18.2**	**+1.6**
	comp=Z,188nm,1.8s							
NCK	**Nalchik**	**51.17**	**293**	*e*P	**P**		**06 19 16.0**	**-1.1**
NCK				pmax	pmax			
	comp=Z,35nm,0.7s							
NCK				MLR	MLR			
	comp=Z,17μm,16.0s							
KIV	**Kislovodsk**	**51.36**	**294**	*i* P	**P**		**06 19 19.3**	**+0.7**
	SNR=20							
KIV	**Kislovodsk**	**51.36**	**294**	*ce*P	**P**		**06 19 19.8**	**+1.2**
KIV				*i* *PP	**pP**		**06 19 22.8**	**-0.2**
KIV				*i* *SP	**sP**		**06 19 24.1**	**-0.6**
KIV				*i* S	**S**		**06 26 40.4**	**+3.0**
KIV				*e*SS	**SS**		**06 30 15.0**	**+2.5**
KIV				pmax	pmax			
	comp=Z,145nm,0.9s							
KIV				MLR	MLR			
	comp=Z,23μm,17.0s							
KIV	**Kislovodsk**	**51.36**	**294**	*e*P	**P**		**06 19 19.1**	**+0.5**
KIV	**Kislovodsk**	**51.36**	**294**	*e*P	**P**		**06 19 19.6**	**+0.9**
	comp=Z,199nm,1.0s							
KIV				LR	LR			
	comp=Z,23μm,19.0s							
KIV	**Kislovodsk**	**51.36**	**294**	P	**P**		**06 19 19.4**	**+0.7**
	SNR=22							
GUDG	**Gudauri**	**51.38**	**291**	P	**P**		**06 19 23.7**	**+4.7**
KBZ	**Khabaz**	**51.40**	**294**	P	**P**		**06 19 20.2**	**+1.5**
	comp=Z,9.5nm,0.9s,baz=33,slow=9.0,SNR=11							
KBZ				LR	LR		06 42 56.6	
	comp=Z,14μm,18.5s,baz=30,slow=38							
KBZ	**Khabaz**	**51.40**	**294**	P	**P**		**06 19 20.2**	**+1.5**

MICGM			*e*PP		**PP**	**06 21 24.0 +6.5**
MICGM			*e*PPP		PPP	06 22 23.0
MICGM			*e*PcS		**PcS**	**06 24 36.0 +4.5**
MICGM			*e*S		**S**	**06 26 40.0 -0.6**
MICGM			*e*PS		PKiKP	06 27 03.0 -12
MICGM			*e*SS		SS	06 30 28.0 +12
MICGM			*e*SSS		SSS	06 32 08.0
MICGM			*e*LQ		LQ	06 36 48.0
MICGM			LQM			06 38 54.0
	comp=E,25nm,18.0s					
MICGM			LQM			06 39 04.0
	comp=N,39nm,18.0s					
MICGM			*e*LR		LR	06 39 56.0
MICGM			LRM		MLR	06 42 48.0
	comp=N,20nm,12.0s					
MICGM			LRM		MLR	06 42 48.0
	comp=E,27nm,12.0s					
MICGM			LRM		MLR	06 42 50.0
	comp=Z,16nm,14.0s					
MICGM			LRM		MLR	06 43 00.0
	comp=Z,26nm,8.0s					
MNK	**Minsk**	**51.63 312**⇑	*e*P		**P**	**06 19 20.0 -0.4**
MNK			*e*			06 21 24.0
MNK			*e*PPP		PPP	06 22 23.0
MNK			*e*S		**S**	**06 26 40.0 -0.6**
MNK			pmax		pmax	
	comp=Z,160nm,1.1s					
MNK			MLR		MLR	
	comp=N,20μm,12.0s					
MNK			MLR		MLR	
	comp=E,27μm,12.0s					
MNK			MLR		MLR	
	comp=Z,16μm,14.0s					
MNK			MLR		MLR	
	comp=Z,26μm,8.0s					
ISAL	**Salakas**	**51.67 314**	*e*P		**P**	**06 19 20.5 -0.2**
ISAL			IAmb		IAmb	06 19 26.2
	comp=Z,106nm,1.0s					
SEAG	**Tbilisi Sea**	**51.67 291**	P		P	06 19 27.2 +6.3
TBLG	**Delisi**	**51.73 291**	P		**P**	**06 19 22.3 +1.0**
TBLG	**Delisi**	**51.73 291**	P		**P**	**06 19 22.3 +1.0**
IIGN	**Ignalina**	**51.78 314**	*e*P		**P**	**06 19 21.4 0.0**
IIGN			IAmb		IAmb	06 19 27.9
	comp=Z,57nm,0.8s					
NEY	**Neytrino**	**51.81 293**	*d i*P		**P**	**06 19 22.5 +0.4**
NEY			pmax		pmax	
	comp=Z,9.0nm,0.8s					
NEY			MLR		MLR	
	comp=Z,7μm,15.0s					
NACGM	**Naroch**	**51.84 313**	*e*P		**P**	**06 19 20.0 -1.9**
NACGM			*e*P		**pP**	**06 19 22.0 -4.3**
NACGM			PM			06 19 28.0
	comp=Z,0.7nm,0.8s					
NACGM			*e*PcP		PcP	06 20 17.0 -18
NACGM			*e*PP		PP	06 21 29.0 +10
NACGM			*e*PPP		PPP	06 22 30.0
NACGM			*e*S		**S**	**06 26 43.0 -0.5**
NACGM			*e*PS		PKiKP	06 27 04.0 -11
NACGM			*e*SS		**SS**	**06 30 20.0 +0.6**
NACGM			*e*SSS		SSS	06 32 08.0
NACGM			*e*LQ		LQ	06 37 36.0
NACGM			*e*LR		LR	06 40 23.0
NACGM			LRM		MLR	06 43 04.0
	comp=Z,24nm,14.0s					
NACGM			LRM		MLR	06 43 06.0
	comp=N,16nm,12.0s					
NACGM			LRM		MLR	06 43 22.0
	comp=E,22nm,13.0s					
ONI	**Oni**	**51.86 292**	P		**P**	**06 19 24.2 +1.9**
ONI	**Oni**	**51.86 292**	P		**P**	**06 19 24.2 +1.9**
POO	**Poona**	**52.06 247**	*e*P		**P**	**06 19 23.0 -1.1**
POO			AMB		AMB	06 19 24.9
	comp=Z,108nm,2.1s					
KZR	**Kazreti**	**52.15 290**	P		P	06 19 29.3 +4.8
KULM	**Kulim**	**52.16 210**	*e*P		**P**	**06 19 24.9 +0.2**
	comp=Z,205nm,1.3s					
KULM			LR		LR	
	comp=Z,24μm,18.0s					
SBUM	**Sibu**	**52.33 195**	*e*P		**P**	**06 19 26.4 +0.4**
	comp=Z,384nm,2.0s					
SBUM			LR		LR	
	comp=Z,16μm,21.0s					
SBUM	**Sibu**	**52.33 195**	⇓P		**P**	**06 19 27.1 +1.2**
AKH	**Akhalkalaki**	**52.64 291**	P		**P**	**06 19 29.8 +1.5**
AKH	**Akhalkalaki**	**52.64 291**	⇑*i*P		**P**	**06 19 28.9 +0.6**
AKH	**Akhalkalaki**	**52.64 291**	P		**P**	**06 19 29.8 +1.5**
BGD	**Bogdanovka**	**52.68 291**	P		P	06 19 34.6 +6.0
GNI	**Garni**	**52.81 289**	*i* P		**P**	**06 19 31.2 +1.6**
	SNR=16					
GNI	**Garni**	**52.81 289**	*e*P		**P**	**06 19 31.1 +1.6**
GNI			pmax		pmax	
	comp=Z,100nm,1.1s					
GNI	**Garni**	**52.81 289**	*e*P		**P**	**06 19 31.1 +1.6**
	comp=Z,100nm,1.1s					
GNI			LR		LR	
	comp=Z,15μm,20.0s					
IPM	**Ipoh**	**52.82 209**	*e*P		**P**	**06 19 29.8 +0.1**
	comp=Z,112nm,1.4s					
IPM			LR		LR	
	comp=Z,14μm,18.0s					
SKHT	**Srikalahasti**	**52.99 238**	*e*P		**P**	**06 19 31.1 +0.2**
SKHT			IAmb		IAmb	06 19 31.6
	comp=Z,85nm,1.0s					
SKHT			*e*S		**S**	**06 27 01.7 +1.7**
SKHT			IVMs_BB		IVMs_BB	06 43 13.8
	comp=Z,2μm,12.1s					
SUMG	**Summit**	**53.04 353**	*i* P		**P**	**06 19 31.1 0.0**
	comp=Z,46nm,0.9s					
SUMG	**Summit**	**53.04 353**	*i* P		**P**	**06 19 31.1 0.0**
SUMG			pmax		pmax	
	comp=Z,46nm,0.9s					
SUMG	**Summit**	**53.04 353**	*e*P		**P**	**06 19 30.7 -0.4**
	comp=Z,153nm,1.5s					
SUMG			LR		LR	
	comp=Z,9μm,18.0s					
SOC	**Sochi**	**53.20 295**	*e*P		**P**	**06 19 33.2 +1.1**
SOC			*e*			06 21 31.2
SOC			*e*PPP		PPP	06 22 36.9
SOC			*e*S		**S**	**06 27 04.1 +1.7**
SOC			*e*SS		**SS**	**06 30 43.7 +2.4**
SOC			MLR		MLR	
	comp=Z,17μm,15.0s					
URV	**Uravakonda**	**53.22 241**	*e*P		**P**	**06 19 32.0 -0.6**
URV			IAmb		IAmb	06 19 32.4
	comp=Z,65nm,0.9s					
URV			*e*S		**S**	**06 27 02.9 -0.3**
URV			IVMs_BB		IVMs_BB	06 43 12.8
	comp=Z,7μm,11.0s					
NC405	**NORSAR Array S**	**53.23 326**	*e*P		**P**	**06 19 31.9 -0.3**
NC303	**NORSAR Array S**	**53.26 326**	*e*P		**P**	**06 19 32.0 -0.3**
MDRS	**Chennai**	**53.30 237**	*e*P		**P**	**06 19 33.8 +0.7**
MDRS			AMB		AMB	06 19 35.1
	comp=Z,59nm,1.4s					
SCO	**Scoresbysund**	**53.33 346**	*i* P		**P**	**06 19 33.0 +0.3**
SCO	**Scoresbysund**	**53.33 346**	*i* P		**P**	**06 19 33.0 +0.3**
LHMI	**Lhok Sumawe**	**53.37 214**	PFAKE			06 19 50.0 +16
LHMI			LR		LR	
	comp=Z,16μm,19.0s					
NB201	**NORSAR Array S**	**53.42 326**	*e*P		**P**	**06 19 32.8 -0.8**
NC204	**NORSAR Array S**	**53.42 326**	*e*P		**P**	**06 19 33.1 -0.5**
MRSI	**Marisa**	**53.44 182**	P		**P**	**06 19 33.9 -0.2**
NB2	**NORSAR Subarra**	**53.45 326**	P		**P**	**06 19 32.9 -0.9**
	comp=Z,42nm,0.8s,baz=43,slow=7.4					
NB2	**NORSAR Subarra**	**53.45 326**	P		**P**	**06 19 32.9 -0.9**
	baz=43,slow=7.4					
NOA	**NORSAR Array B**	**53.45 326**	P		**P**	**06 19 32.6 -1.3**
	comp=Z,20nm,0.8s,baz=43,slow=7.2,SNR=41					
NOA			LR		LR	06 45 25.0
	comp=Z,4μm,21.1s,baz=50,slow=40					
NOA	**NORSAR Array B**	**53.45 326**	*e*P		**P**	**06 19 35.6 +1.8**
NBO02	**NORSAR Array S**	**53.56 326**	*e*P		**P**	**06 19 34.1 -0.5**
NC602	**NORSAR Array S**	**53.57 326**	*e*P		**P**	**06 19 33.7 -0.9**
ANN	**Anapa**	**53.57 298**	*e*P		**P**	**06 19 33.4 -1.4**
ANN			*e*			06 21 41.5
ANN			*e*S		**S**	**06 27 09.1 +1.8**
ANN			*e*SSS		SSS	06 32 40.1
ANN			pmax		pmax	
	comp=Z,100nm,1.5s					
ANN			MLR		MLR	
	comp=Z,16μm,20.0s					
ANN			MLR		MLR	
	comp=N,31μm,20.0s					
ANN			MLR		MLR	
	comp=E,11μm,20.0s					
AKASG	**Malin Array Be**	**53.59 308**	P		**P**	**06 19 34.1 -0.9**
	comp=E,14nm,0.5s,baz=41,slow=8.4,SNR=73					
AKBB	**Malin Array Si**	**53.59 308**	*e*P		**P**	**06 19 34.2 -0.7**
AKBB			pmax		pmax	
	comp=Z,96nm,1.1s					
AKBB	**Malin Array Si**	**53.59 308**	*e*P		**P**	**06 19 34.7 -0.2**
	comp=Z,96nm,1.1s					
KSM	**Kuching**	**53.60 197**	*e*P		**P**	**06 19 35.7 +0.4**
	comp=Z,92nm,1.2s					
KSM			LR		LR	
	comp=Z,7μm,21.0s					
KSM	**Kuching**	**53.60 197**	⇓P		**P**	**06 19 35.9 +0.6**
NBO00	**NORSAR Array S**	**53.60 326**	*e*P		**P**	**06 19 34.4 -0.5**
KIEV	**Kiev**	**53.60 308**	*c i*P		**P**	**06 19 33.7 -1.3**
KIEV			pmax		pmax	
	comp=Z,49nm,1.1s					
KIEV			MLR		MLR	
	comp=Z,7μm,17.0s					
KIEV	**Kiev**	**53.60 308**	*e*P		**P**	**06 19 33.7 -1.3**
KIEV	**Kiev**	**53.60 308**	*e*P		**P**	**06 19 34.5 -0.5**
	comp=Z,87nm,1.1s					
KIEV			LR		LR	
	comp=Z,8μm,20.0s					
WRAK	**Wrangell Islan**	**53.61 42**	PFAKE			06 19 50.0 +15
WRAK			LR		LR	
	comp=Z,10μm,21.0s					
AK11	**Malin Array Si**	**53.63 308**	*e*P		**P**	**06 19 35.1 -0.1**
ARTV	**Artvin**	**53.65 292**	*e*P		**P**	**06 19 35.1 -0.6**
	comp=Z,43nm,0.2s					
ARTV			LR		LR	
	comp=Z,7μm,20.0s					
MPSI	**Mapaga**	**53.65 185**	P		**P**	**06 19 36.2 +0.5**
NAO01	**NORSAR Array S**	**53.70 326**	*e*P		**P**	**06 19 34.8 -0.9**
CRAG	**Craig**	**53.97 43**	*e*P		**P**	**06 19 38.7 +1.2**
	comp=Z,61nm,1.1s					
CRAG			LR		LR	
	comp=Z,6μm,19.0s					
SUW	**Suwalki**	**53.98 314**	*e*P		**P**	**06 19 36.6 -1.1**
SUW			*e*S		**S**	**06 27 07.1 -5.7**
MLSI	**Meulaboh, Aceh**	**54.45 214**	P		**P**	**06 19 39.9 -1.6**
GOA	**Goa**	**54.57 245**	*e*P		**P**	**06 19 42.2 -0.2**
GOA			AMB		AMB	06 19 43.2
	comp=Z,127nm,1.2s					
LBMI	**Labuha**	**54.61 175**	P		**P**	**06 19 45.3 +2.6**
MYKOM	**Kota Tinggi**	**54.64 205**	*e*P		**P**	**06 19 43.4 +0.5**
	comp=Z,115nm,1.2s					
MYKOM			LR		LR	
	comp=Z,13μm,21.0s					
PATS	**Pohnpei**	**54.70 136**	PFAKE			06 20 00.0 +17
PATS			LR		LR	
	comp=Z,4μm,21.0s					
KCSI	**Kotacane, Aceh**	**54.70 212**	P		**P**	**06 19 41.0 -2.4**
STKI	**Sintang**	**54.78 195**	P		**P**	**06 19 45.1 +1.1**
PSI	**Prapat**	**55.03 211**	P		**P**	**06 19 45.3 -0.6**
	comp=Z,50nm,1.1s,baz=342,slow=5.5,SNR=52					
YKA	**Yellowknife Ar**	**55.09 29**	P		**P**	**06 19 45.5 -0.1**
	comp=Z,9.0nm,0.8s,baz=323,slow=6.8,SNR=24					
YKA			LR		LR	06 46 36.6
	comp=Z,946nm,19.0s,baz=0.0,slow=40					
SWI	**Sorong**	**55.10 171**	P		**P**	**06 19 49.2 +3.0**
TPTI		**55.14 213**	P		**P**	**06 19 44.9 -1.6**
SIM	**Simferopol'**	**55.18 300**	P		**P**	**06 19 47.4 +0.8**
SIM			S		**S**	**06 27 30.4 +1.4**
SIM			pmax		pmax	
	comp=Z,35nm,0.9s					
SIM			MLR		MLR	
	comp=Z,10μm,13.0s					
KOPT	**Kop Dagi**	**55.24 292**	PFAKE			06 20 00.0 +13
KOPT			LR		LR	
	comp=Z,11μm,19.0s					
SORM	**Soroca**	**55.79 306**	⇑*i*P		**P**	**06 19 49.9 -1.0**
SORM	**Soroca**	**55.79 306**	⇑P		**P**	**06 19 49.9 -1.0**
SANI	**Sanana**	**55.96 177**	P		**P**	**06 19 50.7 -1.7**
SNSI	**Sinabang, Aceh**	**56.22 214**	P		**P**	**06 19 53.9 -0.4**
BANOM	**Banah**	**56.34 268**	P		**P**	**06 19 54.8 -0.4**
	SNR=38					
BANOM	**Banah**	**56.34 268**	P		**P**	**06 19 54.8 -0.4**
	SNR=38					
BANOM			P		**P**	**06 19 54.8 -0.4**
	SNR=38					
KIS	**Kishinev**	**56.37 305**	*e*P		**P**	**06 19 55.0 -0.1**
KIS			*e*S		**S**	**06 27 40.0 -4.8**
KIS			*i* ScS		SS	06 32 30.0 +59
KIS			LRM		MLR	06 45 20.0
	comp=Z,18μm,16.0s					
KIS	**Kishinev**	**56.37 305**	*e*P		**P**	**06 19 55.0 -0.1**
KIS			*e*S		**S**	**06 27 50.0 +5.2**
KIS			MLR		MLR	
	comp=Z,16μm,16.0s					
KIS			MLR		MLR	
	comp=N,11μm,14.0s					
KIS			MLR		MLR	
	comp=E,9μm,13.0s					
KIS			MLR		MLR	
	comp=Z,18μm,16.0s					
BSD	**Bornholm Skovb**	**56.52 319**	*i* P		**P**	**06 20 00.0 +4.0**
	comp=Z,94nm,0.9s					
	comp=Z,9μm,13.0s					
BSD	**Bornholm Skovb**	**56.52 319**	*i* P		**P**	**06 20 00.0 +4.0**
BSD			pmax		pmax	
	comp=Z,94nm,0.9s					
BSD			MLR		MLR	
	comp=Z,9μm,13.0s					
BEL	**Belsk**	**56.55 314**	*e*P		**P**	**06 19 56.2 -0.1**
BEL			*e*S		**S**	**06 27 50.7 +3.5**
BEL	**Belsk**	**56.55 314**	*e*P		**P**	**06 19 56.2 -0.1**
BEL			*e*S		**S**	**06 27 50.7 +3.5**
LVV	**L'vov**	**56.59 310**	*c i*P		**P**	**06 19 57.7 +1.1**
LVV			*e*			06 20 47.2
LVV			*e*PPP		PPP	06 23 19.4
LVV			*e*S		**S**	**06 27 47.7 0.0**
LVV			*e*PS		**PnS**	**06 28 01.3 +3.2**
LVV			*e*			06 29 40.1
LVV			*e*SS		**SS**	**06 31 35.0 +0.6**
LVV			*e*SSS		SSS	06 33 49.4
LVV			MLR		MLR	
	comp=E,5μm,15.0s					
LVV			MLR		MLR	
	comp=Z,8μm,15.0s					
LVV			MLR		MLR	
	comp=N,6μm,14.0s					
BKNI	**Bangkinang**	**56.77 208**	P		**P**	**06 19 59.0 +0.8**
BKNI	**Bangkinang**	**56.77 208**	*e*P		**P**	**06 19 58.3 +0.1**
	comp=N,673nm,1.4s					
BKNI			LR		LR	
	comp=Z,10μm,22.0s					
GSI	**Gunungsitoli**	**56.86 212**	PFAKE			06 20 10.0 +11
GSI			LR		LR	
	comp=Z,2μm,22.0s					
GKP	**Gorka Klasztor**	**56.98 317**	*e*P		**P**	**06 19 59.0 -0.3**
GKP			*e*S		**S**	**06 27 55.3 +2.6**
GKP	**Gorka Klasztor**	**56.98 317**	*e*P		**P**	**06 19 59.0 -0.3**
GKP			*e*S		**S**	**06 27 55.3 +2.6**
MARD	**Mardin**	**57.00 289**	*e*P		**P**	**06 20 00.6 +0.7**
	comp=Z,66nm,1.0s					
MARD			LR		LR	
	comp=Z,6μm,19.0s					
WSAR	**Wadi Sarin**	**57.01 264**	P		**P**	**06 20 00.5 +0.6**
	comp=Z,10nm,0.7s,baz=62,slow=5.4,SNR=31					
TTSI	**Tana Toraja**	**57.01 185**	P		**P**	**06 19 59.3 -0.6**
LEOM	**Leova**	**57.02 305**	⇑*i*P		**P**	**06 19 59.5 -0.2**
LEOM	**Leova**	**57.02 305**	⇑P		**P**	**06 19 59.5 -0.2**
BIDO	**Bidbid**	**57.09 265**	P		**P**	**06 20 00.7 +0.3**
	SNR=20					
BIDO	**Bidbid**	**57.09 265**	P		**P**	**06 20 00.7 +0.3**
	SNR=20					
BIDO			P		**P**	**06 20 00.7 +0.3**
	SNR=20					
TOKA	**Tokat**	**57.20 295**	*e*P		**P**	**06 20 02.2 +1.1**
	comp=Z,54nm,1.0s					
TOKA			LR		LR	
	comp=Z,8μm,19.0s					
FAKI	**Fak Fak**	**57.23 170**	P		**P**	**06 20 05.9 +4.5**
FAKI	**Fak Fak**	**57.23 170**	*e*P		**P**	**06 20 03.6 +2.2**
	comp=Z,78nm,1.1s					
FAKI			LR		LR	
	comp=Z,6μm,22.0s					
SMPI	**Sarmi**	**57.23 162**	P		**P**	**06 20 01.8 +0.4**
HATD	**Hatta, Dubai**	**57.27 268**	*i* P		**P**	**06 20 01.4 -0.3**
	SNR=46					
HATD	**Hatta, Dubai**	**57.27 268**	P		**P**	**06 20 01.4 -0.3**
	SNR=41					
HATD	**Hatta, Dubai**	**57.27 268**	P		**P**	**06 20 01.4 -0.3**
	SNR=41					
HATD			P		**P**	**06 20 01.4 -0.3**
	SNR=41					
KWP	**Kalwaria Pacla**	**57.32 311**	*e*P		**P**	**06 20 02.1 +0.3**
KWP			*e*S		**S**	**06 28 03.1 +5.7**
KWP	**Kalwaria Pacla**	**57.32 311**	*e*P		**P**	**06 20 02.1 +0.3**
KWP			*e*S		**S**	**06 28 03.1 +5.7**
PRAR	**RASCA**	**57.34 307**	⇑*i*P		**P**	**06 20 02.3 +0.3**
MSAI	**Masohi**	**57.37 174**	P		**P**	**06 20 06.8 +4.3**
ASHO	**Ashiyiah**	**57.42 268**	P		**P**	**06 20 02.6 -0.2**
	SNR=78					
ASHO	**Ashiyiah**	**57.42 268**	P		**P**	**06 20 02.6 -0.2**
	SNR=78					
ASHO			P		**P**	**06 20 02.6 -0.2**
	SNR=78					
NAZ	**Nazwa, Dubai**	**57.42 268**	*i* P		**P**	**06 20 02.4 -0.5**
	SNR=28					
NAZ	**Nazwa, Dubai**	**57.42 268**	P		**P**	**06 20 02.1 -0.7**
	SNR=25					
NAZ	**Nazwa, Dubai**	**57.42 268**	P		**P**	**06 20 02.1 -0.7**
	SNR=25					
NAZ			P		**P**	**06 20 02.1 -0.7**
	SNR=25					
RGN	**Rugen**	**57.56 320**	*e*P		**P**	**06 20 03.8 +0.4**
	comp=Z,208nm,1.2s					
RGN			LR		LR	
	comp=Z,8μm,20.0s					
MUD	**Monsted U'grnd**	**57.62 323**	*i* P		**P**	**06 20 03.6 -0.1**
	comp=Z,45nm,0.6s					
	comp=Z,17μm,14.0s					
MUD	**Monsted U'grnd**	**57.62 323**	*i* P		**P**	**06 20 03.6 -0.1**
MUD			pmax		pmax	
	comp=Z,45nm,0.6s					
MUD			MLR		MLR	
	comp=Z,17μm,14.0s					
BUR08	**Bucovina Ar. S**	**57.62 308**	*e*P		**P**	**06 20 03.9 -0.2**
BURAR	**Bucovina Array**	**57.63 308**	⇑*i*P		**P**	**06 20 03.8 -0.4**
BURAR	**Bucovina Array**	**57.63 308**	⇑P		**P**	**06 20 03.8 -0.4**
FAQ	**Al Faqa, Dubai**	**57.65 268**	*i* P		**P**	**06 20 03.7 -0.6**
	SNR=23					
FAQ	**Al Faqa, Dubai**	**57.65 268**	P		**P**	**06 20 03.8 -0.6**
	SNR=19					
FAQ	**Al Faqa, Dubai**	**57.65 268**	P		**P**	**06 20 03.8 -0.6**
	SNR=19					
FAQ			P		**P**	**06 20 03.8 -0.6**
	SNR=19					
TLCR		**57.66 304**	⇑*i*P		**P**	**06 20 02.5 -1.7**
TLCR		**57.66 304**	⇑P		**P**	**06 20 02.5 -1.7**
TESR	**Tescani**	**57.76 306**	⇑*i*P		**P**	**06 20 04.7 -0.2**
KDI	**Kendari**	**57.83 181**	P		**P**	**06 20 05.3 -0.4**
PBSI	**Pulau Batu**	**57.93 211**	P		**P**	**06 20 05.9 -0.5**
SPSI	**Sidrap Palu**	**57.93 185**	P		**P**	**06 20 06.1 -0.2**
CFR	**Carcaliu**	**58.00 304**	⇑*i*P		**P**	**06 20 06.3 -0.3**
CFR	**Carcaliu**	**58.00 304**	⇑P		**P**	**06 20 06.4 -0.2**
GENI	**Genyem**	**58.09 161**	P		**P**	**06 20 09.7 +2.2**
PALK	**Pallekele**	**58.10 233**	P		**P**	**06 20 07.3 -0.4**
	comp=Z,26nm,1.0s,baz=293,slow=1.6,SNR=9.6					
PALK	**Pallekele**	**58.10 233**	*i* P		**P**	**06 20 07.2 -0.6**
	SNR=6.5					
PALK	**Pallekele**	**58.10 233**	*e*P		**P**	**06 20 07.7 0.0**
PALK			pmax		pmax	
	comp=Z,41nm,1.0s					
PALK	**Pallekele**	**58.10 233**	*e*P		**P**	**06 20 07.7 0.0**
	comp=Z,41nm,1.0s					
PALK			LR		LR	
	comp=Z,6μm,21.0s					
PALK	**Pallekele**	**58.10 233**	P		**P**	**06 20 07.3 -0.4**
	SNR=5.6					
PALK	**Pallekele**	**58.10 233**	P		**P**	**06 20 07.3 -0.4**
	SNR=5.6					
PALK			P		**P**	**06 20 07.3 -0.4**
	SNR=5.6					
PDSI	**Padang**	**58.12 208**	P		**P**	**06 20 07.3 -0.4**
JAY	**Jayapura**	**58.12 160**	P		**P**	**06 20 12.2 +4.4**
STHS	**Stebnicka Huta**	**58.13 311**	*e*P		**P**	**06 20 08.5 +1.0**
STHS			pmax		pmax	
	comp=Z,16nm,0.9s					
STHS	**Stebnicka Huta**	**58.13 311**	*e*P		**P**	**06 20 08.5 +1.0**
ILGA	**Ilgaz**	**58.14 297**	*e*P		**P**	**06 20 08.8 +0.8**
	comp=Z,91nm,1.0s					
ILGA			LR		LR	
	comp=Z,10μm,20.0s					
OJC	**Ojcow**	**58.16 313**	*e*P		**P**	**06 20 07.3 -0.4**
OJC			*e*S		**S**	**06 28 05.7 -2.7**
OJC	**Ojcow**	**58.16 313**	⇑*e*P		**P**	**06 20 07.3 -0.4**
OJC			*e*S		**S**	**06 28 05.7 -2.7**
OJC	**Ojcow**	**58.16 313**	*e*P		**P**	**06 20 07.3 -0.4**
	comp=Z,51nm,1.0s					
VRI	**Vrincioaia**	**58.19 305**	⇑*i*P		**P**	**06 20 08.3 +0.3**
VRI	**Vrincioaia**	**58.19 305**	⇑P		**P**	**06 20 08.3 +0.3**
UZH	**Uzhgorod**	**58.23 310**	*e*P		**P**	**06 20 06.0 -2.2**
UZH			*e*			06 20 12.7
UZH			*e*			06 21 06.3
UZH			*e*			06 22 16.5
UZH			*e*			06 23 41.5
UZH			*e*S		**S**	**06 28 01.7 -7.6**
UZH			*e*			06 28 27.5
UZH			*e*			06 29 50.7
UZH			*e*			06 32 07.3
PLOR	**Plostina**	**58.24 305**	⇑*i*P		**P**	**06 20 06.5 -1.8**
PLOR	**Plostina**	**58.24 305**	⇑P		**P**	**06 20 06.5 -1.8**
BNSI	**Bone**	**58.34 184**	P		**P**	**06 20 10.8 +1.5**
TIRR	**Tirgusor**	**58.39 303**	⇑*i*P		**P**	**06 20 09.5 +0.2**
TIRR	**Tirgusor**	**58.39 303**	⇑P		**P**	**06 20 09.5 +0.2**
TIRR	**Tirgusor**	**58.39 303**	*e*P		**P**	**06 20 09.0 -0.3**
	comp=Z,37nm,1.1s					
TIRR			LR		LR	
	comp=Z,12μm,18.0s					
CRVS	**Cervenica-Dubn**	**58.41 311**	*e*P		**P**	**06 20 10.0 +0.5**
CRVS			*e*S		**S**	**06 28 12.7 +1.0**
CRVS	**Cervenica-Dubn**	**58.41 311**	*e*P		**P**	**06 20 10.0 +0.5**
CRVS			*e*S		**S**	**06 28 12.6 +0.9**
CRVS			*e*SS		SS	06 32 29.4 +26
GRER		**58.42 305**	⇑*i*P		**P**	**06 20 09.4 -0.2**
ARCR	**ARCALIA**	**58.42 308**	⇑*i*P		**P**	**06 20 11.4 +1.8**
HARR	**Harsova**	**58.46 304**	⇑*i*P		**P**	**06 20 09.5 -0.3**
HARR	**Harsova**	**58.46 304**	⇑P		**P**	**06 20 09.5 -0.3**
TLB	**Topalu**	**58.48 303**	⇑*i*P		**P**	**06 20 09.7 -0.2**
TLB	**Topalu**	**58.48 303**	⇑P		**P**	**06 20 09.7 -0.2**
TRPA	**Tarpa**	**58.49 310**	⇑*e*P		**P**	**06 20 10.1 +0.1**
BORG	**Borgarnes**	**58.51 343**	*e*P		**P**	**06 20 09.1 -0.8**
BORG			pmax		pmax	
	comp=Z,560nm,1.6s					
BORG	**Borgarnes**	**58.51 343**	*e*P		**P**	**06 20 09.1 -0.8**
	comp=Z,561nm,1.6s					
NIE	**Niedzica**	**58.54 312**	*e*P		**P**	**06 20 10.6 +0.2**
NIE			*e*S		**S**	**06 28 20.5 +7.1**
NIE	**Niedzica**	**58.54 312**	*e*P		**P**	**06 20 10.6 +0.2**
NIE			*e*S		**S**	**06 28 20.5 +7.1**
DOPR	**Dopca**	**58.75 306**	⇓*i*P		**P**	**06 20 12.8 +0.9**
ISR	**Istrita**	**58.82 305**	⇑*i*P		**P**	**06 20 13.9 +1.5**
ISR	**Istrita**	**58.82 305**	⇑P		**P**	**06 20 13.9 +1.5**
MLR	**Muntele Rosu**	**58.84 305**	⇑*i*P		**P**	**06 20 12.9 +0.3**
MLR	**Muntele Rosu**	**58.84 305**	⇑P		**P**	**06 20 12.9 +0.3**
MLR	**Muntele Rosu**	**58.84 305**	*e*P		**P**	**06 20 13.3 +0.7**
	comp=Z,42nm,1.2s					
MLR			LR		LR	
	comp=Z,13μm,19.0s					
RAC	**Raciborz**	**58.96 314**	*e*P		**P**	**06 20 13.5 +0.3**
RAC			MLR		MLR	
	comp=Z,12μm,17.6s					
KAPI	**Kappang**	**58.97 185**	PFAKE			06 20 30.0 +16
KAPI			LR		LR	
	comp=Z,5μm,22.0s					
LANS	**Liptovska Anna**	**59.10 312**	*e*P		**P**	**06 20 15.2 +0.9**
LANS			*e*	

OKC eS S 06 28 23.1 +1.8
OKC MLR MLR
comp=Z,10μm,20.1s
SFJD Kangerlussuaq 59.18 357 P P 06 20 14.6 +0.2
comp=Z,39nm,1.0s,baz=25,slow=6.4,SNR=5.7
SFJD Kangerlussuaq 59.18 357 *i* P P 06 20 13.5 -1.0
comp=Z,73nm,1.2s
comp=Z,9μm,18.0s
SFJD Kangerlussuaq 59.18 357 *i* P P 06 20 13.5 -1.0
SFJD pmax pmax
comp=Z,73nm,1.2s
SFJD MLR MLR
comp=Z,10μm,18.0s
SFJD Kangerlussuaq 59.18 357 *eP* P 06 20 14.6 +0.2
comp=Z,79nm,1.1s
SFJD LR LR
comp=Z,11μm,18.0s
KSP Ksiaz 59.18 315 *eP* P 06 20 14.8 0.0
KSP eS S 06 28 24.4 +2.8
KSP Ksiaz 59.18 315⇑ *eP* P 06 20 14.8 0.0
KSP eS S 06 28 24.4 +2.8
VOIR 59.30 306⇓ *iP* P 06 20 16.1 +0.3
VOIR 59.30 306 ⇓P P 06 20 16.1 +0.3
DRGR 59.40 308⇑ *iP* P 06 20 16.5 +0.1
DRGR 59.40 308 ⇑P P 06 20 16.6 +0.1
MTUR Matau 59.45 306⇑ *iP* P 06 20 19.9 +3.0
MTUR Matau 59.45 306 ⇑P P 06 20 19.9 +3.0
MORC Moravsky Berou 59.46 314⇑ *iP* P 06 20 16.8 0.0
MORC Moravsky Berou 59.46 314 ⇑P P 06 20 16.8 0.0
MORC Moravsky Berou 59.46 314 *eP* P 06 20 16.8 0.0
comp=Z,254nm,0.9s
MORC LR LR
comp=Z,41μm,18.0s
ANTO Ankara 59.48 297 *eP* P 06 20 17.8 +0.7
ANTO pmax pmax
comp=Z,120nm,1.7s
ANTO Ankara 59.48 297 *eP* P 06 20 17.8 +0.7
comp=Z,123nm,1.7s
ANTO LR LR
comp=Z,10μm,18.0s
ANTO Ankara 59.48 297 P P 06 20 19.5 +2.4
SNR=7.7
BR231 Keskin MP Arra 59.51 297 *eP* P 06 20 15.3 -2.1
DPC Dobruska-Polom 59.55 315 *eP* P 06 20 17.5 +0.1
DPC *ep*P pP 06 20 22.1 +0.3
DPC eS S 06 28 27.0 +0.6
DPC *e*SS SS 06 32 31.2 +10
DPC AMS AMS 06 46 10.0
comp=Z,10μm,19.3s
DPC Dobruska-Polom 59.55 315 *eP* P 06 20 17.5 +0.1
DPC *e**PP pP 06 20 22.1 +0.3
DPC eS S 06 28 27.0 +0.6
DPC MLR MLR
comp=Z,10μm,19.3s
ARR Arges 59.55 306⇓ *iP* P 06 20 18.4 +0.9
UPC Upice 59.55 315 *eP* P 06 20 17.3 -0.1
UPC *ep*P pP 06 20 22.1 +0.3
UPC eS S 06 28 25.6 -0.9
UPC *ex* x 06 32 36.1
UPC AMS AMS 06 46 20.0
comp=Z,11μm,16.8s
UPC Upice 59.55 315 *eP* P 06 20 17.3 -0.1
UPC *e**PP pP 06 20 22.1 +0.3
UPC eS S 06 28 25.6 -0.9
UPC MLR MLR
comp=Z,11μm,16.8s
KRLC Kraliky 59.56 314 *eP* P 06 20 17.7 +0.2
KRLC *ep*P pP 06 20 22.4 +0.5
KRLC Kraliky 59.56 314 *eP* P 06 20 17.7 +0.2
KRLC *e**PP pP 06 20 22.4 +0.5
MASI Maura Aman, Be 59.78 205 P P 06 20 18.5 -0.8
PRD Provadia 59.81 303 *eP* P 06 20 23.0 +3.8
PSZ Piszkesteto 59.84 311⇓ *iP* P 06 20 19.5 0.0
PSZ Piszkesteto 59.84 311 ⇓P P 06 20 19.5 0.0
PSZ Piszkesteto 59.84 311⇑ *eP* P 06 20 19.9 +0.4
PSZ Piszkesteto 59.84 311⇑ *eP* P 06 20 19.9 +0.4
PSZ Piszkesteto 59.84 311 *eP* P 06 20 20.3 +0.8
comp=Z,139nm,1.3s
PSZ LR LR
comp=Z,12μm,19.0s
VYHS Vyhne 59.87 312 *eP* P 06 20 19.8 +0.2
VYHS *e* 06 20 25.0
VYHS eS S 06 28 32.4 +1.8
VYHS pmax pmax
comp=Z,282nm,2.5s
VYHS Vyhne 59.87 312 *eP* P 06 20 19.8 +0.2
VYHS *e* 06 20 25.0
VYHS eS S 06 28 32.4 +1.8
VYHS *e*SS SS 06 32 40.4 +14
VYHS *e*L L 06 42 30.9
LOT Lotru 59.90 307⇑ *iP* P 06 20 18.7 -1.3
BIGH Upper Bighouse 60.12 331 *eP* P 06 20 20.7 -0.4
BIGH AMB AMB 06 20 21.0
comp=Z,141nm,1.4s
BIGH AMS AMS 06 50 51.1
comp=Z,8μm,16.5s
BRG Berggiesshubel 60.12 317 *eP* P 06 20 20.8 -0.5
comp=Z,50nm,1.6s
BRG *i* 06 20 25.8
comp=Z,66nm,1.1s
BRG S S 06 28 35.0 +1.3
BRG SS SS 06 32 33.0 +3.2
comp=N,10μm,13.4s
comp=E,12μm,15.7s
comp=Z,16μm,14.6s
BRG Berggiesshubel 60.12 317 *eP* P 06 20 20.8 -0.5
BRG *i* 06 20 25.8
BRG S S 06 28 35.0 +1.3
BRG SS SS 06 32 33.0 +3.2
BRG pmax pmax
comp=Z,50nm,1.6s
BRG MLR MLR
comp=N,10μm,13.4s
BRG MLR MLR
comp=E,12μm,15.7s
BRG MLR MLR
comp=Z,16μm,14.6s
LHSI Lahat 60.13 204 P P 06 20 21.8 +0.1
PVCC Panska Ves 60.13 316 *eP* P 06 20 21.7 +0.4
PVCC *ep*P pP 06 20 26.3 +0.5
PVCC eS S 06 28 34.6 +0.7
PVCC *ex* x 06 32 53.8
PVCC AMS AMS 06 47 40.0
comp=Z,10μm,16.9s
PVCC Panska Ves 60.13 316 *eP* P 06 20 21.7 +0.4
PVCC *e**PP pP 06 20 26.3 +0.5
PVCC eS S 06 28 34.6 +0.7
PVCC MLR MLR
comp=Z,10μm,16.9s
CLL Collm 60.17 317 *i* P P 06 20 20.8 -0.7
CLL eS S 06 28 30.0 -4.3
CLL pmax pmax
comp=Z,51nm,1.3s
CLL MLR MLR
comp=Z,9μm,18.2s
CLL Collm 60.17 317 *i* P P 06 20 20.8 -0.7
comp=Z,51nm,1.3s
CLL *i* pP pP 06 20 25.7 -0.3
comp=Z,81nm,1.1s
CLL *e*PP PP 06 22 35.0 +1.3
CLL *e*PPP PPP 06 24 00.0
CLL eS S 06 28 33.0 -1.3
CLL *e*PS PnS 06 28 45.0 -2.1
CLL *e*SS SS 06 32 42.0 +12
CLL LmH 06 43 00.0
comp=N,13μm,19.5s
CLL LmH 06 43 00.0
comp=E,12μm,18.2s
CLL L L 06 50 00.0
comp=Z,9μm,18.2s
CLL Collm 60.17 317 *eP* P 06 20 20.6 -0.9
comp=Z,57nm,0.9s
CLL LR LR
comp=Z,10μm,18.0s
SIRR Siria 60.28 309⇓ *iP* P 06 20 22.8 +0.4
ZIMR 60.47 304⇓ *iP* P 06 20 21.0 -2.7
ZIMR 60.47 304 ⇓P P 06 20 21.0 -2.7
SMOL Smolenice 60.47 313 *eP* P 06 20 27.3 +3.6
SMOL *e* 06 20 29.9
SMOL Smolenice 60.47 313 *eP* P 06 20 27.3 +3.6
SMOL *e* 06 20 29.9
GOPC GO Pecny, Ondr 60.52 315 *eP* P 06 20 24.2 +0.2
GOPC *ep*P pP 06 20 28.1 -0.4
GOPC eS S 06 28 39.7 +0.8
GOPC *ex* x 06 32 50.6
GOPC AMS AMS 06 46 50.0
comp=Z,12μm,21.2s
GOPC GO Pecny, Ondr 60.52 315 *eP* P 06 20 24.2 +0.2
GOPC *e**PP pP 06 20 28.1 -0.4
GOPC eS S 06 28 39.7 +0.8
GOPC MLR MLR
comp=Z,12μm,21.2s
PRA Prague 60.54 316 AMS AMS 06 48 00.0
comp=Z,12μm,18.1s
PRU Pruhonice 60.56 316 *eP* P 06 20 24.7 +0.4
PRU *ep*P pP 06 20 28.9 +0.2
PRU *ex* x 06 20 44.3
PRU eS S 06 28 40.0 +0.6
PRU *ex* x 06 32 52.5
PRU AMS AMS 06 47 50.0
comp=Z,12μm,18.6s
PRU Pruhonice 60.56 316 *eP* P 06 20 24.7 +0.4
PRU *e**PP pP 06 20 28.9 +0.2
PRU eS S 06 28 40.0 +0.6
PRU MLR MLR
comp=Z,12μm,18.6s
RSC Scourie 60.60 332 *eP* P 06 20 23.9 -0.5
MDSI Maura Dua 60.62 203 P P 06 20 23.7 -1.3
KLSI 60.69 202 P P 06 20 25.3 -0.2
comp=Z,81nm,1.7s,comp=Z,1μm
TREC Trest 60.70 315 *eP* P 06 20 25.5 +0.2
TREC *ep*P pP 06 20 30.2 +0.5
TREC *ex* x 06 20 45.4
TREC eS S 06 28 40.8 -0.4
TREC AMS AMS 06 53 10.0
comp=Z,8μm,14.7s
TREC Trest 60.70 315 *eP* P 06 20 25.5 +0.2
TREC *e**PP pP 06 20 30.2 +0.5
TREC eS S 06 28 40.8 -0.4
TREC MLR MLR
comp=Z,8μm,14.7s
MCD Coleburn Disti 60.70 330 *eP* P 06 20 24.7 -0.4
SRE Strehaia 60.76 306⇑ *iP* P 06 20 26.1 +0.4
SRE Strehaia 60.76 306 ⇑P P 06 20 26.2 +0.5
MNAI Manna 60.78 204 PFAKE 06 20 40.0 +14
MNAI LR LR
comp=Z,18μm,20.0s
BZS Buzias 60.78 308⇓ *iP* P 06 20 25.4 -0.5
BZS Buzias 60.78 308 ⇓P P 06 20 25.4 -0.5
MME1 Meikle Cairn 60.84 330 *eP* P 06 20 25.3 -0.8
NKC Novy Kostel 61.22 317 *eP* P 06 20 28.6 -0.2
NKC *ep*P pP 06 20 33.3 0.0
NKC *ex* x 06 20 48.6
NKC eS S 06 28 48.7 +0.8
NKC *ex* x 06 33 01.7
NKC AMS AMS 06 48 20.0
comp=Z,13μm,15.3s
NKC Novy Kostel 61.22 317 *eP* P 06 20 28.6 -0.2
NKC *e**PP pP 06 20 33.3 0.0
NKC eS S 06 28 48.7 +0.8
NKC MLR MLR
comp=Z,13μm,15.3s
BOLV Bolvadin 61.30 297 PFAKE 06 20 40.0 +10
BOLV LR LR
comp=Z,10μm,19.0s
MDVR Moldovita 61.37 308⇑ *iP* P 06 20 29.6 -0.3
KMMI Kalianget 61.46 191 P P 06 20 30.8 +0.2
MPEP Malo Peshtene 61.48 305 *eP* P 06 20 34.0 +3.4
CONA Conrad Observa 61.59 313 *ep*P P 06 20 31.9 +0.5
comp=Z,44nm,0.9s,SNR=21
KHC Kasperske Hory 61.62 316 *eP* P 06 20 31.6 0.0
KHC *ep*P pP 06 20 36.4 +0.4
KHC *ex* x 06 20 51.7
KHC eS S 06 28 52.7 -0.3
KHC *e*SS SS 06 33 04.5 +11
KHC AMS AMS 06 47 40.0
comp=Z,12μm,18.6s
KHC Kasperske Hory 61.62 316 *eP* P 06 20 31.6 0.0
KHC *e**PP pP 06 20 36.4 +0.4
KHC eS S 06 28 52.7 -0.3
KHC MLR MLR
comp=Z,12μm,18.6s
KHC Kasperske Hory 61.62 316 *eP* P 06 20 31.6 0.0
comp=Z,33nm,0.9s
KHC LR LR
comp=Z,5μm,19.0s
GEC2 GERESS Array S 61.79 315 *eP* P 06 20 32.7 -0.1
GEC2 *e* 06 20 33.1
GEC2 pmax pmax
comp=Z,41nm,1.0s
GEC2 GERESS Array S 61.79 315 *eP* P 06 20 32.7 -0.1
comp=Z,41nm,1.0s
GEC2 LR LR
comp=Z,6μm,18.0s
GERES GERESS Array B 61.79 315 P P 06 20 32.5 -0.3
comp=Z,7.4nm,0.9s,baz=46,slow=5.8,SNR=28
GERES LR LR 06 49 02.2
comp=Z,6μm,18.9s,baz=30,slow=38
GERES GERESS Array B 61.79 315 P P 06 20 32.5 -0.3
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES MLR MLR
comp=Z,6μm,18.9s
GEA0 GERESS Array S 61.80 315 *eP* P 06 20 32.9 +0.1
PGB Panagyurishte 61.88 304 *eP* P 06 20 32.0 -1.4
ESY Stoneypath 61.92 329 *eP* P 06 20 32.6 -0.8
SMRI Semarang 61.93 195 PFAKE 06 20 50.0 +16
SMRI LR LR
comp=Z,6μm,18.0s
LLLB Lillooet 62.09 41 *eP* P 06 20 35.2 +0.5
comp=Z,221nm,1.8s
LLLB LR LR
comp=Z,11μm,18.0s
GRFO Grafenberg 62.14 317 *eP* P 06 20 35.6 +0.6
GRFO pmax pmax
comp=Z,63nm,1.1s
GRFO Grafenberg 62.14 317 *eP* P 06 20 35.6 +0.6
comp=Z,63nm,1.1s
GRFO LR LR
comp=Z,7μm,19.0s
ISP Isparta 62.19 297 PFAKE 06 20 50.0 +14
ISP LR LR
comp=Z,9μm,18.0s
RDO Rodhopi 62.26 302 P P 06 20 33.9 -2.0
RDO Rodhopi 62.26 302 P P 06 20 33.9 -2.0
ARSA Arzberg 62.26 313 *ep*P P 06 20 36.7 +0.8
comp=Z,36nm,0.9s,SNR=13
VTS Vitosha 62.31 305 P P 06 20 32.7 -3.7
VTS Vitosha 62.31 305⇓ *iP* P 06 20 31.7 -4.7
VTS Vitosha 62.31 305 ⇓P P 06 20 31.7 -4.7
VTS Vitosha 62.31 305 *eP* P 06 20 39.0 +2.6
VTS Vitosha 62.31 305 *eP* P 06 20 36.0 -0.4
comp=Z,55nm,0.9s
VTS LR LR
comp=Z,10μm,19.0s
MOA Molln 62.33 314 *eP* P 06 20 36.2 -0.1
comp=Z,30nm,1.0s,SNR=13
MMRI Maumere 62.48 182 P P 06 20 44.1 +6.6
MMRI Maumere 62.48 182 *eP* P 06 20 38.1 +0.6
comp=Z,58nm,0.4s
MMRI LR LR
comp=Z,3μm,20.0s
PGBU Glenifferbraes 62.57 330 *eP* P 06 20 37.8 +0.1
PGBU AMS AMS 06 48 27.6
comp=Z,4μm,16.3s
ESK Eskdalemuir 62.61 329 *eP* P 06 20 37.6 -0.3
ESK AMB AMB 06 20 44.7
comp=Z,75nm,1.2s
ESK AMS AMS 06 48 12.0
comp=Z,5μm,19.9s
ESK Eskdalemuir 62.61 329 *eP* P 06 20 38.1 +0.1
ESK pmax pmax
comp=Z,54nm,1.0s
ESK Eskdalemuir 62.61 329 *eP* P 06 20 38.1 +0.1
comp=Z,54nm,0.9s
ESK LR LR
comp=Z,7μm,21.0s
EDMD Edmundbyers 62.64 328 *eP* P 06 20 37.4 -0.8
EDMD AMS AMS 06 54 10.3
comp=Z,5μm,13.7s
DIVS Divibare 62.69 308 P P 06 20 37.1 -1.7
UGM Wanagama 62.76 195 *eP* P 06 20 38.4 -1.0
comp=Z,405nm,1.4s
UGM LR LR
comp=Z,5μm,18.0s
BHH Howats Hill 62.80 329 *eP* P 06 20 39.5 +0.2
CSS Mathiatis 62.82 293 *eP* P 06 20 39.6 -0.1
comp=Z,26nm,1.0s
CSS LR LR
comp=Z,4μm,22.0s
JAGI Jajag, Banyuwa 62.84 191 PFAKE 06 20 50.0 +10
JAGI LR LR
comp=Z,4μm,21.0s
CISI Cisompet, Garu 62.86 198 PFAKE 06 20 50.0 +10
CISI LR LR
comp=Z,7μm,22.0s
PLAI Plampang 62.87 187 P P 06 20 37.4 -2.7
PERS Pernice 62.92 313 *eP* P 06 20 40.5 +0.3
PERS *e* 06 20 46.0
SOKA Soboth 62.92 313 *ep*P P 06 20 40.8 +0.5
comp=Z,30nm,0.8s,SNR=11
KKB Krupnik 62.92 304 *eP* P 06 20 43.0 +2.7
ASF Jabal al Asfar 62.94 288 P P 06 20 40.9 +0.2
comp=Z,4.9nm,0.8s,baz=60,slow=1.5,SNR=8.4
SRS Serrai 63.24 304 P P 06 20 41.1 -1.4
SRS Serrai 63.24 304 P P 06 20 41.1 -1.4
SRS Serrai 63.24 304 P P 06 20 41.1 -1.4
OBKA Obir 63.26 313 *ep*P P 06 20 42.8 +0.2
comp=Z,54nm,0.9s,SNR=10
A04D Lummi Island 63.27 43 P P 06 20 41.1 -1.3
baz=323
KBA Koelnbreinsper 63.33 314 *ep*P P 06 20 43.8 +0.6
comp=Z,159nm,1.6s,SNR=23
BEBN Eben Emael 63.39 321 AP pP 06 20 47.6 -0.1
MEM Membach 63.42 321 P P 06 20 42.8 -0.6
MEM AP pP 06 20 47.6 -0.3
BLY Banja Luka 63.47 310 PFAKE 06 21 00.0 +16
BLY LR LR
comp=Z,8μm,19.0s
KNT Kendrikon 63.55 304 P P 06 20 45.3 +0.8
KNT Kendrikon 63.55 304 P P 06 20 45.3 +0.8
KNT Kendrikon 63.55 304 P P 06 20 45.3 +0.8
MYKA Terra Mystica 63.55 314 *ep*P P 06 20 44.8 +0.3
comp=Z,45nm,0.8s,SNR=9.2
PLE Pljevlja 63.56 308⇑ *iP* P 06 20 46.2 +1.5
WACR West Acre 63.57 325 AMS AMS 06 53 18.2
comp=Z,6μm,16.6s
SOEI Soe 63.58 180 *eP* P 06 20 44.4 -0.6
comp=Z,178nm,1.0s
SOEI LR LR
comp=Z,4μm,20.0s
VAY Valandovo 63.59 304 *i* P P 06 20 45.9 +1.2
SKO Skopje 63.63 306 *i* P P 06 20 45.7 +0.7
IVA Berane 63.68 307⇑ *iP* P 06 20 46.5 +1.1
STU Stuttgart 63.68 318 PFAKE 06 21 00.0 +15
STU LR LR
comp=Z,7μm,20.0s
VISS Visnje 63.69 312 *i* P P 06 20 45.0 -0.3
VISS *i* 06 20 50.0
BOJS Bojanci 63.74 312 *eP* P 06 20 48.0 +2.4
BCLA Clavier 63.83 321 P P 06 20 45.8 -0.4
BCLA AP pP 06 20 50.1 -0.5
NLWA Neilton Lookou 63.85 44 *eP* P 06 20 47.7 +1.3
comp=Z,109nm,1.4s
NLWA LR LR
comp=Z,10μm,19.0s
PVY Plav 63.86 307 *eP* P 06 20 47.6 +0.9
AKAS Kas 63.87 296 PFAKE 06 21 00.0 +13
AKAS LR LR
comp=Z,4μm,21.0s
KOME Kolasin 63.87 307⇑ *iP* P 06 20 47.8 +1.1
B05A Bryant 63.88 43 P P 06 20 46.8 +0.3
baz=323,SNR=18
UPM Unac-Piva 63.88 308⇑ *iP* P 06 20 47.8 +0.9
WTTA Wattenberg 63.89 315 *ep*P P 06 20 47.3 +0.4
comp=Z,39nm,1.1s,SNR=13
B06A Marblemount 63.91 42 *eP* P 06 20 46.4 -0.4
comp=Z,95nm,1.5s
ABTA Abfaltersbach 63.94 315 *eP* P 06 20 45.8 -1.3
comp=Z,40nm,1.3s
GRG Griva 63.95 304 P P 06 20 45.8 -1.3
GRG Griva 63.95 304 P P 06 20 45.8 -1.3
GRG Griva 63.95 304 P P 06 20 45.8 -1.3
RPW Rockport 63.96 42 P P 06 20 47.2 +0.1
JCW Jim Creek 64.00 43 P P 06 20 48.0 +0.7
MOTA Moosalm 64.05 316 *eP* P 06 20 47.8 -0.1
comp=Z,19nm,0.9s,SNR=12
LANF Langenberg 64.05 319 *eP* P 06 20 47.3 -0.4
RETA Reutte 64.08 316 *eP* P 06 20 47.4 -0.5
comp=Z,20nm,1.1s
CHOS Chios island 64.08 300 P P 06 20 47.9 -0.2
CHOS Chios island 64.08 300 P P 06 20 47.9 -0.2
WLF Walferdange 64.13 320 PFAKE 06 21 00.0 +12
WLF LR LR
comp=Z,8μm,20.0s
SNF Seneffe 64.13 322 P P 06 20 49.0 +0.8
SNF AP pP 06 20 52.2 -0.4
NKY Niksic 64.14 308⇑ *iP* P 06 20 49.5 +1.0
KRUS Krusevo 64.19 305 *i* P P 06 20 49.9 +1.1
NKME Niksic 64.20 308 *eP* P 06 20 50.0 +1.2
CWF Charnwood Fore 64.20 326 *eP* P 06 20 47.7 -0.8
CWF AMB AMB 06 20 54.8
comp=Z,78nm,1.1s
CWF AMS AMS 06 54 57.7
comp=Z,5μm,12.1s
CWF Charnwood Fore 64.20 326 *eP* P 06 20 48.2 -0.3
comp=Z,59nm,0.9s
CWF LR LR
comp=Z,5μm,20.0s
TRI Trieste 64.23 313 *eP* P 06 20 48.7 -0.1
TRI pmax pmax
comp=Z,54nm,0.8s
TRI Trieste 64.23 313 *eP* P 06 20 48.7 -0.1
comp=Z,54nm,0.8s
TRI LR LR
comp=Z,6μm,19.0s
BRY Bratogost 64.28 308 *eP* P 06 20 50.8 +1.3
PDG Podgorica 64.32 307⇓ *iP* P 06 20 48.2 -1.3
TTG Podgorica 64.32 307⇑ *iP* P 06 20 50.7 +1.2
GMM Mts of Mourne 64.36 330 *eP* P 06 20 48.9 -0.7
DOU Dourbes 64.36 321 P P 06 20 49.2 -0.5
DOU AP pP 06 20 53.7 -0.4
BFO Black Forest 64.38 318 *i* P P 06 20 49.8 0.0
BFO Black Forest 64.38 318 *eP* P 06 20 49.5 -0.3
comp=Z,37nm,1.0s
BFO LR LR
comp=Z,8μm,18.0s
CEME Cevo 64.38 308⇑ *iP* P 06 20 51.2 +1.2
FETA Feichten 64.46 316 *ep*P P 06 20 51.0 +0.4
comp=Z,29nm,0.9s,SNR=12
RAYN Ar Rayn 64.52 275 *eP* P 06 20 51.0 -0.1
comp=Z,60nm,0.9s
RAYN LR LR
comp=Z,8μm,18.0s
DRME Dracevica, Mon 64.54 307⇑ *iP* P 06 20 52.1 +1.1
WPM1 Penmaenmawr 64.58 328 *eP* P 06 20 50.2 -0.9
BUM Brajici-Budva 64.59 307⇑ *iP* P 06 20 52.5 +1.2
DAVA Damuels 64.60 316 *eP* P 06 20 51.5 0.0
comp=Z,45nm,1.0s,SNR=5.3
OHR Ohrid 64.60 305 *i* P P 06 20 52.2 +0.8
KEKH Kekaha 64.62 87 *eP* P 06 20 52.3 +0.6
comp=Z,265nm,1.2s
KEKH Kekaha 64.62 87 *eP* P 06 20 52.3 +0.6
comp=Z,265nm,1.2s
C06D Leavenworth 64.63 42 P P 06 20 51.1 -0.4
baz=324
E03A Lebam 64.65 45 *eP* P 06 20 52.5 +0.9
comp=Z,138nm,1.0s
HCY Herceg Novi 64.66 308⇑ *iP* P 06 20 53.1 +1.4
FOEL Foel Wylfa 64.68 328 *eP* P 06 20 51.3 -0.4
FOEL AMS AMS 06 46 32.8
comp=Z,5μm,22.1s
ULC Ulcinj 64.68 307⇑ *iP* P 06 20 52.7 +0.8
D05A Enumclaw 64.78 43 *eP* P 06 20 53.6 +1.2
comp=Z,378nm,1.9s
LLW Llanuwychllyn 64.86 328 *eP* P 06 20 52.0 -0.8
LLW AMB AMB 06 20 59.5
comp=Z,468nm,1.1s
LLW AMS AMS 06 41 34.6
comp=Z,55μm,55.5s
TIR Tirane 64.87 306 *eP* P 06 20 56.4 +3.3
TIR pmax pmax
comp=Z,142nm,1.1s
TIR MLR MLR
comp=Z,6μm,18.0s
TIR Tirane 64.87 306 *eP* P 06 20 56.4 +3.3
comp=Z,142nm,1.1s
TIR LR LR
comp=Z,6μm,18.0s
B08A Colville Reser 64.89 41 *eP* P 06 20 53.5 +0.3
comp=Z,91nm,1.5s
HLM1 Long Mynd 64.89 327 *eP* P 06 20 52.5 -0.7
HLM1 AMB AMB 06 20 58.5

comp=Z,111nm,2.9s
ECH Echery 64.93 319 *eP* **P 06 20 52.5 -0.9**
FUORN Ofenpass-Fuorn 64.97 316 *eP* **P 06 20 54.3 +0.3**
comp=Z,92nm,0.9s
FUORN LR LR
comp=Z,11μm,20.0s
RVC Mount Rainier- 64.99 44 P **P 06 20 55.1 +1.2**
DAVOX Davos/Dischmat 65.00 316 P **P 06 20 54.3 +0.2**
comp=Z,21nm,0.9s,baz=358,slow=6.4,SNR=14
DAVOX Davos/Dischmat 65.00 316 P **P 06 20 54.3 +0.2**
DAVOX pmax pmax
comp=Z,31nm,1.1s
F03A Seaside 65.14 45 *eP* **P 06 20 56.5 +1.6**
comp=Z,583nm,1.9s
WTV Waterville 65.18 42 P **P 06 20 55.4 +0.3**
FFC Flin Flon 65.18 27 *eP* **P 06 20 54.5 -0.4**
FFC pmax pmax
comp=Z,60nm,1.2s
FFC Flin Flon 65.18 27 *eP* **P 06 20 55.0 +0.1**
FFC Flin Flon 65.18 27 *eP* **P 06 20 54.5 -0.4**
comp=Z,60nm,1.3s
FFC LR LR
comp=Z,7μm,20.0s
LON Longmire 65.21 44 *eP* **P 06 20 56.1 +0.8**
LON pmax pmax
comp=Z,110nm,1.7s
LON Longmire 65.21 44 P **P 06 20 56.1 +0.8**
MOF Molkenrain 65.23 318 *eP* **P 06 20 54.9 -0.6**
F04D Rainier, OR 65.25 45 P **P 06 20 55.6 +0.1**
baz=324
LTY Liberty 65.26 43 *eP* **P 06 20 55.9 +0.2**
comp=Z,46nm,1.1s
LTY LR LR
comp=Z,7μm,20.0s
DSB Dublin 65.34 330 *eP* **P 06 20 56.1 +0.1**
comp=Z,59nm,1.5s
DSB LR LR
comp=Z,3μm,20.0s
APE Apeiranthos 65.36 299 *eP* **P 06 20 54.2 -2.2**
APE pmax pmax
comp=Z,18nm,1.1s
APE MLR MLR
comp=Z,4μm,20.0s
TDL Tradedollar La 65.36 44 P **P 06 20 57.2 +0.8**
MCH1 Michaelchurch 65.38 327 *eP* **P 06 20 55.2 -1.0**
MCH1 AMS AMS 06 50 24.2
comp=Z,4μm,23.6s
B201 Coldwater, Mou 65.38 44 P **P 06 20 57.5 +1.0**
MONM Monmouth 65.45 327 *eP* **P 06 20 56.2 -0.5**
MONM AMS AMS 06 49 50.4
comp=Z,6μm,18.3s
AGG Agios Georgios 65.47 303 *eP* **P 06 20 56.3 -0.8**
AGG pmax pmax
comp=Z,110nm,1.0s
AGG Agios Georgios 65.47 303 *eP* **P 06 20 56.3 -0.8**
comp=Z,107nm,1.0s
AGG LR LR
comp=Z,13μm,22.0s
F04A Amboy 65.62 45 *eP* **P 06 20 58.5 +0.6**
comp=Z,41nm,0.8s
LPW Lampeter 65.62 328 *eP* **P 06 20 57.4 -0.4**
LPW AMS AMS 06 48 56.9
comp=Z,5μm,20.5s
NAC Naches 65.62 43 P **P 06 20 58.7 +0.8**
HGH Gray Hill 65.62 327 *eP* **P 06 20 57.0 -0.8**
VILL Villia 65.64 302 P **P 06 20 57.9 -0.3**
KARP Karpathos 65.67 297 *eP* **P 06 20 59.4 +0.9**
comp=Z,30nm,1.1s
KARP LR LR
comp=Z,3μm,21.0s
LOMF Lomont 65.76 318 *eP* **P 06 20 58.2 -0.7**
NEW Newport 65.81 40 P **P 06 20 58.8 -0.3**
baz=326,SNR=22
NEW Newport 65.81 40 *eP* **P 06 20 59.8 +0.6**
NEW pmax pmax
comp=Z,75nm,1.4s
NEW Newport 65.81 40 *eP* **P 06 20 59.8 +0.6**
comp=Z,75nm,1.4s
NEW LR LR
comp=Z,10μm,21.0s
G03D McMinnville, O 65.84 46 P **P 06 21 00.3 +0.9**
baz=324
OPA Opana 65.85 86 *eP* **P 06 21 00.9 +1.2**
OPA pmax pmax
comp=Z,210nm,1.0s
OPA Opana 65.85 86 *eP* **P 06 21 00.9 +1.2**
comp=Z,208nm,1.1s
OPA Opana 65.85 86 *eP* **P 06 21 00.9 +1.2**
comp=Z,208nm,1.1s
EIL Elat 65.92 288 P **P 06 20 59.9 -0.1**
comp=Z,39nm,1.2s,baz=14,slow=4.6,SNR=11
SANT Santorini 65.93 299 *eP* **P 06 20 59.7 -0.4**
comp=Z,34nm,1.1s
SANT LR LR
comp=Z,5μm,22.0s
KIP Kipapa 66.05 86 *eP* **P 06 20 58.0 -3.0**
KIP pmax pmax
comp=Z,266nm,1.3s
KIP MLR MLR
comp=Z,9μm,17.0s
TRW Toppenish Ridg 66.09 43 P **P 06 21 01.9 +0.9**
D08A Wollman Farm, 66.11 42 *eP* **P 06 21 01.6 +0.5**
comp=Z,90nm,1.4s
TARA Tarawa 66.13 124 PFAKE 06 21 10.0 +8.5
TARA LR LR
comp=Z,3μm,20.0s
E07A Sunnyside 66.15 43 *eP* **P 06 21 02.2 +0.9**
comp=Z,174nm,1.8s
BENWA Benson Ranch 66.24 42 P **P 06 21 02.8 +0.9**
LAKA Lakka 66.25 303 P **P 06 21 01.1 -1.0**
LAKA Lakka 66.25 303 P **P 06 21 01.1 -1.0**
PMG Port Moresby 66.25 155 P **P 06 21 02.3 +0.1**
comp=Z,3.5nm,0.4s,baz=305,slow=6.2,SNR=6.0
PMG Port Moresby 66.25 155 *eP* **P 06 21 01.2 -1.0**
PMG pmax pmax
comp=Z,69nm,1.1s
PMG MLR MLR
comp=Z,10μm,22.0s
PMG Port Moresby 66.25 155 *eP* **P 06 21 02.0 -0.2**
comp=Z,28nm,1.1s
GUR Goura 66.30 302 P **P 06 21 00.4 -2.2**
GUR Goura 66.30 302 P **P 06 21 00.4 -2.2**
KLV Kalavryta, Ach 66.31 302 P **P 06 21 01.8 -0.8**
KLV Kalavryta, Ach 66.31 302 P **P 06 21 01.8 -0.8**
WALA Waterton Lakes 66.33 37 *eP* **P 06 21 03.2 +0.6**
comp=Z,98nm,1.0s
WALA LR LR
comp=Z,7μm,18.0s
COR Corvallis 66.33 46 *eP* **P 06 21 04.3 +1.8**
COR pmax pmax
comp=Z,370nm,1.3s
COR Corvallis 66.33 46 *eP* **P 06 21 04.2 +1.8**
comp=Z,366nm,1.4s
COR LR LR
comp=Z,7μm,21.0s
SENIN Lac Senin/Sane 66.38 317 *eP* **P 06 21 03.8 +0.7**
comp=Z,25nm,1.1s
SENIN LR LR
comp=Z,7μm,20.0s
HAWA Hanford 66.41 42 *eP* **P 06 21 03.7 +0.7**
comp=Z,94nm,1.4s
HAWA LR LR
comp=Z,6μm,21.0s
VFP Flag Point 66.51 44 P **P 06 21 04.0 +0.2**
G05D Wamic, OR 66.63 44 P **P 06 21 05.0 +0.5**
baz=324,SNR=11
HTL Hartland 66.72 327 *eP* **P 06 21 03.6 -1.3**
HTL AMS AMS 06 57 33.5
comp=Z,4μm,15.0s
VLC Villacollemand 66.91 314 *eP* **P 06 21 07.2 +0.9**
comp=Z,167nm,0.9s
VLC LR LR
comp=Z,9μm,20.0s
BSMT Bassoo Peak 67.02 39 P **P 06 21 08.0 +0.9**
I03D Drain, OR 67.03 47 P **P 06 21 08.1 +1.1**
baz=324,SNR=36
BLMT Blacktail Moun 67.05 38 *eP* **P 06 21 08.3 +1.0**
IDI Anoyia 67.06 299 P **P 06 21 05.6 -1.8**
IDI Anoyia 67.06 299 *eP* **P 06 21 05.4 -1.9**
comp=Z,35nm,0.9s
IDI LR LR
comp=Z,3μm,20.0s
ITM Ithomi 67.10 302 P **P 06 21 02.8 -4.7**
ITM Ithomi 67.10 302 P **P 06 21 02.8 -4.7**
RSL Roselend 67.20 317 *eP* **P 06 21 07.0 -1.3**
KEBM Edson Butte 67.27 48 *eP* **P 06 21 09.9 +1.4**
comp=Z,161nm,1.1s
KEBM LR LR
comp=Z,6μm,19.0s
JTMT Jette 67.30 38 *eP* **P 06 21 09.8 +1.0**
YBMT Yellow Bay 67.30 38 *eP* **P 06 21 09.9 +1.1**
I05D Terrebonne, OR 67.36 45 P **P 06 21 09.6 +0.5**
baz=325,SNR=18
SWMT Swartz Lake 67.60 38 *eP* **P 06 21 11.8 +1.1**
HLK Haleakala 67.60 85 *eP* **P 06 21 12.7 +1.4**
comp=Z,170nm,1.0s
VAL Valentia 67.62 331 ||*iS* **S 06 30 06.1 -0.6**
CCA1 Carnmenellis 67.65 327 *eP* **P 06 21 09.4 -1.4**
CCA1 AMB AMB 06 21 17.3
comp=Z,97nm,1.1s
CCA1 AMS AMS 06 51 42.9
comp=Z,5μm,19.4s
BNI Bardonecchia 67.71 317 *eP* **P 06 21 10.7 -0.7**
BNI pmax pmax
comp=Z,38nm,0.9s
BNI Bardonecchia 67.71 317 *eP* **P 06 21 11.3 -0.2**
comp=Z,38nm,0.9s
BNI LR LR
comp=Z,8μm,19.0s
GVD Gavdhos 67.82 299 P **P 06 21 11.9 -0.2**
GVD Gavdhos 67.82 299 P **P 06 21 11.9 -0.2**
CUC Castrocucco 67.83 308 PFAKE 06 21 20.0 +7.8
CUC LR LR
comp=Z,4μm,20.0s
KBO Bosley Butte 67.85 48 *eP* **P 06 21 13.7 +1.4**
comp=Z,163nm,1.4s
KBO LR LR
comp=Z,4μm,18.0s
J04D Umpqua Nationa 67.93 46 P **P 06 21 13.6 +0.7**
baz=325,SNR=36
SLMT Seeley Lake 68.01 38 *eP* **P 06 21 14.6 +1.3**
HUMO Hull Mountain 68.08 47 *eP* **P 06 21 15.0 +1.3**
comp=Z,161nm,1.7s
HUMO LR LR
comp=Z,5μm,20.0s
PLDF La Plantade 68.14 319 *eP* **P 06 21 13.5 -0.6**
L02D Cave Junction, 68.16 48 P **P 06 21 14.8 +0.6**
baz=324
MSO Missoula 68.19 39 P **P 06 21 14.8 +0.3**
baz=328,SNR=60
MSO Missoula 68.19 39 *eP* **P 06 21 15.7 +1.2**
comp=Z,122nm,1.2s
MSO LR LR
comp=Z,9μm,20.0s
J05D Fort Rock, OR 68.26 45 P **P 06 21 15.9 +1.0**
baz=325,SNR=88
AGO Saint Agoulin 68.26 320 *eP* **P 06 21 15.8 +1.0**
SSB Saint Sauveur 68.37 319 *eP* **P 06 21 14.8 -0.6**
CHMT Chamberlain Mo 68.38 38 P **P 06 21 16.7 +1.0**
KRMB Red Mountain 68.54 48 *eP* **P 06 21 17.8 +1.1**
comp=Z,88nm,1.1s
KRMB LR LR
comp=Z,3μm,18.0s
PYM Petit Puy Mans 68.56 320 *eP* **P 06 21 16.0 -0.7**
BMO Blue Mountains 68.57 42 *eP* **P 06 21 17.5 +0.7**
BMO pmax pmax
comp=Z,95nm,1.3s
BMO Blue Mountains 68.57 42 *eP* **P 06 21 17.5 +0.7**
comp=Z,95nm,1.3s
BMO LR LR
comp=Z,5μm,19.0s
K04D Chiloquin, OR 68.58 46 P **P 06 21 17.5 +0.5**
baz=325,SNR=23
EGMT Eagleton 68.66 35 P **P 06 21 17.0 -0.3**
baz=330,SNR=13
EGMT Eagleton 68.66 35 *eP* **P 06 21 17.9 +0.6**
comp=Z,92nm,1.2s
EGMT LR LR
comp=Z,9μm,20.0s
POHA Pohakuloa 68.80 85 *eP* **P 06 21 19.8 +1.1**
comp=Z,166nm,1.3s
YBH Yreka Blue Hor 68.90 47 *eP* **P 06 21 19.7 +0.8**
YBH pmax pmax
comp=Z,53nm,1.1s
YBH Yreka Blue Hor 68.90 47 *eP* **P 06 21 20.1 +1.2**
comp=Z,53nm,1.1s
YBH LR LR
comp=Z,5μm,22.0s
LBL Lubilhac 68.91 319 *eP* **P 06 21 19.4 +0.5**
MLOA Mauna Loa Obse 68.95 86 *eP* **P 06 21 20.9 +1.1**
comp=Z,152nm,1.2s
HRY Holter Researc 69.06 37 *eP* **P 06 21 20.8 +1.0**
JCC Jacoby Creek, 69.06 49 *eP* **P 06 21 21.2 +1.4**
comp=Z,172nm,1.0s
JCC LR LR
comp=Z,4μm,18.0s
MLH Mauna Loa 69.09 85 *eP* **P 06 21 20.6 0.0**
MLH pmax pmax
comp=Z,100nm,1.0s
MLH Mauna Loa 69.09 85 *eP* **P 06 21 20.6 0.0**
comp=Z,100nm,1.0s
M02C Callahan 69.11 48 P **P 06 21 21.3 +1.1**
baz=325,SNR=33
KHMM Horse Mountain 69.15 49 *eP* **P 06 21 21.9 +1.4**
comp=Z,85nm,1.0s
M04C Macdoel 69.23 47 P **P 06 21 21.8 +0.8**
baz=325,SNR=51
PUH Pauahi 69.28 85 *eP* **P 06 21 22.3 +0.7**
comp=Z,122nm,1.0s
N02D Trinity Center 69.52 48 P **P 06 21 23.6 +0.9**
baz=325,SNR=44
LRM Limekiln Ridge 69.60 38 *eP* **P 06 21 24.2 +0.8**
KMRM Mail Ridge 69.69 49 *eP* **P 06 21 25.3 +1.5**
comp=Z,147nm,1.4s
KMRM LR LR
comp=Z,5μm,20.0s
MOD Modoc Plateau 69.79 46 *eP* **P 06 21 25.1 +0.6**
comp=Z,90nm,0.9s
MOD LR LR
comp=Z,5μm,19.0s
COCO West Island 69.88 208 PFAKE 06 21 40.0 +15
COCO LR LR
comp=Z,5μm,21.0s
WDC Whiskeytown Da 69.91 48 *eP* **P 06 21 25.5 +0.5**
WDC pmax pmax
comp=Z,110nm,1.1s
WDC Whiskeytown Da 69.91 48 *eP* **P 06 21 25.5 +0.5**
comp=Z,114nm,1.1s
WDC LR LR
comp=Z,4μm,20.0s
DLMT Dillon 69.93 39 *eP* **P 06 21 26.4 +1.0**
comp=Z,142nm,1.1s
DLMT LR LR
comp=Z,6μm,20.0s
WVOR Wild Horse Val 70.04 44 *eP* **P 06 21 27.1 +1.1**
WVOR pmax pmax
comp=Z,120nm,1.1s
WVOR Wild Horse Val 70.04 44 *eP* **P 06 21 27.1 +1.1**
comp=Z,116nm,1.1s
WVOR LR LR
comp=Z,4μm,19.0s
DGMT Dagmar 70.08 32 P **P 06 21 25.9 -0.1**
baz=332,SNR=18
DGMT Dagmar 70.08 32 *eP* **P 06 21 26.2 +0.2**
comp=Z,85nm,1.0s
DGMT LR LR
comp=Z,10μm,18.0s
BOZ Bozeman (W) 70.09 38 P **P 06 21 26.8 +0.5**
baz=329,SNR=32
BOZ Bozeman (W) 70.09 38 *eP* **P 06 21 26.6 +0.4**
BOZ pmax pmax
comp=Z,140nm,1.6s
BOZ Bozeman (W) 70.09 38 *eP* **P 06 21 26.6 +0.4**
comp=Z,139nm,1.6s
BOZ LR LR
comp=Z,8μm,19.0s
KCPM Cahto Peak 70.18 49 *eP* **P 06 21 27.9 +1.1**
comp=Z,52nm,0.9s
KCPM LR LR
comp=Z,4μm,18.0s
HNR Honiara 70.24 142 PFAKE 06 21 40.0 +13
HNR LR LR
comp=Z,3μm,19.0s
MCMT McKenzie Canyo 70.30 39 P **P 06 21 28.6 +1.0**
MFID Camas Ranch 70.35 42 *eP* **P 06 21 28.6 +0.8**
comp=Z,112nm,1.3s
MFID LR LR
comp=Z,5μm,20.0s
O03D Paynes Creek 70.47 48 P **P 06 21 28.6 0.0**
baz=325,SNR=49
HLID Hailey 70.78 41 P **P 06 21 31.2 +0.7**
baz=328,SNR=61
HLID Hailey 70.78 41 *eP* **P 06 21 31.5 +1.0**
comp=Z,120nm,1.6s
HLID LR LR
comp=Z,7μm,19.0s
QLMT Earthquake Lak 70.82 38 *eP* **P 06 21 32.1 +1.3**
ULM Lac du Bonnet 70.83 26 P **P 06 21 29.1 -1.4**
comp=Z,11nm,0.7s,baz=341,slow=6.1,SNR=15
ULM LR LR 06 54 26.0
comp=Z,8μm,19.8s,baz=338,slow=38
ULM Lac du Bonnet 70.83 26 *eP* **P 06 21 29.0 -1.5**
ULM pmax pmax
comp=Z,130nm,1.8s
ULM Lac du Bonnet 70.83 26 *eP* **P 06 21 28.9 -1.5**
comp=Z,127nm,1.8s
YHB Horse Butte 70.97 38 PFAKE 06 21 40.0 +8.2
YHB LR LR
comp=Z,8μm,20.0s
HOPS Hopland Field 70.97 49 *eP* **P 06 21 32.9 +1.3**
comp=Z,93nm,1.4s
HOPS LR LR
comp=Z,4μm,20.0s
LAO LASA Array 71.01 34 P **P 06 21 31.6 -0.2**
baz=332,SNR=11
LAO LASA Array 71.01 34 *eP* **P 06 21 32.1 +0.4**
comp=Z,81nm,1.4s
LAO LR LR
comp=Z,11μm,20.0s
YHH Holmes Hill 71.06 38 PFAKE 06 21 40.0 +7.6
YHH LR LR
comp=Z,8μm,20.0s
SCHQ Schefferville 71.10 6 P **P 06 21 31.5 -0.6**
comp=Z,35nm,0.8s,baz=356,slow=5.1,SNR=20
SCHQ LR LR 06 53 10.4
comp=Z,8μm,19.8s,baz=350,slow=36
SCHQ Schefferville 71.10 6 *eP* **P 06 21 31.7 -0.4**
comp=Z,65nm,1.0s
YMR Madison River 71.12 38 *eP* **P 06 21 33.9 +1.2**
comp=Z,200nm,1.9s
VSL Villasalto 71.15 312 PFAKE 06 21 40.0 +7.4
VSL LR LR
comp=Z,6μm,19.0s
YNR Norris Junctio 71.19 38 PFAKE 06 21 50.0 +17
YNR LR LR
comp=Z,10μm,20.0s
ORV Oroville 71.21 48 *eP* **P 06 21 33.4 +0.4**
ORV pmax pmax
comp=Z,56nm,0.9s
ORV Oroville 71.21 48 *eP* **P 06 21 33.4 +0.4**
comp=Z,56nm,0.9s
GDXM Geysers 71.25 49 *eP* **P 06 21 33.7 +0.4**
comp=Z,159nm,1.1s
GDXM LR LR
comp=Z,6μm,20.0s
RLMT Red Lodge 71.34 37 P **P 06 21 34.3 +0.3**
baz=330,SNR=46
RLMT Red Lodge 71.34 37 *eP* **P 06 21 34.2 +0.3**
comp=Z,151nm,1.4s
RLMT LR LR
comp=Z,13μm,22.0s
LKWY Lake 71.42 38 *eP* **P 06 21 35.6 +1.1**
LKWY pmax pmax
comp=Z,58nm,1.2s
LKWY Lake 71.42 38 *eP* **P 06 21 35.6 +1.1**
comp=Z,58nm,1.2s
LKWY LR LR
comp=Z,15μm,19.0s
BEKR Beckworth 71.44 47 *eP* **P 06 21 35.4 +0.8**
comp=Z,119nm,1.0s
BEKR LR LR
comp=Z,6μm,19.0s
H17A Grant Village 71.50 38 P **P 06 21 36.6 +1.6**
baz=330,SNR=24
H17A Grant Village 71.50 38 *eP* **P 06 21 37.4 +2.4**
comp=Z,64nm,1.2s
H17A LR LR
comp=Z,23μm,22.0s
A31A Linda, St. Vin 71.70 27 P **P 06 21 34.8 -1.0**
baz=336
MCCM Marconi Confer 71.75 50 PFAKE 06 21 50.0 +14
MCCM LR LR
comp=Z,4μm,19.0s
WDD Wied Dalam 71.78 306 PFAKE 06 21 50.0 +14
WDD LR LR
comp=Z,4μm,19.0s
IMW Indian Meadow 71.80 38 *eP* **P 06 21 37.6 +0.7**
comp=Z,134nm,1.8s
IMW LR LR
comp=Z,6μm,19.0s
A32A Rocking H Ranc 71.90 27 P **P 06 21 35.8 -1.1**
baz=336,SNR=12
AFDM Forest Hills D 71.94 48 *eP* **P 06 21 38.0 +0.5**
comp=Z,103nm,1.3s
AFDM LR LR
comp=Z,4μm,20.0s
FXWY Fox Creek 71.99 39 *eP* **P 06 21 39.4 +1.4**
comp=Z,54nm,1.1s
FXWY LR LR
comp=Z,8μm,19.0s
PAHR Pah Rah Range 72.00 46 *eP* **P 06 21 38.5 +0.6**
comp=Z,193nm,1.0s
PAHR LR LR
comp=Z,9μm,20.0s
MOOW Moose Ponds 72.00 38 *eP* **P 06 21 39.5 +1.5**
comp=Z,83nm,1.1s
MOOW LR LR
comp=Z,5μm,20.0s
MDND Maddock 72.01 29 P **P 06 21 36.0 -1.7**
baz=335
MDND Maddock 72.01 29 *eP* **P 06 21 38.4 +0.7**
comp=Z,80nm,0.8s
MDND LR LR
comp=Z,8μm,21.0s
B31A Greenbush Farm 72.04 28 P **P 06 21 36.8 -1.0**
baz=336
DAMY Dhamar 72.14 270 *eP* **P 06 21 39.9 +0.7**
comp=Z,120nm,1.2s
DAMY LR LR
comp=Z,17μm,18.0s
TPAW Teton Pass 72.15 39 *eP* **P 06 21 40.2 +1.3**
comp=Z,68nm,1.1s
TPAW LR LR
comp=Z,9μm,20.0s
A33A Warroad 72.17 26 P **P 06 21 37.6 -1.0**
baz=337,SNR=13
LOHW Long Hollow 72.17 38 *eP* **P 06 21 40.1 +1.1**
comp=Z,68nm,1.1s
LOHW LR LR
comp=Z,8μm,22.0s
SNOW Snow King Moun 72.24 39 *eP* **P 06 21 40.0 +0.5**
comp=Z,54nm,1.1s
SNOW LR LR
comp=Z,9μm,21.0s
REDW Red Top Meadow 72.29 39 *eP* **P 06 21 41.1 +1.3**
comp=Z,86nm,1.4s
B32A Ashes, Strandq 72.36 27 P **P 06 21 38.9 -0.9**
baz=336,SNR=11
PNTR Pine Nut 72.42 47 *eP* **P 06 21 41.5 +0.9**
comp=Z,326nm,1.5s
C31A Landman Farms, 72.59 28 P **P 06 21 40.5 -0.6**
baz=336,SNR=18
AGMN Agassiz Nation 72.63 27 P **P 06 21 40.2 -1.1**
baz=337,SNR=16
AGMN Agassiz Nation 72.63 27 *eP* **P 06 21 40.1 -1.3**
comp=Z,74nm,1.3s
AGMN LR LR
comp=Z,9μm,20.0s
YERR Yerington 72.66 47 *eP* **P 06 21 42.7 +0.8**
comp=Z,243nm,1.2s
YERR LR LR
comp=Z,6μm,18.0s
B33A Robert and Kas 72.73 26 P **P 06 21 40.8 -1.1**
baz=337,SNR=6.6
B34A Aery, Baudette 72.77 26 P **P 06 21 40.8 -1.4**
baz=338,SNR=9.5
C32A Crookston 72.89 27 P **P 06 21 41.7 -1.2**
baz=337
HVU Hansel Valley 72.93 41 PFAKE 06 22 00.0 +17
HVU LR LR
comp=Z,5μm,20.0s
CMB Columbia Colle 72.95 48 *eP* **P 06 21 44.0 +0.5**
CMB pmax pmax
comp=Z,63nm,1.1s
CMB Columbia Colle 72.95 48 *eP* **P 06 21 44.0 +0.5**
comp=Z,63nm,1.1s
CMB LR LR
comp=Z,4μm,20.0s
WAKR Walker 72.97 47 *eP* **P 06 21 45.0 +1.1**
comp=Z,116nm,1.0s
B35A Bob, Littlefor 73.12 25 P **P 06 21 42.8 -1.5**

baz=338,SNR=10
C33A Trail 73.15 27 P P 06 21 43.4 -1.1
baz=337
D31A Mcclaflin, Tow 73.27 28 P P 06 21 43.8 -1.4
baz=336
BW06 Boulder Array 73.28 38 P P 06 21 45.2 -0.4
baz=331,SNR=25
BW06 Boulder Array 73.28 38 eP P 06 21 45.5 -0.1
comp=Z,110nm,1.9s
BW06 LR LR
comp=Z,10μm,19.0s
PD31 Pinedale Array 73.28 38 eP P 06 21 44.6 -1.0
PDAR Pinedale Array 73.28 38 P P 06 21 45.4 -0.3
comp=Z,6.7nm,0.7s,baz=6.6,slow=2.3,SNR=39
PDAR LR LR 06 55 55.5
comp=Z,9μm,20.2s,baz=349,slow=37
TVH2 Borealis Mine 73.37 47 eP P 06 21 47.1 +0.8
comp=Z,56nm,1.1s
TVH2 LR LR
comp=Z,4μm,21.0s
D32A Dogwood Acres, 73.39 28 P P 06 21 44.8 -1.1
baz=336
SPUT South Promonto 73.46 41 PFAKE 06 22 00.0 +13
SPUT LR LR
comp=Z,6μm,19.0s
C34A RKJ Ranch, Bem 73.48 26 P P 06 21 45.3 -1.2
baz=338,SNR=7.9
SAO San Andreas Ge 73.54 50 eP P 06 21 48.0 +1.1
SAO pmax pmax
comp=Z,67nm,1.0s
SAO San Andreas Ge 73.54 50 eP P 06 21 48.0 +1.1
comp=Z,67nm,1.0s
SAO LR LR
comp=Z,4μm,19.0s
HWUT Hardware Ranch 73.54 40 eP P 06 21 47.8 +0.7
comp=Z,106nm,0.9s
HWUT LR LR
comp=Z,7μm,19.0s
BGU Big Grassy Mou 73.56 41 PFAKE 06 22 00.0 +13
BGU LR LR
comp=Z,5μm,20.0s
C35A Jirik Farms, M 73.67 26 P P 06 21 45.9 -1.7
baz=338,SNR=10
E31A Nome 73.67 29 P P 06 21 47.2 -0.4
baz=336,SNR=14
D33A AnnSam, Waubun 73.70 27 P P 06 21 46.6 -1.1
baz=337,SNR=9.9
E32A Braaten, Kindr 73.87 28 P P 06 21 47.6 -1.1
baz=336
C36A Pine Crest Far 73.90 25 P P 06 21 47.7 -1.2
baz=339,SNR=8.2
D34A Park Rapids 73.92 27 P P 06 21 48.0 -1.0
baz=337,SNR=16
MLAC Mammoth, Mammo 73.97 47 P P 06 21 50.7 +1.0
baz=327,SNR=8.4
RSSD Black Hills 74.00 34 P P 06 21 49.5 -0.3
baz=333
RSSD Black Hills 74.00 34 eP P 06 21 49.7 -0.1
RSSD pmax pmax
comp=Z,77nm,1.0s
RSSD Black Hills 74.00 34 eP P 06 21 49.7 -0.1
comp=Z,77nm,1.0s
RSSD LR LR
comp=Z,10μm,20.0s
EYMN Ely 74.05 24 P P 06 21 48.9 -0.9
baz=339,SNR=7.0
EYMN Ely 74.05 24 eP P 06 21 48.5 -1.3
comp=Z,50nm,1.1s
EYMN LR LR
comp=Z,11μm,18.0s
C37A Embarrass 74.09 24 P P 06 21 48.7 -1.3
baz=339,SNR=5.5
WB6 Warramunga Arr 74.18 170 PFAKE 06 22 00.0 +9.3
WB6 LR LR
comp=Z,4μm,21.0s
F31A Hecla 74.21 29 P P 06 21 50.1 -0.6
baz=336,SNR=18
D35A Remer 74.23 26 P P 06 21 49.5 -1.3
baz=338,SNR=6.5
E33A Westby DABS, E 74.25 27 P P 06 21 50.2 -0.8
baz=337,SNR=12
WRAB Tennant Creek 74.26 170 c iP P 06 21 50.5 -0.6
WRAB pmax pmax
comp=Z,84nm,1.3s
WRAB MLR MLR
comp=Z,5μm,19.0s
WRAB Tennant Creek 74.26 170 eP P 06 21 50.6 -0.5
comp=Z,80nm,0.9s
WRA Warramunga Arr 74.27 170 P P 06 21 50.5 -0.6
comp=Z,13nm,0.9s,baz=354,slow=6.0,SNR=38
WRA LR LR 06 52 47.2
comp=Z,2μm,21.9s,baz=345,slow=34
WB2 Warramunga Arr 74.27 170 eP P 06 21 50.7 -0.5
comp=Z,80nm,0.9s
KEST Kesra 74.27 310 P P 06 21 51.2 -0.2
comp=Z,15nm,1.1s,baz=16,slow=3.4,SNR=6.2
KEST LR LR 06 57 02.2
comp=Z,5μm,18.1s,baz=345,slow=38
KEST Kesra 74.27 310 eP P 06 21 52.3 +1.0
comp=Z,53nm,1.2s
DUG Dugway, Tooele 74.27 42 P P 06 21 51.9 +0.5
baz=329,SNR=45
DUG Dugway, Tooele 74.27 42 eP P 06 21 51.9 +0.5
DUG pmax pmax
comp=Z,92nm,1.2s
DUG Dugway, Tooele 74.27 42 eP P 06 21 51.9 +0.5
comp=Z,92nm,1.3s
DUG LR LR
comp=Z,5μm,19.0s
PMPB Monarch Peak 74.28 49 eP P 06 21 51.4 +0.1
comp=Z,152nm,1.3s
PMPB LR LR
comp=Z,3μm,19.0s
WC3 Warramunga Arr 74.29 170 eP P 06 21 51.0 -0.3
comp=Z,92nm,1.0s
C38A Sawbill Land. 74.32 24 P P 06 21 50.1 -1.2
baz=340
D36A Goodland 74.36 25 P P 06 21 50.4 -1.2
baz=338
JLU Jordanelle 74.45 41 PFAKE 06 22 00.0 +7.5
JLU LR LR
comp=Z,6μm,20.0s
E34A Wadena 74.46 27 P P 06 21 51.3 -0.9
baz=338,SNR=6.1
K22A Casper 74.46 36 P P 06 21 51.7 -0.7
baz=332,SNR=26
K22A Casper 74.46 36 eP P 06 21 52.4 -0.1
comp=Z,74nm,1.1s
K22A LR LR
comp=Z,4μm,20.0s
C39A Grand Marais 74.50 23 P P 06 21 52.0 -0.3
baz=340
F32A Veblen 74.52 28 P P 06 21 51.8 -0.7
baz=336
D37A Cotton 74.56 25 P P 06 21 51.2 -1.5
baz=339,SNR=6.9
E35A Pequot Lakes 74.62 26 P P 06 21 52.1 -1.0
baz=338
TIN Tinemaha, Big 74.71 47 P P 06 21 53.1 -0.8
baz=328
R11A Troy Canyon, C 74.73 45 P P 06 21 54.5 +0.4
baz=328,SNR=46
R11A Troy Canyon, C 74.73 45 eP P 06 21 54.3 +0.2
comp=Z,74nm,1.3s
R11A LR LR
comp=Z,4μm,19.0s
F33A 5 Mile Ranch, 74.78 28 P P 06 21 53.3 -0.7
baz=337,SNR=14
G31A Conde 74.80 29 P P 06 21 53.6 -0.6
baz=336,SNR=9.9
DGAR Diego Garcia 74.85 233 PFAKE 06 22 10.0 +15
DGAR LR LR
comp=Z,9μm,18.0s
MPU Maple Canyon 74.89 41 eP P 06 21 55.6 +0.6
comp=Z,62nm,1.1s
RCTC Rector, Farmer 74.90 48 P P 06 21 54.5 -0.3
baz=327,SNR=7.6
PAGB Antelope Grade 74.93 49 eP P 06 21 55.9 +0.8
comp=Z,131nm,1.3s
PAGB LR LR
comp=Z,4μm,18.0s
E36A McGregor 74.95 26 P P 06 21 54.3 -0.8
baz=338,SNR=13
G32A Webster 74.97 29 P P 06 21 55.1 -0.1
baz=336,SNR=13
MBWA Marble Bar 75.00 184 eP P 06 21 55.1 -0.3
comp=Z,43nm,0.9s
RWWY Rawlins 75.07 37 eP P 06 21 55.9 -0.2
comp=Z,49nm,1.1s
RWWY LR LR
comp=Z,8μm,21.0s
F34A Alexandria 75.10 27 P P 06 21 55.4 -0.5
baz=338,SNR=13
E37A Wrenshall 75.12 25 P P 06 21 55.0 -1.0
baz=339
GRAC Grapevine Rang 75.13 47 P P 06 21 57.5 +1.2
baz=328,SNR=82
F35A Swanville 75.22 27 P P 06 21 56.0 -0.6
baz=338,SNR=18
CWC Cottonwood Cre 75.29 47 P P 06 21 57.3 -0.1
baz=328
E38A The Farm, Brul 75.29 24 P P 06 21 55.8 -1.1
baz=340,SNR=7.8
SUSD Miller 75.29 30 P P 06 21 56.7 -0.4
baz=336,SNR=19
G33A Ortonville 75.33 28 P P 06 21 57.0 -0.2
baz=337,SNR=23
VES Vestal, Richgr 75.36 48 P P 06 21 57.1 -0.4
baz=327,SNR=20
SMMC Simmler 75.39 49 P P 06 21 57.7 -0.1
baz=327
H31A Wolsey 75.40 30 P P 06 21 57.1 -0.6
baz=336,SNR=13
ATD Arta Tunnel 75.46 270 P P 06 21 58.9 +0.5
comp=Z,17nm,0.9s,baz=78,slow=6.9,SNR=6.0
F36A Milaca 75.49 26 P P 06 21 57.3 -0.9
baz=338,SNR=14
G34A Benson 75.51 28 P P 06 21 57.7 -0.5
baz=337,SNR=21
PBRG Braganca 75.52 324 eP P 06 21 58.2 -0.2
comp=Z,25nm,1.5s
PBRG epP pP 06 22 03.1 +0.1
PBRG Braganca 75.52 324 eSS SS 06 36 24.6 -3.2
PBRG eLR LR 06 46 00.9
comp=Z,5μm,16.0s
D41A Chassel 75.56 22 P P 06 21 57.5 -1.0
baz=341
TPNV Topopah Spring 75.64 46 P P 06 21 59.7 +0.3
baz=328,SNR=58
TPNV Topopah Spring 75.64 46 eP P 06 21 59.1 -0.3
TPNV pmax pmax
comp=Z,62nm,1.0s
TPNV Topopah Spring 75.64 46 eP P 06 21 59.8 +0.5
comp=Z,62nm,0.9s
TPNV LR LR
comp=Z,4μm,19.0s
H32A Carlson Farm, 75.68 29 P P 06 21 58.8 -0.5
baz=336,SNR=26
H33A Prehn Over Nor 75.72 29 P P 06 21 59.3 -0.1
baz=337,SNR=38
E39A Mellen 75.75 24 P P 06 21 58.7 -0.9
baz=340,SNR=13
ISA Isabella, Lake 75.77 48 P P 06 21 59.8 -0.3
baz=328
ISA Isabella, Lake 75.77 48 PFAKE 06 22 10.0 +10
ISA LR LR
comp=Z,4μm,20.0s
FURC Furnace Creek, 75.79 46 P P 06 22 00.7 +0.7
baz=328,SNR=86
I31A Royce, Wessing 75.80 30 P P 06 21 58.9 -1.1
baz=336
F38A Pierce - Schro 75.82 25 P P 06 21 59.7 -0.3
baz=339,SNR=17
PKM Mcpherson Peak 75.83 49 P P 06 22 01.5 +1.0
baz=327,SNR=29
G35A Watkins 75.84 27 P P 06 21 59.4 -0.7
baz=338,SNR=10.0
E40A Wakefield 75.84 23 P P 06 21 59.8 -0.3
baz=340,SNR=13
F37A Hinrichs Farm, 75.85 25 P P 06 21 59.7 -0.5
baz=339,SNR=15
MPMC Manual Prospec 75.87 47 P P 06 22 01.4 +0.7
baz=328,SNR=77
PGAV Gavieira, Arco 75.90 325 eP P 06 22 02.5 +1.9
comp=Z,41nm,1.6s
PGAV eS S 06 31 46.4 +3.8
PGAV eSS SS 06 36 32.0 -1.7
PGAV eLR LR 06 46 08.6
comp=Z,4μm,18.0s
H34A Spellman Lake, 76.00 28 P P 06 22 00.6 -0.5
baz=337,SNR=22
G36A St. Michael 76.02 26 P P 06 22 00.7 -0.5
baz=338
PHWY Pilot Hill 76.03 36 eP P 06 22 02.1 +0.4
comp=Z,93nm,1.4s
PHWY LR LR
comp=Z,5μm,18.0s
E41A Kenton 76.04 23 P P 06 22 00.1 -1.1
baz=341,SNR=6.5
PCAB Cabril 76.04 325 eP P 06 22 02.2 +0.8
comp=Z,48nm,1.5s
PCAB epP pP 06 22 06.7 +0.7
O20A White River Ci 76.06 39 P P 06 22 01.6 -0.1
baz=332,SNR=41
O20A White River Ci 76.06 39 eP P 06 22 01.8 +0.1
comp=Z,66nm,0.9s
O20A LR LR
comp=Z,9μm,22.0s
ARVC Arvin 76.07 49 P P 06 22 01.3 -0.3
baz=328
F39A Loretta 76.09 24 P P 06 22 01.2 -0.4
baz=340,SNR=15
I32A Karley and Nic 76.11 29 P P 06 22 01.0 -0.7
baz=336,SNR=6.5
MVO Moncorvo 76.19 324 eP P 06 22 02.1 -0.2
comp=Z,42nm,1.6s
MVO epP pP 06 22 07.1 +0.3
MVO eS S 06 31 47.3 +1.5
MVO eSS SS 06 36 39.6 +1.6
MVO eLR LR 06 45 26.5
comp=Z,5μm,18.0s
N23A Red Feather La 76.22 37 P P 06 22 02.4 -0.3
baz=333,SNR=42
N23A Red Feather La 76.22 37 eP P 06 22 03.5 +0.8
comp=Z,96nm,1.1s
N23A LR LR
comp=Z,7μm,21.0s
H35A Sunnyside Ranc 76.23 27 P P 06 22 02.0 -0.4
baz=338,SNR=8.3
SBC Santa Barbara 76.25 50 P P 06 22 02.3 -0.3
baz=327
POLO Lamas de Olo 76.26 325 eP P 06 22 02.7 0.0
comp=Z,23nm,1.4s
POLO epP pP 06 22 07.6 +0.3
POLO eS S 06 31 50.4 +3.8
POLO eSS SS 06 36 42.9 +3.7
POLO eLR LR 06 45 37.4
comp=Z,2μm,20.0s
SPMN Marine on St. 76.27 26 P P 06 22 01.8 -0.7
baz=339,SNR=9.1
SPMN Marine on St. 76.27 26 eP P 06 22 02.4 -0.2
comp=Z,44nm,1.1s
SPMN LR LR
comp=Z,8μm,22.0s
LRMC Laurel Mtn Rad 76.27 48 P P 06 22 03.1 +0.1
baz=328,SNR=20
F40A Park Falls 76.28 24 P P 06 22 01.6 -1.0
baz=340,SNR=7.9
I33A Coleman 76.28 29 P P 06 22 02.2 -0.5
baz=337,SNR=9.5
E42A Champion 76.30 22 P P 06 22 01.8 -0.9
baz=342,SNR=6.1
PVRL Vila Real 76.33 324 epP pP 06 22 07.9 +0.3
CTAO Charters Tower 76.34 158 eP P 06 22 03.5 +0.4
CTAO pmax pmax
comp=Z,86nm,1.1s
CTAO Charters Tower 76.34 158 eP P 06 22 03.5 +0.4
comp=Z,86nm,1.1s
ES19 SONSECA Array 76.36 321 eP P 06 22 03.0 -0.2
ESDC Sonseca Array 76.40 321 P P 06 22 03.3 -0.2
comp=Z,14nm,1.0s,baz=26,slow=5.9,SNR=26
ESLA Sonseca Array 76.40 321 eP P 06 22 03.8 +0.3
comp=Z,29nm,1.0s
ESLA LR LR
comp=Z,7μm,19.0s
J31A Geddes 76.41 31 P P 06 22 02.8 -0.6
baz=336,SNR=11
SHPR Sheep Range 76.48 45 eP P 06 22 05.0 +0.8
comp=Z,109nm,1.2s
SHPR LR LR
comp=Z,5μm,18.0s
SHOC Shoshone, Teco 76.52 46 P P 06 22 04.7 +0.5
baz=328,SNR=40
OSI Osito Audit: C 76.55 49 P P 06 22 04.0 -0.4
baz=328
OSI Osito Audit: C 76.55 49 PFAKE 06 22 20.0 +16
OSI LR LR
comp=Z,4μm,19.0s
E44A Grand Marais A 76.55 21 P P 06 22 03.7 -0.4
baz=343,SNR=15
I34A Hadley 76.56 28 P P 06 22 03.5 -0.8
baz=337
E43A Lone Tree Farm 76.56 21 P P 06 22 03.4 -0.8
baz=342,SNR=6.4
G38A Ridgeland 76.56 25 P P 06 22 03.1 -1.1
baz=339,SNR=6.8
H36A Jessenland, He 76.58 27 P P 06 22 04.4 0.0
baz=338,SNR=21
J32A Parkston 76.60 30 P P 06 22 03.7 -0.8
baz=336,SNR=17
VLDQ Val d'Or 76.61 14 eP P 06 22 03.4 -1.0
comp=Z,46nm,1.0s
VLDQ LR LR
comp=Z,13μm,18.0s
ECSD EROS Data Cent 76.62 29 P P 06 22 04.3 -0.4
baz=337,SNR=47
ECSD EROS Data Cent 76.62 29 eP P 06 22 04.2 -0.4
comp=Z,378nm,1.8s
ECSD LR LR
comp=Z,6μm,19.0s
G39A Holcombe 76.62 25 P P 06 22 03.8 -0.8
baz=340,SNR=6.7
EDW2 Edwards Air Fo 76.64 48 P P 06 22 05.6 +0.6
baz=328,SNR=72
PAB San Pablo 76.66 321 eP P 06 22 04.8 -0.2
PAB pmax pmax
comp=Z,31nm,1.2s
PAB San Pablo 76.66 321 eP P 06 22 04.8 -0.2
comp=Z,31nm,1.3s
PAB LR LR
comp=Z,6μm,20.0s
SCZ2 Santa Cruz Isl 76.66 50 P P 06 22 05.0 0.0
baz=327
F41A Three Lakes 76.69 23 P P 06 22 04.2 -0.8
baz=341,SNR=5.9
GSC Goldstone, Bar 76.80 47 P P 06 22 06.6 +0.7
baz=328,SNR=35
GSC Goldstone, Bar 76.80 47 eP P 06 22 06.8 +0.9
GSC pmax pmax
comp=Z,71nm,1.1s
GSC Goldstone, Bar 76.80 47 eP P 06 22 06.8 +0.9
comp=Z,71nm,1.1s
BLG Laguna Peak, P 76.82 49 P P 06 22 06.5 +0.6
baz=328
H37A Dierke Farm, C 76.84 26 P P 06 22 05.3 -0.6
baz=339
G40A Rib Lake 76.88 24 P P 06 22 05.2 -0.8
baz=340,SNR=16
PVIS Viseu 76.89 324 eP P 06 22 06.3 +0.1
comp=Z,34nm,1.9s
PVIS epP pP 06 22 11.1 +0.3
F42A Maple Grove Fa 76.89 22 P P 06 22 05.4 -0.7
baz=341
J33A Davis 76.90 29 P P 06 22 05.6 -0.6
baz=337,SNR=8.8
H38A Maiden Rock 76.92 26 P P 06 22 05.7 -0.6
baz=339
E45A Wooded Hills, 76.95 20 P P 06 22 05.8 -0.6
baz=343,SNR=10
I35A Creekview Farm 76.97 28 P P 06 22 05.8 -0.8
baz=338
K31A O'Neill 77.01 31 P P 06 22 06.5 -0.3
baz=336,SNR=9.2
DECC Green Verdugo 77.02 49 P P 06 22 06.9 -0.2
baz=328
F43A Flat Rock, Esc 77.04 22 P P 06 22 06.2 -0.6
baz=342,SNR=7.2
MTE Manteigas 77.05 324 eP P 06 22 07.4 +0.3
comp=Z,41nm,1.2s
MTE epP pP 06 22 12.1 +0.4
MTE eS S 06 31 59.4 +4.2
MTE eSS SS 06 36 52.3 +1.3
MTE eLR LR 06 45 29.8
comp=Z,4μm,18.0s
MTE Manteigas 77.05 324 eP P 06 22 07.4 +0.3
comp=Z,57nm,1.1s
MTE LR LR
comp=Z,4μm,19.0s
F44A Big Bay de Noc 77.06 21 P P 06 22 06.1 -0.9
baz=342
TUQ Turquoise Moun 77.07 46 P P 06 22 08.2 +0.7
baz=329,SNR=35
I36A Fitzsimmons Fa 77.08 27 P P 06 22 06.4 -0.7
baz=338
RRX Edison Barstow 77.08 47 P P 06 22 07.9 +0.5
baz=328
PASC Pasadena Art C 77.16 49 eP P 06 22 08.5 +0.7
comp=Z,71nm,1.3s
PASC LR LR
comp=Z,5μm,22.0s
PV09 Paradox Valley 77.16 40 eP P 06 22 08.4 +0.3
H39A Augusta 77.17 25 P P 06 22 07.0 -0.6
baz=340,SNR=8.2
G41A Antigo 77.17 23 P P 06 22 06.9 -0.8
baz=341
MWC Mount Wilson 77.17 49 eP P 06 22 07.7 -0.4
MWC pmax pmax
comp=Z,77nm,1.1s
MWC Mount Wilson 77.17 49 eP P 06 22 07.7 -0.4
comp=Z,77nm,1.1s
MWC LR LR
comp=Z,6μm,21.0s
K32A Verdigre 77.21 30 P P 06 22 07.2 -0.7
baz=336
J34A George 77.22 29 P P 06 22 07.2 -0.9
baz=337
I37A Lemond, Waseca 77.25 27 P P 06 22 08.2 +0.1
baz=339,SNR=11
ISCO Idaho Springs 77.30 37 P P 06 22 08.7 -0.3
baz=333,SNR=32
ISCO Idaho Springs 77.30 37 eP P 06 22 09.4 +0.5
ISCO pmax pmax
comp=Z,110nm,1.4s
ISCO Idaho Springs 77.30 37 eP P 06 22 09.4 +0.5
comp=Z,112nm,1.4s
ISCO LR LR
comp=Z,7μm,20.0s
PV10 Paradox Valley 77.30 40 eP P 06 22 09.8 +0.9
G42A Mountain 77.31 23 P P 06 22 07.6 -0.9
baz=341,SNR=7.7
BFSC Mount Baldy Ra 77.33 48 P P 06 22 09.7 +0.8
baz=328,SNR=37
SNCC San Nicolas Is 77.33 50 P P 06 22 08.7 -0.1
baz=328
SNCC San Nicolas Is 77.33 50 eP P 06 22 13.0 +4.2
comp=Z,118nm,1.1s
PV04 Paradox Valley 77.34 40 eP P 06 22 08.3 -0.7
J35A Milford 77.36 28 P P 06 22 07.3 -1.5
baz=338
SMCO Snowmass 77.37 38 eP P 06 22 09.7 +0.3
comp=Z,128nm,0.9s
HEC Hector,Ludlow 77.41 47 P P 06 22 09.7 +0.5
baz=329,SNR=17
H40A Chili 77.44 24 P P 06 22 08.5 -0.6
baz=340,SNR=6.1
G43A Wallace 77.47 22 P P 06 22 09.0 -0.3
baz=342
FMP Fort Macarthur 77.50 49 P P 06 22 09.8 +0.1
baz=328
I38A Scanlan Farm, 77.50 26 P P 06 22 08.5 -1.0
baz=339,SNR=9.7
OGNE Ogallala 77.50 34 P P 06 22 09.3 -0.4
baz=334,SNR=9.8
OGNE Ogallala 77.50 34 eP P 06 22 10.2 +0.5
comp=Z,136nm,1.0s
OGNE LR LR
comp=Z,8μm,18.0s
PCBR Castelo Branco 77.52 324 eP P 06 22 09.7 0.0
comp=Z,30nm,1.4s
PCBR epP pP 06 22 14.7 +0.4
F45A CMU Biological 77.53 21 P P 06 22 09.0 -0.6
baz=343
PV05 Paradox Valley 77.54 40 eP P 06 22 10.8 +0.6
K33A Hardington 77.55 30 P P 06 22 09.3 -0.5
baz=337
H41A Junction City 77.62 24 P P 06 22 08.6 -1.6
baz=341
J36A Seneca 1, Swea 77.63 27 P P 06 22 09.8 -0.5
baz=338,SNR=16
BBRC Big Bear Solar 77.64 48 P P 06 22 11.2 +0.4
baz=328,SNR=8.0
PCAS Casmilo, Conde 77.68 324 eP P 06 22 10.2 -0.4
comp=Z,55nm,1.4s
PCAS epP pP 06 22 15.8 +0.6

PCAS eS **S** **06 32 09.2 +7.2**
PCAS eSS **SS** **06 37 01.3 +0.8**
PCAS eLR LR 06 46 45.0
comp=Z,5µm,20.0s
PV01 Paradox Valley 77.69 40 eP **P** **06 22 11.1 0.0**
CIS Catalina Islan 77.70 49 P **P** **06 22 10.8 0.0**
baz=328
LDFC Landfair 77.72 46 eP **P** **06 22 11.6 +0.6**
comp=Z,184nm,1.0s
LDFC LR LR
comp=Z,4µm,19.0s
U15A North Rim 77.73 43 eP **P** **06 22 11.5 +0.2**
comp=Z,104nm,1.4s
U15A LR LR
comp=Z,5µm,18.0s
K34A Le Mars 77.73 29 P **P** **06 22 10.3 -0.6**
baz=337,SNR=42
GMRC Granite Mounta 77.74 47 P **P** **06 22 11.7 +0.5**
baz=329,SNR=34
L32A Elgin 77.80 31 P **P** **06 22 10.4 -0.8**
baz=336
PMRV Marv??o 77.86 323 eP **P** **06 22 12.4 +0.8**
comp=Z,20nm,1.6s
PMRV epP **pP** **06 22 16.2 0.0**
PMRV Marv??o 77.86 323 eS S 06 32 30.2 +26
PMRV eSS **SS** **06 37 05.9 +2.7**
PMRV eLR LR 06 46 15.7
comp=Z,4µm,16.0s
J37A Redenius Farm, 77.86 27 P **P** **06 22 11.1 -0.5**
baz=339,SNR=10
L33A Hoskins 77.87 30 P **P** **06 22 10.8 -0.8**
baz=337
I39A Houston 77.88 25 P **P** **06 22 10.9 -0.7**
baz=340,SNR=12
AS31 Alice Springs 77.91 171 eP **P** **06 22 11.6 -0.2**
comp=Z,7.1nm,0.8s
ASAR Alice Springs 77.91 171 P **P** **06 22 11.7 -0.2**
comp=Z,12nm,0.9s,baz=2.1,slow=5.7,SNR=34
ASAR PKKPbc **PKKPbc** **06 41 13.1 +0.9**
comp=Z,0.7nm,0.6s,baz=172,slow=2.5,SNR=4.2
ASAR LR LR 06 55 13.4
comp=Z,2µm,21.9s,baz=347,slow=35
AS01 Alice Springs 77.91 170 eP **P** **06 22 12.1 +0.2**
K35A Storm Lake 77.95 28 P **P** **06 22 11.0 -1.1**
baz=338
H42A Shiocton 77.98 23 P **P** **06 22 11.5 -0.7**
baz=341,SNR=7.3
I40A Norwalk 78.07 25 P **P** **06 22 12.3 -0.4**
baz=340,SNR=8.0
MURC Murrieta 78.08 48 P **P** **06 22 12.6 -0.4**
baz=328
I41A Arkdale 78.09 24 P **P** **06 22 12.5 -0.4**
baz=341,SNR=7.3
J38A Wedel Dairy, R 78.14 26 P **P** **06 22 12.2 -0.9**
baz=339,SNR=5.3
NEE2 Needles Airpor 78.19 46 P **P** **06 22 12.4 -1.2**
baz=329
H43A Windswept, Lux 78.19 23 P **P** **06 22 12.9 -0.5**
baz=342
Q24A Divide 78.21 37 P **P** **06 22 13.7 -0.2**
baz=333,SNR=22
Q24A Divide 78.21 37 eP **P** **06 22 14.4 +0.4**
comp=Z,60nm,1.1s
Q24A LR LR
comp=Z,6µm,21.0s
W13A Hualapai Mount 78.22 45 eP **P** **06 22 13.4 -0.5**
comp=Z,57nm,1.0s
W13A LR LR
comp=Z,7µm,20.0s
K36A Gilmore City 78.24 28 P **P** **06 22 13.1 -0.6**
baz=338,SNR=11
BELC Belle Mtn. Jos 78.26 47 P **P** **06 22 14.5 +0.4**
baz=329,SNR=32
BGNE Belgrade 78.30 31 P **P** **06 22 13.4 -0.7**
baz=336,SNR=18
BGNE Belgrade 78.30 31 eP **P** **06 22 13.8 -0.3**
comp=Z,299nm,1.1s
BGNE LR LR
comp=Z,12µm,22.0s
L34A Svendsen Farm, 78.32 29 P **P** **06 22 13.1 -1.1**
baz=337,SNR=13
J39A Decorah 78.32 26 P **P** **06 22 13.0 -1.1**
baz=340,SNR=9.1
K37A Belmond 78.34 27 P **P** **06 22 13.8 -0.5**
baz=339,SNR=36
PFO Pinyon Flats O 78.39 48 P **P** **06 22 14.9 +0.1**
baz=329,SNR=36
PFO Pinyon Flats O 78.39 48 eP **P** **06 22 15.5 +0.7**
PFO pmax pmax
comp=Z,80nm,1.2s
PFO Pinyon Flats O 78.39 48 eP **P** **06 22 15.5 +0.7**
comp=Z,80nm,1.2s
PFO LR LR
comp=Z,4µm,20.0s
L35A Bielow Farm, R 78.42 29 P **P** **06 22 13.6 -1.1**
baz=336
PESTR Estremoz 78.43 323 eP **P** **06 22 15.0 +0.2**
comp=Z,37nm,1.4s
PESTR epP **pP** **06 22 19.6 +0.2**
PESTR Estremoz 78.43 323 eS S 06 32 31.8 +22
PESTR eSS **SS** **06 37 12.9 +1.2**
PESTR eLR LR 06 46 06.8
comp=Z,4µm,20.0s
M33A Taylor Creek F 78.44 30 P **P** **06 22 14.5 -0.3**
baz=337,SNR=12
PMTG Montargil 78.47 324 eP **P** **06 22 14.8 -0.2**
comp=Z,47nm,1.1s
PMTG epP **pP** **06 22 19.6 0.0**
PMTG eS **S** **06 32 14.3 +3.9**
PMTG eSS **SS** **06 37 11.9 -0.4**
PMTG eLR LR 06 46 28.3
comp=Z,4µm,18.0s
I42A Draeger Farm, 78.48 24 P **P** **06 22 14.6 -0.4**
baz=341,SNR=6.9
IRM Iron Mountain 78.49 46 P **P** **06 22 16.4 +1.1**
baz=329,SNR=84
J40A Soldiers Grove 78.50 25 P **P** **06 22 14.3 -0.9**
baz=340,SNR=7.6
MVCO Mesa Verde 78.53 40 P **P** **06 22 15.7 0.0**
baz=332,SNR=40
MVCO Mesa Verde 78.53 40 eP **P** **06 22 16.1 +0.4**
comp=Z,72nm,1.1s
MVCO LR LR
comp=Z,6µm,20.0s
GLMI Grayling 78.53 20 eP **P** **06 22 15.5 +0.2**
comp=Z,102nm,1.0s
GLMI LR LR
comp=Z,8µm,18.0s
L36A Harm Buss Farm 78.68 28 P **P** **06 22 15.7 -0.4**
baz=338
S22A 4UR Ranch, Cre 78.68 39 P **P** **06 22 17.0 +0.4**
baz=332,SNR=30
S22A 4UR Ranch, Cre 78.68 39 eP **P** **06 22 17.3 +0.7**
comp=Z,171nm,2.0s
S22A LR LR
comp=Z,5µm,20.0s
M34A Aspy Farms, Fr 78.68 30 P **P** **06 22 15.3 -0.8**
baz=337,SNR=14
K38A Parkersburg 78.69 27 P **P** **06 22 15.4 -0.7**
baz=339,SNR=15
J41A Loganville 78.71 24 P **P** **06 22 15.7 -0.6**
baz=341,SNR=7.3
109C Camp Elliot, M 78.72 49 P **P** **06 22 16.6 +0.1**
baz=328
BC3 Big Chuckawall 78.79 47 P **P** **06 22 17.5 +0.6**
baz=329,SNR=31
PDMCI Parker Dam,Lak 78.79 46 P **P** **06 22 17.2 +0.3**
baz=330,SNR=71
PBAR Barrancos 78.85 323 eP **P** **06 22 17.1 0.0**
comp=Z,80nm,1.4s
PBAR epP **pP** **06 22 22.1 +0.4**
PBAR Barrancos 78.85 323 eS S 06 32 39.1 +25
PBAR eSS **SS** **06 37 21.2 +3.2**
PBAR Barrancos 78.85 323 eLR LR 06 47 42.6
comp=Z,11µm,20.0s
K39A Oelwein 78.86 26 P **P** **06 22 15.9 -1.2**
baz=340,SNR=18
TRQ Mont Tremblant 78.86 13 eP **P** **06 22 17.4 +0.2**
EVO Evora 78.87 323 eP **P** **06 22 17.2 0.0**
comp=Z,59nm,1.0s
EVO epP **pP** **06 22 22.3 +0.5**
WUAZ Wupatki 78.88 43 P **P** **06 22 18.2 +0.7**
baz=331,SNR=27
WUAZ Wupatki 78.88 43 eP **P** **06 22 18.3 +0.7**
comp=Z,76nm,1.3s
WUAZ LR LR
comp=Z,4µm,19.0s

L37A Phoenix Point, 78.91 28 P **P** **06 22 16.5 -0.8**
baz=339,SNR=20
PMAFR Mafra 78.94 325 eP **P** **06 22 18.9 +1.3**
comp=Z,84nm,1.1s
PMAFR epP **pP** **06 22 22.8 +0.6**
PMAFR Mafra 78.94 325 eS S 06 32 31.5 +16
PMAFR eSS **SS** **06 37 24.6 +5.3**
PMAFR eLR LR 06 47 23.6
comp=Z,5µm,16.0s
M35A Neola 78.97 29 P **P** **06 22 17.3 -0.4**
baz=338,SNR=21
MONP2 Monument Peak 79.02 48 P **P** **06 22 19.1 +0.7**
baz=329,SNR=32
KSCO Kaye Shedlock' 79.04 35 P **P** **06 22 18.2 -0.2**
baz=334,SNR=18
KSCO Kaye Shedlock' 79.04 35 eP **P** **06 22 18.7 +0.4**
comp=Z,156nm,1.1s
KSCO LR LR
comp=Z,12µm,22.0s
K40A Colesburg 79.06 25 P **P** **06 22 17.5 -0.7**
baz=340,SNR=22
JFWS Jewell Farm 79.08 25 eP **P** **06 22 17.6 -0.7**
JFWS pmax pmax
comp=Z,55nm,1.0s
JFWS Jewell Farm 79.08 25 eP **P** **06 22 17.6 -0.7**
comp=Z,55nm,1.0s
JFWS LR LR
comp=Z,13µm,19.0s
BAR Barrett 79.09 48 eP **P** **06 22 19.3 +0.8**
comp=Z,97nm,1.4s
BAR LR LR
comp=Z,3µm,20.0s
PMST Lisbon--Monsan 79.10 324 epP pP 06 22 22.9 -0.1
Y12C Blythe 79.11 46 P **P** **06 22 19.4 +0.8**
baz=329,SNR=34
Y12C Blythe 79.11 46 eP **P** **06 22 18.9 +0.3**
comp=Z,105nm,1.1s
Y12C LR LR
comp=Z,4µm,20.0s
L38A Oak Wood Farm, 79.11 27 P **P** **06 22 17.9 -0.5**
baz=339
SDCO Great Sand Dun 79.17 38 P **P** **06 22 19.3 +0.1**
baz=333,SNR=43
SDCO Great Sand Dun 79.17 38 eP **P** **06 22 19.4 +0.1**
comp=Z,44nm,1.1s
SDCO LR LR
comp=Z,5µm,21.0s
M36A Felix, Anita 79.24 29 P **P** **06 22 18.8 -0.5**
baz=338,SNR=12
SWSC Sam W. Stewart 79.24 48 P **P** **06 22 19.3 0.0**
baz=329,SNR=20
SCIA State Center 79.26 27 eP **P** **06 22 19.2 -0.1**
comp=Z,361nm,1.5s
SCIA LR LR
comp=Z,8µm,19.0s
PBEJ Beja 79.27 323 eP **P** **06 22 19.8 +0.4**
comp=Z,49nm,1.1s
PBEJ epP **pP** **06 22 24.5 +0.5**
N34A Lincoln 79.32 30 P **P** **06 22 18.8 -0.8**
baz=337,SNR=13
K41A Shullsburg 79.36 25 P **P** **06 22 19.2 -0.6**
baz=340,SNR=14
IKP In-Ko-Pah, Jac 79.36 48 P **P** **06 22 20.5 +0.4**
baz=329,SNR=30
L39A Vinton 79.38 26 P **P** **06 22 19.0 -1.0**
baz=340,SNR=14
PNCL Nicolau / Gran 79.43 324 eP **P** **06 22 20.7 +0.4**
comp=Z,39nm,1.8s
PNCL epP **pP** **06 22 25.3 +0.5**
PNCL Nicolau / Gran 79.43 324 eS S 06 32 34.2 +14
PNCL eSS **SS** **06 37 26.0 -0.7**
PNCL Nicolau / Gran 79.43 324 eLR LR 06 47 43.6
comp=Z,5µm,20.0s
M37A Trindle Farm, 79.50 28 P **P** **06 22 20.4 -0.2**
baz=338,SNR=27
N35A Tabor 79.55 29 P **P** **06 22 20.6 -0.3**
baz=338,SNR=22
GLA Glamis 79.57 47 P **P** **06 22 22.1 +0.9**
baz=329,SNR=20
GLA Glamis 79.57 47 eP **P** **06 22 22.4 +1.2**
GLA pmax pmax
comp=Z,110nm,1.3s
GLA Glamis 79.57 47 eP **P** **06 22 22.4 +1.2**
comp=Z,111nm,1.3s
GLA LR LR
comp=Z,5µm,20.0s
Y14A Wickenburg 79.58 45 eP **P** **06 22 21.9 +0.7**
comp=Z,329nm,1.1s
Y14A LR LR
comp=Z,21µm,20.0s
L40A Anamosa 79.64 26 P **P** **06 22 20.5 -0.8**
baz=340,SNR=25
PLVO Plevna 79.67 15 eP **P** **06 22 21.1 -0.3**
comp=Z,123nm,1.7s
PLVO LR LR
comp=Z,8µm,18.0s
PCVE Castro Verde 79.69 323 eP **P** **06 22 21.8 +0.1**
comp=Z,38nm,1.0s
PCVE epP **pP** **06 22 26.9 +0.6**
PCVE Castro Verde 79.69 323 eS S 06 32 33.1 +10
PCVE eSS **SS** **06 37 30.3 -0.3**
PCVE Castro Verde 79.69 323 eLR LR 06 47 59.2
comp=Z,4µm,18.0s
O33A Hebron 79.70 31 P **P** **06 22 20.4 -1.3**
baz=337,SNR=17
M38A Pleasantville 79.72 27 P **P** **06 22 21.3 -0.4**
baz=339,SNR=27
PVAQ Vaqueiros 79.78 323 eP **P** **06 22 22.2 0.0**
comp=Z,39nm,1.2s
PVAQ epP **pP** **06 22 27.2 +0.4**
PVAQ Vaqueiros 79.78 323 eS S 06 32 34.7 +10
PVAQ eSS **SS** **06 37 41.0 +9.0**
PVAQ Vaqueiros 79.78 323 eLR LR 06 48 15.6
comp=Z,5µm,20.0s
N36A Muff Farm, Cla 79.79 29 P **P** **06 22 22.1 -0.1**
baz=338,SNR=22
L41A Preston 79.81 25 P **P** **06 22 21.5 -0.7**
baz=340,SNR=24
X16A Lo Mia Camp, P 79.81 44 eP **P** **06 22 23.2 +0.5**
comp=Z,59nm,1.2s
O34A Beatrice 79.87 30 P **P** **06 22 21.6 -1.1**
baz=337,SNR=28
W18A Petrified Fore 79.89 42 P **P** **06 22 23.0 -0.1**
baz=331
W18A Petrified Fore 79.89 42 eP **P** **06 22 23.7 +0.7**
comp=Z,66nm,1.3s
W18A LR LR
comp=Z,6µm,18.0s
M39A Webster 79.94 27 P **P** **06 22 22.3 -0.7**
baz=340,SNR=21
PBDV Barranco-do-Ve 80.00 323 eP **P** **06 22 23.7 +0.3**
comp=Z,37nm,1.7s
PBDV epP **pP** **06 22 28.6 +0.6**
PBDV Barranco-do-Ve 80.00 323 eS S **06 32 35.5 +8.7**
PBDV eSS SS 06 37 46.9 +12
PBDV Barranco-do-Ve 80.00 323 eLR LR 06 48 06.4
comp=Z,4µm,18.0s
O35A Humboldt 80.02 30 P **P** **06 22 22.9 -0.6**
baz=338
N37A Lee Faris, Mou 80.05 28 P **P** **06 22 23.1 -0.6**
baz=338,SNR=21
T25A Trinidad 80.10 37 P **P** **06 22 23.5 -0.7**
baz=334,SNR=38
T25A Trinidad 80.10 37 eP **P** **06 22 23.6 -0.6**
comp=Z,97nm,1.3s
T25A LR LR
comp=Z,6µm,19.0s
L43A Garden Prairie 80.14 24 P **P** **06 22 23.1 -1.0**
baz=341
CBKS Cedar Bluff 80.17 33 P **P** **06 22 23.7 -0.7**
baz=336
CBKS Cedar Bluff 80.17 33 eP **P** **06 22 24.3 -0.1**
CBKS pmax pmax
comp=Z,140nm,1.3s
CBKS Cedar Bluff 80.17 33 eP **P** **06 22 24.3 -0.1**
comp=Z,144nm,1.4s
CBKS LR LR
comp=Z,10µm,21.0s
M40A Post Highland 80.18 26 P **P** **06 22 23.7 -0.6**
baz=340,SNR=36
LMN Caledonia Moun 80.18 6 eP **P** **06 22 24.8 +0.6**
comp=Z,69nm,1.0s
LMN LR LR
comp=Z,10µm,21.0s
MORF Marmelete 80.19 323 eP **P** **06 22 24.7 +0.2**
MORF eS **S** **06 32 29.2 +0.3**
MORF AMS AMS 06 56 08.3
comp=E,8µm,18.7s
MORF Marmelete 80.19 323 eP **P** **06 22 25.1 +0.6**
comp=E,49nm,1.5s
MORF epP **pP** **06 22 29.7 +0.6**
MORF eS **S** **06 32 28.3 -0.6**
MORF eSS **SS** **06 37 42.5 +4.2**
MORF Marmelete 80.19 323 eLR LR 06 48 10.4
comp=E,5µm,18.0s
MORF Marmelete 80.19 323 eP **P** **06 22 24.7 +0.2**
MORF eS **S** **06 32 29.0 +0.1**
113A Mohawk Valley, 80.27 46 eP **P** **06 22 25.9 +1.0**
comp=E,66nm,1.3s
113A LR LR
comp=Z,4µm,20.0s
N38A Joes South For 80.29 28 P **P** **06 22 24.2 -0.7**
baz=339
X18A Snowflake 80.31 42 eP **P** **06 22 25.4 0.0**
comp=Z,47nm,1.2s
X18A LR LR
comp=Z,4µm,20.0s
PKME Peaks-Kenny Pk 80.41 9 eP **P** **06 22 25.4 0.0**
comp=Z,89nm,1.5s
PKME LR LR
comp=Z,8µm,22.0s
N39A Derby Farms, D 80.41 27 P **P** **06 22 24.8 -0.7**
baz=339,SNR=18
P34A Walnut Farm, R 80.41 31 P **P** **06 22 25.0 -0.6**
baz=337,SNR=48
PFVI Vila Bisbo 80.41 323 eP **P** **06 22 25.6 0.0**
comp=Z,60nm,1.7s
PFVI epP **pP** **06 22 30.9 +0.7**
PFVI eS **S** **06 32 27.1 -4.0**
PFVI eSS **SS** **06 37 47.0 +5.5**
PFVI Vila Bisbo 80.41 323 eLR LR 06 48 06.1
comp=Z,7µm,18.0s
PFVI Vila Bisbo 80.41 323 PFAKE 06 22 40.0 +14
PFVI LR LR
comp=Z,8µm,19.0s
O36A Bolckow 80.42 29 P **P** **06 22 25.1 -0.5**
baz=338
LONY Lake Ozonia 80.44 13 eP **P** **06 22 25.5 -0.1**
comp=Z,42nm,1.1s
LONY LR LR
comp=Z,7µm,20.0s
M41A Milan 80.45 26 P **P** **06 22 25.1 -0.7**
baz=340,SNR=11
M42A Sheffield 80.58 25 P **P** **06 22 25.6 -0.8**
baz=341,SNR=6.4
O37A Wolven Farm, M 80.62 29 P **P** **06 22 26.1 -0.6**
baz=339
N40A Mertquake, Sal 80.65 26 P **P** **06 22 26.2 -0.6**
baz=340,SNR=27
P35A Duane Minner, 80.67 30 P **P** **06 22 26.4 -0.6**
baz=338,SNR=12
GGN Saint George 80.77 8 eP **P** **06 22 27.8 +0.5**
comp=Z,90nm,1.3s
GGN LR LR
comp=Z,8µm,22.0s
O38A Galt 80.85 28 P **P** **06 22 27.5 -0.4**
baz=339,SNR=14
KSU1 Kansas State U 80.89 31 P **P** **06 22 27.6 -0.5**
baz=337,SNR=22
KSU1 Kansas State U 80.89 31 eP **P** **06 22 27.7 -0.5**
comp=Z,68nm,0.8s
KSU1 LR LR
comp=Z,10µm,20.0s
Q34A Chapman 80.95 31 P **P** **06 22 27.7 -0.8**
baz=337,SNR=12
O39A Kirksville 80.98 27 P **P** **06 22 27.9 -0.7**
baz=339,SNR=14
N41A Harden Midland 81.00 26 P **P** **06 22 28.0 -0.7**
baz=340,SNR=11
WVL Waterville 81.06 10 eP **P** **06 22 29.1 +0.2**
comp=Z,64nm,1.1s
N42A Yates City 81.10 25 P **P** **06 22 28.7 -0.5**
baz=341
P37A Lathrop 81.10 29 P **P** **06 22 28.7 -0.6**
baz=336,SNR=23
LBNH Lisbon 81.14 11 eP **P** **06 22 31.0 +1.6**
LBNH pmax pmax
comp=Z,160nm,1.9s
LBNH Lisbon 81.14 11 eP **P** **06 22 31.0 +1.6**
comp=Z,160nm,1.9s
LBNH LR LR
comp=Z,12µm,22.0s
AAM Ann Arbor 81.15 20 eP **P** **06 22 29.8 +0.3**
AAM pmax pmax
comp=Z,82nm,1.3s
AAM Ann Arbor 81.15 20 eP **P** **06 22 29.8 +0.3**
comp=Z,82nm,1.4s
AAM LR LR
comp=Z,8µm,18.0s
Q35A Mercer Eighty, 81.28 30 P **P** **06 22 29.7 -0.5**
baz=338,SNR=23
O40A La Belle 81.28 27 P **P** **06 22 29.8 -0.4**
baz=340,SNR=29
MSEY Mahe Island 81.29 250 PFAKE 06 22 40.0 +9.4
MSEY LR LR
comp=Z,4µm,20.0s
P38A Dawn 81.30 28 P **P** **06 22 29.6 -0.7**
baz=339,SNR=20
ANMO Albuquerque 81.30 40 eP **P** **06 22 30.6 -0.1**
ANMO pmax pmax
comp=Z,12nm,1.2s
ANMO MLR MLR
comp=Z,6µm,18.0s
ANMO Albuquerque 81.30 40 eP **P** **06 22 31.3 +0.7**
comp=Z,91nm,1.7s
ANMO LR LR
comp=Z,6µm,20.0s
Q36A Arnold C. Orve 81.36 30 P **P** **06 22 29.9 -0.8**
baz=338
214A Organ Pipe Nat 81.38 46 P **P** **06 22 30.9 0.0**
baz=330,SNR=18
214A Organ Pipe Nat 81.38 46 eP **P** **06 22 31.2 +0.3**
comp=Z,296nm,1.4s
R34A Isabella, Hill 81.43 32 P **P** **06 22 30.5 -0.5**
baz=337,SNR=22
BUF Buffalo 81.44 17 eP **P** **06 22 31.1 +0.1**
LAZ Ladron 81.52 40 eP **P** **06 22 32.6 +0.7**
HDIL Hopedale 81.54 25 P **P** **06 22 31.0 -0.6**
baz=341,SNR=12
HDIL Hopedale 81.54 25 eP **P** **06 22 31.0 -0.6**
comp=Z,289nm,1.5s
HDIL LR LR
comp=Z,11µm,19.0s
O41A Passleys Farm, 81.55 26 P **P** **06 22 31.0 -0.6**
baz=340,SNR=39
HNH Hanover 81.63 12 eP **P** **06 22 31.0 -1.0**
comp=Z,265nm,2.0s
P39B Salisbury 81.64 28 P **P** **06 22 31.3 -0.8**
baz=339,SNR=14
O42A Bath 81.68 26 P **P** **06 22 31.6 -0.7**
baz=341,SNR=8.6
R35A Emporia Munici 81.73 31 P **P** **06 22 31.7 -0.9**
baz=338
Q37A Longview Farm, 81.73 29 P **P** **06 22 31.9 -0.7**
baz=338,SNR=13
O43A Sugar Creek Fa 81.79 25 P **P** **06 22 32.5 -0.4**
baz=341,SNR=9.9
P40A Paris 81.79 27 P **P** **06 22 32.5 -0.4**
baz=340,SNR=32
LPM Los Pinos Moun 81.80 40 eP **P** **06 22 33.7 +0.4**
Q38A Cooks Store, C 81.89 29 P **P** **06 22 32.9 -0.5**
baz=339,SNR=35
Y22D IRIS PASSCAL I 81.90 40 P **P** **06 22 33.2 -0.5**
baz=333
Y22D IRIS PASSCAL I 81.90 40 PFAKE 06 22 50.0 +16
Y22D LR LR
comp=Z,6µm,18.0s
TUC Tucson 81.91 44 P **P** **06 22 33.9 +0.1**
baz=331
TUC Tucson 81.91 44 eP **P** **06 22 34.6 +0.8**
TUC pmax pmax
comp=Z,53nm,1.4s
TUC Tucson 81.91 44 eP **P** **06 22 34.6 +0.8**
comp=Z,53nm,1.4s
TUC LR LR
comp=Z,5µm,20.0s
P41A Barry, Barry 81.92 26 P **P** **06 22 33.1 -0.5**
baz=340
R36A Gordon, Harris 81.94 30 P **P** **06 22 33.1 -0.6**
baz=338,SNR=23
BNM Barren Site 81.94 40 eP **P** **06 22 34.7 +0.6**
Q39A Willow Grove F 81.99 28 P **P** **06 22 33.3 -0.7**
baz=339,SNR=34
S34A Willow Spring 82.02 32 P **P** **06 22 33.5 -0.7**

baz=337,SNR=15
ERPA Erie 82.03 18 PFAKE 06 22 50.0 +16
ERPA LR LR
comp=Z,7µm,20.0s
R37A Teagarden Farm 82.14 30 P **P 06 22 33.7 -1.1**
baz=338,SNR=19
P42A Winchester 82.19 26 P **P 06 22 34.4 -0.6**
baz=341,SNR=26
SFIN Lafayette 82.24 23 P **P 06 22 34.5 -0.7**
baz=342
SFIN Lafayette 82.24 23 eP **P 06 22 35.3 +0.1**
comp=Z,79nm,1.4s
SFIN LR LR
comp=Z,7µm,19.0s
S35A Otter Creek Ra 82.28 31 P **P 06 22 35.1 -0.5**
baz=338,SNR=30
Q40A Laux Farm, Aux 82.28 27 P **P 06 22 34.9 -0.6**
baz=340,SNR=24
P43A Skaggs, Pawnee 82.35 25 P **P 06 22 35.3 -0.5**
baz=341,SNR=8.8
TRY Troy 82.41 13 eP **P 06 22 36.9 +0.8**
comp=Z,98nm,1.3s
S36A Lake Cedric, C 82.46 31 P **P 06 22 35.7 -0.8**
baz=338,SNR=33
RTC Rabat Centre 82.51 321 PFAKE 06 22 50.0 +13
RTC LR LR
comp=Z,16µm,22.0s
R38A Fenwick Farm, 82.53 29 P **P 06 22 35.8 -1.0**
baz=339,SNR=28
Q41A Truxton 82.55 27 P **P 06 22 36.4 -0.5**
baz=340,SNR=15
BINY Binghamton 82.61 15 eP **P 06 22 36.9 -0.3**
comp=Z,35nm,1.0s
BINY LR LR
comp=Z,8µm,19.0s
T34A McClaskey Farm 82.62 32 P **P 06 22 37.2 -0.2**
baz=337,SNR=26
U32A Winter Ranch, 82.63 34 P **P 06 22 37.5 0.0**
baz=336,SNR=19
R39A Chumby, Stover 82.66 28 P **P 06 22 37.1 -0.4**
baz=339,SNR=48
S37A Fort Scott 82.66 30 P **P 06 22 36.7 -0.8**
baz=338,SNR=30
M54A Oil Creek Stat 82.68 18 P **P 06 22 36.8 -0.7**
baz=346,SNR=8.2
MDT Midelt 82.68 318 P **P 06 22 37.6 -0.3**
comp=Z,9.9nm,1.2s,baz=34,slow=6.5,SNR=9.7
P44A Sand Creek, Wi 82.73 25 P **P 06 22 37.5 -0.3**
baz=342,SNR=8.6
Q42A Golden Eagle 82.77 26 P **P 06 22 37.7 -0.4**
baz=340,SNR=14
R40A Maddies Statio 82.89 28 P **P 06 22 38.0 -0.7**
baz=340,SNR=23
HRV Adam Dziewonsk 82.89 11 eP **P 06 22 38.2 -0.4**
HRV pmax pmax
comp=Z,61nm,1.3s
HRV Adam Dziewonsk 82.89 11 eP **P 06 22 38.1 -0.4**
comp=Z,61nm,1.3s
HRV LR LR
comp=Z,11µm,22.0s
121A Cookes Peak, D 82.92 42 P **P 06 22 39.7 +0.5**
baz=332,SNR=9.0
121A Cookes Peak, D 82.92 42 eP **P 06 22 39.6 +0.5**
comp=Z,86nm,1.5s
T35A Sooner Cattle 82.93 32 P **P 06 22 38.8 -0.2**
baz=338,SNR=30
Q43A New Douglas 82.96 26 P **P 06 22 38.7 -0.3**
baz=341
T36A Boggs Farm, Ca 82.99 31 P **P 06 22 38.7 -0.6**
baz=338,SNR=31
QUA2 Belchertown 83.03 12 eP **P 06 22 39.8 +0.5**
comp=Z,50nm,1.0s
WES Weston 83.04 11 eP **P 06 22 40.2 +0.8**
WES pmax pmax
comp=Z,110nm,1.3s
WES Weston 83.04 11 eP **P 06 22 40.1 +0.8**
comp=Z,111nm,1.3s
S38A Stockton 83.05 29 P **P 06 22 38.5 -1.0**
baz=339,SNR=28
AMTX Amarillo 83.09 36 P **P 06 22 39.9 0.0**
baz=335
AMTX Amarillo 83.09 36 eP **P 06 22 40.5 +0.6**
comp=Z,448nm,1.9s
AMTX LR LR
comp=Z,8µm,21.0s
SLM Saint Louis 83.11 26 eP **P 06 22 39.1 -0.7**
SLM pmax pmax
comp=Z,92nm,1.2s
SLM Saint Louis 83.11 26 eP **P 06 22 39.1 -0.7**
comp=Z,92nm,1.2s
SLM LR LR
comp=Z,9µm,22.0s
R41A Rosebud 83.13 27 P **P 06 22 39.3 -0.6**
baz=340,SNR=30
N54A Moraine State 83.15 18 P **P 06 22 39.5 -0.5**
baz=346,SNR=9.3
S39A Bolivar 83.16 29 P **P 06 22 39.2 -0.9**
baz=339,SNR=51
Q44A Meyer Farm, Va 83.17 25 P **P 06 22 39.5 -0.6**
baz=341
T37A Cheneyville 18 83.22 30 P **P 06 22 39.8 -0.6**
baz=338,SNR=44
ACSO Alum Creek Sta 83.28 20 eP **P 06 22 40.6 -0.1**
comp=Z,91nm,1.4s
ACSO LR LR
comp=Z,6µm,18.0s
R42A Luebbering 83.30 27 P **P 06 22 40.3 -0.5**
baz=340,SNR=21
319A Douglas 83.35 44 eP **P 06 22 42.3 +1.0**
comp=Z,59nm,1.0s
U35A Pawnee 83.36 32 P **P 06 22 41.0 -0.1**
baz=337,SNR=47
CCM Cathedral Cave 83.39 27 eP **P 06 22 40.2 -1.1**
CCM pmax pmax
comp=Z,53nm,0.9s
CCM Cathedral Cave 83.39 27 eP **P 06 22 40.2 -1.1**
comp=Z,53nm,0.9s
CCM LR LR
comp=Z,8µm,22.0s
S40A Lebanon 83.47 28 P **P 06 22 41.2 -0.5**
baz=340,SNR=37
BRYW Bryant College 83.48 11 eP **P 06 22 42.6 +0.9**
comp=Z,143nm,1.4s
T38A Diamond 83.49 30 P **P 06 22 40.9 -0.9**
baz=339,SNR=19
BLO Bloomington 83.52 23 eP **P 06 22 42.2 +0.3**
BLO pmax pmax
comp=Z,42nm,0.9s
BLO Bloomington 83.52 23 eP **P 06 22 42.2 +0.3**
comp=Z,42nm,0.8s
BLO LR LR
comp=Z,7µm,19.0s
MSTX Muleshoe 83.53 37 P **P 06 22 41.3 -0.9**
baz=335,SNR=45
MSTX Muleshoe 83.53 37 eP **P 06 22 42.0 -0.2**
comp=Z,65nm,0.9s
MSTX LR LR
comp=Z,5µm,20.0s
R43A Red Bud 83.53 26 P **P 06 22 41.4 -0.6**
baz=341,SNR=8.5
OLIL Olney 83.56 25 eP **P 06 22 42.3 +0.2**
comp=Z,104nm,1.2s
OLIL LR LR
comp=Z,10µm,18.0s
U36A Oologah 83.65 31 P **P 06 22 42.2 -0.4**
baz=338
S41A Jillco Farms, 83.69 28 P **P 06 22 42.4 -0.4**
baz=340,SNR=51
T39A Clever 83.76 29 P **P 06 22 42.5 -0.7**
baz=339,SNR=22
R44A Waltonville 83.77 25 P **P 06 22 43.0 -0.2**
baz=341,SNR=15
S42A Caledonia 83.78 27 P **P 06 22 42.9 -0.4**
baz=340,SNR=16
U37A Salina 83.83 31 P **P 06 22 43.3 -0.3**
baz=338,SNR=34
SSPA Standing Stone 83.83 16 eP **P 06 22 43.5 0.0**
comp=Z,77nm,1.3s
SSPA LR LR
comp=Z,7µm,20.0s
T40A Mansfield 83.89 28 P **P 06 22 42.9 -0.9**
baz=340,SNR=13
V35A Meyer Ranch, C 83.89 32 P **P 06 22 44.0 +0.1**
baz=337,SNR=33
N59A State Game Lan 83.90 15 P **P 06 22 44.0 +0.1**
baz=349,SNR=12
CPRX Cap Rock 83.97 39 eP **P 06 22 47.4 +2.8**
U38A Gravette 84.01 30 P **P 06 22 43.7 -0.8**
baz=339,SNR=34
O56A Blue Knob Stat 84.08 17 P **P 06 22 44.5 -0.4**
baz=347,SNR=9.4
TUL1 Leonard 84.08 31 P **P 06 22 44.6 -0.3**
baz=338,SNR=36
TUL1 Leonard 84.08 31 eP **P 06 22 44.5 -0.3**
comp=Z,150nm,1.1s
TUL1 LR LR
comp=Z,12µm,21.0s
V36A Jenks 84.15 32 P **P 06 22 45.3 +0.1**
baz=338,SNR=23
S43A Fulton Ridge, 84.16 26 P **P 06 22 44.6 -0.6**
baz=341
T41A Mountain View 84.20 28 P **P 06 22 45.0 -0.4**
baz=340,SNR=34
WMOK Wichita Mounta 84.20 34 P **P 06 22 45.6 +0.1**
baz=336,SNR=158
WMOK Wichita Mounta 84.20 34 eP **P 06 22 45.3 -0.3**
WMOK pmax pmax
comp=Z,150nm,1.1s
WMOK Wichita Mounta 84.20 34 eP **P 06 22 45.3 -0.3**
comp=Z,146nm,1.1s
WMOK LR LR
comp=Z,9µm,20.0s
DZM Mont Dzumac 84.24 141 eP **P 06 22 44.5 -1.2**
comp=Z,108nm,1.4s
DZM Mont Dzumac 84.24 141 eLR LR 06 49 17.3
comp=Z,5µm,22.2s
DZM Mont Dzumac 84.24 141 PFAKE 06 23 00.0 +14
DZM LR LR
comp=Z,4µm,18.0s
S44A Carbondale 84.25 26 P **P 06 22 45.4 -0.3**
baz=341
HHAR Hobbs 84.29 30 eP **P 06 22 45.8 -0.2**
comp=Z,134nm,1.2s
V37A Hulbert 84.30 31 P **P 06 22 45.7 -0.2**
baz=338,SNR=32
U39A Green Forest 84.33 29 P **P 06 22 45.5 -0.6**
baz=339,SNR=54
USIN University of 84.39 25 eP **P 06 22 46.8 +0.4**
comp=Z,206nm,1.5s
USIN LR LR
comp=Z,8µm,20.0s
S45A Carrier Mills 84.44 25 P **P 06 22 46.5 -0.1**
baz=342,SNR=11
W35A Tecumseh 84.44 32 P **P 06 22 46.8 +0.1**
baz=337,SNR=31
MCWV Mont Chateau 84.44 18 eP **P 06 22 47.0 +0.4**
comp=Z,113nm,1.9s
MCWV LR LR
comp=Z,3µm,20.0s
WCI Wyandotte Cave 84.47 23 eP **P 06 22 46.4 -0.4**
WCI Wyandotte Cave 84.47 23 eP **P 06 22 47.0 +0.1**
comp=Z,94nm,1.0s
WCI LR LR
comp=Z,9µm,19.0s
U40A Yellville 84.53 29 P **P 06 22 46.6 -0.6**
baz=339,SNR=49
V38A Canehill 84.54 30 P **P 06 22 46.8 -0.4**
baz=339,SNR=33
T43A Greenville 84.56 27 P **P 06 22 46.7 -0.6**
baz=341,SNR=19
MNTX Cornudas Mount 84.60 40 P **P 06 22 47.8 +0.3**
baz=334,SNR=73
MNTX Cornudas Mount 84.60 40 eP **P 06 22 48.0 +0.4**
comp=Z,57nm,1.1s
W36A Wetumka 84.66 32 P **P 06 22 47.9 +0.1**
baz=338,SNR=39
HSIG 84.72 46 eP **P 06 22 48.0 -0.1**
comp=Z,121nm,1.4s
HSIG LR LR
comp=Z,3µm,19.0s
T44A Benton 84.74 26 P **P 06 22 47.9 -0.3**
baz=341,SNR=10
V39A Pettigrew 84.79 30 P **P 06 22 48.0 -0.5**
baz=339,SNR=39
PBMO Poplar Bluff 84.81 27 eP **P 06 22 48.2 -0.3**
comp=Z,28nm,0.9s
PBMO LR LR
comp=Z,9µm,22.0s
U41A Viola 84.81 28 P **P 06 22 47.9 -0.6**
baz=340,SNR=7.9
W37B Quinton 84.90 31 P **P 06 22 49.3 +0.3**
baz=338,SNR=35
PSUB Penn St. - Bra 84.91 15 eP **P 06 22 48.8 -0.1**
comp=Z,25nm,0.9s
PSUB LR LR
comp=Z,8µm,20.0s
U42A Revenden 84.99 28 P **P 06 22 48.8 -0.7**
baz=340,SNR=26
V40A Witts Springs 85.06 29 P **P 06 22 49.1 -0.7**
baz=340,SNR=48
PARMO Parma 85.10 26 eP **P 06 22 49.6 -0.3**
X35A Drake 85.10 33 P **P 06 22 49.7 -0.3**
baz=337,SNR=42
X36A Centrahoma 85.14 32 P **P 06 22 50.2 0.0**
baz=338,SNR=35
MSVF Nonsavu 85.20 129 eP **P 06 22 52.4 +1.8**
MSVF pmax pmax
comp=Z,69nm,1.2s
MSVF Nonsavu 85.20 129 eP **P 06 22 52.4 +1.8**
comp=Z,69nm,1.2s
MSVF LR LR
comp=Z,2µm,20.0s
U43A Rector 85.20 27 P **P 06 22 49.8 -0.7**
baz=341
W38A Poteau 85.24 31 P **P 06 22 50.9 +0.2**
baz=339,SNR=19
U44A Portageville 85.26 27 P **P 06 22 50.1 -0.7**
baz=341
V41A Mountainview 85.27 29 P **P 06 22 50.3 -0.6**
baz=340,SNR=38
PVMO Portageville 85.35 27 PFAKE 06 23 00.0 +8.8
PVMO LR LR
comp=Z,11µm,22.0s
W39A Magazine 85.35 30 P **P 06 22 51.0 -0.2**
baz=339,SNR=26
X37A Clayton 85.43 32 P **P 06 22 52.0 +0.4**
baz=338,SNR=27
V42A Cord 85.46 28 P **P 06 22 51.4 -0.4**
baz=340,SNR=18
U44B Burton Farm, H 85.51 26 P **P 06 22 50.3 -1.7**
baz=341
X38A Whitesboro 85.52 31 P **P 06 22 52.2 +0.1**
baz=338,SNR=33
Y35A Marietta 85.54 33 P **P 06 22 52.1 -0.1**
baz=337,SNR=13
W40A Ferguson Farm, 85.56 30 P **P 06 22 52.1 -0.1**
baz=339,SNR=17
GLAT Glass 85.59 26 eP **P 06 22 52.9 +0.4**
UTMT University of 85.63 26 eP **P 06 22 53.0 +0.4**
comp=Z,180nm,1.2s
SRIG Santa Rosalia 85.64 48 eP **P 06 22 53.8 +1.0**
comp=Z,117nm,1.4s
SRIG LR LR
comp=Z,3µm,21.0s
U45A Rockin P Farm, 85.65 26 P **P 06 22 52.0 -0.7**
baz=342
GNAR Gosnell 85.69 27 eP **P 06 22 52.9 0.0**
WHAR Wooly Hollow 85.69 29 eP **P 06 22 53.0 +0.1**
comp=Z,256nm,1.3s
X301 Greenbrier Sit 85.71 29 eP **P 06 22 52.4 -0.7**
comp=Z,168nm,1.3s
V43A Jonesboro 85.71 27 P **P 06 22 51.4 -1.6**
baz=341
Y36A Durant 85.78 32 P **P 06 22 52.7 -0.7**
baz=338,SNR=16
W41B Gary Mavity, V 85.81 29 P **P 06 22 53.4 -0.1**
baz=340,SNR=12
ABTX Abilene, Hawle 85.84 36 P **P 06 22 53.6 -0.2**
baz=336,SNR=32
ABTX Abilene, Hawle 85.84 36 eP **P 06 22 53.6 -0.2**
comp=Z,146nm,1.1s
ABTX LR LR
comp=Z,8µm,20.0s
V44A Blytheville 85.85 27 P **P 06 22 53.0 -0.7**
baz=341
X39A Fountain Ranch 85.89 31 P **P 06 22 54.2 +0.3**
baz=339,SNR=20
HBAR Harrisburg 85.90 28 eP **P 06 22 53.6 -0.3**
Y37A Hugo 85.92 32 P **P 06 22 52.9 -1.2**
baz=338
W42A Bald Knob 85.92 28 P **P 06 22 53.7 -0.3**
baz=340
MIAR Mount Ida 86.01 30 P **P 06 22 54.4 -0.1**
baz=339,SNR=19
MIAR Mount Ida 86.01 30 eP **P 06 22 55.0 +0.4**
MIAR pmax pmax
comp=Z,160nm,1.7s
MIAR Mount Ida 86.01 30 eP **P 06 22 55.0 +0.4**
comp=Z,164nm,1.7s
MIAR LR LR
comp=Z,7µm,20.0s
WVT Waverly 86.10 25 eP **P 06 22 54.4 -0.5**
WVT pmax pmax
comp=Z,86nm,1.2s
WVT Waverly 86.10 25 eP **P 06 22 54.4 -0.5**
comp=Z,86nm,1.2s
WVT LR LR
comp=Z,10µm,18.0s
V45A Humboldt 86.18 26 P **P 06 22 54.6 -0.7**
baz=342
Y38A Idabel 86.24 31 P **P 06 22 54.8 -0.9**
baz=339
IP04 Greensprings 86.28 17 eP **P 06 22 55.9 +0.1**
comp=Z,46nm,1.1s
IP04 LR LR
comp=Z,12µm,20.0s
X40A Basin Creek Fa 86.28 30 P **P 06 22 55.8 -0.1**
baz=340,SNR=29
CBN Corbin Frederi 86.29 17 eP **P 06 22 56.2 +0.4**
comp=Z,41nm,0.8s
CBN LR LR
comp=Z,8µm,18.0s
Z36A Blue Ridge 86.31 33 P **P 06 22 55.9 -0.2**
baz=338,SNR=30
W43A Forest City 86.32 28 P **P 06 22 55.6 -0.4**
baz=341
PTRD Partlow Road 86.33 17 eP **P 06 22 56.0 -0.1**
comp=Z,24nm,1.0s
PTRD LR LR
comp=Z,9µm,21.0s
CVRD Centerville Ro 86.35 17 eP **P 06 22 56.4 +0.3**
comp=Z,36nm,1.0s
CVRD LR LR
comp=Z,10µm,20.0s
IP03 Louisa 86.36 17 eP **P 06 22 56.6 +0.4**
comp=Z,44nm,1.1s
IP03 LR LR
comp=Z,13µm,20.0s
X41A Kaden, Bauxite 86.37 29 P **P 06 22 55.8 -0.5**
baz=340
Y39A Lockesburg 86.42 31 P **P 06 22 55.5 -1.0**
baz=339,SNR=21
IP01 Cuckoo 86.44 17 eP **P 06 22 56.8 +0.2**
comp=Z,53nm,1.2s
IP01 LR LR
comp=Z,12µm,20.0s
IP06 Yanceyville 86.45 17 eP **P 06 22 57.0 +0.3**
comp=Z,52nm,1.2s
IP06 LR LR
comp=Z,12µm,20.0s
IP07 Quail 86.46 17 eP **P 06 22 57.0 +0.3**
comp=Z,38nm,1.1s
IP07 LR LR
comp=Z,13µm,20.0s
MET Memphis--Engin 86.50 27 PFAKE 06 23 10.0 +13
MET LR LR
comp=Z,7µm,19.0s
W44A Shelby Farms P 86.52 27 P **P 06 22 56.2 -0.8**
baz=341
X42A Stuttgart 86.57 29 P **P 06 22 56.8 -0.4**
baz=340
IP05 Hopewell Churc 86.59 17 eP **P 06 22 57.6 +0.2**
comp=Z,47nm,1.0s
IP05 LR LR
comp=Z,10µm,20.0s
Y40A Okolona 86.60 30 P **P 06 22 56.9 -0.5**
baz=339
Z37A Pogue Cattle C 86.64 32 P **P 06 22 57.4 -0.3**
baz=338
W45A Hickory Valley 86.67 27 P **P 06 22 56.5 -1.3**
baz=341
JSRW J. Sargeant Re 86.70 17 eP **P 06 22 58.0 +0.1**
BLA Blacksburg 86.71 19 eP **P 06 22 57.2 -0.8**
BLA pmax pmax
comp=Z,41nm,1.0s
BLA Blacksburg 86.71 19 eP **P 06 22 57.2 -0.8**
comp=Z,41nm,1.0s
BLA LR LR
comp=Z,8µm,20.0s
VWCC Virginia Weste 86.76 19 eP **P 06 22 57.8 -0.4**
Z38A Mt. Pleasant 86.79 32 P **P 06 22 57.1 -1.3**
baz=338
X43A Marvell 86.81 28 P **P 06 22 56.9 -1.6**
baz=340
URVA University of 86.88 17 eP **P 06 22 58.9 +0.2**
Y41A Eaglette Beard 86.92 30 P **P 06 22 57.5 -1.4**
baz=340,SNR=8.0
TAM Tamanrasset 86.94 306 eP **P 06 22 59.8 +0.3**
TAM pmax pmax
comp=Z,21nm,1.2s
TAM Tamanrasset 86.94 306 eP **P 06 22 59.8 +0.3**
comp=Z,21nm,1.2s
TAM LR LR
comp=Z,3µm,18.0s
WLAR White Oak Lake 86.95 30 eP **P 06 23 00.1 +0.9**
comp=Z,156nm,1.2s
STKA Stephens Creek 86.97 165 P **P 06 22 58.6 -0.3**
comp=Z,5.4nm,0.6s,baz=337,slow=5.1,SNR=8.2
STKA LR LR 07 00 09.4
comp=Z,2µm,21.8s,baz=338,slow=34
STKA Stephens Creek 86.97 165 eP **P 06 22 58.9 -0.1**
STKA pmax pmax
comp=Z,6.0nm,1.2s
STKA Stephens Creek 86.97 165 eP **P 06 22 58.9 -0.1**
comp=Z,6.0nm,1.2s
136A Ennis 87.02 33 P **P 06 22 59.2 -0.3**
baz=338,SNR=5.2
X44A Crenshaw 87.03 28 P **P 06 22 58.7 -0.9**
baz=341
Z39A Irene McRaven, 87.04 31 P **P 06 22 59.5 -0.1**
baz=339
CCAR Cane Creek 87.12 29 eP **P 06 23 01.0 +1.0**
comp=Z,254nm,1.3s
PMOZ Porto Moniz, M 87.13 328 eLR LR 06 50 33.0
comp=Z,3µm,20.0s
PMAR Madeira 87.13 328 epP pP 06 23 06.2 +1.3
137A Heron Place, G 87.15 33 P **P 06 22 59.1 -1.1**
baz=338
WHTX Lake Whitney, 87.16 34 P **P 06 23 00.2 0.0**
baz=337,SNR=15
WHTX Lake Whitney, 87.16 34 eP **P 06 23 00.5 +0.3**
comp=Z,104nm,1.3s
Y42A Garnett, Star 87.20 29 P **P 06 22 59.1 -1.2**
baz=340
OXF Oxford 87.22 27 eP **P 06 23 00.7 +0.2**
OXF pmax pmax
comp=Z,110nm,1.1s
OXF Oxford 87.22 27 eP **P 06 23 00.7 +0.2**
comp=Z,109nm,1.1s
OXF LR LR
comp=Z,8µm,20.0s
Z40A Long Farm, Mag 87.26 30 P **P 06 22 59.6 -1.1**
baz=339
138A Matatall Enter 87.30 32 P **P 06 23 01.2 +0.3**
baz=338,SNR=6.0
X45A UM Field Stati 87.31 27 P **P 06 22 59.9 -1.0**
baz=341
TX31 Lajitas Ar. Si 87.36 40 eP **P 06 23 01.9 +0.5**
TXAR Lajitas Array 87.36 40 P **P 06 23 00.9 -0.5**
comp=Z,7.1nm,0.8s,baz=311,slow=3.8,SNR=28
TXAR LR LR 07 07 15.9
comp=Z,5µm,18.3s,baz=0.0,slow=39
TXAR Lajitas Array 87.36 40 P **P 06 23 00.9 -0.5**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
Y43A Makayla and Ka 87.37 28 P **P 06 23 01.1 0.0**
baz=340
SWET Sewanee 87.43 24 eP **P 06 23 01.2 -0.3**
comp=Z,14nm,1.1s
Z41A Richland Creek 87.44 30 P **P 06 23 01.0 -0.5**
baz=340
236A Katherine and 87.45 33 P **P 06 23 01.4 -0.3**
baz=338
139A Bunkhouse Ranc 87.50 31 P **P 06 23 01.9 0.0**
baz=339
TKL Tuckaleechee C 87.51 22 eP **P 06 23 02.0 +0.1**
TKL pmax pmax
comp=Z,29nm,1.0s
TKL Tuckaleechee C 87.51 22 eP **P 06 23 01.9 +0.1**
comp=Z,28nm,0.9s
TKL LR LR
comp=Z,5µm,22.0s
Y44A Strider, Charl 87.52 28 P **P 06 23 02.0 +0.1**
baz=341

CPCT	Cooper Cave	87.54	23	eP	P	06 23 02.1	+0.1
	comp=Z,25nm,0.9s						
Z42A	Norrel Spur, H	87.68	29	P	P	06 23 02.5	-0.2
	baz=340						
237A	Washetta, Mont	87.69	33	P	P	06 23 03.0	+0.2
	baz=338						
JCT	Junction City	87.74	37	P	P	06 23 02.9	-0.2
	baz=336,SNR=35						
JCT	Junction City	87.74	37	eP	P	06 23 03.4	+0.3
JCT				pmax	pmax		
	comp=Z,100nm,1.1s						
JCT	Junction City	87.74	37	eP	P	06 23 03.4	+0.3
	comp=Z,102nm,1.1s						
JCT				LR	LR		
	comp=Z,8μm,20.0s						
140A	Cam and Jess,	87.79	31	P	P	06 23 02.8	-0.4
	baz=339						
Y45A	Yeager Farm, C	87.79	27	P	P	06 23 02.5	-0.7
	baz=341						
238A	Jacksonville	87.90	32	P	P	06 23 02.8	-1.0
	baz=338						
336A	Riesel	87.92	34	P	P	06 23 03.4	-0.5
	baz=338						
Z43A	Armstrong Fami	87.94	29	P	P	06 23 03.8	-0.1
	baz=340						
Y46A	Houston	87.96	27	P	P	06 23 03.4	-0.7
	baz=342						
141A	Papa Simpson,	88.02	30	P	P	06 23 03.7	-0.6
	baz=340						
239A	Gary	88.09	32	P	P	06 23 03.6	-1.1
	baz=339						
Z44A	Pea Ridge, Bel	88.10	28	P	P	06 23 04.2	-0.5
	baz=341						
Y47A	UCPARC, Winfie	88.20	26	P	P	06 23 04.5	-0.7
	baz=342						
Z45A	Winona	88.22	28	P	P	06 23 03.9	-1.4
	baz=341						
435B	Jarrell	88.23	35	P	P	06 23 04.7	-0.7
	baz=337						
NATX	Nacogdoches	88.27	32	P	P	06 23 05.3	-0.3
	baz=339						
NATX	Nacogdoches	88.27	32	eP	P	06 23 06.1	+0.5
	comp=Z,184nm,1.4s						
NATX				LR	LR		
	comp=Z,6μm,18.0s						
240A	Hunter Patters	88.29	31	P	P	06 23 04.8	-0.8
	baz=339						
337A	Centerville	88.29	33	P	P	06 23 05.1	-0.6
	baz=338						
142A	Monroe	88.36	30	P	P	06 23 05.5	-0.4
	baz=340						
143A	Socs Landing,	88.37	29	P	P	06 23 05.2	-0.7
	baz=340						
338A	Crockett	88.44	33	P	P	06 23 05.8	-0.6
	baz=338						
436A	Wall Ranch, Ga	88.50	34	P	P	06 23 06.4	-0.3
	baz=338						
KMSC	Kings Mountain	88.53	20	P	P	06 23 06.5	-0.2
	baz=346,SNR=9.7						
KMSC	Kings Mountain	88.53	20	eP	P	06 23 06.5	-0.2
	comp=Z,44nm,1.0s						
KMSC				LR	LR		
	comp=Z,8μm,18.0s						
241A	Mo Tay, Goldon	88.56	31	P	P	06 23 06.6	-0.3
	baz=340						
Z46A	Louisville	88.59	27	P	P	06 23 05.8	-1.2
	baz=342						
437A	Phantom Ranch,	88.66	34	P	P	06 23 07.3	-0.1
	baz=338						
339A	Huntington	88.70	32	P	P	06 23 08.0	+0.4
	baz=339,SNR=6.2						
144A	Alexander Plac	88.71	28	P	P	06 23 07.8	+0.2
	baz=341						
HPIG		88.73	43	eP	P	06 23 08.6	+0.6
	comp=Z,104nm,1.2s						
242A	Grayson	88.75	30	P	P	06 23 08.0	+0.2
	baz=340						
Z48A	Northport	88.78	26	P	P	06 23 08.3	+0.4
	baz=342,SNR=6.2						
Z47A	Carrollton	88.81	26	P	P	06 23 07.7	-0.3
	baz=342,SNR=9.3						
340A	Bronson	88.83	32	P	P	06 23 08.6	+0.4
	baz=339,SNR=13						
145A	Houston Renfro	88.88	28	P	P	06 23 08.3	0.0
	baz=341						
KMBO	Kilima Mbogo	88.88	267	P	P	06 23 08.4	-0.5
	comp=Z,0.7nm,0.3s,baz=40,slow=4.3,SNR=8.6						
KMBO				LR	LR	07 05 15.0	
	comp=Z,4μm,20.2s,baz=12,slow=37						
KMBO	Kilima Mbogo	88.88	267	i P	P	06 23 07.4	-1.5
KMBO	Kilima Mbogo	88.88	267	eP	P	06 23 08.8	-0.1
	comp=Z,19nm,1.4s						
438A	Sam Houston St	88.95	33	P	P	06 23 09.0	+0.2
	baz=338						
536A	Bastrop	89.05	35	P	P	06 23 09.5	+0.3
	baz=338						
VBMS	Vicksburg	89.08	29	P	P	06 23 09.5	+0.2
	baz=341						
VBMS	Vicksburg	89.08	29	eP	P	06 23 10.3	+1.0
	comp=Z,160nm,1.3s						
VBMS				LR	LR		
	comp=Z,7μm,22.0s						
146A	Union	89.08	27	P	P	06 23 09.5	+0.2
	baz=342						
CNNC	Cliffs of the	89.09	18	eP	P	06 23 10.2	+0.9
	comp=Z,53nm,0.9s						
CNNC				LR	LR		
	comp=Z,9μm,20.0s						
243A	Waterproof	89.12	29	P	P	06 23 09.8	+0.3
	baz=340						
341A	Kurthwood	89.13	31	P	P	06 23 09.9	+0.3
	baz=339						
439A	Center Grove,	89.13	32	P	P	06 23 10.1	+0.4
	baz=339						
244A	Avery, Jackson	89.19	29	P	P	06 23 10.3	+0.4
	baz=341						
LRAL	Lakeview Retre	89.25	25	eP	P	06 23 09.7	-0.4
	comp=Z,58nm,1.4s						
147A	Livingston	89.26	27	P	P	06 23 09.8	-0.3
	baz=342						
537A	Green Hill Far	89.29	34	P	P	06 23 10.9	+0.6
	baz=338						
342A	Flagon Creek P	89.34	30	P	P	06 23 11.2	+0.6
	baz=340						
245A	Little AP, Sta	89.42	28	P	P	06 23 11.3	+0.4
	baz=341						
440A	Kirbyville	89.43	32	P	P	06 23 11.5	+0.5
	baz=339						
538A	Harpers Horsep	89.43	33	P	P	06 23 11.8	+0.8
	baz=338						
HKT	Hockley	89.57	34	eP	P	06 23 12.7	+1.1
HKT				pmax	pmax		
	comp=Z,54nm,1.2s						
HKT	Hockley	89.57	34	eP	P	06 23 12.7	+1.1
	comp=Z,54nm,1.2s						
HKT				LR	LR		
	comp=Z,8μm,20.0s						
636A	Smothers Creek	89.60	35	P	P	06 23 12.6	+0.8
	baz=338,SNR=18						
343A	Vidalia	89.64	30	P	P	06 23 12.8	+0.8
	baz=340						
246A	Jackson Lee, B	89.65	28	P	P	06 23 12.4	+0.4
	baz=341						
441A	DeRidder	89.67	31	P	P	06 23 12.5	+0.4
	baz=339						
GOGA	Godfrey	89.73	23	eP	P	06 23 12.8	+0.4
GOGA				pmax	pmax		
	comp=Z,46nm,1.1s						
GOGA	Godfrey	89.73	23	eP	P	06 23 12.8	+0.4
	comp=Z,46nm,1.1s						
GOGA				LR	LR		
	comp=Z,7μm,20.0s						
344A	Westbrook Farm	89.73	29	P	P	06 23 13.3	+0.9
	baz=341						
247A	Quitman	89.75	27	P	P	06 23 12.6	+0.1
	baz=342						
539A	Cross D Ranch,	89.78	33	P	P	06 23 12.7	+0.1
	baz=339						
833A	Chaparral WMA,	89.85	37	P	P	06 23 13.3	+0.3
	baz=336						
637A	Eagle Lake	89.88	34	P	P	06 23 13.8	+0.7
	baz=338						
735A	Kenedy	89.92	36	P	P	06 23 13.8	+0.5
	baz=337						
540A	Vidor	89.92	32	P	P	06 23 14.0	+0.7
	baz=339						
442A	Mamou	89.93	31	P	P	06 23 13.8	+0.4
	baz=340						
248A	Dixon Mills	89.95	26	P	P	06 23 13.8	+0.4
	baz=342						
345A	Thompson Farm,	90.07	28	P	P	06 23 14.6	+0.6
	baz=341						
443A	Delano Plantat	90.08	30	P	P	06 23 14.5	+0.5
	baz=340						
736A	Circle Diamond	90.08	35	P	P	06 23 14.8	+0.8
	baz=338,SNR=14						
346A	Big Creek Wild	90.15	28	P	P	06 23 15.2	+0.9
	baz=341						
638A	Rosharon	90.19	34	P	P	06 23 14.6	+0.1
	baz=338						
347A	Saraland	90.39	27	P	P	06 23 15.3	-0.1
	baz=342						
444A	Pine Grove	90.42	29	P	P	06 23 15.6	0.0
	baz=341						
835A	Beeville	90.43	36	P	P	06 23 15.8	+0.1
	baz=337						
737A	Port Lavaca	90.47	35	P	P	06 23 16.6	+0.7
	baz=338						
933A	Laredo	90.54	37	P	P	06 23 17.0	+0.8
	baz=336						
348A	Jackson	90.55	27	P	P	06 23 16.3	+0.1
	baz=342						
446A	Poplarville	90.74	28	P	P	06 23 17.8	+0.7
	baz=341						
934A	Benavides	90.82	37	P	P	06 23 18.3	+0.8
	baz=337						
BRAL	Brewton	91.00	26	PFAKE		06 23 30.0	+12
BRAL				LR	LR		
	comp=Z,6μm,20.0s						
KVTX	Kingsville	91.09	36	eP	P	06 23 19.0	+0.3
	comp=Z,170nm,1.4s						
KVTX				LR	LR		
	comp=Z,8μm,18.0s						
546A	Slidell	91.17	29	P	P	06 23 19.0	-0.1
	baz=341						
034A	Hebbronville	91.25	37	P	P	06 23 21.0	+1.4
	baz=337,SNR=14						
035A	Encino	91.57	37	P	P	06 23 21.6	+0.6
	baz=337						
TIGA	Tifton	91.60	23	P	P	06 23 20.9	-0.2
	baz=344						
TIGA	Tifton	91.60	23	PFAKE		06 23 30.0	+8.9
TIGA				LR	LR		
	comp=Z,5μm,22.0s						
CAN	Canberra	91.66	160	eP	P	06 23 22.2	+1.2
CAN				pmax	pmax		
	comp=Z,36nm,1.2s						
CAN	Canberra	91.66	160	eP	P	06 23 22.2	+1.2
	comp=Z,36nm,1.2s						
035Z	Hargill	92.02	37	P	P	06 23 23.4	+0.3
	baz=337						
LNIG	Linares	92.94	39	eP	P	06 23 26.9	-0.6
	comp=Z,42nm,1.2s						
BBSR	BB Station	93.60	7	PFAKE		06 23 40.0	+10
BBSR				LR	LR		
	comp=Z,4μm,21.0s						
ZAIG	Zacatecas	93.69	42	eP	P	06 23 31.2	-0.1
	comp=Z,29nm,1.2s						
ZAIG				LR	LR		
	comp=Z,5μm,19.0s						
DWPF	Disney Wildern	95.29	22	PFAKE		06 23 50.0	+12
DWPF				LR	LR		
	comp=Z,5μm,18.0s						
JRQG	Juriquilla Cam	96.38	41	PFAKE		06 24 00.0	+16
JRQG				LR	LR		
	comp=Z,14μm,21.0s						
RAO	Raoul Island	97.00	132	LR	LR	07 12 43.8	
	comp=Z,413nm,18.0s,baz=304,slow=39						
TOC1	Torodi Ar. Sit	97.02	304	PFAKE		06 24 00.0	+14
TOC1				LR	LR		
	comp=Z,3μm,19.0s						
MOIG	Morelia	97.02	42	PFAKE		06 24 00.0	+13
MOIG				LR	LR		
	comp=Z,6μm,19.0s						
TOC2	Torodi Ar. Sit	97.02	304	PFAKE		06 24 00.0	+14
TOC2				LR	LR		
	comp=Z,2μm,18.0s						
TOB2	Torodi Ar. Sit	97.03	304	PFAKE		06 24 00.0	+14
TOB2				LR	LR		
	comp=Z,3μm,18.0s						
TOC7	Torodi Ar. Sit	97.04	304	PFAKE		06 24 00.0	+14
TOC7				LR	LR		
	comp=Z,2μm,19.0s						
TOC3	Torodi Ar. Sit	97.04	304	PFAKE		06 24 00.0	+14
TOC3				LR	LR		
	comp=Z,3μm,18.0s						
TOA0	Torodi Ar. Sit	97.04	304	eP	P	06 23 45.9	-0.4
TOA0				LR	LR		
	comp=Z,2μm,19.0s						
TORD	Torodi Ar. Bea	97.04	304	P	P	06 23 45.5	-0.8
	comp=Z,3.2nm,0.9s,baz=24,slow=4.0,SNR=9.5						
TORD				PP	PP	06 27 40.9	-0.6
	comp=Z,5.6nm,0.8s,baz=31,slow=6.8,SNR=3.5						
TORD				PKKPbc	PKKPbc	06 40 22.7	-1.2
	comp=Z,0.4nm,0.7s,baz=75,slow=1.6,SNR=2.8						
TORD				LR	LR	07 12 27.7	
	comp=Z,2μm,19.4s,baz=70,slow=38						
TOB5	Torodi Ar. Sit	97.05	304	PFAKE		06 24 00.0	+14
TOB5				LR	LR		
	comp=Z,2μm,20.0s						
TOB3	Torodi Ar. Sit	97.05	304	PFAKE		06 24 00.0	+14
TOB3				LR	LR		
	comp=Z,2μm,20.0s						
TOB4	Torodi Ar. Sit	97.06	304	PFAKE		06 24 00.0	+14
TOB4				LR	LR		
	comp=Z,2μm,20.0s						
ABPO	Ambohimpanom	97.61	248	PFAKE		06 24 00.0	+11
ABPO				LR	LR		
	comp=Z,4μm,20.0s						
UNM	Universidad Na	98.12	41	PFAKE		06 24 00.0	+8.5
UNM				LR	LR		
	comp=Z,5μm,20.0s						
OUZ	Omahuta	98.76	141	PFAKE		06 24 00.0	+6.7
OUZ				LR	LR		
	comp=Z,3μm,20.0s						
LVIG	Laguna Verde	98.79	38	PFAKE		06 24 10.0	+16
LVIG				LR	LR		
	comp=Z,3μm,19.0s						
RAR	Rarotonga	99.29	113	LR	LR	07 12 47.8	
	comp=Z,815nm,18.4s,baz=318,slow=38						
TLIG	Tlapa	99.96	41	PFAKE		06 24 10.0	+11
TLIG				LR	LR		
	comp=Z,4μm,20.0s						
TAOE	Nuku Hiva Isla	100.65	90	eSS	SS	06 42 29.8	-6.2
	comp=Z,2μm,26.0s						
TAOE	Nuku Hiva Isla	100.65	90	eLQ	LQ	06 52 38.0	
	comp=Z,7μm,24.6s						
TAOE				eLR	LR	06 56 45.5	
	comp=Z,7μm,26.7s,baz=328						
SCIG	Sabancuy	101.30	34	PFAKE		06 24 20.0	+15
SCIG				LR	LR		
	comp=Z,4μm,20.0s						
PPT2	Papeete2	102.09	103	eSS	SS	06 42 47.1	-9.0
	comp=Z,2μm,31.2s						
PPT2	Papeete2	102.09	103	eLQ	LQ	06 53 13.4	
	comp=Z,5μm,25.8s						
PPT2				eLR	LR	06 57 23.2	
	comp=Z,5μm,24.0s,baz=327						
CCIG	Comitan	103.48	35	PFAKE		06 24 30.0	+15
CCIG				LR	LR		
	comp=Z,5μm,21.0s						
GTBY	Guantanamo Bay	104.52	18	PFAKE		06 24 30.0	+10
GTBY				LR	LR		
	comp=Z,4μm,18.0s						
LSZ	Lusaka	105.50	265	PFAKE		06 28 50.0	
LSZ				LR	LR		
	comp=Z,7μm,21.0s						
MTDJ	Mount Denham	105.70	21	PFAKE		06 28 50.0	
MTDJ				LR	LR		
	comp=Z,4μm,18.0s						
DBIC	Dimbokro	105.82	306	PP	PP	06 28 46.8	-0.9
	comp=Z,7.2nm,0.9s,baz=17,slow=8.4,SNR=5.1						
SDDR	Presa de Saban	106.09	15	PFAKE		06 28 50.0	
SDDR				LR	LR		
	comp=Z,11μm,22.0s						
LGNH	L0ogne	106.35	16	PFAKE		06 28 50.0	
LGNH				LR	LR		
	comp=Z,7μm,22.0s						
TBI	Tubuai	106.70	107	eSS	SS	06 43 52.3	-7.0
	comp=Z,1μm,27.0s						
TBI	Tubuai	106.70	107	eLQ	LQ	06 54 48.9	
	comp=Z,4μm,38.0s						
TBI				eLR	LR	06 59 47.5	
	comp=Z,3μm,24.8s						
TGUH	Tegucigalpa,Un	107.14	32	PFAKE		06 28 50.0	
TGUH				LR	LR		
	comp=Z,4μm,21.0s						
AGP	Aguadilla	107.20	11	PFAKE		06 28 50.0	
AGP				LR	LR		
	comp=Z,4μm,20.0s						
MPR	Mayaguez	107.40	11	PFAKE		06 28 50.0	
MPR				LR	LR		
	comp=Z,3μm,22.0s						
CBYP	Canovanas	107.47	10	PFAKE		06 28 50.0	
CBYP				LR	LR		
	comp=Z,4μm,22.0s						
STVI	Saint Thomas	107.48	9	PFAKE		06 28 50.0	
STVI				LR	LR		
	comp=Z,4μm,19.0s						
SJG	San Juan	107.60	10	PFAKE		06 28 50.0	
SJG				LR	LR		
	comp=Z,3μm,21.0s						
SABA	Saba	108.34	7	PFAKE		06 28 50.0	
SABA				LR	LR		
	comp=Z,3μm,21.0s						
ANWB	Willy Bob	108.39	6	PFAKE		06 28 50.0	
ANWB				LR	LR		
	comp=Z,2μm,22.0s						
SEUS	St. Eustatius	108.49	7	PFAKE		06 28 50.0	
SEUS				LR	LR		
	comp=Z,2μm,20.0s						
GDHS	Morne Mazeau,	109.78	6	PFAKE		06 29 00.0	
GDHS				LR	LR		
	comp=Z,4μm,22.0s						
FDF	Fort de France	111.34	5	PFAKE		06 29 00.0	
FDF				LR	LR		
	comp=Z,2μm,22.0s						
HDC	Heredia	111.93	30	PFAKE		06 29 00.0	
HDC				LR	LR		
	comp=Z,5μm,22.0s						
SVB	Belmont	112.78	5	PFAKE		06 29 00.0	
SVB				LR	LR		
	comp=Z,2μm,20.0s						
BBGH	Gun Hill	112.99	4	PFAKE		06 29 00.0	
BBGH				LR	LR		
	comp=Z,5μm,22.0s						
GRGR	Grenville	113.89	6	PFAKE		06 29 00.0	
GRGR				LR	LR		
	comp=Z,3μm,22.0s						
BCIP	Isla Barro Col	113.90	26	PFAKE		06 29 10.0	
BCIP				LR	LR		
	comp=Z,3μm,19.0s						
RKT	Rikitea	114.89	95	eLQ	LQ	06 58 30.1	
	comp=Z,4μm,31.0s						
RKT				eLR	LR	07 03 17.0	
	comp=Z,2μm,29.5s						
SDV	Santo Domingo	116.10	16	PFAKE		06 29 10.0	+12
SDV				LR	LR		
	comp=Z,6μm,22.0s						
BOSA	Boshof	117.52	259	PKP	PKPdf	06 28 59.3	-0.6
	comp=Z,3.1nm,0.8s,baz=49,slow=1.8,SNR=4.9						
BOSA	Boshof	117.52	259	ePKIKP	PKPdf	06 28 59.4	-0.4
HELC	Santa Helena	117.80	22	PFAKE		06 29 10.0	+8.8
HELC				LR	LR		
	comp=Z,12μm,21.0s						
RUSC	La Rusia	118.59	19	ePKPdf	PKPdf	06 29 02.1	-0.8
PRAC	Prado	120.34	22	PFAKE		06 29 20.0	+14
PRAC				LR	LR		
	comp=Z,2μm,20.0s						
OTAV	Otavalo	122.82	27	ePKPdf	PKPdf	06 29 12.6	+1.6
SUR	Sutherland	122.87	259	ePKPdf	PKPdf	06 29 10.2	+0.1
PTGA	Pitinga	126.74	5	ePKPdf	PKPdf	06 29 18.1	+0.2
VNDA	Vanda	133.44	169	PKP	PKPdf	06 29 28.7	+0.1
	comp=Z,7.8nm,0.9s,baz=291,slow=4.7,SNR=13						
VNDA	Vanda	133.44	169	ePKPdf	PKPdf	06 29 29.2	+0.6
SBA	Scott Base	134.28	168	ePKIKP	PKPdf	06 29 30.6	+0.4
SBA	Scott Base	134.28	168	ePKPdf	PKPdf	06 29 30.6	+0.4
SAML	Samuel	134.65	10	ePKPdf	PKPdf	06 29 32.9	+0.1
LPAZ	La Paz	141.16	18	PKP	PKPdf	06 29 44.1	-1.4
	comp=Z,3.3nm,0.7s,baz=360,slow=7.4,SNR=7.2						
QSPA	South Pole Qui	143.82	180	ePKPpre	PKPpre	06 29 44.5	
PB01	IPOC Station P	145.50	22	ePKPdf	PKPdf	06 29 52.0	-0.3
PB04	IPOC Station P	146.59	24	ePKPdf	PKPdf	06 29 53.9	-0.4
LVC	Limon Verde	147.14	22	ePKPbc	PKPbc	06 29 57.3	-0.3
PB10	IPOC Station P	147.62	25	ePKPbc	PKPbc	06 29 58.8	+0.4
SNAA	Sanae	151.37	212	PKP	PKPbc	06 30 05.2	-1.2
SNAA	Sanae	151.37	212	ePKIKP	PKPdf	06 29 58.7	-1.6
SNAA				e		06 30 05.4	
SNAA	Sanae	151.37	212	ePKPdf	PKPdf	06 29 58.6	-1.6
SNAA				ePKPbc	pPKPdf	06 30 05.4	+0.3
CPUP	Villa Florida	152.27	2	PKPbc	PKPbc	06 30 10.4	+0.7
	comp=Z,14nm,0.8s,baz=341,slow=1.2,SNR=21						
CPUP	Villa Florida	152.27	2	epPKPdf	pPKPdf	06 30 08.6	+0.9
LCO	Las Campanas	152.81	29	ePKPbc	PKPbc	06 30 12.9	+1.7
VNA2	Neumayer--Watz	152.95	213	PKP	PKPbc	06 30 08.4	-1.4
	baz=72,slow=1.9						
VNA1	Neumayer--Stat	153.29	213	PKP	PKPbc	06 30 10.0	-0.5
VNA3	Neumayer Olymp	153.59	212	PKP	PKPbc	06 30 10.1	-1.2
ROC1	El Roble	156.42	33	ePKPab	PKPab	06 30 36.5	-0.9
PLCA	Paso Flores	163.53	42	PKP	PKPdf	06 30 14.8	-1.6
	comp=Z,3.2nm,0.9s,baz=173,slow=0.2,SNR=6.1						
PLCA	Paso Flores	163.53	42	ePKPdf	PKPdf	06 30 15.3	-1.2

DJA ***14*** *06:22:52.0±0.5,2°N±2°×9°6E±°, h38km±11km, M5.0/10, mB5.1/2, mb5.3/2, MLv4.8/10, Mw(mB)4.5/2*
ISCJB ***14*** *06:22:54.1±0.9, 1°85N±0°04×96°56E±0°04, h31km±6km, mb4.8/42, Error ellipse: s-maj=8.3km s-min=4.1km az=139.5*
IDC ***14*** *06:22:55.4±0.7, 1°94N×96°56E, h24km±2km, mb4.4/20, mb1 4.5/22, mb1mx4.3/51, mbtmp4.6/22, ML4.3/2, Error ellipse: s-maj=19.2km s-min=11.7km az=48.0*
NEIC ***14*** *06:22:57.0±0.9, 1°94N×96°55E, h36km±7km, mb4.9/28, Error ellipse: s-maj=9.2km s-min=4.0km az=53.0*
ISC 14 06:22:54.8±0.5, 1°84N±0°04×96°48E±0°05, h23km±3km, h23km:pP-P, n123, σ0°91/137, mb4.8/42, 2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.59	345	P	Pb	06 23 06.5	0.0
SNSI				S	Sb	06 23 15.6	+1.2
GSI	Gunungsitoli	1.22	116	ePn	Pb	06 23 18.4	+1.1
TPTI		1.58	26	P	Pn	06 23 19.0	-2.4
TPTI				S	Sb	06 23 42.6	-0.3
KCSI	Kotacane, Aceh	2.12	38	P	Pn	06 23 27.6	-1.3
KCSI				S	Sn	06 23 56.6	+2.1
MLSI	Meulaboh, Aceh	2.41	358	P	Pn	06 23 31.1	-1.9
PBSI	Pulau Batu	2.60	136	P	Pn	06 23 33.5	-2.1
PBSI				S	Sn	06 24 04.5	-2.0
PSI	Prapat	2.63	69	Pn	Pn	06 23 34.8	-1.2
	12nm,0.3s,baz=266,slow=9.8,SNR=32						
TSI	Tuntungan	2.66	52	P	Pn	06 23 35.7	-0.6
MNSI	Mandailing Nat	3.27	108	P	Pn	06 23 40.3	-4.4
MNSI				S	Sn	06 24 21.7	-1.3
LHMI	Lhok Sumawe	3.40	8	P	Pn	06 23 45.8	-0.7
LHMI				S	Sn	06 24 25.5	-0.7
LHMI	Lhok Sumawe	3.40	8	ePn	Pn	06 23 46.4	-0.2
BSI	Banda Aceh	3.82	342	S	Sn	06 24 32.7	-3.9
SISI	Saibi	4.09	140	P	Pn	06 23 53.6	-2.4
SISI				S	Sn	06 24 41.1	-2.0
IPM	Ipoh	5.25	60	ePn	Pn	06 24 11.4	-0.6
KULM	Kulim	5.39	50	ePn	Pn	06 24 12.9	-1.1
MYKOM	Kota Tinggi	7.37	90	ePn	Pn	06 24 41.2	+0.1
DLV	T Lat	15.58	49	ePn	P	06 26 36.1	-1.3
	38nm,0.8s						
SBUM	Sibu	15.74	88	ePn	Pn	06 26 35.5	+0.1
	26nm,1.1s						
CM01	Chiang Mai Arr	16.66	8	ePn	Pn	06 26 46.7	-0.3
CM31	Chiang Mai Arr	16.69	8	ePn	Pn	06 26 47.0	-0.4
CMAR	Chiang Mai Arr	16.69	8	Pn	Pn	06 26 45.3	-2.1
	1.4nm,0.3s,baz=197,slow=12,SNR=31						
CHTO	Chiang Mai	17.04	8	ePn	Pn	06 26 51.5	-0.4
	24nm,1.3s						
KKM	Kota Kinabalu	20.13	77	eP	P	06 27 26.9	-0.7
	30nm,0.7s						
SLVN	Son La	20.69	20	eP	P	06 27 32.9	-0.7
	15nm,0.7s						
QIZ	Qiongzhong	21.53	37	eP	P	06 27 41.0	-1.5
	43nm,1.5s						
MYLDM	Lahad Datu	22.23	81	eP	P	06 27 51.2	+1.0
	80nm,1.2s						
H08S2	Diego Garcia H	25.71	248	T	T	06 55 07.3	
	baz=69,slow=76						
H08S3	Diego Garcia H	25.71	248	T	T	06 55 05.7	

ODAN Odare 26.36 341 *eP* **P 06 28 30.5 +0.8**
94nm,0.7s
RAMN Ramite 26.71 340 *eP* **P 06 28 33.8 +0.9**
72nm,0.7s
TAPN Taplejung 26.72 342 *eP* **P 06 28 33.8 +0.7**
74nm,0.7s
JIRN Jiri 27.50 340 *eP* **P 06 28 40.8 +0.7**
484nm,0.7s
PKI Pulchoki 27.70 338 *eP* **P 06 28 43.0 +1.2**
GUN Gumba 27.84 340 *eP* **P 06 28 43.8 +0.7**
84nm,0.8s
KKN Kakani 27.94 338 *eP* **P 06 28 44.5 +0.6**
GKN Gorkha 28.38 338 *eP* **P 06 28 48.3 +0.6**
122nm,1.1s
KOLN Koldanda 28.58 336 *eP* **P 06 28 50.3 +0.7**
36nm,0.6s
YULB Yu-li 32.22 46 *eP* **P 06 29 21.0 -0.5**
39nm,1.4s
JOW Kunigami 39.34 48 *eP* **P 06 30 22.1 -0.5**
21nm,0.6s
H01W3 Cape Leeuwin H 40.11 157 T T 07 13 06.3
baz=333,slow=76,SNR=130
H01W2 Cape Leeuwin H 40.12 157 T T 07 13 03.2
baz=333,slow=76,SNR=158
H01W1 Cape Leeuwin H 40.12 157 T T 07 13 03.4
baz=333,slow=76,SNR=160
WRA Warramunga Arr 42.98 122 P **P 06 30 52.6 -0.2**
11nm,0.7s,baz=301,slow=9.2,SNR=31
WRA pPcP **PcP 06 32 43.0 -0.1**
0.7nm,0.6s,baz=305,slow=2.9,SNR=2.9
WRA pPcP pPcP 06 32 50.7
1.6nm,0.6s,baz=314,slow=2.6,SNR=4.8
WR1 Warramunga Arr 42.98 122 *eP* **P 06 30 52.6 -0.2**
19nm,0.9s
WR1 *e*PP **PcP 06 32 43.0 -0.1**
WR1 *e*PcP pPcP 06 32 50.7
WRAB Tennant Creek 42.99 122 *eP* **P 06 30 52.9 +0.1**
19nm,1.0s
WB2 Warramunga Arr 42.99 122 *eP* **P 06 30 52.8 0.0**
22nm,1.0s
ASAR Alice Springs 44.35 127 P **P 06 31 03.5 -0.2**
2.1nm,0.7s,baz=301,slow=8.0,SNR=11
ASAR pP **pP 06 31 11.5 +0.7**
5.5nm,0.8s,baz=298,slow=7.8,SNR=7.3
ASAR pPcP **PcP 06 32 47.9 +0.2**
0.9nm,0.7s,baz=312,slow=2.6,SNR=4.0
ASAR pPcP 06 32 54.9
1.5nm,0.7s,baz=303,slow=3.6,SNR=5.2
AS31 Alice Springs 44.35 127 *eP* **P 06 31 04.1 +0.3**
1.8nm,0.7s
AAK Ala-Archa 45.14 337 *eP* **P 06 31 11.1 +1.3**
105nm,1.5s
KS15 Wonju Array Si 45.71 35 *eP* **P 06 31 13.6 -0.7**
KSAR Wonju Array Be 45.71 35 P **P 06 31 13.7 -0.6**
KSAR pP **pP 06 31 20.1 -1.2**
KSRS Korea Array 45.74 35 P **P 06 31 13.7 -0.8**
7.1nm,0.8s,baz=230,slow=8.6,SNR=17
KSRS pP **pP 06 31 20.1 -1.5**
5.2nm,0.8s,baz=220,slow=10.0,SNR=7.8
MK01 Makanchi Array 46.43 347 *eP* **P 06 31 19.8 -0.1**
MK31 Makanchi Array 46.45 347 *eP* **P 06 31 19.9 -0.1**
MK32 Makanchi Array 46.45 347 *eP* **P 06 31 19.7 -0.3**
MK32 *e*pP **pP 06 31 27.5 +0.5**
MKAR Makanchi Array 46.45 347 P **P 06 31 19.7 -0.3**
15nm,0.7s,baz=160,slow=8.9,SNR=48
MKAR pP **pP 06 31 27.5 +0.5**
20nm,0.7s,baz=164,slow=7.5,SNR=8.3
MKAR Makanchi Array 46.45 347 *eP* **P 06 31 19.9 -0.1**
119nm,0.6s
MKAR pP **pP 06 31 27.5 +0.5**
SONA0 Songino Array 46.62 9 *eP* **P 06 31 21.5 +0.1**
SONA0 *e*pP **pP 06 31 28.6 +0.1**
SONM Songino Array 46.62 9 P **P 06 31 21.5 +0.1**
6.6nm,0.4s,baz=190,slow=9.5,SNR=17
SONM pP **pP 06 31 28.6 +0.1**
11nm,0.8s,baz=189,slow=10,SNR=3.1
SONA1 Songino Array 46.63 9 *eP* **P 06 31 21.9 +0.4**
ULN Ulaanbaatar 46.75 10 *eP* **P 06 31 22.6 +0.1**
79nm,1.5s
COEN Coen 48.86 110 *eP* **P 06 31 39.0 -0.3**
19nm,1.3s
GEYT Alibeck 50.26 320 P **P 06 31 50.4 +0.8**
5.7nm,0.4s,baz=147,slow=7.9,SNR=4.3
KURBB Kurchatov Arra 50.93 345 P **P 06 31 54.5 +0.1**
5.9nm,0.7s,baz=162,slow=6.9,SNR=9.2
KURBB pP **pP 06 32 02.0 +0.6**
8.3nm,0.7s,baz=160,slow=6.7,SNR=4.2
KURK Kurchatov 51.00 345 *eP* **P 06 31 54.9 +0.1**
31nm,1.2s
PMG Port Moresby 51.70 103 *eP* **P 06 32 00.9 +0.1**
29nm,0.8s
MJAR Matsushiro Arr 51.72 43 P **P 06 31 60.0 -0.6**
2.9nm,0.9s,baz=215,slow=6.4,SNR=6.1
USRK Ussuriysk Ar. 52.61 32 P **P 06 32 06.6 -0.3**
3.5nm,0.7s,baz=219,slow=3.6,SNR=5.7
ZAA0 Zalesovo Array 52.82 351 *eP* **P 06 32 08.4 0.0**
ZALV Zalesovo Beam 52.82 351 P **P 06 32 08.0 -0.4**
22nm,0.6s,baz=171,slow=6.6,SNR=20
ZALV pP **pP 06 32 15.6 +0.1**
36nm,0.5s,baz=177,slow=7.1,SNR=17
ZAA1 Zalesovo Array 52.83 351 *eP* **P 06 32 08.0 -0.4**
ZAA1 *e*pP **pP 06 32 15.6 +0.1**
CTAO Charters Tower 53.43 117 *eP* **P 06 32 14.4 +0.9**
9.3nm,0.9s
STKA Stephens Creek 54.32 132 P **P 06 32 20.4 +0.7**
5.9nm,0.9s,baz=315,slow=8.5,SNR=4.1
STKA Stephens Creek 54.32 132 *eP* **P 06 32 20.5 +0.7**
1.9nm,0.8s
BVAR Borovoye Array 55.42 341 P **P 06 32 26.8 -0.5**
8.4nm,0.7s,baz=142,slow=9.3,SNR=8.5
BRVK Borovoye 55.48 341 *eP* **P 06 32 27.6 -0.2**
48nm,1.3s
ABKAR Abkulak array 56.62 332 *eP* **P 06 32 35.9 0.0**
103nm,0.9s
EIDS Eidsvold 59.33 121 *eP* **P 06 32 56.2 +0.8**
4.7nm,0.8s
KBZ Khabaz 63.12 319 P **P 06 33 21.1 +0.4**
4.4nm,0.8s,baz=136,slow=9.8,SNR=5.0
BR101 Keskin Array S 68.15 312 *eP* **P 06 33 52.9 -0.7**
BRTR Keskin Array B 68.15 312 P **P 06 33 52.9 -0.7**
1.8nm,0.7s,baz=127,slow=7.2,SNR=6.8
MA2 Magadan 71.08 26 P **P 06 34 10.7 -0.3**
10nm,0.7s,baz=280,slow=3.6,SNR=4.6
SEY Seymchan 73.46 23 P **P 06 34 24.8 -0.4**
4.9nm,0.6s,baz=233,slow=8.2,SNR=7.1
SEY pP **pP 06 34 32.0 -0.6**
6.4nm,0.7s,baz=336,slow=7.3,SNR=2.4
AKASG Malin Array Be 74.31 322 P **P 06 34 29.7 -0.7**
2.3nm,0.6s,baz=88,slow=5.0,SNR=6.5
AKASG pP **pP 06 34 37.7 -0.1**
3.3nm,0.7s,baz=90,slow=5.3,SNR=7.4
AKBB Malin Array Si 74.31 322 *eP* **P 06 34 29.7 -0.7**
20nm,1.3s
KIEV Kiev 74.32 322 *eP* **P 06 34 29.7 -0.8**
19nm,1.3s
AK11 Malin Array Si 74.34 322 *eP* **P 06 34 30.3 -0.3**
FIA1 FINESS Array S 79.10 333 *eP* **P 06 34 57.2 -0.1**
FIA0 FINESS Array S 79.10 333 *eP* **P 06 34 57.1 -0.2**
FIA0 *e*pP **PcP 06 35 05.5 -0.2**
FINES FINESS Array B 79.10 333 P **P 06 34 57.1 -0.2**
5.3nm,0.8s,baz=106,slow=5.7,SNR=13
FINES pP **PcP 06 35 05.5 -0.2**
4.3nm,0.7s,baz=90,slow=7.6,SNR=3.1
OJC Ojcow 80.08 321 *eP* **P 06 35 03.5 +0.6**
13nm,1.3s
SYO Syowa Base 80.38 198‖ *eP* **P 06 35 05.0 +1.0**
SYO Syowa Base 80.38 198‖ *e*PcP **PcP 06 35 12.7 +1.6**
ARA0 ARCESS Array S 81.69 340 *eP* **P 06 35 11.3 +0.2**
ARCES ARCESS Array B 81.69 340 P **P 06 35 11.4 +0.3**
1.6nm,0.4s,baz=96,slow=4.9,SNR=22
ARE0 ARCESS Array S 81.69 340 *eP* **P 06 35 11.4 +0.3**
37nm,1.4s
GEA0 GERESS Array S 83.86 319 *eP* **P 06 35 23.5 +0.6**
GEC2 GERESS Array S 83.86 319 *eP* **P 06 35 23.5 +0.6**
8.1nm,1.1s
GERES GERESS Array B 83.86 319 P **P 06 35 23.5 +0.6**
1.4nm,0.7s,baz=91,slow=5.3,SNR=5.7
GERES pP **pP 06 35 31.5 +1.2**
3.5nm,0.9s,baz=101,slow=5.6,SNR=5.8
NB2 NORSAR Subarra 86.10 331 P **P 06 35 33.8 0.0**
comp=Z,2.9nm,0.9s,baz=96,slow=5.1
TT01 Tatalina 96.28 26 *eP* **P 06 36 21.8 +0.5**
EGMT Eagleton 125.33 21 *e*PKPdf **PKPdf 06 41 54.2 +0.1**
DLMT Dillon 126.39 25 *e*PKPdf **PKPdf 06 41 57.0 +0.6**
ULM Lac du Bonnet 127.04 10 PKP **PKPdf 06 41 56.9 -0.4**
comp=Z,3.0nm,0.8s,baz=358,slow=5.6,SNR=4.1
ULM Lac du Bonnet 127.04 10 *e*PKPdf **PKPdf 06 41 57.1 -0.2**

SNOW Snow King Moun 128.70 25 *e*PKPdf **PKPdf 06 42 02.2 +1.2**
REDW Red Top Meadow 128.74 25 *e*PKPdf **PKPdf 06 42 01.6 +0.6**
BW06 Boulder Array 129.78 25 *e*PKPdf **PKPdf 06 42 03.2 +0.1**
PDAR Pinedale Array 129.78 25 PKP **PKPdf 06 42 02.6 -0.4**
comp=Z,0.6nm,0.6s,baz=194,slow=3.1,SNR=5.4
R11A Troy Canyon, C 130.26 33 *e*PKPdf **PKPdf 06 42 05.3 +1.3**
O20A White River Ci 132.50 26 *e*PKPdf **PKPdf 06 42 09.2 +0.9**
LCMT Little Creek M 132.51 33 *e*PKPdf **PKPdf 06 42 10.3 +2.1**
TX31 Lajitas Ar. Si 143.50 30 *e*PKPdf PKPbc 06 42 26.4 +0.6
TXAR Lajitas Array 143.50 30 PKP PKPbc 06 42 26.3 +0.5
comp=Z,0.7nm,0.7s,baz=18,slow=2.8,SNR=6.9
WLAR White Oak Lake 143.53 14 *e*PKPdf PKPbc 06 42 26.1 +0.6
HPIG 144.31 35 *e*PKPdf PKPbc 06 42 29.3 +0.8
JCT Junction City 144.31 25 *e*PKPdf PKPbc 06 42 28.4 +0.2
CPUP Villa Florida 144.97 224 PKPbc **PKPdf 06 42 31.8 +0.8**
comp=Z,1.8nm,0.6s,baz=90,slow=3.5,SNR=8.6
LRAL Lakeview Retre 145.16 5 *e*PKPbc **PKPbc 06 42 30.0 -0.7**
GO05 HualaæØ 145.28 197 *e*PKPbc **PKPdf 06 42 32.4 +1.0**
LNIG Linares 149.25 29 *e*PKPbc **PKPbc 06 42 41.5 -1.0**
SABA Saba 152.19 315 *e*PKPbc **PKPbc 06 42 49.4 -0.3**

JMA 14 06:25:32.6±0.1, 38°.30N×141°.86E, h48km±1km, M4.0,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.43**	**291**	P	Pn	06 25 42.9	0.0
JIO				S	Sn	06 25 50.0	-0.2
OFUJ	**Ofunato**	**0.79**	**349**	P	Pn	06 25 47.4	-0.1
OFUJ				S	Sn	06 25 57.5	-0.9
JMK	**Ichinoseki**	**0.82**	**323**	P	Pn	06 25 48.2	+0.3
JMK				S	Sn	06 25 58.8	-0.2
JOU	**Okura**	**0.94**	**274**	P	Pn	06 25 49.8	+0.3
JOU				S	Sn	06 26 02.4	+0.5
JMM	**Marumori**	**0.95**	**243**	P	Pn	06 25 49.1	-0.4
JMM				*e*S	Sn	06 26 00.6	-1.4
JFK	**Kawauchi**	**1.22**	**220**	P	Pn	06 25 52.8	-0.4
JFK				S	Sn	06 26 07.2	-1.4
JOM	**Ohasama**	**1.25**	**339**	P	Pn	06 25 54.2	+0.5
JYK	**Kaneyama**	**1.33**	**298**	P	Pn	06 25 55.1	+0.4
JYS	**Shiratake**	**1.42**	**267**	P	Pn	06 25 56.3	+0.4
JYS				S	Sn	06 26 14.1	+0.7
JFT	**Otama**	**1.44**	**238**	P	Pn	06 25 56.6	+0.4
JFT				S	Sn	06 26 14.0	+0.1
JRG	**Rokugo**	**1.45**	**319**	P	Pn	06 25 57.1	+0.6
MAT	**Matsushiro**	**3.40**	**240**	P	Pn	06 26 26.4	+3.3
MAT				*e*S	Sn	06 27 08.6	+6.5

IDC 14 06:41:54.0±1.5, 14°.76S×166°.91E, h0km, mb3.5/3,
mb1 3.8/4, mb1mx3.6/32, mbtmp3.6/4, ML3.6/1, MS4.4/1,
Ms1 4.4/1, ms1mx3.7/24, Error ellipse: s-maj=52.4km
s-min=30.8km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.29**	**183**	Pn	Pn	06 43 41.9	0.0
	0.9nm,0.3s,baz=305,slow=23,SNR=34						
DZM				Sn	Sn	06 45 01.3	-4.1
	1.2nm,0.3s,baz=289,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**31.48**	**256**	P	P	06 48 17.5	-0.2
	0.2nm,0.5s,baz=80,slow=6.7,SNR=3.0						
RAR	**Rarotonga**	**32.29**	**106**	LR	LR	06 59 43.0	
	comp=Z,752nm,21.8s,baz=326,slow=33						
ASAR	**Alice Springs**	**32.34**	**249**	P	P	06 48 25.3	+0.1
	0.2nm,0.5s,baz=82,slow=7.6,SNR=4.4						
ILAR	**Eielson Array**	**86.66**	**18**	P	P	06 54 39.0	-0.1
	0.4nm,0.6s,baz=238,slow=5.0,SNR=6.1						
ARCES	**ARCESS Array B**	**120.19**	**345**	PKP	PKPdf	07 00 46.3	-0.1
	1.2nm,0.6s,baz=46,slow=2.6,SNR=8.5						

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*ISCJB **14** 06:45:47.1±0.8, 51°.48N±0°.04×16°.11E±0°.04, h0km, Error ellipse: s-maj=5.5km s-min=3.3km az=25.0*
*CSEM **14** 06:45:47.9±0.5, 51°.52N×16°.11E, h2km, ML3.3/8, Error ellipse: s-maj=7.5km s-min=4.6km az=14.0*
*WAR **14** 06:45:48.5, 51°.54N×16°.13E, h1km, Mw2.5*
*PRU **14** 06:45:48.6, 51°.52N×16°.14E, h0km*
*VIE **14** 06:45:50.4±0.9, 51°.33N×16°.03E, h0km, mb2.7/2, ML2.6/5, Error ellipse: s-maj=6.6km s-min=3.9km az=17.0, Suspected Mining induced.*
ISC 14 06:45:47.5±1.4, 51°.57N±0°.06×16°.16E±0°.03, h0km, n32, σ0°.73/57, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg	**Pg**	**06 46 01.8**	**+0.3**
KSP				*e*Sg	**Sg**	**06 46 11.4**	**+0.5**
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg	**Pg**	**06 46 01.8**	**+0.3**
KSP				*e*Sg	**Sg**	**06 46 11.4**	**+0.5**
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg	**Pg**	**06 46 01.8**	**+0.3**
KSP				*e*Sg	**Sg**	**06 46 11.4**	**+0.5**
UPC	**Upice**	**1.07**	**185**	*e*PG	**Pg**	**06 46 08.2**	**+0.3**
UPC				*e*SG	**Sg**	**06 46 21.5**	**-0.2**
	comp=Z,62nm,0.4s						
UPC	**Upice**	**1.07**	**185**	Pg	**Pg**	**06 46 08.2**	**+0.3**
UPC				Sg	**Sg**	**06 46 21.5**	**-0.2**
	62nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*PG	**Pg**	**06 46 10.7**	**-0.2**
DPC				*e*SG	**Sg**	**06 46 26.2**	**-0.6**
	comp=Z,26nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**175**	Pg	**Pg**	**06 46 10.7**	**-0.2**
DPC				Sg	**Sg**	**06 46 26.2**	**-0.6**
	26nm,0.3s						
PVCC	**Panska Ves**	**1.45**	**225**	*e*PG	**Pg**	**06 46 15.2**	**0.0**
PVCC				*e*SG	**Sb**	**06 46 34.3**	**0.0**
	comp=Z,101nm,0.2s						
PVCC	**Panska Ves**	**1.45**	**225**	Pg	**Pg**	**06 46 15.2**	**0.0**
PVCC				Sg	**Sb**	**06 46 34.3**	**0.0**
	101nm,0.2s						
KRLC	**Kraliky**	**1.55**	**165**	*e*PG	**Pn**	**06 46 16.4**	**+0.1**
KRLC				*e*SG	**Sg**	**06 46 36.4**	**-0.7**
KRLC	**Kraliky**	**1.55**	**165**	Pg	**Pn**	**06 46 16.4**	**+0.1**
KRLC				Sg	**Sg**	**06 46 36.4**	**-0.7**
BRG	**Berggiesshubel**	**1.56**	**244**	PG	**Pb**	**06 46 17.1**	**-0.1**
BRG				SG	**Sg**	**06 46 37.9**	**+0.3**
	100nm,0.3s						
PRA	**Prague**	**1.86**	**217**	*e*SG	**Sb**	**06 46 46.3**	**+0.2**
PRA	**Prague**	**1.86**	**217**	Sg	**Sb**	**06 46 46.3**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*SG	**Sb**	**06 46 46.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	Sg	**Sb**	**06 46 46.3**	**-0.2**
PRU	**Pruhonice**	**1.89**	**214**	*e*PG	**Pn**	**06 46 21.7**	**+0.7**
PRU				*e*SG	**Sb**	**06 46 46.4**	**-0.5**
	comp=Z,32nm,0.3s						
PRU	**Pruhonice**	**1.89**	**214**	Pg	**Pn**	**06 46 21.7**	**+0.7**
PRU				Sg	**Sb**	**06 46 46.4**	**-0.5**
	32nm,0.3s						
CLL	**Collm**	**2.00**	**264**	*i* Pn	**Pn**	**06 46 21.4**	**-1.1**
CLL				*i* Pg	**Pb**	**06 46 25.1**	**+0.5**
CLL				*i*		06 46 26.9	
CLL				*i* Sg	**Sg**	**06 46 51.2**	**-0.3**
	comp=Z,20nm,0.3s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**06 46 22.2**	**-0.3**
MORC				*e*Sg	**Sb**	**06 46 50.3**	**+0.2**
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*SG	**Sb**	**06 46 54.3**	**0.0**
OKC	**Ostrava-Krasne**	**2.14**	**143**	Sg	**Sb**	**06 46 54.3**	**0.0**
VRAC	**Vranov**	**2.28**	**173**	*e*Pn	**Pn**	**06 46 26.8**	**+0.4**
VRAC				*e*Sg	**Sb**	**06 46 59.2**	**+1.0**
NKC	**Novy Kostel**	**2.71**	**242**	*e*PN	**Pn**	**06 46 32.3**	**0.0**
NKC				*e*PG	**Pb**	**06 46 37.7**	**+0.9**
NKC				*e*SG	**Sg**	**06 47 15.0**	**+0.6**
	comp=Z,42nm,0.4s						
NKC	**Novy Kostel**	**2.71**	**242**	Pn	**Pn**	**06 46 32.3**	**0.0**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN	**Pn**	**06 46 34.9**	**-0.7**
KHC				*e*PG	**Pb**	**06 46 41.7**	**+0.8**
KHC				*e*SG	**Sg**	**06 47 20.1**	**-2.1**
KHC	**Kasperske Hory**	**2.95**	**215**	Pn	**Pn**	**06 46 34.9**	**-0.7**
LANS	**Liptovska Anna**	**3.21**	**138**	*e*Pg	**Pg**	**06 46 49.4**	**+0.3**
LANS				*e*Sg	**Sg**	**06 47 29.3**	**-1.4**
LANS	**Liptovska Anna**	**3.21**	**138**	*e*PG	**Pg**	**06 46 49.4**	**+0.3**
LANS				*e*SG	**Sg**	**06 47 29.3**	**-1.4**
CONA	**Conrad Observa**	**3.65**	**183**	Pn	**Pn**	**06 46 46.2**	**+0.9**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**06 47 42.1**	**-2.6**
	comp=Z,10nm,0.4s						
MOA	**Molln**	**3.92**	**199**	Sg	**Sg**	**06 47 52.0**	**-1.4**
	comp=Z,3.4nm,0.3s						
ARSA	**Arzberg**	**4.34**	**186**	Sg	**Sg**	**06 48 06.3**	**-0.6**
	comp=Z,2.6nm,0.4s						

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*KRSC **14** 06:45:50.4±1.3, 55°.98N×163°.42E, h17km±14km, ML4.6, FELT [III] at cape Afrika.*
*ISCJB **14** 06:45:52.4±0.7, 56°.09N±0°.03×163°.30E±0°.03, h22km±5km, mb4.5/55, Error ellipse: s-maj=4.9km s-min=2.8km az=157.3*
*MOS **14** 06:45:52.0±1.3, 56°.19N×163°.24E, h25km, mb4.8/18, Error ellipse: s-maj=8.0km s-min=4.7km az=59.6*
*IDC **14** 06:45:55.9±3.6, 56°.17N×162°.89E, h43km±35km, mb3.8/14, mb1 4.0/15, mb1mx3.8/40, mbtmp4.0/15, ML2.2/1, Error ellipse: s-maj=23.6km s-min=14.0km az=150.0*
*NEIC **14** 06:45:57.8±0.7, 56°.22N×162°.83E, h60km±8km, mb4.6/36, Error ellipse: s-maj=9.2km s-min=4.0km az=156.0*
ISC 14 06:45:52.5±1.1, 56°.13N±0°.04×163°.25E±0°.03, h17km±7km, n181, σ1°.48/210, mb4.7/55, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.33**	**292**	PN	**Pg**	**06 45 59.2**	**-0.1**
KBG				S	**Sb**	**06 46 04.8**	**-0.1**
KBG	**Krutoberegovo**	**0.33**	**292**	*e*P	**Pg**	**06 45 59.2**	**-0.1**
KBG				*e*S	**Sb**	**06 46 04.8**	**-0.1**
SMKR	**Semkarok**	**1.09**	**295**	PN	**Pb**	**06 46 12.7**	**-0.2**
SMKR	**Semkarok**	**1.09**	**295**	*e*P	**Pb**	**06 46 12.7**	**-0.2**
SRKR	**Sorokina**	**1.27**	**295**	PN	**Pn**	**06 46 15.5**	**0.0**
SRKR	**Sorokina**	**1.27**	**295**	*e*P	**Pn**	**06 46 15.5**	**0.0**
ZLN	**Zelenaya**	**1.37**	**266**	PN	**Pn**	**06 46 17.4**	**+0.4**
ZLN				S	**Sg**	**06 46 36.8**	**-0.1**
ZLN	**Zelenaya**	**1.37**	**266**	*e*P	**Pn**	**06 46 17.4**	**+0.4**
ZLN				*e*S	**Sg**	**06 46 36.8**	**-0.1**
CIRR	**Tsirk**	**1.40**	**270**	PN	**Pn**	**06 46 17.7**	**+0.3**
CIRR				S	**Sg**	**06 46 37.0**	**-0.7**
CIRR	**Tsirk**	**1.40**	**270**	*e*P	**Pn**	**06 46 17.7**	**+0.3**
CIRR				*e*S	**Sg**	**06 46 37.0**	**-0.7**
LGNR	**Loginova**	**1.43**	**269**	PN	**Pn**	**06 46 18.4**	**+0.4**
LGNR				S	**Sg**	**06 46 38.4**	**-0.4**
LGNR	**Loginova**	**1.43**	**269**	*e*P	**Pn**	**06 46 18.4**	**+0.4**
LGNR				*e*S	**Sg**	**06 46 38.4**	**-0.4**
KLY	**Klyuchi**	**1.46**	**278**	PN	**Pn**	**06 46 17.1**	**-1.0**
KLY				S	**Sn**	**06 46 35.2**	**-1.6**
KLY	**Klyuchi**	**1.46**	**278**	*e*P	**Pn**	**06 46 17.1**	**-1.0**
KLY				*e*S	**Sn**	**06 46 35.2**	**-1.6**
KRSR	**Krestovskiy**	**1.50**	**274**	PN	**Pn**	**06 46 18.7**	**-0.1**
KRSR				S	**Sb**	**06 46 38.5**	**-0.3**
KRSR	**Krestovskiy**	**1.50**	**274**	*e*P	**Pn**	**06 46 18.7**	**-0.1**
KRSR				*e*S	**Sb**	**06 46 38.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.55**	**265**	PN	**Pn**	**06 46 20.1**	**+0.6**
BZWR				S	**Sb**	**06 46 41.2**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.55**	**265**	*e*P	**Pn**	**06 46 20.1**	**+0.6**
BZWR				*e*S	**Sb**	**06 46 41.2**	**+0.9**
BZMR	**Bezymyannaya**	**1.56**	**264**	PN	**Pn**	**06 46 20.2**	**+0.6**
BZMR				S	**Sb**	**06 46 40.8**	**+0.3**
BZMR	**Bezymyannaya**	**1.56**	**264**	*e*P	**Pn**	**06 46 20.2**	**+0.6**
BZMR				*e*S	**Sb**	**06 46 40.8**	**+0.3**
KIRR	**Kirishev**	**1.64**	**265**	PN	**Pn**	**06 46 21.1**	**+0.4**
KIRR				S	**Sb**	**06 46 42.9**	**+0.1**
KIRR	**Kirishev**	**1.64**	**265**	*e*P	**Pn**	**06 46 21.1**	**+0.4**
KIRR				*e*S	**Sb**	**06 46 42.9**	**+0.1**
KPT	**Kopyto**	**1.70**	**266**	PN	**Pn**	**06 46 22.1**	**+0.5**
KPT				S	**Sb**	**06 46 44.1**	**-0.5**
KPT	**Kopyto**	**1.70**	**266**	*e*P	**Pn**	**06 46 22.1**	**+0.5**
KPT				*e*S	**Sb**	**06 46 44.1**	**-0.5**
KMNR	**Kamenistaya**	**1.73**	**259**	PN	**Pn**	**06 46 22.4**	**+0.4**
KMNR				S	**Sb**	**06 46 45.6**	**+0.1**
KMNR	**Kamenistaya**	**1.73**	**259**	*e*P	**Pn**	**06 46 22.4**	**+0.4**
KMNR				*e*S	**Sb**	**06 46 45.6**	**+0.1**
MKZ	**Mys Kozlova**	**1.80**	**209**	PN	**Pn**	**06 46 21.2**	**-1.6**
MKZ				S	**Sn**	**06 46 43.3**	**-1.9**
MKZ	**Mys Kozlova**	**1.80**	**209**	*e*P	**Pn**	**06 46 21.2**	**-1.6**
MKZ				*e*S	**Sn**	**06 46 43.3**	**-1.9**
BKI	**Bering**	**1.80**	**120**	PN	**Pn**	**06 46 21.4**	**-1.4**
BKI				S	**Sn**	**06 46 43.6**	**-1.7**
BKI	**Bering**	**1.80**	**120**	*e*P	**Pn**	**06 46 21.4**	**-1.4**
BKI				*e*S	**Sn**	**06 46 43.6**	**-1.7**
TUMD	**Tumrok D**	**1.86**	**241**	*e*P	**Pn**	**06 46 23.7**	**0.0**
TUMD				*e*S	**Sn**	**06 46 47.2**	**+0.4**
KOZ	**Kozyrevsk**	**1.89**	**269**	PN	**Pb**	**06 46 25.5**	**-1.1**
KOZ				S	**Sb**	**06 46 50.7**	**+0.8**
KOZ	**Kozyrevsk**	**1.89**	**269**	*e*P	**Pb**	**06 46 25.5**	**-1.1**
KOZ				*e*S	**Sb**	**06 46 50.7**	**+0.8**
TUMR	**Tumrok**	**1.95**	**245**	PN	**Pn**	**06 46 23.7**	**-1.2**
TUMR				S	**Sn**	**06 46 47.2**	**-1.9**
TUMR	**Tumrok**	**1.95**	**245**	*e*P	**Pn**	**06 46 26.0**	**+1.1**
KZV	**Kizimen**	**1.96**	**240**	PN	**Pn**	**06 46 25.3**	**+0.2**
KZV	**Kizimen**	**1.96**	**240**	*e*P	**Pn**	**06 46 25.3**	**+0.2**
KII	**Karymskiy**	**3.03**	**228**	PN	**Pn**	**06 46 40.3**	**+0.6**
KII	**Karymskiy**	**3.03**	**228**	*e*P	**Pn**	**06 46 40.3**	**+0.6**
PALN	**Palana**	**3.45**	**331**	PN	**Pb**	**06 46 51.0**	**-2.1**
PALN	**Palana**	**3.45**	**331**	*e*P	**Pb**	**06 46 51.0**	**-2.1**
PALN				*e*S	**Sb**	**06 47 35.9**	**+1.2**
SPN	**Mys Shipunski**	**3.57**	**213**	PN	**Pn**	**06 46 45.7**	**-1.4**
SPN	**Mys Shipunski**	**3.57**	**213**	*e*P	**Pn**	**06 46 45.7**	**-1.4**
SPN				*e*S	**Sn**	**06 47 25.3**	**-3.6**
NLC	**Nalytchevo**	**3.73**	**219**	PN	**Pn**	**06 46 49.7**	**+0.4**
NLC	**Nalytchevo**	**3.73**	**219**	*e*P	**Pn**	**06 46 49.7**	**+0.4**
NLC				*e*S	**Sn**	**06 47 32.8**	**0.0**
SDLR	**Sedlovina**	**3.82**	**223**	PN	**Pn**	**06 46 51.0**	**+0.4**
SDLR	**Sedlovina**	**3.82**	**223**	*e*P	**Pn**	**06 46 51.0**	**+0.4**
KRX	**Arik**	**3.85**	**226**	PN	**Pn**	**06 46 53.0**	**+1.9**
KRX	**Arik**	**3.85**	**226**	*e*P	**Pn**	**06 46 53.0**	**+1.9**
KRER	**Koryakskii**	**3.85**	**224**	PN	**Pn**	**06 46 52.4**	**+1.3**
KRER	**Koryakskii**	**3.85**	**224**	*e*P	**Pn**	**06 46 52.4**	**+1.3**
AVH	**Avacha**	**3.88**	**224**	PN	**Pn**	**06 46 52.3**	**+0.8**
AVH	**Avacha**	**3.88**	**224**	*e*P	**Pn**	**06 46 52.3**	**+0.8**
UGLR	**Uglovaya**	**3.90**	**223**	PN	**Pn**	**06 46 51.8**	**+0.1**
UGLR	**Uglovaya**	**3.90**	**223**	*e*P	**Pn**	**06 46 51.8**	**

COLA pmax pmax
comp=Z,4.0nm,1.6s
CCB Clear Creek Bu 25.02 50 *eP* **P 06 51 16.0 +0.8**
comp=Z,35nm,1.9s
IL1 Eielson Array 25.41 50 *eP* **P 06 51 19.2 +0.5**
ILAR Eielson Array 25.41 50 P **P 06 51 18.9 +0.1**
comp=Z,1.7nm,0.8s,baz=272,slow=10,SNR=18
ILB Eielson Array 25.41 50 *eP* **P 06 51 19.4 +0.7**
SCM Sheep Creek Mo 25.56 57 *eP* **P 06 51 20.5 +0.3**
SCM pmax pmax
comp=Z,60nm,1.8s
SCM Sheep Creek Mo 25.56 57 *eP* **P 06 51 20.5 +0.3**
comp=Z,60nm,1.8s
MJAR Matsushiro Arr 25.88 231 P **P 06 51 22.2 -1.1**
comp=Z,1.3nm,0.5s,baz=16,slow=10,SNR=4.5
FYU Fort Yukon 26.00 46 *eP* **P 06 51 26.1 +2.0**
comp=Z,38nm,1.8s
BMRM Bremner River 27.02 58 *eP* **P 06 51 35.4 +2.0**
comp=Z,33nm,1.8s
EGAK Eagle 27.84 49 *eP* **P 06 51 40.7 0.0**
comp=Z,7.1nm,1.1s
DAWY Dawson 28.72 50 *eP* **P 06 51 50.0 +1.4**
comp=Z,15nm,1.9s
PCA Pinnacle 29.32 59 *eP* **P 06 51 55.3 +1.3**
comp=Z,19nm,1.2s
INK Inuvik 30.35 41 P **P 06 52 04.2 +1.4**
comp=Z,1.4nm,0.4s,baz=287,slow=6.2,SNR=6.6
HYT Haines Junctio 30.39 56 *eP* **P 06 52 05.5 +2.0**
comp=Z,14nm,1.6s
WHY Whitehorse 31.67 56 *eP* **P 06 52 16.9 +2.2**
comp=Z,9.9nm,1.4s
ULN Ulaanbaatar 34.68 280 *ceP* **P 06 52 40.3 -0.8**
ULN pmax pmax
comp=Z,8.0nm,2.5s
SONA0 Songino Array 35.06 281 *eP* **P 06 52 42.4 -2.0**
comp=Z,6.5nm,1.4s
SONM Songino Array 35.06 281 P **P 06 52 42.4 -2.0**
comp=Z,1.0nm,0.7s,baz=65,slow=9.6,SNR=3.6
H11N2 WAKE ISLAND Hy 36.45 174 T T 07 31 47.7
baz=357,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 36.46 174 T T 07 31 46.5
baz=357,slow=76,SNR=718
H11N1 WAKE ISLAND Hy 36.47 174 T T 07 31 47.7
baz=357,slow=76,SNR=46
H11S1 WAKE ISLAND Hy 37.65 175 T T 07 33 20.7
baz=360,slow=76,SNR=47
H11S3 WAKE ISLAND Hy 37.66 175 T T 07 33 21.1
baz=360,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 37.67 175 T T 07 33 20.0
baz=360,slow=76,SNR=48
YKA Yellowknife Ar 39.70 46 P **P 06 53 23.6 +0.2**
comp=Z,1.7nm,0.8s,baz=303,slow=8.3,SNR=3.5
YKA Yellowknife Ar 39.70 46 *eP* **P 06 53 24.3 +0.9**
YKA pmax pmax
comp=Z,2.0nm,0.7s
ZAA0 Zalesovo Array 42.72 301 *eP* **P 06 53 50.0 +1.8**
KURK Kurchatov 47.70 301 *i P* **P 06 54 24.5 -3.3**
KURK pmax pmax
comp=Z,20nm,1.2s
KURK Kurchatov 47.70 301 *eP* **P 06 54 26.0 -1.9**
comp=Z,3.7nm,0.8s
YBH Yreka Blue Hor 48.34 74 *eP* **P 06 54 35.3 +2.3**
YBH pmax pmax
comp=Z,11nm,1.8s
YBH Yreka Blue Hor 48.34 74 *eP* **P 06 54 35.3 +2.3**
comp=Z,11nm,1.8s
MK31 Makanchi Array 48.51 295 *eP* **P 06 54 31.3 -2.9**
MK31 Makanchi Array 48.51 295 *eP* **P 06 54 31.3 -2.9**
MK32 Makanchi Array 48.51 295 *eP* **P 06 54 31.8 -2.4**
MKAR Makanchi Array 48.51 295 P **P 06 54 31.8 -2.5**
comp=Z,1.8nm,0.4s,baz=56,slow=6.5,SNR=35
MKAR Makanchi Array 48.51 295 *eP* **P 06 54 31.7 -2.5**
MKAR pmax pmax
comp=Z,25nm,1.0s
MKAR Makanchi Array 48.51 295 *eP* **P 06 54 31.7 -2.5**
comp=Z,25nm,1.0s
MK01 Makanchi Array 48.52 295 *eP* **P 06 54 31.8 -2.4**
BRVK Borovoye 49.97 308 *i P* **P 06 54 43.3 -1.9**
BRVK pmax pmax
comp=Z,24nm,2.5s
ARA0 ARCESS Array S 50.95 342 *eP* **P 06 54 52.5 0.0**
ARCES ARCESS Array B 50.95 342 P **P 06 54 52.5 0.0**
comp=Z,2.2nm,0.8s,baz=42,slow=11,SNR=3.9
ARCES ARCESS Array B 50.95 342 P **P 06 54 52.5 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
PD31 Pinedale Array 54.50 65 *eP* **P 06 55 20.4 +1.1**
PDAR Pinedale Array 54.50 65 P **P 06 55 20.4 +1.1**
comp=Z,0.8nm,0.9s,baz=250,slow=4.3,SNR=4.4
KLMR Klimovskoe 55.23 330 *eP* **P 06 55 22.7 -1.3**
KLMR pmax pmax
comp=Z,16nm,1.2s
NLU North Lily Min 55.26 69 *eP* **P 06 55 27.6 +2.8**
comp=Z,10nm,1.7s
AAK Ala-Archa 55.37 296 *eP* **P 06 55 23.6 -1.9**
AAK pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 55.37 296 *eP* **P 06 55 23.8 -1.8**
comp=Z,5.4nm,0.8s
ULM Lac du Bonnet 55.43 50 P **P 06 55 26.2 +0.7**
comp=Z,3.7nm,0.7s,baz=327,slow=10,SNR=3.5
ULM Lac du Bonnet 55.43 50 *eP* **P 06 55 27.2 +1.6**
comp=Z,54nm,1.9s
KKAR Karatay Array 57.00 299 *eP* **P 06 55 34.8 -2.2**
KKAR pmax pmax
comp=Z,42nm,0.6s
KKAR Karatay Array 57.00 299 *eP* **P 06 55 34.8 -2.2**
comp=Z,42nm,0.6s
PHWY Pilot Hill 57.64 63 *eP* **P 06 55 42.4 +0.5**
comp=Z,9.5nm,0.9s
EYMN Ely 59.05 49 *eP* **P 06 55 52.2 +1.0**
comp=Z,61nm,1.9s
VSU Vasula 60.57 335 *i P* **P 06 55 59.9 -1.5**
VSU pmax pmax
comp=Z,118nm,2.5s
ANMO Albuquerque 61.96 69 *i P* **P 06 56 13.8 +2.3**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 61.96 69 *eP* **P 06 56 13.5 +1.9**
comp=Z,1.9nm,0.9s
MNTX Cornudas Mount 65.05 70 *eP* **P 06 56 33.8 +2.1**
comp=Z,5.7nm,0.9s
WMOK Wichita Mounta 66.04 63 *eP* **P 06 56 39.3 +1.2**
WMOK pmax pmax
comp=Z,7.0nm,0.8s
WMOK Wichita Mounta 66.04 63 *eP* **P 06 56 39.3 +1.2**
comp=Z,6.8nm,0.8s
AKASG Malin Array Be 66.92 330 P **P 06 56 42.4 -1.0**
comp=Z,1.3nm,0.4s,baz=29,slow=5.9,SNR=4.3
AKBB Malin Array Si 66.92 330 *eP* **P 06 56 42.4 -1.0**
AKBB pmax pmax
comp=Z,20nm,1.9s
AKBB Malin Array Si 66.92 330 *eP* **P 06 56 42.4 -1.0**
comp=Z,20nm,1.9s
KIEV Kiev 66.93 330 *eP* **P 06 56 41.7 -1.8**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
HHAR Hobbs 67.18 59 *eP* **P 06 56 46.0 +0.6**
comp=Z,5.2nm,0.9s
TX31 Lajitas Ar. Si 67.82 70 *eP* **P 06 56 51.3 +1.7**
TXAR Lajitas Array 67.82 70 P **P 06 56 51.3 +1.7**
comp=Z,5.0nm,0.7s,baz=299,slow=4.5,SNR=67
X301 Greenbrier Sit 68.76 58 *eP* **P 06 56 56.0 +0.7**
comp=Z,16nm,1.5s
WHAR Wooly Hollow 68.77 58 *eP* **P 06 56 56.4 +1.0**
comp=Z,29nm,1.8s
JCT Junction City 68.92 67 *eP* **P 06 56 57.4 +1.0**
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 68.92 67 *eP* **P 06 56 57.4 +1.0**
comp=Z,6.5nm,0.8s
DPC Dobruska-Polom 70.39 338 *eP* **P 06 57 06.3 +1.1**
DPC Dobruska-Polom 70.39 338 *eP* **P 06 57 06.3 +1.1**
KHC Kasperske Hory 72.10 340 *eP* **P 06 57 16.7 +1.2**
KHC Kasperske Hory 72.10 340 *eP* **P 06 57 16.7 +1.2**
GEC2 GERESS Array S 72.35 339 *eP* **P 06 57 16.3 -0.8**
GEC2 pmax pmax
comp=Z,17nm,1.7s
GEC2 GERESS Array S 72.35 339 *eP* **P 06 57 16.3 -0.8**
comp=Z,17nm,1.7s
GERES GERESS Array B 72.35 339 P **P 06 57 17.1 0.0**
comp=Z,0.4nm,0.4s,baz=55,slow=5.6,SNR=4.3
GERES GERESS Array B 72.35 339 *eP* **P 06 57 17.7 +0.6**
GEA0 GERESS Array S 72.36 339 *eP* **P 06 57 17.0 -0.1**
WR1 Warramunga Arr 79.62 208 *eP* **P 06 57 57.6 -1.1**
comp=Z,10nm,1.4s
WRA Warramunga Arr 79.62 208 P **P 06 57 57.6 -1.1**
comp=Z,0.3nm,0.8s,baz=14,slow=6.1,SNR=3.6
AS31 Alice Springs 83.30 207 *eP* **P 06 58 16.6 -1.5**
comp=Z,1.2nm,1.0s
ASAR Alice Springs 83.30 207 P **P 06 58 17.8 -0.2**
comp=Z,0.5nm,0.8s,baz=22,slow=5.3,SNR=4.7
RAYN Ar Rayn 84.86 305 *eP* **P 06 58 25.5 -0.8**
comp=Z,18nm,1.9s
TRQA Tornquist 145.08 78 *ePKPbc* **PKPdf 07 05 28.1 -0.2**
HOPE Hope Point 168.58 89 *ePKPdf* **PKPdf 07 05 57.8 +0.7**

ISK **14** *07:01:45.4,37°.08N×27°.92E,h5km,MD2.6*
ISCJB **14** *07:01:46.2±0.6,37°.21N±0°.05×27°.98E±0°.05,h0km,Error ellipse: s-maj=8.8km s-min=3.9km az=29.1*
DDA **14** *07:01:47.0,37°.36N×28°.00E,h7km,Ml2.2,Suspected Mining explosion.*
CSEM **14** *07:01:47.0±0.4,37°.12N×27°.92E,h1km,MD2.6,Error ellipse: s-maj=13.1km s-min=6.7km az=24.0,Suspected Mining explosion.*
ISC 14 07:01:46.1±0.9,**37°.18N**±0°.04×**27°.96E**±0°.03,**h0km,n16,**
σ1°07/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.19**	**308**	*e*PG	**Pg**	**07 01 50.8**	**+1.1**
MLSB	**Milas**	**0.19**	**308**	*e*Pg	**Pg**	**07 01 50.8**	**+1.1**
BDRM	**Kayabasi**	**0.43**	**255**	*i* P	**Pb**	**07 01 56.1**	**-0.5**
BDRM				*i* S	**Sb**	**07 02 05.2**	**+1.6**
BDRM	**Kayabasi**	**0.43**	**255**	P	**Pb**	**07 01 56.1**	**-0.5**
BDRM				S	**Sb**	**07 02 05.2**	**+1.6**
BODT	**Bodrum**	**0.53**	**258**	*e*PG	**Pg**	**07 01 56.5**	**+0.1**
BODT				*e*SG	**Sg**	**07 02 04.6**	**+1.3**
BODT	**Bodrum**	**0.53**	**258**	*e*Pg	**Pg**	**07 01 56.5**	**+0.1**
BODT				*e*Sg	**Sg**	**07 02 04.6**	**+1.3**
DAT	**Datca**	**0.55**	**215**	*e*PG	**Pg**	**07 01 54.7**	**-1.9**
DAT	**Datca**	**0.55**	**215**	*e*Pg	**Pg**	**07 01 54.7**	**-1.9**
DALY	**Dalyan (Mu¨la**	**0.66**	**123**	*e*PG	**Pg**	**07 01 58.9**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.66**	**123**	*e*Pg	**Pg**	**07 01 58.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.78**	**312**	*i* P	**Pb**	**07 02 01.3**	**-1.3**
GCAM				*i* S	**Sb**	**07 02 13.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.78**	**312**	P	**Pb**	**07 02 01.3**	**-1.3**
GCAM				S	**Sb**	**07 02 13.3**	**-0.4**
FETY	**Fethiye**	**1.05**	**121**	*e*PG	**Pb**	**07 02 06.9**	**-0.3**
FETY				*e*SG	**Sb**	**07 02 21.7**	**+0.2**
FETY	**Fethiye**	**1.05**	**121**	*e*Pg	**Pb**	**07 02 06.9**	**-0.3**
FETY	**Fethiye**	**1.05**	**121**	P	**Pn**	**07 02 08.7**	**+0.6**
FETY				*e*Sg	**Sb**	**07 02 21.7**	**+0.2**
DGB	**¨zmir**	**1.22**	**316**	*i* P	**Pg**	**07 02 08.2**	**-1.4**
DGB				*i* S	**Sg**	**07 02 24.5**	**-0.9**

ISK **14** *07:06:21.9,37°.51N×28°.28E,h3km,MD2.7*
ISCJB **14** *07:06:27.2±0.7,37°.21N±0°.04×28°.24E±0°.04,h0km,Error ellipse: s-maj=6.5km s-min=4.9km az=13.3*
CSEM **14** *07:06:27.3±0.5,37°.21N×28°.23E,h1km,ML2.2,Error ellipse: s-maj=11.1km s-min=7.0km az=31.0,Suspected Mining explosion.*
DDA **14** *07:06:27.3,37°.21N×28°.22E,h7km,Ml2.2,Suspected Mining explosion.*
ISC 14 07:06:25.9±1.0,**37°.26N**±0°.04×**28°.19E**±0°.03,**h0km,n17,**
σ0°71/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.33**	**276**	*e*PG	**Pg**	**07 06 31.1**	**-1.1**
MLSB	**Milas**	**0.33**	**276**	*e*Pg	**Pg**	**07 06 31.1**	**-1.1**
AYDN	**Tasoluk**	**0.47**	**328**	*i* P	**Pb**	**07 06 37.5**	**+0.4**
AYDN				*i* S	**Sb**	**07 06 45.6**	**+1.0**
AYDN	**Tasoluk**	**0.47**	**328**	P	**Pb**	**07 06 37.5**	**+0.4**
AYDN				S	**Sb**	**07 06 45.6**	**+1.0**
TURN	**Turunc**	**0.51**	**139**	*i* P	**Pg**	**07 06 36.1**	**+0.4**
TURN				*i* S	**Sb**	**07 06 45.9**	**+0.2**
TURN	**Turunc**	**0.51**	**139**	P	**Pg**	**07 06 36.1**	**+0.4**
TURN				S	**Sb**	**07 06 45.9**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.58**	**140**	*e*PG	**Pg**	**07 06 37.4**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.58**	**140**	*e*Pg	**Pg**	**07 06 37.4**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.61**	**70**	*i* P	**Pb**	**07 06 39.6**	**0.0**
TAVA				*i* S	**Sn**	**07 06 51.4**	**-1.2**
BDRM	**Kayabasi**	**0.63**	**252**	*i* P	**Pb**	**07 06 39.4**	**-0.3**
BDRM				*i* S	**Sb**	**07 06 49.6**	**+0.6**
BDRM	**Kayabasi**	**0.63**	**252**	P	**Pb**	**07 06 39.4**	**-0.3**
BDRM				S	**Sb**	**07 06 49.7**	**+0.6**
DAT	**Datca**	**0.72**	**223**	*e*PG	**Pb**	**07 06 41.5**	**+0.1**
DAT				*e*SG	**Sn**	**07 06 54.8**	**-0.5**
DAT	**Datca**	**0.72**	**223**	*e*Pg	**Pb**	**07 06 41.5**	**+0.1**
DAT				*e*Sg	**Sn**	**07 06 54.8**	**-0.5**
BODT	**Bodrum**	**0.73**	**254**	*e*PG	**Pg**	**07 06 40.0**	**+0.2**
BODT				*e*SG	**Sb**	**07 06 53.2**	**+1.2**
BODT	**Bodrum**	**0.73**	**254**	*e*Pg	**Pg**	**07 06 40.1**	**+0.2**
BODT				*e*Sg	**Sb**	**07 06 53.2**	**+1.2**
FETY	**Fethiye**	**0.95**	**131**	*e*PN	**Pg**	**07 06 43.3**	**-0.8**
FETY	**Fethiye**	**0.95**	**131**	*e*Pn	**Pg**	**07 06 43.3**	**-0.8**

ISCJB **14** *07:07:27.9±0.7,49°.92N×0°.03×78°.6E±0°.1,h0km,Error ellipse: s-maj=11.2km s-min=3.3km az=162.4*
NNC **14** *07:07:28.8±0.4,49°.96N×78°.65E,h2km±6km,mb3.3,mpv3.0,Error ellipse: s-maj=11.3km s-min=3.6km az=84.0*
IDC **14** *07:07:30.6±1.5,50°.04N×78°.74E,h0km,mb1 2.9/2,mb1mx2.8/49,mbtmp2.9/2,ML2.3/2,Error ellipse: s-maj=15.1km s-min=8.8km az=63.0*
ISC 14 07:07:30.2±1.1,**49°.97N**±0°.06×**78°.7E**±0°.1,**h0km,n17,**
σ0°94/27,19C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.62**	**351**	⇑P	**Pg**	**07 07 41.5**	**-0.7**
KUR07				⇑S	**Sg**	**07 07 50.7**	**+0.4**
KUR06	**Kurchatov Arra**	**0.64**	**352**	⇑P	**Pg**	**07 07 41.8**	**-0.7**
KUR06				⇑S	**Sg**	**07 07 51.2**	**+0.3**
KUR14	**Kurchatov Arra**	**0.65**	**356**	⇑P	**Pg**	**07 07 41.7**	**-1.0**
KUR14				⇑S	**Sg**	**07 07 50.7**	**-0.4**
KUR15	**Kurchatov Arra**	**0.65**	**354**	⇓P	**Pg**	**07 07 41.8**	**-0.9**
KUR15				⇑S	**Sg**	**07 07 51.9**	**+0.7**
KURBB	**Kurchatov Arra**	**0.66**	**352**	Pg	**Pg**	**07 07 42.0**	**-0.9**
	1.4nm,0.3s,baz=166,slow=18,SNR=36						
KURBB				Lg	Lg	07 07 50.5	
	3.1nm,0.3s,baz=166,slow=31,SNR=17						
KURBB	**Kurchatov Arra**	**0.66**	**352**	⇓P	**Pg**	**07 07 42.0**	**-0.9**
	28nm,0.5s						
KURBB				⇑S	**Sg**	**07 07 51.5**	**+0.1**
	162nm,0.7s						
KUR16	**Kurchatov Arra**	**0.67**	**351**	⇑S	**Sg**	**07 07 51.3**	**-0.4**
KUR17	**Kurchatov Arra**	**0.68**	**349**	⇓P	**Pg**	**07 07 42.4**	**-0.8**
KUR17				⇓S	**Sg**	**07 07 51.7**	**-0.2**
KUR05	**Kurchatov Arra**	**0.68**	**353**	⇑P	**Pg**	**07 07 42.3**	**-1.0**
KUR05				⇑S	**Sg**	**07 07 51.5**	**-0.6**
KUR04	**Kurchatov Arra**	**0.70**	**353**	⇑P	**Pg**	**07 07 42.8**	**-0.8**
KUR04				⇑S	**Sg**	**07 07 52.2**	**-0.5**
KURK	**Kurchatov**	**0.75**	**358**	⇑P	**Pg**	**07 07 43.4**	**-1.1**
	22nm,0.8s						
KURK				⇑S	**Sg**	**07 07 54.6**	**+0.3**
	44nm,0.6s						
MAKZ	**Makanchi**	**3.86**	**144**	⇑Sn	**Sn**	**07 09 16.1**	**-0.7**
	4.2nm,0.5s						
MAKZ				⇑Lg	Lg	07 09 29.7	
	10nm,0.6s						
MK31	**Makanchi Array**	**3.99**	**141**	Pn	**Pn**	**07 08 30.8**	**-1.8**
MK31				⇑Pg	**Pb**	**07 08 42.4**	**+1.0**
	1.4nm,0.5s,baz=327,slow=15,SNR=8.7						
MK31				⇑Sn	**Sn**	**07 09 19.0**	**-1.1**
	4.0nm,0.6s						
MK31				⇓Lg	Lg	07 09 34.8	
	14nm,0.6s,baz=333,slow=26,SNR=19						
MKAR	**Makanchi Array**	**3.99**	**141**	Pn	**Pn**	**07 08 34.7**	**+2.0**
	0.2nm,0.3s,baz=327,slow=10,SNR=2.5						
MKAR				Lg	Lg	07 09 34.5	
	1.9nm,0.3s,baz=334,slow=22,SNR=13						
I46RU	**ZALESOVO INFRA**	**5.51**	**41**	*i*		07 40 10.0	
	baz=224,slow=328,SNR=1.7						
ZALV	**Zalesovo Beam**	**5.51**	**41**	Pn	**Pn**	**07 08 54.5**	**+1.0**
	0.5nm,0.3s,baz=229,slow=14,SNR=3.5						
ZALV				Lg	Lg	07 10 23.7	
	0.2nm,0.3s,baz=224,slow=28,SNR=2.8						
BVAR	**Borovoye Array**	**6.01**	**304**	Sn	**Sn**	**07 10 10.5**	**+0.7**
	0.6nm,0.3s,baz=110,slow=22,SNR=7.8						
BVAR				Lg	Lg	07 10 40.8	
	0.6nm,0.3s,baz=124,slow=28,SNR=2.9						

IDC 14 07:14:35.1±58.0,**21°.81S**×**179°.26W,h0km,mb4.2/3,mb1 4.4/3,mb1mx3.9/24,mbtmp4.2/3,Error ellipse: s-maj=1048.0km s-min=154.2km az=84.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.17**	**246**	P	P	07 21 37.9	-1.5
	1.6nm,0.5s,baz=93,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**43.09**	**258**	P	P	07 22 37.1	-0.2
	2.2nm,0.8s,baz=93,slow=8.1,SNR=22						
WRA	**Warramunga Arr**	**43.27**	**264**	P	P	07 22 39.8	+1.0
	2.3nm,0.5s,baz=92,slow=8.5,SNR=55						

MEX 14 07:20:00.4±0.5,**16°.95N**×**99°.62W,h21km**±20km,**MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**251**	*i* P	Pb	07 20 02.8	-3.7
ACX				*e*S	Sb	07 20 08.0	-2.8
ACP2	**Acapulco**	**0.27**	**254**	*e*P	Pb	07 20 05.7	-1.0
ACP2				*i* S	Sb	07 20 09.6	-1.5
CAIG	**El Cayaco**	**0.63**	**279**	*e*P	Pb	07 20 10.8	-2.0
CAIG				*i* S	Sb	07 20 18.7	-2.5
MEIG	**Mezcala**	**0.97**	**0**	*i* P	Pb	07 20 15.8	-2.8
MEIG				*e*S	Sb	07 20 27.4	-3.7
TLIG	**Tlapa**	**1.18**	**59**	*i* P	Pn	07 20 18.9	-2.9
TLIG				*i* S	Sb	07 20 33.2	-3.8
PLIG	**Platanillo**	**1.44**	**4**	*i* P	Pn	07 20 22.8	-2.6
PLIG				*i* S	Sn	07 20 39.6	-4.1
ARIG	**Puente Sto Nin**	**1.50**	**332**	*e*P	Pn	07 20 23.1	-3.0
ARIG				*i* S	Sn	07 20 40.5	-4.4
PNIG	**Pinotepa**	**1.53**	**111**	*e*P	Pn	07 20 23.0	-3.6

ISCJB **14** *07:25:03.3±1.5,30°.55N±0°.10×46°.40E±0°.09,h10km,Error ellipse: s-maj=16.9km s-min=5.8km az=34.0*
ISN **14** *07:25:03.0±0.9,30°.53N×46°.34E,h0km±4km,ML3.3*
TEH **14** *07:25:04.1,30°.47N×46°.18E,h18km,ML3.3*
CSEM **14** *07:25:05.0±0.5,30°.56N×46°.34E,h15km,ML3.3,Error ellipse: s-maj=14.9km s-min=4.5km az=34.0*
ISC 14 07:25:04.0±2.2,**30°.5N**±0°.1×**46°.35E**±0°.08,**h10km,n14,**
σ0°77/19,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**0.52**	**340**	*e*Pg	**Pg**	**07 25 13.8**	**-0.3**
	SNR=90						
NSR				*e*Sg	**Sg**	**07 25 22.0**	**+1.0**
	SNR=9.0						
IBDR	**Badra**	**2.60**	**352**	*e*Pn	**Pn**	**07 25 46.8**	**+0.6**
	SNR=39						
IBDR				*e*Sn	**Sn**	**07 26 17.6**	**-0.3**
	SNR=39						
BHD	**Baghdad**	**3.21**	**329**	*e*Pn	**Pn**	**07 25 54.8**	**+0.3**
	SNR=39						
BHD				*e*Sn	**Sn**	**07 26 31.9**	**-0.9**
	SNR=39						
IDHR	**Dehrash**	**4.17**	**0**	*e*AMB	AMB	07 26 14.6	
	comp=Z,1μm,0.3s						
IDHR				*e*Pn	**Pn**	**07 26 07.4**	**-0.5**
IPIR	**Pirpir**	**4.44**	**60**	*e*Pn	**Pn**	**07 26 12.5**	**+0.8**
IPIR				*e*AMB	AMB	07 26 16.6	
	comp=Z,231nm,0.2s						
IPIR				*e*Sn	**Sn**	**07 27 02.4**	**-1.1**
IPIR	**Pirpir**	**4.44**	**60**	*e*Pn	**Pn**	**07 26 12.5**	**+0.8**
IPIR				*e*Sn	**Sn**	**07 27 02.4**	**-1.1**
IKLH	**Kolahrood**	**5.25**	**57**	*e*Pn	**Pn**	**07 26 23.8**	**+1.0**
IKLH				*e*AMB	AMB	07 26 28.0	
	comp=Z,225nm,0.2s						
IKLH	**Kolahrood**	**5.25**	**57**	*e*Pn	**Pn**	**07 26 23.8**	**+1.0**
IRAM	**Ramesheh**	**5.33**	**75**	*e*Pn	**Pn**	**07 26 24.4**	**+0.5**
IRAM				*e*AMB	AMB	07 27 31.3	
	comp=E,95nm,0.1s						
IRAM	**Ramesheh**	**5.33**	**75**	*e*Pn	**Pn**	**07 26 24.4**	**+0.5**
IZEF	**Zefreh**	**5.62**	**64**	*e*Pn	**Pn**	**07 26 28.0**	**+0.1**
IZEF				*e*AMB	AMB	07 26 30.7	
	comp=Z,120nm,0.1s						
IZEF	**Zefreh**	**5.62**	**64**	*e*Pn	**Pn**	**07 26 28.0**	**+0.1**
ISRV	**Sarvestan**	**5.98**	**99**	*e*Pn	**Pn**	**07 26 33.2**	**+0.3**
ISRV				*e*AMB	AMB	07 26 37.8	
	comp=Z,113nm,0.1s						
ISRV	**Sarvestan**	**5.98**	**99**	*e*Pn	**Pn**	**07 26 33.2**	**+0.3**

TIF **14** *07:30:11.8,40°.24N×44°.83E,h11km±2km*
NSSP **14** *07:30:11.7,40°.27N×44°.77E,h10km,Ms3.6*
AZER **14** *07:30:12.4±1.4,40°.37N×44°.83E,h2km,Error ellipse: s-maj=2.7km s-min=1.2km az=269.0*
DDA **14** *07:30:13.5,40°.28N×44°.71E,h10km,Ml3.6*
MOS **14** *07:30:13.2±1.6,40°.07N×44°.73E,h11km,mb4.4/2,Error ellipse: s-maj=3.7km s-min=0.0km az=78.5*
CSEM **14** *07:30:14.4±0.2,40°.29N×44°.68E,h2km,mb4.4,Error ellipse: s-maj=4.1km s-min=3.5km az=29.0*
TEH **14** *07:30:18.3,39°.90N×44°.41E,h10km,ML3.6*
ISC 14 07:30:13.5±1.0,**40°.29N**±0°.01×**44°.77E**±0°.01,**h4km**±8km,**n136,σ1°61/217,24C-36D,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.14**	**189**	⇓*i*P	**Pg**	**07 30 15.9**	**-0.5**
GNI				⇑*i*S	**Sg**	**07 30 18.6**	**+0.3**
GNI	**Garni**	**0.14**	**189**	*i* PG	**Pg**	**07 30 15.8**	**-0.6**
GNI	**Garni**	**0.14**	**189**	*i* Pg	**Pg**	**07 30 15.8**	**-0.6**
GNI				S	**Sg**	**07 30 18.6**	**+0.3**
CKLZ	**Chkalov**	**0.65**	**352**	⇑*i*P	**Pg**	**07 30 26.1**	**+0.2**
CKLZ				⇓*i*S	**Sb**	**07 30 35.6**	**-1.4**
CKLZ	**Chkalov**	**0.65**	**352**	⇑P	**Pg**	**07 30 26.1**	**+0.2**
CKLZ				S	**Sb**	**07 30 35.6**	**-1.4**
SPIZ	**Spitak**	**0.65**	**325**	⇑*i*P	**Pg**	**07 30 25.6**	**-0.4**
SPIZ				⇓*i*S	**Sg**	**07 30 34.9**	**+0.3**
SPIZ	**Spitak**	**0.65**	**325**	⇑P	**Pg**	**07 30 25.6**	**-0.4**
SPIZ				S	**Sg**	**07 30 34.9**	**+0.3**
VADZ	**Vardenis**	**0.76**	**99**	⇑*i*P	**Pg**	**07 30 27.0**	**-1.0**
VADZ				⇑*i*S	**Sb**	**07 30 40.0**	**-0.1**
VADZ	**Vardenis**	**0.76**	**99**	⇑P	**Pg**	**07 30 27.0**	**-1.0**
VADZ				S	**Sb**	**07 30 40.0**	**-0.1**
STEZ	**Stepenevan**	**0.76**	**338**	⇓*i*P	**Pg**	**07 30 27.0**	**-1.1**
STEZ				⇓*i*S	**Sg**	**07 30 37.6**	**-0.4**
STE	**Stepanavan**	**0.77**	**337**	⇓P	**Pg**	**07 30 27.0**	**-1.2**
STE				S	**Sg**	**07 30 37.6**	**-0.6**
GDB	**GEDABAY**	**0.86**	**60**	P	**Pg**	**07 30 29.6**	**-0.4**
	SNR=75						
GDB				⇓S	**Sg**	**07 30 41.8**	**+0.5**
GDB	**GEDABAY**	**0.86**	**60**	P	**Pg**	**07 30 29.6**	**-0.4**
	SNR=75						
GDB				S	**Sg**	**07 30 41.8**	**+0.5**
GMRZ	**Gyumri**	**0.88**	**306**	*e*P	**Pg**	**07 30 28.0**	**-2.4**
GMRZ				*e*S	**Sg**	**07 30 40.0**	**-1.9**
QZX	**Qazax, Azerbai**	**0.89**	**31**	P	**Pg**	**07 30 30.7**	**+0.2**
	SNR=158						
QZX				⇓S	**Sb**	**07 30 43.5**	**-0.3**
QZX	**Qazax, Azerbai**	**

DGRG	**David-gareji**	**1.24**	**21**	P	**Pg**	**07 30 37.6**	**+0.3**
DGRG				S	**Sn**	**07 30 57.1**	**+2.1**
DGRG	**David-gareji**	**1.24**	**21**	PG	**Pg**	**07 30 37.6**	**+0.3**
DGRG	**David-gareji**	**1.24**	**21**	P	**Pg**	**07 30 37.6**	**+0.3**
DGRG				S	**Sn**	**07 30 56.7**	**+1.7**
NAX	**Nakhchivan**	**1.25**	**153**	⇑P	**Pn**	**07 30 36.7**	**-1.1**
NAX				⇑S	**Sn**	**07 30 54.6**	**-0.5**
NAX	**Nakhchivan**	**1.25**	**153**	P	**Pn**	**07 30 36.7**	**-1.1**
NAX				S	**Sn**	**07 30 54.6**	**-0.5**
BGD	**Bogdanovka**	**1.32**	**318**	P	**Pb**	**07 30 38.4**	**-0.5**
BGD				S	**Sn**	**07 30 57.3**	**+0.3**
BGD	**Bogdanovka**	**1.32**	**318**	P	**Pb**	**07 30 38.4**	**-0.5**
BGD				S	**Sn**	**07 30 57.3**	**+0.3**
TBLG	**Delisi**	**1.44**	**359**	P	**Pn**	**07 30 39.9**	**-0.5**
TBLG				S	**Sg**	**07 30 60.0**	**+0.4**
TBLG	**Delisi**	**1.44**	**359**	PN	**Pn**	**07 30 39.9**	**-0.5**
TBLG	**Delisi**	**1.44**	**359**	P	**Pn**	**07 30 39.9**	**-0.5**
TBLG				S	**Sg**	**07 31 00.0**	**+0.4**
GRS	**Goris**	**1.44**	**123**	⇑*i*P	**Pn**	**07 30 37.6**	**-2.8**
GRS				⇓*i*S	**Sn**	**07 30 57.3**	**-2.6**
GRS	**Goris**	**1.44**	**123**	⇑P	**Pn**	**07 30 37.7**	**-2.8**
GRS				S	**Sn**	**07 30 57.3**	**-2.6**
SEAG	**Tbilisi Sea**	**1.47**	**1**	P	**Pb**	**07 30 40.6**	**-0.8**
SEAG				S	**Sg**	**07 31 01.5**	**+0.8**
SEAG	**Tbilisi Sea**	**1.47**	**1**	P	**Pb**	**07 30 40.6**	**-0.8**
SEAG				S	**Sg**	**07 31 01.5**	**+0.8**
AKH	**Akhalkalaki**	**1.48**	**319**	P	**Pb**	**07 30 40.8**	**-0.8**
AKH				S	**Sg**	**07 31 01.3**	**+0.3**
AKH	**Akhalkalaki**	**1.48**	**319**	PN	**Pb**	**07 30 41.0**	**-0.6**
AKH	**Akhalkalaki**	**1.48**	**319**	P	**Pb**	**07 30 41.0**	**-0.6**
AKH				S	**Sg**	**07 31 01.3**	**+0.3**
VMUR	**Van-Muradiye**	**1.60**	**216**	*i* P	**Pb**	**07 30 42.6**	**-1.1**
VMUR				*i* S	**Sg**	**07 31 05.4**	**+0.6**
VMUR	**Van-Muradiye**	**1.60**	**216**	P	**Pb**	**07 30 42.6**	**-1.1**
VMUR				S	**Sg**	**07 31 05.4**	**+0.6**
IMRD	**Marand**	**1.73**	**155**	*e*Pn	**Pn**	**07 30 44.7**	**+0.1**
IMRD				*e*AMB	AMB	07 31 11.4	
	comp=Z,20μm,0.2s						
IMRD	**Marand**	**1.73**	**155**	*e*Pn	**Pn**	**07 30 44.7**	**+0.1**
TUTA	**Tutak**	**1.75**	**240**	*i* P	**Pn**	**07 30 44.6**	**-0.2**
TUTA				*i* S	**Sg**	**07 31 10.6**	**+0.9**
TUTA	**Tutak**	**1.75**	**240**	P	**Pn**	**07 30 44.6**	**-0.2**
TUTA				S	**Sg**	**07 31 10.6**	**+0.9**
EATA	**Eleskirt**	**1.80**	**257**	*i* P	**Pb**	**07 30 45.8**	**-1.4**
EATA				*i* S	**Sg**	**07 31 16.7**	**+5.4**
EATA	**Eleskirt**	**1.80**	**257**	P	**Pb**	**07 30 45.8**	**-1.4**
MNGR	**Mingechevir, A**	**1.83**	**74**	⇑P	**Pb**	**07 30 47.5**	**0.0**
	SNR=6.3						
MNGR				⇓S	**Sg**	**07 31 12.6**	**+0.4**
MNGR	**Mingechevir, A**	**1.83**	**74**	PN	**Pb**	**07 30 47.5**	**0.0**
MNGR	**Mingechevir, A**	**1.83**	**74**	P	**Pb**	**07 30 47.5**	**0.0**
	SNR=6.3						
MNGR				S	**Sg**	**07 31 12.6**	**+0.4**
BRDA	**Brd**	**1.84**	**90**	⇓P	**Pb**	**07 30 47.6**	**-0.1**
BRDA				⇑S	**Sg**	**07 31 13.4**	**+0.7**
BRDA	**Brd**	**1.84**	**90**	P	**Pb**	**07 30 47.6**	**-0.1**
BRDA				S	**Sg**	**07 31 13.4**	**+0.7**
ZKTA	**Zakatala**	**1.94**	**46**	⇓P	**Pb**	**07 30 48.9**	**-0.6**
	SNR=22						
ZKTA				⇑S	**Sg**	**07 31 15.7**	**-0.1**
ZKTA	**Zakatala**	**1.94**	**46**	PN	**Pb**	**07 30 48.9**	**-0.6**
ZKTA	**Zakatala**	**1.94**	**46**	Pn	**Pb**	**07 30 48.9**	**-0.6**
EPOS	**Posof**	**1.96**	**309**	*i* P	**Pb**	**07 30 48.8**	**-1.1**
EPOS				*i* S	**Sg**	**07 31 15.5**	**-1.1**
EPOS	**Posof**	**1.96**	**309**	P	**Pb**	**07 30 48.8**	**-1.1**
EPOS				S	**Sg**	**07 31 15.5**	**-1.1**
TVAN	**Van**	**2.06**	**211**	*i* P	**Pb**	**07 30 50.6**	**-0.8**
TVAN				*i* S	**Sg**	**07 31 24.4**	**+4.9**
TVAN	**Van**	**2.06**	**211**	P	**Pb**	**07 30 50.7**	**-0.8**
SEKA	**Sheki**	**2.06**	**63**	⇑P	**Pb**	**07 30 50.5**	**-1.0**
	SNR=33						
SEKA				⇑S	**Sg**	**07 31 20.1**	**+0.5**
SEKA	**Sheki**	**2.06**	**63**	PN	**Pb**	**07 30 50.0**	**-1.5**
SEKA	**Sheki**	**2.06**	**63**	Pn	**Pb**	**07 30 50.0**	**-1.5**
SEKA	**Sheki**	**2.06**	**63**	P	**Pb**	**07 30 50.5**	**-1.0**
	SNR=33						
SEKA				S	**Sg**	**07 31 20.1**	**+0.5**
ISHB	**Shabestar**	**2.11**	**162**	*e*Pn	**Pb**	**07 30 50.7**	**-1.8**
ISHB				*e*AMB	AMB	07 31 22.5	
	comp=Z,10μm,0.2s						
GUDG	**Gudauri**	**2.18**	**354**	P	**Pb**	**07 30 53.0**	**-0.7**
GUDG				S	**Sg**	**07 31 23.5**	**0.0**
GUDG	**Gudauri**	**2.18**	**354**	P	**Pb**	**07 30 53.0**	**-0.7**
GUDG				S	**Sg**	**07 31 23.5**	**0.0**
ZRD	**Zardab**	**2.23**	**89**	⇓P	**Pb**	**07 30 53.2**	**-1.1**
	SNR=3.4						
ZRD				⇑S	**Sg**	**07 31 25.5**	**+0.5**
ZRD	**Zardab**	**2.23**	**89**	P	**Pb**	**07 30 53.2**	**-1.1**
	SNR=3.4						
ZRD				S	**Sg**	**07 31 25.5**	**+0.5**
ITBZ	**Tabriz**	**2.32**	**152**	*e*Pn	**Pb**	**07 30 54.7**	**-1.2**
ITBZ				*e*Sg	**Sb**	**07 31 25.3**	**+0.3**
ITBZ				*e*AMB	AMB	07 31 27.3	
	comp=N,2μm,0.2s						
ITBZ	**Tabriz**	**2.32**	**152**	*e*Pn	**Pb**	**07 30 54.7**	**-1.2**
ITBZ				*e*Sg	**Sb**	**07 31 25.3**	**+0.3**
ARTV	**Artvin**	**2.34**	**293**	*i* P	**Pb**	**07 30 55.1**	**-1.2**
ARTV				*i* S	**Sg**	**07 31 27.4**	**-1.1**
ARTV	**Artvin**	**2.34**	**293**	P	**Pb**	**07 30 55.1**	**-1.2**
QBL	**Gabala**	**2.42**	**73**	⇑P	**Pb**	**07 30 56.1**	**-1.6**
QBL				⇓S	**Sg**	**07 31 30.5**	**-0.9**
ONI	**Oni**	**2.50**	**337**	P	**Pb**	**07 30 58.5**	**-0.5**
ONI				S	**Sg**	**07 31 31.8**	**-2.0**
ONI	**Oni**	**2.50**	**337**	PN	**Pb**	**07 30 58.6**	**-0.4**
ONI				S	**Sg**	**07 31 32.2**	**-1.6**
ONI	**Oni**	**2.50**	**337**	P	**Pb**	**07 30 58.6**	**-0.4**
AKT	**Akhty**	**2.54**	**61**	*e*PN	**Pb**	**07 30 58.0**	**-1.7**
AKT				*e*		07 31 32.7	
AKT				pmax	pmax		
	comp=Z,72nm,0.8s						
AKT				smax	smax		
	comp=E,307nm,0.7s						
AKT				smax	smax		
	comp=E,308nm,0.7s						
AKT				smax	smax		
	comp=N,249nm,0.7s						
AKT	**Akhty**	**2.54**	**61**	*e*Pn	**Pb**	**07 30 58.0**	**-1.7**
	comp=N,72nm,0.8s						
LACR	**Lac**	**2.56**	**352**	*i* PN	**Pb**	**07 30 59.7**	**-0.3**
ZEI	**Tsey**	**2.58**	**346**	*e*PN	**Pb**	**07 30 59.9**	**-0.5**
ZEI				*e*S	**Sg**	**07 31 34.5**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,88nm,0.6s						
ZEI				smax	smax		
	comp=N,66nm,0.7s						
ZEI				smax	smax		
	comp=E,129nm,0.8s						
IHRS	**Heris**	**2.64**	**137**	*e*Pn	**Pb**	**07 31 00.4**	**-1.1**
IHRS				*e*AMB	AMB	07 31 40.9	
	comp=Z,4μm,0.3s						
IHRS	**Heris**	**2.64**	**137**	*e*Pn	**Pb**	**07 31 00.4**	**-1.1**
IML	**Ismayilli**	**2.65**	**78**	⇓P	**Pb**	**07 30 59.4**	**-2.1**
IML				⇓S	**Sb**	**07 31 35.3**	**+0.9**
IML	**Ismayilli**	**2.65**	**78**	P	**Pb**	**07 30 59.4**	**-2.1**
IML				S	**Sb**	**07 31 35.3**	**+0.9**
GNBR	**Gunib**	**2.67**	**38**	*e*PN	**Pb**	**07 31 00.9**	**-0.9**
GNBR				*e*		07 31 37.5	
GNBR				pmax	pmax		
	comp=Z,43nm,0.6s						
GNBR				smax	smax		
	comp=E,201nm,0.9s						
GNBR				smax	smax		
	comp=N,168nm,1.3s						
GNBR				smax	smax		
	comp=N,220nm,0.5s						
GNBR	**Gunib**	**2.67**	**38**	*e*Pn	**Pb**	**07 31 00.9**	**-0.9**
	comp=N,43nm,0.6s						
XNZR	**Khunzakh**	**2.68**	**32**	*e*PN	**Pb**	**07 31 01.5**	**-0.6**
XNZR				*e*		07 31 38.3	
XNZR	**Khunzakh**	**2.68**	**32**	*e*Pn	**Pb**	**07 31 01.5**	**-0.6**
XNQ	**Khinaliq**	**2.71**	**70**	⇓P	**Pb**	**07 31 01.0**	**-1.6**
XNQ				⇓S	**Sb**	**07 31 36.5**	**+0.3**
XNQ	**Khinaliq**	**2.71**	**70**	P	**Pb**	**07 31 01.0**	**-1.6**
XNQ				S	**Sb**	**07 31 36.5**	**+0.3**
DIGR	**Digorskoe uzhe**	**2.75**	**341**	*i* PN	**Pb**	**07 31 03.6**	**+0.2**
KMGR	**Komgaron**	**2.76**	**1**	*e*PN	**Pb**	**07 31 04.1**	**+0.6**
QSAR	**Qusar**	**2.92**	**64**	⇑P	**Pn**	**07 31 02.5**	**+1.8**
QSAR				⇓S	**Sb**	**07 31 44.0**	**+2.0**
PQL	**Pirkuli**	**2.96**	**79**	⇑P	**Pn**	**07 31 02.5**	**+1.2**
PQL				⇓S	**Sb**	**07 31 45.0**	**+1.7**
PQL	**Pirkuli**	**2.96**	**79**	P	**Pn**	**07 31 02.5**	**+1.2**
PQL				S	**Sb**	**07 31 45.0**	**+1.7**
GLBA	**Clilabad**	**2.98**	**109**	⇓P	**Pb**	**07 31 06.1**	**-1.1**
GLBA	**Clilabad**	**2.98**	**109**	P	**Pb**	**07 31 06.1**	**-1.1**
QUBA	**Quba, Azerbaij**	**3.02**	**68**	⇑P	**Pn**	**07 31 03.8**	**+1.7**
QUBA				⇓S	**Sb**	**07 31 43.7**	**-1.3**
QUBA	**Quba, Azerbaij**	**3.02**	**68**	P	**Pn**	**07 31 03.8**	**+1.7**
QUBA				S	**Sb**	**07 31 43.7**	**-1.3**
LSNR	**Lesken**	**3.06**	**347**	*e*PN	**Pb**	**07 31 08.6**	**0.0**
IBST	**Bostanabad**	**3.07**	**147**	*e*AMB	AMB	07 31 56.3	
	comp=Z,910nm,0.2s						
STDR	**Stavd-Durt**	**3.12**	**350**	*e*PN	**Pg**	**07 31 11.2**	**-2.0**
GBS	**Qobustan**	**3.19**	**84**	⇓P	**Pb**	**07 31 07.9**	**-2.9**
GBS	**Qobustan**	**3.19**	**84**	P	**Pb**	**07 31 07.9**	**-2.9**
LRK	**Lerik**	**3.22**	**120**	⇓P	**Pb**	**07 31 10.3**	**-1.0**
	SNR=34						
LRK				⇑S	**Sg**	**07 31 54.7**	**-2.1**
LRK	**Lerik**	**3.22**	**120**	P	**Pb**	**07 31 10.3**	**-1.0**
	SNR=34						
ATGJ	**Altiaghaj**	**3.22**	**79**	⇓P	**Pn**	**07 31 07.0**	**+2.0**
ATGJ				⇓S	**Sb**	**07 31 47.2**	**-3.8**
ATGJ	**Altiaghaj**	**3.22**	**79**	P	**Pn**	**07 31 07.0**	**+2.0**
ATGJ				S	**Sb**	**07 31 47.2**	**-3.8**
SIZA	**Siyzn**	**3.23**	**75**	⇓P	**Pn**	**07 31 07.5**	**+2.4**
	SNR=2.9						
SIZA				⇓S	**Sb**	**07 31 48.4**	**-2.9**
SIZA	**Siyzn**	**3.23**	**75**	P	**Pn**	**07 31 07.5**	**+2.4**
	SNR=2.9						
SIZA				S	**Sb**	**07 31 48.4**	**-2.9**
ALIB	**Äli-Bayra**	**3.27**	**95**	⇓P	**Pn**	**07 31 07.8**	**+2.4**
ALIB	**Äli-Bayra**	**3.27**	**95**	P	**Pn**	**07 31 07.8**	**+2.4**
NCK	**Nalchik**	**3.32**	**345**	*e*PN	**Pb**	**07 31 09.9**	**-3.0**
NEY	**Neytrino**	**3.33**	**333**	*e*PN	**Pn**	**07 31 08.6**	**+2.1**
NEY				pmax	pmax		
	comp=Z,4.0nm,0.1s						
NEY	**Neytrino**	**3.33**	**333**	*e*Pn	**Pn**	**07 31 08.6**	**+2.1**
	comp=Z,4.0nm,0.1s						
LKRN	**Lenkeran, Azer**	**3.48**	**116**	⇑P	**Pn**	**07 31 11.1**	**+2.7**
LKRN				⇓S	**Sg**	**07 32 01.7**	**-3.5**
LKRN	**Lenkeran, Azer**	**3.48**	**116**	PN	**Pb**	**07 31 14.5**	**-1.1**
LKRN	**Lenkeran, Azer**	**3.48**	**116**	P	**Pn**	**07 31 11.1**	**+2.7**
ASTR	**Astara**	**3.56**	**118**	⇓P	**Pb**	**07 31 14.1**	**-2.9**
	SNR=3.7						
ASTR				⇓S	**Sb**	**07 32 02.2**	**+1.6**
ASTR	**Astara**	**3.56**	**118**	P	**Pb**	**07 31 14.1**	**-2.9**
	SNR=3.7						
KIV	**Kislovodsk**	**3.97**	**338**	⇓*e*PN	**Pn**	**07 31 16.8**	**+1.5**
KIV				*e*		07 31 29.9	
KIV				S	**Sb**	**07 32 08.0**	**-4.6**
KIV				*i*		07 32 20.9	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIV				pmax	pmax		
	comp=Z,13nm,0.9s						
KIV				smax	smax		
	comp=N,18nm,0.8s						
KIV	**Kislovodsk**	**3.97**	**338**	*e*Pn	**Pn**	**07 31 16.8**	**+1.5**
	comp=N,5.0nm,0.5s						
KIV				*i* Sb	**Sg**	**07 32 20.9**	**-0.2**
ANN	**Anapa**	**7.04**	**312**	*e*P	**Pn**	**07 32 00.1**	**+2.8**
ANN				pmax	pmax		
	comp=Z,63nm,1.5s						
OBN	**Obninsk**	**15.80**	**342**	⇓*e*P	**P**	**07 34 02.5**	**+1.9**
OBN				S	**S**	**07 37 00.0**	**-7.0**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				smax	smax		
	comp=N,28nm,0.6s						
OBN				MLR	MLR		
	comp=Z,539nm,16.0s						
OBN	**Obninsk**	**15.80**	**342**	*e*P	**P**	**07 34 02.5**	**+1.9**
	comp=Z,5.0nm,0.9s						
KLMR	**Klimovskoe**	**20.84**	**353**	*e*P	Pn	07 35 01.6	+3.2
KLMR				pmax	pmax		
	comp=Z,14nm,1.4s						
BRVK	**Borovoye**	**21.53**	**45**	*e*P	**P**	**07 35 07.4**	**+4.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**21.53**	**45**	*e*P	**P**	**07 35 07.4**	**+4.0**
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**25.70**	**55**	*e*P	**P**	**07 35 47.3**	**+2.8**
KURK	**Kurchatov**	**25.70**	**55**	*e*P	**P**	**07 35 47.3**	**+2.8**
CN2	**Changchun**	**57.72**	**58**	*e*P	P	07 40 12.3	+7.0
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						

OBM ***14*** *07:32:10.7±0.1, 52°.79N×107°.33E, h2km, Ml4.1, Error ellipse: s-maj=1.7km s-min=1.1km az=15.0*
MOS ***14*** *07:32:11.9±1.2, 52°.69N×107°.42E, h12km, mb4.6/10, Error ellipse: s-maj=9.6km s-min=6.5km az=65.9*
IDC ***14*** *07:32:12.3±0.9, 52°.59N×107°.58E, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.8/42, mbtmp3.9/11, ML3.4/4, Error ellipse: s-maj=18.1km s-min=16.7km az=144.0*
ISCJB ***14*** *07:32:12.0±0.2, 52°.73N×107°.31E±0°.03, h10km, mb4.3/19, Error ellipse: s-maj=2.9km s-min=2.0km az=142.6*
BYKL ***14*** *07:32:13.2±0.2, 52°.77N×107°.19E, FELT I=II-III MSK at Tyrgan*
NEIC ***14*** *07:32:14.1±0.3, 52°.63N×107°.59E, h10km, mb4.5/10, Error ellipse: s-maj=7.0km s-min=6.1km az=132.0*

ISC 14 07:32:13.2±0.4, 52°.70N±0°.02×107°.32E±0°.02, h10km, n130, σ2s 43/208, mb4.4/19, 13C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELR	**Kotokel**	**0.47**	**82**	⇑*i*Pg	**Pb**	**07 32 22.9**	**-0.7**
KELR				*e*Sg	**Sb**	**07 32 30.0**	**-0.5**
TRTB	**Turuntaevo**	**0.51**	**158**	⇓*i*Pg	**Pn**	**07 32 24.2**	**-2.3**
TRTB	5μm,0.6s			⇑*i*Pg	**Pn**	**07 32 24.2**	**-2.3**
TRTB	2μm,0.6s			⇑*i*Pg	**Pn**	**07 32 24.2**	**-2.3**
TRTB	5μm,0.6s			Pmax		07 32 24.4	
TRTB	4μm,0.5s			*i* Sg	**Sb**	**07 32 31.9**	**+0.3**
TRTB				*e*Sb	**Sg**	**07 32 36.4**	**+6.7**
TRTB				max		07 32 38.0	
	849nm,0.7s						
TRG	**Tyrgan**	**0.59**	**277**	⇑*i*Pg	**Pg**	**07 32 23.2**	**-1.5**
TRG				Pmax		07 32 28.3	
	992nm,0.1s						
TRG				*e*Sg	**Sg**	**07 32 31.2**	**-1.3**
TRG				Smax		07 32 36.5	
	3μm,0.2s						
TRG	**Tyrgan**	**0.59**	**277**	*e*PG	**Pg**	**07 32 23.1**	**-1.6**
TRG				*e*		07 32 28.8	
TRG				pmax	pmax		
	comp=Z,899nm,0.1s						
TRG				smax	smax		
	comp=N,8μm,0.1s						
KAB	**Kabansk**	**0.76**	**212**	⇑*i*Pg	**Pb**	**07 32 27.7**	**-0.9**
KAB				*i* Sg	**Sb**	**07 32 38.6**	**-0.4**
KAB				Smax		07 32 39.4	
	comp=N,4μm,0.7s						
KAB	**Kabansk**	**0.76**	**212**	⇑*i*PG	**Pb**	**07 32 27.7**	**-0.9**
KAB				*e*		07 32 38.6	
KAB				pmax	pmax		
	comp=Z,656nm,0.4s						
KAB				smax	smax		
	comp=N,13μm,0.7s						
STDB	**Stepnoy Dvoret**	**0.79**	**228**	*e*Pg	**Pn**	**07 32 28.6**	**-1.8**
STDB				Pmax		07 32 29.0	
	comp=N,1μm,0.2s						
STDB				*e*Pb	**Pb**	**07 32 32.3**	**+3.3**
STDB				*e*Sg	**Sn**	**07 32 40.3**	**-1.9**
STDB				Smax		07 32 41.6	
	comp=N,2μm,1.1s						
STDB				*e*Sb	**Sb**	**07 32 43.8**	**+4.1**
UUDB	**Ulan-Yde**	**0.86**	**166**	⇓*i*Pg	**Pn**	**07 32 30.1**	**-1.3**
	comp=N,2μm,0.6s						
UUDB				⇑*i*Pg	**Pn**	**07 32 30.1**	**-1.3**
	comp=N,510nm,0.6s						
UUDB				⇑*i*Pg	**Pn**	**07 32 30.1**	**-1.3**
	comp=N,3μm,0.6s						
UUDB				Pmax		07 32 30.6	
	comp=N,4μm,0.7s						
UUDB				*e*Sg	**Sn**	**07 32 42.5**	**-1.5**
UUDB				*e*Sb	**Sb**	**07 32 46.4**	**+4.7**
UUDB				max		07 32 47.1	
	comp=N,8μm,0.8s						
OGRR	**Ongureny**	**0.96**	**10**	⇑*i*Pg	**Pg**	**07 32 30.2**	**-1.5**
OGRR				Pmax		07 32 32.4	
OGRR				*e*Sg	**Sg**	**07 32 42.4**	**-1.9**
OGRR				*e*Sb	**Sn**	**07 32 46.0**	**-0.6**
OGRR				max		07 32 46.8	
	comp=N,4μm,0.2s						
OGRR	**Ongureny**	**0.96**	**10**	⇑*i*PG	**Pg**	**07 32 30.2**	**-1.5**
OGRR				*e*		07 32 42.5	
OGRR				pmax	pmax		
	comp=Z,615nm,0.3s						
OGRR				smax	smax		
	comp=E,4μm,1.0s						
MXMB	**Maximikha**	**1.03**	**56**	⇑*i*Pg	**Pn**	**07 32 32.6**	**-1.2**
MXMB				*e*Pb	**Pb**	**07 32 33.6**	**+0.4**
MXMB				*e*Sg	**Sn**	**07 32 47.3**	**-1.0**
BGT	**Bolshoye Golou**	**1.34**	**242**	*e*Pg	**Pn**	**07 32 37.0**	**-1.0**
BGT				Pmax		07 32 40.0	
	comp=E,132nm,0.3s						
BGT				*e*Sg	**Sn**	**07 32 54.9**	**-0.9**
BGT				Smax		07 32 57.5	
	comp=E,2μm,0.6s						
BGT				*e*Sb	**Sg**	**07 32 59.3**	**+3.0**
BGT	**Bolshoye Golou**	**1.34**	**242**	*e*PG	**Pb**	**07 32 37.3**	**-1.1**
BGT				*e*		07 32 54.7	
BGT				pmax	pmax		
	comp=Z,338nm,0.3s						
BGT				smax	smax		
	comp=E,2μm,0.3s						
LSTR	**Listvyanka**	**1.74**	**242**	*e*Pn	**Pn**	**07 32 41.9**	**-1.5**
LSTR				*e*Pg	**Pn**	**07 32 42.7**	**-0.7**
LSTR				Pmax		07 32 44.4	
	comp=E,124nm,0.4s						
LSTR				*e*Sg	**Sb**	**07 33 05.8**	**-1.2**
LSTR				Smax		07 33 06.3	
	comp=E,1μm,0.4s						
LSTR	**Listvyanka**	**1.74**	**242**	*e*PN	**Pn**	**07 32 42.7**	**-0.7**
LSTR				*e*		07 32 43.8	
LSTR				pmax	pmax		
	comp=Z,174nm,0.5s						
SYVR	**Suvo**	**1.88**	**58**	*e*Pn	**Pn**	**07 32 45.1**	**-0.3**
SYVR				*e*Pg	**Pg**	**07 32 47.4**	**-1.8**
SYVR				Pmax		07 32 52.3	
	comp=Z,219nm,0.4s						
SYVR				*e*Sg	**Sg**	**07 33 13.2**	**-0.4**
SYVR				Smax		07 33 14.4	
	comp=Z,2μm,0.4s						
SYVR	**Suvo**	**1.88**	**58**	*e*PN	**Pn**	**07 32 45.3**	**-0.1**
SYVR				*e*		07 32 46.9	
SYVR				*e*		07 33 12.8	
SYVR				pmax	pmax		
	comp=Z,229nm,0.3s						
SYVR				smax	smax		
	comp=N,2μm,0.5s						
IRK	**Irkutsk**	**1.92**	**258**	*e*Pg	**Pb**	**07 32 46.6**	**-1.6**
IRK				Pmax		07 32 48.0	
	comp=N,532nm,0.2s						
IRK				*i* Sg	**Sb**	**07 33 11.5**	**-0.7**
IRK				Smax		07 33 12.1	
	comp=N,5μm,0.5s						
IRK	**Irkutsk**	**1.92**	**258**	*e*PN	**Pb**	**07 32 46.7**	**-1.5**
IRK				*e*		07 33 10.7	
IRK				pmax	pmax		
	comp=Z,527nm,0.1s						
IRK				smax	smax		
	comp=E,5μm,0.5s						
IVK	**Ivanovka**	**2.00**	**244**	*e*Pn	**Pn**	**07 32 46.7**	**-0.3**
IVK				*e*Pg	**Pb**	**07 32 48.3**	**-1.3**
IVK				Pmax		07 32 49.1	
	comp=E,360nm,0.6s						
IVK				*e*Sn	**Sb**	**07 33 13.2**	**-1.3**
IVK				*e*Sg	**Sg**	**07 33 14.7**	**-2.6**
IVK				Smax		07 33 15.7	
	comp=E,1μm,0.4s						
TLY	**Talaya**	**2.48**	**247**	Pn	**Pn**	**07 32 54.5**	**+0.8**
	comp=E,0.4nm,0.3s,baz=73,slow=11,SNR=48						
TLY				Sn	**Sn**	**07 33 23.3**	**-0.6**
	comp=E,0.3nm,0.3s,baz=60,slow=20,SNR=3.8						
TLY				Lg	Lg	07 33 27.5	
	comp=E,0.6nm,0.3s,baz=108,slow=24,SNR=7.9						
TLY	**Talaya**	**2.48**	**247**	*e*Pn	**Pn**	**07 32 53.2**	**-0.4**
TLY				*e*Pg	**Pb**	**07 32 56.9**	**-0.9**
TLY				Pmax		07 33 04.5	
	comp=E,112nm,0.3s						
TLY				*e*Sg	**Sg**	**07 33 29.9**	**-2.9**
TLY				Smax		07 33 30.1	
	comp=E,651nm,0.2s						
TLY	**Talaya**	**2.48**	**247**	*e*PN	**Pn**	**07 32 54.6**	**+1.0**
TLY				*e*		07 32 56.6	
TLY				*e*S	**Sn**	**07 33 24.6**	**+0.6**
TLY				*e*		07 33 27.3	
TLY				pmax	pmax		
	comp=Z,86nm,0.4s						
TLY	**Talaya**	**2.48**	**247**	*e*Pn	**Pb**	**07 32 55.1**	**-2.8**
TLY				*e*Lg	Lg	07 33 27.5	
ARS	**Arshan**	**3.10**	**257**	*e*Pn	**Pn**	**07 33 02.4**	**+0.1**
ARS				*e*Pg	**Pb**	**07 33 06.4**	**-2.1**
ARS				Pmax		07 33 10.0	
	comp=Z,706nm,0.7s						
ARS				*e*Sg	**Sb**	**07 33 46.3**	**-0.1**
ARS				Smax		07 33 50.8	
	comp=Z,3μm,0.9s						
YLYR	**Ulyunkhan**	**3.16**	**45**	⇓*i*Pn	**Pn**	**07 33 02.8**	**-0.2**
YLYR				*e*Pg	**Pb**	**07 33 08.4**	**-1.0**
YLYR				*e*		07 33 11.1	
YLYR				max		07 33 12.2	
	comp=Z,81nm,1.0s						
YLYR				*e*Sg	**Sg**	**07 33 51.0**	**-3.5**
YLYR				Smax		07 33 53.5	
	comp=Z,731nm,1.1s						
YLYR	**Ulyunkhan**	**3.16**	**45**	*e*PN	**Pn**	**07 33 03.0**	**0.0**
YLYR				*e*		07 33 09.6	
YLYR				*e*S	**Sn**	**07 33 40.6**	**-0.1**
YLYR				*e*		07 33 50.2	
Y

comp=E,1μm,1.2s
KMO Kumora 3.92 34 *e*PN **Pn 07 33 13.3 -0.2**
KMO *e* 07 33 22.3
MOY Mondy 4.03 258 *e*Pn **Pn 07 33 16.6 +1.6**
MOY *e*Pg **Pb 07 33 22.6 -1.6**
MOY Pmax 07 33 26.4
comp=E,178nm,1.0s
MOY *e* 07 34 02.9
MOY *e*Sg **Sb 07 34 15.2 +2.2**
MOY Smax 07 34 19.1
comp=E,717nm,0.9s
MOY Mondy 4.03 258 *e*PN **Pb 07 33 25.3 +1.1**
MOY *e* 07 34 16.5
MOY pmax pmax
comp=Z,178nm,1.0s
MOY smax smax
comp=N,657nm,0.6s
YOA Uoyan 4.30 35 *e* **Pb 07 33 25.7 -3.1**
YOA *e*Sg **Sg 07 34 27.6 -3.5**
YOA Smax 07 34 54.1
comp=N,2μm,1.2s
YOA Uoyan 4.30 35 *e*PN **Pg 07 33 33.0 -2.5**
YOA *e* 07 34 27.5
YOA pmax pmax
comp=Z,204nm,0.3s
YOA smax smax
comp=E,2μm,1.2s
KPC Khapcheranga 4.37 131 *e*Pg **Pg 07 33 33.5 -3.4**
KPC Pmax 07 33 36.2
comp=E,195nm,0.7s
KPC *e*Sn **Sn 07 34 10.2 -0.4**
KPC *e*Sg **Sg 07 34 32.3 -1.2**
KPC Smax 07 34 36.1
comp=E,1μm,1.3s
KPC Khapcheranga 4.37 131 *e*PN **Pn 07 33 19.4 -0.3**
KPC *e* 07 33 31.5
KPC *e*S **Sn 07 34 10.3 -0.4**
KPC *e* 07 34 30.3
KPC pmax pmax
comp=Z,195nm,0.7s
KPC smax smax
comp=N,1μm,1.3s
ORL Orlik 4.58 271⇑ *i*Pn **Pn 07 33 22.3 -0.3**
ORL *e*Pg **Pb 07 33 32.4 -1.2**
ORL Pmax 07 33 37.0
comp=N,72nm,0.9s
ORL *e*Sg **Sb 07 34 31.8 +3.0**
ORL Smax 07 34 38.8
comp=N,445nm,1.0s
ORL Orlik 4.58 271 *e*PN **Pn 07 33 22.6 0.0**
ORL *e* 07 33 33.4
ORL *e*S **Sn 07 34 12.9 -2.9**
ORL pmax pmax
comp=Z,72nm,1.0s
ORL smax smax
comp=N,442nm,1.0s
BLGM Bulgan 4.59 213 *e*Pn **Pn 07 33 23.6 +0.9**
BLGM *e*Sg **Sg 07 34 36.0 -4.5**
UKT Uakit 4.65 51 *e*Pn **Pn 07 33 23.7 +0.2**
UKT *e* 07 33 32.9
UKT *e*Pg **Pb 07 33 36.3 +1.5**
UKT Pmax 07 33 42.7
comp=N,44nm,1.2s
UKT *e*Sg **Sg 07 34 38.4 -4.0**
UKT Smax 07 34 48.0
comp=N,281nm,0.8s
ALFM 4.72 184 *e*Pn **Pn 07 33 25.6 +1.0**
ALFM *e*Sg **Sg 07 34 41.5 -3.3**
comp=N,526nm,0.5s
ARTM 4.77 180 *e*Pn **Pn 07 33 26.6 +1.3**
ARTM *e*Sg **Sg 07 34 42.1 -4.3**
UB1M 4.80 186 *e*Pn **Pn 07 33 26.8 +1.1**
UB1M *e*Sg **Sg 07 34 44.0 -3.3**
ULN Ulaanbaatar 4.84 182 *e* **Pn 07 33 27.3 +1.1**
ULN *e* 07 33 40.0
ULN *e*Sg **Sg 07 34 44.8 -3.7**
ULN Ulaanbaatar 4.84 182 *i* PN **Pn 07 33 27.1 +0.9**
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 4.84 182 *e*Pn **Pn 07 33 27.5 +1.3**
ULN *e*Pb **Pg 07 33 41.6 -4.3**
ULN *e*Lg Lg 07 34 46.3
SONB1 Songino Array 4.87 187 *e*Pn **Pn 07 33 27.5 +0.8**
SONB1 *e*Sg **Sg 07 34 45.9 -3.7**
comp=Z,983nm,0.7s
SONB5 Songino Array 4.89 188 *e*Pn **Pn 07 33 27.8 +1.0**
SONB5 *e*Sg **Sg 07 34 46.5 -3.5**
SONA2 Songino Array 4.89 187 *e*Pn **Pn 07 33 27.9 +1.1**
SONA2 *e*Sg **Sg 07 34 47.5 -2.5**
SONB2 Songino Ar. Si 4.89 187 *e*Sg **Sg 07 34 45.8 -4.2**
comp=Z,872nm,0.5s
SONA3 Songino Array 4.89 187 *e*Pn **Pn 07 33 28.0 +1.1**
SONA3 *e*Sg **Sg 07 34 46.4 -3.7**
comp=Z,767nm,0.8s
SONA1 Songino Array 4.89 187 *e*Pn **Pn 07 33 27.5 +0.6**
SONA1 *e*Pb **Pg 07 33 43.0 -3.9**
SONA1 *e*Lg Lg 07 34 47.2
SONA1 Songino Array 4.89 187 *e*Pn **Pn 07 33 28.0 +1.1**
UB5M 4.89 184 *e*Pn **Pn 07 33 27.7 +0.8**
UB5M *e*Sg **Sg 07 34 45.5 -4.8**
SONA4 Songino Array 4.90 187 *e*Pn **Pn 07 33 27.9 +0.9**
SONA4 *e*Sg **Sg 07 34 45.9 -4.5**
SONB3 Songino Array 4.90 187 *e*Pn **Pn 07 33 28.2 +1.1**
SONB3 *e*Sg **Sg 07 34 45.7 -4.8**
SONA0 Songino Array 4.90 187 *e*Pn **Pn 07 33 27.9 +0.8**
SONA0 *e*Pb **Pg 07 33 43.1 -3.9**
SONA0 *e*Lg Lg 07 34 46.9
SONA0 Songino Array 4.90 187 *e*Pn **Pn 07 33 28.2 +1.1**
SONA0 *e*Sg **Sg 07 34 47.2 -3.3**
comp=Z,323nm,0.5s
SONM Songino Array 4.90 187 Pn **Pn 07 33 27.9 +0.8**
comp=Z,1.7nm,0.3s,baz=0.1,slow=13,SNR=20
SONM Pg **Pg 07 33 43.1 -3.9**
comp=Z,13nm,0.3s,baz=7.3,slow=17,SNR=24
SONM Lg Lg 07 34 46.9
comp=Z,36nm,0.3s,baz=1.3,slow=27,SNR=9.1
SONB4 Songino Array 4.91 188 *e*Pn **Pn 07 33 28.1 +1.0**
SONB4 *e*Sg **Sg 07 34 47.6 -3.1**
HTG Hatgal 4.99 246 *e*Pn **Pn 07 33 28.9 +0.7**
HTG *e*Sg **Sg 07 34 46.3 -6.9**
SVKR Severomuysk 5.00 44 *e*Pg **Pb 07 33 41.0 +0.2**
SVKR Pmax 07 33 45.3
comp=Z,51nm,0.3s
SVKR *e* 07 34 27.3
SVKR *e*Sg **Sg 07 34 46.8 -6.9**
SVKR Smax 07 34 55.6
comp=Z,2μm,1.2s
UGDM 5.06 179 *e*Pn **Pn 07 33 30.6 +1.3**
UGDM *e*Sg **Sg 07 34 51.8 -3.9**
SEMM 5.15 183 *e*Pn **Pn 07 33 31.0 +0.6**
SEMM *e*Sg **Sg 07 34 53.4 -5.0**
NLYR Nelyaty 6.18 49 *e*Pn **Pn 07 33 44.7 +0.2**
NLYR *e*Pg **Pb 07 34 03.6 +2.8**
NLYR Pmax 07 34 23.8
comp=Z,32nm,1.2s
NLYR *e*Sg **Sg 07 35 24.2 -7.2**
NLYR Smax 07 35 44.5
comp=Z,469nm,1.4s
BOD Bodaibo 6.40 34 *e*Pn **Pn 07 33 49.2 +1.8**
BOD *e*Pg **Pb 07 34 06.8 +2.3**
BOD Pmax 07 34 19.6
comp=Z,15nm,0.6s
BOD *e*Sg **Sg 07 35 30.6 -7.8**
BOD Smax 07 35 52.8
comp=Z,172nm,1.3s
BOD Bodaibo 6.40 34 *e*PN **Pn 07 33 46.0 -1.4**
BOD *e* 07 34 06.7
BOD *e* 07 35 30.4
BOD pmax pmax
comp=Z,12nm,0.3s
BOD smax smax
comp=E,157nm,1.0s
TTS Tsetserleg 6.45 218 *e*Sg **Sg 07 35 34.4 -5.6**
CRS Chara 7.60 52 *e*Pn **Pn 07 34 04.4 +0.5**
CRS *e* 07 34 31.8
CRS max 07 34 36.8
comp=E,5.0nm,0.5s
CRS *e*Sg **Sg 07 36 09.3 -7.6**
CRS Smax 07 36 32.5
comp=E,251nm,0.9s
TUP Tupik 7.72 72 *e*Pn **Pn 07 34 05.2 -0.4**
TUP *e* 07 34 11.5
TUP *e* 07 34 30.8
TUP max 07 34 44.5
comp=E,9.0nm,0.3s
TUP *e*Sg **Sg 07 36 14.7 -6.2**
TUP Smax 07 36 21.5
comp=E,413nm,1.0s
TUP Tupik 7.72 72 *e*PN **Pn 07 34 04.5 -1.1**
TUP *e* 07 34 30.4
TUP *e* 07 36 11.4
TUP pmax pmax
comp=Z,15nm,0.5s
TUP smax smax
comp=N,414nm,1.2s
KHNR Khani 8.45 55 *e*Sg Sg 07 36 34.8 -9.2
KHNR *e* 07 36 43.8
ULG Ulaangom 9.94 260 *e*Sg Sn 07 37 14.1 +47
IENR Ienga 10.80 64 *e* 07 37 12.4
IENR *e* 07 37 40.9
IENR *e*Sg 07 37 49.9
CLNS Chul'man 10.96 61 *e*Sg 07 37 53.6
CLNS *e* 07 38 00.2
ZAA1 Zalesovo Array 13.50 284 *e*Pn **Pn 07 35 27.8 +3.3**
ZALV Zalesovo Beam 13.50 284 Pn **Pn 07 35 27.8 +3.3**
comp=N,2.2nm,0.3s,baz=91,slow=12,SNR=2.6
ZALV Lg Lg 07 39 04.7
comp=N,0.8nm,0.3s,baz=85,slow=20,SNR=1.6
MK31 Makanchi Array 17.17 260 *e*P **P 07 36 15.9 +1.2**
MK31 Makanchi Array 17.17 260 *e*Pn **P 07 36 15.9 +1.2**
MK32 Makanchi Array 17.17 260 *e*Pn **P 07 36 14.6 -0.1**
MKAR Makanchi Array 17.17 260 P **P 07 36 14.6 -0.1**
comp=N,0.1nm,0.3s,baz=59,slow=9.4,SNR=2.7
MKAR Lg Lg 07 41 11.8
comp=N,0.0nm,0.3s,baz=66,slow=36,SNR=2.6
MKAR Makanchi Array 17.17 260 *e*P **P 07 36 15.2 +0.5**
MKAR pmax pmax
comp=Z,36nm,1.4s
MKAR Makanchi Array 17.17 260 *e*Pn **P 07 36 15.2 +0.5**
comp=Z,36nm,1.4s
MKAR Lg Lg 07 41 11.8
MK01 Makanchi Array 17.18 260 *e*Pn **P 07 36 15.1 +0.4**
KURK Kurchatov 17.85 275 P **Pn 07 36 20.3 -1.1**
KURK Kurchatov 17.85 275 *e*Pn **Pn 07 36 20.3 -1.1**
KURBB Kurchatov Arra 17.93 275 P **Pn 07 36 20.3 -2.1**
comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=2.4
KURBB Lg Lg 07 41 36.4
comp=Z,0.1nm,0.3s,baz=69,slow=34,SNR=2.1
HABR Khabarovsk 18.06 92 *e*P **Pn 07 36 22.1 -1.9**
HABR *e*S **Sn 07 39 44.1 -1.1**
HABR MLR MLR
comp=Z,211nm,15.0s
NRIK Noril'sk 19.07 338 P **P 07 36 32.3 -3.2**
comp=Z,0.3nm,0.3s,baz=147,slow=11,SNR=2.0
BVAR Borovoye Array 22.14 286 P **P 07 37 12.8 +4.0**
comp=Z,1.0nm,0.5s,baz=64,slow=13,SNR=5.8
BVAR Borovoye Array 22.14 286 P **P 07 37 12.8 +4.0**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 22.20 286 *ce*P **P 07 37 11.3 +1.9**
BRVK pmax pmax
comp=Z,27nm,2.5s
CMAR Chiang Mai Arr 34.79 194 P **P 07 39 04.4 +0.5**
comp=Z,1.0nm,0.3s,baz=0.2,slow=7.9,SNR=2.0
CMAR Chiang Mai Arr 34.79 194 *e*P **P 07 39 06.1 +2.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KLMR Klimovskoe 36.44 310 *e*P **P 07 39 17.6 0.0**
KLMR pmax pmax
comp=Z,15nm,1.4s
FIA0 FINESS Array S 42.23 315 *e*P **P 07 40 08.0 +2.0**
FIA0 FINESS Array S 42.23 315 *e*P **P 07 40 08.0 +2.0**
FINES FINESS Array B 42.23 315 P **P 07 40 08.0 +2.0**
comp=Z,1.0nm,0.7s,baz=52,slow=9.0,SNR=1.1
FINES FINESS Array B 42.23 315 P **P 07 40 08.0 +2.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
SVW2 Sparrevohn 48.93 40 *e*P **P 07 40 58.5 -0.5**
comp=Z,21nm,0.6s
GUMO Guam 49.12 128 *e*P **P 07 41 01.0 +0.1**
GUMO Guam 49.12 128 *e*P **P 07 41 01.0 +0.1**
comp=Z,127nm,1.4s
IL1 Eielson Array 49.77 33 *e*P **P 07 41 05.6 +0.3**
ILAR Eielson Array 49.77 33 P **P 07 41 05.3 0.0**
comp=Z,0.9nm,0.6s,baz=304,slow=6.0,SNR=13
ILB Eielson Array 49.77 33 *e*P **P 07 41 05.3 0.0**
DHY Denali Highway 50.70 35 *e*P **P 07 41 12.9 +0.3**
comp=Z,3.8nm,0.8s
KLU Klutina 52.27 36 *e*P **P 07 41 24.8 +0.5**
comp=Z,9.3nm,1.4s
HYT Haines Junctio 55.61 33 *e*P **P 07 41 49.2 +0.5**
comp=Z,2.3nm,0.9s
WR1 Warramunga Arr 76.05 154 *e*P **P 07 43 59.8 -0.9**
comp=Z,5.2nm,1.2s
WRA Warramunga Arr 76.05 154 P **P 07 43 59.8 -0.9**
comp=Z,1.0nm,0.7s,baz=348,slow=6.5,SNR=6.3
WRA Warramunga Arr 76.05 154 *e*P **P 07 43 58.9 -1.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
AS31 Alice Springs 79.50 155 *e*P **P 07 44 19.4 -0.4**
ASAR Alice Springs 79.50 155 P **P 07 44 19.4 -0.4**
comp=Z,0.7nm,0.6s,baz=354,slow=5.5,SNR=5.8
ECSD EROS Data Cent 81.76 17 *e*P **P 07 44 33.0 +1.1**
comp=Z,3.0nm,0.9s
DAC Darwin (Calif) 83.16 35 *e*P **P 07 44 40.3 +0.8**
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 83.16 35 *e*P **P 07 44 40.3 +0.8**
comp=Z,3.0nm,0.8s
KNB Kanab 84.07 31 *e*P **P 07 44 45.4 +1.2**
KNB pmax pmax
comp=Z,3.0nm,0.9s
KNB Kanab 84.07 31 *e*P **P 07 44 45.4 +1.2**
comp=Z,3.0nm,0.9s
MHTCO State Highway 86.31 25 *e*P **P 07 44 57.6 +2.2**
comp=Z,5.2nm,1.4s
TOA1 Torodi Ar. Sit 88.87 290 *e*P **P 07 45 11.2 +3.5**
TOA0 Torodi Ar. Sit 88.87 290 *e*P P 07 45 12.0 +4.2
TORD Torodi Ar. Bea 88.87 290 P **P 07 45 11.2 +3.5**
comp=Z,0.7nm,0.6s,baz=50,slow=4.6,SNR=4.5
SNAA Sanae 144.99 211 *e*PKIKP PKPbc 07 51 47.1 -1.4
SNAA Sanae 144.99 211 *e*PKPbc PKPbc 07 51 47.1 -1.4
PB10 IPOC Station P 150.82 356 *e*PKPbc **PKPbc 07 52 06.5 +0.8**

TIF ***14*** *07:32:57.4, 40°.20N×44°.87E, h18km±2km*
DDA ***14*** *07:32:58.4, 40°.29N×44°.80E, h7km, Ml3.1*
CSEM ***14*** *07:32:59.3±0.6, 40°.29N×44°.77E, h2km, ML3.1, Error ellipse: s-maj=11.5km s-min=6.1km az=134.0*
ISC 14 07:32:58.9±1.6, **40°.28N**±0°.05×**44°.77E**±0°.05, **h3**km±12km, **n18**, σ0**s90**/35, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.98**	**295**	*i* P	**Pb**	**07 33 17.9**	**-0.6**
EAK				*i* S	**Sb**	**07 33 32.0**	**+0.2**
EAK	**Akyaka**	**0.98**	**295**	P	**Pb**	**07 33 17.9**	**-0.6**
EAK				S	**Sb**	**07 33 32.0**	**+0.2**
DIGO	**Kars**	**1.07**	**278**	*i* P	**Pg**	**07 33 18.6**	**-1.0**
DIGO				*i* S	**Sg**	**07 33 32.7**	**-0.7**
DIGO	**Kars**	**1.07**	**278**	P	**Pg**	**07 33 18.5**	**-1.0**
DIGO				S	**Sg**	**07 33 32.7**	**-0.7**
DGRG	**David-gareji**	**1.26**	**21**	P	**Pg**	**07 33 23.3**	**+0.3**
DGRG				S	**Sn**	**07 33 42.1**	**+1.2**
DGRG	**David-gareji**	**1.26**	**21**	P	**Pg**	**07 33 23.1**	**+0.1**
DGRG				S	**Sn**	**07 33 39.7**	**-1.1**
BGD	**Bogdanovka**	**1.33**	**318**	P	**Pg**	**07 33 24.3**	**0.0**
BGD				S	**Sn**	**07 33 43.5**	**+0.7**
BGD	**Bogdanovka**	**1.33**	**318**	P	**Pg**	**07 33 24.9**	**+0.6**
BGD				S	**Sn**	**07 33 43.5**	**+0.7**
TBLG	**Delisi**	**1.45**	**359**	P	**Pb**	**07 33 25.7**	**-0.8**
TBLG				S	**Sg**	**07 33 45.7**	**+0.1**
TBLG	**Delisi**	**1.45**	**359**	P	**Pb**	**07 33 25.7**	**-0.8**
TBLG				S	**Sg**	**07 33 45.7**	**+0.1**
SEAG	**Tbilisi Sea**	**1.49**	**1**	P	**Pb**	**07 33 26.2**	**-0.9**
SEAG				S	**Sg**	**07 33 47.3**	**+0.7**
SEAG	**Tbilisi Sea**	**1.49**	**1**	P	**Pb**	**07 33 26.2**	**-0.9**
SEAG				S	**Sg**	**07 33 47.3**	**+0.7**
AKH	**Akhalkalaki**	**1.49**	**320**	P	**Pb**	**07 33 26.6**	**-0.7**
AKH				S	**Sg**	**07 33 47.7**	**+0.9**
AKH	**Akhalkalaki**	**1.49**	**320**	P	**Pg**	**07 33 27.1**	**-0.3**
AKH				S	**Sg**	**07 33 47.7**	**+0.9**
TUTA	**Tutak**	**1.74**	**240**	*i* P	**Pb**	**07 33 30.7**	**-0.9**
TUTA				*i* S	**Sg**	**07 33 56.0**	**+1.2**
TUTA	**Tutak**	**1.74**	**240**	P	**Pb**	**07 33 30.7**	**-0.9**
TUTA				S	**Sg**	**07 33 56.0**	**+1.2**
EATA	**Eleskirt**	**1.80**	**257**	*i* P	**Pg**	**07 33 33.4**	**0.0**
EATA				*i* S	**Sg**	**07 33 59.1**	**+2.5**
EATA	**Eleskirt**	**1.80**	**257**	P	**Pg**	**07 33 33.3**	**0.0**

ISCJB ***14*** *08:06:13.0±0.3, 13°.70N±0°.03×120°.55E±0°.04, h116km±2km, mb4.3/38, Error ellipse: s-maj=6.9km s-min=4.5km az=2.4*
IDC ***14*** *08:06:13.8±0.6, 13°.77N×120°.82E, h114km±4km, mb3.8/18, mb1 3.9/18, mb1mx3.7/51, mbtmp4.2/18, Error ellipse: s-maj=21.9km s-min=12.5km az=70.0*
MAN ***14*** *08:06:13, 13°.73N×120°.48E, h97km, mb4.8, ML3.7, MS3.8*
NEIC ***14*** *08:06:15.0±0.7, 13°.75N×120°.80E, h123km±6km, mb4.4/20, Error ellipse: s-maj=8.6km s-min=5.3km az=75.0*
ISC 14 08:06:14.2±0.6, **13°.72N**±0°.03×**120°.55E**±0°.05, **h109**km±5km, **n79**, σ1**s58**/94, **mb4.3**/38, **2C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**273**	*e*P	**Pn**	**08 06 29.6**	**-0.2**
LUBP				*e*S	**Sn**	**08 06 41.1**	**-0.5**
TGY	**Tagaytay City**	**0.53**	**44**	P	**Pn**	**08 06 31.6**	**+0.4**
	543nm,0.3s,baz=235,slow=2.2,SNR=64						
TGY				S	**Sn**	**08 06 44.6**	**+0.5**
	4μm,0.3s,baz=327,slow=23,SNR=22						
TGY	**Tagaytay City**	**0.53**	**44**⇓	*e*P	**Pn**	**08 06 31.5**	**+0.2**
TGY				*i* S	**Sn**	**08 06 44.6**	**+0.5**
LQP	**Lukban**	**1.03**	**68**⇑	*e*P	**Pn**	**08 06 35.6**	**-0.3**
BOAC	**Boac**	**1.28**	**101**	*e*P	**Pn**	**08 06 38.9**	**+0.5**
BOAC				*e*S	**Sn**	**08 06 57.6**	**+0.9**
SJMP	**San Jose**	**1.37**	**156**	*e*P	**Pn**	**08 06 39.8**	**+0.4**
SJMP				*e*S	**Sn**	**08 06 58.1**	**-0.4**
BUSP	**Coron**	**1.74**	**191**	*e*P	**Pn**	**08 06 43.7**	**-0.3**
BUSP				*e*S	**Sn**	**08 07 05.5**	**-1.1**
GQP	**Guinayangan**	**1.85**	**84**⇓	*e*P	**Pn**	**08 06 46.3**	**+1.1**
PCPH	**Palayan**	**1.91**	**16**⇓	*e*P	**Pn**	**08 06 45.2**	**-0.8**
PCPH				*e*S	**Sn**	**08 07 17.1**	**+6.9**
OTRP	**Odiongan**	**1.97**	**133**	*e*P	**Pn**	**08 06 47.0**	**+0.2**
OTRP				*e*S	**Sn**	**08 07 11.1**	**-0.5**
SCZP	**Santa Cruz**	**2.14**	**343**	*e*P	**Pn**	**08 06 48.0**	**-1.0**
BALP	**Baler**	**2.24**	**26**	*e*P	**Pn**	**08 06 50.9**	**+0.7**
BOLP	**Bolinao**	**2.72**	**347**	*e*P	**Pn**	**08 06 56.3**	**-0.2**
BOLP				*e*S	**Sn**	**08 07 27.0**	**-2.0**
ENPP	**El Nido**	**2.73**	**204**	*e*P	**Pn**	**08 06 56.9**	**+0.2**
ENPP				*e*S	**Sn**	**08 07 27.7**	**-1.6**
CAUP	**Cauayan**	**3.43**	**21**	*e*P	**Pn**	**08 07 06.6**	**+0.6**
ABRA	**Dolores**	**3.91**	**2**	*e*P	**Sn**	**08 07 54.6**	**-2.9**
PPR	**Puerto Princes**	**4.30**	**205**⇑	*i*P	**Pn**	**08 07 19.4**	**+1.7**
PPR				*i* S	**Sn**	**08 08 05.7**	**-1.3**
MYLDM	**Lahad Datu**	**8.72**	**194**	*e*Pn	**Pn**	**08 08 21.6**	**+4.0**
SBUM	**Sibu**	**13.90**	**217**	*e*P	**P**	**08 09 34.3**	**+3.1**
CM01	**Chiang Mai Arr**	**21.26**	**286**	*e*P	**P**	**08 10 55.6**	**+3.6**
CM31	**Chiang Mai Arr**	**21.29**	**286**	*e*P	**P**	**08 10 54.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**21.29**	**286**	P	**P**	**08 10 54.6**	**+2.4**
	1.0nm,0.3s,baz=96,slow=7.5,SNR=9.2						
MMRI	**Maumere**	**22.27**	**176**	*e*P	**P**	**08 11 04.0**	**+1.5**
	60nm,0.6s						
JAGI	**Jajag, Banyuwa**	**22.94**	**196**	*e*P	**P**	**08 11 10.7**	**+1.3**
	17nm,0.9s						
PSI	**Prapat**	**23.97**	**245**	P	**P**	**08 11 20.3**	**+1.4**
	3.0nm,0.4s,baz=359,slow=9.8,SNR=5.3						
KS15	**Wonju Array Si**	**24.52**	**14**	*e*P	**P**	**08 11 22.5**	**-1.0**
KSAR	**Wonju Array Be**	**24.52**	**14**	P	**P**	**08 11 22.5**	**-1.0**
KSRS	**Korea Array**	**24.54**	**14**	P	**P**	**08 11 22.5**	**-1.1**
	1.6nm,1.1s,baz=200,slow=11,SNR=4.1						
MBWA	**Marble Bar**	**34.67**	**181**	*e*P	**P**	**08 12 52.8**	**-0.7**
	6.0nm,0.9s						
SONA0	**Songino Array**	**36.00**	**344**	*e*P	**P**	**08 13 04.5**	**-0.3**
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**08 13 04.5**	**-0.3**
	6.3nm,0.7s,baz=160,slow=10,SNR=20						
WRAB	**Tennant Creek**	**36.09**	**158**	*e*P	**P**	**08 13 01.9**	**-3.8**
	6.0nm,1.0s						
WR1	**Warramunga Arr**	**36.10**	**158**	*e*P	**P**	**08 13 03.8**	**-2.0**
	2.2nm,0.7s						
WR1				*ep*P	**pP**	**08 13 28.2**	**-2.1**
WRA	**Warramunga Arr**	**36.10**	**158**	P	**P**	**08 13 03.8**	**-2.0**
	1.0nm,0.6s,baz=335,slow=9.5,SNR=11						
WRA				pP	**pP**	**08 13 28.2**	**-2.1**
	1.8nm,0.6s,baz=336,slow=9.6,SNR=7.7						
WB2	**Warramunga Arr**	**36.10**	**158**	*e*P	**P**	**08 13 03.5**	**-2.3**
	3.7nm,0.9s						
AS31	**Alice Springs**	**39.38**	**161**	*e*P	**P**	**08 13 32.1**	**-1.3**
AS31				*ep*P	**pP**	**08 13 57.0**	**-1.3**
ASAR	**Alice Springs**	**39.38**	**161**	P	**P**	**08 13 32.6**	**-0.8**
	0.9nm,0.6s,baz=337,slow=6.9,SNR=15						
ASAR				pP	**pP**	**08 13 57.0**	**-1.3**
	1.4nm,0.6s,baz=336,slow=6.7,SNR=7.3						
MK01	**Makanchi Array**	**45.91**	**324**	*e*P	**P**	**08 14 26.7**	**+0.7**
MK31	**Makanchi Array**	**45.93**	**324**	*e*P	**P**	**08 14 26.9**	**+0.8**
MK32	**Makanchi Array**	**45.93**	**324**	*e*P	**P**	**08 14 26.9**	**+0.8**
MKAR	**Makanchi Array**	**45.93**	**324**	P	**P**	**08 14 26.9**	**+0.8**
	7.3nm,0.9s,baz=130,slow=9.3,SNR=24						
MKAR	**Makanchi Array**	**45.93**	**324**	*e*P	**P**	**08 14 26.9**	**+0.8**
	40nm,0.8s						
BBOO	**Buckleboo**	**48.58**	**163**	*e*P	**P**	**08 14 46.0**	**-0.8**
	9.2nm,1.1s						
ZAA0	**Zalesovo Array**	**48.98**	**333**	*e*P	**P**	**08 14 48.6**	**-0.8**
ZALV	**Zalesovo Beam**	**48.98**	**333**	P	**P**	**08 14 48.8**	**-0.7**
	3.7nm,0.6s,baz=127,slow=9.2,SNR=7.1						
ZAA1	**Zalesovo Array**	**48.98**	**333**	*e*P	**P**	**08 14 48.8**	**-0.7**
KURK	**Kurchatov**	**50.09**	**326**	*e*P	**P**	**08 14 58.4**	**+0.4**
	32nm,0.7s						
KKAR	**Karatay Array**	**51.86**	**314**	*e*P	**P**	**08 15 12.0**	**+0.5**
	28nm,0.8s						
BVAR	**Borovoye Array**	**55.68**	**326**	P	**P**	**08 15 39.1**	**+0.1**
	3.5nm,0.7s,baz=116,slow=10,SNR=16						
BRVK	**Borovoye**	**55.75**	**326**	*e*P	**P**	**08 15 39.8**	**+0.3**
	13nm,0.9s						
NRIK	**Noril'sk**	**59.36**	**347**	P	**P**	**08 16 03.7**	**-0.9**
	4.5nm,0.6s,baz=125,slow=7.4,SNR=7.2						
GEYT	**Alibeck**	**60.01**	**306**	P	**P**	**08 16 10.3**	**+0.6**
	2.9nm,0.5s,baz=122,slow=2.3,SNR=4.8						
ABKAR	**Akbulak array**	**60.62**	**319**	*e*P	**P**	**08 16 13.5**	**-0.1**
	41nm,0.7s						
AKTO	**Aktyubinsk**	**62.11**	**320**	P	**P**	**08 16 22.6**	**-1.0**
	3.2nm,0.7s,baz=91,slow=7.6,SNR=8.3						
RAYN	**Ar Rayn**	**71.12**	**290**	*e*P	**P**	**08 17 21.5**	**0.0**
	4.1nm,0.9s						
TT01	**Tatalina**	**74.90**	**28**	*e*P	**P**	**08 17 43.1**	**+0.1**
CAST	**Castle Rocks**	**76.67**	**28**	*e*P	**P**	**08 17 52.7**	**-0.3**
	3.9nm,0.8s						
ASF	**Jabal al Asfar**	**77.53**	**300**	P	**P**	**08 17 59.4**	**+0.9**
	1.6nm,0.4s,baz=45,slow=2.9,SNR=4.6						
MCK	**McKinley**	**78.04**	**27**	*e*P	**P**	**08 18 00.2**	**-0.5**
	3.6nm,0.8s						
RND	**Reindeer**	**78.12**	**27**	*e*P	**P**	**08 17 59.1**	**-2.0**
	8.6nm,0.7s						
PMR	**Palmer**	**78.21**	**29**	*e*P	**P**	**08 18 00.4**	**-1.2**
	3.8nm,1.0s						
ILAR	**Eielson Array**	**78.80**	**26**	P	**P**	**08 18 03.0**	**-1.8**
	0.3nm,0.6s,baz=298,slow=3.8,SNR=4.6						
ILB	**Eielson Array**	**78.80**	**26**	*e*P	**P**	**08 18 03.0**	**-1.8**
ARA0	**ARCESS Array S**	**79.02**	**339**	*e*P	**P**	**08 18 05.1**	**-0.8**
ARCES	**ARCESS Array B**	**79.02**	**339**	P	**P**	**08 18 04.7**	**-1.2**
	6.0nm,1.7s,baz=74,slow=8.9,SNR=8.9						
BR101	**Keskin Array S**	**79.03**	**308**	*e*P	**P**	**08 18 06.0**	**-0.7**
SCM	**Sheep Creek Mo**	**79.03**	**29**	*e*P	**P**	**08 18 05.6**	**-0.6**
	13nm,1.2s						
BRTR	**Keskin Array B**	**79.03**	**308**	P	**P**	**08 18 06.0**	**-0.7**
	1.5nm,0.9s,baz=45,slow=5.4,SNR=4.2						
FIA0	**FINESS Array S**	**80.20**	**331**	*e*P	**P**	**08 18 11.1**	**-1.3**
FINES	**FINESS Array B**	**80.20**	**331**	P	**P**	**08 18 11.1**	**-1.3**
	1.4nm,0.8s,baz=38,slow=2.5,SNR=3.1						
EGAK	**Eagle**	**81.21**	**25**	*e*P	**P**	**08 18 17.3**	**-0.4**
	1.8nm,0.8s						
CRQM	**Cirque**	**81.21**	**30**	*e*P	**P**	**08 18 17.6**	**-0.5**
	4.4nm,0.9s						
BUR08	**Bucovina Ar. S**	**83.55**	**317**	*e*P	**P**	**08 18 30.6**	**+0.1**
WHY	**Whitehorse**	**85.14**	**29**	*e*P	**P**	**08 18 38.4**	**+0.2**
	2.6nm,1.1s						
NC405	**NORSAR Array S**	**86.92**	**333**	*e*P	**P**	**08 18 45.7**	**-1.1**
NB200	**NORSAR Array S**	**87.18**	**333**	*e*P	**P**	**08 18 46.4**	**-1.7**
NOA	**NORSAR Array B**	**87.18**	**333**	P	**P**	**08 18 46.4**	**-1.7**
	0.6nm,0.6s,baz=68,slow=4.6,SNR=2.7						
PLCA	**Paso Flores**	**151.39**	**162**	PKPbc	**PKPbc**	**08 25 54.9**	**-0.8**
	1.7

ISC 14 08:19:41.2±1.4, 40°.17N±0°.05×71°.16E±0°.05, h1km±13km, n11, σ1§57/22, 12C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.28**	**248**	⇑*iP*	**Pg**	**08 19 45.5**	**-1.2**
BTK	baz=232			⇑*iS*	**Sg**	**08 19 48.8**	**-1.6**
ARK	**Arkit**	**1.74**	**20**	⇓*eP*	**Pg**	**08 20 14.5**	**-0.1**
ARK	baz=24			⇓*iS*	**Sg**	**08 20 38.1**	**+1.0**
ARSB	**Arslanbob**	**1.80**	**50**	⇑*iP*	**Pg**	**08 20 16.3**	**+0.5**
ARSB	baz=52			⇑*iS*	**Sg**	**08 20 41.5**	**+2.4**
IUG	**Iuzhnay**	**2.15**	**337**	*eP*	**Pb**	**08 20 21.1**	**0.0**
IUG	39nm,0.3s			*eS*	**Sg**	**08 20 50.8**	**+0.3**
DZET	**Dzherino**	**2.26**	**234**	⇓Pn	**Pn**	**08 20 20.2**	**+0.4**
DZET	2.0nm,0.5s			⇓Pg	**Pg**	**08 20 26.5**	**+1.9**
DZET	5.4nm,0.7s			⇓Lg	Lg	08 20 53.0	
MNAS	**Manas**	**2.53**	**23**	⇑*eP*	**Pb**	**08 20 26.7**	**-0.8**
MNAS	baz=25			⇑*eS*	**Sb**	**08 20 59.4**	**+0.3**
MNAS	**Manas**	**2.53**	**23**	⇑Pn	**Pn**	**08 20 18.9**	**-4.6**
MNAS	1.4nm,0.5s			⇓Pg	**Pg**	**08 20 29.1**	**-0.6**
MNAS	0.6nm,0.3s			⇓Lg	Lg	08 21 02.8	
AML	**Almayashu**	**2.74**	**43**	⇑*iP*	**Pn**	**08 20 27.1**	**+0.5**
AML	baz=45			⇑*iS*	**Sn**	**08 21 01.6**	**+1.0**
ARLS	**Aral**	**2.93**	**54**	⇑*eP*	**Pb**	**08 20 32.5**	**-1.8**
ARLS	baz=55			⇑*eS*	**Sb**	**08 21 10.1**	**-0.6**
KK31	**Karatay Array**	**2.97**	**351**	⇓Pn	**Pn**	**08 20 30.2**	**+0.7**
KK31	0.6nm,0.5s			Pg	**Pb**	**08 20 35.8**	**+0.8**
KK31	0.9nm,0.3s,baz=173,slow=16,SNR=18			⇑Lg	Lg	08 21 17.3	
MRKS	**Merke**	**3.01**	**30**	*eP*	**Pb**	**08 20 36.8**	**+1.2**
MRKS	1.0nm,0.3s,baz=179,slow=30,SNR=5.4 3.7nm,0.6s			*eS*	**Sg**	**08 21 18.1**	**+0.2**
	7.4nm,0.4s						

IDC 14 08:27:32.1±1.8, 30°.44S×177°.61W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/20, mbtmp4.2/3, Error ellipse: s-maj=43.0km s-min=22.3km az=106.0
ISCJB 14 08:27:34.3±0.6, 30°.51S±0°.05×177°.4W±0°.1, h33km, mb4.5/14, Error ellipse: s-maj=12.9km s-min=7.3km az=1.5
NEIC 14 08:27:35.3±3.8, 30°.38S×177°.38W, h28km±26km, mb4.4/14, Error ellipse: s-maj=16.3km s-min=11.6km az=92.0

ISC 14 08:27:36.1±0.6, 30°.45S±0°.05×177°.5W±0°.1, h33km, n38, σ1§79/39, mb4.5/14, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**342**	Pn	**Pb**	**08 27 57.2**	**-2.0**
RAO	443nm,0.3s,baz=74,slow=19,SNR=15 885nm,0.3s,baz=96,slow=23,SNR=18			Sn	**Sb**	**08 28 13.1**	**-1.9**
RAO	**Raoul Island**	**1.25**	**342**	*e*Pn	**Pb**	**08 27 57.3**	**-1.9**
RAO				*e*Sn	**Sb**	**08 28 14.4**	**-0.6**
OUZ	**Omahuta**	**8.88**	**235**	*e*Pn	Pn	08 29 47.0	+5.0
URZ	**Urewera**	**8.97**	**208**	Pn	Pn	08 29 37.4	-5.9
URZ	0.3nm,0.3s,baz=292,slow=3.2,SNR=2.4 2.3nm,0.3s,baz=212,slow=21,SNR=8.5			Sn	**Sn**	**08 31 18.2**	**-5.0**
BKZ	**Black Stump Fm**	**10.00**	**208**	*e*Pn	**Pn**	**08 29 57.0**	**-0.4**
KHZ	**Kahutara**	**13.94**	**209**	*e*Pn	**Pn**	**08 30 49.2**	**-2.1**
LTZ	**Lake Taylor**	**14.78**	**211**	*e*Pn	**P**	**08 31 06.1**	**-2.2**
OXZ	**Oxford**	**15.32**	**210**	*e*Pn	**Pn**	**08 31 11.8**	**+1.9**
RPZ	**Rata Peaks**	**16.07**	**211**	*e*Pn	**Pn**	**08 31 18.3**	**-1.1**
DZM	**Mont Dzumac**	**16.64**	**296**	*e*Pn	**P**	**08 31 32.1**	**+3.0**
MCQ	**Macquarie Isla**	**29.39**	**208**	*e*P	**P**	**08 33 36.2**	**+0.3**
CTAO	**Charters Tower**	**34.25**	**279**	*e*P	**P**	**08 34 21.6**	**+2.5**
STKA	**Stephens Creek**	**34.90**	**257**	P	**P**	**08 34 25.3**	**+0.7**
STKA	**Stephens Creek**	**34.90**	**257**	*e*P	**P**	**08 34 27.1**	**+2.4**
BBOO	**Buckleboo**	**39.38**	**254**	*e*P	**P**	**08 35 03.8**	**+1.1**
AS01	**Alice Springs**	**43.51**	**267**	*e*P	**P**	**08 35 37.2**	**+0.5**
AS31	**Alice Springs**	**43.55**	**267**	*e*P	**P**	**08 35 36.7**	**-0.3**
ASAR	**Alice Springs**	**43.55**	**267**	P	**P**	**08 35 36.7**	**-0.3**
WB2	**Warramunga Arr**	**44.53**	**272**	*e*P	**P**	**08 35 45.0**	**+0.1**
WR1	**Warramunga Arr**	**44.54**	**272**	*e*P	**P**	**08 35 44.5**	**-0.4**
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**08 35 44.5**	**-0.4**
QSPA	**South Pole Qui**	**59.66**	**180**	*e*P	**P**	**08 37 39.7**	**+2.8**
PMSA	**Palmer Station**	**72.03**	**156**	*e*P	**P**	**08 38 56.4**	**+0.1**
SNAA	**Sanae**	**78.09**	**178**	*e*P	**P**	**08 39 32.3**	**+1.1**
SLBS	**Sierra La Lagu**	**84.20**	**58**	*e*P	**P**	**08 40 03.2**	**-1.2**
AFDM	**Forest Hills D**	**86.80**	**41**	*e*P	**P**	**08 40 16.6**	**-0.4**
YERR	**Yerington**	**87.81**	**42**	*e*P	**P**	**08 40 19.0**	**-3.0**
RAGM	**Ragged Mountai**	**94.43**	**16**	*e*P	**P**	**08 40 51.6**	**-0.6**
FIA1	**FINESS Array S**	**145.34**	**340**	*e*PKPdf	**PKPdf**	**08 47 10.2**	**+0.4**
FIA0	**FINESS Array S**	**145.35**	**340**	*e*PKPdf	**PKPdf**	**08 47 10.2**	**+0.4**
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	**PKPdf**	**08 47 10.2**	**+0.4**
NB200	**NORSAR Array S**	**148.87**	**352**	*e*PKPbc	**PKPbc**	**08 47 20.2**	**+0.5**
NOA	**NORSAR Array B**	**148.87**	**352**	PKPbc	**PKPbc**	**08 47 20.2**	**+0.5**
AKBB	**Malin Array Si**	**151.61**	**323**	*e*PKPbc	**PKPbc**	**08 47 24.8**	**-1.7**
KIEV	**Kiev**	**151.62**	**323**	*e*PKPbc	**PKPbc**	**08 47 24.7**	**-1.8**
AK11	**Malin Array Si**	**151.65**	**323**	*e*PKPbc	**PKPbc**	**08 47 27.4**	**+0.8**
MMAI	**Mount Meron Ar**	**151.97**	**284**	PKPbc	**PKPbc**	**08 47 29.0**	**+0.9**
ESK	**Eskdalemuir**	**154.82**	**8**	*e*PKPbc	**PKPbc**	**08 47 36.8**	**+3.4**

IDC 14 08:38:07.7±6.5, 37°.70S×78°.72E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/29, mbtmp4.1/4, Error ellipse: s-maj=175.2km s-min=43.2km az=42.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.83**	**90**	P	P	08 46 55.0	0.0
WRA	**Warramunga Arr**	**51.10**	**86**	P	P	08 47 12.1	-0.2
CMAR	**Chiang Mai Arr**	**59.01**	**23**	P	P	08 48 09.5	+0.3
MKAR	**Makanchi Array**	**84.17**	**2**	P	P	08 50 40.2	-0.2

NNC 14 08:51:44.0±1.9, 41°.26N×64°.52E, h19km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=15.1km s-min=8.5km az=93.0
CSEM 14 08:51:44.0, 41°.26N×64°.52E, h19km, mb3.8

ISC 14 08:51:43.7±4.2, 41°.23N±0°.07×64°.4E±0°.3, h10km, n11, σ2§48/16, 10C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.15**	**124**	⇓Pn	**Pn**	**08 52 46.6**	**-0.7**
DZET	2.4nm,0.5s			⇑Pg	**Pb**	**08 52 58.7**	**+1.8**
DZET	6.8nm,0.6s			⇑Sn	**Sn**	**08 53 34.3**	**-1.6**
DZET	41nm,1.1s			⇓Lg	Lg	08 53 56.0	
DZET	**Dzherino**	**4.15**	**124**	Pn	**Pn**	**08 52 46.6**	**-0.7**
DZET	27nm,0.6s 2.4nm,0.5s			Pg	**Pb**	**08 52 58.7**	**+1.8**
DZET	6.8nm,0.6s			Sn	**Sn**	**08 53 34.3**	**-1.6**
DZET	41nm,1.1s			Lg	Lg	08 53 56.0	
KK31	**Karatay Array**	**4.89**	**66**	⇑Pn	**Pn**	**08 52 53.9**	**-3.3**
KK31	27nm,0.6s 1.3nm,0.5s,baz=241,slow=16,SNR=21			⇑Pg	**Pb**	**08 53 12.1**	**+2.7**
KK31	5.2nm,0.6s,baz=246,slow=17,SNR=6.3			⇑Lg	Lg	08 54 16.6	
KK31	**Karatay Array**	**4.89**	**66**	Pn	**Pn**	**08 52 53.9**	**-3.3**
KK31	9.0nm,0.6s,baz=246,slow=17,SNR=6.3 1.3nm,0.5s,SNR=21			Pg	**Pb**	**08 53 12.1**	**+2.7**
KK31	5.2nm,0.6s,SNR=6.3			Lg	Lg	08 54 16.6	
MNAS	**Manas**	**6.15**	**76**	⇑Pg	**Pb**	**08 53 34.5**	**+3.5**
MNAS	9.0nm,0.6s,SNR=6.3 4.2nm,0.6s			⇑Sn	**Sn**	**08 54 23.6**	**-1.7**
MNAS	4.1nm,0.6s			⇑Lg	Lg	08 54 56.8	
MNAS	**Manas**	**6.15**	**76**	Pg	**Pb**	**08 53 34.5**	**+3.5**
MNAS	6.5nm,0.7s 4.2nm,0.6s			Sn	**Sn**	**08 54 23.6**	**-1.7**
MNAS	4.1nm,0.6s			Lg	Lg	08 54 56.8	
AAK	**Ala-Archa**	**7.63**	**76**	⇑Pn	**Pn**	**08 53 34.5**	**-0.5**
AAK	6.5nm,0.7s 3.2nm,0.8s			⇓Pg	Pb	08 54 03.0	+6.8
AAK	3.2nm,0.8s			⇑Lg	Lg	08 55 45.0	
AAK	**Ala-Archa**	**7.63**	**76**	Pn	**Pn**	**08 53 34.5**	**-0.5**
AAK	**Ala-Archa**	**7.63**	**76**	Pg	Pb	08 54 03.0	+6.8
AAK	3.0nm,0.7s 3.2nm,0.8s			Lg	Lg	08 55 45.0	

UPP 14 08:58:03.4±3.0, 64°.49N×31°.68E, h0km, ML1.6
ISCJB 14 08:58:08.0±0.6, 64°.79N±0°.03×30°.7E±0°.1, h0km, Error ellipse: s-maj=6.9km s-min=3.5km az=26.0
KOLA 14 08:58:09.0, 64°.72N×30°.51E, h0km
NAO 14 08:58:09.7±1.4, 64°.77N×30°.65E, ML2.2
CSEM 14 08:58:09.1±0.3, 64°.80N×30°.73E, h2km, ML2.1, Error ellipse: s-maj=6.3km s-min=3.6km az=102.0, Mining explosion.
HEL 14 08:58:09.8±0.2, 64°.80N×30°.65E, h0km, ML2.1, Explosion
BER 14 08:58:10.8±4.4, 64°.78N×30°.47E, h0km, ML2.2(NAO), Suspected explosion
IDC 14 08:58:10.5±2.1, 64°.80N×30°.87E, h0km, mb1 3.1/3, mb1mx2.9/44, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=30.9km s-min=10.0km az=98.0

ISC 14 08:58:09.2±1.0, 64°.81N±0°.03×30°.57E±0°.05, h0km, n65, σ1§12/86, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.26**	**347**	*e*P	**Pg**	**08 58 32.5**	**-0.8**
KU6				*e*S	**Sg**	**08 58 48.9**	**-0.6**
KU6	**Riekki**	**1.26**	**347**	P	**Pg**	**08 58 32.4**	**-0.8**
KU6				S	**Sg**	**08 58 48.9**	**-0.6**
MSF	**Maaselka**	**1.28**	**331**	*e*P	**Pg**	**08 58 33.0**	**-0.7**
MSF				*e*S	**Sg**	**08 58 50.2**	**-0.1**
MSF	**Maaselka**	**1.28**	**331**	P	**Pg**	**08 58 33.0**	**-0.7**
MSF				S	**Sg**	**08 58 50.2**	**-0.1**
KJN	**Kajaani**	**1.44**	**241**	*e*P	**Pn**	**08 58 35.9**	**-0.5**
KJN				*e*S	**Sg**	**08 58 55.0**	**-0.2**
KJN	**Kajaani**	**1.44**	**241**	P	**Pn**	**08 58 35.9**	**-0.5**
KJN				S	**Sg**	**08 58 55.0**	**-0.2**
JOF	**Joensuu**	**1.92**	**170**	*e*P	**Pn**	**08 58 41.9**	**-1.2**
JOF	**Joensuu**	**1.92**	**170**	P	**Pn**	**08 58 41.9**	**-1.2**
OUL	**Oulu**	**2.01**	**280**	*e*P	**Pn**	**08 58 44.8**	**+0.6**
OUL				*e*S	**Sn**	**08 59 11.2**	**+1.1**
OUL	**Oulu**	**2.01**	**280**	P	**Pn**	**08 58 44.8**	**+0.6**
OUL				S	**Sn**	**08 59 11.2**	**+1.1**
OUFX	**Oulainen**	**2.57**	**263**	*e*P	**Pn**	**08 58 53.0**	**+1.1**
OUFX				*e*SG	**Sb**	**08 59 29.5**	**+1.4**
OUFX	**Oulainen**	**2.57**	**263**	P	**Pn**	**08 58 53.0**	**+1.1**
RNF	**Rovaniemi**	**2.61**	**316**	*e*P	**Pn**	**08 58 53.9**	**+1.4**
RNF	**Rovaniemi**	**2.61**	**316**	P	**Pn**	**08 58 53.9**	**+1.4**
SUF	**Sumiainen**	**2.87**	**225**	*e*P	**Pn**	**08 58 57.8**	**+1.6**
SUF				*e*SB	**Sb**	**08 59 36.0**	**-0.7**
SUF				MSG		08 59 42.2	
SUF	**Sumiainen**	**2.87**	**225**	P	**Pn**	**08 58 57.7**	**+1.6**
TOF	**Tornio**	**2.91**	**299**	*e*P	**Pn**	**08 58 57.9**	**+1.3**
TOF	**Tornio**	**2.91**	**299**	P	**Pn**	**08 58 57.9**	**+1.3**
APA0	**Apatity Array**	**2.98**	**18**	Pn	**Pn**	**08 58 57.5**	**-0.1**
APA0	baz=184,slow=16			Lg	Lg	08 59 43.8	
APA0	**Apatity Array**	**2.98**	**18**	P	**Pn**	**08 58 58.0**	**+0.4**
APA0	baz=191,slow=37			S	**Sn**	**08 59 34.7**	**+0.7**
APA0	**Apatity Array**	**2.98**	**18**	Pn	**Pn**	**08 58 57.5**	**-0.1**
APA0	baz=184,slow=16			Lg	Lg	08 59 43.8	
APA0	**Apatity Array**	**2.98**	**18**	Pn	**Pn**	**08 58 57.5**	**-0.1**
APA0	baz=191,slow=37 baz=184,slow=14,SNR=50			Lg	Lg	08 59 43.8	
APA0	baz=191,slow=34						
APA	**Apatity**	**3.00**	**21**	P	**Pn**	**08 58 58.4**	**+0.5**
APA				S	**Sn**	**08 59 35.3**	**+0.7**
APZ9	**Apatity**	**3.00**	**21**	Pn	**Pn**	**08 58 57.7**	**-0.2**
APZ9				Lg	Lg	08 59 45.9	
APZ9	**Apatity**	**3.00**	**21**	Pn	**Pn**	**08 58 57.7**	**-0.2**
APZ9				Lg	Lg	08 59 45.9	
APZ9	**Apatity**	**3.00**	**21**	Pn	**Pn**	**08 58 57.7**	**-0.2**
APZ9	SNR=50			Lg	Lg	08 59 45.9	
KALU	**Kalix**	**3.21**	**293**	P	**Pn**	**08 59 02.4**	**+1.7**
KALU	**Kalix**	**3.21**	**293**	P	**Pn**	**08 59 02.4**	**+1.7**
KAF	**Kangasniemi**	**3.31**	**217**	*e*SG	**Sb**	**08 59 50.9**	**+1.4**
KAF				MSG		08 59 52.3	
PAJU	**Pajala**	**3.78**	**309**	P	**Pn**	**08 59 09.8**	**+1.2**
PAJU	**Pajala**	**3.78**	**309**	P	**Pn**	**08 59 09.8**	**+1.2**
SJUU	**Sjulsmark**	**3.85**	**285**	P	**Pn**	**08 59 10.3**	**+0.8**
SJUU				S	**Sb**	**09 00 01.5**	**-3.4**
SJUU	**Sjulsmark**	**3.85**	**285**	P	**Pn**	**08 59 10.3**	**+0.8**
ERTU	**Ertsjaerv**	**3.89**	**301**	P	**Pn**	**08 59 11.7**	**+1.6**
ERTU	**Ertsjaerv**	**3.89**	**301**	P	**Pn**	**08 59 11.7**	**+1.6**
FIA0	**FINESS Array S**	**3.94**	**213**	Pn	**Pn**	**08 59 11.6**	**+0.8**
FIA0	baz=40,slow=14			Sn	**Sn**	**08 59 56.4**	**-1.3**
FIA0				Lg	Lg	09 00 11.5	
FIA0	baz=26,slow=28			Rg	Rg	09 00 31.3	
FIA0	**FINESS Array S**	**3.94**	**213**	Pn	**Pn**	**08 59 11.6**	**+0.8**
FIA0	baz=40,slow=14			Sn	**Sn**	**08 59 56.4**	**-1.3**
FIA0				Lg	Lg	09 00 11.5	
FIA0	baz=26,slow=28			Rg	Rg	09 00 31.3	
FIA0	**FINESS Array S**	**3.94**	**213**	Pn	**Pn**	**08 59 11.6**	**+0.8**
FIA0	baz=40,slow=13,SNR=50			Sn	**Sn**	**08 59 56.4**	**-1.3**
FIA0	SNR=50			Lg	Lg	09 00 11.5	
FINES	**FINESS Array B**	**3.94**	**213**	Pn	**Pn**	**08 59 11.7**	**+0.8**
FINES	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=11			Pg	**Pb**	**08 59 21.1**	**+1.7**
FINES	comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=12			Lg	Lg	09 00 11.4	
FINES	comp=Z,0.6nm,0.3s,baz=39,slow=28,SNR=5.7			Rg	Rg	09 00 31.3	
	comp=Z,21nm,1.0s,baz=28,slow=24,SNR=9.0						
BURU	**Burvik**	**3.96**	**271**	P	**Pn**	**08 59 11.3**	**+0.3**
BURU	**Burvik**	**3.96**	**271**	P	**Pn**	**08 59 11.3**	**+0.3**
HARU	**Harads**	**4.22**	**293**	P	**Pn**	**08 59 16.3**	**+1.6**
HARU	**Harads**	**4.22**	**293**	P	**Pn**	**08 59 16.3**	**+1.6**
UMAU	**Umeaa**	**4.40**	**262**	P	**Pn**	**08 59 16.7**	**-0.4**
UMAU	**Umeaa**	**4.40**	**262**	P	**Pn**	**08 59 16.7**	**-0.4**
DUNU	**Dundret**	**4.70**	**304**	P	**Pn**	**08 59 22.8**	**+1.5**
DUNU	**Dundret**	**4.70**	**304**	P	**Pn**	**08 59 22.8**	**+1.5**
SVAU	**Svanoeiden**	**4.74**	**271**	P	**Pn**	**08 59 22.1**	**+0.4**
SVAU	**Svanoeiden**	**4.74**	**271**	P	**Pn**	**08 59 22.1**	**+0.4**
LANU	**Lannavaara**	**4.74**	**317**	P	**Pn**	**08 59 21.7**	**-0.1**
LANU	**Lannavaara**	**4.74**	**317**	P	**Pn**	**08 59 21.7**	**-0.1**
ARA0	**ARCESS Array S**	**5.14**	**340**	Pn	**Pn**	**08 59 27.2**	**-0.1**
ARA0	baz=152,slow=14			Sn	**Sn**	**09 00 25.8**	**-1.5**
ARA0	baz=159,slow=28			Lg	Lg	09 00 47.1	
ARA0	**ARCESS Array S**	**5.14**	**340**	Pn	**Pn**	**08 59 27.2**	**-0.1**
ARA0	baz=152,slow=14			Sn	**Sn**	**09 00 25.8**	**-1.5**
ARA0	baz=159,slow=28			Lg	Lg	09 00 47.1	
ARA0	baz=146,slow=37						
ARA0	**ARCESS Array S**	**5.14**	**340**	Pn	**Pn**	**08 59 27.2**	**-0.1**
ARA0	baz=152,slow=13,SNR=50			Sn	**Sn**	**09 00 25.8**	**-1.5**
ARA0	baz=159,slow=24,SNR=50			Lg	Lg	09 00 47.1	
ARA0	SNR=50						
ARCES	**ARCESS Array B**	**5.14**	**340**	Pn	**Pn**	**08 59 27.1**	**-0.2**
ARCES	comp=Z,0.8nm,0.3s,baz=156,slow=13,SNR=78			Sn	**Sn**	**09 00 25.5**	**-1.7**
ARCES	comp=Z,0.4nm,0.3s,baz=156,slow=25,SNR=5.6			Lg	Lg	09 00 46.0	
	comp=Z,0.9nm,0.3s,baz=150,slow=34,SNR=7.0						
KUA	**Kurravaara**	**5.19**	**312**	P	**Pn**	**08 59 28.9**	**+1.0**
KUA	**Kurravaara**	**5.19**	**312**	P	**Pn**	**08 59 28.9**	**+1.0**
NIKU	**Nikkaluokta**	**5.57**	**309**	P	**Pn**	**08 59 34.5**	**+1.4**
NIKU	**Nikkaluokta**	**5.57**	**309**	P	**Pn**	**08 59 34.5**	**+1.4**
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**09 00 19.7**	**-1.8**
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**09 00 19.7**	**-1.8**
NB2	**NORSAR Subarra**	**9.58**	**256**	Pn	**Pn**	**09 00 29.2**	**+1.0**
NB2	**NORSAR Subarra**	**9.58**	**256**	Pn	**Pn**	**09 00 29.2**	**+1.0**
NB2	**NORSAR Subarra**	**9.58**	**256**	Pn	**Pn**	**09 00 29.2**	**+1.0**
NOA	**NORSAR Array B**	**9.58**	**256**	Pn	**Pn**	**09 00 27.5**	**-0.7**
NOA	comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=3.0 comp=Z,0.2nm,0.3s,baz=104,slow=19,SNR=3.2			Lg	Lg	09 03 13.2	

NNC 14 09:05:52.6±2.8, 53°.63N×87°.88E, h1km±21km, mb3.6, mpv3.3, 7C-2D, Error ellipse: s-maj=22.1km s-min=11.1km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.84**	**281**	⇑Pn	Pn	09 06 25.0	-0.3
ZAA0	1.1nm,0.3s,baz=103,slow=13			⇓Sn	Sb	09 06 50.2	-0.4
KURK	**Kurchatov**	**6.40**	**247**	⇑Pn	Pn	09 07 28.6	+0.7
KURK	6.8nm,0.6s,baz=96,slow=25 1.7nm,0.5s			⇑Lg	Lg	09 09 14.7	
KURBB	**Kurchatov Arra**	**6.50**	**246**	⇑Pn	Pn	09 07 29.8	+0.6
KURBB	8.0nm,0.7s 3.5nm,0.3s,baz=63,slow=14			⇓Lg	Lg	09 09 18.3	
MK31	**Makanchi Array**	**7.72**	**210**	⇑Pn	Pn	09 07 46.8	+0.7
MK31	25nm,0.6s 1.4nm,0.7s			⇑Sn	Sn	09 09 14.5	+0.4
MK31	2.7nm,0.8s			⇑Lg	Lg	09 09 57.5	
	3.8nm,0.6s						

TRN 14 09:17:51.0, 10°.76N×62°.44W, h87km, MD3.5, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.02**	**96**	⇓*iP*	Pn	09 18 10.9	+0.2
TRN				*e*S	Sn	09 18 24.6	-0.9
TPP	**Pointe-a-Pierr**	**1.06**	**114**	⇑*iP*	Pn	09 18 11.8	+0.6
TPP				*e*S	Sn	09 18 25.7	-0.7
TBH	**Brigand Hill**	**1.37**	**101**	*e*P	Pn	09 18 15.6	+0.5
TBH				*e*S	Sn	09 18 33.7	+0.6
GRW	**Mount Saint Ca**	**1.59**	**29**	*e*P	Pn	09 18 18.2	+0.3
GRW				*e*S	Sn	09 18 37.4	-0.8
GRHS	**Sauteurs**	**1.65**	**28**	*e*P	Pn	09 18 19.6	+1.0
GRHS				*e*S	Sn	09 18 39.6	+0.1
GRSS	**Sisters**	**1.73**	**28**	⇑*iP*	Pn	09 18 20.3	+0.7
GRSS				*e*S	Sn	09 18 40.6	-0.7
BOT	**Bacolet**	**1.73**	**76**	*e*P	Pn	09 18 19.5	-0.1
BOT				*e*S	Sn	09 18 41.5	+0.1
TOSP	**Speyside**	**1.94**	**74**	*e*P	Pn	09 18 23.2	+0.9
TOSP				*e*S	Sn	09 18 45.0	-1.2
SVB	**Belmont**	**2.75**	**25**	*e*P	Pn	09 18 33.8	+0.6
SVB				*e*S	Sn	09 19 04.7	-0.9
MCLT	**Moule a Chique**	**3.28**	**26**	*e*P	Pn	09 18 39.9	-0.3
MCLT				*e*S	Sn	09 19 17.2	-1.0
SLB	**Belfond**	**3.34**	**24**	*e*P	Pn	09 18 41.1	-0.1
SLB				*e*S	Sn	09 19 18.3	-1.5
SLW	**Petit Monier**	**3.56**	**24**	*e*P	Pn	09 18 43.8	-0.3
TRMF	**Trois Ilets**	**3.99**	**20**	*e*P	Pn	09 18 49.6	-0.3
MVM	**Montagne Vaucl**	**4.06**	**22**	*e*P	Pn	09 18 51.4	+0.5
PCM	**Pelee Case Pet**	**4.21**	**16**	*e*P	Pn	09 18 52.6	-0.2
BAMF	**Morne Balai**	**4.22**	**17**	*e*P	Pn	09 18 53.3	+0.2

ISCJB 14 09:18:04.2±0.5, 24°.08N±0°.03×122°.20E±0°.02, h25km±5km, Error ellipse: s-maj=5.9km s-min=2.6km az=162.1
TAP 14 09:18:04.5, 24°.10N×122°.20E, h28km±1km, ML2.9, D
JMA 14 09:18:04.1, 24°.04N×122°.16E, h40km±1km, M2.0

ISC 14 09:18:02.4±1.2, 24°.04N±0°.03×122°.22E±0°.03, h11km±10km, n30, σ0§67/56, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.57**	**274**	*e*P	**Pb**	**09 18 15.1**	**+0.7**
TWD	baz=267			*e*S	**Sb**	**09 18 23.2**	**+0.7**
ENA	**Nanau**	**0.58**	**312**	*e*P	**Pb**	**09 18 14.9**	**+0.4**
ENA	baz=308			S	**Sb**	**09 18 22.7**	**-0.2**
TWC	**Suao**	**0.66**	**329**	*i* P	**Pb**	**09 18 15.7**	**-0.2**
TWC	baz=328			*i* S	**Sg**	**09 18 23.1**	**-0.8**
ESL	**Shilin**	**0.75**	**253**	*e*S	**Sb**	**09 18 28.9**	**+1.1**
JYNG	**Yonagunijimaku**	**0.78**	**58**	P	**Pn**	**09 18 19.5**	**+0.2**
JYNG				*e*S	**Sn**	**09 18 30.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.84**	**60**	P	**Pn**	**09 18 20.4**	**+0.3**
YOJ				*e*S	**Sn**	**09 18 31.9**	**-0.5**
ENTT	**Nioudou**	**0.84**	**315**	*i* P	**Pb**	**09 18 19.2**	**+0.2**
ENTT	baz=313			S	**Sb**	**09 18 29.8**	**-0.5**
TWE	**Neicheng**	**0.84**	**324**	P	**Pb**	**09 18 19.3**	**+0.3**
TWE	baz=322			S	**Sg**	**09 18 29.1**	**-0.6**
NNS	**Nan Shan**	**0.87**	**298**	*e*P	**Pb**	**09 18 19.8**	**+0.2**
NNS	baz=294			*e*S	**Sg**	**09 18 30.5**	**0.0**
WHF	**Hehuan Shan**	**0.88**	**277**	P	**Pb**	**09 18 20.2**	**+0.3**
WHF	baz=272			S	**Sb**	**09 18 31.6**	**-0.1**
TWT	**Tachien**	**0.97**	**283**	*e*S	**Sb**	**09 18 34.8**	**+0.5**
NSK	**Sanguang**	**1.01**	**309**	P	**Pn**	**09 18 22.9**	**+0.4**
NSK	baz=306			S	**Sg**	**09 18 34.3**	**-0.6**
WDT	**Danda**	**1.03**	**254**	⇑*iP*	**Pn**	**09 18 22.9**	**-0.1**
WDT	baz=250			S	**Sg**	**09 18 35.8**	**0.0**

TWF1	**Yuli**	**1.09 231**	*e*P		**Pn**	**09 18 23.6**	**0.0**
	baz=227						
TWF1			*e*S		**Sg**	**09 18 37.3**	**-0.1**
	baz=227						
NWF	**Wu-fen Shan**	**1.10 339**	*e*P		**Pg**	**09 18 23.2**	**-0.4**
	baz=338						
NWF			*e*S		**Sg**	**09 18 37.5**	**-0.5**
	baz=338						
SMLT	**Sun Moon Lake**	**1.22 263**	*e*P		**Pn**	**09 18 25.6**	**+0.2**
	baz=259						
SMLT			*e*S		**Sb**	**09 18 40.6**	**-0.5**
	baz=259						
CHKT	**Chengkung**	**1.22 220**	*e*P		**Pn**	**09 18 25.1**	**-0.2**
	baz=217						
CHKT			*e*S		**Sb**	**09 18 39.5**	**-1.6**
	baz=217						
TYC	**Yuchr**	**1.25 264**	*e*P		**Pg**	**09 18 27.8**	**+1.3**
	baz=260						
TYC			*e*S		**Sn**	**09 18 42.7**	**+0.1**
	baz=260						
YUS	**Yu-Shan**	**1.28 245**	*e*P		**Pg**	**09 18 27.5**	**+0.4**
	baz=241						
YUS			*e*S		**Sb**	**09 18 42.6**	**-0.8**
	baz=241						
ELDTW	**Lidau**	**1.39 233**	*e*P		**Pn**	**09 18 27.7**	**-0.1**
	baz=229						
ELDTW			*e*S		**Sb**	**09 18 44.5**	**-1.6**
	baz=229						
IRIF	**Iriomote-Funau**	**1.41 78**	P		**Pb**	**09 18 28.7**	**0.0**
IRIF			*e*S		**Sn**	**09 18 46.7**	**+0.1**
HATJ	**Hateruma jima**	**1.45 89**	S		**Sn**	**09 18 47.8**	**+0.2**
CHN5	**Tsauling**	**1.48 253**	*e*P		**Pg**	**09 18 30.7**	**-0.1**
	baz=250						
CHN5			*e*S		**Sb**	**09 18 49.2**	**+0.5**
	baz=250						
TWG	**Pinlang**	**1.61 221**	*e*S		**Sn**	**09 18 50.0**	**-1.3**
	baz=218						
CHN4	**Tsaushan**	**1.64 246**	*e*P		**Pg**	**09 18 33.5**	**-0.4**
	baz=242						
CHN4			*e*S		**Sg**	**09 18 54.6**	**-0.5**
	baz=242						
JKRS	**Kuro-shima**	**1.65 83**	P		**Pn**	**09 18 32.0**	**+0.8**
JKRS			*e*S		**Sn**	**09 18 53.2**	**+0.8**
TWK	**Hsinying**	**1.76 244**	*e*P		**Pb**	**09 18 35.3**	**+0.5**
	baz=241						
TWK			*e*S		**Sb**	**09 18 58.0**	**+1.1**
	baz=241						
CHN1	**Nanshi**	**1.77 242**	*e*P		**Pb**	**09 18 35.4**	**+0.6**
	baz=239						
CHN1			*e*S		**Sg**	**09 18 58.7**	**-0.6**
	baz=239						
JIJ	**Ishigaki jima**	**1.79 79**	P		**Pn**	**09 18 34.2**	**+1.0**
JIJ			S		**Sn**	**09 18 55.4**	**-0.5**
JISG	**Ishigakijimahi**	**1.99 74**	P		**Pn**	**09 18 36.5**	**+0.6**
JISG			S		**Sn**	**09 18 59.9**	**-0.9**

NIED ***14*** *09:26:00, 35.°80N×140.°10E, h65km, Mw4.4 Best double couple: M₀=4.93000×10¹⁵ NP1:φs=174.00000°, δ25.00000°, λ78.00000°. NP2:φs=7.00000°, δ66.00000°, λ96.00000°.*
BJI ***14*** *09:26:49.2, 35.°61N×140.°74E, h57km, mb4.7/45, mB4.8/27, Ms4.5/14, Ms7 4.3/11*
MOS ***14*** *09:26:53.3±1.4, 35.°79N×140.°22E, h69km, mb4.9/37, Error ellipse: s-maj=9.3km s-min=5.9km az=107.9*
ISCJB ***14*** *09:26:53.3±0.4, 35.°70N±0.°02×140.°27E±0.°04, h72km±3km, mb4.6/72, Error ellipse: s-maj=5.2km s-min=4.0km az=179.1*
IDC ***14*** *09:26:55.9±1.1, 35.°62N×140.°06E, h74km±9km, mb4.1/25, mb1 4.2/28, mb1mx4.0/57, mbtmp4.4/28, MS3.4/2, Ms1 3.5/2, ms1mx2.8/44, Error ellipse: s-maj=13.9km s-min=6.4km az=68.0*
JMA ***14*** *09:26:55.5±0.1, 35.°79N×140.°13E, h63km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs=6.00000°, δ72.00000°, λ92.00000°. NP2:φs=181.00000°, δ18.00000°, λ85.00000°. Principal axes: T Plg63.0000°, Azm279.0000°; N Plg2.0000°, Azm186.0000°; P Plg27.0000°, Azm95.0000°;*
JMA Felt II J1.
NEIC ***14*** *09:26:55.1±0.6, 35.°69N×140.°25E, h71km±6km, mb4.9/23 Error ellipse: s-maj=6.9km s-min=5.6km az=85.0*
NEIC Felt at Chiba, Inzai, Machida, Mitaka, Yokohama, Yokosuka and Zama. Recorded [2 JMA] in Chiba, Ibaraki, Kanagawa, Saitama, Tochigi and Tokyo.

ISC 14 09:26:54.5±0.6, 35.°75N±0.°04×140.°28E±0.°04, h65km±5km, n174, σ1§76/200, mb4.7/72, 3C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.43**	**261**	⇓P			**Pn**	**09 27 07.2**	**+1.0**
JYT	**Yasato**	**0.48**	**352**	⇑P			**Pn**	**09 27 07.1**	**+0.4**
JYT				S			**Sn**	**09 27 16.1**	**+0.5**
JAG	**Ashikaga**	**0.95**	**315**	⇓P			**Pn**	**09 27 11.8**	**-0.4**
BSO3	**Boso 3**	**0.97**	**169**	⇑P			**Pn**	**09 27 13.4**	**+1.3**
BSO3				S			**Sn**	**09 27 29.9**	**+4.7**
JOD2	**Odawara 2**	**1.09**	**244**	⇓P			**Pn**	**09 27 13.2**	**-0.8**
JOD2				S			**Sn**	**09 27 26.2**	**-2.2**
JRY	**Ryogami san**	**1.15**	**284**	⇓P			**Pn**	**09 27 14.6**	**-0.2**
JIM2	**Oshima 3**	**1.24**	**214**	S			**Sn**	**09 27 30.0**	**-2.0**
JKT	**Katashina**	**1.31**	**321**	⇓P			**Pn**	**09 27 16.6**	**-0.3**
MJAR	**Matsushiro Arr**	**1.85**	**296**	P			**Pn**	**09 27 23.7**	**-0.4**
	208nm,0.3s,baz=101,slow=14,SNR=1704								
MJAR				S			**Sn**	**09 27 45.8**	**-0.8**
	98nm,0.3s,baz=154,slow=14,SNR=13								
MJAR				LR			LR	09 28 04.3	
	comp=Z,610nm,18.8s,baz=115,slow=40								
MAJO	**Matsushiro**	**1.85**	**296**	*d*	*i*	P	**Pn**	**09 27 24.2**	**+0.1**
MAJO	**Matsushiro**	**1.85**	**296**	*e*		Pn	**Pn**	**09 27 24.4**	**+0.3**
MAJO				*e*		Sn	Sn	09 27 37.0	-10
MAT	**Matsushiro**	**1.85**	**296**	P			Pn	**09 27 23.9**	**-0.2**
MAT				S			**Sn**	**09 27 46.0**	**-0.6**
MJB9	**Matsu-Tunnel**	**1.86**	**296**	*e*		Pn	**Pn**	**09 27 24.4**	**+0.2**
MJB9				*e*		Sn	**Sn**	**09 27 38.7**	**-7.9**
JHJ	**Hachijo jima 2**	**2.66**	**189**	P			**Pn**	**09 27 35.4**	**+0.4**
	110nm,0.3s,baz=150,slow=22,SNR=56								
JHJ				S			**Sn**	**09 28 04.1**	**-2.0**
	192nm,0.3s,baz=226,slow=21,SNR=9.6								
JHJ2	**Mitsune**	**2.66**	**188**	*e*		Pn	**Pn**	**09 27 35.5**	**+0.4**
JHJ2				*e*		Sn	**Sn**	**09 28 03.7**	**-2.5**
INU	**Inuyama**	**2.69**	**262**	*e*		Pn	**Pn**	**09 27 35.4**	**-0.1**
INU				*e*		Sn	**Sn**	**09 28 04.9**	**-2.0**
JNU	**Nakatsue**	**8.20**	**254**	P			**Pn**	**09 28 51.2**	**+0.4**
	1.4nm,0.3s,baz=61,slow=5.4,SNR=7.2								
JNU	**Nakatsue**	**8.20**	**254**	*e*		Pn	**Pn**	**09 28 51.5**	**+0.7**
ASAJ	**Asahikawa**	**8.54**	**11**	P			**Pn**	**09 28 55.5**	**+0.1**
	1.7nm,0.3s,baz=268,slow=9.4,SNR=6.9								
ASAJ				S			**Sn**	**09 30 26.9**	**-3.3**
	1.7nm,0.3s,baz=18,slow=26,SNR=1.9								
ASAJ	**Asahikawa**	**8.54**	**11**	P			**Pn**	**09 28 55.5**	**+0.1**
ASAJ				S			**Sn**	**09 30 26.9**	**-3.3**
ASAJ				pmax			pmax		
	comp=Z,2.0nm,0.3s								
ASAJ				smax			smax		
	comp=N,2.0nm,0.3s								
ASAJ	**Asahikawa**	**8.54**	**11**	*e*		Pn	**Pn**	**09 28 56.2**	**+0.8**
CBIJ	**Chichi jima**	**8.78**	**169**	*e*		Pn	**Pn**	**09 28 57.8**	**-1.0**
CBIJ				*e*		Sn	**Sn**	**09 30 30.6**	**-5.6**
YUK	**Yuzh-Kuril'sk**	**9.31**	**26**	P			**Pn**	**09 29 06.0**	**0.0**
YUK				*i*		S	**Sn**	**09 30 43.5**	**-5.6**
YUK				pmax			pmax		
	comp=N,44nm,0.6s								
YUK				pmax			pmax		
	comp=E,32nm,0.6s								
YUK				pmax			pmax		
	comp=Z,88nm,0.6s								
SHO	**Shikotan**	**9.54**	**30**	*e*		P	**Pn**	**09 29 08.2**	**-0.9**
SHO				pmax			pmax		
	comp=Z,35nm,0.9s								
SHO				pmax			pmax		
	comp=N,15nm,0.4s								
KSRS	**Korea Array**	**10.08**	**283**	P			**Pn**	**09 29 19.1**	**+2.6**
	comp=N,1.3nm,0.3s,baz=97,slow=14,SNR=34								
KSRS				LR			LR	09 33 00.2	
	comp=N,190nm,19.2s,baz=136,slow=36								
KS01	**Wonju Array Si**	**10.10**	**283**	*e*		Pn	**Pn**	**09 29 18.2**	**+1.4**
KS01				*e*		Sn	**Sn**	**09 31 05.5**	**-3.0**
KS15	**Wonju Array Si**	**10.11**	**283**	*e*		Pn	**Pn**	**09 29 19.2**	**+2.4**
USRK	**Ussuriysk Ar.**	**10.56**	**326**	P			**Pn**	**09 29 25.4**	**+2.4**
	comp=N,0.8nm,0.3s,baz=143,slow=12,SNR=16								
KUR	**Kuril'sk**	**11.09**	**29**	P			**Pn**	**09 29 31.7**	**+1.6**
KUR				*i*		S	**Sn**	**09 31 27.3**	**-5.1**
KUR				pmax			pmax		
	comp=Z,26nm,0.5s								
KUR				pmax			pmax		
	comp=N,14nm,0.6s								
KUR				pmax			pmax		
	comp=E,10.0nm,0.1s								
MDJ	**Mudanjiang**	**12.04**	**321**	P			**Pn**	**09 29 43.8**	**+0.6**
MDJ				pmax			pmax		
	comp=E,8.0nm,1.3s								
MDJ				pmax			pmax		
	comp=E,37nm,4.0s								
JOW	**Kunigami**	**13.57**	**232**	*e*		Pn	**Pn**	**09 30 05.0**	**+0.9**
CN2	**Changchun**	**13.94**	**310**	*e*		P	**Pn**	**09 30 09.5**	**+0.7**
CN2				*e*		PP	**PnPn**	**09 30 22.3**	**+5.1**
CN2				*e*		S	**Sn**	**09 32 43.9**	**+2.0**
CN2				pmax			pmax		
	comp=E,10.0nm,0.7s								
CN2				LR			LR		
	comp=E,200nm,10.0s								
CN2				LR			LR		
	comp=E,200nm,10.0s								
CN2				LR			LR		
	comp=E,200nm,10.0s								
NJ2	**Nanjing**	**18.16**	**264**	*e*		P	**Pn**	**09 31 04.5**	**+2.4**
NJ2				pmax			pmax		
	comp=E,13nm,0.7s								
TIA	**Tai'an**	**18.74**	**278**	*e*		P	**P**	**09 31 06.9**	**-1.2**
TIA				pmax			pmax		
	comp=E,20nm,1.2s								
BJI	**Beijing**	**19.48**	**290**	P			**P**	**09 31 15.3**	**-0.7**
BJI				pmax			pmax		
	comp=E,15nm,0.8s								
ANA2	**Anatahan**	**19.93**	**165**	*e*		P	**P**	**09 31 19.2**	**-1.9**
YULB	**Yu-li**	**20.55**	**238**	*e*		P	**P**	**09 31 29.0**	**+1.1**
	comp=E,47nm,1.9s								
TPUB	**Ta-pu**	**21.08**	**239**	*e*		P	**P**	**09 31 31.0**	**-2.6**
	comp=E,117nm,1.9s								
PEA0B	**Petropavlovsk-**	**21.25**	**30**	*e*		P	**P**	**09 31 34.3**	**-0.8**
	comp=E,129nm,1.8s								
PETK	**Petropavlovsk-**	**21.25**	**30**	P			**P**	**09 31 37.4**	**+2.3**
	comp=E,3.7nm,0.8s,baz=224,slow=8.1,SNR=4.2								
PEA1	**Petropavlovsk-**	**21.26**	**30**	*e*		P	**P**	**09 31 37.4**	**+2.3**
PET	**Petropavlovsk**	**21.59**	**31**	*e*		P	**P**	**09 31 37.7**	**-0.9**
PET				pmax			pmax		
	comp=Z,49nm,1.5s								
PET	**Petropavlovsk**	**21.59**	**31**	*e*		P	**P**	**09 31 37.7**	**-0.9**
	comp=Z,49nm,1.5s								
GUMO	**Guam**	**22.45**	**168**	*e*		P	**P**	**09 31 45.7**	**-2.6**
GUMO				pmax			pmax		
	comp=Z,90nm,1.1s								
GUMO	**Guam**	**22.45**	**168**	*e*		P	**P**	**09 31 45.7**	**-2.6**
	comp=Z,90nm,1.1s								
HHC	**Hu-ho-hao-te**	**23.05**	**291**	*e*		P	**P**	**09 31 54.5**	**+0.1**
HHC				pmax			pmax		
	comp=Z,27nm,1.0s								
HHC				pmax			pmax		
	comp=Z,94nm,5.6s								
MA2	**Magadan**	**24.80**	**13**	P			**P**	**09 32 12.3**	**+2.1**
	comp=Z,13nm,0.5s,baz=191,slow=10.0,SNR=11								
XAN	**Xi'an**	**25.72**	**275**	P			**P**	**09 32 17.1**	**-1.8**
XAN				pmax			pmax		
	comp=Z,10.0nm,0.6s								
XAN				pmax			pmax		
	comp=Z,79nm,8.1s								
ENH	**Enshi**	**26.33**	**267**	*e*		P	**P**	**09 32 23.0**	**-1.4**
	comp=Z,39nm,0.6s								
YAK	**Yakutsk**	**27.14**	**349**	*e*		P	**P**	**09 32 32.1**	**+0.9**
YAK				pmax			pmax		
	comp=Z,20nm,1.0s								
YAK				pmax			pmax		
	comp=N,16nm,1.5s								
ULN	**Ulaanbaatar**	**27.35**	**307**	*e*		P	**P**	**09 32 31.5**	**-2.0**
ULN				pmax			pmax		
	comp=Z,4.0nm,1.5s								
SONA1	**Songino Array**	**27.77**	**306**	*e*		P	**P**	**09 32 36.1**	**-1.1**
SONA0	**Songino Array**	**27.77**	**306**	*e*		P	**P**	**09 32 36.0**	**-1.3**
	comp=Z,12nm,1.6s								
SONM	**Songino Array**	**27.77**	**306**	P			**P**	**09 32 36.0**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=106,slow=8.8,SNR=6.5								
SONM	**Songino Array**	**27.77**	**306**	P			**P**	**09 32 36.0**	**-1.2**
SONM				pmax			pmax		
	comp=Z,2.0nm,0.5s								
BOD	**Bodaibo**	**28.15**	**330**	*e*		P	**P**	**09 32 39.9**	**-0.4**
BOD				pmax			pmax		
	comp=Z,10.0nm,1.5s								
SEY	**Seymchan**	**28.23**	**12**	*e*		P	**P**	**09 32 38.6**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**28.33**	**117**	T			T	10 02 39.6	
	baz=308,slow=75,SNR=63								
H11N1	**WAKE ISLAND Hy**	**28.34**	**117**	T			T	10 02 35.9	
	baz=308,slow=75,SNR=44								
H11N3	**WAKE ISLAND Hy**	**28.35**	**117**	T			T	10 02 40.8	
	baz=308,slow=75,SNR=50								
H11S1	**WAKE ISLAND Hy**	**28.98**	**119**	T			T	10 03 53.9	
	baz=313,slow=74,SNR=33								
H11S3	**WAKE ISLAND Hy**	**28.98**	**119**	T			T	10 03 19.7	
	SNR=28								
H11S2	**WAKE ISLAND Hy**	**29.00**	**119**	T			T	10 03 57.2	
	baz=16,slow=74,SNR=23								
LZH	**Lanzhou**	**29.40**	**282**	*e*		P	**P**	**09 32 51.3**	**-0.6**
LZH				pP			pP	09 33 06.3	-1.4
LZH				sP			sP	09 33 15.6	+0.2
LZH				PP			**PnPn**	**09 33 48.5**	**+0.1**
LZH				pmax			pmax		
	comp=Z,18nm,1.2s								
LZH				pmax			pmax		
	comp=Z,42nm,5.4s								
LZH				LR			LR		
	comp=Z,370nm,12.8s								
LZH				LR			LR		
	comp=Z,380nm,13.2s								
LZH				LR			LR		
	comp=Z,420nm,16.5s								
GYA	**Guiyang**	**30.11**	**262**	*e*		P	**P**	**09 33 00.8**	**+2.6**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**30.78**	**272**	*e*		P	**P**	**09 33 02.8**	**-1.1**
GTA	**Gaotai**	**32.09**	**289**	*e*		P	**P**	**09 33 16.3**	**+0.8**
GTA				pP			pP	09 33 30.5	-0.9
GTA				sP			sP	09 33 38.6	-0.4
GTA				pmax			pmax		
	comp=Z,7.0nm,0.7s								
KMI	**Kunming**	**33.87**	**262**	P			**P**	**09 33 32.6**	**+1.3**
KMI				pmax			pmax		
	comp=Z,13nm,0.6s								
KMI				pmax			pmax		
	comp=Z,77nm,4.1s								
TIXI	**Tiksi**	**36.46**	**354**	*e*		P	**P**	**09 33 51.2**	**-1.5**
TIXI				pmax			pmax		
	comp=Z,9.0nm,0.9s								
CM31	**Chiang Mai Arr**	**40.29**	**256**	*e*		P	**P**	**09 34 24.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**40.29**	**256**	P			**P**	**09 34 24.3**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=44,slow=8.2,SNR=6.5								
CMAR				LR			LR	09 51 32.8	
	comp=Z,51nm,18.9s,baz=300,slow=37								
CMAR	**Chiang Mai Arr**	**40.29**	**256**	*i*		P	**P**	**09 34 26.1**	**+0.6**
CMAR				pmax			pmax		
	comp=Z,1.0nm,0.3s								
WMQ	**Urumqi**	**40.62**	**298**	P			**P**	**09 34 27.3**	**-0.7**
WMQ				pP			pP	09 34 40.3	-4.0
WMQ				sP			sP	09 34 51.8	-0.1
WMQ				pmax			pmax		
	comp=Z,15nm,1.1s								
WMQ				pmax			pmax		
	comp=Z,190nm,4.3s								
WMQ				LR			LR		
	comp=Z,42nm,21.5s								
WMQ				LR			LR		
	comp=Z,62nm,20.5s								
ZAA0	**Zalesovo Array**	**42.11**	**313**	*e*		P	**P**	**09 34 39.2**	**-0.8**
ZAA1	**Zalesovo Array**	**42.11**	**313**	*e*		P	**P**	**09 34 39.9**	**-0.1**
ZAA1				*e*		PcP	**PcP**	**09 36 33.5**	**+0.1**
ZALV	**Zalesovo Beam**	**42.11**	**313**	P			**P**	**09 34 39.9**	**-0.1**
	comp=Z,6.5nm,0.5s,baz=96,slow=7.4,SNR=19								
ZALV				PcP			**PcP**	**09 36 33.5**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=126,slow=2.0,SNR=6.8								
MK01	**Makanchi Array**	**44.03**	**303**	*e*		P	**P**	**09 34 55.5**	**-0.2**
MK31	**Makanchi Array**	**44.03**	**303**	*i*		P	**P**	**09 34 55.2**	**-0.5**
MK31				pmax			pmax		
	comp=Z,21nm,1.1s								
MK31	**Makanchi Array**	**44.03**	**303**	*e*		P	**P**	**09 34 55.8**	**+0.1**
MK32	**Makanchi Array**	**44.03**	**303**	*e*		P	**P**	**09 34 55.7**	**0.0**
MK32				*e*		PP	**PcP**	**09 36 40.2**	**+0.1**
MKAR	**Makanchi Array**	**44.03**	**303**	P			**P**	**09 34 55.7**	**0.0**
	comp=Z,4.0nm,0.6s,baz=86,slow=10,SNR=22								
MKAR				PcP			**PcP**	**09 36 40.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=84,slow=1.4,SNR=3.3								
MKAR	**Makanchi Array**	**44.03**	**303**	*e*		P	**P**	**09 34 55.8**	**+0.1**
	comp=Z,66nm,1.0s								
ODAN	**Odare**	**45.59**	**274**	*e*		P	**P**	**09 35 07.9**	**-0.6**
	comp=Z,16nm,0.6s								
KURK	**Kurchatov**	**46.01**	**309**	P			**P**	**09 35 11.4**	**+0.2**
KURK								09 36 46.7	
KURK				pmax			pmax		
	comp=Z,14nm,0.7s								
KURK	**Kurchatov**	**46.01**	**309**	*e*		P	**P**	**09 35 11.1**	**-0.1**
	comp=Z,22nm,0.7s								
KURK				*e*		PcP	**PcP**	**09 36 46.7**	**-0.1**
KURBB	**Kurchatov Arra**	**46.08**	**309**	P			**P**	**09 35 11.4**	**-0.4**
	comp=Z,14nm,0.7s,baz=85,slow=7.9,SNR=48								
KURBB				PcP			**PcP**	**09 36 46.7**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=83,slow=4.2,SNR=4.7								
RAMN	**Ramite**	**46.19**	**275**	*e*		P	**P**	**09 35 12.8**	**-0.5**
	comp=Z,68nm,0.7s								
JIRN	**Jiri**	**46.23**	**276**	*e*		P	**P**	**09 35 13.5**	**-0.2**
	comp=Z,130nm,0.4s								
GUN	**Gumba**	**46.38**	**276**	*e*		P	**P**	**09 35 14.6**	**-0.3**
	comp=Z,18nm,0.4s								
PDGK	**Podgornoye**	**46.58**	**299**	P			**P**	**09 35 15.5**	**-0.5**
PDGK				pmax			pmax		
	comp=Z,12nm,0.6s								
PKIN	**Phulchoki**	**46.90**	**276**	*e*		P	**P**	**09 35 18.1**	**-0.8**
	comp=Z,7.1nm,0.5s								
GKN	**Gorkha**	**47.34**	**277**	*e*		P	**P**	**09 35 21.9**	**-0.3**
	comp=Z,37nm,0.9s								
DANN	**Dangsing**	**47.91**	**278**	*e*		P	**P**	**09 35 26.7**	**0.0**
	comp=Z,3.7nm,0.7s								
KOLN	**Koldanda**	**48.28**	**277**	*e*		P	**P**	**09 35 29.1**	**-0.3**
	comp=Z,4.0nm,0.3s								
PYUN	**Piuthan**	**48.63**	**278**	*e*		P	**P**	**09 35 32.0**	**-0.2**
	comp=Z,18nm,0.4s								
MTN	**Manton Dam**	**49.10**	**192**	*e*		P	**P**	**09 35 35.0**	**-0.5**
	comp=Z,17nm,0.9s								
TKM2	**Tokmak 2**	**49.44**	**299**	P			**P**	**09 35 38.2**	**0.0**
TKM2				pmax			pmax		
	comp=Z,8.0nm,0.7s								
KSH	**Kashi**	**50.10**	**295**	P			**P**	**09 35 46.8**	**+3.7**
KSH				pP			sP	09 36 03.6	-3.8
KSH				sP			pP	09 36 10.3	+10
KSH				PcP			**PcP**	**09 37 05.9**	**+4.0**
KSH				PP			**PP**	**09 37 45.5**	**+6.9**
KSH				PcS			**PcS**	**09 40 58.3**	**-0.8**
KSH				S			**S**	**09 42 52.3**	**+2.5**
KSH				sS			sS	09 43 19.0	+0.8
KSH				ScS			**ScS**	**09 45 27.9**	**-0.5**
KSH				pmax			pmax		
	comp=Z,7.0nm,1.1s								
KSH				pmax			pmax		
	comp=Z,69nm,4.5s								
KSH				LR			LR		
	comp=Z,150nm,6.9s								
KSH				LR			LR		
	comp=Z,100nm,9.6s								
KSH				LR			LR		
	comp=Z,140nm,8.9s								
FRU	**Bishkek**	**50.16**	**299**	*e*		P	**P**	**09 35 44.0**	**+0.6**
AAK	**Ala-Archa**	**50.30**	**299**	*e*		P	**P**	**09 35 41.6**	**-3.0**
AAK				pmax			pmax		
	comp=Z,13nm,1.0s								
AAK	**Ala-Archa**	**50.30**	**299**	*e*		P	**P**	**09 35 44.8**	**+0.1**
	comp=Z,6.0nm,1.0s								
BVAR	**Borovoye Array**	**50.76**	**313**	P			**P**	**09 35 48.5**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=76,slow=8.2,SNR=8.2								
BRVK	**Borovoye**	**50.82**	**313**	*e*		P	**P**	**09 35 46.1**	**-2.1**
BRVK				pmax			pmax		
	comp=Z,17nm,0.9s								
ILAR	**Eielson Array**	**51.06**	**32**	P			**P**	**09 35 51.6**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=267,slow=5.9,SNR=17								
ILB	**Eielson Array**	**51.06**	**32**	*e*		P	**P**	**09 35 51.7**	**+1.9**
MNAS	**Manas**	**51.75**	**299**	P			**P**	**09 35 55.7**	**+0.2**
MNAS				pmax			pmax		
	comp=Z,11nm,1.2s								
KK31	**Karatay Array**	**52.98**	**301**	P			**P**	**09 36 03.8**	**-0.6**
KK31				pmax			pmax		
	comp=Z,15nm,1.2s								
KKAR	**Karatay Array**	**52.98**	**301**	*e*		P	**P**	**09 36 04.4**	**-0.1**
KKAR				pmax			pmax		
	comp=Z,73nm,1.2s								
KKAR	**Karatay Array**	**52.98**	**301**	*e*		P	**P**	**09 36 04.4**	**-0.1**
	comp=Z,73nm,1.2s								
WRAB	**Tennant Creek**	**55.66**	**187**	*e*		P	**P**	**09 36 21.0**	**-3.0**
WRAB				pmax			pmax		
	comp=Z,8.0nm,0.8s								
WRAB	**Tennant Creek**	**55.66**	**187**	*e*		P	**P**	**09 36 23.6**	**-0.4**
	comp=Z,7.5nm,0.9s								
WB2	**Warramunga Arr**	**55.67**	**187**	*e*		P	**P**	**09 36 24.3**	**+0.2**
WR1	**Warramunga Arr**	**55.67**	**187**	*e*		P	**P**	**09 36 23.4**	**-0.7**
	comp=Z,7.4nm,0.8s								
WRA	**Warramunga Arr**	**55.67**	**187**	P			**P**	**09 36 23.4**	**-0.7**
	comp=Z,4.7nm,0.4s,baz=0,3,slow=7.6,SNR=69								
WRA	**Warramunga Arr**	**55.67**	**187**	*i*		P	**P**	**09 36 23.3**	**-0.8**
WRA				pmax			pmax		
	comp=Z,5.0nm,0.4s								
INK	**Inuvik**	**55.94**	**27**	P			**P**	**09 36 27.5**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=331,slow=7.5,SNR=4.5								
ARU	**Arti**	**56.72**	**319**	*d*		*iP	**P**	**09 36 30.9**	**-0.3**
ARU						*PP	**pP**	**09 36 49.1**	**+0.9**
ARU								09 38 35.7	
ARU				S			**S**	**09 44 22.0**	**+3.3**
ARU				SS			**SS**	**09 48 01.8**	**-5.0**
ARU				pmax			pmax		
	comp=Z,10.0nm,0.6s								

KIEV	**Kiev**	**74.76**	**322**	*e*P	**P**	**09 38 26.1 -1.2**
KIEV				pmax	pmax	
comp=Z,6.0nm,0.8s						
KIEV	**Kiev**	**74.76**	**322**	*e*P	**P**	**09 38 27.1 -0.2**
comp=Z,9.7nm,0.5s						
AK11	**Malin Array Si**	**74.79**	**322**	*e*P	**P**	**09 38 27.4 -0.1**
NB2	**NORSAR Subarra**	**75.01**	**337**	P	**P**	**09 38 28.9 +0.2**
comp=Z,4.1nm,0.8s,baz=43,slow=5.9						
NB200	**NORSAR Array S**	**75.01**	**337**	*e*P	**P**	**09 38 29.2 +0.5**
NOA	**NORSAR Array B**	**75.01**	**337**	P	**P**	**09 38 29.2 +0.5**
comp=Z,1.9nm,0.6s,baz=40,slow=5.7,SNR=8.4						
KLNR	**Kaliningrad**	**76.35**	**329**	*e*P	**P**	**09 38 34.2 -2.1**
KLNR				pmax	pmax	
comp=Z,72nm,0.9s						
TOKA	**Tokat**	**76.90**	**310**	*e*P	**P**	**09 38 42.6 +2.8**
comp=Z,45nm,0.4s						
LKWY	**Lake**	**77.62**	**44**	*e*P	**P**	**09 38 42.8 -1.2**
LKWY				pmax	pmax	
comp=Z,9.0nm,0.8s						
LKWY	**Lake**	**77.62**	**44**	*e*P	**P**	**09 38 42.8 -1.2**
comp=Z,8.6nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.73**	**321**	*e*P	**P**	**09 38 50.5 +0.6**
BR101	**Keskin Array S**	**79.01**	**311**	*e*P	**P**	**09 38 52.1 +0.5**
BRTR	**Keskin Array B**	**79.01**	**311**	P	**P**	**09 38 52.1 +0.4**
comp=Z,1.5nm,0.6s,baz=121,slow=3.1,SNR=7.0						
PD31	**Pinedale Array**	**79.22**	**45**	*e*P	**P**	**09 38 54.8 +1.9**
PDAR	**Pinedale Array**	**79.22**	**45**	P	**P**	**09 38 54.8 +1.9**
comp=Z,0.9nm,0.5s,baz=237,slow=1.3,SNR=13						
BR231	**Keskin MP Arra**	**79.46**	**312**	*e*P	**P**	**09 38 52.7 -1.4**
RAYN	**Ar Rayn**	**80.29**	**292**	*e*P	**P**	**09 38 58.8 0.0**
comp=Z,3.6nm,0.6s						
SRU	**San Rafael Swe**	**80.94**	**48**	*e*P	**P**	**09 39 02.4 +0.2**
SRU				pmax	pmax	
comp=Z,3.0nm,0.5s						
SRU	**San Rafael Swe**	**80.94**	**48**	*e*P	**P**	**09 39 02.4 +0.2**
comp=Z,2.7nm,0.5s						
CLL	**Collm**	**81.74**	**330**	*i* P	**P**	**09 39 06.1 +0.2**
CLL	**Collm**	**81.74**	**330**	*i* P	**P**	**09 39 06.1 +0.2**
comp=Z,5.0nm,0.6s						
GERES	**GERESS Array B**	**83.31**	**328**	P	**P**	**09 39 14.6 +0.3**
comp=Z,0.4nm,0.3s,baz=35,slow=4.9,SNR=5.8						
EIL	**Elat**	**84.30**	**302**	P	**P**	**09 39 19.6 +0.1**
comp=Z,5.8nm,0.7s,baz=349,slow=2.9,SNR=5.3						
LTX	**Lajitas**	**91.63**	**52**	*e*P	**P**	**09 39 57.0 +2.2**
LTX	**Lajitas**	**91.63**	**52**	*e*P	**P**	**09 39 57.0 +2.2**
TXAR	**Lajitas Array**	**91.63**	**52**	P	**P**	**09 39 57.0 +2.2**
comp=Z,0.6nm,0.7s,baz=296,slow=2.6,SNR=7.9						
TXAR	**Lajitas Array**	**91.63**	**52**	P	**P**	**09 39 57.0 +2.2**
TXAR				pmax	pmax	
comp=Z,1.0nm,0.7s						
TOA1	**Torodi Ar. Sit**	**117.56**	**313**	*e*PKPdf	**PKPdf**	**09 45 33.8 +0.2**
TORD	**Torodi Ar. Bea**	**117.56**	**313**	PKP	**PKPdf**	**09 45 33.8 +0.2**
comp=Z,0.8nm,0.5s,baz=40,slow=1.4,SNR=11						
DBIC	**Dimbokro**	**126.57**	**315**	PKP	**PKPdf**	**09 45 50.5 -0.4**
comp=Z,2.8nm,0.7s,baz=357,slow=3.8,SNR=4.0						
LPAZ	**La Paz**	**148.13**	**60**	PKPbc	**PKPab**	**09 46 35.8 -1.3**
comp=Z,1.4nm,0.8s,baz=1.8,slow=13,SNR=3.5						

*CSEM **14** 09:38:03.7±0.5, 50°.26N×18°.95E, h1km, Error ellipse: s-maj=13.3km s-min=6.3km az=3.0*

PRU 14 09:38:03.4, 50°.29N×19°.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**98**	*e*Pg	Pb	09 38 15.4	+0.2
OJC				*e*Sg	Sg	09 38 19.9	+0.3
OJC	**Ojcow**	**0.51**	**98**	*e*Pg	Pb	09 38 15.4	+0.3
OJC				*e*Sg	Sg	09 38 19.9	+0.3
OKC	**Ostrava-Krasne**	**0.72**	**231**	*e*SG	Sg	09 38 26.6	0.0
OKC	**Ostrava-Krasne**	**0.72**	**231**	Sg	Sg	09 38 26.6	0.0
MORC	**Moravsky Berou**	**1.08**	**242**	*e*Pg	Pg	09 38 24.0	-0.1
MORC				*e*Sg	Sg	09 38 37.8	-0.3
LANS	**Liptovska Anna**	**1.18**	**166**	*e*Pg	Pg	09 38 25.1	-0.8
LANS				*e*Sg	Sg	09 38 41.2	0.0
LANS	**Liptovska Anna**	**1.18**	**166**	*e*PG	Pg	09 38 25.1	-0.8
LANS				*e*SG	Sg	09 38 41.2	0.0
KRLC	**Kraliky**	**1.46**	**262**	*e*SG	Sg	09 38 49.6	-0.5
KRLC	**Kraliky**	**1.46**	**262**	Sg	Sg	09 38 49.6	-0.5
DPC	**Dobruska-Polom**	**1.73**	**273**	*e*PG	Pn	09 38 34.9	+0.1
DPC				*e*SG	Sg	09 38 58.7	-0.3
comp=Z,6.6nm,0.6s							
DPC	**Dobruska-Polom**	**1.73**	**273**	Pg	Pn	09 38 34.9	+0.1
DPC				Sg	Sg	09 38 58.7	-0.3
6.6nm,0.6s							

*NIED **14** 09:40:00, 36°.60N×141°.00E, h5km, Mw3.9 Best double couple: M0=7.75000×10^14 NP1:φs=24.00000°, δ=37.00000°, λ=-83.00000°. NP2:φs=196.00000°, δ=54.00000°, λ=-95.00000°.*

*ISCJB **14** 09:40:53.4±1.2, 36°.60N±0°.04×141°.21E±0°.05, h7km±6km, mb3.9/12, MS3.2/1, Error ellipse: s-maj=7.4km s-min=5.8km az=136.1*

*IDC **14** 09:40:54.2±0.8, 36°.51N×141°.13E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.8/36, mbtmp3.8/11, ML2.8/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/53, Error ellipse: s-maj=21.0km s-min=19.4km az=40.0*

*JMA **14** 09:40:56.4±0.1, 36°.64N×140°.98E, h17km±2km, M3.8*

JMA Felt I J1.

*NEIC **14** 09:40:59.4±0.7, 36°.60N×141°.09E, h35km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=12.5km az=156.0*

ISC 14 09:40:54.5±1.9, 36°.60N±0°.05×141°.13E±0°.07, h1km±11km, n31, σ1°39/34, mb3.9/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.45**	**271**	P	**Pg**	**09 41 03.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.56**	**332**	P	**Pg**	**09 41 05.8**	**+0.5**
ONAJ				S	**Sg**	**09 41 12.8**	**+0.2**
JFK	**Kawauchi**	**0.79**	**345**	P	**Pb**	**09 41 09.9**	**-1.1**
JFK				S	**Sg**	**09 41 20.2**	**+0.4**
JYT	**Yasato**	**0.84**	**244**	P	**Pg**	**09 41 10.7**	**+0.1**
JYT				S	**Sg**	**09 41 21.8**	**+0.2**
JSB	**Shiboa**	**1.04**	**291**	P	**Pg**	**09 41 14.1**	**-0.3**
JSB				S	**Sg**	**09 41 27.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.35**	**269**	Pn	**Pn**	**09 41 34.0**	**-0.3**
15nm,0.3s,baz=76,slow=11,SNR=86							
MJAR				Sn	**Sn**	**09 42 04.3**	**+0.4**
28nm,0.3s,baz=163,slow=22,SNR=8.9							
MJAR				LR	LR	09 42 39.8	
comp=Z,197nm,19.4s,baz=125,slow=46							
MAJO	**Matsushiro**	**2.35**	**269**	*e*Pn	**Pn**	**09 41 34.5**	**+0.1**
MAJO				*e*Sn	**Sn**	**09 42 04.3**	**+0.4**
MAT	**Matsushiro**	**2.35**	**269**	P	**Pn**	**09 41 34.4**	**+0.1**
MAT				S	**Sb**	**09 42 05.1**	**-2.2**
ASAJ	**Asahikawa**	**7.59**	**8**	Pn	**Pn**	**09 42 43.7**	**-2.5**
0.9nm,0.3s,baz=209,slow=18,SNR=4.1							
ASAJ				Sn	**Sn**	**09 44 12.2**	**-0.5**
0.7nm,0.3s,baz=212,slow=31,SNR=6.4							
ASAJ	**Asahikawa**	**7.59**	**8**	*e*Pn	**Pn**	**09 42 46.0**	**-0.2**
ASAJ				*e*Sn	**Sn**	**09 44 13.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.30**	**320**	Pn	**Pn**	**09 43 26.2**	**+2.9**
0.1nm,0.3s,baz=125,slow=18,SNR=2.6							
KSRS	**Korea Array**	**10.60**	**279**	Pn	**Pn**	**09 43 30.8**	**+3.4**
0.1nm,0.3s,baz=95,slow=14,SNR=6.4							
KSRS				LR	LR	09 47 09.7	
comp=Z,72nm,18.5s,baz=67,slow=35							
KSAR	**Wonju Array Be**	**10.63**	**278**	Pn	**Pn**	**09 43 30.8**	**+3.0**
SONM	**Songino Array**	**27.84**	**305**	P	**P**	**09 46 47.7**	**+2.2**
1.0nm,0.7s,baz=115,slow=9.7,SNR=4.4							
SONM				LR	LR	09 57 19.7	
comp=Z,56nm,18.7s,baz=272,slow=35							
H11N2	**WAKE ISLAND Hy 28.13**	**120**		T	T	10 16 22.1	
baz=313,slow=75,SNR=463							
H11N1	**WAKE ISLAND Hy 28.14**	**120**		T	T	10 16 22.7	
baz=313,slow=75,SNR=406							
H11N3	**WAKE ISLAND Hy 28.14**	**120**		T	T	10 16 24.1	
baz=313,slow=75,SNR=395							
H11S1	**WAKE ISLAND Hy 28.82**	**122**		T	T	10 17 12.6	
baz=314,slow=76,SNR=824							
H11S3	**WAKE ISLAND Hy 28.82**	**122**		T	T	10 17 12.1	
baz=314,slow=76,SNR=719							
H11S2	**WAKE ISLAND Hy 28.84**	**122**		T	T	10 17 13.9	
baz=314,slow=76,SNR=485							
ZALV	**Zalesovo Beam**	**42.04**	**313**	P	**P**	**09 48 46.5**	**-0.8**
1.0nm,0.3s,baz=82,slow=10,SNR=2.6							
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**09 49 05.0**	**+0.4**
0.2nm,0.3s,baz=85,slow=4.9,SNR=2.4							
KURK	**Kurchatov**	**46.02**	**308**	*e*P	**P**	**09 49 18.1**	**-1.2**
31nm,0.9s							
ILAR	**Eielson Array**	**49.98**	**32**	P	**P**	**09 49 50.6**	**+0.8**
0.8nm,0.8s,baz=263,slow=5.8,SNR=9.4							
WRAB	**Tennant Creek**	**56.59**	**188**	*e*P	**P**	**09 50 38.6**	**-0.4**
1.3nm,0.8s							
WRA	**Warramunga Arr**	**56.60**	**188**	P	**P**	**09 50 37.7**	**-1.3**
1.1nm,0.6s,baz=4.1,slow=7.3,SNR=13							
ABKAR	**Akbulak array**	**58.04**	**310**	*e*P	**P**	**09 50 47.8**	**-1.1**
0.8nm,0.6s							
ASAR	**Alice Springs**	**60.33**	**188**	P	**P**	**09 51 04.8**	**-0.3**
0.7nm,0.8s,baz=6.1,slow=7.6,SNR=5.9							
FINES	**FINESS Array B**	**69.09**	**332**	P	**P**	**09 52 00.3**	**-1.5**
2.6nm,1.0s,baz=61,slow=18,SNR=2.6							
PDAR	**Pinedale Array**	**78.13**	**45**	P	**P**	**09 52 55.8**	**+0.2**
0.5nm,0.8s,baz=264,slow=6.0,SNR=4.7							
TXAR	**Lajitas Array**	**90.56**	**52**	P	**P**	**09 53 59.9**	**+1.1**
0.2nm,0.7s,baz=318,slow=2.6,SNR=3.9							

MEX 14 09:57:32.2±0.4, 16°.12N×96°.38W, h44km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.44**	**143**	*i* P	Pn	09 57 40.9	-1.4
HUIG				*e*S	Sn	09 57 47.5	-2.0
VHO	**Vista Hermosa**	**1.00**	**340**	*e*P	Pn	09 57 48.6	-1.5
VHO				*i* S	Sn	09 58 01.1	-2.1
PNIG	**Pinotepa**	**1.70**	**279**	*e*P	Pn	09 57 58.1	-1.3
PNIG				*i* S	Sn	09 58 17.9	-2.1

*ISCJB **14** 10:01:00.3±0.2, 2°.64N±0°.02×128°.56E±0°.02, h33km, mb4.5/48, MS3.8/7, Error ellipse: s-maj=3.7km s-min=3.1km az=143.3*

*IDC **14** 10:01:01.7±2.2, 2°.59N×128°.45E, h33km±15km, mb4.2/18, mb1 4.3/18, mb1mx4.1/44, mbtmp4.4/18, MS3.6/6, Ms1 3.6/6, ms1mx3.2/34, Error ellipse: s-maj=23.5km s-min=12.0km az=77.0*

*BJI **14** 10:01:02.9, 1°.97N×128°.90E, h101km, mb4.6/33, mB4.8/23*

*DJA **14** 10:01:03.9±0.5, 3°.N±3°×12°.9E±°, h40km±6km, M4.9/28, mb5.0/28, mB5.4/13, MLv4.9/9, Mw(mB)4.8/13, Mwp6.2/1*

*NEIC **14** 10:01:04.3±1.1, 2°.60N×128°.52E, h60km±11km, mb4.7/22, Error ellipse: s-maj=8.8km s-min=5.8km az=50.0*

ISC 14 10:01:01.9±0.4, 2°.65N±0°.04×128°.55E±0°.05, h35km, n126, σ1°80/143, mb4.5/48, MS3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.18**	**289**	P	**Pn**	**10 01 48.7**	**-0.9**
SGSI				S	**Sn**	**10 02 28.9**	**+2.6**
LBMI	**Labuha**	**3.43**	**198**	P	**Pn**	**10 01 54.3**	**+1.4**
SWI	**Sorong**	**4.42**	**142**	P	**Pn**	**10 02 08.0**	**+1.4**
SWI				S	**Sn**	**10 02 57.4**	**+0.6**
KMSI	**Cibinong**	**5.01**	**246**	P	**Pn**	**10 02 16.4**	**+1.8**
KMSI				S	**Sn**	**10 03 12.2**	**+0.9**
MSAI	**Masohi**	**5.97**	**176**	P	**Pn**	**10 02 31.7**	**+3.9**
FAKI	**Fak Fak**	**6.66**	**146**	P	**Pn**	**10 02 39.7**	**+2.4**
FAKI				S	**Sn**	**10 03 51.4**	**-0.6**
FAKI	**Fak Fak**	**6.66**	**146**	*e*Pn	**Pn**	**10 02 39.7**	**+2.4**
FAKI				*e*Sn	**Sn**	**10 03 53.1**	**+1.1**
MRSI	**Marisa**	**6.95**	**252**	P	**Pn**	**10 02 43.4**	**+2.1**
261nm,0.6s,3μm0.8nm							
MRSI				S	**Sn**	**10 04 01.9**	**+2.8**
261nm,0.6s,3μm0.8nm							
APSI	**Ampana**	**7.75**	**243**	P	**Pn**	**10 02 53.7**	**+1.4**
178nm,0.7s,2μm0.6nm							
APSI				S	**Sn**	**10 04 20.5**	**+1.6**
178nm,0.7s,2μm0.6nm							
KDI	**Kendari**	**8.84**	**222**	P	**Pn**	**10 03 07.5**	**+0.2**
MPSI	**Maga**	**8.94**	**255**	P	**Pn**	**10 03 11.0**	**+2.3**
BBSI	**Bau Bau**	**10.05**	**216**	P	**Pn**	**10 03 25.7**	**+1.8**
26nm,1.2s,368nm							
MYLDM	**Lahad Datu**	**10.33**	**284**	*e*Pn	**Pn**	**10 03 30.4**	**+2.7**
MYLDM				*e*Sn	**Sn**	**10 05 23.4**	**+1.0**
TTSI	**Tana Toraja**	**10.40**	**237**	P	**Pn**	**10 03 28.9**	**+0.3**
SPSI	**Sidrap Palu**	**10.96**	**233**	P	**Pn**	**10 03 37.3**	**+0.9**
140nm,0.8s							
SPSI				S	**Sn**	**10 05 34.8**	**-3.0**
140nm,0.8s							
BNSI	**Bone**	**10.96**	**230**	P	**Pn**	**10 03 36.5**	**+0.1**
BNSI				S	**Sn**	**10 05 36.5**	**-1.4**
SMPI	**Sarmi**	**11.16**	**114**	P	Pn	10 03 44.9	+5.8
KKM	**Kota Kinabalu**	**12.75**	**286**	*e*Pn	**P**	**10 04 07.0**	**-4.6**
KKM				*e*Sn	**Sn**	**10 06 22.5**	**+0.7**
MMRI	**Maumere**	**12.85**	**209**	*e*Pn	**Pn**	**10 04 02.5**	**+0.2**
SOEI	**Soe**	**13.04**	**199**	P	**Pn**	**10 04 05.5**	**+0.6**
SOEI	**Soe**	**13.04**	**199**	*e*Pn	**Pn**	**10 04 06.3**	**+1.3**
EDFI	**Ende, Flores**	**13.23**	**211**	P	**Pn**	**10 04 07.8**	**+0.3**
TGY	**Tagaytay City**	**13.64**	**327**	LR	LR	10 10 37.6	
comp=Z,165nm,21.0s,baz=178,slow=42							
MTN	**Manton Dam**	**15.60**	**171**	*e*Pn	**Pn**	**10 04 40.6**	**+1.2**
61nm,1.4s							
MTN				*e*Sn	**Sn**	**10 07 28.1**	**-3.2**
PLAI	**Plampang**	**15.66**	**223**	P	**P**	**10 04 41.9**	**-2.0**
TWSI	**Taliwang, Sumb**	**16.22**	**226**	P	**P**	**10 04 49.0**	**-1.1**
SBUM	**Sibu**	**16.31**	**270**	*e*Pn	**P**	**10 04 50.5**	**-0.6**
85nm,1.1s							
SRBI	**Singaraja**	**17.05**	**231**	P	**P**	**10 04 58.7**	**-0.5**
STKI	**Sintang**	**17.25**	**262**	P	**P**	**10 05 01.1**	**-0.5**
KMMI	**Kalianget**	**17.45**	**236**	P	**P**	**10 05 05.6**	**+1.9**
273nm,1.2s,3μm							
JAGI	**Jajag, Banyuwa**	**18.11**	**232**	P	**P**	**10 05 12.2**	**+1.2**
JAGI	**Jajag, Banyuwa**	**18.11**	**232**	*e*P	**P**	**10 05 10.9**	**-0.1**
83nm,0.9s							
KSM	**Kuching**	**18.26**	**267**	*e*P	**Pn**	**10 05 13.3**	**+0.5**
33nm,1.0s							
GUMO	**Guam**	**19.45**	**55**	LR	LR	10 11 44.8	
comp=Z,197nm,22.0s,baz=226,slow=33							
DLV	**T Lat**	**21.91**	**296**	*e*P	**P**	**10 05 51.8**	**-0.8**
31nm,1.1s							
SARN	**Sarigan**	**21.96**	**49**	*e*P	**P**	**10 05 51.4**	**-1.5**
COEN	**Coen**	**21.97**	**139**	*e*P	**P**	**10 05 55.1**	**+2.1**
9.7nm,0.9s							
PMG	**Port Moresby**	**22.08**	**123**	LR	LR	10 15 43.9	
comp=Z,152nm,19.0s,baz=267,slow=40							
PMG	**Port Moresby**	**22.08**	**123**	*e*P	**P**	**10 05 52.4**	**-1.7**
12nm,0.9s							
SSLB	**Suanglung**	**22.26**	**341**	*e*P	**P**	**10 05 55.9**	**-0.2**
13nm,0.8s							
CISI	**Cisompet, Garu**	**23.03**	**244**	*e*P	**P**	**10 06 01.9**	**-2.5**
61nm,0.9s							
WRAB	**Tennant Creek**	**23.15**	**166**	*e*P	**P**	**10 06 05.3**	**-0.1**
68nm,1.5s							
WR1	**Warramunga Arr**	**23.16**	**166**	*e*P	**P**	**10 06 05.1**	**-0.4**
80nm,1.5s							
WRA	**Warramunga Arr**	**23.16**	**166**	P	**P**	**10 06 05.1**	**-0.4**
11nm,0.6s,baz=333,slow=11,SNR=29							
WRA				ScP	**ScP**	**10 13 27.9**	**-1.1**
0.8nm,0.8s,baz=340,slow=3.1,SNR=4.7							
WB2	**Warramunga Arr**	**23.16**	**166**	*e*P	**P**	**10 06 05.5**	**0.0**
TATO	**Taipei**	**23.22**	**344**	*e*P	**P**	**10 06 07.8**	**+1.8**
107nm,1.4s							
CGJI	**Cibinong**	**24.60**	**248**	P	**P**	**10 06 18.9**	**-0.2**
MYKOM	**Kota Tinggi**	**24.69**	**269**	*e*P	**P**	**10 06 20.7**	**+0.7**
31nm,0.8s							
KLSI		**24.89**	**253**	P	**P**	**10 06 22.4**	**+0.6**
MDSI	**Maura Dua**	**25.36**	**254**	P	**P**	**10 06 26.7**	**+0.7**
AS31	**Alice Springs**	**26.67**	**169**	*e*P	**P**	**10 06 37.4**	**-0.4**
3.0nm,0.6s							
AS31				*e*PcP	**PcP**	**10 10 00.9**	**-0.3**
ASAR	**Alice Springs**	**26.67**	**169**	P	**P**	**10 06 37.7**	**-0.1**
1.9nm,0.5s,baz=345,slow=7.2,SNR=32							
ASAR				PcP	**PcP**	**10 10 01.1**	**-0.2**
1.9nm,0.6s,baz=346,slow=2.2,SNR=7.6							
ASAR				ScP	**ScP**	**10 13 37.8**	**-1.1**
1.6nm,0.9s,baz=348,slow=3.0,SNR=6.8							
AS01	**Alice Springs**	**26.68**	**169**	*e*P	**P**	**10 06 37.7**	**-0.2**
AS01				*e*PcP	**PcP**	**10 10 01.0**	**-0.2**
KULM	**Kulim**	**27.95**	**276**	*e*P	**P**	**10 06 49.1**	**-0.3**
24nm,1.5s							
SKNT	**Sakolnakorn**	**28.02**	**302**	P	**P**	**10 06 52.6**	**+2.6**
18nm,0.9s							
SRAK	**Srakaew**	**28.51**	**295**	P	**P**	**10 06 53.1**	**-1.3**
33nm,0.8s							
PSI	**Prapat**	**29.59**	**271**	P	**P**	**10 07 03.6**	**-0.5**
2.8nm,0.7s,baz=90,slow=10,SNR=5.9							
NJ2	**Nanjing**	**30.64**	**344**	*e*P	**P**	**10 07 15.9**	**+2.9**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
UTTA	**Uttaradit**	**31.29**	**301**	P	**P**	**10 07 21.5**	**+2.5**
2.6nm,1.0s							
LAMP	**Lampang**	**32.41**	**301**	P	**P**	**10 07 32.0**	**+3.1**
3.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**32.98**	**301**	P	**P**	**10 07 34.0**	**+0.1**
1.5nm,0.4s,baz=122,slow=7.7,SNR=14							
CMAR				ScP	**ScP**	**10 14 00.8**	**+1.6**
1.3nm,0.4s,baz=109,slow=2.0,SNR=5.5							
CHTO	**Chiang Mai**	**33.13**	**301**	P	**P**	**10 07 37.0**	**+1.9**
CHTO	**Chiang Mai**	**33.13**	**301**	*e*P	**P**	**10 07 36.2**	**+1.0**
5.8nm,0.8s							
KMI	**Kunming**	**33.42**	**314**	P	**P**	**10 07 41.3**	**+3.4**
KMI				pmax	pmax		
comp=Z,19nm,0.5s							
KMI				pmax	pmax		
comp=Z,66nm,4.7s							
KS15	**Wonju Array Si**	**34.63**	**359**	*e*P	**P**	**10 07 49.4**	**+1.5**
KSRS	**Korea Array**	**34.64**	**359**	P	**P**	**10 07 49.0**	**+1.0**
4.6nm,0.7s,baz=176,slow=9.8,SNR=22							
MJAR	**Matsushiro Arr**	**34.89**	**14**	P	**P**	**10 07 49.4**	**-0.8**
2.7nm,0.6s,baz=183,slow=9.4,SNR=8.1							
XAN	**Xi'an**	**36.20**	**332**	P	**P**	**10 08 04.8**	**+3.2**
XAN				pmax	pmax		
comp=Z,14nm,0.8s							
XAN				pmax	pmax		
comp=Z,74nm,8.4s							
STKA	**Stephens Creek**	**36.51**	**161**	P	**P**	**10 08 04.4**	**+0.3**
12nm,0.7s,baz=333,slow=9.9,SNR=9.8							
STKA				LR	LR	10 25 40.2	
comp=Z,128nm,18.4s,baz=284,slow=40							
CD2	**Chengdu**	**36.59**	**323**	*e*P	**P**	**10 08 06.0**	**+1.1**
BJI	**Beijing**	**38.88**	**345**	P	**P**	**10 08 25.8**	**+1.8**
BJI				S	**S**	**10 14 15.9**	**-3.9**
BJI				pmax	pmax		
comp=Z,9.0nm,1.0s							
BJI				LR	LR		
comp=N,280nm,15.2s							
BJI				LR	LR		
comp=E,210nm,14.8s							
BJI				LR	LR		
comp=Z,82nm,18.6s							
ARMA	**Armidale**	**39.58**	**148**	*e*P	**P**	**10 08 31.2**	**+1.1**
46nm,1.6s							
LZH	**Lanzhou**	**40.36**	**328**	*e*P	**P**	**10 08 39.3**	**+2.7**
LZH				pP	sP	10 09 04.8	+14
LZH				sP	pP	10 09 17.9	+31
LZH				PP	**PnPn**	**10 10 18.3**	**+4.5**
LZH				pmax	pmax		
comp=Z,20nm,1.3s							
LZH				pmax	pmax		
comp=Z,72nm,5.2s							
LZH				LR	LR		
comp=N,170nm,13.6s							
LZH				LR	LR		
comp=E,190nm,13.5s							
LZH				LR	LR		
comp=Z,250nm,17.2s							
H11S3	**WAKE ISLAND Hy 40.53**	**64**		T	T	10 51 50.6	
baz=252,slow=75,SNR=132							
H11S2	**WAKE ISLAND Hy 40.55**	**64**		T	T	10 51 48.2	
baz=252,slow=75,SNR=59							
H11S1	**WAKE ISLAND Hy 40.55**	**64**		T	T	10 51 47.4	
baz=252,slow=75,SNR=58							
HHC	**Hu-ho-hao-te**	**41.00**	**340**	*e*P	**P**	**10 08 45.0**	**+3.2**
HHC				sP	sP	10 09 22.6	+26
HHC				S	**S**	**10 14 53.8**	**+1.9**
HHC				pmax	pmax		
comp=Z,21nm,1.1s							
HHC				pmax	pmax		
comp=Z,58nm,5.1s							
HHC				LR	LR		
comp=N,150nm,14.5s							
HHC				LR	LR		
comp=E,220nm,14.3s							
HHC				LR	LR		
comp=Z,130nm,12.8s							
H11N1	**WAKE ISLAND Hy 41.11**	**63**		T	T	10 52 27.3	
baz=250,slow=75,SNR=324							
H11N2	**WAKE ISLAND Hy 41.12**	**63**		T	T	10 52 28.2	
baz=250,slow=75,SNR=140							
H11N3	**WAKE ISLAND Hy 41.12**	**63**		T	T	10 52 28.7	
baz=250,slow=75,SNR=360							
USRK	**Ussuriysk Ar.**	**41.49**	**4**	P	**P**	**10 08 46.4**	**+0.8**
2.5nm,0.6s,baz=176,slow=6.1,SNR=6.9							
MDJ	**Mudanjiang**	**41.80**	**1**	P	**P**	**10 08 50.3**	**+2.1**
MDJ				pP	sP	10 09 15.4	+13
MDJ				sP	pP	10 09 28.1	+30
MDJ				PcS	**PcS**	**10 14 34.4**	**-0.9**
MDJ				S	**S**	**10 14 58.1**	**-5.3**
MDJ				pmax	pmax		
comp=Z,5.0nm,1.3s							
TAPN	**Taplejung**	**46.11**	**306**	*e*P	**P**	**10 09 24.2**	**+0.7**
ODAN	**Odare**	**46.17**	**305**	*e*P	**P**	**10 09 25.0**	**+1.2**
RAMN	**Ramite**	**46.85**	**305**	*e*P	**P**	**10 09 30.1**	**+0.9**
30nm,0.7s							
JIRN	**Jiri**	**47.47**	**306**	*e*P	**P**	**10 09 34.8**	**+0.6**
156nm,0.7s							
GUN	**Gumba**	**47.82**	**306**	*e*P	**P**	**10 09 37.5**	**+0.6**
39nm,0.7s							
PKI	**Pulchoki**	**48.07**	**305**	*e*P	**P**	**10 09 39.0

3.3nm,0.8s,baz=123,slow=7.3,SNR=8.2
BVAR Borovoye Array 69.21 327 P P 10 12 04.7 -0.4
BVAR Borovoye Array 69.21 327 P P 10 12 04.7 -0.4
ABKAR Akbulak array 74.13 321 *eP* **P 10 12 33.5 -1.3**
17nm,0.8s
VNDA Vanda 82.14 173 P P 10 13 17.6 -1.0
1.3nm,0.6s,baz=317,slow=6.6,SNR=5.4
VNDA LR LR 10 49 59.6
comp=Z,51nm,18.3s,baz=294,slow=36
RAYN Ar Rayn 82.57 293 *eP* **P 10 13 21.5 -0.6**
4.4nm,0.8s
ILAR Eielson Array 85.30 25 P P 10 13 35.0 0.0
0.4nm,0.5s,baz=247,slow=5.5,SNR=6.8
ILB Eielson Array 85.30 25 *eP* **P 10 13 35.0 0.0**
ARA0 ARCESS Array S 92.08 340 *eP* **P 10 14 05.9 -1.3**
ARCES ARCESS Array B 92.08 340 P P 10 14 05.9 -1.3
2.7nm,0.8s,baz=85,slow=5.5,SNR=4.8
TXAR Lajitas Array 120.80 53 PKP **PKPdf 10 19 52.0 +0.7**
0.4nm,0.6s,baz=152,slow=0.5,SNR=5.9
TORD Torodi Ar. Bea 124.98 288 PKP **PKPdf 10 19 58.8 -0.7**
0.7nm,0.7s,baz=36,slow=1.9,SNR=5.4
TOA1 Torodi Ar. Sit 124.98 288 *e*PKPdf **PKPdf 10 19 58.8 -0.7**

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*HEL **14** 10:01:28.5±0.3, 67.°57N×34.°17E, h0km, ML2.2, Explosion*
*UPP **14** 10:01:29.8±3.3, 67.°56N×33.°92E, h0km, ML1.6*
*NAO **14** 10:01:30.8±1.3, 67.°72N×33.°74E, ML2.6*
*CSEM **14** 10:01:31.9±0.7, 67.°50N×33.°35E, h2km, ML2.6, Error ellipse: s-maj=15.0km s-min=7.3km az=110.0, Mining explosion.*

ISC 14 10:01:30.4±2.1, 67.°60N±0.°04×33.°8E±0.°1, h0km, n44, σ0.°86/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.13 259**		Pg	**Pg**	**10 01 34.0**	**+1.1**
APZ9				Lg	Lg	10 01 36.8	
APZ9	**Apatity**	**0.13 259**		Pg	**Pg**	**10 01 34.0**	**+1.1**
APZ9				Lg	Lg	10 01 36.8	
APZ9	**Apatity**	**0.13 259**		Pg	**Pg**	**10 01 34.0**	**+1.1**
APZ9				Lg	Lg	10 01 36.8	
	SNR=90						
APA0	**Apatity Array**	**0.29 273**		Pg	**Pg**	**10 01 36.6**	**+0.7**
	baz=68,slow=16						
APA0				Lg	Lg	10 01 41.2	
	baz=62,slow=37						
APA0				Rg	Rg	10 01 43.5	
	baz=72,slow=37						
APA0	**Apatity Array**	**0.29 273**		Pg	**Pg**	**10 01 36.6**	**+0.7**
	baz=68,slow=16						
APA0				Lg	Lg	10 01 41.2	
	baz=62,slow=37						
APA0				Rg	Rg	10 01 43.5	
	baz=72,slow=37						
APA0	**Apatity Array**	**0.29 273**		Pg	**Pg**	**10 01 36.6**	**+0.7**
	SNR=249						
APA0				Lg	Lg	10 01 41.2	
	SNR=50						
KU6	**Riekki**	**2.19 226**		PG	**Pb**	**10 02 09.7**	**-1.1**
	baz=47						
KU6				MSG		10 02 36.4	
	comp=Z,11nm,0.2s						
KU6				SG	**Sb**	**10 02 39.5**	**+1.0**
KU6	**Riekki**	**2.19 226**		Pg	**Pb**	**10 02 09.7**	**-1.1**
KU6				Sg	**Sb**	**10 02 39.5**	**+1.0**
MSF	**Maaselka**	**2.52 230**		PG	**Pb**	**10 02 15.4**	**-1.0**
MSF				SG	**Sb**	**10 02 49.1**	**+1.2**
MSF	**Maaselka**	**2.52 230**		Pg	**Pb**	**10 02 15.4**	**-1.0**
MSF				Sg	**Sb**	**10 02 49.1**	**+1.2**
SGF	**Sodankyl**	**2.78 270**		PG	**Pb**	**10 02 20.6**	**-0.2**
SGF				SB	**Sb**	**10 02 56.0**	**+0.7**
SGF	**Sodankyl**	**2.78 270**		Pg	**Pb**	**10 02 20.6**	**-0.2**
SGF				Sb	**Sb**	**10 02 56.0**	**+0.7**
RNF	**Rovaniemi**	**3.18 255**		PN	**Pn**	**10 02 22.7**	**+1.1**
RNF	**Rovaniemi**	**3.18 255**		Pn	**Pn**	**10 02 22.7**	**+1.1**
KEV	**Kevo**	**3.28 314**		PN	**Pn**	**10 02 23.3**	**+0.4**
KEV				SN	**Sn**	**10 03 02.3**	**-0.3**
KEV	**Kevo**	**3.28 314**		Pn	**Pn**	**10 02 23.3**	**+0.4**
KEV				Sn	**Sn**	**10 03 02.3**	**-0.3**
ARA0	**ARCESS Array S**	**3.60 307**		Pn	**Pn**	**10 02 27.2**	**-0.1**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**10 03 09.6**	**-0.8**
	baz=120,slow=28						
ARA0				Lg	Lg	10 03 21.0	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.60 307**		Pn	**Pn**	**10 02 27.2**	**-0.1**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**10 03 09.6**	**-0.8**
	baz=120,slow=28						
ARA0				Lg	Lg	10 03 21.0	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.60 307**		Pn	**Pn**	**10 02 27.2**	**-0.1**
	SNR=201						
ARA0				Sn	**Sn**	**10 03 09.6**	**-0.8**
	SNR=2.2						
ARA0				Lg	Lg	10 03 21.0	
	SNR=50						
ARE0	**ARCESS Array S**	**3.60 307**		PN	**Pn**	**10 02 26.8**	**-0.5**
	baz=120						
ARE0				SN	**Sn**	**10 03 09.6**	**-0.8**
ARE0	**ARCESS Array S**	**3.60 307**		Pn	**Pn**	**10 02 26.8**	**-0.5**
ARE0				Sn	**Sn**	**10 03 09.6**	**-0.8**
HEF	**Hetta**	**3.88 287**		PN	**Pn**	**10 02 31.6**	**+0.4**
	baz=102						
HEF				SN	**Sn**	**10 03 17.4**	**0.0**
HEF	**Hetta**	**3.88 287**		Pn	**Pn**	**10 02 31.6**	**+0.4**
HEF				Sn	**Sn**	**10 03 17.4**	**0.0**
TOF	**Tornio**	**4.02 252**		PG	**Pb**	**10 02 43.5**	**+1.5**
TOF	**Tornio**	**4.02 252**		Pg	**Pb**	**10 02 43.5**	**+1.5**
OUL	**Oulu**	**4.04 235**		SG	**Sg**	**10 03 38.0**	**-2.1**
OUL	**Oulu**	**4.04 235**		Sg	**Sg**	**10 03 38.0**	**-2.1**
PAJU	**Pajala**	**4.16 267**		P	**Pn**	**10 02 34.8**	**-0.2**
PAJU	**Pajala**	**4.16 267**		P	**Pn**	**10 02 34.8**	**-0.2**
LANU	**Lannavaara**	**4.48 281**		P	**Pn**	**10 02 39.2**	**-0.2**
LANU	**Lannavaara**	**4.48 281**		P	**Pn**	**10 02 39.2**	**-0.2**
ERTU	**Ertsjaerv**	**4.64 262**		P	**Pn**	**10 02 41.4**	**-0.2**
ERTU				S	**Sn**	**10 03 35.9**	**-0.2**
ERTU	**Ertsjaerv**	**4.64 262**		PN	**Pn**	**10 02 41.4**	**-0.2**
ERTU				SN	**Sn**	**10 03 35.9**	**-0.2**
ERTU	**Ertsjaerv**	**4.64 262**		P	**Pn**	**10 02 41.4**	**-0.2**
ERTU				Sn	**Sn**	**10 03 35.8**	**-0.3**
KUA	**Kurravaara**	**5.10 280**		P	**Pn**	**10 02 47.2**	**-0.8**
KUA	**Kurravaara**	**5.10 280**		P	**Pn**	**10 02 47.2**	**-0.8**
HARU	**Harads**	**5.23 260**		P	**Pn**	**10 02 48.2**	**-1.5**
HARU	**Harads**	**5.23 260**		P	**Pn**	**10 02 48.2**	**-1.5**
SJUU	**Sjulsmark**	**5.28 252**		P	**Pn**	**10 02 50.0**	**-0.4**
SJUU	**Sjulsmark**	**5.28 252**		P	**Pn**	**10 02 50.0**	**-0.4**
NIKU	**Nikkaluokta**	**5.60 280**		P	**Pn**	**10 02 54.8**	**0.0**
NIKU	**Nikkaluokta**	**5.60 280**		P	**Pn**	**10 02 54.8**	**0.0**
FIA0	**FINESS Array S**	**7.00 212**		Pn	**Pn**	**10 03 14.5**	**+0.5**
	baz=32,slow=14						
FIA0	**FINESS Array S**	**7.00 212**		Pn	**Pn**	**10 03 14.5**	**+0.5**
	baz=32,slow=14						

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*IDC **14** 10:02:07.4±2.6, 36.°07N×140.°94E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/51, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=71.8km s-min=26.3km az=57.0*
*ISCJB **14** 10:02:17.7±0.7, 35.°71N±0.°05×140.°07E±0.°07, h78km±5km, mb3.6/3, Error ellipse: s-maj=10.9km s-min=6.3km az=147.7*
*JMA **14** 10:02:17.9±0.2, 35.°81N×140.°13E, h66km±2km, M3.0*

ISC 14 10:02:18.8±1.1, 35.°72N±0.°05×140.°07E±0.°07, h72km±7km, n20, σ1.°06/23, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.26 263**		P	**Pn**	**10 02 29.8**	**-0.1**
TOK				*e*S	**Sn**	**10 02 38.7**	**+0.7**
JCN	**Nagara**	**0.32 160**		P	**Pn**	**10 02 30.0**	**-0.4**
JCN				S	**Sn**	**10 02 39.8**	**+1.0**
JAG	**Ashikaga**	**0.86 325**		P	**Pn**	**10 02 34.5**	**-1.3**
JOD2	**Odawara 2**	**0.92 241**		P	**Pn**	**10 02 35.9**	**-0.6**
JOD2				S	**Sn**	**10 02 48.8**	**-0.8**
BSO3	**Boso 3**	**0.98 158**		P	**Pn**	**10 02 36.1**	**-0.9**
BSO3				S	**Sn**	**10 02 51.1**	**+0.6**
JRY	**Ryogami san**	**0.99 288**		P	**Pn**	**10 02 37.3**	**-0.1**
JIM2	**Oshima 3**	**1.13 208**		P	**Pn**	**10 02 37.9**	**-1.2**
JIM2				S	**Sn**	**10 02 52.9**	**-1.3**
JKT	**Katashina**	**1.24 328**		P	**Pn**	**10 02 39.4**	**-1.1**
JKT				*e*S	**Sn**	**10 02 55.5**	**-1.3**
JYN	**Shimob**	**1.26 260**		P	**Pn**	**10 02 40.6**	**-0.2**
JYN				S	**Sn**	**10 02 57.3**	**0.0**
MJAR	**Matsushiro Arr**	**1.71 299**		Pn	**Pn**	**10 02 46.5**	**-0.3**
	13nm,0.3s,baz=101,slow=14,SNR=140						
MJAR				Sn	**Sn**	**10 03 10.3**	**+2.4**
	7.5nm,0.3s,baz=146,slow=10,SNR=2.4						
MAT	**Matsushiro**	**1.72 299**		P	**Pn**	**10 02 46.7**	**0.0**
MAT				S	**Sn**	**10 03 07.6**	**-0.3**
H11N2	**WAKE ISLAND Hy 28.46 117**			T	T	10 38 20.8	
	baz=310						
H11N1	**WAKE ISLAND Hy 28.47 117**			T	T	10 38 04.6	
	baz=310						
H11N3	**WAKE ISLAND Hy 28.48 117**			T	T	10 37 58.4	
	baz=310						
H11S1	**WAKE ISLAND Hy 29.11 119**			T	T	10 38 15.7	
	baz=314						
H11S3	**WAKE ISLAND Hy 29.11 119**			T	T	10 38 40.7	
	baz=314						
H11S2	**WAKE ISLAND Hy 29.13 119**			T	T	10 38 41.1	
	baz=314						
KURBB	**Kurchatov Arra**	**45.97 309**		P	**Pn**	**10 10 34.2**	**-0.3**
	0.6nm,0.6s,baz=79,slow=7.8,SNR=9.1						
WRA	**Warramunga Arr**	**55.62 187**		P	**Pn**	**10 11 47.0**	**-0.3**
	0.6nm,0.4s,baz=0.9,slow=7.6,SNR=7.5						
ASAR	**Alice Springs**	**59.35 187**		P	**Pn**	**10 12 15.4**	**+1.9**
	0.2nm,0.4s,baz=0.4,slow=5.1,SNR=4.4						

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*KRSC **14** 10:03:16.3±1.3, 56.°18N×163.°26E, h19km±8km, ML4.7, FELT [IV] at Krutoberegovo; [III-IV] at Ust-Kamchatsk; [III] at cape Afrika.*
*IDC **14** 10:03:16.9±0.7, 56.°18N×163.°00E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.0/48, mbtmp4.1/14, ML3.4/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/40, Error ellipse: s-maj=31.3km s-min=13.7km az=146.0*
*ISCJB **14** 10:03:17.0±0.8, 56.°22N±0.°03×163.°17E±0.°04, h8km±5km, mb4.3/27, MS3.3/2, Error ellipse: s-maj=5.4km s-min=3.2km az=155.6*
*MOS **14** 10:03:19.3±1.0, 56.°26N×163.°06E, h28km, mb4.4/15, Error ellipse: s-maj=9.8km s-min=4.5km az=58.0*
*NEIC **14** 10:03:22.3±0.3, 56.°33N×162.°79E, h35km, mb4.5/13, Error ellipse: s-maj=15.1km s-min=6.3km az=143.0*

ISC 14 10:03:18.9±1.2, 56.°30N±0.°05×162.°97E±0.°04, h10km±7km, n125, σ1.°32/139, mb4.3/27, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.15 253**		PN	**Pg**	**10 03 22.0**	**-0.2**
KBG	**Krutoberegovo**	**0.15 253**		*e*P	**Pg**	**10 03 22.0**	**-0.2**
KBG				*e*S	**Sg**	**10 03 25.9**	**+1.3**
SRKR	**Sorokina**	**1.06 290**		PN	**Pg**	**10 03 39.5**	**+0.3**
SRKR	**Sorokina**	**1.06 290**		*i* P	**Pg**	**10 03 39.5**	**+0.3**
ZLN	**Zelenaya**	**1.24 258**		PN	**Pb**	**10 03 42.0**	**-0.5**
ZLN	**Zelenaya**	**1.24 258**		*e*P	**Pb**	**10 03 42.0**	**-0.5**
CIRR	**Tsirk**	**1.25 262**		PN	**Pb**	**10 03 42.1**	**-0.6**
CIRR				S	**Sg**	**10 03 59.8**	**+0.6**
CIRR	**Tsirk**	**1.25 262**		*e*P	**Pb**	**10 03 42.1**	**-0.6**
CIRR				*e*S	**Sg**	**10 03 59.8**	**+0.6**
KLY	**Klyuchi**	**1.29 272**		PN	**Pb**	**10 03 40.8**	**-2.4**
KLY				S	**Sb**	**10 03 58.1**	**-1.7**
KLY	**Klyuchi**	**1.29 272**		*e*P	**Pb**	**10 03 40.8**	**-2.4**
KLY				*e*S	**Sb**	**10 03 58.1**	**-1.7**
LGNR	**Loginova**	**1.29 261**		PN	**Pb**	**10 03 43.0**	**-0.4**
LGNR	**Loginova**	**1.29 261**		*e*P	**Pb**	**10 03 43.0**	**-0.4**
KRSR	**Krestovskiy**	**1.34 267**		PN	**Pn**	**10 03 43.0**	**-0.7**
KRSR	**Krestovskiy**	**1.34 267**		*e*P	**Pn**	**10 03 43.0**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.43 257**		PN	**Pn**	**10 03 44.4**	**-0.5**
BZWR				S	**Sb**	**10 04 04.7**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.43 257**		*e*P	**Pn**	**10 03 44.4**	**-0.5**
BZWR				*e*S	**Sb**	**10 04 04.7**	**+0.9**
BZMR	**Bezymyannaya**	**1.44 256**		PN	**Pn**	**10 03 44.6**	**-0.4**
BZMR	**Bezymyannaya**	**1.44 256**		*e*P	**Pn**	**10 03 44.6**	**-0.4**
KIRR	**Kirishev**	**1.51 258**		PN	**Pn**	**10 03 45.7**	**-0.4**
KIRR				S	**Sn**	**10 04 06.5**	**+0.6**
KIRR	**Kirishev**	**1.51 258**		*e*P	**Pn**	**10 03 45.7**	**-0.4**
KIRR				*e*S	**Sn**	**10 04 06.5**	**+0.6**
KPT	**Kopyto**	**1.57 259**		PN	**Pn**	**10 03 47.0**	**+0.1**
KPT				S	**Sg**	**10 04 09.5**	**+0.1**
KPT	**Kopyto**	**1.57 259**		*e*P	**Pn**	**10 03 47.0**	**+0.1**
KPT				*e*S	**Sg**	**10 04 09.5**	**+0.1**
KMNR	**Kamenistaya**	**1.63 252**		PN	**Pn**	**10 03 47.5**	**-0.1**
KMNR				S	**Sn**	**10 04 09.7**	**+1.0**
KMNR	**Kamenistaya**	**1.63 252**		*e*P	**Pn**	**10 03 47.5**	**-0.1**
KMNR				*e*S	**Sn**	**10 04 09.7**	**+1.0**
KOZ	**Kozyrevsk**	**1.75 263**		PN	**Pn**	**10 03 50.2**	**+1.0**
KOZ				S	**Sg**	**10 04 15.1**	**+0.1**
KOZ	**Kozyrevsk**	**1.75 263**		*e*P	**Pn**	**10 03 50.2**	**+1.0**
KOZ				*e*S	**Sg**	**10 04 15.1**	**+0.1**
TUMD	**Tumrok D**	**1.82 234**		*e*P	**Pn**	**10 03 49.6**	**-0.6**
MKZ	**Mys Kozlova**	**1.89 203**		PN	Pn	10 03 49.0	-2.0
MKZ				S	**Sn**	**10 04 13.1**	**-1.7**
MKZ	**Mys Kozlova**	**1.89 203**		*e*P	Pn	10 03 49.0	-2.0
MKZ				*e*S	**Sn**	**10 04 13.1**	**-1.7**
TUMR	**Tumrok**	**1.89 239**		PN	**Pn**	**10 03 49.6**	**-1.7**
TUMR	**Tumrok**	**1.89 239**		*e*P	**Pn**	**10 03 51.4**	**+0.1**
KZV	**Kizimen**	**1.93 233**		PN	**Pn**	**10 03 51.7**	**-0.1**
KZV	**Kizimen**	**1.93 233**		*e*P	**Pn**	**10 03 51.7**	**-0.1**
BKI	**Bering**	**2.02 122**		PN	Pn	10 03 49.0	-3.9
BKI				S	Sn	10 04 13.1	-5.1
BKI	**Bering**	**2.02 122**		*e*P	Pn	10 03 49.0	-3.9
BKI				*e*S	Sn	10 04 13.1	-5.1
ESO	**Esso**	**2.42 263**		PN	**Pn**	**10 03 59.7**	**+1.2**
ESO				S	**Sb**	**10 04 31.4**	**-0.9**
ESO	**Esso**	**2.42 263**		*e*P	**Pn**	**10 03 59.7**	**+1.2**
ESO				*e*S	**Sb**	**10 04 31.4**	**-0.9**
KII	**Karymskiy**	**3.04 223**		PN	**Pn**	**10 04 07.3**	**+0.3**
KII	**Karymskiy**	**3.04 223**		*e*P	**Pn**	**10 04 07.3**	**+0.3**
SPN	**Mys Shipunski**	**3.63 209**		PN	Pn	10 04 13.1	-2.0
SPN	**Mys Shipunski**	**3.63 209**		*i* P	Pn	10 04 13.1	-2.0
SPN				*i* S	**Sn**	**10 04 54.8**	**-3.2**
NLC	**Nalytchevo**	**3.77 215**		PN	**Pn**	**10 04 16.6**	**-0.4**
NLC				S	**Sn**	**10 05 00.9**	**-0.5**
NLC	**Nalytchevo**	**3.77 215**		*i* P	**Pn**	**10 04 16.6**	**-0.4**
NLC				*i* S	**Sn**	**10 05 00.9**	**-0.5**
SDLR	**Sedlovina**	**3.84 220**		PN	**Pn**	**10 04 18.4**	**+0.3**
SDLR				S	**Sn**	**10 05 05.6**	**+2.3**
SDLR	**Sedlovina**	**3.84 220**		*e*P	**Pn**	**10 04 18.4**	**+0.3**
SDLR				*e*S	**Sn**	**10 05 05.6**	**+2.3**
KRX	**Arik**	**3.86 222**		PN	**Pn**	**10 04 20.1**	**+1.7**
KRX	**Arik**	**3.86 222**		*e*P	**Pn**	**10 04 20.1**	**+1.7**
KRER	**Koryakskii**	**3.87 221**		PN	**Pn**	**10 04 19.2**	**+0.7**
KRER	**Koryakskii**	**3.87 221**		*e*P	**Pn**	**10 04 19.2**	**+0.7**
GNL	**Ganaly**	**3.90 230**		PN	**Pn**	**10 04 19.4**	**+0.6**
GNL	**Ganaly**	**3.90 230**		*e*P	**Pn**	**10 04 19.4**	**+0.6**
AVH	**Avacha**	**3.91 221**		PN	**Pn**	**10 04 19.7**	**+0.8**
AVH	**Avacha**	**3.91 221**		*e*P	**Pn**	**10 04 19.7**	**+0.8**
UGLR	**Uglovaya**	**3.92 220**		PN	**Pn**	**10 04 19.5**	**+0.4**
UGLR	**Uglovaya**	**3.92 220**		*e*P	**Pn**	**10 04 19.5**	**+0.4**
KOK	**Koryaka**	**3.92 222**		PN	**Pn**	**10 04 21.3**	**+2.2**
KOK	**Koryaka**	**3.92 222**		*e*P	**Pn**	**10 04 21.3**	**+2.2**
DALK	**Dalny**	**4.09 219**		PN	**Pn**	**10 04 21.4**	**+0.1**
DALK	**Dalny**	**4.09 219**		*e*P	**Pn**	**10 04 21.4**	**+0.1**
DALK				*e*S	**Sn**	**10 05 08.2**	**-1.0**
PET	**Petropavlovsk**	**4.13 219**		*e*PN	**Pn**	**10 04 21.5**	**-0.4**
PET				pmax	pmax		
	comp=Z,197nm,0.5s						
PET				MLR	MLR		
	comp=Z,500nm,13.0s						
PET				MLR	MLR		
	comp=Z,800nm,17.0s						
PET	**Petropavlovsk**	**4.13 219**		*e*P	**Pn**	**10 04 22.6**	**+0.7**
PET				*e*S	**Sn**	**10 05 11.1**	**+0.9**
PET	**Petropavlovsk**	**4.13 219**		*e*Pn	**Pn**	**10 04 21.8**	**-0.1**
PET				*e*Sn	**Sn**	**10 05 09.6**	**-0.6**
PETK	**Petropavlovsk-**	**4.42 226**		Pn	**Pn**	**10 04 26.2**	**+0.2**
	comp=Z,5.8nm,0.3s,baz=61,slow=16,SNR=36						
PETK				Sn	**Sn**	**10 05 25.3**	**+7.8**
	comp=Z,2.1nm,0.3s,baz=54,slow=30,SNR=1.1						
KRMR	**Karymshinskiy**	**4.47 221**		PN	**Pn**	**10 04 28.4**	**+1.8**
KRMR				S	**Sn**	**10 05 20.6**	**+1.9**
KRMR	**Karymshinskiy**	**4.47 221**		*e*P	**Pn**	**10 04 28.4**	**+1.8**
KRMR				*e*S	**Sn**	**10 05 20.6**	**+1.9**
TILK	**Tilichiki**	**4.48 21**		PN	Pn	10 04 25.1	-1.6
TILK	**Tilichiki**	**4.48 21**		*e*P	Pn	10 04 25.1	-1.6
RUS	**Russkaya**	**4.67 216**		PN	**Pn**	**10 04 28.8**	**-0.5**
RUS	**Russkaya**	**4.67 216**		*e*P	**Pn**	**10 04 28.8**	**-0.5**
MTVR	**Mutnovka**	**4.74 218**		PN	**Pn**	**10 04 30.5**	**+0.1**
MTVR	**Mutnovka**	**4.74 218**		*i* P	**Pn**	**10 04 30.5**	**+0.1**
APC	**Apacha**	**4.78 227**		PN	**Pn**	**10 04 32.7**	**+1.9**
APC	**Apacha**	**4.78 227**		*e*P	**Pn**	**10 04 32.7**	**+1.9**
ASAK	**Asacha**	**4.92 219**		PN	**Pn**	**10 04 35.0**	**+2.2**
ASAK	**Asacha**	**4.92 219**		*e*P	**Pn**	**10 04 35.0**	**+2.2**
SKR	**Severo-Kuril's**	**6.95 219**		*e*PN	**Pn**	**10 05 01.4**	**+0.8**
MA2	**Magadan**	**7.28 302**		LR	LR	10 08 12.2	
	comp=Z,236nm,18.6s,baz=157,slow=40						
ASAJ	**Asahikawa**	**17.77 235**		P	**Pn**	**10 07 26.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=20,slow=7.9,SNR=3.2						
YAK	**Yakutsk**	**17.85 302**		*e*P	**Pn**	**10 07 27.5**	**+0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**23.00 251**		P	**P**	**10 08 24.6**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=69,slow=9.4,SNR=2.0						
COLD	**Coldfoot**	**24.05 44**		*e*P	**P**	**10 08 34.0**	**+0.3**
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**24.61 53**		*e*P	**P**	**10 08 39.2**	**+0.3**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MCK	**McKinley**	**24.61 53**		*e*P	**P**	**10 08 39.2**	**+0.3**
	comp=Z,2.6nm,0.4s						
PMR	**Palmer**	**24.79 58**		*e*P	**P**	**10 08 41.1**	**+0.6**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMR	**Palmer**	**24.79 58**		*e*P	**P**	**10 08 41.1**	**+0.6**
	comp=Z,5.7nm,0.9s						
COLA	**College**	**25.00 50**		*e*P	**P**	**10 08 42.3**	**0.0**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	**College**	**25.00 50**		*e*P	**P**	**10 08 42.3**	**0.0**
	comp=Z,2.4nm,0.6s						
ILAR	**Eielson Array**	**25.42 50**		P	**P**	**10 08 45.5**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=263,slow=7.7,SNR=26						
ILAR				LR	LR	10 19 45.7	
	comp=Z,87nm,18.8s,baz=254,slow=39						
MAJO	**Matsushiro**	**25.86 231**		*e*P	**P**	**10 08 47.9**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,41nm,1.0s						
MJAR	**Matsushiro Arr**	**25.86 231**		P	**P**	**10 08 48.5**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=20,slow=8.8,SNR=3.3						
INK	**Inuvik**	**30.33 41**		P	**P**	**10 09 30.5**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=301,slow=8.4,SNR=4.0						
SONM	**Songino Array**	**34.88 280**		P	**P**	**10 10 08.9**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=141,slow=5.0,SNR=2.6						
H11N2	**WAKE ISLAND Hy 36.63 174**			T	T	10 49 11.6	
	baz=357,slow=76,SNR=2071						
H11N3	**WAKE ISLAND Hy 36.65 174**			T	T	10 49 10.6	
	baz=357,slow=76,SNR=1778						
H11N1	**WAKE ISLAND Hy 36.65 174**			T	T	10 49 14.8	
	baz=357,slow=76,SNR=2470						
H11S1	**WAKE ISLAND Hy 37.83 174**			T	T	10 50 40.5	
	baz=347						
H11S3	**WAKE ISLAND Hy 37.85 174**			T	T	10 50 46.0	
	baz=347						
H11S2	**WAKE ISLAND Hy 37.85 174**			T	T	10 50 44.9	
	baz=347						
YKA	**Yellowknife Ar**	**39.70 46**		P	**P**	**10 10 50.8**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=301,slow=8.0,SNR=11						
YKA	**Yellowknife Ar**	**39.70 46**		*i* P	**P**	**10 10 51.0**	**+0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FFC	**Flin Flon**	**49.62 49**		*e*P	**P**	**10 12 10.2**	**+0.2**
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FFC	**Flin Flon**	**49.62 49**		*e*P	**P**	**10 12 10.2**	**+0.2**
	comp=Z,9.0nm,1.0s						
BRVK	**Borovoye**	**49.75 308**		*e*P	**P**	**10 12 09.2**	**-1.7**
BRVK	**Borovoye**	**49.75 308**		*e*P	**P**	**10 12 09.2**	**-1.7**
	comp=Z,10nm,0.6s						
PDAR	**Pinedale Array**	**54.56 65**		P	**P**	**10 12 47.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=347,slow=2.0,SNR=10						
AAK	**Ala-Archa**	**55.16 296**		*e*P	**P**	**10 12 49.5**	**-1.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**55.16 296**		*e*P	**P**	**10 12 49.5**	**-1.9**
	comp=Z,3.6nm,0.8s						
ULM	**Lac du Bonnet**	**55.44 50**		P	**P**	**10 12 53.1**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=320,slow=5.5,SNR=3.4						
ULM				LR	LR	10 36 36.6	
	comp=Z,32nm,20.6s,baz=336,slow=36						
O20A	**White River Ci**	**57.17 66**		*e*P	**P**	**10 13 06.5**	**+0.6**
	comp=Z,3.8nm,0.7s						
FINES	**FINESS Array B**	**57.82 337**		P	**P**	**10 13 10.7**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=19,slow=10,SNR=2.4						
ANMO	**Albuquerque**	**62.04 68**		*e*P	**P**

comp=Z,338nm,0.4s
CLCH Cerro Calan 1.33 195 *e*P Pn 10 25 26.3 +0.2
CLCH *e*S Sn 10 25 45.0 +0.2
CLCH IAML 10 25 50.4
comp=E,158nm,0.5s
RTCV Cerro Valdivia 1.36 80 *e*P Pn 10 25 26.3 -0.2
AAGR Agrelo 1.46 132 *e*P Pn 10 25 28.1 +0.4
RCDM Rinconada Maip 1.49 203 ⇓*i*P Pn 10 25 27.9 -0.1
RCDM *i*S Sn 10 25 48.1 0.0
RTLL Cerro Villicun 1.60 61 *e*P Pn 10 25 29.4 -0.1
AMOG MOGNA 1.81 50 *e*P Pn 10 25 32.5 +0.4
TLL Tololo Astrono 2.03 343 *i*S Sn 10 26 00.7 +0.3
ACAN Cantantal 2.49 95 *e*P Pn 10 25 39.8 -0.9
AVFE Valle Fertil 2.70 58 IAML 10 26 20.2
comp=Z,16nm,0.3s
APLL PUNTA DE LOS L 3.52 62 IAML 10 26 57.0
comp=Z,4.8nm,0.5s

*IDC **14** 10:29:06.1±1.4, 34°.17N×23°.92E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.6/37, mbtmp3.8/11, ML4.2/3, MS3.2/8, Ms1 3.2/8, ms1mx2.9/50, Error ellipse: s-maj=28.6km s-min=22.2km az=152.0*
*ATH **14** 10:29:07.9, 34°.23N×23°.72E, h18km±2km, ML3.3/5, Error ellipse: s-maj=4.4km s-min=1.7km az=21.0*
*HLW **14** 10:29:07.8, 34°.28N×24°.11E, h15km±10km, Md3.3, Ml3.4*
*ISCJB **14** 10:29:08.1±1.1, 34°.14N±0°.03×23°.96E±0°.05, h24km±9km, mb3.8/8, MS3.5/2, Error ellipse: s-maj=7.1km s-min=4.9km az=169.4*
*CSEM **14** 10:29:08.2±0.4, 34°.17N×23°.76E, h15km, ML3.3, Error ellipse: s-maj=11.1km s-min=7.0km az=82.0*
*THE **14** 10:29:10.6, 34°.40N×23°.75E, h3km±3km, ML3.3/6, Error ellipse: s-maj=4.1km s-min=2.6km az=263.0*
*ISK **14** 10:29:31.1, 35°.88N×25°.39E, h10km, ML2.9*
ISC 14 10:29:09.2±1.5, 34°.21N±0°.04×23°.84E±0°.04, h23km±11km, n104, σ2°.02/121, mb3.9/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.66**	**18**	P	**Pb**	**10 29 20.4**	**-1.7**
GVD				S	**Sb**	**10 29 27.9**	**-3.0**
GVD	**Gavdhos**	**0.66**	**18**	P	**Pb**	**10 29 21.3**	**-0.8**
GVD	**Gavdhos**	**0.66**	**18**	P	**Pb**	**10 29 21.3**	**-0.8**
SIVA	**Sivas**	**1.14**	**44**	P	**Pb**	**10 29 30.8**	**+0.6**
SIVA				S	**Sn**	**10 29 46.9**	**+2.3**
SIVA	**Sivas**	**1.14**	**44**	P	**Pb**	**10 29 31.7**	**+1.6**
SIVA				S	**Sn**	**10 29 45.5**	**+1.0**
SIVA				AML	AML	10 29 59.7	
	comp=N,7456μm,0.7s						
SIVA				AML	AML	10 30 01.8	
	comp=E,6556μm,0.5s						
SIVA	**Sivas**	**1.14**	**44**	P	**Pb**	**10 29 30.8**	**+0.6**
SIVA				S	**Sn**	**10 29 46.9**	**+2.3**
VAM	**Vamos**	**1.23**	**14**	P	**Pb**	**10 29 31.6**	**-0.2**
VAM				S	**Sn**	**10 29 46.3**	**-0.7**
VAM	**Vamos**	**1.23**	**14**	P	**Pb**	**10 29 31.3**	**-0.5**
VAM				S	**Sn**	**10 29 47.8**	**+0.8**
VAM				AML	AML	10 30 04.2	
	comp=E,2568μm,0.6s						
VAM				AML	AML	10 30 12.5	
	comp=N,2623μm,0.9s						
VAM	**Vamos**	**1.23**	**14**	P	**Pb**	**10 29 31.3**	**-0.5**
VAM				S	**Sn**	**10 29 47.8**	**+0.8**
IMMV	**Iera Moni Meta**	**1.26**	**5**	P	**Pn**	**10 29 30.0**	**-1.4**
IMMV				S	**Sn**	**10 29 47.0**	**-0.6**
IMMV	**Iera Moni Meta**	**1.26**	**5**	P	**Pn**	**10 29 30.9**	**-0.5**
IMMV				S	**Sn**	**10 29 49.4**	**+1.8**
IMMV				AML	AML	10 29 56.4	
	comp=E,6757μm,0.8s						
IMMV				AML	AML	10 30 05.2	
	comp=N,4332μm,0.7s						
IMMV	**Iera Moni Meta**	**1.26**	**5**	P	**Pn**	**10 29 30.9**	**-0.5**
IMMV				S	**Sn**	**10 29 49.4**	**+1.8**
IDI	**Anoyia**	**1.38**	**38**	Pn	**Pb**	**10 29 34.0**	**-0.3**
	comp=N,3.8nm,0.3s,baz=212,slow=14,SNR=28						
IDI				Sn	**Sb**	**10 29 56.9**	**+5.2**
	comp=N,14nm,0.3s,baz=299,slow=20,SNR=9.0						
IDI	**Anoyia**	**1.38**	**38**	P	**Pb**	**10 29 33.5**	**-0.9**
IDI				S	**Sb**	**10 29 52.0**	**+0.4**
IDI	**Anoyia**	**1.38**	**38**	P	**Pb**	**10 29 34.3**	**-0.1**
IDI				S	**Sb**	**10 29 54.9**	**+3.2**
IDI				AML	AML	10 30 05.8	
	comp=N,860μm,0.8s						
IDI				AML	AML	10 30 13.2	
	comp=E,824μm,0.6s						
IDI	**Anoyia**	**1.38**	**38**	P	**Pb**	**10 29 34.3**	**-0.1**
IDI				S	**Sb**	**10 29 54.8**	**+3.2**
LAST	**Lasithi**	**1.65**	**54**	P	**Pb**	**10 29 38.6**	**-0.4**
LAST				S	**Sb**	**10 30 00.6**	**+1.2**
LAST	**Lasithi**	**1.65**	**54**	P	**Pb**	**10 29 38.4**	**-0.6**
LAST				S	**Sb**	**10 30 03.5**	**+4.1**
LAST				AML	AML	10 30 28.4	
	comp=E,457μm,0.6s						
LAST				AML	AML	10 30 29.7	
	comp=N,533μm,1.0s						
LAST	**Lasithi**	**1.65**	**54**	P	**Pb**	**10 29 38.6**	**-0.4**
LAST				S	**Sb**	**10 30 00.6**	**+1.2**
ANKY	**Antikythira Is**	**1.72**	**345**	P	**Pb**	**10 29 39.1**	**-0.9**
ANKY	**Antikythira Is**	**1.72**	**345**	P	**Pb**	**10 29 39.1**	**-0.9**
NPS	**Neapolis**	**1.80**	**54**	P	**Pb**	**10 29 41.3**	**-0.2**
NPS	**Neapolis**	**1.80**	**54**	P	**Pb**	**10 29 41.3**	**-0.2**
KYTH	**Kithira**	**2.16**	**343**	P	**Pn**	**10 29 43.6**	**-0.2**
ZKR	**Zakros**	**2.16**	**64**	P	**Pb**	**10 29 47.1**	**-0.5**
ZKR	**Zakros**	**2.16**	**64**	P	**Pb**	**10 29 47.1**	**-0.5**
MHLO	**Agia Marina, M**	**2.52**	**10**	P	**Pb**	**10 29 50.9**	**-2.9**
MHLO	**Agia Marina, M**	**2.52**	**10**	P	**Pb**	**10 29 50.9**	**-2.9**
THR3	**Thira Island,**	**2.54**	**30**	P	**Pn**	**10 29 48.4**	**-0.6**
THR3	**Thira Island,**	**2.54**	**30**	P	**Pn**	**10 29 48.4**	**-0.6**
VLI	**Veliai**	**2.61**	**344**	P	**Pn**	**10 29 50.3**	**+0.3**
VLI	**Veliai**	**2.61**	**344**	P	**Pn**	**10 29 50.8**	**+0.8**
VLI	**Veliai**	**2.61**	**344**	P	**Pn**	**10 29 50.3**	**+0.3**
SLUM	**Salum**	**2.94**	**157**	P	**Pn**	**10 29 54.1**	**-0.4**
	baz=161						
SLUM	**Salum**	**2.94**	**157**	P	**Pn**	**10 29 54.1**	**-0.4**
KARP	**Karpathos**	**3.04**	**63**	*e*PN	**Pb**	**10 29 58.4**	**-4.2**
KARP	**Karpathos**	**3.04**	**63**	P	**Pb**	**10 29 58.3**	**-4.2**
KARP	**Karpathos**	**3.04**	**63**	P	**Pn**	**10 29 58.0**	**+2.1**
KARP	**Karpathos**	**3.04**	**63**	P	**Pn**	**10 29 58.0**	**+2.1**
KARP	**Karpathos**	**3.04**	**63**	*e*Pn	**Pb**	**10 29 58.4**	**-4.2**
APE	**Apeiranthos**	**3.17**	**25**	*e*PN	**Pn**	**10 29 54.3**	**-3.4**
APE				*e*SN	Sn	10 30 11.3	-24
APE	**Apeiranthos**	**3.17**	**25**	P	**Pn**	**10 29 58.9**	**+1.2**
APE	**Apeiranthos**	**3.17**	**25**	*e*Pn	**Pn**	**10 29 54.3**	**-3.4**
APE	**Apeiranthos**	**3.17**	**25**	P	**Pn**	**10 29 58.9**	**+1.2**
APE				*e*Sn	Sn	10 30 11.3	-24
NIS1	**Nisyros Isl.**	**3.63**	**48**	*e*PN	**Pb**	**10 29 59.8**	**-4.1**
NIS1	**Nisyros Isl.**	**3.63**	**48**	*e*Pn	**Pb**	**10 29 59.8**	**-4.1**
DAT	**Datca**	**3.95**	**49**	*e*PN	**Pn**	**10 30 05.7**	**-2.9**
DAT	**Datca**	**3.95**	**49**	*e*Pn	**Pn**	**10 30 05.7**	**-2.9**
CHOS	**Chios island**	**4.54**	**23**	*e*PN	**Pn**	**10 30 13.5**	**-3.0**
CHOS	**Chios island**	**4.54**	**23**	*e*Pn	**Pn**	**10 30 13.5**	**-3.0**
TURN	**Turunc**	**4.71**	**54**	*i*P	**Pn**	**10 30 15.0**	**-3.7**
TURN				*i*S	**Sn**	**10 31 05.0**	**-7.6**
TURN	**Turunc**	**4.71**	**54**	P	**Pn**	**10 30 15.0**	**-3.7**
DALY	**Dalyan (Mu¨la**	**4.71**	**55**	*e*PN	**Pn**	**10 30 17.3**	**-1.5**
DALY	**Dalyan (Mu¨la**	**4.71**	**55**	*i*P	**Pn**	**10 30 20.2**	**+1.4**
DALY				*i*S	**Sn**	**10 31 12.7**	**0.0**
DALY	**Dalyan (Mu¨la**	**4.71**	**55**	*e*Pn	**Pn**	**10 30 17.3**	**-1.5**
DALY	**Dalyan (Mu¨la**	**4.71**	**55**	P	**Pn**	**10 30 20.2**	**+1.4**
DALY				S	**Sn**	**10 31 12.7**	**0.0**
FETY	**Fethiye**	**4.92**	**59**	*e*PN	**Pn**	**10 30 21.3**	**-0.4**
FETY	**Fethiye**	**4.92**	**59**	*e*Pn	**Pn**	**10 30 21.3**	**-0.4**
AKAS	**Kas**	**5.13**	**65**	*e*PN	**Pn**	**10 30 26.9**	**+2.2**
AKAS	**Kas**	**5.13**	**65**	*i*P	**Pn**	**10 30 26.4**	**+1.7**
AKAS				*i*S	**Sn**	**10 31 23.0**	**-0.4**
AKAS	**Kas**	**5.13**	**65**	P	**Pn**	**10 30 26.4**	**+1.7**
AKAS	**Kas**	**5.13**	**65**	*e*Pn	**Pn**	**10 30 26.9**	**+2.2**
AKAS				S	**Sn**	**10 31 23.0**	**-0.4**
SWA2		**5.13**	**164**	P	**Pn**	**10 30 24.7**	**+0.1**
	baz=166						
SWA2				AMP		10 31 00.0	
	comp=E,70μm,0.8s,logA/T=4.9,baz=166						
SWA2				S	**Sn**	**10 31 23.5**	**+0.3**
	baz=166						
SWA2		**5.13**	**164**	P	**Pn**	**10 30 24.7**	**+0.1**
TAVA	**DENIZLI_Tavas**	**5.25**	**50**	*i*P	**Pn**	**10 30 28.7**	**+2.4**
GLHS	**Glhisar (BURDU**	**5.46**	**56**	*e*PN	**Pn**	**10 30 28.5**	**-0.8**
GLHS	**Glhisar (BURDU**	**5.46**	**56**	*e*Pn	**Pn**	**10 30 28.5**	**-0.8**
GOLH	**Golhisar**	**5.55**	**55**	*i*P	**Pn**	**10 30 30.9**	**+0.5**
GOLH	**Golhisar**	**5.55**	**55**	P	**Pn**	**10 30 30.9**	**+0.5**
ELL	**Elmali**	**5.56**	**61**	*e*PN	**Pn**	**10 30 30.9**	**+0.2**
ELL	**Elmali**	**5.56**	**61**	*e*Pn	**Pn**	**10 30 30.9**	**+0.2**
KULA	**Kula-Manisa**	**5.80**	**41**	*e*PN	**Pn**	**10 30 30.1**	**-3.7**
KULA	**Kula-Manisa**	**5.80**	**41**	*e*Pn	**Pn**	**10 30 30.1**	**-3.7**
KORT	**Korkueli**	**5.99**	**60**	*e*PN	**Pn**	**10 30 36.5**	**-0.1**
KORT	**Korkueli**	**5.99**	**60**	*i*P	**Pn**	**10 30 38.0**	**+1.5**
KORT	**Korkueli**	**5.99**	**60**	*e*Pn	**Pn**	**10 30 36.5**	**-0.1**
KORT	**Korkueli**	**5.99**	**60**	P	**Pn**	**10 30 38.0**	**+1.5**
TVSB	**Tavsanli**	**6.91**	**39**	*e*PN	**Pn**	**10 30 45.8**	**-3.3**
TVSB	**Tavsanli**	**6.91**	**39**	*e*Pn	**Pn**	**10 30 45.8**	**-3.3**
HFRF	**Wahat Farafira**	**8.02**	**150**	P	**Pn**	**10 31 04.5**	**+0.3**
	baz=151						
HFRF	**Wahat Farafira**	**8.02**	**150**	P	**Pn**	**10 31 04.5**	**+0.3**
GLL	**Jalalah**	**8.12**	**122**	P	**Pn**	**10 31 04.7**	**-1.1**
	baz=123						
GLL	**Jalalah**	**8.12**	**122**	P	**Pn**	**10 31 04.7**	**-1.1**
RSH		**8.94**	**109**	P	**Pn**	**10 31 15.3**	**-1.7**
	baz=109						
BRTR	**Keskin Array B**	**9.58**	**52**	Pn	**Pn**	**10 31 26.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=3.1						
HNKL	**Nakhl**	**9.60**	**114**	P	**Pn**	**10 31 24.9**	**-1.1**
	baz=114						
MMAI	**Mount Meron Ar**	**9.72**	**94**	LR	LR	10 37 21.4	
	comp=E,77nm,20.4s,baz=155,slow=51						
VRAC	**Vranov**	**16.02**	**343**	Pn	**P**	**10 32 55.3**	**-0.9**
	comp=E,0.7nm,0.3s,baz=151,slow=11,SNR=3.7						
VRAC				LR	LR	10 41 19.5	
	comp=E,156nm,19.3s,baz=170,slow=46						
GERES	**GERESS Array B**	**16.46**	**336**	Pn	**P**	**10 33 00.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=153,slow=12,SNR=8.0						
GERES				LR	LR	10 40 27.7	
	comp=E,69nm,18.1s,baz=138,slow=41						
KHC	**Kasperske Hory**	**16.74**	**336**	*e*P	**P**	**10 33 05.5**	**+1.2**
KHC				*ex*	x	10 33 11.9	
AKASG	**Malin Array Be**	**16.95**	**12**	Pn	**P**	**10 33 06.0**	**-0.4**
	comp=E,1.0nm,0.3s,baz=209,slow=10,SNR=5.1						
KVAR	**Kislovodsk Arr**	**17.55**	**51**	LR	LR	10 42 10.2	
	comp=E,39nm,18.9s,baz=212,slow=45						
KBZ	**Khabaz**	**17.57**	**52**	LR	LR	10 41 54.1	
	comp=E,32nm,19.6s,baz=207,slow=44						
GNI	**Garni**	**17.66**	**64**	LR	LR	10 41 27.7	
	comp=E,76nm,20.5s,baz=274,slow=42						
HFS	**Hagfors**	**26.78**	**349**	P	**P**	**10 34 46.4**	**-0.6**
	comp=E,1.6nm,0.5s,baz=141,slow=14,SNR=2.0						
FINES	**FINESS Array B**	**27.29**	**2**	LR	LR	10 46 52.5	
	comp=E,84nm,20.5s,baz=218,slow=39						
EKA	**Eskdalemuir Ar**	**28.22**	**327**	P	**P**	**10 35 01.6**	**+1.6**
	comp=E,1.1nm,0.5s,baz=129,slow=8.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**29.05**	**229**	P	**P**	**10 35 09.0**	**+1.2**
	comp=E,0.2nm,0.4s,baz=28,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**35.39**	**1**	P	**P**	**10 36 01.0**	**-1.9**
	comp=E,5.0nm,1.1s,baz=167,slow=8.3,SNR=5.2						
MKAR	**Makanchi Array**	**45.21**	**56**	P	**P**	**10 37 24.3**	**-0.1**
	comp=E,1.3nm,0.5s,baz=275,slow=7.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**46.45**	**45**	P	**P**	**10 37 34.7**	**+0.7**
	comp=E,0.6nm,0.3s,baz=282,slow=7.2,SNR=1.8						
SONM	**Songino Array**	**60.93**	**50**	P	**P**	**10 39 19.9**	**-0.4**
	comp=E,0.3nm,0.4s,baz=289,slow=9.0,SNR=3.5						
BOSA	**Boshof**	**62.49**	**179**	LR	LR	11 09 41.8	
	comp=E,62nm,19.3s,baz=29,slow=39						
KSRS	**Korea Array**	**79.72**	**52**	P	**P**	**10 41 15.4**	**+0.2**
	comp=E,0.5nm,0.5s,baz=297,slow=4.7,SNR=1.9						

*IDC **14** 10:38:33.8±6.0, 35°.68N×141°.88E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.4/3, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=143.4km s-min=38.5km az=44.0*
*ISCJB **14** 10:38:37.4±1.7, 35°.3N±0°.1×141°.6E±0°.2, h22km, mb3.4/2, Error ellipse: s-maj=20.0km s-min=12.7km az=151.4*
*JMA **14** 10:38:37.0±0.5, 35°.15N×141°.77E, h56km, M3.1*
ISC 14 10:38:39.8±2.3, 35°.2N±0°.1×141°.6E±0°.2, h22km, n12, σ1°.79/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.73**	**221**	P	**Pn**	**10 38 52.8**	**-1.5**
BSO1				*e*X		10 39 04.8	
CHOJ	**Chosi**	**0.75**	**311**	P	**Pb**	**10 38 53.9**	**-0.3**
CHOJ				*e*S	**Sn**	**10 39 08.0**	**+2.2**
BSO3	**Boso 3**	**0.95**	**245**	P	**Pn**	**10 38 56.2**	**-1.3**
BSO4	**Boso 4**	**1.02**	**258**	P	**Pn**	**10 38 58.0**	**-0.7**
JCN	**Nagara**	**1.12**	**281**	P	**Pn**	**10 39 00.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.02**	**297**	Pn	**Pn**	**10 39 23.9**	**-2.4**
	5.6nm,0.3s,baz=101,slow=14,SNR=57						
MJAR				Sn	Sn	10 39 48.1	-14
	3.7nm,0.3s,baz=147,slow=10,SNR=2.7						
MJAR				LR	LR	10 40 54.7	
	comp=Z,106nm,18.0s,baz=190,slow=46						
MAT	**Matsushiro**	**3.03**	**297**	P	**Pn**	**10 39 24.1**	**-2.3**
MAT				S	Sn	10 39 48.1	-14
H11S1	**WAKE ISLAND Hy**	**27.81**	**120**	T	T	11 13 54.8	
	baz=317,slow=74,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**27.81**	**120**	T	T	11 13 55.2	
	baz=317,slow=74,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	11 13 58.4	
	baz=317						
WRA	**Warramunga Arr**	**55.27**	**188**	P	**P**	**10 48 12.7**	**+1.2**
	0.3nm,0.4s,baz=2.3,slow=7.4,SNR=2.5						
ASAR	**Alice Springs**	**59.00**	**188**	P	**P**	**10 48 38.5**	**+0.7**
	0.2nm,0.9s,baz=22,slow=8.1,SNR=1.6						

*CSEM **14** 10:58:01.2, 43°.38N×12°.52E, h9km, MD1.9/19*
ROM 14 10:58:01.2±0.1, 43°.38N×12°.52E, h9km, Md1.9/19, Ml2.1/13, 2C, Error ellipse: s-maj=0.8km s-min=0.8km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.09**	**275**	Pg	Pg	10 58 03.6	+0.1
ATVO				Sg	Sg	10 58 05.2	+0.1
	1μm,0.2s						
ATVO	**AVT- Monte Val**	**0.09**	**275**	Pg	Pg	10 58 03.6	+0.1
ATVO				Sg	Sg	10 58 05.2	+0.1
	1μm,0.2s						
MURB	**Monte Urbino**	**0.11**	**179**	Pg	Pg	10 58 04.1	+0.2
MURB				Sg	Sg	10 58 06.4	+0.6
	2μm,0.3s						
MURB	**Monte Urbino**	**0.11**	**179**	Pg	Pg	10 58 04.1	+0.2
MURB				Sg	Sg	10 58 06.4	+0.6
	2μm,0.3s						
ATPC	**Poggio Castell**	**0.12**	**336**	Pg	Pg	10 58 04.5	+0.6
ATPC				Sg	Sg	10 58 07.3	+1.4
	1μm,0.3s						
ATPC	**Poggio Castell**	**0.12**	**336**	Pg	Pg	10 58 04.5	+0.6
ATPC				Sg	Sg	10 58 07.3	+1.4
	1μm,0.3s						
PIEI	**Pieia**	**0.16**	**3**	Pg	Pg	10 58 05.2	+0.5
PIEI				Sg	Sg	10 58 08.8	+1.7
	496nm,0.2s						
PIEI	**Pieia**	**0.16**	**3**	Pg	Pg	10 58 05.2	+0.5
PIEI				Sg	Sg	10 58 08.8	+1.7
	496nm,0.2s						
SSFR	**Montelago di S**	**0.20**	**72**	Pg	Pg	10 58 05.7	+0.4
SSFR				Sg	Sg	10 58 09.6	+1.5
	470nm,0.2s						
SSFR	**Montelago di S**	**0.20**	**72**	Pg	Pg	10 58 05.7	+0.4
SSFR				Sg	Sg	10 58 09.6	+1.5
	470nm,0.2s						
FRON	**Frontone**	**0.20**	**46**	Pg	Pg	10 58 05.9	+0.5
FRON				Sg	Sg	10 58 09.8	+1.5
	173nm,0.2s						
FRON	**Frontone**	**0.20**	**46**	Pg	Pg	10 58 05.9	+0.5
FRON				Sg	Sg	10 58 09.8	+1.5
	173nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.21**	**156**	Pg	Pg	10 58 06.0	+0.5
ATCC				Sg	Sg	10 58 10.1	+1.8
	332nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.21**	**156**	Pg	Pg	10 58 06.0	+0.5
ATCC				Sg	Sg	10 58 10.1	+1.8
	332nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.22**	**215**	Pg	Pg	10 58 07.1	+1.5
ATTE				Sg	Sg	10 58 10.9	+2.3
	659nm,1.8s						
ATTE	**AVT- Monte Tez**	**0.22**	**215**	Pg	Pg	10 58 07.1	+1.5
ATTE				Sg	Sg	10 58 10.9	+2.3
	659nm,1.8s						
BADI	**Badiali**	**0.24**	**304**	Pg	Pg	10 58 06.8	+0.7
BADI				Sg	Sg	10 58 11.2	+1.8
	415nm,0.2s						
BADI	**Badiali**	**0.24**	**304**	Pg	Pg	10 58 06.8	+0.7
BADI				Sg	Sg	10 58 11.2	+1.8
	415nm,0.2s						
ATMC	**Monte Cedrone**	**0.25**	**287**	Pg	Pg	10 58 06.8	+0.5
ATMC				Sg	Sb	10 58 11.1	-1.4
	216nm,0.1s						
ATMC	**Monte Cedrone**	**0.25**	**287**	Pg	Pg	10 58 06.8	+0.5
ATMC				Sg	Sb	10 58 11.1	-1.4
	216nm,0.1s						
MPAG	**Monte Paganucc**	**0.31**	**34**	Pg	Pg	10 58 07.9	+0.6
MPAG				Sg	Sb	10 58 13.3	-0.9
	76nm,0.7s						
MPAG	**Monte Paganucc**	**0.31**	**34**	Pg	Pg	10 58 07.9	+0.6
MPAG				Sg	Sb	10 58 13.3	-0.9
	76nm,0.7s						
SNTG	**Esanatoglia**	**0.33**	**111**	⇑Pg	Pg	10 58 08.0	+0.3
SNTG				Sg	Sb	10 58 13.7	-1.0
	156nm,0.2s						
SNTG	**Esanatoglia**	**0.33**	**111**	⇑Pg	Pg	10 58 08.0	+0.3
SNTG				Sg	Sb	10 58 13.7	-1.0
	156nm,0.2s						
ARVD	**Arcevia**	**0.33**	**68**	Pg	Pg	10 58 08.2	+0.5
ARVD				Sg	Sb	10 58 14.0	-0.7
	57nm,0.3s						
ARVD	**Arcevia**	**0.33**	**68**	Pg	Pg	10 58 08.2	+0.5
ARVD				Sg	Sb	10 58 14.0	-0.7
	57nm,0.3s						
PARC	**Parchiule**	**0.34**	**323**	Pg	Pg	10 58 08.6	+0.6
PARC				Sg	Sb	10 58 14.9	-0.2
PARC	**Parchiule**	**0.34**	**323**	Pg	Pg	10 58 08.6	+0.6
PARC				Sg	Sb	10 58 14.9	-0.2
FSSB	**Fossombrone**	**0.37**	**30**	Pg	Pg	10 58 09.0	+0.6
FSSB				Sg	Sb	10 58 15.6	-0.2
	188nm,0.3s						
FSSB	**Fossombrone**	**0.37**	**30**	Pg	Pg	10 58 09.0	+0.6
FSSB				Sg	Sb	10 58 15.6	-0.2
	188nm,0.3s						
CAFI	**Castiglion Fio**	**0.41**	**264**	Pg	Pg	10 58 09.7	+0.5
CAFI				Sg	Sb	10 58 15.9	-1.1
CAFI	**Castiglion Fio**	**0.41**	**264**	Pg	Pg	10 58 09.7	+0.5
CAFI				Sg	Sb	10 58 15.9	-1.1
CESI	**CESI - Serrava**	**0.46**	**143**	Pg	Pg	10 58 10.5	+0.3
CESI				Sg	Sb	10 58 18.1	-0.5
CESI	**CESI - Serrava**	**0.46**	**143**	Pg	Pg	10 58 10.5	+0.3
CESI				Sg	Sb	10 58 18.1	-0.5
FDMO	**Fiordimonte**	**0.53**	**129**	Pg	Pg	10 58 11.6	+0.1
FDMO				Sg	Sb	10 58 20.5	-0.1
FDMO	**Fiordimonte**	**0.53**	**129**	Pg	Pg	10 58 11.6	+0.1
FDMO				Sg	Sb	10 58 20.5	-0.1
SACS	**San Casciano d**	**0.69**	**221**	Pg	Pg	10 58 15.0	+0.5
SACS				Sg	Sb	10 58 25.9	+0.7
NRCA	**Norcia**	**0.69**	**141**	Pg	Pg	10 58 14.7	+0.1
NRCA				Sg	Sb	10 58 25.3	+0.1
NRCA	**Norcia**	**0.69**	**141**	Pg	Pg	10 58 14.7	+0.1
NRCA				Sg	Sb	10 58 25.3	+0.1

*CSEM **14** 10:58:43.8, 43°.37N×12°.52E, h8km, MD1.9/2*
ROM 14 10:58:43.8±0.1, 43°.37N×12°.52E, h8km, Md1.9/2, Ml2.1/7, Error ellipse: s-maj=1.0km s-min=0.9km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.08**	**277**	Pg	Pg	10 58 46.2	+0.2
ATVO				Sg	Sg	10 58 47.9	+0.3
ATVO	**AVT- Monte Val**	**0.08**	**277**	Pg	Pg	10 58 46.2	+0.2
ATVO				Sg	Sg	10 58 47.9	+0.3
MURB	**Monte Urbino**	**0.11**	**178**	Pg	Pg	10 58 46.7	+0.3
MURB				Sg	Sg	10 58 49.1	+0.9
MURB	**Monte Urbino**	**0.11**	**178**	Pg	Pg	10 58 46.7	+0.3
MURB				Sg	Sg	10 58 49.1	+0.9
ATPC	**Poggio Castell**	**0.12**	**337**	Pg	Pg	10 58 47.2	+0.7
ATPC				Sg	Sg	10 58 49.9	+1.4
ATPC	**Poggio Castell**	**0.12**	**337**	Pg	Pg	10 58 47.2	+0.7
ATPC				Sg	Sg	10 58 49.9	+1.4
PIEI	**Pieia**	**0.16**	**4**	Pg	Pg	10 58 47.9	+0.6
PIEI				Sg	Sg	10 58 51.5	+1.8
PIEI	**Pieia**	**0.16**	**4**	Pg	Pg	10 58 47.9	+0.6
PIEI				Sg	Sg	10 58 51.5	+1.8
SSFR	**Montelago di S**	**0.20**	**71**	Pg	Pg	10 58 48.4	+0.4
SSFR				Sg	Sg	10 58 52.8	+2.0
SSFR	**Montelago di S**	**0.20**	**71**	Pg	Pg	10 58 48.4	+0.4
SSFR				Sg	Sg	10 58 52.8	+2.0
ATCC	**AVT- Casa Cast**	**0.21**	**155**	Pg	Pg	10 58 48.7	+0.7
ATCC				Sg	Sg	10 58 52.8	+1.9
ATCC	**AVT- Casa Cast**

Ms1 3.0/4,ms1mx2.8/39,Error ellipse: s-maj=17.1km s-min=12.0km az=88.0
NEIC ***14*** *10:59:24.1±0.9,37°.42N×141°.45E,h52km±8km,mb4.6/3, Error ellipse: s-maj=10.2km s-min=7.8km az=111.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi.
ISC 14 10:59:21.1±1.2,37°.43N±0°.04×141°.59E±0°.06,h27km±8km, n44,σ1§19/55,mb4.0/15,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**264**	P	**Pb**	**10 59 33.0**	**+0.5**
JFK				eS	**Sb**	**10 59 40.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.71**	**243**	P	**Pb**	**10 59 35.0**	**+0.2**
ONAJ				S	**Sb**	**10 59 43.8**	**-0.4**
JMM	**Marumori**	**0.77**	**305**	P	**Pb**	**10 59 35.6**	**-0.2**
JMM				eS	**Sb**	**10 59 45.0**	**-0.9**
JFT	**Otama**	**1.00**	**276**	P	**Pn**	**10 59 39.6**	**+0.3**
JFT				S	**Sb**	**10 59 51.8**	**-0.7**
JIO	**Ouri**	**1.04**	**350**	P	**Pn**	**10 59 39.8**	**-0.1**
JIO				S	**Sn**	**10 59 52.0**	**-1.6**
JHO	**Hitachi**	**1.15**	**225**	P	**Pn**	**10 59 40.9**	**-0.5**
JHO				S	**Sn**	**10 59 54.3**	**-1.9**
JOU	**Okura**	**1.19**	**322**	P	**Pn**	**10 59 42.1**	**+0.2**
JOU				S	**Sn**	**10 59 56.7**	**-0.5**
JYS	**Shiratake**	**1.44**	**304**	P	**Pn**	**10 59 46.1**	**+0.7**
JYS				S	**Sn**	**11 00 03.5**	**+0.1**
JFY	**Yanaizu**	**1.50**	**270**	P	**Pn**	**10 59 46.5**	**+0.3**
JFY				eS	**Sn**	**11 00 04.4**	**-0.4**
JMK	**Ichinoseki**	**1.55**	**349**	P	**Pn**	**10 59 47.2**	**+0.3**
JMK				S	**Sn**	**11 00 05.6**	**-0.5**
MJAR	**Matsushiro Arr**	**2.84**	**253**	P	**Pn**	**11 00 05.8**	**+1.2**
	34nm,0.3s,baz=80,slow=16,SNR=137						
MJAR				S	**Sn**	**11 00 40.2**	**+2.2**
	26nm,0.3s,baz=75,slow=28,SNR=3.3						
MJAR				LR	LR	11 01 24.8	
	comp=Z,413nm,18.3s,baz=75,slow=44						
MAJO	**Matsushiro**	**2.84**	**253**	ePn	**Pn**	**11 00 06.0**	**+1.3**
MAJO				eSn	**Sb**	**11 00 42.5**	**-3.0**
MAT	**Matsushiro**	**2.84**	**253**	P	**Pn**	**11 00 05.8**	**+1.1**
MAT				S	**Sn**	**11 00 41.3**	**+3.2**
JHJ2	**Mitsune**	**4.54**	**199**	ePn	**Pn**	**11 00 29.1**	**+1.1**
JHJ2				eSn	**Sn**	**11 01 18.2**	**-1.7**
JHJ	**Hachijo jima 2**	**4.54**	**199**	P	**Pn**	**11 00 29.1**	**+1.0**
	38nm,0.3s,baz=336,slow=19,SNR=29						
JHJ				S	**Sn**	**11 01 18.4**	**-1.6**
	83nm,0.3s,baz=144,slow=22,SNR=8.1						
ASAJ	**Asahikawa**	**6.73**	**6**	P	**Pn**	**11 00 59.1**	**+1.1**
	3.0nm,0.3s,baz=188,slow=11,SNR=14						
ASAJ				S	**Sn**	**11 02 12.2**	**-1.5**
	2.1nm,0.3s,baz=211,slow=27,SNR=1.8						
ASAJ	**Asahikawa**	**6.73**	**6**	ePn	**Pn**	**11 01 00.1**	**+2.1**
ASAJ				eSn	**Sn**	**11 02 14.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.93**	**316**	P	**Pn**	**11 01 42.7**	**+0.8**
	0.3nm,0.3s,baz=122,slow=14,SNR=4.5						
KSRS	**Korea Array**	**10.87**	**274**	P	**Pn**	**11 01 56.6**	**+1.9**
	0.2nm,0.3s,baz=90,slow=14,SNR=16						
KSRS				LR	LR	11 06 11.8	
	comp=Z,89nm,18.2s,baz=152,slow=38						
KSAR	**Wonju Array Be**	**10.90**	**274**	P	**Pn**	**11 01 56.6**	**+1.5**
PETK	**Petropavlovsk-**	**19.28**	**30**	LR	LR	11 12 20.8	
	comp=Z,25nm,18.7s,baz=217,slow=40						
MA2	**Magadan**	**22.94**	**12**	LR	LR	11 13 06.7	
	comp=Z,42nm,19.7s,baz=238,slow=36						
ENH	**Enshi**	**27.50**	**265**	eP	**P**	**11 05 04.3**	**-1.0**
	9.8nm,0.6s						
SONM	**Songino Array**	**27.68**	**303**	P	**P**	**11 05 05.3**	**-1.5**
	0.9nm,0.4s,baz=105,slow=8.7,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.23**	**122**	T	T	11 34 45.5	
	baz=316,slow=76,SNR=274						
H11N1	**WAKE ISLAND Hy**	**28.24**	**122**	T	T	11 34 45.5	
	baz=316,slow=76,SNR=273						
H11N3	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	11 34 46.6	
	baz=316,slow=76,SNR=308						
H11S1	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	11 35 46.5	
	baz=316,slow=76,SNR=281						
H11S3	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	11 35 41.8	
	baz=316,slow=76,SNR=267						
H11S2	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	11 35 41.8	
	baz=316,slow=76,SNR=265						
CMAR	**Chiang Mai Arr**	**41.73**	**255**	P	**P**	**11 07 07.9**	**0.0**
	0.6nm,0.6s,baz=44,slow=9.3,SNR=1.4						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**11 07 07.5**	**-0.1**
	1.0nm,0.4s,baz=85,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**11 07 25.9**	**-0.3**
	1.5nm,0.6s,baz=86,slow=7.8,SNR=5.8						
KURK	**Kurchatov**	**45.80**	**308**	eP	**P**	**11 07 39.5**	**-0.7**
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**11 07 40.2**	**-0.6**
	2.3nm,0.4s,baz=83,slow=8.3,SNR=21						
ILAR	**Eielson Array**	**49.09**	**33**	P	**P**	**11 08 06.3**	**+0.7**
	1.0nm,0.8s,baz=273,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**57.47**	**188**	P	**P**	**11 09 07.2**	**-0.4**
	2.9nm,0.5s,baz=6.6,slow=7.5,SNR=52						
ABKAR	**Akbulak array**	**57.79**	**310**	eP	**P**	**11 09 07.8**	**-1.8**
	0.8nm,0.4s						
ASAR	**Alice Springs**	**61.20**	**188**	P	**P**	**11 09 33.3**	**-0.1**
	1.1nm,0.8s,baz=13,slow=12,SNR=19						
FINES	**FINESS Array B**	**68.53**	**332**	P	**P**	**11 10 21.6**	**+0.9**
	1.9nm,0.9s,baz=53,slow=7.4,SNR=4.8						
AKASG	**Malin Array Be**	**74.07**	**322**	P	**P**	**11 10 54.5**	**+0.1**
	0.7nm,0.5s,baz=46,slow=5.8,SNR=5.1						
PDAR	**Pinedale Array**	**77.29**	**46**	P	**P**	**11 11 14.4**	**+1.1**
	0.4nm,0.7s,baz=290,slow=3.7,SNR=2.6						
TXAR	**Lajitas Array**	**89.77**	**52**	P	**P**	**11 12 18.4**	**+1.0**
	0.2nm,0.5s,baz=289,slow=2.8,SNR=9.9						
LVC	**Limon Verde**	**149.91**	**69**	ePKPdf	**PKPdf**	**11 19 04.5**	**-0.2**
LVC				ePKPbc	**PKPbc**	**11 19 09.2**	**-0.3**
LVC				ePKPab	**pPKPdf**	**11 19 13.9**	**+0.2**

IDC ***14*** *11:01:38.6±0.7,19°.11S×173°.24W,h0km,mb4.7/14, mb1 4.9/15,mb1mx4.7/32,mbtmp4.7/15,ML4.9/1,MS3.9/20, Ms1 3.9/20,ms1mx3.8/28,Error ellipse: s-maj=26.9km s-min=16.6km az=145.0*
ISCJB ***14*** *11:01:39.3±0.1,18°.87S±0°.04×173°.37W±0°.04,h10km, mb4.9/132,MS4.0/19,Error ellipse: s-maj=7.1km s-min=3.2km az=43.8*
NEIC ***14*** *11:01:40.8±0.1,18°.85S×173°.36W,h10km,mb5.0/113, Error ellipse: s-maj=7.3km s-min=3.2km az=132.0*
BJI ***14*** *11:01:44.6,19°.31S×173°.89W,h40km,mb5.2/15, mB5.2/12,Ms5.0/6,Ms7 4.8/6*
ISC 14 11:01:43.0±0.3,19°.12S±0°.05×173°.30W±0°.07,h28km, n370,σ1§47/363,mb4.9/131,MS4.0/19,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.38**	**16**	Pn	Pn	11 02 55.9	-5.6
	22nm,0.3s,baz=199,slow=2.8,SNR=38						
AFI				Sn	Sn	11 03 50.6	-12
	95nm,0.3s,baz=73,slow=19,SNR=6.2						
AFI				LR	LR	11 04 11.0	
	comp=Z,144nm,21.9s,baz=208,slow=28						
AFI	**Afiamalu**	**5.38**	**16**	ePn	Pn	11 02 55.8	-5.7
AFI				eSn	Sn	11 03 49.3	-13
MSVF	**Nonsavu**	**8.33**	**278**	ePn	**Pn**	**11 03 42.6**	**+0.6**
RAO	**Raoul Island**	**10.93**	**202**	Sn	**Sn**	**11 06 14.8**	**-4.3**
	63nm,0.3s,baz=107,slow=19,SNR=4.5						
RAO	**Raoul Island**	**10.93**	**202**	ePn	**Pn**	**11 04 18.1**	**+0.4**
RAO				eSn	**Sn**	**11 06 17.2**	**-1.9**
RAR	**Rarotonga**	**12.87**	**102**	Pn	Pn	11 04 39.0	-5.2
	27nm,0.3s,baz=241,slow=5.3,SNR=34						
RAR				LR	LR	11 08 35.3	
	comp=Z,474nm,19.3s,baz=270,slow=32						
DZM	**Mont Dzumac**	**19.19**	**258**	P	**P**	**11 06 05.3**	**+0.5**
	3.6nm,0.3s,baz=288,slow=23,SNR=28						
DZM				LR	LR	11 12 29.7	
	comp=Z,742nm,21.1s,baz=40,slow=34						
DZM	**Mont Dzumac**	**19.19**	**258**	eP	**Pn**	**11 06 05.8**	**0.0**
	200nm,1.1s						
DZM				eS	**Sn**	**11 09 36.0**	**-4.3**
	191nm,26.4s						
DZM				eLR	LR	11 10 37.9	
	1μm,25.4s						
DZM	**Mont Dzumac**	**19.19**	**258**	eP	**Pn**	**11 06 05.9**	**0.0**
	124nm,1.2s						
MXZ	**Matakaoa Point**	**19.79**	**200**	eP	**Pn**	**11 06 15.3**	**+2.5**
	257nm,1.6s						
OUZ	**Omahuta**	**19.80**	**213**	eP	**Pn**	**11 06 14.9**	**+2.1**
	64nm,0.8s						
HAZ	**Te Kaha**	**20.14**	**201**	eP*	Pn	11 06 17.7	+0.9
PUZ	**Puketiti**	**20.27**	**200**	eP*	**P**	**11 06 17.7**	**+1.3**
MWZ	**Matawai**	**20.75**	**201**	eP*	Pn	11 06 24.6	+0.5
MWZ				eSN	S	11 09 58.6	-13
URZ	**Urewera**	**20.82**	**202**	P	**P**	**11 06 23.4**	**+1.1**
	87nm,0.8s,baz=8.8,slow=4.1,SNR=62						
URZ				S	**S**	**11 10 08.1**	**-5.1**
	18nm,0.5s,baz=220,slow=24,SNR=7.3						
URZ	**Urewera**	**20.82**	**202**	eP	Pn	11 06 25.3	+0.4
URZ				eS	**S**	**11 10 08.1**	**-5.1**
URZ	**Urewera**	**20.82**	**202**	eP*	Pn	11 06 24.6	-0.3
URZ				eSN	S	11 10 01.3	-12
KNZ	**Kokohu**	**21.32**	**200**	eP*	**P**	**11 06 31.8**	**+4.1**
KNZ				eS*	S	11 10 11.7	-11
BKZ	**Black Stump Fm**	**21.85**	**202**	eP	**P**	**11 06 36.4**	**+3.0**
	29nm,0.5s						
BKZ				eS	**S**	**11 10 33.6**	**0.0**
BKZ	**Black Stump Fm**	**21.85**	**202**	eP*	**P**	**11 06 34.8**	**+1.4**
HIZ	**Hauiti**	**21.90**	**206**	eP	**P**	**11 06 34.1**	**+0.2**
	73nm,0.6s						
KWHZ	**Kaweka Forest**	**22.10**	**202**	eP*	**P**	**11 06 39.5**	**+3.3**
PXZ	**Pawanui**	**22.50**	**200**	eP*	**P**	**11 06 42.3**	**+2.0**
PXZ				eS*	**S**	**11 10 38.8**	**-6.8**
PAE	**Paea**	**22.55**	**90**	eT	T	11 30 53.6	
	11nm,0.3s						
PPT2	**Papeete2**	**22.57**	**90**	eLR	LR	11 11 46.7	
	1μm,26.8s,baz=264						
PPT2	**Papeete2**	**22.57**	**90**	eT	T	11 30 55.2	
	8.4nm,0.3s						
PPT	**Papeete**	**22.57**	**90**	LR	LR	11 12 52.6	
	comp=Z,384nm,21.2s,baz=260,slow=30						
TBI	**Tubuai**	**22.61**	**105**	eLR	LR	11 11 53.3	
	864nm,28.0s,baz=278						
TBI	**Tubuai**	**22.61**	**105**	eT	T	11 31 05.6	
	17nm,0.3s						
BFZ	**Birch Farm**	**23.29**	**200**	eP	**P**	**11 06 51.9**	**+3.3**
	36nm,0.6s						
MRZ	**Mangatainoka R**	**23.50**	**202**	eP*	**P**	**11 06 52.9**	**+2.4**
MRZ				eS*	**S**	**11 10 58.8**	**-3.8**
SNZO	**South Karori**	**24.38**	**202**	eP	**P**	**11 07 00.5**	**+1.7**
	228nm,1.6s						
NNZ	**Nelson**	**24.80**	**204**	eP*	**P**	**11 07 05.3**	**+2.7**
QRZ	**Quartz Range**	**24.81**	**206**	eP*	**P**	**11 07 07.8**	**+5.1**
THZ	**Tophouse**	**25.45**	**205**	eP	**P**	**11 07 11.9**	**+3.4**
	52nm,0.9s						
THZ	**Tophouse**	**25.45**	**205**	eP*	**P**	**11 07 11.5**	**+2.9**
KHZ	**Kahutara**	**25.77**	**203**	eP	**P**	**11 07 13.2**	**+1.9**
	122nm,1.5s						
KHZ	**Kahutara**	**25.77**	**203**	eP*	**P**	**11 07 15.0**	**+3.7**
DSZ	**Denniston Nort**	**25.88**	**206**	eP*	**P**	**11 07 17.8**	**+5.4**
XMAS	**Kiritimati**	**26.17**	**38**	eP	**P**	**11 07 14.2**	**-1.1**
	44nm,1.0s						
LTZ	**Lake Taylor**	**26.56**	**204**	eP	P	11 07 25.6	+7.0
	134nm,0.4s						
INZ	**Inchbonnie**	**26.84**	**205**	eP*	**P**	**11 07 26.5**	**+5.4**
CRLZ	**Canterbury Las**	**27.11**	**203**	eP	**P**	**11 07 26.6**	**+3.2**
	311nm,1.9s						
OXZ	**Oxford**	**27.11**	**204**	eP	**P**	**11 07 27.1**	**+3.5**
	99nm,0.4s						
OXZ	**Oxford**	**27.11**	**204**	eP*	**P**	**11 07 27.7**	**+4.1**
MQZ	**McQueen's Vall**	**27.21**	**203**	eP*	P	11 07 32.6	+8.2
WVZ	**Waitaha Valley**	**27.42**	**206**	eP*	**P**	**11 07 31.6**	**+5.3**
RPZ	**Rata Peaks**	**27.83**	**205**	P	**P**	**11 07 34.2**	**+4.2**
	79nm,0.5s,baz=38,slow=7.4,SNR=67						
RPZ	**Rata Peaks**	**27.83**	**205**	eP*	**P**	**11 07 36.7**	**+6.8**
FOZ	**Fox Glacier**	**28.18**	**207**	eP	P	11 07 40.3	+7.2
	251nm,1.5s						
FOZ	**Fox Glacier**	**28.18**	**207**	eP*	P	11 07 38.1	+5.0
LBZ	**Lake Benmore**	**28.73**	**205**	eP	P	11 07 45.0	+6.9
	59nm,1.5s						
JCZ	**Jackson Bay**	**29.06**	**207**	eP*	P	11 07 46.8	+5.8
WKZ	**Wanaka**	**29.57**	**206**	eP	P	11 07 51.1	+5.7
	131nm,1.6s						
WHZ	**Wether Hill Ro**	**30.88**	**206**	eP	**P**	**11 07 59.8**	**+2.9**
	26nm,0.7s						
EIDS	**Eidsvold**	**33.48**	**253**	eP	**P**	**11 08 19.0**	**-1.1**
	8.7nm,0.6s						
TAOE	**Nuku Hiva Isla**	**33.69**	**77**	eLR	LR	11 17 02.0	
	629nm,25.1s,baz=252						
TAOE	**Nuku Hiva Isla**	**33.69**	**77**	eT	T	11 44 36.3	
	32nm,0.2s						
RKT	**Rikitea**	**35.91**	**103**	eLR	LR	11 18 01.7	
	581nm,26.0s						
RKT	**Rikitea**	**35.91**	**103**	eT	T	11 47 41.8	
	3.0nm,0.3s						
CTAO	**Charters Tower**	**38.05**	**262**	eP	**P**	**11 08 58.8**	**-0.6**
	26nm,0.8s						
CTAO	**Charters Tower**	**38.05**	**262**	eP	**P**	**11 08 58.6**	**-0.7**
	26nm,0.8s						
PMG	**Port Moresby**	**39.44**	**279**	P	**P**	**11 09 10.5**	**-0.5**
	5.1nm,0.4s,baz=50,slow=16,SNR=3.3						
STKA	**Stephens Creek**	**42.37**	**243**	P	**P**	**11 09 35.1**	**+0.1**
	8.6nm,0.9s,baz=97,slow=12,SNR=7.1						
STKA				LR	LR	11 24 33.2	
	comp=Z,218nm,21.7s,baz=42,slow=32						
STKA	**Stephens Creek**	**42.37**	**243**	eP	**P**	**11 09 34.9**	**-0.1**
	2.7nm,1.1s						
AS01	**Alice Springs**	**49.10**	**255**	eP	**P**	**11 10 27.3**	**-1.1**
AS31	**Alice Springs**	**49.15**	**255**	eP	**P**	**11 10 28.4**	**-0.3**
	25nm,1.1s						
AS31				eS	**S**	**11 17 28.4**	**-4.3**
ASAR	**Alice Springs**	**49.15**	**255**	P	**P**	**11 10 28.1**	**-0.7**
	43nm,0.8s,baz=87,slow=8.5,SNR=248						
ASAR				S	**S**	**11 17 28.4**	**-4.3**
	1.0nm,1.0s,baz=93,slow=14,SNR=5.3						
ASAR				LR	LR	11 30 27.4	
	comp=Z,258nm,20.1s,baz=122,slow=35						
WB2	**Warramunga Arr**	**49.18**	**260**	eP	**P**	**11 10 27.6**	**-1.4**
WRAB	**Tennant Creek**	**49.18**	**260**	eP	**P**	**11 10 27.6**	**-1.4**
	29nm,0.8s						
WR1	**Warramunga Arr**	**49.19**	**260**	eP	**P**	**11 10 28.2**	**-0.8**
	39nm,0.8s						
WRA	**Warramunga Arr**	**49.19**	**260**	P	**P**	**11 10 28.2**	**-0.8**
	18nm,0.4s,baz=98,slow=8.3,SNR=293						
WRA				LR	LR	11 30 01.2	
	comp=Z,283nm,20.9s,baz=80,slow=35						
MTN	**Manton Dam**	**53.61**	**268**	eP	**P**	**11 11 01.4**	**-0.8**
	35nm,0.8s						
SBA	**Scott Base**	**59.58**	**185**	eP	**P**	**11 11 44.8**	**+1.1**
	6.3nm,1.0s						
VNDA	**Vanda**	**59.71**	**186**	LR	LR	11 34 40.2	
	comp=Z,39nm,19.0s,baz=314,slow=33						
SOEI	**Soe**	**60.91**	**269**	eP	**P**	**11 11 55.2**	**+1.2**
	59nm,1.1s						
QSPA	**South Pole Qui**	**70.95**	**180**	eP	**P**	**11 12 59.4**	**+1.6**
	6.6nm,0.9s						
MJAR	**Matsushiro Arr**	**71.84**	**321**	P	**P**	**11 13 04.2**	**+0.9**
	0.8nm,0.4s,baz=159,slow=5.7,SNR=7.2						
MJAR				LR	LR	11 39 14.4	
	comp=Z,72nm,21.6s,baz=140,slow=31						
SCI2	**San Clemente I**	**73.60**	**46**	P	**P**	**11 13 13.3**	**-0.6**
	baz=234						
PKM	**Mcpherson Peak**	**73.91**	**43**	P	**P**	**11 13 15.5**	**-0.4**
	baz=232						
CIS	**Catalina Islan**	**73.94**	**45**	P	**P**	**11 13 15.6**	**-0.4**
	baz=234						
ARVC	**Arvin**	**74.69**	**44**	P	**P**	**11 13 19.8**	**-0.4**
	baz=233						
MURC	**Murrieta**	**74.88**	**46**	P	**P**	**11 13 20.4**	**-1.0**
	baz=234						
BFSC	**Mount Baldy Ra**	**74.94**	**45**	P	**P**	**11 13 21.0**	**-0.9**
	baz=234						
MONP2	**Monument Peak**	**75.00**	**47**	P	**P**	**11 13 22.0**	**-0.4**
	baz=235,SNR=5.7						
IKP	**In-Ko-Pah, Jac**	**75.08**	**47**	P	**P**	**11 13 22.2**	**-0.5**
	baz=235,SNR=6.1						
EDW2	**Edwards Air Fo**	**75.10**	**44**	P	**P**	**11 13 22.1**	**-0.5**
	baz=234,SNR=12						
ISA	**Isabella, Lake**	**75.25**	**43**	P	**P**	**11 13 23.5**	**0.0**
	baz=233						
PFO	**Pinyon Flats O**	**75.39**	**46**	P	**P**	**11 13 24.0**	**-0.5**
	baz=235						
PFO	**Pinyon Flats O**	**75.39**	**46**	eP	**P**	**11 13 23.8**	**-0.6**
	14nm,1.3s						
XPFO	**Pizon Flat**	**75.39**	**46**	eP	**P**	**11 13 24.1**	**-0.4**
	14nm,1.3s						
SWSC	**Sam W. Stewart**	**75.46**	**47**	P	**P**	**11 13 24.1**	**-0.6**
	baz=236						
CMB	**Columbia Colle**	**75.49**	**41**	eP	**P**	**11 13 24.2**	**-0.6**
	6.4nm,1.1s						
LRMC	**Laurel Mtn Rad**	**75.66**	**44**	P	**P**	**11 13 25.7**	**-0.3**
	baz=234,SNR=8.3						
AFDM	**Forest Hills D**	**75.71**	**40**	eP	**P**	**11 13 25.6**	**-0.5**
	5.5nm,1.1s						
WDC	**Whiskeytown Da**	**75.84**	**37**	eP	**P**	**11 13 26.3**	**-0.4**
	20nm,1.6s						
BELC	**Belle Mtn. Jos**	**75.93**	**46**	P	**P**	**11 13 27.0**	**-0.6**
	baz=235,SNR=7.1						
CWC	**Cottonwood Cre**	**75.97**	**43**	P	**P**	**11 13 27.3**	**-0.5**
	baz=233						
N02D	**Trinity Center**	**76.00**	**37**	P	**P**	**11 13 27.4**	**-0.3**
	baz=229,SNR=5.6						
O03D	**Paynes Creek**	**76.08**	**38**	P	**P**	**11 13 27.8**	**-0.4**
	baz=230						
BC3	**Big Chuckawall**	**76.10**	**47**	P	**P**	**11 13 28.2**	**-0.3**
	baz=236,SNR=6.2						
MPMC	**Manual Prospec**	**76.13**	**44**	P	**P**	**11 13 28.3**	**-0.4**
	baz=234,SNR=12						
GSC	**Goldstone, Bar**	**76.13**	**45**	P	**P**	**11 13 28.0**	**-0.7**
	baz=234						
GSC	**Goldstone, Bar**	**76.13**	**45**	eP	**P**	**11 13 28.1**	**-0.6**
	9.3nm,1.3s						
HEC	**Hector,Ludlow**	**76.17**	**45**	P	**P**	**11 13 28.2**	**-0.7**
	baz=235						
PETK	**Petropavlovsk-**	**76.18**	**342**	P	**P**	**11 13 29.5**	**+1.2**
	1.9nm,0.5s,baz=124,slow=7.5,SNR=2.9						
PETK				LR	LR	11 44 22.2	
	comp=Z,26nm,19.6s,baz=144,slow=34						
PEA1	**Petropavlovsk-**	**76.19**	**342**	eP	**P**	**11 13 29.5**	**+1.1**
DAC	**Darwin (Calif)**	**76.19**	**43**	eP	**P**	**11 13 28.9**	**-0.2**
	10nm,1.5s						
M02C	**Callahan**	**76.19**	**37**	P	**P**	**11 13 28.4**	**-0.4**
	baz=229						
GLA	**Glamis**	**76.20**	**47**	P	**P**	**11 13 28.8**	**-0.2**
	baz=236						
GLA	**Glamis**	**76.20**	**47**	eP	**P**	**11 13 28.2**	**-0.8**
	15nm,1.3s						
MLAC	**Mammoth, Mammo**	**76.21**	**42**	P	**P**	**11 13 28.9**	**-0.3**
	baz=232						
WAKR	**Walker**	**76.37**	**41**	eP	**P**	**11 13 29.8**	**-0.3**
	28nm,1.7s						
YBH	**Yreka Blue Hor**	**76.50**	**36**	eP	**P**	**11 13 30.5**	**0.0**
	6.5nm,0.9s						
IRM	**Iron Mountain**	**76.60**	**46**	P	**P**	**11 13 31.0**	**-0.2**
	baz=236,SNR=12						
GMRC	**Granite Mounta**	**76.60**	**46**	P	**P**	**11 13 31.4**	**0.0**
	baz=235						
PNTR	**Pine Nut**	**76.63**	**40**	eP	**P**	**11 13 31.1**	**-0.5**
	9.3nm,0.9s						
BEKR	**Beckworth**	**76.66**	**39**	eP	**P**	**11 13 30.8**	**-0.8**
	4.9nm,1.0s						
TVH2	**Borealis Mine**	**76.71**	**41**	eP	**P**	**11 13 31.3**	**-0.7**
	3.4nm,0.8s						
GRAC	**Grapevine Rang**	**76.76**	**43**	P	**P**	**11 13 31.7**	**-0.4**
	baz=234,SNR=5.8						
FURC	**Furnace Creek,**	**76.78**	**44**	P	**P**	**11 13 31.8**	**-0.2**
	baz=234						
113A	**Mohawk Valley,**	**76.79**	**48**	eP	**P**	**11 13 32.1**	**-0.2**
	22nm,1.8s						
YERR	**Yerington**	**76.79**	**40**	eP	**P**	**11 13 32.1**	**-0.3**
	25nm,1.5s						
TUQ	**Turquoise Moun**	**76.80**	**45**	P	**P**	**11 13 31.8**	**-0.7**
	baz=235,SNR=5.6						
TUQ	**Turquoise Moun**	**76.80**	**45**	eP	**P**	**11 13 34.6**	**+2.1**
Y12C	**Blythe**	**76.80**	**47**	P	**P**	**11 13 32.3**	**+0.1**
	baz=236						
Y12C	**Blythe**	**76.80**	**47**	eP	**P**	**11 13 32.4**	**+0.1**
	10nm,1.1s						
SHOC	**Shoshone, Teco**	**76.83**	**44**	P	**P**	**11 13 32.1**	**-0.3**
	baz=235						
M04C	**Macdoel**	**77.03**	**37**	P	**P**	**11 13 33.9**	**+0.3**
	baz=230						
214A	**Organ Pipe Nat**	**77.03**	**49**	P	**P**	**11 13 33.8**	**+0.1**
	baz=238						
LDFC	**Landfair**	**77.14**	**46**	eP	**P**	**11 13 34.4**	**+0.1**
	20nm,1.2s						
PAHR	**Pah Rah Range**	**77.14**	**40**	eP	**P**	**11 13 34.2**	**-0.1**
	8.2nm,1.2s						
PDMCI	**Parker Dam,Lak**	**77.37**	**47**	P	**P**	**11 13 35.5**	**+0.1**
	baz=236						
TPNV	**Topopah Spring**	**77.46**	**44**	P	**P**	**11 13 35.8**	**-0.4**
	baz=234,SNR=6.4						
TPNV	**Topopah Spring**	**77.46**	**44**	eP	**P**	**11 13 36.1**	**0.0**
	6.0nm,1.0s						
KSM	**Kuching**	**77.64**	**276**	eP	**P**	**11 13 39.3**	**+1.8**
	15nm,1.0s						
J04D	**Umpqua Nationa**	**77.83**	**36**	P	**P**	**11 13 38.3**	**+0.2**
	baz=229						
SHPR	**Sheep Range**	**77.92**	**44**	eP	**P**	**11 13 38.6**	**-0.1**
	12nm,1.4s						
MOD	**Modoc Plateau**	**77.98**	**38**	eP	**P**	**11 13 38.0**	**-0.9**
	12nm,1.3s						
W13A	**Hualapai Mount**	**77.98**	**46**	eP	**P**	**11 13 39.0**	**-0.2**
	5.5nm,1.1s						
J05D	**Fort Rock, OR**	**78.34**	**36**	P	**P**	**11 13 41.0**	**+0.1**
	baz=230,SNR=8.2						
G03D	**McMinnville, O**	**78.52**	**34**	P	**P**	**11 13 42.4**	**+0.8**
	baz=228						
TUC	**Tucson**	**78.67**	**50**	P	**P**	**11 13 43.3**	**+0.4**
	baz=239						
**T

P17A	Butcher Ranch,	82.46	44	eP		P	11 14 04.1	+0.9
	19nm,1.4s							
NJ2	Nanjing	82.48	308	eP		P	11 14 01.8	-1.4
NJ2					pmax	pmax		
	comp=Z,7.0nm,1.0s							
LTX	Lajitas	82.61	56	eP		P	11 14 04.5	+0.5
TX31	Lajitas Ar. Si	82.61	56	eP		P	11 14 04.2	+0.1
TXAR	Lajitas Array	82.61	56	P		P	11 14 04.5	+0.5
	6.5nm,1.1s,baz=216,slow=6.2,SNR=36							
TXAR					LR	LR	11 42 20.1	
	comp=Z,58nm,21.4s,baz=0.0,slow=30							
MVCO	Mesa Verde	82.80	47	P		P	11 14 04.5	-0.6
	baz=240							
P18A	Preston Nutter	82.87	44	eP		P	11 14 05.5	0.0
	7.1nm,1.1s							
PV09	Paradox Valley	83.02	45	eP		P	11 14 06.5	+0.3
ANMO	Albuquerque	83.12	50	P		P	11 14 07.0	+0.3
	baz=241							
ANMO	Albuquerque	83.12	50	eP		P	11 14 06.8	+0.1
	20nm,1.6s							
PV01	Paradox Valley	83.22	46	eP		P	11 14 07.2	0.0
NEW	Newport	83.71	34	LR		LR	11 43 06.5	
	comp=Z,130nm,20.9s,slow=30							
CN2	Changchun	83.99	320	eP		P	11 14 01.6	-9.1
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MCMT	McKenzie Canyo	84.08	38	eP		P	11 14 11.4	-0.1
LNIG	Linares	84.10	61	eP		P	11 14 10.7	-1.1
	comp=Z,12nm,0.9s							
S22A	4UR Ranch, Cre	84.22	47	P		P	11 14 12.9	+0.4
	baz=241							
S22A	4UR Ranch, Cre	84.22	47	eP		P	11 14 13.0	+0.5
	comp=Z,29nm,1.3s							
O20A	White River Ci	84.45	44	P		P	11 14 13.1	-0.4
	baz=240							
O20A	White River Ci	84.45	44	eP		P	11 14 13.2	-0.2
	comp=Z,8.7nm,1.1s							
REDW	Red Top Meadow	84.48	41	eP		P	11 14 13.3	-0.2
	comp=Z,9.9nm,1.1s							
TPAW	Teton Pass	84.48	40	eP		P	11 14 13.5	-0.1
	comp=Z,9.6nm,1.1s							
FXWY	Fox Creek	84.52	40	eP		P	11 14 13.4	-0.3
	comp=Z,8.3nm,1.3s							
DLMT	Dillon	84.53	38	eP		P	11 14 13.4	-0.2
	comp=Z,8.6nm,0.9s							
SNOW	Snow King Moun	84.59	40	eP		P	11 14 14.1	0.0
	comp=Z,14nm,1.1s							
MSO	Missoula	84.59	36	P		P	11 14 13.4	-0.5
	baz=235							
IMW	Indian Meadow	84.71	40	eP		P	11 14 14.8	0.0
	comp=Z,12nm,1.1s							
HYT	Haines Junctio	84.72	17	eP		P	11 14 14.2	0.0
	comp=Z,9.9nm,1.1s							
MCK	McKinley	84.74	11	eP		P	11 14 12.3	-1.7
	comp=Z,17nm,1.0s							
LOHW	Long Hollow	84.76	40	eP		P	11 14 14.5	-0.4
	comp=Z,8.0nm,1.2s							
SMCO	Snowmass	84.82	46	eP		P	11 14 15.4	-0.1
	comp=Z,13nm,1.4s							
QLMT	Earthquake Lak	84.92	39	eP		P	11 14 16.1	+0.3
BW06	Boulder Array	84.96	42	P		P	11 14 15.4	-0.6
	baz=238							
BW06	Boulder Array	84.96	42	eP		P	11 14 14.8	-1.1
	comp=Z,5.2nm,1.0s							
PD31	Pinedale Array	84.96	42	eP		P	11 14 15.1	-0.9
PDAR	Pinedale Array	84.96	42	P		P	11 14 15.2	-0.9
	comp=Z,3.5nm,0.9s,baz=215,slow=3.9,SNR=24							
PDAR					LR	LR	11 42 39.6	
	comp=Z,58nm,21.7s,baz=262,slow=29							
PDAR	Pinedale Array	84.96	42	eP		P	11 14 14.6	-1.4
YHB	Horse Butte	85.02	39	eP		P	11 14 16.4	+0.1
	comp=Z,9.9nm,0.9s							
YMR	Madison River	85.11	39	eP		P	11 14 17.1	+0.4
	comp=Z,33nm,1.8s							
SDCO	Great Sand Dun	85.14	47	P		P	11 14 16.9	-0.2
	baz=242							
SDCO	Great Sand Dun	85.14	47	eP		P	11 14 16.4	-0.7
	comp=Z,11nm,1.4s							
BOZ	Bozeman (W)	85.22	38	P		P	11 14 16.9	-0.2
	baz=237							
BOZ	Bozeman (W)	85.22	38	eP		P	11 14 16.8	-0.4
	comp=Z,9.4nm,1.0s							
YHH	Holmes Hill	85.25	39	eP		P	11 14 18.1	+0.7
	comp=Z,26nm,1.9s							
WHY	Whitehorse	85.32	18	eP		P	11 14 17.2	0.0
	comp=Z,6.9nm,1.0s							
MSTX	Muleshoe	85.36	52	P		P	11 14 17.9	-0.2
	baz=244							
MSTX	Muleshoe	85.36	52	eP		P	11 14 17.8	-0.2
	comp=Z,38nm,1.3s							
933A	Laredo	85.36	59	P		P	11 14 18.2	+0.1
	baz=246							
833A	Chaparral WMA,	85.56	58	P		P	11 14 18.8	-0.2
	baz=246							
WRH	Wood River Hil	85.56	11	eP		P	11 14 17.5	-0.6
	comp=Z,24nm,1.0s							
DOT	Dot Lake	85.59	13	eP		P	11 14 18.1	-0.3
	comp=Z,51nm,1.3s							
T25A	Trinidad	85.61	48	P		P	11 14 19.1	-0.2
	baz=242							
034A	Hebbronville	85.62	60	P		P	11 14 19.7	+0.4
	baz=246							
CCB	Clear Creek Bu	85.78	11	eP		P	11 14 18.5	-0.7
	comp=Z,61nm,1.8s							
WALA	Waterton Lakes	85.90	35	eP		P	11 14 19.4	-0.9
	comp=Z,8.9nm,1.2s							
Q24A	Divide	85.96	47	P		P	11 14 21.7	+0.5
	baz=242							
Q24A	Divide	85.96	47	eP		P	11 14 20.9	-0.2
	comp=Z,14nm,1.4s							
COLA	College	85.98	11	eP		P	11 14 19.6	-0.5
	comp=Z,23nm,0.9s							
035A	Encino	86.05	60	P		P	11 14 21.9	+0.5
	baz=247							
IL1	Eielson Array	86.05	11	eP		P	11 14 19.8	-0.8
ILAR	Eielson Array	86.05	11	P		P	11 14 19.8	-0.8
	comp=Z,3.2nm,0.7s,baz=225,slow=5.6,SNR=40							
ILAR					LR	LR	11 44 18.2	
	comp=Z,54nm,21.4s,baz=170,slow=30							
ILB	Eielson Array	86.05	11	eP		P	11 14 19.8	-0.8
SEY	Seymchan	86.11	345	P		P	11 14 21.1	+0.2
	comp=Z,5.7nm,0.8s,baz=102,slow=9.0,SNR=7.8							
IMAR	Indian Mountai	86.12	8	eP		P	11 14 20.6	-0.3
JCT	Junction City	86.12	56	P		P	11 14 21.7	-0.2
	baz=246							
N23A	Red Feather La	86.35	45	P		P	11 14 22.8	-0.1
	baz=241							
RLMT	Red Lodge	86.38	40	P		P	11 14 22.8	-0.1
	baz=238							
AMTX	Amarillo	86.57	51	P		P	11 14 23.7	-0.3
	baz=244							
AMTX	Amarillo	86.57	51	eP		P	11 14 23.9	-0.1
	comp=Z,23nm,1.0s							
PLCA	Paso Flores	86.96	132	LR		LR	11 44 08.5	
	comp=Z,47nm,21.4s,baz=328,slow=29							
DAWY	Dawson	86.98	14	eP		P	11 14 25.3	+0.1
	comp=Z,24nm,1.3s							
ABTX	Abilene, Hawle	87.14	54	P		P	11 14 26.4	-0.4
	baz=245							
ABTX	Abilene, Hawle	87.14	54	eP		P	11 14 26.6	-0.1
	comp=Z,38nm,1.2s							
EGAK	Eagle	87.20	13	eP		P	11 14 26.3	+0.1
	comp=Z,16nm,1.3s							
WMOK	Wichita Mounta	88.67	53	P		P	11 14 34.1	+0.1
	baz=246							
WMOK	Wichita Mounta	88.67	53	eP		P	11 14 34.0	+0.1
	comp=Z,6.7nm,1.4s							
PSI	Prapat	88.81	273	P		P	11 14 36.3	+1.1
	comp=Z,3.4nm,0.4s,baz=166,slow=9.6,SNR=5.0							
RSSD	Black Hills	89.12	42	P		P	11 14 35.4	-0.7
	baz=242							
SNAA	Sanae	89.21	177	eP		P	11 14 36.0	0.0
	comp=Z,5.5nm,1.1s							
GYA	Guiyang	89.86	298	eP		P	11 14 40.3	+0.4
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
X35A	Drake	89.90	53	P		P	11 14 40.0	+0.3
	baz=247							
Y36A	Durant	90.23	54	P		P	11 14 41.8	+0.5
	baz=247							
W35A	Tecumseh	90.27	53	P		P	11 14 41.6	+0.1
	baz=247							
X36A	Centrahoma	90.44	54	P		P	11 14 42.5	+0.3
	baz=247							
W36A	Wetumka	90.75	53	P		P	11 14 43.6	-0.1
	baz=247							
Y37A	Hugo	90.77	54	P		P	11 14 44.0	+0.3
	baz=248							
DGMT	Dagmar	91.06	38	P		P	11 14 44.7	-0.2
	baz=242							
DGMT	Dagmar	91.06	38	eP		P	11 14 43.6	-1.2
	comp=Z,12nm,1.0s							
T35A	Sooner Cattle	91.23	51	P		P	11 14 45.8	-0.1
	baz=247							
W37B	Quinton	91.36	53	P		P	11 14 46.5	0.0
	baz=248							
HHC	Hu-ho-hao-te	91.61	313	eP		P	11 14 48.1	+0.4
HHC				sP		sP	11 15 05.1	+5.1
HHC				SKS		SKSac	11 25 15.0	-3.6
HHC				S		S	11 25 43.4	-2.8
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,70nm,5.7s							
HHC				LR		LR		
	comp=Z,130nm,17.3s							
HHC				LR		LR		
	comp=Z,350nm,21.8s							
HHC				LR		LR		
	comp=Z,72nm,17.6s							
X38A	Whitesboro	91.64	54	P		P	11 14 47.5	-0.3
	baz=248							
S35A	Otter Creek Ra	91.67	51	P		P	11 14 47.8	-0.1
	baz=247							
Q34A	Chapman	91.70	49	P		P	11 14 47.9	-0.1
	baz=247							
V37A	Hulbert	91.86	53	P		P	11 14 48.5	-0.2
	baz=248							
K31A	O'Neill	91.93	45	P		P	11 14 49.3	+0.3
	baz=246							
Q35A	Mercer Eighty,	92.33	50	P		P	11 14 50.9	0.0
	baz=248							
V38A	Canehill	92.40	53	P		P	11 14 51.1	-0.3
	baz=248							
T37A	Cheneyville 18	92.49	52	P		P	11 14 51.6	-0.1
	baz=248							
KMI	Kunming	92.71	296	P		P	11 14 53.8	+0.5
KMI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
KMI				pmax		pmax		
	comp=Z,96nm,5.3s							
S37A	Fort Scott	92.79	51	P		P	11 14 53.5	+0.4
	baz=248							
T38A	Diamond	92.92	52	P		P	11 14 53.1	-0.6
	baz=248							
V39A	Pettigrew	92.97	53	P		P	11 14 53.4	-0.6
	baz=249							
R37A	Teagarden Farm	93.00	51	P		P	11 14 53.8	-0.2
	baz=248							
W40A	Ferguson Farm,	93.17	54	P		P	11 14 54.4	-0.5
	baz=249							
U39A	Green Forest	93.29	53	P		P	11 14 54.8	-0.7
	baz=249							
N35A	Tabor	93.37	48	P		P	11 14 55.6	-0.1
	baz=248							
J33A	Davis	93.41	45	P		P	11 14 55.9	+0.1
	baz=247							
S38A	Stockton	93.42	51	P		P	11 14 55.6	-0.4
	baz=249							
YKA	Yellowknife Ar	93.45	23	P		P	11 14 54.3	-1.1
	comp=Z,1.5nm,1.0s,baz=240,slow=4.7,SNR=3.8							
YKB5	Yellowknife Ar	93.45	23	eP		P	11 14 54.4	-1.1
V40A	Witts Springs	93.58	53	P		P	11 14 56.5	-0.3
	baz=249							
T39A	Clever	93.60	52	P		P	11 14 56.2	-0.7
	baz=249							
R38A	Fenwick Farm,	93.63	51	P		P	11 14 56.7	-0.2
	baz=249							
U40A	Yellville	93.75	53	P		P	11 14 57.1	-0.4
	baz=249							
W41B	Gary Mavity, V	93.80	54	P		P	11 14 57.5	-0.3
	baz=250							
ECSD	EROS Data Cent	93.81	45	P		P	11 14 57.3	-0.3
	baz=247							
ECSD	EROS Data Cent	93.81	45	eP		P	11 14 57.4	-0.3
	comp=Z,16nm,1.4s							
CD2	Chengdu	93.81	301	eP		P	11 14 57.8	-0.2
P37A	Lathrop	93.82	49	P		P	11 14 57.0	-0.7
	baz=249							
N36A	Muff Farm, Cla	93.84	48	P		P	11 14 58.0	+0.2
	baz=248							
S39A	Bolivar	93.88	52	P		P	11 14 57.3	-0.8
	baz=249							
Q38A	Cooks Store, C	94.12	50	P		P	11 14 58.3	-0.9
	baz=249							
T40A	Mansfield	94.28	52	P		P	11 14 59.4	-0.6
	baz=250							
R39A	Chumby, Stover	94.31	51	P		P	11 14 59.7	-0.4
	baz=249							
P38A	Dawn	94.42	50	P		P	11 15 00.3	-0.2
	baz=249							
S40A	Lebanon	94.45	52	P		P	11 15 00.3	-0.4
	baz=250							
V42A	Cord	94.67	54	P		P	11 15 01.2	-0.5
	baz=250							
M37A	Trindle Farm,	94.69	48	P		P	11 15 01.5	-0.2
	baz=249							
T41A	Mountain View	94.81	53	P		P	11 15 01.8	-0.6
	baz=250							
S41A	Jillco Farms,	95.01	52	P		P	11 15 02.9	-0.4
	baz=250							
Q40A	Laux Farm, Aux	95.25	51	P		P	11 15 03.9	-0.4
	baz=250							
K37A	Belmond	95.47	47	P		P	11 15 04.7	-0.5
	baz=249							
LZH	Lanzhou	95.49	306	eP		P	11 15 07.3	+1.6
LZH				pP		sP	11 15 19.5	+1.5
LZH				sP		pP	11 15 24.3	+10
LZH				PP		PP	11 19 00.5	+3.4
LZH				pmax		pmax		
	comp=Z,18nm,1.5s							
LZH				pmax		pmax		
	comp=Z,76nm,6.2s							
LZH				LR		LR		
	comp=Z,220nm,17.5s							
LZH				LR		LR		
	comp=Z,200nm,18.0s							
LZH				LR		LR		
	comp=Z,300nm,19.6s							
R41A	Rosebud	95.53	52	P		P	11 15 04.7	-0.9
	baz=250							
B32A	Ashes, Strandq	95.65	41	P		P	11 15 05.0	-0.9
	baz=248							
L38A	Oak Wood Farm,	95.72	47	P		P	11 15 05.6	-0.8
	baz=250							
E34A	Wadena	95.80	43	P		P	11 15 05.9	-0.8
	baz=249							
Q41A	Truxton	95.86	51	P		P	11 15 06.8	-0.3
	baz=250							
A32A	Rocking H Ranc	95.87	40	P		P	11 15 06.0	-0.9
	baz=248							
F35A	Swanville	95.95	44	P		P	11 15 07.0	-0.3
	baz=249							
I37A	Lemond, Waseca	96.07	46	P		P	11 15 07.5	-0.5
	baz=250							
F36A	Milaca	96.64	44	P		P	11 15 10.2	-0.2
	baz=250							
ULM	Lac du Bonnet	96.74	39	LR		LR	11 50 55.6	
	comp=Z,68nm,20.7s,baz=7.5,slow=31							
D36A	Goodland	97.33	43	P		P	11 15 12.8	-0.8
	baz=250							
G38A	Ridgeland	97.50	45	P		P	11 15 13.6	-0.8
	baz=251							
SONM	Songino Array	97.66	318	LR		LR	11 54 38.0	
	comp=Z,69nm,21.7s,baz=174,slow=32							
LPAZ	La Paz	98.45	110	LR		LR	11 49 59.4	
	comp=Z,92nm,21.2s,baz=234,slow=30							
KSH	Kashi	117.72	305	PKP		PKPdf	11 20 28.3	+1.3
KSH				sPKP			11 20 42.0	
KSH				PP		PP	11 21 47.5	+7.0
KSH				PKS		PKSdf	11 24 04.3	+0.5
KSH				SKS		SKSdf	11 27 35.3	-2.1
KSH				SKKS		SKKSac	11 28 34.6	-4.6
KSH				SS		SS	11 37 54.3	+2.6
KSH				AMB		AMB		
	comp=Z,100nm,6.6s							
KSH				LR		LR		
	comp=Z,74nm,8.4s							
KSH				LR		LR		
	comp=Z,80nm,6.6s							
KSH				LR		LR		
	comp=Z,190nm,6.6s							
BVAR	Borovoye Array	120.84	321	PKP		PKPdf	11 20 32.1	-0.3
	comp=Z,2.1nm,0.6s,baz=101,slow=3.0,SNR=6.2							
ARA0	ARCESS Array S	128.28	352	ePKPdf		PKPdf	11 20 46.6	+0.4
ARCES	ARCESS Array B	128.28	352	PKP		PKPdf	11 20 46.6	+0.4
	comp=Z,2.3nm,0.9s,baz=29,slow=2.8,SNR=5.2							
FIA0	FINESS Array S	135.57	347	ePKPdf		PKPdf	11 20 59.9	-0.3
FINES	FINESS Array B	135.57	347	PKP		PKPdf	11 20 59.9	-0.3
	comp=Z,1.2nm,0.6s,baz=46,slow=5.5,SNR=4.6							
AKASG	Malin Array Be	143.77	336	PKP		PKPdf	11 21 15.2	-0.2
	comp=Z,1.9nm,0.7s,baz=36,slow=3.6,SNR=4.6							
AKBB	Malin Array Si	143.77	336	ePKPdf		PKPdf	11 21 15.9	+0.6
CWF	Charnwood Fore	145.87	9	ePKPdf		PKPbc	11 21 19.6	0.0
CLL	Collm	147.49	353	j PKPbc		PKPbc	11 21 24.4	+0.1
	comp=Z,18nm,0.9s							
STHS	Stebnicka Huta	147.59	342	ePKP		PKPbc	11 21 25.7	+1.0
BRG	Berggiesshubel	147.79	351	ePKP		PKPbc	11 21 25.8	+0.6
	comp=Z,8.1nm,0.9s							
UPC	Upice	147.81	349	ePKP		PKPbc	11 21 25.9	+0.7
DPC	Dobruska-Polom	147.91	348	ePKP		PKPbc	11 21 26.1	+0.6
DPC				epPKP		PKPab	11 21 28.8	+0.7
PVCC	Panska Ves	148.04	350	ePKP		PKPbc	11 21 26.1	+0.3
PRU	Pruhonice	148.57	350	ePKP		PKPbc	11 21 27.8	+0.6
GOPC	GO Pecny, Ondr	148.60	350	ePKP		PKPbc	11 21 27.2	-0.1
BR101	Keskin Array S	149.01	317	ePKPbc		PKPbc	11 21 28.9	0.0
BRTR	Keskin Array B	149.02	317	PKPbc		PKPbc	11 21 28.9	0.0
	comp=Z,3.6nm,0.8s,baz=134,slow=4.0,SNR=10							
VYHS	Vyhne	149.09	344	ePKP		PKPbc	11 21 29.3	+0.7
KHC	Kasperske Hory	149.55	351	ePKP		PKPbc	11 21 30.1	+0.3
KHC				epPKP		pPKPdf	11 21 35.3	+0.7
GEC2	GERESS Array S	149.81	351	ePKPbc		PKPbc	11 21 31.1	+0.6
GERES	GERESS Array B	149.81	351	PKP		PKPdf	11 21 23.7	-2.0
	comp=Z,2.2nm,0.8s,baz=49,slow=2.6,SNR=4.1							
GERES				PKPbc		PKPbc	11 21 29.9	-0.5
	comp=Z,1.8nm,0.7s,baz=38,slow=2.4,SNR=12							
GEA0	GERESS Array S	149.82	351	ePKPdf		PKPdf	11 21 25.4	-0.3
GEA0				ePKPbc		PKPbc	11 21 30.6	+0.1
CONA	Conrad Observa	150.31	348	ePKiKP		PKiKP	11 21 32.5	0.0
	comp=Z,12nm,1.2s							
MOA	Molln	150.68	350	ePKPbc		PKPbc	11 21 31.5	-1.0
	comp=Z,7.3nm,1.2s							
RETA	Reutte	151.51	354	ePKPbc		PKPbc	11 21 34.4	-0.2
	comp=Z,5.7nm,1.2s							
KBA	Koelnbreinsper	151.58	350	ePKPbc		PKPbc	11 21 33.7	-1.1
	comp=Z,4.1nm,0.6s							
MOTA	Moosalm	151.61	354	ePKiKP		PKPbc	11 21 35.0	+0.2
	comp=Z,6.0nm,0.7s							
WTTA	Wattenberg	151.64	353	ePKiKP		PKPbc	11 21 34.8	-0.2
	comp=Z,7.1nm,0.7s							
SOKA	Soboth	151.67	348	ePKPbc		PKPbc	11 21 33.9	-1.0
	comp=Z,14nm,1.2s							
PERS	Pernice	151.69	348	i PKPdf		PKPbc	11 21 34.5	-0.4
DAVA	Damuels	151.78	355	ePKiKP		PKiKP	11 21 35.7	+0.1
	comp=Z,10nm,0.9s							
FETA	Feichten	151.97	354	ePKiKP		PKPbc	11 21 35.9	+0.2
	comp=Z,5.6nm,1.0s							
FUORN	Ofenpass-Fuorn	152.41	355	ePKPdf		PKPdf	11 21 31.6	+1.6
FUORN				ePKPbc		PKPbc	11 21 37.0	+0.1
FUORN				ePKPab		PKPab	11 21 47.7	+0.7
VISS	Visnje	152.55	348	i PKPdf		PKPbc	11 21 34.8	-2.1
BOJS	Bojanci	152.75	347	i PKPdf		PKPbc	11 21 34.2	-3.1
TORD	Torodi Ar. Bea	172.36	140	PKP		PKPdf	11 21 48.3	-1.9
	comp=Z,2.1nm,1.1s,baz=123,slow=2.1,SNR=5.4							
TORD				PKPab		PKPab	11 23 14.5	+0.1
	comp=Z,0.7nm,0.9s,baz=236,slow=2.6,SNR=3.3							
TOA1	Torodi Ar. Sit	172.37	140	ePKPdf		PKPdf	11 21 48.3	-2.0
TOA1				ePKPab		PKPab	11 23 14.5	0.0

IDC 14 11:04:15.1±999.0, 48°59N×51°54E, h0km, Error ellipse: s-maj=5172.0km s-min=100.9km az=64.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	4.61	64	i		11 33 30.0	
	baz=249,slow=316,SNR=3.8						
I46RU	ZALESOVO INFRA	21.37	63	i		13 12 50.0	
	baz=271,slow=322,SNR=1.9						
I34MN	SONGINO INFRAS	35.92	70	i		14 47 00.0	
	baz=292,slow=371,SNR=0.6						

KRSC 14 11:05:50.7±2.1, 49°24N×156°29E, h114km±35km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.45	356	eP	Pn	11 06 17.3	+0.2
SKR				eS	Sn	11 06 39.0	+1.9
RUS	Russkaya	3.49	23	eP	Pn	11 06 46.1	+2.9
RUS				eS	Sn	11 07 25.9	+2.1
DALK	Dalny	4.10	21	eP	Pn	11 06 54.0	+2.7
DALK				eS	Sn	11 07 41.0	+2.7
UGLR	Uglovaya	4.28	21	eP	Pn	11 06 56.8	+2.9
AVH	Avacha	4.31	20	eP	Pn	11 06 57.5	+3.2
AVH				eS	Sn	11 07 46.6	+3.0
SDLR	Sedlovina	4.36	21	eP	Pn	11 06 57.1	+2.2
SDLR				eS	Sn	11 07 46.1	+1.3
NLC	Nalytchevo	4.38	25	eS	Sn	11 07 45.9	+0.9
KRX	Arik	4.38	19	eP	Pn	11 06 58.3	+3.0
SPN	Mys Shipunski	4.52	30	eP	Pn	11 07 00.1	+3.1
SPN				eS	Sn	11 07 49.1	+0.7
GNL	Ganaly	4.58	12	eP	Pn	11 06 58.3	+0.4
MKZ	Mys Kozlova	6.29	30	eP	Pn	11 07 22.1	+1.2
MKZ				eS	Sn	11 08 30.7	-0.6

MAN 14 11:08:17, 17°26N×121°54E, h21km, mb5.2, ML4.2, MS4.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.41	139	eP	Pn	11 08 28.3	+0.6
CAUP				eS	Sn	11 08 37.5	+2.8
ABRA	Dolores	0.88	296	eP	Pb	11 08 33.7	+0.1
ABRA				eS	Sn	11 08 47.5	+1.1
SGCP	Mt. Cagua	1.09	26	eP	Pb	11 08 37.4	+0.2
BALP	Baler	1.51	179	eP	Pn	11 08 43.0	+0.2
BALP				eS	Sb	11 09 02.9	-0.1
BOLP	Bolinao	1.79	241	eP	Pb	11 08 49.9	+0.9
BOLP				eS	Sb	11 09 16.0	+5.0
SCZP	Santa Cruz	2.15	227	eP	Pb	11 08 54.7	-0.5
LQP	Lukban	3.13	180⇑	eP	Pb	11 09 22.1	+10
GQP	Guinayangan	3.44	165⇓	eP	Pn	11 09 07.0	-2.4
GQP				eS	Sn	11 09 53.2	+3.6

MAN 14 11:14:39, 17°13N×121°49E, h46km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.37	120	eP	Pn	11 14 50.5	+2.0
CAUP				eS	Sn	11 14 59.9	+4.7
ABRA	Dolores	0.91	305	eP	Pn	11 14 57.4	+2.0
ABRA				eS	Sn	11

ABRA				*e*S	Sb	11 18 20.1	-0.4
BALP	**Baler**	**1.67**	**186**	*e*P	Pn	11 18 16.1	+1.2
BALP				*e*S	Sn	11 18 36.6	+1.4

JMA 14 11:23:09.5±0.1, 36°.75N×141°.28E, h46km±2km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**312**	P	Pn	11 23 20.5	-0.4
ONAJ				S	Sn	11 23 28.3	-0.7
JHO	**Hitachi**	**0.59**	**257**	P	Pn	11 23 21.4	-0.2
JHO				S	Sn	11 23 30.1	-0.2
JFK	**Kawauchi**	**0.70**	**332**	P	Pn	11 23 22.8	-0.3
JFK				S	Sn	11 23 31.9	-1.0
JFT	**Otama**	**1.07**	**316**	P	Pn	11 23 29.1	+0.9
JFT				S	Sn	11 23 43.5	+1.5
JMM	**Marumori**	**1.18**	**341**	P	Pn	11 23 29.8	+0.2
JFY	**Yanaizu**	**1.42**	**298**	P	Pn	11 23 34.6	+1.7
JFY				S	Sn	11 23 53.4	+3.0
MAT	**Matsushiro**	**2.48**	**266**	P	Pn	11 23 50.3	+2.9
MAT				*e*S	Sn	11 24 18.9	+2.4

*IDC **14** 11:53:34.1±1.2, 30°.41S×177°.46W, h0km, mb4.7/3, mb1 4.8/4, mb1mx4.2/27, mbtmp4.7/4, ML4.4/1, MS3.9/8, Ms1 3.9/8, ms1mx3.6/21, Error ellipse: s-maj=32.2km s-min=20.8km az=93.0*
*NEIC **14** 11:53:39.7±0.8, 30°.39S×177°.43W, h35km, mb4.6/3, Error ellipse: s-maj=20.5km s-min=13.9km az=74.0*
ISC 14 11:53:39.9±0.8, 30°.49S±0°.06×177.7W±0°.1, h33km, n39, σ2§16/26, mb4.5/6, MS3.9/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**350**	Pn	**Pn**	**11 53 59.7**	**-1.3**
	1μm,0.3s,baz=96,slow=12,SNR=37						
RAO				Sn	**Sb**	**11 54 15.8**	**-2.8**
	2μm,0.3s,baz=90,slow=20,SNR=14						
RAO				LR	LR	11 54 26.7	
	comp=Z,1μm,19.7s,baz=125,slow=43						
RAO	**Raoul Island**	**1.25**	**350**	Pn	**Pn**	**11 53 59.7**	**-1.3**
RAO				*e*Sn	**Sb**	**11 54 17.5**	**-1.2**
WMGZ	**Waiomatatini S**	**8.00**	**203**	*e*PN	Pn	11 55 24.0	-10
WMGZ				SN	**Sn**	**11 56 59.1**	**-3.9**
HAZ	**Te Kaha**	**8.17**	**206**	*e*PN	Pn	11 55 31.7	-4.4
HAZ				*e*SN	**Sn**	**11 57 04.6**	**-2.6**
PKGZ	**Pakihiroa**	**8.18**	**204**	*e*PN	Pn	11 55 31.8	-4.5
PUZ	**Puketiti**	**8.28**	**203**	*e*PN	Pn	11 55 31.7	-5.9
PUZ				*e*SN	Sn	11 57 02.9	-7.1
MWZ	**Matawai**	**8.77**	**206**	*e*PN	Pn	11 55 38.8	-5.6
MWZ				*e*SN	**Sn**	**11 57 18.5**	**-3.6**
URZ	**Urewera**	**8.87**	**208**	Pn	Pn	11 55 40.1	-5.5
	1.2nm,0.3s,baz=281,slow=3.7,SNR=9.2						
URZ				Sn	**Sn**	**11 57 19.7**	**-4.7**
	8.7nm,0.3s,baz=276,slow=21,SNR=11						
KNZ	**Kokohu**	**9.33**	**203**	*e*PN	Pn	11 55 46.0	-6.0
MRZ	**Mangatainoka R**	**11.53**	**207**	*e*PN	Pn	11 56 14.7	-7.5
MRZ				*e*SN	Sn	11 58 18.6	-11
THZ	**Tophouse**	**13.57**	**211**	*e*PN	Pn	11 56 43.8	-6.3
KHZ	**Kahutara**	**13.83**	**208**	*e*SN	Sn	11 59 12.7	-13
OXZ	**Oxford**	**15.21**	**210**	*e*PN	Pn	11 57 02.6	-10
OXZ				*e*SN	Sn	11 59 41.4	-18
MQZ	**McQueen's Vall**	**15.27**	**208**	*e*SN	Sn	11 59 42.7	-18
RPZ	**Rata Peaks**	**15.95**	**211**	Pn	**Pn**	**11 57 22.3**	**+0.5**
	1.3nm,0.3s,baz=58,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**16.51**	**297**	Pn	**P**	**11 57 33.2**	**+1.7**
	0.2nm,0.3s,baz=96,slow=14,SNR=3.2						
DZM				LR	LR	12 02 54.0	
	comp=Z,576nm,18.3s,baz=177,slow=34						
DZM	**Mont Dzumac**	**16.51**	**297**	*e*P	**P**	**11 57 34.1**	**+2.6**
	59nm,1.4s						
DZM				*e*LR	LR	12 01 04.0	
	702nm,23.8s						
RAR	**Rarotonga**	**18.55**	**64**	LR	LR	12 02 47.1	
	comp=Z,255nm,20.3s,baz=250,slow=30						
TBI	**Tubuai**	**26.10**	**81**	*e*LR	LR	12 05 50.9	
	448nm,28.5s						
PPT2	**Papeete2**	**28.61**	**70**	*e*LR	LR	12 06 44.3	
	285nm,25.8s						
PPT	**Papeete**	**28.62**	**70**	LR	LR	12 07 38.8	
	comp=Z,114nm,21.5s,baz=244,slow=30						
CTAO	**Charters Tower**	**34.09**	**279**	*e*P	**P**	**12 00 23.9**	**+2.3**
	25nm,0.4s						
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**12 00 29.1**	**+2.1**
	7.9nm,0.7s,baz=103,slow=12,SNR=18						
STKA				LR	LR	12 13 39.8	
	comp=Z,207nm,18.7s,baz=74,slow=34						
BBOO	**Buckleboo**	**39.21**	**254**	*e*P	**P**	**12 01 05.7**	**+0.6**
	3.5nm,0.5s						
TAOE	**Nuku Hiva Isla**	**41.09**	**66**	*e*LR	LR	12 12 26.5	
	187nm,27.2s,baz=250						
ASAR	**Alice Springs**	**43.38**	**267**	P	**P**	**12 01 39.2**	**-0.3**
	1.0nm,0.3s,baz=101,slow=6.6,SNR=40						
ASAR				LR	LR	12 19 23.7	
	comp=Z,282nm,18.3s,baz=97,slow=36						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**12 01 47.2**	**-0.2**
	4.5nm,0.5s,baz=111,slow=8.1,SNR=33						
WRA				LR	LR	12 19 53.0	
	comp=Z,203nm,18.1s,baz=70,slow=35						
SBA	**Scott Base**	**47.97**	**184**	*e*P	**P**	**12 02 17.7**	**+2.8**
	4.3nm,1.2s						
QSPA	**South Pole Qui**	**59.62**	**180**	*e*P	**P**	**12 03 41.7**	**+1.2**
SNAA	**Sanae**	**78.06**	**178**	*e*P	**P**	**12 05 34.4**	**-0.5**
TXAR	**Lajitas Array**	**92.20**	**57**	LR	LR	12 42 44.5	
	comp=Z,33nm,18.4s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**96.01**	**43**	LR	LR	12 45 05.6	
	comp=Z,44nm,18.2s,baz=276,slow=32						
ARCES	**ARCESS Array B**	**138.73**	**348**	PKP	**PKPdf**	**12 13 01.9**	**+0.2**
	4.4nm,1.0s,baz=23,slow=1.6,SNR=7.0						
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	**PKPdf**	**12 13 12.3**	**-1.2**
	8.1nm,0.4s,baz=58,slow=3.8,SNR=104						
NB2	**NORSAR Subarra**	**148.88**	**352**	PKP	**PKPbc**	**12 13 22.6**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=19,slow=4.4						
NOA	**NORSAR Array B**	**148.88**	**352**	PKPbc	**PKPbc**	**12 13 21.5**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=14,slow=4.2,SNR=5.5						
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	**PKPbc**	**12 13 29.5**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=47,slow=2.9,SNR=8.1						
BRTR	**Keskin Array B**	**152.88**	**298**	PKPbc	**PKPbc**	**12 13 33.0**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=97,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**162.73**	**178**	PKPab	**PKPab**	**12 14 28.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=193,slow=3.6,SNR=4.2						

BEO 14 11:53:41.3±0.4, 42°.49N×24°.11E, h0km, M1.5/5, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.58**	**131**	*e*Pg	Pg	11 53 52.2	-0.3
PLD				*e*Sg	Sg	11 53 59.6	-0.5
VTS	**Vitosha**	**0.67**	**279**	*e*Pg	Pg	11 53 52.6	-1.6
VTS				*e*Sg	Sg	11 54 03.0	0.0
ZAPS	**Zavoj**	**1.34**	**306**	*e*Pg	Pg	11 54 05.7	-1.3
ZAPS				*e*Sg	Sg	11 54 24.6	+0.3
BARS	**Barje**	**1.72**	**282**	*e*Pn	Pn	11 54 12.5	-0.1
BARS				*e*Sn	Sn	11 54 35.2	-0.1
ZAGS	**Zajecar**	**1.91**	**315**	*e*Pg	Pn	11 54 14.9	-0.2
ZAGS				*e*Sg	Sb	11 54 41.5	+0.2

*MAN **14** 11:53:48, 17°.24N×121°.51E, h17km, mb4.6, ML3.5, MS3.4*
*ISCJB **14** 11:53:50.3±0.7, 17°.29N±0°.05×121°.56E±0°.06, h42km±11km, mb3.6/4, Error ellipse: s-maj=10.3km s-min=8.1km az=151.8*
*IDC **14** 11:53:54.1±1.4, 18°.08N×121°.06E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/44, mbtmp3.6/5, Error ellipse: s-maj=61.9km s-min=25.4km az=69.0*
ISC 14 11:53:50.5±1.2, 17°.29N±0°.04×121°.59E±0°.05, h29km±11km, n11, σ1§27/16, mb3.6/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.41**	**147**	*e*P	**Pb**	**11 53 58.8**	**-0.7**
CAUP				*e*S	**Sn**	**11 54 08.4**	**+1.0**
ABRA	**Dolores**	**0.91**	**293**	*e*P	**Pn**	**11 54 05.2**	**-2.1**
ABRA				*e*S	**Sn**	**11 54 18.3**	**-1.1**
SGCP	**Mt. Cagua**	**1.04**	**25**	*e*P	**Pn**	**11 54 08.6**	**-0.7**
SGCP				*e*S	**Sb**	**11 54 24.8**	**+1.6**
BALP	**Baler**	**1.54**	**180**	*e*P	**Pn**	**11 54 13.8**	**-2.4**
BALP				*e*S	**Sn**	**11 54 35.1**	**-0.1**
BOLP	**Bolinao**	**1.84**	**241**	*e*P	**Pn**	**11 54 20.8**	**+0.6**
BOLP				*e*S	**Sb**	**11 54 47.5**	**+1.3**
SCZP	**Santa Cruz**	**2.20**	**227**	*e*P	**Pn**	**11 54 25.6**	**+0.4**
SCZP				*e*S	**Sb**	**11 54 57.4**	**+0.8**
KSRS	**Korea Array**	**20.85**	**14**	P	**P**	**11 58 29.9**	**-0.1**
	0.9nm,0.6s,baz=196,slow=11,SNR=4.9						
SONM	**Songino Array**	**32.91**	**341**	P	**P**	**12 00 23.2**	**+0.7**
	0.6nm,0.6s,baz=156,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**39.06**	**161**	P	P	12 01 30.6	+15
	0.6nm,0.8s,baz=339,slow=9.0,SNR=4.6						
MKAR	**Makanchi Array**	**43.73**	**321**	P	**P**	**12 01 53.5**	**+0.2**
	0.4nm,0.5s,baz=106,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**47.75**	**324**	P	**P**	**12 02 25.1**	**+0.1**
	0.9nm,0.6s,baz=122,slow=8.0,SNR=8.6						

*ATH **14** 11:54:47.4, 38°.88N×27°.81E, h10km±3km, ML2.3/5, Error ellipse: s-maj=4.8km s-min=1.8km az=216.0*
*ISK **14** 11:54:49.7, 39°.09N×27°.51E, h12km, MD2.6*
*DDA **14** 11:54:51.8, 39°.03N×27°.52E, h7km, Md2.3*
*CSEM **14** 11:54:51.8±0.3, 38°.87N×27°.48E, h10km, MD2.3, Error ellipse: s-maj=12.1km s-min=5.7km az=7.0*
ISC 14 11:54:51.4±1.0, 39°.08N±0°.03×27°.55E±0°.02, h11km±9km, n26, σ1§44/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.28**	**134**	*i* P	**Pg**	**11 54 56.7**	**-0.5**
AKHS				*i* S	**Sb**	**11 55 02.9**	**-0.4**
AKHS	**Akhisar**	**0.28**	**134**	P	**Pg**	**11 54 56.7**	**-0.5**
AKHS				S	**Sb**	**11 55 02.9**	**-0.4**
STEP	**BALIKESIR_Sava**	**0.33**	**23**	*i* P	**Pg**	**11 54 57.0**	**-1.0**
STEP				*i* S	**Sg**	**11 55 03.3**	**+0.9**
DEMI	**Demirci**	**0.91**	**92**	*i* P	**Pg**	**11 55 09.4**	**+0.5**
DEMI				*i* S	**Sn**	**11 55 23.8**	**+0.4**
DEMI	**Demirci**	**0.91**	**92**	P	**Pg**	**11 55 09.4**	**+0.5**
DEMI				S	**Sn**	**11 55 23.8**	**+0.4**
MANT	**Manisa**	**0.98**	**126**	*i* P	**Pb**	**11 55 11.0**	**+0.5**
MANT				*i* S	**Sn**	**11 55 26.5**	**+1.1**
MANT	**Manisa**	**0.98**	**126**	P	**Pb**	**11 55 11.0**	**+0.5**
MANT				S	**Sn**	**11 55 26.5**	**+1.1**
PRK	**Paraskevi**	**1.01**	**280**	P	**Pg**	**11 55 10.5**	**-0.3**
PRK				S	**Sn**	**11 55 27.9**	**+2.2**
PRK				AML	AML	11 55 31.6	
	comp=N,143μm,1.4s						
PRK				AML	AML	11 55 32.3	
	comp=E,192μm,1.0s						
PRK	**Paraskevi**	**1.01**	**280**	P	**Pg**	**11 55 10.5**	**-0.3**
PRK				S	**Sn**	**11 55 27.9**	**+2.2**
BAYC	**CANAKKALE_Bayr**	**1.02**	**311**	*i* P	**Pg**	**11 55 11.2**	**+0.1**
BAYC				*i* S	**Sn**	**11 55 26.9**	**+0.7**
KULA	**Kula-Manisa**	**1.03**	**122**	*e*PG	**Pg**	**11 55 10.3**	**-1.0**
KULA				*e*SG	**Sb**	**11 55 26.1**	**+1.1**
KULA	**Kula-Manisa**	**1.03**	**122**	*e*Pg	**Pg**	**11 55 10.3**	**-1.0**
KULA				*e*Sg	**Sb**	**11 55 26.1**	**+1.1**
URLA	**Izmir**	**1.03**	**227**	*e*PG	**Pg**	**11 55 09.7**	**-1.6**
URLA	**Izmir**	**1.03**	**227**	*e*Pg	**Pg**	**11 55 09.7**	**-1.6**
SIGR	**SIGRI**	**1.32**	**276**	*e*PN	**Pn**	**11 55 14.4**	**-1.5**
SIGR	**SIGRI**	**1.32**	**276**	P	**Pb**	**11 55 16.6**	**+0.3**
SIGR				S	**Sg**	**11 55 38.3**	**+4.2**
SIGR				AML	AML	11 55 39.7	
	comp=N,117μm,0.8s						
SIGR				AML	AML	11 55 43.4	
	comp=E,108μm,1.4s						
SIGR	**SIGRI**	**1.32**	**276**	*e*Pn	**Pn**	**11 55 14.4**	**-1.5**
SIGR	**SIGRI**	**1.32**	**276**	P	**Pb**	**11 55 16.6**	**+0.3**
SIGR				S	**Sg**	**11 55 38.3**	**+4.2**
CHOS	**Chios island**	**1.36**	**240**	*e*PN	**Pn**	**11 55 14.7**	**-1.7**
CHOS	**Chios island**	**1.36**	**240**	P	**Pn**	**11 55 14.1**	**-2.3**
CHOS				S	**Sg**	**11 55 36.1**	**+1.1**
CHOS				AML	AML	11 55 42.3	
	comp=N,91μm,0.6s						
CHOS				AML	AML	11 55 42.8	
	comp=E,148μm,0.9s						
CHOS	**Chios island**	**1.36**	**240**	P	**Pn**	**11 55 14.1**	**-2.3**
CHOS	**Chios island**	**1.36**	**240**	*e*Pn	**Pn**	**11 55 14.7**	**-1.7**
CHOS				S	**Sg**	**11 55 36.1**	**+1.1**
LIA	**Limnos Island**	**2.01**	**295**	P	**Pb**	**11 55 27.5**	**-0.4**
LIA				S	**Sg**	**11 55 55.3**	**-0.6**
LIA				AML	AML	11 55 56.2	
	comp=N,115μm,0.8s						
LIA				AML	AML	11 56 05.2	
	comp=E,167μm,1.7s						
LIA	**Limnos Island**	**2.01**	**295**	P	**Pb**	**11 55 27.5**	**-0.4**
LIA				S	**Sg**	**11 55 55.3**	**-0.6**
ALN	**Alexandroupoli**	**2.16**	**328**	P	**Pb**	**11 55 30.6**	**+0.2**
ALN				S	**Sg**	**11 56 00.2**	**-0.5**
ALN				AML	AML	11 56 14.9	
	comp=N,82μm,2.6s						
ALN				AML	AML	11 56 15.5	
	comp=E,56μm,2.0s						
ALN	**Alexandroupoli**	**2.16**	**328**	P	**Pb**	**11 55 30.6**	**+0.2**
ALN				S	**Sg**	**11 56 00.2**	**-0.5**

*ISCJB **14** 11:55:32.0±0.7, 50°.35N±0°.05×18°.88E±0°.04, h0km, Error ellipse: s-maj=6.9km s-min=2.9km az=19.4*
*CSEM **14** 11:55:32.2±0.4, 50°.40N×18°.90E, h1km, ML2.7/5, Error ellipse: s-maj=10.7km s-min=3.9km az=12.0*
*WAR **14** 11:55:33.4, 50°.35N×18°.98E, h1km, Mw2.6*
*PRU **14** 11:55:34.0, 50°.33N×18°.86E, h0km*
ISC 14 11:55:33.2±0.9, 50°.26N±0°.05×18°.88E±0°.02, h0km, n27, σ1§12/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	**11 55 43.7**	**-0.9**
OJC				*e*Sg	**Sg**	**11 55 51.6**	**-0.7**
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	**11 55 43.7**	**-0.9**
OJC				*e*Sg	**Sg**	**11 55 51.6**	**-0.7**
OJC	**Ojcow**	**0.59**	**93**	*e*Pg	**Pg**	**11 55 43.7**	**-0.9**
OJC				*e*Sg	**Sg**	**11 55 51.6**	**-0.7**
OKC	**Ostrava-Krasne**	**0.63**	**228**	*e*PG	**Pb**	**11 55 47.1**	**0.0**
OKC				*e*SG	**Sb**	**11 55 57.2**	**+0.7**
	comp=Z,22nm,0.5s						
OKC	**Ostrava-Krasne**	**0.63**	**228**	Pg	**Pb**	**11 55 47.1**	**0.0**
OKC				Sg	**Sb**	**11 55 57.2**	**+0.7**
	22nm,0.5s						
LANS	**Liptovska Anna**	**1.17**	**161**	*e*PG	**Pn**	**11 55 56.9**	**0.0**
LANS				*e*SG	**Sn**	**11 56 13.6**	**0.0**
NIE	**Niedzica**	**1.25**	**132**	*e*Pg	**Pn**	**11 55 57.8**	**-0.1**
NIE				*e*Sg	**Sn**	**11 56 16.2**	**+0.8**
NIE	**Niedzica**	**1.25**	**132**	*e*Pg	**Pn**	**11 55 57.8**	**-0.1**
NIE				*e*Sg	**Sn**	**11 56 16.2**	**+0.8**
NIE	**Niedzica**	**1.25**	**132**	*e*Pg	**Pn**	**11 55 57.8**	**-0.1**
NIE				*e*Sg	**Sn**	**11 56 16.2**	**+0.8**
KRLC	**Kraliky**	**1.36**	**263**	*e*PG	**Pg**	**11 55 58.3**	**-0.9**
KRLC				*e*SG	**Sg**	**11 56 16.9**	**+0.1**
KRLC	**Kraliky**	**1.36**	**263**	Pg	**Pg**	**11 55 58.3**	**-0.9**
KRLC				Sg	**Sg**	**11 56 16.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*PG	**Pn**	**11 56 03.2**	**-0.1**
DPC				*e*SG	**Sg**	**11 56 26.2**	**+0.3**
	comp=Z,17nm,0.6s						
DPC	**Dobruska-Polom**	**1.64**	**274**	Pg	**Pn**	**11 56 03.2**	**-0.1**
DPC				Sg	**Sg**	**11 56 26.2**	**+0.3**
	17nm,0.6s						
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pb**	**11 56 05.6**	**-0.6**
KSP				*e*Sg	**Sg**	**11 56 30.2**	**+0.9**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pb**	**11 56 05.6**	**-0.6**
KSP				*e*Sg	**Sg**	**11 56 30.2**	**+0.9**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pb**	**11 56 05.6**	**-0.6**
KSP				*e*Sg	**Sg**	**11 56 30.2**	**+0.9**
STHS	**Stebnicka Huta**	**1.75**	**118**	*e*PN	**Pb**	**11 56 06.0**	**-0.2**
STHS				*e*SN	**Sg**	**11 56 31.5**	**+2.1**
STHS				*e*LG	Lg	11 56 33.8	
VYHS	**Vyhne**	**1.77**	**181**	*e*PG	**Pn**	**11 56 05.5**	**+0.5**
VYHS				*e*SN	**Sb**	**11 56 29.2**	**+0.1**
VYHS				*e*LG	Lg	11 56 31.7	
UPC	**Upice**	**1.85**	**279**	*e*SG	**Sg**	**11 56 32.8**	**+0.2**
	comp=Z,6.1nm,0.3s						
UPC	**Upice**	**1.85**	**279**	Sg	**Sg**	**11 56 32.8**	**+0.2**
	6.1nm,0.3s						
KECS	**Kecovo**	**2.06**	**149**	*e*	**Pn**	**11 56 08.7**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN	**Pb**	**11 56 13.9**	**+0.7**
PRU	**Pruhonice**	**2.80**	**266**	*e*SG	**Sg**	**11 57 01.3**	**-1.9**
	comp=Z,8.1nm,0.6s						
PRU	**Pruhonice**	**2.80**	**266**	Sg	**Sg**	**11 57 01.3**	**-1.9**
	8.1nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	*e*SG	**Sg**	**11 57 28.9**	**-0.5**
	comp=Z,7.3nm,0.5s						
KHC	**Kasperske Hory**	**3.62**	**254**	Sg	**Sg**	**11 57 28.9**	**-0.5**
	7.3nm,0.5s						
CLL	**Collm**	**3.87**	**288**	*i* Sg	**Sg**	**11 57 42.8**	**+5.3**

*ISK **14** 11:56:19.7, 38°.86N×34°.99E, h8km, MD2.7*
*ISCJB **14** 11:56:21.3±0.8, 38°.98N±0°.06×34°.86E±0°.06, h0km, Error ellipse: s-maj=8.2km s-min=6.1km az=159.0*
*CSEM **14** 11:56:21.3±0.3, 38°.97N×34°.88E, h2km, MD2.3, Error ellipse: s-maj=8.1km s-min=5.8km az=163.0, Suspected Mining explosion.*
*DDA **14** 11:56:21.3, 39°.00N×34°.88E, h7km, Md2.3, Suspected Mining explosion.*
ISC 14 11:56:21.9±1.0, 39°.00N±0°.04×34°.93E±0°.04, h0km, n15, σ0§52/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNS	**Nevsehir-Avano**	**0.21**	**198**	*i* P	**Pg**	**11 56 25.6**	**-0.3**
AVNS	**Nevsehir-Avano**	**0.21**	**198**	P	**Pg**	**11 56 25.6**	**-0.3**
CDAG	**Cicekdag**	**0.75**	**325**	*i* P	**Pg**	**11 56 35.6**	**-0.8**
CDAG	**Cicekdag**	**0.75**	**325**	P	**Pg**	**11 56 35.6**	**-0.8**
SERE	**Sereflikochisa**	**1.06**	**267**	*e*PN	**Pg**	**11 56 42.5**	**+0.2**
SERE				*e*SN	**Sg**	**11 56 56.5**	**+0.3**
SERE	**Sereflikochisa**	**1.06**	**267**	*e*Pn	**Pg**	**11 56 42.5**	**+0.2**
SERE				*e*Sn	**Sg**	**11 56 56.5**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.10**	**68**	*i* P	**Pg**	**11 56 42.8**	**-0.3**
CUSAR				*i* S	**Sb**	**11 56 59.4**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.10**	**68**	P	**Pg**	**11 56 42.8**	**-0.3**
CUSAR				S	**Sb**	**11 56 59.3**	**+0.3**
CORM	**Corum**	**1.20**	**349**	*e*PN	**Pb**	**11 56 45.9**	**+0.3**
CORM				*e*SN	**Sn**	**11 57 03.7**	**+0.6**
CORM	**Corum**	**1.20**	**349**	*e*Pn	**Pb**	**11 56 45.9**	**+0.3**
CORM				*e*Sn	**Sn**	**11 57 03.7**	**+0.6**
COAL	**Corum-Alaca**	**1.25**	**2**	*i* P	**Pg**	**11 56 46.0**	**+0.1**
COAL	**Corum-Alaca**	**1.25**	**2**	P	**Pg**	**11 56 46.0**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.31**	**117**	*e*PN	Pg	11 56 42.3	-4.8
AFSR	**Af´ar-Bala (A**	**1.51**	**288**	*e*PN	**Pn**	**11 56 49.5**	**-0.8**
AFSR	**Af´ar-Bala (A**	**1.51**	**288**	*e*Pn	**Pn**	**11 56 49.5**	**-0.8**

IDC 14 11:58:41.5±2.1, 28°.25S×178°.21W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/23, mbtmp4.3/3, Error ellipse: s-maj=52.4km s-min=19.5km az=57.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**166**	Pn	Pn	11 59 03.4	+0.2
	301nm,0.3s,baz=96,slow=12,SNR=10						
RAO				Sn	Sn	11 59 20.0	+1.6
	565nm,0.3s,baz=196,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**34.84**	**254**	P	P	12 05 32.7	-1.7
	2.3nm,0.8s,baz=110,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**43.08**	**265**	P	P	12 06 43.5	-0.1
	7.3nm,0.5s,baz=106,slow=7.4,SNR=7.8						
WRA	**Warramunga Arr**	**43.87**	**270**	P	P	12 06 51.1	+1.1
	0.8nm,0.3s,baz=111,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**143.07**	**341**	PKP	PKPdf	12 18 16.3	-0.4
	1.8nm,0.5s,baz=45,slow=2.1,SNR=11						
BRTR	**Keskin Array B**	**151.36**	**302**	PKPbc	PKPbc	12 18 36.7	-0.8
	0.9nm,0.7s,baz=38,slow=3.5,SNR=3.7						

*DDA **14** 12:09:12.4, 39°.08N×29°.12E, h14km, Ml3.2*
*ISCJB **14** 12:09:13.5±0.4, 39°.16N±0°.02×29°.11E±0°.03, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.8km az=1.8*
*CSEM **14** 12:09:13.5±0.2, 39°.16N×29°.12E, h10km, MD2.7, Error ellipse: s-maj=3.7km s-min=3.2km az=108.0*
*ISK **14** 12:09:13.0, 39°.14N×29°.07E, h12km, MD2.7*
ISC 14 12:09:13.3±0.9, 39°.16N±0°.02×29°.11E±0°.02, h12km±7km, n41, σ0§71/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**234**	*e*PG	**Pg**	**12 09 16.6**	**0.0**
GEDZ	**Gediz**	**0.26**	**116**	*e*PG	**Pb**	**12 09 19.1**	**-0.9**
GEDZ	**Gediz**	**0.26**	**116**	*e*Pg	**Pb**	**12 09 19.1**	**-0.9**
GDZ	**Gediz**	**0.29**	**103**	*i* P	**Pb**	**12 09 19.8**	**-0.9**
GDZ				*i* S	**Sg**	**12 09 23.9**	**+0.4**
GDZ	**Gediz**	**0.29**	**103**	P	**Pb**	**12 09 19.8**	**-0.9**
GDZ				S	**Sg**	**12 09 23.9**	**+0.4**
DEMI	**Demirci**	**0.33**	**250**	*i* P	**Pb**	**12 09 20.9**	**-0.3**
DEMI				*i* S	**Sb**	**12 09 25.4**	**-1.1**
DEMI	**Demirci**	**0.33**	**250**	P	**Pb**	**12 09 20.9**	**-0.3**
DEMI				S	**Sb**	**12 09 25.4**	**-1.1**
TVSB	**Tavsanli**	**0.40**	**43**	*e*PG	**Pb**	**12 09 22.0**	**-0.4**
TVSB	**Tavsanli**	**0.40**	**43**	*e*Pg	**Pb**	**12 09 22.0**	**-0.4**

SPIA	**Saint Paul Isl**	**7.92**	**43**	P	Pn	12 13 40.7	0.0
UNV	**Unalaska Valle**	**8.51**	**70**	P	Pn	12 13 50.6	+1.8

MAN 14 12:13:02, 17°.10N×122°.27E, h24km, mb4.5, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.45**	**251**	*e*P	Pn	12 13 13.1	+0.2
CAUP				*e*S	Sn	12 13 21.7	+1.4
SGCP	**Mt. Cagua**	**1.16**	**350**	*e*P	Pn	12 13 23.0	+0.3
SGCP				*e*S	Sb	12 13 38.7	+0.7
BALP	**Baler**	**1.50**	**206**	*e*P	Pn	12 13 28.1	+0.7
BALP				*e*S	Sb	12 13 47.8	-0.1
ABRA	**Dolores**	**1.58**	**291**	*e*P	Pb	12 13 32.0	+1.4

ISK ***14*** *12:17:15.4, 41°.51N×36°.08E, h4km, MD2.7*
DDA ***14*** *12:17:18.0, 41°.38N×35°.80E, h7km, Ml3.0*
CSEM ***14*** *12:17:18.7±0.6, 41°.41N×35°.86E, h10km, ML3.0, Error ellipse: s-maj=17.4km s-min=9.6km az=51.0*
ISCJB ***14*** *12:17:19.8±0.6, 41°.37N±0°.04×35°.82E±0°.05, h4km±16km, Error ellipse: s-maj=7.9km s-min=4.7km az=140.9*

ISC 14 12:17:18.8±1.0, 41°.40N±0°.06×35°.83E±0°.04, h13km±12km, n13, σ1.8 20/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.27**	**99**	*i*P	**Pb**	**12 17 25.2**	**-0.3**
SAMS				*i*S	**Sg**	**12 17 30.2**	**+1.9**
SAMS	**Samsun-Alacam**	**0.27**	**99**	P	**Pb**	**12 17 25.2**	**-0.3**
SAMS				S	**Sg**	**12 17 30.2**	**+1.9**
HAVZ	**Havza**	**0.34**	**195**	*i*P	**Pg**	**12 17 25.8**	**+0.1**
HAVZ				*i*S	**Sg**	**12 17 30.9**	**+0.5**
HAVZ	**Havza**	**0.34**	**195**	P	**Pg**	**12 17 25.8**	**+0.1**
HAVZ				S	**Sg**	**12 17 30.9**	**+0.5**
KVT	**Kavak**	**0.36**	**153**	*e*PG	**Pg**	**12 17 23.9**	**-2.2**
KVT				*e*SG	**Sg**	**12 17 31.4**	**+0.4**
KVT	**Kavak**	**0.36**	**153**	*e*Pg	**Pg**	**12 17 23.9**	**-2.2**
KVT				*e*Sg	**Sg**	**12 17 31.4**	**+0.4**
DIKM	**Dikmen**	**0.50**	**300**	*e*PG	**Pb**	**12 17 28.5**	**-0.8**
DIKM				*e*SG	**Sb**	**12 17 37.4**	**+0.9**
DIKM	**Dikmen**	**0.50**	**300**	*e*Pg	**Pb**	**12 17 28.5**	**-0.8**
DIKM				*e*Sg	**Sb**	**12 17 37.4**	**+0.9**
SNOP	**Sinop**	**0.77**	**323**	*e*PG	**Pb**	**12 17 32.5**	**-1.5**
SNOP	**Sinop**	**0.77**	**323**	*e*Pg	**Pb**	**12 17 32.5**	**-1.5**
SINO	**SINOP_Merkez**	**0.77**	**323**	*i*P	**Pn**	**12 17 35.6**	**+0.2**
SINO				*i*S	**Sn**	**12 17 47.4**	**+0.5**
CORM	**Corum**	**1.53**	**217**	*e*PN	**Pg**	**12 17 47.9**	**-0.2**
CORM	**Corum**	**1.53**	**217**	*e*Pn	**Pg**	**12 17 47.9**	**-0.2**

GUC 14 12:21:49.7±0.6, 37°.89S×73°.87W, h16km±10km, ML3.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.98**	**158**	⇑*i*P	Pb	12 22 06.5	-1.7
CCSP	**San Pedro de C**	**1.21**	**30**	*e*P	Pn	12 22 10.4	-1.5
CCSP				*i*S	Sb	12 22 25.3	-2.3
CCSP				IAML		12 22 32.1	
	comp=N,4μm,0.6s						
CCHI	**Chillan**	**1.93**	**49**	*e*P	Pn	12 22 19.2	-2.5
CCHI				*i*S	Sn	12 22 45.7	+0.2
CCHI				IAML		12 23 04.3	
	comp=N,3μm,0.4s						
COCH	**Cobquecura**	**1.96**	**27**	*e*P	Pn	12 22 21.6	-0.6
COCH				*i*S	Sn	12 22 43.1	-3.3
COCH				IAML		12 22 58.2	
	comp=E,823nm,1.0s						

MEX 14 12:25:38.9±0.7, 18°.09N×100°.34W, h51km±5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.19**	**358**	*e*P	Pn	12 25 45.7	-1.7
ARIG				*e*S	Sn	12 25 52.0	-1.5
MEIG	**Mezcala**	**0.71**	**103**	*e*P	Pn	12 25 51.2	-1.7
MEIG				*e*S	Sn	12 26 01.0	-2.0
PLIG	**Platanillo**	**0.85**	**69**	*i*P	Pn	12 25 53.0	-1.8
PLIG				*i*S	Sn	12 26 03.9	-2.5
CAIG	**El Cayaco**	**1.04**	**176**	*e*P	Pn	12 25 55.5	-1.7
CAIG				*i*S	Sn	12 26 08.2	-2.5
ZIIG	**Zihuatanejo**	**1.17**	**246**	*e*P	Pn	12 25 57.3	-1.7
ZIIG				*i*S	Sn	12 26 11.9	-2.0
YAIG	**Yautepec**	**1.43**	**57**	*e*P	Pn	12 26 00.7	-2.0
YAIG				*i*S	Sn	12 26 18.3	-2.2
TLIG	**Tlapa**	**1.77**	**107**	*e*P	Pn	12 26 06.4	-0.9
TLIG				*i*S	Sn	12 26 25.9	-2.8
PPM	**Popocatepetl**	**1.90**	**59**	*e*P	Pn	12 26 07.9	-1.4
PPM				*i*S	Sn	12 26 24.2	-8.1
PPM				*e*S	Sn	12 26 30.2	-2.1
PNIG	**Pinotepa**	**2.71**	**128**	*e*P	Pn	12 26 18.9	-1.1
PNIG				*i*S	Sn	12 26 49.5	-2.0
TPIG	**Tehuac#an**	**2.85**	**83**	*i*P	Pn	12 26 20.8	-1.3
TPIG				*e*S	Sn	12 26 53.1	-2.2

KRNET ***14*** *12:37:23.4±0.1, 42°.60N×78°.65E, h17km, mb2.3*
SOME ***14*** *12:37:24.6, 42°.53N×78°.73E, h10km*
NNC ***14*** *12:37:25.0±3.8, 43°.88N×78°.53E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=41.3km s-min=6.8km az=7.0*

ISC 14 12:37:23.9±1.4, 42°.57N±0°.06×78°.67E±0°.03, h0km±11km, n18, σ0.9 86/33, 15C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.63**	**24**	*e*P	**Pg**	**12 37 36.4**	**+0.4**
	6.8nm,0.1s						
UZB				*e*S	**Sg**	**12 37 44.8**	**+0.5**
	32nm,0.2s						
SHLS	**Shalkode**	**0.83**	**44**	*e*P	**Pn**	**12 37 43.9**	**+1.0**
	4.1nm,0.1s						
SHLS				*e*S	**Sn**	**12 37 58.0**	**+2.1**
	63nm,0.2s						
PDGK	**Podgornoye**	**0.97**	**38**	⇑*e*P	**Pg**	**12 37 41.9**	**-0.6**
	baz=40						
PDGK				⇑*i*S	**Sg**	**12 37 55.6**	**+0.6**
	baz=40						
PDGK	**Podgornoye**	**0.97**	**38**	⇑P	**Pg**	**12 37 41.7**	**-0.7**
	0.5nm,0.2s						
PDGK				⇓S	**Sg**	**12 37 55.0**	**-0.1**
	9.4nm,0.4s						
KURS	**Kuram**	**0.99**	**338**	*e*P	**Pn**	**12 37 44.3**	**-0.8**
	1.3nm,0.1s						
KURS				*e*S	**Sn**	**12 37 58.6**	**-1.2**
	5.8nm,0.4s						
KDJ	**Kajisay**	**1.19**	**249**	⇑*i*P	**Pb**	**12 37 46.7**	**-0.7**
	baz=247						
KDJ				⇑*i*S	**Sg**	**12 38 03.0**	**+0.9**
	baz=247						
MDOK	**Medeo**	**1.33**	**297**	Sn	**Sn**	**12 38 08.9**	**+0.4**
MDOK	**Medeo**	**1.33**	**297**	*e*S	**Sn**	**12 38 09.4**	**+1.0**
	11nm,0.4s						
TNSS	**Tian-Shan**	**1.35**	**291**	*e*P	**Pg**	**12 37 50.8**	**+0.9**
	1.1nm,0.1s						
TNSS				*e*S	**Sn**	**12 38 09.5**	**+0.3**
	11nm,0.3s						
ARXS	**Arharly**	**1.76**	**340**	*e*P	**Pg**	**12 37 57.6**	**+0.1**
	9.3nm,0.2s						
ARXS				*e*S	**Sg**	**12 38 21.4**	**+1.1**
	5.8nm,0.1s						
CHKK	**Chushkaly**	**1.78**	**317**	*e*P	**Pg**	**12 37 58.3**	**+0.3**
	14nm,0.2s						
CHKK				*e*S	**Sg**	**12 38 22.5**	**+1.4**
	27nm,0.1s						
ULHL	**Ulahol**	**1.83**	**261**	⇑*i*P	**Pb**	**12 37 57.8**	**-0.5**
	baz=259						
ULHL				⇑*i*S	**Sg**	**12 38 23.0**	**+0.4**
	baz=259						
DJR	**Jarkent**	**1.94**	**24**	*e*P	**Pb**	**12 37 59.5**	**-0.8**
	10nm,0.2s						
DJR				*e*S	**Sb**	**12 38 24.3**	**-0.7**
	18nm,0.3s						
BOOM	**Boomskoye usch**	**2.02**	**269**	⇑*i*P	**Pn**	**12 37 59.8**	**+0.4**
	baz=268						
BOOM				⇑*i*S	**Sb**	**12 38 26.3**	**-1.0**
	baz=268						
DGS	**Degeres**	**2.23**	**289**	*e*P	**Pg**	**12 38 06.4**	**-0.4**
	1.0nm,0.1s						
DGS				*e*S	**Sg**	**12 38 36.2**	**+0.5**
	8.4nm,0.3s						
TKM2	**Tokmak 2**	**2.29**	**280**	⇑*i*P	**Pb**	**12 38 04.7**	**-1.5**
	baz=279						
TKM2				⇑*i*S	**Sb**	**12 38 35.5**	**+0.3**
	baz=279						
TKM2	**Tokmak 2**	**2.29**	**280**	⇑Pn	**Pb**	**12 38 06.2**	**-0.1**
	0.8nm,0.5s						
TKM2				⇑Sn	**Sg**	**12 38 36.9**	**-0.7**
	4.3nm,0.6s						
AAK	**Ala-Archa**	**3.08**	**273**	⇑Pg	**Pg**	**12 38 22.8**	**-0.2**
	0.8nm,0.7s						
AAK				⇑Lg	Lg	12 39 06.6	
	1.0nm,0.3s						

ATH ***14*** *12:44:23.2, 35°.56N×25°.57E, h34km±1km, ML2.8/16, Error ellipse: s-maj=2.0km s-min=0.8km az=171.0*
CSEM ***14*** *12:44:23.9±0.1, 35°.55N×25°.58E, h26km±1km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.3km az=124.0*

THE 14 12:44:24.5, 35°.55N×25°.57E, h23km±1km, ML3.0/12, Error ellipse: s-maj=1.2km s-min=0.3km az=153.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.29**	**173**	P	Pb	12 44 31.2	**0.0**
NPS				S	Sb	12 44 36.2	+0.4
NPS	**Neapolis**	**0.29**	**173**	P	Pb	12 44 31.3	+0.1
NPS				S	Sb	12 44 35.7	-0.1
NPS				AML	AML	12 44 37.1	
	comp=N,5913μm,0.1s						
NPS				AML	AML	12 44 37.6	
	comp=E,6228μm,0.1s						
NPS	**Neapolis**	**0.29**	**173**	P	Pb	12 44 31.0	-0.2
NPS				S	Sb	12 44 36.2	+0.4
NPS				AML	AML	12 44 37.1	
	comp=N,5913μm,0.1s						
NPS				AML	AML	12 44 37.6	
	comp=E,6228μm,0.1s						
NPS	**Neapolis**	**0.29**	**173**	P	Pb	12 44 31.2	0.0
NPS				S	Sb	12 44 36.2	+0.4
LAST	**Lasithi**	**0.40**	**190**	P	Pb	12 44 32.8	-0.2
LAST				S	Sb	12 44 38.9	+0.2
LAST	**Lasithi**	**0.40**	**190**	P	Pb	12 44 33.3	+0.4
LAST				S	Sb	12 44 38.7	0.0
LAST				AML	AML	12 44 39.5	
	comp=N,3012μm,0.2s						
LAST				AML	AML	12 44 39.8	
	comp=E,1386μm,0.1s						
LAST	**Lasithi**	**0.40**	**190**	P	Pb	12 44 32.9	-0.1
LAST				S	Sb	12 44 38.5	-0.2
LAST				AML	AML	12 44 39.5	
	comp=N,3012μm,0.2s						
LAST				AML	AML	12 44 39.8	
	comp=E,1386μm,0.1s						
LAST	**Lasithi**	**0.40**	**190**	P	Pb	12 44 32.8	-0.2
LAST				S	Sb	12 44 38.9	+0.2
IACM	**Heraklion**	**0.47**	**239**	P	Pb	12 44 34.0	-0.2
IACM				S	Sb	12 44 41.8	+1.0
IACM	**Heraklion**	**0.47**	**239**	P	Pb	12 44 35.0	+0.8
IACM				S	Sb	12 44 41.6	+0.8
IACM				AML	AML	12 44 43.1	
	comp=N,13682μm,0.3s						
IACM				AML	AML	12 44 43.2	
	comp=E,14162μm,0.4s						
IACM	**Heraklion**	**0.47**	**239**	P	Pb	12 44 34.5	+0.3
IACM				S	Sb	12 44 41.5	+0.7
IACM				AML	AML	12 44 43.1	
	comp=N,13682μm,0.3s						
IACM				AML	AML	12 44 43.2	
	comp=E,14162μm,0.4s						
IACM	**Heraklion**	**0.47**	**239**	P	Pb	12 44 34.0	-0.2
IACM				S	Sb	12 44 41.8	+1.0
IDI	**Anoyia**	**0.61**	**245**	P	Pb	12 44 36.1	-0.5
IDI				S	Sb	12 44 44.9	+0.1
IDI	**Anoyia**	**0.61**	**245**	P	Pb	12 44 36.7	+0.1
IDI				S	Sb	12 44 44.1	-0.7
IDI				AML	AML	12 44 45.5	
	comp=N,3016μm,0.4s						
IDI				AML	AML	12 44 46.1	
	comp=E,1604μm,0.2s						
IDI	**Anoyia**	**0.61**	**245**	P	Pb	12 44 36.4	-0.2
IDI				S	Sb	12 44 44.5	-0.4
IDI				AML	AML	12 44 45.5	
	comp=N,3016μm,0.4s						
IDI				AML	AML	12 44 46.1	
	comp=E,1604μm,0.2s						
IDI	**Anoyia**	**0.61**	**245**	P	Pb	12 44 36.1	-0.5
IDI				S	Sb	12 44 44.5	-0.3
ZKR	**Zakros**	**0.69**	**129**	P	Pb	12 44 37.7	-0.1
ZKR				S	Sb	12 44 47.0	+0.1
ZKR	**Zakros**	**0.69**	**129**	P	Pb	12 44 38.2	+0.3
ZKR				S	Sb	12 44 47.3	+0.4
ZKR				AML	AML	12 44 47.9	
	comp=E,3985μm,0.3s						
ZKR				AML	AML	12 44 48.4	
	comp=N,2805μm,0.4s						
ZKR	**Zakros**	**0.69**	**129**	P	Pb	12 44 37.7	-0.1
ZKR				S	Sb	12 44 47.0	+0.1
TMBK	**Timbaki Herakl**	**0.81**	**234**	P	Pb	12 44 39.7	-0.2
TMBK				S	Sb	12 44 50.7	+0.3
TMBK	**Timbaki Herakl**	**0.81**	**234**	P	Pb	12 44 39.7	-0.2
TMBK				S	Sb	12 44 50.7	+0.3
THR6	**Thira Island,**	**0.81**	**350**	P	Pb	12 44 39.6	-0.4
THR6	**Thira Island,**	**0.81**	**350**	P	Pb	12 44 39.6	-0.4
SAP1	**Santorini-Akro**	**0.82**	**350**	P	Pn	12 44 40.8	+0.2
SAP1				AML	AML	12 44 52.4	
	comp=N,3503μm,0.4s						
SAP1				S	Sn	12 44 53.0	+1.0
SAP1				AML	AML	12 44 53.3	
	comp=E,3395μm,0.3s						
SIVA	**Sivas**	**0.82**	**229**	P	Pb	12 44 38.9	-1.1
SIVA				S	Sb	12 44 50.8	+0.2
SIVA	**Sivas**	**0.82**	**229**	P	Pn	12 44 41.1	+0.5
SIVA				S	Sn	12 44 52.1	+0.1
SIVA				AML	AML	12 44 53.1	
	comp=N,1698μm,0.2s						
SIVA				AML	AML	12 44 53.2	
	comp=E,2678μm,0.3s						
SIVA	**Sivas**	**0.82**	**229**	P	Pb	12 44 40.2	+0.2
SIVA				S	Sb	12 44 50.7	+0.1
SIVA				AML	AML	12 44 53.1	
	comp=N,1698μm,0.2s						
SIVA				AML	AML	12 44 53.2	
	comp=E,2678μm,0.3s						
SIVA	**Sivas**	**0.82**	**229**	P	Pb	12 44 38.9	-1.1
SIVA				S	Sb	12 44 50.8	+0.2
SANT	**Santorini**	**0.82**	**354**	P	Pb	12 44 39.3	-0.9
SANT				S	Sb	12 44 50.9	+0.1
SANT	**Santorini**	**0.82**	**354**	P	Pb	12 44 39.4	-0.7
SANT				S	Sb	12 44 49.8	-1.0
SANT				AML	AML	12 44 51.7	
	comp=E,2542μm,0.2s						
SANT				AML	AML	12 44 51.9	
	comp=N,1395μm,0.2s						
SANT	**Santorini**	**0.82**	**354**	P	Pb	12 44 38.5	-1.7
SANT				S	Sb	12 44 50.9	0.0
SANT				AML	AML	12 44 51.7	
	comp=E,2542μm,0.2s						
SANT				AML	AML	12 44 51.9	
	comp=N,1395μm,0.2s						
SANT	**Santorini**	**0.82**	**354**	P	Pb	12 44 38.5	-1.7
SANT				S	Sb	12 44 50.9	+0.1
THT1	**Athinios (Pele**	**0.84**	**352**	P	Pb	12 44 39.3	-1.1
THT1				S	Sb	12 44 51.1	-0.2
THR8	**Santorini-Mono**	**0.86**	**355**	P	Pb	12 44 39.8	-0.9
THR3	**Thira Island,**	**0.87**	**351**	P	Pb	12 44 40.2	-0.7
THR3	**Thira Island,**	**0.87**	**351**	P	Pb	12 44 40.2	-0.7
THR7	**Fira-Santorini**	**0.88**	**353**	P	Pb	12 44 40.2	-0.8
THR5	**Thira Island,**	**0.88**	**348**	P	Pb	12 44 40.4	-0.7
THR5	**Thira Island,**	**0.88**	**348**	P	Pb	12 44 40.4	-0.7
THR2	**Thira island,**	**0.90**	**353**	P	Pb	12 44 40.9	-0.5
THR2	**Thira island,**	**0.90**	**353**	P	Pb	12 44 40.9	-0.5
CMBO	**Columbo, Santo**	**0.93**	**352**	P	Pb	12 44 40.5	-1.4
CMBO				S	Sn	12 44 54.7	-0.1
CMBO				AML	AML	12 44 55.1	
	comp=E,1113μm,0.6s						
CMBO				AML	AML	12 44 55.9	
	comp=N,1414μm,0.6s						
CMBO	**Columbo, Santo**	**0.93**	**352**	P	Pb	12 44 40.9	-1.0
CMBO				S	Sn	12 44 54.4	-0.3
CMBO				AML	AML	12 44 55.1	
	comp=E,1113μm,0.6s						
CMBO				AML	AML	12 44 55.9	
	comp=N,1414μm,0.6s						
CMBO	**Columbo, Santo**	**0.93**	**352**	P	Pb	12 44 40.9	-1.0
CMBO				S	Sn	12 44 54.4	-0.3
VAM	**Vamos**	**1.12**	**263**	P	Pn	12 44 43.2	-1.7
VAM				S	Sb	12 44 58.4	-1.1
VAM	**Vamos**	**1.12**	**263**	P	Pn	12 44 42.9	-2.0
VAM				S	Sn	12 45 00.9	+1.3
VAM				AML	AML	12 45 02.9	
	comp=E,494μm,0.2s						
VAM				AML	AML	12 45 04.5	
	comp=N,696μm,0.4s						
VAM	**Vamos**	**1.12**	**263**	P	Pn	12 44 43.1	-1.8
VAM				S	Sn	12 45 00.1	+0.4
VAM				AML	AML	12 45 02.9	
	comp=E,494μm,0.2s						
VAM				AML	AML	12 45 04.5	
	comp=N,696μm,0.4s						
VAM	**Vamos**	**1.12**	**263**	P	Pn	12 44 43.1	-1.8
VAM				S	Sb	12 44 58.4	-1.1
IMMV	**Iera Moni Meta**	**1.30**	**266**	P	Pn	12 44 46.3	-0.9
IMMV	**Iera Moni Meta**	**1.30**	**266**	P	Pn	12 44 46.5	-0.7
IMMV				AML	AML	12 45 11.9	
	comp=N,420μm,0.4s						
IMMV				AML	AML	12 45 15.4	
	comp=E,392μm,0.4s						
IMMV	**Iera Moni Meta**	**1.30**	**266**	P	Pn	12 44 46.2	-1.0
IMMV				S	Sb	12 45 04.2	-0.2
IMMV				AML	AML	12 45 09.6	
	comp=E,392μm,0.3s						
IMMV				AML	AML	12 45 11.9	
	comp=N,420μm,0.4s						
IMMV	**Iera Moni Meta**	**1.30**	**266**	P	Pn	12 44 46.3	-0.9
IMMV				S	Sb	12 45 04.2	-0.2
KARP	**Karpathos**	**1.30**	**90**	P	Pn	12 44 45.9	-1.4
KARP				S	Sn	12 45 02.8	-1.2
KARP	**Karpathos**	**1.30**	**90**	P	Pn	12 44 46.5	-0.8
KARP				S	Sn	12 45 01.6	-2.4
KARP				AML	AML	12 45 08.8	
	comp=N,433μm,0.2s						
KARP				AML	AML	12 45 09.2	
	comp=E,636μm,0.2s						
KARP	**Karpathos**	**1.30**	**90**	P	Pn	12 44 45.4	-1.9
KARP				S	Sb	12 45 04.5	-0.1
KARP				AML	AML	12 45 08.8	
	comp=N,433μm,0.2s						
KARP				AML	AML	12 45 09.2	
	comp=E,636μm,0.2s						
KARP	**Karpathos**	**1.30**	**90**	P	Pn	12 44 45.9	-1.4
KARP				S	Sn	12 45 02.8	-1.2
GVD	**Gavdhos**	**1.41**	**240**	P	Pn	12 44 47.7	-1.0
GVD				AML	AML	12 45 13.2	
	comp=E,403μm,0.3s						
GVD				AML	AML	12 45 18.5	
	comp=N,293μm,0.3s						
GVD	**Gavdhos**	**1.41**	**240**	P	Pn	12 44 48.3	-0.4
GVD				S	Sn	12 45 06.9	+0.4
GVD				AML	AML	12 45 13.2	
	comp=E,403μm,0.3s						
GVD				AML	AML	12 45 18.5	
	comp=N,293μm,0.3s						
GVD	**Gavdhos**	**1.41**	**240**	P	Pn	12 44 48.3	-0.4
GVD				S	Sn	12 45 06.9	+0.4
MHLO	**Agia Marina, M**	**1.48**	**321**	P	Pn	12 44 48.9	-0.8
MHLO				S	Sn	12 45 08.3	0.0
MHLO				AML	AML	12 45 14.4	
	comp=E,802μm,0.5s						
MHLO				AML	AML	12 45 21.5	
	comp=N,531μm,0.4s						
MHLO	**Agia Marina, M**	**1.48**	**321**	P	Pn	12 44 49.1	-0.6
MHLO				S	Sb	12 45 09.0	-0.6
MHLO				AML	AML	12 45 13.2	
	comp=N,665μm,0.4s						
MHLO				AML	AML	12 45 14.4	
	comp=E,802μm,0.5s						
MHLO	**Agia Marina, M**	**1.48**	**321**	P	Pn	12 44 49.1	-0.6
MHLO				S	Sb	12 45 09.0	-0.6
MHLA	**Plaka, Milos I**	**1.51**	**322**	P	Pn	12 44 49.8	-0.3
APE	**Apeiranthos**	**1.51**	**359**	P	Pn	12 44 49.4	-0.9
APE				S	Sn	12 45 08.7	-0.6
APE	**Apeiranthos**	**1.51**	**359**	P	Pn	12 44 49.5	-0.8
APE				AML	AML	12 45 14.8	
	comp=E,129μm,0.2s						
APE				AML	AML	12 45 15.7	
	comp=N,126μm,0.2s						
APE	**Apeiranthos**	**1.51**	**359**	P	Pn	12 44 49.6	-0.7
APE				S	Sn	12 45 09.6	+0.2
APE				AML	AML	12 45 15.7	
	comp=N,126μm,0.2s						
APE				AML	AML	12 45 18.6	
	comp=E,130μm,0.3s						
APE	**Apeiranthos**	**1.51**	**359**	P	Pn	12 44 49.4	-0.9
APE				S	Sn	12 45 08.7	-0.6
SERI	**Serifos**	**1.83**	**332**	P	Pn	12 44 55.0	+0.5
SERI				S	Sn	12 45 15.9	-1.1
ANKY	**Antikythira Is**	**1.87**	**280**	P	Pn	12 44 53.9	-1.2
ANKY	**Antikythira Is**	**1.87**	**280**	P	Pn	12 44 53.8	-1.3
ANKY				AML	AML	12 45 36.0	
	comp=E,249μm,1.1s						
ANKY				AML	AML	12 45 37.5	
	comp=N,115μm,0.8s						
ANKY	**Antikythira Is**	**1.87**	**280**	P	Pn	12 44 53.3	-1.8
ANKY				S	Sn	12 45 18.4	+0.4
ANKY				AML	AML	12 45 24.4	
	comp=N,95μm,0.4s						
ANKY				AML	AML	12 45 30.2	
	comp=E,184μm,0.7s						
ANKY	**Antikythira Is**	**1.87**	**280**	P	Pn	12 44 53.9	-1.2
ANKY				S	Sn	12 45 18.4	+0.4
KYTH	**Kithira**	**2.17**	**290**	P	Pn	12 44 58.4	-0.8
KYTH	**Kithira**	**2.17**	**290**	P	Pn	12 44 59.1	-0.1
KYTH				S	Sn	12 45 24.7	-0.7
KYTH				AML	AML	12 45 34.2	
	comp=E,141μm,0.6s						
KYTH				AML	AML	12 45 53.1	
	comp=N,183μm,1.1s						
KYTH	**Kithira**	**2.17**	**290**	P	Pn	12 44 58.0	-1.2
VLI	**Veliai**	**2.43**	**299**	P	Pn	12 45 01.5	-1.3
VLI				S	Sn	12 45 30.0	-1.7
VLI	**Veliai**	**2.43**	**299**	P	Pn	12 45 00.9	-1.9
VLI				S	Sn	12 45 29.7	-2.0
VLI				AML	AML	12 45 34.6	
	comp=E,88μm,0.6s						
VLI				AML	AML	12 45 49.6	
	comp=N,98μm,0.6s						
VLI	**Veliai**	**2.43**	**299**	P	Pn	12 45 01.1	-1.7
VLI				S	Sn	12 45 31.8	0.0
VLI				AML	AML	12 45 34.6	
	comp=E,88μm,0.6s						
VLI				AML	AML	12 45 34.8	
	comp=N,85μm,0.5s						
VLI	**Veliai**	**2.43**	**299**	P	Pn	12 45 01.5	-1.3
VLI				S	Sn	12 45 30.0	-1.7
CHOS	**Chios island**	**2.86**	**8**	P	Pn	12 45 06.9	-1.9
CHOS				AML	AML	12 45 53.0	
	comp=E,130μm,1.5s						
CHOS				AML	AML	12 46 18.0	
	comp=N,121μm,1.6s						
KLV	**Kalavryta, Ach**	**3.70**	**313**	P	Pn	12 45 20.5	+0.1
KLV	**Kalavryta, Ach**	**3.70**	**313**	P	Pn	12 45 20.5	+0.1

IDC 14 12:45:53.2±7.6, 18°.69S×178°.04W, h618km±85km, mb3.0/4, mb1 3.4/4, mb1mx2.9/19, mbtmp4.0/4, Error ellipse: s-maj=107.4km s-min=34.4km az=151.0, Fiji Islands region

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

Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.53**	**320**	*e*P	Pb	12 53 49.1	+0.3
LUBP				*e*S	Sn	12 54 00.3	+2.2
SJMP	**San Jose**	**1.00**	**149**	*e*P	Pb	12 53 57.6	+1.0
SJMP				*e*S	Sn	12 54 15.6	+5.9
BUSP	**Coron**	**1.37**	**196**	*e*P	Pn	12 54 02.1	+0.6
BUSP				*e*S	Sb	12 54 23.7	+3.7
OTRP	**Odiongan**	**1.69**	**124**	*e*P	Pn	12 54 05.6	-0.3
OTRP				*e*S	Sb	12 54 28.1	-1.2
ENPP	**El Nido**	**2.40**	**209**	*e*P	Pn	12 54 15.9	+0.2

ISCJB ***14*** *13:03:03.9±0.7,59.°14N±0.°03×145.°43W±0.°04,h21km±6km, mb3.9/11,MS3.4/4,Error ellipse: s-maj=4.6km s-min=3.0km az=168.7*
IDC ***14*** *13:03:04.2±0.9,59.°36N×145.°26W,h0km,mb3.9/10, mb1 4.0/14,mb1mx3.9/34,mbtmp3.8/14,ML3.8/4,MS3.1/5, Ms1 3.1/5,ms1mx2.8/34,Error ellipse: s-maj=21.9km s-min=15.3km az=23.0*
NEIC ***14*** *13:03:06.8±0.0,59.°16N×145.°42W,h33km,ML3.8(AEIC), After AEIC.*
ISC 14 13:03:05.8±1.8,59.°25N±0.°05×145.°36W±0.°03, h16km±11km,n122,σ1§01/131,mb4.1/11,MS3.4/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.53**	**290**	*e*Pg	Pb	13 03 17.0	+0.2
KAIM	**Kayak Island**	**0.83**	**35**	P	Pn	13 03 21.9	-0.9
SUCK	**Suckling Hills**	**1.15**	**43**	P	Pb	13 03 27.0	-0.4
SUCK				S	Sg	13 03 43.4	+0.2
RAGM	**Ragged Mountai**	**1.19**	**17**	*e*Pn	Pn	13 03 27.4	-0.5
RAGM				*e*Sg	Sg	13 03 45.1	+0.7
NICHA	**Nichawak Mount**	**1.22**	**35**	P	Pb	13 03 28.1	-0.3
HMT	**Hamilton**	**1.23**	**26**	P	Pb	13 03 28.3	-0.3
HMT				S	Sg	13 03 45.4	-0.1
SGAM	**Sherman Glacie**	**1.26**	**3**	P	Pb	13 03 28.5	-0.6
SGAM				S	Sg	13 03 46.4	-0.1
HIN	**Hinchinbrook I**	**1.29**	**334**	P	Pn	13 03 28.7	-0.5
EYAK	**Cordova Ski Ar**	**1.32**	**352**	*e*Pn	Pn	13 03 29.1	-0.4
EYAK				*e*Sn	Sb	13 03 46.9	+0.1
BGLC	**Bering Glacier**	**1.37**	**49**	P	Pb	13 03 30.3	-0.7
GOAT	**Goat Mountain**	**1.38**	**13**	P	Pb	13 03 30.4	-0.8
BERG	**Berg Lake**	**1.42**	**35**	P	Pn	13 03 30.7	-0.2
BERG				S	Sb	13 03 49.9	+0.1
GRIN	**Grindle Hills**	**1.46**	**44**	P	Pb	13 03 31.7	-0.9
GRIN				S	Sg	13 03 51.9	-1.1
KHIT	**Khitrov Hills**	**1.60**	**41**	P	Pn	13 03 33.3	-0.3
FID	**Port Fidalgo**	**1.61**	**340**	*e*Pn	Pn	13 03 33.3	-0.3
FID				*e*Sn	Sb	13 03 54.9	-0.3
WAX	**Waxell Ridge**	**1.75**	**45**	P	Pn	13 03 35.2	-0.3
BMRM	**Bremner River**	**1.77**	**12**	*e*Pn	Pn	13 03 35.7	0.0
BMRM				*e*Sn	Sb	13 03 58.3	-1.4
BARK	**Barkley Ridge**	**1.85**	**50**	P	Pn	13 03 36.9	-0.1
GLI	**Glacier Island**	**1.85**	**333**	*e*Pn	Pn	13 03 36.2	-0.6
GLI				*e*Sn	Sb	13 04 01.4	-0.8
CRQM	**Cirque**	**1.88**	**35**	*e*Pn	Pn	13 03 37.5	+0.1
CRQM				*e*Sn	Sb	13 04 03.5	+0.4
DIV	**Divide**	**1.90**	**354**	*e*Pn	Pn	13 03 37.2	-0.3
DIV				*e*Sn	Sn	13 04 00.8	-0.3
VMT	**TAPS Tl Valdez**	**1.91**	**345**	P	Pn	13 03 37.5	-0.1
JPK	**Jack Peak**	**1.92**	**342**	P	Pn	13 03 37.4	-0.5
VLZ	**Valdez**	**1.95**	**346**	P	Pn	13 03 37.9	-0.3
MESA	**MESA**	**1.96**	**60**	P	Pn	13 03 38.0	-0.6
TGL	**Tana Glacier**	**1.98**	**39**	P	Pn	13 03 38.7	+0.1
ISLE	**Juniper Island**	**2.04**	**47**	P	Pn	13 03 39.4	-0.2
BAGL	**Bagley Icefiel**	**2.07**	**52**	P	Pn	13 03 39.7	-0.1
PWL	**Port Wells**	**2.20**	**319**	P	Pn	13 03 40.5	-1.2
SEW	**Seward**	**2.25**	**294**	*e*Pn	Pn	13 03 40.6	-1.6
KLU	**Klutina**	**2.27**	**353**	*e*Pn	Pn	13 03 42.4	-0.3
RKAV	**Rock Avalanche**	**2.29**	**61**	P	Pn	13 03 42.9	-0.1
PTPK	**Patty Peak**	**2.42**	**35**	P	Pn	13 03 45.2	+0.3
MCARA	**McCarthy VSAT**	**2.44**	**27**	P	Pn	13 03 44.9	0.0
TABL	**Table Mountain**	**2.44**	**59**	P	Pn	13 03 45.0	-0.2
SAMH	**Samovar Hills**	**2.48**	**67**	P	Pn	13 03 45.5	-0.1
CTGM	**Chitina Glacie**	**2.65**	**48**	P	Pn	13 03 47.9	-0.1
KNK	**Knik Glacier**	**2.66**	**326**	P	Pn	13 03 47.8	-0.2
LOGN	**Logan Glacier**	**2.70**	**52**	P	Pn	13 03 48.5	-0.1
PCA	**Pinnacle**	**2.72**	**70**	*e*Pn	Pn	13 03 48.8	-0.1
SLKM	**Skilak Lake**	**2.76**	**299**	P	Pn	13 03 48.8	-0.5
SCM	**Sheep Creek Mo**	**2.77**	**340**	*e*Pn	Pn	13 03 49.7	+0.2
SCM				*e*Sn	Sn	13 04 18.9	-3.7
PS11	**TAPS Pump St11**	**2.84**	**359**	P	Pn	13 03 51.1	+0.6
RC01	**Rabbit Creek A**	**2.86**	**312**	*e*Pn	Pn	13 03 49.6	-1.1
RC01				*e*Sn	Sn	13 04 23.4	-1.5
BRLK	**Bradley Lake**	**2.87**	**283**	*e*Pn	Pn	13 03 51.0	+0.2
YKU2	**Yakutat**	**2.92**	**82**	P	Pn	13 03 50.8	-0.7
SML	**Sawmill**	**2.96**	**331**	*e*Pn	Pn	13 03 52.2	+0.1
BCPM	**Bancas Point**	**2.99**	**74**	P	Pn	13 03 52.3	-0.3
PMR	**Palmer**	**3.01**	**323**	*e*Pn	Pn	13 03 52.2	-0.4
CNPM	**China Poot**	**3.02**	**278**	*e*Pn	Pn	13 03 53.3	+0.4
PNL	**Peninsula**	**3.07**	**80**	P	Pn	13 03 53.1	-0.6
GHO	**Glory Hole Cre**	**3.09**	**327**	P	Pn	13 03 54.1	+0.2
HARP	**HAARP**	**3.17**	**2**	*e*Pn	Pn	13 03 55.6	+0.6
HOM	**Homer**	**3.23**	**280**	*e*Pn	Pn	13 03 56.9	+1.0
SUA	**Susitna One**	**3.48**	**312**	*e*Pn	Pn	13 03 58.2	-1.1
DHAK	**Deception Hill**	**3.68**	**89**	*e*Pn	Pn	13 04 01.1	-0.9
PAX	**Paxson**	**3.74**	**359**	*e*Pn	Pn	13 04 03.1	+0.3
SPU	**Mount Spurr**	**3.86**	**303**	*e*Pn	Pn	13 04 03.5	-1.0
RSO	**Redoubt South**	**3.92**	**291**	*e*Pn	Pn	13 04 04.8	-0.7
DFR	**Drift River**	**3.93**	**293**	P	Pn	13 04 04.3	-1.2
STLK	**Strandline Lak**	**3.93**	**308**	P	Pn	13 04 04.8	-0.6
SPCP	**Crater Peak Br**	**3.94**	**304**	P	Pn	13 04 05.0	-0.7
DHY	**Denali Highway**	**3.96**	**347**	*e*Pn	Pn	13 04 06.3	+0.3
RDWB	**Redoubt West**	**3.97**	**291**	P	Pn	13 04 05.2	-0.9
KDAK	**Kodiak Island**	**4.06**	**252**	Pn	Pn	13 04 06.8	-0.4
	2.6nm,0.3s,baz=57,slow=5.8,SNR=40						
KDAK				Sn	Sn	13 04 50.3	-4.0
	7.5nm,0.3s,baz=158,slow=22,SNR=12						
KDAK	**Kodiak Island**	**4.06**	**252**	*e*Pn	Pn	13 04 07.1	-0.1
KDAK				*e*Sn	Sn	13 04 50.7	-3.7
SKT	**Skwentna**	**4.09**	**315**	P	Pn	13 04 07.6	-0.1
FOPK	**Fourpeaked Vol**	**4.23**	**267**	P	Pn	13 04 08.8	-0.7
HYT	**Haines Junctio**	**4.25**	**65**	*e*Pn	Pn	13 04 10.6	+0.7
CDD	**Cape Douglas**	**4.29**	**269**	P	Pn	13 04 09.8	-0.5
DOT	**Dot Lake**	**4.46**	**7**	*e*Pn	Pn	13 04 13.5	+0.8
RND	**Reindeer**	**4.50**	**340**	*e*Pn	Pn	13 04 13.9	+0.7
OHAK	**Old Harbor**	**4.66**	**248**	*e*Pn	Pn	13 04 15.4	+0.1
MCK	**McKinley**	**4.81**	**341**	*e*Pn	Pn	13 04 18.4	+0.9
TRF	**Thorofare Moun**	**4.84**	**333**	*e*Pn	Pn	13 04 18.6	+0.6
PPLA	**Purkeypile**	**4.94**	**321**	*e*Pn	Pn	13 04 20.0	+0.7
KAWH	**Katmai**	**4.98**	**264**	P	Pn	13 04 18.9	-1.1
KTH	**Kantishna Hill**	**5.08**	**331**	*e*Pn	Pn	13 04 22.8	+1.6
SKAG	**Skagway**	**5.14**	**83**	*e*Pn	Pn	13 04 21.5	-0.4
HDA	**Harding Lake**	**5.24**	**352**	*e*Pn	Pn	13 04 22.4	-0.9
CAST	**Castle Rocks**	**5.29**	**325**	*e*Pn	Pn	13 04 25.2	+1.2
WRH	**Wood River Hil**	**5.40**	**347**	*e*Pn	Pn	13 04 24.3	-1.3
SVW2	**Sparrevohn**	**5.43**	**294**	*e*Pn	Pn	13 04 24.8	-1.2
WHY	**Whitehorse**	**5.45**	**70**	*e*Pn	Pn	13 04 26.3	-0.1
BESE	**Bessie Mountai**	**5.49**	**92**	*e*Pn	Pn	13 04 26.7	-0.1
CCB	**Clear Creek Bu**	**5.54**	**349**	*e*Pn	Pn	13 04 26.6	-0.9
IL1	**Eielson Array**	**5.59**	**353**	*e*Pn	Pn	13 04 26.4	-1.7
ILAR	**Eielson Array**	**5.59**	**353**	Pn	Pn	13 04 26.3	-1.9
	1.3nm,0.3s,baz=178,slow=13,SNR=79						
ILAR				LR	LR	13 06 24.9	
	comp=Z,65nm,18.8s,baz=140,slow=37						
ILB	**Eielson Array**	**5.59**	**353**	*e*Pn	Pn	13 04 26.9	-1.2
DAWY	**Dawson**	**5.61**	**28**	*e*Pn	Pn	13 04 28.9	+0.4
COLA	**College**	**5.77**	**349**	*e*Pn	Pn	13 04 30.1	-0.5
JIS	**Juneau Island**	**5.79**	**95**	P	Pn	13 04 30.2	-0.7
EGAK	**Eagle**	**5.89**	**18**	*e*Pn	Pn	13 04 32.9	+0.6
TT01	**Tatalina**	**6.34**	**310**	*e*Pn	Pn	13 04 37.7	-0.7
ANNE	**Aniakchak Nort**	**7.13**	**256**	P	Pn	13 04 47.9	-1.4
FYU	**Fort Yukon**	**7.35**	**0**	*e*Pn	Pn	13 04 52.2	0.0
CRAG	**Craig**	**7.62**	**114**	P	Pn	13 04 53.5	-2.5
DLBC	**Dease Lake**	**8.00**	**89**	Pn	Pn	13 05 01.1	-0.2
	2.3nm,0.3s,baz=300,slow=5.9,SNR=20						
DLBC				Sn	Sn	13 06 28.4	-2.8
	0.6nm,0.3s,baz=105,slow=16,SNR=3.8						
DLBC	**Dease Lake**	**8.00**	**89**	P	Pn	13 04 59.6	-1.6
COLD	**Coldfoot**	**8.30**	**347**	*e*Pn	Pn	13 05 04.7	-0.6
H02N1	**VAN INLET T-PH**	**9.32**	**125**	T	T	13 15 06.1	
H02S1	**DAWSON INLET T**	**9.38**	**125**	T	T	13 15 19.4	
	SNR=11						
TOLK	**Toolik Lake Re**	**9.61**	**351**	P	Pn	13 05 22.1	-1.1
INK	**Inuvik**	**10.47**	**25**	Pn	Pn	13 05 34.5	-0.5
	0.2nm,0.3s,baz=229,slow=8.6,SNR=4.2						
BBB	**Bella Bella**	**12.00**	**119**	LR	LR	13 09 40.1	
	comp=Z,48nm,20.6s,baz=316,slow=33						
YKA	**Yellowknife Ar**	**15.24**	**65**	Pn	**P**	**13 06 45.4**	**+0.6**
	0.8nm,0.3s,baz=271,slow=10.0,SNR=26						
PETK	**Petropavlovsk-**	**31.41**	**284**	LR	LR	13 23 55.6	
	comp=Z,39nm,18.4s,baz=80,slow=40						
TXAR	**Lajitas Array**	**41.13**	**118**	P	**P**	**13 10 50.6**	**+1.6**
	0.1nm,0.6s,baz=318,slow=5.2,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**52.16**	**242**	T	T	14 09 48.0	
	baz=32,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**52.17**	**242**	T	T	14 09 48.4	
	baz=32,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**52.18**	**242**	T	T	14 10 00.5	
	baz=32,slow=76,SNR=35						
KSRS	**Korea Array**	**57.12**	**289**	LR	LR	13 37 46.2	
	comp=Z,20nm,20.0s,baz=235,slow=36						
SONM	**Songino Array**	**58.30**	**311**	P	**P**	**13 13 00.9**	**+1.4**
	0.9nm,0.7s,baz=35,slow=8.2,SNR=5.3						
FINES	**FINESS Array B**	**59.46**	**5**	P	**P**	**13 13 06.3**	**-0.8**
	2.4nm,0.9s,baz=21,slow=8.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**60.17**	**328**	P	**P**	**13 13 11.8**	**-0.3**
	0.6nm,0.4s,baz=30,slow=12,SNR=3.4						
ZALV				LR	LR	13 40 30.9	
	comp=Z,51nm,18.2s,baz=250,slow=37						
BVAR	**Borovoye Array**	**64.42**	**337**	P	**P**	**13 13 41.4**	**+0.7**
	1.2nm,0.7s,baz=54,slow=3.8,SNR=6.9						
MKAR	**Makanchi Array**	**67.33**	**327**	P	**P**	**13 13 59.4**	**-0.1**
	0.6nm,0.6s,baz=22,slow=5.3,SNR=5.0						
WMQ	**Urumqi**	**68.39**	**322**	*e*P	**P**	**13 14 06.9**	**+0.7**
WMQ				pP	sP	13 14 15.6	+2.1
WMQ				sP	pP	13 14 20.4	+8.9
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,33nm,3.7s						
WMQ				LR	LR		
	comp=N,20nm,24.1s						
WMQ				LR	LR		
	comp=E,64nm,20.1s						
WMQ				LR	LR		
	comp=Z,28nm,23.1s						
AKASG	**Malin Array Be**	**70.32**	**4**	P	**P**	**13 14 17.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=5.9,SNR=3.1						
ESDC	**Sonseca Array**	**76.37**	**30**	P	**P**	**13 14 54.9**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=335,slow=4.9,SNR=7.0						
KBZ	**Khabaz**	**77.16**	**354**	P	**P**	**13 15 00.3**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=343,slow=4.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**86.65**	**301**	P	**P**	**13 15 49.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=10,slow=5.5,SNR=3.7						

IDC 14 13:04:08.2±1.5,25.°39S×69.°93E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.7/35,mbtmp4.0/6,Error ellipse: s-maj=47.5km s-min=29.0km az=21.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.81**	**8**	T	T	13 26 25.4	
	baz=189,slow=76,SNR=5.2						
H08S2	**Diego Garcia H**	**17.81**	**8**	T	T	13 26 21.0	
	baz=189,slow=76,SNR=6.4						
H08S3	**Diego Garcia H**	**17.83**	**8**	T	T	13 26 27.6	
	baz=189,slow=76,SNR=4.5						
CMAR	**Chiang Mai Arr**	**51.93**	**36**	P	P	13 13 19.0	0.0
	1.0nm,0.8s,baz=229,slow=8.1,SNR=7.4						
ASAR	**Alice Springs**	**57.72**	**103**	P	P	13 14 00.8	-0.3
	6.2nm,0.4s,baz=260,slow=6.9,SNR=4.9						
WRA	**Warramunga Arr**	**59.20**	**99**	P	P	13 14 11.5	+0.1
	2.6nm,1.0s,baz=254,slow=6.5,SNR=6.0						
MKAR	**Makanchi Array**	**72.71**	**9**	P	P	13 15 37.4	-0.4
	0.7nm,0.7s,baz=180,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.68**	**292**	P	P	13 16 01.6	+0.1
	0.3nm,0.5s,baz=102,slow=5.7,SNR=2.5						
SONM	**Songino Array**	**79.92**	**24**	P	P	13 16 19.2	+0.3
	0.2nm,0.3s,baz=216,slow=4.6,SNR=2.8						

IDC 14 13:25:33.5±2.8,12.°63N×144.°84E,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.5/36,mbtmp3.9/3,Error ellipse: s-maj=199.4km s-min=15.6km az=96.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.95**	**2**	Pn	Pn	13 25 54.8	+0.7
	154nm,0.3s,baz=41,slow=1.4,SNR=166						
GUMO				Sn	Sn	13 26 07.5	-0.9
	769nm,0.3s,baz=252,slow=20,SNR=101						
MJAR	**Matsushiro Arr**	**24.55**	**347**	P	P	13 30 54.7	-0.2
	0.7nm,0.6s,baz=164,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**33.98**	**198**	P	P	13 32 19.0	0.0
	0.4nm,0.5s,baz=23,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**37.63**	**197**	P	P	13 32 50.0	-0.3
	6.0nm,0.5s,baz=21,slow=13,SNR=3.6						

JMA ***14*** *13:33:46.1±0.1,23.°31N×121.°54E,h44km±2km,M2.8*
ISCJB ***14*** *13:33:47.1±0.3,23.°30N±0.°02×121.°62E±0.°02,h33km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=136.0*
TAP ***14*** *13:33:47.4,23.°35N×121.°52E,h42km,ML3.4,C*
ISC 14 13:33:46.1±0.9,23.°31N±0.°02×121.°61E±0.°02,h20km±7km, n63,σ0§84/116,3C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.29**	**279**	⇑*i*P	**Pn**	**13 33 54.9**	**-0.3**
	baz=282						
TWF1				*i* S	**Sn**	**13 34 00.3**	**-0.7**
	baz=282						
CHKT	**Chengkung**	**0.30**	**227**	*i* P	**Pn**	**13 33 55.8**	**+0.5**
	baz=205						
CHKT				*i* S	**Sn**	**13 34 02.2**	**+1.0**
	baz=205						
EHY	**Hungye**	**0.33**	**307**	⇑*i*P	**Pn**	**13 33 55.2**	**-0.6**
	baz=310						
EHY				*i* S	**Sn**	**13 34 00.7**	**-1.3**
	baz=310						
TEGC	**Jichi Village**	**0.41**	**351**	*e*P	**Pn**	**13 33 57.7**	**+0.8**
	baz=6.0						
TEGC				*e*S	**Sn**	**13 34 05.4**	**+1.5**
	baz=6.0						
ESL	**Shilin**	**0.53**	**343**	P	**Pb**	**13 33 57.2**	**+0.4**
	baz=344						
ESL				*e*S	**Sb**	**13 34 04.5**	**+0.5**
	baz=344						
ELDTW	**Edau**	**0.55**	**258**	*e*P	**Pb**	**13 33 57.7**	**+0.4**
	baz=247						
ELDTW				*e*S	**Sb**	**13 34 05.1**	**+0.3**
	baz=247						
YUS	**Yu-Shan**	**0.63**	**287**	P	**Pn**	**13 33 59.8**	**-0.6**
	baz=285						
YUS				*e*S	**Sb**	**13 34 08.4**	**+1.1**
	baz=285						
HWA	**Hwalien**	**0.67**	**360**	*e*P	**Pn**	**13 34 00.4**	**-0.1**
	baz=354						
HWA				*e*S	**Sn**	**13 34 09.7**	**-0.6**
	baz=354						
TWG	**Pinlang**	**0.69**	**226**	*e*P	**Pb**	**13 33 59.3**	**-0.2**
	baz=226						
TWG				*e*S	**Sb**	**13 34 08.9**	**+0.3**
	baz=226						
TTN	**Taitung**	**0.69**	**218**	*e*S	**Sn**	**13 34 11.4**	**+0.6**
	baz=219						
ALS	**Alishan**	**0.76**	**286**	P	**Pn**	**13 34 01.9**	**-0.1**
	baz=284						
ALS				S	**Sn**	**13 34 12.4**	**-0.7**
	baz=284						
TWD	**Chiawan**	**0.77**	**359**	*e*P	**Pb**	**13 34 00.9**	**+0.1**
	baz=353						
TWD				*e*S	**Sb**	**13 34 10.9**	**0.0**
	baz=353						
STYT	**Tauyuan**	**0.79**	**260**	*e*P	**Pn**	**13 34 01.8**	**-0.4**
	baz=253						
STYT				S	**Sb**	**13 34 12.3**	**+0.7**
	baz=253						
SMLT	**Sun Moon Lake**	**0.87**	**312**	⇑P	**Pb**	**13 34 02.9**	**+0.4**
	baz=319						
SMLT				S	**Sb**	**13 34 13.9**	**+0.1**
	baz=319						
WHF	**Hehuan Shan**	**0.89**	**340**	P	**Pb**	**13 34 03.0**	**-0.2**
	baz=351						
WHF				S	**Sb**	**13 34 13.7**	**-1.1**
	baz=351						
CHN5	**Tsauling**	**0.90**	**289**	P	**Pn**	**13 34 03.8**	**+0.1**
	baz=288						
CHN5				*e*S	**Sn**	**13 34 16.2**	**0.0**
	baz=288						
TYC	**Yuchr**	**0.91**	**311**	P	**Pn**	**13 34 03.6**	**-0.1**
	baz=318						
TYC				*e*S	**Sn**	**13 34 15.9**	**-0.4**
	baz=318						
WTP	**Ta-pu**	**0.91**	**266**	P	**Pn**	**13 34 04.0**	**+0.2**
	baz=263						
WTP				S	**Sn**	**13 34 16.6**	**+0.1**
	baz=263						
ECL	**Taimali**	**0.93**	**221**	*e*P	**Pb**	**13 34 02.3**	**-1.2**
	baz=215						
ECL				*e*S	**Sb**	**13 34 14.3**	**-1.1**
	baz=215						
CHN4	**Tsaushan**	**0.93**	**273**	S	**Sn**	**13 34 17.2**	**+0.4**
	baz=270						
SGST	**Jiashian**	**0.97**	**257**	P	**Pn**	**13 34 05.2**	**+0.6**
	baz=253						
SGST				S	**Sn**	**13 34 18.0**	**+0.3**
	baz=253						
CHN1	**Nanshi**	**1.00**	**263**	P	**Pn**	**13 34 05.5**	**+0.5**
	baz=260						
CHN1				S	**Sn**	**13 34 19.1**	**+0.5**
	baz=260						
WNT	**Mingjian**	**1.02**	**304**	P	**Pn**	**13 34 05.5**	**+0.2**
	baz=292						
WNT				*e*S	**Sn**	**13 34 19.1**	**+0.1**
	baz=292						
TWT	**Tachien**	**1.02**	**337**	*e*P	**Pb**	**13 34 05.3**	**+0.1**
	baz=344						
TWT				S	**Sb**	**13 34 17.4**	**-0.9**
	baz=344						
TWK	**Hsinying**	**1.03**	**268**	P	**Pn**	**13 34 05.9**	**+0.4**
	baz=265						
TWK				S	**Sn**	**13 34 19.3**	**0.0**
	baz=265						
WGK	**Gukeng**	**1.03**	**292**	P	**Pn**	**13 34 05.9**	**+0.5**
	baz=291						
WGK				S	**Sn**	**13 34 20.0**	**+0.8**
	baz=291						
CHN2	**Minshiung**	**1.06**	**282**	*e*S	**Sn**	**13 34 21.0**	**+1.0**
	baz=281						
CHY	**Chiayi**	**1.10**	**280**	S	**Sn**	**13 34 21.2**	**+0.2**
	baz=278						
ENA	**Nanau**	**1.12**	**6**	P	**Pn**	**13 34 06.5**	**-0.2**
	baz=358						
ENA				*e*S	**Sb**	**13 34 21.2**	**+0.1**
	baz=358						
NNS	**Nan Shan**	**1.15**	**349**	P	**Pn**	**13 34 06.9**	**-0.3**
NNS				*e*S	**Sb**	**13 34 20.0**	**-1.9**
TAW	**Tawu**	**1.15**	**215**	*e*P	**Pb**	**13 34 08.6**	**+1.3**
	baz=204						
TAW				*e*S	**Sb**	**13 34 19.4**	**-2.4**
	baz=204						
EAST	**Anshuo**	**1.15**	**217**	*e*P	**Pn**	**13 34 06.5**	**-0.7**
	baz=209						
CHN3	**Shinhua**	**1.16**	**259**	*e*P	**Pb**	**13 34 09.1**	**+1.5**
	baz=267						
CHN3				*e*S	**Sn**	**13 34 25.4**	**+2.8**
	baz=267						
TWM1	**Shoushan**	**1.19**	**246**	*e*P	**Pb**	**13 34 09.2**	**+1.1**
	baz=243						
TCU	**Taichung**	**1.20**	**315**	*e*P	**Pb**	**13 34 08.3**	**+0.2**
	baz=304						
TCU				*e*S	**Sb**	**13 34 22.7**	**-0.4**
	baz=304						
LAY	**Lan-yu**	**1.26**	**182**	*e*P	**Pn**	**13 34 08.1**	**-0.5**
	baz=172						
LAY				*e*S	**Sn**	**13 34 23.6**	**-1.4**
	baz=172						
CHN8	**Yiju**	**1.28**	**272**	P	**Pn**	**13 34 09.1**	**+0.2**
	baz=270						
CHN8				S	**Sn**	**13 34 25.4**	**-0.1**
	baz=270						
TWQ1	**Liyutan**	**1.29**	**324**	P	**Pn**	**13 34 09.3**	**+0.3**
	baz=325						
TWQ1				S	**Sb**	**13 34 26.3**	**+0.5**
	baz=325						
SCZT	**Fangliau**	**1.30**	**225**	*e*P	**Pb**	**13 34 10.3**	**+0.5**
	baz=211						
SCZT				*e*S	**Sb**	**13 34 27.5**	**+1.4**
	baz=211						
WSF	**Szhu**	**1.31**	**285**	*e*S	**Sn**	**13 34 25.8**	**-0.4**
	baz=284						
TWC	**Suao**	**1.32**	**10**	*e*P	**Pn**	**13 34 09.6**	**+0.2**
	baz=20						
TWC				*e*S	**Sn**	**13 34 26.4**	**+0.1**
	baz=20						
ENTT	**Nioudou**	**1.33**	**358**	P	**Pn**	**13 34 09.3**	**-0.3**
	baz=1.0						
ENTT				*e*S	**Sn**	**13 34 24.9**	**-1.8**
	baz=1.0						
WTCT	**Ta-ch'eng**	**1.34**	**295**	*e*P	**Pn**	**13 34 09.7**	**0.0**
	baz=284						
WTCT				*e*S	**Sn**	**13 34 26.5**	**-0.3**
	baz=284						
NSY	**Sanyi**	**1.35**	**325**	*e*P	**Pb**	**13 34 10.8**	**+0.1**
	baz=326						
NSY				*e*S	**Sb**	**13 34 28.4**	**+0.8**
	baz=326						
NSK	**Sanguang**	**1.38**	**351**	P	**Pn**	**13

NEIC Felt [II] at Diego de Almagro.
*GUC **14** 14:01:46.1±0.6, 28°.59S×69°.21W, h124km±4km, ML4.6*
*IDC **14** 14:01:47.5±2.3, 28°.54S×68°.98W, h102km±19km, mb4.0/9, mb1 4.0/13, mb1mx3.9/27, mbtmp4.2/13, Error ellipse: s-maj=21.3km s-min=14.1km az=72.0*
ISC 14 14:01:47.0±0.6, 28°.62S±0°.04×69°.19W±0°.03, h112km±5km, n217, σ1§54/215, mb4.2/18, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.87**	**98**	⇓*iP*	**Pn**	**14 02 07.8**	**+0.5**
VCA				*i*S	**Sn**	**14 02 23.1**	**+0.5**
VCA				IAML		14 02 23.9	
	comp=E,27μm,0.4s						
VCA	**Vinchina**	**0.87**	**98**	*e*P	**Pn**	**14 02 08.1**	**+0.8**
VCA				*e*S	**Sn**	**14 02 22.8**	**+0.3**
VCA				IAML		14 02 24.0	
	comp=Z,13μm,0.2s						
AGUA	**GUANDACOL**	**1.06**	**145**	*e*P	**Pn**	**14 02 09.3**	**+0.2**
VACH	**Vallenar**	**1.38**	**271**	*e*P	**Pn**	**14 02 12.2**	**-0.5**
VACH				*i*S	**Sn**	**14 02 31.1**	**-1.0**
VACH				IAML		14 02 31.6	
	comp=E,16μm,0.1s						
LCO	**Las Campanas**	**1.39**	**253**	⇑*iP*	**Pn**	**14 02 12.7**	**-0.1**
LCO				*i*S	**Sn**	**14 02 32.1**	**-0.4**
LCO				IAML		14 02 32.9	
	comp=E,16μm,0.5s						
LCO	**Las Campanas**	**1.39**	**253**	*e*P	**Pn**	**14 02 12.8**	**-0.1**
LCO	**Las Campanas**	**1.39**	**253**	*e*Pn	**Pn**	**14 02 12.5**	**-0.4**
LCO				*e*Sn	**Sn**	**14 02 31.4**	**-1.1**
ACDV	**Cuesta del Vie**	**1.55**	**178**	*e*P	**Pn**	**14 02 15.6**	**+0.8**
TLL	**Tololo Astrono**	**2.09**	**222**	⇓*iP*	**Pn**	**14 02 21.5**	**0.0**
TLL				*i*S	**Sn**	**14 02 47.7**	**-0.2**
TLL				IAML		14 02 58.4	
	comp=E,2μm,0.6s						
ACLC	**CERRO LA CRUZ**	**2.12**	**113**	*e*P	**Pn**	**14 02 21.9**	**+0.2**
CDCH	**Caldera**	**2.12**	**316**	*e*P	**Pn**	**14 02 21.2**	**-0.4**
CDCH				*i*S	**Sn**	**14 02 46.8**	**-1.2**
AMOG	**MOGNA**	**2.39**	**166**	*e*P	**Pn**	**14 02 25.2**	**0.0**
AVFE	**Valle Fertil**	**2.53**	**144**	*e*P	**Pn**	**14 02 27.0**	**0.0**
AVFE				IAML		14 02 27.7	
	comp=Z,1μm,0.3s						
RTLL	**Cerro Villicun**	**2.77**	**167**	⇑*iP*	**Pn**	**14 02 30.5**	**+0.4**
RTLL				*i*S	**Sn**	**14 03 02.7**	**-0.6**
RTLL	**Cerro Villicun**	**2.77**	**167**	*e*P	**Pn**	**14 02 30.6**	**+0.4**
APLL	**PUNTA DE LOS L**	**2.92**	**128**	*e*P	**Pn**	**14 02 32.3**	**+0.2**
APLL				IAML		14 03 13.3	
	comp=Z,388nm,0.5s						
CYA	**Choya**	**2.98**	**87**	⇑*iP*	**Pn**	**14 02 32.8**	**0.0**
CYA				*e*S	**Sn**	**14 03 06.0**	**-2.3**
CYA				IAML		14 03 07.1	
	comp=N,661nm,0.8s						
CYA	**Choya**	**2.98**	**87**	*e*P	**Pn**	**14 02 32.9**	**0.0**
RTLS	**Leoncito**	**3.17**	**182**	*e*P	**Pn**	**14 02 36.4**	**+0.7**
RTLS				IAML		14 03 16.2	
	comp=Z,483nm,0.3s						
RTCV	**Cerro Valdivia**	**3.28**	**170**	*e*P	**Pn**	**14 02 37.4**	**+0.5**
ACHE	**Chepes**	**3.35**	**140**	*e*P	**Pn**	**14 02 38.0**	**+0.1**
AUSP	**Uspallata**	**3.60**	**183**	*e*P	**Pn**	**14 02 42.1**	**+0.8**
FSA	**Cafayete**	**3.79**	**50**	⇓*e*P	**Pn**	**14 02 45.1**	**+1.3**
ASAL	**Salagasta**	**3.97**	**176**	*e*P	**Pn**	**14 02 46.9**	**+0.8**
PB14	**IPOC Station P**	**4.12**	**344**	⇓*iP*	**Pn**	**14 02 47.8**	**-0.6**
ROC1	**El Roble**	**4.62**	**199**	*e*Pn	**Pn**	**14 02 52.4**	**-2.6**
ANCH	**Antofagasta**	**5.04**	**347**	*e*P	**Pn**	**14 03 00.1**	**-0.3**
PB10	**IPOC Station P**	**5.23**	**346**	*e*Pn	**Pn**	**14 03 00.6**	**-2.4**
SUCO	**SUCO**	**5.99**	**143**	IAML		14 03 13.5	
	comp=Z,155nm,0.3s						
LVC	**Limon Verde**	**5.99**	**2**	P	**Pn**	**14 03 12.5**	**-1.1**
	comp=Z,481nm,0.3s,baz=187,slow=9.0,SNR=78						
LVC				S	**Sn**	**14 04 18.9**	**-2.2**
	comp=Z,626nm,0.3s,baz=186,slow=21,SNR=4.2						
LVC	**Limon Verde**	**5.99**	**2**	*e*Pn	**Pn**	**14 03 11.8**	**-1.8**
LVC				S	**Sn**	**14 04 18.9**	**-2.2**
LVC				*e*Sn	Sn	14 04 19.4	-1.7
PB04	**IPOC Station P**	**6.32**	**352**	*e*Pn	**Pn**	**14 03 14.7**	**-3.2**
GO05	**HualaæØ**	**6.79**	**199**	*e*Pn	Pn	14 03 18.7	-5.3
PB01	**IPOC Station P**	**7.55**	**358**	*e*Pn	**Pn**	**14 03 31.4**	**-3.1**
CPUP	**Villa Florida**	**10.77**	**81**	P	**Pn**	**14 04 17.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=233,slow=15,SNR=2.8						
TRQA	**Tornquist**	**11.17**	**149**	*e*Pn	**Pn**	**14 04 20.8**	**-2.6**
PLCA	**Paso Flores**	**12.14**	**185**	P	**P**	**14 04 39.8**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=3.6,slow=16,SNR=3.7						
LPAZ	**La Paz**	**12.31**	**5**	P	**Pn**	**14 04 39.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=194,slow=8.4,SNR=7.4						
LPAZ	**La Paz**	**12.31**	**5**	*e*Pn	**Pn**	**14 04 37.6**	**-1.6**
SAML	**Samuel**	**20.37**	**17**	*e*P	Pn	14 06 14.5	-3.4
	comp=Z,9.2nm,1.2s						
BDFB	**Brasilia**	**23.43**	**61**	P	**P**	**14 06 45.3**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=13,slow=9.2,SNR=5.8						
PTGA	**Pitinga**	**29.10**	**19**	P	**P**	**14 07 36.0**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=206,slow=7.6,SNR=5.3						
HELC	**Santa Helena**	**35.14**	**349**	*e*P	**P**	**14 08 31.1**	**+0.7**
	comp=Z,32nm,0.8s						
SNAA	**Sanae**	**55.69**	**159**	P	**P**	**14 11 12.6**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=190,slow=21,SNR=17						
QSPA	**South Pole Qui**	**61.60**	**180**	*e*P	**P**	**14 11 54.0**	**+1.5**
QSPA				*ep*P	**pP**	**14 12 21.6**	**+1.7**
034A	**Hebbronville**	**62.18**	**330**	P	P	14 11 59.0	+2.4
	baz=151						
344A	**Westbrook Farm**	**63.16**	**339**	P	**P**	**14 12 05.0**	**+2.0**
	baz=159						
833A	**Chaparral WMA,**	**63.58**	**330**	P	**P**	**14 12 08.1**	**+2.3**
	baz=151						
147A	**Livingston**	**63.59**	**342**	P	**P**	**14 12 07.4**	**+1.6**
	baz=161						
342A	**Flagon Creek P**	**63.60**	**338**	P	**P**	**14 12 08.2**	**+2.3**
	baz=157						
244A	**Avery, Jackson**	**63.70**	**340**	P	**P**	**14 12 08.4**	**+1.9**
	baz=159						
Y47A	**UCPARC, Winfie**	**64.64**	**343**	P	**P**	**14 12 13.7**	**+1.0**
	baz=162						
Z45A	**Winona**	**64.64**	**341**	P	**P**	**14 12 14.1**	**+1.4**
	baz=160						
Y45A	**Yeager Farm, C**	**65.07**	**341**	P	**P**	**14 12 17.2**	**+1.7**
	baz=160						
JCT	**Junction City**	**65.63**	**331**	P	**P**	**14 12 21.3**	**+2.2**
	baz=151						
WHTX	**Lake Whitney,**	**66.00**	**334**	P	**P**	**14 12 23.0**	**+1.6**
	baz=153						
TX31	**Lajitas Ar. Si**	**66.39**	**327**	*e*P	**P**	**14 12 26.0**	**+1.8**
TXAR	**Lajitas Array**	**66.39**	**327**	P	**P**	**14 12 26.3**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=147,slow=7.8,SNR=17						
WVT	**Waverly**	**66.75**	**344**	*e*P	**P**	**14 12 26.6**	**+0.4**
	comp=Z,12nm,0.8s						
Z36A	**Blue Ridge**	**66.76**	**335**	P	**P**	**14 12 28.1**	**+1.8**
	baz=154						
MIAR	**Mount Ida**	**66.92**	**338**	P	**P**	**14 12 28.8**	**+1.5**
	baz=157						
MIAR	**Mount Ida**	**66.92**	**338**	*e*P	**P**	**14 12 28.3**	**+1.0**
	comp=Z,5.7nm,0.9s						
X39A	**Fountain Ranch**	**67.07**	**338**	P	**P**	**14 12 30.2**	**+2.0**
	baz=156						
W41B	**Gary Mavity, V**	**67.08**	**340**	P	**P**	**14 12 29.8**	**+1.5**
	baz=158						
W40A	**Fergusen Farm,**	**67.35**	**339**	P	**P**	**14 12 31.7**	**+1.8**
	baz=157						
V42A	**Cord**	**67.41**	**341**	P	**P**	**14 12 31.3**	**+1.0**
	baz=159						
X38A	**Whitesboro**	**67.45**	**337**	P	**P**	**14 12 31.7**	**+1.0**
	baz=156						
Y35A	**Marietta**	**67.55**	**335**	P	**P**	**14 12 33.4**	**+2.2**
	baz=154						
X37A	**Clayton**	**67.57**	**337**	P	**P**	**14 12 33.4**	**+2.1**
	baz=155						
W39A	**Magazine**	**67.59**	**338**	P	**P**	**14 12 33.6**	**+2.1**
	baz=157						
V41A	**Mountainview**	**67.62**	**340**	P	**P**	**14 12 33.1**	**+1.4**
	baz=158						
W38A	**Poteau**	**67.71**	**338**	P	**P**	**14 12 34.4**	**+2.1**
	baz=156						
V40A	**Witts Springs**	**67.84**	**339**	P	**P**	**14 12 34.4**	**+1.3**
	baz=158						
U42A	**Revenden**	**67.88**	**341**	P	**P**	**14 12 34.3**	**+1.1**
	baz=159,SNR=7.9						
X36A	**Centrahoma**	**67.89**	**336**	P	**P**	**14 12 34.5**	**+1.1**
	baz=154						
U41A	**Viola**	**68.07**	**340**	P	**P**	**14 12 36.0**	**+1.5**
	baz=159						
W37B	**Quinton**	**68.08**	**337**	P	**P**	**14 12 36.2**	**+1.6**
	baz=155,SNR=5.4						
T44A	**Benton**	**68.11**	**343**	P	**P**	**14 12 36.0**	**+1.3**
	baz=161						
T43A	**Greenville**	**68.29**	**342**	P	**P**	**14 12 37.0**	**+1.2**
	baz=160,SNR=11						
U40A	**Yellville**	**68.36**	**340**	P	**P**	**14 12 37.5**	**+1.2**
	baz=158,SNR=5.4						
V38A	**Canehill**	**68.40**	**338**	P	**P**	**14 12 37.9**	**+1.3**
	baz=156,SNR=5.1						
U39A	**Green Forest**	**68.58**	**339**	P	**P**	**14 12 38.7**	**+1.0**
	baz=157,SNR=5.3						
S44A	**Carbondale**	**68.59**	**343**	P	**P**	**14 12 38.6**	**+0.9**
	baz=161						
V37A	**Hulbert**	**68.66**	**338**	P	**P**	**14 12 39.8**	**+1.6**
	baz=156						
T41A	**Mountain View**	**68.67**	**341**	P	**P**	**14 12 39.1**	**+0.9**
	baz=159,SNR=10						
S43A	**Fulton Ridge,**	**68.69**	**342**	P	**P**	**14 12 39.2**	**+0.8**
	baz=160,SNR=6.7						
V36A	**Jenks**	**68.85**	**337**	P	**P**	**14 12 40.7**	**+1.4**
	baz=155						
TUL1	**Leonard**	**68.91**	**337**	P	**P**	**14 12 41.3**	**+1.6**
	baz=155						
U38A	**Gravette**	**68.92**	**338**	P	**P**	**14 12 41.2**	**+1.4**
	baz=156						
T40A	**Mansfield**	**68.99**	**340**	P	**P**	**14 12 41.4**	**+1.1**
	baz=158						
R44A	**Waltonville**	**69.07**	**343**	P	**P**	**14 12 41.3**	**+0.7**
	baz=161						
S42A	**Caledonia**	**69.08**	**342**	P	**P**	**14 12 41.5**	**+0.7**
	baz=160,SNR=7.5						
O56A	**Blue Knob Stat**	**69.09**	**352**	P	**P**	**14 12 41.5**	**+0.7**
	baz=171						
U37A	**Salina**	**69.13**	**338**	P	**P**	**14 12 42.6**	**+1.5**
	baz=156						
T39A	**Clever**	**69.14**	**339**	P	**P**	**14 12 42.3**	**+1.1**
	baz=157						
V35A	**Meyer Ranch, C**	**69.14**	**336**	P	**P**	**14 12 42.1**	**+1.0**
	baz=154						
MNTX	**Cornudas Mount**	**69.17**	**327**	P	**P**	**14 12 43.2**	**+1.7**
	baz=146						
MNTX	**Cornudas Mount**	**69.17**	**327**	*e*P	**P**	**14 12 41.4**	**0.0**
	comp=Z,2.1nm,0.8s						
S41A	**Jillco Farms,**	**69.17**	**341**	P	**P**	**14 12 42.7**	**+1.4**
	baz=159,SNR=14						
S40A	**Lebanon**	**69.40**	**340**	P	**P**	**14 12 44.1**	**+1.3**
	baz=158,SNR=6.2						
T38A	**Diamond**	**69.43**	**339**	P	**P**	**14 12 44.5**	**+1.6**
	baz=157,SNR=8.2						
N59A	**State Game Lan**	**69.45**	**355**	P	**P**	**14 12 44.6**	**+1.6**
	baz=174						
CCM	**Cathedral Cave**	**69.47**	**342**	P	**P**	**14 12 41.2**	**-1.9**
	comp=Z,17nm,0.8s						
R42A	**Luebbering**	**69.55**	**342**	P	**P**	**14 12 44.7**	**+1.1**
	baz=160,SNR=5.6						
T37A	**Cheneyville 18**	**69.72**	**338**	P	**P**	**14 12 45.9**	**+1.3**
	baz=156						
R41A	**Rosebud**	**69.73**	**342**	P	**P**	**14 12 45.9**	**+1.2**
	baz=159,SNR=6.4						
S39A	**Bolivar**	**69.73**	**340**	P	**P**	**14 12 46.0**	**+1.3**
	baz=158,SNR=8.3						
S38A	**Stockton**	**69.86**	**339**	P	**P**	**14 12 47.0**	**+1.4**
	baz=157,SNR=8.6						
Q43A	**New Douglas**	**69.89**	**343**	P	**P**	**14 12 47.0**	**+1.3**
	baz=161						
MSTX	**Muleshoe**	**69.90**	**331**	P	**P**	**14 12 47.5**	**+1.5**
	baz=149						
SYO	**Syowa Base**	**69.97**	**159**	⇓*e*P	**P**	**14 12 42.4**	**-3.5**
R40A	**Maddies Statio**	**69.98**	**341**	P	**P**	**14 12 47.5**	**+1.3**
	baz=159,SNR=11						
T36A	**Boggs Farm, Ca**	**69.98**	**338**	P	**P**	**14 12 47.8**	**+1.5**
	baz=155						
T35A	**Sooner Cattle**	**70.06**	**337**	P	**P**	**14 12 48.3**	**+1.5**
	baz=155						
Q42A	**Golden Eagle**	**70.08**	**342**	P	**P**	**14 12 48.2**	**+1.3**
	baz=160						
P44A	**Sand Creek, Wi**	**70.12**	**344**	P	**P**	**14 12 48.0**	**+0.9**
	baz=162						
R39A	**Chumby, Stover**	**70.22**	**340**	P	**P**	**14 12 48.9**	**+1.2**
	baz=158						
S37A	**Fort Scott**	**70.27**	**339**	P	**P**	**14 12 49.4**	**+1.3**
	baz=156						
Q41A	**Truxton**	**70.30**	**342**	P	**P**	**14 12 49.5**	**+1.3**
	baz=160						
R38A	**Fenwick Farm,**	**70.37**	**340**	P	**P**	**14 12 49.9**	**+1.3**
	baz=157						
T34A	**McClaskey Farm**	**70.39**	**336**	P	**P**	**14 12 50.3**	**+1.5**
	baz=154						
S36A	**Lake Cedric, C**	**70.48**	**338**	P	**P**	**14 12 50.7**	**+1.4**
	baz=156						
P43A	**Skaggs, Pawnee**	**70.50**	**343**	P	**P**	**14 12 50.1**	**+0.7**
	baz=161						
Q40A	**Laux Farm, Aux**	**70.58**	**341**	P	**P**	**14 12 51.2**	**+1.3**
	baz=159						
P42A	**Winchester**	**70.66**	**343**	P	**P**	**14 12 51.7**	**+1.4**
	baz=160						
S35A	**Otter Creek Ra**	**70.69**	**337**	P	**P**	**14 12 52.2**	**+1.6**
	baz=155						
R37A	**Teagarden Farm**	**70.77**	**339**	P	**P**	**14 12 52.5**	**+1.4**
	baz=156						
Q39A	**Willow Grove F**	**70.88**	**341**	P	**P**	**14 12 52.9**	**+1.2**
	baz=158,SNR=5.1						
Q38A	**Cooks Store, C**	**71.00**	**340**	P	**P**	**14 12 53.8**	**+1.4**
	baz=158,SNR=6.4						
P40A	**Paris**	**71.07**	**341**	P	**P**	**14 12 54.0**	**+1.2**
	baz=157,SNR=5.5						
DBIC	**Dimbokro**	**71.14**	**71**	P	**P**	**14 12 54.6**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=213,slow=7.2,SNR=11						
P39B	**Salisbury**	**71.23**	**341**	P	**P**	**14 12 55.4**	**+1.6**
	baz=158						
R34A	**Isabella, Hill**	**71.56**	**337**	P	**P**	**14 12 57.5**	**+1.6**
	baz=154						
O40A	**La Belle**	**71.57**	**342**	P	**P**	**14 12 57.2**	**+1.3**
	baz=159						
P38A	**Dawn**	**71.58**	**340**	P	**P**	**14 12 57.2**	**+1.3**
	baz=158						
N40A	**Mertquake, Sal**	**72.20**	**342**	P	**P**	**14 13 01.3**	**+1.7**
	baz=160						
ANMO	**Albuquerque**	**72.36**	**329**	P	P	14 13 03.5	+2.5
	baz=146						
N39A	**Derby Farms, D**	**72.45**	**342**	P	**P**	**14 13 02.3**	**+1.2**
	baz=159						
M40A	**Post Highland**	**72.67**	**343**	P	**P**	**14 13 03.5**	**+1.1**
	baz=160						
L43A	**Garden Prairie**	**72.72**	**345**	P	**P**	**14 13 03.7**	**+1.0**
	baz=162						
L41A	**Preston**	**73.04**	**344**	P	**P**	**14 13 06.1**	**+1.6**
	baz=161						
O34A	**Beatrice**	**73.07**	**338**	P	**P**	**14 13 07.1**	**+2.3**
	baz=155						
214A	**Organ Pipe Nat**	**73.14**	**322**	P	P	14 13 08.4	+3.0
	baz=141						
L40A	**Anamosa**	**73.21**	**343**	P	**P**	**14 13 06.9**	**+1.4**
	baz=160						
O33A	**Hebron**	**73.27**	**338**	P	**P**	**14 13 07.2**	**+1.3**
	baz=154						
M37A	**Trindle Farm,**	**73.38**	**341**	P	**P**	**14 13 08.5**	**+1.9**
	baz=157						
L39A	**Vinton**	**73.47**	**342**	P	**P**	**14 13 08.3**	**+1.2**
	baz=159						
K41A	**Shullsburg**	**73.50**	**344**	P	**P**	**14 13 08.3**	**+1.1**
	baz=161						
K40A	**Colesburg**	**73.79**	**343**	P	**P**	**14 13 10.2**	**+1.3**
	baz=160						
K39A	**Oelwein**	**73.99**	**343**	P	**P**	**14 13 11.5**	**+1.5**
	baz=159						
J41A	**Loganville**	**74.14**	**344**	P	**P**	**14 13 12.2**	**+1.2**
	baz=161						
SDCO	**Great Sand Dun**	**74.27**	**331**	P	**P**	**14 13 14.4**	**+2.2**
	baz=147						
J40A	**Soldiers Grove**	**74.35**	**344**	P	**P**	**14 13 13.4**	**+1.2**
	baz=160						
L35A	**Bielow Farm, R**	**74.47**	**340**	P	**P**	**14 13 14.2**	**+1.3**
	baz=156						
J39A	**Decorah**	**74.53**	**343**	P	**P**	**14 13 14.1**	**+0.9**
	baz=160						
BGNE	**Belgrade**	**74.66**	**338**	P	**P**	**14 13 15.4**	**+1.4**
	baz=154						
H42A	**Shiocton**	**74.89**	**346**	P	**P**	**14 13 17.4**	**+2.1**
	baz=162						
Q24A	**Divide**	**75.15**	**332**	P	P	14 13 19.6	+2.3
	baz=148						
WUAZ	**Wupatki**	**75.18**	**325**	P	P	14 13 20.0	+2.7
	baz=142						
I38A	**Scanlan Farm,**	**75.35**	**343**	P	**P**	**14 13 19.2**	**+1.3**
	baz=159						
IKP	**In-Ko-Pah, Jac**	**75.48**	**320**	P	P	14 13 22.4	+3.4
	baz=139						
G42A	**Mountain**	**75.57**	**346**	P	**P**	**14 13 20.5**	**+1.3**
	baz=163						
I37A	**Lemond, Waseca**	**75.61**	**342**	P	**P**	**14 13 20.7**	**+1.4**
	baz=158						
BC3	**Big Chuckawall**	**75.87**	**322**	P	P	14 13 24.2	+2.9
	baz=139						
IRM	**Iron Mountain**	**76.08**	**322**	P	**P**	**14 13 24.6**	**+2.3**
	baz=140						
F41A	**Three Lakes**	**76.19**	**346**	P	**P**	**14 13 23.6**	**+1.0**
	baz=162						
ECSD	**EROS Data Cent**	**76.27**	**340**	P	**P**	**14 13 24.6**	**+1.4**
	baz=156						
F40A	**Park Falls**	**76.58**	**345**	P	**P**	**14 13 26.3**	**+1.5**
	baz=161						
F39A	**Loretta**	**76.76**	**345**	P	**P**	**14 13 27.4**	**+1.5**
	baz=161						
GMRC	**Granite Mounta**	**76.83**	**322**	P	**P**	**14 13 29.0**	**+2.3**
	baz=139						
F38A	**Pierce - Schro**	**77.03**	**344**	P	**P**	**14 13 29.0**	**+1.6**
	baz=160						
HEC	**Hector,Ludlow**	**77.23**	**322**	P	P	14 13 31.9	+3.1
	baz=139						
F36A	**Milaca**	**77.36**	**343**	P	**P**	**14 13 30.0**	**+0.8**
	baz=158						
TUQ	**Turquoise Moun**	**77.47**	**322**	P	P	14 13 33.0	+2.8
	baz=139						
E36A	**McGregor**	**77.89**	**343**	P	**P**	**14 13 33.6**	**+1.4**
	baz=159						
P18A	**Preston Nutter**	**77.92**	**329**	*e*P	P	14 13 35.5	+2.6
	comp=Z,3.7nm,1.0s						
TPNV	**Topopah Spring**	**78.78**	**323**	P	P	14 13 40.5	+3.0
	baz=139						
EYMN	**Ely**	**78.81**	**345**	P	**P**	**14 13 38.3**	**+1.1**
	baz=160						
E31A	**Nome**	**79.21**	**340**	P	**P**	**14 13 41.7**	**+2.3**
	baz=155						
CWC	**Cottonwood Cre**	**79.38**	**322**	P	P	14 13 43.5	+2.7
	baz=138						
R11A	**Troy Canyon, C**	**79.50**	**325**	P	P	14 13 44.3	+2.9
	baz=140						
TOA0	**Torodi Ar. Sit**	**80.05**	**69**	*e*P	**P**	**14 13 45.5**	**+0.9**
	comp=Z,7.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.05**	**69**	P	**P**	**14 13 45.8**	**+1.1**
	comp=Z,5.6nm,0.6s,baz=262,slow=4.8,SNR=36						
BW06	**Boulder Array**	**80.16**	**331**	P	P	14 13 47.3	+2.4
	baz=145						
BW06	**Boulder Array**	**80.16**	**331**	*e*P	**P**	**14 13 46.8**	**+1.8**
PDAR	**Pinedale Array**	**80.16**	**331**	P	**P**	**14 13 47.2**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=112,slow=6.6,SNR=11						
BOSA	**Boshof**	**80.38**	**117**	P	**P**	**14 13 46.8**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=236,slow=2.7,SNR=5.5						
B32A	**Ashes, Strandq**	**80.49**	**342**	P	**P**	**14 13 47.8**	**+1.6**
	baz=156						
A33A	**Warroad**	**80.68**	**343**	P	**P**	**14 13 48.4**	**+1.1**
	baz=157						
RLMT	**Red Lodge**	**81.97**	**333**	P	**P**	**14 13 56.7**	**+2.2**
	baz=145						
LAO	**LASA Array**	**82.10**	**335**	P	**P**	**14 13 56.5**	**+1.6**
	baz=148						
YHH	**Holmes Hill**	**82.35**	**331**	*e*P	P	14 13 59.4	+2.8
	comp=Z,3.0nm,0.7s						
HLID	**Hailey**	**82.94**	**329**	P	**P**	**14 14 01.8**	**+2.3**
	baz=141						
BOZ	**Bozeman (W)**	**83.33**	**332**	P	P	14 14 03.7	+2.3
	baz=143						
J05D	**Fort Rock, OR**	**86.03**	**325**	P	**P**	**14 14 16.8**	**+1.8**
	baz=136						
I05D	**Terrebonne, OR**	**86.84**	**325**	P	P	14 14 21.4	+2.5
	baz=136						
NEW	**Newport**	**87.76**	**330**	P	**P**	**14 14 25.2**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=183,slow=2.6,SNR=3.2						
NEW	**Newport**	**87.76**	**330**	P	P	14 14 25.7	+2.5
	baz=139						
ASAR	**Alice Springs**	**123.46**	**206**	PKP	**PKPdf**	**14 20 32.4**	**+0.6**
	comp=Z,8.4nm,0.6s,baz=138,slow=2.0,SNR=13						
WB2	**Warramunga Arr**	**126.64**	**208**	*e*PKPdf	**PKPdf**	**14 20 38.7**	**+0.9**
WRA	**Warramunga Arr**	**126.64**	**208**	PKP	**PKPdf**	**14 20 38.6**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=166,slow=1.6,SNR=40						
WRA				pPKP	**pPKPdf**	**14 21 08.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=161,slow=1.6,SNR=7.1						
YAK	**Yakutsk**	**144.34**	**345**	*e*PKPdf	**PKPdf**	**14 21 08.6**	**-0.6**
KURK	**Kurchatov**	**147.22**	**39**	*e*PKPdf	**PKPab**	**14 21 16.7**	**-2.2**
AAK	**Ala-Archa**	**147.60**	**55**	*e*PKPbc	**PKPab**	**14 21 17.8**	**-3.1**
ZAA0	**Zalesovo Array**	**148.37**	**30**	*e*PKPdf	**PKPbc**	**14 21 18.8**	**-1.1**
ZAA0				*e*PKPbc	**PKPab**	**14 21 21.4**	**-2.0**
ZALV	**Zalesovo Beam**	**148.37**	**30**	PKPbc	**PKPab**	**14 21 21.3**	**-2.0**
	comp=Z,7.7nm,0.6s,baz=294,slow=3.5,SNR=32						
KSH	**Kashi**	**149.33**	**60**	*e*PKPbc	**PKPdf**	**14 21 15.1**	**-3.4**
KSH				pPKP	pPKPdf	14 21 43.3	-5.7
KSH				sPKP		14 21 54.3	
KSH				PKS	**PKSdf**	**14 24 50.8**	**-2.7**
KSH				PP	**PP**	**14 24 59.1**	**+2.8**
KSH				SKS	**SKSdf**	**14 28 15.1**	**-1.3**
KSH				SKKS	**SKKSac**	**14 31 35.3**	**-1.4**
KSH				SS	**SS**	**14 43 59.8**	**-1.1**
KSH				AMB	AMB		
	comp=Z,57nm,6.4s						
KSH				LR	LR		
	comp=Z,99nm,5.8s						
KSH				LR	LR		
	comp=Z,74nm,6.4s						
KSH				LR	LR		
	comp=Z,86nm,9.1s						
MAKZ	**Makanchi**	**151.08**	**43**	*e*PKPbc	**PKPbc**	**14 21 28.0**	**+1.2**
MK31	**Makanchi Array**	**151.28**	**43**	*e*PKPbc	**PKPbc**	**14 21 28.6**	**+1.4**
MKAR	**Makanchi Array**	**151.28**	**43**	PKPbc	**PKPbc**	**14 21 28.6**	**+1.3**
	comp=Z,6.8nm,

comp=Z,33nm,21.6s,baz=270,slow=30
STKA Stephens Creek 42.67 241 P P 14 41 41.4 +0.4
1.8nm,0.5s,baz=80,slow=8.2,SNR=9.9
WRA Warramunga Arr 48.79 258 P P 14 42 28.6 -0.9
1.0nm,0.4s,baz=96,slow=7.1,SNR=12
ASAR Alice Springs 48.95 253 P P 14 42 30.6 -0.2
7.8nm,0.4s,baz=89,slow=8.6,SNR=42
ILAR Eielson Array 84.00 11 P P 14 46 14.8 +0.7
0.2nm,0.5s,baz=217,slow=5.8,SNR=6.4

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*SCB **14** 14:33:55.3±1.2,21°.48S×71°.95W,h15km,Ml3.6/1,Error ellipse: s-maj=30.3km s-min=8.3km az=51.0*
*GUC **14** 14:34:11.2±0.7,20°.90S×70°.90W,h48km±2km,ML3.9*
*IDC **14** 14:34:17.9±5.4,20°.94S×70°.69W,h63km±33km,mb3.7/1, mb1 3.9/4,mb1mx3.5/27,mbtmp4.0/4,ML3.7/2,MS2.5/1, Ms1 2.6/1,ms1mx2.3/25,Error ellipse: s-maj=71.4km s-min=19.4km az=75.0*
ISC 14 14:34:09.3±2.9,20°.91S±0°.04×70°.93W±0°.09,h10km±16km, n28,σ1§18/26,8C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**1.16**	**57**	⇑*iP*	**Pb**	**14 34 31.2**	**-0.3**
HMBC				*i* S	**Sg**	**14 34 46.6**	**-0.1**
HMBC				IAML		14 34 48.3	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**1.26**	**130**	⇑*iP*	**Pb**	**14 34 33.5**	**+0.2**
PB07				*i* S	**Sb**	**14 34 49.2**	**-0.5**
PB01	**IPOC Station P**	**1.35**	**96**	⇑*iP*	**Pb**	**14 34 34.6**	**-0.2**
PB01				*i* S	**Sn**	**14 34 51.7**	**-0.6**
PB01				IAML		14 34 53.6	
	comp=N,7μm,0.4s						
PSGC	**Pisagua**	**1.51**	**30**	⇑*iP*	**Pn**	**14 34 36.2**	**-0.3**
PSGC				*i* S	**Sn**	**14 34 55.3**	**-1.0**
PB04	**IPOC Station P**	**1.59**	**153**	⇑*iP*	**Pn**	**14 34 38.2**	**+0.6**
PB04				*i* S	**Sn**	**14 34 58.2**	**-0.1**
PB04				IAML		14 35 04.9	
	comp=E,2μm,0.7s						
PB09	**IPOC Station P**	**1.80**	**120**	⇑*iP*	**Pb**	**14 34 42.3**	**-0.2**
PB09				*i* S	**Sb**	**14 35 04.5**	**-0.6**
PB08	**IPOC Station P**	**1.83**	**66**	⇑*iP*	**Pn**	**14 34 41.8**	**+0.6**
PB08				*i* S	**Sb**	**14 35 04.7**	**-1.5**
PB08				IAML		14 35 09.7	
	comp=E,1μm,0.6s						
MNMC	**Minye Minye**	**2.17**	**35**	*eP*	**Pn**	**14 34 46.2**	**+0.5**
MNMC				*i* S	**Sn**	**14 35 11.9**	**-0.9**
MNMC				IAML		14 35 21.7	
	comp=E,3μm,0.5s						
PB06	**IPOC Station P**	**2.18**	**145**	⇑*iP*	**Pn**	**14 34 46.5**	**+0.7**
PB06				*e*S	**Sn**	**14 35 12.8**	**-0.2**
PB06				IAML		14 35 22.6	
	comp=E,666nm,0.3s						
PB12	**IPOC Station P**	**2.35**	**14**	*eP*	**Pn**	**14 34 48.4**	**+0.3**
LVC	**Limon Verde**	**2.52**	**132**	P	**Pb**	**14 34 52.9**	**-2.0**
	comp=E,490nm,0.3s,baz=314,slow=10,SNR=71						
LVC				S	**Sb**	**14 35 23.5**	**-2.6**
	comp=E,829nm,0.3s,baz=299,slow=1.8,SNR=5.1						
BBOJ	**La Paz, Jacaqu**	**4.69**	**34**	*e*Pn	Pb	14 35 26.8	-5.2
BBOD	**La Paz, Gloria**	**4.79**	**28**	*e*Pn	Pb	14 35 28.1	-5.6
BBOE	**La Paz, Chanca**	**4.94**	**35**	*e*Pn	Pb	14 35 31.0	-5.2
MOCB	**Mochara**	**4.95**	**95**	*e*Pn	Pn	14 35 29.4	+5.3
MOCB				*e*Sn	**Sb**	**14 36 37.8**	**+1.7**
	comp=E,35nm,0.9s						
LPAZ	**La Paz**	**5.31**	**30**	P	Pn	14 35 35.5	+6.3
	comp=E,0.5nm,0.3s,baz=222,slow=6.3,SNR=27						
LPAZ				LR	LR	14 37 07.9	
	comp=E,48nm,21.0s,baz=210,slow=33						
LPAZ	**La Paz**	**5.31**	**30**	*e*Pn	Pn	14 35 35.0	+5.8
BBOB	**La Paz, Bander**	**5.44**	**30**	*e*Pn	Pn	14 35 36.8	+5.9
SIV	**San Ignacio**	**10.55**	**64**	P	**Pn**	**14 36 42.5**	**+1.8**
	comp=E,2.8nm,0.3s,baz=252,slow=9.6,SNR=22						
SIV	**San Ignacio**	**10.55**	**64**	*e*P	**Pn**	**14 36 43.3**	**+2.6**
TORD	**Torodi Ar. Bea**	**78.94**	**71**	P	**P**	**14 46 13.7**	**+0.1**
	comp=E,0.7nm,0.5s,baz=252,slow=5.3,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**25.94**	**278**	T	T	17 12 33.2	
	baz=102,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**25.94**	**278**	T	T	17 12 29.4	
	baz=102,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hy**	**25.95**	**278**	T	T	17 12 28.1	
	baz=102,slow=74,SNR=20						
H11N3	**WAKE ISLAND Hy**	**26.01**	**280**	T	T	17 12 41.9	
	baz=106,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**26.02**	**280**	T	T	17 12 40.4	
	baz=106						
H11N1	**WAKE ISLAND Hy**	**26.02**	**280**	T	T	17 12 43.4	
	baz=106						
MKAR	**Makanchi Array**	**146.23**	**34**	PKPbc	**PKPab**	**14 53 50.9**	**+0.2**
	comp=E,0.4nm,0.5s,baz=308,slow=4.4,SNR=3.7						

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*ISCJB **14** 14:39:16.9±0.7,3°.74N±0°.07×96°.33E±0°.08,h100km, mb3.7/3,Error ellipse: s-maj=13.6km s-min=6.4km az=142.3*
*DJA **14** 14:39:18.7±0.6,4°.N±4°×9°.6E±°,h51km±14km,M3.7/6, MLv3.7/6*
*IDC **14** 14:39:24.4±5.3,4°.11N×96°.85E,h121km±34km,mb3.3/3, mb1 3.3/5,mb1mx3.1/34,mbtmp3.6/5,Error ellipse: s-maj=111.4km s-min=20.7km az=58.0*
ISC 14 14:39:17.8±1.0,3°.80N±0°.06×96°.33E±0°.08,h100km,n13, σ2§79/16,mb3.6/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.47**	**9**	Pn	**Pn**	**14 39 30.2**	**-3.2**
MLSI				S	**Sn**	**14 39 40.1**	**-4.9**
TPTI		**1.00**	**123**	Pn	**Pn**	**14 39 35.5**	**-2.8**
TPTI				S	**Sn**	**14 39 48.8**	**-4.9**
SNSI	**Sinabang, Aceh**	**1.39**	**180**	Pn	**Pn**	**14 39 41.0**	**-1.7**
KCSI	**Kotacane, Aceh**	**1.46**	**101**	Pn	**Pn**	**14 39 42.3**	**-1.3**
KCSI				S	**Sn**	**14 40 00.6**	**-2.6**
LHMI	**Lhok Sumawe**	**1.54**	**23**	Pn	**Pn**	**14 39 44.9**	**+0.3**
BSI	**Banda Aceh**	**1.98**	**328**	S	**Sn**	**14 40 14.2**	**-0.5**
PSI	**Prapat**	**2.77**	**111**	P	Pn	14 40 06.0	+5.4
	2.3nm,0.3s,baz=298,slow=18,SNR=4.5						
PSI				S	**Sn**	**14 40 35.3**	**+1.7**
	2.4nm,0.3s,baz=308,slow=13,SNR=8.1						
PBSI	**Pulau Batu**	**4.30**	**153**	Pn	**Pn**	**14 40 20.8**	**-0.3**
MNSI	**Mandailing Nat**	**4.41**	**133**	Pn	**Pn**	**14 40 22.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.79**	**10**	P	**P**	**14 42 44.1**	**-1.2**
	0.1nm,0.3s,baz=202,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**44.16**	**124**	P	**P**	**14 47 19.6**	**+2.6**
	0.5nm,0.5s,baz=304,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**44.52**	**346**	P	**P**	**14 47 21.4**	**+1.9**
	0.3nm,0.3s,baz=155,slow=8.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**50.87**	**351**	P	**P**	**14 48 11.4**	**+3.0**
	0.7nm,0.4s,baz=179,slow=7.0,SNR=3.1						

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*KRNET **14** 14:43:03.6±0.1,41°.05N×71°.02E,h22km,mb3.0*
*SOME **14** 14:43:04.6,41°.00N×71°.12E,h20km*
*NNC **14** 14:43:05.7±1.6,41°.07N×71°.15E,h0km,mb3.6,mpv3.1, Error ellipse: s-maj=12.2km s-min=8.2km az=5.0*
ISC 14 14:43:04.3±1.2,41°.05N±0°.03×71°.01E±0°.04,h3km±11km, n29,σ1§29/53,23C-13D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.00**	**189**	⇓*eP*	**Pg**	**14 43 23.0**	**-0.4**
BTK				⇓*e*S	**Sg**	**14 43 36.5**	**+0.2**
	baz=189						
ARK	**Arkit**	**1.04**	**43**	⇓*eP*	**Pg**	**14 43 22.9**	**-1.3**
ARK				⇓*e*S	**Sg**	**14 43 37.8**	**+0.2**
	baz=44						
IUG	**Iuzhnay**	**1.32**	**327**	*eP*	**Pg**	**14 43 29.9**	**+0.3**
IUG				*e*S	**Sn**	**14 43 48.5**	**+0.5**
	217nm,0.2s						
	355nm,0.3s						
ARSB	**Arslanbob**	**1.51**	**79**	⇑*eP*	**Pn**	**14 43 31.2**	**-1.2**
ARSB				⇑*e*S	**Sn**	**14 43 52.0**	**-0.7**
	baz=79						
CHM	**Chimkent**	**1.65**	**321**	⇑*iP*	**Pg**	**14 43 37.0**	**+1.0**
CHM				⇓*iS*	**Sg**	**14 44 00.4**	**+3.0**
	170nm,0.2s						
	1μm,0.3s						
TOKL	**Toktogul**	**1.66**	**57**	⇓*eP*	**Pn**	**14 43 33.9**	**-0.4**
TOKL				⇓*iS*	**Sb**	**14 43 56.2**	**-0.6**
	baz=57						
MNAS	**Manas**	**1.82**	**37**	⇑*iP*	**Pn**	**14 43 37.1**	**+0.5**
	baz=37						
MNAS				⇑*e*S	**Sb**	**14 44 00.6**	**-1.0**
MNAS	**Manas**	**1.82**	**37**	⇑P	**Pn**	**14 43 37.2**	**+0.5**
	12nm,0.3s						
MNAS				⇓S	**Sb**	**14 44 00.6**	**-1.0**
	26nm,0.3s						
DZA	**Taraz**	**1.86**	**7**	*eP*	**Pb**	**14 43 38.9**	**0.0**
	111nm,0.1s						
DZA				*e*S	**Sg**	**14 44 03.7**	**-0.3**
	808nm,0.1s						
KK31	**Karatay Array**	**2.09**	**350**	⇓Pn	**Pb**	**14 43 42.0**	**-0.8**
	14nm,0.3s,baz=178,slow=15,SNR=187						
KK31				Sn	**Sg**	**14 44 10.3**	**-1.1**
	54nm,0.3s,baz=35,slow=85,SNR=24						
AML	**Almayashu**	**2.29**	**61**	⇑*iP*	**Pn**	**14 43 43.2**	**-0.1**
AML				⇑*i*S	**Sn**	**14 44 12.2**	**+0.1**
	baz=61						
MRKS	**Merke**	**2.37**	**43**	*eP*	**Pb**	**14 43 46.7**	**-0.9**
	50nm,0.3s						
MRKS				*e*S	**Sb**	**14 44 17.0**	**-0.4**
	214nm,0.2s						
ARLS	**Aral**	**2.62**	**71**	⇑*eP*	**Pn**	**14 43 48.5**	**+0.9**
	baz=71						
ARLS				⇑*e*S	**Sn**	**14 44 20.7**	**+0.7**
	baz=71						
EKS2	**Erkin-Say**	**2.62**	**51**	⇑*iP*	**Pn**	**14 43 48.3**	**+0.7**
	baz=51						
EKS2				⇑*i*S	**Sn**	**14 44 21.1**	**+1.1**
	baz=51						
AAK	**Ala-Archa**	**3.05**	**57**	⇓*iP*	**Pn**	**14 43 54.0**	**+0.5**
	baz=57						
AAK				⇓*i*S	**Sn**	**14 44 30.8**	**+0.2**
	baz=57						
AAK	**Ala-Archa**	**3.05**	**57**	⇑Pn	**Pn**	**14 43 54.8**	**+1.2**
	1.2nm,0.5s						
AAK				⇑Pg	**Pb**	**14 43 60.0**	**+0.7**
	3.7nm,0.4s						
AAK				Lg	Lg	14 44 37.4	
	28nm,0.8s						
KZA	**Kyzart**	**3.34**	**71**	⇑*iP*	**Pn**	**14 43 58.5**	**+0.7**
	baz=71						
KZA				⇑*i*S	**Sn**	**14 44 38.2**	**0.0**
	baz=71						
KBK	**Karagaybulak**	**3.35**	**60**	⇑*iP*	**Pn**	**14 43 58.6**	**+0.9**
	baz=60						
KBK				⇑*i*S	**Sn**	**14 44 38.4**	**+0.3**
	baz=60						
USP	**Ospenovka**	**3.41**	**48**	⇑*iP*	**Pn**	**14 43 59.3**	**+0.9**
	baz=48						
USP				⇑*i*S	**Sn**	**14 44 39.6**	**+0.2**
	baz=48						
TKM2	**Tokmak 2**	**3.90**	**60**	⇓Pn	**Pn**	**14 44 05.9**	**+0.7**
	0.9nm,0.6s						
TKM2				⇑Pg	**Pb**	**14 44 15.6**	**+1.8**
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	14 45 05.6	
	12nm,0.5s						
DGS	**Degeres**	**4.16**	**57**	*eP*	**Pb**	**14 44 17.7**	**-0.6**
	3.4nm,0.3s						
DGS				*e*S	**Sb**	**14 45 10.7**	**+1.7**
	24nm,0.2s						
KST	**Kastek**	**4.19**	**60**	*eP*	**Pb**	**14 44 17.1**	**-1.6**
	3.3nm,1.0s						
KST				*e*S	**Sb**	**14 45 09.8**	**+0.1**
	19nm,0.3s						
TNSS	**Tian-Shan**	**4.85**	**64**	*eP*	**Pb**	**14 44 29.4**	**-0.6**
	3.6nm,0.3s						
TNSS				*e*S	**Sb**	**14 45 30.3**	**+1.5**
	10nm,0.6s						
MDOK	**Medeo**	**4.96**	**63**	Pg	**Pb**	**14 44 33.8**	**+2.0**
MDOK				Lg	Lg	14 45 40.0	
MDOK	**Medeo**	**4.96**	**63**	*eP*	**Pb**	**14 44 33.1**	**+1.2**
	3.0nm,0.2s						
MDOK				*e*S	**Sb**	**14 45 37.0**	**+5.0**
	5.3nm,0.3s						
CHKK	**Chushkaly**	**5.24**	**56**	*eP*	**Pb**	**14 44 36.2**	**-0.2**
	1.8nm,0.1s						
CHKK				*e*S	**Sb**	**14 45 41.8**	**+2.1**
	17nm,0.2s						
PDGK	**Podgornoye**	**6.70**	**67**	⇑Lg	Lg	14 46 35.7	
	4.0nm,0.8s						
AB31	**Akbulak array**	**11.32**	**320**	P	**Pn**	**14 45 44.7**	**-2.2**
	0.9nm,0.3s,baz=128,slow=14,SNR=32						
AKTO	**Aktyubinsk**	**13.04**	**320**	⇓P	**Pn**	**14 46 08.6**	**-1.7**
	2.7nm,1.1s						

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*NIED **14** 15:10:00,38°.90N×142°.00E,h59km,Mw3.5 Best double couple: M0=2.12000×10^14 NP1:φs=15.00000°,δ=38.00000°, λ=56.00000°. NP2:φs=235.00000°,δ=59.00000°,λ=114.00000°.*
*ISCJB **14** 15:10:40.2±0.9,38°.83N±0°.04×142°.13E±0°.10,h58km±6km, mb3.5/6,Error ellipse: s-maj=13.0km s-min=6.0km az=20.2*
*IDC **14** 15:10:41.9±2.5,38°.81N×142°.19E,h60km±23km,mb3.3/5, mb1 3.5/9,mb1mx3.3/46,mbtmp3.5/9,ML2.9/4,Error ellipse: s-maj=26.0km s-min=14.9km az=103.0*
*JMA **14** 15:10:41.8,38°.84N×142°.02E,h56km±1km,M3.8*
JMA Felt II J1.
ISC 14 15:10:41.6±1.4,38°.84N±0°.06×142°.12E±0°.10,h50km±11km, n27,σ1§38/31,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**305**	P	**Pn**	**15 10 52.1**	**+0.1**
OFUJ				S	**Sn**	**15 10 59.4**	**0.0**
JMK	**Ichinoseki**	**0.71**	**280**	P	**Pn**	**15 10 55.1**	**-0.3**
JMK				S	**Sn**	**15 11 04.5**	**-1.0**
JIO	**Ouri**	**0.71**	**238**	P	**Pn**	**15 10 55.2**	**-0.2**
JIO				S	**Sn**	**15 11 04.4**	**-1.1**
JOM	**Ohasama**	**0.91**	**315**	P	**Pn**	**15 10 57.8**	**-0.2**
JOM				S	**Sn**	**15 11 09.5**	**-0.6**
JOU	**Okura**	**1.23**	**248**	P	**Pn**	**15 11 01.9**	**-0.5**
JOU				*e*S	**Sn**	**15 11 16.9**	**-1.1**
JRG	**Rokugo**	**1.28**	**296**	P	**Pn**	**15 11 02.6**	**-0.5**
JRG				S	**Sn**	**15 11 18.5**	**-0.7**
JYK	**Kaneyama**	**1.38**	**274**	P	**Pn**	**15 11 03.8**	**-0.6**
JMM	**Marumori**	**1.42**	**228**	P	**Pn**	**15 11 04.3**	**-0.7**
JMM				S	**Sn**	**15 11 21.2**	**-1.4**
JANG	**Nango**	**1.60**	**343**	P	**Pn**	**15 11 07.2**	**-0.3**
JYS	**Shiratake**	**1.72**	**250**	P	**Pn**	**15 11 08.9**	**-0.2**
JYS				S	**Sn**	**15 11 29.9**	**-0.1**
MJAR	**Matsushiro Arr**	**3.85**	**235**	P	**Pn**	**15 11 39.4**	**+1.0**
	1.3nm,0.3s,baz=37,slow=12,SNR=13						
MAT	**Matsushiro**	**3.86**	**235**	P	**Pn**	**15 11 40.3**	**+1.9**
MAT				*e*S	**Sn**	**15 12 27.2**	**+4.8**
ASAJ	**Asahikawa**	**5.29**	**4**	P	**Pn**	**15 11 57.6**	**-0.3**
	0.6nm,0.3s,baz=221,slow=10.0,SNR=8.4						
ASAJ				S	**Sn**	**15 12 59.2**	**+1.7**
	0.3nm,0.3s,baz=41,slow=20,SNR=2.8						
USRK	**Ussuriysk Ar.**	**9.29**	**308**	P	**Pn**	**15 12 53.5**	**+0.7**
	0.4nm,0.3s,baz=115,slow=14,SNR=14						
KSRS	**Korea Array**	**11.27**	**267**	P	**Pn**	**15 13 22.0**	**+2.2**
	0.1nm,0.3s,baz=78,slow=14,SNR=3.8						
SONM	**Songino Array**	**27.29**	**301**	P	**P**	**15 16 23.1**	**+1.7**
	0.3nm,0.4s,baz=98,slow=10,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	15 47 00.8	
	baz=317,slow=76,SNR=83						
H11N1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	15 47 01.5	
	baz=317,slow=76,SNR=130						
H11N3	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	15 47 03.1	
	baz=317,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	15 47 58.3	
	baz=318,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	15 47 59.7	
	baz=318,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	15 48 00.8	
	baz=318,slow=76,SNR=79						
ZALV	**Zalesovo Beam**	**41.14**	**311**	P	**P**	**15 18 19.5**	**-1.1**
	0.6nm,0.5s,baz=92,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**15 18 39.9**	**-1.3**
	0.3nm,0.4s,baz=86,slow=8.4,SNR=5.9						
ILAR	**Eielson Array**	**47.68**	**33**	P	**P**	**15 19 12.6**	**-0.1**
	0.2nm,0.7s,baz=268,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**58.92**	**189**	P	**P**	**15 20 34.5**	**-1.2**
	0.8nm,0.4s,baz=7.0,slow=7.0,SNR=9.4						
ASAR	**Alice Springs**	**62.65**	**188**	P	**P**	**15 20 60.0**	**-1.0**
	0.2nm,0.4s,baz=358,slow=5.2,SNR=11						

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*IDC **14** 15:28:08.4±3.9,26°.76N×66°.88E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.5/45,mbtmp3.7/8,ML3.7/2,MS3.4/3, Ms1 3.4/3,ms1mx2.7/42,Error ellipse: s-maj=99.1km s-min=22.7km az=136.0*
ISC 14 15:28:11.5±2.6,27°.00N±0°.4×66°.4E±0°.3,h10km,n13, σ1§94/11,mb3.8/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.37**	**37**	P	**Pn**	**15 29 58.9**	**-0.4**
WSAR	**Wadi Sarin**	**8.01**	**244**	Pn	**Pn**	**15 30 09.6**	**+1.6**
	2.5nm,0.3s,baz=118,slow=7.7,SNR=46						
WSAR				Sn	**Sn**	**15 31 35.1**	**-3.7**
	1.5nm,0.3s,baz=266,slow=9.1,SNR=5.3						
CEP	**Cherat**	**8.27**	**33**	P	**Pn**	**15 30 12.0**	**+0.4**
GEYT	**Alibeck**	**12.95**	**329**	LR	LR	15 37 39.3	
	comp=Z,34nm,19.9s,baz=145,slow=43						
AAK	**Ala-Archa**	**16.92**	**21**	P	**Pn**	**15 32 06.2**	**-2.3**
	0.1nm,0.3s,baz=208,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**23.38**	**28**	P	**P**	**15 33 18.9**	**-1.5**
	1.3nm,0.8s,baz=214,slow=8.5,SNR=5.8						
AKTO	**Aktyubinsk**	**24.26**	**347**	P	**P**	**15 33 30.8**	**+2.1**
	1.5nm,0.6s,baz=158,slow=9.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**25.32**	**18**	P	**P**	**15 33 38.1**	**-0.2**
	0.7nm,0.7s,baz=208,slow=8.8,SNR=6.3						
BVAR	**Borovoye Array**	**26.15**	**5**	P	**P**	**15 33 46.7**	**+0.9**
	1.0nm,0.5s,baz=167,slow=9.9,SNR=7.2						
ARU	**Arti**	**29.94**	**351**	LR	LR	15 47 25.4	
	comp=Z,148nm,18.4s,baz=129,slow=38						
SONM	**Songino Array**	**37.38**	**45**	LR	LR	15 55 46.6	
	comp=Z,100nm,18.5s,baz=201,slow=44						
ARCES	**ARCESS Array B**	**48.71**	**342**	P	**P**	**15 36 56.0**	**+0.2**
	1.7nm,0.8s,baz=134,slow=7.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**61.78**	**271**	P	**P**	**15 38 32.1**	**+1.2**
	0.3nm,0.5s,baz=60,slow=5.9,SNR=4.2						

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*ISCJB **14** 15:31:56.1±1.1,35°.02S±0°.03×72°.75W±0°.07,h22km±7km, mb4.6/12,MS4.0/5,Error ellipse: s-maj=10.3km s-min=4.7km az=12.7*
*GUC **14** 15:31:56.5±0.5,35°.08S×72°.61W,h18km±2km,ML4.7*
*NEIC **14** 15:31:56.0±0.0,35°.07S×72°.61W,h20km,mb4.7/3, ML4.7(GUC),After GUC.*
NEIC Felt [IV] at Constitucion; [III] at Colbun, Linares and Talca; [II] at Iloca, Navidad, Pichilemu and San Javier.
*IDC **14** 15:31:58.6±0.7,35°.02S×72°.52W,h23km±3km,mb4.3/7, mb1 4.4/11,mb1mx4.2/30,mbtmp4.4/11,ML4.5/4,MS3.5/5, Ms1 3.5/5,ms1mx3.3/14,Error ellipse: s-maj=25.5km s-min=15.7km az=79.0*
*BJI **14** 15:31:58.1,35°.00S×72°.60W,h24km,mB5.1/3,Ms4.9/4, Ms7 4.9/4*
ISC 14 15:31:58.1±0.6,35°.02S±0°.03×72°.61W±0°.05,h28km±3km, h28km:pP-P,n58,σ1§67/87,mb4.8/12,MS3.8/5,1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.56**	**89**	*eP*	**Pb**	**15 32 08.4**	**-1.1**
GO05				*i* S	**Sb**	**15 32 16.9**	**-0.3**
GO05				IAML		15 32 17.7	
	comp=N,64μm,0.2s						
GO05	**HualaæØ**	**0.56**	**89**	*e*Pg	**Pb**	**15 32 08.5**	**-1.0**
CHPI	**Pichilemu**	**0.81**	**39**	⇑*iP*	**Pb**	**15 32 12.6**	**-0.9**
CHPI				*i* S	**Sb**	**15 32 23.7**	**-0.4**
COCH	**Cobquecura**	**1.11**	**187**	*eP*	**Pn**	**15 32 16.5**	**-1.4**
COCH				*e*S	**Sb**	**15 32 31.2**	**-1.6**
NICH	**Los Niches**	**1.14**	**89**	*eP*	**Pn**	**15 32 17.7**	**-0.4**
NICH				*i* S	**Sn**	**15 32 34.1**	**+1.2**
NICH				IAML		15 32 34.5	
	comp=N,42μm,0.2s						
CCHI	**Chillan**	**1.64**	**165**	*eP*	**Pn**	**15 32 25.0**	**0.0**
CCHI				*e*S	**Sn**	**15 32 46.7**	**+1.5**
RCDM	**Rinconada Maip**	**2.14**	**45**	*eP*	**Pn**	**15 32 32.4**	**+0.3**
RCDM				*e*S	**Sb**	**15 33 03.5**	**+1.1**
ANTU	**Antumapu**	**2.19**	**49**	*eP*	**Pb**	**15 32 35.3**	**-1.8**
ANTU				*e*S	**Sb**	**15 33 04.3**	**+0.5**
ANTU				IAML		15 33 13.2	
	comp=E,8μm,0.4s						
CLCH	**Cerro Calan**	**2.37**	**47**	*eP*	**Pn**	**15 32 37.6**	**+2.4**
CLCH				IAML		15 33 15.7	
	comp=E,6μm,1.3s						
ROC1	**El Roble**	**2.44**	**33**	*e*Pn	**Pn**	**15 32 36.6**	**+0.3**
ROCH	**El Roble**	**2.44**	**33**	⇓*iP*	**Pn**	**15 32 36.4**	**0.0**
ROCH				IAML		15 33 17.4	
	comp=N,5μm,0.7s						
PEL	**Peldehue**	**2.46**	**41**	⇓*iP*	**Pn**	**15 32 37.5**	**+1.0**
PEL				*e*S	**Sb**	**15 33 09.6**	**-2.1**
PEL				IAML		15 33 16.4	
	comp=E,4μm,0.4s						
FCH	**Farellones**	**2.56**	**49**	*eP*	**Pn**	**15 32 38.7**	**+0.6**
FCH				IAML		15 33 18.9	
	comp=N,3μm,0.7s						
PLCA	**Paso Flores**	**5.93**	**165**	Pn	**Pn**	**15 33 24.9**	**+0.8**
	comp=N,2.2nm,0.3s,baz=354,slow=11,SNR=27						
PLCA				Lg	Lg	15 34 57.3	
	comp=N,1.8nm,0.3s,baz=294,slow=23,SNR=4.3						
PLCA				LR	LR	15 35 06.1	
	comp=N,92nm,21.3s,baz=348,slow=32						
PLCA	**Paso Flores**	**5.93**	**165**	*e*Pn	**Pn**	**15 33 24.7**	**+0.6**
LCO	**Las Campanas**	**6.21**	**16**	*e*Pn	**Pn**	**15 33 26.6**	**-1.6**
LCO				*e*Sn	**Sn**	**15 34 36.1**	**-2.4**
TRQA	**Tornquist**	**9.08**	**113**	Pn	**Pn**	**15 34 05.3**	**-2.0**
TRQA				*e*Sn	**Sn**	**15 35 49.8**	**+1.2**
LVC	**Limon Verde**	**12.79**	**16**	Pn	**Pn**	**15 34 57.6**	**-0.8**
	comp=N,21nm,0.3s,baz=236,slow=15,SNR=3.8						
PB01	**IPOC Station P**	**14.20**	**12**	*e*Pn	**Pn**	**15 35 18.5**	**+1.0**
CPUP	**Villa Florida**	**15.73**	**61**	Pn	**Pn**	**15 35 38.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=246,slow=7.1,SNR=5.4						
LPAZ	**La Paz**

	comp=N,2.3nm,0.8s,baz=318,slow=4.2,SNR=10						
AAK	**Ala-Archa**	**153.40**	**63**	PKP	**PKPdf**	**15 51 47.7**	**+1.5**
	comp=N,3.6nm,0.7s,baz=156,slow=9.4,SNR=3.6						
AAK				PKPbc	**pPKPdf**	**15 51 55.2**	**-0.2**
	comp=N,3.6nm,0.7s,baz=177,slow=2.1,SNR=16						
KURBB	**Kurchatov Arra**	**153.94**	**44**	PKP	**PKPdf**	**15 51 46.7**	**+0.3**
	comp=N,0.4nm,0.6s,baz=307,slow=1.8,SNR=5.1						
KURBB				PKPbc	**PKPbc**	**15 51 55.0**	**+0.7**
	comp=N,0.9nm,0.6s,baz=301,slow=2.8,SNR=12						
KURBB				pPKPbc	**pPKPbc**	**15 52 03.6**	**0.0**
	comp=N,1.3nm,0.6s,baz=301,slow=2.8,SNR=7.6						
KURK	**Kurchatov**	**153.95**	**44**	PKP	**PKPdf**	**15 51 46.7**	**+0.3**
KURK				PKPbc	**PKPbc**	**15 51 55.0**	**+0.7**
KURK				pPKPbc	**pPKPbc**	**15 52 03.6**	**0.0**
KSH	**Kashi**	**154.67**	**70**	*e*PKPbc	**PKPdf**	**15 51 43.1**	**-4.9**
KSH				pPKP	pPKPdf	15 51 56.0	-1.3
KSH				sPKP		15 52 01.3	
KSH				PKS	**PKSdf**	**15 55 20.3**	**-1.9**
KSH				PP	**PP**	**15 55 50.8**	**+3.2**
KSH				SKS	**SKSdf**	**15 58 47.4**	**-5.4**
KSH				SKKS	**SKKSac**	**16 02 32.3**	**-2.9**
KSH				SS	**SS**	**16 15 21.3**	**-6.7**
KSH				AMB	AMB		
	comp=N,95nm,5.8s						
KSH				LR	LR		
	comp=N,77nm,13.4s						
KSH				LR	LR		
	comp=N,86nm,10.1s						
KSH				LR	LR		
	comp=N,91nm,8.6s						
ZALV	**Zalesovo Beam**	**155.34**	**33**	PKP	**PKPdf**	**15 51 47.8**	**-0.5**
	comp=N,0.7nm,0.3s,baz=139,slow=3.1,SNR=4.3						
ZALV				PKPbc	**pPKPdf**	**15 51 57.0**	**-0.5**
	comp=N,1.9nm,0.8s,baz=290,slow=3.9,SNR=7.1						
ZALV				PKPab	**PKPab**	**15 52 14.7**	**+1.0**
	comp=N,2.4nm,0.7s,baz=292,slow=4.0,SNR=5.9						
ZALV				pPKPab	**pPKPab**	**15 52 23.1**	**+0.4**
	comp=N,1.9nm,0.6s,baz=302,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**157.79**	**50**	PKP	**PKPdf**	**15 51 52.5**	**+0.8**
	comp=N,0.4nm,0.6s,baz=338,slow=3.1,SNR=2.8						
MKAR				PKPab	**PKPab**	**15 52 25.0**	**+0.5**
	comp=N,0.5nm,0.5s,baz=265,slow=4.6,SNR=4.3						
MKAR				pPKPab	**pPKPab**	**15 52 33.3**	**-0.2**
	comp=N,2.1nm,0.9s,baz=289,slow=2.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**161.87**	**153**	PKP	**PKPdf**	**15 51 58.1**	**+1.0**
	comp=N,0.5nm,0.8s,baz=234,slow=4.3,SNR=4.1						
CMAR				PKPab	**PKPab**	**15 52 43.6**	**+0.8**
	comp=N,0.3nm,0.3s,baz=216,slow=4.5,SNR=3.4						
WMQ	**Urumqi**	**162.46**	**54**	PKP	**PKPdf**	**15 51 53.3**	**-3.8**
WMQ				LR	LR		
	comp=N,83nm,29.1s						
WMQ				LR	LR		
	comp=N,41nm,25.3s						
WMQ				LR	LR		
	comp=N,42nm,21.7s						
SONM	**Songino Array**	**167.18**	**3**	PKPab	**PKPab**	**15 53 06.8**	**+1.3**
	comp=N,0.7nm,0.7s,baz=5.7,slow=4.3,SNR=3.1						
NJ2	**Nanjing**	**169.98**	**256**	*e*PKP	**PKPdf**	**15 52 05.1**	**+1.9**
HHC	**Hu-ho-hao-te**	**173.31**	**332**	*e*PKP	**PKPdf**	**15 52 03.5**	**-1.2**
LZH	**Lanzhou**	**176.92**	**69**	*e*PKP	**PKPdf**	**15 52 03.8**	**-2.2**
LZH				pPKP	pPKPdf	15 52 12.0	-3.3
LZH				sPKP		15 52 14.6	
LZH				LR	LR		
	comp=N,160nm,18.0s						
LZH				LR	LR		
	comp=N,160nm,18.1s						
LZH				LR	LR		
	comp=N,220nm,20.0s						

IDC 14 15:47:03.9±3.2, 37°.05S×177°.19W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/21, mbtmp4.2/3, Error ellipse: s-maj=59.9km s-min=35.0km az=92.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**321**	Pn	Pn	15 47 25.4	+0.1
	203nm,0.3s,baz=31,slow=18,SNR=15						
RAO				Sn	Sb	15 47 38.2	0.0
	310nm,0.3s,baz=75,slow=20,SNR=7.3						
STKA	**Stephens Creek**	**35.24**	**256**	P	P	15 54 00.3	+0.1
	1.1nm,0.6s,baz=95,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**43.83**	**266**	P	P	15 55 11.9	0.0
	0.3nm,0.4s,baz=105,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.79**	**271**	P	P	15 55 19.2	-0.5
	0.7nm,0.3s,baz=110,slow=8.2,SNR=7.0						
FINES	**FINESS Array B**	**145.05**	**341**	PKPbc	PKPbc	16 06 41.0	-0.8
	1.2nm,0.7s,baz=44,slow=4.2,SNR=4.1						

WEL 14 15:53:52.3±0.2, 37°.35S×177°.40E, h128km±2km, ML3.5/18, 11C-3D, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.51**	**143**	⇑PN	Pn	15 54 10.8	-0.3
HAZ				SN	Sn	15 54 25.0	-0.4
HAZ				AML	AML	15 54 27.0	
HAZ				AML	AML	15 54 27.0	
HAZ				AML	AML	15 54 27.7	
RUGZ	**Raukumara Rang**	**0.65**	**160**	PN	Pn	15 54 11.5	-0.7
RUGZ				SN	Sn	15 54 26.3	-1.1
MXZ	**Matakaoa Point**	**0.75**	**107**	⇑PN	Pn	15 54 12.6	-0.2
MXZ				AML	AML	15 54 13.1	
MXZ				SN	Sn	15 54 28.9	+0.6
PKGZ	**Pakihiroa**	**0.76**	**135**	⇑PN	Pn	15 54 13.1	+0.1
PKGZ				AML	AML	15 54 30.8	
PKGZ				AML	AML	15 54 31.3	
OPRZ	**Ohinepanea**	**0.83**	**233**	⇓PN	Pn	15 54 13.6	+0.1
WMGZ	**Waiomatatini S**	**0.93**	**120**	⇑PN	Pn	15 54 14.3	0.0
WMGZ				AML	AML	15 54 32.5	
WMGZ				AML	AML	15 54 34.0	
URZ	**Urewera**	**0.94**	**194**	⇑PN	Pn	15 54 14.4	0.0
URZ				SN	Sn	15 54 31.6	+0.4
URZ				AML	AML	15 54 32.2	
TWGZ	**Tauwhareparae**	**0.94**	**151**	⇑PN	Pn	15 54 14.9	+0.4
TWGZ				AML	AML	15 54 36.9	
TWGZ				AML	AML	15 54 37.4	
MWZ	**Matawai**	**0.99**	**174**	⇑PN	Pn	15 54 14.9	-0.1
MWZ				SN	Sn	15 54 32.7	+0.5
MWZ				AML	AML	15 54 33.7	
PUZ	**Puketiti**	**0.99**	**137**	⇑PN	Pn	15 54 14.8	-0.2
PUZ				SN	Sn	15 54 31.6	-0.5
RAGZ	**Rawiri**	**1.14**	**179**	PN	Pn	15 54 16.9	+0.4
RAGZ				AML	AML	15 54 36.8	
RAGZ				AML	AML	15 54 37.1	
TKGZ	**Te Karaka**	**1.14**	**162**	⇑PN	Pn	15 54 16.3	-0.1
TKGZ				AML	AML	15 54 35.8	
TKGZ				AML	AML	15 54 36.3	
MUGZ	**Murupara**	**1.23**	**204**	PN	Pn	15 54 17.3	-0.1
CNGZ	**Carnagh Statio**	**1.30**	**151**	⇑PN	Pn	15 54 18.3	+0.3
RTZ	**Ruatahuna**	**1.31**	**195**	PN	Pn	15 54 17.3	-0.9
RIGZ	**Rimuhau**	**1.38**	**168**	⇑PN	Pn	15 54 18.8	-0.2
RIGZ				AML	AML	15 54 42.1	
RIGZ				AML	AML	15 54 42.4	
SNGZ	**Shannon Statio**	**1.43**	**182**	PN	Pn	15 54 19.2	-0.3
SNGZ				AML	AML	15 54 41.8	
SNGZ				AML	AML	15 54 45.7	
KUZ	**Kuaotunu**	**1.47**	**294**	PN	Pn	15 54 19.6	-0.3
TOZ	**Tahuroa Road**	**1.56**	**255**	⇓PN	Pn	15 54 21.6	+0.7
PRGZ	**Paritu Road**	**1.61**	**167**	PN	Pn	15 54 21.0	-0.6
MRHZ	**Matea Rd**	**1.67**	**207**	PN	Pn	15 54 21.8	-0.4
MRHZ				AML	AML	15 54 45.9	
MRHZ				AML	AML	15 54 45.9	
KNZ	**Kokohu**	**1.68**	**173**	PN	Pn	15 54 21.7	-0.6
WHHZ	**Waihua**	**1.73**	**184**	PN	Pn	15 54 22.6	-0.3
WHHZ				SN	Sn	15 54 46.5	+0.2
WHHZ				AML	AML	15 54 48.3	
NMHZ	**Naumai**	**1.81**	**195**	PN	Pn	15 54 24.0	+0.1
NMHZ				AML	AML	15 54 50.5	
NMHZ				AML	AML	15 54 50.6	
MHGZ	**Mahia Peninsul**	**1.84**	**168**	PN	Pn	15 54 23.8	-0.4
GRZ	**Great Barrier**	**1.91**	**305**	⇓PN	Pn	15 54 24.9	-0.2
ARHZ	**Aropaoanui**	**1.94**	**189**	PN	Pn	15 54 24.9	-0.5
ARHZ				AML	AML	15 54 52.7	
ARHZ				AML	AML	15 54 52.9	
BKZ	**Black Stump Fm**	**1.95**	**201**	PN	Pn	15 54 24.9	-0.7
MCHZ	**McNeill Hill**	**2.16**	**195**	PN	Pn	15 54 27.8	-0.4
KWHZ	**Kaweka Forest**	**2.21**	**200**	PN	Pn	15 54 28.0	-0.8
KWHZ				AML	AML	15 55 04.0	
KWHZ				AML	AML	15 55 05.4	
BHHZ	**Black Hill Sta**	**2.38**	**206**	*e*PN	Pn	15 54 29.8	-1.1
FWVZ	**Far West T-bar**	**2.39**	**217**	*e*PN	Pn	15 54 30.8	-0.4
KRHZ	**Kereru**	**2.43**	**199**	PN	Pn	15 54 30.0	-1.5
WNVZ	**Wahianoa**	**2.43**	**215**	PN	Pn	15 54 31.4	-0.3
KAHZ	**Kahuranaki**	**2.48**	**189**	PN	Pn	15 54 31.0	-1.2
PXZ	**Pawanui**	**2.71**	**189**	PN	Pn	15 54 33.1	-1.9
PNHZ	**Pukenui**	**2.73**	**200**	PN	Pn	15 54 33.9	-1.4
WPHZ	**Waipukurau**	**2.81**	**195**	PN	Pn	15 54 34.4	-2.0
TSZ	**Takapari Road**	**2.93**	**202**	PN	Pn	15 54 36.1	-1.8
PRHZ	**Porangahau**	**2.97**	**191**	PN	Pn	15 54 36.5	-2.0
BFZ	**Birch Farm**	**3.45**	**195**	PN	Pn	15 54 41.7	-2.9
BFZ				SN	Sn	15 55 21.7	-3.5
MRZ	**Mangatainoka R**	**3.60**	**203**	PN	Pn	15 54 43.6	-3.1
MRZ				SN	Sn	15 55 24.5	-4.2
TIWZ	**Tintock**	**3.62**	**199**	PN	Pn	15 54 43.9	-3.0
HOWZ	**Holdsworth Sta**	**3.83**	**202**	PN	Pn	15 54 46.5	-3.3
OGWZ	**Otaki Gorge**	**3.87**	**206**	PN	Pn	15 54 47.2	-3.1
OGWZ				AML	AML	15 55 32.9	
TMWZ	**Te Maipa**	**3.93**	**197**	AML	AML	15 55 35.6	

*ISCJB **14** 16:15:44.9±0.8, 31°.44N±0°.08×114°.24W±0°.04, h18km±13km, Error ellipse: s-maj=13.6km s-min=4.9km az=169.0*
*ECX **14** 16:15:46.5±0.4, 31°.30N×114°.25W, h10km, MD3.6, ML3.8, Fault plane solution: NP1:φs:270.00000°, δ60.00000°, λ0.00000°.*
*MEX **14** 16:15:48.2±0.5, 31°.35N×114°.21W, h16km, MD4.1*

ISC 14 16:15:43.6±1.3, 31°.37N±0°.06×114°.22W±0°.03, h11km±10km, n24, σ0:72/33, 3C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.72**	**278**	⇓*e*P	**Pg**	**16 15 57.2**	**-0.3**
ECBX				*e*S	**Sg**	**16 16 07.1**	**+0.3**
ECBX				⇑*e*		16 16 17.5	
ECBX				IAML		16 16 17.5	
	comp=E,4μm,0.4s						
SPX	**San Pedro Mart**	**1.11**	**253**	⇑*e*P	**Pn**	**16 16 05.7**	**+0.3**
SPX				*e*S	**Sb**	**16 16 19.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.12**	**253**	*e*P	**Pn**	**16 16 05.7**	**+0.3**
SPIG				*e*S	**Sb**	**16 16 19.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.12**	**253**	*e*P	**Pn**	**16 16 05.5**	**+0.1**
SPIG				*e*S	**Sg**	**16 16 20.2**	**+0.6**
MBIG	**Mexicali**	**1.32**	**321**	*e*P	**Pg**	**16 16 09.6**	**+0.6**
214A	**Organ Pipe Nat**	**1.33**	**64**	P	**Pg**	**16 16 08.8**	**-0.4**
	baz=247,SNR=152						
214A				S	**Sg**	**16 16 25.9**	**-0.7**
	baz=247						
CPBX	**Cerro Prieto**	**1.39**	**319**	*e*P	**Pg**	**16 16 11.3**	**+1.1**
CPBX				⇓*e*		16 17 08.2	
CPBX				IAML		16 17 08.2	
	comp=E,3μm,0.7s						
GLA	**Glamis**	**1.75**	**343**	P	**Pn**	**16 16 13.6**	**-0.3**
	baz=164,SNR=194						
GLA				S	**Sn**	**16 16 36.1**	**-0.1**
	baz=164						
ZAX	**El Zacaton**	**1.76**	**275**	IAML		16 16 49.9	
	comp=E,1μm,0.7s						
ZAX				⇑*e*		16 16 49.9	
IKP	**In-Ko-Pah, Jac**	**2.05**	**309**	P	**Pn**	**16 16 16.8**	**-1.2**
	baz=128						
IKP	**In-Ko-Pah, Jac**	**2.05**	**309**	*e*P	**Pb**	**16 16 21.1**	**+0.3**
CBX	**Cerro Bola**	**2.28**	**295**	*e*P	**Pn**	**16 16 21.6**	**+0.4**
CBX	**Cerro Bola**	**2.28**	**295**	*e*P	**Pb**	**16 16 24.4**	**-0.4**
CBX				*e*S	**Sb**	**16 16 54.3**	**+1.3**
TJIG	**Tijuana**	**2.34**	**298**	*e*P	**Pb**	**16 16 24.2**	**-1.5**
TJIG				*e*S	**Sn**	**16 16 50.8**	**+0.1**
Y12C	**Blythe**	**2.38**	**354**	P	**Pn**	**16 16 22.1**	**-0.4**
	baz=175,SNR=30						
MONP2	**Monument Peak**	**2.41**	**310**	P	**Pn**	**16 16 22.0**	**-1.0**
	baz=129						
BC3	**Big Chuckawall**	**2.50**	**336**	P	**Pn**	**16 16 24.3**	**0.0**
	baz=156,SNR=17						
BC3				S	**Sn**	**16 16 54.7**	**-0.2**
	baz=156						
109C	**Camp Elliot, M**	**2.88**	**302**	S	**Sn**	**16 17 03.3**	**-0.6**
	baz=121						
IRM	**Iron Mountain**	**2.88**	**345**	P	**Pn**	**16 16 29.5**	**0.0**
	baz=165,SNR=75						
PDMCI	**Parker Dam,Lak**	**2.92**	**1**	P	**Pn**	**16 16 30.0**	**+0.1**
	baz=182						
BELC	**Belle Mtn. Jos**	**3.02**	**331**	P	**Pn**	**16 16 31.1**	**-0.3**
	baz=150,SNR=9.2						
BELC				S	**Sn**	**16 17 07.0**	**-0.6**
	baz=150						
TUC	**Tucson**	**3.07**	**71**	P	**Pn**	**16 16 32.6**	**+0.6**
	baz=254						
MURC	**Murrieta**	**3.35**	**312**	P	**Pn**	**16 16 35.1**	**-0.8**
	baz=131						
WUAZ	**Wupatki**	**4.77**	**29**	S	**Sn**	**16 17 52.6**	**+1.7**
	baz=212						

*ECX **14** 16:25:32.6±0.5, 31°.32N×114°.26W, h10km, MD3.4, ML3.5*
*MEX **14** 16:25:34.1±0.6, 31°.12N×114°.31W, h5km±17km, MD4.2*

ISC 14 16:25:32.5±3.1, 31°.26N±0°.10×114°.3W±0°.1, h20km±7km, n8, σ0:92/14, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.66**	**289**	*e*P	**Pb**	**16 25 43.7**	**-1.7**
ECBX				*e*S	**Sb**	**16 25 53.1**	**-1.0**
ECBX				*e*		16 26 04.5	
ECBX				IAML		16 26 04.5	
	comp=E,1μm,0.7s						
SPX	**San Pedro Mart**	**1.00**	**258**	*e*P	**Pb**	**16 25 50.9**	**-0.5**
SPX				*e*S	**Sn**	**16 26 06.1**	**+0.6**
SPX				⇓*e*		16 26 15.9	
SPIG	**San Pedro Mart**	**1.00**	**258**	*e*P	**Pb**	**16 25 50.9**	**-0.5**
SPIG				*e*S	**Sb**	**16 26 04.2**	**-0.2**
SPIG	**San Pedro Mart**	**1.00**	**258**	*e*P	**Pb**	**16 25 51.0**	**-0.5**
SPIG				*e*S	**Sg**	**16 26 05.5**	**+0.1**
MBIG	**Mexicali**	**1.37**	**327**	*e*P	**Pg**	**16 25 59.0**	**+0.1**
MBIG				*i*S	**Sb**	**16 26 15.6**	**+1.1**
CPBX	**Cerro Prieto**	**1.43**	**324**	*e*P	**Pn**	**16 25 56.8**	**-0.5**
CPBX				⇓*e*		16 26 36.8	
CPBX				IAML		16 26 36.8	
	comp=E,2μm,0.3s						
CBX	**Cerro Bola**	**2.26**	**298**	*e*P	**Pn**	**16 26 09.6**	**+0.7**
CBX				*i*S	**Sn**	**16 26 37.3**	**+1.1**
CBX	**Cerro Bola**	**2.26**	**298**	*e*P	**Pn**	**16 26 09.6**	**+0.7**

*ISCJB **14** 16:25:57.1±0.7, 68°.04N±0°.09×18°.7W±0°.3, h10km, mb3.5/7, MS3.4/12, Error ellipse: s-maj=17.0km s-min=9.4km az=135.8*
*IDC **14** 16:25:57.7±1.0, 67°.98N×18°.52W, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.7/38, mbtmp3.7/10, ML3.6/3, MS3.4/17, Ms1 3.4/17, ms1mx3.2/40, Error ellipse: s-maj=30.2km s-min=18.6km az=33.0*

ISC 14 16:25:59.1±0.8, 68°.0N±0°.1×18°.6W±0°.1, h10km, n27, σ1:16/13, mb3.6/7, MS3.4/12, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.73**	**336**	*i*P	**Pn**	**16 26 40.1**	**-2.7**
SCO				*i*S	Sn	16 26 48.5	-27
JMIC	**Jan Mayen**	**4.61**	**46**	LR	LR	16 28 00.6	
	comp=Z,54nm,18.9s,baz=240,slow=26						
SUMG	**Summit**	**8.07**	**313**	*i*P	**Pn**	**16 27 55.8**	**-0.7**
SUMG				*i*S	Sn	16 29 17.7	-10
SPITS	**Spitsbergen Ar**	**14.01**	**29**	Pn	**Pn**	**16 29 18.4**	**+1.1**
	baz=161,slow=9.2,SNR=3.2						
NOA	**NORSAR Array B**	**14.47**	**105**	LR	LR	16 33 52.8	
	comp=Z,56nm,20.2s,baz=320,slow=33						
EKA	**Eskdalemuir Ar**	**14.63**	**143**	Pn	**Pn**	**16 29 25.6**	**-0.2**
	baz=349,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**15.76**	**64**	LR	LR	16 33 59.5	
	comp=Z,75nm,18.6s,baz=270,slow=31						
HFS	**Hagfors**	**15.99**	**104**	LR	LR	16 34 39.0	
	comp=Z,77nm,20.0s,baz=261,slow=33						
FINES	**FINESS Array B**	**19.76**	**88**	P	**P**	**16 30 27.8**	**-0.9**
	0.3nm,0.3s,baz=317,slow=12,SNR=14						
FINES				LR	LR	16 36 57.7	
	comp=Z,120nm,21.2s,baz=294,slow=33						
GERES	**GERESS Array B**	**25.09**	**124**	P	**P**	**16 31 23.6**	**0.0**
	0.5nm,0.6s,baz=321,slow=3.8,SNR=4.9						
GERES				LR	LR	16 40 20.3	
	comp=Z,50nm,19.6s,baz=304,slow=34						
VRAC	**Vranov**	**25.61**	**119**	LR	LR	16 41 08.5	
	comp=Z,34nm,20.4s,baz=328,slow=36						
SCHQ	**Schefferville**	**25.75**	**263**	LR	LR	16 40 10.9	
	comp=Z,105nm,21.4s,baz=334,slow=33						
DAVOX	**Davos/Dischmat**	**25.80**	**131**	LR	LR	16 40 55.0	
	comp=Z,85nm,20.3s,baz=290,slow=35						
OBN	**Obninsk**	**28.14**	**90**	LR	LR	16 42 20.8	
	comp=Z,95nm,20.5s,baz=272,slow=35						
AKASG	**Malin Array Be**	**28.87**	**103**	LR	LR	16 44 24.4	
	comp=Z,37nm,18.1s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**36.64**	**309**	P	**P**	**16 33 05.1**	**0.0**
	0.5nm,0.6s,baz=28,slow=9.1,SNR=3.1						
SADO	**Sadowa**	**38.55**	**264**	LR	LR	16 48 24.4	
	comp=Z,72nm,18.2s,baz=65,slow=35						
ILAR	**Eielson Array**	**42.50**	**330**	P	**P**	**16 33 55.5**	**+1.6**
	0.4nm,0.8s,baz=14,slow=4.4,SNR=4.9						
DLBC	**Dease Lake**	**44.29**	**315**	LR	LR	16 52 34.2	
	comp=Z,52nm,21.2s,baz=309,slow=36						
ZALV	**Zalesovo Beam**	**45.91**	**53**	P	**P**	**16 34 21.8**	**+0.6**
	0.3nm,0.4s,baz=310,slow=6.8,SNR=2.5						
TKL	**Tuckaleechee C**	**48.22**	**262**	LR	LR	16 54 36.3	
	comp=Z,97nm,18.2s,baz=324,slow=36						
GEYT	**Alibeck**	**50.54**	**85**	LR	LR	16 56 05.4	
	comp=Z,89nm,18.3s,baz=330,slow=36						
PDAR	**Pinedale Array**	**51.52**	**290**	P	**P**	**16 35 05.3**	**+0.5**
	0.3nm,0.3s,baz=46,slow=8.5,SNR=4.5						
PDAR				LR	LR	16 57 16.0	
	comp=Z,97nm,20.1s,baz=26,slow=36						
TORD	**Torodi Ar. Bea**	**56.42**	**156**	P	**P**	**16 35 40.4**	**-0.2**
	0.6nm,0.9s,baz=350,slow=8.0,SNR=4.2						
TXAR	**Lajitas Array**	**61.33**	**277**	LR	LR	17 03 02.4	
	comp=Z,59nm,21.3s,baz=0.0,slow=36						
CMAR	**Chiang Mai Arr**	**82.73**	**58**	P	**P**	**16 38 22.6**	**-0.2**
	0.3nm,0.4s,baz=319,slow=6.1,SNR=5.5						
ASAR	**Alice Springs**	**132.51**	**35**	PKP	**PKPdf**	**16 45 12.7**	**-0.5**
	0.3nm,1.0s,baz=339,slow=2.2,SNR=5.3						

*ISN **14** 16:58:39.5±0.3, 37°.37N×42°.86E, h0km, ML3.0*
*DDA **14** 16:58:40.4, 37°.31N×42°.64E, h5km, Md3.0*
*CSEM **14** 16:58:41.9±0.3, 37°.33N×42°.60E, h2km, MD3.0, Error ellipse: s-maj=8.9km s-min=5.2km az=22.0*
*ISK **14** 16:58:42.9, 37°.31N×42°.63E, h23km, MD3.2*

ISC 14 16:58:41.7±1.3, 37°.33N±0°.05×42°.65E±0°.02, h2km±11km, n29, σ0:75/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S¨–rnak**	**0.25**	**311**	*i*P	**Pg**	**16 58 45.6**	**-1.0**
SIRN				*i*S	**Sg**	**16 58 50.6**	**+0.7**
SIRN	**S¨–rnak**	**0.25**	**311**	P	**Pg**	**16 58 45.6**	**-1.0**
SIRN				S	**Sg**	**16 58 50.6**	**+0.7**
CUKT	**Cukurca**	**0.77**	**96**	*e*PG	**Pn**	**16 58 58.9**	**-0.8**
CUKT				*e*SG	**Sb**	**16 59 10.2**	**+1.4**
CUKT	**Cukurca**	**0.77**	**96**	*i*P	**Pb**	**16 58 58.2**	**+0.4**
CUKT	**Cukurca**	**0.77**	**96**	P	**Pb**	**16 58 58.2**	**+0.4**
CUKT	**Cukurca**	**0.77**	**96**	*e*Pg	**Pn**	**16 58 58.9**	**-0.8**
CUKT				*e*Sg	**Sb**	**16 59 10.2**	**+1.4**
HAKT	**HAKKARI**	**0.87**	**75**	*i*P	**Pg**	**16 58 58.1**	**-0.3**
HAKT				*i*S	**Sn**	**16 59 13.5**	**-1.1**
HAKT	**HAKKARI**	**0.87**	**75**	P	**Pg**	**16 58 58.1**	**-0.3**
HAKT				S	**Sn**	**16 59 13.5**	**-1.1**
GEVA	**Gevas**	**1.03**	**18**	*i*P	**Pg**	**16 59 00.3**	**-1.2**
GEVA				*i*S	**Sb**	**16 59 16.8**	**+0.3**
GEVA	**Gevas**	**1.03**	**18**	P	**Pg**	**16 59 00.3**	**-1.2**
GEVA				S	**Sb**	**16 59 16.8**	**+0.3**
BTMN	**Batman**	**1.23**	**297**	*i*P	**Pg**	**16 59 05.0**	**-0.3**
BTMN				*i*S	**Sn**	**16 59 23.2**	**-0.1**
BTMN	**Batman**	**1.23**	**297**	P	**Pg**	**16 59 05.0**	**-0.3**
BTMN				S	**Sn**	**16 59 23.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.41**	**306**	*e*PN	**Pn**	**16 59 07.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.41**	**306**	*i*P	**Pn**	**16 59 07.5**	**-1.0**
SVAN				*i*S	**Sn**	**16 59 27.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.41**	**306**	P	**Pn**	**16 59 07.5**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.41**	**306**	*e*Pn	**Pn**	**16 59 07.8**	**-0.7**
SVAN				S	**Sn**	**16 59 27.9**	**+0.2**
MARD	**Mardin**	**1.49**	**270**	*i*P	**Pn**	**16 59 09.0**	**-0.6**
MARD				*i*S	**Sg**	**16 59 30.2**	**+0.5**
MAZI	**Mazidag**	**1.76**	**275**	*e*PN	**Pn**	**16 59 12.8**	**-0.5**
MAZI	**Mazidag**	**1.76**	**275**	*e*Pn	**Pn**	**16 59 12.8**	**-0.5**
EKAR	**Karacoban**	**1.98**	**347**	*i*P	**Pb**	**16 59 18.6**	**0.0**
EKAR	**Karacoban**	**1.98**	**347**	P	**Pb**	**16 59 18.6**	**0.0**
BNGL	**BINGOL**	**2.01**	**324**	*i*P	**Pn**	**16 59 17.7**	**+0.9**
BNGL				*i*S	**Sg**	**16 59 47.7**	**+1.5**
DIYA	**Diyarbakir**	**2.09**	**287**	*i*P	**Pb**	**16 59 20.5**	**0.0**
AGRB	**Hanur-Agry**	**2.26**	**7**	*e*PN	**Pn**	**16 59 20.4**	**+0.2**
AGRB	**Hanur-Agry**	**2.26**	**7**	*e*Pn	**Pn**	**16 59 20.4**	**+0.2**
BNGB	**Bing¶l**	**2.27**	**317**	*e*PN	**Pn**	**16 59 20.1**	**-0.3**
BINT	**Bingol**	**2.30**	**313**	*e*Pn	**Pn**	**16 59 20.1**	**-0.7**
PTK	**Pertek**	**

BJI ***14*** *17:24:28.6, 6°.69S×127°.81E, h422km, mb4.3/47, mB4.3/26*
NEIC ***14*** *17:24:29.4±0.4, 6°.59S×127°.51E, h392km±5km, mb4.7/47, Error ellipse: s-maj=5.7km s-min=4.8km az=216.0*
ISCJB ***14*** *17:24:29.0±0.2, 6°.61S±0°.03×127°.57E±0°.03, h408km, mb4.5/79, Error ellipse: s-maj=3.6km s-min=3.4km az=146.6*
IDC ***14*** *17:24:29.6±1.8, 6°.64S×127°.57E, h396km±20km, mb4.0/26, mb1 4.0/28, mb1mx3.9/36, mbtmp4.8/28, Error ellipse: s-maj=11.7km s-min=8.2km az=67.0*
KLM ***14*** *17:24:30.0, 6°.76S×127°.54E, h377km, mb4.8*
DJA ***14*** *17:24:30.1±0.2, 7°.S±3°×12°.8E±°, h391km±2km, M4.2/13, mb4.7/13, mB4.7/6, MLv4.2/1, Mw(mB)4.0/6*
ISC 14 17:24:30.2±0.3, **6°.67S**±0°.04×**127°.52E**±0°.04, **h408**km, **n229**, σ**1§65**/261, **mb4.5**/79, **8C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.04**	**13**	Pn	**P**	**17 25 33.8**	**-0.5**
AAI				S	**S**	**17 26 22.5**	**-3.8**
BNDI	**Bandanaira**	**3.19**	**48**	P	P	17 25 34.7	-0.8
BNDI				Pn	**P**	**17 25 34.6**	**-0.9**
BNDI				S	**S**	**17 26 26.1**	**-2.4**
MSAI	**Masohi**	**3.59**	**23**	P	**P**	**17 25 36.4**	**-2.5**
MSAI				Pn	**P**	**17 25 36.6**	**-2.3**
MSAI				S	**S**	**17 26 27.9**	**-6.9**
SAUI	**Saumlaki**	**3.96**	**109**	P	**P**	**17 25 41.8**	**-0.5**
SAUI				Pn	**P**	**17 25 41.9**	**-0.4**
SAUI				S	**S**	**17 26 39.4**	**-1.7**
SAUI	**Saumlaki**	**3.96**	**109**	*e*Pn	**P**	**17 25 41.9**	**-0.4**
SAUI				*e*S	S	17 26 30.5	-11
SOEI	**Soe**	**4.45**	**226**	P	**P**	**17 25 47.1**	**0.0**
SOEI				Pn	**P**	**17 25 47.2**	**+0.2**
SOEI				S	**S**	**17 26 47.9**	**-1.8**
SOEI	**Soe**	**4.45**	**226**	*e*Pn	**P**	**17 25 47.1**	**0.0**
SOEI				*e*S	**S**	**17 26 43.5**	**-6.2**
SANI	**Sanana**	**4.84**	**341**	P	P	17 25 49.4	-1.4
SANI				Pn	**P**	**17 25 49.3**	**-1.5**
SANI				S	**S**	**17 26 51.9**	**-4.8**
BBSI	**Bau Bau**	**5.06**	**283**	P	**P**	**17 25 55.0**	**+1.9**
BBSI				Pn	**P**	**17 25 55.0**	**+1.9**
KDI	**Kendari**	**5.58**	**299**	P	**P**	**17 25 58.3**	**-0.1**
	55nm,0.9s,521nm0.2nm						
MMRI	**Maumere**	**5.59**	**249**	P	**P**	**17 25 57.3**	**-1.3**
MMRI				Pn	**P**	**17 25 58.0**	**-0.5**
MMRI	**Maumere**	**5.59**	**249**	*e*Pn	**P**	**17 25 57.3**	**-1.3**
MMRI				*e*S	**S**	**17 27 05.2**	**-5.7**
LBMI	**Labuha**	**5.99**	**360**	P	**P**	**17 26 01.9**	**-0.9**
LBMI				Pn	**P**	**17 26 02.0**	**-0.9**
FAKI	**Fak Fak**	**6.00**	**52**	Pn	**P**	**17 26 00.9**	**-2.1**
FAKI	**Fak Fak**	**6.00**	**52**	*e*Pn	**P**	**17 26 00.7**	**-2.3**
FAKI				*e*S	S	17 27 07.3	-12
EDFI	**Ende, Flores**	**6.14**	**250**	P	**P**	**17 26 04.1**	**-0.4**
EDFI				Pn	**P**	**17 26 04.1**	**-0.4**
KMPI	**Kaimana, Papua**	**6.84**	**64**	P	P	17 26 11.3	-1.5
KMPI				Pn	**P**	**17 26 10.9**	**-1.9**
SWI	**Sorong**	**6.87**	**33**	P	P	17 26 10.8	-2.3
SWI				Pn	**P**	**17 26 10.2**	**-2.9**
BSSI	**Bau Bau, Buton**	**7.01**	**274**	P	**P**	**17 26 15.3**	**+0.6**
MTN	**Manton Dam**	**7.09**	**150**	*e*Pn	**P**	**17 26 15.4**	**-0.1**
MTN				*e*S	**S**	**17 27 33.7**	**-7.1**
BKSI	**Bulukumba**	**7.48**	**280**	P	**P**	**17 26 21.0**	**+1.1**
BNSI	**Bone**	**7.72**	**287**	P	**P**	**17 26 23.0**	**+0.5**
BNSI				Pn	**P**	**17 26 23.6**	**+1.1**
WSI	**Waingapu**	**7.75**	**247**	P	**P**	**17 26 20.4**	**-2.4**
WSI				Pn	**P**	**17 26 23.2**	**+0.4**
KAPI	**Kappang**	**7.91**	**282**	*e*Pn	**P**	**17 26 21.5**	**-3.1**
KMSI	**Cibinong**	**8.02**	**334**	P	**P**	**17 26 24.8**	**-0.9**
SPSI	**Sidrap Palu**	**8.18**	**289**	P	**P**	**17 26 27.4**	**-0.1**
APSI	**Ampana**	**8.19**	**314**	P	**P**	**17 26 27.7**	**+0.1**
	145nm,1.0s,1μm						
RKPI	**Ransiki, Papua**	**8.38**	**53**	P	**P**	**17 26 29.6**	**-0.2**
TTSI	**Tana Toraja**	**8.48**	**295**	P	**P**	**17 26 32.1**	**+1.3**
TTSI				Pn	**P**	**17 26 32.5**	**+1.7**
MRSI	**Marisa**	**9.03**	**322**	P	**P**	17 26 36.5	-0.4
MRSI				Pn	**P**	**17 26 36.2**	**-0.7**
PCI	**Palu**	**9.57**	**306**	P	P	17 26 50.8	+7.8
PCI				Pn	P	17 26 49.9	+6.9
PLAI	**Plampang**	**9.89**	**257**	P	P	17 26 41.3	-5.2
PLAI				Pn	P	17 26 41.1	-5.4
MPSI	**Mapaga**	**10.31**	**312**	P	P	17 26 55.5	+4.3
MPSI				Pn	**P**	**17 26 53.3**	**+2.1**
SGSI	**Sangihe**	**10.48**	**349**	P	P	17 26 52.5	-0.5
SGSI				Pn	**P**	**17 26 51.8**	**-1.2**
SMPI	**Sarmi**	**12.08**	**68**	P	**P**	**17 27 12.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**13.38**	**261**	P	P	17 27 26.8	+1.9
	97nm,0.9s						
JAGI				Pn	**P**	**17 27 23.9**	**-1.0**
	97nm,0.9s						
JAGI	**Jajag, Banyuwa**	**13.38**	**261**	*e*P	**P**	**17 27 23.5**	**-1.4**
KMMI	**Kalianget**	**13.47**	**268**	P	P	17 27 32.7	+6.8
MATI	**Mati**	**13.59**	**355**	*e*P	**P**	**17 27 27.6**	**+0.4**
JAY	**Jayapura**	**13.77**	**73**	P	**P**	**17 27 32.1**	**+2.9**
MTKI	**Muara Teweh, K**	**13.82**	**294**	P	P	17 27 31.0	+1.2
MTKI				Pn	**P**	**17 27 30.8**	**+1.0**
CTBH	**Cotabato--PC H**	**14.18**	**347⇓**	*e*P	**P**	**17 27 33.3**	**-0.4**
TSM	**Tawau**	**14.54**	**318**	⇑P	**P**	**17 27 39.0**	**+1.5**
BUKP	**Musuan**	**14.66**	**350**	*e*P	**P**	**17 27 38.5**	**-0.4**
WRAB	**Tennant Creek**	**14.76**	**154**	*c i*P	**P**	**17 27 40.1**	**+0.3**
WRAB	**Tennant Creek**	**14.76**	**154**	*e*P	**P**	**17 27 40.3**	**+0.5**
WR1	**Warramunga Arr**	**14.76**	**154**	*e*P	**P**	**17 27 35.8**	**-4.1**
WR1				*e*S	**S**	**17 30 14.4**	**-2.5**
WRA	**Warramunga Arr**	**14.76**	**154**	P	**P**	**17 27 35.8**	**-4.1**
	6.1nm,0.3s,baz=208,slow=14,SNR=194						
WRA				S	**S**	**17 30 14.4**	**-2.5**
	1.3nm,0.3s,baz=326,slow=19,SNR=7.2						
WB2	**Warramunga Arr**	**14.77**	**154**	*e*P	**P**	**17 27 39.1**	**-0.9**
MYLDM	**Lahad Datu**	**14.82**	**322**	*e*P	**P**	**17 27 42.3**	**+1.7**
PAGZ	**Pagadian**	**15.00**	**344**	*e*P	**P**	**17 27 42.9**	**+0.4**
MBWA	**Marble Bar**	**16.26**	**207**	*e*P	**P**	**17 27 56.8**	**+0.8**
	39nm,0.6s						
PBKI	**Pangkalan Bun**	**16.28**	**283**	P	**P**	**17 28 00.7**	**+4.4**
SCPH	**Surigao**	**16.47**	**353**	*e*P	**P**	**17 27 57.9**	**-0.3**
MSLP	**Maasin**	**16.90**	**351**	*e*P	**P**	**17 28 03.3**	**+0.4**
UGM	**Wanagama**	**16.91**	**265**	*e*P	**P**	**17 28 02.8**	**-0.3**
	503nm,1.5s						
KKM	**Kota Kinabalu**	**16.94**	**318**	*e*P	**P**	**17 28 01.9**	**-1.5**
	82nm,0.8s						
COEN	**Coen**	**17.01**	**116**	*e*P	**P**	**17 28 04.3**	**+0.3**
	11nm,0.8s						
BTM	**Bintulu**	**17.43**	**304**	⇑P	**P**	**17 28 11.1**	**+2.5**
SBUM	**Sibu**	**17.76**	**300**	*e*P	**P**	**17 28 11.9**	**-0.2**
	43nm,0.9s						
OCLP	**Ormoc**	**17.84**	**351**	*e*P	**P**	**17 28 15.4**	**+2.6**
ASAR	**Alice Springs**	**17.98**	**161**	P	**P**	**17 28 14.9**	**+0.7**
	4.4nm,0.3s,baz=347,slow=12,SNR=450						
ASAR				S	**S**	**17 31 19.7**	**+0.3**
	0.8nm,0.3s,baz=346,slow=20,SNR=8.0						
AS01	**Alice Springs**	**17.99**	**161**	*e*P	**P**	**17 28 14.6**	**+0.2**
BESP	**Borongan**	**18.27**	**353**	*e*P	**P**	**17 28 16.4**	**-0.9**
CMJI	**Cimerak**	**18.96**	**265**	P	**P**	**17 28 24.3**	**-0.2**
KSM	**Kuching**	**18.99**	**295**	*e*P	**P**	**17 28 23.5**	**-1.3**
	98nm,1.0s						
KSM				*e*S	**S**	**17 31 39.3**	**+2.1**
KSM	**Kuching**	**18.99**	**295**	⇑P	**P**	**17 28 26.4**	**+1.5**
CNP	**Cataman**	**19.27**	**352**	*e*P	**P**	**17 28 26.2**	**-1.2**
ENPP	**El Nido**	**19.50**	**336**	*e*P	**P**	**17 28 29.8**	**+0.1**
CISI	**Cisompet, Garu**	**19.58**	**266**	P	**P**	**17 28 29.0**	**-1.5**
CISI	**Cisompet, Garu**	**19.58**	**266**	*e*P	**P**	**17 28 28.5**	**-1.9**
	264nm,0.9s						
PMG	**Port Moresby**	**19.63**	**99**	P	**P**	**17 28 30.9**	**0.0**
	0.9nm,0.3s,baz=191,slow=0.3,SNR=12						
PMG	**Port Moresby**	**19.63**	**99**	*e*P	**P**	**17 28 31.8**	**+0.9**
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**19.63**	**99**	*e*P	**P**	**17 28 31.8**	**+0.9**
	comp=Z,17nm,0.8s						
OTRP	**Odiongan**	**19.68**	**344**	*e*P	**P**	**17 28 30.7**	**-0.6**
SJMP	**San Jose**	**20.05**	**341**	*e*P	**P**	**17 28 35.5**	**+0.9**
CNJI	**Cibinong**	**20.25**	**267**	P	**P**	**17 28 36.0**	**-0.6**
MANU	**Manus Island**	**20.31**	**78**	*e*P	**P**	**17 28 38.2**	**+1.1**
	comp=Z,80nm,1.8s						
PVCP	**Virac**	**20.41**	**351**	*e*P	**P**	**17 28 37.4**	**-0.6**
AUQP	**San Andres**	**20.44**	**346**	*e*P	**P**	**17 28 40.3**	**+2.1**
BOAC	**Boac**	**20.78**	**344**	*e*P	**P**	**17 28 41.2**	**-0.1**
XMIS	**Christmas Isla**	**21.95**	**259**	*e*P	**P**	**17 28 51.9**	**-0.2**
	comp=Z,78nm,0.8s						
BALP	**Baler**	**23.03**	**345**	*e*P	**P**	**17 29 00.3**	**-1.4**
MDSI	**Maura Dua**	**23.34**	**274**	P	**P**	**17 29 05.2**	**+0.6**
FORT	**Forrest**	**23.99**	**179**	*e*P	**P**	**17 29 11.1**	**+0.8**
	comp=Z,161nm,0.9s						
FORT				*e*pP	PP	17 30 14.3	-1.2
LHSI	**Lahat**	**24.06**	**276**	P	**P**	**17 29 15.1**	**+3.9**
MYKOM	**Kota Tinggi**	**25.08**	**289**	*e*P	**P**	**17 29 22.5**	**+2.2**
	comp=Z,25nm,0.8s						
GUMO	**Guam**	**26.49**	**41**	P	**P**	**17 29 31.4**	**-1.2**
	comp=Z,85nm,0.9s,baz=200,slow=10,SNR=7.7						
BKNI	**Bangkinang**	**27.33**	**284**	*e*P	**P**	**17 29 40.1**	**-0.1**
	comp=Z,75nm,0.5s						
NWAO	**Narrogin (SRO)**	**27.82**	**199**	*e*P	**P**	**17 29 45.1**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,154nm,1.8s						
NWAO	**Narrogin (SRO)**	**27.82**	**199**	*e*P	**P**	**17 29 45.0**	**+0.8**
	comp=Z,154nm,1.8s						
STKA	**Stephens Creek**	**28.31**	**154**	P	**P**	**17 29 49.5**	**+0.9**
	comp=Z,3.8nm,0.3s,baz=335,slow=8.8,SNR=37						
STKA	**Stephens Creek**	**28.31**	**154**	*e*P	**P**	**17 29 49.5**	**+0.9**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**28.31**	**154**	*e*P	**P**	**17 29 49.5**	**+0.9**
	comp=Z,2.7nm,0.8s						
IPM	**Ipoh**	**28.68**	**292**	*e*P	**P**	**17 29 51.9**	**-0.2**
	comp=Z,25nm,0.8s						
MNSI	**Mandailing Nat**	**28.86**	**284**	P	**P**	**17 29 53.7**	**+0.1**
	comp=Z,42nm,0.9s						
KULM	**Kulim**	**29.34**	**293**	*e*P	**P**	**17 29 58.6**	**+0.8**
	comp=Z,29nm,0.9s						
SARN	**Sarigan**	**29.42**	**38**	*e*PcP	**PcP**	**17 32 55.0**	**+2.4**
PSI	**Prapat**	**30.06**	**287**	P	**P**	**17 30 03.6**	**-0.7**
	comp=Z,40nm,0.8s,baz=96,slow=6.5,SNR=41						
SKLT	**Songkhla**	**30.16**	**297**	P	**P**	**17 30 07.0**	**+2.0**
	comp=Z,25nm,1.0s						
YULB	**Yu-li**	**30.49**	**349**	*e*P	**P**	**17 30 05.5**	**-2.2**
	comp=Z,44nm,1.6s						
TPUB	**Ta-pu**	**30.54**	**347**	*e*P	**P**	**17 30 06.6**	**-1.6**
	comp=Z,19nm,0.8s						
SSLB	**Suanglung**	**30.95**	**348**	*e*P	**P**	**17 30 09.6**	**-2.1**
	comp=Z,96nm,1.9s						
YOJ	**Yonaguni jima**	**31.25**	**352**	*e*P	**P**	**17 30 13.0**	**-1.3**
YOJ				pmax	pmax		
	comp=Z,119nm,1.4s						
YOJ	**Yonaguni jima**	**31.25**	**352**	*e*P	**P**	**17 30 13.0**	**-1.3**
	comp=Z,119nm,1.4s						
TRTT	**Trang**	**31.28**	**297**	P	**P**	**17 30 16.4**	**+1.7**
	comp=Z,40nm,1.2s						
KCSI	**Kotacane, Aceh**	**31.38**	**288**	P	**P**	**17 30 15.7**	**0.0**
	comp=Z,16nm,0.9s,comp=Z,1μm						
YHNB	**Yeheng**	**31.72**	**349**	*e*P	**P**	**17 30 16.2**	**-2.3**
	comp=Z,135nm,1.8s						
TPTI		**31.86**	**287**	P	**P**	**17 30 19.1**	**-0.7**
HNR	**Honiara**	**32.21**	**97**	P	**P**	**17 30 22.2**	**-0.6**
	comp=Z,34nm,0.8s,baz=214,slow=4.9,SNR=3.8						
LHMI	**Lhok Sumawe**	**32.73**	**290**	*e*P	**P**	**17 30 28.2**	**+0.9**
	comp=Z,133nm,1.1s						
MLSI	**Meulaboh, Aceh**	**32.91**	**288**	P	**P**	**17 30 28.6**	**-0.2**
JOW	**Kunigami**	**33.31**	**1**	*e*P	**P**	**17 30 32.0**	**0.0**
	comp=Z,46nm,0.8s						
CHAI	**Chaiyaphum**	**33.80**	**312**	P	**P**	**17 30 37.8**	**+1.5**
	comp=Z,4.8nm,0.8s						
NONG	**Nongkai**	**34.40**	**316**	P	P	17 30 49.3	+7.9
CAN	**Canberra**	**34.68**	**148**	*e*P	**P**	**17 30 46.3**	**+2.6**
CAN				pmax	pmax		
	comp=Z,63nm,2.0s						
CAN	**Canberra**	**34.68**	**148**	*e*P	**P**	**17 30 46.3**	**+2.6**
	comp=Z,63nm,2.0s						
UTHA	**Uthaitani**	**35.52**	**309**	P	**P**	**17 30 52.8**	**+2.0**
	comp=Z,5.7nm,0.8s						
UTTA	**Uttaradit**	**36.03**	**313**	P	**P**	**17 30 57.6**	**+2.5**
	comp=Z,3.0nm,0.9s						
SLVN	**Son La**	**36.22**	**321**	*e*P	**P**	**17 30 59.1**	**+2.4**
	comp=Z,4.9nm,1.1s						
CM01	**Chiang Mai Arr**	**37.63**	**312**	*e*P	**P**	**17 31 09.1**	**+0.7**
CM01				*e*S	**S**	**17 36 25.5**	**-2.2**
CM31	**Chiang Mai Arr**	**37.66**	**312**	*e*P	**P**	**17 31 11.7**	**+3.0**
CM31				*e*PcP	**PcP**	**17 33 17.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**37.66**	**312**	P	**P**	**17 31 09.0**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=141,slow=6.7,SNR=22						
CMAR				PcP	**PcP**	**17 33 17.7**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=150,slow=3.9,SNR=6.5						
CMAR				ScP	**S**	**17 36 26.6**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=162,slow=3.4,SNR=13						
CHTO	**Chiang Mai**	**37.88**	**312**	P	**P**	**17 31 12.7**	**+2.2**
	comp=Z,36nm,1.0s						
CHTO	**Chiang Mai**	**37.88**	**312**	*e*P	**P**	**17 31 10.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**37.88**	**312**	*e*P	**P**	**17 31 10.2**	**-0.3**
	comp=Z,8.3nm,1.0s						
WHN	**Wuhan**	**39.10**	**342**	⇓P	**P**	**17 31 20.8**	**+0.5**
WHN				pmax	pmax		
	comp=Z,89nm,1.1s						
NJ2	**Nanjing**	**39.38**	**348**	*e*P	**P**	**17 31 23.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,34nm,1.1s						
JNU	**Nakatsue**	**39.70**	**4**	P	**P**	**17 31 24.6**	**-0.6**
	comp=Z,12nm,0.8s,baz=228,slow=0.1,SNR=10.0						
JNU	**Nakatsue**	**39.70**	**4**	*e*P	**P**	**17 31 25.0**	**-0.3**
	comp=Z,16nm,0.9s						
ENH	**Enshi**	**40.60**	**336**	*e*P	**P**	**17 31 31.4**	**-1.2**
	comp=Z,8.6nm,0.7s						
CD2	**Chengdu**	**43.75**	**330**	*e*P	**P**	**17 31 58.0**	**+0.4**
TIA	**Tai'an**	**43.76**	**348**	*e*P	**P**	**17 31 56.3**	**-1.2**
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
KS15	**Wonju Array Si**	**43.88**	**0**	*e*P	**P**	**17 31 58.6**	**+0.2**
KSRS	**Korea Array**	**43.90**	**0**	P	**P**	**17 31 59.1**	**+0.6**
	comp=Z,15nm,0.8s,baz=178,slow=10,SNR=82						
KS01	**Wonju Array Si**	**43.92**	**0**	*e*P	**P**	**17 31 58.4**	**-0.3**
MAJO	**Matsushiro**	**44.14**	**12**	*e*P	**P**	**17 31 59.0**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,215nm,0.9s						
MAJO	**Matsushiro**	**44.14**	**12**	*e*P	**P**	**17 31 59.1**	**-1.5**
	comp=Z,42nm,0.9s						
MAT	**Matsushiro**	**44.14**	**12**	P	**P**	**17 31 59.2**	**-1.3**
MJAR	**Matsushiro Arr**	**44.14**	**12**	P	**P**	**17 31 59.3**	**-1.2**
	comp=Z,25nm,0.8s,baz=188,slow=9.1,SNR=47						
MJB9	**Matsu-Tunnel**	**44.14**	**12**	*e*P	**P**	**17 31 59.2**	**-1.4**
	comp=Z,10nm,0.9s						
XAN	**Xi'an**	**44.16**	**338**	P	**P**	**17 31 59.8**	**-0.9**
XAN				pmax	pmax		
	comp=Z,27nm,0.9s						
XAN				pmax	pmax		
	comp=Z,49nm,4.2s						
BJT	**Baijiatuau**	**47.62**	**348**	*e*P	**P**	**17 32 27.0**	**-0.3**
BJT				pmax	pmax		
	comp=Z,23nm,0.8s						
BJT	**Baijiatuau**	**47.62**	**348**	*e*P	**P**	**17 32 27.0**	**-0.3**
	comp=Z,23nm,0.8s						
LZH	**Lanzhou**	**48.00**	**334**	⇑P	**P**	**17 32 30.6**	**+0.2**
LZH				pP	PcP	17 33 51.0	-0.1
LZH				PP	**PP**	**17 34 28.5**	**+1.2**
LZH				sP	sP	17 34 35.0	-2.1
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,5.6s						
PALK	**Pallekele**	**48.72**	**286**	P	**P**	**17 32 37.9**	**+1.9**
	comp=Z,9.1nm,0.8s,baz=108,slow=5.6,SNR=5.9						
PALK	**Pallekele**	**48.72**	**286**	*e*P	**P**	**17 32 37.2**	**+1.2**
PALK				pmax	pmax		
	comp=Z,13nm,0.9s						
PALK	**Pallekele**	**48.72**	**286**	*e*P	**P**	**17 32 37.2**	**+1.2**
	comp=Z,13nm,0.9s						
MSHR	**Mys Shultsa**	**49.13**	**4**	*i*P	**P**	**17 32 38.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**49.51**	**344**	*e*P	**P**	**17 32 41.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,28nm,1.0s						
HHC				pmax	pmax		
	comp=Z,52nm,6.3s						
CN2	**Changchun**	**50.27**	**358**	*e*P	**P**	**17 32 46.5**	**-0.5**
CN2				*e*PP	**PP**	**17 34 48.8**	**+1.3**
CN2				*e*S	**S**	**17 39 27.0**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
LSA	**Lhasa**	**50.28**	**318**	*e*P	**P**	**17 32 48.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	**Lhasa**	**50.28**	**318**	*e*P	**P**	**17 32 48.6**	**+0.6**
	comp=Z,6.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.80**	**4**	P	**P**	**17 32 51.2**	**+0.3**
	comp=Z,16nm,0.6s,baz=194,slow=7.7,SNR=42						
MDJ	**Mudanjiang**	**51.09**	**2**	*e*P	**P**	**17 32 53.6**	**+0.7**
	comp=Z,21nm,0.9s						
ODAN	**Odare**	**51.20**	**312**	*e*P	**P**	**17 32 54.4**	**-0.1**
	comp=Z,7.3nm,0.4s						
TAPN	**Taplejung**	**51.25**	**313**	*e*P	**P**	**17 32 55.0**	**+0.1**
	comp=Z,19nm,0.8s						
RAMN	**Ramite**	**51.84**	**312**	*e*P	**P**	**17 32 59.5**	**+0.4**
	comp=Z,42nm,0.7s						
ASAJ	**Asahikawa**	**52.35**	**14**	P	**P**	**17 33 01.9**	**-0.4**
	comp=Z,8.5nm,0.7s,baz=248,slow=7.9,SNR=12						
ASAJ	**Asahikawa**	**52.35**	**14**	*e*P	**P**	**17 33 02.3**	**0.0**
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**52.53**	**333**	*e*P	**P**	**17 33 04.0**	**+0.2**
GTA				pP	pP	17 34 28.3	+1.5
GTA				sP	sP	17 35 12.6	+0.7
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
JIRN	**Jiri**	**52.53**	**312**	*e*P	**P**	**17 33 04.4**	**+0.1**
	comp=Z,134nm,0.8s						
GUN	**Gumba**	**52.90**	**312**	*e*P	**P**	**17 33 07.0**	**0.0**
	comp=Z,30nm,0.7s						
PKIN	**Phulchoki**	**53.07**	**312**	*e*P	**P**	**17 33 07.8**	**-0.3**
	comp=Z,7.1nm,0.5s						
KKN	**Kakani**	**53.28**	**312**	*e*P	**P**	**17 33 09.5**	**0.0**
	comp=Z,6.1nm,0.4s						
DMN	**Daman**	**53.31**	**312**	*e*P	**P**	**17 33 09.7**	**-0.1**
	comp=Z,21nm,0.9s						
GKN	**Gorkha**	**53.87**	**312**	*e*P	**P**	**17 33 13.6**	**-0.1**
	comp=Z,14nm,0.4s						
HYB	**Hyderabad**	**53.97**	**297**	*i*P	**P**	**17 33 14.0**	**-0.4**
KOLN	**Koldanda**	**54.52**	**311**	*e*P	**P**	**17 33 18.5**	**+0.2**
	comp=Z,32nm,0.8s						
YSS	**Yuzh-Sakhalins**	**55.08**	**13**	*e*P	**P**	**17 33 22.4**	**+0.8**
YSS				pmax	pmax		
	comp=Z,102nm,1.8s						
YSS	**Yuzh-Sakhalins**	**55.08**	**13**	*e*P	**P**	**17 33 22.4**	**+0.8**
	comp=Z,102nm,1.8s						
PYUN	**Piuthan**	**55.15**	**311**	*e*P	**P**	**17 33 23.0**	**+0.2**
	comp=Z,46nm,0.8s						
ULN	**Ulaanbaatar**	**57.23**	**344**	*i*P	**P**	**17 33 37.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,17nm,0.9s						
ULN	**Ulaanbaatar**	**57.23**	**344**	*e*P	**P**	**17 33 38.0**	**+1.1**
	comp=Z,15nm,0.9s						
SONA0	**Songino Array**	**57.39**	**343**	*e*P	**P**	**17 33 38.9**	**+1.0**
	comp=Z,13nm,0.9s						
SONM	**Songino Array**	**57.39**	**343**	P	**P**	**17 33 38.9**	**+1.0**
	comp=Z,9.7nm,0.8s,baz=168,slow=7.9,SNR=46						
SONA1	**Songino Array**	**57.40**	**343**	*e*P	**P**	**17 33 38.7**	**+0.7**
TLY	**Talaya**	**61.63**	**343**	P	**P**	**17 34 07.7**	**+1.4**
	comp=Z,3.8nm,0.6s,baz=24,slow=3.0,SNR=3.9						
WMQ	**Urumqi**	**61.80**	**328**	P	**P**	**17 34 08.3**	**+0.6**
WMQ				pP	pP	17 35 39.3	+5.3
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.1s						
PEA0B	**Petropavlovsk-**	**64.81**	**20**	*e*P	**P**	**17 34 28.0**	**+1.1**
	comp=Z,56nm,1.0s						
PETK	**Petropavlovsk-**	**64.81**	**20**	P	**P**	**17 34 27.9**	**+1.1**
	comp=Z,34nm,0.9s,baz=175,slow=3.5,SNR=28						
PETK	**Petropavlovsk-**	**64.81**	**20**	*e*P	**P**	**17 34 28.0**	**+1.1**
PEA1	**Petropavlovsk-**	**64.81**	**20**	*e*P	**P**	**17 34 27.9**	**+1.1**
BOD	**Bodaibo**	**65.20**	**352**	*e*P	**P**	**17 34 29.8**	**+0.5**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s						
KSH	**Kashi**	**66.13**	**319**	*e*P	**P**	**17 34 36.5**	**+0.8**
KSH				PcP	**PcP**	**17 35 03.0**	**+0.6**
KSH				pP	pP	17 36 08.3	+4.9
KSH				sP	sP	17 36 50.1	+2.9
KSH				PP	**PP**	**17 37 11.9**	**+4.1**
KSH				S	**S**	**17 42 44.6**	**-6.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,110nm,8.3s						
MK01	**Makanchi Array**	**66.60**	**328**	*e*P	**P**	**17 34 38.6**	**+0.2**
MK31	**Makanchi Array**	**66.62**	**328**	*e*P	**P**	**17 34 38.6**	**+0.1**
MK31	**Makanchi Array**	**66.62**	**328

Error ellipse: s-maj=2.6km s-min=2.3km az=174.9
NEIC ***14*** *17:28:52.9±0.0, 32°.55N×115°.69W, h26km, ML3.6(PAS), ML3.8(ECX), After ECX.*
NEIC Felt [II] at Mexicali. Felt [III] at El Centro and [II] at Calexico, California. Also felt at Imperial.
ECX ***14*** *17:28:53.0±0.6, 32°.55N×115°.69W, h3km, MD3.6, ML3.8, Fault plane solution: NP1φs344.90000°, δ75.52000°, λ-26.57000°.*
MEX ***14*** *17:28:54.3±2.4, 32°.47N×115°.61W, h16km±67km, MD3.9*

ISC 14 17:28:51.2±0.8, 32°.56N±0°.02×115°.69W±0°.02, h15km±5km, n118, σ1°22/153, 8C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.10**	**345**	⇓*iP*	**Pb**	**17 28 54.8**	**+0.3**
ERPC	**Ernies Place**	**0.19**	**8**	⇑*iP*	**Pb**	**17 28 56.8**	**+0.4**
ERPC	**Ernies Place**	**0.19**	**8**	*e*Pg	**Pb**	**17 28 56.8**	**+0.4**
WESC	**Westside Schoo**	**0.21**	**351**	⇓*iP*	**Pb**	**17 28 57.0**	**+0.3**
WESC				*e*S	**Sb**	**17 29 01.0**	**+0.7**
WESC	**Westside Schoo**	**0.21**	**351**	*e*Pg	**Pb**	**17 28 57.1**	**+0.4**
YUH	**Yuha Desert**	**0.21**	**296**	⇓*iP*	**Pb**	**17 28 56.9**	**+0.1**
YUH	**Yuha Desert**	**0.21**	**296**	*e*Pg	**Pb**	**17 28 56.9**	**+0.1**
COK	**Cook Ranch**	**0.29**	**355**	⇑*iP*	**Pb**	**17 28 58.7**	**+0.5**
DREC	**Desert Rsrch C**	**0.33**	**40**	⇑*iP*	**Pb**	**17 28 59.3**	**+0.6**
RMX	**La Rumorosa**	**0.33**	**278**	⇓*e*P	**Pb**	**17 28 58.6**	**-0.2**
RMX				*e*S	**Sg**	**17 29 03.0**	**+0.2**
CPBX	**Cerro Prieto**	**0.36**	**112**	⇓*e*P	**Pb**	**17 28 59.5**	**+0.3**
CPBX				*e*S	**Sb**	**17 29 05.0**	**+0.4**
CPBX				IAML		17 29 08.4	
	comp=N,21μm,0.3s						
CPBX				⇑*e*		17 29 08.4	
IKP	**In-Ko-Pah, Jac**	**0.36**	**285**	P	**Pb**	**17 28 59.7**	**+0.3**
	baz=107,SNR=1000						
IKP				S	**Sb**	**17 29 04.6**	**-0.3**
	baz=107						
IKP	**In-Ko-Pah, Jac**	**0.36**	**285**	⇓*e*P	**Pb**	**17 28 59.7**	**+0.3**
IKP				*e*S	**Sb**	**17 29 05.0**	**0.0**
SWSC	**Sam W. Stewart**	**0.40**	**347**	P	**Pb**	**17 29 00.1**	**+0.2**
	baz=166,SNR=491						
SWSC				S	**Sb**	**17 29 05.8**	**-0.1**
	baz=166						
SWSC	**Sam W. Stewart**	**0.40**	**347**	*e*P	**Pb**	**17 29 00.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.40**	**347**	*e*Pg	**Pb**	**17 29 00.2**	**+0.2**
CRR	**Carrizo Plain**	**0.40**	**325**	⇑*iP*	**Pb**	**17 29 00.3**	**+0.3**
CRR	**Carrizo Plain**	**0.40**	**325**	*e*Pg	**Pb**	**17 29 00.4**	**+0.3**
MBIG	**Mexicali**	**0.45**	**109**	*iP*	**Pb**	**17 29 01.4**	**+0.6**
MBIG				*i*S	**Sg**	**17 29 05.2**	**-1.0**
MBIG	**Mexicali**	**0.45**	**109**	⇓*e*P	**Pb**	**17 29 00.9**	**+0.1**
ERRC	**Elmore Ranch**	**0.57**	**349**	*e*Pg	**Pn**	**17 29 04.3**	**-0.5**
COA	**Coachella**	**0.57**	**57**	*e*Pg	**Pb**	**17 29 03.3**	**+0.4**
CBKC	**Canebrake**	**0.58**	**306**	*e*Pg	**Pb**	**17 29 03.9**	**+0.8**
CLIC	**Calipatria**	**0.60**	**14**	*e*Pg	**Pb**	**17 29 04.1**	**+0.7**
BTCC	**Brunts Corner**	**0.61**	**41**	*e*Pg	**Pb**	**17 29 03.6**	**+0.1**
EMSC	**East Mesa**	**0.63**	**73**	*e*Pg	**Pb**	**17 29 04.3**	**+0.5**
MONP2	**Monument Peak**	**0.70**	**299**	P	**Pb**	**17 29 05.7**	**+0.4**
	baz=120,SNR=895						
MONP2				S	**Sb**	**17 29 15.0**	**+0.2**
	baz=120						
BAR	**Barrett**	**0.83**	**279**	⇓*iP*	**Pn**	**17 29 08.1**	**-0.3**
BAR	**Barrett**	**0.83**	**279**	*e*Pg	**Pn**	**17 29 08.1**	**-0.3**
BAR				*e*Sg	**Sb**	**17 29 18.9**	**+0.5**
TJIG	**Tijuana**	**0.84**	**262**	*e*P	**Pn**	**17 29 08.1**	**-0.4**
TJIG				*i*S	**Sb**	**17 29 18.9**	**+0.4**
TJIG	**Tijuana**	**0.84**	**262**	*e*P	**Pn**	**17 29 08.0**	**-0.5**
FRK	**Frink**	**0.85**	**3**	*e*Pg	**Pb**	**17 29 07.2**	**-0.3**
CBX	**Cerro Bola**	**0.85**	**254**	*e*P	**Pn**	**17 29 08.6**	**-0.2**
CBX				*i*S	**Sb**	**17 29 19.9**	**+0.8**
CBX	**Cerro Bola**	**0.85**	**254**	⇑*e*P	**Pn**	**17 29 08.6**	**-0.2**
CBX				*e*S	**Sb**	**17 29 20.0**	**+0.8**
CBX				IAML		17 29 22.6	
	comp=N,5μm,0.4s						
CBX				⇑*e*		17 29 22.6	
GLA	**Glamis**	**0.88**	**56**	P	**Pb**	**17 29 07.8**	**-0.4**
	baz=235,SNR=184						
GLA				S	**Sb**	**17 29 19.0**	**-0.8**
	baz=235						
GLA	**Glamis**	**0.88**	**56**	*e*Pg	**Pb**	**17 29 07.8**	**-0.4**
GLA				*e*Sn	**Sb**	**17 29 19.3**	**-0.6**
BATC	**Bat Cave Butte**	**0.91**	**352**	*e*Pg	**Pb**	**17 29 08.6**	**-0.1**
SDRC	**San Diego Road**	**1.07**	**280**	⇓*iP*	**Pg**	**17 29 12.1**	**+0.2**
BC3	**Big Chuckawall**	**1.11**	**10**	P	**Pb**	**17 29 11.6**	**-0.7**
	baz=190,SNR=307						
BC3				S	**Sb**	**17 29 25.6**	**-1.1**
	baz=190						
CTW	**Cottonwood Mou**	**1.13**	**352**	*e*Pg	**Pb**	**17 29 11.8**	**-0.6**
ZAX	**El Zacaton**	**1.15**	**205**	*e*P	**Pg**	**17 29 13.1**	**-0.3**
ZAX				*e*S	**Sg**	**17 29 28.2**	**-0.2**
HWB	**Hans Werner Br**	**1.17**	**294**	*e*Pg	**Pg**	**17 29 13.5**	**-0.2**
HWB				*e*Sn	**Sg**	**17 29 29.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.18**	**221**	⇑*e*P	**Pg**	**17 29 13.8**	**-0.2**
ECNX				*e*P	**Pn**	**17 29 12.3**	**-0.9**
ECNX				*e*S	**Sg**	**17 29 29.2**	**-0.2**
PBX	**Punta Banda**	**1.19**	**227**	⇑*e*P	**Pg**	**17 29 14.0**	**-0.2**
PBX				*e*S	**Sg**	**17 29 29.6**	**-0.2**
FRD	**Ford Ranch, An**	**1.21**	**321**	*e*Pg	**Pn**	**17 29 13.3**	**-0.4**
ECBX	**El Chinero**	**1.21**	**153**	*e*P	**Pg**	**17 29 14.2**	**-0.4**
ECBX				*e*S	**Sg**	**17 29 30.4**	**+0.1**
XPFO	**Piæon Flat**	**1.23**	**329**	*e*Pg	**Pn**	**17 29 13.2**	**-0.8**
XPFO				*e*Sn	**Sb**	**17 29 29.0**	**-1.0**
PFO	**Pinyon Flats O**	**1.23**	**329**	P	**Pn**	**17 29 13.5**	**-0.6**
	baz=149,SNR=115						
PFO				S	**Sb**	**17 29 29.0**	**-1.1**
	baz=149						
PFO	**Pinyon Flats O**	**1.23**	**329**	*e*Pg	**Pn**	**17 29 13.2**	**-0.9**
PFO				*e*Sn	**Sb**	**17 29 29.0**	**-1.1**
109C	**Camp Elliot, M**	**1.23**	**286**	P	**Pb**	**17 29 14.6**	**+0.3**
	baz=106,SNR=224						
109C				Sb	**Sg**	**17 29 30.8**	**-0.3**
	baz=106						
CPE	**Camp Elliot**	**1.23**	**286**	*e*Pn	**Pg**	**17 29 14.9**	**-0.2**
DNR	**Dunn Ranch,Anz**	**1.28**	**322**	*e*Pn	**Pn**	**17 29 14.6**	**-0.1**
CRY	**Cary Ranch**	**1.33**	**319**	*e*Pn	**Pn**	**17 29 15.2**	**-0.2**
BELC	**Belle Mtn. Jos**	**1.46**	**350**	P	**Pn**	**17 29 16.9**	**-0.3**
	baz=170,SNR=124						
BELC				S	**Sn**	**17 29 34.2**	**-2.0**
	baz=170						
SPIG	**San Pedro Mart**	**1.52**	**173**	*e*P	**Pb**	**17 29 18.6**	**-0.7**
SPIG				*e*S	**Sb**	**17 29 39.0**	**+0.6**
SPIG	**San Pedro Mart**	**1.52**	**173**	*e*P	**Pb**	**17 29 19.2**	**0.0**
SPIG				*e*S	**Sg**	**17 29 39.3**	**-0.9**
SPX	**San Pedro Mart**	**1.52**	**173**	*e*P	**Pn**	**17 29 18.5**	**+0.4**
SPX				*e*S	**Sg**	**17 29 40.0**	**-0.3**
Y12C	**Blythe**	**1.54**	**39**	P	**Pn**	**17 29 17.4**	**-0.7**
	baz=219,SNR=48						
Y12C	**Blythe**	**1.54**	**39**	*e*Pn	**Pn**	**17 29 17.6**	**-0.5**
BACC	**Bachelor Mtn.**	**1.55**	**313**	*e*Pn	**Pn**	**17 29 18.1**	**-0.1**
DGR	**Domenigoni Val**	**1.55**	**315**	*e*Pn	**Pn**	**17 29 18.3**	**0.0**
DGR				*e*Sn	**Sg**	**17 29 41.2**	**-0.1**
TPC	**Twentynine Pal**	**1.57**	**349**	*e*Pn	**Pn**	**17 29 18.7**	**0.0**
HMTC	**Hemet**	**1.59**	**317**	*e*Pn	**Pn**	**17 29 18.8**	**0.0**
HMTC				*e*Sn	**Sg**	**17 29 42.2**	**-0.4**
MURC	**Murrieta**	**1.64**	**310**	P	**Pn**	**17 29 19.6**	**+0.1**
	baz=130,SNR=127						
113A	**Mohawk Valley,**	**1.64**	**82**	*e*P	**Pn**	**17 29 19.1**	**-0.4**
113A				*e*S	Sn	17 29 25.2	-15
113A	**Mohawk Valley,**	**1.64**	**82**	*e*Pn	**Pn**	**17 29 18.9**	**-0.6**
IRM	**Iron Mountain**	**1.66**	**16**	P	**Pn**	**17 29 19.6**	**-0.2**
	baz=196,SNR=70						
IRM				Sb	**Sb**	**17 29 42.1**	**-0.3**
	baz=196						
IRM	**Iron Mountain**	**1.66**	**16**	*e*Pn	**Pb**	**17 29 21.0**	**-0.6**
BBRC	**Big Bear Solar**	**1.99**	**329**	Sb	**Sb**	**17 29 52.4**	**+0.5**
	baz=149						
GMRC	**Granite Mounta**	**2.22**	**1**	P	**Pn**	**17 29 27.3**	**-0.3**
	baz=180,SNR=21						
NEE2	**Needles Airpor**	**2.38**	**22**	P	**Pn**	**17 29 29.7**	**-0.1**
	baz=202,SNR=6.3						
CIS	**Catalina Islan**	**2.44**	**291**	P	**Pn**	**17 29 30.6**	**+0.1**
	baz=110						
SCI2	**San Clemente I**	**2.44**	**281**	P	**Pn**	**17 29 30.9**	**+0.4**
	baz=100						
214A	**Organ Pipe Nat**	**2.51**	**103**	P	**Pn**	**17 29 30.6**	**-0.9**
	baz=284						
214A				S	**Sn**	**17 30 00.0**	**-1.9**
	baz=284						
214A	**Organ Pipe Nat**	**2.51**	**103**	*e*P	**Pn**	**17 29 30.4**	**-1.2**
214A				*i*S	Sn	17 29 42.3	-20
LDFC	**Landfair**	**2.56**	**11**	*e*Pn	**Pn**	**17 29 33.4**	**+1.1**
MWC	**Mount Wilson**	**2.58**	**311**	*e*Pn	**Pn**	**17 29 35.0**	**+2.3**
PASC	**Pasadena Art C**	**2.63**	**308**	*e*Pn	**Pb**	**17 29 37.2**	**-0.9**
Y14A	**Wickenburg**	**2.64**	**58**	*e*Pn	**Pn**	**17 29 33.2**	**-0.1**
GSC	**Goldstone, Bar**	**2.89**	**342**	*e*Pn	**Pn**	**17 29 37.9**	**+1.1**
W13A	**Hualapai Mount**	**2.95**	**30**	*e*Pn	**Pn**	**17 29 38.3**	**+0.6**
SNCC	**San Nicolas Is**	**3.29**	**283**	*e*Pn	**Pn**	**17 29 43.7**	**+1.5**
WHFM	**Hanning Flat**	**3.83**	**326**	*e*Sn	**Sb**	**17 30 40.3**	**-4.4**
ISA	**Isabella, Lake**	**3.86**	**324**	*e*Pn	**Pn**	**17 29 52.4**	**+2.3**
ISA				*e*Pg	**Pg**	**17 30 03.1**	**-2.1**
SHPR	**Sheep Range**	**3.96**	**6**	*e*Pn	**Pn**	**17 29 53.5**	**+1.9**
X16A	**Lo Mia Camp, P**	**4.01**	**61**	*e*Pn	**Pn**	**17 29 53.4**	**+1.1**
DAC	**Darwin (Calif)**	**4.03**	**338**	*e*Pn	**Pn**	**17 29 53.6**	**+1.0**
DAC				*e*Pg	**Pb**	**17 30 04.7**	**+2.7**
TUC	**Tucson**	**4.16**	**92**	*e*Pn	**Pn**	**17 29 55.1**	**+0.9**
TPNV	**Topopah Spring**	**4.41**	**354**	*e*Pn	**Pn**	**17 29 59.4**	**+1.7**
TPNV				*e*Pg	**Pg**	**17 30 15.2**	**-0.4**
WUAZ	**Wupatki**	**4.65**	**49**	*e*Pn	**Pn**	**17 30 03.0**	**+2.1**
U15A	**North Rim**	**4.78**	**35**	*e*Pn	**Pn**	**17 30 04.9**	**+2.0**
LCMT	**Little Creek M**	**4.88**	**24**	*e*Pn	**Pn**	**17 30 06.1**	**+1.9**
KNB	**Kanab**	**5.04**	**27**	*e*Pn	**Pn**	**17 30 08.6**	**+2.2**
X18A	**Snowflake**	**5.18**	**66**	*e*Pn	**Pn**	**17 30 09.8**	**+1.4**
EKU	**East Kanab**	**5.22**	**29**	*e*Pn	**Pn**	**17 30 11.2**	**+2.4**
CCUT	**Cedar City**	**5.34**	**20**	*e*Pn	**Pn**	**17 30 12.9**	**+2.3**
SZCU	**Shurtz Canyon**	**5.46**	**22**	*e*Pn	**Pn**	**17 30 14.6**	**+2.4**
BHU	**Blowhard Mount**	**5.54**	**24**	*e*Pn	**Pn**	**17 30 11.3**	**-2.1**
W18A	**Petrified Fore**	**5.58**	**61**	*e*Pn	**Pn**	**17 30 16.0**	**+2.2**
PKCU	**Pink Cliffs**	**5.61**	**29**	*e*Pn	**Pn**	**17 30 16.6**	**+2.2**
MLAC	**Mammoth, Mammo**	**5.68**	**334**	*e*Sn	**Sn**	**17 31 17.4**	**-2.9**
R11A	**Troy Canyon, C**	**5.78**	**1**	*e*Pn	**Pn**	**17 30 17.3**	**+0.7**
R11A				*e*Pg	**Pb**	**17 30 30.5**	**-1.3**
MSU	**Marysvale**	**6.60**	**25**	*e*Pn	**Pn**	**17 30 29.6**	**+1.7**
WAKR	**Walker**	**6.67**	**334**	*e*Pn	**Pn**	**17 30 29.3**	**+0.4**
121A	**Cookes Peak, D**	**6.68**	**88**	*e*P	**Pn**	**17 30 29.7**	**+0.8**
MMU	**Miners Mountai**	**6.68**	**31**	*e*Pn	**Pn**	**17 30 32.0**	**+3.0**
SOS	**Soda Springs**	**6.89**	**314**	*e*Pn	**Pn**	**17 30 28.9**	**-2.8**
MVCO	**Mesa Verde**	**7.52**	**50**	*e*Pn	**Pn**	**17 30 40.0**	**-0.5**
SRU	**San Rafael Swe**	**7.77**	**31**	*e*Pn	**Pn**	**17 30 47.7**	**+3.8**
WMUT	**West Mountain**	**8.13**	**21**	*e*Sn	**Sn**	**17 32 23.3**	**+2.9**
DCM	**Dugout Coal Mi**	**8.24**	**29**	*e*Pn	**Pn**	**17 30 52.1**	**+1.7**
S22A	**4UR Ranch, Cre**	**8.91**	**52**	*e*Pn	**Pn**	**17 31 02.9**	**+3.1**
JCC	**Jacoby Creek,**	**10.61**	**323**	*e*Sn	Sn	17 33 35.7	+15
ALVY	**Alvey**	**12.78**	**335**	*e*Sn	Sn	17 34 26.8	+13
NEWO	**Newport DOGAMI**	**13.70**	**334**	*e*Pn	**Pn**	**17 32 08.3**	**+3.6**
GULW	**Guler Mountain**	**14.11**	**343**	*e*Sn	**Sn**	**17 34 46.4**	**-0.3**
VALT	**Mount Saint He**	**14.53**	**342**	*e*Pn	**Pn**	**17 32 17.5**	**+1.2**
PANH	**Panhandle Gap,**	**14.99**	**344**	*e*Pn	**Pn**	**17 32 22.7**	**0.0**

CSEM ***14*** *17:30:25.6±0.1, 38°.84N×16°.33E, h20km, ML4.8/8, Error ellipse: s-maj=6.4km s-min=2.7km az=122.0*

ROM 14 17:30:24.9±0.1, 38°.87N×16°.34E, h11km±1km, MI3.7/35, Error ellipse: s-maj=2.1km s-min=1.2km az=120.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.08**	**123**	Pg	Pg	17 30 27.9	+0.5
GRI				Sg	Sg	17 30 29.7	+0.5
	89μm,0.4s						
GRI	**Girifalco**	**0.08**	**123**	Pg	Pg	17 30 27.9	+0.5
GRI				Sg	Sg	17 30 29.7	+0.5
	89μm,0.4s						
SERS	**Sersale**	**0.32**	**58**	Pg	Pg	17 30 31.9	+0.4
SERS				Sg	Sg	17 30 36.9	+1.0
	3μm,0.8s						
SERS	**Sersale**	**0.32**	**58**	Pg	Pg	17 30 31.9	+0.4
SERS				Sg	Sg	17 30 36.9	+1.0
	3μm,0.8s						
PLAC	**Placanica**	**0.42**	**169**	Pg	Pg	17 30 33.4	+0.2
PLAC				Sg	Sg	17 30 39.2	+0.4
	12μm,0.3s						
PLAC	**Placanica**	**0.42**	**169**	Pg	Pg	17 30 33.4	+0.2
PLAC				Sg	Sg	17 30 39.2	+0.4
	12μm,0.3s						
JOPP	**Joppolo**	**0.44**	**234**	Pg	Pg	17 30 33.9	+0.4
JOPP				Sg	Sb	17 30 40.9	-0.3
	6μm,0.2s						
JOPP	**Joppolo**	**0.44**	**234**	Pg	Pg	17 30 33.9	+0.4
JOPP				Sg	Sb	17 30 40.9	-0.3
	6μm,0.2s						
LADO	**San Nicola del**	**0.65**	**50**	Pg	Pb	17 30 38.0	-0.4
LADO				Sg	Sg	17 30 46.4	+0.2
	410nm,0.5s						
LADO	**San Nicola del**	**0.65**	**50**	Pg	Pb	17 30 38.0	-0.4
LADO				Sg	Sg	17 30 46.4	+0.2
	410nm,0.5s						
PIPA	**Pietrapaola**	**0.72**	**31**	Pg	Pb	17 30 39.7	+0.1
	4μm,1.0s						
PIPA	**Pietrapaola**	**0.72**	**31**	Pg	Pb	17 30 39.7	+0.1
	4μm,1.0s						
MSCL	**Scilla**	**0.76**	**214**	Pg	Pg	17 30 39.3	-0.4
	6μm,0.5s						
MSCL	**Scilla**	**0.76**	**214**	Pg	Pg	17 30 39.3	-0.4
	6μm,0.5s						
GMB	**Gambarie**	**0.80**	**210**	Pg	Pg	17 30 40.5	+0.1
	12μm,0.4s						
GMB	**Gambarie**	**0.80**	**210**	Pg	Pg	17 30 40.5	+0.1
	12μm,0.4s						
SOI	**Samo**	**0.82**	**196**	Pg	Pg	17 30 40.2	-0.6
SOI				Sg	Sb	17 30 52.0	-0.3
	2μm,0.5s						
SOI	**Samo**	**0.82**	**196**	Pg	Pg	17 30 40.2	-0.6
SOI				Sg	Sb	17 30 52.0	-0.3
	2μm,0.5s						
MSRU	**Castanea**	**0.88**	**227**	Pg	Pb	17 30 42.1	-0.2
MSRU				Sg	Sb	17 30 54.5	+0.4
	5μm,0.5s						
MSRU	**Castanea**	**0.88**	**227**	Pg	Pb	17 30 42.1	-0.2
MSRU				Sg	Sb	17 30 54.5	+0.4
	5μm,0.5s						
MPAZ	**Palizzi**	**0.95**	**196**	Pg	Pg	17 30 42.5	-0.6
	2μm,0.3s						
MPAZ	**Palizzi**	**0.95**	**196**	Pg	Pg	17 30 42.5	-0.6
	2μm,0.3s						
ATN	**Antennamare**	**0.98**	**224**	Pg	Pg	17 30 43.4	-0.4
ATN				Sg	Sb	17 30 57.3	+0.3
	4μm,0.3s						
ATN	**Antennamare**	**0.98**	**224**	Pg	Pg	17 30 43.4	-0.4
ATN				Sg	Sb	17 30 57.3	+0.3
	4μm,0.3s						
SALB	**San Lorenzo Be**	**1.01**	**0**	Pg	Pn	17 30 45.5	+0.3
	1μm,1.1s						
SALB	**San Lorenzo Be**	**1.01**	**0**	Pg	Pn	17 30 45.5	+0.3
	1μm,1.1s						
MILZ	**Milazzo**	**1.05**	**236**	Pg	Pb	17 30 44.4	-0.6
MILZ				Sg	Sg	17 30 58.3	-0.4
	4μm,0.4s						
MILZ	**Milazzo**	**1.05**	**236**	Pg	Pb	17 30 44.4	-0.6
MILZ				Sg	Sg	17 30 58.3	-0.4
	4μm,0.4s						
MPNC	**Port Mandanici**	**1.05**	**227**	Pg	Pb	17 30 44.4	-0.8
MPNC				Sg	Sg	17 30 58.8	-0.1
	5μm,0.4s						
MPNC	**Port Mandanici**	**1.05**	**227**	Pg	Pb	17 30 44.4	-0.8
MPNC				Sg	Sg	17 30 58.8	-0.1
	5μm,0.4s						
MMN	**Mormanno**	**1.06**	**345**	Pg	Pb	17 30 44.9	-0.3
	697nm,0.6s						
MMN	**Mormanno**	**1.06**	**345**	Pg	Pb	17 30 44.9	-0.3
	697nm,0.6s						
LLI	**Lipari**	**1.16**	**249**	Pg	Pb	17 30 46.2	-0.8
	11μm,0.5s						
LLI	**Lipari**	**1.16**	**249**	Pg	Pb	17 30 46.2	-0.8
	11μm,0.5s						
VPL	**Vulcano Piano**	**1.17**	**246**	Pg	Pb	17 30 46.1	-1.0
	9μm,0.5s						
VPL	**Vulcano Piano**	**1.17**	**246**	Pg	Pb	17 30 46.1	-1.0
	9μm,0.5s						
MCSR	**Castroreale**	**1.17**	**227**	Pg	Pb	17 30 46.2	-1.0
	3μm,0.3s						
MCSR	**Castroreale**	**1.17**	**227**	Pg	Pb	17 30 46.2	-1.0
	3μm,0.3s						
CUC	**Castrocucco**	**1.20**	**341**	Pg	Pb	17 30 46.5	-1.1
	637nm,0.5s						
CUC	**Castrocucco**	**1.20**	**341**	Pg	Pb	17 30 46.5	-1.1
	637nm,0.5s						
ORI	**Oriolo Calabro**	**1.20**	**4**	Pg	Pg	17 30 48.8	+0.8
	2μm,0.6s						
ORI	**Oriolo Calabro**	**1.20**	**4**	Pg	Pg	17 30 48.8	+0.8
	2μm,0.6s						
MMME	**Mongiuffi-Meli**	**1.26**	**223**	Pg	Pn	17 30 48.0	-0.5
	1μm,0.6s						
MMME	**Mongiuffi-Meli**	**1.26**	**223**	Pg	Pn	17 30 48.0	-0.5
	1μm,0.6s						
NOV	**Novara**	**1.26**	**229**	Pg	Pn	17 30 47.8	-0.7
	1μm,0.5s						
NOV	**Novara**	**1.26**	**229**	Pg	Pn	17 30 47.8	-0.7
	1μm,0.5s						
SIRI	**Monte Sirino -**	**1.36**	**345**	Pg	Pn	17 30 49.4	-0.6
	982nm,0.7s						
SIRI	**Monte Sirino -**	**1.36**	**345**	Pg	Pn	17 30 49.4	-0.6
	982nm,0.7s						
MGR	**Morigerati**	**1.41**	**335**	Pg	Pn	17 30 49.8	-0.7
	645nm,0.5s						
MGR	**Morigerati**	**1.41**	**335**	Pg	Pn	17 30 49.8	-0.7
	645nm,0.5s						
MUCR	**Ucria**	**1.41**	**235**	Pg	Pn	17 30 49.8	-0.8
	638nm,0.5s						
IFIL	**Filicudi I Eol**	**1.42**	**258**	Pg	Pn	17 30 49.5	-1.1
	598μm,47.0s						
IFIL	**Filicudi I Eol**	**1.42**	**258**	Pg	Pn	17 30 49.5	-1.1
	598μm,47.0s						
MTSN	**Montesano sull**	**1.47**	**342**	Pg	Pn	17 30 50.6	-0.9
	692nm,0.7s						
MTSN	**Montesano sull**	**1.47**	**342**	Pg	Pn	17 30 50.6	-0.9
	692nm,0.7s						
MNO	**Monte Soro**	**1.59**	**235**	Pg	Pn	17 30 53.5	+0.3
	707nm,0.8s						
MNO	**Monte Soro**	**1.59**	**235**	Pg	Pn	17 30 53.5	+0.3
	707nm,0.8s						
MSFR	**San Fratello**	**1.60**	**239**	Pg	Pn	17 30 52.4	-0.8
	519nm,1.0s						
MSFR	**San Fratello**	**1.60**	**239**	Pg	Pn	17 30 52.4	-0.8
	519nm,1.0s						
SLCN	**Sala Consilina**	**1.62**	**341**	Pg	Pn	17 30 53.6	+0.1
	835nm,0.6s						
SLCN	**Sala Consilina**	**1.62**	**341**	Pg	Pn	17 30 53.6	+0.1
	835nm,0.6s						
CMPR	**Campora**	**1.66**	**332**	Pg	Pn	17 30 53.6	-0.4
	490nm,0.7s						
CMPR	**Campora**	**1.66**	**332**	Pg	Pn	17 30 53.6	-0.4
	490nm,0.7s						
MATE	**Matera**	**1.81**	**9**	Pg	Pb	17 30 57.4	-0.6
	482nm,1.0s						
MATE	**Matera**	**1.81**	**9**	Pg	Pb	17 30 57.4	-0.6
	482nm,1.0s						
TAR1	**Taranto**	**1.81**	**24**	*e*Pn	Pb	17 30 57.9	-0.2
HCRL	**Carlentini**	**1.89**	**213**	Pg	Pn	17 30 58.1	+1.1
	948nm,0.3s						
HCRL	**Carlentini**	**1.89**	**213**	Pg	Pn	17 30 58.1	+1.1
	948nm,0.3s						
HLNI	**Lentini**	**1.90**	**218**	Pg	Pn	17 30 58.1	+0.8
	348nm,0.9s						
HLNI	**Lentini**	**1.90**	**218**	Pg	Pn	17 30 58.1	+0.8
	348nm,0.9s						
PLLN	**Pollina**	**1.93**	**244**	Pg	Pn	17 30 56.9	-0.8
	260nm,0.4s						
PLLN	**Pollina**	**1.93**	**244**	Pg	Pn	17 30 56.9	-0.8
	260nm,0.4s						
SG1	**Sgolgore (BA)**	**1.99**	**8**	*e*Pn	Pg	17 31 02.8	-0.3
HAVL	**Avola**	**2.13**	**207**	Pg	Pn	17 31 01.0	+0.6
	365nm,0.5s						
HAVL	**Avola**	**2.13**	**207**	Pg	Pn	17 31 01.0	+0.6
	365nm,0.5s						
CDT	**Castel del Mon**	**2.21**	**359**	*e*Pn	Pb	17 31 04.5	-0.5
ALJA	**Alia**	**2.32**	**242**	Pg	Pn	17 31 03.6	+0.6
	150nm,0.4s						
ALJA	**Alia**	**2.32**	**242**	Pg	Pn	17 31 03.6	+0.6
	150nm,0.4s						
STON	**Ston**	**4.13**	**14**	*e*Pn	Pn	17 31 28.8	+0.8
STON				Sn	Sn	17 32 18.0	+1.8
STON	**Ston**	**4.13**	**14**	*e*Pn	Pn	17 31 28.7	+0.8
STON				Sn	Sn	17 32 18.0	+1.7
SJES	**Sjenica**	**5.18**	**31**	*e*Pn	Pn	17 31 44.7	+2.2
IVAS	**Ivanjica**	**5.52**	**30**	*e*Pn	Pn	17 31 47.7	+0.7
DIVS	**Divibare**	**5.91**	**27**	*e*Pn	Pn	17 31 52.

GKN	Gorkha	14.01	122	eP		Pn	17 43 56.4 -3.3
	comp=N,82nm,0.5s						
DMN	Daman	14.58	122	eP		Pn	17 44 04.0 -3.1
	comp=N,50nm,0.5s						
KKN	Kakani	14.58	121	eP		Pn	17 44 03.6 -3.6
	comp=N,33nm,0.5s						
PKIN	Phulchoki	14.80	121	eP		Pn	17 44 06.2 -3.7
	comp=N,19nm,0.3s						
PKI	Pulchoki	14.81	121	eP		Pn	17 44 07.1 -3.1
GUN	Gumba	14.93	119	eP		Pn	17 44 07.9 -3.8
	comp=N,31nm,0.4s						
JIRN	Jiri	15.30	120	eP		Pn	17 44 13.0 -3.4
	comp=N,647nm,0.5s						
KURBB	Kurchatov Arra	15.37	18	P		P	17 44 19.0 -0.1
	comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=4.3						
AB31	Akbulak array	15.43	331	⇑P		Pn	17 44 15.5 -2.0
	comp=N,4.7nm,0.3s,baz=144,slow=12,SNR=230						
ABKAR	Akbulak array	15.43	331	ePn		Pn	17 44 15.7 -1.8
	comp=N,181nm,0.4s						
KURK	Kurchatov	15.48	18	ePn		Pn	17 44 19.1 +1.1
	comp=N,6.4nm,1.0s						
RAMN	Ramite	16.02	121	eP		Pn	17 44 21.5 -3.8
	comp=N,41nm,0.5s						
TAPN	Taplejung	16.56	117	eP		Pn	17 44 28.6 -3.5
	comp=N,41nm,0.6s						
ODAN	Odare	16.63	119	eP		Pn	17 44 29.8 -3.0
	comp=N,37nm,0.6s						
BVA0	Borovoye Array	16.85	358	⇑P		Pn	17 44 34.4 -0.6
	comp=N,4.9nm,0.8s,baz=177,slow=12,SNR=22						
BVAR	Borovoye Array	16.85	358	P		P	17 44 35.9 +0.4
	comp=N,0.6nm,0.3s,baz=169,slow=11,SNR=20						
WSAR	Wadi Sarin	16.88	224	P		P	17 44 39.0 +3.0
	comp=N,0.3nm,0.3s,baz=76,slow=6.1,SNR=9.9						
BRVK	Borovoye	16.88	358	ePn		P	17 44 36.0 +0.2
	comp=N,5.7nm,0.7s						
AKTO	Aktyubinsk	17.13	330	P		Pn	17 44 38.4 -0.1
	comp=N,1.7nm,0.3s,baz=136,slow=13,SNR=32						
AKTO				S		Sn	17 47 39.4 -9.4
	comp=N,0.2nm,0.3s,baz=198,slow=20,SNR=4.2						
AKTO				LR		LR	17 52 36.1
	comp=N,44nm,19.4s,baz=190,slow=41						
AKTO	Aktyubinsk	17.13	330	⇓P		Pn	17 44 38.1 -0.4
	comp=N,23nm,0.8s						
BOK	Bokaro	17.71	130	ex		P	17 44 43.0 -2.1
LSA	Lhasa	17.94	105	eP		Pn	17 44 49.0 0.0
	comp=N,6.4nm,0.9s						
ZAA0	Zalesovo Array	20.14	24	⇑P		Pn	17 45 14.1 -0.1
	comp=N,0.4nm,0.5s						
ZAA0	Zalesovo Array	20.14	24	eP		P	17 45 11.8 +0.4
ZALV	Zalesovo Beam	20.14	24	P		Pn	17 45 13.1 -1.1
	comp=N,2.2nm,0.3s,baz=212,slow=9.5,SNR=11						
ZALV	Zalesovo Beam	20.14	24	eP		P	17 45 11.0 -0.4
SHL	Shillong	20.64	115	eP		P	17 45 18.2 +1.0
GNI	Garni	21.14	289	P		P	17 45 26.8 +4.4
	comp=N,8.4nm,0.9s,baz=33,slow=8.7,SNR=5.8						
GNI	Garni	21.14	289	eP		P	17 45 24.8 +2.4
	comp=N,18nm,1.1s						
ARU	Arti	21.98	341	P		P	17 45 33.5 +2.5
	comp=N,3.4nm,0.7s,baz=150,slow=3.1,SNR=6.3						
ARU	Arti	21.98	341	eP		P	17 45 32.8 +1.8
	comp=N,10nm,1.1s						
KBZ	Khabaz	22.88	298	P		P	17 45 46.8 +6.4
	comp=N,1.7nm,0.9s,baz=120,slow=14,SNR=2.8						
RAYN	Ar Rayn	25.52	247	eP		P	17 46 05.1 +0.4
	comp=N,2.8nm,0.8s						
TOKA	Tokat	27.46	289	eP		P	17 46 22.0 -0.1
	comp=N,58nm,1.9s						
TLY	Talaya	27.75	46	eP		P	17 46 25.1 +0.6
	comp=N,4.7nm,0.8s						
SONM	Songino Array	28.39	55	P		P	17 46 34.1 +3.7
	comp=N,0.3nm,0.6s,baz=282,slow=7.2,SNR=2.3						
MMAI	Mount Meron Ar	29.52	274	LR		LR	18 01 29.6
	comp=N,40nm,18.8s,baz=15,slow=42						
BRTR	Keskin Array B	29.68	288	P		P	17 46 43.8 +1.9
	comp=N,0.6nm,0.6s,baz=88,slow=8.0,SNR=3.2						
CMAR	Chiang Mai Arr	30.17	118	P		P	17 46 47.6 +1.4
	comp=N,0.8nm,0.8s,baz=300,slow=7.4,SNR=5.7						
CM01	Chiang Mai Arr	30.21	118	eP		P	17 46 48.3 +1.8
ANTO	Ankara	30.31	289	eP		P	17 46 48.0 +0.6
	comp=N,17nm,1.5s						
AKASG	Malin Array Be	33.26	309	P		P	17 47 14.2 +1.2
	comp=N,0.7nm,0.5s,baz=83,slow=7.3,SNR=4.1						
IDI	Anoyia	37.32	283	eP		P	17 47 48.6 +0.6
	comp=N,19nm,1.7s						
FINES	FINESS Array B	37.83	326	P		P	17 47 53.4 +1.6
	comp=N,1.1nm,0.5s,baz=118,slow=7.7,SNR=14						
LHMI	Lhok Sumawe	38.85	136	eP		P	17 48 02.0 +1.1
	comp=N,94nm,1.1s						
ARCES	ARCESS Array B	41.49	338	P		P	17 48 24.4 +2.2
	comp=N,5.2nm,0.9s,baz=118,slow=7.9,SNR=12						
NB201	NORSAR Array S	44.69	323	eP		P	17 48 48.4 +0.4
NB2	NORSAR Subarra	44.72	323	P		P	17 48 49.2 +0.9
	comp=Z,0.9nm,0.5s,baz=97,slow=8.6						
NOA	NORSAR Array B	44.72	323	P		P	17 48 49.5 +1.2
	comp=Z,1.1nm,0.6s,baz=98,slow=8.0,SNR=5.5						
TORD	Torodi Ar. Bea	65.86	269	P		P	17 51 20.1 -0.5
	comp=Z,1.6nm,0.6s,baz=48,slow=5.9,SNR=15						
BOSA	Boshof	77.61	220	P		P	17 52 32.4 +1.6
	comp=Z,4.7nm,0.6s,baz=10.0,slow=4.6,SNR=10.0						
YKA	Yellowknife Ar	81.55	3	P		P	17 52 52.0 +0.5
	comp=Z,1.7nm,0.8s,baz=350,slow=5.2,SNR=3.7						
ASAR	Alice Springs	83.95	125	P		P	17 53 05.6 +1.1
	comp=Z,0.2nm,0.6s,baz=325,slow=4.7,SNR=3.3						

*IDC **14** 17:44:26.8±1.2, 0°.03N×123°.77E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/34, mbtmp3.5/5, Error ellipse: s-maj=64.0km s-min=20.8km az=70.0*
*ISCJB **14** 17:44:37.8±0.4, 0°.09S±0°.04×123°.97E±0°.03, h110km, mb3.4/5, Error ellipse: s-maj=5.9km s-min=4.2km az=164.2*
*DJA **14** 17:44:39.9±0.3, 0°S±3°×12°4E±°, h67km±9km, M4.3/15, mb4.5/7, mB4.7/3, MLv4.3/15, Mw(mB)4.0/3*
ISC 14 17:44:39.0±0.8, 0°.09S±0°.05×124°.00E±0°.04, h110km, n22, σ1§30/29, mb3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.66	359	P	Pn	17 44 56.7	-0.4
KMSI				S	Sn	17 45 08.8	-1.8
MRSI	Marisa	2.13	285	P	Pn	17 45 11.7	-1.9
APSI	Ampana	2.48	251	P	Pn	17 45 18.2	0.0
SANI	Sanana	2.78	134	P	Pn	17 45 20.6	-1.6
SANI				S	Sn	17 45 51.7	-3.7
LBMI	Labuha	3.55	99	P	Pn	17 45 32.0	-0.3
LBMI				S	Sn	17 46 14.8	+1.3
SGSI	Sangihe	4.05	22	P	Pn	17 45 39.0	-0.1
KDI	Kendari	4.08	200	P	Pn	17 45 38.5	-0.9
MPSI	Mapaga	4.12	276	P	Pn	17 45 40.4	+0.5
PCI	Palu	4.24	259	P	Pn	17 45 42.8	+1.3
PCI				S	Sn	17 46 30.8	+0.7
TTSI	Tana Toraja	5.10	235	P	Pn	17 45 53.0	-0.2
	121nm,0.5s,2μm						
TTSI				S	Sn	17 46 50.6	-0.4
	121nm,0.5s,2μm						
AAI	Ambon	5.51	130	P	Pn	17 46 00.1	+1.4
	35nm,0.6s						
BBSI	Bau Bau	5.54	195	P	Pn	17 45 58.3	-0.9
	6.3nm,1.1s						
SPSI	Sidrap Palu	5.71	228	P	Pn	17 46 02.6	+1.1
SPSI				S	Sn	17 47 04.3	-1.5
BNSI	Bone	5.78	222	P	Pn	17 46 02.7	+0.3
	31nm,0.5s,755nm						
BNSI				S	Sn	17 47 07.7	+0.3
	31nm,0.5s,755nm						
MSAI	Masohi	5.89	123	P	Pn	17 46 05.6	+1.6
	27nm,0.8s,321nm						
MSAI				S	Sn	17 47 11.2	+0.9
	27nm,0.8s,321nm						
BSSI	Bau Bau, Buton	6.95	210	S	Sn	17 47 35.0	-1.0
SWI	Sorong	7.30	96	P	Pn	17 46 28.8	+5.7
WRA	Warramunga Arr	22.18	153	P	P	17 49 26.2	-0.1
	0.8nm,0.8s,baz=333,slow=11,SNR=4.9						
ASAR	Alice Springs	25.33	158	P	P	17 49 57.9	+2.1
	0.2nm,0.3s,baz=332,slow=9.1,SNR=14						
MJAR	Matsushiro Arr	38.77	18	P	P	17 51 52.9	+0.1
	1.2nm,0.6s,baz=196,slow=9.1,SNR=4.8						
MKAR	Makanchi Array	59.22	328	P	P	17 54 27.9	-0.8
	0.3nm,0.5s,baz=126,slow=7.3,SNR=3.7						
KURBB	Kurchatov Arra	63.55	330	P	P	17 54 57.8	+0.1
	0.3nm,0.6s,baz=119,slow=5.8,SNR=4.6						

MAN 14 17:59:31.9°.65N×125°.69E, h173km, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.24	304	eP	Pn	17 59 55.5	+1.4
SCPH				eS	Sn	18 00 13.4	+1.6
BUKP	Musuan	1.87	199	eP	Pn	18 00 02.1	-4.1
BUKP				eS	Sn	18 00 35.3	+1.8
BESP	Borongan	1.96	353	eP	Pn	18 00 08.9	+1.8
BESP				eS	Sn	18 00 35.6	+0.5
MATI	Mati	2.75	168	eP	Pn	18 00 17.2	+0.9
MATI				eS	Sn	18 00 52.6	+1.1
CNP	Catarman	3.02	341	eP	Pn	18 00 20.7	+1.2
CNP				eS	Sn	18 00 59.1	+1.7

*IDC **14** 18:00:42.7±0.5, 29°.23S×176°.30W, h0km, mb4.8/16, mb1 4.9/16, mb1mx4.8/24, mbtmp4.8/16, MS4.0/17, Ms1 4.0/17, ms1mx3.8/29, Error ellipse: s-maj=20.2km s-min=13.6km az=176.0*
*ISCJB **14** 18:00:43.9±0.1, 29°.69S±0°.03×176°.18W±0°.04, h21km, mb5.1/142, MS4.1/19, Error ellipse: s-maj=5.8km s-min=2.8km az=44.0*
*BJI **14** 18:00:45.5, 29°.40S×176°.20W, h15km, mb5.1/26, mB5.5/21, Ms5.2/13, Ms7 4.9/10*
*MOS **14** 18:00:46.7±0.9, 29°.41S×176°.20W, h33km, mb5.2/38, Error ellipse: s-maj=14.1km s-min=10.3km az=146.4*
*NEIC **14** 18:00:48.7±1.3, 29°.41S×176°.27W, h45km±11km, mb5.1/121, Error ellipse: s-maj=9.2km s-min=5.2km az=158.0*
*GCMT **14** 18:00:48.7±0.3, 29°.27S×175°.92W, h12km, MW4.8/66, Moment Tensor Solution. s19,c22; s66,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.15±.08; Mθθ=0.08±.09; Mφφ=2.07±.07; Mrθ=-0.25±.44; Mφφ=0.20±.07; Mθφ=0.73±.31; Best double couple: Mo=2.25500×10^16 NP1:φs=178.00000°, δ55.00000°, λ=-99.00000°. NP2: φs=13.00000°, δ36.00000°, λ=-77.00000°. Principal axes: T 2.2040, Plg=9.0000°, Azm=274.0000°; N 0.1020, Plg=7.0000°, Azm=183.0000°; P -2.3060, Plg=78.0000°, Azm=55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 18:00:45.7±0.3, 29°.57S±0°.05×176°.26W±0°.05, h21km, n419, σ1§71/437, mb5.1/141, MS4.2/20, 10C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.48	282	Pn	Pb	18 01 13.7	+1.2
	1μm,0.3s,baz=118,slow=6.2,SNR=31						
RAO				Sn	Sn	18 01 27.8	-2.0
	1μm,0.3s,baz=51,slow=18,SNR=15						
MXZ	Matakaoa Point	9.16	208	eSN	Sn	18 04 41.0	+1.9
WMGZ	Waiomatatini S	9.34	207	PN	Pn	18 02 58.0	-1.1
WMGZ				SN	Sn	18 04 46.8	+3.4
PKGZ	Pakihiroa	9.54	208	ePN	Pn	18 02 59.9	-1.9
PKGZ				SN	Sn	18 04 50.2	+1.8
HAZ	Te Kaha	9.55	210	ePN	Pn	18 03 00.6	-1.2
RUGZ	Raukumara Rang	9.77	209	ePN	Pn	18 03 04.1	-1.0
MWZ	Matawai	10.14	209	ePN	Pn	18 03 08.8	-1.2
MWZ				SN	Sn	18 05 04.5	+1.3
OUZ	Omahuta	10.25	234	ePn	Pn	18 03 19.4	+7.9
URZ	Urewera	10.26	211	Pn	Pn	18 03 08.7	-2.9
	2.4nm,0.3s,baz=138,slow=3.4,SNR=8.8						
URZ				Sn	Sn	18 05 06.9	+0.9
	4.4nm,0.3s,baz=173,slow=18,SNR=9.7						
URZ	Urewera	10.26	211	ePn	Pn	18 03 08.7	-2.9
URZ				eSn	Sn	18 04 55.5	-10
URZ				eSn	Sn	18 05 06.9	+0.9
KNZ	Kokohu	10.67	206	ePN	Pn	18 03 14.4	-2.9
KNZ				eSN	Sn	18 05 15.2	-0.9
BKZ	Black Stump Fm	11.28	210	ePn	Pn	18 03 22.3	-3.4
BKZ				eSn	Sn	18 05 25.1	-6.0
BFZ	Birch Farm	12.66	207	ePn	Pn	18 03 40.2	-4.3
BFZ	Birch Farm	12.66	207	eSN	Sn	18 06 01.1	-3.6
MRZ	Mangatainoka R	12.91	209	eSN	Sn	18 06 05.9	-5.0
THZ	Tophouse	15.00	213	ePn	Pn	18 04 13.0	-3.3
	76nm,0.6s						
THZ				eSn	Sn	18 06 52.9	-9.0
THZ	Tophouse	15.00	213	ePN	Pn	18 04 11.1	-5.3
THZ				eSN	Sn	18 06 54.3	-7.6
KHZ	Kahutara	15.23	210	ePn	Pn	18 04 15.3	-4.1
	209nm,0.9s						
KHZ				eSn	Sn	18 06 58.2	-9.1
LTZ	Lake Taylor	16.09	212	ePn	Pn	18 04 27.9	-2.6
	29nm,0.7s						
AFI	Afiamalu	16.13	16	Pn	Pn	18 04 19.8	-11
	1.3nm,0.3s,baz=122,slow=13,SNR=2.7						
AFI				Sn	Sn	18 07 07.4	-22
	6.2nm,0.3s,baz=113,slow=16,SNR=4.5						
OXZ	Oxford	16.62	211	ePn	Pn	18 04 32.1	-5.2
	80nm,0.5s						
OXZ	Oxford	16.62	211	ePN	Pn	18 04 32.0	-5.2
OXZ				eSN	Sn	18 07 29.2	-12
MQZ	McQueen's Vall	16.65	209	eSN	Sn	18 07 29.4	-13
RAR	Rarotonga	17.05	65	Pn	Pn	18 04 34.6	-8.2
	1.5nm,0.3s,baz=117,slow=14,SNR=2.2						
RAR				Sn	Sn	18 07 24.5	-27
	3.0nm,0.3s,baz=98,slow=21,SNR=4.0						
RAR				LR	LR	18 11 06.4	
	comp=Z,744nm,18.6s,baz=254,slow=37						
DZM	Mont Dzumac	17.26	292	P	P	18 04 49.4	+2.5
	0.7nm,0.3s,baz=113,slow=16,SNR=9.9						
DZM				Sn	Sn	18 07 53.6	-3.4
	0.9nm,0.3s,baz=150,slow=22,SNR=6.2						
DZM	Mont Dzumac	17.26	292	eP	P	18 04 49.6	+2.7
	96nm,1.2s						
DZM				eLR	LR	18 08 51.0	
	2μm,27.9s						
DZM	Mont Dzumac	17.26	292	ePn	Pn	18 04 45.4	-0.2
	33nm,0.9s						
DZM				eSn	Sn	18 07 52.2	-4.8
RPZ	Rata Peaks	17.37	212	P	Pn	18 04 45.0	-1.7
	2.7nm,0.3s,baz=294,slow=1.2,SNR=14						
RPZ				S	Sn	18 07 47.8	-12
	0.6nm,0.3s,baz=10,slow=19,SNR=2.7						
RPZ	Rata Peaks	17.37	212	ePn	Pn	18 04 42.3	-4.4
	42nm,0.6s						
RPZ				eSn	Sn	18 07 47.8	-12
ODZ	Otahua Downs	18.59	210	eP	P	18 04 59.0	-2.3
	169nm,1.7s						
MLZ	Manora Lakes	20.00	214	eP	P	18 05 17.2	+0.4
	32nm,0.9s						
WHZ	Wether Hill Ro	20.47	213	eP	P	18 05 22.9	+1.1
	25nm,0.9s						
TBI	Tubuai	24.75	82	eLQ	LQ	18 10 39.2	
	591nm,34.0s						
TBI				eLR	LR	18 11 54.3	
	1μm,27.0s,baz=257						
PPT2	Papeete2	27.14	70	eLQ	LQ	18 11 36.7	
	514nm,23.8s						
PPT2				eLR	LR	18 12 55.7	
	1μm,26.8s,baz=238						
PPT	Papeete	27.15	70	LR	LR	18 15 57.7	
	comp=Z,455nm,18.3s,baz=237,slow=34						
ARMA	Armidale	27.78	260	P	P	18 06 36.0	+2.7
	baz=28						
MGCD	Mangrove Creek	28.03	254	P	P	18 06 38.4	+3.1
	baz=28						
EIDS	Eidsvold	29.22	270	eP	P	18 06 48.5	+2.5
	11nm,0.8s						
CNB	Canberra Magne	29.47	250	P	P	18 06 53.0	+4.7
	baz=30						
CAN	Canberra	29.77	250	P	P	18 06 55.4	+4.5
	baz=30						
CAN	Canberra	29.77	250	eP	P	18 06 51.5	+0.6
CAN				pmax	pmax		
	comp=Z,26nm,1.2s						
CAN	Canberra	29.77	250	eP	P	18 06 51.5	+0.6
	comp=Z,26nm,1.2s						
HNR	Honiara	29.95	307	P	P	18 06 50.2	-2.4
	comp=Z,49nm,0.6s,baz=62,slow=2.2,SNR=8.5						
HNR				LR	LR	18 16 18.6	
	comp=Z,168nm,21.8s,baz=150,slow=32						
YNG	Young	30.26	252	P	P	18 07 00.8	+5.6
	baz=31						
RMQ	Roma	30.96	267	P	P	18 07 04.1	+2.6
	baz=31						
CMSA	Cobar Meteorol	32.72	257	P	P	18 07 19.1	+2.2
	baz=33						
QLP	Quilpie	34.87	265	P	P	18 07 37.0	+1.4
	baz=35						
CTAO	Charters Tower	35.18	277	eP	P	18 07 38.7	+0.4
CTAO				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	Charters Tower	35.18	277	eP	P	18 07 38.7	+0.4
	comp=Z,11nm,0.6s						
STKA	Stephens Creek	36.14	255	P	P	18 07 48.2	+1.7
	comp=Z,17nm,0.7s,baz=100,slow=9.9,SNR=38						
STKA				LR	LR	18 22 01.8	
	comp=Z,625nm,18.2s,baz=62,slow=35						
STKA	Stephens Creek	36.14	255	eP	P	18 07 48.7	+2.2
STKA	Stephens Creek	36.14	255	eP	P	18 07 48.5	+2.0
	comp=Z,3.7nm,0.8s						
XMAS	Kiritimati	36.23	33	eP	P	18 07 45.3	-2.0
	comp=Z,79nm,1.2s						
RKT	Rikitea	37.41	90	eLR	LR	18 17 40.2	
	comp=Z,733nm,28.8s						
MTSU	Mount Surprise	37.64	279	P	P	18 08 00.3	+0.9
	baz=38						
HTT	Hallett	38.19	252	P	P	18 08 05.7	+1.8
	baz=39						
TAOE	Nuku Hiva Isla	39.59	66	eLR	LR	18 18 38.9	
	comp=Z,549nm,26.1s						
PMG	Port Moresby	39.65	293	LR	LR	18 22 09.5	
	comp=Z,114nm,21.2s,baz=160,slow=33						
COEN	Coen	40.52	284	P	P	18 08 23.6	+0.2
	baz=41						
COEN	Coen	40.52	284	eP	P	18 08 23.8	+0.3
	comp=Z,6.4nm,0.7s						
BBOO	Buckleboo	40.65	253	P	P	18 08 25.3	+0.9
	baz=41						
BBOO	Buckleboo	40.65	253	eP	P	18 08 24.9	+0.5
	comp=Z,28nm,0.8s						
MANU	Manus Island	44.08	302	eP	P	18 08 51.1	-1.4
	comp=Z,19nm,0.8s						
AS01	Alice Springs	44.63	265	eP	P	18 08 57.1	+0.2
ASAR	Alice Springs	44.67	265	P	P	18 08 57.4	+0.1
	comp=Z,8.5nm,0.7s,baz=96,slow=7.0,SNR=207						
ASAR				S	S	18 15 34.6	+1.9
	comp=Z,0.8nm,0.9s,baz=105,slow=14,SNR=4.2						
WB2	Warramunga Arr	45.58	270	eP	P	18 09 03.7	-0.7
WRAB	Tennant Creek	45.58	270	ceP	P	18 09 04.6	+0.1
WRAB				pmax	pmax		
	comp=Z,34nm,0.7s						
WRAB	Tennant Creek	45.58	270	eP	P	18 09 04.2	-0.2
	comp=Z,15nm,0.8s						
WR1	Warramunga Arr	45.59	270	eP	P	18 09 04.1	-0.4
	comp=Z,20nm,0.7s						
WR1				eS	S	18 15 47.8	+1.8
WRA	Warramunga Arr	45.59	270	P	P	18 09 04.1	-0.4
	comp=Z,18nm,0.8s,baz=109,slow=7.8,SNR=34						
WRA				S	S	18 15 47.8	+1.7
	comp=Z,1.8nm,1.0s,baz=109,slow=14,SNR=2.8						
WRA				LR	LR	18 27 36.1	
	comp=Z,172nm,18.5s,baz=125,slow=35						
FORT	Forrest	47.72	254	P	P	18 09 21.9	+0.8
	baz=48						
FORT	Forrest	47.72	254	eP	P	18 09 21.5	+0.4
	comp=Z,231nm,0.6s						
SBA	Scott Base	48.98	185	eP	P	18 09 31.6	+1.5
SBA				pmax	pmax		
	comp=Z,17nm,1.0s						
SBA	Scott Base	48.98	185	eP	P	18 09 31.6	+1.5
	comp=Z,16nm,1.0s						
VNDA	Vanda	49.07	186	P	P	18 09 34.8	+4.0
	comp=Z,6.2nm,0.9s,baz=5.2,slow=7.0,SNR=18						
VNDA				LR	LR	18 26 20.1	
	comp=Z,73nm,20.8s,baz=348,slow=31						
VNDA	Vanda	49.07	186	eP	P	18 09 32.5	+1.7
VNDA	Vanda	49.07	186	eP	P	18 09 32.5	+1.7
WRKA	Warakurna	49.09	261	P	P	18 09 31.1	-0.7
	baz=49						
KLBR	Kellerberrin	56.05	250	P	P	18 10 23.4	+0.2
	baz=56						
GUMO	Guam	56.98	313	LR	LR	18 35 21.6	
	comp=Z,105nm,18.2s,baz=139,slow=37						
MUN	Mundaring	57.20	249	P	P	18 10 31.9	+0.5
	baz=58						
MBWA	Marble Bar	57.82	262	eP	P	18 10 35.4	-0.5
	comp=Z,21nm,1.0s						
SOEI	Soe	58.74	277	eP	P	18 10 40.8	-1.7
	comp=Z,16nm,0.8s						
QSPA	South Pole Qui	60.53	180	eP	P	18 10 57.9	+3.8
	comp=Z,30nm,1.0s						
SBUM	Sibu	75.22	281	eP	P	18 12 28.0	+0.8
	comp=Z,7.5nm,1.1s						
KSM	Kuching	76.36	280	eP	P	18 12 34.4	+0.7
	comp=Z,5.7nm,0.7s						
SYO	Syowa Base	78.25	192	⇑eP	P	18 12 42.6	-0.8
SYO	Syowa Base	78.25	192	⇑ePcP	PcP	18 12 50.0	-2.8
MJAR	Matsushiro Arr	78.44	324	P	P	18 12 42.1	-2.7
	comp=Z,4.0nm,1.0s,baz=161,slow=6.3,SNR=6.3						
MJAR				LR	LR	18 47 44.7	
	comp=Z,14nm,18.6s,baz=270,slow=36						
SNAA	Sanae	78.93	178	P	P	18 12 48.9	+1.7
SNAA	Sanae	78.93	178	⇓iP	P	18 12 48.4	+1.2
SNAA	Sanae	78.93	178	eP	P	18 12 48.6	+1.4
	comp=Z,17nm,1.2s						
VNA3	Neumayer Olymp	79.02	176	P	P	18 12 49.2	+1.5
VNA2	Neumayer--Watz	79.47	176	P	P	18 12 51.8	+1.6
	baz=171,slow=4.9						
VNA1	Neumayer--Stat	79.69	176	P	P	18 12 53.5	+2.2
NVL	N'lazarevskaya	79.78	183	eP	P	18 12 53.7	+2.0
JNU	Nakatsue	79.96	317	P	P	18 12 53.5	+0.2
	comp=Z,3.9nm,0.6s,baz=281,slow=3.2,SNR=7.4						
JNU	Nakatsue	79.96	317	eP	P	18 12 53.5	+0.2
	comp=Z,26nm,1.2s						
PLCA	Paso Flores	81.96	132	P	P	18 13 04.3	+0.2
	comp=Z,6.3nm,1.0s,baz=243,slow=6.3,SNR=5.3						
PLCA				LR	LR	18 42 36.6	
	comp=Z,109nm,18.1s,baz=330,slow=31						
PLCA	Paso Flores	81.96	132	eP	P	18 13 05.9	+1.8
PLCA	Paso Flores	81.96	132	eP	P	18 13 04.9	+0.8
	comp=Z,27nm,1.4s						
SCZ2	Santa Cruz Isl	82.83	44	P	P	18 13 09.0	+0.5
	baz=227						
CIS	Catalina Islan	83.18	46	P	P	18 13 09.8	-0.5
	baz=228						
BLG	Laguna Peak, P	83.25	45	P	P	18 13 10.1	-0.5
	baz=228						
SRIG	Santa Rosal

BC3 Big Chuckawall 85.21 47 P **P 18 13 20.9 +0.1**
baz=230,SNR=13
GLA Glamis 85.22 48 P **P 18 13 20.7 0.0**
baz=230,SNR=6.0
GLA Glamis 85.22 48 *e*P **P 18 13 21.1 +0.4**
GLA pmax pmax
comp=Z,16nm,1.0s
GLA Glamis 85.22 48 *e*P **P 18 13 21.1 +0.4**
comp=Z,16nm,1.0s
KHMM Horse Mountain 85.31 37 *e*P **P 18 13 21.3 +0.2**
comp=Z,18nm,1.0s
HSIG 85.31 53 *e*P **P 18 13 18.0 -3.2**
comp=Z,18nm,1.0s
PETK Petropavlovsk- 85.40 345 P **P 18 13 19.9 -1.1**
comp=Z,2.4nm,0.6s,baz=111,slow=6.3,SNR=3.4
PETK LR LR 18 47 15.5
comp=Z,57nm,19.1s,baz=150,slow=33
PETK Petropavlovsk- 85.40 345 P **P 18 13 20.0 -1.1**
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK MLR MLR
comp=Z,57nm,19.1s
PEA1 Petropavlovsk- 85.41 345 *e*P **P 18 13 19.9 -1.1**
CWC Cottonwood Cre 85.41 43 P **P 18 13 21.5 -0.2**
baz=228
HEC Hector,Ludlow 85.41 46 P **P 18 13 21.4 -0.2**
baz=229
GSC Goldstone, Bar 85.43 45 P **P 18 13 21.6 -0.2**
baz=229,SNR=8.7
GSC Goldstone, Bar 85.43 45 *e*P **P 18 13 20.3 -1.5**
GSC pmax pmax
comp=Z,16nm,1.1s
GSC Goldstone, Bar 85.43 45 *e*P **P 18 13 20.3 -1.5**
comp=Z,16nm,1.1s
AFDM Forest Hills D 85.45 40 *e*P **P 18 13 19.5 -2.2**
comp=Z,13nm,1.1s
MPMC Manual Prospec 85.51 44 P **P 18 13 22.1 -0.2**
baz=229,SNR=11
ORV Oroville 85.58 39 *e*P **P 18 13 21.1 -1.2**
ORV pmax pmax
comp=Z,9.0nm,1.0s
ORV Oroville 85.58 39 *e*P **P 18 13 21.1 -1.2**
comp=Z,8.9nm,1.0s
KRMB Red Mountain 85.68 37 *e*P **P 18 13 23.1 +0.2**
comp=Z,33nm,1.6s
IRM Iron Mountain 85.73 47 P **P 18 13 23.5 +0.3**
baz=230,SNR=18
113A Mohawk Valley, 85.73 49 *e*P **P 18 13 22.7 -0.4**
comp=Z,17nm,1.4s
WDC Whiskeytown Da 85.73 38 *e*P **P 18 13 22.6 -0.4**
WDC pmax pmax
comp=Z,22nm,1.0s
WDC Whiskeytown Da 85.73 38 *e*P **P 18 13 22.6 -0.4**
comp=Z,22nm,1.0s
ROC1 El Roble 85.79 126 *e*P **P 18 13 22.2 -1.8**
comp=Z,22nm,0.9s
GMRC Granite Mounta 85.81 46 P **P 18 13 23.7 0.0**
baz=230,SNR=8.3
214A Organ Pipe Nat 85.85 50 P **P 18 13 23.8 0.0**
baz=231
Y12C Blythe 85.86 47 P **P 18 13 23.7 -0.1**
baz=230
Y12C Blythe 85.86 47 *e*P **P 18 13 22.4 -1.4**
comp=Z,12nm,1.1s
IPM Ipoh 85.87 277 *e*P **P 18 13 23.8 -0.5**
comp=Z,12nm,0.6s
N02D Trinity Center 85.92 38 P **P 18 13 24.4 +0.3**
baz=225,SNR=13
O03D Paynes Creek 85.93 39 P **P 18 13 23.7 -0.4**
baz=225,SNR=10.0
WAKR Walker 86.01 41 *e*P **P 18 13 24.3 -0.4**
comp=Z,22nm,1.2s
TUQ Turquoise Moun 86.06 45 P **P 18 13 24.8 -0.1**
baz=229,SNR=6.6
M02C Callahan 86.14 37 P **P 18 13 25.6 +0.5**
baz=224,SNR=17
SHOC Shoshone, Teco 86.15 45 P **P 18 13 25.1 -0.1**
baz=229,SNR=7.0
FURC Furnace Creek, 86.16 44 P **P 18 13 25.1 -0.1**
baz=229
GRAC Grapevine Rang 86.21 43 P **P 18 13 25.6 +0.1**
baz=228,SNR=7.5
L02D Cave Junction, 86.30 36 P **P 18 13 25.8 0.0**
baz=224
PNTR Pine Nut 86.32 41 *e*P **P 18 13 26.1 -0.1**
comp=Z,23nm,0.9s
LDFC Landfair 86.34 46 *e*P **P 18 13 26.8 +0.4**
comp=Z,63nm,1.4s
BEKR Beckworth 86.42 40 *e*P **P 18 13 25.0 -1.7**
comp=Z,11nm,1.2s
YERR Yerington 86.45 41 *e*P **P 18 13 25.7 -1.2**
comp=Z,16nm,1.1s
PDMCI Parker Dam,Lak 86.46 47 P **P 18 13 26.4 -0.4**
baz=230,SNR=5.2
YBH Yreka Blue Hor 86.46 37 *e*P **P 18 13 26.0 -0.7**
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 86.46 37 *e*P **P 18 13 26.0 -0.7**
comp=Z,8.8nm,1.0s
LTIM Timbered Crate 86.72 38 *e*P **P 18 13 28.2 +0.2**
TPNV Topopah Spring 86.85 44 P **P 18 13 29.0 +0.2**
baz=229,SNR=11
TPNV Topopah Spring 86.85 44 *e*P **P 18 13 28.5 -0.3**
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 86.85 44 *e*P **P 18 13 28.5 -0.3**
comp=Z,10nm,1.0s
PAHR Pah Rah Range 86.86 40 *e*P **P 18 13 28.4 -0.4**
comp=Z,13nm,1.0s
NJ2 Nanjing 86.87 310 *e*P **P 18 13 30.8 +2.0**
NJ2 pmax pmax
comp=Z,16nm,1.0s
HUMO Hull Mountain 86.95 36 *e*P **P 18 13 28.8 -0.2**
comp=Z,72nm,0.6s
M04C Macdoel 86.95 38 P **P 18 13 28.7 -0.4**
baz=225
Y14A Wickenburg 86.96 48 *e*P **P 18 13 28.8 -0.5**
comp=Z,67nm,1.0s
W13A Hualapai Mount 87.13 47 *e*P **P 18 13 29.9 -0.4**
comp=Z,16nm,1.4s
SHPR Sheep Range 87.23 45 *e*P **P 18 13 30.3 -0.3**
comp=Z,13nm,1.3s
USRK Ussuriysk Ar. 87.32 326 P **P 18 13 29.4 -1.3**
comp=Z,4.5nm,0.8s,baz=114,slow=4.9,SNR=5.5
TUC Tucson 87.42 50 P **P 18 13 32.2 +0.5**
baz=232
TUC Tucson 87.42 50 *e*P **P 18 13 31.7 +0.1**
TUC pmax pmax
comp=Z,18nm,1.0s
TUC Tucson 87.42 50 *e*P **P 18 13 31.7 +0.1**
comp=Z,18nm,1.0s
I03D Drain, OR 87.54 35 P **P 18 13 31.7 -0.1**
baz=224
J04D Umpqua Nationa 87.84 36 P **P 18 13 33.2 -0.3**
baz=225
MOD Modoc Plateau 87.86 38 *e*P **P 18 13 33.1 -0.5**
comp=Z,7.2nm,0.8s
319A Douglas 87.88 52 *e*P **P 18 13 34.0 +0.1**
comp=Z,16nm,1.0s
R11A Troy Canyon, C 88.16 43 P **P 18 13 34.5 -0.6**
baz=229
R11A Troy Canyon, C 88.16 43 *e*P **P 18 13 34.2 -1.0**
comp=Z,5.5nm,1.4s
X16A Lo Mia Camp, P 88.27 48 *e*P **P 18 13 36.1 +0.3**
comp=Z,14nm,1.0s
J05D Fort Rock, OR 88.33 37 P **P 18 13 35.6 -0.1**
baz=226,SNR=9.7
TRTT Trang 88.68 280 P **P 18 13 41.1 +3.2**
comp=Z,14nm,1.6s
LCMT Little Creek M 88.74 46 *e*P **P 18 13 37.4 -0.4**
comp=Z,9.1nm,0.9s
MDJ Mudanjiang 88.81 325 P **P 18 13 39.8 +2.0**
MDJ pmax pmax
comp=Z,7.0nm,0.8s
TRQA Tornquist 88.93 134 *e*P **P 18 13 40.0 +1.1**
comp=Z,19nm,1.2s
U15A North Rim 88.97 46 *e*P **P 18 13 39.6 +0.5**
comp=Z,16nm,0.9s
WUAZ Wupatki 88.99 48 P **P 18 13 39.3 +0.3**
baz=232
WUAZ Wupatki 88.99 48 *e*P **P 18 13 38.9 -0.2**
comp=Z,15nm,1.0s
CCUT Cedar City 89.00 45 *e*P **P 18 13 39.4 +0.2**
comp=Z,9.9nm,1.1s
KNB Kanab 89.00 46 *e*P **P 18 13 39.4 +0.3**
KNB pmax pmax
comp=Z,17nm,1.0s
KNB Kanab 89.00 46 *e*P **P 18 13 39.4 +0.3**
comp=Z,16nm,1.0s
I05D Terrebonne, OR 89.01 36 P **P 18 13 38.8 0.0**
baz=226
WVOR Wild Horse Val 89.13 39 *e*P **P 18 13 38.8 -0.7**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 89.13 39 *e*P **P 18 13 38.8 -0.7**
comp=Z,9.3nm,1.1s
SZCU Shurtz Canyon 89.20 45 *e*P **P 18 13 40.8 +0.7**
comp=Z,11nm,1.1s
PANO Nakornpanom 89.24 290 P **P 18 13 44.3 +3.9**
comp=Z,52nm,2.0s
KDAK Kodiak Island 89.27 12 *i*P **P 18 13 43.4 +3.8**
E03A Lebam 89.48 33 *e*P **P 18 13 41.1 +0.3**
comp=Z,40nm,1.0s
PKCU Pink Cliffs 89.59 46 *e*P **P 18 13 41.7 -0.3**
comp=Z,8.0nm,0.9s
F04A Amboy 89.60 34 *e*P **P 18 13 40.9 -0.5**
comp=Z,28nm,1.0s
G05D Wamic, OR 89.66 35 P **P 18 13 41.5 -0.3**
baz=226
SKNT Sakolnakorn 89.67 290 P **P 18 13 44.9 +2.4**
comp=Z,32nm,0.9s
FL2 Flat Top 2 89.82 34 *e*P **P 18 13 43.2 +0.6**
ELK Elko 89.92 42 LR LR 18 49 55.9
comp=Z,127nm,18.1s,baz=230,slow=33
NLWA Neilton Lookou 89.95 33 *e*P **P 18 13 43.6 +0.5**
comp=Z,20nm,1.0s
KHON Khomkaen 90.30 289 P **P 18 13 49.0 +3.6**
comp=Z,12nm,0.9s
MSU Marysvale 90.33 45 *e*P **P 18 13 45.7 +0.3**
MSU Marysvale 90.33 45 *e*P **P 18 13 45.7 +0.3**
CN2 Changchun 90.41 322 *e*P **P 18 13 45.5 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 90.47 34 *e*P **P 18 13 44.8 -0.8**
LON pmax pmax
comp=Z,7.0nm,0.8s
LON Longmire 90.47 34 *e*P **P 18 13 44.8 -0.8**
comp=Z,6.7nm,0.8s
TIA Tai'an 90.53 312 *e*P **P 18 13 46.8 +0.8**
TIA pmax pmax
comp=Z,10.0nm,0.9s
NAYO Nakonayok 90.53 286 P **P 18 13 50.5 +4.0**
comp=Z,81nm,0.8s
LTX Lajitas 90.67 56 *e*P **P 18 13 46.9 -0.1**
LTX Lajitas 90.67 56 *e*P **P 18 13 46.9 -0.1**
TX31 Lajitas Ar. Si 90.67 56 *e*P **P 18 13 46.0 -1.0**
TXAR Lajitas Array 90.67 56 P **P 18 13 46.9 -0.1**
comp=Z,6.9nm,1.1s,baz=213,slow=6.0,SNR=35
TXAR LR LR 18 48 24.7
comp=Z,109nm,18.6s,baz=0.0,slow=32
D05A Enumclaw 90.70 34 *e*P **P 18 13 47.0 +0.4**
comp=Z,50nm,1.0s
CHAI Chaiyaphum 90.77 288 P **P 18 13 50.0 +2.4**
comp=Z,6.4nm,0.8s,comp=Z,51nm
MNTX Cornudas Mount 90.78 54 P **P 18 13 47.0 -0.4**
baz=235
MNTX Cornudas Mount 90.78 54 *e*P **P 18 13 46.3 -1.0**
comp=Z,7.7nm,0.9s
NONG Nongkai 90.91 290 P **P 18 13 49.4 +1.2**
comp=Z,134nm,0.9s,comp=Z,6µm
DUG Dugway, Tooele 91.00 43 P **P 18 13 48.0 -0.3**
baz=231
DUG Dugway, Tooele 91.00 43 *e*P **P 18 13 47.9 -0.4**
DUG pmax pmax
comp=Z,4.0nm,1.1s
DUG Dugway, Tooele 91.00 43 *e*P **P 18 13 47.9 -0.4**
comp=Z,3.9nm,1.1s
LAZ Ladron 91.11 51 *e*P **P 18 13 49.1 0.0**
PHET Kaeng Krachan 91.25 284 P P 18 13 54.8 +4.9
comp=Z,5.5nm,1.0s
NLU North Lily Min 91.29 44 *e*P **P 18 13 49.8 0.0**
comp=Z,5.2nm,1.2s
E07A Sunnyside 91.31 35 *e*P **P 18 13 49.7 +0.2**
comp=Z,38nm,1.0s
MFID Camas Ranch 91.32 39 *e*P **P 18 13 49.5 -0.2**
comp=Z,13nm,1.2s
HAWA Hanford 91.35 35 *e*P **P 18 13 49.5 -0.1**
comp=Z,23nm,1.0s
LPM Los Pinos Moun 91.41 51 *e*P **P 18 13 49.8 -0.6**
B05A Bryant 91.41 33 P **P 18 13 50.0 +0.2**
baz=225
TMUT Trail Mountain 91.41 45 *e*P **P 18 13 50.6 +0.1**
comp=Z,10nm,0.9s
LNIG Linares 91.42 62 *e*P **P 18 13 49.2 -1.3**
comp=Z,11nm,1.0s
A04D Lummi Island 91.44 32 P **P 18 13 50.5 +0.6**
baz=224
BMO Blue Mountains 91.47 38 *e*P **P 18 13 49.3 -1.0**
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 91.47 38 *e*P **P 18 13 49.3 -1.0**
comp=Z,7.2nm,1.0s
SRU San Rafael Swe 91.72 45 *e*P **P 18 13 51.5 -0.3**
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael Swe 91.72 45 *e*P **P 18 13 51.5 -0.3**
comp=Z,10nm,0.9s
MVCO Mesa Verde 91.86 48 P **P 18 13 52.2 -0.3**
baz=234
ANMO Albuquerque 91.89 50⇑ *i*P **P 18 13 52.3 -0.3**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
SPUT South Promonto 91.91 43 *e*P **P 18 13 52.4 -0.2**
comp=Z,10nm,1.1s
PBKT Sadao Pong 91.95 288 P P 18 13 58.0 +5.0
SLVN Son La 91.96 293 *e*P **P 18 13 55.3 +2.2**
comp=Z,6.4nm,1.0s
PV05 Paradox Valley 91.99 47 *e*P **P 18 13 53.3 +0.2**
HVU Hansel Valley 92.01 42 *e*P **P 18 13 53.0 0.0**
HVU pmax pmax
comp=Z,12nm,1.2s
HVU Hansel Valley 92.01 42 *e*P **P 18 13 53.0 0.0**
comp=Z,12nm,1.2s
D08A Wollman Farm, 92.11 35 *e*P **P 18 13 52.6 -0.5**
comp=Z,32nm,0.9s
HLID Hailey 92.20 40 P **P 18 13 53.7 -0.2**
baz=230
HLID Hailey 92.20 40 *e*P **P 18 13 54.0 +0.1**
comp=Z,10nm,1.0s
PV09 Paradox Valley 92.22 46 *e*P **P 18 13 54.1 -0.2**
PV01 Paradox Valley 92.36 47 *e*P **P 18 13 54.3 -0.5**
ENH Enshi 92.39 304 *e*P **P 18 13 55.3 +0.4**
comp=Z,37nm,1.0s
TCUT Toone Canyon 92.41 43 *e*P **P 18 13 52.1 -2.9**
comp=Z,24nm,0.7s
GYA Guiyang 92.46 299 *e*P **P 18 13 58.9 +3.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
B08A Colville Reser 92.80 34 *e*P **P 18 13 55.4 -1.0**
comp=Z,5.4nm,0.8s
933A Laredo 93.00 60 P **P 18 13 57.1 -0.6**
baz=238
LVC Limon Verde 93.00 118 *e*P **P 18 13 58.9 +0.5**
comp=Z,18nm,1.0s
034A Hebbronville 93.16 61 P **P 18 13 58.9 +0.4**
baz=238
LLLB Lilloet 93.16 31 *e*P **P 18 13 57.0 -0.9**
comp=Z,4.8nm,0.9s
S22A 4UR Ranch, Cre 93.25 48 P **P 18 13 59.1 +0.1**
baz=235
S22A 4UR Ranch, Cre 93.25 48 *e*P **P 18 13 58.7 -0.3**
comp=Z,8.5nm,0.5s
PB01 IPOC Station P 93.41 116 *e*P **P 18 14 00.6 +0.5**
comp=Z,12nm,0.9s
NEW Newport 93.83 35 P **P 18 14 00.6 -0.4**
baz=229
MSTX Muleshoe 93.86 53 P **P 18 14 00.6 -1.1**
baz=237
MSTX Muleshoe 93.86 53 *e*P **P 18 14 00.9 -0.8**
comp=Z,12nm,0.9s
MCMT McKenzie Canyo 93.87 40 *e*P **P 18 14 01.0 -0.6**
REDW Red Top Meadow 94.10 42 *e*P **P 18 14 02.2 -0.5**
comp=Z,13nm,1.0s
JCT Junction City 94.11 57 P **P 18 14 01.6 -1.2**
baz=238
JCT Junction City 94.11 57 *e*P **P 18 14 01.3 -1.5**
JCT pmax pmax
comp=Z,8.0nm,1.1s
JCT Junction City 94.11 57 *e*P **P 18 14 01.3 -1.5**
comp=Z,8.3nm,1.1s
SDCO Great Sand Dun 94.11 49 P **P 18 14 02.5 -0.4**
baz=236
SDCO Great Sand Dun 94.11 49 *e*P **P 18 14 01.9 -1.1**
comp=Z,13nm,1.9s
TPAW Teton Pass 94.12 42 *e*P **P 18 14 02.6 -0.3**
comp=Z,11nm,1.1s
FXWY Fox Creek 94.17 41 *e*P **P 18 14 02.6 -0.4**
comp=Z,4.7nm,0.9s
SNOW Snow King Moun 94.22 42 *e*P **P 18 14 03.0 -0.3**
comp=Z,13nm,0.9s
DLMT Dillon 94.35 39 *e*P **P 18 14 01.0 -2.7**
comp=Z,11nm,1.0s
IMW Indian Meadow 94.38 41 *e*P **P 18 14 03.6 -0.5**
comp=Z,7.4nm,0.9s
LOHW Long Hollow 94.40 42 *e*P **P 18 14 03.4 -0.6**
comp=Z,5.5nm,1.0s
MOOW Moose Ponds 94.40 41 *e*P **P 18 14 03.2 -0.9**
comp=Z,4.9nm,1.3s
T25A Trinidad 94.49 50 P **P 18 14 04.0 -0.7**
baz=236
BW06 Boulder Array 94.50 43 P **P 18 14 04.0 -0.5**
baz=233
BW06 Boulder Array 94.50 43 *e*P **P 18 14 03.2 -1.3**
comp=Z,3.0nm,0.6s
PD31 Pinedale Array 94.50 43 *e*P **P 18 14 02.6 -2.0**
PDAR Pinedale Array 94.50 43 P **P 18 14 03.4 -1.2**
comp=Z,2.4nm,0.9s,baz=204,slow=3.3,SNR=12
PDAR LR LR 18 52 46.1
comp=Z,139nm,18.0s,baz=248,slow=33
PDAR Pinedale Array 94.50 43 *e*P **P 18 14 02.4 -2.1**
CM01 Chiang Mai Arr 94.53 288 *e*P **P 18 14 06.6 +1.7**
MSO Missoula 94.54 38 P **P 18 14 04.1 -0.3**
baz=231
CM31 Chiang Mai Arr 94.56 289 *e*P **P 18 14 02.7 -2.4**
CMAR Chiang Mai Arr 94.56 289 P **P 18 14 06.1 +1.0**
comp=Z,1.1nm,0.7s,baz=145,slow=4.1,SNR=9.5
CMAR PKKP **PKKPdf 18 31 04.5 +1.5**
comp=Z,0.7nm,0.7s,baz=274,slow=4.4,SNR=5.3
CAST Castle Rocks 94.65 11 *e*P **P 18 14 02.2 -2.2**
comp=Z,9.9nm,1.1s
QLMT Earthquake Lak 94.67 40 *e*P **P 18 14 04.4 -0.9**
YHB Horse Butte 94.75 40 *e*P **P 18 14 05.8 +0.2**
comp=Z,6.5nm,0.9s
KMI Kunming 94.81 296 P **P 18 14 09.1 +2.7**
KMI pmax pmax
comp=Z,4.0nm,0.6s
KMI pmax pmax
comp=Z,52nm,4.4s
YMR Madison River 94.83 41 *e*P **P 18 14 05.9 -0.1**
comp=Z,11nm,0.9s
CHMT Chamberlain Mo 94.96 38 *e*P **P 18 14 05.1 -1.4**
YHH Holmes Hill 94.97 41 *e*P **P 18 14 07.1 +0.3**
comp=Z,9.8nm,1.2s
BOZ Bozeman (W) 95.03 40 P **P 18 14 06.5 -0.3**
baz=232
BOZ Bozeman (W) 95.03 40 *e*P **P 18 14 06.8 0.0**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 95.03 40 *e*P **P 18 14 06.8 0.0**
comp=Z,10nm,0.9s
N23A Red Feather La 95.61 46 P **P 18 14 09.3 -0.4**
baz=236
RLMT Red Lodge 96.07 41 P **P 18 14 11.5 -0.2**
baz=234
RLMT Red Lodge 96.07 41 *e*P **P 18 14 11.4 -0.2**
comp=Z,10nm,1.4s
PHWY Pilot Hill 96.14 46 *e*P **P 18 14 09.2 -2.9**
comp=Z,13nm,0.8s
KSCO Kaye Shedlock' 96.70 49 *e*P **P 18 14 13.7 -0.9**
comp=Z,28nm,1.3s
HHC Hu-ho-hao-te 96.76 313 *e*P **P 18 14 17.8 +3.1**
HHC S **S 18 25 35.9 +0.6**
HHC sS sS 18 25 48.4 +1.4
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,54nm,5.4s
HHC LR LR
comp=Z,140nm,17.8s
HHC LR LR
comp=Z,160nm,16.9s
HHC LR LR
comp=Z,68nm,18.6s
IL1 Eielson Array 96.79 12 *e*P **P 18 14 10.9 -3.3**
ILB Eielson Array 96.79 12 *e*P **P 18 14 11.4 -2.8**
CD2 Chengdu 96.93 302 P **P 18 14 16.5 +0.8**
LPAZ La Paz 97.09 113 P Pdif 18 14 17.9 +0.3
comp=Z,4.8nm,0.8s,baz=238,slow=3.1,SNR=14
LPAZ LR LR 18 52 01.6
comp=Z,87nm,18.0s,baz=236,slow=32
LPAZ La Paz 97.09 113 *e*P Pdif 18 14 18.8 +1.2
LPAZ La Paz 97.09 113 *e*P Pdif 18 14 18.8 +1.1
BILL Bilibino 98.19 353 *i*P **P 18 14 19.3 -1.1**
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL MLR MLR
comp=Z,183nm,20.0s
RSSD Black Hills 98.58 44 Pdiff **P 18 14 22.8 -0.2**
baz=237
RSSD Black Hills 98.58 44 *e*P **P 18 14 22.0 -1.0**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 98.58 44 *e*P **P 18 14 22.0 -1.0**
comp=Z,10.0nm,0.9s
CPUP Villa Florida 99.30 127 LR LR 18 55 00.4
comp=Z,73nm,18.1s,baz=221,slow=33
LZH Lanzhou 99.45 306 *e*P **Pdif 18 14 27.6 +0.6**
LZH pP pP 18 14 34.5 +0.4
LZH sP sP 18 14 37.3 +0.8
LZH PP **PP 18 18 33.5 +2.5**
LZH pmax pmax
comp=Z,20nm,1.5s
LZH pmax pmax
comp=Z,97nm,5.3s
LZH LR LR
comp=Z,320nm,17.8s
LZH LR LR
comp=Z,330nm,17.5s
LZH LR LR
comp=Z,400nm,19.7s
L38A Oak Wood Farm, 104.64 50 Pdiff **Pdif 18 14 49.9 +0.1**
baz=243
L40A Anamosa 105.76 50 Pdiff **Pdif 18 14 54.8 +0.1**
baz=244
N42A Yates City 106.04 52 Pdiff **Pdif 18 14 57.1 +1.1**
baz=245
E38A The Farm, Brul 107.47 46 Pdiff **Pdif 18 15 03.3 +1.1**
baz=246
WMQ Urumqi 113.90 308 PKP **PKiKP 18 19 23.3 +0.4**
WMQ LR LR
comp=Z,40nm,25.7s
WMQ LR LR
comp=Z,73nm,17.7s
MK01 Makanchi Array 118.39 310 *e*PKPdf **PKPdf 18 19 30.5 -0.9**
MK32 Makanchi Array 118.40 310 *e*PKPdf **PKPdf 18 19 30.4 -1.0**
MKAR Makanchi Array 118.40 310 PKP **PKPdf 18 19 30.4 -1.0**
comp=Z,2.7nm,0.9s,baz=202,slow=0.7,SNR=11
MKAR Makanchi Array 118.40 310 *c i*PKIKP **PKPdf 18 19 31.0 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
ZAA1 Zalesovo Array 118.42 318 *e*PKPdf **PKPdf 18 19 30.6 -0.5**
ZALV Zalesovo Beam 118.42 318 PKP **PKPdf 18 19 30.6 -0.5**
comp=Z,2.1nm,0.8s,baz=245,slow=1.3,SNR=7.1
KSH Kashi 121.12 301 *e*PKP **PKPdf 18 19 34.9 -2.1**
KSH PP **PP 18 21 13.4 +5.9**
KSH PKS **PKSdf 18 23 11.6 -2.1**
KSH SKS **SKSdf 18 26 43.4 -4.5**
KSH SKKS **SKKSac 18 28 01.4 -4.2**
KSH AMB AMB
comp=Z,130nm,6.6s
KSH LR LR
comp=Z,88nm,9.6s
KSH LR LR
comp=Z,63nm,5.5s
KSH LR LR
comp=Z,150nm,8.4s
KURK Kurchatov 121.57 314 *c i*PKIKP **PKPdf 18 19 37.4 +0.1**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 121.57 314 *e*PKPdf **PKPdf 18 19 36.5 -0.7**
KURK *e*PKPdf **PKPdf 18 19 36.6 -0.7**
KURBB Kurchatov Arra 121.61 314 PKP **PKPdf 18 19 36.5 -0.8**
comp=Z,3.1nm,0.7s,baz=105,slow=2.1,SNR=43
AAK Ala-Archa 122.91 304 PKP **PKPdf 18 19 40.1 -0.3**
comp=Z,1.7nm,0.8s,baz=148,slow=8.5,SNR=6.9
AAK Ala-Archa 122.91 304 *e*PKPdf **PKPdf 18 19 40.1 -0.3**
AAK *e*PKPdf **PKPdf 18 19 40.1 -0.3**
KKAR Karatay Array 125.87 304 *e*PKIKP **PKPdf 18 19 45.5 -0.3**
KKAR Karatay Array 125.87 304 *e*PKPdf **PKPdf 18 19 45.5 -0.3**
BVAR Borovoye Array 126.86 316 PKP **PKPdf 18 19 47.6 +0.2**
comp=Z,3.9nm,0.7s,baz=174,slow=1.5,SNR=12

BRVK Borovoye 126.93 316 *c i* PKIPK **PKPdf 18 19 48.2 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 133.40 321 PKP **PKPdf 18 19 59.6 0.0**
comp=Z,1.6nm,0.5s,baz=105,slow=16,SNR=3.5
ARU Arti 133.40 321 *e*PKPdf **PKPdf 18 19 59.1 -0.6**
ABKAR Akbulak array 133.51 311 *e*PKPdf **PKPdf 18 19 58.1 -2.0**
GEYT Alibeck 134.57 296 PKP **PKPdf 18 20 03.8 +1.3**
comp=Z,1.4nm,0.6s,baz=149,slow=3.1,SNR=4.1
ARA0 ARCESS Array S 138.09 349 *e*PKPdf **PKPdf 18 20 06.6 -1.5**
ARCES ARCESS Array B 138.09 349 PKP **PKPdf 18 20 06.6 -1.5**
comp=Z,4.5nm,0.8s,baz=352,slow=1.7,SNR=7.7
FIA1 FINESS Array S 144.86 341 *e*PKPdf **PKPab 18 20 17.9 -1.6**
FIA0 FINESS Array S 144.87 341 *e*PKIKP **PKPab 18 20 18.9 -0.5**
FIA0 FINESS Array S 144.87 341 *e*PKPdf **PKPab 18 20 18.9 -0.5**
FINES FINESS Array B 144.87 341 PKP **PKPab 18 20 18.9 -0.5**
comp=Z,6.5nm,0.5s,baz=59,slow=2.9,SNR=48
ZEI Tsey 145.33 303 *i* PKIKP **PKPbc 18 20 22.1 +0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 145.33 327⇑ *e*PKIKP **PKPbc 18 20 21.4 +0.2**
OBN *i* 18 20 38.2
OBN pmax pmax
comp=Z,17nm,0.8s
OBN pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 145.33 327 *e*PKPbc **PKPbc 18 20 20.0 -1.2**
NCK Nalchik 145.43 305⇑ *i* PKIKP **PKPab 18 20 22.4 +0.2**
KBZ Khabaz 145.88 305 PKPbc **PKPbc 18 20 23.8 +0.4**
comp=Z,4.6nm,0.9s,baz=205,slow=3.5,SNR=9.1
VSR Storozhevoye 145.91 319 *e*PKP2 **PKPdf 18 20 22.7 +0.2**
VSR pmax pmax
comp=Z,20nm,0.7s
KIV Kislovodsk 145.99 306⇓ *e*PKP2 **PKPbc 18 20 24.1 +0.3**
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV pmax pmax
comp=Z,5.0nm,0.7s
NEY Neytrino 146.10 304⇑ *e*PKP2 **PKPdf 18 20 23.4 +0.1**
NC303 NORSAR Array S 147.94 353 *e*PKPbc **PKPbc 18 20 27.9 -0.7**
NB201 NORSAR Array S 148.12 353 *e*PKPbc **PKPbc 18 20 28.6 -0.6**
NB2 NORSAR Subarra148.14 353 PKP **PKPbc 18 20 28.8 -0.5**
comp=Z,25nm,1.2s,baz=8.7,slow=2.9
NB200 NORSAR Array S 148.14 353 *e*PKPbc **PKPbc 18 20 28.8 -0.5**
NOA NORSAR Array B148.14 353 PKPbc **PKPbc 18 20 28.8 -0.5**
comp=Z,11nm,0.9s,baz=15,slow=4.5,SNR=15
NBO02 NORSAR Array S 148.17 353 *e*PKPbc **PKPbc 18 20 28.9 -0.3**
NBO00 NORSAR Array S 148.19 354 *e*PKPbc **PKPbc 18 20 29.0 -0.4**
MARD Mardin 148.30 294 *e*PKPbc **PKPbc 18 20 31.6 +1.1**
NAO01 NORSAR Array S 148.36 353 *e*PKPbc **PKPbc 18 20 29.5 -0.3**
NC602 NORSAR Array S 148.40 353 *e*PKPbc **PKPbc 18 20 29.1 -0.8**
SLMH Al Salmeh 150.64 292 *e*P **PKPdf 18 20 32.2 +1.4**
AKASG Malin Array Be 151.53 325 PKP **PKPdf 18 20 31.5 -0.1**
comp=Z,0.3nm,0.4s,baz=33,slow=2.0,SNR=4.7
AKASG PKPbc **PKPbc 18 20 37.6 -0.1**
comp=Z,13nm,0.7s,baz=46,slow=2.8,SNR=46
AKASG PKPab **pPKPbc 18 20 45.7 +0.8**
comp=Z,10nm,0.6s,baz=46,slow=3.3,SNR=14
AKBB Malin Array Si 151.53 325 *e*PKIKP **PKPdf 18 20 30.4 -1.2**
AKBB *e* 18 20 37.7
AKBB *e* 18 20 45.2
AKBB Malin Array Si 151.53 325 *e*PKPdf **PKPdf 18 20 30.4 -1.2**
AKBB *e*PKPbc **PKPbc 18 20 37.7 -0.1**
AKBB *e*PKPab **pPKPbc 18 20 45.2 +0.3**
KIEV Kiev 151.54 325 *e*PKIKP **PKPbc 18 20 36.8 -1.0**
KIEV Kiev 151.54 325 *e*PKPbc **PKPbc 18 20 36.8 -1.0**
AK11 Malin Array Si 151.57 325 *e*PKPdf **PKPdf 18 20 30.8 -0.9**
AK11 *e*PKPbc **PKPbc 18 20 37.5 -0.4**
AK11 *e*PKPab **PKPab 18 20 46.1 -0.3**
SALA Sala 151.65 285 *e*P **PKPbc 18 20 41.1 +2.2**
BR101 Keskin Array S 153.51 300 *e*PKPbc **PKPbc 18 20 42.0 -0.7**
BR131 Keskin Array S 153.51 300 *e*PKPbc **PKPbc 18 20 42.6 -0.2**
BRTR Keskin Array B 153.51 300 PKPbc **PKPbc 18 20 42.0 -0.7**
comp=Z,3.5nm,1.0s,baz=137,slow=3.6,SNR=9.4
BR231 Keskin MP Arra 154.13 301 *e*PKPbc **PKPbc 18 20 43.5 -0.6**
CSS Mathiatis 154.46 290 *e*PKPbc **PKPbc 18 20 45.3 +0.5**
CSS *e*PKPab **PKPab 18 20 59.3 +0.1**
BUR08 Bucovina Ar. S 155.50 323 *e*PKPab **PKPab 18 21 00.5 -2.8**
CLL Collm 157.21 345 *i* PKIKP **PKPdf 18 20 42.2 +2.7**
CLL pmax pmax
comp=Z,27nm,2.3s
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 157.21 345 *i* PKPab **PKPab 18 21 09.7 -0.6**
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 157.38 343 *e*(P) PKPab 18 20 57.8 -13
comp=Z,5.1nm,1.4s
VYHS Vyhne 157.84 333 *e*PKP2 **PKPab 18 21 13.1 -0.1**
VYHS Vyhne 157.84 333 *e*PKP **PKPab 18 21 13.1 -0.1**
GERES GERESS Array B 159.30 341 PKPab **PKPab 18 21 18.6 -1.0**
comp=Z,0.5nm,0.6s,baz=18,slow=5.6,SNR=4.1
TOA0 Torodi Ar. Sit 163.54 173 *e*PKPdf **PKPdf 18 20 45.6 -2.0**
TOA0 *e*PKPdf **PKPdf 18 20 47.8 +0.2**
TOA0 *e*PKPab **PKPab 18 21 37.4 -1.4**
TOA0 *e*PKPab **PKPab 18 21 38.6 -0.2**
TORD Torodi Ar. Bea 163.54 173 PKP **PKPdf 18 20 48.4 +0.8**
comp=Z,1.8nm,0.9s,baz=357,slow=1.6,SNR=7.7
TORD PKPab **PKPab 18 21 40.2 +1.5**
comp=Z,5.9nm,0.8s,baz=188,slow=4.2,SNR=24
TOA1 Torodi Ar. Sit 163.55 173 *e*PKPdf **PKPdf 18 20 48.4 +0.8**
TOA1 *e*PKPab **PKPab 18 21 40.2 +1.4**
PVIS Viseu 165.38 37 *e*PKPab **PKPab 18 21 45.8 -0.7**
MTE Manteigas 165.79 38 *e*PKPdf **PKPdf 18 20 49.9 +1.0**
MTE Manteigas 165.79 38 *e*PKPab **PKPab 18 21 47.5 -0.8**
PCBR Castelo Branco 166.23 39 *e*PKPdf **PKPdf 18 20 50.5 +1.3**
PMTG Montargil 166.32 43 *e*PKPab **PKPab 18 21 49.0 -1.6**
PMRV Marv??o 166.56 40 *e*PKPdf **PKPdf 18 20 50.3 +0.8**
PMRV Marv??o 166.56 40 *e*PKPab **PKPab 18 21 50.4 -1.3**
PNCL Nicolau / Gran 166.72 47 *e*PKPdf **PKPdf 18 20 50.3 +0.7**
EVO Evora 166.79 44 *e*PKPdf **PKPdf 18 20 50.7 +1.0**
PBAR Barrancos 167.61 43 *e*PKPab **PKPab 18 21 55.1 -1.2**
ESDC Sonseca Array 168.10 30 PKP **PKPdf 18 20 51.5 +0.8**
comp=Z,0.2nm,0.4s,baz=345,slow=4.0,SNR=6.1
ESDC PKPab **PKPab 18 21 57.4 -1.1**
comp=Z,2.2nm,0.8s,baz=311,slow=3.6,SNR=8.5
ES19 SONSECA Array 168.11 30 *e*PKPdf **PKPdf 18 20 51.2 +0.6**
ES19 *e*PKPab **PKPab 18 21 57.1 -1.4**

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*ISCJB **14** 18:16:29.9±0.4, 8°.40S±0°.05×122°.53E±0°.04, h200km, mb3.7/7, Error ellipse: s-maj=7.2km s-min=5.6km az=8.3*
*DJA **14** 18:16:31.6±0.5, 8°.5S±4°×12°.3E±°, h181km±5km, M4.2/11, mB5.0/2, mb4.4/2, MLv4.1/11, Mw(mB)4.3/2*
*IDC **14** 18:16:34.2±4.4, 8°.33S×122°.58E, h224km±44km, mb3.5/7, mb1 3.5/9, mb1mx3.2/46, mbtmp4.0/9, Error ellipse: s-maj=40.5km s-min=10.2km az=53.0*
ISC 14 18:16:30.8±0.7, 8°.41S±0°.06×122°.56E±0°.06, h200km, n20, σ1§73/27, mb4.0/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.39**	**235**	P	**Pn**	**18 16 56.4**	**-1.2**
MMRI				S	**Sn**	**18 17 16.2**	**-2.1**
EDFI	**Ende, Flores**	**0.92**	**249**	P	**Pn**	**18 16 59.4**	**-0.8**
EDFI				S	**Sn**	**18 17 21.8**	**-1.1**
SOEI	**Soe**	**2.15**	**128**	P	**Pn**	**18 17 11.4**	**+0.4**
WSI	**Waingapu**	**2.56**	**241**	P	**Pn**	**18 17 15.0**	**-0.4**
WSI				S	**Sn**	**18 17 48.4**	**-1.8**
BASI	**Baing, Sumba**	**2.66**	**227**	P	**Pn**	**18 17 16.4**	**-0.1**
BASI				S	**Sn**	**18 17 50.6**	**-1.6**
BBSI	**Bau Bau**	**2.91**	**0**	P	**Pn**	**18 17 18.3**	**-1.2**
KDI	**Kendari**	**4.43**	**1**	P	**Pn**	**18 17 36.5**	**-1.5**
BNSI	**Bone**	**4.67**	**328**	P	**Pn**	**18 17 42.5**	**+1.4**
PLAI	**Plampang**	**4.75**	**265**	P	**Pn**	**18 17 42.0**	**-0.1**
PLAI				S	**Sn**	**18 18 35.9**	**-2.3**
TWSI	**Taliwang, Sumb** 46nm,0.6s,1μm	**5.63**	**266**	P	**Pn**	**18 17 53.5**	**+0.2**
DNP	**Denpasar**	**7.28**	**267**	S	**Sn**	**18 19 37.4**	**+0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=318,slow=12,SNR=14	**16.16**	**136**	P	**Pn**	**18 20 08.9**	**+1.6**
WRA				S	**S**	**18 23 00.2**	**-5.8**
	0.5nm,0.3s,baz=316,slow=24,SNR=5.8						
ASAR	**Alice Springs** 0.7nm,0.3s,baz=328,slow=12,SNR=78	**18.66**	**146**	P	**Pn**	**18 20 37.4**	**+0.7**
ASAR				S	**S**	**18 23 58.1**	**+2.2**
	0.0nm,0.3s,baz=328,slow=21,SNR=6.8						
PMG	**Port Moresby** 4.1nm,0.6s,baz=288,slow=6.4,SNR=2.2	**24.32**	**94**	P	**P**	**18 21 31.4**	**+1.0**
STKA	**Stephens Creek** 2.3nm,0.8s,baz=322,slow=11,SNR=4.8	**29.30**	**145**	P	**P**	**18 22 15.7**	**+1.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=147,slow=7.4,SNR=5.3	**35.44**	**319**	P	**P**	**18 23 07.9**	**-0.3**
MKAR	**Makanchi Array**	**65.60**	**331**	P	**P**	**18 26 55.1**	**+1.8**
	1.7nm,0.6s,baz=141,slow=8.8,SNR=11						
AAK	**Ala-Archa** 0.6nm,0.4s,baz=94,slow=9.2,SNR=3.9	**67.06**	**323**	P	**P**	**18 27 03.3**	**+0.5**
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=149,slow=5.8,SNR=7.0	**69.81**	**337**	P	**P**	**18 27 19.0**	**-0.3**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=141,slow=5.6,SNR=6.2	**70.06**	**332**	P	**P**	**18 27 21.3**	**+0.3**

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*NIED **14** 18:18:00, 42°.00N×144°.40E, h5km, Mw3.8 Best double couple: M0:6.64000×10^14 NP1:φ=301.00000°, δ27.00000°, λ22.00000°. NP2:φ=191.00000°, δ80.00000°, λ115.00000°.*
*ISCJB **14** 18:18:11.2±1.3, 41°.85N±0°.06×144°.52E±0°.07, h20km±8km, mb3.5/7, MS3.9/3, Error ellipse: s-maj=11.5km s-min=6.0km az=144.3*
*IDC **14** 18:18:14.0±2.4, 41°.79N×143°.53E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.4/48, mbtmp3.5/8, ML3.2/1, MS3.8/3, Ms1 3.7/3, ms1mx2.9/57, Error ellipse: s-maj=45.1km s-min=30.6km az=161.0*
*SKHL **14** 18:18:14.3±0.6, 41°.83N×144°.41E, h55km±15km, mb4.1/2*
*JMA **14** 18:18:14.2, 42°.01N×144°.40E, h30km±2km, M3.7*
ISC 14 18:18:11.0±2.3, 41°.86N±0°.09×144°.50E±0°.07, h8km±12km, n23, σ1§44/26, mb3.5/7, MS4.2/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYR	**Moyori**	**1.00**	**296**	*e*P	**Pg**	**18 18 30.3**	**0.0**
MYR				*e*S	**Sg**	**18 18 42.8**	**-0.6**
JEM	**Erimo**	**1.02**	**279**	P	**Pg**	**18 18 30.6**	**+0.1**
JCH	**Churui**	**1.13**	**312**	P	**Pb**	**18 18 32.0**	**-0.9**
JCH				*e*S	**Sb**	**18 18 46.0**	**-1.7**
JAK	**Akkeshi**	**1.14**	**7**	P	**Pb**	**18 18 32.3**	**-0.7**
JAK				*e*S	**Sb**	**18 18 45.8**	**-2.2**
JOB	**Onbets**	**1.15**	**335**	P	**Pb**	**18 18 32.5**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.37**	**288**	P	**Pn**	**18 18 35.8**	**-0.6**
JAR	**Ashorobuto**	**1.53**	**340**	P	**Pn**	**18 18 37.4**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**2.39**	**24**	*e*P	**Pn**	**18 18 51.6**	**+1.2**
YUK				AMB	AMB	18 18 59.2	
	14nm,0.3s						
YUK				*e*S	**Sn**	**18 19 19.6**	**-0.3**
YUK				A	A	18 19 24.4	
	246nm,0.4s						
YUK				A	A	18 19 24.4	
	101nm,0.4s						
SHO	**Shikotan**	**2.64**	**40**	*e*P	**Pn**	**18 18 54.5**	**+0.7**
SHO				*e*S	**Sn**	**18 19 24.0**	**-2.0**
SHO				A	A	18 19 31.9	
	37nm,0.3s						
SHO				A	A	18 19 31.9	
	140nm,0.3s						
ASAJ	**Asahikawa** 3.7nm,0.3s,baz=173,slow=13,SNR=32	**2.65**	**329**	Pn	**Pn**	**18 18 54.4**	**+0.3**
ASAJ				Sn	**Sn**	**18 19 27.9**	**+1.5**
	8.4nm,0.3s,baz=185,slow=31,SNR=3.8						
KUR	**Kuril'sk**	**4.16**	**35**	*e*P	**Pn**	**18 19 17.2**	**+2.4**
KUR				AMB	AMB	18 19 26.1	
	23nm,0.4s						
KUR				*e*S	**Sn**	**18 20 03.3**	**-0.3**
KUR				A	A	18 20 06.8	
	15nm,0.4s						
KUR				A	A	18 20 06.8	
	25nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.24**	**347**	*e*P	**Pb**	**18 19 46.6**	**+3.7**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=30,slow=14,SNR=3.3	**7.22**	**225**	Pn	**Pn**	**18 19 57.8**	**+1.0**
SONM	**Songino Array** 0.4nm,0.4s,baz=72,slow=9.3,SNR=3.0	**27.46**	**296**	P	**P**	**18 23 56.7**	**-0.8**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=75,slow=8.8,SNR=2.2	**40.61**	**308**	P	**P**	**18 25 51.4**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=60,slow=5.6,SNR=2.8	**43.75**	**298**	P	**P**	**18 26 16.7**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=268,slow=6.8,SNR=3.8	**44.16**	**35**	P	P	18 26 28.2	+8.4
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=74,slow=8.9,SNR=5.1	**45.07**	**305**	P	**P**	**18 26 26.0**	**-1.2**
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=66,slow=9.9,SNR=2.6	**49.21**	**310**	P	**P**	**18 26 59.2**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,8.6nm,19.3s,baz=0.0,slow=41	**58.45**	**32**	LR	LR	18 58 37.5	
FINES	**FINESS Array B** 1.0nm,0.7s,baz=47,slow=6.5,SNR=3.0	**65.66**	**332**	P	**P**	**18 28 56.8**	**+1.5**
SCHQ	**Schefferville** comp=Z,190nm,18.1s,baz=249,slow=39	**80.03**	**18**	LR	LR	19 10 37.3	
ASF	**Jabal al Asfar** comp=Z,111nm,21.7s,baz=105,slow=38	**80.75**	**305**	LR	LR	19 09 15.6	

IDC 14 18:21:27.9±2.8, 28°.10S×176°.87W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/28, mbtmp3.9/3, Error ellipse: s-maj=71.8km s-min=28.5km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 162nm,0.3s,baz=36,slow=5.9,SNR=6.5	**1.47**	**219**	Pn	Pn	18 21 55.8	+0.2
RAO				Sn	Sn	18 22 15.9	+0.2
	164nm,0.3s,baz=100,slow=23,SNR=4.0						
STKA	**Stephens Creek** 1.6nm,0.7s,baz=99,slow=8.0,SNR=3.1	**36.02**	**254**	P	P	18 28 30.8	-0.1
ASAR	**Alice Springs** 0.6nm,0.6s,baz=100,slow=6.3,SNR=7.7	**44.27**	**264**	P	P	18 29 39.6	0.0
WRA	**Warramunga Arr** 1.9nm,0.9s,baz=108,slow=7.7,SNR=5.7	**45.06**	**269**	P	P	18 29 45.5	-0.3
FINES	**FINESS Array B** 1.4nm,0.8s,baz=31,slow=3.0,SNR=3.7	**143.31**	**342**	PKP	PKPbc	18 41 01.2	+0.7
AKASG	**Malin Array Be** 0.8nm,0.6s,baz=47,slow=3.2,SNR=4.5	**150.01**	**326**	PKPbc	PKPbc	18 41 20.0	0.0

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*ATH **14** 18:23:53.3, 33°.98N×24°.05E, h32km±5km, ML3.2/7, Error ellipse: s-maj=6.3km s-min=2.4km az=210.0*
*CSEM **14** 18:23:55.7±0.4, 34°.12N×23°.92E, h30km, ML3.2, Error ellipse: s-maj=8.0km s-min=4.9km az=9.0*
*THE **14** 18:23:57.1, 34°.21N×24°.04E, h14km±31km, ML3.2/8, Error ellipse: s-maj=31.6km s-min=1.3km az=0.0*
*IDC **14** 18:24:00.9±9.0, 34°.31N×24°.13E, h62km±88km, mb3.4/4, mb1 3.5/6, mb1mx3.2/45, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=49.3km s-min=23.9km az=124.0*
ISC 14 18:23:52.9±2.0, 34°.01N±0°.08×24°.04E±0°.05, h16km±10km, n55, σ1§00/82, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.83**	**3**	P	**Pn**	**18 24 09.8**	**-0.1**
GVD				S	**Sb**	**18 24 18.2**	**-1.6**
GVD	**Gavdhos**	**0.83**	**3**	P	**Pn**	**18 24 10.3**	**+0.3**
GVD				S	**Sn**	**18 24 22.9**	**+1.1**
GVD				AML	AML	18 24 25.6	
	comp=N,6588μm,0.4s						
GVD				AML	AML	18 24 25.8	
	comp=E,7279μm,0.4s						
GVD	**Gavdhos**	**0.83**	**3**	P	**Pn**	**18 24 09.8**	**-0.1**
GVD				S	**Sb**	**18 24 18.2**	**-1.6**
SIVA	**Sivas**	**1.19**	**32**	P	**Pg**	**18 24 15.4**	**-0.5**
SIVA				S	**Sb**	**18 24 30.5**	**+0.3**
SIVA	**Sivas**	**1.19**	**32**	P	**Pn**	**18 24 14.5**	**-0.4**
SIVA				S	**Sg**	**18 24 33.1**	**+1.7**
SIVA				AML	AML	18 24 36.4	
	comp=E,6042μm,0.6s						
SIVA				AML	AML	18 24 39.0	
	comp=N,2926μm,0.6s						
SIVA	**Sivas**	**1.19**	**32**	P	**Pg**	**18 24 15.4**	**-0.5**
SIVA				S	**Sb**	**18 24 30.5**	**+0.3**
TMBK	**Timbaki Herakl**	**1.22**	**29**	P	**Pg**	**18 24 16.4**	**0.0**
TMBK				S	**Sn**	**18 24 31.6**	**+0.2**
TMBK	**Timbaki Herakl**	**1.22**	**29**	P	**Pg**	**18 24 16.4**	**0.0**
TMBK				S	**Sn**	**18 24 31.6**	**+0.2**
VAM	**Vamos**	**1.40**	**5**	P	**Pb**	**18 24 18.6**	**-0.1**
VAM				S	**Sn**	**18 24 34.3**	**-1.6**
VAM	**Vamos**	**1.40**	**5**	P	**Pb**	**18 24 18.8**	**+0.1**
VAM				S	**Sb**	**18 24 37.6**	**+1.3**
VAM				AML	AML	18 24 48.3	
	comp=E,1443μm,0.7s						
VAM				AML	AML	18 24 52.7	
	comp=N,1462μm,0.5s						
VAM	**Vamos**	**1.40**	**5**	P	**Pb**	**18 24 18.6**	**-0.1**
VAM				S	**Sn**	**18 24 34.3**	**-1.6**
IMMV	**Iera Moni Meta**	**1.45**	**358**	P	**Pb**	**18 24 19.2**	**-0.3**
IMMV	**Iera Moni Meta**	**1.45**	**358**	P	**Pg**	**18 24 20.1**	**-0.7**
IMMV				S	**Sb**	**18 24 38.9**	**+1.3**
IMMV				AML	AML	18 24 43.6	
	comp=E,2279μm,0.6s						
IMMV				AML	AML	18 24 44.0	
	comp=N,1684μm,0.4s						
IMMV	**Iera Moni Meta**	**1.45**	**358**	P	**Pb**	**18 24 19.2**	**-0.3**
IMMV				S	**Sb**	**18 24 38.9**	**+1.3**
IDI	**Anoyia**	**1.46**	**29**	P	**Pb**	**18 24 19.1**	**-0.6**
IDI				S	**Sn**	**18 24 36.5**	**-0.9**
IDI	**Anoyia**	**1.46**	**29**	P	**Pb**	**18 24 18.9**	**-0.7**
IDI				S	**Sn**	**18 24 37.5**	**+0.1**
IDI				AML	AML	18 24 45.6	
	comp=E,662μm,0.8s						
IDI				AML	AML	18 24 53.7	
	comp=N,598μm,0.5s						
IDI	**Anoyia**	**1.46**	**29**	P	**Pb**	**18 24 19.1**	**-0.6**
IDI				S	**Sn**	**18 24 36.5**	**-0.9**
LAST	**Lasithi**	**1.65**	**46**	P	**Pb**	**18 24 22.6**	**-0.4**
LAST				S	**Sn**	**18 24 42.9**	**+0.6**
LAST	**Lasithi**	**1.65**	**46**	P	**Pb**	**18 24 22.8**	**-0.2**
LAST				S	**Sb**	**18 24 44.1**	**+0.4**
LAST				AML	AML	18 24 57.4	
	comp=N,409μm,1.0s						
LAST				AML	AML	18 25 01.7	
	comp=E,418μm,0.8s						
LAST	**Lasithi**	**1.65**	**46**	P	**Pb**	**18 24 22.6**	**-0.4**
LAST				S	**Sn**	**18 24 42.9**	**+0.6**
NPS	**Neapolis**	**1.80**	**46**	P	**Pb**	**18 24 25.0**	**-0.5**
NPS				S	**Sn**	**18 24 46.1**	**+0.2**
NPS	**Neapolis**	**1.80**	**46**	P	**Pb**	**18 24 25.7**	**+0.1**
NPS	**Neapolis**	**1.80**	**46**	P	**Pb**	**18 24 25.0**	**-0.5**
NPS				S	**Sn**	**18 24 46.1**	**+0.2**
ANKY	**Antikythira Is**	**1.95**	**342**	P	**Pb**	**18 24 28.3**	**+0.3**
ANKY	**Antikythira Is**	**1.95**	**342**	P	**Pb**	**18 24 28.3**	**+0.3**
ZKR	**Zakros**	**2.11**	**58**	P	**Pb**	**18 24 29.4**	**-1.4**
ZKR				S	**Sb**	**18 24 55.1**	**-1.6**
ZKR	**Zakros**	**2.11**	**58**	P	**Pb**	**18 24 30.5**	**-0.3**
ZKR	**Zakros**	**2.11**	**58**	P	**Pb**	**18 24 29.4**	**-1.4**
ZKR				S	**Sb**	**18 24 55.1**	**-1.6**
SANT	**Santorini**	**2.63**	**26**	P	**Pn**	**18 24 34.3**	**-0.4**
SANT	**Santorini**	**2.63**	**26**	P	**Pn**	**18 24 34.3**	**-0.4**
THR5	**Thira Island,**	**2.63**	**24**	P	**Pn**	**18 24 35.4**	**+0.7**
THR5	**Thira Island,**	**2.63**	**24**	P	**Pn**	**18 24 35.4**	**+0.7**
THR3	**Thira Island,**	**2.64**	**25**	P	**Pn**	**18 24 36.4**	**+1.6**
THR3	**Thira Island,**	**2.64**	**25**	P	**Pn**	**18 24 36.4**	**+1.6**
MHLO	**Agia Marina, M**	**2.69**	**6**	P	**Pn**	**18 24 35.9**	**+0.4**
MHLO				S	**Sn**	**18 25 06.5**	**-1.2**
MHLO	**Agia Marina, M**	**2.69**	**6**	P	**Pn**	**18 24 35.2**	**-0.3**
MHLO	**Agia Marina, M**	**2.69**	**6**	P	**Pn**	**18 24 35.9**	**+0.4**
MHLO				S	**Sn**	**18 25 06.5**	**-1.2**
KARP	**Karpathos**	**2.99**	**58**	P	**Pn**	**18 24 41.8**	**+2.1**
KARP				S	**Sn**	**18 25 16.0**	**+0.7**
KARP	**Karpathos**	**2.99**	**58**	P	**Pb**	**18 24 42.5**	**-3.4**
KARP				S	**Sn**	**18 25 15.4**	**+0.1**
KARP				AML	AML	18 25 16.6	
	comp=N,525μm,0.7s						
KARP				AML	AML	18 25 18.8	
	comp=E,302μm,0.5s						
KARP	**Karpathos**	**2.99**	**58**	P	**Pn**	**18 24 41.8**	**+2.1**
KARP				S	**Sn**	**18 25 16.0**	**+0.7**
DID	**Didima**	**3.55**	**350**	P	**Pn**	**18 24 48.0**	**+0.6**
DID	**Didima**	**3.55**	**350**	P	**Pn**	**18 24 46.8**	**-0.6**
DID	**Didima**	**3.55**	**350**	P	**Pn**	**18 24 46.8**	**-0.6**
ARG	**Arkhangelos**	**4.01**	**56**	P	**Pn**	**18 24 55.1**	**+1.4**
ARG	**Arkhangelos**	**4.01**	**56**	P	**Pn**	**18 24 55.1**	**+1.4**
STON	**Ston**	**10.14**	**333**	*e*Pn	**Pn**	**18 26 16.7**	**-1.2**
STON				Sn	Sn	18 28 01.4	-10
STON	**Ston**	**10.14**	**333**	*e*Pn	**Pn**	**18 26 16.6**	**-1.2**
GERES	**GERESS Array B** comp=E,0.1nm,0.3s,baz=135,slow=14,SNR=3.5	**16.70**	**336**	P	**P**	**18 27 49.7**	**+1.2**
AKASG	**Malin Array Be** comp=E,0.8nm,0.3s,baz=204,slow=9.8,SNR=3.4	**17.11**	**11**	P	**Pn**	**18 27 50.3**	**-0.9**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=156,slow=9.3	**28.29**	**347**	P	**P**	**18 29 44.8**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,SNR=3.6	**28.29**	**347**	P	**P**	**18 29 44.8**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,baz=146,slow=8.6,SNR=6.7	**28.29**	**347**	P	**P**	**18 29 45.1**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.6s,baz=41,slow=7.7,SNR=3.5	**29.04**	**230**	P	P	18 29 57.4	+4.9
ARCES	**ARCESS Array B** comp=Z,2.9nm,0.9s,baz=187,slow=8.4,SNR=3.1	**35.58**	**1**	P	**P**	**18 30 49.8**	**+0.5**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=263,slow=8.1,SNR=4.5	**45.18**	**55**	P	**P**	**18 32 09.8**	**+0.8**

IDC 14 18:52:30.0±4.8, 0°.65S×131°.52E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=320.6km s-min=26.5km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=352,slow=11,SNR=11	**19.37**	**172**	P	P	18 56 57.5	0.0
ASAR	**Alice Springs** 0.8nm,0.6s,baz=359,slow=11,SNR=15	**23.00**	**174**	P	P	18 57 36.6	0.0
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=131,slow=6.6,SNR=5.6	**63.87**	**325**	P	P	19 03 04.5	0.0

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*ISCJB **14** 19:50:28.5±0.6, 50°.28N±0°.04×18°.74E±0°.04, h0km, Error ellipse: s-maj=5.6km s-min=3.1km az=17.4*
*CSEM **14** 19:50:29.2±0.2, 50°.29N×18°.76E, h2km, ML2.6/4, Error ellipse: s-maj=5.4km s-min=2.9km az=15.0*
*WAR **14** 19:50:30.0, 50°.27N×18°.83E, h1km, Mw2.5*
*PRU **14** 19:50:30.3, 50°.25N×18°.75E, h0km*
ISC 14 19:50:29.5±0.8, 50°.24N±0°.04×18°.78E±0°.02, h0km, n27, σ0§66/50, Poland

| Code | Station

KHC	**Kasperske Hory**	**3.56 254**	*e*PN	**Pn**	**19 51 26.1**	**+0.1**
KHC			*e*PG	**Pb**	**19 51 34.2**	**+0.9**
KHC			*e*SG	**Sg**	**19 52 22.8**	**-0.9**
	comp=Z,4.5nm,0.4s					
KHC	**Kasperske Hory**	**3.56 254**	Pn	**Pn**	**19 51 26.1**	**+0.1**
KHC			Sg	**Sg**	**19 52 22.8**	**-0.9**
	4.5nm,0.4s					

*IDC **14** 19:58:08.4±3.7,35°.96N×70°.45E,h67km±33km,mb3.6/9, mb1 3.7/15,mb1mx3.4/44,mbtmp3.9/15,ML3.8/6,Error ellipse: s-maj=27.3km s-min=17.4km az=2.0*
*NNC **14** 19:58:16.7±6.0,36°.69N×70°.13E,h106km±59km,mb3.6, mpv4.0,Error ellipse: s-maj=45.9km s-min=34.8km az=1.0*

ISC 14 19:58:11.3±0.6,36°.08N±0°.06×70°.44E±0°.06,h110km,n42, σ2§40/47,mb3.6/8,6C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.55**	**151**	P	**Pn**	**19 58 55.0**	**+3.5**
CHCP	**Chirah Chowk**	**3.35**	**135**	P	**Pn**	**19 59 04.9**	**+3.0**
THW	**Thamme Wali**	**3.45**	**161**	P	**Pn**	**19 59 06.5**	**+3.3**
THN	**Thein Dam**	**5.68**	**128**	*e*S	**Sn**	**20 00 33.8**	**-3.4**
DHRM	**DHARAMSHALA**	**6.18**	**126**	*e*P	**Pn**	**19 59 41.9**	**+1.6**
DHRM				*e*S	**Sn**	**20 00 48.9**	**-0.7**
DHRM				AML	AML	20 00 51.5	
	comp=N,341nm,0.2s						
DHRM				AML	AML	20 00 51.8	
	comp=E,287nm,0.0s						
MNAS	**Manas**	**6.60**	**13**	⇑P	**Pn**	**19 59 44.8**	**-1.0**
	comp=E,6.1nm,0.4s						
MNAS				⇑S	Sn	20 00 52.9	-6.8
	comp=E,41nm,0.6s						
BHK	**Bhakra**	**6.81**	**131**	*e*P	**Pn**	**19 59 48.6**	**0.0**
KK31	**Karatay Array**	**7.02**	**0**	P	Pn	19 59 49.5	-1.9
	comp=E,7.5nm,0.5s,baz=176,slow=13,SNR=128						
KK31				⇓S	Sn	20 01 03.3	-6.3
	comp=E,9.3nm,0.5s,baz=190,slow=26,SNR=7.3						
SDNR	**Sundarnagar**	**7.10**	**128**	*e*x	Pn	20 00 07.0	+14
SDNR				*e*S	**Sn**	**20 01 07.6**	**-4.1**
AAK	**Ala-Archa**	**7.27**	**24**	P	**Pn**	**19 59 54.0**	**-0.8**
	comp=E,2.9nm,0.3s,baz=192,slow=7.2,SNR=25						
AAK				S	Sn	20 01 09.8	-6.1
	comp=E,5.8nm,0.3s,baz=354,slow=22,SNR=19						
AAK	**Ala-Archa**	**7.27**	**24**	P	**Pn**	**19 59 53.9**	**-1.0**
	comp=E,5.6nm,0.5s						
AAK				⇑S	Sn	20 01 10.2	-5.6
	comp=E,33nm,0.6s						
SMLA	**Simla**	**7.47**	**129**	*e*P	**Pn**	**19 59 58.3**	**+0.8**
SMLA				*e*S	**Sn**	**20 01 18.2**	**-2.4**
SMLA				AML	AML	20 01 21.9	
	comp=N,82nm,0.5s						
SMLA				AML	AML	20 01 22.6	
	comp=E,79nm,0.1s						
TKM2	**Tokmak 2**	**7.91**	**29**	P	**Pn**	**20 00 02.5**	**-1.1**
	comp=E,2.3nm,0.3s						
TKM2				⇑S	**Sn**	**20 01 26.5**	**-5.1**
	comp=E,19nm,0.8s						
KHET	**Khetri**	**9.18**	**149**	*e*P	**Pn**	**20 00 20.3**	**-0.5**
KHET				*e*S	**Sn**	**20 01 55.6**	**-6.7**
KHET				IAML		20 02 00.9	
	comp=E,13nm,0.3s						
KHET				IAML		20 02 03.3	
	comp=N,14nm,0.2s						
JOSI	**Joshimath**	**9.41**	**123**	*e*P	**Pn**	**20 00 24.1**	**+0.1**
JOSI				*e*S	**Sn**	**20 02 04.3**	**-3.8**
JOSI				IAML		20 02 09.3	
	comp=N,126nm,1.0s						
JOSI				IAML		20 02 14.4	
	comp=E,100nm,0.6s						
GEYT	**Alibeck**	**10.03**	**284**	P	**Pn**	**20 00 30.1**	**-2.2**
	comp=E,1.3nm,0.3s,baz=103,slow=8.1,SNR=29						
GEYT				S	**Sn**	**20 02 17.4**	**-5.5**
	comp=E,2.1nm,0.3s,baz=122,slow=19,SNR=12						
PYUN	**Piuthan**	**13.28**	**123**	*e*P	**Pn**	**20 01 13.7**	**-1.9**
	comp=E,18nm,0.3s						
KOLN	**Koldanda**	**13.90**	**123**	*e*P	**Pn**	**20 01 21.9**	**-1.8**
	comp=E,9.9nm,0.4s						
MKAR	**Makanchi Array**	**13.90**	**36**	P	**Pn**	**20 01 24.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=5.1						
GKN	**Gorkha**	**14.47**	**120**	*e*P	**Pn**	**20 01 29.3**	**-1.7**
	comp=E,22nm,0.5s						
DMN	**Daman**	**15.04**	**120**	*e*P	**Pn**	**20 01 37.2**	**-1.1**
	comp=E,24nm,0.6s						
KKN	**Kakani**	**15.05**	**119**	*e*P	**Pn**	**20 01 36.8**	**-1.6**
	comp=E,13nm,0.5s						
AB31	**Akbulak array**	**15.25**	**333**	P	**Pn**	**20 01 39.0**	**-1.4**
	comp=E,8.7nm,0.3s,baz=156,slow=12,SNR=298						
AB31				⇑S	Sn	20 04 16.4	-12
	comp=E,1.5nm,0.4s,baz=151,slow=23,SNR=9.5						
PKIN	**Phulchoki**	**15.27**	**120**	*e*P	**Pn**	**20 01 39.6**	**-1.5**
	comp=E,12nm,0.5s						
KURBB	**Kurchatov Arra**	**15.67**	**19**	P	**Pn**	**20 01 46.5**	**+0.8**
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=11						
JIRN	**Jiri**	**15.78**	**118**	*e*P	**Pn**	**20 01 45.9**	**-1.8**
	comp=E,173nm,0.4s						
RAMN	**Ramite**	**16.50**	**119**	*e*P	**Pn**	**20 01 55.2**	**-1.2**
	comp=E,11nm,0.4s						
AKTO	**Aktyubinsk**	**16.93**	**332**	P	**Pn**	**20 02 01.8**	**+0.6**
	comp=E,0.8nm,0.3s,baz=138,slow=13,SNR=24						
AKTO				S	Sn	20 04 57.5	-12
	comp=E,0.3nm,0.3s,baz=132,slow=17,SNR=6.2						
AKTO	**Aktyubinsk**	**16.93**	**332**	⇓P	**Pn**	**20 02 01.0**	**-0.3**
	comp=E,7.7nm,0.7s						
AKTO				⇑S	Sn	20 04 58.2	-11
	comp=E,3.8nm,0.7s						
BVAR	**Borovoye Array**	**16.95**	**360**	P	**Pn**	**20 02 00.6**	**-0.8**
	comp=E,0.6nm,0.3s,baz=166,slow=10,SNR=10						
TAPN	**Taplejung**	**17.06**	**116**	*e*P	**Pn**	**20 02 02.6**	**-0.7**
	comp=E,17nm,0.3s						
ODAN	**Odare**	**17.11**	**118**	*e*P	**Pn**	**20 02 04.0**	**+0.1**
	comp=E,10.0nm,0.4s						
ZAA0	**Zalesovo Array**	**20.49**	**25**	P	**P**	**20 02 41.0**	**+0.8**
	comp=E,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**20.49**	**25**	P	**P**	**20 02 41.1**	**+0.9**
	comp=E,7.4nm,0.5s,baz=220,slow=11,SNR=38						
SONM	**Songino Array**	**28.95**	**55**	P	**P**	**20 04 02.2**	**+2.0**
	comp=E,0.3nm,0.6s,baz=251,slow=9.0,SNR=2.8						
FINES	**FINESS Array B**	**37.59**	**327**	P	**P**	**20 05 17.6**	**+2.9**
	comp=E,1.8nm,0.7s,baz=111,slow=10,SNR=7.3						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**20 05 48.2**	**+2.2**
	comp=E,3.3nm,0.9s,baz=141,slow=4.7,SNR=7.2						
NOA	**NORSAR Array B**	**44.45**	**323**	P	**P**	**20 06 12.9**	**+1.9**
	comp=E,0.9nm,0.7s,baz=97,slow=8.0,SNR=3.3						
KSRS	**Korea Array**	**45.45**	**70**	P	**P**	**20 06 20.6**	**+1.4**
	comp=E,0.7nm,0.7s,baz=272,slow=6.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.25**	**268**	P	**P**	**20 08 43.4**	**+1.9**
	comp=E,1.0nm,0.5s,baz=47,slow=6.0,SNR=14						
WRA	**Warramunga Arr**	**82.15**	**121**	P	**P**	**20 10 21.8**	**+1.7**
	comp=E,0.6nm,0.9s,baz=320,slow=4.5,SNR=6.1						
ASAR	**Alice Springs**	**84.39**	**124**	P	**P**	**20 10 33.1**	**+1.7**
	comp=E,0.2nm,0.6s,baz=315,slow=4.9,SNR=4.5						

DJA 14 20:11:55.5±1.0,10°S±4°.×11°4E±°,h28km±9km,M3.8/9, mB4.9/1,mb4.2/1,MLv3.6/9,Mw(mB)4.2/1,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.06**	**38**	P	Pn	20 12 14.1	-0.4
IGBI				S	Sn	20 12 27.3	-1.0
DNP	**Denpasar**	**1.21**	**36**	P	Pn	20 12 17.0	+0.5
DNP				S	Sb	20 12 32.7	-0.3
JAGI	**Jajag, Banyuwa**	**1.23**	**344**	P	Pn	20 12 17.3	+0.5
JAGI				S	Sn	20 12 32.4	-0.1
SRBI	**Singaraja**	**1.72**	**25**	P	Pn	20 12 24.2	+0.6
SRBI				S	Sn	20 12 45.8	+1.1
TWSI	**Taliwang, Sumb**	**2.53**	**69**	P	Pn	20 12 35.0	+0.2
TWSI				S	Sn	20 13 05.0	+0.3
KMMI	**Kalianget**	**2.64**	**349**	P	Pn	20 12 38.0	+1.7
PLAI	**Plampang**	**3.35**	**76**	P	Pn	20 12 46.0	0.0
PLAI				S	Sn	20 13 23.7	-1.2
UGM	**Wanagama**	**4.29**	**294**	S	Sn	20 13 47.8	-0.3

*ISK **14** 20:29:35.8,39°.64N×38°.67E,h3km,ML3.2*
*DDA **14** 20:29:36.8,39°.57N×38°.58E,h6km,Md3.2*
*CSEM **14** 20:29:36.5±0.2,39°.66N×38°.67E,h2km,ML3.3,Error ellipse: s-maj=4.7km s-min=4.1km az=22.0*

ISC 14 20:29:36.4±1.1,39°.65N±0°.02×38°.65E±0°.02,h4km±10km, n78,σ1§89/94,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.39**	**198**	*i* P	**Pg**	**20 29 43.8**	**-0.2**
KEMA				*i* S	**Sb**	**20 29 50.1**	**-2.3**
KEMA	**Kemaliye**	**0.39**	**198**	P	**Pg**	**20 29 43.8**	**-0.2**
KEMA				S	**Sb**	**20 29 50.1**	**-2.3**
EZC	**Erzincan**	**0.56**	**79**	*e*Pg	**Pn**	**20 29 52.8**	**+1.6**
EZC				*e*Sg	**Sn**	**20 30 04.0**	**+3.0**
SUSE	**Susehri**	**0.66**	**329**	*i* P	**Pb**	**20 29 49.3**	**-1.2**
SUSE	**Susehri**	**0.66**	**329**	P	**Pb**	**20 29 49.3**	**-1.2**
KELT	**Kelkit**	**0.69**	**43**	*i* P	**Pg**	**20 29 48.8**	**-0.8**
KELT				*i* S	**Sg**	**20 29 58.3**	**-0.3**
KELT	**Kelkit**	**0.69**	**43**	P	**Pg**	**20 29 48.8**	**-0.8**
KELT				S	**Sg**	**20 29 58.3**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.72**	**290**	*i* P	**Pg**	**20 29 50.3**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.72**	**290**	P	**Pg**	**20 29 50.3**	**+0.1**
EUZM	**Uzumlu**	**0.81**	**85**	*i* P	**Pg**	**20 29 51.3**	**-0.7**
EUZM	**Uzumlu**	**0.81**	**85**	P	**Pg**	**20 29 51.3**	**-0.7**
ERZN	**Erzincan**	**0.83**	**94**	*e*PG	**Pb**	**20 29 52.8**	**-0.7**
ERZN				*e*SG	**Sb**	**20 30 04.0**	**-1.1**
TNCL	**Tunceli-Merkez**	**0.87**	**127**	*i* P	**Pg**	**20 29 51.8**	**-1.4**
TNCL	**Tunceli-Merkez**	**0.87**	**127**	P	**Pg**	**20 29 51.8**	**-1.4**
PTK	**Pertek**	**0.95**	**142**	*e*PG	**Pb**	**20 29 54.4**	**-1.1**
PTK	**Pertek**	**0.95**	**142**	*e*Pg	**Pb**	**20 29 54.4**	**-1.1**
SCER	**sogukcermik**	**1.19**	**281**	*i* P	**Pn**	**20 29 58.9**	**-1.0**
SCER	**sogukcermik**	**1.19**	**281**	*i* S	**Sn**	**20 30 17.3**	**+0.7**
SCER	**sogukcermik**	**1.19**	**281**	S	**Sn**	**20 30 17.3**	**+0.7**
SCER	**sogukcermik**	**1.19**	**281**	P	**Pn**	**20 29 58.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**1.26**	**307**	*e*PN	**Pg**	**20 30 00.3**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.26**	**307**	*e*Pn	**Pg**	**20 30 00.3**	**-0.3**
SVSK	**Karacayir**	**1.30**	**283**	*e*PN	**Pg**	**20 30 01.0**	**-0.3**
SVSK	**Karacayir**	**1.30**	**283**	*e*Pn	**Pg**	**20 30 01.0**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.36**	**158**	*e*PN	**Pg**	**20 30 01.8**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.36**	**158**	*e*Pn	**Pg**	**20 30 01.8**	**-0.8**
DARE	**Darende-Malaty**	**1.40**	**221**	*e*PN	**Pg**	**20 30 03.2**	**0.0**
CUGUR	**Gurin_S¨VAS**	**1.41**	**230**	*i* P	**Pn**	**20 30 00.2**	**-2.7**
CUGUR				*i* S	**Sg**	**20 30 23.4**	**+1.7**
CUGUR	**Gurin_S¨VAS**	**1.41**	**230**	S	**Sg**	**20 30 23.4**	**+1.7**
YEDI	**Yedisu-Bingol**	**1.48**	**97**	*e*PN	**Pg**	**20 30 04.1**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.51**	**256**	*i* P	**Pg**	**20 30 04.7**	**-0.6**
CUALT				*i* S	**Sg**	**20 30 27.9**	**+3.0**
CUALT	**Altinyayla-SIV**	**1.51**	**256**	P	**Pg**	**20 30 04.7**	**-0.6**
KTUT	**Trabzon**	**1.59**	**32**	*e*PN	**Pg**	**20 30 06.2**	**-0.7**
KTUT	**Trabzon**	**1.59**	**32**	*e*Pn	**Pg**	**20 30 06.2**	**-0.7**
BINT	**Bingol**	**1.62**	**118**	*e*Pn	**Pg**	**20 30 07.3**	**-0.2**
BNGB	**Bing¨¶l**	**1.71**	**112**	*e*PN	**Pb**	**20 30 07.3**	**-1.1**
TOKA	**Tokat**	**1.80**	**293**	*i* P	**Pb**	**20 30 08.8**	**-1.1**
TOKA				*i* S	**Sg**	**20 30 36.0**	**+1.9**
TOKA	**Tokat**	**1.80**	**293**	P	**Pb**	**20 30 08.8**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.87**	**264**	*i* P	**Pb**	**20 30 10.3**	**-0.9**
CUSAR				*i* S	**Sg**	**20 30 39.6**	**+3.1**
CUSAR	**Sarkisla-SIVAS**	**1.87**	**264**	P	**Pb**	**20 30 10.3**	**-0.9**
BNGL	**BINGOL**	**2.06**	**109**	*i* P	**Pg**	**20 30 15.1**	**-0.9**
BNGL				*i* S	**Sg**	**20 30 44.6**	**+1.9**
SARI	**SarD1z-Kayseri**	**2.13**	**235**	*e*PN	**Pb**	**20 30 14.2**	**-1.4**
ATAB	**Bozova**	**2.19**	**187**	*i* P	**Pg**	**20 30 17.7**	**-0.6**
ATAB	**Bozova**	**2.19**	**187**	P	**Pg**	**20 30 17.7**	**-0.6**
URFA	**Urfa**	**2.21**	**176**	*e*PN	**Pb**	**20 30 14.6**	**-2.2**
URFA	**Urfa**	**2.21**	**176**	*e*Pn	**Pb**	**20 30 14.6**	**-2.2**
BNN	**Bunyan**	**2.31**	**251**	*e*PN	**Pb**	**20 30 16.4**	**-2.3**
BNN	**Bunyan**	**2.31**	**251**	*e*Pn	**Pb**	**20 30 16.4**	**-2.3**
KVT	**Kavak**	**2.45**	**307**	*e*PN	**Pb**	**20 30 18.8**	**-2.2**
KVT	**Kavak**	**2.45**	**307**	*e*Pn	**Pb**	**20 30 18.8**	**-2.2**
SVAN	**Silvan-Diyarba**	**2.49**	**126**	*e*PN	**Pb**	**20 30 18.4**	**-3.3**
SVAN	**Silvan-Diyarba**	**2.49**	**126**	*e*Pn	**Pb**	**20 30 18.4**	**-3.3**
KMRS	**Kahramanmaras**	**2.54**	**213**	*e*PN	**Pb**	**20 30 19.6**	**-2.9**
KMRS	**Kahramanmaras**	**2.54**	**213**	*e*Pn	**Pb**	**20 30 19.6**	**-2.9**
MAZI	**Mazidag**	**2.60**	**147**	*e*PN	**Pn**	**20 30 20.1**	**+0.8**
MAZI	**Mazidag**	**2.60**	**147**	*e*Pn	**Pn**	**20 30 20.1**	**+0.8**
BTMN	**Batman**	**2.70**	**130**	*i* P	**Pb**	**20 30 24.5**	**-0.7**
BTMN				*i* S	**Sg**	**20 31 03.8**	**+0.8**
BTMN	**Batman**	**2.70**	**130**	P	**Pb**	**20 30 24.5**	**-0.7**
GAZ	**Gaziantep**	**2.71**	**205**	*e*PN	**Pn**	**20 30 21.8**	**+1.0**
GAZ	**Gaziantep**	**2.71**	**205**	*e*Pn	**Pn**	**20 30 21.8**	**+1.0**
ANDN	**Andirin**	**2.74**	**222**	*i* P	**Pn**	**20 30 22.2**	**+1.0**
ANDN				*i* S	**Sg**	**20 31 09.8**	**+5.5**
ANDN	**Andirin**	**2.74**	**222**	P	**Pn**	**20 30 22.2**	**+1.0**
COAL	**Corum-Alaca**	**2.88**	**283**	*i* P	**Pb**	**20 30 25.5**	**-2.8**
COAL				*i* S	**Sg**	**20 31 12.0**	**+3.2**
COAL	**Corum-Alaca**	**2.88**	**283**	P	**Pb**	**20 30 25.5**	**-2.8**
ARTV	**Artvin**	**2.94**	**57**	*i* P	**Pb**	**20 30 29.5**	**0.0**
SENK	**Senkaya-Erzuru**	**2.98**	**71**	*e*PN	**Pn**	**20 30 25.6**	**+1.0**
KOZT	**Kozan**	**3.09**	**227**	*e*PN	**Pn**	**20 30 27.5**	**+1.6**
KOZT	**Kozan**	**3.09**	**227**	*e*Pn	**Pn**	**20 30 27.5**	**+1.6**
CTAK	**Corum_Osmancik**	**3.12**	**290**	*i* P	**Pb**	**20 30 28.6**	**-3.9**
CDAG	**Cicekdag**	**3.30**	**271**	*i* P	**Pb**	**20 30 31.5**	**-4.0**
CDAG				*i* S	**Sg**	**20 31 23.5**	**+1.1**
CDAG	**Cicekdag**	**3.30**	**271**	P	**Pb**	**20 30 31.5**	**-4.0**
AKO	**Adana**	**3.32**	**230**	*i* P	**Pg**	**20 30 37.8**	**-2.2**
AKO				*i* S	**Sg**	**20 31 27.8**	**+4.7**
AGRB	**Hanur-Agry**	**3.36**	**90**	*e*PN	**Pn**	**20 30 30.9**	**+1.1**
AGRB	**Hanur-Agry**	**3.36**	**90**	*e*Pn	**Pn**	**20 30 30.9**	**+1.1**
TAHT	**Tahtakopru-Hat**	**3.80**	**212**	*e*PN	**Pn**	**20 30 37.7**	**+2.1**
TAHT	**Tahtakopru-Hat**	**3.80**	**212**	*e*Pn	**Pn**	**20 30 37.7**	**+2.1**
BBAL	**Bala**	**4.27**	**270**	*i* P	**Pn**	**20 30 44.2**	**+2.0**
BBAL	**Bala**	**4.27**	**270**	P	**Pn**	**20 30 44.2**	**+2.0**

*NNC **14** 20:39:04.3±1.9,41°.40N×83°.51E,h12km±5km,mb3.6, mpv3.2,Error ellipse: s-maj=13.6km s-min=6.7km az=138.0*
*SOME **14** 20:39:05.7,41°.20N×83°.03E,h5km*

ISC 14 20:39:07.4±2.5,41°.4N±0°.1×83°.13E±0°.09,h10km,n16, σ2§44/31,7C-11D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.21**	**303**	*e*P	**Pb**	**20 40 02.8**	**-1.9**
	13nm,0.5s						
SHLS				*e*S	**Sb**	**20 40 45.3**	**+1.4**
	80nm,0.6s						
PDGK	**Podgornoye**	**3.29**	**306**	⇑Pn	**Pn**	**20 39 59.3**	**+0.1**
	4.0nm,0.4s						
PDGK				⇓Pg	**Pg**	**20 40 08.7**	**-1.7**
	4.0nm,0.4s						
PDGK				⇓Sn	**Sn**	**20 40 42.6**	**+4.2**
	12nm,0.4s						
PDGK				⇓Lg	Lg	20 40 55.6	
	34nm,0.5s						
UZB	**Uzynbulak**	**3.49**	**301**	*e*P	**Pg**	**20 40 11.6**	**-2.8**
	5.3nm,0.6s						
UZB				*e*S	**Sg**	**20 41 00.6**	**+1.1**
	34nm,0.4s						
DJR	**Jarkent**	**3.79**	**321**	*e*P	**Pb**	**20 40 16.6**	**+2.1**
	12nm,0.6s						
DJR				*e*S	**Sg**	**20 41 09.2**	**+0.1**
	18nm,0.5s						
KPKS	**Kokpek**	**3.86**	**303**	*e*P	**Pb**	**20 40 16.8**	**+1.2**
	21nm,0.4s						
KPKS				*e*S	**Sg**	**20 41 09.6**	**-1.8**
	43nm,0.3s						
ARXS	**Arharly**	**4.78**	**307**	*e*P	**Pb**	**20 40 34.6**	**+3.2**
	4.0nm,0.4s						
ARXS				*e*S	**Sg**	**20 41 40.4**	**-0.5**
	18nm,0.7s						
MDOK	**Medeo**	**4.83**	**293**	⇑Pg	**Pg**	**20 40 36.7**	**-3.2**
MDOK				⇓Lg	Lg	20 41 44.5	
TNSS	**Tian-Shan**	**4.86**	**291**	*e*P	**Pg**	**20 40 36.5**	**-4.0**
	3.3nm,0.7s						
TNSS				*e*S	**Sg**	**20 41 43.5**	**+0.1**
	9.9nm,0.5s						
IZV	**Izvestkoviy**	**5.09**	**290**	*e*P	**Pb**	**20 40 38.2**	**+1.5**
	4.0nm,0.4s						
IZV				*e*S	**Sg**	**20 41 45.9**	**-5.0**
	15nm,0.6s						
CHKK	**Chushkaly**	**5.13**	**300**	*e*P	**Pb**	**20 40 39.9**	**+2.7**
	2.5nm,0.6s						
CHKK				*e*S	**Sg**	**20 41 49.0**	**-3.1**
	8.6nm,0.3s						
KTBS	**Karatobe**	**5.27**	**298**	*e*P	**Pg**	**20 40 44.1**	**-4.3**
KTBS				*e*S	**Sg**	**20 41 57.1**	**+0.5**
MK31	**Makanchi Array**	**5.39**	**354**	⇓Pg	**Pb**	**20 40 42.7**	**+1.0**
	0.9nm,0.5s,baz=168,slow=15,SNR=6.4						
MK31				⇓Sn	**Sn**	**20 41 29.4**	**-0.5**
	2.5nm,0.5s						
MK31				⇓Lg	Lg	20 41 59.9	
	8.1nm,0.6s,baz=169,slow=28,SNR=7.0						
MAKZ	**Makanchi**	**5.43**	**352**	⇑Pg	**Pb**	**20 40 44.2**	**+1.8**
	3.4nm,1.1s						
MAKZ				⇓Sn	**Sn**	**20 41 30.1**	**-0.9**
	2.8nm,0.6s						
MAKZ				⇑Lg	Lg	20 42 02.2	
	7.3nm,0.7s						
TKM2	**Tokmak 2**	**5.79**	**287**	⇓Pn	**Pn**	**20 40 34.3**	**+0.7**
	1.8nm,0.9s						
TKM2				⇑Pg	**Pg**	**20 40 56.9**	**-1.3**
	2.3nm,0.7s						
TKM2				⇓Sn	**Sn**	**20 41 43.2**	**+3.2**
	3.1nm,0.8s						
TKM2				⇓Lg	Lg	20 42 18.0	
	10.0nm,0.6s						
AAK	**Ala-Archa**	**6.54**	**283**	Pg	**Pg**	**20 41 10.9**	**-1.7**
	2.4nm,1.0s						
AAK				Lg	Lg	20 42 43.0	
	9.2nm,0.9s						
KURK	**Kurchatov**	**9.79**	**343**	⇑Sn	**Sn**	**20 43 19.6**	**+1.5**
	3.8nm,1.0s						
KURK				⇑Lg	Lg	20 44 20.6	
	7.2nm,1.0s						

*IDC **14** 20:48:05.0±0.8,2°.68N×125°.47E,h0km,mb4.2/10, mb1 4.3/10,mb1mx3.9/33,mbtmp4.2/10,Error ellipse: s-maj=46.9km s-min=11.9km az=79.0*
*ISCJB **14** 20:48:15.9±0.3,2°.66N±0°.03×125°.95E±0°.04,h105km, mb4.3/16,Error ellipse: s-maj=6.1km s-min=3.8km az=169.3*
*DJA **14** 20:48:15.8±1.1,3°N±3°×12°6E±°,h21km±10km,M4.6/9, mb4.4/6,mB5.5/4,MLv4.6/9,Mw(mB)5.0/4*
*NEIC **14** 20:48:16.3±1.4,2°.65N×125°.76E,h94km±15km,mb4.4/8, Error ellipse: s-maj=18.1km s-min=7.6km az=70.0*

ISC 14 20:48:17.3±0.5,2°.67N±0°.04×125°.96E±0°.06,h105km,n45, σ1§94/55,mb4.4/16,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.09**	**337**	P	**Pn**	**20 48 35.5**	**-3.6**
SGSI				S	**Sn**	**20 48 50.9**	**-4.7**
KMSI	**Cibinong**	**2.87**	**224**	P	**Pn**	**20 49 00.6**	**-0.8**
LBMI	**Labuha**	**3.63**	**155**	P	**Pn**	**20 49 10.7**	**-0.9**
LBMI				S	**Sn**	**20 49 53.1**	**-0.6**
MATI	**Mati**	**4.26**	**4**	*e*P	**Pn**	**20 49 16.3**	**-3.8**
MATI				*e*S	**Sn**	**20 50 10.5**	**+1.7**
MRSI	**Marisa**	**4.57**	**242**	P	**Pn**	**20 49 24.4**	**+0.2**
MRSI				S	**Sn**	**20 50 16.2**	**0.0**
SANI	**Sanana**	**4.69**	**180**	P	**Pn**	**20 49 23.3**	**-2.6**
SANI				Pg	**Pn**	**20 49 23.4**	**-2.5**
SANI				S	**Sn**	**20 50 13.7**	**-5.5**
CTBH	**Cotabato--PC H**	**4.83**	**339**	⇑*i* P	**Pn**	**20 49 26.7**	**-1.1**
BUKP	**Musuan**	**5.25**	**350**	*e*P	**Pn**	**20 49 33.5**	**-0.1**
BUKP				*e*S	**Sn**	**20 50 35.6**	**+2.7**
APSI	**Ampana**	**5.58**	**230**	P	**Pn**	**20 49 39.9**	**+1.9**
PAGZ	**Pagadian**	**5.75**	**334**	*e*P	**Pn**	**20 49 38.4**	**-1.8**
MPSI	**Mapaga**	**6.48**	**249**	P	**Pn**	**20 49 50.0**	**-0.2**
	44nm,0.8s,581nm						
MSAI	**Masohi**	**6.67**	**154**	P	**Pn**	**20 49 53.0**	**+0.2**
AAI	**Ambon**	**6.70**	**160**	P	**Pn**	**20 49 51.4**	**-1.8**
KDI	**Kendari**	**7.38**	**207**	P	**Pn**	**20 50 01.8**	**-0.6**
MYLDM	**Lahad Datu**	**7.84**	**289**	*e*Pn	**Pn**	**20 50 06.4**	**-2.3**
MYLDM				*e*Sn	**Sn**	**20 51 38.8**	**+2.8**
FAKI	**Fak Fak**	**8.39**	**131**	P	**Pn**	**20 50 16.5**	**+0.4**
FAKI	**Fak Fak**	**8.39**	**131**	*e*Pn	**Pn**	**20 50 16.6**	**+0.4**
SPSI	**Sidrap Palu**	**9.04**	**223**	P	**Pn**	**20 50 28.1**	**+3.2**
SBUM	**Sibu**	**13.72**	**269**	*e*P	**P**	**20 51 30.9**	**-1.7**
MTN	**Manton Dam**	**16.25**	**162**	*e*Pn	**Pn**	**20 51 56.8**	**-2.7**
	15nm,0.9s						
WRAB	**Tennant Creek**	**23.93**	**160**	*e*P	**P**	**20 53 22.4**	**+0.7**
	15nm,0.8s						
WR1	**Warramunga Arr**	**23.93**	**160**	*e*P	**P**	**20 53 22.0**	**+0.2**
	16n

PTGA	Pitinga	18.21	78	P	Pn	21 13 14.0 +2.4
	0.5nm,0.3s,baz=267,slow=18,SNR=3.6					
LVC	Limon Verde	19.63	155	P	Pn	21 13 28.4 -0.5
	15nm,0.3s,baz=344,slow=7.4,SNR=4.0					
LVC	Limon Verde	19.63	155	eP	Pn	21 13 31.0 +2.1
	5.6nm,0.6s					
SIV	San Ignacio	19.77	125	P	Pn	21 13 32.7 +2.4
	0.4nm,0.3s,baz=297,slow=8.9,SNR=5.6					
CPUP	Villa Florida	28.95	140	LR	LR	21 29 40.1
	comp=Z,47nm,18.7s,baz=322,slow=43					
TXAR	Lajitas Array	42.12	325	P	P	21 16 50.7 +0.4
	0.8nm,1.0s,baz=141,slow=8.9,SNR=4.5					
IP06	Yanceyville	42.55	360	eP	P	21 16 49.4 -4.2
	11nm,0.6s					
ANMO	Albuquerque	47.91	328	eP	P	21 17 36.7 +0.2
	4.6nm,1.2s					
SDCO	Great Sand Dun	49.61	331	eP	P	21 17 50.6 +1.1
	2.7nm,1.0s					
WUAZ	Wupatki	51.06	324	eP	P	21 18 02.5 +2.0
	9.5nm,1.3s					
W13A	Hualapai Mount	52.27	322	eP	P	21 18 12.0 +2.4
	1.8nm,0.8s					
BMN	Battle Mountai	57.79	325	P	P	21 18 51.2 +2.0
	5.7nm,0.6s					
ORV	Oroville	59.78	322	eP	P	21 19 04.3 +1.4
	6.6nm,1.3s					
YKA	Yellowknife Ar	72.78	343	P	P	21 20 26.2 +0.5
	0.5nm,0.4s,baz=142,slow=6.2,SNR=4.4					
VNA2	Neumayer--Watz	79.09	162	P	P	21 21 02.5 +0.8
	baz=295,slow=6.0					
SNAA	Sanae	80.71	162	P	P	21 21 10.9 +0.5
SNAA	Sanae	80.71	162	eP	P	21 21 11.1 +0.6
	431nm,1.4s					
TORD	Torodi Ar. Bea	80.85	76	P	P	21 21 14.4 +2.2
	0.5nm,0.7s,baz=289,slow=5.1,SNR=6.7					
KIP	Kipapa	82.73	292	P	P	21 21 23.5 +1.4
	121nm,0.4s					
ILAR	Eielson Array	85.61	336	P	P	21 21 34.6 -1.2
	0.4nm,0.8s,baz=106,slow=2.9,SNR=3.9					
MKAR	Makanchi Array	134.77	19	PKP	PKPdf	21 28 17.2 +0.8
	0.2nm,0.3s,baz=317,slow=1.6,SNR=2.3					
ASAR	Alice Springs	138.11	226	PKP	PKPdf	21 28 23.6 +0.3
	0.3nm,0.5s,baz=123,slow=2.2,SNR=5.9					
WRA	Warramunga Arr	139.99	231	PKP	PKPdf	21 28 28.4 +1.6
	0.6nm,0.6s,baz=120,slow=1.9,SNR=6.0					
LZH	Lanzhou	148.86	358	ePKPbc	PKPdf	21 28 38.6 -3.4
LZH				PKPbc	PKiKP	21 28 47.5 +0.2
LZH				pPKP	pPKPab	21 29 01.0 -0.7
LZH				sPKP		21 29 24.0
LZH				LR	LR	
	comp=N,83nm,18.0s					
LZH				LR	LR	
	comp=E,92nm,18.1s					
LZH				LR	LR	
	comp=Z,110nm,20.2s					

IDC ***14*** *21:24:00.7±2.2, 18°.32S×175°.48W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/25, mbtmp4.3/4, Error ellipse: s-maj=60.0km s-min=41.3km az=110.0*
ISCJB ***14*** *21:24:05.0±0.7, 18°.4S±0°.1×175°.6W±0°.1, h35km, mb4.5/13, Error ellipse: s-maj=22.8km s-min=14.6km az=146.9*
NEIC ***14*** *21:24:06.4±0.5, 18°.37S×175°.55W, h35km, mb4.5/9, Error ellipse: s-maj=18.8km s-min=11.7km az=145.0*

ISC 14 21:24:06.5±0.7, 18°.4S±0°.2×175°.6W±0°.2, h35km, n20, σ0°98/20, mb4.5/13, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.81	196	P	P	21 28 44.8	0.0
	4.5nm,0.5s,baz=31,slow=5.9,SNR=7.1						
CTAO	Charters Tower	36.04	261	P	P	21 31 05.2	+0.3
	9.5nm,0.5s						
PMG	Port Moresby	37.21	279	eP	P	21 31 15.4	+0.5
	2.4nm,0.7s						
STKA	Stephens Creek	40.79	242	P	P	21 31 44.9	+0.2
	1.9nm,0.8s,baz=94,slow=14,SNR=3.0						
WRAB	Tennant Creek	47.20	260	eP	P	21 32 36.1	-0.2
	2.6nm,0.4s						
WRA	Warramunga Arr	47.21	260	P	P	21 32 36.3	0.0
	3.0nm,0.4s,baz=95,slow=8.2,SNR=80						
ASAR	Alice Springs	47.27	255	P	P	21 32 36.8	0.0
	3.0nm,0.7s,baz=89,slow=8.4,SNR=46						
ASAR				PcP	PcP	21 34 05.8	-1.9
	0.5nm,0.8s,baz=89,slow=5.1,SNR=3.5						
PMSA	Palmer Station	82.30	156	P	P	21 36 24.5	+0.3
	4.3nm,0.8s						
HWUT	Hardware Ranch	83.99	43	eP	P	21 36 31.6	-1.9
	0.8nm,0.4s						
DLMT	Dillon	85.30	39	eP	P	21 36 39.3	-0.7
	3.8nm,0.5s						
WALA	Waterton Lakes	86.54	35	P	P	21 36 46.1	+0.1
	1.1nm,0.8s						
SYO	Syowa Base	89.27	192⇑	eP	P	21 36 48.6	-10
YAK	Yakutsk	91.04	337	P	P	21 37 06.5	-0.3
	6.7nm,0.5s						
CHTO	Chiang Mai	91.71	289	eP	P	21 37 11.2	+0.3
	0.9nm,0.9s						
AGMN	Agassiz Nation	96.89	41	eP	P	21 37 36.6	+2.5
	19nm,0.9s						
OBN	Obninsk	135.94	334	ePKPdf	PKPdf	21 43 22.5	-0.9
KIV	Kislovodsk	139.06	317	ePKPdf	PKPdf	21 43 29.0	-0.8
CLL	Collm	146.46	350	ePKPbc	PKPbc	21 43 44.0	+0.2
BRTR	Keskin Array B	147.02	316	PKPbc	PKPbc	21 43 45.6	-0.4
	1.3nm,0.9s,baz=127,slow=4.7,SNR=3.2						
MMAI	Mount Meron Ar	148.66	304	PKPbc	PKPbc	21 43 50.3	-0.3
	0.8nm,0.5s,baz=81,slow=4.7,SNR=5.1						

IDC ***14*** *21:36:02.4±3.0, 9°.18S×107°.90E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/28, mbtmp3.9/6, Error ellipse: s-maj=144.9km s-min=19.0km az=52.0*
ISCJB ***14*** *21:36:04.8±0.5, 9°.38S±0°.07×107°.71E±0°.06, h28km, mb4.0/14, Error ellipse: s-maj=10.5km s-min=7.6km az=143.6*
NEIC ***14*** *21:36:07.6±0.6, 9°.42S×107°.69E, h35km, mb4.2/7, Error ellipse: s-maj=12.8km s-min=12.3km az=85.0*

ISC 14 21:36:06.4±0.6, 9°.48S±0°.09×107°.58E±0°.08, h28km, n21, σ1°55/19, mb4.1/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.92	7	ePn	Pn	21 36 34.3	-3.0
XMIS	Christmas Isla	2.14	242	ePn	Pb	21 36 43.2	-1.4
XMIS				eSn	Sb	21 37 09.7	-1.1
COCO	West Island	10.89	255	ePn	Pn	21 38 41.9	+1.4
KSM	Kuching	11.21	14	ePn	Pn	21 38 45.9	+1.0
WRA	Warramunga Arr	27.85	115	P	P	21 41 51.5	-2.4
	0.7nm,0.9s,baz=286,slow=11,SNR=7.7						
WRAB	Tennant Creek	27.86	115	eP	P	21 41 54.0	+0.1
	1.1nm,0.8s						
ASAR	Alice Springs	28.83	123	P	P	21 42 03.1	+0.5
	0.8nm,1.0s,baz=304,slow=8.7,SNR=4.0						
CHTO	Chiang Mai	29.37	343	P	P	21 42 09.6	+2.3
	0.4nm,0.3s						
H08S2	Diego Garcia H	34.73	270	T	T	22 19 50.9	
	baz=95,slow=75,SNR=10						
H08S3	Diego Garcia H	34.74	270	T	T	22 19 53.3	
	baz=95,slow=75,SNR=7.4						
H08S1	Diego Carcia H	34.75	270	T	T	22 19 52.2	
	baz=95,slow=75,SNR=8.8						
STKA	Stephens Creek	38.59	130	P	P	21 43 26.7	-0.4
	2.3nm,1.0s,baz=306,slow=8.7,SNR=3.3						
HNR	Honiara	51.61	95	P	P	21 45 11.2	+0.3
	25nm,0.5s						
MAJO	Matsushiro	54.08	30	P	P	21 45 29.1	+0.4
	2.6nm,0.7s						
SONM	Songino Array	57.07	359	P	P	21 45 48.9	-1.1
	0.8nm,0.4s,baz=176,slow=8.4,SNR=8.8						
ULN	Ulaanbaatar	57.09	360	eP	P	21 45 49.5	-0.8
	0.9nm,0.5s						
MKAR	Makanchi Array	60.40	340	P	P	21 46 12.8	-0.4
	1.8nm,0.5s,baz=142,slow=8.1,SNR=20						
TLY	Talaya	61.00	357	P	P	21 46 19.2	+2.0
	1.9nm,0.7s						
ZALV	Zalesovo Beam	66.06	346	P	P	21 46 48.5	-1.9
	0.6nm,0.5s,baz=146,slow=6.1,SNR=3.5						
ABKAR	Abkulak array	71.82	329	P	P	21 47 26.8	+0.4
	2.8nm,0.8s						
TSUM	Tsumeb	86.93	251	P	P	21 48 50.8	+1.2
	1.2nm,0.8s						

JMA ***14*** *21:38:33.2±0.1, 23°.49N×122°.26E, h35km, M2.7*
TAP ***14*** *21:38:34.0, 23°.49N×122°.28E, h22km±1km, ML3.4, C*

ISC 14 21:38:31.1±1.1, 23°.48N±0°.02×122°.30E±0°.02, h13km±9km, n63, σ0°68/112, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.73	289	eP	Pn	21 38 48.3	+1.1
	baz=289						
TEGC				eS	Sn	21 38 58.2	+0.1
	baz=289						
HWA	Hwalien	0.81	308	eP	Pn	21 38 48.4	+0.2
	baz=309						
ESL	Shilin	0.86	293	i P	Pn	21 38 48.7	-0.2
	baz=293						
ESL				eS	Sb	21 38 59.5	+0.2
	baz=293						
TWD	Chiawan	0.88	313	i P	Pn	21 38 49.3	+0.1
	baz=314						
TWD				S	Sb	21 39 00.3	+0.4
	baz=314						
EHY	Hungye	0.89	272	P	Pn	21 38 49.8	+0.4
	baz=271						
EHY				S	Sb	21 39 01.1	+0.7
	baz=271						
TWF1	Yuli	0.93	263	i P	Pn	21 38 50.2	+0.4
	baz=250						
TWF1				S	Sn	21 39 02.5	-0.5
	baz=250						
CHKT	Chengkung	0.93	246	eP	Pn	21 38 49.6	-0.3
	baz=234						
CHKT				S	Sg	21 39 01.1	-0.3
	baz=234						
ENA	Nanau	1.07	332	P	Pn	21 38 52.8	+0.9
	baz=321						
ENA				S	Sn	21 39 06.4	-0.2
	baz=321						
JYNG	Yonagunijimaku	1.14	31	P	Pg	21 38 53.6	+0.5
JYNG				S	Sb	21 39 07.5	+0.1
WHF	Hehuan Shan	1.15	305	P	Pg	21 38 53.8	+0.3
	baz=306						
WHF				S	Sn	21 39 08.8	-0.4
	baz=306						
YOJ	Yonaguni jima	1.18	34	P	Pg	21 38 54.2	+0.3
YOJ				eS	Sb	21 39 08.2	-0.4
TWC	Suao	1.20	340	P	Pg	21 38 54.9	+0.7
	baz=356						
TWC				S	Sg	21 39 09.8	0.0
	baz=356						
ELDTW	Lidau	1.21	257	i P	Pg	21 38 54.2	-0.2
	baz=256						
ELDTW				eS	Sb	21 39 08.4	-1.1
	baz=256						
YUS	Yu-Shan	1.23	271	P	Pg	21 38 55.7	+0.8
	baz=271						
YUS				S	Sb	21 39 10.6	+0.1
	baz=271						
NNS	Nan Shan	1.28	319	P	Pg	21 38 56.0	+0.2
	baz=320						
NNS				i S	Sb	21 39 11.2	-0.3
	baz=320						
TTN	Taitung	1.28	236	eS	Sg	21 39 13.6	+1.2
	baz=235						
TWT	Tachien	1.28	307	P	Pg	21 38 56.2	+0.3
	baz=308						
TWT				S	Sn	21 39 12.0	-0.1
	baz=308						
TWG	Pinlang	1.30	240	P	Pb	21 38 55.6	+0.2
	baz=239						
TWG				eS	Sb	21 39 10.9	-1.1
	baz=239						
ENTT	Nioudou	1.34	330	eP	Pg	21 38 56.9	0.0
	baz=321						
ENTT				eS	Sn	21 39 13.0	-0.2
	baz=321						
SMLT	Sun Moon Lake	1.34	288	P	Pg	21 38 57.0	0.0
	baz=288						
SMLT				eS	Sg	21 39 14.7	+0.3
	baz=288						
TWE	Neicheng	1.37	335	eP	Pg	21 38 57.6	+0.2
	baz=337						
TWE				eS	Sg	21 39 14.4	-0.8
	baz=337						
ALS	Alishan	1.37	272	i P	Pg	21 38 58.0	+0.5
	baz=272						
ALS				S	Sg	21 39 14.9	-0.5
	baz=272						
ILA	Ilan	1.38	339	eS	Sb	21 39 14.7	+0.4
	baz=340						
TYC	Yuchr	1.39	288	eP	Pg	21 38 57.6	-0.1
	baz=289						
STYT	Tauyuan	1.45	258	eP	Pg	21 38 58.8	-0.2
	baz=248						
STYT				S	Sn	21 39 16.1	+0.1
	baz=248						
NSK	Sanguang	1.47	325	eP	Pg	21 38 59.1	-0.3
	baz=312						
NSK				S	Sn	21 39 16.4	-0.2
	baz=312						
CHN5	Tsauling	1.49	275	P	Pg	21 39 00.2	+0.4
	baz=275						
CHN5				eS	Sg	21 39 19.5	+0.3
	baz=275						
HATJ	Hateruma jima	1.50	67	P	Pb	21 38 58.8	0.0
HATJ				S	Sn	21 39 16.8	-0.3
ECL	Taimali	1.51	235	⇓P	Pn	21 38 58.3	+0.4
	baz=247						
ECL				eS	Sn	21 39 15.8	-1.7
	baz=247						
WNT	Mingjian	1.53	285	P	Pg	21 39 01.1	+0.6
	baz=286						
WNT				eS	Sg	21 39 20.3	-0.1
	baz=286						
WTP	Ta-pu	1.56	262	P	Pg	21 39 01.2	0.0
	baz=261						
WTP				S	Sb	21 39 20.4	+0.7
	baz=261						
IRIF	Iriomote-Funau	1.57	57	P	Pb	21 38 59.9	-0.1
IRIF				S	Sb	21 39 19.3	-0.4
CHN4	Tsaushan	1.57	266	P	Pg	21 39 01.5	+0.2
	baz=266						
CHN4				S	Sg	21 39 21.6	-0.1
	baz=266						
LAY	Lan-yu	1.59	206	eP	Pn	21 38 58.7	-0.3
	baz=203						
LAY				eS	Sn	21 39 17.5	-1.8
	baz=203						
WGK	Gukeng	1.60	278	eP	Pb	21 39 00.6	0.0
	baz=278						
WGK				eS	Sg	21 39 22.5	-0.3
	baz=278						
SGST	Jiashian	1.62	256	eP	Pg	21 39 02.4	+0.1
	baz=247						
SGST				eS	Sg	21 39 22.4	-1.0
	baz=247						
TCU	Taichung	1.63	295	eP	Pg	21 39 02.5	+0.1
	baz=296						
TCU				eS	Sg	21 39 22.6	-1.0
	baz=296						
TWA	Mucha	1.63	337	S	Sb	21 39 22.0	+0.4
	baz=338						
TWQ1	Liyutan	1.64	302	eP	Pg	21 39 02.9	+0.2
	baz=303						
TWQ1				eS	Sg	21 39 23.0	-1.0
	baz=303						
CHN1	Nanshi	1.65	260	P	Pg	21 39 02.6	-0.2
	baz=260						
CHN1				S	Sg	21 39 23.7	-0.6
	baz=260						
NSTT	Nanjuang	1.65	314	eP	Pg	21 39 02.6	-0.2
	baz=316						
NSTT				S	Sb	21 39 21.8	-0.3
	baz=316						
NWF	Wu-fen Shan	1.66	344	P	Pg	21 39 02.3	-0.7
	baz=345						
NWF				eS	Sb	21 39 22.1	-0.2
	baz=345						
CHN2	Minshiung	1.67	272	eS	Sg	21 39 25.1	+0.1
	baz=272						
TWK	Hsinying	1.67	263	eP	Pg	21 39 03.0	-0.3
	baz=263						
TWK				S	Sg	21 39 24.2	-0.8
	baz=263						
NSY	Sanyi	1.69	304	eP	Pb	21 39 02.6	+0.6
	baz=305						
NSY				eS	Sg	21 39 25.2	-0.2
	baz=305						
TAW	Tawu	1.70	229	eP	Pb	21 39 02.0	-0.3
	baz=240						
TAW				eS	Sn	21 39 21.9	-0.3
	baz=240						
CHY	Chiayi	1.72	271	eS	Sg	21 39 25.3	-1.2
	baz=271						
EAST	Anshuo	1.72	231	eP	Pn	21 39 01.6	+0.8
	baz=240						
JKRS	Kuro-shima	1.74	64	P	Pb	21 39 02.4	-0.6
JKRS				S	Sn	21 39 23.3	+0.1
NCU	National Centr	1.80	326	eS	Sb	21 39 26.7	+0.3
	baz=328						
TWS1	Kuangyinshan	1.81	334	eS	Sb	21 39 26.2	-0.4
	baz=335						
CHN3	Shinhua	1.82	258	eS	Sg	21 39 30.3	+0.6
	baz=273						
SCZT	Fangliau	1.90	235	P	Pn	21 39 04.2	+1.0
	baz=234						
SCZT				eS	Sb	21 39 29.2	0.0
	baz=234						
JIJ	Ishigaki jima	1.91	62	P	Pn	21 39 04.3	+0.9
JIJ				S	Sn	21 39 26.4	-0.8
WSF	Szhu	1.91	275	eP	Pb	21 39 05.8	0.0
	baz=276						
WSF				eS	Sb	21 39 30.1	+0.5
	baz=276						
CHN8	Yiju	1.92	267	eS	Sb	21 39 30.4	+0.6
	baz=267						
HEN	Hengchun	2.05	225	eP	Pn	21 39 06.6	+1.3
	baz=223						
HEN				eS	Sn	21 39 32.2	+1.4
	baz=223						
TWK1	Hengchun	2.05	222	eP	Pn	21 39 06.0	+0.6
	baz=220						
TWK1				eS	Sn	21 39 32.2	+1.3
	baz=220						
TWP	Hsiaoliuchiu	2.11	238	eS	Sb	21 39 35.7	+0.4
	baz=229						
JISG	Ishigakijimahi	2.15	59	P	Pn	21 39 07.4	+0.7
JISG				eS	Sn	21 39 31.4	-1.8
JTJ	Tarama	2.49	62	P	Pn	21 39 12.8	+1.5
JTJ				eS	Sn	21 39 41.9	+0.4
PNG	Penghu	2.52	273	P	Pb	21 39 13.9	-2.3
	baz=273						
PNG				eS	Sn	21 39 43.1	+0.9
	baz=273						
JIRB	Irabujima	2.95	62	S	Sn	21 39 52.2	-0.8

ISK ***14*** *21:45:00.5, 38°.25N×26°.94E, h19km, MD2.5*
ISCJB ***14*** *21:45:02.3±0.8, 38°.40N±0°.04×26°.91E±0°.08, h11km±9km, Error ellipse: s-maj=10.6km s-min=6.5km az=155.9*
DDA ***14*** *21:45:02.8, 38°.36N×26°.88E, h7km, Md2.2*
CSEM ***14*** *21:45:02.8±0.2, 38°.36N×26°.84E, h16km±2km, MD2.5, Error ellipse: s-maj=6.9km s-min=4.1km az=57.0*

ISC 14 21:45:01.3±2.1, 38°.43N±0°.06×26°.92E±0°.05, h10km±17km, n17, σ0°61/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.26	255	ePG	Pb	21 45 07.6	-0.6
URLA				eSG	Sb	21 45 12.1	-0.7
URLA	Izmir	0.26	255	i P	Pb	21 45 07.8	-0.4
URLA	Izmir	0.26	255	ePg	Pb	21 45 07.6	-0.6
URLA	Izmir	0.26	255	P	Pb	21 45 07.8	-0.4
URLA				eSg	Sb	21 45 12.1	-0.7
DGB	˜zmir	0.38	185	i P	Pb	21 45 09.3	-0.8
DGB				i S	Sg	21 45 13.6	-0.2
ZEY	˜zmir	0.38	240	i P	Pb	21 45 09.7	-0.5
ZEY				i S	Sg	21 45 14.3	+0.5
DKL	Dikili	0.64	359	ePG	Pn	21 45 17.0	+0.5
DKL	Dikili	0.64	359	ePg	Pn	21 45 17.0	+0.5
CHOS	Chios island	0.68	267	ePG	Pb	21 45 15.0	-0.3
CHOS	Chios island	0.68	267	ePg	Pb	21 45 15.0	-0.3
GCAM	G?zelcaml?	0.77	161	i P	Pb	21 45 16.7	0.0
GCAM				i S	Sb	21 45 27.7	+0.5
GCAM	G?zelcaml?	0.77	161	P	Pb	21 45 16.7	0.0
GCAM				S	Sb	21 45 27.7	+0.5
AYDN	Tasoluk	1.08	135	i P	Pn	21 45 23.1	+0.5
AYDN				i S	Sb	21 45 36.4	+0.2
AYDN	Tasoluk	1.08	135	P	Pn	21 45 23.0	+0.5
AYDN				S	Sb	21 45 36.4	+0.2
SIGR	SIGRI	1.14	314	ePN	Pn	21 45 24.1	+0.8
SIGR	SIGRI	1.14	314	ePn	Pn	21 45 24.1	+0.8
KULA	Kula-Manisa	1.37	86	ePN	Pn	21 45 25.3	-1.3

SJA ***14*** *21:47:07.7±1.4, 32°.92S×69°.18W, h9km±5km, ML3.2, MW3.7*
ISCJB ***14*** *21:47:08.9±0.7, 32°.97S±0°.04×69°.02W±0°.06, h21km±6km, Error ellipse: s-maj=9.5km s-min=4.6km az=37.6*
GUC ***14*** *21:47:08.8±0.4, 32°.96S×69°.11W, h14km±4km, ML2.9*

ISC 14 21:47:08.2±1.0, 32°.94S±0°.04×69°.06W±0°.04, h27km±8km, n16, σ1°29/26, 3C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	CERRO ARCO	0.15	47	eP	Pb	21 47 13.1	-0.7
ARCO				eS	Sb	21 47 17.0	-0.4
AAGR	Agrelo	0.24	126	eP	Pb	21 47 14.8	+0.1
ASAL	Salagasta	0.40	28	eP	Pb	21 47 17.0	+0.1
AUSP	Uspallata	0.77	339	eP	Pb	21 47 22.7	-0.5
AUSP				eS	Sn	21 47 34.2	-0.2
FCH	Farellones	1.10	249⇑	i P	Pn	21 47 28.7	+0.5
FCH				i S	Sb	21 47 44.2	+1.2
FCH				IAML		21 47 45.7	
	comp=E,353nm,0.2s						
YECH	El Yeso	1.12	230⇑	i P	Pn	21 47 29.2	+0.8
YECH				i S	Sb	21 47 44.5	+1.0
YECH				IAML		21 47 45.4	
	comp=N,1μm,0.4s						
RTLS	Leoncito	1.16	350	eP	Pb	21 47 29.7	0.0
RTLS				eS	Sb	21 47 46.3	+1.8
RTLS				IAML		21 47 51.0	
	comp=Z,228nm,0.3s						
RTCV	Cerro Valdivia	1.16	22	eP	Pb	21 47 29.7	0.0
RTCV				eS	Sb	21 47 46.3	+1.9
CLCH	Cerro Calan	1.32	250⇑	i P	Pb	21 47 32.2	-0.1
CLCH				eS	Sb	21 47 50.1	+1.2
CLCH				IAML		21 47 52.1	
	comp=N,493nm,0.7s						
PEL	Peldehue	1.38	261⇓	i P	Pb	21 47 33.2	-0.1
PEL				i S	Sb	21 47 51.9	+1.2
PEL				IAML		21 47 52.3	
	comp=N,246nm,0.4s						
RCDM	Rinconada Maip	1.56	249⇓	i P	Pn	21 47 31.0	-3.2
RCDM				i S	Sn	21 47 51.9	-1.8
RCDM				IAML		21 47 52.5	
	comp=N,145nm,0.2s						
ROCH	El Roble	1.64	268⇓	i P	Pb	21 47 38.0	+0.1
ROCH				i S	Sb	21 48 00.2	+1.9
ROCH				IAML		21 48 00.9	
	comp=E,384nm,0.5s						
ROC1	El Roble	1.65	268	eP	Pn	21 47 36.8	+1.2
ROC1				eS	Sb	21 47 58.5	+0.1
AVFE	Valle Fertil	2.65	31	IAML		21 48 30.9	
	comp=Z,259nm,0.3s						
ACDV	Cuesta del Vie	2.76	359	eP	Pb	21 47 55.2	-1.9
MRA	San Martin	2.87	80	eP	Pb	21 47 58.9	+0.2

IDC 14 21:59:26.9±6.6, 7°.09S×148°.36E, h95km±54km, mb2.9/1, mb1 3.1/3, mb1mx2.9/21, mbtmp3.2/3, Error ellipse: s-maj=157.5km s-min=54.9km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.59	207	P	Pn	22 00 06.9	-0.2
	2.5nm,0.3s,baz=31,slow=12,SNR=3.9						
PMG				S	Sn	22 00 38.9	+0.9
	3.8nm,0.3s,baz=0.0,slow=20,SNR=4.9						
WRA	Warramunga Arr	18.66	225	P	P	22 03 36.6	-0.9
	0.1nm,0.3s,baz=50,slow=11,SNR=5.8						
ASAR	Alice Springs	21.55	219	P	P	22 04 08.6	-0.2
	0.5nm,0.5s,baz=55,slow=9.0,SNR=14						
TORD	Torodi Ar. Bea	146.66	283	PKPbc	PKPbc	22 18 58.4	-0.4
	0.3nm,0.5s,baz=76,slow=3.1,SNR=5.7						

CSEM ***14*** *22:00:47.3, 40°.34N×44°.67E, h8km, MD2.6*
DDA ***14*** *22:00:47.3, 40°.34N×44°.67E, h8km, Md2.6*

ISC 14 22:00:46.4±2.8, 40°.3N±0°.1×44°.68E±0°.08, h5km±12km, n7, σ0°64/14, Turkey-Georgia-Armenia border region

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

EAK	**Akyaka**	**0.92**	**297**	*i* P	**Pb**	**22 01 04.8**	**-0.1**
EAK				*i* S	**Sn**	**22 01 19.5**	**-0.3**
EAK	**Akyaka**	**0.92**	**297**	P	**Pb**	**22 01 04.8**	**-0.1**
EAK				S	**Sn**	**22 01 19.5**	**-0.3**
DIGO	**Kars**	**1.01**	**279**	*i* P	**Pg**	**22 01 05.8**	**0.0**
DIGO				*i* S	**Sb**	**22 01 20.6**	**+0.4**
DIGO	**Kars**	**1.01**	**279**	P	**Pg**	**22 01 05.8**	**0.0**
DIGO				S	**Sb**	**22 01 20.6**	**+0.4**
DGRG	**David-gareji**	**1.29**	**24**	P	**Pg**	**22 01 11.1**	**0.0**
DGRG				S	**Sn**	**22 01 30.3**	**+1.5**
DGRG	**David-gareji**	**1.29**	**24**	P	**Pn**	**22 01 10.9**	**-0.2**
DGRG				S	**Sn**	**22 01 27.7**	**-1.1**
TBLG	**Delisi**	**1.46**	**2**	P	**Pg**	**22 01 14.2**	**-0.1**
TBLG				S	**Sg**	**22 01 33.4**	**+0.1**

*ISCJB **14** 22:53:51.4±0.5, 49°.69N±0°.02×0°.78E±0°.02, h7km±2km, Error ellipse: s-maj=3.6km s-min=2.3km az=169.9*
*CSEM **14** 22:53:52.6±0.2, 49°.79N×0°.70E, h10km, ML2.8/28, Error ellipse: s-maj=3.4km s-min=2.3km az=178.0*
*LDG **14** 22:53:53.9±0.1, 49°.82N×0°.67E, h4km, Md2.8/3, Ml2.8/34, Error ellipse: s-maj=1.5km s-min=1.0km az=172.0*
*BGS **14** 22:53:53.7±1.9, 49°.86N×0°.57E, h5km, ML2.2*
ISC 14 22:53:52.8±1.1,**49°.81N**±0°.02×**0°.69E**±0°.02,**h12**km±9km, **n87**,σ1**s67**/176,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**1.09**	**348**	*e*P	**Pg**	**22 54 13.5**	**-0.2**
HMNX				*e*S	**Sg**	**22 54 26.2**	**-1.6**
HMNX				AML	AML	22 54 29.7	
	comp=N,132nm,0.3s						
HMNX				AML	AML	22 54 31.1	
	comp=E,88nm,0.5s						
HMNX	**Herstmonceux**	**1.09**	**348**	*e*P	**Pg**	**22 54 13.5**	**-0.2**
FLN	**La Foliniere**	**1.30**	**217**	*e*Pn	**Pn**	**22 54 17.4**	**+0.7**
	baz=33,SNR=1.0						
FLN	**La Foliniere**	**1.30**	**217**	*e*Pg	**Pn**	**22 54 18.4**	**+1.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**22 54 35.0**	**+0.5**
	comp=E,27nm,0.2s,baz=29						
FLN	**La Foliniere**	**1.30**	**217**	*e*Pn	**Pn**	**22 54 17.4**	**+0.7**
	SNR=1.0						
FLN	**La Foliniere**	**1.30**	**217**	*e*Pg	**Pn**	**22 54 18.4**	**+1.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**22 54 35.0**	**+0.5**
	comp=E,14nm,0.2s						
LDF	**La Druitiere**	**1.32**	**204**	*e*Pn	**Pn**	**22 54 18.0**	**+0.8**
	SNR=1.0						
LDF	**La Druitiere**	**1.32**	**204**	*e*Pg	**Pn**	**22 54 19.0**	**+1.8**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**22 54 36.2**	**+0.8**
	comp=E,31nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**1.32**	**204**	*e*Pn	**Pn**	**22 54 18.0**	**+0.8**
	SNR=1.0						
LDF	**La Druitiere**	**1.32**	**204**	*e*Pg	**Pn**	**22 54 19.0**	**+1.8**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**22 54 36.2**	**+0.8**
	comp=E,15nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.75**	**216**	*e*Pn	**Pn**	**22 54 23.7**	**+0.8**
	SNR=1.0						
GRR	**Gorron**	**1.75**	**216**	*e*Pg	**Pb**	**22 54 25.8**	**+1.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 54 44.2**	**-0.9**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**22 54 49.0**	**+2.3**
	comp=E,20nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.75**	**216**	*e*Pn	**Pn**	**22 54 23.7**	**+0.8**
	SNR=1.0						
GRR	**Gorron**	**1.75**	**216**	*e*Pg	**Pb**	**22 54 25.8**	**+1.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**22 54 44.2**	**-0.9**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**22 54 49.0**	**+2.3**
	comp=E,9.9nm,0.2s,SNR=1.0						
JRS	**Jersey**	**1.92**	**252**	*e*P	**Pn**	**22 54 25.5**	**+0.3**
JRS				*e*S	**Sn**	**22 54 49.2**	**-0.1**
JRS	**Jersey**	**1.92**	**252**	*e*P	**Pn**	**22 54 25.5**	**+0.3**
JRS				*e*S	**Sn**	**22 54 49.2**	**-0.1**
JSA	**Saint Aubin**	**1.97**	**253**	*e*P	**Pn**	**22 54 25.5**	**-0.4**
JSA				*e*S	**Sn**	**22 54 49.4**	**-1.1**
JSA				AML	AML	22 54 56.2	
	comp=N,11nm,0.3s						
JSA				AML	AML	22 54 56.8	
	comp=E,15nm,0.2s						
JSA	**Saint Aubin**	**1.97**	**253**	*e*P	**Pn**	**22 54 25.5**	**-0.4**
JSA				*e*S	**Sn**	**22 54 49.4**	**-1.1**
	comp=E,15nm,0.2s						
BAIF	**Baives**	**2.29**	**82**	*e*Pn	**Pn**	**22 54 30.4**	**0.0**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**22 54 57.5**	**-1.0**
	comp=E,6.3nm,0.2s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**22 55 06.6**	**+0.4**
	comp=E,7.6nm,0.3s						
BAIF	**Baives**	**2.29**	**82**	*e*Pn	**Pn**	**22 54 30.4**	**0.0**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**22 54 57.5**	**-1.0**
	comp=E,3.2nm,0.2s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**22 55 06.6**	**+0.4**
	comp=E,3.8nm,0.3s						
SGMF	**Saint Gilles**	**2.64**	**235**	*e*Pn	**Pn**	**22 54 35.5**	**+0.3**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**22 55 05.5**	**-1.7**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**22 55 16.3**	**-1.3**
	comp=E,12nm,0.4s,SNR=1.0						
SGMF	**Saint Gilles**	**2.64**	**235**	*e*Pn	**Pn**	**22 54 35.5**	**+0.3**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**22 55 05.5**	**-1.7**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**22 55 16.3**	**-1.3**
	comp=E,5.9nm,0.4s,SNR=1.0						
GIVF	**Givet**	**2.69**	**82**	*e*Pn	**Pn**	**22 54 36.0**	**+0.2**
GIVF	**Givet**	**2.69**	**82**	*e*Pg	**Pg**	**22 54 44.1**	**-0.1**
GIVF				*e*Sn	**Sn**	**22 55 07.8**	**-0.5**
	comp=E,6.6nm,0.3s						
GIVF				*e*Sg	**Sg**	**22 55 18.4**	**-0.6**
	comp=E,7.9nm,0.3s						
GIVF	**Givet**	**2.69**	**82**	*e*Pn	**Pn**	**22 54 36.0**	**+0.2**
GIVF	**Givet**	**2.69**	**82**	*e*Pg	**Pg**	**22 54 44.1**	**-0.1**
GIVF				*e*Sn	**Sn**	**22 55 07.8**	**-0.5**
	comp=E,3.3nm,0.3s						
GIVF				*e*Sg	**Sg**	**22 55 18.4**	**-0.6**
	comp=E,4.0nm,0.3s						
HYF	**Humbligny**	**2.85**	**152**	*e*Sn	**Sn**	**22 55 11.1**	**-1.3**
HYF				*e*Sg	**Sg**	**22 55 23.8**	**-0.5**
HYF	**Humbligny**	**2.85**	**152**	*e*Sn	**Sn**	**22 55 11.1**	**-1.3**
HYF				*e*Sg	**Sg**	**22 55 23.8**	**-0.5**
ROSF	**Rostrenen**	**2.99**	**242**	*e*Pn	**Pn**	**22 54 40.2**	**+0.1**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**22 55 14.8**	**-1.1**
ROSF				*e*Sg	**Sg**	**22 55 27.2**	**-1.7**
	comp=E,5.6nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.99**	**242**	*e*Pn	**Pn**	**22 54 40.2**	**+0.1**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**22 55 14.8**	**-1.1**
ROSF				*e*Sg	**Sg**	**22 55 27.2**	**-1.7**
	comp=E,2.8nm,0.3s,SNR=1.0						
DYA	**Yadsworthy**	**3.04**	**284**	*e*P	**Pn**	**22 54 40.2**	**-0.5**
DYA	**Yadsworthy**	**3.04**	**284**	*e*P	**Pn**	**22 54 40.2**	**-0.5**
MEZF	**Maizieres J'vi**	**3.15**	**113**	*e*Pn	**Pn**	**22 54 42.6**	**+0.4**
	baz=296,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.15**	**113**	*e*Pg	**Pg**	**22 54 52.6**	**-0.4**
MEZF				*e*Sn	**Sn**	**22 55 18.0**	**-1.7**
	SNR=1.0						
MEZF				*e*Sg	**Sb**	**22 55 32.1**	**+5.2**
	comp=E,7.6nm,0.4s,baz=315,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.15**	**113**	*e*Pn	**Pn**	**22 54 42.6**	**+0.4**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**3.15**	**113**	*e*Pg	**Pg**	**22 54 52.6**	**-0.4**
MEZF				*e*Sn	**Sn**	**22 55 18.0**	**-1.7**
	SNR=1.0						
MEZF				*e*Sg	**Sb**	**22 55 32.1**	**+5.2**
	comp=E,3.8nm,0.4s,SNR=1.0						
QUIF	**Quistinic**	**3.17**	**235**	*e*Pn	**Pn**	**22 54 42.6**	**+0.1**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**22 55 18.1**	**-2.2**
QUIF				*e*Sg	**Sg**	**22 55 33.0**	**-1.6**
	comp=E,5.8nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**3.17**	**235**	*e*Pn	**Pn**	**22 54 42.6**	**+0.1**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**22 55 18.1**	**-2.2**
QUIF				*e*Sg	**Sg**	**22 55 33.0**	**-1.6**
	comp=E,2.9nm,0.3s,SNR=1.0						
MCH1	**Michaelchurch**	**3.21**	**315**	*e*P	**Pn**	**22 54 41.4**	**-1.6**
MCH1	**Michaelchurch**	**3.21**	**315**	*e*P	**Pn**	**22 54 41.4**	**-1.6**
MFF	**Saint Martin d**	**3.25**	**190**	*e*Pn	**Pn**	**22 54 44.4**	**+0.7**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**22 55 20.1**	**-2.2**
	SNR=1.0						
MFF				*e*Sg	**Sb**	**22 55 35.1**	**+5.0**
	comp=E,4.3nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**3.25**	**190**	*e*Pn	**Pn**	**22 54 44.4**	**+0.7**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**22 55 20.1**	**-2.2**
	SNR=1.0						
MFF				*e*Sg	**Sb**	**22 55 35.1**	**+5.0**
	comp=E,2.2nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**3.28**	**118**	*e*Pn	**Pn**	**22 54 44.6**	**+0.6**
SFTF	**Sexfontaines**	**3.28**	**118**	*e*Pg	**Pg**	**22 54 55.1**	**-0.5**
SFTF				*e*Sn	**Sn**	**22 55 21.7**	**-1.3**
SFTF				*e*Sg	**Sg**	**22 55 37.2**	**-0.9**
	comp=E,7.0nm,0.2s						
SFTF	**Sexfontaines**	**3.28**	**118**	*e*Pn	**Pn**	**22 54 44.6**	**+0.6**
SFTF	**Sexfontaines**	**3.28**	**118**	*e*Pg	**Pg**	**22 54 55.1**	**-0.5**
SFTF				*e*Sn	**Sn**	**22 55 21.7**	**-1.3**
SFTF				*e*Sg	**Sg**	**22 55 37.2**	**-0.9**
	comp=E,3.5nm,0.2s						
LOR	**Lormes**	**3.30**	**139**	*e*Pn	**Pn**	**22 54 45.2**	**+0.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 55 37.6**	**-1.1**
	comp=E,4.3nm,0.2s,baz=328,SNR=1.0						
LOR	**Lormes**	**3.30**	**139**	*e*Pn	**Pn**	**22 54 45.2**	**+0.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 55 37.6**	**-1.1**
	comp=E,2.2nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**3.33**	**145**	*e*Pn	**Pn**	**22 54 45.6**	**+1.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 55 38.1**	**-1.4**
	comp=E,6.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.33**	**145**	*e*Pn	**Pn**	**22 54 45.6**	**+1.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 55 38.1**	**-1.4**
	comp=E,3.3nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.50**	**149**	*e*Pn	**Pn**	**22 54 47.6**	**+0.5**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.50**	**149**	*e*P	**Pn**	**22 54 50.5**	**+3.4**
AVF				*e*Sn	**Sn**	**22 55 26.3**	**-2.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 55 43.8**	**-1.4**
	comp=E,4.4nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.50**	**149**	*e*Pn	**Pn**	**22 54 47.6**	**+0.5**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.50**	**149**	*e*P	**Pn**	**22 54 50.5**	**+3.4**
AVF				*e*Sn	**Sn**	**22 55 26.3**	**-2.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 55 43.8**	**-1.4**
	comp=E,2.2nm,0.5s,SNR=1.0						
HTL	**Hartland**	**3.52**	**292**	*e*P	**Pn**	**22 54 45.3**	**-2.0**
HTL	**Hartland**	**3.52**	**292**	*e*P	**Pn**	**22 54 45.3**	**-2.0**
PAGF	**Fort de Pagny**	**3.53**	**109**	*e*Pn	**Pn**	**22 54 47.9**	**+0.4**
PAGF	**Fort de Pagny**	**3.53**	**109**	*e*Pg	**Pg**	**22 54 59.7**	**-0.7**
PAGF				*e*Sg	**Sg**	**22 55 44.5**	**-1.6**
	comp=E,0.7nm,0.3s						
PAGF	**Fort de Pagny**	**3.53**	**109**	*e*Pn	**Pn**	**22 54 47.9**	**+0.4**
PAGF	**Fort de Pagny**	**3.53**	**109**	*e*Pg	**Pg**	**22 54 59.7**	**-0.7**
PAGF				*e*Sg	**Sg**	**22 55 44.5**	**-1.6**
	comp=E,0.3nm,0.3s						
BGF	**Bois d'Agland**	**3.56**	**155**	*e*Pn	**Pn**	**22 54 49.0**	**+1.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 55 27.8**	**-2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 55 46.0**	**-0.9**
	comp=E,24nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.56**	**155**	*e*Pn	**Pn**	**22 54 49.0**	**+1.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 55 27.8**	**-2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 55 46.0**	**-0.9**
	comp=E,12nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.66**	**163**	*e*Pg	**Pg**	**22 55 02.1**	**-0.9**
TCF				*e*Sg	**Sg**	**22 55 49.3**	**-1.1**
	comp=E,7.1nm,0.3s						
TCF	**Toulx Ste Croi**	**3.66**	**163**	*e*Pg	**Pg**	**22 55 02.1**	**-0.9**
TCF				*e*Sg	**Sg**	**22 55 49.3**	**-1.1**
	comp=E,3.5nm,0.3s						
SMF	**Signal de Mont**	**3.80**	**145**	*e*Pn	**Pn**	**22 54 52.0**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 55 33.1**	**-2.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 55 53.3**	**-1.4**
	comp=E,5.1nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.80**	**145**	*e*Pn	**Pn**	**22 54 52.0**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 55 33.1**	**-2.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 55 53.3**	**-1.4**
	comp=E,2.5nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.14**	**114**	*e*Pn	**Pn**	**22 54 55.9**	**0.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 55 40.6**	**-3.7**
	comp=E,3.6nm,0.2s,SNR=1.0						
HAU				*e*Sg	**Sg**	**22 56 03.7**	**-2.0**
	comp=E,3.1nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**4.14**	**114**	*e*Pn	**Pn**	**22 54 55.9**	**0.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 55 40.6**	**-3.7**
	comp=E,1.8nm,0.2s,SNR=1.0						
HAU				*e*Sg	**Sg**	**22 56 03.7**	**-2.0**
	comp=E,1.5nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**4.53**	**114**	*e*Pn	**Pn**	**22 55 01.4**	**+0.1**
HINF				*e*Sn	**Sn**	**22 55 49.9**	**-4.0**
HINF				*e*Sg	**Sg**	**22 56 17.6**	**-0.6**
	comp=E,3.3nm,0.3s						
HINF	**Hinteralfeld**	**4.53**	**114**	*e*Pn	**Pn**	**22 55 01.4**	**+0.1**
HINF				*e*Sn	**Sn**	**22 55 49.9**	**-4.0**
HINF				*e*Sg	**Sg**	**22 56 17.6**	**-0.6**
	comp=E,1.6nm,0.3s						
RJF	**Les Rejaudoux**	**4.54**	**173**	*e*Pn	**Pn**	**22 55 01.3**	**0.0**
RJF				*e*Sn	**Sn**	**22 55 51.1**	**-2.9**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**22 56 16.2**	**-2.2**
	comp=E,3.5nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.54**	**173**	*e*Pn	**Pn**	**22 55 01.3**	**0.0**
RJF				*e*Sn	**Sn**	**22 55 51.1**	**-2.9**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**22 56 16.2**	**-2.2**
	comp=E,1.8nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**4.54**	**105**	*e*Pn	**Pn**	**22 55 01.7**	**+0.2**
CDF				*e*Sg	**Sg**	**22 56 17.5**	**-1.1**
	comp=E,2.7nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**4.54**	**105**	*e*Pn	**Pn**	**22 55 01.7**	**+0.2**
CDF				*e*Sg	**Sg**	**22 56 17.5**	**-1.1**
	comp=E,1.4nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**4.82**	**129**	*e*Pn	**Pn**	**22 55 06.3**	**+1.0**
CABF	**La Chapelle**	**4.82**	**129**	*e*Pg	**Pg**	**22 55 23.4**	**-1.7**
CABF				*e*Sg	**Sg**	**22 56 26.3**	**-1.1**
	comp=E,1.1nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**4.82**	**129**	*e*Pn	**Pn**	**22 55 06.3**	**+1.0**
CABF	**La Chapelle**	**4.82**	**129**	*e*Pg	**Pg**	**22 55 23.4**	**-1.7**
CABF				*e*Sg	**Sg**	**22 56 26.3**	**-1.1**
	comp=E,0.6nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**4.87**	**180**	*e*Pn	**Pn**	**22 55 06.0**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**22 56 27.0**	**-2.0**
	comp=E,6.5nm,0.4s						
LFF	**La Frestale**	**4.87**	**180**	*e*Pn	**Pn**	**22 55 06.0**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**22 56 27.0**	**-2.0**
	comp=E,3.2nm,0.4s						
CAF	**Calviac**	**4.97**	**169**	*e*Pn	**Pn**	**22 55 07.0**	**-0.3**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**22 56 01.8**	**-2.9**
	comp=E,0.9nm,0.2s						
CAF				*e*Sg	**Sg**	**22 56 30.4**	**-1.9**
	comp=E,4.6nm,0.4s						
CAF	**Calviac**	**4.97**	**169**	*e*Pn	**Pn**	**22 55 07.0**	**-0.3**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**22 56 01.8**	**-2.9**
	comp=E,0.4nm,0.2s						
CAF				*e*Sg	**Sg**	**22 56 30.4**	**-1.9**
	comp=E,2.3nm,0.4s						
VIVF	**Saint-Julien-l**	**5.64**	**150**	*e*Pn	**Pn**	**22 55 16.0**	**-0.5**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**5.64**	**150**	*e*Pn	**Pn**	**22 55 16.0**	**-0.5**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**6.03**	**142**	*e*Pn	**Pn**	**22 55 23.6**	**+1.8**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**6.03**	**142**	*e*Pn	**Pn**	**22 55 23.6**	**+1.8**
	SNR=1.0						
EPF	**Esparros**	**6.78**	**182**	*e*Sn	**Sn**	**22 56 44.3**	**-5.0**
	comp=E,0.6nm,0.2s,SNR=1.0						

*ISCJB **14** 23:06:01.2±1.2, 5°.2S±0°.1×145°.7E±0°.2, h64km, mb3.9/4, Error ellipse: s-maj=25.8km s-min=13.5km az=161.9*
*IDC **14** 23:06:03.7±5.4, 5°.14S×145°.69E, h72km±46km, mb3.7/4, mb1 4.0/6, mb1mx3.6/26, mbtmp4.1/6, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.7/19, Error ellipse: s-maj=57.1km s-min=29.0km az=119.0*
ISC 14 23:06:02.5±1.0,**5°.1S**±0°.1×**145°.7E**±0°.2,**h64**km,**n10**, σ1**s23**/11,**mb3.9/4**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**161**	P	**Pn**	**23 07 10.1**	**+2.0**
	28nm,0.3s,baz=360,slow=5.0,SNR=25						
PMG				S	**Sn**	**23 07 57.0**	**-2.2**
	56nm,0.3s,baz=178,slow=17,SNR=13						
WRA	**Warramunga Arr**	**18.41**	**216**	P	**Pn**	**23 10 12.8**	**-0.5**
	0.7nm,0.3s,baz=38,slow=11,SNR=18						
WRA				PcP	**PcP**	**23 14 42.2**	**+0.7**
	0.1nm,0.3s,baz=24,slow=2.0,SNR=5.8						
GUMO	**Guam**	**18.61**	**358**	LR	LR	23 16 14.7	
	comp=Z,24nm,21.7s,baz=124,slow=33						
ASAR	**Alice Springs**	**21.65**	**210**	P	**P**	**23 10 48.0**	**+0.2**
	1.8nm,0.5s,baz=35,slow=8.7,SNR=26						
STKA	**Stephens Creek**	**26.88**	**188**	P	**P**	**23 11 37.1**	**-0.4**
	1.7nm,0.4s,baz=351,slow=7.7,SNR=6.4						
KSRS	**Korea Array**	**45.48**	**340**	LR	LR	23 32 06.1	
	comp=Z,18nm,20.1s,baz=220,slow=34						
VNDA	**Vanda**	**72.86**	**176**	P	**P**	**23 17 24.3**	**+0.2**
	1.6nm,1.0s,baz=312,slow=7.8,SNR=5.8						
ILAR	**Eielson Array**	**85.20**	**23**	P	**P**	**23 18 31.4**	**-0.3**
	0.8nm,0.6s,baz=247,slow=5.4,SNR=11						
ILAR				pP	**sP**	**23 18 55.9**	**-0.6**
	0.8nm,0.8s,baz=247,slow=5.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**143.60**	**285**	PKP	**PKPdf**	**23 25 30.0**	**-1.2**
	0.2nm,0.4s,baz=67,slow=3.7,SNR=6.9						
DBIC	**Dimbokro**	**150.66**	**274**	PKPbc	**PKPbc**	**23 25 49.2**	**+0.7**
	1.3nm,0.5s,baz=90,slow=4.0,SNR=3.5						

*CSEM **14** 23:22:37.0, 43°.40N×21°.23E, h2km, ML1.4*
BEO 14 23:22:37.0±0.3,**43°.40N**×**21°.23E**,**h2**km±4km,**M1.4/1**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.20**	**204**	*e*Pg	Pg	23 22 40.1	-0.7
BOVS	**Bovan**	**0.42**	**56**	*e*Pg	Pg	23 22 44.0	-1.0
BOVS	**Bovan**	**0.42**	**56**	*e*Pg	Pg	23 22 44.0	-1.0
GRUS	**Gruza**	**0.61**	**323**	*e*Pg	Pg	23 22 47.7	-1.1
GRUS				*e*Sg	Sg	23 22 57.1	+0.3
GRUS	**Gruza**	**0.61**	**323**	*e*Pg	Pg	23 22 47.7	-1.1
GRUS				*e*Sg	Sg	23 22 57.1	+0.3
BARS	**Barje**	**0.72**	**143**	*e*Pg	Pg	23 22 50.2	-0.7
BARS				*e*Sg	Sg	23 23 00.4	+0.2
BARS	**Barje**	**0.72**	**143**	*e*Pg	Pg	23 22 50.2	-0.7
BARS				*e*Sg	Sg	23 23 00.4	+0.2
IVAS	**Ivanjica**	**0.80**	**283**	*e*Pg	Pg	23 22 51.7	-0.7
IVAS				*e*Sg	Sg	23 23 03.4	+0.6
IVAS	**Ivanjica**	**0.80**	**283**	*e*Pg	Pg	23 22 51.7	-0.7
IVAS				*e*Sg	Sg	23 23 03.4	+0.6
ZAGS	**Zajecar**	**0.84**	**60**	*e*Pg	Pg	23 22 51.3	-1.7
ZAGS				*e*Sg	Sg	23 23 03.6	-0.3
ZAGS	**Zajecar**	**0.84**	**60**	*e*Pg	Pg	23 22 51.3	-1.7
ZAGS				*e*Sg	Sg	23 23 03.6	-0.3
SVIS	**Svilajnac**	**0.86**	**359**	*e*Pg	Pg	23 22 52.5	-1.1
SVIS				*e*Sg	Sg	23 23 04.7	-0.1
SJES	**Sjenica**	**0.93**	**262**	*e*Pg	Pg	23 22 53.2	-1.6
SJES				*e*Sg	Sg	23 23 06.6	-0.2
TRUS	**Trudelj**	**1.02**	**324**	*e*Pg	Pg	23 22 55.6	-0.9
TRUS				*e*Sg	Sg	23 23 10.0	+0.3
TRUS	**Trudelj**	**1.02**	**324**	*e*Pg	Pg	23 22 55.6	-0.9
TRUS				*e*Sg	Sg	23 23 10.0	+0.3
ZAPS	**Zavoj**	**1.03**	**97**	*e*Pg	Pg	23 22 56.4	-0.4
ZAPS				*e*Sg	Sg	23 23 09.9	-0.2
KUBS	**Kucevo**	**1.06**	**17**	*e*Pg	Pg	23 22 55.3	-2.1
KUBS				*e*Sg	Sg	23 23 09.6	-1.5
KUBS	**Kucevo**	**1.06**	**17**	*e*Pg	Pg	23 22 55.3	-2.1
KUBS				*e*Sg	Sg	23 23 09.6	-1.5
DIVS	**Divibare**	**1.14**	**308**	*e*Pg	Pg	23 22 58.3	-0.5
DIVS				*e*Sg	S

STEP	**BALIKESIR_Sava**	**1.71 222**	*i* P	**Pb**	**23 24 45.8**	**0.0**
KULA	**Kula-Manisa**	**2.18 191**	*e*PN	**Pn**	**23 24 51.2**	**+0.7**
KULA	**Kula-Manisa**	**2.18 191**	*e*Pn	**Pn**	**23 24 51.3**	**+0.7**
EDRB	**Edirne**	**2.20 303**	*e*PN	**Pn**	**23 24 52.0**	**+1.3**
EDRB	**Edirne**	**2.20 303**	*e*Pn	**Pn**	**23 24 52.1**	**+1.3**

MEX 14 23:34:31.5±0.7, 17°.91N×101°.49W, h18km±357km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.30**	**175**	*i* P	Pg	23 34 36.9	-1.2
ZIIG				*e*S	Sg	23 34 41.5	-1.1
ARIG	**Puente Sto Nin**	**1.15**	**71**	*e*P	Pn	23 34 49.7	-3.0
ARIG				*i* S	Sb	23 35 02.6	-4.8
R15V		**2.68**	**298**	*i* P	Pn	23 35 10.8	-3.0

ISCJB 14 23:45:28.0±0.6, 18°.74S±0°.04×69°.10W±0°.09, h142km±7km, mb3.8/3, Error ellipse: s-maj=14.1km s-min=6.0km az=9.0
GUC 14 23:45:28.3±0.5, 18°.73S×69°.17W, h146km±4km, ML4.0
IDC 14 23:45:30.1±1.8, 18°.66S×68°.85W, h144km±15km, mb3.5/4, mb1 3.6/7, mb1mx3.4/25, mbtmp4.0/7, Error ellipse: s-maj=40.4km s-min=17.4km az=114.0

ISC 14 23:45:28.5±0.8, 18°.73S±0°.05×68°.98W±0°.08, h129km±9km, n20, σ1°.58/31, mb3.8/3, 2C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.71**	**235**	⇓*i* P	**Pn**	**23 45 50.2**	**+1.0**
MNMC				*i* S	**Sn**	**23 46 06.6**	**+1.7**
MNMC				IAML		23 46 07.2	
	comp=N,7μm,0.7s						
ARCH	**Arica**	**1.27**	**280**	*e*S	**Sn**	**23 46 13.0**	**-0.4**
PB12	**IPOC Station P**	**1.28**	**275**	⇓*i* P	**Pn**	**23 45 53.9**	**-0.3**
PB12				*i* S	**Sn**	**23 46 13.1**	**-0.8**
PSGC	**Pisagua**	**1.38**	**231**	*e*P	**Pn**	**23 45 55.2**	**-0.2**
PSGC				*i* S	**Sn**	**23 46 15.6**	**-0.3**
HMBC	**Humberstone**	**1.77**	**209**	⇓*i* P	**Pn**	**23 46 00.0**	**+0.3**
HMBC				*i* S	**Sn**	**23 46 24.2**	**+0.5**
HMBC				IAML		23 46 28.2	
	comp=N,594nm,0.5s						
PB01	**IPOC Station P**	**2.35**	**192**	⇓*i* P	**Pn**	**23 46 07.8**	**+0.8**
PB01				*i* S	**Sn**	**23 46 36.6**	**+0.2**
PB01				IAML		23 46 37.7	
	comp=E,653nm,0.2s						
LPAZ	**La Paz**	**2.56**	**19**	P	**Pn**	**23 46 11.7**	**+1.6**
	comp=E,11nm,0.3s,baz=191,slow=12,SNR=324						
LPAZ				S	**Sn**	**23 46 42.8**	**+1.0**
	comp=E,3.5nm,0.3s,baz=253,slow=19,SNR=14						
LPAZ	**La Paz**	**2.56**	**19**	⇓*i* P	**Pn**	**23 46 11.6**	**+1.6**
PB02	**IPOC Station P**	**2.72**	**198**	⇑*i* P	**Pn**	**23 46 11.9**	**+0.3**
PB02				IAML		23 46 50.8	
	comp=E,513nm,0.7s						
PB09	**IPOC Station P**	**3.06**	**185**	*e*P	**Pn**	**23 46 17.5**	**+1.4**
PB07	**IPOC Station P**	**3.10**	**196**	⇑*i* P	**Pn**	**23 46 17.4**	**+0.7**
PB07				*i* S	**Sn**	**23 46 51.7**	**-2.1**
PB07				IAML		23 46 59.0	
	comp=N,288nm,0.2s						
PB04	**IPOC Station P**	**3.75**	**197**	⇓*i* P	**Pn**	**23 46 25.4**	**+0.2**
PB04				*i* S	**Sn**	**23 47 05.5**	**-3.5**
PB04				IAML		23 47 12.6	
	comp=E,201nm,0.5s						
LVC	**Limon Verde**	**3.86**	**179**	P	**Pn**	**23 46 28.8**	**+2.0**
	comp=E,351nm,0.3s,baz=5.9,slow=9.6,SNR=119						
LVC				S	**Sn**	**23 47 12.0**	**+0.1**
	comp=E,1μm,0.3s,baz=270,slow=20,SNR=23						
PB06	**IPOC Station P**	**4.00**	**188**	*e*P	**Pn**	**23 46 28.4**	**0.0**
PB06				*e*S	**Sn**	**23 47 12.0**	**-2.8**
SIV	**San Ignacio**	**8.03**	**71**	P	**Pn**	**23 47 20.9**	**-1.5**
	comp=E,1.7nm,0.3s,baz=272,slow=14,SNR=14						
SIV				S	**Sn**	**23 48 47.6**	**-4.1**
	baz=3.5,slow=19,SNR=2.8						
BDFB	**Brasilia**	**20.26**	**85**	P	**P**	**23 49 55.1**	**+1.0**
	comp=E,1.2nm,0.3s,baz=281,slow=11,SNR=6.6						
PLCA	**Paso Flores**	**21.97**	**183**	P	**P**	**23 50 13.3**	**+1.2**
	comp=E,2.2nm,0.6s,baz=31,slow=13,SNR=4.6						
SNAA	**Sanae**	**64.91**	**161**	P	**P**	**23 55 54.1**	**+0.3**
	comp=E,1.0nm,0.6s,baz=285,slow=7.1,SNR=11						
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	**P**	**23 57 03.3**	**-1.5**
	comp=E,0.7nm,0.4s,baz=250,slow=5.1,SNR=28						
WRA	**Warramunga Arr**	**135.28**	**212**	PKP	**PKPdf**	**00 04 34.2**	**+0.4**
	comp=E,0.2nm,0.5s,baz=155,slow=1.8,SNR=3.0						

DDA 15 00:06:08.0, 40°.36N×44°.61E, h6km, Md2.6
CSEM 15 00:06:08.0, 40°.36N×44°.61E, h6km, MD2.6

ISC 15 00:06:05.7±3.0, 40°.2N±0°.1×44°.70E±0°.09, h6km±12km, n8, σ0°.52/15, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.96**	**300**	*i* P	**Pn**	**00 06 25.8**	**-0.1**
EAK				*i* S	**Sn**	**00 06 39.8**	**-0.2**
EAK	**Akyaka**	**0.96**	**300**	P	**Pn**	**00 06 25.8**	**-0.1**
EAK				S	**Sn**	**00 06 39.8**	**-0.2**
DIGO	**Kars**	**1.04**	**282**	*i* P	**Pg**	**00 06 25.8**	**+0.2**
DIGO				*i* S	**Sb**	**00 06 40.2**	**0.0**
DIGO	**Kars**	**1.04**	**282**	P	**Pg**	**00 06 25.8**	**+0.2**
DIGO				S	**Sb**	**00 06 40.2**	**0.0**
DGRG	**David-gareji**	**1.34**	**22**	P	**Pg**	**00 06 31.0**	**-0.2**
DGRG				S	**Sn**	**00 06 50.4**	**+1.2**
DGRG	**David-gareji**	**1.34**	**22**	P	**Pg**	**00 06 31.1**	**-0.2**
DGRG				S	**Sn**	**00 06 49.8**	**+0.7**
TBLG	**Delisi**	**1.52**	**1**	P	Pn	00 06 26.2	-7.2
TBLG				S	**Sn**	**00 06 53.2**	**-0.3**
GUDG	**Gudauri**	**2.26**	**356**	P	**Pb**	**00 06 46.5**	**-0.4**
GUDG				S	**Sg**	**00 07 18.7**	**+0.5**

ISCJB 15 00:07:35.9±0.5, 27°.73N±0°.04×111°.61W±0°.05, h10km, mb3.3/1, MS3.2/7, Error ellipse: s-maj=6.8km s-min=4.9km az=32.9
IDC 15 00:07:37.7±1.6, 27°.71N×111°.52W, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.6/40, mbtmp3.4/7, ML3.6/5, MS3.4/11, Ms1 3.3/11, ms1mx3.1/30, Error ellipse: s-maj=24.1km s-min=15.2km az=30.0
MEX 15 00:07:38.9±0.4, 27°.67N×111°.70W, h10km, MD4.2

ISC 15 00:07:38.4±0.8, 27°.71N±0°.05×111°.64W±0°.05, h10km, n16, σ1°.88/17, MS3.2/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.66**	**234**	*i* P	**Pg**	**00 07 49.2**	**-1.9**
SRIG				*i* S	**Sg**	**00 07 57.7**	**-2.1**
HSIG		**1.44**	**25**	*e*P	**Pn**	**00 08 01.6**	**-3.0**
HSIG				*e*S	**Sn**	**00 08 20.8**	**-2.8**
LPIG	**La Paz**	**3.79**	**161**	Pn	**Pn**	**00 08 38.0**	**+1.2**
	9.0nm,0.3s,baz=202,slow=19,SNR=2.5						
LPIG				Sn	**Sn**	**00 09 21.0**	**-0.5**
	9.5nm,0.3s,baz=16,slow=7.4,SNR=2.6						
LPIG				Lg	Lg	00 09 48.7	
	38nm,0.3s,baz=205,slow=3.0,SNR=6.3						
LPIG				LR	LR	00 09 58.3	
	comp=Z,373nm,20.1s,baz=266,slow=38						
SPIG	**San Pedro Mart**	**4.71**	**316**	*e*P	**Pn**	**00 08 47.7**	**-2.2**
PFO	**Pinyon Flats O**	**7.20**	**326**	Pn	**Pn**	**00 09 25.9**	**+2.1**
	0.1nm,0.3s,baz=145,slow=16,SNR=1.8						
PFO				Pg	**Pg**	**00 09 57.6**	**+1.4**
	0.2nm,0.3s,baz=135,slow=8.6,SNR=3.4						
PFO				LR	LR	00 12 08.2	
	comp=Z,301nm,18.0s,baz=150,slow=37						
TXAR	**Lajitas Array**	**7.20**	**75**	Pn	**Pn**	**00 09 23.4**	**-0.4**
	0.5nm,0.3s,baz=249,slow=12,SNR=35						
TXAR				Pg	**Pg**	**00 09 55.5**	**-0.9**
	0.7nm,0.3s,baz=259,slow=14,SNR=7.6						
TXAR				Sn	**Sn**	**00 10 43.9**	**-1.9**
	0.2nm,0.3s,baz=264,slow=16,SNR=2.9						
TXAR				Lg	Lg	00 11 14.2	
	0.6nm,0.3s,baz=265,slow=22,SNR=3.3						
ANMO	**Albuquerque**	**8.47**	**30**	Pn	**Pn**	**00 09 42.1**	**+0.8**
	0.1nm,0.3s,baz=172,slow=7.1,SNR=2.1						
ANMO				Sn	**Sn**	**00 11 14.6**	**-2.5**
	0.1nm,0.3s,baz=31,slow=18,SNR=1.8						
ANMO				Lg	Lg	00 12 02.0	
	1.1nm,0.3s,baz=48,slow=15,SNR=3.3						
ANMO				LR	LR	00 12 36.0	
	comp=Z,172nm,18.0s,baz=344,slow=36						
PDAR	**Pinedale Array**	**15.12**	**6**	Pn	**P**	**00 11 17.4**	**-0.2**
	0.1nm,0.3s,baz=170,slow=11,SNR=4.0						
PDAR				Lg	Lg	00 15 37.3	
	baz=190,slow=30,SNR=2.8						
PDAR				LR	LR	00 17 20.8	
	comp=Z,306nm,18.2s,baz=198,slow=39						
NEW	**Newport**	**20.96**	**350**	P	**P**	**00 12 22.2**	**+0.7**
	3.3nm,0.9s,baz=184,slow=12,SNR=3.2						
NEW				LR	LR	00 20 49.9	
	comp=Z,111nm,20.8s,baz=174,slow=38						
TKL	**Tuckaleechee C**	**24.94**	**64**	LR	LR	00 23 08.4	
	comp=Z,71nm,18.6s,baz=276,slow=38						
ULM	**Lac du Bonnet**	**25.52**	**24**	LR	LR	00 22 43.8	
	comp=Z,92nm,18.6s,baz=23,slow=36						
BBB	**Bella Bella**	**27.38**	**338**	LR	LR	00 25 51.1	
	comp=Z,49nm,20.0s,baz=132,slow=40						
SADO	**Sadowa**	**30.99**	**48**	LR	LR	00 26 46.1	
	comp=Z,82nm,18.8s,baz=310,slow=37						
DLBC	**Dease Lake**	**33.29**	**342**	LR	LR	00 27 37.7	
	comp=Z,109nm,19.5s,baz=167,slow=36						
YKA	**Yellowknife Ar**	**34.84**	**358**	LR	LR	00 31 23.8	
	comp=Z,8.1nm,18.3s,baz=180,slow=41						
ILAR	**Eielson Array**	**43.26**	**339**	P	**P**	**00 15 40.1**	**+0.3**
	0.7nm,1.1s,baz=142,slow=8.9,SNR=3.1						

ISCJB 15 00:20:26.0±0.6, 1°.87S±0°.09×127°.7E±0°.1, h10km, mb4.4/8, Error ellipse: s-maj=21.1km s-min=10.2km az=152.8
IDC 15 00:20:26.2±10.0, 1°.82S×127°.82E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=162.6km s-min=136.6km az=121.0
NEIC 15 00:20:31.4±0.6, 1°.88S×127°.66E, h35km, mb4.3/7, Error ellipse: s-maj=20.0km s-min=9.9km az=62.0
DJA 15 00:21:01.6±0.6, 4°.S±4°.×12°.8E±°., h108km±4km, M3.8/7, mb4.7/1, MLv3.4/7

ISC 15 00:20:27.7±0.8, 1°.96S±0°.08×127°.55E±0°.10, h10km, n15, σ3°.01/15, mb4.5/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.83**	**160**	S	**Sg**	**00 21 29.6**	**+2.9**
MSAI	**Masohi**	**1.95**	**135**	S	**Sg**	**00 21 35.6**	**+5.3**
BNDI	**Bandanaira**	**3.46**	**137**	P	**Pg**	**00 21 32.5**	**-1.6**
BNDI				S	**Sn**	**00 21 55.3**	**-7.5**
FAKI	**Fak Fak**	**4.79**	**102**	P	**Pg**	**00 22 00.9**	**+1.4**
WRAB	**Tennant Creek**	**19.06**	**160**	*e*P	**Pn**	**00 24 53.2**	**+2.1**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**19.07**	**160**	P	**P**	**00 24 49.8**	**-0.6**
	0.3nm,0.3s,baz=340,slow=11,SNR=14						
PMG	**Port Moresby**	**20.85**	**112**	P	Pn	00 25 10.7	-1.7
	2.3nm,0.3s						
ASAR	**Alice Springs**	**22.44**	**165**	P	**P**	**00 25 27.4**	**+0.4**
	1.0nm,0.3s,baz=342,slow=11,SNR=20						
NACB	**Ninganchiao**	**26.61**	**348**	*e*P	**P**	**00 26 06.6**	**+0.1**
	14nm,0.7s						
YHNB	**Yeheng**	**27.14**	**348**	*e*P	**P**	**00 26 11.4**	**+0.2**
	13nm,0.7s						
STKA	**Stephens Creek**	**32.57**	**157**	P	**P**	**00 27 00.3**	**+0.9**
	4.2nm,1.1s,baz=342,slow=13,SNR=2.8						
HNR	**Honiara**	**33.05**	**104**	P	**P**	**00 27 02.3**	**-1.4**
	60nm,0.6s						
CHTO	**Chiang Mai**	**34.89**	**308**	*e*P	**P**	**00 27 20.9**	**+1.2**
	0.6nm,0.6s						
MAJO	**Matsushiro**	**39.57**	**14**	*e*P	**P**	**00 27 57.7**	**-1.5**
	3.7nm,0.8s						
PALK	**Pallekele**	**47.64**	**282**	P	**P**	**00 29 04.7**	**+0.1**
	5.7nm,0.9s						

GUC 15 00:32:48.0±0.3, 29°.51S×72°.55W, h40km±21km, ML3.6, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.66**	**114**	*i* P	Pn	00 33 17.7	+2.9
TLL				*i* S	Sn	00 33 39.2	+4.2
TLL				IAML		00 33 42.6	
	comp=E,986nm,0.5s						
LCO	**Las Campanas**	**1.69**	**73**	⇑*i* P	Pn	00 33 16.8	+1.5
LCO				*i* S	Sn	00 33 38.7	+2.8
LCO				IAML		00 33 39.9	
	comp=N,512nm,0.3s						
ROCH	**El Roble**	**3.70**	**159**	*i* P	Pn	00 33 44.3	+1.5
ROCH				*i* S	Sn	00 34 27.2	+1.9
ROCH				IAML		00 34 30.9	
	comp=N,85nm,0.4s						
PEL	**Peldehue**	**3.96**	**157**	*i* P	Pn	00 33 47.5	+1.2
PEL				*i* S	Sn	00 34 32.6	+1.0
PEL				IAML		00 34 39.2	
	comp=N,90nm,0.5s						

MEX 15 00:47:24.3±0.6, 27°.63N×111°.63W, h4km±14km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.63**	**240**	*e*P	Pg	00 47 35.7	-0.7
SRIG				*e*S	Sg	00 47 45.1	+0.5
HSIG		**1.50**	**23**	*e*P	Pn	00 47 49.2	-2.9
HSIG				*e*S	Sn	00 48 06.9	-5.2

ISCJB 15 01:10:17.6±0.4, 32°.24N±0°.02×115°.24W±0°.02, h24km±3km, Error ellipse: s-maj=3.9km s-min=3.4km az=13.2
NEIC 15 01:10:19.0±0.0, 32°.23N×115°.27W, h6km, ML3.8(ECX), ML3.8(PAS), After ECX.
ECX 15 01:10:19.0±0.5, 32°.22N×115°.28W, h6km, MD3.7, ML3.9, Fault plane solution: NP1:φs=0.00000°, δ90.00000°, λ0.00000°.
MEX 15 01:10:19.7±0.4, 32°.32N×115°.14W, h19km±6km, MD3.9

ISC 15 01:10:16.9±1.0, 32°.21N±0°.02×115°.28W±0°.02, h12km±8km, n57, σ1°.08/87, 3C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**18**	*e*P	**Pb**	**01 10 22.6**	**-0.2**
MBIG				*e*S	**Sg**	**01 10 25.1**	**+0.5**
MBIG	**Mexicali**	**0.21**	**18**	⇓*i* P	**Pb**	**01 10 22.5**	**-0.2**
CPBX	**Cerro Prieto**	**0.21**	**354**	⇓*e*P	**Pb**	**01 10 22.4**	**-0.3**
CPBX				IAML		01 10 26.8	
	comp=E,112μm,0.3s						
ERPC	**Ernies Place**	**0.63**	**329**	*e*P	**Pb**	**01 10 30.2**	**+0.4**
COA	**Coachella**	**0.67**	**11**	⇓*i* P	**Pb**	**01 10 30.7**	**+0.2**
COA	**Coachella**	**0.67**	**11**	*i* P	**Pb**	**01 10 30.7**	**+0.2**
YUH	**Yuha Desert**	**0.70**	**309**	⇓*i* P	**Pb**	**01 10 30.9**	**-0.2**
YUH	**Yuha Desert**	**0.70**	**309**	*i* P	**Pb**	**01 10 30.9**	**-0.2**
YMD	**Yuma Desert**	**0.71**	**61**	⇑*i* P	**Pb**	**01 10 31.3**	**+0.1**
YMD	**Yuma Desert**	**0.71**	**61**	*i* P	**Pb**	**01 10 31.3**	**+0.1**
COK	**Cook Ranch**	**0.74**	**329**	⇓*i* P	**Pb**	**01 10 32.0**	**+0.2**
COK	**Cook Ranch**	**0.74**	**329**	*i* P	**Pb**	**01 10 32.0**	**+0.2**
ECBX	**El Chinero**	**0.76**	**165**	⇓*i* P	**Pn**	**01 10 32.3**	**-1.1**
ECBX				*e*S	**Sn**	**01 10 43.4**	**-1.4**
RMX	**La Rumorosa**	**0.79**	**300**	*i* P	**Pb**	**01 10 32.1**	**-0.5**
RMX				*e*S	**Sg**	**01 10 42.3**	**-0.2**
RMX	**La Rumorosa**	**0.79**	**300**	*i* P	**Pb**	**01 10 32.1**	**-0.5**
RMX				*e*S	**Sg**	**01 10 42.5**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.83**	**302**	P	**Pb**	**01 10 33.4**	**+0.1**
	baz=126,SNR=322						
IKP				S	**Sb**	**01 10 44.5**	**0.0**
	baz=126						
IKP	**In-Ko-Pah, Jac**	**0.83**	**302**	⇓*i* P	**Pb**	**01 10 33.4**	**+0.1**
SWSC	**Sam W. Stewart**	**0.86**	**329**	P	**Pg**	**01 10 33.1**	**-0.4**
	baz=151,SNR=298						
SWSC				S	**Sb**	**01 10 45.5**	**+0.2**
	baz=151						
GLA	**Glamis**	**0.92**	**24**	P	**Pg**	**01 10 34.3**	**-0.5**
	baz=203,SNR=457						
GLA				S	**Sg**	**01 10 46.4**	**-0.5**
	baz=203						
ZAX	**El Zacaton**	**1.09**	**231**	*e*P	**Pn**	**01 10 38.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.17**	**188**	*e*P	**Pg**	**01 10 39.8**	**+0.3**
SPIG				*e*S	**Sn**	**01 10 55.7**	**+0.3**
CBX	**Cerro Bola**	**1.18**	**276**	*e*P	**Pg**	**01 10 39.9**	**+0.2**
CBX				*e*S	**Sg**	**01 10 54.7**	**-0.3**
CBX	**Cerro Bola**	**1.18**	**276**	*e*P	**Pg**	**01 10 39.8**	**+0.2**
CBX				⇓*e*		01 10 58.4	
CBX				IAML		01 10 58.4	
	comp=E,3μm,0.5s						
CBX	**Cerro Bola**	**1.18**	**276**	*e*P	**Pg**	**01 10 39.8**	**+0.2**
CBX				*e*		01 10 58.4	
MONP2	**Monument Peak**	**1.19**	**306**	P	**Pb**	**01 10 38.7**	**-0.7**
	baz=128,SNR=339						
MONP2				S	**Sb**	**01 10 54.5**	**-0.4**
	baz=128						
TJIG	**Tijuana**	**1.21**	**281**	*e*P	**Pg**	**01 10 39.8**	**-0.3**
TJIG				*e*S	**Sb**	**01 10 55.0**	**-0.2**
TJIG	**Tijuana**	**1.21**	**281**	*i* P	**Pg**	**01 10 39.6**	**-0.4**
CCX	**Cícese**	**1.23**	**254**	*e*P	**Pg**	**01 10 40.8**	**+0.3**
ECNX	**Esteban Cantu**	**1.25**	**244**	⇑*e*P	**Pg**	**01 10 40.5**	**-0.4**
BAR	**Barrett**	**1.27**	**292**	⇓*e*P	**Pb**	**01 10 40.7**	**-0.1**
PBX	**Punta Banda**	**1.31**	**250**	⇑*e*P	**Pg**	**01 10 41.5**	**-0.7**
PBX	**Punta Banda**	**1.31**	**250**	*e*P	**Pg**	**01 10 41.5**	**-0.7**
BC3	**Big Chuckawall**	**1.45**	**354**	P	**Pn**	**01 10 42.1**	**-1.0**
	baz=175,SNR=150						
BC3				S	**Sn**	**01 11 01.5**	**-0.7**
	baz=175						
Y12C	**Blythe**	**1.67**	**22**	P	**Pn**	**01 10 45.0**	**-0.9**
	baz=202,SNR=168						
Y12C				S	**Sn**	**01 11 05.5**	**-1.8**
	baz=202						
109C	**Camp Elliot, M**	**1.69**	**294**	P	**Pn**	**01 10 45.1**	**-1.1**
	baz=115,SNR=54						
109C				Sb	**Sb**	**01 11 09.8**	**+0.7**
	baz=115						
TPFO	**Pinon Flats**	**1.71**	**325**	P	**Pn**	**01 10 45.7**	**-1.0**
	baz=146,SNR=76						
PFO	**Pinyon Flats O**	**1.72**	**325**	P	**Pn**	**01 10 45.9**	**-0.9**
	baz=146,SNR=73						
PFO				S	**Sn**	**01 11 08.2**	**-0.6**
	baz=146						
PFO	**Pinyon Flats O**	**1.72**	**325**	*e*Pn	**Pn**	**01 10 45.6**	**-1.1**
PFO				*e*Sn	**Sb**	**01 11 09.5**	**-0.6**
BELC	**Belle Mtn. Jos**	**1.89**	**342**	P	**Pn**	**01 10 48.5**	**-0.6**
	baz=162,SNR=66						
IRM	**Iron Mountain**	**1.95**	**3**	P	**Pn**	**01 10 49.2**	**-0.7**
	baz=183						
214A	**Organ Pipe Nat**	**2.11**	**96**	P	**Pn**	**01 10 51.3**	**-0.7**
	baz=276						
214A	**Organ Pipe Nat**	**2.11**	**96**	*e*Pn	**Pn**	**01 10 51.2**	**-0.8**
214A				*e*Pg	**Pg**	**01 10 57.3**	**0.0**
214A				*e*Sg	**Sg**	**01 11 24.1**	**-0.6**
MURC	**Murrieta**	**2.13**	**311**	P	**Pn**	**01 10 51.9**	**-0.4**
	baz=132						
GMRC	**Granite Mounta**	**2.59**	**353**	P	**Pn**	**01 10 58.5**	**-0.3**
	baz=173						
BFSC	**Mount Baldy Ra**	**2.84**	**316**	P	**Pn**	**01 11 01.8**	**-0.4**
	baz=136						
BFSC				Sb	**Sb**	**01 11 44.7**	**+2.1**
	baz=136						
PASC	**Pasadena Art C**	**3.13**	**310**	*e*Pn	**Pn**	**01 11 06.3**	**+0.2**
PASC				*e*Pg	**Pg**	**01 11 14.7**	**-2.2**
PASC				*e*Sg	**Sb**	**01 11 53.8**	**+3.2**
TUC	**Tucson**	**3.81**	**87**	*e*Pn	**Pn**	**01 11 15.5**	**0.0**
TUC				*e*Pg	**Pg**	**01 11 27.2**	**-2.6**
TUC				*e*Sn	**Sn**	**01 12 00.5**	**+0.3**
TUC				*e*Sg	**Sg**	**01 12 18.1**	**-1.1**
DAC	**Darwin (Calif)**	**4.49**	**335**	*e*Pn	**Pn**	**01 11 26.2**	**+1.2**
DAC				*e*Pg	**Pb**	**01 11 39.1**	**+3.4**
WUAZ	**Wupatki**	**4.63**	**43**	*e*Pn	**Pn**	**01 11 28.5**	**+1.6**
W18A	**Petrified Fore**	**5.46**	**56**	*e*Pn	**Pn**	**01 11 40.1**	**+1.9**
	comp=E,22nm,0.6s						
W18A				*e*Sg	**Sg**	**01 13 11.5**	**-0.6**
R11A	**Troy Canyon, C**	**6.13**	**358**	*e*Pn	**Pn**	**01 11 49.2**	**+1.7**
	comp=E,5.8nm,0.7s						
R11A				*e*Pg	**Pg**	**01 12 13.0**	**-1.4**
R11A				*e*Sg	**Sg**	**01 13 31.8**	**-2.0**
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn	**Pn**	**01 11 51.1**	**+0.6**
	comp=E,16nm,0.3s						
121A				*e*Sg	**Sg**	**01 13 40.9**	**+0.2**
MVCO	**Mesa Verde**	**7.49**	**46**	*e*Pn	**Pn**	**01 12 08.6**	**+2.4**
	comp=E,6.7nm,0.6s						
ANMO	**Albuquerque**	**7.85**	**67**	*e*Pn	**Pn**	**01 12 12.9**	**+1.8**
	comp=E,3.5nm,1.1s						
PV01	**Paradox Valley**	**8.07**	**41**	*e*Pn	**Pn**	**01 12 16.8**	**+2.7**
	comp=E,65nm,0.8s						
PV04	**Paradox Valley**	**8.07**	**38**	*e*Pn	**Pn**	**01 12 15.5**	**+1.3**
PV04				*e*Lg	Lg	01 14 24.8	
MNTX	**Cornudas Mount**	**8.42**	**91**	*e*Pn	**Pn**	**01 12 19.3**	**+0.5**
	comp=E,1.2nm,0.5s						
MNTX				*e*Sn	**Sn**	**01 13 54.3**	**+0.4**
MNTX				*e*Lg	Lg	01 14 44.4	

IDC 15 01:21:21.4±2.1, 6°.55S×148°.02E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/26, mbtmp3.2/3, ML0.7/1, Error ellipse: s-maj=81.1km s-min=27.7km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.97**	**197**	Pn	Pn	01 22 09.2	-0.6
	1.0nm,0.3s,baz=164,slow=19,SNR=2.4						
PMG				Sn	Sn	01 22 47.6	+1.4
	4.5nm,0.3s,baz=22,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**18.81**	**224**	P	P	01 25 42.5	-0.3
	0.2nm,0.3s,baz=48,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**21.77**	**217**	P	P	01 26 15.3	+0.3
	0.5nm,0.5s,baz=52,slow=9.3,SNR=11						
GERES	**GERESS Array B**	**122.93**	**326**	PKP	PKPdf	01 40 20.4	+0.5
	0.4nm,0.6s,baz=34,slow=3.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.21**	**284**	PKPbc	PKPdf	01 41 03.4	-0.4
	0.2nm,0.4s,baz=77,slow=3.5,SNR=8.7						

IDC 15 01:21:28.2±7.3, 20°.52S×177°.96W, h517km±69km, mb3.2/7, mb1 3.4/7, mb1mx3.2/21, mbtmp4.0/7, Error ellipse: s-maj=56.5km s-min=28.7km az=127.0

**ISC 15 01:21:29.

TNCL	Tunceli-Merkez	0.50	224	P	Pb	01 51 13.4	-0.6
TNCL				S	Sb	01 51 20.2	-1.0
BINT	Bingol	0.71	147	*e*Pg	Pg	01 51 16.5	-0.6
BINT				*e*Sg	Sb	01 51 27.3	0.0
BNGB	Bing¨¶l	0.72	132	*e*PG	Pg	01 51 16.5	-0.8
BNGB				*e*SG	Sb	01 51 27.3	-0.2
PTK	Pertek	0.74	219	*e*PG	Pb	01 51 17.9	-0.2
PTK				*e*SG	Sb	01 51 28.3	0.0
PTK	Pertek	0.74	219	*e*Pg	Pb	01 51 18.0	-0.2
PTK				*e*Sg	Sb	01 51 28.3	0.0
KELT	Kelkit	0.88	320	*i* P	Pg	01 51 19.8	-0.6
KELT				*i* S	Sn	01 51 34.7	+0.4
KELT	Kelkit	0.88	320	P	Pg	01 51 19.8	-0.6
KEMA	Kemaliye	1.18	260	*i* P	Pn	01 51 25.7	+0.2
KEMA				*i* S	Sn	01 51 42.9	+1.4
KEMA	Kemaliye	1.18	260	P	Pn	01 51 25.7	+0.2
KEMA				S	Sn	01 51 42.9	+1.4

WEL 15 01:55:02.7±0.1, 43°.48S×172°.12E, h6km, ML3.5/16, 4C-4D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.16	338	⇓PG	Pg	01 55 05.7	-0.2
OXZ				SG	Sg	01 55 08.2	+0.2
OXZ				AML	AML	01 55 08.5	
OXZ				AML	AML	01 55 08.6	
OXZ				AML	AML	01 55 08.6	
CRLZ	Canterbury Las	0.38	105	PG	Pg	01 55 10.2	+0.2
CRLZ				SG	Sg	01 55 15.8	+0.8
CRLZ				AML	AML	01 55 16.1	
MQZ	McQueen's Vall	0.45	121	⇑PG	Pg	01 55 11.4	0.0
MQZ				*e*SG	Sg	01 55 18.1	+0.8
MQZ				AML	AML	01 55 20.5	
LTZ	Lake Taylor	0.70	9	⇓P*	Pg	01 55 16.4	+0.2
LTZ				AML	AML	01 55 27.6	
RPZ	Rata Peaks	0.81	252	⇑P*	Pg	01 55 18.2	0.0
RPZ				AML	AML	01 55 34.6	
RPZ				AML	AML	01 55 34.7	
INZ	Inchbonnie	0.90	326	⇑P*	Pg	01 55 19.9	0.0
WVZ	Waitaha Valley	1.09	291	⇓P*	Pg	01 55 23.4	-0.1
WVZ				AML	AML	01 55 41.1	
WVZ				AML	AML	01 55 45.2	
KHZ	Kahutara	1.48	45	⇑PN	Pn	01 55 28.1	-1.8
KHZ				AML	AML	01 56 01.1	
KHZ				AML	AML	01 56 01.1	
LBZ	Lake Benmore	1.67	236	PN	Pn	01 55 31.3	-1.2
LBZ				AML	AML	01 55 58.8	
LBZ				AML	AML	01 56 00.0	
LBZ				AML	AML	01 56 00.9	
FOZ	Fox Glacier	1.68	267	PN	Pn	01 55 32.6	0.0
FOZ				AML	AML	01 56 00.7	
FOZ				AML	AML	01 56 03.5	
DSZ	Denniston Nort	1.74	352	PN	Pn	01 55 32.3	-1.3
DSZ				AML	AML	01 56 00.1	
DSZ				AML	AML	01 56 00.2	
DSZ				AML	AML	01 56 00.7	
DSZ				AML	AML	01 56 02.5	
THZ	Tophouse	1.81	19	⇓PN	Pn	01 55 32.7	-1.7
THZ				AML	AML	01 56 05.7	
THZ				AML	AML	01 56 17.0	
ODZ	Otahua Downs	1.89	214	PN	Pn	01 55 33.7	-1.9
ODZ				AML	AML	01 56 03.7	
ODZ				AML	AML	01 56 06.9	
ODZ				AML	AML	01 56 13.7	
NNZ	Nelson	2.44	23	PN	Pn	01 55 40.7	-2.4
TUWZ	Tuamarina	2.45	34	PN	Pn	01 55 41.8	-1.4
JCZ	Jackson Bay	2.49	255	PN	Pn	01 55 43.0	-0.8
JCZ				AML	AML	01 56 28.6	
QRZ	Quartz Range	2.67	7	PN	Pn	01 55 45.1	-1.1
QRZ				AML	AML	01 55 55.4	
QRZ				AML	AML	01 55 58.0	
QRZ				AML	AML	01 56 30.0	
EAZ	Earnscleugh	2.67	228	PN	Pn	01 55 45.0	-1.3
EAZ				AML	AML	01 56 31.8	
EAZ				AML	AML	01 56 37.4	
DUWZ	D'Urville Isla	2.99	27	PN	Pn	01 55 50.1	-0.6
TUZ	Tuapeka	3.05	215	PN	Pn	01 55 49.9	-1.5
TUZ				AML	AML	01 56 42.4	
TUZ				AML	AML	01 56 45.5	
MLZ	Mavora Lakes	3.43	235	PN	Pn	01 55 55.4	-1.4
SYZ	Scrubby Hill	3.72	214	PN	Pn	01 55 59.4	-1.2
MRZ	Mangataiinoka R	3.81	44	PN	Pn	01 55 57.8	-4.1
APZ	The Paps	4.45	220	PN	Pn	01 56 09.4	-1.4

*ISCJB **15** 01:59:08.2±0.2, 20°.79S±0°.02×68°.54W±0°.03, h144km±2km, mb4.4/27, Error ellipse: s-maj=5.4km s-min=3.8km az=160.4*
*SJA **15** 01:59:08.6±0.8, 20°.80S×68°.50W, h140km±10km, ML4.1, MW4.1*
*NEIC **15** 01:59:08.6±0.3, 20°.71S×68°.33W, mb4.3/15, Error ellipse: s-maj=9.1km s-min=6.3km az=92.0*
NEIC Felt [II] at Alto Hospicio and Iquique, Chile.
*BJI **15** 01:59:08.0, 20°.80S×68°.50W, h140km, mB5.1/4*
*IDC **15** 01:59:09.2±0.7, 20°.63S×68°.29W, h127km±6km, mb4.4/14, mb1 4.4/17, mb1mx4.2/25, mbtmp4.8/17, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=15.4km s-min=10.8km az=88.0*
*GUC **15** 01:59:09.4±0.4, 20°.80S×68°.74W, h142km±3km, ML4.6*
*SCB **15** 01:59:09.1±0.7, 20°.55S×68°.17W, h124km, Ml4.8/1, Error ellipse: s-maj=25.3km s-min=5.3km az=47.0*

ISC 15 01:59:08.7±0.5, 20°.77S±0°.03×68°.52W±0°.04, h138km±4km, n114, σ1§90/137, mb4.5/27, 4C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.95	253	⇓*i* P	Pn	01 59 31.8	-0.2
PB01				*i* S	Sn	01 59 48.9	-0.8
PB01				IAML		01 59 50.2	
	comp=E,28μm,0.5s						
PB01	IPOC Station P	0.95	253	*e*Pn	Pn	01 59 31.8	-0.2
PB01				*e*Sn	Sn	01 59 48.9	-0.8
PB09	IPOC Station P	1.23	213	⇓*i* P	Pn	01 59 35.1	+0.4
PB09				*i* S	Sn	01 59 54.6	0.0
PB09				IAML		01 59 56.2	
	comp=E,11μm,1.1s						
HMBC	Humberstone	1.38	291	⇑*i* P	Pn	01 59 36.1	-0.1
HMBC				*i* S	Sn	01 59 56.0	-1.1
HMBC				IAML		01 59 58.5	
	comp=E,11μm,0.4s						
LVC	Limon Verde	1.87	191	P	Pn	01 59 42.4	+0.5
	comp=E,11μm,0.3s,baz=14,slow=9.1,SNR=2485						
LVC				S	Sn	02 00 07.0	-0.4
	comp=E,6μm,0.3s,baz=194,slow=16,SNR=21						
LVC	Limon Verde	1.87	191	*e*P	Pn	01 59 42.5	+0.5
LVC				*e*S	Sn	02 00 07.5	+0.1
LVC	Limon Verde	1.87	191	*e*Pn	Pn	01 59 42.5	+0.5
LVC				*e*Sn	Sn	02 00 05.5	-1.9
PSGC	Pisagua	1.91	307	⇑*i* P	Pn	01 59 42.1	0.0
PSGC				*i* S	Sn	02 00 07.0	-0.8
PSGC				IAML		02 00 08.8	
	comp=N,4μm,1.3s						
MNMC	Minye Minye	1.92	328	⇑*i* P	Pn	01 59 43.4	+0.9
MNMC				*i* S	Sn	02 00 08.9	+0.6
PB04	IPOC Station P	2.18	224	⇓*i* P	Pn	01 59 45.2	-0.3
PB04				*i* S	Sn	02 00 12.9	-0.7
PB04				IAML		02 00 16.4	
	comp=N,2μm,0.7s						
PB04	IPOC Station P	2.18	224	*e*Pn	Pn	01 59 45.1	-0.3
PB04				*e*Sn	Sn	02 00 12.6	-1.1
MOCB	Mochara	2.73	101	⇑*i*Pn	Pn	01 59 53.6	+1.0
MOCB				*e*Sn	Sn	02 00 26.7	+0.4
	comp=N,2μm,0.8s						
YJA	Yavi	3.12	117	*e*P	Pn	01 59 58.6	+1.0
YJA				IAML		01 59 59.6	
	comp=Z,171nm,0.6s						
YJA				*e*S	Sn	02 00 36.3	+1.0
PB10	IPOC Station P	3.32	214	*e*Pn	Pn	01 59 59.6	-0.2
PB10				*e*Sn	Sn	02 00 37.4	-1.9
HJA	Humahuaca	3.77	131	*e*P	Pn	02 00 07.2	+1.2
HJA				IAML		02 00 07.8	
	comp=Z,573nm,0.4s						
BBOJ	La Paz, Jacaqu	3.79	5	⇓*i*Pn	Pn	02 00 08.7	+2.3
BBOE	La Paz, Chanca	3.97	7	*e*Pn	Pn	02 00 10.6	+1.8
BBOD	La Paz, Gloria	4.11	359	*e*Pn	Pn	02 00 13.1	+2.4
LPAZ	La Paz	4.47	5	P	Pn	02 00 17.1	+1.6
	comp=Z,22nm,0.3s,baz=171,slow=6.9,SNR=407						
LPAZ				S	Sn	02 01 08.7	+1.3
	comp=Z,5.1nm,0.3s,baz=90,slow=19,SNR=2.6						
LPAZ	La Paz	4.47	5	*e*P	Pn	02 00 17.1	+1.6
LPAZ	La Paz	4.47	5	*e*Pn	Pn	02 00 17.1	+1.6
BBOB	La Paz, Bander	4.62	5	*e*Pn	Pn	02 00 18.8	+1.4
AZAP	Zapla	4.69	138	*e*P	Pn	02 00 18.1	+0.1
AZAP				IAML		02 00 20.8	
	comp=Z,117nm,0.6s						
SLA	San Lorenzo	4.81	145	*e*P	Pn	02 00 21.0	+1.4
SLA				IAML		02 00 22.7	
	comp=Z,399nm,0.7s						
FSA	Cafayete	5.80	157	*e*P	Pn	02 00 33.6	+0.8
FSA				IAML		02 00 37.4	
	comp=Z,24nm,0.7s						
AHML	Horco Molle	6.66	155	*e*P	Pn	02 00 44.4	+0.3
AHML				IAML		02 00 45.5	
	comp=Z,41nm,0.6s						
LCO	Las Campanas	8.44	193	*e*Pn	Pn	02 01 04.2	-4.0
LCO				*e*Sn	Sn	02 02 33.3	-8.8
SIV	San Ignacio	8.52	57	P	Pn	02 01 05.7	-3.4
	comp=Z,45nm,0.3s,baz=255,slow=11,SNR=362						
SIV				S	Sn	02 02 29.0	-15
	baz=37,slow=20,SNR=2.3						
SIV				LR	LR	02 04 32.1	
	comp=Z,80nm,18.6s,baz=138,slow=39						
SIV	San Ignacio	8.52	57	*e*P	Pn	02 01 05.5	-3.6
CPUP	Villa Florida	11.65	120	P	Pn	02 01 48.9	-1.9
	comp=Z,1.4nm,0.3s,baz=307,slow=12,SNR=64						
CPUP	Villa Florida	11.65	120	*e*Pn	Pn	02 01 49.1	-1.7
NNA	Nana	11.83	316	P	Pn	02 01 53.3	0.0
	comp=Z,1.1nm,0.3s,baz=148,slow=12,SNR=3.0						
NNA	Nana	11.83	316	*e*Pn	Pn	02 01 53.0	-0.3
ROC1	El Roble	12.36	190	*e*Pn	Pn	02 02 00.6	+0.4
SAML	Samuel	12.83	24	*e*Pn	Pn	02 02 03.6	-2.6
GO05	HualaæØ	14.50	191	*e*Pn	Pn	02 02 25.4	-2.0
TRQA	Tornquist	18.13	163	*e*P	P	02 03 10.2	0.0
	comp=Z,31nm,0.6s						
SPB	Sao Paulo	19.72	102	*e*P	P	02 03 26.7	-0.9
	comp=Z,21nm,0.9s						
PLCA	Paso Flores	19.97	185	P	Pn	02 03 32.0	-1.4
	comp=Z,17nm,0.7s,baz=36,slow=12,SNR=13						
PLCA	Paso Flores	19.97	185	*e*P	Pn	02 03 32.3	-1.1
	comp=Z,25nm,0.8s						
BDFB	Brasilia	20.13	79	P	P	02 03 31.2	-1.0
	comp=Z,0.3nm,0.3s,baz=66,slow=11,SNR=5.6						
BDFB	Brasilia	20.13	79	*e*P	P	02 03 31.3	-0.8
	comp=Z,6.0nm,1.0s						
PTGA	Pitinga	21.60	24	P	P	02 03 46.3	-1.5
	comp=Z,45nm,0.3s,baz=204,slow=14,SNR=174						
PTGA				S	S	02 07 33.7	-4.9
	comp=Z,4.5nm,0.8s,baz=270,slow=20,SNR=5.1						
OTAV	Otavalo	23.03	334	*e*P	P	02 04 00.9	-1.5
CMBC	Cumbal	23.42	336	*e*P	P	02 04 11.7	+5.6
GUVC	San Jose del G	23.52	350	*e*P	P	02 04 08.3	+1.9
CRUC	La Cruz	23.69	339	*e*P	pP	02 04 39.3	+3.6
BETC	Betania	24.28	343	*e*P	P	02 04 16.0	+2.7
POPC	Popayan, Colom	24.51	340	*e*P	pP	02 04 46.1	+1.8
VILC	Villavicencio,	25.25	348	*e*P	P	02 04 24.1	+1.9
CHIC	Chingaza	25.76	348	*e*P	P	02 04 28.1	+0.9
YOPC	Yopal, Colombi	26.24	351	*e*P	P	02 04 31.4	+0.2
RUSC	La Rusia	26.87	350	*e*P	P	02 04 38.2	+0.9
RUSC	La Rusia	26.87	350	*e*P	P	02 04 39.0	+1.7
	comp=Z,11nm,1.1s						
BARC	Barichara	27.58	350	*e*P	P	02 04 42.2	-1.1
HELC	Santa Helena	27.66	345	*e*P	P	02 04 43.9	-0.3
HELC	Santa Helena	27.66	345	*e*P	P	02 04 44.6	+0.4
	comp=Z,18nm,0.6s						
MAPC	Malpelo	27.77	331	*e*P	P	02 04 38.8	-6.0
PAMC	Pamplona, Colo	28.24	351	*e*P	P	02 04 49.5	+0.1
ZARC	Zaragoza, Cauc	28.77	347	*e*P	P	02 04 52.3	-1.3
SDV	Santo Domingo	29.55	356	P	P	02 05 00.9	+0.3
	comp=Z,4.6nm,0.5s,baz=280,slow=12,SNR=3.1						
MOTC	Monteria, Cord	30.19	346	*e*P	P	02 05 07.0	+0.8
SJCC	San Jacinto, C	31.17	347	*e*P	P	02 05 17.2	+2.3
URIC	Uribia, Colomb	32.45	354	*e*P	P	02 05 23.9	-2.0
USHA	Ushuaia	34.01	180	P	P	02 05 41.5	+2.5
	comp=Z,46nm,0.8s,baz=337,slow=2.1,SNR=3.9						
SVB	Belmont	34.58	13	*e*P	P	02 05 42.9	-1.5
	comp=Z,103nm,1.1s						
BBGH	Gun Hill	34.83	15	*e*P	P	02 05 44.3	-2.3
	comp=Z,1μm,1.4s						
RCBR	Riachuelo	34.94	69	P	P	02 05 47.5	-0.1
	comp=Z,3.4nm,0.5s,baz=227,slow=4.4,SNR=4.3						
RCBR	Riachuelo	34.94	69	*e*P	P	02 05 46.0	-1.7
	comp=Z,10.0nm,1.0s						
TRMF	Trois Ilets	35.84	12	*e*P	P	02 05 54.7	-0.5
ZAM	Aeronautique	35.88	12	*e*P	P	02 05 55.3	-0.2
MVM	Montagne Vaucl	35.89	13	*e*P	P	02 05 55.4	-0.3
FDF	Fort de France	36.02	12	*e*P	P	02 05 56.5	-0.3
PML	Morne Lenard	36.06	12	*e*P	P	02 05 57.3	+0.2
GBMF	Grand Be	36.08	12	*e*P	P	02 05 58.0	+0.7
PCM	Pelee Case Pet	36.09	12	*e*P	P	02 05 57.1	-0.2
PCM	Pelee Case Pet	36.09	12	*e*P	P	02 05 57.4	+0.1
BAMF	Morne Balai	36.10	12	*e*P	P	02 05 57.6	+0.1
CELP	Cerrillos	38.65	3	*e*P	P	02 06 17.7	-1.1
SJG	San Juan	38.71	4	P	P	02 06 18.8	-0.5
	comp=Z,16nm,0.6s,baz=130,slow=8.9,SNR=7.9						
SJG	San Juan	38.71	4	*e*P	P	02 06 18.8	-0.5
	comp=Z,22nm,0.7s						
PMSA	Palmer Station	44.08	177	P	P	02 07 05.2	+2.6
	comp=Z,4.4nm,0.7s,baz=7.4,slow=6.7,SNR=5.3						
PMSA	Palmer Station	44.08	177	*e*P	P	02 07 02.0	-0.7
	comp=Z,7.0nm,0.7s						
TXAR	Lajitas Array	60.25	325	P	P	02 09 04.3	+1.6
	comp=Z,0.3nm,0.7s,baz=148,slow=7.4,SNR=4.1						
TXAR				pP	pP	02 09 35.6	0.0
	comp=Z,0.9nm,0.8s,baz=147,slow=7.5,SNR=6.4						
SNAA	Sanae	62.84	161	*e*P	P	02 09 21.2	+1.7
ANMO	Albuquerque	66.09	326	*e*P	P	02 09 43.9	+2.7
	comp=Z,0.9nm,0.8s						
SDCO	Great Sand Dun	67.81	329	*e*P	P	02 09 54.6	+2.4
	comp=Z,1.0nm,0.6s						
LIC	Lamto	67.83	74	*e*P	P	02 09 51.4	-1.0
	comp=Z,57nm,1.6s						
TIC	Toumodi	68.02	73	*e*P	P	02 09 53.5	-0.1
KIC	Kosan Boka	68.15	74	*e*P	P	02 09 54.5	+0.1
	comp=Z,57nm,1.4s						
DBIC	Dimbokro	68.17	74	P	P	02 09 54.4	-0.2
	comp=Z,7.3nm,1.0s,baz=205,slow=6.4,SNR=8.1						
PDAR	Pinedale Array	73.67	330	P	P	02 10 29.0	+1.5
	comp=Z,0.2nm,0.4s,baz=116,slow=6.8,SNR=4.0						
BW06	Boulder Array	73.67	330	*e*P	P	02 10 29.9	+2.5
	comp=Z,0.8nm,0.5s						
HWUT	Hardware Ranch	73.76	328	*e*P	P	02 10 30.3	+2.3
	comp=Z,2.2nm,0.7s						
ULM	Lac du Bonnet	74.74	342	P	P	02 10 34.2	+1.1
	comp=Z,2.3nm,0.5s,baz=165,slow=5.1,SNR=3.9						
ULM				pP	pP	02 11 06.5	-0.8
	comp=Z,5.4nm,0.7s,baz=154,slow=7.6,SNR=3.5						
TORD	Torodi Ar. Bea	76.76	70	P	P	02 10 45.9	+0.4
	comp=Z,11nm,0.5s,baz=254,slow=5.4,SNR=288						
VNDA	Vanda	77.63	190	P	P	02 10 52.8	+3.6
	comp=Z,0.9nm,0.8s,baz=115,slow=5.5,SNR=5.5						
TSUM	Tsumeb	79.90	107	*e*P	P	02 11 04.1	+1.3
	comp=Z,6.7nm,0.6s						
BOSA	Boshof	83.46	118	P	P	02 11 23.0	+1.6
	comp=Z,12nm,0.9s,baz=267,slow=3.7,SNR=20						
TAM	Tamanrasset	84.16	63	*e*P	P	02 11 26.7	+1.7
	comp=Z,2.0nm,1.0s						
MAW	Mawson	84.92	163	P	P	02 11 30.4	+2.6
	comp=Z,2.7nm,0.5s						
YKA	Yellowknife Ar	90.63	340	P	P	02 11 57.3	+2.3
	comp=Z,1.3nm,0.6s,baz=132,slow=4.6,SNR=8.1						
YKA				pP	pP	02 12 29.7	-0.5
	comp=Z,4.8nm,0.9s,baz=132,slow=4.5,SNR=8.4						
ASAR	Alice Springs	130.73	207	PKP	PKPdf	02 18 06.6	+2.4
	comp=Z,0.5nm,0.8s,baz=134,slow=1.9,SNR=5.9						
WRA	Warramunga Arr	133.77	210	PKP	PKPdf	02 18 12.4	+2.4
	comp=Z,0.6nm,0.8s,baz=170,slow=1.7,SNR=7.0						
KKAR	Karatay Array	139.25	47	*e*PKPdf	PKPdf	02 18 17.7	-1.7
ZALV	Zalesovo Beam	141.14	25	PKP	PKPdf	02 18 23.5	+1.0
	comp=Z,0.9nm,0.3s,baz=299,slow=3.9,SNR=4.5						
KSH	Kashi	144.36	50	PKP	PKPdf	02 18 29.8	+1.0
KSH				PKS	PKSdf	02 22 04.8	+0.3
KSH				SKS	SKSdf	02 25 21.4	-4.2
KSH				SKKS	SKKSac	02 28 20.8	-4.1
KSH				SS	SS	02 40 18.1	-2.8
KSH				AMB	AMB		
	comp=Z,100nm,7.6s						
KSH				LR	LR		
	comp=Z,110nm,9.6s						
KSH				LR	LR		
	comp=Z,120nm,9.6s						
KSH				LR	LR		
	comp=Z,150nm,7.2s						
MKAR	Makanchi Array	144.83	36	PKP	PKPdf	02 18 31.1	+1.9
	comp=Z,2.6nm,0.7s,baz=309,slow=2.6,SNR=12						
WMQ	Urumqi	149.66	35	PKPbc	PKPdf	02 18 36.1	-1.3
WMQ				LR	LR		
	comp=Z,94nm,23.3s						
WMQ				LR	LR		
	comp=Z,49nm,18.3s						
CN2	Changchun	154.25	336	*e*PKPbc	PKPdf	02 18 40.0	-4.2
HHC	Hu-ho-hao-te	159.99	360	*e*PKP	PKPdf	02 18 47.6	-4.1
LZH	Lanzhou	163.34	22	*e*PKP	PKPdf	02 18 51.0	-4.4
LZH				pPKP	pPKPdf	02 19 28.8	-3.7
LZH				sPKP		02 19 43.6	
LZH				LR	LR		
	comp=Z,140nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,180nm,20.2s						
NJ2	Nanjing	166.97	331	*e*PKP	PKPdf	02 18 57.5	-0.8
GYA	Guiyang	172.82	37	*e*PKP	PKPdf	02 18 59.0	-3.0
GYA				pPKP	pPKPdf	02 19 37.4	-1.8
GYA				sPKP		02 19 52.0	
GYA				PKS	PKSdf	02 22 30.4	-4.1
GYA				PP	PP	02 24 21.6	+1.7
GYA				AMB	AMB		
	comp=Z,120nm,8.4s						

*IDC **15** 02:01:44.7±1.8, 36°.04N×142°.04E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/36, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=45.2km s-min=20.0km az=64.0*
*ISCJB **15** 02:01:46.0±0.8, 36°.02N±0°.04×142°.06E±0°.08, h23km, mb3.7/6, Error ellipse: s-maj=9.3km s-min=5.9km az=177.9*
*JMA **15** 02:01:47.6±0.3, 36°.09N×141°.95E, h39km, M3.4*

ISC 15 02:01:48.2±1.2, 36°.05N±0°.05×141°.91E±0°.09, h23km, n23, σ1§29/23, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.92	248	P	Pb	02 02 05.2	-0.3
CHOJ				S	Sn	02 02 18.0	-0.2
JFK	Kawauchi	1.56	328	P	Pn	02 02 14.1	-0.4
BSO1	Boso 1	1.59	209	P	Pn	02 02 14.6	+0.2
BSO3	Boso 3	1.69	223	P	Pn	02 02 16.2	+0.2
JFT	Otama	1.94	320	P	Pn	02 02 20.5	+0.8
JFT				*e*S	Sb	02 02 44.9	-1.6
JAG	Ashikaga	2.02	281	P	Pn	02 02 20.3	-0.6
JMM	Marumori	2.02	334	P	Pn	02 02 20.4	-0.5
JMM				*e*S	Sn	02 02 44.2	-1.2
JKT	Katashina	2.27	289	P	Pn	02 02 25.0	+0.7
MJAR	Matsushiro Arr	3.03	280	Pn	Pn	02 02 35.5	+0.8
	4.2nm,0.3s,baz=84,slow=24,SNR=17						
MJAR				Sn	Sn	02 03 13.1	+2.8
	2.0nm,0.3s,baz=88,slow=10,SNR=4.5						
MAT	Matsushiro	3.03	280	P	Pn	02 02 35.5	+0.7
MAT				*e*S	Sn	02 03 07.1	-3.3
JHJ	Hachijo jima 2	3.41	212	Pn	Pn	02 02 39.6	-0.3
	9.3nm,0.3s,baz=218,slow=19,SNR=4.0						
JHJ				Sn	Sn	02 03 17.7	-1.9
	32nm,0.3s,baz=87,slow=23,SNR=5.9						
H11N2	WAKE ISLAND Hy 27.30	120		T	T	02 36 03.5	
	baz=312,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy 27.31	120		T	T	02 36 01.3	
	baz=312,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy 27.32	120		T	T	02 36 06.1	
	baz=312,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy 27.99	122		T	T	02 36 55.4	
	baz=314,slow=76,SNR=41						
H11S3	WAKE ISLAND Hy 27.99	122		T	T	02 36 54.6	
	baz=314,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy 28.01	122		T	T	02 36 53.0	
	baz=314,slow=76,SNR=48						
SONM	Songino Array	28.68	305	P	P	02 07 44.7	+1.3
	0.7nm,0.4s,baz=99,slow=8.9,SNR=3.6						
ZALV	Zalesovo Beam	42.88	313	P	P	02 09 45.3	+0.8
	0.6nm,0.3s,baz=98,slow=10,SNR=2.5						
MKAR	Makanchi Array	44.99	303	P	P	02 10 01.4	-0.3
	0.2nm,0.3s,baz=90,slow=9.5,SNR=3.7						
KURBB	Kurchatov Arra	46.93	309	P	P	02 10 17.2	+0.4
	0.7nm,0.5s,baz=84,slow=7.9,SNR=6.5						
WRA	Warramunga Arr	56.14	189	P	P	02 11 25.4	-0.6
	1.4nm,1.0s,baz=4.2,slow=7.0,SNR=6.3						
ASAR	Alice Springs	59.87	188	P	P	02 11 52.9	+0.8
	0.2nm,0.4s,baz=11,slow=5.2,SNR=3.4						

*ISCJB **15** 02:04:58.6±0.7, 34°.93N±0°.04×139°.24E±0°.06, h12km±4km, mb3.6/4, Error ellipse: s-maj=9.6km s-min=5.5km az=153.1*
*JMA **15** 02:04:58.7, 34°.93N×139°.25E, h13km±1km, M2.6*
*IDC **15** 02:04:59.2±1.7, 36°.14N×140°.29E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/34, mbtmp3.6/4, Error ellipse: s-maj=41.5km s-min=15.0km az=32.0*

ISC 15 02:04:58.6±1.1, 34°.89N±0°.05×139°.20E±0°.06, h9km±8km, n17, σ0§95/15, mb3.7/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	Ajiro2	0.18	329	P	Pg	02 05 02.7	+0.4
AJI				S	Sg	02 05 05.6	+0.7
JIM2	Oshima 3

DAD	**Ankara**	**0.77**	**221**	P	**Pg**	**02 10 16.2**	**-0.4**
LOD	**Lodumlu**	**0.78**	**220**	*e*PG	**Pg**	**02 10 13.0**	**0.0**
LOD	**Lodumlu**	**0.78**	**220**	*e*Pg	**Pg**	**02 10 13.0**	**0.0**
BRTR	**Keskin Array B**	**0.78**	**167**	Pg	**Pg**	**02 10 12.8**	**-0.2**
	49nm,0.3s,baz=349,slow=16,SNR=1409						
BRTR				Lg	Lg	02 10 24.5	
	120nm,0.3s,baz=350,slow=25,SNR=47						
BBAL	**Bala**	**0.97**	**193**	*i* P	**Pg**	**02 10 16.2**	**-0.4**
BBAL	**Bala**	**0.97**	**193**	P	**Pg**	**02 10 16.2**	**-0.4**
CORM	**Corum**	**0.98**	**108**	*e*PG	**Pg**	**02 10 16.5**	**-0.3**
CORM	**Corum**	**0.98**	**108**	*e*Pg	**Pg**	**02 10 16.5**	**-0.3**
CTAK	**Corum_Osmancik**	**1.06**	**81**	*i* P	**Pg**	**02 10 17.5**	**-0.8**
CTAK	**Corum_Osmancik**	**1.06**	**81**	P	**Pg**	**02 10 17.5**	**-0.8**
KAST	**KASTAMONU**	**1.07**	**21**	*i* P	**Pg**	**02 10 18.6**	**0.0**
KAST	**KASTAMONU**	**1.07**	**21**	P	**Pg**	**02 10 18.6**	**0.0**
AFSR	**Af¯ar-Bala (A**	**1.07**	**194**	*e*PN	**Pb**	**02 10 19.9**	**+0.4**
AFSR	**Af¯ar-Bala (A**	**1.07**	**194**	*e*Pn	**Pb**	**02 10 19.9**	**+0.4**
BCAM	**Yenicaga**	**1.08**	**288**	*i* P	**Pg**	**02 10 18.1**	**-0.5**
BCAM	**Yenicaga**	**1.08**	**288**	P	**Pg**	**02 10 18.1**	**-0.5**
CDAG	**Cicekdag**	**1.14**	**139**	*i* P	**Pg**	**02 10 18.8**	**-1.0**
CDAG	**Cicekdag**	**1.14**	**139**	P	**Pg**	**02 10 18.8**	**-1.0**
COAL	**Corum-Alaca**	**1.22**	**101**	*i* P	**Pg**	**02 10 20.4**	**-1.1**
COAL	**Corum-Alaca**	**1.22**	**101**	P	**Pg**	**02 10 20.4**	**-1.1**
KKUL	**Konya-Kulu**	**1.37**	**196**	*i* P	**Pg**	**02 10 24.0**	**-0.3**
KKUL				*i* S	**Sn**	**02 10 44.0**	**+0.7**
KKUL	**Konya-Kulu**	**1.37**	**196**	P	**Pg**	**02 10 24.0**	**-0.3**
KKUL				S	**Sn**	**02 10 44.0**	**+0.7**
BTIN	**Bart¯–n**	**1.44**	**323**	*i* P	**Pn**	**02 10 24.8**	**-0.5**
BTIN	**Bart¯–n**	**1.44**	**323**	P	**Pn**	**02 10 24.8**	**-0.5**
BOYT	**Boyabat**	**1.46**	**50**	*i* P	**Pn**	**02 10 24.8**	**-0.8**
BOYT	**Boyabat**	**1.46**	**50**	P	**Pn**	**02 10 24.8**	**-0.8**
BZK	**Bozkurt**	**1.54**	**17**	*e*PN	**Pb**	**02 10 27.0**	**-0.3**
BZK	**Bozkurt**	**1.54**	**17**	*e*Pn	**Pb**	**02 10 27.0**	**-0.3**
SERE	**Sereflikochisa**	**1.55**	**176**	*e*PN	**Pn**	**02 10 27.2**	**+0.4**
SERE	**Sereflikochisa**	**1.55**	**176**	*e*Pn	**Pn**	**02 10 27.2**	**+0.4**
MDUB	**Mudurnu**	**1.69**	**270**	*e*PN	**Pb**	**02 10 30.2**	**+0.2**
MDUB	**Mudurnu**	**1.69**	**270**	*e*Pn	**Pb**	**02 10 30.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.79**	**235**	*e*PN	**Pb**	**02 10 31.0**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.79**	**235**	*e*Pn	**Pb**	**02 10 31.0**	**-0.6**
DIKM	**Dikmen**	**1.81**	**50**	*e*PN	**Pn**	**02 10 30.9**	**+0.5**
DIKM	**Dikmen**	**1.81**	**50**	*e*Pn	**Pn**	**02 10 30.9**	**+0.5**
HAVZ	**Havza**	**1.84**	**71**	*i* P	**Pn**	**02 10 31.1**	**+0.3**
HAVZ	**Havza**	**1.84**	**71**	P	**Pn**	**02 10 31.1**	**+0.3**
AKSY	**AKSARAY - Alti**	**1.86**	**172**	*i* P	**Pn**	**02 10 31.1**	**0.0**
AKSY				*i* S	**Sg**	**02 10 58.9**	**+1.2**
AKSY	**AKSARAY - Alti**	**1.86**	**172**	P	**Pn**	**02 10 31.1**	**0.0**
AKSY				S	**Sg**	**02 10 58.9**	**+1.2**
CHBY	**Cihanbeyli**	**1.95**	**192**	*e*PN	**Pb**	**02 10 33.4**	**-0.9**
CHBY	**Cihanbeyli**	**1.95**	**192**	*e*Pn	**Pb**	**02 10 33.4**	**-0.9**
SAHE	**Sakarya_HENDEK**	**1.98**	**281**	*i* P	**Pb**	**02 10 34.0**	**-0.9**
SAHE				*i* S	**Sg**	**02 11 01.8**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.98**	**281**	P	**Pb**	**02 10 34.0**	**-0.9**
SAHE				S	**Sg**	**02 11 01.8**	**+0.2**
SINO	**SINOP_Merkez**	**2.04**	**41**	*i* P	**Pb**	**02 10 36.2**	**+0.4**
SINO	**SINOP_Merkez**	**2.04**	**41**	P	**Pb**	**02 10 36.2**	**+0.4**
SNOP	**Sinop**	**2.04**	**41**	*e*PN	**Pn**	**02 10 33.9**	**+0.4**
SNOP	**Sinop**	**2.04**	**41**	*e*Pn	**Pn**	**02 10 33.9**	**+0.4**
KVT	**Kavak**	**2.08**	**73**	*e*PN	**Pn**	**02 10 34.7**	**+0.5**
KVT	**Kavak**	**2.08**	**73**	*e*Pn	**Pn**	**02 10 34.7**	**+0.5**
ESKT	**Eskisehir**	**2.19**	**245**	*i* P	**Pn**	**02 10 36.1**	**+0.3**
SEYT	**Eskypehyr**	**2.19**	**245**	P	**Pn**	**02 10 36.1**	**+0.4**
KDHN	**Kadinhani**	**2.21**	**207**	*i* P	**Pn**	**02 10 37.0**	**+1.1**
KDHN	**Kadinhani**	**2.21**	**207**	P	**Pn**	**02 10 37.0**	**+1.1**
GULT	**Gulveren**	**2.21**	**269**	*e*PN	**Pn**	**02 10 36.6**	**+0.6**
GULT	**Gulveren**	**2.21**	**269**	*e*Pn	**Pn**	**02 10 36.6**	**+0.6**
SAMS	**Samsun-Alacam**	**2.27**	**67**	*i* P	Pn	02 10 30.0	-6.7
SULT	**Sultanhani-AKS**	**2.29**	**178**	*e*PN	**Pn**	**02 10 38.4**	**+1.4**
SULT	**Sultanhani-AKS**	**2.29**	**178**	*e*Pn	**Pn**	**02 10 38.4**	**+1.4**
TOKA	**Tokat**	**2.35**	**93**	*i* P	**Pn**	**02 10 37.8**	**0.0**
TOKA	**Tokat**	**2.35**	**93**	P	**Pn**	**02 10 37.8**	**0.0**
GEYV	**SAKARYA_Geyve**	**2.38**	**271**	*i* P	**Pn**	**02 10 39.3**	**+1.1**
GEYV	**SAKARYA_Geyve**	**2.38**	**271**	P	**Pn**	**02 10 39.3**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**2.42**	**115**	*i* P	**Pn**	**02 10 39.3**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**2.42**	**115**	P	**Pn**	**02 10 39.3**	**+0.4**
LADK	**Ladik-KONYA**	**2.43**	**200**	*e*PN	**Pn**	**02 10 39.2**	**+0.3**
LADK	**Ladik-KONYA**	**2.43**	**200**	*e*Pn	**Pn**	**02 10 39.2**	**+0.3**
BNN	**Bunyan**	**2.49**	**130**	*e*PN	**Pn**	**02 10 40.9**	**+1.1**
BNN	**Bunyan**	**2.49**	**130**	*e*Pn	**Pn**	**02 10 40.9**	**+1.1**
KAND	**Kocaeli-Kandir**	**2.52**	**285**	*i* P	**Pb**	**02 10 42.2**	**-1.8**
KAND	**Kocaeli-Kandir**	**2.52**	**285**	P	**Pb**	**02 10 42.2**	**-1.8**
BOLV	**Bolvadin**	**2.60**	**228**	*i* P	**Pn**	**02 10 41.1**	**-0.2**
BOLV	**Bolvadin**	**2.60**	**228**	P	**Pn**	**02 10 41.1**	**-0.2**
KONT	**Konya--Tatoy**	**2.67**	**198**	*e*PN	**Pn**	**02 10 43.4**	**+1.2**
KONT	**Konya--Tatoy**	**2.67**	**198**	*i* P	**Pn**	**02 10 43.0**	**+0.8**
KONT	**Konya--Tatoy**	**2.67**	**198**	*e*Pn	**Pn**	**02 10 43.4**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.74**	**210**	*i* P	**Pn**	**02 10 43.4**	**+0.1**
DOGA	**KONYA_Doganhis**	**2.74**	**210**	P	**Pn**	**02 10 43.4**	**+0.1**
CAVI	**Cavuskoy**	**2.75**	**265**	*e*PN	**Pn**	**02 10 44.3**	**+1.1**
CAVI	**Cavuskoy**	**2.75**	**265**	*e*Pn	**Pn**	**02 10 44.3**	**+1.1**
SVSK	**Karacayir**	**2.80**	**101**	*e*PN	**Pn**	**02 10 44.9**	**+0.9**
SVSK	**Karacayir**	**2.80**	**101**	*e*Pn	**Pn**	**02 10 44.9**	**+0.9**
ADVT	**Abdulvahap**	**2.81**	**270**	*e*PN	**Pn**	**02 10 44.7**	**+0.7**
ADVT	**Abdulvahap**	**2.81**	**270**	*e*Pn	**Pn**	**02 10 44.7**	**+0.7**
YAHY	**KAYSERI_Yahyal**	**2.83**	**147**	*i* P	**Pb**	**02 10 47.2**	**-2.2**
YAHY	**KAYSERI_Yahyal**	**2.83**	**147**	P	**Pb**	**02 10 47.2**	**-2.2**
KMER	**Konya-Meram**	**2.84**	**197**	*i* P	**Pn**	**02 10 44.6**	**0.0**
KMER	**Konya-Meram**	**2.84**	**197**	P	**Pn**	**02 10 44.6**	**0.0**
CUALT	**Altinyayla-SIV**	**2.84**	**114**	*i* P	**Pn**	**02 10 45.6**	**+0.9**
CUALT	**Altinyayla-SIV**	**2.84**	**114**	P	**Pn**	**02 10 45.6**	**+0.9**
HRT	**Hereke**	**2.87**	**278**	*e*PN	**Pn**	**02 10 45.9**	**+1.0**
HRT	**Hereke**	**2.87**	**278**	*e*Pn	**Pn**	**02 10 45.9**	**+1.0**
SCER	**sogukcermik**	**2.91**	**101**	*i* P	**Pn**	**02 10 46.3**	**+0.7**
SCER	**sogukcermik**	**2.91**	**101**	P	**Pn**	**02 10 46.3**	**+0.7**
SHUT	**Suhut-Afyon**	**2.94**	**230**	*e*PN	**Pn**	**02 10 47.4**	**+1.4**
SHUT	**Suhut-Afyon**	**2.94**	**230**	*e*Pn	**Pn**	**02 10 47.4**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.99**	**91**	*e*PN	**Pn**	**02 10 48.0**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.99**	**91**	*e*Pn	**Pn**	**02 10 48.0**	**+1.4**
KERG	**Konya-Eregli**	**3.12**	**170**	*i* P	**Pb**	**02 10 52.3**	**-2.1**
KERG	**Konya-Eregli**	**3.12**	**170**	P	**Pb**	**02 10 52.3**	**-2.1**
SARI	**SarD1z-Kayseri**	**3.12**	**131**	*e*PN	**Pn**	**02 10 49.5**	**+1.1**
SARI	**SarD1z-Kayseri**	**3.12**	**131**	*e*Pn	**Pn**	**02 10 49.6**	**+1.1**
GDZ	**Gediz**	**3.34**	**246**	*i* P	**Pg**	**02 11 00.3**	**-1.6**
CUZAR	**Zara_SIVAS**	**3.39**	**99**	*i* P	**Pn**	**02 10 52.7**	**+0.5**
CUZAR	**Zara_SIVAS**	**3.39**	**99**	P	**Pn**	**02 10 52.7**	**+0.5**
AKO	**Adana**	**3.41**	**152**	*i* P	**Pb**	**02 11 00.9**	**+1.6**
TIRR	**Tirgusor**	**5.42**	**319** ⇑	*i* P	**Pn**	**02 11 24.0**	**+4.0**
TIRR	**Tirgusor**	**5.42**	**319** ⇑	P	**Pn**	**02 11 24.0**	**+4.0**
TLB	**Topalu**	**5.70**	**318** ⇑	*i* P	**Pn**	**02 11 24.0**	**+0.2**
TLB	**Topalu**	**5.70**	**318** ⇑	P	**Pn**	**02 11 24.0**	**+0.2**
TLCR		**5.78**	**326** ⇑	*i* P	**Pn**	**02 11 23.0**	**-1.9**
TLCR		**5.78**	**326** ⇑	P	**Pn**	**02 11 23.0**	**-1.9**
CFR	**Carcaliu**	**6.08**	**322** ⇑	*i* P	**Pn**	**02 11 28.0**	**-1.0**
CFR	**Carcaliu**	**6.08**	**322** ⇑	P	**Pn**	**02 11 28.0**	**-1.0**
MILM	**Milestii Mici**	**7.24**	**334** ⇑	*i* P	**Pn**	**02 11 43.5**	**-1.4**
MILM	**Milestii Mici**	**7.24**	**334** ⇑	P	**Pn**	**02 11 43.5**	**-1.4**
VRI	**Vrincioaia**	**7.26**	**320** ⇓	*i* P	**Pn**	**02 11 44.5**	**-0.8**
VRI	**Vrincioaia**	**7.26**	**320** ⇓	P	**Pn**	**02 11 44.5**	**-0.8**
PLOR	**Plostina**	**7.29**	**320** ⇓	*i* P	**Pn**	**02 11 48.3**	**+2.6**
PLOR	**Plostina**	**7.29**	**320** ⇓	P	**Pn**	**02 11 48.3**	**+2.6**
VOIR		**7.88**	**312** ⇓	*i* P	**Pn**	**02 11 55.4**	**+1.7**
VOIR		**7.88**	**312** ⇓	P	**Pn**	**02 11 55.4**	**+1.7**
SORM	**Soroca**	**8.46**	**336** ⇓	*i* P	**Pn**	**02 11 59.4**	**-2.2**
SORM	**Soroca**	**8.46**	**336** ⇓	P	**Pn**	**02 11 59.4**	**-2.2**
BURAR	**Bucovina Array**	**9.24**	**323** ⇑	*i* P	**Pn**	**02 12 11.4**	**-1.1**
BURAR	**Bucovina Array**	**9.24**	**323** ⇑	P	**Pn**	**02 12 11.4**	**-1.1**
AKASG	**Malin Array Be**	**10.62**	**345**	Pn	**Pn**	**02 12 31.9**	**+0.6**
	0.7nm,0.3s,baz=158,slow=9.9,SNR=3.5						
MKAR	**Makanchi Array**	**35.45**	**63**	P	**P**	**02 16 55.9**	**+0.1**
	0.4nm,0.6s,baz=285,slow=6.9,SNR=3.1						
MKAR				LR	LR	02 32 43.1	
	comp=Z,43nm,19.1s,baz=181,slow=38						
TORD	**Torodi Ar. Bea**	**38.91**	**235**	P	**P**	**02 17 24.8**	**-0.6**
	0.7nm,0.8s,baz=30,slow=8.4,SNR=5.4						

LJU 15 02:10:27.2, 46°.39N×15°.07E, h0km, ML0.2 Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg	02 10 31.9	-0.1
PERS				*i* Sg	Sg	02 10 35.7	+0.5
	comp=Z,4.0nm,0.3s						

GUC 15 02:22:00.6±0.4, 37°.25S×73°.65W, h25km±22km, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.59**	**48** ⇑	*i* P	Pb	02 22 11.1	-1.3
CCSP				*i* S	Sb	02 22 18.8	-1.5
CCSP				IAML		02 22 21.4	
	comp=N,6μm,0.5s						
COCH	**Cobquecura**	**1.31**	**32**	*i* P	Pn	02 22 22.4	-0.9
COCH				*i* S	Sn	02 22 38.7	-1.3
CCHI	**Chillan**	**1.42**	**64**	*e*P	Pn	02 22 24.1	-0.7
CCHI				*i* S	Sn	02 22 41.8	-0.8
CCHI				IAML		02 22 53.6	
	comp=E,1μm,0.9s						

ISK ***15*** *02:26:01.8, 40°.55N×33°.35E, h5km, MD3.0*
CSEM ***15*** *02:26:02.5±0.2, 40°.53N×33°.43E, h15km, MD3.0, Error ellipse: s-maj=5.0km s-min=3.7km az=144.0*
DDA ***15*** *02:26:02.6, 40°.51N×33°.50E, h7km, Md2.6*
ISC 15 02:26:02.9±1.0, 40°.49N±0°.03×33°.46E±0°.03, h8km±9km, n19, σ0°72/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.17**	**48**	*e*PG	**Pg**	**02 26 06.6**	**+0.1**
CANT				*e*SG	**Sg**	**02 26 10.1**	**+1.2**
ILGA	**Ilgaz**	**0.59**	**19**	*i* P	**Pg**	**02 26 13.9**	**-0.5**
ILGA	**Ilgaz**	**0.59**	**19**	P	**Pg**	**02 26 13.9**	**-0.5**
CMDR	**Camlidere-ANKA**	**0.75**	**270**	*i* P	**Pg**	**02 26 17.0**	**-0.3**
CMDR	**Camlidere-ANKA**	**0.75**	**270**	P	**Pg**	**02 26 17.0**	**-0.3**
LOD	**Lodumlu**	**0.80**	**222**	*e*PG	**Pg**	**02 26 17.6**	**-0.8**
LOD				*e*SG	**Sg**	**02 26 29.4**	**+0.6**
LOD	**Lodumlu**	**0.80**	**222**	*e*Pg	**Pg**	**02 26 17.6**	**-0.8**
LOD				*e*Sg	**Sg**	**02 26 29.4**	**+0.6**
CORM	**Corum**	**0.95**	**109**	*e*PG	**Pn**	**02 26 22.4**	**-0.3**
CORM	**Corum**	**0.95**	**109**	*e*Pg	**Pn**	**02 26 22.4**	**-0.3**
BBAL	**Bala**	**0.98**	**195**	*i* P	**Pg**	**02 26 21.8**	**0.0**
BBAL				*i* S	**Sn**	**02 26 37.4**	**+0.1**
BBAL	**Bala**	**0.98**	**195**	P	**Pg**	**02 26 21.8**	**0.0**
BBAL				S	**Sn**	**02 26 37.4**	**+0.1**
CTAK	**Corum_Osmancik**	**1.03**	**81**	*i* P	**Pg**	**02 26 22.4**	**-0.3**
CTAK				*i* S	**Sn**	**02 26 39.2**	**+0.7**
CTAK	**Corum_Osmancik**	**1.03**	**81**	P	**Pg**	**02 26 22.4**	**-0.3**
CTAK				S	**Sn**	**02 26 39.2**	**+0.7**
AFSR	**Af¯ar-Bala (A**	**1.08**	**196**	*e*PN	**Pg**	**02 26 24.0**	**+0.2**
AFSR				*e*SN	**Sb**	**02 26 39.7**	**+1.3**
AFSR	**Af¯ar-Bala (A**	**1.08**	**196**	*e*Pn	**Pg**	**02 26 24.0**	**+0.2**
AFSR				*e*Sn	**Sb**	**02 26 39.7**	**+1.3**
BCAM	**Yenicaga**	**1.11**	**287**	*i* P	**Pb**	**02 26 23.3**	**-1.1**
BCAM				*i* S	**Sn**	**02 26 41.1**	**+0.8**
BCAM	**Yenicaga**	**1.11**	**287**	P	**Pb**	**02 26 23.3**	**-1.1**
BCAM				S	**Sn**	**02 26 41.1**	**+0.8**
CDAG	**Cicekdag**	**1.12**	**141**	*i* P	**Pg**	**02 26 23.4**	**-1.0**
CDAG				*i* S	**Sg**	**02 26 38.9**	**0.0**
CDAG	**Cicekdag**	**1.12**	**141**	P	**Pg**	**02 26 23.4**	**-1.0**
CDAG				S	**Sg**	**02 26 38.9**	**0.0**

DDA ***15*** *02:28:23.6, 40°.51N×36°.98E, h7km, Md2.5*
ISK ***15*** *02:28:23.1, 40°.51N×36°.92E, h8km, MD2.7*
CSEM 15 02:28:23.3±0.2, 40°.55N×36°.96E, h8km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.1km az=15.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.32**	**118**	*e*PG	Pg	02 28 30.2	+0.7
RSDY				*e*SG	Sg	02 28 35.0	+1.2
RSDY	**Resadiye-TOKAT**	**0.32**	**118**	*e*Pg	Pg	02 28 30.2	+0.6
RSDY				*e*Sg	Sg	02 28 35.0	+1.2
TOKA	**Tokat**	**0.43**	**239**	*i* P	Pg	02 28 32.0	+0.3
TOKA				*i* S	Sb	02 28 38.7	-1.0
TOKA	**Tokat**	**0.43**	**239**	P	Pg	02 28 32.0	+0.4
TOKA				S	Sb	02 28 38.7	-1.1
SVSK	**Karacayir**	**0.63**	**177**	*e*PG	Pg	02 28 34.9	-0.6
SVSK				*e*SG	Sg	02 28 43.7	+0.1
SVSK	**Karacayir**	**0.63**	**177**	*e*Pg	Pg	02 28 34.9	-0.5
SVSK				*e*Sg	Sg	02 28 43.7	+0.1
SCER	**sogukcermik**	**0.69**	**169**	*i* P	Pg	02 28 36.3	-0.4
SCER				*i* S	Sg	02 28 46.2	+0.4
SCER	**sogukcermik**	**0.69**	**169**	P	Pg	02 28 36.3	-0.4
SCER				S	Sg	02 28 46.2	+0.4
KVT	**Kavak**	**0.88**	**308**	*e*PG	Pg	02 28 40.3	+0.2
KVT	**Kavak**	**0.88**	**308**	*e*Pg	Pg	02 28 40.3	+0.2
CUZAR	**Zara_SIVAS**	**0.90**	**136**	*i* P	Pg	02 28 40.4	-0.3
CUZAR				*i* S	Sg	02 28 52.6	+0.1
CUZAR	**Zara_SIVAS**	**0.90**	**136**	P	Pg	02 28 40.4	-0.3
CUZAR				S	Sg	02 28 52.6	+0.2
SUSE	**Susehri**	**1.01**	**109**	*i* P	Pg	02 28 42.5	-0.1
SUSE				*i* S	Sb	02 28 56.8	+0.2
SUSE	**Susehri**	**1.01**	**109**	P	Pg	02 28 42.5	-0.2
SUSE				S	Sb	02 28 56.8	+0.2
CUSAR	**Sarkisla-SIVAS**	**1.25**	**206**	*i* P	Pn	02 28 46.3	-0.9
CUSAR				*i* S	Sn	02 29 04.5	+0.1
CUSAR	**Sarkisla-SIVAS**	**1.25**	**206**	P	Pn	02 28 46.3	-0.9
CUSAR				S	Sn	02 29 04.5	+0.2
CUALT	**Altinyayla-SIV**	**1.28**	**187**	*i* P	Pb	02 28 47.7	0.0
CUALT				*i* S	Sn	02 29 06.2	+1.2
CUALT	**Altinyayla-SIV**	**1.28**	**187**	P	Pb	02 28 47.7	0.0
CUALT				S	Sn	02 29 06.2	+1.2
CORM	**Corum**	**1.82**	**259**	*e*PN	Pn	02 28 55.1	+0.1
CORM	**Corum**	**1.82**	**259**	*e*Pn	Pn	02 28 55.1	+0.1
BNN	**Bunyan**	**1.90**	**207**	*e*PN	Pn	02 28 56.1	0.0
BNN	**Bunyan**	**1.90**	**207**	*e*Pn	Pn	02 28 56.1	0.0
SARI	**SarD1z-Kayseri**	**2.17**	**191**	*e*PN	Pn	02 28 60.0	0.0
PTK	**Pertek**	**2.50**	**131**	*e*PN	Pn	02 29 05.1	+0.6
PTK	**Pertek**	**2.50**	**131**	*e*Pn	Pn	02 29 05.1	+0.7

IDC ***15*** *02:29:18.2±1.1, 35°.03N×25°.97E, h0km, mb3.8/6, mb1 3.8/10, mb1mx3.6/41, mbtmp3.7/10, ML3.0/4, MS3.5/1, Ms1 3.6/1, ms1mx2.3/47, Error ellipse: s-maj=25.3km s-min=9.8km az=6.0*
ISCJB ***15*** *02:29:18.5±0.7, 34°.87N±0°.03×25°.97E±0°.02, h7km±4km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=5.8km s-min=3.0km az=180.0*
CSEM ***15*** *02:29:19.9±0.3, 34°.96N×25°.95E, h2km, ML3.2, Error ellipse: s-maj=7.2km s-min=2.7km az=178.0*
ATH ***15*** *02:29:19.7, 35°.00N×25°.95E, h18km±1km, ML3.2/8, Error ellipse: s-maj=1.9km s-min=0.8km az=351.0*
THE ***15*** *02:29:20.1, 34°.98N×25°.94E, h0km±1km, ML3.4/10, Error ellipse: s-maj=2.2km s-min=0.7km az=172.0*
DDA ***15*** *02:29:50.2, 35°.99N×27°.55E, h5km, Md3.6*
ISC 15 02:29:19.5±1.0, 34°.94N±0°.04×25°.96E±0°.02, h12km±6km, n166, σ1°37/202, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.27**	**49**	P	**Pg**	**02 29 25.0**	**-0.2**
ZKR				S	**Sg**	**02 29 29.7**	**+0.7**
ZKR	**Zakros**	**0.27**	**49**	P	**Pg**	**02 29 24.8**	**-0.4**
ZKR				AML	AML	02 29 29.8	
	comp=E,79429μm,0.4s						
ZKR				S	**Sg**	**02 29 29.9**	**+0.8**
ZKR				AML	AML	02 29 30.1	
	comp=N,22370μm,0.2s						
ZKR	**Zakros**	**0.27**	**49**	P	**Pg**	**02 29 24.8**	**-0.4**
ZKR				S	**Sg**	**02 29 29.7**	**+0.7**
NPS	**Neapolis**	**0.43**	**319**	P	**Pg**	**02 29 28.2**	**+0.1**
NPS				S	**Sb**	**02 29 35.0**	**-0.6**
NPS	**Neapolis**	**0.43**	**319**	P	**Pb**	**02 29 28.9**	**-0.3**
NPS				S	**Sg**	**02 29 33.4**	**-0.5**
NPS				AML	AML	02 29 37.2	
	comp=E,9781μm,0.4s						
NPS				AML	AML	02 29 40.9	
	comp=N,5926μm,0.3s						
NPS	**Neapolis**	**0.43**	**319**	P	**Pg**	**02 29 28.2**	**+0.1**
NPS				S	**Sg**	**02 29 33.4**	**-0.5**
LAST	**Lasithi**	**0.46**	**300**	P	**Pg**	**02 29 28.4**	**-0.1**
LAST				S	**Sb**	**02 29 35.9**	**-0.4**
LAST	**Lasithi**	**0.46**	**300**	P	**Pg**	**02 29 28.4**	**-0.1**
LAST				S	**Sg**	**02 29 34.6**	**-0.1**
LAST				AML	AML	02 29 36.8	
	comp=E,5419μm,0.2s						
LAST				AML	AML	02 29 38.4	
	comp=N,7070μm,0.5s						
LAST	**Lasithi**	**0.46**	**300**	P	**Pg**	**02 29 28.4**	**-0.1**
LAST				S	**Sg**	**02 29 34.6**	**-0.1**
IACM	**Heraklion**	**0.82**	**297**	P	**Pg**	**02 29 34.8**	**-0.6**
IACM	**Heraklion**	**0.82**	**297**	P	**Pg**	**02 29 34.8**	**-0.6**
IACM	**Heraklion**	**0.82**	**297**	P	**Pg**	**02 29 34.8**	**-0.6**
IDI	**Anoyia**	**0.95**	**292**	Pg	**Pg**	**02 29 36.7**	**-1.1**
	comp=N,26nm,0.3s,baz=146,slow=7.4,SNR=174						
IDI				Lg	Lg	02 29 49.1	
	comp=N,61nm,0.3s,baz=0.0,slow=20,SNR=14						
IDI				LR	LR	02 30 17.7	
	comp=N,134nm,20.6s,baz=144,slow=65						
IDI	**Anoyia**	**0.95**	**292**	P	**Pg**	**02 29 36.7**	**-1.1**
IDI				S	**Sn**	**02 29 51.5**	**-0.6**
IDI	**Anoyia**	**0.95**	**292**	P	**Pg**	**02 29 36.1**	**-1.7**
IDI				S	**Sg**	**02 29 50.3**	**+0.1**
IDI				AML	AML	02 29 53.4	
	comp=N,1499μm,0.6s						
IDI				AML	AML	02 29 53.4	
	comp=E,1548μm,0.6s						
IDI	**Anoyia**	**0.95**	**292**	P	**Pg**	**02 29 36.7**	**-1.1**
IDI				S	**Sg**	**02 29 50.3**	**+0.1**
SIVA	**Sivas**	**0.95**	**275**	P	**Pg**	**02 29 37.4**	**-0.4**
SIVA				S	**Sn**	**02 29 52.1**	**0.0**
SIVA	**Sivas**	**0.95**	**275**	P	**Pg**	**02 29 37.1**	**-0.7**
SIVA				S	**Sg**	**02 29 50.4**	**+0.2**
SIVA				AML	AML	02 29 56.9	
	comp=E,6685μm,0.5s						
SIVA				AML	AML	02 29 57.2	
	comp=N,7112μm,0.6s						
SIVA	**Sivas**	**0.95**	**275**	P	**Pg**	**02 29 37.4**	**-0.4**
SIVA				S	**Sg**	**02 29 50.4**	**+0.2**
TMBK	**Timbaki Herakl**	**0.99**	**278**	P	**Pg**	**02 29 38.7**	**+0.1**
TMBK				S	**Sn**	**02 29 54.3**	**+1.2**
TMBK	**Timbaki Herakl**	**0.99**	**278**	P	**Pg**	**02 29 38.7**	**+0.1**
TMBK				S	**Sn**	**02 29 54.3**	**+1.2**
KARP	**Karpathos**	**1.16**	**58**	*e*PN	**Pb**	**02 29 40.8**	**-0.6**
KARP	**Karpathos**	**1.16**	**58**	P	**Pb**	**02 29 40.8**	**-0.6**
KARP				S	**Sn**	**02 29 59.2**	**+2.0**
KARP	**Karpathos**	**1.16**	**58**	P	**Pb**	**02 29 40.2**	**-1.2**
KARP				S	**Sg**	**02 29 57.0**	**+0.2**
KARP				AML	AML	02 30 03.3	
	comp=E,1977μm,0.4s						
KARP				AML	AML	02 30 03.9	
	comp=N,3396μm,0.6s						
KARP	**Karpathos**	**1.16**	**58**	P	**Pb**	**02 29 40.8**	**-0.6**
KARP				S	**Sg**	**02 29 57.0**	**+0.2**

VILL	Villia	3.87 327	P	Pn	02 30 21.4	+2.6
VIL2	Platees	3.92 327	P	Pn	02 30 21.4	+1.8
TRIP	Tripoli	3.95 312	P	Pn	02 30 22.9	+2.9
TRIP	Tripoli	3.95 312	P	Pn	02 30 22.9	+2.9
KORT	Korkueli	4.11 59	ePN	Pn	02 30 24.4	+2.2
KORT	Korkueli	4.11 59	i P	Pn	02 30 24.6	+2.4
KORT	Korkueli	4.11 59	ePn	Pn	02 30 24.4	+2.2
KULA	Kula-Manisa	4.18 30	ePN	Pn	02 30 24.8	+1.7
KULA	Kula-Manisa	4.18 30	ePn	Pn	02 30 24.8	+1.7
GUR	Goura	4.18 317	P	Pn	02 30 26.1	+3.0
GUR	Goura	4.18 317	P	Pn	02 30 26.1	+3.0
SIGR	SIGRI	4.27 359	ePN	Pn	02 30 25.9	+1.7
KHAL	Karahalli	4.45 39	i P	Pn	02 30 28.7	+1.9
KHAL	Karahalli	4.45 39	P	Pn	02 30 28.7	+1.9
DRO	Drossia	4.56 313	P	Pn	02 30 31.5	+3.2
DRO	Drossia	4.56 313	P	Pn	02 30 31.5	+3.2
SIMA	Simav-Kutahya	4.79 29	ePN	Pn	02 30 34.1	+2.5
SIMA	Simav-Kutahya	4.79 29	ePn	Pn	02 30 34.1	+2.5
SUTC	Sutluce-Ispart	4.80 57	ePN	Pn	02 30 34.4	+2.7
SUTC	Sutluce-Ispart	4.80 57	ePn	Pn	02 30 34.4	+2.7
AGG	Agios Georgios	5.01 326	ePN	Pn	02 30 35.9	+1.4
AGG	Agios Georgios	5.01 326	ePn	Pn	02 30 35.9	+1.4
SHUT	Suhut-Afyon	5.16 44	ePN	Pn	02 30 39.3	+2.7
SHUT	Suhut-Afyon	5.16 44	ePn	Pn	02 30 39.3	+2.7
TVSB	Tavsanli	5.30 31	ePN	Pn	02 30 41.4	+2.9
TVSB	Tavsanli	5.30 31	ePn	Pn	02 30 41.4	+2.9
GAZI	Gazipasa	5.34 74	ePN	Pn	02 30 38.6	-0.4
GAZI	Gazipasa	5.34 74	ePn	Pn	02 30 38.6	-0.4
KNT	Kendrikon	6.67 340	ePN	Pn	02 31 00.0	+2.8
KNT	Kendrikon	6.67 340	ePn	Pn	02 31 00.0	+2.8
BRTR	Keskin Array B	7.76 50	Pn	Pn	02 31 14.3	+1.9
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=4.5					
MMAI	Mount Meron Ar	8.07 101	Pn	Pn	02 31 16.1	-0.5
	comp=E,0.8nm,0.3s,baz=298,slow=11,SNR=10					
MMAI			Sn	Sn	02 32 45.0	-2.8
	comp=E,0.4nm,0.3s,baz=286,slow=26,SNR=2.9					
EIL	Elat	9.24 122	Pn	Pn	02 31 33.0	+0.5
	comp=E,0.3nm,0.3s,baz=250,slow=5.1,SNR=8.5					
EIL			Sn	Sn	02 33 15.5	-1.0
	comp=E,0.4nm,0.3s,baz=137,slow=19,SNR=3.1					
VAE	Valguarnera	9.67 289	Pn	Pn	02 31 38.9	+0.4
	comp=E,0.2nm,0.3s,baz=204,slow=18,SNR=2.1					
ESDC	Sonseca Array	24.21 290	P	P	02 34 35.5	-0.5
	comp=E,0.4nm,0.4s,baz=81,slow=10,SNR=9.5					
EKA	Eskdalemuir Ar	28.60 324	P	P	02 35 15.2	-0.1
	comp=E,0.8nm,0.6s,baz=117,slow=8.8,SNR=2.5					
TORD	Torodi Ar. Bea	30.86 231	P	P	02 35 36.6	+0.9
	comp=E,0.3nm,0.4s,baz=35,slow=8.4,SNR=9.4					
ARCES	ARCESS Array B	34.65 360	P	P	02 36 06.3	-2.0
	comp=E,2.9nm,0.9s,baz=177,slow=7.2,SNR=2.9					
ARCES			LR	LR	02 51 24.4	
	comp=E,78nm,18.7s,baz=95,slow=38					
KURBB	Kurchatov Arra	40.75 51	P	P	02 37 00.9	+0.9
	comp=E,1.2nm,0.6s,baz=276,slow=8.8,SNR=8.8					
MKAR	Makanchi Array	43.35 56	P	P	02 37 22.5	+1.0
	comp=E,1.0nm,0.5s,baz=277,slow=6.2,SNR=7.9					

MEX 15 02:47:13.4±0.3, 15°.07N×95°.15W, h23km±29km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.16	307	eP	Pn	02 47 31.5	-2.8
HUIG				eS	Sn	02 47 45.3	-4.1
PCIG		1.96	71	i P	Pn	02 47 42.5	-2.8
VHO	Vista Hermosa	2.51	323	eP	Pn	02 47 50.8	-2.2
TPIG	Tehuac#an	3.95	328	eP	Pn	02 48 10.3	-2.5
TLIG	Tlapa	4.12	308	eP	Pn	02 48 12.6	-2.4
TLIG				i S	Sn	02 49 00.6	-2.0

NIED ***15*** *02:55:00, 36°.70N×140°.70E, h5km, Mw4.0 Best double couple: M0 9.61000×10^14 NP1:φs322.00000°, δ35.00000°, λ-98.00000°. NP2:φs151.00000°, δ55.00000°, λ-85.00000°.*
ISCJB ***15*** *02:55:13.0±0.6, 36°.69N±0°.03×140°.67E±0°.05, h18km±3km, mb4.2/30, MS2.7/1, Error ellipse: s-maj=7.4km s-min=4.6km az=30.8*
JMA ***15*** *02:55:13.6, 36°.73N×140°.62E, h6km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs137.00000°, δ47.00000°, λ-87.00000°. NP2: φs313.00000°, δ43.00000°, λ-93.00000°. Principal axes: T Plg2.0000°, Azm225.0000°; N Plg2.0000°, Azm315.0000°; P Plg87.0000°, Azm83.0000°;*
JMA Felt III J1.
NEIC ***15*** *02:55:18.6±0.8, 36°.69N×140°.44E, h46km±6km, mb4.3/9 Error ellipse: s-maj=7.5km s-min=6.0km az=143.0*
NEIC Recorded [3 JMA] in Ibaraki.
IDC ***15*** *02:55:19.4±2.5, 36°.69N×140°.40E, h53km±21km, mb3.8/19, mb1 3.9/21, mb1mx3.8/49, mbtmp4.1/21, ML3.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/40, Error ellipse: s-maj=18.4km s-min=15.4km az=100.0*

ISC 15 02:55:13.3±1.0, 36°.76N±0°.04×140°.50E±0°.04, h7km±7km, n53, σ0°87/53, mb4.2/30, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.16	159	⇑P	Pg	02 55 16.3	-0.2
JHO				S	Sg	02 55 18.3	-0.4
ONAJ	Iwakimizuishiy	0.42	35	⇑P	Pg	02 55 21.4	0.0
JSB	Shiboa	0.51	294	⇑P	Pn	02 55 26.1	-0.9
JSB				S	Sn	02 55 34.8	-1.2
JYT	Yasato	0.58	205	⇑P	Pb	02 55 25.2	-0.6
JYT				S	Sg	02 55 33.3	+1.1
JFK	Kawauchi	0.68	26	⇑P	Pb	02 55 26.2	-1.3
JFK				S	Sg	02 55 35.1	-0.1
JFT	Otama	0.77	350	⇑P	Pn	02 55 29.3	-1.3
JFT				S	Sn	02 55 40.4	-2.0
JAG	Ashikaga	0.91	249	⇑P	Pb	02 55 31.6	+0.3
MJAR	Matsushiro Arr	1.85	264	P	Pb	02 55 47.5	-0.1
	61nm,0.3s,baz=81,slow=9.8,SNR=164						
MJAR				S	Sg	02 56 14.3	+1.4
	68nm,0.3s,baz=6.8,slow=8.3,SNR=15						
MJAR				LR	LR	02 56 37.5	
	comp=Z,236nm,19.4s,baz=95,slow=45						
MAJO	Matsushiro	1.86	264	ePn	Pb	02 55 47.6	0.0
MAJO				eSn	Sn	02 56 08.2	-1.1
MAT	Matsushiro	1.86	264	P	Pb	02 55 47.2	-0.4
MAT				S	Sg	02 56 13.1	+0.1
ASAJ	Asahikawa	7.52	12	P	Pn	02 57 05.9	+2.6
	1.4nm,0.3s,baz=250,slow=8.9,SNR=4.4						
ASAJ				S	Sn	02 58 29.5	+0.6
	0.5nm,0.3s,baz=270,slow=20,SNR=3.0						
USRK	Ussuriysk Ar.	9.86	322	P	Pn	02 57 39.9	+4.5
	0.1nm,0.3s,baz=116,slow=13,SNR=4.4						
KSRS	Korea Array	10.07	278	LR	LR	03 01 18.9	
	comp=Z,59nm,19.2s,baz=105,slow=36						
PETK	Petropavlovsk-	20.30	31	LR	LR	03 08 57.1	
	comp=Z,34nm,18.5s,baz=187,slow=40						
ULN	Ulaanbaatar	26.91	305	eP	P	03 00 55.5	+0.4
	2.9nm,0.8s						
SEY	Seymchan	27.21	12	P	P	03 00 59.8	+2.4
	4.0nm,0.9s,baz=195,slow=9.1,SNR=6.5						
SONM	Songino Array	27.34	305	P	P	03 00 58.2	-0.6
	2.4nm,0.7s,baz=112,slow=9.2,SNR=6.1						
H11N2	WAKE ISLAND Hy	28.64	119	T	T	03 30 53.9	
	baz=313,slow=75,SNR=489						
H11N1	WAKE ISLAND Hy	28.65	119	T	T	03 30 53.8	
	baz=313,slow=75,SNR=671						
H11N3	WAKE ISLAND Hy	28.66	119	T	T	03 30 55.2	
	baz=313,slow=75,SNR=430						
H11S1	WAKE ISLAND Hy	29.33	121	T	T	03 31 43.4	
	baz=314,slow=76,SNR=2777						
H11S3	WAKE ISLAND Hy	29.34	121	T	T	03 31 43.8	
	baz=314,slow=76,SNR=1640						
H11S2	WAKE ISLAND Hy	29.35	121	T	T	03 31 45.8	
	baz=314,slow=76,SNR=1463						
ZALV	Zalesovo Beam	41.56	313	P	P	03 03 01.8	+0.5
	3.4nm,0.6s,baz=102,slow=6.7,SNR=9.1						
MKAR	Makanchi Array	43.65	302	P	P	03 03 18.7	+0.3
	1.4nm,0.7s,baz=93,slow=9.7,SNR=6.5						
KURK	Kurchatov	45.53	308	eP	P	03 03 32.9	-0.4
	43nm,0.7s						
AAK	Ala-Archa	49.98	298	eP	P	03 04 08.6	+0.5
	1.5nm,0.8s						
ILAR	Eielson Array	50.12	32	P	P	03 04 09.3	+0.6
	0.7nm,0.8s,baz=271,slow=5.3,SNR=9.3						
BVAR	Borovoye Array	50.22	312	P	P	03 04 09.4	-0.2
	1.8nm,0.7s,baz=69,slow=7.9,SNR=7.0						
BRVK	Borovoye	50.27	312	eP	P	03 04 10.4	+0.3
	8.0nm,0.9s						
DOT	Dot Lake	51.44	34	eP	P	03 04 19.0	+0.3
	14nm,0.7s						
INK	Inuvik	54.96	27	P	P	03 04 44.6	+0.1
	3.1nm,1.0s,baz=331,slow=8.3,SNR=3.1						
ARU	Arti	56.08	318	P	P	03 04 52.0	-0.8
	2.5nm,0.3s,baz=215,slow=3.2,SNR=3.6						
ARU	Arti	56.08	318	eP	P	03 04 52.5	-0.3
	5.6nm,0.9s						
WRAB	Tennant Creek	56.68	187	eP	P	03 04 55.9	-1.5
	4.4nm,1.0s						
WRA	Warramunga Arr	56.69	187	P	P	03 04 56.5	-1.0
	1.8nm,0.8s,baz=4.0,slow=7.5,SNR=12						
ABKAR	Akbulak array	57.56	310	eP	P	03 05 03.0	-0.3
	2.7nm,0.8s						
AKTO	Aktyubinsk	58.31	312	P	P	03 05 08.9	+0.2
	0.7nm,0.3s,baz=71,slow=9.3,SNR=5.5						
ASAR	Alice Springs	60.42	187	P	P	03 05 22.8	-0.7
	1.3nm,0.8s,baz=5.0,slow=5.9,SNR=9.4						
FINES	FINESS Array B	68.71	332	P	P	03 06 17.0	-0.3
	2.3nm,0.7s,baz=39,slow=9.8,SNR=5.6						
EDM	Edmonton	70.01	38	eP	P	03 06 26.0	+0.5
	10nm,0.7s						
SUMG	Summit	70.96	360	eP	P	03 06 31.2	-0.2
	11nm,1.1s						
BMO	Blue Mountains	72.65	47	eP	P	03 06 42.1	+0.5
	1.5nm,0.9s						
HFS	Hagfors	74.03	335	P	P	03 06 49.6	+0.2
	1.2nm,0.7s,baz=98,slow=5.0,SNR=3.2						
AKASG	Malin Array Be	74.06	322	P	P	03 06 49.0	-0.7
	1.1nm,0.6s,baz=44,slow=6.2,SNR=6.3						
NOA	NORSAR Array B	74.15	337	P	P	03 06 49.9	-0.2
	1.5nm,0.8s,baz=39,slow=5.8,SNR=2.9						
R11A	Troy Canyon, C	77.51	51	eP	P	03 07 10.6	+0.6
	1.7nm,0.9s						
PDAR	Pinedale Array	78.38	45	P	P	03 07 14.7	-0.1
	0.4nm,0.8s,baz=270,slow=5.6,SNR=4.5						
BRTR	Keskin Array B	78.48	311	P	P	03 07 15.5	+0.2
	0.8nm,0.9s,baz=136,slow=9.7,SNR=3.8						
CLL	Collm	80.97	330	eP	P	03 07 28.0	-0.3
GERES	GERESS Array B	82.56	328	P	P	03 07 36.3	-0.6
	0.5nm,0.4s,baz=43,slow=6.8,SNR=6.9						
TXAR	Lajitas Array	90.87	52	P	P	03 08 18.5	+0.6
	0.3nm,0.5s,baz=311,slow=3.2,SNR=7.6						
LPAZ	La Paz	147.46	59	PKPbc	PKPbc	03 14 59.8	+0.5
	0.9nm,0.6s,baz=58,slow=2.9,SNR=6.6						

BJI 15 03:07:38.0, 34°.46N×122°.34E, h11km, ML3.8/7, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	Nanjing	3.78	232	ePg	Pb	03 08 46.9	+2.1
NJ2				Sg	Sg	03 09 37.1	-2.3
NJ2				smax	smax		
	comp=N,260nm,0.6s						
NJ2				smax	smax		
	comp=E,120nm,0.5s						
TIA	Tai'an	4.61	294	Pn	Pn	03 08 45.3	-2.3
TIA				Pg	Pb	03 09 02.1	+3.2
TIA				Sn	Sn	03 09 40.4	-0.7
TIA				Sg	Sg	03 10 04.3	-1.7
TIA				smax	smax		
	comp=N,290nm,1.0s						
TIA				smax	smax		
	comp=E,140nm,1.0s						
WMQ	Urumqi	28.28	300	P	P	03 13 33.8	+2.4

ISCJB ***15*** *03:17:54.4±0.4, 15°.77S±0°.06×73°.08W±0°.06, h82km, mb4.4/25, Error ellipse: s-maj=11.1km s-min=5.7km az=41.6*
NEIC ***15*** *03:17:56.8±0.7, 15°.93S×73°.26W, h86km±6km, mb4.6/16, Error ellipse: s-maj=10.4km s-min=5.4km az=47.0*
NEIC Felt [IV] at Caraveli, [III] at Atico and [II] at Chuquibamba.
IDC ***15*** *03:17:56.7±1.7, 15°.87S×73°.24W, h84km±14km, mb4.0/11, mb1 4.1/15, mb1mx3.9/37, mbtmp4.3/15, MS3.2/4, Ms1 3.2/4, ms1mx2.9/22, Error ellipse: s-maj=20.9km s-min=9.9km az=36.0*

ISC 15 03:17:55.9±0.5, 15°.93S±0°.07×73°.22W±0°.08, h82km, n221, σ1°02/219, mb4.5/25, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.91	95	P	Pn	03 19 10.6	+2.9
	6.1nm,0.3s,baz=281,slow=7.6,SNR=190						
LPAZ				S	Sn	03 20 05.9	+2.3
	2.2nm,0.3s,baz=298,slow=15,SNR=2.2						
LPAZ				LR	LR	03 20 49.0	
	comp=Z,186nm,19.4s,baz=270,slow=35						
NNA	Nana	5.27	318	P	Pn	03 19 12.3	+0.2
	3.4nm,0.3s,baz=195,slow=16,SNR=3.9						
NNA				S	Sn	03 20 11.3	-0.3
	20nm,0.3s,baz=260,slow=4.3,SNR=4.8						
NNA				LR	LR	03 21 39.7	
	comp=Z,94nm,20.2s,baz=168,slow=43						
LVC	Limon Verde	7.79	149	P	Pn	03 19 47.5	+0.6
	391nm,0.3s,baz=347,slow=8.5,SNR=96						
LVC				S	Sn	03 21 09.3	-4.4
	2μm,0.3s,baz=75,slow=22,SNR=20						
LVC				LR	LR	03 22 24.2	
	comp=Z,763nm,21.5s,baz=312,slow=34						
SIV	San Ignacio	11.68	92	P	Pn	03 20 37.0	-2.7
	1.1nm,0.3s,baz=290,slow=10.0,SNR=17						
SAML	Samuel	12.01	56	ePn	Pn	03 20 40.1	-4.0
	7.7nm,0.6s						
LCO	Las Campanas	13.22	170	ePn	Pn	03 20 55.6	-5.0
	88nm,1.8s						
OTAV	Otavalo	16.88	342	eP	Pn	03 21 42.3	-5.2
	21nm,1.5s						
FLOC	Florencia	17.57	352	eP	Pn	03 21 57.0	+1.4
CPUP	Villa Florida	18.06	128	P	P	03 22 00.4	-0.4
	0.4nm,0.3s,baz=313,slow=12,SNR=6.9						
BETC	Betania	18.62	353	eP	Pn	03 22 10.8	+2.5
POPC	Popayan, Colom	18.67	349	eP	P	03 22 07.6	-0.2
VILC	Villavicencio,	19.92	359	eP	P	03 22 21.5	+0.2
PTGA	Pitinga	19.98	42	P	P	03 22 21.3	-0.5
	1.2nm,0.3s,baz=226,slow=12,SNR=18						
PTGA				LR	LR	03 30 25.5	
	comp=Z,45nm,21.8s,baz=220,slow=38						
CHIC	Chingaza	20.43	359	eP	P	03 22 27.5	+0.3
ROSC	El Rosal	20.67	357	P	P	03 22 30.5	+0.9
	35nm,0.6s,baz=179,slow=6.3,SNR=30						
GUYC	Guyana, Colomb	21.13	354	eP	P	03 22 36.6	+1.9
NORC	Norcasia	21.42	356	eP	P	03 22 34.2	-3.2
RUSC	La Rusia	21.68	0	eP	P	03 22 39.5	-1.2
HELC	Santa Helena	22.10	354	eP	P	03 22 46.1	+1.2
BARC	Barichara	22.38	0	eP	P	03 22 44.8	-3.0
ZARC	Zaragoza, Cauc	23.33	356	eP	P	03 22 54.1	-3.0
OCAC	Ocana	24.01	360	eP	P	03 22 58.1	-5.3
BDFB	Brasilia	24.25	93	P	P	03 23 07.3	+1.7
	1.7nm,0.5s,baz=54,slow=12,SNR=7.6						
MOTC	Monteria, Cord	24.67	354	eP	P	03 23 07.4	-1.8
SDV	Santo Domingo	24.79	6	eP	P	03 23 08.1	-2.4
	10nm,0.8s						
SPB	Sao Paulo	25.41	112	eP	P	03 23 13.4	-2.6
	13nm,0.7s						
JTS	JuntasAbangare	28.52	335	eP	P	03 23 44.2	+0.2
	1.1nm,0.5s						
347A	Saraland	49.31	343	P	P	03 26 37.0	+0.3
	baz=160						
034A	Hebbronville	49.37	330	P	P	03 26 36.9	-0.4
	baz=147						
248A	Dixon Mills	49.74	344	P	P	03 26 40.4	+0.4
	baz=162						
247A	Quitman	49.94	343	P	P	03 26 41.8	+0.3
	baz=161						
344A	Westbrook Farm	50.02	340	P	P	03 26 41.9	-0.2
	baz=158						
245A	Little AP, Sta	50.30	342	P	P	03 26 44.3	+0.1
	baz=159						
636A	Smothers Creek	50.67	333	P	P	03 26 47.1	+0.1
	baz=150						
833A	Chaparral WMA,	50.77	330	P	P	03 26 47.2	-0.6
	baz=147						
Z47A	Carrollton	50.87	344	P	P	03 26 48.5	0.0
	baz=162						
Z48A	Northport	50.91	345	P	P	03 26 48.6	-0.2
	baz=162,SNR=5.7						
Z46A	Louisville	51.10	343	P	P	03 26 50.7	+0.5
	baz=161						
Y47A	UCPARC, Winfie	51.48	344	P	P	03 26 52.9	-0.2
	baz=162,SNR=7.6						
Z44A	Pea Ridge, Bel	51.62	342	P	P	03 26 54.3	+0.2
	baz=159						
141A	Papa Simpson,	51.81	339	P	P	03 26 55.8	+0.3
	baz=156						
Z41A	Richland Creek	52.37	339	P	P	03 26 59.5	-0.1
	baz=156						
139A	Bunkhouse Ranc	52.41	337	P	P	03 26 59.9	-0.1
	baz=154						
Z39A	Irene McRaven,	52.84	338	P	P	03 27 02.6	-0.5
	baz=155						
Y41A	Eaglette Beard	52.87	340	P	P	03 27 03.2	-0.1
	baz=156						
WHTX	Lake Whitney,	53.01	334	P	P	03 27 04.2	-0.2
	baz=150						
Y40A	Okolona	53.22	339	P	P	03 27 05.8	-0.1
	baz=156						
Y39A	Lockesburg	53.43	338	P	P	03 27 07.0	-0.5
	baz=155						
Z36A	Blue Ridge	53.72	336	P	P	03 27 08.9	-0.7
	baz=152						
TXAR	Lajitas Array	53.75	327	P	P	03 27 09.7	-0.4
	0.4nm,0.5s,baz=156,slow=9.6,SNR=8.3						
MIAR	Mount Ida	53.80	339	P	P	03 27 10.5	+0.3
	baz=156,SNR=5.7						
MIAR	Mount Ida	53.80	339	eP	P	03 27 10.2	0.0
	11nm,1.0s						
W41B	Gary Mavity, V	53.94	341	P	P	03 27 11.1	-0.1
	baz=157						
X39A	Fountain Ranch	53.96	339	P	P	03 27 10.8	-0.5
	baz=155						
Y37A	Hugo	54.03	337	P	P	03 27 11.5	-0.4
	baz=153						
W40A	Ferguson Farm,	54.22	340	P	P	03 27 13.2	-0.1
	baz=156						
W39A	Magazine	54.46	339	P	P	03 27 14.8	-0.2
	baz=156						
V41A	Mountainview	54.47	341	P	P	03 27 14.7	-0.3
	baz=158						
X37A	Clayton	54.48	338	P	P	03 27 15.5	+0.4
	baz=154,SNR=6.4						
U43A	Rector	54.49	343	P	P	03 27 15.2	0.0
	baz=160						
ABTX	Abilene, Hawle	54.50	333	P	P	03 27 15.2	-0.1
	baz=148						
ABTX	Abilene, Hawle	54.50	333	eP	P	03 27 15.9	+0.6
	10nm,0.8s						
Y35A	Marietta	54.51	336	P	P	03 27 14.7	-0.6
	baz=152						
W38A	Poteau	54.60	339	P	P	03 27 15.3	-0.7
	baz=155						
V40A	Witts Springs	54.70	340	P	P	03 27 16.5	-0.3
	baz=157						
U41A	Viola	54.91	342	P	P	03 27 18.0	-0.3
	baz=158						
X35A	Drake	54.92	336	P	P	03 27 17.6	-0.7
	baz=152						
W37B	Quinton	54.99	338	P	P	03 27 18.5	-0.3
	baz=154						
V39A	Pettigrew	55.00	340	P	P	03 27 19.0	0.0
	baz=156,SNR=8.0						
T43A	Greenville	55.13	343	P	P	03 27 19.3	-0.4
	baz=160,SNR=6.7						
U40A	Yellville	55.22	341	P	P	03 27 20.0	-0.4
	baz=157						
S45A	Carrier Mills	55.24	345	P	P	03 27 20.8	+0.3
	baz=162						
V38A	Canehill	55.28	339	P	P	03 27 20.5	-0.4
	baz=155,SNR=5.1						
W36A	Wetumka	55.29	337	P	P	03 27 20.5	-0.5
	baz=153						
S44A	Carbondale	55.43	345	P	P	03 27 21.8	-0.1
	baz=161						
U39A	Green Forest	55.44	340	P	P	03 27 21.9	-0.1
	baz=156						
T41A	Mountain View	55.52	342	P	P	03 27 22.2	-0.3
	baz=158						
W35A	Tecumseh	55.54	337	P	P	03 27 22.2	-0.6
	baz=152						
V37A	Hulbert	55.55	338	P	P	03 27 22.5	-0.4
	baz=154						
V36A	Jenks	55.76	338	P	P	03 27 24.5	+0.2
	baz=153,SNR=7.1						
U38A	Gravette	55.80	339	P	P	03 27 24.8	+0.2
	baz=155						
TUL1	Leonard	55.81	338	P	P	03 27 25.1	+0.4
	baz=154,SNR=6.2						
TUL1	Leonard	55.81	338	eP	P	03 27 24.9	+0.2
	15nm,1.0s						
T40A	Mansfield	55.84	341	P	P	03 27 24.6	-0.3
	baz=158						
R44A	Waltonville	55.91	345	P	P	03 27 25.4	+0.1
	baz=162						
S42A	Caledonia	55.91	343	P	P	03 27 24.9	-0.5
	baz=160						
WMOK	Wichita Mounta	55.94	335	P	P	03 27 25.1	-0.6
	baz=150						
T39A	Clever	55.99	341	P	P	03 27 25.8	-0.2
	baz=157						
S41A	Jillco Farms,	56.02	342	P	P	03 27 25.9	-0.3
	baz=158						
U37A	Salina	56.02	339	P	P	03 27 26.2	+0.1
	baz=154						
R43A	Red Bud	56.16	344	P	P	03 27 26.5	-0.5
	baz=161						
S40A	Lebanon	56.25	342	P	P	03 27 27.5	-0.3
	baz=158						
T38A	Diamond	56.30	340	P	P	03 27 28.1	0.0
	baz=156,SNR=6.5						
R42A	Luebbering	56.39	343	P	P	03 27 28.5	-0.2
	baz=160						
Q44A	Meyer Farm, Va	56.52	345	P	P	03 27 29.5	-0.1
	baz=162						
MNTX	Cornudas Mount	56.52	327	P	P	03 27 29.1	-0.8
	baz=142						
U35A	Pawnee	56.57	337	P	P	03 27 29.7	-0.4
	baz=153,SNR=5.0						
R41A	Rosebud	56.57	343	P	P	03 27 29.6	-0.4
	baz=159						
S39A	Bolivar	56.59	341	P	P	03 27 30.1	-0.1
	baz=157						
T37A	Cheneyville 18	56.59	339	P	P	03 27 30.0	-0.2
	baz=155,SNR=6.7						
S38A	Stockton	56.72	340	P	P	03 27 30.7	-0.5
	baz=156						
Q43A	New Douglas	56.72	345	P	P	03 27 31.2	+0.1
	baz=161						
R40A	Maddies Statio	56.82	342	P	P	03 27 31.4	-0.4
	baz=158						
T36A	Boggs Farm, Ca	56.87	338	P	P	03 27 32.1	-0.1
	baz=154						
Q42A	Golden Eagle	56.91	344	P	P	03 27 32.4	-0.1
	baz=160,SNR=6.4						
T35A	Sooner Cattle	56.97	338	P	P	03 27 32.7	-0.2
	baz=153						
MSTX	Muleshoe	57.06	331	P	P	03 27 33.9	+0.2
	baz=146						
R39A	Chumby, Stover	57.07

ANMO	Albuquerque baz=142	59.63	329	P	P	03 27 52.5 +0.7
CBKS	Cedar Bluff baz=150	59.85	336	P	P	03 27 53.2 +0.2
O34A	Beatrice baz=154	59.95	339	P	P	03 27 53.2 -0.4
N36A	Muff Farm, Cla baz=156	59.96	341	P	P	03 27 53.7 +0.1
O33A	Hebron baz=153	60.16	339	P	P	03 27 54.9 -0.2
M37A	Trindle Farm, baz=157	60.22	342	P	P	03 27 55.5 +0.2
T25A	Trinidad baz=145,SNR=5.6	60.42	332	P	P	03 27 57.3 +0.2
PKME	Peaks-Kenny Pk 11nm,0.7s	61.01	3	eP	P	03 28 01.0 +0.4
L36A	Harm Buss Farm baz=156	61.04	342	P	P	03 28 01.3 +0.3
KSCO	Kaye Shedlock' baz=148	61.19	334	P	P	03 28 02.6 +0.4
SDCO	Great Sand Dun baz=144,SNR=14	61.41	331	P	P	03 28 04.4 +0.4
SDCO	Great Sand Dun 8.5nm,0.8s	61.41	331	eP	P	03 28 04.8 +0.8
L34A	Svendsen Farm, baz=155	61.45	340	P	P	03 28 03.3 -0.4
K36A	Gilmore City baz=157	61.47	342	P	P	03 28 03.9 0.0
BGNE	Belgrade baz=153	61.54	339	P	P	03 28 04.0 -0.4
S22A	4UR Ranch, Cre baz=143	62.04	330	P	P	03 28 08.4 +0.2
J33A	Davis baz=154	62.85	341	P	P	03 28 13.0 -0.1
H36A	Jessenland, He baz=158	63.11	344	P	P	03 28 15.2 +0.5
ECSD	EROS Data Cent baz=155	63.12	341	P	P	03 28 14.9 +0.1
ECSD	EROS Data Cent 4.2nm,0.8s	63.12	341	eP	P	03 28 14.6 -0.3
ISCO	Idaho Springs baz=145	63.13	332	P	P	03 28 15.8 +0.4
PV01	Paradox Valley	63.19	329	eP	P	03 28 16.6 +0.9
SPMN	Marine on St. baz=159	63.41	345	P	P	03 28 16.6 -0.2
I33A	Coleman baz=155	63.46	341	P	P	03 28 17.2 +0.1
H35A	Sunnyside Ranc baz=157	63.47	343	P	P	03 28 16.9 -0.2
H32A	Carlson Farm, baz=154	64.07	341	P	P	03 28 21.3 +0.2
F36A	Milaca baz=158	64.19	344	P	P	03 28 21.9 0.0
G33A	Ortonville baz=155	64.39	342	P	P	03 28 23.1 -0.1
F35A	Swanville baz=157	64.46	344	P	P	03 28 23.9 +0.3
O20A	White River Ci baz=142	64.60	331	P	P	03 28 24.6 -0.3
E36A	McGregor baz=159	64.73	345	P	P	03 28 25.4 +0.1
F33A	5 Mile Ranch, baz=156	64.93	342	P	P	03 28 26.7 0.0
E35A	Pequot Lakes baz=158	65.06	344	P	P	03 28 27.9 +0.4
E34A	Wadena baz=157	65.23	343	P	P	03 28 29.1 +0.5
F31A	Hecla baz=154	65.54	341	P	P	03 28 31.2 +0.5
K22A	Casper baz=145	65.85	334	P	P	03 28 33.4 +0.5
E31A	Nome baz=154	66.05	342	P	P	03 28 34.3 +0.4
C34A	RKJ Ranch, Bem baz=157	66.21	344	P	P	03 28 34.6 -0.3
TPNV	Topopah Spring baz=134	66.41	323	P	P	03 28 37.1 +0.5
MPMC	Manual Prospec baz=133	66.52	322	P	P	03 28 37.2 -0.2
B35A	Bob, Littlefor baz=158	66.56	345	P	P	03 28 37.2 +0.1
VNA3	Neumayer Olymp	66.63	162	P	pP	03 29 00.9 +2.4
VNA1	Neumayer--Stat	66.86	161	P	pP	03 29 03.0 +3.1
DUG	Dugway, Tooele baz=138	66.89	328	P	P	03 28 40.6 +1.1
DUG	Dugway, Tooele 8.3nm,1.0s	66.89	328	eP	P	03 28 40.8 +1.2
B34A	Aery, Baudette baz=158	66.91	345	P	P	03 28 39.3 0.0
R11A	Troy Canyon, C baz=135	67.02	325	P	P	03 28 41.0 +0.5
AGMN	Agassiz Nation baz=156	67.05	344	P	P	03 28 40.5 +0.2
AGMN	Agassiz Nation 10nm,1.0s	67.05	344	eP	P	03 28 39.9 -0.3
GRAC	Grapevine Rang baz=134	67.09	323	P	P	03 28 41.9 +1.1
C31A	Landman Farms, baz=154	67.12	342	P	P	03 28 41.0 +0.3
CWC	Cottonwood Cre baz=133	67.13	322	P	P	03 28 42.0 +0.8
VNA2	Neumayer--Watz baz=283,slow=6.7	67.22	161	P	pP	03 29 04.6 +2.4
PDAR	Pinedale Array 0.4nm,0.6s,baz=129,slow=4.7,SNR=4.8	67.28	332	P	P	03 28 42.5 +0.4
B32A	Ashes, Strandq baz=156	67.33	343	P	P	03 28 42.2 +0.2
VES	Vestal, Richgr baz=132	67.34	321	P	P	03 28 43.0 +0.7
A33A	Warroad baz=157	67.52	344	P	P	03 28 43.4 +0.3
SNAA	Sanae	68.84	161	P	pP	03 29 14.9 +2.3
SNAA	Sanae 1.2nm,0.8s,baz=274,slow=9.5,SNR=10	68.84	161	P	P	03 28 52.4 +1.1
SNAA	Sanae 63nm,0.7s	68.84	161	eP	P	03 28 52.1 +0.8
ULM	Lac du Bonnet 7.3nm,0.5s,baz=155,slow=6.8,SNR=14	68.85	345	P	P	03 28 50.9 -0.5
HLID	Hailey baz=138	70.19	329	P	P	03 29 01.1 +1.0
BOZ	Bozeman (W) baz=141	70.42	332	P	P	03 29 01.4 -0.1
MFID	Camas Ranch 7.4nm,0.9s	70.78	329	eP	P	03 29 05.1 +1.4
DBIC	Dimbokro 5.0nm,1.1s,baz=214,slow=3.6,SNR=6.1	71.28	77	P	P	03 29 07.1 0.0
O03D	Paynes Creek baz=131	71.88	323	P	P	03 29 10.4 +0.2
MOD	Modoc Plateau 6.0nm,1.0s	72.09	325	eP	P	03 29 12.8 +1.2
M04C	Macdoel baz=131	72.87	324	P	P	03 29 17.1 +0.9
M02C	Callahan baz=130	73.19	323	P	P	03 29 18.4 +0.3
J05D	Fort Rock, OR baz=132	73.52	326	P	P	03 29 21.0 +1.0
J04D	Umpqua Nationa baz=131	73.97	325	P	P	03 29 23.5 +0.7
L02D	Cave Junction, baz=130	74.11	323	P	P	03 29 24.8 +1.5
I05D	Terrebonne, OR baz=132	74.28	326	P	P	03 29 25.9 +1.5
TORD	Torodi Ar. Bea 6.0nm,0.7s,baz=248,slow=5.4,SNR=54	79.50	73	P	P	03 29 53.7 -0.5
PAB	San Pablo 7.5nm,0.9s	84.54	46	eP	P	03 30 20.9 +0.7
YKA	Yellowknife Ar 4.0nm,0.8s,baz=134,slow=5.1,SNR=17	84.63	342	P	P	03 30 20.0 0.0
ESDC	Sonseca Array 3.7nm,0.7s,baz=258,slow=5.1,SNR=26	84.86	46	P	P	03 30 22.7 +0.9
TAM	Tamanrasset 5.1nm,1.2s	86.09	65	eP	P	03 30 29.3 +0.9
ILAR	Eielson Array 0.2nm,0.8s,baz=66,slow=2.5,SNR=4.2	97.50	335	P	P	03 31 19.1 -1.2
ARU	Arti	125.66	31	ePKPdf	PKPdf	03 36 48.2 +0.6
AKTO	Aktyubinsk 1.7nm,0.8s,baz=310,slow=4.7,SNR=4.4	127.97	38	PKP	PKPdf	03 36 53.2 +1.0
ABKAR	Akbulak array	129.59	38	ePKPdf	PKPdf	03 36 56.5 +1.2
ASAR	Alice Springs 0.5nm,0.7s,baz=111,slow=1.8,SNR=5.0	132.55	215	PKP	PKPdf	03 37 01.9 +0.1
BVAR	Borovoye Array 0.4nm,0.5s,baz=348,slow=3.4,SNR=2.9	133.25	29	PKP	PKPdf	03 37 03.4 +1.2
WRA	Warramunga Arr 1.4nm,0.8s,baz=144,slow=1.9,SNR=9.3	135.23	218	PKP	PKPdf	03 37 07.2 +0.3
WRAB	Tennant Creek	135.23	218	ePKPdf	PKPdf	03 37 07.5 +0.6
ZALV	Zalesovo Beam 1.2nm,0.4s,baz=264,slow=3.0,SNR=4.9	138.37	19	PKP	PKPdf	03 37 11.5 -0.1
KURK	Kurchatov KURK	138.57	27	PKP ePKPdf	PKPdf PKiKP	03 37 11.6 -0.6 03 37 12.9 -1.4
KURBB	Kurchatov Arra 0.7nm,0.6s,baz=311,slow=2.8,SNR=4.5	138.60	27	PKP	PKPdf	03 37 11.6 -0.6
MKAR	Makanchi Array 0.5nm,0.6s,baz=318,slow=1.6,SNR=4.2	143.11	28	PKP	PKPdf	03 37 20.4 -0.1
USRK	Ussuriysk Ar. 3.5nm,0.7s,baz=63,slow=4.7,SNR=6.9	144.65	328	PKP	PKPbc	03 37 22.6 +0.5
MJAR	Matsushiro Arr 5.3nm,0.9s,baz=115,slow=1.5,SNR=11	145.37	312	PKPbc	PKPdf	03 37 24.7 0.0
MAJO	Matsushiro	145.37	312	ePKPbc	PKPab	03 37 24.9 -0.1
ULN	Ulaanbaatar	148.16	360	ePKPbc	PKPbc	03 37 33.5 +0.9
SONM	Songino Array 5.1nm,0.7s,baz=288,slow=0.6,SNR=8.4	148.19	0	PKPbc	PKPbc	03 37 33.3 +0.7
KSRS	Korea Array 4.9nm,0.9s,baz=2.0,slow=1.4,SNR=12	151.55	323	PKPbc	PKPbc	03 37 41.6 +0.7
KSAR	Wonju Array Be	151.59	323	PKPbc	PKPbc	03 37 41.6 +0.6

DDA ***15*** *03:18:53.6, 36.87N×28.90E, h7km, Md2.4*
ISK ***15*** *03:18:53.9, 36.90N×28.95E, h7km, MD2.8*
ISCJB ***15*** *03:18:54.4±0.5, 36.91N±0.03×28.93E±0.04, h6km±8km, Error ellipse: s-maj=5.3km s-min=5.1km az=136.6*
CSEM ***15*** *03:18:54.2±0.2, 36.90N×28.94E, h5km, MD2.4*

ISC 15 03:18:54.1±1.1, 36.92N±0.03×28.95E±0.02, h6km±10km, n28, σ1°15/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mu¨la	0.26	247	ePG	Pg	03 18 59.0	-0.1
DALY	Dalyan (Mu¨la	0.26	247	iP	Pg	03 18 57.9	-1.2
DALY				iS	Sg	03 19 03.1	+0.6
DALY	Dalyan (Mu¨la	0.26	247	P	Pg	03 18 57.9	-1.2
DALY	Dalyan (Mu¨la	0.26	247	ePg	Pg	03 18 59.0	-0.1
DALY				S	Sg	03 19 03.1	+0.6
TURN	Turunc	0.28	261	iP	Pn	03 19 04.4	-0.4
TURN				iS	Sb	03 19 12.2	+5.7
FETY	Fethiye	0.30	159	ePG	Pg	03 19 00.1	+0.1
FETY				eSG	Sg	03 19 04.7	+0.7
FETY	Fethiye	0.30	159	P	Pg	03 18 59.7	-0.3
FETY	Fethiye	0.30	159	ePg	Pg	03 19 00.1	+0.1
FETY				S	Sg	03 19 04.8	+0.8
GLHS	Glhisar (BURDU	0.50	61	ePG	Pg	03 19 04.1	+0.3
GLHS	Glhisar (BURDU	0.50	61	ePg	Pg	03 19 04.1	+0.3
TAVA	DENIZLI_Tavas	0.55	357	iP	Pg	03 19 04.8	+0.1
TAVA				iS	Sb	03 19 14.5	0.0
TAVA	DENIZLI_Tavas	0.55	357	P	Pg	03 19 04.8	+0.1
TAVA				S	Sb	03 19 14.5	0.0
GOLH	Golhisar	0.59	57	iP	Pg	03 19 05.7	+0.3
GOLH				iS	Sb	03 19 15.8	+0.3
GOLH	Golhisar	0.59	57	P	Pg	03 19 05.7	+0.3
GOLH				S	Sb	03 19 15.8	+0.3
AKAS	Kas	0.86	142	ePG	Pg	03 19 10.7	0.0
AKAS	Kas	0.86	142	iP	Pn	03 19 11.9	-1.1
AKAS				iS	Sn	03 19 26.1	+0.1
AKAS	Kas	0.86	142	ePg	Pg	03 19 10.7	0.0
AKAS	Kas	0.86	142	P	Pn	03 19 11.9	-1.1
MLSB	Milas	1.01	292	ePG	Pn	03 19 14.1	-0.8
MLSB	Milas	1.01	292	ePg	Pn	03 19 14.1	-0.8
DAT	Datca	1.11	261	ePN	Pn	03 19 16.0	-0.4
DAT	Datca	1.11	261	ePn	Pn	03 19 16.0	-0.4
KORT	Korkueli	1.13	85	ePN	Pb	03 19 16.0	-0.1
KORT	Korkueli	1.13	85	ePn	Pb	03 19 16.0	-0.1
BODT	Bodrum	1.32	277	ePN	Pg	03 19 19.2	-0.2
BODT	Bodrum	1.32	277	ePn	Pg	03 19 19.2	-0.2
KARP	Karpathos	1.99	227	ePN	Pb	03 19 29.5	-1.3
KARP	Karpathos	1.99	227	ePn	Pb	03 19 29.5	-1.3

IDC ***15*** *03:37:30.5±1.2, 30.41S×177.53W, h0km, mb4.4/3, mb1 4.5/4, mb1mx4.0/21, mbtmp4.3/4, ML3.6/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/22, Error ellipse: s-maj=33.0km s-min=19.6km az=94.0*
NEIC ***15*** *03:37:31.4±0.7, 30.48S×177.41W, h10km, mb4.6/1, Error ellipse: s-maj=19.2km s-min=12.0km az=101.0*

ISC 15 03:37:35.2±1.2, 30.53S±0.08×177.6W±0.2, h33km, n19, σ1°72/17, mb4.5/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.30	348	Pn	Pn	03 37 55.7	-1.3
RAO	753nm,0.3s,baz=100,slow=8.3,SNR=24			Sn	Sn	03 38 10.7	-2.5
URZ	Urewera 0.6nm,0.3s,baz=214,slow=15,SNR=5.2	8.86	208	Pn	Pn	03 39 40.4	-0.5
URZ				Sn	Sn	03 41 15.1	-4.4
DZM	Mont Dzumac comp=Z,121nm,18.5s,baz=40,slow=31	16.58	297	LR	LR	03 46 08.5	
AFI	Afiamalu comp=Z,19nm,18.2s,baz=108,slow=44	17.39	19	LR	LR	03 50 03.8	
RAR	Rarotonga comp=Z,38nm,18.3s,baz=331,slow=39	18.52	64	LR	LR	03 49 33.9	
HNR	Honiara comp=Z,56nm,18.4s,baz=127,slow=33	29.64	310	LR	LR	03 53 46.9	
CTAO	Charters Tower 27nm,0.5s	34.15	279	eP	P	03 44 19.6	+2.3
STKA	Stephens Creek 5.1nm,0.6s,baz=121,slow=12,SNR=6.1	34.77	257	P	P	03 44 24.6	+1.9
ASAR	Alice Springs 1.0nm,0.3s,baz=106,slow=7.1,SNR=17	43.43	267	P	P	03 45 36.0	+0.7
WRAB	Tennant Creek 5.5nm,0.7s	44.43	272	eP	P	03 45 43.9	+0.7
WRA	Warramunga Arr 3.6nm,0.4s,baz=111,slow=8.0,SNR=23	44.44	272	P	P	03 45 43.4	+0.1
KKAR	Karatay Array	125.42	303	ePKPdf	PKPdf	03 56 33.1	+0.5
FINES	FINESS Array B 2.6nm,0.4s,baz=46,slow=4.2,SNR=68	145.38	340	PKPbc	PKPdf	03 57 08.8	-0.1
NB2	NORSAR Subarra comp=Z,2.2nm,1.0s,baz=17,slow=2.6	148.93	352	PKP	PKPbc	03 57 19.6	+0.6
NOA	NORSAR Array B comp=Z,0.9nm,0.8s,baz=18,slow=4.3,SNR=3.4	148.93	352	PKPbc	PKPbc	03 57 18.4	-0.6
AKASG	Malin Array Be comp=Z,0.8nm,0.5s,baz=52,slow=2.7,SNR=4.2	151.60	323	PKPbc	PKPbc	03 57 25.3	-0.3
KIEV	Kiev	151.61	323	ePKPab	PKPab	03 57 33.3	-1.1
BRTR	Keskin Array B comp=Z,0.4nm,0.5s,baz=133,slow=5.4,SNR=3.6	152.95	298	PKPbc	PKPbc	03 57 29.6	+0.4
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.8s,baz=210,slow=3.6,SNR=3.5	162.69	178	PKPab	PKPab	03 58 24.2	+1.4

IDC 15 04:26:10.0±1.8, 29.74S×176.18W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/29, mbtmp3.7/2, Error ellipse: s-maj=68.1km s-min=27.3km az=22.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.59	287	Pn	Pg	04 26 41.2	+0.8
RAO	183nm,0.3s,baz=8.6,slow=23,SNR=5.0			Sn	Sg	04 27 02.6	+1.6
ASAR	Alice Springs 0.4nm,0.6s,baz=100,slow=7.5,SNR=5.1	44.73	265	P	P	04 34 24.1	-1.1
WRA	Warramunga Arr 1.3nm,0.6s,baz=110,slow=7.8,SNR=14	45.66	271	P	P	04 34 31.5	-1.2
FINES	FINESS Array B 2.7nm,1.1s,baz=64,slow=4.4,SNR=6.4	145.04	341	PKPbc	PKPbc	04 45 47.5	-0.5
TORD	Torodi Ar. Bea 1.1nm,0.8s,baz=201,slow=3.8,SNR=8.2	163.37	173	PKPab	PKPab	04 47 06.1	+0.3

ISCJB ***15*** *04:41:00.6±0.6, 17.7S±0.2×178.8W±0.1, h550km, mb4.3/28, Error ellipse: s-maj=27.2km s-min=7.5km az=150.5*
IDC ***15*** *04:41:00.2±1.7, 17.60S×178.77W, h533km±18km, mb3.8/9, mb1 4.1/11, mb1mx3.7/24, mbtmp4.7/11, Error ellipse: s-maj=36.7km s-min=12.9km az=148.0*
NEIC ***15*** *04:41:01.3±1.7, 17.68S×178.80W, h549km±19km, mb4.2/19, Error ellipse: s-maj=20.9km s-min=10.5km az=148.0*

ISC 15 04:41:01.7±0.7, 17.7S±0.2×178.8W±0.1, h550km, n77, σ1°96/73, mb4.2/28, 6C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.99	269	eP	P	04 42 19.3	+2.6
AFI	Afiamalu 8.3nm,0.3s,baz=72,slow=6.6,SNR=13	7.75	62	P	P	04 42 53.4	-3.7
AFI	Afiamalu 67nm,0.6s	7.75	62	eP	P	04 42 53.2	-3.8
DZM	Mont Dzumac 2.1nm,0.3s,baz=280,slow=20,SNR=13	14.53	250	P	P	04 44 06.3	-0.2
DZM	Mont Dzumac 22nm,0.6s	14.53	250	eP	P	04 44 04.8	-1.6
EIDS	Eidsvold 5.9nm,0.7s	28.98	249	eP	P	04 46 17.4	0.0
CTAO	Charters Tower 70nm,0.8s	33.10	260	eP	P	04 46 52.2	-0.5
CAN	Canberra 13nm,0.9s	33.53	232	eP	P	04 46 56.3	+0.1
PMG	Port Moresby 8.6nm,0.8s	34.05	279	eP	P	04 47 02.4	+1.6
COEN	Coen 12nm,0.7s	36.72	270	eP	P	04 47 23.6	+0.7
STKA	Stephens Creek 10.0nm,0.5s,baz=88,slow=10,SNR=38	38.40	241	P	P	04 47 37.2	+0.9
BBOO	Buckleboo 27nm,0.6s	43.17	241	eP	P	04 48 14.2	-0.1
WRAB	Tennant Creek 4.0nm,0.5s	44.28	259	eP	P	04 48 22.4	-0.8
WRA	Warramunga Arr 5.2nm,0.5s,baz=97,slow=6.9,SNR=100	44.29	259	P	P	04 48 22.5	-0.7
ASAR	Alice Springs 63nm,0.6s,baz=89,slow=8.2,SNR=792	44.48	254	P	P	04 48 24.9	+0.2
ASAR				ScP	ScP	04 52 57.8	+1.6
ASAR	0.7nm,0.8s,baz=86,slow=4.0,SNR=4.6			S	S	04 54 18.4	-1.8
FORT	Forrest 1.0nm,0.9s,baz=92,slow=14,SNR=6.9	49.75	244	eP	P	04 49 03.4	-0.8
MJAR	Matsushiro Arr 232nm,0.6s	67.51	324	P	P	04 51 03.1	-0.3
PETK	Petropavlovsk- 2.3nm,0.5s,baz=160,slow=6.4,SNR=6.1	73.38	345	P	P	04 51 38.1	+0.4
CMB	Columbia Colle 6.2nm,0.6s,baz=132,slow=7.7,SNR=6.0	77.95	43	eP	P	04 52 03.2	-0.2
MOD	Modoc Plateau 8.9nm,0.6s	80.17	40	eP	P	04 52 14.8	-0.4
WVOR	Wild Horse Val 3.3nm,0.0s	81.50	40	eP	P	04 52 21.7	-0.3
MCK	McKinley 6.3nm,1.0s	84.42	13	eP	P	04 52 35.1	-0.9
COLA	College 5.5nm,0.7s	85.65	13	eP	P	04 52 40.4	-1.5
ILAR	Eielson Array 5.3nm,0.9s	85.77	13	P	P	04 52 41.4	-1.1
MNTX	Cornudas Mount 1.6nm,0.4s,baz=222,slow=5.2,SNR=45	85.77	55	eP	P	04 52 42.9	-0.4
TXAR	Lajitas Array 2.7nm,1.0s	86.21	58	P	P	04 52 46.4	+0.9
ANMO	Albuquerque 2.9nm,0.8s,baz=216,slow=6.1,SNR=38	86.27	52	eP	P	04 52 45.3	-0.5
TPAW	Teton Pass 2.5nm,1.2s	86.89	42	eP	P	04 52 48.5	-0.2
SNOW	Snow King Moun 2.8nm,0.9s	87.00	43	eP	P	04 52 48.9	-0.2
IMW	Indian Meadow 3.5nm,0.9s	87.09	42	eP	P	04 52 49.5	-0.1
LOHW	Long Hollow 3.7nm,0.8s	87.17	42	eP	P	04 52 49.8	-0.1
PDAR	Pinedale Array 1.9nm,0.6s	87.46	44	P	P	04 52 51.0	-0.3
YKA	Yellowknife Ar 2.1nm,0.5s,baz=213,slow=3.2,SNR=26	94.30	25	P	P	04 53 21.3	-0.7
MKAR	Makanchi Array 0.5nm,0.5s,baz=48,slow=1.0,SNR=4.4	108.71	314	PKiKP	PKiKP	04 58 26.9	-1.6
KURK	Kurchatov	111.41	318	PKiKP	PKiKP	04 58 31.6	-1.7
KURBB	Kurchatov Arra 0.4nm,0.2s,baz=95,slow=2.0,SNR=4.1	111.47	318	PKiKP	PKiKP	04 58 31.6	-1.8
BVAR	Borovoye Array 0.9nm,0.4s,baz=169,slow=1.5,SNR=4.3	116.44	321	PKP	PKPdf	04 58 41.0	-2.0
ARCES	ARCESS Array B 3.5nm,0.8s,baz=48,slow=1.8,SNR=5.2	126.04	350	PKP	PKPdf	04 59 00.5	-0.4
FINES	FINESS Array B 2.0nm,1.0s,baz=197,slow=2.0,SNR=4.2	132.88	344	PKP	PKPdf	04 59 12.6	-1.4
AKASG	Malin Array Be 0.6nm,0.4s,baz=36,slow=2.5,SNR=3.2	140.19	332	PKP	PKPdf	04 59 29.5	+1.6
BURAR	Bucovina Array	144.25	332	⇑iP	PKPbc	04 59 35.3	+0.2
BRTR	Keskin Array B 2.2nm,0.8s,baz=85,slow=2.0,SNR=11	144.36	315	PKP	PKPbc	04 59 35.8	0.0
TESR	Tescani	144.38	329	⇓iP	PKPbc	04 59 35.3	-0.1
VRI	Vrincioaia	144.80	328	⇓iP	PKPdf	04 59 33.5	-2.7
PLOR	Plostina	144.85	329	⇓iP	PKPdf	04 59 38.3	+1.9
OKC	Ostrava-Krasne	145.15	341	ePKP	PKPdf	04 59 37.7	+1.0
CLL	Collm comp=Z,10.0nm,0.6s	145.17	347	iPKPbc	PKPdf	04 59 37.6	+0.9
UPC	Upice	145.18	343	ePKP	PKPdf	04 59 37.7	+1.0
DPC	Dobruska-Polom	145.24	343	ePKP	PKPdf	04 59 38.4	+1.5
DPC				ex	x	04 59 39.8	
KRLC	Kraliky	145.35	342	ePKP	PKPdf	04 59 38.3	+1.2
BRG	Berggiesshubel comp=Z,4.3nm,0.7s	145.37	346	ePKP	PKPdf	04 59 38.1	+1.1
DOPR	Dopca	145.38	330	⇑iP	PKPdf	04 59 38.3	+1.1
MORC	Moravsky Berou	145.39	341	⇑iP	PKPdf	04 59 38.2	+1.0
MORC	Moravsky Berou	145.39	341	ePKPbc	PKPdf	04 59 38.0	+0.9
MLR	Muntele Rosu	145.45	329	⇓iP	PKPdf	04 59 40.3	+2.8
PVCC	Panska Ves	145.54	345	ePKP	PKPdf	04 59 38.9	+1.6
DRGR		145.98	333	⇑iP	PKPdf	04 59 39.0	+0.7
PRU	Pruhonice	146.04	345	ePKP	PKPdf	04 59 40.2	+2.0
PRU				ex	x	04 59 42.6	
GOPC	GO Pecny, Ondr	146.05	344	ePKP	PKPdf	04 59 40.5	+2.3
ARR	Arges	146.18	330	⇑iP	PKPdf	04 59 41.5	+2.8
GRFO	Grafenberg	147.07	348	ePKPbc	PKPdf	04 59 43.3	+3.3
KHC	Kasperske Hory	147.07	345	ePKP	PKPdf	04 59 43.2	+3.2
KHC				ex	x	04 59 47.3	
GERES	GERESS Array B comp=Z,3.4nm,0.5s,baz=23,slow=3.1,SNR=34	147.31	345	PKPbc	PKPdf	04 59 43.6	+3.2
BZS	Buzias	147.37	333	⇑iP	PKPdf	04 59 40.8	+0.3
CONA	Conrad Observa comp=Z,4.2nm,0.6s	147.54	341	iPKiKP	PKPdf	04 59 44.7	+3.8
WLF	Walferdange	147.86	354	ePKPbc	PKPdf	04 59 45.2	+4.0
MOA	Molln comp=Z,3.2nm,0.9s	148.07	343	iPKPbc	PKPdf	04 59 45.2	+3.6
VTS	Vitosha	148.91	328	⇓iP	PKPpre	04 59 32.6	
SOKA	Sobotb comp=Z,5.0nm,1.0s	148.91	341	iPKiKP	PKPbc	04 59 48.3	+0.4
KBA	Koelnbreinsper comp=Z,3.5nm,0.5s	149.03	344	iPKPbc	PKPdf	04 59 47.3	+3.9
RETA	Reutte comp=Z,2.1nm,0.5s	149.26	347	iPKPbc	PKPdf	04 59 48.2	+4.5
WTTA	Wattenberg comp=Z,4.8nm,0.5s	149.28	346	iPKiKP	PKPdf	04 59 48.4	+4.6
MOTA	Moosalm comp=Z,2.5nm,0.5s	149.33	347	iPKPbc	PKPdf	04 59 48.2	+4.3
ABTA	Abfaltersbach comp=Z,6.8nm,0.6s	149.56	345	iPKPbc	PKPdf	04 59 48.7	+4.6
DAVA	Damuels comp=Z,7.2nm,1.1s	149.63	348	iPKiKP	PKPbc	04 59 50.1	+0.5
FETA	Feichten comp=Z,10nm,1.3s	149.72	347	iPKiKP	PKPbc	04 59 49.7	-0.1
ASCN	Ascension	150.26	148	ePKPbc	PKPbc	04 59 52.3	+0.4

KRNET ***15*** *04:58:52.0±0.1, 41.04N×69.44E, mb2.3*
NNC ***15*** *04:58:53.4±4.0, 40.97N×69.60E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=28.3km s-min=12.0km az=18.0*

ISC 15 04:58:56.6±3.5, 40.9N±0.1×69.5E±0.2, h18km±16km, n9, σ1°06/14, 7C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken baz=132	1.32	128	⇑eP	Pn	04 59 19.8	-0.5
BTK	baz=132			⇑iS	Sg	04 59 39.8	+0.5
ARK	Arkit baz=68	2.09	63	⇓eP	Pn	04 59 29.3	-1.6
ARK	baz=68

AML	**Almayashu**	**3.41**	**67**	⇑*i*P		**Pn**	**04 59 49.2**	**-0.1**
	baz=70							
AML				⇑*i*S		**Sn**	**05 00 29.1**	**-0.3**
	baz=70							
AAK	**Ala-Archa**	**4.14**	**63**	⇓Lg		Lg	05 01 01.4	
	2.0nm,0.7s							

CSEM ***15*** *04:59:45.5,37.°16N×22.°05E,h6km,ML2.3/6*
ATH 15 04:59:45.5,37.°16N×22.°05E,h6km±1km,ML2.3/6,Error ellipse: s-maj=2.0km s-min=0.9km az=155.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES3	**Kyparissia**	**0.32**	**286**	P	Pg	04 59 50.5	-1.2
MES3				S	Sg	04 59 56.7	+0.9
MES3				AML	AML	04 59 56.9	
	comp=N,6966μm,0.3s						
MES3				AML	AML	04 59 58.5	
	comp=E,5432μm,0.2s						
MES3	**Kyparissia**	**0.32**	**286**	P	Pg	04 59 50.5	-1.2
MES3				S	Sg	04 59 56.7	+0.8
VLX	**Vlachokerasia**	**0.33**	**51**	P	Pg	04 59 52.7	+0.6
VLX				S	Sg	04 59 57.2	+0.7
VLX				AML	AML	04 59 57.8	
	comp=N,459μm,0.3s						
VLX				AML	AML	04 59 58.0	
	comp=E,742μm,0.3s						
VLX	**Vlachokerasia**	**0.33**	**51**	P	Pg	04 59 52.7	+0.6
VLX				S	Sg	04 59 57.2	+0.7
PYL	**PYLOS**	**0.36**	**223**	P	Pg	04 59 51.8	-0.8
PYL				S	Sg	04 59 58.8	+1.4
PYL				AML	AML	05 00 00.5	
	comp=N,400μm,0.3s						
PYL				AML	AML	05 00 02.7	
	comp=E,458μm,0.4s						
PYL	**PYLOS**	**0.36**	**223**	P	Pg	04 59 51.8	-0.8
PYL				S	Sg	04 59 58.8	+1.4
MES2	**Methoni**	**0.43**	**220**	P	Pg	04 59 53.4	-0.5
MES2				S	Sg	04 59 53.4	-0.5
MES2				S	Sb	05 00 01.3	-1.0
MES2				AML	AML	05 00 01.6	
	comp=N,643μm,0.3s						
MES2				AML	AML	05 00 02.2	
	comp=E,385μm,0.4s						
MES2	**Methoni**	**0.43**	**220**	P	Pg	04 59 53.4	-0.5
MES2				S	Sb	05 00 01.3	-1.0
AMT	**Artemida-Makis**	**0.46**	**324**	P	Pg	04 59 53.6	-0.8
AMT				S	Sg	05 00 01.6	+1.1
AMT				AML	AML	05 00 04.0	
	comp=N,1307μm,0.3s						
AMT				AML	AML	05 00 04.3	
	comp=E,734μm,0.3s						
AMT	**Artemida-Makis**	**0.46**	**324**	P	Pg	04 59 53.6	-0.8
AMT				S	Sg	05 00 01.6	+1.1
GUR	**Goura**	**0.81**	**16**	P	Pg	04 59 59.7	-1.4
GUR	**Goura**	**0.81**	**16**	P	Pg	04 59 59.7	-1.3
DRO	**Drossia**	**0.83**	**341**	P	Pg	05 00 01.9	+0.3
DRO	**Drossia**	**0.83**	**341**	P	Pg	05 00 01.9	+0.3
VLI	**Veliai**	**0.83**	**122**	P	Pg	05 00 01.2	-0.3
VLI	**Veliai**	**0.83**	**122**	P	Pg	05 00 01.2	-0.3
KLV	**Kalavryta, Ach**	**0.88**	**5**	P	Pg	05 00 01.4	-1.1
KLV				S	Sb	05 00 15.2	-0.2
KLV	**Kalavryta, Ach**	**0.88**	**5**	P	Pg	05 00 01.4	-1.1
KLV				S	Sb	05 00 15.2	-0.2
DID	**Didima**	**1.00**	**70**	P	Pb	05 00 05.2	-0.1
DID	**Didima**	**1.00**	**70**	P	Pb	05 00 05.2	-0.1

IDC ***15*** *05:17:48.7±1.7,2.°61S×130.°06E,h0km,mb4.1/3, mb1 4.3/4,mb1mx3.8/34,mbtmp4.1/4,ML4.1/1,Error ellipse: s-maj=121.8km s-min=23.7km az=72.0*
ISCJB ***15*** *05:17:50.2±0.9,2.°73S±0.°06×129.°86E±0.°07,h25km, mb4.1/3,Error ellipse: s-maj=10.8km s-min=8.0km az=157.0*
DJA ***15*** *05:17:53.6±0.4,3.°5S±3.°×13.°0E±.°,h10km,M4.0/7,MLv4.0/7*
ISC 15 05:17:52.5±0.8,2.°84S±0.°06×129.°75E±0.°06,h25km,n11, σ2.°73/15,mb4.2/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.96**	**238**	P	**Pn**	**05 18 11.1**	**+0.6**
MSAI				S	**Sb**	**05 18 24.7**	**+1.8**
BNDI	**Bandanaira**	**1.68**	**175**	P	**Pb**	**05 18 26.2**	**+3.4**
AAI	**Ambon**	**1.77**	**241**	P	**Pn**	**05 18 23.1**	**+1.6**
SWI	**Sorong**	**2.48**	**38**	P	**Pn**	**05 18 34.6**	**+3.3**
FAKI	**Fak Fak**	**2.50**	**92**	P	**Pb**	**05 18 35.9**	**-0.9**
LBMI	**Labuha**	**3.13**	**314**	P	**Pn**	**05 18 40.2**	**-0.1**
LBMI				S	**Sn**	**05 19 16.0**	**-1.0**
SANI	**Sanana**	**3.84**	**282**	P	**Pn**	**05 18 48.8**	**-1.2**
SANI				S	Sn	05 19 26.6	-7.8
WRA	**Warramunga Arr**	**17.58**	**166**	P	**Pn**	**05 21 55.2**	**-0.8**
	0.7nm,0.3s,baz=346,slow=12,SNR=17						
WRA				S	**Sn**	**05 25 05.4**	**-5.9**
	0.2nm,0.3s,baz=356,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**21.09**	**169**	P	**P**	**05 22 37.0**	**+1.6**
	7.4nm,0.5s,baz=343,slow=9.8,SNR=57						
ASAR				S	**S**	**05 26 24.6**	**-4.4**
	1.4nm,0.8s,baz=346,slow=18,SNR=6.2						
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**05 28 28.4**	**+0.2**
	0.9nm,0.7s,baz=123,slow=8.0,SNR=7.2						
ZALV	**Zalesovo Beam**	**67.77**	**333**	P	**P**	**05 28 48.1**	**0.0**
	0.7nm,0.3s,baz=110,slow=6.6,SNR=3.2						

NIED ***15*** *05:57:00,37.°50N×142.°00E,h26km,Mw3.6 Best double couple: M0=2.89000×10^14 NP1:φ=218.00000°,δ32.00000°, λ-115.00000°. NP2:φ=67.00000°,δ61.00000°, λ-75.00000°.*
IDC ***15*** *05:57:29.9±1.1,37.°39N×142.°35E,h0km,mb3.5/4, mb1 3.7/8,mb1mx3.5/34,mbtmp3.6/8,ML3.0/4,MS2.9/1, Ms1 2.9/1,ms1mx2.3/30,Error ellipse: s-maj=27.5km s-min=18.4km az=101.0*
JMA ***15*** *05:57:33.6±0.2,37.°49N×142.°04E,h28km±4km,M3.9*
ISC 15 05:57:31.0±3.4,37.°46N±0.°04×142.°09E±0.°07,h7km±22km, n26,σ1.°42/32,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**265**	P	**Pb**	**05 57 50.7**	**+0.5**
JFK				*e*S	**Sb**	**05 58 02.5**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.09**	**251**	P	**Pb**	**05 57 52.5**	**+0.3**
ONAJ				S	**Sb**	**05 58 05.7**	**-1.0**
JMM	**Marumori**	**1.11**	**292**	P	**Pb**	**05 57 52.6**	**+0.2**
JMM				S	**Sb**	**05 58 05.7**	**-1.4**
JIO	**Ouri**	**1.15**	**330**	P	**Pn**	**05 57 53.1**	**-0.4**
JIO				S	**Sb**	**05 58 06.8**	**-1.6**
JFT	**Otama**	**1.40**	**273**	P	**Pb**	**05 57 57.7**	**+0.3**
JFT				S	**Sn**	**05 58 14.8**	**-0.8**
JOU	**Okura**	**1.45**	**309**	P	**Pn**	**05 57 58.0**	**+0.4**
JOU				S	**Sn**	**05 58 15.8**	**-1.0**
JMK	**Ichinoseki**	**1.64**	**335**	P	**Pn**	**05 58 00.4**	**+0.2**
JMK				*e*S	**Sn**	**05 58 20.6**	**-0.9**
JYS	**Shirataka**	**1.78**	**296**	P	**Pn**	**05 58 03.7**	**+1.6**
JYS				*e*S	**Sn**	**05 58 25.0**	**+0.1**
JYK	**Kaneyama**	**2.00**	**317**	P	**Pn**	**05 58 05.7**	**+0.6**
JOM	**Ohasama**	**2.11**	**343**	P	**Pn**	**05 58 07.3**	**+0.7**
JOM				*e*S	**Sn**	**05 58 32.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.24**	**255**	Pn	**Pb**	**05 58 25.9**	**-2.9**
	2.6nm,0.3s,baz=75,slow=7.5,SNR=7.4						
MJAR				Sn	**Sb**	**05 59 06.7**	**-1.8**
	3.1nm,0.3s,baz=87,slow=25,SNR=4.2						
MAT	**Matsushiro**	**3.24**	**255**	P	**Pn**	**05 58 25.5**	**+3.3**
MAT				*e*S	**Sn**	**05 59 03.0**	**+1.9**
JHJ	**Hachijo jima 2**	**4.72**	**204**	**Pn**	**Pn**	**05 58 42.5**	**0.0**
	3.0nm,0.3s,baz=107,slow=19,SNR=3.0						
JHJ				Sn	**Sn**	**05 59 35.4**	**-2.3**
	27nm,0.3s,baz=90,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**6.66**	**3**	Pn	**Pn**	**05 59 10.7**	**+1.5**
	0.6nm,0.3s,baz=205,slow=19,SNR=2.1						
ASAJ				Sn	**Sn**	**06 00 26.7**	**+1.4**
	0.9nm,0.3s,baz=192,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**10.19**	**315**	Pn	**Pn**	**06 00 00.4**	**+2.8**
	0.2nm,0.3s,baz=121,slow=15,SNR=2.1						
MA2	**Magadan**	**22.83**	**11**	LR	LR	06 10 37.7	
	comp=Z,31nm,19.2s,baz=248,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	06 32 53.7	
	baz=315,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	06 32 57.0	
	baz=315,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	06 32 53.3	
	baz=315,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	06 33 47.1	
	baz=316,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	06 33 48.0	
	baz=316,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	06 33 49.1	
	baz=316,slow=76,SNR=43						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**06 05 42.3**	**+0.6**
	0.6nm,0.7s,baz=81,slow=9.5,SNR=5.4						
ILAR	**Eielson Array**	**48.84**	**33**	P	**P**	**06 06 16.7**	**+0.1**
	0.6nm,0.7s,baz=256,slow=6.1,SNR=6.7						
WRA	**Warramunga Arr**	**57.56**	**189**	P	**P**	**06 07 21.1**	**-0.1**
	0.7nm,0.9s,baz=9.1,slow=6.8,SNR=4.4						
ASAR	**Alice Springs**	**61.29**	**189**	P	**P**	**06 07 46.4**	**-0.6**
	0.3nm,0.6s,baz=13,slow=8.6,SNR=4.0						

IDC ***15*** *06:04:51.6±1.3,30.°50S×71.°92W,h0km,mb3.6/4, mb1 4.1/7,mb1mx3.8/20,mbtmp3.9/7,ML4.6/3,MS3.3/3, Ms1 3.3/3,ms1mx2.8/20,Error ellipse: s-maj=34.4km s-min=30.7km az=92.0*
GUC ***15*** *06:04:57.8±0.5,30.°57S×71.°31W,h98km±12km,ML4.0*
NEIC ***15*** *06:04:57.0±1.4,30.°55S×71.°88W,h36km±13km,mb4.6/2, Error ellipse: s-maj=23.9km s-min=9.3km az=91.0*
NEIC Felt [III] at Coquimbo and La Serena and [II] at La Higuera and Paiguano.
SJA ***15*** *06:04:58.6±0.7,30.°63S×71.°71W,h11km±35km,ML3.9, MW3.8*
ISC 15 06:04:56.4±2.3,30.°58S±0.°04×71.°8W±0.°1,h32km±16km, n32,σ1.°54/34,mb3.7/6,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.98**	**65**	*i* P	**Pb**	**06 05 15.4**	**+0.4**
TLL				*i* S	**Sb**	**06 05 29.0**	**+1.2**
TLL				IAML		06 05 31.0	
	comp=N,7μm,1.0s						
LCO	**Las Campanas**	**1.85**	**32**	⇑*i* P	**Pn**	**06 05 27.2**	**+1.1**
LCO				*i* S	**Sn**	**06 05 49.6**	**+1.1**
LCO				IAML		06 05 51.2	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**1.85**	**32**	*e*Pn	**Pn**	**06 05 27.2**	**+1.1**
LCO				*e*Sn	**Sn**	**06 05 49.5**	**+1.1**
VACH	**Vallenar**	**2.21**	**25**	⇑*i* P	**Pn**	**06 05 32.1**	**+1.3**
VACH				*i* S	**Sn**	**06 05 58.2**	**+1.2**
ACDV	**Cuesta del Vie**	**2.38**	**81**	*e*P	**Pb**	**06 05 38.7**	**0.0**
ACDV				*e*S	**Sb**	**06 06 09.2**	**+1.4**
ROCH	**El Roble**	**2.49**	**164**	⇑*i* P	**Pn**	**06 05 36.8**	**+1.9**
ROCH				*i* S	**Sn**	**06 06 04.6**	**+0.4**
ROCH				IAML		06 06 06.6	
	comp=N,818nm,0.4s						
RTLS	**Leoncito**	**2.49**	**120**	*e*P	**Pb**	**06 05 40.6**	**-0.1**
RTLS				IAML		06 06 25.5	
	comp=Z,602nm,0.5s						
AUSP	**Uspallata**	**2.66**	**129**	*e*P	**Pb**	**06 05 42.7**	**-0.8**
AUSP				*e*S	**Sb**	**06 06 15.8**	**0.0**
AMOG	**MOGNA**	**2.90**	**98**	*e*P	**Pb**	**06 05 45.8**	**-1.7**
AGUA	**GUANDACOL**	**3.10**	**70**	*e*P	**Pb**	**06 05 49.4**	**-1.5**
AGUA				*e*S	**Sb**	**06 06 26.2**	**-2.1**
FSR	**Penalolen**	**3.10**	**159**	*i* P	**Pn**	**06 05 44.4**	**+1.3**
FSR				*i* S	**Sn**	**06 06 20.1**	**+1.1**
ARCO	**CERRO ARCO**	**3.35**	**133**	*e*P	**Pb**	**06 05 52.8**	**-2.4**
LVC	**Limon Verde**	**8.36**	**19**	Pn	**Pn**	**06 06 53.0**	**-2.6**
	comp=Z,61nm,0.3s,baz=191,slow=9.4,SNR=24						
LVC				Sn	**Sn**	**06 08 24.3**	**-4.8**
	comp=Z,56nm,0.3s,baz=171,slow=19,SNR=3.5						
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**06 07 21.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=2.3,slow=13,SNR=14						
TRQA	**Tornquist**	**11.04**	**135**	*e*Pn	**Pn**	**06 07 33.0**	**+1.0**
CPUP	**Villa Florida**	**13.44**	**75**	LR	LR	06 13 01.6	
	comp=Z,61nm,19.3s,baz=238,slow=36						
LPAZ	**La Paz**	**14.62**	**14**	Pn	**Pn**	**06 08 23.9**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=192,slow=7.3,SNR=47						
SIV	**San Ignacio**	**17.55**	**37**	P	**P**	**06 08 59.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=225,slow=12,SNR=34						
SIV				LR	LR	06 15 02.1	
	comp=Z,33nm,19.2s,baz=112,slow=35						
SAML	**Samuel**	**22.99**	**22**	*e*P	**P**	**06 09 58.4**	**-0.1**
	comp=Z,8.4nm,1.2s						
USHA	**Ushuaia**	**24.36**	**175**	LR	LR	06 20 47.0	
	comp=Z,457nm,20.1s,baz=280,slow=39						
BDFB	**Brasilia**	**26.40**	**61**	P	**P**	**06 10 30.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=186,slow=9.4,SNR=4.2						
SNAA	**Sanae**	**54.69**	**159**	*e*P	**P**	**06 14 22.6**	**+0.6**
	comp=Z,11nm,0.6s						
TXAR	**Lajitas Array**	**66.86**	**330**	P	**P**	**06 15 45.3**	**0.0**
	comp=Z,0.2nm,0.6s,baz=155,slow=7.6,SNR=4.7						
PDAR	**Pinedale Array**	**80.80**	**333**	P	**P**	**06 17 06.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=143,slow=7.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.89**	**70**	P	**P**	**06 17 18.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=261,slow=5.4,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**125.93**	**271**	T	T	08 42 44.5	
	baz=115,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**125.94**	**272**	T	T	08 42 45.7	
	baz=115,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy**	**125.94**	**271**	T	T	08 42 45.3	
	baz=115,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**126.25**	**273**	T	T	08 43 11.7	
	baz=116,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**126.27**	**273**	T	T	08 43 10.5	
	baz=116,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**126.27**	**273**	T	T	08 43 09.0	
	baz=116,slow=75,SNR=12						
ZALV	**Zalesovo Beam**	**151.20**	**29**	PKPbc	**PKPbc**	**06 24 46.1**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=277,slow=2.3,SNR=12						

NEIC ***15*** *06:25:07.8±0.0,37.°68S×176.°24E,h209km,MG4.1(WEL), After WEL.*
WEL 15 06:25:09.2±0.5,37.°75S×176.°24E,h200km±3km,ML4.1/52, 10C-26D,Error ellipse: s-maj=2.5km s-min=2.4km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.03**	**40**	Pn	Pn	06 25 35.5	+0.2
TGRZ				Sn	Sn	06 25 37.2	-18
TGRZ	**Tauranga**	**0.03**	**40**	⇑PN	Pn	06 25 35.5	+0.2
OPRZ	**Ohinepanea**	**0.27**	**111**	Pn	Pn	06 25 35.5	0.0
OPRZ				Sn	Sn	06 25 56.8	+0.8
OPRZ	**Ohinepanea**	**0.27**	**111**	⇑PN	Pn	06 25 35.5	0.0
OPRZ				SN	Sn	06 25 56.8	+0.8
TARZ	**Mount Tarawera**	**0.53**	**157**	Pn	Pn	06 25 37.2	+0.8
TARZ	**Mount Tarawera**	**0.53**	**157**	PN	Pn	06 25 37.2	+0.8
TOZ	**Tahuroa Road**	**0.58**	**272**	Pn	Pn	06 25 36.8	+0.3
TOZ	**Tahuroa Road**	**0.58**	**272**	PN	Pn	06 25 36.8	+0.3
RRRZ	**Republican Roa**	**0.63**	**160**	Pn	Pn	06 25 37.2	+0.4
RRRZ				Sn	Sn	06 25 59.5	+1.1
RRRZ	**Republican Roa**	**0.63**	**160**	PN	Pn	06 25 37.2	+0.4
WPRZ	**Whakapapatarin**	**0.77**	**184**	Pn	Pn	06 25 37.5	0.0
WPRZ	**Whakapapatarin**	**0.77**	**184**	*e*PN	Pn	06 25 37.2	-0.3
ALRZ	**Allen Road**	**0.81**	**174**	Pn	Pn	06 25 38.2	+0.5
ALRZ	**Allen Road**	**0.81**	**174**	*e*PN	Pn	06 25 38.2	+0.5
MUGZ	**Murupara**	**0.84**	**150**	⇓PN	Pn	06 25 37.7	-0.2
URZ	**Urewera**	**0.86**	**127**	Pn	Pn	06 25 37.7	-0.2
URZ	**Urewera**	**0.86**	**127**	⇓PN	Pn	06 25 37.7	-0.2
URZ				SN	Sn	06 25 59.1	-1.2
URZ				AML	AML	06 26 00.3	
RTZ	**Ruatahuna**	**1.04**	**146**	⇓PN	Pn	06 25 39.2	-0.1
MKAZ	**Moumakai**	**1.07**	**307**	Pn	Pn	06 25 39.8	+0.4
MKAZ	**Moumakai**	**1.07**	**307**	⇑PN	Pn	06 25 39.8	+0.4
MRHZ	**Matea Rd**	**1.09**	**173**	⇓PN	Pn	06 25 39.6	0.0
MRHZ				AML	AML	06 25 40.9	
MRHZ				AML	AML	06 26 09.2	
RUGZ	**Raukumara Rang**	**1.16**	**101**	PN	Pn	06 25 39.3	-0.9
MWZ	**Matawai**	**1.17**	**120**	Pn	Pn	06 25 40.2	0.0
MWZ	**Matawai**	**1.17**	**120**	PN	Pn	06 25 40.2	0.0
MWZ				AML	AML	06 26 05.7	
MWZ				AML	AML	06 26 13.3	
RAGZ	**Rawiri**	**1.19**	**129**	Pn	Pn	06 25 40.5	+0.2
RAGZ	**Rawiri**	**1.19**	**129**	PN	Pn	06 25 40.5	+0.2
RAGZ				AML	AML	06 26 06.0	
RAGZ				AML	AML	06 26 11.4	
HAZ	**Te Kaha**	**1.22**	**91**	PN	Pn	06 25 39.8	-0.6
HAZ				AML	AML	06 26 04.5	
HAZ				AML	AML	06 26 04.5	
HAZ				AML	AML	06 26 05.9	
HAZ				AML	AML	06 26 05.9	
SNGZ	**Shannon Statio**	**1.35**	**140**	Pn	Pn	06 25 41.8	+0.3
SNGZ	**Shannon Statio**	**1.35**	**140**	⇓PN	Pn	06 25 41.8	+0.3
SNGZ				AML	AML	06 26 08.1	
SNGZ				AML	AML	06 26 12.0	
NMHZ	**Naumai**	**1.42**	**162**	Pn	Pn	06 25 42.7	+0.6
NMHZ	**Naumai**	**1.42**	**162**	⇓PN	Pn	06 25 42.7	+0.6
NMHZ				AML	AML	06 26 10.2	
NMHZ				AML	AML	06 26 13.9	
KRVZ	**Karewarewa**	**1.42**	**199**	Pn	Pn	06 25 42.2	0.0
KRVZ	**Karewarewa**	**1.42**	**199**	*e*PN	Pn	06 25 42.2	-0.1
BKZ	**Black Stump Fm**	**1.43**	**172**	Pn	Pn	06 25 41.9	-0.4
BKZ	**Black Stump Fm**	**1.43**	**172**	⇓PN	Pn	06 25 41.9	-0.4
BKZ				*e*SN	Sn	06 26 06.1	-2.0
BKZ				AML	AML	06 26 07.8	
TWGZ	**Tauwhareparae**	**1.44**	**108**	Pn	Pn	06 25 42.8	+0.4
TWGZ	**Tauwhareparae**	**1.44**	**108**	PN	Pn	06 25 42.7	+0.4
TWGZ				AML	AML	06 26 11.6	
TWGZ				AML	AML	06 26 19.5	
TKGZ	**Te Karaka**	**1.44**	**119**	Pn	Pn	06 25 42.5	+0.2
TKGZ	**Te Karaka**	**1.44**	**119**	PN	Pn	06 25 42.5	+0.2
TKGZ				AML	AML	06 26 10.0	
TKGZ				AML	AML	06 26 10.4	
WTVZ	**West Tongariro**	**1.46**	**200**	Pn	Pn	06 25 42.7	+0.1
WTVZ	**West Tongariro**	**1.46**	**200**	PN	Pn	06 25 42.7	+0.1
PKGZ	**Pakihiroa**	**1.46**	**96**	PN	Pn	06 25 43.0	+0.4
PKGZ				AML	AML	06 26 09.5	
PKGZ				AML	AML	06 26 09.8	
TWVZ	**Taurewa**	**1.46**	**205**	Pn	Pn	06 25 42.7	+0.1
TWVZ	**Taurewa**	**1.46**	**205**	PN	Pn	06 25 42.7	+0.1
OTVZ	**Oturere**	**1.48**	**198**	*e*PN	Pn	06 25 43.2	+0.4
NGZ	**Ngauruhoe**	**1.51**	**199**	Pn	Pn	06 25 43.3	+0.3
NGZ	**Ngauruhoe**	**1.51**	**199**	PN	Pn	06 25 43.3	+0.3
RIGZ	**Rimuhau**	**1.53**	**129**	⇑PN	Pn	06 25 43.6	+0.5
RIGZ				AML	AML	06 26 11.2	
RIGZ				AML	AML	06 26 13.3	
WHHZ	**Waihua**	**1.54**	**150**	PN	Pn	06 25 43.4	+0.3
WHHZ				AML	AML	06 26 12.0	
WHHZ				AML	AML	06 26 13.0	
TUVZ	**Tukino**	**1.58**	**197**	Pn	Pn	06 25 43.7	0.0
TUVZ	**Tukino**	**1.58**	**197**	PN	Pn	06 25 43.7	0.0
FWVZ	**Far West T-bar**	**1.60**	**199**	Pn	Pn	06 25 43.8	-0.1
FWVZ	**Far West T-bar**	**1.60**	**199**	⇓PN	Pn	06 25 43.8	-0.1
WHVZ	**Whangaehu Hut**	**1.61**	**198**	Pn	Pn	06 25 44.0	-0.1
WHVZ	**Whangaehu Hut**	**1.61**	**198**	⇓PN	Pn	06 25 44.0	-0.1
ARHZ	**Aropaoanui**	**1.62**	**159**	Pn	Pn	06 25 44.2	+0.3
ARHZ	**Aropaoanui**	**1.62**	**159**	⇓PN	Pn	06 25 44.2	+0.3
ARHZ				AML	AML	06 26 10.7	
ARHZ				AML	AML	06 26 13.6	
PUZ	**Puketiti**	**1.63**	**102**	Pn	Pn	06 25 43.9	-0.1
PUZ	**Puketiti**	**1.63**	**102**	PN	Pn	06 25 43.9	-0.1
PUZ				AML	AML	06 26 14.3	
PUZ				AML	AML	06 26 22.2	
TRVZ	**Turoa**	**1.64**	**199**	Pn	Pn	06 25 44.3	0.0
TRVZ	**Turoa**	**1.64**	**199**	PN	Pn	06 25 44.3	0.0
MXZ	**Matakaoa Point**	**1.65**	**84**	Pn	Pn	06 25 44.4	+0.2
MXZ	**Matakaoa Point**	**1.65**	**84**	PN	Pn	06 25 44.4	+0.2
MXZ				AML	AML	06 26 13.8	
MXZ				AML	AML	06 26 20.4	
WNVZ	**Wahianoa**	**1.65**	**198**	Pn	Pn	06 25 44.2	-0.2
WNVZ	**Wahianoa**	**1.65**	**198**	⇓PN	Pn	06 25 44.2	-0.2
KWHZ	**Kaweka Forest**	**1.68**	**175**	PN	Pn	06 25 44.4	-0.1
KWHZ				AML	AML	06 26 21.2	
KWHZ				AML	AML	06 26 21.3	
PKVZ	**Pokaka**	**1.69**	**204**	Pn	Pn	06 25 44.5	-0.1
PKVZ	**Pokaka**	**1.69**	**204**	PN	Pn	06 25 44.5	-0.1
KNZ	**Kokohu**	**1.70**	**139**	Pn	Pn	06 25 44.6	+0.1
KNZ	**Kokohu**	**1.70**	**139**	⇓PN	Pn	06 25 44.6	+0.1
KNZ				AML	AML	06 26 12.9	
KNZ				AML	AML	06 26 12.9	
MOVZ	**Moawhango**	**1.70**	**193**	Pn	Pn	06 25 44.0	-0.7
MOVZ	**Moawhango**	**1.70**	**193**	⇓PN	Pn	06 25 44.0	-0.7
CNGZ	**Carnagh Statio**	**1.72**	**116**	Pn	Pn	06 25 45.7	+0.9
CNGZ	**Carnagh Statio**	**1.72**	**116**	PN	Pn	06 25 45.7	+0.9
CNGZ				AML	AML	06 26 15.8	
CNGZ				AML	AML	06 26 15.9	
WMGZ	**Waiomatatini S**	**1.73**	**93**	Pn	Pn	06 25 45.0	+0.1
WMGZ	**Waiomatatini S**	**1.73**	**93**	PN	Pn	06 25 45.0	+0.1
WMGZ				AML	AML	06 26 14.5	
WMGZ				AML	AML	06 26 14.6	
MCHZ	**McNeill Hill**	**1.73**	**168**	Pn	Pn	06 25 45.4	+0.5
MCHZ	**McNeill Hill**	**1.73**	**168**	PN	Pn	06 25 45.4	+0.5
MCHZ				AML	AML	06 26 13.1	
MCHZ				AML	AML	06 26 15.3	
BHHZ	**Black Hill Sta**	**1.74**	**184**	Pn	Pn	06

OGWZ	Otaki Gorge	3.17 195	Pn	Pn	06 25 58.8	-1.9
OGWZ	Otaki Gorge	3.17 195	PN	Pn	06 25 58.8	-1.9
OGWZ			AML	AML	06 26 40.4	
OGWZ			AML	AML	06 26 40.7	
HOWZ	Holdsworth Sta	3.19 190	Pn	Pn	06 25 58.6	-2.4
HOWZ	Holdsworth Sta	3.19 190	PN	Pn	06 25 58.6	-2.4
HOWZ			AML	AML	06 26 40.7	
HOWZ			AML	AML	06 26 41.4	
KIW	Kapiti Island	3.27 198	Pn	Pn	06 25 59.4	-2.6
KIW	Kapiti Island	3.27 198	PN	Pn	06 25 59.4	-2.6
KIW			AML	AML	06 26 42.4	
TMWZ	Te Maipa	3.36 184	Pn	Pn	06 26 00.7	-2.4
TMWZ	Te Maipa	3.36 184	PN	Pn	06 26 00.7	-2.4
TMWZ			AML	AML	06 26 44.9	
TMWZ			AML	AML	06 26 46.4	
MTW	Mount Morrison	3.45 189	Pn	Pn	06 26 01.4	-2.8
MTW	Mount Morrison	3.45 189	PN	Pn	06 26 01.4	-2.8
MTW			AML	AML	06 26 44.4	
MTW			AML	AML	06 26 45.4	
CAW	Cannon Point	3.47 195	Pn	Pn	06 26 01.9	-2.5
CAW	Cannon Point	3.47 195	⇑PN	Pn	06 26 01.9	-2.5
CAW			AML	AML	06 26 46.4	
CAW			AML	AML	06 26 47.6	
DUWZ	D'Urville Isla	3.54 210	Pn	Pn	06 26 02.5	-2.7
DUWZ	D'Urville Isla	3.54 210	PN	Pn	06 26 02.5	-2.7
TRWZ	Traveller	3.67 186	Pn	Pn	06 26 04.1	-2.7
TRWZ	Traveller	3.67 186	PN	Pn	06 26 04.1	-2.7
TRWZ			AML	AML	06 26 51.9	
PAWZ	Paruwai Farm	3.68 190	Pn	Pn	06 26 04.0	-3.0
PAWZ	Paruwai Farm	3.68 190	PN	Pn	06 26 04.0	-3.0
PAWZ			AML	AML	06 26 51.0	
PAWZ			AML	AML	06 26 51.1	
WEL	Wellington	3.71 197	Pn	Pn	06 26 04.6	-2.6
WEL	Wellington	3.71 197	PN	Pn	06 26 04.6	-2.6
WEL			AML	AML	06 26 50.7	
WEL			AML	AML	06 26 51.1	
MSWZ	Moikau Station	3.74 191	Pn	Pn	06 26 04.6	-3.1
MSWZ	Moikau Station	3.74 191	⇑PN	Pn	06 26 04.6	-3.1
MSWZ			AML	AML	06 26 50.6	
MSWZ			AML	AML	06 26 50.7	
TCW	Tory Channel	3.77 203	Pn	Pn	06 26 05.3	-2.7
TCW	Tory Channel	3.77 203	PN	Pn	06 26 05.3	-2.7
TCW			AML	AML	06 26 52.1	
TCW			AML	AML	06 26 53.3	
BHW	Baring Head	3.80 196	Pn	Pn	06 26 05.2	-3.2
BHW	Baring Head	3.80 196	PN	Pn	06 26 05.2	-3.2
PLWZ	Palliser	3.89 191	Pn	Pn	06 26 06.4	-3.1
PLWZ	Palliser	3.89 191	⇑PN	Pn	06 26 06.4	-3.1
TUWZ	Tuamarina	4.08 205	Pn	Pn	06 26 09.0	-2.8
TUWZ	Tuamarina	4.08 205	PN	Pn	06 26 09.0	-2.8
TUWZ			AML	AML	06 26 57.7	
TUWZ			AML	AML	06 26 58.2	
NNZ	Nelson	4.11 212	Pn	Pn	06 26 09.2	-3.0
NNZ	Nelson	4.11 212	PN	Pn	06 26 09.2	-3.0
QRZ	Quartz Range	4.21 222	Pn	Pn	06 26 10.4	-3.0
QRZ	Quartz Range	4.21 222	PN	Pn	06 26 10.4	-3.0
BSWZ	Blackbirch Sta	4.36 204	Pn	Pn	06 26 12.7	-2.6
BSWZ	Blackbirch Sta	4.36 204	PN	Pn	06 26 12.7	-2.6
THZ	Tophouse	4.76 212	Pn	Pn	06 26 17.5	-3.0
THZ	Tophouse	4.76 212	⇓PN	Pn	06 26 17.5	-3.0
KHZ	Kahutara	5.10 203	Pn	Pn	06 26 21.5	-3.2
KHZ	Kahutara	5.10 203	⇑PN	Pn	06 26 21.5	-3.2
DSZ	Denniston Nort	5.25 219	Pn	Pn	06 26 23.4	-3.4
DSZ	Denniston Nort	5.25 219	PN	Pn	06 26 23.4	-3.4
LTZ	Lake Taylor	5.87 210	Pn	Pn	06 26 30.8	-3.9
LTZ	Lake Taylor	5.87 210	PN	Pn	06 26 30.8	-3.9
INZ	Inchbonnie	6.17 215	PN	Pn	06 26 35.0	-3.6
MQZ	McQueen's Vall	6.54 203	Pn	Pn	06 26 38.3	-5.0
MQZ	McQueen's Vall	6.54 203	⇓PN	Pn	06 26 38.3	-5.0
RPZ	Rata Peaks	7.14 212	Pn	Pn	06 26 46.9	-4.2
RPZ	Rata Peaks	7.14 212	PN	Pn	06 26 46.9	-4.2
ODZ	Otahua Downs	8.41 208	Pn	Pn	06 27 03.8	-3.9
ODZ	Otahua Downs	8.41 208	PN	Pn	06 27 03.8	-3.9

IDC 15 06:51:33.6±6.6, 6°.87S×148°.06E, h81km±47km, mb3.6/2, mb1 3.7/4, mb1mx3.3/30, mbtmp3.8/4, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=73.5km s-min=48.3km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.67 199		P	Pn	06 52 14.6	+0.1
	9.9nm,0.3s,baz=34,slow=8.5,SNR=8.9						
PMG				S	Sn	06 52 46.8	+0.8
	14nm,0.3s,baz=327,slow=22,SNR=6.2						
WRA	Warramunga Arr	18.61 224		P	P	06 55 43.1	-1.5
	0.4nm,0.3s,baz=53,slow=10,SNR=13						
GUMO	Guam	20.57 351		LR	LR	07 02 19.9	
	comp=Z,33nm,21.5s,baz=183,slow=31						
ASAR	Alice Springs	21.54 218		P	P	06 56 15.8	-0.5
	3.5nm,0.5s,baz=55,slow=9.0,SNR=50						
STKA	Stephens Creek	25.60 193		P	P	06 56 57.0	+1.6
	1.0nm,0.4s,baz=15,slow=8.6,SNR=4.2						
TGY	Tagaytay City	34.04 308		LR	LR	07 13 30.2	
	comp=Z,77nm,19.5s,baz=204,slow=39						
TORD	Torodi Ar. Bea	146.32 283		PKPbc	PKPdf	07 11 05.0	+0.2
	0.9nm,0.3s,baz=68,slow=3.2,SNR=24						

MEX 15 07:02:41.8±0.5, 16°.03N×97°.92W, h15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41 331		*i* P	Pg	07 02 49.0	-1.1
PNIG				*i* S	Sg	07 02 54.8	-1.0
VHO	Vista Hermosa	1.54 48		*e*P	Pn	07 03 05.4	-3.5
VHO				*e*S	Sn	07 03 23.6	-5.1
TLIG	Tlapa	1.64 338		*e*P	Pn	07 03 08.2	-2.1
TLIG				*i* S	Sn	07 03 27.7	-3.6

JMA 15 07:02:51.7±0.3, 37°.48N×143°.85E, h50km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.20 297		P	Pn	07 03 27.0	+1.2
OFUJ	Ofunato	2.34 314		P	Pn	07 03 28.7	+1.0
OFUJ				*e*S	Sn	07 03 56.2	+0.9
JFK	Kawauchi	2.37 268		P	Pn	07 03 29.1	+0.9
JFK				*e*S	Sn	07 03 56.6	+0.5
JMK	Ichinoseki	2.54 306		*e*S	Sn	07 04 01.6	+1.5
JFT	Otama	2.79 272		P	Pn	07 03 36.1	+2.2
JFT				*e*S	Sn	07 04 08.5	+2.1
JOM	Ohasama	2.83 316		P	Pn	07 03 35.8	+1.4
JOM				*e*S	Sn	07 04 09.0	+1.8
JYK	Kaneyama	3.10 299		P	Pn	07 03 40.4	+2.3
JANG	Nango	3.42 329		*e*S	Sn	07 04 21.3	-0.4
JRY	Ryogami san	4.23 251		P	Pn	07 03 54.4	+0.7
JRY				*e*S	Sn	07 04 40.4	-1.5
JOD2	Odawara 2	4.43 241		P	Pn	07 03 57.0	+0.6
JOD2				*e*S	Sn	07 04 44.9	-1.9
JKB	Kayabe	4.91 335		P	Pn	07 04 04.2	+1.3
JKB				*e*S	Sn	07 04 57.7	-0.6
JCH	Churui	5.14 356		P	Pn	07 04 05.4	-0.7
JCH				*e*S	Sn	07 05 01.0	-3.1
JHR	Hokuryu	6.46 346		P	Pn	07 04 25.6	+1.4
JTKR	Abashiri--Toko	6.48 0		P	Pn	07 04 23.5	-1.0
JTKR				*e*S	Sn	07 05 32.4	-4.7

TAP ***15*** *07:07:55.5, 23°.91N×122°.77E, h41km±1km, ML3.0, D*
JMA ***15*** *07:07:57.1±0.1, 24°.40N×122°.59E, h59km±1km, M2.0*
ISC 15 07:07:56.0±1.2, 23°.99N±0°.04×122°.67E±0°.02, h19km±3km, n24, σ1°.21/45, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.52 29		P	Pn	07 08 07.3	-1.2
JYNG				S	Sn	07 08 14.6	-2.2
YOJ	Yonaguni jima	0.56 34		P	Pn	07 08 08.0	-1.0
YOJ				S	Sn	07 08 15.8	-2.0
ENA	Nanau	0.95 297		*e*P	Pb	07 08 14.9	+1.0
	baz=298						
ENA				*e*S	Sg	07 08 27.9	+0.8
	baz=298						
TWC	Suao	0.97 310		P	Pb	07 08 14.5	+0.3
	baz=310						
TWC				*e*S	Sg	07 08 27.0	-0.6
	baz=310						
TWD	Chiawan	0.98 275		*e*P	Pb	07 08 15.9	+1.5
	baz=279						
IRIF	Iriomote-Funau	1.03 70		P	Pg	07 08 16.1	+0.1
IRIF				S	Sn	07 08 29.7	+0.4
HATJ	Hateruma jima	1.04 86		P	Pg	07 08 17.5	+1.3
HATJ				S	Sn	07 08 32.6	+3.0
TWE	Neicheng	1.17 309		*e*P	Pg	07 08 18.5	-0.1
	baz=309						
TWE				*e*S	Sg	07 08 34.2	+0.3
	baz=309						
ENTT	Nioudou	1.20 303		P	Pb	07 08 18.7	+0.6
	baz=303						
ENTT				S	Sg	07 08 34.9	+0.1
	baz=303						
JKRS	Kuro-shima	1.25 78		P	Pg	07 08 19.6	-0.6
JKRS				S	Sg	07 08 36.3	-0.2
NNS	Nan Shan	1.26 291		*e*P	Pn	07 08 19.9	+1.1
	baz=292						
NNS				*e*S	Sn	07 08 36.6	+1.2
	baz=292						
WHF	Hehuan Shan	1.29 277		*e*P	Pn	07 08 19.0	-0.4
	baz=279						
WHF				*e*S	Sn	07 08 35.4	-1.1
	baz=279						
NWF	Wu-fen Shan	1.34 323		*e*P	Pb	07 08 20.7	0.0
	baz=322						
NWF				*e*S	Sg	07 08 39.2	-0.4
	baz=322						
NSK	Sanguang	1.38 300		*e*P	Pn	07 08 21.2	+0.9
	baz=300						
NSK				*e*S	Sb	07 08 39.3	+0.8
	baz=300						
JIJ	Ishigaki jima	1.40 74		P	Pn	07 08 20.7	+0.2
JIJ				*e*S	Sb	07 08 38.6	-0.3
TWF1	Yuli	1.41 243		*e*P	Pn	07 08 20.3	-0.4
	baz=247						
TWF1				*e*S	Sn	07 08 37.6	-1.2
	baz=247						
WDT	Danda	1.43 261		*e*P	Pn	07 08 21.0	-0.2
	baz=264						
WDT				*e*S	Sn	07 08 38.3	-1.3
	baz=264						
CHKT	Chengkung	1.49 234		*e*P	Pn	07 08 21.2	-0.6
	baz=237						
CHKT				*e*S	Sn	07 08 37.6	-3.1
	baz=237						
JISG	Ishigakijimahi	1.61 68		P	Pn	07 08 23.4	0.0
JISG				S	Sn	07 08 42.3	-1.4
YUS	Yu-Shan	1.65 253		*e*P	Pn	07 08 24.2	-0.3
	baz=255						
YUS				*e*S	Sn	07 08 43.8	-1.6
	baz=255						
TYC	Yuchr	1.66 267		*e*P	Pn	07 08 25.1	+1.0
	baz=269						
TYC				*e*S	Sn	07 08 45.3	+0.4
	baz=269						
CHN5	Tsauling	1.87 258		*e*P	Pn	07 08 27.4	+0.4
	baz=260						
CHN4	Tsaushan	2.01 252		*e*P	Pn	07 08 26.6	-2.3
	baz=254						
CHN4				*e*S	Sn	07 08 53.2	-0.4
	baz=254						
CHN1	Nanshi	2.12 248		*e*S	Sn	07 08 54.8	-1.6
	baz=250						

NIED ***15*** *07:16:00, 33°.70N×140°.60E, h50km, Mw4.1 Best double couple: M₀1.75000×10¹⁵ NP1:φ₀s195.00000°, δ13.00000°, λ106.00000°. NP2:φ₀s358.00000°, δ78.00000°, λ86.00000°.*
ISCJB ***15*** *07:16:01.4±0.6, 33°.71N±0°.03×140°.59E±0°.06, h55km±5km, mb4.0/12, MS3.3/2, Error ellipse: s-maj=8.5km s-min=4.5km az=17.4*
JMA ***15*** *07:16:01.5±0.1, 33°.74N×140°.62E, h52km±4km, M4.2*
IDC ***15*** *07:16:02.9±1.6, 33°.63N×140°.54E, h54km±13km, mb3.7/12, mb1 4.0/15, mb1mx3.8/34, mbtmp4.0/15, MS3.3/3, Ms1 3.4/3, ms1mx2.8/37, Error ellipse: s-maj=22.5km s-min=9.2km az=83.0*
ISC 15 07:16:02.3±1.1, 33°.70N±0°.04×140°.61E±0°.06, h49km±9km, n36, σ0°.92/40, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.89 229		P	Pn	07 16 18.4	-0.1
JHJ2				S	Sn	07 16 30.5	+0.2
JHJ	Hachijo jima 2	0.91 230		P	Pn	07 16 18.5	-0.2
	1μm,0.3s,baz=160,slow=23,SNR=290						
JHJ				S	Sn	07 16 30.1	-0.6
	3μm,0.3s,baz=267,slow=22,SNR=17						
JHCJ	Hachijojimakas	0.93 228		P	Pn	07 16 18.7	-0.3
JHCJ				S	Sn	07 16 30.7	-0.6
BSO1	Boso 1	1.00 18		P	Pn	07 16 18.6	-0.8
BSO1				S	Sn	07 16 31.7	-0.4
BSO2	Boso 2	1.05 6		S	Sn	07 16 34.5	+0.6
BSO3	Boso 3	1.10 356		P	Pn	07 16 20.6	-0.5
BSO3				S	Sn	07 16 35.5	+0.4
BSO4	Boso 4	1.30 350		P	Pn	07 16 23.8	-0.2
BSO4				S	Sn	07 16 40.7	+0.4
JKO	Kozu shima	1.32 292		P	Pn	07 16 24.0	-0.3
JKO				*e*S	Sn	07 16 40.1	-0.7
JIM2	Oshima 3	1.41 316		P	Pn	07 16 24.9	-0.7
JIM2				*e*S	Sn	07 16 41.4	-1.6
JIZS	Izushimoda	1.76 306		P	Pn	07 16 30.4	+0.1
JIZS				S	Sn	07 16 50.5	-1.0
MJAR	Matsushiro Arr	3.45 326		P	Pn	07 16 54.6	+1.1
	17nm,0.3s,baz=151,slow=11,SNR=63						
MJAR				S	Sn	07 17 33.7	+0.5
	11nm,0.3s,baz=147,slow=10,SNR=5.6						
MAT	Matsushiro	3.45 326		P	Pn	07 16 54.6	+1.0
MAT				*e*S	Sn	07 17 31.4	-1.8
JNU	Nakatsue	8.16 269		P	Pn	07 17 59.4	+1.2
	1.5nm,0.3s,baz=203,slow=5.9,SNR=5.5						
ASAJ	Asahikawa	10.51 8		P	Pn	07 18 28.0	-2.3
	1.8nm,0.3s,baz=228,slow=11,SNR=5.5						
KSRS	Korea Array	10.99 294		P	Pn	07 18 38.1	+1.3
	0.2nm,0.3s,baz=112,slow=12,SNR=5.0						
KSRS				LR	LR	07 22 59.4	
	comp=Z,99nm,18.7s,baz=102,slow=38						
PETK	Petropavlovsk-	22.92 27		LR	LR	07 31 59.6	
	comp=Z,32nm,18.0s,baz=177,slow=42						
H11N2	WAKE ISLAND Hy 27.19 114			T	T	07 50 34.1	
	baz=306,slow=75,SNR=1018						
H11N1	WAKE ISLAND Hy 27.20 114			T	T	07 50 28.4	
	baz=306,slow=75,SNR=597						
H11N3	WAKE ISLAND Hy 27.21 114			T	T	07 50 26.5	
	baz=306,slow=75,SNR=596						
H11S3	WAKE ISLAND Hy 27.78 116			T	T	07 51 19.8	
	baz=307,slow=75,SNR=57						
H11S1	WAKE ISLAND Hy 27.78 116			T	T	07 51 19.7	
	baz=307,slow=75,SNR=58						
H11S2	WAKE ISLAND Hy 27.80 116			T	T	07 51 21.5	
	baz=307,slow=75,SNR=41						
CMAR	Chiang Mai Arr	40.10 258		LR	LR	07 41 04.0	
	comp=Z,125nm,18.1s,baz=211,slow=38						
ZALV	Zalesovo Beam	43.74 315		P	P	07 24 03.1	+0.5
	1.0nm,0.4s,baz=58,slow=7.1,SNR=2.7						
MKAR	Makanchi Array	45.41 305		P	P	07 24 15.4	-0.6
	0.6nm,0.5s,baz=92,slow=8.7,SNR=8.7						
MKAR				ScP	ScP	07 29 41.3	-2.0
	0.4nm,0.7s,baz=86,slow=4.0,SNR=4.6						
ILAR	Eielson Array	52.67 31		P	P	07 25 11.3	0.0
	0.8nm,0.8s,baz=256,slow=5.4,SNR=11						
WRA	Warramunga Arr	53.68 187		P	P	07 25 18.2	-1.0
	5.4nm,0.4s,baz=7.0,slow=8.6,SNR=26						
ASAR	Alice Springs	57.41 187		P	P	07 25 45.3	-0.6
	3.2nm,0.7s,baz=12,slow=8.0,SNR=33						
STKA	Stephens Creek	65.23 179		P	P	07 26 38.4	-0.2
	2.8nm,0.9s,baz=4.1,slow=14,SNR=2.7						
FINES	FINESS Array B	71.46 333		P	P	07 27 18.5	+1.2
	1.7nm,0.9s,baz=81,slow=8.6,SNR=4.2						
AKASG	Malin Array Be	76.53 322		P	P	07 27 47.4	+0.3
	0.5nm,0.4s,baz=47,slow=6.3,SNR=5.1						
NOA	NORSAR Array B	77.00 337		P	P	07 27 50.0	+0.4
	1.2nm,0.8s,baz=41,slow=5.9,SNR=3.2						
PDAR	Pinedale Array	80.48 45		P	P	07 28 10.2	+0.8
	0.3nm,0.5s,baz=294,slow=1.5,SNR=4.2						
GERES	GERESS Array B	85.19 328		P	P	07 28 33.5	+0.1
	0.3nm,0.5s,baz=96,slow=3.1,SNR=3.2						
TXAR	Lajitas Array	92.68 52		P	P	07 29 10.0	+0.6
	0.3nm,0.7s,baz=284,slow=3.0,SNR=5.8						
LPAZ	La Paz	148.86 63		PKPbc	PKPbc	07 35 45.9	+0.1
	1.0nm,0.5s,baz=271,slow=6.6,SNR=7.0						

IDC 15 07:30:41.7±15.0, 5°.14S×154°.50E, h72km±98km, mb3.1/2, mb1 3.7/3, mb1mx3.2/28, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=220.6km s-min=68.6km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.42 239		P	Pn	07 32 41.2	+0.2
	9.4nm,0.3s,baz=28,slow=1.8,SNR=17						
WRA	Warramunga Arr	24.52 231		P	P	07 35 55.1	+0.4
	0.5nm,0.4s,baz=55,slow=9.9,SNR=5.2						
ASAR	Alice Springs	27.07 225		P	P	07 36 17.4	-0.5
	0.1nm,0.3s,baz=57,slow=10,SNR=4.1						
TORD	Torodi Ar. Bea	152.02 288		PKPbc	PKPbc	07 50 29.8	-0.1
	0.2nm,0.4s,baz=74,slow=1.7,SNR=4.4						

IDC 15 08:09:21.2±3.1, 1°.24N×99°.52E, h180km±14km, mb3.3/4, mb1 3.5/4, mb1mx3.1/34, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/23, Error ellipse: s-maj=153.3km s-min=20.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.67 339		P	Pn	08 09 55.5	+0.5
	6.3nm,0.3s,baz=45,slow=1.4,SNR=7.0						
PSI				S	Sn	08 10 19.2	-2.0
	1.4nm,0.3s,baz=355,slow=22,SNR=10.0						
WRA	Warramunga Arr	40.10 123		P	P	08 16 39.9	+0.3
	1.6nm,0.3s,baz=302,slow=9.0,SNR=25						
ASAR	Alice Springs	41.59 129		P	P	08 16 51.9	+0.2
	0.1nm,0.2s,baz=300,slow=7.4,SNR=7.4						
SONM	Songino Array	46.80 6		LR	LR	08 39 51.3	
	comp=Z,94nm,21.5s,baz=50,slow=39						
MKAR	Makanchi Array	47.81 344		P	P	08 17 40.5	0.0
	0.2nm,0.3s,baz=154,slow=7.2,SNR=6.3						
STKA	Stephens Creek	51.68 133		P	P	08 18 08.6	-1.3
	4.2nm,1.1s,baz=312,slow=12,SNR=2.5						

ATH ***15*** *08:10:14.9, 36°.91N×26°.68E, h32km±2km, ML2.6/3, Error ellipse: s-maj=4.1km s-min=1.1km az=62.0*
DDA ***15*** *08:10:14.8, 36°.85N×26°.63E, h4km, Ml3.5*
ISCJB ***15*** *08:10:15.3±0.5, 36°.85N±0°.02×26°.60E±0°.02, h2km±5km, Error ellipse: s-maj=3.8km s-min=3.3km az=158.5*
CSEM ***15*** *08:10:15.8±0.1, 36°.86N×26°.60E, h5km, ML2.6, Error ellipse: s-maj=3.8km s-min=2.8km az=165.0*
THE ***15*** *08:10:15.8, 36°.91N×26°.64E, h9km±2km, ML2.8/4, Error ellipse: s-maj=2.7km s-min=0.4km az=72.0*
ISK ***15*** *08:10:16.2, 36°.85N×26°.64E, h9km, ML2.5*
ISC 15 08:10:15.6±1.0, 36°.86N±0°.02×26°.63E±0°.02, h9km±9km, n77, σ0°.76/106, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.47 122		P	Pb	08 10 25.5	-0.5
NISR				S	Sb	08 10 32.6	-0.4
NISR	Nisiros	0.47 122		P	Pb	08 10 26.0	+0.1
NISR				S	Sg	08 10 31.9	+1.0
NISR				AML	AML	08 10 34.4	
	comp=N,1207μm,0.1s						
NISR				AML	AML	08 10 34.8	
	comp=E,3557μm,0.2s						
NISR	Nisiros	0.47 122		P	Pb	08 10 25.5	-0.5
NISR				S	Sg	08 10 31.9	+1.0
NIS1	Nisyros Isl.	0.51 120		*e*PG	Pb	08 10 26.9	+0.3
NIS1				*e*SG	Sb	08 10 33.5	-0.7
NIS1	Nisyros Isl.	0.51 120		P	Pb	08 10 26.2	-0.5
NIS1				S	Sb	08 10 34.3	+0.2
NIS1	Nisyros Isl.	0.51 120		P	Pb	08 10 26.5	-0.2
NIS1				S	Sb	08 10 33.5	-0.7
NIS1				AML	AML	08 10 36.2	
	comp=N,1913μm,0.4s						
NIS1				AML	AML	08 10 40.3	
	comp=E,1824μm,0.5s						
NIS1	Nisyros Isl.	0.51 120		P	Pb	08 10 26.5	-0.2
NIS1	Nisyros Isl.	0.51 120		*e*Pg	Pb	08 10 27.0	+0.3
NIS1				S	Sb	08 10 33.5	-0.7
BODT	Bodrum	0.58 69		*e*PG	Pg	08 10 27.3	+0.5
BODT	Bodrum	0.58 69		P	Pg	08 10 26.6	-0.2
BODT				S	Sg	08 10 35.2	+0.8
BODT	Bodrum	0.58 69		P	Pg	08 10 26.6	-0.2
BODT	Bodrum	0.58 69		*e*Pg	Pg	08 10 27.3	+0.5
BODT				S	Sg	08 10 35.2	+0.8
YKAV	Yalikavak-Bodr	0.58 63		*e*PG	Pb	08 10 28.0	+0.1
YKAV	Yalikavak-Bodr	0.58 63		*e*Pg	Pb	08 10 28.0	+0.1
BDRM	Kayabasi	0.68 72		*i* P	Pg	08 10 28.8	0.0
BDRM				*i* S	Sg	08 10 37.7	0.0
BDRM	Kayabasi	0.68 72		P	Pg	08 10 28.8	0.0
BDRM				S	Sg	08 10 37.7	0.0
DAT	Datca	0.77 99		*e*PG	Pb	08 10 31.4	+0.2
DAT	Datca	0.77 99		*i* P	Pb	08 10 31.5	+0.2
DAT				*i* S	Sg	08 10 40.4	-0.1
DAT	Datca	0.77 99		*e*Pg	Pb	08 10 31.4	+0.2
DAT				S	Sg	08 10 40.4	-0.1
APE	Apeiranthos	0.91 284		*e*PG	Pb	08 10 34.3	+0.7
APE	Apeiranthos	0.91 284		P	Pg	08 10 32.5	-0.6
APE				S	Sb	08 10 45.8	+0.1
APE	Apeiranthos	0.91 284		P	Pg	08 10 32.1	-1.0
APE				S	Sg	08 10 45.0	+0.1
APE				AML	AML	08 10 47.8	
	comp=N,778μm,0.4s						
APE				AML	AML	08 10 48.3	
	comp=E,538μm,0.2s						
APE	Apeiranthos	0.91 284		P	Pg	08 10 32.5	-0.6
APE	Apeiranthos	0.91 284		*e*Pg	Pb	08 10 34.3	+0.7
APE				S	Sg	08 10 45.0	+0.1
GCAM	G?zelcaml?	0.97 29		*i* P	Pg	08 10 33.5	-0.7
GCAM				*i* S	Sb	08 10 47.9	+0.5
GCAM	G?zelcaml?	0.97 29		P	Pg	08 10 33.5	-0.7
GCAM				S	Sb	08 10 47.9	+0.5
MLSB	Milas	1.01 64		*e*PG	Pn	08 10 36.0	0.0
MLSB				*e*SG	Sn	08 10 50.6	+0.2
MLSB	Milas	1.01 64		*e*Pg	Pn	08 10 36.0	0.0
MLSB				*e*Sg	Sn	08 10 50.6	+0.2
THR8	Santorini-Mono	1.03 244		P	Pg	08 10 35.7	+0.3
THR8	Santorini-Mono	1.03 244		P	Pn	08 10 36.4	+0.2
THR8	Santorini-Mono	1.03 244		P	Pg	08 10 35.7	+0.3
THR3	Thira Island,	1.09 246		P	Pg	08 10 36.2	-0.3
THR3	Thira Island,	1.09 246		P	Pb	08 10 37.1	+0.5
THR3	Thira Island,	1.09 246		P	Pg	08 10 36.2	-0.3
THR6	Thira Island,	1.11 244		P	Pg	08 10 36.8	-0.2
THR6	Thira Island,

FETY	**Fethiye**	**1.98**	**96**	P	**Pn**	**08 10 47.8**	**-1.5**
FETY	**Fethiye**	**1.98**	**96**	*e*Pn	**Pn**	**08 10 50.6**	**+1.3**
FETY	**Fethiye**	**1.98**	**96**	P	**Pb**	**08 10 51.1**	**-0.7**
FETY				S	**Sg**	**08 11 18.1**	**-1.2**
IDI	**Anoyia**	**2.11**	**223**	P	**Pn**	**08 10 50.2**	**-0.9**
IDI	**Anoyia**	**2.11**	**223**	P	**Pn**	**08 10 49.6**	**-1.6**
IDI	**Anoyia**	**2.11**	**223**	P	**Pn**	**08 10 50.2**	**-0.9**
KULA	**Kula-Manisa**	**2.31**	**44**	*e*PN	**Pb**	**08 10 55.8**	**-1.6**
KULA	**Kula-Manisa**	**2.31**	**44**	*e*Pn	**Pb**	**08 10 55.8**	**-1.6**

MEX 15 08:14:06.4±0.8, 16°.23N×98°.14W, h6km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**5**	*i* P	Pg	08 14 09.2	-0.5
PNIG				*i* S	Sg	08 14 12.0	+0.1
TLIG	**Tlapa**	**1.39**	**343**	*e*P	Pn	08 14 29.2	-3.2
TLIG				*e*S	Sb	08 14 45.5	-5.3
VHO	**Vista Hermosa**	**1.59**	**58**	*e*P	Pn	08 14 31.3	-4.0
VHO				*e*S	Sn	08 14 51.5	-4.7

MDD ***15*** *08:23:07.4±2.5, 37°.32N×13°.68W, h0km, mb3.7/2, Error ellipse: s-maj=29.5km s-min=21.2km az=171.0, PRXIMO*
INMG ***15*** *08:23:09.1±1.0, 37°.23N×14°.08W, h10km, ML2.2, Error ellipse: s-maj=6.8km s-min=6.1km az=123.0*
CSEM ***15*** *08:23:10.7±0.3, 37°.48N×13°.39W, h10km, ML2.5/4, Error ellipse: s-maj=6.6km s-min=5.2km az=165.0*
ISC 15 08:23:09.2±4.0, 37°.45N±0°.10×13°.5W±0°.2, h10km, n47, σ0s70/83, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.64**	**64**	*e*Pn	**Pn**	**08 24 06.3**	**+0.7**
PMAFR				A	A	08 24 53.2	
	9.8nm,0.5s						
PMAFR	**Mafra**	**3.64**	**64**	P	**Pn**	**08 24 06.2**	**+0.6**
	1.6nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**08 24 50.8**	**+2.2**
	4.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.64**	**64**	P	**Pn**	**08 24 06.2**	**+0.6**
	1.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.73**	**93**	*e*Pn	**Pn**	**08 24 06.5**	**-0.3**
PFVI				*e*Sn	**Sn**	**08 24 50.3**	**-0.4**
PFVI				A	A	08 24 53.6	
	4.8nm,0.6s						
PFVI	**Vila Bisbo**	**3.73**	**93**	P	**Pn**	**08 24 06.5**	**-0.3**
	1.4nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**08 24 50.4**	**-0.4**
	5.2nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.73**	**93**	P	**Pn**	**08 24 06.5**	**-0.3**
	1.4nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**08 24 50.4**	**-0.4**
	5.2nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.85**	**91**	*e*Pn	**Pn**	**08 24 08.4**	**-0.2**
MORF				*e*Sn	**Sn**	**08 24 53.4**	**-0.5**
MORF				A	A	08 25 00.1	
	3.0nm,0.3s						
MORF	**Marmelete**	**3.85**	**91**	P	**Pn**	**08 24 08.4**	**-0.2**
MORF				S	**Sn**	**08 24 53.4**	**-0.5**
	3.0nm,0.3s						
MORF	**Marmelete**	**3.85**	**91**	P	**Pn**	**08 24 08.4**	**-0.2**
MORF				S	**Sn**	**08 24 53.4**	**-0.5**
	3.0nm,0.3s						
PNCL	**Nicolau / Gran**	**3.98**	**79**	*e*Pn	**Pn**	**08 24 10.4**	**+0.1**
PNCL				*e*Sn	**Sn**	**08 24 57.2**	**+0.2**
PNCL				A	A	08 24 59.7	
	1.6nm,0.2s						
PNCL	**Nicolau / Gran**	**3.98**	**79**	*e*Pn	**Pn**	**08 24 10.4**	**+0.1**
PNCL				*e*Sn	**Sn**	**08 24 57.2**	**+0.2**
	1.6nm,0.2s						
PCVE	**Castro Verde**	**4.33**	**86**	*e*Pn	**Pn**	**08 24 16.1**	**+1.0**
PCVE				*e*Sn	**Sn**	**08 25 05.0**	**-0.7**
PCVE				A	A	08 25 12.5	
	1.9nm,0.7s						
PCVE	**Castro Verde**	**4.33**	**86**	P	**Pn**	**08 24 16.1**	**+1.0**
PCVE				S	**Sn**	**08 25 05.0**	**-0.7**
	1.9nm,0.7s						
PCVE	**Castro Verde**	**4.33**	**86**	P	**Pn**	**08 24 16.1**	**+1.0**
PCVE				S	**Sn**	**08 25 05.0**	**-0.7**
	1.9nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.43**	**91**	*e*Pn	**Pn**	**08 24 17.2**	**+0.7**
PBDV				*e*Sn	**Sn**	**08 25 07.7**	**-0.4**
PBDV				A	A	08 25 19.1	
	2.9nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.43**	**91**	P	**Pn**	**08 24 17.2**	**+0.7**
PBDV				S	**Sn**	**08 25 07.7**	**-0.4**
	2.9nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.43**	**91**	P	**Pn**	**08 24 17.2**	**+0.7**
PBDV				S	**Sn**	**08 25 07.7**	**-0.4**
	2.9nm,0.6s						
PMTG	**Montargil**	**4.44**	**67**	*e*Pn	**Pn**	**08 24 16.8**	**+0.1**
PMTG				*e*Sn	**Sn**	**08 25 08.4**	**-0.1**
PMTG				A	A	08 25 12.2	
	1.5nm,0.4s						
PMTG	**Montargil**	**4.44**	**67**	*e*Pn	**Pn**	**08 24 16.8**	**+0.1**
PMTG				*e*Sn	**Sn**	**08 25 08.4**	**-0.1**
	1.5nm,0.4s						
PBEJ	**Beja**	**4.49**	**81**	*e*Sn	**Sn**	**08 25 10.1**	**+0.5**
PBEJ	**Beja**	**4.49**	**81**	S	**Sn**	**08 25 10.1**	**+0.5**
PBEJ	**Beja**	**4.49**	**81**	S	**Sn**	**08 25 10.1**	**+0.5**
PVAQ	**Vaqueiros**	**4.59**	**89**	*e*Pn	**Pn**	**08 24 19.6**	**+0.9**
PVAQ				*e*Sn	**Sn**	**08 25 11.6**	**-0.5**
PVAQ				A	A	08 25 15.6	
	3.3nm,0.7s						
PVAQ	**Vaqueiros**	**4.59**	**89**	P	**Pn**	**08 24 19.6**	**+0.9**
PVAQ				S	**Sn**	**08 25 11.6**	**-0.5**
	3.3nm,0.7s						
PVAQ	**Vaqueiros**	**4.59**	**89**	P	**Pn**	**08 24 19.6**	**+0.9**
PVAQ				S	**Sn**	**08 25 11.6**	**-0.5**
	3.3nm,0.7s						
EGRO	**El Granado**	**4.77**	**87**	P	**Pn**	**08 24 21.8**	**+0.6**
	0.2nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**08 25 16.8**	**+0.2**
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.77**	**87**	P	**Pn**	**08 24 21.8**	**+0.6**
	0.2nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**08 25 16.8**	**+0.2**
	0.7nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.86**	**71**	*e*Sn	**Sn**	**08 25 19.0**	**+0.3**
PESTR				A	A	08 25 23.7	
	1.5nm,0.6s						
PESTR	**Estremoz**	**4.86**	**71**	*e*Sn	**Sn**	**08 25 19.0**	**+0.3**
	1.5nm,0.6s						
PBAR	**Barrancos**	**5.16**	**80**	*e*Pn	**Pn**	**08 24 27.3**	**+0.9**
PBAR				*e*Sn	**Sn**	**08 25 25.7**	**-0.3**
PBAR				A	A	08 25 35.1	
	2.4nm,0.5s						
PBAR	**Barrancos**	**5.16**	**80**	P	**Pn**	**08 24 27.3**	**+0.9**
PBAR				S	**Sn**	**08 25 25.7**	**-0.3**
	2.4nm,0.5s						
PBAR	**Barrancos**	**5.16**	**80**	P	**Pn**	**08 24 27.3**	**+0.9**
PBAR				S	**Sn**	**08 25 25.7**	**-0.3**
	2.4nm,0.5s						
PMRV	**Marv??o**	**5.18**	**66**	*e*Pn	**Pn**	**08 24 27.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**08 25 25.9**	**-0.6**
PMRV				A	A	08 25 30.8	
	1.2nm,0.5s						
PMRV	**Marv??o**	**5.18**	**66**	P	**Pn**	**08 24 27.2**	**+0.4**
PMRV				S	**Sn**	**08 25 25.9**	**-0.6**
	1.2nm,0.5s						
PMRV	**Marv??o**	**5.18**	**66**	P	**Pn**	**08 24 27.2**	**+0.4**
PMRV				S	**Sn**	**08 25 25.9**	**-0.6**
	1.2nm,0.5s						
EBAD	**Badajoz**	**5.27**	**74**	P	**Pn**	**08 24 28.9**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**08 25 28.5**	**-0.3**
	0.3nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**5.27**	**74**	P	**Pn**	**08 24 28.9**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**08 25 28.5**	**-0.3**
	0.3nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**85**	P	**Pn**	**08 24 30.5**	**+0.4**
	0.1nm,0.0s,SNR=4.0						
EMIN				S	**Sn**	**08 25 31.7**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**85**	P	**Pn**	**08 24 30.5**	**+0.4**
	0.1nm,0.0s,SNR=4.0						
EMIN				S	**Sn**	**08 25 31.7**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**5.90**	**47**	*e*Sn	**Sn**	**08 25 43.6**	**-0.8**
POLO				A	A	08 25 49.2	
	0.5nm,1.0s						
POLO	**Lamas de Olo**	**5.90**	**47**	*e*Sn	**Sn**	**08 25 43.6**	**-0.8**
	0.5nm,1.0s						
ELOB	**Lobios**	**6.08**	**42**	S	**Sn**	**08 25 47.5**	**-1.4**
	1.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.08**	**42**	S	**Sn**	**08 25 47.5**	**-1.4**
	1.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.42**	**82**	P	**Pn**	**08 24 44.4**	**+0.5**
	0.3nm,0.1s,SNR=4.0						
ECAB				S	**Sn**	**08 25 56.3**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.42**	**82**	P	**Pn**	**08 24 44.4**	**+0.5**
	0.3nm,0.1s,SNR=4.0						
ECAB				S	**Sn**	**08 25 56.3**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.09**	**81**	P	**Pn**	**08 24 53.6**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 26 12.3**	**-1.4**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.09**	**81**	P	**Pn**	**08 24 53.6**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 26 12.3**	**-1.4**
	0.4nm,0.2s,SNR=7.9						

NIED ***15*** *08:23:00, 42°.00N×142°.50E, h59km, Mw4.4 Best double couple: M0=4.11000×10^15 NP1:φs=229.00000°, δ21.00000°, λ116.00000°. NP2:φs=21.00000°, δ71.00000°, λ80.00000°.*
MOS ***15*** *08:23:43.5±0.9, 42°.24N×142°.35E, h58km, mb4.8/18, Error ellipse: s-maj=8.9km s-min=6.2km az=99.0*
ISCJB ***15*** *08:23:43.8±0.3, 42°.04N±0°.03×142°.45E±0°.03, h67km±2km, mb4.3/65, Error ellipse: s-maj=5.6km s-min=3.0km az=148.9*
JMA ***15*** *08:23:43.7±0.1, 41°.98N×142°.51E, h65km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs=22.00000°, δ77.00000°, λ97.00000°. NP2:φs=172.00000°, δ14.00000°, λ61.00000°. Principal axes: T Plg57.0000°, Azm301.0000°; N Plg7.0000°, Azm200.0000°; P Plg32.0000°, Azm106.0000°;*
JMA Felt II J1.
BJI ***15*** *08:23:44.1, 41°.93N×142°.35E, h72km, mb4.6/32, mB4.8/21, Ms4.4/11, Ms7 4.2/12*
IDC ***15*** *08:23:45.9±1.7, 42°.08N×142°.43E, h75km±15km, mb3.9/23, mb1 4.1/28, mb1mx4.0/54, mbtmp4.3/28, MS3.4/21, Ms1 3.4/21, ms1mx3.2/44, Error ellipse: s-maj=14.6km s-min=11.7km az=128.0*
SKHL ***15*** *08:23:45.4±0.6, 42°.22N×142°.38E, h73km±2km, mb5.0/5*
NEIC ***15*** *08:23:46.3±0.6, 42°.12N×142°.35E, h71km±6km, mb4.5/25, Error ellipse: s-maj=7.3km s-min=5.0km az=134.0*
NEIC Recorded [2 JMA] in southern Hokkaido.
ISC 15 08:23:45.0±0.6, 42°.05N±0°.04×142°.46E±0°.03, h64km±5km, n186, σ1s58/199, mb4.5/65, 14C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.31**	**43**	⇑P	**Pn**	**08 23 54.4**	**-1.3**
JNBK				*e*S	**Sn**	**08 24 02.7**	**-0.7**
JEM	**Erimo**	**0.52**	**94**	⇑P	**Pn**	**08 23 56.1**	**-1.4**
JEM				*e*S	**Sn**	**08 24 05.4**	**-1.2**
JBT2	**Biratori 2**	**0.73**	**354**	⇓P	**Pn**	**08 23 59.4**	**-0.5**
JCH	**Churui**	**0.87**	**49**	⇑P	**Pn**	**08 24 00.7**	**-0.9**
JCH				*e*S	**Sn**	**08 24 13.8**	**-0.1**
JKB	**Kayabe**	**1.08**	**262**	⇓P	**Pn**	**08 24 03.3**	**-0.9**
JKB				*e*S	**Sn**	**08 24 18.0**	**-0.5**
JEW	**Eniwo**	**1.09**	**317**	⇓P	**Pn**	**08 24 04.3**	**-0.1**
JFR	**Furan**	**1.12**	**5**	⇓P	**Pn**	**08 24 04.3**	**-0.5**
JNB	**Noboribetsu**	**1.14**	**292**	⇓P	**Pn**	**08 24 03.9**	**-1.1**
JNB				*e*S	**Sn**	**08 24 19.8**	**-0.1**
JOT	**Ohata**	**1.25**	**238**	⇓P	**Pn**	**08 24 05.3**	**-1.2**
JOT				*e*S	**Sn**	**08 24 21.3**	**-1.3**
JOB	**Onbets**	**1.32**	**49**	⇑P	**Pn**	**08 24 07.6**	**+0.2**
JOB				*e*S	**Sn**	**08 24 25.3**	**+1.0**
JAB	**Ashibetsu**	**1.46**	**353**	⇓P	**Pn**	**08 24 09.6**	**+0.3**
JYM2	**Yakumo 2**	**1.56**	**273**	⇓P	**Pn**	**08 24 09.9**	**-0.7**
JAR	**Ashorobuto**	**1.57**	**37**	P	**Pn**	**08 24 10.4**	**-0.4**
JAR				*e*S	**Sn**	**08 24 30.8**	**+0.6**
JSR	**Shiriuchi**	**1.62**	**252**	P	**Pn**	**08 24 10.6**	**-0.7**
JSR				*e*S	**Sn**	**08 24 31.6**	**+0.4**
JTM	**Tenmabayashi**	**1.64**	**220**	⇓P	**Pn**	**08 24 10.8**	**-0.9**
ASAJ	**Asahikawa**	**2.07**	**3**	P	**Pn**	**08 24 18.1**	**+0.7**
	70nm,0.3s,baz=215,slow=8.7,SNR=196						
ASAJ				S	**Sn**	**08 24 45.1**	**+2.9**
	36nm,0.3s,baz=73,slow=27,SNR=16						
ASAJ				LR	LR	08 24 51.6	
	comp=Z,5.9nm,19.7s,baz=257,slow=32						
ASAJ	**Asahikawa**	**2.07**	**3**	*e*P	**Pn**	**08 24 18.8**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**3.18**	**50**	*d i* PN	**Pn**	**08 24 33.1**	**+0.5**
YUK				*e*S	**Sn**	**08 25 08.6**	**-0.7**
YUK				pmax	pmax		
	comp=Z,619nm,0.4s						
YUK				pmax	pmax		
	comp=E,239nm,0.3s						
YUK				pmax	pmax		
	comp=N,199nm,0.1s						
YUK				smax	smax		
	comp=N,191nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK				MLR	MLR		
	comp=Z,465nm,16.0s						
YUK	**Yuzh-Kuril'sk**	**3.18**	**50**	*i* P	**Pn**	**08 24 33.1**	**+0.5**
YUK				AMB	AMB	08 24 34.5	
	comp=Z,620nm,0.4s						
YUK				*e*S	**Sn**	**08 25 08.6**	**-0.7**
YUK				A	A	08 25 14.9	
	comp=Z,190nm,0.4s						
YUK				A	A	08 25 14.9	
	comp=Z,2μm,0.4s						
SHO	**Shikotan**	**3.68**	**59**	*e*P	**Pn**	**08 24 38.2**	**-1.2**
SHO				AMB	AMB	08 24 45.4	
	comp=Z,260nm,0.4s						
SHO				*e*S	**Sn**	**08 25 18.1**	**-3.5**
SHO				A	A	08 25 19.9	
	comp=Z,2μm,0.5s						
SHO				A	A	08 25 19.9	
	comp=Z,680nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.91**	**2**	⇑ *i* PN	**Pn**	**08 24 58.8**	**+2.6**
YSS				*e*S	**Sn**	**08 25 54.7**	**+3.1**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax	smax		
	comp=E,40nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.91**	**2**	*e*P	**Pn**	**08 24 56.0**	**-0.2**
YSS				AMB	AMB	08 24 59.7	
	comp=Z,60nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.91**	**2**	*e*Pn	**Pn**	**08 24 56.3**	**+0.1**
KUR	**Kuril'sk**	**5.05**	**49**	*c i* PN	**Pn**	**08 24 59.0**	**+0.9**
KUR				*e*S	**Sn**	**08 25 55.9**	**+0.9**
KUR				pmax	pmax		
	comp=E,126nm,0.6s						
KUR				pmax	pmax		
	comp=Z,194nm,0.6s						
KUR				pmax	pmax		
	comp=N,105nm,0.4s						
KUR				smax	smax		
	comp=E,192nm,0.6s						
KUR				smax	smax		
	comp=E,146nm,0.3s						
KUR	**Kuril'sk**	**5.05**	**49**	*i* P	**Pn**	**08 24 58.8**	**+0.7**
KUR				AMB	AMB	08 25 08.5	
	comp=E,194nm,0.6s						
KUR				*e*S	**Sn**	**08 25 53.6**	**-1.4**
KUR				A	A	08 26 01.3	
	comp=E,192nm,0.6s						
KUR				A	A	08 26 01.3	
	comp=E,150nm,0.6s						
MJB9	**Matsu-Tunnel**	**6.41**	**212**	*e*Pn	**Pn**	**08 25 17.7**	**+0.8**
MAJO	**Matsushiro**	**6.41**	**212**	⇑ *e*PN	**Pn**	**08 25 17.4**	**+0.5**
MAJO	**Matsushiro**	**6.41**	**212**	*e*Pn	**Pn**	**08 25 17.8**	**+0.9**
MAT	**Matsushiro**	**6.41**	**212**	P	**Pn**	**08 25 16.7**	**-0.2**
MAT				*e*S	**Sn**	**08 26 34.1**	**+5.4**
MJAR	**Matsushiro Arr**	**6.41**	**212**	P	**Pn**	**08 25 17.8**	**+0.9**
	comp=E,0.9nm,0.3s,baz=15,slow=14,SNR=18						
MJAR				LR	LR	08 28 18.3	
	comp=E,132nm,18.9s,baz=40,slow=42						
UGL	**Uglegorsk**	**7.03**	**358**	*e*PN	**Pn**	**08 25 23.3**	**-1.9**
UGL				*e*S	**Sn**	**08 26 41.0**	**-2.7**
INU	**Inuyama**	**7.93**	**214**	*e*Pn	**Pn**	**08 25 40.1**	**+2.5**
USRK	**Ussuriysk Ar.**	**7.96**	**289**	P	**Pn**	**08 25 40.0**	**+2.1**
	comp=E,0.3nm,0.3s,baz=95,slow=14,SNR=21						
USRK				LR	LR	08 28 47.2	
	comp=E,153nm,20.0s,baz=114,slow=38						
HABR	**Khabarovsk**	**8.28**	**323**	*e*PN	**Pn**	**08 25 40.1**	**-2.1**
HABR				pmax	pmax		
	comp=N,19nm,1.8s						
HABR				pmax	pmax		
	comp=E,26nm,1.8s						
HABR				pmax	pmax		
	comp=Z,28nm,1.8s						
HABR				MLR	MLR		
	comp=Z,167nm,14.0s						
JHJ	**Hachijo jima 2**	**9.16**	**194**	P	**Pn**	**08 25 56.2**	**+1.8**
	comp=Z,13nm,0.3s,baz=72,slow=19,SNR=4.1						
JHJ				S	Sn	08 27 26.8	-9.3
	comp=Z,15nm,0.3s,baz=73,slow=19,SNR=3.0						
MDJ	**Mudanjiang**	**9.72**	**290**	P	**Pn**	**08 25 59.9**	**-2.1**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,33nm,4.0s						
KSRS	**Korea Array**	**12.09**	**252**	P	**Pn**	**08 26 36.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=63,slow=14,SNR=20						
KSRS				LR	LR	08 30 47.2	
	comp=Z,114nm,20.8s,baz=72,slow=35						
KS01	**Wonju Array Si**	**12.10**	**253**	*e*Pn	**P**	**08 26 40.7**	**-4.4**
KS15	**Wonju Array Si**	**12.13**	**253**	*e*Pn	**Pn**	**08 26 38.9**	**+4.1**
KSAR	**Wonju Array Be**	**12.13**	**253**	PN	**Pn**	**08 26 36.6**	**+1.7**
KSAR	**Wonju Array Be**	**12.13**	**253**	P	**Pn**	**08 26 36.5**	**+1.7**
CN2	**Changchun**	**12.60**	**284**	*e*P	**Pn**	**08 26 42.8**	**+1.5**
CN2				*e*pP	P	08 26 53.0	+2.5
CN2				*e*S	**Sn**	**08 28 59.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PETK	**Petropavlovsk-**	**15.06**	**38**	LR	LR	08 34 21.0	
	comp=Z,48nm,19.6s,baz=219,slow=42						
TIA	**Tai'an**	**20.47**	**262**	⇓P	**P**	**08 28 15.4**	**-1.9**
TIA				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**21.26**	**250**	*e*P	**P**	**08 28 26.9**	**+1.0**
YAK	**Yakutsk**	**21.42**	**343**	*e*P	**P**	**08 28 28.7**	**+1.4**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
SEY	**Seymchan**	**21.72**	**12**	P	**P**	**08 28 28.4**	**-2.1**
	comp=Z,3.8nm,0.8s,baz=198,slow=11,SNR=8.3						
SEY	**Seymchan**	**21.72**	**12**	⇑ *e*P	**P**	**08 28 27.9**	**-2.6**
HHC	**Hu-ho-hao-te**	**23.13**	**277**	*e*P	**P**	**08 28 43.0**	**-2.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,5.3s						
ULN	**Ulaanbaatar**	**25.57**	**295**	*c i* P	**P**	**08 29 07.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**25.57**	**295**	*e*P	**P**	**08 29 07.1**	**-0.8**
SONA1	**Songino Array**	**26.00**	**295**	*e*P	**P**	**08 29 12.1**	**+0.2**
SONM	**Songino Array**	**26.01**	**295**	P	**P**	**08 29 11.4**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=96,slow=9.1,SNR=5.8						
TLY	**Talaya**	**27.94**	**304**	LR	LR	08 40 51.6	
	comp=Z,75nm,20.6s,baz=64,slow=37						
TLY	**Talaya**	**27.94**	**304**	*e*P	**P**	**08 29 30.0**	**+1.0**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TLY	**Talaya**	**27.94**	**304**	*e*P	**P**	**08 29 30.0**	**+1.0**
GUMO	**Guam**	**28.43**	**175**	LR	LR	08 40 12.8	
	comp=Z,46nm,20.7s,baz=348,slow=35						
BILL	**Bilibino**	**29.00**	**18**	*e*P	**P**	**08 29 37.6**	**-0.7**
BILL				*e*		08 32 48.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**30.38**	**130**	T	T	09 01 29.5	
	baz=324,slow=75,SNR=948						
LZH	**Lanzhou**	**30.38**	**272**	*e*P	**P**	**08 29 49.3**	**-1.8**
LZH				pP	pP	08 30 06.3	-0.4
LZH				sP	sP	08 30 14.8	+0.6
LZH				PP	**PnPn**	**08 30 50.5**	**-1.1**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,65nm,4.9s						
LZH				LR	LR		
	comp=Z,310nm,12.9s						
LZH				LR	LR		
	comp=Z,330nm,13.0s						
LZH				LR	LR		
	comp=Z,380nm,16.5s						
H11N1	**WAKE ISLAND Hy**	**30.39**	**130**	T	T	09 01 31.3	
	baz=324,slow=75,SNR=828						
H11N3	**WAKE ISLAND Hy**	**30.40**	**130**	T	T	09 01 32.1	
	baz=324,slow=75,SNR=726						
H11S1	**WAKE ISLAND Hy**	**31.24**	**131**	T	T	09 02 33.1	
	baz=324,slow=76,SNR=788						
H11S3	**WAKE ISLAND Hy**	**31.24**	**131**	T	T	09 02 26.2	
	baz=324,slow=76,SNR=735						
H11S2	**WAKE ISLAND Hy**	**31.26**	**131**	T	T	09 02 26.2	
	baz=324,slow=76,SNR=697						
GTA	**Gaotai**	**32.19**	**280**	*e*P	**P**	**08 30 07.6**	**+0.8**
GTA				pP	pP	08 30 25.0	+2.5
GTA				sP	sP	08 30 35.1	+5.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NRIK	**Noril'sk**	**39.12**	**333**	LR	LR	08 47 22.8	
	comp=Z,111nm,19.4s,baz=134,slow=36						
ZALV	**Zalesovo Beam**	**39.30**	**308**	LR	LR	08 49 31.1	
	comp=Z,41nm,18.4s,baz=68,slow=39						
WMQ	**Urumqi**	**39.52**	**292**	P	**P**	**08 31 09.0**	**-0.4**
WMQ				pP	pP	08 31 27.8	+2.4
WMQ				sP	sP	08 31 33.1	+0.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,79nm,4.3s						
WMQ				LR	LR		
	comp=Z,78nm,39.2s						
WMQ				LR	LR		
	comp=Z,53nm,22.5s						
DLV	**T Lat**	**42.13**	**235**	*e*P	**P**	**08 31 32.7**	**+1.4**
	comp=Z,5.0nm,0.7s						
MK01	**Makanchi Array**	**42.32**	**298**	*e*P	**P**	**08 31 31.9**	**-0.5**
MK31	**Makanchi Array**	**42.32**	**298**	*e*P	**P**	**08 31 31.7**	**-0.7**
MK31	**Mak

DOT	Dot Lake	46.23	36	eP		P	08 32 03.3	-0.1
	comp=Z,6.9nm,0.9s							
BVA0	Borovoye Array	47.91	309	i P		P	08 32 16.1	-0.5
BVA0				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BVAR	Borovoye Array	47.91	309	P		P	08 32 16.7	+0.1
	comp=Z,3.5nm,0.7s,baz=74,slow=8.2,SNR=20							
BVAR				PcP		PcP	08 33 44.6	+0.6
	comp=Z,1.8nm,0.7s,baz=96,slow=1.4,SNR=4.5							
BRVK	Borovoye	47.96	309	ceP		P	08 32 17.0	+0.1
BRVK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BRVK	Borovoye	47.96	309	eP		P	08 32 17.0	+0.1
BRVK	Borovoye	47.96	309	eP		P	08 32 17.4	+0.4
	comp=Z,3.7nm,0.8s							
TKM2	Tokmak 2	48.11	295	P		P	08 32 18.5	0.0
TKM2				pmax	pmax			
	comp=Z,16nm,0.8s							
KSH	Kashi	49.25	291	eP		P	08 32 30.8	+3.6
KSH				pP		sP	08 32 50.1	-0.9
KSH				sP		pP	08 32 58.8	+15
KSH				PcP		PcP	08 33 52.8	+3.5
KSH				PP		PP	08 34 27.1	+5.8
KSH				PcS		PcS	08 37 46.8	+0.9
KSH				S		S	08 39 29.1	+0.6
KSH				sS		sS	08 40 01.3	+4.9
KSH				ScS		ScS	08 42 11.5	-1.7
KSH				SS		SS	08 42 59.3	-0.9
KSH				pmax	pmax			
	comp=Z,80nm,6.2s							
KSH				LR		LR		
	comp=Z,64nm,6.8s							
KSH				LR		LR		
	comp=Z,140nm,6.5s							
KSH				LR		LR		
	comp=Z,130nm,8.7s							
INK	Inuvik	49.58	29	P		P	08 32 28.7	-0.4
	comp=Z,2.2nm,0.9s,baz=310,slow=12,SNR=6.8							
INK				LR		LR	08 54 32.2	
	comp=Z,39nm,18.4s,baz=262,slow=37							
HYT	Haines Junctio	49.84	39	eP		P	08 32 33.3	+1.9
	comp=Z,12nm,1.0s							
MNAS	Manas	50.37	296	P		P	08 32 35.4	-0.2
MNAS				pmax	pmax			
	comp=Z,12nm,0.8s							
KKAR	Karatay Array	51.44	297	eP		P	08 32 43.2	-0.3
KKAR				pmax	pmax			
	comp=Z,40nm,0.8s							
KKAR	Karatay Array	51.44	297	eP		P	08 32 43.2	-0.3
	comp=Z,40nm,0.8s							
SVE	Sverdlovsk	52.00	316⇑	eP		P	08 32 48.0	+0.5
SVE				pmax	pmax			
	comp=Z,17nm,1.0s							
SOKR	Solikamsk	52.91	321	eP		P	08 32 50.0	-4.0
SOKR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ARU	Arti	53.22	316	P		P	08 32 54.7	-1.7
	comp=Z,2.7nm,0.3s,baz=60,slow=7.3,SNR=7.2							
ARU				LR		LR	08 56 18.4	
	comp=Z,97nm,18.3s,baz=64,slow=37							
ARU	Arti	53.22	316	d i P		P	08 32 56.0	-0.4
ARU				*PP		pP	08 33 10.9	-2.2
ARU							08 34 01.1	
ARU				S		S	08 40 23.2	+0.8
ARU				SS		SS	08 43 59.2	-2.9
ARU				pmax	pmax			
	comp=Z,13nm,1.2s							
ARU	Arti	53.22	316	eP		P	08 32 56.1	-0.4
ARU	Arti	53.22	316	eP		P	08 32 56.1	-0.3
	comp=Z,11nm,1.1s							
DZET	Dzherino	54.52	293	P		P	08 33 05.9	-0.5
AKTO	Aktyubinsk	56.01	310	LR		LR	08 59 09.9	
	comp=Z,36nm,18.7s,baz=96,slow=38							
YKA	Yellowknife Ar	59.09	32	P		P	08 33 37.8	-0.3
	comp=Z,0.8nm,0.7s,baz=302,slow=6.5,SNR=5.4							
YKA				LR		LR	09 01 26.2	
	comp=Z,5.1nm,18.5s,baz=180,slow=38							
WRA	Warramunga Arr	62.13	189	P		P	08 33 58.1	-1.2
	comp=Z,2.6nm,0.8s,baz=7.3,slow=6.9,SNR=7.5							
WRA	Warramunga Arr	62.13	189	i P		P	08 33 57.7	-1.6
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GEYT	Alibeck	62.19	297	P		P	08 33 57.4	-2.4
	comp=Z,2.9nm,0.5s,baz=349,slow=3.0,SNR=6.0							
GEYT				LR		LR	09 01 53.5	
	comp=Z,57nm,19.8s,baz=145,slow=37							
OBN	Obninsk	64.60	322	LR		LR	09 04 55.4	
	comp=Z,54nm,18.0s,baz=86,slow=38							
OBN	Obninsk	64.60	322	eP		P	08 34 16.6	+1.4
OBN				e			08 34 51.5	
OBN				e			08 36 38.5	
OBN				ePPP		PPP	08 38 12.9	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FIA1	FINESS Array S	64.77	332	eP		P	08 34 16.3	0.0
	comp=Z,8.4nm,0.8s							
FINES	FINESS Array B	64.78	332	P		P	08 34 15.7	-0.6
	comp=Z,5.7nm,0.7s,baz=45,slow=8.4,SNR=13							
FINES				LR		LR	09 03 29.0	
	comp=Z,74nm,18.4s,baz=14,slow=37							
ASAR	Alice Springs	65.86	189	P		P	08 34 22.9	-0.9
	comp=Z,0.9nm,0.8s,baz=4.4,slow=6.0,SNR=4.2							
SWMT	Swartz Lake	68.14	45	eP		P	08 34 39.2	+1.0
KVAR	Kislovodsk Arr	68.27	310	P		P	08 34 36.6	-2.4
	comp=Z,6.4nm,0.7s,baz=50,slow=20,SNR=4.2							
KVAR				LR		LR	09 07 24.0	
	comp=Z,25nm,20.4s,baz=37,slow=38							
KIV	Kislovodsk	68.27	310⇑	eP		P	08 34 39.6	+0.5
KIV				e			08 37 08.9	
KIV				ePPP		PPP	08 38 49.6	
KIV				pmax	pmax			
	comp=Z,17nm,1.7s							
KIV	Kislovodsk	68.27	310	eP		P	08 34 39.6	+0.5
KBZ	Khabaz	68.29	310	P		P	08 34 38.3	-0.7
	comp=Z,3.7nm,0.8s,baz=16,slow=4.5,SNR=5.8							
SLMT	Seeley Lake	68.57	45	eP		P	08 34 41.9	+0.9
NC405	NORSAR Array S	69.68	337	eP		P	08 34 46.8	-0.6
HRY	Holter Researc	69.79	45	eP		P	08 34 49.4	+1.0
NC204	NORSAR Array S	69.82	337	eP		P	08 34 48.9	+0.5
NB201	NORSAR Array S	69.85	337	eP		P	08 34 48.5	0.0
HFS	Hagfors	69.86	335	P		P	08 34 48.2	-0.2
	comp=Z,3.6nm,0.6s,baz=48,slow=6.7,SNR=13							
NB2	NORSAR Subarra	69.88	337	P		P	08 34 47.8	-0.9
	comp=Z,2.5nm,0.7s,baz=36,slow=6.2							
NB2	NORSAR Subarra	69.88	337	P		P	08 34 47.7	-0.9
NOA	NORSAR Array B	69.88	337	P		P	08 34 48.2	-0.5
	comp=Z,3.9nm,0.8s,baz=37,slow=6.1,SNR=12							
NOA				LR		LR	09 10 48.2	
	comp=Z,20nm,18.5s,baz=45,slow=40							
NBO02	NORSAR Array S	69.98	337	eP		P	08 34 49.1	-0.1
EGMT	Eagleton	70.01	43	eP		P	08 34 50.3	+0.6
	comp=Z,4.5nm,0.8s							
NBO00	NORSAR Array S	70.02	337	eP		P	08 34 49.7	+0.3
DLMT	Dillon	70.25	46	eP		P	08 34 52.3	+0.9
	comp=Z,2.8nm,1.0s							
ANN	Anapa	70.67	313	eP		P	08 34 49.4	-4.2
ANN				e*PP		pP	08 35 11.3	+0.3
ANN				eS		S	08 43 55.2	-7.4
ANN				pmax	pmax			
	comp=Z,41nm,1.3s							
AKASG	Malin Array Be	70.84	322	P		P	08 34 53.9	-0.7
	comp=Z,3.6nm,0.7s,baz=46,slow=6.2,SNR=14							
KIEV	Kiev	70.86	322⇑	i P		P	08 34 53.8	-0.9
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIEV	Kiev	70.86	322	eP		P	08 34 53.8	-0.9
TPNV	Topopah Spring	73.58	55	eP		P	08 35 12.8	+1.3
TPNV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TPNV	Topopah Spring	73.58	55	eP		P	08 35 12.8	+1.3
	comp=Z,1.7nm,0.8s							
MARD	Mardin	73.59	306	eP		P	08 35 10.9	-0.5
	comp=Z,17nm,0.7s							
BW06	Boulder Array	73.61	47	eP		P	08 35 12.2	+0.6
	comp=Z,1.7nm,0.8s							
PD31	Pinedale Array	73.61	47	eP		P	08 35 12.8	+1.2
PDAR	Pinedale Array	73.61	47	P		P	08 35 12.0	+0.4
	comp=Z,1.2nm,0.7s,baz=267,slow=2.6,SNR=13							
P17A	Butcher Ranch,	75.17	50	eP		P	08 35 21.6	+1.0
	comp=Z,2.5nm,0.7s							
BRTR	Keskin Array B	76.15	311	P		P	08 35 26.1	-0.1
	comp=Z,2.0nm,0.9s,baz=46,slow=5.3,SNR=4.8							
DPC	Dobruska-Polom	76.64	328	eP		P	08 35 29.2	+0.5
DPC	Dobruska-Polom	76.64	328	eP		P	08 35 29.2	+0.5
KRLC	Kraliky	76.68	327	eP		P	08 35 28.9	0.0
KRLC	Kraliky	76.68	327	eP		P	08 35 28.9	0.0
PV05	Paradox Valley	77.06	50	eP		P	08 35 32.7	+1.2
CLL	Collm	77.15	330	i P		P	08 35 31.0	-0.4
CLL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CLL	Collm	77.15	330	i P		P	08 35 31.0	-0.4
	comp=Z,7.0nm,0.8s							
PRU	Pruhonice	77.63	329	eP		P	08 35 33.3	-0.8
PRU	Pruhonice	77.63	329	eP		P	08 35 33.3	-0.8
KHC	Kasperske Hory	78.69	329	eP		P	08 35 40.4	+0.3
KHC	Kasperske Hory	78.69	329	eP		P	08 35 40.4	+0.3
GERES	GERESS Array B	78.88	328	P		P	08 35 41.1	0.0
	comp=Z,0.7nm,0.7s,baz=61,slow=3.3,SNR=4.6							
GERES				LR		LR	09 12 24.6	
	comp=Z,58nm,18.6s,baz=328,slow=37							
ECSD	EROS Data Cent	79.50	39	eP		P	08 35 44.9	+0.4
	comp=Z,2.6nm,0.8s							
FUORN	Ofenpass-Fuorn	82.03	329	eP		P	08 35 58.7	+0.4
	comp=Z,7.4nm,0.8s							
VLDQ	Val d'Or	83.54	26	eP		P	08 36 03.9	-1.9
	comp=Z,10nm,0.8s							
PMOR	Pomariorio Ree	85.48	115	eT		T	10 09 59.3	
	comp=Z,12nm,0.2s							
PPT	Papeete	86.19	118	LR		LR	09 08 44.1	
	comp=Z,40nm,19.8s,baz=282,slow=31							
PPT2	Papeete2	86.21	118	eLR		LR	09 03 29.4	
	comp=Z,72nm,25.5s							
PPT2	Papeete2	86.21	118	eT		T	10 10 52.6	
	comp=Z,4.4nm,0.3s							
TX31	Lajitas Ar. Si	86.44	53	eP		P	08 36 21.6	+0.8
TXAR	Lajitas Array	86.44	53	P		P	08 36 21.6	+0.9
	comp=Z,0.7nm,0.7s,baz=295,slow=4.2,SNR=12							
WHAR	Wooly Hollow	88.16	42	eP		P	08 36 29.4	+0.6
	comp=Z,6.8nm,1.2s							
TBI	Tubuai	90.42	122	eT		T	10 16 06.5	
	comp=Z,11nm,0.3s							
KEST	Kesra	91.50	324	LR		LR	09 21 29.5	
	comp=Z,39nm,19.9s,baz=282,slow=38							
VNDA	Vanda	119.90	175	ePKIKP		PKPdf	08 42 27.8	+1.2
VNDA	Vanda	119.90	175	ePKPdf		PKPdf	08 42 27.8	+1.2
SNAA	Sanae	145.77	199	PKP		PKPdf	08 43 14.8	-0.2
VNA2	Neumayer--Watz	147.35	198	PKP		PKPbc	08 43 19.7	-0.4
	baz=89,slow=1.6							
LVC	Limon Verde	147.42	63	ePKPdf		PKPdf	08 43 20.8	+1.2
VNA3	Neumayer Olymp	147.61	196	PKP		PKPbc	08 43 19.8	-1.0
BDFB	Brasilia	152.18	22	PKPbc		PKPbc	08 43 33.6	-0.1
	comp=Z,1.3nm,0.9s,baz=0.0,slow=4.0,SNR=3.3							

IDC 15 08:24:23.0±1.9, 6°.90S×128°.76E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.6/40, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=245.1km s-min=25.0km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.05	158	Pn	Pn	08 27 43.5	0.0
	0.5nm,0.3s,baz=333,slow=14,SNR=12						
WRA				Sn	Sn	08 30 06.8	-14
	0.9nm,0.3s,baz=336,slow=22,SNR=7.4						
ASAR	Alice Springs	17.39	164	P	P	08 28 28.4	-0.3
	0.4nm,0.3s,baz=344,slow=10,SNR=47						
ASAR				S	Sn	08 31 30.4	-11
	0.2nm,0.3s,baz=348,slow=25,SNR=5.8						
STKA	Stephens Creek	27.59	156	P	P	08 30 11.6	-0.4
	1.6nm,0.7s,baz=342,slow=13,SNR=2.6						
MKAR	Makanchi Array	67.47	327	P	P	08 35 20.8	+0.1
	1.0nm,0.4s,baz=115,slow=9.6,SNR=7.7						

IDC 15 08:27:00.4±0.8, 35°.68N×30°.21E, h0km, mb4.1/13, mb1 4.1/19, mb1mx4.0/47, mbtmp4.1/19, ML4.0/6, MS3.4/8, Ms1 3.4/8, ms1mx3.0/49, Error ellipse: s-maj=17.1km s-min=14.4km az=5.0
ATH 15 08:27:01.6, 35°.56N×30°.25E, h29km±4km, ML3.7/4, Error ellipse: s-maj=8.4km s-min=1.1km az=35.0
DDA 15 08:27:01.4, 35°.38N×30°.11E, h43km, Ml4.0
ISK 15 08:27:02.7, 35°.52N×30°.14E, h19km, ML3.6
NEIC 15 08:27:02.7±0.0, 35°.48N×30°.14E, h19km, mb4.4/6, ML3.7(ISK), After ISK.
CSEM 15 08:27:03.8±0.1, 35°.52N×30°.16E, h20km, mb4.4/6, Error ellipse: s-maj=3.0km s-min=1.8km az=35.0
NSSC 15 08:27:03.0±2.4, 35°.51N×30°.42E, h0km±100km, ML3.2
THE 15 08:27:05.6, 35°.69N×29°.96E, h0km±1km, ML3.8/5, Error ellipse: s-maj=13.4km s-min=1.0km az=68.0
NIC 15 08:27:05.1±0.2, 35°.61N×30°.24E, h16km, mb4.5, ML4.2
HLW 15 08:27:07.2, 35°.17N×30°.02E, h40km±22km, Md3.5, Ml3.4
GII 15 08:27:09.0±0.0, 35°.32N×30°.39E, h20km, MD3.5/5
ISC 15 08:27:03.1±0.5, 35°.52N±0°.03×30°.16E±0°.02, h20km±4km, n309, σ1°39/376, mb4.2/19, MS3.5/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.79	324	P	Pb	08 27 17.0	-1.1
KSL				S	Sb	08 27 26.6	-1.7
KSL	Kastellorizon	0.79	324	P	Pb	08 27 16.6	-1.5
KSL				S	Sn	08 27 29.8	-0.4
KSL				AML	AML	08 27 35.2	
	comp=N,12658μm,0.4s						
KSL				AML	AML	08 27 39.5	
	comp=E,27614μm,0.6s						
AKAS	Kas	0.84	328	PG	Pb	08 27 19.4	+0.2
AKAS				eSG	Sn	08 27 31.7	-0.2
AKAS	Kas	0.84	328	i P	Pb	08 27 20.0	+0.8
AKAS				i S	Sn	08 27 33.6	+1.7
AKAS	Kas	0.84	328	i Pg	Pb	08 27 19.4	+0.2
AKAS	Kas	0.84	328	P	Pb	08 27 20.0	+0.8
AKAS				eSg	Sn	08 27 31.7	-0.2
AKAS				S	Sn	08 27 33.6	+1.7
ELL	Elmali	1.25	351	PN	Pn	08 27 25.7	+0.2
ELL				eSN	Sb	08 27 42.3	+0.6
ELL	Elmali	1.25	351	i Pn	Pn	08 27 25.7	+0.2
ELL				eSn	Sb	08 27 42.3	+0.6
FETY	Fethiye	1.42	322	PN	Pn	08 27 28.1	+0.4
FETY	Fethiye	1.42	322	P	Pn	08 27 27.6	-0.1
FETY				S	Sn	08 27 45.7	-0.1
FETY	Fethiye	1.42	322	P	Pn	08 27 27.6	-0.1
FETY	Fethiye	1.42	322	i Pn	Pn	08 27 28.1	+0.4
FETY				S	Sn	08 27 45.7	-0.1
ANTB	Antalya	1.44	16	PN	Pn	08 27 29.0	+1.0
ANTB	Antalya	1.44	16	i Pn	Pn	08 27 29.0	+1.0
KORT	Korkueli	1.49	6	PN	Pn	08 27 29.0	+1.0
KORT	Korkueli	1.49	6	i P	Pn	08 27 29.5	+0.7
KORT	Korkueli	1.49	6	i Pn	Pn	08 27 29.0	+1.0
KORT	Korkueli	1.49	6	P	Pn	08 27 29.5	+0.7
GLHS	Glhisar (BURDU	1.72	342	PN	Pn	08 27 32.2	+0.2
GLHS	Glhisar (BURDU	1.72	342	i Pn	Pn	08 27 32.2	+0.2
DALY	Dalyan (Mu¨la	1.78	317	PN	Pn	08 27 32.9	+0.2
DALY	Dalyan (Mu¨la	1.78	317	i P	Pn	08 27 32.9	+0.2
DALY	Dalyan (Mu¨la	1.78	317	P	Pn	08 27 32.9	+0.2
GOLH	Golhisar	1.79	344	i P	Pn	08 27 34.4	+1.6
GOLH	Golhisar	1.79	344	P	Pn	08 27 34.4	+1.6
ARG	Arkhangelos	1.79	294	P	Pn	08 27 33.1	+0.3
ARG				S	Sn	08 27 55.0	0.0
ARG	Arkhangelos	1.79	294	P	Pn	08 27 32.9	+0.1
ARG				AML	AML	08 28 23.4	
	comp=N,2793μm,1.2s						
ARG				AML	AML	08 28 24.7	
	comp=E,3580μm,0.9s						
ARG	Arkhangelos	1.79	294	P	Pn	08 27 33.1	+0.3
ARG				S	Sn	08 27 55.0	0.0
AKMC	Akamas	1.84	105	P	Pn	08 27 34.8	+1.3
AKMC	Akamas	1.84	105	P	Pn	08 27 34.8	+1.3
	baz=289						
GAZI	Gazipasa	1.89	67	PN	Pn	08 27 34.8	+0.5
GAZI	Gazipasa	1.89	67	i P	Pn	08 27 34.5	+0.3
GAZI	Gazipasa	1.89	67	P	Pn	08 27 34.5	+0.3
GAZI	Gazipasa	1.89	67	i Pn	Pn	08 27 34.8	+0.5
PPCY	Paphos	1.90	109	P	Pn	08 27 36.0	+1.7
PPCY	Paphos	1.90	109	P	Pn	08 27 36.0	+1.7
	baz=293						
BCK	Bucak	1.97	10	ePN	Pn	08 27 36.1	+0.7
BCK	Bucak	1.97	10	ePn	Pn	08 27 36.1	+0.7
ALFC	Alefka	2.03	99	P	Pn	08 27 37.5	+1.4
ALFC				S	Sn	08 28 02.1	+1.3
ALFC	Alefka	2.03	99	P	Pn	08 27 37.5	+1.4
	baz=283						
ALFC				S	Sn	08 28 02.1	+1.3
SUTC	Sutluce-Ispart	2.07	19	ePN	Pn	08 27 37.5	+0.7
SUTC	Sutluce-Ispart	2.07	19	ePn	Pn	08 27 37.5	+0.7
BRDR	BURDUR-Merkez	2.18	358	i P	Pn	08 27 40.0	+1.8
BRDR	BURDUR-Merkez	2.18	358	P	Pn	08 27 40.0	+1.8
TAVA	DENIZLI_Tavas	2.19	333	i P	Pn	08 27 39.7	+1.3
TAVA	DENIZLI_Tavas	2.19	333	P	Pn	08 27 39.7	+1.3
LEF	Lefka	2.27	99	ePN	Pn	08 27 40.0	+0.6
LEF	Lefka	2.27	99	P	Pn	08 27 40.0	+0.6
DNZL	Cakiroluk	2.35	338	i P	Pn	08 27 41.3	+0.7
DNZL	Cakiroluk	2.35	338	P	Pn	08 27 41.3	+0.7
SZAC	Souni	2.36	108	P	Pn	08 27 42.1	+1.5
SZAC				S	Sn	08 28 10.8	+1.8
SZAC	Souni	2.36	108	P	Pn	08 27 42.1	+1.5
	baz=292						
SZAC				S	Sn	08 28 10.8	+1.8
DENT	Denizli	2.41	338	ePN	Pn	08 27 42.2	+0.8
DENT	Denizli	2.41	338	ePn	Pn	08 27 42.2	+0.8
DAT	Datca	2.42	301	ePN	Pn	08 27 42.6	+1.1
DAT	Datca	2.42	301	i P	Pn	08 27 42.5	+1.1
DAT	Datca	2.42	301	P	Pn	08 27 42.5	+1.0
KARP	Karpathos	2.44	272	ePN	Pn	08 27 43.5	+1.6
KARP	Karpathos	2.44	272	P	Pn	08 27 43.2	+1.3
KARP				S	Sn	08 28 11.8	+0.6
KARP	Karpathos	2.44	272	P	Pn	08 27 43.8	+1.9
KARP				S	Sn	08 28 11.5	+0.3
KARP				AML	AML	08 28 13.3	
	comp=N,817μm,0.7s						
KARP				AML	AML	08 28 16.9	
	comp=E,1362μm,0.6s						
KARP	Karpathos	2.44	272	P	Pn	08 27 43.2	+1.3
KARP	Karpathos	2.44	272	ePn	Pn	08 27 43.5	+1.6
KARP				S	Sn	08 28 11.8	+0.6
TEKE	Tekeli-Mersin	2.48	75	ePN	Pn	08 27 43.3	+1.0
TEKE	Tekeli-Mersin	2.48	75	ePn	Pn	08 27 43.3	+1.0
ERMK	Ermenek	2.50	62	i P	Pn	08 27 45.3	+2.6
ERMK	Ermenek	2.50	62	P	Pn	08 27 45.3	+2.6
BAGO	Egridir - ISPA	2.52	11	i P	Pn	08 27 45.2	+2.2
MLSB	Milas	2.62	313	ePN	Pn	08 27 45.0	+0.9
MLSB	Milas	2.62	313	ePn	Pn	08 27 45.1	+0.9
BERE	Bereket-Mersin	2.62	71	ePN	Pn	08 27 45.8	+1.4
BERE	Bereket-Mersin	2.62	71	ePn	Pn	08 27 45.8	+1.4
NIS1	Nisyros Isl.	2.65	295	ePN	Pn	08 27 45.6	+1.0
NIS1	Nisyros Isl.	2.65	295	P	Pn	08 27 45.0	+0.4
NIS1				S	Sn	08 28 16.2	+0.1
NIS1	Nisyros Isl.	2.65	295	P	Pn	08 27 45.0	+0.4
NIS1	Nisyros Isl.	2.65	295	ePn	Pn	08 27 45.6	+1.0
NIS1				S	Sn	08 28 16.2	+0.1
CSS	Mathiatis	2.65	101	Pn	Pn	08 27 45.9	+1.2
CSS				Sn	Sn	08 28 16.3	0.0
CSS	Mathiatis	2.65	101	ePn	Pn	08 27 46.0	+1.2
CSS				Sn	Sn	08 28 16.3	0.0
CSS				S	Sn	08 28 18.3	+2.0
CSS	Mathiatis	2.65	101	ePn	Pn	08 27 46.0	+1.2
CSS	Mathiatis	2.65	101	P	Pn	08 27 45.9	+1.2
	baz=285						
CSS				S	Sn	08 28 18.3	+2.0
BDRM	Kayabasi	2.68	306	i P	Pn	08 27 48.1	+3.0
BDRM	Kayabasi	2.68	306	P	Pn	08 27 48.1	+3.0
NISR	Nisiros	2.69	295	P	Pn	08 27 47.2	+2.0
NISR	Nisiros	2.69	295	P	Pn	08 27 47.2	+2.0
YORU	Yoruktepe-Mers	2.71	75	ePN	Pn	08 27 46.8	+1.3
YORU	Yoruktepe-Mers	2.71	75	ePn	Pn	08 27 46.8	+1.3
KZIL	AFYON_Kizioren	2.74	360	i P	Pn	08 27 47.2	+1.2
KZIL	AFYON_Kizioren	2.74	360	P	Pn	08 27 47.2	+1.2
BODT	Bodrum	2.77	305	ePN	Pn	08 27 46.9	+0.6
BODT	Bodrum	2.77	305	P	Pn	08 27 46.6	+0.3
BODT	Bodrum	2.77	305	P	Pn	08 27 46.6	+0.3
BODT	Bodrum	2.77	305	ePn	Pn	08 27 46.9	+0.6
TEVE	Tevekalti-Mers	2.82	70	ePN	Pn	08 27 48.5	+1.5
TEVE	Tevekalti-Mers	2.82	70	ePn	Pn	08 27 48.5	+1.5
AYDN	Tasoluk	2.82	320	i P	Pn	08 27 47.9	+0.9
AYDN	Tasoluk	2.82	320	P	Pn	08 27 47.9	+0.9
YKAV	Yalikavak-Bodr	2.83	305	ePN	Pn	08 27 47.8	+0.8
YKAV	Yalikavak-Bodr	2.83	305	ePn	Pn	08 27 47.8	+0.8
GULN	MERSIN_Gulnar	2.83	75	i P	Pn	08 27 48.5	+1.4
GULN	MERSIN_Gulnar	2.83	75	P	Pn	08 27 48.5	+1.4
DOGA	KONYA_Doganhis	2.85	25	i P	Pn	08 27 50.5	+2.9
DOGA	KONYA_Doganhis	2.85	25	P	Pn	08 27 50.5	+2.9
KHAL	Karahalli	2.90	350	i P	Pn	08 27 48.2	0.0
KHAL	Karahalli	2.90	350	P	Pn	08 27 48.2	0.0
KONT	Konya--Tatoy	3.00	35	ePN	Pn	08 27 51.3	+1.8
KONT	Konya--Tatoy	3.00	35	i P	Pn	08 27 51.6	+2.1
KONT	Konya--Tatoy	3.00	35	ePn	Pn	08 27 51.3	+1.8
SHUT	Suhut-Afyon	3.05	6	ePN	Pn	08 27 51.4	+1.2
SHUT	Suhut-Afyon	3.05	6	ePn	Pn	08 27 51.4	+1.2
GCAM	G?zelcaml?	3.21	314	i P	Pn	08 27 53.1	+0.8
GCAM	G?zelcaml?	3.21	314	P	Pn	08 27 53.1	+0.8
LADK	Ladik-KONYA	3.21	33	ePN	Pn	08 27 53.9	+1.4
LADK	Ladik-KONYA	3.21	33	ePn	Pn	08 27 53.9	+1.4
KULA	Kula-Manisa	3.23	339	ePN	Pn	08 27 53.3	+0.7
KULA	Kula-Man

SVRH	Sivrihisar-ESK	4.07	15	*e*Pn	Pn	08 28 06.1 +1.8
IDI	Anoyia	4.31	269	Pn	Pn	08 28 08.6 +1.1
	comp=E,9.5nm,0.3s,baz=351,slow=5.7,SNR=57					
IDI				Sn	Sn	08 28 56.3 -0.9
	comp=E,21nm,0.3s,baz=222,slow=18,SNR=8.4					
IDI	Anoyia	4.31	269	P	Pn	08 28 08.6 +1.1
IDI	Anoyia	4.31	269	P	Pn	08 28 08.0 +0.5
STEP	BALIKESIR_Sava	4.32	334	*i* P	Pn	08 28 07.6 0.0
STEP	BALIKESIR_Sava	4.32	334	P	Pn	08 28 07.6 0.0
CHOS	Chios island	4.36	312	*e*PN	Pn	08 28 10.0 +1.8
CHOS	Chios island	4.36	312	P	Pn	08 28 08.6 +0.4
CHOS	Chios island	4.36	312	P	Pn	08 28 08.6 +0.4
CHOS	Chios island	4.36	312	*e*Pn	Pn	08 28 10.0 +1.8
SIVA	Sivas	4.40	265	P	Pn	08 28 10.8 +2.1
SIVA	Sivas	4.40	265	P	Pn	08 28 10.5 +1.7
SIVA	Sivas	4.40	265	P	Pn	08 28 10.8 +2.1
ARNB	Al Arnab	4.74	84	*e*P	Pn	08 28 12.6 -0.9
ARNB				*e*S	Sn	08 29 04.7 -3.3
ARNB				AML	AML	08 29 14.4
	comp=E,66nm,0.7s					
ARNB				AML	AML	08 29 24.3
	comp=N,48nm,0.5s					
HNTI	Hanita	4.81	119	Pn	Pn	08 28 16.0 +1.7
HNTI				Sn	Sn	08 29 08.2 -1.2
HNTI	Hanita	4.81	119	Pn	Pn	08 28 16.0 +1.7
HNTI				Sn	Sn	08 29 08.2 -1.2
HWQ	Hawqa	4.91	103	*e*P	Pn	08 28 17.6 +1.7
HWQ	Hawqa	4.91	103	*e*P	Pn	08 28 17.6 +1.7
OFRI	'Ofer	4.94	124	Pn	Pn	08 28 17.7 +1.6
OFRI	'Ofer	4.94	124	Pn	Pn	08 28 17.7 +1.6
MMA0B	Mount Meron ar	5.01	118	Pn	Pn	08 28 18.2 +1.1
MMA0B				Sn	Sn	08 29 12.6 -1.8
MMA0B	Mount Meron ar	5.01	118	Pn	Pn	08 28 18.2 +1.1
MMA0B				Sn	Sn	08 29 12.6 -1.8
MMAI	Mount Meron Ar	5.01	118	Pn	Pn	08 28 18.2 +1.1
	comp=N,33nm,0.3s,baz=305,slow=12,SNR=65					
MMAI				Sn	Sn	08 29 13.9 -0.5
	comp=N,32nm,0.3s,baz=317,slow=31,SNR=12					
MMAI				LR	LR	08 31 45.4
	comp=N,374nm,18.6s,baz=305,slow=56					
BLGI	Bet Lehem HaGe	5.01	122	Pn	Pn	08 28 18.9 +1.8
BLGI	Bet Lehem HaGe	5.01	122	Pn	Pn	08 28 18.9 +1.8
GVD	Gavdhos	5.02	264	P	Pn	08 28 18.4 +1.2
GVD	Gavdhos	5.02	264	P	Pn	08 28 18.4 +1.2
BRTR	Keskin Array B	5.03	32	Pn	Pn	08 28 18.1 +0.6
	comp=N,1.1nm,0.3s,baz=319,slow=33,SNR=20					
BRTR				Sn	Sn	08 29 14.2 -0.8
	comp=N,2.1nm,0.3s,baz=197,slow=27,SNR=9.1					
IMMV	Iera Moni Meta	5.04	271	P	Pn	08 28 19.4 +1.9
IMMV	Iera Moni Meta	5.04	271	P	Pn	08 28 19.4 +1.9
IMMV	Iera Moni Meta	5.04	271	P	Pn	08 28 19.4 +1.9
BIDA	Albida	5.07	94	*e*P	Pn	08 28 17.6 -0.3
BIDA				*e*S	Sn	08 29 11.8 -4.1
BIDA				AML	AML	08 29 15.0
	comp=N,229nm,0.5s					
BIDA				AML	AML	08 29 18.6
	comp=E,193nm,0.3s					
RCY	Rachaya	5.10	112	*e*P	Pn	08 28 19.1 +0.6
RCY	Rachaya	5.10	112	*e*P	Pn	08 28 19.1 +0.6
KSDI	Kefar Szold	5.11	115	Pn	Pn	08 28 19.7 +1.3
KSDI				Sn	Sn	08 29 16.0 -0.7
KSDI	Kefar Szold	5.11	115	Pn	Pn	08 28 19.7 +1.3
KSDI				Sn	Sn	08 29 16.0 -0.7
BTCH	Batrach	5.15	82	*e*P	Pn	08 28 19.9 +0.9
SLTI	Sal'it	5.21	127	Pn	Pn	08 28 21.7 +1.8
SLTI				Sn	Sn	08 29 17.9 -1.4
SLTI	Sal'it	5.21	127	Pn	Pn	08 28 21.7 +1.8
SLTI				Sn	Sn	08 29 17.9 -1.4
HAWK	Haweek	5.22	99	*e*P	Pn	08 28 20.4 +0.3
HAWK				*e*S	Sn	08 29 16.9 -2.9
BRBR	Barbar	5.22	112	*e*P	Pn	08 28 18.6 -1.6
BRBR				*e*S	Sn	08 29 14.1 -5.9
BRBR				AML	AML	08 29 21.5
	comp=N,40nm,0.5s					
BRBR				AML	AML	08 29 23.1
	comp=E,56nm,0.8s					
KSHT	Keshet	5.32	117	Pn	Pn	08 28 23.5 +2.1
KSHT	Keshet	5.32	117	Pn	Pn	08 28 23.5 +2.1
MMLI	Mount Malkishu	5.34	124	Pn	Pn	08 28 23.1 +1.4
MMLI				Sn	Sn	08 29 21.8 -0.8
MMLI	Mount Malkishu	5.34	124	Pn	Pn	08 28 23.1 +1.4
MMLI				Sn	Sn	08 29 21.8 -0.8
DRWC	Darouich	5.39	76	*e*P	Pn	08 28 22.3 0.0
MARH	Ras Al Marh	5.41	104	*e*P	Pn	08 28 22.7 -0.2
MARH				*e*S	Sn	08 29 20.7 -4.0
RSH		5.43	146	P	Pn	08 28 23.9 +0.9
	baz=142					
RSH		5.43	146	P	Pn	08 28 23.9 +0.9
HMDT	Nahal Hemdat	5.52	125	Pn	Pn	08 28 26.4 +2.3
HMDT				Sn	Sn	08 29 26.5 -0.5
HMDT	Nahal Hemdat	5.52	125	Pn	Pn	08 28 26.4 +2.3
HMDT				Sn	Sn	08 29 26.5 -0.5
ANKY	Antikythira Is	5.59	276	P	Pn	08 28 24.8 -0.3
ANKY	Antikythira Is	5.59	276	P	Pn	08 28 24.8 -0.3
TCHB	Talchebab	5.59	119	*e*P	Pn	08 28 26.9 +1.8
TCHB				*e*S	Sn	08 29 26.4 -2.4
TCHB				AML	AML	08 29 32.8
	comp=N,147nm,0.4s					
TCHB				AML	AML	08 29 44.8
	comp=E,61nm,0.6s					
TOTH	TOTAH	5.61	111	*e*P	Pn	08 28 26.9 +1.6
TOTH				*e*S	Sn	08 29 25.7 -3.5
TOTH				AML	AML	08 29 31.4
	comp=N,60nm,0.4s					
TOTH				AML	AML	08 29 31.5
	comp=E,66nm,0.7s					
AMAZ	Amatzia	5.62	134	Pn	Pn	08 28 27.0 +1.5
AMAZ				Sn	Sn	08 29 28.7 -0.7
AMAZ	Amatzia	5.62	134	Pn	Pn	08 28 27.0 +1.5
AMAZ				Sn	Sn	08 29 28.7 -0.7
KOT	Kottamia	5.75	165	P	Pn	08 28 27.2 -0.1
	baz=163					
KOT	Kottamia	5.75	165	P	Pn	08 28 27.2 -0.1
SLUM	Salum	5.76	227	P	Pn	08 28 26.8 -0.6
	baz=229					
SLUM				AMP		08 29 00.0
	comp=N,60μm,0.4s,logA/T=5.2,baz=229					
SLUM				S	Sn	08 29 27.4 -5.5
	baz=229					
SLUM	Salum	5.76	227	P	Pn	08 28 26.8 -0.6
HHAG	Hagoal	5.78	163	P	Pn	08 28 27.6 -0.1
	baz=160					
HHAG	Hagoal	5.78	163	P	Pn	08 28 27.7 -0.1
YTIR	Yattir	5.86	134	Pn	Pn	08 28 30.2 +1.4
YTIR	Yattir	5.86	134	Pn	Pn	08 28 30.2 +1.4
DSI	Dead Sea	5.87	131	Pn	Pn	08 28 30.7 +1.8
DSI				Sn	Sn	08 29 35.3 -0.3
DSI	Dead Sea	5.87	131	Pn	Pn	08 28 30.7 +1.8
DSI				Sn	Sn	08 29 35.3 -0.3
VLI	Veliai	5.97	284	P	Pn	08 28 30.6 +0.3
VLI	Veliai	5.97	284	P	Pn	08 28 30.6 +0.3
HSAF	As Saff	6.00	168	P	Pn	08 28 29.9 -0.8
	baz=166					
HSAF	As Saff	6.00	168	P	Pn	08 28 29.9 -0.8
ROOS	tl_alroos	6.01	101	*e*P	Pn	08 28 31.3 +0.3
ROOS				*e*S	Sn	08 29 34.9 -4.3
ROOS				AML	AML	08 29 41.2
	comp=N,79nm,0.4s					
ROOS				AML	AML	08 29 44.0
	comp=E,91nm,0.8s					
GLL	Jalalah	6.06	167	P	Pn	08 28 30.9 -0.7
	baz=165					
GLL	Jalalah	6.06	167	P	Pn	08 28 30.9 -0.7
RMNI	Mount Ramon	6.24	140	Pn	Pn	08 28 35.8 +1.7
RMNI	Mount Ramon	6.24	140	Pn	Pn	08 28 35.8 +1.7
ZFRI	Zfri	6.50	138	Pn	Pn	08 28 38.3 +0.8
ZFRI				Sn	Sn	08 29 49.5 -1.5
ZFRI	Zfri	6.50	138	Pn	Pn	08 28 38.3 +0.8
ZFRI				Sn	Sn	08 29 49.5 -1.5
ASF	Jabal al Asfar	6.52	119	Pn	Pn	08 28 39.9 +1.9
	comp=E,1.6nm,0.3s,baz=265,slow=12,SNR=8.7					
ASF				Sn	Sn	08 29 52.1 +0.3
	comp=E,0.7nm,0.3s,baz=196,slow=20,SNR=2.7					
PRNI	Paran	6.56	140	Pn	Pn	08 28 39.3 +0.8
PRNI				Sn	Sn	08 29 51.5 -1.2
PRNI	Paran	6.56	140	Pn	Pn	08 28 39.3 +0.8
PRNI				Sn	Sn	08 29 51.5 -1.2
KRMI	Paran Flat	6.61	143	Pn	Pn	08 28 40.0 +0.8
KRMI				Sn	Sn	08 29 52.6 -1.4
KRMI	Paran Flat	6.61	143	Pn	Pn	08 28 40.0 +0.8
KRMI				Sn	Sn	08 29 52.6 -1.4
GUR	Goura	6.73	293	P	Pn	08 28 42.9 +2.2
GUR	Goura	6.73	293	P	Pn	08 28 42.9 +2.2
HRFI	Mount Harif	6.83	142	Pn	Pn	08 28 43.8 +1.6
HRFI				Sn	Sn	08 29 57.8 -1.6
HRFI	Mount Harif	6.83	142	Pn	Pn	08 28 43.8 +1.6
MBRI	Mt Berech	6.97	144	Pn	Pn	08 28 45.4 +1.3
MBRI				Sn	Sn	08 30 01.8 -1.1
MBRI	Mt Berech	6.97	144	Pn	Pn	08 28 45.4 +1.3
MBRI				Sn	Sn	08 30 01.8 -1.1
EIL	Elat	7.09	144	Pn	Pn	08 28 46.6 +0.9
	comp=E,3.3nm,0.3s,baz=345,slow=2.6,SNR=23					
EIL				Sn	Sn	08 30 04.2 -1.5
	comp=E,3.8nm,0.3s,baz=96,slow=17,SNR=7.9					
EIL				LR	LR	08 33 21.4
	comp=E,103nm,20.4s,baz=58,slow=53					
EIL	Elat	7.09	144	Pn	Pn	08 28 46.6 +0.9
EIL				Sn	Sn	08 30 04.8 -0.9
EIL	Elat	7.09	144	Pn	Pn	08 28 46.6 +0.9
EIL				Sn	Sn	08 30 04.8 -0.9
GRB	Gharib	7.56	162	P	Pn	08 28 51.9 -0.3
	baz=160					
GRB	Gharib	7.56	162	P	Pn	08 28 51.9 -0.3
HFRF	Wahat Farafira	8.49	191	P	Pn	08 29 04.1 -0.8
	baz=191					
HFRF	Wahat Farafira	8.49	191	P	Pn	08 29 04.1 -0.8
CUC	Castrocucco	12.20	296	*e*Pn	Pn	08 29 55.3 -0.4
CUC	Castrocucco	12.20	296	*e*Pn	Pn	08 29 55.3 -0.4
AKASG	Malin Array Be	15.19	358	Pn	Pn	08 30 38.6 +2.3
	comp=E,0.8nm,0.3s,baz=184,slow=10,SNR=7.6					
KEST	Kesra	16.93	277	Pn	P	08 31 01.8 +1.1
	comp=E,0.3nm,0.3s,baz=222,slow=11,SNR=4.6					
VRAC	Vranov	17.00	328	LR	LR	08 39 07.1
	comp=E,73nm,19.6s,baz=151,slow=43					
GERES	GERESS Array B	18.01	323	P	P	08 31 12.7 +0.2
	comp=E,0.2nm,0.3s,baz=134,slow=11,SNR=5.2					
GERES				LR	LR	08 38 51.2
	comp=E,81nm,19.1s,baz=106,slow=40					
DAVOX	Davos/Dischmat	18.91	313	LR	LR	08 40 20.8
	comp=E,156nm,18.5s,baz=108,slow=42					
TAM	Tamanrasset	24.89	246	*e*P	P	08 32 26.3 +1.5
	comp=E,6.9nm,1.1s					
TAM	Tamanrasset	24.89	246	*e*P	P	08 32 26.3 +1.5
	comp=E,6.9nm,1.1s					
AKTO	Aktyubinsk	25.06	45	P	P	08 32 25.4 -0.4
	comp=E,7.9nm,0.7s,baz=250,slow=9.5,SNR=31					
ABKAR	Akbulak array	25.73	49	*e*P	P	08 32 31.2 -0.8
	comp=E,1.4nm,0.4s					
ABKAR	Akbulak array	25.73	49	*e*P	P	08 32 31.2 -0.8
	comp=E,1.4nm,0.4s					
FINES	FINESS Array B	26.08	356	P	P	08 32 33.9 -1.1
	comp=E,0.9nm,0.5s,baz=159,slow=11,SNR=5.8					
HFS	Hagfors	26.84	342	P	P	08 32 41.5 -0.4
	comp=E,1.4nm,0.6s,baz=117,slow=8.3,SNR=4.2					
HFS				LR	LR	08 44 42.6
	comp=E,92nm,18.8s,baz=30,slow=40					
ESDC	Sonseca Array	27.25	289	P	P	08 32 46.5 +0.6
	comp=E,0.7nm,0.6s,baz=84,slow=9.7,SNR=7.1					
NOA	NORSAR Array B	28.27	341	P	P	08 32 52.9 -1.8
	comp=E,0.9nm,0.8s,baz=142,slow=9.2,SNR=2.9					
KKAR	Karatay Array	31.89	64	*e*P	P	08 33 27.4 +0.5
	comp=E,6.5nm,0.8s					
KKAR	Karatay Array	31.89	64	*e*P	P	08 33 27.4 +0.5
	comp=E,6.5nm,0.8s					
BRVK	Borovoye	33.11	45	P	P	08 33 36.8 -0.7
	comp=E,4.1nm,0.7s					
BRVK	Borovoye	33.11	45	P	P	08 33 36.8 -0.7
	comp=E,4.1nm,0.7s					
TORD	Torodi Ar. Bea	33.97	236	P	P	08 33 46.9 +1.6
	comp=E,3.2nm,0.8s,baz=31,slow=9.7,SNR=21					
ARCES	ARCESS Array B	34.17	357	P	P	08 33 45.4 -1.1
	comp=E,5.4nm,1.1s,baz=167,slow=9.3,SNR=7.6					
ARCES	ARCESS Array B	34.17	357	P	P	08 33 45.4 -1.1
AAK	Ala-Archa	34.83	65	*e*P	P	08 33 53.2 +0.5
	comp=E,3.3nm,0.7s					
AAK	Ala-Archa	34.83	65	*e*P	P	08 33 53.2 +0.5
	comp=E,3.3nm,0.7s					
KURK	Kurchatov	37.78	51	*e*P	P	08 34 17.0 -0.6
	comp=E,19nm,0.8s					
KURK	Kurchatov	37.78	51	*e*P	P	08 34 17.0 -0.6
	comp=E,19nm,0.8s					
MKAR	Makanchi Array	40.16	57	P	P	08 34 37.4 -0.2
	comp=E,2.4nm,0.7s,baz=272,slow=7.3,SNR=9.8					
ZALV	Zalesovo Beam	41.80	46	P	P	08 34 49.8 -1.2
	comp=E,1.3nm,0.3s,baz=260,slow=9.1,SNR=3.5					
PALK	Pallekele	54.05	109	LR	LR	09 02 10.7
	comp=E,39nm,19.6s,baz=297,slow=39					
CMAR	Chiang Mai Arr	62.47	86	P	P	08 37 25.2 0.0
	comp=E,2.0nm,0.5s,baz=297,slow=8.1,SNR=9.8					
CMAR				LR	LR	09 10 02.4
	comp=E,58nm,21.0s,baz=175,slow=41					
USRK	Ussuriysk Ar.	73.65	47	P	P	08 38 34.2 -0.8
	comp=E,2.8nm,0.7s,baz=280,slow=5.5,SNR=7.7					
KSAR	Wonju Array Be	74.76	55	P	P	08 38 41.1 -0.6
KSAR	Wonju Array Be	74.76	55	P	P	08 38 41.1 -0.6
KSRS	Korea Array	74.78	55	P	P	08 38 41.1 -0.7
	comp=E,0.8nm,0.5s,baz=295,slow=4.4,SNR=5.4					
YKA	Yellowknife Ar	78.30	344	P	P	08 39 00.5 -0.7
	comp=E,0.4nm,0.6s,baz=25,slow=4.3,SNR=3.8					

KRSC 15 08:30:13.7±0.8, 49°.47N×156°.02E, h130km±11km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.21	3	*e*P	Pn	08 30 39.5	+0.9
SKR				*e*S	Sn	08 30 58.4	+0.8
RUS	Russkaya	3.36	27	*e*P	Pn	08 31 06.2	+1.3
RUS				*e*S	Sn	08 31 45.9	+1.4
UGLR	Uglovaya	4.13	24	P	Pn	08 31 17.3	+2.0
AVH	Avacha	4.16	23	P	Pn	08 31 17.8	+2.2
SDLR	Sedlovina	4.21	24	*e*P	Pn	08 31 18.4	+2.1
SPN	Mys Shipunski	4.42	33	*e*S	Sn	08 32 11.1	+1.6
MKZ	Mys Kozlova	6.19	33	P	Pn	08 31 44.7	+2.1

ISCJB ***15*** *08:38:57.0±0.5, 36°.94N±0°.03×34°.55E±0°.03, h7km±4km, Error ellipse: s-maj=5.8km s-min=3.4km az=156.5*
DDA ***15*** *08:38:56.3, 36°.92N×34°.62E, h7km, Md2.4*
ISK ***15*** *08:38:56.6, 36°.96N×34°.52E, h7km, MD3.0*
CSEM ***15*** *08:38:57.3±0.2, 36°.93N×34°.54E, h10km, MD3.0, Error ellipse: s-maj=5.0km s-min=3.1km az=162.0*

ISC 15 08:38:56.9±0.9, 36°.94N±0°.03×34°.58E±0°.02, h8km±6km, n35, σ0°75/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	Mersin	0.09	213	*e*PG	Pg	08 38 58.9	-0.2
MERS				*e*SG	Sg	08 39 00.7	0.0
MERS	Mersin	0.09	213	*e*Pg	Pg	08 38 58.9	-0.2
MERS				*e*Sg	Sg	08 39 00.7	0.0
DED	Mersin	0.18	83	*i* P	Pg	08 38 60.0	-0.6
DED				*i* S	Sg	08 39 03.9	+0.8
KIZK	Mersin	0.58	218	*e*PG	Pg	08 39 07.7	-0.3
KIZK				*e*SG	Sg	08 39 16.6	+1.0
KIZK	Mersin	0.58	218	*i* P	Pg	08 39 07.8	-0.3
KIZK				*i* S	Sb	08 39 16.9	-0.7
KIZK	Mersin	0.58	218	P	Pg	08 39 07.8	-0.3
KIZK				S	Sb	08 39 16.9	-0.7
KERG	Konya-Eregli	0.60	323	*i* P	Pg	08 39 08.4	-0.1
KERG				*i* S	Sb	08 39 18.5	+0.1
KERG	Konya-Eregli	0.60	323	P	Pg	08 39 08.4	-0.1
KERG				S	Sb	08 39 18.5	+0.1
YURE	YUREGIR	0.85	97	*e*PG	Pb	08 39 14.7	+0.7
YURE				*e*SG	Sn	08 39 27.4	-0.5
YURE	YUREGIR	0.85	97	*e*Pg	Pb	08 39 14.7	+0.7
YURE				*e*Sg	Sn	08 39 27.4	-0.5
KEBE	Keben-Mersin	0.85	235	*e*PG	Pg	08 39 13.2	-0.1
KEBE				*e*SG	Sg	08 39 24.2	-0.2
KEBE	Keben-Mersin	0.85	235	*e*Pg	Pg	08 39 13.2	-0.1
KEBE				*e*Sg	Sg	08 39 24.2	-0.2
AKO	Adana	0.86	53	*i* P	Pg	08 39 11.9	-1.7
AKO				*i* S	Sn	08 39 27.1	-1.1
IKL	Isikli	1.00	226	*e*PG	Pg	08 39 15.8	-0.4
IKL				*e*SG	Sb	08 39 29.9	0.0
IKL	Isikli	1.00	226	*e*Pg	Pg	08 39 15.8	-0.4
IKL				*e*Sg	Sb	08 39 29.9	0.0
TEVE	Tevekalti-Mers	1.04	242	*e*PG	Pg	08 39 16.8	-0.2
TEVE	Tevekalti-Mers	1.04	242	*e*Pg	Pg	08 39 16.8	-0.2
GULN	MERSIN_Gulnar	1.13	228	*i* P	Pg	08 39 17.4	-1.1
GULN				*i* S	Sb	08 39 33.4	0.0
GULN	MERSIN_Gulnar	1.13	228	P	Pg	08 39 17.4	-1.1
GULN				S	Sb	08 39 33.4	0.0
KOZT	Kozan	1.13	61	*e*PN	Pb	08 39 18.8	0.0
KOZT	Kozan	1.13	61	*e*Pn	Pb	08 39 18.8	0.0
AKKU	Akkuyu-Mersin	1.14	227	*e*PN	Pg	08 39 18.3	-0.4
AKKU	Akkuyu-Mersin	1.14	227	*e*Pn	Pg	08 39 18.3	-0.4
BERE	Bereket-Mersin	1.24	242	*e*PN	Pb	08 39 20.3	-0.4
BERE	Bereket-Mersin	1.24	242	*e*Pn	Pb	08 39 20.3	-0.4
ERMK	Ermenek	1.37	258	*i* P	Pg	08 39 23.5	+0.3
ERMK				*i* S	Sg	08 39 44.8	+3.8
ERMK	Ermenek	1.37	258	P	Pg	08 39 23.5	+0.3
TAHT	Tahtakopru-Hat	1.41	113	*e*PN	Pg	08 39 23.9	+0.1
TAHT	Tahtakopru-Hat	1.41	113	*e*Pn	Pg	08 39 24.0	+0.1
TEKE	Tekeli-Mersin	1.42	236	*e*PN	Pn	08 39 23.0	-0.1
TEKE	Tekeli-Mersin	1.42	236	*e*Pn	Pn	08 39 23.0	-0.1
YAYL	Yayladag	1.53	126	*i* P	Pn	08 39 24.8	+0.2
YAYL				*i* S	Sb	08 39 45.9	+0.8
YAYL	Yayladag	1.53	126	P	Pn	08 39 24.8	+0.2
YAYL				S	Sb	08 39 45.9	+0.8
BOZY	Bozyazi-Mersin	1.54	238	*e*PN	Pn	08 39 24.3	-0.3
BOZY	Bozyazi-Mersin	1.54	238	*e*Pn	Pn	08 39 24.3	-0.3

CSEM ***15*** *09:03:08.6, 64°.06N×21°.40W, h3km, ML4.0*

REY 15 09:03:08.6, 64°.06N×21°.40W, h3km, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAN	Sandskeio	0.07	267	P	Pg	09 03 10.4	+0.3
	baz=267						
ISAN				S	Sg	09 03 11.9	+0.7
	baz=267						
ISAN	Sandskeio	0.07	267	P	Pg	09 03 10.4	+0.3
ISAN				S	Sg	09 03 11.9	+0.8
IBJA	Bjarnastaoir	0.12	159	P	Pg	09 03 11.3	+0.3
	baz=159						
IBJA				S	Sg	09 03 13.3	+0.7
	baz=159						
IBJA	Bjarnastaoir	0.12	159	P	Pg	09 03 11.3	+0.4
IBJA				S	Sg	09 03 13.3	+0.7
IKAS	Kald??rsel	0.20	260	P	Pg	09 03 12.8	+0.4
	baz=260						
IKAS				S	Sg	09 03 16.1	+1.0
	baz=260						
IKAS	Kald??rsel	0.20	260	P	Pg	09 03 12.8	+0.3
IKAS				S	Sg	09 03 16.1	+1.0
ISOL	Solvholt	0.24	123	P	Pg	09 03 13.3	+0.2
	baz=123						
ISOL				S	Sg	09 03 16.9	+0.6
	baz=123						
ISOL	Solvholt	0.24	123	P	Pg	09 03 13.3	+0.1
ISOL				S	Sg	09 03 16.9	+0.6
IKUD	Kuludalsa	0.33	322	P	Pg	09 03 14.8	-0.2
	baz=322						
IKUD				S	Sg	09 03 20.0	+0.7
	baz=322						
IKUD	Kuludalsa	0.33	322	P	Pg	09 03 14.8	-0.2
IKUD				S	Sg	09 03 20.0	+0.7
IASM	Asmuli	0.41	123	P	Pg	09 03 16.3	-0.2
	baz=123						
IASM				S	Sg	09 03 22.3	+0.4
	baz=123						
IASM	Asmuli	0.41	123	P	Pg	09 03 16.3	-0.2
IASM				S	Sg	09 03 22.3	+0.4
IVOG	Vogar	0.45	259	P	Pg	09 03 16.8	-0.3
	baz=259						
IVOG				S	Sg	09 03 23.4	+0.5
	baz=259						
IVOG	Vogar	0.45	259	P	Pg	09 03 16.8	-0.3
IVOG				S	Sg	09 03 23.4	+0.5
IGRV	Grindav??k	0.51	247	P	Pg	09 03 18.0	-0.3
	baz=247						
IGRV				S	Sg	09 03 25.1	+0.2
	baz=247						
IGRV	Grindav??k	0.51	247	P	Pg	09 03 18.0	-0.3
IGRV				S	Sg	09 03 25.1	+0.2
IGYG	Gygjarholskot	0.56	66	P	Pg	09 03 18.8	-0.5
	baz=66						
IGYG				S	Sg	09 03 27.0	+0.4
	baz=66						
IGYG	Gygjarholskot	0.56	66	P	Pg	09 03 18.8	-0.6
IGYG				S	Sg	09 03 27.0	+0.3
INYL	Nylenda	0.60	262	P	Pg	09 03 19.2	-0.8
	baz=262						
INYL				S	Sg	09 03 27.4	-0.3
	baz=262						
INYL	Nylenda	0.60	262	P	Pg	09 03 19.2	-0.7
INYL				S	Sg	09 03 27.4	-0.3
IRNE	Reykjanes	0.63	248	P	Pg	09 03 19.9	-0.6
	baz=248						
IRNE				S	Sg	09 03 28.7	+0.1
	baz=248						
IRNE	Reykjanes	0.63	248	P	Pg	09 03 19.9	-0.6
IRNE				S	Sg	09 03 28.7	+0.1
IHAU	Haukadalur	0.64	98	P	Pg	09 03 20.1	-0.6
	baz=98						
IHAU				S	Sg	09 03 29.1	0.0
	baz=98						
IHAU	Haukadalur	0.64	98	P	Pg	09 03 20.1	-0.7
IHAU				S	Sg	09 03 29.1	+0.1
IMID	Miomork	0.78	120	P	Pg	09 03 22.6	-0.9
	baz=120						
IMID				S	Sg	09 03 33.4	-0.2
	baz=120						
IMID	Miomork	0.78	120	P	Pg	09 03 22.6	-0.9
IMID				S	Sg	09 03 33.4	-0.3
IVES	Vestmannaeyjar	0.79	141	P	Pg	09 03 22.9	-0.8
	baz=141						
IVES				S	Sg	09 03 33.9	0.0
	baz=141

RUS	**Russkaya**	**3.68**	**20**	*eP*	Pn	09 08 52.8	+3.2
RUS				*eS*	Sn	09 09 36.1	+2.8
UGLR	**Uglovaya**	**4.47**	**19**	*eP*	Pn	09 09 03.5	+2.8
AVH	**Avacha**	**4.51**	**18**	*eP*	Pb	09 09 06.8	-5.0
SDLR	**Sedlovina**	**4.55**	**19**	*eP*	Pn	09 09 05.5	+3.8
GNL	**Ganaly**	**4.79**	**11**	*eP*	Pn	09 09 09.2	+4.1
KBTR	**Krutoberegovo**	**8.19**	**26**	*eP*	Pn	09 09 55.8	+4.2

NSSC ***15*** *09:15:07.4±1.4, 34°.58N×35°.57E, h89km±27km, ML2.7*
ISCJB ***15*** *09:15:16.3±1.0, 34°.57N±0°.06×36°.36E±0°.07, h4km±9km, Error ellipse: s-maj=12.1km s-min=8.1km az=135.7*
CSEM ***15*** *09:15:16.4, 34°.62N×36°.39E, h1km, ML2.8*
GRAL ***15*** *09:15:16.4±0.3, 34°.62N×36°.39E, h1km±3km, MD2.8*
ISC 15 09:15:17.1±1.4, 34°.54N±0°.04×36°.34E±0°.05, h1km±14km, n13, σ0s89/19, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.30**	**169**	*eP*	**Pg**	**09 15 23.1**	**+0.1**
FKH	**Fakeheh**	**0.30**	**169**	*eP*	**Pg**	**09 15 23.1**	**+0.1**
HWQ	**Hawqa**	**0.42**	**231**	*eP*	**Pg**	**09 15 25.3**	**+0.1**
HWQ				*eS*	**Sg**	**09 15 32.0**	**+1.4**
HWQ	**Hawqa**	**0.42**	**231**	*eP*	**Pg**	**09 15 25.3**	**+0.1**
HWQ				*eS*	**Sg**	**09 15 32.0**	**+1.4**
BIDA	**Albida**	**0.47**	**358**	*eP*	**Pg**	**09 15 25.3**	**-0.8**
BIDA				*eS*	**Sb**	**09 15 37.1**	**+1.3**
BIDA				AML	AML	09 15 43.5	
	comp=N,342nm,0.5s						
BIDA				AML	AML	09 15 45.6	
	comp=E,306nm,0.4s						
MARH	**Ras Al Marh**	**0.53**	**167**	*eP*	**Pg**	**09 15 26.9**	**-0.4**
MARH				AML	AML	09 15 38.1	
	comp=E,304nm,0.5s						
MARH				AML	AML	09 15 40.8	
	comp=N,317nm,0.5s						
BHL	**Bhannes**	**0.85**	**222**	*eP*	**Pg**	**09 15 33.4**	**-0.1**
BHL	**Bhannes**	**0.85**	**222**	*eP*	**Pg**	**09 15 33.4**	**-0.1**
ROOS	**tl_alroos**	**0.87**	**115**	*eP*	**Pb**	**09 15 34.3**	**-0.8**
ROOS				*eS*	**Sn**	**09 15 51.3**	**+1.3**
DQRL	**Deir Qamar**	**1.05**	**218**	*eP*	**Pg**	**09 15 36.8**	**-0.5**
DQRL				*eS*	**Sb**	**09 15 52.0**	**-0.5**
DQRL	**Deir Qamar**	**1.05**	**218**	*eP*	**Pg**	**09 15 36.8**	**-0.5**
DQRL				*eS*	**Sb**	**09 15 52.0**	**-0.5**
RCY	**Rachaya**	**1.12**	**202**	*eP*	**Pb**	**09 15 38.1**	**-1.3**
RCY				*eS*	**Sb**	**09 15 54.1**	**-0.5**
ARNB	**Al Arnab**	**1.35**	**347**	*eP*	Pn	09 15 30.1	-13
ARNB				*eS*	Sb	09 15 48.4	-13
ARNB				AML	AML	09 15 55.4	
	comp=N,80nm,0.4s						
ARNB				AML	AML	09 15 58.1	
	comp=E,52nm,0.7s						

IDC ***15*** *09:17:45.7±1.0, 19°.10N×121°.64E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/35, mbtmp3.8/7, MS3.0/2, Ms1 3.2/2, ms1mx2.8/33, Error ellipse: s-maj=52.6km s-min=20.0km az=79.0*
ISCJB ***15*** *09:17:47.7±0.7, 19°.33N±0°.05×121°.23E±0°.09, h10km, mb3.7/6, MS2.9/1, Error ellipse: s-maj=12.7km s-min=6.4km az=172.1*
MAN ***15*** *09:17:53, 18°.99N×121°.27E, h7km, mb4.9, ML3.8, MS3.9*
ISC 15 09:17:48.4±0.8, 19°.32N±0°.06×121°.3E±0°.1, h10km, n20, σ1s81/15, mb3.9/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.29**	**146**	*eP*	**Pb**	**09 18 13.0**	**+0.3**
SGCP				*eS*	**Sn**	**09 18 29.5**	**-0.3**
ABRA	**Dolores**	**1.75**	**198**	*eP*	**Pn**	**09 18 17.3**	**-1.5**
ABRA				*eS*	**Sn**	**09 18 40.3**	**-0.7**
CAUP	**Cauayan**	**2.42**	**168**	*eP*	**Pn**	**09 18 30.5**	**+2.6**
CAUP				*eS*	**Sb**	**09 19 03.3**	**+1.5**
BOLP	**Bolinao**	**3.20**	**204**	*eP*	**Pn**	**09 18 41.3**	**+2.5**
BALP	**Baler**	**3.57**	**175**	*eP*	**Pn**	**09 18 44.8**	**+1.0**
BALP				*eS*	**Sn**	**09 19 25.2**	**-0.8**
KSRS	**Korea Array**	**18.98**	**16**	P	**Pn**	**09 22 11.6**	**+0.9**
	baz=200,slow=11,SNR=4.3						
KSRS				LR	LR	09 30 36.0	
	comp=Z,38nm,18.9s,baz=0.0,slow=40						
CMAR	**Chiang Mai Arr**	**21.16**	**271**	LR	LR	09 31 40.6	
	comp=Z,51nm,18.8s,baz=245,slow=39						
WRA	**Warramunga Arr**	**41.06**	**161**	P	P	09 25 27.6	-4.7
	0.7nm,0.4s,baz=342,slow=9.1,SNR=6.8						
MKAR	**Makanchi Array**	**41.99**	**320**	P	**P**	**09 25 42.2**	**+2.4**
	0.2nm,0.4s,baz=112,slow=10.0,SNR=3.7						
H11S3	**WAKE ISLAND Hy 42.87**		**83**	T	T	10 11 47.2	
	baz=286						
H11S1	**WAKE ISLAND Hy 42.88**		**83**	T	T	10 11 47.3	
	baz=286						
H11S2	**WAKE ISLAND Hy 42.89**		**83**	T	T	10 11 48.0	
	baz=286						
H11N1	**WAKE ISLAND Hy 42.89**		**82**	T	T	10 11 48.6	
	baz=277,slow=75,SNR=54						
H11N2	**WAKE ISLAND Hy 42.89**		**82**	T	T	10 11 48.9	
	baz=277,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy 42.91**		**82**	T	T	10 11 49.9	
	baz=277,slow=75,SNR=11						
ASAR	**Alice Springs**	**44.46**	**163**	P	**P**	**09 25 57.0**	**-3.0**
	0.8nm,0.3s,baz=342,slow=6.9,SNR=29						
ILAR	**Eielson Array**	**73.49**	**27**	P	**P**	**09 29 19.0**	**-2.0**
	0.2nm,0.5s,baz=278,slow=5.0,SNR=7.3						
ARCES	**ARCESS Array B**	**74.08**	**339**	P	**P**	**09 29 24.1**	**-0.2**
	4.5nm,1.0s,baz=66,slow=9.0,SNR=4.2						
YKA	**Yellowknife Ar**	**87.40**	**23**	P	**P**	**09 30 35.7**	**0.0**
	0.8nm,0.5s,baz=307,slow=4.7,SNR=9.6						
TXAR	**Lajitas Array**	**115.05**	**43**	PKP	PKPdf	09 36 29.9	-0.7
	0.2nm,0.5s,baz=217,slow=1.7,SNR=6.2						

NIED ***15*** *09:27:00, 47°.00N×152°.50E, h62km, Mw4.0 Best double couple: M₀1.11000×10^15 NP1:φ=92.00000°, δ53.00000°, λ138.00000°. NP2:φ=211.00000°, δ58.00000°, λ46.00000°.*
JMA ***15*** *09:27:23.3±0.8, 46°.97N×152°.51E, h30km, M4.7*
SKHL ***15*** *09:27:24.3±0.3, 46°.25N×153°.04E, h77km±9km, mb5.0/4*
ISCJB ***15*** *09:27:27.5±0.4, 46°.92N±0°.04×152°.02E±0°.06, h106km, mb4.1/17, Error ellipse: s-maj=7.8km s-min=3.4km az=138.6*
MOS ***15*** *09:27:29.4±1.1, 47°.27N×151°.85E, h101km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=8.6km az=60.5*
BJI ***15*** *09:27:30.3, 47°.27N×152°.17E, h115km, mb4.6/8, mB4.5/6*
IDC ***15*** *09:27:31.2±2.4, 47°.06N×152°.08E, h113km±22km, mb3.7/13, mb1 3.8/17, mb1mx3.7/42, mbtmp4.1/17, MS3.1/2, Ms1 3.1/2, ms1mx2.5/33, Error ellipse: s-maj=21.2km s-min=12.6km az=141.0*
ISC 15 09:27:28.9±0.6, 46°.86N±0°.06×152°.17E±0°.06, h106km, n72, σ2s39/79, mb4.0/17, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.41**	**243**	*d iPN*	**Pn**	**09 28 21.0**	**+0.8**
KUR				*eS*	**Sn**	**09 29 02.6**	**+2.9**
KUR				pmax	pmax		
	comp=Z,129nm,0.4s						
KUR				pmax	pmax		
	comp=N,40nm,0.3s						
KUR				pmax	pmax		
	comp=E,34nm,0.3s						
KUR				smax	smax		
	comp=N,840nm,0.3s						
KUR				smax	smax		
	comp=E,806nm,0.4s						
KUR	**Kuril'sk**	**3.41**	**243**	*i P*	**Pn**	**09 28 20.9**	**+0.8**
KUR				AMB	AMB	09 28 22.0	
	comp=E,150nm,0.5s						
KUR				*eS*	**Sn**	**09 29 03.2**	**+3.5**
KUR				A	A	09 29 12.5	
	comp=E,84nm,0.3s						
KUR				A	A	09 29 12.5	
	comp=E,810nm,0.3s						
SKR	**Severo-Kuril's**	**4.63**	**33**	*e*PN	**Pn**	**09 28 35.3**	**-1.3**
SKR				pmax	pmax		
	comp=Z,97nm,0.9s						
SKR	**Severo-Kuril's**	**4.63**	**33**	*eP*	**Pn**	**09 28 35.3**	**-1.3**
SKR				AMB	AMB	09 28 39.4	
	comp=Z,47nm,0.4s						
SKR				*eS*	**Sn**	**09 29 28.4**	**-0.8**
SKR				A	A	09 29 45.0	
	comp=Z,175nm,0.4s						
SKR				A	A	09 29 45.0	
	comp=Z,187nm,0.4s						
SHO	**Shikotan**	**4.80**	**233**	*eP*	**Pn**	**09 28 36.9**	**-2.0**
SHO				AMB	AMB	09 28 46.7	
	comp=Z,58nm,0.3s						
SHO				*eS*	**Sn**	**09 29 31.6**	**-1.8**
SHO				A	A	09 29 51.7	
	comp=Z,700nm,0.6s						
SHO				A	A	09 29 51.7	
	comp=Z,730nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.26**	**240**	*c iPN*	**Pn**	**09 28 45.1**	**0.0**
YUK				*eS*	**Sn**	**09 29 46.5**	**+2.1**
YUK				pmax	pmax		
	comp=Z,130nm,0.2s						
YUK				pmax	pmax		
	comp=N,47nm,0.1s						
YUK				pmax	pmax		
	comp=E,77nm,0.2s						
YUK				smax	smax		
	comp=N,228nm,0.4s						
YUK				smax	smax		
	comp=E,613nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.26**	**240**	*i P*	**Pn**	**09 28 45.1**	**0.0**
YUK				AMB	AMB	09 28 50.1	
	comp=E,130nm,0.2s						
YUK				*eS*	**Sn**	**09 29 46.5**	**+2.1**
YUK				A	A	09 30 00.1	
	comp=E,230nm,0.4s						
YUK				A	A	09 30 00.1	
	comp=E,610nm,0.4s						
NEM2	**Nemuro 2**	**5.73**	**235**	P	**Pn**	**09 28 49.3**	**-2.2**
NEM2				*eS*	**Sn**	**09 29 53.9**	**-2.0**
JRA	**Rausu**	**5.76**	**242**	P	**Pn**	**09 28 52.3**	**+0.5**
JNK	**Nakash**	**6.19**	**241**	P	**Pn**	**09 28 57.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.45**	**274**	*e*PN	**Pn**	**09 29 04.5**	**+3.3**
YSS				*eS*	**Sn**	**09 30 16.2**	**+2.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.45**	**274**	*eP*	Pn	09 29 06.3	+5.1
JTKR	**Abashiri--Toko**	**6.49**	**247**	P	**Pn**	**09 29 02.5**	**+0.8**
JAK	**Akkeshi**	**6.56**	**237**	P	**Pn**	**09 29 00.4**	**-2.3**
JAK				*eS*	**Sn**	**09 30 11.7**	**-4.3**
JMP	**Maruseppu**	**6.82**	**248**	P	**Pn**	**09 29 07.6**	**+1.3**
JAR	**Ashorobuto**	**6.93**	**242**	P	**Pn**	**09 29 07.6**	**-0.1**
JAR				*eS*	**Sn**	**09 30 26.3**	**+1.3**
JSE	**Soyaes**	**6.95**	**258**	P	**Pn**	**09 29 10.7**	**+2.7**
JOB	**Onbets**	**7.12**	**239**	P	**Pn**	**09 29 09.6**	**-0.7**
JOB				*eS*	**Sn**	**09 30 26.7**	**-2.8**
UGL	**Uglegorsk**	**7.13**	**292**	*e*PN	**Pn**	**09 29 07.7**	**-2.8**
UGL				*eS*	**Sn**	**09 30 25.7**	**-4.2**
PETK	**Petropavlovsk-**	**7.20**	**28**	P	**Pn**	**09 29 10.8**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=190,slow=11,SNR=27						
PETK				LR	LR	09 32 07.1	
	comp=Z,31nm,19.6s,baz=226,slow=39						
HRK	**Horoka**	**7.23**	**245**	*eP*	**Pn**	**09 29 12.5**	**+0.6**
ASAJ	**Asahikawa**	**7.26**	**251**	P	**Pn**	**09 29 14.9**	**+2.7**
	comp=Z,3.8nm,0.3s,baz=88,slow=16,SNR=36						
ASAJ	**Asahikawa**	**7.26**	**251**	P	**Pn**	**09 29 14.1**	**+1.9**
ASAJ	**Asahikawa**	**7.26**	**251**	PN	**Pn**	**09 29 15.0**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.27**	**249**	P	**Pn**	**09 29 13.8**	**+1.4**
TYV	**Tymovskoe**	**7.44**	**306**	*e*PN	**Pn**	**09 29 17.0**	**+2.4**
TYV				*eS*	**Sn**	**09 30 36.8**	**-0.5**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.2s						
TYV				smax	smax		
	comp=N,7.0nm,0.5s						
TYV	**Tymovskoe**	**7.44**	**306**	*eP*	Pn	09 29 22.8	+8.2
PET	**Petropavlovsk**	**7.45**	**32**	*eP*	**Pn**	**09 29 12.3**	**-2.5**
JCH	**Churui**	**7.57**	**239**	P	**Pn**	**09 29 14.7**	**-1.7**
JCH				*eS*	**Sn**	**09 30 36.3**	**-4.2**
JAB	**Ashibetsu**	**7.78**	**248**	P	**Pn**	**09 29 20.7**	**+1.4**
MYR	**Moyori**	**7.81**	**237**	*eP*	**Pn**	**09 29 17.6**	**-2.1**
JBT2	**Biratori 2**	**8.07**	**243**	P	**Pn**	**09 29 22.0**	**-1.3**
JNBK	**Urakawa-nobuka**	**8.13**	**239**	P	**Pn**	**09 29 21.5**	**-2.5**
JNBK				*eS*	**Sn**	**09 30 48.6**	**-5.6**
JNB	**Noboribetsu**	**9.06**	**245**	P	**Pn**	**09 29 35.7**	**-1.0**
JNB				*eS*	**Sn**	**09 31 14.9**	**-1.9**
JKB	**Kayabe**	**9.39**	**242**	P	**Pn**	**09 29 38.4**	**-2.7**
JKB				*eS*	**Sn**	**09 31 17.5**	**-7.3**
JYM2	**Yakumo 2**	**9.67**	**245**	P	**Pn**	**09 29 43.4**	**-1.5**
JANG	**Nango**	**10.08**	**234**	P	Pn	09 29 45.6	-4.9
JANG				*eS*	**Sn**	**09 31 33.4**	**-8.1**
HABR	**Khabarovsk**	**11.66**	**284**	*e*PN	**Pn**	**09 30 09.6**	**-2.1**
HABR				*eS*	**Sn**	**09 32 16.5**	**-3.2**
HABR				MLR	MLR		
	comp=Z,91nm,18.0s						
USRK	**Ussuriysk Ar.**	**14.39**	**267**	P	**Pn**	**09 30 48.6**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=71,slow=12,SNR=20						
MAJO	**Matsushiro**	**14.64**	**230**	*i eP*	**P**	**09 30 53.9**	**-0.2**
MAJO	**Matsushiro**	**14.64**	**230**	*eP*	**Pn**	**09 30 46.9**	**-3.8**
MJAR	**Matsushiro Arr**	**14.64**	**230**	P	**P**	**09 30 55.6**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=31,slow=9.7,SNR=9.4						
KSRS	**Korea Array**	**20.21**	**251**	P	Pn	09 31 59.5	+1.4
	comp=Z,3.4nm,0.5s,baz=54,slow=11,SNR=20						
JNU	**Nakatsue**	**21.22**	**237**	P	**P**	**09 32 07.3**	**+1.2**
	comp=Z,5.1nm,1.0s,baz=59,slow=5.9,SNR=4.5						
BILL	**Bilibino**	**22.44**	**14**	*eP*	**P**	**09 32 19.2**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
H11N2	**WAKE ISLAND Hy 29.62**		**151**	T	T	10 04 50.5	
	baz=340,slow=75,SNR=1204						
H11N1	**WAKE ISLAND Hy 29.64**		**151**	T	T	10 04 51.5	
	baz=340,slow=75,SNR=782						
H11N3	**WAKE ISLAND Hy 29.64**		**151**	T	T	10 04 55.8	
	baz=340,slow=75,SNR=763						
H11S1	**WAKE ISLAND Hy 30.70**		**152**	T	T	10 06 13.3	
	baz=340,slow=76,SNR=1031						
H11S3	**WAKE ISLAND Hy 30.71**		**152**	T	T	10 06 21.2	
	baz=340,slow=76,SNR=1091						
H11S2	**WAKE ISLAND Hy 30.72**		**152**	T	T	10 06 25.2	
	baz=340,slow=76,SNR=882						
COLA	**College**	**36.46**	**38**	*eP*	**P**	**09 34 24.1**	**+1.1**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
COLA	**College**	**36.46**	**38**	*eP*	**P**	**09 34 24.1**	**+1.1**
ILAR	**Eielson Array**	**36.87**	**39**	P	**P**	**09 34 26.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=262,slow=7.5,SNR=5.9						
NRIK	**Noril'sk**	**38.33**	**329**	P	**P**	**09 34 37.7**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=78,slow=8.1,SNR=3.8						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**09 35 09.3**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=300,slow=9.8,SNR=40						
MKAR	**Makanchi Array**	**46.31**	**297**	P	**P**	**09 35 43.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=70,slow=8.0,SNR=9.7						
MKAR	**Makanchi Array**	**46.31**	**297**	*eP*	**P**	**09 35 43.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.76**	**303**	*i eP*	**P**	**09 35 46.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**46.76**	**303**	*eP*	**P**	**09 35 46.8**	**-0.4**
YKA	**Yellowknife Ar**	**51.22**	**36**	P	**P**	**09 36 21.9**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=297,slow=6.9,SNR=6.3						
KSH	**Kashi**	**54.01**	**292**	*eP*	P	09 36 49.9	+7.8
KSH				PcP	**PcP**	**09 37 49.4**	**+3.6**
KSH				PP	PP	09 38 54.1	+10
KSH				ScS	ScS	09 46 22.8	+1.8
KSH				pmax	pmax		
	comp=Z,16nm,1.4s						
KSH				pmax	pmax		
	comp=Z,150nm,6.4s						
KSH				LR	LR		
	comp=Z,160nm,10.5s						
KSH				LR	LR		
	comp=Z,170nm,7.0s						
KSH				LR	LR		
	comp=Z,140nm,6.2s						
ARCES	**ARCESS Array B**	**57.53**	**340**	P	**P**	**09 37 07.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=51,slow=6.0,SNR=3.3						
FINES	**FINESS Array B**	**63.66**	**334**	P	**P**	**09 37 48.3**	**0.0**
	comp=Z,2.0nm,0.9s,baz=33,slow=8.3,SNR=4.4						
OBN	**Obninsk**	**64.85**	**325**	*eP*	**P**	**09 37 54.8**	**-1.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	**65.20**	**53**	P	**P**	**09 37 59.9**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=233,slow=1.0,SNR=5.0						
NOA	**NORSAR Array B**	**67.91**	**341**	P	**P**	**09 38 16.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.4,SNR=3.0						
WRA	**Warramunga Arr**	**68.41**	**198**	LR	LR	10 09 11.0	
	comp=Z,48nm,19.3s,baz=230,slow=36						
ASAR	**Alice Springs**	**72.11**	**198**	P	**P**	**09 38 43.9**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=10,slow=5.5,SNR=6.9						
ASAR	**Alice Springs**	**72.11**	**198**	*eP*	P	09 38 47.1	+5.5
TXAR	**Lajitas Array**	**78.00**	**60**	P	**P**	**09 39 16.9**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=299,slow=4.1,SNR=35						
PLCA	**Paso Flores**	**148.87**	**94**	PKPbc	**PKPbc**	**09 47 05.1**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=288,slow=6.4,SNR=3.5						

CSEM ***15*** *09:36:08.0, 37°.19N×22°.03E, h8km, ML2.2/5*
ATH 15 09:36:08.0, 37°.19N×22°.03E, h8km±3km, ML2.2/5, Error ellipse: s-maj=3.3km s-min=1.1km az=169.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**263**	P	Pg	09 36 09.9	-0.2
ITM				S	Sg	09 36 11.3	-0.3
ITM				AML	AML	09 36 11.6	
	comp=N,3847μm,0.2s						
ITM				AML	AML	09 36 12.1	
	comp=E,6331μm,0.3s						
ITM	**Ithomi**	**0.08**	**263**	P	Pg	09 36 09.8	-0.3
ITM				AML	AML	09 36 11.6	
	comp=N,3847μm,0.2s						
ITM				AML	AML	09 36 12.1	
	comp=E,6331μm,0.3s						
ITM	**Ithomi**	**0.08**	**263**	P	Pg	09 36 09.8	-0.3
MES3	**Kyparissia**	**0.29**	**282**	P	Pg	09 36 13.6	-0.2
MES3	**Kyparissia**	**0.29**	**282**	P	Pg	09 36 13.2	-0.6
MES3				S	Sg	09 36 18.8	+1.1
MES3				AML	AML	09 36 18.8	
	comp=N,3304μm,0.3s						
MES3				AML	AML	09 36 20.2	
	comp=E,3142μm,0.3s						
MES3	**Kyparissia**	**0.29**	**282**	P	Pg	09 36 13.2	-0.6
MES3				S	Sg	09 36 18.8	+1.2
VLX	**Vlachokerasia**	**0.33**	**57**	P	Pg	09 36 14.9	+0.2
VLX				S	Sg	09 36 19.9	+0.8
VLX				AML	AML	09 36 22.7	
	comp=E,201μm,0.4s						
VLX				AML	AML	09 36 22.8	
	comp=N,235μm,0.4s						
VLX	**Vlachokerasia**	**0.33**	**57**	P	Pg	09 36 15.0	+0.3
VLX				S	Sg	09 36 19.7	+0.6
VLX				AML	AML	09 36 22.7	
	comp=E,201μm,0.4s						
VLX				AML	AML	09 36 22.8	
	comp=N,235μm,0.4s						
VLX	**Vlachokerasia**	**0.33**	**57**	P	Pg	09 36 15.0	+0.4
VLX				S	Sg	09 36 19.7	+0.6
PYL	**PYLOS**	**0.37**	**218**	P	Pg	09 36 15.4	+0.1
PYL				S	Sg	09 36 19.3	-0.9
PYL				AML	AML	09 36 23.2	
	comp=E,212μm,0.3s						
PYL				AML	AML	09 36 25.9	
	comp=N,158μm,0.4s						
PYL	**PYLOS**	**0.37**	**218**	P	Pg	09 36 15.2	-0.1
PYL				S	Sb	09 36 22.0	-0.9
PYL	**PYLOS**	**0.37**	**218**	P	Pg	09 36 15.2	-0.1
PYL				S	Sb	09 36 22.0	-0.9
TRIP	**Tripoli**	**0.39**	**30**	P	Pg	09 36 15.9	+0.3
TRIP	**Tripoli**	**0.39**	**30**	P	Pg	09 36 15.7	0.0
TRIP	**Tripoli**	**0.39**	**30**	P	Pg	09 36 15.7	0.0
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	09 36 16.0	-0.4
AMT				S	Sg	09 36 23.0	+1.0
AMT				AML	AML	09 36 25.6	
	comp=N,566μm,0.3s						
AMT				AML	AML	09 36 26.0	
	comp=E,388μm,0.4s						
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	09 36 16.3	-0.1
AMT				S	Sb	09 36 23.8	-0.7
AMT				AML	AML	09 36 25.6	
	comp=N,566μm,0.3s						
AMT				AML	AML	09 36 26.0	
	comp=E,388μm,0.4s						
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	09 36 16.3	-0.1
AMT				S	Sb	09 36 23.8	-0.7
MES2	**Methoni**	**0.45**	**215**	P	Pg	09 36 15.8	-0.9
MES2				S	Sb	09 36 23.8	-1.2
GUR	**Goura**	**0.79**	**18**	P	Pg	09 36 22.4	-0.8
GUR	**Goura**	**0.79**	**18**	P	Pg	09 36 22.1	-1.1
GUR	**Goura**	**0.79**	**18**	P	Pg	09 36 22.1	-1.1
DRO	**Drossia**	**0.80**	**342**	P	Pg	09 36 23.8	+0.3
DRO				S	Sb	09 36 34.6	-0.7
KLV	**Kalavryta, Ach**	**0.86**	**6**	P	Pg	09 36 23.9	-0.6
KLV				S	Sb	09 36 36.8	-0.2
VLI	**Veliai**	**0.87**	**123**	P	Pg	09 36 24.3	-0.4
VLI	**Veliai**	**0.87**	**123**	P	Pg	09 36 24.3	-0.4
LAKA	**Lakka**	**1.05**	**358**	P	Pg	09 36 26.9	-1.3

CSEM ***15*** *09:45:59.9, 64°.07N×21°.40W, h2km, ML3.9*
REY 15 09:45:59.9, 64°.07N×21°.40W, h2km, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAN	**Sandskeio**	**0.08**	**261**	P	Pg	09 46 01.9	+0.5
	baz=261						
ISAN				S	Sg	09 46 03.5	+1.1
	baz=261						
ISAN	**Sandskeio**	**0.08**	**261**	P	Pg	09 46 01.9	+0.5
ISAN				S	Sg	09 46 03.5	+1.1
IBJA	**Bjarnastaoir**	**0.13**	**161**	P	Pg	09 46 02.8	+0.5
	baz=161						
IBJA				S	Sg	09 46 05.0	+0.9
	baz=161						
IBJA	**Bjarnastaoir**	**0.13**	**161**	P	Pg	09 46 02.8	+0.4
IBJA				S	Sg	09 46 05.0	+0.9
IKAS	**Kald??rsel**	**0.20**	**257**	S	Sg	09 46 07.9	+1.4
	baz=257						
IKAS				P	Pg	09 46 04.4	+0.6
	baz=257						
IKAS	**Kald??rsel**	**0.20**	**257**	P	Pg	09 46 04.4	+0.6
IKAS				S	Sg	09 46 07.9	+1.4
ISOL	**Solvholt**	**0.24**	**125**	P	Pg	09 46 04.8	+0.3
	baz=125						
ISOL				S	Sg	09 46 08.5	+0.8
	baz=125						
ISOL	**Solvholt**	**0.24**

IHAU				S	Sg	09 46 20.7	+0.3
	baz=98						
IHAU	**Haukadalur**	**0.64**	**98**	P	Pg	09 46 11.8	-0.3
IHAU				S	Sg	09 46 20.7	+0.3
IMID	**Miomork**	**0.79**	**121**	P	Pg	09 46 14.0	-0.9
	baz=121						
IMID				S	Sg	09 46 25.0	-0.1
	baz=121						
IMID	**Miomork**	**0.79**	**121**	P	Pg	09 46 14.0	-0.9
IMID				S	Sg	09 46 25.0	-0.1
IVES	**Vestmannaeyjar**	**0.80**	**141**	P	Pg	09 46 14.4	-0.8
	baz=141						
IVES				S	Sg	09 46 25.5	0.0
	baz=141						
IVES	**Vestmannaeyjar**	**0.80**	**141**	P	Pg	09 46 14.4	-0.8
IVES				S	Sg	09 46 25.5	0.0
ISMJ	**Smjorgil**	**0.87**	**116**	P	Pg	09 46 15.5	-0.9
	baz=116						
ISMJ				S	Sg	09 46 27.8	+0.1
	baz=116						
IGOD	**Go??abunga**	**1.01**	**113**	S	Sg	09 46 32.1	-0.1
	baz=113						
IGOD	**Go??abunga**	**1.01**	**113**	S	Sg	09 46 32.1	-0.1
IESK	**Eystri-Skogar**	**1.02**	**121**	P	Pg	09 46 17.8	-1.6
	baz=121						
IESK				S	Sg	09 46 31.9	-0.8
	baz=121						
IESK	**Eystri-Skogar**	**1.02**	**121**	P	Pg	09 46 17.8	-1.6
IESK				S	Sg	09 46 31.9	-0.8
ISLY	**Slysaalda**	**1.04**	**103**	P	Pg	09 46 18.2	-1.6
	baz=103						
ISLY				S	Sg	09 46 32.8	-0.4
	baz=103						
ISLY	**Slysaalda**	**1.04**	**103**	P	Pg	09 46 18.2	-1.5
ISLY				S	Sg	09 46 32.8	-0.3
IVAT	**Vatnsfell**	**1.09**	**83**	P	Pg	09 46 19.2	-1.6
	baz=83						
IVAT				S	Sg	09 46 34.8	-0.2
	baz=83						
IVAT	**Vatnsfell**	**1.09**	**83**	P	Pg	09 46 19.2	-1.6
IVAT				S	Sg	09 46 34.8	-0.2
IHVE	**Hveravellir**	**1.13**	**44**	P	Pg	09 46 19.6	-1.9
	baz=44						
IHVE				S	Sg	09 46 35.4	-0.8
	baz=44						
IHVE	**Hveravellir**	**1.13**	**44**	P	Pg	09 46 19.6	-1.9
IHVE				S	Sg	09 46 35.3	-0.9
IALF	**Alftagrof**	**1.14**	**120**	P	Pg	09 46 19.9	-1.8
	baz=120						
IALF				S	Sg	09 46 35.6	-0.9
	baz=120						
IHVO	**Lagu-Hvolar**	**1.26**	**115**	P	Pg	09 46 21.9	-2.0
	baz=114						
IHVO				S	Sg	09 46 38.7	-1.4
	baz=114						
IHVO	**Lagu-Hvolar**	**1.26**	**115**	P	Pg	09 46 21.9	-2.0
IHVO				S	Sg	09 46 38.7	-1.5
IRJU	**Rjupnafell**	**1.29**	**109**	P	Pg	09 46 22.2	-2.4
	baz=109						
IRJU	**Rjupnafell**	**1.29**	**109**	P	Pg	09 46 22.2	-2.4
ISKR	**Skrokkalda**	**1.40**	**68**	P	Pn	09 46 24.5	-2.1
	baz=68						
ISKR	**Skrokkalda**	**1.40**	**68**	P	Pn	09 46 24.5	-2.0
IJOK	**Jokulheimar**	**1.41**	**78**	P	Pn	09 46 24.5	-2.1
	baz=78						
IKAL	**Kalfafell**	**1.64**	**93**	P	Pn	09 46 28.3	-1.4
	baz=93						
IKAL	**Kalfafell**	**1.64**	**93**	P	Pn	09 46 28.3	-1.4
IHRN	**Hraun**	**2.12**	**14**	P	Pn	09 46 34.9	-1.4
	baz=14						
IHRN				S	Sn	09 47 02.7	-0.5
	baz=14						
IHRN	**Hraun**	**2.12**	**14**	P	Pn	09 46 34.9	-1.4
IHRN				S	Sn	09 47 02.7	-0.5
IHLA	**Hella**	**2.28**	**33**	P	Pn	09 46 37.0	-1.4
	baz=33						
IHLA	**Hella**	**2.28**	**33**	P	Pn	09 46 37.0	-1.4
IGRA	**Granastaoir**	**2.47**	**39**	P	Pn	09 46 40.1	-0.9
	baz=39						
IGRA	**Granastaoir**	**2.47**	**39**	P	Pn	09 46 40.1	-0.9

MEX 15 09:49:55.4±1.1, 16°.59N×94°.89W, h104km±50km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**1**	*eP*	Pn	09 50 10.4	-1.3
CMIG				*eS*	Sn	09 50 20.7	-3.1
VHO	**Vista Hermosa**	**1.83**	**285**	*eP*	Pn	09 50 25.5	-0.6
VHO				*eS*	Sn	09 50 46.8	-2.8
PNIG	**Pinotepa**	**3.11**	**267**	*eP*	Pn	09 50 40.6	-2.2
PNIG				*eS*	Sn	09 51 15.5	-3.8
TLIG	**Tlapa**	**3.65**	**286**	*eP*	Pn	09 50 47.8	-2.3
TLIG				*eS*	Sn	09 51 26.6	-5.7

*SOME **15** 10:20:14.6, 44°.78N×81°.82E, h0km*
*NNC **15** 10:20:15.7±1.2, 44°.69N×82°.27E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=17.4km s-min=3.6km az=117.0*
ISC 15 10:20:14.6±2.1, 44°.76N±0°.07×81°.8E±0°.1, h19km±4km, n8, σ1°.33/16, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**2.05**	**3**	⇑Pn	**Pb**	**10 20 52.2**	**+1.0**
	3.1nm,0.5s						
MAKZ				⇓Sn	**Sg**	**10 21 20.7**	**+0.1**
	7.3nm,0.5s						
MK31	**Makanchi Array**	**2.06**	**9**	⇑Pn	**Pb**	**10 20 52.4**	**+1.0**
	3.3nm,0.2s,baz=182,slow=14,SNR=160						
MK31				⇓Sn	**Sg**	**10 21 20.3**	**-0.6**
	1.3nm,0.2s,baz=185,slow=26,SNR=12						
PDGK	**Podgornoye**	**2.21**	**231**	⇓Pn	**Pg**	**10 20 56.2**	**-0.9**
	1.0nm,0.2s						
PDGK				⇑Sn	**Sg**	**10 21 28.5**	**+2.6**
	4.9nm,0.5s						
SHLS	**Shalkode**	**2.34**	**228**	*eP*	**Pb**	**10 20 55.3**	**-1.0**
	8.7nm,0.1s						
SHLS				*eS*	**Sb**	**10 21 24.8**	**-0.2**
	30nm,0.3s						
UZB	**Uzynbulak**	**2.59**	**232**	*eP*	**Pg**	**10 21 03.8**	**-0.6**
	2.6nm,0.2s						
UZB				*eS*	**Sg**	**10 21 39.6**	**+1.6**
	4.3nm,0.3s						
KPKS	**Kokpek**	**2.61**	**241**	*eP*	**Pg**	**10 21 04.3**	**-0.3**
	11nm,0.3s						
KPKS				*eS*	**Sg**	**10 21 39.8**	**+1.2**
	13nm,0.3s						
ARXS	**Arharly**	**2.92**	**261**	*eP*	**Pg**	**10 21 10.0**	**-0.5**
	2.4nm,0.3s						
ARXS				*eS*	**Sg**	**10 21 49.9**	**+1.6**
	11nm,0.3s						
CHKK	**Chushkaly**	**3.59**	**257**	*eP*	**Pg**	**10 21 21.8**	**-1.6**
	2.6nm,0.2s						
CHKK				*eS*	**Sg**	**10 22 09.5**	**-0.5**
	10nm,0.2s						

KRSC 15 10:28:42.1±1.1, 49°.77N×156°.65E, h7km±17km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**340**	*eP*	Pg	10 29 00.5	-0.3
SKR				*eS*	Sb	10 29 14.0	-0.3
RUS	**Russkaya**	**2.91**	**23**	*eP*	Pn	10 29 30.5	+1.7
UGLR	**Uglovaya**	**3.70**	**21**	*eP*	Pn	10 29 43.7	+3.9
AVH	**Avacha**	**3.73**	**20**	*eP*	Pb	10 29 44.4	-4.0
SDLR	**Sedlovina**	**3.78**	**21**	*eP*	Pn	10 29 44.0	+3.1

*ISCJB **15** 10:38:10.1±0.5, 32°.20S±0°.06×138°.87E±0°.05, h10km, mb3.8/2, Error ellipse: s-maj=8.4km s-min=5.8km az=16.1*
*NEIC **15** 10:38:10.0±0.0, 32°.29S×138°.82E, h0km, mb4.6/1, ML4.3(AUST), After AUST.*
*AUST **15** 10:38:10.4±0.1, 32°.29S×138°.82E, h0km, Error ellipse: s-maj=0.2km s-min=0.1km az=9.0*
*IDC **15** 10:38:12.5±1.3, 32°.11S×138°.75E, h0km, mb3.7/2, mb1 4.2/5, mb1mx3.9/23, mbtmp4.0/5, ML4.3/3, Error ellipse: s-maj=28.0km s-min=20.8km az=19.0*
ISC 15 10:38:11.5±0.7, 32°.13S±0°.06×138°.79E±0°.04, h10km, n19, σ2°.41/28, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.30**	**175**	P	**Pn**	**10 38 32.2**	**-3.7**
	baz=1.1						
STKA	**Stephens Creek**	**2.40**	**85**	Pn	**Pb**	**10 38 53.8**	**-1.0**
	48nm,0.3s,baz=266,slow=14,SNR=183						
STKA				Pg	**Pg**	**10 38 56.4**	**-1.1**
	102nm,0.3s,baz=261,slow=14,SNR=303						
STKA				Sn	**Sg**	**10 39 26.5**	**-2.0**
	159nm,0.3s,baz=329,slow=16,SNR=6.2						
STKA	**Stephens Creek**	**2.40**	**85**	P	**Pb**	**10 38 53.5**	**-1.2**
	baz=2.4						
STKA				S	**Sn**	**10 39 21.5**	**+1.3**
	baz=2.4						
BBOO	**Buckleboo**	**2.41**	**253**	P	**Pn**	**10 38 52.6**	**+1.6**
	baz=2.4						
BBOO				S	**Sn**	**10 39 22.6**	**+2.1**
	baz=2.4						
BBOO	**Buckleboo**	**2.41**	**253**	*e*Pn	**Pn**	**10 38 52.8**	**+1.8**
BBOO				*e*Sn	**Sn**	**10 39 21.2**	**+0.7**
ARPS	**Mount Arapiles**	**5.27**	**152**	P	**Pn**	**10 39 29.1**	**-1.2**
	baz=5.1						
CMSA	**Cobar Meteorol**	**5.90**	**86**	P	**Pn**	**10 39 40.2**	**+1.2**
	baz=5.9						
TOO	**Toolangi**	**7.73**	**136**	P	**Pn**	**10 40 03.5**	**-0.6**
	baz=7.6						
CAN	**Canberra**	**9.08**	**113**	P	**Pn**	**10 40 22.9**	**+0.2**
	baz=9.0						
FORT	**Forrest**	**9.27**	**276**	P	**Pn**	**10 40 26.5**	**+1.3**
	baz=9.3						
FORT				S	**Sn**	**10 42 06.0**	**-3.5**
	baz=9.3						
FORT	**Forrest**	**9.27**	**276**	*e*Pn	**Pn**	**10 40 25.0**	**-0.2**
	210nm,0.6s						
FORT				*e*Sn	**Sn**	**10 42 04.3**	**-5.3**
CNB	**Canberra Magne**	**9.36**	**113**	P	**Pn**	**10 40 26.1**	**-0.4**
	baz=9.3						
ASAR	**Alice Springs**	**9.47**	**332**	Pn	**Pn**	**10 40 31.5**	**+3.4**
	1.7nm,0.3s,baz=150,slow=12,SNR=80						
ASAR				Sn	**Sn**	**10 42 13.1**	**-1.6**
	2.7nm,0.3s,baz=152,slow=22,SNR=16						
ASAR				Lg	Lg	10 43 27.2	
	1.1nm,0.3s,baz=166,slow=26,SNR=7.0						
WRA	**Warramunga Arr**	**12.78**	**341**	Pn	**Pn**	**10 41 14.9**	**+1.6**
	1.6nm,0.3s,baz=151,slow=13,SNR=28						
WRA				Sn	**Sn**	**10 43 32.1**	**-3.5**
	0.5nm,0.3s,baz=158,slow=24,SNR=4.9						
WRA				Lg	Lg	10 45 02.0	
	baz=178,slow=25,SNR=2.9						
WRAB	**Tennant Creek**	**12.78**	**341**	*e*Pn	**Pn**	**10 41 14.9**	**+1.5**
	11nm,0.5s						
WRAB				*e*Sn	**Sn**	**10 43 31.4**	**-4.4**
MBWA	**Marble Bar**	**20.21**	**298**	*e*P	Pn	10 42 48.4	-0.1
	26nm,0.9s						
VNDA	**Vanda**	**46.65**	**173**	P	**P**	**10 46 42.7**	**+3.0**
	0.6nm,0.6s,baz=324,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**93.60**	**325**	P	**P**	**10 51 30.1**	**+2.5**
	0.3nm,0.7s,baz=139,slow=5.3,SNR=3.2						
EKA	**Eskdalemuir Ar**	**144.70**	**322**	PKP	**PKPdf**	**10 57 47.9**	**0.0**
	2.8nm,0.8s,baz=74,slow=3.8,SNR=5.2						

NDI 15 10:49:13.3±1.1, 23°.61N×86°.87E, h15km±9km, ML3.0, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**0.92**	**282**	*eP*	Pb	10 49 30.7	-0.2
BOK				*eS*	Sg	10 49 43.7	+0.6
BOK				*eS*	Sn	10 49 47.6	+3.0
BOK				AML	AML	10 49 49.4	
	comp=E,188nm,0.1s						
BOK				IAML		10 49 50.8	
	comp=E,204nm,0.1s						
TURI	**Tura**	**3.70**	**58**	*ex*	Pn	10 50 05.9	-4.1
TURI				*eS*	Sn	10 50 51.3	-2.0
TURI				AML	AML	10 50 54.1	
	comp=N,56nm,0.1s						
TURI				AML	AML	10 50 54.6	
	comp=E,144nm,0.4s						
TURI				AML	AML	10 52 40.8	
	comp=N,108nm,0.1s						
TURI				AML	AML	10 52 41.2	
	comp=E,77nm,0.3s						
GTK	**Tadong**	**4.01**	**23**	*eP*	Pn	10 50 18.7	+4.3
GTK				*ex*	x	10 51 08.0	
GTK				AML	AML	10 51 17.0	
	comp=E,44nm,0.0s						
GTK				AML	AML	10 51 17.2	
	comp=N,42nm,0.3s						
VIS	**Vishakhapatnam**	**6.73**	**210**	*eP*	Pb	10 51 09.9	-0.2
VIS				*eS*	Sn	10 52 02.8	-5.3
VIS				AML	AML	10 52 28.5	
	comp=N,8.7nm,0.1s						
DDI	**Dehra Dun**	**10.31**	**312**	*eS*	Sn	10 53 27.1	-9.1
SMLA	**Simla**	**11.41**	**313**	*eS*	Sn	10 53 52.8	-10

NDI 15 10:50:59.5±0.8, 23°.68N×86°.97E, h11km±3km, ML2.9, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**1.00**	**277**	*eP*	Pg	10 51 18.4	-0.4
BOK				*eS*	Sn	10 51 33.5	-0.2
BOK				AML	AML	10 51 37.9	
	comp=E,196nm,0.1s						
BOK				IAML		10 51 38.0	
	comp=N,370nm,0.1s						
TURI	**Tura**	**3.58**	**58**	*eP*	Pn	10 51 55.4	+0.3
TURI				*ex*	x	10 52 28.5	
VIS	**Vishakhapatnam**	**6.84**	**211**	*eS*	Sn	10 53 52.3	-5.4
VIS				AML	AML	10 54 05.0	
	comp=N,6.2nm,0.1s						
VIS				AML	AML	10 54 17.6	
	comp=E,12nm,1.3s						
DDI	**Dehra Dun**	**10.34**	**312**	*eS*	Sn	10 55 14.5	-9.3
SMLA	**Simla**	**11.44**	**313**	*eS*	Sn	10 55 40.6	-10

*JMA **15** 10:56:41.2, 24°.68N×122°.31E, h0km, M2.6*
*TAP **15** 10:56:42.3, 24°.75N×122°.21E, h6km, ML3.1, D*
ISC 15 10:56:40.6±1.1, 24°.82N±0°.04×122°.35E±0°.02, h20km±4km, n34, σ0°.76/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**300**	P	**Pb**	**10 56 49.1**	**+0.2**
	baz=323						
TWB1				S	**Sb**	**10 56 54.3**	**-0.1**
	baz=323						
TWC	**Suao**	**0.50**	**246**	*eP*	**Pb**	**10 56 50.0**	**-0.8**
	baz=245						
TWC				*eS*	**Sb**	**10 56 55.3**	**-2.4**
	baz=245						
NWF	**Wu-fen Shan**	**0.58**	**296**	P	**Pn**	**10 56 53.8**	**-0.1**
	baz=309						
NWF				*eS*	**Sn**	**10 57 02.2**	**-0.6**
	baz=309						
TWE	**Neicheng**	**0.63**	**262**	P	**Pb**	**10 56 52.6**	**-0.4**
	baz=266						
TWE				*eS*	**Sg**	**10 57 02.1**	**+0.4**
	baz=266						
JYNG	**Yonagunijimaku**	**0.65**	**124**	P	**Pg**	**10 56 53.7**	**+0.2**
JYNG				S	**Sg**	**10 57 03.1**	**+0.8**
ENA	**Nanau**	**0.68**	**235**	*eP*	**Pb**	**10 56 53.3**	**-0.5**
	baz=232						
ENA				*eS*	**Sb**	**10 57 01.4**	**-1.3**
	baz=232						
YOJ	**Yonaguni jima**	**0.69**	**120**	P	**Pg**	**10 56 54.4**	**0.0**
YOJ				*eS*	**Sg**	**10 57 04.5**	**+0.8**
TWA	**Mucha**	**0.72**	**283**	*eP*	**Pn**	**10 56 55.8**	**+0.1**
	baz=292						
TWA				*eS*	**Sn**	**10 57 06.0**	**-0.2**
	baz=292						
ENTT	**Nioudou**	**0.74**	**257**	*eP*	**Pg**	**10 56 55.4**	**+0.3**
	baz=258						
ENTT				*eS*	**Sb**	**10 57 04.4**	**-0.1**
	baz=258						
TWY	**Chenhua**	**0.82**	**304**	*eP*	**Pn**	**10 56 58.3**	**+1.1**
	baz=313						
PCYT	**Pengchaiyu**	**0.85**	**343**	*eP*	**Pn**	**10 56 58.4**	**+0.9**
	baz=352						
NSK	**Sanguang**	**0.92**	**262**	*eP*	**Pn**	**10 56 58.1**	**-0.4**
	baz=264						
NSK				*eS*	**Sb**	**10 57 08.9**	**-0.8**
	baz=264						
NNS	**Nan Shan**	**0.97**	**248**	*eP*	**Pn**	**10 56 59.2**	**0.0**
	baz=247						
NNS				*eS*	**Sb**	**10 57 11.3**	**+0.1**
	baz=247						
TWD	**Chiawan**	**1.01**	**223**	*eP*	**Pb**	**10 56 59.0**	**-0.4**
	baz=219						
TWD				*eS*	**Sb**	**10 57 11.8**	**-0.4**
	baz=219						
WHF	**Hehuan Shan**	**1.20**	**236**	*eP*	**Pb**	**10 57 03.0**	**+0.1**
	baz=234						
WHF				*eS*	**Sb**	**10 57 17.4**	**-0.7**
	baz=234						
TWT	**Tachien**	**1.21**	**243**	*eS*	**Sn**	**10 57 19.1**	**+0.5**
	baz=242						
NSTT	**Nanjuang**	**1.24**	**262**	*eP*	**Pg**	**10 57 05.0**	**+0.3**
	baz=263						
ESL	**Shilin**	**1.30**	**220**	*eP*	**Pb**	**10 57 05.0**	**+0.6**
	baz=216						
ESL				*eS*	**Sg**	**10 57 22.6**	**-0.3**
	baz=216						
IRIF	**Iriomote-Funau**	**1.34**	**111**	P	**Pg**	**10 57 06.3**	**-0.3**
IRIF				S	**Sg**	**10 57 24.8**	**+0.6**
NSY	**Sanyi**	**1.50**	**255**	*eP*	**Pg**	**10 57 09.5**	**-0.2**
	baz=255						
NSY				*eS*	**Sg**	**10 57 29.0**	**-0.3**
	baz=255						
TWQ1	**Liyutan**	**1.51**	**252**	*eP*	**Pg**	**10 57 09.6**	**-0.2**
	baz=252						
TWQ1				*eS*	**Sg**	**10 57 28.7**	**-0.9**
	baz=252						
HATJ	**Hateruma jima**	**1.52**	**119**	P	**Pg**	**10 57 09.4**	**-0.6**
HATJ				S	**Sg**	**10 57 29.4**	**-0.5**
WDT	**Danda**	**1.53**	**227**	*eP*	**Pb**	**10 57 09.7**	**+1.1**
	baz=224						
WDT				*eS*	**Sg**	**10 57 29.8**	**-0.6**
	baz=224						
EHY	**Hungye**	**1.61**	**216**	*eP*	**Pn**	**10 57 08.9**	**+1.0**
	baz=212						
JKRS	**Kuro-shima**	**1.61**	**111**	P	**Pb**	**10 57 09.8**	**0.0**
JKRS				*eS*	**Sg**	**10 57 32.3**	**-0.5**
SMLT	**Sun Moon Lake**	**1.62**	**235**	*eP*	**Pb**	**10 57 11.0**	**+1.1**
	baz=233						
TYC	**Yuchr**	**1.64**	**237**	*eP*	**Pg**	**10 57 11.8**	**-0.5**
	baz=235						
TYC				*eS*	**Sb**	**10 57 31.6**	**+1.2**
	baz=235						
JIJ	**Ishigaki jima**	**1.69**	**105**	P	**Pg**	**10 57 12.7**	**-0.5**
JIJ				*eS*	**Sg**	**10 57 34.0**	**-1.3**
TWF1	**Yuli**	**1.75**	**214**	*eP*	**Pb**	**10 57 11.5**	**-0.5**
	baz=210						
JISG	**Ishigakijimahi**	**1.79**	**97**	P	**Pg**	**10 57 14.8**	**-0.4**
JISG				*eS*	**Sg**	**10 57 37.8**	**-0.8**
YUS	**Yu-Shan**	**1.84**	**224**	*eP*	**Pb**	**10 57 14.4**	**+0.5**
	baz=222						
YUS				*eS*	**Sb**	**10 57 38.1**	**+1.5**
	baz=222						
ALS	**Alishan**	**1.92**	**228**	*eP*	**Pb**	**10 57 16.1**	**+1.0**
	baz=225						
CHN5	**Tsauling**	**1.95**	**232**	*eP*	**Pb**	**10 57 16.8**	**+1.2**
	baz=230						
CHN4	**Tsaushan**	**2.17**	**228**	*eP*	**Pb**	**10 57 20.0**	**+0.7**
	baz=226						

NNC 15 11:01:31.2±7.5, 36°.90N×71°.08E, h0km, mb3.7, mpv3.3, 3C-1D, Error ellipse: s-maj=61.6km s-min=31.6km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.61**	**318**	⇑P	Pn	11 02 14.6	-0.2
	4.3nm,0.2s						
DZET				⇑S	Sn	11 02 49.3	+2.0
	27nm,0.4s						
KK31	**Karatay Array**	**6.22**	**356**	P	Pn	11 03 04.0	-0.2
	0.6nm,0.3s,baz=176,slow=12,SNR=34						
KK31				⇓S	Sn	11 04 16.0	0.0
	1.8nm,0.4s,baz=184,slow=21						
AAK	**Ala-Archa**	**6.31**	**24**	⇑P	Pn	11 03 05.5	-0.1
	1.6nm,0.4s						
AAK				S	Sn	11 04 19.7	+1.2
	0.7nm,0.3s						

*GII **15** 11:03:12.5±0.2, 34°.66N×24°.25E, h10km, MD3.1/1*
*CSEM **15** 11:03:13.6±0.6, 34°.51N×24°.23E, h20km, ML3.4, Error ellipse: s-maj=19.1km s-min=6.1km az=52.0*
*IDC **15** 11:03:14.8±1.1, 34°.95N×24°.28E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.6/45, mbtmp4.0/8, ML3.4/1, Error ellipse: s-maj=27.1km s-min=10.1km az=151.0*
*ATH **15** 11:03:17.9, 34°.75N×23°.96E, h22km±2km, ML3.6/4, Error ellipse: s-maj=4.4km s-min=2.2km az=47.0*
*THE **15** 11:03:19.7, 34°.80N×24°.08E, h19km±1km, ML3.4/5, Error ellipse: s-maj=3.7km s-min=1.3km az=222.0*
ISC 15 11:03:16.2±1.1, 34°.66N±0°.06×24°.10E±0°.05, h28km±6km, n50, σ2°.39/65, mb3.9/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.18**	**356**	P	**Pn**	**11 03 22.7**	**-0.3**
GVD				S	**Sb**	**11 03 26.0**	**+0.1**
GVD	**Gavdhos**	**0.18**	**356**	P	**Pn**	**11 03 22.7**	**-0.3**
GVD				S	**Sb**	**11 03 26.2**	**+0.3**
GVD				AML	AML	11 03 26.3	
GVD				AML	AML	11 03 26.3	
GVD	**Gavdhos**	**0.18**	**356**	P	**Pn**	**11 03 22.7**	**-0.3**
GVD				S	**Sb**	**11 03 26.2**	**+0.3**
SIVA	**Sivas**	**0.68**	**58**	P	**Pn**	**11 03 31.5**	**+1.5**
SIVA				S	**Sn**	**11 03 41.1**	**+1.4**
SIVA	**Sivas**	**0.68**	**58**	P	**Pn**	**11 03 30.9**	**+1.0**
SIVA				S	**Sn**	**11 03 42.5**	**+2.9**
SIVA				AML	AML	11 03 47.5	
	comp=N,8338μm,0.4s						
SIVA				AML	AML	11 03 50.1	
	comp=E,10065μm,0.5s						
SIVA	**Sivas**	**0.68**	**58**	P	**Pn**	**11 03 30.9**	**+1.0**
VAM	**Vamos**	**0.75**	**6**	P	**Pn**	**11 03 31.0**	**+0.1**
VAM				S	**Sn**	**11 03 41.4**	**+0.1**
VAM	**Vamos**	**0.75**	**6**	P	**Pn**	**11 03 30.9**	**0.0**
VAM				S	**Sn**	**11 03 41.8**	**+0.5**
VAM				AML	AML	11 03 48.9	
	comp=E,4912μm,0.5s						
VAM				AML	AML	11 03 53.0	
	comp=N,5923μm,0.6s						
VAM	**Vamos**	**0.75**	**6**	P	**Pn**	**11 03 30.9**	**+0.1**
VAM				S	**Sn**	**11 03 41.8**	**+0.5**
IMMV	**Iera Moni Meta**	**0.80**	**353**	P	**Pb**	**11 03 31.5**	**-0.1**
IMMV				S	**Sb**	**11 03 41.9**	**-0.2**
IMMV	**Iera Moni Meta**	**0.80**	**353**	P	**Pb**	**11 03 30.9**	**-0.7**
IMMV				S	**Sb**	**11 03 42.1**	**0.0**
IMMV				AML	AML	11 03 44.0	
	comp=N,7061μm,0.2s						
IMMV				AML	AML	11 03 49.4	
	comp=E,10724μm,0.3s						
IMMV	**Iera Moni Meta**	**0.80**	**353**	P	**Pb**	**11 03 31.5**	**-0.1**
IMMV				S	**Sb**	**11 03 41.9**	**-0.2**
IDI	**Anoyia**	**0.90**	**46**	Pg	Pb	11 03 25.1	-8.1
	comp=E,2.1nm,0.3s,baz=246,slow=7.4,SNR=27						
IDI				Lg	Lg	11 03 34.4	
	comp=E,82nm,0.3s,baz=253,slow=11,SNR=49						
IDI	**Anoyia**	**0.90**	**46**	P	**Pn**	**11 03 35.4**	**+2.4**
IDI				S	**Sn**	**11 03 45.6**	**+0.5**
IDI	**Anoyia**	**0.90**	**46**	P	Pn	11 03 37.4	+4.4
LAST	**Lasithi**	**1.24**	**66**	P	**Pb**	**11 03 41.0**	**+2.1**
LAST				S	**Sb**	**11 03 56.4**	**+1.9**
LAST	**Lasithi**	**1.24**	**66**	P	**Pb**	**11 03 40.7**	**+1.8**
NPS	**Neapolis**	**1.38**	**64**	P	Pb	11 03 46.4	+5.1
MHLO	**Agia Marina, M**	**2.04**	**7**	P	**Pb**	**11 03 52.9**	**+0.4**
MHLO	**Agia Marina, M**	**2.04**	**7**	P	**Pb**	**11 03 52.9**	**+0.4**
KARP	**Karpathos**	**2.66**	**70**	P	**Pb**	**11 04 04.1**	**+1.0**
CSS	**

HMDT	Nahal Hemdat	9.84	101	Pn	Pn	11 05 31.5 -4.3
DSI	Dead Sea	9.95	105	Pn	Pn	11 05 33.5 -3.7
DSI				Sn	Sn	11 07 24.3 -3.6
DSI	Dead Sea	9.95	105	Pn	Pn	11 05 33.5 -3.7
PRNI	Paran	10.16	112	Pn	Pn	11 05 36.8 -3.3
PRNI				Sn	Sn	11 07 29.7 -3.4
PRNI	Paran	10.16	112	Pn	Pn	11 05 36.8 -3.3
MBRI	Mt Berech	10.36	115	Pn	Pn	11 05 39.6 -3.4
MBRI				Sn	Sn	11 07 34.8 -3.4
MBRI	Mt Berech	10.36	115	Pn	Pn	11 05 39.6 -3.4
EIL	Elat	10.45	115	Pn	Pn	11 05 46.1 +2.0
	comp=E,0.3nm,0.3s,baz=315,slow=19,SNR=7.0					
EIL	Elat	10.45	115	Pn	Pn	11 05 40.5 -3.7
EIL				Sn	Sn	11 07 37.0 -3.3
EIL	Elat	10.45	115	Pn	Pn	11 05 40.5 -3.7
NVLJ	Novalja	12.18	327	ePn	Pn	11 06 07.9 +0.2
NVLJ				Sn	Sn	11 08 14.0 -8.3
GERES	GERESS Array B	16.13	335	Pn	P	11 07 06.3 +2.3
	comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=2.9					
AKASG	Malin Array Be	16.46	12	Pn	P	11 07 06.5 -0.9
	comp=E,0.8nm,0.3s,baz=203,slow=10.0,SNR=4.2					
HFS	Hagfors	26.38	348	P	P	11 08 50.7 +1.0
	comp=E,2.8nm,0.9s,baz=179,slow=11,SNR=3.3					
NOA	NORSAR Array B	27.67	346	P	P	11 09 02.0 +0.5
	comp=E,0.6nm,0.7s,baz=150,slow=9.7,SNR=3.0					
TORD	Torodi Ar. Bea	29.50	229	P	P	11 09 21.6 +3.4
	comp=E,1.0nm,0.5s,baz=34,slow=8.8,SNR=9.8					
ARCES	ARCESS Array B	34.94	1	P	P	11 10 04.1 -1.1
	comp=E,2.9nm,0.9s,baz=168,slow=9.2,SNR=4.1					
KURBB	Kurchatov Arra	42.11	51	P	P	11 11 07.3 +1.7
	comp=E,1.4nm,0.5s,baz=278,slow=8.6,SNR=13					
MKAR	Makanchi Array	44.77	56	P	P	11 11 29.6 +2.3
	comp=E,1.0nm,0.6s,baz=270,slow=7.5,SNR=9.8					
ZALV	Zalesovo Beam	45.98	46	P	P	11 11 38.0 +1.4
	comp=E,3.1nm,0.5s,baz=264,slow=8.7,SNR=4.9					

*IDC **15** 11:14:14.9±3.6, 43°.76N×128°.63W, h0km, mb3.0/3, mb1 3.5/5, mb1mx3.4/36, mbtmp3.3/5, ML3.1/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/10, Error ellipse: s-maj=87.4km s-min=24.0km az=57.0*

*ISCJB **15** 11:14:16.5±1.4, 43°.9N±0°.1×128°.2W±0°.1, h10km, mb2.8/2, Error ellipse: s-maj=20.4km s-min=8.1km az=41.1*

ISC 15 11:14:17.5±1.9, 43°.9N±0°.1×128°.2W±0°.2, h10km, n15, σ0°.98/14, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I03D	Drain, OR	3.54	91	P	Pn	11 15 11.7	-0.8
	baz=273,SNR=76						
I03D				S	Sn	11 15 53.8	-0.7
	baz=273						
L02D	Cave Junction,	3.80	115	P	Pn	11 15 15.8	-0.3
	baz=297						
L02D				S	Sn	11 16 00.1	-0.8
	baz=297						
G03D	McMinnville, O	3.80	67	P	Pn	11 15 15.8	-0.3
	baz=249,SNR=19						
J04D	Umpqua Nationa	4.50	96	P	Pn	11 15 27.1	+1.3
	baz=279						
K04D	Chiloquin, OR	4.89	102	P	Pn	11 15 31.7	+0.5
	baz=286						
J05D	Fort Rock, OR	5.12	94	P	Pn	11 15 34.9	+0.5
	baz=278						
G05D	Wamic, OR	5.13	72	P	Pn	11 15 35.0	+0.6
	baz=256						
BBB	Bella Bella	8.33	1	Pn	Pn	11 16 19.4	+1.3
	0.2nm,0.3s,baz=197,slow=5.1,SNR=6.9						
NEW	Newport	8.89	56	LR	LR	11 20 11.1	
	comp=Z,56nm,19.8s,baz=264,slow=39						
PDAR	Pinedale Array	13.65	88	LR	LR	11 22 44.7	
	comp=Z,103nm,19.2s,baz=305,slow=37						
PFO	Pinyon Flats O	13.74	134	LR	LR	11 22 26.5	
	comp=Z,38nm,19.9s,baz=344,slow=35						
ANMO	Albuquerque	19.00	111	P	Pn	11 18 40.0	-0.1
	0.0nm,0.3s,baz=9.9,slow=8.2,SNR=3.2						
ANMO				LR	LR	11 25 29.9	
	comp=Z,33nm,18.9s,baz=106,slow=35						
YKA	Yellowknife Ar	20.29	18	P	P	11 18 52.9	-0.1
	1.1nm,0.8s,baz=210,slow=11,SNR=4.5						
ILAR	Eielson Array	23.42	340	P	P	11 19 24.8	-1.6
	0.2nm,0.6s,baz=134,slow=7.7,SNR=2.7						
TXAR	Lajitas Array	24.36	118	P	P	11 19 37.2	+1.5
	0.3nm,0.7s,baz=297,slow=8.0,SNR=4.9						

*IDC **15** 11:26:17.9±3.7, 43°.86N×128°.46W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.4/34, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=93.6km s-min=26.7km az=60.0*

*ISCJB **15** 11:26:18.2±1.4, 43°.9N±0°.1×128°.3W±0°.1, h13km, mb2.8/2, Error ellipse: s-maj=18.2km s-min=9.7km az=25.7*

ISC 15 11:26:19.8±2.0, 43°.9N±0°.2×128°.3W±0°.1, h13km, n9, σ0°.83/11, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I03D	Drain, OR	3.60	91	P	Pn	11 27 13.9	-1.4
	baz=271,SNR=79						
I03D				S	Sn	11 27 58.1	+0.4
	baz=271						
G03D	McMinnville, O	3.85	68	P	Pn	11 27 18.2	-0.6
	baz=248,SNR=15						
G03D				S	Sn	11 28 04.3	+0.4
	baz=248						
K04D	Chiloquin, OR	4.95	102	P	Pn	11 27 33.3	-0.7
	baz=285						
J05D	Fort Rock, OR	5.18	94	P	Pn	11 27 36.9	-0.2
	baz=277						
G05D	Wamic, OR	5.19	72	P	Pn	11 27 37.9	+0.7
	baz=254						
BBB	Bella Bella	8.32	1	Pn	Pn	11 28 20.6	+0.5
	0.2nm,0.3s,baz=183,slow=6.6,SNR=6.8						
YKA	Yellowknife Ar	20.30	18	P	P	11 30 54.5	-0.6
	1.8nm,1.0s,baz=206,slow=11,SNR=6.2						
ILAR	Eielson Array	23.40	340	P	P	11 31 27.6	-0.4
	0.4nm,0.9s,baz=162,slow=6.6,SNR=4.1						
TXAR	Lajitas Array	24.41	118	P	P	11 31 39.1	+1.0
	0.3nm,0.8s,baz=316,slow=6.3,SNR=3.3						

*IDC **15** 11:28:03.8±3.2, 43°.90N×128°.22W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.4/33, mbtmp3.2/5, ML3.6/2, MS3.4/6, Ms1 3.4/6, ms1mx3.3/8, Error ellipse: s-maj=59.9km s-min=22.4km az=46.0*

*ISCJB **15** 11:28:05.5±1.1, 44°.09N±0°.07×128°.3W±0°.1, h13km, mb3.8/4, MS3.3/5, Error ellipse: s-maj=14.7km s-min=7.9km az=145.8*

*NEIC **15** 11:28:06.4±1.1, 44°.04N×128°.32W, h10km, mb4.1/5, Error ellipse: s-maj=14.7km s-min=7.9km az=63.0*

ISC 15 11:28:05.4±2.1, 43°.9N±0°.2×128°.4W±0°.2, h13km, n27, σ1s13/26, mb4.0/4, MS3.1/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMO	Hull Mountain	4.20	106	ePn	Pn	11 29 07.6	-1.6
HUMO				eSn	Sn	11 29 56.0	-2.1
F04A	Amboy	4.73	62	P	Pn	11 29 15.6	-0.8
NLWA	Neilton Lookou	4.73	41	ePn	Pn	11 29 14.8	-1.7
LVP	Lakeview Peak	4.79	61	P	Pn	11 29 16.4	-0.9
B203	Quarry, Mount	4.88	60	P	Pn	11 29 17.8	-0.7
FL2	Flat Top 2	4.88	60	P	Pn	11 29 17.8	-0.9
MTMW	Mount Mitchell	4.90	62	P	Pn	11 29 18.1	-0.7
TDH	Tom, Dick, Har	4.94	71	P	Pn	11 29 18.6	-0.9
TDL	Tradedollar La	5.03	59	P	Pn	11 29 19.9	-0.8
GULW	Guler Mountain	5.26	65	P	Pn	11 29 23.6	-0.2
MOD	Modoc Plateau	6.29	106	ePn	Pn	11 29 39.2	+1.1
	4.1nm,0.9s						
HAWA	Hanford	6.77	65	ePn	Pn	11 29 44.2	-0.2
	11nm,1.0s						
BBB	Bella Bella	8.29	1	Pn	Pn	11 30 06.2	+1.0
	0.2nm,0.3s,baz=156,slow=20,SNR=4.4						
PDAR	Pinedale Array	13.79	88	Pn	Pn	11 31 22.5	+1.8
	0.1nm,0.3s,baz=275,slow=12,SNR=3.3						
PDAR				LR	LR	11 36 53.6	
	comp=Z,196nm,18.6s,baz=274,slow=39						
WUAZ	Wupatki	15.55	117	ePn	P	11 31 47.6	-1.1
	9.7nm,1.1s						
PV01	Paradox Valley	16.05	104	ePn	Pn	11 31 52.3	+1.4
	653nm,1.3s						
PV01				eSn	Sn	11 34 50.7	+1.9
W18A	Petrified Fore	16.86	115	ePn	P	11 32 03.6	+0.3
	46nm,1.8s						
SDCO	Great Sand Dun	18.38	102	eP	Pn	11 32 21.2	+1.0
	21nm,1.6s						
ANMO	Albuquerque	19.14	110	eP	P	11 32 28.6	+0.1
	5.6nm,1.3s						
YKA	Yellowknife Ar	20.30	19	P	P	11 32 40.2	-0.4
	2.0nm,0.8s,baz=205,slow=11,SNR=6.2						
AMTX	Amarillo	22.47	105	eP	P	11 33 05.2	+0.8
	11nm,0.9s						
ULM	Lac du Bonnet	22.93	62	LR	LR	11 42 25.2	
	comp=Z,73nm,19.0s,baz=82,slow=38						
ILAR	Eielson Array	23.34	340	P	P	11 33 12.8	-0.2
	0.3nm,0.8s,baz=146,slow=8.2,SNR=3.5						
ILAR				LR	LR	11 41 06.6	
	comp=Z,46nm,18.5s,baz=154,slow=34						
TXAR	Lajitas Array	24.50	118	P	P	11 33 24.5	-0.1
	1.7nm,1.1s,baz=311,slow=8.2,SNR=4.0						
TXAR				LR	LR	11 43 47.4	
	comp=Z,97nm,18.6s,baz=0.0,slow=39						
WMOK	Wichita Mounta	24.59	102	eP	P	11 33 25.9	+0.7
	16nm,0.9s						
LPIG	La Paz	24.71	137	LR	LR	11 41 55.5	
	comp=Z,66nm,19.3s,baz=14,slow=34						
TKL	Tuckaleechee C	34.94	88	LR	LR	11 49 51.7	
	comp=Z,145nm,19.2s,baz=326,slow=38						

*CSEM **15** 11:32:56.5, 40°.42N×21°.84E, h0km, Suspected Mining explosion.*

ATH 15 11:32:56.5, 40°.42N×21°.84E, h0km±5km, Error ellipse: s-maj=5.9km s-min=1.5km az=194.0, Suspected Mining explosion., Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.13	205	P	Pg	11 32 58.9	-0.1
KZN	Kozani	0.13	205	P	Pg	11 32 59.1	+0.1
KZN	Kozani	0.13	205	P	Pg	11 32 58.9	-0.1
FNA	Florina	0.51	316	P	Pg	11 33 07.1	+0.9
FNA	Florina	0.51	316	P	Pb	11 33 07.4	-1.0
FNA	Florina	0.51	316	P	Pg	11 33 07.1	+0.9
PENT	Pentalofos	0.58	247	P	Pg	11 33 08.2	+0.4
PENT	Pentalofos	0.58	247	P	Pg	11 33 08.3	+0.6
PENT	Pentalofos	0.58	247	P	Pg	11 33 08.1	+0.4
LIT	Litokhoron	0.59	123	P	Pg	11 33 08.7	+0.8
LIT	Litokhoron	0.59	123	P	Pg	11 33 08.6	+0.7
LIT	Litokhoron	0.59	123	P	Pg	11 33 08.7	+0.8
KPRO	Kipourio	0.59	218	P	Pg	11 33 08.0	+0.1
KPRO	Kipourio	0.59	218	P	Pg	11 33 08.2	+0.3
KPRO	Kipourio	0.59	218	P	Pg	11 33 08.0	+0.1
GRG	Griva	0.68	38	P	Pg	11 33 08.6	-1.1
GRG	Griva	0.68	38	P	Pg	11 33 08.6	-1.0
THL	Klokotos Trika	0.87	171	P	Pg	11 33 12.2	-1.0
THL	Klokotos Trika	0.87	171	P	Pg	11 33 13.1	0.0
THL	Klokotos Trika	0.87	171	P	Pg	11 33 12.2	-1.0
HORT	Hortiatis	0.97	79	P	Pg	11 33 15.2	-0.1
HORT	Hortiatis	0.97	79	P	Pg	11 33 15.2	0.0
AGG	Agios Georgios	1.45	165	P	Pn	11 33 24.0	-0.1
AGG	Agios Georgios	1.45	165	P	Pn	11 33 24.0	0.0

*CSEM **15** 11:37:12.3, 37°.19N×22°.02E, h6km, ML2.2/5*

ATH 15 11:37:12.3, 37°.19N×22°.02E, h6km±3km, ML2.2/5, Error ellipse: s-maj=3.4km s-min=1.2km az=158.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.07	261	P	Pg	11 37 13.6	-0.5
ITM				S	Sg	11 37 14.9	-0.5
ITM				AML	AML	11 37 15.2	
	comp=N,2887μm,0.2s						
ITM				AML	AML	11 37 15.8	
	comp=E,3792μm,0.2s						
ITM	Ithomi	0.07	261	P	Pg	11 37 13.3	-0.7
ITM				S	Sg	11 37 14.5	-0.9
ITM				AML	AML	11 37 15.1	
	comp=N,2887μm,0.2s						
ITM				AML	AML	11 37 15.7	
	comp=E,3792μm,0.2s						
ITM	Ithomi	0.07	261	P	Pg	11 37 13.3	-0.8
ITM				S	Sg	11 37 14.5	-0.8
MES3	Kyparissia	0.28	282	P	Pg	11 37 17.6	-0.2
MES3				S	Sg	11 37 21.9	+0.4
MES3				AML	AML	11 37 22.7	
	comp=E,3408μm,0.2s						
MES3				AML	AML	11 37 25.7	
	comp=N,3272μm,0.3s						
MES3	Kyparissia	0.28	282	P	Pg	11 37 17.3	-0.5
MES3				S	Sg	11 37 22.7	+1.2
MES3				AML	AML	11 37 22.7	
	comp=E,3408μm,0.2s						
MES3				AML	AML	11 37 25.7	
	comp=N,3272μm,0.3s						
MES3	Kyparissia	0.28	282	P	Pg	11 37 17.3	-0.5
MES3				S	Sg	11 37 22.7	+1.2
VLX	Vlachokerasia	0.34	58	P	Pg	11 37 19.5	+0.6
VLX	Vlachokerasia	0.34	58	P	Pg	11 37 19.4	+0.4
VLX	Vlachokerasia	0.34	58	P	Pg	11 37 19.4	+0.4
PYL	PYLOS	0.37	217	P	Pg	11 37 19.4	-0.1
PYL	PYLOS	0.37	217	P	Pg	11 37 19.0	-0.4
PYL				S	Sg	11 37 25.7	+1.4
PYL	PYLOS	0.37	217	P	Pg	11 37 19.0	-0.5
PYL				S	Sg	11 37 25.7	+1.4
TRIP	Tripoli	0.39	31	P	Pg	11 37 19.6	-0.4
TRIP				S	Sg	11 37 25.0	-0.1
TRIP	Tripoli	0.39	31	P	Pg	11 37 19.6	-0.4
TRIP				S	Sg	11 37 25.0	-0.1
AMT	Artemida-Makis	0.42	324	P	Pg	11 37 19.5	-0.9
AMT	Artemida-Makis	0.42	324	P	Pg	11 37 20.6	+0.1
AMT				S	Sb	11 37 28.0	-0.8
AMT				AML	AML	11 37 28.2	
	comp=E,419μm,0.3s						
AMT				AML	AML	11 37 28.4	
	comp=N,594μm,0.3s						
AMT	Artemida-Makis	0.42	324	P	Pg	11 37 20.6	+0.1
AMT				S	Sb	11 37 28.0	-0.8
MES2	Methoni	0.44	214	P	Pg	11 37 19.4	-1.4
MES2				S	Sb	11 37 28.5	-0.9
MES2	Methoni	0.44	214	P	Pg	11 37 19.4	-1.4
MES2				S	Sb	11 37 28.5	-0.8
VLI	Veliai	0.88	122	P	Pg	11 37 27.7	-1.4
DSF	Desfina	1.28	18	AML	AML	11 37 17.9	
	comp=E,98μm,0.2s						
DSF				AML	AML	11 37 19.2	
	comp=N,153μm,0.1s						

*NEIC **15** 11:42:30.0±0.0, 37°.90N×118°.57W, h8km, ML4.2(REN), MW4.0(BRK), After REN.*

NEIC Felt [V] at Benton, [III] at June Lake and [II] at Bishop and Mammoth Lakes. Also felt at Arnold, Auberry, Fish Camp, Lee Vining, Murphys, Sanger and Yosemite National Park.

*IDC **15** 11:42:30.6±1.1, 37°.84N×118°.54W, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.7/50, mbtmp3.6/7, ML3.6/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/39, Error ellipse: s-maj=20.4km s-min=10.9km az=81.0*

ISC 15 11:42:30.0±0.8, 37°.90N±0°.02×118°.56W±0°.02, h6km±7km, n116, σ2s08/127, mb3.5/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	Mammoth, Mammo	0.35	220	P	Pg	11 42 37.3	+0.4
	baz=38,SNR=942						
MLAC				S	Sg	11 42 42.3	+0.8
	baz=38						
TVH2	Borealis Mine	0.51	342	ePg	Pg	11 42 39.7	-0.1
TVH2				eSg	Sg	11 42 46.6	+0.1
TIN	Tinemaha, Big	0.88	163	P	Pg	11 42 47.0	0.0
	baz=343,SNR=276						
TIN				S	Sb	11 42 59.2	-0.7
	baz=343						
WAKR	Walker	0.92	311	ePg	Pg	11 42 47.2	-0.5
WAKR				eSg	Sg	11 42 59.7	0.0
YERR	Yerington	1.21	334	ePg	Pg	11 42 52.5	-0.8
YERR				eSn	Sg	11 43 09.0	0.0
GRAC	Grapevine Rang	1.31	133	P	Pg	11 42 54.9	-0.2
	baz=314,SNR=938						
GRAC				S	Sn	11 43 12.7	0.0
	baz=314						
PNTR	Pine Nut	1.44	326	ePn	Pn	11 42 56.6	-0.3
PNTR				eSn	Sg	11 43 15.9	-0.6
CMB	Columbia Colle	1.45	276	ePn	Pn	11 42 56.1	-0.8
CMB				eSn	Sb	11 43 14.7	-1.6
CWC	Cottonwood Cre	1.50	165	P	Pn	11 42 57.8	+0.1
	baz=345						
CWC				S	Sb	11 43 17.9	0.0
	baz=345						
RCTC	Rector, Farmer	1.68	199	Pb	Pn	11 43 00.6	+0.7
	baz=18,SNR=249						
RCTC				S	Sn	11 43 22.2	+0.4
	baz=18						
DAC	Darwin (Calif)	1.79	154	ePb	Pn	11 43 02.0	+0.3
DAC				eSg	Sg	11 43 28.6	+1.0
PAHR	Pah Rah Range	1.92	341	ePn	Pn	11 43 03.5	+0.1
FURC	Furnace Creek,	1.97	136	P	Pn	11 43 04.5	+0.6
	baz=317,SNR=1000						
FURC				S	Sn	11 43 29.0	+0.2
	baz=317						
MPMC	Manual Prospec	2.03	155	P	Pn	11 43 04.9	0.0
	baz=335,SNR=686						
MPMC				S	Sn	11 43 30.3	-0.3
	baz=335						
TPNV	Topopah Spring	2.07	117	Pb	Pb	11 43 07.9	-0.2
	baz=298,SNR=1000						
TPNV				Sb	Sb	11 43 34.8	+0.8
	baz=298						
TPNV	Topopah Spring	2.07	117	ePn	Pn	11 43 05.9	+0.5
VES	Vestal, Richgr	2.10	192	Pb	Pb	11 43 07.4	-1.0
	baz=11,SNR=567						
VES				Sb	Sb	11 43 35.8	+1.1
	baz=11						
AFDM	Forest Hills D	2.17	300	ePn	Pn	11 43 07.3	+0.6
ISA	Isabella, Lake	2.23	178	Pb	Pb	11 43 10.6	-0.2
	baz=358,SNR=98						
ISA				Sb	Sb	11 43 39.6	+0.9
	baz=358						
ISA	Isabella, Lake	2.23	178	ePn	Pb	11 43 11.0	+0.2
R11A	Troy Canyon, C	2.39	78	P	Pn	11 43 09.2	-0.6
	baz=260						
R11A				Sb	Sb	11 43 45.0	+1.8
	baz=260						
BEKR	Beckworth	2.42	325	ePn	Pn	11 43 10.6	+0.3
PMPB	Monarch Peak	2.46	228	ePn	Pn	11 43 12.4	+1.7
LRMC	Laurel Mtn Rad	2.51	163	P	Pn	11 43 11.7	+0.2
	baz=344,SNR=284						
LRMC				Sb	Sg	11 43 49.7	-1.1
	baz=344						
PAGB	Antelope Grade	2.55	213	ePn	Pn	11 43 12.6	+0.6
SAO	San Andreas Ge	2.57	245	ePn	Pn	11 43 12.9	+0.8
SAO				eSg	Sg	11 43 51.4	-1.1
SHOC	Shoshone, Teco	2.71	137	P	Pn	11 43 13.6	-0.4
	baz=318,SNR=19						
BMN	Battle Mountai	2.73	22	ePn	Pn	11 43 13.8	-0.8
BMN				eSg	Sg	11 43 58.5	+0.6
ARVC	Arvin	2.77	185	Sb	Sb	11 43 56.5	+2.3
	baz=4.3						
SMMC	Simmler	2.83	205	P	Pn	11 43 16.3	+0.6
	baz=24,SNR=16						
ORV	Oroville	2.83	307	ePn	Pn	11 43 16.3	+0.5
GSC	Goldstone, Bar	2.95	151	P	Pn	11 43 17.8	+0.4
	baz=332,SNR=46						
GSC	Goldstone, Bar	2.95	151	ePn	Pn	11 43 18.3	+0.8
EDW2	Edwards Air Fo	3.04	171	Sb	Sb	11 44 04.7	+2.6
	baz=352						
SHPR	Sheep Range	3.05	116	ePn	Pn	11 43 19.7	+0.8
PKM	Mcpherson Peak	3.17	199	P	Pn	11 43 21.8	+1.2
	baz=18						
TUQ	Turquoise Moun	3.24	138	P	Pn	11 43 21.5	-0.1
	baz=320						
RRX	Edison Barstow	3.27	157	P	Pn	11 43 22.4	+0.6
	baz=338						
OSI	Osito Audit: C	3.28	182	ePn	Pb	11 43 27.9	-0.8
MCCM	Marconi Confer	3.42	275	ePn	Pn	11 43 23.3	-0.6
GDXM	Geysers	3.45	287	ePn	Pn	11 43 25.4	+1.0
MWC	Mount Wilson	3.69	174	ePn	Pn	11 43 30.1	+2.3
HOPS	Hopland Field	3.71	289	ePn	Pn	11 43 28.1	+0.2
PASC	Pasadena Art C	3.73	175	ePg	Pg	11 43 40.7	-0.8
PASC				eSg	Sg	11 44 28.8	-1.1
PSUT	Pine Spring	3.76	79	ePg	Pb	11 43 37.2	+0.3
LDFC	Landfair	3.95	134	ePn	Pn	11 43 32.7	+1.3
WDC	Whiskeytown Da	4.09	312	ePn	Pn	11 43 33.8	+0.7
CCUT	Cedar City	4.13	93	ePn	Pn	11 43 34.2	+0.3
MOD	Modoc Plateau	4.22	342	ePn	Pn	11 43 35.3	+0.3
MOD				eSg	Sg	11 44 44.6	-0.9
LCMT	Little Creek M	4.32	100	ePn	Pn	11 43 36.5	+0.2
SZCU	Shurtz Canyon	4.35	92	ePn	Pn	11 43 38.5	+1.7
WVOR	Wild Horse Val	4.53	359	ePn	Pn	11 43 34.3	-5.0
WVOR				eSg	Sg	11 44 52.1	-3.4
PFO	Pinyon Flats O	4.60	158	Pn	Pn	11 43 41.0	+0.7
	1.4nm,0.3s,baz=341,slow=13,SNR=11						
PFO				Lg	Lg	11 44 57.0	
	1.3nm,0.3s,baz=52,slow=19,SNR=3.5						
PFO				LR	LR	11 45 15.3	
	comp=Z,73nm,19.2s,baz=351,slow=36						
PFO	Pinyon Flats O	4.60	158	ePn	Pn	11 43 41.3	+1.0
PFO				eSn	Sn	11 44 32.7	-1.4
PFO				Lg	Lg	11 44 57.0	
KNB	Kanab	4.65	99	ePn	Pn	11 43 41.5	+0.5
W13A	Hualapai Mount	4.69	125	ePn	Pn	11 43 43.5	+2.0
PKCU	Pink Cliffs	4.98	93	ePn	Pn	11 43 47.2	+1.6
YBH	Yreka Blue Hor	4.99	321	ePn	Pn	11 43 47.6	+2.1
KHMM	Horse Mountain	4.99	308	ePn	Pn	11 43 50.6	+5.0
DUG	Dugway, Tooele	5.03	61	ePn	Pn	11 43 47.3	+1.2
MTPU	Mount Pierson	5.04	86	ePn	Pn	11 43 51.6	+5.2
MSU	Marysvale	5.06	81	ePn	Pb	11 43 53.5	-5.6
JCC	Jacoby Creek,	5.15	306	ePg	Pb	11 44 03.5	+3.1
U15A	North Rim	5.21	104	ePn	Pn	11 43 50.6	+1.8
BGU	Big Grassy Mou	5.24	53	ePn	Pn	11 43 49.9	+0.8
Y12C	Blythe	5.28	140	ePn	Pn	11 43 50.4	+1.0
BAR	Barrett	5.43	163	ePn	Pn	11 43 56.8	+5.3
NLU	North Lily Min	5.46	66	ePn	Pn	11 43 57.9	+5.8
NLU				ePg	Pb	11 44 08.7	+2.9
GLA	Glamis	5.71	147	ePn	Pn	11 43 55.2	-0.2
HUMO	Hull Mountain	5.78	326	ePn	Pn	11 43 60.0	+3.6
SPUT	South Promonto	5.82	52	ePn	Pn	11 44 00.5	+3.6
MFID	Camas Ranch	5.89	20	Pn	Pn	11 43 52.9	-5.0
MFID				eSg	Sg	11 45 35.1	-4.0
HVU	Hansel Valley	5.90	47	ePn	Pn	11 44 00.0	+1.9
Y14A	Wickenburg	5.99	130	ePn	Pn	11 44 01.2	+1.9
JLU	Jordanelle	6.14	62	ePn	Pn	11 44 05.4	+3.9
JLU				ePg	Pb	11 44 21.9	+4.4
WUAZ	Wupatki	6.24	110	ePn	Pn	11 44 04.9	+2.1
SRU	San Rafael Swe	6.42	77	ePn	Pn	11 44 10.5	+5.3
113A	Mohawk Valley,	6.44	141	ePg	Pg	11 44 29

NEW	Newport	10.41	5	Pn		Pn	11 45 04.2	+4.4
	0.1nm,0.3s,baz=176,slow=17,SNR=5.3							
TXAR	Lajitas Array	15.05	120	Pn		P	11 46 07.3	-1.4
	0.0nm,0.3s,baz=293,slow=10,SNR=8.1							
TXAR				LR		LR	11 52 38.9	
	comp=Z,85nm,20.0s,baz=0.0,slow=40							
BBB	Bella Bella	15.78	338	LR		LR	11 52 18.9	
	comp=Z,88nm,18.1s,baz=124,slow=37							
DLBC	Dease Lake	21.87	344	P		P	11 47 24.8	+1.4
	1.2nm,0.5s,baz=150,slow=14,SNR=3.3							
ILAR	Eielson Array	31.67	337	P		P	11 48 55.9	+2.0
	0.6nm,0.9s,baz=149,slow=7.4,SNR=6.2							
FINES	FINESS Array B	76.91	17	P		P	11 54 23.0	+0.3
	1.6nm,0.9s,baz=294,slow=10.0,SNR=4.3							
HHC	Hu-ho-hao-te	89.21	324	*e*P		P	11 55 24.3	-2.6
HHC				sP		sP	11 55 31.9	+2.2
WMQ	Urumqi	95.25	341	*e*P		P	11 55 54.0	-0.7

IDC 15 11:52:23.5±4.1, 55°.49N×85°.36E, h0^{km}, mb1 2.7/1, mb1mx2.7/38, mbtmp2.7/1, ML2.1/1, Error ellipse: s-maj=33.1km s-min=22.3km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.57	192	*i*		12 02 50.0	
	baz=8.9,slow=319,SNR=28						
ZALV	Zalesovo Beam	1.57	192	Pg	Pn	11 52 51.1	-1.5
	0.9nm,0.3s,baz=12,slow=17,SNR=3.9						
ZALV				Lg	Lg	11 53 13.6	
	1.2nm,0.3s,baz=12,slow=29,SNR=6.1						
KURBB	Kurchatov Arra	6.38	223	Pn	Pn	11 53 58.6	0.0
	0.0nm,0.3s,baz=44,slow=14,SNR=3.6						
I34MN	SONGINO INFRAS	15.12	112	*i*		13 22 50.0	
	baz=311,slow=318,SNR=0.2						

*ISCJB **15** 12:06:12.0±0.8, 31°.47S±0°.03×69°.19W±0°.05, h107^{km}±9^{km}, Error ellipse: s-maj=7.7km s-min=4.5km az=32.5*
*SJA **15** 12:06:11.7±0.8, 31°.47S×69°.12W, h107^{km}±4^{km}, ML2.9, MW3.3*
*GUC **15** 12:06:12.6±0.4, 31°.48S×69°.42W, h121^{km}±3^{km}, ML3.4*
ISC 15 12:06:12.3±1.6, 31°.47S±0°.04×69°.20W±0°.05, h105^{km}±13^{km}, n16, σ0^{s}53/27, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.64	78	*e*P		P	12 06 29.7	-0.1
RTLL				*e*S		Sn	12 06 42.2	-0.6
RTLL				IAML			12 06 44.8	
	comp=E,3μm,0.3s							
RTCV	Cerro Valdivia	0.69	125	*e*P		Pn	12 06 30.3	+0.1
RTCV				*e*S		Sn	12 06 43.3	-0.3
AMOG	MOGNA	0.80	49	*e*P		Pn	12 06 31.8	+0.5
AMOG				*e*S		Sn	12 06 45.3	-0.2
ASAL	Salagasta	1.16	165	*e*P		Pn	12 06 35.0	+0.1
ASAL				*e*S		Sn	12 06 52.6	+0.5
AAGR	Agrelo	1.64	169	*e*P		Pn	12 06 41.0	+0.3
AAGR				*e*S		Sn	12 07 02.9	+0.6
AVFE	Valle Fertil	1.70	62	*e*P		Pn	12 06 41.6	+0.2
AVFE				*e*S		Sn	12 07 03.0	-0.5
AVFE				IAML			12 07 06.5	
	comp=Z,100nm,0.4s							
ACAN	Cantantal	1.89	116	*e*P		Pn	12 06 43.7	0.0
TLL	Tololo Astrono	1.89	313	*e*P		Pn	12 06 44.1	+0.2
TLL				*e*S		Sn	12 07 08.4	+0.3
TLL				IAML			12 07 11.4	
	comp=N,257nm,0.4s							
AGUA	GUANDACOL	2.07	17	*e*P		Pn	12 06 46.8	+0.8
AGUA				*e*S		Sn	12 07 11.6	-0.2
FCH	Farellones	2.07	206	*e*P		Pn	12 06 47.1	+0.8
FCH				*e*S		Sn	12 07 13.2	+1.0
PEL	Peldehue	2.09	217	*e*P		Pn	12 06 46.0	-0.3
PEL				*e*S		Sn	12 07 11.7	-0.6
ROCH	El Roble	2.15	225	*e*P		Pn	12 06 46.2	-0.9
ROCH				*e*S		Sn	12 07 12.8	-1.0
ROCH				IAML			12 07 15.6	
	comp=N,238nm,0.4s							
ACHE	Chepes	2.19	83	*e*P		Pn	12 06 47.6	-0.1
CLCH	Cerro Calan	2.23	210	*e*S		Sn	12 07 15.6	+0.1
APLL	PUNTA DE LOS L	2.53	66	*e*P		Pn	12 06 52.0	-0.1
ACLC	CERRO LA CRUZ	2.81	44	*e*P		Pn	12 06 55.8	-0.1

MAN 15 12:10:50, 8°.60N×126°.14E, h8^{km}, mb4.8, ML3.7, MS3.8, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.47	152	*i*P	Pg	12 10 59.5	+0.4
BIPH				*i* S	Sb	12 11 06.4	-1.1
BUKP	Musuan	1.28	236	*e*P	Pn	12 11 13.4	-0.9
BUKP				*e*S	Sn	12 11 33.4	+1.7
SCPH	Surigao	1.34	331	*e*P	Pn	12 11 14.0	-1.0
SCPH				*i* S	Sb	12 11 32.1	-0.6
MATI	Mati	1.65	176	*e*P	Pn	12 11 19.4	+0.2
MATI				*e*S	Sn	12 11 40.8	+0.2
MSLP	Maasin	1.98	321	*e*P	Pn	12 11 23.4	-0.4
MSLP				*e*S	Sg	12 11 55.0	+1.2
CTBH	Cotabato--PC H	2.32	234	*i*P	Pn	12 11 30.1	+1.6
DCPH	Dipolog City	2.75	270	*e*P	Pn	12 11 35.4	+0.9
DCPH				*e*S	Sn	12 12 08.0	0.0
PLP	Palo	2.79	336	*e*P	Pn	12 11 37.5	+2.4
PLP				*e*S	Sb	12 12 14.9	+0.2
PAGZ	Pagadian	2.83	255	*e*P	Pb	12 11 39.1	-1.7
PAGZ				*e*S	Sb	12 12 15.6	0.0
OCLP	Ormoc	2.87	328	*e*P	Pb	12 11 40.7	-0.7
BESP	Borongan	3.06	347	*e*P	Pb	12 11 43.1	-1.6
BESP				*e*S	Sb	12 12 22.3	-0.1
CNP	Catarman	4.15	340	*e*P	Pn	12 11 57.3	+3.6
CNP				*e*S	Sb	12 12 48.3	-5.3

*ATH **15** 12:27:37.7, 38°.08N×27°.25E, h19^{km}±2^{km}, ML3.4/3, Error ellipse: s-maj=3.7km s-min=1.9km az=272.0*
*DDA **15** 12:27:37.8, 38°.08N×27°.17E, h5^{km}, Ml3.4*
*ISCJB **15** 12:27:38.9±0.4, 38°.07N±0°.02×27°.15E±0°.02, h3^{km}±3^{km}, Error ellipse: s-maj=3.2km s-min=2.3km az=140.1*
*CSEM **15** 12:27:38.9±0.1, 38°.05N×27°.16E, h2^{km}, ML3.3, Error ellipse: s-maj=3.2km s-min=2.4km az=48.0*
*ISK **15** 12:27:38.0, 38°.04N×27°.17E, h3^{km}, ML3.3*
*THE **15** 12:27:38.8, 38°.08N×27°.16E, h1^{km}±1^{km}, ML3.5/4, Error ellipse: s-maj=1.0km s-min=0.4km az=104.0*
ISC 15 12:27:39.4±0.9, 38°.07N±0°.02×27°.16E±0°.02, h7^{km}±8^{km}, n129, σ1^{s}01/184, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	Gumuldur	0.19	274	*e*PG	Pg	12 27 43.1	-0.1
GMLD				*e*SG	Sg	12 27 46.2	+0.4
GMLD	Gumuldur	0.19	274	*e*Pg	Pg	12 27 43.1	-0.1
GMLD				*e*Sg	Sg	12 27 46.2	+0.4
DGB	¯zmir	0.22	267	*i* P	Pg	12 27 43.7	0.0
DGB				*i* S	Sg	12 27 46.9	+0.2
KUSD	Kusadasi-Aydin	0.23	154	*e*PG	Pg	12 27 43.2	-0.7
KUSD				*e*SG	Sg	12 27 46.3	-0.7
KUSD	Kusadasi-Aydin	0.23	154	*e*Pg	Pg	12 27 43.2	-0.7
KUSD				*e*Sg	Sg	12 27 46.3	-0.7
URLA	Izmir	0.53	304	*e*PG	Pg	12 27 49.6	-0.1
URLA	Izmir	0.53	304	*i* P	Pg	12 27 49.4	-0.3
URLA				*i* S	Sg	12 27 57.4	+0.8
URLA	Izmir	0.53	304	P	Pg	12 27 49.4	-0.3
URLA				S	Sg	12 27 57.4	+0.8
ZEY	¯zmir	0.55	289	*i* P	Pg	12 27 49.6	-0.3
ZEY				*i* S	Sg	12 27 57.8	+0.8
AYDN	Tasoluk	0.70	125	*i* P	Pg	12 27 52.3	-0.5
AYDN				*i* S	Sb	12 28 04.3	+0.5
AYDN	Tasoluk	0.70	125	P	Pg	12 27 52.3	-0.5
AYDN				S	Sb	12 28 04.3	+0.5
KRBN	Karaburun	0.71	318	*e*PG	Pg	12 27 52.9	-0.2
KRBN	Karaburun	0.71	318	*e*Pg	Pg	12 27 52.9	-0.2
CESE	¯e¯me	0.73	292	*e*PG	Pg	12 27 53.1	-0.3
CESE	¯e¯me	0.73	292	*e*Pg	Pg	12 27 53.1	-0.3
FOCM	Fo¯§a	0.73	333	*e*PG	Pg	12 27 52.4	-1.0
FOCM	Fo¯§a	0.73	333	*e*Pg	Pg	12 27 52.4	-1.0
CHOS	Chios island	0.93	291	*e*PG	Pg	12 27 57.2	0.0
CHOS	Chios island	0.93	291	P	Pg	12 27 56.7	-0.4
CHOS				S	Sg	12 28 10.5	+1.3
CHOS	Chios island	0.93	291	P	Pg	12 27 56.8	-0.4
CHOS				S	Sg	12 28 10.3	+1.1
				AML	AML	12 28 13.1	
	comp=N,3540μm,0.3s						
CHOS				AML	AML	12 28 13.3	
	comp=E,4431μm,0.3s						
CHOS	Chios island	0.93	291	P	Pg	12 27 56.8	-0.4
CHOS	Chios island	0.93	291	*e*Pg	Pg	12 27 57.2	0.0
CHOS				S	Sg	12 28 10.3	+1.1
CAND	Candarli	0.93	343	*e*PG	Pg	12 27 56.5	-0.8
AKHS	Akhisar	0.96	32	*i* P	Pg	12 27 56.7	-1.2
AKHS				*i* S	Sg	12 28 10.1	-0.3
AKHS	Akhisar	0.96	32	P	Pg	12 27 56.7	-1.2
AKHS				S	Sg	12 28 10.1	-0.3
AKS	Akhisar	0.96	32	*e*PG	Pg	12 27 57.1	-0.8
AKS	Akhisar	0.96	32	*e*Pg	Pg	12 27 57.1	-0.8
BODT	Bodrum	1.01	173	P	Pg	12 27 57.8	-0.9
BODT				S	Sb	12 28 13.3	+0.6
BODT	Bodrum	1.01	173	P	Pg	12 27 57.8	-0.9
BODT				S	Sb	12 28 13.3	+0.6
BDRM	Kayabasi	1.02	167	*i* P	Pg	12 27 58.5	-0.5
BDRM				*i* S	Sg	12 28 12.4	+0.1
BDRM	Kayabasi	1.02	167	P	Pg	12 27 58.5	-0.5
BDRM				S	Sg	12 28 12.4	+0.1
DKL	Dikili	1.02	349	*e*PG	Pg	12 27 58.9	-0.2
DKL	Dikili	1.02	349	*e*Pg	Pg	12 27 58.9	-0.2
MANT	Manisa	1.18	68	*i* P	Pg	12 28 01.2	-0.9
MANT				*i* S	Sg	12 28 15.1	-2.3
MANT	Manisa	1.18	68	P	Pg	12 28 01.2	-0.9
MANT				S	Sg	12 28 15.1	-2.3
KULA	Kula-Manisa	1.27	69	*e*PN	Pg	12 28 02.9	-0.8
KULA	Kula-Manisa	1.27	69	P	Pg	12 28 02.1	-1.6
KULA				S	Sb	12 28 20.0	-0.1
KULA	Kula-Manisa	1.27	69	P	Pg	12 28 02.1	-1.6
KULA	Kula-Manisa	1.27	69	*e*Pn	Pg	12 28 02.9	-0.8
KULA				S	Sb	12 28 20.0	-0.1
AYVA	Ayvalik	1.29	344	*i* P	Pg	12 28 03.6	-0.6
AYVA				*i* S	Sb	12 28 21.4	+0.5
AYVA	Ayvalik	1.29	344	P	Pg	12 28 03.6	-0.6
AYVA				S	Sb	12 28 21.4	+0.5
CUND	Cunda Adasi-Ba	1.33	343	*e*PN	Pn	12 28 04.7	+0.3
CUND	Cunda Adasi-Ba	1.33	343	*e*Pn	Pn	12 28 04.7	+0.3
PRK	Paraskevi	1.37	330	P	Pn	12 28 04.0	-0.9
PRK				S	Sb	12 28 22.6	-0.4
PRK	Paraskevi	1.37	330	P	Pn	12 28 03.9	-1.1
PRK				S	Sg	12 28 23.5	+0.1
PRK				AML	AML	12 28 26.9	
	comp=E,3688μm,0.6s						
PRK				AML	AML	12 28 27.9	
	comp=N,3788μm,0.6s						
PRK	Paraskevi	1.37	330	P	Pn	12 28 04.0	-0.9
PRK				S	Sg	12 28 23.5	+0.1
DAT	Datca	1.37	166	*i* P	Pn	12 28 03.5	-1.6
DAT				*i* S	Sn	12 28 24.8	+1.2
DAT	Datca	1.37	166	P	Pn	12 28 03.5	-1.6
DAT				S	Sn	12 28 24.8	+1.2
STEP	BALIKESIR_Sava	1.38	18	*i* P	Pn	12 28 04.4	-0.8
STEP				*i* S	Sn	12 28 23.8	+0.1
STEP	BALIKESIR_Sava	1.38	18	P	Pn	12 28 04.4	-0.8
STEP				S	Sn	12 28 23.8	+0.1
TAVA	DENIZLI_Tavas	1.51	113	*i* P	Pn	12 28 07.2	+0.2
TAVA				*i* S	Sg	12 28 31.8	+3.8
TAVA	DENIZLI_Tavas	1.51	113	P	Pn	12 28 07.2	+0.2
TAVA				S	Sg	12 28 31.8	+3.8
SIGR	SIGRI	1.53	319	*e*PN	Pn	12 28 07.6	+0.4
SIGR	SIGRI	1.53	319	P	Pn	12 28 06.0	-1.2
SIGR				S	Sn	12 28 26.8	-0.6
SIGR	SIGRI	1.53	319	P	Pn	12 28 06.3	-0.9
SIGR				S	Sg	12 28 29.2	+0.5
SIGR				AML	AML	12 28 32.3	
	comp=N,1707μm,0.5s						
SIGR				AML	AML	12 28 32.4	
	comp=E,1736μm,0.5s						
SIGR	SIGRI	1.53	319	P	Pn	12 28 06.3	-0.9
SIGR	SIGRI	1.53	319	*e*Pn	Pn	12 28 07.6	+0.4
SIGR				S	Sg	12 28 29.2	+0.5
DNZL	Cakiroluk	1.54	103	*i* P	Pn	12 28 08.0	+0.5
DNZL				*i* S	Sg	12 28 30.8	+1.9
DNZL	Cakiroluk	1.54	103	P	Pn	12 28 08.0	+0.5
DNZL				S	Sg	12 28 30.8	+1.9
DEMI	Demirci	1.56	51	*i* P	Pn	12 28 08.1	+0.4
DEMI				*i* S	Sg	12 28 29.4	-0.3
DEMI	Demirci	1.56	51	P	Pn	12 28 08.1	+0.4
DEMI				S	Sg	12 28 29.4	-0.3
APE	Apeiranthos	1.63	233	P	Pn	12 28 06.7	-1.9
APE				S	Sn	12 28 29.5	-0.4
APE	Apeiranthos	1.63	233	P	Pn	12 28 06.7	-1.9
APE				S	Sn	12 28 29.5	-0.4
TURN	Turunc	1.65	136	*i* P	Pn	12 28 05.9	-2.9
TURN				*i* S	Sn	12 28 30.6	+0.3
TURN	Turunc	1.65	136	P	Pn	12 28 05.9	-2.9
TURN				S	Sn	12 28 30.6	+0.3
BALB	Balikesir	1.67	19	*e*PN	Pn	12 28 09.8	+0.7
BALB	Balikesir	1.67	19	*e*Pn	Pn	12 28 09.8	+0.7
BALY	Balya	1.71	12	*i* P	Pn	12 28 09.0	-0.7
BALY				*i* S	Sn	12 28 31.8	-0.1
BALY	Balya	1.71	12	P	Pn	12 28 09.0	-0.7
BALY				S	Sn	12 28 31.8	-0.1
DALY	Dalyan (Mu¯la	1.72	136	*i* P	Pn	12 28 09.3	-0.5
DALY				*i* S	Sg	12 28 35.7	+1.0
DALY	Dalyan (Mu¯la	1.72	136	P	Pn	12 28 09.3	-0.5
DALY				S	Sg	12 28 35.7	+1.0
BAYC	CANAKKALE_Bayr	1.74	344	*i* P	Pn	12 28 09.0	-1.1
BAYC				*i* S	Sn	12 28 28.5	-4.0
BAYC	CANAKKALE_Bayr	1.74	344	P	Pn	12 28 09.0	-1.1
SIMA	Simav-Kutahya	1.75	54	*e*PN	Pn	12 28 10.7	+0.4
SIMA	Simav-Kutahya	1.75	54	*e*Pn	Pn	12 28 10.7	+0.4
KHAL	Karahalli	1.86	80	*i* P	Pn	12 28 12.7	+0.9
KHAL				*i* S	Sb	12 28 37.9	+0.5
KHAL	Karahalli	1.86	80	P	Pn	12 28 12.7	+0.9
KHAL				S	Sb	12 28 37.9	+0.5
EZN	Ezine	1.88	340	*e*PN	Pn	12 28 12.7	+0.8
EZN	Ezine	1.88	340	*e*Pn	Pn	12 28 12.7	+0.8
DST	Dursunbey	1.91	36	*e*PN	Pn	12 28 12.7	+0.2
DST	Dursunbey	1.91	36	*e*Pn	Pn	12 28 12.7	+0.2
BOZC	Bozcaada	1.97	334	*e*PN	Pn	12 28 14.0	+0.8
BOZC	Bozcaada	1.97	334	*i* P	Pb	12 28 16.3	+0.7
BOZC				*i* S	Sn	12 28 37.9	-0.4
BOZC	Bozcaada	1.97	334	*e*Pn	Pn	12 28 14.0	+0.8
GONE	Gonen-Balikesi	2.02	12	*e*PN	Pn	12 28 14.8	+0.9
GONE	Gonen-Balikesi	2.02	12	*e*Pn	Pn	12 28 14.8	+0.9
GOLH	Golhisar	2.08	113	*i* P	Pb	12 28 17.9	+0.4
GOLH	Golhisar	2.08	113	P	Pb	12 28 17.9	+0.4
GDZ	Gediz	2.09	60	*i* P	Pb	12 28 17.7	0.0
GDZ	Gediz	2.09	60	P	Pb	12 28 17.7	0.0
TVSB	Tavsanli	2.27	52	*e*PN	Pn	12 28 17.7	+0.3
TVSB	Tavsanli	2.27	52	*e*Pn	Pn	12 28 17.7	+0.3
LPK	Lapseki	2.33	352	*e*PN	Pn	12 28 18.7	+0.6
LPK	Lapseki	2.33	352	*e*Pn	Pn	12 28 18.7	+0.6
KRBG	Karabiga-Canak	2.33	3	*e*PN	Pn	12 28 18.4	+0.3
KRBG	Karabiga-Canak	2.33	3	*e*Pn	Pn	12 28 18.4	+0.3
GADA	Gvkgeada	2.34	336	*e*PN	Pn	12 28 19.5	+1.2
GADA	Gvkgeada	2.34	336	P	Pn	12 28 17.2	-1.1
GADA	Gvkgeada	2.34	336	P	Pn	12 28 17.2	-1.1
GADA	Gvkgeada	2.34	336	*e*Pn	Pn	12 28 19.5	+1.2
EDC	Edincik	2.34	13	*e*PN	Pn	12 28 19.4	+1.0
EDC	Edincik	2.34	13	*e*Pn	Pn	12 28 19.4	+1.0
KCTX	Karacabey (Bur	2.39	23	*e*PN	Pn	12 28 19.7	+0.7
KCTX	Karacabey (Bur	2.39	23	*e*Pn	Pn	12 28 19.7	+0.7
GELI	Tayfur-Gelibol	2.39	347	*e*PN	Pn	12 28 20.0	+1.0
GELI	Tayfur-Gelibol	2.39	347	*e*Pn	Pn	12 28 20.0	+1.0
LIA	Limnos Island	2.39	321	P	Pn	12 28 18.5	-0.5
LIA				S	Sn	12 28 47.5	-1.1
LIA	Limnos Island	2.39	321	P	Pn	12 28 18.5	-0.5
LIA				S	Sn	12 28 47.5	-1.1
ERIK	Erikli-Kesan	2.65	349	*e*PN	Pn	12 28 23.4	+0.9
ERIK	Erikli-Kesan	2.65	349	*e*Pn	Pn	12 28 23.4	+0.9
SMTH	Samothraki Isl	2.71	333	P	Pn	12 28 22.6	-0.9
SMTH	Samothraki Isl	2.71	333	P	Pn	12 28 24.4	+0.9
SMTH	Samothraki Isl	2.71	333	P	Pn	12 28 24.4	+0.9
ENEZ	Enez	2.78	344	*e*PN	Pn	12 28 25.4	+1.1
ENEZ	Enez	2.78	344	P	Pn	12 28 24.0	-0.3
ENEZ	Enez	2.78	344	P	Pn	12 28 24.0	-0.3
ENEZ	Enez	2.78	344	*e*Pn	Pn	12 28 25.4	+1.1
ARMT	Armutlu	2.83	27	*e*PN	Pn	12 28 26.1	+1.1
ARMT	Armutlu	2.83	27	*e*Pn	Pn	12 28 26.1	+1.1
SBT3	Marmara-Eregli	2.89	12	*e*PN	Pn	12 28 27.1	+1.4
SBT3	Marmara-Eregli	2.89	12	*e*Pn	Pn	12 28 27.1	+1.4
ALN	Alexandroupoli	2.96	343	*e*PN	Pn	12 28 28.1	+1.3
ALN	Alexandroupoli	2.96	343	P	Pn	12 28 26.0	-0.8
ALN	Alexandroupoli	2.96	343	P	Pn	12 28 27.0	+0.2
ALN	Alexandroupoli	2.96	343	P	Pn	12 28 27.0	+0.2
ALN	Alexandroupoli	2.96	343	*e*Pn	Pn	12 28 28.1	+1.3
SBT2	Guzelce-Avcila	3.00	20	*e*PN	Pn	12 28 28.4	+1.2
SBT2	Guzelce-Avcila	3.00	20	*e*Pn	Pn	12 28 28.4	+1.2
ESKT	Eskisehir	3.23	62	*i* P	Pg	12 28 40.3	-1.0

*ISCJB **15** 13:33:52.4±1.0, 38°.86N±0°.05×142°.1E±0°.1, h53^{km}±7^{km}, mb3.6/5, Error ellipse: s-maj=15.6km s-min=6.6km az=20.5*
*JMA **15** 13:33:53.6±0.1, 38°.88N×142°.00E, h48^{km}±1^{km}, M3.6*
JMA Felt I J1.
*IDC **15** 13:33:55.8±2.7, 38°.83N×141°.98E, h73^{km}±24^{km}, mb3.3/5, mb1 3.4/8, mb1mx3.2/40, mbtmp3.5/8, Error ellipse: s-maj=29.3km s-min=20.7km az=98.0*
ISC 15 13:33:53.2±1.5, 38°.85N±0°.06×142°.1E±0°.1, h45^{km}±12^{km}, n18, σ1^{s}35/25, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.38	307	P	Pn	13 34 02.9	+0.2
OFUJ				S	Sn	13 34 09.3	-0.2
JMK	Ichinoseki	0.66	279	P	Pn	13 34 06.2	0.0
JMK				*e*S	Sn	13 34 14.9	-0.7
JIO	Ouri	0.68	235	P	Pn	13 34 06.6	+0.1
JIO				S	Sn	13 34 15.4	-0.6
JOM	Ohasama	0.86	317	P	Pn	13 34 08.8	-0.1
JOM				S	Sn	13 34 19.6	-0.8
JOU	Okura	1.19	247	P	Pn	13 34 13.4	0.0
JOU				*e*S	Sn	13 34 28.1	-0.4
JRG	Rokugo	1.23	297	P	Pn	13 34 13.8	-0.2
JYK	Kaneyama	1.33	273	P	Pn	13 34 15.2	0.0
JMM	Marumori	1.40	226	P	Pn	13 34 16.1	-0.1
JMM				*e*S	Sn	13 34 32.9	-0.5
JANG	Nango	1.58	345	P	Pn	13 34 18.4	-0.3
MJAR	Matsushiro Arr	3.82	234	P	Pn	13 34 51.5	+2.0
	1.6nm,0.3s,baz=39,slow=12,SNR=20						
MAT	Matsushiro	3.83	234	P	Pn	13 34 51.7	+2.2
MAT				*e*S	Sn	13 35 36.3	+3.0
ASAJ	Asahikawa	5.28	4	P	Pn	13 35 10.5	+1.1
	0.4nm,0.3s,baz=210,slow=16,SNR=10.0						
USRK	Ussuriysk Ar.	9.25	309	P	Pn	13 36 07.7	+3.9
	0.2nm,0.3s,baz=113,slow=14,SNR=3.8						
MKAR	Makanchi Array	43.61	301	P	P	13 41 52.1	-0.8
	0.2nm,0.3s,baz=85,slow=10,SNR=6.4						
KURBB	Kurchatov Arra	45.31	307	P	P	13 42 05.8	-0.5
	1.4nm,0.5s,baz=81,slow=8.3,SNR=8.1						
ILAR	Eielson Array	47.70	33	P	P	13 42 25.4	+0.5
	0.3nm,0.8s,baz=264,slow=6.1,SNR=4.6						
BVAR	Borovoye Array	49.74	311	P	P	13 42 40.2	-0.5
	0.4nm,0.4s,baz=31,slow=6.7,SNR=3.1						
WRA	Warramunga Arr	58.93	188	P	P	13 43 46.7	-1.0
	0.2nm,0.5s,baz=7.0,slow=7.0,SNR=3.2						

*NIED **15** 13:38:00, 38°.10N×144°.70E, h5^{km}, Mw3.6 Best double couple: M0=2.62000×10^{14} NP1:φ=17.00000°, δ=23.00000°, λ=-102.00000°. NP2:φ=210.00000°, δ=68.00000°, λ=-85.00000°.*
JMA 15 13:38:29.2±0.2, 38°.14N×144°.67E, h44^{km}, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.53	293	P	Pn	13 39 09.2	+1.4
JIO	Ouri	2.63	278	P	Pn	13 39 10.5	+1.4
JIO				S	Sn	13 39 41.1	+1.3
MIYJ	Miyakonagasawa	2.65	304	P	Pn	13 39 10.6	+1.2
MIYJ				*e*S	Sn	13 39 41.8	+1.6
JMK	Ichinoseki	2.82	288	P	Pn	13 39 13.6	+1.8
JOM	Ohasama	2.96	298	P	Pn	13 39 15.7	+2.1
JOM				*e*S	Sn	13 39 50.0	+2.2
JANG	Nango	3.31	313	P	Pn	13 39 20.4	+1.9
JANG				*e*S	Sn	13 39 57.9	+1.3
JYK	Kaneyama	3.47	284	P	Pn	13 39 23.0	+2.3
JYK				*e*S	Sn	13 40 04.0	+3.5
JFT	Otama	3.49	261	P	Pn	13 39 23.3	+2.4
JFT				S	Sn	13 40 02.6	+1.7
JOT	Ohata	4.27	320	P	Pn	13 39 34.5	+2.8
JCH	Churui	4.58	348	P	Pn	13 39 36.8	+0.9
JCH				*e*S	Sn	13 40 27.0	-0.8
JKB	Kayabe	4.67	324	P	Pn	13 39 39.9	+2.8
JKB				*e*S	Sn	13 40 30.9	+0.9
JRY	Ryogami san	5.08	247	P	Pn

ISC 15 14:18:32.8±1.0, 27°41N±0°.04×55°.91E±0°.06, h15km, n42, σ1§46/40, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.56	86	ePg	Pg	14 18 44.1	+0.2
IBND	Bandar-abas	0.56	86	ePg	Pg	14 18 44.1	+0.2
KHSK	Kohestak	1.21	122	ePg	Pg	14 18 56.9	+0.7
KHSK	Kohestak	1.21	122	ePg	Pg	14 18 56.9	+0.7
BANOM	Banah SNR=69	1.52	167	Pn	Pg	14 19 01.7	-0.4
BANOM	Banah SNR=69	1.52	167	Pn	Pg	14 19 01.7	-0.4
BANOM	Banah SNR=69	1.52	167	P	Pg	14 19 01.7	-0.4
BANOM	Banah SNR=69	1.52	167	P	Pg	14 19 01.7	-0.4
NGRK	Negar Kerman	2.34	18	ePn	Pn	14 19 11.7	+0.6
NGRK	Negar Kerman	2.34	18	ePn	Pn	14 19 11.7	+0.6
NAZ	Nazwa, Dubai	2.42	185	P	Pb	14 19 15.9	-0.2
NAZ	Nazwa, Dubai	2.42	185	P	Pb	14 19 15.9	-0.2
HATD	Hatta, Dubai SNR=12	2.58	175	eP	Pb	14 19 17.5	-1.3
HATD	Hatta, Dubai SNR=12	2.58	175	P	Pb	14 19 17.5	-1.3
FAQ	Al Faqa, Dubai SNR=8.7	2.67	186	eP	Pb	14 19 18.5	-1.8
FAQ	Al Faqa, Dubai SNR=8.7	2.67	186	P	Pb	14 19 18.5	-1.8
TVBK	TV Kerman	2.67	16	ePn	Pn	14 19 18.0	+2.4
TVBK	TV Kerman	2.67	16	ePn	Pn	14 19 18.0	+2.4
ASHO	Ashiyiah SNR=13	2.72	177	P	Pb	14 19 19.7	-1.5
ASHO	Ashiyiah SNR=13	2.72	177	P	Pb	14 19 19.7	-1.5
CHMN	Cheshme madani	2.83	30	ePn	Pb	14 19 20.9	-2.4
CHMN	Cheshme madani	2.83	30	ePn	Pb	14 19 20.9	-2.4
KHGB	Koh Gabri	3.00	9	ePn	Pn	14 19 22.1	+2.1
KHGB	Koh Gabri	3.00	9	ePn	Pn	14 19 22.1	+2.1
ISRV	Sarvestan comp=Z,2μm,0.5s	3.15	309	ePn	Pn	14 19 23.7	+1.5
ISRV				eAMB	AMB	14 20 29.2	
ISRV	Sarvestan comp=Z,978nm,0.3s	3.15	309	ePn	Pn	14 19 23.7	+1.5
IPAR	Pars comp=Z,463nm,0.2s	3.49	315	ePn	Pn	14 19 28.3	+1.5
IPAR				eAMB	AMB	14 20 26.3	
IPAR	Pars comp=Z,550nm,0.1s	3.49	315	ePn	Pn	14 19 28.3	+1.5
IMEH	Mehriz comp=Z,463nm,0.2s	4.12	344	ePn	Pn	14 19 37.3	+1.8
IMEH				eAMB	AMB	14 19 40.4	
IMEH	Mehriz comp=Z,580nm,0.1s	4.12	344	ePn	Pn	14 19 37.3	+1.8
IBAF	Bafgh comp=Z,580nm,0.1s	4.17	356	ePn	Pn	14 19 37.4	+1.3
IBAF				eAMB	AMB	14 19 38.3	
IBAF	Bafgh comp=Z,291nm,0.1s	4.17	356	ePn	Pn	14 19 37.4	+1.3
ICHK	Chekchek comp=Z,291nm,0.1s	4.99	345	ePn	Pn	14 19 48.8	+1.4
ICHK				eAMB	AMB	14 19 51.3	
ICHK	Chekchek comp=Z,221nm,0.1s	4.99	345	ePn	Pn	14 19 48.8	+1.4
IRAM	Ramesheh comp=Z,221nm,0.1s	5.35	326	ePn	Pn	14 19 53.8	+1.5
IRAM				eAMB	AMB	14 20 02.0	
IRAM	Ramesheh comp=Z,224nm,0.3s	5.35	326	ePn	Pn	14 19 53.8	+1.5
ITEG	Tejag comp=Z,514nm,0.1s	6.00	24	eAMB	AMB	14 21 54.8	
IGAR	Gharneh comp=Z,514nm,0.1s	6.00	327	eAMB	AMB	14 20 04.4	
IGAR				ePn	Pn	14 20 02.6	+1.3
IZEF	Zefreh comp=Z,272nm,0.0s	6.28	331	eAMB	AMB	14 17 58.0	
IZEF				ePn	Pn	14 20 05.7	+0.5
IPIR	Pirpir comp=Z,280nm,0.2s	6.82	322	eAMB	AMB	14 21 29.5	
IKLH	Kolahrood comp=Z,110nm,0.1s	6.97	329	ePn	Pn	14 20 15.5	+0.8
IKLH				eAMB	AMB	14 20 24.5	
IKLH	Kolahrood	6.97	329	ePn	Pn	14 20 15.5	+0.8

*IDC **15** 14:22:30.8±1.0, 9°.45N×138°.36E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/31, mbtmp3.9/6, MS3.3/4, Ms1 3.4/4, ms1mx2.9/29, Error ellipse: s-maj=35.9km s-min=20.5km az=93.0*

*ISCJB **15** 14:22:33.7±0.9, 9°.4N±0°.1×138°.3E±0°.2, h33km, mb3.9/7, MS3.3/3, Error ellipse: s-maj=23.3km s-min=15.5km az=160.8*

ISC 15 14:22:36.0±1.1, 9°.4N±0°.2×138°.3E±0°.2, h35km, n28, σ0§46/18, mb3.9/7, MS3.3/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam comp=Z,105nm,19.9s,baz=231,slow=38	7.64	57	LR	LR	14 27 15.6	
PMG	Port Moresby comp=Z,120nm,20.1s,baz=294,slow=36	20.68	155	LR	LR	14 34 52.4	
H11S3	WAKE ISLAND Hy baz=256,slow=75,SNR=94	28.94	69	T	T	14 58 53.1	
H11S1	WAKE ISLAND Hy baz=256,slow=75,SNR=104	28.95	69	T	T	14 58 54.3	
H11S2	WAKE ISLAND Hy baz=256,slow=75,SNR=160	28.95	69	T	T	14 58 54.3	
H11N1	WAKE ISLAND Hy baz=254,slow=74,SNR=96	29.44	66	T	T	14 59 29.7	
KSRS	Korea Array comp=Z,37nm,18.4s,baz=180,slow=35	29.44	343	LR	LR	14 39 48.0	
WRA	Warramunga Arr 0.8nm,0.7s,baz=4.1,slow=9.6,SNR=2.0	29.45	188	P	P	14 28 36.8	+0.2
H11N2	WAKE ISLAND Hy baz=254,slow=74,SNR=166	29.45	66	T	T	14 59 30.5	
H11N3	WAKE ISLAND Hy baz=254,slow=74,SNR=351	29.46	66	T	T	14 59 31.2	
ASAR	Alice Springs 0.7nm,0.5s,baz=18,slow=12,SNR=26	33.17	187	P	P	14 29 09.6	+0.1
CMAR	Chiang Mai Arr 3.7nm,0.7s,baz=102,slow=6.9,SNR=28	39.18	288	P	P	14 30 00.8	-0.1
CMAR				LR	LR	14 47 47.5	
SONM	Songino Array 0.9nm,0.5s,baz=134,slow=8.4,SNR=3.3	46.80	331	P	P	14 31 07.7	+5.3
TAPN	Taplejung 9.1nm,0.5s	50.85	298	eP	P	14 31 34.1	+0.1
ODAN	Odare 18nm,0.7s	51.04	297	eP	P	14 31 35.3	-0.1
RAMN	Ramite 7.6nm,0.6s	51.75	297	eP	P	14 31 40.7	0.0
JIRN	Jiri 144nm,0.6s	52.23	298	eP	P	14 31 44.6	+0.2
GUN	Gumba 46nm,0.7s	52.55	298	eP	P	14 31 47.0	+0.3
PKIN	Phulchoki 6.0nm,0.6s	52.91	297	eP	P	14 31 48.8	-0.6
KKN	Kakani 16nm,0.7s	53.05	298	eP	P	14 31 50.1	-0.2
DMN	Daman 16nm,0.7s	53.17	297	eP	P	14 31 51.2	-0.1
GKN	Gorkha	53.65	298	eP	P	14 31 54.3	-0.3
SEY	Seymchan 3.1nm,0.6s,baz=170,slow=8.2,SNR=9.8	54.37	8	P	P	14 32 00.2	+1.1
DANN	Dangsing	54.46	298	eP	P	14 32 00.6	-0.2
KOLN	Koldanda 18nm,0.7s	54.52	297	eP	P	14 32 01.2	+0.2
PYUN	Piuthan 30nm,0.7s	55.10	298	eP	P	14 32 05.2	-0.1
MKAR	Makanchi Array 0.5nm,0.6s,baz=100,slow=8.7,SNR=5.5	60.19	319	P	P	14 32 40.5	0.0
ILAR	Eielson Array 1.0nm,0.8s,baz=241,slow=5.6,SNR=9.2	75.06	25	P	P	14 34 12.9	-1.1

MAN 15 15:13:42, 10°.38N×125°.19E, h2km, mb4.7, ML3.6, MS3.6, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.40	233	eP	Pb	15 13 50.9	-0.9
MSLP				eS	Sb	15 13 57.7	-0.8
SCPH	Surigao	0.67	153	eP	Pg	15 13 54.8	0.0
SCPH				i S	Sn	15 14 08.3	-1.1
PLP	Palo	0.81	345	⇑iP	Pb	15 13 58.2	-0.6
PLP				i S	Sb	15 14 10.2	0.0
OCLP	Ormoc	0.88	320	eP	Pb	15 13 59.6	-0.3
OCLP				eS	Sb	15 14 12.6	+0.5
LLP	Lapu-Lapu	1.20	267	⇓eP	Pg	15 14 01.4	-3.7
LLP				eS	Sb	15 14 22.1	+0.5
BESP	Borongan	1.24	12	eP	Pg	15 14 04.8	-1.0
BESP				eS	Sn	15 14 23.7	+0.1
CNP	Catarman	2.18	346	eP	Pn	15 14 20.0	+0.7
CNP				eS	Sb	15 14 49.9	+0.3
SNPH	Sibulan	2.18	242	eP	Pb	15 14 21.9	-0.3
SNPH				i S	Sb	15 14 50.0	+0.3
BUKP	Musuan	2.49	183	eP	Pn	15 14 25.1	+1.5
BUKP				eS	Sb	15 14 58.9	+0.2
DCPH	Dipolog City	2.54	226	⇑eP	Pn	15 14 23.3	-1.0
DCPH				eS	Sn	15 14 52.3	-3.6
GUIM	Jordan	2.57	276	eP	Pn	15 14 25.7	+1.1
GUIM				eS	Sn	15 14 56.9	+0.4
RCP	Roxas	2.67	296	⇑eP	Pn	15 14 27.5	+1.5
RCP				eS	Sn	15 15 00.0	+1.0
MATI	Mati	3.57	163	eP	Pn	15 14 40.4	+1.9
MATI				eS	Sg	15 15 37.9	+1.1
OTRP	Odiongan	3.68	303	eP	Pn	15 14 41.0	+1.1
OTRP				eS	Sn	15 15 25.8	+2.0

MAN 15 15:37:20, 6°.83N×128°.04E, h17km, mb4.8, ML3.7, MS3.7, 1D, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.77	274	eP	Pn	15 37 50.4	+0.5
MATI				eS	Sn	15 38 03.4	-8.6
BUKP	Musuan	3.13	290	eP	Pn	15 38 09.9	+1.2
BUKP				eS	Sn	15 38 48.1	+2.4
CTBH	Cotabato--PC H	3.78	276	⇓iP	Pn	15 38 19.8	+2.3

IDC 15 15:43:60.0±1.7, 12°.11N×142°.88E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/32, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=81.6km s-min=20.2km az=123.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam 8.7nm,0.3s,baz=304,slow=9.5,SNR=10	2.44	53	Pn	Pn	15 44 42.1	+1.1
GUMO				Sn	Sn	15 45 11.9	+0.4
H11N1	WAKE ISLAND Hy 24.28 29nm,0.3s,baz=357,slow=23,SNR=11	69		T	T	16 14 26.3	
H11N2	WAKE ISLAND Hy 24.29 baz=255,slow=74,SNR=3.6	69		T	T	16 14 20.9	
H11N3	WAKE ISLAND Hy 24.30 baz=255,slow=74,SNR=4.5	69		T	T	16 14 29.1	
WRA	Warramunga Arr 0.7nm,0.7s,baz=19,slow=9.6,SNR=4.8	32.94	195	P	P	15 50 36.1	-0.3
ASAR	Alice Springs 0.2nm,0.5s,baz=28,slow=12,SNR=7.3	36.62	194	P	P	15 51 08.5	+0.2
ILAR	Eielson Array 0.3nm,0.6s,baz=240,slow=5.1,SNR=7.4	70.73	25	P	P	15 55 17.3	-0.4

WEL 15 15:51:48.1±0.6, 38°.73S×175°.21E, h226km±4km, ML3.6/19, 4C-1D, Error ellipse: s-maj=3.8km s-min=3.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.57	170	PN	Pn	15 52 18.4	-0.1
TRVZ	Turoa	0.62	155	PN	Pn	15 52 18.9	0.0
TUVZ	Tukino	0.64	148	PN	Pn	15 52 19.0	+0.1
WNVZ	Wahianoa	0.67	153	PN	Pn	15 52 19.2	+0.2
MOVZ	Moawhango	0.80	148	PN	Pn	15 52 19.2	-0.3
MOVZ				eSN	S	15 52 42.8	-1.4
MRHZ	Matea Rd	0.95	97	PN	Pn	15 52 19.9	-0.4
MRHZ				SN	S	15 52 44.2	-1.2
MRHZ				AML	AML	15 52 44.4	
BHHZ	Black Hill Sta	1.01	139	⇑PN	Pn	15 52 20.4	-0.3
NEZ	North Egmont	1.02	238	PN	Pn	15 52 20.4	-0.4
WAZ	Wanganui	1.04	190	⇑PN	Pn	15 52 20.6	-0.2
WAZ				SN	S	15 52 46.1	-0.3
BKZ	Black Stump Fm	1.09	114	PN	Pn	15 52 21.1	-0.1
KWHZ	Kaweka Forest	1.17	127	PN	Pn	15 52 22.0	+0.3
KWHZ				AML	AML	15 52 49.2	
KWHZ				AML	AML	15 52 55.5	
KRHZ	Kereru	1.28	136	PN	Pn	15 52 22.5	0.0
KRHZ				AML	AML	15 52 50.3	
KRHZ				AML	AML	15 52 50.7	
NMHZ	Naumai	1.30	107	PN	Pn	15 52 23.3	+0.7
NMHZ				AML	AML	15 52 58.9	
MCHZ	McNeill Hill	1.36	122	PN	Pn	15 52 23.7	+0.7
PNHZ	Pukenui	1.41	147	PN	Pn	15 52 23.5	0.0
PNHZ				AML	AML	15 52 51.8	
TSZ	Takapari Road	1.45	157	PN	Pn	15 52 23.5	-0.2
TSZ				AML	AML	15 52 53.3	
OHWZ	Ohakea	1.48	177	PN	Pn	15 52 23.9	0.0
ARHZ	Aropaoanui	1.49	112	PN	Pn	15 52 24.4	+0.3
ARHZ				AML	AML	15 52 53.6	
ARHZ				AML	AML	15 52 53.8	
URZ	Urewera	1.56	73	PN	Pn	15 52 23.5	-1.1
WPHZ	Waipukurau	1.64	145	PN	Pn	15 52 25.1	-0.2
WPHZ				AML	AML	15 52 55.6	
SNGZ	Shannon Statio	1.66	92	PN	Pn	15 52 25.3	-0.2
KAHZ	Kahuranaki	1.67	130	PN	Pn	15 52 25.8	+0.2
POWZ	Post Office Ro	1.71	166	PN	Pn	15 52 25.2	-0.7
DVHZ	Dannevirke	1.73	155	PN	Pn	15 52 25.5	-0.6
DVHZ				AML	AML	15 52 56.3	
DVHZ				AML	AML	15 52 57.1	
PXZ	Pawanui	1.82	136	PN	Pn	15 52 26.5	-0.3
MWZ	Matawai	1.86	78	PN	Pn	15 52 26.5	-0.9
PRHZ	Porangahau	1.89	145	PN	Pn	15 52 27.1	-0.4
PRHZ				AML	AML	15 53 00.9	
PRWZ	Pori Road	1.91	162	PN	Pn	15 52 27.1	-0.6
PRWZ				AML	AML	15 52 59.9	
PRWZ				AML	AML	15 53 00.0	
KNZ	Kokohu	1.94	99	PN	Pn	15 52 27.7	-0.3
MRZ	Mangatainoka R	1.95	172	PN	Pn	15 52 26.9	-1.2
MRZ				eSN	S	15 52 56.8	-2.6
MRZ				AML	AML	15 52 59.8	
ANWZ	Angora Road	1.98	151	PN	Pn	15 52 27.9	-0.5
ANWZ				AML	AML	15 53 03.4	
RIGZ	Rimuhau	1.99	90	PN	Pn	15 52 28.2	-0.4
RUGZ	Raukumara Rang	2.08	69	PN	Pn	15 52 27.7	-1.9
OGWZ	Otaki Gorge	2.08	181	PN	Pn	15 52 28.2	-1.2
OGWZ				AML	AML	15 53 01.2	
OGWZ				AML	AML	15 53 01.5	
BFZ	Birch Farm	2.10	158	ePN	Pn	15 52 28.6	-1.0
TIWZ	Tintock	2.11	166	PN	Pn	15 52 28.6	-1.0
KIW	Kapiti Island	2.14	186	PN	Pn	15 52 28.3	-1.6
KIW				AML	AML	15 53 01.5	
KIW				AML	AML	15 53 02.1	
HOWZ	Holdsworth Sta	2.18	174	PN	Pn	15 52 28.7	-1.7
HOWZ				AML	AML	15 53 01.5	
HOWZ				AML	AML	15 53 01.8	
HAZ	Te Kaha	2.25	65	PN	Pn	15 52 29.4	-1.6
DUWZ	D'Urville Isla	2.30	205	⇑PN	Pn	15 52 29.4	-2.1
CAW	Cannon Point	2.38	183	PN	Pn	15 52 30.5	-1.8
CAW				AML	AML	15 53 06.2	
CAW				AML	AML	15 53 06.6	
TMWZ	Te Maipa	2.43	168	AML	AML	15 53 06.5	
MTW	Mount Morrison	2.44	175	PN	Pn	15 52 30.9	-2.0
WEL	Wellington	2.57	187	PN	Pn	15 52 32.2	-2.1
TCW	Tory Channel	2.58	196	PN	Pn	15 52 32.6	-1.9
TCW				AML	AML	15 53 08.7	
TCW				AML	AML	15 53 09.6	
MSWZ	Moikau Station	2.68	179	PN	Pn	15 52 33.3	-2.3
PLWZ	Palliser	2.84	179	PN	Pn	15 52 35.0	-2.3
NNZ	Nelson	2.86	209	⇑PN	Pn	15 52 34.6	-2.9
NNZ				SN	S	15 53 11.9	-4.3
TUWZ	Tuamarina	2.87	199	PN	Pn	15 52 35.3	-2.3
QRZ	Quartz Range	2.94	224	⇓PN	Pn	15 52 34.8	-3.6
BSWZ	Blackbirch Sta	3.15	199	PN	Pn	15 52 38.5	-2.3
THZ	Tophouse	3.51	210	PN	Pn	15 52 41.4	-3.6
KHZ	Kahutara	3.90	199	PN	Pn	15 52 46.3	-3.2
DSZ	Denniston Nort	3.98	220	PN	Pn	15 52 46.2	-4.5
LTZ	Lake Taylor	4.62	208	PN	Pn	15 52 54.2	-4.3
INZ	Inchbonnie	4.91	214	PN	Pn	15 52 57.0	-5.0
OXZ	Oxford	5.18	207	PN	Pn	15 53 00.2	-5.2
CRLZ	Canterbury Las	5.22	201	PN	Pn	15 53 00.7	-5.1
MQZ	McQueen's Vall	5.33	200	PN	Pn	15 53 02.0	-5.3
ODZ	Otahua Downs	7.17	207	PN	Pn	15 53 26.2	-4.4

TAP 15 15:57:51.5, 22°.08N×121°.11E, h26km, ML3.5, 4D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin baz=237	0.26	227	P	Pn	15 57 58.9	-0.7
TSEB				S	Sn	15 58 04.2	-0.6
TWK1	Hengchun baz=237	0.31	244	P	Pb	15 57 59.0	+0.2
TWK1				S	Sb	15 58 04.0	+0.3
TAW	Tawu baz=247	0.34	325	⇓iP	Pb	15 57 59.4	+0.2
TAW				S	Sb	15 58 04.7	+0.3
HEN	Hengchun baz=333	0.35	258	P	Pb	15 57 59.6	+0.3
HEN				S	Sb	15 58 05.7	+0.9
EAST	Anshuo baz=257	0.39	321	⇓iP	Pb	15 58 00.0	+0.1
EAST				S	Sb	15 58 06.2	+0.5
LAY	Lan-yu baz=329	0.41	96	iP	Pb	15 58 00.3	0.0
LAY				S	Sb	15 58 06.9	+0.5
ECL	Taimali baz=85	0.53	345	⇓iP	Pb	15 58 01.6	-0.7
ECL				S	Sb	15 58 09.1	-0.6
SCZT	Fangliau baz=345	0.54	303	⇓iP	Pb	15 58 02.7	+0.4
SCZT				eS	Sn	15 58 13.3	+1.7
TTN	Taitung baz=311	0.67	3	P	Pb	15 58 04.8	+0.2
TTN				eS	Sn	15 58 16.6	+1.7
TWG	Pinlang baz=352	0.74	357	P	Pb	15 58 04.2	-1.5
TWP	Hsiaoliuchiu baz=348	0.74	291	P	Pn	15 58 07.8	+1.6
TWP				eS	Sn	15 58 21.3	+4.7
SGLT	Jiouru baz=291	0.86	318	P	Pn	15 58 08.9	+1.1
SGLT				eS	Sn	15 58 24.0	+4.5
TWM1	Shoushan baz=324	0.97	320	P	Pb	15 58 11.3	+1.5
CHKT	Chengkung baz=320	1.04	13	iP	Pn	15 58 09.0	-1.4
CHKT				i S	Sn	15 58 22.6	-1.4
ELDTW	Lidau baz=14	1.11	356	P	Pn	15 58 09.9	-1.5
SGST	Jiashian baz=3.0	1.11	334	P	Pb	15 58 12.8	+0.8
STYT	Tauyuan baz=334	1.13	343	P	Pn	15 58 11.7	+0.1
CHN3	Shinhua baz=349	1.21	325	eP	Pb	15 58 14.6	+1.0
CHN1	Nanshi baz=326	1.22	334	P	Pb	15 58 13.8	-0.1
CHN1				eS	Sb	15 58 31.6	+2.2
WTP	Ta-pu baz=335	1.25	339	P	Pb	15 58 14.3	-0.1
WTP				eS	Sb	15 58 35.3	+5.2
TWF1	Yuli baz=340	1.28	8	P	Pn	15 58 11.6	-2.1
TWF1				eS	Sn	15 58 26.8	-3.1
TWK	Hsinying baz=8.0	1.31	334	P	Pb	15 58 15.2	-0.3
CHN4	Tsaushan baz=335	1.35	339	eP	Pb	15 58 15.7	-0.4
YUS	Yu-Shan baz=340	1.41	354	eP	Pn	15 58 15.6	-0.2
EHY	Hungye baz=5.0	1.43	8	P	Pn	15 58 14.0	-1.8
ALS	Alishan baz=8.0	1.45	349	P	Pn	15 58 17.0	+0.7
CHY	Chiayi baz=354	1.55	336	eP	Pn	15 58 18.2	+0.9
CHN2	Minshiung baz=336	1.56	338	eP	Pb	15 58 18.7	-0.9
CHN2				eS	Sb	15 58 41.4	+2.5
CHN5	Tsauling baz=340	1.56	345	P	Pn	15 58 18.7	+1.1
CHN5				eS	Sb	15 58 43.4	+4.2
WGK	Gukeng baz=347	1.68	343	eP	Pn	15 58 20.3	+1.3
WGK				eS	Sb	15 58 43.3	+1.0
ESL	Shilin baz=345	1.75	10	eP	Pn	15 58 20.2	0.0
WSF	Szhu baz=10.0	1.75	332	eP	Pn	15 58 20.3	+0.1
WSF				eS	Sn	15 58 43.0	+1.3
SMLT	Sun Moon Lake baz=334	1.81	354	P	Pb	15 58 22.7	-1.2
SMLT				S	Sb	15 58 46.4	+0.3
TYC	Yuchr baz=356	1.83	353	P	Pb	15 58 23.0	-1.3
TYC				S	Sb	15 58 46.6	-0.1
WNT	Mingjian baz=355	1.83	348	eP	Pb	15 58 23.1	-1.3
WNT				eS	Sb	15 58 49.1	+2.3
WHF	Hehuan Shan baz=334	2.06	4	eP	Pn	15 58 24.5	-0.3
TWT	Tachien baz=15	2.16	2	eP	Pn	15 58 25.5	-0.5
TWQ1	Liyutan baz=1.0	2.28	352	P	Pn	15 58 29.2	+1.8
TWQ1				eS	Sb	15 58 59.2	-0.4
NSY	Sanyi baz=341	2.35	352	eP	Pn	15 58 30.3	+1.9
NSY				eS	Sb	15 59 01.6	0.0
NNS	Nan Shan baz=342	2.36	6	eP	Pn	15 58 29.2	+0.5
NNS				eS	Sb	15 59 02.0	-0.1
ENA	Nanau baz=16	2.41	14	eP	Pn	15 58 28.6	-0.6
ENA				eS	Sn	15 58 58.4	+0.6
NSTT	Nanjuang baz=3.0	2.54	358	eP	Pn	15 58 33.1	+2.1
NSTT				eS	Sb	15 59 05.1	-2.1
ENTT	Nioudou baz=360	2.58	9	eP	Pn	15 58 31.4	-0.2
NSK	Sanguang baz=20	2.59	5	eP	Pn	15 58 32.8	+1.0
NSK				eS	Sn	15 59 03.0	+0.5
TWC	Suao baz=352	2.61	15	eP	Pn	15 58 32.6	+0.7
TWC				eS	Sn	15 59 03.2	+0.5
TWE	Neicheng baz=4.0	2.68	11	eP	Pn	15 58 34.6	+1.7
TWE				eS	Sn	15 59 06.3	+1.8

*NIED **15** 16:15:00, 37°.70N×142°.40E, h23km, Mw4.1 Best double couple: M0 1.77000×10^15 NP1:φ0 70.00000°, δ40.00000°, λ-63.00000°. NP2:φ0 217.00000°, δ55.00000°, λ-111.00000°.*

*JMA **15** 16:15:15.1±0.2, 37°.66N×142°.41E, h25km±4km, M4.3*

*IDC **15** 16:15:19.3±2.1, 37°.60N×142°.36E, h41km±19km, mb3.8/11, mb1 3.9/14, mb1mx3.7/43, mbtmp4.0/14, ML3.4/3, MS3.3/8, Ms1 3.3/8, ms1mx3.0/41, Error ellipse: s-maj=21.8km s-min=10.4km az=99.0*

ISC 15 16:15:15.3±1.9, 37°.66N±0°.04×142°.22E±0°.07, h10km±11km, n38, σ1§32/35, mb4.1/11, MS3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.05**	**320**	P	**Pn**	**16 15 35.7**	**-0.4**
JIO				S	**Sn**	**16 15 51.1**	**+0.3**
JFK	**Kawauchi**	**1.10**	**255**	P	**Pg**	**16 15 37.1**	**+0.6**
JFK				S	**Sn**	**16 15 53.0**	**+0.8**
ONAJ	**Iwakimizuishiy**	**1.26**	**244**	P	**Pg**	**16 15 39.4**	**-0.1**
ONAJ				S	**Sg**	**16 15 56.4**	**+0.6**
JOU	**Okura**	**1.41**	**300**	P	**Pg**	**16 15 42.1**	**-0.4**
JFT	**Otama**	**1.50**	**265**	P	**Pg**	**16 15 43.9**	**-0.2**
JFT				S	**Sg**	**16 16 04.0**	**+0.5**
JMK	**Ichinoseki**	**1.51**	**329**	P	**Pb**	**16 15 42.3**	**-1.1**
JYS	**Shirataka**	**1.79**	**289**	S	**Sg**	**16 16 12.7**	**-0.2**
JYK	**Kaneyama**	**1.93**	**311**	P	**Pb**	**16 15 49.2**	**-1.4**
JOM	**Ohasama**	**1.95**	**339**	P	**Pn**	**16 15 48.6**	**+0.1**
JOM				S	**Sn**	**16 16 13.3**	**+0.2**
MJAR	**Matsushiro Arr**	**3.39**	**252**	P	**Pb**	**16 16 13.1**	**-2.4**
	3.8nm,0.3s,baz=77,slow=9.1,SNR=30						
MJAR				S	**Sb**	**16 16 57.2**	**+0.4**
	4.8nm,0.3s,baz=68,slow=11,SNR=5.1						
MJAR				LR	LR	16 17 49.7	
	comp=Z,541nm,18.1s,baz=60,slow=44						
MAT	**Matsushiro**	**3.39**	**252**	P	**Pb**	**16 16 13.0**	**-2.5**
MAT				S	**Sb**	**16 16 55.2**	**-1.6**
JHJ	**Hachijo jima 2**	**4.95**	**204**	P	**Pn**	**16 16 30.4**	**+0.8**
	19nm,0.3s,baz=118,slow=23,SNR=8.8						
JHJ				S	**Sn**	**16 17 27.4**	**+0.5**
	51nm,0.3s,baz=49,slow=20,SNR=12						
ASAJ	**Asahikawa**	**6.46**	**2**	P	**Pn**	**16 16 51.9**	**+1.4**
	0.9nm,0.3s,baz=230,slow=9.5,SNR=13						
ASAJ				S	**Sn**	**16 18 05.7**	**+1.5**
	0.5nm,0.3s,baz=328,slow=23,SNR=4.2						
USRK	**Ussuriysk Ar.**	**10.12**	**313**	P	**Pn**	**16 17 44.1**	**+3.5**
	0.6nm,0.3s,baz=127,slow=14,SNR=14						
KSRS	**Korea Array**	**11.35**	**273**	P	Pn	16 18 04.4	+7.0
	0.1nm,0.3s,baz=82,slow=14,SNR=3.7						
KSRS				LR	LR	16 22 27.0	
	comp=Z,132nm,18.0s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**18.83**	**30**	LR	LR	16 27 50.5	
	comp=Z,48nm,18.4s,baz=219,slow=40						
MA2	**Magadan**	**22.61**	**11**	LR	LR	16 28 43.3	
	comp=Z,28nm,18.6s,baz=242,slow=36						
SEY	**Seymchan**	**26.06**	**11**	P	**P**	**16 20 50.7**	**+2.1**
	2.4nm,0.6s,baz=170,slow=12,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	16 50 06.8	
	baz=316,slow=75,SNR=265						
H11N1	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	16 50 07.1	
	baz=316,slow=75,SNR=228						
H11N3	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	16 50 09.5	
	baz=316,slow=75,SNR=175						
SONM	**Songino Array**	**27.98**	**303**	P	**P**	**16 21 08.0**	**+1.8**
	2.4nm,0.6s,baz=109,slow=8.2,SNR=6.4						
SONM				LR	LR	16 32 35.7	
	comp=Z,50nm,20.0s,baz=240,slow=37						
H11S1	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	16 51 05.0	
	baz=317,slow=76,SNR=119						
H11S3	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	16 51 10.0	
	baz=317,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	16 51 13.9	
	baz=317,slow=76,SNR=97						
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**16 23 06.5**	**+0.3**
	1.1nm,0.7s,baz=54,slow=7.5,SNR=3.4						
NRIK	**Noril'sk**	**42.97**	**335**	LR	LR	16 42 12.6	
	comp=Z,68nm,18.8s,baz=180,slow=38						
MKAR	**Makanchi Array**	**44.33**	**302**	P	**P**	**16 23 26.2**	**+0.7**
	1.5nm,0.7s,baz=89,slow=9.1,SNR=16						
ILAR	**Eielson Array**	**48.62**	**33**	P	**P**	**16 23 57.5**	**-1.4**
	0.6nm,0.7s,baz=263,slow=6.6,SNR=8.5						
HNR	**Honiara**	**49.70**	**157**	LR	LR	16 42 08.2	
	comp=Z,47nm,20.3s,baz=158,slow=32						
WRA	**Warramunga Arr**	**57.77**	**189**	P	**P**	**16 25 05.8**	**-0.8**
	4.9nm,1.0s,baz=5.9,slow=7.1,SNR=29						
ASAR	**Alice Springs**	**61.50**	**188**	P	**P**	**16 25 31.3**	**-1.1**
	1.2nm,0.7s,baz=16,slow=6.6,SNR=17						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**16 26 17.0**	**-0.8**
	2.4nm,0.9s,baz=55,slow=7.2,SNR=4.2						
AKASG	**Malin Array Be**	**74.19**	**323**	P	**P**	**16 26 51.6**	**-0.4**
	1.3nm,0.6s,baz=46,slow=5.9,SNR=5.7						
PDAR	**Pinedale Array**	**76.77**	**46**	P	**P**	**16 27 06.4**	**-0.9**
	0.3nm,0.6s,baz=328,slow=3.2,SNR=2.4						
PPT	**Papeete**	**84.34**	**117**	LR	LR	17 00 01.7	
	comp=Z,28nm,20.9s,baz=5.0,slow=32						
TXAR	**Lajitas Array**	**89.23**	**53**	P	**P**	**16 28 11.4**	**-0.5**
	0.5nm,0.8s,baz=323,slow=5.4,SNR=6.6						
LPAZ	**La Paz**	**145.83**	**60**	PKPbc	**PKPab**	**16 34 54.9**	**-1.5**
	2.0nm,0.8s,baz=19,slow=3.9,SNR=7.8						

WEL 15 16:17:33.9±0.4, 34°.95S×178°.42E, h299km±9km, ML3.9/7, Error ellipse: s-maj=13.1km s-min=9.0km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.85**	**190**	PN	Pn	16 18 28.8	+0.8
HAZ				SN	S	16 19 10.6	-0.6
WMGZ	**Waiomatatini S**	**2.87**	**180**	AML	AML	16 19 14.9	
WMGZ				AML	AML	16 19 16.9	
PKGZ	**Pakihiroa**	**2.95**	**185**	PN	Pn	16 18 28.9	-0.2
PKGZ				AML	AML	16 19 18.5	
PKGZ				AML	AML	16 19 18.5	
RUGZ	**Raukumara Rang**	**3.07**	**191**	*e*PN	Pn	16 18 30.7	+0.4
PUZ	**Puketiti**	**3.12**	**182**	*e*PN	Pn	16 18 30.3	-0.5
PUZ				*e*SN	S	16 19 15.1	-1.1
MWZ	**Matawai**	**3.46**	**192**	PN	Pn	16 18 34.6	+0.5
URZ	**Urewera**	**3.47**	**197**	PN	Pn	16 18 34.1	-0.2
URZ				SN	S	16 19 22.1	-0.5
TKGZ	**Te Karaka**	**3.52**	**187**	*e*PN	Pn	16 18 34.7	0.0
TKGZ				AML	AML	16 19 27.0	
TKGZ				AML	AML	16 19 28.3	
MUGZ	**Murupara**	**3.76**	**200**	PN	Pn	16 18 38.0	+0.6
RIGZ	**Rimuhau**	**3.79**	**188**	PN	Pn	16 18 38.1	+0.3
RIGZ				AML	AML	16 19 32.6	
SNGZ	**Shannon Statio**	**3.92**	**192**	PN	Pn	16 18 40.2	+1.0
SNGZ				AML	AML	16 19 39.5	
KNZ	**Kokohu**	**4.11**	**188**	PN	Pn	16 18 41.4	+0.3
MRHZ	**Matea Rd**	**4.20**	**202**	PN	Pn	16 18 42.6	+0.4
ARHZ	**Aropaoanui**	**4.46**	**194**	*e*PN	Pn	16 18 45.5	+0.4
BKZ	**Black Stump Fm**	**4.48**	**200**	PN	Pn	16 18 45.6	+0.2
MCHZ	**McNeill Hill**	**4.70**	**197**	*e*PN	Pn	16 18 48.6	+0.8
BHHZ	**Black Hill Sta**	**4.91**	**202**	PN	Pn	16 18 50.2	-0.1
KRHZ	**Kereru**	**4.96**	**199**	PN	Pn	16 18 50.9	0.0
KAHZ	**Kahuranaki**	**4.99**	**194**	PN	Pn	16 18 51.5	+0.2
PXZ	**Pawanui**	**5.22**	**193**	PN	Pn	16 18 53.8	-0.1
PXZ				SN	S	16 19 56.6	-1.6
BFZ	**Birch Farm**	**5.98**	**196**	PN	Pn	16 19 02.5	-0.4
MRZ	**Mangatainoka R**	**6.13**	**201**	PN	Pn	16 19 03.5	-1.2
MRZ				*e*SN	S	16 20 16.2	-1.6
TIWZ	**Tintock**	**6.16**	**198**	PN	Pn	16 19 04.8	-0.1
KIW	**Kapiti Island**	**6.52**	**204**	PN	Pn	16 19 08.6	-0.8
CAW	**Cannon Point**	**6.70**	**202**	PN	Pn	16 19 10.3	-1.2
TUWZ	**Tuamarina**	**7.37**	**207**	PN	Pn	16 19 18.3	-1.3
QRZ	**Quartz Range**	**7.49**	**217**	*e*PN	Pn	16 19 20.1	-1.1
THZ	**Tophouse**	**8.06**	**211**	PN	Pn	16 19 27.2	-1.0
KHZ	**Kahutara**	**8.38**	**206**	PN	Pn	16 19 31.6	-0.3
INZ	**Inchbonnie**	**9.48**	**213**	PN	Pn	16 19 43.7	-1.8
OXZ	**Oxford**	**9.72**	**209**	PN	Pn	16 19 46.9	-1.6

TRN 15 16:21:06.3, 16°.02N×60°.28W, h6km, MD3.8, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.80**	**291**	*e*P	Pn	16 21 24.7	+0.5
DEG				*e*S	Sn	16 21 38.2	+1.7
MGG	**Marie-Galante**	**1.00**	**264⇑**	*e*P	Pn	16 21 29.2	+2.3
MGG				*e*S	Sn	16 21 45.9	+4.6
SEG	**Port Louis**	**1.23**	**288**	*e*P	Pn	16 21 31.9	+1.7
BBL	**Barber's Block**	**1.25**	**247**	*e*P	Pn	16 21 32.3	+2.0
BBL				*e*S	Sn	16 21 51.2	+3.8
PHG	**Guadaloupe-2**	**1.31**	**270**	*e*P	Pg	16 21 33.6	+2.2
TBG	**Guadaloupe-3**	**1.32**	**263**	*e*P	Pg	16 21 33.5	+1.8
TBG				*e*S	Sn	16 21 52.9	+3.6
SSG	**Sans Toucher**	**1.34**	**273**	*e*P	Pg	16 21 34.4	+2.2
BAMF	**Morne Balai**	**1.46**	**215**	*e*P	Pg	16 21 35.6	+1.3
CXM	**Morne La Croix**	**1.48**	**216**	*e*P	Pg	16 21 35.8	+1.2
CXM				*e*S	Sg	16 21 56.9	+3.1
GBMF	**Grand Be**	**1.48**	**215**	*e*P	Pg	16 21 35.6	+0.8
PCM	**Pelee Case Pet**	**1.50**	**217**	*e*P	Pg	16 21 35.5	+0.4
PCM	**Pelee Case Pet**	**1.50**	**217**	*e*P	Pg	16 21 35.8	+0.8
PML	**Morne Lenard**	**1.51**	**215**	*e*P	Pg	16 21 36.0	+0.7
FDF	**Fort de France**	**1.53**	**213**	*e*P	Pg	16 21 36.4	+0.7
FDF				*e*S	Sg	16 21 57.4	+1.9
MVM	**Montagne Vauci**	**1.57**	**202**	*e*P	Pg	16 21 36.8	+0.3
ZAM	**Aeronautique**	**1.61**	**207**	*e*P	Pg	16 21 37.2	-0.1
TRMF	**Trois Ilets**	**1.65**	**207**	*e*P	Pg	16 21 37.9	-0.2
BIM	**Bigot**	**1.68**	**207**	*e*P	Pg	16 21 38.2	-0.3
BIM				*e*S	Sg	16 22 01.0	+0.7
MLYT	**Lee's Yard**	**1.96**	**291**	*e*P	Pb	16 21 42.8	+0.3
ANWB	**Willy Bob**	**2.18**	**319**	*e*P	Pb	16 21 45.7	-0.5
ANWB				*e*S	Sb	16 22 14.2	+0.6

*ATH **15** 16:24:19.8, 37°.92N×20°.13E, h16km±1km, ML2.8/6, Error ellipse: s-maj=2.9km s-min=1.6km az=72.0*
*CSEM **15** 16:24:19.8, 37°.92N×20°.13E, h16km, ML2.8/6*
ISC 15 16:24:19.4±1.9, 37°.96N±0°.06×20°.09E±0°.07, h10km±10km, n31, σ0°60/48, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.45**	**61**	P	**Pg**	**16 24 28.7**	**+0.4**
VLS				S	**Sg**	**16 24 33.7**	**-0.6**
VLS				AML	AML	16 24 34.5	
	comp=N,7920μm,0.3s						
VLS				AML	AML	16 24 34.6	
	comp=E,6260μm,0.1s						
VLS	**Valsamata**	**0.45**	**61**	P	**Pg**	**16 24 28.7**	**+0.4**
VLS				S	**Sg**	**16 24 33.7**	**-0.6**
KFL	**Anninata**	**0.57**	**75**	P	**Pg**	**16 24 30.6**	**+0.1**
KFL				S	**Sg**	**16 24 37.5**	**-0.6**
KFL	**Anninata**	**0.57**	**75**	P	**Pg**	**16 24 30.6**	**+0.1**
KFL				S	**Sg**	**16 24 37.5**	**-0.6**
LKD2	**Lefkada island**	**0.94**	**28**	P	**Pb**	**16 24 37.9**	**+0.1**
LKD2				S	**Sn**	**16 24 52.9**	**+0.6**
LKD2				AML	AML	16 24 56.9	
	comp=N,698μm,0.4s						
LKD2				AML	AML	16 24 57.3	
	comp=E,891μm,0.5s						
LKD2	**Lefkada island**	**0.94**	**28**	P	**Pb**	**16 24 37.9**	**+0.1**
LKD2				S	**Sn**	**16 24 52.9**	**+0.6**
RLS	**Riolos of Patr**	**1.09**	**84**	P	**Pb**	**16 24 39.3**	**-1.1**
RLS				S	**Sn**	**16 24 56.4**	**+0.5**
RLS				AML	AML	16 24 59.6	
	comp=E,350μm,0.4s						
RLS				AML	AML	16 25 01.3	
	comp=N,533μm,0.4s						
RLS	**Riolos of Patr**	**1.09**	**84**	P	**Pb**	**16 24 39.3**	**-1.1**
RLS				S	**Sn**	**16 24 56.4**	**+0.5**
DRO	**Drossia**	**1.28**	**90**	P	**Pb**	**16 24 43.5**	**-0.1**
DRO	**Drossia**	**1.28**	**90**	P	**Pb**	**16 24 43.5**	**-0.1**
PVO	**Paravola**	**1.31**	**59**	P	**Pb**	**16 24 44.0**	**-0.1**
PVO				S	**Sg**	**16 25 02.5**	**+0.9**
PVO				AML	AML	16 25 07.4	
	comp=N,1200μm,0.4s						
PVO				AML	AML	16 25 08.1	
	comp=E,1446μm,0.2s						
PVO	**Paravola**	**1.31**	**59**	P	**Pb**	**16 24 44.0**	**-0.1**
PVO				S	**Sg**	**16 25 02.5**	**+0.9**
AMT	**Artemida-Makis**	**1.35**	**108**	P	**Pg**	**16 24 45.8**	**+0.4**
AMT				S	**Sg**	**16 25 03.2**	**+0.2**
EFP	**Efpalio**	**1.51**	**71**	P	**Pn**	**16 24 46.2**	**-0.2**
EFP	**Efpalio**	**1.51**	**71**	P	**Pn**	**16 24 46.2**	**-0.2**
LAKA	**Lakka**	**1.52**	**79**	P	**Pb**	**16 24 47.4**	**-0.3**
LAKA	**Lakka**	**1.52**	**79**	P	**Pb**	**16 24 47.4**	**-0.3**
TRIZ	**Trizonia**	**1.62**	**75**	P	**Pn**	**16 24 47.7**	**-0.3**
TRIZ	**Trizonia**	**1.62**	**75**	P	**Pn**	**16 24 47.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.63**	**86**	P	**Pn**	**16 24 48.7**	**+0.5**
KLV	**Kalavryta, Ach**	**1.63**	**86**	P	**Pn**	**16 24 48.7**	**+0.5**
KALE	**Kalithea**	**1.68**	**74**	P	**Pb**	**16 24 49.8**	**-0.6**
KALE	**Kalithea**	**1.68**	**74**	P	**Pb**	**16 24 49.8**	**-0.6**
GUR	**Goura**	**1.78**	**90**	P	**Pb**	**16 24 52.0**	**-0.2**
GUR	**Goura**	**1.78**	**90**	P	**Pb**	**16 24 52.0**	**-0.2**
DSF	**Desfina**	**1.98**	**76**	P	**Pb**	**16 24 55.3**	**-0.2**
DSF				S	**Sb**	**16 25 20.8**	**+0.6**
DSF				AML	AML	16 25 20.8	
	comp=E,276μm,0.3s						
DSF				AML	AML	16 25 21.1	
	comp=N,124μm,0.3s						
DSF	**Desfina**	**1.98**	**76**	P	**Pb**	**16 24 55.3**	**-0.2**
DSF				S	**Sb**	**16 25 20.8**	**+0.6**
AGG	**Agios Georgios**	**2.06**	**58**	P	**Pb**	**16 24 56.9**	**+0.1**
AGG				S	**Sb**	**16 25 21.1**	**-1.4**
AGG	**Agios Georgios**	**2.06**	**58**	P	**Pb**	**16 24 56.9**	**+0.1**
AGG				S	**Sb**	**16 25 21.1**	**-1.4**
STON	**Ston**	**5.23**	**340**	*e*Pn	**Pn**	**16 25 38.1**	**+0.5**
STON				Sn	**Sn**	**16 26 36.6**	**-1.4**

IDC 15 16:27:10.4±9.1, 22°.63S×177°.69W, h75km±55km, mb3.7/2, mb1 4.0/3, mb1mx3.5/25, mbtmp4.2/3, ML4.3/1, Error ellipse: s-maj=190.0km s-min=28.0km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.33**	**34**	P	Pn	16 29 34.6	-1.3
	2.4nm,0.3s,baz=103,slow=18,SNR=4.1						
AFI				S	Sn	16 31 32.2	+2.2
	3.1nm,0.3s,baz=83,slow=22,SNR=4.8						
PAE	**Paea**	**26.83**	**85**	*e*T	T	16 58 53.3	
	10nm,0.3s						
PPT2	**Papeete2**	**26.85**	**84**	*e*T	T	16 58 56.1	
	8.7nm,0.3s						
TVO	**Taravao**	**27.10**	**85**	*e*T	T	16 59 12.9	
	2.4nm,0.3s						
TAOE	**Nuku Hiva Isla**	**38.51**	**75**	*e*LR	LR	16 44 16.3	
	51nm,23.8s						
ASAR	**Alice Springs**	**44.35**	**259**	P	P	16 35 13.3	-0.3
	3.6nm,0.9s,baz=94,slow=7.2,SNR=25						
WRA	**Warramunga Arr**	**44.63**	**264**	P	P	16 35 15.6	-0.2
	0.5nm,0.3s,baz=98,slow=8.2,SNR=12						
CMAR	**Chiang Mai Arr**	**91.09**	**289**	P	P	16 40 11.5	+4.3
	0.9nm,0.6s,baz=135,slow=2.9,SNR=8.5						
AKASG	**Malin Array Be**	**145.00**	**330**	PKPbc	PKPbc	16 46 37.9	-0.4
	0.8nm,0.4s,baz=42,slow=4.0,SNR=6.0						
BRTR	**Keskin Array B**	**148.45**	**310**	PKPbc	PKPbc	16 46 48.3	-0.5
	1.4nm,1.0s,baz=0.0,slow=3.7,SNR=4.5						

GUC 15 16:36:40.7±0.6, 21°.25S×68°.72W, h130km±5km, ML3.5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.73**	**222**	*e*P	Pn	16 37 02.2	+0.7
PB09				*e*S	Sn	16 37 18.1	+0.8
PB09				IAML		16 37 18.6	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**0.75**	**286**	*e*P	Pn	16 37 01.9	+0.4
PB01				*e*S	Sn	16 37 18.3	+1.0
PB01				IAML		16 37 19.5	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**1.10**	**266**	*e*P	Pn	16 37 05.4	+0.7
PB02				*e*S	Sn	16 37 23.8	+0.9
PB02				IAML		16 37 27.4	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**1.18**	**339**	*e*P	Pn	16 37 06.6	+0.8
PB08				*e*S	Sn	16 37 25.9	+1.2
PB07	**IPOC Station P**	**1.19**	**246**	*e*P	Pn	16 37 06.4	+0.8
PB07				*e*S	Sn	16 37 25.4	+0.8
PB06	**IPOC Station P**	**1.65**	**209**	*e*P	Pn	16 37 11.2	+0.5
PB06				*e*S	Sn	16 37 33.9	+0.3
PB06				IAML		16 37 34.7	
	comp=E,441nm,0.5s						
PB04	**IPOC Station P**	**1.71**	**231**	*e*P	Pn	16 37 12.1	+0.7
PB04				*e*S	Sn	16 37 35.0	+0.2
PB04				IAML		16 37 36.3	
	comp=E,512nm,0.2s						

*NEIC **15** 16:40:32.2±0.0, 18°.99N×67°.61W, h27km, MD3.3(RSPR), After RSPR.*
RSPR 15 16:40:32.2, 18°.99N×67°.61W, h27km±23km, MD3.3/7, 15C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.70**	**137⇑**	*e*P	Pb	16 40 42.8	-3.1
AGPR				*e*S	Sb	16 40 52.3	-3.0
AGPR	**Aguadilla, PR**	**0.70**	**137⇑**	*e*P	Pb	16 40 42.8	-3.1
AOPR	**Arecibo Observ**	**1.03**	**128⇑**	*e*P	Pn	16 40 48.0	-3.0
AOPR				*e*S	Sn	16 41 01.9	-2.7
AOPR	**Arecibo Observ**	**1.03**	**128⇑**	*e*P	Pn	16 40 48.0	-3.0
CRPR	**Cabo Rojo, PR**	**1.09**	**154⇑**	*e*P	Pn	16 40 49.4	-2.3
CRPR				*e*S	Sn	16 41 03.4	-2.5
CRPR	**Cabo Rojo, PR**	**1.09**	**154⇑**	*e*P	Pn	16 40 49.4	-2.3
GBPR	**Guanica, Bosqu**	**1.22**	**145⇑**	*e*P	Pn	16 40 52.1	-1.5
GBPR				*e*S	Sn	16 41 06.7	-2.6
GBPR	**Guanica, Bosqu**	**1.22**	**145⇑**	*e*P	Pn	16 40 52.1	-1.5
CELP	**Cerrillos**	**1.34**	**133⇓**	*e*P	Pn	16 40 53.0	-2.2
CELP	**Cerrillos**	**1.34**	**133⇓**	*e*P	Pn	16 40 53.0	-2.2
SJG	**San Juan**	**1.64**	**122⇑**	*e*P	Pn	16 40 57.5	-1.8
SJG				*e*S	Sn	16 41 17.1	-2.4
SJG	**San Juan**	**1.64**	**122**	*e*Pn	Pn	16 40 55.7	-3.6
SJG				*e*Sn	Sn	16 41 17.6	-1.9
CBYP	**Canovanas**	**1.81**	**113⇑**	*e*P	Pn	16 41 00.2	-1.5
CBYP				*e*S	Sn	16 41 21.5	-2.4
CBYP	**Canovanas**	**1.81**	**113⇑**	*e*P	Pn	16 41 00.2	-1.5
HUMP	**Col San Antoni**	**1.87**	**116⇑**	*e*P	Pn	16 41 00.9	-1.6
HUMP				*e*S	Sn	16 41 22.6	-2.7
HUMP	**Col San Antoni**	**1.87**	**116⇑**	*e*P	Pn	16 41 00.9	-1.6
MTP	**Monte Pirata**	**2.15**	**114**	*e*S	Sn	16 41 29.9	-2.1
MTP	**Monte Pirata**	**2.15**	**114⇑**	*e*P	Pn	16 41 04.6	-1.7
MTP	**Monte Pirata**	**2.15**	**114⇑**	*e*P	Pn	16 41 04.6	-1.7
MTP				*e*S	Sn	16 41 29.9	-2.1
SDDR	**Presa de Saban**	**3.48**	**271**	Pn	Pn	16 41 26.4	+1.8
SDDR				*e*Sn	Sn	16 42 03.9	-1.1

IDC 15 16:40:55.4±6.7, 6°.92S×147°.66E, h65km±50km, mb3.5/2, mb1 3.6/4, mb1mx3.2/27, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=76.2km s-min=59.0km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.52**	**191**	P	Pn	16 41 33.7	-0.4
	3.7nm,0.3s,baz=347,slow=5.9,SNR=21						
PMG				S	Sn	16 42 12.0	+8.4
	3.3nm,0.3s,baz=11,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**18.29**	**224**	P	Pn	16 45 05.0	+0.2
	0.2nm,0.3s,baz=45,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**21.25**	**217**	P	P	16 45 36.9	+0.5
	2.1nm,0.4s,baz=55,slow=9.1,SNR=150						
STKA	**Stephens Creek**	**25.47**	**192**	P	P	16 46 17.4	-0.1
	2.3nm,0.9s,baz=16,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.94**	**283**	PKPbc	PKPdf	17 00 27.5	-0.4
	0.2nm,0.4s,baz=67,slow=3.4,SNR=4.5						

*SOME **15** 16:43:47.9, 44°.32N×84°.68E, h15km*
ISC 15 16:43:49.0±2.5, 44°.36N±0°.09×84°.6E±0°.1, h10km, n6, σ2°51/12, 1C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.92**	**327**	⇓Pn	**Pb**	**16 44 42.9**	**+1.7**
	0.8nm,0.3s,baz=142,slow=17,SNR=12						
MK31				⇓Sn	**Sg**	**16 45 22.1**	**-0.8**
	3.7nm,0.4s,baz=136,slow=28,SNR=11						
MAKZ	**Makanchi**	**3.06**	**324**	⇓Pn	**Pb**	**16 44 45.5**	**+1.9**
	1.0nm,0.6s						
MAKZ				⇑Sn	**Sg**	**16 45 29.1**	**+1.8**
	4.0nm,0.6s						
ZSN	**Zaisan**	**3.10**	**4**	*e*P	**Pg**	**16 44 46.2**	**-2.3**
	0.7nm,0.6s						
ZSN				⇓*i*S	**Sg**	**16 45 28.2**	**-0.4**
	2.4nm,0.5s						
SATY	**Saty**	**4.66**	**256**	*e*P	**Pb**	**16 45 14.1**	**+3.2**
	1.8nm,0.2s						
SATY				*e*S	**Sg**	**16 46 16.3**	**-2.4**
	6.7nm,0.3s						
KURS	**Kuram**	**4.71**	**262**	*e*P	**Pg**	**16 45 16.5**	**-2.8**
KURS				*e*S	**Sg**	**16 46 20.6**	**+0.2**
ARXS	**Arharly**	**4.85**	**271**	*e*P	**Pb**	**16 45 17.9**	**+3.8**
	1.3nm,0.2s						
ARXS				*e*S	**Sg**	**16 46 22.9**	**-1.9**
	4.9nm,0.4s						

MAN 15 16:59:13, 9°.97N×125°.49E, h4km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.18**	**181**	⇓*i*P	Pg	16 59 18.0	+1.4
SCPH				*i*S	Sg	16 59 21.0	+2.0
MSLP	**Maasin**	**0.64**	**285**	*e*P	Pb	16 59 26.7	-0.2
MSLP				*e*S	Sb	16 59 36.9	+0.7

*IDC **15** 17:05:55.3±3.1, 40°.20N×143°.17E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/39, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=74.8km s-min=39.3km az=68.0*
*NIED **15** 17:06:00, 39°.90N×142°.40E, h44km, Mw3.5 Best double couple: M0=2.07000×10^14 NP1:φ0=188.00000°, δ14

ASAR	Alice Springs	20.74	195	P	Pn	17 23 05.0	+0.3
	0.2nm,0.5s,baz=24,slow=9.4,SNR=4.9						
MKAR	Makanchi Array	70.99	322	P	P	17 29 30.9	-7.5
	0.1nm,0.5s,baz=108,slow=4.7,SNR=2.8						

IDC 15 17:25:25.6±12.0, 39°30S×14°60W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.7/2, MS3.5/4, Ms1 3.4/4, ms1mx3.1/17, Error ellipse: s-maj=729.3km s-min=128.6km az=126.0, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	30.21	360	T	T	18 02 26.2	
	baz=184,slow=75,SNR=138						
H10S3	ASCENSION HYDR	30.22	360	T	T	18 02 18.2	
	baz=184,slow=75,SNR=165						
H10S1	ASCENSION HYDR	30.23	360	T	T	18 02 27.5	
	baz=184,slow=75,SNR=159						
H10N1	ASCENSION HYDR	31.32	0	T	T	18 03 36.6	
	baz=181,slow=73,SNR=14						
H10N3	ASCENSION HYDR	31.32	0	T	T	18 03 38.4	
	baz=181,slow=73,SNR=129						
H10N2	ASCENSION HYDR	31.34	0	T	T	18 03 49.2	
	baz=181,slow=73,SNR=28						
BOSA	Boshof	34.49	84	LR	LR	17 44 12.0	
	comp=Z,47nm,19.0s,baz=144,slow=33						
CPUP	Villa Florida	37.83	277	LR	LR	17 44 45.5	
	comp=Z,46nm,20.3s,baz=131,slow=31						
PLCA	Paso Flores	42.25	249	LR	LR	17 48 38.6	
	comp=Z,86nm,18.6s,baz=152,slow=33						
TORD	Torodi Ar. Bea	54.34	20	P	P	17 34 53.9	-0.2
	1.6nm,0.8s,baz=198,slow=7.5,SNR=8.7						
TORD				LR	LR	17 52 36.2	
	comp=Z,49nm,21.8s,baz=275,slow=30						
ESDC	Sonseca Array	79.20	8	P	P	17 37 32.3	+0.2
	0.1nm,0.3s,baz=197,slow=6.2,SNR=4.7						
ILAR	Eielson Array	142.53	329	PKP	PKPdf	17 44 58.5	-0.9
	0.5nm,0.9s,baz=48,slow=1.3,SNR=5.2						

CSEM 15 18:17:03.3±0.1, 43°.33N×18°.15E, h2km, ML2.6, Error ellipse: s-maj=3.2km s-min=2.5km az=70.0
PDG 15 18:17:03.7±0.3, 43°.30N×18°.10E, h9km±1km, ML2.6/13, Error ellipse: s-maj=0.5km s-min=1.1km az=0.0
BEO 15 18:17:04.1±0.4, 43°.30N×18°.15E, h4km±3km, M2.2/1
ISC 15 18:17:03.6±1.1, 43°31N±0°.02×18°15E±0°.02, h2km±10km, n64, σ0°92/105, 6C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.50	145	⇑iPg	Pg	18 17 13.4	+0.2
BRY				eSg	Sb	18 17 21.6	-1.4
BRY	Bratogost	0.50	145	ePg	Pg	18 17 13.0	-0.2
BRY				eSg	Sb	18 17 21.6	-1.4
STON	Ston	0.55	217	iPg	Pg	18 17 13.4	-0.8
STON				Sg	Sg	18 17 21.8	+0.5
STON	Ston	0.55	217	iPg	Pg	18 17 13.4	-0.8
STON				Sg	Sg	18 17 21.8	+0.5
UPM	Unac-Piva	0.56	101	⇑iPg	Pg	18 17 14.8	+0.4
UPM				eSg	Sb	18 17 24.3	-0.5
UPM	Unac-Piva	0.56	101	ePg	Pg	18 17 14.5	+0.1
UPM				eSg	Sb	18 17 23.5	-1.3
TREB	Trebinje	0.61	166	ePg	Pg	18 17 14.8	-0.6
TREB				eSg	Sb	18 17 24.8	-1.3
TREB	Trebinje	0.61	166	ePg	Pg	18 17 14.8	-0.6
TREB				eSg	Sb	18 17 24.8	-1.3
NKY	Niksic	0.79	129	⇓iPg	Pg	18 17 19.0	+0.2
NKY				eSg	Sb	18 17 31.7	+0.3
NKY	Niksic	0.79	129	⇓iPg	Pg	18 17 19.0	+0.2
NKY				eSg	Sb	18 17 31.7	+0.3
NKME	Niksic	0.80	133	⇓iPg	Pg	18 17 18.8	-0.2
NKME				eSg	Sb	18 17 31.9	+0.3
NKME	Niksic	0.80	133	⇓iPg	Pg	18 17 18.8	-0.2
HCY	Herceg Novi	0.90	164	⇑iPg	Pg	18 17 20.6	-0.3
HCY				eSg	Sb	18 17 34.9	+0.5
HCY	Herceg Novi	0.90	164	⇑iPg	Pg	18 17 20.6	-0.3
HCY				eSg	Sb	18 17 34.0	-0.4
PLE	Pljevlja	0.90	89	⇓iPg	Pg	18 17 21.0	+0.1
PLE				eSg	Sn	18 17 35.8	-1.3
PLE	Pljevlja	0.90	89	⇓iPg	Pg	18 17 21.0	+0.1
CEME	Cevo	0.95	143	⇑iPg	Pg	18 17 21.5	-0.3
CEME				eSg	Sn	18 17 36.8	-1.4
CEME	Cevo	0.95	143	⇑iPg	Pg	18 17 21.5	-0.3
HAPS	Han Pijesak,BI	0.96	37	ePg	Pg	18 17 21.0	-1.1
HAPS				eSg	Sg	18 17 33.4	-1.3
BBLS	Lazići	1.06	58	ePg	Pg	18 17 24.0	0.0
BBLS				eSg	Sg	18 17 37.8	0.0
BBLS	Lazići	1.06	58	ePg	Pg	18 17 24.0	0.0
BBLS				eSg	Sg	18 17 37.8	0.0
KOME	Kolasin	1.10	114	⇓iPg	Pg	18 17 24.7	0.0
KOME				eSg	Sn	18 17 42.3	+0.3
KOME	Kolasin	1.10	114	⇓iPg	Pg	18 17 24.7	0.0
BUM	Brajici-Budva	1.15	151	⇓iPg	Pg	18 17 25.1	-0.6
BUM				eSg	Sn	18 17 43.6	+0.5
BUM	Brajici-Budva	1.15	151	⇓iPg	Pg	18 17 25.1	-0.6
PDG	Podgorica	1.20	137	⇓iPg	Pg	18 17 26.3	-0.3
PDG				eSg	Sn	18 17 43.3	-0.9
TTG	Podgorica	1.20	137	⇓iPg	Pg	18 17 26.3	-0.3
TTG				eSg	Sn	18 17 45.4	+1.2
SJES	Sjenica	1.33	92	ePn	Pn	18 17 28.4	-0.9
SJES				eSn	Sn	18 17 48.0	+0.3
BEY	Berane	1.35	109	⇓iPg	Pn	18 17 29.3	-0.3
IVA	Berane	1.35	109	⇓iPg	Pn	18 17 29.3	-0.3
IVA				eSg	Sn	18 17 51.0	+2.9
DRME	Dracevica, Mon	1.36	146	⇓iPg	Pn	18 17 29.1	-0.5
DRME				eSg	Sn	18 17 50.7	+2.5
DRME	Dracevica, Mon	1.36	146	⇓iPg	Pn	18 17 29.1	-0.5
DRME				eSg	Sn	18 17 48.2	0.0
IVAS	Ivanjica	1.48	79	ePg	Pn	18 17 30.4	-1.0
IVAS				eSg	Sn	18 17 51.0	-0.3
IVAS	Ivanjica	1.48	79	ePg	Pn	18 17 30.4	-1.0
IVAS				eSg	Sn	18 17 51.0	-0.3
PVY	Plav	1.51	118	⇓iPg	Pb	18 17 32.1	-0.3
PVY				eSg	Sg	18 17 54.8	+2.7
DIVS	Divibare	1.55	59	⇓iPn	Pn	18 17 31.2	-1.1
DIVS				eSn	Sb	18 17 53.1	0.0
ULC	Ulcinj	1.57	149	⇓iPn	Pb	18 17 32.9	-0.5
ULC				eSn	Sg	18 17 55.8	+1.7
ULC	Ulcinj	1.57	149	⇓iPn	Pb	18 17 32.9	-0.5
TEKS	Tekeris	1.59	38	ePn	Pb	18 17 33.8	+0.1
TEKS				eSn	Sb	18 17 54.5	+0.3
TEKS	Tekeris	1.59	38	ePn	Pn	18 17 32.1	-0.7
TEKS				eSn	Sn	18 17 53.6	-0.3
BLY	Banja Luka	1.60	334	ePg	Pb	18 17 33.7	-0.1
BLY				eSg	Sg	18 17 56.4	+1.5
BLY	Banja Luka	1.60	334	ePg	Pb	18 17 33.7	-0.1
BLY				eSg	Sn	18 17 52.4	-1.7
TRUS	Trudelj	1.87	60	ePn	Pn	18 17 35.2	-1.5
TRUS				eSn	Sb	18 18 02.5	+0.2
TRUS	Trudelj	1.87	60	ePn	Pn	18 17 35.2	-1.5
TRUS				eSn	Sb	18 18 02.5	+0.2
GRUS	Gruza	1.95	72	ePn	Pn	18 17 37.1	-0.6
GRUS				eSn	Sb	18 18 04.0	-0.6
GRUS	Gruza	1.95	72	ePn	Pn	18 17 37.1	-0.6
GRUS				eSn	Sb	18 18 04.0	-0.6
UDBI	Udbina	2.11	306	Sn	Sb	18 18 08.6	-0.8
UDBI	Udbina	2.11	306	Sn	Sb	18 18 08.5	-0.8
SELS	Selova	2.17	91	ePn	Pn	18 17 40.7	-0.1
SELS	Selova	2.17	91	ePn	Pn	18 17 40.7	-0.1
FGSL	Fruska Gora	2.19	32	ePn	Pn	18 17 41.7	+0.5
FRGS	Fruska Gora	2.19	32	ePn	Pn	18 17 41.7	+0.5
BOVS	Bovan	2.61	82	ePn	Pn	18 17 48.2	+1.4
BOVS	Bovan	2.61	82	ePn	Pn	18 17 48.2	+1.4
NVLJ	Novalja	2.68	299	ePn	Pn	18 17 49.0	+1.3
NVLJ				Sn	Sn	18 18 22.6	+1.8
NVLJ	Novalja	2.68	299	ePn	Pn	18 17 49.0	+1.3
NVLJ				Sn	Sn	18 18 22.5	+1.8
BARS	Barje	2.73	99	ePn	Pn	18 17 48.4	-0.1
BARS	Barje	2.73	99	ePn	Pn	18 17 48.4	-0.1
ZAGS	Zajecar	3.01	79	ePn	Pn	18 17 51.9	-0.4
ZAGS	Zajecar	3.01	79	ePn	Pn	18 17 51.9	-0.4
CRES	Cresnjev	3.17	323	ePn	Pn	18 17 53.8	-0.7
ZAPS	Zavoj	3.27	89	ePn	Pn	18 17 55.9	-0.1
CEY	Cerknica	3.60	314	ePn	Pn	18 17 59.5	-1.0
VYHS	Vyhne	5.20	5	ePN	Pn	18 18 24.3	+1.8

MEX 15 18:49:31.7±0.6, 16°.12N×96°.82W, h20km±999km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.77	117	eP	Pb	18 49 44.0	-2.4
HUIG				eS	Sb	18 49 53.4	-3.0
VHO	Vista Hermosa	0.95	5	eP	Pb	18 49 47.2	-2.4
VHO				eS	Sb	18 49 58.1	-3.7
TLIG	Tlapa	2.20	311	iP	Pn	18 50 03.2	-4.1

IDC 15 18:49:30.2±4.2, 4°.02S×101°.95E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/44, mbtmp3.4/4, Error ellipse: s-maj=174.5km s-min=23.4km az=55.0
DJA 15 18:49:37.6±0.6, 4°S±4°×10°2E±°, h11km±5km, M3.2/8, MLv3.2/8
ISCJB 15 18:49:39.3±0.9, 4°.1S±0°.1×102°.44E±0°.10, h65km, mb3.4/4, Error ellipse: s-maj=21.8km s-min=7.4km az=34.2
ISC 15 18:49:39.7±1.0, 4°0S±0°.1×102°45E±0°.09, h65km, n12, σ1°56/14, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.92	347	P	Pn	18 49 57.7	+0.7
LHSI	Lahat	1.09	79	P	Pn	18 50 00.3	+1.2
MDSI	Maura Dua	1.78	104	P	Pn	18 50 08.1	-0.1
MDSI				S	Sn	18 50 30.8	+0.9
LWLI	Liwa	1.87	121	P	Pn	18 50 09.9	+0.3
LWLI				S	Sn	18 50 30.8	-1.6
KLSI		2.36	106	P	Pn	18 50 15.4	-0.7
KASI	Kota Agung	2.52	126	P	Pn	18 50 18.4	+0.2
PPSI	Pulau Pagai	2.75	297	P	Pn	18 50 22.1	+0.7
WRA	Warramunga Arr	34.86	120	P	P	18 56 27.1	+2.1
	0.2nm,0.7s,baz=296,slow=7.7,SNR=2.7						
ASAR	Alice Springs	36.08	126	P	P	18 56 38.3	+2.8
	0.2nm,0.3s,baz=302,slow=7.6,SNR=7.7						
SONM	Songino Array	51.77	3	P	P	18 58 40.5	-0.3
	0.5nm,0.6s,baz=178,slow=8.7,SNR=3.2						
MKAR	Makanchi Array	53.66	343	P	P	18 58 52.5	-2.2
	0.4nm,0.8s,baz=142,slow=7.3,SNR=3.2						
TXAR	Lajitas Array	144.71	42	PKPbc	PKPab	19 09 07.0	-1.8
	0.2nm,0.8s,baz=327,slow=1.5,SNR=3.7						

DJA 15 18:49:56.1±0.7, 0°S±8°×12°3E±°, h102km±19km, M4.0/8, mb4.2/2, MLv3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.12	40	P	Pn	18 50 17.8	-0.2
MRSI	Marisa	1.52	300	P	Pn	18 50 21.4	-1.4
MRSI				S	Sn	18 50 44.7	+1.7
APSI	Ampana	1.73	249	P	Pn	18 50 25.1	-0.2
MPSI	Mapaga	3.42	280	P	Pn	18 50 48.6	+1.1
PCI	Palu	3.48	260	P	Pn	18 50 48.9	+0.6
LBMI	Labuha	4.25	95	P	Pn	18 51 00.7	+1.9
TTSI	Tana Toraja	4.39	231	P	Pn	18 51 00.1	-0.6
SPSI	Sidrap Palu	5.05	224	P	Pn	18 51 09.0	-0.5
	20nm,0.6s,0.1nm						
BNSI	Bone	5.16	218	P	Pn	18 51 10.8	-0.2

IDC 15 18:55:19.6±3.9, 4°.50S×101°.95E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/43, mbtmp3.7/5, MS3.8/1, Ms1 3.7/1, ms1mx2.8/36, Error ellipse: s-maj=170.9km s-min=21.2km az=54.0
NEIC 15 18:55:21.0±7.1, 4°.63S×101°.77E, h17km±42km, mb4.7/4, Error ellipse: s-maj=28.5km s-min=8.9km az=55.0
DJA 15 18:55:29.5±0.6, 4°S±4°×10°2E±°, h33km±10km, M3.9/10, MLv3.9/10
ISC 15 18:55:25.7±1.0, 4°46S±0°.09×102°06E±0°.09, h37km, n32, σ2°00/30, mb4.4/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.90	84	ePn	Pn	18 55 43.1	+1.3
MASI	Maura Aman, Be	1.32	8	P	Pn	18 55 50.2	+2.5
MASI				S	Sn	18 56 04.8	+0.8
LHSI	Lahat	1.59	67	P	Pn	18 55 53.5	+2.2
LWLI	Liwa	2.07	106	P	Pn	18 56 00.6	+2.6
MDSI	Maura Dua	2.11	91	P	Pn	18 56 00.9	+2.4
MDSI				S	Sn	18 56 25.5	+2.0
KASI	Kota Agung	2.65	114	P	Pn	18 56 08.5	+2.6
PPSI	Pulau Pagai	2.65	309	P	Pn	18 56 10.6	+4.7
KLSI		2.67	95	P	Pn	18 56 09.0	+2.8
PDSI	Padang	3.87	336	P	Pn	18 56 26.0	+3.3
CGJI	Cibinong	4.20	121	P	Pn	18 56 30.5	+3.3
CISI	Cisompet, Garu	6.50	119	ePn	Pn	18 56 58.6	-0.2
H08S2	Diego Garcia H	29.57	262	T	T	19 31 59.7	
	baz=86,slow=75,SNR=7.8						
H08S3	Diego Garcia H	29.58	262	T	T	19 32 03.3	
	baz=86,slow=75,SNR=6.7						
H08S1	Diego Garcia H	29.59	262	T	T	19 32 04.3	
	baz=86,slow=75,SNR=7.6						
WR1	Warramunga Arr	34.99	119	eP	P	19 02 14.3	-0.6
	11nm,1.5s						
WRA	Warramunga Arr	34.99	119	P	P	19 02 14.3	-0.6
	0.2nm,0.4s,baz=302,slow=9.5,SNR=3.6						
ASAR	Alice Springs	36.16	125	P	P	19 02 24.8	-0.1
	0.2nm,0.6s,baz=298,slow=7.7,SNR=4.1						
STKA	Stephens Creek	45.99	131	LR	LR	19 24 29.1	
	comp=Z,90nm,18.3s,baz=222,slow=38						
SONA0	Songino Array	52.21	4	eP	P	19 04 32.8	-0.2
	5.7nm,1.6s						
SONM	Songino Array	52.21	4	P	P	19 04 32.8	-0.2
	0.9nm,0.6s,baz=184,slow=10.0,SNR=8.7						
SONA1	Songino Array	52.22	4	eP	P	19 04 33.5	+0.3
MK01	Makanchi Array	53.92	343	eP	P	19 04 44.2	-1.4
MK31	Makanchi Array	53.95	343	eP	P	19 04 44.4	-1.4
MK32	Makanchi Array	53.95	343	eP	P	19 04 45.2	-0.5
MKAR	Makanchi Array	53.95	343	P	P	19 04 45.2	-0.5
	1.0nm,0.6s,baz=147,slow=8.0,SNR=12						
MKAR	Makanchi Array	53.95	343	eP	P	19 04 44.4	-1.4
	7.2nm,0.7s						
ZALV	Zalesovo Beam	59.96	348	P	P	19 05 27.3	-0.9
	1.3nm,0.4s,baz=166,slow=6.4,SNR=8.0						
ZALV	Zalesovo Beam	59.96	348	eP	P	19 05 26.6	-1.5
ZAA1	Zalesovo Array	59.97	348	eP	P	19 05 27.3	-0.9
ABKAR	Akbulak array	64.77	331	eP	P	19 05 57.7	-2.8
	6.9nm,0.8s						
KWAJ	Kwajalein Atol	66.67	78	eP	P	19 06 12.7	-0.6
	331nm,2.0s						
TXAR	Lajitas Array	145.28	42	PKPbc	PKPbc	19 15 00.1	0.0
	0.8nm,0.7s,baz=297,slow=1.1,SNR=12						

ISCJB 15 18:58:41.5±1.3, 57°.44N±0°.03×137°.32W±0°.05, h15km±12km, mb3.8/5, Error ellipse: s-maj=5.3km s-min=3.3km az=135.9
IDC 15 18:58:43.3±0.9, 57°.66N×137°.22W, h0km, mb3.8/5, mb1 3.8/11, mb1mx3.6/54, mbtmp3.7/11, ML3.3/6, Error ellipse: s-maj=17.8km s-min=10.6km az=30.0
NEIC 15 18:58:44.5±0.0, 57°.54N×137°.31W, h8km, ML3.7(AEIC), After AEIC.
ISC 15 18:58:43.4±3.8, 57°52N±0°.05×137°21W±0°.06, h7km±25km, n86, σ1°56/94, mb4.0/5, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	Bessie Mountai	1.65	49	ePn	Pn	18 59 12.2	-0.6
BESE				eSn	Sn	18 59 32.4	-1.8
DHAK	Deception Hill	1.67	342	ePn	Pn	18 59 11.2	-1.8
DHAK				eSn	Sn	18 59 32.9	-1.8
JIS	Juneau Island	1.69	62	ePn	Pn	18 59 13.0	-0.3
JIS				eSn	Sn	18 59 36.3	+1.2
PLBC	Pleasant Camp	2.00	12	ePn	Pn	18 59 16.6	-0.9
PLBC				eSn	Sn	18 59 42.6	-0.1
SKAG	Skagway	2.19	26	ePn	Pn	18 59 19.5	-0.6
SKAG				eSn	Sn	18 59 47.0	-0.3
PNL	Peninsula	2.44	333	ePn	Pn	18 59 22.3	-1.3
BCPM	Bancas Point	2.75	334	ePn	Pn	18 59 27.6	-0.3
WRAK	Wrangell Islan	2.88	110	P	Pn	18 59 30.0	+0.4
PCA	Pinnacle	3.04	330	ePn	Pn	18 59 31.6	-0.3
CRAG	Craig	3.06	130	ePn	Pn	18 59 29.5	-2.5
CRAG				eSn	Sn	19 00 05.2	-3.5
HYT	Haines Junctio	3.32	358	ePn	Pn	18 59 35.3	-0.6
WHY	Whitehorse	3.38	20	ePn	Pn	18 59 36.3	-0.2
DLBC	Dease Lake	3.94	73	Pn	Pn	18 59 45.0	+0.8
	2.4nm,0.3s,baz=243,slow=13,SNR=11						
DLBC				Sn	Sn	19 00 31.6	+1.0
	13nm,0.3s,baz=270,slow=20,SNR=5.5						
DLBC				Lg	Lg	19 00 47.0	
	37nm,0.3s,baz=207,slow=24,SNR=9.4						
DLBC	Dease Lake	3.94	73	ePn	Pn	18 59 44.1	0.0
DLBC				eSn	Sn	19 00 31.6	+1.0
DLBC				eLg	Lg	19 00 47.0	
GRNC	Granite Creek	3.99	326	P	Pn	18 59 44.3	-0.7
CTGM	Chitina Glacie	4.06	330	ePn	Pn	18 59 45.7	-0.2
CTGM				eSn	Sn	19 00 31.9	-1.8
NDB	Naden	4.31	144	P	Pn	18 59 49.4	+0.2
CRQM	Cirque	4.46	319	ePn	Pn	18 59 51.1	-0.4
PTPK	Patty Peak	4.56	326	P	Pn	18 59 52.0	-0.9
HMT	Hamilton	4.62	311	ePn	Pn	18 59 53.1	-0.5
H02N1	VAN INLET T-PH	5.03	146	Pn	Pn	18 59 60.0	+0.7
H02N1				Sn	Sn	19 00 54.0	-3.6
H02S1	DAWSON INLET T	5.09	146	Pn	Pn	19 00 00.0	+0.6
H02S1				Sn	Sn	19 00 56.2	-2.8
BMRM	Bremner River	5.14	315	ePn	Pn	19 00 00.1	-0.6
EYAK	Cordova Ski Ar	5.36	308	ePn	Pn	19 00 03.3	-0.3
DIV	Divide	5.69	313	ePn	Pn	19 00 09.7	+1.5
FID	Port Fidalgo	5.77	308	ePn	Pn	19 00 11.9	+2.6
KLU	Klutina	5.96	316	ePn	Pn	19 00 12.4	+0.3
BCA3	Beaver Creek A	6.01	340	ePn	Pn	19 00 11.7	-1.0
GLI	Glacier Island	6.10	308	ePn	Pn	19 00 15.7	+1.9
HARP	HAARP	6.32	324	ePn	Pn	19 00 17.9	+1.1
DAWY	Dawson	6.66	352	ePn	Pn	19 00 21.7	+0.2
DAWY				eSn	Sn	19 01 33.4	-4.2
SCM	Sheep Creek Mo	6.71	314	ePn	Pn	19 00 21.2	-1.0
PAX	Paxson	6.84	327	ePn	Pn	19 00 24.3	+0.2
SEW	Seward	6.87	297	ePn	Pn	19 00 24.8	+0.5
DOT	Dot Lake	7.01	334	ePn	Pn	19 00 27.0	+0.6
SML	Sawmill	7.09	312	ePn	Pn	19 00 25.0	-2.4
BBB	Bella Bella	7.49	132	Pn	Pn	19 00 33.9	+1.1
	0.3nm,0.3s,baz=317,slow=7.8,SNR=8.8						
BBB				Sn	Sn	19 01 56.7	-1.1
	0.9nm,0.3s,baz=287,slow=18,SNR=8.4						
BBB				Lg	Lg	19 02 45.8	
	2.2nm,0.3s,baz=246,slow=20,SNR=3.1						
BBB	Bella Bella	7.49	132	ePn	Pn	19 00 31.3	-1.5
BBB				eSn	Sn	19 01 56.7	-1.1
DHY	Denali Highway	7.52	322	ePn	Pn	19 00 34.5	+1.1
EGAK	Eagle	7.53	347	ePn	Pn	19 00 32.8	-0.7
CNPM	China Poot	7.62	291	ePn	Pn	19 00 32.7	-2.0
SUA	Susitna One	7.94	306	ePn	Pn	19 00 39.2	+0.1
RNA	Reindeer	8.24	321	ePn	Pn	19 00 43.5	+0.3
KDAK	Kodiak Island	8.25	278	Pn	Pn	19 00 42.2	-1.1
	1.8nm,0.3s,baz=78,slow=6.9,SNR=15						
SPU	Mount Spurr	8.42	302	ePn	Pn	19 00 42.0	-3.7
MCK	McKinley	8.48	322	ePn	Pn	19 00 47.7	+1.2
RSO	Redoubt South	8.55	297	ePn	Pn	19 00 46.6	-1.0
IL1	Eielson Array	8.64	331	ePn	Pn	19 00 48.6	-0.1
ILAR	Eielson Array	8.64	331	Pn	Pn	19 00 47.2	-1.4
	0.2nm,0.3s,baz=154,slow=13,SNR=11						
ILAR				Lg	Lg	19 03 14.7	
	0.1nm,0.3s,baz=125,slow=30,SNR=4.3						
ILB	Eielson Array	8.64	331	ePn	Pn	19 00 46.4	-2.3
ILB				eLg	Lg	19 03 14.7	
OHAK	Old Harbor	8.70	275	ePn	Pn	19 00 48.3	-1.1
WRH	Wood River Hil	8.74	327	ePn	Pn	19 00 50.1	+0.1
TRF	Thorofare Moun	8.77	318	ePn	Pn	19 00 51.8	+1.2
CCB	Clear Creek Bu	8.79	329	ePn	Pn	19 00 50.0	-0.7
KTH	Kantishna Hill	9.06	318	ePn	Pn	19 00 55.1	+0.6
MDM	Murphy Dome	9.15	329	ePn	Pn	19 00 56.8	+1.1
PPLA	Purkeypile	9.19	312	ePn	Pn	19 00 57.1	+0.8
BPAW	Bear Paw Mtn.	9.41	320	ePn	Pn	19 00 58.9	-0.3
CAST	Castle Rocks	9.42	315	ePn	Pn	19 00 59.9	+0.6
FYU	Fort Yukon	9.82	341	ePn	Pn	19 01 03.3	-1.4
MLY	Manley	9.94	325	ePn	Pn	19 01 04.0	-2.4
TT01	Tatalina	10.78	308	ePn	Pn	19 01 16.7	-1.2
TTA	Tatalina	10.79	308	ePn	Pn	19 01 19.2	+1.2
INK	Inuvik	10.96	7	Pn	Pn	19 01 18.9	-1.4
	0.1nm,0.3s,baz=184,slow=16,SNR=3.6						
INK				Lg	Lg	19 04 26.0	
	0.1nm,0.3s,baz=130,slow=16,SNR=2.2						
COLD	Coldfoot	11.43	334	ePn	Pn	19 01 24.5	-2.3
IMAR	Indian Mountai	11.51	324	ePn	Pn	19 01 28.9	+1.0
YKA	Yellowknife Ar	12.32	57	Pn	Pn	19 01 36.7	-2.3
	0.1nm,0.3s,baz=256,slow=12,SNR=2.8						
YKA				Lg	Lg	19 05 07.1	
	0.0nm,0.3s,baz=252,slow=28,SNR=3.5						
YKB5	Yellowknife Ar	12.32	57	ePn	Pn	19 01 37.2	-1.8
OBSR	Observation Ro	14.17	132	eSn	Sn	19 04 39.9	-2.2
EGMT	Eagleton	19.01	108	eP	P	19 03 05.3	-0.2
VTV	Victorville	26.59	141	eP	P	19 04 26.6	+4.6
CRY	Cary Ranch	27.70	141	eP	P	19 04 32.1	+0.1
LTX	Lajitas	36.57	126	eP	P	19 05 52.8	+3.0
TXAR	Lajitas Array	36.57	126	P	P	19 05 52.8	+3.0
	0.2nm,0.7s,baz=327,slow=6.5,SNR=3.7						
NRIK	Noril'sk	49.38	341	P	P	19 07 33.9	+1.1
	1.4nm,0.4s,baz=52,slow=4.2,SNR=4.3						
H11N2	WAKE ISLAND Hy	55.42	251

MAN 15 19:25:19,8°.16N×126°.40E,h14km,mb4.4,ML3.2,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.04**	**304**	⇑*e*P	Pg	19 25 24.6	+3.0
BIPH				*i*S	Sg	19 25 31.9	+8.5
MATI	**Mati**	**1.21**	**187**	*e*P	Pn	19 25 39.1	-2.5
MATI				*e*S	Sg	19 25 59.3	+1.0
BUKP	**Musuan**	**1.35**	**258**	*e*P	Pg	19 25 48.2	+3.2
BUKP				*e*S	Sg	19 26 13.4	+11
BESP	**Borongan**	**3.55**	**345**	*e*P	Pn	19 26 15.6	+1.8
BESP				*e*S	Sb	19 27 06.5	+1.9

SOME ***15*** *19:40:10.7,41°.02N×73°.45E,h0km*
KRNET ***15*** *19:40:11.1±0.1,40°.99N×73°.46E,h17km,mb3.6*
NNC ***15*** *19:40:12.1±1.0,41°.02N×73°.44E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=7.6km s-min=5.1km az=179.0
ISC 15 19:40:12.7±0.9,41°.02N±0°.04×73°.39E±0°.02,h10km,n50,
σ1§92/87,36C-27D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=313	**0.43**	**315**	⇓*e*P	Pg	19 40 21.0	-0.2
ARSB	baz=313			⇓*i*S	Sb	19 40 28.2	-0.9
TOKL	**Toktogul** baz=335	**1.00**	**337**	⇑*i*P	Pg	19 40 31.4	-0.5
TOKL	baz=335			⇑*i*S	Sn	19 40 46.2	-0.8
ARLS	**Aral** baz=36	**1.09**	**40**	⇑*i*P	Pg	19 40 32.5	-1.3
ARLS	baz=36			⇑*i*S	Sg	19 40 47.6	-0.4
AML	**Almayashu** baz=8.0	**1.13**	**12**	⇑*i*P	Pg	19 40 32.9	-1.6
AML	baz=8.0			⇑*i*S	Sg	19 40 48.5	-0.8
ARK	**Arkit** baz=306	**1.32**	**306**	⇓*e*P	Pn	19 40 37.0	-0.4
ARK	baz=306			⇓*e*S	Sg	19 40 56.2	+0.9
MNAS	**Manas** baz=335	**1.61**	**336**	⇓*e*P	Pb	19 40 41.8	-0.8
MNAS	baz=335			⇓*e*S	Sg	19 41 04.7	+0.3
MNAS	**Manas** 42nm,0.4s	**1.61**	**336**	⇑P	Pb	19 40 41.6	-0.9
MNAS	225nm,0.4s			⇓S	Sg	19 41 04.2	-0.2
EKS2	**Erkin-Say** baz=8.0	**1.66**	**10**	⇓*i*P	Pn	19 40 42.3	+0.2
EKS2	baz=8.0			⇓*i*S	Sb	19 41 04.8	+0.2
MRKS	**Merke** 194nm,0.3s	**1.73**	**356**	*e*P	Pb	19 40 43.6	-1.0
MRKS	563nm,0.4s			*e*S	Sg	19 41 07.3	-0.9
KZA	**Kyzart** baz=50	**1.75**	**52**	⇓*i*P	Pn	19 40 43.2	-0.3
KZA	baz=50			⇓*i*S	Sb	19 41 06.6	-0.8
AAK	**Ala-Archa** baz=25	**1.81**	**27**	⇑*i*P	Pn	19 40 44.8	+0.6
AAK	baz=25			⇑*i*S	Sb	19 41 09.1	+0.1
AAK	**Ala-Archa** 54nm,0.3s	**1.81**	**27**	⇑Pn	Pb	19 40 45.4	-0.7
AAK	310nm,0.3s			⇓Sn	Sb	19 41 09.6	+0.6
KBK	**Karagaybulak** baz=33	**2.01**	**35**	⇑*i*P	Pb	19 40 48.0	-1.4
KBK	baz=33			⇑*i*S	Sb	19 41 14.5	0.0
FRU1	**Bishkek** baz=25	**2.01**	**27**	⇑*i*P	Pb	19 40 48.8	-0.7
FRU1	baz=25			⇑*i*S	Sb	19 41 15.5	+0.9
BTK	**Batken** baz=246	**2.18**	**245**	⇑*i*P	Pb	19 40 50.4	-1.9
BTK	baz=246			⇑*i*S	Sb	19 41 18.9	-0.6
CHMS	**Chumysh** baz=25	**2.22**	**27**	⇑*i*P	Pn	19 40 50.9	+1.2
CHMS	baz=25			⇑*i*S	Sb	19 41 19.7	-0.9
USP	**Ospenovka** baz=18	**2.39**	**20**	⇑*i*P	Pn	19 40 53.1	+1.1
USP	baz=18			⇑*i*S	Sb	19 41 23.8	-1.6
BOOM	**Boomskoye usch** baz=50	**2.41**	**52**	⇑*i*P	Pn	19 40 53.1	+0.8
BOOM	baz=50			⇑*i*S	Sn	19 41 23.4	+1.4
ULHL	**Ulahol** baz=58	**2.46**	**59**	⇑*i*P	Pn	19 40 53.2	0.0
ULHL	baz=58			⇑*i*S	Sn	19 41 24.9	+1.5
TKM2	**Tokmak 2** baz=39	**2.51**	**40**	⇑*i*P	Pn	19 40 54.9	+1.1
TKM2	baz=39			⇑*i*S	Sb	19 41 26.9	-2.2
TKM2	**Tokmak 2** 41nm,0.5s	**2.51**	**40**	⇑Pg	Pb	19 40 56.4	-1.7
TKM2	112nm,0.6s			⇓Lg	Lg	19 41 29.9	
IUG	**Iuzhnay** 60nm,0.1s	**2.76**	**295**	*e*P	Pb	19 41 03.0	+0.8
IUG	816nm,0.3s			*e*S	Sg	19 41 40.3	-1.0
KST	**Kastek** 11nm,0.2s	**2.79**	**43**	*e*P	Pb	19 41 01.9	-0.7
KST	182nm,0.3s			⇑*i*S	Sb	19 41 39.1	+2.2
DGS	**Degeres** 180nm,0.2s	**2.84**	**38**	*e*P	Pb	19 41 03.0	-0.6
DGS	299nm,0.3s			*e*S	Sb	19 41 40.8	+2.3
KK31	**Karatay Array** 1.0nm,0.2s,baz=132,slow=12,SNR=255	**2.98**	**315**	⇓Pn	Pn	19 41 01.1	+1.0
KK31	10nm,0.3s,baz=128,slow=15,SNR=15			⇑Pg	Pb	19 41 06.0	0.0
KK31	43nm,0.3s,baz=140,slow=31,SNR=13			⇑Lg	Lg	19 41 46.0	
KDJ	**Kajisay** baz=67	**3.05**	**67**	⇓*e*P	Pn	19 41 01.9	+0.7
KDJ	baz=67			⇓*e*S	Sn	19 41 38.7	+0.8
MTBS	**Maitube** 38nm,0.4s	**3.09**	**46**	*e*P	Pb	19 41 07.1	-0.8
MTBS	181nm,0.5s			⇑*i*S	Sb	19 41 48.1	+2.4
IZV	**Izvestkoviy** 34nm,0.3s	**3.13**	**49**	*e*P	Pb	19 41 08.2	-0.4
IZV	165nm,0.3s			*e*S	Sb	19 41 49.7	+2.8
BRLS	**Borolday** 4.7nm,0.6s	**3.32**	**308**	*e*P	Pb	19 41 12.4	+0.7
BRLS	66nm,0.4s			*e*S	Sg	19 41 56.2	-3.1
TNSS	**Tian-Shan** 40nm,0.5s	**3.33**	**52**	*e*P	Pb	19 41 11.8	-0.3
TNSS	111nm,0.4s			*e*S	Sb	19 41 55.9	+3.1
AAA	**Alma-Ata** 60nm,0.2s	**3.42**	**49**	*e*P	Pb	19 41 13.3	-0.1
AAA	397nm,0.3s			*e*S	Sb	19 41 58.3	+3.4
MDOK	**Medeo**	**3.46**	**51**	⇓Pg	Pb	19 41 13.9	-0.3
MDOK				⇓Lg	Lg	19 42 00.1	
MDOK	**Medeo** 36nm,0.3s	**3.46**	**51**	*e*P	Pb	19 41 14.2	0.0
MDOK	120nm,0.5s			*e*S	Sb	19 41 59.8	+3.3
KOTS	**Kotyrbulak**	**3.54**	**50**	*e*P	Pb	19 41 15.9	+0.3
KOTS				*e*S	Sg	19 42 03.0	-3.5
KTBS	**Karatobe**	**3.63**	**41**	*e*P	Pb	19 41 17.6	+0.6
KTBS				*e*S	Sg	19 42 05.7	-3.6
ANVS	**Anan'yevo** baz=59	**3.65**	**60**	⇓*i*P	Pn	19 41 09.9	+0.5
ANVS	baz=59			⇓*i*S	Sn	19 41 52.6	0.0
CHKK	**Chushkaly** 22nm,0.3s	**3.89**	**42**	*e*P	Pb	19 41 22.0	+0.6
CHKK	136nm,0.4s			*e*S	Sg	19 42 12.9	-4.6
DZET	**Dzherino** 4.2nm,0.3s	**4.15**	**239**	⇓Pn	Pn	19 41 16.4	+0.2
DZET	105nm,0.5s			⇓Lg	Lg	19 42 28.5	
SATY	**Saty** 36nm,0.5s	**4.25**	**60**	*e*P	Pb	19 41 27.9	+0.2
SATY	39nm,0.3s			*e*S	Sg	19 42 24.1	-5.2
KURS	**Kuram**	**4.32**	**54**	*e*P	Pb	19 41 29.0	+0.2
KURS				*e*S	Sb	19 42 25.7	+4.7
ARXS	**Arharly** 16nm,0.2s	**4.57**	**44**	*e*P	Pb	19 41 33.0	-0.1
ARXS	102nm,0.3s			*e*S	Sb	19 42 32.7	+4.5
PDGK	**Podgornoye** baz=60	**5.09**	**61**	⇑*e*P	Pn	19 41 29.2	+0.1
PDGK	baz=60			⇑*e*S	Sn	19 42 26.9	-1.1
PDGK	**Podgornoye** 6.3nm,0.5s	**5.09**	**61**	⇓Pg	Pb	19 41 44.3	+2.4
PDGK	23nm,0.6s			⇓Lg	Lg	19 42 51.1	
TDK	**Taldyqorghan** 19nm,0.1s	**5.42**	**41**	*e*P	Pb	19 41 49.2	+1.8
TDK	12nm,0.6s			*e*S	Sg	19 43 00.7	-5.9
DJR	**Jarkent** 10.0nm,0.7s	**5.76**	**53**	*e*P	Pb	19 41 57.6	+4.3
DJR	47nm,0.4s			*e*S	Sg	19 43 14.1	-3.6
MAKZ	**Makanchi** 3.0nm,0.8s	**8.47**	**44**	⇓Lg	Lg	19 44 32.8	
MK31	**Makanchi Array** 0.9nm,0.6s,baz=221,slow=13,SNR=8.4	**8.63**	**45**	⇓Pn	Pn	19 42 22.4	+4.7
MK31	6.2nm,1.0s,baz=232,slow=28,SNR=3.9			⇑Lg	Lg	19 44 44.8	
KURBB	**Kurchatov Arra** 36nm,1.1s	**10.25**	**19**	⇑Lg	Lg	19 45 35.3	
KURK	**Kurchatov** 24nm,1.1s	**10.36**	**19**	⇑Lg	Lg	19 45 35.1	
AB31	**Akbulak array** 0.5nm,0.5s,baz=119,slow=14,SNR=9.2	**12.55**	**315**	⇓P	Pn	19 43 12.9	+1.6

OBM ***15*** *19:42:54.8±0.1,43°.13N×100°.59E,h2km,Ml4.3/2,Error ellipse: s-maj=2.2km s-min=1.0km az=20.0*
ISCJB ***15*** *19:42:55.8±0.2,43°.10N±0°.02×100°.76E±0°.03,h10km, mb4.5/53,MS3.5/8,Error ellipse: s-maj=3.6km s-min=3.0km az=12.3*
IDC ***15*** *19:42:56.1±0.6,43°.02N×100°.79E,h0km,mb4.0/16, mb1 4.2/22,mb1mx4.1/45,mbtmp4.1/22,ML3.8/5,MS3.5/11, Ms1 3.5/11,ms1mx3.2/41,Error ellipse: s-maj=17.1km s-min=13.1km az=46.0*
NEIC ***15*** *19:42:57.5±0.2,43°.05N×100°.68E,h10km,mb4.8/26,Error ellipse: s-maj=5.9km s-min=4.6km az=46.0*
BJI ***15*** *19:42:57.0,43°.06N×100°.55E,h10km,mb4.4/19,mB4.6/8, ML4.7/15,Ms4.2/18,Ms7 4.0/16*
MOS ***15*** *19:42:58.6±1.2,43°.13N×100°.82E,h28km,mb4.8/26,Error ellipse: s-maj=9.1km s-min=5.8km az=112.6*
ISC 15 19:42:58.8±0.3,43°.10N±0°.03×100°.65E±0°.03,h10km,n202,
σ2§52/210,mb4.7/63,MS3.5/8,5C-18D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.74**	**190**	Pn	Pn	19 43 57.3	+0.6
GTA				Pg	Pb	19 44 07.5	+2.5
GTA				Sn	Sn	19 44 47.0	+6.1
GTA				Sg	Sb	19 44 52.8	+2.4
GTA	comp=N,670nm,1.1s			smax	smax		
GTA	comp=E,1μm,1.0s			smax	smax		
GTA	comp=N,2μm,6.9s			LR	LR		
GTA	comp=E,3μm,6.4s			LR	LR		
GTA	comp=Z,3μm,7.8s			LR	LR		
TTS	**Tsetserleg**	**4.41**	**7**	*e*Pn	Pn	19 44 03.8	-2.2
TTS	**Tsetserleg**	**4.41**	**7**	⇑*i*Pg	Pb	19 44 15.4	-1.1
TTS	894nm,0.5s			*e*Sg	Sb	19 45 12.4	+2.6
TSC	**Tosontsengel**	**5.91**	**344**	*e*Pg	Pb	19 44 42.2	+0.3
TSC	677nm,0.5s			*e*Sg	Sb	19 45 57.2	+4.4
BLGM	**Bulgan**	**6.03**	**18**	⇓*i*Pn	Pn	19 44 25.7	-2.4
BLGM	**Bulgan**	**6.03**	**18**	*e*Pg	Pb	19 44 44.3	+0.3
BLGM	812nm,0.6s			*e*Sg	Sb	19 46 02.3	+6.0
SONB4	**Songino Array**	**6.21**	**38**	⇓*i*Pn	Pn	19 44 28.8	-1.7
SONB4	392nm,0.5s			*e*Sg	Sb	19 46 09.1	+7.9
SONA0	**Songino Array**	**6.22**	**38**	*e*Pn	Pn	19 44 29.1	-1.7
SONA0				*e*Pg	Pb	19 44 50.0	+2.7
SONA0	**Songino Array**	**6.22**	**38**	⇓*i*Pn	Pn	19 44 29.0	-1.7
SONA0				*e*Sg	Sb	19 46 09.4	+7.7
SONA0	474nm,0.9s			*e*Sg	Sb	19 46 09.5	+7.7
SONM	**Songino Array** 4.4nm,0.3s,baz=220,slow=15,SNR=120	**6.22**	**38**	Pn	Pn	19 44 29.1	-1.7
SONM	19nm,0.3s,baz=220,slow=18,SNR=28			Pg	Pb	19 44 50.0	+2.7
SONM	30nm,0.3s,baz=215,slow=34,SNR=6.0			Lg	Lg	19 46 07.4	
SONM	comp=Z,243nm,21.2s,baz=228,slow=42			LR	LR	19 47 17.8	
SONB5	**Songino Array**	**6.22**	**38**	⇓*i*Pn	Pn	19 44 29.1	-1.7
SONB5				*e*Sg	Sb	19 46 08.8	+7.0
SONA4	**Songino Array**	**6.23**	**38**	⇓*i*Pn	Pn	19 44 29.2	-1.6
SONA4				*e*Sg	Sb	19 46 08.5	+6.5
SONB3	**Songino Array**	**6.23**	**39**	⇓*i*Pn	Pn	19 44 29.1	-1.8
SONB3				*e*Sg	Sb	19 46 09.0	+7.0
SONA1	**Songino Array**	**6.23**	**38**	*e*Pn	Pn	19 44 28.9	-2.0
SONA1	**Songino Array**	**6.23**	**38**	⇓*i*Pn	Pn	19 44 29.1	-1.8
SONA1				*e*Sg	Sb	19 46 08.1	+6.0
SONA2	**Songino Array**	**6.23**	**38**	⇓*i*Pn	Pn	19 44 29.2	-1.7
SONA2				*e*Sg	Sb	19 46 08.2	+6.1
SONA3	**Songino Array**	**6.24**	**38**	⇓*i*Pn	Pn	19 44 29.3	-1.7
SONA3				*e*Sg	Sb	19 46 08.4	+6.2
SONB2	**Songino Ar. Si**	**6.24**	**39**	⇓*i*Pn	Pn	19 44 29.4	-1.7
SONB2				*e*Sg	Sb	19 46 09.2	+6.8
SONB1	**Songino Array**	**6.25**	**38**	⇓*i*Pn	Pn	19 44 29.4	-1.7
SONB1				*e*Sg	Sb	19 46 09.5	+7.0
UB5M		**6.39**	**40**	*e*Pn	Pn	19 44 31.3	-1.7
UB5M				*e*Sg	Sg	19 46 18.6	-5.2
ALFM		**6.51**	**39**	*e*Pn	Pn	19 44 32.9	-1.8
ALFM				*e*Sg	Sg	19 46 18.9	-8.8
ULN	**Ulaanbaatar**	**6.55**	**41**	*d i*P	Pn	19 44 33.5	-1.8
ULN	**Ulaanbaatar**	**6.55**	**41**	*e*Pn	Pn	19 44 33.4	-1.9
UGDM		**6.57**	**44**	⇓*i*Pn	Pn	19 44 33.8	-1.8
UGDM				*e*Sg	Sb	19 46 19.0	+7.2
ARTM		**6.70**	**42**	⇓*i*Pn	Pn	19 44 35.6	-1.8
ARTM				*e*Sg	Sg	19 46 25.9	-7.9
HTG	**Hatgal**	**7.37**	**358**	*e*Pg	Pb	19 45 10.7	+3.9
HTG	263nm,0.5s			*e*Sg	Sg	19 46 47.0	-8.1
BTO	**Baotou**	**7.43**	**106**	*e*Pn	Pn	19 44 47.3	0.0
LZH	**Lanzhou**	**7.43**	**160**	Pn	Pn	19 44 46.8	-0.5
LZH				Pg	Pb	19 45 07.3	-0.5
LZH				Sn	Sn	19 46 11.5	-0.2
LZH	comp=N,400nm,1.1s			smax	smax		
LZH	comp=E,360nm,1.0s			smax	smax		
ZAK	**Zakamensk**	**7.50**	**13**	*e*P	Pn	19 44 45.2	-3.1
ZAK	comp=Z,20nm,0.6s			pmax	pmax		
HBD	**Hovd**	**8.00**	**311**	*e*Pg	Pb	19 45 18.1	+0.7
HBD				*e*Sg	Sb	19 47 00.7	+8.0
MOY	**Mondy**	**8.57**	**1**	*e*P	Pn	19 45 01.3	-1.7
TLY	**Talaya**	**8.82**	**12**	Pn	Pn	19 45 05.5	-0.8
TLY	comp=Z,0.0nm,0.3s,baz=198,slow=10,SNR=7.5			Pg	Pg	19 45 35.5	-12
TLY	comp=Z,0.1nm,0.3s,baz=204,slow=7.4,SNR=8.4			Lg	Lg	19 47 31.5	
TLY	comp=Z,0.2nm,0.3s,baz=124,slow=17,SNR=9.1			LR	LR	19 48 43.0	
TLY	**Talaya**	**8.82**	**12**	*e*P	Pn	19 45 05.4	-0.8
TLY	comp=Z,24nm,0.5s			pmax	pmax		
ULG	**Ulaangom**	**9.06**	**322**	*e*Pg	Pn	19 45 36.2	+27
ULG				*e*Sg	Sn	19 47 34.9	+43
WMQ	**Urumqi**	**9.45**	**279**	P	Pn	19 45 15.0	0.0
WMQ				S	Sn	19 46 57.8	-3.5
WMQ	comp=Z,750nm,3.9s			LR	LR		
WMQ	comp=Z,710nm,4.0s			LR	LR		
BYO	**Bayan-Olgiy**	**9.46**	**312**	*e*Pg	Pn	19 45 46.9	+32
BYO				*e*Sg	Sn	19 47 52.1	+50
TIY	**Taiyuan**	**10.47**	**117**	P	Pn	19 45 32.1	+3.1
TIY				S	Sn	19 47 30.4	+4.1
TIY	comp=Z,400nm,8.0s			LR	LR		
TIY	comp=Z,320nm,6.6s			LR	LR		
TIY	comp=Z,540nm,10.9s			LR	LR		
XAN	**Xi'an**	**11.12**	**142**	P	Pn	19 45 35.0	-2.8
XAN				S	Sn	19 47 37.0	-5.2
XAN	comp=Z,4.0nm,0.4s			pmax	pmax		
XAN	comp=Z,410nm,8.8s			LR	LR		
CD2	**Chengdu**	**12.42**	**167**	*e*P	Pn	19 45 55.6	0.0
CD2				S	Sn	19 48 17.0	+2.9
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,750nm,9.1s			LR	LR		
CD2	comp=Z,1μm,11.3s			LR	LR		
CD2	comp=Z,580nm,9.3s			LR	LR		
MK32	**Makanchi Array**	**13.52**	**292**	*e*Pn	Pn	19 46 08.8	-1.7
MK32				*e*Sn	Sn	19 48 32.3	-8.4
MKAR	**Makanchi Array** baz=104,slow=12,SNR=2.8	**13.52**	**292**	Pn	Pn	19 46 08.8	-1.7
MKAR	comp=Z,0.2nm,0.3s,baz=99,slow=28,SNR=3.9			Sn	Sn	19 48 32.3	-8.4
MKAR	comp=Z,0.5nm,0.3s,baz=98,slow=32,SNR=4.0			Lg	Lg	19 50 01.2	
MKAR	comp=Z,46nm,21.6s,baz=65,slow=40			LR	LR	19 52 05.2	
MAKZ	**Makanchi**	**13.73**	**292**	*e*P	Pn	19 46 13.2	-0.2
MAKZ	**Makanchi**	**13.73**	**292**	*e*Pn	Pn	19 46 13.2	-0.2
HIA	**Hailar**	**14.57**	**58**	*e*P	Pn	19 46 27.8	+2.8
HIA	**Hailar**	**14.57**	**58**	*e*Pn	Pn	19 46 27.8	+2.8
ENH	**Enshi**	**14.62**	**148**	*e*Pn	Pn	19 46 23.5	-2.3
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=126,slow=10,SNR=15	**15.05**	**322**	Pn	Pn	19 46 29.8	-1.5
ZALV	comp=Z,0.1nm,0.3s,baz=132,slow=23,SNR=5.4			Lg	Lg	19 50 45.1	
ZALV	comp=Z,179nm,20.1s,baz=72,slow=37			LR	LR	19 52 10.9	
ZAA1	**Zalesovo Array**	**15.06**	**322**	*e*Pn	Pn	19 46 29.8	-1.6
LSA	**Lhasa**	**15.39**	**213**	*e*P	Pn	19 46 35.9	-0.5
LSA	comp=Z,13nm,0.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,13nm,0.8s	**15.39**	**213**	*e*Pn	Pn	19 46 35.9	-0.5
KURK	**Kurchatov**	**16.83**	**305**	⇓*e*P	Pn	19 46 55.9	+1.6
KURK	comp=Z,18nm,0.5s			pmax	pmax		
KURK	**Kurchatov**	**16.83**	**305**	*e*Pn	Pn	19 46 55.5	+1.2
KURK				Lg	Lg	19 51 44.1	
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.3s,baz=105,slow=12,SNR=6.3	**16.85**	**304**	Pn	Pn	19 46 55.5	+0.9
KURBB	comp=Z,0.0nm,0.3s,baz=103,slow=30,SNR=4.7			Lg	Lg	19 51 44.1	
BOD	**Bodaibo**	**16.96**	**25**	*e*P	Pn	19 46 56.8	+0.9
BOD	comp=Z,10.0nm,1.6s			pmax	pmax		
GYA	**Guiyang**	**17.31**	**162**	P	Pn	19 46 59.8	-0.9
GYA	comp=Z,10.0nm,0.8s			pmax	pmax		
KSH	**Kashi**	**18.86**	**267**	*e*P	Pn	19 47 25.8	+6.2
KSH				pP	sP	19 47 29.8	+6.6
KSH				sP	pP	19 47 33.3	+11
KSH				PP	PnPn	19 47 43.8	+12
KSH				S	Sn	19 50 56.1	+5.4
KSH				sS	sS	19 51 03.6	+5.5
KSH				SS	SnSn	19 51 23.3	+19
KSH				PcP	PcP	19 51 48.9	+3.4
KSH	comp=Z,130nm,5.2s			pmax	pmax		
KSH	comp=Z,180nm,8.8s			LR	LR		
KSH	comp=Z,150nm,9.6s			LR	LR		
KSH	comp=Z,210nm,9.2s			LR	LR		
TAPN	**Taplejung** comp=Z,33nm,0.8s	**18.90**	**218**	*e*P	P	19 47 19.4	-0.4
FRU	**Bishkek**	**19.03**	**278**	*e*P	P	19 47 21.0	+0.1
AAK	**Ala-Archa** comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=3.8	**19.16**	**278**	P	P	19 47 23.5	+1.1
AAK	**Ala-Archa**	**19.16**	**278**	⇓*e*P	P	19 47 25.0	+2.6
AAK	comp=Z,10.0nm,0.8s			pmax	pmax		
GUN	**Gumba** comp=Z,61nm,0.8s	**19.30**	**223**	*e*P	P	19 47 23.4	-0.8
JIRN	**Jiri** comp=Z,185nm,0.7s	**19.36**	**222**	*e*P	P	19 47 24.1	-0.7
ODAN	**Odare** comp=Z,66nm,0.8s	**19.47**	**218**	*e*P	P	19 47 25.2	-0.7
KKN	**Kakani** comp=Z,26nm,0.6s	**19.70**	**224**	*e*P	P	19 47 27.7	-0.8
RAMN	**Ramite** comp=Z,30nm,0.7s	**19.75**	**220**	*e*P	P	19 47 28.0	-1.1
PKI	**Pulchoki**	**19.82**	**223**	*e*P	P	19 47 29.5	-0.3
PKIN	**Phulchoki** comp=Z,51nm,1.1s	**19.82**	**224**	*e*P	P	19 47 29.0	-0.8
GKN	**Gorkha** comp=Z,40nm,0.9s	**19.86**	**226**	*e*P	P	19 47 29.7	-0.5
DMN	**Daman** comp=Z,60nm,0.7s	**19.94**	**224**	*e*P	P	19 47 30.6	-0.5
KOLN	**Koldanda**	**20.60**	**228**	*e*P	P	19 47 37.5	-0.8
PYUN	**Piuthan** comp=Z,16nm,0.5s	**20.68**	**229**	*e*P	P	19 47 38.1	-1.0
KSAR	**Wonju Array Be**	**21.49**	**96**	P	P	19 47 46.5	-1.0
KSAR	**Wonju Array Be**	**21.49**	**96**	P	P	19 47 46.5	-1.0
KSRS	**Korea Array** comp=Z,4.0nm,1.1s,baz=286,slow=9.1,SNR=3.9	**21.51**	**96**	P	P	19 47 46.5	-1.2
KSRS	**Korea Array** comp=Z,3.0nm,1.0s	**21.51**	**96**	P	P	19 47 46.5	-1.2
BVAR	**Borovoye Array** comp=Z,2.4nm,0.6s,baz=109,slow=11,SNR=3.6	**22.37**	**307**	P	P	19 47 53.4	-3.5
BRVK	**Borovoye**	**22.44**	**307**	⇑*i*P	P	19 47 57.8	+0.2
BRVK	comp=Z,25nm,0.7s			pmax	pmax		
CHTO	**Chiang Mai**	**24.26**	**184**	*e*P	P	19 48 13.7	-2.3
CHTO	comp=Z,19nm,1.8s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,19nm,1.8s	**24.26**	**184**	*e*P	P	19 48 13.7	-2.3
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.6s,baz=354,slow=9.5,SNR=7.1	**24.61**	**184**	P	P	19 48 17.4	-1.8
CMAR	**Chiang Mai Arr**	**24.61**	**184**	*e*P	P	19 48 19.0	-0.2
CM01	**Chiang Mai Arr**	**24.65**	**184**	*e*P	P	19 48 17.2	-2.3
KBL	**Kabul**	**25.95**	**261**	*e*P	P	19 48 30.9	-0.6
KBL	comp=Z,28nm,1.6s			pmax	pmax		
KBL	**Kabul** comp=Z,28nm,1.6s	**25.95**	**261**	*e*P	P	19 48 30.9	-0.6
NRIK	**Noril'sk** comp=Z,128nm,18.1s,baz=202,slow=37	**27.16**	**350**	LR	LR	19 59 53.4	
SVE	**Sverdlovsk**	**28.70**	**313**	⇓*e*P	P	19 48 56.5	+0.7
SVE	comp=Z,14nm,0.9s			pmax	pmax		
MJB9	**Matsu-Tunnel** comp=Z,7.6nm,1.6s	**29.39**	**90**	*e*P	P	19 49 01.9	-0.2
MAJO	**Matsushiro** comp=Z,27nm,1.6s	**29.40**	**90**	*e*P	P	19 49 01.8	-0.4
MAJO				pmax	pmax		
MAJO	**Matsushiro** comp=Z,27nm,1.6s	**29.40**	**90**	*e*P	P	19 49 01.8	-0.4
ARU	**Arti** comp=Z,6.5nm,0.4s,baz=95,slow=6.3,SNR=19	**29.76**	**311**	P	P	19 49 02.4	-2.8
ARU	comp=Z,151nm,18.3s,baz=118,slow=37			LR	LR	20 01 32.8	
ARU	**Arti**	**29.76**	**311**	*c i*P	P	19 49 05.5	+0.3
ARU						19 50 00.3	
ARU				S	S	19 54 02.5	+1.3
ARU				SS	SnSn	19 55 34.1	+3.5

ARU pmax pmax
comp=Z,12nm,0.7s
GEYT Alibeck 32.48 276 P P 19 49 30.6 +1.2
comp=Z,4.1nm,0.7s,baz=64,slow=3.4,SNR=6.1
GEYT LR LR 20 04 41.7
comp=Z,65nm,18.2s,baz=60,slow=40
KLMR Klimovskoe 39.93 318 *e*P **P 19 50 30.8 -1.9**
KLMR pmax pmax
comp=Z,28nm,1.4s
KVAR Kislovodsk Arr 41.27 292 LR LR 20 10 25.3
comp=Z,63nm,18.4s,baz=164,slow=40
KIV Kislovodsk 41.28 292 *e*P **P 19 50 44.1 -0.1**
KIV *e* 19 52 20.9
KIV *e* 19 52 42.0
KIV pmax pmax
comp=Z,8.0nm,1.3s
VSR Storozhevoye 41.48 303 *e*P **P 19 50 45.3 -0.3**
VSR pmax pmax
comp=Z,20nm,1.0s
GSI Gunungsitoli 41.71 185 *e*P **P 19 50 46.6 -1.2**
comp=Z,40nm,0.7s
BILL Bilibino 41.88 31 *e*P **P 19 50 48.0 -0.7**
BILL *e* 19 52 41.3
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,54nm,16.0s
OBN Obninsk 42.17 310⇑ *i*P **P 19 50 51.2 0.0**
OBN pmax pmax
comp=Z,72nm,3.3s
ARTV Artvin 42.81 288 *e*P P 19 50 53.3 -3.6
comp=Z,3.6nm,1.0s
ANN Anapa 44.51 295 *e*P P 19 51 04.9 -5.4
ANN *e**PP pP 19 51 16.9 +3.5
ANN *e*S S 19 57 36.3 -9.1
ANN *e*SS **SS 20 01 01.9 -2.7**
ANN pmax pmax
comp=Z,38nm,1.3s
ARA0 ARCESS Array S 45.30 331 *e*P **P 19 51 15.9 -0.3**
ARCES ARCESS Array B 45.30 331 P **P 19 51 15.9 -0.3**
comp=Z,2.6nm,0.7s,baz=72,slow=8.8,SNR=8.3
ARCES LR LR 20 15 08.6
comp=Z,66nm,20.8s,baz=245,slow=43
ARCES ARCESS Array B 45.30 331 *e*P **P 19 51 17.4 +1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 45.30 331 *e*P **P 19 51 16.7 +0.4**
ARE0 ARCESS Array S 45.30 331 *e*P **P 19 51 16.0 -0.2**
comp=Z,86nm,1.8s
FIA1 FINESS Array S 46.31 320 *e*P **P 19 51 24.4 +0.1**
FIA0 FINESS Array S 46.31 320 *e*P **P 19 51 24.1 -0.2**
FIA0 FINESS Array S 46.31 320 *e*P **P 19 51 24.1 -0.2**
FINES FINESS Array B 46.31 320 P **P 19 51 24.1 -0.2**
comp=Z,4.1nm,0.8s,baz=84,slow=5.9,SNR=7.8
FINES FINESS Array B 46.31 320 *e*P **P 19 51 25.2 +0.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
VSU Vasula 46.70 316⇑ *i*P **P 19 51 27.9 +0.6**
VSU pmax pmax
comp=Z,31nm,0.9s
SPB1 Spitsbergen Ar 47.05 344 *e*P **P 19 51 30.3 +0.3**
SPB2 Spitsbergen Ar 47.05 344 *e*P **P 19 51 29.7 -0.3**
SPA1 Spitsbergen Ar 47.06 344 *e*P **P 19 51 29.6 -0.3**
SPA2 Spitsbergen Ar 47.06 344 *e*P **P 19 51 30.7 +0.8**
SPITS Spitsbergen Ar 47.06 344 LR LR 20 13 31.5
comp=Z,42nm,19.0s,baz=95,slow=39
AKASG Malin Array Be 47.64 305 P **P 19 51 34.2 -0.6**
comp=Z,6.0nm,0.7s,baz=59,slow=7.9,SNR=11
AKASG LR LR 20 12 56.5
comp=Z,57nm,19.1s,baz=325,slow=38
AKASG Malin Array Be 47.64 305 *e*P **P 19 51 35.0 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 47.64 305 *e*P **P 19 51 34.3 -0.5**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 47.64 305 *e*P **P 19 51 34.3 -0.5**
comp=Z,6.9nm,0.7s
KIEV Kiev 47.65 305⇓ *i*P **P 19 51 33.2 -1.7**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 47.65 305 *e*P P 19 51 32.7 -2.2
comp=Z,6.9nm,0.7s
AK11 Malin Array Si 47.68 305 *e*P **P 19 51 34.4 -0.7**
BR101 Keskin Array S 49.16 290 *e*P **P 19 51 47.3 +0.4**
BRTR Keskin Array B 49.16 290 P **P 19 51 47.3 +0.4**
comp=Z,1.1nm,0.7s,baz=86,slow=9.0,SNR=6.5
BRTR Keskin Array B 49.16 290 *e*P **P 19 51 47.5 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR231 Keskin MP Arra 49.69 291 *e*P P 19 51 47.4 -3.5
BUR08 Bucovina Ar. S 51.24 303 *e*P **P 19 52 02.6 0.0**
MLR Muntele Rosu 51.70 300 *e*P P 19 52 03.8 -2.2
MLR pmax pmax
comp=Z,15nm,1.6s
MLR Muntele Rosu 51.70 300 *e*P P 19 52 03.8 -2.2
comp=Z,15nm,1.6s
STHS Stebnicka Huta 52.88 306 *e*P **P 19 52 16.5 +1.9**
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 52.88 306 *e*P **P 19 52 16.5 +1.9**
NB2 NORSAR Subarra 53.25 323 P **P 19 52 16.9 -0.3**
comp=Z,1.1nm,0.6s,baz=66,slow=7.4
NB200 NORSAR Array S 53.25 323 *e*P **P 19 52 16.1 -1.1**
NOA NORSAR Array B 53.25 323 P **P 19 52 16.1 -1.1**
comp=Z,1.0nm,0.7s,baz=66,slow=7.4,SNR=4.4
OJC Ojcow 53.37 308 *e*P **P 19 52 17.0 -1.2**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 53.37 308 *e*P **P 19 52 17.0 -1.2**
comp=Z,8.8nm,0.8s
PSZ Piszkesteto 54.34 305 *e*P **P 19 52 25.9 +0.5**
PSZ pmax pmax
comp=Z,21nm,1.8s
PSZ Piszkesteto 54.34 305 *e*P **P 19 52 25.9 +0.5**
comp=Z,21nm,1.8s
VYHS Vyhne 54.71 306 *e*P **P 19 52 29.1 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 54.71 306 *e*P **P 19 52 29.1 +1.1**
VTS Vitosha 54.78 298 *e*P **P 19 52 29.3 +0.5**
VTS pmax pmax
comp=Z,20nm,1.8s
VTS Vitosha 54.78 298 *e*P **P 19 52 29.2 +0.5**
comp=Z,20nm,1.8s
MORC Moravsky Berou 54.87 308 *e*P **P 19 52 29.4 +0.2**
MORC pmax pmax
comp=Z,15nm,0.7s
MORC Moravsky Berou 54.87 308 *e*P **P 19 52 29.4 +0.2**
comp=Z,15nm,0.7s
KRLC Kraliky 55.17 309 *e*P **P 19 52 32.3 +0.9**
KRLC Kraliky 55.17 309 *e*P **P 19 52 32.3 +0.9**
DPC Dobruska-Polom 55.31 309 *e*P **P 19 52 32.6 +0.3**
DPC Dobruska-Polom 55.31 309 *e*P **P 19 52 32.6 +0.3**
UPC Upice 55.41 309 *e*P **P 19 52 34.1 +1.1**
UPC Upice 55.41 309 *e*P **P 19 52 34.1 +1.1**
PVCC Panska Ves 56.21 310 *e*P **P 19 52 40.0 +1.2**
PVCC Panska Ves 56.21 310 *e*P **P 19 52 40.0 +1.2**
BRG Berggiesshubel 56.40 311 *e*P **P 19 52 40.7 +0.6**
comp=Z,5.2nm,1.1s
BRG Berggiesshubel 56.40 311 *e*P **P 19 52 40.7 +0.6**
BRG pmax pmax
comp=Z,5.0nm,1.1s
SANT Santorini 56.42 291 *e*P P 19 52 38.5 -2.0
comp=Z,67nm,1.1s
PRU Pruhonice 56.49 309 *e*P **P 19 52 41.6 +0.9**
PRU Pruhonice 56.49 309 *e*P **P 19 52 41.6 +0.9**
CLL Collm 56.71 311 *i*P **P 19 52 42.5 +0.2**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 56.71 311 *i*P **P 19 52 42.5 +0.2**
comp=Z,5.0nm,0.7s
CLL Collm 56.71 311 *e*P **P 19 52 42.2 0.0**
comp=Z,4.9nm,0.7s
CONA Conrad Observa 56.73 307 *i*pP **P 19 52 44.4 +1.8**
comp=Z,8.6nm,0.7s
SOEI Soe 56.85 152 *e*P **P 19 52 43.0 -0.7**
comp=Z,63nm,1.9s
ARSA Arzberg 57.26 306 *i*pP **P 19 52 47.0 +0.7**
comp=Z,2.3nm,0.7s
IMAR Indian Mountai 57.28 28 *e*P **P 19 52 46.0 -0.1**
KHC Kasperske Hory 57.45 309 *e*P **P 19 52 48.1 +0.5**
KHC Kasperske Hory 57.45 309 *e*P **P 19 52 48.2 +0.5**
KHC pmax pmax
comp=Z,6.0nm,1.8s
KHC Kasperske Hory 57.45 309 *e*P **P 19 52 48.2 +0.5**
comp=Z,5.5nm,1.8s
GEC2 GERESS Array S 57.53 309 *e*P **P 19 52 47.1 -1.1**
GEC2 GERESS Array S 57.53 309 *e*P **P 19 52 47.1 -1.1**
GERES GERESS Array B 57.53 309 P **P 19 52 47.9 -0.4**
comp=Z,0.8nm,0.8s,baz=64,slow=9.1,SNR=6.7
GERES GERESS Array B 57.53 309 *e*P **P 19 52 48.9 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GEA0 GERESS Array S 57.53 309 *e*P **P 19 52 48.0 -0.2**
MOA Molln 57.70 307 *i*pP **P 19 52 50.6 +1.3**
comp=Z,5.2nm,1.3s
SOKA Soboth 57.84 306 *i*pP **P 19 52 50.6 +0.2**
comp=Z,10nm,1.1s
KBA Koelnbreinsper 58.63 307 *i*pP **P 19 52 58.1 +2.0**
comp=Z,15nm,1.2s
ABTA Abfaltersbach 59.29 307 *e*pP **P 19 53 00.3 -0.2**
comp=Z,6.5nm,1.0s
WTTA Wattenberg 59.53 308 *i*pP **P 19 53 03.3 +1.0**
comp=Z,5.0nm,0.6s
MOTA Moosalm 59.79 308 *i*pP **P 19 53 04.8 +0.7**
comp=Z,7.7nm,1.0s
RETA Reutte 59.91 308 *i*pP **P 19 53 05.9 +1.0**
comp=Z,3.8nm,0.9s
ILAR Eielson Array 60.32 27 P **P 19 53 07.8 +0.5**
comp=Z,1.0nm,0.8s,baz=300,slow=6.2,SNR=9.7
ILB Eielson Array 60.32 27 *e*P **P 19 53 04.8 -2.5**
DAVA Damuels 60.53 309 *i*pP **P 19 53 12.3 +3.1**
comp=Z,4.6nm,0.9s
MBWA Marble Bar 66.31 161 *e*P **P 19 53 45.7 -1.7**
comp=Z,17nm,1.2s
PMG Port Moresby 67.24 129 *e*P P 19 53 51.0 -2.4
PMG pmax pmax
comp=Z,8.0nm,0.5s
PMG Port Moresby 67.24 129 *e*P P 19 53 51.0 -2.5
comp=Z,7.8nm,0.5s
COEN Coen 68.85 135 *e*P **P 19 54 02.0 -1.5**
comp=Z,18nm,1.4s
WRA Warramunga Arr 69.97 146 P P 19 54 08.0 -2.4
comp=Z,2.0nm,0.8s,baz=343,slow=6.0,SNR=12
WRA Warramunga Arr 69.97 146 *e*P P 19 54 08.3 -2.1
WRA pmax pmax
comp=Z,2.0nm,0.7s
WR1 Warramunga Arr 69.97 146 *e*P P 19 54 08.0 -2.4
comp=Z,25nm,1.8s
WC3 Warramunga Arr 70.00 146 *e*P **P 19 54 08.8 -1.8**
comp=Z,25nm,1.9s
YKA Yellowknife Ar 71.02 16 P **P 19 54 14.6 -1.7**
comp=Z,1.6nm,0.7s,baz=334,slow=6.0,SNR=3.7
ESDC Sonseca Array 73.12 309 P **P 19 54 29.0 -0.4**
comp=Z,0.4nm,0.6s,baz=36,slow=5.9,SNR=5.1
AS31 Alice Springs 73.15 148 *e*P **P 19 54 27.9 -1.7**
comp=Z,2.2nm,1.4s
ASAR Alice Springs 73.15 148 P **P 19 54 27.6 -1.9**
comp=Z,2.0nm,0.8s,baz=342,slow=6.3,SNR=53
AS01 Alice Springs 73.17 148 *e*P **P 19 54 28.0 -1.7**
GNW Green Mountain 81.89 28 *e*P **P 19 55 17.5 -0.7**
STKA Stephens Creek 83.52 146 P P 19 55 24.4 -2.3
comp=Z,3.5nm,0.8s,baz=3.1,slow=5.7,SNR=4.7
STKA Stephens Creek 83.52 146 *e*P P 19 55 24.6 -2.0
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 83.52 146 *e*P P 19 55 24.1 -2.6
comp=Z,5.0nm,1.4s
PDAR Pinedale Array 90.31 22 P **P 19 55 59.9 -0.3**
comp=Z,0.3nm,0.5s,baz=59,slow=0.9,SNR=3.8

IDC 15 19:57:34.9±3.8, 4°.93S×153°.24E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/33, mbtmp3.2/2, Error ellipse: s-maj=191.3km s-min=46.8km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.50**	**233**	Sn	Sn	20 00 52.6	+1.2
	0.8nm,0.3s,baz=90,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**23.70**	**229**	P	P	20 02 48.7	+0.1
	0.2nm,0.4s,baz=54,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**26.36**	**223**	P	P	20 03 12.8	-0.2
	0.1nm,0.4s,baz=56,slow=9.4,SNR=7.9						
TORD	**Torodi Ar. Bea**	**150.76**	**288**	PKPbc	PKPbc	20 17 30.1	-0.2
	0.5nm,0.3s,baz=69,slow=2.4,SNR=10						

*IDC **15** 20:15:37.7±2.2, 36°.77N×140°.74E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/27, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=40.4km s-min=26.4km az=58.0*
*ISCJB **15** 20:15:38.4±0.5, 37°.10N±0°.03×140°.68E±0°.05, h10km±5km, mb3.3/2, Error ellipse: s-maj=7.0km s-min=4.7km az=26.4*
*JMA **15** 20:15:38.5, 37°.10N×140°.65E, h9km±1km, M3.1*
JMA Felt I J1.

ISC 15 20:15:38.1±0.9, 37°.11N±0°.04×140°.67E±0°.04, h12km±7km, n17, σ0s91/20, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.10**	**92**	P	**Pg**	**20 15 41.3**	**+0.3**
ONAJ				S	**Sg**	**20 15 43.5**	**+0.3**
JFK	**Kawauchi**	**0.31**	**32**	P	**Pb**	**20 15 44.9**	**-0.7**
JFK				S	**Sb**	**20 15 49.5**	**-1.2**
JFT	**Otama**	**0.49**	**327**	P	**Pb**	**20 15 48.3**	**-0.4**
JFT				S	**Sb**	**20 15 54.9**	**-1.0**
JHO	**Hitachi**	**0.50**	**189**	P	**Pg**	**20 15 47.8**	**-0.1**
JHO				S	**Sg**	**20 15 54.5**	**0.0**
JSB	**Shiboa**	**0.61**	**257**	P	**Pb**	**20 15 50.8**	**0.0**
JSB				*e*S	**Sb**	**20 15 59.2**	**-0.2**
JMM	**Marumori**	**0.77**	**7**	P	**Pb**	**20 15 52.9**	**-0.5**
JMM				S	**Sb**	**20 16 03.3**	**-0.5**
JFY	**Yanaizu**	**0.82**	**292**	P	**Pb**	**20 15 54.2**	**-0.2**
JFY				S	**Sg**	**20 16 04.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.05**	**255**	Pn	**Pb**	**20 16 13.8**	**-1.5**
	5.3nm,0.3s,baz=84,slow=17,SNR=99						
MJAR				Sn	**Sb**	**20 16 40.4**	**-0.5**
	8.1nm,0.3s,baz=87,slow=27,SNR=7.5						
MAT	**Matsushiro**	**2.05**	**255**	P	**Pb**	**20 16 13.9**	**-1.5**
MAT				S	**Sb**	**20 16 41.1**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	20 51 26.4	
	baz=313,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.71**	**120**	T	T	20 51 27.1	
	baz=313,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.72**	**120**	T	T	20 51 27.8	
	baz=313,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.40**	**122**	T	T	20 52 18.6	
	baz=314,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.40**	**122**	T	T	20 52 19.6	
	baz=314,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.42**	**122**	T	T	20 52 22.8	
	baz=314,slow=76,SNR=18						
MKAR	**Makanchi Array**	**43.58**	**302**	P	**P**	**20 23 44.0**	**+2.1**
	0.2nm,0.7s,baz=87,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**20 25 23.7**	**-0.4**
	0.3nm,0.5s,baz=6.5,slow=7.6,SNR=4.4						

*ISCJB **15** 20:27:23.9±0.6, 50°.61N±0°.07×175°.84E±0°.06, h10km, mb4.1/20, MS2.8/1, Error ellipse: s-maj=10.7km s-min=5.8km az=2.1*
*IDC **15** 20:27:23.8±1.0, 50°.48N×175°.85E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/33, mbtmp3.6/9, ML3.0/1, MS2.9/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=32.1km s-min=22.8km az=164.0*
*NEIC **15** 20:27:30.3±0.0, 50°.96N×176°.13E, h20km, mb4.4/15, After AEIC.*

ISC 15 20:27:25.7±0.8, 50°.7N±0°.1×175°.88E±0°.05, h10km, n41, σ1s08/42, mb4.2/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.36**	**333**	*e*Pn	**Pn**	**20 28 04.8**	**+0.4**
SMY				*e*Sn	**Sn**	**20 28 32.9**	**-0.6**
TASE	**Tanaga Southea**	**4.00**	**70**	*e*Pn	**Pn**	**20 28 28.4**	**+1.3**
TAFP	**Tanaga Falls P**	**4.05**	**70**	*e*Sn	**Sn**	**20 29 13.8**	**-1.4**
TAPA	**Tanaga Point A**	**4.13**	**71**	*e*Pn	**Pn**	**20 28 29.9**	**+1.0**
KIKV	**Kanaga Island**	**4.54**	**72**	*e*Pn	**Pn**	**20 28 35.6**	**+1.3**
ADK	**Adak**	**4.83**	**72**	*e*Pn	**Pn**	**20 28 39.0**	**+0.6**
ADK				*e*Sn	**Sn**	**20 29 32.2**	**-2.1**
ADK				*e*Sg	**Sn**	**20 29 32.5**	**-1.8**
ADAG	**Mount Adagdak**	**4.90**	**71**	*e*Pn	**Pn**	**20 28 40.8**	**+1.5**
GSCK	**Great Sitkin C**	**5.17**	**72**	*e*Pn	**Pn**	**20 28 44.2**	**+1.1**
GSTD	**Great Sitkin T**	**5.19**	**71**	*e*Pn	**Pn**	**20 28 44.4**	**+1.0**
GSTD				*e*Sn	**Sn**	**20 29 40.9**	**-2.5**
KOWE	**Korovin West**	**6.40**	**71**	*e*Pn	**Pn**	**20 29 02.1**	**+2.2**
PETK	**Petropavlovsk-**	**11.50**	**289**	Pn	**Pn**	**20 30 09.5**	**-0.3**
	0.5nm,0.3s,baz=102,slow=18,SNR=4.2						
OHAK	**Old Harbor**	**19.19**	**58**	*e*P	**P**	**20 31 48.6**	**-0.6**
	239nm,2.0s						
TT01	**Tatalina**	**19.49**	**40**	*e*P	**Pn**	**20 31 54.0**	**+0.3**
TTA	**Tatalina**	**19.50**	**40**	*e*P	**P**	**20 31 51.9**	**-0.8**
	25nm,1.9s						
KDAK	**Kodiak Island**	**19.63**	**56**	*e*P	**P**	**20 31 54.3**	**+0.2**
	231nm,1.9s						
CNPM	**China Poot**	**20.61**	**52**	*e*P	**P**	**20 32 05.2**	**+0.4**
	99nm,1.6s						
CAST	**Castle Rocks**	**21.33**	**41**	*e*P	**P**	**20 32 12.1**	**-0.3**
	34nm,2.0s						
IMAR	**Indian Mountai**	**21.81**	**34**	*e*P	**P**	**20 32 16.4**	**-1.1**
KTH	**Kantishna Hill**	**21.86**	**41**	*e*P	**P**	**20 32 19.8**	**+1.5**
	40nm,1.7s						
BPAW	**Bear Paw Mtn.**	**22.04**	**40**	*e*P	**P**	**20 32 20.6**	**+0.6**
	16nm,1.5s						
TRF	**Thorofare Moun**	**22.09**	**42**	*e*P	**P**	**20 32 21.4**	**+0.6**
	50nm,1.9s						
MLY	**Manley**	**22.50**	**38**	*e*P	**P**	**20 32 23.6**	**-1.4**
	23nm,1.9s						
SCM	**Sheep Creek Mo**	**22.97**	**47**	*e*P	**P**	**20 32 30.7**	**+0.7**
	181nm,2.0s						
MID	**Middleton Isla**	**23.07**	**53**	*e*P	**P**	**20 32 31.6**	**+0.6**
	1um,1.7s						
DHY	**Denali Highway**	**23.24**	**44**	*e*P	**P**	**20 32 32.7**	**-0.2**
	12nm,1.1s						
WRH	**Wood River Hil**	**23.35**	**40**	*e*P	**P**	**20 32 33.2**	**-0.6**
	25nm,1.8s						
MDM	**Murphy Dome**	**23.46**	**39**	*e*P	**P**	**20 32 35.5**	**+0.6**
	14nm,1.7s						
CCB	**Clear Creek Bu**	**23.52**	**40**	*e*P	**P**	**20 32 35.3**	**-0.2**
	20nm,2.0s						
ILAR	**Eielson Array**	**23.94**	**40**	P	**P**	**20 32 39.7**	**+0.2**
	0.2nm,0.5s,baz=247,slow=7.5,SNR=4.4						
ILAR				LR	LR	20 43 13.9	
	comp=Z,28nm,18.7s,baz=360,slow=40						
PAX	**Paxson**	**24.06**	**44**	*e*P	**P**	**20 32 41.5**	**+0.7**
	10nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**31.66**	**196**	T	T	21 06 57.1	
	baz=9.7						
H11N3	**WAKE ISLAND Hy**	**31.67**	**196**	T	T	21 06 56.7	
	baz=9.7						
H11N1	**WAKE ISLAND Hy**	**31.68**	**196**	T	T	21 06 59.6	
	baz=9.7						
SONM	**Songino Array**	**43.93**	**295**	P	**P**	**20 35 33.4**	**+0.8**
	0.6nm,0.7s,baz=69,slow=8.7,SNR=3.2						
MKAR	**Makanchi Array**	**57.80**	**306**	P	**P**	**20 37 16.4**	**-0.4**
	0.5nm,0.7s,baz=60,slow=7.2,SNR=5.8						
TXAR	**Lajitas Array**	**62.09**	**77**	P	**P**	**20 37 47.3**	**+0.6**
	0.4nm,0.6s,baz=299,slow=5.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**67.71**	**272**	P	**P**	**20 38 23.1**	**-0.2**
	0.7nm,0.7s,baz=25,slow=6.5,SNR=6.4						
WRA	**Warramunga Arr**	**79.23**	**219**	P	**P**	**20 39 29.4**	**-1.5**
	0.7nm,0.6s,baz=32,slow=6.0,SNR=5.6						
GERES	**GERESS Array B**	**79.71**	**348**	P	**P**	**20 39 34.4**	**+1.0**
	0.1nm,0.4s,baz=63,slow=3.6,SNR=4.1						
ASAR	**Alice Springs**	**82.75**	**218**	P	**P**	**20 39 48.8**	**-0.8**
	0.8nm,1.0s,baz=19,slow=5.7,SNR=4.9						
BOSA	**Boshof**	**148.78**	**304**	PKPbc	**PKPbc**	**20 47 13.1**	**-0.1**
	3.4nm,0.9s,baz=77,slow=4.8,SNR=4.0						

*ISK **15** 20:36:06.9, 38°.18N×30°.18E, h5km, ML2.9*
*ISCJB **15** 20:36:07.9±0.4, 38°.19N±0°.02×30°.16E±0°.02, h2km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=33.3*
*DDA **15** 20:36:07.7, 38°.18N×30°.19E, h25km, MI3.5*
*CSEM **15** 20:36:08.0±0.1, 38°.20N×30°.15E, h2km, ML2.9, Error ellipse: s-maj=2.2km s-min=2.0km az=16.0*

ISC 15 20:36:08.2±1.1, 38°.19N±0°.02×30°.17E±0°.02, h5km±9km, n95, σ0s96/140, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.46**	**143**	PG	**Pg**	**20 36 16.1**	**-0.9**
ISP				*e*SG	**Sb**	**20 36 24.2**	**-1.6**
ISP	**Isparta**	**0.46**	**143**	*i* Pg	**Pg**	**20 36 16.2**	**-0.9**
ISP				*e*Sg	**Sb**	**20 36 24.3**	**-1.6**
SHUT	**Suhut-Afyon**	**0.47**	**39**	PG	**Pg**	**20 36 17.7**	**+0.4**
SHUT				*e*SG	**Sb**	**20 36 25.3**	**-1.1**
SHUT	**Suhut-Afyon**	**0.47**	**39**	*i* Pg	**Pg**	**20 36 17.7**	**+0.4**
SHUT				*e*Sg	**Sb**	**20 36 25.3**	**-1.1**
BRDR	**BURDUR-Merkez**	**0.50**	**190**	*i* P	**Pg**	**20 36 17.3**	**-0.5**
BRDR				*i* S	**Sb**	**20 36 25.8**	**-1.3**
BRDR	**BURDUR-Merkez**	**0.50**	**190**	P	**Pg**	**20 36 17.3**	**-0.5**
BRDR				S	**Sb**	**20 36 25.8**	**-1.3**
BAGO	**Egridir - ISPA**	**0.52**	**112**	*i* P	**Pg**	**20 36 17.7**	**-0.6**
BAGO				*i* S	**Sb**	**20 36 26.3**	**-1.5**
KHL	**Karahalli**	**0.53**	**285**	PG	**Pg**	**20 36 18.1**	**-0.3**
KHL				*e*SG	**Sb**	**20 36 27.2**	**-0.9**
KHL	**Karahalli**	**0.53**	**285**	*i* Pg	**Pg**	**20 36 18.2**	**-0.3**
KHAL	**Karahalli**	**0.57**	**289**	*i* P	**Pg**	**20 36 18.6**	**-0.6**
KHAL				*i* S	**Sg**	**20 36 27.1**	**+0.6**
KHAL	**Karahalli**	**0.57**	**289**	P	**Pg**	**20 36 18.6**	**-0.6**
KHAL				S	**Sg**	**20 36 27.1**	**+0.6**
BCK	**Bucak**	**0.80**	**155**	PG	**Pg**	**20 36 22.6**	**-0.9**
BCK				*e*SG	**Sb**	**20 36 34.9**	**-0.8**
BCK	**Bucak**	**0.80**	**155**	*i* Pg	**Pg**	**20 36 22.6**	**-0.9**
BCK				*e*Sg	**Sb**	**20 36 34.9**	**-0.8**
BOLV	**Bolvadin**	**0.81**	**49**	*i* P	**Pg**	**20 36 23.7**	**-0.1**
BOLV				*i* S	**Sb**	**20 36 35.6**	**-0.5**
BOLV	**Bolvadin**	**0.81**	**49**	P	**Pg**	**20 36 23.7**	**-0.1**
BOLV				S	**Sb**	**20 36 35.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**0.96**	**137**	*e*PG	**Pg**	**20 36 26.5**	**-0.2**
SUTC				*e*SG	**Sb**	**20 36 40.8**	**+0.2**
SUTC	**Sutluce-Ispart**	**0.96**	**137**	*e*Pg	**Pg**	**20 36 26.5**	**-0.2**
SUTC				*e*Sg	**Sb**	**20 36 40.8**	**+0.2**
DENT	**Denizli**	**1.00**	**245**	*e*PG	**Pb**	**20 36 27.4**	**-0.7**
DENT	**Denizli**	**1.00**	**245**	*e*Pg	**Pb**	**20 36 27.4**	**-0.7**
DNZL	**Cakiroluk**	**1.02**	**241**	*i* P	**Pb**	**20 36 27.8**	**-0.7**
DNZL				*i* S	**Sn**	**20 36 45.8**	**+1.7**
DNZL	**Cakiroluk**	**1.02**	**241**	P	**Pb**	**20 36 27.8**	**-0.7**
DNZL				S	**Sn**	**20 36 45.8**	**+1.7**
GEDZ	**Gediz**	**1.04**	**325**	*e*PG	**Pb**	**20 36 28.4**	**-0.4**
GEDZ	**Gediz**	**1.04**	**325**	*e*Pg	**Pb**	**20 36 28.4**	**-0.4**
GDZ	**Gediz**	**1.05**	**329**	*i* P	**Pg**	**20 36 27.9**	**-0.5**
GDZ				*i* S	**Sb**	**20 36 43.1**	**0.0**
GDZ	**Gediz**	**1.05**	**329**	P	**Pg**	**20 36 27.9**	**-0.5**
GDZ				S	**Sb**	**20 36 43.1**	**0.0**
GOLH	**Golhisar**	**1.07**	**207**	*i* P	**Pb**	**20 36 28.5**	**-0.7**
GOLH				*i* S	**Sn**	**20 36 45.1**	**-0.1**
GOLH	**Golhisar**	**1.07**	**207**	P	**Pb**	**20 36 28.5**	**-0.7**
GOLH				S	**Sn**	**20 36 45.1**	**-0.1**
GLHS	**Glhisar (BURDU**	**1.16**	**208**	*e*PN	**Pb**	**20 36 30.2**	**-0.6**
GLHS				*e*SN	**Sn**	**20 36 47.9**	**+0.4**
GLHS	**Glhisar (BURDU**	**1.16**	**208**	*e*Pn	**Pb**	**20 36 30.2**	**-0.6**
GLHS				*e*Sn	**Sn**	**20 36 47.9**	**+0.4**
DOGA	**KONYA_Doganhis**	**1.18**	**93**	*i* P	**Pg**	**20 36 30.2**	**-0.7**
DOGA				*i* S	**Sn**	**20 36 48.0**	**-0.1**
DOGA	**KONYA_Doganhis**	**1.18**	**93**	P	**Pg**	**20 36 30.2**	**-0.7**
DOGA				S	**Sn**	**20 36 48.0**	**-0.1**
KORT	**Korkueli**	**1.19**	**173**	*e*PN	**Pn**	**20 36 31.6**	**-0.1**
KORT	**Korkueli**	**1.19**	**173**	*i* P	**Pg**	**20 36 30.3**	**-0.8**
KORT				*i* S	**Sn**	**20 36 50.0**	**+1.7**
KORT	**Korkueli**	**1.19**	**173**	P	**Pg**	**20 36 30.3**	**-0.8**
KORT	**Korkueli**	**1.19**	**173**	*e*Pn	**Pn**	**20 36 31.6**	**-0.1**
KORT				S	**Sn**	**20 36 50.0**	**+1.7**
TAVA	**DENIZLI_Tavas**	**1.23**	**235**	*i* P	**Pg**	**20 36 31.1**	**-0

KDHN			*i* S	Sb	20 36 57.6	-0.2
KDHN	**Kadinhani**	**1.56 77**	P	Pn	20 36 36.2	-0.6
KDHN			S	Sb	20 36 57.6	-0.2
SVRH	**Sivrihisar-ESK**	**1.64 40**	*e*PN	Pb	20 36 38.2	-0.8
SVRH	**Sivrihisar-ESK**	**1.64 40**	*e*Pn	Pb	20 36 38.2	-0.8
LADK	**Ladik-KONYA**	**1.73 89**	*e*PN	Pb	20 36 39.3	-1.2
LADK	**Ladik-KONYA**	**1.73 89**	*e*Pn	Pb	20 36 39.3	-1.2
KONT	**Konya--Tatoy**	**1.74 97**	*e*PN	Pb	20 36 39.7	-1.0
KONT	**Konya--Tatoy**	**1.74 97**	*e*Pn	Pb	20 36 39.7	-1.0
FETY	**Fethiye**	**1.78 210**	*e*PN	Pb	20 36 40.1	-1.1
FETY	**Fethiye**	**1.78 210**	*e*Pn	Pb	20 36 40.2	-1.1
FETY	**Fethiye**	**1.78 210**	P	Pg	20 36 41.4	-0.9
FETY			S	Sn	20 37 02.0	-0.5
DALY	**Dalyan (Mu¨la**	**1.82 222**	*e*PN	Pb	20 36 40.9	-1.2
DALY	**Dalyan (Mu¨la**	**1.82 222**	*i* P	Pn	20 36 40.1	-0.1
DALY			*i* S	Sb	20 37 05.4	+0.2
DALY	**Dalyan (Mu¨la**	**1.82 222**	P	Pn	20 36 40.1	-0.1
DALY	**Dalyan (Mu¨la**	**1.82 222**	*e*Pn	Pb	20 36 40.9	-1.2
DALY			S	Sb	20 37 05.4	+0.2
AYDN	**Tasoluk**	**1.89 255**	*i* P	Pn	20 36 40.8	-0.4
AYDN			*i* S	Sg	20 37 12.7	+3.7
AYDN	**Tasoluk**	**1.89 255**	P	Pn	20 36 40.8	-0.4
AKHS	**Akhisar**	**1.98 291**	*i* P	Pn	20 36 41.1	-1.2
AKHS			*i* S	Sn	20 37 07.2	-0.3
AKHS	**Akhisar**	**1.98 291**	P	Pn	20 36 41.1	-1.2
AKHS			S	Sn	20 37 07.2	-0.3
AKAS	**Kas**	**2.00 193**	*e*PN	Pn	20 36 43.4	+0.6
AKAS	**Kas**	**2.00 193**	*e*Pn	Pn	20 36 43.4	+0.6
MLSB	**Milas**	**2.10 246**	*e*PN	Pn	20 36 44.6	+0.6
MLSB	**Milas**	**2.10 246**	*e*Pn	Pn	20 36 44.6	+0.6
CHBY	**Cihanbeyli**	**2.17 79**	*e*PN	Pn	20 36 45.4	+0.3
CHBY	**Cihanbeyli**	**2.17 79**	*e*Pn	Pn	20 36 45.4	+0.3
IGD	**Bursa**	**2.21 340**	*i* P	Pn	20 36 45.0	-0.5
IGD			*i* S	Sn	20 37 13.8	+0.7
STEP	**BALIKESIR_Sava**	**2.26 303**	*i* P	Pn	20 36 45.9	-0.4
STEP			*i* S	Sg	20 37 26.0	+5.3
STEP	**BALIKESIR_Sava**	**2.26 303**	P	Pn	20 36 45.8	-0.4
DAT	**Datca**	**2.53 236**	*e*PN	Pn	20 36 50.6	+0.6
DAT	**Datca**	**2.53 236**	*e*Pn	Pn	20 36 50.6	+0.6
BODT	**Bodrum**	**2.54 245**	*e*PN	Pn	20 36 50.5	+0.5
BODT	**Bodrum**	**2.54 245**	*e*Pn	Pn	20 36 50.5	+0.5
GAZI	**Gazipasa**	**2.59 138**	*e*PN	Pn	20 36 51.6	+0.8
GAZI	**Gazipasa**	**2.59 138**	*e*Pn	Pn	20 36 51.6	+0.8
SULT	**Sultanhani-AKS**	**2.63 89**	*e*PN	Pn	20 36 52.3	+0.8
SULT	**Sultanhani-AKS**	**2.63 89**	*e*Pn	Pn	20 36 52.3	+0.8
BERE	**Bereket-Mersin**	**3.05 126**	*e*PN	Pn	20 36 58.3	+1.1
BERE	**Bereket-Mersin**	**3.05 126**	*e*Pn	Pn	20 36 58.3	+1.1
TEKE	**Tekeli-Mersin**	**3.11 130**	*e*PN	Pn	20 36 59.3	+1.4
TEKE	**Tekeli-Mersin**	**3.11 130**	*e*Pn	Pn	20 36 59.3	+1.4
TEVE	**Tevekalti-Mers**	**3.14 123**	*e*PN	Pn	20 36 59.4	+1.0
TEVE	**Tevekalti-Mers**	**3.14 123**	*e*Pn	Pn	20 36 59.4	+1.0
KEBE	**Keben-Mersin**	**3.31 121**	*e*PN	Pn	20 37 02.0	+1.2
KEBE	**Keben-Mersin**	**3.31 121**	*e*Pn	Pn	20 37 02.0	+1.2

NEIC ***15*** *20:39:09.1±0.2, 39°.32S×178°.02E, h43km, ML4.2(WEL), After WEL.*

WEL 15 20:39:09.1±0.2, 39°.32S×178°.02E, h43km±1km, ML4.3/55, 12C-30D, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, intensity MM 4., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.19 332**		Pn	Pn	20 39 16.9	+0.2
MHGZ	**Mahia Peninsul**	**0.19 332**		⇓PN	Pn	20 39 16.9	+0.2
MHGZ				AML	AML	20 39 23.3	
MHGZ				AML	AML	20 39 23.6	
KNZ	**Kokohu**	**0.40 318**		*e*Pn	Pn	20 39 17.8	-1.0
KNZ				*e*Sn	Sn	20 39 25.0	-0.6
KNZ	**Kokohu**	**0.40 318**		PN	Pn	20 39 17.8	-1.0
KNZ				AML	AML	20 39 24.9	
KNZ				AML	AML	20 39 25.0	
PRGZ	**Paritu Road**	**0.41 345**		Pn	Pn	20 39 18.8	-0.2
PRGZ				Sn	Sn	20 39 26.1	+0.2
PRGZ	**Paritu Road**	**0.41 345**		⇓PN	Pn	20 39 18.8	-0.2
PRGZ				SN	Sn	20 39 26.1	+0.2
PRGZ				AML	AML	20 39 27.5	
RIGZ	**Rimuhau**	**0.65 342**		⇑PN	Pn	20 39 21.7	-0.2
RIGZ				SN	Sn	20 39 31.1	-0.1
RIGZ				AML	AML	20 39 31.9	
WHHZ	**Waihua**	**0.66 292**		⇑PN	Pn	20 39 21.6	-0.5
WHHZ				SN	Sn	20 39 30.8	-0.6
WHHZ				AML	AML	20 39 32.8	
SNGZ	**Shannon Statio**	**0.76 315**		Pn	Pn	20 39 22.9	-0.6
SNGZ	**Shannon Statio**	**0.76 315**		⇑PN	Pn	20 39 22.9	-0.6
SNGZ				AML	AML	20 39 33.9	
SNGZ				AML	AML	20 39 34.9	
ARHZ	**Aropaoanui**	**0.80 274**		Pn	Pn	20 39 23.8	-0.1
ARHZ	**Aropaoanui**	**0.80 274**		⇓PN	Pn	20 39 23.8	-0.1
ARHZ				AML	AML	20 39 34.8	
ARHZ				AML	AML	20 39 35.9	
CKHZ	**Cape Kidnapper**	**0.80 245**		Pn	Pn	20 39 24.0	0.0
CKHZ	**Cape Kidnapper**	**0.80 245**		⇓PN	Pn	20 39 24.0	0.0
CKHZ				AML	AML	20 39 27.1	
CKHZ				AML	AML	20 39 36.7	
CNGZ	**Carnagh Statio**	**0.85 10**		Pn	Pn	20 39 25.1	+0.5
CNGZ	**Carnagh Statio**	**0.85 10**		⇓PN	Pn	20 39 25.1	+0.5
CNGZ				AML	AML	20 39 38.8	
CNGZ				AML	AML	20 39 42.1	
TKGZ	**Te Karaka**	**0.89 351**		Pn	Pn	20 39 25.2	0.0
TKGZ	**Te Karaka**	**0.89 351**		⇓PN	Pn	20 39 25.2	0.0
TKGZ				AML	AML	20 39 38.0	
TKGZ				AML	AML	20 39 38.0	
RAGZ	**Rawiri**	**0.95 330**		Pn	Pn	20 39 25.5	-0.6
RAGZ				Sn	Sn	20 39 37.5	-1.1
RAGZ	**Rawiri**	**0.95 330**		PN	Pn	20 39 25.5	-0.6
RAGZ				SN	Sn	20 39 37.5	-1.1
RAGZ				AML	AML	20 39 38.3	
NMHZ	**Naumai**	**0.97 283**		Pn	Pn	20 39 26.1	-0.2
NMHZ	**Naumai**	**0.97 283**		⇑PN	Pn	20 39 26.1	-0.2
NMHZ				AML	AML	20 39 39.4	
NMHZ				AML	AML	20 39 39.7	
KAHZ	**Kahuranaki**	**1.00 242**		Pn	Pn	20 39 26.7	-0.1
KAHZ	**Kahuranaki**	**1.00 242**		⇓PN	Pn	20 39 26.7	-0.1
KAHZ				AML	AML	20 40 01.9	
KAHZ				AML	AML	20 40 01.9	
MCHZ	**McNeill Hill**	**1.03 263**		Pn	Pn	20 39 27.2	+0.1
MCHZ	**McNeill Hill**	**1.03 263**		⇓PN	Pn	20 39 27.2	+0.1
MCHZ				AML	AML	20 39 41.4	
MCHZ				AML	AML	20 39 42.7	
MWZ	**Matawai**	**1.06 338**		*e*Pn	Pn	20 39 26.9	-0.7
MWZ				*e*Sn	Sn	20 39 39.6	-1.5
MWZ	**Matawai**	**1.06 338**		PN	Pn	20 39 26.9	-0.7
MWZ				AML	AML	20 39 39.6	
MWZ				AML	AML	20 39 39.6	
RTZ	**Ruatahuna**	**1.08 311**		⇑PN	Pn	20 39 27.2	-0.6
PXZ	**Pawanui**	**1.14 231**		*e*Pn	Pn	20 39 28.2	-0.4
PXZ				*e*Sn	Sn	20 39 44.6	+1.6
PXZ	**Pawanui**	**1.14 231**		⇓PN	Pn	20 39 28.2	-0.4
PXZ				AML	AML	20 39 44.4	
PXZ				AML	AML	20 39 44.6	
PXZ				AML	AML	20 39 44.6	
TWGZ	**Tauwhareparae**	**1.15 358**		Pn	Pn	20 39 28.8	+0.1
TWGZ	**Tauwhareparae**	**1.15 358**		⇓PN	Pn	20 39 28.8	+0.1
TWGZ				AML	AML	20 39 45.0	
TWGZ				AML	AML	20 39 45.2	
BKZ	**Black Stump Fm**	**1.20 277**		*e*Pn	Pn	20 39 28.9	-0.5
BKZ				*e*Sn	Sn	20 39 41.4	-3.1
BKZ				*e*Sn	Sn	20 39 43.1	-1.4
BKZ	**Black Stump Fm**	**1.20 277**		⇑PN	Pn	20 39 28.9	-0.5
BKZ				AML	AML	20 39 43.2	
BKZ				AML	AML	20 39 44.1	
KWHZ	**Kaweka Forest**	**1.24 265**		⇓PN	Pn	20 39 29.8	-0.3
KWHZ				AML	AML	20 39 45.4	
KWHZ				AML	AML	20 39 45.4	
PUZ	**Puketiti**	**1.26 8**		Pn	Pn	20 39 29.9	-0.4
PUZ	**Puketiti**	**1.26 8**		PN	Pn	20 39 29.9	-0.4
PUZ				AML	AML	20 39 46.3	
PUZ				AML	AML	20 39 46.4	
URZ	**Urewera**	**1.28 326**		*e*Pn	Pn	20 39 29.8	-0.6
URZ				*e*Sn	Sn	20 39 45.9	-0.5
URZ				*e*		20 39 50.0	
URZ	**Urewera**	**1.28 326**		PN	Pn	20 39 29.8	-0.6
URZ				AML	AML	20 39 45.9	
URZ				AML	AML	20 39 50.0	
MUGZ	**Murupara**	**1.29 310**		⇑PN	Pn	20 39 30.2	-0.5
KRHZ	**Kereru**	**1.32 255**		PN	Pn	20 39 30.5	-0.6
KRHZ				AML	AML	20 39 47.3	
KRHZ				AML	AML	20 39 47.6	
MRHZ	**Matea Rd**	**1.34 291**		⇑PN	Pn	20 39 31.1	-0.3
MRHZ				AML	AML	20 39 47.0	
MRHZ				AML	AML	20 39 47.2	
RUGZ	**Raukumara Rang**	**1.38 349**		PN	Pn	20 39 31.3	-0.8
PRHZ	**Porangahau**	**1.43 228**		Pn	Pn	20 39 31.8	-0.7
PRHZ	**Porangahau**	**1.43 228**		⇓PN	Pn	20 39 31.8	-0.7
PRHZ				AML	AML	20 39 52.3	
PRHZ				AML	AML	20 39 54.2	
WPHZ	**Waipukurau**	**1.43 238**		Pn	Pn	20 39 32.0	-0.5
WPHZ	**Waipukurau**	**1.43 238**		⇓PN	Pn	20 39 32.0	-0.5
WPHZ				AML	AML	20 39 55.6	
WPHZ				AML	AML	20 39 57.2	
PKGZ	**Pakihiroa**	**1.43 2**		*e*PN	Pn	20 39 32.6	-0.1
PKGZ				AML	AML	20 39 51.0	
PKGZ				AML	AML	20 39 51.0	
ALRZ	**Allen Road**	**1.51 300**		Pn	Pn	20 39 33.4	-0.3
ALRZ	**Allen Road**	**1.51 300**		PN	Pn	20 39 33.4	-0.3
PRRZ	**Plateau Road**	**1.51 302**		Pn	Pn	20 39 33.4	-0.3
PRRZ	**Plateau Road**	**1.51 302**		PN	Pn	20 39 33.4	-0.3
PNHZ	**Pukenui**	**1.53 247**		Pn	Pn	20 39 33.5	-0.4
PNHZ	**Pukenui**	**1.53 247**		PN	Pn	20 39 33.5	-0.4
PNHZ				AML	AML	20 39 53.0	
PNHZ				AML	AML	20 39 55.7	
BHHZ	**Black Hill Sta**	**1.53 263**		Pn	Pn	20 39 33.6	-0.3
BHHZ	**Black Hill Sta**	**1.53 263**		⇓PN	Pn	20 39 33.6	-0.3
BHHZ				AML	AML	20 39 51.3	
BHHZ				AML	AML	20 39 52.0	
WMGZ	**Waiomatatini S**	**1.53 12**		Pn	Pn	20 39 33.8	-0.1
WMGZ	**Waiomatatini S**	**1.53 12**		⇓PN	Pn	20 39 33.8	-0.2
WMGZ				AML	AML	20 39 54.0	
WMGZ				AML	AML	20 39 54.5	
RRRZ	**Republican Roa**	**1.53 309**		Pn	Pn	20 39 33.6	-0.4
RRRZ	**Republican Roa**	**1.53 309**		PN	Pn	20 39 33.6	-0.4
HATZ	**Hinemaiaia**	**1.56 285**		Pn	Pn	20 39 34.3	-0.1
HATZ	**Hinemaiaia**	**1.56 285**		PN	Pn	20 39 34.3	-0.1
EDRZ	**Edgecumbe**	**1.57 320**		Pn	Pn	20 39 34.2	-0.4
EDRZ	**Edgecumbe**	**1.57 320**		PN	Pn	20 39 34.2	-0.4
HAZ	**Te Kaha**	**1.57 353**		PN	Pn	20 39 34.4	-0.2
HAZ				AML	AML	20 39 55.1	
HAZ				AML	AML	20 39 55.1	
HAZ				AML	AML	20 39 56.6	
HAZ				AML	AML	20 39 56.6	
TARZ	**Mount Tarawera**	**1.61 312**		Pn	Pn	20 39 34.8	-0.3
TARZ	**Mount Tarawera**	**1.61 312**		⇑PN	Pn	20 39 34.8	-0.3
ANWZ	**Angora Road**	**1.65 226**		PN	Pn	20 39 34.8	-0.7
ANWZ				AML	AML	20 40 04.1	
ANWZ				AML	AML	20 40 07.1	
HRRZ	**Handcock Road**	**1.65 304**		Pn	Pn	20 39 35.4	-0.2
HRRZ	**Handcock Road**	**1.65 304**		⇓PN	Pn	20 39 35.4	-0.2
WPRZ	**Whakapapatarin**	**1.66 298**		Pn	Pn	20 39 35.3	-0.4
WPRZ	**Whakapapatarin**	**1.66 298**		⇓PN	Pn	20 39 35.3	-0.4
WHRZ	**Whale Island**	**1.68 330**		Pn	Pn	20 39 35.8	-0.2
HLRZ	**Highlands Stat**	**1.69 309**		⇓PN	Pn	20 39 36.1	-0.1
MKRZ	**Makatiti**	**1.70 314**		*e*Pn	Pn	20 39 36.6	+0.3
MKRZ	**Makatiti**	**1.70 314**		PN	Pn	20 39 36.6	+0.3
MARZ	**Manawahe**	**1.70 321**		Pn	Pn	20 39 36.2	-0.1
MARZ	**Manawahe**	**1.70 321**		PN	Pn	20 39 36.2	-0.1
HSRZ	**Hossack Road**	**1.72 305**		⇑PN	Pn	20 39 36.2	-0.3
RITZ	**Rihia Road**	**1.72 281**		Pn	Pn	20 39 36.7	+0.2
RITZ	**Rihia Road**	**1.72 281**		PN	Pn	20 39 36.7	+0.2
DVHZ	**Dannevirke**	**1.73 235**		Pn	Pn	20 39 35.9	-0.8
DVHZ	**Dannevirke**	**1.73 235**		⇓PN	Pn	20 39 35.9	-0.8
DVHZ				AML	AML	20 39 58.9	
DVHZ				AML	AML	20 39 59.2	
WHTZ	**Whakaora**	**1.74 292**		*e*Pn	Pn	20 39 36.8	-0.1
WHTZ	**Whakaora**	**1.74 292**		PN	Pn	20 39 36.8	-0.1
TSZ	**Takapari Road**	**1.75 245**		Pn	Pn	20 39 36.4	-0.7
TSZ	**Takapari Road**	**1.75 245**		⇓PN	Pn	20 39 36.4	-0.7
TSZ				AML	AML	20 39 57.3	
TSZ				AML	AML	20 39 58.4	
MOVZ	**Moawhango**	**1.76 267**		*e*Pn	Pn	20 39 37.5	+0.3
MOVZ	**Moawhango**	**1.76 267**		PN	Pn	20 39 37.5	+0.3
MXZ	**Matakaoa Point**	**1.77 7**		*e*Sn	Sn	20 40 00.8	+2.3
MXZ	**Matakaoa Point**	**1.77 7**		PN	Pn	20 39 36.5	-0.7
MXZ				AML	AML	20 40 00.8	
MXZ				AML	AML	20 40 00.9	
OMRZ	**Omania**	**1.77 313**		Pn	Pn	20 39 36.6	-0.7
OMRZ	**Omania**	**1.77 313**		PN	Pn	20 39 36.6	-0.7
RATZ	**Rangitukua**	**1.81 284**		Pn	Pn	20 39 37.7	-0.1
RATZ	**Rangitukua**	**1.81 284**		PN	Pn	20 39 37.7	-0.1
OTVZ	**Oturere**	**1.84 274**		*e*Pn	Pn	20 39 38.6	+0.4
OTVZ	**Oturere**	**1.84 274**		PN	Pn	20 39 38.6	+0.4
TUVZ	**Tukino**	**1.84 271**		*e*Pn	Pn	20 39 38.8	+0.5
TUVZ	**Tukino**	**1.84 271**		⇓PN	Pn	20 39 38.8	+0.5
KATZ	**Kakaramea**	**1.84 280**		*e*Pn	Pn	20 39 38.4	0.0
KATZ	**Kakaramea**	**1.84 280**		⇓PN	Pn	20 39 38.4	0.0
KRVZ	**Karewarewa**	**1.86 276**		Pn	Pn	20 39 38.6	0.0
KRVZ	**Karewarewa**	**1.86 276**		PN	Pn	20 39 38.6	0.0
OPRZ	**Ohinepanea**	**1.87 322**		Pn	Pn	20 39 37.5	-1.1
OPRZ	**Ohinepanea**	**1.87 322**		⇑PN	Pn	20 39 37.5	-1.1
WNVZ	**Wahianoa**	**1.88 269**		*e*Pn	Pn	20 39 39.3	+0.4
WNVZ	**Wahianoa**	**1.88 269**		⇓PN	Pn	20 39 39.3	+0.4
NGZ	**Ngauruhoe**	**1.89 274**		*e*Pn	Pn	20 39 39.1	+0.1
NGZ	**Ngauruhoe**	**1.89 274**		PN	Pn	20 39 39.1	+0.1
WHVZ	**Whangaehu Hut**	**1.89 270**		Pn	Pn	20 39 39.3	+0.3
WHVZ	**Whangaehu Hut**	**1.89 270**		⇓PN	Pn	20 39 39.3	+0.3
WTVZ	**West Tongariro**	**1.90 275**		*e*Pn	Pn	20 39 39.4	+0.3
WTVZ	**West Tongariro**	**1.90 275**		*e*PN	Pn	20 39 39.2	+0.1
KUTZ	**Kaahu Road**	**1.91 295**		Pn	Pn	20 39 38.6	-0.5
KUTZ	**Kaahu Road**	**1.91 295**		PN	Pn	20 39 38.6	-0.5
DRZ	**Dome Shelter**	**1.91 271**		*e*Pn	Pn	20 39 40.1	+0.7
FWVZ	**Far West T-bar**	**1.92 271**		*e*Pn	Pn	20 39 39.6	+0.1
FWVZ	**Far West T-bar**	**1.92 271**		⇓PN	Pn	20 39 39.6	+0.1
TRVZ	**Turoa**	**1.92 270**		*e*Pn	Pn	20 39 39.8	+0.3
BFZ	**Birch Farm**	**1.92 225**		*e*Pn	Pn	20 39 38.0	-1.4
BFZ				*e*Sn	Sn	20 40 00.9	-1.4
BFZ				*e*Sn	Sn	20 40 02.4	+0.1
BFZ	**Birch Farm**	**1.92 225**		PN	Pn	20 39 38.0	-1.3
BFZ				AML	AML	20 40 02.3	
BFZ				AML	AML	20 40 02.3	
BFZ				AML	AML	20 40 02.4	
BFZ				AML	AML	20 40 02.4	
MTVZ	**Mangateitei**	**1.98 267**		Pn	Pn	20 39 40.5	+0.4
PRWZ	**Pori Road**	**2.00 231**		Pn	Pn	20 39 39.8	-0.6
PRWZ	**Pori Road**	**2.00 231**		PN	Pn	20 39 39.8	-0.6
PRWZ				AML	AML	20 39 42.1	
PRWZ				AML	AML	20 40 06.5	
TWVZ	**Taurewa**	**2.02 276**		*e*Pn	Pn	20 39 40.5	-0.3
TWVZ	**Taurewa**	**2.02 276**		PN	Pn	20 39 40.5	-0.3
POWZ	**Post Office Ro**	**2.04 238**		Pn	Pn	20 39 40.4	-0.5
POWZ	**Post Office Ro**	**2.04 238**		⇓PN	Pn	20 39 40.4	-0.5
POWZ				AML	AML	20 39 43.1	
POWZ				AML	AML	20 39 43.6	
PKVZ	**Pokaka**	**2.08 270**		Pn	Pn	20 39 41.9	+0.4
PKVZ	**Pokaka**	**2.08 270**		PN	Pn	20 39 41.8	+0.3
TGRZ	**Tauranga**	**2.11 318**		Pn	Pn	20 39 41.0	-0.8
TGRZ	**Tauranga**	**2.11 318**		PN	Pn	20 39 41.0	-0.8
CPWZ	**Castlepoint**	**2.11 221**		AML	AML	20 40 11.3	
CPWZ				AML	AML	20 40 11.4	
TLZ	**Tolley Road**	**2.18 296**		Pn	Pn	20 39 42.3	-0.6
TLZ	**Tolley Road**	**2.18 296**		⇑PN	Pn	20 39 42.3	-0.6
TIWZ	**Tintock**	**2.19 228**		Pn	Pn	20 39 41.9	-1.2
TIWZ	**Tintock**	**2.19 228**		PN	Pn	20 39 41.9	-1.2
TIWZ				AML	AML	20 40 11.5	
TIWZ				AML	AML	20 40 12.1	
OHWZ	**Ohakea**	**2.27 246**		PN	Pn	20 39 44.5	+0.5
MRZ	**Mangatainoka R**	**2.30 234**		*e*Pn	Pn	20 39 43.4	-1.1
MRZ	**Mangatainoka R**	**2.30 234**		PN	Pn	20 39 43.4	-1.1
MRZ				AML	AML	20 40 11.0	
MRZ				AML	AML	20 40 11.0	
WAZ	**Wanganui**	**2.39 259**		Pn	Pn	20 39 46.8	+1.1
WAZ	**Wanganui**	**2.39 259**		⇓PN	Pn	20 39 46.8	+1.1
TMWZ	**Te Maipa**	**2.42 222**		Pn	Pn	20 39 44.2	-2.0
TMWZ	**Te Maipa**	**2.42 222**		PN	Pn	20 39 44.2	-2.0
TMWZ				AML	AML	20 40 13.5	
TMWZ				AML	AML	20 40 16.2	
HOWZ	**Holdsworth Sta**	**2.48 230**		Pn	Pn	20 39 45.4	-1.7
HOWZ	**Holdsworth Sta**	**2.48 230**		PN	Pn	20 39 45.4	-1.7
HOWZ				AML	AML	20 40 14.9	
HOWZ				AML	AML	20 40 15.1	
TOZ	**Tahuroa Road**	**2.54 308**		*e*Pn	Pn	20 39 47.2	-0.5
TOZ	**Tahuroa Road**	**2.54 308**		PN	Pn	20 39 47.2	-0.6
VRZ	**Vera Road**	**2.54 273**		Pn	Pn	20 39 48.0	+0.2
VRZ	**Vera Road**	**2.54 273**		PN	Pn	20 39 48.1	+0.2
HIZ	**Hauiti**	**2.60 287**		*e*Pn	Pn	20 39 49.8	+1.2
HIZ	**Hauiti**	**2.60 287**		PN	Pn	20 39 49.9	+1.3
OGWZ	**Otaki Gorge**	**2.65 235**		Pn	Pn	20 39 47.9	-1.4
OGWZ	**Otaki Gorge**	**2.65 235**		PN	Pn	20 39 47.9	-1.4
OGWZ				AML	AML	20 40 18.8	
OGWZ				AML	AML	20 40 19.0	
MTW	**Mount Morrison**	**2.66 226**		*e*Pn	Pn	20 39 47.2	-2.3
MTW				*e*Sn	Sn	20 40 20.3	-0.1
MTW	**Mount Morrison**	**2.66 226**		PN	Pn	20 39 47.2	-2.3
MTW				AML	AML	20 40 18.4	
MTW				AML	AML	20 40 20.3	
TRWZ	**Traveller**	**2.73 220**		*e*Pn	Pn	20 39 48.3	-2.2
TRWZ				*e*Sn	Sn	20 40 23.6	+1.3
TRWZ	**Traveller**	**2.73 220**		PN	Pn	20 39 48.3	-2.2
TRWZ				AML	AML	20 40 22.3	
TRWZ				AML	AML	20 40 23.6	
LREZ	**Lake Rotokare**	**2.81 266**		PN	Pn	20 39 52.6	+1.1
KIW	**Kapiti Island**	**2.84 236**		*e*Pn	Pn	20 39 50.6	-1.3
KIW				*e*Sn	Sn	20 40 28.3	+3.4
KIW	**Kapiti Island**	**2.84 236**		PN	Pn	20 39 50.6	-1.3
KIW				AML	AML	20 40 00.2	
KIW				AML	AML	20 40 28.3	
PAWZ	**Paruwai Farm**	**2.86 223**		*e*Pn	Pn	20 39 49.8	-2.4
PAWZ				*e*Sn	Sn	20 40 24.1	-1.3
PAWZ	**Paruwai Farm**	**2.86 223**		PN	Pn	20 39 49.8	-2.4
PAWZ				AML	AML	20 40 23.9	
PAWZ				AML	AML	20 40 24.1	
CAW	**Cannon Point**	**2.88 231**		*e*Pn	Pn	20 39 50.6	-1.9
CAW				*e*Sn	Sn	20 40 25.1	-0.8
CAW	**Cannon Point**	**2.88 231**		PN	Pn	20 39 50.6	-1.9
CAW				AML	AML	20 40 24.1	
CAW				AML	AML	20 40 25.1	
MHEZ	**Mangahewa**	**2.88 274**		Pn	Pn	20 39 51.5	-1.0
MHEZ	**Mangahewa**	**2.88 274**		PN	Pn	20 39 51.5	-1.0
DREZ	**Durham Road**	**2.97 271**		Pn	Pn	20 39 55.0	+1.3
DREZ	**Durham Road**	**2.97 271**		PN	Pn	20 39 55.0	+1.3
MSWZ	**Moikau Station**	**2.98 224**		Pn	Pn	20 39 51.2	-2.6
MSWZ	**Moikau Station**	**2.98 224**		PN	Pn	20 39 51.2	-2.6
MSWZ				AML	AML	20 40 26.7	
MSWZ				AML	AML	20 40 27.6	
PREZ	**Palmer Road**	**3.00 268**		Pn	Pn	20 39 55.2	+1.1
PREZ	**Palmer Road**	**3.00 268**		PN	Pn	20 39 55.2	+1.1
NEZ	**North Egmont**	**3.05 270**		Pn	Pn	20 39 56.2	+1.4
NEZ	**North Egmont**	**3.05 270**		PN	Pn	20 39 56.2	+1.4
PLWZ	**Palliser**	**3.08 222**		Pn	Pn	20 39 52.4	-2.9
PLWZ	**Palliser**	**3.08 222**		PN	Pn	20 39 52.4	-2.9
PLWZ				AML	AML	20 40 28.5	
PLWZ				AML	AML	20 40 28.7	
KHEZ	**Kahui Hut**	**3.11 269**		Pn	Pn	20 39 57.3	+1.7
KHEZ	**Kahui Hut**	**3.11 269**		PN	Pn	20 39 57.3	+1.7
PKE	**Pukeiti**	**3.13 271**		*e*Pn	Pn	20 39 57.1	+1.1
PKE	**Pukeiti**	**3.13 271**		PN	Pn	20 39 57.1	+1.1
KUZ	**Kuaotunu**	**3.15 324**		*e*Pn	Pn	20 39 55.1	-1.1
KUZ	**Kuaotunu**	**3.15

σ0°92/26, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.26	22	*e*Pn	Pn	20 45 53.6	+1.1
PMG	Port Moresby	5.15	233	Pn	Pn	20 46 32.9	+0.7
	1.7nm,0.3s,baz=49,slow=9.4,SNR=9.1						
PMG				Sn	Sn	20 47 31.4	+0.8
	1.1nm,0.3s,baz=72,slow=19,SNR=3.5						
PMG	Port Moresby	5.15	233	*e*Pn	Pn	20 46 32.3	+0.1
PMG				Sn	Sn	20 47 31.4	+0.8
MANU	Manus Island	5.79	317	*e*Pn	Pn	20 46 42.4	+1.3
COEN	Coen	11.05	226	*e*Pn	Pn	20 47 52.4	-0.8
EIDS	Eidsvold	18.96	181	*e*P	Pn	20 49 37.3	+0.6
	46nm,1.8s						
SAUI	Saumlaki	19.94	264	*e*P	P	20 49 46.4	-0.4
	81nm,0.9s						
MTN	Manton Dam	20.94	250	*e*P	P	20 49 56.9	-0.6
	30nm,1.5s						
WRAB	Tennant Creek	21.34	229	*e*P	P	20 50 02.0	+0.1
	9.3nm,0.8s						
WB2	Warramunga Arr	21.35	229	*e*P	P	20 50 00.4	-1.6
WR1	Warramunga Arr	21.36	229	*e*P	P	20 50 01.9	-0.1
	27nm,1.5s						
WRA	Warramunga Arr	21.36	229	P	P	20 50 01.9	-0.1
	7.1nm,0.7s,baz=53,slow=11,SNR=40						
AS01	Alice Springs	24.02	222	*e*P	P	20 50 30.3	+0.9
AS31	Alice Springs	24.05	222	*e*P	P	20 50 30.5	+0.7
	2.7nm,0.6s						
ASAR	Alice Springs	24.06	222	P	P	20 50 30.4	+0.6
	6.6nm,0.6s,baz=59,slow=9.0,SNR=121						
STKA	Stephens Creek	27.02	198	P	P	20 50 57.5	+1.0
	4.9nm,0.9s,baz=37,slow=11,SNR=3.3						
STKA	Stephens Creek	27.02	198	*e*P	P	20 50 56.9	+0.5
	5.9nm,1.6s						
MXZ	Matakaoa Point	39.63	146	*e*P	P	20 52 45.4	-0.6
	95nm,1.2s						
SBUM	Sibu	40.01	281	*e*P	P	20 52 47.8	-1.7
	5.9nm,1.2s						
MK32	Makanchi Array	80.50	319	*e*P	P	20 57 25.4	-0.8
MKAR	Makanchi Array	80.50	319	P	P	20 57 25.4	-0.8
	0.3nm,0.7s,baz=103,slow=4.6,SNR=2.9						
ILAR	Eielson Array	84.10	22	P	P	20 57 44.0	-0.5
	0.7nm,0.7s,baz=250,slow=5.5,SNR=5.7						
TORD	Torodi Ar. Bea	149.33	285	PKPbc	PKPbc	21 05 05.1	+1.2
	0.5nm,0.6s,baz=67,slow=2.6,SNR=5.9						
TOA1	Torodi Ar. Sit	149.33	285	*e*PKPbc	PKPbc	21 05 05.1	+1.2

IDC 15 20:51:56.9±3.3, 5°74S×149°84E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/29, mbtmp3.8/3, ML2.6/1, Error ellipse: s-maj=126.1km s-min=38.8km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.51	216	Pn	Pn	20 53 07.3	+0.7
	22nm,0.3s,baz=37,slow=6.3,SNR=52						
PMG				Sn	Sn	20 53 54.4	-5.4
	20nm,0.3s,baz=346,slow=17,SNR=11						
WRA	Warramunga Arr	20.66	225	P	P	20 56 37.9	-0.6
	1.8nm,0.5s,baz=51,slow=11,SNR=17						
ASAR	Alice Springs	23.52	219	P	P	20 57 08.7	-0.2
	0.4nm,0.5s,baz=54,slow=9.2,SNR=11						
TORD	Torodi Ar. Bea	147.76	286	PKPbc	PKPbc	21 11 44.4	-0.4
	0.5nm,0.4s,baz=91,slow=2.8,SNR=16						

IDC 15 20:55:52.1±2.3, 37.°11N×140.°80E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/45, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=42.8km s-min=31.9km az=42.0
ISCJB 15 20:55:53.9±0.6, 37.°10N±0.°03×140.°71E±0.°06, h14km±5km, mb3.4/2, Error ellipse: s-maj=8.2km s-min=5.0km az=14.5
JMA 15 20:55:54.2, 37.°10N×140.°65E, h9km±1km, M3.0
JMA Felt I J1.
ISC 15 20:55:54.3±0.9, 37.°10N±0.°03×140.°68E±0.°04, h12km±7km, n17, σ0°53/20, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.10	89	P	Pg	20 55 57.1	0.0
ONAJ				S	Sg	20 55 59.2	0.0
JFK	Kawauchi	0.31	31	P	Pg	20 56 00.6	0.0
JFK				S	Sg	20 56 05.0	+0.1
JHO	Hitachi	0.50	190	P	Pg	20 56 03.5	-0.5
JHO				*e*S	Sg	20 56 10.2	-0.4
JFT	Otama	0.50	327	P	Pg	20 56 04.0	-0.1
JFT				S	Sg	20 56 10.6	-0.1
JSB	Shiboa	0.62	258	P	Pg	20 56 06.5	+0.1
JSB				S	Sg	20 56 15.0	+0.5
JMM	Marumori	0.77	7	P	Pg	20 56 08.6	-0.6
JMM				S	Sg	20 56 19.1	-0.2
JFY	Yanaizu	0.83	292	P	Pg	20 56 09.9	-0.5
JFY				S	Sg	20 56 20.5	-0.8
MJAR	Matsushiro Arr	2.06	255	Pn	Pn	20 56 29.4	+0.7
	4.3nm,0.3s,baz=70,slow=14,SNR=54						
MJAR				Sn	Sb	20 56 56.4	-0.7
	6.5nm,0.3s,baz=87,slow=27,SNR=13						
MAT	Matsushiro	2.06	255	P	Pn	20 56 29.8	+1.0
MAT				S	Sb	20 56 57.5	+0.3
H11N2	WAKE ISLAND Hy	28.69	120	T	T	21 31 44.3	
	baz=316						
H11N1	WAKE ISLAND Hy	28.70	120	T	T	21 31 46.0	
	baz=316						
H11N3	WAKE ISLAND Hy	28.71	120	T	T	21 31 46.7	
	baz=316						
H11S1	WAKE ISLAND Hy	29.39	122	T	T	21 32 34.0	
	baz=314						
H11S3	WAKE ISLAND Hy	29.39	122	T	T	21 32 37.2	
	baz=314						
H11S2	WAKE ISLAND Hy	29.41	122	T	T	21 32 38.5	
	baz=314						
MKAR	Makanchi Array	43.58	302	P	P	21 03 58.4	+0.2
	0.2nm,0.5s,baz=81,slow=8.1,SNR=2.6						
WRA	Warramunga Arr	57.05	187	P	P	21 05 39.8	-0.4
	0.3nm,0.5s,baz=4.4,slow=7.4,SNR=4.5						

IDC 15 21:02:21.5±3.7, 6°82S×150°60E, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.5/29, mbtmp3.8/2, Error ellipse: s-maj=138.9km s-min=48.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.27	233	Pn	Pb	21 03 32.9	-4.5
	0.7nm,0.3s,baz=54,slow=8.7,SNR=2.5						
PMG				Sn	Sb	21 04 30.9	+1.4
	1.1nm,0.3s,baz=195,slow=12,SNR=1.7						
WRA	Warramunga Arr	20.48	229	P	P	21 07 00.9	-0.2
	2.2nm,0.7s,baz=53,slow=10,SNR=18						
ASAR	Alice Springs	23.19	222	P	P	21 07 29.5	-0.6
	2.0nm,0.6s,baz=60,slow=9.0,SNR=54						
TORD	Torodi Ar. Bea	148.76	284	PKPbc	PKPbc	21 22 12.1	+0.1
	0.5nm,0.6s,baz=63,slow=3.2,SNR=4.2						

IDC 15 21:03:38.4±10.0, 23°39S×179°36E, h478km±128km, mb3.0/3, mb1 3.4/4, mb1mx3.0/29, mbtmp4.0/4, Error ellipse: s-maj=119.4km s-min=31.1km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.94	187	P	P	21 06 48.2	0.0
	0.9nm,0.3s,baz=1.4,slow=9.0,SNR=7.7						
URZ				S	S	21 09 18.7	-6.2
	0.2nm,0.3s,baz=336,slow=20,SNR=2.3						
ASAR	Alice Springs	41.54	260	P	P	21 10 43.2	-0.1
	1.2nm,0.8s,baz=89,slow=7.2,SNR=10						
WRA	Warramunga Arr	41.86	266	P	P	21 10 45.6	-0.2
	0.5nm,0.3s,baz=102,slow=8.4,SNR=22						
TXAR	Lajitas Array	90.66	58	P	P	21 15 49.7	+0.1
	0.5nm,0.9s,baz=197,slow=5.6,SNR=4.0						
AKASG	Malin Array Be	144.23	327	PKP	PKPbc	21 22 16.3	-2.1
	0.3nm,0.3s,baz=53,slow=4.3,SNR=3.1						
BRTR	Keskin Array B	146.81	307	PKPbc	PKPbc	21 22 26.8	+0.2
	0.8nm,0.9s,baz=54,slow=2.5,SNR=2.7						

ISCJB 15 21:11:33.9±1.1, 32.°24N±0.°07×115.°2W±0.°1, h25km±9km, Error ellipse: s-maj=21.0km s-min=5.5km az=146.6
ECX 15 21:11:35.6±0.5, 32.°20N×115.°29W, h6km, MD2.3, ML2.5
MEX 15 21:11:35.9±0.4, 32.°24N×115.°15W, h12km±106km, MD3.8
ISC 15 21:11:33.6±2.1, 32°24N±0.°07×115°23W±0.°09, h20km±3km, n11, σ0°50/20, 1C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.17	10	*e*P	Pb	21 11 38.8	-0.2
CPBX	Cerro Prieto	0.19	342	*e*P	Pb	21 11 39.6	+0.5
CPBX				*e*S	Sb	21 11 43.2	+0.2
CPBX				IAML		21 11 46.3	
	comp=N,2μm,0.2s						
CPBX				*e*		21 11 46.3	
ECBX	El Chinero	0.78	168	*e*P	Pb	21 11 48.5	+0.1
ECBX				*e*S	Sb	21 11 58.9	+0.5
IKP	In-Ko-Pah, Jac	0.85	299	*e*P	Pn	21 11 50.3	-0.1
IKP				*e*S	Sn	21 12 01.6	-0.8
SPIG	San Pedro Mart	1.20	190	*e*P	Pn	21 11 55.3	-0.2
SPIG				*e*S	Sb	21 12 09.9	-1.1
SPIG	San Pedro Mart	1.20	190	*e*P	Pn	21 11 55.3	-0.2
SPIG				*e*S	Sb	21 12 11.1	0.0
SPX	San Pedro Mart	1.20	189	*e*P	Pn	21 11 55.4	-0.2
SPX				*e*S	Sn	21 12 11.9	+0.5
SPX				IAML		21 12 12.8	
	comp=E,46nm,0.3s						
SPX				*e*		21 12 14.5	
CBX	Cerro Bola	1.21	274	*e*P	Pn	21 11 55.0	-0.5
CBX				*e*S	Sn	21 12 11.7	+0.3
CBX	Cerro Bola	1.21	274	*e*P	Pb	21 11 55.6	-0.3
CBX				*e*S	Sn	21 12 11.7	+0.3
CBX				IAML		21 12 13.7	
	comp=E,190nm,0.4s						
CBX				⇑*e*		21 12 13.7	
TJIG	Tijuana	1.24	280	*e*P	Pb	21 11 56.8	+0.6
TJIG				*e*S	Sb	21 12 12.0	+0.3
BAR	Barrett	1.29	290	*e*P	Pb	21 11 57.6	+0.4

IDC 15 21:13:43.5±3.3, 1.°31S×134.°91E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=156.7km s-min=26.4km az=78.0
ISCJB 15 21:13:47.3±0.9, 1.°47S±0.°08×134.°20E±0.°05, h23km±8km, mb3.3/2, Error ellipse: s-maj=14.0km s-min=7.8km az=176.0
DJA 15 21:13:47.5±0.3, 1.°S±3.°×13.°4E±.°, h15km±3km, M3.7/8, mB4.5/1, mb3.9/3, MLv3.6/8, Mw(mB)3.7/1
ISC 15 21:13:48.1±1.2, 1.°47S±0.°09×134.°19E±0.°05, h17km±7km, n12, σ0°48/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	0.04	196	P	Pg	21 13 51.3	+0.1
BAKI	Biak	1.94	82	P	Pn	21 14 20.6	+0.4
SRPI	Serui, Papua	2.09	101	P	Pn	21 14 22.2	-0.1
KMPI	Kaimana, Papua	2.23	193	P	Pn	21 14 24.4	+0.1
FAKI	Fak Fak	2.42	233	P	Pn	21 14 26.9	+0.1
FAKI				S	Sn	21 14 56.6	+0.6
SWI	Sorong	2.99	282	P	Pn	21 14 34.3	-0.4
SWI				S	Sn	21 15 10.7	+0.5
SMPI	Sarmi	4.55	97	P	Pn	21 14 55.4	-0.7
BNDI	Bandanaira	5.25	235	P	Pn	21 15 05.5	-0.2
MSAI	Masohi	5.58	250	P	Pn	21 15 10.0	-0.3
WRA	Warramunga Arr	18.36	180	P	P	21 18 01.4	-0.7
	0.3nm,0.3s,baz=0.2,slow=12,SNR=12						
ASAR	Alice Springs	22.07	181	P	P	21 18 42.0	-0.3
	1.0nm,0.6s,baz=6.4,slow=12,SNR=22						
MKAR	Makanchi Array	66.09	324	P	P	21 24 34.5	+0.2
	0.1nm,0.5s,baz=101,slow=8.2,SNR=2.2						

IDC 15 21:18:50.5±2.3, 6°97S×127°72E, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, ML3.8/2, Error ellipse: s-maj=291.2km s-min=31.9km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.41	154	Pn	Pn	21 22 16.1	+0.2
	0.5nm,0.3s,baz=333,slow=13,SNR=7.4						
WRA				Sn	Sn	21 24 45.7	-11
	1.1nm,0.3s,baz=332,slow=22,SNR=8.1						
ASAR	Alice Springs	17.64	161	Pn	Pn	21 22 57.6	-0.2
	0.4nm,0.3s,baz=338,slow=12,SNR=35						
ASAR				Sn	Sn	21 26 00.5	-15
	0.3nm,0.3s,baz=313,slow=16,SNR=5.7						
MKAR	Makanchi Array	66.98	328	P	P	21 29 45.2	0.0
	0.6nm,0.6s,baz=127,slow=7.7,SNR=9.3						

IDC 15 21:29:45.3±2.9, 85.°18N×11.°55E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.5/36, mbtmp3.9/7, ML4.4/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/34, Error ellipse: s-maj=60.7km s-min=30.7km az=122.0
CSEM 15 21:29:53.6±2.9, 84.°39N×23.°49E, h13km±1km, ML4.3, Error ellipse: s-maj=108.6km s-min=39.0km az=135.0
ISC 15 21:29:50.9±1.7, 84.°7N±0.°1×17.°5E±0.°2, h10km, n37, σ1°58/40, mb3.7/4, MS3.2/6, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	5.83	191	Pn	Pn	21 31 17.5	+0.3
KBS				Sn	Sn	21 32 24.6	+0.6
KBS	Kingsbay	5.83	191	*e*Pn	Pn	21 31 16.5	-0.8
KBS				*e*S	Sn	21 32 23.4	-0.6
KBS				IAML		21 32 26.0	
	comp=Z,15nm,0.5s						
KBS	Kingsbay	5.83	191	Pn	Pn	21 31 17.5	+0.3
KBS				*e*S	Sn	21 32 23.4	-0.6
	SNR=51						
KBS				Sn	Sn	21 32 24.6	+0.6
SPA0	Spitsbergen Ar	6.54	182	Pn	Pn	21 31 26.8	-0.2
	baz=6.2,slow=14						
SPA0	Spitsbergen Ar	6.54	182	Pn	Pn	21 31 26.8	-0.2
	baz=6.2,slow=14						
SPA0				Sn	Sn	21 32 45.4	+4.0
SPA0	Spitsbergen Ar	6.54	182	Pn	Pn	21 31 26.8	-0.2
	SNR=55						
SPA0				Sn	Sn	21 32 45.4	+4.0
	SNR=55						
SPITS	Spitsbergen Ar	6.54	182	Pn	Pn	21 31 28.2	+1.2
	baz=18,slow=11,SNR=230						
SPITS				Sn	Sn	21 32 40.8	-0.6
	baz=27,slow=16,SNR=0.8						
BRBA	Barentsburg A	6.67	186	Pn	Pn	21 31 29.8	+1.1
	SNR=55						
HAMF	Hammerfest	14.16	172	*e*P	Pn	21 33 11.4	+0.4
HAMF	Hammerfest	14.16	172	*e*P	Pn	21 33 11.4	+0.4
	SNR=51						
SUMG	Summit	15.18	253	*i* P	Pn	21 33 13.9	-11
	comp=Z,7.5nm,1.0s						
ARA0	ARCESS Array S	15.30	169	P	Pn	21 33 26.3	-0.2
	baz=356,slow=12						
ARA0	ARCESS Array S	15.30	169	P	Pn	21 33 26.3	-0.2
	baz=356,slow=12						
ARCES	ARCESS Array B	15.30	169	Pn	Pn	21 33 26.2	-0.3
	comp=Z,1.0nm,0.3s,baz=359,slow=12,SNR=37						
ARCES				Sn	Sn	21 36 10.4	-5.2
	comp=Z,0.2nm,0.3s,baz=5.6,slow=19,SNR=2.2						
ARCES				LR	LR	21 39 30.5	
	comp=Z,36nm,21.1s,baz=264,slow=37						
ARE0	ARCESS Array S	15.30	169	*e*P	Pn	21 33 26.6	+0.1
KIF	Kilpisjarvi	15.77	176	*e*P	Pn	21 33 33.6	+1.0
KIF	Kilpisjarvi	15.77	176	*e*P	Pn	21 33 33.6	+1.0
	SNR=51						
HEF	Hetta	16.40	172	*e*P	Pn	21 33 41.3	+0.6
HEF	Hetta	16.40	172	*e*P	Pn	21 33 41.3	+0.6
	SNR=51						
APA0	Apatity Array	17.42	160	P	Pn	21 33 52.9	-0.7
	baz=346,slow=18						
APA0	Apatity Array	17.42	160	P	Pn	21 33 52.9	-0.7
	baz=346,slow=18						
APA0	Apatity Array	17.42	160	P	Pn	21 33 52.8	-0.7
	SNR=51						
NRIK	Noril'sk	19.59	96	P	Pn	21 34 21.1	+1.2
	comp=Z,2.1nm,0.5s,baz=9.3,slow=12,SNR=2.2						
FIA0	FINESS Array S	23.43	170	P	P	21 35 01.1	+1.5
	baz=358,slow=12						
FIA0	FINESS Array S	23.43	170	P	P	21 35 01.1	+1.5
	baz=358,slow=12						
FIA0	FINESS Array S	23.43	170	P	P	21 35 01.1	+1.5
	SNR=51						
FINES	FINESS Array B	23.43	170	P	P	21 35 00.6	+0.9
	comp=Z,3.2nm,0.8s,baz=1.1,slow=10,SNR=13						
HFS	Hagfors	24.68	185	P	P	21 35 13.1	+1.7
	baz=22,slow=11						
HFS	Hagfors	24.68	185	P	P	21 35 12.7	+1.2
	comp=Z,2.6nm,1.0s,baz=27,slow=9.7,SNR=4.1						
HFS				LR	LR	21 45 53.8	
	comp=Z,90nm,19.2s,baz=292,slow=38						
HFS	Hagfors	24.68	185	P	P	21 35 13.1	+1.7
	baz=22,slow=11						
HFS	Hagfors	24.68	185	P	P	21 35 13.1	+1.7
	SNR=51						
YKA	Yellowknife Ar	31.50	319	LR	LR	21 48 02.8	
	comp=Z,5.9nm,18.4s,baz=0.0,slow=36						
ZALV	Zalesovo Beam	34.47	106	LR	LR	21 51 28.9	
	comp=Z,36nm,20.7s,baz=68,slow=37						
GEYT	Alibeck	48.27	136	LR	LR	22 03 28.1	
	comp=Z,37nm,18.5s,baz=15,slow=41						
PDAR	Pinedale Array	50.80	311	LR	LR	22 00 00.6	
	comp=Z,31nm,18.3s,baz=10,slow=36						
CMAR	Chiang Mai Arr	70.94	97	P	P	21 41 07.3	-0.8
	comp=Z,0.3nm,0.6s,baz=347,slow=7.4,SNR=2.0						
CMAR				LR	LR	22 13 01.4	
	comp=Z,9.9nm,20.2s,baz=190,slow=36						
TORD	Torodi Ar. Bea	71.78	196	P	P	21 41 11.2	-1.9
	comp=Z,0.3nm,0.5s,baz=2.9,slow=6.1,SNR=4.4						

TRN 15 21:39:05.8, 17.°49N×62.°01W, h27km, MD3.6, 1C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.27	50	⇑*e*P	Pn	21 39 14.2	+0.1
ANWB				*e*S	Sn	21 39 19.2	-0.2
BPA	Boggy Peak	0.47	162	*e*P	Pn	21 39 18.1	+1.2
BPA				*e*S	Sn	21 39 25.0	+0.7
NEV	Hard Times	0.65	237	*e*P	Pn	21 39 19.9	+0.7
NEV				*e*S	Sn	21 39 31.6	+2.9
MLYT	Lee's Yard	0.79	193	*e*P	Pn	21 39 22.3	+1.0
MLYT				*e*S	Sn	21 39 34.5	+2.3
SEUS	St. Eustatius	0.93	270	*e*P	Pb	21 39 24.8	+1.4
SEUS				*e*S	Sn	21 39 37.7	+2.1
SMRT	St. Maarten	1.16	299	*e*P	Pb	21 39 27.7	+0.4
SMRT				*e*S	Sb	21 39 43.3	+1.3
SEG	Port Louis	1.19	156	⇓*i*P	Pb	21 39 28.4	+0.8
SABA	Saba	1.19	276	*e*P	Pb	21 39 29.0	+1.2
SABA				*e*S	Sb	21 39 44.9	+2.1
LZG	Guadaloupe-1	1.36	171	*e*P	Pb	21 39 30.6	-0.1
MLG	Mont-d'or	1.45	169	*e*P	Pb	21 39 32.4	+0.1
DEG	La Desirade	1.48	142	*e*P	Pb	21 39 32.6	-0.2
PHG	Guadaloupe-2	1.51	167	*e*P	Pb	21 39 33.5	+0.2
TBG	Guadaloupe-3	1.67	168	*e*P	Pb	21 39 35.9	0.0
MGG	Marie-Galante	1.70	157	*e*P	Pb	21 39 35.9	-0.5

ISN 15 21:52:48.0±0.3, 38.°29N×44.°67E, h0km, ML2.7
NSSP 15 21:52:56.5, 38.°47N×44.°75E, h5km, Ms3.0
TEH 15 21:52:59.8, 38.°43N×44.°61E, h5km, ML2.7
CSEM 15 21:53:00.4±0.7, 38.°30N×44.°71E, h2km, ML2.7, Error ellipse: s-maj=14.1km s-min=13.4km az=37.0
ISC 15 21:53:01.0±2.2, 38.°44N±0.°07×44.°72E±0.°09, h16km±11km, n16, σ1°50/28, 6C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.72	102	*e*Pg	Pg	21 53 14.4	-0.8
ISHB				*e*Sg	Sg	21 53 24.6	-0.2
ISHB				*e*AMB	AMB	21 53 27.2	
	comp=Z,7μm,0.2s						
IMRD	Marand	0.82	70	*e*Pg	Pg	21 53 15.8	-1.2
IMRD				*e*Sg	Sg	21 53 27.8	0.0
IMRD				*e*AMB	AMB	21 53 30.4	
	comp=Z,15μm,0.1s						
IMRD	Marand	0.82	70	*e*Pg	Pg	21 53 15.8	-1.2
IMRD				*e*Sg	Sg	21 53 27.8	0.0
ITBZ	Tabriz	1.14	100	*e*Pg	Pn	21 53 21.4	-1.1
ITBZ				*e*Sg	Sb	21 53 38.8	+1.7
ITBZ				*e*AMB	AMB	21 53 46.6	
	comp=Z,1μm,0.1s						
ITBZ	Tabriz	1.14	100	*e*Pg	Pn	21 53 21.4	-1.1
ITBZ				*e*Sg	Sb	21 53 38.8	+1.7
GRS	Goris	1.64	49	⇑*i*P	Pn	21 53 24.0	-5.4
GRS				⇑*i*S	Sn	21 53 47.0	-3.3
GNI	Garni	1.71	0	⇑*i*P	Pb	21 53 31.9	-0.2
GNI				⇑*i*S	Sg	21 53 56.6	+0.5
GNI	Garni	1.71	0	⇑P	Pb	21 53 32.0	-0.2
GNI				S	Sg	21 53 56.6	+0.5
IHRS	Heris	1.83	93	*e*Pn	Pb	21 53 34.0	-0.3
IHRS				*e*AMB	AMB	21 53 39.6	
	comp=Z,1μm,0.1s						
IHRS				*e*Sg	Sb	21 54 00.0	+3.0
IHRS	Heris	1.83	93	*e*Pn	Pb	21 53 34.0	-0.3
IHRS				*e*Sg	Sb	21 54 00.0	+3.0
IBST	Bostanabad	1.86	113	*e*Pn	Pn	21 53 33.8	+1.2
IBST				*e*AMB	AMB	21 53 43.9	
	comp=Z,352nm,0.1s						
IBST				*e*AMB	AMB	21 54 04.1	
	comp=N,553nm,0.2s						
IBST	Bostanabad	1.86	113	*e*Pn	Pn	21 53 33.8	+1.2
VADZ	Vardenis	1.90	24	*e*P	Pg	21 53 38.0	+0.4
VADZ				⇑S	Sg	21 54 04.0	+1.7
VADZ	Vardenis	1.90	24	P	Pg	21 53 38.0	+0.4
VADZ				S	Sg	21 54 04.0	+1.7
ISRB	Sarab	2.40	104	*e*Pn	Pb	21 53 43.7	-0.3
ISRB				*e*AMB	AMB	21 53 54.8	
	comp=Z,405nm,0.2s						
DGRG	David-gareji	3.05	9	P	Pb	21 53 53.0	-1.9
DGRG				S	Sg	21 54 39.2	+0.2

ISCJB 15 21:59:52.9±0.5, 8.°42S±0.°05×26.°5E±0.°1, h10km, mb4.1/8, Error ellipse: s-maj=14.5km s-min=7.0km az=176.3
IDC 15 21:59:54.0±0.9, 8.°35S×26.°39E, h0km, mb4.0/8, mb1 4.1/13, mb1mx3.8/51, mbtmp4.1/13, ML1.7/1, Error ellipse: s-maj=28.2km s-min=17.1km az=84.0
NEIC 15 21:59:55.4±0.4, 8.°36S×26.°39E, h10km, mb4.4/1, Error ellipse: s-maj=12.7km s-min=7.2km az=93.0
ISC 15 21:59:54.8±0.6, 8.°46S±0.°06×26.°4E±0.°1, h10km, n16, σ2°84/20, mb4.2/8, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	6.99	166	Pn	Pn	22 01 41.4	+3.9
	2.6nm,0.3s,baz=0.5,slow=12,SNR=112						
LSZ				Sn	Sn	22 02 57.2	0.0
	8.6nm,0.3s,baz=351,slow=9.1,SNR=4.8						
LSZ				Lg	Lg	22 03 37.0	
	12nm,0.3s,baz=94,slow=22,SNR=4.9						
LSZ	Lusaka	6.99	166	*e*Pn	Pn	22 01 41.1	+3.6
	29nm,0.6s						
LSZ				Sn	Sn	22 02 57.2	0.0
MATP	Matopo	12.07	171	Pn	Pn

0.8nm,0.6s,baz=148,slow=8.2,SNR=15
KHC Kasperske Hory 58.44 350 *e*P **P 22 09 49.0 -1.8**
KHC *ex* x 22 10 09.0
MKAR Makanchi Array 74.03 36 P **P 22 11 31.2 +0.2**
0.5nm,0.8s,baz=268,slow=4.3,SNR=4.1
ARCES ARCESS Array B 77.81 360 P **P 22 11 50.8 -1.3**
7.9nm,1.2s,baz=193,slow=3.7,SNR=4.3

IDC ***15*** *22:06:36.4±0.5, 37°.22N×22°.12E, h0km, mb3.9/20, mb1 4.0/25, mb1mx3.9/44, mbtmp3.9/25, ML3.4/5, MS3.0/3, Ms1 3.0/3, ms1mx2.7/43, Error ellipse: s-maj=13.3km s-min=12.7km az=159.0*
THE ***15*** *22:06:38.3, 37°.21N×22°.02E, h0km±1km, ML3.8/20, Error ellipse: s-maj=1.2km s-min=0.5km az=235.0*
ISCJB ***15*** *22:06:38.1±0.3, 37°.18N±0°.01×21°.98E±0°.02, h8km±2km, mb3.9/19, Error ellipse: s-maj=2.8km s-min=2.2km az=145.5*
ATH ***15*** *22:06:38.3, 37°.17N×22°.07E, h13km±1km, ML3.7/56, Error ellipse: s-maj=1.1km s-min=0.7km az=278.0*
HLW ***15*** *22:06:38.5, 37°.38N×22°.57E, h50km±25km, Md3.8, Ml3.5*
CSEM ***15*** *22:06:38.8±0.2, 37°.21N×22°.04E, h2km, ML3.8, Error ellipse: s-maj=4.3km s-min=2.7km az=54.0*
ISC 15 22:06:37.8±0.8,**37°.19N**±0°.01×**22°.04E**±0°.01,**h9**km±5km, **n259**,σ1**974**/344,**mb4.0**/19,**1C,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.09**	**264**	P	**Pg**	**22 06 39.9**	**-0.3**
ITM				S	**Sg**	**22 06 41.3**	**-0.6**
ITM	**Ithomi**	**0.09**	**264**	P	**Pg**	**22 06 39.9**	**-0.3**
ITM				S	**Sg**	**22 06 41.4**	**-0.5**
MES3	**Kyparissia**	**0.30**	**282**	P	**Pg**	**22 06 42.8**	**-1.0**
MES3				S	**Sg**	**22 06 48.0**	**+0.2**
MES3				AML	AML	22 06 48.9	
MES3				AML	AML	22 06 52.5	
MES3	**Kyparissia**	**0.30**	**282**	P	**Pg**	**22 06 42.8**	**-1.0**
MES3				S	**Sg**	**22 06 48.0**	**+0.2**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**22 06 45.0**	**+0.7**
VLX				S	**Sg**	**22 06 49.1**	**+0.5**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pb**	**22 06 45.8**	**-0.1**
VLX				S	**Sb**	**22 06 50.9**	**-0.4**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**22 06 45.0**	**+0.7**
VLX				S	**Sg**	**22 06 49.1**	**+0.5**
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**22 06 45.1**	**-0.2**
PYL				S	**Sg**	**22 06 51.2**	**+1.0**
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**22 06 46.0**	**+0.8**
PYL				S	**Sb**	**22 06 52.9**	**+0.1**
PYL				AML	AML	22 06 53.8	
	comp=E,56104μm,0.6s						
PYL				AML	AML	22 06 55.5	
	comp=N,40038μm,0.7s						
PYL	**PYLOS**	**0.38**	**219**	P	**Pg**	**22 06 46.0**	**+0.8**
PYL				S	**Sg**	**22 06 51.3**	**+1.0**
TRIP	**Tripoli**	**0.38**	**28**	P	**Pg**	**22 06 46.0**	**+0.6**
TRIP				S	**Sb**	**22 06 52.2**	**-0.8**
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**22 06 46.3**	**0.0**
AMT				S	**Sg**	**22 06 52.8**	**+0.8**
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**22 06 46.4**	**+0.1**
AMT				AML	AML	22 06 54.9	
AMT				S	**Sb**	**22 06 56.1**	**+1.7**
AMT				AML	AML	22 06 57.7	
	comp=E,92709μm,0.4s						
AMT	**Artemida-Makis**	**0.43**	**322**	P	**Pg**	**22 06 46.3**	**0.0**
AMT				S	**Sg**	**22 06 52.8**	**+0.8**
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**22 06 52.6**	**-0.3**
GUR				S	**Sb**	**22 07 04.2**	**-0.3**
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**22 06 52.1**	**-0.8**
GUR	**Goura**	**0.78**	**18**	P	**Pg**	**22 06 52.6**	**-0.3**
GUR				S	**Sb**	**22 07 04.2**	**-0.3**
DRO	**Drossia**	**0.81**	**341**	P	**Pg**	**22 06 53.5**	**+0.1**
DRO				S	**Sb**	**22 07 04.9**	**-0.2**
DRO	**Drossia**	**0.81**	**341**	P	**Pg**	**22 06 53.2**	**-0.2**
DRO				AML	AML	22 07 10.9	
	comp=E,26896μm,0.6s						
DRO				AML	AML	22 07 15.6	
	comp=N,21899μm,0.4s						
DRO	**Drossia**	**0.81**	**341**	P	**Pg**	**22 06 53.2**	**-0.2**
DRO				S	**Sb**	**22 07 04.9**	**-0.2**
VLI	**Veliai**	**0.86**	**123**	P	**Pb**	**22 06 55.0**	**+0.1**
VLI				S	**Sn**	**22 07 08.0**	**-0.8**
VLI	**Veliai**	**0.86**	**123**	P	**Pn**	**22 06 55.9**	**-0.2**
VLI				AML	AML	22 07 12.6	
	comp=E,15583μm,0.5s						
VLI				AML	AML	22 07 15.5	
	comp=N,7141μm,0.7s						
VLI	**Veliai**	**0.86**	**123**	P	**Pb**	**22 06 55.0**	**+0.1**
VLI				S	**Sn**	**22 07 08.0**	**-0.8**
KLV	**Kalavryta, Ach**	**0.86**	**6**	P	**Pg**	**22 06 53.8**	**-0.5**
KLV				S	**Sb**	**22 07 06.6**	**0.0**
KLV	**Kalavryta, Ach**	**0.86**	**6**	P	**Pg**	**22 06 53.5**	**-0.8**
KLV				S	**Sn**	**22 07 08.2**	**-0.8**
KLV				AML	AML	22 07 09.3	
	comp=E,9738μm,0.6s						
KLV				AML	AML	22 07 10.0	
	comp=N,6904μm,0.7s						
KLV	**Kalavryta, Ach**	**0.86**	**6**	P	**Pg**	**22 06 53.8**	**-0.5**
KLV				S	**Sb**	**22 07 06.3**	**-0.3**
RLS	**Riolos of Patr**	**0.98**	**332**	P	**Pg**	**22 06 56.3**	**-0.4**
RLS				S	**Sb**	**22 07 10.9**	**+0.8**
RLS	**Riolos of Patr**	**0.98**	**332**	P	**Pg**	**22 06 55.5**	**-1.2**
RLS				AML	AML	22 07 13.6	
	comp=N,7489μm,0.5s						
RLS				S	**Sn**	**22 07 13.8**	**+1.9**
RLS				AML	AML	22 07 16.2	
	comp=E,5484μm,0.5s						
RLS	**Riolos of Patr**	**0.98**	**332**	P	**Pg**	**22 06 56.5**	**-0.2**
RLS				S	**Sb**	**22 07 10.9**	**+0.8**
THAL	**Thalero**	**0.98**	**30**	P	**Pg**	**22 06 56.1**	**-0.6**
THAL	**Thalero**	**0.98**	**30**	P	**Pg**	**22 06 56.1**	**-0.6**
THAL				S	**Sg**	**22 07 08.3**	**-1.0**
THAL				AML	AML	22 07 21.8	
	comp=E,33000μm,0.5s						
THAL				AML	AML	22 07 24.6	
	comp=N,25431μm,0.7s						
THAL	**Thalero**	**0.98**	**30**	P	**Pg**	**22 06 56.1**	**-0.6**
THAL				S	**Sg**	**22 07 08.4**	**-1.0**
VTN	**Vitineika**	**1.00**	**317**	P	**Pn**	**22 06 59.9**	**+1.9**
VTN	**Vitineika**	**1.00**	**317**	P	**Pn**	**22 06 59.9**	**+1.9**
DID	**Didima**	**1.00**	**71**	P	**Pg**	**22 06 57.3**	**+0.2**
DID				S	**Sn**	**22 07 12.3**	**-0.2**
DID	**Didima**	**1.00**	**71**	P	**Pb**	**22 06 57.5**	**0.0**
DID				S	**Sn**	**22 07 12.5**	**+0.1**
DID				AML	AML	22 07 17.5	
	comp=E,9303μm,0.4s						
DID				AML	AML	22 07 18.9	
	comp=N,8393μm,0.5s						
DID	**Didima**	**1.00**	**71**	P	**Pb**	**22 06 57.4**	**0.0**
DID				S	**Sn**	**22 07 12.3**	**-0.2**
LAKA	**Lakka**	**1.05**	**357**	P	**Pg**	**22 06 57.1**	**-0.9**
LAKA				S	**Sb**	**22 07 12.7**	**+0.6**
LAKA	**Lakka**	**1.05**	**357**	P	**Pg**	**22 06 56.8**	**-1.3**
LAKA				AML	AML	22 07 16.3	
	comp=N,5115μm,0.4s						
LAKA				S	**Sn**	**22 07 16.5**	**+2.9**
LAKA				AML	AML	22 07 20.1	
	comp=E,3878μm,0.6s						
LAKA	**Lakka**	**1.05**	**357**	P	**Pg**	**22 06 57.1**	**-0.9**
LAKA				S	**Sb**	**22 07 12.7**	**+0.6**
LOUT	**Loutraki**	**1.09**	**43**	P	**Pg**	**22 06 58.7**	**0.0**
LOUT	**Loutraki**	**1.09**	**43**	P	**Pb**	**22 06 59.1**	**+0.2**
LOUT	**Loutraki**	**1.09**	**43**	P	**Pg**	**22 06 58.7**	**0.0**
LTK	**Loutraki**	**1.11**	**41**	P	**Pg**	**22 06 58.9**	**-0.3**
LTK	**Loutraki**	**1.11**	**41**	P	**Pg**	**22 06 58.9**	**-0.3**
UPR	**University Cam**	**1.11**	**350**	P	**Pb**	**22 06 59.6**	**+0.3**
UPR	**University Cam**	**1.11**	**350**	P	**Pb**	**22 06 59.6**	**+0.3**
AXS	**Araxos**	**1.14**	**332**	P	**Pn**	**22 07 02.4**	**+2.4**
AXS				S	**Sn**	**22 07 19.3**	**+3.6**
AXS	**Araxos**	**1.14**	**332**	P	**Pn**	**22 07 02.4**	**+2.4**
TRIZ	**Trizonia**	**1.18**	**1**	P	**Pb**	**22 06 58.6**	**-1.6**
TRIZ				S	**Sn**	**22 07 19.2**	**+2.6**
TRIZ	**Trizonia**	**1.18**	**1**	P	**Pb**	**22 06 58.7**	**-1.6**
TRIZ				S	**Sn**	**22 07 19.2**	**+2.6**
KALE	**Kalithea**	**1.20**	**4**	P	**Pb**	**22 07 00.1**	**-0.7**
KALE				S	**Sn**	**22 07 18.6**	**+1.2**
KALE	**Kalithea**	**1.20**	**4**	P	**Pb**	**22 06 59.2**	**-1.7**
KALE				AML	AML	22 07 22.1	
	comp=E,6532μm,0.9s						
KALE				AML	AML	22 07 28.0	
	comp=N,7248μm,0.7s						
KALE	**Kalithea**	**1.20**	**4**	P	**Pb**	**22 07 00.1**	**-0.7**
KYTH	**Kithira**	**1.23**	**139**	P	**Pg**	**22 07 02.3**	**+1.0**
KYTH				S	**Sn**	**22 07 19.8**	**+1.9**
KYTH	**Kithira**	**1.23**	**139**	P	**Pg**	**22 07 01.8**	**+0.4**
KYTH				AML	AML	22 07 29.1	
	comp=E,6832μm,1.0s						
KYTH				AML	AML	22 07 32.6	
	comp=N,4982μm,0.6s						
EFP	**Efpalio**	**1.24**	**355**	P	**Pn**	**22 07 01.1**	**-0.3**
EFP				S	**Sn**	**22 07 18.4**	**+0.1**
EFP	**Efpalio**	**1.24**	**355**	P	**Pn**	**22 07 01.1**	**-0.3**
EFP				S	**Sn**	**22 07 18.4**	**+0.1**
PROD	**Prodromos**	**1.27**	**32**	P	**Pn**	**22 07 01.7**	**-0.1**
PROD				S	**Sn**	**22 07 21.5**	**+2.5**
PROD				AML	AML	22 07 23.9	
	comp=N,8782μm,0.4s						
PROD				AML	AML	22 07 25.0	
	comp=E,8427μm,0.7s						
PROD	**Prodromos**	**1.27**	**32**	P	**Pn**	**22 07 01.7**	**-0.1**
PROD				S	**Sn**	**22 07 21.5**	**+2.5**
DSF	**Desfina**	**1.28**	**17**	S	**Sn**	**22 07 20.8**	**+1.5**
VILL	**Villia**	**1.40**	**46**	P	**Pb**	**22 07 04.1**	**-0.1**
VIL2	**Platees**	**1.41**	**43**	P	**Pn**	**22 07 04.1**	**+0.4**
VIL2				AML	AML	22 07 28.4	
	comp=N,8626μm,0.7s						
VIL2				AML	AML	22 07 32.2	
	comp=E,3883μm,0.5s						
PVO	**Paravola**	**1.48**	**344**	P	**Pg**	**22 07 06.8**	**+0.5**
PVO	**Paravola**	**1.48**	**344**	P	**Pg**	**22 07 06.8**	**+0.5**
VLS	**Valsamata**	**1.52**	**311**	P	**Pn**	**22 07 05.2**	**0.0**
VLS				S	**Sg**	**22 07 27.4**	**+0.8**
VLS	**Valsamata**	**1.52**	**311**	P	**Pg**	**22 07 10.2**	**+3.2**
VLS				S	**Sg**	**22 07 27.2**	**+0.6**
VLS				AML	AML	22 07 40.3	
	comp=E,2185μm,0.8s						
VLS				AML	AML	22 07 46.9	
	comp=N,3648μm,0.7s						
VLS	**Valsamata**	**1.52**	**311**	P	**Pn**	**22 07 05.2**	**0.0**
VLS				S	**Sg**	**22 07 27.2**	**+0.6**
VLY	**Voula,Athens**	**1.54**	**64**	P	**Pb**	**22 07 06.3**	**-0.3**
VLY				S	**Sg**	**22 07 29.6**	**+2.2**
VLY				AML	AML	22 07 32.8	
	comp=N,4691μm,1.0s						
VLY				AML	AML	22 07 33.9	
	comp=E,4704μm,0.6s						
VLY	**Voula,Athens**	**1.54**	**64**	P	**Pb**	**22 07 06.3**	**-0.3**
VLY				S	**Sg**	**22 07 29.6**	**+2.2**
ATH	**Athens Observa**	**1.54**	**59**	P	**Pb**	**22 07 06.7**	**+0.1**
ATH				S	**Sg**	**22 07 28.8**	**+1.4**
ATH	**Athens Observa**	**1.54**	**59**	P	**Pb**	**22 07 06.7**	**+0.1**
ATH				S	**Sg**	**22 07 29.5**	**+2.0**
ATH				AML	AML	22 07 36.4	
	comp=E,6602μm,0.8s						
ATH				AML	AML	22 07 39.8	
	comp=N,5339μm,0.8s						
ATH	**Athens Observa**	**1.54**	**59**	P	**Pb**	**22 07 06.7**	**+0.1**
ATH				S	**Sg**	**22 07 28.8**	**+1.4**
ATHU	**Athens Univers**	**1.59**	**60**	P	**Pb**	**22 07 07.1**	**-0.3**
ATHU				S	**Sg**	**22 07 29.9**	**+1.1**
ATHU	**Athens Univers**	**1.59**	**60**	P	**Pn**	**22 07 05.9**	**-0.2**
ATHU				S	**Sg**	**22 07 31.3**	**+2.4**
ATHU				AML	AML	22 07 37.0	
	comp=N,1555μm,0.6s						
ATHU				AML	AML	22 07 37.2	
	comp=E,1438μm,1.0s						
ATHU	**Athens Univers**	**1.59**	**60**	P	**Pb**	**22 07 07.1**	**-0.3**
ATHU				S	**Sg**	**22 07 29.9**	**+1.1**
LKR	**Lokris**	**1.64**	**27**	P	**Pn**	**22 07 07.8**	**+0.8**
LKR				AML	AML	22 07 38.3	
	comp=E,3678μm,0.8s						
LKR				AML	AML	22 07 38.4	
	comp=N,3017μm,1.0s						
LKR	**Lokris**	**1.64**	**27**	P	**Pn**	**22 07 07.8**	**+0.8**
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pb**	**22 07 08.9**	**+0.3**
ANKY				S	**Sg**	**22 07 31.4**	**+0.1**
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pg**	**22 07 09.8**	**+0.1**
ANKY				AML	AML	22 07 38.3	
	comp=N,2550μm,0.5s						
ANKY				AML	AML	22 07 47.4	
	comp=E,3022μm,0.6s						
ANKY	**Antikythira Is**	**1.66**	**142**	P	**Pb**	**22 07 08.9**	**+0.3**
ANKY				S	**Sg**	**22 07 31.4**	**+0.1**
PTL	**Penteli**	**1.68**	**59**	P	**Pn**	**22 07 07.4**	**-0.1**
PTL				S	**Sb**	**22 07 30.9**	**+0.6**
PTL				AML	AML	22 07 40.2	
	comp=E,2908μm,0.6s						
PTL				AML	AML	22 07 41.0	
	comp=N,3735μm,0.9s						
PTL	**Penteli**	**1.68**	**59**	P	**Pn**	**22 07 07.4**	**-0.1**
PTL				S	**Sb**	**22 07 30.9**	**+0.6**
EVR	**Evrytania**	**1.73**	**354**	P	**Pn**	**22 07 09.2**	**+0.9**
EVR	**Evrytania**	**1.73**	**354**	P	**Pn**	**22 07 09.3**	**+0.9**
EVR				AML	AML	22 07 46.0	
	comp=N,2676μm,1.0s						
EVR				AML	AML	22 07 47.7	
	comp=E,2465μm,0.7s						
EVR	**Evrytania**	**1.73**	**354**	P	**Pn**	**22 07 09.2**	**+0.9**
AGG	**Agios Georgios**	**1.84**	**7**	P	**Pb**	**22 07 11.0**	**-0.8**
AGG				S	**Sb**	**22 07 34.7**	**-0.3**
AGG	**Agios Georgios**	**1.84**	**7**	P	**Pb**	**22 07 11.3**	**-0.5**
AGG				S	**Sb**	**22 07 34.6**	**-0.3**
AGG				AML	AML	22 07 47.0	
	comp=E,5449μm,1.0s						
AGG				AML	AML	22 07 53.1	
	comp=N,4474μm,0.7s						
AGG	**Agios Georgios**	**1.84**	**7**	P	**Pb**	**22 07 11.0**	**-0.8**
AGG				S	**Sb**	**22 07 34.7**	**-0.3**
EREA	**Eretria**	**1.94**	**50**	P	**Pb**	**22 07 12.5**	**-0.8**
EREA				S	**Sb**	**22 07 37.1**	**-0.5**
EREA	**Eretria**	**1.94**	**50**	P	**Pn**	**22 07 11.8**	**+0.8**
EREA				S	**Sb**	**22 07 37.3**	**-0.3**
EREA				AML	AML	22 07 47.0	
	comp=N,2116μm,0.8s						
EREA				AML	AML	22 07 55.1	
	comp=E,2277μm,1.1s						
EREA	**Eretria**	**1.94**	**50**	P	**Pn**	**22 07 11.8**	**+0.8**
EREA				S	**Sb**	**22 07 37.1**	**-0.5**
LKD2	**Lefkada island**	**1.94**	**326**	P	**Pg**	**22 07 15.2**	**+0.3**
LKD2				AML	AML	22 07 51.3	
	comp=N,3067μm,0.6s						
LKD2				AML	AML	22 07 52.5	
	comp=E,3357μm,0.7s						
LKD2	**Lefkada island**	**1.94**	**326**	P	**Pg**	**22 07 15.2**	**+0.3**
SERI	**Serifos**	**1.95**	**90**	P	**Pn**	**22 07 12.0**	**+0.8**
SERI				S	**Sn**	**22 07 36.5**	**+0.7**
SERI				AML	AML	22 07 45.9	
	comp=N,1620μm,0.7s						
SERI				AML	AML	22 07 46.9	
	comp=Z,1175μm,0.7s						
SERI	**Serifos**	**1.95**	**90**	P	**Pn**	**22 07 12.0**	**+0.8**
SERI				S	**Sn**	**22 07 36.5**	**+0.7**
MHLO	**Agia Marina, M**	**1.96**	**104**	P	**Pb**	**22 07 13.5**	**-0.1**
MHLO				AML	AML	22 07 50.7	
	comp=N,7706μm,0.6s						
MHLO				AML	AML	22 07 55.1	
	comp=E,5692μm,1.1s						
MHLO	**Agia Marina, M**	**1.96**	**104**	P	**Pb**	**22 07 13.5**	**-0.1**
MHLA	**Plaka, Milos I**	**1.96**	**102**	P	**Pb**	**22 07 12.7**	**-0.9**
MHLA				AML	AML	22 07 56.9	
	comp=N,2452μm,0.9s						
MHLA				AML	AML	22 08 02.2	
	comp=E,3403μm,1.1s						
MHLA	**Plaka, Milos I**	**1.96**	**102**	P	**Pb**	**22 07 12.7**	**-0.9**
KARY	**Karystos**	**2.08**	**65**	P	**Pn**	**22 07 14.2**	**+1.2**
KARY				AML	AML	22 07 48.5	
	comp=N,1012μm,0.6s						
KARY				AML	AML	22 07 48.5	
	comp=E,1364μm,0.5s						
KARY	**Karystos**	**2.08**	**65**	P	**Pn**	**22 07 14.1**	**+1.2**
DSL	**Palaion Diasel**	**2.08**	**339**	P	**Pn**	**22 07 14.3**	**+1.3**
DSL				S	**Sb**	**22 07 41.8**	**0.0**
DSL	**Palaion Diasel**	**2.08**	**339**	P	**Pg**	**22 07 18.7**	**+1.0**
DSL				AML	AML	22 08 01.1	
	comp=N,2078μm,0.7s						
DSL				AML	AML	22 08 03.7	
	comp=E,2076μm,0.6s						
DSL	**Palaion Diasel**	**2.08**	**339**	P	**Pn**	**22 07 14.3**	**+1.3**
DSL				S	**Sb**	**22 07 41.8**	**0.0**
SKIA	**Skiathos**	**2.27**	**29**	P	**Pn**	**22 07 16.3**	**+0.7**
SKIA				AML	AML	22 07 54.2	
	comp=N,1175μm,1.0s						
SKIA				AML	AML	22 07 55.0	
	comp=E,1196μm,1.0s						
SKIA	**Skiathos**	**2.27**	**29**	P	**Pn**	**22 07 16.3**	**+0.7**
NEO	**Neokhori**	**2.31**	**23**	P	**Pn**	**22 07 17.0**	**+0.9**
NEO				S	**Sb**	**22 07 47.5**	**-0.9**
NEO				AML	AML	22 07 56.7	
	comp=E,1347μm,0.7s						
NEO				AML	AML	22 07 59.1	
	comp=N,1460μm,0.7s						
NEO	**Neokhori**	**2.31**	**23**	P	**Pn**	**22 07 17.0**	**+0.9**
NEO				S	**Sb**	**22 07 47.5**	**-0.9**
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	**Pb**	**22 07 18.5**	**-1.5**
IMMV				AML	AML	22 08 02.1	
	comp=N,2409μm,0.6s						
IMMV				AML	AML	22 08 05.5	
	comp=E,2175μm,0.7s						
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	**Pb**	**22 07 18.5**	**-1.5**
XOR	**Xorichti**	**2.35**	**22**	P	**Pn**	**22 07 17.6**	**+0.9**
XOR	**Xorichti**	**2.35**	**22**	P	**Pn**	**22 07 17.4**	**+0.7**
XOR				AML	AML	22 07 58.2	
	comp=N,1826μm,0.7s						
XOR				AML	AML	22 07 58.4	
	comp=E,1161μm,0.7s						
XOR	**Xorichti**	**2.35**	**22**	P	**Pn**	**22 07 17.6**	**+0.9**
THL	**Klokotos Trika**	**2.37**	**359**	P	**Pn**	**22 07 18.6**	**+1.7**
THL	**Klokotos Trika**	**2.37**	**359**	P	**Pn**	**22 07 18.6**	**+1.7**
VAM	**Vamos**	**2.49**	**135**	P	**Pb**	**22 07 22.8**	**0.0**
VAM				AML	AML	22 08 09.8	
	comp=N,1561μm,0.8s						
VAM				AML	AML	22 08 10.1	
	comp=E,1394μm,1.0s						
VAM	**Vamos**	**2.49**	**135**	P	**Pb**	**22 07 22.8**	**0.0**
JAN	**Janina**	**2.64**	**340**	P	**Pb**	**22 07 25.8**	**+0.5**
JAN				AML	AML	22 08 22.0	
	comp=N,833μm,1.0s						
JAN				AML	AML	22 08 26.5	
	comp=E,1015μm,1.4s						
JAN	**Janina**	**2.64**	**340**	P	**Pb**	**22 07 25.8**	**+0.5**
APE	**Apeiranthos**	**2.79**	**91**	P	**Pn**	**22 07 23.8**	**+1.0**
APE				AML	AML	22 08 17.6	
	comp=N,727μm,0.9s						
APE				AML	AML	22 08 18.8	
	comp=E,423μm,0.8s						
APE	**Apeiranthos**	**2.79**	**91**	P	**Pn**	**22 07 23.8**	**+1.0**
CMBO	**Columbo, Santo**	**2.79**	**104**	P	**Pn**	**22 07 24.0**	**+1.3**
CMBO				AML	AML	22 08 15.6	
	comp=N,1516μm,0.7s						
CMBO				AML	AML	22 08 24.1	
	comp=E,1401μm,0.6s						
CMBO	**Columbo, Santo**	**2.79**	**104**	P	**Pn**	**22 07 24.0**	**+1.3**
SGD	**Sagiada**	**2.81**	**330**	P	**Pb**	**22 07 26.1**	**-2.0**
SGD	**Sagiada**	**2.81**	**330**	P	**Pb**	**22 07 26.1**	**-2.0**
KPRO	**Kipourio**	**2.81**	**349**	P	**Pb**	**22 07 27.6**	**-0.7**
KPRO				AML	AML	22 08 23.6	
	comp=N,724μm,1.2s						
KPRO				AML	AML	22 08 30.6	
	comp=E,1157μm,0.7s						
KPRO	**Kipourio**	**2.81**	**349**	P	**Pb**	**22 07 27.6**	**-0.7**
SAP1	**Santorini-Akro**	**2.82**	**106**	P	**Pb**	**22 07 27.2**	**-1.1**
SAP1				AML	AML	22 08 27.2	
	comp=E,2453μm,0.9s						
SAP1				AML	AML	22 08 30.8	
	comp=N,2629μm,1.0s						
SAP1	**Santorini-Akro**	**2.82**	**106**	P	**Pb**	**22 07 27.2**	**-1.1**
SANT	**Santorini**	**2.86**	**106**	P	**Pb**	**22 07 26.7**	**-2.4**
SANT				AML	AML	22 08 18.4	
	comp=N,371μm,1.1s						
SANT				AML	AML	22 08 20.2	
	comp=E,609μm,0.9s						
SANT	**Santorini**	**2.86**	**106**	P	**Pb**	**22 07 26.7**	**-2.4**
GVD	**Gavdhos**	**2.87**	**144**	P	**Pn**	**22 07 25.9**	**+2.2**
GVD				AML	AML	22 08 29.1	
	comp=N,692μm,1.0s						
GVD				AML	AML	22 08 30.7	
	comp=E,789μm,0.8s						
GVD	**Gavdhos**	**2.87**	**144**	P	**Pn**	**22 07 26.0**	**+2.2**
LIT	**Litokhoron**	**2.93**	**7**	P	**Pn**	**22 07 25.8**	**+1.1**
LIT				AML	AML	22 08 17.6	
	comp=E,346μm,1.0s						
LIT				AML	AML	22 08 26.0	
	comp=N,370μm,1.1s						
LIT	**Litokhoron**	**2.93**	**7**	P	**Pn**	**22 07 25.8**	**+1.1**
IDI	**Anoyia**	**2.98**	**129**	Pn	**Pn**	**22 07 27.4**	**+2.0**
	comp=N,4.3nm,0.3s,baz=319,slow=8.3,SNR=20						
IDI				Sn	**Sb**	**22 08 06.3**	**-1.5**
	comp=N,16nm,0.3s,baz=305,slow=9.4,SNR=7.7						
IDI				LR	LR	22 08 58.8	
	comp=N,164nm,19.8s,baz=340,slow=48						
IDI	**Anoyia**	**2.98**	**129**	P	**Pn**	**22 07 27.4**	**+2.0**
IDI				AML	AML	22 08 25.2	
	comp=E,411μm,0.6s						
IDI				AML	AML	22 08 26.7	
	comp=N,568μm,0.6s						
PAIG	**Paliouri**	**3.02**	**25**	P	**Pn**	**22 07 26.3**	**+0.4**
PAIG				AML	AML	22 08 16.1	
	comp=N,279μm,0.7s						
PAIG				AML	AML	22 08 16.9	
	comp=E,322μm,0.6s						
PAIG	**Paliouri**	**3.02**	**25**	P	**Pn**	**22 07 26.3**	**+0.4**
KEK	**Kerkira**	**3.08**	**326**	P	**Pn**	**22 07 28.8**	**+2.2**
KEK	**Kerkira**	**3.08**	**326**	P	**Pn**	**22 07 28.8**	**+2.2**
PENT	**Pentalofos**	**3.08**	**347**	P	**Pb**	**22 07 31.1**	**-1.8**
PENT	**Pentalofos**	**3.08**	**347**	P	**Pb**	**22 07 31.1**	**-1.8**
SIVA	**Sivas**	**3.12**	**133**	P	**Pn**	**22 07 27.2**	**0.0**
SIVA				AML	AML	22 08 31.1	
	comp=E,2104μm,0.8s						
SIVA				AML	AML	22 08 35.6	
	comp=N,1344μm,0.7s						
SIVA	**Sivas**	**3.12**	**133**	P	**Pn**	**22 07 27.2**	**0.0**
KZN	**Kozani**	**3.12**	**356**	P	**Pb**	**22 07 30.8**	**-2.7**
KZN				AML	AML	22 08 26.4	
	comp=N,371μm,0.7s						
KZN				AML	AML	22 08 27.5	
	comp=E,482μm,0.6s						
KZN	**Kozani**	**3.12**	**356**	P	**Pb**	**22 07 30.8**	**-2.7**
PLG	**Polygyros**	**3.36**	**19**	P	**Pn**	**22 07 32.2**	**+1.6**
PLG				S	**Sn**	**22 08 13.7**	**+3.0**
PLG				AML	AML	22 08 19.4	
	comp=E,297μm,1.3s						
PLG				AML	AML	22 08 20.0	
	comp=N,288μm,0.9

comp=E,367μm,0.7s
ZKR AML AML 22 08 50.0
comp=N,200μm,0.7s
ZKR Zakros 3.96 120 P **Pn 22 07 42.4 +3.6**
KNT Kendrikon 4.02 9 P **Pn 22 07 41.6 +2.0**
KNT S **Sn 22 08 30.8 +3.9**
KNT AML AML 22 08 37.8
comp=E,290μm,0.9s
KNT AML AML 22 08 38.1
comp=N,175μm,1.1s
KNT Kendrikon 4.02 9 P **Pn 22 07 41.6 +2.0**
KNT S **Sn 22 08 30.8 +3.9**
OHR Ohrid 4.03 347 *i* Pn **Pb 22 07 47.4 -1.7**
SRS Serrai 4.10 17 P **Pn 22 07 43.9 +3.1**
SRS Serrai 4.10 17 P **Pn 22 07 43.9 +3.1**
VAY Valandovo 4.15 6 *i* Pn **Pn 22 07 45.1 +3.7**
VAY *i* Sn **Sn 22 08 33.2 +3.3**
VAY Valandovo 4.15 6 *i* Pn **Pn 22 07 45.0 +3.7**
VAY *i* Sn **Sn 22 08 33.2 +3.3**
KRUS Krusevo 4.22 352 *i* Pn **Pn 22 07 46.6 +4.2**
KRUS Krusevo 4.22 352 *i* Pn **Pn 22 07 46.6 +4.2**
KAVA Kavala 4.26 26 P **Pn 22 07 43.4 +0.5**
KAVA Kavala 4.26 26 P **Pn 22 07 43.4 +0.5**
NVR Nevrokopi 4.39 18 P **Pn 22 07 48.1 +3.4**
NVR Nevrokopi 4.39 18 P **Pn 22 07 48.1 +3.4**
KARP Karpathos 4.44 110 P **Pn 22 07 50.1 +4.6**
KARP S **Sn 22 08 41.0 +3.7**
KARP Karpathos 4.44 110 P **Pn 22 07 50.1 +4.6**
KARP S **Sn 22 08 41.0 +3.7**
STEP BALIKESIR_Sava 4.97 62 *i* P **Pn 22 07 55.9 +3.2**
STEP BALIKESIR_Sava 4.97 62 P **Pn 22 07 55.9 +3.2**
MANT Manisa 5.32 74 *i* P **Pn 22 07 60.0 +2.3**
MANT Manisa 5.32 74 P **Pn 22 08 00.0 +2.3**
TAVA DENIZLI_Tavas 5.48 85 *i* P Pn 22 08 06.3 +6.5
DEMI Demirci 5.58 69 *i* Pn **Pn 22 08 03.7 +2.6**
DEMI Demirci 5.58 69 P **Pn 22 08 03.7 +2.6**
BARS Barje 5.62 358 ⇑ Pn **Pn 22 08 04.7 +3.1**
GOLH Golhisar 6.00 87 *i* P Pn 22 08 12.8 +5.9
VAE Valguarnera 6.09 275 Pn **Pn 22 08 08.8 +0.7**
comp=N,1.4nm,0.3s,baz=327,slow=8.4,SNR=4.5
VAE Sn **Sn 22 09 22.0 +4.1**
comp=N,2.0nm,0.3s,baz=238,slow=15,SNR=2.9
GDZ Gediz 6.16 70 *i* P **Pn 22 08 12.8 +3.6**
GDZ Gediz 6.16 70 P **Pn 22 08 12.8 +3.6**
SLUM Salum 6.26 154 P **Pn 22 08 10.0 -0.4**
baz=158
SLUM AMP 22 09 00.0
comp=E,50μm,0.7s,logA/T=4.9,baz=158
SLUM S **Sn 22 09 19.0 -3.0**
baz=158
SLUM Salum 6.26 154 P **Pn 22 08 10.0 -0.4**
BRDR BURDUR-Merkez 6.40 83 *i* P **Pn 22 08 14.1 +1.7**
BRDR BURDUR-Merkez 6.40 83 P **Pn 22 08 14.1 +1.7**
BOVS Bovan 6.44 358 *e*Pn **Pn 22 08 14.9 +2.0**
IVAS Ivanjica 6.54 348 *e*Pn **Pn 22 08 16.5 +2.2**
STON Ston 6.58 331 *e*Pn **Pn 22 08 14.8 0.0**
STON Sn **Sn 22 09 29.6 -0.3**
STON Ston 6.58 331 *e*Pn **Pn 22 08 14.7 0.0**
STON Sn **Sn 22 09 29.5 -0.3**
ZAGS Zajecar 6.62 1 *e*Pn **Pn 22 08 18.1 +2.8**
BOLS Boljevac 6.63 359 *e*Pn **Pn 22 08 15.8 +0.3**
GRUS Gruza 6.77 352 *e*Pn **Pn 22 08 18.9 +1.6**
DIVS Divibare 7.08 348 *e*Pn **Pn 22 08 23.8 +2.2**
TRUS Trudelj 7.14 350 *e*Pn **Pn 22 08 25.1 +2.7**
KUBS Kucevo 7.22 358 *e*Pn **Pn 22 08 25.9 +2.3**
TEKS Tekeris 7.59 346 *e*Pn **Pn 22 08 29.1 +0.4**
SWA2 8.42 159 P **Pn 22 08 40.0 -0.1**
baz=162
SWA2 S **Sn 22 10 12.5 -2.8**
baz=162
SWA2 8.42 159 P **Pn 22 08 40.0 -0.1**
MLR Muntele Rosu 8.80 18 Pn Pn 22 08 50.1 +4.8
comp=E,0.1nm,0.3s,baz=213,slow=14,SNR=2.9
NVLJ Novalja 9.15 326 *i* Pn **Pn 22 08 50.6 +0.6**
NVLJ Sn **Sn 22 10 30.6 -2.4**
NVLJ Novalja 9.15 326 *i* Pn **Pn 22 08 50.6 +0.6**
BRTR Keskin Array B 9.44 71 Pn **Pn 22 08 57.8 +3.6**
comp=E,0.2nm,0.3s,baz=255,slow=13,SNR=10
OZLJ Ozalj 9.76 332 *e*Pn **Pn 22 08 59.6 +1.2**
OZLJ Ozalj 9.76 332 *e*Pn **Pn 22 08 59.5 +1.2**
KEST Kesra 10.33 266 Pn **Pn 22 09 10.2 +4.0**
comp=E,0.2nm,0.3s,baz=40,slow=7.9,SNR=3.4
GLL Jalalah 11.08 130 P **Pn 22 09 14.6 -1.9**
baz=133
KECS Kecovo 11.35 355 *e*PN Pn 22 09 26.5 +6.4
VYHS Vyhne 11.54 349 *e*Sn **Sn 22 11 32.4 +0.7**
VYHS Vyhne 11.54 349 *e*PN Pn 22 09 38.6 +16
VYHS *e*SN **Sn 22 11 32.4 +0.7**
MMAI Mount Meron Ar 11.71 107 Pn **Pn 22 09 22.9 -2.2**
comp=E,0.7nm,0.3s,baz=292,slow=12,SNR=7.8
MMAI Sn **Sn 22 11 30.2 -5.8**
comp=E,0.4nm,0.3s,baz=297,slow=22,SNR=3.2
LANS Liptovska Anna 12.10 352 *e*PN Pn 22 09 46.2 +16
EIL Elat 13.12 121 Sn **Sn 22 12 02.5 -8.1**
comp=E,0.3nm,0.3s,baz=315,slow=20,SNR=2.5
GERES GERESS Array B 13.14 335 Pn **Pn 22 09 44.9 +0.2**
comp=E,0.1nm,0.3s,baz=169,slow=16,SNR=3.9
GERES LR LR 22 15 47.1
comp=E,91nm,18.7s,baz=266,slow=42
ASF Jabal al Asfar 13.21 108 Pn **Pn 22 09 44.6 -1.0**
comp=E,0.1nm,0.3s,baz=169,slow=10,SNR=3.2
AKASG Malin Array Be 14.45 19 Pn **Pn 22 10 01.8 -0.7**
comp=E,0.4nm,0.3s,baz=204,slow=12,SNR=3.1
CLL Collm 15.51 338 *e*(P) **P 22 10 23.0 +1.9**
comp=Z,9.0nm,1.4s
KBZ Khabaz 17.14 61 P **P 22 10 39.1 -0.1**
comp=Z,0.1nm,0.3s,baz=247,slow=7.7,SNR=2.5
KBZ LR LR 22 18 51.4
comp=Z,54nm,19.7s,baz=274,slow=43
ESDC Sonseca Array 20.50 285 P **P 22 11 16.9 +0.7**
comp=Z,0.6nm,0.7s,baz=79,slow=11,SNR=8.7
MDT Midelt 22.24 267 P **P 22 11 35.0 0.0**
comp=Z,1.1nm,0.8s,baz=109,slow=7.0,SNR=3.7
HFS Hagfors 23.58 350 P **P 22 11 48.3 -0.2**
comp=Z,2.8nm,0.8s,baz=171,slow=10,SNR=6.7
FINES FINESS Array B 24.41 5 P **P 22 11 54.7 -1.6**
comp=Z,3.5nm,0.7s,baz=150,slow=9.3,SNR=7.0
NB2 NORSAR Subarra 24.83 347 P **P 22 12 01.0 +0.8**
comp=Z,2.4nm,1.0s,baz=158,slow=9.3
NB2 NORSAR Subarra 24.83 347 P **P 22 12 01.0 +0.8**
comp=Z,2.4nm,1.0s,SNR=5.6
NOA NORSAR Array B 24.83 347 P **P 22 12 01.1 +0.8**
comp=Z,1.1nm,0.8s,baz=161,slow=8.9,SNR=5.3
EKA Eskdalemuir Ar 24.93 325 P **P 22 12 01.0 -0.1**
comp=Z,3.3nm,0.7s,baz=126,slow=9.4,SNR=14
GEYT Alibeck 28.50 77 P **P 22 12 32.7 -0.8**
comp=Z,0.9nm,0.6s,baz=278,slow=1.0,SNR=3.1
TORD Torodi Ar. Bea 30.07 223 P **P 22 12 47.5 -0.1**
comp=Z,0.3nm,0.4s,baz=28,slow=8.8,SNR=7.2
ARCES ARCESS Array B 32.46 2 P **P 22 13 06.0 -2.1**
comp=Z,3.8nm,0.9s,baz=199,slow=6.4,SNR=9.0
DBIC Dimbokro 39.02 226 P **P 22 14 05.3 +0.3**
comp=Z,0.8nm,0.5s,baz=25,slow=17,SNR=2.9
MKAR Makanchi Array 44.80 58 P **P 22 14 50.5 -1.4**
comp=Z,1.3nm,0.6s,baz=281,slow=6.6,SNR=15
MKAR PcP **PcP 22 16 34.1 +0.3**
comp=Z,0.8nm,0.7s,baz=300,slow=3.4,SNR=4.7
ZALV Zalesovo Beam 45.46 48 P **P 22 14 56.3 -0.7**
comp=Z,1.9nm,0.6s,baz=269,slow=9.5,SNR=10
SONM Songino Array 60.15 51 P **P 22 16 45.5 -0.4**
comp=Z,0.5nm,0.6s,baz=278,slow=9.6,SNR=3.3
SONM PcP **PcP 22 17 33.5 +2.0**
comp=Z,0.3nm,0.6s,baz=256,slow=4.3,SNR=2.1
OPO Ambohidratompo 60.32 152 P **P 22 16 46.8 -0.4**
comp=Z,1.2nm,1.0s,baz=90,slow=20,SNR=2.9
BOSA Boshof 65.53 177 P **P 22 17 22.4 +0.7**
comp=Z,1.6nm,0.7s,baz=10,slow=7.0,SNR=5.1
CMAR Chiang Mai Arr 68.83 82 P **P 22 17 42.0 -0.9**
comp=Z,0.9nm,0.7s,baz=310,slow=7.7,SNR=7.0
ILAR Eielson Array 78.00 355 P **P 22 18 36.2 0.0**
comp=Z,0.4nm,0.7s,baz=1.8,slow=4.5,SNR=5.1
KSRS Korea Array 79.02 51 P **P 22 18 41.9 -0.4**
comp=Z,1.1nm,0.6s,baz=318,slow=4.7,SNR=4.3
MJAR Matsushiro Arr 85.80 46 P **P 22 19 17.9 +0.1**
comp=Z,1.9nm,0.7s,baz=354,slow=2.0,SNR=7.0
PDAR Pinedale Array 89.04 327 P **P 22 19 33.7 +0.1**
comp=Z,0.3nm,0.5s,baz=94,slow=6.4,SNR=3.5
ASAR Alice Springs 120.86 98 PKP **PKPdf 22 25 30.1 -0.8**
comp=Z,0.5nm,0.9s,baz=307,slow=2.0,SNR=3.8

ISCJB ***15*** *22:09:02.1±0.7, 45°.58N×26°.43E, h146km±5km, MD4.1/3, Error ellipse: s-maj=5.4km s-min=4.2km az=155.6*
CSEM ***15*** *22:09:02.1, 45°.58N×26°.43E, h146km, MD4.1/3*

BUC ***15*** *22:09:02.1±0.6, 45°.58N×26°.43E, h146km±5km, MD4.1/3, Error ellipse: s-maj=4.4km s-min=3.5km az=331.0*
ISC 15 22:09:00.9±1.4,**45°.60N**±0°.03×**26°.43E**±0°.03,**h150**km±7km,
n90,σ0°94/137,**60C-20D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.29**	**32** ⇑	*i*P	**Pn**	**22 09 21.9**	**+0.4**
PLOR				*i* S	**Sn**	**22 09 35.6**	**-1.7**
PLOR	**Plostina**	**0.29**	**32** ⇑	*i*P	**Pn**	**22 09 21.9**	**+0.4**
PLOR	**Plostina**	**0.29**	**32** ⇑	*i*P	**Pn**	**22 09 21.9**	**+0.4**
PLOR				*i* S	**Sn**	**22 09 35.6**	**-1.7**
VRI	**Vrincioaia**	**0.34**	**38** ⇑	*i*P	**Pn**	**22 09 22.2**	**+0.6**
VRI				*i* S	**Sn**	**22 09 36.3**	**-1.2**
VRI	**Vrincioaia**	**0.34**	**38** ⇑	*i*P	**Pn**	**22 09 22.2**	**+0.6**
VRI	**Vrincioaia**	**0.34**	**38** ⇑	*i*P	**Pn**	**22 09 22.2**	**+0.6**
VRI				*i* S	**Sn**	**22 09 36.3**	**-1.2**
MLR	**Muntele Rosu**	**0.36**	**252** ⇑	*i*P	**Pn**	**22 09 22.4**	**+0.5**
MLR				*i* S	**Sn**	**22 09 37.4**	**-0.4**
MLR	**Muntele Rosu**	**0.36**	**252** ⇑	*i*P	**Pn**	**22 09 22.4**	**+0.5**
MLR	**Muntele Rosu**	**0.36**	**252** ⇑	*i*P	**Pn**	**22 09 22.4**	**+0.5**
MLR				*i* S	**Sn**	**22 09 37.4**	**-0.4**
GRER		**0.44**	**120** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
GRER				*i* S	**Sn**	**22 09 38.2**	**+0.1**
GRER		**0.44**	**120** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
GRER		**0.44**	**120** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
GRER				*i* S	**Sn**	**22 09 38.2**	**+0.1**
ODBI	**Odobesti**	**0.47**	**70** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
ODBI				*i* S	**Sn**	**22 09 37.9**	**-0.4**
ODBI	**Odobesti**	**0.47**	**70** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
ODBI	**Odobesti**	**0.47**	**70** ⇑	*i*P	**Pn**	**22 09 23.5**	**+1.4**
ODBI				*i* S	**Sn**	**22 09 37.9**	**-0.4**
ISR	**Istrita**	**0.49**	**170** ⇑	*i*P	**Pn**	**22 09 22.9**	**+0.5**
ISR				*i* S	**Sn**	**22 09 38.0**	**-0.6**
ISR	**Istrita**	**0.49**	**170** ⇑	*i*P	**Pn**	**22 09 22.9**	**+0.5**
ISR	**Istrita**	**0.49**	**170** ⇑	*i*P	**Pn**	**22 09 22.9**	**+0.5**
ISR				*i* S	**Sn**	**22 09 38.0**	**-0.6**
PETR	**Petresti**	**0.58**	**78** ⇑	*i*P	**Pn**	**22 09 23.6**	**+0.9**
PETR				*i* S	**Sn**	**22 09 38.9**	**-0.3**
PETR	**Petresti**	**0.58**	**78** ⇑	*i*P	**Pn**	**22 09 23.6**	**+0.9**
PETR	**Petresti**	**0.58**	**78** ⇑	*i*P	**Pn**	**22 09 23.6**	**+0.9**
PETR				*i* S	**Sn**	**22 09 38.9**	**-0.3**
SECR		**0.62**	**204** ⇑	*i*P	**Pn**	**22 09 23.9**	**+0.9**
SECR				*i* S	**Sn**	**22 09 39.7**	**-0.1**
SECR		**0.62**	**204** ⇑	*i*P	**Pn**	**22 09 23.9**	**+0.9**
SECR		**0.62**	**204** ⇑	*i*P	**Pn**	**22 09 23.9**	**+0.9**
SECR				*i* S	**Sn**	**22 09 39.7**	**-0.1**
PGOR	**Pogoanele**	**0.80**	**150** *i*	S	**Sn**	**22 09 41.6**	**-0.2**
PGOR	**Pogoanele**	**0.80**	**150**	S	**Sn**	**22 09 41.6**	**-0.2**
PGOR	**Pogoanele**	**0.80**	**150** *i*	S	**Sn**	**22 09 41.6**	**-0.2**
DOPR	**Dopca**	**0.81**	**297** ⇑	*i*P	**Pn**	**22 09 24.9**	**+0.6**
DOPR				*i* S	**Sn**	**22 09 41.4**	**-0.7**
DOPR	**Dopca**	**0.81**	**297** ⇑	*i*P	**Pn**	**22 09 24.9**	**+0.6**
DOPR	**Dopca**	**0.81**	**297** ⇑	*i*P	**Pn**	**22 09 24.9**	**+0.6**
DOPR				*i* S	**Sn**	**22 09 41.4**	**-0.7**
TESR	**Tescani**	**0.92**	**10** ⇑	*i*P	**Pn**	**22 09 25.6**	**+0.5**
TESR				*i* S	**Sn**	**22 09 42.1**	**-1.5**
TESR	**Tescani**	**0.92**	**10** ⇑	*i*P	**Pn**	**22 09 25.6**	**+0.5**
TESR	**Tescani**	**0.92**	**10** ⇑	*i*P	**Pn**	**22 09 25.6**	**+0.5**
TESR				*i* S	**Sn**	**22 09 42.1**	**-1.5**
SULR		**0.93**	**188** ⇑	*i*P	**Pn**	**22 09 26.0**	**+0.8**
SULR				*i* S	**Sn**	**22 09 43.7**	**+0.1**
SULR		**0.93**	**188** ⇑	*i*P	**Pn**	**22 09 26.0**	**+0.8**
SULR		**0.93**	**188** ⇑	*i*P	**Pn**	**22 09 26.0**	**+0.8**
SULR				*i* S	**Sn**	**22 09 43.7**	**+0.1**
VOIR		**0.98**	**261** ⇑	*i*P	**Pn**	**22 09 26.1**	**+0.4**
VOIR				*i* S	**Sn**	**22 09 43.1**	**-1.4**
VOIR		**0.98**	**261** ⇑	*i*P	**Pn**	**22 09 26.1**	**+0.4**
VOIR		**0.98**	**261** ⇑	*i*P	**Pn**	**22 09 26.1**	**+0.4**
VOIR				*i* S	**Sn**	**22 09 43.1**	**-1.4**
MTUR	**Matau**	**1.03**	**249** ⇑	*i*P	**Pn**	**22 09 26.9**	**+0.8**
MTUR	**Matau**	**1.03**	**249** ⇑	*i*P	**Pn**	**22 09 26.9**	**+0.8**
MTUR	**Matau**	**1.03**	**249** ⇑	*i*P	**Pn**	**22 09 26.9**	**+0.8**
AMRR	**Amara**	**1.18**	**147** *i*	S	**Sn**	**22 09 46.6**	**-0.9**
AMRR	**Amara**	**1.18**	**147**	S	**Sn**	**22 09 46.6**	**-0.9**
AMRR	**Amara**	**1.18**	**147** *i*	S	**Sn**	**22 09 46.6**	**-0.9**
CFR	**Carcaliu**	**1.28**	**109** ⇑	*i*P	**Pn**	**22 09 28.4**	**+0.2**
CFR				*i* S	**Sn**	**22 09 47.4**	**-1.6**
CFR	**Carcaliu**	**1.28**	**109** ⇑	*i*P	**Pn**	**22 09 28.4**	**+0.2**
CFR	**Carcaliu**	**1.28**	**109** ⇑	*i*P	**Pn**	**22 09 28.4**	**+0.2**
CFR				*i* S	**Sn**	**22 09 47.4**	**-1.6**
ARR	**Arges**	**1.28**	**260** ⇑	*i*P	**Pn**	**22 09 29.3**	**+0.9**
ARR				*i* S	**Sn**	**22 09 48.6**	**-0.8**
ARR	**Arges**	**1.28**	**260** ⇑	*i*P	**Pn**	**22 09 29.3**	**+0.9**
ARR	**Arges**	**1.28**	**260** ⇑	*i*P	**Pn**	**22 09 29.3**	**+0.9**
ARR				*i* S	**Sn**	**22 09 48.6**	**-0.8**
BUC1	**Bucharest**	**1.29**	**193** ⇑	*i*P	**Pn**	**22 09 29.1**	**+0.8**
BUC1				*i* S	**Sn**	**22 09 48.6**	**-0.6**
BUC1	**Bucharest**	**1.29**	**193** ⇑	*i*P	**Pn**	**22 09 29.1**	**+0.8**
BUC1	**Bucharest**	**1.29**	**193** ⇑	*i*P	**Pn**	**22 09 29.1**	**+0.8**
BUC1				*i* S	**Sn**	**22 09 48.6**	**-0.6**
HARR	**Harsova**	**1.40**	**130** ⇑	*i*P	**Pn**	**22 09 30.0**	**+0.5**
HARR	**Harsova**	**1.40**	**130** ⇑	*i*P	**Pn**	**22 09 30.0**	**+0.5**
HARR	**Harsova**	**1.40**	**130** ⇑	*i*P	**Pn**	**22 09 30.0**	**+0.5**
HUMR	**Humele**	**1.49**	**224** ⇑	*i*P	**Pn**	**22 09 31.0**	**+0.6**
HUMR				*i* S	**Sn**	**22 09 52.0**	**-0.8**
HUMR	**Humele**	**1.49**	**224** ⇑	*i*P	**Pn**	**22 09 31.0**	**+0.6**
HUMR	**Humele**	**1.49**	**224** ⇑	*i*P	**Pn**	**22 09 31.0**	**+0.6**
HUMR				*i* S	**Sn**	**22 09 52.0**	**-0.8**
TLB	**Topalu**	**1.53**	**131** ⇓	*i*P	**Pn**	**22 09 31.3**	**+0.5**
TLB				*i* S	**Sn**	**22 09 51.7**	**-1.9**
TLB	**Topalu**	**1.53**	**131** ⇓	*i*P	**Pn**	**22 09 31.3**	**+0.5**
TLB	**Topalu**	**1.53**	**131** ⇓	*i*P	**Pn**	**22 09 31.3**	**+0.5**
TLB				*i* S	**Sn**	**22 09 51.7**	**-1.9**
LEOM	**Leova**	**1.54**	**55** ⇓	*i*P	**Pn**	**22 09 31.9**	**+1.1**
LEOM				*i* S	**Sn**	**22 09 53.0**	**-0.8**
LEOM	**Leova**	**1.54**	**55** ⇓	*i*P	**Pn**	**22 09 31.9**	**+1.1**
LEOM	**Leova**	**1.54**	**55** ⇓	*i*P	**Pn**	**22 09 31.9**	**+1.1**
LEOM				*i* S	**Sn**	**22 09 53.0**	**-0.8**
TLCR		**1.73**	**103** ⇑	*i*P	**Pn**	**22 09 33.8**	**+0.8**
TLCR				*i* S	**Sn**	**22 09 57.9**	**-0.4**
TLCR		**1.73**	**103** ⇑	*i*P	**Pn**	**22 09 33.8**	**+0.8**
TLCR		**1.73**	**103** ⇑	*i*P	**Pn**	**22 09 33.8**	**+0.8**
TLCR				*i* S	**Sn**	**22 09 57.9**	**-0.4**
TIRR	**Tirgusor**	**1.81**	**128** ⇓	*i*P	**Pn**	**22 09 34.5**	**+0.6**
TIRR				*i* S	**Sn**	**22 09 57.7**	**-1.5**
TIRR	**Tirgusor**	**1.81**	**128** ⇓	*i*P	**Pn**	**22 09 34.5**	**+0.6**
TIRR	**Tirgusor**	**1.81**	**128** ⇓	*i*P	**Pn**	**22 09 34.5**	**+0.6**
TIRR				*i* S	**Sn**	**22 09 57.7**	**-1.5**
LOT	**Lotru**	**1.88**	**266** *i*	S	**Sn**	**22 09 59.7**	**-1.0**
LOT	**Lotru**	**1.88**	**266**	S	**Sn**	**22 09 59.7**	**-1.0**
LOT	**Lotru**	**1.88**	**266** *i*	S	**Sn**	**22 09 59.7**	**-1.0**
ZIMR		**2.09**	**202** ⇓	*i*P	**Pn**	**22 09 37.9**	**+0.8**
ZIMR				*i* S	**Sn**	**22 10 03.6**	**-1.2**
ZIMR		**2.09**	**202** ⇓	*i*P	**Pn**	**22 09 37.9**	**+0.8**
MILM	**Milestii Mici**	**2.11**	**51** ⇓	*i*P	**Pn**	**22 09 38.5**	**+1.2**
MILM				*i* S	**Sn**	**22 10 04.5**	**-0.9**
MILM	**Milestii Mici**	**2.11**	**51** ⇓	*i*P	**Pn**	**22 09 38.5**	**+1.2**
MILM	**Milestii Mici**	**2.11**	**51** ⇓	*i*P	**Pn**	**22 09 38.5**	**+1.2**
MILM				*i* S	**Sn**	**22 10 04.5**	**-0.9**
KIS	**Kishinev**	**2.17**	**49** *e*		**Sn**	**22 10 06.0**	**-0.5**
BURAR	**Bucovina Array**	**2.18**	**338** ⇑	*i*P	**Pn**	**22 09 39.8**	**+1.5**
BURAR	**Bucovina Array**	**2.18**	**338** ⇑	*i*P	**Pn**	**22 09 39.8**	**+1.5**
BURAR	**Bucovina Array**	**2.18**	**338** ⇑	*i*P	**Pn**	**22 09 39.8**	**+1.5**
SORM	**Soroca**	**2.86**	**27** ⇓	*i*P	**Pn**	**22 09 47.3**	**+0.9**
SORM				*i* S	**Sn**	**22 10 19.9**	**-1.7**
SORM	**Soroca**	**2.86**	**27** ⇓	*i*P	**Pn**	**22 09 47.3**	**+0.9**
SORM	**Soroca**	**2.86**	**27** ⇓	*i*P	**Pn**	**22 09 47.3**	**+0.9**
SORM				*i* S	**Sn**	**22 10 19.9**	**-1.7**
MDVR	**Moldovita**	**3.43**	**258** ⇓	*i*P	**Pn**	**22 09 54.9**	**+1.0**
MDVR				*i* S	**Sn**	**22 10 33.6**	**-1.3**
MDVR	**Moldovita**	**3.43**	**258** ⇓	*i*P	**Pn**	**22 09 54.9**	**+1.0**
MDVR	**Moldovita**	**3.43**	**258** ⇓	*i*P	**Pn**	**22 09 54.9**	**+1.0**
MDVR				*i* S	**Sn**	**22 10 33.6**	**-1.3**

SJA ***15*** *22:14:08.5±0.7, 29°.90S×71°.76W, h41km±999km, ML4.9, MW4.8*
ISCJB ***15*** *22:14:09.2±0.6, 29°.98S±0°.03×71°.66W±0°.08, h60km±6km, mb4.7/29, Error ellipse: s-maj=11.3km s-min=4.5km az=2.8*
IDC ***15*** *22:14:10.1±2.2, 29°.98S×71°.38W, h49km±20km, mb4.7/9, mb1 4.7/14, mb1mx4.3/30, mbtmp4.8/14, ML4.6/5, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=20.5km s-min=14.5km az=95.0*
NEIC ***15*** *22:14:10.0±0.0, 30°.01S×71°.28W, h85km, mb4.5/21, After GUC.*
NEIC Felt [IV] at Coquimbo, La Serena and Vicuna; [III] at Andacollo; [II] at Illapel and Salamanca.
GUC ***15*** *22:14:10.6±0.5, 30°.01S×71°.28W, h85km±13km, ML4.7*
BJI ***15*** *22:14:12.1, 30°.00S×71°.50W, h50km, mB5.1/4, Ms4.9/5, Ms7 4.9/4*
ISC 15 22:14:10.2±0.7,**29°.95S**±0°.04×**71°.63W**±0°.06,**h56**km±5km,
n100,σ1°69/99,**mb4.6**/29,**MS3.9**/7,**1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.74**	**107**	*e*P	**Pn**	**22 14 24.5**	**-0.5**
TLL				*e*S	**Sn**	**22 14 35.6**	**-0.2**
TLL				IAML		22 14 37.0	
comp=E,51μm,0.5s							
LCO	**Las Campanas**	**1.24**	**41**	*e*P	**Pn**	**22 14 31.8**	**+0.3**
LCO				*e*S	**Sn**	**22 14 47.9**	**+0.6**
LCO				IAML		22 14 49.1	
comp=E,29μm,0.3s							
LCO	**Las Campanas**	**1.24**	**41**	*e*P	**Pn**	**22 14 31.6**	**+0.1**
LCO				*e*S	**Sn**	**22 14 48.4**	**+1.0**
LCO	**Las Campanas**	**1.24**	**41**	*e*Pn	**Pn**	**22 14 31.8**	**+0.3**
VACH	**Vallenar**	**1.57**	**29**	*e*P	**Pn**	**22 14 36.2**	**+0.5**
VACH				*e*S	**Sn**	**22 14 55.8**	**+0.8**
ACDV	**Cuesta del Vie**	**2.18**	**96**	*e*P	**Pn**	**22 14 46.8**	**+2.6**
ACDV				*e*S	**Sn**	**22 15 14.2**	**+4.0**
RTLS	**Leoncito**	**2.72**	**133**	*e*P	**Pn**	**22 14 54.4**	**+2.6**
RTLS				*e*S	**Sn**	**22 15 28.1**	**+4.6**
RTLS				IAML		22 15 33.5	
comp=Z,4μm,0.5s							
AUSP	**Uspallata**	**2.97**	**140**	*e*P	**Pn**	**22 14 57.7**	**+2.6**
RTLL	**Cerro Villicun**	**3.04**	**118**	*e*P	**Pn**	**22 14 58.0**	**+2.0**
ROCH	**El Roble**	**3.06**	**170**	*e*P	**Pn**	**22 14 55.5**	**-0.7**
ROCH				*e*S	**Sn**	**22 15 30.1**	**-1.7**
ROC1	**El Roble**	**3.06**	**170**	*e*S	**Sn**	**22 15 34.5**	**+2.6**
ROC1	**El Roble**	**3.06**	**170**	*e*Pn	**Pn**	**22 14 55.7**	**-0.6**
PEL	**Peldehue**	**3.28**	**166**	*e*P	**Pn**	**22 14 58.8**	**-0.4**
ASAL	**Salagasta**	**3.56**	**138**	*e*P	**Pn**	**22 15 05.7**	**+2.8**
CLCH	**Cerro Calan**	**3.56**	**165**	*e*P	**Pn**	**22 15 02.4**	**-0.6**
GO05	**HualaaeØ**	**5.05**	**183**	*e*Pn	**Pn**	**22 15 20.9**	**-2.4**
PB10	**IPOC Station P**	**6.48**	**9**	*e*Pn	**Pn**	**22 15 42.7**	**-0.3**
PB04	**IPOC Station P**	**7.70**	**10**	*e*Pn	**Pn**	**22 15 59.7**	**-0.2**
LVC	**Limon Verde**	**7.71**	**19**	P	**Pn**	**22 15 57.5**	**-2.7**
comp=Z,52nm,0.3s,baz=170,slow=9.8,SNR=21							
LVC				S	**Sn**	**22 17 22.8**	**-3.4**
comp=Z,256nm,0.3s,baz=171,slow=19,SNR=2.4							
PB01	**IPOC Station P**	**9.08**	**13**	*e*Pn	**Pn**	**22 16 18.5**	**-0.2**
PLCA	**Paso Flores**	**10.79**	**176**	P	**Pn**	**22 16 40.6**	**-1.4**
comp=Z,1.3nm,0.3s,baz=4.0,slow=11,SNR=22							
PLCA				LR	LR	22 20 47.4	
comp=Z,290nm,21.8s,baz=16,slow=37							
PLCA	**Paso Flores**	**10.79**	**176**	*e*Pn	**Pn**	**22 16 40.7**	**-1.3**
TRQA	**Tornquist**	**11.37**	**138**	*e*Pn	**Pn**	**22 16 47.0**	**-2.8**
CPUP	**Villa Florida**	**13.12**	**78**	P	**Pn**	**22 17 11.1**	**-2.7**
comp=Z,0.2nm,0.3s,baz=256,slow=5.0,SNR=6.9							
CPUP				LR	LR	22 22 42.1	
comp=Z,574nm,21.1s,baz=252,slow=40							
CPUP	**Villa Florida**	**13.12**	**78**	*e*Pn	**Pn**	**22 17 13.3**	**-0.5**
LPAZ	**La Paz**	**13.97**	**14**	P	**Pn**	**22 17 27.4**	**+1.4**
comp=Z,0.7nm,0.3s,baz=182,slow=8.1,SNR=32							
LPAZ	**La Paz**	**13.97**	**14**	*e*Pn	**Pn**	**22 17 25.9**	**0.0**
SIV	**San Ignacio**	**16.94**	**37**	P	**P**	**22 18 03.8**	**-0.9**
comp=Z,3.4nm,0.3s,baz=227,slow=12,SNR=101							
CHRN	**Cochrane**	**17.29**	**182**	*e*Pn	**Pn**	**22 18 06.7**	**-0.9**
comp=Z,14nm,0.9s							
SPB	**Sao Paulo**	**22.49**	**79**	*e*P	**P**	**22 19 00.4**	**-4.6**
comp=Z,30nm,0.8s							
USHA	**Ushuaia**	**24.97**	**176**	P	**P**	**22 19 28.3**	**0.0**
comp=Z,147nm,0.7s,baz=342,slow=8.9,SNR=13							

TAM	**Tamanrasset**	**90.76**	**64**	*e*P		**P**	**22 27 03.1**	**-4.6**
	comp=Z,1.0nm,0.6s							
H11S2	**WAKE ISLAND Hyl**	**26.09**	**272**	T		T	00 52 04.4	
	baz=115,slow=75,SNR=118							
H11S1	**WAKE ISLAND Hyl**	**26.10**	**272**	T		T	00 52 05.3	
	baz=115,slow=75,SNR=143							
H11S3	**WAKE ISLAND Hyl**	**26.10**	**272**	T		T	00 52 05.8	
	baz=115,slow=75,SNR=104							
H11N3	**WAKE ISLAND Hyl**	**26.40**	**273**	T		T	00 52 37.2	
	baz=110							
H11N1	**WAKE ISLAND Hyl**	**26.41**	**273**	T		T	00 52 35.1	
	baz=110							
H11N2	**WAKE ISLAND Hyl**	**26.41**	**273**	T		T	00 52 37.5	
	baz=110							
BVAR	**Borovoye Array**	**144.01**	**39**	PKP		**PKPdf**	**22 33 38.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=318,slow=1.9,SNR=5.0							
HYB	**Hyderabad**	**150.07**	**108**	*i* PKP		**PKPbc**	**22 33 56.0**	**+0.7**
ZALV	**Zalesovo Beam**	**150.57**	**29**	PKPbc		**PKPbc**	**22 33 55.8**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=297,slow=3.5,SNR=31							
ZALV				PKPab		**PKPab**	**22 34 01.2**	**-0.9**
	comp=Z,7.1nm,0.7s,baz=300,slow=3.5,SNR=14							
KSH	**Kashi**	**151.84**	**61**	*e*PKPbc		**PKPbc**	**22 33 59.0**	**+0.1**
KSH				pPKP		pPKPdf	22 34 10.1	+1.0
KSH				sPKP			22 34 14.1	
KSH				AMB		AMB		
	comp=Z,110nm,7.3s							
KSH				LR		LR		
	comp=Z,120nm,7.3s							
KSH				LR		LR		
	comp=Z,92nm,8.6s							
KSH				LR		LR		
	comp=Z,150nm,7.0s							
MKAR	**Makanchi Array**	**153.70**	**43**	PKPbc		**PKPbc**	**22 34 01.7**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=337,slow=1.6,SNR=6.0							
MKAR				PKPab		**PKPab**	**22 34 14.9**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=318,slow=1.6,SNR=6.9							
MJAR	**Matsushiro Arr**	**154.26**	**293**	PKPab		**PKPab**	**22 34 19.2**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=71,slow=3.8,SNR=3.9							
WMQ	**Urumqi**	**158.51**	**44**	PKP		**PKPdf**	**22 34 01.5**	**+0.2**
WMQ				LR		LR		
	comp=Z,60nm,19.7s							
WMQ				LR		LR		
	comp=Z,78nm,22.5s							
WMQ				LR		LR		
	comp=Z,35nm,22.5s							
CN2	**Changchun**	**160.62**	**320**	*e*PKP		**PKPdf**	**22 34 06.0**	**+2.4**
SONM	**Songino Array**	**162.08**	**4**	PKPab		**PKPab**	**22 34 53.7**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=345,slow=4.9,SNR=3.0							
HHC	**Hu-ho-hao-te**	**168.82**	**347**	*e*PKP		**PKPdf**	**22 34 13.8**	**+2.8**
LZH	**Lanzhou**	**172.80**	**31**	*e*PKP		**PKPdf**	**22 34 12.3**	**-1.0**
LZH				pPKP		pPKPdf	22 34 27.5	-2.5
LZH				sPKP			22 34 33.0	
LZH				LR		LR		
	comp=Z,97nm,18.0s							
LZH				LR		LR		
	comp=Z,100nm,18.1s							
LZH				LR		LR		
	comp=Z,130nm,20.0s							

MAN 15 22:15:22, 6°.68N×127°.18E, h96km, mb4.7, ML3.6, MS3.6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.95**	**286**	*e*P	Pn	22 15 42.3	+0.6
MATI				*e*S	Sn	22 15 50.5	-5.9
BIPH	**Bislig**	**1.70**	**332**	⇓*e*P	Pn	22 15 47.4	-3.2
BIPH				*e*S	Sn	22 15 59.4	-13
BUKP	**Musuan**	**2.42**	**300**	*e*P	Pn	22 15 59.8	-0.1
BUKP				*e*S	Sn	22 16 29.1	+0.1
CTBH	**Cotabato--PC H**	**2.96**	**281**	⇑*i*P	Pn	22 16 09.0	+1.9
PAGZ	**Pagadian**	**3.94**	**287**	*e*P	Pn	22 16 21.9	+1.5
MSLP	**Maasin**	**4.13**	**326**	*e*P	Pn	22 16 22.5	-0.4
MSLP				*e*S	Sn	22 17 11.6	+1.4

BJI ***15*** *22:24:49.5, 25°.70S×177°.50W, h153km, mb5.2/43, mB5.3/32*

NEIC ***15*** *22:24:49.3±0.7, 25°.79S×177°.46W, h148km±7km, mb5.2/118, Error ellipse: s-maj=5.1km s-min=3.8km az=128.0*

GCMT ***15*** *22:24:49.3±0.1, 25°.71S×177°.11W, h167km, MW5.5/130, Moment Tensor Solution. s119,c205; s130,c237; Duration: 1†3 Moment tensor: Scale 1017Nm; Mrr0.57±.02; Mθθ-0.47±.03; Mφφ-0.10±.03; Mrθ-1.32±.02; Mrφ-1.42±.03; Mθφ0.76±.02; Best double couple: M0=2.10500×1017 NP1:φs=270.00000°, δ75.00000°, λ138.00000°. NP2:φs=13.00000°, δ50.00000°, λ20.00000°. Principal axes: T 2.3560, Plg40.0000°, Azm223.0000°; N -0.5010, Plg46.0000°, Azm73.0000°; P -1.8550, Plg16.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***15*** *22:24:49.5±0.1, 25°.84S±0°.03×177°.43W±0°.03, h158km, mb5.1/153 Error ellipse: s-maj=4.7km s-min=2.8km az=44.5*

IDC ***15*** *22:24:50.5±0.6, 25°.60S×177°.45W, h151km±4km, mb4.8/26, mb1 4.9/27, mb1mx4.9/31, mbtmp5.2/27, MS4.0/13, Ms1 4.0/13, ms1mx3.8/27, Error ellipse: s-maj=11.9km s-min=8.5km az=102.0*

MOS ***15*** *22:24:53.7±1.1, 25°.54S×177°.55W, h188km, mb5.3/34, MS4.4/5, Error ellipse: s-maj=10.4km s-min=7.4km az=81.6*

ISC 15 22:24:50.3±0.3, 25°.76S±0°.03×177°.46W±0°.05, h157km±2km, h157km; pP-P, n780, σ1§74/877, mb5.2/151, 52C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.50**	**187**	P	**Pn**	**22 25 45.8**	**+1.6**
	1μm,0.3s,baz=258,slow=2.6,SNR=24						
RAO				S	**Sn**	**22 26 29.4**	**+3.2**
	5μm,0.3s,baz=249,slow=23,SNR=32						
RAO				LR	LR	22 26 46.6	
	comp=Z,4μm,20.7s,baz=26,slow=32						
RAO	**Raoul Island**	**3.50**	**187**	*e*P	**Pn**	**22 25 45.3**	**+1.1**
RAO				S	**Sn**	**22 26 29.4**	**+3.2**
RAO	**Raoul Island**	**3.50**	**187**	*e*Pn	**Pn**	**22 25 45.3**	**+1.1**
RAO				S	**Sn**	**22 26 29.4**	**+3.2**
MSVF	**Nonsavu**	**9.01**	**332**	*e*P	**Pn**	**22 26 59.0**	**+1.7**
MSVF	**Nonsavu**	**9.01**	**332**	*e*Pn	**Pn**	**22 26 59.0**	**+1.7**
OUZ	**Omahuta**	**12.17**	**217**	*e*Pn	**P**	**22 27 42.4**	**-2.1**
MXZ	**Matakaoa Point**	**12.30**	**196**	*e*Pn	**Pn**	**22 27 39.5**	**-0.7**
MXZ				*e*Sn	**Sn**	**22 29 49.7**	**-6.5**
MXZ	**Matakaoa Point**	**12.30**	**196**	*e*PN	Pn	22 27 32.3	-7.8
MXZ				SN	Sn	22 29 46.1	-10
WMGZ	**Waiomatatini S**	**12.52**	**195**	*e*PN	Pn	22 27 34.9	-8.1
WMGZ				SN	**Sn**	**22 29 52.6**	**-8.9**
HAZ	**Te Kaha**	**12.62**	**198**	*e*PN	Pn	22 27 37.3	-6.9
HAZ				*e*SN	**Sn**	**22 29 55.3**	**-8.6**
PUZ	**Puketiti**	**12.80**	**195**	*e*PN	Pn	22 27 40.8	-5.8
PUZ				*e*SN	Sn	22 29 54.1	-14
RUGZ	**Raukumara Rang**	**12.85**	**198**	*e*PN	Pn	22 27 39.4	-7.9
AFI	**Afiamalu**	**12.94**	**25**	P	Pn	22 27 38.9	-10
	23nm,0.3s,baz=192,slow=1.3,SNR=34						
AFI				S	Sn	22 29 47.5	-25
	20nm,0.3s,baz=41,slow=19,SNR=5.2						
MWZ	**Matawai**	**13.23**	**197**	*e*PN	Pn	22 27 43.5	-8.6
MWZ				*e*SN	Sn	22 30 07.0	-12
URZ	**Urewera**	**13.28**	**199**	P	Pn	22 27 45.9	-6.8
	2.3nm,0.3s,baz=278,slow=6.2,SNR=12						
URZ				S	Sn	22 30 09.0	-11
	37nm,0.3s,baz=6.5,slow=21,SNR=14						
URZ	**Urewera**	**13.28**	**199**	*e*Pn	**Pn**	**22 27 52.7**	**0.0**
URZ				S	Sn	22 30 09.0	-11
URZ	**Urewera**	**13.28**	**199**	*e*PN	Pn	22 27 44.5	-8.2
URZ				*e*SN	Sn	22 30 09.6	-10
MUGZ	**Murupara**	**13.58**	**200**	*e*PN	Pn	22 27 48.6	-7.9
MUGZ				*e*SN	Sn	22 30 16.5	-11
KNZ	**Kokohu**	**13.84**	**196**	*e*PN	Pn	22 27 53.5	-6.3
KNZ				*e*SN	Sn	22 30 18.3	-15
HIZ	**Hauiti**	**14.28**	**205**	*e*Pn	**P**	**22 28 06.4**	**-1.5**
HIZ	**Hauiti**	**14.28**	**205**	PN	**P**	**22 28 07.1**	**-0.7**
BKZ	**Black Stump Fm**	**14.30**	**199**	*e*Pn	**Pn**	**22 28 04.8**	**-0.8**
BKZ	**Black Stump Fm**	**14.30**	**199**	*e*PN	**Pn**	**22 28 01.3**	**-4.3**
WNVZ	**Wahianoa**	**14.73**	**202**	*e*PN	**Pn**	**22 28 07.2**	**-3.9**
VRZ	**Vera Road**	**14.85**	**204**	*e*PN	**Pn**	**22 28 12.0**	**-0.3**
PXZ	**Pawanui**	**15.00**	**197**	PN	Pn	22 28 08.2	-6.1
DZM	**Mont Dzumac**	**15.17**	**281**	P	**P**	**22 28 22.4**	**+4.4**
	1.0nm,0.3s,baz=84,slow=17,SNR=20						
DZM				LR	LR	22 33 22.2	
	comp=Z,684nm,19.2s,baz=83,slow=34						
DZM	**Mont Dzumac**	**15.17**	**281**	*e*Pn	**P**	**22 28 21.0**	**+2.9**
	250nm,1.4s						
DZM				*e*S	**Sn**	**22 31 05.3**	**-0.3**
	2μm,27.6s						
DZM	**Mont Dzumac**	**15.17**	**281**	*e*Pn	**P**	**22 28 21.4**	**+3.3**
	61nm,0.8s						
TSZ	**Takapari Road**	**15.28**	**199**	*e*PN	**Pn**	**22 28 17.7**	**-0.1**
BFZ	**Birch Farm**	**15.78**	**198**	*e*Pn	**Pn**	**22 28 23.0**	**-0.8**
	127nm,0.5s						
BFZ	**Birch Farm**	**15.78**	**198**	*e*PN	Pn	22 28 12.7	-11
MRZ	**Mangatainoka R**	**15.95**	**200**	*e*PN	Pn	22 28 18.4	-7.6
KIW	**Kapiti Island**	**16.34**	**201**	*e*PN	**Pn**	**22 28 26.0**	**-4.8**
DUWZ	**D'Urville Isla**	**16.63**	**203**	*e*PN	**P**	**22 28 27.3**	**-6.6**
SNZO	**South Karori**	**16.81**	**201**	*e*P	**P**	**22 28 33.8**	**-2.1**
	120nm,0.5s						
RAR	**Rarotonga**	**16.84**	**78**	P	**P**	**22 28 34.3**	**-2.1**
	3.2nm,0.3s,baz=265,slow=10,SNR=3.5						
RAR				S	S	22 31 29.3	-14
	2.3nm,0.3s,baz=84,slow=19,SNR=5.0						
TCW	**Tory Channel**	**16.86**	**202**	*e*PN	**P**	**22 28 31.5**	**-5.0**
TCW				*e*SN	S	22 31 27.5	-16
QRZ	**Quartz Range**	**17.18**	**207**	*e*PN	**P**	**22 28 36.1**	**-3.8**
NNZ	**Nelson**	**17.19**	**204**	PN	P	22 28 32.3	-7.7
NNZ				SN	S	22 31 36.0	-15
FUNA	**Funafuti**	**17.44**	**349**	*e*P	**P**	**22 28 40.4**	**-2.5**
	444nm,0.9s						
THZ	**Tophouse**	**17.84**	**204**	*e*P	**P**	**22 28 44.7**	**-2.5**
	77nm,0.5s						
THZ	**Tophouse**	**17.84**	**204**	*e*PN	**P**	**22 28 41.4**	**-5.8**
THZ				*e*SN	S	22 31 49.6	-15
CTZ	**Chatham Island**	**17.94**	**178**	*e*PN	**Pn**	**22 28 51.6**	**+1.8**
CTZ				*e*SN	**S**	**22 31 56.6**	**-9.4**
KHZ	**Kahutara**	**18.19**	**202**	*e*P	**P**	**22 28 48.5**	**-2.4**
	309nm,0.5s						
KHZ	**Kahutara**	**18.19**	**202**	*e*PN	**P**	**22 28 45.2**	**-5.7**
DSZ	**Denniston Nort**	**18.25**	**206**	*e*SN	S	22 31 59.6	-13
LTZ	**Lake Taylor**	**18.95**	**204**	*e*P	**P**	**22 28 56.4**	**-3.0**
	75nm,0.9s						
OXZ	**Oxford**	**19.51**	**203**	*e*P	**P**	**22 29 02.2**	**-3.2**
	142nm,0.6s						
OXZ	**Oxford**	**19.51**	**203**	*e*PN	**P**	**22 29 02.1**	**-3.2**
CRLZ	**Canterbury Las**	**19.53**	**202**	*e*P	**P**	**22 29 03.8**	**-1.6**
	282nm,1.6s						
MQZ	**McQueen's Vall**	**19.63**	**202**	*e*P	**P**	**22 29 04.7**	**-1.9**
	139nm,1.5s						
MQZ	**McQueen's Vall**	**19.63**	**202**	*e*PN	**P**	**22 29 03.4**	**-3.2**
MQZ				*e*SN	S	22 32 26.8	-13
WVZ	**Waitaha Valley**	**19.79**	**206**	*e*PN	**P**	**22 29 05.6**	**-2.7**
WVZ				*e*SN	**S**	**22 32 33.0**	**-10**
RPZ	**Rata Peaks**	**20.21**	**205**	P	**P**	**22 29 09.6**	**-3.2**
	18nm,0.5s,baz=322,slow=2.4,SNR=12						
RPZ				S	S	22 32 38.8	-12
	64nm,0.8s,baz=197,slow=19,SNR=6.4						
RPZ				LR	LR	22 37 11.8	
	comp=Z,383nm,19.5s,baz=20,slow=36						
RPZ	**Rata Peaks**	**20.21**	**205**	*e*P	**P**	**22 29 10.0**	**-2.8**
	53nm,0.6s						
RPZ				S	S	22 32 38.9	-12
RPZ	**Rata Peaks**	**20.21**	**205**	*e*PN	**P**	**22 29 09.7**	**-3.2**
FOZ	**Fox Glacier**	**20.55**	**207**	*e*P	**P**	**22 29 15.9**	**-0.5**
	168nm,0.7s						
FOZ	**Fox Glacier**	**20.55**	**207**	*e*PN	**P**	**22 29 13.1**	**-3.2**
LBZ	**Lake Benmore**	**21.11**	**205**	*e*P	**P**	**22 29 21.3**	**-1.2**
	59nm,0.9s						
LHI	**Lord Howe Isla**	**21.37**	**249**	P	**P**	**22 29 31.2**	**+5.8**
	baz=22						
JCZ	**Jackson Bay**	**21.42**	**208**	*e*PN	**P**	**22 29 22.0**	**-3.9**
ODZ	**Otahua Downs**	**21.50**	**204**	*e*P	**P**	**22 29 24.7**	**-1.9**
	70nm,0.7s						
WKZ	**Wanaka**	**21.94**	**206**	*e*P	**P**	**22 29 30.3**	**-0.9**
	78nm,0.8s						
TUZ	**Tuapeka**	**22.65**	**204**	PN	**P**	**22 29 38.9**	**+1.0**
MLZ	**Mavora Lakes**	**22.74**	**207**	*e*P	**P**	**22 29 38.3**	**-0.6**
	102nm,1.1s						
DCZ	**Deep Cove**	**23.23**	**208**	*e*P	**P**	**22 29 42.4**	**-0.9**
	63nm,0.9s						
WHZ	**Wether Hill Ro**	**23.24**	**206**	*e*P	**P**	**22 29 42.5**	**-1.0**
	120nm,1.0s						
SYZ	**Scrubby Hill**	**23.32**	**204**	*e*PN	**P**	**22 29 44.4**	**+0.2**
PYZ	**Puysegur Point**	**23.98**	**208**	*e*P	**P**	**22 29 48.8**	**-1.4**
	173nm,1.3s						
APZ	**The Paps**	**24.00**	**205**	PN	**P**	**22 29 51.0**	**+0.7**
TBI	**Tubuai**	**25.56**	**91**	*e*S	S	22 34 06.2	-15
	315nm,34.2s						
TBI				*e*LQ	LQ	22 35 09.2	
	4μm,27.5s						
TBI				*e*LR	LR	22 36 24.8	
	337nm,37.2s						
TBI	**Tubuai**	**25.56**	**91**	*e*T	T	22 55 46.3	
	54nm,0.3s						
HNR	**Honiara**	**26.90**	**303**	P	**P**	**22 30 13.1**	**-3.8**
	30nm,0.4s,baz=108,slow=3.2,SNR=2.0						
HNR				LR	LR	22 40 28.1	
	comp=Z,129nm,19.9s,baz=169,slow=35						
PAE	**Paea**	**27.08**	**78**	*e*T	T	22 56 52.0	
	18nm,0.3s						
PPT2	**Papeete2**	**27.11**	**78**	*e*LQ	LQ	22 35 50.7	
	4μm,27.8s						
PPT2				*e*LR	LR	22 37 10.3	
	900nm,25.2s						
PPT2	**Papeete2**	**27.11**	**78**	*e*T	T	22 56 57.3	
	13nm,0.3s						
TVO	**Taravao**	**27.33**	**79**	*e*T	T	22 57 42.5	
	8.2nm,0.3s						
ARMA	**Armidale**	**27.62**	**253**	P	**P**	**22 30 26.7**	**+3.4**
	baz=28,SNR=31						
ARMA	**Armidale**	**27.62**	**253**	*e*P	**P**	**22 30 25.0**	**+1.8**
	19nm,0.6s						
MGCD	**Mangrove Creek**	**28.28**	**247**	P	**P**	**22 30 32.8**	**+3.9**
	baz=29,SNR=22						
RIV	**Riverview**	**28.32**	**246**	P	**P**	**22 30 32.8**	**+3.6**
	baz=29						
EIDS	**Eidsvold**	**28.35**	**264**	P	**P**	**22 30 31.7**	**+2.0**
	baz=29						
EIDS	**Eidsvold**	**28.35**	**264**	*e*P	**P**	**22 30 31.9**	**+2.2**
	99nm,0.8s						
TARA	**Tarawa**	**28.52**	**340**	*e*P	**P**	**22 30 28.9**	**-2.2**
	139nm,0.9s						
CNB	**Canberra Magne**	**30.00**	**244**	P	**P**	**22 30 47.3**	**+3.0**
	baz=31						
RMQ	**Roma**	**30.29**	**261**	P	**P**	**22 30 50.2**	**+3.3**
	baz=31,SNR=83						
CAN	**Canberra**	**30.30**	**244**	*e*P	**P**	**22 30 47.7**	**+0.8**
CAN				pmax	pmax		
	comp=Z,61nm,1.1s						
CAN	**Canberra**	**30.30**	**244**	*e*P	**P**	**22 30 47.7**	**+0.8**
	comp=Z,61nm,1.1s						
MILA	**Mila**	**30.49**	**240**	P	**P**	**22 30 51.4**	**+2.9**
	baz=31,SNR=19						
CMSA	**Cobar Meteorol**	**32.74**	**251**	P	**P**	**22 31 10.2**	**+2.0**
	baz=34						
TAU	**Tasmania Unive**	**33.44**	**230**	*e*P	**P**	**22 31 14.4**	**+0.3**
TAU				pmax	pmax		
	comp=Z,100nm,1.3s						
TAU	**Tasmania Unive**	**33.44**	**230**	*e*P	**P**	**22 31 14.4**	**+0.3**
	comp=Z,100nm,1.3s						
TOO	**Toolangi**	**33.46**	**240**	P	**P**	**22 31 16.8**	**+2.4**
	baz=34						
QLP	**Quilpie**	**34.31**	**260**	P	**P**	**22 31 23.6**	**+1.8**
	baz=35						
STKA	**Stephens Creek**	**36.23**	**251**	P	**P**	**22 31 39.5**	**+1.2**
	comp=Z,25nm,0.5s,baz=98,slow=11,SNR=86						
STKA				PcP	**PcP**	**22 34 02.1**	**+2.1**
	comp=Z,13nm,0.6s,baz=97,slow=5.5,SNR=3.4						
STKA				ScP	**ScP**	**22 37 34.0**	**+2.2**
	comp=Z,13nm,1.0s,baz=142,slow=4.5,SNR=5.3						
STKA				LR	LR	22 46 22.1	
	comp=Z,386nm,18.4s,baz=81,slow=36						
STKA	**Stephens Creek**	**36.23**	**251**	*e*P	**P**	**22 31 40.1**	**+1.9**
	comp=Z,22nm,1.4s						
STKA				PcP	**PcP**	**22 34 02.1**	**+2.1**
STKA				ScP	**ScP**	**22 37 34.0**	**+2.2**
ARPS	**Mount Arapiles**	**36.24**	**242**	P	**P**	**22 31 40.2**	**+2.0**
	baz=37						
PMG	**Port Moresby**	**37.29**	**289**	P	**P**	**22 31 48.0**	**+0.7**
	comp=Z,53nm,0.7s,baz=106,slow=5.6,SNR=34						
PMG				PcP	**PcP**	**22 34 05.2**	**+1.7**
	comp=Z,30nm,0.9s,baz=127,slow=5.3,SNR=3.6						
PMG				S	**S**	**22 37 21.8**	**-1.5**
	comp=Z,2.6nm,0.3s,baz=356,slow=22,SNR=7.1						
PMG				ScP	**ScP**	**22 37 38.6**	**+2.6**
	comp=Z,4.2nm,0.3s,baz=26,slow=21,SNR=3.9						
PMG	**Port Moresby**	**37.29**	**289**	*c i*P	**P**	**22 31 48.2**	**+0.9**
PMG				pmax	pmax		
	comp=Z,179nm,0.7s						
PMG	**Port Moresby**	**37.29**	**289**	*e*P	**P**	**22 31 48.7**	**+1.4**
	comp=Z,50nm,0.7s						
PMG				PcP	**PcP**	**22 34 05.2**	**+1.7**
PMG				S	**S**	**22 37 21.8**	**-1.5**
PMG				ScP	**ScP**	**22 37 38.6**	**+2.6**
KWAJ	**Kwajalein Atol**	**37.30**	**335**	*e*P	**P**	**22 31 46.2**	**-1.2**
KWAJ				pmax	pmax		
	comp=Z,243nm,1.2s						
KWAJ	**Kwajalein Atol**	**37.30**	**335**	*e*P	**P**	**22 31 46.2**	**-1.2**
	comp=Z,243nm,1.2s						
HTT	**Hallett**	**38.47**	**248**	P	**P**	**22 31 58.1**	**+1.0**
	baz=39,SNR=38						
COEN	**Coen**	**38.70**	**280**	P	**P**	**22 32 01.1**	**+1.9**
	baz=40						
COEN	**Coen**	**38.70**	**280**	*e*P	**P**	**22 32 01.0**	**+1.8**
	comp=Z,9.8nm,0.6s						
TAOE	**Nuku Hiva Isla**	**39.20**	**71**	*e*LR	LR	22 42 47.2	
	comp=Z,552nm,24.7s						
QIS	**Mount Isa**	**39.69**	**268**	P	**P**	**22 32 09.0**	**+1.7**
	baz=41						
PATS	**Pohnpei**	**40.06**	**321**	P	**P**	**22 32 09.7**	**-0.6**
	baz=41						
BBOO	**Buckleboo**	**40.89**	**249**	P	**P**	**22 32 17.4**	**+0.4**
	baz=42						
BBOO	**Buckleboo**	**40.89**	**249**	*e*P	**P**	**22 32 17.2**	**+0.2**
	comp=Z,63nm,0.8s						
AS01	**Alice Springs**	**43.99**	**262**	*e*P	**P**	**22 32 42.7**	**+0.4**
AS31	**Alice Springs**	**44.04**	**262**	*e*P	**P**	**22 32 43.2**	**+0.6**
	comp=Z,28nm,0.4s						
AS31				*e*S	**S**	**22 39 03.4**	**+0.1**
ASAR	**Alice Springs**	**44.04**	**262**	P	**P**	**22 32 43.3**	**+0.7**
	comp=Z,44nm,0.5s,baz=95,slow=6.4,SNR=286						
ASAR				ScP	**ScP**	**22 38 04.5**	**+1.9**
	comp=Z,4.9nm,0.9s,baz=110,slow=4.0,SNR=5.5						
ASAR				S	**S**	**22 38 58.8**	**-4.5**
	comp=Z,12nm,1.1s,baz=100,slow=16,SNR=14						
ASAR				LR	LR	22 49 23.4	
	comp=Z,433nm,18.2s,baz=110,slow=33						
WB2	**Warramunga Arr**	**44.59**	**267**	*e*P	**P**	**22 32 47.3**	**+0.2**
WRAB	**Tennant Creek**	**44.60**	**267**	⇓*e*P	**P**	**22 32 47.7**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**44.60**	**267**	*e*P	**P**	**22 32 47.8**	**+0.7**
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**44.60**	**267**	P	**P**	**22 32 47.0**	**-0.2**
	comp=Z,28nm,0.6s,baz=99,slow=7.6,SNR=213						
WRA				PcP	**PcP**	**22 34 28.4**	**+1.0**
	comp=Z,14nm,0.9s,baz=102,slow=3.8,SNR=6.8						
WRA				ScP	**ScP**	**22 38 07.7**	**+2.8**
	comp=Z,6.2nm,0.8s,baz=101,slow=4.3,SNR=7.3						
WRA				S	**S**	**22 39 06.1**	**-5.4**
	comp=Z,11nm,1.0s,baz=103,slow=14,SNR=6.5						
JAY	**Jayapura**	**46.37**	**293**	P	**P**	**22 33 01.2**	**+0.1**
	comp=Z,152nm,0.9s,comp=Z,5μm						
WAKE	**Wake Island**	**47.37**	**339**	*e*P	**P**	**22 33 05.9**	**-2.7**
	comp=Z,254nm,1.0s						
FORT	**Forrest**	**47.86**	**251**	P	**P**	**22 33 12.3**	**-0.2**
	baz=49						
FORT	**Forrest**	**47.86**	**251**	*e*P	**P**	**22 33 12.2**	**-0.2**
	comp=Z,2μm,0.6s						
SMPI	**Sarmi**	**48.32**	**292**	P	**P**	**22 33 16.4**	**+0.3**
	comp=Z,13nm,1.8s						
HPAH	**Hawaii Prepara**	**50.19**	**27**	*e*P	**P**	**22 33 30.0**	**-0.2**
	comp=Z,152nm,0.7s						
KIP	**Kipapa**	**50.56**	**24**	⇓*e*P	**P**	**22 33 33.1**	**+0.2**
KIP				pmax	pmax		
	comp=Z,1μm,1.2s						
BAKI	**Biak**	**50.93**	**291**	P	**P**	**22 33 37.4**	**+1.5**
KNRA	**Kununurra**	**51.00**	**270**	P	**P**	**22 33 36.8**	**+0.4**
	baz=52						
SBA	**Scott Base**	**52.68**	**184**	*e*P	**P**	**22 33 52.0**	**+4.1**
SBA				pmax	pmax		
	comp=Z,169nm,1.0s						
SBA	**Scott Base**	**52.68**	**184**	*e*P	**P**	**22 33 52.0**	**+4.1**
	comp=Z,169nm,1.0s						
VNDA	**Vanda**	**52.74**	**186**	P	**P**	**22 33 51.6**	**+3.2**
	comp=Z,31nm,0.9s,baz=1.5,slow=8.2,SNR=56						
VNDA				ScP	**ScP**	**22 38 40.2**	**+1.8**
	comp=Z,4.7nm,1.0s,baz=35,slow=8.4,SNR=3.6						
VNDA	**Vanda**	**52.74**	**186**	*e*P	**P**	**22 33 51.5**	**+3.2**
	comp=Z,74nm,1.2s						
VNDA				ScP	**ScP**	**22 38 40.2**	**+1.8**
KMBL	**Kambalda**	**53.00**	**249**	P	**P**	**22 33 50.7**	**-0.4**
	baz=54						
SWI	**Sorong**	**55.22**	**288**	P	**P**	**22 34 06.9**	**-0.4**
	comp=Z,90nm,0.7s,comp=Z,1μm						
MSAI	**Masohi**	**56.01**	**284**	P	**P**	**22 34 14.7**	**+1.8**
KLBR	**Kellerberrin**	**56.42**	**248**	P	**P**	**22 34 15.5**	**-0.2**
	baz=57						
SOEI	**Soe**	**57.30**	**275**	P	**P**	**22 34 25.1**	**+2.9**
SOEI	**Soe**	**57.30**	**275**	*e*P	**P**	**22 34 22.6**	**+0.4**
	comp=Z,74nm,1.1s						
MBWA	**Marble Bar**	**57.34**	**260**	*e*P	**P**	**22 34 21.8**	**-0.4**
	comp=Z,70nm,1.4s						
MORW	**Morawa**	**58.42**	**250**	P	**P**	**22 34 29.7**	**0.

comp=Z,180nm,1.0s
YSS MLR MLR
comp=Z,200nm,19.0s
YSS Yuzh-Sakhalins 80.81 334 *e*P **P 22 36 46.8 +0.6**
comp=Z,175nm,0.9s
SCZ2 Santa Cruz Isl 80.89 45 P **P 22 36 48.0 +1.1**
baz=230
SCI2 San Clemente I 80.96 47 P **P 22 36 47.9 +0.6**
baz=231
KSRS Korea Array 81.16 319 P **P 22 36 49.5 +1.3**
comp=Z,8.9nm,0.6s,baz=130,slow=6.2,SNR=35
PET Petropavlovsk 81.17 346 *e*P **P 22 36 47.9 0.0**
PET *e* 22 39 55.6
PET *e*S **S 22 46 42.2 -2.3**
PET *e* 22 47 26.7
PET *e*PS **PnS 22 47 49.2 -4.2**
PET *e*SS **SS 22 51 59.8 -4.2**
PET pmax pmax
comp=Z,69nm,0.8s
PET pmax pmax
comp=Z,100nm,12.7s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 81.17 346 *e*P **P 22 36 48.0 0.0**
comp=Z,50nm,0.9s
DLV T Lat 81.17 288 *e*P **P 22 36 49.8 +0.7**
comp=Z,51nm,1.5s
KSAR Wonju Array Be 81.17 319 P **P 22 36 49.5 +1.2**
KSAR Wonju Array Be 81.17 319 P **P 22 36 49.5 +1.2**
KS01 Wonju Array Si 81.19 319 *e*P **P 22 36 49.2 +0.8**
PKM Mcpherson Peak 81.34 45 P **P 22 36 50.4 +0.8**
baz=230
PEA0 Petropavlovsk- 81.46 345 *e*P **P 22 36 49.5 0.0**
PEA0B Petropavlovsk- 81.46 345 *e*P **P 22 36 50.1 +0.6**
comp=Z,393nm,1.5s
PETK Petropavlovsk- 81.46 345 P **P 22 36 49.6 +0.1**
comp=Z,60nm,0.6s,baz=111,slow=6.5,SNR=99
PETK LR LR 23 08 22.0
comp=Z,110nm,19.9s,baz=160,slow=32
SMMC Simmler 81.50 44 P **P 22 36 51.2 +1.0**
baz=230
SAO San Andreas Ge 81.53 42 *e*P **P 22 36 51.4 +1.1**
SAO pmax pmax
comp=Z,30nm,1.3s
SAO San Andreas Ge 81.53 42 *e*P **P 22 36 51.4 +1.1**
comp=Z,30nm,1.3s
SAO *e*pP **pP 22 37 30.6 +1.4**
PAGB Antelope Grade 81.60 44 *e*P **P 22 36 50.8 +0.1**
comp=Z,68nm,1.5s
SYO Syowa Base 81.73 193⇑ *e*P **P 22 36 50.0 -0.8**
SYO Syowa Base 81.73 193⇓ *i*PcP **PcP 22 36 54.7 -1.5**
109C Camp Elliot, M 81.85 48 P **P 22 36 52.9 +0.8**
baz=232
OSI Osito Audit: C 81.86 45 P **P 22 36 53.1 +0.9**
baz=231
OSI Osito Audit: C 81.86 45 *e*P **P 22 36 51.5 -0.6**
comp=Z,23nm,1.0s
DECC Green Verdugo 81.89 46 P **P 22 36 53.3 +1.0**
baz=231
PASC Pasadena Art C 81.93 46 *e*P **P 22 36 52.5 0.0**
comp=Z,14nm,0.8s
BAR Barrett 82.02 48 *e*P **P 22 36 52.5 -0.5**
comp=Z,32nm,1.5s
MWC Mount Wilson 82.05 46 *e*P **P 22 36 53.1 -0.2**
MWC pmax pmax
comp=Z,40nm,1.3s
MWC Mount Wilson 82.05 46 *e*P **P 22 36 53.1 -0.2**
comp=Z,40nm,1.3s
ARVC Arvin 82.11 45 P **P 22 36 54.2 +0.9**
baz=231
MURC Murrieta 82.23 47 P **P 22 36 55.1 +1.1**
baz=232,SNR=10.0
MONP2 Monument Peak 82.31 48 P **P 22 36 55.5 +0.8**
baz=233,SNR=13
BFSC Mount Baldy Ra 82.32 46 P **P 22 36 55.3 +0.7**
baz=232,SNR=7.5
IKP In-Ko-Pah, Jac 82.38 48 P **P 22 36 55.7 +0.8**
baz=233,SNR=7.6
VES Vestal, Richgr 82.40 44 P **P 22 36 55.6 +0.8**
baz=231,SNR=8.6
EDW2 Edwards Air Fo 82.50 46 P **P 22 36 56.2 +0.8**
baz=231,SNR=26
KMRM Mail Ridge 82.52 39 *e*P **P 22 36 55.5 +0.1**
comp=Z,60nm,1.1s
ISA Isabella, Lake 82.68 45 P **P 22 36 57.2 +0.9**
baz=231,SNR=5.7
ISA Isabella, Lake 82.68 45 *e*P **P 22 36 56.7 +0.3**
ISA pmax pmax
comp=Z,64nm,1.4s
ISA Isabella, Lake 82.68 45 *e*P **P 22 36 56.7 +0.3**
comp=Z,64nm,1.4s
PFO Pinyon Flats O 82.72 47 P **P 22 36 57.3 +0.6**
comp=Z,13nm,1.1s,baz=251,slow=3.0,SNR=17
PFO Pinyon Flats O 82.72 47 P **P 22 36 57.4 +0.6**
baz=232,SNR=12
TPFO Pinon Flats 82.72 47 P **P 22 36 57.3 +0.6**
baz=232,SNR=13
SNAA Sanae 82.76 178 P **P 22 36 57.2 +0.9**
SNAA Sanae 82.76 178 *c i*P **P 22 36 56.9 +0.7**
SNAA Sanae 82.76 178 *e*P **P 22 36 57.0 +0.7**
comp=Z,122nm,0.9s
SWSC Sam W. Stewart 82.76 48 P **P 22 36 57.5 +0.7**
baz=233,SNR=7.0
MSHR Mys Shultsa 82.86 324 *c i*P **P 22 36 58.6 +1.6**
VNA3 Neumayer Olymp 82.88 176 P **P 22 36 57.6 +0.8**
KHMM Horse Mountain 82.95 38 *e*P **P 22 36 58.0 +0.2**
comp=Z,30nm,1.2s
CMB Columbia Colle 83.00 42 *e*P **P 22 36 57.3 -0.7**
CMB pmax pmax
comp=Z,39nm,1.5s
CMB Columbia Colle 83.00 42 *e*P **P 22 36 57.3 -0.7**
comp=Z,39nm,1.5s
LRMC Laurel Mtn Rad 83.07 45 P **P 22 36 59.3 +0.9**
baz=232
RRX Edison Barstow 83.14 46 P **P 22 36 59.5 +0.8**
baz=232
AFDM Forest Hills D 83.25 41 *e*P **P 22 36 58.9 -0.2**
comp=Z,21nm,1.3s
BELC Belle Mtn. Jos 83.26 47 P **P 22 37 00.3 +0.8**
baz=233,SNR=21
VNA2 Neumayer--Watz 83.33 177 P **P 22 37 00.3 +1.2**
baz=181,slow=3.8
ORV Oroville 83.33 40 *e*P **P 22 37 00.0 +0.4**
ORV pmax pmax
comp=Z,58nm,1.8s
ORV Oroville 83.33 40 *e*P **P 22 36 60.0 +0.4**
comp=Z,58nm,1.8s
WDC Whiskeytown Da 83.42 39 *e*P **P 22 36 59.9 0.0**
WDC pmax pmax
comp=Z,37nm,1.2s
WDC Whiskeytown Da 83.42 39 *e*P **P 22 36 59.9 0.0**
comp=Z,37nm,1.2s
BC3 Big Chuckawall 83.42 48 P **P 22 37 01.1 +0.9**
baz=233,SNR=21
GLA Glamis 83.48 49 P **P 22 37 01.3 +0.8**
baz=234,SNR=13
GLA Glamis 83.48 49 *e*P **P 22 37 01.7 +1.2**
GLA pmax pmax
comp=Z,52nm,1.3s
GLA Glamis 83.48 49 *e*P **P 22 37 01.7 +1.2**
comp=Z,52nm,1.3s
NVL N'lazarevskaya 83.52 183 *e*P **P 22 37 04.1 +4.0**
NVL *e*S **S 22 47 10.0 +1.8**
GSC Goldstone, Bar 83.52 46 P **P 22 37 01.6 +0.8**
baz=232,SNR=20
GSC Goldstone, Bar 83.52 46 *e*P **P 22 37 01.3 +0.6**
GSC pmax pmax
comp=Z,51nm,1.4s
GSC Goldstone, Bar 83.52 46 *e*P **P 22 37 01.3 +0.6**
comp=Z,51nm,1.4s
HEC Hector,Ludlow 83.54 46 P **P 22 37 01.5 +0.7**
baz=232,SNR=15
MPMC Manual Prospec 83.55 45 P **P 22 37 01.6 +0.7**
baz=232,SNR=22
VNA1 Neumayer--Stat 83.55 176 P **P 22 37 01.4 +1.2**
USRK Ussuriysk Ar. 83.58 326 P **P 22 37 01.8 +1.1**
comp=Z,40nm,0.8s,baz=132,slow=3.3,SNR=45
N02D Trinity Center 83.59 38 P **P 22 37 01.9 +1.0**
baz=228,SNR=13
DAC Darwin (Calif) 83.62 45 *e*P **P 22 37 00.1 -1.2**
DAC pmax pmax
comp=Z,10.0nm,1.3s
DAC Darwin (Calif) 83.62 45 *e*P **P 22 37 00.1 -1.2**
comp=Z,10nm,1.3s
NJ2 Nanjing 83.62 310 *e*P **P 22 37 02.8 +1.6**
NJ2 pmax pmax
comp=Z,21nm,0.8s

O03D Paynes Creek 83.65 39 P **P 22 37 01.8 +0.5**
baz=228,SNR=14
M02C Callahan 83.78 38 P **P 22 37 03.1 +1.2**
baz=228,SNR=16
WAKR Walker 83.88 42 *e*P **P 22 37 03.4 +0.8**
comp=Z,103nm,1.8s
L02D Cave Junction, 83.89 37 P **P 22 37 03.6 +1.2**
baz=227
HSIG 83.90 54 *e*P **P 22 37 03.0 +0.3**
comp=Z,39nm,1.5s
IRM Iron Mountain 83.92 48 P **P 22 37 03.6 +0.9**
baz=233,SNR=36
GMRC Granite Mounta 83.96 47 P **P 22 37 03.7 +0.7**
baz=233,SNR=15
TYV Tymovskoe 84.03 336 *e*P **P 22 37 03.6 +0.9**
TYV pmax pmax
comp=Z,53nm,1.6s
YBH Yreka Blue Hor 84.09 38 *e*P **P 22 37 04.3 +0.8**
YBH pmax pmax
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 84.09 38 *e*P **P 22 37 04.3 +0.8**
comp=Z,24nm,1.1s
Y12C Blythe 84.10 48 P **P 22 37 04.4 +0.8**
baz=234,SNR=8.1
Y12C Blythe 84.10 48 *e*P **P 22 37 04.7 +1.2**
comp=Z,50nm,1.4s
PNTR Pine Nut 84.15 41 *e*P **P 22 37 04.8 +0.7**
comp=Z,37nm,0.8s
TUQ Turquoise Moun 84.18 46 P **P 22 37 04.6 +0.5**
baz=233,SNR=7.8
FURC Furnace Creek, 84.20 45 P **P 22 37 05.3 +1.3**
baz=232,SNR=5.8
BEKR Beckworth 84.20 41 *e*P **P 22 37 04.5 +0.3**
comp=Z,83nm,1.7s
GRAC Grapevine Rang 84.20 44 P **P 22 37 05.2 +1.1**
baz=232,SNR=8.4
214A Organ Pipe Nat 84.23 51 P **P 22 37 04.9 +0.6**
baz=235
214A Organ Pipe Nat 84.23 51 *e*P **P 22 37 04.8 +0.5**
comp=Z,159nm,1.7s
SHOC Shoshone, Teco 84.23 46 P **P 22 37 04.6 +0.4**
baz=232,SNR=17
LBCM Butte Creek Ri 84.26 39 P **P 22 37 04.9 +0.5**
YERR Yerington 84.30 42 *e*P **P 22 37 05.2 +0.5**
comp=Z,17nm,0.7s
YERR *e*pP **pP 22 37 45.1 +1.2**
HUMO Hull Mountain 84.55 37 *e*P **P 22 37 06.6 +1.0**
comp=Z,52nm,1.5s
M04C Macdoel 84.61 38 P **P 22 37 06.7 +0.6**
baz=228,SNR=11
PAHR Pah Rah Range 84.67 41 *e*P **P 22 37 07.0 +0.4**
comp=Z,38nm,1.5s
PAHR *e*pP **pP 22 37 46.7 +1.0**
PDMCI Parker Dam,Lak 84.68 48 P **P 22 37 06.9 +0.5**
baz=234,SNR=5.9
TPNV Topopah Spring 84.88 45 P **P 22 37 08.1 +0.4**
baz=232,SNR=9.8
TPNV Topopah Spring 84.88 45 *e*P **P 22 37 08.2 +0.5**
TPNV pmax pmax
comp=Z,13nm,1.0s
TPNV Topopah Spring 84.88 45 *e*P **P 22 37 08.2 +0.5**
comp=Z,13nm,1.0s
I03D Drain, OR 85.08 36 P **P 22 37 09.2 +1.0**
baz=227,SNR=5.2
MDJ Mudanjiang 85.10 325 P **P 22 37 09.5 +1.2**
MDJ pP pP 22 37 47.0 -0.5
MDJ sP sP 22 38 01.4 -2.6
MDJ PP **PP 22 40 26.8 -1.4**
MDJ S **S 22 47 27.9 +3.4**
MDJ pmax pmax
comp=Z,62nm,1.0s
MDJ pmax pmax
comp=Z,58nm,5.3s
MDJ Mudanjiang 85.10 325 *e*P **P 22 37 09.3 +1.0**
comp=Z,79nm,1.1s
HABR Khabarovsk 85.25 331 *e*P **P 22 37 08.5 -0.4**
HABR *e* 22 40 27.7
HABR *e*PPP PPP 22 42 21.8
HABR *e*S S 22 47 16.9 -8.9
HABR *e* 22 48 12.6
HABR *e*SSS SSS 22 56 35.0
HABR pmax pmax
comp=Z,215nm,1.6s
HABR MLR MLR
comp=Z,234nm,21.0s
PLCA Paso Flores 85.31 133 P **P 22 37 11.3 +1.5**
comp=Z,23nm,0.9s,baz=244,slow=5.7,SNR=30
PLCA Paso Flores 85.31 133 *e*P **P 22 37 08.1 -1.7**
PLCA pmax pmax
comp=Z,44nm,1.0s
PLCA Paso Flores 85.31 133 *e*P **P 22 37 08.1 -1.7**
comp=Z,44nm,1.0s
SHPR Sheep Range 85.31 46 *e*P **P 22 37 11.1 +1.2**
comp=Z,31nm,1.4s
SHPR *e*pP **pP 22 37 50.9 +1.8**
W13A Hualapai Mount 85.32 47 *e*P **P 22 37 10.8 +0.9**
J04D Umpqua Nationa 85.43 37 P **P 22 37 10.7 +0.4**
baz=228,SNR=7.8
MOD Modoc Plateau 85.56 39 *e*P **P 22 37 11.2 +0.3**
comp=Z,43nm,1.5s
KDAK Kodiak Island 85.80 13 P **P 22 37 11.7 +0.3**
comp=Z,16nm,0.9s,baz=159,slow=6.1,SNR=5.6
KDAK Kodiak Island 85.80 13 *i* P **P 22 37 13.5 +2.1**
TUC Tucson 85.85 51 P **P 22 37 13.0 +0.6**
baz=236
TUC Tucson 85.85 51 *e*P **P 22 37 13.8 +1.3**
TUC pmax pmax
comp=Z,48nm,1.3s
TUC Tucson 85.85 51 *e*P **P 22 37 13.8 +1.3**
comp=Z,48nm,1.3s
TUC *e*pP **pP 22 37 53.2 +1.5**
J05D Fort Rock, OR 85.94 37 P **P 22 37 13.2 +0.5**
baz=229,SNR=17
WHN Wuhan 85.96 307⇓ P **P 22 37 10.8 -2.1**
G03D McMinnville, O 86.15 35 P **P 22 37 14.7 +1.2**
baz=227
R11A Troy Canyon, C 86.15 44 P **P 22 37 14.1 +0.2**
baz=233,SNR=7.2
R11A Troy Canyon, C 86.15 44 *e*P **P 22 37 13.9 0.0**
R11A *e*pP **pP 22 37 54.6 +1.4**
319A Douglas 86.40 53 *e*P **P 22 37 16.5 +1.2**
319A *e*pP **pP 22 37 56.4 +1.9**
EFI East Falkland 86.41 147⇑ *i*P **P 22 37 15.9 +1.1**
EFI pmax pmax
comp=Z,87nm,1.2s
EFI East Falkland 86.41 147 *e*P **P 22 37 16.1 +1.3**
comp=Z,91nm,1.2s
BMN Battle Mountai 86.42 42 *e*P **P 22 37 13.8 -1.4**
BMN pmax pmax
comp=Z,57nm,1.9s
BMN Battle Mountai 86.42 42 *e*P **P 22 37 13.8 -1.4**
comp=Z,57nm,1.9s
X16A Lo Mia Camp, P 86.57 49 *e*P **P 22 37 17.3 +1.2**
X16A *e*pP **pP 22 37 56.2 +0.8**
I05D Terrebonne, OR 86.58 37 P **P 22 37 16.6 +0.9**
baz=228
NKL Nikolayevsk 86.59 336 *e*P **P 22 37 15.0 -0.4**
NKL pmax pmax
comp=N,200nm,1.0s
NKL pmax pmax
comp=Z,120nm,1.0s
CN2 Changchun 86.76 322⇓ P **P 22 37 17.1 +0.6**
CN2 *e*sP sP 22 38 12.3 0.0
CN2 *e*S **S 22 47 39.8 -0.9**
CN2 pmax pmax
comp=Z,50nm,1.0s
WVOR Wild Horse Val 86.85 39 *e*P **P 22 37 17.4 +0.3**
WVOR Wild Horse Val 86.85 39 *e*P **P 22 37 17.4 +0.3**
WVOR *e*pP **pP 22 37 56.9 +0.4**
LCMT Little Creek M 86.85 46 *e*P **P 22 37 18.4 +1.1**
comp=Z,24nm,1.4s
LCMT *e*pP **pP 22 37 57.7 +1.1**
F04D Rainier, OR 86.87 35 P **P 22 37 17.7 +0.7**
baz=227
E03A Lebam 86.91 34 *e*P **P 22 37 18.3 +1.2**
comp=Z,76nm,1.4s
PANO Nakornpanom 86.93 291 P P 22 37 22.9 +5.0
comp=Z,114nm,1.8s
CCUT Cedar City 87.09 46 *e*P **P 22 37 19.9 +1.3**
comp=Z,19nm,1.2s
ZAIG Zacatecas 87.10 63 *e*P **P 22 37 18.6 -0.4**
comp=Z,9.1nm,1.0s
KNB Kanab 87.13 46 *e*P **P 22 37 20.0 +1.3**
KNB pmax pmax
comp=Z,23nm,1.3s
KNB Kanab 87.13 46 *e*P **P 22 37 20.0 +1.3**

comp=Z,23nm,1.3s
TIA Tai'an 87.19 313⇑ P **P 22 37 20.3 +1.5**
TIA pmax pmax
comp=Z,50nm,0.8s
GO05 HualaæØ 87.21 128 *e*P **P 22 37 19.5 +0.4**
WUAZ Wupatki 87.24 48 P **P 22 37 19.6 +0.4**
baz=236
WUAZ Wupatki 87.24 48 *e*P **P 22 37 20.2 +0.9**
comp=Z,33nm,1.6s
SZCU Shurtz Canyon 87.29 46 *e*P **P 22 37 20.1 +0.6**
SZCU *e*pP **pP 22 38 00.8 +1.9**
NLWA Neilton Lookou 87.33 33 *e*P **P 22 37 19.6 +0.4**
comp=Z,22nm,1.1s
SKNT Sakolnakorn 87.38 290 P **P 22 37 24.0 +3.9**
comp=Z,50nm,0.8s
TDL Tradedollar La 87.46 35 P **P 22 37 20.7 +0.7**
X18A Snowflake 87.66 50 *e*P **P 22 37 22.8 +1.5**
X18A *e*pP **pP 22 38 02.6 +1.9**
LON Longmire 87.94 35 *e*P **P 22 37 22.2 +0.1**
LON pmax pmax
comp=Z,47nm,1.8s
LON Longmire 87.94 35 *e*P **P 22 37 22.2 +0.1**
comp=Z,47nm,1.8s
BRLK Bradley Lake 87.97 13 *e*P **P 22 37 21.5 -0.4**
121A Cookes Peak, D 88.09 52 P **P 22 37 23.6 +0.2**
baz=238
121A Cookes Peak, D 88.09 52 *e*P **P 22 37 23.5 +0.2**
comp=Z,44nm,1.6s
D05A Enumclaw 88.14 34 *e*P **P 22 37 23.6 +0.6**
comp=Z,160nm,1.4s
RSO Redoubt South 88.25 12 *e*P **P 22 37 23.8 +0.3**
SURT Suratani 88.27 281 P P 22 37 29.7 +5.3
comp=Z,6.5nm,1.2s
TRW Toppenish Ridg 88.29 36 P **P 22 37 24.7 +0.9**
SVW2 Sparrevohn 88.36 10 *e*P **P 22 37 23.7 0.0**
comp=Z,69nm,1.8s
PGC Sidney 88.40 32 *e*P **P 22 37 24.0 -0.1**
MSU Marysvale 88.41 45 *e*P **P 22 37 25.1 +0.3**
MSU Marysvale 88.41 45 *e*P **P 22 37 25.1 +0.3**
MSU *e*pP **pP 22 38 05.9 +1.6**
HTW Haystack Looko 88.66 34 P **P 22 37 25.8 +0.3**
BBB Bella Bella 88.79 28 P **P 22 37 26.0 +0.1**
comp=Z,13nm,1.0s,baz=262,slow=5.2,SNR=6.1
B05A Bryant 88.80 33 P **P 22 37 27.0 +0.9**
baz=228
A04D Lummi Island 88.81 33 P **P 22 37 27.0 +0.9**
baz=227
E07A Sunnyside 88.82 36 *e*P **P 22 37 27.1 +0.8**
comp=Z,38nm,1.0s
MA2 Magadan 88.97 344 P **P 22 37 26.4 -0.1**
comp=Z,30nm,0.8s,baz=144,slow=5.7
MA2 Magadan 88.97 344 *c e*P **P 22 37 27.5 +0.9**
DUG Dugway, Tooele 88.97 44 P **P 22 37 27.5 +0.2**
baz=234
DUG Dugway, Tooele 88.97 44 *e*P **P 22 37 27.0 -0.3**
DUG pmax pmax
comp=Z,9.0nm,1.4s
DUG Dugway, Tooele 88.97 44 *e*P **P 22 37 27.0 -0.3**
comp=Z,8.9nm,1.4s
SPU Mount Spurr 89.05 12 *e*P **P 22 37 26.4 -0.6**
MFID Camas Ranch 89.07 40 *e*P **P 22 37 27.9 +0.2**
comp=Z,34nm,1.6s
BMO Blue Mountains 89.12 38 *e*P **P 22 37 27.7 -0.1**
BMO pmax pmax
comp=Z,29nm,1.7s
BMO Blue Mountains 89.12 38 *e*P **P 22 37 27.7 -0.1**
comp=Z,29nm,1.7s
RPW Rockport 89.22 33 P **P 22 37 28.2 +0.1**
B06A Marblemount 89.28 33 *e*P **P 22 37 28.6 +0.3**
comp=Z,43nm,1.3s
NLU North Lily Min 89.30 44 *e*P **P 22 37 28.8 -0.1**
comp=Z,7.0nm,1.2s
ENH Enshi 89.40 304 *e*P **P 22 37 30.2 +0.8**
comp=Z,65nm,1.4s
MNTX Cornudas Mount 89.40 54 P **P 22 37 29.5 +0.2**
baz=239
MNTX Cornudas Mount 89.40 54 *e*P **P 22 37 29.4 0.0**
comp=Z,20nm,1.4s
RC01 Rabbit Creek A 89.42 13 *e*P **P 22 37 29.0 +0.3**
TMUT Trail Mountain 89.48 45 *e*P **P 22 37 30.9 +1.0**
comp=Z,25nm,0.9s
TX31 Lajitas Ar. Si 89.48 57 *e*P **P 22 37 30.4 +0.5**
TXAR Lajitas Array 89.48 57 P **P 22 37 30.6 +0.7**
comp=Z,6.2nm,1.1s,baz=215,slow=5.8,SNR=31
TXAR pP **pP 22 38 10.0 +0.6**
comp=Z,2.6nm,1.0s,baz=230,slow=4.9,SNR=2.4
TXAR PKKPbc **PKKPbc 22 55 03.4 -1.1**
comp=Z,0.5nm,0.6s,baz=68,slow=3.3,SNR=6.2
TXAR LR LR 23 08 08.4
comp=Z,86nm,21.7s,baz=0.0,slow=29
LAZ Ladron 89.54 51 *e*P **P 22 37 31.3 +1.2**
LAZ *e*pP **pP 22 38 11.3 +1.6**
SUA Susitna One 89.56 12 *e*P **P 22 37 29.2 -0.3**
D08A Wollman Farm, 89.64 36 *e*P **P 22 37 30.8 +0.7**
comp=Z,34nm,0.9s
GYA Guiyang 89.68 300 *e*P **P 22 37 33.0 +2.1**
GYA pP pP 22 38 12.4 +2.0
GYA sP sP 22 38 28.6 +1.8
GYA PP **PP 22 41 09.3 +3.9**
GYA SKS **SKSac 22 47 47.0 +0.1**
GYA S **S 22 48 09.5 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
PBKT Sadao Pong 89.76 288 P **P 22 37 34.7 +3.4**
comp=Z,9.3nm,1.8s
BNM Barren Site 89.77 52 *e*P **P 22 37 32.1 +0.8**
BNM *e*pP **pP 22 38 11.7 +0.9**
GLI Glacier Island 89.80 14 *e*P **P 22 37 30.7 +0.3**
SRU San Rafael Swe 89.81 46 *e*P **P 22 37 32.0 +0.7**
SRU San Rafael Swe 89.81 46 *e*P **P 22 37 32.0 +0.7**
SRU *e*pP **pP 22 38 12.4 +1.6**
SPUT South Promonto 89.84 43 *e*P **P 22 37 31.8 +0.4**
SPUT *e*pP **pP 22 38 12.5 +1.6**
LPM Los Pinos Moun 89.85 51 *e*P **P 22 37 32.7 +1.1**
P17A Butcher Ranch, 89.88 45 *e*P **P 22 37 32.7 +1.1**
comp=Z,26nm,1.5s
HVU Hansel Valley 89.92 43 *e*P **P 22 37 32.3 +0.6**
HVU Hansel Valley 89.92 43 *e*P **P 22 37 32.3 +0.6**
BJT Baijiatuau 89.96 315 *e*P **P 22 37 32.9 +1.2**
BJT pmax pmax
comp=Z,16nm,0.9s
BJT Baijiatuau 89.96 315 *e*P **P 22 37 32.9 +1.2**
comp=Z,16nm,0.9s
BJI Beijing 89.97 315 P **P 22 37 32.1 +0.4**
BJI S **S 22 48 14.0 +2.9**
BJI SS **SS 22 54 17.4 +3.8**
BJI pmax pmax
comp=Z,22nm,1.2s
BJI pmax pmax
comp=Z,120nm,3.6s
BJI LR LR
comp=Z,190nm,16.2s
BJI LR LR
comp=Z,150nm,11.6s
BJI LR LR
comp=Z,140nm,24.0s
HLID Hailey 89.98 40 P **P 22 37 32.5 +0.6**
baz=233
HLID Hailey 89.98 40 *e*P **P 22 37 32.4 +0.4**
comp=Z,23nm,1.4s
TT01 Tatalina 90.00 10 *e*P **P 22 37 30.9 -0.4**
PMR Palmer 90.00 13 *e*P **P 22 37 31.5 +0.2**
PMR Palmer 90.00 13 *e*P **P 22 37 31.5 +0.2**
TTA Tatalina 90.02 10 *e*P **P 22 37 31.7 +0.2**
TTA Tatalina 90.02 10 *e*P **P 22 37 31.7 +0.2**
JLU Jordanelle 90.06 44 *e*P **P 22 37 33.1 +0.6**
B08A Colville Reser 90.26 34 *e*P **P 22 37 32.7 -0.3**
comp=Z,15nm,0.8s
ANMO Albuquerque 90.31 51 P **P 22 37 34.2 +0.5**
comp=Z,5.0nm,0.9s,baz=46,slow=5.3,SNR=15
ANMO pP **pP 22 38 14.3 +1.0**
comp=Z,12nm,1.0s,baz=30,slow=7.9,SNR=8.4
ANMO Albuquerque 90.31 51 P **P 22 37 33.7 0.0**
baz=238
DIV Divide 90.32 15 *e*P **P 22 37 33.4 +0.4**
SML Sawmill 90.36 13 *e*P P 22 37 38.8 +5.7
SML Sawmill 90.36 13 *e*P P 22 37 38.8 +5.6
TCUT Toone Canyon 90.38 44 *e*P **P 22 37 35.4 +1.5**
BMRM Bremner River 90.45 15 *e*P **P 22 37 34.1 +0.6**
LLLB Lillooet 90.48 32 *e*P **P 22 37 34.3 +0.4**
PV01 Paradox Valley 90.56 47 *e*P **P 22 37 35.0 +0.2**
SCM Sheep Creek Mo 90.60 14 *e*P **P 22 37 34.8 +0.6**
SCM Sheep Creek Mo 90.60 14 *e*P **P 22 37 34.8 +0.6**
KLU Klutina 90.61 15 *e*P **P 22 37 34.7 +0.4**
LNIG Linares 90.61 63 *e*P **P 22 37 34.2 -0.9**

LNIG *e*PP **pP** **22 38 15.3 +0.6**
CRQM Cirque 90.62 16 *e*P **P** **22 37 35.6 +1.0**
CRQM *e*PcP **PcP** **22 37 40.2 +4.7**
PNT Penticton 90.73 34 P **P** **22 37 35.6 +0.5**
PNT Penticton 90.73 34 P **P** **22 37 35.5 +0.5**
NANT Nan 90.99 290 P **P** **22 37 40.7 +3.7**
comp=Z,4.7nm,0.9s
BALM Baldy 91.06 16 *e*P **P** **22 37 36.8 +0.3**
BALM Baldy 91.06 16 *e*P **P** **22 37 36.8 +0.3**
CAST Castle Rocks 91.12 11 *e*P **P** **22 37 35.5 -1.1**
NEW Newport 91.34 36 P **P** **22 37 37.0 -1.0**
comp=Z,4.4nm,0.9s,baz=198,slow=4.8,SNR=6.3
NEW Newport 91.34 36 P **P** **22 37 37.6 -0.3**
baz=232
NEW Newport 91.34 36 *e*P **P** **22 37 38.0 0.0**
NEW Newport 91.34 36 *e*P **P** **22 37 38.0 0.0**
KTH Kantishna Hill 91.45 12 *e*P **P** **22 37 37.3 -0.8**
TRF Thorofare Moun 91.47 12 *e*P **P** **22 37 37.6 -0.8**
S22A 4UR Ranch, Cre 91.51 48 P **P** **22 37 39.9 +0.5**
baz=238
S22A 4UR Ranch, Cre 91.51 48 *e*P **P** **22 37 40.0 +0.5**
S22A *e*pP **pP** **22 38 19.9 +0.9**
SEY Seymchan 91.59 347 P **P** **22 37 38.0 -0.7**
comp=Z,14nm,0.8s,baz=147,slow=7.3,SNR=5.0
SEY Seymchan 91.59 347⇓ *e*P **P** **22 37 38.9 +0.2**
MCMT McKenzie Canyo 91.64 40 *e*P **P** **22 37 40.3 +0.6**
MCMT *e*pP **pP** **22 38 21.0 +1.6**
RND Reindeer 91.70 12 *e*P **P** **22 37 39.0 -0.3**
RND Reindeer 91.70 12 *e*P **P** **22 37 39.0 -0.3**
XAN Xi'an 91.70 307 P **P** **22 37 41.6 +1.6**
XAN pP pP 22 38 22.3 +2.7
XAN PP **PP** **22 41 22.5 +1.3**
XAN SKS **SKSac** **22 47 56.5 -1.6**
XAN S **S** **22 48 25.8 -1.5**
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,90nm,5.3s
LAMP Lampang 91.77 290 P **P** **22 37 43.8 +3.2**
comp=Z,15nm,0.8s,comp=Z,107nm
MCK McKinley 91.98 12 *e*P **P** **22 37 40.4 -0.2**
MCK McKinley 91.98 12 *e*P **P** **22 37 40.4 -0.2**
REDW Red Top Meadow 91.98 42 *e*P **P** **22 37 42.0 +0.6**
REDW *e*pP **pP** **22 38 22.1 +1.2**
TPAW Teton Pass 92.00 42 *e*P **P** **22 37 42.2 +0.8**
FXWY Fox Creek 92.03 42 *e*P **P** **22 37 42.2 +0.6**
DLMT Dillon 92.09 40 *e*P **P** **22 37 42.5 +0.8**
SNOW Snow King Moun 92.10 42 *e*P **P** **22 37 42.8 +0.9**
KMI Kunming 92.17 297 P **P** **22 37 44.5 +1.9**
KMI S **S** **22 48 25.5 -6.7**
KMI pmax pmax
comp=Z,19nm,0.8s
SMCO Snowmass 92.17 47 *e*P **P** **22 37 42.9 +0.3**
MSO Missoula 92.19 38 P **P** **22 37 41.9 -0.1**
baz=234
MSO Missoula 92.19 38 *e*P **P** **22 37 42.2 +0.2**
MSO *e*pP **pP** **22 38 23.6 +1.9**
IMW Indian Meadow 92.23 42 *e*P **P** **22 37 43.4 +0.8**
IMW *e*pP **pP** **22 38 23.8 +1.7**
034A Hebbronville 92.24 61 P **P** **22 37 42.7 +0.1**
baz=242
MOOW Moose Ponds 92.26 42 *e*P **P** **22 37 43.0 +0.4**
833A Chaparral WMA, 92.27 60 P **P** **22 37 42.9 +0.2**
baz=242
LOHW Long Hollow 92.27 42 *e*P **P** **22 37 43.0 +0.3**
CM01 Chiang Mai Arr 92.30 289 *e*P **P** **22 37 45.1 +2.1**
CM31 Chiang Mai Arr 92.33 289 *e*P **P** **22 37 46.3 +3.1**
CMAR Chiang Mai Arr 92.33 289 P **P** **22 37 45.8 +2.5**
comp=Z,6.9nm,0.8s,baz=138,slow=3.3,SNR=34
CMAR PKKPbc **PKKPdf** **22 54 55.5 +0.8**
comp=Z,1.0nm,0.4s,baz=305,slow=3.2,SNR=4.0
TRQA Tornquist 92.34 135 *e*P **P** **22 37 44.2 +1.1**
SDCO Great Sand Dun 92.41 49 P **P** **22 37 43.6 +0.1**
baz=239
SDCO Great Sand Dun 92.41 49 *e*P **P** **22 37 43.1 -0.5**
SDCO *e*pP **pP** **22 38 23.8 +0.6**
BW06 Boulder Array 92.44 43 P **P** **22 37 43.4 0.0**
baz=237
BW06 Boulder Array 92.44 43 *e*P **P** **22 37 43.5 0.0**
BW06 *e*pP **pP** **22 38 21.8 -1.3**
BW06 *e*pP **pP** **22 38 24.0 +0.9**
PD31 Pinedale Array 92.44 43 *e*P **P** **22 37 43.4 -0.1**
PD31 *e*pP **pP** **22 38 24.0 +0.9**
PDAR Pinedale Array 92.44 43 P **P** **22 37 43.1 -0.4**
comp=Z,4.0nm,0.7s,baz=203,slow=3.0,SNR=18
PDAR pP **pP** **22 38 22.0 -1.1**
comp=Z,6.5nm,0.9s,baz=219,slow=3.6,SNR=6.0
PDAR PKKPbc **PKKPbc** **22 54 57.6 -0.2**
comp=Z,1.6nm,0.9s,baz=76,slow=6.3,SNR=4.2
PDAR LR LR 23 11 42.8
comp=Z,42nm,20.2s,baz=254,slow=30
QLMT Earthquake Lak 92.47 41 *e*P **P** **22 37 44.8 +1.3**
CHTO Chiang Mai 92.48 290 P **P** **22 37 46.4 +2.5**
CHMT Chamberlain Mo 92.62 38 *e*P **P** **22 37 44.1 -0.1**
YMR Madison River 92.65 41 *e*P **P** **22 37 46.2 +1.9**
DLBC Dease Lake 92.68 23 P **P** **22 37 44.0 0.0**
comp=Z,7.0nm,1.0s,baz=259,slow=2.1,SNR=5.9
H17A Grant Village 92.73 41 P **P** **22 37 45.2 +0.4**
baz=236
YHH Holmes Hill 92.78 41 *e*P **P** **22 37 44.6 -0.4**
BOZ Bozeman (W) 92.78 40 P **P** **22 37 45.3 +0.4**
baz=235
BOZ Bozeman (W) 92.78 40 *e*P **P** **22 37 44.9 0.0**
BOZ Bozeman (W) 92.78 40 *e*P **P** **22 37 44.9 0.0**
BOZ *e*pP **pP** **22 38 26.1 +1.6**
WRH Wood River Hil 92.81 12 *e*P **P** **22 37 44.1 -0.3**
MLY Manley 92.84 11 *e*P **P** **22 37 43.7 -0.8**
DOT Dot Lake 92.92 14 *e*P **P** **22 37 45.2 +0.3**
JCT Junction City 92.97 58 P **P** **22 37 45.9 -0.1**
baz=242
CCB Clear Creek Bu 93.02 12 *e*P **P** **22 37 44.8 -0.5**
COLA College 93.22 12 *e*P **P** **22 37 45.3 -0.9**
COLA pmax pmax
comp=Z,13nm,1.0s
COLA College 93.22 12 *e*P **P** **22 37 45.3 -0.9**
comp=Z,14nm,1.0s
MDM Murphy Dome 93.22 12 *e*P **P** **22 37 45.7 -0.6**
Q24A Divide 93.27 48 P **P** **22 37 47.9 +0.4**
baz=239
ILAR Eielson Array 93.31 13 P **P** **22 37 45.8 -0.9**
comp=Z,4.6nm,0.7s,baz=218,slow=5.4,SNR=46
ILAR pP **pP** **22 38 26.6 +0.3**
comp=Z,2.5nm,0.9s,baz=226,slow=4.9,SNR=2.2
ILAR PP **PP** **22 41 29.2 -3.9**
comp=Z,5.2nm,1.0s,baz=217,slow=7.7,SNR=7.9
ILAR LR LR 23 14 11.3
comp=Z,33nm,20.6s,baz=234,slow=32
ILB Eielson Array 93.31 13 *e*P **P** **22 37 46.0 -0.6**
IL1 Eielson Array 93.31 13 *e*P **P** **22 37 45.1 -1.6**
HHC Hu-ho-hao-te 93.36 314 *e*P **P** **22 37 48.8 +1.2**
HHC pP pP 22 38 29.1 +1.9
HHC sP sP 22 38 46.3 +2.7
HHC SKS **SKSac** **22 48 05.9 -1.2**
HHC S **S** **22 48 39.5 -2.3**
HHC sS sS 22 49 51.3 +0.3
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,94nm,6.7s
WALA Waterton Lakes 93.52 36 *e*P **P** **22 37 46.7 -1.4**
RLMT Red Lodge 93.91 41 P **P** **22 37 49.6 -0.5**
baz=237
CD2 Chengdu 94.03 302 P **P** **22 37 51.4 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
ABTX Abilene, Hawle 94.09 56 P **P** **22 37 51.0 -0.1**
baz=242
ABTX Abilene, Hawle 94.09 56 *e*P **P** **22 37 51.1 +0.1**
ABTX *e*pP **pP** **22 38 31.9 +1.3**
BILL Bilibino 94.30 354 *e*P **P** **22 37 49.9 -1.2**
BILL *e* 22 41 41.2
BILL pmax pmax
comp=Z,18nm,1.1s
DAWY Dawson 94.36 16 *e*P **P** **22 37 52.8 +1.3**
EGAK Eagle 94.54 15 *e*P **P** **22 37 52.7 +0.4**
COLD Coldfoot 94.94 10 *e*P **P** **22 37 54.0 0.0**
WMOK Wichita Mounta 95.70 54 P **P** **22 37 58.7 +0.3**
baz=243
LZH Lanzhou 96.34 307 *e*P **P** **22 38 03.4 +2.0**
LZH pP pP 22 38 42.5 +1.4
LZH sP sP 22 38 58.9 +1.5
LZH *e*PP **PP** **22 42 00.3 +2.9**
LZH SKS **SKSac** **22 48 23.0 -0.3**
LZH *e*S **S** **22 49 07.1 -0.9**
LZH sS sS 22 50 17.6 +0.3
LZH SS **SS** **22 55 47.5 +2.4**
LZH pmax pmax
comp=Z,15nm,1.6s
LZH pmax pmax
comp=Z,100nm,9.3s
RSSD Black Hills 96.58 44 P **P** **22 38 02.4 +0.1**
baz=240
RSSD Black Hills 96.58 44 *e*P **P** **22 38 02.4 +0.1**
RSSD Black Hills 96.58 44 *e*P **P** **22 38 02.4 +0.1**
RSSD *e*pP **pP** **22 38 42.5 +0.4**
X35A Drake 96.88 55 P **P** **22 38 03.5 -0.2**
baz=244
YAK Yakutsk 97.16 338 *e*P **P** **22 38 03.8 -0.4**
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK Yakutsk 97.16 338 *e*P **P** **22 38 03.8 -0.4**
comp=N,44nm,0.8s
Z38A Mt. Pleasant 97.87 57 P **P** **22 38 08.1 -0.1**
baz=244
INK Inuvik 99.20 15 P **Pdif** **22 38 12.7 -0.5**
comp=N,4.3nm,1.0s,baz=153,slow=5.7,SNR=3.2
LPAZ La Paz 99.56 113 P **Pdif** **22 38 18.8 +1.8**
comp=N,1.9nm,0.9s,baz=221,slow=0.8,SNR=5.7
LPAZ LR LR 23 14 26.5
comp=N,58nm,21.6s,baz=254,slow=30
ULN Ulaanbaatar 99.64 319⇓ *i*P **Pdif** **22 38 15.9 0.0**
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 99.64 319 *e*Pdif **Pdif** **22 38 16.4 +0.5**
comp=Z,2.8nm,0.8s
SONM Songino Array 100.02 318 P **Pdif** **22 38 16.5 -1.1**
comp=Z,1.3nm,0.9s,baz=132,slow=2.1,SNR=5.3
SONM PP **PP** **22 42 20.6 -4.6**
comp=Z,3.7nm,1.2s,baz=132,slow=4.4,SNR=6.7
SONM PKKPbc **PKKPbc** **22 54 37.0 -0.2**
comp=Z,2.5nm,0.9s,baz=247,slow=2.8,SNR=10.0
SONM LR LR 23 21 11.9
comp=Z,50nm,18.8s,baz=98,slow=34
GTA Gaotai 100.66 309 *e*P **Pdif** **22 38 21.3 +0.7**
GTA pP pP 22 39 01.8 +1.4
GTA sP sP 22 39 19.1 +2.3
GTA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 101.06 25 PP PP 22 42 31.6 -0.8
comp=Z,1.1nm,0.8s,baz=236,slow=7.2,SNR=4.1
YKA PKKPbc **PKKPbc** **22 54 32.2 -2.4**
comp=Z,2.2nm,0.9s,baz=39,slow=2.6,SNR=6.6
TIXI Tiksi 103.94 345 PP PP 22 42 48.4 -5.3
comp=Z,3.9nm,0.9s,baz=122,slow=11,SNR=3.0
WMQ Urumqi 110.70 310 PKP **PKiKP** **22 43 04.0 -0.4**
WMQ sPKP 22 44 00.9
WMQ LR LR
comp=Z,52nm,38.9s
WMQ LR LR
comp=Z,72nm,25.7s
WMQ LR LR
comp=Z,59nm,22.9s
ZALV Zalesovo Beam 114.85 320 PKP PKPdf 22 43 11.2 -0.6
comp=Z,1.7nm,0.4s,baz=165,slow=1.3,SNR=14
MKAR Makanchi Array 115.11 312 PKP **PKPdf** **22 43 12.0 -0.6**
comp=Z,6.6nm,0.8s,baz=86,slow=0.9,SNR=40
MKAR PKKPbc **PKKPbc** **22 53 49.4 -0.1**
comp=Z,1.4nm,0.6s,baz=263,slow=4.2,SNR=11
MKAR PKKPab **PKKPab** **22 53 54.0 +1.0**
comp=Z,1.2nm,0.7s,baz=264,slow=5.5,SNR=6.7
NRIK Noril'sk 115.59 337 PKP **PKPdf** **22 43 13.2 +0.3**
comp=Z,2.9nm,0.6s,baz=86,slow=4.7,SNR=5.1
BDFB Brasilia 115.86 124 PKP **PKPdf** **22 43 13.8 -1.3**
comp=Z,1.9nm,0.8s,baz=203,slow=4.6,SNR=4.5
NVS Novosibirsk 115.91 321 *e*PKIKP **PKPdf** **22 43 13.1 -0.7**
NVS *e*S **SKSac** **22 49 42.6 -6.4**
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=E,2.0nm,0.7s
NVS smax smax
comp=E,18nm,2.0s
KURK Kurchatov 118.14 316*d* *i*PKIKP **PKPdf** **22 43 17.7 -0.6**
KSH Kashi 118.22 303 *e*PKP **PKPdf** **22 43 14.4 -4.6**
KSH sPKP 22 44 13.8
KSH PP **PP** **22 44 39.3 +2.1**
KSH PKS **PKSdf** **22 46 49.5 -6.3**
KSH SKS **SKSdf** **22 50 10.8 -5.7**
KSH SKKS **SKKSac** **22 51 14.6 -7.0**
KSH SS **SS** **23 00 41.5 +0.6**
KSH AMB AMB
comp=E,160nm,5.4s
KSH LR LR
comp=E,110nm,8.2s
KSH LR LR
comp=E,100nm,6.6s
KSH LR LR
comp=E,76nm,11.0s
AAK Ala-Archa 119.86 306⇓ *i*PKIKP **PKPdf** **22 43 21.4 -0.7**
AAK Ala-Archa 119.86 306 *e*PKPdf **PKPdf** **22 43 21.8 -0.4**
BOSA Boshof 121.69 204 PKP **PKPdf** **22 43 27.0 +0.9**
comp=E,16nm,0.9s,baz=154,slow=3.1,SNR=22
KKAR Karatay Array 122.82 306 *e*PKIKP **PKPdf** **22 43 27.4 -0.2**
KKAR Karatay Array 122.82 306 *e*PKPdf **PKPdf** **22 43 27.4 -0.2**
BVAR Borovoye Array 123.36 318 PKP **PKPdf** **22 43 27.8 -0.5**
comp=E,11nm,0.8s,baz=94,slow=2.1,SNR=48
BRVK Borovoye 123.42 318*ce*PKIKP **PKPdf** **22 43 28.2 -0.2**
BRVK Borovoye 123.42 318 *e*PKPdf **PKPdf** **22 43 28.1 -0.2**
SVE Sverdlovsk 128.54 323 *e*PKIKP **PKPdf** **22 43 38.3 +0.3**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 129.75 323 *i*PKIKP **PKPdf** **22 43 40.4 +0.1**
ARU 22 45 52.6
ARU Arti 129.75 323 *e*PKPdf **PKPdf** **22 43 40.5 +0.2**
SOKR Solikamsk 129.80 327 *e*PKIKP **PKPdf** **22 43 37.3 -3.0**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
GEYT Alibeck 131.89 299 PKP **PKPdf** **22 43 46.4 +1.3**
comp=Z,6.4nm,0.8s,baz=284,slow=0.6,SNR=15
GEYT SKPbc **SKPab** **22 46 58.5 +1.0**
comp=Z,18nm,1.0s,baz=225,slow=0.6,SNR=31
LSZ Lusaka 132.17 214 *e*PKIKP **PKPdf** **22 43 45.6 -0.8**
LSZ Lusaka 132.17 214 *e*PKPdf **PKPdf** **22 43 45.6 -0.8**
TSUM Tsumeb 132.97 200 *e*PKPdf **PKPdf** **22 43 47.5 -0.3**
ARCES ARCESS Array B 134.16 349 PKhKP PKPpre 22 43 42.1
comp=Z,4.5nm,0.9s,baz=58,slow=3.0,SNR=6.6
ARCES PKP **PKPdf** **22 43 48.1 -0.2**
comp=Z,6.5nm,0.7s,baz=40,slow=1.1,SNR=18
ARCES SKPbc **SKPbc** **22 47 04.0 +0.8**
comp=Z,16nm,0.9s,baz=34,slow=4.5,SNR=13
ARCES PKKP **PKKPdf** **22 53 34.4 -2.7**
comp=Z,1.1nm,0.7s,baz=302,slow=7.4,SNR=3.6
KLMR Klimovskoe 136.85 334 *e*PKIKP **PKPdf** **22 43 50.3 -3.2**
KLMR *e* 22 44 41.7
KLMR pmax pmax
comp=Z,12nm,1.3s
KMBO Kilima Mbogo 137.11 237 PKhKP PKPpre 22 43 46.4
comp=Z,0.6nm,0.3s,baz=44,slow=6.5,SNR=4.4
KMBO PKP **PKiKP** **22 43 57.1 -0.6**
comp=Z,2.4nm,0.4s,baz=52,slow=2.1,SNR=12
KMBO SKPbc **SKPbc** **22 47 16.1 +1.7**
comp=Z,8.2nm,1.0s,baz=100,slow=2.8,SNR=9.9
KMBO SKPab **SKPab** **22 47 23.3 +1.9**
comp=Z,0.8nm,0.4s,baz=32,slow=5.4,SNR=3.7
KMBO Kilima Mbogo 137.11 237 *e*PKPdf **PKPdf** **22 43 56.7 +0.8**
KMBO SKPbc **SKPbc** **22 47 16.1 +1.7**
KMBO SKPab **SKPab** **22 47 23.3 +1.9**
DAMY Dhamar 139.33 262 *e*PKPdf **PKPdf** **22 43 59.4 -0.5**
FINES FINESS Array B 140.93 342 PKhKP PKPpre 22 43 53.6
comp=Z,3.9nm,0.7s,baz=54,slow=3.5,SNR=26
FINES PKP **PKiKP** **22 44 03.0 -0.6**
comp=Z,7.3nm,0.8s,baz=53,slow=2.9,SNR=13
FINES PP **PP** **22 47 00.9 -2.3**
comp=Z,6.0nm,1.0s,baz=14,slow=14,SNR=4.0
FINES SKPbc **SKPbc** **22 47 23.7 +0.7**
comp=Z,5.0nm,0.8s,baz=21,slow=8.1,SNR=4.5
RAYN Ar Rayn 141.01 276 *e*PKPdf **PKPdf** **22 43 57.6 -4.8**
OBN Obninsk 141.55 329⇓ *i*PKIKP **PKPdf** **22 44 05.6 +3.3**
OBN pmax pmax
comp=Z,14nm,1.0s
H10S3 ASCENSION HYDR 141.65 152 T T 01 22 22.9
baz=206
H10S2 ASCENSION HYDR 141.65 152 T T 01 22 04.4
baz=206
H10S1 ASCENSION HYDR 141.66 152 T T 01 22 45.4
baz=206
GNI Garni 142.16 303*ce*PKIKP **PKPdf** **22 44 04.6 +0.5**
GNI Garni 142.16 303 *e*PKPdf **PKPdf** **22 44 05.0 +0.9**
ZEI Tsey 142.26 307 *i*PKIKP **PKPdf** **22 44 01.4 -2.9**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
VSR Storozhevoye 142.30 322 *e*PKHKP PKPpre 22 43 58.5
VSR pmax pmax
comp=Z,9.0nm,0.4s
NCK Nalchik 142.31 309⇓ *e*PKIKP **PKPdf** **22 44 02.0 -2.1**
H10N3 ASCENSION HYDR 142.71 151 T T 01 22 34.5
baz=203,slow=75,SNR=8.4
H10N1 ASCENSION HYDR 142.72 151 T T 01 22 33.2
baz=203,slow=75,SNR=9.6
H10N2 ASCENSION HYDR 142.73 151 T T 01 22 35.9
baz=203,slow=75,SNR=10
KBZ Khabaz 142.74 309 PKhKP PKPpre 22 43 59.7
comp=Z,2.8nm,0.8s,baz=84,slow=2.0,SNR=6.8
KIV Kislovodsk 142.83 310⇑ *i*PKIKP **PKPdf** **22 44 08.6 +3.5**
KIV pmax pmax
comp=Z,9.0nm,1.0s
AKH Akhalkalaki 142.86 305⇑ *i*P **PKPdf** **22 44 03.2 -2.1**
VSU Vasula 143.14 339⇑ *e*PKIKP **PKPdf** **22 44 04.8 -0.2**
NB2 NORSAR Subarra 144.24 353 PKP **PKPab** **22 44 05.0 -0.2**
comp=Z,28nm,0.7s,baz=12,slow=3.3
NB2 NORSAR Subarra 144.24 353 PKP **PKPab** **22 44 05.0 -0.2**
baz=12,slow=3.3
NOA NORSAR Array B 144.24 353 PKP **PKPab** **22 44 05.0 -0.2**
comp=Z,24nm,0.7s,baz=12,slow=2.3,SNR=107
NOA PP **PP** **22 47 20.5 -2.6**
comp=Z,3.4nm,1.1s,baz=13,slow=6.3,SNR=2.9
VRTB Varto-Mus 144.82 302 *i*P **PKPdf** **22 44 09.4 +0.6**
SOC Sochi 144.99 310 *i*PKHKP PKPpre 22 44 05.6
SOC *e* 22 51 01.9
SOC pmax pmax
comp=Z,27nm,0.6s
BNGL BINGOL 145.09 302 *i*P **PKPab** **22 44 12.0 +2.6**
IZAR Zarasai 145.43 336 *e*P **PKPbc** **22 44 09.8 +0.4**
IZAR IAmb IAmb 22 44 10.6
comp=Z,52nm,0.6s
IDID Didziasalis 145.58 336 *e*P **PKPbc** **22 44 10.1 +0.3**
IDID IAmb IAmb 22 44 12.6
comp=Z,34nm,0.8s
ISAL Salakas 145.61 336 *e*P **PKPbc** **22 44 10.2 +0.3**
ISAL IAmb IAmb 22 44 12.8
comp=Z,27nm,0.8s
MARD Mardin 145.65 299 *i*P **PKPdf** **22 44 10.7 +0.5**
MICGM Minsk 145.74 334 *e*P **PKPab** **22 44 12.0 +1.0**
MNK Minsk 145.74 334 *e*PKP2 **PKPab** **22 44 12.0 +1.0**
IIGN Ignalina 145.74 336 *e*P **PKPbc** **22 44 10.7 +0.3**
IIGN IAmb IAmb 22 44 13.3
comp=Z,42nm,0.8s
NACGM Naroch 145.87 335 *e*P **PKPdf** **22 44 10.0 +0.1**
NACGM PM 22 44 13.0
comp=Z,0.4nm,0.8s
EUZM Uzumlu 146.05 303 *i*P **PKPab** **22 44 14.6 +1.8**
ANN Anapa 146.11 313 *i*PKP2 **PKPbc** **22 44 12.2 +0.4**
ANN *e* 22 47 36.3
ANN pmax pmax
comp=Z,101nm,1.1s
KELT Kelkit 146.28 304 *i*P **PKPbc** **22 44 13.3 +0.6**
REFA Refahiye_ERZ¯ 146.82 303 *i*P **PKPbc** **22 44 14.6 +0.3**
SUSE Susehri 147.04 305 *i*P **PKPbc** **22 44 15.9 +1.0**
KEMA Kemaliye 147.05 303 *i*P **PKPab** **22 44 17.2 +0.4**
SURC SANLIURFA_SURC 147.43 299 *i*P **PKPbc** **22 44 15.9 0.0**
CUZAR Zara_SIVAS 147.44 304 *i*P **PKPbc** **22 44 17.2 +1.2**
AKASG Malin Array Be 147.78 328 PKPbc **PKPbc** **22 44 16.1 -0.2**
comp=Z,7.0nm,0.4s,baz=44,slow=4.1,SNR=35
AKASG pPKPbc **pPKPab** **22 44 59.9 +0.6**
comp=Z,10nm,0.8s,baz=43,slow=3.9,SNR=3.1
KIEV Kiev 147.79 328*ce*PKP2 **PKPbc** **22 44 16.2 -0.1**
KIEV Kiev 147.79 328 *e*PKPbc **PKPbc** **22 44 15.8 -0.5**
KAC Achnashellach 147.79 8 *e*P **PKPbc** **22 44 16.4 +0.2**
SUW Suwalki 147.89 337 *e*PKP **PKPbc** **22 44 17.8 +1.3**
SUW Suwalki 147.89 337 *e*PKP2 **PKPbc** **22 44 17.8 +1.3**
KPL Plockton 147.91 8 *e*P **PKPbc** **22 44 16.4 0.0**
SCER sogukcermik 147.93 305 *i*P **PKPbc** **22 44 18.5 +1.2**
MCD Coleburn Disti 147.94 6 *e*P **PKPbc** **22 44 15.6 -0.9**
MCD *e*P **PKiKP** **22 44 16.1 -2.2**
MDO Dochfour 147.96 7 *e*P **PKPbc** **22 44 16.1 -0.5**
KSB Sheil Bridge 148.06 8 *e*P **PKPbc** **22 44 16.7 -0.1**
SLMH Al Salmeih 148.08 298 *e*P **PKPbc** **22 44 18.6 +1.0**
GZT Gaziantep 148.17 300 *i*P **PKPbc** **22 44 18.5 +0.5**
SIM Simferopol' 148.20 315 *i*PKP2 **PKPbc** **22 44 18.7 +1.1**
SIM pmax pmax
comp=Z,78nm,0.9s
CUALT Altinyayla-SIV 148.36 304 *i*P **PKPab** **22 44 21.1 -1.0**
HAVZ Havza 148.60 307 *i*P **PKPbc** **22 44 19.8 +1.0**
KUZU Kuzuini 148.66 299 *i*P **PKPbc** **22 44 19.8 +0.7**
HCB Kahramanmara¯ 148.69 300 *i*P **PKPbc** **22 44 19.8 +0.7**
ROOS tl_alroos 148.87 294 *e*P **PKPbc** **22 44 20.7 +0.9**
MUD Monsted U'grnd 148.96 353 *i*P **PKPbc** **22 44 20.0 +0.9**
comp=Z,27nm,0.7s
MUD Monsted U'grnd 148.96 353 *i*PKP2 **PKPbc** **22 44 20.0 +0.9**
MUD pmax pmax
comp=Z,27nm,0.7s
EDU Dundee 148.98 6 *e*P **PKPbc** **22 44 19.2 +0.1**
DRWC Darouich 149.01 299 *e*P **PKPbc** **22 44 21.4 +1.3**
ANDN Andirin 149.07 301 *i*P **PKPbc** **22 44 21.1 +0.9**
KFRA Kufra 149.14 296 *e*P **PKPbc** **22 44 21.3 +0.9**
COP Copenhagen 149.25 349 *i*P **PKPbc** **22 44 20.1 +0.3**
comp=Z,26nm,0.8s
COP Copenhagen 149.25 349 *i*PKP2 **PKPbc** **22 44 20.1 +0.3**
COP pmax pmax
comp=Z,26nm,0.8s
BTCH Batrach 149.28 298 *e*P **PKPbc** **22 44 21.0 +0.2**
BSD Bornholm Skovb 149.30 346 *i*P **PKPbc** **22 44 20.1 +0.1**
BSD Bornholm Skovb 149.30 346 *i*PKP2 **PKPbc** **22 44 20.1 +0.1**
SALA Sala 149.47 291 *e*P **PKPbc** **22 44 22.9 +1.5**
PGBU Glenifferbraes 149.54 8 *e*P **PKPbc** **22 44 20.5 -0.1**
MARH Ras Al Marh 149.55 294 *e*P **PKPbc** **22 44 23.0 +1.2**
HAWK Haweek 149.56 295 *e*P **PKPbc** **22 44 22.3 +0.8**
BIDA Albida 149.56 296 *e*P **PKPbc** **22 44 21.6 +0.2**
LLD Lille Linde 149.62 349 *i*P **PKPbc** **22 44 21.5 +0.7**
comp=Z,46nm,0.8s
LLD Lille Linde 149.62 349 *i*PKP2 **PKPbc** **22 44 21.5 +0.7**
LLD pmax pmax
comp=Z,46nm,0.8s
ESY Stoneypath 149.64 6 *e*P **PKPbc** **22 44 21.6 +0.7**
TOTH TOTAH 149.67 292 *e*P **PKPbc** **22 44 22.6 +0.9**
ARNB Al Arnab 149.70 297 *e*P **PKPbc** **22 44 21.2 -0.6**
YAHY KAYSERI_Yahyal 149.71 302 *i*P **PKPbc** **22 44 22.4 +0.6**
QASN Qassioun 149.78 293 *e*P **PKPbc** **22 44 25.0 +2.9**
SORM Soroca 149.85 324⇑ *i*P **PKPbc** **22 44 22.4 +0.8**
SORM Soroca 149.85 324⇑ *i*PKP2 **PKPbc** **22 44 22.4 +0.8**
CDAG Cicekdag 150.03 305 *i*P **PKPbc** **22 44 22.4 -0.1**
ILGA Ilgaz 150.03 308 *i*P **PKPbc** **22 44 23.7 +1.1**
BRBR Barbar 150.06 293 *e*P **PKPbc** **22 44 24.0 +1.1**
EKA Eskdalemuir Ar 150.16 7 PKPbc **PKPbc** **22 44 21.9 -0.2**
comp=Z,5.2nm,0.7s,baz=303,slow=1.8,SNR=15
GKP Gorka Klasztor 150.40 342 *e*PKP **PKPbc** **22 44 23.6 +0.9**
GKP Gorka Klasztor 150.40 342 *e*PKIKP **PKPbc** **22 44 23.6 +0.9**
GAL1 Galloway 150.44 9 *e*P **PKPbc** **22 44 22.8 0.0**
BEL Belsk 150.50 337 *e*PKP **PKPbc** **22 44 24.0 +1.0**
BEL Belsk 150.50 337 *e*PKIKP **PKPbc** **22 44 24.0 +1.0**
BRTR Keskin Array B 150.54 306 PKPbc **PKPbc** **22 44 23.9 +0.1**
comp=Z,6.5nm,0.7s,baz=158,slow=2.0,SNR=13
EDMD Edmundbyers 150.77 5 *e*P **PKPbc** **22 44 23.5 -0.1**
AKSY AKSARAY - Alti 150.78 304 *i*P **PKPbc** **22 44 25.0 +0.7**
LVV L'vov 150.79 331 *e*PKIKP **PKPbc** **22 44 26.3 +2.5**
KERG Konya-Eregli 150.83 301 *i*P **PKPbc** **22 44 23.7 -0.8**
LEOM Leova 150.92 322⇑ *i*P **PKPbc** **22 44 25.1 +0.9**
LEOM Leova 150.92 322⇑ *i*PKIKP **PKPbc** **22 44 25.1 +0.9**
KIZK Mersin 151.03 299 *i*P **PKPbc** **22 44 22.4 -2.4**
ANTO Ankara 151.10 307 *e*PKIKP **PKPbc** **22 44 25.4 +0.4**
ANTO Ankara 151.10 307 *e*PKPbc **PKPbc** **22 44 25.4 +0.4**
KKUL Konya-Kulu 151.24 305 *i*P **PKPbc** **22 44 25.0 -0.4**
TLCR 151.34 319⇑ *i*P **PKPbc** **22 44 26.1 +0.9**
TLCR 151.34 319⇑ *i*PKIKP **PKPbc** **22 44 26.1 +0.9**
PRAR RASCA 151.45 325⇑ *i*P **PKPbc** **22 44 26.0 +0.6**
KWP Kalwaria Pacla 151.50 332 *e*PKP **PKPbc** **22 44 25.9 +0.5**
KWP Kalwaria Pacla 151.50 332 *e*PKIKP **PKPbc** **22 44 25.9 +0.5**
CFR Carcaliu 151.74 320⇑ *i*P **PKPbc** **22 44 27.1 +1.0**
CFR Carcaliu 151.74 320⇑ *i*PKIKP **PKPbc** **22 44 27.1 +1.0**
TESR Tescani 151.77 323⇑ *i*P **PKPbc** **22 44 27.1 +0.9**
BURAR Bucovina Array 151.79 327⇑ *i*P **PKPbc** **22 44 28.0 +1.7**
BURAR Bucovina Array 151.79 327⇑ *i*PKIKP **PKPbc** **22 44 28.0 +1.7**
TIRR Tirgusor 151.98 318⇑ *i*P **PKPbc** **22 44 27.0 +0.3**
TIRR Tirgusor 151.98 318⇑ *i*PKIKP **PKPbc** **22 44 27.0 +0.3**
CSS Mathiatis 151.99 296 *e*PKPbc **PKPbc** **22 44 27.2 +0.1**
LHO Holmfirth 152.06 6 *e*P **PKPbc** **22 44 26.5 -0.1**
TLB Topalu 152.13 319⇑ *i*P **PKPbc** **22 44 28.2 +1.2**

TLB	Topalu	152.13	319	⇑PKIKP	PKPbc	22 44 28.2	+1.2
VRI	Vrincioaia	152.13	322	⇑P	PKPbc	22 44 27.7	+0.7
VRI	Vrincioaia	152.13	322	⇑PKIKP	PKPbc	22 44 27.7	+0.7
OJC	Ojcow	152.19	336	ePKP	PKPbc	22 44 27.2	+0.2
OJC	Ojcow	152.19	336	ePKIKP	PKPbc	22 44 27.2	+0.2
STHS	Stebnicka Huta	152.27	333	ePKIKP	PKPbc	22 44 29.1	+1.9
STHS	Stebnicka Huta	152.27	333	ePKP	PKPbc	22 44 29.1	+1.9
UZH	Uzhgorod	152.44	331	ePKIKP	PKPbc	22 44 26.8	-0.8
UZH				e		22 44 37.9	
FOEL	Foel Wylfa	152.56	8	eP	PKPbc	22 44 27.4	-0.4
CRVS	Cervenica-Dubn	152.58	332	ePKIKP	PKPbc	22 44 29.4	+1.5
CRVS	Cervenica-Dubn	152.58	332	ePKP	PKPbc	22 44 29.3	+1.4
ARCR	ARCALIA	152.59	327	⇑P	PKPbc	22 44 29.5	+1.5
NIE	Niedzica	152.65	334	ePKP	PKPbc	22 44 28.6	+0.5
NIE	Niedzica	152.65	334	ePKIKP	PKPbc	22 44 28.6	+0.5
KSP	Ksiaz	152.82	341	ePKP	PKPbc	22 44 29.2	+0.8
KSP	Ksiaz	152.82	341	ePKIKP	PKPbc	22 44 29.2	+0.8
SECR		153.01	321	⇑P	PKPbc	22 44 30.0	+1.0
OKC	Ostrava-Krasne	153.10	337	⇑ePKP	PKPbc	22 44 30.3	+1.3
OKC				ePKPAB	PKPab	22 44 43.0	+1.9
OKC	Ostrava-Krasne	153.10	337	ePKIKP	PKPbc	22 44 30.3	+1.3
LANS	Liptovska Anna	153.19	335	ePKIKP	PKPdf	22 44 23.4	+1.7
LANS	Liptovska Anna	153.19	335	ePKP	PKPdf	22 44 23.4	+1.7
LANS				e		22 44 31.2	
LANS				e		22 44 44.1	
UPC	Upice	153.21	341	⇑ePKP	PKPbc	22 44 30.1	+0.9
UPC				ePKPAB	PKPab	22 44 42.1	+0.6
UPC	Upice	153.21	341	ePKIKP	PKPbc	22 44 30.1	+0.9
CJR	Cluj-Napoca	153.22	327	⇑P	PKPbc	22 44 30.8	+1.4
CJR	Cluj-Napoca	153.22	327	⇑PKIKP	PKPbc	22 44 30.8	+1.4
DPC	Dobruska-Polom	153.25	340	ePKPDF	PKPdf	22 44 21.9	+0.1
DPC				⇑ePKP	PKiKP	22 44 30.2	+0.7
DPC				ePKPAB	PKPab	22 44 42.5	+0.7
DPC				epPKP	sPKPdf	22 45 16.0	-3.3
DPC				ePP	PP	22 48 20.9	+5.3
DPC	Dobruska-Polom	153.25	340	ePKIKP	PKPdf	22 44 21.9	+0.1
DPC				e		22 45 16.0	
DPC				e		22 48 20.9	
CLL	Collm	153.27	345	i PKIKP	PKPdf	22 44 21.9	+0.2
CLL				i		22 45 12.5	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL				pmax	pmax		
	comp=Z,26nm,0.8s						
CLL	Collm	153.27	345	i PKPdf	PKPdf	22 44 21.9	+0.2
	comp=Z,6.0nm,1.1s						
CLL				i PKPbc	PKiKP	22 44 30.2	+0.8
	comp=Z,26nm,0.8s						
CLL				i PKPab	PKPab	22 44 41.8	+0.1
	comp=Z,18nm,0.9s						
CLL				i		22 44 47.2	
CLL				i pPKPbc	sPKPdf	22 45 12.5	-6.7
CLL				ePP	PP	22 48 14.0	-1.5
	comp=Z,19nm,1.5s						
KECS	Kecovo	153.32	333	ePKP2	PKPab	22 44 42.8	+0.7
KECS	Kecovo	153.32	333	ePKP	PKPab	22 44 42.8	+0.7
VOIR		153.32	323	⇑P	PKPbc	22 44 31.2	+1.5
VOIR		153.32	323	⇑PKIKP	PKPbc	22 44 31.2	+1.5
KRLC	Kraliky	153.35	339	⇑ePKP	PKPbc	22 44 29.8	+0.2
KRLC				ePKPAB	PKPab	22 44 42.6	+0.4
KRLC				ex	x	22 45 15.7	
KRLC	Kraliky	153.35	339	ePKIKP	PKPbc	22 44 29.8	+0.2
KRLC				e		22 44 42.6	
KRLC				e		22 45 15.7	
BRG	Berggiesshubel	153.44	344	ePKP	PKPdf	22 44 22.1	+0.1
	comp=Z,8.1nm,1.0s						
BRG	Berggiesshubel	153.44	344	i PKP	PKPbc	22 44 30.1	+0.3
	comp=Z,17nm,0.8s						
BRG				epPKP	pPKPbc	22 45 11.8	+0.7
	comp=Z,11nm,0.9s						
BRG				e		22 48 13.6	
	comp=Z,13nm,1.6s						
BRG	Berggiesshubel	153.44	344	ePKIKP	PKPdf	22 44 22.1	+0.1
BRG				e		22 45 11.8	
BRG				e		22 48 13.6	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,17nm,0.8s						
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=Z,13nm,1.6s						
MCH1	Michaelchurch	153.47	8	eP	PKPbc	22 44 29.4	-0.3
ARR	Arges	153.59	323	⇑P	PKPbc	22 44 32.0	+1.7
DRGR		153.59	328	⇑P	PKPbc	22 44 31.0	+0.7
DRGR		153.59	328	⇑PKIKP	PKPbc	22 44 31.0	+0.7
PVCC	Panska Ves	153.60	343	ePKPDF	PKPdf	22 44 22.7	+0.5
PVCC				⇑ePKP	PKiKP	22 44 31.7	+1.6
PVCC				ePKPAB	PKPab	22 44 44.2	+1.0
PVCC				ex	x	22 45 25.0	
PVCC	Panska Ves	153.60	343	ePKIKP	PKPdf	22 44 22.7	+0.5
MONM	Monmouth	153.64	7	eP	PKPbc	22 44 29.9	-0.2
VYHS	Vyhne	153.96	335	ePKIKP	PKPbc	22 44 32.0	+1.1
VYHS	Vyhne	153.96	335	ePKP	PKPbc	22 44 32.0	+1.1
VYHS				e		22 44 45.6	
PRA	Prague	154.05	342	ePKPAB	PKPab	22 44 45.7	+0.6
PRA	Prague	154.05	342	ePKP2	PKPab	22 44 45.7	+0.6
VRAC	Vranov	154.07	339	PP	PP	22 48 18.7	-1.5
	comp=Z,1.2nm,0.4s,baz=21,slow=0.9,SNR=2.9						
GOPC	GO Pecny, Ondr	154.09	342	ePKPAB	PKPab	22 44 45.9	+0.6
GOPC	GO Pecny, Ondr	154.09	342	ePKP2	PKPab	22 44 45.9	+0.6
PRU	Pruhonice	154.09	342	ePKPDF	PKPdf	22 44 23.4	+0.5
PRU				⇑ePKP	PKiKP	22 44 31.7	+0.5
PRU				ePKPAB	PKPab	22 44 45.5	+0.2
PRU				epPKP	sPKPbc	22 45 24.8	-3.7
PRU				ePP	PP	22 48 17.2	-3.0
PRU	Pruhonice	154.09	342	ePKIKP	PKPdf	22 44 23.4	+0.5
PRU				e		22 44 45.5	
PRU				e		22 48 17.2	
NKC	Novy Kostel	154.40	345	⇑ePKP	PKPbc	22 44 33.4	+1.6
NKC				ePKPAB	PKPab	22 44 46.7	+0.1
BEBN	Eben Emael	154.89	355	PKPab	PKPab	22 44 48.5	-0.1
BZS	Buzias	154.97	327	⇑P	PKPbc	22 44 33.8	+0.7
MEM	Membach	155.05	355	PKPab	PKPab	22 44 49.1	-0.3
MEM				E		22 44 55.5	
KHC	Kasperske Hory	155.13	343	ePKPDF	PKPdf	22 44 24.6	+0.1
KHC				⇑ePKP	PKPbc	22 44 34.7	
KHC				ePKPAB	PKPab	22 44 50.5	+0.7
KHC				ex	x	22 45 31.7	
KHC				ePP	PP	22 48 23.7	-2.3
KHC	Kasperske Hory	155.13	343	ePKIKP	PKPdf	22 44 24.6	+0.1
KHC				e		22 45 31.7	
KHC				e		22 48 23.7	
KHC	Kasperske Hory	155.13	343	ePKPdf	PKPdf	22 44 24.4	-0.1
KHC				ePKPbc	PKPbc	22 44 34.4	
BCLA	Clavier	155.29	356	PKPab	PKPab	22 44 50.2	-0.2
BCLA				E		22 44 56.7	
GERES	GERESS Array B	155.36	342	PKP	PKPdf	22 44 24.7	-0.1
	comp=Z,1.6nm,0.9s,baz=66,slow=1.6,SNR=6.6						
GERES				PKPbc	PKPbc	22 44 35.0	
	comp=Z,1.5nm,0.7s,baz=356,slow=1.9,SNR=7.5						
GERES				PKPab	PKPab	22 44 50.6	-0.2
	comp=Z,4.9nm,0.8s,baz=26,slow=3.7,SNR=14						
MDVR	Moldovita	155.51	326	⇑P	PKPab	22 44 52.0	+0.4
CONA	Conrad Observa	155.51	338	ePKPab	PKPab	22 44 52.6	+1.0
	comp=Z,21nm,1.0s						
DOU	Dourbes	155.65	357	PKPab	PKPab	22 44 51.8	-0.1
DOU				E		22 44 56.7	
WLF	Walferdange	155.97	354	PKPab	PKPab	22 44 53.8	+0.5
WLF				E		22 45 00.0	
MOA	Molln	156.09	340	ePKPab	PKPab	22 44 54.8	+0.8
	comp=Z,15nm,1.2s						
VTS	Vitosha	156.14	320	⇑P	PKPab	22 44 55.9	+1.3
VTS	Vitosha	156.14	320	⇑PKP2	PKPab	22 44 55.9	+1.3
ARSA	Arzberg	156.21	338	ePKPab	PKPab	22 44 55.1	+0.6
	comp=Z,10nm,1.1s						
ARSA				i pPKPab	pPKPab	22 45 34.2	-0.2
	comp=Z,9.7nm,1.1s						
LANF	Langenberg	156.46	351	PKP	PKPab	22 44 42.4	-13
SOKA	Soboth	156.88	338	ePKPab	PKPab	22 44 58.7	+1.2
	comp=Z,14nm,0.9s						
OBKA	Obir	157.19	338	i PKPab	PKPab	22 44 58.8	0.0
	comp=Z,17nm,1.6s						
VAY	Valandovo	157.29	318	i P	PKPab	22 44 59.7	+0.3
RETA	Reutte	157.36	345	ePKPab	PKPab	22 44 59.8	+0.3
	comp=Z,13nm,1.0s						
WTTA	Wattenberg	157.36	344	ePKPab	PKPab	22 44 05.0	+0.6
	comp=Z,15nm,1.0s						
MYKA	Terra Mystica	157.38	340	ePKPab	PKPab	22 44 58.8	-0.8
	comp=Z,13nm,1.0s						
MOTA	Moosalm	157.42	345	ePKPdf	PKPdf	22 44 27.8	+0.2
	comp=Z,2.8nm,0.8s						
MOTA				i PKPab	PKPab	22 44 59.9	0.0
	comp=Z,18nm,0.9s						
SKO	Skopje	157.55	321	i P	PKPab	22 45 02.4	+2.0
ABTA	Abfaltersbach	157.60	342	ePKPdf	PKPdf	22 44 28.2	+0.4
	comp=Z,12nm,1.4s						
ABTA				i PKPab	PKPab	22 45 00.4	-0.2
	comp=Z,16nm,1.0s						
MOF	Molkenrain	157.66	352	PKP	PKPdf	22 44 44.2	+16
DAVA	Damuels	157.74	347	i PKPab	PKPab	22 45 00.7	-0.5
	comp=Z,16nm,0.9s						
FETA	Feichten	157.81	345	ePKPdf	PKPdf	22 44 29.0	+0.9
	comp=Z,6.5nm,1.0s						
FETA				i PKPab	PKPab	22 45 02.9	+1.4
	comp=Z,13nm,1.0s						
KRUS	Krusevo	158.04	320	i P	PKPab	22 45 03.7	+0.9
LOMF	Lomont	158.19	352	PKP	PKPdf	22 44 45.1	+17
BIA	Bitola	158.22	319	i P	PKPab	22 45 04.9	+1.4
OHR	Ohrid	158.47	320	i P	PKPab	22 45 04.7	+0.1
LIC	Lamto	159.27	158	ePKP2	PKPab	22 45 08.9	+0.4
	comp=Z,200nm,0.9s						
KIC	Kosan Boka	159.49	159	ePKP2	PKPab	22 45 09.5	+0.1
	comp=Z,178nm,0.8s						
TIC	Toumodi	159.66	158	ePKP2	PKPab	22 45 10.6	+0.4
DBIC	Dimbokro	159.74	158	PKP	PKPdf	22 44 31.6	+0.4
	comp=Z,11nm,0.9s,baz=196,slow=2.9,SNR=6.6						
DBIC				PKPab	pPKPdf	22 45 11.6	-1.3
	comp=Z,40nm,0.9s,baz=176,slow=5.4,SNR=25						
DBIC				PP	PP	22 48 56.1	+4.9
	comp=Z,8.8nm,1.1s,baz=123,slow=12,SNR=2.4						
AGO	Saint Agoulin	159.75	359	PKP	PKPdf	22 44 46.9	+17
PLDF	La Plantade	159.82	358	PKP	PKPdf	22 44 46.3	+16
PYM	Petit Puy Mans	160.05	359	PKP	PKPdf	22 44 49.8	+19
LBL	Lubilhac	160.56	359	PKP	PKPdf	22 44 47.3	+16
PGAV	Gavieira, Arco	161.54	26	ePKPdf	PKPdf	22 44 33.3	+0.8
PCAB	Cabril	161.85	26	ePKPdf	PKPdf	22 44 34.6	+1.9
POLO	Lamas de Olo	162.23	26	ePKPdf	PKPdf	22 44 33.6	+0.4
POLO	Lamas de Olo	162.23	26	ePKPab	PKPab	22 45 19.9	-1.0
PVRL	Vila Real	162.34	26	ePKPdf	PKPdf	22 44 34.4	+1.2
PVRL	Vila Real	162.34	26	ePKPab	PKPab	22 45 19.1	-2.3
MVO	Moncorvo	162.71	25	ePKPdf	PKPdf	22 44 33.7	+0.1
MVO	Moncorvo	162.71	25	ePKPab	PKPab	22 45 34.8	+12
PCAS	Casmilo, Conde	163.02	30	ePKPdf	PKPdf	22 44 34.7	+0.8
MTE	Manteigas	163.15	27	ePKPdf	PKPdf	22 44 34.5	+0.4
PTOM	Tomar	163.41	31	ePKPdf	PKPdf	22 44 35.4	+1.2
PTOM	Tomar	163.41	31	ePKPab	PKPab	22 45 25.7	-0.3
PCBR	Castelo Branco	163.65	28	ePKPdf	PKPdf	22 44 35.4	+0.9
PCBR	Castelo Branco	163.65	28	ePKPab	PKPab	22 45 26.8	-0.2
PMRV	Marv??o	164.02	29	ePKPdf	PKPdf	22 44 35.4	+0.5
PMRV	Marv??o	164.02	29	ePKPab	PKPab	22 45 28.8	0.0
PESTR	Estremoz	164.39	31	ePKPdf	PKPdf	22 44 35.7	+0.5
PESTR	Estremoz	164.39	31	ePKPab	PKPab	22 45 29.6	-0.8
EVO	Evora	164.46	32	ePKPdf	PKPdf	22 44 36.3	+1.1
PNCL	Nicolau / Gran	164.53	35	ePKPdf	PKPdf	22 44 35.6	+0.3
PBEJ	Beja	164.93	33	ePKPdf	PKPdf	22 44 37.5	+1.8
MORF	Marmelete	165.06	37	ePKPdf	PKPdf	22 44 37.4	+1.5
PAB	San Pablo	165.09	21	ePKIKP	PKPdf	22 44 36.9	+1.0
PAB	San Pablo	165.09	21	ePKPdf	PKPdf	22 44 36.9	+1.0
ESDC	Sonseca Array	165.09	20	PKP	PKPdf	22 44 36.4	+0.5
	comp=Z,2.4nm,0.9s,baz=355,slow=2.7,SNR=18						
ESDC				PKPab	PKPab	22 45 33.3	-0.2
	comp=Z,3.1nm,0.8s,baz=328,slow=4.1,SNR=13						
ESDC				PP	PP	22 49 17.9	-1.8
	comp=Z,0.4nm,0.8s,baz=354,slow=5.3,SNR=4.0						
PCVE	Castro Verde	165.14	35	ePKPdf	PKPdf	22 44 37.2	+1.3
PBAR	Barrancos	165.21	31	ePKPdf	PKPdf	22 44 36.9	+1.0
PVAQ	Vaqueiros	165.48	34	ePKPdf	PKPdf	22 44 37.2	+1.1
TORD	Torodi Ar. Bea	167.43	176	PKP	PKPdf	22 44 37.8	-0.5
	comp=Z,11nm,0.9s,baz=318,slow=0.9,SNR=52						
TORD				pPKP	pPKPdf	22 45 18.2	-1.8
	comp=Z,0.8nm,0.6s,baz=174,slow=4.3,SNR=0.9						
TORD				PKPab	PKPab	22 45 44.9	+0.7
	comp=Z,29nm,0.9s,baz=173,slow=4.2,SNR=6.5						
TORD				PP	PP	22 49 31.8	+0.5
	comp=Z,6.8nm,0.9s,baz=163,slow=4.8,SNR=7.3						
KEST	Kesra	168.47	331	PKPab	PKPab	22 45 48.6	0.0
	comp=Z,4.4nm,0.8s,baz=199,slow=4.6,SNR=4.1						
TAM	Tamanrasset	175.98	223	ePKIKP	PKPdf	22 44 43.0	+0.6
TAM	Tamanrasset	175.98	223	ePKPdf	PKPdf	22 44 43.0	+0.6

BJI ***15*** *23:22:39.2, 18°.79N×145°.57E, h537km, mb4.7/48, mB4.6/30*

ISCJB ***15*** *23:22:44.5±0.4, 18°.93N±0°.02×145°.07E±0°.03, h565km±4km, mb4.6/208, Error ellipse: s-maj=3.7km s-min=3.5km az=0.2*

MOS ***15*** *23:22:44.5±0.9, 18°.95N×145°.03E, h568km, mb4.7/57, Error ellipse: s-maj=8.0km s-min=5.0km az=106.1*

NEIC ***15*** *23:22:45.6±0.3, 18°.92N×145°.08E, h567km±3km, mb4.7/131, Error ellipse: s-maj=3.4km s-min=2.9km az=96.0*

IDC ***15*** *23:22:46.7±0.8, 18°.95N×145°.12E, h582km±9km, mb4.1/43, mb1 4.2/46, mb1mx4.2/50, mbtmp5.1/46, Error ellipse: s-maj=9.2km s-min=5.2km az=75.0*

ISC 15 23:22:45.4±0.4, 18°.93N±0°.03×145°.18E±0°.05, h571km±4km, h572km:pP-P, n546, σ1°18/608, mb4.6/209, 13C-11D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	2.29	165	eP	P	23 23 56.7	-1.8
ANA2	Anatahan	2.63	169	eP	P	23 23 58.4	-1.8
GUMO	Guam	5.32	183	P	P	23 24 17.8	-1.5
	64nm,0.3s,baz=143,slow=2.4,SNR=38						
GUMO				S	S	23 25 31.4	-4.4
	81nm,0.3s,baz=19,slow=23,SNR=16						
GUMO	Guam	5.32	183	eP	P	23 24 18.2	-1.1
GUMO				S	S	23 25 31.4	-4.4
GUMO	Guam	5.32	183	eP	P	23 24 18.2	-1.1
GUMO				S	S	23 25 31.4	-4.4
CBIJ	Chichi jima	8.58	342	eP	P	23 24 49.3	0.0
JHJ	Hachijo jima 2	14.93	342	P	P	23 25 53.8	+0.2
	25nm,0.3s,baz=260,slow=20,SNR=6.6						
JHJ				S	S	23 28 21.8	-6.3
	9.5nm,0.3s,baz=78,slow=20,SNR=3.4						
JOW	Kunigami	17.44	300	eP	P	23 26 17.4	+0.2
	93nm,1.0s						
INU	Inuyama	17.88	338	eP	P	23 26 21.2	+0.1
	38nm,0.6s						
MJAR	Matsushiro Arr	18.58	342	P	P	23 26 27.0	-0.5
	4.9nm,0.3s,baz=169,slow=10,SNR=106						
MJAR				S	S	23 29 24.9	-3.1
	0.4nm,0.3s,baz=145,slow=11,SNR=5.0						
MAJO	Matsushiro	18.59	342	ceP	P	23 26 26.6	-0.9
MAJO	Matsushiro	18.59	342	eP	P	23 26 27.4	-0.1
	62nm,0.7s						
MAT	Matsushiro	18.59	342	P	P	23 26 27.1	-0.4
MAT				S	S	23 29 29.0	+1.0
MJB9	Matsu-Tunnel	18.59	342	eP	P	23 26 27.7	+0.1
	16nm,0.7s						
JNU	Nakatsue	19.07	321	P	P	23 26 31.1	-0.9
	0.4nm,0.3s,baz=233,slow=16,SNR=8.7						
JNU	Nakatsue	19.07	321	eP	P	23 26 32.1	+0.1
	35nm,0.8s						
SMPI	Sarmi	21.74	198	P	P	23 26 57.8	+1.4
YHNB	Yeheng	22.81	289	eP	P	23 27 05.8	-0.1
	130nm,1.7s						
SSLB	Suanglung	23.06	286	eP	P	23 27 08.0	-0.1
	172nm,1.9s						
SSLB				eS	S	23 30 38.7	-0.6
KSRS	Korea Array	23.84	324	P	P	23 27 14.8	+0.1
	9.5nm,0.5s,baz=144,slow=8.9,SNR=48						
KSRS				PcP	PcP	23 30 37.9	+0.4
	4.6nm,0.9s,baz=128,slow=2.3,SNR=6.3						
KSRS				ScP	ScP	23 33 21.7	-0.7
	5.1nm,0.9s,baz=130,slow=2.4,SNR=9.7						
KS15	Wonju Array Si	23.85	324	eP	P	23 27 14.9	0.0
KSAR	Wonju Array Be	23.85	324	P	P	23 27 14.8	-0.1
KSAR						23 30 37.9	
KSAR	Wonju Array Be	23.85	324	P	P	23 27 14.8	-0.1
KSAR				PcP	PcP	23 30 37.9	+0.4
KSAR				ScP	ScP	23 33 21.7	-0.7
KS01	Wonju Array Si	23.87	324	eP	P	23 27 14.5	-0.5
SWI	Sorong	23.96	216	P	P	23 27 16.2	+0.1
FAKI	Fak Fak	25.17	212	P	P	23 27 27.0	+0.2
FAKI	Fak Fak	25.17	212	eP	P	23 27 26.6	-0.2
	36nm,0.7s						
ASAJ	Asahikawa	25.20	356	PcP	PcP	23 30 41.4	+0.9
	11nm,0.7s,baz=222,slow=4.6,SNR=4.9						
ASAJ				ScP	ScP	23 33 25.1	-1.0
	4.8nm,0.7s,baz=44,slow=32,SNR=3.5						
ASAJ	Asahikawa	25.20	356	eP	P	23 27 27.4	+0.7
	35nm,0.6s						
ASAJ				ePcP	PcP	23 30 41.4	+0.9
ASAJ				ScP	ScP	23 33 25.1	-1.0
LBMI	Labuha	26.07	224	P	P	23 27 35.4	+0.6
KUR	Kuril'sk	26.32	4	eP	P	23 27 27.6	-8.9
NJ2	Nanjing	27.03	304	eP	P	23 27 43.5	+0.6
MSAI	Masohi	27.31	218	P	P	23 27 46.4	+0.8
USRK	Ussuriysk Ar.	27.51	339	P	P	23 27 47.7	+0.8
	3.2nm,0.6s,baz=165,slow=7.2,SNR=6.0						
KMSI	Cibinong	27.66	231	P	P	23 27 49.0	+0.3
BNDI	Bandanaira	27.74	214	P	P	23 27 50.0	+0.6
AAI	Ambon	28.02	218	P	P	23 27 52.1	+0.3
YSS	Yuzh-Sakhalins	28.02	356	⇑P	P	23 27 51.7	+0.4
YSS				e		23 31 54.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS	Yuzh-Sakhalins	28.02	356	eP	P	23 27 51.1	-0.2
PMG	Port Moresby	28.23	176	P	P	23 27 53.9	+0.4
	comp=Z,30nm,0.4s,baz=7.0,slow=6.0,SNR=24						
PMG				PcP	PcP	23 30 49.0	+0.7
	comp=Z,10nm,0.4s,baz=22,slow=3.7,SNR=4.3						
PMG				S	S	23 31 59.3	-0.9
	comp=Z,1.6nm,0.3s,baz=264,slow=22,SNR=6.1						
PMG	Port Moresby	28.23	176	deP	P	23 27 53.9	+0.4
PMG				pmax	pmax		
	comp=Z,232nm,0.9s						
PMG	Port Moresby	28.23	176	eP	P	23 27 54.0	+0.4
	comp=Z,56nm,0.9s						
PMG				PcP	PcP	23 30 49.0	+0.7
PMG				S	S	23 31 59.3	-0.9
MRSI	Marisa	29.26	234	P	P	23 28 03.2	+0.6
MYLDM	Lahad Datu	29.39	246	eP	P	23 28 05.9	+2.2
	comp=Z,31nm,0.9s						
MYLDM	Lahad Datu	29.39	246	⇓P	P	23 28 05.7	+2.0
KDM	Kudat	30.04	250	⇑P	P	23 28 08.1	-1.2
APSI	Ampana	30.39	232	P	P	23 28 12.5	+0.3
HABR	Khabarovsk	30.59	347	eP	P	23 28 12.5	-1.0
HABR				e		23 30 52.9	
HABR				eS	S	23 32 35.2	-0.6
HABR				e		23 37 39.3	
HABR				pmax	pmax		
	comp=E,34nm,1.4s						
HABR				pmax	pmax		
	comp=N,13nm,1.4s						
HABR				pmax	pmax		
	comp=Z,19nm,1.4s						
HABR				MLR	MLR		
	comp=Z,53nm,16.0s						
MPSI	Mapaga	30.93	236	P	P	23 28 17.6	+0.7
KKM	Kota Kinabalu	30.98	249	eP	P	23 28 17.8	+0.3
	comp=Z,52nm,0.7s						
HNR	Honiara	31.73	151	P	P	23 28 23.7	+0.1
	comp=Z,111nm,0.6s,baz=78,slow=1.0,SNR=3.6						
PCI	Palu	31.76	234	P	P	23 28 24.1	+0.1
KDI	Kendari	31.79	227	P	P	23 28 25.1	+0.8
TYV	Tymovskoe	31.92	357	eP	P	23 28 25.5	+0.7
TYV				eS	S	23 32 55.9	-0.2
TYV				pmax	pmax		
	comp=Z,31nm,1.1s						
TYV				smax	smax		
	comp=N,25nm,2.3s						
TARA	Tarawa	32.32	119	eP	P	23 28 29.2	+0.5
	comp=N,12nm,1.0s						
BJI	Beijing	32.62	316	P	P	23 28 30.8	-0.2
BJI				pmax	pmax		
	comp=N,20nm,0.8s						
COEN	Coen	32.74	184	eP	P	23 28 33.4	+1.2
	comp=N,38nm,0.5s						
ENH	Enshi	34.23	296	eP	P	23 28 44.8	+0.2
	comp=N,12nm,0.5s						
KAPI	Kappang	34.55	229	eP	P	23 28 47.9	+0.4
	comp=N,23nm,0.8s						
SOEI	Soe	35.19	218	eP	P	23 28 51.9	-1.0
	comp=N,19nm,0.7s						
SOEI				eS	S	23 33 46.7	+0.1
PEA0	Petropavlovsk-	35.47	13	eP	P	23 28 55.6	+1.0
PETK	Petropavlovsk-	35.47	13	P	P	23 28 55.7	+1.1
	comp=N,13nm,0.9s,baz=179,slow=5.5,SNR=6.7						
PETK				PcP	PcP	23 31 07.7	-0.1
	comp=N,12nm,0.8s,baz=143,slow=2.3,SNR=4.9						
PETK				ScP	ScP	23 33 58.5	-1.6
	comp=N,2.7nm,0.6s,baz=180,slow=2.3,SNR=3.3						
XAN	Xi'an	35.56	302	P	P	23 28 55.6	-0.1
XAN				pmax	pmax		
	comp=N,11nm,0.8s						
XAN				pmax	pmax		
	comp=N,110nm,9.5s						
PET	Petropavlovsk	35.60	14	eP	P	23 28 57.1	+1.5
PET				pmax	pmax		
	comp=Z,42nm,1.4s						
HHC	Hu-ho-hao-te	36.09

SNR=5.2
UTTA **Uttaradit** 42.29 276 P P 23 29 50.9 +0.8
comp=Z,4.9nm,0.8s
SONM **Songino Array** 42.65 321 P P 23 29 53.2 +0.6
comp=Z,10.0nm,0.6s,baz=138,slow=7.1,SNR=46
SONM PcP PcP 23 31 31.8 +0.5
comp=Z,8.2nm,0.8s,baz=134,slow=4.0,SNR=11
SONM ScP ScP 23 34 27.2 -1.1
comp=Z,2.9nm,1.0s,baz=120,slow=2.2,SNR=7.2
SONA1 **Songino Array** 42.66 321 *e*P P 23 29 53.1 +0.5
LAMP **Lampang** 43.05 277 P P 23 29 57.1 +1.1
comp=Z,6.9nm,0.8s
CHTO **Chiang Mai** 43.65 278 P P 23 30 01.1 +0.4
comp=Z,64nm,0.9s
CHTO **Chiang Mai** 43.65 278 *e*P P 23 30 01.4 +0.7
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO **Chiang Mai** 43.65 278 *e*P P 23 30 01.4 +0.7
comp=Z,8.4nm,0.7s
CM01 **Chiang Mai Arr** 43.69 277 *e*P P 23 30 01.6 +0.6
CM31 **Chiang Mai Arr** 43.70 277 *e*P P 23 30 02.3 +1.2
CMAR **Chiang Mai Arr** 43.70 277 P P 23 30 02.1 +1.0
comp=Z,21nm,0.7s,baz=69,slow=6.5,SNR=134
CMAR PcP PcP 23 31 36.1 +0.9
comp=Z,4.3nm,0.6s,baz=90,slow=1.7,SNR=8.3
CMAR **Chiang Mai Arr** 43.70 277 *i* P P 23 30 02.0 +1.0
CMAR pmax pmax
comp=Z,23nm,0.7s
AS01 **Alice Springs** 43.73 195 *e*P P 23 30 00.8 -0.3
AS01 *e*S S 23 35 48.3 -2.4
AS31 **Alice Springs** 43.75 195 *e*P P 23 30 01.6 +0.3
comp=Z,9.5nm,0.4s
AS31 *e*S S 23 35 48.8 -2.2
ASAR **Alice Springs** 43.75 195 P P 23 30 01.6 +0.3
comp=Z,18nm,0.7s,baz=15,slow=7.6,SNR=169
ASAR PcP PcP 23 31 36.0 +0.7
comp=Z,6.0nm,0.5s,baz=19,slow=3.6,SNR=14
ASAR S S 23 35 48.1 -2.9
comp=Z,9.3nm,0.7s,baz=22,slow=21,SNR=30
MYKOM **Kota Tinggi** 43.91 252 *e*P P 23 30 03.5 +0.8
comp=Z,12nm,0.7s
GTA **Gaotai** 44.02 307 *e*P P 23 30 04.0 +0.7
GTA sP sP 23 32 39.5 -9.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
UMPA **Umpang Tak** 44.15 274 P P 23 30 07.3 +2.8
comp=Z,6.5nm,0.9s,comp=Z,696nm
SEY **Seymchan** 44.24 5 P P 23 30 05.0 +0.5
comp=Z,6.2nm,0.6s,baz=183,slow=7.0,SNR=32
SEY PcP PcP 23 31 35.5 -0.7
comp=Z,2.7nm,0.6s,baz=209,slow=5.2,SNR=4.6
SEY **Seymchan** 44.24 5 || *i*P P 23 30 05.9 +1.4
ADK **Adak** 44.39 33 *e*P P 23 30 06.8 +1.0
ADK pmax pmax
comp=Z,41nm,0.6s
ADK **Adak** 44.39 33 *e*P P 23 30 06.8 +1.0
comp=Z,41nm,0.6s
YAK **Yakutsk** 44.40 350 P P 23 30 05.7 0.0
comp=Z,21nm,0.4s,baz=204,slow=0.7,SNR=4.4
YAK ScP ScP 23 34 32.9 -2.1
comp=Z,10nm,0.4s,baz=212,slow=1.8,SNR=5.9
EIDS **Eidsvold** 44.41 172 *e*P P 23 30 06.5 +0.2
comp=Z,19nm,0.5s
BOD **Bodaibo** 45.10 337 *e*P P 23 30 11.2 +0.1
BOD pmax pmax
comp=Z,9.0nm,1.4s
ZAK **Zakamensk** 45.67 323 *e*P P 23 30 16.0 +0.3
ZAK pmax pmax
comp=Z,12nm,0.9s
DZM **Mont Dzumac** 45.75 152 P P 23 30 18.2 +1.5
comp=Z,31nm,0.5s,baz=322,slow=3.0,SNR=93
DZM PcP PcP 23 31 42.9 +0.5
comp=Z,15nm,0.8s,baz=85,slow=10,SNR=4.1
DZM **Mont Dzumac** 45.75 152 *e*P P 23 30 17.1 +0.4
comp=Z,37nm,0.6s
DZM *e*PcP PcP 23 31 43.3 +0.9
ATKA **Atka Island** 45.86 34 *e*P P 23 30 18.2 +1.2
comp=Z,72nm,0.6s
SURT **Suratani** 45.98 264 P P 23 30 21.5 +3.0
comp=Z,7.8nm,1.0s
TLY **Talaya** 46.09 325 P P 23 30 19.4 +0.5
comp=Z,11nm,0.6s,baz=147,slow=5.4,SNR=28
TLY **Talaya** 46.09 325 *e*P P 23 30 19.3 +0.5
TLY pmax pmax
comp=Z,17nm,0.8s
TLY **Talaya** 46.09 325 *e*P P 23 30 18.9 +0.1
comp=Z,16nm,0.7s
MOY **Mondy** 47.54 324 *e*P P 23 30 30.3 +0.4
PSI **Prapat** 47.98 256 P P 23 30 34.5 +0.8
comp=Z,6.0nm,0.6s,baz=64,slow=5.3,SNR=4.4
PSI PcP PcP 23 31 49.9 -0.8
comp=Z,8.6nm,0.7s,baz=120,slow=3.5,SNR=5.5
MSVF **Nonsavu** 48.69 136 *e*P P 23 30 39.1 +0.3
MSVF pmax pmax
comp=Z,26nm,0.8s
MSVF **Nonsavu** 48.69 136 *e*P P 23 30 39.1 +0.3
comp=Z,26nm,0.8s
ARMA **Armidale** 49.46 173 *e*P P 23 30 44.5 +0.2
comp=Z,17nm,0.8s
LSA **Lhasa** 50.01 293 P P 23 30 50.5 +1.6
LSA pmax pmax
comp=Z,24nm,0.8s
LSA **Lhasa** 50.01 293 *e*P P 23 30 50.4 +1.6
LSA pmax pmax
comp=Z,22nm,0.8s
LSA **Lhasa** 50.01 293 *e*P P 23 30 50.4 +1.5
comp=Z,22nm,0.8s
STKA **Stephens Creek** 50.64 184 P P 23 30 53.1 +0.4
comp=Z,21nm,0.5s,baz=353,slow=8.1,SNR=32
STKA S S 23 37 25.7 0.0
comp=Z,4.0nm,1.0s,baz=131,slow=19,SNR=2.8
STKA **Stephens Creek** 50.64 184 *e*P P 23 30 53.1 +0.4
STKA S S 23 37 25.7 0.0
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA **Stephens Creek** 50.64 184 *e*P P 23 30 53.1 +0.4
comp=Z,5.8nm,0.8s
STKA S S 23 37 25.7 0.0
UNV **Unalaska Valle** 50.74 35 *e*P P 23 30 53.9 +0.7
comp=Z,22nm,0.8s
BILL **Bilibino** 50.87 10 *e*P P 23 30 52.4 -1.5
BILL *e**PP pP 23 32 37.2 -2.9
BILL *e* 23 32 59.1
BILL pmax pmax
comp=Z,11nm,0.9s
FORT **Forrest** 52.10 199 *e*P P 23 31 03.4 +0.1
comp=Z,238nm,0.5s
FALS **False Pass** 52.80 35 *e*P P 23 31 08.8 +0.9
comp=Z,83nm,0.6s
TAPN **Taplejung** 53.12 290 *e*P P 23 31 11.8 +0.6
comp=Z,37nm,0.5s
ODAN **Odare** 53.44 290 *e*P P 23 31 14.0 +0.7
comp=Z,62nm,0.5s
AFI **Afiamalu** 53.51 124 P P 23 31 14.8 +1.1
comp=Z,29nm,0.9s,baz=101,slow=16,SNR=3.5
TIXI **Tiksi** 53.58 354⇑ *e*P P 23 31 12.9 -0.3
TIXI pmax pmax
comp=Z,4.0nm,0.9s
WMQ **Urumqi** 53.78 311 P P 23 31 16.1 +0.8
WMQ PcP PcP 23 32 12.8 +0.8
WMQ pP pP 23 33 02.4 -0.8
WMQ pmax pmax
comp=Z,42nm,0.7s
WMQ pmax pmax
comp=Z,91nm,3.6s
CAN **Canberra** 54.08 176 *e*P P 23 31 18.8 +1.5
CAN pmax pmax
comp=Z,53nm,1.1s
CAN **Canberra** 54.08 176 *e*P P 23 31 18.8 +1.5
comp=Z,53nm,1.1s
RAMN **Ramite** 54.14 290 *e*P P 23 31 18.7 +0.4
comp=Z,87nm,0.8s
JIRN **Jiri** 54.45 291 *e*P P 23 31 21.5 +0.9
comp=Z,1μm,0.6s
GUN **Gumba** 54.70 291 *e*P P 23 31 23.2 +0.9
comp=Z,84nm,0.4s
DGZ **Jazzator, Alta** 55.02 318 *i* P P 23 31 24.8 +0.9
DGZ pmax pmax
comp=Z,20nm,0.7s
PKI **Pulchoki** 55.14 291 *e*P P 23 31 25.6 +0.2
comp=Z,115nm,0.4s
PKIN **Phulchoki** 55.15 291 *e*P P 23 31 25.6 +0.2
comp=Z,111nm,0.4s
KKN **Kakani** 55.24 291 *e*P P 23 31 26.4 +0.5
comp=Z,119nm,0.7s
DMN **Daman** 55.41 291 *e*P P 23 31 27.7 +0.6
comp=Z,112nm,0.4s

GKN **Gorkha** 55.79 291 *e*P P 23 31 30.2 +0.5
comp=Z,106nm,0.4s
DANN **Dangsing** 56.53 292 *e*P P 23 31 35.5 +0.6
KOLN **Koldanda** 56.72 291 *e*P P 23 31 36.5 +0.3
comp=Z,105nm,0.8s
PYUN **Piuthan** 57.23 292 *e*P P 23 31 39.9 +0.3
comp=Z,146nm,0.7s
ZAA0 **Zalesovo Array** 57.53 322 *e*P P 23 31 40.8 -0.1
ZALV **Zalesovo Beam** 57.53 322 P P 23 31 40.7 -0.2
comp=Z,10nm,0.3s,baz=114,slow=8.2,SNR=69
ZALV PcP PcP 23 32 25.6 -0.8
comp=Z,8.2nm,0.6s,baz=127,slow=4.2,SNR=9.0
ZALV ScP ScP 23 35 29.4 -2.5
comp=Z,2.9nm,1.0s,baz=98,slow=5.2,SNR=4.7
MK01 **Makanchi Array** 57.94 314 *e*P P 23 31 43.5 -0.4
MK31 **Makanchi Array** 57.95 314 *i* P P 23 31 44.3 +0.4
MK31 pmax pmax
comp=Z,10.0nm,0.4s
MK31 **Makanchi Array** 57.95 314 *e*P P 23 31 44.5 +0.6
MKAR **Makanchi Array** 57.95 314 P P 23 31 44.4 +0.6
comp=Z,24nm,0.6s,baz=90,slow=8.0,SNR=246
MKAR PcP PcP 23 32 28.0 -0.2
comp=Z,4.2nm,0.5s,baz=92,slow=3.6,SNR=5.3
MKAR PKP2bc 00 01 28.6
comp=Z,0.2nm,0.3s,baz=270,slow=1.2,SNR=4.0
MKAR **Makanchi Array** 57.95 314 *e*P P 23 31 44.5 +0.6
MKAR 23 32 28.0
MKAR pmax pmax
comp=Z,177nm,0.4s
MKAR **Makanchi Array** 57.95 314 *e*P P 23 31 44.5 +0.6
comp=Z,177nm,0.4s
MKAR PcP PcP 23 32 28.0 -0.2
MKAR ⇑*e* 00 01 28.6
MAKZ **Makanchi** 58.16 314 *e*P P 23 31 46.1 +0.8
MAKZ pmax pmax
comp=Z,38nm,0.6s
MAKZ **Makanchi** 58.16 314 *e*P P 23 31 46.1 +0.8
comp=Z,38nm,0.6s
NVS **Novosibirsk** 58.63 323 *e*P P 23 31 48.6 +0.3
NVS pmax pmax
comp=Z,24nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
KDAK **Kodiak Island** 59.43 33 P P 23 31 54.5 +0.9
comp=E,4.9nm,0.4s,baz=198,slow=1.9,SNR=34
KDAK **Kodiak Island** 59.43 33 *i* P P 23 31 54.2 +0.6
PDGK **Podgornoye** 59.68 310 *i* P P 23 31 56.0 +0.3
PDGK pmax pmax
comp=Z,23nm,0.5s
OUZ **Omahuta** 60.23 153 *e*P P 23 31 59.8 +0.6
comp=Z,26nm,0.9s
KURK **Kurchatov** 60.77 318 *d* *i* P P 23 32 02.7 +0.1
KURK pmax pmax
comp=Z,367nm,1.0s
KURK **Kurchatov** 60.77 318 *e*P P 23 32 02.6 +0.1
comp=Z,111nm,1.0s
KURK **Kurchatov** 60.77 318 P P 23 32 02.7 +0.1
SNR=33
KURK **Kurchatov** 60.77 318 P P 23 32 02.7 +0.1
SNR=33
PPLA **Purkeypile** 60.92 28 *e*P P 23 32 05.0 +1.5
comp=Z,40nm,1.5s
CAST **Castle Rocks** 61.11 27 *e*P P 23 32 05.9 +1.2
comp=Z,17nm,0.7s
SUA **Susitna One** 61.21 30 *e*P P 23 32 06.4 +1.0
comp=Z,9.3nm,0.7s
NRIK **Noril'sk** 61.22 340 P P 23 32 05.2 0.0
comp=Z,21nm,0.6s,baz=109,slow=8.7,SNR=46
RC01 **Rabit Creek A** 61.60 30 *e*P P 23 32 08.7 +0.8
comp=Z,19nm,0.6s
KTH **Kantishna Hill** 61.65 27 *e*P P 23 32 09.2 +1.0
comp=Z,12nm,1.0s
BPAW **Bear Paw Mtn.** 61.77 27 *e*P P 23 32 10.0 +1.1
comp=Z,12nm,0.5s
TRF **Thorofare Moun** 61.90 27 *e*P P 23 32 10.3 +0.3
comp=Z,12nm,0.9s
PMR **Palmer** 61.99 30 *e*P P 23 32 10.5 +0.2
PMR pmax pmax
comp=Z,11nm,0.7s
PMR **Palmer** 61.99 30 *e*P P 23 32 10.5 +0.2
comp=Z,12nm,0.7s
MLY **Manley** 62.12 26 *e*P P 23 32 12.5 +1.3
comp=Z,11nm,0.8s
KSH **Kashi** 62.33 305 P P 23 32 16.3 +3.1
KSH PcP PcP 23 32 49.4 +3.1
KSH pP pP 23 34 06.1 +0.2
KSH PP PP 23 34 44.1 +4.2
KSH sP sP 23 34 58.9 -7.4
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,160nm,6.3s
SML **Sawmill** 62.41 29 *e*P P 23 32 13.9 +0.8
SML pmax pmax
comp=Z,28nm,1.1s
SML **Sawmill** 62.41 29 *e*P P 23 32 13.9 +0.8
comp=Z,28nm,1.1s
RND **Reindeer** 62.52 28 *e*P P 23 32 14.0 +0.2
RND pmax pmax
comp=Z,53nm,1.9s
RND **Reindeer** 62.52 28 *e*P P 23 32 14.0 +0.2
comp=Z,52nm,1.9s
TKM2 **Tokmak 2** 62.52 309 *i* P P 23 32 14.8 +0.4
TKM2 pmax pmax
comp=Z,13nm,0.5s
HYB **Hyderabad** 62.97 280 *i* P P 23 32 17.0 -0.5
HYB *e* 23 32 49.0
WRH **Wood River Hil** 63.08 27 *e*P P 23 32 17.8 +0.5
comp=Z,18nm,1.4s
DHY **Denali Highway** 63.10 28 *e*P P 23 32 18.4 +0.8
comp=Z,51nm,1.8s
MDM **Murphy Dome** 63.13 26 *e*P P 23 32 18.8 +1.1
comp=Z,9.5nm,0.6s
CCB **Clear Creek Bu** 63.24 26 *e*PcP PcP 23 32 49.2 -0.1
FRU **Bishkek** 63.24 309 *e*P P 23 32 18.0 -0.8
AAK **Ala-Archa** 63.34 309 P P 23 32 19.6 0.0
comp=Z,5.1nm,0.4s,baz=115,slow=5.7,SNR=17
AAK PcP PcP 23 32 50.1 -0.4
comp=Z,6.2nm,0.8s,baz=76,slow=6.1,SNR=6.3
AAK **Ala-Archa** 63.34 309 *e*P P 23 32 20.0 +0.4
AAK 23 32 50.1
AAK pmax pmax
comp=Z,22nm,1.4s
AAK **Ala-Archa** 63.34 309 *e*P P 23 32 20.0 +0.4
comp=Z,22nm,1.4s
AAK PcP PcP 23 32 50.1 -0.4
TOLK **Toolik Lake Re** 63.56 22 P P 23 32 21.7 +1.3
baz=254
PALK **Pallekele** 63.57 269 P P 23 32 21.2 -0.2
comp=Z,8.3nm,0.7s,baz=110,slow=5.6,SNR=6.7
PALK **Pallekele** 63.57 269 *i* P P 23 32 22.7 +1.3
IL1 **Eielson Array** 63.65 26 *e*P P 23 32 20.0 -0.9
ILAR **Eielson Array** 63.65 26 P P 23 32 20.3 -0.7
comp=Z,5.4nm,0.5s,baz=246,slow=6.1,SNR=96
ILB **Eielson Array** 63.65 26 *e*P P 23 32 20.4 -0.7
PAX **Paxson** 63.94 28 *e*P P 23 32 23.9 +1.0
PAX pmax pmax
comp=Z,11nm,0.6s
PAX **Paxson** 63.94 28 *e*P P 23 32 23.9 +1.0
comp=Z,11nm,0.6s
URZ **Urewera** 64.31 152 P P 23 32 25.7 +0.3
comp=Z,8.1nm,0.3s,baz=263,slow=1.1,SNR=17
URZ **Urewera** 64.31 152 *e*P P 23 32 25.8 +0.3
comp=Z,112nm,1.8s
DOT **Dot Lake** 64.67 28 *e*P P 23 32 28.1 +0.7
comp=Z,29nm,0.7s
FYU **Fort Yukon** 64.68 24 *e*P P 23 32 29.1 +1.7
FYU *e*PcP PcP 23 32 50.4 -4.9
BKZ **Black Stump Fm** 64.80 153 *e*P P 23 32 28.9 +0.2
comp=Z,38nm,0.6s
MNAS **Manas** 64.82 309 *i* P P 23 32 29.1 +0.1
MNAS pmax pmax
comp=Z,4.0nm,0.6s
THZ **Tophouse** 65.62 158 *e*P P 23 32 35.2 +1.5
comp=Z,23nm,0.8s
BFZ **Birch Farm** 65.97 155 *e*P P 23 32 36.4 +0.5
comp=Z,46nm,0.5s
BVAR **Borovoye Array** 65.98 320 P P 23 32 36.0 +0.2
comp=Z,52nm,0.6s,baz=99,slow=7.6,SNR=429
BRVK **Borovoye** 66.05 320 *c*e*P P 23 32 36.3 +0.1
BRVK pmax pmax
comp=Z,99nm,0.7s
BRVK **Borovoye** 66.05 320 *e*P P 23 32 36.5 +0.2
comp=Z,41nm,0.6s

BRVK **Borovoye** 66.05 320 P P 23 32 36.4 +0.1
SNR=15
BRVK **Borovoye** 66.05 320 P P 23 32 36.4 +0.1
SNR=15
EGAK **Eagle** 66.08 27 *e*P P 23 32 37.2 +1.0
comp=Z,15nm,1.3s
FOZ **Fox Glacier** 66.15 161 *e*P P 23 32 38.2 +1.4
comp=Z,40nm,0.9s
KK31 **Karatay Array** 66.24 309 *i* P P 23 32 37.7 0.0
KK31 pmax pmax
comp=Z,18nm,0.5s
KKAR **Karatay Array** 66.24 309 *e*P P 23 32 38.0 +0.3
KKAR pmax pmax
comp=Z,284nm,0.6s
KKAR **Karatay Array** 66.24 309 *e*P P 23 32 38.0 +0.3
comp=Z,284nm,0.6s
LTZ **Lake Taylor** 66.29 159 *e*P P 23 32 38.5 +0.7
comp=Z,67nm,1.6s
OXZ **Oxford** 66.69 159 *e*P P 23 32 40.2 0.0
comp=Z,35nm,0.6s
RPZ **Rata Peaks** 66.71 160 P P 23 32 40.0 -0.3
comp=Z,48nm,0.7s,baz=235,slow=1.0,SNR=27
RPZ **Rata Peaks** 66.71 160 *e*P P 23 32 40.4 +0.1
comp=Z,46nm,0.7s
LBZ **Lake Benmore** 67.03 161 *e*P P 23 32 42.9 +0.6
comp=Z,27nm,0.7s
POO **Poona** 67.08 283 *ex* P 23 32 48.0 +4.7
HYT **Haines Junctio** 67.48 31 *e*P P 23 32 47.5 +2.4
comp=Z,74nm,1.9s
KBL **Kabul** 68.33 300 *e*P P 23 32 51.0 +0.1
KBL pmax pmax
comp=Z,53nm,1.1s
KBL **Kabul** 68.33 300 *e*P P 23 32 51.0 +0.1
comp=Z,52nm,1.1s
INK **Inuvik** 69.35 23 P P 23 32 56.5 +0.5
comp=Z,6.3nm,0.6s,baz=293,slow=5.5,SNR=21
SVE **Sverdlovsk** 71.40 325 *c* *i* P P 23 33 08.7 +0.3
SVE pmax pmax
comp=Z,39nm,1.1s
ARU **Arti** 72.59 324 P P 23 33 15.3 +0.1
comp=Z,40nm,0.5s,baz=90,slow=3.7,SNR=129
ARU **Arti** 72.59 324 *c* *i* P P 23 33 15.2 -0.1
ARU *PP pP 23 35 11.8 -1.1
ARU 23 36 04.5
ARU S S 23 41 55.4 +0.8
ARU SS SS 23 46 46.1 -2.9
ARU pmax pmax
comp=Z,42nm,0.6s
ARU **Arti** 72.59 324 *e*P P 23 33 14.8 -0.4
comp=Z,52nm,0.6s
ABKAR **Akbulak array** 72.83 317 *e*P P 23 33 16.6 -0.2
SOKR **Solikamsk** 73.07 328 *e*P P 23 33 16.2 -1.7
SOKR pmax pmax
comp=Z,15nm,0.6s
AKTO **Aktyubinsk** 73.86 318 P P 23 33 22.2 -0.4
comp=Z,12nm,0.6s,baz=91,slow=8.0,SNR=35
AKTO **Aktyubinsk** 73.86 318 *i* P P 23 33 21.8 -0.9
AKTO pmax pmax
comp=Z,11nm,0.6s
GEYT **Alibeck** 76.36 306 P P 23 33 36.8 -0.1
comp=Z,10nm,0.7s,baz=96,slow=1.5,SNR=30
NLWA **Neilton Lookou** 76.94 44 *e*P P 23 33 40.9 +1.1
comp=Z,17nm,0.9s
E03A **Lebam** 77.35 45 *e*P P 23 33 43.7 +1.7
comp=Z,27nm,1.0s
HDW **Hoodsport** 77.41 44 P P 23 33 44.5 +2.1
LLLB **Lillooet** 77.43 41 *e*P P 23 33 44.1 +1.7
comp=Z,7.5nm,0.9s
CMW **Cultus Mountai** 77.83 43 P P 23 33 46.4 +1.6
G03D **McMinnville, O** 77.88 46 P P 23 33 46.1 +1.2
baz=285
B05A **Bryant** 77.88 43 P P 23 33 45.8 +1.0
baz=285
YKA **Yellowknife Ar** 78.01 28 P P 23 33 45.7 +0.5
comp=Z,6.3nm,0.4s,baz=287,slow=5.1,SNR=98
I03D **Drain, OR** 78.20 48 P P 23 33 47.6 +0.9
baz=285
D05A **Enumclaw** 78.23 44 *e*P P 23 33 46.6 -0.1
comp=Z,16nm,0.6s
TDL **Tradedollar La** 78.30 45 P P 23 33 48.9 +1.6
L02D **Cave Junction,** 78.42 49 P P 23 33 48.5 +0.6
baz=285
LON **Longmire** 78.46 44 *e*P P 23 33 49.3 +1.2
LON pmax pmax
comp=Z,14nm,1.4s
LON **Longmire** 78.46 44 *e*P P 23 33 49.3 +1.2
comp=Z,14nm,1.4s
HUMO **Hull Mountain** 78.77 49 *e*P P 23 33 51.3 +1.5
comp=Z,54nm,1.8s
M02C **Callahan** 79.16 50 P P 23 33 52.8 +0.9
baz=286
YBH **Yreka Blue Hor** 79.17 50 *e*P P 23 33 53.7 +1.7
YBH pmax pmax
comp=Z,9.0nm,0.6s
YBH **Yreka Blue Hor** 79.17 50 *e*P P 23 33 53.7 +1.7
comp=Z,8.7nm,0.6s
J04D **Umpqua Nationa** 79.20 48 P P 23 33 53.1 +0.8
baz=286,SNR=7.0
ETW **Entiat** 79.20 43 P P 23 33 53.0 +0.9
N02D **Trinity Center** 79.38 50 P P 23 33 54.3 +1.2
baz=286
I05D **Terrebonne, OR** 79.43 47 P P 23 33 54.5 +1.3
baz=286
WDC **Whiskeytown Da** 79.61 51 *e*P P 23 33 55.6 +1.4
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC **Whiskeytown Da** 79.61 51 *e*P P 23 33 55.6 +1.4
comp=Z,8.6nm,1.0s
K04D **Chiloquin, OR** 79.62 49 P P 23 33 55.6 +1.2
baz=286,SNR=6.2
B08A **Colville Reser** 79.63 42 *e*P P 23 33 55.0 +0.8
comp=Z,13nm,0.8s
WSAR **Wadi Sarin** 79.69 291 P P 23 33 55.0 0.0
comp=Z,8.3nm,0.7s,baz=121,slow=5.7,SNR=15
M04C **Macdoel** 79.79 49 P P 23 33 56.3 +1.1
baz=286,SNR=5.4
J05D **Fort Rock, OR** 79.80 48 P P 23 33 56.1 +0.7
baz=286,SNR=21
E07A **Sunnyside** 79.81 44 *e*P P 23 33 56.8 +1.6
comp=Z,9.4nm,0.8s
LVZ **Lovozero** 80.04 339⇑ *e*P P 23 33 55.5 -0.4
LVZ pmax pmax
comp=Z,51nm,1.9s
HAWA **Hanford** 80.07 44 *e*P P 23 33 57.7 +1.2
comp=Z,8.2nm,0.9s
O03D **Paynes Creek** 80.23 51 P P 23 33 58.4 +0.8
baz=287
D08A **Wollman Farm,** 80.28 44 *e*P P 23 33 58.7 +1.1
comp=Z,12nm,1.1s
TMCR **Tamitsa** 80.35 335 *e*P P 23 33 56.7 -0.8
TMCR pmax pmax
comp=Z,56nm,0.9s
LBCM **Butte Creek Ri** 80.41 50 P P 23 33 59.7 +1.1
ORV **Oroville** 80.67 51 *e*P P 23 34 00.5 +0.8
ORV pmax pmax
comp=Z,24nm,1.4s
ORV **Oroville** 80.67 51 *e*P P 23 34 00.5 +0.8
comp=Z,24nm,1.4s
MOD **Modoc Plateau** 80.85 49 *e*P P 23 34 01.9 +1.1
comp=Z,6.7nm,0.6s
KLMR **Klimovskoe** 81.02 331 *e*P P 23 33 59.2 -1.8
KLMR *e* 23 37 15.2
KLMR pmax pmax
comp=Z,40nm,1.2s
NEW **Newport** 81.07 42 P P 23 34 02.7 +1.0
baz=288
AFDM **Forest Hills D** 81.23 52 *e*P P 23 34 03.8 +1.1
comp=Z,9.1nm,0.9s
BEKR **Beckworth** 81.42 51 *e*P P 23 34 05.0 +1.2
comp=Z,13nm,0.8s
HATD **Hatta, Dubai** 81.43 293 *i* P P 23 34 04.5 +0.5
SNR=10
ASHO **Ashiyiah** 81.54 293 P P 23 34 04.7 +0.1
SNR=9.0
ASHO **Ashiyiah** 81.54 293 P P 23 34 04.7 +0.1
SNR=9.0
NAZ **Nazwa, Dubai** 81.80 294 *i* P P 23 34 06.0 +0.2
SNR=7.1
WVOR **Wild Horse Val** 81.87 48 *e*P P 23 34 07.4 +1.4
WVOR pmax pmax
comp=Z,9.0nm,0.8s
WVOR **Wild Horse Val** 81.87 48 *e*P P 23 34 07.4 +1.4
comp=Z,9.5nm,0.8s
FAQ **Al Faqa, Dubai** 81.93 293 *i* P P 23 34 06.5 +0.1
SNR=11
HAMF **Hammerfest** 82.00 343 *e*P P 23 34 04.4 -1.4
BMO **Blue Mountains** 82.03 45 *e*P P 23 34 07.7 +1.0

BMO pmax pmax
comp=Z,17nm,1.1s
BMO Blue Mountains 82.03 45 *e*P **P 23 34 07.7 +1.0**
comp=Z,17nm,1.1s
ARA0 ARCESS Array S 82.12 342 *e*P **P 23 34 06.2 -0.3**
ARCES ARCESS Array B 82.12 342 P **P 23 34 06.2 -0.3**
comp=Z,18nm,0.7s,baz=87,slow=7.7,SNR=76
ARCES PKKPbc **PKKPbc 23 52 29.9 -3.2**
comp=Z,12nm,1.2s,baz=237,slow=3.8,SNR=5.0
ARE0 ARCESS Array S 82.12 342 *e*P **P 23 34 06.2 -0.3**
PAHR Pah Rah Range 82.18 51 *e*P **P 23 34 08.9 +1.3**
comp=Z,5.4nm,0.8s
PNTR Pine Nut 82.21 51 *e*P **P 23 34 09.4 +1.5**
comp=Z,19nm,1.0s
YERR Yerington 82.51 51 *e*P **P 23 34 11.0 +1.6**
comp=Z,14nm,0.5s
WAKR Walker 82.51 52 *e*P **P 23 34 11.2 +1.8**
comp=Z,12nm,0.6s
BSMT Bassoo Peak 82.69 42 *e*P **P 23 34 11.5 +1.4**
PAGB Antelope Grade 82.75 55 *e*P **P 23 34 12.3 +1.9**
comp=Z,15nm,1.0s
WALA Waterton Lakes 82.81 41 *e*P **P 23 34 12.3 +1.7**
JTMT Jette 83.04 42 *e*P **P 23 34 12.9 +1.1**
KTK1 Kautokeino 83.08 342 *e*P **P 23 34 09.9 -1.4**
YBMT Yellow Bay 83.17 42 *e*P **P 23 34 13.4 +0.9**
LKRN Lenkeran, Azer 83.20 308 P **P 23 34 11.3 -1.3**
SWMT Swartz Lake 83.30 42 *e*P **P 23 34 13.7 +0.6**
PKM Mcpherson Peak 83.35 56 P **P 23 34 14.5 +0.8**
baz=288
MFID Camas Ranch 83.51 46 *e*P **P 23 34 15.5 +1.3**
comp=Z,33nm,0.8s
BMN Battle Mountai 83.52 50 *e*P **P 23 34 15.9 +1.5**
BMN pmax pmax
comp=Z,14nm,1.3s
BMN Battle Mountai 83.52 50 *e*P **P 23 34 15.9 +1.5**
comp=Z,14nm,1.3s
SEKA Sheki 83.54 311 P **P 23 34 12.5 -1.8**
MSO Missoula 83.58 43 P **P 23 34 14.8 +0.3**
baz=291
VES Vestal, Richgr 83.62 54 P **P 23 34 15.1 +0.4**
baz=289
MNGR Mingechevir, A 83.77 311 P **P 23 34 14.1 -1.2**
ZKTA Zakatala 83.81 312 P **P 23 34 14.2 -1.4**
TRO Tromso 83.91 344 *e*P **P 23 34 18.8 +3.4**
TRO IAmb IAmb 23 34 19.6
comp=Z,31nm,0.7s
CHMT Chamberlain Mo 83.99 42 P **P 23 34 17.1 +0.4**
DAG Danmarks Havn 84.00 356 *i* P **P 23 34 15.2 -0.6**
comp=Z,16nm,0.7s
DAG Danmarks Havn 84.00 356 *i* P **P 23 34 15.2 -0.6**
DAG pmax pmax
comp=Z,11nm,0.7s
CWC Cottonwood Cre 84.19 54 P **P 23 34 18.3 +0.5**
baz=289
GANJ Ganja 84.36 311 P **P 23 34 16.8 -1.5**
HLID Hailey 84.42 46 P **P 23 34 19.5 +0.7**
baz=291
HLID Hailey 84.42 46 *e*P **P 23 34 19.9 +1.1**
comp=Z,17nm,1.0s
GRAC Grapevine Rang 84.55 53 P **P 23 34 20.4 +1.0**
baz=290
DGRG David-gareji 84.75 312 P **P 23 34 21.7 +1.4**
DGRG David-gareji 84.75 312 P **P 23 34 21.7 +1.4**
MPMC Manual Prospec 84.77 54 P **P 23 34 21.5 +0.8**
baz=290,SNR=16
EDW2 Edwards Air Fo 84.77 55 P **P 23 34 21.7 +1.2**
baz=289
OBN Obninsk 84.81 327⇓*e*P **P 23 34 19.0 -1.1**
OBN *e**PP **pP 23 36 23.3 +0.6**
OBN pmax pmax
comp=Z,19nm,1.2s
LRMC Laurel Mtn Rad 84.81 54 P **P 23 34 21.6 +0.8**
baz=290
LRM Limekiln Ridge 84.91 43 *e*P **P 23 34 22.0 +0.8**
HRY Holter Researc 84.97 42 *e*P **P 23 34 22.2 +0.9**
DLMT Dillon 84.98 44 *e*P **P 23 34 22.4 +0.9**
comp=Z,10nm,1.3s
MCMT McKenzie Canyo 85.02 44 *e*P **P 23 34 22.8 +1.0**
GUDG Gudauri 85.02 313 P **P 23 34 21.7 -0.1**
VSR Storozhevoye 85.04 323 *e*P **P 23 34 19.4 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.5s
TBLG Delisi 85.10 312 P **P 23 34 21.4 -0.5**
TBLG Delisi 85.10 312 P **P 23 34 21.4 -0.5**
FURC Furnace Creek, 85.11 53 P **P 23 34 23.4 +1.4**
baz=290,SNR=11
BFSC Mount Baldy Ra 85.25 56 P **P 23 34 23.4 +0.5**
baz=290
NCK Nalchik 85.25 314⇓*e*P **P 23 34 21.9 -0.7**
NCK pmax pmax
comp=Z,28nm,0.7s
ZEI Tsey 85.30 314 *e*P **P 23 34 21.4 -1.7**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
TPNV Topopah Spring 85.41 53 P **P 23 34 24.6 +1.0**
baz=290,SNR=31
TPNV Topopah Spring 85.41 53 *e*P **P 23 34 24.7 +1.0**
TPNV pmax pmax
comp=Z,43nm,1.3s
TPNV Topopah Spring 85.41 53 *e*P **P 23 34 24.7 +1.0**
comp=Z,43nm,1.3s
R11A Troy Canyon, C 85.42 51 P **P 23 34 24.8 +1.1**
baz=290,SNR=14
R11A Troy Canyon, C 85.42 51 *e*P **P 23 34 24.8 +1.1**
BOZ Bozeman (W) 85.53 43 P **P 23 34 24.0 -0.1**
baz=293
BOZ Bozeman (W) 85.53 43 *e*P **P 23 34 24.3 +0.3**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 85.53 43 *e*P **P 23 34 24.3 +0.3**
comp=Z,3.7nm,0.8s
GSC Goldstone, Bar 85.55 54 P **P 23 34 25.2 +0.9**
baz=290,SNR=9.2
GSC Goldstone, Bar 85.55 54 *e*P **P 23 34 25.4 +1.1**
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone, Bar 85.55 54 *e*P **P 23 34 25.4 +1.1**
comp=Z,13nm,0.9s
KBZ Khabaz 85.63 315 P **P 23 34 23.6 -0.7**
comp=Z,12nm,0.9s,baz=142,slow=2.3,SNR=20
GNI Garni 85.66 311⇑*e*P **P 23 34 26.3 +1.5**
GNI pmax pmax
comp=Z,27nm,1.1s
ONI Oni 85.68 314 P **P 23 34 24.4 -0.3**
ONI Oni 85.68 314 P **P 23 34 24.4 -0.3**
KIV Kislovodsk 85.69 315 P **P 23 34 23.7 -1.0**
KIV Kislovodsk 85.69 315 *e*P **P 23 34 23.8 -1.0**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 85.69 315 *e*P **P 23 34 23.8 -1.0**
comp=Z,16nm,0.9s
EGMT Eagleton 85.76 41 P **P 23 34 24.7 -0.3**
baz=294
EGMT Eagleton 85.76 41 *e*P **P 23 34 24.1 -1.0**
comp=Z,22nm,1.4s
MURC Murrieta 85.82 56 P **P 23 34 25.5 0.0**
baz=290
QLMT Earthquake Lak 85.95 44 *e*P **P 23 34 27.9 +1.7**
STEI Steigen 86.05 343 *e*P **P 23 34 25.3 -0.5**
STEI IAmb IAmb 23 34 26.2
comp=Z,27nm,0.8s
BGD Bogdanovka 86.06 312 P **P 23 34 27.1 +0.4**
HEC Hector,Ludlow 86.07 55 P **P 23 34 27.6 +0.9**
baz=290
TUQ Turquoise Moun 86.18 54 P **P 23 34 28.5 +1.2**
baz=290,SNR=12
HVU Hansel Valley 86.20 47 *e*P **P 23 34 28.9 +1.6**
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 86.20 47 *e*P **P 23 34 28.9 +1.6**
comp=Z,14nm,1.1s
YHH Holmes Hill 86.35 44 *e*P **P 23 34 29.6 +1.5**
comp=Z,3.2nm,0.6s
SHPR Sheep Range 86.38 53 *e*P **P 23 34 29.8 +1.5**
comp=Z,12nm,0.8s
PFO Pinyon Flats O 86.40 56 P **P 23 34 29.3 +0.8**
baz=290,SNR=6.2
PFO Pinyon Flats O 86.40 56 *e*P **P 23 34 29.2 +0.8**
PFO pmax pmax
comp=Z,17nm,1.2s
PFO Pinyon Flats O 86.40 56 *e*P **P 23 34 29.2 +0.8**
comp=Z,17nm,1.2s
TPFO Pinon Flats 86.40 56 P **P 23 34 29.1 +0.7**
baz=290,SNR=6.7
FIA1 FINESS Array S 86.47 335 *e*P **P 23 34 26.5 -1.4**
FINES FINESS Array B 86.47 335 P **P 23 34 26.4 -1.5**
comp=Z,16nm,0.6s,baz=63,slow=4.6,SNR=121
SPUT South Promonto 86.60 47 *e*P **P 23 34 30.4 +1.2**
comp=Z,14nm,1.3s
GMRC Granite Mounta 86.61 54 P **P 23 34 30.5 +1.1**
baz=291,SNR=20
BELC Belle Mtn. Jos 86.62 55 P **P 23 34 30.3 +0.8**
baz=291,SNR=17
IMW Indian Meadow 86.64 45 *e*P **P 23 34 30.9 +1.4**
comp=Z,18nm,1.6s
MONP2 Monument Peak 86.67 56 P **P 23 34 30.8 +1.0**
baz=290,SNR=8.7
FXWY Fox Creek 86.68 45 *e*P **P 23 34 31.2 +1.5**
comp=Z,3.4nm,1.0s
DUG Dugway, Tooele 86.76 49 P **P 23 34 30.9 +0.9**
baz=292
DUG Dugway, Tooele 86.76 49 *e*P **P 23 34 31.2 +1.2**
DUG pmax pmax
comp=Z,12nm,0.8s
DUG Dugway, Tooele 86.76 49 *e*P **P 23 34 31.2 +1.2**
comp=Z,12nm,0.8s
TPAW Teton Pass 86.79 45 *e*P **P 23 34 31.8 +1.5**
comp=Z,3.7nm,0.8s
MOOW Moose Ponds 86.82 45 *e*P **P 23 34 32.9 +2.6**
comp=Z,2.6nm,0.8s
IKP In-Ko-Pah, Jac 87.00 57 P **P 23 34 32.1 +0.9**
baz=291
SWSC Sam W. Stewart 87.15 56 P **P 23 34 32.6 +0.9**
baz=291
FFC Flin Flon 87.16 32 *e*P **P 23 34 32.0 +0.7**
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 87.16 32 *e*P **P 23 34 32.0 +0.7**
comp=Z,17nm,0.9s
BC3 Big Chuckawall 87.17 55 P **P 23 34 33.0 +1.0**
baz=291,SNR=14
IRM Iron Mountain 87.23 55 P **P 23 34 33.0 +0.8**
baz=291,SNR=14
RLMT Red Lodge 87.24 43 P **P 23 34 33.1 +0.9**
baz=294
RLMT Red Lodge 87.24 43 *e*P **P 23 34 33.6 +1.3**
comp=Z,31nm,1.8s
ARTV Artvin 87.26 313 *e*P **P 23 34 32.0 -0.4**
comp=Z,8.0nm,0.8s
CCUT Cedar City 87.35 51 *e*P **P 23 34 34.4 +1.5**
comp=Z,24nm,1.5s
NLU North Lily Min 87.38 49 *e*P **P 23 34 34.0 +1.0**
comp=Z,8.6nm,1.0s
MOR8 Moi Rana 87.49 342 *e*P **P 23 34 29.9 -2.8**
SZCU Shurtz Canyon 87.53 51 *e*P **P 23 34 35.4 +1.6**
comp=Z,6.1nm,0.6s
JLU Jordanelle 87.57 48 *e*P **P 23 34 35.3 +1.4**
comp=Z,11nm,1.2s
LCMT Little Creek M 87.63 52 *e*P **P 23 34 35.6 +1.5**
comp=Z,32nm,1.5s
MSU Marysvale 87.85 50 *e*P **P 23 34 36.7 +1.5**
MSU Marysvale 87.85 50 *e*P **P 23 34 36.7 +1.5**
VSU Vasula 87.86 332 *ce*P **P 23 34 33.7 -0.8**
VSU pmax pmax
comp=Z,73nm,0.9s
Y12C Blythe 87.86 55 P **P 23 34 36.4 +1.4**
baz=291,SNR=5.8
Y12C Blythe 87.86 55 *e*P **P 23 34 36.5 +1.4**
GLA Glamis 87.87 56 P **P 23 34 36.6 +1.4**
baz=291,SNR=8.0
GLA Glamis 87.87 56 *e*P **P 23 34 36.7 +1.5**
GLA pmax pmax
comp=Z,17nm,0.6s
GLA Glamis 87.87 56 *e*P **P 23 34 36.7 +1.5**
comp=Z,17nm,0.6s
KNB Kanab 87.95 52 *e*P **P 23 34 37.4 +1.7**
KNB pmax pmax
comp=Z,18nm,0.9s
KNB Kanab 87.95 52 *e*P **P 23 34 37.4 +1.7**
comp=Z,18nm,0.9s
PDMCI Parker Dam,Lak 87.95 54 P **P 23 34 36.7 +1.2**
baz=292,SNR=9.1
BW06 Boulder Array 88.01 45 P **P 23 34 36.5 +0.6**
baz=294
BW06 Boulder Array 88.01 45 *e*P **P 23 34 36.5 +0.6**
PD31 Pinedale Array 88.01 45 *e*P **P 23 34 36.4 +0.5**
PDAR Pinedale Array 88.01 45 P **P 23 34 36.3 +0.4**
comp=Z,0.8nm,0.4s,baz=156,slow=0.6,SNR=12
PKCU Pink Cliffs 88.16 51 *e*P **P 23 34 37.3 +0.5**
comp=Z,8.2nm,0.7s
TMUT Trail Mountain 88.25 49 *e*P **P 23 34 37.6 +0.4**
comp=Z,4.6nm,0.8s
LAO LASA Array 88.50 41 P **P 23 34 38.3 +0.4**
baz=296
LAO LASA Array 88.50 41 *e*P **P 23 34 38.3 +0.4**
comp=Z,15nm,0.9s
P17A Butcher Ranch, 88.51 49 *e*P **P 23 34 38.8 +0.6**
comp=Z,8.5nm,0.8s
SUMG Summit 88.69 1 *i* P **P 23 34 39.4 +0.8**
comp=Z,6.0nm,0.8s
SUMG Summit 88.69 1 *i* P **P 23 34 39.4 +0.8**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
ANN Anapa 88.79 317 *e*P P 23 34 30.9 -8.2
ANN *e**PP pP 23 36 33.3 -10
ANN *e* 23 38 13.2
ANN pmax pmax
comp=Z,76nm,1.4s
P18A Preston Nutter 88.80 48 *e*P **P 23 34 40.1 +0.4**
comp=Z,8.6nm,0.7s
SRU San Rafael Swe 88.81 49 *e*P **P 23 34 40.6 +0.9**
SRU San Rafael Swe 88.81 49 *e*P **P 23 34 40.6 +0.9**
DGMT Dagmar 88.92 39 P **P 23 34 39.5 -0.3**
baz=298
Y14A Wickenburg 88.96 54 *e*P **P 23 34 41.7 +1.4**
MARD Mardin 89.60 309 *e*P **P 23 34 42.8 -0.5**
WUAZ Wupatki 89.60 53 P **P 23 34 44.2 +0.8**
baz=293
WUAZ Wupatki 89.60 53 *e*P **P 23 34 45.2 +1.8**
comp=Z,9.6nm,0.9s
NACGM Naroch 89.81 329 *e* **P 23 34 42.0 -1.7**
214A Organ Pipe Nat 89.86 56 P **P 23 34 45.2 +0.8**
baz=292
O20A White River Ci 90.00 47 P **P 23 34 45.6 +0.5**
baz=295
O20A White River Ci 90.00 47 *e*P **P 23 34 46.1 +1.0**
PV09 Paradox Valley 90.05 49 *e*P **P 23 34 46.8 +1.3**
K22A Casper 90.09 44 P **P 23 34 45.9 +0.4**
baz=296
K22A Casper 90.09 44 *e*P **P 23 34 46.4 +0.9**
PV01 Paradox Valley 90.60 49 *e*P **P 23 34 48.6 +0.6**
AKASG Malin Array Be 90.83 325 P **P 23 34 46.3 -2.1**
comp=Z,1.0nm,0.5s,baz=50,slow=5.4,SNR=11
KIEV Kiev 90.84 325⇑*e*P **P 23 34 46.7 -1.8**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 91.03 295 *e*P **P 23 34 48.8 -1.2**
RSSD Black Hills 91.04 42 P **P 23 34 49.9 0.0**
baz=298
RSSD Black Hills 91.04 42 *e*P **P 23 34 50.4 +0.5**
RSSD Black Hills 91.04 42 *e*P **P 23 34 50.4 +0.5**
MVCO Mesa Verde 91.04 50 P **P 23 34 50.4 +0.3**
baz=295
MVCO Mesa Verde 91.04 50 *e*P **P 23 34 51.1 +1.0**
X18A Snowflake 91.06 53 *e*P **P 23 34 51.5 +1.3**
N23A Red Feather La 91.25 46 P **P 23 34 51.7 +0.7**
baz=296
N23A Red Feather La 91.25 46 *e*P **P 23 34 52.8 +1.8**
SMCO Snowmass 91.29 48 *e*P **P 23 34 52.4 +1.0**
TUC Tucson 91.31 55 P **P 23 34 52.3 +1.1**
baz=293
TUC Tucson 91.31 55 *e*P **P 23 34 52.7 +1.5**
TUC Tucson 91.31 55 *e*P **P 23 34 52.7 +1.5**
MDND Maddock 91.91 38 P **P 23 34 54.5 +1.0**
baz=301
NC405 NORSAR Array S 91.96 339 *e*P **P 23 34 52.2 -1.2**
ISCO Idaho Springs 91.96 47 P **P 23 34 54.6 +0.3**
baz=297
ISCO Idaho Springs 91.96 47 *e*P **P 23 34 54.8 +0.4**
ISCO Idaho Springs 91.96 47 *e*P **P 23 34 54.8 +0.4**
S22A 4UR Ranch, Cre 92.01 49 P **P 23 34 55.3 +0.7**
baz=296
S22A 4UR Ranch, Cre 92.01 49 *e*P **P 23 34 55.6 +1.0**
NB2 NORSAR Subarra 92.18 339 P **P 23 34 52.9 -1.6**
comp=Z,2.1nm,0.6s,baz=44,slow=4.6
NB2 NORSAR Subarra 92.18 339 P **P 23 34 52.9 -1.6**
baz=44,slow=4.6
NOA NORSAR Array B 92.18 339 P **P 23 34 52.2 -2.4**
comp=Z,2.4nm,0.6s,baz=55,slow=6.7,SNR=12
Q24A Divide 92.66 47 P **P 23 34 58.0 +0.5**
baz=297
ULM Lac du Bonnet 92.68 34 P **P 23 34 56.6 -0.4**
comp=Z,3.2nm,0.8s,baz=332,slow=17,SNR=2.6
SDCO Great Sand Dun 92.96 49 P **P 23 34 59.4 +0.4**
baz=297
SDCO Great Sand Dun 92.96 49 *e*P **P 23 34 59.1 +0.1**
C31A Landman Farms, 93.01 37 P **P 23 34 58.7 +0.2**
baz=303
ANMO Albuquerque 93.50 51 P **P 23 35 01.9 +0.5**
baz=296
ANMO Albuquerque 93.50 51⇓*e*P **P 23 35 02.0 +0.6**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
121A Cookes Peak, D 93.53 54 P **P 23 35 02.8 +1.3**
baz=295
BR131 Keskin Array S 93.60 314 *e*P **P 23 35 00.1 -1.6**
BRTR Keskin Array B 93.60 314 P **P 23 35 00.2 -1.4**
comp=Z,5.5nm,0.7s,baz=87,slow=3.3,SNR=33
BRTR PKKPbc **PKKPbc 23 52 04.5 -0.1**
comp=Z,1.0nm,0.6s,baz=229,slow=3.1,SNR=5.8
A33A Warroad 93.68 35 P **P 23 35 03.6 +2.0**
baz=304
T25A Trinidad 94.01 49 P **P 23 35 02.9 -0.7**
baz=297
ANTO Ankara 94.10 314 *e*P **P 23 35 03.3 -0.5**
ANTO Ankara 94.10 314 *e*P **P 23 35 03.3 -0.5**
BUR08 Bucovina Ar. S 94.72 324 *e*P **P 23 35 05.5 -1.0**
J32A Parkston 95.30 41 P **P 23 35 09.0 -0.1**
baz=302
MNTX Cornudas Mount 95.73 54 P **P 23 35 11.5 +0.2**
baz=296
MNTX Cornudas Mount 95.73 54 *e*P **P 23 35 11.6 +0.3**
ECSD EROS Data Cent 95.86 40 P **P 23 35 11.1 -0.5**
baz=303
VNDA Vanda 96.75 176 P **P 23 35 14.3 -0.3**
comp=Z,1.5nm,0.8s,baz=346,slow=8.7,SNR=2.5
VYHS Vyhne 97.60 327 *i* P Pdif 23 35 18.5 -0.8
VYHS Vyhne 97.60 327 *e*PDIFF Pdif 23 35 18.5 -0.8
TXAR Lajitas Array 98.11 55 P **P 23 35 22.8 +0.6**
comp=Z,0.5nm,0.5s,baz=288,slow=3.3,SNR=7.9
TXAR PKiKP **PKiKP 23 39 48.9 -2.5**
comp=Z,0.4nm,0.8s,baz=302,slow=2.8,SNR=3.5
TXAR PKKPbc **PKKPdf 23 51 53.0 -0.4**
comp=Z,1.0nm,0.6s,baz=128,slow=5.7,SNR=14
GERES GERESS Array B 99.91 330 P **Pdif 23 35 28.2 -1.4**
comp=Z,0.5nm,0.5s,baz=54,slow=6.8,SNR=5.1
GERES PKiKP **PKiKP 23 39 54.1 0.0**
comp=Z,0.3nm,0.5s,baz=74,slow=3.5,SNR=4.6
MAW Mawson 104.44 203 Pdiff **Pdif 23 35 50.2 +1.2**
comp=Z,1.9nm,0.7s,baz=107,slow=5.4,SNR=7.7
QSPA South Pole Qui 108.74 180 *e*PKP **PKiKP 23 40 09.1 -0.5**
KEST Kesra 111.40 322 PKiKP **PKiKP 23 40 14.8 -1.0**
comp=Z,2.6nm,0.8s,baz=286,slow=7.4,SNR=3.5
PBRG Braganca 114.22 337 *e*PKPdf PKPdf 23 40 20.8 -0.1
PCAB Cabril 114.76 338 *e*PKPdf PKPdf 23 40 22.6 +0.7
MVO Moncorvo 114.88 337 *e*PKPdf PKPdf 23 40 22.1 -0.1
ESDC Sonseca Array 114.96 334 PKP PKPdf 23 40 22.2 -0.2
comp=Z,0.6nm,0.4s,baz=6.8,slow=2.8,SNR=12
ESDC PKKPbc **PKKPbc 23 51 01.1 -0.6**
comp=Z,0.8nm,0.7s,baz=240,slow=2.5,SNR=8.8
ESDC PKKPab **PKKPab 23 51 09.8 -0.6**
comp=Z,2.3nm,0.9s,baz=220,slow=4.8,SNR=16
POLO Lamas de Olo 114.97 338 *e*PKPdf PKPdf 23 40 22.6 +0.2
PVRL Vila Real 115.03 338 *e*PKPdf **PKPdf 23 40 22.7 +0.2**
MTE Manteigas 115.74 337 *e*PKPdf **PKPdf 23 40 24.1 +0.2**
PCBR Castelo Branco 116.20 337 *e*PKPdf **PKPdf 23 40 24.9 +0.2**
PCAS Casmilo, Conde 116.39 338 *e*PKPdf **PKPdf 23 40 25.0 -0.1**
PMRV Marv??o 116.53 336 *e*PKPdf **PKPdf 23 40 24.7 -0.7**
PTOM Tomar 116.74 337 *e*PKPdf **PKPdf 23 40 26.0 +0.2**
PESTR Estremoz 117.10 336 *e*PKPdf **PKPdf 23 40 26.1 -0.4**
PMTG Montargil 117.16 337 *e*PKPdf **PKPdf 23 40 26.5 -0.1**
PBAR Barrancos 117.48 336 *e*PKPdf **PKPdf 23 40 27.0 -0.2**
EVO Evora 117.55 336 *e*PKPdf **PKPdf 23 40 27.4 +0.1**
PBEJ Beja 117.94 336 *e*PKPdf **PKPdf 23 40 28.4 +0.3**
PNCL Nicolau / Gran 118.11 337 *e*PKPdf **PKPdf 23 40 28.5 +0.1**
PCVE Castro Verde 118.35 336 *e*PKPdf **PKPdf 23 40 29.4 +0.5**
LSZ Lusaka 119.94 263 PKP **PKPdf 23 40 33.3 +0.7**
comp=Z,40nm,0.7s,baz=64,slow=2.2
MATP Matopo 120.70 257 PKP **PKPdf 23 40 33.8 -0.2**
comp=Z,4.3nm,0.3s,baz=108,slow=0.9,SNR=39
LBTB Lobatse 124.03 252 PKP **PKPdf 23 40 40.5 +0.3**
comp=Z,3.3nm,0.3s,baz=159,slow=0.8,SNR=36
SNAA Sanae 124.05 192 PKP **PKPdf 23 40 38.7 -0.2**
SNAA Sanae 124.05 192 PKP **PKPdf 23 40 38.7 -0.2**
comp=Z,11nm,0.6s,baz=199,slow=3.0,SNR=130
SNAA Sanae 124.05 192 *e*PKPdf **PKPdf 23 40 38.5 -0.3**
BOSA Boshof 124.67 248 PKP **PKPdf 23 40 41.2 -0.1**
comp=Z,1.4nm,0.3s,baz=137,slow=1.7,SNR=9.9
VNA2 Neumayer--Watz 125.51 191 PKP **PKPdf 23 40 41.9 +0.3**
baz=104,slow=0.5
VNA3 Neumayer Olymp 125.62 190 PKP **PKPdf 23 40 41.9 +0.1**
VNA1 Neumayer--Stat 125.89 191 PKP **PKPdf 23 40 43.4 +1.1**
TSUM Tsumeb 130.63 261 SKPbc **SKPbc 23 43 23.1 -1.0**
comp=Z,9.7nm,0.8s,baz=44,slow=5.1,SNR=11
TORD Torodi Ar. Bea 131.93 309 PKP **PKPdf 23 40 54.8 -0.7**
comp=Z,2.3nm,0.5s,baz=42,slow=1.6,SNR=12
TORD SKPbc **SKPbc 23 43 26.9 -1.8**
comp=Z,3.5nm,0.7s,baz=45,slow=3.2,SNR=12
TORD SKP 23 43 34.0
comp=Z,1.6nm,0.8s,baz=42,slow=4.3,SNR=4.7
DBIC Dimbokro 141.02 308 PKhKP PKPpre 23 41 06.1
comp=Z,5.3nm,0.3s,baz=40,slow=3.5,SNR=40
DBIC SKPbc **SKPbc 23 43 53.7 -2.1**
comp=Z,6.1nm,0.8s,baz=72,slow=3.2,SNR=5.6
KIC Kosan Boka 141.13 307 *e*PKP1 PKPpre 23 41 07.0
comp=Z,18nm,0.8s
TIC Toumodi 141.16 308 *e*PKP1 PKPpre 23 41 06.9
LIC Lamto 141.44 308 *e*PKP1 PKPpre 23 41 08.0
comp=Z,20nm,0.5s
PLCA Paso Flores 142.52 133 PKP **PKPdf 23 41 12.5 -1.7**
comp=Z,32nm,0.7s,baz=259,slow=4.3,SNR=60
HOPE Hope Point 144.69 178 *e*PKPdf PKPbc 23 41 17.7 -0.1
LCO Las Campanas 145.83 114 *e*PKPdf **PKPbc 23 41 22.3 0.0**
LVC Limon Verde 147.96 103 *e*PKPbc **PKPbc 23 41 29.8 +1.5**
LPAZ La Paz 148.17 91 PKP **PKPdf 23 41 26.4 +1.3**
comp=Z,30nm,0.6s,baz=326,slow=1.8,SNR=81
LPAZ PKPbc **PKPbc 23 41 29.8 +0.6**
comp=Z,30nm,0.6s,baz=325,slow=2.9,SNR=92
TRQA Tornquist 149.63 135 *e*PKPbc **PKPbc 23 41 32.0 +0.5**
SAML Samuel 150.78 74 *e*PKPdf **PKPdf 23 41 29.0 +0.5**
SAML *e*PKPbc **PKiKP 23 41 35.0 -0.1**
SAML *e*PKPab **PKPab 23 41 44.5 -0.1**
CPUP Villa Florida 157.98 114 PKP **PKPdf 23 41 37.5 -0.5**
comp=Z,2.2nm,0.9s,baz=45,slow=20,SNR=3.5
CPUP PKPab **PKPab 23 42 15.9 +0.7**
comp=Z,13nm,0.9s,baz=260,slow=5.4,SNR=17
BDFB Brasilia 166.98 77 PKP **PKPdf 23 41 46.5 -0.7**
comp=Z,2.2nm,0.8s,baz=310,slow=3.4,SNR=6.6

JMA 15 23:28:25.5±0.2, 36°.89N×143°.67E, h49km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.28**	**283**	P	Pn	23 29 01.6	+0.8
JFK				S	Sn	23 29 28.5	+0.8
ONAJ	**Iwakimizuishiy**	**2.31**	**276**	P	Pn	23 29 02.2	+1.1
ONAJ				S	Sn	23 29 29.0	+0.7
JIO	**Ouri**	**2.42**	**311**	P	Pn	23 29 03.6	+1.1
JIO				S	Sn	23 29 31.7	+0.9
JMM	**Marumori**	**2.49**	**294**	P	Pn	23 29 04.6	+1.1
JMM				S	Sn	23 29 34.3	+1.6
JFT	**Otama**	**2.73**	**284**	P	Pn	23 29 08.8	+1.9
JFT				*e*S	Sn	23 29 40.8	+2.1
JMK	**Ichinoseki**	**2.83**	**317**	P	Pn	23 29 09.2	+1.1
JOM	**Ohasama**	**3.19**	**325**	P	Pn	23 29 14.5	+1.4
JOM				*e*S	Sn	23 29 50.7	+0.9
JAG	**Ashikaga**	**3.42**	**263**	P	Pn	23 29 17.3	+1.0

BJI ***15*** *23:29:26.3, 21°.70N×143°.10E, h295km, mb4.3/38, mB4.5/27*
MOS ***15*** *23:29:26.6±0.9, 21°.71N×143°.07E, h291km, mb4.9/55, Error ellipse: s-maj=7.6km s-min=5.1km az=107.7*
ISCJB ***15*** *23:29:27.1±0.5, 21°.68N±0°.02×143°.07E±0°.03, h295km±5km, mb4.6/197, Error ellipse: s-maj=4.1km s-min=3.5km az=136.6*
NEIC ***15*** *23:29:28.0±0.4, 21°.66N×143°.08E, h294km±3km, mb4.7/121, Error ellipse: s-maj=3.4km s-min=2.8km az=136.0*
IDC ***15*** *23:29:28.3±1.1, 21°.65N×143°.13E, h300km±10km, mb4.2/38, mb1 4.3/41, mb1mx4.3/51, mbtmp4.9/41, Error ellipse: s-maj=9.4km s-min=6.0km az=81.0*
ISC 15 23:29:28.0±0.5, 21°.71N±0°.04×143°.18E±0°.05, h296km±4km,

n503,σ1⁹35/566,mb4.7/200,22C-14D,Mariana Islands region

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.44**	**351**	*e*Pn	**Pn**	**23 30 50.3**	**-0.1**
SARN	**Sarigan**	**5.56**	**153**	*e*Pn	**Pn**	**23 30 52.2**	**+0.1**
GUMO	**Guam**	**8.23**	**168**	P	**Pn**	**23 31 24.9**	**+0.4**
	33nm,0.3s,baz=171,slow=3.5,SNR=31						
GUMO				S	**S**	**23 33 04.8**	**+5.7**
	3.7nm,0.3s,baz=18,slow=20,SNR=1.9						
GUMO	**Guam**	**8.23**	**168**	*e*P	**Pn**	**23 31 25.5**	**+1.0**
GUMO				S	**S**	**23 33 04.8**	**+5.7**
GUMO	**Guam**	**8.23**	**168**	*e*Pn	**Pn**	**23 31 25.5**	**+1.0**
GUMO				S	**S**	**23 33 04.8**	**+5.7**
JHJ2	**Mitsune**	**11.74**	**346**	*e*Pn	**Pn**	**23 32 07.2**	**-0.1**
JHJ	**Hachijo jima 2**	**11.76**	**346**	P	**Pn**	**23 32 06.3**	**-1.2**
	40nm,0.3s,baz=268,slow=21,SNR=7.8						
JHJ				S	**S**	**23 34 15.2**	**-3.3**
	8.8nm,0.3s,baz=72,slow=19,SNR=1.8						
JWZ	**Kozaga**	**13.50**	**332**	P	**P**	**23 32 30.6**	**+2.0**
JIE	**Ise**	**13.86**	**337**	P	**Pn**	**23 32 34.2**	**+1.3**
JOD2	**Odawara 2**	**13.97**	**346**	P	**Pn**	**23 32 34.6**	**+0.4**
INU	**Inuyama**	**14.62**	**340**	*e*P	**P**	**23 32 40.8**	**-0.2**
JYT	**Yasato**	**14.70**	**350**	P	**Pn**	**23 32 43.4**	**+0.6**
JYT				S	**S**	**23 35 22.1**	**-0.7**
JRY	**Ryogami san**	**14.74**	**346**	P	**P**	**23 32 42.7**	**+0.4**
JRY				S	**S**	**23 35 17.9**	**-5.7**
JWT	**Wachi**	**15.14**	**335**	P	**Pn**	**23 32 49.2**	**+1.1**
JAD	**Aida**	**15.37**	**331**	P	**Pn**	**23 32 51.6**	**+0.8**
MJAR	**Matsushiro Arr**	**15.40**	**345**	P	**P**	**23 32 49.5**	**-0.1**
	6.9nm,0.3s,baz=167,slow=10,SNR=44						
MJAR				S	**S**	**23 35 30.9**	**-6.0**
	0.9nm,0.3s,baz=140,slow=15,SNR=4.7						
MAJO	**Matsushiro**	**15.40**	**345**	*d i*P	**P**	**23 32 49.3**	**-0.2**
MAJO	**Matsushiro**	**15.40**	**345**	*e*P	**P**	**23 32 49.9**	**+0.3**
	45nm,1.0s						
MAT	**Matsushiro**	**15.40**	**345**	P	**P**	**23 32 49.8**	**+0.3**
MAT				S	**S**	**23 35 29.9**	**-7.0**
MAT	**Matsushiro**	**15.40**	**345**	P	**Pn**	**23 32 50.3**	**-0.8**
MAT				*e*S	**S**	**23 35 37.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**15.40**	**345**	*e*P	**Pn**	**23 32 50.5**	**-0.7**
	11nm,1.0s						
JNU	**Nakatsue**	**15.75**	**319**	P	**Pn**	**23 32 55.9**	**+0.6**
	2.3nm,0.3s,baz=85,slow=2.8,SNR=17						
JNU				S	**S**	**23 35 47.6**	**+3.6**
	0.1nm,0.3s,baz=294,slow=18,SNR=3.1						
JNU	**Nakatsue**	**15.75**	**319**	P	**Pn**	**23 32 55.7**	**+0.5**
JNU	**Nakatsue**	**15.75**	**319**	*e*P	**Pn**	**23 32 54.3**	**-0.9**
	58nm,1.0s						
JNU				S	**S**	**23 35 47.6**	**+3.6**
JMM	**Marumori**	**16.23**	**353**	P	**Pn**	**23 33 04.2**	**+3.4**
JMM				*e*S	**S**	**23 35 56.6**	**+3.1**
JSD	**Sado**	**16.82**	**346**	P	**P**	**23 33 05.5**	**+0.6**
JYA	**Atsumi**	**17.09**	**351**	P	**Pn**	**23 33 10.0**	**-0.8**
JOM	**Ohasama**	**17.78**	**355**	P	**Pn**	**23 33 21.9**	**+3.0**
JOM				*e*S	**S**	**23 36 34.9**	**+11**
KSRS	**Korea Array**	**20.50**	**323**	P	**P**	**23 33 44.5**	**+0.3**
	12nm,0.9s,baz=149,slow=8.7,SNR=31						
KSAR	**Wonju Array Be**	**20.51**	**323**	P	**P**	**23 33 44.5**	**+0.2**
KSAR	**Wonju Array Be**	**20.51**	**323**	P	**P**	**23 33 44.5**	**+0.2**
SSLB	**Suanglung**	**20.60**	**280**	*e*P	**P**	**23 33 45.8**	**+0.5**
	16nm,0.8s						
SZP	**Santa**	**21.79**	**263**	*e*P	**P**	**23 33 56.3**	**-0.1**
	60nm,1.2s						
TGY	**Tagaytay City**	**22.45**	**254**	P	**P**	**23 34 02.5**	**-0.1**
	122nm,0.4s,baz=136,slow=3.9,SNR=9.0						
NJ2	**Nanjing**	**23.96**	**301**	*e*P	**P**	**23 34 15.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**24.27**	**340**	P	**P**	**23 34 19.8**	**+1.1**
	3.3nm,0.6s,baz=173,slow=8.8,SNR=7.0						
LBMI	**Labuha**	**26.97**	**217**	P	**P**	**23 34 43.6**	**+0.4**
HABR	**Khabarovsk**	**27.49**	**348**	*e*P	**P**	**23 34 45.0**	**-2.3**
HABR				*e**PP	**pP**	**23 35 41.4**	**-2.5**
HABR				*e*		23 37 54.9	
HABR				*e*		23 44 59.5	
HABR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HABR				MLR	MLR		
	comp=Z,44nm,16.0s						
MYLDM	**Lahad Datu**	**29.00**	**239**	*e*P	**P**	**23 35 02.5**	**+1.4**
	comp=Z,70nm,0.9s						
MRSI	**Marisa**	**29.57**	**227**	P	**P**	**23 35 06.1**	**0.0**
	comp=Z,71nm,1.2s,comp=Z,1μm						
KKM	**Kota Kinabalu**	**30.37**	**243**	*e*P	**P**	**23 35 13.8**	**+0.5**
	comp=Z,37nm,1.0s						
PMG	**Port Moresby**	**31.17**	**172⇑**	*e*P	**P**	**23 35 17.0**	**-3.1**
PMG				pmax	pmax		
	comp=Z,50nm,1.7s						
HHC	**Hu-ho-hao-te**	**32.82**	**313**	*e*P	**P**	**23 35 36.1**	**+1.8**
HHC				pP	pP	23 36 32.9	+0.9
HHC				S	**S**	**23 40 29.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,7.2s						
PETK	**Petropavlovsk-**	**33.27**	**16**	P	**P**	**23 35 38.7**	**+0.8**
	comp=Z,6.3nm,0.9s,baz=149,slow=4.4,SNR=5.1						
PETK				PcP	**PcP**	**23 38 12.4**	**0.0**
	comp=Z,3.4nm,0.6s,baz=223,slow=1.8,SNR=5.8						
TTSI	**Tana Toraja**	**33.58**	**226**	P	**P**	**23 35 41.2**	**+0.2**
	comp=Z,36nm,0.9s,comp=Z,874nm						
SPSI	**Sidrap Palu**	**34.30**	**225**	P	**P**	**23 35 46.7**	**-0.4**
	comp=Z,66nm,0.7s,comp=Z,3μm						
BNSI	**Bone**	**34.41**	**224**	P	**P**	**23 35 49.8**	**+1.7**
	comp=Z,60nm,1.1s						
DLV	**T Lat**	**34.52**	**259**	*e*P	**P**	**23 35 49.0**	**-0.3**
	comp=Z,29nm,1.0s						
MTKI	**Muara Teweh, K**	**35.63**	**234**	P	**P**	**23 35 58.7**	**+0.2**
	comp=Z,147nm,0.8s						
SBUM	**Sibu**	**35.67**	**242**	*e*P	**P**	**23 35 59.0**	**+0.1**
	comp=Z,112nm,1.6s						
CD2	**Chengdu**	**36.35**	**293**	*e*P	**P**	**23 36 03.8**	**-0.7**
EDFI	**Ende, Flores**	**36.89**	**217**	P	**P**	**23 36 08.0**	**-1.2**
	comp=Z,21nm,0.6s						
LZH	**Lanzhou**	**37.03**	**302**	⇑P	**P**	**23 36 10.3**	**0.0**
LZH				pP	pP	23 37 09.5	+0.5
LZH				sP	sP	23 37 43.1	0.0
LZH				PP	**PnPn**	**23 37 45.6**	**-0.7**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,82nm,4.9s						
KMI	**Kunming**	**37.17**	**283**	P	**P**	**23 36 11.4**	**-0.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
STKI	**Sintang**	**37.66**	**239**	P	**P**	**23 36 15.7**	**+0.1**
	comp=Z,125nm,0.7s						
MA2	**Magadan**	**38.22**	**6**	P	**P**	**23 36 20.2**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=186,slow=19,SNR=2.6						
ULN	**Ulaanbaatar**	**38.95**	**321⇓**	*i*P	**P**	**23 36 27.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ULN	**Ulaanbaatar**	**38.95**	**321**	*e*P	**P**	**23 36 27.1**	**+1.1**
	comp=Z,9.8nm,1.4s						
SONA1	**Songino Array**	**39.33**	**320**	*e*P	**P**	**23 36 29.5**	**+0.4**
SONA1				*e*PcP	**PcP**	**23 38 31.7**	**+0.6**
SONM	**Songino Array**	**39.33**	**320**	P	**P**	**23 36 29.4**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=124,slow=6.4,SNR=14						
SONM				PcP	**PcP**	**23 38 30.7**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=124,slow=3.0,SNR=4.7						
SONM				ScP	**ScP**	**23 41 50.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=103,slow=5.0,SNR=3.3						
SRAK	**Srakaew**	**39.80**	**266**	P	**P**	**23 36 30.4**	**-2.8**
	comp=Z,44nm,1.0s						
PBKT	**Sadao Pong**	**40.11**	**270**	P	**P**	**23 36 36.4**	**+0.7**
	comp=Z,13nm,0.9s						
UTTA	**Uttaradit**	**40.22**	**272**	P	**P**	**23 36 37.3**	**+0.7**
	comp=Z,4.9nm,0.9s						
KMMI	**Kalianget**	**40.47**	**228**	P	**P**	**23 36 39.0**	**+0.4**
GTA	**Gaotai**	**40.86**	**306**	*e*P	**P**	**23 36 42.6**	**+0.9**
GTA				pP	pP	23 37 41.3	-0.3
GTA				sP	sP	23 38 13.8	-1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YAK	**Yakutsk**	**41.35**	**350**	P	**P**	**23 36 44.8**	**-0.3**
	baz=160,slow=1.4,SNR=1.1						
YAK	**Yakutsk**	**41.35**	**350**	*e*P	**P**	**23 36 45.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,33nm,0.7s						
YAK	**Yakutsk**	**41.35**	**350**	*e*P	**P**	**23 36 45.0**	**-0.2**
	comp=Z,33nm,0.7s						
CHTO	**Chiang Mai**	**41.49**	**274**	P	**P**	**23 36 47.6**	**+0.6**
	comp=Z,51nm,1.6s						
CHTO	**Chiang Mai**	**41.49**	**274**	*e*P	**P**	**23 36 46.6**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**41.49**	**274**	*e*P	**P**	**23 36 46.5**	**-0.4**
	comp=Z,7.6nm,0.9s						
CM01	**Chiang Mai Arr**	**41.56**	**274**	*e*P	**P**	**23 36 48.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.57**	**274**	P	**P**	**23 36 48.2**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=60,slow=7.5,SNR=14						
CMAR				PcP	**PcP**	**23 38 39.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=82,slow=1.3,SNR=5.6						
CTA	**Charters Tower**	**41.65**	**176**	P	**P**	**23 36 47.8**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=355,slow=10,SNR=4.4						
SEY	**Seymchan**	**41.67**	**6**	P	**P**	**23 36 48.6**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=189,slow=2.8,SNR=6.1						
SEY	**Seymchan**	**41.67**	**6⇑**	*e*P	**P**	**23 36 49.6**	**+1.9**
UTHA	**Uthaitani**	**41.78**	**269**	P	**P**	**23 36 51.5**	**+2.2**
	comp=Z,4.0nm,1.1s						
WRAB	**Tennant Creek**	**42.28**	**192**	*e*P	**P**	**23 36 52.5**	**-0.6**
WRAB	**Tennant Creek**	**42.28**	**192**	*e*P	**P**	**23 36 52.5**	**-0.6**
WB2	**Warramunga Arr**	**42.29**	**192**	*e*P	**P**	**23 36 52.7**	**-0.6**
WRA	**Warramunga Arr**	**42.29**	**192**	P	**P**	**23 36 52.5**	**-0.8**
	comp=Z,34nm,0.6s,baz=17,slow=8.8,SNR=93						
WRA				ScP	**ScP**	**23 42 03.9**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=8.2,slow=4.0,SNR=8.3						
WRA				S	**S**	**23 42 49.0**	**-2.3**
	comp=Z,2.2nm,1.0s,baz=13,slow=15,SNR=5.7						
ZAK	**Zakamensk**	**42.33**	**322**	*e*P	**P**	**23 36 53.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PHET	**Kaeng Krachan**	**42.37**	**265**	P	**P**	**23 36 56.2**	**+2.2**
	comp=Z,8.5nm,0.9s						
TPRI	**Tanjung Pinang**	**42.94**	**246**	P	**P**	**23 36 59.3**	**+0.7**
MYKOM	**Kota Tinggi**	**43.08**	**248**	*e*P	**P**	**23 36 59.7**	**0.0**
	comp=Z,15nm,0.7s						
SKLT	**Songkhla**	**43.51**	**257**	P	**P**	**23 37 04.2**	**+1.1**
	comp=Z,46nm,0.9s						
TRTT	**Trang**	**44.09**	**259**	P	**P**	**23 37 09.0**	**+1.3**
	comp=Z,21nm,1.1s						
KULM	**Kulim**	**44.26**	**255**	*e*P	**P**	**23 37 09.3**	**+0.2**
	comp=Z,32nm,0.9s						
SURT	**Suratani**	**44.48**	**260**	P	**P**	**23 37 12.0**	**+1.2**
	comp=Z,11nm,1.4s						
DBJI	**Dramaga**	**45.44**	**236**	P	**P**	**23 37 18.5**	**+0.2**
KLSI		**45.89**	**240**	P	**P**	**23 37 21.2**	**-0.6**
AS01	**Alice Springs**	**45.99**	**192**	*e*P	**P**	**23 37 21.0**	**-1.3**
AS31	**Alice Springs**	**45.99**	**192**	*e*P	**P**	**23 37 21.6**	**-0.8**
	comp=Z,5.9nm,0.6s						
AS31				*e*S	**S**	**23 43 43.1**	**-1.5**
ASAR	**Alice Springs**	**46.00**	**192**	P	**P**	**23 37 21.4**	**-1.1**
	comp=Z,8.2nm,0.7s,baz=16,slow=11,SNR=34						
ASAR				PcP	**PcP**	**23 38 53.9**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=15,slow=4.0,SNR=3.8						
ASAR				ScP	**ScP**	**23 42 20.1**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=15,slow=4.9,SNR=4.6						
ASAR				S	**S**	**23 43 41.2**	**-3.4**
	comp=Z,1.9nm,0.8s,baz=17,slow=21,SNR=9.7						
MDSI	**Maura Dua**	**46.22**	**240**	P	**P**	**23 37 23.8**	**-0.5**
BKNI	**Bangkinang**	**46.24**	**248**	P	**P**	**23 37 24.9**	**+0.4**
BKNI	**Bangkinang**	**46.24**	**248**	*e*P	**P**	**23 37 24.9**	**+0.4**
	comp=Z,126nm,1.1s						
CGJI	**Cibinong**	**46.29**	**237**	P	**P**	**23 37 22.7**	**-2.2**
LHSI	**Lahat**	**46.37**	**242**	P	**P**	**23 37 25.5**	**0.0**
PSI	**Prapat**	**46.91**	**253**	P	**P**	**23 37 30.4**	**+0.6**
	comp=Z,8.5nm,0.4s,baz=18,slow=1.2,SNR=7.5						
MASI	**Maura Aman, Be**	**47.04**	**243**	P	**P**	**23 37 31.2**	**+0.4**
LSA	**Lhasa**	**47.23**	**291**	*e*P	**P**	**23 37 33.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**47.23**	**291**	*e*P	**P**	**23 37 33.6**	**+1.1**
	comp=Z,6.7nm,0.6s						
PDSI	**Padang**	**47.36**	**247**	P	**P**	**23 37 32.9**	**-0.3**
LHMI	**Lhok Sumawe**	**47.63**	**257**	*e*P	**P**	**23 37 34.8**	**-0.4**
	comp=Z,46nm,0.9s						
MBWA	**Marble Bar**	**48.37**	**210**	*e*P	**P**	**23 37 40.2**	**-0.4**
	comp=Z,14nm,0.7s						
BILL	**Bilibino**	**48.51**	**11**	*e*P	**P**	**23 37 41.2**	**+0.1**
BILL				*e**PP	**pP**	**23 38 42.1**	**-1.0**
BILL				*e*		23 39 36.7	
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
DZM	**Mont Dzumac**	**49.08**	**151**	P	**P**	**23 37 46.2**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=270,slow=8.1,SNR=4.5						
AKUT	**Akutan**	**50.11**	**37**	*e*P	**P**	**23 37 54.3**	**+1.0**
	comp=Z,99nm,1.1s						
TAPN	**Taplejung**	**50.43**	**288**	*e*P	**P**	**23 37 56.9**	**+0.3**
	comp=Z,11nm,0.3s						
WMQ	**Urumqi**	**50.57**	**309**	P	**P**	**23 37 57.6**	**+0.6**
WMQ				pP	pP	23 38 59.3	-0.3
WMQ				PcP	**PcP**	**23 39 10.9**	**+0.8**
WMQ				sP	sP	23 39 33.3	+0.7
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.8s						
WMQ				LR	LR		
	comp=Z,55nm,21.9s						
WMQ				LR	LR		
	comp=Z,49nm,20.3s						
WMQ				LR	LR		
	comp=Z,44nm,20.3s						
TIXI	**Tiksi**	**50.64**	**354⇑**	*e*P	**P**	**23 37 56.6**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**50.64**	**354**	*e*P	**P**	**23 37 56.9**	**-0.1**
	comp=Z,5.4nm,0.8s						
ODAN	**Odare**	**50.77**	**288**	*e*P	**P**	**23 37 59.1**	**+0.1**
	comp=Z,22nm,0.7s						
RAMN	**Ramite**	**51.46**	**288**	*e*P	**P**	**23 38 04.2**	**0.0**
DGZ	**Jazzator, Alta**	**51.72**	**317**	*i*P	**P**	**23 38 06.5**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JIRN	**Jiri**	**51.74**	**289**	*e*P	**P**	**23 38 06.8**	**+0.5**
	comp=Z,150nm,0.4s						
GUN	**Gumba**	**51.98**	**289**	*e*P	**P**	**23 38 08.5**	**+0.4**
PKIN	**Phulchoki**	**52.45**	**289**	*e*P	**P**	**23 38 11.1**	**-0.3**
	comp=Z,10nm,0.5s						
KKN	**Kakani**	**52.52**	**289**	*e*P	**P**	**23 38 11.9**	**0.0**
GKN	**Gorkha**	**53.06**	**289**	*e*P	**P**	**23 38 15.9**	**+0.2**
	comp=Z,20nm,0.4s						
STKA	**Stephens Creek**	**53.30**	**182**	P	**P**	**23 38 16.1**	**-0.9**
	comp=Z,7.7nm,0.4s,baz=16,slow=7.2,SNR=38						
STKA	**Stephens Creek**	**53.30**	**182**	*e*P	**P**	**23 38 16.3**	**-0.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**53.30**	**182**	*e*P	**P**	**23 38 16.3**	**-0.7**
	comp=Z,3.3nm,1.0s						
DANN	**Dangsing**	**53.79**	**290**	*e*P	**P**	**23 38 21.7**	**+0.6**
KOLN	**Koldanda**	**54.00**	**289**	*e*P	**P**	**23 38 22.8**	**+0.2**
	comp=Z,13nm,0.2s						
ZAA0	**Zalesovo Array**	**54.20**	**322**	*e*P	**P**	**23 38 23.2**	**0.0**
ZAA0				*e*PcP	**PcP**	**23 39 23.1**	**-0.5**
ZALV	**Zalesovo Beam**	**54.20**	**322**	P	**P**	**23 38 23.2**	**-0.1**
	comp=Z,23nm,0.9s,baz=98,slow=6.4,SNR=52						
ZALV				PcP	**PcP**	**23 39 23.0**	**-0.6**
	comp=Z,9.6nm,0.5s,baz=124,slow=4.0,SNR=23						
ZALV				ScP	**ScP**	**23 42 52.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=119,slow=6.7,SNR=2.7						
ZALV				S	**S**	**23 45 36.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=98,slow=8.9,SNR=3.7						
PYUN	**Piuthan**	**54.49**	**290**	*e*P	**P**	**23 38 26.2**	**+0.1**
MK01	**Makanchi Array**	**54.67**	**313**	*e*P	**P**	**23 38 27.1**	**+0.2**
MK01				*e*PcP	**PcP**	**23 39 25.4**	**-0.3**
MK31	**Makanchi Array**	**54.68**	**313**	*i*P	**P**	**23 38 27.3**	**+0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MK31	**Makanchi Array**	**54.68**	**313**	*e*P	**P**	**23 38 27.5**	**+0.5**
MKAR	**Makanchi Array**	**54.68**	**313**	P	**P**	**23 38 27.4**	**+0.5**
	comp=Z,7.1nm,0.6s,baz=90,slow=9.3,SNR=44						
MKAR				PcP	**PcP**	**23 39 24.8**	**-0.8**
	comp=Z,6.1nm,0.5s,baz=82,slow=5.5,SNR=15						
MKAR				ScP	**ScP**	**23 42 54.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=81,slow=5.0,SNR=3.8						
MKAR				S	**S**	**23 45 43.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=91,slow=18,SNR=8.3						
MKAR	**Makanchi Array**	**54.68**	**313**	*i*P	**P**	**23 38 27.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	**Makanchi Array**	**54.68**	**313**	*e*P	**P**	**23 38 27.5**	**+0.5**
	comp=Z,48nm,0.7s						
MKAR				PcP	**PcP**	**23 39 24.8**	**-0.8**
MKAR				ScP	**ScP**	**23 42 54.7**	**-0.5**
MKAR				S	**S**	**23 45 43.9**	**+0.4**
CHGN	**Chignik**	**54.77**	**36**	*e*P	**P**	**23 38 27.5**	**+0.2**
	comp=Z,64nm,1.0s						
MAKZ	**Makanchi**	**54.90**	**313**	*e*P	**P**	**23 38 29.1**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAKZ	**Makanchi**	**54.90**	**313**	*e*P	**P**	**23 38 29.1**	**+0.6**
	comp=Z,9.4nm,0.8s						
NVS	**Novosibirsk**	**55.29**	**322**	*e*P	**P**	**23 38 31.3**	**+0.3**
NVS				*e*		23 39 26.9	
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
PDGK	**Podgornoye**	**56.48**	**308**	*i*P	**P**	**23 38 39.5**	**-0.3**
PDGK				pmax	pmax		
	comp=Z,19nm,1.1s						
NPH	**North Pit**	**57.34**	**80**	*e*P	**P**	**23 38 46.5**	**+0.3**
NPH				pmax	pmax		
	comp=Z,2μm,1.8s						
NPH	**North Pit**	**57.34**	**80**	*e*P	**P**	**23 38 46.5**	**+0.3**
	comp=Z,2μm,1.8s						
SVW2	**Sparrevohn**	**57.40**	**30**	*e*P	**P**	**23 38 46.8**	**+1.1**
	comp=Z,19nm,0.6s						
KURK	**Kurchatov**	**57.46**	**317**	*c i*P	**P**	**23 38 46.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,61nm,0.8s						
KURK	**Kurchatov**	**57.46**	**317**	*e*P	**P**	**23 38 46.5**	**+0.2**
	comp=Z,18nm,0.8s						
TT01	**Tatalina**	**57.68**	**28**	*e*P	**P**	**23 38 48.8**	**+1.2**
TTA	**Tatalina**	**57.69**	**28**	*e*P	**P**	**23 38 49.1**	**+1.3**
TTA	**Tatalina**	**57.69**	**28**	*e*P	**P**	**23 38 49.1**	**+1.3**
NRIK	**Noril'sk**	**57.98**	**340**	P	**P**	**23 38 49.8**	**+0.2**
	comp=Z,12nm,0.6s,baz=110,slow=8.8,SNR=18						
NRIK				PcP	**PcP**	**23 39 37.7**	**-0.4**
	comp=Z,6.4nm,0.6s,baz=149,slow=2.2,SNR=4.7						
NRIK				ScP	**ScP**	**23 43 09.6**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=124,slow=7.1,SNR=3.4						
KDAK	**Kodiak Island**	**58.20**	**35**	P	**P**	**23 38 52.3**	**+1.0**
	comp=Z,16nm,0.5s,baz=267,slow=1.5,SNR=49						
KDAK				PcP	**PcP**	**23 39 37.9**	**-1.2**
	comp=Z,8.4nm,0.8s,baz=333,slow=4.5,SNR=2.0						
KDAK	**Kodiak Island**	**58.20**	**35**	*i*P	**P**	**23 38 51.9**	**+0.7**
RSO	**Redoubt South**	**58.61**	**31**	*e*P	**P**	**23 38 55.5**	**+1.2**
KSH	**Kashi**	**59.22**	**304**	P	**P**	**23 39 02.0**	**+3.2**
KSH				PcP	**PcP**	**23 39 46.3**	**+2.5**
KSH				pP	pP	23 40 05.5	+2.0
KSH				sP	sP	23 40 37.1	+1.1
KSH				PP	**PP**	**23 41 19.9**	**+6.6**
KSH				PcS	**PcS**	**23 43 43.6**	**-2.6**
KSH				S	**S**	**23 46 41.6**	**-1.3**
KSH				ScS	**ScS**	**23 48 16.4**	**-2.4**
KSH				sS	sS	23 48 34.0	-3.5
KSH				SS	**SS**	**23 50 44.8**	**+2.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,160nm,5.2s						
KSH				LR	LR		
	comp=Z,100nm,9.3s						
KSH				LR	LR		
	comp=Z,110nm,8.2s						
KSH				LR	LR		
	comp=Z,130nm,9.2s						
TKM2	**Tokmak 2**	**59.33**	**308**	*i*P	**P**	**23 39 00.3**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**59.71**	**205**	P	**P**	**23 39 01.1**	**-0.8**
	comp=Z,6.9nm,0.6s,baz=285,slow=5.5,SNR=5.9						
NWAO				PcP	**PcP**	**23 39 45.0**	**-0.5**
	comp=Z,7.0nm,0.9s,baz=315,slow=16,SNR=2.5						
SUA	**Susitna One**	**59.76**	**31**	*e*P	**P**	**23 39 02.8**	**+0.7**
	comp=Z,15nm,0.8s						
KTH	**Kantishna Hill**	**60.08**	**28**	*e*P	**P**	**23 39 05.1**	**+1.0**
	comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**60.15**	**308**	P	**P**	**23 39 05.8**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=110,slow=5.7,SNR=13						
AAK				PcP	**PcP**	**23 39 47.4**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=109,slow=1.9,SNR=6.3						
AAK	**Ala-Archa**	**60.15**	**308**	*c e*P	**P**	**23 39 05.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AAK	**Ala-Archa**	**60.15**	**308**	*e*P	**P**	**23 39 05.9**	**+0.7**
	comp=Z,4.7nm,0.6s						
AAK				PcP	**PcP**	**23 39 47.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**60.16**	**28**

comp=Z,15nm,1.4s
DAWY **Dawson** 65.21 28 *e*P P 23 39 39.2 +1.4
comp=Z,10.0nm,0.7s
KBL **Kabul** 65.33 299 *e*P P 23 39 39.5 +0.2
KBL pmax pmax
comp=Z,22nm,1.0s
KBL **Kabul** 65.33 299 *e*P P 23 39 39.5 +0.2
comp=Z,22nm,1.0s
INK **Inuvik** 67.56 24 P P 23 39 52.9 +0.5
comp=Z,6.7nm,0.6s,baz=300,slow=6.4,SNR=22
URZ **Urewera** 67.63 152 P P 23 39 52.4 -0.9
comp=Z,6.5nm,0.4s,baz=273,slow=3.7,SNR=14
SVE **Sverdlovsk** 68.06 324*d* *i*P P 23 39 56.2 +0.4
SVE pmax pmax
comp=Z,34nm,0.9s
BKZ **Black Stump Fm** 68.11 153 *e*P P 23 39 56.0 -0.3
comp=Z,12nm,0.6s
ARU **Arti** 69.25 324 P P 23 40 03.0 -0.1
comp=Z,10nm,0.4s,baz=90,slow=3.3,SNR=30
ARU **Arti** 69.25 324*c* *i*P P 23 40 03.0 -0.1
ARU 23 40 23.4
ARU 23 42 35.7
ARU S **S** 23 48 47.1 +2.5
ARU SS **SS** 23 53 16.0 -1.2
ARU pmax pmax
comp=Z,26nm,1.0s
ARU **Arti** 69.25 324 *e*P P 23 40 03.2 +0.1
comp=Z,18nm,0.7s
AB31 **Akbulak array** 69.54 316 *i*P P 23 40 05.0 0.0
AB31 pmax pmax
comp=Z,23nm,0.6s
ABKAR **Akbulak array** 69.54 316 *e*P P 23 40 05.0 0.0
comp=Z,281nm,0.6s
SOKR **Solikamsk** 69.73 327 *e*P P 23 40 04.2 -1.7
SOKR pmax pmax
comp=Z,12nm,0.8s
RPZ **Rata Peaks** 69.95 159 P P 23 40 06.9 -0.5
comp=Z,6.4nm,0.5s,baz=28,slow=1.9,SNR=5.1
AKTO **Aktyubinsk** 70.55 317 P P 23 40 10.8 -0.3
comp=Z,7.1nm,0.6s,baz=89,slow=7.1,SNR=26
AKTO **Aktyubinsk** 70.55 317 *i*P P 23 40 10.4 -0.7
AKTO pmax pmax
comp=Z,7.0nm,0.7s
GEYT **Alibeck** 73.23 305 P P 23 40 27.8 +0.6
comp=Z,8.5nm,0.8s,baz=85,slow=3.1,SNR=21
SPA0 **Spitsbergen Ar** 75.82 350 *e*P P 23 40 42.2 +0.9
NLWA **Neilton Lookou** 76.28 44 *e*P P 23 40 45.9 +1.4
comp=Z,11nm,0.6s
YKA **Yellowknife Ar** 76.45 28 P P 23 40 45.4 +0.4
comp=Z,17nm,0.6s,baz=291,slow=5.9,SNR=126
LLLB **Lillooet** 76.56 41 *e*P P 23 40 47.4 +1.4
comp=Z,14nm,0.9s
HDW **Hoodsport** 76.73 44 P P 23 40 48.9 +1.9
LVZ **Lovozero** 76.78 338⇑ *e*P P 23 40 47.4 +0.5
LVZ pmax pmax
comp=Z,18nm,0.8s
TMCR **Tamitsa** 77.05 334 *e*P P 23 40 48.7 +0.4
TMCR pmax pmax
comp=Z,43nm,0.8s
CMW **Cultus Mountai** 77.09 43 P P 23 40 50.6 +1.6
MBW **Mount Baker** 77.11 43 P P 23 40 50.4 +1.2
B05A **Bryant** 77.15 43 P P 23 40 50.4 +1.2
baz=288
KLMR **Klimovskoe** 77.69 331 *e*P P 23 40 50.5 -1.4
KLMR pmax pmax
comp=Z,12nm,1.1s
I03D **Drain, OR** 77.74 48 P P 23 40 53.4 +0.8
baz=288
L02D **Cave Junction,** 78.05 49 P P 23 40 55.3 +1.0
baz=288
KEV **Kevo** 78.35 341 *e*P P 23 40 55.5 +0.2
KEV **Kevo** 78.35 341 *e*P P 23 40 55.6 +0.2
KEV pmax pmax
comp=Z,35nm,0.8s
KEV **Kevo** 78.35 341 *e*P P 23 40 55.6 +0.2
comp=Z,35nm,0.8s
HUMO **Hull Mountain** 78.36 49 *e*P P 23 40 57.2 +1.2
comp=Z,6.1nm,0.6s
IRO **Indian Ridge** 78.40 47 P P 23 40 57.4 +1.0
ETW **Entiat** 78.49 43 P P 23 40 57.6 +0.9
VFP **Flag Point** 78.50 46 P P 23 40 58.3 +1.4
G05D **Wamic, OR** 78.63 46 P P 23 40 58.2 +0.7
baz=289
J04D **Umpqua Nationa** 78.75 48 P P 23 40 59.5 +1.2
baz=289,SNR=7.0
M02C **Callahan** 78.83 50 P P 23 41 00.1 +1.5
baz=289,SNR=5.1
B08A **Colville Reser** 78.86 42 *e*P P 23 40 59.6 +1.0
comp=Z,13nm,0.9s
ARA0 **ARCESS Array S** 78.91 341 *e*P P 23 40 58.7 +0.3
ARCES **ARCESS Array B** 78.91 341 P P 23 40 58.8 +0.3
comp=Z,39nm,0.6s,baz=73,slow=8.5,SNR=132
ARE0 **ARCESS Array S** 78.91 341 *e*P P 23 40 58.8 +0.4
ARE0 IAmb IAmb 23 40 59.5
comp=Z,41nm,0.7s
I05D **Terrebonne, OR** 78.91 47 P P 23 41 00.4 +1.4
baz=290
N02D **Trinity Center** 79.07 50 P P 23 41 00.6 +0.6
baz=289
E07A **Sunnyside** 79.15 44 *e*P P 23 41 01.8 +1.6
comp=Z,6.9nm,0.8s
J05D **Fort Rock, OR** 79.33 48 P P 23 41 02.6 +1.2
baz=290,SNR=18
HAWA **Hanford** 79.41 44 *e*P P 23 41 02.8 +1.2
comp=Z,8.9nm,1.0s
M04C **Macdoel** 79.42 49 P P 23 41 03.1 +1.2
baz=290
D08A **Wollman Farm,** 79.58 44 *e*P P 23 41 03.4 +1.0
comp=Z,14nm,1.0s
KTK1 **Kautokeino** 79.87 342 *e*P P 23 41 03.6 0.0
O03D **Paynes Creek** 79.94 51 P P 23 41 04.9 +0.2
baz=290,SNR=6.8
HEF **Hetta** 80.09 341 *e*P P 23 41 05.1 +0.3
NEW **Newport** 80.28 42 P P 23 41 06.8 +0.5
baz=292
NEW **Newport** 80.28 42 *e*P P 23 41 07.1 +0.9
NEW pmax pmax
comp=Z,13nm,0.8s
NEW **Newport** 80.28 42 *e*P P 23 41 07.1 +0.9
comp=Z,13nm,0.8s
ORV **Oroville** 80.41 51 *e*P P 23 41 07.7 +0.6
ORV pmax pmax
comp=Z,12nm,1.2s
ORV **Oroville** 80.41 51 *e*P P 23 41 07.7 +0.6
comp=Z,12nm,1.2s
KIF **Kilpisjarvi** 80.58 342 *e*P P 23 41 07.4 +0.1
TRO **Tromso** 80.72 343 *e*P P 23 41 11.8 +3.7
AFDM **Forest Hills D** 81.01 52 *e*P P 23 41 11.3 +1.1
comp=Z,7.7nm,1.2s
BEKR **Beckworth** 81.13 51 *e*P P 23 41 12.1 +1.0
comp=Z,12nm,0.9s
WVOR **Wild Horse Val** 81.42 48 *e*P P 23 41 13.3 +0.8
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR **Wild Horse Val** 81.42 48 *e*P P 23 41 13.3 +0.8
comp=Z,8.0nm,1.0s
BMO **Blue Mountains** 81.42 45 *e*P P 23 41 13.3 +0.9
BMO pmax pmax
comp=Z,10.0nm,0.8s
BMO **Blue Mountains** 81.42 45 *e*P P 23 41 13.3 +0.9
comp=Z,9.8nm,0.8s
OBN **Obninsk** 81.47 326*c* *i*P P 23 41 12.0 -0.2
OBN *e**PP **pP** 23 42 18.9 -2.6
OBN pmax pmax
comp=Z,20nm,0.7s
OBN **Obninsk** 81.47 326 *e*P P 23 41 12.3 +0.1
comp=Z,21nm,0.8s
DGRG **David-gareji** 81.51 311 P P 23 41 14.1 +1.3
DGRG **David-gareji** 81.51 311 P P 23 41 14.1 +1.3
VSR **Storozhevoye** 81.70 322 *e*P P 23 41 13.4 -0.1
VSR pmax pmax
comp=Z,50nm,0.5s
GOF **Gofitskoye** 81.75 315⇑ *e*P P 23 41 14.4 +0.4
GOF pmax pmax
comp=Z,29nm,1.0s
GUDG **Gudauri** 81.76 312 P P 23 41 15.1 +0.8
CMB **Columbia Colle** 81.76 52 *e*P P 23 41 15.1 +0.9
CMB pmax pmax
comp=Z,13nm,0.7s
CMB **Columbia Colle** 81.76 52 *e*P P 23 41 15.1 +0.9
comp=Z,13nm,0.7s
TBLG **Delisi** 81.85 312 P P 23 41 15.3 +0.7
TBLG **Delisi** 81.85 312 P P 23 41 15.3 +0.7
BSMT **Bassoo Peak** 81.88 42 *e*P P 23 41 15.9 +1.1
PAHR **Pah Rah Range** 81.89 51 *e*P P 23 41 15.9 +1.0
comp=Z,8.7nm,1.0s

WALA **Waterton Lakes** 81.94 40 *e*P P 23 41 16.3 +1.3
PNTR **Pine Nut** 81.96 51 *e*P P 23 41 16.9 +1.4
comp=Z,13nm,0.8s
NCK **Nalchik** 81.97 314⇑ *e*P P 23 41 15.7 +0.5
NCK pmax pmax
comp=Z,36nm,0.9s
ZEI **Tsey** 82.03 313 *e*P P 23 41 15.1 -0.6
ZEI pmax pmax
comp=Z,11nm,0.6s
JTMT **Jette** 82.24 42 *e*P P 23 41 17.5 +0.9
YERR **Yerington** 82.25 51 *e*P P 23 41 18.0 +1.0
comp=Z,9.9nm,0.9s
PUL **Pulkovo** 82.28 332⇓ *e*P P 23 41 15.8 -0.5
PUL pmax pmax
comp=Z,37nm,0.9s
WAKR **Walker** 82.29 52 *e*P P 23 41 18.6 +1.5
comp=Z,7.2nm,0.8s
KBZ **Khabaz** 82.36 314 P P 23 41 17.8 +0.7
comp=Z,37nm,0.8s,baz=108,slow=2.7,SNR=75
YBMT **Yellow Bay** 82.36 41 *e*P P 23 41 18.1 +0.9
KIV **Kislovodsk** 82.41 314*c* *i*P P 23 41 17.9 +0.4
KIV *e**PP **pP** 23 42 25.0 -1.9
KIV pmax pmax
comp=Z,44nm,1.1s
KIV **Kislovodsk** 82.41 314 *e*P P 23 41 18.3 +0.8
comp=Z,54nm,1.2s
ONI **Oni** 82.42 313 P P 23 41 18.9 +1.4
ONI **Oni** 82.42 313 P P 23 41 18.9 +1.4
GNI **Garni** 82.44 310*c* *i*P P 23 41 18.8 +1.0
GNI pmax pmax
comp=Z,51nm,1.3s
SWMT **Swartz Lake** 82.51 42 *e*P P 23 41 18.7 +0.7
PAGB **Antelope Grade** 82.69 55 *e*P P 23 41 20.6 +1.5
comp=Z,11nm,0.8s
BGD **Bogdanovka** 82.82 311 P P 23 41 21.1 +1.3
MSO **Missoula** 82.82 42 P P 23 41 19.7 +0.1
baz=294
AKH **Akhalkalaki** 82.84 312 P P 23 41 21.9 +2.0
AKH **Akhalkalaki** 82.84 312 ⇓ *i*P P 23 41 20.6 +0.7
AKH **Akhalkalaki** 82.84 312 P P 23 41 21.9 +2.0
STEI **Steigen** 82.85 343 *e*P P 23 41 19.3 +0.2
STEI IAmb IAmb 23 41 19.5
comp=Z,24nm,0.7s
SLMT **Seeley Lake** 82.93 42 *e*P P 23 41 20.8 +0.6
BMN **Battle Mountai** 83.16 49 *e*P P 23 41 22.6 +1.1
BMN pmax pmax
comp=Z,7.0nm,0.6s
BMN **Battle Mountai** 83.16 49 *e*P P 23 41 22.6 +1.1
comp=Z,6.9nm,0.6s
FIA1 **FINESS Array S** 83.17 334 *e*P P 23 41 20.2 -0.7
FINES **FINESS Array B** 83.17 334 P P 23 41 20.1 -0.8
comp=Z,14nm,0.4s,baz=69,slow=4.7,SNR=189
CHMT **Chamberlain Mo** 83.22 42 *e*P P 23 41 22.1 +0.3
PKM **Mcpherson Peak** 83.33 55 P P 23 41 23.4 +0.9
baz=292,SNR=6.8
VES **Vestal, Richgr** 83.53 54 P P 23 41 23.7 +0.4
baz=292
HLID **Hailey** 83.84 46 P P 23 41 25.6 +0.6
baz=294
HLID **Hailey** 83.84 46 *e*P P 23 41 25.7 +0.8
ARVC **Arvin** 83.99 55 P P 23 41 26.3 +0.7
baz=292
CWC **Cottonwood Cre** 84.06 53 P P 23 41 26.8 +0.7
baz=293
LRM **Limekiln Ridge** 84.18 43 *e*P P 23 41 27.3 +0.7
HRY **Holter Researc** 84.19 42 *e*P P 23 41 27.5 +1.0
DLMT **Dillon** 84.28 43 *e*P P 23 41 27.9 +0.9
comp=Z,23nm,1.4s
MOR8 **Moi Rana** 84.28 341 *e*P P 23 41 24.7 -1.8
MOR8 IAmb IAmb 23 41 25.4
comp=Z,24nm,0.7s
MCMT **McKenzie Canyo** 84.34 44 *e*P P 23 41 28.4 +0.9
DAC **Darwin (Calif)** 84.48 53 *e*P P 23 41 28.7 +0.4
DAC pmax pmax
comp=Z,9.0nm,1.4s
DAC **Darwin (Calif)** 84.48 53 *e*P P 23 41 28.6 +0.4
comp=Z,8.8nm,1.4s
VSU **Vasula** 84.54 332⇓ *e*P P 23 41 27.4 -0.4
VSU pmax pmax
comp=Z,64nm,1.4s
STOK **Stokkvaagen** 84.58 342 *e*P P 23 41 27.6 -0.3
MPMC **Manual Prospec** 84.65 53 P P 23 41 30.1 +0.9
baz=293
EDW2 **Edwards Air Fo** 84.72 55 P P 23 41 30.3 +1.0
baz=293
LRMC **Laurel Mtn Rad** 84.73 54 P P 23 41 30.0 +0.5
baz=293
BOZ **Bozeman (W)** 84.79 43 P P 23 41 30.1 +0.5
baz=296,SNR=17
BOZ **Bozeman (W)** 84.79 43 *e*P P 23 41 30.3 +0.7
BOZ pmax pmax
comp=Z,10.0nm,0.6s
BOZ **Bozeman (W)** 84.79 43 *e*P P 23 41 30.2 +0.7
comp=Z,9.5nm,0.6s
EGMT **Eagleton** 84.88 40 P P 23 41 30.5 +0.7
baz=297
FURC **Furnace Creek,** 84.95 53 P P 23 41 31.6 +1.3
baz=293
R11A **Troy Canyon, C** 85.14 51 P P 23 41 32.2 +0.7
baz=294
R11A **Troy Canyon, C** 85.14 51 *e*P P 23 41 32.3 +0.8
comp=Z,9.4nm,1.0s
TPNV **Topopah Spring** 85.22 52 P P 23 41 32.4 +0.5
baz=294
TPNV **Topopah Spring** 85.22 52 *e*P P 23 41 32.7 +0.8
TPNV pmax pmax
comp=Z,15nm,0.8s
TPNV **Topopah Spring** 85.22 52 *e*P P 23 41 32.7 +0.8
comp=Z,15nm,0.8s
QLMT **Earthquake Lak** 85.25 44 *e*P P 23 41 33.3 +1.3
YHB **Horse Butte** 85.44 44 *e*P P 23 41 34.8 +1.8
comp=Z,16nm,0.7s
GSC **Goldstone, Bar** 85.45 54 P P 23 41 33.4 +0.4
baz=293
GSC **Goldstone, Bar** 85.45 54 *e*P P 23 41 33.8 +0.8
GSC pmax pmax
comp=Z,19nm,1.3s
GSC **Goldstone, Bar** 85.45 54 *e*P P 23 41 33.8 +0.8
comp=Z,19nm,1.3s
ANN **Anapa** 85.49 317 *e*P P 23 41 28.0 -4.8
ANN *e**PP pP 23 42 37.1 -5.7
ANN *e*S **SKSac** 23 51 23.0 -6.3
ANN pmax pmax
comp=Z,37nm,1.3s
SHOC **Shoshone, Teco** 85.61 53 P P 23 41 34.5 +0.8
baz=294
YMR **Madison River** 85.62 44 *e*P P 23 41 35.9 +2.1
comp=Z,25nm,0.7s
YHH **Holmes Hill** 85.64 43 *e*P P 23 41 35.7 +1.7
comp=Z,20nm,1.4s
HVU **Hansel Valley** 85.68 47 *e*P P 23 41 35.5 +1.4
HVU pmax pmax
comp=Z,24nm,1.5s
HVU **Hansel Valley** 85.68 47 *e*P P 23 41 35.5 +1.4
comp=Z,24nm,1.5s
YNR **Norris Junctio** 85.78 43 *e*P P 23 41 37.7 +3.1
comp=Z,13nm,0.9s
YFT **Old Faithful** 85.80 44 *e*P P 23 41 37.9 +3.2
comp=Z,13nm,0.9s
FFC **Flin Flon** 85.82 32 *e*P P 23 41 35.0 +0.8
FFC pmax pmax
comp=Z,15nm,0.7s
FFC **Flin Flon** 85.82 32 *e*P P 23 41 35.0 +0.8
comp=Z,15nm,0.7s
MURC **Murrieta** 85.83 56 P P 23 41 35.2 +0.5
baz=293
BGU **Big Grassy Mou** 85.87 48 *e*P P 23 41 36.0 +1.0
comp=Z,5.0nm,0.8s
SUMG **Summit** 85.95 0 *e*P P 23 41 35.5 +0.5
SUMG pmax pmax
comp=Z,75nm,1.9s
SUMG **Summit** 85.95 0 *e*P P 23 41 35.5 +0.5
comp=Z,75nm,1.9s
IMW **Indian Meadow** 85.98 44 *e*P P 23 41 37.2 +1.5
comp=Z,8.5nm,0.9s
HEC **Hector,Ludlow** 86.00 54 P P 23 41 36.4 +0.8
baz=294
FXWY **Fox Creek** 86.04 44 *e*P P 23 41 37.3 +1.4
comp=Z,6.1nm,1.1s
TUQ **Turquoise Moun** 86.06 53 P P 23 41 37.0 +1.0
baz=294
SPUT **South Promonto** 86.11 47 *e*P P 23 41 37.3 +1.2
comp=Z,9.8nm,1.0s
TPAW **Teton Pass** 86.15 45 *e*P P 23 41 37.8 +1.3
comp=Z,6.8nm,1.0s
MOOW **Moose Ponds** 86.17 44 *e*P P 23 41 37.8 +1.3

comp=Z,4.7nm,0.9s
109C **Camp Elliot, M** 86.18 56 P P 23 41 36.9 +0.4
baz=293
SHPR **Sheep Range** 86.20 52 *e*P P 23 41 38.1 +1.4
comp=Z,7.4nm,0.8s
LOHW **Long Hollow** 86.33 44 *e*P P 23 41 38.3 +1.0
comp=Z,5.7nm,1.3s
DUG **Dugway, Tooele** 86.33 48 P P 23 41 37.9 +0.6
baz=295
DUG **Dugway, Tooele** 86.33 48 *e*P P 23 41 38.0 +0.7
DUG pmax pmax
comp=Z,11nm,0.8s
DUG **Dugway, Tooele** 86.33 48 *e*P P 23 41 38.0 +0.7
comp=Z,11nm,0.8s
PFO **Pinyon Flats O** 86.39 55 P P 23 41 38.2 +0.5
baz=294,SNR=7.1
PFO **Pinyon Flats O** 86.39 55 *e*P P 23 41 38.5 +0.9
PFO pmax pmax
comp=Z,11nm,0.9s
PFO **Pinyon Flats O** 86.39 55 *e*P P 23 41 38.5 +0.9
comp=Z,11nm,0.9s
TPFO **Pinon Flats** 86.39 55 P P 23 41 38.4 +0.7
baz=294,SNR=8.2
MARD **Mardin** 86.40 309 *e*P P 23 41 37.7 +0.1
comp=Z,12nm,0.8s
RLMT **Red Lodge** 86.50 43 P P 23 41 39.2 +1.2
baz=298,SNR=16
RLMT **Red Lodge** 86.50 43 *e*P P 23 41 39.6 +1.6
comp=Z,13nm,0.6s
GMRC **Granite Mounta** 86.52 54 P P 23 41 39.0 +0.8
baz=294
HWUT **Hardware Ranch** 86.58 46 *e*P P 23 41 39.5 +1.0
comp=Z,11nm,1.1s
BELC **Belle Mtn. Jos** 86.58 55 P P 23 41 39.0 +0.4
baz=294,SNR=8.1
MONP2 **Monument Peak** 86.70 56 P P 23 41 39.8 +0.5
baz=294,SNR=8.7
TCUT **Toone Canyon** 86.90 47 *e*P P 23 41 41.0 +0.9
comp=Z,13nm,1.2s
NLU **North Lily Min** 86.95 48 *e*P P 23 41 41.3 +1.0
comp=Z,7.2nm,1.0s
IKP **In-Ko-Pah, Jac** 87.04 56 P P 23 41 41.2 +0.4
baz=294
CCUT **Cedar City** 87.07 51 *e*P P 23 41 42.2 +1.3
comp=Z,3.6nm,0.9s
JLU **Jordanelle** 87.09 47 *e*P P 23 41 42.0 +1.0
comp=Z,9.6nm,1.1s
BC3 **Big Chuckawall** 87.14 55 P P 23 41 42.0 +0.8
baz=294,SNR=12
SWSC **Sam W. Stewart** 87.16 56 P P 23 41 41.7 +0.6
baz=294
IRM **Iron Mountain** 87.17 54 P P 23 41 41.9 +0.6
baz=294,SNR=6.0
LCMT **Little Creek M** 87.38 51 *e*P P 23 41 43.6 +1.3
comp=Z,6.9nm,0.9s
BW06 **Boulder Array** 87.39 45 P P 23 41 42.7 +0.3
baz=297
BW06 **Boulder Array** 87.39 45 *e*P P 23 41 42.1 -0.3
PD31 **Pinedale Array** 87.39 45 *e*P P 23 41 42.5 +0.1
PDAR **Pinedale Array** 87.39 45 P P 23 41 42.5 +0.1
comp=Z,1.0nm,0.6s,baz=181,slow=1.9,SNR=8.7
AKASG **Malin Array Be** 87.49 324 P P 23 41 41.0 -1.3
comp=Z,5.7nm,0.6s,baz=51,slow=5.0,SNR=29
AKBB **Malin Array Si** 87.49 324 *e*P P 23 41 41.1 -1.2
AKBB **Malin Array Si** 87.49 324 *e*P P 23 41 41.1 -1.2
MSU **Marysvale** 87.50 49 *e*P P 23 41 44.3 +1.3
MSU **Marysvale** 87.50 49 *e*P P 23 41 44.3 +1.3
KIEV **Kiev** 87.50 324 *e*P P 23 41 41.0 -1.4
KIEV **Kiev** 87.50 324 *e*P P 23 41 41.0 -1.4
AK11 **Malin Array Si** 87.53 324 *e*P P 23 41 41.2 -1.3
LAO **LASA Array** 87.62 40 P P 23 41 44.3 +1.1
baz=300
LAO **LASA Array** 87.62 40 *e*P P 23 41 44.3 +1.1
comp=Z,19nm,1.0s
KNB **Kanab** 87.69 51 *e*P P 23 41 45.4 +1.6
KNB pmax pmax
comp=Z,18nm,1.0s
KNB **Kanab** 87.69 51 *e*P P 23 41 45.4 +1.6
comp=Z,18nm,1.0s
Y12C **Blythe** 87.81 55 P P 23 41 44.9 +0.7
baz=295
Y12C **Blythe** 87.81 55 *e*P P 23 41 45.5 +1.3
PDMCI **Parker Dam,Lak** 87.86 54 P P 23 41 45.4 +1.0
baz=295
GLA **Glamis** 87.86 55 P P 23 41 45.6 +1.1
baz=295
GLA **Glamis** 87.86 55 *e*P P 23 41 45.9 +1.3
GLA pmax pmax
comp=Z,12nm,0.8s
GLA **Glamis** 87.86 55 *e*P P 23 41 45.9 +1.3
comp=Z,12nm,0.8s
P17A **Butcher Ranch,** 88.08 48 *e*P P 23 41 46.7 +1.1
comp=Z,6.0nm,0.8s
RAYN **Ar Rayn** 88.17 294 *e*P P 23 41 45.4 -0.8
comp=Z,6.3nm,0.8s
U15A **North Rim** 88.33 51 *e*P P 23 41 48.0 +1.0
P18A **Preston Nutter** 88.36 48 *e*P P 23 41 48.0 +0.9
comp=Z,4.9nm,0.7s
SRU **San Rafael Swe** 88.40 48 *e*P P 23 41 47.9 +0.8
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU **San Rafael Swe** 88.40 48 *e*P P 23 41 47.9 +0.8
comp=Z,9.4nm,0.7s
NC405 **NORSAR Array S** 88.71 339 *e*P P 23 41 47.1 -0.8
Y14A **Wickenburg** 88.87 54 *e*P P 23 41 50.2 +0.9
NC204 **NORSAR Array S** 88.91 339 *e*P P 23 41 48.5 -0.4
NB2 **NORSAR Subarra** 88.93 339 P P 23 41 47.6 -1.3
comp=Z,3.5nm,0.7s,baz=48,slow=4.6
NB2 **NORSAR Subarra** 88.93 339 P P 23 41 47.6 -1.3
baz=48,slow=4.6
NOA **NORSAR Array B** 88.93 339 P P 23 41 47.7 -1.3
comp=Z,5.1nm,0.8s,baz=46,slow=4.5,SNR=15
SORM **Soroca** 89.34 323 ⇓ *i*P P 23 41 49.6 -1.4
SORM **Soroca** 89.34 323 ⇓P P 23 41 49.6 -1.4
WUAZ **Wupatki** 89.39 52 P P 23 41 52.5 +0.7
baz=296
WUAZ **Wupatki** 89.39 52 *e*P P 23 41 52.8 +0.9
comp=Z,15nm,1.4s
K22A **Casper** 89.41 44 P P 23 41 52.3 +0.5
baz=299
O20A **White River Ci** 89.49 47 P P 23 41 52.4 +0.1
baz=298
O20A **White River Ci** 89.49 47 *e*P P 23 41 52.5 +0.3
PV09 **Paradox Valley** 89.64 48 *e*P P 23 41 54.2 +1.1
PV10 **Paradox Valley** 89.76 48 *e*P P 23 41 55.0 +1.4
214A **Organ Pipe Nat** 89.87 56 P P 23 41 55.0 +1.0
baz=296
214A **Organ Pipe Nat** 89.87 56 *e*P P 23 41 54.9 +1.0
PV01 **Paradox Valley** 90.20 48 *e*P P 23 41 55.9 +0.3
RSSD **Black Hills** 90.25 42 P P 23 41 55.4 -0.3
baz=301
RSSD **Black Hills** 90.25 42 *e*P P 23 41 56.0 +0.3
RSSD **Black Hills** 90.25 42 *e*P P 23 41 56.0 +0.3
BR131 **Keskin Array S** 90.33 313 *e*P P 23 41 55.2 -0.8
BRTR **Keskin Array B** 90.33 313 P P 23 41 54.9 -1.2
comp=Z,4.2nm,0.7s,baz=76,slow=3.2,SNR=21
N23A **Red Feather La** 90.66 45 P P 23 41 57.7 0.0
baz=300
N23A **Red Feather La** 90.66 45 *e*P P 23 41 58.2 +0.5
MVCO **Mesa Verde** 90.69 49 P P 23 41 58.3 +0.4
baz=298
SMCO **Snowmass** 90.81 47 *e*P P 23 41 59.1 +0.5
comp=Z,7.2nm,0.8s
BR231 **Keskin MP Arra** 90.85 314 *e*P P 23 41 56.3 -2.2
CFR **Carcaliu** 91.05 320 ⇓ *i*P P 23 41 57.9 -1.2
CFR **Carcaliu** 91.05 320 ⇓P P 23 41 57.9 -1.2
TUC **Tucson** 91.26 54 P P 23 42 00.5 0.0
baz=297
TUC **Tucson** 91.26 54 *e*P P 23 42 01.1 +0.7
TUC **Tucson** 91.26 54 *e*P P 23 42 01.1 +0.7
BUR08 **Bucovina Ar. S** 91.38 323 *e*P P 23 42 00.3 -0.3
BURAR **Bucovina Array** 91.39 323 ⇑ *i*P P 23 41 59.7 -1.0
BURAR **Bucovina Array** 91.39 323 ⇑P P 23 41 59.7 -1.0
ISCO **Idaho Springs** 91.42 46 P P 23 42 02.2 +0.8
baz=300,SNR=6.6
ISCO **Idaho Springs** 91.42 46 *e*P P 23 42 01.7 +0.4
ISCO **Idaho Springs** 91.42 46 *e*P P 23 42 01.7 +0.4
TLB **Topalu** 91.43 320 ⇑ *i*P P 23 41 59.8 -1.0
TLB **Topalu** 91.43 320 ⇑P P 23 41 59.8 -1.0
VRI **Vrincioaia** 91.51 321 ⇑ *i*P P 23 42 02.2 +1.0
VRI **Vrincioaia** 91.51 321 ⇑P P 23 42 02.2 +1.0
S22A **4UR Ranch, Cre** 91.60 48 P P 23 42 02.4 +0.3
baz=299,SNR=5.1
S22A **4UR Ranch, Cre** 91.60 48 *e*P P 23 42 02.5 +0.3
Q24A **Divide** 92.15 46 P P 23 42 04.8 +0.1
baz=300

SDCO	Great Sand Dun	92.52	48	P	P	23 42 06.8	+0.4
	baz=300						
ARR	Arges	93.00	322	⇑iP	P	23 42 07.5	-0.7
OGNE	Ogallala	93.17	44	eP	pP	23 43 18.0	-1.8
ANMO	Albuquerque	93.22	50	P	P	23 42 10.1	+0.5
	baz=299						
ANMO	Albuquerque	93.22	50	⇓eP	P	23 42 10.5	+0.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	Albuquerque	93.22	50	eP	P	23 42 09.5	-0.1
DRGR		93.25	324	⇓iP	P	23 42 08.5	-0.8
DRGR		93.25	324	⇓iP	P	23 42 08.5	-0.8
121A	Cookes Peak, D	93.41	53	P	P	23 42 11.0	+0.5
	baz=298						
VYHS	Vyhne	94.26	327	eP	P	23 42 13.2	-0.6
VYHS	Vyhne	94.26	327	eP	P	23 42 13.2	-0.6
MDVR	Moldovita	95.02	322	⇓iP	P	23 42 16.3	-1.1
CLL	Collm	95.18	331	iP	P	23 42 16.9	-1.0
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
CLL	Collm	95.18	331	iPdif	P	23 42 16.9	-1.0
	comp=Z,8.0nm,1.4s						
VTS	Vitosha	95.45	320	⇑iP	P	23 42 19.0	-0.5
VTS	Vitosha	95.45	320	⇑P	P	23 42 19.0	-0.5
GERES	GERESS Array B	96.57	329	P	P	23 42 23.2	-1.1
	comp=Z,1.0nm,0.6s,baz=45,slow=4.0,SNR=7.6						
TXAR	Lajitas Array	98.05	54	P	P	23 42 30.5	-1.0
	comp=Z,0.6nm,0.8s,baz=338,slow=2.1,SNR=5.8						
TXAR				PKKPbc	PKKPbc	23 59 03.0	-0.2
	comp=Z,0.3nm,0.8s,baz=116,slow=6.1,SNR=4.9						
MAW	Mawson	106.24	203	PKKPbc	PKKPbc	23 58 39.0	-2.2
	comp=Z,0.8nm,0.8s,baz=297,slow=6.4,SNR=2.6						
ESDC	Sonseca Array	111.66	333	PKiKP	PKiKP	23 47 28.3	+0.6
	comp=Z,0.1nm,0.4s,baz=16,slow=3.4,SNR=3.4						
ESDC				PP	PP	23 48 10.7	-2.8
	comp=Z,0.1nm,0.4s,baz=28,slow=6.6,SNR=3.8						
ESDC				PKKPbc	PKKPbc	23 58 21.9	-1.1
	comp=Z,0.1nm,0.4s,baz=240,slow=2.3,SNR=4.6						
ESDC				PKKPab	PKKPab	23 58 32.2	-3.1
	comp=Z,0.7nm,0.9s,baz=243,slow=5.2,SNR=5.6						
LSZ	Lusaka	118.39	264	PKP	PKPdf	23 47 40.9	-0.4
	comp=Z,5.0nm,0.6s,baz=117,slow=0.3,SNR=17						
MATP	Matopo	119.45	258	PKP	PKPdf	23 47 41.5	-1.7
	comp=Z,2.3nm,0.8s,baz=78,slow=7.3,SNR=4.1						
LBTB	Lobatse	123.04	254	PKP	PKPdf	23 47 49.2	-0.7
	comp=Z,5.5nm,0.8s,baz=189,slow=6.1,SNR=5.7						
BOSA	Boshof	123.92	249	PKP	PKPdf	23 47 51.0	-0.6
	comp=Z,1.8nm,0.7s,baz=37,slow=3.3,SNR=3.2						
BOSA	Boshof	123.92	249	PKIKP	PKPdf	23 47 51.0	-0.6
SNAA	Sanae	126.36	193	P	PKPdf	23 47 54.7	-0.2
SNAA	Sanae	126.36	193	PKP	PKPdf	23 47 54.8	-0.1
	comp=Z,6.3nm,1.0s,baz=198,slow=3.5,SNR=24						
SNAA	Sanae	126.36	193	ePKIKP	PKPdf	23 47 54.4	-0.5
SNAA	Sanae	126.36	193	ePKPdf	PKPdf	23 47 54.4	-0.5
VNA2	Neumayer--Watz	127.85	192	P	PKPdf	23 47 57.9	+0.2
	baz=91,slow=0.7						
VNA3	Neumayer Olymp	128.00	191	P	PKPdf	23 47 58.5	+0.5
VNA1	Neumayer--Stat	128.24	192	P	PKPdf	23 47 59.1	+0.8
TORD	Torodi Ar. Bea	128.73	309	PKP	PKPdf	23 48 00.8	-0.2
	comp=Z,1.5nm,0.4s,baz=354,slow=1.5,SNR=4.6						
TSUM	Tsumeb	129.18	262	PKP	PKPdf	23 48 02.7	+0.9
	comp=Z,2.0nm,0.8s,baz=63,slow=16,SNR=2.9						
ROSC	El Rosal	134.78	59	PKP	PKPdf	23 48 13.1	+0.1
	comp=Z,4.1nm,0.3s,baz=90,slow=20,SNR=2.9						
DBIC	Dimbokro	137.83	308	PKhKP	PKPpre	23 48 06.1	
	comp=Z,3.5nm,0.9s,baz=39,slow=6.5,SNR=3.5						
DBIC				PKP	PKPdf	23 48 18.4	+0.3
	comp=Z,3.1nm,0.6s,baz=24,slow=1.8,SNR=7.4						
PLCA	Paso Flores	145.77	131	PKPbc	PKPab	23 48 33.3	-0.3
	comp=Z,26nm,0.7s,baz=262,slow=3.6,SNR=42						
LPAZ	La Paz	149.94	85	PKP	PKPdf	23 48 40.6	+0.9
	comp=Z,9.7nm,1.0s,baz=353,slow=3.1,SNR=31						
LPAZ				PKPbc	PKiKP	23 48 45.8	+0.1
	comp=Z,19nm,0.6s,baz=325,slow=2.3,SNR=65						
LVC	Limon Verde	150.30	98	ePKPbc	PKPbc	23 48 45.9	+0.6
SAML	Samuel	151.65	67	ePKPdf	PKPdf	23 48 41.8	+0.2
SAML				ePKPbc	PKPbc	23 48 48.1	-0.1
SAML				ePKPab	PKPab	23 48 57.3	-0.8
BDFB	Brasilia	167.80	62	PKP	PKPdf	23 48 58.5	-1.3
	comp=Z,1.3nm,0.7s,baz=193,slow=3.2,SNR=3.2						

*IDC **15** 23:48:35.6±2.9, 10.°03S×116.°53E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=160.7km s-min=23.4km az=50.0*
*ISCJB **15** 23:48:40.1±1.2, 10.°4S±0.°1×116.°6E±0.°1, h33km, mb3.5/4, Error ellipse: s-maj=22.8km s-min=9.1km az=137.2*
*DJA **15** 23:48:51.1±0.9, 9.°S±18.°×11.°7E±.°, h86km±17km, M3.4/8, MLv3.4/8*

ISC 15 23:48:41.0±1.2, 10.°3S±0.°1×116.°6E±0.°1, h35km, n11, σ1§82/10, mb3.6/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.55	10	P	Pn	23 49 06.6	+0.5
PLAI	Plampang	1.83	39	P	Pn	23 49 11.9	+1.9
IGBI	Denpasar	2.05	315	P	Pn	23 49 19.1	+6.1
DNP	Denpasar	2.11	319	P	Pn	23 49 18.7	+4.9
DNP				S	Sn	23 49 40.1	+1.3
SRBI	Singaraja	2.58	327	P	Pn	23 49 22.0	+1.7
SRBI				S	Pn	23 49 22.2	+1.9
JAGI	Jajag, Banyuwa	3.02	306	P	Pn	23 49 32.6	+6.2
WRA	Warramunga Arr	19.60	121	P	Pn	23 53 08.3	+0.3
	1.4nm,0.3s,baz=297,slow=11,SNR=6.3						
ASAR	Alice Springs	21.20	131	P	P	23 53 25.1	+1.4
	0.9nm,0.6s,baz=306,slow=10,SNR=14						
SONM	Songino Array	58.56	352	P	P	23 58 32.3	-1.9
	0.2nm,0.3s,baz=167,slow=6.8,SNR=2.1						
MKAR	Makanchi Array	64.55	335	P	P	23 59 13.3	-1.3
	0.2nm,0.4s,baz=157,slow=7.3,SNR=4.6						
ZALV	Zalesovo Beam	69.42	341	P	P	23 59 43.3	-2.0
	0.6nm,0.4s,baz=160,slow=4.7,SNR=3.9						

*IDC **16** 00:14:17.2±0.9, 52.°23N×171.°80W, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/42, mbtmp3.9/15, ML3.6/1, MS2.9/2, Ms1 3.0/2, ms1mx2.5/60, Error ellipse: s-maj=25.9km s-min=19.7km az=166.0*
*NEIC **16** 00:14:21.2±0.0, 51.°70N×171.°36W, h42km, ML3.6(AEIC), After AEIC.*

ISC 16 00:14:24.1±0.9, 52.°3N±0.°2×171.°61W±0.°05, h44km, n51, σ1§48/48, mb3.9/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.50	274	P	Pn	00 14 51.0	+2.4
KOFP	Korovin Flat P	1.53	271	P	Pn	00 14 50.6	+1.6
KONE	Korovin Northe	1.54	275	P	Pn	00 14 51.6	+2.4
KOKL	Mount Kliuchef	1.59	273	P	Pn	00 14 51.7	+1.9
ATKA	Atka Island	1.59	268	P	Pn	00 14 49.8	+0.1
ATKA				S	Sn	00 15 10.2	+1.1
NIKH	Nikolski High	1.82	66	P	Pn	00 14 52.0	-0.9
OKSO	Okmok South	2.36	61	P	Pn	00 15 01.4	+1.1
OKSO				S	Sn	00 15 31.0	+3.0
OKCE	Okmok Cone E	2.39	60	P	Pn	00 15 02.2	+1.4
OKNC	Okmok New Cone	2.42	59	P	Pn	00 15 02.9	+1.6
OKTU	Okmok Mt. Tuli	2.43	61	P	Pn	00 15 02.7	+1.3
OKFG	Magazine Ridge	2.52	62	P	Pn	00 15 03.3	+0.8
GSTD	Great Sitkin T	2.80	267	P	Pn	00 15 07.3	+0.8
GSTD				S	Sn	00 15 40.8	+1.8
GSCK	Great Sitkin C	2.82	266	P	Pn	00 15 07.2	+0.6
ETKA	Kagalaska Isla	2.99	264	P	Pn	00 15 09.4	+0.5
ADAG	Mount Adagdak	3.09	266	P	Pn	00 15 11.7	+1.3
ADK	Adak	3.15	265	P	Pn	00 15 11.2	-0.1
ADK				S	Sn	00 15 48.3	+0.7
MREP	Makushin Rep't	3.31	60	P	Pn	00 15 14.9	+1.5
MSW	Makushin Switc	3.34	59	P	Pn	00 15 14.7	+0.9
MTBL	Makushin Table	3.42	58	P	Pn	00 15 16.4	+1.5
KIKV	Kanaga Island	3.45	266	P	Pn	00 15 16.3	+0.9
UNV	Unalaska Valle	3.46	61	P	Pn	00 15 16.4	+0.9
TAFP	Tanaga Falls P	3.95	267	P	Pn	00 15 23.1	+0.9
AKUT	Akutan	3.97	60	ePn	Pn	00 15 23.4	+1.0
WESP	Westdahl Peak	4.68	59	P	Pn	00 15 33.6	+1.4
SSLN	Shishaldin Nor	5.20	58	P	Pn	00 15 41.4	+2.0
KDAK	Kodiak Island	12.21	56	Pn	Pn	00 17 12.3	-2.9
	0.5nm,0.3s,baz=220,slow=6.7,SNR=11						
ILAR	Eielson Array	17.82	36	P	P	00 18 28.1	-0.7
	0.1nm,0.3s,baz=224,slow=9.9,SNR=4.7						
ILAR				LR	LR	00 25 15.0	
	comp=Z,40nm,20.6s,baz=212,slow=37						
PETK	Petropavlovsk-	18.56	285	P	Pn	00 18 37.2	-0.3
	0.2nm,0.3s,baz=84,slow=15,SNR=5.0						
SEY	Seymchan	21.73	313	P	P	00 19 11.8	+0.6
	1.0nm,0.4s,baz=341,slow=22,SNR=5.8						
DLBC	Dease Lake	24.11	59	P	P	00 19 36.1	+0.6
	2.1nm,0.6s,baz=264,slow=13,SNR=4.3						
INK	Inuvik	24.19	34	P	P	00 19 35.9	-0.1
	3.4nm,1.0s,baz=205,slow=8.0,SNR=3.7						
TIXI	Tiksi	32.11	329	P	P	00 20 44.4	-2.1
	1.7nm,0.3s,baz=65,slow=5.9,SNR=5.5						
H11N2	WAKE ISLAND Hy	36.55	215	T	T	00 59 59.9	
	baz=21,slow=76,SNR=22						
H11N3	WAKE ISLAND Hy	36.56	215	T	T	01 00 00.9	
	baz=21,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	36.57	215	T	T	00 59 54.1	
	baz=21,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	37.75	215	T	T	01 01 24.5	
	baz=22,slow=75,SNR=20						
H11S2	WAKE ISLAND Hy	37.76	215	T	T	01 01 25.6	
	baz=22,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	37.77	215	T	T	01 01 25.8	
	baz=22,slow=75,SNR=11						
MJAR	Matsushiro Arr	38.32	266	LR	LR	00 36 26.4	
	comp=Z,18nm,21.3s,baz=245,slow=35						
SONM	Songino Array	50.16	300	P	P	00 23 15.6	+0.5
	0.5nm,0.5s,baz=44,slow=7.3,SNR=3.7						
TXAR	Lajitas Array	54.13	87	P	P	00 23 45.6	+0.9
	0.1nm,0.4s,baz=251,slow=2.8,SNR=3.3						
ZALV	Zalesovo Beam	56.55	316	P	P	00 24 01.4	-0.3
	0.6nm,0.5s,baz=31,slow=8.0,SNR=3.6						
ARCES	ARCESS Array B	57.86	353	P	P	00 24 09.9	-0.8
	4.0nm,1.0s,baz=12,slow=7.2,SNR=5.6						
MKAR	Makanchi Array	62.86	312	P	P	00 24 44.3	-0.9
	0.9nm,0.4s,baz=43,slow=6.7,SNR=24						
FINES	FINESS Array B	65.75	351	P	P	00 25 02.2	-1.6
	1.6nm,0.8s,baz=10.0,slow=5.7,SNR=5.2						
NOA	NORSAR Array B	67.01	359	P	P	00 25 12.2	+0.2
	1.2nm,0.9s,baz=2.9,slow=6.2,SNR=3.0						
CMAR	Chiang Mai Arr	75.29	281	P	P	00 26 02.5	-0.1
	0.5nm,0.3s,baz=27,slow=6.5,SNR=4.6						
GERES	GERESS Array B	79.15	356	P	P	00 26 23.6	-0.3
	0.3nm,0.6s,baz=8.8,slow=7.0,SNR=3.0						
ESDC	Sonseca Array	87.80	10	P	P	00 27 07.7	-0.7
	0.1nm,0.3s,baz=340,slow=2.0,SNR=4.1						
ASAR	Alice Springs	89.29	228	P	P	00 27 13.3	-2.1
	1.1nm,0.7s,baz=32,slow=5.0,SNR=12						
MAW	Mawson	149.94	219	PKPbc	PKPdf	00 34 06.9	+3.9
	1.0nm,0.8s,baz=270,slow=4.0,SNR=3.7						

*KRNET **16** 00:18:14.8±0.1, 43.°72N×77.°52E, h35km, mb2.3*
*SOME **16** 00:18:15.7, 43.°62N×77.°53E, h15km*

ISC 16 00:18:14.6±3.1, 43.°66N±0.°03×77.°49E±0.°02, h8km±24km, n27, σ1§77/52, 13C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	Chushkaly	0.41	299	eP	Pb	00 18 24.2	0.0
	12nm,0.2s						
CHKK				eS	Sb	00 18 30.2	-0.4
	171nm,0.1s						
KOTS	Kotyrbulak	0.50	213	eP	Pb	00 18 26.0	+0.2
KOTS				eS	Sb	00 18 33.3	0.0
KURS	Kuram	0.52	109	eP	Pb	00 18 25.9	-0.1
KURS				eS	Sb	00 18 33.1	-0.6
KTBS	Karatobe	0.59	276	eP	Pb	00 18 27.1	-0.1
KTBS				eS	Sb	00 18 35.2	-0.5
MDOK	Medeo	0.59	213	eP	Pb	00 18 26.2	-1.0
	5.0nm,0.1s						
MDOK				eS	Sb	00 18 33.6	-2.2
	16nm,0.1s						
ARXS	Arharly	0.61	24	eP	Pb	00 18 27.1	-0.4
	12nm,0.1s						
ARXS				eS	Sb	00 18 35.3	-1.0
	10.0nm,0.1s						
AAA	Alma-Ata	0.61	223	eP	Pb	00 18 27.2	-0.4
	18nm,0.1s						
AAA				eS	Sb	00 18 35.0	-1.3
	91nm,0.1s						
TNSS	Tian-Shan	0.73	213	eP	Pb	00 18 29.7	-0.2
	6.3nm,0.1s						
TNSS				eS	Sb	00 18 39.9	-0.3
	51nm,0.2s						
ZHN	Zhinishke	0.84	125	eP	Pb	00 18 30.0	-1.6
	5.1nm,0.1s						
ZHN				eS	Sb	00 18 40.5	-2.6
	16nm,0.2s						
KUU	Kurty	0.87	286	eP	Pb	00 18 31.0	-0.9
	0.7nm,0.1s						
KUU				eS	Sb	00 18 42.1	-1.5
	12nm,0.2s						
KPKS	Kokpek	0.89	102	eP	Pb	00 18 31.0	-1.3
	5.6nm,0.1s						
KPKS				eS	Sb	00 18 41.9	-2.5
	34nm,0.2s						
IZV	Izvestkoviy	0.89	226	eP	Pb	00 18 33.0	+0.6
	6.1nm,0.1s						
IZV				eS	Sb	00 18 45.4	+0.9
	12nm,0.1s						
SATY	Saty	0.90	131	eP	Pb	00 18 31.4	-1.1
	37nm,0.1s						
SATY				eS	Sb	00 18 42.4	-2.2
	204nm,0.1s						
MTBS	Maitube	0.94	236	eP	Pb	00 18 32.3	-0.8
	7.3nm,0.2s						
MTBS				eS	Sb	00 18 44.1	-1.6
	26nm,0.3s						
UZB	Uzynbulak	1.23	114	eP	Pn	00 18 37.0	-1.2
	1.9nm,0.2s						
UZB				eS	Sb	00 18 52.0	-2.2
	7.0nm,0.1s						
KST	Kastek	1.27	242	eP	Pn	00 18 38.1	-0.6
	1.2nm,0.2s						
KST				eS	Sn	00 18 54.2	-1.9
	15nm,0.3s						
DGS	Degeres	1.32	252	eP	Pn	00 18 39.7	+0.3
	4.2nm,0.2s						
DGS				eS	Sn	00 18 56.8	-0.4
	22nm,0.4s						
PDGK	Podgornoye	1.49	102	⇑iP	Pn	00 18 41.1	-0.7
	baz=105						
PDGK				⇑iS	Sn	00 19 00.5	-1.0
	baz=105						
SHLS	Shalkode	1.52	108	eP	Pb	00 18 47.8	+4.7
	28nm,0.1s						
SHLS				eS	Sb	00 19 10.5	+7.9
	7.1nm,0.3s						
KDJ	Kajisay	1.54	189	⇑iP	Pn	00 18 43.0	+0.5
	baz=189						
TKM2	Tokmak 2	1.57	243	⇓iP	Pn	00 18 43.2	+0.3
	baz=241						
ULHL	Ulahol	1.68	213	⇑iP	Pn	00 18 45.5	+1.0
	baz=213						
ULHL				⇑iS	Sb	00 19 07.6	+0.3
	baz=213						
DJR	Jarkent	1.79	67	eP	Pn	00 18 47.0	+1.1
	1.6nm,0.2s						
DJR				eS	Sb	00 19 09.3	-1.1
	8.3nm,0.3s						
CHMS	Chumysh	2.10	253	⇑iP	Pn	00 18 50.9	+0.8
	baz=251						
CHMS				⇑iS	Sn	00 19 16.9	+0.4
	baz=251						
KBK	Karagaybulak	2.11	243	⇑iP	Pn	00 18 51.7	+1.3
	baz=241						
KBK				⇑iS	Sn	00 19 18.0	+1.1
	baz=241						
USP	Ospenovka	2.21	261	⇑eP	Pn	00 18 52.6	+1.0
	baz=259						
USP				⇑iS	Sn	00 19 20.0	+0.8
	baz=259						
KZA	Kyzart	2.28	227	⇑iP	Pn	00 18 54.2	+1.3
	baz=226						
KZA				⇑iS	Sn	00 19 23.0	+1.6
	baz=226						

*KRNET **16** 00:18:35.8±0.1, 43.°64N×77.°54E, h18km, mb2.6*
*SOME **16** 00:18:36.3, 43.°63N×77.°52E, h10km*

ISC 16 00:18:35.6±1.1, 43.°64N±0.°03×77.°52E±0.°02, h13km±9km, n20, σ0§65/38, 19C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	Chushkaly	0.44	299	eP	Pg	00 18 44.5	+0.2
	10.0nm,0.1s						
CHKK				eS	Sg	00 18 50.2	0.0
	241nm,0.1s						
MDOK	Medeo	0.59	216	eP	Pg	00 18 47.0	-0.1
	6.6nm,0.2s						
MDOK				eS	Sg	00 18 54.7	-0.2
	21nm,0.3s						
ANVS	Anan'yevo	0.86	173	⇑eP	Pb	00 18 52.2	-0.4
	baz=174						
ANVS				⇑eS	Sg	00 19 04.5	+0.8
	baz=174						
SATY	Saty	0.87	132	eP	Pg	00 18 52.6	+0.1
	68nm,0.1s						
SATY				eS	Sg	00 19 04.0	+0.1
	197nm,0.1s						
KUU	Kurty	0.89	287	eP	Pb	00 18 52.5	-0.4
	4.3nm,0.0s						
KUU				eS	Sb	00 19 03.9	-0.8
	29nm,0.2s						
MTBS	Maitube	0.94	238	eP	Pb	00 18 53.5	-0.3
	6.3nm,0.1s						
MTBS				eS	Sb	00 19 06.2	-0.1
	44nm,0.3s						
UZB	Uzynbulak	1.20	114	eP	Pb	00 18 58.2	-0.1
	4.5nm,0.1s						
UZB				eS	Sn	00 19 13.8	-0.7
	15nm,0.1s						
KST	Kastek	1.28	243	eP	Pb	00 18 59.5	-0.1
	1.7nm,0.1s						
KST				eS	Sn	00 19 16.2	-0.1
	15nm,0.3s						
PDGK	Podgornoye	1.47	102	⇑iP	Pn	00 19 01.1	-0.8
	baz=103						
PDGK				⇑iS	Sb	00 19 21.3	-0.2
	baz=103						
PDGK	Podgornoye	1.47	102	⇑iP	Pb	00 19 02.9	+0.1
	baz=102						
PDGK				⇑iS	Sg	00 19 22.4	-0.6
	baz=102						
KDJ	Kajisay	1.53	189	⇑iP	Pb	00 19 03.3	-0.6
	baz=190						
KDJ				⇑iS	Sg	00 19 24.3	-0.6
	baz=190						
KDJ	Kajisay	1.53	189	⇑iP	Pb	00 19 04.2	+0.3
	baz=190						
KDJ				⇑iS	Sg	00 19 24.9	0.0
	baz=190						
KDJ	Kajisay	1.53	189	⇑iS	Pn	00 19 03.9	+1.1
	baz=189						
TKM2	Tokmak 2	1.58	243	⇑iP	Pn	00 19 03.9	+0.5
	baz=243						
TKM2				⇑iS	Sb	00 19 25.3	+0.7
	baz=243						
TKM2	Tokmak 2	1.58	243	⇓iS	Pn	00 19 04.2	+0.8
	baz=241						
BOOM	Boomskoye usch	1.63	226	⇓eP	Pb	00 19 06.1	+0.5
	baz=226						
BOOM				⇓iS	Sg	00 19 27.7	-0.4
	baz=226						
ULHL	Ulahol	1.68	214	⇑iP	Pb	00 19 05.9	-0.6
	baz=214						
ULHL				⇑iS	Sg	00 19 29.0	-0.7
	baz=214						
DJR	Jarkent	1.78	66	eP	Pb	00 19 08.3	+0.2
	2.7nm,0.1s						
DJR				eS	Sb	00 19 31.0	+0.6
	10nm,0.3s						
KBK	Karagaybulak	2.12	243	⇑iP	Pb	00 19 12.5	-1.5
	baz=243						
KBK				⇑iS	Sb	00 19 40.6	+0.3
	baz=243						
USP	Ospenovka	2.23	261	⇑iP	Pn	00 19 14.0	+1.8
	baz=261						
USP				⇑iS	Sb	00 19 42.6	-0.6
	baz=261						

GUC 16 00:19:58.5±0.6, 23.°90S×67.°66W, h217km±11km, ML3.6, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.73	318	eP	Pn	00 20 36.9	+0.8
LVC				eS	S	00 21 06.7	+1.5
PB06	IPOC Station P	2.13	304	⇑iP	Pn	00 20 41.4	+1.6
PB06				iS	S	00 21 13.9	+2.3
PB06				IAML		00 21 17.8	
	comp=E,82nm,0.2s						
PB09	IPOC Station P	2.56	325	⇑iP	Pn	00 20 46.3	+2.0
PB09				IAML		00 21 24.1	
	comp=E,173nm,0.3s						
PB10	IPOC Station P	2.68	278	⇑iP	Pn	00 20 47.3	+1.8
PB10				iS	S	00 21 23.8	+1.9
PB10				IAML		00 21 28.6	
	comp=E,280nm,0.3s						
PB04	IPOC Station P	2.78	304	eP	Pn	00 20 48.4	+1.7
PB04				IAML		00 21 31.1	
	comp=N,57nm,0.2s						
PB07	IPOC Station P	2.99	316	⇑iP	Pn	00 20 50.9	+1.8
PB07				iS	S	00 21 30.8	+2.3
PB07				IAML		00 21 32.9	
	comp=N,64nm,0.3s						
PB02	IPOC Station P	3.30	321	⇑iP	Pn	00 20 54.3	+1.6
PB02				iS	S	00 21 36.8	+1.9
PB02				IAML		00 21 41.2	
	comp=E,89nm,0.6s						
PB01	IPOC Station P	3.31	329	⇑iP	Pn	00 20 54.1	+1.3
PB01				iS	S	00 21 37.3	+2.2
PB01				IAML		00 21 37.9	
	comp=E,66nm,0.3s						

*BJI **16** 00:31:03.6, 35.°65N×76.°39E, h8km, mb4.4/20, mB4.5/13, ML4.6/4, Ms4.1/6, Ms7 3.9/5*
*ISCJB **16** 00:31:04.0±0.2, 35.°58N±0.°02×76.°39E±0.°03, h10km, mb4.2/49, MS3.7/13, Error ellipse: s-maj=3.5km s-min=2.6km az=176.3*
*IDC **16** 00:31:04.2±0.6, 35.°62N×76.°41E, h0km, mb4.2/23, mb1 4.3/31, mb1mx4.2/62, mbtmp4.2/31, ML3.5/8, MS3.6/16, Ms1 3.6/16, ms1mx3.4/47, Error ellipse: s-maj=15.0km s-min=10.9km az=29.0*
*NEIC **16** 00:31:10.5±0.9, 35.°68N×76.°38E, h46km±9km, mb4.5/12, Error ellipse: s-maj=8.2km s-min=6.0km az=199.0*
*MOS **16** 00:31:10.0±1.5, 35.°69N×76.°46E, h51km, mb4.4/26, Error ellipse: s-maj=7.7km s-min=4.7km az=103.3*
*NNC **16** 00:31:23.7±6.6, 36.°67N×76.°92E, h8km±27km, mb4.5, mpv4.2, Error ellipse: s-maj=42.9km s-min=34.3km az=0.0*

ISC 16 00:31:05.6±0.3, 35.°50N±0.°03×76.°44E±0.°03, h10km, n191, σ2§18/200, mb4.3/49, MS3.7/14, 28C-22D, Eastern Kashmir

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

NDI ex x 00 34 41.0
AAK Ala-Archa 7.29 349 Pn **Pn 00 32 54.3 +2.0**
comp=N,0.2nm,0.3s,baz=195,slow=16,SNR=4.6
AAK Sn **Sn 00 34 15.2 0.0**
comp=N,0.2nm,0.3s,baz=177,slow=18,SNR=2.3
AAK LR LR 00 36 09.6
comp=N,225nm,21.1s,baz=156,slow=43
AAK Ala-Archa 7.29 349 ⇑Pn **Pn 00 32 56.5 +4.2**
comp=N,17nm,1.1s
AAK ⇓Pg Pb 00 33 18.7 +6.4
comp=N,27nm,0.8s
AAK ⇓Lg Lg 00 34 45.3
comp=N,86nm,1.1s
AAK Ala-Archa 7.29 349⇑*e*P **Pn 00 32 56.5 +4.2**
KHET Khetri 7.42 184 *ex* **Pn 00 32 51.3 -2.7**
KHET *e*S **Sn 00 34 15.8 -2.5**
TKM2 Tokmak 2 7.44 355 ⇑Pn Pn 00 32 59.5 +5.0
comp=N,25nm,1.9s
TKM2 ⇓Pg Pb 00 33 20.1 +5.1
comp=N,22nm,0.8s
TKM2 ⇑Lg Lg 00 34 46.0
comp=N,158nm,1.6s
TKM2 Tokmak 2 7.44 355 P Pn 00 32 59.4 +5.0
TKM2 pmax pmax
comp=Z,25nm,1.9s
TKM2 pmax pmax
comp=Z,22nm,0.8s
FRU Bishkek 7.46 350 *e*P Pn 00 33 04.0 +9.4
MNAS Manas 7.62 338 ⇑Pn Pn 00 33 02.3 +5.4
comp=Z,6.8nm,0.6s
MNAS ⇓Sn **Sn 00 34 20.3 -3.1**
comp=Z,31nm,1.0s
MNAS ⇓Lg Lg 00 34 58.8
comp=Z,149nm,1.5s
MNAS Manas 7.62 338 P **Pn 00 32 57.8 +0.9**
MNAS 00 34 20.2
MNAS pmax pmax
comp=Z,7.0nm,0.6s
MNAS smax smax
comp=N,31nm,1.0s
MNAS smax smax
comp=N,149nm,1.5s
MDOK Medeo 7.67 3 ⇓Pn **Pn 00 32 59.0 +1.5**
MDOK ⇑Lg Lg 00 34 49.9
AAA Alma-Ata 7.71 3 *e*P Pn 00 33 02.8 +4.8
AAA *e*S **Sn 00 34 27.8 +2.4**
AAA pmax pmax
comp=Z,100nm,0.9s
AAA smax smax
comp=N,200nm,1.4s
AAA MLR MLR
comp=Z,700nm,2.0s
KNDC Almaty 7.72 3 ⇑Pn **Pn 00 33 02.4 +4.2**
comp=Z,30nm,0.8s
KNDC ⇓Lg Lg 00 34 51.4
comp=Z,289nm,1.2s
PDGK Podgornoye 8.17 16 ⇓Pn **Pn 00 33 05.8 +1.4**
comp=Z,36nm,0.8s
PDGK ⇑Lg Lg 00 35 03.5
comp=Z,236nm,1.5s
PDGK Podgornoye 8.17 16 P **Pn 00 33 05.8 +1.4**
PDGK pmax pmax
comp=Z,36nm,0.8s
KK31 Karatay Array 8.87 331 ⇑Pn **Pn 00 33 17.3 +3.4**
comp=Z,2.5nm,0.5s,baz=139,slow=12
KK31 ⇓Sn **Sn 00 34 53.6 -0.4**
comp=Z,17nm,0.9s,baz=141,slow=23
KK31 ⇓Lg Lg 00 35 38.2
comp=Z,45nm,1.4s,baz=128,slow=27
KK31 Karatay Array 8.87 331 P **Pn 00 33 11.0 -2.9**
KK31 00 34 53.5
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KK31 smax smax
comp=N,17nm,0.9s
KK31 smax smax
comp=N,45nm,1.5s
KKAR Karatay Array 8.87 331 *e*P **Pn 00 33 12.9 -1.0**
KKAR Karatay Array 8.87 331 *e*Pn **Pn 00 33 12.9 -1.0**
PYUN Piuthan 9.24 141 *e*P **Pn 00 33 18.7 -0.5**
comp=N,112nm,0.4s
DANN Dangsing 9.46 137 *e*P **Pn 00 33 22.5 +0.3**
KOLN Koldanda 9.82 140 *e*P **Pn 00 33 26.2 -1.0**
comp=N,59nm,0.5s
GKN Gorkha 10.22 135 *e*P **Pn 00 33 31.2 -1.3**
comp=N,42nm,0.5s
KKN Kakani 10.76 133 *e*P **Pn 00 33 37.8 -2.1**
comp=N,32nm,0.5s
DMN Daman 10.79 134 *e*P **Pn 00 33 38.4 -2.0**
comp=N,41nm,0.4s
PKIN Phulchoki 10.98 133 *e*P **Pn 00 33 40.7 -2.4**
comp=N,40nm,0.6s
GUN Gumba 11.03 131 *e*P **Pn 00 33 40.9 -2.9**
comp=N,33nm,0.4s
JIRN Jiri 11.40 131 *e*P **Pn 00 33 45.8 -3.1**
comp=N,464nm,0.4s
WMQ Urumqi 12.01 43 P **Pn 00 33 57.3 +0.5**
WMQ S **Sn 00 36 12.5 +1.7**
MAKZ Makanchi 12.04 19 ⇑Pn **Pn 00 33 57.0 -0.3**
comp=N,10nm,0.7s
MAKZ ⇓Sn **Sn 00 36 04.7 -6.9**
comp=N,7.7nm,1.2s
MAKZ ⇓Lg Lg 00 37 08.5
comp=N,8.4nm,1.0s
MAKZ Makanchi 12.04 19 *e*P **Pn 00 33 57.6 +0.3**
MAKZ Makanchi 12.04 19 *e*Pn **Pn 00 33 57.6 +0.3**
MK01 Makanchi Array 12.09 20 *e*Pn **Pn 00 33 57.4 -0.6**
MK31 Makanchi Array 12.11 20 ⇑Pn **Pn 00 33 57.8 -0.5**
comp=N,3.7nm,0.6s,baz=195,slow=12,SNR=10
MK31 ⇑Sn **Sn 00 36 06.6 -6.8**
comp=N,11nm,0.8s,baz=194,slow=15,SNR=6.2
MK31 Makanchi Array 12.11 20 *i* P **Pn 00 33 57.7 -0.5**
MK31 *i* 00 36 12.2
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 smax smax
comp=N,11nm,0.9s
MK31 Makanchi Array 12.11 20 *e*Pn **Pn 00 33 58.2 0.0**
MKAR Makanchi Array 12.11 20 Pn **Pn 00 33 57.0 -1.2**
comp=N,0.5nm,0.3s,baz=204,slow=12,SNR=19
MKAR Sn **Sn 00 36 11.2 -2.2**
comp=N,0.2nm,0.3s,baz=195,slow=22,SNR=3.6
MKAR LR LR 00 38 49.0
comp=N,100nm,20.7s,baz=196,slow=39
MKAR Makanchi Array 12.11 20*c*e*P **Pn 00 33 57.5 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 12.11 20 *e*Pn **Pn 00 33 58.2 0.0**
MKAR Sn **Sn 00 36 11.2 -2.2**
LSA Lhasa 13.68 111 P **Pn 00 34 22.8 +2.7**
LSA Lhasa 13.68 111 Pn **Pn 00 34 22.8 +2.7**
GEYT Alibeck 14.89 285 Pn **Pn 00 34 33.9 -2.4**
comp=Z,0.2nm,0.3s,baz=94,slow=12,SNR=4.4
GEYT Sn **Sn 00 37 20.9 -0.4**
comp=Z,0.2nm,0.3s,baz=98,slow=19,SNR=3.5
GEYT LR LR 00 41 43.4
comp=Z,166nm,18.1s,baz=95,slow=43
KURBB Kurchatov Arra 15.20 5 Pn **Pn 00 34 38.9 -1.3**
comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=20
KURBB Sn **Sn 00 37 27.2 -1.3**
comp=Z,0.0nm,0.3s,baz=184,slow=24,SNR=3.3
KURK Kurchatov 15.29 5⇓*e*P **Pn 00 34 40.4 -1.1**
KURK pmax pmax
comp=Z,42nm,1.2s
KURK Kurchatov 15.29 5 *e*Pn **Pn 00 34 40.4 -1.1**
KURK Sn **Sn 00 37 27.2 -3.7**
DGZ Jazzator, Alta 16.31 26 *e*P **Pn 00 34 53.3 -1.6**
DGZ pmax pmax
comp=Z,12nm,1.6s
SRSP Sriramsagar 16.59 174 *e*P **Pn 00 34 58.0 -0.4**
RPR Rampur 16.77 171 *e*P **P 00 35 02.5 -0.3**
KLRI Killari 17.36 179 *e*P **Pn 00 35 06.2 -1.9**
KLRI *e* 00 38 08.1
BVA0 Borovoye Array 18.04 348 *i* P **P 00 35 18.9 +2.2**
BVA0 pmax pmax
comp=Z,16nm,1.3s
BVAR Borovoye Array 18.04 348 P **Pn 00 35 14.8 -1.5**
comp=Z,0.4nm,0.3s,baz=156,slow=10,SNR=18
BRVK Borovoye 18.09 348⇑*e*P **Pn 00 35 17.0 +0.1**
BRVK pmax pmax
comp=Z,44nm,1.0s
BRVK Borovoye 18.09 348 *e*Pn **Pn 00 35 15.9 -0.9**
comp=Z,15nm,0.7s
HYBB Hyderabad (bro 18.10 173 *e*P **Pn 00 35 15.3 -2.0**
HYB Hyderabad 18.11 173 *i* P **Pn 00 35 15.5 -1.8**
AB31 Akbulak array 18.32 324 *i* P **Pn 00 35 17.2 -2.5**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 18.32 324 *e*P **Pn 00 35 15.8 -3.9**
comp=Z,37nm,0.8s
PVM Polavaram 18.75 164 *e*P **Pn 00 35 31.8 +6.6**
GTA Gaotai 18.95 71 *e*P **Pn 00 35 29.6 +1.9**
GTA pP sP 00 35 34.1 +2.9
GTA sP pP 00 35 36.6 +6.7
GTA S **Sn 00 38 58.5 -1.4**
GTA sS S 00 39 03.8 +1.4
GTA SS **SnSn 00 39 23.6 +10**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,72nm,5.9s
NJS Nagarjunasagar 19.04 172 *e*P **Pn 00 35 30.0 +1.4**
ZAA0 Zalesovo Array 19.36 15 *e*P **P 00 35 29.9 -1.4**
ZALV Zalesovo Beam 19.36 15 P **P 00 35 30.1 -1.1**
comp=Z,0.4nm,0.3s,baz=212,slow=10,SNR=19
ZALV LR LR 00 42 48.9
comp=Z,41nm,19.1s,baz=250,slow=37
SRLM Srisailam 19.44 173 *e*P **P 00 35 30.8 -1.5**
WSAR Wadi Sarin 19.71 237 P **P 00 35 35.8 +0.5**
comp=Z,0.2nm,0.3s,baz=112,slow=11,SNR=3.2
NVS Novosibirsk 19.91 12 *e*P **P 00 35 37.9 +0.7**
NVS pmax pmax
comp=Z,24nm,1.1s
NVS pmax pmax
comp=N,14nm,0.9s
AKTO Aktyubinsk 20.03 324 P **P 00 35 35.8 -2.8**
comp=N,0.7nm,0.3s,baz=113,slow=10,SNR=22
AKTO LR LR 00 43 59.6
comp=N,291nm,20.9s,baz=141,slow=39
AKTO Aktyubinsk 20.03 324 P **P 00 35 35.1 -3.5**
AKTO pmax pmax
comp=Z,18nm,0.7s
URV Uravakonda 20.48 178 *e*P Pn 00 35 45.2 -0.6
SKHT Srikalahasti 21.86 171 *e*P **P 00 35 57.2 -1.4**
LZH Lanzhou 22.22 80 *e*P **P 00 36 06.0 +3.5**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,63nm,4.6s
CD2 Chengdu 23.28 94 P **P 00 36 14.8 +1.2**
CD2 S **S 00 40 27.8 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,250nm,6.4s
CD2 LR LR
comp=Z,350nm,7.7s
CD2 LR LR
comp=Z,370nm,8.9s
MAK Makhachkala 23.54 297 *e*P **P 00 36 10.1 -5.8**
MAK *e*S S 00 40 13.6 -16
MAK pmax pmax
comp=Z,110nm,2.1s
MAK MLR MLR
comp=Z,317nm,13.0s
SVE Sverdlovsk 23.86 338 *e*P **P 00 36 18.2 -0.8**
ARU Arti 24.20 335 P **P 00 36 20.8 -1.3**
comp=Z,2.7nm,0.6s,baz=136,slow=4.1,SNR=6.9
ARU Arti 24.20 335*d i* P **P 00 36 23.8 +1.6**
ARU 00 36 57.4
ARU S **S 00 40 39.1 -1.1**
ARU SS **SnSn 00 41 26.4 +4.4**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 24.20 335 *e*P **P 00 36 21.0 -1.1**
comp=Z,18nm,1.4s
ZAK Zakamensk 24.47 44 *e*P **P 00 36 25.9 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
KMI Kunming 24.88 107 P **P 00 36 30.3 +1.4**
KMI pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 25.38 52 P **P 00 36 31.7 -1.4**
comp=Z,6.2nm,0.8s,baz=250,slow=9.7,SNR=25
SONM LR LR 00 47 52.5
comp=Z,182nm,19.8s,baz=242,slow=40
SONM Songino Array 25.38 52 P **P 00 36 31.7 -1.4**
SONM pmax pmax
comp=Z,5.0nm,0.7s
SONM MLR MLR
comp=Z,182nm,19.8s
GNI Garni 25.39 290 P **P 00 36 33.6 +0.4**
comp=Z,5.1nm,0.8s,baz=97,slow=16,SNR=2.9
GNI Garni 25.39 290 *e*P **P 00 36 32.1 -1.2**
comp=Z,168nm,1.3s
SONA1 Songino Array 25.39 52 *e*P **P 00 36 33.0 -0.1**
SONA1 *e*S **S 00 40 57.4 -2.4**
ULN Ulaanbaatar 25.81 52⇓*e*P **P 00 36 36.5 -0.5**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 25.81 52 *e*P **P 00 36 36.1 -0.9**
comp=Z,4.4nm,0.9s
CHTO Chiang Mai 25.93 124 *e*P **P 00 36 40.0 +1.9**
CHTO pmax pmax
comp=Z,12nm,1.4s
CHTO Chiang Mai 25.93 124 *e*P **P 00 36 40.0 +1.9**
comp=Z,12nm,1.4s
ZEI Tsey 26.15 296 *e*P **P 00 36 45.1 +4.9**
ZEI pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 26.17 125 P **P 00 36 39.8 -0.6**
comp=Z,12nm,1.0s,baz=306,slow=10,SNR=23
CMAR Chiang Mai Arr 26.17 125*c*e*P **P 00 36 43.5 +3.1**
CMAR pmax pmax
comp=Z,12nm,1.0s
CM01 Chiang Mai Arr 26.21 125 *e*P **P 00 36 43.5 +2.8**
NCK Nalchik 26.44 298⇑*e*P **P 00 36 42.9 +0.3**
NCK pmax pmax
comp=Z,5.0nm,0.4s
KBZ Khabaz 26.97 298 P **P 00 36 47.5 +0.2**
comp=Z,3.3nm,0.8s,baz=131,slow=5.6,SNR=7.1
KBZ LR LR 00 49 45.2
comp=Z,162nm,18.4s,baz=66,slow=42
KVAR Kislovodsk Arr 27.14 298 P **P 00 36 49.4 +0.3**
comp=Z,6.3nm,1.0s,baz=240,slow=3.8,SNR=3.3
KIV Kislovodsk 27.15 298 *e*P **P 00 36 48.6 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,76nm,15.0s
KIV Kislovodsk 27.15 298 P **P 00 36 48.6 -0.4**
comp=Z,4.1nm,0.8s
HHC Hu-ho-hao-te 28.00 68 *e*P **P 00 36 56.5 -0.3**
HHC pmax pmax
comp=Z,89nm,7.4s
PALK Pallekele 28.36 171 LR LR 00 48 15.5
comp=Z,261nm,18.5s,baz=298,slow=36
VSR Storozhevoye 30.93 312 *e*P **P 00 37 21.5 -0.9**
VSR pmax pmax
comp=Z,5.0nm,1.0s
BJT Baijiatuau 31.55 70 *e*P **P 00 37 28.2 +0.1**
BJT pmax pmax
comp=Z,6.0nm,0.6s
BJT Baijiatuau 31.55 70 *e*P **P 00 37 28.2 +0.1**
comp=Z,5.8nm,0.6s
BR131 Keskin Array S 33.93 290 *e*P **P 00 37 44.6 -4.4**
BRTR Keskin Array B 33.93 290 P **P 00 37 47.2 -1.9**
comp=Z,1.3nm,0.7s,baz=102,slow=8.7,SNR=8.2
BRTR Keskin Array B 33.93 290 *i* P **P 00 37 50.0 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
NRIK Noril'sk 34.45 7 LR LR 00 53 42.1
comp=Z,145nm,18.7s,baz=107,slow=40
BR231 Keskin MP Arra 34.58 290 *e*P **P 00 37 50.4 -4.3**
AKASG Malin Array Be 37.00 309 P **P 00 38 15.4 +0.2**
comp=Z,1.6nm,0.5s,baz=78,slow=7.8,SNR=7.1
AKASG LR LR 00 56 10.5
comp=Z,102nm,19.8s,baz=330,slow=41
AKASG Malin Array Be 37.00 309 *i* P **P 00 38 15.8 +0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
CFR Carcaliu 37.57 300⇑*i*P **P 00 38 20.4 +0.3**
CFR Carcaliu 37.57 300 ⇑P **P 00 38 20.4 +0.3**
CN2 Changchun 38.16 62 *e*P **P 00 38 23.6 -1.5**
VRI Vrincioaia 38.53 301⇑*i*P **P 00 38 30.0 +1.8**
VRI Vrincioaia 38.53 301 ⇑P **P 00 38 30.0 +1.8**
PLOR Plostina 38.59 301⇑*i*P **P 00 38 29.9 +1.2**
PLOR Plostina 38.59 301 ⇑P **P 00 38 29.9 +1.2**
MLR Muntele Rosu 39.10 301⇑*i*P **P 00 38 35.9 +2.8**
MLR Muntele Rosu 39.10 301 ⇑P **P 00 38 35.9 +2.8**
BURAR Bucovina Array 39.52 304⇑*i*P **P 00 38 35.6 -0.9**
BURAR Bucovina Array 39.52 304 ⇑P **P 00 38 35.6 -0.9**
VOIR 39.73 301⇓*i*P **P 00 38 40.4 +2.1**
VOIR 39.73 301 ⇓P **P 00 38 40.4 +2.1**
ARR Arges 40.03 301⇓*i*P **P 00 38 42.2 +1.4**
LOT Lotru 40.63 301⇑*i*P **P 00 38 47.3 +1.5**
FINES FINESS Array B 40.79 326 P **P 00 38 44.7 -2.1**
comp=Z,1.6nm,0.4s,baz=113,slow=11,SNR=21
FINES LR LR 00 56 17.7
comp=Z,199nm,18.2s,baz=105,slow=37
FINES FINESS Array B 40.79 326 *i* P **P 00 38 47.4 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.4s
KSAR Wonju Array Be 41.00 72 P **P 00 38 50.1 +1.3**
KSAR Wonju Array Be 41.00 72 P **P 00 38 50.1 +1.3**
KSRS Korea Array 41.03 72 P **P 00 38 50.1 +1.1**
comp=Z,0.8nm,0.6s,baz=286,slow=7.4,SNR=3.9
KSRS LR LR 00 58 21.7
comp=Z,33nm,18.8s,baz=225,slow=40
DRGR 41.26 303⇓*i*P **P 00 38 52.0 +1.1**
DRGR 41.26 303 ⇓P **P 00 38 52.0 +1.1**
BZS Buzias 42.12 301⇓*i*P **P 00 38 59.6 +1.7**
BZS Buzias 42.12 301 ⇓P **P 00 38 59.6 +1.7**
MDVR Moldovita 42.15 300⇑*i*P **P 00 38 59.8 +1.6**
PSZ Piszkesteto 43.08 305 *e*P **P 00 39 04.0 -1.8**
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 43.08 305 *e*P **P 00 39 04.0 -1.8**
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 43.78 337 P **P 00 39 09.7 -1.4**
comp=Z,5.2nm,0.9s,baz=111,slow=6.8,SNR=6.7
ARCES LR LR 00 58 14.6
comp=Z,174nm,18.2s,baz=303,slow=37
OKC Ostrava-Krasne 44.09 308 *e*P **P 00 39 11.6 -2.2**
OKC Ostrava-Krasne 44.09 308 *e*P **P 00 39 11.6 -2.2**
MORC Moravsky Berou 44.49 308 *e*P **P 00 39 15.8 -1.2**
MORC pmax pmax
comp=Z,207nm,2.5s
MORC Moravsky Berou 44.49 308 *e*P **P 00 39 15.8 -1.2**
comp=Z,207nm,2.5s
DPC Dobruska-Polom 45.22 309 *e*P **P 00 39 20.4 -2.5**
DPC Dobruska-Polom 45.22 309 *e*P **P 00 39 20.4 -2.5**
CONA Conrad Observa 45.78 305 *e*P P 00 39 22.3 -5.1
comp=Z,0.5nm,0.4s
SOKA Soboth 46.52 304 *e*P P 00 39 26.0 -7.2
comp=Z,2.3nm,0.7s
MOA Molln 46.85 305 *i* P P 00 39 28.3 -7.5
comp=Z,1.1nm,0.7s
GERES GERESS Array B 47.09 307 P **P 00 39 38.0 +0.4**
comp=Z,0.1nm,0.3s,baz=66,slow=9.8,SNR=2.6
GERES LR LR 01 00 45.4
comp=Z,83nm,19.9s,baz=72,slow=38
KHC Kasperske Hory 47.13 307 *e*pP pP 00 39 45.5 +4.5
KHC Kasperske Hory 47.13 307 *e*P P 00 39 45.5 +7.6
CLL Collm 47.23 310 *i* P **P 00 39 37.9 -0.7**
CLL pmax pmax
comp=Z,11nm,1.8s
CLL Collm 47.23 310 *i* P **P 00 39 37.9 -0.7**
comp=Z,11nm,1.8s
NB2 NORSAR Subarra 47.82 323 P **P 00 39 42.2 -0.9**
comp=Z,2.2nm,0.8s,baz=93,slow=7.9
NOA NORSAR Array B 47.82 323 P **P 00 39 42.6 -0.6**
comp=Z,3.8nm,0.8s,baz=92,slow=7.7,SNR=8.6
NOA LR LR 01 00 37.4
comp=Z,121nm,19.3s,baz=90,slow=37
ABTA Abfaltersbach 48.22 304 *e*P P 00 39 40.8 -5.7
comp=Z,0.9nm,0.5s
WTTA Wattenberg 48.71 305 P P 00 39 45.2 -5.2
comp=Z,0.5nm,0.2s
MOTA Moosalm 49.05 305 *e*P P 00 39 46.3 -6.6
comp=Z,0.4nm,0.3s
MAJO Matsushiro 49.19 70 *e*P **P 00 39 53.8 -0.2**
MAJO pmax pmax
comp=Z,3.0nm,0.5s
MAJO Matsushiro 49.19 70 *e*P **P 00 39 53.8 -0.2**
comp=Z,3.3nm,0.5s
MJAR Matsushiro Arr 49.19 70 P **P 00 39 54.2 +0.2**
comp=Z,2.6nm,0.8s,baz=289,slow=9.5,SNR=6.0
MJAR Matsushiro Arr 49.19 70 P **P 00 39 54.2 +0.2**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
RETA Reutte 49.25 305 *i* P P 00 39 47.0 -7.4
comp=Z,4.6nm,1.2s
FETA Feichten 49.36 305 *e*P P 00 39 49.3 -6.1
comp=Z,0.6nm,0.4s
DAVA Damuels 49.88 305 *e*P **P 00 39 56.6 -2.7**
comp=Z,3.2nm,0.6s
COCO West Island 51.21 154 *e*P **P 00 40 10.4 +1.1**
COCO pmax pmax
comp=Z,251nm,0.5s
COCO West Island 51.21 154 *e*P **P 00 40 10.4 +1.1**
comp=Z,251nm,0.5s
PETK Petropavlovsk- 57.59 45 LR LR 01 07 27.3
comp=Z,59nm,19.6s,baz=275,slow=38
ESDC Sonseca Array 61.80 300 P **P 00 41 24.6 -0.1**
comp=Z,1.0nm,0.7s,baz=56,slow=7.1,SNR=13
TORD Torodi Ar. Bea 70.13 272 P **P 00 42 18.0 -0.6**
comp=Z,2.5nm,0.8s,baz=47,slow=5.5,SNR=12
TORD Torodi Ar. Bea 70.13 272 P **P 00 42 18.0 -0.6**
INK Inuvik 74.11 11 P **P 00 42 41.3 -0.2**
comp=Z,2.7nm,0.8s,baz=319,slow=9.7,SNR=4.5
ILAR Eielson Array 74.46 18 P **P 00 42 43.2 -0.5**
comp=Z,0.7nm,0.8s,baz=320,slow=5.2,SNR=7.2
WRA Warramunga Arr 77.77 125 P **P 00 43 03.3 +0.1**
comp=Z,2.0nm,0.5s,baz=311,slow=5.2,SNR=8.5
PMG Port Moresby 80.10 109 P **P 00 43 17.7 +1.6**
comp=Z,3.3nm,0.4s,baz=302,slow=8.1,SNR=2.6
PMG Port Moresby 80.10 109 *e*P **P 00 43 17.5 +1.5**
PMG pmax pmax
comp=Z,7.0nm,0.9s
PMG Port Moresby 80.10 109 *e*P **P 00 43 17.5 +1.5**
comp=Z,7.2nm,0.9s
ASAR Alice Springs 80.12 128 P **P 00 43 17.9 +1.9**
comp=Z,0.9nm,0.7s,baz=315,slow=5.3,SNR=9.8
YKA Yellowknife Ar 81.94 5 P **P 00 43 25.4 +0.2**
comp=Z,1.2nm,0.7s,baz=344,slow=5.4,SNR=5.8
CTA Charters Tower 86.14 118 P **P 00 43 47.4 +0.2**
comp=Z,1.1nm,0.6s,baz=284,slow=4.2,SNR=3.9

ISCJB ***16*** *00:31:33.7±0.3, 24°.83S±0°.04×179°.68E±0°.06, h501km, mb4.2/30, Error ellipse: s-maj=7.7km s-min=5.8km az=5.9*
NEIC ***16*** *00:31:34.0±0.4, 24°.85S×179°.72E, h498km±4km, mb4.6/19, Error ellipse: s-maj=8.3km s-min=6.5km az=119.0*
IDC ***16*** *00:31:34.3±1.1, 24°.87S×179°.75E, h501km±11km, mb3.6/14, mb1 3.8/16, mb1mx3.6/41, mbtmp4.4/16, Error ellipse: s-maj=14.7km s-min=12.0km az=3.0*
ISC 16 00:31:33.8±0.4, 24°.83S±0°.06×179°.80E±0°.07, h501km, n67, σ1ϑ71/81, mb4.3/30, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.85**	**156**	P	**P**	**00 33 01.0**	**+1.6**
	141nm,0.3s,baz=263,slow=24,SNR=4.5						
RAO				S	**S**	**00 34 08.5**	**-0.9**
	36nm,0.3s,baz=275,slow=23,SNR=2.4						
RAO	**Raoul Island**	**4.85**	**156**	*e*P	**P**	**00 33 01.4**	**+1.9**
MSVF	**Nonsavu**	**7.25**	**347**	*e*P	**P**	**00 33 23.9**	**+1.2**
DZM	**Mont Dzumac**	**12.56**	**280**	*e*P	**P**	**00 34 19.5**	**+1.0**
AFI	**Afiamalu**	**13.45**	**38**	P	**P**	**00 34 24.6**	**-3.4**
	4.6nm,0.3s,baz=216,slow=16,SNR=5.7						
AFI				S	S	00 36 42.1	-9.4
	2.1nm,0.3s,baz=205,slow=20,SNR=2.7						
URZ	**Urewera**	**13.59**	**189**	P	**P**	**00 34 28.3**	**-0.7**
	2.6nm,0.3s,baz=5.6,slow=3.0,SNR=11						
URZ				S	**S**	**00 36 52.3**	**-1.1**
	1.8nm,0.3s,baz=78,slow=20,SNR=14						
URZ	**Urewera**	**13.59**	**189**	*e*P	**P**	**00 34 28.7**	**-0.2**
BKZ	**Black Stump Fm**	**14.57**	**190**	*e*P	**P**	**00 34 39.0**	**-0.4**
BFZ	**Birch Farm**	**16.09**	**190**	*e*P	**P**	**00 34 54.7**	**-0.5**
	102nm,1.6s						
BFZ				*e*S	**S**	**00 37 40.1**	**-1.0**
THZ	**Tophouse**	**17.84**	**197**	*e*P	**P**	**00 35 12.5**	**0.0**
	74nm,1.9s						
THZ				*e*S	**S**	**00 38 13.4**	**+2.4**
LTZ	**Lake Taylor**	**18.95**	**197**	*e*P	**P**	**00 35 22.8**	**0.0**
	51nm,1.5s						
OXZ	**Oxford**	**19.52**	**197**	*e*P	**P**	**00 35 27.6**	**-0.2**
	37nm,1.5s						
RPZ	**Rata Peaks**	**20.16**	**199**	P	**P**	**00 35 33.2**	**-0.4**
	5.4nm,0.6s,baz=35,slow=19,SNR=7.1						
CTA	**Charters Tower**	**31.31**	**272**	P	**P**	**00 37 13.3**	**+0.7**
	17nm,0.3s,baz=94,slow=11,SNR=54						
CTAO	**Charters Tower**	**31.31**	**272**	*e*P	**P**	**00 37 12.6**	**0.0**

22nm,0.8s
STKA Stephens Creek 34.22 249 P **P 00 37 37.6 +0.4**
4.9nm,0.4s,baz=93,slow=11,SNR=22
PMG Port Moresby 34.63 291 P **P 00 37 41.2 +0.4**
7.4nm,0.3s,baz=135,slow=2.5,SNR=8.5
PMG Port Moresby 34.63 291 *eP* **P 00 37 40.5 -0.3**
35nm,1.2s
AS01 Alice Springs 41.67 262 *eP* **P 00 38 37.6 -0.6**
AS31 Alice Springs 41.71 262 *eP* **P 00 38 38.4 -0.1**
3.3nm,0.3s
ASAR Alice Springs 41.71 262 P **P 00 38 38.2 -0.3**
3.8nm,0.4s,baz=93,slow=7.0,SNR=36
ASAR pP **pP 00 40 10.2 +0.4**
2.1nm,1.0s,baz=96,slow=7.8,SNR=3.1
ASAR S **S 00 44 14.8 -4.3**
0.2nm,0.4s,baz=99,slow=16,SNR=3.2
WB2 Warramunga Arr 42.16 267 *eP* **P 00 38 41.5 -0.6**
WRAB Tennant Creek 42.16 267 *eP* **P 00 38 41.0 -1.1**
27nm,0.8s
WRA Warramunga Arr 42.17 267 P **P 00 38 41.5 -0.7**
10nm,0.4s,baz=99,slow=7.0,SNR=63
WRA ScP **ScP 00 43 29.7 +1.9**
2.3nm,0.6s,baz=100,slow=3.9,SNR=8.1
WRA S **S 00 44 23.8 -1.9**
3.3nm,1.0s,baz=102,slow=14,SNR=7.5
VNDA Vanda 53.44 185 P **P 00 40 06.3 +0.5**
0.8nm,0.5s,baz=15,slow=7.1,SNR=5.6
SOEI Soe 54.75 276 *eP* **P 00 40 15.7 -0.4**
46nm,1.3s
QSPA South Pole Qui 65.26 180 *eP* **P 00 41 25.7 +0.4**
3.9nm,0.8s
MJAR Matsushiro Arr 72.56 326 P **P 00 42 09.8 +0.1**
0.7nm,0.5s,baz=155,slow=7.2,SNR=4.1
MAW Mawson 76.82 201 P **P 00 42 33.4 +0.3**
1.0nm,0.5s,baz=140,slow=7.9,SNR=8.9
NJ2 Nanjing 81.13 311 *eP* **P 00 42 57.3 +0.7**
NJ2 pmax pmax
comp=Z,40nm,0.6s
CHGN Chignik 82.90 12 *ep*P pP 00 44 54.8 +0.1
CMB Columbia Colle 84.00 43 *eP* **P 00 43 12.1 +1.0**
comp=Z,4.4nm,1.0s
CN2 Changchun 84.52 324 *eP* **P 00 43 16.1 +2.7**
GSC Goldstone, Bar 84.69 47 *eP* **P 00 43 15.9 +1.3**
comp=Z,3.7nm,0.9s
LDFC Landfair 85.70 48 *eP* **P 00 43 21.2 +1.7**
comp=Z,7.2nm,0.8s
TPNV Topopah Spring 86.00 46 *eP* **P 00 43 22.0 +1.0**
comp=Z,2.5nm,0.7s
GYA Guiyang 87.06 301 *eP* **P 00 43 27.0 +0.8**
GYA pP pP 00 45 20.4 +3.2
GYA sP sP 00 46 11.3 +3.1
GYA SKS **SKSac 00 53 04.0 -1.7**
GYA S **S 00 53 21.6 -1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 87.22 53 *eP* **P 00 43 27.4 +0.6**
comp=Z,3.9nm,0.8s
U15A North Rim 88.35 48 *eP* **P 00 43 34.0 +1.8**
CMAR Chiang Mai Arr 89.68 290 P **P 00 43 39.8 +1.3**
comp=Z,0.4nm,0.3s,baz=148,slow=3.7,SNR=5.0
MFID Camas Ranch 89.98 41 *eP* **P 00 43 40.0 +0.6**
comp=Z,16nm,1.9s
TMUT Trail Mountain 90.61 46 *eP* **P 00 43 43.1 +0.4**
comp=Z,6.3nm,0.7s
HVU Hansel Valley 90.93 44 *eP* **P 00 43 44.3 +0.3**
comp=Z,14nm,1.8s
HHC Hu-ho-hao-te 90.94 315 *eP* **P 00 43 44.3 +0.4**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,87nm,6.7s
SRU San Rafael Swe 90.96 47 *eP* **P 00 43 44.9 +0.7**
comp=Z,2.9nm,0.7s
TX31 Lajitas Ar. Si 91.07 58 *eP* **P 00 43 45.1 +0.3**
TXAR Lajitas Array 91.07 58 P **P 00 43 45.7 +0.9**
comp=Z,1.5nm,0.8s,baz=212,slow=6.9,SNR=14
CD2 Chengdu 91.44 303 *eP* **P 00 43 46.0 -0.4**
ANMO Albuquerque 91.67 52 P **P 00 43 48.4 +0.8**
comp=Z,0.4nm,0.3s,baz=225,slow=5.7,SNR=3.4
ILAR Eielson Array 92.97 14 P **P 00 43 51.9 -0.7**
comp=Z,0.3nm,0.8s,baz=216,slow=5.9,SNR=3.3
PDAR Pinedale Array 93.48 44 P **P 00 43 55.6 -0.1**
comp=Z,0.4nm,0.6s,baz=219,slow=3.8,SNR=3.9
LZH Lanzhou 93.80 308 ||P **P 00 43 58.0 +0.8**
LZH pP pP 00 45 52.5 +3.3
LZH sP sP 00 46 43.0 +3.2
LZH PP **PP 00 47 55.6 +4.0**
LZH pmax pmax
comp=Z,16nm,1.5s
LZH pmax pmax
comp=Z,52nm,9.2s
T25A Trinidad 94.17 51 *ep*P pP 00 45 49.1 -1.9
MKAR Makanchi Array 112.64 312 PKiKP **PKiKP 00 49 11.8 -1.1**
comp=Z,0.2nm,0.4s,baz=240,slow=1.7,SNR=4.0
KSH Kashi 115.63 304 *e*PKP **PKPdf 00 49 17.6 -1.4**
KSH PP **PP 00 50 33.8 +2.8**
KSH sPKP 00 52 15.3
KSH PKS **PKSdf 00 52 52.3 -3.4**
KSH SKS **SKSdf 00 55 37.3 -6.1**
KSH SKKS **SKKSac 00 56 31.8 -7.6**
KSH Kashi 115.63 304 SS SS 01 05 53.9 +1.1
KSH AMB AMB
comp=Z,79nm,6.1s
KSH LR LR
comp=N,190nm,8.3s
KSH LR LR
comp=E,100nm,10.3s
KSH LR LR
comp=Z,140nm,10.5s
ARCES ARCESS Array B 132.75 348 PKP **PKPdf 00 49 50.0 -0.6**
comp=Z,0.7nm,0.5s,baz=56,slow=2.2,SNR=7.0
ARCES SKPbc **SKPbc 00 52 30.7 -0.3**
comp=Z,2.7nm,0.8s,baz=41,slow=3.9,SNR=7.9
FINES FINESS Array B 139.26 341 PKhKP PKPpre 00 49 54.1
comp=Z,1.7nm,0.9s,baz=57,slow=5.1,SNR=7.2
FINES PKP **PKPdf 00 50 02.4 -0.5**
comp=Z,2.1nm,0.8s,baz=40,slow=2.4,SNR=4.7
FINES SKPbc **SKPbc 00 52 49.7 -1.1**
comp=Z,4.6nm,1.0s,baz=60,slow=3.4,SNR=7.5
NB2 NORSAR Subarra142.96 351 PKP PKPpre 00 50 06.7
comp=Z,0.8nm,0.5s,baz=16,slow=3.1
NOA NORSAR Array B 142.96 351 PKhKP PKPpre 00 50 06.7
comp=Z,0.9nm,0.6s,baz=23,slow=1.0,SNR=4.1
NOA PKP **PKPdf 00 50 10.4 +0.8**
comp=Z,0.8nm,0.8s,baz=338,slow=3.3,SNR=3.2
AKASG Malin Array Be 145.64 326 PKPbc **PKPdf 00 50 14.9 +0.4**
comp=Z,1.2nm,0.5s,baz=45,slow=3.9,SNR=5.5
BRTR Keskin Array B 147.98 306 PKPbc **PKPbc 00 50 22.2 -0.6**
comp=Z,0.7nm,0.6s,baz=122,slow=3.8,SNR=7.3
BRTR PKPab **PKPab 00 50 28.0 +0.7**
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=5.6
STHS Stebnicka Huta 150.29 331 *e*PKP **PKPbc 00 50 28.5 +0.6**
CLL Collm 151.68 342 *i* PKPbc **PKPbc 00 50 30.8 -0.1**
ESDC Sonseca Array 164.86 11 PKPab **PKPab 00 51 39.4 -0.2**
comp=Z,0.0nm,0.2s,baz=350,slow=5.2,SNR=4.2
KEST Kesra 166.37 325 PKPab **PKPab 00 51 47.3 +0.8**
comp=Z,3.6nm,1.0s,baz=37,slow=20,SNR=2.1
TORD Torodi Ar. Bea 168.25 189 PKPab **PKPab 00 51 54.6 -0.3**
comp=Z,0.6nm,0.6s,baz=186,slow=4.3,SNR=7.5

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*ISCJB **16** 00:36:35.9±0.4, 29°.23N±0°.04×109°.68E±0°.04, h10km, mb3.9/24, Error ellipse: s-maj=6.6km s-min=4.2km az=149.3*
*IDC **16** 00:36:35.3±0.7, 29°.13N×109°.64E, h0km, mb3.9/20, mb1 4.1/22, mb1mx3.9/57, mbtmp3.9/22, ML3.6/2, Error ellipse: s-maj=22.2km s-min=15.1km az=47.0*
*BJI **16** 00:36:36.1, 29°.11N×109°.74E, h7km, ML3.8/14, Ms3.4/2*
*NEIC **16** 00:36:37.7±0.5, 29°.23N×109°.71E, h10km, mb4.0/4, ML3.8(BJI), Error ellipse: s-maj=9.4km s-min=7.9km az=142.0*
ISC 16 00:36:38.1±0.5,**29°.27N**±0°.04×**109°.71E**±0°.04,**h10**km,**n52,** σ**1**§**46**/68,**mb4.0**/24,**Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**1.02**	**349**	*eP*	**Pg**	**00 36 58.4**	**+0.6**
447nm,0.5s							
ENH	**Enshi**	**1.02**	**349**	*eP*	**Pg**	**00 36 58.0**	**+0.3**
GYA	**Guiyang**	**3.88**	**225**	Pn	**Pn**	**00 37 38.5**	**+0.5**
GYA				Sn	**Sn**	**00 38 22.9**	**-0.8**
GYA				Sg	**Sb**	**00 38 35.9**	**+2.0**
GYA				smax	smax		
comp=N,190nm,0.8s							
GYA				smax	smax		
comp=E,240nm,0.8s							
GYA	**Guiyang**	**3.88**	**225**	Pn	**Pn**	**00 37 38.5**	**+0.5**
GYA				Sn	**Sn**	**00 38 22.9**	**-0.8**
GYA				Sg	**Sb**	**00 38 35.9**	**+2.0**
WHN	**Wuhan**	**4.23**	**71**	Pn	**Pn**	**00 37 42.8**	**+0.3**
WHN				Sn	**Sn**	**00 38 32.1**	**+0.1**
WHN	**Wuhan**	**4.23**	**71**	Pn	**Pn**	**00 37 42.8**	**+0.3**
WHN				Sn	**Sn**	**00 38 32.1**	**+0.1**
XAN	**Xi'an**	**4.81**	**352**	Pn	**Pn**	**00 37 51.5**	**+0.9**
XAN				Sn	**Sn**	**00 38 46.3**	**-0.1**
XAN				Sg	**Sg**	**00 39 10.8**	**-1.7**
XAN				smax	smax		
comp=N,120nm,0.7s							
XAN				smax	smax		
comp=E,98nm,1.1s							
XAN	**Xi'an**	**4.81**	**352**	Pn	**Pn**	**00 37 51.5**	**+0.9**
XAN				Sn	**Sn**	**00 38 46.3**	**-0.1**
XAN				Sg	**Sg**	**00 39 10.8**	**-1.7**
CD2	**Chengdu**	**5.41**	**289**	Pn	**Pn**	**00 37 59.0**	**+0.1**
CD2				Pg	**Pb**	**00 38 17.5**	**+4.7**
CD2				Sn	**Sn**	**00 39 01.1**	**-0.2**
CD2				Sg	**Sg**	**00 39 28.5**	**-3.4**
CD2				smax	smax		
comp=N,220nm,0.7s							
CD2				smax	smax		
comp=E,160nm,0.9s							
CD2	**Chengdu**	**5.41**	**289**	Pn	**Pn**	**00 37 59.0**	**+0.1**
CD2				Pg	**Pb**	**00 38 17.5**	**+4.7**
CD2				Sn	**Sn**	**00 39 01.1**	**-0.2**
CD2				Sg	**Sg**	**00 39 28.5**	**-3.4**
KMI	**Kunming**	**7.45**	**238**	Pn	**Pn**	**00 38 28.3**	**+1.2**
KMI				Sn	**Sn**	**00 39 49.1**	**-2.7**
KMI				smax	smax		
comp=N,74nm,1.0s							
KMI				smax	smax		
comp=E,110nm,0.7s							
KMI				LR	LR		
comp=N,100nm,5.9s							
KMI				LR	LR		
comp=E,110nm,4.4s							
BJT	**Baijiatuau**	**11.97**	**25**	Pn	**Pn**	**00 39 31.2**	**+2.5**
CMAR	**Chiang Mai Arr**	**14.57**	**225**	Pn	**Pn**	**00 40 06.1**	**+1.6**
baz=33,slow=18,SNR=2.1							
LSA	**Lhasa**	**16.17**	**276**	*e*Pn	**Pn**	**00 40 27.2**	**+1.2**
4.6nm,0.4s							
KSAR	**Wonju Array Be**	**17.22**	**57**	P	**Pn**	**00 40 39.6**	**+0.9**
KSRS	**Korea Array**	**17.25**	**57**	P	**Pn**	**00 40 39.6**	**+0.5**
0.2nm,0.3s,baz=246,slow=8.0,SNR=4.4							
SONM	**Songino Array**	**18.72**	**353**	P	**P**	**00 40 57.0**	**+0.1**
0.3nm,0.3s,baz=170,slow=13,SNR=12							
TAPN	**Taplejung**	**19.46**	**270**	*eP*	**P**	**00 41 04.4**	**-1.0**
8.4nm,0.5s							
ODAN	**Odare**	**19.84**	**268**	*eP*	**P**	**00 41 09.2**	**-0.2**
17nm,0.6s							
RAMN	**Ramite**	**20.51**	**269**	*eP*	**P**	**00 41 16.4**	**-0.3**
10nm,0.4s							
JIRN	**Jiri**	**20.73**	**271**	*eP*	**P**	**00 41 18.7**	**-0.6**
112nm,0.6s							
GUN	**Gumba**	**20.96**	**272**	*eP*	**P**	**00 41 20.2**	**-1.6**
16nm,0.5s							
PKIN	**Phulchoki**	**21.44**	**271**	*eP*	**P**	**00 41 25.9**	**-0.9**
12nm,0.6s							
KKN	**Kakani**	**21.51**	**272**	*eP*	**P**	**00 41 26.5**	**-1.0**
18nm,0.6s							
GKN	**Gorkha**	**22.03**	**273**	*eP*	**P**	**00 41 31.9**	**-1.2**
14nm,0.5s							
WMQ	**Urumqi**	**22.79**	**316**	*eP*	**P**	**00 41 41.4**	**+0.5**
WMQ				pmax	pmax		
comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax		
comp=Z,28nm,3.7s							
TLY	**Talaya**	**22.85**	**350**	P	**P**	**00 41 40.8**	**-0.5**
comp=Z,5.8nm,0.7s,baz=348,slow=12,SNR=2.7							
KOLN	**Koldanda**	**22.98**	**273**	*eP*	**P**	**00 41 42.5**	**-0.7**
PYUN	**Piuthan**	**23.45**	**274**	*eP*	**P**	**00 41 47.4**	**-0.6**
comp=Z,16nm,0.6s							
MJAR	**Matsushiro Arr**	**24.95**	**66**	P	**P**	**00 42 02.2**	**+0.6**
comp=Z,0.7nm,0.7s,baz=287,slow=5.8,SNR=3.2							
MKAR	**Makanchi Array**	**27.59**	**317**	P	**P**	**00 42 24.7**	**-0.7**
comp=Z,1.2nm,0.6s,baz=108,slow=10,SNR=12							
ZALV	**Zalesovo Beam**	**30.59**	**331**	P	**P**	**00 42 51.4**	**-0.6**
comp=Z,1.4nm,0.6s,baz=126,slow=8.7,SNR=6.8							
KKAR	**Karatay Array**	**34.20**	**305**	*eP*	**P**	**00 43 23.7**	**0.0**
comp=Z,0.4nm,0.4s							
NRIK	**Noril'sk**	**42.11**	**348**	P	**P**	**00 44 29.8**	**-0.2**
comp=Z,5.2nm,0.6s,baz=130,slow=9.1,SNR=7.6							
PETK	**Petropavlovsk-**	**42.22**	**42**	P	**P**	**00 44 32.5**	**+1.4**
comp=Z,3.7nm,0.9s,baz=250,slow=10,SNR=2.9							
ABKAR	**Akbulak array**	**42.51**	**312**	*eP*	**P**	**00 44 33.4**	**-0.1**
comp=Z,2.7nm,0.6s							
GEYT	**Alibeck**	**43.37**	**296**	P	**P**	**00 44 41.3**	**+0.6**
comp=Z,2.7nm,0.7s,baz=102,slow=6.1,SNR=4.8							
AKTO	**Aktyubinsk**	**43.92**	**314**	P	**P**	**00 44 45.4**	**+0.4**
comp=Z,1.1nm,0.5s,baz=97,slow=17,SNR=4.6							
KBZ	**Khabaz**	**54.24**	**305**	P	**P**	00 46 01.5	-2.6
comp=Z,1.3nm,0.8s,baz=90,slow=6.1,SNR=3.2							
WRA	**Warramunga Arr**	**54.39**	**151**	P	**P**	**00 46 03.6**	**-1.8**
comp=Z,0.5nm,0.7s,baz=341,slow=8.3,SNR=6.2							
WRA				PcP	**PcP**	**00 47 07.4**	**-1.8**
comp=Z,0.4nm,0.6s,baz=342,slow=4.7,SNR=3.8							
ASAR	**Alice Springs**	**57.55**	**154**	P	P	00 46 25.9	-2.0
comp=Z,0.2nm,0.3s,baz=340,slow=7.9,SNR=3.9							
ASAR				PcP	**PcP**	**00 47 19.3**	**-2.0**
comp=Z,0.2nm,0.5s,baz=330,slow=5.8,SNR=3.2							
ARCES	**ARCESS Array B**	**60.90**	**336**	P	**P**	**00 46 49.8**	**-0.8**
comp=Z,2.2nm,0.8s,baz=84,slow=8.5,SNR=8.2							
FINES	**FINESS Array B**	**61.77**	**327**	P	**P**	**00 46 55.6**	**-1.0**
comp=Z,2.3nm,1.1s,baz=74,slow=6.8,SNR=4.1							
BRTR	**Keskin Array B**	**61.85**	**302**	P	**P**	**00 46 57.0**	**-0.7**
comp=Z,0.5nm,0.7s,baz=111,slow=5.4,SNR=4.4							
AKASG	**Malin Array Be**	**62.15**	**315**	P	**P**	**00 46 58.4**	**-0.9**
comp=Z,0.2nm,0.3s,baz=65,slow=7.4,SNR=3.8							
NB2	**NORSAR Subarra**	**68.77**	**329**	P	**P**	**00 47 40.5**	**-1.6**
comp=Z,2.1nm,0.6s,baz=69,slow=6.2							
NOA	**NORSAR Array B**	**68.77**	**329**	P	**P**	**00 47 40.6**	**-1.5**
comp=Z,1.4nm,0.6s,baz=73,slow=5.6,SNR=8.2							
ILAR	**Eielson Array**	**69.35**	**26**	P	**P**	**00 47 44.4**	**-1.2**
comp=Z,0.6nm,1.0s,baz=279,slow=5.2,SNR=3.8							
INK	**Inuvik**	**72.23**	**20**	P	**P**	**00 48 02.0**	**-1.0**
comp=Z,3.0nm,1.1s,baz=315,slow=11,SNR=2.9							
GERES	**GERESS Array B**	**72.26**	**316**	P	**P**	**00 48 03.0**	**-0.6**
comp=Z,0.2nm,0.5s,baz=56,slow=6.0,SNR=2.9							
YKA	**Yellowknife Ar**	**81.92**	**19**	P	**P**	**00 48 57.3**	**-0.3**
comp=Z,0.4nm,0.6s,baz=310,slow=9.6,SNR=2.9							
BOZ	**Bozeman (W)**	**96.56**	**28**	P	P	00 50 05.6	-2.8
comp=Z,3.1nm,1.1s							

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*ISCJB **16** 00:52:47.7±0.5, 3°.83N±0°.08×127°.36E±0°.10, h48km, mb4.3/20, Error ellipse: s-maj=14.9km s-min=9.7km az=154.8*
*NEIC **16** 00:52:54.0±1.2, 3°.75N×127°.26E, h92km±11km, mb4.5/8, Error ellipse: s-maj=9.9km s-min=5.9km az=61.0*
*IDC **16** 00:52:53.4±9.4, 3°.62N×126°.89E, h82km±90km, mb3.9/14, mb1 3.9/14, mb1mx3.6/54, mbtmp4.2/14, Error ellipse: s-maj=95.8km s-min=17.6km az=70.0*
ISC 16 00:52:49.5±0.7,**3°.7N**±0°.1×**127°.2E**±0°.2,**h48**km,**n25,** σ**0**§**61**/24,**mb4.4**/20,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.20**	**282**	*e*Pn	Pn	00 55 32.2	+5.1
2.8nm,0.5s							
KSM	**Kuching**	**17.04**	**263**	*e*Pn	**P**	**00 56 46.2**	**+0.5**
4.0nm,0.7s							
GUMO	**Guam**	**19.99**	**60**	*eP*	**P**	**00 57 18.1**	**0.0**
54nm,1.2s							
WRAB	**Tennant Creek**	**24.55**	**164**	*eP*	**P**	**00 58 05.2**	**+0.3**
18nm,1.0s							
WRA	**Warramunga Arr**	**24.55**	**164**	P	**P**	**00 58 05.1**	**+0.2**
4.2nm,0.7s,baz=343,slow=10,SNR=20							
ASAR	**Alice Springs**	**28.01**	**167**	P	**P**	**00 58 37.2**	**+1.0**
0.3nm,0.5s,baz=342,slow=11,SNR=8.7							
BJT	**Baijiatuau**	**37.47**	**346**	*eP*	**P**	**00 59 59.4**	**+0.9**
5.2nm,0.3s							
STKA	**Stephens Creek**	**37.97**	**160**	P	**P**	**01 00 02.7**	**-0.1**
7.1nm,1.1s,baz=337,slow=14,SNR=3.1							
LSA	**Lhasa**	**42.80**	**311**	P	**P**	**01 00 43.8**	**+0.5**
4.1nm,0.4s							
ULN	**Ulaanbaatar**	**47.26**	**342**	*eP*	**P**	**01 01 18.6**	**+0.5**
1.9nm,0.6s							
SONM	**Songino Array**	**47.44**	**341**	P	**P**	**01 01 20.0**	**+0.5**
1.7nm,0.9s,baz=171,slow=10,SNR=4.6							
TLY	**Talaya**	**51.67**	**341**	P	**P**	**01 01 51.2**	**-0.3**
4.0nm,0.8s							
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**	**01 02 35.8**	**-0.4**
1.8nm,0.5s,baz=120,slow=7.6,SNR=19							
ZALV	**Zalesovo Beam**	**60.80**	**333**	P	**P**	**01 02 56.2**	**-0.3**
0.3nm,0.3s,baz=122,slow=5.2,SNR=3.2							
KURBB	**Kurchatov Arra**	**61.99**	**327**	P	**P**	**01 03 04.2**	**-0.4**
1.5nm,0.6s,baz=129,slow=6.4,SNR=25							
KURK	**Kurchatov**	**61.99**	**327**	P	**P**	**01 03 04.2**	**-0.4**
BVAR	**Borovoye Array**	**67.58**	**327**	P	**P**	**01 03 40.6**	**-0.4**
0.8nm,0.6s,baz=147,slow=8.9,SNR=6.7							
BRVK	**Borovoye**	**67.65**	**327**	*eP*	**P**	**01 03 41.3**	**-0.2**
4.5nm,0.7s							
NRIK	**Noril'sk**	**70.53**	**346**	P	**P**	**01 03 59.9**	**+0.9**
3.0nm,0.7s,baz=130,slow=4.3,SNR=2.3							
AKTO	**Aktyubinsk**	**73.95**	**322**	P	**P**	**01 04 19.2**	**-0.6**
1.3nm,0.5s,baz=104,slow=7.6,SNR=6.6							
ARU	**Arti**	**75.19**	**328**	P	**P**	**01 04 26.3**	**-0.5**
2.1nm,0.4s,baz=100,slow=4.3,SNR=5.5							
BRTR	**Keskin Array B**	**90.39**	**310**	P	**P**	**01 05 45.5**	**-0.7**
0.8nm,0.8s,baz=96,slow=1.4,SNR=4.5							
ARCES	**ARCESS Array B**	**90.60**	**340**	P	**P**	**01 05 45.4**	**-1.0**
5.4nm,0.9s,baz=70,slow=4.5,SNR=4.9							
FINES	**FINESS Array B**	**92.05**	**332**	P	**P**	**01 05 52.9**	**-0.3**
6.4nm,1.1s,baz=90,slow=5.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**123.38**	**288**	PKP	**PKPdf**	**01 11 41.4**	**-0.9**
0.1nm,0.4s,baz=71,slow=2.3,SNR=3.3							

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*IDC **16** 00:53:39.5±1.1, 28°.56S×176°.72W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/33, mbtmp3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=45.1km s-min=21.0km az=141.0*
*NEIC **16** 00:53:40.7±0.3, 28°.62S×176°.63W, h10km, mb4.5/8, Error ellipse: s-maj=11.7km s-min=10.3km az=132.0*
*ISCJB **16** 00:53:41.6±0.6, 28°.59S±0°.09×176°.58W±0°.09, h29km, mb4.5/12, MS3.5/1, Error ellipse: s-maj=14.7km s-min=10.0km az=147.2*
ISC 16 00:53:43.7±0.6,**28°.6S**±0°.1×**176°.65W**±0°.09,**h29**km,**n30,** σ**0**§**57**/32,**mb4.4**/12,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.27**	**241**	Pn	**Pn**	**00 54 05.4**	**0.0**
193nm,0.3s,baz=60,slow=20,SNR=8.7							
RAO				LR	LR	00 54 06.6	
comp=Z,86nm,20.1s,baz=112,slow=22							
RAO				Sn	**Sb**	**00 54 22.0**	**-0.8**
504nm,0.3s,baz=283,slow=22,SNR=18							
RAO	**Raoul Island**	**1.27**	**241**	*e*Pn	**Pn**	**00 54 05.5**	**0.0**
RAO				Sn	**Sb**	**00 54 22.1**	**-0.8**
RAO				*e*Sg	**Sn**	**00 54 23.0**	**+1.6**
CTAO	**Charters Tower**	**34.74**	**276**	P	**P**	**01 00 32.2**	**+0.7**
2.3nm,0.4s							
ASAR	**Alice Springs**	**44.41**	**265**	P	**P**	**01 01 51.1**	**-1.0**
0.5nm,0.5s,baz=98,slow=7.1,SNR=9.7							
WRAB	**Tennant Creek**	**45.24**	**270**	*eP*	**P**	**01 01 58.4**	**-0.3**
1.4nm,0.9s							
WRA	**Warramunga Arr**	**45.25**	**270**	P	**P**	**01 01 58.5**	**-0.2**
0.5nm,0.5s,baz=108,slow=7.9,SNR=5.0							
MIDW	**Midway**	**56.54**	**359**	*eP*	**P**	**01 03 23.4**	**0.0**
10.0nm,0.2s							
QSPA	**South Pole Qui**	**61.46**	**180**	*eP*	**P**	**01 03 57.5**	**+0.2**
16nm,1.2s							
PMSA	**Palmer Station**	**73.38**	**156**	*eP*	**P**	**01 05 13.0**	**+0.5**
2.3nm,0.6s							
MAJO	**Matsushiro**	**77.49**	**324**	*eP*	**P**	**01 05 36.4**	**-0.1**
1.1nm,0.5s							
TATO	**Taipei**	**79.86**	**306**	P	**P**	**01 05 49.6**	**-0.2**
11nm,0.7s							
SNAA	**Sanae**	**79.87**	**178**	P	**P**	**01 05 48.6**	**-0.6**
SNAA	**Sanae**	**79.87**	**178**	*eP*	**P**	**01 05 48.8**	**-0.4**
7um,3.9s							
VNA3	**Neumayer Olymp**	**79.97**	**176**	P	**P**	**01 05 48.8**	**-0.9**
VNA2	**Neumayer--Watz**	**80.42**	**176**	P	**P**	**01 05 51.6**	**-0.5**
baz=172,slow=4.1							
VNA1	**Neumayer--Stat**	**80.64**	**176**	P	**P**	**01 05 52.7**	**-0.5**
COCO	**West Island**	**81.24**	**261**	*eP*	**P**	**01 05 57.4**	**0.0**
77nm,0.5s							
ASAJ	**Asahikawa**	**81.44**	**332**	P	**P**	**01 05 57.2**	**-0.6**
1.6nm,0.4s,baz=346,slow=29,SNR=2.5							
DLBC	**Dease Lake**	**95.05**	**23**	LR	LR	01 42 39.0	
comp=Z,15nm,19.8s,baz=151,slow=31							
COLA	**College**	**95.88**	**12**	*eP*	**P**	**01 07 07.2**	**+0.4**
1.0nm,0.7s							
MKAR	**Makanchi Array**	**117.54**	**310**	PKP	**PKPdf**	**01 12 26.8**	**+0.2**
0.1nm,0.4s,baz=93,slow=2.9,SNR=2.9							
KURK	**Kurchatov**	**120.68**	**314**	PKP	**PKPdf**	**01 12 32.5**	**+0.1**
KURBB	**Kurchatov Arra**	**120.72**	**314**	PKP	**PKPdf**	**01 12 32.5**	**0.0**
0.1nm,0.2s,baz=85,slow=2.1,SNR=3.6							
BVAR	**Borovoye Array**	**125.96**	**317**	PKP	**PKPdf**	**01 12 42.4**	**-0.1**
0.4nm,0.6s,baz=79,slow=3.1,SNR=3.5							
ARU	**Arti**	**132.46**	**322**	*e*PKPdf	**PKPdf**	**01 12 54.7**	**0.0**
FINES	**FINESS Array B**	**143.88**	**342**	PKP	PKPbc	01 13 13.7	+0.5
1.3nm,0.7s,baz=12,slow=14,SNR=2.8							
NOA	**NORSAR Array B**	**147.18**	**353**	PKPbc	**PKPab**	**01 13 24.6**	**-0.5**
1.2nm,0.8s,baz=13,slow=4.5,SNR=3.3							
AKASG	**Malin Array Be**	**150.57**	**326**	PKPbc	**PKPbc**	**01 13 33.2**	**+0.8**
1.1nm,0.7s,baz=45,slow=2.8,SNR=4.7							
BRTR	**Keskin Array B**	**152.74**	**302**	PKPbc	**PKPbc**	**01 13 38.5**	**+0.6**
0.4nm,0.6s,baz=27,slow=22,SNR=2.8							
BRTR				PKPab	**PKPab**	**01 13 48.3**	**-0.5**
1.5nm,0.9s,baz=132,slow=4.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**164.50**	**174**	PKPab	**PKPab**	**01 14 39.8**	**0.0**
0.6nm,0.9s,baz=219,slow=1.8,SNR=3.1							

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*ISCJB **16** 00:53:43.2±0.3, 23°.16N±0°.05×93°.50E±0°.05, h53km, mb4.0/22, MS4.0/3, Error ellipse: s-maj=8.2km s-min=3.8km az=40.8*
*NEIC **16** 00:53:46.6±0.7, 23°.17N×93°.73E, h67km±7km, mb4.2/5, Error ellipse: s-maj=8.2km s-min=4.5km az=67.0*
*IDC **16** 00:53:46.9±2.2, 23°.17N×93°.78E, h68km±20km, mb3.8/20, mb1 3.9/21, mb1mx3.6/59, mbtmp4.0/21, MS4.0/3, Ms1 4.0/3, ms1mx3.1/56, Error ellipse: s-maj=24.6km s-min=9.2km az=60.0*
ISC 16 00:53:45.0±0.5,**23°.20N**±0°.06×**93°.56E**±0°.05,**h53**km,**n52,** σ

PKIN *e*Sn **Sn** **00 57 18.6 -3.6**
comp=N,17nm,0.3s
KKN Kakani 8.77 303 *e*Pn **Pn** **00 55 49.2 -0.1**
KKN *e*Sn **Sn** **00 57 22.9 -3.9**
comp=N,17nm,0.3s
DMN Daman 8.81 302 *e*Pn **Pn** **00 55 49.6 -0.4**
DMN *e*Sn **Sn** **00 57 23.2 -4.9**
comp=N,16nm,0.4s
GKN Gorkha 9.37 303 *e*Pn **Pn** **00 55 57.4 -0.1**
GKN *e*Sn **Sn** **00 57 37.6 -3.9**
comp=N,45nm,0.4s
KOLN Koldanda 10.08 299 *e*Pn **Pn** **00 56 06.5 -0.8**
KOLN *e*Sn **Sn** **00 57 53.6 -5.5**
comp=N,32nm,0.4s
PYUN Piuthan 10.71 299 *e*Pn **Pn** **00 56 15.1 -0.8**
PYUN *e*Sn **Sn** **00 58 08.1 -6.4**
comp=N,23nm,0.4s
ENH Enshi 15.87 60 *e*Pn **Pn** **00 57 24.7 -0.2**
comp=N,8.9nm,0.1s
SMLA Simla 16.58 302 *ex* **Pn** **00 57 34.5 +0.6**
DHRM DHARAMSHALA 17.73 304 *e*P **P** **00 57 49.2 +0.6**
PALK Pallekele 20.09 220 *e*P Pn 00 58 15.6 -0.9
comp=N,17nm,1.4s
PSI Prapat 20.93 165 P **P** **00 58 24.3 +0.8**
comp=N,11nm,0.7s,baz=351,slow=19,SNR=2.7
PSI LR LR 01 07 58.2
comp=N,377nm,18.2s,baz=218,slow=41
AAK Ala-Archa 25.04 325 P **P** **00 59 06.7 +2.4**
comp=N,0.5nm,0.3s,baz=267,slow=11,SNR=2.3
MKAR Makanchi Array 25.23 342 P **P** **00 59 07.2 +1.3**
comp=N,1.2nm,0.7s,baz=151,slow=10,SNR=15
SONM Songino Array 26.64 19 P **P** **00 59 18.6 -0.1**
comp=N,1.7nm,0.6s,baz=197,slow=10.0,SNR=9.0
ULN Ulaanbaatar 26.87 20 *e*P **P** **00 59 21.0 +0.2**
comp=N,1.9nm,0.6s
KURBB Kurchatov Arra 29.78 341 P **P** **00 59 47.6 +1.2**
comp=N,0.3nm,0.5s,baz=158,slow=7.8,SNR=5.5
KURBB PcP **PcP** **01 02 49.1 +0.2**
comp=N,0.5nm,0.6s,baz=160,slow=2.4,SNR=6.0
KURBB ScP **ScP** **01 06 26.4 -0.3**
comp=N,0.3nm,0.8s,baz=148,slow=2.6,SNR=4.5
KURK Kurchatov 29.83 341 *e*P **P** **00 59 47.2 +0.3**
comp=N,7.7nm,0.8s
KURK PcP **PcP** **01 02 49.1 0.0**
KURK ScP **ScP** **01 06 26.4 -0.5**
ZALV Zalesovo Beam 31.41 350 P **P** **01 00 01.7 +0.9**
comp=N,1.0nm,0.4s,baz=182,slow=7.2,SNR=9.4
BVAR Borovoye Array 34.60 335 P **P** **01 00 30.8 +2.1**
comp=N,0.2nm,0.4s,baz=133,slow=8.5,SNR=2.5
BRVK Borovoye 34.67 335 *e*P **P** **01 00 29.1 -0.2**
comp=N,1.5nm,0.7s
AKTO Aktyubinsk 38.75 324 P **P** **01 01 06.1 +2.0**
comp=N,0.8nm,0.6s,baz=72,slow=9.6,SNR=2.9
ARU Arti 41.89 331 LR LR 01 23 12.0
comp=N,64nm,19.0s,baz=70,slow=42
YAK Yakutsk 45.91 23 LR LR 01 23 13.9
comp=N,583nm,20.1s,baz=183,slow=38
TIXI Tiksi 52.46 13 P **P** **01 02 51.7 -0.2**
comp=N,2.2nm,0.5s,baz=245,slow=5.0,SNR=5.6
WRA Warramunga Arr 58.49 134 P **P** **01 03 35.0 -1.0**
comp=N,4.5nm,0.6s,baz=323,slow=7.5,SNR=48
WRA PcP **PcP** **01 04 24.0 -2.1**
comp=N,0.7nm,0.5s,baz=332,slow=4.2,SNR=3.7
FINES FINESS Array B 59.15 329 P **P** **01 03 40.5 +0.6**
comp=N,0.9nm,0.7s,baz=81,slow=8.6,SNR=3.3
NWAO Narrogin (SRO) 60.21 157 P **P** **01 03 46.9 -0.7**
comp=N,5.2nm,0.6s,baz=202,slow=9.5,SNR=4.3
ASAR Alice Springs 60.88 137 P **P** **01 03 51.9 -0.5**
comp=N,6.3nm,0.7s,baz=320,slow=6.9,SNR=76
ASAR PcP **PcP** **01 04 34.6 -0.9**
comp=N,1.3nm,0.7s,baz=327,slow=3.8,SNR=5.7
GERES GERESS Array B 66.36 315 P **P** **01 04 28.9 +0.6**
comp=N,0.8nm,0.8s,baz=73,slow=6.0,SNR=4.5
CTA Charters Tower 67.02 126 P **P** **01 04 32.2 -0.5**
comp=N,2.6nm,0.6s,baz=270,slow=2.0,SNR=4.8
STKA Stephens Creek 71.48 138 P **P** **01 04 59.4 -0.7**
comp=N,2.6nm,0.8s,baz=321,slow=1.0,SNR=4.4
ILAR Eielson Array 80.83 22 P **P** **01 05 53.0 +0.1**
comp=N,0.2nm,0.6s,baz=303,slow=4.5,SNR=3.8
INK Inuvik 82.49 16 P **P** **01 06 01.4 -0.1**
comp=N,2.0nm,0.9s,baz=314,slow=6.4,SNR=4.3
BOSA Boshof 83.55 235 P **P** **01 06 08.8 +1.1**
comp=N,3.4nm,1.0s,baz=45,slow=2.9,SNR=3.4
TORD Torodi Ar. Bea 86.60 283 P **P** **01 06 24.8 +1.5**
comp=N,0.6nm,0.8s,baz=64,slow=4.4,SNR=6.8

IDC 16 01:03:45.5±46.0, 35°92S×78°13E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/44, mbtmp4.0/3, MS3.6/4, Ms1 3.5/4, ms1mx3.2/36, Error ellipse: s-maj=898.0km s-min=181.7km az=98.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.61**	**348**	T	T	01 40 59.4	
baz=171,slow=76,SNR=209							
H08S1	**Diego Garcia H**	**28.61**	**348**	T	T	01 40 59.6	
baz=171,slow=76,SNR=200							
H08S3	**Diego Garcia H**	**28.63**	**348**	T	T	01 41 00.8	
baz=171,slow=76,SNR=255							
MAW	**Mawson**	**32.91**	**191**	LR	LR	01 20 16.2	
comp=Z,124nm,18.6s,baz=60,slow=30							
BOSA	**Boshof**	**44.84**	**264**	LR	LR	01 26 03.5	
comp=Z,27nm,21.4s,baz=58,slow=30							
ASAR	**Alice Springs**	**49.33**	**92**	P	P	01 12 36.5	-0.2
1.1nm,0.9s,baz=241,slow=6.0,SNR=5.7							
WRA	**Warramunga Arr**	**51.49**	**88**	P	P	01 12 52.9	-0.2
1.7nm,0.8s,baz=239,slow=7.4,SNR=6.6							
STKA	**Stephens Creek**	**52.02**	**105**	P	P	01 12 56.9	0.0
4.0nm,1.1s,baz=236,slow=15,SNR=2.8							
PMG	**Port Moresby**	**67.58**	**85**	LR	LR	01 41 48.7	
comp=Z,67nm,19.9s,baz=202,slow=34							
ZALV	**Zalesovo Beam**	**89.69**	**4**	LR	LR	01 56 15.4	
comp=Z,26nm,20.6s,baz=70,slow=35							

*IDC **16** 01:13:49.4±3.6, 36°64N×71°59E, h84km±31km, mb3.3/5, mb1 3.5/12, mb1mx3.3/42, mbtmp3.8/12, Error ellipse: s-maj=30.6km s-min=20.5km az=17.0*
*ISCJB **16** 01:13:50.2±0.4, 36°86N±0°04×71°58E±0°06, h106km, mb3.5/5, Error ellipse: s-maj=7.7km s-min=4.1km az=150.4*
*NNC **16** 01:13:56.9±2.6, 37°29N×71°34E, h133km±31km, mb3.2, mpv4.0, Error ellipse: s-maj=23.4km s-min=12.7km az=153.0*
ISC 16 01:13:50.2±0.6, 36°82N±0°05×71°48E±0°06, h106km, n29, σ2°80/42, mb3.3/5, 9C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.89**	**314**	⇓P	**Pn**	**01 14 36.7**	**+2.0**
24nm,0.5s							
DZET				⇑S	**Sn**	**01 15 09.0**	**0.0**
543nm,0.6s							
MNAS	**Manas**	**5.72**	**8**	⇑P	**Pn**	**01 15 14.2**	**+1.5**
11nm,0.6s							
MNAS				⇑S	**Sn**	**01 16 14.1**	**-3.1**
26nm,0.9s							
DHRM	**DHARAMSHALA**	**6.04**	**137**	*e*P	**Pn**	**01 15 20.0**	**+2.7**
DHRM				*e*S	**Sn**	**01 16 24.6**	**-0.7**
DHRM				IAML		01 16 29.0	
comp=N,85nm,0.4s							
DHRM				IAML		01 16 29.3	
comp=E,138nm,0.5s							
AAK	**Ala-Archa**	**6.26**	**21**	P	**Pn**	**01 15 22.2**	**+2.0**
comp=E,6.4nm,0.3s,baz=168,slow=6.8,SNR=58							
AAK				S	**Sn**	**01 16 29.3**	**-1.0**
comp=E,0.5nm,0.3s,baz=213,slow=11,SNR=9.5							
AAK	**Ala-Archa**	**6.26**	**21**	P	**Pn**	**01 15 21.8**	**+1.7**
comp=E,7.5nm,0.3s							
AAK				S	**Sn**	**01 16 28.0**	**-2.3**
comp=E,25nm,1.1s							
KK31	**Karatay Array**	**6.32**	**354**	⇑P	**Pn**	**01 15 22.1**	**+1.3**
comp=E,2.4nm,0.3s,baz=181,slow=14,SNR=37							
KK31				⇑S	**Sn**	**01 16 28.3**	**-3.4**
comp=E,10.0nm,0.4s,baz=170,slow=19,SNR=11							
TKM2	**Tokmak 2**	**6.87**	**26**	⇓P	**Pn**	**01 15 30.2**	**+1.7**
comp=E,27nm,0.9s							
TKM2				⇑S	**Sn**	**01 16 43.6**	**-1.6**
comp=E,5.9nm,0.9s							
SMLA	**Simla**	**7.38**	**139**	*e*P	**Pn**	**01 15 37.0**	**+1.8**
SMLA				*e*S	**Sn**	**01 16 54.0**	**-3.3**
SMLA				IAML		01 16 59.2	
comp=N,62nm,1.1s							
SMLA				IAML		01 17 01.9	
comp=E,66nm,0.2s							
JOSI	**Joshimath**	**9.18**	**131**	*e*P	**Pn**	**01 16 01.8**	**+2.0**
JOSI				*e*S	**Sn**	**01 17 35.8**	**-5.6**
JOSI				AML	AML	01 17 50.4	
comp=E,49nm,0.9s							
JOSI				AML	AML	01 17 53.6	
comp=N,66nm,1.3s							
KHET	**Khetri**	**9.45**	**156**	*e*P	**Pn**	**01 16 03.5**	**+0.2**
KHET				*e*S	**Sn**	**01 17 41.6**	**-6.2**
KHET				AML	AML	01 17 46.1	
comp=E,6.6nm,0.4s							
KHET				AML	AML	01 17 46.3	
comp=N,5.3nm,0.4s							
GEYT	**Alibeck**	**10.70**	**280**	P	**Pn**	**01 16 20.5**	**+0.3**
comp=N,0.8nm,0.3s,baz=116,slow=9.9,SNR=9.5							
GEYT				S	**Sn**	**01 18 14.4**	**-3.6**
comp=N,1.2nm,0.3s,baz=86,slow=22,SNR=9.7							
MKAR	**Makanchi Array**	**12.81**	**36**	P	**Pn**	**01 16 48.6**	**+0.4**
comp=N,0.0nm,0.3s,baz=226,slow=13,SNR=12							
PYUN	**Piuthan**	**13.03**	**129**	*e*P	**Pn**	**01 16 50.3**	**-1.1**
KOLN	**Koldanda**	**13.64**	**128**	*e*P	**Pn**	**01 16 58.0**	**-1.4**
BHPL	**Bhopal**	**14.47**	**158**	*e*P	**P**	**01 17 13.4**	**-0.2**
KURBB	**Kurchatov Arra**	**14.70**	**18**	P	**P**	**01 17 16.5**	**+0.5**
comp=N,0.1nm,0.3s,baz=205,slow=10,SNR=12							
AB31	**Akbulak array**	**15.00**	**330**	⇑P	**Pn**	**01 17 16.8**	**+0.3**
comp=N,0.6nm,0.3s							
AB31				⇑S	**Sn**	**01 19 53.8**	**-8.2**
comp=N,5.8nm,0.7s							
GUN	**Gumba**	**15.05**	**122**	*e*P	**P**	**01 17 20.7**	**+0.3**
comp=N,39nm,0.9s							
RAMN	**Ramite**	**16.16**	**123**	*e*P	**Pn**	**01 17 30.2**	**-1.1**
comp=N,18nm,0.7s							
BVAR	**Borovoye Array**	**16.23**	**358**	P	**P**	**01 17 33.7**	**+0.8**
comp=N,0.2nm,0.3s,baz=163,slow=12,SNR=8.0							
TAPN	**Taplejung**	**16.66**	**120**	*e*P	**P**	**01 17 38.6**	**+0.4**
AKTO	**Aktyubinsk**	**16.71**	**329**	P	**P**	**01 17 41.1**	**+2.9**
comp=N,0.2nm,0.3s,baz=139,slow=11,SNR=8.9							
AKTO	**Aktyubinsk**	**16.71**	**329**	⇑P	**P**	**01 17 39.4**	**+1.3**
comp=N,3.4nm,0.9s							
AKTO				⇓S	**Sn**	**01 20 36.9**	**-6.2**
comp=N,8.0nm,0.9s							
ZALV	**Zalesovo Beam**	**19.47**	**24**	P	**P**	**01 18 09.4**	**+1.0**
comp=N,0.5nm,0.3s,baz=220,slow=11,SNR=12							
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**01 20 55.5**	**+2.7**
comp=N,2.3nm,1.0s,baz=129,slow=11,SNR=5.0							
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**01 21 52.8**	**+3.2**
comp=N,1.1nm,0.7s,baz=94,slow=8.1,SNR=2.7							
ESDC	**Sonseca Array**	**57.65**	**298**	P	**P**	**01 23 32.1**	**+2.7**
comp=N,0.1nm,0.4s,baz=54,slow=6.3,SNR=3.8							
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**01 25 59.0**	**+1.2**
comp=N,0.3nm,0.5s,baz=326,slow=5.1,SNR=3.2							
ASAR	**Alice Springs**	**84.12**	**125**	P	**P**	**01 26 10.1**	**+0.6**
comp=N,0.2nm,0.5s,baz=308,slow=4.0,SNR=4.5							

DJA 16 01:18:56.8±0.5, 2°S±2°×11°9E±°, h11km±4km, M3.8/9, MLv3.8/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.09**	**134**	P	Pb	01 19 17.2	-0.5
TTSI				S	Sb	01 19 31.7	-0.2
PCI	**Palu**	**1.58**	**30**	P	Pn	01 19 25.2	+0.4
PCI				S	Sb	01 19 45.9	-0.2
SPSI	**Sidrap Palu**	**1.82**	**157**	P	Pn	01 19 28.5	+0.4
SPSI				S	Sn	01 19 51.2	-0.1
BNSI	**Bone**	**2.36**	**153**	P	Pn	01 19 35.9	+0.4
BKB	**Balikpapan**	**2.37**	**295**	P	Pn	01 19 36.0	+0.4
SMKI	**Samarinda**	**2.58**	**315**	P	Pn	01 19 38.7	+0.1
MPSI	**Mapago**	**2.74**	**18**	P	Pn	01 19 39.8	-0.9
APSI	**Ampana**	**2.94**	**62**	P	Pn	01 19 43.8	+0.3
KBKI	**Kotabaru**	**3.04**	**250**	P	Pn	01 19 44.9	0.0

*BJI **16** 01:21:38.8, 31°24S×179°14W, h213km, mb5.1/25, mB5.2/26*
*ISCJB **16** 01:21:39.1±0.4, 31°64S±0°03×179°82W±0°03, h205km±3km, mb5.0/177, Error ellipse: s-maj=5.2km s-min=3.4km az=139.3*
*GCMT **16** 01:21:40.6±0.2, 31°41S×179°50W, h228km±1km, MW5.2/91, Moment Tensor Solution. s64,c79; s91,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.11±.16; Mθθ-1.43±.21; Mφφ6.54±.18; Mrθ-2.10±.18; Mφφ2.14±.19; Mφr-1.10±.16; Best double couple: M0 6.67400×10^16 NP1:φs35.00000°, δ56.00000°, λ-62.00000°. NP2: φs171.00000°, δ43.00000°, λ-125.00000°. Principal axes: T 7.2850, Plg7.0000°, Azm106.0000°; N -1.2220, Plg23.0000°, Azm199.0000°; P -6.0630, Plg66.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 01:21:40.6±0.5, 31°66S×179°78W, h213km±4km, mb5.0/134 Error ellipse: s-maj=5.1km s-min=3.9km az=132.0*
*MOS **16** 01:21:41.3±0.8, 31°46S×179°79W, h223km, mb5.1/40, Error ellipse: s-maj=10.0km s-min=7.7km az=86.8*
*IDC **16** 01:21:42.3±0.8, 31°43S×179°58W, h229km±6km, mb4.7/19, mb1 4.8/21, mb1mx4.6/30, mbtmp5.2/21, Error ellipse: s-maj=11.1km s-min=9.9km az=170.0*
ISC 16 01:21:41.4±0.4, 31°64S±0°03×179°59W±0°04, h224km±2km, h225km; pP-P, n914, σ1°60/972, mb5.0/170, 41C-22D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.78**	**32**	P	**Pn**	**01 22 28.8**	**-1.1**
118nm,0.3s,baz=238,slow=18,SNR=6.5							
RAO				S	**S**	**01 23 06.0**	**-1.9**
691nm,0.3s,baz=86,slow=22,SNR=24							
RAO	**Raoul Island**	**2.78**	**32**	*e*P	**Pn**	**01 22 28.9**	**-1.1**
RAO				*e*S	**S**	**01 23 07.4**	**-0.5**
RAO	**Raoul Island**	**2.78**	**32**	*e*Pn	**Pn**	**01 22 28.9**	**-1.1**
RAO				*e*S	**S**	**01 23 07.4**	**-0.5**
MXZ	**Matakaoa Point**	**6.16**	**196**	*e*Pn	**Pn**	**01 23 09.3**	**-1.6**
MXZ	**Matakaoa Point**	**6.16**	**196**	PN	**Pn**	**01 23 09.0**	**-1.9**
MXZ				SN	**S**	**01 24 19.5**	**-2.7**
WMGZ	**Waiomatatini S**	**6.38**	**194**	PN	**Pn**	**01 23 11.5**	**-2.3**
WMGZ				SN	**S**	**01 24 27.7**	**+0.4**
HAZ	**Te Kaha**	**6.47**	**199**	PN	**Pn**	**01 23 12.9**	**-2.0**
PKGZ	**Pakihiroa**	**6.52**	**196**	PN	**Pn**	**01 23 13.8**	**-1.8**
PKGZ				SN	**S**	**01 24 30.0**	**-0.8**
PUZ	**Puketiti**	**6.66**	**195**	PN	**Pn**	**01 23 15.0**	**-2.3**
RUGZ	**Raukumara Rang**	**6.70**	**199**	PN	**Pn**	**01 23 16.5**	**-1.5**
OUZ	**Omahuta**	**6.72**	**236**	*e*Pn	**Pn**	**01 23 20.7**	**+2.6**
OUZ	**Omahuta**	**6.72**	**236**	PN	Pn	01 23 22.0	+3.8
TWGZ	**Tauwhareparae**	**6.82**	**196**	PN	**Pn**	**01 23 17.4**	**-2.1**
OPRZ	**Ohinepanea**	**6.96**	**206**	PN	**Pn**	**01 23 20.7**	**-0.4**
CNGZ	**Carnagh Statio**	**7.06**	**194**	PN	**Pn**	**01 23 20.3**	**-2.2**
MWZ	**Matawai**	**7.08**	**199**	PN	**Pn**	**01 23 20.8**	**-2.0**
TKGZ	**Te Karaka**	**7.10**	**196**	PN	**Pn**	**01 23 20.3**	**-2.6**
EDRZ	**Edgecumbe**	**7.12**	**204**	PN	**Pn**	**01 23 25.1**	**+1.8**
URZ	**Urewera**	**7.14**	**201**	P	**Pn**	**01 23 21.3**	**-2.1**
11nm,0.3s,baz=264,slow=4.7,SNR=41							
URZ				S	**S**	**01 24 40.6**	**-4.3**
100nm,0.3s,baz=269,slow=9.5,SNR=11							
URZ	**Urewera**	**7.14**	**201**	*e*Pn	**Pn**	**01 23 21.8**	**-1.6**
URZ				S	**S**	**01 24 40.6**	**-4.3**
URZ	**Urewera**	**7.14**	**201**	PN	**Pn**	**01 23 21.3**	**-2.1**
RAGZ	**Rawiri**	**7.27**	**199**	PN	**Pn**	**01 23 23.1**	**-2.1**
TARZ	**Mount Tarawera**	**7.32**	**205**	PN	**Pn**	**01 23 27.7**	**+1.9**
RIGZ	**Rimuhau**	**7.38**	**196**	PN	**Pn**	**01 23 23.2**	**-3.4**
RRRZ	**Republican Roa**	**7.41**	**204**	PN	**Pn**	**01 23 29.6**	**+2.6**
RTZ	**Ruatahuna**	**7.50**	**201**	PN	**Pn**	**01 23 28.0**	**-0.3**
PRGZ	**Paritu Road**	**7.55**	**195**	PN	**Pn**	**01 23 26.0**	**-2.8**
SNGZ	**Shannon Statio**	**7.55**	**199**	PN	**Pn**	**01 23 26.0**	**-2.9**
PRRZ	**Plateau Road**	**7.59**	**205**	PN	**Pn**	**01 23 27.6**	**-1.7**
ALRZ	**Allen Road**	**7.67**	**205**	PN	**Pn**	**01 23 29.0**	**-1.3**
KNZ	**Kokohu**	**7.70**	**196**	PN	Pn	01 23 25.0	-5.6
MHGZ	**Mahia Peninsul**	**7.77**	**195**	PN	**Pn**	**01 23 28.3**	**-3.3**
WHHZ	**Waihua**	**7.86**	**198**	PN	**Pn**	**01 23 29.7**	**-3.1**
MRHZ	**Matea Rd**	**7.88**	**203**	PN	**Pn**	**01 23 33.3**	**+0.2**
NMHZ	**Naumai**	**8.00**	**201**	PN	**Pn**	**01 23 31.6**	**-3.0**
ARHZ	**Aropaoanui**	**8.10**	**199**	PN	**Pn**	**01 23 33.0**	**-2.8**
BKZ	**Black Stump Fm**	**8.16**	**202**	*e*Pn	**Pn**	**01 23 34.3**	**-2.4**
BKZ	**Black Stump Fm**	**8.16**	**202**	PN	**Pn**	**01 23 33.6**	**-3.0**
HIZ	**Hauiti**	**8.23**	**212**	*e*Pn	Pn	01 23 41.7	+4.2
HIZ	**Hauiti**	**8.23**	**212**	PN	**Pn**	**01 23 40.4**	**+3.0**
MCHZ	**McNeill Hill**	**8.35**	**200**	PN	**Pn**	**01 23 39.4**	**+0.3**
KRVZ	**Karewarewa**	**8.39**	**206**	PN	**Pn**	**01 23 40.8**	**+1.1**
KWHZ	**Kaweka Forest**	**8.42**	**202**	PN	**Pn**	**01 23 38.5**	**-1.5**
WTVZ	**West Tongariro**	**8.43**	**206**	PN	**Pn**	**01 23 41.3**	**+1.1**
OTVZ	**Oturere**	**8.45**	**206**	PN	**Pn**	**01 23 40.5**	**+0.1**
CKHZ	**Cape Kidnapper**	**8.45**	**198**	PN	**Pn**	**01 23 39.4**	**-0.9**
NGZ	**Ngauruhoe**	**8.48**	**206**	PN	**Pn**	**01 23 41.6**	**+0.8**
FWVZ	**Far West T-bar**	**8.57**	**206**	PN	**Pn**	**01 23 39.8**	**-2.2**
WHVZ	**Whangaehu Hut**	**8.58**	**206**	PN	**Pn**	**01 23 41.3**	**-0.8**
BHHZ	**Black Hill Sta**	**8.59**	**203**	PN	**Pn**	**01 23 39.3**	**-2.9**
WNVZ	**Wahianoa**	**8.61**	**206**	PN	**Pn**	**01 23 40.6**	**-2.0**
KAHZ	**Kahuranaki**	**8.63**	**198**	PN	**Pn**	**01 23 38.9**	**-3.8**
MOVZ	**Moawhango**	**8.63**	**205**	PN	**Pn**	**01 23 41.4**	**-1.3**
PXZ	**Pawanui**	**8.85**	**198**	PN	**Pn**	**01 23 41.8**	**-3.7**
PNHZ	**Pukenui**	**8.94**	**201**	PN	**Pn**	**01 23 42.3**	**-4.3**
WPHZ	**Waipukurau**	**9.00**	**200**	PN	**Pn**	**01 23 44.2**	**-3.1**
PRHZ	**Porangahau**	**9.13**	**199**	PN	**Pn**	**01 23 45.9**	**-3.2**
TSZ	**Takapari Road**	**9.14**	**202**	PN	**Pn**	**01 23 47.7**	**-1.5**
WAZ	**Wanganui**	**9.22**	**207**	PN	**Pn**	**01 23 50.1**	**-0.1**
DVHZ	**Dannevirke**	**9.30**	**201**	PN	**Pn**	**01 23 49.0**	**-2.2**
ANWZ	**Angora Road**	**9.36**	**199**	PN	**Pn**	**01 23 50.8**	**-1.1**
OHWZ	**Ohakea**	**9.49**	**204**	PN	**Pn**	**01 23 53.3**	**-0.3**
POWZ	**Post Office Ro**	**9.51**	**202**	PN	**Pn**	**01 23 51.2**	**-2.6**
PRWZ	**Pori Road**	**9.59**	**201**	PN	**Pn**	**01 23 52.8**	**-2.1**
BFZ	**Birch Farm**	**9.63**	**199**	*e*Pn	**Pn**	**01 23 54.5**	**-0.9**
BFZ	**Birch Farm**	**9.63**	**199**	PN	Pn	01 23 50.2	-5.2
MRZ	**Mangatainoka R**	**9.81**	**202**	PN	Pn	01 23 52.5	-5.2
TIWZ	**Tintock**	**9.82**	**201**	PN	**Pn**	**01 23 55.7**	**-2.2**
CPWZ	**Castlepoint**	**9.85**	**199**	PN	**Pn**	**01 23 56.5**	**-1.7**
HOWZ	**Holdsworth Sta**	**10.05**	**202**	PN	**Pn**	**01 23 56.4**	**-4.4**
OGWZ	**Otaki Gorge**	**10.09**	**203**	PN	Pn	01 23 56.1	-5.1
TMWZ	**Te Maipa**	**10.12**	**200**	PN	Pn	01 23 56.6	-5.2
KIW	**Kapiti Island**	**10.21**	**204**	PN	Pn	01 23 58.1	-4.8
MTW	**Mount Morrison**	**10.29**	**201**	PN	Pn	01 23 58.2	-5.6
CAW	**Cannon Point**	**10.38**	**203**	PN	Pn	01 23 59.5	-5.5
TRWZ	**Traveller**	**10.45**	**200**	PN	**Pn**	**01 24 03.3**	**-2.6**
PAWZ	**Paruwai Farm**	**10.51**	**201**	PN	**Pn**	**01 24 04.2**	**-2.6**
DUWZ	**D'Urville Isla**	**10.53**	**208**	PN	**Pn**	**01 24 02.6**	**-4.4**
MSWZ	**Moikau Station**	**10.60**	**202**	PN	**Pn**	**01 24 04.6**	**-3.2**
WEL	**Wellington**	**10.64**	**204**	PN	**Pn**	**01 24 05.6**	**-2.7**
SNZO	**South Karori**	**10.69**	**204**	*e*Pn	**Pn**	**01 24 06.0**	**-2.8**
SNZO				*e*S	**S**	**01 26 00.7**	**-7.7**
BHW	**Baring Head**	**10.72**	**203**	PN	Pn	01 24 03.7	-5.6
PLWZ	**Palliser**	**10.74**	**201**	PN	Pn	01 24 04.7	-4.9
TCW	**Tory Channel**	**10.75**	**206**	PN	Pn	01 24 04.1	-5.6
NFK	**Norfolk Island**	**11.08**	**280**	P	**P**	**01 24 15.2**	**-4.0**
baz=11							
NNZ	**Nelson**	**11.11**	**209**	PN	**Pn**	**01 24 09.5**	**-4.6**
QRZ	**Quartz Range**	**11.15**	**213**	PN	**Pn**	**01 24 12.4**	**-2.4**
BSWZ	**Blackbirch Sta**	**11.34**	**206**	PN	**Pn**	**01 24 14.4**	**-2.7**
THZ	**Tophouse**	**11.76**	**209**	*e*Pn	**Pn**	**01 24 20.9**	**-1.6**
THZ	**Tophouse**	**11.76**	**209**	PN	**Pn**	**01 24 19.3**	**-3.2**
KHZ	**Kahutara**	**12.07**	**205**	*e*Pn	**Pn**	**01 24 23.7**	**-2.6**
KHZ	**Kahutara**	**12.07**	**205**	PN	**Pn**	**01 24 23.2**	**-3.1**
DSZ	**Denniston Nort**	**12.21**	**212**	PN	**Pn**	**01 24 26.1**	**-2.1**
CTZ	**Chatham Island**	**12.30**	**170**	PN	**P**	**01 24 33.1**	**+0.4**
LTZ	**Lake Taylor**	**12.87**	**208**	*e*Pn	**Pn**	**01 24 33.7**	**-2.6**
LTZ	**Lake Taylor**	**12.87**	**208**	PN	**Pn**	**01 24 33.7**	**-2.6**
INZ	**Inchbonnie**	**13.16**	**210**	PN	**Pn**	**01 24 37.2**	**-2.7**
CRLZ	**Canterbury Las**	**13.41**	**205**	*e*Pn	**Pn**	**01 24 40.9**	**-2.0**
OXZ	**Oxford**	**13.42**	**207**	*e*Pn	**Pn**	**01 24 38.6**	**-4.5**
OXZ	**Oxford**	**13.42**	**207**	PN	Pn	01 24 38.1	-4.9
MQZ	**McQueen's Vall**	**13.51**	**205**	*e*Pn	**Pn**	**01 24 41.8**	**-2.4**
MQZ	**McQueen's Vall**	**13.51**	**205**	PN	**Pn**	**01 24 39.5**	**-4.8**
WVZ	**Waitaha Valley**	**13.75**	**211**	PN	**Pn**	**01 24 44.0**	**-3.2**
MSVF	**Nonsavu**	**14.01**	**351**	*e*P	**Pn**	**01 24 50.3**	**-0.4**
MSVF	**Nonsavu**	**14.01**	**351**	*e*Pn	**Pn**	**01 24 50.3**	**-0.4**
RPZ	**Rata Peaks**	**14.14**	**209**	P	**Pn**	**01 24 48.6**	**-3.3**
6.6nm,0.3s,baz=199,slow=3.7,SNR=29							
RPZ				S	S	01 27 16.4	-12
14nm,0.3s,baz=114,slow=21,SNR=15							
RPZ	**Rata Peaks**	**14.14**	**209**	PN	**Pn**	**01 24 48.5**	**-3.4**
FOZ	**Fox Glacier**	**14.53**	**212**	*e*Pn	**Pn**	**01 24 54.4**	**-2.3**
FOZ	**Fox Glacier**	**14.53**	**212**	PN	**Pn**	**01 24 53.9**	**-2.8**
LBZ	**Lake Benmore**	**15.04**	**209**	*e*Pn	**Pn**	**01 25 00.1**	**-2.9**
79nm,1.7s							
LBZ	**Lake Benmore**	**15.04**	**209**	PN	**Pn**	**01 24 59.9**	**-3.1**
ODZ	**Otahua Downs**	**15.40**	**207**	*e*P	**P**	**01 25 04.8**	**-2.2**
25nm,0.8s							

CTAO *e*S **S** **01 32 50.8 -1.6**
STKA Stephens Creek 32.89 259 P **P** **01 27 56.4 +2.0**
comp=Z,84nm,0.8s,baz=100,slow=10,SNR=100
STKA Stephens Creek 32.89 259 *e*P **P** **01 27 56.5 +2.0**
STKA pmax pmax
comp=Z,22nm,0.9s
STKA Stephens Creek 32.89 259 *e*P **P** **01 27 56.5 +2.0**
comp=Z,22nm,0.9s
TARA Tarawa 33.58 346 *e*P **P** **01 27 59.5 -0.9**
comp=Z,58nm,0.8s
HTT Hallett 34.86 256 P **P** **01 28 13.0 +1.5**
baz=35,SNR=39
BBOO Buckleboo 37.33 256 P **P** **01 28 33.2 +0.9**
baz=37
BBOO Buckleboo 37.33 256 *e*P **P** **01 28 32.5 +0.2**
comp=Z,99nm,0.7s
PMG Port Moresby 37.95 298 PcP **PcP** **01 30 49.6 +1.0**
comp=Z,30nm,0.9s,baz=58,slow=5.9,SNR=7.4
PMG Port Moresby 37.95 298*d i*P **P** **01 28 37.7 +0.1**
PMG pmax pmax
comp=Z,331nm,1.0s
PMG Port Moresby 37.95 298 *e*P **P** **01 28 37.8 +0.2**
comp=Z,87nm,1.0s
PMG *e*PcP **PcP** **01 30 48.6 0.0**
RABL Rabaul 38.07 310 *e*P **P** **01 28 38.3 -0.3**
comp=Z,128nm,0.6s
COEN Coen 38.34 289 P **P** **01 28 41.8 +0.9**
baz=38,SNR=150
COEN Coen 38.34 289 *e*P **P** **01 28 41.8 +0.9**
comp=Z,66nm,1.0s
COEN *e*PcP **PcP** **01 30 48.6 -1.2**
AS01 Alice Springs 41.66 269 *e*P **P** **01 29 07.5 -0.7**
AS01 *e*S **S** **01 35 06.4 -1.4**
AS31 Alice Springs 41.70 269 *e*P **P** **01 29 08.7 +0.2**
comp=Z,42nm,0.6s
AS31 *e*S **S** **01 35 06.5 -1.8**
ASAR Alice Springs 41.70 269 P **P** **01 29 08.8 +0.3**
comp=Z,131nm,0.7s,baz=105,slow=7.5,SNR=1875
ASAR ScP **ScP** **01 34 29.1 -0.2**
comp=Z,1.7nm,0.7s,baz=119,slow=4.1,SNR=4.4
ASAR S **S** **01 35 06.1 -2.3**
comp=Z,8.7nm,1.0s,baz=107,slow=16,SNR=15
ASAR PKiKP **PKiKP** **01 38 05.5 -1.2**
comp=Z,0.7nm,0.7s,baz=95,slow=1.6,SNR=4.3
WB2 Warramunga Arr 42.79 274 *e*P **P** **01 29 17.4 +0.1**
comp=Z,273nm,0.6s
WB2 *e*S **S** **01 35 21.8 -2.5**
WRAB Tennant Creek 42.80 274*d i*P **P** **01 29 17.4 +0.1**
WRAB pmax pmax
comp=Z,535nm,0.7s
WRAB Tennant Creek 42.80 274 *e*P **P** **01 29 17.5 +0.1**
comp=Z,227nm,0.6s
WRAB *e*S **S** **01 35 21.5 -3.0**
WRA Warramunga Arr 42.80 274 P **P** **01 29 17.4 0.0**
comp=Z,213nm,0.6s,baz=113,slow=7.9,SNR=755
WRA ScP **ScP** **01 34 33.0 -0.8**
comp=Z,2.3nm,0.6s,baz=109,slow=3.8,SNR=6.2
WRA S **S** **01 35 21.4 -3.1**
comp=Z,14nm,0.9s,baz=111,slow=13,SNR=14
WRA PKiKP **PKiKP** **01 38 06.6 -1.3**
comp=Z,1.4nm,0.7s,baz=94,slow=0.3,SNR=5.7
TAOE Nuku Hiva Isla 43.05 67 *e*S **S** **01 35 22.0 -6.2**
comp=Z,164nm,25.7s
FORT Forrest 44.42 257 *e*P **P** **01 29 29.5 -0.6**
comp=Z,857nm,1.1s
SBA Scott Base 46.71 184 *e*P **P** **01 29 50.9 +3.6**
SBA *e* 01 31 18.8
SBA pmax pmax
comp=Z,30nm,0.7s
SBA Scott Base 46.71 184 *e*P **P** **01 29 50.9 +3.6**
comp=Z,30nm,0.7s
SBA *e*PcP **PcP** **01 31 18.8 +2.0**
SBA *e*ScP **ScP** **01 34 48.3 -0.5**
VNDA Vanda 46.73 185 P **P** **01 29 49.8 +2.3**
comp=Z,1.0nm,0.6s,baz=22,slow=9.5,SNR=3.5
VNDA PcP **PcP** **01 31 18.4 +1.5**
comp=Z,13nm,0.9s,baz=331,slow=4.4,SNR=18
VNDA ScP **ScP** **01 34 48.2 -0.7**
comp=Z,5.7nm,1.0s,baz=324,slow=3.4,SNR=8.0
JAY Jayapura 47.29 300 P **P** **01 29 50.9 -1.8**
comp=Z,357nm,1.4s
GENI Genyem 47.63 299 P **P** **01 29 55.3 0.0**
comp=Z,125nm,1.3s,comp=Z,4μm
KDU Kakadu 47.81 282 P **P** **01 29 55.8 -0.8**
baz=48,SNR=19
KMBL Kambalda 49.36 254 P **P** **01 30 07.5 -0.8**
baz=49
KNRA Kununurra 49.46 276 P **P** **01 30 09.6 +0.4**
baz=49
WAKE Wake Island 52.32 344 *e*P **P** **01 30 29.2 -1.1**
comp=Z,76nm,0.8s
KLBR Kellerberrin 52.67 252 P **P** **01 30 31.9 -0.9**
baz=53
FAKI Fak Fak 53.52 292 P **P** **01 30 38.0 -1.2**
FAKI Fak Fak 53.52 292 P **P** **01 30 38.2 -1.0**
FAKI Fak Fak 53.52 292 *e*P **P** **01 30 37.4 -1.8**
comp=Z,50nm,0.9s
FAKI *e*PcP **PcP** **01 31 44.2 +1.2**
MBWA Marble Bar 54.75 265 *e*P **P** **01 30 46.8 -1.2**
comp=Z,41nm,1.0s
SWI Sorong 55.55 293 P **P** **01 30 53.3 -0.5**
SWI Sorong 55.55 293 P **P** **01 30 53.6 -0.2**
PUH Pauahi 55.85 28 *e*P **P** **01 30 56.5 +0.6**
SOEI Soe 56.20 280 P **P** **01 30 59.9 +1.3**
SOEI Soe 56.20 280 P **P** **01 30 58.6 0.0**
comp=Z,118nm,1.0s
SOEI Soe 56.20 280 *e*P **P** **01 30 59.3 +0.7**
comp=Z,90nm,0.9s
QSPA South Pole Qui 58.47 180 *e*P **P** **01 31 16.5 +2.8**
comp=Z,183nm,0.8s
QSPA *e*pP **pP** **01 32 03.1 -1.1**
QSPA *e*S **S** **01 39 04.6 +5.8**
MMRI Maumere 58.49 280 P **P** **01 31 16.6 +2.2**
MMRI Maumere 58.49 280 P **P** **01 31 16.8 +2.4**
comp=Z,80nm,1.1s
MMRI Maumere 58.49 280 *e*P **P** **01 31 13.9 -0.6**
comp=Z,77nm,1.0s
LBMI Labuha 58.66 291 P P 01 31 31.0 +15
LBMI Labuha 58.66 291 P P 01 31 31.0 +15
GIRL Giralia 58.80 261 P **P** **01 31 16.8 +0.4**
baz=59,SNR=4.2
EDFI Ende, Flores 58.89 279 P **P** **01 31 20.2 +2.9**
EDFI Ende, Flores 58.89 279 P **P** **01 31 20.0 +2.7**
comp=Z,26nm,0.7s
SANI Sanana 59.04 289 P **P** **01 31 19.5 +1.3**
SANI Sanana 59.04 289 P **P** **01 31 19.5 +1.3**
comp=Z,45nm,1.1s
MIDW Midway 59.56 2 *e*P **P** **01 31 20.6 -0.7**
KAPI Kappang 62.50 282 *e*P **P** **01 31 41.1 -0.4**
comp=Z,28nm,1.0s
BNSI Bone 62.54 283 P **P** **01 31 40.0 -1.8**
BNSI Bone 62.54 283 P **P** **01 31 41.4 -0.4**
TWSI Taliwang, Sumb 62.96 277 P **P** **01 31 45.3 +0.8**
TWSI Taliwang, Sumb 62.96 277 P **P** **01 31 44.7 +0.2**
SPSI Sidrap Palu 63.06 283 P **P** **01 31 44.8 -0.4**
SPSI Sidrap Palu 63.06 283 P **P** **01 31 44.1 -1.1**
comp=Z,37nm,0.9s
TTSI Tana Toraja 63.53 284 P **P** **01 31 44.2 -4.0**
TTSI Tana Toraja 63.53 284 P **P** **01 31 44.1 -4.1**
PCI Palu 64.71 286 P **P** **01 31 56.1 +0.2**
PCI Palu 64.71 286 P **P** **01 31 57.0 +1.1**
comp=Z,150nm,1.0s,comp=Z,2μm
MPSI Mapaga 65.37 287 P **P** **01 31 59.4 -0.7**
MPSI Mapaga 65.37 287 P **P** **01 31 58.9 -1.2**
MAW Mawson 70.67 201 P **P** **01 32 32.2 0.0**
comp=Z,4.6nm,0.7s,baz=143,slow=5.5,SNR=9.9
MAW Mawson 70.67 201 *e*P **P** **01 32 32.6 +0.4**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW Mawson 70.67 201 *e*P **P** **01 32 32.6 +0.4**
comp=Z,1.7nm,0.9s
KKM Kota Kinabalu 71.66 289 *e*P **P** **01 32 39.6 +0.5**
comp=Z,17nm,0.6s
STKI Sintang 72.18 281 P **P** **01 32 43.8 +1.6**
SBUM Sibu 72.88 284 *e*P **P** **01 32 46.0 -0.2**
comp=Z,23nm,0.9s
KSM Kuching 73.93 282 *e*P **P** **01 32 51.5 -0.8**
comp=Z,16nm,1.0s
KLSI 75.36 274 P **P** **01 33 01.0 +0.3**
comp=Z,22nm,0.9s
SYO Syowa Base 75.60 194‖ *e*P **P** **01 32 59.7 -1.3**
SYO Syowa Base 75.60 194‖ *e*PcP **PcP** **01 33 09.8 -3.0**
MDSI Maura Dua 75.94 273 P **P** **01 33 02.2 -1.7**
comp=Z,24nm,1.1s
SNAA Sanae 76.95 179 P **P** **01 33 10.3 +1.6**
SNAA Sanae 76.95 179*d i*P **P** **01 33 09.8 +1.1**
SNAA Sanae 76.95 179 *e*P **P** **01 33 09.9 +1.2**
comp=Z,108nm,0.9s
VNA3 Neumayer Olymp 77.16 177 P **P** **01 33 11.4 +1.7**
NVL N'lazarevskaya 77.56 184 *e*P **P** **01 33 16.2 +4.3**
VNA2 Neumayer--Watz 77.57 177 P **P** **01 33 14.1 +2.0**
baz=174,slow=4.4
VNA1 Neumayer--Stat 77.81 177 P **P** **01 33 15.4 +2.1**
INU Inuyama 78.11 325 *e*P **P** **01 33 13.4 -2.1**
comp=Z,53nm,1.2s
MJAR Matsushiro Arr 78.50 326 P **P** **01 33 15.7 -1.8**
comp=Z,20nm,1.0s,baz=162,slow=5.7,SNR=21
MAJO Matsushiro 78.50 326*de*P **P** **01 33 15.8 -1.8**
MAJO pmax pmax
comp=Z,192nm,1.1s
MAJO Matsushiro 78.50 326 *e*P **P** **01 33 15.5 -2.0**
comp=Z,36nm,1.1s
MAT Matsushiro 78.50 326 P **P** **01 33 15.4 -2.2**
MJB9 Matsu-Tunnel 78.50 326 *e*P **P** **01 33 16.5 -1.1**
comp=Z,8.2nm,1.1s
JNU Nakatsue 79.59 320 *e*P **P** **01 33 23.0 -0.6**
comp=Z,29nm,1.0s
DLV T Lat 81.28 290 *e*P **P** **01 33 33.8 +0.7**
comp=Z,40nm,0.8s
EFI East Falkland 82.49 148‖ *e*P **P** **01 33 40.1 +1.5**
EFI pmax pmax
comp=Z,32nm,0.9s
EFI East Falkland 82.49 148 *e*P **P** **01 33 40.1 +1.5**
comp=Z,29nm,0.8s
PLCA Paso Flores 82.65 134 P **P** **01 33 41.0 +1.2**
comp=Z,5.1nm,0.5s,baz=256,slow=5.5,SNR=17
PLCA pP **pP** **01 34 38.1 +4.3**
comp=Z,2.3nm,0.8s,baz=230,slow=3.9,SNR=1.7
PLCA PKPPKP **P'P'df** **02 00 10.9 +0.3**
ASAJ Asahikawa 82.92 334 P **P** **01 33 40.1 -0.6**
comp=Z,29nm,0.8s,baz=207,slow=7.0,SNR=21
ASAJ Asahikawa 82.92 334 *e*P **P** **01 33 41.8 +1.0**
comp=Z,24nm,0.7s
ADK Adak 83.20 2 *e*P **P** **01 33 41.7 -0.3**
ADK pmax pmax
comp=Z,117nm,1.1s
ADK Adak 83.20 2 *e*P **P** **01 33 41.7 -0.3**
comp=Z,117nm,1.1s
IPM Ipoh 83.33 279 *e*P **P** **01 33 43.4 -0.2**
comp=Z,10nm,0.6s
ATKA Atka Island 83.62 3 *e*P **P** **01 33 43.9 -0.1**
comp=Z,170nm,1.6s
KULM Kulim 84.08 280 *e*P **P** **01 33 46.2 -1.2**
comp=Z,19nm,0.9s
KSRS Korea Array 84.42 321 P **P** **01 33 48.2 -0.3**
comp=Z,8.9nm,0.8s,baz=144,slow=5.7,SNR=20
KS15 Wonju Array Si 84.43 321 *e*P **P** **01 33 50.0 +1.4**
KSAR Wonju Array Be 84.43 321 P **P** **01 33 48.2 -0.4**
KSAR Wonju Array Be 84.43 321 P **P** **01 33 48.2 -0.4**
KS01 Wonju Array Si 84.45 321 *e*P **P** **01 33 48.2 -0.4**
NIKH Nikolski High 84.78 6 *e*P **P** **01 33 50.5 +0.7**
comp=Z,253nm,1.4s
SKLT Songkhla 85.11 281 P **P** **01 33 54.2 +1.7**
comp=Z,21nm,1.2s
YSS Yuzh-Sakhalins 85.28 335‖ *i*P **P** **01 33 53.2 +0.7**
YSS pmax pmax
comp=Z,150nm,0.7s
YSS Yuzh-Sakhalins 85.28 335 *e*P **P** **01 33 53.3 +0.7**
comp=Z,132nm,0.8s
UNV Unalaska Valle 85.89 8 *e*P **P** **01 33 55.2 -0.1**
comp=Z,81nm,1.6s
NJ2 Nanjing 86.03 312 *e*P **P** **01 33 57.5 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
TRTT Trang 86.24 282 P **P** **01 33 59.0 +0.9**
comp=Z,28nm,1.1s
SCI2 San Clemente I 86.31 47 P **P** **01 33 60.0 +2.0**
baz=228
SCZ2 Santa Cruz Isl 86.31 46 P **P** **01 33 59.8 +1.8**
baz=228
PET Petropavlovsk 86.42 347 *e*P **P** **01 33 57.7 -0.2**
PET pmax pmax
comp=Z,49nm,0.7s
PET Petropavlovsk 86.42 347 *e*P **P** **01 33 58.0 +0.1**
comp=Z,32nm,0.6s
MSHR Mys Shultsa 86.60 326*ce*P **P** **01 33 59.1 0.0**
PEA0 Petropavlovsk- 86.68 347 *e*P **P** **01 33 59.8 +0.5**
PEA0B Petropavlovsk- 86.68 347 *e*P **P** **01 33 59.9 +0.7**
comp=Z,200nm,1.4s
PETK Petropavlovsk- 86.68 347 P **P** **01 33 58.9 -0.4**
comp=Z,38nm,0.7s,baz=114,slow=6.9,SNR=60
PETK Petropavlovsk- 86.68 347 P **P** **01 33 58.9 -0.4**
PETK pmax pmax
comp=Z,37nm,0.7s
PKM Mcpherson Peak 86.81 45 P **P** **01 34 02.6 +2.0**
baz=228
SRIG Santa Rosalia 86.91 55 *e*P **P** **01 34 01.5 +0.5**
comp=Z,26nm,1.0s
SMMC Simmler 86.98 45 P **P** **01 34 02.9 +1.7**
baz=227
PAGB Antelope Grade 87.11 44 *e*P **P** **01 34 04.1 +2.3**
comp=Z,98nm,1.9s
PMPB Monarch Peak 87.11 44 *e*P **P** **01 34 04.1 +2.2**
comp=Z,58nm,1.5s
109C Camp Elliot, M 87.17 48 P **P** **01 34 03.8 +1.7**
baz=229
OSI Osito Audit: C 87.29 46 P **P** **01 34 04.7 +1.9**
baz=228
OSI Osito Audit: C 87.29 46 *e*P **P** **01 34 04.8 +2.1**
comp=Z,25nm,0.9s
DECC Green Verdugo 87.29 47 P **P** **01 34 04.5 +1.8**
baz=228
BAR Barrett 87.31 49 *e*P **P** **01 34 04.8 +2.0**
comp=Z,18nm,1.2s
PASC Pasadena Art C 87.33 47 *e*P **P** **01 34 04.0 +1.2**
comp=Z,43nm,1.5s
MWC Mount Wilson 87.44 47 *e*P **P** **01 34 05.1 +1.5**
MWC pmax pmax
comp=Z,41nm,1.4s
MWC Mount Wilson 87.44 47 *e*P **P** **01 34 05.1 +1.5**
comp=Z,41nm,1.4s
USRK Ussuriysk Ar. 87.45 327 P **P** **01 34 02.6 -0.5**
comp=Z,12nm,0.6s,baz=138,slow=4.0,SNR=25
ARVC Arvin 87.56 46 P **P** **01 34 05.8 +1.9**
baz=228,SNR=6.0
MURC Murrieta 87.57 48 P **P** **01 34 06.0 +1.9**
baz=229,SNR=8.9
SURT Suratani 87.59 282 P **P** **01 34 08.4 +3.9**
comp=Z,5.1nm,1.3s
MONP2 Monument Peak 87.61 49 P **P** **01 34 06.4 +1.9**
baz=230,SNR=20
SRAK Srakaew 87.63 288 P **P** **01 34 04.5 -0.2**
comp=Z,49nm,1.2s
IKP In-Ko-Pah, Jac 87.65 49 P **P** **01 34 06.6 +2.0**
baz=230,SNR=12
BFSC Mount Baldy Ra 87.70 47 P **P** **01 34 06.3 +1.5**
baz=229,SNR=18
SKNT Sakolnakorn 87.70 291 P **P** **01 34 06.7 +1.7**
comp=Z,82nm,1.0s
VES Vestal, Richgr 87.89 45 P **P** **01 34 06.9 +1.5**
baz=228,SNR=14
EDW2 Edwards Air Fo 87.92 46 P **P** **01 34 07.3 +1.7**
baz=229,SNR=27
SWSC Sam W. Stewart 88.04 49 P **P** **01 34 08.3 +2.0**
baz=230,SNR=11
PFO Pinyon Flats O 88.05 48 P **P** **01 34 08.6 +2.1**
baz=230,SNR=12
PFO Pinyon Flats O 88.05 48 *e*P **P** **01 34 08.4 +2.0**
PFO pmax pmax
comp=Z,21nm,1.0s
PFO Pinyon Flats O 88.05 48 *e*P **P** **01 34 08.4 +2.0**
comp=Z,21nm,1.0s
TPFO Pinon Flats 88.05 48 P **P** **01 34 08.2 +1.8**
baz=230,SNR=11
ISA Isabella, Lake 88.14 46 P **P** **01 34 08.8 +2.1**
baz=228,SNR=6.2
ISA Isabella, Lake 88.14 46 *e*P **P** **01 34 08.9 +2.2**
ISA pmax pmax
comp=Z,31nm,1.0s
ISA Isabella, Lake 88.14 46 *e*P **P** **01 34 08.9 +2.2**
comp=Z,31nm,1.0s
KHON Khomkaen 88.28 290 P **P** **01 34 09.5 +1.8**
comp=Z,29nm,1.0s
NAYO Nakonayok 88.38 288 P **P** **01 34 10.1 +1.9**
comp=Z,20nm,1.1s
RRX Edison Barstow 88.53 47 P **P** **01 34 10.2 +1.7**
baz=229
BELC Belle Mtn. Jos 88.59 48 P **P** **01 34 11.2 +2.2**
baz=230,SNR=24
CMB Columbia Colle 88.59 43 *e*P **P** **01 34 10.0 +1.2**
CMB pmax pmax
comp=Z,16nm,0.9s
CMB Columbia Colle 88.59 43 *e*P **P** **01 34 10.0 +1.2**
comp=Z,16nm,0.9s
TYV Tymovskoe 88.65 337 *e*P **P** **01 34 09.8 +1.2**
TYV pmax pmax
comp=Z,94nm,0.9s
BC3 Big Chuckawall 88.72 49 P **P** **01 34 11.9 +2.4**
baz=230,SNR=23
GLA Glamis 88.74 49 P **P** **01 34 11.9 +2.3**
baz=230,SNR=25
GLA Glamis 88.74 49 *e*P **P** **01 34 12.2 +2.7**
GLA pmax pmax
comp=Z,50nm,0.9s
GLA Glamis 88.74 49 *e*P **P** **01 34 12.2 +2.7**
comp=Z,50nm,0.9s
SPIA Saint Paul Isl 88.82 5 *e*P **P** **01 34 11.2 +1.9**
comp=Z,286nm,1.2s
HSIG 88.85 55 *e*P **P** **01 34 12.0 +1.9**
comp=Z,32nm,1.3s
AFDM Forest Hills D 88.88 42 *e*P **P** **01 34 11.4 +1.4**
comp=Z,16nm,1.1s
MDJ Mudanjiang 88.89 326 P **P** **01 34 11.3 +1.4**
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,63nm,4.2s
MDJ Mudanjiang 88.89 326 *e*P **P** **01 34 10.2 +0.4**
comp=Z,17nm,1.0s
CWC Cottonwood Cre 88.89 45 P **P** **01 34 12.2 +1.8**
baz=229
HEC Hector,Ludlow 88.91 47 P **P** **01 34 12.2 +1.8**
baz=230,SNR=20
GSC Goldstone, Bar 88.92 47 P **P** **01 34 12.4 +1.9**
baz=229,SNR=21
GSC Goldstone, Bar 88.92 47 *e*P **P** **01 34 12.2 +1.7**
GSC pmax pmax
comp=Z,21nm,1.0s
GSC Goldstone, Bar 88.92 47 *e*P **P** **01 34 12.2 +1.7**
comp=Z,21nm,1.0s
MPMC Manual Prospec 89.00 46 P **P** **01 34 12.6 +1.7**
baz=229,SNR=12
ORV Oroville 89.00 41 *e*P **P** **01 34 12.0 +1.4**
ORV pmax pmax
comp=Z,11nm,1.1s
ORV Oroville 89.00 41 *e*P **P** **01 34 12.0 +1.4**
comp=Z,11nm,1.1s
PHET Kaeng Krachan 89.00 286 P **P** **01 34 13.6 +2.4**
comp=Z,11nm,1.0s,comp=Z,120nm
KRMB Red Mountain 89.06 38 *e*P **P** **01 34 13.2 +2.2**
comp=Z,56nm,1.6s
WDC Whiskeytown Da 89.14 40 *e*P **P** **01 34 12.9 +1.7**
WDC pmax pmax
comp=Z,21nm,1.1s
WDC Whiskeytown Da 89.14 40 *e*P **P** **01 34 12.9 +1.7**
comp=Z,21nm,1.1s
MLAC Mammoth, Mammo 89.23 44 P **P** **01 34 14.0 +1.9**
baz=228
IRM Iron Mountain 89.23 48 P **P** **01 34 14.1 +2.3**
baz=230,SNR=34
113A Mohawk Valley, 89.25 50 *e*P **P** **01 34 13.9 +2.1**
comp=Z,33nm,1.2s
GMRC Granite Mounta 89.31 48 P **P** **01 34 14.2 +1.8**
baz=230,SNR=11
N02D Trinity Center 89.32 39 P **P** **01 34 14.0 +1.8**
baz=226,SNR=12
O03D Paynes Creek 89.34 40 P **P** **01 34 13.6 +1.3**
baz=226,SNR=10
214A Organ Pipe Nat 89.37 51 P **P** **01 34 14.8 +2.2**
baz=232
214A Organ Pipe Nat 89.37 51 *e*P **P** **01 34 14.3 +1.8**
comp=Z,104nm,1.1s
Y12C Blythe 89.37 49 P **P** **01 34 14.3 +1.9**
baz=231,SNR=19
Y12C Blythe 89.37 49 *e*P **P** **01 34 14.8 +2.4**
comp=Z,29nm,1.0s
LCO Las Campanas 89.43 124 *e*P **P** **01 34 14.1 +0.7**
comp=Z,16nm,1.0s
CHGN Chignik 89.43 12 *e*P **P** **01 34 12.8 +0.7**
comp=Z,65nm,0.8s
WAKR Walker 89.46 43 *e*P **P** **01 34 14.8 +1.8**
comp=Z,25nm,1.2s
HABR Khabarovsk 89.47 332*de*P **P** **01 34 11.8 -0.7**
HABR *e**PP **pP** **01 35 03.4 -4.0**
HABR *e**SP **sP** **01 35 25.6 -5.2**
HABR *e* 01 37 45.5
HABR *e*PPP PPP 01 39 43.1
HABR *e*S **SKSac** **01 44 20.7 0.0**
HABR *e* 01 44 46.9
HABR *e**SS **pS** **01 45 55.9 +3.2**
HABR *e*SS **SS** **01 50 43.9 -1.3**
HABR *e*SSS SSS 01 54 20.8
HABR pmax pmax
comp=Z,16nm,0.7s
HABR MLR MLR
comp=Z,40nm,18.0s
TRQA Tornquist 89.52 136 *e*P **P** **01 34 15.1 +1.7**
comp=Z,17nm,1.2s
M02C Callahan 89.53 39 P **P** **01 34 15.1 +2.0**
baz=226,SNR=8.5
TUQ Turquoise Moun 89.56 47 P **P** **01 34 15.2 +1.7**
baz=230,SNR=9.4
SHOC Shoshone, Teco 89.64 47 P **P** **01 34 15.4 +1.7**
baz=230,SNR=7.6
FURC Furnace Creek, 89.65 46 P **P** **01 34 15.2 +1.6**
baz=229,SNR=5.9
L02D Cave Junction, 89.67 38 P **P** **01 34 15.3 +1.6**
baz=225
GRAC Grapevine Rang 89.69 45 P **P** **01 34 15.4 +1.5**
baz=229,SNR=8.1
PNTR Pine Nut 89.76 42 *e*P **P** **01 34 16.1 +1.6**
comp=Z,30nm,1.2s
TIA Tai'an 89.83 314 ⇑P **P** **01 34 14.8 +0.3**
TIA pmax pmax
comp=Z,30nm,1.0s
LDFC Landfair 89.84 48 *e*P **P** **01 34 17.3 +2.5**
comp=Z,57nm,1.0s
YBH Yreka Blue Hor 89.85 39 *e*P **P** **01 34 16.5 +1.9**
YBH pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 89.85 39 *e*P **P** **01 34 16.5 +1.9**
comp=Z,12nm,1.1s
BEKR Beckworth 89.85 41 *e*P **P** **01 34 16.1 +1.3**
comp=Z,7.8nm,0.9s
PBKT Sadao Pong 89.89 289 P **P** **01 34 16.8 +1.6**
comp=Z,21nm,1.1s
YERR Yerington 89.90 43 *e*P **P** **01 34 16.4 +1.4**
comp=Z,17nm,1.2s
PDMCI Parker Dam,Lak 89.97 49 P **P** **01 34 17.0 +1.8**
baz=231,SNR=17
SLVN Son La 90.19 295 *e*P **P** **01 34 15.5 -1.1**
SRDT SRDT 90.19 287 P **P** **01 34 19.1 +2.4**
comp=Z,61nm,1.5s,comp=Z,4μm
PAHR Pah Rah Range 90.30 42 *e*P **P** **01 34 18.2 +1.3**
comp=Z,12nm,1.1s
CN2 Changchun 90.31 324 *e*P **P** **01 34 20.1 +3.5**
HUMO Hull Mountain 90.33 38 *e*P **P** **01 34 18.5 +1.8**
comp=Z,56nm,1.6s
TPNV Topopah Spring 90.33 46 P **P** **01 34 18.4 +1.3**
baz=230,SNR=17
TPNV Topopah Spring 90.33 46 *e*P **P** **01 34 18.8 +1.7**
TPNV pmax pmax
comp=Z,11nm,0.8s
TPNV Topopah Spring 90.33 46 *e*P **P** **01 34 18.8 +1.7**
comp=Z,11nm,0.8s
M04C Macdoel 90.35 39 P **P** **01 34 18.6 +1.6**
baz=226
Y14A Wickenburg 90.48 50 *e*P **P** **01 34 19.8 +2.1**
comp=Z,69nm,1.0s
UTHA Uthaitani 90.58 288 P **P** **01 34 20.4 +2.0**
comp=Z,7.0nm,0.9s
W13A Hualapai Mount 90.63 48 *e*P **P** **01 34 20.6 +2.0**
comp=Z,10nm,1.1s
SHPR Sheep Range 90.72 47 *e*P **P** **01 34 20.8 +1.9**
comp=Z,6.9nm,1.0s
UTTA Uttaradit 90.86 290 P **P** **01 34 21.6 +1.9**
comp=Z,4.5nm,0.8s
I03D Drain, OR 90.89 37 P **P** **01 34 20.9 +1.6**
baz=225,SNR=6.0
TUC Tucson 90.95 52 P **P** **01 34 22.2 +2.3**
baz=233
TUC Tucson 90.95 52 *e*P **P** **01 34 22.4 +2.5**
TUC *e* 01 35 18.1
TUC pmax pmax
comp=Z,26nm,1.1s
TUC Tucson 90.95 52 *e*P **P** **01 34 22.4 +2.5**
comp=Z,26nm,1.1s
TUC *e* 01 35 18.1
ENH Enshi 91.18 305 *e*P **P** **01 34 21.4 +0.3**

comp=Z,50nm,1.0s
J04D Umpqua Nationa 91.22 38 P P 01 34 22.5 +1.5
baz=226
OHAK Old Harbor 91.27 14 eP P 01 34 21.3 +0.7
comp=Z,32nm,0.9s
HPIG 91.39 59 eP P 01 34 23.7 +1.4
comp=Z,8.8nm,0.7s
319A Douglas 91.41 54 eP P 01 34 25.0 +2.8
comp=Z,26nm,1.3s
R11A Troy Canyon, C 91.64 45 P P 01 34 24.3 +1.2
baz=230,SNR=6.0
R11A Troy Canyon, C 91.64 45 eP P 01 34 24.2 +1.0
comp=Z,3.1nm,1.0s
J05D Fort Rock, OR 91.71 38 P P 01 34 24.7 +1.4
baz=227,SNR=22
X16A Lo Mia Camp, P 91.79 50 eP P 01 34 26.1 +2.2
comp=Z,13nm,1.1s
KDAK Kodiak Island 91.93 14 P P 01 34 23.6 0.0
comp=Z,11nm,0.7s,baz=186,slow=3.9,SNR=8.0
KDAK Kodiak Island 91.93 14 i P P 01 34 24.8 +1.1
G03D McMinnville, O 92.00 36 P P 01 34 26.2 +1.9
baz=225
LAMP Lampang 92.01 290 P P 01 34 28.1 +3.0
comp=Z,4.9nm,0.9s
BMN Battle Mountai 92.02 43 eP P 01 34 25.9 +1.1
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 92.02 43 eP P 01 34 25.9 +1.1
comp=Z,11nm,0.9s
LCMT Little Creek M 92.23 47 eP P 01 34 27.9 +2.1
comp=Z,8.5nm,1.1s
I05D Terrebonne, OR 92.38 38 P P 01 34 27.7 +1.5
baz=227,SNR=11
BPO Bald Peter 92.41 37 P P 01 34 27.9 +1.4
U15A North Rim 92.47 48 eP P 01 34 29.1 +2.0
comp=Z,15nm,0.8s
CCUT Cedar City 92.50 47 eP P 01 34 29.4 +2.3
comp=Z,22nm,1.8s
CM01 Chiang Mai Arr 92.50 290 eP P 01 34 28.4 +1.1
KNB Kanab 92.50 47 eP P 01 34 29.5 +2.3
KNB pmax pmax
comp=Z,18nm,1.3s
KNB Kanab 92.50 47 eP P 01 34 29.5 +2.3
comp=Z,18nm,1.3s
WUAZ Wupatki 92.50 49 P P 01 34 28.5 +1.4
baz=232
WUAZ Wupatki 92.50 49 eP P 01 34 28.7 +1.6
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 92.53 290 P P 01 34 28.9 +1.4
comp=Z,3.1nm,0.5s,baz=144,slow=3.7,SNR=15
CMAR PP PP 01 38 11.0 -1.3
comp=Z,3.9nm,0.9s,baz=133,slow=6.0,SNR=7.6
CMAR PKiKP PKiKP 01 39 15.4 +0.4
comp=Z,1.5nm,0.8s,baz=119,slow=3.2,SNR=4.3
WVOR Wild Horse Val 92.54 40 eP P 01 34 28.1 +1.0
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 92.54 40 eP P 01 34 28.1 +1.0
comp=Z,12nm,1.1s
SZCU Shurtz Canyon 92.69 47 eP P 01 34 30.3 +2.2
comp=Z,30nm,1.9s
CHTO Chiang Mai 92.72 290 P P 01 34 30.5 +2.2
CHTO Chiang Mai 92.72 290 eP P 01 34 29.2 +0.9
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CHTO Chiang Mai 92.72 290 eP P 01 34 29.2 +0.9
comp=Z,3.6nm,0.5s
VBEM Beaver Butte 92.75 37 P P 01 34 28.8 +0.7
X18A Snowflake 92.84 51 eP P 01 34 31.2 +2.4
comp=Z,5.4nm,0.9s
BJT Baijiatuau 92.85 316 eP P 01 34 28.3 -0.1
BJT pmax pmax
comp=Z,13nm,0.7s
BJT Baijiatuau 92.85 316 eP P 01 34 28.3 -0.1
comp=Z,13nm,0.7s
BJI Beijing 92.86 316 P P 01 34 28.4 0.0
BJI pmax pmax
comp=Z,15nm,1.0s
BJI pmax pmax
comp=Z,170nm,9.0s
G05D Wamic, OR 93.01 37 P P 01 34 30.9 +1.8
baz=227
121A Cookes Peak, D 93.12 53 P P 01 34 31.3 +1.2
baz=234
FL2 Flat Top 2 93.15 36 P P 01 34 31.3 +1.5
KMI Kunming 93.17 298 P P 01 34 30.1 -0.5
KMI pmax pmax
comp=Z,14nm,1.0s
NLWA Neilton Lookou 93.25 34 eP P 01 34 31.0 +0.9
comp=Z,11nm,1.1s
TDL Tradedollar La 93.32 36 P P 01 34 32.0 +1.4
W18A Petrified Fore 93.33 50 P P 01 34 32.7 +1.6
baz=233
VTHM Trough 93.36 37 P P 01 34 31.8 +1.1
LON Longmire 93.80 36 eP P 01 34 33.5 +0.8
LON pmax pmax
comp=Z,3.0nm,0.8s
LON Longmire 93.80 36 eP P 01 34 33.5 +0.8
comp=Z,3.1nm,0.8s
MSU Marysvale 93.83 47 eP P 01 34 35.5 +2.2
MSU Marysvale 93.83 47 eP P 01 34 35.5 +2.2
MA2 Magadan 94.13 345⇑ eP P 01 34 34.3 +0.5
TX31 Lajitas Ar. Si 94.20 58 eP P 01 34 36.3 +1.2
TXAR Lajitas Array 94.20 58 P P 01 34 36.7 +1.7
comp=Z,3.2nm,1.0s,baz=205,slow=5.5,SNR=19
MNTX Cornudas Mount 94.31 55 P P 01 34 36.6 +1.2
baz=235
MNTX Cornudas Mount 94.31 55 eP P 01 34 36.9 +1.5
comp=Z,6.9nm,1.4s
DUG Dugway, Tooele 94.47 45 P P 01 34 37.7 +1.6
baz=232
LVC Limon Verde 94.52 120 P P 01 34 39.7 +2.6
comp=Z,21nm,0.9s,baz=316,slow=7.6,SNR=3.2
LVC Limon Verde 94.52 120 eP P 01 34 39.1 +2.0
comp=Z,9.4nm,1.1s
B05A Bryant 94.71 34 P P 01 34 38.8 +2.0
baz=226
HAWA Hanford 94.71 37 eP P 01 34 38.1 +1.3
comp=Z,7.1nm,1.1s
MFID Camas Ranch 94.75 41 eP P 01 34 38.1 +1.0
comp=Z,6.3nm,0.8s
BGU Big Grassy Mou 94.79 44 eP P 01 34 39.2 +1.6
comp=Z,12nm,1.9s
BBB Bella Bella 94.83 29 P P 01 34 39.0 +1.8
comp=Z,5.9nm,0.9s,baz=293,slow=5.4,SNR=3.8
BMO Blue Mountains 94.86 39 eP P 01 34 38.5 +0.8
BMO pmax pmax
comp=Z,13nm,1.6s
BMO Blue Mountains 94.86 39 eP P 01 34 38.5 +0.8
comp=Z,13nm,1.6s
TMUT Trail Mountain 94.90 46 eP P 01 34 40.2 +2.0
comp=Z,5.0nm,0.6s
LNIG Linares 94.92 64 eP P 01 34 39.3 +1.0
comp=Z,11nm,1.0s
SRU San Rafael Swe 95.21 47 eP P 01 34 41.0 +1.4
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 95.21 47 eP P 01 34 41.0 +1.4
comp=Z,4.1nm,0.8s
P17A Butcher Ranch, 95.30 46 eP P 01 34 41.5 +1.6
comp=Z,10.0nm,1.4s
SPUT South Promonto 95.37 44 eP P 01 34 41.6 +1.4
comp=Z,8.5nm,1.0s
MVCO Mesa Verde 95.38 49 P P 01 34 41.6 +1.2
baz=234
ANMO Albuquerque 95.41 52 P P 01 34 42.1 +1.5
baz=235
ANMO Albuquerque 95.41 52⇑ iP P 01 34 41.5 +0.9
ANMO pmax pmax
comp=Z,19nm,5.3s
ANMO Albuquerque 95.41 52 eP P 01 34 41.6 +1.1
comp=Z,0.9nm,0.5s
D08A Wollman Farm, 95.47 37 eP P 01 34 41.5 +1.2
comp=Z,11nm,1.0s
HVU Hansel Valley 95.47 44 eP P 01 34 41.7 +1.1
HVU pmax pmax
comp=Z,9.0nm,1.0s
HVU Hansel Valley 95.47 44 eP P 01 34 41.7 +1.1
comp=Z,9.3nm,1.0s
CD2 Chengdu 95.60 303 eP P 01 34 42.3 +1.0
HLID Hailey 95.63 42 P P 01 34 42.7 +1.4
baz=231
HLID Hailey 95.63 42 eP P 01 34 42.5 +1.2
comp=Z,3.7nm,0.8s
SUA Susitna One 95.69 13 eP P 01 34 42.0 +1.0
comp=Z,16nm,0.5s
HWUT Hardware Ranch 96.08 44 eP P 01 34 44.0 +0.5

HHC Hu-ho-hao-te 96.12 315 eP P 01 34 50.0 +6.5
HHC pP pP 01 35 41.3 +2.7
HHC sP sP 01 36 01.5 -0.4
HHC Hu-ho-hao-te 96.12 315 S S 01 45 48.3 +5.6
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,90nm,7.6s
HHC LR LR
comp=N,130nm,17.3s
HHC LR LR
comp=E,200nm,16.0s
HHC LR LR
comp=Z,100nm,16.0s
B08A Colville Reser 96.13 36 eP P 01 34 43.5 +0.2
comp=Z,10.0nm,1.5s
PMR Palmer 96.13 14 eP P 01 34 43.3 +0.4
PMR Palmer 96.13 14 eP P 01 34 43.3 +0.4
933A Laredo 96.51 62 P P 01 34 46.8 +1.4
baz=238
034A Hebbronville 96.66 62 P P 01 34 47.6 +1.4
baz=238
S22A 4UR Ranch, Cre 96.77 50 P P 01 34 48.1 +1.4
baz=235
SEY Seymchan 96.88 347 P P 01 34 45.4 -0.8
comp=Z,9.4nm,0.8s,baz=169,slow=4.5,SNR=14
SEY Seymchan 96.88 347 ceP P 01 34 47.0 +0.8
CAST Castle Rocks 97.23 12 eP P 01 34 47.6 -0.2
comp=Z,75nm,1.9s
O20A White River Ci 97.24 47 P P 01 34 49.6 +0.8
baz=234
MSTX Muleshoe 97.39 55 P Pdif 01 34 50.5 +1.0
baz=237
REDW Red Top Meadow 97.56 43 eP P 01 34 50.9 +0.8
comp=Z,7.8nm,1.3s
TRF Thorofare Moun 97.59 13 eP P 01 34 49.8 +0.1
comp=Z,11nm,0.7s
FXWY Fox Creek 97.62 43 eP Pdif 01 34 52.4 +2.0
comp=Z,11nm,1.8s
SNOW Snow King Moun 97.68 43 eP Pdif 01 34 52.1 +1.4
comp=Z,6.4nm,1.0s
RND Reindeer 97.83 13 eP Pdif 01 34 51.3 +0.7
RND pmax pmax
comp=Z,10.0nm,0.8s
RND Reindeer 97.83 13 eP Pdif 01 34 51.3 +0.7
comp=Z,9.8nm,0.8s
LOHW Long Hollow 97.85 43 eP Pdif 01 34 52.6 +1.2
comp=Z,10nm,1.6s
BW06 Boulder Array 97.97 44 P Pdif 01 34 53.2 +1.2
baz=234
BW06 Boulder Array 97.97 44 eP P 01 34 52.1 +0.2
PDAR Pinedale Array 97.97 44 P P 01 34 52.4 +0.4
comp=Z,0.7nm,0.5s,baz=204,slow=3.3,SNR=9.0
PDAR PKKP PKKPbc 01 51 24.9 -0.7
comp=Z,0.4nm,0.4s,baz=94,slow=5.9,SNR=7.3
MCK McKinley 98.11 13 eP Pdif 01 34 52.9 +1.1
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 98.11 13 eP Pdif 01 34 52.9 +1.1
comp=Z,13nm,1.0s
LZH Lanzhou 98.37 307 eP Pdif 01 34 54.8 +1.0
LZH pP pP 01 35 46.8 -2.2
LZH pmax pmax
comp=Z,18nm,1.5s
LZH pmax pmax
comp=Z,97nm,8.6s
YHH Holmes Hill 98.41 42 eP P 01 34 57.2 +3.2
comp=Z,4.9nm,1.2s
BOZ Bozeman (W) 98.45 41 P P 01 34 55.5 +1.6
baz=233
BOZ Bozeman (W) 98.45 41 eP P 01 34 55.6 +1.6
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 98.45 41 eP P 01 34 55.5 +1.6
comp=Z,2.2nm,0.8s
LPAZ La Paz 98.87 115 P Pdif 01 34 59.2 +2.1
comp=Z,1.4nm,0.9s,baz=239,slow=3.7,SNR=5.4
WRH Wood River Hil 98.94 13 eP Pdif 01 34 55.9 +0.5
comp=Z,41nm,1.8s
DOT Dot Lake 99.06 15 eP Pdif 01 34 56.5 +0.5
comp=Z,14nm,0.7s
WALA Waterton Lakes 99.33 37 ePdif Pdif 01 34 59.8 +2.1
ILAR Eielson Array 99.44 14 P Pdif 01 34 56.8 -0.9
comp=Z,1.4nm,0.7s,baz=220,slow=5.6,SNR=20
ILAR PP PP 01 39 05.5 +0.9
comp=Z,1.0nm,0.7s,baz=215,slow=7.0,SNR=5.0
ILAR PKiKP PKiKP 01 39 26.0 +0.3
comp=Z,1.4nm,0.7s,baz=294,slow=2.8,SNR=12
ILAR PKKPbc PKKPbc 01 51 19.6 -2.5
comp=Z,0.8nm,0.5s,baz=350,slow=2.5,SNR=7.5
ILB Eielson Array 99.44 14 ePdif Pdif 01 34 58.0 +0.4
BILL Bilibino 99.94 355⇑ iP Pdif 01 35 00.2 +0.4
BILL pmax pmax
comp=Z,6.0nm,0.7s
CPUP Villa Florida 100.27 130 PKKPbc PKKPbc 01 51 18.2 +0.5
comp=Z,3.5nm,1.0s,baz=47,slow=2.9,SNR=7.5
RSSD Black Hills 102.06 45 P Pdif 01 35 11.3 +1.2
baz=238
RSSD Black Hills 102.06 45 eP Pdif 01 35 11.1 +1.0
RSSD Black Hills 102.06 45 ePdif Pdif 01 35 11.1 +1.0
GTA Gaotai 102.83 308 eP Pdif 01 35 17.3 +3.7
GTA pP pPdif 01 36 07.8 -0.9
GTA sP sPdif 01 36 29.8 -2.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 103.15 318 PKiKP PKiKP 01 39 33.7 +0.6
comp=Z,0.4nm,0.4s,baz=90,slow=1.4,SNR=2.6
SONM PKKPbc PKKPbc 01 51 11.3 +0.5
comp=Z,1.0nm,0.6s,baz=250,slow=3.0,SNR=4.3
INK Inuvik 105.34 16 PKiKP PKiKP 01 39 36.0 -0.3
comp=Z,2.2nm,0.6s,baz=247,slow=2.0,SNR=6.7
W41B Gary Mavity, V 105.48 58 P PKiKP 01 39 38.0 +0.4
baz=242
T39A Clever 105.54 56 P PKiKP 01 39 38.4 +0.7
baz=242
U40A Yellville 105.60 57 P PKiKP 01 39 38.6 +0.8
baz=242
S39A Bolivar 105.89 55 P PKiKP 01 39 38.0 -0.3
baz=242
T40A Mansfield 106.20 56 P PKiKP 01 39 39.5 +0.6
baz=242
R39A Chumby, Stover 106.38 55 P PKiKP 01 39 39.8 +0.6
baz=242
YKA Yellowknife Ar 107.15 26 PKiKP PKiKP 01 39 39.1 -0.7
comp=Z,1.3nm,0.5s,baz=250,slow=1.6,SNR=12
Q41A Truxton 107.93 55 P PKiKP 01 39 42.9 +0.8
baz=244
Q42A Golden Eagle 108.40 55 P PKiKP 01 39 43.8 +0.8
baz=244
TIXI Tiksi 109.09 345 PKiKP PKiKP 01 39 41.8 -1.4
comp=Z,3.3nm,0.5s,baz=136,slow=2.5,SNR=9.6
TIXI Tiksi 109.09 345 ePKP PKiKP 01 39 42.1 -1.1
F36A Milaca 109.42 48 P PKiKP 01 39 45.5 +0.9
baz=244
B34A Aery, Baudette 109.86 45 P PKiKP 01 39 45.1 -0.2
baz=245
ULM Lac du Bonnet 109.89 43 PKiKP PKiKP 01 39 45.8 +0.4
comp=Z,1.9nm,0.6s,baz=271,slow=2.1,SNR=3.6
P44A Sand Creek, Wi 109.98 55 P PKiKP 01 39 46.6 +0.7
baz=245
D37A Cotton 110.66 47 P PKiKP 01 39 47.6 +0.7
baz=246
WMQ Urumqi 112.92 308 PKP PKiKP 01 39 51.3 -0.1
WMQ LR LR
comp=Z,86nm,16.9s
WMQ LR LR
comp=Z,93nm,17.7s
WMQ LR LR
comp=Z,48nm,14.9s
SUR Sutherland 113.47 199 ePKP PKiKP 01 39 53.6 +0.4
BDFB Brasilia 113.92 128 PKKPbc PKKPbc 01 50 36.9 +1.2
comp=Z,1.1nm,0.5s,baz=327,slow=1.2,SNR=4.7
BOSA Boshof 115.58 204 PKP PKPdf 01 39 57.6 +0.4
comp=Z,8.2nm,0.6s,baz=156,slow=1.9,SNR=32
BOSA PKKPbc PKKPbc 01 50 29.4 -1.1
comp=Z,1.9nm,0.8s,baz=342,slow=5.6,SNR=7.2
N54A Moraine State 116.66 57 P PKPdf 01 39 58.9 +0.3
baz=250
O56A Blue Knob Stat 117.44 58 P PKPdf 01 40 01.0 +0.8
baz=251
MK01 Makanchi Array 117.51 310 ePKPdf PKPdf 01 39 58.8 -1.3
MK31 Makanchi Array 117.52 310 PKIKP PKPdf 01 39 59.2 -0.9
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 117.52 310 ePKPdf PKPdf 01 39 59.0 -1.1
MKAR Makanchi Array 117.52 310 PKP PKPdf 01 39 59.4 -0.7
comp=Z,20nm,0.9s,baz=138,slow=0.7,SNR=87

MKAR PKKPbc PKKPbc 01 50 24.9 +1.1
comp=Z,1.6nm,0.7s,baz=301,slow=3.8,SNR=12
MKAR Makanchi Array 117.52 310 ePKPdf PKPdf 01 39 59.0 -1.1
MKAR PKKPbc PKKPbc 01 50 24.9 +1.1
MAKZ Makanchi 117.73 310 ePKIKP PKPdf 01 39 59.4 -1.1
MAKZ Makanchi 117.73 310 ePKPdf PKPdf 01 39 59.4 -1.1
ZALV Zalesovo Beam 118.05 318 PKP PKPdf 01 39 59.9 -0.9
comp=Z,3.5nm,0.3s,baz=164,slow=1.4,SNR=22
PDGK Podgornoye 118.35 305 PKIKP PKPdf 01 40 01.1 -0.9
PDGK pmax pmax
comp=Z,35nm,1.0s
RES Resolute Bay 118.83 18 PKP PKPdf 01 40 01.1 -0.7
comp=Z,12nm,0.7s
NVS Novosibirsk 119.17 319 ePKIKP PKPdf 01 40 02.2 -0.8
NVS pmax pmax
comp=Z,21nm,1.3s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,1.1s
KSH Kashi 119.69 300 ePKP PKPdf 01 40 05.3 +0.6
KSH sPKP 01 41 24.3
KSH PP PP 01 41 33.3 +1.9
KSH PKS PKSdf 01 43 39.8 -1.6
KSH SKS SKSdf 01 46 53.8 -1.4
KSH SKKS SKKSac 01 48 04.1 -3.7
KSH SS SKKSdf 01 57 38.6 +0.4
KSH AMB AMB
comp=E,110nm,5.7s
KSH LR LR
comp=E,140nm,8.7s
KSH LR LR
comp=E,210nm,6.0s
NRIK Noril'sk 120.21 336 PKP PKPdf 01 40 04.3 -0.2
comp=E,12nm,0.6s,baz=106,slow=1.7,SNR=15
KURK Kurchatov 120.91 314 d iPKIKP PKPdf 01 40 05.2 -1.2
KURK pmax pmax
comp=Z,229nm,1.2s
KURK Kurchatov 120.91 314 ePKPdf PKPdf 01 40 05.8 -0.7
KURK pPKP pPKPdf 01 41 08.1 +4.0
KURK e 01 43 17.9
KURK PKKPbc PKKPbc 01 50 12.8 +1.3
KURK Kurchatov 120.91 314 PKPdf PKPdf 01 40 05.6 -0.9
SNR=18
KURK Kurchatov 120.91 314 P PKPdf 01 40 05.6 -0.9
SNR=18
KURBB Kurchatov Arra 120.95 313 PKP PKPdf 01 40 05.9 -0.6
comp=Z,30nm,0.7s,baz=106,slow=1.9,SNR=173
KURBB pPKP pPKPdf 01 41 08.1 +3.9
comp=Z,3.9nm,0.8s,baz=103,slow=2.5,SNR=3.5
KURBB SKIKP SKiKP 01 43 17.9 -3.0
comp=Z,1.6nm,0.7s,baz=100,slow=1.8,SNR=4.8
KURBB PKKPbc PKKPbc 01 50 12.8 +1.4
comp=Z,1.6nm,0.8s,baz=280,slow=4.5,SNR=13
TKM2 Tokmak 2 120.96 304 PKIKP PKPdf 01 40 06.0 -1.1
TKM2 pmax pmax
comp=Z,28nm,0.7s
AAK Ala-Archa 121.66 304 PKP PKPdf 01 40 08.4 0.0
comp=Z,16nm,0.6s,baz=134,slow=3.3,SNR=59
AAK PKKPbc PKKPbc 01 50 11.1 +2.5
comp=Z,2.1nm,0.7s,baz=69,slow=5.1,SNR=8.3
AAK Ala-Archa 121.66 304 PKIKP PKPdf 01 40 08.0 -0.4
AAK pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 121.66 304 ePKPdf PKPdf 01 40 08.1 -0.4
AAK PKKPbc PKKPbc 01 50 11.1 +2.5
MNAS Manas 123.04 303 PKIKP PKPdf 01 40 10.8 -0.2
MNAS pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 123.45 293 ePKIKP PKPdf 01 40 12.5 +0.4
KBL Kabul 123.45 293 ePKPdf PKPdf 01 40 12.5 +0.4
KK31 Karatay Array 124.61 303 i PKIKP PKPdf 01 40 13.6 -0.3
KK31 pmax pmax
comp=Z,21nm,0.6s
KKAR Karatay Array 124.61 303 ePKIKP PKPdf 01 40 13.4 -0.4
KKAR Karatay Array 124.61 303 ePKPdf PKPdf 01 40 13.4 -0.4
PKME Peaks-Kenny Pk 125.35 54 ePKPdf PKPdf 01 40 15.5 +0.4
LSZ Lusaka 126.27 214 ePKIKP PKPdf 01 40 18.7 +0.7
LSZ Lusaka 126.27 214 ePKPdf PKPdf 01 40 18.7 +0.7
BVA0 Borovoye Array 126.33 315 i PKIKP PKPdf 01 40 16.2 -0.6
BVA0 pmax pmax
comp=Z,48nm,1.0s
BVAR Borovoye Array 126.33 315 PKP PKPdf 01 40 16.9 +0.1
comp=Z,26nm,0.6s,baz=94,slow=2.1,SNR=95
BVAR pPKP pPKPdf 01 41 18.8 +4.4
comp=Z,4.6nm,0.8s,baz=114,slow=1.8,SNR=2.8
BRVK Borovoye 126.40 315 d iPKIKP PKPdf 01 40 16.1 -0.8
BRVK Borovoye 126.40 315 ePKPdf PKPdf 01 40 16.6 -0.3
BRVK Borovoye 126.40 315 PKPdf PKPdf 01 40 16.2 -0.8
SNR=20
BRVK Borovoye 126.40 315 P PKPdf 01 40 16.2 -0.8
SNR=20
TSUM Tsumeb 126.83 200 ePKPdf PKPdf 01 40 19.4 +0.3
SCHQ Schefferville 128.07 43 PKP PKPdf 01 40 20.4 +0.4
comp=Z,15nm,0.9s,baz=247,slow=4.0,SNR=5.8
HATD Hatta, Dubai 130.88 277 PKPdf PKPdf 01 40 25.7 -0.7
HATD Hatta, Dubai 130.88 277 P PKPdf 01 40 25.7 -0.7
SVE Sverdlovsk 131.98 320 ePKIKP PKPdf 01 40 27.4 0.0
SVE pmax pmax
comp=Z,33nm,1.4s
KMBO Kilima Mbogo 132.24 234 PKP PKPdf 01 40 30.2 +0.6
comp=Z,2.9nm,0.7s,baz=96,slow=3.9,SNR=8.9
KMBO SKPbc SKPbc 01 43 32.6 -2.3
comp=Z,4.2nm,0.6s,baz=106,slow=2.9,SNR=14
KMBO Kilima Mbogo 132.24 234 ePKPdf PKPdf 01 40 30.5 +0.9
KMBO eSKPbc SKPbc 01 43 32.2 -2.7
AB31 Akbulak array 132.67 310 PKIKP PKPdf 01 40 28.2 -0.7
AB31 pmax pmax
comp=Z,13nm,0.9s
ABKAR Akbulak array 132.67 310 ePKPdf PKPdf 01 40 28.7 -0.3
GEYT Alibeck 132.83 294 PKP PKPdf 01 40 30.8 +1.1
comp=Z,16nm,0.9s,baz=222,slow=2.0,SNR=25
GEYT SKPbc SKPbc 01 43 33.8 -2.1
comp=Z,9.8nm,0.9s,baz=90,slow=1.5,SNR=12
SPITS Spitsbergen Ar 132.84 356 PKP PKPdf 01 40 29.3 +0.7
comp=Z,13nm,0.5s,baz=97,slow=4.3,SNR=24
ARU Arti 133.16 320 i PKIKP PKPdf 01 40 29.6 0.0
ARU Arti 133.16 320 ePKPdf PKPdf 01 40 29.1 -0.5
ARU eSKPbc SKPbc 01 43 35.7 -0.6
SFJD Kangerlussuaq 133.70 25 PKP PKPdf 01 40 30.9 +0.6
comp=Z,8.1nm,0.5s,baz=214,slow=3.8,SNR=11
AKTO Aktyubinsk 133.91 311 PKIKP PKPdf 01 40 30.7 -0.6
AKTO pmax pmax
comp=Z,25nm,0.7s
LVZ Lovozero 138.59 341⇓ ePKIKP PKPdf 01 40 40.5 +1.0
HAMF Hammerfest 138.89 348 ePKPdf PKPdf 01 40 39.8 0.0
RAYN Ar Rayn 139.45 270 ePKPpre PKPpre 01 40 35.2
RAYN ePKPdf PKPdf 01 40 42.6 +0.2
RAYN eSKPbc SKPbc 01 43 53.8 -2.7
ARA0 ARCESS Array S 139.49 347 ePKPpre PKPpre 01 40 34.2
ARCES ARCESS Array B 139.49 347 PKhKP PKPpre 01 40 34.1
comp=Z,7.6nm,0.6s,baz=41,slow=2.6,SNR=34
ARCES PKP PKPdf 01 40 40.9 -0.1
comp=Z,14nm,0.6s,baz=45,slow=1.4,SNR=20
ARCES SKPbc SKPbc 01 43 54.3 -0.7
comp=Z,3.7nm,0.8s,baz=11,slow=0.6,SNR=4.1
KTK1 Kautokeino 140.37 347 e PKPpre 01 40 36.9
TRO Tromso 140.55 350 ePKPdf PKPdf 01 40 40.5 -2.3
KLMR Klimovskoe 141.19 330 ePKHKP PKPpre 01 40 38.6
KLMR e 01 43 58.9
KLMR pmax pmax
comp=Z,32nm,1.1s
GROC Groznyy 142.57 301 ePKHKP PKPpre 01 40 43.2
GROC pmax pmax
comp=Z,23nm,0.7s
STEI Steigen 142.65 351 ePKPdf PKPdf 01 40 43.6 -3.1
DGRG David-gareji 142.93 298 P PKPdf 01 40 45.3 -2.8
DGRG David-gareji 142.93 298 PKIKP PKPdf 01 40 45.3 -2.8
TBLG Delisi 143.41 299 P PKPab 01 40 46.1 +0.4
TBLG Delisi 143.41 299 PKIKP PKPab 01 40 46.0 +0.3
GNI Garni 143.41 296 c iPKIKP PKPbc 01 40 47.1 0.0
GNI Garni 143.41 296 ePKPdf PKPbc 01 40 46.7 -0.4
GUDG Gudauri 143.57 300 P PKPbc 01 40 47.5 -0.1
ZEI Tsey 143.98 301 i PKHKP PKPpre 01 40 45.5
ZEI pmax pmax
comp=Z,21nm,0.6s
NCK Nalchik 144.16 302 d iPKIKP PKPbc 01 40 49.0 +0.1
DYDN Diyadin 144.21 295 i P PKPbc 01 40 49.8 +0.3
BGD Bogdanovka 144.27 298 P PKPbc 01 40 49.5 -0.1
EAK Akyaka 144.28 297 i P PKPbc 01 40 50.0 +0.5
KONS Konsvik 144.28 351 ePKPbc PKPab 01 40 48.1 -0.1
KONS lAmb lAmb 01 40 49.0
comp=Z,105nm,0.8s
ONI Oni 144.32 300 P PKPbc 01 40 49.7 +0.2

ONI Oni 144.32 300 PKIKP PKPbc 01 40 49.7 +0.2
AKH Akhalkalaki 144.35 298 P PKPbc 01 40 49.6 -0.2
AKH Akhalkalaki 144.35 298⇑ *i*P PKPbc 01 40 49.6 -0.2
AKH Akhalkalaki 144.35 298 PKIKP PKPbc 01 40 49.6 -0.2
GOF Gofitskoye 144.39 304⇑ *i*PKIKP **PKPab 01 40 49.2 -0.1**
GOF pmax pmax
comp=Z,212nm,0.9s
MOR8 Moi Rana 144.41 350 *e*PKPab **PKPab 01 40 47.4 -1.4**
MOR8 IAmb IAmb 01 40 48.8
comp=Z,219nm,1.4s
STOK Stokkvaagen 144.45 351 *e*PKPbc **PKPab 01 40 48.9 0.0**
STOK IAmb IAmb 01 40 49.7
comp=Z,290nm,0.7s
DIGO Kars 144.46 296 *i* P **PKPab 01 40 47.1 -3.0**
MOS Moscow 144.56 324 *i* PKIKP **PKPab 01 40 49.3 -0.3**
MOS pmax pmax
comp=Z,182nm,0.9s
KBZ Khabaz 144.64 302 PKP **PKPab 01 40 49.8 -0.5**
comp=Z,79nm,0.9s,baz=136,slow=1.5,SNR=87
GEVA Gevas 144.67 293 *i* P **PKPab 01 40 50.1 -0.7**
KIV Kislovodsk 144.77 303 *e*PKHKP PKPpre 01 40 46.4
KIV *i* 01 40 50.5
KIV *e* 01 47 35.8
KIV pmax pmax
comp=Z,93nm,1.1s
KIV Kislovodsk 144.77 303 *e*PKPdf **PKPab 01 40 50.0 -1.0**
TUTA Tutak 144.89 295 *i* P PKPbc 01 40 51.0 -0.6
EPOS Posof 144.92 298 *i* P PKPbc 01 40 47.1 -4.4
EATA Eleskirt 145.14 296 *i* P **PKPbc 01 40 48.4 -4.0**
VORR Voronezh 145.33 317 *e*PKIKP **PKPdf 01 40 50.0 -1.8**
VORR pmax pmax
comp=Z,750nm,0.8s
OBN Obninsk 145.38 323 *d i*PKIKP **PKPdf 01 40 51.3 -0.5**
OBN pmax pmax
comp=Z,295nm,0.7s
OBN Obninsk 145.38 323 *e*PKPdf **PKPdf 01 40 51.4 -0.4**
EKAR Karacoban 145.47 294 *i* P **PKPab 01 40 55.4 +1.5**
VSR Storozhevoye 145.50 316 *e*PKIKP **PKPdf 01 40 52.0 -0.2**
VSR pmax pmax
comp=Z,330nm,0.7s
PUL Pulkovo 145.53 334 *de*PKP2 **PKPdf 01 40 52.4 +0.5**
ARTV Artvin 145.53 298 *i* P **PKPdf 01 40 51.0 -1.9**
ARTV Artvin 145.53 298 *e*PKPdf **PKPdf 01 40 53.0 +0.1**
DAGI Agillar 145.55 298 *i* P **PKPdf 01 40 51.0 -1.8**
HOMI Horasan 145.59 296 *i* P **PKPab 01 40 54.0 -0.4**
DDEM Demirkent 145.68 297 *i* P **PKPab 01 40 54.4 -0.2**
DBOC Borcka 145.72 298 *i* P **PKPdf 01 40 52.3 -0.6**
FIA1 FINESS Array S 145.81 338 *e*PKPdf **PKPdf 01 40 52.0 -0.4**
FINES FINESS Array B 145.81 338 PKPbc **PKPdf 01 40 53.0 +0.7**
comp=Z,168nm,0.6s,baz=51,slow=3.4,SNR=1088
ERZM Erzurum 146.00 296 *i* P **PKPab 01 40 56.2 +0.2**
BTMN Batman 146.06 292 *i* P **PKPdf 01 40 52.3 -1.4**
BNGL BINGOL 146.18 294 *i* P **PKPab 01 40 56.0 -0.6**
ECAT Cat-ERZURUM 146.31 295 *i* P **PKPdf 01 40 54.9 +0.7**
MARD Mardin 146.43 291 *e*PKPdf **PKPbc 01 40 55.8 -0.4**
KOPT Kop Dagi 146.67 296 *i* P **PKPab 01 40 58.0 -0.6**
KOPT Kop Dagi 146.67 296 *e*PKPdf **PKPdf 01 40 55.7 +0.8**
SOC Sochi 146.95 302 *e*PKIKP **PKPdf 01 40 54.4 -0.5**
SOC *i* 01 41 00.1
SOC *e* 01 41 53.7
SOC *e* 01 44 27.1
SOC pmax pmax
comp=Z,91nm,0.9s
SOC pmax pmax
comp=Z,47nm,0.9s
DIYA Diyarbakir 146.97 292 *i* P **PKPdf 01 40 56.2 +1.0**
MACK Trabzon 147.18 298 *i* P **PKPbc 01 40 58.4 +0.4**
TNCL Tunceli-Merkez 147.43 294 *i* P **PKPbc 01 40 59.8 +1.0**
KELT Kelkit 147.61 296 *i* P **PKPbc 01 41 00.0 +0.6**
TBLU Trondheim 147.75 352 *e*PKPdf **PKPdf 01 40 56.3 +0.7**
VSU Vasula 147.77 334 *d i*PKP2 **PKPbc 01 40 58.4 -0.5**
ELZG Elazig 147.87 293 *i* P **PKPdf 01 40 57.5 +0.7**
REFA Refahiye_ERZ¨ 148.02 295 *i* P **PKPbc 01 41 01.5 +1.0**
KEMA Kemaliye 148.24 295 *i* P **PKPbc 01 41 00.1 -0.9**
ANN Anapa 148.36 305 *d i*PKP2 **PKPbc 01 41 00.5 -0.4**
ANN pmax pmax
comp=Z,201nm,0.9s
SUSE Susehri 148.41 296 *i* P **PKPdf 01 40 54.9 -2.7**
CUZAR Zara_SIVAS 148.77 296 *i* P **PKPdf 01 41 00.1 +1.9**
ROOS tl_alroos 149.04 285 *e*P **PKPbc 01 41 03.0 -0.1**
DOMB Dombas 149.07 352 *e*PKPbc **PKPbc 01 41 01.9 -0.3**
DOMB *e*PKPab **PKPab 01 41 07.2 0.0**
AKN Aaknes 149.15 354 *e*PKPbc **PKPbc 01 41 02.2 -0.2**
SALA Sala 149.33 282 *e*P **PKPbc 01 41 04.9 +0.9**
KFRA Kufra 149.53 287 *e*P **PKPbc 01 41 03.8 -0.4**
TOTH TOTAH 149.66 283 *e*P **PKPbc 01 41 04.3 -0.3**
MARH Ras Al Marh 149.69 284 *e*P **PKPbc 01 41 05.3 +0.3**
DRWC Darouich 149.70 289 *e*P **PKPbc 01 41 04.0 -0.7**
NB2 NORSAR Subarra 149.74 350 PKP **PKPbc 01 41 03.2 -0.7**
comp=Z,61nm,0.8s,baz=21,slow=4.1
NB2 NORSAR Subarra 149.74 350 PKP **PKPbc 01 41 03.2 -0.7**
baz=21,slow=4.1
NOA NORSAR Array B 149.74 350 PKP **PKPdf 01 40 58.9 -0.1**
comp=Z,3.4nm,0.8s,baz=283,slow=20,SNR=65
NOA PKPbc **PKPbc 01 41 03.5 -0.4**
comp=Z,21nm,0.6s,baz=15,slow=4.1,SNR=67
NOA PKPab **PKPab 01 41 08.9 -1.1**
comp=Z,25nm,0.8s,baz=30,slow=3.6,SNR=49
NOA NORSAR Array B 149.74 350 PKIKP **PKPdf 01 40 58.9 -0.1**
NOA 01 41 08.9
NOA pmax pmax
comp=Z,13nm,0.9s
NOA pmax pmax
comp=Z,21nm,0.6s
NOA pmax pmax
comp=Z,25nm,0.8s
FKH Fakeheh 149.77 285 *e*P **PKPbc 01 41 05.1 +0.2**
HAWK Haweek 149.80 285 *e*P **PKPbc 01 41 05.0 0.0**
QASN Qassioun 149.81 283 *e*P **PKPdf 01 41 01.6 +1.6**
IZAR Zarasai 149.84 331 *e*P **PKPbc 01 41 05.3 +1.1**
IZAR IAmb IAmb 01 41 07.3
comp=Z,86nm,1.2s
BTCH Batrach 149.85 288 *e*P **PKPbc 01 41 05.0 0.0**
FOO Floro 149.88 356 *e*PKPbc **PKPbc 01 41 04.1 0.0**
FOO IAmb IAmb 01 41 05.4
comp=Z,72nm,0.7s
BIDA Albida 149.91 286 *e*P **PKPbc 01 41 05.2 0.0**
IDID Didziasalis 149.92 330 *e*P **PKPbc 01 41 04.5 +0.1**
IDID IAmb IAmb 01 41 06.5
comp=Z,77nm,1.1s
MICGM Minsk 149.93 328⇑ *e*P **PKPbc 01 41 05.0 +0.5**
MICGM PM 01 41 06.0
comp=Z,0.4nm,1.0s
MNK Minsk 149.93 328⇑ *e*PKP2 **PKPbc 01 41 05.0 +0.5**
MNK pmax pmax
comp=Z,430nm,1.0s
TCHB Talchebab 149.96 282 *e*P **PKPbc 01 41 05.9 +0.6**
NC602 NORSAR Array S 149.98 349 *e*PKPdf **PKPdf 01 41 00.0 +0.8**
NC602 *e*PKPbc **PKPbc 01 41 04.0 -0.5**
NC602 IAmb IAmb 01 41 05.1
comp=Z,95nm,1.1s
ISAL Salakas 150.01 330 *e*P **PKPbc 01 41 04.8 +0.2**
ISAL IAmb IAmb 01 41 05.7
comp=Z,34nm,0.8s
BRBR Barbar 150.07 283 *e*P **PKPbc 01 41 06.7 +0.9**
IIGN Ignalina 150.12 330 *e*P **PKPbc 01 41 05.1 +0.2**
IIGN IAmb IAmb 01 41 06.0
comp=Z,56nm,0.7s
NACGM Naroch 150.17 329 *e*P **PKPbc 01 41 04.0 -1.0**
NACGM PM 01 41 06.0
comp=Z,0.8nm,1.0s
HYA Hoyanger 150.22 354 *e*PKPbc **PKPbc 01 41 04.8 -0.1**
HYA IAmb IAmb 01 41 06.2
comp=Z,75nm,1.1s
ARNB Al Arnab 150.24 288 *e*P **PKPbc 01 41 05.4 -0.6**
BHL Bhannes 150.37 284 *e*P **PKPbc 01 41 06.3 -0.1**
DQRL Deir Qamar 150.41 284 *e*P **PKPbc 01 41 06.7 +0.3**
SUE Sulen 150.44 356 *e*PKPbc **PKPbc 01 41 05.6 +0.2**
SIM Simferopol' 150.62 307 *d i*PKIKP **PKPbc 01 41 06.4 0.0**
SIM pmax pmax
comp=Z,92nm,0.7s
OSL Oslo 150.87 349 *e*PKPbc **PKPbc 01 41 06.6 +0.1**
OSL IAmb IAmb 01 41 07.6
comp=Z,75nm,1.0s
ASK Askoy 150.98 355 *e*PKPbc **PKPbc 01 41 06.9 +0.1**
BER Bergen 151.06 355 *e*PKPbc **PKPbc 01 41 07.1 +0.2**
BER IAmb IAmb 01 41 08.4
comp=Z,59nm,0.8s
KONO Kongsberg 151.32 350 *e*PKPbc **PKPbc 01 41 07.3 -0.2**
KONO Kongsberg 151.32 350 *e*PKIKP **PKPbc 01 41 07.3 -0.2**
KONO Kongsberg 151.32 350 *e*PKPbc **PKPbc 01 41 07.3 -0.2**
AKASG Malin Array Be 151.41 320 PKP **PKPdf 01 41 01.3 -0.5**
comp=Z,4.1nm,0.8s,baz=66,slow=1.7,SNR=14
AKASG PKPbc **PKPbc 01 41 07.6 -0.5**
comp=Z,32nm,0.6s,baz=46,slow=3.0,SNR=118
AKASG PKPab **PKPab 01 41 16.2 -1.1**
comp=Z,1.9nm,0.4s,baz=49,slow=4.7,SNR=8.3
AKBB Malin Array Si 151.41 320 *e*PKIKP **PKPdf 01 41 01.3 -0.4**
AKBB Malin Array Si 151.41 320 *e*PKPdf **PKPdf 01 41 01.3 -0.4**
ODD1 Odda 151.42 353 *e*PKPbc **PKPbc 01 41 08.2 +0.3**
ODD1 IAmb IAmb 01 41 09.4
comp=Z,64nm,0.7s
KIEV Kiev 151.43 320⇓ *i*PKIKP **PKPdf 01 41 01.1 -0.7**
KIEV Kiev 151.43 320 *e*PKPdf **PKPdf 01 41 00.6 -1.2**
KIEV *e*PKPbc **PKPbc 01 41 07.3 -0.8**
AK11 Malin Array Si 151.46 320 *e*PKPdf **PKPdf 01 41 01.2 -0.6**
ILGA Ilgaz 151.72 299 *e*PKPdf **PKPdf 01 41 03.3 +0.4**
BLS5 Blasjo 151.92 353 *e*PKPbc **PKPbc 01 41 09.4 +0.4**
BR131 Keskin Array S 151.95 296 *e*PKPdf **PKPdf 01 41 02.6 -0.5**
BRTR Keskin Array B 151.95 296 PKP **PKPdf 01 41 02.6 -0.5**
comp=Z,4.0nm,1.1s,baz=0.0,slow=1.2,SNR=14
BRTR PKPbc **PKPbc 01 41 09.3 -0.6**
comp=Z,39nm,0.6s,baz=140,slow=3.9,SNR=249
BRTR PKPab **PKPab 01 41 19.6 -0.5**
comp=Z,21nm,0.8s,baz=132,slow=4.1,SNR=11
KMY Karmoy 152.23 355 *e*PKPbc **PKPbc 01 41 09.8 +0.2**
KMY IAmb IAmb 01 41 10.8
comp=Z,3.1nm,0.5s
SUW Suwalki 152.32 331 *e*PKP **PKPbc 01 41 09.6 -0.5**
SUW Suwalki 152.32 331 *e*PKIKP **PKPbc 01 41 09.5 -0.5**
CSS Mathiatis 152.35 286 *e*PKPdf **PKPdf 01 41 03.3 -0.4**
CSS *e*PKPbc **PKPbc 01 41 10.0 -0.7**
STAV Stavanger 152.47 354 *e*PKPbc **PKPbc 01 41 10.2 0.0**
ANTO Ankara 152.58 296 *e*PKIKP **PKPdf 01 41 03.2 -0.8**
ANTO Ankara 152.58 296 *e*PKPdf **PKPdf 01 41 03.2 -0.8**
ANTO *e*PKPbc **PKPbc 01 41 11.1 -0.1**
BR231 Keskin MP Arra 152.60 296 *e*PKPdf **PKPdf 01 41 04.0 -0.1**
HOMB Homborsund 152.80 351 *e*PKPbc **PKPbc 01 41 11.1 +0.2**
HOMB IAmb IAmb 01 41 12.3
comp=Z,108nm,0.8s
SNART Snartemo 152.90 352 *e*PKPbc **PKPbc 01 41 11.6 +0.4**
SNART IAmb IAmb 01 41 12.4
comp=Z,30nm,0.7s
KLNR Kaliningrad 153.06 334 *c i*PKIKP **PKPbc 01 41 11.4 -0.2**
SORM Soroca 153.17 316⇑ *i*P **PKPdf 01 41 03.0 -1.4**
SORM Soroca 153.17 316⇑ PKIKP **PKPdf 01 41 03.0 -1.4**
KIS Kishinev 153.39 313 *e*P **PKPbc 01 41 09.0 -3.6**
KIS Kishinev 153.39 313 *e*PKIKP **PKPbc 01 41 09.0 -3.6**
KIS *e* 01 41 25.0
KIS *e* 01 42 06.0
LEOM Leova 153.97 313⇓ *i*P **PKPbc 01 41 14.1 +0.3**
LEOM Leova 153.97 313⇓ *i*PKIKP **PKPbc 01 41 14.1 +0.3**
TLCR 154.11 310⇑ *i*P **PKPbc 01 41 14.5 +0.3**
TLCR 154.11 310⇑ PKIKP **PKPbc 01 41 14.5 +0.3**
BOLV Bolvadin 154.14 294 *e*PKPab **PKPab 01 41 30.1 +0.7**
LIC Lamto 154.21 167 *e*PKIKP **PKPdf 01 41 08.4 +1.4**
comp=Z,71nm,0.8s
BSD Bornholm Skovb 154.38 341 *i* P **PKPbc 01 41 14.3 -0.1**
BSD Bornholm Skovb 154.38 341 *i* PKIKP **PKPbc 01 41 14.3 -0.1**
KIC Kosan Boka 154.39 168 *e*PKIKP **PKPdf 01 41 08.6 +1.3**
comp=Z,31nm,0.7s
COP Copenhagen 154.51 344 *i* P **PKPbc 01 41 14.9 +0.2**
COP *i* 01 41 30.1
COP Copenhagen 154.51 344 *i* PKIKP **PKPbc 01 41 14.9 +0.2**
COP *i* 01 41 30.1
CFR Carcaliu 154.56 310⇑ *i*P **PKPbc 01 41 14.8 -0.3**
CFR Carcaliu 154.56 310⇑ PKIKP **PKPbc 01 41 14.8 -0.3**
TIC Toumodi 154.62 167 *e*PKIKP **PKPdf 01 41 08.5 +0.9**
DBIC Dimbokro 154.68 168 PKP **PKPdf 01 41 08.6 +0.9**
comp=Z,6.6nm,0.5s,baz=179,slow=0.7,SNR=21
DBIC PKPbc **PKiKP 01 41 16.9 +0.5**
comp=Z,9.7nm,0.7s,baz=155,slow=1.5,SNR=14
DBIC PKPab **PKPab 01 41 33.9 +2.0**
comp=Z,11nm,0.7s,baz=171,slow=5.2,SNR=6.0
LVV L'vov 154.68 323 *e*PKP2 **PKPab 01 41 33.1 +2.0**
BEL Belsk 154.89 329 *e*PKP **PKPbc 01 41 15.9 +0.3**
BEL Belsk 154.89 329 *e*PKIKP **PKPbc 01 41 15.9 +0.3**
PETR Petresti 154.93 312⇑ *i*P **PKPbc 01 41 17.0 +1.1**
TESR Tescani 154.94 314⇑ *i*P **PKPbc 01 41 16.3 +0.4**
VRI Vrincioaia 155.18 312⇑ *i*P PKPdf 01 41 16.7 +9.3
VRI Vrincioaia 155.18 312⇑ PKIKP PKPdf 01 41 16.7 +9.3
PLOR Plostina 155.24 312⇑ *i*P PKPdf 01 41 16.3 +8.8
PLOR Plostina 155.24 312⇑ PKIKP PKPdf 01 41 16.3 +8.8
BUR08 Bucovina Ar. S 155.26 317 *e*PKPdf **PKPdf 01 41 08.7 +1.2**
BURAR Bucovina Array 155.26 317⇑ *i*P PKPdf 01 41 18.0 +10
BURAR Bucovina Array 155.26 317⇑ PKIKP PKPdf 01 41 18.0 +10
KWP Kalwaria Pacla 155.47 324 *e*PKP **PKPdf 01 41 07.9 +0.2**
KWP Kalwaria Pacla 155.47 324 *e*PKIKP **PKPdf 01 41 07.9 +0.2**
MLR Muntele Rosu 155.84 312⇑ *i*P PKPdf 01 41 18.1 +10
MLR Muntele Rosu 155.84 312⇑ PKIKP PKPdf 01 41 18.1 +10
MLR Muntele Rosu 155.84 312 *e*PKPdf **PKPdf 01 41 07.9 -0.5**
SECR 155.96 311⇑ *i*P PKPdf 01 41 18.8 +10
DOPR Dopca 155.97 314⇓ *i*P PKPdf 01 41 19.3 +11
UZH Uzhgorod 156.30 322 *e*PKIKP **PKPdf 01 41 08.4 -0.3**
STHS Stebnicka Huta 156.34 325 *e*PKIKP **PKPdf 01 41 09.5 +0.7**
STHS Stebnicka Huta 156.34 325 *e*PKP **PKPdf 01 41 09.5 +0.7**
VOIR 156.43 313⇑ *i*P PKPdf 01 41 20.3 +11
VOIR 156.43 313⇑ PKIKP PKPdf 01 41 20.3 +11
OJC Ojcow 156.48 328 *e*PKP **PKPdf 01 41 09.2 +0.2**
OJC Ojcow 156.48 328 *e*PKIKP **PKPdf 01 41 09.0 +0.1**
OJC *e* 01 41 37.9
OJC Ojcow 156.48 328 *e*PKPdf **PKPdf 01 41 09.0 +0.1**
OJC *e*PKPab **PKPab 01 41 37.9 -0.9**
CRVS Cervenica-Dubn 156.56 323 *e*PKIKP **PKPdf 01 41 08.8 -0.3**
CRVS Cervenica-Dubn 156.56 323 *e*PKP **PKPdf 01 41 08.8 -0.3**
CRVS *e* 01 41 40.1
NIE Niedzica 156.80 326 *e*PKP **PKPdf 01 41 09.7 +0.3**
NIE Niedzica 156.80 326 *e*PKIKP **PKPdf 01 41 09.7 +0.3**
HUMR Humele 156.88 311⇓ *i*P PKPdf 01 41 20.0 +10
DRGR 157.15 318⇑ *i*P **PKPdf 01 41 10.2 +0.2**
DRGR 157.15 318⇑ PKIKP **PKPdf 01 41 10.2 +0.2**
LOT Lotru 157.22 314⇑ *i*P PKPdf 01 41 24.5 +14
KECS Kecovo 157.33 324 *e*PKP2 **PKPab 01 41 43.2 +0.7**
KECS Kecovo 157.33 324 *e*PKP **PKPab 01 41 43.2 +0.7**
LANS Liptovska Anna 157.38 326 *e*PKP2 **PKPab 01 41 43.3 +0.5**
LANS Liptovska Anna 157.38 326 *e*PKP **PKPab 01 41 43.3 +0.5**
LANS *e* 01 45 37.7
KARP Karpathos 157.41 287 *e*PKPab **PKPab 01 41 43.5 +0.1**
KSP Ksiaz 157.49 333 *e*PKPdf **PKPdf 01 41 09.9 -0.3**
KSP *e*PKPab **PKPab 01 41 43.1 0.0**
KSP Ksiaz 157.49 333 *e*PKIKP **PKPdf 01 41 09.9 -0.3**
OKC Ostrava-Krasne 157.49 329 *e*PKPDF **PKPdf 01 41 09.7 -0.5**
OKC *e*PKPAB **PKPab 01 41 42.5 -0.7**
OKC Ostrava-Krasne 157.49 329 *e*PKIKP **PKPdf 01 41 09.7 -0.5**
MORC Moravsky Berou 157.80 330⇑ *i*P **PKPdf 01 41 10.4 -0.3**
MORC Moravsky Berou 157.80 330 *e*PKIKP **PKPdf 01 41 10.0 -0.7**
MORC *e* 01 41 43.8
MORC Moravsky Berou 157.80 330 *e*PKPdf **PKPdf 01 41 10.0 -0.7**
MORC *e*PKPab **PKPab 01 41 43.8 -0.8**
UPC Upice 157.87 333 *e*PKPDF **PKPdf 01 41 10.5 -0.2**
UPC ⇑*e*PKP PKPab 01 41 22.6 -22
UPC *e*PKPAB **PKPab 01 41 44.6 -0.2**
UPC Upice 157.87 333 *e*PKIKP **PKPdf 01 41 10.5 -0.2**
UPC *e* 01 41 44.6
DPC Dobruska-Polom 157.87 332 *e*PKPDF **PKPdf 01 41 10.1 -0.6**
DPC ⇑*e*PKP PKPab 01 41 21.5 -23
DPC *e*PKPAB **PKPab 01 41 44.6 -0.3**
DPC Dobruska-Polom 157.87 332 *e*PKIKP **PKPdf 01 41 10.1 -0.6**
KRLC Kraliky 157.90 331 *e*PKPDF **PKPdf 01 41 09.8 -1.0**
KRLC *e*PKPAB **PKPab 01 41 44.3 -0.7**
KRLC Kraliky 157.90 331 *e*PKIKP PKIKP 01 41 09.8
KRLC *e* 01 41 44.3
PSZ Piszkesteto 158.00 323 *e*PKIKP **PKPdf 01 41 09.7 -1.3**
PSZ *e* 01 41 44.0
PSZ Piszkesteto 158.00 323 *e*PKPdf **PKPdf 01 41 09.7 -1.3**
PSZ *e*PKPab **PKPab 01 41 44.0 -1.5**
VYHS Vyhne 158.13 326 *e*PKIKP **PKPdf 01 41 10.1 -1.0**
VYHS *e* 01 41 45.9
VYHS Vyhne 158.13 326 *e*PKP **PKPdf 01 41 10.1 -1.0**
VYHS *e* 01 41 45.9
VYHS *e* 01 45 40.8
CLL Collm 158.26 338 *i*PKIKP **PKPdf 01 41 10.1 -1.0**
CLL *i* 01 41 46.4
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL pmax pmax
comp=Z,5μm,0.7s
CLL Collm 158.26 338 *i*PKPdf **PKPdf 01 41 10.1 -1.0**
comp=Z,8.0nm,1.0s
CLL *e*PKPdif PKPab 01 41 23.0 -23
comp=Z,12nm,1.1s
CLL *i*PKPab **PKPab 01 41 46.4 0.0**
comp=Z,46nm,0.7s
CLL *e*pPKPdf **pPKPdf 01 42 06.0 -3.1**
CLL Collm 158.26 338 *e*PKPdf **PKPdf 01 41 10.2 -0.9**
CLL *e*PKPab **PKPab 01 41 45.2 -1.2**
BRG Berggiesshubel 158.32 336 *e*PKP **PKPdf 01 41 10.9 -0.3**
comp=Z,16nm,1.4s
BRG Berggiesshubel 158.32 336 *i*PKP **PKPab 01 41 46.4 -0.3**
comp=Z,31nm,0.9s
BRG *e*pPKP **pPKPab 01 42 42.1 0.0**
comp=Z,7.8nm,1.3s
BRG Berggiesshubel 158.32 336 *e*PKIKP **PKPdf 01 41 10.9 -0.3**
BRG *i* 01 41 46.4
BRG pmax pmax
comp=Z,16nm,1.4s
BRG pmax pmax
comp=Z,31nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.3s
PVCC Panska Ves 158.39 335 *e*PKPDF **PKPdf 01 41 11.0 -0.3**
PVCC *e*PKPAB **PKPab 01 41 46.8 -0.2**
PVCC Panska Ves 158.39 335 *e*PKIKP **PKPdf 01 41 11.0 -0.3**
PVCC *e* 01 41 46.8
BZS Buzias 158.43 316⇑ *i*P **PKPdf 01 41 12.5 +1.0**
BZS Buzias 158.43 316⇑ PKIKP **PKPdf 01 41 12.5 +1.0**
SMOL Smolenice 158.78 327 *e*PKIKP **PKPdf 01 41 12.5 +0.7**
SMOL *e* 01 41 49.3
SMOL Smolenice 158.78 327 *e*PKP **PKPdf 01 41 12.5 +0.7**
SMOL *e* 01 41 49.2
GOPC GO Pecny, Ondr 158.81 334 *e*PKPDF **PKPdf 01 41 11.6 -0.3**
GOPC *e*PKPAB **PKPab 01 41 48.6 -0.3**
GOPC GO Pecny, Ondr 158.81 334 *e*PKIKP **PKPdf 01 41 11.6 -0.3**
GOPC *e* 01 41 48.6
PRA Prague 158.82 334 *e*PKPAB **PKPab 01 41 48.7 -0.2**
PRA Prague 158.82 334 *e*PKP2 **PKPab 01 41 48.7 -0.2**
PRU Pruhonice 158.84 334 *e*PKPDF **PKPdf 01 41 09.9 -1.9**
PRU *e*PKPAB **PKPab 01 41 48.8 -0.2**
PRU Pruhonice 158.84 334 *e*PKIKP **PKPdf 01 41 09.9 -1.9**
PRU *e* 01 41 48.8
VTS Vitosha 158.85 308 *e*PKP2 **PKPab 01 41 50.4 +0.8**
VTS Vitosha 158.85 308 *e*PKPab **PKPab 01 41 50.4 +0.8**
TREC Trest 159.03 332 *e*PKPDF **PKPdf 01 41 11.8 -0.3**
TREC ⇑*e*PKP PKPab 01 41 24.2 -26
TREC *e*PKPAB **PKPab 01 41 49.2 -0.7**
TREC Trest 159.03 332 *e*PKIKP **PKPdf 01 41 11.8 -0.3**
TREC *e* 01 41 49.2
WTSB Winterswijk 159.15 349 *e*PKPdf **PKPab 01 41 49.4 -0.8**
NKC Novy Kostel 159.37 338 *e*PKPDF **PKPdf 01 41 12.1 -0.4**
NKC *e*PKPAB **PKPab 01 41 51.8 +0.5**
NKC Novy Kostel 159.37 338 *e*PKIKP **PKPdf 01 41 12.1 -0.4**
NKC *e* 01 41 51.8
KHC Kasperske Hory 159.91 334 *e*PKPDF **PKPdf 01 41 12.7 -0.5**
KHC *e*PKPAB **PKPab 01 41 53.2 -0.5**
KHC *ex* x 01 42 54.3
KHC Kasperske Hory 159.91 334 *e*PKIKP **PKPdf 01 41 12.2 -1.0**
KHC *e* 01 41 53.0
KHC Kasperske Hory 159.91 334 *e*PKPdf **PKPdf 01 41 12.2 -1.0**
KHC *e*PKPab **PKPab 01 41 53.0 -0.7**
KHC *e*PKPab **PKPab 01 41 53.3 -0.4**
CONA Conrad Observa 159.92 329 *i*PKPdf **PKPdf 01 41 12.6 -0.6**
comp=Z,8.2nm,1.1s
CONA *i*PKPab **PKPab 01 41 53.8 -0.2**
comp=Z,14nm,0.8s,SNR=6.5
GEC2 GERESS Array S 160.09 334 *e*PKIKP **PKPdf 01 41 13.3 -0.1**
GEC2 *e* 01 41 53.9
GEC2 GERESS Array S 160.09 334 *e*PKPdf **PKPdf 01 41 13.3 -0.1**
GEC2 *e*PKPab **PKPab 01 41 53.9 -0.7**
GERES GERESS Array B 160.09 334 PKP **PKPdf 01 41 13.0 -0.5**
comp=Z,3.7nm,0.9s,baz=90,slow=1.3,SNR=20
GERES PKPab **PKPab 01 41 54.1 -0.5**
comp=Z,8.3nm,0.8s,baz=39,slow=5.1,SNR=18
GEA0 GERESS Array S 160.10 333 *e*PKPdf **PKPdf 01 41 12.2 -1.2**
HGN Heimansgroeve 160.46 349 *e*PKPbc **PKPab 01 41 55.6 -0.4**
BEBN Eben Emael 160.47 350 PKPab **PKPab 01 41 55.7 -0.3**
ARSA Arzberg 160.58 328 *i*PKPdf **PKPdf 01 41 12.9 -1.0**
comp=Z,5.3nm,1.0s
ARSA *i*PKPab **PKPab 01 41 57.1 +0.3**
comp=Z,8.4nm,0.7s
MEM Membach 160.60 349 PKPab **PKPab 01 41 55.9 -0.7**
MOA Molln 160.67 331 *i*PKPdf **PKPdf 01 41 12.9 -1.2**
comp=Z,10nm,1.3s
MOA *i*PKPab **PKPab 01 41 57.0 -0.1**
comp=Z,22nm,2.0s
BCLA Clavier 160.89 350 PKPab **PKPab 01 41 57.1 -0.7**
SNF Seneffe 160.93 352 PKPab **PKPab 01 41 57.6 -0.4**
PERS Pernice 161.22 327 *e*PKPdf **PKPdf 01 41 13.6 -1.1**
SOKA Soboth 161.23 327 *i*PKPdf **PKPdf 01 41 14.0 -0.8**
comp=Z,15nm,1.2s
SOKA *i*PKPab **PKPab 01 41 59.4 -0.3**
comp=Z,12nm,1.3s
DOU Dourbes 161.30 352 PKPab **PKPab 01 41 59.0 -0.7**
WLF Walferdange 161.49 348 PKPab **PKPab 01 42 00.4 -0.1**
WLF Walferdange 161.49 348 *e*PKP2 **PKPab 01 42 00.0 -0.5**
WLF Walferdange 161.49 348 *e*PKPab **PKPab 01 41 60.0 -0.5**
TORD Torodi Ar. Bea 161.56 184 PKP **PKPdf 01 41 16.2 +0.3**
comp=Z,17nm,1.1s,baz=210,slow=0.1,SNR=61
TORD PKPab **PKPab 01 42 02.3 +0.7**
comp=Z,18nm,0.7s,baz=174,slow=4.1,SNR=30
TORD pPKPab **pPKPab 01 42 58.6 +1.8**
comp=Z,6.2nm,1.0s,baz=167,slow=4.3,SNR=3.3
TORD PP **PP 01 45 46.8 +2.4**
comp=Z,2.0nm,0.9s,baz=190,slow=3.5,SNR=4.9
OBKA Obir 161.58 328 *i*PKPdf **PKPdf 01 41 16.7 +1.5**
comp=Z,11nm,1.2s
OBKA *i*PKPab **PKPab 01 41 57.3 -3.9**
comp=Z,20nm,1.7s
STU Stuttgart 161.64 341 *e*PKIKP **PKPdf 01 41 14.2 -0.8**
STU *e* 01 42 00.9
STU Stuttgart 161.64 341 *e*PKPdf **PKPdf 01 41 14.2 -0.8**
STU *e*PKPab **PKPab 01 42 00.9 -0.4**
KBA Koelnbreinsper 161.66 331 *i*PKPdf **PKPdf 01 41 14.3 -1.0**
comp=Z,16nm,1.3s
KBA *i*PKPab **PKPab 01 42 00.9 -0.7**
comp=Z,8.4nm,0.9s
LANF Langenberg 161.80 344 PKP **PKPab 01 42 01.7 -0.3**
MYKA Terra Mystica 161.89 330 *i*PKPab **PKPab 01 42 00.8 -1.7**
comp=Z,8.2nm,0.6s
VISS Visnje 161.97 326 *i*PKPdf **PKPdf 01 41 15.2 -0.2**
BOJS Bojanci 161.98 324 *e*PKPdf **PKPdf 01 41 15.4 0.0**
WTTA Wattenberg 162.18 334 *i*PKPdf **PKPdf 01 41 16.2 +0.3**
comp=Z,9.8nm,1.2s
WTTA *i*PKPab **PKPab 01 42 03.5 -0.4**
comp=Z,18nm,1.6s
ABTA Abfaltersbach 162.27 332 *i*PKPdf **PKPdf 01 41 14.8 -1.0**
comp=Z,22nm,1.5s
ABTA *i*PKPab **PKPab 01 42 02.9 -1.3**
comp=Z,19nm,1.3s
BFO Black Forest 162.28 342 *e*PKP2 **PKPab 01 42 03.8 -0.3**
BFO Black Forest 162.28 342 *e*PKPab **PKPab 01 42 03.8 -0.3**
RETA Reutte 162.30 336 *i*PKPdf **PKPdf 01 41 15.7 -0.1**
comp=Z,7.5nm,1.3s
RETA *i*PKPab **PKPab 01 42 04.0 -0.3**
comp=Z,40nm,1.3s,SNR=8.7
MOTA Moosalm 162.31 335 *i*PKPdf **PKPdf 01 41 15.9 0.0**
comp=Z,24nm,1.3s
MOTA *i*PKPab **PKPab 01 42 04.3 -0.2**
comp=Z,12nm,0.7s,SNR=6.9
ECH Echery 162.67 345 PKP **PKPab 01 42 04.7 -1.1**
FETA Feichten 162.72 336 *i*PKPdf **PKPdf 01 41 16.2 -0.2**
comp=Z,22nm,1.2s
FETA *i*PKPab **PKPab 01 42 06.4 +0.1**
comp=Z,24nm,1.2s
DAVA Damuels 162.77 338 *i*PKPab **PKPab 01 42 06.6 +0.1**
comp=Z,36nm,1.0s,SNR=8.3
MOF Molkenrain 163.01 344 PKP **PKPab 01 42 06.5 -0.9**
FUORN Ofenpass-Fuorn 163.22 336 *e*PKPdf **PKPdf 01 41 16.8 -0.1**
FUORN *e*PKPab **PKPab 01 42 08.0 -0.6**
LOMF Lomont 163.56 344 PKP **PKPab 01 42 09.5 -0.3**
SENIN Lac Senin/Sane 164.36 342 *e*PKPab **PKPab 01 42 13.7 +0.2**
PMOZ Porto Moniz, M 165.05 81 *e*PKPdf **PKPdf 01 41 22.3 +3.5**
AGO Saint Agoulin 165.45 352 PKP **PKPab 01 42 16.7 -1.4**
**P

PBRG	**Braganca**	**168.35**	**27**	*e*PKPab	**PKPab**	**01 42 31.9**	**+0.8**
PVRL	**Vila Real**	**168.38**	**32**	*e*PKPdf	**PKPdf**	**01 41 21.9**	**+0.9**
PVRL	**Vila Real**	**168.38**	**32**	*e*PKPab	**PKPab**	**01 42 31.3**	**0.0**
PVIS	**Viseu**	**168.73**	**34**	*e*PKPdf	**PKPdf**	**01 41 23.1**	**+1.8**
PVIS	**Viseu**	**168.73**	**34**	*e*PKPab	**PKPab**	**01 42 32.6**	**-0.3**
MVO	**Moncorvo**	**168.77**	**30**	*e*PKPdf	**PKPdf**	**01 41 22.7**	**+1.4**
MVO	**Moncorvo**	**168.77**	**30**	*e*PKPab	**PKPab**	**01 42 32.8**	**-0.2**
PCAS	**Casmilo, Conde**	**168.93**	**38**	*e*PKPdf	**PKPdf**	**01 41 22.7**	**+1.4**
PCAS	**Casmilo, Conde**	**168.93**	**38**	*e*PKPab	**PKPab**	**01 42 33.8**	**+0.1**
MTE	**Manteigas**	**169.15**	**34**	*e*PKPdf	**PKPdf**	**01 41 22.9**	**+1.3**
MTE	**Manteigas**	**169.15**	**34**	*e*PKPab	**PKPab**	**01 42 34.6**	**-0.1**
MTE	**Manteigas**	**169.15**	**34**	*e*PKPdf	**PKPdf**	**01 41 22.4**	**+0.8**
MTE				*e*PKPab	**PKPab**	**01 42 35.7**	**+1.0**
PMAFR	**Mafra**	**169.24**	**45**	*e*PKPdf	**PKPdf**	**01 41 23.5**	**+1.9**
PTOM	**Tomar**	**169.29**	**40**	*e*PKPdf	**PKPdf**	**01 41 23.0**	**+1.4**
PTOM	**Tomar**	**169.29**	**40**	*e*PKPab	**PKPab**	**01 42 35.7**	**+0.4**
PCBR	**Castelo Branco**	**169.61**	**36**	*e*PKPdf	**PKPdf**	**01 41 22.9**	**+1.2**
PCBR	**Castelo Branco**	**169.61**	**36**	*e*PKPab	**PKPab**	**01 42 34.5**	**-2.2**
PMTG	**Montargil**	**169.77**	**41**	*e*PKPdf	**PKPdf**	**01 41 23.5**	**+1.6**
PMRV	**Marv??o**	**169.96**	**37**	*e*PKPdf	**PKPdf**	**01 41 23.4**	**+1.4**
PMRV	**Marv??o**	**169.96**	**37**	*e*PKPab	**PKPab**	**01 42 38.2**	**-0.1**
TAM	**Tamanrasset**	**170.08**	**209**	*e*PKIKP	**PKPdf**	**01 41 23.2**	**+0.4**
TAM	**Tamanrasset**	**170.08**	**209**	*e*PKPdf	**PKPdf**	**01 41 23.2**	**+0.4**
PNCL	**Nicolau / Gran**	**170.23**	**46**	*e*PKPdf	**PKPdf**	**01 41 23.6**	**+1.5**
PNCL	**Nicolau / Gran**	**170.23**	**46**	*e*PKPab	**PKPab**	**01 42 39.5**	**0.0**
EVO	**Evora**	**170.26**	**43**	*e*PKPdf	**PKPdf**	**01 41 23.4**	**+1.2**
EVO	**Evora**	**170.26**	**43**	*e*PKPab	**PKPab**	**01 42 39.1**	**-0.6**
PESTR	**Estremoz**	**170.27**	**40**	*e*PKPdf	**PKPdf**	**01 41 23.6**	**+1.4**
PESTR	**Estremoz**	**170.27**	**40**	*e*PKPab	**PKPab**	**01 42 39.0**	**-0.7**
MORF	**Marmelete**	**170.63**	**50**	*e*PKPdf	**PKPdf**	**01 41 24.9**	**+2.4**
PBEJ	**Beja**	**170.68**	**45**	*e*PKPdf	**PKPdf**	**01 41 24.2**	**+1.8**
PCVE	**Castro Verde**	**170.83**	**47**	*e*PKPdf	**PKPdf**	**01 41 24.4**	**+1.9**
PBAR	**Barrancos**	**171.06**	**41**	*e*PKPdf	**PKPdf**	**01 41 24.1**	**+1.5**
PBDV	**Barranco-do-Ve**	**171.13**	**49**	*e*PKPdf	**PKPdf**	**01 41 24.8**	**+2.1**
PVAQ	**Vaqueiros**	**171.17**	**47**	*e*PKPdf	**PKPdf**	**01 41 24.1**	**+1.4**
PAB	**San Pablo**	**171.21**	**25**	*e*PKIKP	**PKPdf**	**01 41 23.9**	**+1.2**
PAB	**San Pablo**	**171.21**	**25**	*e*PKPdf	**PKPdf**	**01 41 23.9**	**+1.2**
ES19	**SONSECA Array**	**171.23**	**22**	*e*PKPdf	**PKPdf**	**01 41 23.3**	**+0.6**
ESDC	**Sonseca Array**	**171.23**	**23**	PKP	**PKPdf**	**01 41 23.6**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=355,slow=2.4,SNR=54						
ESDC				PKPab	**PKPab**	**01 42 44.0**	**0.0**
	comp=Z,3.7nm,0.8s,baz=328,slow=3.9,SNR=13						
ESLA	**Sonseca Array**	**171.23**	**23**	*e*PKPdf	**PKPdf**	**01 41 23.8**	**+1.1**
ESLA				*e*PKPab	**PKPab**	**01 42 45.2**	**+1.3**
KEST	**Kesra**	**171.51**	**301**	PKP	**PKPdf**	**01 41 24.2**	**+1.2**
	comp=Z,7.3nm,0.9s,baz=261,slow=7.0,SNR=4.6						
KEST				PKPab	**PKPab**	**01 42 45.7**	**+0.2**
	comp=Z,11nm,1.1s,baz=329,slow=7.7,SNR=3.2						
MDT	**Midelt**	**175.58**	**73**	PKP	**PKPdf**	**01 41 26.1**	**+1.4**
	comp=Z,12nm,0.9s,baz=52,slow=2.0,SNR=26						
MDT				PKPab	**PKPab**	**01 43 04.8**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=270,slow=3.0,SNR=3.7						
MDT				PP	**PP**	**01 47 03.4**	**+6.2**
	comp=Z,1.3nm,0.9s,baz=316,slow=1.0,SNR=3.8						

*ISCJB **16** 01:44:44.8±0.7, 51°.45N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=2.9km az=18.0*
*VIE **16** 01:44:44.9±0.6, 51°.59N×16°.18E, h0km, mb2.3/3, ML2.6/4, Error ellipse: s-maj=6.4km s-min=3.0km az=17.0, Suspected Mining induced.*
*WAR **16** 01:44:46.6, 51°.50N×16°.13E, h1km, Mw2.4*
*CSEM **16** 01:44:46.1±0.4, 51°.48N×16°.09E, h2km, ML3.0/11, Error ellipse: s-maj=6.7km s-min=3.9km az=4.0*

ISC 16 01:44:46.1±1.1, **51°.51N**±0°.05×**16°.09E**±0°.02, **h0km, n40, σ0°73/76, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**01 44 59.2**	**+0.2**
KSP				*e*			01 45 00.0	
KSP				*e*Sg		**Sg**	**01 45 08.3**	**+0.5**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**01 44 59.2**	**+0.2**
KSP				*e*Sg		**Sg**	**01 45 08.3**	**+0.5**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**01 44 59.2**	**+0.2**
KSP				*e*			01 45 00.0	
KSP				*e*Sg		**Sg**	**01 45 08.3**	**+0.5**
UPC	**Upice**	**1.00**	**183**	*e*PG		**Pg**	**01 45 05.2**	**-0.1**
UPC				*e*SG		**Sg**	**01 45 18.3**	**+0.1**
	comp=Z,39nm,0.3s							
UPC	**Upice**	**1.00**	**183**	Pg		**Pg**	**01 45 05.2**	**-0.1**
UPC				Sg		**Sg**	**01 45 18.3**	**+0.1**
	39nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG		**Pg**	**01 45 07.9**	**-0.5**
DPC				*e*SG		**Sg**	**01 45 22.9**	**-0.7**
	comp=Z,20nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg		**Pg**	**01 45 07.9**	**-0.5**
DPC				Sg		**Sg**	**01 45 22.9**	**-0.7**
	20nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG		**Pg**	**01 45 12.1**	**-0.3**
PVCC				*e*SG		**Sb**	**01 45 30.7**	**0.0**
	comp=Z,55nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**225**	Pg		**Pg**	**01 45 12.1**	**-0.3**
PVCC				Sg		**Sb**	**01 45 30.7**	**0.0**
	55nm,0.2s							
BRG	**Berggiesshubel**	**1.49**	**246**	PG		**Pg**	**01 45 14.9**	**+0.2**
BRG				SG		**Sn**	**01 45 35.2**	**+0.9**
	54nm,0.5s							
KRLC	**Kraliky**	**1.50**	**163**	*e*PG		**Pn**	**01 45 13.2**	**-1.1**
KRLC				*e*SG		**Sg**	**01 45 33.0**	**-1.2**
KRLC	**Kraliky**	**1.50**	**163**	Pg		**Pn**	**01 45 13.2**	**-1.1**
KRLC				Sg		**Sg**	**01 45 33.0**	**-1.2**
PRA	**Prague**	**1.78**	**217**	*e*SG		**Sb**	**01 45 42.2**	**-0.3**
	comp=Z,11nm,0.4s							
PRA	**Prague**	**1.78**	**217**	Sg		**Sb**	**01 45 42.2**	**-0.3**
	11nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	*e*PG		**Pb**	**01 45 19.9**	**0.0**
GOPC				*e*SG		**Sb**	**01 45 42.9**	**0.0**
	comp=Z,6.7nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	Pg		**Pb**	**01 45 19.9**	**0.0**
GOPC				Sg		**Sb**	**01 45 42.9**	**0.0**
	6.7nm,0.2s							
PRU	**Pruhonice**	**1.81**	**213**	*e*PG		**Pb**	**01 45 19.5**	**-0.6**
PRU				*e*SG		**Sg**	**01 45 44.7**	**+0.5**
	comp=Z,21nm,0.4s							
PRU	**Pruhonice**	**1.81**	**213**	Pg		**Pb**	**01 45 19.5**	**-0.6**
PRU				Sg		**Sg**	**01 45 44.7**	**+0.5**
	21nm,0.4s							
CLL	**Collm**	**1.94**	**265**	*i* Pn		**Pn**	**01 45 19.5**	**-0.8**
CLL				*i* Pg		**Pg**	**01 45 22.9**	**-0.4**
CLL				*i*			01 45 25.9	
CLL				*i* Sg		**Sg**	**01 45 49.6**	**+1.1**
	comp=Z,17nm,1.0s							
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn		**Pn**	**01 45 19.8**	**-0.8**
MORC				*e*Sg		**Sb**	**01 45 47.6**	**-0.1**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG		**Pb**	**01 45 25.4**	**0.0**
OKC				*e*SG		**Sb**	**01 45 51.6**	**-0.7**
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pg		**Pb**	**01 45 25.4**	**0.0**
OKC				Sg		**Sb**	**01 45 51.6**	**-0.7**
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		**Pn**	**01 45 24.4**	**+0.2**
VRAC				*e*Sg		**Sb**	**01 45 56.1**	**+0.9**
TREC	**Trest**	**2.25**	**190**	*e*PN		**Pn**	**01 45 24.6**	**+0.1**
TREC				*e*PG		**Pb**	**01 45 27.7**	**+0.1**
TREC				*e*SG		**Sg**	**01 45 57.2**	**-1.1**
	comp=Z,8.4nm,0.3s							
TREC	**Trest**	**2.25**	**190**	Pn		**Pn**	**01 45 24.6**	**+0.1**
NKC	**Novy Kostel**	**2.64**	**242**	*e*Pn		**Pn**	**01 45 30.3**	**+0.4**
NKC				*e*PG		**Pg**	**01 45 36.6**	**0.0**
NKC				*e*SG		**Sg**	**01 46 11.2**	**+0.5**
	comp=Z,17nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**242**	Pn		**Pn**	**01 45 30.3**	**+0.4**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN		**Pn**	**01 45 33.0**	**-0.1**
KHC				*e*PG		**Pb**	**01 45 39.0**	**+0.8**
KHC				*e*SN		**Sn**	**01 46 07.2**	**-1.2**
KHC				*e*SG		**Sg**	**01 46 16.6**	**-1.7**
	comp=Z,6.4nm,0.4s							
KHC	**Kasperske Hory**	**2.87**	**215**	Pn		**Pn**	**01 45 33.0**	**-0.1**
SMOL	**Smolenice**	**3.12**	**163**	*e*Pg		**Pg**	**01 45 46.6**	**+0.8**
SMOL				*e*Sg		**Sg**	**01 46 27.0**	**+0.8**
SMOL	**Smolenice**	**3.12**	**163**	*e*PG		**Pg**	**01 45 46.6**	**+0.8**
SMOL				*e*SG		**Sg**	**01 46 27.0**	**+0.8**
LANS	**Liptovska Anna**	**3.20**	**136**	*e*Pg		**Pg**	**01 45 48.6**	**+1.2**
LANS				*e*Sg		**Sb**	**01 46 25.2**	**+1.9**
LANS	**Liptovska Anna**	**3.20**	**136**	*e*PG		**Pg**	**01 45 48.6**	**+1.2**
LANS				*e*SG		**Sb**	**01 46 25.2**	**+1.9**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pg		**Pg**	**01 45 53.6**	**+0.5**
VYHS	**Vyhne**	**3.50**	**149**	*e*PG		**Pg**	**01 45 53.6**	**+0.5**
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**01 45 42.0**	**-1.0**
	comp=Z,0.4nm,0.3s							
CONA				Sg		**Sg**	**01 46 40.9**	**-0.3**
	comp=Z,3.7nm,0.3s							
MOA	**Molln**	**3.85**	**199**	Pn		**Pn**	**01 45 46.8**	**+0.3**
	comp=Z,0.7nm,0.2s							
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*Pg		**Pg**	**01 45 59.8**	**-1.0**
STHS				*e*Sg		**Sg**	**01 46 51.4**	**+0.1**
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PG		**Pg**	**01 45 59.8**	**-1.0**
STHS				*e*SG		**Sg**	**01 46 51.4**	**+0.1**
STHS				*e*LG		Lg	01 46 59.7	
ARSA	**Arzberg**	**4.28**	**185**	Sg		**Sg**	**01 47 04.8**	**+1.4**
	comp=Z,1.2nm,0.6s							

JMA 16 01:49:13.8±0.2, **36°.90N×143°.80E, h42km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.38**	**282**	P		Pn	01 49 51.4	+1.0
JFK				*e*S		Sn	01 50 19.7	+1.3
ONAJ	**Iwakimizuishiy**	**2.41**	**276**	P		Pn	01 49 51.9	+1.1
JIO	**Ouri**	**2.49**	**309**	P		Pn	01 49 52.9	+1.1
JIO				*e*S		Sn	01 50 22.0	+1.1
JMM	**Marumori**	**2.58**	**293**	P		Pn	01 49 54.6	+1.5
JMM				*e*S		Sn	01 50 25.3	+2.1
JFT	**Otama**	**2.83**	**284**	P		Pn	01 49 58.5	+2.0
JFT				*e*S		Sn	01 50 31.4	+2.0
JMK	**Ichinoseki**	**2.89**	**316**	P		Pn	01 49 58.9	+1.6
JMK				*e*S		Sn	01 50 32.6	+1.8
JOM	**Ohasama**	**3.24**	**323**	P		Pn	01 50 03.9	+1.8
JOM				*e*S		Sn	01 50 40.3	+0.8
JAG	**Ashikaga**	**3.53**	**264**	P		Pn	01 50 03.6	-2.5
JAG				*e*S		Sn	01 50 46.5	0.0
JOD2	**Odawara 2**	**4.15**	**248**	P		Pn	01 50 15.7	+1.0
JOD2				*e*S		Sn	01 51 02.0	+0.1
JCH	**Churui**	**5.72**	**357**	P		Pn	01 50 34.7	-1.4
JCH				*e*S		Sn	01 51 36.8	-3.6
JTKR	**Abashiri--Toko**	**7.06**	**1**	P		Pn	01 50 52.8	-1.8
JTKR				*e*S		Sn	01 52 08.6	-4.9

*SKHL **16** 01:49:08.7±0.7, 52°.45N×141°.75E, h10km, mb4.3/5*
*ISCJB **16** 01:49:10.7±0.4, 52°.38N±0°.03×141°.68E±0°.05, h10km, mb3.6/8, Error ellipse: s-maj=4.3km s-min=3.9km az=38.8*
*MOS **16** 01:49:11.7±0.9, 52°.43N×141°.93E, h12km, mb3.9/5, Error ellipse: s-maj=37.1km s-min=12.8km az=88.8*
*IDC **16** 01:49:11.6±1.1, 52°.41N×142°.02E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/40, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.4/38, Error ellipse: s-maj=31.6km s-min=22.9km az=158.0*

ISC 16 01:49:14.1±0.6, **52°.46N**±0°.04×**142°.02E**±0°.04, **h10km, n22, σ1°81/24, mb3.7/8, 1C-1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.22**	**27**	⇓*e*PN		**Pn**	**01 49 36.3**	**-0.9**
OKH				*e*S		**Sb**	**01 49 55.6**	**+2.5**
OKH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
OKH				smax		smax		
	comp=E,3.0nm,0.9s							
OKH	**Okha**	**1.22**	**27**	*e*Pg		**Pn**	**01 49 36.5**	**-0.7**
OKH				AMB		AMB	01 49 36.9	
	comp=E,400nm,0.8s							
OKH				*i* Sg		**Sb**	**01 49 56.4**	**+3.3**
OKH				A		A	01 49 56.7	
	comp=E,3μm,0.9s							
TYV	**Tymovskoe**	**1.65**	**166**	*e*PN		Pn	01 49 40.3	-2.8
TYV				pmax		pmax		
	comp=Z,236nm,0.6s							
TYV	**Tymovskoe**	**1.65**	**166**	*e*Pg		**Pn**	**01 49 42.0**	**-1.1**
TYV				AMB		AMB	01 49 42.6	
	comp=Z,236nm,0.6s							
TYV				*e*Sg		**Sn**	**01 50 04.8**	**+0.4**
TYV				A		A	01 50 11.1	
	comp=Z,499nm,0.9s							
UGL	**Uglegorsk**	**3.39**	**179**	⇑*i*Pg		**Pb**	**01 50 16.7**	**+2.5**
UGL				*i* Sg		**Sg**	**01 51 04.3**	**+1.4**
UGL				A		A	01 51 09.0	
	comp=Z,248nm,0.5s							
GRNR	**Gornyy**	**3.88**	**246**	*e*Pg		**Pb**	**01 50 21.5**	**-1.1**
GRNR				AMB		AMB	01 50 22.1	
	comp=Z,41nm,0.2s							
GRNR				*e*Sg		**Sb**	**01 51 12.0**	**+2.5**
GRNR				A		A	01 51 12.8	
	comp=Z,150nm,0.2s							
YSS	**Yuzh-Sakhalins**	**5.54**	**175**	*e*PN		**Pn**	**01 50 36.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.54**	**175**	*e*P		Pn	01 50 33.0	-3.5
YSS				AMB		AMB	01 50 37.1	
	comp=Z,4.0nm,0.4s							
EKMR	**Ekimchan**	**5.54**	**280**	*e*Pg		**Pb**	**01 50 55.5**	**+4.6**
EKMR				AMB		AMB	01 50 59.0	
	comp=Z,20nm,0.5s							
EKMR				*e*Sg		**Sg**	**01 52 10.5**	**-1.3**
EKMR				A		A	01 52 12.0	
	comp=Z,110nm,0.8s							
BMKR	**Bomnak**	**8.16**	**291**	*e*Sg		Sg	01 53 27.5	-8.2
BMKR				A		A	01 53 27.8	
	comp=Z,4.0nm,0.5s							
MA2	**Magadan**	**8.64**	**31**	LR		LR	01 54 58.2	
	comp=Z,65nm,18.4s,baz=254,slow=40							
ZEA	**Zeya**	**8.98**	**284**	*e*Sg		**Sg**	**01 54 02.0**	**0.0**
ZEA				A		A	01 54 03.1	
	comp=Z,72nm,1.2s							
TIXI	**Tiksi**	**20.12**	**348**	P		**P**	**01 53 48.8**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=124,slow=8.1,SNR=5.3							
ILAR	**Eielson Array**	**36.91**	**42**	P		**P**	**01 56 21.2**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=276,slow=6.9,SNR=4.7							
MKAR	**Makanchi Array**	**38.13**	**286**	P		**P**	**01 56 32.0**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=61,slow=10.0,SNR=4.7							
MKAR	**Makanchi Array**	**38.13**	**286**	P		**P**	**01 56 32.0**	**-1.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KURK	**Kurchatov**	**38.30**	**293**	P		**P**	**01 56 33.8**	**-0.7**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**38.40**	**293**	P		**P**	**01 56 33.8**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=68,slow=9.0,SNR=6.5							
YKA	**Yellowknife Ar**	**50.59**	**36**	P		**P**	**01 58 11.5**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=309,slow=7.9,SNR=3.0							
PDAR	**Pinedale Array**	**66.88**	**49**	P		**P**	**02 00 05.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=48,slow=6.6,SNR=4.2							
ASAR	**Alice Springs**	**76.13**	**188**	P		**P**	**02 01 01.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=16,slow=4.8,SNR=4.9							
TXAR	**Lajitas Array**	**80.47**	**54**	P		**P**	**02 01 26.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=299,slow=4.1,SNR=4.3							

IDC 16 01:52:31.1±1.9, **6°.21S×128°.02E, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.6/34, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=207.4km s-min=28.1km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.97**	**156**	Pn		Pn	01 56 03.6	-0.5
	0.4nm,0.3s,baz=330,slow=14,SNR=10							
WRA				Sn		Sn	01 58 27.7	-23
	0.5nm,0.3s,baz=331,slow=22,SNR=5.6							
ASAR	**Alice Springs**	**18.25**	**163**	P		P	01 56 46.3	-0.1
	0.2nm,0.3s,baz=341,slow=12,SNR=22							
ASAR				S		Sn	01 59 46.4	-24
	0.1nm,0.3s,baz=352,slow=26,SNR=4.5							
STKA	**Stephens Creek**	**28.51**	**155**	P		P	01 58 33.2	+4.7
	1.1nm,0.5s,baz=301,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**66.50**	**328**	P		P	02 03 22.0	-0.7
	0.8nm,0.5s,baz=122,slow=8.2,SNR=8.4							
KURBB	**Kurchatov Arra**	**70.82**	**329**	P		P	02 03 50.3	+0.7
	0.6nm,0.6s,baz=129,slow=6.4,SNR=12							

IDC 16 02:03:30.6±1.6, **2°.60S×141°.21E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/32, Error ellipse: s-maj=75.4km s-min=17.0km az=102.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.49**	**13**	LR		LR	02 12 49.5	
	comp=Z,37nm,18.7s,baz=112,slow=34							
WRA	**Warramunga Arr**	**18.50**	**201**	P		Pn	02 07 49.4	+0.8
	0.6nm,0.3s,baz=21,slow=12,SNR=14							
WRA				S		Sn	02 11 09.7	-6.3
	0.1nm,0.3s,baz=21,slow=22,SNR=3.3							
ASAR	**Alice Springs**	**22.11**	**198**	P		P	02 08 29.5	+1.7
	2.8nm,0.6s,baz=30,slow=10,SNR=61							
ASAR				S		S	02 12 32.6	+0.1
	1.0nm,1.1s,baz=18,slow=27,SNR=5.3							
H11S3	**WAKE ISLAND Hy 32.69**	**49**		T		T	02 45 07.3	
	baz=232,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy 32.71**	**49**		T		T	02 45 05.7	
	baz=232,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy 32.71**	**49**		T		T	02 45 05.4	
	baz=232,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy 33.59**	**48**		T		T	02 46 13.7	
	baz=229,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy 33.60**	**48**		T		T	02 46 13.4	
	baz=229,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy 33.60**	**48**		T		T	02 46 15.8	
	baz=229,slow=75,SNR=11							
KSRS	**Korea Array**	**41.72**	**344**	LR		LR	02 28 33.5	
	comp=Z,17nm,18.6s,baz=15,slow=36							
MKAR	**Makanchi Array**	**71.24**	**322**	P		P	02 14 51.3	-0.5
	0.3nm,0.3s,baz=101,slow=10,SNR=4.3							
ILAR	**Eielson Array**	**84.70**	**24**	P		P	02 16 06.2	0.0
	0.3nm,0.6s,baz=266,slow=4.5,SNR=5.4							

*ISCJB **16** 02:11:50.1±1.4, 29°.99S±0°.08×176°.4W±0°.1, h21km, mb3.8/4, Error ellipse: s-maj=17.3km s-min=10.7km az=171.5*
*IDC **16** 02:11:58.5±3.9, 29°.53S×176°.61W, h64km±26km, mb3.6/4, mb1 3.8/4, mb1mx3.5/28, mbtmp3.9/4, Error ellipse: s-maj=51.0km s-min=35.1km az=177.0*

ISC 16 02:11:51.9±1.1, **29°.91S**±0°.10×**176°.4W**±0°.1, **h21km, n10, σ1°31/12, mb4.0/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.48**	**296**	P		**Pb**	**02 12 20.2**	**+1.5**
	65nm,0.3s,baz=131,slow=19,SNR=3.9							
RAO				S		**Sn**	**02 12 34.1**	**-2.0**
	228nm,0.3s,baz=148,slow=16,SNR=9.9							
URZ	**Urewera**	**9.92**	**211**	P		**Pn**	**02 14 11.9**	**-1.3**
	0.3nm,0.3s,baz=252,slow=4.4,SNR=3.9							
URZ				S		**Sn**	**02 16 04.4**	**+0.5**
	1.6nm,0.3s,baz=225,slow=18,SNR=12							
CTA	**Charters Tower**	**35.11**	**277**	P		**P**	**02 18 44.6**	**+0.6**
	1.2nm,0.5s,baz=125,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**44.53**	**266**	P		**P**	**02 20 03.2**	**+0.9**
	0.5nm,0.7s,baz=101,slow=7.1,SNR=9.1							
WRA	**Warramunga Arr**	**45.48**	**271**	P		**P**	**02 20 10.1**	**+0.2**
	1.9nm,0.6s,baz=110,slow=7.7,SNR=16							
ILAR	**Eielson Array**	**97.14**	**12**	P		**P**	**02 25 21.3**	**-0.7**
	0.2nm,0.6s,baz=226,slow=6.2,SNR=3.9							
FINES	**FINESS Array B**	**145.14**	**341**	PKP		**PKPbc**	**02 31 26.5**	**-0.2**
	1.3nm,0.7s,baz=48,slow=2.8,SNR=7.0							
AKASG	**Malin Array Be**	**151.73**	**325**	PKPbc		**PKPbc**	**02 31 44.8**	**+0.3**
	0.6nm,0.4s,baz=51,slow=2.8,SNR=4.1							
BRTR	**Keskin Array B**	**153.58**	**300**	PKPab		**PKPab**	**02 32 00.1**	**-1.7**
	0.8nm,1.0s,baz=18,slow=5.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**163.23**	**174**	PKPab		**PKPab**	**02 32 45.3**	**+1.7**
	0.6nm,0.7s,baz=206,slow=5.9,SNR=5.8							

*ISCJB **16** 02:20:59.9±1.4, 15°.0S±0°.6×173°.8W±0°.3, h10km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=95.7km s-min=10.0km az=155.8*
*IDC **16** 02:21:00.2±1.6, 14°.99S×173°.90W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/25, mbtmp3.7/6, ML3.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=101.3km s-min=20.7km az=154.0*

ISC 16 02:21:01.6±1.7, **15°.0S**±0°.6×**173°.8W**±0°.3, **h10km, n15, σ1°38/8, mb3.5/5, Samoa Islands region**

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Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.46**	**233**	P	Pn	02 58 43.1	+0.1
JTH				S	Sn	02 58 50.1	+0.1
JANG	**Nango**	**0.65**	**284**	P	Pn	02 58 45.5	-0.3
JANG				*e*S	Sn	02 58 54.7	-0.1
MIYJ	**Miyakonagasawa**	**0.76**	**212**	P	Pn	02 58 47.1	0.0
MIYJ				S	Sn	02 58 57.1	-0.2
JKZ	**Kuzumaki**	**0.81**	**253**	P	Pn	02 58 48.2	+0.3
JKZ				S	Sn	02 58 59.0	+0.2
JOM	**Ohasama**	**1.10**	**228**	P	Pn	02 58 52.4	+0.6
JOM				S	Sn	02 59 06.5	+0.8
JTM	**Tenmabayashi**	**1.12**	**301**	P	Pn	02 58 52.4	+0.2
JTM				S	Sn	02 59 06.6	+0.3
JAH	**Hinai**	**1.31**	**269**	P	Pn	02 58 55.3	+0.6
JOT	**Ohata**	**1.52**	**320**	S	Sn	02 59 17.5	+1.4
JMK	**Ichinoseki**	**1.53**	**215**	P	Pn	02 58 59.0	+1.2
JRG	**Rokugo**	**1.55**	**239**	P	Pn	02 58 59.4	+1.4
JRG				*e*S	Sn	02 59 19.7	+2.8

*GUC **16** 02:59:07.3±0.6, 30°.66S×71°.94W, h60km, ML3.1*
ISC 16 02:59:04.5±3.4, 30°.65S±0°.05×72°.2W±0°.2, h8km±18km, n21, σ1§23/21, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.28**	**68**	⇓*i*P	Pn	**02 59 30.6**	**+1.7**
TLL				*i* S	Sn	**02 59 47.1**	**+0.8**
TLL				IAML		02 59 50.2	
	comp=E,580nm,0.3s						
LCO	**Las Campanas**	**2.07**	**38**	⇑*i*P	Pn	**02 59 40.8**	**+0.9**
LCO				*i* S	Sn	**03 00 05.7**	**-0.3**
LCO				IAML		03 00 08.2	
	comp=N,126nm,0.3s						
LCO	**Las Campanas**	**2.07**	**38**	*e*P	Pn	**02 59 40.9**	**+1.0**
LCO				*e*S	Sg	**03 00 10.8**	**-0.3**
VACH	**Vallenar**	**2.41**	**31**	⇑*i*P	Pn	**02 59 44.9**	**+0.7**
VACH				*i* S	Sn	**03 00 12.6**	**-1.3**
ROCH	**El Roble**	**2.52**	**157**	*e*P	Pn	**02 59 47.3**	**+1.4**
ROCH				*i* S	Sn	**03 00 16.0**	**-1.0**
ROCH				IAML		03 00 19.2	
	comp=N,116nm,0.4s						
ROC1	**El Roble**	**2.52**	**157**	*e*P	Pn	**02 59 47.6**	**+1.6**
ACDV	**Cuesta del Vie**	**2.68**	**81**	*e*P	Pb	**02 59 53.1**	**+0.3**
RTLS	**Leoncito**	**2.72**	**116**	*e*P	Pb	**02 59 54.5**	**+1.0**
RTLS				IAML		02 59 57.4	
	comp=Z,46nm,0.3s						
PEL	**Peldehue**	**2.79**	**153**	*i* S	Sn	**03 00 22.2**	**-1.3**
PEL				IAML		03 00 25.5	
	comp=N,94nm,0.4s						
AUSP	**Uspallata**	**2.85**	**124**	*e*P	Pb	**02 59 56.1**	**+0.3**
CLCH	**Cerro Calan**	**3.07**	**154**	*i* S	Sn	**03 00 29.4**	**-1.1**
CLCH				IAML		03 00 41.6	
	comp=N,61nm,0.4s						
FCH	**Farellones**	**3.11**	**150**	IAML		03 00 39.2	
	comp=E,80nm,0.5s						
AMOG	**MOGNA**	**3.18**	**96**	*e*P	Pb	**03 00 00.7**	**-0.6**
RTLL	**Cerro Villicun**	**3.25**	**103**	*e*P	Pb	**03 00 00.3**	**-2.2**
RTCV	**Cerro Valdivia**	**3.34**	**112**	*e*P	Pb	**03 00 03.0**	**-1.0**
AGUA	**GUANDACOL**	**3.40**	**71**	*e*P	Pb	**03 00 04.0**	**-1.0**
ASAL	**Salagasta**	**3.44**	**125**	*e*P	Pb	**03 00 04.5**	**-1.3**
ARCO	**CERRO ARCO**	**3.52**	**129**	IAML		03 00 08.7	
	comp=Z,14nm,0.3s						
VCA	**Vinchina**	**3.94**	**62**	IAML		03 00 59.8	
	comp=Z,87nm,0.6s						
AVFE	**Valle Fertil**	**4.07**	**91**	IAML		03 01 17.5	
	comp=Z,10nm,0.5s						
APLL	**PUNTA DE LOS L**	**4.88**	**88**	IAML		03 01 18.2	
	comp=Z,4.5nm,0.4s						

IDC 16 03:02:39.1±7.0, 15°.71S×173°.48W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/33, mbtmp3.8/4, ML3.5/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/38, Error ellipse: s-maj=339.5km s-min=25.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.43**	**43**	Pn	Pn	03 03 18.4	-1.8
	11nm,0.3s,baz=57,slow=20,SNR=10						
AFI				Sn	Sn	03 03 45.2	-5.6
	25nm,0.3s,baz=123,slow=21,SNR=11						
AFI				LR	LR	03 03 55.5	
	comp=Z,430nm,19.9s,baz=204,slow=31						
RAR	**Rarotonga**	**14.11**	**115**	LR	LR	03 10 37.7	
	comp=Z,123nm,19.5s,baz=259,slow=34						
DZM	**Mont Dzumac**	**20.01**	**248**	LR	LR	03 13 36.2	
	comp=Z,206nm,20.8s,baz=26,slow=33						
DZM	**Mont Dzumac**	**20.01**	**248**	*e*LR	LR	03 12 44.6	
	355nm,23.8s						
PAE	**Paea**	**22.98**	**98**	*e*T	T	03 32 14.5	
	3.8nm,0.2s						
PPT	**Papeete**	**22.98**	**98**	LR	LR	03 14 26.4	
	comp=Z,109nm,21.5s,baz=282,slow=31						
PPT2	**Papeete2**	**22.98**	**98**	*e*LR	LR	03 13 31.5	
	351nm,25.8s,baz=278						
PPT2	**Papeete2**	**22.98**	**98**	*e*T	T	03 32 15.4	
	4.4nm,0.3s						
TVO	**Taravao**	**23.29**	**99**	*e*T	T	03 32 38.4	
	1.6nm,0.3s						
TBI	**Tubuai**	**23.86**	**112**	*e*LR	LR	03 14 03.8	
	416nm,26.8s						
TBI	**Tubuai**	**23.86**	**112**	*e*T	T	03 33 34.2	
	15nm,0.3s						
HNR	**Honiara**	**26.65**	**280**	LR	LR	03 16 53.5	
	comp=Z,117nm,19.0s,baz=48,slow=32						
TAOE	**Nuku Hiva Isla**	**33.24**	**82**	*e*LR	LR	03 18 05.4	
	264nm,26.5s						
H11S2	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	03 52 05.4	
	baz=143						
H11S3	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	03 52 04.4	
	baz=143						
H11S1	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	03 52 06.3	
	baz=143						
H11N3	**WAKE ISLAND Hy**	**40.14**	**331**	T	T	03 53 05.1	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**40.14**	**331**	T	T	03 53 06.2	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**40.15**	**331**	T	T	03 53 05.1	
	baz=152						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	03 11 32.0	-1.4
	1.0nm,1.1s,baz=98,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**49.94**	**252**	P	P	03 11 34.9	-0.3
	5.6nm,1.0s,baz=85,slow=8.6,SNR=30						
ASAR				LR	LR	03 30 56.8	
	comp=Z,101nm,18.1s,baz=211,slow=34						
MJAR	**Matsushiro Arr**	**69.12**	**320**	LR	LR	03 37 50.0	
	comp=Z,33nm,22.0s,baz=260,slow=31						
TXAR	**Lajitas Array**	**80.85**	**56**	LR	LR	03 44 52.7	
	comp=Z,26nm,18.6s,baz=0.0,slow=31						
ILAR	**Eielson Array**	**82.76**	**11**	P	P	03 15 05.1	+0.4
	1.2nm,1.1s,baz=198,slow=5.3,SNR=4.3						
ILAR				LR	LR	03 44 40.0	
	comp=Z,29nm,19.2s,baz=254,slow=30						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	PKPab	03 22 23.3	+0.1
	2.1nm,1.0s,baz=46,slow=4.2,SNR=5.3						

*ISCJB **16** 03:07:15.0±0.8, 18°.27N±0°.10×68°.77W±0°.05, h104km±8km, Error ellipse: s-maj=16.3km s-min=7.1km az=172.0*
*RSPR **16** 03:07:16.6, 18°.32N×68°.75W, h96km±1km, MD3.9/15*
ISC 16 03:07:15.5±1.8, 18°.3N±0°.2×68°.81W±0°.08, h95km±15km, n37, σ0§61/42, 15C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.72**	**311**	⇑*e*P	Pn	**03 07 33.4**	**+0.7**
IMPR	**Mona Island, P**	**0.87**	**106**	⇑*e*P	Pn	**03 07 34.2**	**+0.1**
IMPR	**Mona Island, P**	**0.87**	**106**	*e*S	Sn	**03 07 48.1**	**+0.1**
IDE	**Isla Desecheo**	**1.27**	**87**	⇑*e*P	Pn	**03 07 38.7**	**0.0**
IDE	**Isla Desecheo**	**1.27**	**87**	*e*S	Sn	**03 07 55.6**	**-0.6**
AGPR	**Aguadilla, PR**	**1.62**	**84**	⇑*e*P	Pn	**03 07 43.6**	**+0.6**
AGPR	**Aguadilla, PR**	**1.62**	**84**	*e*S	Sn	**03 08 04.0**	**+0.2**
LSP	**Las Mesas**	**1.64**	**95**	⇓*i*P	Pn	**03 07 43.5**	**+0.1**
LSP	**Las Mesas**	**1.64**	**95**	*e*S	Sn	**03 08 04.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.64**	**100**	⇑*e*P	Pn	**03 07 43.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.64**	**100**	*e*S	Sn	**03 08 04.0**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.86**	**100**	⇑*e*P	Pn	**03 07 46.0**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.86**	**100**	*e*S	Sn	**03 08 09.6**	**+0.2**
AOPR	**Arecibo Observ**	**1.95**	**89**	⇑*e*P	Pn	**03 07 47.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.95**	**89**	⇑*e*P	Pn	**03 07 47.8**	**+0.6**
AOPR				*e*S	Sn	**03 08 11.2**	**-0.3**
OBIP	**Obispado Ponce**	**2.11**	**97**	⇑*e*P	Pn	**03 07 49.4**	**+0.1**
OBIP	**Obispado Ponce**	**2.11**	**97**	*e*S	Sn	**03 08 13.8**	**-1.3**
CELP	**Cerrillos**	**2.13**	**96**	⇑*e*P	Pn	**03 07 50.1**	**+0.5**
CELP				*e*S	Sn	**03 08 15.4**	**-0.2**
SJG	**San Juan**	**2.53**	**94**	⇑*e*P	Pn	**03 07 54.7**	**-0.2**
SJG	**San Juan**	**2.53**	**94**	*e*S	Sn	**03 08 25.1**	**-0.1**
CBYP	**Canovanas**	**2.80**	**90**	⇑*e*P	Pn	**03 07 58.7**	**+0.1**
CBYP				*e*S	Sn	**03 08 31.1**	**-0.6**
CBYP	**Canovanas**	**2.80**	**90**	⇓*e*P	Pn	**03 07 59.1**	**+0.6**
CBYP				*e*S	Sn	**03 08 31.6**	**-0.1**
HUMP	**Col San Antoni**	**2.82**	**93**	⇑*e*P	Pn	**03 07 58.6**	**0.0**
HUMP	**Col San Antoni**	**2.82**	**93**	⇑*e*P	Pn	**03 07 59.3**	**+0.7**
HUMP				*e*S	Sn	**03 08 31.5**	**-0.4**
MTP	**Monte Pirata**	**3.10**	**93**	⇑*e*P	Pn	**03 08 02.6**	**+0.1**
MTP	**Monte Pirata**	**3.10**	**93**	*e*S	Sn	**03 08 38.4**	**-0.3**
URIC	**Uribia, Colomb**	**7.26**	**206**	*e*P	Pn	**03 08 57.0**	**-1.9**
PCM	**Pelee Case Pet**	**8.07**	**114**	*e*P	Pn	**03 09 09.6**	**-0.4**
FDF	**Fort de France**	**8.16**	**115**	*e*P	Pn	**03 09 10.6**	**-0.7**
TRMF	**Trois Ilets**	**8.34**	**116**	*e*P	Pn	**03 09 13.3**	**-0.3**
ZAM	**Aeronautique**	**8.34**	**115**	*e*P	Pn	**03 09 13.4**	**-0.2**
MVM	**Montagne Vaucl**	**8.46**	**115**	*e*P	Pn	**03 09 16.5**	**+1.2**
SDV	**Santo Domingo**	**9.54**	**191**	*e*P	Pn	**03 09 31.7**	**+1.5**
SJCC	**San Jacinto, C**	**10.40**	**217**	*e*P	Pn	**03 09 42.1**	**+0.3**
PAMC	**Pamplona, Colo**	**11.55**	**200**	*e*P	Pn	**03 09 57.5**	**-0.3**
BRRC	**Barranca, Sant**	**12.12**	**204**	*e*P	Pn	**03 10 04.6**	**-0.3**
RUSC	**La Rusia**	**13.03**	**199**	*e*P	Pn	**03 10 17.8**	**+0.3**

IDC 16 03:16:58.9±3.1, 5°.69S×133°.32E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/34, mbtmp3.4/3, ML2.8/2, Error ellipse: s-maj=138.7km s-min=17.0km az=81.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**176**	Pn	Pn	03 20 20.8	-0.7
	0.1nm,0.3s,baz=354,slow=16,SNR=2.3						
WRA				Sn	Sn	03 23 02.1	+2.2
	0.2nm,0.3s,baz=354,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**17.88**	**178**	P	P	03 21 09.7	-0.3
	0.0nm,0.3s,baz=6.9,slow=11,SNR=2.8						
ASAR				S	Sn	03 24 30.4	+1.0
	0.1nm,0.3s,baz=0.9,slow=30,SNR=2.9						
MKAR	**Makanchi Array**	**69.00**	**325**	P	P	03 28 06.3	0.0
	0.5nm,0.6s,baz=118,slow=5.7,SNR=4.1						

*IDC **16** 03:25:51.7±1.4, 55°.88N×162°.46E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/33, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=36.4km s-min=23.2km az=153.0*
*KRSC **16** 03:25:53.9±0.7, 55°.71N×162°.47E, h54km±17km, ML4.0*
ISC 16 03:25:55.1±1.4, 55°.77N±0°.03×162°.42E±0°.03, h24km±12km, n45, σ1§03/64, mb3.5/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.50**	**26**	*e*P	Pn	**03 26 07.1**	**+0.5**
KBTR				*e*S	Sn	**03 26 16.6**	**+2.1**
KBG	**Krutoberegovo**	**0.52**	**18**	*e*P	Pn	**03 26 06.4**	**-0.5**
KBG				*e*S	Sn	**03 26 16.3**	**+1.4**
ZLN	**Zelenaya**	**0.95**	**286**	*e*P	Pn	**03 26 13.0**	**+0.1**
ZLN				*e*S	Sn	**03 26 25.2**	**-0.5**
CIRR	**Tsirk**	**1.01**	**291**	*e*P	Pn	**03 26 13.8**	**0.0**
CIRR				*e*S	Sn	**03 26 27.4**	**+0.2**
LGNR	**Loginova**	**1.03**	**289**	*e*P	Pn	**03 26 14.4**	**+0.2**
LGNR				*e*S	Sn	**03 26 28.4**	**+0.5**
BDR	**Baidarnaya**	**1.05**	**320**	*e*P	Pn	**03 26 13.8**	**-0.6**
BDR				*e*S	Sn	**03 26 27.3**	**-1.0**
BZMR	**Bezymyannaya**	**1.10**	**280**	*e*P	Pb	**03 26 14.9**	**-0.6**
BZMR				*e*S	Sn	**03 26 29.8**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.10**	**281**	*e*P	Pb	**03 26 15.2**	**-0.4**
BZWR				*e*S	Sn	**03 26 30.2**	**+0.5**
SRKR	**Sorokina**	**1.13**	**322**	*e*P	Pb	**03 26 16.3**	**+0.3**
KLY	**Klyuchi**	**1.14**	**300**	*e*P	Pn	**03 26 14.1**	**-1.3**
KLY				*e*S	Sb	**03 26 28.7**	**-1.6**
KRSR	**Krestovskiy**	**1.14**	**294**	*e*P	Pb	**03 26 15.3**	**-0.8**
KRSR				*e*S	Sn	**03 26 30.2**	**-0.2**
KIRR	**Kirishev**	**1.19**	**280**	*e*P	Pb	**03 26 16.4**	**-0.6**
KIRR				*e*S	Sn	**03 26 31.8**	**0.0**
KMNR	**Kamenistaya**	**1.24**	**270**	*e*P	Pb	**03 26 17.4**	**-0.4**
KMNR				*e*S	Sb	**03 26 34.0**	**+0.7**
KPT	**Kopyto**	**1.26**	**280**	*e*P	Pb	**03 26 17.6**	**-0.5**
KPT				*e*S	Sb	**03 26 35.4**	**+1.5**
MKZ	**Mys Kozlova**	**1.28**	**198**	*e*P	Pn	**03 26 16.4**	**-0.9**
MKZ				*e*S	Sn	**03 26 31.3**	**-2.3**
TUMD	**Tumrok D**	**1.28**	**245**	*e*P	Pn	**03 26 17.1**	**-0.4**
TUMD				*e*S	Sn	**03 26 33.6**	**-0.3**
KZV	**Kizimen**	**1.38**	**243**	*e*P	Pn	**03 26 18.6**	**-0.3**
KZV				*e*S	Sn	**03 26 36.7**	**+0.3**
TUMR	**Tumrok**	**1.38**	**250**	*e*P	Pn	**03 26 19.2**	**+0.3**
KOZ	**Kozyrevsk**	**1.47**	**283**	*e*P	Pb	**03 26 21.1**	**-0.5**
KOZ				*e*S	Sb	**03 26 41.1**	**+1.3**
BKI	**Bering**	**2.10**	**104**	*e*P	Pn	**03 26 28.6**	**0.0**
BKI				*e*S	Sn	**03 26 53.7**	**-0.1**
ESO	**Esso**	**2.11**	**276**	*e*P	Pn	**03 26 29.0**	**+0.2**
ESO				*e*S	Sn	**03 26 54.9**	**+0.7**
SPN	**Mys Shipunski**	**3.02**	**209**	*e*P	Pn	**03 26 40.6**	**-0.7**
SPN				*e*S	Sn	**03 27 15.4**	**-1.2**
NLC	**Nalytchevo**	**3.16**	**216**	*e*P	Pn	**03 26 43.1**	**-0.1**
NLC				*e*S	Sn	**03 27 19.2**	**-0.9**
KRER	**Koryakskii**	**3.27**	**222**	*e*P	Pn	**03 26 47.0**	**+2.1**
AVH	**Avacha**	**3.30**	**222**	*e*P	Pn	**03 26 46.9**	**+1.7**
UGLR	**Uglovaya**	**3.31**	**221**	*e*P	Pn	**03 26 47.2**	**+1.8**
KOK	**Koryaka**	**3.32**	**223**	*e*P	Pn	**03 26 47.4**	**+1.9**
GNL	**Ganaly**	**3.33**	**233**	*e*P	Pn	**03 26 46.2**	**+0.6**
DALK	**Dalny**	**3.48**	**220**	*e*P	Pn	**03 26 47.9**	**+0.3**
DALK				*e*S	Sn	**03 27 29.1**	**+1.1**
PET	**Petropavlovsk**	**3.52**	**220**	P	Pn	**03 26 48.9**	**+0.7**
PET				S	Sn	**03 27 30.9**	**+1.9**
PETK	**Petropavlovsk-**	**3.83**	**228**	Pn	Pn	**03 26 54.0**	**+1.5**
	1.3nm,0.3s,baz=62,slow=16,SNR=13						
PETK				Sn	Sn	**03 27 39.2**	**+2.4**
	0.9nm,0.3s,baz=73,slow=19,SNR=3.0						
KRMR	**Karymshinskiy**	**3.87**	**222**	*e*P	Pn	**03 26 53.1**	**+0.1**
KRMR				S	Sn	**03 27 38.8**	**+1.2**
RUS	**Russkaya**	**4.05**	**216**	*e*P	Pn	**03 26 55.8**	**+0.3**
ASAK	**Asacha**	**4.31**	**220**	*e*P	Pn	**03 27 00.7**	**+1.6**
TIXI	**Tiksi**	**21.30**	**331**	P	**P**	**03 30 39.7**	**+0.2**
	1.1nm,0.3s,baz=121,slow=6.7,SNR=3.5						
ILAR	**Eielson Array**	**26.00**	**49**	P	**P**	**03 31 24.9**	**-0.6**
	0.5nm,0.9s,baz=272,slow=9.6,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**36.13**	**173**	T	T	04 11 14.1	
	baz=356,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**36.15**	**173**	T	T	04 11 14.1	
	baz=356,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**36.15**	**173**	T	T	04 11 14.1	
	baz=356,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**37.33**	**173**	T	T	04 12 08.9	
	baz=316,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**37.35**	**173**	T	T	04 12 08.7	
	baz=316,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**37.35**	**173**	T	T	04 12 07.4	
	baz=316,slow=76,SNR=18						
MKAR	**Makanchi Array**	**48.24**	**295**	P	**P**	**03 34 33.6**	**0.0**
	0.1nm,0.3s,baz=30,slow=6.1,SNR=2.3						
FINES	**FINESS Array B**	**58.20**	**337**	P	**P**	**03 35 45.4**	**-1.0**
	0.0nm,0.5s,baz=46,slow=8.2,SNR=5.6						
TXAR	**Lajitas Array**	**68.38**	**70**	P	**P**	**03 36 55.0**	**+0.5**
	0.2nm,0.5s,baz=291,slow=5.9,SNR=4.1						

*DDA **16** 03:42:24.9, 40°.69N×28°.14E, h13km, MI3.9*
*ISCJB **16** 03:42:25.8±0.2, 40°.76N±0°.01×28°.11E±0°.02, h13km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=178.1*
*ISK **16** 03:42:25.7, 40°.73N×28°.12E, h7km, ML3.8*
*CSEM **16** 03:42:26.1±0.1, 40°.73N×28°.11E, h10km, ML3.8, Error ellipse: s-maj=1.6km s-min=1.3km az=171.0*
*THE **16** 03:42:26.6, 40°.74N×28°.18E, h16km±1km, ML3.6/5, Error ellipse: s-maj=2.4km s-min=0.3km az=170.0*
*SOF **16** 03:42:27.3, 40°.95N×27°.90E, h2km, MD3.4*
ISC 16 03:42:26.4±0.9, 40°.74N±0°.01×28°.11E±0°.01, h17km±7km, n219, σ0§72/290, 30C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOTS	**Marmara Eregli**	**0.27**	**339**	PG	**Pg**	**03 42 32.4**	**+0.1**
BOTS	**Marmara Eregli**	**0.27**	**339**	*i* Pg	**Pg**	**03 42 32.4**	**+0.1**
SBT2	**Guzelce-Avcila**	**0.34**	**65**	PG	**Pg**	**03 42 33.6**	**+0.2**
SBT2	**Guzelce-Avcila**	**0.34**	**65**	*i* Pg	**Pg**	**03 42 33.6**	**+0.2**
SINB	**Sinanoba-Istan**	**0.42**	**51**	PG	**Pg**	**03 42 34.9**	**0.0**

IDC 16 02:41:03.9±7.2, 15°.64S×173°.49W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.7/29, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=383.0km s-min=27.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.39**	**44**	Pn	Pn	02 41 42.9	-1.5
	28nm,0.3s,baz=274,slow=16,SNR=22						
AFI				Sn	Sn	02 42 07.7	-6.7
	52nm,0.3s,baz=111,slow=23,SNR=7.7						
DZM	**Mont Dzumac**	**20.03**	**248**	*e*LR	LR	02 50 37.5	
	178nm,25.0s						
PAE	**Paea**	**22.99**	**98**	*e*T	T	03 10 23.4	
	3.5nm,0.3s						
PPT2	**Papeete2**	**22.99**	**98**	*e*LR	LR	02 51 56.0	
	183nm,25.8s						
PPT2	**Papeete2**	**22.99**	**98**	*e*T	T	03 10 24.0	
	5.7nm,0.3s						
TVO	**Taravao**	**23.31**	**99**	*e*T	T	03 10 47.4	
	3.2nm,0.4s						
TBI	**Tubuai**	**23.89**	**112**	*e*T	T	03 12 04.7	
	18nm,0.3s						
WRA	**Warramunga Arr**	**49.71**	**257**	P	P	02 49 57.7	-0.5
	0.8nm,0.9s,baz=90,slow=7.4,SNR=2.4						
ASAR	**Alice Springs**	**49.96**	**252**	P	P	02 49 59.4	-0.7
	3.6nm,0.7s,baz=84,slow=8.0,SNR=31						
BRTR	**Keskin Array B**	**146.29**	**321**	PKPbc	PKPab	03 00 48.1	+0.4
	1.7nm,0.9s,baz=45,slow=2.3,SNR=7.6						

*ISCJB **16** 02:44:38.5±0.6, 36°.77N±0°.03×27°.49E±0°.04, h3km±4km, Error ellipse: s-maj=6.0km s-min=4.4km az=39.9*
*CSEM **16** 02:44:38.6±0.2, 36°.77N×27°.49E, h2km, MD2.8, Error ellipse: s-maj=5.1km s-min=4.4km az=9.0*
*ISK **16** 02:44:38.1, 36°.78N×27°.53E, h8km, MD2.8*
*DDA **16** 02:44:38.5, 36°.79N×27°.57E, h7km, Ml2.6*
ISC 16 02:44:38.9±0.9, 36°.77N±0°.03×27°.55E±0°.03, h8km±5km, n30, σ2§07/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.04**	**153**	PG	**Pg**	**02 44 40.3**	**-0.3**
DAT				*e*SG	**Sg**	**02 44 42.0**	**0.0**
DAT	**Datca**	**0.04**	**153**	*i* P	**Pg**	**02 44 40.4**	**-0.3**
DAT				*i* S	**Sg**	**02 44 41.9**	**0.0**
DAT	**Datca**	**0.04**	**153**	P	**Pg**	**02 44 40.4**	**-0.2**
DAT				S	**Sg**	**02 44 41.9**	**0.0**
BDRM	**Kayabasi**	**0.31**	**344**	*i* P	**Pg**	**02 44 44.4**	**-0.6**
BDRM				*i* S	**Sg**	**02 44 49.4**	**+0.2**
BDRM	**Kayabasi**	**0.31**	**344**	P	**Pg**	**02 44 44.4**	**-0.6**
BDRM				S	**Sg**	**02 44 49.4**	**+0.2**
NIS1	**Nisyros Isl.**	**0.34**	**242**	*e*PG	**Pg**	**02 44 45.0**	**-0.5**
NIS1	**Nisyros Isl.**	**0.34**	**242**	*e*Pg	**Pg**	**02 44 45.1**	**-0.5**
BODT	**Bodrum**	**0.35**	**327**	*e*PG	**Pg**	**02 44 45.3**	**-0.5**
BODT				*e*SG	**Sg**	**02 44 50.5**	**-0.1**
BODT	**Bodrum**	**0.35**	**327**	*e*Pg	**Pg**	**02 44 45.3**	**-0.5**
BODT				*e*Sg	**Sg**	**02 44 50.5**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.42**	**329**	*e*PG	**Pg**	**02 44 45.8**	**-1.3**
YKAV	**Yalikavak-Bodr**	**0.42**	**329**	*e*Pg	**Pg**	**02 44 45.8**	**-1.3**
MLSB	**Milas**	**0.56**	**19**	*e*PG	**Pg**	**02 44 49.3**	**-0.4**
MLSB				*e*SG	**Sg**	**02 44 57.6**	**+0.6**
MLSB	**Milas**	**0.56**	**19**	*e*Pg	**Pg**	**02 44 49.3**	**-0.4**
MLSB				*e*Sg	**Sg**	**02 44 57.6**	**+0.6**
TURN	**Turunc**	**0.85**	**82**	*i* P	Pg	02 44 49.2	-6.0
TURN				*i* S	**Sg**	**02 44 57.5**	**-8.7**
TURN	**Turunc**	**0.85**	**82**	P	Pg	02 44 49.2	-6.0
TURN				S	**Sg**	**02 44 57.5**	**-8.7**
DALY	**Dalyan (Mu¨la**	**0.88**	**86**	*e*PG	**Pg**	**02 44 56.0**	**+0.1**
DALY				*e*SG	**Sb**	**02 45 08.8**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.88**	**86**	*e*Pg	**Pg**	**02 44 56.0**	**+0.1**
DALY				*e*Sg	**Sb**	**02 45 08.8**	**+0.4**
AYDN	**Tasoluk**	**0.93**	**16**	*i* P	**Pg**	**02 44 55.9**	**-0.8**
AYDN	**Tasoluk**	**0.93**	**16**	P	**Pg**	**02 44 55.9**	**-0.8**
FETY	**Fethiye**	**1.24**	**96**	*e*PN	**Pg**	**02 45 02.8**	**+0.2**
FETY				*e*SN	**Sn**	**02 45 20.5**	**+1.2**
FETY	**Fethiye**	**1.24

SINB	Sinanoba-Istan	0.42	51	*i* Pg	Pg	03 42 34.9	0.0
EDC	Edincik	0.43	206	PG	Pg	03 42 34.7	-0.4
EDC	Edincik	0.43	206	*i* Pg	Pg	03 42 34.7	-0.4
ELBA	Catalca	0.48	31	*i* P	Pg	03 42 35.4	-0.7
ELBA				*i* S	Sg	03 42 42.0	-0.5
ELBA	Catalca	0.48	31	P	Pg	03 42 35.3	-0.7
ELBA				S	Sg	03 42 42.0	-0.5
CRLT	Corlu	0.48	324	PG	Pg	03 42 36.3	+0.2
CRLT	Corlu	0.48	324	*i* Pg	Pg	03 42 36.3	+0.2
YKBL	Yakuplu-Istanb	0.49	59	PG	Pg	03 42 36.1	-0.1
YKBL				SG	Sb	03 42 43.5	-0.1
YKBL	Yakuplu-Istanb	0.49	59	*i* Pg	Pg	03 42 36.2	-0.1
YKBL				*i* Sg	Sb	03 42 43.5	-0.1
SLVT	Silivri	0.50	9	PG	Pg	03 42 36.3	-0.1
SLVT	Silivri	0.50	9	*i* Pg	Pg	03 42 36.3	-0.1
TKR	Tekirdag	0.50	300	PG	Pg	03 42 36.4	0.0
TKR	Tekirdag	0.50	300	*i* Pg	Pg	03 42 36.4	0.0
KCTX	Karacabey (Bur	0.51	158	PG	Pg	03 42 35.8	-0.7
KCTX	Karacabey (Bur	0.51	158	*i* Pg	Pg	03 42 35.8	-0.7
CTKS	Kestanelik-??a	0.58	31	PG	Pg	03 42 37.5	-0.4
CTKS				SG	Sg	03 42 45.3	-0.5
CTKS	Kestanelik-??a	0.58	31	*i* Pg	Pg	03 42 37.5	-0.4
CTKS				*i* Sg	Sg	03 42 45.3	-0.5
SBT5	Esenkoy-Cinarc	0.60	100	PG	Pg	03 42 38.1	0.0
SBT5	Esenkoy-Cinarc	0.60	100	*i* Pg	Pg	03 42 38.1	0.0
ARMT	Armutlu	0.60	106	PG	Pg	03 42 37.7	-0.5
ARMT				SG	Sb	03 42 46.7	+0.1
ARMT	Armutlu	0.60	106	*i* Pg	Pg	03 42 37.7	-0.5
ARMT				*i* Sg	Sb	03 42 46.7	+0.1
HVHR	Bakirkoy-Istan	0.60	67	PG	Pg	03 42 38.1	-0.2
HVHR				*e*SG	Sb	03 42 47.2	+0.5
HVHR	Bakirkoy-Istan	0.60	67	*i* Pg	Pg	03 42 38.1	-0.2
HVHR				*e*Sg	Sb	03 42 47.2	+0.5
MDNY	Mudanya-Bursa	0.70	122	PG	Pg	03 42 39.5	-0.5
MDNY				*e*SG	Sb	03 42 49.4	+0.1
MDNY	Mudanya-Bursa	0.70	122	*i* Pg	Pg	03 42 39.5	-0.5
MDNY				*e*Sg	Sb	03 42 49.4	+0.1
KRBG	Karabiga-Canak	0.71	241	PG	Pg	03 42 39.8	-0.4
KRBG				*e*SG	Sb	03 42 50.2	+0.6
KRBG	Karabiga-Canak	0.71	241	*i* Pg	Pg	03 42 39.8	-0.4
KRBG				*e*Sg	Sb	03 42 50.2	+0.6
SART	Tekirdag	0.71	266	*i* P	Pg	03 42 39.5	-0.7
SART				*i* S	Sb	03 42 50.1	+0.3
SART	Tekirdag	0.71	266	P	Pg	03 42 39.5	-0.7
SART				S	Sb	03 42 50.1	+0.3
CTYL	Yalikoy Yolu	0.75	10	PG	Pb	03 42 40.4	-0.6
CTYL				*e*SG	Sb	03 42 51.0	0.0
CTYL	Yalikoy Yolu	0.75	10	*i* Pg	Pb	03 42 40.4	-0.6
CTYL				*e*Sg	Sb	03 42 51.0	0.0
GONE	Gonen-Balikesi	0.76	205	*e*PG	Pb	03 42 41.0	-0.1
GONE	Gonen-Balikesi	0.76	205	*e*Pg	Pb	03 42 41.0	-0.1
ISK	Istanbul-Kandi	0.79	65	PG	Pb	03 42 40.8	-0.9
ISK				*e*SG	Sg	03 42 52.6	+0.3
ISK	Istanbul-Kandi	0.79	65	P	Pb	03 42 40.5	-1.2
ISK				S	Sb	03 42 51.4	-0.7
ISK	Istanbul-Kandi	0.79	65	P	Pb	03 42 40.5	-1.2
ISK	Istanbul-Kandi	0.79	65	*i* Pg	Pb	03 42 40.8	-0.9
ISK				S	Sb	03 42 51.4	-0.7
ISK				*e*Sg	Sg	03 42 52.6	+0.3
KAVV	Kandilli-Istan	0.79	65	PG	Pb	03 42 40.8	-0.9
KAVV	Kandilli-Istan	0.79	65	*i* Pg	Pb	03 42 40.8	-0.9
KLYT	Kilyos	0.88	54	*e*PG	Pb	03 42 42.8	-0.3
KLYT				*e*SG	Sg	03 42 55.4	+0.4
KLYT	Kilyos	0.88	54	*e*Pg	Pb	03 42 42.8	-0.3
KLYT				*e*Sg	Sg	03 42 55.4	+0.4
GEMT	Gemlik	0.88	110	*e*PG	Pb	03 42 42.7	-0.4
GEMT	Gemlik	0.88	110	*e*Pg	Pb	03 42 42.7	-0.4
TUZL	Tuzla-Istanbul	0.88	85	*e*PG	Pb	03 42 42.6	-0.5
TUZL				*e*SG	Sg	03 42 55.1	-0.1
TUZL	Tuzla-Istanbul	0.88	85	*e*Pg	Pb	03 42 42.7	-0.5
TUZL				*e*Sg	Sg	03 42 55.1	-0.1
ORLT	Orhaneli	0.92	139	*e*PG	Pb	03 42 43.6	-0.2
ORLT				*e*SG	Sb	03 42 55.9	+0.2
ORLT	Orhaneli	0.92	139	*e*Pg	Pb	03 42 43.6	-0.2
ORLT				*e*Sg	Sb	03 42 55.9	+0.2
LAFA	Gebze-Kocaeli	0.95	88	*e*PG	Pb	03 42 44.3	-0.1
LAFA	Gebze-Kocaeli	0.95	88	*e*Pg	Pb	03 42 44.3	-0.1
PHSR	Pinarhisar	1.00	334	*e*PG	Pb	03 42 45.2	0.0
PHSR	Pinarhisar	1.00	334	*e*Pg	Pb	03 42 45.2	0.0
KESN	Edirne-Kesan	1.09	275	*i* P	Pb	03 42 46.2	-0.8
KESN				*i* S	Sg	03 42 02.0	+0.2
KESN	Edirne-Kesan	1.09	275	P	Pb	03 42 46.2	-0.8
KESN				S	Sg	03 42 02.0	+0.2
LPK	Lapseki	1.09	251	*e*PN	Pb	03 42 46.5	-0.2
LPK	Lapseki	1.09	251	*e*Pn	Pb	03 42 46.5	-0.2
BALB	Balikesir	1.11	189	*e*PN	Pn	03 42 47.2	+0.5
BALB				*e*SN	Sn	03 43 02.0	0.0
BALB	Balikesir	1.11	189	*e*Pn	Pn	03 42 47.2	+0.1
BALB				*e*Sn	Sn	03 43 02.0	0.0
IZI	Iznik	1.11	111	*e*PN	Pb	03 42 46.4	-0.8
IZI	Iznik	1.11	111	*e*Pn	Pb	03 42 46.4	-0.8
HRT	Hereke	1.19	85	*e*PN	Pn	03 42 47.8	-0.5
HRT	Hereke	1.19	85	*e*Pn	Pn	03 42 47.8	-0.5
DST	Dursunbey	1.20	161	*e*PN	Pb	03 42 48.6	0.0
DST	Dursunbey	1.20	161	*e*Pn	Pb	03 42 48.6	0.0
ERIK	Erikli-Kesan	1.21	267	*e*PN	Pb	03 42 48.9	0.0
ERIK	Erikli-Kesan	1.21	267	*e*Pn	Pb	03 42 48.9	0.0
SILT	Sile	1.23	70	*e*PN	Pb	03 42 49.2	0.0
SILT	Sile	1.23	70	*e*Pn	Pb	03 42 49.2	0.0
ADVT	Abdulvahap	1.28	103	*e*PN	Pb	03 42 49.7	-0.3
ADVT	Abdulvahap	1.28	103	*e*Pn	Pb	03 42 49.7	-0.3
GELI	Tayfur-Gelibol	1.29	255	*e*PN	Pb	03 42 50.0	-0.2
GELI	Tayfur-Gelibol	1.29	255	*e*Pn	Pb	03 42 50.0	-0.2
STEP	BALIKESIR_Sava	1.39	193	*i* P	Pn	03 42 51.4	+0.4
STEP				*i* S	Sg	03 43 11.3	0.0
STEP	BALIKESIR_Sava	1.39	193	P	Pn	03 42 51.4	+0.4
STEP				S	Sg	03 43 11.3	0.0
CAVI	Cavuskoy	1.43	111	*e*PN	Pb	03 42 52.9	+0.4
CAVI	Cavuskoy	1.43	111	*e*Pn	Pb	03 42 52.9	+0.4
ENEZ	Enez	1.49	271	*e*PN	Pn	03 42 52.8	+0.5
ENEZ	Enez	1.49	271	P	Pn	03 42 52.5	+0.2
ENEZ				S	Sb	03 43 12.3	+0.2
ENEZ	Enez	1.49	271	P	Pn	03 42 52.5	+0.2
ENEZ	Enez	1.49	271	*e*Pn	Pn	03 42 52.8	+0.5
ENEZ				S	Sb	03 43 12.3	+0.2
EDRB	Edirne	1.51	318	*e*PN	Pb	03 42 53.5	-0.5
EDRB	Edirne	1.51	318	P	Pn	03 42 52.7	0.0
EDRB				S	Sn	03 43 12.2	+0.2
EDRB	Edirne	1.51	318	P	Pn	03 42 52.7	0.0
EDRB	Edirne	1.51	318	*e*Pn	Pb	03 42 53.5	-0.5
EDRB				S	Sn	03 43 12.2	+0.2
BAYC	CANAKKALE_Bayr	1.55	231	*i* P	Pn	03 42 53.1	-0.2
BAYC				*i* S	Sn	03 43 12.8	-0.3
BAYC	CANAKKALE_Bayr	1.55	231	P	Pn	03 42 53.1	-0.2
BAYC				S	Sn	03 43 12.8	-0.3
ALN	Alexandroupoli	1.57	277	*e*PN	Pn	03 42 54.0	+0.5
ALN	Alexandroupoli	1.57	277	P	Pn	03 42 53.5	0.0
ALN				S	Sn	03 43 13.8	+0.3
ALN	Alexandroupoli	1.57	277	P	Pn	03 42 53.5	0.0
ALN	Alexandroupoli	1.57	277	*e*Pn	Pn	03 42 54.0	+0.5
ALN				S	Sn	03 43 13.8	+0.3
KAND	Kocaeli-Kandir	1.62	77	*i* P	Pn	03 42 54.4	+0.3
KAND				*i* S	Sn	03 43 13.6	-1.0
KAND				*i* S	Sb	03 43 17.0	+1.1
KAND	Kocaeli-Kandir	1.62	77	P	Pn	03 42 54.4	+0.3
KAND				S	Sb	03 43 17.0	+1.1
EZN	Ezine	1.64	237	*e*PN	Pb	03 42 56.1	0.0
EZN	Ezine	1.64	237	P	Pn	03 42 54.6	+0.2
EZN				S	Sb	03 43 16.6	+0.1
EZN	Ezine	1.64	237	P	Pn	03 42 54.6	+0.2
EZN	Ezine	1.64	237	*e*Pn	Pb	03 42 56.1	0.0
EZN				S	Sb	03 43 16.6	+0.1
GEYV	SAKARYA_Geyve	1.68	98	*i* P	Pn	03 42 55.5	+0.4
GEYV				*i* S	Sb	03 43 18.1	+0.3
GEYV	SAKARYA_Geyve	1.68	98	P	Pn	03 42 55.5	+0.4
GEYV				S	Sb	03 43 18.1	+0.3
GOKC	Gokceada-Canak	1.75	253	*e*PN	Pb	03 42 57.4	-0.7
GOKC	Gokceada-Canak	1.75	253	*e*Pn	Pb	03 42 57.4	-0.7
DEMI	Demirci	1.75	164	*i* P	Pn	03 42 56.3	+0.2
DEMI				*i* S	Sn	03 43 17.6	-0.5
DEMI	Demirci	1.75	164	P	Pn	03 42 56.3	+0.2
DEMI				S	Sn	03 43 17.6	-0.5
GADA	Gvkgeada	1.77	253	*e*PN	Pn	03 42 57.2	+0.9
GADA	Gvkgeada	1.77	253	P	Pn	03 42 56.6	+0.4
GADA				S	Sb	03 43 20.0	-0.3
GADA	Gvkgeada	1.77	253	P	Pn	03 42 56.6	+0.4
GADA	Gvkgeada	1.77	253	*e*Pn	Pn	03 42 57.2	+0.9
GADA				S	Sb	03 43 20.0	-0.3
CUND	Cunda Adasi-Ba	1.78	219	*e*PN	Pb	03 42 58.1	-0.5
CUND	Cunda Adasi-Ba	1.78	219	*e*Pn	Pb	03 42 58.1	-0.5
AYVA	Ayvalik	1.79	218	*i* P	Pn	03 42 57.3	+0.8
AYVA				*i* S	Sb	03 43 21.7	+0.8
AYVA	Ayvalik	1.79	218	P	Pn	03 42 57.3	+0.8
AYVA				S	Sb	03 43 21.7	+0.8
BOZC	Bozcaada	1.81	241	*e*PN	Pb	03 42 58.8	-0.2
BOZC	Bozcaada	1.81	241	*i* P	Pb	03 42 58.7	-0.2
BOZC				*i* S	Sb	03 43 22.3	+0.9
BOZC	Bozcaada	1.81	241	*e*Pn	Pb	03 42 58.8	-0.2
AKHS	Akhisar	1.87	187	*i* P	Pn	03 42 57.9	+0.3
AKHS	Akhisar	1.87	187	P	Pn	03 42 57.9	+0.3
AKS	Akhisar	1.87	187	*e*PN	Pn	03 42 58.5	+0.9
AKS	Akhisar	1.87	187	*e*Pn	Pn	03 42 58.5	+0.9
DKL	Dikili	1.90	209	*e*PN	Pn	03 42 59.0	+1.0
DKL	Dikili	1.90	209	*e*Pn	Pn	03 42 59.0	+1.0
GDZ	Gediz	1.96	147	*i* P	Pn	03 42 59.5	+0.6
GDZ				*i* S	Sn	03 43 22.6	-0.6
GDZ	Gediz	1.96	147	P	Pn	03 42 59.5	+0.6
GDZ				S	Sn	03 43 22.5	-0.6
SMTH	Samothraki Isl	1.98	263	P	Pn	03 42 58.9	-0.2
SMTH				S	Sn	03 43 24.6	+1.0
SMTH	Samothraki Isl	1.98	263	P	Pn	03 42 58.9	-0.2
SMTH				S	Sn	03 43 24.6	+1.0
GPNR	Gulpinar-Canak	1.98	230	*e*PN	Pb	03 43 01.5	-0.5
GPNR	Gulpinar-Canak	1.98	230	*e*Pn	Pb	03 43 01.5	-0.5
RDO	Rodhopi	1.99	283	P	Pn	03 42 59.6	+0.4
RDO				S	Sn	03 43 24.0	+0.2
RDO	Rodhopi	1.99	283	P	Pn	03 42 59.6	+0.4
RDO				S	Sn	03 43 24.0	+0.2
PRK	Paraskevi	2.05	224	P	Pn	03 43 00.6	+0.5
PRK				S	Sn	03 43 26.9	+1.7
PRK	Paraskevi	2.05	224	P	Pn	03 43 00.6	+0.5
PRK				S	Sn	03 43 26.9	+1.7
SAHE	Sakarya_HENDEK	2.09	86	*i* P	Pn	03 43 01.2	+0.6
SAHE				*i* S	Sn	03 43 27.1	+0.9
SAHE	Sakarya_HENDEK	2.09	86	P	Pn	03 43 01.2	+0.6
SAHE				S	Sn	03 43 27.1	+0.9
KDZ	Kurdzhali	2.23	295	P	Pn	03 43 02.7	+0.2
KULA	Kula-Manisa	2.26	169	P	Pn	03 43 03.2	+0.2
KULA	Kula-Manisa	2.26	169	P	Pn	03 43 03.2	+0.2
SIGR	SIGRI	2.31	229	P	Pn	03 43 03.4	-0.2
SIGR	SIGRI	2.31	229	P	Pn	03 43 03.4	-0.2
DIM	Dimitrovgrad	2.34	305	P	Pn	03 43 04.9	+0.8
LIA	Limnos Island	2.39	250	P	Pn	03 43 04.7	0.0
LIA				S	Sn	03 43 34.5	+0.9
LIA	Limnos Island	2.39	250	P	Pn	03 43 04.7	0.0
LIA				S	Sn	03 43 34.5	+0.9
ROIA	ROIAK	2.42	347	P	Pn	03 43 06.4	+1.3
ESKT	Eskisehir	2.43	119	*i* P	Pn	03 43 06.5	+1.1
SEYT	Eskypehyr	2.43	119	P	Pn	03 43 06.5	+1.1
PRD	Provadia	2.52	348	P	Pn	03 43 06.2	-0.3
URLA	Izmir	2.65	207	*i* P	Pg	03 43 15.7	-1.4
RZN	Rozhen	2.73	291	P	Pn	03 43 09.9	+0.3
KAVA	Kavala	2.74	277	P	Pn	03 43 09.8	+0.3
KAVA	Kavala	2.74	277	P	Pn	03 43 09.8	+0.3
CHOS	Chios island	2.83	215	P	Pn	03 43 10.7	-0.2
CHOS	Chios island	2.83	215	P	Pn	03 43 10.7	-0.2
PLD	Plovdiv	2.90	299	P	Pn	03 43 12.7	+0.9
PSN	Preselentsi	2.94	1	P	Pn	03 43 12.6	+0.2
BOLV	Bolvadin	2.98	132	*i* P	Pn	03 43 14.2	+1.2
BOLV	Bolvadin	2.98	132	P	Pn	03 43 14.2	+1.2
SZH	Strazhica	3.00	328	P	Pn	03 43 13.7	+0.5
OUR	Ouranopolis	3.17	264	P	Pn	03 43 15.2	-0.3
OUR	Ouranopolis	3.17	264	P	Pn	03 43 15.2	-0.3
PVL	Pavlikeni	3.23	321	P	Pn	03 43 17.9	+1.6
NVR	Nevrokopi	3.27	282	P	Pn	03 43 17.7	+0.8
NVR	Nevrokopi	3.27	282	P	Pn	03 43 17.7	+0.8
MMB	Musomiste	3.42	286	P	Pn	03 43 19.8	+0.9
SRS	Serrai	3.44	278	P	Pn	03 43 19.5	+0.3
SRS	Serrai	3.44	278	P	Pn	03 43 19.5	+0.3
ISP	Isparta	3.46	146	⇑*i*P	Pg	03 43 32.9	+0.2
ISP	Isparta	3.46	146	S	Sg	03 44 18.8	+1.3
SOH	Sokhos	3.61	273	P	Pn	03 43 21.8	+0.2
SOH	Sokhos	3.61	273	P	Pn	03 43 21.8	+0.2
TIRR	Tirgusor	3.73	3	⇑*i*P	Pn	03 43 23.6	+0.5
TIRR	Tirgusor	3.73	3	⇑*i*P	Pn	03 43 23.6	+0.5
KNT	Kendrikon	3.97	278	P	Pn	03 43 26.9	+0.4
KNT	Kendrikon	3.97	278	P	Pn	03 43 26.9	+0.4
VTS	Vitosha	4.11	298	⇓*i*P	Pn	03 43 29.5	+0.9
VTS	Vitosha	4.11	298	⇓*i*P	Pn	03 43 29.5	+0.9
VTS				S	Sn	03 44 16.0	-0.3
SULR		4.17	342	⇑*i*P	Pn	03 43 30.7	+1.5
SULR		4.17	342	⇑*i*P	Pn	03 43 30.7	+1.5
VAY	Valandovo	4.23	280	*i* Pn	Pg	03 43 46.9	-0.4
VAY				*i* Sn	Sg	03 44 39.3	-2.8
HUMR	Humele	4.44	330	⇑*i*P	Pn	03 43 33.7	+0.8
HUMR	Humele	4.44	330	⇑*i*P	Pn	03 43 33.7	+0.8
CFR	Carcaliu	4.44	0	⇑*i*P	Pn	03 43 33.2	+0.3
CFR	Carcaliu	4.44	0	⇑*i*P	Pn	03 43 33.2	+0.3
CFR				S	Sn	03 44 21.8	-2.3
TLCR		4.48	6	⇑*i*P	Pn	03 43 34.4	+1.0
TLCR		4.48	6	⇑*i*P	Pn	03 43 34.4	+1.0
MLR	Muntele Rosu	5.01	342	⇓*i*P	Pn	03 43 42.5	+1.6
MLR	Muntele Rosu	5.01	342	⇓*i*P	Pn	03 43 42.5	+1.6
ODBI	Odobesti	5.08	352	⇑*i*P	Pn	03 43 42.7	+1.0
ODBI	Odobesti	5.08	352	⇑*i*P	Pn	03 43 42.7	+1.0
BARS	Barje	5.14	296	⇓*i*Pn	Pn	03 43 43.7	+1.1
VOIR		5.21	336	⇑*i*P	Pn	03 43 45.1	+1.6
VOIR		5.21	336	⇑*i*P	Pn	03 43 45.1	+1.6
PLOR	Plostina	5.22	349	⇑*i*P	Pn	03 43 45.3	+1.6
PLOR	Plostina	5.22	349	⇑*i*P	Pn	03 43 45.3	+1.6
VRI	Vrincioaia	5.23	349	⇑*i*P	Pn	03 43 45.2	+1.5
VRI	Vrincioaia	5.23	349	⇑*i*P	Pn	03 43 45.2	+1.5
ARR	Arges	5.28	332	⇑*i*P	Pn	03 43 45.9	+1.3
ARR	Arges	5.28	332	⇑*i*P	Pn	03 43 45.9	+1.3
ZAGS	Zajecar	5.33	307	*e*Pn	Pn	03 43 44.5	-0.7
BOLS	Boljevac	5.51	306	*e*Pn	Pn	03 43 46.6	-1.1
BOVS	Bovan	5.57	303	*e*Pn	Pn	03 43 49.3	+0.9
DOPR	Dopca	5.59	340	⇓*i*P	Pn	03 43 50.5	+1.7
DOPR	Dopca	5.59	340	⇓*i*P	Pn	03 43 50.5	+1.7
TESR	Tescani	5.87	350	⇑*i*P	Pn	03 43 53.5	+0.9
TESR	Tescani	5.87	350	⇑*i*P	Pn	03 43 53.5	+0.9
KUBS	Kucevo	6.00	310	*e*Pn	Pn	03 43 53.2	-1.2
MDVR	Moldovita	6.20	313	⇑*i*P	Pn	03 43 57.6	+0.4
MDVR	Moldovita	6.20	313	⇑*i*P	Pn	03 43 57.6	+0.4
GRUS	Gruza	6.32	302	⇑*i*Pn	Pn	03 44 00.1	+1.4
TRUS	Trudelj	6.67	304	⇓*i*Pn	Pn	03 44 03.6	0.0
BZS	Buzias	6.80	318	⇓*i*P	Pn	03 44 05.9	+0.5
BZS	Buzias	6.80	318	⇓*i*P	Pn	03 44 05.9	+0.5
BURAR	Bucovina Array	7.18	344	⇓*i*P	Pn	03 44 12.9	+2.2
BURAR	Bucovina Array	7.18	344	⇓*i*P	Pn	03 44 12.9	+2.2
DRGR		7.20	329	⇑*i*P	Pn	03 44 11.1	+0.2
DRGR		7.20	329	⇑*i*P	Pn	03 44 11.1	+0.2
TEKS	Tekeris	7.38	304	*i* Pn	Pn	03 44 12.7	-0.7
SORM	Soroca	7.40	1	⇑*i*P	Pn	03 44 12.9	-0.6
SORM	Soroca	7.40	1	⇑*i*P	Pn	03 44 12.9	-0.6

ISCJB ***16*** *03:48:38.8±0.3,39.°11N±0.°04×140.°52E±0.°07, h135km±2km, mb3.8/18, Error ellipse: s-maj=9.4km s-min=4.7km az=27.3*
JMA ***16*** *03:48:40.0±0.1,39.°10N×140.°50E, h130km±1km, M3.4*
IDC ***16*** *03:48:40.9±1.3,39.°08N×140.°40E, h139km±12km, mb3.6/17, mb1 3.7/20, mb1mx3.6/50, mbtmp4.0/20, Error ellipse: s-maj=13.6km s-min=11.2km az=95.0*

ISC 16 03:48:39.7±0.6, 39.09N±0.°04×140.52E±0.°06, h131km±5km, n41, σ1§19/57, mb3.8/18, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	Kaneyama	0.21	216	P	Pn	03 48 57.9	+0.3
JYK				*e*S	Sn	03 49 10.8	-0.4
JRG	Rokugo	0.32	16	P	Pn	03 48 58.4	+0.4
JRG				S	Sn	03 49 12.2	+0.3
JMK	Ichinoseki	0.56	104	P	Pn	03 48 59.5	+0.4
JMK				S	Sn	03 49 14.2	+0.3
JOM	Ohasama	0.71	57	P	Pn	03 49 00.8	+0.6
JOM				S	Sn	03 49 16.2	+0.4
JOU	Okura	0.73	171	P	Pn	03 49 00.9	+0.5
JOU				S	Sn	03 49 16.7	+0.7
JYA	Atsumi	0.80	232	P	Pn	03 49 01.2	+0.3
JYA				S	Sn	03 49 17.0	+0.1
JIO	Ouri	0.91	134	P	Pn	03 49 01.7	-0.1
JIO				S	Sn	03 49 18.2	-0.3
JYS	Shiratake	0.94	202	P	Pn	03 49 02.6	+0.5
JYS				S	Sn	03 49 19.8	+0.8
JAH	Hinai	1.10	5	P	Pn	03 49 04.3	+0.7
JAH				S	Sn	03 49 22.5	+0.7
JAW	Awa shima	1.18	238	P	Pn	03 49 04.6	+0.3
JANG	Nango	1.50	31	P	Pn	03 49 08.2	+0.5
JANG				S	Sn	03 49 28.9	-0.3
JFT	Otama	1.57	185	P	Pn	03 49 09.5	+0.8
JFT				*e*S	Sn	03 49 32.2	+1.4
JNS	Sasagawa	1.58	217	P	Pn	03 49 09.2	+0.5
JNS				*e*S	Sn	03 49 31.3	+0.5
JSD	Sado	2.06	240	P	Pn	03 49 14.5	+0.2
MAT	Matsushiro	3.13	216	P	Pn	03 49 28.9	+0.9
MAT				S	Sn	03 50 06.6	+1.2
MJAR	Matsushiro Arr	3.13	216	P	Pn	03 49 29.3	+1.2
	3.9nm,0.3s,baz=338,slow=11,SNR=48						
MJAR				S	Sn	03 50 06.5	+1.2
	0.5nm,0.3s,baz=16,slow=16,SNR=3.0						
ASAJ	Asahikawa	5.26	17	P	Pn	03 49 57.1	+1.0
	baz=215,slow=15						
ASAJ				S	Sn	03 50 51.9	-3.9
	0.8nm,0.3s,baz=53,slow=20,SNR=3.1						
JHJ	Hachijo jima 2	5.99	186	P	Pn	03 50 05.8	-0.2
	7.9nm,0.3s,baz=334,slow=22,SNR=7.3						
JHJ				S	Sn	03 51 08.6	-4.8
	27nm,0.3s,baz=257,slow=22,SNR=10						
USRK	Ussuriysk Ar.	8.17	311	P	Pn	03 50 35.8	+0.5
	0.4nm,0.3s,baz=120,slow=13,SNR=5.3						
SONM	Songino Array	26.09	301	P	P	03 54 00.4	-0.7
	1.6nm,0.6s,baz=94,slow=8.1,SNR=5.6						
ZALV	Zalesovo Beam	40.03	311	P	P	03 56 01.1	-0.4
	2.7nm,0.5s,baz=84,slow=7.8,SNR=10						
MKAR	Makanchi Array	42.45	300	P	P	03 56 21.2	-0.3
	1.5nm,0.7s,baz=86,slow=8.9,SNR=11						
KURBB	Kurchatov Arra	44.20	306	P	P	03 56 34.9	-0.5
	9.3nm,0.3s,baz=82,slow=8.4,SNR=44						
ILAR	Eielson Array	48.15	33	P	P	03 57 06.8	+0.7
	0.9nm,0.7s,baz=270,slow=5.8,SNR=16						
BVAR	Borovoye Array	48.68	311	P	P	03 57 10.3	-0.1
	1.4nm,0.5s,baz=71,slow=7.4,SNR=9.6						
AAK	Ala-Archa	48.91	297	P	P	03 57 12.4	-0.1
	0.9nm,0.4s,baz=90,slow=3.0,SNR=2.9						
INK	Inuvik	52.89	28	P	P	03 57 42.6	+1.0
	1.8nm,0.5s,baz=297,slow=8.8,SNR=6.2						
ARU	Arti	54.36	317	P	P	03 57 52.4	-0.1
	1.9nm,0.3s,baz=67,slow=7.7,SNR=5.7						
WRA	Warramunga Arr	59.01	187	P	P	03 58 25.2	-0.4
	1.5nm,0.8s,baz=4.0,slow=7.1,SNR=7.9						
YKA	Yellowknife Ar	62.39	30	P	P	03 58 48.4	+0.3
	0.7nm,0.6s,baz=302,slow=6.4,SNR=3.9						
ASAR	Alice Springs	62.73	187	P	P	03 58 50.9	+0.1
	1.0nm,0.8s,baz=

s-min=5.2km az=159.7
*IDC **16** 03:54:43.2±1.1, 26°.61N×100°.98E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/56, mbtmp3.9/11, MS3.6/3, Ms1 3.6/3, ms1mx3.1/44, Error ellipse: s-maj=37.2km s-min=18.5km az=56.0*
*BJI **16** 03:54:43.3, 26°.54N×100°.74E, h15km, mb4.0/5, ML4.0/8, Ms3.9/2, Ms7 3.8/1*
*NEIC **16** 03:54:46.4±0.7, 26°.79N×101°.19E, h10km, mb4.3/6, ML4.0(BJI), Error ellipse: s-maj=14.1km s-min=10.7km az=72.0*

ISC 16 03:54:44.9±0.6, 26°.61N±0°.04×101°.01E±0°.07, h10km, n32, σ1§80/38, mb4.0/18, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.15**	**133**	Pg	**Pg**	**03 55 27.0**	**+0.9**
KMI				Sg	**Sg**	**03 55 55.8**	**+1.8**
KMI				smax	smax		
	comp=N,3μm,0.6s						
KMI				smax	smax		
	comp=E,2μm,0.7s						
KMI	**Kunming**	**2.15**	**133**	Pg	**Pg**	**03 55 27.0**	**+0.9**
KMI				Sg	**Sg**	**03 55 55.8**	**+1.8**
CD2	**Chengdu**	**4.92**	**29**	Pn	**Pn**	**03 55 59.3**	**+0.3**
CD2				Pg	**Pg**	**03 56 17.0**	**-2.2**
CD2				Sn	**Sn**	**03 56 54.1**	**-2.0**
CD2				Sg	**Sg**	**03 57 24.3**	**+1.3**
CD2				smax	smax		
	comp=N,360nm,1.0s						
CD2				smax	smax		
	comp=E,440nm,0.7s						
CD2	**Chengdu**	**4.92**	**29**	Pn	**Pn**	**03 55 59.3**	**+0.3**
CD2				Pg	**Pg**	**03 56 17.0**	**-2.2**
CD2				Sn	**Sn**	**03 56 54.1**	**-2.0**
CD2				Sg	**Sg**	**03 57 24.3**	**+1.3**
SLVN	**Son La**	**5.88**	**153**	*e*Pg	**Pg**	**03 56 35.8**	**-1.8**
	31nm,0.8s						
CHTO	**Chiang Mai**	**7.98**	**194**	*e*Pb	Pg	03 57 09.1	-8.7
	15nm,0.8s						
ENH	**Enshi**	**8.31**	**62**	*e*Pn	**Pn**	**03 56 43.4**	**-2.1**
	66nm,0.8s						
ENH				*e*Sn	Sn	03 58 06.7	-13
CMAR	**Chiang Mai Arr**	**8.33**	**194**	Pg	**Pg**	**03 57 21.0**	**-3.4**
	1.8nm,0.3s,baz=9.8,slow=17,SNR=10.0						
CMAR				Lg	Lg	03 59 08.5	
	0.4nm,0.3s,baz=12,slow=30,SNR=3.6						
CMAR				LR	LR	04 00 31.2	
	comp=Z,158nm,21.7s,baz=19,slow=42						
GTA	**Gaotai**	**12.81**	**356**	*e*P	**Pn**	**03 57 50.3**	**+3.1**
GTA				pP		03 57 55.8	
GTA				sP		03 57 59.4	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
WMQ	**Urumqi**	**20.28**	**331**	P	**P**	**03 59 18.4**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**21.61**	**10**	P	**P**	**03 59 35.1**	**0.0**
	2.0nm,0.7s,baz=195,slow=10,SNR=4.1						
SONM				LR	LR	04 08 47.1	
	comp=Z,262nm,18.1s,baz=62,slow=39						
ULN	**Ulaanbaatar**	**21.75**	**11**	P	**P**	**03 59 33.0**	**-3.6**
	3.2nm,0.8s						
PSI	**Prapat**	**23.75**	**185**	LR	LR	04 10 37.4	
	comp=Z,182nm,18.2s,baz=194,slow=40						
KSH	**Kashi**	**24.52**	**308**	*e*P	P	04 00 09.8	+5.1
KSH				pP	sP	04 00 20.8	+12
KSH				sP	pP	04 00 26.0	+18
KSH				PP	PnPn	04 00 46.3	+11
KSH				*e*PcP	**PcP**	**04 03 43.1**	**+0.1**
KSH				S	**S**	**04 04 22.8**	**-2.6**
KSH				sS	sS	04 04 40.4	+10
KSH				SS	SnSn	04 05 21.1	+11
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,58nm,6.8s						
KSH				LR	LR		
	comp=N,150nm,7.7s						
KSH				LR	LR		
	comp=E,200nm,5.7s						
KSH				LR	LR		
	comp=Z,220nm,7.1s						
MKAR	**Makanchi Array**	**25.01**	**329**	P	**P**	**04 00 08.8**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=130,slow=11,SNR=10						
KSAR	**Wonju Array Be**	**25.14**	**58**	P	**P**	**04 00 10.4**	**+0.3**
KSRS	**Korea Array**	**25.17**	**58**	P	**P**	**04 00 10.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=240,slow=9.3,SNR=5.3						
AAK	**Ala-Archa**	**26.90**	**313**	*e*P	**P**	**04 00 30.0**	**+3.8**
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**29.50**	**330**	P	**P**	**04 00 48.3**	**-0.8**
	comp=Z,0.6nm,0.2s,baz=139,slow=10.0,SNR=5.4						
KURK	**Kurchatov**	**29.53**	**331**	P	**P**	**04 00 48.3**	**-1.1**
ZALV	**Zalesovo Beam**	**29.83**	**341**	P	**P**	**04 00 50.4**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=138,slow=7.0,SNR=2.7						
BVAR	**Borovoye Array**	**34.88**	**327**	P	**P**	**04 01 36.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=125,slow=9.2,SNR=3.5						
ABKAR	**Akbulak array**	**38.85**	**317**	*e*P	P	04 02 12.7	+2.5
ARU	**Arti**	**42.49**	**326**	*e*P	**P**	**04 02 42.1**	**+2.1**
	comp=Z,1.9nm,0.5s						
WRA	**Warramunga Arr**	**56.45**	**142**	P	**P**	**04 04 27.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=331,slow=7.8,SNR=5.5						
ASAR	**Alice Springs**	**59.24**	**145**	P	**P**	**04 04 46.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=327,slow=6.5,SNR=4.5						
FINES	**FINESS Array B**	**59.83**	**328**	P	**P**	**04 04 50.8**	**+0.6**
	comp=Z,3.9nm,1.0s,baz=90,slow=11,SNR=4.0						
TRF	**Thorofare Moun**	**74.40**	**26**	*e*P	**P**	**04 06 24.5**	**+1.5**
	comp=Z,3.7nm,0.8s						
COLA	**College**	**74.64**	**24**	*e*P	**P**	**04 06 24.2**	**+0.2**
	comp=Z,2.7nm,0.4s						
ILAR	**Eielson Array**	**75.05**	**24**	P	**P**	**04 06 25.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=293,slow=4.8,SNR=11						
PMR	**Palmer**	**75.78**	**28**	*e*P	**P**	**04 06 30.9**	**+0.2**
	comp=Z,7.8nm,0.8s						
INK	**Inuvik**	**77.27**	**18**	P	**P**	**04 06 40.6**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=337,slow=3.2,SNR=4.4						

IDC 16 03:57:25.4±4.7, 7°.44S×149°.18E, h90km±37km, mb3.7/3, mb1 3.7/5, mb1mx3.3/40, mbtmp3.9/5, Error ellipse: s-maj=99.2km s-min=28.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.79**	**225**	P	Pn	03 58 08.6	+0.4
	6.1nm,0.3s,baz=358,slow=9.5,SNR=10						
PMG				S	Sn	03 58 44.8	+3.7
	4.0nm,0.3s,baz=336,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**19.01**	**228**	P	P	04 01 38.4	-1.9
	0.3nm,0.3s,baz=54,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**21.80**	**221**	P	P	04 02 11.2	+0.9
	4.5nm,0.5s,baz=53,slow=9.3,SNR=86						
PETK	**Petropavlovsk-**	**60.75**	**6**	P	P	04 07 27.4	-0.1
	1.2nm,0.5s,baz=157,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**81.38**	**327**	P	P	04 09 31.8	-0.3
	0.4nm,0.4s,baz=120,slow=8.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.53**	**283**	PKPbc	PKPbc	04 17 00.3	0.0
	0.2nm,0.4s,baz=67,slow=3.8,SNR=9.7						

*KRSC **16** 04:01:33.9±1.4, 55°.80N×161°.37E, h170km±10km, ML4.3*
*ISCJB **16** 04:01:34.7±0.3, 55°.82N±0°.02×161°.29E±0°.06, h172km±1km, mb3.7/18, Error ellipse: s-maj=6.2km s-min=3.7km az=21.2*
*MOS **16** 04:01:34.7±0.9, 55°.85N×161°.23E, h173km, mb3.9/10, Error ellipse: s-maj=12.9km s-min=5.7km az=82.7*
*IDC **16** 04:01:38.5±1.2, 55°.88N×160°.89E, h187km±14km, mb3.3/15, mb1 3.4/19, mb1mx3.3/46, mbtmp3.8/19, Error ellipse: s-maj=16.2km s-min=12.5km az=173.0*

ISC 16 04:01:35.7±0.6, 55°.80N±0°.03×161°.24E±0°.04, h172km±4km, n103, σ1§49/167, mb3.7/18, 2C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.32**	**312**	PN	**Pn**	**04 01 59.2**	**+0.2**
ZLN				S	**Sn**	**04 02 17.2**	**+0.3**
ZLN	**Zelenaya**	**0.32**	**312**	*e*P	**Pn**	**04 01 59.2**	**+0.2**
ZLN				*e*S	**Sn**	**04 02 17.2**	**+0.3**
CIRR	**Tsirk**	**0.42**	**319**	PN	**Pn**	**04 01 59.3**	**0.0**
CIRR				S	**Sn**	**04 02 17.1**	**-0.4**
CIRR	**Tsirk**	**0.42**	**319**	*e*P	**Pn**	**04 01 59.3**	**0.0**
CIRR				*e*S	**Sn**	**04 02 17.1**	**-0.4**
LGNR	**Loginova**	**0.42**	**313**	PN	**Pn**	**04 01 59.6**	**+0.1**
LGNR				S	**Sn**	**04 02 17.0**	**-0.8**
LGNR	**Loginova**	**0.42**	**313**	*e*P	**Pn**	**04 01 59.6**	**+0.1**
LGNR				*e*S	**Sn**	**04 02 17.0**	**-0.8**
BZMR	**Bezymyannaya**	**0.44**	**288**	PN	**Pn**	**04 01 59.2**	**-0.2**
BZMR				S	**Sn**	**04 02 17.6**	**0.0**
BZMR	**Bezymyannaya**	**0.44**	**288**	*e*P	**Pn**	**04 01 59.2**	**-0.2**
BZMR				*e*S	**Sn**	**04 02 17.6**	**0.0**
BZWR	**Bezymyannyi-We**	**0.45**	**291**	PN	**Pn**	**04 01 59.6**	**+0.1**
BZWR				S	**Sn**	**04 02 18.5**	**+0.8**
BZWR	**Bezymyannyi-We**	**0.45**	**291**	*e*P	**Pn**	**04 01 59.6**	**+0.1**
BZWR				*e*S	**Sn**	**04 02 18.5**	**+0.8**
KIRR	**Kirishev**	**0.53**	**287**	PN	**Pn**	**04 01 59.5**	**-0.3**
KIRR				S	**Sn**	**04 02 18.0**	**-0.3**
KIRR	**Kirishev**	**0.53**	**287**	*e*P	**Pn**	**04 01 59.5**	**-0.3**
KIRR				*e*S	**Sn**	**04 02 18.0**	**-0.3**
KRSR	**Krestovskiy**	**0.56**	**318**	PN	**Pn**	**04 01 59.4**	**-0.5**
KRSR				S	**Sn**	**04 02 17.7**	**-0.8**
KRSR	**Krestovskiy**	**0.56**	**318**	*e*P	**Pn**	**04 01 59.4**	**-0.5**
KRSR				*e*S	**Sn**	**04 02 17.7**	**-0.8**
KMNR	**Kamenistaya**	**0.57**	**266**	PN	**Pn**	**04 01 59.9**	**0.0**
KMNR				S	**Sn**	**04 02 18.5**	**0.0**
KMNR	**Kamenistaya**	**0.57**	**266**	*e*P	**Pn**	**04 01 59.9**	**0.0**
KMNR				*e*S	**Sn**	**04 02 18.5**	**0.0**
KPT	**Kopyto**	**0.59**	**286**	PN	**Pn**	**04 01 59.9**	**-0.1**
KPT	**Kopyto**	**0.59**	**286**	*e*P	**Pn**	**04 01 59.9**	**-0.1**
KLY	**Klyuchi**	**0.61**	**328**	PN	**Pn**	**04 01 59.3**	**-0.6**
KLY				S	**Sn**	**04 02 17.6**	**-1.1**
KLY	**Klyuchi**	**0.61**	**328**	*e*P	**Pn**	**04 01 59.3**	**-0.6**
KLY				*e*S	**Sn**	**04 02 17.6**	**-1.1**
KLY				*e*S	**Sn**	**04 02 17.6**	**-1.1**
BDR	**Baidarnaya**	**0.77**	**359**	PN	**Pn**	**04 01 59.4**	**-1.6**
BDR				S	**Sn**	**04 02 18.3**	**-2.5**
BDR	**Baidarnaya**	**0.77**	**359**	*e*P	**Pn**	**04 01 59.4**	**-1.6**
BDR				*e*S	**Sn**	**04 02 18.0**	**-2.5**
TUMD	**Tumrok D**	**0.77**	**219**	*e*P	**Pn**	**04 02 00.9**	**0.0**
TUMD				*e*S	**Sn**	**04 02 20.4**	**+0.1**
SMKR	**Semkarok**	**0.79**	**9**	*e*S	**Sn**	**04 02 19.3**	**-1.5**
KOZ	**Kozyrevsk**	**0.81**	**289**	PN	**Pn**	**04 02 01.0**	**-0.2**
KOZ	**Kozyrevsk**	**0.81**	**289**	*e*P	**Pn**	**04 02 01.0**	**-0.2**
TUMR	**Tumrok**	**0.81**	**230**	PN	**Pn**	**04 02 00.9**	**-0.4**
TUMR				S	**Sn**	**04 02 20.4**	**-0.6**
TUMR	**Tumrok**	**0.81**	**230**	*e*P	**Pn**	**04 02 02.0**	**+0.7**
SRKR	**Sorokina**	**0.85**	**357**	PN	**Pn**	**04 02 01.3**	**-0.2**
SRKR				S	**Sn**	**04 02 20.7**	**-0.8**
SRKR	**Sorokina**	**0.85**	**357**	*e*P	**Pn**	**04 02 01.3**	**-0.2**
SRKR				*e*S	**Sn**	**04 02 20.7**	**-0.8**
KZV	**Kizimen**	**0.88**	**218**	PN	**Pn**	**04 02 01.9**	**+0.1**
KZV				S	**Sn**	**04 02 21.0**	**-0.9**
KZV	**Kizimen**	**0.88**	**218**	*e*P	**Pn**	**04 02 01.9**	**+0.1**
KZV				*e*S	**Sn**	**04 02 21.0**	**-0.9**
KBG	**Krutoberegovo**	**0.94**	**61**	PN	**Pn**	**04 02 00.8**	**-1.2**
KBG				S	**Sn**	**04 02 20.4**	**-1.9**
KBG	**Krutoberegovo**	**0.94**	**61**	*e*P	**Pn**	**04 02 00.8**	**-1.2**
KBG				*e*S	**Sn**	**04 02 20.4**	**-1.9**
KBTR	**Krutoberegovo**	**0.98**	**65**	PN	**Pn**	**04 02 01.8**	**-0.5**
KBTR				S	**Sn**	**04 02 21.0**	**-1.9**
KBTR	**Krutoberegovo**	**0.98**	**65**	*e*P	**Pn**	**04 02 01.8**	**-0.5**
KBTR				*e*S	**Sn**	**04 02 21.0**	**-1.9**
MKZ	**Mys Kozlova**	**1.28**	**167**	PN	**Pn**	**04 02 04.4**	**-0.4**
MKZ				S	**Sn**	**04 02 25.4**	**-1.9**
MKZ	**Mys Kozlova**	**1.28**	**167**	*e*P	**Pn**	**04 02 04.4**	**-0.4**
MKZ				*e*S	**Sn**	**04 02 25.4**	**-1.9**
ESO	**Esso**	**1.44**	**276**	PN	**Pn**	**04 02 06.1**	**-0.2**
ESO				S	**Sn**	**04 02 29.7**	**-0.2**
ESO	**Esso**	**1.44**	**276**	*e*P	**Pn**	**04 02 06.1**	**-0.2**
ESO				*e*S	**Sn**	**04 02 29.7**	**-0.2**
BKI	**Bering**	**2.76**	**101**	PN	**Pn**	**04 02 20.8**	**-0.1**
BKI				S	**Sn**	**04 02 54.7**	**-1.4**
BKI	**Bering**	**2.76**	**101**	*e*P	**Pn**	**04 02 20.8**	**-0.1**
BKI				*e*S	**Sn**	**04 02 54.7**	**-1.4**
SPN	**Mys Shipunski**	**2.80**	**195**	PN	**Pn**	**04 02 20.2**	**-1.3**
SPN				S	**Sn**	**04 02 53.6**	**-3.4**
SPN	**Mys Shipunski**	**2.80**	**195**	*e*P	**Pn**	**04 02 20.2**	**-1.3**
SPN				*e*S	**Sn**	**04 02 53.6**	**-3.4**
GNL	**Ganaly**	**2.85**	**223**	PN	**Pn**	**04 02 22.9**	**+0.7**
GNL	**Ganaly**	**2.85**	**223**	*e*P	**Pn**	**04 02 22.9**	**+0.7**
KRX	**Arik**	**2.88**	**213**	PN	**Pn**	**04 02 23.7**	**+1.2**
KRX				S	**Sn**	**04 03 00.9**	**+2.0**
KRX	**Arik**	**2.88**	**213**	*e*P	**Pn**	**04 02 23.7**	**+1.2**
KRX				*e*S	**Sn**	**04 03 00.9**	**+2.0**
SDLR	**Sedlovina**	**2.88**	**209**	PN	**Pn**	**04 02 23.1**	**+0.6**
SDLR				S	**Sn**	**04 02 58.8**	**-0.1**
SDLR	**Sedlovina**	**2.88**	**209**	*e*P	**Pn**	**04 02 23.1**	**+0.6**
SDLR				*e*S	**Sn**	**04 02 58.8**	**-0.1**
KRER	**Koryakskii**	**2.89**	**211**	PN	**Pn**	**04 02 24.3**	**+1.5**
KRER				S	**Sn**	**04 03 00.2**	**+0.8**
KRER	**Koryakskii**	**2.89**	**211**	*e*P	**Pn**	**04 02 24.3**	**+1.5**
KRER				*e*S	**Sn**	**04 03 00.2**	**+0.8**
AVH	**Avacha**	**2.93**	**211**	PN	**Pn**	**04 02 24.2**	**+1.1**
AVH				S	**Sn**	**04 03 01.4**	**+1.4**
AVH	**Avacha**	**2.93**	**211**	*e*P	**Pn**	**04 02 24.2**	**+1.1**
AVH				*e*S	**Sn**	**04 03 01.4**	**+1.4**
KOK	**Koryaka**	**2.94**	**212**	PN	**Pn**	**04 02 24.8**	**+1.6**
KOK	**Koryaka**	**2.94**	**212**	*e*P	**Pn**	**04 02 24.8**	**+1.6**
UGLR	**Uglovaya**	**2.96**	**209**	PN	**Pn**	**04 02 24.1**	**+0.6**
UGLR				S	**Sn**	**04 03 01.0**	**+0.4**
UGLR	**Uglovaya**	**2.96**	**209**	*e*P	**Pn**	**04 02 24.1**	**+0.6**
UGLR				*e*S	**Sn**	**04 03 01.0**	**+0.4**
DALK	**Dalny**	**3.13**	**209**	PN	**Pn**	**04 02 25.9**	**+0.4**
DALK				S	**Sn**	**04 03 03.8**	**-0.5**
DALK	**Dalny**	**3.13**	**209**	*e*P	**Pn**	**04 02 25.9**	**+0.4**
DALK				*e*S	**Sn**	**04 03 03.8**	**-0.5**
PET	**Petropavlovsk**	**3.17**	**210**	*e*PN	**Pn**	**04 02 26.1**	**+0.2**
PET				*e*S	**Sn**	**04 03 04.4**	**-0.6**
PET				pmax	pmax		
	comp=Z,32nm,0.5s						
PET				smax	smax		
	comp=E,218nm,0.8s						
PET				smax	smax		
	comp=N,174nm,0.6s						
PET	**Petropavlovsk**	**3.17**	**210**	*e*P	**Pn**	**04 02 26.4**	**+0.5**
PET				*e*S	**Sn**	**04 03 04.6**	**-0.4**
PALN	**Palana**	**3.37**	**349**	PN	**Pn**	**04 02 28.6**	**+0.3**
PALN	**Palana**	**3.37**	**349**	*e*P	**Pn**	**04 02 28.6**	**+0.3**
PETK	**Petropavlovsk-**	**3.40**	**219**	P	**Pn**	**04 02 29.7**	**+0.8**
	comp=N,1.5nm,0.3s,baz=59,slow=16,SNR=14						
PETK				S	**Sn**	**04 03 13.9**	**+3.6**
	comp=N,1.8nm,0.3s,baz=18,slow=34,SNR=3.3						
RUS	**Russkaya**	**3.74**	**206**	PN	**Pn**	**04 02 32.4**	**-0.7**
RUS				S	**Sn**	**04 03 15.0**	**-2.9**
RUS	**Russkaya**	**3.74**	**206**	*e*P	**Pn**	**04 02 32.4**	**-0.7**
RUS				*e*S	**Sn**	**04 03 15.0**	**-2.9**
MTVR	**Mutnovka**	**3.78**	**210**	PN	**Pn**	**04 02 33.5**	**-0.3**
MTVR				S	**Sn**	**04 03 17.4**	**-1.7**
MTVR	**Mutnovka**	**3.78**	**210**	*e*P	**Pn**	**04 02 33.5**	**-0.3**
MTVR				*e*S	**Sn**	**04 03 17.4**	**-1.7**
ASAK	**Asacha**	**3.95**	**211**	PN	**Pn**	**04 02 35.5**	**-0.4**
ASAK	**Asacha**	**3.95**	**211**	*e*P	**Pn**	**04 02 35.5**	**-0.4**
MA2	**Magadan**	**6.76**	**308**	P	**Pn**	**04 03 14.3**	**+1.8**
	comp=N,0.5nm,0.3s,baz=128,slow=19,SNR=2.7						
SEY	**Seymchan**	**8.45**	**331**	P	**Pn**	**04 03 35.8**	**+1.1**
	comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=2.6						
UGL	**Uglegorsk**	**13.47**	**248**	*e*PN	**Pn**	**04 04 36.5**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**15.34**	**226**	*e*P	**Pn**	**04 05 02.1**	**-1.0**
ASAJ	**Asahikawa**	**16.69**	**233**	P	**Pn**	**04 05 21.0**	**+1.6**
	comp=N,0.4nm,0.3s,baz=14,slow=12,SNR=3.6						
YAK	**Yakutsk**	**17.31**	**304**	*e*P	**Pn**	**04 05 26.3**	**-0.4**
YAK				*e*S	**S**	**04 08 34.9**	**-1.7**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				smax	smax		
	comp=N,80nm,3.2s						
HABR	**Khabarovsk**	**17.59**	**256**	*e*P	**P**	**04 05 25.2**	**-3.5**
HABR				*e*S	**S**	**04 08 34.9**	**-7.6**
HABR				pmax	pmax		
	comp=Z,31nm,1.8s						
HABR				pmax	pmax		
	comp=N,8.0nm,1.3s						
HABR				pmax	pmax		
	comp=E,17nm,1.4s						
HABR				MLR	MLR		
	comp=Z,21nm,14.0s						
TIXI	**Tiksi**	**20.95**	**332**	P	**P**	**04 06 04.4**	**-0.3**
	comp=Z,10nm,0.6s,baz=118,slow=11,SNR=12						
TIXI	**Tiksi**	**20.95**	**332**	*e*P	**P**	**04 06 05.2**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**26.48**	**49**	P	**P**	**04 06 58.8**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=261,slow=7.2,SNR=4.8						
ILAR	**Eielson Array**	**26.48**	**49**	*e*P	**P**	**04 07 01.8**	**+5.3**
SONM	**Songino Array**	**34.01**	**280**	P	**P**	**04 08 03.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=58,slow=8.3,SNR=2.8						
YKA	**Yellowknife Ar**	**40.74**	**45**	P	**P**	**04 09 00.8**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=300,slow=9.2,SNR=2.4						
KURK	**Kurchatov**	**46.90**	**300**	‖ *i*P	**P**	**04 09 47.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
KURBB	**Kurchatov Arra**	**47.01**	**300**	P	**P**	**04 09 48.4**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=57,slow=7.7,SNR=25						
KURBB				PcP	**PcP**	**04 11 18.2**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=53,slow=2.8,SNR=4.3						
MKAR	**Makanchi Array**	**47.62**	**294**	P	**P**	**04 09 53.1**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=62,slow=7.0,SNR=14						
BRVK	**Borovoye**	**49.28**	**307**	‖ *e*P	**P**	**04 10 06.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,11nm,2.1s						
ARU	**Arti**	**51.87**	**316**	*d i*P	**P**	**04 10 24.9**	**-1.0**
ARU				*PP	**pP**	**04 11 08.6**	**+4.1**
ARU				S	**S**	**04 17 31.9**	**-2.8**
ARU				SS	**SS**	**04 21 07.9**	**-5.0**
ARU				pmax	pmax		
	comp=Z,17nm,2.5s						
AAK	**Ala-Archa**	**54.50**	**295**	P	**P**	**04 10 45.4**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=56,slow=11,SNR=5.5						
PDAR	**Pinedale Array**	**55.66**	**63**	P	**P**	**04 10 56.0**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=15,slow=1.6,SNR=3.6						
FINES	**FINESS Array B**	**57.90**	**336**	P	**P**	**04 11 08.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=36,slow=7.7,SNR=17						
FINES	**FINESS Array B**	**57.90**	**336**	*i* P	**P**	**04 11 09.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**61.12**	**344**	P	**P**	**04 11 30.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**61.12**	**344**	P	**P**	**04 11 30.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=23,slow=6.0,SNR=4.7						
NOA	**NORSAR Array B**	**61.12**	**344**	*e*P	**P**	**04 11 31.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**66.63**	**329**	P	**P**	**04 12 06.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=28,slow=7.1,SNR=3.0						
KIEV	**Kiev**	**66.64**	**329**	‖ *e*P	**P**	**04 12 07.4**	**+0.2**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TXAR	**Lajitas Array**	**68.99**	**69**	P	**P**	**04 12 25.0**	**+2.6**
	comp=Z,0.7nm,0.5s,baz=284,slow=5.1,SNR=13						
TXAR	**Lajitas Array**	**68.99**	**69**	P	**P**	**04 12 25.0**	**+2.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**72.25**	**338**	P	**P**	**04 12 42.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=51,slow=7.7,SNR=3.6						
BRTR	**Keskin Array B**	**74.95**	**321**	P	**P**	**04 12 58.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=16,slow=2.8,SNR=4.1						
ESDC	**Sonseca Array**	**84.06**	**349**	P	**P**	**04 13 48.0**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=357,slow=4.1,SNR=4.0						

*ISK **16** 04:02:31.4, 39°.60N×38°.66E, h5km, ML3.2*
*DDA **16** 04:02:32.4, 39°.65N×38°.71E, h9km, Ml3.5*
*CSEM **16** 04:02:33.1±0.2, 39°.63N×38°.67E, h5km, ML3.5, Error ellipse: s-maj=3.9km s-min=3.3km az=26.0*
*ISN **16** 04:02:35.5±16.0, 39°.19N×40°.64E, h0km±96km, ML3.3*

ISC 16 04:02:33.0±1.0, 39°.64N±0°.02×38°.68E±0°.01, h6km±9km, n65, σ1§20/108, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¨**	**0.26**	**166**	*i* P	**Pg**	**04 02 38.3**	**+0.2**
REFA				*i* S	**Sg**	**04 02 43.6**	**+2.1**
REFA	**Refahiye_ERZ¨**	**0.26**	**166**	P	**Pg**	**04 02 38.3**	**+0.2**
REFA				S	**Sg**	**04 02 43.6**	**+2.1**
KEMA	**Kemaliye**	**0.40**	**201**	*i* P	**Pg**	**04 02 40.0**	**-0.8**
KEMA				*i* S	**Sg**	**04 02 46.4**	**+0.3**
KEMA	**Kemaliye**	**0.40**	**201**	P	**Pg**	**04 02 40.0**	**-0.8**
KEMA				S	**Sg**	**04 02 46.4**	**+0.3**
EZC	**Erzincan**	**0.53**	**78**	*e*Pg	**Pn**	**04 02 47.7**	**+0.4**
KELT	**Kelkit**	**0.67**	**41**	*i* P	**Pg**	**04 02 45.2**	**-0.7**
KELT				*i* S	**Sg**	**04 02 53.5**	**-1.2**
KELT	**Kelkit**	**0.67**	**41**	P	**Pg**	**04 02 45.2**	**-0.7**
KELT				S	**Sg**

URFA	Urfa	2.20 177	*e*PN	Pn	04 03 10.4	+0.1
URFA	Urfa	2.20 177	*e*Pn	Pn	04 03 10.4	+0.1
VRTB	Varto-Mus	2.20 102	*e*PN	Pn	04 03 10.9	+0.6
VRTB	Varto-Mus	2.20 102	*e*Pn	Pn	04 03 11.0	+0.6
SVAN	Silvan-Diyarba	2.46 126	*e*PN	Pn	04 03 14.6	+0.7
SVAN	Silvan-Diyarba	2.46 126	*e*Pn	Pn	04 03 14.6	+0.7
MAZI	Mazidag	2.58 147	*e*PN	Pn	04 03 15.9	+0.4
MAZI	Mazidag	2.58 147	*e*Pn	Pn	04 03 15.9	+0.4
DDEM	Demirkent	2.66 61	*i* P	Pb	04 03 21.8	+0.6
DDEM			*i* S	Sg	04 03 57.4	-1.0
AGRB	Hanur-Agry	3.33 90	*e*PN	Pn	04 03 27.5	+1.6
AGRB	Hanur-Agry	3.33 90	*e*Pn	Pn	04 03 27.5	+1.6
RTB	Rutbah	6.73 168	*e*Pn	Pn	04 04 09.0	-3.5
	SNR=3.0					
RTB			*e*Sn	Sn	04 05 27.0	-2.5
	SNR=3.0					

IDC 16 04:04:00.2±3.0, 6°58S×148°18E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/26, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=93.3km s-min=35.6km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.99	200	Pn	Pn	04 04 48.9	+0.1
	5.4nm,0.3s,baz=0.0,slow=15,SNR=7.9						
PMG				Sn	Sn	04 05 28.3	+2.9
	4.5nm,0.3s,baz=354,slow=18,SNR=3.1						
WRA	Warramunga Arr	18.90	224	P	P	04 08 21.8	-0.7
	0.4nm,0.3s,baz=52,slow=12,SNR=6.0						
ASAR	Alice Springs	21.84	217	P	P	04 08 54.3	-0.2
	3.0nm,0.4s,baz=54,slow=9.2,SNR=51						
STKA	Stephens Creek	25.91	193	P	P	04 09 34.4	+0.3
	2.1nm,0.8s,baz=11,slow=9.3,SNR=4.2						
TORD	Torodi Ar. Bea	146.37	284	PKPbc	PKPdf	04 23 43.3	+0.4
	0.2nm,0.4s,baz=68,slow=4.6,SNR=4.7						

ISCJB ***16*** *04:24:40.5±1.2, 20°00S±0°03×169°15E±0°03, h50km±10km, mb5.2/125, MS4.1/23, Error ellipse: s-maj=5.7km s-min=4.5km az=171.9*

IDC ***16*** *04:24:41.1±0.5, 20°12S×169°20E, h46km±3km, mb4.8/20, mb1 4.9/23, mb1mx4.8/28, mbtmp5.0/23, MS4.1/21, Ms1 4.1/21, ms1mx4.1/24, Error ellipse: s-maj=13.0km s-min=8.6km az=130.0*

MOS ***16*** *04:24:43.8±1.2, 20°06S×169°15E, h82km, mb5.1/34, MS4.1/6, Error ellipse: s-maj=8.5km s-min=7.2km az=141.9*

GCMT ***16*** *04:24:45.1±0.2, 20°15S×169°02E, h57km±1km, MW5.1/76, Moment Tensor Solution. s69,c86; s76,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.89±.17; $M_{\theta\theta}$-0.72±.15; $M_{\phi\phi}$-4.17±.12; $M_{r\theta}$-0.41±.11; $M_{\theta\phi}$1.94±.09; $M_{\phi r}$1.24±.11; Best double couple: $M_0$5.13400×10^{16} NP1:ϕ_s337.00000°, δ52.00000°, λ92.00000°. NP2: ϕ_s154.00000°, δ38.00000°, λ87.00000°. Principal axes: T 5.0610, Plg83.0000°, Azm258.0000°; N 0.1460, Plg2.0000°, Azm156.0000°; P -5.2080, Plg7.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *04:24:45.1±1.0, 20°04S×169°14E, h81km±9km, mb5.1/77 Error ellipse: s-maj=4.4km s-min=3.8km az=156.0*

BJI ***16*** *04:24:45.7, 19°38S×169°08E, h73km, mb5.2/57, mB5.1/36, Ms4.8/18, Ms7 4.5/24*

ISC 16 04:24:41.4±0.3, 20°07S±0°05×169°19E±0°05, h51km±2km, h51km:pP-P,n600,σ1§37/629, mb5.2/125, MS4.2/23, 31C-31D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I22FR	PORTLAGUERRE I	3.04	226	*i*		04 47 20.0	
	baz=41,slow=317,SNR=0.6						
DZM	Mont Dzumac	3.25	232	P	Pn	04 25 29.2	-0.7
	80nm,0.3s,baz=85,slow=7.8,SNR=938						
DZM				S	Sn	04 26 05.2	-2.2
	418nm,0.3s,baz=116,slow=23,SNR=11						
DZM				LR	LR	04 26 45.2	
	comp=Z,5μm,19.4s,baz=74,slow=38						
DZM	Mont Dzumac	3.25	232	*e*Pn	Pn	04 25 27.9	-2.0
	896nm,0.3s						
DZM				*e*Sn	Sn	04 26 03.9	-3.5
	899nm,0.2s						
DZM				*e*LR	LR	04 26 13.6	
	8μm,24.9s						
DZM	Mont Dzumac	3.25	232	*e*Pn	Pn	04 25 28.3	-1.6
DZM				*e*S	Sn	04 26 06.1	-1.3
MSVF	Nonsavu	8.70	76	*e*P	Pn	04 26 50.6	+5.9
MSVF	Nonsavu	8.70	76	*e*Pn	Pn	04 26 50.6	+5.9
FUNA	Funafuti	15.01	42	*e*Pn	Pn	04 28 11.1	+0.7
OUZ	Omahuta	15.58	166	*e*Pn	P	04 28 20.3	-0.8
	44nm,0.8s						
EIDS	Eidsvold	17.52	249	*e*Pn	P	04 28 45.6	+3.0
	53nm,0.9s						
ARMA	Armidale	18.91	234	P	Pn	04 29 01.1	+2.0
	baz=19,SNR=10						
ARMA	Armidale	18.91	234	*e*P	Pn	04 29 02.0	+3.0
	49nm,0.8s						
AFI	Afiamalu	19.20	74	P	P	04 29 02.5	+1.3
	1.0nm,0.3s,baz=252,slow=20,SNR=4.8						
AFI				LR	LR	04 35 02.5	
	comp=Z,957nm,21.8s,baz=248,slow=32						
AFI	Afiamalu	19.20	74	*e*P	P	04 29 01.8	+0.6
AFI				pmax	pmax		
	comp=Z,82nm,1.0s						
AFI	Afiamalu	19.20	74	*e*P	P	04 29 01.8	+0.6
	comp=Z,82nm,1.0s						
URZ	Urewera	19.38	161	P	P	04 29 04.3	+1.3
	comp=Z,1.4nm,0.3s,baz=348,slow=7.1,SNR=11						
URZ				LR	LR	04 35 13.5	
	comp=Z,416nm,19.2s,baz=328,slow=33						
URZ	Urewera	19.38	161	*e*P	Pn	04 29 05.7	+1.2
	comp=Z,155nm,1.5s						
RMQ	Roma	19.82	247	P	Pn	04 29 11.5	+1.8
	baz=20,SNR=32						
BKZ	Black Stump Fm	20.05	163	*e*P	Pn	04 29 12.3	-0.1
	comp=Z,81nm,0.9s						
MGCD	Mangrove Creek	20.75	227	P	Pn	04 29 20.8	0.0
	baz=21,SNR=9.9						
BFZ	Birch Farm	21.41	165	*e*P	P	04 29 26.9	+2.0
	comp=Z,55nm,0.9s						
CTA	Charters Tower	21.54	266	P	P	04 29 28.6	+2.0
	comp=Z,58nm,0.7s,baz=94,slow=12,SNR=48						
CTA				LR	LR	04 37 02.9	
	comp=Z,535nm,20.9s,baz=90,slow=34						
CTAO	Charters Tower	21.54	266	*e*P	P	04 29 28.8	+2.3
CTAO				pmax	pmax		
	comp=Z,55nm,0.8s						
CTAO	Charters Tower	21.54	266	*e*P	P	04 29 28.8	+2.3
	comp=Z,55nm,0.8s						
TARA	Tarawa	21.60	10	*e*P	P	04 29 27.7	+0.6
	comp=Z,37nm,1.2s						
SNZO	South Karori	21.69	169	*e*P	P	04 29 29.8	+2.0
	comp=Z,92nm,1.0s						
THZ	Tophouse	21.85	173	*e*P	P	04 29 31.9	+2.2
	comp=Z,47nm,0.9s						
LTZ	Lake Taylor	22.79	174	*e*P	P	04 29 40.9	+1.3
	comp=Z,227nm,1.6s						
CNB	Canberra Magne	23.15	225	P	P	04 29 45.7	+2.3
	baz=23,SNR=13						
OXZ	Oxford	23.31	175	*e*P	P	04 29 45.2	+0.5
	comp=Z,73nm,0.9s						
CAN	Canberra	23.39	225	*e*P	P	04 29 47.1	+1.3
CAN				pmax	pmax		
	comp=Z,60nm,1.2s						
CAN	Canberra	23.39	225	*e*P	P	04 29 47.1	+1.3
	comp=Z,60nm,1.2s						
FOZ	Fox Glacier	23.40	179	*e*P	P	04 29 47.4	+1.8
	comp=Z,68nm,0.9s						
RPZ	Rata Peaks	23.63	177	P	P	04 29 48.7	+0.9
	comp=Z,21nm,0.9s,baz=305,slow=2.2,SNR=6.1						
RPZ				LR	LR	04 38 14.3	
	comp=Z,1μm,19.9s,baz=338,slow=34						
RPZ	Rata Peaks	23.63	177	*e*P	P	04 29 50.2	+2.4
	comp=Z,120nm,1.7s						
MQZ	McQueen's Vall	23.75	174	*e*P	P	04 29 49.5	+0.6
	comp=Z,48nm,0.9s						
PMG	Port Moresby	23.77	293	P	P	04 29 50.7	+1.4
	comp=Z,103nm,0.8s,baz=104,slow=6.1,SNR=45						
PMG	Port Moresby	23.77	293	*c i*P	P	04 29 50.4	+1.1
PMG				pmax	pmax		
	comp=Z,495nm,0.8s						
PMG	Port Moresby	23.77	293	*e*P	P	04 29 50.5	+1.1
	comp=Z,115nm,0.8s						
LBZ	Lake Benmore	24.26	178	*e*P	P	04 29 54.7	+1.1
	comp=Z,28nm,0.9s						
MILA	Mila	24.33	222	P	P	04 29 56.2	+1.7
	baz=24,SNR=5.2						
WKZ	Wanaka	24.69	180	*e*P	P	04 29 59.2	+1.7
	comp=Z,93nm,1.4s						
DCZ	Deep Cove	25.38	183	*e*P	P	04 30 05.4	+1.7
DCZ				*e*pP	pP	04 30 17.9	+1.2
COEN	Coen	25.59	280	P	P	04 30 07.7	+1.7
	baz=26,SNR=17						
COEN	Coen	25.59	280	*e*P	P	04 30 07.7	+1.7
	comp=Z,57nm,1.1s						
STKA	Stephens Creek	27.37	239	P	P	04 30 23.5	+1.6
	comp=Z,18nm,0.9s,baz=69,slow=8.7,SNR=27						
STKA				LR	LR	04 40 42.5	
	comp=Z,659nm,20.7s,baz=61,slow=35						
STKA	Stephens Creek	27.37	239	*e*P	P	04 30 23.3	+1.4
STKA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
STKA	Stephens Creek	27.37	239	*e*P	P	04 30 23.3	+1.4
	comp=Z,9.5nm,1.3s						
RAR	Rarotonga	29.04	98	LR	LR	04 39 57.3	
	comp=Z,143nm,21.9s,baz=248,slow=32						
HTT	Hallett	30.01	237	P	P	04 30 46.8	+1.4
	baz=30,SNR=5.1						
BBOO	Buckleboo	32.13	240	*e*P	P	04 31 04.5	+0.4
	comp=Z,20nm,0.8s						
WB2	Warramunga Arr	32.70	264	*e*P	P	04 31 08.8	-0.4
WB2				*e*PcP	PcP	04 33 54.2	+0.1
WRAB	Tennant Creek	32.71	264	*c i*P	P	04 31 08.7	-0.5
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
WRAB	Tennant Creek	32.71	264	*e*P	P	04 31 08.7	-0.5
	comp=Z,28nm,0.9s						
WRA	Warramunga Arr	32.72	264	P	P	04 31 08.9	-0.4
	comp=Z,15nm,0.6s,baz=94,slow=9.0,SNR=55						
WRA				pP	pP	04 31 20.9	-1.6
	comp=Z,15nm,0.8s,baz=97,slow=8.3,SNR=12						
WRA				PcP	PcP	04 33 54.2	+0.1
	comp=Z,5.0nm,0.9s,baz=101,slow=2.5,SNR=5.0						
WRA				pPcP		04 34 08.8	
	comp=Z,2.6nm,0.5s,baz=92,slow=3.2,SNR=5.0						
WRA				LR	LR	04 43 51.9	
	comp=Z,563nm,22.0s,baz=105,slow=35						
JAY	Jayapura	32.83	298	P	P	04 31 10.0	-0.4
	comp=Z,173nm,1.2s						
AS01	Alice Springs	32.85	257	*e*P	P	04 31 10.7	+0.2
AS31	Alice Springs	32.89	257	*e*P	P	04 31 11.2	+0.3
	comp=Z,38nm,0.7s						
ASAR	Alice Springs	32.89	257	P	P	04 31 11.1	+0.2
	comp=Z,95nm,0.7s,baz=85,slow=9.1,SNR=1024						
ASAR				PcP	PcP	04 33 54.5	-0.1
	comp=Z,5.9nm,0.9s,baz=102,slow=3.0,SNR=5.8						
ASAR				S	S	04 36 23.4	-1.9
	comp=Z,3.2nm,1.1s,baz=87,slow=16,SNR=5.2						
ASAR				LR	LR	04 44 35.4	
	comp=Z,746nm,19.9s,baz=102,slow=36						
ASAR	Alice Springs	32.89	257	P	P	04 31 11.1	+0.2
ASAR						04 33 54.5	
ASAR				S	S	04 36 23.4	-1.9
ASAR				pmax	pmax		
	comp=Z,96nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAR				smax	smax		
	comp=N,3.0nm,1.1s						
ASAR				MLR	MLR		
	comp=Z,746nm,19.9s						
GENI	Genyem	33.23	298	P	P	04 31 13.6	-0.2
SMPI	Sarmi	34.78	297	P	P	04 31 28.4	+1.2
	comp=Z,44nm,0.5s						
BAKI	Biak	37.39	296	P	P	04 31 51.0	+1.4
	comp=Z,121nm,1.0s						
H11S2	WAKE ISLAND Hy	38.40	356	T	T	05 13 08.2	
	baz=174						
H11S3	WAKE ISLAND Hy	38.41	356	T	T	05 13 10.4	
	baz=174						
H11S1	WAKE ISLAND Hy	38.42	356	T	T	05 13 11.4	
	baz=174						
FORT	Forrest	38.46	246	*e*P	P	04 31 58.6	+0.1
	comp=Z,403nm,0.7s						
TBI	Tubuai	38.46	103	*e*LQ	LQ	04 41 05.0	
	comp=Z,570nm,31.2s						
TBI				*e*LR	LR	04 42 56.5	
	comp=Z,761nm,28.5s,baz=266						
KNRA	Kununurra	38.66	270	P	P	04 32 00.4	+0.1
	baz=39,SNR=11						
PPT2	Papeete2	39.03	93	*e*LQ	LQ	04 41 20.5	
	comp=Z,775nm,31.5s						
PPT2				*e*LR	LR	04 43 04.5	
	comp=Z,1μm,27.8s,baz=254						
PPT	Papeete	39.04	93	LR	LR	04 44 11.4	
	comp=Z,379nm,20.5s,baz=248,slow=30						
FAKI	Fak Fak	39.86	291	P	P	04 32 10.4	0.0
	comp=Z,104nm,0.8s,comp=Z,941nm						
FAKI	Fak Fak	39.86	291	*e*P	P	04 32 10.2	-0.1
	comp=Z,77nm,0.8s						
FITZ	Fitzroy Crossi	41.12	265	P	P	04 32 21.9	+1.1
	comp=Z,45nm,0.7s,baz=128,slow=9.6						
SWI	Sorong	41.72	293	P	P	04 32 25.8	+0.2
	comp=Z,88nm,0.7s						
PALU	Palau	43.69	305	P	P	04 32 42.9	+1.3
	baz=44,SNR=6.4						
SOEI	Soe	44.48	277	*e*P	P	04 32 49.4	+1.3
	comp=Z,81nm,1.1s						
MBWA	Marble Bar	46.16	260	*e*P	P	04 33 01.9	+0.7
	comp=Z,67nm,0.8s						
MBWA				*e*pP	pP	04 33 14.9	0.0
MMRI	Maumere	46.74	277	*e*P	P	04 33 05.9	0.0
	comp=Z,72nm,0.7s						
EDFI	Ende, Flores	47.21	277	P	P	04 33 10.3	+0.7
KLBR	Kellerberrin	47.32	245	P	P	04 33 10.0	-0.2
	baz=47,SNR=13						
NWAO	Narrogin (SRO)	47.80	243	P	P	04 33 14.1	+0.2
	comp=Z,48nm,1.0s,baz=8.9,slow=19,SNR=12						
NWAO	Narrogin (SRO)	47.80	243	*e*P	P	04 33 13.6	-0.3
NWAO				pmax	pmax		
	comp=Z,265nm,1.0s						
NWAO	Narrogin (SRO)	47.80	243	*e*P	P	04 33 13.6	-0.3
	comp=Z,265nm,1.0s						
NWAO				*e*pP	pP	04 33 27.1	-0.6
TAOE	Nuku Hiva Isla	50.13	85	*e*LR	LR	04 48 10.6	
	comp=Z,426nm,28.2s						
KAPI	Kappang	50.32	280	*e*P	P	04 33 34.5	+1.1
	comp=Z,81nm,0.9s						
GIRL	Giralia	51.01	257	P	P	04 33 39.4	+0.9
	baz=51,SNR=3.8						
RKT	Rikitea	51.74	104	*e*LR	LR	04 48 57.5	
	comp=Z,554nm,29.8s						
KIP	Kipapa	52.24	40	⇓*e*P	P	04 33 48.7	+1.2
KIP				pmax	pmax		
	comp=Z,662nm,1.2s						
JAGI	Jajag, Banyuwa	54.36	274	*e*P	P	04 34 02.1	-1.2
	comp=Z,70nm,1.0s						
VNDA	Vanda	57.60	182	P	P	04 34 25.9	+0.3
	comp=Z,6.0nm,0.8s,baz=352,slow=6.5,SNR=17						
VNDA				LR	LR	04 55 54.9	
	comp=Z,127nm,19.6s,baz=6.5,slow=33						
VNDA	Vanda	57.60	182	*e*P	P	04 34 25.9	+0.3
	comp=Z,12nm,1.0s						
SBA	Scott Base	57.84	181	*e*P	P	04 34 28.5	+1.3
SBA				pmax	pmax		
	comp=Z,69nm,1.0s						
SBA	Scott Base	57.84	181	*e*P	P	04 34 28.5	+1.3
	comp=Z,69nm,1.0s						
TGY	Tagaytay City	58.35	302	P	P	04 34 32.5	+0.8
	comp=Z,151nm,0.3s,baz=52,slow=4.6,SNR=3.4						
MJAR	Matsushiro Arr	63.46	332	P	P	04 35 05.8	-0.2
	comp=Z,8.1nm,0.9s,baz=166,slow=7.4,SNR=16						
MJAR				pP	pP	04 35 19.1	-1.2
	comp=Z,8.4nm,0.8s,baz=176,slow=8.7,SNR=8.6						
MJAR				LR	LR	05 02 34.2	
	comp=Z,31nm,19.1s,baz=170,slow=36						
MAJO	Matsushiro	63.47	332	⇑*i*P	P	04 35 05.7	-0.4
MAJO				pmax	pmax		
	comp=Z,108nm,0.9s						
MAJO	Matsushiro	63.47	332	*e*P	P	04 35 05.4	-0.7
	comp=Z,16nm,0.9s						
MAT	Matsushiro	63.47	332	P	P	04 35 05.8	-0.3
MJB9	Matsu-Tunnel	63.47	332	*e*P	P	04 35 06.4	+0.3
NACB	Ninganchiao	63.90	311	*e*P	P	04 35 09.2	+0.1
	comp=Z,64nm,0.8s						
TPUB	Ta-pu	64.04	310	*e*P	P	04 35 09.4	-0.7
	comp=Z,60nm,0.9s						
SSLB	Suanglung	64.11	311	*e*P	P	04 35 09.7	-0.9
	comp=Z,40nm,0.8s						
JNU	Nakatsue	64.31	325	P	P	04 35 12.1	+0.4
	comp=Z,8.1nm,0.8s,baz=156,slow=12,SNR=4.0						
JNU				pP	pP	04 35 25.5	-0.6
	comp=Z,10nm,0.7s,baz=132,slow=6.9,SNR=4.8						
YHNB	Yeheng	64.36	312	*e*P	P	04 35 12.7	+0.4
	comp=Z,87nm,0.9s						
TATO	Taipei	64.48	312	*e*P	P	04 35 12.9	0.0
	comp=Z,77nm,0.8s						
MIR	Mirnyy	66.26	205	*i* P	P	04 35 24.0	+0.2
MIR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KUR	Kuril'sk	67.83	344	*e*P	P	04 35 35.9	+2.0
ASAJ	Asahikawa	68.36	340	*e*P	P	04 35 38.5	+1.2
	comp=Z,39nm,1.0s						
KSRS	Korea Array	69.17	326	P	P	04 35 44.7	+2.2
	comp=Z,1.4nm,0.8s,baz=147,slow=4.9,SNR=4.0						
KSRS				pP	pP	04 35 57.7	+0.8
	comp=Z,2.6nm,0.7s,baz=142,slow=6.2,SNR=5.1						
KSRS				LR	LR	05 05 42.6	
	comp=Z,44nm,18.5s,baz=120,slow=36						
KSAR	Wonju Array Be	69.18	326	P	P	04 35 44.7	+2.1
KSAR	Wonju Array Be	69.18	326	P	P	04 35 44.7	+2.1
KSAR				pP	pP	04 35 57.7	+0.7
QIZ	Qiongzhong	69.95	300	P	P	04 35 48.9	+1.2
QIZ				pP	sP	04 36 08.5	+0.5
QIZ				S	S	04 44 54.8	+0.3
QIZ				sS	SKiKP	04 45 27.3	-2.9
QIZ				pmax	pmax		
	comp=Z,20nm,1.1s						
QSPA	South Pole Qui	69.99	180	*e*P	P	04 35 47.5	+0.1
	comp=Z,64nm,0.9s						
NJ2	Nanjing	70.77	316	*e*P	P	04 35 53.5	+1.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
YSS	Yuzh-Sakhalins	70.85	341	⇑*i*P	P	04 35 54.1	+1.5
YSS				*e*		04 36 07.8	
YSS				*e*		04 36 20.8	
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS	Yuzh-Sakhalins	70.85	341	*e*P	P	04 35 53.9	+1.3
	comp=Z,47nm,0.8s						
YSS				*e*pP	pP	04 36 04.3	-2.8
USRK	Ussuriysk Ar.	72.45	333	P	P	04 36 03.4	+1.1
	comp=Z,16nm,1.0s,baz=146,slow=3.7,SNR=12						
USRK				pP	pP	04 36 15.7	-1.2
	comp=Z,19nm,0.9s,baz=144,slow=5.7,SNR=10.0						
PSI	Prapat	72.52	280	P	P	04 36 02.3	-1.2
	comp=Z,11nm,0.9s,baz=104,slow=3.2,SNR=9.5						
PSI				pP	pP	04 36 16.8	-1.3
	comp=Z,12nm,0.9s,baz=168,slow=4.2,SNR=5.0						
PSI				LR	LR	05 10 28.9	
	comp=Z,250nm,18.3s,slow=38						
ADK	Adak	72.70	9	*e*P	P	04 36 03.8	+0.2
ADK				pmax	pmax		
	comp=Z,87nm,1.4s						
ADK	Adak	72.70	9	*e*P	P	04 36 03.8	+0.2
	comp=Z,87nm,1.4s						
WHN	Wuhan	72.87	312	⇓*i*P	P	04 36 06.0	+0.9
WHN				pmax	pmax		
	comp=Z,92nm,0.9s						
PEA0	Petropavlovsk-	73.55	353	*e*P	P	04 36 08.8	+0.1
PEA0				*e*PcP	pP	04 36 22.3	-0.9
PEA0B	Petropavlovsk-	73.55	353	*e*P	P	04 36 08.8	+0.2
PEA0B				*e*PcP	pP	04 36 22.2	-0.9
PETK	Petropavlovsk-	73.55	353	P	P	04 36 09.2	+0.6
	comp=Z,18nm,0.8s,baz=139,slow=7.8,SNR=16						
PETK				pP	pP	04 36 22.1	-1.0
	comp=Z,19nm,0.9s,baz=146,slow=7.4,SNR=7.4						
PETK				LR	LR	05 02 35.1	
	comp=Z,193nm,21.9s,baz=155,slow=31						
TRTT	Trang	73.74	285	P	P	04 36 12.5	+1.9
	comp=Z,37nm,0.9s,comp=Z,727nm						
MDJ	Mudanjiang	73.83	332	P	P	04 36 11.5	+1.1
MDJ				pP	sP	04 36 29.5	-1.2
MDJ				sP	pP	04 36 38.3	+13
MDJ				PP	PP	04 38 56.3	+0.3
MDJ				S	SKiKP	04 45 32.0	-3.2
MDJ				sS	sS	04 46 07.6	+5.1
MDJ				ScS	SKKSac	04 46 12.8	-0.5
MDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,70nm,3.6s						
MDJ				LR	LR		
	comp=Z,87nm,26.4s						
MDJ				LR	LR		
	comp=Z,120nm,23.0s						
MDJ	Mudanjiang	73.83	332	*e*P	P	04 36 11.7	+1.2
	comp=Z,28nm,1.0s						
TIA	Tai'an	74.53	319	⇓*i*P	P	04 36 15.8	+1.0
TIA				pmax	pmax		
	comp=Z,30nm,0.9s						
SURT	Suratani	75.00	286	P	P	04 36 19.4	+1.5
	comp=Z,8.7nm,1.2s						
CN2	Changchun	75.14	329	⇑*i*P	P	04 36 18.5	+0.4
CN2				*e*PcP	PcP	04 36 32.0	+0.6
CN2				*e*pP	sP	04 36 38.9	+0.5
CN2				*e*S	S	04 45 50.1	-2.6
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
NIKH	Nikolski High	75.19	14	*e*P	P	04 36 17.8	-0.4
NIKH				*e*PcP	PcP	04 36 31.4	0.0
PHET	Kaeng Krachan	75.86	290	P	P	04 36 26.2	+3.4
	comp=Z,6.9nm,1.0s						
ENH	Enshi	76.17	310	*e*P	P	04 36 24.4	+0.1
	comp=Z,63nm,1.0s						
PBKT	Sadao Pong	76.25	294	P	P	04 36 27.0	+2.1
	comp=Z,14nm,1.4s,comp=Z,666nm						
GYA	Guiyang	76.26	305	*e*P	P	04 36 27.6	+2.6
GYA				pP	sP	04 36 48.4	+3.0
GYA				PP	PP	04 39 21.0	+3.9
GYA				S	S	04 46 04.3	-1.7
GYA				SKS	SKSac	04 46 26.6	-5.7
GYA				sS	ScS	04 46 39.9	+3.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.8s						
UNV	Unalaska Valle	76.54	15	*e*P	P	04 36 24.6	-1.2
SRDT	SRDT	76.91	291	P	P	04 36 31.4	+2.7
	comp=Z,103nm,1.1s						
UTTA	Uttaradit	77.12	294	P	P	04 36 31.6	+1.8
	comp=Z,4.3nm,1.0s						
UTHA	Uthaitani	77.13	292	P	P	04 36 33.1	+3.1
	comp=Z,4.4nm,1.1s						
NANT	Nan	77.46	295	P	P	04 36 33.5	+1.7
	comp=Z,4.9nm,0.8s,comp=Z,1μm						
BJT	Baijiatuau	77.54	321	*e*P	P	04 36 32.8	+1.0
BJT				pmax	pmax		
	comp=Z,21nm,0.8s						
BJ

CHTO	Chiang Mai	78.96	295	eP		P	04 36 41.6	+1.5
CHTO				e*PP		pP	04 36 54.8	0.0
CHTO				e*SP		sP	04 36 58.5	-2.0
CHTO				pmax		pmax		
	comp=Z,29nm,1.2s							
CHTO	Chiang Mai	78.96	295	eP		P	04 36 41.6	+1.5
	comp=Z,29nm,1.2s							
CHTO				epP		pP	04 36 54.8	0.0
CHTO				esP		sP	04 36 58.5	-2.0
CD2	Chengdu	80.70	308	eP		P	04 36 49.8	+0.4
HHC	Hu-ho-hao-te	80.82	320	eP		P	04 36 50.8	+1.0
HHC				pP		sP	04 37 11.8	+1.5
HHC				sP		pP	04 37 19.4	+15
HHC				pmax		pmax		
	comp=Z,27nm,1.1s							
HHC				pmax		pmax		
	comp=Z,140nm,6.1s							
OHAK	Old Harbor	83.15	19	eP		P	04 37 01.6	+0.2
LZH	Lanzhou	83.25	312	eP		P	04 37 04.3	+1.5
LZH				pP		pP	04 37 18.8	+1.2
LZH				PP		PP	04 40 19.3	+4.2
LZH				eS		S	04 47 17.0	-2.6
LZH				sS		sS	04 47 48.0	+3.5
LZH				pmax		pmax		
	comp=Z,93nm,1.5s							
LZH				pmax		pmax		
	comp=Z,190nm,5.2s							
SEY	Seymchan	83.78	352⇓	eP		P	04 37 03.9	-0.7
KDAK	Kodiak Island	83.83	19	i P		P	04 37 05.1	+0.2
KDAK	Kodiak Island	83.83	19	eP		P	04 37 05.3	+0.4
SYO	Syowa Base	84.13	196⇓	eP		P	04 37 04.7	-1.8
SYO	Syowa Base	84.13	196⇓	ePcP		PcP	04 37 09.0	-1.3
SYO	Syowa Base	84.13	196⇓	eX		pP	04 37 25.4	+4.1
CLNS	Chul'man	85.14	337	eP		P	04 37 10.8	-0.9
CLNS				pmax		pmax		
	comp=Z,37nm,1.1s							
CLNS				pmax		pmax		
	comp=E,4.0nm,1.0s							
CLNS				pmax		pmax		
	comp=N,14nm,1.3s							
RSO	Redoubt South	85.96	18	eP		P	04 37 15.5	-0.4
MCCM	Marconi Confer	86.06	47	eP		P	04 37 17.0	+0.4
PMSA	Palmer Station	86.15	160	eP		P	04 37 16.7	0.0
	comp=N,22nm,0.9s							
KCPM	Cahto Peak	86.34	45	eP		P	04 37 19.6	+1.4
HOPS	Hopland Field	86.34	46	eP		P	04 37 19.1	+1.1
SAO	San Andreas Ge	86.40	49	eP		P	04 37 19.0	+0.6
SAO	San Andreas Ge	86.40	49	eP		P	04 37 19.0	+0.6
SCZ2	Santa Cruz Isl	86.44	52	P		P	04 37 19.0	+0.4
	baz=243							
GDXM	Geysers	86.44	47	eP		P	04 37 20.5	+1.8
KMRM	Mail Ridge	86.52	45	eP		P	04 37 20.5	+1.5
PMPB	Monarch Peak	86.60	50	eP		P	04 37 20.7	+1.3
PKM	Mcpherson Peak	86.71	51	P		P	04 37 21.1	+0.9
	baz=243							
SMMC	Simmler	86.77	51	P		P	04 37 21.4	+1.1
	baz=243							
PAGB	Antelope Grade	86.78	50	eP		P	04 37 21.5	+1.2
KHMM	Horse Mountain	86.83	44	eP		P	04 37 22.2	+1.6
WDC	Whiskeytown Da	87.47	45	eP		P	04 37 24.6	+1.1
WDC	Whiskeytown Da	87.47	45	eP		P	04 37 24.6	+1.1
ULN	Ulaanbaatar	87.50	323	c i P		P	04 37 24.3	+0.6
ULN				pmax		pmax		
	comp=Z,46nm,1.2s							
ULN	Ulaanbaatar	87.50	323	eP		P	04 37 24.0	+0.3
	comp=Z,36nm,1.1s							
ULN				epP		pP	04 37 38.0	-0.6
DECC	Green Verdugo	87.52	52	P		P	04 37 24.5	+0.6
	baz=244							
ARVC	Arvin	87.54	51	P		P	04 37 24.7	+0.7
	baz=243							
L02D	Cave Junction,	87.55	43	P		P	04 37 24.7	+0.8
	baz=240							
N02D	Trinity Center	87.56	45	P		P	04 37 24.9	+0.9
	baz=241,SNR=12							
YAK	Yakutsk	87.65	343	eP		P	04 37 20.9	-2.9
YAK				pmax		pmax		
	comp=Z,26nm,1.4s							
YAK				pmax		pmax		
	comp=N,6.0nm,1.1s							
GTA	Gaotai	87.66	313	⇑P		P	04 37 25.3	+0.7
GTA				SKS		SKSac	04 47 47.0	-1.5
GTA				S		S	04 48 01.0	-1.8
GTA				pmax		pmax		
	comp=N,17nm,1.0s							
GTA				pmax		pmax		
	comp=N,100nm,6.4s							
GTA				LR		LR		
	comp=N,80nm,17.1s							
GTA				LR		LR		
	comp=N,99nm,16.6s							
GTA				LR		LR		
	comp=N,120nm,17.6s							
M02C	Callahan	87.66	44	P		P	04 37 25.3	+0.8
	baz=241,SNR=8.4							
VES	Vestal, Richgr	87.67	51	P		P	04 37 24.9	+0.3
	baz=243,SNR=5.9							
ORV	Oroville	87.68	46	eP		P	04 37 24.9	+0.3
ORV	Oroville	87.68	46	eP		P	04 37 24.9	+0.3
MWC	Mount Wilson	87.71	52	eP		P	04 37 25.5	+0.5
MWC	Mount Wilson	87.71	52	eP		P	04 37 25.5	+0.5
CMB	Columbia Colle	87.74	48	eP		P	04 37 25.2	+0.3
CMB				pmax		pmax		
	comp=Z,82nm,1.1s							
CMB	Columbia Colle	87.74	48	eP		P	04 37 25.2	+0.3
	comp=Z,82nm,1.1s							
CMB				epP		pP	04 37 40.0	+0.2
AFDM	Forest Hills D	87.76	47	eP		P	04 37 25.3	+0.4
RCTC	Rector, Farmer	87.76	50	P		P	04 37 25.6	+0.6
	baz=243							
O03D	Paynes Creek	87.83	46	P		P	04 37 25.8	+0.5
	baz=241,SNR=10							
109C	Camp Elliot, M	87.85	54	P		P	04 37 26.1	+0.6
	baz=244							
SONM	Songino Array	87.86	323	P		P	04 37 25.8	+0.5
	comp=Z,17nm,0.9s,baz=141,slow=5.4,SNR=52							
SONM				pP		pP	04 37 39.6	-0.7
	comp=Z,16nm,0.9s,baz=143,slow=5.3,SNR=16							
SONM				PKKPbc		PKKPdf	04 55 10.0	+1.5
	comp=Z,0.5nm,0.3s,baz=309,slow=2.8,SNR=3.9							
SONM				LR		LR	05 14 35.8	
	comp=Z,70nm,21.8s,baz=78,slow=34							
SONA1	Songino Array	87.86	323	eP		P	04 37 25.4	+0.1
BILL	Bilibino	87.88	359⇓	i P		P	04 37 24.4	-0.4
BILL				pmax		pmax		
	comp=Z,14nm,0.9s							
YBH	Yreka Blue Hor	87.92	44	eP		P	04 37 26.6	+0.9
YBH	Yreka Blue Hor	87.92	44	eP		P	04 37 26.6	+0.9
PMR	Palmer	87.93	19	eP		P	04 37 25.0	-0.1
PMR				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PMR	Palmer	87.93	19	eP		P	04 37 25.0	-0.1
	comp=Z,7.2nm,0.6s							
BFSC	Mount Baldy Ra	88.01	52	P		P	04 37 26.5	+0.1
	baz=244,SNR=5.3							
NVL	N'lazarevskaya	88.03	187	eP		P	04 37 28.8	+3.1
ISA	Isabella, Lake	88.03	51	P		P	04 37 26.7	+0.3
	baz=244							
ISA	Isabella, Lake	88.03	51	eP		P	04 37 27.4	+1.0
ISA	Isabella, Lake	88.03	51	eP		P	04 37 27.4	+1.0
EDW2	Edwards Air Fo	88.04	52	P		P	04 37 26.6	+0.1
	baz=244,SNR=6.9							
MURC	Murrieta	88.08	53	P		P	04 37 27.0	+0.3
	baz=244							
HUMO	Hull Mountain	88.19	43	eP		P	04 37 27.8	+0.9
	comp=Z,79nm,0.8s							
SNAA	Sanae	88.33	183	P		P	04 37 26.4	-0.9
SNAA	Sanae	88.33	183	c i P		P	04 37 26.3	-0.9
SNAA	Sanae	88.33	183	eP		P	04 37 26.4	-0.9
	comp=Z,1μm,0.8s							
SML	Sawmill	88.34	19	eP		P	04 37 27.5	+0.4
SML				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SML	Sawmill	88.34	19	eP		P	04 37 27.5	+0.4
	comp=Z,1.0nm,0.7s							
MONP2	Monument Peak	88.37	54	P		P	04 37 28.3	0.0
	baz=245,SNR=6.7							
LBCM	Butte Creek Ri	88.39	45	P		P	04 37 28.6	+0.5
I03D	Drain, OR	88.48	42	P		P	04 37 29.2	+1.0
	baz=240							
IKP	In-Ko-Pah, Jac	88.50	54	P		P	04 37 29.1	+0.4
	baz=245							
M04C	Macdoel	88.52	44	P		P	04 37 29.4	+0.8
	baz=241,SNR=11							
LRMC	Laurel Mtn Rad	88.53	51	P		P	04 37 29.3	+0.4
	baz=244							
CAST	Castle Rocks	88.55	16	eP		P	04 37 26.2	-2.0
BEKR	Beckworth	88.61	47	eP		P	04 37 29.9	+0.7
WAKR	Walker	88.62	48	eP		P	04 37 30.0	+0.7
PFO	Pinyon Flats O	88.64	53	P		P	04 37 29.6	+0.2
	baz=245							
PFO	Pinyon Flats O	88.64	53	eP		P	04 37 30.0	+0.6
PFO	Pinyon Flats O	88.64	53	eP		P	04 37 30.0	+0.6
TPFO	Pinon Flats	88.64	54	P		P	04 37 29.7	+0.3
	baz=245							
MLAC	Mammoth, Mammo	88.65	49	P		P	04 37 29.4	-0.1
	baz=243							
CWC	Cottonwood Cre	88.66	50	P		P	04 37 29.9	+0.4
	baz=244							
PNTR	Pine Nut	88.77	47	eP		P	04 37 31.0	+1.0
TIN	Tinemaha, Big	88.83	50	P		P	04 37 30.7	+0.5
	baz=244							
SWSC	Sam W. Stewart	88.86	54	P		P	04 37 30.8	+0.5
	baz=245,SNR=5.9							
VNA3	Neumayer Olymp	88.92	180	P		P	04 37 29.2	-0.8
MPMC	Manual Prospec	88.93	51	P		P	04 37 31.1	+0.3
	baz=244,SNR=20							
DAC	Darwin (Calif)	88.95	51	eP		P	04 37 31.1	+0.2
DAC				pmax		pmax		
	comp=Z,11nm,1.1s							
DAC	Darwin (Calif)	88.95	51	eP		P	04 37 31.1	+0.2
	comp=Z,11nm,1.1s							
KTH	Kantishna Hill	88.97	17	eP		P	04 37 27.2	-3.0
	comp=Z,5.3nm,0.8s							
YERR	Yerington	88.97	48	eP		P	04 37 31.6	+0.7
K04D	Chiloquin, OR	88.98	44	P		P	04 37 31.3	+0.5
	baz=241							
TVH2	Borealis Mine	89.04	48	eP		P	04 37 32.1	+0.8
J04D	Umpqua Nationa	89.04	43	P		P	04 37 31.7	+0.6
	baz=241,SNR=10							
TRF	Thorofare Moun	89.06	17	eP		P	04 37 28.8	-1.9
	comp=Z,3.8nm,0.8s							
GSC	Goldstone, Bar	89.10	52	P		P	04 37 31.9	+0.4
	baz=245							
GSC	Goldstone, Bar	89.10	52	eP		P	04 37 32.2	+0.7
GSC	Goldstone, Bar	89.10	52	eP		P	04 37 32.2	+0.7
BELC	Belle Mtn. Jos	89.16	53	P		P	04 37 32.2	+0.4
	baz=245,SNR=12							
PAHR	Pah Rah Range	89.20	47	eP		P	04 37 32.7	+0.8
VNA2	Neumayer--Watz	89.22	181	P		P	04 37 30.9	-0.4
	baz=171,slow=4.2							
HEC	Hector,Ludlow	89.25	52	P		P	04 37 32.5	+0.4
	baz=245							
G03D	McMinnville, O	89.28	41	P		P	04 37 32.7	+0.8
	baz=240							
IRO	Indian Ridge	89.32	42	P		P	04 37 32.7	+0.3
BC3	Big Chuckawall	89.42	54	P		P	04 37 33.5	+0.4
	baz=245,SNR=8.1							
GRAC	Grapevine Rang	89.42	50	P		P	04 37 33.3	+0.5
	baz=244,SNR=21							
RND	Reindeer	89.43	18	eP		P	04 37 30.9	-1.4
RND	Reindeer	89.43	18	eP		P	04 37 30.9	-1.4
VNA1	Neumayer--Stat	89.51	181	P		P	04 37 32.1	-0.5
FURC	Furnace Creek,	89.56	51	P		P	04 37 34.0	+0.6
	baz=245,SNR=22							
MOD	Modoc Plateau	89.59	45	eP		P	04 37 34.1	+0.4
	comp=Z,13nm,0.8s							
J05D	Fort Rock, OR	89.63	43	P		P	04 37 34.5	+0.7
	baz=242							
GLA	Glamis	89.65	55	P		P	04 37 34.5	+0.4
	baz=246,SNR=7.6							
GLA	Glamis	89.65	55	eP		P	04 37 34.8	+0.8
GLA	Glamis	89.65	55	eP		P	04 37 34.8	+0.8
MCK	McKinley	89.66	17	eP		P	04 37 32.7	-0.6
MCK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MCK	McKinley	89.66	17	eP		P	04 37 32.7	-0.6
	comp=Z,2.3nm,0.6s							
GMRC	Granite Mounta	89.74	53	P		P	04 37 35.0	+0.4
	baz=245,SNR=6.5							
SHOC	Shoshone, Teco	89.75	51	P		P	04 37 34.8	+0.4
	baz=245,SNR=10							
E03A	Lebam	89.77	40	eP		P	04 37 35.3	+1.2
TUQ	Turquoise Moun	89.81	52	P		P	04 37 35.3	+0.5
	baz=245,SNR=8.7							
IRM	Iron Mountain	89.86	53	P		P	04 37 35.5	+0.5
	baz=246,SNR=16							
LSA	Lhasa	89.93	302	eP		P	04 37 36.6	+0.7
LSA				pmax		pmax		
	comp=Z,7.0nm,0.5s							
LSA	Lhasa	89.93	302	eP		P	04 37 36.6	+0.7
	comp=Z,7.3nm,0.5s							
LSA				epP		pP	04 37 50.9	0.0
OOW	Octopus West	89.99	38	P		P	04 37 36.8	+1.6
NLWA	Neilton Lookou	90.01	39	eP		P	04 37 36.0	+0.6
	comp=Z,24nm,1.0s							
BOD	Bodaibo	90.06	334	eP		P	04 37 34.7	-0.5
BOD				pmax		pmax		
	comp=Z,26nm,1.3s							
I05D	Terrebonne, OR	90.06	42	P		P	04 37 36.1	+0.4
	baz=242							
Y12C	Blythe	90.17	54	P		P	04 37 36.9	+0.5
	baz=246,SNR=14							
Y12C	Blythe	90.17	54	eP		P	04 37 37.4	+1.0
OBC	Olympics--Boni	90.21	38	P		P	04 37 37.5	+1.2
TPNV	Topopah Spring	90.21	51	P		P	04 37 37.1	+0.4
	baz=245,SNR=28							
TPNV	Topopah Spring	90.21	51	eP		P	04 37 37.1	+0.4
TPNV	Topopah Spring	90.21	51	eP		P	04 37 37.0	+0.4
TDH	Tom, Dick, Har	90.23	41	P		P	04 37 36.8	+0.2
LDFC	Landfair	90.27	53	eP		P	04 37 38.2	+1.2
TDL	Tradedollar La	90.48	40	P		P	04 37 38.5	+0.8
G05D	Wamic, OR	90.50	41	P		P	04 37 38.3	+0.6
	baz=242							
HDW	Hoodsport	90.61	39	P		P	04 37 39.1	+0.9
CCB	Clear Creek Bu	90.68	17	eP		P	04 37 36.2	-1.8
PDMCI	Parker Dam,Lak	90.68	54	P		P	04 37 39.4	+0.6
	baz=246,SNR=21							
GNW	Green Mountain	90.71	39	P		P	04 37 39.1	+0.6
HDA	Harding Lake	90.74	18	eP		P	04 37 37.4	-0.9
214A	Organ Pipe Nat	90.77	56	P		P	04 37 39.6	+0.3
	baz=247,SNR=13							
214A	Organ Pipe Nat	90.77	56	eP		P	04 37 39.9	+0.6
	comp=Z,60nm,1.1s							
MDM	Murphy Dome	90.81	17	eP		P	04 37 36.4	-2.2
SHPR	Sheep Range	90.82	51	eP		P	04 37 40.6	+1.0
PGC	Sidney	90.88	38	eP		P	04 37 40.0	+0.8
LON	Longmire	90.92	40	eP		P	04 37 39.9	+0.3
LON	Longmire	90.92	40	eP		P	04 37 39.9	+0.3
WVOR	Wild Horse Val	90.93	45	eP		P	04 37 40.2	+0.3
WVOR				pmax		pmax		
	comp=Z,14nm,0.9s							
WVOR	Wild Horse Val	90.93	45	eP		P	04 37 40.2	+0.3
	comp=Z,14nm,0.9s							
ZAK	Zakamensk	90.94	324	eP		P	04 37 39.5	-0.2
ZAK				pmax		pmax		
	comp=Z,15nm,1.4s							
BMN	Battle Mountai	91.01	47	eP		P	04 37 40.8	+0.5
BMN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BMN	Battle Mountai	91.01	47	eP		P	04 37 40.8	+0.5
	comp=Z,9.6nm,0.8s							
BMN				epP		pP	04 37 54.2	-1.1
D05A	Enumclaw	91.02	39	eP		P	04 37 41.2	+1.3
DOT	Dot Lake	91.02	19	eP		P	04 37 38.6	-1.1
	comp=Z,10nm,0.8s							
IL1	Eielson Array	91.03	17	eP		P	04 37 37.3	-2.3
ILAR	Eielson Array	91.03	17	P		P	04 37 37.8	-1.9
	comp=Z,4.2nm,0.8s,baz=235,slow=4.7,SNR=48							
ILAR				LR		LR	05 15 28.8	
	comp=Z,127nm,18.6s,baz=222,slow=34							
ILB	Eielson Array	91.03	17	eP		P	04 37 37.8	-1.9
PALK	Pallekele	91.05	277	P		P	04 37 41.3	+0.3
	comp=Z,7.5nm,0.9s,baz=111,slow=6.7,SNR=4.1							
PALK	Pallekele	91.05	277	eP		P	04 37 42.6	+1.6
PALK				pmax		pmax		
	comp=Z,12nm,0.9s							
PALK	Pallekele	91.05	277	eP		P	04 37 42.6	+1.6
	comp=Z,12nm,0.9s							
SKAG	Skagway	91.22	25	eP		P	04 37 40.5	0.0
R11A	Troy Canyon, C	91.28	50	P		P	04 37 41.7	+0.1
	baz=245,SNR=16							
R11A	Troy Canyon, C	91.28	50	eP		P	04 37 41.8	+0.1
	comp=Z,3.8nm,0.7s							
A04D	Lummi Island	91.34	38	P		P	04 37 42.1	+0.7
	baz=241							
Y14A	Wickenburg	91.40	54	eP		P	04 37 42.9	+0.7
TLY	Talaya	91.42	325	eP		P	04 37 41.8	0.0
TLY				pmax		pmax		
	comp=Z,12nm,0.3s							
TLY	Talaya	91.42	325	eP		P	04 37 41.8	0.0
	comp=Z,12nm,0.3s							
B05A	Bryant	91.48	39	P		P	04 37 42.8	+0.8
	baz=241							
RPW	Rockport	91.91	39	P		P	04 37 44.0	-0.2
E07A	Sunnyside	92.02	41	eP		P	04 37 45.5	+0.9
HAWA	Hanford	92.14	41	eP		P	04 37 45.6	+0.4
	comp=Z,8.0nm,1.1s							
LCMT	Little Creek M	92.43	51	eP		P	04 37 47.8	+0.8
TUC	Tucson	92.50	57	P		P	04 37 47.5	+0.2
	baz=248							
TUC	Tucson	92.50	57	eP		P	04 37 48.2	+0.9
TUC				pmax		pmax		
	comp=Z,7.0nm,0.8s							
TUC	Tucson	92.50	57	eP		P	04 37 48.2	+0.9
	comp=Z,7.4nm,0.8s							
CCUT	Cedar City	92.56	51	eP		P	04 37 48.7	+1.1
EGAK	Eagle	92.72	19	eP		P	04 37 46.8	-0.7
	comp=Z,5.6nm,0.6s							
EGAK				epP		pP	04 38 01.3	-1.1
LLLB	Lillooet	92.73	37	eP		P	04 37 48.3	+0.4
KNB	Kanab	92.75	52	eP		P	04 37 49.5	+1.0
KNB				e*PP		sP	04 38 11.0	+1.9
KNB	Kanab	92.75	52	eP		P	04 37 49.5	+1.0
KNB				epP		sP	04 38 11.0	+1.9
SZCU	Shurtz Canyon	92.78	51	eP		P	04 37 49.7	+1.0
D08A	Wollman Farm,	92.82	41	eP		P	04 37 48.8	+0.4
BMO	Blue Mountains	92.86	43	eP		P	04 37 48.3	-0.4
BMO				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BMO	Blue Mountains	92.86	43	eP		P	04 37 48.3	-0.4
	comp=Z,1.3nm,0.5s							
B08A	Colville Reser	93.15	39	eP		P	04 37 49.5	-0.4
MFID	Camas Ranch	93.22	45	eP		P	04 37 50.7	+0.3
	comp=Z,4.4nm,0.8s							
WUAZ	Wupatki	93.25	53	P		P	04 37 51.2	+0.3
	baz=248							
WUAZ	Wupatki	93.25	53	eP		P	04 37 51.7	+0.8
	comp=Z,7.1nm,0.8s							
MSU	Marysvale	93.79	50	eP		P	04 37 54.5	+1.1
MSU	Marysvale	93.79	50	eP		P	04 37 54.5	+1.1
DUG	Dugway, Tooele	93.99	49	P		P	04 37 54.5	+0.4
	baz=247							
DUG	Dugway, Tooele	93.99	49	eP		P	04 37 55.5	+1.4
DUG	Dugway, Tooele	93.99	49	eP		P	04 37 55.5	+1.4
HLID	Hailey	94.22	45	P		P	04 37 55.3	+0.2
	baz=246							
HLID	Hailey	94.22	45	eP		P	04 37 55.5	+0.4
	comp=Z,2.5nm,0.8s							
W18A	Petrified Fore	94.35	54	P		P	04 37 55.5	-0.4
	baz=249							
W18A	Petrified Fore	94.35	54	eP		P	04 37 57.5	+1.6
NLU	North Lily Min	94.42	49	eP		P	04 37 56.9	+0.7
NEW	Newport	94.44	40	eP		P	04 37 55.1	-0.7
NEW	Newport	94.44	40	eP		P	04 37 55.1	-0.7
HVU	Hansel Valley	94.63	47	eP		P	04 37 57.3	+0.3
HVU	Hansel Valley	94.63	47	eP		P	04 37 57.3	+0.3
SPUT	South Promonto	94.67	48	eP		P	04 37 57.4	+0.2
TMUT	Trail Mountain	94.79	50	eP		P	04 37 59.1	+1.1
121A	Cookes Peak, D	94.94	57	P		P	04 37 58.6	-0.1
	baz=249							
SRU	San Rafael Swe	95.22	50	eP		P	04 38 00.3	+0.5
SRU	San Rafael Swe	95.22	50	eP		P	04 38 00.3	+0.5
HWUT	Hardware Ranch	95.40	48	eP		P	04 37 59.4	-1.2
	comp=Z,2.5nm,1.0s							
TIXI	Tiksi	95.54	348⇓	eP		P	04 38 02.1	+1.9
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.1s							
P18A	Preston Nutter	95.61	50	eP		P	04 38 02.5	+0.8
PV10	Paradox Valley	96.03	51	eP		P	04 38 05.0	+1.3
DLMT	Dillon	96.12	44	eP		P	04 38 03.8	+0.1
	comp=Z,1.7nm,0.6s							
HYB	Hyderabad	96.40	286	i P		P	04 38 06.0	+0.5
FXWY	Fox Creek	96.52	46	eP		P	04 38 05.7	0.0
MNTX	Cornudas Mount	96.57	59	P		P	04 38 06.1	+0.2
	baz=251							
WALA	Waterton Lakes	96.70	40	eP		P	04 38 05.9	-0.4
ANMO	Albuquerque	96.81	55	P		P	04 38 07.3	+0.1
	baz=250							
ANMO	Albuquerque	96.81	55⇑	eP		P	04 38 07.5	+0.3
ANMO				pmax		pmax		
	comp=Z,2.0nm,1.4s							
BOZ	Bozeman (W)	96.83	44	P		P	04 38 07.0	+0.1
	baz=248							
TX31	Lajitas Ar. Si	97.20	62	eP		Pdif	04 38 09.5	+0.4
TXAR	Lajitas Array	97.20	62	P		P	04 38 09.2	+0.2
	comp=Z,1.6nm,0.9s,baz=235,slow=4.4,SNR=12							
TXAR				PKKPbc		PKKPbc	04 54 46.1	-2.4
	comp=Z,1.0nm,0.9s,baz=108,slow=3.2,SNR=8.1							
TXAR				LR		LR	05 13 22.4	
	comp=Z,124nm,21.5s,baz=0.0,slow=30							
BW06	Boulder Array	97.21	47	P		P	04 38 08.8	0.0
	baz=249							
BW06	Boulder Array	97.21	47	eP		P	04 38 08.2	-0.6
PDAR	Pinedale Array	97.21	47	P		P	04 38 08.2	-0.7
	comp=Z,0.6nm,0.7s,baz=224,slow=2.8,SNR=6.1							
PDAR				PP		PP	04 42 07.3	+1.4
	comp=Z,1.0nm,1.0s,baz=239,slow=9.7,SNR=4.3							
PDAR				PKKPbc		PKKPbc	04 54 45.0	-4.3
	comp=Z,0.6nm,0.8s,baz=58,slow=5.6,SNR=5.1							
PDAR				LR		LR	05 14 34.7	
	comp=Z,56nm,20.6s,baz=210,slow=31							
O20A	White River Ci	97.23	50	P		P	04 38 09.0	0.0
	baz=250							
S22A	4UR Ranch, Cre	97.46	53	P		P	04 38 10.2	0.0
	baz=250							
WMQ	Urumqi	97.75	314	P		Pdif	04 38 11.6	+0.5
WMQ				pP		sP	04 38 32.6	+1.0
WMQ				sP		pP	04 38 41.0	+15
WMQ				pmax		pmax		
	comp=Z,13nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,200nm,5.3s							
WMQ				LR	

comp=Z,14nm,0.8s,baz=50,slow=1.5,SNR=27
ARCES pPKP **pPKPdf 04 43 50.0 -2.2**
comp=Z,7.0nm,0.6s,baz=64,slow=1.3,SNR=4.9
ARCES PKKPbc **PKKPab 04 53 09.9 +0.3**
comp=Z,2.1nm,0.9s,baz=12,slow=9.1,SNR=4.1
KLMR Klimovskoe 126.25 332 *e*PKIKP **PKPdf 04 43 36.0 -1.7**
KLMR pmax pmax
comp=Z,36nm,1.3s
RAYN Ar Rayn 127.88 285 *e*PKPdf **PKPdf 04 43 41.7 -0.4**
LSZ Lusaka 128.01 230 *e*PKIKP **PKPdf 04 43 43.1 +0.4**
LSZ Lusaka 128.01 230 *e*PKPdf **PKPdf 04 43 43.0 +0.4**
KMBO Kilima Mbogo 128.42 252 *e*PKIKP **PKPdf 04 43 44.9 +1.2**
KMBO Kilima Mbogo 128.42 252 *e*PKPdf **PKPdf 04 43 44.9 +1.2**
GNI Garni 128.81 306⇑*i*PKIKP **PKPdf 04 43 44.8 +1.3**
GNI Garni 128.81 306 *e*PKPdf **PKPdf 04 43 44.3 +0.8**
BDFB Brasilia 129.04 131 PKP **PKPdf 04 43 43.3 -1.3**
comp=Z,7.6nm,0.9s,baz=25,slow=2.8,SNR=21
JMIC Jan Mayen 129.06 359 PKP **PKPdf 04 43 41.9 -1.0**
comp=Z,106nm,0.4s,baz=154,slow=9.9,SNR=2.4
ZEI Tsey 129.10 309 *i*PKIKP **PKPdf 04 43 44.4 +0.3**
ZEI pmax pmax
comp=Z,5.0nm,1.4s
NCK Nalchik 129.21 310⇑*i*PKIKP **PKPdf 04 43 45.0 +1.0**
KIV Kislovodsk 129.78 311 *i*PKIKP **PKPdf 04 43 43.6 -1.6**
KIV *e* 04 50 43.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,75nm,22.0s
OBN Obninsk 130.16 326⇓*e*PKIKP **PKPdf 04 43 43.6 -1.8**
OBN pmax pmax
comp=Z,22nm,1.2s
VSR Storozhevoye 130.20 321 *e*PKIKP **PKPdf 04 43 44.5 -1.1**
VSR pmax pmax
comp=Z,20nm,1.8s
FINES FINESS Array B 131.33 337 PKhKP PKPpre 04 43 42.4
comp=Z,5.0nm,0.8s,baz=105,slow=2.6,SNR=6.7
FINES SKPbc **SKPbc 04 47 07.5 -0.6**
comp=Z,5.2nm,0.9s,baz=47,slow=3.6,SNR=4.0
VSU Vasula 133.00 334⇑*e*PKIKP **PKPdf 04 43 50.6 0.0**
AKASG Malin Array Be 136.13 324 PKhKP PKPpre 04 43 50.5
comp=Z,0.3nm,0.3s,baz=35,slow=3.4,SNR=4.4
AKASG PKP **PKPdf 04 43 56.0 -0.7**
comp=Z,2.7nm,0.6s,baz=62,slow=4.4,SNR=5.2
AKASG SKPbc **SKPbc 04 47 22.8 -1.7**
comp=Z,0.2nm,0.3s,baz=48,slow=4.2,SNR=3.3
KIEV Kiev 136.15 324⇓*e*PKIKP **PKPdf 04 43 56.0 -0.8**
KIEV Kiev 136.15 324 *e*PKPdf **PKPdf 04 43 56.4 -0.4**
NB2 NORSAR Subarra136.23 345 PKPdf **PKPdf 04 43 55.8 -0.9**
comp=Z,4.6nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B136.23 345 PKP **PKPdf 04 43 55.4 -1.3**
comp=Z,6.1nm,0.9s,baz=33,slow=2.0,SNR=12
NOA pPKP **pPKPdf 04 44 12.0 -0.2**
comp=Z,1.3nm,0.7s,baz=56,slow=2.0,SNR=2.5
HFS Hagfors 136.34 343 PKP **PKPdf 04 43 56.6 -0.3**
comp=Z,8.5nm,0.9s,baz=120,slow=2.0,SNR=8.1
BRTR Keskin Array B 137.28 307 PKP **PKPdf 04 43 58.5 -1.0**
comp=Z,6.3nm,1.1s,baz=151,slow=2.8,SNR=12
BRTR pPKP **pPKPdf 04 44 13.6 -1.4**
comp=Z,1.7nm,0.9s,baz=158,slow=3.4,SNR=3.7
SORM Soroca 137.86 321⇑*i*P **PKPdf 04 43 59.6 -0.4**
SORM Soroca 137.86 321⇑*e*PKIKP **PKPdf 04 43 59.6 -0.4**
KLNR Kaliningrad 138.26 333⇓*e*PKIKP **PKPdf 04 43 59.7 -0.8**
LVV L'vov 139.43 325 *e*PKIKP **PKPdf 04 44 04.2 +1.3**
BURAR Bucovina Array 139.96 322⇓*i*P **PKPdf 04 44 00.5 -3.6**
BURAR Bucovina Array 139.96 322⇓PKIKP **PKPdf 04 44 00.5 -3.6**
STHS Stebnicka Huta 141.14 326 *e*PKIKP **PKPdf 04 44 01.2 -4.8**
STHS Stebnicka Huta 141.14 326 *e*PKP **PKPdf 04 44 01.2 -4.8**
CRVS Cervenica-Dubn 141.33 326 *e*PKIKP **PKPdf 04 44 01.9 -4.5**
CRVS Cervenica-Dubn 141.33 326 *e*PKP **PKPdf 04 44 01.9 -4.5**
OJC Ojcow 141.37 328 *e*PKP **PKPdf 04 44 06.2 -0.2**
OJC Ojcow 141.37 328 *e*PKIKP **PKPdf 04 44 06.2 -0.2**
ARR Arges 141.43 319⇑*i*P **PKPdf 04 44 02.0 -4.8**
NIE Niedzica 141.62 327 *e*PKP **PKPdf 04 44 03.3 -3.6**
NIE Niedzica 141.62 327 *e*PKIKP **PKPdf 04 44 03.3 -3.6**
DRGR 141.84 322⇓*i*P **PKPdf 04 44 03.3 -4.2**
DRGR 141.84 322⇓PKIKP **PKPdf 04 44 03.3 -4.2**
KECS Kecovo 142.10 326 *e*PKIKP **PKPdf 04 44 05.0 -2.8**
KECS Kecovo 142.10 326 *e*PKP **PKPdf 04 44 04.9 -2.8**
LANS Liptovska Anna 142.22 327 *e*PKIKP **PKPdf 04 44 04.7 -3.3**
LANS Liptovska Anna 142.22 327 *e*PKP **PKPdf 04 44 04.7 -3.3**
OKC Ostrava-Krasne 142.42 329 *e*PKP **PKPdf 04 44 08.2 -0.1**
OKC Ostrava-Krasne 142.42 329 *e*PKIKP **PKPdf 04 44 08.2 -0.1**
KSP Ksiaz 142.59 332 *e*PKP **PKPdf 04 44 04.6 -4.0**
KSP Ksiaz 142.59 332 *e*PKIKP **PKPdf 04 44 04.6 -4.0**
SIRR Siria 142.74 322⇓*i*P **PKPdf 04 44 05.7 -3.3**
MORC Moravsky Berou 142.75 329⇓*i*P **PKPdf 04 44 05.1 -3.9**
MORC Moravsky Berou 142.75 329⇓PKIKP **PKPdf 04 44 05.1 -3.9**
MORC Moravsky Berou 142.75 329 *e*PKPdf **PKPdf 04 44 05.0 -3.9**
PSZ Piszkesteto 142.76 325⇓*i*P **PKPdf 04 44 06.7 -2.4**
PSZ Piszkesteto 142.76 325⇓PKIKP **PKPdf 04 44 06.7 -2.4**
PSZ Piszkesteto 142.76 325 *e*PKPdf **PKPdf 04 44 06.0 -3.1**
KRLC Kraliky 142.91 330 *e*PKP **PKPdf 04 44 05.6 -3.6**
KRLC Kraliky 142.91 330 *e*PKIKP **PKPdf 04 44 05.6 -3.6**
DPC Dobruska-Polom 142.93 331 *e*PKP **PKPdf 04 44 05.3 -3.9**
DPC Dobruska-Polom 142.93 331 *e*PKIKP **PKPdf 04 44 05.3 -3.9**
VYHS Vyhne 142.96 327 *e*PKIKP **PKPdf 04 44 06.6 -2.7**
VYHS Vyhne 142.96 327 *e*PKP **PKPdf 04 44 06.6 -2.7**
UPC Upice 142.96 331 *e*PKP **PKPdf 04 44 05.7 -3.5**
UPC *ex* x 04 44 12.5
UPC Upice 142.96 331 *e*PKIKP **PKPdf 04 44 05.7 -3.5**
BZS Buzias 143.12 321⇓*i*P PKPbc 04 44 06.6 0.0
BZS Buzias 143.12 321⇓PKIKP PKPbc 04 44 06.6 0.0
MDVR Moldovita 143.51 320⇓*i*P PKPbc 04 44 08.0 +0.2
VRAC Vranov 143.53 330 PKP PKPbc 04 44 07.6 -0.1
comp=Z,12nm,1.1s,baz=51,slow=2.3,SNR=11
PVCC Panska Ves 143.58 333 *e*PKP PKPbc 04 44 07.7 -0.1
PVCC *ex* x 04 44 22.1
PVCC Panska Ves 143.58 333 *e*PKIKP PKPbc 04 44 07.7 -0.1
CLL Collm 143.65 335 *i*PKIKP PKPbc 04 44 07.5 -0.4
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 143.65 335 *i*PKPdf PKPbc 04 44 07.5 -0.4
comp=Z,24nm,1.1s
CLL *e*pPKPdf sPKPdf 04 44 34.0 +2.6
CLL *e*PP **PP 04 47 23.0 +0.3**
VTS Vitosha 143.65 316⇓*i*P PKPbc 04 44 09.0 +0.6
VTS Vitosha 143.65 316⇓PKIKP PKPbc 04 44 09.0 +0.6
SMOL Smolenice 143.66 328 *e*PKIKP **PKPdf 04 44 10.5 0.0**
SMOL Smolenice 143.66 328 *e*PKP **PKPdf 04 44 10.5 0.0**
GOPC GO Pecny, Ondr 143.93 332 *e*PKP PKPbc 04 44 08.7 -0.2
GOPC *ex* x 04 44 22.9
GOPC GO Pecny, Ondr 143.93 332 *e*PKIKP PKPbc 04 44 08.7 -0.2
CSKK Cs‡kako 143.97 326⇓*e*PKPdf PKPbc 04 44 09.5 +0.5
CSKK Cs‡kako 143.97 326⇓*e*PKPdf PKPbc 04 44 09.5 +0.5
PRA Prague 143.98 332 *e*PKP PKPbc 04 44 09.0 +0.1
PRA Prague 143.98 332 *e*PKIKP PKPbc 04 44 09.0 +0.1
PRU Pruhonice 143.99 332 *e*PKP PKPbc 04 44 08.9 -0.1
PRU *ex* x 04 44 16.3
PRU Pruhonice 143.99 332 *e*PKIKP PKPbc 04 44 08.9 -0.1
TREC Trest 144.06 330 *e*PKP PKPbc 04 44 09.5 +0.2
TREC *ex* x 04 44 23.3
TREC Trest 144.06 330 *e*PKIKP PKPbc 04 44 09.5 +0.2
EKA Eskdalemuir Ar 144.32 353 PKP **PKPab 04 44 08.8 -0.7**
comp=Z,1.8nm,0.3s,baz=360,slow=2.7,SNR=33
EKA pPKP **pPKPdf 04 44 24.2 -2.7**
comp=Z,6.2nm,0.7s,baz=5.6,slow=1.9,SNR=6.2
ESK Eskdalemuir 144.34 353 *e*PKIKP PKPbc 04 44 09.8 -0.1
ESK Eskdalemuir 144.34 353 *e*PKPdf **PKPab 04 44 09.8 +0.2**
RCBR Riachuelo 144.34 134 PKhKP PKPpre 04 44 09.2
comp=Z,20nm,0.9s,baz=287,slow=4.4,SNR=7.3
SANT Santorini 144.40 305 *e*PKPdf **PKPab 04 44 09.5 -1.0**
SOP Sopron 144.64 328⇑*e*PKPbc PKPbc 04 44 11.6 +0.5
VAY Valandovo 144.65 314 *i*P **PKPab 04 44 11.1 -0.1**
NKC Novy Kostel 144.70 334 *e*PKP PKPbc 04 44 11.7 +0.4
NKC *ex* x 04 44 25.9
NKC Novy Kostel 144.70 334 *e*PKIKP PKPbc 04 44 11.7 +0.4
CONA Conrad Observa 144.83 328 *i*PKPdf **PKPdf 04 44 12.7 0.0**
comp=Z,84nm,1.2s,SNR=37
KHC Kasperske Hory 145.04 332 *e*PKP **PKPdf 04 44 12.8 -0.2**
KHC *ex* x 04 44 25.8
KHC Kasperske Hory 145.04 332 *e*PKIKP **PKPdf 04 44 12.8 -0.2**
KHC Kasperske Hory 145.04 332 *e*PKPdf **PKPdf 04 44 12.8 -0.2**
SKO Skopje 145.10 316 *i*P **PKPdf 04 44 13.7 +0.4**
IDI Anoyia 145.16 303 PKPbc **PKPbc 04 44 13.0 -0.2**
comp=Z,51nm,1.0s,baz=44,slow=6.0,SNR=13
GERES GERESS Array B 145.20 331 PKPbc **PKPab 04 44 13.2 0.0**
comp=Z,42nm,0.7s,baz=36,slow=4.0,SNR=232
GERES pPKPbc pPKPab 04 44 27.3 -0.9
comp=Z,28nm,0.7s,baz=31,slow=4.6,SNR=20
WTSB Winterswijk 145.32 341 *i*PKP **PKPbc 04 44 12.8 -0.3**
BEHE Becsehely 145.33 326⇑*e*PKPbc **PKPdf 04 44 13.9 +0.4**
BEHE Becsehely 145.33 326⇑*e*PKPbc **PKPdf 04 44 13.9 +0.4**
ARSA Arzberg 145.45 328 *i*PKPab **PKPab 04 44 14.6 +0.6**
comp=Z,82nm,1.1s,SNR=20
KRUS Krusevo 145.51 315 *i*P **PKPbc 04 44 14.2 0.0**
GRFO Grafenberg 145.62 334 *e*PKP2 **PKPab 04 44 14.5 0.0**
GRFO Grafenberg 145.62 334 *e*PKPbc **PKPab 04 44 14.5 0.0**
BIA Bitola 145.63 315 *i*P **PKPdf 04 44 13.8 -0.5**
IVA Berane 145.63 318⇑*i*PKP **PKPdf 04 44 14.2 0.0**
MOA Molln 145.65 330 *i*PKPab **PKPab 04 44 14.9 +0.1**
comp=Z,139nm,0.9s,SNR=55
PLE Pljevlja 145.70 319⇑*i*PKP **PKPab 04 44 15.3 +0.1**
PVY Plav 145.74 318 *e*PKP **PKPdf 04 44 14.3 -0.2**
KOME Kolasin 145.88 319⇑*i*PKP **PKPdf 04 44 14.8 +0.1**
OHR Ohrid 145.93 315 *i*P **PKPbc 04 44 15.7 +0.2**
UPM Unac-Piva 146.07 320⇑*i*PKP **PKPdf 04 44 15.5 +0.4**
PERS Pernice 146.08 327 *i*PKPdf **PKPbc 04 44 15.7 -0.1**
PERS *i* 04 44 30.0
SOKA Soboth 146.09 327 *i*PKPab **PKPbc 04 44 15.7 -0.1**
comp=Z,54nm,1.4s,SNR=12
NKY Niksic 146.23 319⇑*i*PKP **PKPbc 04 44 15.9 -0.5**
TTG Podgorica 146.27 318⇑*i*PKP **PKPbc 04 44 16.1 -0.3**
NKME Niksic 146.28 319⇑*i*PKP **PKPbc 04 44 16.1 -0.4**
CEME Cevo 146.42 319⇑*i*PKP **PKPbc 04 44 16.5 -0.4**
TIR Tirane 146.43 316⇓*i*P **PKPab 04 44 17.5 -0.4**
TIR Tirane 146.43 316⇓PKP2 **PKPab 04 44 17.5 -0.4**
TIR Tirane 146.43 316 *e*PKPbc **PKPbc 04 44 17.0 +0.1**
DRME Dracevica, Mon 146.44 318⇑*i*PKP **PKPbc 04 44 17.0 +0.1**
OBKA Obir 146.45 328 *i*PKPab **PKPbc 04 44 16.8 -0.1**
comp=Z,30nm,1.1s
BRY Bratogost 146.46 319⇑*i*PKP **PKPdf 04 44 16.1 +0.4**
ULC Ulcinj 146.52 317⇑*i*PKP **PKPbc 04 44 17.0 -0.2**
BUM Brajici-Budva 146.56 318⇑*i*PKP **PKPbc 04 44 16.8 -0.6**
OZLJ Ozalj 146.57 326 P **PKPbc 04 44 17.4 +0.3**
HGN Heimansgroeve 146.64 341 *i*PKP **PKPbc 04 44 17.1 -0.1**
KBA Koelnbreinsper 146.64 329 *i*PKPab **PKPbc 04 44 17.0 -0.6**
comp=Z,43nm,0.9s,SNR=17
BEBN Eben Emael 146.69 341 PKP **PKPab 04 44 18.4 -0.1**
HCY Herceg Novi 146.73 319⇑*i*PKP **PKPbc 04 44 17.2 -0.6**
MEM Membach 146.75 340 PKP **PKPbc 04 44 17.4 -0.1**
MEM APKP **pPKPdf 04 44 32.0 +0.8**
BOJS Bojanci 146.76 326 *i*PKPdf **PKPbc 04 44 18.1 +0.4**
BOJS *i* 04 44 32.5
VISS Visnje 146.78 326 *i*PKPdf **PKPdf 04 44 15.7 -0.3**
VISS *i* 04 44 18.0
VISS *i* 04 44 32.2
MYKA Terra Mystica 146.82 329 *i*PKPbc **PKPbc 04 44 17.4 -0.6**
comp=Z,30nm,0.7s,SNR=10
STON Ston 146.99 320 P **PKPbc 04 44 17.4 -1.0**
UDBI Udbina 147.11 324 P **PKPbc 04 44 18.8 0.0**
BCLA Clavier 147.13 341 PKP **PKPbc 04 44 18.4 -0.2**
STU Stuttgart 147.16 335 *e*PKP2 **PKPbc 04 44 18.9 +0.1**
STU Stuttgart 147.16 335 *e*PKPbc **PKPbc 04 44 18.9 +0.1**
ABTA Abfaltersbach 147.28 330 *i*PKPbc **PKPbc 04 44 18.6 -0.7**
comp=Z,65nm,1.0s,SNR=11
WTTA Wattenberg 147.30 331 *i*PKPab **PKPbc 04 44 19.5 +0.1**
comp=Z,68nm,1.0s,SNR=17
SNF Seneffe 147.36 342 PKP **PKPbc 04 44 19.3 +0.1**
SNF APKP **pPKPdf 04 44 33.2 +0.9**
MOTA Moosalm 147.48 332 *i*PKPab **PKPbc 04 44 19.9 0.0**
comp=Z,103nm,0.9s,SNR=53
LANF Langenberg 147.52 337 PKP **PKPbc 04 44 20.0 +0.2**
WLF Walferdange 147.52 339 PKP **PKPbc 04 44 20.5 +0.8**
WLF APKP **pPKPdf 04 44 34.5 +2.0**
WLF Walferdange 147.52 339 *e*PKP2 **PKPbc 04 44 20.3 +0.6**
WLF Walferdange 147.52 339 *e*PKPbc **PKPbc 04 44 20.3 +0.6**
RETA Reutte 147.52 332 *i*PKPbc **PKPbc 04 44 19.8 -0.1**
comp=Z,43nm,0.9s,SNR=13
DOU Dourbes 147.63 341 PKP **PKPbc 04 44 20.1 +0.2**
DOU APKP **pPKPdf 04 44 34.3 +1.6**
BFO Black Forest 147.85 336 *i*PKP2 **PKPbc 04 44 20.5 -0.2**
BFO Black Forest 147.85 336 *e*PKPbc **PKPbc 04 44 20.4 -0.3**
BFO *e*PKPab **PKPab 04 44 23.7 +0.4**
FETA Feichten 147.89 332 *i*PKiKP **PKPbc 04 44 21.3 +0.2**
comp=Z,115nm,0.9s,SNR=27
DAVA Damuels 148.06 333 *i*PKPbc **PKPbc 04 44 21.5 0.0**
comp=Z,83nm,1.0s,SNR=29
ECH Echery 148.39 337 PKP **PKPbc 04 44 21.5 -0.6**
DAVOX Davos/Dischmat 148.45 332 PKPbc **PKPbc 04 44 22.8 +0.2**
comp=Z,117nm,0.8s,baz=16,slow=0.3,SNR=166
DAVOX pPKPbc **pPKPdf 04 44 37.0 +2.5**
comp=Z,51nm,0.6s,baz=44,slow=2.6,SNR=8.6
MOF Molkenrain 148.70 336 PKP **PKPbc 04 44 22.6 -0.4**
LOMF Lomont 149.24 336 PKP **PKPbc 04 44 24.5 +0.1**
CUC Castrocucco 149.77 317 *e*PKPbc **PKPbc 04 44 24.8 -1.0**
AQU L'Aquila 149.82 323 *e*PKP2 **PKPbc 04 44 26.4 +0.5**
AQU L'Aquila 149.82 323 *e*PKPbc **PKPbc 04 44 26.4 +0.5**
VLC Villacollemand 150.19 328 *e*PKPbc **PKPbc 04 44 26.3 -0.4**
BNI Bardonecchia 151.18 334 *e*PKIKP **PKPbc 04 44 29.4 +0.2**
BNI Bardonecchia 151.18 334 *e*PKPbc **PKPbc 04 44 29.4 +0.2**
GDM Grand'Maison 151.29 335 PKP **PKPbc 04 44 29.7 +0.2**
GRN Grenoble 151.40 335 PKP **PKPbc 04 44 29.9 +0.3**
PLDF La Plantade 151.57 339 PKP **PKPbc 04 44 30.1 +0.1**
AGO Saint Agoulin 151.66 339 PKP **PKPbc 04 44 30.0 -0.1**
SSB Saint Sauveur 151.84 337 PKP **PKPbc 04 44 30.5 -0.1**
SSB Saint Sauveur 151.84 337 PKP **PKPbc 04 44 31.4 +0.8**
ASCN Ascension 151.95 172 *e*PKPdf **PKPbc 04 44 32.2 +0.5**
PYM Petit Puy Mians 151.97 339 PKP **PKPbc 04 44 31.1 +0.2**
VAE Valguarnera 152.04 314 PKPbc **PKPbc 04 44 33.8 +2.5**
comp=Z,24nm,1.1s,baz=108,slow=20,SNR=2.2
LBL Lubilhac 152.34 338 PKP **PKPbc 04 44 31.9 +0.1**
FRNF Fournols 152.44 339 PKP **PKPbc 04 44 32.0 +0.1**
KEST Kesra 156.39 316 PKPbc PKPbc 04 44 42.3
comp=Z,5.9nm,1.0s,baz=229,slow=15,SNR=3.4
KEST PKPab **PKPab 04 45 00.7 +1.2**
comp=Z,12nm,0.8s,baz=332,slow=2.1,SNR=4.6
ESDC Sonseca Array 159.59 345 PKP **PKPdf 04 44 34.4 -0.2**
comp=Z,0.3nm,0.7s,baz=357,slow=3.0,SNR=4.4
ESDC PKPab **PKPab 04 45 12.4 -0.6**
comp=Z,0.6nm,0.6s,baz=360,slow=4.1,SNR=4.2
TAM Tamanrasset 164.55 283 *e*PKIKP **PKPdf 04 44 40.5 +0.2**
TAM Tamanrasset 164.55 283 *e*PKPdf **PKPdf 04 44 40.5 +0.2**
TAM *e*PKPab **PKPab 04 45 36.5 +1.0**
LIC Lamto 165.14 203 *e*PKP1 **PKPab 04 45 37.8 0.0**
comp=Z,78nm,1.1s
KIC Kosan Boka 165.15 204 *e*PKP1 **PKPab 04 45 37.8 -0.1**
comp=Z,78nm,1.6s
DBIC Dimbokro 165.48 204 PKPab **PKPab 04 45 39.6 +0.3**
comp=Z,9.1nm,1.0s,baz=112,slow=6.9,SNR=5.2
TIC Toumodi 165.52 204 *e*PKP1 **PKPab 04 45 39.0 -0.5**
MDT Midelt 166.15 338 PKP **PKPdf 04 44 41.6 +0.3**
comp=Z,0.9nm,0.8s,baz=288,slow=4.5,SNR=3.9
TORD Torodi Ar. Bea 166.19 242 PKP **PKPdf 04 44 40.6 -1.0**
comp=Z,2.4nm,1.1s,baz=341,slow=1.4,SNR=8.5
TORD PKPab **PKPab 04 45 42.3 -0.4**
comp=Z,3.9nm,0.8s,baz=114,slow=4.1,SNR=11
BBTS Babate 172.33 134 PKP **PKPdf 04 44 45.1 -0.3**
comp=Z,15nm,0.9s,baz=323,slow=9.7,SNR=3.8

CSEM ***16*** *04:27:51.1,43.°07N×13.°15E,h8km,MD1.9/13*
ROM 16 04:27:51.1±0.1,43.°07N×13.°15E,h8km±1km,Md1.9/13,
Ml1.9/6,Error ellipse: s-maj=1.4km s-min=1.1km
az=73.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.06**	**230**	Pg	Pg	04 27 53.3	+0.4
FDMO				Sg	Sg	04 27 54.6	+0.4
2μm,0.1s							
FDMO	**Fiordimonte**	**0.06**	**230**	Pg	Pg	04 27 53.3	+0.4
FDMO				Sg	Sg	04 27 54.6	+0.4
2μm,0.1s							
CESI	**CESI - Serrava**	**0.19**	**249**	Pg	Pg	04 27 55.7	+0.7
CESI				Sg	Sg	04 27 59.4	+1.7
59nm,0.1s							
CESI	**CESI - Serrava**	**0.19**	**249**	Pg	Pg	04 27 55.7	+0.7
CESI				Sg	Sg	04 27 59.4	+1.7
59nm,0.1s							
SNTG	**Esanatoglia**	**0.24**	**320**	Pg	Pg	04 27 56.3	+0.4
SNTG				Sg	Sg	04 28 00.4	+1.3
SNTG	**Esanatoglia**	**0.24**	**320**	Pg	Pg	04 27 56.3	+0.4
SNTG				Sg	Sg	04 28 00.4	+1.3
CING	**Cingoli**	**0.30**	**6**	Pg	Pg	04 27 57.6	+0.5
CING				Sg	Sb	04 28 02.8	-1.2
CING	**Cingoli**	**0.30**	**6**	Pg	Pg	04 27 57.6	+0.5
CING				Sg	Sb	04 28 02.8	-1.2
ATCC	**AVT- Casa Cast**	**0.39**	**287**	Pg	Pg	04 27 59.3	+0.6
ATCC				Sg	Sb	04 28 05.7	-0.8
201nm,0.2s							
ATCC	**AVT- Casa Cast**	**0.39**	**287**	Pg	Pg	04 27 59.3	+0.6
ATCC				Sg	Sb	04 28 05.7	-0.8
201nm,0.2s							
ARVD	**Arcevia**	**0.45**	**340**	Pg	Pg	04 28 00.1	+0.2
ARVD				Sg	Sb	04 28 08.0	-0.2
88nm,0.1s							
ARVD	**Arcevia**	**0.45**	**340**	Pg	Pg	04 28 00.1	+0.2
ARVD				Sg	Sb	04 28 08.0	-0.2
88nm,0.1s							
SMA1	**SAN MARTINO**	**0.46**	**163**	Pg	Pg	04 28 00.3	+0.2
SMA1				Sg	Sb	04 28 08.1	-0.6
65nm,0.8s							
SMA1	**SAN MARTINO**	**0.46**	**163**	Pg	Pg	04 28 00.3	+0.2
SMA1				Sg	Sb	04 28 08.1	-0.6
65nm,0.8s							
LNSS	**Leonessa**	**0.48**	**190**	Pg	Pg	04 28 00.7	+0.3
LNSS				Sg	Sb	04 28 08.5	-0.6
LNSS	**Leonessa**	**0.48**	**190**	Pg	Pg	04 28 00.7	+0.3
LNSS				Sg	Sb	04 28 08.5	-0.6
MURB	**Monte Urbino**	**0.49**	**293**	Pg	Pg	04 28 01.2	+0.5
MURB				Sg	Sb	04 28 09.5	-0.1
102nm,0.2s							
MURB	**Monte Urbino**	**0.49**	**293**	Pg	Pg	04 28 01.2	+0.5
MURB				Sg	Sb	04 28 09.5	-0.1
102nm,0.2s							
FRON	**Frontone**	**0.54**	**325**	Pg	Pg	04 28 01.8	+0.2
FRON				Sg	Sb	04 28 10.8	-0.1
FRON	**Frontone**	**0.54**	**325**	Pg	Pg	04 28 01.8	+0.2
FRON				Sg	Sb	04 28 10.8	-0.1
GUMA	**Gualdo di Mace**	**0.58**	**91**	Pg	Pg	04 27 55.0	-7.2
GUMA				Sg	Sg	04 27 57.9	-12
997nm,0.4s							
GUMA	**Gualdo di Mace**	**0.58**	**91**	Pg	Pg	04 27 55.0	-7.2
GUMA				Sg	Sg	04 27 57.9	-12
997nm,0.4s							
ATVO	**AVT- Monte Val**	**0.62**	**300**	Pg	Pg	04 28 03.4	+0.3
ATVO				Sg	Sb	04 28 13.3	0.0
ATVO	**AVT- Monte Val**	**0.62**	**300**	Pg	Pg	04 28 03.4	+0.3
ATVO				Sg	Sb	04 28 13.3	0.0
PIEI	**Pieia**	**0.64**	**316**	Pg	Pb	04 28 04.5	-0.2
PIEI				Sg	Sb	04 28 14.1	+0.3
PIEI	**Pieia**	**0.64**	**316**	Pg	Pb	04 28 04.5	-0.2
PIEI				Sg	Sb	04 28 14.1	+0.3

IDC 16 04:51:14.4±42.0,37.°78S×79.°12E,h0km,mb3.9/3,
mb1 4.1/3,mb1mx3.6/39,mbtmp3.9/3,MS3.9/9,Ms1 3.8/9,
ms1mx3.5/31,Error ellipse: s-maj=812.4km
s-min=170.0km az=94.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.59**	**347**	T	T	05 28 33.0	
baz=171,slow=76,SNR=724							
H08S1	**Diego Carcia H**	**30.60**	**347**	T	T	05 28 33.4	
baz=171,slow=76,SNR=752							
H08S3	**Diego Garcia H**	**30.61**	**347**	T	T	05 28 34.5	
baz=171,slow=76,SNR=895							
H08N1	**Diego Carcia H**	**32.15**	**345**	T	T	05 31 09.9	
baz=113							
H08N3	**Diego Garcia H**	**32.15**	**345**	T	T	05 31 07.6	
baz=113							
H08N2	**Diego Garcia H**	**32.17**	**345**	T	T	05 31 10.5	
baz=113							
OPO	**Ambohidratompo**	**33.80**	**296**	LR	LR	05 07 33.5	
comp=Z,187nm,19.3s,baz=178,slow=29							
PALK	**Pallekele**	**44.84**	**2**	LR	LR	05 14 18.1	
comp=Z,203nm,18.7s,baz=116,slow=31							
BOSA	**Boshof**	**45.46**	**265**	LR	LR	05 15 32.3	
comp=Z,76nm,18.1s,baz=136,slow=32							
ASAR	**Alice Springs**	**48.51**	**90**	P	P	04 59 59.6	+0.3
1.6nm,1.1s,baz=233,slow=7.7,SNR=4.0							
ASAR				LR	LR	05 18 21.9	
comp=Z,147nm,20.2s,baz=244,slow=34							
LSZ	**Lusaka**	**50.08**	**282**	LR	LR	05 17 33.6	
comp=Z,97nm,18.6s,baz=142,slow=32							
STKA	**Stephens Creek**	**50.79**	**103**	P	P	05 00 16.3	-0.2
2.7nm,1.0s,baz=263,slow=5.6,SNR=2.7							
STKA				LR	LR	05 18 10.0	
comp=Z,154nm,21.5s,baz=233,slow=32							
WRA	**Warramunga Arr**	**50.80**	**86**	P	P	05 00 16.4	-0.3
1.2nm,0.6s,baz=237,slow=7.4,SNR=7.4							
VNDA	**Vanda**	**51.88**	**164**	LR	LR	05 20 25.9	
comp=Z,100nm,18.8s,baz=291,slow=34							
TSUM	**Tsumeb**	**56.20**	**271**	LR	LR	05 20 49.0	
comp=Z,208nm,21.2s,baz=147,slow=32							
GUMO	**Guam**	**79.98**	**64**	LR	LR	05 35 38.7	
comp=Z,18nm,18.7s,baz=44,slow=33							

WEL 16 04:52:02.8±0.9,36.°42S×178.°02E,h157km±8km,ML3.7/13,
1C,Error ellipse: s-maj=14.5km s-min=13.2km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.16**	**169**	⇑PN	Pn	04 52 29.9	+0.3
MXZ				SN	Sn	04 52 50.6	+0.4
HAZ	**Te Kaha**	**1.35**	**188**	PN	Pn	04 52 31.4	+0.1
HAZ				SN	Sn	04 52 52.6	-0.6
HAZ				AML	AML	04 52 53.5	
HAZ				AML	AML	04 52 54.8	
HAZ				AML	AML	04 52 54.8	
WMGZ	**Waiomatatini S**	**1.43**	**167**	PN	Pn	04 52 31.6	-0.5
WMGZ				AML	AML	04 52 56.6	
WMGZ				AML	AML	04 52 57.5	
PKGZ	**Pakihiroa**	**1.47**	**178**	PN	Pn	04 52 33.1	+0.6
PKGZ				AML	AML	04 52 36.0	
PKGZ				AML	AML	04 52 56.3	
RUGZ	**Raukumara Rang**	**1.56**	**190**	PN	Pn	04 52 33.3	-0.3
PUZ	**Pu

RTLS IAML 05 02 10.3
comp=Z,38nm,0.2s
ROC1 El Roble 2.46 165 *eP* Pn 05 01 40.5 +1.2
AUSP Uspallata 2.61 129 *eP* Pn 05 01 45.2 +3.8
AMOG MOGNA 2.84 98 *eP* Pn 05 01 46.8 +2.4
RTLL Cerro Villicun 2.93 105 *eP* Pn 05 01 47.2 +1.7
RTCV Cerro Valdivia 3.04 115 *eP* Pn 05 01 49.8 +2.7
AGUA GUANDACOL 3.05 70 *eP* Pn 05 01 51.1 +3.9
ASAL Salagasta 3.20 129 *eP* Pn 05 01 53.8 +4.5
VCA Vinchina 3.62 60 *eP* Pn 05 01 58.0 +3.0
VCA IAML 05 02 30.2
comp=Z,19nm,0.5s
AVFE Valle Fertil 3.72 92 *eP* Pn 05 01 57.1 +0.7
AVFE IAML 05 02 20.9
comp=Z,10nm,0.4s
ACLC CERRO LA CRUZ 4.34 76 *eP* Pn 05 02 06.2 +1.2
ACHE Chepes 4.43 99 *eP* Pn 05 02 06.1 -0.1
APLL PUNTA DE LOS L 4.53 89 *eP* Pn 05 02 08.2 +0.8
APLL IAML 05 02 08.9
comp=Z,5.4nm,0.3s

*IDC **16** 05:24:52.5±1.9, 3°.92S×152°.75E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/22, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=40.4km s-min=30.6km az=170.0*
*ISCJB **16** 05:24:56.2±2.0, 4°.0S±0°.3×152°.7E±0°.2, h35km, mb3.8/4, Error ellipse: s-maj=39.8km s-min=16.6km az=155.6*
ISC 16 05:24:57.4±1.9, 3°.9S±0°.2×152°.8E±0°.2, h35km, n6, σ0§59/7, mb4.0/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**225**	Pn	**Pn**	**05 26 49.4**	**+0.6**
PMG	1.3nm,0.3s,baz=56,slow=7.3,SNR=2.7			Sn	**Sn**	**05 28 16.1**	**-0.1**
DZM	**Mont Dzumac**	**22.39**	**145**	P	**P**	**05 29 53.1**	**+0.1**
	0.6nm,0.3s,baz=90,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**24.04**	**227**	P	**P**	**05 30 08.6**	**-0.9**
	3.3nm,0.5s,baz=296,slow=14,SNR=12						
ASAR	**Alice Springs**	**26.81**	**221**	P	**P**	**05 30 34.2**	**-0.3**
	2.4nm,0.6s,baz=53,slow=9.6,SNR=15						
FITZ	**Fitzroy Crossi**	**30.09**	**240**	P	**P**	**05 31 03.7**	**-0.1**
	0.6nm,0.7s,baz=52,slow=8.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**150.02**	**290**	PKPbc	**PKPbc**	**05 44 45.6**	**+0.2**
	1.9nm,0.7s,baz=65,slow=6.7						
	0.2nm,0.5s,baz=84,slow=3.3,SNR=2.9						

*IDC **16** 06:25:50.2±1.4, 20°.87S×178°.56W, h552km±14km, mb3.6/17, mb1 3.7/20, mb1mx3.6/38, mbtmp4.5/20, Error ellipse: s-maj=13.5km s-min=11.6km az=116.0*
*ISCJB **16** 06:25:51.3±0.4, 20°.92S±0°.07×178°.60W±0°.10, h579km, mb4.0/17, Error ellipse: s-maj=11.9km s-min=8.6km az=2.0*
ISC 16 06:25:51.8±0.4, 20°.92S±0°.08×178°.50W±0°.08, h579km, n86, σ1§34/96, mb4.0/17, 12C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.31**	**176**	S	**S**	**06 29 31.2**	**-1.7**
	baz=72,slow=20						
AFI	**Afiamalu**	**9.48**	**44**	P	**P**	**06 28 02.7**	**-2.4**
	11nm,0.3s,baz=77,slow=5.7,SNR=12						
AFI				S	**S**	**06 29 48.6**	**-6.0**
	8.6nm,0.3s,baz=216,slow=23,SNR=6.6						
DZM	**Mont Dzumac**	**14.06**	**263**	P	**P**	**06 28 51.0**	**-0.7**
	0.6nm,0.3s,baz=80,slow=21,SNR=10						
URZ	**Urewera**	**17.69**	**191**	P	**P**	**06 29 24.0**	**-1.3**
	8.0nm,0.3s,baz=290,slow=2.4,SNR=26						
URZ				S	**S**	**06 32 14.2**	**-4.8**
	0.9nm,0.3s,baz=97,slow=21,SNR=7.6						
RPZ	**Rata Peaks**	**24.34**	**199**	P	**P**	**06 30 25.0**	**0.0**
	8.5nm,0.5s,baz=340,slow=1.3,SNR=8.5						
STKA	**Stephens Creek**	**37.18**	**245**	P	**P**	**06 32 14.5**	**-0.4**
	2.0nm,0.5s,baz=89,slow=15,SNR=7.4						
STKA				PcP	**PcP**	**06 34 20.1**	**+1.0**
	2.3nm,0.8s,baz=116,slow=5.1,SNR=3.3						
ASAR	**Alice Springs**	**43.97**	**257**	P	**P**	**06 33 08.8**	**-0.1**
	10nm,0.7s,baz=97,slow=7.7,SNR=114						
ASAR				PcP	**PcP**	**06 34 42.3**	**+0.5**
	3.4nm,0.6s,baz=101,slow=4.0,SNR=16						
ASAR				ScP	**ScP**	**06 37 41.6**	**+2.7**
	0.8nm,0.8s,baz=97,slow=5.0,SNR=4.3						
ASAR				S	**S**	**06 38 56.9**	**-2.7**
	1.3nm,0.9s,baz=91,slow=16,SNR=8.4						
WRA	**Warramunga Arr**	**44.08**	**263**	P	**P**	**06 33 09.1**	**-0.7**
	4.3nm,0.3s,baz=97,slow=7.3,SNR=114						
WRA				PcP	**PcP**	**06 34 42.6**	**+0.5**
	2.2nm,0.8s,baz=96,slow=3.5,SNR=4.4						
WRA				S	**S**	**06 38 56.9**	**-4.3**
	0.7nm,0.7s,baz=93,slow=15,SNR=3.9						
RPN	**Rapa Nui**	**62.79**	**111**	P	**P**	**06 35 23.3**	**+1.5**
	40nm,0.8s,baz=250,slow=10,SNR=2.3						
MJAR	**Matsushiro Arr**	**70.27**	**324**	P	**P**	**06 36 07.5**	**-0.2**
	2.3nm,0.5s,baz=157,slow=6.2,SNR=16						
JNU	**Nakatsue**	**72.26**	**317**	P	**P**	**06 36 19.4**	**0.0**
	3.1nm,0.7s,baz=180,slow=2.0,SNR=3.2						
ASAJ	**Asahikawa**	**73.88**	**332**	P	**P**	**06 36 29.4**	**+1.1**
	4.9nm,0.5s,baz=71,slow=11,SNR=5.1						
PETK	**Petropavlovsk-**	**76.56**	**346**	P	**P**	**06 36 43.4**	**+0.3**
	4.9nm,0.6s,baz=101,slow=8.4,SNR=9.6						
KSRS	**Korea Array**	**76.89**	**319**	P	**P**	**06 36 45.5**	**+0.4**
	1.5nm,0.7s,baz=130,slow=5.8,SNR=4.4						
USRK	**Ussuriysk Ar.**	**79.05**	**326**	P	**P**	**06 36 56.9**	**+0.3**
	4.0nm,0.7s,baz=127,slow=1.7,SNR=6.6						
MAW	**Mawson**	**81.01**	**200**	P	**P**	**06 37 07.8**	**+1.3**
	1.2nm,0.5s,baz=140,slow=4.3,SNR=16						
TXAR	**Lajitas Array**	**87.68**	**58**	P	**P**	**06 37 40.7**	**+0.8**
	0.4nm,0.8s,baz=208,slow=6.9,SNR=6.1						
TXAR				PKKPbc	**PKKPbc**	**06 55 24.9**	**+0.5**
	0.1nm,0.4s,baz=77,slow=2.0,SNR=3.5						
VNA3	**Neumayer Olymp**	**87.75**	**176**	P	**P**	**06 37 40.5**	**+1.0**
VNA2	**Neumayer--Watz**	**88.19**	**177**	P	**P**	**06 37 42.8**	**+1.3**
	baz=185,slow=3.6						
VNA1	**Neumayer--Stat**	**88.42**	**177**	P	**P**	**06 37 44.0**	**+1.5**
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**06 37 44.2**	**-0.1**
	1.2nm,0.6s,baz=221,slow=5.5,SNR=19						
PDAR	**Pinedale Array**	**89.59**	**43**	P	**P**	**06 37 50.4**	**+1.7**
	0.1nm,0.5s,baz=246,slow=5.8,SNR=2.2						
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**06 37 51.2**	**+1.3**
	4.3nm,0.9s,baz=124,slow=3.0,SNR=18						
SONM	**Songino Array**	**95.76**	**319**	P	**P**	**06 38 17.3**	**+0.6**
	0.4nm,0.5s,baz=96,slow=7.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**110.53**	**321**	PKiKP	**PKiKP**	**06 43 17.9**	**-0.9**
	1.0nm,0.5s,baz=136,slow=1.7,SNR=3.8						
MKAR	**Makanchi Array**	**111.15**	**313**	PKiKP	**PKiKP**	**06 43 19.7**	**-0.5**
	0.7nm,0.4s,baz=88,slow=1.2,SNR=7.3						
KURBB	**Kurchatov Arra**	**114.04**	**317**	PKiKP	PKPdf	06 43 24.8	-0.8
	0.8nm,0.5s,baz=94,slow=2.1,SNR=14						
BVAR	**Borovoye Array**	**119.10**	**320**	PKP	**PKPdf**	**06 43 35.0**	**-0.3**
	3.9nm,0.4s,baz=124,slow=2.3,SNR=30						
BDFB	**Brasilia**	**119.32**	**123**	PKiKP	**PKPdf**	**06 43 36.3**	**-0.6**
	0.3nm,0.3s,baz=170,slow=1.6,SNR=3.3						
ARU	**Arti**	**125.28**	**325**	PKP	**PKPdf**	**06 43 44.1**	**-2.9**
	4.7nm,0.4s,baz=79,slow=5.2,SNR=9.0						
AKTO	**Aktyubinsk**	**127.07**	**318**	PKP	**PKPdf**	**06 43 51.3**	**+0.6**
	2.4nm,0.6s,baz=127,slow=4.5,SNR=7.7						
GEYT	**Alibeck**	**128.61**	**302**	PKP	**PKPdf**	**06 43 55.1**	**+1.1**
	1.6nm,0.6s,baz=96,slow=4.3,SNR=3.3						
ARCES	**ARCESS Array B**	**129.25**	**349**	PKP	**PKPdf**	**06 43 54.3**	**0.0**
	3.7nm,0.6s,baz=0.0,slow=0.1,SNR=16						
FINES	**FINESS Array B**	**136.04**	**343**	PKP	**PKPdf**	**06 44 08.1**	**+0.9**
	3.0nm,0.8s,baz=90,slow=3.2,SNR=11						
FINES				SKPbc	**SKPbc**	**06 46 46.9**	**+1.7**
	2.1nm,0.8s,baz=332,slow=6.5,SNR=4.9						
NOA	**NORSAR Array B**	**139.34**	**353**	PKhKP	PKPpre	06 44 05.8	
	0.4nm,0.5s,baz=22,slow=1.1,SNR=3.8						
NOA				PKP	**PKPdf**	**06 44 13.2**	**-0.1**
	0.7nm,0.6s,baz=14,slow=4.1,SNR=3.0						
AKASG	**Malin Array Be**	**143.15**	**330**	PKhKP	PKPpre	06 44 17.9	
	8.8nm,0.4s,baz=43,slow=4.4,SNR=77						
SORM	**Soroca**	**145.32**	**328**	⇑iP	**PKPbc**	**06 44 25.6**	**+0.2**
DRWC	**Darouich**	**145.66**	**305**	*eP*	**PKPbc**	**06 44 27.1**	**+0.1**
ROOS	**tl_alroos**	**145.81**	**300**	*eP*	**PKPbc**	**06 44 27.4**	**0.0**
BIDA	**Aibida**	**146.38**	**302**	*eP*	**PKPbc**	**06 44 28.3**	**-0.6**
ARNB	**Al Arnab**	**146.42**	**304**	*eP*	**PKPbc**	**06 44 28.4**	**-0.7**
MARH	**Ras Al Marh**	**146.50**	**300**	*eP*	**PKPbc**	**06 44 30.1**	**+0.5**
ASF	**Jabal al Asfar**	**146.55**	**297**	PKPbc	**PKPbc**	**06 44 30.1**	**+0.6**
	5.6nm,0.7s,baz=75,slow=0.8,SNR=8.6						
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**06 44 30.0**	**0.0**
	4.7nm,0.6s,baz=136,slow=4.9,SNR=27						
TLCR		**146.97**	**323**	||iP	**PKPbc**	**06 44 30.7**	**+0.6**
BURAR	**Bucovina Array**	**147.19**	**330**	||iP	**PKPab**	**06 44 33.2**	**-1.2**
TESR	**Tescani**	**147.27**	**327**	||iP	**PKPbc**	**06 44 31.4**	**+0.5**
CFR	**Carcaliu**	**147.35**	**324**	||iP	**PKPbc**	**06 44 31.3**	**+0.2**
STHS	**Stebnicka Huta**	**147.51**	**336**	*e*	**PKPbc**	**06 44 32.6**	**+1.2**
STHS				*e*		06 44 37.4	
MMAI	**Mount Meron Ar**	**147.61**	**299**	PKPbc	**PKPbc**	**06 44 33.3**	**+1.0**
	8.2nm,0.4s,baz=72,slow=5.4,SNR=18						
VRI	**Vrincioaia**	**147.66**	**326**	⇑iP	**PKPbc**	**06 44 32.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**147.84**	**335**	*e*	**PKPbc**	**06 44 33.0**	**+0.7**
CRVS				*e*		06 44 37.5	
DOPR	**Dopca**	**148.28**	**328**	⇑iP	**PKPbc**	**06 44 34.8**	**+1.3**
MLR	**Muntele Rosu**	**148.32**	**326**	⇑iP	**PKPbc**	**06 44 34.8**	**+1.1**
CLL	**Collm**	**148.36**	**346**	*i* PKPbc	**PKPbc**	**06 44 34.0**	**+0.6**
	comp=Z,13nm,0.9s						
CLL				*i* PKPab	**PKPab**	**06 44 39.1**	**+0.2**
	comp=Z,7.0nm,0.7s						
LANS	**Liptovska Anna**	**148.39**	**337**	*e*	**PKPbc**	**06 44 35.4**	**+1.7**
LANS				*e*		06 44 40.6	
MORC	**Moravsky Berou**	**148.51**	**340**	⇑iP	**PKPbc**	**06 44 34.9**	**+0.9**
BRG	**Berggiesshubel**	**148.55**	**345**	*i* PKP	**PKPbc**	**06 44 34.3**	**+0.4**
	comp=Z,4.9nm,0.6s						
BRG				*e*		06 44 40.1	
	comp=Z,3.6nm,0.7s						
SECR		**148.56**	**326**	||iP	**PKPbc**	**06 44 34.9**	**+0.7**
KECS	**Kecovo**	**148.56**	**335**	*e*	**PKPbc**	**06 44 35.7**	**+1.6**
KECS				*e*		06 44 41.0	
CJR	**Cluj-Napoca**	**148.61**	**330**	⇑iP	**PKPbc**	**06 44 35.1**	**+0.8**
EIL	**Elat**	**148.61**	**293**	PKPbc	**PKPbc**	**06 44 35.7**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=34,slow=3.6,SNR=3.4						
VOIR		**148.81**	**327**	⇑iP	**PKPbc**	**06 44 35.4**	**+0.5**
DRGR		**148.96**	**331**	⇑iP	**PKPbc**	**06 44 35.7**	**+0.5**
ARR	**Arges**	**149.07**	**327**	⇑iP	**PKPbc**	**06 44 37.3**	**+1.8**
VYHS	**Vyhne**	**149.17**	**337**	*e*	**PKPbc**	**06 44 36.4**	**+0.8**
VYHS				*e*		06 44 43.4	
LOT	**Lotru**	**149.45**	**328**	⇑iP	**PKPbc**	**06 44 36.4**	**0.0**
ISP	**Isparta**	**149.78**	**310**	⇑iP	**PKPbc**	**06 44 37.3**	**-0.2**
SIRR	**Siria**	**149.82**	**332**	||iP	**PKPbc**	**06 44 38.1**	**+0.9**
BZS	**Buzias**	**150.34**	**331**	||iP	**PKPbc**	**06 44 39.0**	**+0.6**
GERES	**GERESS Array B**	**150.47**	**344**	PKPbc	**PKPbc**	**06 44 39.1**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=11,slow=2.0,SNR=16						
CONA	**Conrad Observ**	**150.67**	**340**	*i* PKPbc	**PKPbc**	**06 44 39.9**	**+0.7**
	comp=Z,4.9nm,0.6s						
MDVR	**Moldovita**	**150.93**	**330**	||iP	**PKPbc**	**06 44 40.3**	**+0.5**
MOA	**Molln**	**151.23**	**342**	*i* PKPbc	**PKPbc**	**06 44 40.6**	**+0.2**
	comp=Z,1.7nm,0.5s						
VTS	**Vitosha**	**151.74**	**325**	⇑iP	**PKPbc**	**06 44 42.5**	**+0.7**
SOKA	**Soboth**	**152.04**	**340**	*i* PKPbc	**PKPbc**	**06 44 42.2**	**-0.1**
	comp=Z,1.6nm,0.7s						
KBA	**Koelnbreinsper**	**152.19**	**342**	*i* PKPbc	**PKPbc**	**06 44 42.9**	**+0.2**
	comp=Z,2.8nm,0.5s						
RETA	**Reutte**	**152.46**	**346**	*i* PKPab	**PKPab**	**06 44 56.5**	**+0.2**
	comp=Z,3.3nm,0.6s						
WTTA	**Wattenberg**	**152.47**	**345**	*i* PKPbc	**PKPbc**	**06 44 43.3**	**-0.1**
	comp=Z,2.9nm,0.4s						
MYKA	**Terra Mystica**	**152.51**	**342**	*i* PKPbc	**PKPbc**	**06 44 42.6**	**-0.7**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**152.51**	**346**	*i* PKPbc	**PKPbc**	**06 44 44.0**	**+0.6**
	comp=Z,3.9nm,0.9s						
ABTA	**Abfaltersbach**	**152.72**	**343**	*i* PKPbc	**PKPbc**	**06 44 43.6**	**-0.2**
	comp=Z,5.6nm,0.6s						
DAVA	**Damuels**	**152.83**	**347**	*i* PKPbc	**PKPbc**	**06 44 44.3**	**+0.2**
	comp=Z,1.2nm,0.6s						
FETA	**Feichten**	**152.91**	**346**	*i* PKPbc	**PKPbc**	**06 44 43.1**	**-1.2**
	comp=Z,5.7nm,1.4s						
ESDC	**Sonseca Array**	**160.73**	**13**	PKPab	**PKPab**	**06 45 32.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=338,slow=4.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**172.26**	**181**	PKP	**PKPdf**	**06 44 55.5**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=260,slow=0.7,SNR=6.8						
TORD				PKPab	**PKPab**	**06 46 24.7**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=167,slow=5.0,SNR=3.8						

IDC 16 06:27:34.3±2.4, 52°.79N×172°.63E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/65, mbtmp3.5/5, Error ellipse: s-maj=83.5km s-min=23.2km az=180.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**9.02**	**278**	Pn	Pn	06 29 51.1	+5.4
	0.3nm,0.3s,baz=90,slow=20,SNR=4.2						
PETK				Sn	Sn	06 31 30.2	+2.3
	0.2nm,0.3s,baz=81,slow=27,SNR=3.1						
ILAR	**Eielson Array**	**23.68**	**44**	P	P	06 32 46.4	-0.9
	0.4nm,0.6s,baz=248,slow=8.4,SNR=7.5						
H11N2	**WAKE ISLAND Hy 33.30**	**190**		T	T	07 09 30.6	
	baz=6.2,slow=76,SNR=196						
H11N3	**WAKE ISLAND Hy 33.31**	**190**		T	T	07 09 31.5	
	baz=6.2,slow=76,SNR=178						
H11N1	**WAKE ISLAND Hy 33.31**	**190**		T	T	07 09 32.0	
	baz=6.2,slow=76,SNR=260						
H11S1	**WAKE ISLAND Hy 34.52**	**190**		T	T	07 11 01.5	
	baz=6.1,slow=76,SNR=186						
H11S3	**WAKE ISLAND Hy 34.54**	**190**		T	T	07 11 02.6	
	baz=6.1,slow=76,SNR=181						
H11S2	**WAKE ISLAND Hy 34.54**	**190**		T	T	07 11 04.9	
	baz=6.1,slow=76,SNR=112						
SONM	**Songino Array**	**41.24**	**291**	P	P	06 35 19.3	-1.6
	0.3nm,0.4s,baz=58,slow=8.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**54.21**	**308**	P	P	06 37 02.1	+0.8
	0.4nm,0.6s,baz=54,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**54.91**	**303**	P	P	06 37 07.1	+0.6
	0.2nm,0.2s,baz=52,slow=8.1,SNR=2.5						
TXAR	**Lajitas Array**	**63.55**	**76**	P	P	06 38 06.9	+0.3
	0.3nm,0.4s,baz=308,slow=5.7,SNR=7.5						

*ISCJB **16** 06:33:32.9±0.6, 31°.37N±0°.04×77°.32E±0°.05, h9km, Error ellipse: s-maj=6.3km s-min=4.6km az=138.1*
*NDI **16** 06:33:34.8±2.5, 31°.35N×77°.29E, h10km, ML2.8*
ISC 16 06:33:34.5±1.0, 31°.35N±0°.05×77°.27E±0°.07, h9km, n13, σ1§21/18, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.24**	**202**	*eP*	**Pg**	**06 33 38.7**	**-0.6**
SMLA				*eS*	**Sg**	**06 33 42.8**	**+0.2**
SMLA				AML	AML	06 33 43.5	
	comp=N,4μm,0.0s						
SMLA				AML	AML	06 33 43.7	
	comp=E,2μm,0.1s						
SDNR	**Sundarnagar**	**0.30**	**300**	*eP*	**Pg**	**06 33 40.0**	**-0.5**
SDNR				*eS*	**Sg**	**06 33 44.6**	**+0.1**
DHRM	**DHARAMSHALA**	**1.22**	**318**	*eP*	**Pb**	**06 33 58.3**	**+0.4**
DHRM				*eS*	**Sn**	**06 34 17.4**	**+2.7**
DHRM				AML	AML	06 34 19.9	
	comp=E,89nm,0.0s						
DHRM				AML	AML	06 34 20.0	
	comp=N,129nm,0.4s						
DDI	**Dehra Dun**	**1.23**	**146**	*eS*	**Sn**	**06 34 14.3**	**-0.3**
DDI				AML	AML	06 34 15.8	
	comp=E,244nm,0.1s						
DDI				AML	AML	06 34 15.8	
	comp=N,397nm,0.3s						
THN	**Thein Dam**	**1.71**	**310**	*eP*	Pn	06 33 59.7	-4.7
THN				*eS*	**Sn**	**06 34 23.4**	**-3.0**
NDI	**New Delhi**	**2.66**	**181**	*eS*	**Sn**	**06 34 50.0**	**+0.1**
KUDL	**Kundal**	**3.27**	**192**	*eP*	**Pn**	**06 34 26.1**	**+0.3**
KUDL				*eS*	**Sn**	**06 35 05.0**	**+0.2**
KUDL				AML	AML	06 35 16.3	
	comp=N,12nm,0.2s						
KUDL				AML	AML	06 35 17.1	
	comp=E,14nm,0.7s						
KHET	**Khetri**	**3.50**	**202**	*eP*	**Pn**	**06 34 28.8**	**-0.4**
KHET				*eS*	**Sn**	**06 35 10.9**	**+0.1**
KHET				AML	AML	06 35 29.7	
	comp=N,15nm,0.8s						
KHET				AML	AML	06 35 29.8	
	comp=E,24nm,0.2s						
PYUN	**Piuthan**	**5.93**	**122**	*eP*	**Pn**	**06 35 03.9**	**+1.1**
	comp=E,13nm,0.2s						
KOLN	**Koldanda**	**6.56**	**121**	*eP*	**Pn**	**06 35 12.7**	**+1.3**
	comp=E,3.9nm,0.2s						
PKIN	**Phulchoki**	**8.02**	**116**	*eP*	**Pn**	**06 35 31.4**	**0.0**
	comp=E,3.2nm,0.2s						
JIRN	**Jiri**	**8.60**	**113**	*eP*	**Pn**	**06 35 38.9**	**-0.6**
	comp=E,58nm,0.4s						
RAMN	**Ramite**	**9.26**	**116**	*eP*	**Pn**	**06 35 47.3**	**-1.1**
	comp=E,6.5nm,0.5s						

*IDC **16** 06:36:05.1±2.5, 18°.10S×168°.27E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/33, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=54.9km s-min=37.9km az=95.0*
*ISCJB **16** 06:36:13.6±2.1, 18°.5S±0°.1×168°.1E±0°.3, h69km, mb3.7/5, Error ellipse: s-maj=47.9km s-min=13.8km az=9.4*
ISC 16 06:36:14.8±2.2, 18°.5S±0°.1×168°.2E±0°.4, h69km, n6, σ1§75/7, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.94**	**204**	Pn	**Pn**	**06 37 11.3**	**-1.6**
	12nm,0.3s,baz=47,slow=18,SNR=83						
DZM				Sn	**Sn**	**06 37 58.1**	**+0.1**
	20nm,0.3s,baz=108,slow=19,SNR=13						
STKA	**Stephens Creek**	**27.42**	**236**	P	**P**	**06 41 55.2**	**+1.1**
	3.9nm,0.9s,baz=53,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**31.95**	**262**	P	**P**	**06 42 35.5**	**+1.1**
	0.2nm,0.3s,baz=83,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**32.34**	**255**	P	**P**	**06 42 37.0**	**-0.7**
	1.1nm,0.6s,baz=78,slow=9.1,SNR=14						
MAW	**Mawson**	**78.77**	**202**	P	**P**	**06 48 11.6**	**+2.0**
	1.7nm,0.8s,baz=92,slow=6.9,SNR=5.2						
SONM	**Songino Array**	**85.99**	**323**	P	**P**	**06 48 46.1**	**-1.5**
	0.8nm,0.8s,baz=141,slow=5.2,SNR=3.9						

*NIED **16** 06:47:00.27°.40N×139°.70E, h640km, Mw4.9 Best double couple: M0 2.52000×10^16 NP1:φs 112.00000°, δ48.00000°, λ40.00000°. NP2:φs 353.00000°, δ61.00000°, λ130.00000°.*
*BJI **16** 06:47:15.2, 27°.14N×139°.40E, h554km, mb4.7/37, mB4.7/22*
*MOS **16** 06:47:15.7±0.7, 27°.21N×139°.28E, h548km, mb4.2/30, Error ellipse: s-maj=15.7km s-min=7.4km az=115.5*
*ISCJB **16** 06:47:15.8±0.3, 27°.21N±0°.03×139°.41E±0°.05, h550km, mb4.2/51, Error ellipse: s-maj=6.0km s-min=3.8km az=12.7*
*IDC **16** 06:47:17.9±1.1, 27°.22N×139°.27E, h552km±13km, mb3.6/20, mb1 3.7/26, mb1mx3.5/53, mbtmp4.6/26, Error ellipse: s-maj=13.8km s-min=7.9km az=84.0*
*NEIC **16** 06:47:17.1±0.5, 27°.24N×139°.41E, h553km±6km, mb4.6/14, Error ellipse: s-maj=12.1km s-min=6.8km az=76.0*
*JMA **16** 06:47:17.8±0.1, 27°.41N×139°.67E, h554km, M4.3*
ISC 16 06:47:17.2±0.4, 27°.25N±0°.05×139°.38E±0°.06, h550km, n127, σ1§66/159, mb4.3/51, 7C-4D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**93**	P	**P**	**06 49 29.4**	**+0.1**
CBIJ				*eS*	**S**	**06 49 24.4**	**-3.7**
CBIJ	**Chichi jima**	**2.50**	**93**	*eP*	**P**	**06 48 29.5**	**+0.1**
CBIJ				*eS*	**S**	**06 49 25.0**	**-3.1**
JHHJ	**Haha-jima-NKT**	**2.58**	**103**	P	**P**	**06 48 30.5**	**+0.7**
JHHJ				S	**S**	**06 49 27.8**	**-1.0**
JHJ2	**Mitsune**	**5.85**	**4**	*eP*	**P**	**06 48 53.0**	**-1.3**
JWZ	**Kozaga**	**7.01**	**334**	P	**P**	**06 49 06.6**	**+1.4**
JKN2	**Miekihoku**	**7.46**	**340**	P	**P**	**06 49 11.0**	**+1.6**
JIE	**Ise**	**7.48**	**343**	P	**P**	**06 49 11.5**	**+1.9**
BSO1	**Boso 1**	**7.50**	**10**	P	**P**	**06 49 10.3**	**+1.0**
BSO1				*eS*	**S**	**06 50 40.0**	**-1.4**
BSO3	**Boso 3**	**7.59**	**7**	P	**P**	**06 49 11.5**	**+1.1**
BSO3				*eS*	**S**	**06 50 40.7**	**-2.7**
BSO4	**Boso 4**	**7.76**	**6**	P	**P**	**06 49 12.9**	**+0.7**
JTO	**Tosashimizu**	**7.98**	**316**	P	**P**	**06 49 15.7**	**+1.1**
JOD2	**Odawara 2**	**7.99**	**358**	P	**P**	**06 49 15.2**	**+0.5**
JNY	**Yasuok**	**8.18**	**351**	P	**P**	**06 49 17.6**	**+0.9**
JAY	**Obara**	**8.19**	**348**	P	**P**	**06 49 18.3**	**+1.6**
INU	**Inuyama**	**8.32**	**347**	*eP*	**P**	**06 49 18.1**	**+0.2**
JHU	**Hanno**	**8.57**	**359**	P	**P**	**06 49 19.6**	**-0.9**
JHU				*eS*	**S**	**06 50 57.2**	**-4.5**
JRY	**Ryogami san**	**8.75**	**357**	P	**P**	**06 49 22.1**	**-0.2**
JRY				*eS*	**S**	**06 51 01.2**	**-3.8**
JYT	**Yasato**	**8.97**	**4**	P	**P**	**06 49 24.1**	**-0.4**
JAMN	**Amaminishikomi**	**9.09**	**279**	P	**P**	**06 49 26.5**	**+0.6**
JAG	**Ashikaga**	**9.14**	**0**	P	**P**	**06 49 25.1**	**-1.2**
JAG				S	**S**	**06 51 06.1**	**-6.2**
MJAR	**Matsushiro Arr**	**

ZAK pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 38.14 265 P P 06 53 49.7 -0.3
comp=Z,1.3nm,0.3s,baz=52,slow=9.4,SNR=5.5
BILL Bilibino 43.89 14⇑*i*P P 06 54 36.7 +1.9
BILL *e**PP **pP** 06 56 15.4 +1.7
BILL *e* 06 56 29.3
BILL pmax pmax
comp=Z,17nm,1.5s
WMQ Urumqi 44.45 306 P P 06 54 40.9 +1.2
WMQ pP pP 06 56 21.5 +2.5
WMQ sP sP 06 57 21.8 +1.3
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.9s
TIXI Tiksi 44.82 355*c*eP P 06 54 42.8 +0.8
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 44.82 355 *e*P P 06 54 41.6 -0.3
comp=Z,4.1nm,0.7s
PSI Prapat 45.68 245 P P 06 54 49.3 -0.2
comp=Z,8.3nm,0.6s,baz=34,slow=3.3,SNR=9.3
PSI Prapat 45.68 245 P P 06 54 49.3 -0.2
PSI pmax pmax
comp=Z,7.0nm,0.5s
FITZ Fitzroy Crossi 47.01 198 P P 06 54 59.6 +0.2
comp=Z,6.5nm,0.6s,baz=21,slow=8.1,SNR=37
WRAB Tennant Creek 47.16 186*d*i P P 06 55 00.2 -0.3
WRAB pmax pmax
comp=Z,40nm,1.2s
WRAB Tennant Creek 47.16 186 *e*P P 06 55 00.1 -0.3
comp=Z,2.8nm,0.4s
WB2 Warramunga Arr 47.17 186 *e*P P 06 54 59.1 -1.4
WRA Warramunga Arr 47.17 186 P P 06 55 00.3 -0.2
comp=Z,8.1nm,0.3s,baz=4.4,slow=7.8,SNR=113
WRA PcP **PcP** 06 56 21.6 +0.6
comp=Z,0.9nm,0.6s,baz=360,slow=4.0,SNR=4.4
WRA S **S** 07 01 09.9 -3.3
comp=Z,0.5nm,0.7s,baz=8.8,slow=15,SNR=4.7
ZAA0 Zalesovo Array 47.74 319 *e*P P 06 55 04.4 0.0
ZALV Zalesovo Beam 47.74 319 P P 06 55 04.2 -0.1
comp=Z,5.2nm,0.3s,baz=108,slow=7.0,SNR=11
ZALV ScP **ScP** 06 59 23.6 -1.0
comp=Z,1.1nm,0.4s,baz=93,slow=5.8,SNR=3.0
MK01 Makanchi Array 48.44 310 *e*P P 06 55 09.9 +0.1
MK31 Makanchi Array 48.45 310 *e*P P 06 55 09.7 -0.1
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 48.45 310 *e*P P 06 55 09.7 -0.1
MKAR Makanchi Array 48.45 310 P P 06 55 10.0 +0.2
comp=Z,5.7nm,0.7s,baz=91,slow=8.9,SNR=46
MKAR ScP **ScP** 06 59 27.4 -0.4
comp=Z,1.1nm,0.7s,baz=80,slow=5.0,SNR=9.4
MKAR Makanchi Array 48.45 310 *e*P P 06 55 09.7 -0.1
comp=Z,33nm,0.6s
MAKZ Makanchi 48.66 310 *e*P P 06 55 11.4 0.0
MAKZ pmax pmax
comp=Z,15nm,1.4s
MAKZ Makanchi 48.66 310 *e*P P 06 55 11.4 0.0
comp=Z,15nm,1.4s
AS01 Alice Springs 50.89 186 *e*P P 06 55 27.3 -0.7
AS31 Alice Springs 50.90 186 *e*P P 06 55 27.1 -0.9
comp=Z,3.2nm,0.5s
ASAR Alice Springs 50.90 186 P P 06 55 27.9 -0.1
comp=Z,3.2nm,0.5s,baz=2.8,slow=6.4,SNR=118
ASAR PcP **PcP** 06 56 35.5 +0.7
comp=Z,0.8nm,0.6s,baz=13,slow=4.0,SNR=5.5
KURK Kurchatov 51.09 315*c*eP P 06 55 29.1 0.0
KURK pmax pmax
comp=Z,22nm,0.6s
KURK Kurchatov 51.09 315 *e*P P 06 55 29.0 -0.1
comp=Z,25nm,1.4s
NRIK Noril'sk 51.60 339 P P 06 55 32.5 +0.1
comp=Z,1.6nm,0.3s,baz=116,slow=10,SNR=5.4
MBWA Marble Bar 51.75 204 *e*P P 06 55 33.5 -0.6
comp=Z,25nm,0.6s
KSH Kashi 53.35 300 P P 06 55 49.3 +3.7
KSH PcP **PcP** 06 56 47.6 +3.4
KSH pP pP 06 57 35.3 +5.0
KSH PP **PP** 06 57 59.8 +6.1
KSH sP sP 06 58 30.1 0.0
KSH PcS **PcS** 07 00 43.1 -1.1
KSH S **S** 07 02 39.4 +2.9
KSH ScS **ScS** 07 04 37.8 +0.1
KSH SS **SS** 07 06 32.9 +6.1
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH pmax pmax
comp=Z,67nm,5.5s
AAK Ala-Archa 54.11 304 P P 06 55 51.4 +0.4
comp=Z,3.7nm,0.4s,baz=114,slow=7.2,SNR=10
AAK Ala-Archa 54.11 304 *e*P P 06 55 51.0 0.0
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 54.11 304 *e*P P 06 55 51.0 0.0
comp=Z,3.7nm,0.6s
KDAK Kodiak Island 55.74 37 P P 06 56 03.0 +1.2
comp=Z,5.9nm,0.9s,baz=321,slow=1.8,SNR=5.9
KDAK Kodiak Island 55.74 37 P P 06 56 03.0 +1.2
KDAK pmax pmax
comp=Z,6.0nm,0.9s
BVA0 Borovoye Array 56.23 317 P P 06 56 04.5 -0.9
BVA0 pmax pmax
comp=Z,10.0nm,0.5s
BVAR Borovoye Array 56.23 317 P P 06 56 05.5 +0.1
comp=Z,13nm,0.4s,baz=87,slow=6.9,SNR=101
BRVK Borovoye 56.30 317*c*eP P 06 56 06.2 +0.4
BRVK pmax pmax
comp=Z,44nm,1.2s
BRVK Borovoye 56.30 317 *e*P P 06 56 06.3 +0.4
comp=Z,12nm,0.8s
KK31 Karatay Array 56.96 305 *i* P P 06 56 10.9 +0.3
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 56.96 305 *e*P P 06 56 10.7 +0.1
KKAR pmax pmax
comp=Z,98nm,0.6s
KKAR Karatay Array 56.96 305 *e*P P 06 56 10.7 +0.1
comp=Z,98nm,0.6s
STKA Stephens Creek 58.84 178 P P 06 56 23.1 -0.1
comp=Z,2.9nm,0.7s,baz=346,slow=7.5,SNR=9.8
DZET Dzherino 58.94 301 P P 06 56 22.9 -1.3
DZET pmax pmax
comp=Z,3.0nm,0.4s
ARU Arti 62.76 322 P P 06 56 45.6 -3.2
comp=Z,5.4nm,0.4s,baz=100,slow=3.0,SNR=10
ARU Arti 62.76 322*d* *i*P P 06 56 48.2 -0.6
ARU 06 57 19.4
ARU 06 59 12.8
ARU S **S** 07 04 35.3 +0.2
ARU SS **SS** 07 08 48.7 -3.9
ARU pmax pmax
comp=Z,22nm,2.5s
ARU Arti 62.76 322 *e*P P 06 56 48.6 -0.2
comp=Z,7.1nm,0.6s
AB31 Akbulak array 63.19 314 *i* P P 06 56 51.4 -0.3
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 63.19 314 *e*P P 06 56 51.5 -0.2
comp=Z,48nm,0.6s
INK Inuvik 63.92 24 P P 06 56 56.2 +0.2
comp=Z,2.3nm,1.0s,baz=315,slow=4.3,SNR=4.1
KLMR Klimovskoe 71.18 329 *e*P P 06 57 40.1 -0.4
KLMR *e* 06 57 56.8
KLMR pmax pmax
comp=Z,15nm,1.4s
ARCES ARCESS Array B 72.56 340 P P 06 57 49.1 +0.8
comp=Z,6.9nm,0.8s,baz=70,slow=8.3,SNR=32
YKA Yellowknife Ar 73.18 28 P P 06 57 53.2 +1.2
comp=Z,0.3nm,0.5s,baz=296,slow=5.9,SNR=2.9
OBN Obninsk 74.97 325 *e*P P 06 58 02.0 -0.2
OBN *e**PP **pP** 06 59 58.7 +1.4
OBN *i* 07 00 59.9
OBN pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 76.06 312 P P 06 58 09.1 +0.6
comp=Z,2.5nm,0.8s,baz=127,slow=5.6,SNR=5.0
FINES FINESS Array B 76.69 333 P P 06 58 11.6 0.0
comp=Z,5.6nm,0.3s,baz=69,slow=5.0,SNR=96
AKASG Malin Array Be 81.00 323 P P 06 58 34.7 0.0
comp=Z,0.7nm,0.4s,baz=51,slow=5.2,SNR=5.7
KIEV Kiev 81.01 323 *e*P P 06 58 33.7 -1.1
KIEV pmax pmax
comp=Z,2.0nm,1.0s
NB2 NORSAR Subarra 82.52 337 P P 06 58 41.5 -0.8
comp=Z,0.8nm,0.5s,baz=48,slow=4.6
NOA NORSAR Array B 82.52 337 P P 06 58 41.9 -0.5
comp=Z,1.2nm,0.6s,baz=45,slow=4.4,SNR=4.8
CLL Collm 88.67 330 *i* P P 06 59 10.6 -1.5
CLL pmax pmax
comp=Z,20nm,2.0s
TORD Torodi Ar. Bea 122.57 309 PKP PKPdf 07 05 10.8 -0.4
comp=Z,0.3nm,0.5s,baz=28,slow=1.6,SNR=7.7
SNAA Sanae 130.90 195 P PKPdf 07 05 25.5 -0.1
DBIC Dimbokro 131.68 309 SKPbc SKPbc 07 08 02.9 -0.4
comp=Z,1.8nm,0.7s,baz=338,slow=11,SNR=3.6
VNA2 Neumayer--Watz 132.45 194 P PKPdf 07 05 27.6 -0.8
baz=112,slow=1.1
VNA3 Neumayer Olymp 132.69 193 P PKPdf 07 05 29.4 +0.5
PTGA Pitinga 147.74 38 PKPbc PKPbc 07 06 02.0 +0.8
comp=Z,1.4nm,0.8s,baz=319,slow=20,SNR=3.3
PLCA Paso Flores 151.93 126 PKPbc PKPbc 07 06 10.4 0.0
comp=Z,1.3nm,0.6s,baz=298,slow=3.3,SNR=7.0
LPAZ La Paz 152.28 73 PKPbc PKPbc 07 06 12.9 +0.4
comp=Z,0.4nm,0.4s,baz=273,slow=18,SNR=3.8

IDC 16 06:50:44.0±4.5, 18°.52S×175°.40W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/43, mbtmp4.3/5, Error ellipse: s-maj=149.7km s-min=87.7km az=168.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.17**	**261**	P	P	06 57 49.1	+0.6
	1.6nm,0.3s,baz=92,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**40.87**	**242**	P	P	06 58 28.4	+0.5
	1.6nm,0.8s,baz=100,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**47.34**	**260**	P	P	06 59 19.1	-0.9
	0.6nm,0.3s,baz=98,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**47.38**	**255**	P	P	06 59 20.1	-0.3
	9.0nm,0.5s,baz=91,slow=8.5,SNR=137						
ASAR				PcP	PcP	07 00 51.1	-0.1
	0.4nm,0.7s,baz=101,slow=4.8,SNR=3.0						
FITZ	**Fitzroy Crossi**	**55.75**	**260**	P	P	07 00 22.7	-0.3
	1.8nm,0.4s,baz=121,slow=5.0,SNR=7.2						

*CSEM **16** 07:02:53.6, 35°.18N×10°.76E, h10km, MD3.5*
TUN 16 07:02:53.6, 35°.18N×10°.76E, h10km, MD3.5, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKLT	**Bekalta**	**0.48**	**24**	*i* P	Pn	07 03 06.3	-0.2
HANT	**Hania**	**0.73**	**334**	*i* P	Pn	07 03 13.3	+3.4
TROT	**Trozza**	**1.02**	**292**	*i* P	Pn	07 03 17.2	+3.2
ZGN	**Zaghouan**	**1.30**	**336**	*i* P	Pg	07 03 20.9	+2.3
MBZ	**Menzel Bouzelf**	**1.50**	**357**	*i* P	Pg	07 03 25.4	+3.0
SYA	**Sidi Yaiche**	**1.66**	**255**	*i* P	Pg	07 03 26.0	+0.5
BERT	**Berda**	**1.72**	**237**	*i* P	Pg	07 03 26.6	0.0
KRIT	**Krib**	**1.79**	**311**	*i* P	Pg	07 03 28.2	+0.2
KCHT	**Kechabta**	**2.04**	**341**	*i* P	Pb	07 03 31.4	+0.7
OAR	**Oum El Arais**	**2.05**	**252**	*i* P	Pb	07 03 31.2	+0.3
BLIT	**Baltah**	**2.12**	**317**	*i* P	Pb	07 03 32.8	+0.7
TATN	**Tataouine**	**2.60**	**184**	*i* P	Pn	07 03 33.8	-1.9

IDC 16 07:25:35.9±4.8, 29°.79S×135°.51E, h0km, mb1 3.0/3, mb1mx3.0/30, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=72.7km s-min=19.2km az=48.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.63**	**113**	Pn	Pn	07 27 00.9	0.0
	0.1nm,0.3s,baz=297,slow=11,SNR=4.0						
STKA				Sn	Sn	07 28 03.8	-2.5
	0.6nm,0.3s,baz=322,slow=18,SNR=4.9						
STKA				Lg	Lg	07 28 33.8	
	0.4nm,0.3s,baz=328,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**6.27**	**346**	Pn	Pn	07 27 11.3	+1.6
	0.0nm,0.3s,baz=168,slow=8.3,SNR=4.4						
ASAR				Pg	Pb	07 27 30.4	+4.5
	0.1nm,0.3s,baz=165,slow=16,SNR=3.3						
ASAR				Sn	Sn	07 28 18.2	-3.9
	0.1nm,0.3s,baz=164,slow=23,SNR=3.5						
ASAR				Lg	Lg	07 28 53.3	
	0.1nm,0.3s,baz=170,slow=24,SNR=5.1						
WRA	**Warramunga Arr**	**9.86**	**354**	Pn	Pn	07 27 58.3	-0.7
	0.1nm,0.3s,baz=170,slow=11,SNR=7.4						
WRA				Sn	Sn	07 29 43.8	-6.8
	0.1nm,0.3s,baz=173,slow=22,SNR=3.6						

*SOME **16** 07:27:22.3, 40°.63N×78°.73E, h10km*
*NNC **16** 07:27:24.9±3.9, 40°.83N×78°.79E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=32.5km s-min=13.7km az=161.0*
*KRNET **16** 07:27:26.4±0.1, 40°.90N×78°.89E, mb3.4*
ISC 16 07:27:23.2±2.6, 40°.74N±0°.09×78°.75E±0°.05, h5km±15km, n37, σ2°.903/66, 31C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.82**	**320**	⇑*i*P	**Pg**	**07 27 59.6**	**+1.4**
	baz=314						
KDJ				⇑*i*S	**Sg**	**07 28 24.2**	**+2.3**
	baz=314						
ANVS	**Anan'yevo**	**2.20**	**339**	⇑*i*P	**Pg**	**07 28 05.1**	**-0.3**
	baz=334						
ANVS				⇑*i*S	**Sg**	**07 28 33.2**	**-0.7**
	baz=334						
SATY	**Saty**	**2.33**	**354**	*e*P	**Pg**	**07 28 07.7**	**-0.3**
	174nm,0.5s						
SATY				*e*S	**Sg**	**07 28 40.1**	**+1.9**
	174nm,0.6s						
ULHL	**Ulahol**	**2.41**	**309**	⇑*i*P	**Pg**	**07 28 09.3**	**-0.2**
	baz=304						
ULHL				⇑*i*S	**Sg**	**07 28 40.9**	**+0.1**
	baz=304						
UZB	**Uzynbulak**	**2.42**	**5**	*e*P	**Pb**	**07 28 08.1**	**+0.7**
	112nm,0.4s						
UZB				*e*S	**Sg**	**07 28 40.8**	**-0.1**
	88nm,0.5s						
ZHN	**Zhinishke**	**2.44**	**355**	*e*P	**Pg**	**07 28 09.1**	**-0.9**
	40nm,0.3s						
ZHN				*e*S	**Sg**	**07 28 42.8**	**+1.1**
	282nm,0.2s						
PDGK	**Podgornoye**	**2.65**	**12**	⇑*i*P	**Pb**	**07 28 10.4**	**-0.9**
	baz=10.0						
PDGK				⇑*i*S	**Sb**	**07 28 42.4**	**-1.8**
	baz=10.0						
PDGK	**Podgornoye**	**2.65**	**12**	⇓Pg	**Pb**	**07 28 11.2**	**-0.1**
	57nm,0.4s						
PDGK				⇓Lg	Lg	07 28 46.2	
	187nm,0.9s						
TNSS	**Tian-Shan**	**2.66**	**330**	*e*P	**Pg**	**07 28 14.0**	**-0.3**
	49nm,0.3s						
TNSS				*e*S	**Sg**	**07 28 51.4**	**+2.6**
	116nm,0.6s						
KPKS	**Kokpek**	**2.73**	**359**	*e*P	**Pg**	**07 28 14.2**	**-1.4**
	82nm,0.3s						
KPKS				*e*S	**Sg**	**07 28 51.7**	**+0.8**
	307nm,0.4s						
MDOK	**Medeo**	**2.74**	**333**	*e*P	**Pb**	**07 28 13.7**	**+0.9**
	48nm,0.4s						
MDOK				*e*S	**Sg**	**07 28 50.8**	**-0.4**
	77nm,0.7s						
BOOM	**Boomskoye usch**	**2.74**	**311**	⇑*e*P	**Pb**	**07 28 13.0**	**+0.1**
	baz=307						
BOOM				⇑*e*S	**Sb**	**07 28 48.5**	**+1.7**
	baz=307						
KOTS	**Kotyrbulak**	**2.78**	**334**	*e*P	**Pg**	**07 28 15.5**	**-1.0**
KOTS				*e*S	**Sg**	**07 28 54.2**	**+1.7**
KURS	**Kuram**	**2.78**	**351**	*e*P	**Pb**	**07 28 14.8**	**+1.2**
KURS				*e*S	**Sg**	**07 28 52.8**	**+0.2**
AAA	**Alma-Ata**	**2.82**	**332**	*e*P	**Pg**	**07 28 16.9**	**-0.4**
	157nm,0.3s						
AAA				*e*S	**Sg**	**07 28 56.2**	**+2.2**
	270nm,0.6s						
MTBS	**Maitube**	**2.95**	**325**	*e*P	**Pb**	**07 28 16.2**	**-0.2**
	14nm,0.3s						
MTBS				*e*S	**Sb**	**07 28 54.8**	**+2.0**
	41nm,0.4s						
KZA	**Kyzart**	**2.95**	**298**	⇑*i*P	**Pb**	**07 28 16.9**	**+0.2**
	baz=294						
KZA				⇑*i*S	**Sb**	**07 28 54.6**	**+1.4**
	baz=294						
KST	**Kastek**	**3.10**	**319**	*e*P	**Pb**	**07 28 21.4**	**+2.3**
	11nm,0.5s						
KST				*e*S	**Sg**	**07 29 03.7**	**+0.7**
	45nm,0.7s						
TKM2	**Tokmak 2**	**3.21**	**314**	⇓*i*P	**Pb**	**07 28 19.7**	**-1.2**
	baz=310						
TKM2				⇓*i*S	**Sb**	**07 28 59.4**	**-1.1**
	baz=310						
TKM2	**Tokmak 2**	**3.21**	**314**	⇑Pg	**Pb**	**07 28 19.5**	**-1.4**
	6.8nm,0.5s						
TKM2				⇑Lg	Lg	07 29 08.3	
	32nm,0.6s						
DGS	**Degeres**	**3.35**	**319**	*e*P	**Pb**	**07 28 25.4**	**+2.3**
	16nm,0.5s						
DGS				*e*S	**Sg**	**07 29 11.2**	**+0.5**
	58nm,0.5s						
CHKK	**Chushkaly**	**3.38**	**338**	*e*P	**Pb**	**07 28 24.4**	**+0.7**
	18nm,0.3s						
CHKK				*e*S	**Sg**	**07 29 09.2**	**-2.5**
	158nm,0.4s						
KBK	**Karagaybulak**	**3.43**	**305**	⇑*i*P	**Pb**	**07 28 23.1**	**-1.6**
	baz=302						
KBK				⇑*i*S	**Sb**	**07 29 05.2**	**-1.6**
	baz=302						
ARLS	**Aral**	**3.52**	**290**	⇑*i*P	**Pb**	**07 28 25.7**	**-0.4**
	baz=287						
ARLS				⇑*i*S	**Sb**	**07 29 08.3**	**-1.0**
	baz=287						
ARXS	**Arharly**	**3.54**	**349**	*e*P	**Pb**	**07 28 26.9**	**+0.4**
	23nm,0.5s						
ARXS				*e*S	**Sg**	**07 29 13.6**	**-3.4**
	51nm,0.5s						
DJR	**Jarkent**	**3.67**	**12**	*e*P	**Pb**	**07 28 29.1**	**+0.4**
	27nm,0.5s						
DJR				*e*S	**Sg**	**07 29 17.2**	**-4.1**
	50nm,0.6s						
AAK	**Ala-Archa**	**3.71**	**302**	⇑*i*P	**Pb**	**07 28 27.8**	**-1.6**
	baz=299						
AAK				⇑*i*S	**Sb**	**07 29 12.1**	**-2.6**
	baz=299						
AAK	**Ala-Archa**	**3.71**	**302**	⇑Pg	**Pg**	**07 28 34.0**	**-0.3**
	4.1nm,0.4s						
AAK				⇓Lg	Lg	07 29 24.1	
	37nm,0.9s						
CHMS	**Chumysh**	**3.75**	**308**	⇑*i*P	**Pb**	**07 28 27.8**	**-2.1**
	baz=306						
CHMS				⇑*i*S	**Sb**	**07 29 12.1**	**-3.5**
	baz=306						
AML	**Almayashu**	**4.05**	**292**	⇑*i*P	**Pb**	**07 28 33.3**	**-2.0**
	baz=289						
AML				⇑*i*S	**Sb**	**07 29 21.5**	**-3.2**
	baz=289						
USP	**Ospenovka**	**4.05**	**310**	⇑*e*P	**Pb**	**07 28 32.3**	**-2.8**
	baz=307						
USP				⇑*i*S	**Sb**	**07 29 19.5**	**-5.0**
	baz=307						
EKS2	**Erkin-Say**	**4.19**	**299**	⇓*i*P	**Pb**	**07 28 34.5**	**-3.0**
	baz=297						
EKS2				⇓*i*S	**Sb**	**07 29 23.8**	**-4.7**
	baz=297						
TDK	**Taldyqorghan**	**4.27**	**357**	*e*P	**Pg**	**07 28 43.8**	**-1.2**
	19nm,0.2s						
TDK				*e*S	**Sg**	**07 29 42.1**	**+1.7**
	58nm,0.4s						
MNAS	**Manas**	**5.00**	**293**	⇓Pg	**Pb**	**07 28 56.0**	**+4.7**
	3.0nm,0.6s						
MNAS				⇑Lg	Lg	07 30 04.1	
	5.9nm,0.8s						
MAKZ	**Makanchi**	**6.50**	**20**	⇓Pn	**Pn**	**07 29 04.0**	**+4.4**
	1.7nm,1.0s						
MAKZ				⇑Lg	Lg	07 30 45.7	
	3.7nm,0.9s						
MK31	**Makanchi Array**	**6.57**	**22**	⇓Pn	**Pn**	**07 29 00.9**	**+0.3**
	0.2nm,0.3s,baz=202,slow=13,SNR=11						
MK31				⇑Lg	Lg	07 30 50.4	
	2.3nm,0.6s						
KK31	**Karatay Array**	**6.58**	**294**	⇑Pg	Pb	07 29 24.7	+6.4
	1.5nm,0.7s,baz=113,slow=15,SNR=14						
KK31				⇓Lg	Lg	07 30 55.0	
	2.8nm,0.7s,baz=112,slow=24,SNR=9.5						

*IDC **16** 07:33:59.5±2.0, 37°.80N×140°.06E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/34, mbtmp3.5/3, Error ellipse: s-maj=39.1km s-min=30.6km az=75.0*
*NIED **16** 07:34:00, 37°.70N×139°.90E, h5km, Mw3.5 Best double couple: $M_0$1.82000×10^{14} NP1:ϕ_s206.00000°, δ35.00000°, λ65.00000°. NP2:ϕ_s56.00000°, δ59.00000°, λ106.00000°.*
*ISCJB **16** 07:34:02.0±0.6, 37°.70N±0°.04×139°.94E±0°.04, h12km±4km, mb3.5/3, Error ellipse: s-maj=6.0km s-min=4.7km az=173.1*
*JMA **16** 07:34:02.5, 37°.68N×139°.93E, h9km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s29.00000°, δ56.00000°, λ61.00000°. NP2:ϕ_s254.00000°, δ43.00000°, λ126.00000°. Principal axes: T Plg65.0000°, Azm244.0000°; N Plg24.0000°, Azm46.0000°; P Plg7.0000°, Azm139.0000°;*
JMA Felt II J1.
ISC 16 07:34:01.5±1.4, 37°.71N±0°.05×139°.97E±0°.04, h7km±10km, n17, σ0°.80/19, mb3.4/3, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.35**	**122**	⇓P	**Pb**	**07 34 09.8**	**-0.2**
JFT				S	**Sb**	**07 34 14.6**	**-1.1**
JFY	**Yanaizu**	**0.36**	**215**	⇑P	**Pg**	**07 34 09.0**	**+0.4**
JFY				S	**Sg**	**07 34 13.5**	**+0.1**
JYS	**Shirataka**	**0.52**	**9**	⇓P	**Pb**	**07 34 13.2**	**+0.2**
JYS				S	**Sb**	**07 34 20.8**	**+0.1**
JNS	**Sasagawa**	**0.53**	**283**	⇓P	**Pb**	**07 34 12.2**	**-0.9**
JNS				S	**Sg**	**07 34 18.9**	**+0.3**
JFK	**Kawauchi**	**0.80**	**115**	⇓P	**Pb**	**07 34 17.8**	**+0.1**
JFK				S	**Sb**	**07 34 28.3**	**-0.4**
JHK	**Hiroka**	**0.88**	**239**	⇑P	**Pg**	**07 34 18.4**	**-0.1**
JHK				S	**Sg**	**07 34 29.1**	**-0.8**
MJAR	**Matsushiro Arr**	**1.82**	**231**	Pn	**Pn**	**07 34 34.4**	**+1.1**
	16nm,0.3s,baz=49,slow=12,SNR=44						
MJAR				Sn	**Sn**	**07 34 57.8**	**+1.2**
	11nm,0.3s,baz=38,slow=20,SNR=7.3						
MAT	**Matsushiro**	**1.82**	**231**	P	**Pn**	**07 34 34.0**	**+0.7**
MAT				S	**Sn**	**07 34 58.0**	**+1.4**
H11N2	**WAKE ISLAND Hy 29.48**	**120**		T	T	08 10 14.9	
	baz=313,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy 29.49**	**120**		T	T	08 10 14.9	
	baz=313,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy 29.50**	**120**		T	T	08 10 15.5	
	baz=313,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy 30.19**	**122**		T	T	08 11 09.0	
	baz=314,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy 30.19**	**122**		T	T	08 11 06.2	
	baz=314,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 30.21**	**122**		T	T	08 11 07.3	
	baz=314,slow=76,SNR=16						
MKAR	**Makanchi Array**	**42.79**	**301**	P	**P**	**07 41 58.5**	**-1.1**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**57.58**	**186**	P	**P**	**07 43 51.5**	**-0.4**
	1.5nm,1.1s,baz=4.4,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**61.31**	**186**	P	**P**	**07 44 17.6**	**0.0**
	0.2nm,0.7s,baz=15,slow=7.7,SNR=4.6						

WEL 16 08:49:02.0±0.3, 36°.45S×177°.25E, h5km, ML3.9/15, 5D, Error ellipse: s-maj=3.5km s-min=2.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.26**	**256**	P*	Pg	08 49 24.6	-1.6
KUZ				S*	Sg	08 49 42.6	0.0
KUZ				AML	AML	08 49 47.6	
KUZ				AML	AML	08 49 47.7	
KUZ				AML	AML	08 49 49.9	
HAZ	**Te Kaha**	**1.37**	**162**	⇓P*	Pn	08 49 25.1	-2.7
HAZ				AML	AML	08 49 45.8	
HAZ				AML	AML	08 49 45.8	
HAZ				AML	AML	08 49 59.6	
HAZ				AML	AML	08 49 59.6	
MXZ	**Matakaoa Point**	**1.40**	**143**	P*	Pn	08 49 25.7	-2.4
MXZ				S*	Sb	08 49 43.2	-3.5
MXZ				AML	AML	08 49 51.7	
GRZ	**Great Barrier**	**1.46**	**277**	PN	Pn	08 49 28.7	-0.3
GRZ				SN	Sb	08 49 47.7	-0.7
GRZ				AML	AML	08 49 55.7	
OPRZ	**Ohinepanea**	**1.50**	**201**	P*	Pn	08 49 28.0	-1.5
OPRZ				AML	AML	08 50 06.3	
OPRZ				AML	AML	08 50 10.2	
RUGZ	**Raukumara Rang**	**1.55**	**167**	P*	Pn	08 49 28.6	-1.8
PKGZ	**Pakihiroa**	**1.58**	**155**	PN	Pn	08 49 28.3	-2.4
PKGZ				AML	AML	08 49 30.7	
PKGZ				AML	AML	08 49 51.7	
WMGZ	**Waiomatatini S**	**1.65**	**146**	PN	Pn	08 49 31.0	-0.7

WMGZ				AML	AML	08 49 58.9	
WMGZ				AML	AML	08 49 59.4	
WIAZ	**Waiheke Island**	**1.73 258**		PN	Pn	08 49 32.6	-0.2
WIAZ				AML	AML	08 50 03.8	
WIAZ				AML	AML	08 50 03.9	
MKAZ	**Moumakai**	**1.80 248**		PN	Pn	08 49 32.8	-0.9
MKAZ				AML	AML	08 50 09.5	
MKAZ				AML	AML	08 50 11.5	
PUZ	**Puketiti**	**1.81 154**	⇓	PN	Pn	08 49 33.7	-0.2
PUZ				AML	AML	08 50 03.8	
PUZ				AML	AML	08 50 08.6	
URZ	**Urewera**	**1.81 183**	⇓	P*	Pn	08 49 32.6	-1.1
URZ				AML	AML	08 50 03.0	
URZ				AML	AML	08 50 08.1	
TWGZ	**Tauwhareparae**	**1.82 161**		PN	Pn	08 49 33.4	0.0
TWGZ				AML	AML	08 50 03.5	
TWGZ				AML	AML	08 50 04.8	
TOZ	**Tahuroa Road**	**1.89 227**		P*	Pn	08 49 34.2	-0.7
TOZ				AML	AML	08 50 17.9	
MWZ	**Matawai**	**1.89 173**		P*	Pn	08 49 33.5	-1.5
MWZ				AML	AML	08 50 07.6	
MWZ				AML	AML	08 50 09.6	
ETAZ	**East Tamaki Re**	**1.93 254**		PN	Pn	08 49 35.7	+0.2
ABAZ	**Army Bay**	**1.95 265**		PN	Pb	08 49 37.8	-0.2
RTZ	**Ruatahuna**	**2.17 186**		P*	Pn	08 49 37.9	-1.0
AWAZ	**Awhitu Peninsu**	**2.18 253**		PN	Pb	08 49 42.0	+0.1
RIGZ	**Rimuhau**	**2.29 170**		PN	Pn	08 49 41.5	+1.0
RIGZ				AML	AML	08 50 00.7	
RIGZ				AML	AML	08 50 24.9	
TLZ	**Tolley Road**	**2.32 215**	⇓	P*	Pn	08 49 40.4	-0.5
NMHZ	**Naumai**	**2.67 187**		PN	Pb	08 49 48.4	-1.8
HIZ	**Hauiti**	**2.80 222**	⇓	PN	Pn	08 49 49.1	+1.7
KWHZ	**Kaweka Forest**	**3.04 192**		P*	Pn	08 49 51.3	+0.5
WNVZ	**Wahianoa**	**3.15 204**		P*	Pb	08 49 56.4	-2.2
BFZ	**Birch Farm**	**4.30 190**		PN	Pn	08 50 07.7	-0.3

*NEIC **16** 09:01:41.4±0.0, 36°.41S×177°.27E, h5km, ML4.1(WEL), After WEL.*

WEL 16 09:01:40.9±0.4, 36°.37S×177°.29E, h5km, ML4.1/23, 4D, Error ellipse: s-maj=3.6km s-min=2.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.32 253**		P*	Pn	09 02 04.3	-1.6
KUZ	**Kuaotunu**	**1.32 253**		P*	Pn	09 02 04.3	-1.6
KUZ				S*	Sg	09 02 22.5	-0.7
KUZ				AML	AML	09 02 29.7	
KUZ				AML	AML	09 02 29.7	
KUZ				AML	AML	09 02 31.9	
HAZ	**Te Kaha**	**1.44 164**		P*	Pn	09 02 05.0	-2.7
HAZ				S*	Sb	09 02 23.9	-2.8
HAZ				AML	AML	09 02 25.3	
HAZ				AML	AML	09 02 32.8	
HAZ				AML	AML	09 02 32.8	
MXZ	**Matakaoa Point**	**1.44 146**		P*	Pn	09 02 05.0	-2.7
MXZ	**Matakaoa Point**	**1.44 146**		P*	Pn	09 02 05.0	-2.7
MXZ				AML	AML	09 02 24.2	
MXZ				AML	AML	09 02 48.3	
GRZ	**Great Barrier**	**1.48 274**		PN	Pn	09 02 08.1	-0.2
GRZ				SN	Sb	09 02 28.3	+0.2
GRZ				AML	AML	09 02 28.7	
OPRZ	**Ohinepanea**	**1.58 202**		P*	Pn	09 02 07.7	-1.9
OPRZ	**Ohinepanea**	**1.58 202**		P*	Pn	09 02 07.7	-1.9
OPRZ				AML	AML	09 02 33.2	
OPRZ				AML	AML	09 02 50.0	
TGRZ	**Tauranga**	**1.58 211**		P*	Pn	09 02 08.3	-1.4
TGRZ	**Tauranga**	**1.58 211**		P*	Pn	09 02 08.3	-1.4
TGRZ				AML	AML	09 02 43.6	
TGRZ				AML	AML	09 02 47.4	
RUGZ	**Raukumara Rang**	**1.62 169**		P*	Pn	09 02 08.5	-1.8
PKGZ	**Pakihiroa**	**1.64 158**		PN	Pn	09 02 08.2	-2.2
PKGZ				AML	AML	09 02 10.6	
PKGZ				AML	AML	09 02 30.7	
WMGZ	**Waiomatatini S**	**1.70 148**		Pn	Pn	09 02 11.1	-0.2
WMGZ	**Waiomatatini S**	**1.70 148**		PN	Pn	09 02 11.1	-0.2
WMGZ				AML	AML	09 02 38.8	
WMGZ				AML	AML	09 02 39.3	
WIAZ	**Waiheke Island**	**1.79 256**		PN	Pn	09 02 11.7	-0.7
WIAZ				AML	AML	09 02 42.3	
WIAZ				AML	AML	09 02 43.8	
MKAZ	**Moumakai**	**1.86 246**		Pn	Pn	09 02 12.6	-0.8
MKAZ	**Moumakai**	**1.86 246**	⇓	PN	Pn	09 02 12.6	-0.8
MKAZ				AML	AML	09 02 45.4	
MKAZ				AML	AML	09 02 49.4	
PUZ	**Puketiti**	**1.86 156**		Pn	Pn	09 02 13.6	0.0
PUZ	**Puketiti**	**1.86 156**	⇓	PN	Pn	09 02 13.6	0.0
PUZ				AML	AML	09 02 46.1	
PUZ				AML	AML	09 02 48.6	
TWGZ	**Tauwhareparae**	**1.88 163**		AML	AML	09 02 42.3	
TWGZ				AML	AML	09 02 43.5	
URZ	**Urewera**	**1.89 184**		P*	Pn	09 02 12.6	-1.3
URZ	**Urewera**	**1.89 184**	⇓	P*	Pn	09 02 12.5	-1.3
URZ				AML	AML	09 02 46.4	
URZ				AML	AML	09 02 49.2	
MWZ	**Matawai**	**1.97 175**		P*	Pn	09 02 13.1	-1.8
MWZ	**Matawai**	**1.97 175**		P*	Pn	09 02 13.1	-1.8
MWZ				AML	AML	09 02 46.5	
MWZ				AML	AML	09 03 04.2	
TOZ	**Tahuroa Road**	**1.97 226**		P*	Pn	09 02 13.9	-1.0
TOZ	**Tahuroa Road**	**1.97 226**		P*	Pn	09 02 13.9	-1.0
TOZ				AML	AML	09 02 57.8	
TOZ				AML	AML	09 02 59.5	
ETAZ	**East Tamaki Re**	**1.99 252**		Pn	Pn	09 02 15.3	+0.1
ETAZ	**East Tamaki Re**	**1.99 252**		PN	Pn	09 02 15.3	+0.1
ABAZ	**Army Bay**	**1.99 263**		PN	Pn	09 02 16.1	+0.8
KBAZ	**Karaka Road Bo**	**2.06 249**		PN	Pn	09 02 16.7	+0.5
TKGZ	**Te Karaka**	**2.11 168**		Pn	Pn	09 02 16.9	0.0
TKGZ	**Te Karaka**	**2.11 168**		PN	Pn	09 02 16.9	0.0
TKGZ				AML	AML	09 02 49.0	
TKGZ				AML	AML	09 02 50.3	
RAGZ	**Rawiri**	**2.12 177**		P*	Pn	09 02 16.0	-1.1
RAGZ	**Rawiri**	**2.12 177**	⇓	P*	Pn	09 02 16.0	-1.1
RAGZ				AML	AML	09 02 45.0	
RAGZ				AML	AML	09 03 00.8	
RVAZ	**Riverhead Bore**	**2.22 259**		Pn	Pn	09 02 18.8	+0.5
RVAZ	**Riverhead Bore**	**2.22 259**		PN	Pn	09 02 18.8	+0.5
CNGZ	**Carnagh Statio**	**2.23 161**		Pn	Pn	09 02 19.4	+0.9
CNGZ	**Carnagh Statio**	**2.23 161**		PN	Pn	09 02 19.4	+0.9
CNGZ				AML	AML	09 02 57.8	
CNGZ				AML	AML	09 03 03.5	
AWAZ	**Awhitu Peninsu**	**2.24 251**		PN	Pn	09 02 18.6	-0.1
RTZ	**Ruatahuna**	**2.25 186**		P*	Pn	09 02 17.6	-1.3
RIGZ	**Rimuhau**	**2.36 171**		PN	Pn	09 02 21.4	+1.0
RIGZ				AML	AML	09 02 53.8	
RIGZ				AML	AML	09 03 12.1	
TLZ	**Tolley Road**	**2.40 215**		P*	Pn	09 02 20.3	-0.7
TLZ	**Tolley Road**	**2.40 215**		P*	Pn	09 02 20.3	-0.7
TLZ				AML	AML	09 02 43.6	
TLZ				AML	AML	09 02 43.6	
WCZ	**Waipu Caves**	**2.42 279**		Pn	Pn	09 02 21.8	+0.6
WCZ	**Waipu Caves**	**2.42 279**		PN	Pn	09 02 21.8	+0.6
WCZ				AML	AML	09 03 14.0	
NMHZ	**Naumai**	**2.75 188**		Pn	Pn	09 02 27.3	+1.6
NMHZ	**Naumai**	**2.75 188**		PN	Pn	09 02 27.3	+1.6
NMHZ				AML	AML	09 03 23.0	
NMHZ				AML	AML	09 03 32.7	
HIZ	**Hauiti**	**2.88 221**		Pn	Pn	09 02 29.0	+1.4
HIZ	**Hauiti**	**2.88 221**		PN	Pn	09 02 29.0	+1.4
KWHZ	**Kaweka Forest**	**3.12 192**		P*	Pn	09 02 31.6	+0.7
KWHZ				AML	AML	09 02 41.9	
KWHZ				AML	AML	09 03 20.5	
OUZ	**Omahuta**	**3.22 290**		Pn	Pn	09 02 32.4	+0.3
OUZ	**Omahuta**	**3.22 290**		PN	Pn	09 02 32.4	+0.3
WNVZ	**Wahianoa**	**3.24 204**		P*	Pn	09 02 35.0	+2.4
NEZ	**North Egmont**	**3.84 220**		Pn	Pn	09 02 42.0	+1.2

JMA 16 09:12:54.8, 34°.91N×139°.22E, h11km±1km, M1.2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.17 322**		P	Pg	09 12 58.7	+0.1
AJI				S	Sg	09 13 01.5	+0.3
JIZS	**Izushimoda**	**0.34 236**		P	Pg	09 13 01.7	+0.1
JIZS				S	Sg	09 13 06.8	+0.6
JOD2	**Odawara 2**	**0.37 343**		P	Pg	09 13 02.0	-0.2
JOD2				S	Sg	09 13 07.4	+0.3

*IDC **16** 09:24:56.0±1.2, 52°.02N×171°.97W, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/67, mbtmp3.9/13, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/47, Error ellipse: s-maj=32.0km s-min=19.1km az=1.0*

*NEIC **16** 09:25:01.1±0.0, 51°.86N×171°.71W, h26km, mb4.3/33, ML3.6(AEIC), After AEIC.*

*ISCJB **16** 09:25:02.9±0.5, 52°.00N±0°.07×171°.82W±0°.05, h63km±4km, mb4.3/25, Error ellipse: s-maj=11.6km s-min=3.8km az=165.4*

ISC 16 09:25:03.7±1.2, 52°.0N±0°.1×171°.75W±0°.04, h58km±11km, n99, σ1$41/97, mb4.3/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.47 286**		P	Pn	09 25 27.3	-0.6
KOSE				S	Sn	09 25 46.8	+0.7
KOFP	**Korovin Flat P**	**1.48 283**		P	Pn	09 25 27.0	-1.1
KOFP				S	Sn	09 25 45.8	-0.7
ATKA	**Atka Island**	**1.53 280**		P	Pn	09 25 26.4	-2.2
ATKA				S	Sn	09 25 45.0	-2.4
KOKL	**Mount Kliuchef**	**1.55 284**		P	Pn	09 25 28.8	-0.2
NIKH	**Nikolski High**	**2.04 59**		P	Pn	09 25 32.9	-2.7
NIKH				S	Sn	09 25 57.2	-2.7
OKSO	**Okmok South**	**2.59 56**		P	Pn	09 25 42.5	-0.6
OKSO				S	Sn	09 26 14.0	+0.5
OKCE	**Okmok Cone E**	**2.63 55**		P	Pn	09 25 43.9	+0.3
OKNC	**Okmok New Cone**	**2.67 54**		P	Pn	09 25 44.2	0.0
OKTU	**Okmok Mt. Tuli**	**2.67 56**		P	Pn	09 25 44.0	-0.2
GSCK	**Great Sitkin C**	**2.73 273**		P	Pn	09 25 44.6	-0.4
OKFG	**Magazine Ridge**	**2.75 57**		P	Pn	09 25 44.7	-0.5
ETKA	**Kagalaska Isla**	**2.89 270**		P	Pn	09 25 47.7	+0.6
ADAG	**Mount Adagdak**	**3.00 272**		P	Pn	09 25 49.3	+0.6
ADK	**Adak**	**3.06 270**		P	Pn	09 25 49.2	-0.3
MSW	**Makushin Switc**	**3.58 55**		P	Pn	09 25 56.5	-0.2
MTBL	**Makushin Table**	**3.67 55**		P	Pn	09 25 59.1	+1.3
UNV	**Unalaska Valle**	**3.69 57**		P	Pn	09 25 57.7	-0.5
AKRB	**Akutan Reef Bi**	**4.06 55**		P	Pn	09 26 05.4	+2.2
AKGG	**Akutan Green G**	**4.13 55**		P	Pn	09 26 06.4	+2.2
AKUT	**Akutan**	**4.21 57**		*e*Pn	Pn	09 26 07.2	+2.0
SPIA	**Saint Paul Isl**	**5.30 9**		P	Pn	09 26 20.8	+0.7
FALS	**False Pass**	**5.76 57**		*e*Pn	Pn	09 26 28.0	+1.5
SDPT	**Sand Point**	**7.51 59**		*e*Pn	Pn	09 26 52.4	+2.1
CHGN	**Chignik**	**8.95 56**		*e*Pn	Pn	09 27 09.5	-0.5
KDAK	**Kodiak Island**	**12.46 55**		Pn	Pn	09 27 54.8	-3.1
	0.3nm,0.3s,baz=222,slow=14,SNR=11						
KDAK				LR	LR	09 32 46.3	
	comp=Z,71nm,21.6s,baz=261,slow=38						
SVW2	**Sparrevohn**	**12.74 38**		*e*Pn	Pn	09 28 05.0	+3.1
CNPM	**China Poot**	**13.77 49**		*e*Pn	Pn	09 28 18.8	+3.0
TT01	**Tatalina**	**13.81 31**		*e*Pn	Pn	09 28 18.9	+2.7
TTA	**Tatalina**	**13.83 31**		*e*Pn	Pn	09 28 19.2	+2.6
SEW	**Seward**	**14.83 48**		*e*Pn	Pn	09 28 30.8	+1.1
CAST	**Castle Rocks**	**15.48 35**		*e*Pn	P	09 28 43.0	+1.6
	26nm,1.8s						
KTH	**Kantishna Hill**	**15.97 35**		*e*P	P	09 28 47.6	+0.7
	42nm,1.9s						
TRF	**Thorofare Moun**	**16.14 36**		*e*P	P	09 28 48.9	-0.1
	38nm,1.9s						
BPAW	**Bear Paw Mtn.**	**16.29 34**		*e*P	P	09 28 51.1	+0.7
	9.8nm,1.6s						
FID	**Port Fidalgo**	**16.44 48**		*e*Pn	Pn	09 28 50.9	+0.7
	86nm,1.4s						
SCM	**Sheep Creek Mo**	**16.49 44**		*e*Pn	Pn	09 28 51.3	+0.3
	70nm,1.7s						
SCM				*e*Sn	S	09 32 20.3	+18
MCK	**McKinley**	**16.80 37**		*e*Pn	Pn	09 28 54.7	0.0
	2.0nm,0.7s						
MLY	**Manley**	**16.96 31**		*e*Pn	P	09 28 58.0	+0.1
	19nm,1.8s						
KLU	**Klutina**	**16.97 46**		*e*Pn	P	09 28 57.9	-0.1
	35nm,1.6s						
BMRM	**Bremner River**	**17.38 48**		*e*Pn	P	09 29 02.3	-0.1
	36nm,1.4s						
WRH	**Wood River Hil**	**17.52 35**		*e*Pn	Pn	09 29 03.2	-0.4
	9.8nm,1.4s						
HARP	**HAARP**	**17.66 43**		*e*Pn	P	09 29 05.7	+0.2
	81nm,1.9s						
CCB	**Clear Creek Bu**	**17.73 35**		*e*Pn	Pn	09 29 04.8	-1.2
	13nm,1.8s						
MDM	**Murphy Dome**	**17.76 34**		*e*Pn	P	09 29 06.4	-0.2
	10nm,1.7s						
HDA	**Harding Lake**	**17.90 36**		*e*P	Pn	09 29 08.9	+0.6
	22nm,1.9s						
IL1	**Eielson Array**	**18.12 35**		*e*P	P	09 29 10.3	-0.3
ILAR	**Eielson Array**	**18.12 35**		P	P	09 29 08.6	-2.0
	0.2nm,0.3s,baz=227,slow=11,SNR=17						
ILB	**Eielson Array**	**18.12 35**		*e*P	P	09 29 08.9	-1.7
BALM	**Baldy**	**18.45 49**		*e*P	Pn	09 29 16.6	+1.6
	24nm,1.4s						
DOT	**Dot Lake**	**18.64 40**		*e*P	P	09 29 15.7	-0.6
	3.4nm,0.7s						
PCA	**Pinnacle**	**19.23 53**		*e*P	Pn	09 29 24.4	+0.1
	127nm,1.4s						
EGAK	**Eagle**	**20.27 39**		*e*P	P	09 29 34.0	-0.1
	3.0nm,0.6s						
HYT	**Haines Junctio**	**20.70 51**		*e*P	P	09 29 39.6	+0.8
	8.0nm,0.7s						
DAWY	**Dawson**	**20.71 42**		*e*P	Pn	09 29 40.9	-0.7
	23nm,1.9s						
SKAG	**Skagway**	**21.61 55**		*e*P	P	09 29 49.2	+0.8
	20nm,1.1s						
WHY	**Whitehorse**	**21.95 52**		*e*P	P	09 29 53.4	+1.2
	44nm,1.9s						
DLBC	**Dease Lake**	**24.35 58**		P	P	09 30 17.6	+1.8
	2.4nm,0.5s,baz=251,slow=8.0,SNR=12						
INK	**Inuvik**	**24.50 34**		P	P	09 30 16.3	-0.6
	1.4nm,0.4s,baz=229,slow=9.8,SNR=12						
YKA	**Yellowknife Ar**	**31.61 48**		P	P	09 31 20.6	+0.2
	0.6nm,0.4s,baz=276,slow=7.0,SNR=12						
YKB5	**Yellowknife Ar**	**31.61 48**		*e*P	P	09 31 20.6	+0.2
YBH	**Yreka Blue Hor**	**34.45 87**		*e*P	P	09 31 47.2	+1.6
	19nm,1.8s						
H11N2	**WAKE ISLAND Hy**	**36.25 215**		T	T	10 10 33.5	
	baz=20,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**36.25 215**		T	T	10 10 36.8	
	baz=20,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**36.26 215**		T	T	10 10 34.9	
	baz=20,slow=76,SNR=19						
WAKE	**Wake Island**	**36.74 216**		*e*P	P	09 32 05.6	+0.3
	61nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**37.44 215**		T	T	10 12 01.3	
	baz=22,slow=76,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**37.46 215**		T	T	10 12 02.3	
	baz=22,slow=76,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**37.46 215**		T	T	10 12 02.6	
	baz=22,slow=76,SNR=6.6						
CHMT	**Chamberlain Mo**	**37.48 74**		*e*P	P	09 32 15.3	+3.7
DLMT	**Dillon**	**38.66 76**		*e*P	P	09 32 23.4	+1.9
	16nm,1.9s						
MCMT	**McKenzie Canyo**	**38.80 77**		*e*P	P	09 32 23.7	+1.0
EGMT	**Eagleton**	**38.98 70**		*e*P	P	09 32 24.8	+0.8
	12nm,1.4s						
YHH	**Holmes Hill**	**40.02 75**		*e*P	P	09 32 35.7	+2.8
	12nm,2.0s						
SNUT	**Stansbury Nort**	**41.22 81**		*e*P	P	09 32 38.7	-4.1
BW06	**Boulder Array**	**41.92 77**		*e*P	P	09 32 49.5	+0.9
PD31	**Pinedale Array**	**41.92 77**		*e*P	P	09 32 49.5	+1.0
PDAR	**Pinedale Array**	**41.92 77**		P	P	09 32 49.5	+1.0
	0.3nm,0.4s,baz=317,slow=6.2,SNR=3.6						
DSCC	**Desert Studies**	**42.58 91**		*e*P	P	09 32 53.3	-0.4
IRM	**Iron Mountain**	**43.82 91**		*e*P	P	09 33 00.8	-2.9
PV01	**Paradox Valley**	**45.31 82**		*e*P	P	09 33 16.9	+1.1
ECSD	**EROS Data Cent**	**48.99 68**		*e*P	P	09 33 43.6	-0.4
	20nm,1.8s						
TX31	**Lajitas Ar. Si**	**54.23 87**		*e*P	P	09 34 24.1	+0.7
TXAR	**Lajitas Array**	**54.23 87**		P	P	09 34 23.9	+0.4
	0.2nm,0.5s,baz=298,slow=6.4,SNR=5.3						
ARA0	**ARCESS Array S**	**58.16 353**		*e*P	P	09 34 49.8	-1.0
ARCES	**ARCESS Array B**	**58.16 353**		P	P	09 34 49.8	-1.0
	1.6nm,0.9s,baz=11,slow=6.4,SNR=3.0						
WCI	**Wyandotte Cave**	**58.48 67**		*e*P	P	09 34 54.1	+0.6
	32nm,1.7s						
KURK	**Kurchatov**	**61.69 317**		*e*P	P	09 35 15.0	-0.3
	2.7nm,1.1s						
MK32	**Makanchi Array**	**63.01 312**		*e*P	P	09 35 23.6	-0.5
MKAR	**Makanchi Array**	**63.01 312**		P	P	09 35 23.6	-0.5
	0.3nm,0.4s,baz=51,slow=7.2,SNR=3.5						
BVAR	**Borovoye Array**	**63.17 323**		P	P	09 35 25.6	+0.6
	1.4nm,0.5s,baz=55,slow=5.7,SNR=11						
ARU	**Arti**	**64.30 332**		*e*P	P	09 35 32.6	+0.2
	4.0nm,0.9s						
FIA0	**FINESS Array S**	**66.05 351**		*e*P	P	09 35 43.2	-0.5
FINES	**FINESS Array B**	**66.05 351**		P	P	09 35 43.2	-0.5
	1.3nm,0.8s,baz=12,slow=7.5,SNR=3.1						
HFS	**Hagfors**	**68.17 357**		P	P	09 35 56.2	-1.0
	0.7nm,0.4s,baz=46,slow=6.2,SNR=6.1						
AKTO	**Aktyubinsk**	**69.61 329**		P	P	09 36 06.4	+0.1
	2.8nm,0.5s,baz=63,slow=7.8,SNR=4.3						
ABKAR	**Akbulak array**	**69.99 327**		*e*P	P	09 36 08.5	-0.1
	1.3nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**81.78 359**		*e*P	P	09 37 17.1	+1.0
	9.9nm,1.4s						
AS01	**Alice Springs**	**89.00 228**		*e*P	P	09 37 52.2	+0.3
ASAR	**Alice Springs**	**89.02 228**		P	P	09 37 51.8	-0.2
	0.5nm,0.8s,baz=54,slow=6.4,SNR=5.2						

IDC 16 09:27:49.4±8.9, 32°.32S×179°.79W, h274km±95km, mb3.4/2, mb1 3.5/3, mb1mx3.1/33, mbtmp3.9/3, Error ellipse: s-maj=98.1km s-min=41.6km az=2.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.44 202**		P	Pn	09 29 25.3	+1.9
	0.5nm,0.3s,baz=21,slow=17,SNR=6.9						
URZ				S	S	09 30 37.2	-1.8
	0.9nm,0.3s,baz=218,slow=18,SNR=5.9						
ASAR	**Alice Springs**	**41.52 270**		P	P	09 35 10.8	+0.3
	0.9nm,0.3s,baz=108,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**42.69 275**		P	P	09 35 19.6	-0.4
	1.2nm,0.5s,baz=112,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**146.38 338**		PKPbc	PKPdf	09 46 56.2	+0.7
	2.1nm,0.9s,baz=45,slow=4.1,SNR=2.6						

*NEIC **16** 09:28:42.0±0.0, 35°.60N×29°.74E, h8km, mb4.2/5, ML3.6(ISK), After ISK.*

*ISK **16** 09:28:42.0, 35°.60N×29°.74E, h9km, ML3.6*

*THE **16** 09:28:43.8, 35°.72N×29°.87E, h11km, ML3.5/4, Error ellipse: s-maj=3.6km s-min=0.8km az=65.0*

*ATH **16** 09:28:44.5, 35°.83N±29°.58E, h23km±1km, ML3.1/5, Error ellipse: s-maj=3.9km s-min=1.6km az=1.0*

*DDA **16** 09:28:45.5, 35°.75N×29°.58E, h38km, Ml3.6*

*IDC **16** 09:28:45.4±4.1, 35°.73N×29°.81E, h33km±37km, mb3.6/9, mb1 3.7/15, mb1mx3.6/51, mbtmp3.8/15, ML3.9/6, Error ellipse: s-maj=20.1km s-min=14.2km az=166.0*

*CSEM **16** 09:28:45.2±0.1, 35°.62N×29°.77E, h30km, ML3.5, Error ellipse: s-maj=2.6km s-min=1.9km az=28.0*

*GII **16** 09:28:47.5±0.1, 35°.57N×29°.89E, h32km, MD3.6/5*

*HLW **16** 09:28:50.2, 35°.17N×29°.71E, h40km±24km, Md3.3, Ml3.2*

*NSSC **16** 09:28:58.0±2.0, 35°.56N×31°.35E, h0km±70km, ML3.3*

ISC 16 09:28:43.9±1.2, 35°.62N±0°.03×29°.78E±0°.02, h23km±10km, n297, σ1$22/364, mb3.9/11, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.56 343**		P	Pb	09 28 53.6	-1.4
KSL				S	Sb	09 29 01.4	-1.1
AKAS	**Kas**	**0.63 347**		*e*PG	Pb	09 28 54.8	-1.5
AKAS				*e*SG	Sb	09 29 04.2	-0.6
AKAS	**Kas**	**0.63 347**		*i* P	Pb	09 28 56.2	-0.1
AKAS				*i* S	Sb	09 29 05.7	+0.9
AKAS	**Kas**	**0.63 347**		*e*Pg	Pb	09 28 54.8	-1.5
AKAS	**Kas**	**0.63 347**		*e*Pn	Pb	09 28 55.8	-0.6
AKAS	**Kas**	**0.63 347**		P	Pb	09 28 56.2	-0.1
AKAS				*e*Sg	Sb	09 29 04.2	-0.6
AKAS				S	Sb	09 29 05.7	+0.9
AKAS				*e*Sn	Sn	09 29 06.7	-0.4
AKAS	**Kas**	**0.63 347**		*e*Pn	Pb	09 28 55.8	-0.6
AKAS				*e*Sn	Sn	09 29 06.7	-0.4
ELL	**Elmali**	**1.13 5**		*e*PN	Pn	09 29 04.6	+0.1
ELL	**Elmali**	**1.13 5**		*e*Pn	Pn	09 29 04.6	+0.1
FETY	**Fethiye**	**1.16 331**		*e*PN	Pn	09 29 04.4	-0.4
FETY	**Fethiye**	**1.16 331**		P	Pn	09 29 03.6	-1.2
FETY				S	Sn	09 29 18.8	-1.2
FETY	**Fethiye**	**1.16 331**		P	Pn	09 29 04.6	-0.2
FETY				S	Sn	09 29 18.8	-1.2
FETI	**Fethiye-Mugla**	**1.21 333**		*e*PN	Pn	09 29 05.5	+0.2
FETI	**Fethiye-Mugla**	**1.21 333**		*e*Pn	Pn	09 29 05.6	+0.2
KORT	**Korkueli**	**1.46 18**		*e*PN	Pn	09 29 09.5	+0.5
KORT	**Korkueli**	**1.46 18**		*i* P	Pn	09 29 09.5	+0.5
KORT				*i* S	Sb	09 29 31.3	+2.8
KORT	**Korkueli**	**1.46 18**		P	Pn	09 29 09.5	+0.5
KORT				S	Sb	09 29 31.3	+2.8
ANTB	**Antalya**	**1.46 29**		*e*PN	Pb	09 29 09.8	-0.6
ANTB				*e*SN	Sb	09 29 29.9	+1.4
ANTB	**Antalya**	**1.46 29**		*e*Pn	Pb	09 29 09.8	-0.6
ANTB				*e*Sn	Sb	09 29 29.9

BAGO	Egridir - ISPA	2.50	19	*i* P	Pn	09 29 25.2	+1.9
LEF	Lefka	2.59	100	*e*PN	Pn	09 29 25.5	+1.1
LEF	Lefka	2.59	100	*e*Pn	Pn	09 29 25.5	+1.1
BOZY	Bozyazi-Mersin	2.64	78	*e*PN	Pn	09 29 26.6	+1.5
BOZY	Bozyazi-Mersin	2.64	78	*e*Pn	Pn	09 29 26.6	+1.5
TEKE	Tekeli-Mersin	2.76	78	*e*PN	Pn	09 29 28.2	+1.6
TEKE	Tekeli-Mersin	2.76	78	*e*Pn	Pn	09 29 28.3	+1.6
BERE	Bereket-Mersin	2.89	74	*e*PN	Pn	09 29 30.1	+1.5
BERE	Bereket-Mersin	2.89	74	*e*Pn	Pn	09 29 30.1	+1.5
ZKR	Zakros	2.96	261	P	Pn	09 29 30.9	+1.5
ZKR				S	Sn	09 30 05.7	+1.5
ZKR	Zakros	2.96	261	P	Pn	09 29 30.3	+0.8
ZKR				S	Sn	09 30 05.5	+1.3
ZKR				AML	AML	09 30 08.6	
	comp=N,195μm,0.4s						
ZKR				AML	AML	09 30 09.5	
	comp=E,211μm,0.3s						
ZKR	Zakros	2.96	261	P	Pn	09 29 30.3	+0.8
ZKR				S	Sn	09 30 05.5	+1.3
CSS	Mathiatis	2.98	102	P	Pn	09 29 30.8	+1.0
CSS	Mathiatis	2.98	102	Pn	Pn	09 29 30.1	+0.3
CSS	Mathiatis	2.98	102	Pn	Pn	09 29 30.1	+0.3
CSS	Mathiatis	2.98	102	P	Pn	09 29 30.8	+1.0
CSS	Mathiatis	2.98	102	*e*Pn	Pn	09 29 31.4	+1.7
YORU	Yoruktepe-Mers	2.99	79	*e*PN	Pn	09 29 31.6	+1.7
YORU	Yoruktepe-Mers	2.99	79	*e*Pn	Pn	09 29 31.7	+1.7
SHUT	Suhut-Afyon	2.99	12	*e*PN	Pn	09 29 31.4	+1.3
SHUT	Suhut-Afyon	2.99	12	*e*Pn	Pn	09 29 31.4	+1.3
KULA	Kula-Manisa	3.03	343	*e*PN	Pn	09 29 31.8	+1.3
KULA	Kula-Manisa	3.03	343	P	Pn	09 29 29.2	-1.3
KULA	Kula-Manisa	3.03	343	P	Pn	09 29 29.2	-1.3
KULA	Kula-Manisa	3.03	343	*e*Pn	Pn	09 29 31.8	+1.3
OREN	Orenkoy-Mersin	3.04	78	*e*PN	Pn	09 29 32.2	+1.6
OREN	Orenkoy-Mersin	3.04	78	*e*Pn	Pn	09 29 32.2	+1.6
TEVE	Tevekalti-Mers	3.08	74	*e*PN	Pn	09 29 32.9	+1.7
TEVE	Tevekalti-Mers	3.08	74	*e*Pn	Pn	09 29 32.9	+1.7
KONT	Konya--Tatoy	3.11	41	*e*PN	Pn	09 29 33.4	+1.8
KONT	Konya--Tatoy	3.11	41	*e*Pn	Pn	09 29 33.4	+1.8
LADK	Ladik-KONYA	3.31	38	*e*PN	Pn	09 29 36.1	+1.7
LADK	Ladik-KONYA	3.31	38	*e*Pn	Pn	09 29 36.1	+1.7
NPS	Neapolis	3.42	265	P	Pn	09 29 37.3	+1.4
NPS				S	Sn	09 30 17.5	+1.8
NPS	Neapolis	3.42	265	P	Pn	09 29 37.6	+1.7
NPS				S	Sn	09 30 15.6	-0.1
NPS				AML	AML	09 30 18.4	
	comp=N,158μm,0.3s						
NPS				AML	AML	09 30 18.6	
	comp=E,336μm,0.3s						
NPS	Neapolis	3.42	265	P	Pn	09 29 37.3	+1.4
NPS				S	Sn	09 30 15.6	-0.1
GEDZ	Gediz	3.43	355	*e*PN	Pn	09 29 37.6	+1.5
GEDZ	Gediz	3.43	355	*e*Pn	Pn	09 29 37.6	+1.5
SIMA	Simav-Kutahya	3.52	350	*e*PN	Pn	09 29 39.0	+1.7
SIMA	Simav-Kutahya	3.52	350	*e*Pn	Pn	09 29 39.0	+1.7
LAST	Lasithi	3.54	264	P	Pn	09 29 39.0	+1.4
LAST				S	Sn	09 30 19.9	+1.0
LAST	Lasithi	3.54	264	P	Pn	09 29 39.6	+2.0
LAST				S	Sn	09 30 17.2	-1.6
LAST				AML	AML	09 30 23.6	
	comp=N,152μm,0.5s						
LAST				AML	AML	09 30 24.4	
	comp=E,157μm,0.7s						
LAST	Lasithi	3.54	264	P	Pn	09 29 39.0	+1.4
LAST				S	Sn	09 30 19.9	+1.0
SANT	Santorini	3.58	283	P	Pn	09 29 38.4	+0.3
SANT	Santorini	3.58	283	P	Pn	09 29 38.5	+0.3
SANT				S	Sn	09 30 16.9	-2.9
SANT	Santorini	3.58	283	P	Pn	09 29 38.5	+0.3
SANT	Santorini	3.58	283	*e*Pn	Pn	09 29 39.5	+1.4
SANT				S	Sn	09 30 16.9	-2.9
SANT	Santorini	3.58	283	*e*Pn	Pn	09 29 39.5	+1.4
THT1	Athinios (Pele	3.61	284	P	Pn	09 29 38.7	+0.3
THT1	Athinios (Pele	3.61	284	P	Pn	09 29 38.7	+0.3
THT1	Athinios (Pele	3.61	284	P	Pn	09 29 38.7	+0.3
THR6	Thira Island,	3.63	283	P	Pn	09 29 39.4	+0.7
THR6	Thira Island,	3.63	283	P	Pn	09 29 39.4	+0.7
SAP1	Santorini-Akro	3.63	283	P	Pn	09 29 38.6	-0.1
SAP1	Santorini-Akro	3.63	283	P	Pn	09 29 38.6	-0.1
APE	Apeiranthos	3.72	294	*e*PN	Pn	09 29 41.2	+1.1
APE	Apeiranthos	3.72	294	P	Pn	09 29 40.3	+0.2
APE	Apeiranthos	3.72	294	P	Pn	09 29 40.1	+0.1
APE	Apeiranthos	3.72	294	P	Pn	09 29 40.3	+0.2
APE	Apeiranthos	3.72	294	*e*Pn	Pn	09 29 41.2	+1.1
URLA	Izmir	3.74	318	*e*PN	Pn	09 29 41.6	+1.3
URLA	Izmir	3.74	318	*e*Pn	Pn	09 29 41.6	+1.3
CHBY	Cihanbeyli	3.87	39	*e*PN	Pn	09 29 44.0	+2.0
CHBY	Cihanbeyli	3.87	39	*e*Pn	Pn	09 29 44.0	+2.0
IDI	Anoyia	4.00	267	PN	Pn	09 29 44.6	+0.7
	comp=E,4.1nm,0.3s,baz=87,slow=17,SNR=46						
IDI				Sn	Sn	09 30 28.2	-2.0
	comp=E,5.3nm,0.3s,baz=275,slow=18,SNR=3.6						
IDI	Anoyia	4.00	267	P	Pn	09 29 44.5	+0.6
IDI	Anoyia	4.00	267	P	Pn	09 29 44.7	+0.8
CHOS	Chios island	4.07	314	*e*PN	Pn	09 29 46.0	+1.2
CHOS	Chios island	4.07	314	P	Pn	09 29 45.8	+1.0
CHOS	Chios island	4.07	314	P	Pn	09 29 45.8	+1.0
SVRH	Sivrihisar-ESK	4.07	19	*e*PN	Pn	09 29 46.5	+1.7
SVRH	Sivrihisar-ESK	4.07	19	*e*Pn	Pn	09 29 46.5	+1.7
SIVA	Sivas	4.11	263	P	Pn	09 29 46.5	+1.2
SIVA				S	Sn	09 30 35.3	+2.7
SIVA	Sivas	4.11	263	P	Pn	09 29 46.3	+1.0
SIVA	Sivas	4.11	263	P	Pn	09 29 46.3	+1.0
SIVA				S	Sn	09 30 35.3	+2.7
BALB	Balikesir	4.29	340	*e*PN	Pn	09 29 49.8	+2.1
BALB	Balikesir	4.29	340	*e*Pn	Pn	09 29 49.8	+2.1
MHLO	Agia Marina, M	4.48	285	P	Pn	09 29 49.8	-0.6
MHLO	Agia Marina, M	4.48	285	P	Pn	09 29 49.8	-0.6
VAM	Vamos	4.56	269	P	Pn	09 29 52.1	+0.6
VAM	Vamos	4.56	269	P	Pn	09 29 52.7	+1.3
VAM	Vamos	4.56	269	P	Pn	09 29 52.1	+0.6
GVD	Gavdhos	4.72	262	P	Pn	09 29 54.5	+0.7
GVD	Gavdhos	4.72	262	P	Pn	09 29 54.2	+0.4
GVD	Gavdhos	4.72	262	P	Pn	09 29 54.5	+0.7
IMMV	Iera Moni Meta	4.73	270	P	Pn	09 29 54.8	+0.9
IMMV	Iera Moni Meta	4.73	270	P	Pn	09 29 55.1	+1.3
IMMV	Iera Moni Meta	4.73	270	P	Pn	09 29 54.8	+0.9
BR231	Keskin MP Arra	4.84	28	*e*Pn	Pn	09 29 58.9	+3.5
BR231	Keskin MP Arra	4.84	28	*e*Pn	Pn	09 29 58.9	+3.5
ANTO	Ankara	4.87	28	*e*Pn	Pn	09 29 58.3	+2.5
ANTO	Ankara	4.87	28	*e*Pn	Pn	09 29 58.3	+2.5
ARNB	Al Arnab	5.04	85	*e*P	Pn	09 29 58.1	-0.1
ARNB				*e*S	Sn	09 30 41.0	-15
ARNB				AML	AML	09 31 00.8	
	comp=E,76nm,0.6s						
ARNB				AML	AML	09 31 01.4	
	comp=N,72nm,0.3s						
BR101	Keskin Array S	5.12	36	*e*Pn	Pn	09 29 59.5	+0.2
BR101				*e*Sn	Sn	09 30 56.7	-1.1
BR101	Keskin Array S	5.12	36	*e*Pn	Pn	09 29 59.5	+0.2
BR101				*e*Sn	Sn	09 30 56.6	-1.1
BR131	Keskin Array S	5.12	36	*e*Pn	Pn	09 30 00.3	+1.0
BR131	Keskin Array S	5.12	36	*e*Pn	Pn	09 30 00.3	+1.0
BRTR	Keskin Array B	5.12	36	Pn	Pn	09 29 59.5	+0.3
	comp=N,1.4nm,0.3s,baz=209,slow=15,SNR=32						
BRTR				Sn	Sn	09 30 56.6	-1.1
	comp=N,3.7nm,0.3s,baz=205,slow=25,SNR=13						
HNTI	Hanita	5.13	118	Pn	Pn	09 29 59.7	+0.4
HNTI				Sn	Sn	09 30 56.9	-0.9
HNTI	Hanita	5.13	118	Pn	Pn	09 29 59.7	+0.4
HNTI				Sn	Sn	09 30 56.9	-0.9
HWQ	Hawqa	5.24	103	*e*P	Pn	09 30 02.5	+1.5
HWQ	Hawqa	5.24	103	*e*P	Pn	09 30 02.5	+1.5
OFRI	'Ofer	5.25	123	Pn	Pn	09 30 01.8	+0.8
OFRI				Sn	Sn	09 30 59.0	-1.9
OFRI	'Ofer	5.25	123	Pn	Pn	09 30 01.8	+0.8
OFRI				Sn	Sn	09 30 59.0	-1.9
ANKY	Antikythira Is	5.28	275	P	Pn	09 30 02.6	+1.3
ANKY	Antikythira Is	5.28	275	P	Pn	09 30 03.5	+2.2
ANKY	Antikythira Is	5.28	275	P	Pn	09 30 02.6	+1.3
MMA0B	Mount Meron ar	5.33	118	Pn	Pn	09 30 03.0	+0.9
MMA0B				Sn	Sn	09 31 01.5	-1.3
MMA0B	Mount Meron ar	5.33	118	Pn	Pn	09 30 03.0	+0.9
MMA0B				Sn	Sn	09 31 01.5	-1.3
MMAI	Mount Meron Ar	5.33	118	Pn	Pn	09 30 03.3	+1.1
	comp=N,17nm,0.3s,baz=290,slow=12,SNR=30						
MMAI				Sn	Sn	09 31 00.2	-2.6
	comp=N,80nm,0.3s,baz=246,slow=26,SNR=21						
BIDA	Albida	5.38	95	*e*P	Pn	09 30 02.6	-0.3
BIDA				*e*S	Sn	09 30 48.9	-15
BIDA				AML	AML	09 31 03.1	
	comp=N,286nm,0.4s						
BIDA				AML	AML	09 31 03.4	
	comp=E,394nm,0.4s						
RCY	Rachaya	5.43	111	*e*P	Pn	09 30 04.4	+0.8
RCY	Rachaya	5.43	111	*e*P	Pn	09 30 04.4	+0.8
KSDI	Kefar Szold	5.43	115	Pn	Pn	09 30 03.8	+0.4
KSDI				Sn	Sn	09 31 03.9	-1.3
KSDI	Kefar Szold	5.43	115	Pn	Pn	09 30 03.8	+0.4
KSDI				Sn	Sn	09 31 03.9	-1.3
BTCH	Batrach	5.44	84	*e*P	Pn	09 30 03.5	-0.2
BTCH				*e*S	Sn	09 30 51.4	-14
BTCH				AML	AML	09 31 13.1	
	comp=N,173nm,0.4s						
BTCH				AML	AML	09 31 13.8	
	comp=E,138nm,0.5s						
KYTH	Kithira	5.50	279	P	Pn	09 30 04.7	+0.2
KYTH	Kithira	5.50	279	P	Pn	09 30 04.7	+0.2
SLTI	Sal'it	5.52	126	Pn	Pn	09 30 05.2	+0.5
SLTI				Sn	Sn	09 31 06.5	-1.0
SLTI	Sal'it	5.52	126	Pn	Pn	09 30 05.2	+0.5
SLTI				Sn	Sn	09 31 06.5	-1.0
HAWK	Haweek	5.54	99	*e*P	Pn	09 30 05.6	+0.5
HAWK				*e*S	Sn	09 30 53.2	-15
HAWK				AML	AML	09 31 07.2	
	comp=E,233nm,0.4s						
HAWK				AML	AML	09 31 11.6	
	comp=N,78nm,0.2s						
BRBR	Barbar	5.55	112	*e*P	Pn	09 30 06.6	+1.3
BRBR				*e*S	Sn	09 30 56.1	-12
BRBR				AML	AML	09 31 11.0	
	comp=E,194nm,0.4s						
BRBR				AML	AML	09 31 11.1	
	comp=N,90nm,0.4s						
DID	Didima	5.59	292	P	Pn	09 30 07.0	+1.2
DID	Didima	5.59	292	P	Pn	09 30 07.0	+1.2
SLUM	Salum	5.61	224	P	Pn	09 30 06.9	+1.0
	baz=227						
SLUM				AMP		09 31 00.0	
	comp=N,40μm,0.5s,logA/T=4.9,baz=227						
SLUM				S	Sn	09 31 05.4	-4.2
	baz=227						
SLUM	Salum	5.61	224	P	Pn	09 30 06.9	+1.0
KSHT	Keshet	5.64	116	Pn	Pn	09 30 08.2	+1.8
KSHT	Keshet	5.64	116	Pn	Pn	09 30 08.2	+1.8
VLI	Veliai	5.64	283	P	Pn	09 30 06.6	+0.2
VLI	Veliai	5.64	283	P	Pn	09 30 06.6	+0.2
MMLI	Mount Malkishu	5.66	122	Pn	Pn	09 30 07.4	+0.8
MMLI				Sn	Sn	09 31 09.8	-1.1
MMLI	Mount Malkishu	5.66	122	Pn	Pn	09 30 07.4	+0.8
MMLI				Sn	Sn	09 31 09.8	-1.1
DRWC	Darouich	5.66	78	*e*P	Pn	09 30 06.7	0.0
DRWC				*e*S	Sn	09 30 57.0	-14
DRWC				AML	AML	09 31 14.6	
	comp=N,62nm,0.4s						
DRWC				AML	AML	09 31 16.7	
	comp=E,55nm,0.6s						
RSH		5.70	143	P	Pn	09 30 08.6	+1.4
	baz=140						
RSH		5.70	143	P	Pn	09 30 08.6	+1.4
MARH	Ras Al Marh	5.74	104	*e*P	Pn	09 30 05.9	-2.0
MARH				*e*S	Sn	09 30 58.2	-15
MARH				AML	AML	09 31 12.5	
	comp=N,78nm,0.5s						
MARH				AML	AML	09 31 15.0	
	comp=E,123nm,0.6s						
HMDT	Nahal Hemdat	5.84	123	Pn	Pn	09 30 09.7	+0.7
HMDT				Sn	Sn	09 31 14.1	-1.2
HMDT	Nahal Hemdat	5.84	123	Pn	Pn	09 30 09.7	+0.7
HMDT				Sn	Sn	09 31 14.1	-1.2
AMAZ	Amatzia	5.91	132	Pn	Pn	09 30 11.0	+0.9
AMAZ				Sn	Sn	09 31 16.1	-1.1
AMAZ	Amatzia	5.91	132	Pn	Pn	09 30 11.0	+0.9
AMAZ				Sn	Sn	09 31 16.1	-1.1
KOT	Kottamia	5.93	163	P	Pn	09 30 11.1	+0.7
	baz=160						
KOT	Kottamia	5.93	163	P	Pn	09 30 11.1	+0.7
TOTH	TOTAH	5.93	110	*e*P	Pn	09 30 12.6	+2.1
TOTH				*e*S	Sn	09 31 04.1	-14
TOTH				AML	AML	09 31 19.8	
	comp=N,119nm,0.3s						
TOTH				AML	AML	09 31 21.0	
	comp=E,89nm,0.2s						
HHAG	Hagoal	5.98	160	P	Pn	09 30 11.4	+0.4
	baz=158						
HHAG	Hagoal	5.98	160	P	Pn	09 30 11.4	+0.4
YTIR	Yattir	6.15	132	Pn	Pn	09 30 14.6	+1.1
YTIR	Yattir	6.15	132	Pn	Pn	09 30 14.6	+1.1
HSAF	As Saff	6.17	165	P	Pn	09 30 14.2	+0.6
	baz=163						
HSAF	As Saff	6.17	165	P	Pn	09 30 14.2	+0.6
DSI	Dead Sea	6.17	129	Pn	Pn	09 30 14.2	+0.5
DSI				Sn	Sn	09 31 23.0	-0.6
DSI	Dead Sea	6.17	129	Pn	Pn	09 30 14.2	+0.5
DSI				Sn	Sn	09 31 23.0	-0.6
GLL	Jalalah	6.24	164	P	Pn	09 30 15.4	+0.8
	baz=162						
GLL	Jalalah	6.24	164	P	Pn	09 30 15.4	+0.8
GUR	Goura	6.40	293	P	Pn	09 30 16.6	-0.3
GUR	Goura	6.40	293	P	Pn	09 30 16.6	-0.3
RMNI	Mount Ramon	6.52	139	Pn	Pn	09 30 19.7	+1.2
RMNI	Mount Ramon	6.52	139	Pn	Pn	09 30 19.7	+1.2
KLV	Kalavryta, Ach	6.58	294	P	Pn	09 30 18.8	-0.5
KLV	Kalavryta, Ach	6.58	294	P	Pn	09 30 18.8	-0.5
PYL	PYLOS	6.62	283	P	Pn	09 30 19.9	+0.1
PYL	PYLOS	6.62	283	P	Pn	09 30 19.9	+0.1
HNKL	Nakhl	6.68	147	S	Sn	09 31 32.2	-4.0
	baz=144						
ZFRI	Zfri	6.78	137	Pn	Pn	09 30 23.0	+1.0
ZFRI	Zfri	6.78	137	Pn	Pn	09 30 23.0	+1.0
AGG	Agios Georgios	6.84	302	*e*Pn	Pn	09 30 27.3	+4.5
ASF	Jabal al Asfar	6.84	118	Pn	Pn	09 30 24.3	+1.3
	comp=E,1.5nm,0.3s,baz=62,slow=2.7,SNR=9.2						
ASF				Sn	Sn	09 31 39.4	-0.8
	comp=E,1.8nm,0.3s,baz=322,slow=19,SNR=2.6						
PRNI	Paran	6.84	139	Pn	Pn	09 30 23.9	+1.0
PRNI	Paran	6.84	139	Pn	Pn	09 30 23.9	+1.0
DRO	Drossia	6.88	292	P	Pn	09 30 24.3	+0.9
DRO	Drossia	6.88	292	P	Pn	09 30 24.3	+0.9
KRMI	Paran Flat	6.88	141	Pn	Pn	09 30 24.4	+0.9
KRMI	Paran Flat	6.88	141	Pn	Pn	09 30 24.4	+0.9
HRFI	Mount Harif	7.11	140	Pn	Pn	09 30 27.8	+1.2
HRFI				Sn	Sn	09 31 46.0	-0.7
MBRI	Mt Berech	7.24	142	Pn	Pn	09 30 29.2	+0.8
MBRI	Mt Berech	7.24	142	Pn	Pn	09 30 29.2	+0.8
SWA2		7.33	211	P	Pn	09 30 30.3	+0.7
	baz=213						
SWA2		7.33	211	P	Pn	09 30 30.3	+0.7
EIL	Elat	7.36	142	Pn	Pn	09 30 30.9	+0.9
	comp=E,3.8nm,0.3s,baz=328,slow=13,SNR=30						
EIL				Sn	Sn	09 31 50.9	-1.9
	comp=E,6.0nm,0.3s,baz=357,slow=14,SNR=6.9						
EIL	Elat	7.36	142	Pn	Pn	09 30 30.9	+0.9
GRB	Gharib	7.76	160	P	Pn	09 30 36.4	+0.9
	baz=158						
GRB	Gharib	7.76	160	P	Pn	09 30 36.4	+0.9
VLS	Valsamata	7.79	292	P	Pn	09 30 36.1	+0.2
VLS	Valsamata	7.79	292	P	Pn	09 30 36.1	+0.2
HFRF	Wahat Farafira	8.54	189	P	Pn	09 30 46.8	+0.7
	baz=189						
HFRF	Wahat Farafira	8.54	189	P	Pn	09 30 46.8	+0.7
ARTV	Artvin	11.03	56	*e*Pn	Pn	09 31 21.4	+0.9
ARTV	Artvin	11.03	56	*e*Pn	Pn	09 31 21.4	+0.9
CUC	Castrocucco	11.88	296	*e*Pn	Pn	09 31 31.1	-0.8
CUC	Castrocucco	11.88	296	*e*Pn	Pn	09 31 31.1	-0.8
GEC2	GERESS Array S	17.74	323	*e*Pn	Pn	09 32 49.5	+0.1
	comp=E,6.9nm,1.4s						
GEC2	GERESS Array S	17.74	323	*e*Pn	Pn	09 32 49.5	+0.1
	comp=E,6.9nm,1.4s						
GERES	GERESS Array B	17.74	323	P	P	09 32 50.7	+0.6
	comp=E,0.1nm,0.3s,baz=145,slow=14,SNR=2.6						
NACGM	Naroch	19.40	355	*e*	Pn	09 33 09.0	-0.4
ECH	Echery	20.93	314	*e*P	Pn	09 33 26.9	-0.6
	comp=E,21nm,2.0s						
ECH	Echery	20.93	314	*e*P	Pn	09 33 26.9	-0.6
	comp=E,21nm,2.0s						
GEYT	Alibeck	22.78	76	P	P	09 33 45.0	+0.1
	comp=E,1.2nm,0.4s,baz=270,slow=11,SNR=3.2						
AKTO	Aktyubinsk	25.21	45	P	P	09 34 07.0	-0.8
	comp=E,3.2nm,0.6s,baz=242,slow=11,SNR=4.0						
ABKAR	Akbulak array	25.90	49	*e*P	P	09 34 14.0	0.0
	comp=E,2.3nm,0.7s						
ABKAR	Akbulak array	25.90	49	*e*P	P	09 34 14.0	0.0
	comp=E,2.3nm,0.7s						
FIA0	FINESS Array S	25.95	356	*e*P	P	09 34 13.7	-0.7
FIA0	FINESS Array S	25.95	356	*e*P	P	09 34 13.7	-0.7
FIA1	FINESS Array S	25.95	356	*e*P	P	09 34 13.9	-0.5
FIA1	FINESS Array S	25.95	356	*e*P	P	09 34 13.9	-0.5
FINES	FINESS Array B	25.95	356	P	P	09 34 13.7	-0.7
	comp=E,2.3nm,0.8s,baz=184,slow=9.2,SNR=7.4						
HFS	Hagfors	26.65	342	P	P	09 34 19.6	-1.0
	comp=E,0.8nm,0.5s,baz=168,slow=7.4,SNR=3.4						
ESDC	Sonseca Array	26.93	289	P	P	09 34 23.2	-0.3
	comp=E,1.1nm,0.7s,baz=82,slow=9.9,SNR=13						
BVAR	Borovoye Array	33.31	46	P	P	09 35 19.5	-0.3
	comp=E,0.2nm,0.3s,baz=258,slow=2.8,SNR=2.6						
TOA1	Torodi Ar. Sit	33.77	236	*e*P	P	09 35 25.2	+1.1
TOA1	Torodi Ar. Sit	33.77	236	*e*P	P	09 35 25.2	+1.1
TORD	Torodi Ar. Bea	33.77	236	P	P	09 35 25.2	+1.1
	comp=E,0.5nm,0.8s,baz=40,slow=7.0,SNR=3.5						
MK31	Makanchi Array	40.36	57	*e*P	P	09 36 20.9	+1.1
MK31	Makanchi Array	40.36	57	*e*P	P	09 36 20.9	+1.1
MK32	Makanchi Array	40.36	57	*e*P	P	09 36 19.1	-0.7
MK32	Makanchi Array	40.36	57	*e*P	P	09 36 19.1	-0.7
MKAR	Makanchi Array	40.36	57	P	P	09 36 19.1	-0.7
	comp=E,0.9nm,0.5s,baz=271,slow=8.0,SNR=8.4						
MKAR	Makanchi Array	40.36	57	*e*P	P	09 36 20.9	+1.1
	comp=E,9.4nm,0.6s						
MKAR	Makanchi Array	40.36	57	*e*P	P	09 36 20.9	+1.1
	comp=E,9.4nm,0.6s						
MK01	Makanchi Array	40.37	57	*e*P	P	09 36 23.1	+3.2
ZAA1	Zalesovo Array	41.96	46	*e*P	P	09 36 31.5	-1.3
ZAA1	Zalesovo Array	41.96	46	*e*P	P	09 36 31.5	-1.3
ZALV	Zalesovo Beam	41.96	46	P	P	09 36 31.5	-1.3
	comp=E,1.0nm,0.4s,baz=277,slow=9.1,SNR=2.1						
ULN	Ulaanbaatar	56.67	52	*e*P	P	09 38 26.3	+0.8
	comp=E,1.9nm,0.4s						
ULN	Ulaanbaatar	56.67	52	*e*P	P	09 38 26.3	+0.8
	comp=E,1.9nm,0.4s						
KS01	Wonju Array Si	74.94	55	*e*P	P	09 40 22.1	-1.1
KS01	Wonju Array Si	74.94	55	*e*P	P	09 40 22.1	-1.1
KS15	Wonju Array Si	74.96	55	*e*P	P	09 40 22.0	-1.3
KS15	Wonju Array Si	74.96	55	*e*P	P	09 40 22.0	-1.3
MQZ	McQueen's Vall	150.50	117	*e*PKPbc	PKPbc	09 48 33.5	+0.1
MQZ	McQueen's Vall	150.50	117	*e*PKPbc	PKPbc	09 48 33.5	+0.1

IDC 16 09:29:24.8±6.3, 12°.87S×167°.61E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/40, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/14, Error ellipse: s-maj=314.7km s-min=32.9km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.64	253	P	P	09 35 58.5	-0.3
	0.2nm,0.4s,baz=86,slow=9.1,SNR=2.8						
ASAR	Alice Springs	33.68	247	P	P	09 36 08.1	+0.3
	0.2nm,0.4s,baz=72,slow=10,SNR=4.4						
MJAR	Matsushiro Arr	56.43	332	LR	LR	09 57 40.4	
	comp=Z,75nm,22.0s,baz=50,slow=30						
ILAR	Eielson Array	84.67	18	P	P	09 42 00.1	0.0
	0.3nm,0.5s,baz=230,slow=5.3,SNR=8.8						

*IDC **16** 09:35:58.1±1.2, 24°.38N×121°.12E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/37, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=69.7km s-min=21.3km az=70.0*
*ISCJB **16** 09:36:07.0±0.3, 24°.86N±0°.02×122°.06E±0°.02, h94km±2km, mb3.6/6, Error ellipse: s-maj=4.1km s-min=2.6km az=158.4*
*NEIC **16** 09:36:07.7±0.4, 24°.81N×122°.04E, h93km±4km, mb4.3/2, Error ellipse: s-maj=7.8km s-min=7.3km az=99.0*
NEIC Recorded [1 TAP] in Hualien, Taoyuan and Yilan.
*JMA **16** 09:36:07.3±0.2, 24°.79N×122°.02E, h90km±3km, M3.3*
*TAP **16** 09:36:08.3, 24°.79N×122°.02E, h86km, ML4.2, B*

**ISC 16 09:36:07.

baz=229
WHF Hehuan Shan 0.98 228 ⇓*i*P Pn 09 36 27.9 +0.5
baz=227
WHF S Sn 09 36 42.4 +0.3
baz=227
NSTT Nanjuang 0.98 260 ⇑P Pn 09 36 27.5 +0.4
baz=260
NSTT S Sn 09 36 41.5 0.0
baz=260
HSN Hsinchu 0.99 270 *i* P Pn 09 36 27.6 +0.4
baz=263
HSN *i* S Sn 09 36 41.9 +0.2
baz=263
ESF Shoufeng Towns 1.06 209 *e*P Pn 09 36 27.5 -0.4
baz=215
ESL Shilin 1.14 210 ⇓*i*P Pn 09 36 28.2 -0.7
baz=214
TEGC Jichi Village 1.19 204 *e*P Pn 09 36 29.8 +0.3
baz=196
NSY Sanyi 1.24 252 ⇓P Pn 09 36 31.2 +1.0
baz=252
NSY *e*S Sn 09 36 47.6 +0.4
baz=252
TWQ1 Liyutan 1.26 249 *e*P Pn 09 36 30.5 +0.2
baz=249
TWQ1 *e*S Sn 09 36 47.4 0.0
baz=249
WDT Danda 1.34 219 ⇓*i*P Pn 09 36 32.2 +0.5
baz=212
WDT S Sn 09 36 49.2 -0.6
baz=212
SMLT Sun Moon Lake 1.40 229 ⇓*i*P Pn 09 36 33.0 +0.8
baz=238
SMLT S Sn 09 36 51.6 +0.9
baz=238
TYC Yuchr 1.42 231 ⇓*i*P Pn 09 36 33.2 +0.8
baz=239
TYC S Sn 09 36 52.5 +1.7
baz=239
TCU Taichung 1.42 243 *e*P Pn 09 36 33.5 +1.2
baz=242
SSLB Suanglung 1.43 225 *e*Pn Pn 09 36 33.3 +0.8
SSLB *e*Sn Sn 09 36 52.5 +1.3
EHY Hungye 1.46 208 *e*P Pn 09 36 31.7 -1.2
baz=198
WNT Mingjian 1.56 234 *e*P Pn 09 36 34.8 +0.7
baz=244
WNT *e*S Sn 09 36 55.1 +1.0
baz=244
YULB Yu-li 1.57 207 *e*Pn Pn 09 36 34.6 +0.3
YULB *e*Sn Sn 09 36 56.4 +2.1
IRIF Iriomote-Funau 1.59 107 P Pn 09 36 34.7 +0.2
IRIF *e*S Sn 09 36 55.0 +0.2
TWF1 Yuli 1.60 206 P Pn 09 36 33.6 -1.1
baz=204
YUS Yu-Shan 1.65 218 P Pn 09 36 36.9 +1.0
baz=211
YUS *e*S Sn 09 36 57.5 +0.4
baz=211
ALS Alishan 1.72 222 ⇑P Pn 09 36 37.9 +1.3
baz=232
ALS S Sn 09 37 00.2 +1.9
baz=232
CHN5 Tsauling 1.74 227 *e*P Pn 09 36 37.7 +1.1
baz=228
CHN5 *e*S Sn 09 36 59.9 +1.4
baz=228
HATJ Hateruma jima 1.76 115 P Pn 09 36 37.1 +0.4
HATJ S Sn 09 37 00.8 +2.1
WGK Gukeng 1.76 231 *e*P Pn 09 36 37.2 +0.5
baz=241
WGK *e*S Sn 09 37 00.1 +1.3
baz=241
CHKT Chengkung 1.81 201 P Pn 09 36 36.8 -0.6
baz=201
CHKT *e*S Sn 09 36 57.3 -2.6
baz=201
JKRS Kuro-shima 1.86 107 P Pn 09 36 38.7 +0.6
JKRS *e*S Sn 09 37 01.7 +0.6
ELDTW Lidau 1.87 211 *e*P Pn 09 36 37.9 -0.4
baz=202
WTCT Ta-ch'eng 1.87 240 *e*P Pn 09 36 38.1 -0.1
baz=241
WTCT *e*S Sn 09 37 01.0 -0.4
baz=241
CHN2 Minshiung 1.92 229 *e*P Pn 09 36 41.3 +2.4
baz=236
JIJ Ishigaki jima 1.95 103 P Pn 09 36 39.4 +0.2
JIJ *e*S Sn 09 37 02.7 -0.4
CHN4 Tsaushan 1.97 223 ⇑P Pn 09 36 40.7 +1.2
baz=224
CHN4 *e*S Sn 09 37 06.6 +2.9
baz=224
CHY Chiayi 1.98 229 *e*P Pn 09 36 40.4 +0.8
baz=228
TPUB Ta-pu 1.99 221 *e*Pn Pn 09 36 40.6 +0.9
TPUB *e*Sn Sn 09 37 06.9 +2.8
STYT Tauyuan 2.02 216 ⇓P Pn 09 36 41.5 +1.3
baz=209
STYT S Sn 09 37 06.4 +1.4
baz=209
WTP Ta-pu 2.04 221 ⇑P Pn 09 36 41.2 +0.8
baz=231
WTP *e*S Sn 09 37 08.4 +3.1
baz=231
JISG Ishigakijimahi 2.06 96 P Pn 09 36 41.5 +0.9
JISG S Sn 09 37 07.4 +1.7
TWK Hsinying 2.10 224 *e*P Pn 09 36 42.1 +0.9
baz=225
TWK *e*S Sn 09 37 07.6 +0.8
baz=225
CHN1 Nanshi 2.13 221 *e*P Pn 09 36 42.5 +0.8
baz=223
CHN1 *e*S Sn 09 37 09.0 +1.4
baz=223
TWG Pinlang 2.17 205 *e*P Pn 09 36 40.5 -1.6
baz=199
TWG *e*S Sn 09 37 06.1 -2.3
baz=199
TWG Pinlang 2.17 205 *e*Pn Pn 09 36 40.8 -1.4
SGST Jiashian 2.18 219 *e*P Pn 09 36 43.0 +0.7
baz=229
SGST *e*S Sn 09 37 10.1 +1.4
baz=229
CHN8 Yiju 2.23 230 *e*P Pn 09 36 42.9 0.0
baz=231
CHN8 *e*S Sn 09 37 10.6 +0.8
baz=231
JTJ Tarama 2.41 93 P Pn 09 36 46.3 +1.0
JTJ *e*S Sn 09 37 15.7 +1.7
ECL Taimali 2.42 205 *e*P Pn 09 36 44.2 -1.2
baz=198
PNG Penghu 2.60 242 *e*P Pn 09 36 47.2 -0.6
baz=241
EAST Anshuo 2.65 205 *e*P Pn 09 36 48.1 -0.5
baz=198
WDGT Dungji 2.68 235 *e*P Pn 09 36 49.1 +0.2
baz=234
SCZT Fangliau 2.76 209 *e*P Pn 09 36 52.1 +2.1
baz=208
LAY Lan-yu 2.79 190 *e*P Pn 09 36 48.6 -1.8
baz=185
JIRB Irabujima 2.83 89 P Pn 09 36 52.3 +1.4
KNM Kinmen 3.32 264 *e*P Pn 09 36 58.7 +1.1
baz=261
JJT2 Tamagusuku 2 5.31 74 P Pn 09 37 25.0 +0.4
JOW Kunigami 5.95 69 *e*P Pn 09 37 33.8 +0.4
baz=73
JOW Kunigami 5.95 69 *e*Pn Pn 09 37 33.8 +0.4
KS15 Wonju Array Si 13.55 20 *e*P P 09 39 21.2 -1.0
KSAR Wonju Array Be 13.55 20 Pn P 09 39 23.4 +1.2
KSRS Korea Array 13.57 20 Pn P 09 39 23.4 +1.0
0.4nm,0.3s,baz=200,slow=12,SNR=15
SONA0 Songino Array 26.12 336 *e*P P 09 41 33.0 -0.6
6.8nm,1.6s
SONM Songino Array 26.12 336 P P 09 41 33.0 -0.6
0.4nm,0.4s,baz=160,slow=8.8,SNR=3.6
MK32 Makanchi Array 38.46 315 *e*P P 09 43 20.2 -0.9
MKAR Makanchi Array 38.46 315 P P 09 43 20.2 -0.9
0.3nm,0.4s,baz=111,slow=9.5,SNR=3.9
WR1 Warramunga Arr 46.05 164 *e*P P 09 44 22.3 -0.6
16nm,1.6s
WRA Warramunga Arr 46.05 164 P P 09 44 22.3 -0.6
0.5nm,0.5s,baz=347,slow=8.8,SNR=3.8
ASAR Alice Springs 49.53 166 P P 09 44 49.5 -0.3
0.2nm,0.5s,baz=352,slow=6.6,SNR=5.7

JMA 16** 09:44:34.1±0.1,**36°.53N**×**137°.66E,h1**km±1km,**M1.3,
Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.27**	**286**	P	Pg	09 44 40.1	+0.8
JTT				S	Sg	09 44 44.6	+1.7
JNG	**Nsakai**	**0.38**	**109**	P	Pg	09 44 41.9	+0.6
JNG				S	Sg	09 44 47.2	+1.0
JGN	**Niukaw**	**0.41**	**222**	P	Pg	09 44 42.3	+0.3
JGN				S	Sg	09 44 47.8	+0.4
MAT	**Matsushiro**	**0.44**	**88**	P	Pg	09 44 43.0	+0.5
MAT				S	Sg	09 44 49.0	+0.7
MAT	**Matsushiro**	**0.44**	**88**	P	Pg	09 44 43.1	+0.6
MAT				S	Sg	09 44 49.0	+0.7

*BJI **16** 09:45:59.4,36°.09N×142°.03E,h11km,mb4.7/43,mB4.8/29,*
Ms4.5/30,Ms7 4.2/30
*NIED **16** 09:46:00,36°.10N×142°.00E,h8km,Mw4.5 Best double couple: M₀5.66000×10¹⁵ NP1:φ₀=210.00000°,δ23.00000°,*
λ-91.00000°. NP2:φ₀=31.00000°,δ67.00000°,λ-90.00000°.
*ISCJB **16** 09:46:00.0±1.1,36°.10N±0°.03×142°.05E±0°.04,h12km±7km,*
mb4.6/38,MS4.1/8,Error ellipse: s-maj=5.5km
s-min=4.7km az=168.9
*IDC **16** 09:46:00.5±0.8,36°.00N×141°.88E,h0km,mb4.3/18,*
mb1 4.3/23,mb1mx4.2/52,mbtmp4.3/23,ML3.4/5,MS3.7/2,
Ms1 3.7/2,ms1mx3.0/43,Error ellipse: s-maj=23.3km
s-min=14.0km az=64.0
*JMA **16** 09:46:02.2±0.2,36°.11N×141°.94E,h26km±3km,M4.5*
JMA Felt I J1.
*NEIC **16** 09:46:05.4±0.4,36°.09N×141°.93E,h35km,mb4.8/14,Error ellipse: s-maj=8.8km s-min=6.9km az=90.0*
NEIC Felt at Mito. Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi.

ISC 16 09:46:00.5±1.3,**36°.09N**±0°.04×**142°.03E**±0°.05,**h3**km±7km,
n95,σ1**°57**/110,**mb4.6**/38,**MS4.2**/9,**1C,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.03**	**248**	P	**Pg**	**09 46 20.0**	**-0.2**
CHOJ				S	**Sg**	**09 46 32.9**	**-0.6**
JHO	**Hitachi**	**1.29**	**294**	P	**Pn**	**09 46 23.6**	**-1.7**
JHO				*e*S	**Sg**	**09 46 39.5**	**-2.4**
JFK	**Kawauchi**	**1.58**	**324**	P	**Pn**	**09 46 28.6**	**-0.7**
JFK				S	**Sn**	**09 46 47.8**	**-2.4**
BSO1	**Boso 1**	**1.67**	**211**	P	**Pn**	**09 46 30.4**	**+0.3**
BSO1				*e*S	**Sn**	**09 46 50.6**	**-1.1**
BSO3	**Boso 3**	**1.79**	**224**	P	**Pn**	**09 46 32.0**	**+0.1**
JFT	**Otama**	**1.97**	**317**	P	**Pn**	**09 46 33.9**	**-0.8**
JFT				*e*S	**Sn**	**09 46 57.9**	**-2.0**
JMM	**Marumori**	**2.03**	**331**	P	**Pn**	**09 46 35.5**	**0.0**
JMM				*e*S	**Sn**	**09 46 59.6**	**-1.8**
JAG	**Ashikaga**	**2.11**	**280**	P	**Pn**	**09 46 35.3**	**-1.3**
JFY	**Yanaizu**	**2.28**	**306**	P	**Pn**	**09 46 38.6**	**-0.4**
JKT	**Katashina**	**2.34**	**288**	P	**Pn**	**09 46 39.6**	**-0.3**
JKT				*e*S	**Sn**	**09 47 07.0**	**-2.2**
JOD2	**Odawara 2**	**2.53**	**252**	P	**Pn**	**09 46 42.2**	**-0.3**
JRY	**Ryogami san**	**2.54**	**269**	P	**Pn**	**09 46 41.0**	**-1.5**
JRY				*e*S	**Sn**	**09 47 11.7**	**-2.2**
MJAR	**Matsushiro Arr**	**3.12**	**279**	Pn	**Pn**	**09 46 50.4**	**-0.1**
42nm,0.3s,baz=93,slow=8.8,SNR=266							
MJAR				LR	LR	09 48 06.4	
comp=Z,949nm,18.5s,baz=110,slow=42							
MAJO	**Matsushiro**	**3.12**	**279**	*e*Pn	**Pn**	**09 46 51.0**	**+0.5**
MAT	**Matsushiro**	**3.12**	**279**	P	**Pn**	**09 46 50.6**	**+0.1**
MAT				S	**Sn**	**09 47 30.7**	**+2.4**
MJB9	**Matsu-Tunnel**	**3.12**	**279**	*e*Pn	**Pn**	**09 46 51.1**	**+0.5**
JHJ2	**Mitsune**	**3.49**	**212**	*e*Pn	**Pn**	**09 46 55.3**	**-0.2**
JHJ	**Hachijo jima 2**	**3.50**	**213**	Pn	**Pn**	**09 46 55.2**	**-0.4**
60nm,0.3s,baz=34,slow=17,SNR=29							
JHJ				Sn	**Sn**	**09 47 33.6**	**-3.9**
107nm,0.3s,baz=95,slow=18,SNR=5.6							
INU	**Inuyama**	**4.15**	**261**	*e*Pn	**Pn**	**09 47 05.7**	**+1.1**
ASAJ	**Asahikawa**	**8.03**	**3**	*e*Pn	**Pn**	**09 47 57.5**	**-0.4**
CBIJ	**Chichi jima**	**8.97**	**179**	*e*Pn	**Pn**	**09 48 09.9**	**-1.0**
JNU	**Nakatsue**	**9.66**	**255**	Pn	**Pn**	**09 48 18.7**	**-1.6**
0.1nm,0.3s,baz=35,slow=16,SNR=5.9							
YSS	**Yuzh-Sakhalins**	**10.87**	**3**	*e*Pn	**Pn**	**09 48 35.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**11.16**	**320**	Pn	**Pn**	**09 48 42.4**	**+1.7**
0.6nm,0.3s,baz=139,slow=13,SNR=7.0							
KSRS	**Korea Array**	**11.40**	**281**	Pn	**Pn**	**09 48 43.0**	**-1.1**
0.2nm,0.3s,baz=98,slow=13,SNR=2.7							
KSAR	**Wonju Array Be**	**11.43**	**281**	Pn	**Pn**	**09 48 43.0**	**-1.5**
MDJ	**Mudanjiang**	**12.74**	**316**	P	**Pn**	**09 49 06.8**	**+4.4**
MDJ				pmax	pmax		
comp=Z,10.0nm,1.0s							
MDJ				pmax	pmax		
comp=Z,100nm,5.5s							
CN2	**Changchun**	**14.85**	**306**	*e*P	**Pn**	**09 49 31.8**	**+0.5**
CN2				*es*P	P	09 49 41.9	+4.7
CN2				pmax	pmax		
comp=Z,10.0nm,1.0s							
NJ2	**Nanjing**	**19.61**	**265**	*e*P	**Pn**	**09 50 30.6**	**-0.5**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
PEA0B	**Petropavlovsk-**	**20.27**	**28**	*e*P	**P**	**09 50 36.8**	**-0.1**
623nm,0.9s							
BJI	**Beijing**	**20.71**	**289**	P	**P**	**09 50 42.1**	**+0.3**
BJI				pmax	pmax		
comp=Z,5.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**24.25**	**291**	*e*P	**P**	**09 51 18.6**	**-0.2**
HHC				sP	sP	09 51 26.3	+6.0
HHC				S	**S**	**09 55 35.4**	**-2.7**
HHC				sS	sS	09 55 41.6	+1.8
HHC				pmax	pmax		
comp=Z,23nm,0.8s							
HHC				pmax	pmax		
comp=Z,130nm,6.5s							
HHC				LR	LR		
comp=N,660nm,16.0s							
HHC				LR	LR		
comp=E,440nm,14.8s							
HHC				LR	LR		
comp=Z,380nm,14.8s							
XAN	**Xi'an**	**27.11**	**275**	P	**P**	**09 51 43.3**	**-1.3**
XAN				pP	sP	09 51 47.8	+1.7
XAN				S	**S**	**09 56 28.0**	**+4.5**
XAN				pmax	pmax		
comp=Z,21nm,0.7s							
XAN				pmax	pmax		
comp=Z,82nm,6.9s							
XAN				LR	LR		
comp=N,220nm,19.0s							
XAN				LR	LR		
comp=E,250nm,15.7s							
XAN				LR	LR		
comp=Z,430nm,22.4s							
H11N2	**WAKE ISLAND Hy**	**27.24**	**120**	T	T	10 20 22.3	
baz=313							
H11N1	**WAKE ISLAND Hy**	**27.25**	**120**	T	T	10 20 24.2	
baz=313							
H11N3	**WAKE ISLAND Hy**	**27.26**	**120**	T	T	10 20 28.7	
baz=313							
H11S1	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	10 21 07.5	
baz=314							
H11S3	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	10 21 11.9	
baz=314							
H11S2	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	10 21 09.5	
baz=314							
ULN	**Ulaanbaatar**	**28.30**	**305**	*e*P	**P**	**09 51 56.0**	**+0.7**
6.0nm,1.0s							
SONA1	**Songino Array**	**28.73**	**305**	*e*P	**P**	**09 51 59.2**	**+0.1**
SONM	**Songino Array**	**28.73**	**305**	P	**P**	**09 51 58.5**	**-0.5**
7.9nm,0.9s,baz=103,slow=7.8,SNR=27							
LZH	**Lanzhou**	**30.73**	**281**	*e*P	**P**	**09 52 16.5**	**-0.4**
LZH				pP	sP	09 52 20.1	+1.7
LZH				pmax	pmax		
comp=Z,25nm,1.2s							
LZH				pmax	pmax		
comp=Z,78nm,4.8s							
LZH				LR	LR		
comp=N,400nm,12.5s							
LZH				LR	LR		
comp=E,400nm,13.0s							
LZH				LR	LR		
comp=Z,490nm,16.3s							
TLY	**Talaya**	**31.33**	**312**	P	**P**	**09 52 21.9**	**+0.1**
6.8nm,0.7s,baz=101,slow=10,SNR=3.1							
GYA	**Guiyang**	**31.57**	**262**	*e*P	**P**	**09 52 24.8**	**+0.4**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**32.19**	**272**	P	**P**	**09 52 28.5**	**-1.2**
CD2				S	**S**	**09 57 39.6**	**-3.7**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CD2				pmax	pmax		
comp=Z,120nm,5.0s							
CD2				LR	LR		
comp=N,650nm,17.4s							
CD2				LR	LR		
comp=E,570nm,18.4s							
CD2				LR	LR		
comp=Z,440nm,17.9s							
QIZ	**Qiongzhong**	**33.01**	**248**	P	**P**	**09 52 37.8**	**+0.9**
QIZ				S	**S**	**09 57 58.8**	**+2.6**
QIZ				pmax	pmax		
comp=Z,19nm,1.6s							
GTA	**Gaotai**	**33.33**	**289**	⇑P	**P**	**09 52 40.0**	**+0.3**
GTA				pP	sP	09 52 44.5	+3.4
GTA				sP	pP	09 52 47.1	+6.4
GTA				PcP	**PcP**	**09 55 21.1**	**-0.5**
GTA				S	**S**	**09 58 00.6**	**-0.4**
GTA				sS	sS	09 58 08.3	+5.6
GTA				pmax	pmax		
comp=Z,10.0nm,1.2s							
GTA				pmax	pmax		
comp=Z,85nm,4.8s							
GTA				LR	LR		
comp=N,180nm,17.6s							
GTA				LR	LR		
comp=E,150nm,15.9s							
GTA				LR	LR		
comp=Z,150nm,16.6s							
KMI	**Kunming**	**35.33**	**263**	P	**P**	**09 52 59.5**	**+2.3**
KMI				pP	sP	09 53 03.8	+5.1
KMI				sP	pP	09 53 06.5	+8.2
KMI				S	**S**	**09 58 35.4**	**+3.1**
KMI				pmax	pmax		
comp=Z,12nm,0.8s							
KMI				LR	LR		
comp=N,290nm,17.3s							
KMI				LR	LR		
comp=E,250nm,19.6s							
KMI				LR	LR		
comp=Z,270nm,18.7s							
TIXI	**Tiksi**	**36.28**	**353**	*e*P	**P**	**09 53 02.2**	**-2.4**
44nm,1.0s							
WMQ	**Urumqi**	**41.71**	**298**	P	**P**	**09 53 51.0**	**+0.4**
WMQ				pP	sP	09 53 59.0	+6.9
WMQ				PcP	**PcP**	**09 55 44.4**	**-2.7**
WMQ				LR	LR		
comp=N,980nm,17.3s							
WMQ				LR	LR		
comp=E,340nm,22.3s							
WMQ				LR	LR		
comp=Z,250nm,24.1s							
CMAR	**Chiang Mai Arr**	**41.75**	**257**	P	**P**	**09 53 50.6**	**-0.5**
0.6nm,0.3s,baz=55,slow=7.8,SNR=1.6							
ZAA0	**Zalesovo Array**	**42.92**	**313**	*e*P	**P**	**09 54 00.2**	**0.0**
ZAA0				*e*S	**S**	**10 00 22.8**	**-2.7**
ZALV	**Zalesovo Beam**	**42.92**	**313**	P	**P**	**09 54 00.7**	**+0.6**
3.9nm,0.5s,baz=96,slow=6.2,SNR=10.0							
MK01	**Makanchi Array**	**45.04**	**303**	*e*P	**P**	**09 54 17.5**	**+0.2**
MK31	**Makanchi Array**	**45.04**	**303**	*e*P	**P**	**09 54 17.6**	**+0.3**
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**09 54 17.7**	**+0.3**
4.2nm,0.7s,baz=87,slow=9.8,SNR=27							
MKAR	**Makanchi Array**	**45.04**	**303**	*e*P	**P**	**09 54 17.6**	**+0.3**
36nm,0.9s							
MAKZ	**Makanchi**	**45.26**	**303**	*e*P	**P**	**09 54 19.4**	**+0.4**
7.1nm,0.9s							
KURK	**Kurchatov**	**46.91**	**309**	*e*P	**P**	**09 54 32.0**	**+0.1**
18nm,1.1s							
KURBB	**Kurchatov Arra**	**46.98**	**309**	P	**P**	**09 54 32.6**	**+0.2**
7.8nm,0.8s,baz=84,slow=8.5,SNR=23							
HNR	**Honiara**	**48.32**	**156**	P	**P**	**09 54 43.3**	**0.0**
23nm,0.4s,baz=346,slow=4.2,SNR=2.4							
KSH	**Kashi**	**51.25**	**295**	*e*P	**P**	**09 55 08.1**	**+2.5**
KSH				pP	sP	09 55 13.4	+6.3
KSH				sP	pP	09 55 16.5	+10
KSH				PcP	**PcP**	**09 56 23.5**	**+2.8**
KSH				PP	**PP**	**09 57 07.3**	**+5.1**
KSH				PcS	**PcS**	**10 00 17.1**	**-1.4**
KSH				S	**S**	**10 02 26.4**	**+1.4**
KSH				ScS	**ScS**	**10 04 54.0**	**-3.2**
KSH				SS	**SS**	**10 06 00.3**	**+0.2**
KSH				pmax	pmax		
comp=Z,17nm,1.7s							
KSH				pmax	pmax		
comp=Z,200nm,5.1s							
KSH				LR	LR		
comp=N,230nm,11.5s							
KSH				LR	LR		
comp=E,180nm,8.2s							
KSH				LR	LR		
comp=Z,390nm,19.4s							
AAK	**Ala-Archa**	**51.38**	**299**	P	**P**	**09 55 06.2**	**-0.3**
1.9nm,0.5s,baz=70,slow=6.2,SNR=5.0							
AAK	**Ala-Archa**	**51.38**	**299**	*e*P	**P**	**09 55 06.5**	**0.0**
3.9nm,1.0s							
BVAR	**Borovoye Array**	**51.58**	**313**	P	**P**	**09 55 07.8**	**+0.1**
3.1nm,0.9s,baz=76,slow=7.8,SNR=14							
BRVK	**Borovoye**	**51.63**	**313**	*e*P	**P**	**09 55 08.9**	**+0.8**
4.9nm,1.0s							
KKAR	**Karatay Array**	**54.03**	**301**	*e*P	**P**	**09 55 26.2**	**+0.2**
44nm,1.0s							
WRAB	**Tennant Creek**	**56.19**	**189**	*e*P	**P**	**09 55 43.2**	**+1.5**
4.7nm,1.1s							
WB2	**Warramunga Arr**	**56.20**	**189**	*e*P	**P**	**09 55 43.2**	**+1.4**
3.9nm,1.1s							
WRA	**Warramunga Arr**	**56.20**	**189**	P	**P**	**09 55 40.9**	**-0.8**
1.2nm,0.5s,baz=5.6,slow=7.4,SNR=9.9							
ARU	**Arti**	**57.40**	**319**	P	**P**	**09 55 50.4**	**+0.5**
2.2nm,0.3s,baz=91,slow=5.5,SNR=8.9							
ARU	**Arti**	**57.40**	**319**	*e*P	**P**	**09 55 50.4**	**+0.5**
9.9nm,1.0s							
ABKAR	**Akbulak array**	**58.93**	**311**	*e*P	**P**	**09 56 00.8**	**0.0**
26nm,0.6s							
AKTO	**Aktyubinsk**	**59.68**	**313**	P	**P**	**09 56 06.0**	**+0.1**
3.8nm,0.9s,baz=90,slow=5.1,SNR=7.5							
AS01	**Alice Springs**	**59.92**	**189**	*e*P	**P**	**09 56 08.1**	**+0.3**
ASAR	**Alice Springs**	**59.93**	**189**	P	**P**	**09 56 07.7**	**-0.2**
0.3nm,0.5s,baz=8.7,slow=6.5,SNR=6.7							
GEYT	**Albeck**	**64.73**	**300**	P	**P**	**09 56 39.9**	**-0.2**
1.3nm,0.6s,baz=61,slow=3.6,SNR=2.5							
ARA0	**ARCESS Array S**	**65.05**	**340**	*e*P	**P**	**09 56 42.3**	**+0.7**
ARE0	**ARCESS Array S**	**65.05**	**340**	*e*P	**P**	**09 56 42.5**	**+0.9**
10nm,0.8s							
FINES	**FINESS Array B**	**69.88**	**333**	P	**P**	**09 57 13.1**	**+0.9**
5.0nm,0.9s,baz=60,slow=7.7,SNR=7.3							
NEW	**Newport**	**70.46**	**44**	LR	LR	10 24 22.0	
comp=Z,73nm,20.4s,baz=330,slow=33							
NOA	**NORSAR Array B**	**75.25**	**338**	P	**P**	**09 57 45.2**	**+0.9**
3.1nm,0.8s,baz=39,slow=5.8,SNR=5.7							
AKASG	**Malin Array Be**	**75.35**	**323**	P	**P**	**09 57 45.5**	**+0.5**
1.1nm,0.5s,baz=49,slow=6.5,SNR=7.5							
BRTR	**Keskin Array B**	**79.85**	**312**	P	**P**	**09 58 10.2**	**-0.4**
1.4nm,0.9s,baz=77,slow=5.3,SNR=6.5							
BR231	**Keskin MP Arra**	**80.29**	**312**	*e*P	**P**	**09 58 11.8**	**-1.1**
CLL	**Collm**	**82.16**	**331**	*e*P	**P**	**09 58 23.0**	**+0.6**
PMOR	**Pomariorio Ree**	**83.35**	**114**	*e*T	T	11 28 51.6	
23nm,0.2s							
GERES	**GERESS Array B**	**83.77**	**329**	P	**P**	**09 58 31.4**	**+0.4**
1.0nm,0.8s,baz=18,slow=3.5,SNR=4.1							
PPT2	**Papeete2**	**83.78**	**117**	*e*LR	LR	10 24 55.0	
309nm,26.5s							
PPT2	**Papeete2**	**83.78**	**117**	*e*T	T	11 29 30.4	
4.4nm,0.3s							
JRQG	**Juriquilla Cam**	**98.30**	**57**	*e*P	**P**	**09 59 37.8**	**-2.2**
LPAZ	**La Paz**	**146.72**	**62**	PKPbc	**PKPab**	**10 05 45.7**	**-0.4**
0.9nm,0.5s,baz=319,slow=4.2,SNR=11							
BDFB	**Brasilia**	**157.75**	**26**	PKP	**PKPdf**	**10 06 01.0**	**+2.0**
0.3nm,0.3s,baz=326,slow=3.6,SNR=2.4							
BDFB	**Brasilia**	**157.75**	**26**	PKP	**PKPdf**	**10 06 01.0**	**+2.0**

*NIED **16** 09:47:00,46°.60N×153°.50E,h104km,Mw5.4 Best double couple: M₀1.39000×10¹⁷ NP1:φ₀=155.00000°,*
δ26.00000°,λ168.00000°. NP2:φ₀=255.00000°,δ85.00000°,
λ64.00000°.
*SKHL **16** 09:47:09.9±0.5,47°.63N×153°.43E,h104km±8km,mb6.4/7,*
msh6.0/3
*BJI **16** 09:47:09.6,47°.91N×153°.14E,h119km,mb5.1/68,*
mB5.0/50

MOS **16** *09:47:10.2±1.0, 47°.91N×152°.95E, h109km, mb5.3/63, MS4.0/13, Error ellipse: s-maj=6.1km s-min=4.3km az=76.8*
ISCJB **16** *09:47:10.2±0.3, 47°.91N±0°.02×152°.99E±0°.02, h109km±3km, mb5.3/422, Error ellipse: s-maj=3.5km s-min=1.9km az=155.9*
IDC **16** *09:47:12.0±0.6, 47°.95N×152°.95E, h112km±4km, mb4.6/36, mb1 4.8/42, mb1mx4.7/49, mbtmp5.1/42, MS4.0/23, Ms1 4.0/23, ms1mx3.9/40, Error ellipse: s-maj=9.4km s-min=7.3km az=136.0*
NEIC **16** *09:47:13.1±0.3, 47°.95N×152°.91E, h118km±2km, mb5.4/297, Error ellipse: s-maj=2.6km s-min=1.6km az=152.0*
JMA **16** *09:47:13.8±0.6, 46°.61N×153°.52E, h113km, M5.6*
GCMT **16** *09:47:13.1±0.1, 47°.86N×153°.14E, h107km±1km, MW5.3/121, Moment Tensor Solution. s85,c133; s121,c218; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.40±.02; Mθθ-0.64±.02; Mφφ0.23±.02; Mrθ-0.18±.01; Mφφ0.68±.02; Mφr-0.52±.01; Best double couple: M0 1.03500×10^17 NP1:φs156.00000°, δ66.00000°, λ147.00000°. NP2:φs261.00000°, δ60.00000°, λ28.00000°. Principal axes: T 1.0540, Plg40.0000°, Azm116.0000°; N -0.0390, Plg50.0000°, Azm305.0000°; P -1.0150, Plg4.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 16 09:47:11.8±0.4, 47°.88N±0°.03×153°.04E±0°.03, h112km±3km, h112km:pP-P, n1418, σ1§25/1576, mb5.3/423, 24C-33D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.45**	**35**	*i* PN	**Pn**	**09 48 03.3**	**-0.5**
SKR				*i* S	**Sn**	**09 48 43.2**	**-0.7**
SKR	comp=Z,10μm,1.5s			pmax	pmax		
SKR	comp=Z,14μm,1.4s			pmax	pmax		
SKR	comp=N,9μm,0.9s			smax	smax		
SKR	comp=E,9μm,0.6s			smax	smax		
SKR	comp=Z,2μm,11.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**3.45**	**35**	*i* P	**Pn**	**09 48 03.2**	**-0.5**
SKR	comp=Z,10μm,1.5s			AMB	AMB	09 48 04.2	
SKR	comp=Z,14μm,1.0s			AMB	AMB	09 48 06.9	
SKR				*i* S	**Sn**	**09 48 43.6**	**-0.3**
SKR	comp=Z,10μm,0.9s			A	A	09 48 46.0	
SKR	comp=Z,9μm,0.9s			A	A	09 48 46.0	
KUR	**Kuril'sk**	**4.45**	**235***d*	*i* PN	**Pn**	**09 48 18.7**	**+1.6**
KUR	comp=Z,1μm,0.8s			pmax	pmax		
KUR	comp=N,2μm,0.7s			pmax	pmax		
KUR	comp=E,415nm,0.7s			pmax	pmax		
KUR	**Kuril'sk**	**4.45**	**235**	*i* P	**Pn**	**09 48 18.6**	**+1.5**
KUR	comp=E,1μm,0.8s			AMB	AMB	09 48 19.3	
KUR	comp=E,21μm,1.1s			AMB	AMB	09 48 20.1	
KUR				*i* S	**Sn**	**09 49 09.8**	**+2.0**
KUR	comp=E,24μm,2.0s			A	A	09 49 13.3	
KUR	comp=E,2μm,0.7s			A	A	09 49 25.5	
KUR	comp=E,2μm,0.7s			A	A	09 49 25.5	
SHO	**Shikotan**	**5.91**	**230***d*	*i* PN	**Pn**	**09 48 34.7**	**-2.2**
SHO				*i* S	**Sn**	**09 49 38.7**	**-4.5**
SHO	comp=Z,2μm,0.5s			pmax	pmax		
SHO	comp=N,800nm,0.3s			pmax	pmax		
SHO	comp=E,2μm,0.6s			pmax	pmax		
SHO	comp=N,2μm,0.5s			smax	smax		
SHO	comp=E,4μm,0.7s			smax	smax		
SHO	**Shikotan**	**5.91**	**230**	*e* P	**Pn**	**09 48 35.0**	**-1.9**
SHO	comp=E,1μm,1.0s			AMB	AMB	09 48 35.2	
SHO	comp=E,2μm,0.5s			AMB	AMB	09 48 45.9	
SHO				*i* S	**Sn**	**09 49 38.7**	**-4.5**
SHO	comp=E,2μm,0.5s			A	A	09 50 05.7	
SHO	comp=E,4μm,0.5s			A	A	09 50 05.7	
PEA0	**Petropavlovsk-**	**6.02**	**28**	*e*Pn	**Pn**	**09 48 38.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**6.02**	**28**	*e*Pn	**Pn**	**09 48 39.1**	**+0.8**
PETK	**Petropavlovsk-**	**6.02**	**28**	P	**Pn**	**09 48 39.0**	**+0.7**
PETK	comp=E,106nm,0.3s,baz=196,slow=11,SNR=277			S	**Sn**	**09 49 45.0**	**-0.8**
PETK	baz=223,slow=21,SNR=1.8 **Petropavlovsk-**	**6.02**	**28**	PN	**Pn**	**09 48 39.0**	**+0.7**
PETK				S	**Sn**	**09 49 45.0**	**-0.8**
PETK	comp=Z,106nm,0.3s			pmax	pmax		
PET	**Petropavlovsk**	**6.27**	**33**	*i* PN	**Pn**	**09 48 40.3**	**-1.4**
PET				*e*S	**Sn**	**09 49 48.9**	**-3.0**
PET	comp=Z,456nm,0.5s			pmax	pmax		
PET	comp=E,1μm,0.7s			smax	smax		
PET	comp=N,1μm,0.7s			smax	smax		
PET	comp=Z,3μm,10.0s			MLR	MLR		
PET	comp=Z,1μm,13.0s			MLR	MLR		
PET	**Petropavlovsk**	**6.27**	**33**	*e* P	**Pn**	**09 48 41.0**	**-0.7**
PET	comp=Z,400nm,0.6s			AMB	AMB	09 48 44.1	
PET				*e*S	**Sn**	**09 49 48.8**	**-3.1**
PET	comp=Z,900nm,0.6s			A	A	09 49 51.3	
PET	comp=Z,4μm,2.0s			A	A	09 50 10.2	
PET	**Petropavlovsk**	**6.27**	**33**	*e*Pn	**Pn**	**09 48 40.7**	**-1.0**
PET				*e*Sn	**Sn**	**09 49 53.0**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**6.31**	**235***d*	*i* PN	**Pn**	**09 48 42.6**	**+0.3**
YUK				*i* S	**Sn**	**09 49 56.5**	**+3.5**
YUK	comp=Z,6μm,0.8s			pmax	pmax		
YUK	comp=N,1μm,0.4s			pmax	pmax		
YUK	comp=E,2μm,0.3s			pmax	pmax		
YUK	comp=E,2μm,0.8s			smax	smax		
YUK	comp=N,3μm,0.7s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**6.31**	**235**	*i* P	**Pn**	**09 48 42.6**	**+0.3**
YUK	comp=N,6μm,0.8s			AMB	AMB	09 48 43.9	
YUK				*i* S	**Sn**	**09 49 56.5**	**+3.5**
YUK	comp=N,2μm,0.8s			A	A	09 50 07.2	
YUK	comp=N,3μm,0.8s			A	A	09 50 07.2	
JRA	**Rausu**	**6.79**	**237**	⇓P	**Pn**	**09 48 48.9**	**+0.1**
NEM2	**Nemuro 2**	**6.82**	**231**	⇓P	**Pn**	**09 48 46.6**	**-2.7**
NEM2				*e*S	**Sn**	**09 49 58.9**	**-6.5**
YSS	**Yuzh-Sakhalins**	**7.04**	**266**	⇓*e*PN	**Pn**	**09 48 55.2**	**+3.0**
YSS	comp=Z,600nm,1.9s			pmax	pmax		
YSS	comp=Z,290nm,0.7s			pmax	pmax		
YSS	comp=N,120nm,0.8s			pmax	pmax		
YSS	comp=E,300nm,0.8s			pmax	pmax		
YSS	comp=Z,2μm,19.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.04**	**266**	*e* P	**Pn**	**09 48 55.2**	**+3.0**
YSS	comp=Z,600nm,1.9s			AMB	AMB	09 48 57.0	
YSS	comp=Z,290nm,0.7s			AMB	AMB	09 48 57.1	
YSS	**Yuzh-Sakhalins**	**7.04**	**266**	*e*Pn	**Pn**	**09 48 55.2**	**+3.0**
YSS				*e*Sn	**Sn**	**09 50 11.5**	**+0.8**
JNK	**Nakash**	**7.24**	**237**	⇓P	**Pn**	**09 48 54.3**	**-0.6**
UGL	**Uglegorsk**	**7.39**	**283**	*e*PN	**Pn**	**09 48 56.0**	**-1.0**
UGL				*e*S	**Sn**	**09 50 18.9**	**-0.3**
UGL	**Uglegorsk**	**7.39**	**283**	*i* P	**Pn**	**09 49 00.5**	**+3.5**
UGL	comp=Z,3μm,1.5s			AMB	AMB	09 49 01.6	
UGL	comp=Z,950nm,1.0s			AMB	AMB	09 49 02.0	
UGL				*e*S	**Sn**	**09 50 23.0**	**+3.8**
UGL	comp=Z,2μm,2.9s			A	A	09 50 31.0	
TYV	**Tymovskoe**	**7.41**	**298**	*e*PN	**Pn**	**09 49 00.4**	**+3.3**
TYV	comp=Z,2μm,1.7s			pmax	pmax		
TYV	comp=Z,1μm,14.0s			MLR	MLR		
TYV	**Tymovskoe**	**7.41**	**298**	*e* P	**Pn**	**09 49 00.2**	**+3.1**
TYV	comp=Z,2μm,0.9s			AMB	AMB	09 49 01.2	
TYV	comp=Z,2μm,3.0s			AMB	AMB	09 49 02.2	
JTKR	**Abashiri--Toko**	**7.47**	**242**	P	**Pn**	**09 48 59.0**	**+0.9**
JAK	**Akkeshi**	**7.63**	**233**	P	**Pn**	**09 48 57.9**	**-2.3**
JAK				*e*S	**Sn**	**09 50 19.7**	**-5.4**
JMP	**Maruseppu**	**7.78**	**244**	P	**Pn**	**09 49 03.4**	**+1.1**
JSE	**Soyaes**	**7.79**	**252**	P	**Pn**	**09 49 05.4**	**+3.0**
JAR	**Ashorobuto**	**7.96**	**238**	P	**Pn**	**09 49 04.3**	**-0.3**
JWK2	**Keihoku**	**8.09**	**256**	P	**Pn**	**09 49 10.9**	**+4.4**
JOB	**Onbets**	**8.17**	**236**	P	**Pn**	**09 49 05.3**	**-2.2**
JOB				*e*S	**Sn**	**09 50 32.6**	**-5.5**
ASAJ	**Asahikawa**	**8.19**	**246**	P	**Pn**	**09 49 10.2**	**+2.4**
ASAJ	comp=Z,194nm,0.3s,baz=75,slow=13,SNR=174 **Asahikawa**	**8.19**	**246**	⇓P	**Pn**	**09 49 10.2**	**+2.4**
ASAJ	**Asahikawa**	**8.19**	**246**	*e*Pn	**Pn**	**09 49 10.2**	**+2.4**
ASAJ				*e*Sn	**Sn**	**09 50 46.1**	**+7.5**
JKK2	**Kamakawa 2**	**8.22**	**245**	⇓P	**Pn**	**09 49 09.9**	**+1.6**
HRK	**Horoka**	**8.22**	**241**	*e*P	**Pn**	**09 49 08.7**	**+0.4**
JSS	**Shosan**	**8.51**	**250**	P	**Pn**	**09 49 16.1**	**+3.9**
OKH	**Okha**	**8.56**	**315**	⇓*e*PN	**Pn**	**09 49 15.6**	**+2.9**
OKH				*e*S	**Sn**	**09 50 52.8**	**+5.4**
OKH	comp=Z,400nm,12.0s			pmax	pmax		
OKH	comp=N,800nm,17.0s			smax	smax		
OKH	**Okha**	**8.56**	**315**	*e* P	**Pn**	**09 49 15.6**	**+2.9**
OKH	comp=N,2μm,2.0s			AMB	AMB	09 49 17.1	
OKH				*e*S	**Sn**	**09 50 52.8**	**+5.4**
JCH	**Churui**	**8.62**	**236**	⇑P	**Pn**	**09 49 11.6**	**-2.0**
JCH				*e*S	**Sn**	**09 50 42.9**	**-6.2**
MYR	**Moyori**	**8.88**	**235**	*e*P	**Pn**	**09 49 14.6**	**-2.5**
JHR	**Hokuryu**	**8.92**	**247**	P	**Pn**	**09 49 20.1**	**+2.4**
JBT2	**Biratori 2**	**9.09**	**240**	P	**Pn**	**09 49 20.6**	**+0.7**
JEM	**Erimo**	**9.13**	**234**	P	**Pn**	**09 49 18.2**	**-2.4**
JEM				*e*S	**Sn**	**09 50 56.3**	**-5.2**
JNBK	**Urakawa-nobuka**	**9.18**	**236**	P	**Pn**	**09 49 18.9**	**-2.3**
JEW	**Eniwo**	**9.59**	**243**	P	**Pn**	**09 49 27.0**	**+0.3**
JSK	**Shakotan**	**9.90**	**247**	P	**Pn**	**09 49 30.7**	**-0.2**
JNB	**Noboribetsu**	**10.05**	**242**	P	**Pn**	**09 49 31.2**	**-1.8**
JNB				*e*S	**Sn**	**09 51 19.3**	**-4.5**
JKB	**Kayabe**	**10.41**	**239**	P	**Pn**	**09 49 34.4**	**-3.5**
JKB				*e*S	**Sn**	**09 51 24.3**	**-8.2**
JSH	**Shimam**	**10.55**	**245**	P	**Pn**	**09 49 39.7**	**0.0**
JYM2	**Yakumo 2**	**10.66**	**242**	P	**Pn**	**09 49 39.0**	**-2.2**
JSR	**Shiriuchi**	**10.99**	**239**	P	**Pn**	**09 49 42.5**	**-3.2**
JTM	**Tenmabayashi**	**11.12**	**235**	P	**Pn**	**09 49 43.2**	**-4.2**
JTM				*e*S	Sn	09 51 39.0	-11
JANG	**Nango**	**11.17**	**232**	P	Pn	09 49 42.0	-6.1
JANG				*e*S	Sn	09 51 37.6	-13
JOSM	**Okushiri--Mats**	**11.22**	**244**	P	**Pn**	**09 49 46.2**	**-2.5**
JTH	**Tanohata**	**11.31**	**229**	P	Pn	09 49 44.2	-5.7
JTH				*e*S	Sn	09 51 42.2	-12
MA2	**Magadan**	**11.79**	**354**	P	**Pn**	**09 49 56.3**	**+0.1**
MA2	comp=N,11nm,0.3s,baz=171,slow=10.0,SNR=51			LR	LR	09 55 13.7	
MA2	comp=N,434nm,19.4s,baz=180,slow=41 **Magadan**	**11.79**	**354**	*ce*PN	**Pn**	**09 49 56.9**	**+0.7**
MA2	**Magadan**	**11.79**	**354**	*e*P	**Pn**	**09 49 56.9**	**+0.7**
HABR	**Khabarovsk**	**12.03**	**280**	*e*PN	**Pn**	**09 49 58.2**	**-1.2**
HABR				*e*S	**Sn**	**09 52 11.3**	**-0.3**
HABR	comp=E,62nm,1.3s			pmax	pmax		
HABR	comp=N,24nm,1.3s			pmax	pmax		
HABR	comp=Z,50nm,1.3s			pmax	pmax		
HABR	comp=Z,837nm,14.0s			MLR	MLR		
OFUJ	**Ofunato**	**12.05**	**227**	P	Pn	09 49 54.0	-5.9
OFUJ				*e*S	Sn	09 51 59.6	-13
JRG	**Rokugo**	**12.35**	**231**	P	Pn	09 49 59.1	-4.6
JRG				*e*S	Sn	09 52 08.9	-11
JOG2	**Oga 2**	**12.43**	**235**	P	**Pn**	**09 50 01.6**	**-3.1**
JIO	**Ouri**	**12.70**	**226**	P	Pn	09 50 02.1	-6.2
JIO				*e*S	Sn	09 52 13.7	-14
JYA	**Atsumi**	**13.42**	**231**	P	Pn	09 50 12.8	-4.9
JFK	**Kawauchi**	**13.79**	**225**	P	Pn	09 50 17.6	-4.9
JFK				*e*S	Sn	09 52 39.7	-15
SMY	**Shemya**	**14.29**	**62**	*e*P	**Pn**	**09 50 28.8**	**+0.1**
SMY				*e*		09 52 59.4	
SMY	**Shemya**	**14.29**	**62**	*e*Pn	**Pn**	**09 50 28.8**	**+0.1**
SMY				*e*Sn	**Sn**	**09 52 57.9**	**-8.2**
JFY	**Yanaizu**	**14.33**	**228**	P	**Pn**	**09 50 25.3**	**-4.1**
USRK	**Ussuriysk Ar.**	**15.07**	**264**	P	**Pn**	**09 50 39.4**	**+0.7**
SEY	comp=Z,23nm,0.3s,baz=74,slow=10,SNR=151 **Seymchan**	**15.09**	**359**	P	**Pn**	**09 50 39.0**	**+0.1**
SEY	comp=Z,1.1nm,0.3s,baz=169,slow=10.0,SNR=29 **Seymchan**	**15.09**	**359**	*ce*P	**Pn**	**09 50 39.8**	**+1.0**
SEY	**Seymchan**	**15.09**	**359**	*e*P	**Pn**	**09 50 39.8**	**+1.0**
MJAR	**Matsushiro Arr**	**15.75**	**229**	P	**Pn**	**09 50 44.8**	**-2.6**
MJAR	comp=Z,2.7nm,0.3s,baz=30,slow=13,SNR=21			ScP	**ScP**	**09 59 00.9**	**-2.8**
MJB9	comp=Z,0.1nm,0.3s,baz=70,slow=1.5,SNR=5.1 **Matsu-Tunnel**	**15.75**	**229**	*e*Pn	**Pn**	**09 50 45.7**	**-1.6**
MJB9	comp=Z,35nm,0.6s			*e*S	**S**	**09 53 48.6**	**+0.2**
MAJO	**Matsushiro**	**15.75**	**229**	*d i*P	**Pn**	**09 50 45.5**	**-1.9**
MAJO	**Matsushiro**	**15.75**	**229**	*e*P	**Pn**	**09 50 45.5**	**-1.9**
MAJO	**Matsushiro**	**15.75**	**229**	*e*Pn	**Pn**	**09 50 45.7**	**-1.6**
MAJO	comp=Z,139nm,0.6s			*e*S	**S**	**09 53 48.4**	**+0.1**
MAT	**Matsushiro**	**15.75**	**229**	P	**Pn**	**09 50 45.1**	**-2.3**
MAT				S	**S**	**09 53 45.6**	**-2.8**
MSHR	**Mys Shultsa**	**16.28**	**259**	⇑*i* P	**Pn**	**09 50 52.9**	**-0.9**
MDJ	**Mudanjiang**	**16.53**	**267**	P	**Pn**	**09 50 56.4**	**-0.5**
MDJ				sP	sP	09 51 31.4	-0.5
MDJ				S	**Sn**	**09 54 01.9**	**+1.6**
MDJ	comp=Z,120nm,0.9s			pmax	pmax		
MDJ	comp=Z,100nm,5.1s			pmax	pmax		
MDJ	**Mudanjiang**	**16.53**	**267**	*e*Pn	**Pn**	**09 50 56.6**	**-0.2**
INU	comp=Z,273nm,1.1s **Inuyama**	**17.29**	**229**	*e*P	**P**	**09 51 05.0**	**-0.8**
JHJ2	comp=Z,265nm,0.8s **Mitsune**	**17.82**	**219**	*e*P	**Pn**	**09 51 12.7**	**+0.2**
JHJ	comp=Z,709nm,0.9s **Hachijo jima 2**	**17.82**	**219**	P	**P**	**09 51 10.9**	**-0.9**
JHJ	comp=Z,15nm,0.3s,baz=128,slow=4.9,SNR=14			S	S	09 54 19.5	-11
CLNS	comp=Z,8.0nm,0.3s,baz=73,slow=19,SNR=3.1 **Chul'man**	**19.26**	**308**	*e*P	**Pn**	**09 51 29.7**	**+0.2**
CLNS				*e*S	**Sn**	**09 55 03.7**	**-2.0**
CLNS	comp=Z,68nm,0.9s			pmax	pmax		
CLNS	comp=E,43nm,0.9s			pmax	pmax		
CLNS	comp=N,31nm,0.9s			pmax	pmax		
CLNS	comp=E,182nm,13.3s			smax	smax		
CLNS	comp=N,243nm,12.9s			smax	smax		
CLNS	comp=N,377nm,12.0s			MLR	MLR		
CLNS	comp=Z,489nm,14.0s			MLR	MLR		
CLNS	comp=E,268nm,14.0s			MLR	MLR		
JWM	**Minabe**	**19.31**	**230**	P	**P**	**09 51 28.4**	**+0.4**
YAK	**Yakutsk**	**19.35**	**326**	P	**P**	**09 51 29.2**	**+1.0**
YAK	comp=E,0.0nm,0.3s,baz=54,slow=4.0,SNR=11 **Yakutsk**	**19.35**	**326**	*e*P	**P**	**09 51 29.0**	**+0.8**
YAK				*e*S	**S**	**09 54 58.6**	**-2.2**
YAK	comp=Z,71nm,1.1s			pmax	pmax		
YAK	comp=N,31nm,1.3s			pmax	pmax		
YAK	comp=N,544nm,1.9s			smax	smax		
YAK	**Yakutsk**	**19.35**	**326**	*e*P	**P**	**09 51 28.9**	**+0.7**
CN2	comp=N,162nm,0.9s **Changchun**	**19.61**	**268**	*e*P	**P**	**09 51 29.3**	**-1.8**
CN2				*e*S	**S**	**09 54 58.3**	**-7.9**
CN2	comp=N,90nm,0.8s			pmax	pmax		
CN2	comp=N,200nm,3.0s			pmax	pmax		
CN2	comp=N,1μm,16.0s			LR	LR		
CN2	comp=N,500nm,16.0s			LR	LR		
CN2	comp=N,500nm,16.0s			LR	LR		
JAI	**Aioi**	**19.83**	**232**	P	**P**	**09 51 34.1**	**+0.5**
ADK	**Adak**	**19.84**	**67**	*e*P	**P**	**09 51 32.8**	**-0.7**
ADK	comp=Z,70nm,1.0s			pmax	pmax		
ADK	**Adak**	**19.84**	**67**	*e*P	**P**	**09 51 32.8**	**-0.7**
JKU	comp=Z,70nm,0.9s **Kubokawa**	**20.94**	**233**	P	**P**	**09 51 46.2**	**+0.6**
KSRS	**Korea Array**	**21.12**	**250**	P	**P**	**09 51 47.9**	**+0.4**
KSRS	comp=Z,136nm,0.9s,baz=49,slow=10,SNR=194			PcP	**PcP**	**09 55 49.5**	**+0.5**
KS01	comp=Z,5.9nm,0.8s,baz=11,slow=1.8,SNR=6.0 **Wonju Array Si**	**21.12**	**250**	*e*P	**P**	**09 51 47.7**	**+0.2**
KS01				*e*PcP	**PcP**	**09 55 49.8**	**+0.8**
KS15	**Wonju Array Si**	**21.15**	**250**	*e*P	**P**	**09 51 48.3**	**+0.5**
KSAR	**Wonju Array Be**	**21.15**	**250**	P	**P**	**09 51 47.9**	**+0.1**
KSAR						09 55 49.5	
KSAR	**Wonju Array Be**	**21.15**	**250**	P	**P**	**09 51 47.9**	**+0.1**
KSAR				PcP	**PcP**	**09 55 49.5**	**+0.5**
BILL	**Bilibino**	**21.30**	**14**	⇓*e*P	**P**	**09 51 49.0**	**-0.1**
BILL				*i*		09 52 16.4	
BILL				*i* S	**S**	**09 55 35.1**	**-3.9**
BILL	comp=Z,30nm,0.8s			pmax	pmax		
ATKA	**Atka Island**	**21.37**	**66**	*e*P	**P**	**09 51 48.8**	**-1.2**
ATKA	comp=Z,51nm,0.8s			*e*S	Sn	09 55 49.3	-6.6
SNY	**Shenyang**	**21.67**	**265**	⇑P	**P**	**09 51 52.3**	**-0.9**
SNY	comp=Z,73nm,0.8s			pmax	pmax		
SNY	comp=Z,170nm,6.9s			pmax	pmax		
SNY	comp=Z,2μm,18.9s			LR	LR		
SNY	comp=Z,1μm,19.7s			LR	LR		
SNY	comp=Z,1μm,16.5s			LR	LR		
INCN	**Inchon**	**21.92**	**251**	*e*P	**P**	**09 51 56.9**	**+0.9**
HIA	comp=Z,141nm,1.1s **Hailar**	**21.98**	**286**	*e*pP	pP	09 52 18.5	+0.8
JNU	**Nakatsue**	**22.28**	**237**	P	**P**	**09 52 01.2**	**+1.4**
JNU	comp=Z,54nm,0.8s,baz=40,slow=2.2,SNR=23 **Nakatsue**	**22.28**	**237**	*e*P	**P**	**09 52 01.0**	**+1.2**
JNU	**Nakatsue**	**22.28**	**237**	*e*P	**P**	**09 52 01.0**	**+1.2**
CBIJ	comp=Z,73nm,0.8s **Chichi jima**	**22.42**	**206**	*e*P	**P**	**09 52 02.2**	**+1.0**
SPIA	comp=Z,185nm,1.3s **Saint Paul Isl**	**23.92**	**53**	*e*P	**P**	**09 52 16.2**	**+1.1**
DL2	comp=Z,181nm,1.1s **Dalian**	**24.39**	**260**	P	**P**	**09 52 20.8**	**+1.3**
DL2				pP	**pP**	**09 52 47.6**	**+4.3**
DL2				*e*S	**S**	**09 56 32.3**	**+1.4**
DL2	comp=Z,110nm,0.8s			pmax	pmax		
NIKH	**Nikolski High**	**24.59**	**64**	*e*P	**P**	**09 52 21.2**	**0.0**
GAMB	comp=Z,62nm,1.2s **Gambell**	**24.94**	**37**	*e*P	**P**	**09 52 24.7**	**+0.5**
UNV	comp=Z,81nm,1.1s **Unalaska Valle**	**25.95**	**61**	*e*P	**P**	**09 52 33.3**	**-0.2**
UNV	comp=Z,31nm,1.1s			*e*PcP	**PcP**	**09 55 58.5**	**-0.4**
AKUT	**Akutan**	**26.36**	**61**	*e*P	**P**	**09 52 36.1**	**-1.0**
AKUT	comp=Z,50nm,1.0s			*e*PcP	**PcP**	**09 55 59.2**	**-0.6**
TIXI	**Tiksi**	**26.37**	**343**	P	**P**	**09 52 35.0**	**-2.0**
TIXI	comp=Z,3.7nm,0.3s,baz=137,slow=6.9,SNR=12			pP	**pP**	**09 53 00.2**	**-1.2**
TIXI	comp=Z,19nm,0.9s,baz=159,slow=9.9,SNR=7.2			PcP	**PcP**	**09 55 59.3**	**-0.2**
TIXI	comp=Z,12nm,0.5s,baz=80,slow=2.4,SNR=8.8 **Tiksi**	**26.37**	**343**	*c i*P	**P**	**09 52 36.2**	**-0.9**
TIXI	comp=Z,7.0nm,0.9s			pmax	pmax		
TIXI	**Tiksi**	**26.37**	**343**	*e*P	**P**	**09 52 36.2**	**-0.9**
TIXI	**Tiksi**	**26.37**	**343**	*e*P	**P**	**09 52 35.7**	**-1.4**
TIXI	comp=Z,134nm,1.6s			pP	**pP**	**09 53 00.2**	**-1.2**
TIXI				*e*PcP	**PcP**	**09 55 59.5**	**-0.1**
BJI	**Beijing**	**27.46**	**267**	P	**P**	**09 52 47.6**	**+0.4**
BJI				S	**S**	**09 57 17.3**	**-2.1**
BJI	comp=Z,27nm,1.0s			pmax	pmax		
BJI	comp=Z,88nm,4.0s			pmax	pmax		
BJI	comp=Z,2μm,21.4s			LR	LR		
BJI	comp=Z,950nm,24.0s			LR	LR		
BJI	comp=Z,470nm,36.9s			LR	LR		
BJT	**Baijiatuau**	**27.48**	**267**	*e*P	**P**	**09 52 50.0**	**+2.7**
BJT	comp=Z,31nm,0.7s			pmax	pmax		
BJT	**Baijiatuau**	**27.48**	**267**	*e*P	**P**	**09 52 50.0**	**+2.7**
FALS	comp=Z,31nm,0.7s **False Pass**	**27.69**	**59**	*e*PcP	**PcP**	**09 56 02.9**	**0.0**
JOW	**Kunigami**	**28.58**	**232**	*e*P	**P**	**09 52 57.8**	**+0.6**
JOW	comp=Z,127nm,0.8s			*e*PcP	**PcP**	**09 56 06.6**	**+0.9**
SDPT	**Sand Point**	**29.34**	**58**	*e*PcP	**PcP**	**09 56 07.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**30.18**	**272**	*e*P	**P**	**09 53 12.9**	**+1.4**
HHC				pP	pP	09 53 39.3	+3.2
HHC				sP	sP	09 53 54.5	+5.5
HHC				sS	sS	09 58 48.4	+3.1
HHC				SS	**SnSn**	**09 59 49.9**	**+1.6**
HHC	comp=Z,24nm,0.6s			pmax	pmax		
HHC	comp=Z,120nm,6.7s			pmax	pmax		
HHC	comp=Z,5μm,14.8s			LR	LR		
HHC	comp=Z,5μm,15.9s			LR	LR		
HHC	comp=Z,4μm,14.8s			LR	LR		
MIDW	**Midway**	**30.19**	**120**	*e*P	**P**	**09 53 12.1**	**+0.7**
MIDW	comp=Z,161nm,1.0s			*e*PcP	**PcP**	**09 56 10.3**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.25**	**153**	T	T	10 25 03.9	
H11N1	baz=341,slow=76,SNR=263 **WAKE ISLAND Hy**	**30.26**	**153**	T	T	10 25 12.1	
H11N3	baz=341,slow=76,SNR=529 **WAKE ISLAND Hy**	**30.27**	**153**	T	T	10 25 10.7	
NJ2	baz=341,slow=76,SNR=261 **Nanjing**	**30.30**	**251**	*e*P	**P**	**09 53 12.6**	**+0.2**
NJ2	comp=Z,25nm,0.7s			pmax	pmax		
NJ2	comp=Z,1μm,16.8s			LR	LR		
NJ2	comp=Z,870nm,14.1s			LR	LR		
NJ2	comp=Z,680nm,21.7s			LR	LR		
CHGN	**Chignik**	**30.41**	**56**	*e*P	**P**	**09 53 12.8**	**-0.3**
CHGN	comp=Z,84nm,1.5s			*e*PcP	**PcP**	**09 56 09.3**	**-0.5**
ULN	**Ulaanbaatar**	**30.50**	**287**	*ce*P	**P**	**09 53 14.2**	**0.0**
ULN	**Ulaanbaatar**	**30.50**	**287**	*e*P	**P**	**09 53 14.2**	**0.0**
SONA1	**Songino Array**	**30.92**	**288**	*e*P	**P**	**09 53 18.2**	**+0.3**
SONA1				*e*PcP	**PcP**	**09 56 11.8**	**+0.2**
SONM	**Songino Array**	**30.93**	**288**	P	**P**	**09 53 18.0**	**0.0**

comp=Z,3.1nm,0.7s,baz=53,slow=11,SNR=5.6
SONM pP **pP** **09 53 41.1 -1.5**
comp=Z,4.0nm,0.6s,baz=73,slow=9.9,SNR=3.5
SONM PcP **PcP** **09 56 11.1 -0.5**
comp=Z,3.7nm,0.7s,baz=90,slow=2.2,SNR=3.7
SONM ScP **ScP** **09 59 42.6 -1.2**
comp=Z,3.0nm,0.9s,baz=88,slow=1.8,SNR=5.4
SONM LR LR 10 05 13.3
comp=Z,566nm,20.7s,baz=76,slow=35
H11S1 WAKE ISLAND Hy 31.35 154 T T 10 26 47.0
baz=343,slow=76,SNR=1040
H11S3 WAKE ISLAND Hy 31.36 155 T T 10 26 33.2
baz=343,slow=76,SNR=482
H11S2 WAKE ISLAND Hy 31.36 154 T T 10 26 48.3
baz=343,slow=76,SNR=420
TT01 Tatalina 31.61 43 *e*P **P** **09 53 24.5 +0.9**
TT01 *e*PcP **PcP** **09 56 14.1 +1.2**
TTA Tatalina 31.61 43 *e*P **P** **09 53 24.6 +0.9**
TTA Tatalina 31.61 43 *e*P **P** **09 53 24.6 +0.9**
TTA *e*PcP **PcP** **09 56 13.9 +0.9**
TLY Talaya 31.63 296 pP **pP** **09 53 48.6 -0.1**
comp=Z,92nm,0.9s,baz=84,slow=8.2,SNR=14
TLY LR LR 10 05 37.3
comp=Z,445nm,19.9s,baz=67,slow=35
TLY Talaya 31.63 296 *e*P **P** **09 53 24.7 +0.7**
TLY pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 31.63 296 *e*P **P** **09 53 24.7 +0.7**
SVW2 Sparrevohn 31.73 46 *e*P **P** **09 53 25.8 +1.0**
comp=Z,13nm,0.7s
SVW2 *e*PcP **PcP** **09 56 14.4 +1.1**
OHAK Old Harbor 33.13 53 *e*P **P** **09 53 36.5 -0.4**
comp=Z,80nm,1.0s
OHAK *e*PcP **PcP** **09 56 17.8 +0.6**
PPLA Purkeypile 33.36 43 *e*P **P** **09 53 40.7 +1.7**
comp=Z,65nm,1.4s
PPLA *e*PcP **PcP** **09 56 18.2 +0.2**
CAST Castle Rocks 33.42 42 *e*P **P** **09 53 40.6 +1.2**
comp=Z,19nm,0.6s
CAST *e*PcP **PcP** **09 56 18.3 +0.3**
KDAK Kodiak Island 33.44 52 P **P** **09 53 38.8 -0.7**
comp=Z,41nm,0.8s,baz=304,slow=2.8,SNR=51
KDAK PcP **PcP** **09 56 17.5 -0.5**
comp=Z,17nm,0.8s,baz=46,slow=0.9,SNR=8.5
KDAK Kodiak Island 33.44 52 *e*P **P** **09 53 39.3 -0.3**
comp=Z,42nm,0.8s
KDAK *e*PcP **PcP** **09 56 18.7 +0.6**
SPU Mount Spurr 33.44 46 *e*P **P** **09 53 41.0 +1.3**
SPU *e*PcP **PcP** **09 56 18.1 0.0**
BPAW Bear Paw Mtn. 33.92 41 *e*P **P** **09 53 44.6 +0.9**
comp=Z,25nm,0.7s
BPAW *e*PcP **PcP** **09 56 20.3 +0.9**
KTH Kantishna Hill 33.94 42 *e*P **P** **09 53 45.0 +1.1**
comp=Z,88nm,1.1s
KTH *e*PcP **PcP** **09 56 20.1 +0.5**
CNPM China Poot 33.95 49 *e*P **P** **09 53 44.1 0.0**
comp=Z,230nm,1.9s
CNPM *e*PcP **PcP** **09 56 20.0 +0.4**
MLY Manley 34.06 39 *e*P **P** **09 53 46.3 +1.3**
comp=Z,22nm,0.7s
MLY *e*PcP **PcP** **09 56 20.4 +0.6**
SUA Susitna One 34.06 45 *e*P **P** **09 53 45.3 +0.2**
comp=Z,22nm,1.1s
SUA *e*PcP **PcP** **09 56 19.9 -0.1**
YHNB Yeheng 34.09 238 *e*P **P** **09 53 45.1 -0.5**
comp=Z,37nm,0.9s
BRLK Bradley Lake 34.11 48 *e*P **P** **09 53 45.3 -0.1**
comp=Z,87nm,1.6s
BRLK *e*PcP **PcP** **09 56 20.4 +0.3**
WHN Wuhan 34.19 254 ⇓P **P** **09 53 46.3 0.0**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN LR LR
comp=Z,2μm,20.3s
WHN LR LR
comp=Z,2μm,18.0s
WHN LR LR
comp=Z,1μm,15.2s
TRF Thorofare Moun 34.22 42 *e*P **P** **09 53 47.5 +0.9**
comp=Z,28nm,0.6s
TRF *e*PcP **PcP** **09 56 20.4 -0.1**
COLD Coldfoot 34.43 35 *e*P **P** **09 53 49.1 +1.0**
comp=Z,33nm,0.6s
COLD *e*PcP **PcP** **09 56 21.5 +0.7**
RC01 Rabbit Creek A 34.57 46 *e*P **P** **09 53 50.1 +0.7**
comp=Z,73nm,1.7s
RC01 *e*PcP **PcP** **09 56 21.5 +0.2**
SEW Seward 34.80 48 *e*P **P** **09 53 51.2 -0.1**
SEW *e*pP **pP** **09 54 15.7 -0.5**
SEW *e*PcP **PcP** **09 56 22.6 +0.7**
TOLK Toolik Lake Re 34.81 33 P **P** **09 53 51.9 +0.5**
baz=264
MCK McKinley 34.83 41 *e*P **P** **09 53 52.2 +0.7**
MCK *e* 09 56 22.0
MCK pmax pmax
comp=Z,40nm,0.9s
MCK McKinley 34.83 41 *e*P **P** **09 53 52.2 +0.7**
MCK McKinley 34.83 41 *e*P **P** **09 53 52.2 +0.7**
comp=Z,40nm,0.9s
MCK *e*PcP **PcP** **09 56 22.0 0.0**
PMR Palmer 34.83 45 *e*P **P** **09 53 51.9 +0.4**
PMR *e* 09 56 22.2
PMR pmax pmax
comp=Z,58nm,1.8s
PMR Palmer 34.83 45 *e*P **P** **09 53 51.9 +0.4**
PMR Palmer 34.83 45 *e*P **P** **09 53 51.9 +0.4**
comp=Z,58nm,1.8s
PMR *e*PcP **PcP** **09 56 22.2 +0.2**
RND Reindeer 34.87 42 *e*P **P** **09 53 52.3 +0.3**
RND pmax pmax
comp=Z,42nm,0.9s
RND Reindeer 34.87 42 *e*P **P** **09 53 52.3 +0.3**
comp=Z,42nm,0.9s
RND *e*PcP **PcP** **09 56 22.5 +0.3**
SSLB Suanglung 35.01 238 *e*P **P** **09 53 53.8 +0.2**
comp=Z,27nm,0.7s
SSLB *e*PcP **PcP** **09 56 22.9 -0.3**
MDM Murphy Dome 35.12 39 *e*P **P** **09 53 55.1 +1.0**
comp=Z,55nm,0.7s
YULB Yu-li 35.13 237 *e*P **P** **09 53 55.4 +0.8**
comp=Z,35nm,0.8s
WRH Wood River Hil 35.19 40 *e*P **P** **09 53 55.5 +0.9**
comp=Z,52nm,1.2s
WRH *e*PcP **PcP** **09 56 22.3 -0.7**
SML Sawmill 35.19 45 *e*P **P** **09 53 55.3 +0.5**
SML pmax pmax
comp=Z,84nm,0.8s
SML Sawmill 35.19 45 *e*P **P** **09 53 55.3 +0.5**
comp=Z,84nm,0.8s
SML *e*PcP **PcP** **09 56 23.7 +0.5**
COLA College 35.28 39 *e*P **P** **09 53 56.6 +1.2**
COLA pmax pmax
comp=Z,120nm,0.7s
COLA College 35.28 39 *e*P **P** **09 53 56.2 +0.8**
COLA College 35.28 39 *e*P **P** **09 53 56.6 +1.2**
comp=Z,123nm,0.7s
CCB Clear Creek Bu 35.31 40 *e*P **P** **09 53 56.4 +0.8**
comp=Z,28nm,0.7s
CCB *e*PcP **PcP** **09 56 22.6 -0.8**
DHY Denali Highway 35.55 42 *e*P **P** **09 53 58.4 +0.4**
comp=Z,26nm,0.8s
DHY *e*PcP **PcP** **09 56 25.5 +1.1**
TPUB Ta-pu 35.58 238 *e*P **P** **09 53 58.6 +0.2**
comp=Z,124nm,1.0s
XAN Xi'an 35.58 264 P **P** **09 53 58.0 -0.4**
XAN sP sP 09 54 40.3 +4.1
XAN PP **PP** **09 55 17.3 -3.9**
XAN S **S** **09 59 20.0 -6.0**
XAN pmax pmax
comp=Z,22nm,0.8s
XAN pmax pmax
comp=Z,130nm,13.0s
XAN LR LR
comp=Z,300nm,20.1s
XAN LR LR
comp=Z,640nm,15.8s
XAN LR LR
comp=Z,540nm,16.3s
SCM Sheep Creek Mo 35.66 45 *e*P **P** **09 53 59.5 +0.7**
SCM pmax pmax
comp=Z,160nm,1.7s
SCM Sheep Creek Mo 35.66 45 *e*P **P** **09 53 59.5 +0.7**
comp=Z,164nm,1.8s
SCM *e*PcP **PcP** **09 56 24.9 +0.2**
HDA Harding Lake 35.68 40 *e*P **P** **09 53 58.9 0.0**
comp=Z,48nm,0.6s

ILAR Eielson Array 35.70 40 P **P** **09 53 59.0 0.0**
comp=Z,49nm,1.1s,baz=259,slow=5.9,SNR=256
ILAR PcP **PcP** **09 56 23.1 -1.5**
comp=Z,3.7nm,0.5s,baz=281,slow=3.8,SNR=7.4
ILAR ScP **ScP** **09 59 57.8 -2.3**
comp=Z,1.4nm,0.9s,baz=303,slow=3.2,SNR=4.6
ILAR LR LR 10 10 10.9
comp=Z,165nm,20.0s,baz=269,slow=39
ILB Eielson Array 35.70 40 *e*P **P** **09 53 59.5 +0.5**
ILB *e*PcP **PcP** **09 56 23.3 -1.3**
IL1 Eielson Array 35.70 40 *e*P **P** **09 53 58.8 -0.2**
IL1 *e*PcP **PcP** **09 56 23.2 -1.3**
TWG Pinlang 35.70 237 *e*P **P** **09 53 58.6 -0.8**
comp=Z,568nm,1.1s
GLI Glacier Island 35.87 46 *e*P **P** **09 54 00.4 -0.1**
comp=Z,73nm,1.5s
GLI *e*PcP **PcP** **09 56 25.8 +0.6**
FID Port Fidalgo 36.19 46 *e*P **P** **09 54 03.5 +0.3**
comp=Z,98nm,1.6s
FID *e*PcP **PcP** **09 56 26.4 +0.3**
FYU Fort Yukon 36.36 36 *e*P **P** **09 54 06.2 +1.6**
comp=Z,70nm,0.7s
FYU *e*PcP **PcP** **09 56 26.6 +0.1**
KLU Klutina 36.37 45 *e*P **P** **09 54 05.5 +0.7**
comp=Z,33nm,1.2s
KLU *e*PcP **PcP** **09 56 27.2 +0.5**
PAX Paxson 36.43 43 *e*P **P** **09 54 07.3 +2.0**
PAX pmax pmax
comp=Z,14nm,0.8s
PAX Paxson 36.43 43 *e*P **P** **09 54 07.3 +2.0**
comp=Z,14nm,0.8s
PAX *e*PcP **PcP** **09 56 27.4 +0.5**
DIV Divide 36.48 46 *e*P **P** **09 54 06.7 +0.9**
DIV Divide 36.48 46 *e*P **P** **09 54 06.7 +0.9**
comp=Z,43nm,1.2s
DIV *e*PcP **PcP** **09 56 27.8 +0.8**
EYAK Cordova Ski Ar 36.57 47 *e*P **P** **09 54 07.5 +1.0**
comp=Z,108nm,1.6s
EYAK *e*PcP **PcP** **09 56 27.9 +0.7**
HARP HAARP 36.62 43 *e*P **P** **09 54 08.1 +1.2**
comp=Z,40nm,0.7s
HARP *e*PcP **PcP** **09 56 28.7 +1.3**
DOT Dot Lake 37.00 41 *e*P **P** **09 54 10.0 -0.1**
comp=Z,59nm,0.7s
DOT *e*PcP **PcP** **09 56 29.6 +1.0**
BMRM Bremner River 37.07 46 *e*P **P** **09 54 11.8 +1.1**
comp=Z,25nm,0.9s
BMRM *e*PcP **PcP** **09 56 29.4 +0.6**
RAGM Ragged Mountai 37.12 47 *e*P **P** **09 54 12.8 +1.6**
comp=Z,266nm,0.4s
ENH Enshi 37.54 258 *e*P **P** **09 54 14.6 -0.4**
comp=Z,28nm,0.8s
NRIK Noril'sk 37.77 328 pP **pP** **09 54 40.5 -1.2**
comp=Z,7.8nm,0.6s,baz=80,slow=9.5,SNR=3.9
NRIK LR LR 10 10 08.0
comp=Z,260nm,18.1s,baz=88,slow=36
CRQM Cirque 37.81 46 *e*P **P** **09 54 18.8 +1.7**
comp=Z,87nm,1.2s
CRQM *e*PcP **PcP** **09 56 32.5 +1.3**
LZH Lanzhou 37.82 270 ⇑P **P** **09 54 18.4 +0.9**
LZH pP pP 09 54 45.3 +2.6
LZH sP sP 09 54 59.4 +4.0
LZH PP **PnPn** **09 55 51.3 +2.9**
LZH S **S** **09 59 58.0 -2.2**
LZH sS sS 10 00 42.0 -1.9
LZH pmax pmax
comp=Z,78nm,1.1s
LZH pmax pmax
comp=Z,300nm,5.0s
LZH LR LR
comp=Z,1μm,13.5s
LZH LR LR
comp=Z,630nm,14.0s
LZH LR LR
comp=Z,2μm,15.6s
BALM Baldy 38.14 45 *e*P **P** **09 54 21.2 +1.3**
BALM pmax pmax
comp=Z,25nm,1.0s
BALM Baldy 38.14 45 *e*P **P** **09 54 21.2 +1.3**
comp=Z,25nm,1.0s
BALM *e*PcP **PcP** **09 56 33.0 +0.8**
EGAK Eagle 38.15 39 *e*P **P** **09 54 20.1 +0.4**
comp=Z,48nm,0.7s
GTA Gaotai 38.76 278 ⇓P **P** **09 54 25.6 +0.3**
GTA pP pP 09 54 54.0 +3.4
GTA sP sP 09 55 08.3 +5.0
GTA PcP **PcP** **09 56 35.6 +1.1**
GTA S **S** **10 00 12.5 -1.8**
GTA SS **SS** **10 02 59.9 -9.3**
GTA ScS **ScS** **10 04 22.3 -1.0**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,68nm,6.7s
GTA LR LR
comp=Z,530nm,17.6s
GTA LR LR
comp=Z,450nm,16.6s
GTA LR LR
comp=Z,240nm,17.1s
DAWY Dawson 39.00 40 *e*P **P** **09 54 27.8 +0.9**
comp=Z,25nm,1.1s
DAWY *e*PcP **PcP** **09 56 35.1 +0.4**
HYT Haines Junctio 40.50 45 *e*P **P** **09 54 41.6 +2.1**
comp=Z,14nm,0.9s
INK Inuvik 40.73 33 P **P** **09 54 42.0 +1.0**
comp=Z,28nm,0.7s,baz=294,slow=9.2,SNR=110
CD2 Chengdu 40.94 264 P **P** **09 54 43.4 +0.1**
CD2 S **S** **10 00 46.3 -0.5**
CD2 SS **SS** **10 03 53.4 +0.8**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,650nm,17.4s
CD2 LR LR
comp=Z,570nm,18.4s
CD2 LR LR
comp=Z,440nm,17.9s
WHY Whitehorse 41.79 45 *e*P **P** **09 54 51.7 +1.7**
comp=Z,14nm,0.8s
WHY *e*PcP **PcP** **09 56 44.5 +0.6**
SKAG Skagway 41.91 47 *e*P **P** **09 54 53.1 +2.3**
comp=Z,39nm,1.4s
SKAG *e*PcP **PcP** **09 56 45.3 +1.2**
ZAA0 Zalesovo Array 41.92 305 *e*P **P** **09 54 50.5 -0.4**
ZALV Zalesovo Beam 41.92 305 P **P** **09 54 50.9 -0.1**
comp=Z,6.4nm,0.3s,baz=71,slow=6.7,SNR=8.7
ZALV pP **pP** **09 55 15.6 -0.9**
comp=Z,26nm,0.7s,baz=71,slow=6.5,SNR=3.0
ZALV PcP **PcP** **09 56 44.5 +0.2**
comp=Z,12nm,0.6s,baz=47,slow=3.0,SNR=8.5
ZALV pPcP 09 57 15.6
comp=Z,11nm,0.7s,baz=77,slow=2.5,SNR=4.4
ZALV ScP **ScP** **10 00 22.8 -1.4**
comp=Z,3.1nm,0.7s,baz=70,slow=4.8,SNR=4.5
GYA Guiyang 41.92 256 ⇑*i*P **P** **09 54 52.6 +1.1**
GYA pP pP 09 55 20.0 +3.0
GYA sP sP 09 55 34.0 +4.3
GYA PP **PnPn** **09 56 34.3 -2.4**
GYA PcP **PcP** **09 56 46.3 +1.4**
GYA ScP **ScP** **10 00 24.4 -0.4**
GYA S **S** **10 01 01.0 -0.5**
GYA sS sS 10 01 49.9 +4.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.2s
DGZ Jazzator, Alta 42.02 298 *e*P **P** **09 54 52.6 +0.6**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
BESE Bessie Mountai 42.41 48 *e*P **P** **09 54 57.1 +2.1**
comp=Z,56nm,1.4s
TGY Tagaytay City 42.92 229 P **P** **09 55 00.3 +0.7**
comp=Z,219nm,0.7s,baz=206,slow=2.4,SNR=6.2
JOHN Johnston Islan 43.63 122 *e*P **P** **09 55 05.8 +0.7**
comp=Z,316nm,1.2s
CRAG Craig 44.39 51 *e*P **P** **09 55 13.5 +2.7**
comp=Z,265nm,1.8s
WMQ Urumqi 44.48 290 P **P** **09 55 13.3 +1.5**
WMQ pP pP 09 55 39.1 +1.5
WMQ sP sP 09 55 51.5 +1.3
WMQ LR LR
comp=Z,680nm,18.3s

WMQ LR LR
comp=Z,180nm,17.1s
WMQ LR LR
comp=Z,260nm,23.9s
DLBC Dease Lake 44.84 47 P **P** **09 55 16.2 +1.7**
comp=Z,13nm,0.9s,baz=278,slow=5.7,SNR=19
QIZ Qiongzhong 45.26 246 P **P** **09 55 20.4 +2.3**
QIZ S **S** **10 01 53.3 +3.3**
QIZ pmax pmax
comp=Z,25nm,1.4s
QIZ LR LR
comp=Z,310nm,18.1s
KMI Kunming 45.41 258 P **P** **09 55 19.0 -0.5**
KMI pP pP 09 55 43.8 -1.6
KMI sP sP 09 55 58.8 +0.8
KMI S **S** **10 01 47.4 -5.1**
KMI pmax pmax
comp=Z,42nm,1.1s
KMI pmax pmax
comp=Z,160nm,3.5s
KMI LR LR
comp=Z,370nm,16.3s
KMI LR LR
comp=Z,240nm,16.3s
KMI LR LR
comp=Z,310nm,17.5s
KEKH Kekaha 45.62 108 *e*P **P** **09 55 22.3 +1.4**
comp=Z,180nm,0.9s
MK31 Makanchi Array 46.39 296 *e*P **P** **09 55 26.5 -0.2**
MK31 Makanchi Array 46.39 296 *e*P **P** **09 55 26.5 -0.2**
MK31 *e*PcP **PcP** **09 56 59.5 -0.3**
MKAR Makanchi Array 46.39 296 P **P** **09 55 26.2 -0.5**
comp=Z,9.7nm,0.7s,baz=66,slow=7.7,SNR=20
MKAR pP **pP** **09 55 51.7 -1.0**
comp=Z,35nm,1.0s,baz=67,slow=9.3,SNR=8.8
MKAR PcP **PcP** **09 56 58.7 -1.0**
comp=Z,5.2nm,0.7s,baz=67,slow=3.4,SNR=2.8
MKAR ScP **ScP** **10 00 41.0 -1.7**
comp=Z,1.5nm,0.6s,baz=54,slow=3.9,SNR=3.7
MKAR LR LR 10 14 32.3
comp=Z,378nm,18.3s,baz=65,slow=35
MKAR Makanchi Array 46.39 296 *e*P **P** **09 55 26.5 -0.2**
MKAR Makanchi Array 46.39 296 *e*P **P** **09 55 26.5 -0.2**
comp=Z,495nm,0.8s
MKAR pP **pP** **09 55 51.7 -1.0**
MKAR *e*PcP **PcP** **09 56 59.6 -0.2**
MKAR ScP **ScP** **10 00 41.0 -1.7**
MK01 Makanchi Array 46.39 296 *e*P **P** **09 55 26.7 -0.1**
MK01 *e*PcP **PcP** **09 57 00.5 +0.7**
MAKZ Makanchi 46.57 297 *e*P **P** **09 55 27.8 -0.3**
MAKZ *e**PP **pP** **09 55 50.0 -4.1**
MAKZ Makanchi 46.57 297 *e*P **P** **09 55 27.8 -0.3**
MAKZ *e*pP **pP** **09 55 50.0 -4.1**
KURK Kurchatov 46.70 303 *d i*P **P** **09 55 28.5 -0.6**
KURK pmax pmax
comp=Z,66nm,0.7s
KURK Kurchatov 46.70 303 *e*P **P** **09 55 28.5 -0.6**
KURK Kurchatov 46.70 303 *e*P **P** **09 55 28.6 -0.4**
comp=Z,90nm,1.0s
KURK pP **pP** **09 55 53.6 -1.5**
KURK ScP **ScP** **10 00 42.3 -1.5**
KURBB Kurchatov Arra 46.80 303 P **P** **09 55 29.4 -0.4**
comp=Z,27nm,0.7s,baz=68,slow=8.4,SNR=32
KURBB pP **pP** **09 55 53.6 -2.2**
comp=Z,37nm,0.8s,baz=67,slow=8.2,SNR=7.9
KURBB ScP **ScP** **10 00 42.3 -1.9**
comp=Z,1.8nm,0.7s,baz=64,slow=3.0,SNR=6.1
OPA Opana 46.93 106 *e*P **P** **09 55 32.9 +1.7**
OPA pmax pmax
comp=Z,380nm,1.1s
OPA Opana 46.93 106 *e*P **P** **09 55 32.9 +1.7**
comp=Z,376nm,1.1s
KIP Kipapa 47.12 106 *ce*P **P** **09 55 34.4 +1.7**
KIP Kipapa 47.12 106 *e*P **P** **09 55 34.3 +1.7**
comp=Z,227nm,0.9s
HON Honolulu 47.20 107 *e*P **P** **09 55 35.0 +1.8**
HON pmax pmax
comp=Z,331nm,1.3s
HON Honolulu 47.20 107 *e*P **P** **09 55 35.0 +1.8**
comp=Z,330nm,1.3s
HPAH Hawaii Prepara 49.62 106 *e*P **P** **09 55 53.2 +1.3**
comp=Z,214nm,0.9s
POHA Pohakuloa 49.92 106 *e*P **P** **09 55 55.7 +1.3**
comp=Z,466nm,0.7s
YKA Yellowknife Ar 50.05 37 P **P** **09 55 54.6 +0.1**
comp=Z,37nm,0.6s,baz=298,slow=7.1,SNR=112
YKA PcP **PcP** **09 57 13.0 +0.4**
comp=Z,7.8nm,0.7s,baz=299,slow=3.6,SNR=7.2
YKA ScP **ScP** **10 00 57.7 -0.1**
comp=Z,0.9nm,0.7s,baz=309,slow=3.9,SNR=4.0
MLOA Mauna Loa Obse 50.05 106 *e*P **P** **09 55 57.0 +1.3**
comp=Z,333nm,1.2s
MWH Moku'aweowe 50.08 106 *e*P **P** **09 55 57.2 +1.3**
comp=Z,119nm,0.9s
BVAR Borovoye Array 50.11 309 P **P** **09 55 54.2 -0.9**
comp=Z,10nm,0.7s,baz=53,slow=7.8,SNR=19
BVAR pP **pP** **09 56 21.1 -0.4**
comp=Z,20nm,0.7s,baz=55,slow=7.6,SNR=6.0
BVAR PcP **PcP** **09 57 13.0 0.0**
comp=Z,11nm,0.7s,baz=76,slow=4.4,SNR=6.3
BVAR ScP **ScP** **10 00 56.4 -1.8**
comp=Z,2.0nm,0.9s,baz=51,slow=4.6,SNR=3.6
BRVK Borovoye 50.15 309 *e*P **P** **09 55 55.4 0.0**
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 50.15 309 *e*P **P** **09 55 55.4 0.0**
BRVK Borovoye 50.15 309 *e*P **P** **09 55 55.7 +0.3**
comp=Z,30nm,0.8s
BRVK *e*pP **pP** **09 56 21.5 -0.2**
LSA Lhasa 50.17 272 *e*P **P** **09 55 58.1 +1.6**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 50.17 272 *e*P **P** **09 55 58.1 +1.6**
comp=Z,16nm,0.7s
MLH Mauna Loa 50.21 106 *e*P **P** **09 55 58.0 +1.4**
MLH Mauna Loa 50.21 106 *e*P **P** **09 55 58.0 +1.4**
comp=Z,279nm,0.8s
AIN Ainahou 50.25 106 *e*P **P** **09 55 58.5 +1.7**
comp=Z,268nm,0.8s
HLP Hilina Pali 50.40 106 *e*P **P** **09 55 59.6 +1.8**
comp=Z,233nm,0.9s
PUH Pauahi 50.40 106 *e*P **P** **09 55 58.9 +1.0**
comp=Z,171nm,0.7s
STCH Steam Cracks 50.45 106 *e*P **P** **09 55 59.7 +1.4**
comp=Z,166nm,1.0s
SKNT Sakolnakorn 50.46 250 P **P** **09 55 59.4 +1.2**
comp=Z,56nm,1.2s
SPITS Spitsbergen Ar 51.49 350 P **P** **09 56 04.6 -0.6**
comp=Z,9.0nm,0.7s,baz=70,slow=7.2,SNR=7.2
SPITS PcP **PcP** **09 57 17.9 +0.1**
comp=Z,2.7nm,0.4s,baz=29,slow=3.3,SNR=5.4
KHON Khomkaen 51.66 250 P **P** **09 56 08.1 +0.9**
comp=Z,27nm,0.9s,comp=Z,655nm
MYLDM Lahad Datu 51.79 226 *e*P **P** **09 56 10.1 +2.0**
RABL Rabaul 51.86 181 *e*P **P** **09 56 11.1 +2.4**
comp=Z,27nm,0.6s
UTTA Uttaradit 52.07 253 P **P** **09 56 11.1 +0.9**
comp=Z,9.6nm,0.8s
LAMP Lampang 52.10 255 P **P** **09 56 12.1 +1.6**
comp=Z,12nm,0.9s,comp=Z,117nm
SWI Sorong 52.12 208 P **P** **09 56 11.8 +1.2**
comp=Z,30nm,0.8s
CHTO Chiang Mai 52.34 256 P **P** **09 56 12.9 +0.7**
comp=Z,183nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 52.34 256 *e*P **P** **09 56 13.0 +0.7**
CHTO pmax pmax
comp=Z,35nm,1.0s
CHTO Chiang Mai 52.34 256 *e*P **P** **09 56 13.0 +0.7**
comp=Z,35nm,0.9s
CHTO Chiang Mai 52.34 256 P **P** **09 56 12.9 +0.7**
SNR=9.3
CHAI Chaiyaphum 52.52 251 P **P** **09 56 13.9 +0.3**
comp=Z,26nm,0.8s,comp=Z,259nm
CM31 Chiang Mai Arr 52.60 255 *e*P **P** **09 56 14.5 +0.4**
CMAR Chiang Mai Arr 52.60 255 P **P** **09 56 15.1 +0.9**
comp=Z,15nm,0.7s,baz=35,slow=7.1,SNR=55
CMAR PcP **PcP** **09 57 23.7 +0.8**
comp=Z,4.6nm,0.7s,baz=20,slow=3.7,SNR=3.3
CMAR ScP **ScP** **10 01 09.3 -0.2**
comp=Z,4.1nm,0.9s,baz=22,slow=3.3,SNR=11
CMAR LR LR 10 18 43.9
comp=Z,147nm,19.6s,baz=58,slow=36
CM01 Chiang Mai Arr 52.62 255 *e*P **P** **09 56 14.7 +0.4**
CM01 *e*PcP **PcP** **09 57 24.7 +1.8**
LLLB Lilloet 52.64 53 *e*P **P** **09 56 15.4 +1.3**
comp=Z,58nm,0.9s

LLLB *e*PcP **PcP** **09 57 23.6 +1.0**
PBKT Sadao Pong 52.67 252 P **P** **09 56 15.3 +0.7**
comp=Z,34nm,0.6s
PGC Sidney 52.84 56 *e*P **P** **09 56 16.5 +1.0**
comp=Z,34nm,0.6s
SVE Sverdlovsk 52.97 317 *e*P **P** **09 56 19.8 +3.4**
A04D Lummi Island 53.22 55 P **P** **09 56 18.4 +0.1**
baz=304,SNR=5.2
AAK Ala-Archa 53.29 296 P **P** **09 56 19.4 +0.2**
comp=Z,10nm,0.8s,baz=111,slow=5.2,SNR=19
AAK Ala-Archa 53.29 296 *d i*P **P** **09 56 18.9 -0.3**
AAK pmax pmax
comp=Z,23nm,0.7s
AAK Ala-Archa 53.29 296 *e*P **P** **09 56 18.9 -0.3**
AAK Ala-Archa 53.29 296 *e*P **P** **09 56 19.5 +0.3**
comp=Z,42nm,1.0s
NLWA Neilton Lookou 53.30 57 *e*P **P** **09 56 20.3 +1.4**
comp=Z,74nm,0.8s
NLWA *e*PcP **PcP** **09 57 26.6 +1.5**
HDW Hoodsport 53.62 57 P **P** **09 56 22.5 +1.1**
MBW Mount Baker 53.63 55 P **P** **09 56 22.2 +0.7**
FAKI Fak Fak 53.77 206 P **P** **09 56 23.5 +0.9**
comp=Z,20nm,1.0s
FAKI Fak Fak 53.77 206 *e*P **P** **09 56 22.7 +0.1**
comp=Z,18nm,1.0s
FAKI *e*PcP **PcP** **09 57 27.4 +0.2**
B05A Bryant 53.81 56 P **P** **09 56 23.4 +0.8**
baz=304,SNR=35
SRAK Srakaew 53.91 249 P **P** **09 56 22.0 -1.7**
comp=Z,98nm,0.9s,comp=Z,774nm
JCW Jim Creek 53.94 56 P **P** **09 56 24.5 +0.9**
E03A Lebam 53.95 58 *e*P **P** **09 56 25.1 +1.5**
comp=Z,79nm,0.9s
E03A *e*PcP **PcP** **09 57 28.8 +1.3**
B06A Marblemount 54.01 55 *e*P **P** **09 56 24.8 +0.7**
comp=Z,55nm,0.8s
RPW Rockport 54.03 55 P **P** **09 56 24.8 +0.5**
NAYO Nakonayok 54.13 250 P **P** **09 56 26.6 +1.2**
comp=Z,24nm,0.7s,comp=Z,1μm
ARU Arti 54.15 317 P **P** **09 56 23.6 -1.3**
comp=Z,9.2nm,0.4s,baz=76,slow=4.7,SNR=11
ARU Arti 54.15 317 *d i*P **P** **09 56 24.0 -0.9**
ARU *e**PP **pP** **09 56 53.7 +2.1**
ARU 09 57 27.4
ARU 09 58 26.6
ARU S **S** **10 03 53.2 +0.4**
ARU 10 05 58.2
ARU SS **SS** **10 07 33.7 -1.5**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 54.15 317 *e*P **P** **09 56 24.1 -0.9**
ARU Arti 54.15 317 *e*P **P** **09 56 23.7 -1.3**
comp=Z,66nm,0.8s
KSH Kashi 54.18 292 P **P** **09 56 29.3 +3.6**
KSH pP pP 09 56 58.3 +6.0
KSH sP sP 09 57 13.3 +8.6
KSH PcP **PcP** **09 57 29.9 +1.1**
KSH PP **PP** **09 58 34.5 +6.4**
KSH PcS **PcS** **10 01 28.0 -0.4**
KSH S **S** **10 03 54.9 +0.8**
KSH sS sS 10 04 47.8 +7.9
KSH ScS **ScS** **10 06 01.8 -2.1**
KSH SS **SS** **10 07 40.5 +3.7**
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,83nm,5.9s
KSH LR LR
comp=Z,270nm,13.2s
KSH LR LR
comp=Z,180nm,10.0s
KSH LR LR
comp=Z,280nm,10.1s
F03A Seaside 54.29 59 *e*P **P** **09 56 28.0 +1.8**
comp=Z,138nm,1.3s
F03A *e*PcP **PcP** **09 57 30.6 +1.7**
UMPA Umpang Tak 54.30 254 P **P** **09 56 30.3 +3.7**
comp=Z,6.6nm,1.2s,comp=Z,2μm
MRSI Marisa 54.38 219 P **P** **09 56 27.9 +0.8**
comp=Z,38nm,0.9s,comp=Z,726nm
UTHA Uthaitani 54.40 253 P **P** **09 56 29.0 +1.7**
comp=Z,6.1nm,0.7s,comp=Z,91nm
D05A Enumclaw 54.47 57 *e*P **P** **09 56 29.2 +1.7**
comp=Z,94nm,0.6s
D05A *e*PcP **PcP** **09 57 31.0 +1.5**
F04D Rainier, OR 54.52 58 P **P** **09 56 28.8 +1.0**
baz=305
C06D Leavenworth 54.67 55 P **P** **09 56 29.6 +0.7**
baz=305,SNR=14
LON Longmire 54.82 57 *e*P **P** **09 56 31.0 +0.9**
LON pmax pmax
comp=Z,18nm,0.7s
LON Longmire 54.82 57 *e*P **P** **09 56 31.0 +0.9**
comp=Z,18nm,0.7s
GUN Gumba 54.86 274 *e*P **P** **09 56 30.5 -0.5**
comp=Z,38nm,0.6s
G03D McMinnville, O 54.88 59 P **P** **09 56 32.3 +1.9**
baz=305
NLW Nelson Butte 54.89 55 P **P** **09 56 31.5 +0.9**
SANI Sanana 55.05 214 P **P** **09 56 32.1 +0.2**
ETW Entiat 55.16 55 P **P** **09 56 33.4 +0.7**
LTY Liberty 55.17 56 *e*P **P** **09 56 33.5 +0.8**
comp=Z,73nm,0.5s
COR Corvallis 55.21 60 *e*P **P** **09 56 34.9 +2.1**
COR pmax pmax
comp=Z,93nm,0.9s
COR Corvallis 55.21 60 *e*P **P** **09 56 34.9 +2.1**
comp=Z,93nm,0.9s
TBM Table Mountain 55.26 56 P **P** **09 56 34.2 +0.9**
B08A Colville Reser 55.28 54 *e*P **P** **09 56 34.3 +1.0**
comp=Z,59nm,0.7s
B08A *e*PcP **PcP** **09 57 33.4 +0.7**
WTV Waterville 55.32 55 P **P** **09 56 34.0 +0.4**
KKN Kakani 55.34 274 *e*P **P** **09 56 34.8 +0.5**
comp=Z,36nm,0.6s
PKI Pulchoki 55.40 274 *e*P **P** **09 56 34.9 +0.1**
comp=Z,21nm,0.5s
PKIN Phulchoki 55.40 274 *e*P **P** **09 56 34.4 -0.4**
comp=Z,26nm,0.5s
KKAR Karatay Array 55.42 298 *e*P **P** **09 56 34.3 -0.1**
KKAR pmax pmax
comp=Z,125nm,1.0s
KKAR Karatay Array 55.42 298 *e*P **P** **09 56 34.3 -0.1**
comp=Z,125nm,1.0s
EBG Ellensburg 55.43 56 P **P** **09 56 35.6 +1.2**
SRDT SRDT 55.51 252 P **P** **09 56 36.6 +1.3**
comp=Z,80nm,0.7s
DMN Daman 55.58 274 *e*P **P** **09 56 36.5 +0.5**
comp=Z,29nm,0.4s
KEBM Edson Butte 55.61 62 *e*P **P** **09 56 38.0 +2.3**
comp=Z,126nm,0.8s
KEBM *e*PcP **PcP** **09 57 35.8 +1.7**
SAW Saint Andrews 55.62 55 P **P** **09 56 36.2 +0.5**
GKN Gorkha 55.64 275 *e*P **P** **09 56 36.1 -0.2**
comp=Z,54nm,0.6s
I03D Drain, OR 55.71 61 P **P** **09 56 38.2 +1.8**
baz=306,SNR=26
LVZ Lovozero 55.71 336 *e*P **P** **09 56 35.3 -0.8**
LVZ pmax pmax
comp=Z,36nm,1.6s
LVZ Lovozero 55.71 336 *e*P **P** **09 56 35.1 -1.0**
comp=Z,98nm,1.6s
VFP Flag Point 55.85 58 P **P** **09 56 38.8 +1.1**
VBEM Beaver Butte 55.93 59 P **P** **09 56 39.4 +1.3**
G05D Wamic, OR 55.98 58 P **P** **09 56 39.2 +0.9**
baz=306,SNR=20
DANN Dangsing 56.00 276 *e*P **P** **09 56 40.2 +1.2**
comp=Z,5.9nm,0.7s
E07A Sunnyside 56.03 56 *e*P **P** **09 56 39.9 +1.1**
comp=Z,69nm,0.6s
KBO Bosley Butte 56.06 63 *e*P **P** **09 56 41.4 +2.3**
comp=Z,97nm,1.0s
WAH2 Wahluke Slope 56.08 56 P **P** **09 56 39.9 +0.9**
KULLO Kullorsuaq 56.15 9 *i*P **P** **09 56 37.8 -1.3**
comp=Z,32nm,0.7s
KULLO Kullorsuaq 56.15 9 *i*P **P** **09 56 37.8 -1.3**
KULLO pmax pmax
comp=Z,32nm,0.7s
D08A Wollman Farm, 56.26 55 *e*P **P** **09 56 41.1 +0.8**
comp=Z,47nm,0.6s
KEV Kevo 56.26 340 *e*P **P** **09 56 38.4 -1.5**
KEV pmax pmax
comp=Z,29nm,1.1s
KEV Kevo 56.26 340 *e*P **P** **09 56 38.4 -1.5**
comp=Z,28nm,1.1s
PHET Kaeng Krachan 56.26 250 P **P** **09 56 42.0 +1.3**
comp=Z,25nm,0.8s,comp=Z,283nm
APA Apatity 56.28 336 *i*P **P** **09 56 39.2 -0.9**
APA *i* *PP **pP** **09 57 05.4 -1.5**
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,1μm,10.0s
HAWA Hanford 56.31 56 *e*P **P** **09 56 41.9 +1.2**
comp=Z,47nm,0.9s
L02D Cave Junction, 56.47 62 P **P** **09 56 43.4 +1.5**
baz=307,SNR=11
KOLN Koldanda 56.48 276 *e*P **P** **09 56 42.8 +0.4**
comp=Z,58nm,0.7s
I05D Terrebonne, OR 56.50 59 P **P** **09 56 43.2 +1.1**
baz=307,SNR=63
NEW Newport 56.53 53 P **P** **09 56 42.7 +0.5**
baz=306,SNR=40
NEW Newport 56.53 53 *e*P **P** **09 56 42.9 +0.7**
NEW pmax pmax
comp=Z,75nm,1.2s
NEW Newport 56.53 53 *e*P **P** **09 56 42.9 +0.7**
comp=Z,75nm,1.2s
NEW *e*PcP **PcP** **09 57 38.1 +0.5**
HUMO Hull Mountain 56.58 62 *e*P **P** **09 56 44.5 +1.8**
comp=Z,76nm,1.4s
KRMB Red Mountain 56.66 63 *e*P **P** **09 56 45.6 +2.2**
comp=Z,39nm,0.9s
PYUN Piuthan 56.68 276 *e*P **P** **09 56 44.9 +1.1**
comp=Z,74nm,0.7s
J04D Umpqua Nationa 56.70 61 P **P** **09 56 45.4 +1.6**
baz=307,SNR=40
ARCES ARCESS Array B 56.77 341 P **P** **09 56 42.4 -1.2**
comp=Z,2.3nm,0.5s,baz=48,slow=6.8,SNR=28
ARCES PcP **PcP** **09 57 38.2 +0.1**
comp=Z,12nm,0.7s,baz=55,slow=4.6,SNR=8.6
ARCES ScP **ScP** **10 01 26.2 -0.8**
comp=Z,4.2nm,0.8s,baz=15,slow=5.0,SNR=5.4
ARCES LR LR 10 25 06.8
comp=Z,264nm,19.2s,baz=42,slow=40
JCC Jacoby Creek, 57.02 64 *e*P **P** **09 56 47.5 +1.8**
comp=Z,191nm,1.5s
KHMM Horse Mountain 57.16 64 *e*P **P** **09 56 48.9 +2.0**
comp=Z,66nm,0.9s
J05D Fort Rock, OR 57.19 60 P **P** **09 56 48.9 +1.8**
baz=307,SNR=91
YBH Yreka Blue Hor 57.25 62 *e*P **P** **09 56 49.3 +1.8**
YBH pmax pmax
comp=Z,32nm,0.9s
YBH Yreka Blue Hor 57.25 62 *e*P **P** **09 56 49.3 +1.8**
comp=Z,32nm,0.8s
PMG Port Moresby 57.27 187 P **P** **09 56 47.6 0.0**
comp=Z,15nm,1.1s,baz=280,slow=11,SNR=4.3
PMG PcP **PcP** **09 57 40.6 0.0**
comp=Z,12nm,0.8s,baz=341,slow=3.8,SNR=3.6
PMG LR LR 10 18 34.0
comp=Z,94nm,21.0s,baz=312,slow=33
PMG Port Moresby 57.27 187 *e*P **P** **09 56 48.8 +1.1**
comp=Z,16nm,0.9s
PMG PcP **PcP** **09 57 40.6 0.0**
K04D Chiloquin, OR 57.28 61 P **P** **09 56 49.2 +1.4**
baz=307,SNR=7.7
SBUM Sibu 57.29 231 *e*P **P** **09 56 49.1 +1.1**
comp=Z,12nm,0.9s
TMCR Tamitsa 57.31 332 *e*P **P** **09 56 45.5 -1.9**
TMCR pmax pmax
comp=Z,18nm,0.6s
M02C Callahan 57.37 63 P **P** **09 56 50.1 +1.8**
baz=308,SNR=21
KMRM Mail Ridge 57.57 64 *e*P **P** **09 56 52.0 +2.3**
comp=Z,36nm,0.8s
ABKAR Akbulak array 57.67 309 *e*P **P** **09 56 49.9 -0.3**
N02D Trinity Center 57.72 63 P **P** **09 56 52.3 +1.5**
baz=308,SNR=29
M04C Macdoel 57.74 62 P **P** **09 56 52.3 +1.3**
baz=308,SNR=34
WALA Waterton Lakes 57.76 51 *e*P **P** **09 56 51.9 +0.9**
comp=Z,72nm,0.6s
AKTO Aktyubinsk 57.94 311 P **P** **09 56 51.0 -1.1**
comp=Z,3.2nm,0.6s,baz=60,slow=8.7,SNR=7.3
AKTO PcP **PcP** **09 57 42.7 -0.3**
comp=Z,7.7nm,0.7s,baz=18,slow=0.6,SNR=4.1
KCPM Cahto Peak 57.98 65 *e*P **P** **09 56 54.5 +1.9**
comp=Z,64nm,0.8s
BSMT Bassoo Peak 58.03 53 *e*P **P** **09 56 54.5 +1.5**
WDC Whiskeytown Da 58.06 63 *e*P **P** **09 56 54.6 +1.6**
WDC pmax pmax
comp=Z,43nm,0.9s
WDC Whiskeytown Da 58.06 63 *e*P **P** **09 56 54.5 +1.6**
comp=Z,43nm,0.9s
JTMT Jette 58.37 52 *e*P **P** **09 56 56.8 +1.6**
YBMT Yellow Bay 58.44 52 *e*P **P** **09 56 56.9 +1.2**
BMO Blue Mountains 58.49 57 *e*P **P** **09 56 57.5 +1.5**
BMO pmax pmax
comp=Z,50nm,0.8s
BMO Blue Mountains 58.49 57 *e*P **P** **09 56 57.5 +1.5**
comp=Z,50nm,0.8s
BMO *e*PcP **PcP** **09 57 46.1 +0.7**
MOD Modoc Plateau 58.58 61 *e*P **P** **09 56 58.3 +1.5**
comp=Z,90nm,0.7s
SWMT Swartz Lake 58.66 52 *e*P **P** **09 56 58.6 +1.3**
O03D Paynes Creek 58.68 63 P **P** **09 56 58.1 +0.7**
baz=308,SNR=54
THN Thein Dam 58.69 285 *e*P P 09 56 52.6 -4.9
HOPS Hopland Field 58.71 65 *e*P **P** **09 56 59.0 +1.4**
comp=Z,30nm,0.8s
MTKI Muara Teweh, K 58.85 226 P **P** **09 56 59.4 +0.6**
GDXM Geysers 59.00 65 *e*P **P** **09 57 01.6 +1.9**
comp=Z,41nm,0.9s
SLMT Seeley Lake 59.10 52 *e*P **P** **09 57 01.7 +1.3**
KLMR Klimovskoe 59.12 328 *e*P **P** **09 56 58.4 -1.6**
KLMR *e* 09 57 47.0
KLMR *e* 09 59 11.0
KLMR pmax pmax
comp=Z,15nm,1.2s
MSO Missoula 59.12 53 P **P** **09 57 01.3 +0.9**
baz=309,SNR=104
MSO Missoula 59.12 53 *e*P **P** **09 57 01.7 +1.3**
comp=Z,100nm,0.9s
KSM Kuching 59.13 232 *e*P **P** **09 57 01.9 +1.2**
comp=Z,32nm,0.8s
WVOR Wild Horse Val 59.22 59 *e*P **P** **09 57 02.5 +1.3**
WVOR pmax pmax
comp=Z,85nm,0.8s
WVOR Wild Horse Val 59.22 59 *e*P **P** **09 57 02.5 +1.3**
comp=Z,85nm,0.8s
ORV Oroville 59.32 64 *e*P **P** **09 57 02.3 +0.5**
ORV pmax pmax
comp=Z,46nm,0.8s
ORV Oroville 59.32 64 *e*P **P** **09 57 02.3 +0.5**
comp=Z,46nm,0.8s
MCCM Marconi Confer 59.36 66 *e*P **P** **09 57 03.0 +0.9**
comp=Z,229nm,1.9s
CHMT Chamberlain Mo 59.43 53 *e*P **P** **09 57 03.7 +0.9**
SUMG Summit 59.57 4 *i*P **P** **09 57 03.6 +0.1**
comp=Z,32nm,0.8s
SUMG Summit 59.57 4 *i*P **P** **09 57 03.6 +0.1**
SUMG pmax pmax
comp=Z,32nm,0.8s
SUMG Summit 59.57 4 *e*P **P** **09 57 03.9 +0.4**
comp=Z,32nm,0.8s
STKI Sintang 59.70 230 P **P** **09 57 06.6 +2.0**
BEKR Beckworth 59.81 63 *e*P **P** **09 57 06.2 +0.8**
baz=310,SNR=28
FFC Flin Flon 59.91 40 *e*P **P** **09 57 06.7 +1.2**
FFC pmax pmax
comp=Z,47nm,0.9s
FFC Flin Flon 59.91 40 *e*P **P** **09 57 06.7 +1.2**
comp=Z,47nm,0.9s
AFDM Forest Hills D 60.02 64 *e*P **P** **09 57 07.5 +0.9**
comp=Z,31nm,1.1s
TRTT Trang 60.12 246 P **P** **09 57 09.7 +2.2**
comp=Z,30nm,1.4s
MFID Camas Ranch 60.21 57 *e*P **P** **09 57 09.0 +1.0**
comp=Z,34nm,0.8s
HRY Holter Researc 60.32 52 *e*P **P** **09 57 10.4 +1.8**
PAHR Pah Rah Range 60.49 62 *e*P **P** **09 57 10.9 +0.9**
comp=Z,65nm,0.8s
LRM Limekiln Ridge 60.55 53 *e*P **P** **09 57 11.4 +0.9**
EGMT Eagleton 60.56 50 P **P** **09 57 10.9 +0.7**
baz=310,SNR=28
EGMT Eagleton 60.56 50 *e*P **P** **09 57 11.1 +0.8**
comp=Z,93nm,1.1s
PNTR Pine Nut 60.76 63 *e*P **P** **09 57 13.5 +1.6**
comp=Z,125nm,0.6s
DLMT Dillon 60.77 54 *e*P **P** **09 57 13.2 +1.4**
comp=Z,116nm,1.6s
HLID Hailey 60.91 56 P **P** **09 57 14.0 +1.1**
baz=310,SNR=56
HLID Hailey 60.91 56 *e*P **P** **09 57 14.1 +1.3**
comp=Z,33nm,1.0s
CMB Columbia Colle 60.95 64 *e*P **P** **09 57 14.2 +1.2**
CMB pmax pmax
comp=Z,33nm,0.9s
CMB Columbia Colle 60.95 64 *e*P **P** **09 57 14.2 +1.2**
comp=Z,33nm,0.8s
MCMT McKenzie Canyo 60.97 54 *e*P **P** **09 57 14.6 +1.3**
YERR Yerington 61.04 63 *e*P **P** **09 57 15.1 +1.3**
comp=Z,84nm,0.8s
SAO San Andreas Ge 61.12 66 *e*P **P** **09 57 14.6 +0.5**
SAO pmax pmax
comp=Z,30nm,1.0s
SAO San Andreas Ge 61.12 66 *e*P **P** **09 57 15.0 +1.0**
comp=Z,30nm,1.0s
BOZ Bozeman (W) 61.14 53 P **P** **09 57 15.6 +1.3**
baz=310,SNR=206
BOZ Bozeman (W) 61.14 53 *e*P **P** **09 57 15.6 +1.3**
BOZ pmax pmax
comp=Z,100nm,0.7s
BOZ Bozeman (W) 61.14 53 *e*P **P** **09 57 15.6 +1.3**
BOZ Bozeman (W) 61.14 53 *e*P **P** **09 57 15.6 +1.3**
comp=Z,102nm,0.7s
WAKR Walker 61.23 63 *e*P **P** **09 57 16.6 +1.6**
comp=Z,62nm,0.7s
BMN Battle Mountai 61.31 60 *e*P **P** **09 57 16.9 +1.4**
BMN pmax pmax
comp=Z,92nm,0.7s
BMN Battle Mountai 61.31 60 *e*P **P** **09 57 17.2 +1.7**
comp=Z,92nm,0.6s
KULM Kulim 61.52 244 *e*P **P** **09 57 18.1 +1.1**
comp=Z,19nm,1.1s
KBL Kabul 61.61 291 *e*P **P** **09 57 19.1 +1.4**
KBL pmax pmax
comp=Z,29nm,0.9s
KBL Kabul 61.61 291 *e*P **P** **09 57 18.0 +0.3**
comp=Z,28nm,0.9s
TVH2 Borealis Mine 61.72 63 *e*P **P** **09 57 19.9 +1.5**
comp=Z,37nm,1.2s
QLMT Earthquake Lak 61.74 54 *e*P **P** **09 57 19.8 +1.4**
PMPB Monarch Peak 61.87 66 *e*P **P** **09 57 20.5 +1.3**
comp=Z,35nm,1.1s
YHB Horse Butte 61.92 53 *e*P **P** **09 57 21.1 +1.5**
comp=Z,81nm,0.9s
GCMT Greycliff 62.06 52 *e*P **P** **09 57 22.2 +1.8**
YHH Holmes Hill 62.08 53 *e*P **P** **09 57 22.0 +1.2**
comp=Z,55nm,0.8s
YHH *e*S **S** **10 05 39.8 +2.8**
YMR Madison River 62.10 53 *e*P **P** **09 57 22.2 +1.4**
comp=Z,63nm,0.7s
YMR *e*S **S** **10 05 37.7 +0.6**
MLAC Mammoth, Mammo 62.15 64 P **P** **09 57 22.7 +1.4**
baz=311,SNR=17
COEN Coen 62.19 191 *e*P **P** **09 57 22.3 +1.0**
comp=Z,16nm,0.9s
YNR Norris Junctio 62.22 53 *e*P **P** **09 57 23.8 +2.1**
comp=Z,46nm,0.8s
YFT Old Faithful 62.31 54 *e*P **P** **09 57 24.9 +2.7**
comp=Z,55nm,0.7s
XMAS Kiritimati 62.42 121 *e*P **P** **09 57 23.5 +0.5**
comp=Z,73nm,0.9s
LKWY Lake 62.47 53 *e*P **P** **09 57 26.1 +2.7**
LKWY pmax pmax
comp=Z,52nm,0.8s
LKWY Lake 62.47 53 *e*P **P** **09 57 26.1 +2.7**
comp=Z,52nm,0.8s
H17A Grant Village 62.49 53 P **P** **09 57 25.9 +2.4**
baz=311,SNR=62
H17A Grant Village 62.49 53 *e*P **P** **09 57 26.3 +2.8**
comp=Z,76nm,0.9s
PAGB Antelope Grade 62.52 66 *e*P **P** **09 57 24.5 +1.0**
comp=Z,75nm,1.0s
IMW Indian Meadow 62.62 54 *e*P **P** **09 57 26.1 +1.7**
comp=Z,74nm,1.2s
RLMT Red Lodge 62.71 52 P **P** **09 57 26.2 +1.4**
baz=312,SNR=69
RLMT Red Lodge 62.71 52 *e*P **P** **09 57 26.4 +1.5**
comp=Z,77nm,1.0s
FXWY Fox Creek 62.74 54 *e*P **P** **09 57 26.7 +1.6**
comp=Z,33nm,0.8s
RCTC Rector, Farmer 62.77 65 P **P** **09 57 25.8 +0.7**
baz=311,SNR=21
MOOW Moose Ponds 62.82 54 *e*P **P** **09 57 27.2 +1.6**
comp=Z,134nm,1.6s
TPAW Teton Pass 62.88 54 *e*P **P** **09 57 28.2 +2.1**
comp=Z,104nm,0.8s
TIN Tinemaha, Big 62.89 64 P **P** **09 57 26.8 +0.7**
baz=311
SMMC Simmler 62.95 66 P **P** **09 57 27.3 +0.9**
baz=311,SNR=19
LOHW Long Hollow 62.99 54 *e*P **P** **09 57 28.3 +1.6**
comp=Z,97nm,1.3s
HVU Hansel Valley 62.99 57 *e*P **P** **09 57 28.0 +1.3**
HVU pmax pmax
comp=Z,40nm,0.8s
HVU Hansel Valley 62.99 57 *e*P **P** **09 57 28.2 +1.5**
comp=Z,40nm,0.8s
FIA1 FINESS Array S 62.99 334 *e*P **P** **09 57 25.0 -1.2**
FINES FINESS Array B 63.00 334 P **P** **09 57 25.1 -1.1**
comp=Z,11nm,0.5s,baz=32,slow=7.5,SNR=43
FINES LR LR 10 26 30.2
comp=Z,191nm,20.1s,baz=37,slow=38
SNOW Snow King Moun 63.00 54 *e*P **P** **09 57 29.0 +2.1**
comp=Z,69nm,0.8s
REDW Red Top Meadow 63.02 54 *e*P **P** **09 57 28.9 +2.0**
comp=Z,95nm,0.9s
DGMT Dagmar 63.06 47 P **P** **09 57 27.4 +0.5**
baz=313,SNR=22
DGMT Dagmar 63.06 47 *e*P **P** **09 57 27.6 +0.7**
comp=Z,78nm,1.0s
VES Vestal, Richgr 63.17 65 P **P** **09 57 27.9 +0.1**
baz=311,SNR=12
LAO LASA Array 63.25 49 P **P** **09 57 29.4 +1.2**
baz=312,SNR=30
LAO LASA Array 63.25 49 *e*P **P** **09 57 29.7 +1.5**
comp=Z,84nm,1.0s
PKM Mcpherson Peak 63.34 67 P **P** **09 57 30.1 +0.9**
baz=311,SNR=44
CWC Cottonwood Cre 63.39 64 P **P** **09 57 30.3 +0.9**
baz=311
BGU Big Grassy Mou 63.41 58 *e*P **P** **09 57 30.7 +1.2**
comp=Z,12nm,0.8s
GRAC Grapevine Rang 63.45 64 P **P** **09 57 30.8 +1.1**
baz=311,SNR=88
SPUT South Promonto 63.48 57 *e*P **P** **09 57 31.4 +1.4**
comp=Z,54nm,0.8s
R11A Troy Canyon, C 63.62 61 P **P** **09 57 31.7 +0.7**
baz=312,SNR=146
R11A Troy Canyon, C 63.62 61 *e*P **P** **09 57 31.8 +0.7**
comp=Z,52nm,0.9s
ISA Isabella, Lake 63.66 65 P **P** **09 57 30.9 -0.2**
baz=312,SNR=5.6
ISA Isabella, Lake 63.66 65 *e*P **P** **09 57 31.3 +0.2**
ISA pmax pmax
comp=Z,33nm,1.0s
ISA Isabella, Lake 63.66 65 *e*P **P** **09 57 31.3 +0.2**
comp=Z,33nm,1.0s
SBC Santa Barbara 63.70 67 P **P** **09 57 32.5 +1.2**
baz=312,SNR=10
HWUT Hardware Ranch 63.78 56 *e*P **P** **09 57 33.2 +1.3**
comp=Z,45nm,0.8s
DAC Darwin (Calif) 63.79 64 *e*P **P** **09 57 33.1 +1.0**
DAC pmax pmax
comp=Z,42nm,1.3s
DAC Darwin (Calif) 63.79 64 *e*P **P** **09 57 33.1 +1.0**
comp=Z,42nm,1.3s
ARVC Arvin 63.79 66 P **P** **09 57 32.6 +0.7**
baz=312,SNR=9.5
FRB Frobisher Bay 63.99 19 LR LR 10 27 46.1
comp=Z,131nm,20.8s,baz=354,slow=38
MPMC Manual Prospec 64.00 64 P **P** **09 57 34.1 +0.6**
baz=312,SNR=65
DUG Dugway, Tooele 64.02 58 P **P** **09 57 34.6 +1.1**
baz=312,SNR=82
DUG Dugway, Tooele 64.02 58 *e*P **P** **09 57 34.6 +1.1**
DUG pmax pmax
comp=Z,62nm,0.9s
DUG Dugway, Tooele 64.02 58 *e*P **P** **09 57 34.8 +1.3**
comp=Z,62nm,0.8s
SFJD Kangerlussuaq 64.04 10 LR LR 10 26 22.3
comp=Z,106nm,18.1s,baz=348,slow=37
SFJD Kangerlussuaq 64.04 10 *e*P **P** **09 57 32.7 -0.3**
SFJD pmax pmax
comp=Z,62nm,1.6s
SFJD Kangerlussuaq 64.04 10 *e*P **P** **09 57 32.7 -0.3**
comp=Z,62nm,1.6s

SCZ2 **Santa Cruz Isl** 64.05 67 P P 09 57 34.2 +0.6
baz=312,SNR=5.1
FURC **Furnace Creek,** 64.10 64 P P 09 57 34.9 +1.1
baz=312,SNR=158
BW06 **Boulder Array** 64.12 54 P P 09 57 34.9 +0.7
baz=312,SNR=126
BW06 **Boulder Array** 64.12 54 eP P 09 57 35.2 +1.0
comp=Z,71nm,0.8s
PD31 **Pinedale Array** 64.12 54 eP P 09 57 35.3 +1.0
PDAR **Pinedale Array** 64.12 54 P P 09 57 34.9 +0.7
comp=Z,58nm,0.8s,baz=280,slow=1.5,SNR=465
PDAR PKPPKP P'P'df 10 26 23.8 -2.7
comp=Z,0.2nm,0.7s,baz=212,slow=3.2,SNR=4.0
PDAR LR LR 10 27 19.1
comp=Z,26nm,18.6s,baz=320,slow=38
TPNV **Topopah Spring** 64.15 63 P P 09 57 35.2 +0.8
baz=312,SNR=101
TPNV **Topopah Spring** 64.15 63 eP P 09 57 35.3 +0.8
TPNV pmax pmax
comp=Z,73nm,0.9s
TPNV **Topopah Spring** 64.15 63 eP P 09 57 35.3 +0.8
comp=Z,73nm,0.8s
OSI **Osito Audit: C** 64.20 66 P P 09 57 35.3 +0.6
baz=312
OSI **Osito Audit: C** 64.20 66 eP P 09 57 35.9 +1.3
comp=Z,95nm,0.8s
LRMC **Laurel Mtn Rad** 64.26 65 P P 09 57 35.6 +0.5
baz=312,SNR=36
BLG **Laguna Peak, P** 64.32 67 P P 09 57 35.8 +0.4
baz=312,SNR=7.3
OBN **Obninsk** 64.35 325 eP P 09 57 35.4 +0.2
OBN e*PP PcP 09 58 05.9 -2.8
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN **Obninsk** 64.35 325 eP P 09 57 35.4 +0.2
EDW2 **Edwards Air Fo** 64.47 66 P P 09 57 37.1 +0.7
baz=312,SNR=92
JLU **Jordanelle** 64.52 57 eP P 09 57 37.9 +1.0
comp=Z,62nm,1.3s
NLU **North Lily Min** 64.60 58 eP P 09 57 38.4 +1.1
comp=Z,58nm,0.8s
DECC **Green Verdugo** 64.68 66 P P 09 57 38.3 +0.5
baz=312,SNR=20
MPU **Maple Canyon** 64.81 58 eP P 09 57 39.8 +1.1
comp=Z,56nm,0.8s
PASC **Pasadena Art C** 64.82 66 eP P 09 57 39.0 +0.4
SHOC **Shoshone, Teco** 64.84 64 P P 09 57 39.3 +0.6
baz=312,SNR=38
MWC **Mount Wilson** 64.87 66 eP P 09 57 39.6 +0.5
MWC **Mount Wilson** 64.87 66 eP P 09 57 39.6 +0.5
GSC **Goldstone, Bar** 64.91 65 P P 09 57 39.9 +0.6
baz=312,SNR=45
GSC **Goldstone, Bar** 64.91 65 eP P 09 57 39.9 +0.6
GSC pmax pmax
comp=Z,49nm,1.0s
GSC **Goldstone, Bar** 64.91 65 eP P 09 57 39.9 +0.6
comp=Z,49nm,1.0s
FMP **Fort Macarthur** 65.06 67 P P 09 57 40.7 +0.5
baz=312
SHPR **Sheep Range** 65.10 63 eP P 09 57 41.6 +1.0
comp=Z,42nm,0.9s
BFSC **Mount Baldy Ra** 65.10 66 P P 09 57 40.9 +0.3
baz=312,SNR=30
CIS **Catalina Islan** 65.19 67 P P 09 57 41.2 +0.2
baz=312,SNR=9.3
TCRU **Three Creeks R** 65.29 59 eP P 09 57 42.8 +1.0
comp=Z,22nm,0.8s
TUQ **Turquoise Moun** 65.36 64 P P 09 57 42.8 +0.5
baz=312,SNR=72
SCI2 **San Clemente I** 65.40 68 P P 09 57 42.8 +0.5
baz=312,SNR=6.6
CCUT **Cedar City** 65.47 61 eP P 09 57 44.0 +1.0
comp=Z,46nm,1.1s
MSU **Marysvale** 65.51 59 eP P 09 57 44.5 +1.2
MSU **Marysvale** 65.51 59 eP P 09 57 44.5 +1.2
HEC **Hector,Ludlow** 65.52 65 P P 09 57 43.8 +0.6
baz=312,SNR=87
TMUT **Trail Mountain** 65.53 58 eP P 09 57 44.5 +0.9
comp=Z,46nm,0.8s
BBRC **Big Bear Solar** 65.54 65 P P 09 57 43.9 +0.4
baz=313,SNR=35
SZCU **Shurtz Canyon** 65.60 60 eP P 09 57 44.6 +0.8
comp=Z,25nm,0.9s
P17A **Butcher Ranch,** 65.68 58 eP P 09 57 45.3 +1.0
comp=Z,64nm,0.9s
ULM **Lac du Bonnet** 65.70 41 P P 09 57 44.2 +0.2
comp=Z,17nm,0.8s,baz=310,slow=6.6,SNR=17
ULM LR LR 10 29 23.0
comp=Z,120nm,18.3s,baz=352,slow=38
ULM **Lac du Bonnet** 65.70 41 eP P 09 57 44.3 +0.2
comp=Z,23nm,0.8s
MDND **Maddock** 65.71 45 P P 09 57 45.1 +0.9
baz=315,SNR=5.2
MDND **Maddock** 65.71 45 eP P 09 57 45.4 +1.3
comp=Z,78nm,0.9s
MURC **Murrieta** 65.82 66 P P 09 57 45.5 +0.5
baz=313,SNR=25
MTPU **Mount Pierson** 65.82 60 eP P 09 57 47.3 +1.8
comp=Z,34nm,0.8s
K22A **Casper** 65.84 53 P P 09 57 45.9 +0.6
baz=314,SNR=38
K22A **Casper** 65.84 53 eP P 09 57 46.1 +0.8
comp=Z,61nm,0.8s
P18A **Preston Nutter** 65.86 57 eP P 09 57 46.6 +1.0
LCMT **Little Creek M** 65.90 61 eP P 09 57 47.0 +1.3
comp=Z,61nm,0.8s
GMRC **Granite Mounta** 65.96 64 P P 09 57 46.8 +0.7
baz=313,SNR=64
GEYT **Alibeck** 65.99 300 P P 09 57 46.1 0.0
comp=Z,3.4nm,0.6s,baz=20,slow=4.7,SNR=4.6
SRU **San Rafael Swe** 66.05 58 eP P 09 57 47.6 +0.9
SRU pmax pmax
comp=Z,100nm,0.8s
SRU **San Rafael Swe** 66.05 58 eP P 09 57 47.8 +1.1
comp=Z,100nm,0.8s
LDFC **Landfair** 66.09 64 eP P 09 57 47.8 +0.9
comp=Z,141nm,0.8s
RSSD **Black Hills** 66.13 50 P P 09 57 47.7 +0.6
baz=314
RSSD **Black Hills** 66.13 50 eP P 09 57 48.0 +0.8
RSSD pmax pmax
comp=Z,123nm,0.6s
RSSD **Black Hills** 66.13 50 eP P 09 57 48.0 +0.8
comp=Z,123nm,0.6s
RWWY **Rawlins** 66.13 54 eP P 09 57 48.1 +0.8
comp=Z,51nm,0.8s
KNB **Kanab** 66.14 61 eP P 09 57 48.5 +1.2
KNB pmax pmax
comp=Z,71nm,0.9s
KNB **Kanab** 66.14 61 eP P 09 57 48.5 +1.2
comp=Z,70nm,0.9s
PKCU **Pink Cliffs** 66.15 60 eP P 09 57 49.2 +1.6
comp=Z,15nm,0.8s
VSR **Storozhevoye** 66.20 321 eP P 09 57 44.8 -2.4
VSR pmax pmax
comp=Z,10.0nm,1.3s
B31A **Greenbush Farm** 66.22 43 P P 09 57 48.1 +0.7
baz=316,SNR=5.5
PFO **Pinyon Flats O** 66.26 66 P P 09 57 48.2 +0.1
baz=313,SNR=18
PFO **Pinyon Flats O** 66.26 66 eP P 09 57 48.3 +0.3
PFO pmax pmax
comp=Z,41nm,1.3s
PFO **Pinyon Flats O** 66.26 66 eP P 09 57 48.3 +0.3
comp=Z,41nm,1.4s
TPFO **Pinon Flats** 66.27 66 P P 09 57 48.3 +0.2
baz=313,SNR=21
BELC **Belle Mtn. Jos** 66.28 65 P P 09 57 48.1 0.0
baz=313,SNR=32
109C **Camp Elliot, M** 66.35 67 P P 09 57 48.9 +0.5
baz=313,SNR=20
A32A **Rocking H Ranc** 66.39 42 P P 09 57 48.4 0.0
baz=317,SNR=8.0
NEE2 **Needles Airpor** 66.60 64 P P 09 57 50.4 +0.4
baz=313
C31A **Landman Farms,** 66.63 44 P P 09 57 50.1 +0.1
baz=316,SNR=9.1
O20A **White River Ci** 66.63 56 P P 09 57 50.9 +0.5
baz=314,SNR=31
O20A **White River Ci** 66.63 56 eP P 09 57 50.9 +0.5
comp=Z,82nm,1.3s
IRM **Iron Mountain** 66.69 64 P P 09 57 51.3 +0.6
baz=313,SNR=92
B32A **Ashes, Strandq** 66.75 43 P P 09 57 50.6 -0.2
baz=317,SNR=11
BAR **Barrett** 66.76 67 eP P 09 57 51.4 +0.3
comp=Z,41nm,1.0s

MONP2 **Monument Peak** 66.77 66 P P 09 57 51.5 0.0
baz=313,SNR=14
W13A **Hualapai Mount** 66.81 63 eP P 09 57 52.3 +0.7
comp=Z,27nm,0.9s
BC3 **Big Chuckawall** 66.85 65 P P 09 57 52.0 +0.3
baz=313,SNR=39
U15A **North Rim** 66.86 61 eP P 09 57 53.0 +1.1
comp=Z,43nm,0.9s
A33A **Warrogad** 66.87 42 P P 09 57 51.3 -0.2
baz=317,SNR=8.2
HYB **Hyderabad** 66.93 271 i P P 09 57 52.0 -0.4
NC303 **NORSAR Array S** 66.94 341 eP P 09 57 52.0 +0.3
NC405 **NORSAR Array S** 66.97 341 eP P 09 57 51.4 -0.6
NC204 **NORSAR Array S** 67.03 341 eP P 09 57 52.2 -0.2
NB201 **NORSAR Array S** 67.12 341 eP P 09 57 52.6 -0.2
SWSC **Sam W. Stewart** 67.12 66 P P 09 57 53.6 +0.3
baz=313,SNR=12
AGMN **Agassiz Nation** 67.13 43 P P 09 57 52.8 -0.3
baz=317,SNR=9.7
AGMN **Agassiz Nation** 67.13 43 eP P 09 57 53.7 +0.6
IKP **In-Ko-Pah, Jac** 67.13 66 P P 09 57 54.0 +0.5
baz=313,SNR=20
NB2 **NORSAR Subarra** 67.14 341 P P 09 57 52.4 -0.7
comp=Z,12nm,0.6s,baz=26,slow=6.5
NB2 **NORSAR Subarra** 67.14 341 P P 09 57 52.4 -0.7
baz=26,slow=6.5
NOA **NORSAR Array B** 67.14 341 P P 09 57 52.7 -0.3
comp=Z,12nm,0.6s,baz=29,slow=6.6,SNR=56
NOA LR LR 10 31 41.9
comp=Z,90nm,18.3s,baz=285,slow=40
PDMCI **Parker Dam,Lak** 67.20 64 P P 09 57 54.5 +0.7
baz=313,SNR=34
NBO02 **NORSAR Array S** 67.21 341 eP P 09 57 54.2 +0.7
NBO00 **NORSAR Array S** 67.25 341 eP P 09 57 54.9 +1.2
PV09 **Paradox Valley** 67.26 57 eP P 09 57 55.2 +0.7
B33A **Robert and Kas** 67.27 42 P P 09 57 53.9 -0.2
baz=317,SNR=7.3
NC602 **NORSAR Array S** 67.34 341 eP P 09 57 54.7 +0.4
PHWY **Pilot Hill** 67.35 53 eP P 09 57 55.9 +0.9
comp=Z,63nm,1.6s
Y12C **Blythe** 67.35 64 P P 09 57 55.6 +0.9
baz=314,SNR=49
Y12C **Blythe** 67.35 64 eP P 09 57 55.7 +0.9
comp=Z,64nm,0.8s
N23A **Red Feather La** 67.37 54 P P 09 57 55.1 0.0
baz=314,SNR=32
N23A **Red Feather La** 67.37 54 eP P 09 57 56.4 +1.3
comp=Z,47nm,0.8s
NAO01 **NORSAR Array S** 67.39 341 eP P 09 57 55.1 +0.5
PV10 **Paradox Valley** 67.40 57 eP P 09 57 55.5 +0.2
E31A **Nome** 67.45 45 P P 09 57 55.2 0.0
baz=317,SNR=18
PV04 **Paradox Valley** 67.46 57 eP P 09 57 56.3 +0.6
B34A **Aery, Baudette** 67.53 42 P P 09 57 55.3 -0.4
baz=318,SNR=6.8
C33A **Trail** 67.56 43 P P 09 57 55.7 -0.2
baz=317,SNR=9.0
PV05 **Paradox Valley** 67.57 58 eP P 09 57 57.4 +0.9
BORG **Borgarnes** 67.63 357 eP P 09 57 57.8 +1.8
BORG pmax pmax
comp=Z,409nm,1.8s
BORG **Borgarnes** 67.63 357 eP P 09 57 57.8 +1.8
comp=Z,409nm,1.8s
GLA **Glamis** 67.64 65 P P 09 57 57.5 +0.8
baz=314,SNR=35
GLA **Glamis** 67.64 65 eP P 09 57 57.5 +0.8
GLA **Glamis** 67.64 65 eP P 09 57 57.5 +0.8
comp=Z,67nm,0.9s
F31A **Hecla** 67.78 46 P P 09 57 57.3 -0.1
baz=317
E32A **Braaten, Kindr** 67.81 44 P P 09 57 57.4 -0.1
baz=317
PV01 **Paradox Valley** 67.83 57 eP P 09 57 58.6 +0.6
CTAO **Charters Tower** 67.93 187 eP P 09 57 58.3 -0.1
CTAO **Charters Tower** 67.93 187 eP P 09 57 58.3 -0.1
comp=Z,60nm,1.5s
D33A **AnnSam, Waubun** 67.98 43 P P 09 57 58.5 -0.1
baz=318,SNR=8.3
SMCO **Snowmass** 68.00 56 eP P 09 57 60.0 +0.7
comp=Z,49nm,0.8s
WUAZ **Wupatki** 68.02 61 P P 09 57 59.2 0.0
baz=314,SNR=26
WUAZ **Wupatki** 68.02 61 eP P 09 58 00.2 +1.0
comp=Z,46nm,1.0s
C34A **RKJ Ranch, Bem** 68.04 43 P P 09 57 58.6 -0.3
baz=318
B35A **Bob, Littlefor** 68.04 41 P P 09 57 58.6 -0.3
baz=318,SNR=5.2
Y14A **Wickenburg** 68.14 63 eP P 09 58 00.6 +0.8
comp=Z,194nm,0.8s
G31A **Conde** 68.27 46 P P 09 58 00.3 0.0
baz=317
F32A **Veblen** 68.31 45 P P 09 58 00.2 -0.5
baz=317
ISCO **Idaho Springs** 68.32 54 P P 09 58 01.9 +0.8
baz=315,SNR=79
ISCO **Idaho Springs** 68.32 54 eP P 09 58 02.3 +1.1
ISCO **Idaho Springs** 68.32 54 eP P 09 58 02.2 +1.1
D34A **Park Rapids** 68.32 43 P P 09 58 00.3 -0.4
baz=318,SNR=9.6
E33A **Westby DABS, E** 68.38 44 P P 09 58 01.1 0.0
baz=318,SNR=14
C35A **Jirik Farms, M** 68.42 42 P P 09 58 00.8 -0.5
baz=318,SNR=6.0
SUSD **Miller** 68.47 47 P P 09 58 01.4 -0.2
baz=317
113A **Mohawk Valley,** 68.48 65 eP P 09 58 02.4 +0.5
comp=Z,38nm,1.1s
MVCO **Mesa Verde** 68.52 58 P P 09 58 02.2 -0.1
baz=315,SNR=36
MVCO **Mesa Verde** 68.52 58 eP P 09 58 03.0 +0.7
G32A **Webster** 68.59 46 P P 09 58 02.0 -0.3
baz=317
H31A **Wolsey** 68.68 47 P P 09 58 02.7 -0.2
baz=317,SNR=16
F33A **5 Mile Ranch,** 68.73 45 P P 09 58 03.2 0.0
baz=318,SNR=15
X16A **Lo Mia Camp, P** 68.74 62 eP P 09 58 04.9 +1.1
comp=Z,45nm,0.9s
KONO **Kongsberg** 68.75 341 eP P 09 58 03.7 +0.6
KONO **Kongsberg** 68.75 341 eP P 09 58 03.7 +0.6
E34A **Wadena** 68.76 43 P P 09 58 03.2 -0.2
baz=318
D35A **Remer** 68.85 42 P P 09 58 03.4 -0.5
baz=318,SNR=5.4
C36A **Pine Crest Far** 68.89 41 P P 09 58 04.0 -0.1
baz=319,SNR=5.9
GOF **Gofitskoye** 68.99 314 eP P 09 58 05.7 +0.9
GOF pmax pmax
comp=Z,42nm,0.7s
AFI **Afiamalu** 69.05 143 P P 09 58 05.8 +0.3
comp=Z,31nm,0.8s,baz=200,slow=13,SNR=4.7
AFI **Afiamalu** 69.05 143 P P 09 58 05.8 +0.3
AFI pmax pmax
comp=Z,36nm,0.8s
MSVF **Nonsavu** 69.05 154 eP P 09 58 06.8 +1.4
MSVF **Nonsavu** 69.05 154 eP P 09 58 06.8 +1.4
E35A **Pequot Lakes** 69.08 43 P P 09 58 05.1 -0.2
baz=318,SNR=7.1
S22A **4UR Ranch, Cre** 69.09 57 P P 09 58 07.0 +1.1
baz=315,SNR=67
S22A **4UR Ranch, Cre** 69.09 57 eP P 09 58 07.0 +1.1
comp=Z,42nm,0.9s
G33A **Ortonville** 69.14 45 P P 09 58 05.8 +0.1
baz=318,SNR=29
Q24A **Divide** 69.16 55 P P 09 58 06.8 +0.4
baz=315,SNR=10
Q24A **Divide** 69.16 55 eP P 09 58 07.0 +0.6
H32A **Carlson Farm,** 69.17 46 P P 09 58 05.6 -0.3
baz=318,SNR=9.5
D36A **Goodland** 69.18 42 P P 09 58 05.6 -0.4
baz=319
C37A **Embarrass** 69.20 41 P P 09 58 05.7 -0.4
baz=319
F34A **Alexandria** 69.25 44 P P 09 58 06.4 -0.1
baz=318
W18A **Petrified Fore** 69.26 60 P P 09 58 07.6 +0.7
baz=315,SNR=7.0
W18A **Petrified Fore** 69.26 60 eP P 09 58 08.0 +1.1
comp=Z,51nm,1.4s
POO **Poona** 69.31 275 eP P 09 58 03.0 -4.2
EYMN **Ely** 69.34 40 P P 09 58 06.6 -0.4
baz=320,SNR=7.6
EYMN **Ely** 69.34 40 eP P 09 58 07.1 +0.1
H33A **Prehn Over Nor** 69.37 46 P P 09 58 07.2 -0.1
baz=318,SNR=15
J31A **Geddes** 69.41 48 P P 09 58 07.5 0.0

baz=317,SNR=11
OGNE **Ogallala** 69.42 51 P P 09 58 08.3 +0.6
baz=316,SNR=24
OGNE **Ogallala** 69.42 51 eP P 09 58 08.4 +0.6
G34A **Benson** 69.48 45 P P 09 58 07.8 -0.1
baz=318,SNR=10
D37A **Cotton** 69.52 42 P P 09 58 06.9 -1.2
baz=319
F35A **Swanville** 69.52 44 P P 09 58 08.0 -0.1
baz=319,SNR=9.6
X18A **Snowflake** 69.55 61 eP P 09 58 09.7 +1.0
comp=Z,76nm,1.4s
WRAB **Tennant Creek** 69.56 199 deP P 09 58 08.7 +0.2
WRAB pmax pmax
comp=Z,57nm,1.0s
WRAB **Tennant Creek** 69.56 199 eP P 09 58 08.9 +0.4
comp=Z,19nm,0.9s
WRAB ePcP PcP 09 58 31.4 +0.6
WB2 **Warramunga Arr** 69.57 199 eP P 09 58 08.8 +0.2
comp=Z,26nm,1.1s
WB2 ePcP PcP 09 58 31.4 +0.6
WRA **Warramunga Arr** 69.57 199 P P 09 58 08.4 -0.2
comp=Z,16nm,0.8s,baz=14,slow=6.5,SNR=31
WRA **Warramunga Arr** 69.57 199 P P 09 58 08.4 -0.2
WRA pmax pmax
comp=Z,16nm,0.8s
C38A **Sawbill Land.** 69.61 40 P P 09 58 08.1 -0.6
baz=320,SNR=5.6
214A **Organ Pipe Nat** 69.63 65 P P 09 58 09.5 +0.4
baz=314,SNR=34
214A **Organ Pipe Nat** 69.63 65 eP P 09 58 09.5 +0.4
comp=Z,214nm,1.1s
E36A **McGregor** 69.63 42 P P 09 58 08.6 -0.2
baz=319,SNR=9.9
J32A **Parkston** 69.80 47 P P 09 58 09.5 -0.4
baz=318,SNR=13
I33A **Coleman** 69.81 46 P P 09 58 10.1 +0.1
baz=318,SNR=7.4
SDCO **Great Sand Dun** 69.83 56 P P 09 58 11.0 +0.5
baz=316,SNR=37
SDCO **Great Sand Dun** 69.83 56 eP P 09 58 11.2 +0.7
comp=Z,62nm,1.6s
H34A **Spellman Lake,** 69.85 45 P P 09 58 10.3 +0.2
baz=318,SNR=11
K31A **O'Neill** 69.89 48 P P 09 58 10.6 +0.1
baz=317,SNR=18
YEL1 **Yell** 69.90 347 eP P 09 58 10.3 +0.2
KIV **Kislovodsk** 69.98 314 eP P 09 58 12.9 +1.8
KIV pmax pmax
comp=Z,26nm,0.9s
KIV MLR MLR
comp=Z,224nm,17.0s
KIV **Kislovodsk** 69.98 314 eP P 09 58 10.8 -0.2
comp=Z,38nm,1.2s
E37A **Wrenshall** 69.98 42 P P 09 58 10.5 -0.4
baz=320
F36A **Milaca** 70.01 43 P P 09 58 10.5 -0.6
baz=319,SNR=6.1
C39A **Grand Marais** 70.03 40 P P 09 58 10.8 -0.4
baz=320
G35A **Watkins** 70.04 44 P P 09 58 11.3 0.0
baz=319,SNR=8.9
KBZ **Khabaz** 70.04 314 P P 09 58 10.6 -0.7
comp=Z,8.8nm,0.8s,baz=56,slow=4.9,SNR=11
ECSD **EROS Data Cent** 70.14 46 P P 09 58 11.9 -0.1
baz=318,SNR=47
ECSD **EROS Data Cent** 70.14 46 eP P 09 58 12.1 +0.2
ZEI **Tsey** 70.24 312 eP P 09 58 12.4 -0.4
ZEI pmax pmax
comp=Z,5.0nm,0.8s
K32A **Verdigre** 70.26 48 P P 09 58 12.1 -0.6
baz=318,SNR=14
H35A **Sunnyside Ranc** 70.27 45 P P 09 58 13.0 +0.3
baz=319,SNR=11
I34A **Hadley** 70.27 46 P P 09 58 13.0 +0.2
baz=318,SNR=8.6
E38A **The Farm, Brul** 70.33 41 P P 09 58 12.8 -0.3
baz=320,SNR=9.6
G36A **St. Michael** 70.37 44 P P 09 58 13.3 0.0
baz=319
KSCO **Kaye Shedlock'** 70.50 53 P P 09 58 14.7 +0.3
baz=316
KSCO **Kaye Shedlock'** 70.50 53 eP P 09 58 14.6 +0.3
comp=Z,44nm,1.0s
F37A **Hinrichs Farm,** 70.52 43 P P 09 58 14.0 -0.2
baz=320,SNR=6.5
AKASG **Malin Array Be** 70.58 326 P P 09 58 13.2 -1.3
comp=Z,1.9nm,0.3s,baz=35,slow=6.4,SNR=11
AKBB **Malin Array Si** 70.58 326 eP P 09 58 13.2 -1.2
AKBB **Malin Array Si** 70.58 326 eP P 09 58 13.2 -1.2
KIEV **Kiev** 70.59 326 eP P 09 58 13.5 -1.0
KIEV pmax pmax
comp=Z,18nm,1.4s
KIEV **Kiev** 70.59 326 eP P 09 58 13.5 -1.0
KIEV **Kiev** 70.59 326 eP P 09 58 13.5 -1.0
comp=Z,8.5nm,0.7s
TUC **Tucson** 70.61 63 P P 09 58 15.7 +0.6
baz=315
TUC **Tucson** 70.61 63 eP P 09 58 15.0 0.0
TUC **Tucson** 70.61 63 eP P 09 58 16.0 +0.9
comp=Z,30nm,1.0s
AK11 **Malin Array Si** 70.62 326 eP P 09 58 14.0 -0.7
DZM **Mont Dzumac** 70.66 167 eP P 09 58 15.2 -0.1
comp=Z,80nm,1.3s
F38A **Pierce - Schro** 70.68 42 P P 09 58 15.3 +0.1
baz=320,SNR=19
L32A **Elgin** 70.72 48 P P 09 58 15.5 0.0
baz=318,SNR=11
K33A **Hardington** 70.78 47 P P 09 58 16.0 +0.1
baz=318,SNR=12
H36A **Jessenland, He** 70.79 44 P P 09 58 15.8 0.0
baz=319,SNR=15
J34A **George** 70.79 46 P P 09 58 15.7 -0.2
baz=318,SNR=5.5
SPMN **Marine on St.** 70.82 43 P P 09 58 15.9 -0.2
baz=320,SNR=9.7
SPMN **Marine on St.** 70.82 43 eP P 09 58 16.3 +0.3
comp=Z,29nm,0.8s
I35A **Creekview Farm** 70.83 45 P P 09 58 16.1 0.0
baz=319,SNR=8.1
T25A **Trinidad** 70.87 56 P P 09 58 17.1 +0.3
baz=316,SNR=30
T25A **Trinidad** 70.87 56 eP P 09 58 17.2 +0.4
comp=Z,45nm,1.0s
E39A **Mellen** 70.95 41 P P 09 58 16.5 -0.3
baz=321,SNR=7.2
L33A **Hoskins** 70.97 48 P P 09 58 16.8 -0.3
baz=318
J35A **Milford** 71.09 46 P P 09 58 17.5 -0.3
baz=319,SNR=7.0
BGNE **Belgrade** 71.09 49 P P 09 58 17.5 -0.3
baz=318,SNR=8.7
BGNE **Belgrade** 71.09 49 eP P 09 58 17.7 -0.1
comp=Z,106nm,0.9s
F39A **Loretta** 71.14 42 P P 09 58 17.9 -0.1
baz=320,SNR=9.8
K34A **Le Mars** 71.17 47 P P 09 58 18.0 -0.2
baz=319,SNR=22
I36A **Fitzsimmons Fa** 71.17 45 P P 09 58 18.2 +0.1
baz=319,SNR=8.9
E40A **Wakefield** 71.19 41 P P 09 58 18.4 +0.1
baz=321,SNR=14
H37A **Dierke Farm, C** 71.26 44 P P 09 58 18.6 -0.1
baz=320,SNR=15
LAZ **Ladron** 71.28 59 eP P 09 58 20.4 +1.2
ANMO **Albuquerque** 71.28 59 LR LR 10 26 11.0
comp=Z,39nm,21.3s,baz=140,slow=33
ANMO **Albuquerque** 71.28 59 P P 09 58 19.9 +0.6
baz=316
ANMO **Albuquerque** 71.28 59 ceP P 09 58 20.0 +0.8
ANMO pmax pmax
comp=Z,30nm,1.2s
ANMO **Albuquerque** 71.28 59 eP P 09 58 20.1 +0.8
D41A **Chassel** 71.28 39 P P 09 58 18.6 -0.2
baz=322
G38A **Ridgeland** 71.30 43 P P 09 58 18.3 -0.6
baz=320,SNR=9.2
M33A **Taylor Creek F** 71.45 48 P P 09 58 19.7 -0.2
baz=318,SNR=12
I37A **Lemond, Waseca** 71.46 44 P P 09 58 20.1 +0.2
baz=320,SNR=26
H38A **Maiden Rock** 71.48 43 P P 09 58 19.9 -0.1
baz=320,SNR=5.5
F40A **Park Falls** 71.50 41 P P 09 58 19.6 -0.5
baz=321,SNR=5.7
G39A **Holcombe** 71.52 42 P P 09 58 19.7 -0.5
baz=320,SNR=6.4

J36A	Seneca 1, Swea	71.53	45	P		P	09 58 20.1 -0.3
	baz=319,SNR=8.6						
K35A	Storm Lake	71.56	46	P		P	09 58 20.2 -0.4
	baz=319,SNR=19						
L34A	Svendsen Farm,	71.57	47	P		P	09 58 20.3 -0.3
	baz=319,SNR=14						
E41A	Kenton	71.58	40	P		P	09 58 20.4 -0.2
	baz=321,SNR=7.5						
LPM	Los Pinos Moun	71.63	59	eP		P	09 58 22.3 +0.9
Y22D	IRIS PASSCAL I	71.64	59	eP		P	09 58 22.8 +1.4
	comp=Z,104nm,1.8s						
BNM	Barren Site	71.75	59	eP		P	09 58 23.0 +0.8
GNI	Garni	71.76	310	i P		P	09 58 22.9 +0.9
GNI				pmax		pmax	
	comp=Z,19nm,0.8s						
M34A	Aspy Farms, Fr	71.81	48	P		P	09 58 22.0 -0.1
	baz=319,SNR=19						
L35A	Bielow Farm, R	71.87	47	P		P	09 58 21.7 -0.7
	baz=319,SNR=7.3						
J37A	Redenius Farm,	71.92	45	P		P	09 58 22.4 -0.3
	baz=320,SNR=14						
H39A	Augusta	71.93	43	P		P	09 58 22.2 -0.6
	baz=321						
I38A	Scanlan Farm,	71.94	44	P		P	09 58 22.4 -0.4
	baz=320,SNR=7.0						
N33A	J Bar K, Exete	71.94	49	P		P	09 58 22.0 -0.9
	baz=318						
G40A	Rib Lake	71.97	42	P		P	09 58 22.5 -0.5
	baz=321,SNR=5.6						
K36A	Gilmore City	72.00	46	P		P	09 58 22.8 -0.4
	baz=319,SNR=10						
E42A	Champion	72.06	39	P		P	09 58 22.8 -0.6
	baz=322,SNR=5.5						
F41A	Three Lakes	72.08	41	P		P	09 58 23.5 -0.2
	baz=322,SNR=8.1						
319A	Douglas	72.17	63	eP		P	09 58 25.3 +0.8
	comp=Z,116nm,0.8s						
CBKS	Cedar Bluff	72.19	52	P		P	09 58 24.0 -0.4
	baz=318,SNR=10						
CBKS	Cedar Bluff	72.19	52	eP		P	09 58 24.0 -0.4
CBKS	Cedar Bluff	72.19	52	eP		P	09 58 24.0 -0.4
121A	Cookes Peak, D	72.23	61	P		P	09 58 24.9 0.0
	baz=316,SNR=22						
121A	Cookes Peak, D	72.23	61	eP		P	09 58 25.9 +1.0
	comp=Z,55nm,1.3s						
M35A	Neola	72.28	47	P		P	09 58 24.7 -0.1
	baz=319,SNR=29						
SCHQ	Schefferville	72.28	23	P		P	09 58 24.7 +0.1
	comp=Z,33nm,0.8s,baz=336,slow=5.5,SNR=15						
SCHQ	Schefferville	72.28	23	eP		P	09 58 25.2 +0.5
	comp=Z,36nm,0.8s						
K37A	Belmond	72.30	45	P		P	09 58 24.6 -0.3
	baz=320,SNR=18						
BIGH	Upper Bighouse	72.30	348	eP		P	09 58 24.2 -0.4
L36A	Harm Buss Farm	72.31	46	P		P	09 58 24.8 -0.2
	baz=319,SNR=9.9						
N34A	Lincoln	72.35	48	P		P	09 58 24.4 -0.9
	baz=319,SNR=13						
O33A	Hebron	72.37	49	P		P	09 58 24.5 -1.0
	baz=318,SNR=12						
H40A	Chili	72.38	42	P		P	09 58 24.9 -0.5
	baz=321,SNR=7.3						
MLA1	Latheron	72.40	347	eP		P	09 58 24.9 -0.3
J38A	Wedel Dairy, R	72.42	44	P		P	09 58 25.4 -0.3
	baz=320,SNR=7.4						
I39A	Houston	72.46	43	P		P	09 58 25.2 -0.7
	baz=321,SNR=9.0						
G41A	Antigo	72.46	41	P		P	09 58 25.1 -0.7
	baz=322						
E43A	Lone Tree Farm	72.49	39	P		P	09 58 25.2 -0.8
	baz=322						
H41A	Junction City	72.72	42	P		P	09 58 26.9 -0.5
	baz=321,SNR=6.3						
L37A	Phoenix Point,	72.73	46	P		P	09 58 27.3 -0.2
	baz=320,SNR=36						
M36A	Felix, Anita	72.73	47	P		P	09 58 27.4 -0.2
	baz=320,SNR=15						
O34A	Beatrice	72.74	49	P		P	09 58 26.6 -1.0
	baz=319,SNR=31						
N35A	Tabor	72.76	48	P		P	09 58 27.7 -0.1
	baz=319,SNR=30						
G42A	Mountain	72.77	41	P		P	09 58 27.6 -0.1
	baz=322						
J39A	Decorah	72.77	44	P		P	09 58 26.9 -0.8
	baz=321,SNR=13						
K38A	Parkersburg	72.80	45	P		P	09 58 27.4 -0.5
	baz=320,SNR=7.2						
PALK	Pallekele	72.81	262	eP		P	09 58 29.0 +0.6
PALK	Pallekele	72.81	262	eP		P	09 58 29.0 +0.6
HSIG		72.83	66	eP		P	09 58 28.7 +0.4
	comp=Z,102nm,1.6s						
I40A	Norwalk	72.84	43	P		P	09 58 27.8 -0.4
	baz=321,SNR=8.4						
F43A	Flat Rock, Esc	72.85	39	P		P	09 58 28.0 -0.1
	baz=322						
EIDS	Eidsvold	72.93	182	eP		P	09 58 29.2 +0.5
	comp=Z,57nm,1.4s						
SORM	Soroca	73.00	325	⇑ i P		P	09 58 29.1 +0.2
F44A	Big Bay de Noc	73.05	39	P		P	09 58 28.9 -0.4
	baz=323						
I41A	Arkdale	73.05	42	P		P	09 58 28.9 -0.4
	baz=321,SNR=5.4						
O35A	Humboldt	73.08	48	P		P	09 58 28.5 -1.0
	baz=319						
G43A	Wallace	73.08	40	P		P	09 58 29.2 -0.3
	baz=322,SNR=5.6						
L38A	Oak Wood Farm,	73.10	45	P		P	09 58 29.5 -0.2
	baz=320,SNR=12						
M37A	Trindle Farm,	73.13	46	P		P	09 58 30.0 +0.1
	baz=320,SNR=13						
N36A	Muff Farm, Cla	73.13	47	P		P	09 58 29.5 -0.4
	baz=320,SNR=9.0						
P34A	Walnut Farm, R	73.15	49	P		P	09 58 29.0 -1.1
	baz=319,SNR=25						
SCIA	State Center	73.16	46	eP		P	09 58 30.8 +0.8
	comp=Z,230nm,0.6s						
J40A	Soldiers Grove	73.17	43	P		P	09 58 29.1 -1.0
	baz=321						
K39A	Oelwein	73.17	44	P		P	09 58 29.2 -0.9
	baz=321,SNR=15						
SRIG	Santa Rosalia	73.24	68	eP		P	09 58 31.5 +0.7
	comp=Z,44nm,0.9s						
AS01	Alice Springs	73.26	198	eP		P	09 58 32.0 +1.4
AS31	Alice Springs	73.27	198	eP		P	09 58 32.1 +1.3
	comp=Z,10nm,0.6s						
ASAR	Alice Springs	73.27	198	P		P	09 58 31.6 +0.9
	comp=Z,22nm,0.6s,baz=8.7,slow=5.5,SNR=179						
E45A	Wooded Hills,	73.27	38	P		P	09 58 29.4 -1.2
	baz=324						
MME1	Meikle Cairn	73.29	347	eP		P	09 58 29.8 -0.8
H42A	Shiocton	73.30	41	P		P	09 58 30.6 -0.2
	baz=322						
MDO	Dochfour	73.38	347	eP		P	09 58 30.3 -0.7
KAC	Achnashellach	73.46	348	eP		P	09 58 30.8 -0.7
K40A	Colesburg	73.53	44	P		P	09 58 31.6 -0.6
	baz=321,SNR=8.7						
J41A	Loganville	73.53	43	P		P	09 58 31.6 -0.6
	baz=322,SNR=7.4						
M38A	Pleasantville	73.54	46	P		P	09 58 32.1 -0.2
	baz=320,SNR=19						
N37A	Lee Faris, Mou	73.55	47	P		P	09 58 32.3 -0.1
	baz=320,SNR=43						
Q34A	Chapman	73.56	50	P		P	09 58 31.7 -0.8
	baz=319						
L39A	Vinton	73.57	45	P		P	09 58 32.1 -0.4
	baz=321,SNR=24						
P35A	Duane Minner,	73.58	49	P		P	09 58 31.6 -0.9
	baz=319,SNR=13						
KSU1	Kansas State U	73.60	50	P		P	09 58 31.5 -1.1
	baz=319,SNR=12						
KSU1	Kansas State U	73.60	50	eP		P	09 58 32.1 -0.6
I42A	Draeger Farm,	73.61	42	P		P	09 58 32.2 -0.5
	baz=322,SNR=7.0						
O36A	Bolckow	73.65	48	P		P	09 58 32.4 -0.5
	baz=320,SNR=10						
KPL	Plockton	73.66	348	eP		P	09 58 32.2 -0.4
KPL				AMB		AMB	09 58 40.7
	comp=Z,174nm,2.6s						
H43A	Windswept, Lux	73.67	41	P		P	09 58 31.6 -1.3
	baz=322						
KIS	Kishinev	73.74	324	eP		P	09 58 33.0 -0.3
KIS	Kishinev	73.74	324	eP		P	09 58 33.0 -0.3
KSB	Sheil Bridge	73.76	348	eP		P	09 58 32.8 -0.4
JFWS	Jewell Farm	73.77	43	eP		P	09 58 33.1 -0.5
JFWS	Jewell Farm	73.77	43	eP		P	09 58 33.1 -0.5
R34A	Isabella, Hill	73.87	50	P		P	09 58 33.0 -1.3
	baz=319,SNR=8.5						
F46A	Macinaw City C	73.91	38	P		P	09 58 33.1 -1.2
	baz=324						
P36A	Good Intent, A	73.92	48	P		P	09 58 33.6 -1.0
	baz=320,SNR=14						
L40A	Anamosa	73.98	44	P		P	09 58 34.1 -0.8
	baz=321,SNR=13						
M39A	Webster	73.98	45	P		P	09 58 34.4 -0.4
	baz=321,SNR=64						
K41A	Shullsburg	73.99	43	P		P	09 58 34.3 -0.6
	baz=322,SNR=8.8						
N38A	Joes South For	74.00	46	P		P	09 58 34.8 -0.2
	baz=320,SNR=17						
AMTX	Amarillo	74.03	56	P		P	09 58 35.8 +0.5
	baz=318						
AMTX	Amarillo	74.03	56	eP		P	09 58 35.9 +0.5
O37A	Wolven Farm, M	74.03	47	P		P	09 58 34.9 -0.3
	baz=320,SNR=22						
EDU	Dundee	74.04	346	eP		P	09 58 34.4 -0.5
Q35A	Mercer Eighty,	74.07	49	P		P	09 58 34.4 -1.1
	baz=319,SNR=9.0						
MSTX	Muleshoe	74.08	57	P		P	09 58 35.9 +0.2
	baz=318,SNR=26						
MSTX	Muleshoe	74.08	57	eP		P	09 58 35.9 +0.2
	comp=Z,121nm,1.5s						
MNTX	Cornudas Mount	74.24	60	P		P	09 58 37.0 +0.4
	baz=317,SNR=40						
MNTX	Cornudas Mount	74.24	60	eP		P	09 58 37.2 +0.6
N39A	Derby Farms, D	74.29	46	P		P	09 58 36.3 -0.4
	baz=321,SNR=25						
K42A	Prairie Point,	74.29	43	P		P	09 58 36.0 -0.6
	baz=322						
OJC	Ojcow	74.31	331	eP		P	09 58 36.9 +0.3
OJC	Ojcow	74.31	331	eP		P	09 58 36.9 +0.3
OJC	Ojcow	74.31	331	eP		P	09 58 36.9 +0.3
	comp=Z,12nm,1.0s						
L41A	Preston	74.31	44	P		P	09 58 36.0 -0.8
	baz=322,SNR=11						
M40A	Post Highland	74.35	45	P		P	09 58 36.7 -0.4
	baz=321,SNR=28						
P37A	Lathrop	74.37	48	P		P	09 58 36.6 -0.5
	baz=320,SNR=22						
U32A	Winter Ranch,	74.38	53	P		P	09 58 37.3 0.0
	baz=319,SNR=13						
S34A	Willow Spring	74.39	51	P		P	09 58 36.5 -0.8
	baz=319						
R35A	Emporia Munici	74.39	50	P		P	09 58 36.5 -0.9
	baz=319,SNR=7.1						
O38A	Galt	74.40	47	P		P	09 58 37.1 -0.2
	baz=320,SNR=37						
STHS	Stebnicka Huta	74.51	330	eP		P	09 58 38.5 +0.7
STHS				pmax		pmax	
	comp=Z,8.0nm,0.8s						
STHS	Stebnicka Huta	74.51	330	eP		P	09 58 38.5 +0.7
ESY	Stoneypath	74.58	346	eP		P	09 58 37.7 -0.4
EAB	Aberfoyle	74.59	347	eP		P	09 58 37.8 -0.3
BUR08	Bucovina Ar. S	74.60	326	eP		P	09 58 38.4 -0.1
BURAR	Bucovina Array	74.62	326	⇓ i P		P	09 58 38.4 -0.2
N40A	Mertquake, Sal	74.72	45	P		P	09 58 39.0 -0.2
	baz=321,SNR=33						
GLMI	Grayling	74.73	39	eP		P	09 58 39.4 +0.2
P38A	Dawn	74.75	47	P		P	09 58 39.1 -0.2
	baz=320,SNR=42						
O39A	Kirksville	74.75	46	P		P	09 58 39.0 -0.3
	baz=321,SNR=27						
R36A	Gordon, Harris	74.75	49	P		P	09 58 38.8 -0.6
	baz=320,SNR=22						
VLDQ	Val d'Or	74.82	32	eP		P	09 58 38.5 -1.0
	comp=Z,74nm,1.1s						
S35A	Otter Creek Ra	74.82	50	P		P	09 58 39.2 -0.5
	baz=320,SNR=8.1						
UZH	Uzhgorod	74.82	329	eP		P	09 58 38.9 -0.7
UZH				e			09 58 52.2
NIE	Niedzica	74.83	330	eP		P	09 58 40.4 +0.7
NIE	Niedzica	74.83	330	eP		P	09 58 40.4 +0.7
M41A	Milan	74.84	44	P		P	09 58 39.4 -0.4
	baz=322,SNR=12						
Q37A	Longview Farm,	74.86	48	P		P	09 58 39.0 -1.0
	baz=320,SNR=12						
T34A	McClaskey Farm	74.86	51	P		P	09 58 39.6 -0.4
	baz=319,SNR=10						
KSP	Ksiaz	74.87	333	eP		P	09 58 40.2 +0.4
KSP	Ksiaz	74.87	333	eP		P	09 58 40.2 +0.4
CRVS	Cervenica-Dubn	74.88	329	eP		P	09 58 40.9 +1.0
CRVS	Cervenica-Dubn	74.88	329	eP		P	09 58 40.9 +1.0
MBWA	Marble Bar	74.95	212	eP		P	09 58 40.3 -0.2
	comp=Z,18nm,0.9s						
TESR	Tescani	74.99	325	⇓ i P		P	09 58 41.2 +0.6
L43A	Garden Prairie	75.04	43	P		P	09 58 40.2 -0.7
	baz=322						
R37A	Teagarden Farm	75.10	49	P		P	09 58 40.2 -1.2
	baz=320,SNR=17						
M42A	Sheffield	75.14	44	P		P	09 58 40.5 -1.0
	baz=322						
S36A	Lake Cedric, C	75.16	50	P		P	09 58 41.2 -0.5
	baz=320,SNR=34						
OKC	Ostrava-Krasne	75.17	332	eP		P	09 58 42.0 +0.4
OKC				ex		x	09 58 44.1
OKC	Ostrava-Krasne	75.17	332	eP		P	09 58 42.0 +0.4
O40A	La Belle	75.18	46	P		P	09 58 41.6 -0.1
	baz=321,SNR=59						
N41A	Harden Midland	75.21	45	P		P	09 58 41.8 -0.2
	baz=322,SNR=11						
Q38A	Cooks Store, C	75.22	48	P		P	09 58 41.4 -0.6
	baz=320,SNR=53						
TLCR		75.22	323	⇓ i P		P	09 58 42.8 +0.9
P39B	Salisbury	75.24	47	P		P	09 58 41.9 -0.3
	baz=321,SNR=20						
UPC	Upice	75.25	333	eP		P	09 58 42.1 +0.1
UPC	Upice	75.25	333	eP		P	09 58 42.1 +0.1
ESK	Eskdalemuir	75.25	346	eP		P	09 58 41.4 -0.5
ESK	Eskdalemuir	75.25	346	eP		P	09 58 41.8 -0.1
ESK	Eskdalemuir	75.25	346	eP		P	09 58 41.8 -0.1
DPC	Dobruska-Polom	75.29	333	eP		P	09 58 42.6 +0.3
DPC	Dobruska-Polom	75.29	333	eP		P	09 58 42.6 +0.3
T35A	Sooner Cattle	75.30	51	P		P	09 58 42.2 -0.3
	baz=320,SNR=15						
LANS	Liptovska Anna	75.34	331	eP		P	09 58 43.7 +1.1
LANS	Liptovska Anna	75.34	331	eP		P	09 58 43.7 +1.1
CLL	Collm	75.42	335	⇓ i P		P	09 58 42.2 -0.7
CLL				pmax		pmax	
	comp=Z,21nm,0.8s						
CLL	Collm	75.42	335	eP		P	09 58 42.4 -0.5
CLL	Collm	75.42	335	⇓ i P		P	09 58 42.2 -0.7
CLL				⇓ i P(2)			09 58 46.0
CLL				⇓ i			09 58 49.2
CLL				LV			10 34 00.0
	comp=Z,100nm,21.9s						
CLL	Collm	75.42	335	eP		P	09 58 42.5 -0.5
	comp=Z,20nm,0.8s						
MORC	Moravsky Berou	75.42	332	⇑ i P		P	09 58 43.6 +0.5
MORC	Moravsky Berou	75.42	332	eP		P	09 58 43.5 +0.5
MORC	Moravsky Berou	75.42	332	eP		P	09 58 43.5 +0.4
L44A	Lake County Fo	75.42	42	P		P	09 58 42.6 -0.5
	baz=323						
Q39A	Willow Grove F	75.47	47	P		P	09 58 43.2 -0.3
	baz=321						
VRI	Vrincioaia	75.50	324	⇑ i P		P	09 58 44.5 +1.0
N42A	Yates City	75.50	44	P		P	09 58 43.1 -0.6
	baz=322,SNR=14						
CFR	Farcaciu	75.50	323	⇓ i P		P	09 58 43.9 +0.4
T36A	Boggs Farm, Ca	75.52	50	P		P	09 58 43.5 -0.3
	baz=320,SNR=23						
S37A	Fort Scott	75.53	49	P		P	09 58 43.3 -0.5
	baz=320,SNR=38						
BRG	Berggiesshubel	75.54	335	eP		P	09 58 42.8 -0.9
	comp=Z,11nm,1.3s						
BRG	Berggiesshubel	75.54	335	eP		P	09 58 42.8 -0.9
BRG				pmax		pmax	
	comp=Z,11nm,1.3s						
P40A	Paris	75.55	46	P		P	09 58 43.8 -0.1
	baz=321,SNR=40						
KECS	Kecovo	75.57	330	eP		P	09 58 43.6 -0.3
KECS				pmax		pmax	
	comp=Z,4.0nm,0.8s						
KECS	Kecovo	75.57	330	eP		P	09 58 43.6 -0.3
U35A	Pawnee	75.59	51	P		P	09 58 44.2 0.0
	baz=320,SNR=47						
O41A	Passleys Farm,	75.66	45	P		P	09 58 44.3 -0.2
	baz=322,SNR=29						
PVCC	Panska Ves	75.66	334	eP		P	09 58 44.5 +0.1
PVCC	Panska Ves	75.66	334	eP		P	09 58 44.5 +0.1
R38A	Fenwick Farm,	75.67	48	P		P	09 58 43.5 -1.1
	baz=320,SNR=25						
WMOK	Wichita Mounta	75.73	54	P		P	09 58 44.9 -0.2
	baz=319,SNR=20						
WMOK	Wichita Mounta	75.73	54	eP		P	09 58 45.0 -0.1
WMOK	Wichita Mounta	75.73	54	eP		P	09 58 45.3 +0.3
	comp=Z,53nm,1.3s						
P41A	Barry, Barry	75.92	46	P		P	09 58 45.9 -0.1
	baz=322,SNR=47						
GAL1	Galloway	75.92	347	eP		P	09 58 45.1 -0.6
GAL1				AMB		AMB	09 58 47.1
	comp=Z,40nm,1.1s						
GCL	Cushendall	75.93	348	eP		P	09 58 45.8 0.0
KESW	Keswick, Cumbr	75.94	346	eP		P	09 58 45.2 -0.6
KESW				AMB		AMB	09 58 46.1
	comp=Z,48nm,1.1s						
Q40A	Laux Farm, Aux	75.95	47	P		P	09 58 45.7 -0.5
	baz=321,SNR=23						
T37A	Cheneyville 18	75.97	50	P		P	09 58 46.0 -0.3
	baz=320,SNR=50						
CJR	Cluj-Napoca	75.98	327	⇑ i P		P	09 58 47.4 +1.1
O42A	Bath	75.98	45	P		P	09 58 45.9 -0.4
	baz=322,SNR=5.4						
V35A	Meyer Ranch, C	76.00	52	P		P	09 58 46.3 -0.3
	baz=320,SNR=13						
R39A	Chumby, Stover	76.00	48	P		P	09 58 45.7 -0.8
	baz=321,SNR=25						
TLB	Topalu	76.03	323	⇑ i P		P	09 58 46.6 +0.1
HDIL	Hopedale	76.06	44	P		P	09 58 46.5 -0.3
	baz=322,SNR=17						
HDIL	Hopedale	76.06	44	eP		P	09 58 46.8 -0.1
	comp=Z,94nm,0.9s						
S38A	Stockton	76.09	49	P		P	09 58 46.0 -1.1
	baz=321,SNR=32						
U36A	Oologah	76.10	51	P		P	09 58 46.8 -0.3
	baz=320,SNR=14						
MLR	Muntele Rosu	76.11	325	⇓ i P		P	09 58 48.8 +1.6
MLR	Muntele Rosu	76.11	325	eP		P	09 58 47.4 +0.2
MLR				pmax		pmax	
	comp=Z,53nm,1.9s						
MLR	Muntele Rosu	76.11	325	eP		P	09 58 47.4 +0.2
	comp=Z,53nm,1.9s						
VYHS	Vyhne	76.12	331	eP		P	09 58 47.5 +0.5
VYHS	Vyhne	76.12	331	eP		P	09 58 47.5 +0.5
GOPC	GO Pecny, Ondr	76.14	334	eP		P	09 58 47.2 +0.1
GOPC				ex		x	09 58 50.4
GOPC	GO Pecny, Ondr	76.14	334	eP		P	09 58 47.2 +0.1
PRU	Pruhonice	76.15	334	eP		P	09 58 47.1 0.0
PRU				ex		x	09 58 50.4
PRU	Pruhonice	76.15	334	eP		P	09 58 47.1 0.0
DRGR		76.23	327	⇓ i P		P	09 58 47.9 +0.1
PSZ	Piszkesteto	76.26	330	⇓ i P		P	09 58 48.8 +0.9
PSZ	Piszkesteto	76.26	330	eP		P	09 58 49.0 +1.1
PSZ	Piszkesteto	76.26	330	eP		P	09 58 49.0 +1.1
	comp=Z,12nm,1.1s						
O43A	Sugar Creek Fa	76.27	44	P		P	09 58 47.3 -0.7
	baz=322						
HPK	Haverah Park	76.29	345	eP		P	09 58 47.9 0.0
HPK				AMB		AMB	09 58 48.6
	comp=Z,63nm,0.9s						
P42A	Winchester	76.33	45	P		P	09 58 48.0 -0.3
	baz=322,SNR=18						
S39A	Bolivar	76.34	48	P		P	09 58 47.3 -1.2
	baz=321,SNR=19						
T38A	Diamond	76.35	49	P		P	09 58 48.1 -0.5
	baz=320,SNR=52						
Q41A	Truxton	76.40	46	P		P	09 58 48.5 -0.3
	baz=322,SNR=48						
R40A	Maddies Statio	76.40	47	P		P	09 58 47.8 -1.0
	baz=321,SNR=34						
U37A	Salina	76.41	50	P		P	09 58 48.7 -0.2
	baz=320,SNR=43						
WTSB	Winterswijk	76.42	339	eP		P	09 58 48.2 -0.4
	comp=Z,29nm,0.5s						
TUL1	Leonard	76.44	51	P		P	09 58 48.8 -0.2
	baz=320,SNR=17						
TUL1	Leonard	76.44	51	eP		P	09 58 49.4 +0.4
	comp=Z,172nm,1.4s						
W35A	Tecumseh	76.44	52	P		P	09 58 48.7 -0.4
	baz=320,SNR=20						
V36A	Jenks	76.45	51	P		P	09 58 48.9 -0.2
	baz=320,SNR=11						
TREC	Trest	76.48	333	eP		P	09 58 49.4 +0.3
TREC	Trest	76.48	333	eP		P	09 58 49.4 +0.3
VOIR		76.50	325	⇑ i P		P	09 58 50.2 +0.9
NKC	Novy Kostel	76.54	335	eP		P	09 58 49.4 0.0
NKC				ex		x	09 58 52.1
NKC	Novy Kostel	76.54	335	eP		P	09 58 49.4 0.0
SMOL	Smolenice	76.56	331	eP		P	09 58 50.4 +0.9
SMOL	Smolenice	76.56	331	eP		P	09 58 50.4 +0.9
N45A	Kentland	76.66	43	P		P	09 58 49.1 -1.1
	baz=323						
P43A	Skaggs, Pawnee	76.68	45	P		P	09 58 50.0 -0.3
	baz=322,SNR=12						
ARR	Arges	76.72	325	⇑ i P		P	09 58 51.6 +1.0
LHO	Holmfirth	76.73	345	eP		P	09 58 49.7 -0.7
U38A	Gravette	76.76	50	P		P	09 58 50.5 -0.4
	baz=321,SNR=27						
Q42A	Golden Eagle	76.77	46	P		P	09 58 50.9 +0.1
	baz=322,SNR=34						
O44A	Mansfield	76.77	44	P		P	09 58 50.4 -0.4
	baz=323						
W36A	Wetumka	76.80	52	P		P	09 58 51.1 0.0
	baz=320,SNR=16						
V37A	Hulbert	76.80	51	P		P	09 58 50.8 -0.3
	baz=320,SNR=50						
S40A	Lebanon	76.82	48	P		P	09 58 50.4 -0.8
	baz=321,SNR=28						
T39A	Clever	76.83	49	P		P	09 58 50.5 -0.7
	baz=321,SNR=15						
R41A	Rosebud	76.84	47	P		P	09 58 50.8 -0.5
	baz=322,SNR=20						
ABTX	Abilene, Hawle	76.84	56	P		P	09 58 51.1 -0.3
	baz=319,SNR=10.0						
ABTX	Abilene, Hawle	76.84	56	eP		P	09 58 51.8 +0.4
	comp=Z,77nm,1.5s						
X35A	Drake	76.96	53	P		P	09 58 51.7 -0.3
	baz=320,SNR=16						
N46A	Monticello	76.97	42	P		P	09 58 51.1 -0.8
	baz=324						
TXAR	Lajitas Array	76.98	61	P		P	09 58 52.7 +0.4
	comp=Z,81nm,0.6s,baz=297,slow=4.4,SNR=1080						
TXAR				PP		PP	10 01 47.9 +1.4
	comp=Z,3.3nm,1.0s,baz=308,slow=4.4,SNR=3.1						
LOT	Lotru	76.98	326	⇓ i P		P	09 58 53.9 +1.8
SADO	Sadowa	76.99	35	LR		LR	10 33 48.1
	comp=Z,127nm,18.3s,baz=358,slow=36						
SIRR	Siria	77.06	328	⇑ i P		P	09 58 52.7 +0.3
CCM	Cathedral Cave	77.09	47	eP		P	09 58 52.2 -0.5
CCM	Cathedral Cave	77.09	47	eP		P	09 58 52.6 -0.1
	comp=Z,45nm,0.9s						

GRFO Grafenberg 77.37 336 eP P 09 58 54.6 +0.6
GRFO Grafenberg 77.37 336 eP P 09 58 54.5 +0.6
comp=Z,21nm,0.7s
CWF Charnwood Fore 77.40 344 eP P 09 58 53.8 -0.3
CWF AMB AMB 09 58 55.9
comp=Z,19nm,1.0s
CWF Charnwood Fore 77.40 344 eP P 09 58 54.1 0.0
comp=Z,25nm,1.0s
GEC2 GERESS Array S 77.42 334 eP P 09 58 54.6 +0.2
GEC2 GERESS Array S 77.42 334 eP P 09 58 54.7 +0.3
GERES GERESS Array B 77.42 334 P P 09 58 54.2 -0.3
comp=Z,3.0nm,0.6s,baz=33,slow=5.6,SNR=17
GEA0 GERESS Array S 77.42 334 eP P 09 58 54.1 -0.3
TRQ Mont Tremblant 77.46 32 eP P 09 58 54.9 +0.2
Q44A Meyer Farm, Va 77.50 45 P P 09 58 54.8 -0.1
baz=323,SNR=14
BR131 Keskin Array S 77.53 317 eP P 09 58 55.0 -0.3
BRTR Keskin Array B 77.53 317 P P 09 58 55.1 -0.2
comp=Z,6.4nm,0.8s,baz=72,slow=4.2,SNR=17
S42A Caledonia 77.54 47 P P 09 58 54.8 -0.3
baz=322,SNR=39
HPIG 77.55 64 eP P 09 58 56.1 +0.5
comp=Z,34nm,0.7s
PLVO Plevna 77.56 34 eP P 09 58 54.6 -0.6
comp=Z,82nm,1.7s
R43A Red Bud 77.56 46 P P 09 58 55.0 -0.3
baz=322,SNR=10
CONA Conrad Observa 77.57 332 iP P 09 58 55.6 +0.3
comp=Z,16nm,1.3s
FOEL Foel Wylfa 77.59 346 eP P 09 58 54.9 -0.3
FOEL AMB AMB 09 58 57.7
comp=Z,43nm,1.8s
V39A Pettigrew 77.61 50 P P 09 58 55.3 -0.3
baz=321,SNR=42
U40A Yellville 77.61 49 P P 09 58 55.1 -0.5
baz=321,SNR=64
T41A Mountain View 77.62 48 P P 09 58 55.3 -0.4
baz=322,SNR=22
BZS Buzias 77.63 327⇓ iP P 09 58 55.8 +0.3
X37A Clayton 77.67 52 P P 09 58 55.7 -0.2
baz=320
LLW Llanuwychllyn 77.70 346 eP P 09 58 54.7 -1.1
Y36A Durant 77.71 53 P P 09 58 56.2 0.0
baz=320,SNR=12
DSB Dublin 77.74 348 eP P 09 58 56.1 +0.1
comp=Z,159nm,2.0s
HGN Heimansgroeve 77.75 339 eP P 09 58 55.9 -0.1
comp=Z,17nm,0.6s
W38A Poteau 77.75 51 P P 09 58 56.6 +0.3
baz=321,SNR=13
BEBN Eben Emael 77.78 340 P P 09 58 56.2 0.0
comp=Z,12nm,0.9s
COCO West Island 77.82 236 iP P 09 58 54.5 -2.4
BR231 Keskin MP Arra 77.84 317 eP P 09 58 56.3 -0.7
MEM Membach 77.87 339 P P 09 58 56.9 +0.2
comp=Z,19nm,1.0s
HLM1 Long Mynd 77.89 345 eP P 09 58 56.5 -0.3
X38A Whitesboro 77.89 51 P P 09 58 57.3 +0.1
baz=321,SNR=10
ARMA Armidale 77.95 181 eP P 09 58 59.0 +1.6
comp=Z,18nm,0.8s
T42A Van Buren 77.97 47 P P 09 58 57.3 -0.2
baz=322
R44A Waltonville 77.99 45 P P 09 58 57.4 -0.2
baz=323,SNR=13
Y37A Hugo 78.00 52 P P 09 58 57.5 -0.3
baz=320,SNR=6.2
W39A Magazine 78.03 50 P P 09 58 57.7 -0.2
baz=321,SNR=13
S43A Fulton Ridge, 78.04 46 P P 09 58 57.6 -0.3
baz=322,SNR=14
V40A Witts Springs 78.05 49 P P 09 58 57.4 -0.7
baz=321,SNR=24
OLIL Olney 78.07 44 eP P 09 58 58.3 +0.3
comp=Z,192nm,1.8s
U41A Viola 78.09 48 P P 09 58 57.6 -0.6
baz=322,SNR=17
Z36A Blue Ridge 78.11 53 P P 09 58 58.1 -0.3
baz=320,SNR=20
MOA Molln 78.14 333 iP P 09 58 58.6 +0.2
comp=Z,5.6nm,0.8s
BCLA Clavier 78.21 340 P P 09 58 58.3 -0.3
ARSA Arzberg 78.28 332 iP P 09 58 59.5 +0.4
comp=Z,4.7nm,0.8s
MDVR Moldovita 78.31 327⇑ iP P 09 59 01.1 +1.7
T43A Greenville 78.32 47 P P 09 58 59.2 -0.3
baz=322,SNR=17
S44A Carbondale 78.34 46 P P 09 58 59.5 -0.1
baz=323,SNR=6.7
JCT Junction City 78.36 57 P P 09 58 59.9 0.0
baz=319,SNR=44
JCT Junction City 78.36 57 eP P 09 58 59.8 0.0
JCT Junction City 78.36 57 eP P 09 59 00.1 +0.2
SNF Seneffe 78.37 340 P P 09 58 59.7 +0.2
X39A Fountain Ranch 78.39 51 P P 09 58 59.9 0.0
baz=321,SNR=15
W40A Ferguson Farm, 78.40 50 P P 09 58 59.7 -0.3
baz=321,SNR=22
V41A Mountainview 78.41 49 P P 09 58 59.5 -0.6
baz=322,SNR=29
MCH1 Michaelchurch 78.41 345 eP P 09 58 58.6 -1.1
U42A Revenden 78.43 48 P P 09 58 59.3 -0.8
baz=322,SNR=12
BLO Bloomington 78.45 43 eP P 09 59 00.0 -0.2
BLO Bloomington 78.45 43 eP P 09 59 00.3 +0.1
comp=Z,21nm,0.6s
PBMO Poplar Bluff 78.49 47 eP P 09 59 00.3 -0.1
comp=Z,246nm,1.8s
Y38A Idabel 78.51 52 P P 09 59 00.2 -0.4
baz=321
WHTX Lake Whitney, 78.53 55 P P 09 59 00.7 +0.1
baz=320,SNR=24
WHTX Lake Whitney, 78.53 55 eP P 09 59 00.8 +0.1
comp=Z,54nm,0.8s
MONM Monmouth 78.53 345 eP P 09 58 60.0 -0.4
Z37A Pogue Cattle C 78.60 53 P P 09 59 00.9 -0.2
baz=320
MIAR Mount Ida 78.64 51 P P 09 59 01.2 -0.2
baz=321,SNR=20
MIAR Mount Ida 78.64 51 eP P 09 59 01.4 +0.1
MIAR Mount Ida 78.64 51 eP P 09 59 01.7 +0.4
136A Ennis 78.66 54 P P 09 59 00.8 -0.6
baz=320,SNR=11
T44A Benton 78.66 46 P P 09 59 01.3 0.0
baz=323,SNR=19
DOU Dourbes 78.68 340 P P 09 59 01.0 -0.2
S45A Carrier Mills 78.68 45 P P 09 59 01.2 -0.3
baz=323,SNR=14
WLF Walferdange 78.71 339 P P 09 59 01.6 +0.2
WLF Walferdange 78.71 339 eP P 09 59 03.0 +1.6
WLF Walferdange 78.71 339 eP P 09 59 01.7 +0.2
comp=Z,9.8nm,0.9s
HGH Gray Hill 78.72 345 eP P 09 59 01.0 -0.4
WHAR Wooly Hollow 78.73 49 eP P 09 59 01.6 -0.2
comp=Z,63nm,1.0s
WOL Wolverton 78.75 344 eP P 09 59 01.4 -0.1
WOL AMB AMB 09 59 02.3
comp=Z,30nm,0.7s
V42A Cord 78.78 48 P P 09 59 01.5 -0.5
baz=322,SNR=22
U43A Rector 78.83 47 P P 09 59 02.1 -0.2
baz=322,SNR=11
LONY Lake Ozonia 78.83 33 eP P 09 59 01.8 -0.4
W41B Gary Mavity, V 78.84 49 P P 09 59 02.0 -0.3
baz=322,SNR=24
Y39A Lockesburg 78.84 51 P P 09 59 02.2 -0.2
baz=321,SNR=19
USIN University of 78.89 45 eP P 09 59 03.1 +0.5
comp=Z,96nm,0.8s
Z38A Mt. Pleasant 78.90 52 P P 09 59 02.6 -0.2
baz=321
PARMO Parma 78.92 47 eP P 09 59 03.4 +0.7
comp=Z,230nm,0.8s
SOKA Soboth 78.94 332 iP P 09 59 02.7 -0.1
comp=Z,8.8nm,0.7s
PERS Pernice 78.95 332 iP P 09 59 03.1 +0.2
137A Heron Place, G 78.99 53 P P 09 59 03.1 -0.1
baz=320
236A Katherine and 79.03 54 P P 09 59 03.6 +0.1
baz=320
X40A Basin Creek Fa 79.07 50 P P 09 59 03.5 -0.2
baz=322,SNR=16
UALR University of 79.10 50 eP P 09 59 03.9 +0.1
KBA Koelnbreinsper 79.11 333 iP P 09 59 04.6 +0.7
comp=Z,44nm,1.0s
W42A Bald Knob 79.13 49 P P 09 59 03.8 -0.2
baz=322,SNR=6.8

ACSO Alum Creek Sta 79.18 40 eP P 09 59 04.2 +0.1
MMNY Mt. Morris Dam 79.19 36 eP P 09 59 03.7 -0.5
ALLY Alegheny Colle 79.20 38 eP P 09 59 04.2 0.0
comp=Z,176nm,1.8s
Y40A Okolona 79.21 51 P P 09 59 04.3 -0.1
baz=321
X41A Kaden, Bauxite 79.23 50 P P 09 59 04.4 -0.1
baz=322,SNR=9.0
OBKA Obir 79.25 332 iP P 09 59 04.7 +0.2
comp=Z,6.5nm,0.8s
138A Matatall Enter 79.30 53 P P 09 59 05.3 +0.3
baz=321,SNR=7.9
WCI Wyandotte Cave 79.32 44 eP P 09 59 04.9 -0.1
WCI Wyandotte Cave 79.32 44 eP P 09 59 04.9 -0.1
comp=Z,70nm,0.7s
336A Riesel 79.32 55 P P 09 59 05.2 +0.1
baz=320,SNR=7.9
GNAR Gosnell 79.34 47 eP P 09 59 06.2 +1.1
comp=Z,152nm,0.8s
HBAR Harrisburg 79.34 48 eP P 09 59 06.0 +0.9
comp=Z,140nm,1.0s
435B Jarrell 79.37 56 P P 09 59 05.4 0.0
baz=320
U44B Burton Farm, H 79.37 47 P P 09 59 05.5 +0.3
baz=323,SNR=5.4
BFO Black Forest 79.39 337 iP P 09 59 05.4 +0.2
BFO Black Forest 79.39 337 eP P 09 59 05.3 +0.1
comp=Z,11nm,0.7s
237A Washetta, Mont 79.42 54 P P 09 59 05.6 0.0
baz=321,SNR=7.3
MYKA Terra Mystica 79.42 333 iP P 09 59 05.5 +0.1
comp=Z,7.7nm,0.8s
WTTA Wattenberg 79.45 334 iP P 09 59 06.1 +0.4
comp=Z,13nm,0.6s
GLAT Glass 79.46 47 eP P 09 59 06.7 +1.0
comp=Z,338nm,1.3s
RETA Reutte 79.50 335 iP P 09 59 05.7 -0.1
comp=Z,11nm,0.9s
V44A Blytheville 79.51 47 P P 09 59 05.8 -0.1
baz=323
M54A Oil Creek Stat 79.52 37 P P 09 59 05.6 -0.4
baz=327
NCB Newcomb 79.52 33 eP P 09 59 06.0 0.0
MOTA Moosalm 79.53 335 iP P 09 59 06.3 +0.2
comp=Z,10nm,0.6s
WLAR White Oak Lake 79.55 51 eP P 09 59 06.7 +0.5
comp=Z,89nm,1.1s
UTMT University of 79.61 46 eP P 09 59 07.4 +0.9
comp=Z,101nm,0.8s
VTS Vitosha 79.62 325⇑ iP P 09 59 07.1 +0.4
VTS Vitosha 79.62 325 eP P 09 59 06.4 -0.3
VTS Vitosha 79.62 325 eP P 09 59 06.4 -0.3
comp=Z,16nm,0.8s
X42A Stuttgart 79.64 49 P P 09 59 06.4 -0.3
baz=322
U45A Rockin P Farm, 79.65 46 P P 09 59 06.7 -0.1
baz=323,SNR=9.4
ABTA Abfaltersbach 79.66 334 iPcP P 09 59 09.4 +2.7
Y41A Eaglette Beard 79.66 50 P P 09 59 06.8 0.0
baz=322
Z40A Long Farm, Mag 79.73 51 P P 09 59 07.6 +0.4
baz=321,SNR=6.2
VISS Visnje 79.78 332 iP P 09 59 06.6 -0.7
238A Jacksonville 79.79 53 P P 09 59 07.9 +0.4
baz=321
436A Wall Ranch, Ga 79.82 55 P P 09 59 08.1 +0.3
baz=320
N54A Moraine State 79.84 38 P P 09 59 07.5 -0.3
baz=327,SNR=6.4
337A Centerville 79.90 54 P P 09 59 08.4 +0.2
baz=321
BOJS Bojanci 79.92 331 iP P 09 59 02.8 -5.3
DAVA Damuels 79.93 336 iP P 09 59 08.2 -0.1
comp=Z,12nm,0.8s
FETA Feichten 79.93 335 iP P 09 59 08.5 +0.2
comp=Z,5.6nm,0.7s
V45A Humboldt 80.04 47 P P 09 59 08.6 -0.3
baz=323,SNR=5.8
Z41A Richland Creek 80.05 51 P P 09 59 09.1 +0.2
baz=322
X43A Marvell 80.05 49 P P 09 59 08.9 0.0
baz=322,SNR=10.0
STKA Stephens Creek 80.06 190 P P 09 59 08.9 +0.2
comp=Z,6.0nm,0.8s,baz=350,slow=6.2,SNR=15
STKA LR LR 10 35 31.5
comp=Z,144nm,19.6s,baz=219,slow=36
STKA Stephens Creek 80.06 190 eP P 09 59 09.4 +0.7
STKA Stephens Creek 80.06 190 eP P 09 59 09.4 +0.7
comp=Z,3.7nm,1.4s
CCAR Cane Creek 80.07 50 eP P 09 59 10.0 +1.0
comp=Z,44nm,0.8s
DYA Yadsworthy 80.08 345 eP P 09 59 08.2 -0.6
DYA AMB AMB 09 59 09.4
comp=Z,46nm,1.1s
DYA Yadsworthy 80.08 345 eP P 09 59 08.8 0.0
comp=Z,58nm,1.0s
W44A Shelby Farms P 80.09 48 P P 09 59 09.2 0.0
baz=323
LBNH Lisbon 80.11 31 eP P 09 59 09.8 +0.7
LBNH Lisbon 80.11 31 eP P 09 59 09.8 +0.7
140A Cam and Jess, 80.12 52 P P 09 59 10.0 +0.7
baz=321,SNR=15
Y42A Garnett, Star 80.12 50 P P 09 59 09.6 +0.3
baz=322,SNR=9.9
239A Gary 80.13 53 P P 09 59 09.9 +0.6
baz=321
338A Crockett 80.18 54 P P 09 59 10.3 +0.6
baz=321,SNR=27
536A Bastrop 80.20 56 P P 09 59 10.2 +0.4
baz=320,SNR=8.8
833A Chaparral WMA, 80.22 59 P P 09 59 10.2 +0.3
baz=320,SNR=15
NATX Nacogdoches 80.22 53 P P 09 59 10.6 +0.7
baz=321,SNR=13
NATX Nacogdoches 80.22 53 eP P 09 59 10.8 +0.9
ACCN Adirondack Com 80.23 33 eP P 09 59 10.1 +0.3
comp=Z,60nm,1.6s
WVT Waverly 80.28 46 eP P 09 59 10.2 +0.1
WVT Waverly 80.28 46 eP P 09 59 10.4 +0.2
comp=Z,31nm,0.8s
W45A Hickory Valley 80.39 47 P P 09 59 10.9 +0.1
baz=323,SNR=6.8
FUORN Ofenpass-Fuorn 80.43 335 eP P 09 59 11.0 -0.1
comp=Z,17nm,0.9s
X44A Crenshaw 80.43 48 P P 09 59 10.9 -0.1
baz=323,SNR=12
Z42A Norrel Spur, H 80.48 50 P P 09 59 11.5 +0.3
baz=322,SNR=17
240A Hunter Patters 80.49 52 P P 09 59 12.1 +0.7
baz=321,SNR=6.3
Y43A Makayla and Ka 80.50 49 P P 09 59 11.5 +0.1
baz=322
141A Papa Simpson, 80.50 51 P P 09 59 12.1 +0.7
baz=322,SNR=15
438A Sam Houston St 80.56 54 P P 09 59 12.6 +0.9
baz=321,SNR=22
WVL Waterville 80.59 29 eP P 09 59 12.1 +0.5
comp=Z,273nm,2.0s
339A Huntington 80.61 53 P P 09 59 12.2 +0.2
baz=321
537A Green Hill Far 80.61 55 P P 09 59 12.4 +0.3
baz=321,SNR=6.7
636A Smothers Creek 80.66 56 P P 09 59 12.9 +0.6
baz=320,SNR=13
735A Kenedy 80.72 57 P P 09 59 13.7 +1.1
baz=320,SNR=18
OXF Oxford 80.79 48 eP P 09 59 13.1 +0.2
OXF pmax pmax
comp=Z,106nm,1.0s
OXF Oxford 80.79 48 eP P 09 59 13.1 +0.2
comp=Z,106nm,1.0s
TRY Troy 80.80 33 eP P 09 59 13.1 +0.3
comp=Z,166nm,1.7s
933A Laredo 80.82 59 P P 09 59 14.2 +1.0
baz=320,SNR=70
Y44A Strider, Charl 80.83 49 P P 09 59 13.3 +0.3
baz=323,SNR=15
X45A UM Field Stati 80.87 48 P P 09 59 13.1 -0.2
baz=323,SNR=12
Z43A Armstrong Fami 80.89 50 P P 09 59 13.6 +0.2
baz=322,SNR=7.9
340A Bronson 80.90 53 P P 09 59 13.8 +0.2
baz=321,SNR=11
439A Center Grove, 80.91 54 P P 09 59 14.0 +0.4
baz=321,SNR=11
LMN Caledonia Moun 80.94 26 eP P 09 59 13.8 +0.2
comp=Z,28nm,0.6s

241A Mo Tay, Goldon 80.95 52 P P 09 59 14.2 +0.5
baz=322,SNR=15
538A Harpers Horsep 80.96 55 P P 09 59 14.7 +0.8
baz=321
SSPA Standing Stone 80.97 37 eP P 09 59 13.9 +0.1
comp=Z,15nm,0.8s
HKT Hockley 80.98 55 eP P 09 59 14.0 +0.1
HKT Hockley 80.98 55 eP P 09 59 14.0 +0.1
comp=Z,11nm,1.0s
MCWV Mont Chateau 80.99 39 eP P 09 59 14.4 +0.5
GGN Saint George 81.00 27 eP P 09 59 13.8 +0.1
comp=Z,37nm,0.9s
O56A Blue Knob Stat 81.01 37 P P 09 59 13.8 -0.2
baz=328,SNR=6.2
KSPA Keystone Colle 81.02 35 eP P 09 59 13.7 -0.3
comp=Z,60nm,1.7s
142A Monroe 81.05 51 P P 09 59 15.1 +0.8
baz=322
736A Circle Diamond 81.06 57 P P 09 59 15.9 +1.5
baz=320,SNR=26
637A Eagle Lake 81.10 56 P P 09 59 15.4 +0.8
baz=321,SNR=8.9
RAO Raoul Island 81.10 155 LR LR 10 30 47.5
comp=Z,58nm,20.4s,baz=69,slow=32
835A Beeville 81.14 57 P P 09 59 15.6 +0.7
baz=320
EMMW East Machias 81.17 28 eP P 09 59 14.7 0.0
comp=Z,326nm,1.8s
143A Socs Landing, 81.21 50 P P 09 59 15.6 +0.5
baz=322,SNR=7.4
Y45A Yeager Farm, C 81.24 48 P P 09 59 15.7 +0.4
baz=323,SNR=24
Z44A Pea Ridge, Bel 81.26 49 P P 09 59 15.2 -0.1
baz=323
934A Benavides 81.26 58 P P 09 59 17.0 +1.4
baz=320,SNR=12
242A Grayson 81.32 51 P P 09 59 16.1 +0.4
baz=322,SNR=19
341A Kurthwood 81.35 52 P P 09 59 16.4 +0.5
baz=322,SNR=14
FORT Forrest 81.45 202 eP P 09 59 16.5 +0.4
comp=Z,316nm,0.6s
539A Cross D Ranch, 81.47 54 P P 09 59 17.0 +0.5
baz=321
SENIN Lac Senin/Sane 81.48 337 eP P 09 59 16.7 +0.1
comp=Z,7.5nm,0.8s
Z45A Winona 81.56 49 P P 09 59 17.2 +0.2
baz=323,SNR=12
Y46A Houston 81.57 48 P P 09 59 16.9 -0.1
baz=323,SNR=30
N59A State Game Lan 81.57 35 P P 09 59 16.9 -0.1
baz=329
034A Hebbronville 81.58 59 P P 09 59 17.8 +0.6
baz=320,SNR=30
KVTX Kingsville 81.67 58 eP P 09 59 19.8 +2.1
comp=Z,126nm,0.8s
HRV Adam Dziewonsk 81.75 32 eP P 09 59 17.8 0.0
HRV pmax pmax
comp=Z,103nm,1.6s
HRV Adam Dziewonsk 81.75 32 eP P 09 59 17.8 0.0
comp=Z,102nm,1.6s
BBOO Buckleboo 81.76 194 eP P 09 59 18.4 +0.6
comp=Z,46nm,1.3s
342A Flagon Creek P 81.77 52 P P 09 59 18.9 +0.8
baz=322
144A Alexander Plac 81.77 50 P P 09 59 18.7 +0.6
baz=323
441A DeRidder 81.80 53 P P 09 59 19.5 +1.2
baz=322
243A Waterproof 81.81 51 P P 09 59 19.3 +0.9
baz=322,SNR=5.1
SWET Sewanee 81.93 45 eP P 09 59 18.5 -0.4
comp=Z,64nm,0.7s
738A Farr-Stevens R 81.94 56 P P 09 59 19.0 0.0
baz=321
WES Weston 81.94 32 eP P 09 59 19.0 +0.2
WES pmax pmax
comp=Z,274nm,1.8s
WES Weston 81.94 32 eP P 09 59 19.0 +0.2
comp=Z,274nm,1.8s
035A Encino 82.01 59 P P 09 59 19.8 +0.4
baz=320
145A Houston Renfro 82.05 49 P P 09 59 20.1 +0.5
baz=323,SNR=14
VBMS Vicksburg 82.05 50 P P 09 59 20.3 +0.8
baz=323,SNR=7.4
VBMS Vicksburg 82.05 50 eP P 09 59 20.4 +0.8
comp=Z,123nm,1.3s
Y47A UCPARC, Winfie 82.06 47 P P 09 59 19.1 -0.5
baz=324,SNR=22
Z46A Louisville 82.08 48 P P 09 59 20.0 +0.3
baz=323,SNR=7.8
244A Avery, Jackson 82.10 50 P P 09 59 20.4 +0.6
baz=323,SNR=22
MVL Millersville 82.13 36 eP P 09 59 20.5 +0.6
comp=Z,13nm,0.8s
BRYW Bryant College 82.28 32 eP P 09 59 20.8 +0.1
comp=Z,335nm,1.9s
035Z Hargill 82.39 59 P P 09 59 21.6 +0.2
baz=320
CPCT Cooper Cave 82.40 44 eP P 09 59 21.4 +0.1
comp=Z,29nm,0.8s
146A Union 82.46 49 P P 09 59 22.3 +0.6
baz=323,SNR=36
Z47A Carrollton 82.51 48 P P 09 59 21.9 0.0
baz=324,SNR=28
245A Little AP, Sta 82.52 50 P P 09 59 22.4 +0.4
baz=323,SNR=38
ZAIG Zacatecas 82.52 64 eP P 09 59 23.0 +0.5
comp=Z,44nm,1.4s
344A Westbrook Farm 82.54 51 P P 09 59 22.7 +0.6
baz=323,SNR=13
PSUB Penn St. - Bra 82.55 36 eP P 09 59 21.7 -0.3
comp=Z,64nm,1.8s
TKL Tuckaleechee C 82.58 43 LR LR 10 39 23.8
comp=Z,74nm,18.3s,baz=332,slow=38
TKL Tuckaleechee C 82.58 43 eP P 09 59 22.1 -0.2
TKL Tuckaleechee C 82.58 43 eP P 09 59 22.4 0.0
comp=Z,34nm,1.0s
Z48A Northport 82.62 47 P P 09 59 21.8 -0.7
baz=324,SNR=11
VLC Villacollemand 82.63 334 eP P 09 59 23.5 +1.0
comp=Z,99nm,1.7s
LNIG Linares 82.77 61 eP P 09 59 22.7 -0.7
comp=Z,27nm,1.2s
BLA Blacksburg 82.80 40 eP P 09 59 23.3 -0.2
BLA Blacksburg 82.80 40 eP P 09 59 23.3 -0.2
147A Livingston 82.83 48 P P 09 59 24.0 +0.3
baz=324,SNR=23
BNI Bardonecchia 82.86 337 eP P 09 59 24.0 +0.2
BNI pmax pmax
comp=Z,13nm,0.9s
BNI Bardonecchia 82.86 337 eP P 09 59 23.9 +0.2
comp=Z,13nm,0.9s
246A Jackson Lee, B 82.92 49 P P 09 59 24.1 0.0
baz=323
345A Thompson Farm, 83.02 50 P P 09 59 25.6 +1.0
baz=323,SNR=13
IP04 Greensprings 83.05 38 eP P 09 59 25.2 +0.6
comp=Z,15nm,0.8s
444A Pine Grove 83.12 51 P P 09 59 26.0 +0.8
baz=323
IP03 Louisa 83.14 38 eP P 09 59 25.6 +0.4
comp=Z,17nm,0.8s
247A Quitman 83.16 49 P P 09 59 26.1 +0.8
baz=324,SNR=13
LRAL Lakeview Retre 83.17 47 eP P 09 59 25.1 -0.3
CVRD Centerville Ro 83.19 38 eP P 09 59 25.7 +0.4
comp=Z,19nm,0.8s
PTRD Partlow Road 83.22 38 eP P 09 59 26.2 +0.7
IP07 Quail 83.22 38 eP P 09 59 25.9 +0.3
comp=Z,15nm,1.1s
IP06 Yanceyville 83.23 38 eP P 09 59 25.6 +0.1
comp=Z,13nm,0.9s
IP01 Cuckoo 83.24 38 eP P 09 59 25.8 +0.2
346A Big Creek Wild 83.25 50 P P 09 59 26.5 +0.7
baz=323,SNR=18
445A Amite 83.32 51 P P 09 59 26.6 +0.4
baz=323,SNR=8.8
544A White Castle 83.38 52 P P 09 59 26.3 -0.2
baz=323
IP05 Hopewell Churc 83.41 38 eP P 09 59 26.6 +0.1
comp=Z,64nm,1.7s
JSRW J. Sargeant Re 83.47 38 eP P 09 59 26.9 +0.1
248A Dixon Mills 83.56 48 P P 09 59 28.3 +0.9
baz=324,SNR=7.4
347A Saraland 83.71 49 P P 09 59 29.2 +1.1
baz=324,SNR=21

URVA	University of	83.72	38	*e*P		P	09 59 28.2	+0.1
446A	Poplarville	83.78	50	P		P	09 59 29.3	+0.8
baz=323,SNR=8.0								
RAYN	Ar Rayn	83.84	298	*e*P		P	09 59 29.5	+0.5
comp=Z,22nm,0.6s								
KARP	Karpathos	83.90	318	*e*P		P	09 59 28.4	-0.7
comp=Z,10nm,1.0s								
348A	Jackson	84.03	49	P		P	09 59 30.6	+0.8
baz=324,SNR=7.2								
KMSC	Kings Mountain	84.12	42	P		P	09 59 30.0	-0.3
baz=327,SNR=10								
KMSC	Kings Mountain	84.12	42	*e*P		P	09 59 30.3	+0.1
comp=Z,47nm,1.4s								
447A	Lucedale	84.14	50	P		P	09 59 30.6	+0.2
baz=324								
645A	Chauvin	84.19	52	P		P	09 59 30.4	-0.2
baz=323								
448A	Bay Minette	84.44	49	P		P	09 59 32.8	+0.9
baz=324,SNR=13								
GOGA	Godfrey	84.57	44	*e*P		P	09 59 32.4	-0.1
GOGA	Godfrey	84.57	44	*e*P		P	09 59 32.4	-0.1
BRAL	Brewton	84.65	48	*e*P		P	09 59 33.9	+1.0
OUZ	Omahuta	84.75	163	*e*P		P	09 59 34.9	+2.0
JSC	Jenkinsville	84.87	42	*e*P		P	09 59 34.3	+0.3
JSC	Jenkinsville	84.87	42	*e*P		P	09 59 34.2	+0.3
CNNC	Cliffs of the	85.56	40	*e*P		P	09 59 37.9	+0.5
TIGA	Tifton	86.14	46	P		P	09 59 40.7	+0.4
baz=326,SNR=12								
TIGA	Tifton	86.14	46	*e*P		P	09 59 41.0	+0.7
comp=Z,151nm,1.1s								
NWAO	Narrogin (SRO)	86.61	210	*e*P		P	09 59 42.8	+0.5
NWAO	Narrogin (SRO)	86.61	210	*e*P		P	09 59 42.8	+0.5
comp=Z,33nm,0.8s								
HIZ	Hauiti	88.18	163	*e*P		P	09 59 53.3	+3.6
comp=Z,143nm,1.5s								
PBRG	Braganca	88.92	345	*e*P		P	09 59 52.2	-1.3
BKZ	Black Stump Fm	89.14	162	*e*P		P	09 59 53.5	-0.7
POLO	Lamas de Olo	89.52	346	*e*P		P	09 59 55.3	-1.1
MVO	Moncorvo	89.59	345	*e*P		P	09 59 55.6	-1.1
PVRL	Vila Real	89.60	346	*e*P		P	09 59 55.9	-0.8
DWPF	Disney Wildern	89.94	46	*e*P		P	09 59 58.3	-0.1
comp=Z,247nm,1.8s								
PVIS	Viseu	90.18	346	*e*P		P	09 59 58.4	-1.0
ES19	SONSECA Array	90.42	342	*e*P		P	09 59 59.8	-0.8
MTE	Manteigas	90.43	345	*e*P		P	09 59 59.4	-1.2
MTE	Manteigas	90.43	345	*e*P		P	09 59 59.4	-1.2
comp=Z,11nm,0.8s								
ESDC	Sonseca Array	90.46	342	P		P	09 59 59.4	-1.4
comp=Z,3.2nm,0.7s,baz=5.2,slow=3.9,SNR=21								
ESDC				LR		LR	10 43 05.6	
comp=Z,47nm,21.8s,baz=330,slow=37								
ESLA	Sonseca Array	90.46	342	*e*P		P	10 00 00.2	-0.6
comp=Z,12nm,1.4s								
TAU	Tasmania Unive	90.55	184	*e*P		P	10 00 02.3	+1.7
comp=Z,238nm,1.8s								
KEST	Kesra	90.65	331	P		P	10 00 01.1	-0.7
comp=Z,14nm,1.0s,baz=9.3,slow=2.9,SNR=6.7								
KEST	Kesra	90.65	331	*e*P		P	10 00 01.9	+0.1
comp=Z,20nm,1.0s								
PAB	San Pablo	90.66	343	*e*P		P	10 00 00.9	-0.8
PCAS	Casmilo, Conde	90.92	346	*e*P		P	10 00 01.3	-1.5
PCBR	Castelo Branco	90.96	345	*e*P		P	10 00 01.5	-1.5
CMIG	Matias Romero	91.49	62	LR		LR	10 39 57.2	
comp=Z,38nm,19.7s,baz=298,slow=35								
PMTG	Montargil	91.84	346	*e*P		P	10 00 05.7	-1.4
PESTR	Estremoz	91.92	345	*e*P		P	10 00 06.0	-1.5
FOZ	Fox Glacier	92.22	168	*e*P		P	10 00 09.0	+0.7
EVO	Evora	92.33	345	*e*P		P	10 00 07.8	-1.5
PBAR	Barrancos	92.50	344	*e*P		P	10 00 08.5	-1.6
RPZ	Rata Peaks	92.58	167	LR		LR	10 38 14.0	
comp=Z,73nm,20.0s,baz=10,slow=33								
PCVE	Castro Verde	93.21	345	*e*P		P	10 00 12.5	-0.9
TORD	Torodi Ar. Bea	114.10	329	PKP		PKPdf	10 05 37.2	-0.9
comp=Z,1.8nm,0.4s,baz=16,slow=2.2,SNR=36								
TORD				PP		PP	10 06 30.9	-2.2
comp=Z,1.6nm,1.0s,baz=11,slow=8.6,SNR=5.4								
TORD				PKKPbc		PKKPbc	10 16 17.7	+0.5
comp=Z,1.7nm,0.6s,baz=204,slow=2.0,SNR=16								
DBIC	Dimbokro	122.29	334	PKP		PKPdf	10 05 53.1	-0.7
comp=Z,9.7nm,0.6s,baz=5.5,slow=2.0,SNR=16								
DBIC	Dimbokro	122.29	334	*e*PKPdf		PKPdf	10 05 53.3	-0.6
TIC	Toumodi	122.36	334	*e*PKIKP		PKPdf	10 05 53.2	-0.9
KIC	Kosan Boka	122.55	334	*e*PKIKP		PKPdf	10 05 53.6	-0.8
comp=Z,20nm,0.6s								
LIC	Lamto	122.76	334	*e*PKIKP		PKPdf	10 05 53.2	-1.6
comp=Z,39nm,0.8s								
LSZ	Lusaka	124.40	286	*e*PKIKP		PKPdf	10 05 58.4	+0.5
LSZ	Lusaka	124.40	286	*e*PKPdf		PKPdf	10 05 58.4	+0.5
PTGA	Pitinga	125.02	42	*e*PKPdf		PKPdf	10 05 59.1	0.0
NNA	Nana	125.24	66	*e*PKIKP		PKPdf	10 05 58.9	-0.6
NNA	Nana	125.24	66	*e*PKPdf		PKPdf	10 05 58.9	-0.6
VNDA	Vanda	125.25	178	PKP		PKPdf	10 05 56.8	-0.8
comp=Z,5.7nm,0.7s,baz=319,slow=3.9,SNR=29								
VNDA	Vanda	125.25	178	*e*PKPdf		PKPdf	10 05 57.8	+0.2
SBA	Scott Base	125.75	176	*e*PKIKP		PKPdf	10 05 59.4	+0.9
SBA	Scott Base	125.75	176	*e*PKPdf		PKPdf	10 05 59.4	+0.9
SAML	Samuel	130.60	50	*e*PKPdf		PKPdf	10 06 09.5	-0.2
MAW	Mawson	133.14	212	PKP		PKPdf	10 06 11.9	-0.9
comp=Z,4.4nm,0.6s,baz=82,slow=2.7,SNR=21								
MAW				SKPbc		SKPbc	10 09 28.6	-1.7
comp=Z,6.3nm,1.0s,baz=42,slow=4.6,SNR=11								
MAW	Mawson	133.14	212	*e*PKIKP		PKPpre	10 06 05.0	
MAW	Mawson	133.14	212	*e*PKPpre		PKPpre	10 06 05.0	
MAW				*e*PKPdf		PKPdf	10 06 13.2	+0.5
MAW				SKPbc		SKPbc	10 09 28.6	-1.7
LPAZ	La Paz	133.85	61	PKP		PKPdf	10 06 16.4	-0.1
comp=Z,4.4nm,0.6s,baz=311,slow=3.5,SNR=12								
LPAZ	La Paz	133.85	61	*e*PKPdf		PKPdf	10 06 16.7	+0.2
BOSA	Boshof	135.64	276	PKP		PKPdf	10 06 18.2	-0.7
comp=Z,2.9nm,0.7s,baz=43,slow=1.7,SNR=4.3								
BOSA				SKPbc		SKPbc	10 09 38.3	-1.6
comp=Z,2.9nm,0.8s,baz=28,slow=1.8,SNR=3.3								
PB01	IPOC Station P	136.67	67	*e*PKPdf		PKPdf	10 06 21.3	+0.3
RCBR	Riachuelo	137.41	13	*e*PKPdf		PKPdf	10 06 22.7	+0.2
SYO	Syowa Base	141.85	212⇑	*e*X		PKPpre	10 06 22.2	
SYO	Syowa Base	141.85	212⇑	*e*X		PKiKP	10 06 30.3	-1.4
BDFB	Brasilia	143.45	36	PKhKP		PKPpre	10 06 29.6	
comp=Z,15nm,0.7s,baz=8.5,slow=3.9,SNR=44								
BDFB	Brasilia	143.45	36	*e*PKIKP		PKPbc	10 06 30.7	-0.3
BDFB	Brasilia	143.45	36	*e*PKPpre		PKPbc	10 06 30.7	-0.2
BDFB	Brasilia	143.45	36	*e*PKPab		PKPab	10 06 30.3	+0.5
CPUP	Villa Florida	147.93	59	PKP		PKPdf	10 06 40.0	-0.6
comp=Z,35nm,0.6s,baz=327,slow=3.4,SNR=73								
CPUP				PKPbc		PKPbc	10 06 43.4	-0.5
comp=Z,35nm,0.6s,baz=321,slow=2.4,SNR=94								
CPUP	Villa Florida	147.93	59	PKIKP		PKPdf	10 06 40.1	-0.6
CPUP							10 06 43.4	
CPUP				pmax		pmax		
comp=Z,35nm,0.6s								
CPUP				pmax		pmax		
comp=Z,35nm,0.6s								
CPUP	Villa Florida	147.93	59	*e*PKPbc		PKPbc	10 06 43.8	0.0
PLCA	Paso Flores	148.34	93	PKP		PKPdf	10 06 39.4	-1.6
comp=Z,6.9nm,1.0s,baz=312,slow=2.9,SNR=5.5								
PLCA				PKPbc		PKPbc	10 06 44.5	0.0
comp=Z,33nm,0.8s,baz=303,slow=3.0,SNR=74								
PLCA	Paso Flores	148.34	93	*e*PKPdf		PKPdf	10 06 40.0	-1.0
PLCA				*e*PKPbc		PKPbc	10 06 45.0	+0.4
CHRN	Cochrane	149.54	106	*e*PKPbc		PKPbc	10 06 47.9	+0.7
NVL	N'lazarevskaya	150.65	205	*e*PKIKP		PKPbc	10 06 52.1	+2.9
SPB	Sao Paulo	150.79	41	*e*PKPbc		PKPbc	10 06 50.9	-0.1
TRQA	Tornquist	152.76	82	*e*PKPbc		PKPbc	10 06 54.8	-0.3
SNAA	Sanae	153.62	197	P		PKPdf	10 06 47.3	-0.8
SNAA	Sanae	153.62	197	*e*PKIKP		PKPdf	10 06 47.8	-0.3
SNAA				*e*			10 07 09.6	
SNAA	Sanae	153.62	197	*e*PKPdf		PKPdf	10 06 47.8	-0.3
SNAA				*e*PKPbc		PKPbc	10 06 55.3	-0.7
SNAA				*e*PKPab		PKPab	10 07 09.6	+0.5
PMSA	Palmer Station	153.93	144	*e*PKPbc		PKPbc	10 06 55.7	-1.0
VNA2	Neumayer--Watz	155.09	195	P		PKPdf	10 06 48.9	-1.2
baz=348,slow=0.4								
VNA3	Neumayer Olymp	155.19	193	P		PKPdf	10 06 49.4	-0.9
VNA1	Neumayer--Stat	155.47	195	P		PKPdf	10 06 50.2	-0.3

IDC 16 10:01:35.5±3.2, 17°.85S×176°.24W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/31, mbtmp4.1/4, ML4.0/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/34, Error ellipse: s-maj=181.9km s-min=32.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.81	48	Pn	Pn	10 03 03.2	0.0
3.6nm,0.3s,baz=292,slow=7.1,SNR=4.9							
AFI				Sn	Sn	10 03 59.2	-11
3.6nm,0.3s,baz=24,slow=20,SNR=3.4							
STKA	Stephens Creek	40.47	242	P	P	10 09 16.9	+0.7
3.9nm,1.1s,baz=95,slow=12,SNR=3.0							
WRA	Warramunga Arr	46.67	259	P	P	10 10 05.5	-0.8
0.4nm,0.4s,baz=99,slow=7.2,SNR=6.4							
ASAR	Alice Springs	46.79	254	P	P	10 10 06.9	-0.3
3.5nm,0.7s,baz=91,slow=7.8,SNR=65							
FITZ	Fitzroy Crossi	55.07	260	LR	LR	10 31 49.8	
comp=Z,199nm,20.8s,slow=33							

*BJI **16** 10:22:15.7, 24°.83S×177°.43W, h225km, mb4.7/12, mB5.0/7*
*NEIC **16** 10:22:17.6±1.7, 24°.46S×177°.70W, h222km±14km, mb4.7/18, Error ellipse: s-maj=16.5km s-min=9.5km az=94.0*
*ISCJB **16** 10:22:19.9±0.4, 24°.32S±0°.05×177°.88W±0°.09, h250km, mb4.4/36, Error ellipse: s-maj=10.8km s-min=7.3km az=2.7*
*IDC **16** 10:22:20.0±2.7, 24°.24S×177°.84W, h239km±24km, mb3.7/15, mb1 3.9/17, mb1mx3.7/41, mbtmp4.3/17, Error ellipse: s-maj=18.2km s-min=16.3km az=26.0*

ISC 16 10:22:20.7±0.5, 24°.47S±0°.06×177°.74W±0°.09, h250km, n97, σ1§84/115, mb4.5/36, 6C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.77	182	P	Pn	10 23 35.2	+1.6
58nm,0.3s,baz=124,slow=14,SNR=3.0							
RAO				S	S	10 24 26.3	-5.4
20nm,0.3s,baz=95,slow=22,SNR=3.6							
MSVF	Nonsavu	7.77	329	*e*Pn	Pn	10 24 08.5	-2.7
AFI	Afiamalu	11.91	29	P	Pn	10 24 54.3	-9.0
3.8nm,0.3s,baz=23,slow=2.4,SNR=4.2							
AFI				S	S	10 26 55.2	-21
8.2nm,0.3s,baz=56,slow=19,SNR=5.7							
URZ	Urewera	14.43	196	P	P	10 25 30.6	-3.5
0.7nm,0.3s,baz=91,slow=18,SNR=4.7							
URZ				S	S	10 27 58.4	-15
0.4nm,0.3s,baz=72,slow=20,SNR=5.4							
URZ	Urewera	14.43	196	*e*Pn	P	10 25 31.1	-3.0
URZ				*e*S	S	10 28 10.6	-2.9
DZM	Mont Dzumac	14.73	276	P	Pn	10 25 37.2	-0.7
0.5nm,0.3s,baz=100,slow=12,SNR=16							
DZM	Mont Dzumac	14.73	276	*e*Pn	Pn	10 25 38.2	+0.3
BKZ	Black Stump Fm	15.45	197	*e*P	P	10 25 43.4	-2.0
60nm,1.8s							
FOZ	Fox Glacier	21.59	205	*e*P	P	10 26 50.2	-0.5
48nm,1.7s							
PYZ	Puysegur Point	25.02	206	*e*P	P	10 27 20.1	-1.8
135nm,1.2s							
TARA	Tarawa	27.22	339	*e*P	P	10 27 40.3	-1.6
11nm,0.8s							
CTA	Charters Tower	33.55	270	P	P	10 28 37.0	-0.3
11nm,0.3s,baz=94,slow=11,SNR=61							
STKA	Stephens Creek	36.44	249	P	P	10 29 02.4	+0.5
2.0nm,0.4s,baz=82,slow=12,SNR=18							
STKA	Stephens Creek	36.44	249	*e*P	P	10 29 02.5	+0.5
4.3nm,1.6s							
PMG	Port Moresby	36.63	288	P	P	10 29 02.9	-0.8
11nm,0.7s,baz=67,slow=5.5,SNR=7.2							
PMG	Port Moresby	36.63	288	*e*P	P	10 29 03.4	-0.3
10nm,0.8s							
COEN	Coen	38.24	279	*e*P	P	10 29 17.0	-0.2
26nm,1.6s							
BBOO	Buckleboo	41.13	248	*e*P	P	10 29 40.7	0.0
95nm,1.8s							
AS01	Alice Springs	43.94	261	*e*P	P	10 30 03.8	+0.4
AS31	Alice Springs	43.98	261	*e*P	P	10 30 03.8	0.0
1.4nm,0.8s							
ASAR	Alice Springs	43.98	261	P	P	10 30 03.1	-0.6
2.3nm,0.3s,baz=92,slow=6.4,SNR=138							
WB2	Warramunga Arr	44.42	266	*e*P	P	10 30 06.1	-1.1
27nm,1.9s							
WRA	Warramunga Arr	44.43	266	P	P	10 30 05.8	-1.6
2.8nm,0.6s,baz=104,slow=8.5,SNR=26							
WRA				PcP	PcP	10 31 48.7	+2.3
1.3nm,0.8s,baz=90,slow=3.8,SNR=5.0							
FITZ	Fitzroy Crossi	52.84	265	P	P	10 31 10.9	-0.3
3.9nm,0.6s,baz=85,slow=8.9,SNR=9.5							
SBA	Scott Base	53.95	184	*e*P	P	10 31 22.1	+3.8
17nm,1.8s							
VNDA	Vanda	54.00	185	P	P	10 31 21.0	+2.4
0.4nm,0.5s,baz=346,slow=4.2,SNR=2.9							
VNDA	Vanda	54.00	185	*e*P	P	10 31 21.4	+2.8
11nm,1.8s							
MBWA	Marble Bar	57.31	260	*e*P	P	10 31 42.6	-0.3
27nm,1.6s							
MJAR	Matsushiro Arr	73.55	324	P	P	10 33 24.8	-1.6
1.4nm,0.9s,baz=156,slow=5.7,SNR=3.4							
ADK	Adak	76.02	1	*e*P	P	10 33 39.8	-0.3
67nm,1.4s							
ATKA	Atka Island	76.40	2	*e*P	P	10 33 41.6	-0.6
141nm,1.8s							
NIKH	Nikolski High	77.50	5	*e*P	P	10 33 48.2	-0.1
153nm,1.7s							
MAW	Mawson	77.93	200	P	P	10 33 52.0	+1.4
1.0nm,0.6s,baz=147,slow=7.7,SNR=9.9							
MAW	Mawson	77.93	200	*e*P	P	10 33 52.6	+2.0
1.0nm,1.4s							
UNV	Unalaska Valle	78.59	7	*e*P	P	10 33 53.8	-0.4
99nm,1.9s							
KSRS	Korea Array	80.02	319	P	P	10 34 01.2	-1.1
0.7nm,0.6s,baz=128,slow=6.4,SNR=3.5							
PETK	Petropavlovsk-	80.15	345	P	P	10 34 02.0	-0.8
2.5nm,0.7s,baz=123,slow=11,SNR=4.3							
COCO	West Island	80.94	261	*e*P	P	10 34 05.1	-2.7
416nm,0.7s							
NJ2	Nanjing	82.60	310	*e*P	P	10 34 16.9	+0.9
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
SNAA	Sanae	84.06	178	P	P	10 34 23.9	+0.9
SNAA	Sanae	84.06	178	*e*P	P	10 34 24.0	+0.9
6.3nm,1.2s							
VNA3	Neumayer Olymp	84.19	176	P	P	10 34 24.5	+0.9
VNA2	Neumayer--Watz	84.63	177	P	P	10 34 27.0	+1.3
baz=186,slow=4.3							
VNA1	Neumayer--Stat	84.86	176	P	P	10 34 27.4	+0.5
CN2	Changchun	85.58	323	*e*P	P	10 34 33.3	+2.5
GYA	Guiyang	88.82	300	*e*P	P	10 34 48.4	+1.6
GYA				pP	pP	10 35 44.3	-3.0
GYA				sP	sP	10 36 08.0	-5.4
GYA				PP	PP	10 38 22.3	+2.2
GYA				SKS	SKSac	10 44 53.0	+0.6
GYA				S	ScS	10 45 13.4	-3.9
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
TXAR	Lajitas Array	88.99	57	P	P	10 34 47.7	+0.2
0.4nm,0.9s,baz=214,slow=8.7,SNR=3.4							
SEY	Seymchan	90.28	347	P	P	10 34 52.1	-0.5
4.7nm,0.8s,baz=166,slow=8.3,SNR=8.4							
KMI	Kunming	91.36	297	P	P	10 35 01.4	+2.6
KMI				pmax	pmax		
comp=Z,7.0nm,0.6s							
WRH	Wood River Hil	91.61	12	*e*P	P	10 34 58.9	+0.2
28nm,1.8s							
CM01	Chiang Mai Arr	91.63	289	*e*P	P	10 35 00.0	+0.1
CMAR	Chiang Mai Arr	91.66	289	P	P	10 35 01.0	+1.0
2.4nm,1.0s,baz=142,slow=3.8,SNR=9.3							
ILAR	Eielson Array	92.11	13	P	P	10 35 00.6	-0.4
0.2nm,0.5s,baz=217,slow=5.6,SNR=7.4							
HHC	Hu-ho-hao-te	92.28	314	*e*P	P	10 35 03.6	+1.0
HHC				pP	pP	10 35 58.5	-4.7
HHC				sP	sP	10 36 21.3	-7.9
HHC				S	S	10 45 43.0	-0.7
HHC				SS	SS	10 52 05.3	+4.1
HHC				pmax	pmax		
comp=Z,22nm,0.7s							
HHC				pmax	pmax		
comp=Z,79nm,6.3s							
HHC				LR	LR		
comp=N,110nm,14.5s							
HHC				LR	LR		
comp=E,130nm,13.6s							
HHC				LR	LR		
comp=Z,92nm,14.7s							
LZH	Lanzhou	95.36	307	⇑P	P	10 35 16.5	-0.3
LZH				pP	pP	10 36 12.8	-4.8
LZH				sP	sP	10 36 36.8	-6.8
LZH				PP	PP	10 39 12.3	+1.1
LZH				pmax	pmax		
comp=Z,19nm,1.0s							
LZH				pmax	pmax		
comp=Z,97nm,9.3s							
MKAR	Makanchi Array	114.06	312	PKiKP	PKiKP	10 40 29.4	-0.6
0.5nm,0.6s,baz=163,slow=1.1,SNR=3.6							
MPR	Mayaguez	115.64	81	*e*PKPdf	PKPdf	10 40 33.1	-0.6
KURBB	Kurchatov Arra	117.08	316	PKP	PKPdf	10 40 34.8	-0.8
0.5nm,0.5s,baz=110,slow=1.7,SNR=5.7							
KSH	Kashi	117.31	303	*e*PKP	PKPdf	10 40 36.0	-0.6
KSH				PP	sPKPdf	10 41 58.8	-6.8
KSH				PKS	PKSdf	10 44 13.9	+0.6
KSH				SKS	SKSdf	10 47 25.9	+1.2
KSH				SKKS	SKKSac	10 48 27.5	+1.2
KSH				SS	SS	10 57 49.6	+7.4
KSH				AMB	AMB		
comp=Z,100nm,7.1s							
KSH				LR	LR		
comp=N,77nm,4.5s							
KSH				LR	LR		
comp=E,150nm,6.3s							
BVAR	Borovoye Array	122.23	318	PKP	PKPdf	10 40 45.1	-0.3
1.0nm,0.5s,baz=102,slow=1.3,SNR=8.1							
ARCES	ARCESS Array B	132.85	349	PKP	PKPdf	10 41 04.3	-0.8
5.6nm,1.0s,baz=343,slow=3.8,SNR=4.8							
FINES	FINESS Array B	139.62	343	PKhKP	PKPpre	10 41 08.7	
4.8nm,1.0s,baz=90,slow=4.2,SNR=4.7							
KONO	Kongsberg	144.47	354	*e*PKPdf	PKPdf	10 41 26.2	-0.4
NACGM	Naroch	144.59	336	*e*	PKPdf	10 41 26.0	-1.0
AKASG	Malin Array Be	146.55	328	PKPbc	PKPbc	10 41 31.2	-1.1
10nm,0.6s,baz=43,slow=4.2,SNR=26							
AKBB	Malin Array Si	146.55	328	*e*PKPdf	PKPab	10 41 31.9	-2.0
KIEV	Kiev	146.56	328	*e*PKPdf	PKPab	10 41 32.0	-2.0
AK11	Malin Array Si	146.59	328	*e*PKPdf	PKPab	10 41 31.8	-2.3
BRTR	Keskin Array B	149.56	308	PKPbc	PKPbc	10 41 40.4	-0.4
2.4nm,0.7s,baz=116,slow=3.4,SNR=10							
BR231	Keskin MP Arra	150.14	308	*e*PKPbc	PKPbc	10 41 41.3	-0.8
OJC	Ojcow	150.91	337	*e*PKPbc	PKPbc	10 41 44.0	+0.6
CSS	Mathiatis	151.17	298	*e*PKPbc	PKPbc	10 41 45.1	+0.5
CRVS	Cervenica-Dubn	151.32	333	*e*PKP	PKPbc	10 41 45.5	+1.1
CRVS				*e*		10 41 50.0	
NIE	Niedzica	151.37	335	*e*PKPdf	PKPbc	10 41 45.9	+1.4
NIE				*e*PKPab	PKPab	10 41 50.9	-2.8
KSP	Ksiaz	151.52	341	*e*PKPdf	PKPbc	10 41 45.7	+0.9
KSP				*e*PKPab	PKPab	10 41 51.1	-3.2
UPC	Upice	151.90	341⇑	*e*PKP	PKPbc	10 41 46.6	+0.9
UPC				*ex*	x	10 41 51.7	
UPC				*e*PKPAB	PKPbc	10 41 56.1	+0.2
LANS	Liptovska Anna	151.91	336	*e*PKP	PKPbc	10 41 47.5	+1.7
LANS				*e*		10 41 52.8	
DPC	Dobruska-Polom	151.95	341⇑	*e*PKP	PKPbc	10 41 46.4	+0.5
DPC				*ex*	x	10 41 51.9	
DPC				*e*PKPAB	PKPab	10 41 56.4	+0.3
CLL	Collm	151.96	346	*i* PKPbc	PKPbc	10 41 46.5	+0.7
comp=Z,8.0nm,0.7s							
CLL				⇑*i* PKPab	PKPab	10 41 51.8	-4.2
comp=Z,17nm,0.7s							
CLL				*i* PKPab(2)		10 41 55.9	
comp=Z,7.0nm,0.8s							
KECS	Kecovo	152.05	334	*e*PKP	PKPbc	10 41 48.6	+2.5
KECS				*e*		10 41 56.2	
KRLC	Kraliky	152.05	340⇑	*e*PKP	PKPbc	10 41 47.2	+1.1
KRLC				*ex*	x	10 41 52.0	
KRLC				*e*PKPAB	PKPab	10 41 56.8	+0.3
BRG	Berggiesshubel	152.13	344	*i* PKP	PKPbc	10 41 47.1	+0.9
comp=Z,4.4nm,0.8s							
BRG				*i*		10 41 52.4	
comp=Z,14nm,0.6s							
BRG				*i*		10 41 56.9	
comp=Z,6.7nm,0.7s							
VYHS	Vyhne	152.69	336	*e*	PKPab	10 41 53.3	-5.9
GOPC	GO Pecny, Ondr	152.79	342	*e*PKPAB	PKPab	10 42 00.0	+0.4
NKC	Novy Kostel	153.09	345	*e*PKPAB	PKPab	10 42 01.2	+0.3
KHC	Kasperske Hory	153.83	343⇑	*e*PKP	PKPbc	10 41 50.9	+0.9
KHC				*ex*	x	10 41 55.9	
KHC				*e*PKPAB	PKPab	10 42 04.6	+0.5
GERES	GERESS Array B	154.06	343	PKPbc	PKPbc	10 41 50.1	-0.4
comp=Z,0.3nm,0.4s,baz=20,slow=1.5,SNR=2.5							
GERES				PKPab	PKPab	10 42 05.1	0.0
comp=Z,1.1nm,0.6s,baz=35,slow=4.9,SNR=5.6							
CONA	Conrad Observa	154.22	339	*e*PKPab	PKPab	10 42 05.1	-0.7
comp=Z,2.8nm,1.1s							
MOA	Molln	154.79	341	*e*PKPab	PKPab	10 42 05.8	-2.4

ROC1 eS Sn 10 40 10.6 +0.5
ROC1 El Roble 0.69 130 ePn Pn 10 40 00.8 +0.2
ROC1 eSn Sn 10 40 10.3 +0.2
ROCH El Roble 0.69 129 ⇓iP Pn 10 40 00.8 +0.2
ROCH eS Sn 10 40 10.2 +0.1
ROCH IAML 10 40 11.1
comp=E,43µm,0.4s
PEL Peldehue 1.01 127 ⇓iP Pn 10 40 04.4 -0.3
PEL i S Sn 10 40 18.4 +0.7
PEL IAML 10 40 19.1
comp=E,62µm,0.4s
RCDM Rinconada Maip 1.18 144 ⇓iP Pn 10 40 07.8 +0.7
RCDM i S Sn 10 40 22.7 +0.7
CLCH Cerro Calan 1.27 133 ⇓iP Pn 10 40 09.1 +0.8
CLCH i S Sn 10 40 25.0 +0.9
CLCH IAML 10 40 29.7
comp=E,16µm,0.6s
FSR Penalolen 1.33 135 ⇑iP Pn 10 40 10.0 +0.9
FSR i S Sn 10 40 26.3 +0.8
FCH Farellones 1.39 125 ⇓iP Pn 10 40 10.8 +0.7
FCH i S Sn 10 40 28.3 +0.9
FCH IAML 10 40 28.6
comp=E,30µm,0.3s
YECH El Yeso 1.73 131 IAML 10 40 43.6
comp=N,11µm,0.4s
AUSP Uspallata 1.94 81 eP Pn 10 40 20.9 +3.3
RTLS Leoncito 2.12 70 eP Pn 10 40 23.9 +3.7
RTLS IAML 10 40 52.5
comp=Z,5µm,0.5s
ARCO CERRO ARCO 2.31 98 eP Pn 10 40 27.2 +4.6
ARCO IAML 10 40 58.5
comp=Z,2µm,0.5s
ASAL Salagasta 2.37 92 eP Pn 10 40 27.7 +4.2
AAGR Agrelo 2.43 104 eP Pn 10 40 28.4 +4.1
GO05 HualaaeØ 2.48 185 IAML 10 40 52.7
comp=N,3µm,0.3s
GO05 HualaaeØ 2.48 185 ePn Pn 10 40 24.9 +0.1
GO05 eSn Sn 10 40 53.1 -0.8
NICH Los Niches 2.48 172 ⇓iP Pn 10 40 26.2 +1.3
NICH i S Sn 10 40 55.6 +1.6
RTCV Cerro Valdivia 2.72 77 eP Pn 10 40 32.0 +3.8
SJA San Juan 2.81 70 eP Pn 10 40 33.5 +4.1
RTLL Cerro Villicun 2.95 67 eP Pn 10 40 34.1 +2.7
AMOG MOGNA 3.12 60 eP Pn 10 40 36.4 +2.7
ACDV Cuesta del Vie 3.20 43 eP Pn 10 40 38.6 +3.7
LNCH Linares 3.30 179 eP Pn 10 40 37.7 +1.6
LNCH i S Sn 10 41 15.2 +1.1
LCO Las Campanas 3.61 13 ⇑iP Pn 10 40 41.6 +1.0
LCO eS Sn 10 41 22.6 +0.5
LCO IAML 10 41 42.3
comp=E,2µm,0.6s
LCO Las Campanas 3.61 13 ⇓eP Pn 10 40 41.8 +1.2
LCO Las Campanas 3.61 13 ePn Pn 10 40 41.5 +0.9
LCO eSn Sn 10 41 24.0 +2.0
ACAN Cantantal 3.78 87 eP Pn 10 40 45.6 +2.9
VACH Vallenar 4.02 11 ⇓iP Pn 10 40 47.0 +1.0
VACH eS Sn 10 41 30.7 -1.2
AVFE Valle Fertil 4.03 63 eP Pn 10 40 49.7 +3.4
AVFE IAML 10 41 59.2
comp=Z,1µm,0.6s
AGUA GUANDACOL 4.07 43 eP Pn 10 40 50.4 +3.6
ACHE Chepes 4.46 73 ⇓eP Pn 10 40 54.5 +2.4
VCA Vinchina 4.81 39 eP Pn 10 41 00.0 +3.0
APLL PUNTA DE LOS L 4.87 65 eP Pn 10 41 00.3 +2.7
APLL IAML 10 42 31.6
comp=Z,270nm,0.5s
ACLC CERRO LA CRUZ 5.08 54 eP Pn 10 41 03.4 +2.6
PLCA Paso Flores 8.23 174 Pn Pn 10 41 45.0 +1.2
comp=Z,0.9nm,0.3s,baz=2.1,slow=12,SNR=53
PLCA Lg Lg 10 44 02.4
comp=Z,0.2nm,0.3s,baz=295,slow=21,SNR=2.8
PLCA LR LR 10 45 11.0
comp=Z,292nm,21.4s,baz=2.0,slow=40
PLCA Paso Flores 8.23 174 eP Pn 10 41 45.3 +1.5
PLCA Paso Flores 8.23 174 ePn Pn 10 41 45.4 +1.5
PLCA Lg Lg 10 44 02.4
PB10 IPOC Station P 9.04 6 ePn Pn 10 41 50.9 -4.1
PB10 eSn Sn 10 43 35.0 -0.5
TRQA Tornquist 9.63 128 ePn Pn 10 42 03.8 +0.8
LVC Limon Verde 10.18 14 Pn Pn 10 42 07.4 -3.6
comp=Z,160nm,0.3s,baz=178,slow=9.0,SNR=30
LVC Sn Sn 10 44 27.7 +24
comp=Z,127nm,0.3s,baz=255,slow=20,SNR=3.3
LVC Lg Lg 10 44 51.6
comp=Z,273nm,0.3s,baz=144,slow=11,SNR=5.2
LVC LR LR 10 46 03.1
comp=Z,2µm,21.6s,baz=211,slow=38
PB04 IPOC Station P 10.25 8 ePn Pn 10 42 09.0 -2.7
PB01 IPOC Station P 11.61 10 ePn Pn 10 42 24.9 -5.3
CPUP Villa Florida 13.92 67 Pn Pn 10 42 59.7 -1.9
comp=Z,0.2nm,0.3s,baz=246,slow=15,SNR=3.5
CPUP Sn S 10 45 48.7 -7.0
comp=Z,0.4nm,0.3s,baz=311,slow=18,SNR=2.1
CPUP Villa Florida 13.92 67 ePn Pn 10 43 00.2 -1.5
CPUP Villa Florida 13.92 67 ePn Pn 10 43 00.2 -1.5
CPUP Sn S 10 45 48.7 -7.0
CHRN Cochrane 14.71 183 ePn Pn 10 43 12.3 -0.1
LPAZ La Paz 16.49 12 Pn Pn 10 43 36.8 +0.7
comp=Z,6.0nm,0.3s,baz=203,slow=8.5,SNR=199
LPAZ La Paz 16.49 12 ePn Pn 10 43 36.9 +0.8
comp=Z,93nm,1.4s
SIV San Ignacio 19.06 33 P P 10 44 04.9 -1.3
comp=Z,3.4nm,0.3s,baz=213,slow=10,SNR=84
SIV LR LR 10 52 39.1
comp=Z,288nm,21.0s,baz=196,slow=41
NNA Nana 21.00 346 P P 10 44 28.1 +0.8
comp=Z,5.8nm,0.6s,baz=204,slow=10.0,SNR=3.2
NNA LR LR 10 50 39.1
comp=Z,110nm,21.5s,baz=182,slow=31
EFI East Falkland 21.55 157 eP P 10 44 32.2 -0.7
EFI pmax pmax
comp=Z,15nm,0.9s
EFI East Falkland 21.55 157 eP P 10 44 32.7 -0.2
comp=Z,244nm,1.9s
USHA Ushuaia 22.41 175 P P 10 44 44.4 +2.4
comp=Z,63nm,0.9s,baz=348,slow=9.5,SNR=4.3
USHA LR LR 10 55 06.3
comp=Z,673nm,18.0s,baz=294,slow=41
SPB Sao Paulo 23.11 73 eP P 10 44 48.4 -1.2
comp=Z,43nm,1.0s
SAML Samuel 24.75 20 eP P 10 45 04.6 -0.5
comp=Z,42nm,0.8s
BDFB Brasilia 27.25 57 P P 10 45 26.3 -1.6
comp=Z,20nm,1.0s,baz=22,slow=7.3,SNR=37
BDFB LR LR 10 58 26.6
comp=Z,36nm,21.6s,baz=4.5,slow=41
OTAV Otavalo 33.23 348 eP P 10 46 23.7 +2.7
comp=Z,29nm,1.8s
PTGA Pitinga 33.50 22 eP P 10 46 22.1 -0.8
comp=Z,22nm,1.1s
PRAC Prado 36.18 355 eP P 10 46 48.3 +2.2
PRAC Prado 36.18 355 eP P 10 46 46.3 +0.2
comp=Z,42nm,1.1s
VILC Villavicencio, 36.50 357 eP P 10 46 50.8 +1.9
ROSC El Rosal 37.26 356 P P 10 46 55.6 0.0
comp=Z,13nm,0.7s,baz=186,slow=10,SNR=4.6
ROSC El Rosal 37.26 356 eP P 10 46 54.9 -0.7
comp=Z,29nm,1.3s
YOPC Yopal, Colombi 37.69 359 eP P 10 46 59.1 +0.1
GUYC Guyana, Colomb 37.72 354 eP P 10 47 01.6 +1.9
NORC Norcasia 38.01 355 eP P 10 47 03.3 +1.6
RUSC La Rusia 38.24 358 eP P 10 47 05.2 +1.1
RUSC La Rusia 38.24 358 eP P 10 47 05.5 +1.4
comp=Z,49nm,1.3s
HELC Santa Helena 38.69 354 eP P 10 47 08.6 +0.9
HELC Santa Helena 38.69 354 eP P 10 47 09.4 +1.7
comp=Z,63nm,0.8s
ZARC Zaragoza, Cauc 39.92 355 eP P 10 47 17.4 -0.1
SDV Santo Domingo 41.20 2 P P 10 47 28.0 -0.4
comp=Z,6.9nm,0.3s,baz=207,slow=9.0,SNR=4.3
MOTC Monteria, Cord 41.26 354 eP P 10 47 28.4 -0.3
SJCC San Jacinto, C 42.33 355 eP P 10 47 37.5 +0.1
RCBR Riachuelo 42.60 59 eP P 10 47 38.9 -0.8
comp=Z,20nm,1.0s
PCRV Puerto La Cruz 43.00 10 P P 10 47 42.0 -0.8
comp=Z,9.8nm,0.8s,baz=173,slow=7.8,SNR=3.7
SVB Belmont 46.62 14 eP P 10 48 09.7 -2.0
comp=Z,239nm,1.5s
FDF Fort de France 48.06 14 eP P 10 48 21.3 -1.6
FDF pmax pmax
comp=Z,55nm,1.0s
FDF Fort de France 48.06 14 eP P 10 48 21.3 -1.6
comp=Z,55nm,1.0s
CELP Cerrillos 50.56 6 eP P 10 48 41.2 -0.6

SJG San Juan 50.63 7 eP P 10 48 41.4 -1.0
SJG pmax pmax
comp=Z,22nm,0.9s
SJG San Juan 50.63 7 eP P 10 48 41.4 -1.0
comp=Z,22nm,0.9s
CBYP Canovanas 50.82 7 eP P 10 48 43.1 -0.9
comp=Z,23nm,0.9s
GTBY Guantanamo Bay 52.27 356 eP P 10 48 54.6 0.0
comp=Z,39nm,0.8s
SNAA Sanae 52.82 158 P P 10 48 58.5 +0.2
comp=Z,1.9nm,0.6s,baz=294,slow=6.4,SNR=12
SNAA PcP PcP 10 50 07.1 -0.1
comp=Z,2.6nm,0.6s,baz=280,slow=6.1,SNR=2.9
SNAA Sanae 52.82 158 eP P 10 48 59.1 +0.9
comp=Z,12nm,1.1s
SNAA PcP PcP 10 50 07.1 -0.1
LNIG Linares 62.98 332 eP P 10 50 10.4 +0.4
comp=Z,18nm,1.6s
035A Encino 64.28 334 P P 10 50 20.5 +2.0
baz=155
034A Hebbronville 64.62 333 P P 10 50 22.4 +1.7
baz=155
448A Bay Minette 64.96 345 P P 10 50 23.8 +1.0
baz=165
BRAL Brewton 65.02 345 eP P 10 50 23.9 +0.7
comp=Z,20nm,0.7s
446A Poplarville 65.18 343 P P 10 50 25.6 +1.4
baz=163
933A Laredo 65.34 333 P P 10 50 26.6 +1.3
baz=154,SNR=5.0
445A Amite 65.37 342 P P 10 50 26.9 +1.5
baz=163
835A Beeville 65.41 335 P P 10 50 27.8 +2.0
baz=156,SNR=5.3
347A Saraland 65.57 344 P P 10 50 27.6 +0.8
baz=164
736A Circle Diamond 65.75 336 P P 10 50 30.2 +2.3
baz=156,SNR=9.2
346A Big Creek Wild 65.78 343 P P 10 50 28.9 +0.8
baz=163,SNR=8.0
NHSC New Hope 65.79 352 eP P 10 50 28.8 +0.7
comp=Z,80nm,1.3s
345A Thompson Farm, 65.84 343 P P 10 50 29.9 +1.5
baz=163
735A Kenedy 65.92 335 P P 10 50 30.9 +1.8
baz=156
637A Eagle Lake 65.94 336 P P 10 50 31.2 +2.0
baz=157,SNR=5.4
833A Chaparral WMA, 66.02 333 P P 10 50 31.2 +1.5
baz=154,SNR=9.1
248A Dixon Mills 66.06 345 P P 10 50 30.4 +0.5
baz=165
344A Westbrook Farm 66.15 342 P P 10 50 31.8 +1.3
baz=162
247A Quitman 66.21 344 P P 10 50 31.8 +1.0
baz=164
636A Smothers Creek 66.22 336 P P 10 50 32.7 +1.7
baz=157,SNR=13
HKT Hockley 66.24 337 eP P 10 50 32.6 +1.6
HKT Hockley 66.24 337 eP P 10 50 32.6 +1.6
245A Little AP, Sta 66.50 343 P P 10 50 33.8 +1.1
baz=163,SNR=15
342A Flagon Creek P 66.51 341 P P 10 50 34.3 +1.5
baz=161
537A Green Hill Far 66.52 337 P P 10 50 34.2 +1.4
baz=157,SNR=5.6
GOGA Godfrey 66.53 349 eP P 10 50 32.6 -0.3
GOGA pmax pmax
comp=Z,15nm,1.1s
GOGA Godfrey 66.53 349 eP P 10 50 32.6 -0.3
comp=Z,15nm,1.1s
439A Center Grove, 66.68 338 P P 10 50 35.4 +1.5
baz=159,SNR=7.9
244A Avery, Jackson 66.70 342 P P 10 50 35.3 +1.3
baz=162,SNR=8.0
341A Kurthwood 66.71 340 P P 10 50 35.2 +1.1
baz=160,SNR=5.4
536A Bastrop 66.77 336 P P 10 50 35.8 +1.3
baz=157
LRAL Lakeview Retre 66.81 346 eP P 10 50 34.5 -0.1
comp=Z,12nm,1.1s
VBMS Vicksburg 66.83 343 P P 10 50 35.8 +1.0
baz=163
VBMS Vicksburg 66.83 343 eP P 10 50 35.9 +1.1
comp=Z,36nm,1.0s
146A Union 66.88 344 P P 10 50 36.2 +1.1
baz=164
340A Bronson 67.00 339 P P 10 50 37.2 +1.3
baz=160,SNR=5.3
145A Houston Renfro 67.05 343 P P 10 50 37.6 +1.4
baz=163,SNR=12
JSC Jenkinsville 67.08 351 eP P 10 50 36.3 -0.1
JSC pmax pmax
comp=Z,12nm,1.1s
JSC Jenkinsville 67.08 351 eP P 10 50 36.3 -0.1
comp=Z,12nm,1.1s
339A Huntington 67.12 339 P P 10 50 38.0 +1.4
baz=159
TAOE Nuku Hiva Isla 67.19 274 eP P 10 50 37.8 +0.1
comp=Z,92nm,1.1s
Z47A Carrollton 67.19 345 P P 10 50 37.4 +0.3
baz=165,SNR=6.6
Z48A Nonport 67.25 346 P P 10 50 37.4 -0.1
baz=165,SNR=7.9
241A Mo Tay, Goldon 67.28 340 P P 10 50 39.3 +1.6
baz=160
338A Crockett 67.38 338 P P 10 50 39.7 +1.4
baz=158
Z46A Louisville 67.38 344 P P 10 50 39.4 +1.1
baz=164,SNR=8.0
HPIG 67.43 327 eP P 10 50 40.1 +1.1
comp=Z,6.7nm,0.9s
142A Monroe 67.51 342 P P 10 50 40.4 +1.2
baz=161
143A Socs Landing, 67.52 342 P P 10 50 40.3 +1.2
baz=162,SNR=12
337A Centerville 67.52 338 P P 10 50 40.9 +1.7
baz=158
240A Hunter Patters 67.54 340 P P 10 50 40.9 +1.5
baz=160
435B Jarrell 67.60 336 P P 10 50 40.8 +1.1
baz=156
Z45A Winona 67.73 344 P P 10 50 41.4 +0.9
baz=164,SNR=7.7
239A Gary 67.73 339 P P 10 50 42.1 +1.5
baz=159
Z44A Pea Ridge, Bel 67.82 343 P P 10 50 42.0 +1.0
baz=163
Y47A UCPARC, Winfie 67.82 345 P P 10 50 41.5 +0.4
baz=165,SNR=9.7
336A Rice 67.90 337 P P 10 50 42.6 +1.0
baz=157,SNR=7.5
238A Jacksonville 67.92 339 P P 10 50 43.4 +1.7
baz=159
KMSC Kings Mountain 67.93 351 eP P 10 50 42.3 +0.6
comp=Z,38nm,1.8s
Y46A Houston 68.03 345 P P 10 50 42.3 0.0
baz=164,SNR=10
140A Cam and Jess, 68.05 340 P P 10 50 43.7 +1.2
baz=160
JCT Junction City 68.11 334 P P 10 50 44.0 +0.9
baz=154,SNR=7.9
JCT Junction City 68.11 334 eP P 10 50 43.9 +0.9
JCT pmax pmax
comp=Z,17nm,1.0s
JCT Junction City 68.11 334 eP P 10 50 43.9 +0.8
comp=Z,17nm,1.0s
237A Washetta, Mont 68.13 338 P P 10 50 44.4 +1.4
baz=158,SNR=5.3
Y45A Yeager Farm, C 68.17 344 P P 10 50 44.1 +0.9
baz=164,SNR=10
236A Katherine and 68.36 337 P P 10 50 45.4 +0.9
baz=157
Z41A Richland Creek 68.42 341 P P 10 50 45.7 +0.9
baz=161
Y43A Makayla and Ka 68.54 343 P P 10 50 46.7 +1.1
baz=162
Z40A Long Farm, Mag 68.58 341 P P 10 50 47.0 +1.2
baz=160
TXAR Lajitas Array 68.63 330 P P 10 50 47.0 +0.7
comp=Z,2.7nm,0.6s,baz=153,slow=8.6,SNR=55
TX31 Lajitas Ar. Si 68.63 330 eP P 10 50 47.3 +1.0
WHTX Lake Whitney, 68.66 337 P P 10 50 47.1 +0.8
baz=157
137A Heron Place, G 68.67 338 P P 10 50 47.8 +1.5
baz=158
X45A UM Field Stati 68.67 344 P P 10 50 46.7 +0.4
baz=164,SNR=11

CPCT Cooper Cave 68.70 349 eP P 10 50 46.5 -0.1
comp=Z,13nm,0.7s
SWET Sewanee 68.72 347 eP P 10 50 46.8 +0.1
comp=Z,29nm,0.7s
OXF Oxford 68.75 344 eP P 10 50 47.0 +0.1
OXF pmax pmax
comp=Z,59nm,1.0s
OXF Oxford 68.75 344 eP P 10 50 47.0 +0.1
comp=Z,58nm,1.0s
TKL Tuckaleechee C 68.78 349 eP P 10 50 46.7 -0.4
TKL pmax pmax
comp=Z,10.0nm,0.6s
TKL Tuckaleechee C 68.78 349 eP P 10 50 46.7 -0.4
comp=Z,10nm,0.6s
136A Ennis 68.80 338 P P 10 50 48.1 +0.9
baz=158
WLAR White Oak Lake 68.90 341 eP P 10 50 48.8 +1.0
comp=Z,20nm,0.7s
X44A Crenshaw 68.91 344 P P 10 50 48.1 +0.3
baz=163
Y41A Eaglette Beard 68.95 341 P P 10 50 48.9 +0.8
baz=161,SNR=9.1
X43A Marvell 69.11 343 P P 10 50 49.9 +0.8
baz=163
Y40A Okolona 69.26 341 P P 10 50 50.7 +0.7
baz=160,SNR=5.6
W45A Hickory Valley 69.32 345 P P 10 50 50.7 +0.3
baz=164,SNR=5.1
X42A Stuttgart 69.33 342 P P 10 50 51.0 +0.5
baz=162
Y39A Lockesburg 69.42 340 P P 10 50 51.6 +0.6
baz=160,SNR=5.1
Z36A Blue Ridge 69.50 338 P P 10 50 52.3 +0.7
baz=158,SNR=9.7
X41A Kaden, Bauxite 69.50 342 P P 10 50 52.0 +0.4
baz=161
X40A Basin Creek Fa 69.58 341 P P 10 50 52.4 +0.3
baz=161
Y38A Idabel 69.59 340 P P 10 50 52.4 +0.3
baz=159
V45A Humboldt 69.83 345 P P 10 50 53.5 -0.1
baz=164,SNR=6.8
MIAR Mount Ida 69.84 341 P P 10 50 53.8 +0.2
baz=160,SNR=5.9
MIAR Mount Ida 69.84 341 eP P 10 50 54.1 +0.5
MIAR pmax pmax
comp=Z,13nm,1.1s
MIAR Mount Ida 69.84 341 eP P 10 50 54.1 +0.5
comp=Z,12nm,1.1s
BLA Blacksburg 69.87 353 eP P 10 50 54.8 +1.0
BLA pmax pmax
comp=Z,40nm,1.6s
BLA Blacksburg 69.87 353 eP P 10 50 54.8 +1.0
comp=Z,40nm,1.6s
Y37A Hugo 69.91 339 P P 10 50 54.7 +0.6
baz=158
X39A Fountain Ranch 69.96 340 P P 10 50 54.9 +0.5
baz=160
URVA University of 69.96 355 eP P 10 50 55.1 +0.9
WVT Waverly 69.97 346 eP P 10 50 54.5 +0.1
WVT pmax pmax
comp=Z,58nm,0.8s
WVT Waverly 69.97 346 eP P 10 50 54.5 +0.1
comp=Z,58nm,0.8s
ABTX Abilene, Hawle 69.99 335 P P 10 50 55.0 +0.4
baz=155,SNR=5.4
ABTX Abilene, Hawle 69.99 335 eP P 10 50 55.5 +0.9
comp=Z,21nm,1.2s
Y36A Durant 70.03 338 P P 10 50 56.0 +1.2
baz=158
W41B Gary Mavity, V 70.08 342 P P 10 50 55.3 +0.3
baz=162,SNR=5.9
JSRW J. Sargeant Re 70.11 355 eP P 10 50 56.1 +1.0
WHAR Wooly Hollow 70.20 342 eP P 10 50 56.2 +0.4
comp=Z,12nm,1.1s
IP05 Hopewell Churc 70.24 355 eP P 10 50 57.0 +1.1
comp=Z,25nm,0.8s
Y35A Marietta 70.28 338 P P 10 50 57.4 +1.1
baz=157
W40A Ferguson Farm, 70.31 341 P P 10 50 57.6 +1.2
baz=161,SNR=5.1
X38A Whitesboro 70.31 340 P P 10 50 57.4 +0.9
baz=159
IP07 Quail 70.35 355 eP P 10 50 57.7 +1.0
comp=Z,39nm,1.4s
IP06 Yanceyville 70.36 355 eP P 10 50 57.7 +1.1
comp=Z,15nm,0.7s
IP01 Cuckoo 70.38 355 eP P 10 50 57.9 +1.1
comp=Z,19nm,1.1s
U45A Rockin P Farm, 70.38 345 P P 10 50 57.3 +0.4
baz=165,SNR=7.8
UTMT University of 70.39 345 eP P 10 50 57.6 +0.7
comp=Z,86nm,1.0s
IP03 Louisa 70.45 355 eP P 10 50 58.3 +1.1
comp=Z,47nm,1.5s
V42A Cord 70.46 343 P P 10 50 57.5 +0.1
baz=162
CVRD Centerville Ro 70.48 355 eP P 10 50 58.4 +0.9
comp=Z,41nm,1.7s
U44B Burton Farm, H 70.49 345 P P 10 50 58.4 +0.8
baz=164
W39A Magazine 70.51 341 P P 10 50 58.5 +0.8
baz=160,SNR=18
IP04 Greensprings 70.52 355 eP P 10 50 58.8 +1.1
comp=Z,17nm,0.7s
W38A Poteau 70.60 340 P P 10 50 58.7 +0.4
baz=160
V41A Mountainview 70.63 342 P P 10 50 58.4 -0.1
baz=162,SNR=16
X36A Centrahoma 70.68 339 P P 10 50 58.7 -0.1
baz=158,SNR=7.5
X35A Drake 70.71 338 P P 10 50 59.4 +0.4
baz=157
U44A Portageville 70.73 345 P P 10 50 59.5 +0.5
baz=164
U43A Rector 70.76 344 P P 10 50 59.5 +0.3
baz=163
PPT Papeete 70.79 261 LR LR 11 15 39.3
comp=Z,34nm,18.3s,baz=188,slow=30
V40A Witts Springs 70.82 342 P P 10 50 59.9 +0.2
baz=161
PARMO Parma 70.89 345 eP P 10 51 01.0 +1.0
comp=Z,45nm,0.8s
W37B Quinton 70.93 340 P P 10 51 00.3 +0.1
baz=159
U42A Revenden 70.94 343 P P 10 51 00.3 0.0
baz=162,SNR=11
V39A Pettigrew 71.07 341 P P 10 51 01.4 +0.2
baz=160,SNR=12
U41A Viola 71.10 343 P P 10 51 01.2 -0.1
baz=162
PBMO Poplar Bluff 71.16 344 eP P 10 51 01.6 0.0
comp=Z,19nm,0.6s
W36A Wetumka 71.17 339 P P 10 51 01.4 -0.3
baz=158
T44A Benton 71.26 345 P P 10 51 02.4 +0.2
baz=164
V38A Canehill 71.31 341 P P 10 51 02.4 -0.2
baz=160,SNR=11
U40A Yellville 71.35 342 P P 10 51 02.9 +0.1
baz=161,SNR=13
W35A Tecumseh 71.38 338 P P 10 51 02.6 -0.4
baz=158
MNTX Cornudas Mount 71.41 330 P P 10 51 03.0 -0.3
baz=150,SNR=16
MNTX Cornudas Mount 71.41 330 eP P 10 51 03.0 -0.3
comp=Z,7.1nm,0.7s
T43A Greenville 71.42 344 P P 10 51 02.9 -0.2
baz=163,SNR=15
V37A Hulbert 71.53 340 P P 10 51 03.9 0.0
baz=159
U39A Green Forest 71.54 342 P P 10 51 03.9 0.0
baz=161,SNR=11
T42A Van Buren 71.55 344 P P 10 51 04.1 +0.1
baz=163
HHAR Hobbs 71.57 341 eP P 10 51 04.2 +0.1
comp=Z,16nm,0.7s
WMOK Wichita Mounta 71.61 337 P P 10 51 04.3 -0.2
baz=156
WMOK Wichita Mounta 71.61 337 eP P 10 51 04.5 +0.1
WMOK pmax pmax
comp=Z,11nm,1.4s
WMOK Wichita Mounta 71.61 337 eP P 10 51 04.5 +0.1
comp=Z,11nm,1.4s
S45A Carrier Mills 71.62 346 P P 10 51 04.1 -0.3
baz=165
V36A Jenks 71.68 339 P P 10 51 04.8 0.0
baz=158

WCI	Wyandotte Cave	71.71	348	eP	P	10 51 04.2	-0.8
WCI				pmax	pmax		
	comp=Z,11nm,0.8s						
WCI	Wyandotte Cave	71.71	348	eP	P	10 51 04.2	-0.8
	comp=Z,11nm,0.8s						
T41A	Mountain View	71.73	343	P	P	10 51 05.1	0.0
	baz=162,SNR=10						
SDMD	Soldier's Deli	71.75	356	eP	P	10 51 06.0	+0.9
	comp=Z,9.7nm,1.1s						
TUL1	Leonard	71.75	340	P	P	10 51 05.0	-0.2
	baz=159,SNR=6.0						
TUL1	Leonard	71.75	340	eP	P	10 51 05.5	+0.3
	comp=Z,20nm,0.6s						
S44A	Carbondale	71.77	345	P	P	10 51 05.1	-0.2
	baz=164,SNR=6.6						
S43A	Fulton Ridge,	71.84	345	P	P	10 51 05.5	-0.2
	baz=164,SNR=20						
U38A	Gravette	71.84	341	P	P	10 51 05.5	-0.3
	baz=160						
V35A	Meyer Ranch, C	71.93	339	P	P	10 51 06.2	-0.1
	baz=158,SNR=7.7						
U37A	Salina	72.02	340	P	P	10 51 06.7	-0.1
	baz=159,SNR=5.4						
T40A	Mansfield	72.02	343	P	P	10 51 07.0	+0.1
	baz=161						
T39A	Clever	72.12	342	P	P	10 51 07.6	+0.2
	baz=161						
S42A	Caledonia	72.19	344	P	P	10 51 07.4	-0.4
	baz=163,SNR=8.6						
S41A	Jillco Farms,	72.24	343	P	P	10 51 08.0	-0.1
	baz=162,SNR=15						
R44A	Waltonville	72.27	346	P	P	10 51 07.9	-0.4
	baz=164						
MSTX	Muleshoe	72.35	333	P	P	10 51 09.3	+0.3
	baz=153,SNR=6.0						
MSTX	Muleshoe	72.35	333	eP	P	10 51 09.6	+0.6
	comp=Z,13nm,0.9s						
T38A	Diamond	72.38	341	P	P	10 51 09.0	+0.1
	baz=160,SNR=9.8						
S40A	Lebanon	72.44	343	P	P	10 51 09.3	0.0
	baz=162,SNR=8.5						
U35A	Pawnee	72.46	339	P	P	10 51 09.8	+0.3
	baz=158,SNR=7.2						
R43A	Red Bud	72.48	345	P	P	10 51 09.4	-0.1
	baz=164,SNR=5.6						
OLIL	Olney	72.54	347	eP	P	10 51 09.8	-0.1
	comp=Z,32nm,1.4s						
CCM	Cathedral Cave	72.57	344	eP	P	10 51 09.9	-0.1
CCM				pmax	pmax		
	comp=Z,183nm,1.0s						
CCM	Cathedral Cave	72.57	344	eP	P	10 51 09.9	-0.1
	comp=Z,183nm,1.0s						
T37A	Cheneyville 18	72.63	341	P	P	10 51 10.4	0.0
	baz=159,SNR=5.9						
BLO	Bloomington	72.67	348	eP	P	10 51 10.2	-0.4
BLO				pmax	pmax		
	comp=Z,14nm,0.6s						
BLO	Bloomington	72.67	348	eP	P	10 51 10.2	-0.4
	comp=Z,14nm,0.6s						
R42A	Luebbering	72.68	344	P	P	10 51 10.7	0.0
	baz=163,SNR=5.6						
O56A	Blue Knob Stat	72.72	354	P	P	10 51 11.4	+0.4
	baz=174						
S39A	Bolivar	72.73	342	P	P	10 51 11.2	+0.1
	baz=161,SNR=12						
AMTX	Amarillo	72.76	334	P	P	10 51 12.0	+0.6
	baz=154						
R41A	Rosebud	72.83	344	P	P	10 51 11.5	-0.1
	baz=162,SNR=17						
S38A	Stockton	72.83	342	P	P	10 51 11.5	-0.1
	baz=160,SNR=21						
T36A	Boggs Farm, Ca	72.84	340	P	P	10 51 12.0	+0.3
	baz=159,SNR=7.3						
319A	Douglas	72.85	327	eP	P	10 51 13.9	+1.8
	comp=Z,8.0nm,0.8s						
SLM	Saint Louis	72.89	345	eP	P	10 51 12.7	+0.7
SLM				pmax	pmax		
	comp=Z,29nm,0.6s						
SLM	Saint Louis	72.89	345	eP	P	10 51 12.7	+0.7
	comp=Z,29nm,0.6s						
T35A	Sooner Cattle	72.90	339	P	P	10 51 12.4	+0.4
	baz=158,SNR=5.3						
R40A	Maddies Statio	73.03	343	P	P	10 51 12.8	0.0
	baz=162,SNR=22						
SSPA	Standing Stone	73.04	355	eP	P	10 51 13.0	+0.2
	comp=Z,32nm,1.4s						
Q43A	New Douglas	73.07	345	P	P	10 51 12.7	-0.3
	baz=164,SNR=8.0						
121A	Cookes Peak, D	73.16	329	P	P	10 51 15.4	+1.5
	baz=149,SNR=12						
121A	Cookes Peak, D	73.16	329	eP	P	10 51 15.4	+1.5
	comp=Z,13nm,0.9s						
ACSO	Alum Creek Sta	73.16	351	eP	P	10 51 13.4	-0.1
	comp=Z,30nm,0.6s						
U32A	Winter Ranch,	73.18	337	P	P	10 51 14.4	+0.6
	baz=156,SNR=5.8						
N59A	State Game Lan	73.19	357	P	P	10 51 14.5	+0.8
	baz=176						
T34A	McClaskey Farm	73.20	339	P	P	10 51 14.3	+0.5
	baz=158,SNR=5.2						
S37A	Fort Scott	73.20	341	P	P	10 51 13.5	-0.3
	baz=160,SNR=6.5						
Q42A	Golden Eagle	73.22	345	P	P	10 51 14.4	+0.5
	baz=163,SNR=7.8						
R39A	Chumby, Stover	73.25	343	P	P	10 51 14.2	+0.1
	baz=161,SNR=12						
ODNJ	Ogdensburg	73.31	358	eP	P	10 51 15.5	+1.2
	comp=Z,104nm,2.0s						
P44A	Sand Creek, Wi	73.35	346	P	P	10 51 14.3	-0.4
	baz=165						
R38A	Fenwick Farm,	73.35	342	P	P	10 51 14.3	-0.3
	baz=160,SNR=5.4						
S36A	Lake Cedric, C	73.38	340	P	P	10 51 14.8	-0.1
	baz=159,SNR=9.8						
Q41A	Truxton	73.42	344	P	P	10 51 15.1	0.0
	baz=163,SNR=14						
N54A	Moraine State	73.54	353	P	P	10 51 15.7	-0.1
	baz=172						
S35A	Otter Creek Ra	73.55	340	P	P	10 51 15.9	+0.1
	baz=158,SNR=8.2						
Q40A	Laux Farm, Aux	73.66	344	P	P	10 51 16.6	+0.1
	baz=162,SNR=16						
P43A	Skaggs, Pawnee	73.70	346	P	P	10 51 16.2	-0.5
	baz=164,SNR=8.6						
R37A	Teagarden Farm	73.72	341	P	P	10 51 16.8	-0.1
	baz=160						
P42A	Winchester	73.83	345	P	P	10 51 17.0	-0.4
	baz=164,SNR=7.4						
R36A	Gordon, Harris	73.92	341	P	P	10 51 17.7	-0.3
	baz=159						
Q39A	Willow Grove F	73.92	343	P	P	10 51 18.0	-0.1
	baz=161						
LIC	Lamto	74.00	72	eP	P	10 51 18.1	-1.0
	comp=Z,142nm,1.8s						
Q38A	Cooks Store, C	74.01	342	P	P	10 51 18.4	-0.1
	baz=161,SNR=9.3						
M54A	Oil Creek Stat	74.05	354	P	P	10 51 18.5	-0.2
	baz=173						
P41A	Barry, Barry	74.07	345	P	P	10 51 18.5	-0.3
	baz=163,SNR=6.2						
R35A	Emporia Munici	74.11	340	P	P	10 51 19.2	+0.1
	baz=158						
Q37A	Longview Farm,	74.14	342	P	P	10 51 19.2	-0.1
	baz=160						
P40A	Paris	74.16	344	P	P	10 51 19.4	0.0
	baz=162,SNR=12						
TIC	Toumodi	74.25	71	eP	P	10 51 19.5	-1.1
P39B	Salisbury	74.29	343	P	P	10 51 20.1	-0.1
	baz=162,SNR=6.2						
KIC	Kosan Boka	74.31	72	eP	P	10 51 20.0	-0.9
	comp=Z,35nm,0.8s						
TUC	Tucson	74.33	326	P	P	10 51 22.0	+1.3
	baz=146						
TUC	Tucson	74.33	326	eP	P	10 51 21.6	+0.9
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TUC	Tucson	74.33	326	eP	P	10 51 21.6	+0.9
	comp=Z,4.4nm,1.1s						
O42A	Bath	74.35	345	P	P	10 51 20.3	-0.2
	baz=164						
N46A	Monticello	74.38	348	P	P	10 51 19.7	-1.0
	baz=167						
R34A	Isabella, Hill	74.40	339	P	P	10 51 21.0	+0.2
	baz=158,SNR=5.6						
DBIC	Dimbokro	74.40	71	P	P	10 51 20.5	-0.9
	comp=Z,15nm,0.7s,baz=221,slow=6.0,SNR=17						
DBIC				LR	LR	11 24 43.0	
	comp=Z,36nm,18.2s,baz=204,slow=36						

DBIC	Dimbokro	74.40	71	eP	P	10 51 20.7	-0.7
DBIC				pmax	pmax		
	comp=Z,14nm,0.7s						
DBIC	Dimbokro	74.40	71	eP	P	10 51 20.7	-0.7
	comp=Z,14nm,0.7s						
O41A	Passleys Farm,	74.45	345	P	P	10 51 20.6	-0.5
	baz=163,SNR=9.6						
LAZ	Ladron	74.48	330	eP	P	10 51 23.1	+1.4
MAW	Mawson	74.49	164	P	P	10 51 21.3	+0.2
	comp=Z,2.8nm,0.6s,baz=208,slow=5.9,SNR=16						
MAW	Mawson	74.49	164	eP	P	10 51 21.7	+0.6
MAW				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	Mawson	74.49	164	eP	P	10 51 21.7	+0.6
	comp=Z,2.4nm,1.0s						
HDIL	Hopedale	74.54	346	P	P	10 51 21.3	-0.2
	baz=164,SNR=7.2						
HDIL	Hopedale	74.54	346	eP	P	10 51 21.4	-0.2
	comp=Z,29nm,0.4s						
Q35A	Mercer Eighty,	74.56	340	P	P	10 51 21.3	-0.5
	baz=159						
P38A	Dawn	74.61	343	P	P	10 51 21.7	-0.3
	baz=161,SNR=6.5						
ANMO	Albuquerque	74.66	331	P	P	10 51 24.2	+1.5
	baz=150						
ANMO	Albuquerque	74.66	331	cePP	P	10 51 24.3	+1.6
ANMO				pmax	pmax		
	comp=Z,12nm,1.7s						
ANMO	Albuquerque	74.66	331	eP	P	10 51 23.9	+1.2
	comp=Z,11nm,1.3s						
HRV	Adam Dziewonsk	74.68	0	eP	P	10 51 23.7	+1.4
HRV				pmax	pmax		
	comp=Z,106nm,1.5s						
HRV	Adam Dziewonsk	74.68	0	eP	P	10 51 23.7	+1.4
	comp=Z,106nm,1.5s						
O40A	La Belle	74.68	344	P	P	10 51 22.3	-0.1
	baz=162,SNR=6.8						
P37A	Lathrop	74.79	342	P	P	10 51 22.5	-0.6
	baz=160						
Q34A	Chapman	74.88	340	P	P	10 51 23.7	+0.1
	baz=158,SNR=5.2						
TRY	Troy	74.92	358	eP	P	10 51 25.1	+1.3
	comp=Z,60nm,1.1s						
N42A	Yates City	74.95	346	P	P	10 51 23.6	-0.3
	baz=164						
KSU1	Kansas State U	74.95	340	P	P	10 51 24.2	+0.2
	baz=158						
KSU1	Kansas State U	74.95	340	eP	P	10 51 24.1	+0.1
	comp=Z,11nm,1.0s						
O39A	Kirksville	74.97	344	P	P	10 51 24.1	+0.1
	baz=162						
N41A	Harden Midland	75.01	345	P	P	10 51 23.9	-0.4
	baz=163						
214A	Organ Pipe Nat	75.01	325	P	P	10 51 25.4	+0.8
	baz=145						
P36A	Good Intent, A	75.05	341	P	P	10 51 24.1	-0.4
	baz=159,SNR=6.4						
O38A	Galt	75.07	343	P	P	10 51 24.6	-0.1
	baz=161						
MMNY	Mt. Morris Dam	75.12	355	eP	P	10 51 25.2	+0.3
P35A	Duane Minner,	75.18	341	P	P	10 51 25.2	-0.1
	baz=159						
SUR	Sutherland	75.25	119	P	P	10 51 26.2	-0.2
	comp=Z,0.6nm,0.8s,baz=233,slow=5.8,SNR=3.9						
SUR	Sutherland	75.25	119	eP	P	10 51 27.1	+0.7
	comp=Z,60nm,1.5s						
O37A	Wolven Farm, M	75.28	342	P	P	10 51 25.6	-0.2
	baz=160,SNR=13						
N40A	Mertquake, Sal	75.34	344	P	P	10 51 25.9	-0.3
	baz=163						
P34A	Walnut Farm, R	75.43	340	P	P	10 51 26.9	+0.1
	baz=158,SNR=7.0						
O36A	Bolckow	75.46	342	P	P	10 51 26.2	-0.7
	baz=160,SNR=6.0						
N39A	Derby Farms, D	75.55	344	P	P	10 51 27.1	-0.3
	baz=162,SNR=5.0						
M41A	Milan	75.58	345	P	P	10 51 27.1	-0.5
	baz=164						
CBKS	Cedar Bluff	75.64	338	P	P	10 51 28.9	+0.8
	baz=156						
CBKS	Cedar Bluff	75.64	338	eP	P	10 51 28.8	+0.8
CBKS				pmax	pmax		
	comp=Z,23nm,0.7s						
CBKS	Cedar Bluff	75.64	338	eP	P	10 51 28.8	+0.8
	comp=Z,23nm,0.7s						
T25A	Trinidad	75.77	334	P	P	10 51 30.3	+1.2
	baz=152,SNR=14						
T25A	Trinidad	75.77	334	eP	P	10 51 30.6	+1.5
	comp=Z,21nm,0.9s						
X18A	Snowflake	75.80	328	eP	P	10 51 31.0	+1.8
	comp=Z,4.8nm,0.9s						
M40A	Post Highland	75.82	345	P	P	10 51 28.9	-0.1
	baz=163						
N37A	Lee Faris, Mou	75.85	343	P	P	10 51 28.8	-0.3
	baz=160,SNR=6.9						
HNH	Hanover	75.88	360	eP	P	10 51 30.6	+1.4
	comp=Z,212nm,1.9s						
O34A	Beatrice	75.98	340	P	P	10 51 29.8	-0.1
	baz=158,SNR=8.3						
L43A	Garden Prairie	76.00	347	P	P	10 51 29.5	-0.4
	baz=165,SNR=5.9						
M39A	Webster	76.04	344	P	P	10 51 29.5	-0.7
	baz=162						
N36A	Muff Farm, Cla	76.10	342	P	P	10 51 30.1	-0.4
	baz=160						
O33A	Hebron	76.14	340	P	P	10 51 30.8	0.0
	baz=158,SNR=5.6						
MDV	Middlebury	76.18	359	eP	P	10 51 31.8	+0.9
M38A	Pleasantville	76.22	343	P	P	10 51 31.1	-0.2
	baz=161,SNR=9.2						
L41A	Preston	76.24	346	P	P	10 51 30.9	-0.4
	baz=164						
N35A	Tabor	76.32	341	P	P	10 51 31.5	-0.4
	baz=159,SNR=10						
L40A	Anamosa	76.39	345	P	P	10 51 31.6	-0.6
	baz=163,SNR=8.8						
X16A	Lo Mia Camp, P	76.39	327	eP	P	10 51 34.1	+1.5
	comp=Z,9.4nm,1.0s						
LBNH	Lisbon	76.41	360	eP	P	10 51 33.6	+1.4
LBNH				pmax	pmax		
	comp=Z,90nm,1.7s						
LBNH	Lisbon	76.41	360	eP	P	10 51 33.6	+1.4
	comp=Z,90nm,1.7s						
M37A	Trindle Farm,	76.42	343	P	P	10 51 32.3	0.0
	baz=161,SNR=12						
N34A	Lincoln	76.53	341	P	P	10 51 32.9	-0.1
	baz=158,SNR=11						
L39A	Vinton	76.62	345	P	P	10 51 33.3	-0.2
	baz=162						
M36A	Felix, Anita	76.66	342	P	P	10 51 33.4	-0.4
	baz=160						
K42A	Prairie Point,	76.69	347	P	P	10 51 33.3	-0.5
	baz=165						
K41A	Shullsburg	76.72	346	P	P	10 51 33.6	-0.4
	baz=164,SNR=8.9						
SDCO	Great Sand Dun	76.72	333	P	P	10 51 35.7	+1.2
	baz=151,SNR=15						
SDCO	Great Sand Dun	76.72	333	eP	P	10 51 35.8	+1.2
	comp=Z,6.7nm,0.8s						
Y14A	Wickenburg	76.72	326	eP	P	10 51 35.9	+1.6
	comp=Z,25nm,1.1s						
KSCO	Kaye Shedlock'	76.78	336	P	P	10 51 36.0	+1.4
	baz=153						
LONY	Lake Ozonia	76.83	358	eP	P	10 51 35.1	+0.5
	comp=Z,36nm,1.4s						
L38A	Oak Wood Farm,	76.85	344	P	P	10 51 34.8	0.0
	baz=162						
GLA	Glamis	76.89	324	eP	P	10 51 36.6	+1.3
GLA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GLA	Glamis	76.89	324	eP	P	10 51 36.6	+1.3
	comp=Z,7.1nm,1.3s						
M35A	Neola	76.90	342	P	P	10 51 35.0	-0.1
	baz=159						
EMMW	East Machias	76.97	3	eP	P	10 51 36.4	+1.0
	comp=Z,104nm,1.3s						
K40A	Colesburg	76.98	345	P	P	10 51 34.7	-0.7
	baz=163,SNR=7.7						
JFWS	Jewell Farm	77.00	346	eP	P	10 51 35.6	0.0
JFWS				pmax	pmax		
	comp=Z,11nm,0.7s						
JFWS	Jewell Farm	77.00	346	eP	P	10 51 35.6	0.0
	comp=Z,11nm,0.7s						
FRNY	Flat Rock	77.02	359	eP	P	10 51 36.7	+1.0
	comp=Z,82nm,1.8s						
L37A	Phoenix Point,	77.03	343	P	P	10 51 35.3	-0.4
	baz=161						
K39A	Oelwein	77.15	345	P	P	10 51 35.7	-0.7

	baz=162						
L36A	Harm Buss Farm	77.23	343	P	P	10 51 36.7	-0.2
	baz=160,SNR=8.5						
S22A	4UR Ranch, Cre	77.23	332	P	P	10 51 38.5	+1.1
	baz=150,SNR=7.9						
S22A	4UR Ranch, Cre	77.23	332	eP	P	10 51 39.0	+1.5
	comp=Z,4.9nm,0.9s						
WUAZ	Wupatki	77.27	328	P	P	10 51 38.9	+1.4
	baz=146,SNR=5.9						
WUAZ	Wupatki	77.27	328	eP	P	10 51 39.4	+1.9
	comp=Z,8.0nm,1.0s						
K38A	Parkersburg	77.29	344	P	P	10 51 36.6	-0.7
	baz=162						
Y12C	Blythe	77.31	324	P	P	10 51 39.2	+1.7
	baz=144						
J41A	Loganville	77.39	346	P	P	10 51 37.7	0.0
	baz=164						
M33A	Taylor Creek F	77.41	341	P	P	10 51 38.1	+0.1
	baz=158						
GGN	Saint George	77.41	3	eP	P	10 51 39.0	+1.2
	comp=Z,64nm,1.3s						
MVCO	Mesa Verde	77.45	331	P	P	10 51 39.5	+0.9
	baz=149,SNR=6.7						
MVCO	Mesa Verde	77.45	331	eP	P	10 51 40.0	+1.4
	comp=Z,8.5nm,1.0s						
PKME	Peaks-Kenny Pk	77.46	2	eP	P	10 51 39.2	+1.1
	comp=Z,158nm,1.8s						
L35A	Bielow Farm, R	77.47	342	P	P	10 51 38.3	0.0
	baz=159,SNR=8.7						
BGNE	Belgrade	77.53	340	P	P	10 51 39.3	+0.6
	baz=157						
L34A	Svendsen Farm,	77.55	341	P	P	10 51 38.8	+0.1
	baz=159						
J40A	Soldiers Grove	77.56	346	P	P	10 51 38.5	-0.2
	baz=163,SNR=10						
Q24A	Divide	77.65	334	P	P	10 51 40.8	+1.1
	baz=151,SNR=15						
Q24A	Divide	77.65	334	eP	P	10 51 41.0	+1.3
	comp=Z,22nm,0.7s						
K36A	Gilmore City	77.68	343	P	P	10 51 39.3	-0.1
	baz=160,SNR=5.5						
BC3	Big Chuckawall	77.69	324	P	P	10 51 41.3	+1.4
	baz=143						
J39A	Decorah	77.71	345	P	P	10 51 39.7	+0.1
	baz=163,SNR=5.9						
IRM	Iron Mountain	77.94	324	P	P	10 51 42.4	+1.3
	baz=144						
K35A	Storm Lake	77.96	342	P	P	10 51 41.5	+0.5
	baz=160						
L33A	Hoskins	77.98	341	P	P	10 51 41.1	-0.1
	baz=158						
I40A	Norwalk	78.01	346	P	P	10 51 41.1	-0.1
	baz=164						
I41A	Arkdale	78.02	347	P	P	10 51 41.3	0.0
	baz=164						
H43A	Windswept, Lux	78.04	348	P	P	10 51 40.3	-1.0
	baz=166						
L32A	Elgin	78.04	340	P	P	10 51 41.5	+0.1
	baz=157						
W13A	Hualapai Mount	78.09	326	eP	P	10 51 44.0	+1.9
	comp=Z,5.7nm,1.0s						
J37A	Redenius Farm,	78.10	344	P	P	10 51 41.6	-0.1
	baz=161						
K34A	Le Mars	78.15	342	P	P	10 51 42.2	+0.2
	baz=159						
TPFO	Pinon Flats	78.16	323	P	P	10 51 44.3	+1.9
	baz=142						
PFO	Pinyon Flats O	78.16	323	P	P	10 51 44.3	+1.8
	baz=142						
PFO	Pinyon Flats O	78.16	323	eP	P	10 51 44.5	+2.0
PFO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PFO	Pinyon Flats O	78.16	323	eP	P	10 51 44.5	+2.0
	comp=Z,6.1nm,1.0s						
I39A	Houston	78.16	345	P	P	10 51 42.0	-0.1
	baz=163,SNR=10.0						
H42A	Shiocton	78.21	348	P	P	10 51 42.3	0.0
	baz=165						
BELC	Belle Mtn. Jos	78.24	324	P	P	10 51 44.0	+1.1
	baz=143						
LMN	Caledonia Moun	78.27	5	eP	P	10 51 42.6	+0.1
	comp=Z,79nm,1.6s						
PV01	Paradox Valley	78.27	331	eP	P	10 51 43.2	+0.1
J36A	Seneca 1, Swea	78.31	343	P	P	10 51 42.8	-0.1
	baz=160,SNR=5.9						
K33A	Hardington	78.31	341	P	P	10 51 43.5	+0.5
	baz=158						
U15A	North Rim	78.44	328	eP	P	10 51 45.5	+1.4
	comp=Z,20nm,1.5s						
I38A	Scanlan Farm,	78.52	345	P	P	10 51 43.8	-0.2
	baz=162,SNR=8.0						
SMCO	Snowmass	78.53	333	eP	P	10 51 46.2	+1.5
	comp=Z,12nm,0.9s						
ISCO	Idaho Springs	78.56	334	P	P	10 51 45.7	+0.9
	baz=151,SNR=7.9						
ISCO	Idaho Springs	78.56	334	eP	P	10 51 45.9	+1.1
ISCO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ISCO	Idaho Springs	78.56	334	eP	P	10 51 45.9	+1.1
	comp=Z,6.6nm,0.9s						
K32A	Verdigre	78.64	341	P	P	10 51 45.0	+0.2
	baz=157						
PV10	Paradox Valley	78.67	331	eP	P	10 51 46.1	+0.8
H40A	Chili	78.67	346	P	P	10 51 44.7	-0.1
	baz=164						
J34A	George	78.67	342	P	P	10 51 44.8	-0.1
	baz=159						
GMRC	Granite Mounta	78.70	324	P	P	10 51 46.6	+1.2
	baz=143,SNR=5.0						
I37A	Lemond, Waseca	78.73	344	P	P	10 51 44.9	-0.3
	baz=161,SNR=6.5						
PV09	Paradox Valley	78.81	331	eP	P	10 51 46.5	+0.3
K31A	O'Neill	78.82	340	P	P	10 51 46.4	+0.6
	baz=157,SNR=18						
I36A	Fitzsimmons Fa	78.88	344	P	P	10 51 46.0	0.0
	baz=161						
G42A	Mountain	78.90	348	P	P	10 51 46.0	0.0
	baz=166						
H39A	Augusta	78.90	346	P	P	10 51 45.8	-0.3
	baz=163						
I35A	Creekview Farm	78.96	343	P	P	10 51 46.5	0.0
	baz=160,SNR=7.5						
J33A	Davis	78.97	341	P	P	10 51 46.3	-0.2
	baz=158,SNR=6.5						
G41A	Antigo	79.00	347	P	P	10 51 46.9	+0.2
	baz=165						
HEC	Hector,Ludlow	79.07	324	P	P	10 51 49.3	+1.9
	baz=143,SNR=5.4						
H37A	Dierke Farm, C	79.16	345	P	P	10 51 47.5	0.0
	baz=162						
KNB	Kanab	79.16	328	eP	P	10 51 49.9	+1.9
KNB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KNB	Kanab	79.16	328	eP	P	10 51 49.9	+1.9
	comp=Z,8.6nm,0.8s						
J32A	Parkston	79.26	341	P	P	10 51 48.0	-0.1
	baz=158,SNR=10						
ECSD	EROS Data Cent	79.26	342	P	P	10 51 48.2	+0.1
	baz=159,SNR=22						
ECSD	EROS Data Cent	79.26	342	eP	P	10 51 48.2	+0.1
	comp=Z,25nm,0.8s						
BFSC	Mount Baldy Ra	79.27	323	P	P	10 51 49.1	+0.5
	baz=142						
TSUM	Tsumeb	79.30	106	P	P	10 51 48.8	-0.4
	comp=Z,5.4nm,0.7s,baz=210,slow=6.6,SNR=8.5						
TUQ	Turquoise Moun	79.34	325	P	P	10 51 50.7	+1.7
	baz=143						
F42A	Maple Grove Fa	79.35	348	P	P	10 51 48.6	+0.1
	baz=166						
LCMT	Little Creek M	79.35	327	eP	P	10 51 49.6	+0.6
	comp=Z,3.2nm,1.1s						
H36A	Jessenland, He	79.39	344	P	P	10 51 49.1	+0.3
	baz=161						
J31A	Geddes	79.44	340	P	P	10 51 49.3	+0.2
	baz=157,SNR=5.2						
G39A	Holcombe	79.46	346	P	P	10 51 48.2

GSC	Goldstone, Bar	79.67	324	eP		P	10 51 52.6 +1.9
	comp=Z,4.5nm,1.0s						
SPMN	Marine on St.	79.75	345	P		P	10 51 50.2 -0.4
	baz=162,SNR=6.8						
SPMN	Marine on St.	79.75	345	eP		P	10 51 50.3 -0.4
	comp=Z,15nm,0.5s						
SZCU	Shurtz Canyon	79.76	328	eP		P	10 51 51.5 +0.2
	comp=Z,13nm,1.5s						
PHWY	Pilot Hill	79.81	335	eP		P	10 51 52.6 +1.1
	comp=Z,7.8nm,0.8s						
SHPR	Sheep Range	79.83	326	eP		P	10 51 53.5 +1.8
	comp=Z,3.8nm,1.0s						
CCUT	Cedar City	79.85	327	eP		P	10 51 53.9 +2.2
	comp=Z,5.5nm,1.1s						
O20A	White River Ci	79.85	332	P		P	10 51 52.4 +0.8
	baz=149						
O20A	White River Ci	79.85	332	eP		P	10 51 52.9 +1.3
	comp=Z,24nm,1.8s						
SRU	San Rafael Swe	79.90	330	eP		P	10 51 53.0 +1.0
SRU				pmax		pmax	
	comp=Z,6.0nm,0.9s						
SRU	San Rafael Swe	79.90	330	eP		P	10 51 53.0 +1.0
	comp=Z,5.7nm,0.9s						
H34A	Spellman Lake,	79.92	343	P		P	10 51 51.6 -0.1
	baz=159,SNR=12						
EDW2	Edwards Air Fo	79.94	323	P		P	10 51 53.5 +1.4
	baz=142						
G36A	St. Michael	79.97	344	P		P	10 51 51.8 -0.1
	baz=161						
F39A	Loretta	80.01	346	P		P	10 51 52.1 0.0
	baz=163						
MSU	Marysvale	80.11	329	eP		P	10 51 54.8 +1.6
MSU	Marysvale	80.11	329	eP		P	10 51 54.8 +1.6
G35A	Watkins	80.12	344	P		P	10 51 52.8 0.0
	baz=160						
H33A	Prehn Over Nor	80.18	342	P		P	10 51 53.1 0.0
	baz=159,SNR=9.6						
F37A	Hinrichs Farm,	80.18	345	P		P	10 51 52.7 -0.3
	baz=162						
H32A	Carlson Farm,	80.19	342	P		P	10 51 52.9 -0.3
	baz=158						
P18A	Preston Nutter	80.22	331	eP		P	10 51 55.3 +1.4
	comp=Z,12nm,1.2s						
F38A	Pierce - Schro	80.25	346	P		P	10 51 53.6 +0.2
	baz=163,SNR=6.3						
P17A	Butcher Ranch,	80.30	330	eP		P	10 51 55.1 +1.0
	comp=Z,8.8nm,1.3s						
TMUT	Trail Mountain	80.35	330	eP		P	10 51 55.8 +1.2
	comp=Z,14nm,1.7s						
E39A	Mellen	80.39	347	P		P	10 51 54.5 +0.3
	baz=164						
G34A	Benson	80.42	343	P		P	10 51 54.2 -0.2
	baz=160						
VLDQ	Val d'Or	80.45	356	eP		P	10 51 55.2 +0.8
	comp=Z,63nm,1.8s						
H31A	Wolsey	80.45	341	P		P	10 51 54.2 -0.3
	baz=157,SNR=12						
BOSA	Boshof	80.46	118	P		P	10 51 55.0 -0.4
	comp=Z,11nm,0.8s,baz=246,slow=4.3,SNR=17						
BOSA	Boshof	80.46	118	eP		P	10 51 55.1 -0.2
BOSA				pmax		pmax	
	comp=Z,11nm,0.8s						
BOSA	Boshof	80.46	118	eP		P	10 51 55.1 -0.2
	comp=Z,11nm,0.8s						
F36A	Milaca	80.51	345	P		P	10 51 54.2 -0.6
	baz=161,SNR=6.8						
MPMC	Manual Prospec	80.61	324	P		P	10 51 57.1 +1.2
	baz=142						
FURC	Furnace Creek,	80.63	325	P		P	10 51 57.3 +1.7
	baz=142						
TPNV	Topopah Spring	80.71	325	P		P	10 51 58.0 +1.7
	baz=143,SNR=6.3						
TPNV	Topopah Spring	80.71	325	eP		P	10 51 58.3 +1.9
TPNV				pmax		pmax	
	comp=Z,4.0nm,0.8s						
TPNV	Topopah Spring	80.71	325	eP		P	10 51 58.3 +1.9
	comp=Z,3.7nm,0.8s						
F35A	Swanville	80.75	344	P		P	10 51 55.8 -0.3
	baz=160						
RWWY	Rawlins	80.79	334	eP		P	10 51 57.8 +1.0
	comp=Z,14nm,1.3s						
F34A	Alexandria	80.85	344	P		P	10 51 56.6 0.0
	baz=160						
PKM	Mcpherson Peak	80.89	322	P		P	10 51 59.2 +1.9
	baz=140,SNR=5.7						
E36A	McGregor	81.07	345	P		P	10 51 57.6 -0.2
	baz=162,SNR=6.8						
MPU	Maple Canyon	81.13	330	eP		P	10 51 59.6 +1.1
	comp=Z,3.6nm,0.9s						
CWC	Cottonwood Cre	81.21	324	P		P	10 52 00.4 +1.4
	baz=142						
VES	Vestal, Richgr	81.25	323	P		P	10 52 00.6 +1.6
	baz=141						
NLU	North Lily Min	81.27	330	eP		P	10 52 00.7 +1.4
	comp=Z,8.1nm,1.5s						
E35A	Pequot Lakes	81.37	344	P		P	10 51 59.1 -0.3
	baz=161						
K22A	Casper	81.38	335	P		P	10 52 00.7 +0.9
	baz=151,SNR=5.7						
K22A	Casper	81.38	335	eP		P	10 52 00.8 +1.1
	comp=Z,14nm,1.0s						
E34A	Wadena	81.50	344	P		P	10 51 59.7 -0.4
	baz=160						
R11A	Troy Canyon, C	81.52	327	P		P	10 52 02.2 +1.6
	baz=144,SNR=6.5						
R11A	Troy Canyon, C	81.52	327	eP		P	10 52 01.2 +0.6
	comp=Z,4.1nm,1.1s						
JLU	Jordanelle	81.54	330	eP		P	10 52 01.8 +1.0
	comp=Z,3.7nm,1.0s						
F31A	Hecla	81.67	342	P		P	10 52 01.0 0.0
	baz=157,SNR=5.2						
E33A	Westby DABS, E	81.69	343	P		P	10 52 00.7 -0.4
	baz=159						
DUG	Dugway, Tooele	81.78	329	P		P	10 52 02.8 +0.8
	baz=146						
DUG	Dugway, Tooele	81.78	329	eP		P	10 52 03.2 +1.3
DUG				pmax		pmax	
	comp=Z,10.0nm,1.5s						
DUG	Dugway, Tooele	81.78	329	eP		P	10 52 03.2 +1.3
	comp=Z,9.6nm,1.5s						
D35A	Remer	81.78	345	P		P	10 52 01.5 0.0
	baz=161						
C38A	Sawbill Land.	81.81	347	P		P	10 52 01.0 -0.7
	baz=163						
RSSD	Black Hills	81.82	337	P		P	10 52 02.7 +0.7
	baz=153						
RSSD	Black Hills	81.82	337	eP		P	10 52 02.8 +0.7
RSSD				pmax		pmax	
	comp=Z,8.0nm,0.8s						
RSSD	Black Hills	81.82	337	eP		P	10 52 02.8 +0.7
	comp=Z,8.4nm,0.8s						
C37A	Embarrass	82.00	346	P		P	10 52 02.5 -0.2
	baz=162						
D34A	Park Rapids	82.05	344	P		P	10 52 03.1 +0.2
	baz=160						
EYMN	Ely	82.07	347	eP		P	10 52 03.6 +0.5
	comp=Z,24nm,1.4s						
C36A	Pine Crest Far	82.16	346	P		P	10 52 03.3 -0.3
	baz=162						
E31A	Nome	82.22	342	P		P	10 52 04.1 +0.2
	baz=158,SNR=5.6						
D33A	AnnSam, Waubun	82.25	344	P		P	10 52 03.7 -0.3
	baz=159						
C35A	Jirik Farms, M	82.35	345	P		P	10 52 04.4 -0.1
	baz=161						
HWUT	Hardware Ranch	82.43	331	eP		P	10 52 05.7 +0.4
	comp=Z,4.4nm,0.8s						
SPUT	South Promonto	82.55	330	eP		P	10 52 06.8 +0.9
	comp=Z,5.9nm,0.9s						
BW06	Boulder Array	82.61	333	P		P	10 52 07.1 +0.8
	baz=148						
BW06	Boulder Array	82.61	333	eP		P	10 52 06.5 +0.2
	comp=Z,2.4nm,0.9s						
PD31	Pinedale Array	82.61	333	eP		P	10 52 06.5 +0.2
PDAR	Pinedale Array	82.61	333	P		P	10 52 06.5 +0.2
	comp=Z,1.1nm,0.6s,baz=137,slow=7.3,SNR=11						
C33A	Trail	82.81	344	P		P	10 52 06.7 -0.2
	baz=160,SNR=5.1						
B35A	Bob, Littlefor	82.92	345	P		P	10 52 07.1 -0.4
	baz=161,SNR=6.0						
HVU	Hansel Valley	83.08	330	eP		P	10 52 09.2 +0.6
HVU				pmax		pmax	
	comp=Z,5.0nm,0.9s						
HVU	Hansel Valley	83.08	330	eP		P	10 52 09.2 +0.6
	comp=Z,4.6nm,0.9s						
B34A	Aery, Baudette	83.24	345	P		P	10 52 08.5 -0.6
	baz=160						
C31A	Landman Farms,	83.32	343	P		P	10 52 09.4 -0.2
	baz=158						
AGMN	Agassiz Nation	83.34	344	P		P	10 52 09.3 -0.3
	baz=160						
AGMN	Agassiz Nation	83.34	344	eP		P	10 52 09.4 -0.3
	comp=Z,10nm,0.7s						
TOA0	Torodi Ar. Sit	83.40	70	eP		P	10 52 10.3 -0.4
	comp=Z,24nm,0.8s						
TORD	Torodi Ar. Bea	83.40	70	P		P	10 52 09.9 -0.8
	comp=Z,17nm,0.7s,baz=263,slow=4.4,SNR=116						
TORD				LR		LR	11 25 47.3
	comp=Z,57nm,21.7s,baz=125,slow=33						
WAKR	Walker	83.49	324	eP		P	10 52 11.1 +0.2
	comp=Z,5.5nm,1.1s						
B32A	Ashes, Strandq	83.59	344	P		P	10 52 10.8 -0.1
	baz=159,SNR=7.4						
CMB	Columbia Colle	83.60	323	eP		P	10 52 12.3 +1.0
CMB				pmax		pmax	
	comp=Z,8.0nm,1.8s						
CMB	Columbia Colle	83.60	323	eP		P	10 52 12.3 +1.0
	comp=Z,8.2nm,1.8s						
REDW	Red Top Meadow	83.62	332	eP		P	10 52 12.0 +0.5
	comp=Z,4.2nm,1.0s						
YERR	Yerington	83.77	325	eP		P	10 52 12.9 +0.5
	comp=Z,7.5nm,1.3s						
A33A	Warroad	83.83	345	P		P	10 52 12.2 +0.1
	baz=160						
MDND	Maddock	83.86	341	P		P	10 52 12.7 +0.4
	baz=156						
MDND	Maddock	83.86	341	eP		P	10 52 13.0 +0.6
	comp=Z,43nm,0.9s						
MOOW	Moose Ponds	83.90	333	eP		P	10 52 13.2 +0.3
	comp=Z,11nm,1.9s						
FXWY	Fox Creek	83.92	332	eP		P	10 52 13.6 +0.5
	comp=Z,7.9nm,1.9s						
PNTR	Pine Nut	84.02	324	eP		P	10 52 15.4 +1.8
	comp=Z,5.1nm,0.8s						
A32A	Rocking H Ranc	84.07	344	P		P	10 52 13.2 -0.2
	baz=159						
IMW	Indian Meadow	84.10	333	eP		P	10 52 14.7 +0.6
	comp=Z,4.7nm,1.1s						
PAHR	Pah Rah Range	84.40	325	eP		P	10 52 16.8 +1.3
	comp=Z,15nm,1.7s						
RLMT	Red Lodge	84.51	334	P		P	10 52 16.2 +0.2
	baz=149						
RLMT	Red Lodge	84.51	334	eP		P	10 52 16.6 +0.6
	comp=Z,12nm,1.5s						
AFDM	Forest Hills D	84.60	324	eP		P	10 52 17.1 +0.8
	comp=Z,10.0nm,1.7s						
YMR	Madison River	84.76	333	eP		P	10 52 17.4 +0.2
	comp=Z,11nm,0.9s						
LAO	LASA Array	84.81	337	P		P	10 52 17.5 +0.2
	baz=151						
LAO	LASA Array	84.81	337	eP		P	10 52 17.6 +0.4
	comp=Z,9.2nm,1.1s						
YHH	Holmes Hill	84.82	333	eP		P	10 52 18.8 +1.1
	comp=Z,9.3nm,1.0s						
BEKR	Beckworth	85.00	325	eP		P	10 52 19.9 +1.4
	comp=Z,9.7nm,1.8s						
ULM	Lac du Bonnet	85.17	345	P		P	10 52 18.7 -0.2
	comp=Z,7.7nm,0.8s,baz=215,slow=4.9,SNR=6.3						
ULM	Lac du Bonnet	85.17	345	eP		P	10 52 19.0 +0.1
ULM				pmax		pmax	
	comp=Z,10.0nm,0.8s						
ULM	Lac du Bonnet	85.17	345	eP		P	10 52 18.9 +0.1
	comp=Z,10nm,0.8s						
HLID	Hailey	85.23	330	P		P	10 52 20.2 +0.6
	baz=145						
HLID	Hailey	85.23	330	eP		P	10 52 20.0 +0.4
	comp=Z,2.5nm,0.9s						
ORV	Oroville	85.32	324	eP		P	10 52 20.4 +0.5
ORV				pmax		pmax	
	comp=Z,21nm,2.0s						
ORV	Oroville	85.32	324	eP		P	10 52 20.4 +0.5
	comp=Z,21nm,2.0s						
MCMT	McKenzie Canyo	85.63	332	eP		P	10 52 22.9 +1.2
DGMT	Dagmar	85.74	339	P		P	10 52 22.4 +0.6
	baz=153,SNR=6.8						
DGMT	Dagmar	85.74	339	eP		P	10 52 22.3 +0.6
	comp=Z,40nm,1.3s						
BOZ	Bozeman (W)	85.80	333	P		P	10 52 22.3 0.0
	baz=147						
BOZ	Bozeman (W)	85.80	333	eP		P	10 52 22.6 +0.3
BOZ				pmax		pmax	
	comp=Z,3.0nm,0.8s						
BOZ	Bozeman (W)	85.80	333	eP		P	10 52 22.6 +0.3
	comp=Z,2.6nm,0.8s						
DLMT	Dillon	85.98	332	eP		P	10 52 24.2 +1.0
	comp=Z,14nm,1.8s						
O03D	Paynes Creek	86.04	324	P		P	10 52 23.8 +0.2
	baz=139						
LRM	Limekiln Ridge	86.30	333	eP		P	10 52 25.9 +1.0
MOD	Modoc Plateau	86.54	326	eP		P	10 52 27.2 +1.2
	comp=Z,14nm,1.6s						
WDC	Whiskeytown Da	86.62	324	eP		P	10 52 26.4 +0.1
WDC				pmax		pmax	
	comp=Z,25nm,2.0s						
WDC	Whiskeytown Da	86.62	324	eP		P	10 52 26.4 +0.1
	comp=Z,25nm,2.0s						
N02D	Trinity Center	87.00	324	P		P	10 52 28.7 +0.5
	baz=139						
EGMT	Eagleton	87.17	335	P		P	10 52 29.0 +0.1
	baz=148						
EGMT	Eagleton	87.17	335	eP		P	10 52 28.6 -0.3
	comp=Z,8.0nm,1.0s						
M04C	Macdoel	87.19	325	P		P	10 52 30.1 +0.9
	baz=139						
MATP	Matopo	87.35	112	P		P	10 52 30.2 -0.5
	comp=Z,4.3nm,0.7s,baz=250,slow=3.4,SNR=18						
M02C	Callahan	87.39	324	P		P	10 52 30.8 +0.7
	baz=139						
BMO	Blue Mountains	87.50	329	eP		P	10 52 31.1 +0.5
BMO				pmax		pmax	
	comp=Z,3.0nm,0.7s						
BMO	Blue Mountains	87.50	329	eP		P	10 52 31.1 +0.5
	comp=Z,2.7nm,0.7s						
CHMT	Chamberlain Mo	87.52	333	eP		P	10 52 31.6 +0.8
JCC	Jacoby Creek,	87.55	323	eP		P	10 52 32.3 +1.6
	comp=Z,94nm,1.5s						
YBH	Yreka Blue Hor	87.57	324	eP		P	10 52 31.1 +0.1
YBH				pmax		pmax	
	comp=Z,21nm,1.8s						
YBH	Yreka Blue Hor	87.57	324	eP		P	10 52 31.1 +0.1
	comp=Z,21nm,1.8s						
SLMT	Seeley Lake	87.88	333	eP		P	10 52 33.0 +0.5
KRMB	Red Mountain	88.01	324	eP		P	10 52 34.6 +1.4
	comp=Z,40nm,1.5s						
HUMO	Hull Mountain	88.35	325	eP		P	10 52 35.0 +0.4
	comp=Z,39nm,2.0s						
HAWA	Hanford	89.67	329	eP		P	10 52 42.4 +1.7
	comp=Z,3.7nm,0.8s						
LSZ	Lusaka	89.95	108	P		P	10 52 43.8 +0.9
	comp=Z,1.4nm,0.3s,baz=238,slow=2.1,SNR=6.7						
LTY	Liberty	90.84	329	eP		P	10 52 46.7 +0.5
	comp=Z,18nm,1.8s						
AFI	Afiamalu	90.94	253	LR		LR	11 24 07.2
	comp=Z,45nm,19.8s,baz=112,slow=29						
LON	Longmire	90.95	328	eP		P	10 52 46.9 +0.2
LON				pmax		pmax	
	comp=Z,21nm,1.9s						
LON	Longmire	90.95	328	eP		P	10 52 46.9 +0.2
	comp=Z,21nm,1.9s						
B08A	Colville Reser	91.12	330	eP		P	10 52 47.3 -0.1
	comp=Z,19nm,1.9s						
ESDC	Sonseca Array	95.32	46	P		P	10 53 06.5 -0.5
	comp=Z,0.1nm,0.2s,baz=220,slow=2.8,SNR=4.6						
ES19	SONSECA Array	95.38	46	eP		P	10 53 06.5 -0.8
YKA	Yellowknife Ar	100.78	341	P		Pdif	10 53 29.6 -1.4
	comp=Z,0.5nm,0.5s,baz=144,slow=4.9,SNR=3.6						
ASAR	Alice Springs	119.02	207	PKKPbc		PKKPbc	11 08 45.2 -0.6
	comp=Z,0.6nm,0.8s,baz=328,slow=3.0,SNR=6.5						
BR231	Keskin MP Arra	120.23	60	ePKPdf		PKPdf	10 58 33.9 -0.1
BRTR	Keskin Array B	120.83	60	PKP		PKPdf	10 58 34.2 -1.0
	comp=Z,1.8nm,0.7s,baz=205,slow=1.7,SNR=7.8						
AK11	Malin Array Si	120.92	47	ePKPdf		PKPdf	10 58 33.5 -1.3
KIEV	Kiev	120.94	47	ePKIKP		PKPdf	10 58 33.3 -1.5
KIEV	Kiev	120.94	47	ePKPdf		PKPdf	10 58 33.8 -1.1
AKASG	Malin Array Be	120.96	47	PKP		PKPdf	10 58 33.4 -1.5
	comp=Z,1.9nm,0.6s,baz=267,slow=2.6,SNR=8.4						
AKBB	Malin Array Si	120.96	47	ePKIKP		PKPdf	10 58 33.7 -1.2
AKBB	Malin Array Si	120.96	47	ePKPdf		PKPdf	10 58 33.7 -1.2
FINES	FINESS Array B	121.60	34	PKP		PKPdf	10 58 34.8 -1.0
	comp=Z,3.4nm,1.0s,baz=302,slow=4.3,SNR=4.9						
WC3	Warramunga Arr	122.17	209	ePKPdf		PKPdf	10 58 37.9 -0.5
WB2	Warramunga Arr	122.19	209	ePKPdf		PKPdf	10 58 37.4 -1.0
WRA	Warramunga Arr	122.20	209	PKP		PKPdf	10 58 37.5 -0.9
	comp=Z,0.8nm,0.7s,baz=153,slow=1.8,SNR=6.6						
WRA				PKKPbc		PKKPbc	11 08 32.5 -1.4
	comp=Z,0.4nm,0.6s,baz=343,slow=4.4,SNR=3.6						
ARCES	ARCESS Array B	122.55	24	PKP		PKPdf	10 58 36.2 -1.3
	comp=Z,3.5nm,1.0s,baz=242,slow=1.9,SNR=3.3						
H11S2	WAKE ISLAND Hyl	26.11	270	T		T	13 17 48.0
	baz=118,slow=75,SNR=314						
H11S1	WAKE ISLAND Hyl	26.12	270	T		T	13 17 49.2
	baz=118,slow=75,SNR=474						
H11S3	WAKE ISLAND Hyl	26.13	270	T		T	13 17 49.3
	baz=118,slow=75,SNR=1336						
H11N3	WAKE ISLAND Hyl	26.49	271	T		T	13 18 15.9
	baz=113,slow=78,SNR=140						
H11N1	WAKE ISLAND Hyl	26.50	271	T		T	13 18 17.2
	baz=113,slow=78,SNR=80						
H11N2	WAKE ISLAND Hyl	26.50	271	T		T	13 18 17.3
	baz=113,slow=78,SNR=29						
KLMR	Klimovskoe	128.03	35	ePKIKP		PKPdf	10 58 47.0 -1.1
KLMR				pmax		pmax	
	comp=Z,17nm,1.3s						
KIV	Kislovodsk	128.43	57	i PKIKP		PKPdf	10 58 50.2 +0.6
KIV				pmax		pmax	
	comp=Z,8.0nm,1.1s						
KIV				MLR		MLR	
	comp=Z,61nm,22.0s						
ARU	Arti	138.42	40	i PKIKP		PKPdf	10 59 08.1 +0.3
ARU							11 01 57.0
ARU				SS		SS	11 20 04.8 -3.9
GEYT	Alibeck	139.01	68	PKP		PKPdf	10 59 07.7 -1.9
	comp=Z,2.0nm,0.5s,baz=258,slow=4.4,SNR=4.7						
AB31	Akbulak array	140.51	50	i PKHKP		PKPpre	10 59 02.9
AB31				pmax		pmax	
	comp=Z,2.0nm,0.5s						
ABKAR	Akbulak array	140.51	50	ePKPdf		PKPdf	10 59 14.0 +2.2
BRVK	Borovoye	145.91	42	ePKP2		PKPbc	10 59 21.9 0.0
BRVK	Borovoye	145.91	42	ePKPdf		PKPbc	10 59 21.9 0.0
BVA0	Borovoye Array	145.98	42	i PKP2		PKPbc	10 59 21.8 -0.4
BVA0				pmax		pmax	
	comp=Z,9.0nm,0.6s						
YAK	Yakutsk	147.46	341	PKPbc		PKPbc	10 59 25.8 -0.3
	comp=Z,26nm,0.6s,baz=326,slow=1.1,SNR=13						
YAK	Yakutsk	147.46	341	ePKP2		PKPbc	10 59 25.3 -0.8
YAK				e			11 02 58.0
YAK				pmax		pmax	
	comp=Z,47nm,1.0s						
YAK				pmax		pmax	
	comp=N,3.0nm,1.1s						
YAK				pmax		pmax	
	comp=Z,108nm,2.7s						
YAK				pmax		pmax	
	comp=N,90nm,2.8s						
DZET	Dzherino	147.47	68	PKIKP		PKPdf	10 59 24.9 +0.4
DZET				pmax		pmax	
	comp=Z,25nm,0.8s						
KK31	Karatay Array	148.54	59	i PKP2		PKPbc	10 59 28.8 -0.9
KK31				pmax		pmax	
	comp=Z,3.0nm,0.5s						
KKAR	Karatay Array	148.54	59	ePKP2		PKPbc	10 59 29.3 -0.3
KKAR	Karatay Array	148.54	59	ePKPbc		PKPbc	10 59 29.3 -0.3
KKAR				ePKPab		PKPab	10 59 32.4 -0.8
IPM	Ipoh	151.26	165	ePKPbc		PKPbc	10 59 36.4 -0.8
IPM				ePKPab		pPKPbc	10 59 49.9 +0.7
AAK	Ala-Archa	151.50	60	PKIKP		PKPbc	10 59 36.8 -0.2
AAK				pmax		pmax	
	comp=Z,27nm,0.7s						
AAK	Ala-Archa	151.50	60	ePKPdf		PKPdf	10 59 31.5 +0.6
AAK				ePKPbc		PKiKP	10 59 37.4 -0.1
NVS	Novosibirsk	151.52	31	i PKIKP		PKPbc	10 59 36.5 +0.1
KURK	Kurchatov	151.58	41	ePKIKP		PKPbc	10 59 36.8 +0.1
KURK	Kurchatov	151.58	41	ePKPbc		PKPbc	10 59 36.8 +0.1
KULM	Kulim	151.95	164	ePKPbc		PKPbc	10 59 37.9 -0.8
KULM				ePKPab		pPKPbc	10 59 51.8 +1.0
ZAA0	Zalesovo Array	152.81	31	ePKPbc		PKPbc	10 59 39.2 -0.1
ZALV	Zalesovo Beam	152.81	31	PKPbc		PKPbc	10 59 39.0 -0.4
	comp=Z,25nm,0.6s,baz=295,slow=3.3,SNR=51						
ZALV				PKPab		PKPab	10 59 50.1 -0.3
	comp=Z,9.8nm,0.8s,baz=299,slow=4.9,SNR=7.7						
KSH	Kashi	153.00	66	ePKPbc		PKPbc	10 59 38.9 -1.6
KSH				pPKP		sPKPdf	10 59 50.4 +0.9
KSH				sPKP			10 59 53.4
KSH				PKS		PKSdf	11 03 11.3 +3.7
KSH				PP		PP	11 03 25.6 -0.1
KSH				SKS		SKSdf	11 06 41.8 +4.4
KSH	Kashi	153.00	66	SKKS		SKKSac	11 10 16.1 +3.3
KSH	Kashi	153.00	66	SS		SS	11 22 58.8 +2.5
KSH				AMB		AMB	
	comp=Z,82nm,8.3s						
KSH				LR		LR	
	comp=N,170nm,7.1s						
KSH				LR		LR	
	comp=E,120nm,6.8s						
BOD	Bodaibo	154.42	353	ePKIKP		PKPdf	10 59 33.3 -1.1
BOD				pmax		pmax	
	comp=Z,10.0nm,0.9s						
MK31	Makanchi Array	155.54	47	i PKIKP		PKPdf	10 59 42.5 +6.2
MK31				pmax		pmax	
	comp=Z,4.0nm,0.6s						
MK31	Makanchi Array	155.54	47	ePKPdf		PKPdf	10 59 36.1 -0.2
MK31				ePKPab		sPKPbc	11 00 01.9 0.0
MKAR	Makanchi Array	155.54	47	PKP		PKPdf	10 59 36.0 -0.4
	comp=Z,1.1nm,0.7s,baz=283,slow=2.1,SNR=7.0						
MKAR				PKPbc		pPKPdf	10 59 44.8 -3.6
	comp=Z,1.4nm,0.6s,baz=308,slow=2.3,SNR=12						
MKAR				PKPab		sPKPbc	11 00 01.8 0.0
	comp=Z,5.8nm,0.6s,baz=294,slow=4.0,SNR=23						
MKAR				PP		PP	11 03 39.4 +0.1
	comp=Z,0.9nm,0.8s,baz=297,slow=5.3,SNR=4.8						
MK01	Makanchi Array	155.56	47	ePKPdf		PKPdf	10 59 35.7 -0.6
MK01				ePKPab		sPKPbc	11 00 01.8 0.0
WMQ	Urumqi	160.29	49	PKP		PKPdf	10 59 40.6 -1.7
WMQ				LR		LR	
	comp=Z,63nm,19.7s						
WMQ				LR		LR	
	comp=Z,39nm,19.7s						
WMQ				LR		LR	
	comp=Z,31nm,19.7s						
JOW	Kunigami	161.79	257	ePKPdf		PKPdf	10 59 45.1 +0.8
CMAR	Chiang Mai Arr	163.62	147	PKP		PKPdf	10 59 45.8 -0.6
	comp=Z,0.4nm,0.4s,baz=236,slow=4.0,SNR=4.1						
SONM	Songino Array	164.65	5	PKPab		PKPab	11 00 42.0 0.0
	comp=Z,1.2nm,0.7s,baz=331,slow=2.6,SNR=6.2						
SONM	Songino Array	164.65	5	PKP2		PKPab	11 00 42.0 0.0
GTA	Gaotai

CTAK	**Corum_Osmancik**	**0.36**	**68**	*i* P	**Pb**	**10 42 57.9**	**-0.5**
CTAK				*i* S	**Sb**	**10 43 03.5**	**-1.0**
CTAK	**Corum_Osmancik**	**0.36**	**68**	P	**Pb**	**10 42 57.9**	**-0.5**
CTAK				S	**Sb**	**10 43 03.5**	**-1.0**
CORM	**Corum**	**0.39**	**148**	*e*PG	**Pb**	**10 42 58.2**	**-0.8**
CORM				*e*SG	**Sb**	**10 43 05.2**	**-0.2**
CORM	**Corum**	**0.39**	**148**	*e*Pg	**Pb**	**10 42 58.2**	**-0.8**
CORM				*e*Sg	**Sb**	**10 43 05.2**	**-0.2**
COAL	**Corum-Alaca**	**0.54**	**118**	*i* P	**Pb**	**10 43 00.8**	**-0.8**
COAL				*i* S	**Sb**	**10 43 09.1**	**-0.7**
COAL	**Corum-Alaca**	**0.54**	**118**	P	**Pb**	**10 43 00.8**	**-0.8**
COAL				S	**Sb**	**10 43 09.1**	**-0.7**
CANT	**Cankiri**	**0.57**	**280**	*e*PG	**Pg**	**10 43 00.9**	**+0.5**
CANT				*e*SG	**Sg**	**10 43 07.9**	**+0.1**
ILGA	**Ilgaz**	**0.73**	**318**	*i* P	**Pg**	**10 43 03.9**	**+0.5**
ILGA				*i* S	**Sg**	**10 43 12.7**	**-0.2**
ILGA	**Ilgaz**	**0.73**	**318**	P	**Pg**	**10 43 03.9**	**+0.5**
ILGA				S	**Sg**	**10 43 12.7**	**-0.2**
CDAG	**Cicekdag**	**0.89**	**179**	*i* P	**Pg**	**10 43 06.5**	**0.0**
CDAG				*i* S	**Sb**	**10 43 19.1**	**-0.6**
CDAG	**Cicekdag**	**0.89**	**179**	P	**Pg**	**10 43 06.5**	**0.0**
CDAG				S	**Sb**	**10 43 19.1**	**-0.6**
HAVZ	**Havza**	**1.18**	**61**	*i* P	**Pn**	**10 43 12.7**	**0.0**
HAVZ				*i* S	**Sn**	**10 43 29.5**	**+0.4**
HAVZ	**Havza**	**1.18**	**61**	P	**Pn**	**10 43 12.7**	**0.0**
HAVZ				S	**Sn**	**10 43 29.5**	**+0.4**
DIKM	**Dikmen**	**1.32**	**31**	*e*PN	**Pg**	**10 43 15.0**	**+0.2**
DIKM				*e*SN	**Sn**	**10 43 33.5**	**+0.8**
DIKM	**Dikmen**	**1.32**	**31**	*e*Pn	**Pg**	**10 43 15.0**	**+0.2**
DIKM				*e*Sn	**Sn**	**10 43 33.5**	**+0.8**
BBAL	**Bala**	**1.36**	**225**	*i* P	**Pn**	**10 43 15.0**	**-0.2**
BBAL				*i* S	**Sg**	**10 43 31.9**	**-1.1**
BBAL	**Bala**	**1.36**	**225**	P	**Pn**	**10 43 15.0**	**-0.2**
BBAL				S	**Sg**	**10 43 31.9**	**-1.1**
LOD	**Lodumlu**	**1.37**	**243**	*e*PN	**Pb**	**10 43 15.1**	**-0.3**
LOD	**Lodumlu**	**1.37**	**243**	*e*Pn	**Pn**	**10 43 15.1**	**-0.3**
KVT	**Kavak**	**1.40**	**66**	*e*PN	**Pg**	**10 43 16.5**	**+0.2**
KVT	**Kavak**	**1.40**	**66**	*e*Pn	**Pg**	**10 43 16.5**	**+0.2**
CMDR	**Camlidere-ANKA**	**1.44**	**270**	*i* P	**Pg**	**10 43 17.2**	**+0.2**
CMDR				*i* S	**Sg**	**10 43 36.4**	**+0.8**
CMDR	**Camlidere-ANKA**	**1.44**	**270**	P	**Pg**	**10 43 17.2**	**+0.2**
CMDR				S	**Sg**	**10 43 36.4**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**1.45**	**223**	*e*PN	**Pn**	**10 43 16.7**	**+0.2**
AFSR	**Af¨ar-Bala (A**	**1.45**	**223**	*e*Pn	**Pn**	**10 43 16.7**	**+0.2**
BZK	**Bozkurt**	**1.47**	**350**	*e*PN	**Pn**	**10 43 16.7**	**0.0**
BZK	**Bozkurt**	**1.47**	**350**	*e*Pn	**Pn**	**10 43 16.7**	**0.0**
SAMS	**Samsun-Alacam**	**1.62**	**58**	*i* P	**Pg**	**10 43 20.6**	**0.0**
SAMS				*i* S	**Sb**	**10 43 41.0**	**+0.2**
SAMS	**Samsun-Alacam**	**1.62**	**58**	P	**Pg**	**10 43 20.6**	**0.0**
SAMS				S	**Sb**	**10 43 41.0**	**+0.2**
SERE	**Sereflikochisa**	**1.68**	**202**	*e*PN	**Pn**	**10 43 20.0**	**+0.3**
SERE	**Sereflikochisa**	**1.68**	**202**	*e*Pn	**Pn**	**10 43 20.0**	**+0.3**
KKUL	**Konya-Kulu**	**1.74**	**220**	*i* P	**Pn**	**10 43 20.6**	**+0.1**
KKUL				*i* S	**Sb**	**10 43 44.3**	**+0.1**
KKUL	**Konya-Kulu**	**1.74**	**220**	P	**Pn**	**10 43 20.6**	**+0.1**
KKUL				S	**Sb**	**10 43 44.3**	**+0.1**
AVNS	**Nevsehir-Avano**	**1.75**	**167**	*i* P	**Pb**	**10 43 21.8**	**-0.3**
AVNS				*i* S	**Sn**	**10 43 43.2**	**-0.1**
AVNS	**Nevsehir-Avano**	**1.75**	**167**	P	**Pb**	**10 43 21.8**	**-0.3**
AVNS				S	**Sn**	**10 43 43.2**	**-0.1**
BCAM	**Yenicaga**	**1.77**	**281**	*i* P	**Pn**	**10 43 20.6**	**-0.3**
BCAM				*i* S	**Sn**	**10 43 44.3**	**+0.4**
BCAM	**Yenicaga**	**1.77**	**281**	P	**Pn**	**10 43 20.6**	**-0.3**
BCAM				S	**Sn**	**10 43 44.3**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**1.81**	**126**	*i* P	**Pn**	**10 43 21.8**	**+0.2**
CUSAR				*i* S	**Sg**	**10 43 48.9**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**1.81**	**126**	P	**Pn**	**10 43 21.8**	**+0.2**
CUSAR				S	**Sg**	**10 43 48.9**	**+1.1**
BNN	**Bunyan**	**2.02**	**145**	*e*PN	**Pb**	**10 43 26.2**	**-0.5**
BNN	**Bunyan**	**2.02**	**145**	*e*Pn	**Pb**	**10 43 26.2**	**-0.5**
SVSK	**Karacayir**	**2.11**	**106**	*e*PN	**Pb**	**10 43 27.0**	**-1.2**
SVSK	**Karacayir**	**2.11**	**106**	*e*Pn	**Pb**	**10 43 27.0**	**-1.2**
CHBY	**Cihanbeyli**	**2.24**	**211**	*e*PN	**Pn**	**10 43 27.7**	**+0.4**
CHBY	**Cihanbeyli**	**2.24**	**211**	*e*Pn	**Pn**	**10 43 27.7**	**+0.4**
SULT	**Sultanhani-AKS**	**2.40**	**196**	*e*PN	**Pn**	**10 43 30.8**	**+1.2**
SULT	**Sultanhani-AKS**	**2.40**	**196**	*e*Pn	**Pn**	**10 43 30.8**	**+1.2**
MDUB	**Mudurnu**	**2.41**	**270**	*e*PN	**Pn**	**10 43 29.9**	**+0.2**
MDUB	**Mudurnu**	**2.41**	**270**	*e*Pn	**Pn**	**10 43 29.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.42**	**245**	*e*PN	**Pn**	**10 43 30.5**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.42**	**245**	*e*Pn	**Pn**	**10 43 30.5**	**+0.6**
SARI	**SarD1z-Kayseri**	**2.64**	**142**	*e*PN	**Pn**	**10 43 34.5**	**+1.6**

*WEL **16** 10:48:43.0±0.4, 36°.31S×177°.42E, h5km, ML4.5/28, Error ellipse: s-maj=3.3km s-min=2.9km az=0.0*
*IDC **16** 10:48:43.8±1.8, 36°.53S×177°.48E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/24, mbtmp4.0/5, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=45.0km s-min=22.6km az=81.0*
*ISCJB **16** 10:48:44.3±0.4, 36°.50S±0°.03×177°.29E±0°.04, h10km, mb4.4/16, MS3.5/1, Error ellipse: s-maj=5.1km s-min=3.4km az=138.8*
*NEIC **16** 10:48:45.2±0.0, 36°.41S×177°.36E, h12km, mb4.6/12, ML4.4(WEL), After WEL.*
ISC 16 10:48:45.3±0.6, 36°.49S±0°.06×177°.32E±0°.05, h10km, n100, σ1§19/103, mb4.3/16, 2C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.31**	**258**	Pn	**Pn**	**10 49 07.3**	**-2.4**
KUZ	**Kuaotunu**	**1.31**	**258**	AML	AML	10 49 36.7	
KUZ				AML	AML	10 49 36.7	
KUZ				AML	AML	10 49 38.9	
KUZ				AML	AML	10 49 38.9	
HAZ	**Te Kaha**	**1.32**	**164**	P*	**Pn**	**10 49 07.8**	**-1.9**
HAZ				AML	AML	10 49 38.4	
HAZ				AML	AML	10 49 41.3	
MXZ	**Matakaoa Point**	**1.33**	**144**	*e*Pn	**Pn**	**10 49 08.5**	**-1.5**
MXZ				*e*Sn	**Sn**	**10 49 26.2**	**-1.5**
MXZ	**Matakaoa Point**	**1.33**	**144**	P*	**Pn**	**10 49 08.1**	**-1.8**
MXZ				S*	**Sn**	**10 49 25.5**	**-2.3**
MXZ				AML	AML	10 49 34.4	
OPRZ	**Ohinepanea**	**1.49**	**204**	P*	**Pn**	**10 49 10.6**	**-1.5**
OPRZ	**Ohinepanea**	**1.49**	**204**	P*	**Pn**	**10 49 10.6**	**-1.5**
OPRZ				AML	AML	10 49 40.0	
OPRZ				AML	AML	10 49 56.2	
TGRZ	**Tauranga**	**1.50**	**214**	P*	**Pn**	**10 49 11.4**	**-0.9**
TGRZ	**Tauranga**	**1.50**	**214**	⇑P*	**Pn**	**10 49 11.4**	**-0.9**
TGRZ				AML	AML	10 49 49.8	
TGRZ				AML	AML	10 49 50.2	
RUGZ	**Raukumara Rang**	**1.50**	**169**	P*	**Pn**	**10 49 11.6**	**-0.8**
GRZ	**Great Barrier**	**1.52**	**278**	PN	**Pn**	**10 49 11.2**	**-1.4**
GRZ				SN	**Sb**	**10 49 32.2**	**-0.8**
GRZ				SN	**Sn**	**10 49 32.4**	**-0.1**
GRZ				AML	AML	10 49 35.0	
PKGZ	**Pakihiroa**	**1.52**	**157**	PN	**Pn**	**10 49 11.2**	**-1.5**
PKGZ				AML	AML	10 49 13.5	
PKGZ				AML	AML	10 49 13.7	
WMGZ	**Waiomatatini S**	**1.59**	**147**	Pn	**Pb**	**10 49 14.3**	**-0.5**
WMGZ	**Waiomatatini S**	**1.59**	**147**	PN	**Pb**	**10 49 14.3**	**-0.5**
WMGZ				AML	AML	10 49 42.5	
WMGZ				AML	AML	10 49 51.3	
PUZ	**Puketiti**	**1.75**	**155**	**Pn**	**Pb**	**10 49 16.5**	**-1.0**
PUZ	**Puketiti**	**1.75**	**155**	PN	**Pb**	**10 49 16.5**	**-1.0**
PUZ				AML	AML	10 49 51.7	
PUZ				AML	AML	10 49 55.0	
KARZ	**Kaharoa**	**1.75**	**209**	P*	**Pn**	**10 49 15.3**	**-0.5**
KARZ				AML	AML	10 50 01.4	
KARZ				AML	AML	10 50 02.3	
TWGZ	**Tauwhareparae**	**1.77**	**163**	Pn	**Pn**	**10 49 16.8**	**+0.8**
TWGZ	**Tauwhareparae**	**1.77**	**163**	PN	**Pn**	**10 49 16.6**	**+0.6**
TWGZ				AML	AML	10 49 48.9	
TWGZ				AML	AML	10 49 51.6	
URZ	**Urewera**	**1.78**	**185**	Pn	**Pn**	**10 49 15.6**	**-0.4**
	34nm,0.3s,baz=3.4,slow=7.1,SNR=145						
URZ				Sn	**Sn**	**10 49 38.2**	**-0.5**
	30nm,0.3s,baz=233,slow=1.5,SNR=7.0						
URZ				LR	LR	10 50 05.2	
	comp=Z,340nm,20.2s,baz=328,slow=46						
URZ	**Urewera**	**1.78**	**185**	P*	**Pn**	**10 49 15.3**	**-0.8**
URZ				AML	AML	10 49 48.3	
URZ				AML	AML	10 49 52.6	
OMRZ	**Omania**	**1.79**	**205**	P*	**Pn**	**10 49 15.6**	**-0.7**
OMRZ				AML	AML	10 49 56.0	
OMRZ				AML	AML	10 49 59.9	
WIAZ	**Waiheke Island**	**1.79**	**260**	PN	**Pn**	**10 49 14.7**	**-1.5**
WIAZ				AML	AML	10 49 53.3	
WIAZ				AML	AML	10 49 54.6	
MKAZ	**Moumakai**	**1.84**	**250**	Pn	**Pn**	**10 49 15.5**	**-1.4**
MKAZ	**Moumakai**	**1.84**	**250**	PN	**Pn**	**10 49 15.5**	**-1.4**
MKAZ				AML	AML	10 49 48.7	
MKAZ				AML	AML	10 49 57.4	
MWZ	**Matawai**	**1.85**	**175**	P*	**Pn**	**10 49 16.2**	**-0.9**
MWZ	**Matawai**	**1.85**	**175**	P*	**Pn**	**10 49 16.2**	**-0.9**
MWZ				AML	AML	10 49 55.2	
MWZ				AML	AML	10 50 04.0	
TOZ	**Tahuroa Road**	**1.91**	**229**	P*	**Pn**	**10 49 17.0**	**-0.9**
TOZ	**Tahuroa Road**	**1.91**	**229**	P*	**Pn**	**10 49 17.0**	**-0.9**
TOZ				AML	AML	10 49 38.1	
TOZ				AML	AML	10 49 59.6	
ETAZ	**East Tamaki Re**	**1.98**	**256**	Pn	**Pn**	**10 49 17.8**	**-1.1**
ETAZ	**East Tamaki Re**	**1.98**	**256**	PN	**Pn**	**10 49 17.8**	**-1.1**
TKGZ	**Te Karaka**	**1.99**	**168**	Pn	**Pn**	**10 49 20.1**	**+1.0**
TKGZ	**Te Karaka**	**1.99**	**168**	PN	**Pn**	**10 49 20.0**	**+1.0**
TKGZ				AML	AML	10 49 51.2	
TKGZ				AML	AML	10 49 59.5	
RAGZ	**Rawiri**	**2.01**	**178**	P*	**Pn**	**10 49 19.1**	**-0.2**
RAGZ	**Rawiri**	**2.01**	**178**	⇓P*	**Pn**	**10 49 19.1**	**-0.2**
RAGZ				AML	AML	10 49 54.8	
RAGZ				AML	AML	10 49 56.9	
ABAZ	**Army Bay**	**2.01**	**266**	PN	**Pn**	**10 49 19.1**	**-0.1**
KBAZ	**Karaka Road Bo**	**2.04**	**252**	Pn	**Pn**	**10 49 20.0**	**+0.2**
KBAZ	**Karaka Road Bo**	**2.04**	**252**	⇑PN	**Pn**	**10 49 20.0**	**+0.2**
RVAZ	**Riverhead Bore**	**2.22**	**262**	PN	**Pn**	**10 49 21.5**	**-0.7**
AWAZ	**Awhitu Peninsu**	**2.23**	**254**	PN	**Pn**	**10 49 22.2**	**0.0**
RIGZ	**Rimuhau**	**2.24**	**171**	PN	**Pn**	**10 49 24.4**	**+1.9**
RIGZ				AML	AML	10 50 07.7	
RIGZ				AML	AML	10 50 22.8	
TLZ	**Tolley Road**	**2.32**	**217**	P*	**Pn**	**10 49 23.3**	**-0.3**
TLZ	**Tolley Road**	**2.32**	**217**	P*	**Pn**	**10 49 23.3**	**-0.3**
TLZ				AML	AML	10 49 24.0	
TLZ				AML	AML	10 49 43.0	
WCZ	**Waipu Caves**	**2.47**	**282**	Pn	**Pn**	**10 49 24.9**	**-0.6**
WCZ	**Waipu Caves**	**2.47**	**282**	PN	**Pn**	**10 49 24.9**	**-0.6**
WCZ				AML	AML	10 49 42.1	
WCZ				AML	AML	10 50 18.3	
KNZ	**Kokohu**	**2.55**	**174**	PN	**Pn**	**10 49 28.2**	**+1.6**
KNZ				AML	AML	10 50 15.9	
KNZ				AML	AML	10 50 38.7	
NMHZ	**Naumai**	**2.64**	**189**	Pn	**Pn**	**10 49 29.1**	**+1.1**
NMHZ	**Naumai**	**2.64**	**189**	PN	**Pn**	**10 49 29.1**	**+1.1**
NMHZ				AML	AML	10 50 19.3	
NMHZ				AML	AML	10 50 26.4	
BKZ	**Black Stump Fm**	**2.75**	**194**	*e*Pn	**Pn**	**10 49 30.5**	**+1.0**
BKZ	**Black Stump Fm**	**2.75**	**194**	P*	**Pn**	**10 49 30.1**	**+0.5**
BKZ				AML	AML	10 49 51.9	
BKZ				AML	AML	10 50 21.9	
HIZ	**Hauiti**	**2.82**	**223**	*e*Pn	**Pn**	**10 49 32.5**	**+2.1**
HIZ	**Hauiti**	**2.82**	**223**	PN	**Pn**	**10 49 32.1**	**+1.7**
HIZ				AML	AML	10 50 32.6	
HIZ				AML	AML	10 50 50.6	
OTVZ	**Oturere**	**2.98**	**206**	P*	**Pn**	**10 49 36.1**	**+3.4**
OTVZ				AML	AML	10 49 49.4	
OTVZ				AML	AML	10 50 32.5	
NGZ	**Ngauruhoe**	**3.01**	**206**	P*	**Pb**	**10 49 38.0**	**-1.1**
NGZ				AML	AML	10 50 14.9	
WNVZ	**Wahianoa**	**3.15**	**205**	P*	**Pn**	**10 49 38.0**	**+2.9**
WNVZ	**Wahianoa**	**3.15**	**205**	P*	**Pn**	**10 49 38.0**	**+2.9**
OUZ	**Omahuta**	**3.28**	**292**	*e*Pn	**Pn**	**10 49 36.6**	**-0.1**
VRZ	**Vera Road**	**3.32**	**217**	P*	**Pn**	**10 49 38.0**	**+0.7**
VRZ	**Vera Road**	**3.32**	**217**	⇓P*	**Pn**	**10 49 38.1**	**+0.7**
NEZ	**North Egmont**	**3.77**	**222**	Pn	**Pn**	**10 49 44.9**	**+1.3**
NEZ	**North Egmont**	**3.77**	**222**	PN	**Pn**	**10 49 44.9**	**+1.3**
BFZ	**Birch Farm**	**4.27**	**191**	*e*Pn	**Pn**	**10 49 50.9**	**+0.5**
SNZO	**South Karori**	**5.23**	**202**	*e*Pn	**Pn**	**10 50 03.9**	**+0.4**
THZ	**Tophouse**	**6.29**	**212**	*e*Pn	**Pn**	**10 50 18.9**	**+0.8**
LTZ	**Lake Taylor**	**7.39**	**210**	*e*Pn	Pn	10 50 41.1	+7.8
OXZ	**Oxford**	**7.94**	**209**	*e*Pn	**Pn**	**10 50 41.6**	**+0.8**
RPZ	**Rata Peaks**	**8.67**	**212**	Pn	**Pn**	**10 50 50.5**	**-0.2**
	0.4nm,0.3s,baz=83,slow=4.7,SNR=3.3						
RPZ	**Rata Peaks**	**8.67**	**212**	*e*Pn	**Pn**	**10 50 52.5**	**+1.8**
FOZ	**Fox Glacier**	**9.09**	**217**	*e*Pn	**Pn**	**10 50 57.1**	**+0.7**
ODZ	**Otahua Downs**	**9.93**	**209**	*e*Pn	**Pn**	**10 51 09.7**	**+1.7**
WHZ	**Wether Hill Ro**	**11.74**	**214**	*e*Pn	**Pn**	**10 51 34.3**	**+1.5**
MSVF	**Nonsavu**	**18.69**	**2**	*e*P	**Pn**	**10 53 03.6**	**-0.6**
	12nm,1.1s						
AS01	**Alice Springs**	**39.34**	**277**	*e*P	**P**	**10 56 15.1**	**+0.2**
AS31	**Alice Springs**	**39.37**	**277**	*e*P	**P**	**10 56 15.9**	**+0.8**
	0.8nm,0.8s						
ASAR	**Alice Springs**	**39.37**	**277**	P	**P**	**10 56 16.0**	**+0.8**
	1.3nm,0.8s,baz=118,slow=7.7,SNR=14						
ASAR				LR	LR	11 11 22.7	
	comp=Z,78nm,20.2s,baz=192,slow=34						
WB2	**Warramunga Arr**	**40.93**	**282**	*e*P	**P**	**10 56 28.9**	**+0.7**
	3.3nm,1.0s						
WRAB	**Tennant Creek**	**40.94**	**282**	*e*P	**P**	**10 56 26.8**	**-1.4**
	9.1nm,1.1s						
WR1	**Warramunga Arr**	**40.94**	**282**	*e*P	**P**	**10 56 28.8**	**+0.6**
	4.3nm,1.1s						
WRA	**Warramunga Arr**	**40.94**	**282**	P	**P**	**10 56 28.8**	**+0.6**
	1.2nm,0.9s,baz=123,slow=7.6,SNR=5.6						
FITZ	**Fitzroy Crossi**	**48.84**	**278**	P	**P**	**10 57 32.3**	**+1.2**
	2.3nm,0.9s,baz=165,slow=11,SNR=4.0						
MBWA	**Marble Bar**	**52.00**	**271**	*e*P	**P**	**10 57 55.1**	**+0.1**
	3.9nm,1.0s						
QSPA	**South Pole Qui**	**53.63**	**180**	*e*P	**P**	**10 58 09.0**	**+2.3**
SNAA	**Sanae**	**72.14**	**180**	*e*P	**P**	**11 00 08.7**	**-0.9**
	2.2nm,1.0s						
HOPE	**Hope Point**	**85.01**	**161**	*e*P	**P**	**11 01 22.0**	**+1.3**
	23nm,1.1s						
CM31	**Chiang Mai Arr**	**91.85**	**292**	*e*P	**P**	**11 01 53.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**91.85**	**292**	P	**P**	**11 01 55.9**	**+2.0**
	0.8nm,0.6s,baz=175,slow=2.6,SNR=6.4						
PAGB	**Antelope Grade**	**92.33**	**46**	*e*P	**P**	**11 01 55.1**	**-0.7**
	3.3nm,0.4s						
PMPB	**Monarch Peak**	**92.36**	**46**	*e*P	**P**	**11 01 55.4**	**-0.6**
	7.6nm,1.2s						
BAR	**Barrett**	**92.40**	**50**	*e*P	**P**	**11 01 56.3**	**+0.1**
	4.1nm,1.1s						
ISA	**Isabella, Lake**	**93.33**	**47**	*e*P	**P**	**11 02 01.4**	**+1.0**
	8.7nm,0.8s						
KMRM	**Mail Ridge**	**93.60**	**41**	*e*P	**P**	**11 02 01.5**	**-0.1**
	7.1nm,1.1s						
CBYP	**Canovanas**	**122.01**	**90**	*e*PKPdf	**PKPdf**	**11 07 40.5**	**0.0**
KIV	**Kislovodsk**	**144.93**	**297**	*e*PKPbc	**PKPdf**	**11 08 21.9**	**-0.5**
FIA0	**FINESS Array S**	**149.17**	**333**	*ep*PKPdf	**PKPbc**	**11 08 31.8**	**-1.3**
FINES	**FINESS Array B**	**149.17**	**333**	PKPbc	**PKPbc**	**11 08 31.8**	**-1.3**
	2.3nm,0.9s,baz=119,slow=2.4,SNR=3.9						
BR101	**Keskin Array S**	**151.36**	**288**	*e*PKPbc	**PKPbc**	**11 08 39.4**	**+0.1**
BRTR	**Keskin Array B**	**151.36**	**288**	PKPbc	**PKPbc**	**11 08 39.4**	**+0.1**
	0.3nm,0.4s,baz=54,slow=2.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**156.43**	**191**	PKPab	**PKPab**	**11 09 09.3**	**+0.1**
	0.5nm,0.8s,baz=172,slow=3.7,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**156.44**	**191**	*e*PKPab	**PKPab**	**11 09 09.3**	**+0.1**
SANT	**Santorini**	**157.39**	**278**	*e*PKPdf	**PKPdf**	**11 08 40.5**	**-1.1**

*ISK **16** 10:53:42.9, 39°.60N×38°.67E, h6km, MD2.8*
*ISCJB **16** 10:53:43.4±0.6, 39°.63N±0°.03×38°.71E±0°.05, h7km±7km, Error ellipse: s-maj=6.1km s-min=5.2km az=175.3*
*CSEM **16** 10:53:43.3±0.1, 39°.64N×38°.75E, h10km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.8km az=78.0*
*DDA **16** 10:53:44.5, 39°.63N×38°.50E, h7km, Md2.6*
ISC 16 10:53:42.7±1.2, 39°.57N±0°.03×38°.75E±0°.03, h8km±11km, n15, σ0§44/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.36**	**213**	*i* P	**Pb**	**10 53 51.5**	**+0.1**
KEMA				*i* S	**Sb**	**10 53 57.6**	**+0.3**
KEMA	**Kemaliye**	**0.36**	**213**	P	**Pb**	**10 53 51.5**	**+0.1**
KEMA				S	**Sb**	**10 53 57.6**	**+0.3**
KELT	**Kelkit**	**0.69**	**34**	*i* P	**Pg**	**10 53 55.6**	**-0.5**
KELT				*i* S	**Sg**	**10 54 06.0**	**+0.7**
KELT	**Kelkit**	**0.69**	**34**	P	**Pg**	**10 53 55.6**	**-0.5**
KELT				S	**Sg**	**10 54 06.0**	**+0.7**
ERZN	**Erzincan**	**0.75**	**89**	*e*PG	**Pb**	**10 53 59.0**	**+0.9**
ERZN				*e*SG	**Sn**	**10 54 10.7**	**-0.7**
SUSE	**Susehri**	**0.76**	**327**	*i* P	**Pg**	**10 53 56.9**	**-0.5**
SUSE				*i* S	**Sg**	**10 54 07.3**	**0.0**
SUSE	**Susehri**	**0.76**	**327**	P	**Pg**	**10 53 56.9**	**-0.5**
SUSE				S	**Sg**	**10 54 07.3**	**0.0**
PTK	**Pertek**	**0.84**	**143**	*e*PG	**Pn**	**10 54 00.6**	**-0.5**
PTK				*e*SG	**Sn**	**10 54 13.4**	**-0.3**
PTK	**Pertek**	**0.84**	**143**	*e*Pg	**Pn**	**10 54 00.6**	**-0.5**
PTK				*e*Sg	**Sn**	**10 54 13.4**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.37**	**307**	*e*PN	**Pn**	**10 54 08.2**	**+0.1**
RSDY				*e*SN	**Sn**	**10 54 26.5**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.37**	**307**	*e*Pn	**Pn**	**10 54 08.2**	**+0.1**
RSDY				*e*Sn	**Sn**	**10 54 26.5**	**+0.1**
SVSK	**Karacayir**	**1.39**	**285**	*e*PN	**Pn**	**10 54 08.5**	**+0.1**
SVSK				*e*SN	**Sg**	**10 54 27.1**	**-0.4**
SVSK	**Karacayir**	**1.39**	**285**	*e*Pn	**Pn**	**10 54 08.5**	**+0.1**
SVSK				*e*Sn	**Sg**	**10 54 27.1**	**-0.4**
DARE	**Darende-Malaty**	**1.40**	**225**	*e*PN	**Pg**	**10 54 09.8**	**+0.2**
DARE	**Darende-Malaty**	**1.40**	**225**	*e*Pn	**Pg**	**10 54 09.8**	**+0.2**

*NNC **16** 11:08:59.8±1.9, 44°.80N×81°.06E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=77.8km s-min=5.6km az=119.0*
*SOME **16** 11:09:00.0, 44°.82N×80°.98E, h15km*
*ISCJB **16** 11:09:02.4±0.9, 44°.9N±0°.1×80°.9E±0°.2, h10km, Error ellipse: s-maj=29.5km s-min=4.2km az=34.3*
ISC 16 11:08:57.9±1.5, 44°.8N±0°.1×81°.1E±0°.2, h10km, n7, σ1§21/14, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.05**	**244**	*e*P	**Pn**	**11 09 18.7**	**-0.2**
	6.0nm,0.2s						
DJR				*e*S	**Sg**	**11 09 31.2**	**-0.7**
	36nm,0.2s						
PDGK	**Podgornoye**	**1.88**	**219**	⇓Pn	**Pg**	**11 09 33.2**	**-0.8**
	1.3nm,0.4s						
PDGK				⇑Sn	**Sg**	**11 09 58.1**	**-0.4**
	19nm,0.4s						
MAKZ	**Makanchi**	**2.09**	**17**	⇓Pn	**Pg**	**11 09 37.0**	**-1.0**
	1.1nm,0.5s						
MAKZ				⇑Sn	**Sg**	**11 10 04.8**	**-0.3**
	9.8nm,0.3s						
MK31	**Makanchi Array**	**2.15**	**22**	⇑Pn	**Pg**	**11 09 38.3**	**-0.9**
	1.2nm,0.4s,baz=208,slow=13,SNR=14						
MK31				⇑Sn	**Sb**	**11 10 04.8**	**+1.1**
	3.2nm,0.4s,baz=201,slow=25,SNR=20						
KPKS	**Kokpek**	**2.20**	**233**	*e*P	**Pg**	**11 09 39.0**	**-1.1**
	11nm,0.1s						
KPKS				*e*S	**Sb**	**11 10 06.5**	**+1.3**
	90nm,0.3s						
UZB	**Uzynbulak**	**2.24**	**223**	*e*P	**Pb**	**11 09 39.5**	**+0.9**
	3.1nm,0.1s						
UZB				*e*S	**Sg**	**11 10 08.1**	**-1.9**
	27nm,0.2s						
SATY	**Saty**	**2.62**	**229**	*e*P	**Pb**	**11 09 46.0**	**+0.9**
	2.5nm,0.2s						
SATY				*e*S	**Sb**	**11 10 19.2**	**+1.9**
	60nm,0.2s						

*CSEM **16** 11:09:26.4±0.2, 39°.65N×38°.70E, h2km, MD2.6, Error ellipse: s-maj=4.4km s-min=3.5km az=55.0*
*DDA **16** 11:09:26.2, 39°.63N×38°.71E, h7km, Md2.6*
*ISK **16** 11:09:26.7, 39°.60N×38°.74E, h2km, ML2.0*
ISC 16 11:09:26.5±1.1, 39°.66N±0°.02×38°.70E±0°.02, h7km±15km, n15, σ0§61/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0

NISR			S	Sg	11 22 13.3	-0.1
NISR			AML	AML	11 22 15.6	
	comp=E,2776μm,0.3s					
NISR			AML	AML	11 22 16.1	
	comp=N,857μm,0.2s					
NISR	**Nisiros**	**0.38 247**	P	**Pg**	**11 22 08.1**	**-0.2**
NISR			S	**Sg**	**11 22 13.3**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.43 328**	*e*PG	**Pg**	**11 22 08.5**	**-0.8**
YKAV			*e*SG	**Sg**	**11 22 14.8**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.43 328**	*e*Pg	**Pg**	**11 22 08.5**	**-0.8**
YKAV			*e*Sg	**Sg**	**11 22 14.8**	**-0.1**
MLSB	**Milas**	**0.56 18**	*e*PG	**Pg**	**11 22 11.6**	**-0.1**
MLSB			*e*SG	**Sg**	**11 22 20.1**	**+1.0**
MLSB	**Milas**	**0.56 18**	*e*Pg	**Pg**	**11 22 11.6**	**-0.1**
MLSB			*e*Sg	**Sg**	**11 22 20.1**	**+1.0**
ARG	**Arkhangelos**	**0.71 140**	P	**Pg**	**11 22 14.0**	**-0.5**
ARG			S	**Sb**	**11 22 26.0**	**+0.7**
ARG			AML	AML	11 22 27.8	
	comp=N,500μm,0.3s					
ARG			AML	AML	11 22 28.2	
	comp=E,396μm,0.2s					
ARG	**Arkhangelos**	**0.71 140**	P	**Pg**	**11 22 14.0**	**-0.5**
ARG			S	**Sb**	**11 22 26.0**	**+0.7**
TURN	**Turunc**	**0.84 82**	*i* P	Pg	11 22 10.6	-6.5
TURN			*i* S	**Sg**	**11 22 20.9**	**-7.1**
DALY	**Dalyan (Mu¨la**	**0.88 86**	*e*PG	**Pb**	**11 22 18.8**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.88 86**	*i* P	**Pg**	**11 22 17.0**	**-0.7**
DALY			*i* S	**Sb**	**11 22 30.0**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.88 86**	P	**Pg**	**11 22 17.0**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.88 86**	*e*Pg	**Pb**	**11 22 18.8**	**+0.5**
DALY			S	**Sb**	**11 22 30.0**	**-0.1**
AYDN	**Tasoluk**	**0.93 16**	*i* P	**Pg**	**11 22 18.3**	**-0.5**
AYDN			*i* S	**Sb**	**11 22 32.2**	**+0.4**
AYDN	**Tasoluk**	**0.93 16**	P	**Pg**	**11 22 18.3**	**-0.5**
AYDN			S	**Sb**	**11 22 32.2**	**+0.4**
FETY	**Fethiye**	**1.23 95**	*e*PN	**Pg**	**11 22 25.6**	**+1.1**
FETY	**Fethiye**	**1.23 95**	*e*Pn	**Pg**	**11 22 25.6**	**+1.1**
FETY	**Fethiye**	**1.23 95**	P	**Pg**	**11 22 26.1**	**+1.7**
FETY			S	**Sn**	**11 22 43.0**	**+2.0**
KARP	**Karpathos**	**1.26 195**	P	**Pn**	**11 22 23.3**	**-1.4**
KARP	**Karpathos**	**1.26 195**	P	**Pn**	**11 22 23.3**	**-1.4**
TAVA	**DENIZLI_Tavas**	**1.29 57**	*i* P	**Pg**	**11 22 26.1**	**+0.5**
TAVA			*i* S	**Sb**	**11 22 40.4**	**-1.7**
TAVA	**DENIZLI_Tavas**	**1.29 57**	P	**Pg**	**11 22 26.1**	**+0.5**
APE	**Apeiranthos**	**1.66 281**	*e*PN	**Pn**	**11 22 30.0**	**-0.3**
APE	**Apeiranthos**	**1.66 281**	*e*Pn	**Pn**	**11 22 30.0**	**-0.3**
GOLH	**Golhisar**	**1.67 73**	*i* P	**Pg**	**11 22 32.6**	**-0.3**
GOLH			*i* S	**Sg**	**11 22 55.9**	**+1.4**
GOLH	**Golhisar**	**1.67 73**	P	**Pg**	**11 22 32.6**	**-0.3**
GOLH			S	**Sg**	**11 22 55.9**	**+1.4**
AKAS	**Kas**	**1.73 107**	*e*PN	**Pb**	**11 22 33.2**	**+0.3**
AKAS	**Kas**	**1.73 107**	*e*Pn	**Pb**	**11 22 33.2**	**+0.3**

*ISCJB **16** 11:28:07.1±0.7,22°.81S±0°.08×66°.65W±0°.07,h250km, Error ellipse: s-maj=12.4km s-min=6.6km az=33.5*
*SJA **16** 11:28:08.5±0.6,22°.75S×66°.47W,h221km±17km,ML2.7, MW3.3*
*GUC **16** 11:28:09.2±0.5,22°.74S×66°.97W,h250km±39km,ML4.1*
ISC 16 11:28:05.5±1.3,**22°.76S**±0°.08×**66°.49W**±0°.06,**h250**km,**n13**, σ**2**9**04**/20,**6C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.07**	**58**	*e*P	**Pn**	**11 28 42.2**	**+0.6**
YJA				IAML		11 28 43.8	
	comp=Z,48nm,0.7s						
YJA				*e*S	**S**	**11 29 07.0**	**-2.8**
HJA	**Humahuaca**	**1.09**	**114**	*e*P	**Pn**	**11 28 42.4**	**+0.9**
HJA				IAML		11 28 43.0	
	comp=Z,181nm,0.4s						
SLA	**San Lorenzo**	**2.15**	**155**	*e*P	**Pn**	**11 28 51.2**	**+1.7**
LVC	**Limon Verde**	**2.24**	**273**	*e*P	**Pn**	**11 28 52.1**	**+1.5**
PB09	**IPOC Station P**	**2.72**	**290**	⇑*i*P	**Pn**	**11 28 57.3**	**+2.1**
PB09				*e*S	**S**	**11 29 33.9**	**-0.6**
PB09				IAML		11 29 37.2	
	comp=E,308nm,0.7s						
PB06	**IPOC Station P**	**2.84**	**270**	IAML		11 29 40.1	
	comp=N,142nm,0.2s						
PB01	**IPOC Station P**	**3.26**	**301**	⇑*i*P	**Pn**	**11 29 02.6**	**+1.6**
PB01				*i* S	**S**	**11 29 43.3**	**-1.7**
PB01				IAML		11 29 45.3	
	comp=N,147nm,0.2s						
PB07	**IPOC Station P**	**3.31**	**287**	⇑*i*P	**Pn**	**11 29 03.1**	**+1.6**
PB07				*i* S	**S**	**11 29 43.5**	**-2.5**
PB07				IAML		11 29 44.7	
	comp=N,309nm,0.2s						
FSA	**Cafayete**	**3.37**	**172**	*e*P	**Pn**	**11 29 04.2**	**+2.0**
FSA				IAML		11 29 05.5	
	comp=Z,3.4nm,0.5s						
PB04	**IPOC Station P**	**3.41**	**276**	⇑*i*P	**Pn**	**11 29 04.0**	**+1.4**
PB04				*e*S	**S**	**11 29 45.3**	**-2.7**
PB04				IAML		11 29 50.6	
	comp=N,242nm,0.2s						
PB08	**IPOC Station P**	**3.60**	**316**	⇑*i*P	**Pn**	**11 29 07.7**	**+2.6**
PB08				*i* S	**S**	**11 29 52.9**	**+0.7**
PB10	**IPOC Station P**	**3.81**	**258**	⇓*i*P	**Pn**	**11 29 08.8**	**+1.6**
PB10				*i* S	**S**	**11 29 53.0**	**-3.0**
HMBC	**Humberstone**	**4.01**	**307**	⇑*i*P	**Pn**	**11 29 10.4**	**+0.8**
HMBC				*i* S	**S**	**11 29 58.0**	**-2.5**
HMBC				IAML		11 30 01.1	
	comp=E,113nm,0.6s						

*DDA **16** 11:35:07.5,40°.51N×34°.33E,h8km,Ml3.3*
*CSEM **16** 11:35:08.3±0.1,40°.53N×34°.32E,h2km,ML3.3,Error ellipse: s-maj=3.0km s-min=2.4km az=4.0*
*ISK **16** 11:35:08.0,40°.52N×34°.30E,h7km,ML2.7*
ISC 16 11:35:08.2±1.0,**40°.52N**±0°.02×**34°.33E**±0°.02,**h9**km±11km, **n52**,σ**0**70/75,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAK	**Corum_Osmancik**	**0.38**	**70**	*i* P	**Pg**	**11 35 16.2**	**+0.5**
CTAK				*i* S	**Sg**	**11 35 20.7**	**0.0**
CTAK	**Corum_Osmancik**	**0.38**	**70**	P	**Pg**	**11 35 16.2**	**+0.5**
CTAK				S	**Sg**	**11 35 20.7**	**0.0**
CORM	**Corum**	**0.41**	**145**	*e*PG	**Pg**	**11 35 16.5**	**+0.2**
CORM				*e*SG	**Sb**	**11 35 23.4**	**-0.7**
CORM	**Corum**	**0.41**	**145**	*e*Pg	**Pg**	**11 35 16.5**	**+0.2**
CORM				*e*Sg	**Sb**	**11 35 23.4**	**-0.7**
CANT	**Cankiri**	**0.55**	**280**	*e*PG	**Pg**	**11 35 18.9**	**0.0**
CANT				*e*SG	**Sg**	**11 35 26.3**	**+0.3**
COAL	**Corum-Alaca**	**0.57**	**117**	*i* P	**Pg**	**11 35 19.6**	**+0.4**
COAL				*i* S	**Sg**	**11 35 26.4**	**-0.3**
COAL	**Corum-Alaca**	**0.57**	**117**	P	**Pg**	**11 35 19.6**	**+0.4**
COAL				S	**Sg**	**11 35 26.4**	**-0.3**
ILGA	**Ilgaz**	**0.71**	**319**	*i* P	**Pg**	**11 35 21.8**	**-0.1**
ILGA				*i* S	**Sg**	**11 35 30.9**	**-0.3**
ILGA	**Ilgaz**	**0.71**	**319**	P	**Pg**	**11 35 21.8**	**-0.1**
ILGA				S	**Sg**	**11 35 30.9**	**-0.3**
CDAG	**Cicekdag**	**0.89**	**178**	*i* P	**Pg**	**11 35 25.2**	**-0.2**
CDAG				*i* S	**Sg**	**11 35 36.5**	**-0.5**
CDAG	**Cicekdag**	**0.89**	**178**	P	**Pg**	**11 35 25.2**	**-0.2**
CDAG				S	**Sg**	**11 35 36.5**	**-0.5**
HAVZ	**Havza**	**1.19**	**62**	*i* P	**Pg**	**11 35 29.7**	**-1.4**
HAVZ				*i* S	**Sb**	**11 35 46.7**	**0.0**
HAVZ	**Havza**	**1.19**	**62**	P	**Pg**	**11 35 29.7**	**-1.4**
HAVZ				S	**Sb**	**11 35 46.7**	**0.0**
DIKM	**Dikmen**	**1.33**	**32**	*e*PN	**Pg**	**11 35 34.0**	**+0.2**
DIKM	**Dikmen**	**1.33**	**32**	*e*Pn	**Pg**	**11 35 34.0**	**+0.2**
LOD	**Lodumlu**	**1.35**	**243**	*e*PN	**Pn**	**11 35 33.4**	**0.0**
LOD	**Lodumlu**	**1.35**	**243**	*e*Pn	**Pn**	**11 35 33.4**	**0.0**
CMDR	**Camlidere-ANKA**	**1.41**	**270**	*i* P	**Pg**	**11 35 35.4**	**+0.1**
CMDR				*i* S	**Sg**	**11 35 54.6**	**+1.0**
CMDR	**Camlidere-ANKA**	**1.41**	**270**	P	**Pg**	**11 35 35.4**	**+0.1**
CMDR				S	**Sg**	**11 35 54.6**	**+1.0**
KVT	**Kavak**	**1.42**	**66**	*e*PN	**Pb**	**11 35 34.7**	**-0.2**
KVT	**Kavak**	**1.42**	**66**	*e*Pn	**Pb**	**11 35 34.7**	**-0.2**
AFSR	**Af¨ar-Bala (A**	**1.44**	**222**	*e*PN	**Pb**	**11 35 35.1**	**-0.2**
AFSR	**Af¨ar-Bala (A**	**1.44**	**222**	*e*Pn	**Pb**	**11 35 35.1**	**-0.2**
BZK	**Bozkurt**	**1.46**	**351**	*e*PN	**Pg**	**11 35 36.3**	**0.0**
BZK	**Bozkurt**	**1.46**	**351**	*e*Pn	**Pg**	**11 35 36.3**	**0.0**
SERE	**Sereflikochisa**	**1.68**	**201**	*e*PN	**Pn**	**11 35 38.5**	**+0.7**
SERE	**Sereflikochisa**	**1.68**	**201**	*e*Pn	**Pn**	**11 35 38.5**	**+0.7**
KKUL	**Konya-Kulu**	**1.73**	**219**	*i* P	**Pn**	**11 35 38.6**	**0.0**
KKUL				*i* S	**Sg**	**11 36 03.5**	**-0.2**
KKUL	**Konya-Kulu**	**1.73**	**219**	P	**Pn**	**11 35 38.6**	**0.0**
KKUL				S	**Sg**	**11 36 03.5**	**-0.2**
BCAM	**Yenicaga**	**1.75**	**281**	*i* P	**Pb**	**11 35 39.9**	**-0.6**
BCAM				*i* S	**Sg**	**11 36 03.6**	**-0.7**
BCAM	**Yenicaga**	**1.75**	**281**	P	**Pb**	**11 35 39.9**	**-0.6**
BCAM				S	**Sg**	**11 36 03.6**	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**1.84**	**126**	*i* P	**Pn**	**11 35 41.0**	**+0.9**
CUSAR				*i* S	**Sg**	**11 36 07.0**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**1.84**	**126**	P	**Pn**	**11 35 41.0**	**+0.9**
CUSAR				S	**Sg**	**11 36 07.0**	**-0.3**
AKSY	**AKSARAY - Alti**	**1.92**	**193**	*i* P	**Pb**	**11 35 43.3**	**-0.1**
AKSY				*i* S	**Sb**	**11 36 07.0**	**-0.5**
AKSY	**AKSARAY - Alti**	**1.92**	**193**	P	**Pb**	**11 35 43.3**	**-0.1**
AKSY				S	**Sb**	**11 36 07.0**	**-0.5**
BNN	**Bunyan**	**2.04**	**144**	*e*PN	**Pn**	**11 35 44.1**	**+1.3**
BNN	**Bunyan**	**2.04**	**144**	*e*Pn	**Pn**	**11 35 44.1**	**+1.3**
SVSK	**Karacayir**	**2.13**	**105**	*e*PN	**Pb**	**11 35 45.9**	**-1.1**
SVSK	**Karacayir**	**2.13**	**105**	*e*Pn	**Pb**	**11 35 45.9**	**-1.1**
CHBY	**Cihanbeyli**	**2.23**	**210**	*e*PN	**Pn**	**11 35 46.3**	**+0.9**
CHBY	**Cihanbeyli**	**2.23**	**210**	*e*Pn	**Pn**	**11 35 46.3**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.29**	**92**	*e*PN	**Pn**	**11 35 47.6**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.29**	**92**	*e*Pn	**Pn**	**11 35 47.6**	**+1.3**
MDUB	**Mudurnu**	**2.39**	**270**	*e*PN	**Pn**	**11 35 48.3**	**+0.7**
MDUB	**Mudurnu**	**2.39**	**270**	*e*Pn	**Pn**	**11 35 48.3**	**+0.7**
SULT	**Sultanhani-AKS**	**2.40**	**195**	*e*PN	**Pn**	**11 35 49.0**	**+1.2**
SULT	**Sultanhani-AKS**	**2.40**	**195**	*e*Pn	**Pn**	**11 35 49.0**	**+1.2**
SVRH	**Sivrihisar-ESK**	**2.41**	**245**	*e*PN	**Pn**	**11 35 48.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.41**	**245**	*e*Pn	**Pn**	**11 35 48.7**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.66**	**142**	*e*PN	**Pn**	**11 35 52.8**	**+1.3**
LADK	**Ladik-KONYA**	**2.77**	**214**	*e*PN	**Pn**	**11 35 54.1**	**+1.2**
LADK	**Ladik-KONYA**	**2.77**	**214**	*e*Pn	**Pn**	**11 35 54.1**	**+1.2**

MEX 16 12:10:50.3±0.3,**16°.49N**×**95°.87W**,**h39**km±39km,**MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.75**	**198**	*e*P	Pn	12 11 02.7	-1.8
HUIG				*e*S	Sn	12 11 12.6	-2.1
VHO	**Vista Hermosa**	**1.01**	**305**	*e*P	Pn	12 11 07.0	-1.2
VHO				*e*S	Sn	12 11 18.9	-2.3
TLIG	**Tlapa**	**2.79**	**293**	*e*P	Pn	12 11 31.2	-1.4

*NEIC **16** 12:12:01.5±0.0,43°.60S×172°.54E,h12km,ML3.8(WEL), After WEL.*
NEIC Felt in Canterbury.
WEL 16 12:12:01.6±0.1,**43°.62S**×**172°.49E**,**h8**km±1km,**ML3.3/5, 1C-3D,Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.10**	**67**	Pg	Pg	12 12 03.8	-0.2
CRLZ				Sg	Sg	12 12 05.6	0.0
CRLZ	**Canterbury Las**	**0.10**	**67**	⇓PG	Pg	12 12 03.8	-0.2
CRLZ				SG	Sg	12 12 05.6	0.0
CRLZ				AML	AML	12 12 05.7	
CRLZ				AML	AML	12 12 05.7	
CRLZ				AML	AML	12 12 05.9	
MQZ	**McQueen's Vall**	**0.15**	**128**	⇓Pg	Pg	12 12 05.0	+0.2
MQZ				Sg	Sg	12 12 07.3	+0.5
MQZ	**McQueen's Vall**	**0.15**	**128**	⇓PG	Pg	12 12 05.0	+0.2
MQZ				AML	AML	12 12 05.0	
MQZ				SG	Sg	12 12 07.3	+0.5
MQZ				AML	AML	12 12 07.5	
OXZ	**Oxford**	**0.44**	**311**	P*	Pg	12 12 10.2	0.0
OXZ				S*	Sb	12 12 19.3	+0.9
OXZ	**Oxford**	**0.44**	**311**	PG	Pg	12 12 10.1	0.0
OXZ				AML	AML	12 12 19.7	
OXZ				AML	AML	12 12 19.7	
OXZ				AML	AML	12 12 20.2	
OXZ				AML	AML	12 12 20.3	
LTZ	**Lake Taylor**	**0.85**	**349**	P*	Pg	12 12 17.8	-0.1
LTZ				S*	Sg	12 12 29.3	+0.4
LTZ	**Lake Taylor**	**0.85**	**349**	P*	Pg	12 12 17.8	-0.1
LTZ				S*	Sg	12 12 29.3	+0.4
RPZ	**Rata Peaks**	**1.05**	**264**	P*	Pg	12 12 21.3	-0.4
RPZ	**Rata Peaks**	**1.05**	**264**	⇑P*	Pg	12 12 21.3	-0.4
RPZ				AML	AML	12 12 36.9	
RPZ				AML	AML	12 12 37.9	
INZ	**Inchbonnie**	**1.18**	**319**	P*	Pg	12 12 23.0	-1.1
WVZ	**Waitaha Valley**	**1.39**	**292**	Pn	Pn	12 12 26.4	-0.9
WVZ	**Waitaha Valley**	**1.39**	**292**	PN	Pn	12 12 26.4	-0.9
KHZ	**Kahutara**	**1.42**	**33**	Pn	Pn	12 12 25.6	-2.2
KHZ	**Kahutara**	**1.42**	**33**	PN	Pn	12 12 25.6	-2.2
LBZ	**Lake Benmore**	**1.83**	**244**	Pn	Pn	12 12 32.6	-0.9
LBZ	**Lake Benmore**	**1.83**	**244**	PN	Pn	12 12 32.6	-0.9
THZ	**Tophouse**	**1.88**	**9**	Pn	Pn	12 12 32.6	-1.5
THZ	**Tophouse**	**1.88**	**9**	PN	Pn	12 12 32.6	-1.5
DSZ	**Denniston Nort**	**1.94**	**345**	PN	Pn	12 12 33.5	-1.4
FOZ	**Fox Glacier**	**1.95**	**272**	Pn	Pn	12 12 35.5	+0.5
FOZ	**Fox Glacier**	**1.95**	**272**	PN	Pn	12 12 35.4	+0.5
ODZ	**Otahua Downs**	**1.95**	**222**	PN	Pn	12 12 33.6	-1.4
QRZ	**Quartz Range**	**2.79**	**1**	Pn	Pn	12 12 47.1	+0.5
QRZ	**Quartz Range**	**2.79**	**1**	PN	Pn	12 12 47.1	+0.5
EAZ	**Earnscleugh**	**2.79**	**234**	Pn	Pn	12 12 45.3	-1.3
EAZ	**Earnscleugh**	**2.79**	**234**	PN	Pn	12 12 45.3	-1.3
TUZ	**Tuapeka**	**3.10**	**220**	PN	Pn	12 12 49.6	-1.3
CAW	**Cannon Point**	**3.15**	**38**	Pn	Pn	12 12 48.4	-3.1

WEL 16 12:12:04.3±0.4,**37°.72S**×**176°.38E**,**h157**km±3km,**ML3.5/8, 9C-1D,Error ellipse: s-maj=3.4km s-min=3.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.79**	**133**	⇑PN	Pn	12 12 28.3	+0.2
URZ				SN	Sn	12 12 46.0	-0.4
URZ				AML	AML	12 12 47.4	
MUGZ	**Murupara**	**0.81**	**158**	PN	Pn	12 12 28.6	+0.3
MUGZ				SN	Sn	12 12 46.9	+0.1
RTZ	**Ruatahuna**	**1.01**	**152**	⇑PN	Pn	12 12 30.0	+0.2
RTZ				SN	Sn	12 12 49.3	-0.3
RUGZ	**Raukumara Rang**	**1.06**	**104**	PN	Pn	12 12 29.9	-0.4
MWZ	**Matawai**	**1.09**	**124**	⇑PN	Pn	12 12 30.8	+0.2
MWZ				AML	AML	12 12 51.8	
MWZ				AML	AML	12 12 52.9	
MRHZ	**Matea Rd**	**1.11**	**178**	⇑PN	Pn	12 12 30.9	+0.2
MRHZ				AML	AML	12 12 31.4	
MRHZ				AML	AML	12 12 31.6	
HAZ	**Te Kaha**	**1.11**	**92**	PN	Pn	12 12 30.6	-0.1
HAZ				AML	AML	12 12 51.1	
HAZ				AML	AML	12 12 51.1	
RAGZ	**Rawiri**	**1.12**	**134**	PN	Pn	12 12 31.1	+0.3
RAGZ				AML	AML	12 12 51.7	
RAGZ				AML	AML	12 12 52.7	
NMHZ	**Naumai**	**1.41**	**166**	PN	Pn	12 12 34.1	+0.6
BKZ	**Black Stump Fm**	**1.44**	**176**	⇑PN	Pn	12 12 33.4	-0.4
RIGZ	**Rimuhau**	**1.47**	**132**	PN	Pn	12 12 34.3	+0.3
RIGZ				AML	AML	12 12 59.0	
RIGZ				AML	AML	12 12 59.9	
WHHZ	**Waihua**	**1.51**	**154**	PN	Pn	12 12 34.6	+0.2
PUZ	**Puketiti**	**1.53**	**104**	PN	Pn	12 12 34.4	-0.3
MXZ	**Matakaoa Point**	**1.54**	**85**	⇓PN	Pn	12 12 35.2	+0.4
ARHZ	**Aropaoanui**	**1.61**	**163**	PN	Pn	12 12 35.7	+0.2
TUVZ	**Tukino**	**1.64**	**200**	PN	Pn	12 12 36.2	+0.1
KNZ	**Kokohu**	**1.65**	**142**	PN	Pn	12 12 35.7	-0.2
PRGZ	**Paritu Road**	**1.68**	**136**	PN	Pn	12 12 36.1	-0.2
WNVZ	**Wahianoa**	**1.71**	**201**	⇑PN	Pn	12 12 36.7	-0.1
MCHZ	**McNeill Hill**	**1.74**	**172**	PN	Pn	12 12 37.0	+0.1
BHHZ	**Black Hill Sta**	**1.78**	**188**	⇑PN	Pn	12 12 36.7	-0.7
KRHZ	**Kereru**	**1.92**	**180**	PN	Pn	12 12 38.2	-0.7
KAHZ	**Kahuranaki**	**2.10**	**169**	PN	Pn	12 12 40.4	-0.7
PNHZ	**Pukenui**	**2.19**	**184**	PN	Pn	12 12 40.9	-1.1
PXZ	**Pawanui**	**2.33**	**171**	⇑PN	Pn	12 12 42.4	-1.3
WPHZ	**Waipukurau**	**2.34**	**179**	PN	Pn	12 12 42.3	-1.4
TSZ	**Takapari Road**	**2.35**	**188**	PN	Pn	12 12 42.4	-1.5
PRHZ	**Porangahau**	**2.55**	**176**	PN	Pn	12 12 44.7	-1.6
DVHZ	**Dannevirke**	**2.58**	**184**	PN	Pn	12 12 44.7	-2.0
BFZ	**Birch Farm**	**2.96**	**182**	PN	Pn	12 12 49.0	-2.3
MRZ	**Mangatainoka R**	**3.00**	**192**	⇑PN	Pn	12 12 49.4	-2.5
MRZ				AML	AML	12 13 25.8	
TIWZ	**Tintock**	**3.07**	**187**	Pn	Pn	12 12 50.4	-2.4
TIWZ	**Tintock**	**3.07**	**187**	PN	Pn	12 12 50.4	-2.4
OGWZ	**Otaki Gorge**	**3.23**	**196**	Pn	Pn	12 12 52.2	-2.5
OGWZ	**Otaki Gorge**	**3.23**	**196**	PN	Pn	12 12 52.2	-2.5
OGWZ				AML	AML	12 13 31.0	
OGWZ				AML	AML	12 13 31.1	
HOWZ	**Holdsworth Sta**	**3.24**	**192**	Pn	Pn	12 12 52.0	-2.9
HOWZ	**Holdsworth Sta**	**3.24**	**192**	PN	Pn	12 12 52.0	-2.9
KIW	**Kapiti Island**	**3.33**	**200**	Pn	Pn	12 12 52.8	-3.3
KIW	**Kapiti Island**	**3.33**	**200**	PN	Pn	12 12 52.8	-3.3
TMWZ	**Te Maipa**	**3.40**	**186**	Pn	Pn	12 12 54.1	-2.8
TMWZ	**Te Maipa**	**3.40**	**186**	PN	Pn	12 12 54.1	-2.8
MTW	**Mount Morrison**	**3.50**	**191**	Pn	Pn	12 12 53.7	-4.4
MTW	**Mount Morrison**	**3.50**	**191**	PN	Pn	12 12 53.7	-4.4

*ISCJB **16** 12:20:09.9±0.9,26°.33S±0°.03×27°.41E±0°.04,h2km±6km, Error ellipse: s-maj=6.5km s-min=4.3km az=137.6*
*PRE **16** 12:20:10.3±2.3,26°.35S×27°.42E,h2km,ML2.8*
ISC 16 12:20:09.8±1.3,**26°.36S**±0°.03×**27°.39E**±0°.04,**h1**km±11km, **n13**,σ**1**9**56**/26,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.20**	**88**	*e*P	**Pg**	**12 20 13.7**	**0.0**
KLOF				*e*S	**Sg**	**12 20 15.1**	**-1.2**
KLOF				AML	AML	12 20 15.4	
	comp=Z,2μm,0.3s						
PRYS	**Parys**	**0.56**	**182**	*e*P	**Pg**	**12 20 21.6**	**+1.0**
PRYS				*e*S	**Sg**	**12 20 29.1**	**+1.1**
PRYS				AML	AML	12 20 34.8	
	comp=Z,219nm,0.7s						
ERPM	**east rand prop**	**0.77**	**89**	*e*P	**Pg**	**12 20 24.4**	**-0.1**
ERPM				*e*S	**Sb**	**12 20 36.5**	**-0.7**
ERPM				AML	AML	12 20 41.0	
	comp=Z,47nm,0.7s						
SLR	**Silverton**	**1.02**	**53**	*e*P	**Pg**	**12 20 29.1**	**-0.2**
SLR				*e*S	**Sg**	**12 20 41.2**	**-1.3**
SLR				AML	AML	12 21 00.3	
	comp=Z,39nm,0.2s						
SEK	**Senekal**	**1.97**	**174**	*e*P	**Pb**	**12 20 45.8**	**-0.8**
SEK				*e*S	**Sb**	**12 21 11.2**	**-0.6**
SEK				AML	AML	12 21 12.4	
	comp=Z,56nm,0.5s						
SWZ	**Schweizer**	**2.01**	**245**	*e*P	**Pb**	**12 20 46.0**	**-1.3**
SWZ				*e*S	**Sb**	**12 21 12.6**	**-0.4**
SWZ				AML	AML	12 21 15.9	
	comp=Z,84nm,0.6s						
LBTB	**Lobatse**	**2.10**	**309**	*e*P	**Pb**	**12 20 49.2**	**+0.4**
LBTB				*e*S	**Sb**	**12 21 14.2**	**-1.1**
LBTB				AML	AML	12 21 19.8	
	comp=Z,84nm,0.4s						
BOSA	**Boshof**	**2.94**	**220**	*i* P	**Pn**	**12 20 59.6**	**+1.8**
BOSA				*i*		12 20 59.7	
	baz=40,slow=16						
BOSA				*i* S	**Sb**	**12 21 41.7**	**+2.1**
BOSA	**Boshof**	**2.94**	**220**	*e*P	**Pn**	**12 20 57.7**	**-0.1**
BOSA				*e*S	**Sb**	**12 21 36.5**	**-3.0**
BOSA				AML	AML	12 21 42.4	
	comp=Z,14nm,0.3s						
POGA	**Pongola**	**3.91**	**106**	*e*P	**Pn**	**12 21 13.3**	**+2.2**
POGA				*e*S	**Sn**	**12 21 58.8**	**+1.2**
POGA				AML	AML	12 22 19.2	
	comp=Z,12nm,0.7s						
PKA	**Prieska**	**5.26**	**230**	*e*P	**Pn**	**12 21 30.5**	**+0.9**
PKA				*e*S	**Sn**	**12 22 31.1**	**+0.1**
PKA				AML	AML	12 23 00.5	
	comp=Z,102nm,0.6s						
MATP	**Matopo**	**5.99**	**10**	*i* P	**Pn**	**12 21 40.9**	**+1.0**
MATP				*i*		12 21 41.0	
	baz=192,slow=16						
MATP				*i* S	**Sn**	**12 22 50.5**	**+1.2**
SUR	**Sutherland**	**8.30**	**222**	*e*P	**Pn**	**12 22 11.9**	**+0.4**
SUR				*e*S	**Sn**	**12 23 42.0**	**-4.1**
SUR				AML	AML	12 24 45.6	
	comp=Z,6.9nm,0.6s						

IDC 16 12:32:27.0±13.0,**15°.03S**×**165°.61E**,**h0**km,**mb4.1**/3, **mb1 4.3**/4,**mb1mx3.8**/33,**mbtmp4.2**/4,**ML4.2**/1,**Error ellipse: s-maj=229.3km s-min=35.9km az=55.0,Vanuatu Islands**

| Code | Station Name | Δ° | AZ°

LBTB	Lobatse	42.81	125	eP		P		12 47 08.6	+0.1
LBTB					pmax	pmax			
comp=Z,6.0nm,1.0s									
LBTB	Lobatse	42.81	125	eP		P		12 47 08.6	+0.1
comp=Z,5.8nm,1.0s									
KEST	Kesra	43.09	26	P		P		12 47 10.8	+0.3
comp=Z,8.0nm,0.8s,baz=244,slow=9.2,SNR=5.1									
KEST					LR	LR		13 05 53.6	
comp=Z,286nm,18.7s,baz=204,slow=37									
KEST	Kesra	43.09	26	eP		P		12 47 11.8	+1.4
comp=Z,18nm,1.1s									
BOSA	Boshof	44.19	130	P		P		12 47 19.0	-0.5
comp=Z,5.7nm,0.9s,baz=298,slow=9.5,SNR=5.4									
BOSA					LR	LR		13 02 51.9	
comp=Z,79nm,18.4s,baz=292,slow=32									
BOSA	Boshof	44.19	130	eP		P		12 47 19.2	-0.3
BOSA					pmax	pmax			
comp=Z,7.0nm,0.9s									
BOSA	Boshof	44.19	130	eP		P		12 47 19.2	-0.3
comp=Z,7.1nm,0.9s									
PTGA	Pitinga	47.68	271	LR		LR		13 04 51.0	
comp=Z,113nm,21.1s,baz=76,slow=32									
PTGA	Pitinga	47.68	271	eP		P		12 47 46.6	-0.6
comp=Z,3.2nm,1.0s									
CPUP	Villa Florida	49.25	237	P		P		12 47 58.1	-1.0
comp=Z,5.9nm,1.2s,baz=60,slow=8.5,SNR=3.0									
CPUP					LR	LR		13 05 53.9	
comp=Z,190nm,21.4s,baz=66,slow=33									
CPUP	Villa Florida	49.25	237	eP		P		12 48 00.8	+1.7
CPUP	Villa Florida	49.25	237	eP		P		12 48 00.8	+1.7
KMBO	Kilima Mbogo	49.54	89	LR		LR		13 07 08.4	
comp=Z,480nm,20.4s,baz=276,slow=34									
KMBO	Kilima Mbogo	49.54	89	ceP		P		12 48 03.2	+1.4
KMBO					pmax	pmax			
comp=Z,1.0nm,0.3s									
SIV	San Ignacio	49.83	251	LR		LR		13 06 33.3	
comp=Z,181nm,21.7s,baz=70,slow=33									
BNI	Bardonecchia	50.28	17	eP		P		12 48 07.6	+0.9
BNI					pmax	pmax			
comp=Z,9.0nm,1.1s									
BNI	Bardonecchia	50.28	17	eP		P		12 48 07.6	+0.9
comp=Z,9.4nm,1.1s									
SAML	Samuel	51.00	261	eP		P		12 48 13.4	+0.9
comp=Z,9.3nm,1.1s									
FUORN	Ofenpass-Fuorn	52.81	19	eP		P		12 48 28.4	+2.7
comp=Z,8.4nm,0.9s									
KARP	Karpathos	52.85	41	eP		P		12 48 27.7	+1.7
comp=Z,9.2nm,0.9s									
DAVA	Damuels	53.27	19	iP		P		12 48 28.9	-0.2
comp=Z,24nm,0.9s									
FETA	Feichten	53.31	19	iP		P		12 48 29.3	-0.1
comp=Z,12nm,1.3s									
PCRV	Puerto La Cruz	53.61	284	LR		LR		13 09 23.3	
comp=Z,71nm,19.4s,baz=72,slow=34									
ABTA	Abfaltersbach	53.69	21	iP		P		12 48 34.2	+2.1
comp=Z,18nm,1.7s									
MOTA	Moosalm	53.72	20	iP		P		12 48 32.1	-0.2
comp=Z,5.2nm,0.8s									
BFO	Black Forest	53.73	17	eP		P		12 48 32.3	+0.1
BFO					pmax	pmax			
comp=Z,6.0nm,0.8s									
BFO	Black Forest	53.73	17	eP		P		12 48 32.3	+0.1
comp=Z,6.2nm,0.8s									
RETA	Reutte	53.73	19	iP		P		12 48 32.4	0.0
comp=Z,11nm,1.1s									
WTTA	Wattenberg	53.83	20	iP		P		12 48 34.0	+0.8
comp=Z,15nm,1.3s									
OBKA	Obir	54.25	23	iP		pP		12 48 39.9	-0.4
comp=Z,13nm,1.1s									
KBA	Koelnbreinsper	54.27	21	iP		pP		12 48 40.7	+0.2
comp=Z,4.1nm,0.9s									
WLF	Walferdange	54.35	15	P		P		12 48 37.1	+0.3
comp=Z,11nm,1.9s									
DOU	Dourbes	54.38	13	P		P		12 48 37.2	+0.3
SOKA	Soboth	54.58	23	iP		P		12 48 39.7	+1.2
comp=Z,16nm,1.5s									
BCLA	Clavier	54.84	14	P		P		12 48 40.3	0.0
BCLA					AP	pP		12 48 45.3	+1.0
VTS	Vitosha	55.16	32⇑	iP		P		12 48 33.4	-10
VTS	Vitosha	55.16	32⇑	P		P		12 48 33.4	-10
MEM	Membach	55.19	14	P		P		12 48 44.4	+1.7
ARSA	Arzberg	55.24	23	iP		P		12 48 44.2	+0.9
comp=Z,9.2nm,1.6s									
MOA	Molln	55.26	22	iP		P		12 48 43.1	-0.3
comp=Z,12nm,1.3s									
GEA0	GERESS Array S	55.89	20	eP		P		12 48 47.8	-0.2
GEC2	GERESS Array S	55.90	20	eP		P		12 48 48.2	+0.1
GEC2					pmax	pmax			
comp=Z,17nm,0.9s									
GEC2	GERESS Array S	55.90	20	eP		P		12 48 48.2	+0.1
comp=Z,17nm,0.9s									
GERES	GERESS Array B	55.90	20	P		P		12 48 47.7	-0.3
comp=Z,4.0nm,0.8s,baz=200,slow=6.5,SNR=28									
GERES					PP	PP		12 50 49.5	-3.4
comp=Z,2.1nm,1.1s,baz=209,slow=7.9,SNR=4.1									
GERES					LR	LR		13 13 53.1	
comp=Z,76nm,18.4s,baz=228,slow=37									
CONA	Conrad Observa	55.92	23	iP		P		12 48 48.5	+0.2
comp=Z,9.5nm,1.5s									
MDVR	Moldovita	55.99	29⇑	iP		P		12 48 49.7	+1.0
KHC	Kasperske Hory	56.10	20	eP		P		12 48 49.4	0.0
KHC					epP	sP		12 48 56.4	+1.4
KHC	Kasperske Hory	56.10	20	eP		P		12 48 49.4	0.0
KHC				e				12 48 56.4	
KHC	Kasperske Hory	56.10	20	eP		P		12 48 49.9	+0.4
comp=Z,1.6nm,1.1s									
BZS	Buzias	56.56	28⇓	iP		P		12 48 52.0	-0.7
BZS	Buzias	56.56	28⇓	P		P		12 48 52.0	-0.7
LPAZ	La Paz	56.57	252	P		P		12 48 53.6	-0.4
comp=Z,1.0nm,0.9s,baz=76,slow=8.3,SNR=3.7									
LPAZ					LR	LR		13 11 06.1	
comp=Z,182nm,21.7s,baz=85,slow=34									
LPAZ	La Paz	56.57	252	eP		P		12 48 54.1	0.0
LPAZ					pmax	pmax			
comp=Z,3.0nm,1.1s									
LPAZ	La Paz	56.57	252	eP		P		12 48 54.1	0.0
comp=Z,3.4nm,1.1s									
NKC	Novy Kostel	56.67	19	eP		P		12 48 53.4	-0.1
NKC					epP	sP		12 49 00.4	+1.3
NKC	Novy Kostel	56.67	19	eP		P		12 48 53.4	-0.1
NKC				e				12 49 00.4	
TREC	Trest	56.92	21	eP		P		12 48 55.3	+0.1
TREC	Trest	56.92	21	eP		P		12 48 55.3	+0.1
SIRR	Siria	57.07	27⇑	iP		P		12 48 56.6	+0.2
PRU	Pruhonice	57.16	20	eP		P		12 48 56.6	-0.3
PRU	Pruhonice	57.16	20	eP		P		12 48 56.6	-0.3
GOPC	GO Pecny, Ondr	57.19	20	eP		P		12 48 57.0	-0.1
GOPC					epP	sP		12 49 02.3	-0.4
GOPC	GO Pecny, Ondr	57.19	20	eP		P		12 48 57.0	-0.1
GOPC				e				12 49 02.3	
CELP	Cerrillos	57.22	293	eP		P		12 48 58.9	+1.0
LOT	Lotru	57.47	29⇑	iP		P		12 49 00.2	+0.8
PSZ	Piszkesteto	57.55	25⇑	iP		P		12 49 01.0	+1.2
PSZ	Piszkesteto	57.55	25⇑	P		P		12 49 01.0	+1.2
PSZ	Piszkesteto	57.55	25	eP		P		12 49 00.5	+0.7
comp=Z,13nm,1.0s									
VYHS	Vyhne	57.56	24	eP		P		12 49 00.4	+0.6
VYHS					pmax	pmax			
comp=Z,13nm,1.6s									
VYHS	Vyhne	57.56	24	eP		P		12 49 00.4	+0.6
PVCC	Panska Ves	57.63	20	eP		P		12 49 00.4	+0.2
PVCC	Panska Ves	57.63	20	eP		P		12 49 00.4	+0.2
BRG	Berggiesshubel	57.71	19	eP		P		12 49 00.3	-0.5
comp=Z,48nm,2.2s									
BRG	Berggiesshubel	57.71	19	eP		P		12 49 00.3	-0.5
BRG					pmax	pmax			
comp=Z,48nm,2.2s									
DRGR		57.95	28⇑	iP		P		12 49 03.3	+0.7
DRGR		57.95	28⇑	P		P		12 49 03.3	+0.7
MORC	Moravsky Berou	58.08	22⇓	iP		P		12 49 04.2	+0.8
MORC	Moravsky Berou	58.08	22⇓	P		P		12 49 04.2	+0.8
MORC	Moravsky Berou	58.08	22	eP		P		12 49 03.8	+0.4
comp=Z,23nm,1.0s									
DPC	Dobruska-Polom	58.09	21	eP		P		12 49 03.2	-0.3
DPC					epP	sP		12 49 09.0	-0.2
DPC	Dobruska-Polom	58.09	21	eP		P		12 49 03.2	-0.3
DPC				e				12 49 09.0	
VOIR		58.10	30⇑	iP		P		12 49 03.5	-0.2
VOIR		58.10	30⇑	P		P		12 49 03.5	-0.2
UPC	Upice	58.11	21	eP		P		12 49 03.4	-0.2
UPC					epP	sP		12 49 08.9	-0.3
UPC	Upice	58.11	21	eP		P		12 49 03.4	-0.2
UPC				e				12 49 08.9	
KECS	Kecovo	58.23	25	eP		P		12 49 05.7	+1.2
KECS					pmax	pmax			
comp=Z,3.0nm,1.2s									
KECS	Kecovo	58.23	25	eP		P		12 49 05.7	+1.2
MLR	Muntele Rosu	58.59	31⇓	iP		P		12 49 09.0	+1.8
MLR	Muntele Rosu	58.59	31⇓	iP		P		12 49 09.0	+1.8
MLR	Muntele Rosu	58.59	31	eP		P		12 49 07.3	+0.1
comp=Z,14nm,1.1s									
BMR	Baia Mare	58.96	27⇑	iP		P		12 49 10.6	+1.1
BMR	Baia Mare	58.96	27⇑	P		P		12 49 10.6	+1.1
BR231	Keskin MP Arra	58.97	40	eP		P		12 49 13.1	+3.2
UZH	Uzhgorod	59.12	26	eP		P		12 49 10.2	-0.5
UZH				e				12 49 17.0	
PLOR	Plostina	59.20	31⇓	iP		P		12 49 12.4	+1.1
PLOR	Plostina	59.20	31⇓	P		P		12 49 12.5	+1.1
SDV	Santo Domingo	59.23	282	LR		LR		13 09 30.6	
comp=Z,68nm,21.4s,baz=84,slow=31									
VRI	Vrincioaia	59.25	31⇓	iP		P		12 49 10.6	-1.0
VRI	Vrincioaia	59.25	31⇓	P		P		12 49 10.7	-0.9
BR131	Keskin Array S	59.45	40	eP		P		12 49 13.6	+0.3
BRTR	Keskin Array B	59.45	40	P		P		12 49 13.1	-0.3
comp=Z,3.8nm,1.1s,baz=242,slow=6.1,SNR=12									
BRTR					LR	LR		13 17 21.4	
comp=Z,65nm,20.4s,baz=227,slow=39									
BRTR	Keskin Array B	59.45	40	ceP		P		12 49 14.1	+0.8
BRTR					pmax	pmax			
comp=Z,4.0nm,1.1s									
BURAR	Bucovina Array	59.72	28⇑	iP		P		12 49 16.5	+1.5
LVV	L'vov	60.77	26	eP		P		12 49 24.7	+2.7
SORM	Soroca	61.60	30⇑	iP		P		12 49 27.0	-0.6
SORM	Soroca	61.60	30⇑	P		P		12 49 27.0	-0.6
RAYN	Ar Rayn	61.87	62	eP		P		12 49 31.4	+1.4
comp=Z,3.2nm,1.0s									
ROSC	El Rosal	62.40	277	LR		LR		13 14 20.6	
comp=Z,117nm,20.2s,baz=68,slow=34									
AK11	Malin Array Si	63.71	28	eP		P		12 49 41.0	-0.6
KIEV	Kiev	63.74	28	iP		P		12 49 47.0	+5.1
KIEV					pmax	pmax			
comp=Z,10.0nm,1.0s									
KIEV	Kiev	63.74	28	eP		P		12 49 41.1	-0.7
comp=Z,7.7nm,0.9s									
AKASG	Malin Array Be	63.76	28	P		P		12 49 41.2	-0.7
comp=Z,3.5nm,1.0s,baz=228,slow=7.2,SNR=10									
AKASG					LR	LR		13 18 36.3	
comp=Z,64nm,20.4s,baz=330,slow=37									
AKASG	Malin Array Be	63.76	28	ceP		P		12 49 48.0	+6.1
AKASG					pmax	pmax			
comp=Z,1.0nm,0.5s									
AKBB	Malin Array Si	63.76	28	eP		P		12 49 41.1	-0.8
AKBB					pmax	pmax			
comp=Z,8.0nm,0.9s									
AKBB	Malin Array Si	63.76	28	eP		P		12 49 41.1	-0.8
comp=Z,7.7nm,0.9s									
PLCA	Paso Flores	64.68	226	LR		LR		13 13 07.1	
comp=Z,71nm,21.8s,baz=154,slow=32									
ARTV	Artvin	65.65	42	eP		P		12 49 55.2	+0.4
comp=Z,7.8nm,1.0s									
NOA	NORSAR Array B	65.92	12	P		P		12 49 55.8	-0.1
comp=Z,1.7nm,0.9s,baz=198,slow=7.5,SNR=3.5									
NOA					LR	LR		13 19 03.1	
comp=Z,34nm,18.8s,baz=200,slow=36									
KIV	Kislovodsk	67.42	40	eP		P		12 50 11.6	+5.7
KIV					pmax	pmax			
comp=Z,10.0nm,1.0s									
KBZ	Khabaz	67.45	40	P		P		12 50 06.3	+0.4
comp=Z,3.0nm,0.9s,baz=270,slow=6.1,SNR=3.9									
KBZ					LR	LR		13 22 10.5	
comp=Z,39nm,18.4s,baz=210,slow=38									
VNA1	Neumayer--Stat	68.09	179	P		P		12 50 10.2	+0.7
VNA2	Neumayer--Watz	68.39	178	P		P		12 50 10.9	-0.5
baz=341,slow=8.5									
VNA3	Neumayer Olymp	68.66	179	P		P		12 50 11.0	-2.1
VSR	Storozhevoye	69.04	32	eP		P		12 50 20.1	+4.3
VSR					pmax	pmax			
comp=Z,10.0nm,1.0s									
SNAA	Sanae	69.33	177	P		P		12 50 16.8	-0.6
SNAA	Sanae	69.33	177	iP		P		12 50 22.8	+5.4
SNAA	Sanae	69.33	177	eP		P		12 50 16.5	-0.9
comp=Z,5.9nm,1.1s									
OBN	Obninsk	70.00	27	eP		P		12 50 26.1	+4.5
OBN					pmax	pmax			
comp=Z,8.0nm,1.2s									
FINES	FINESS Array B	70.23	18	P		P		12 50 21.9	-1.0
comp=Z,2.6nm,0.9s,baz=214,slow=6.5,SNR=4.0									
FINES					LR	LR		13 21 43.7	
comp=Z,68nm,18.4s,baz=258,slow=36									
FINES	FINESS Array B	70.23	18	ceP		P		12 50 29.5	+6.6
FINES					pmax	pmax			
comp=Z,5.0nm,0.9s									
IP06	Yanceyville	72.62	311	eP		P		12 50 39.4	+1.6
comp=Z,10.0nm,1.0s									
WSAR	Wadi Sarin	73.54	65	P		P		12 50 42.6	-1.0
comp=Z,5.5nm,0.8s,baz=291,slow=4.4,SNR=1.7									
KMSC	Kings Mountain	74.45	307	eP		P		12 50 50.6	+1.9
comp=Z,11nm,0.9s									
KLMR	Klimovskoe	74.66	24	eP		P		12 50 52.1	+2.7
KLMR					pmax	pmax			
comp=Z,18nm,1.5s									
SADO	Sadowa	75.56	317	LR		LR		13 19 28.8	
comp=Z,60nm,20.1s,baz=150,slow=32									
GEYT	Alibeck	76.21	50	P		P		12 50 58.8	-0.1
comp=Z,0.7nm,0.3s,baz=284,slow=5.8,SNR=3.1									
GEYT					LR	LR		13 26 05.2	
comp=Z,70nm,19.5s,baz=175,slow=37									
ARCES	ARCESS Array B	76.29	13	P		P		12 50 58.5	-0.1
comp=Z,3.6nm,0.9s,baz=216,slow=5.6,SNR=4.9									
TKL	Tuckaleechee C	76.51	307	LR		LR		13 18 53.6	
comp=Z,73nm,20.1s,baz=102,slow=31									
SWET	Sewanee	78.14	307	eP		P		12 51 10.2	+0.4
comp=Z,8.2nm,0.9s									
LRAL	Lakeview Retre	78.59	304	eP		P		12 51 12.8	+0.5
comp=Z,3.7nm,0.7s									
WVT	Waverly	79.83	307	eP		P		12 51 18.2	-0.8
WVT					pmax	pmax			
comp=Z,5.0nm,0.8s									
WVT	Waverly	79.83	307	eP		P		12 51 18.2	-0.8
comp=Z,5.3nm,0.8s									
ARU	Arti	81.61	32	diP		P		12 51 33.5	+5.5
ARU								12 54 35.6	
ARU					S	S		13 01 47.0	+7.1
ARU					SS	SS		13 06 56.3	-0.8
ARU					pmax	pmax			
comp=Z,15nm,1.7s									
MAW	Mawson	82.06	158	P		P		12 51 30.5	+0.3
comp=Z,3.7nm,0.9s,baz=276,slow=5.2,SNR=9.4									
MAW	Mawson	82.06	158	eP		P		12 51 30.8	+0.6
MAW					pmax	pmax			
comp=Z,1.0nm,0.8s									
MAW	Mawson	82.06	158	eP		P		12 51 30.8	+0.6
comp=Z,1.1nm,0.8s									
CCM	Cathedral Cave	82.85	309	eP		P		12 51 34.5	-0.4
CCM				e				12 51 35.1	
CCM	Cathedral Cave	82.85	309	ePcP		pP		12 51 35.1	-4.1
BRVK	Borovoye	87.52	37	ceP		P		12 52 04.7	+6.7
BRVK					pmax	pmax			
comp=Z,23nm,2.5s									
ECSD	EROS Data Cent	87.61	314	eP		P		12 51 59.1	+0.5
comp=Z,3.9nm,0.9s									
WMOK	Wichita Mounta	88.52	305	eP		P		12 52 03.3	0.0
WMOK					pmax	pmax			
comp=Z,3.0nm,1.1s									
WMOK	Wichita Mounta	88.52	305	eP		P		12 52 03.3	0.0
comp=Z,3.5nm,1.1s									
JCT	Junction City	89.11	300	eP		P		12 52 06.2	+0.1
JCT					pmax	pmax			
comp=Z,8.0nm,1.0s									
JCT	Junction City	89.11	300	eP		P		12 52 06.2	+0.1
comp=Z,7.7nm,1.0s									
AAK	Ala-Archa	89.31	47	iP		P		12 52 12.0	+5.0
AAK					pmax	pmax			
comp=Z,9.0nm,1.1s									
AAK	Ala-Archa	89.31	47	eP		P		12 52 07.5	+0.5
comp=Z,4.3nm,1.0s									
KSH	Kashi	90.24	51	eP		P		12 52 09.3	-2.0
KSH					pP	pP		12 52 15.3	-0.3
KSH					sP	sP		12 52 17.8	+0.7
KSH					ePP	PP		12 55 46.9	+1.7
KSH	Kashi	90.24	51	SKS		SKSac		13 02 34.3	-8.4
KSH	Kashi	90.24	51	S		S		13 02 57.8	-7.7
KSH	Kashi	90.24	51	sS		S		13 03 05.4	-0.1
KSH	Kashi	90.24	51	SS		SS		13 08 58.8	-6.2
KSH					pmax	pmax			
comp=Z,88nm,4.7s									
KSH					LR	LR			
comp=N,130nm,9.4s									
KSH					LR	LR			
comp=E,84nm,7.8s									
KSH					LR	LR			
comp=Z,170nm,7.3s									
TXAR	Lajitas Array	92.41	299	P		P		12 52 21.1	-0.5
comp=Z,0.4nm,0.8s,baz=114,slow=6.9,SNR=5.3									
TXAR					LR	LR		13 28 29.3	
comp=Z,25nm,21.9s,baz=0.0,slow=32									
TX31	Lajitas Ar. Si	92.41	299	eP		P		12 52 21.7	+0.2
KURK	Kurchatov	92.50	40	iP		P		12 52 26.5	+5.1
KURK					pmax	pmax			
comp=Z,4.0nm,1.0s									
ANMO	Albuquerque	94.84	305	iP		P		12 52 38.0	+5.2
ANMO					pmax	pmax			
comp=Z,1.0nm,1.0s									
MKAR	Makanchi Array	94.96	43	ceP		P		12 52 39.0	+6.2
MKAR					pmax	pmax			
comp=Z,1.0nm,0.8s									
WMQ	Urumqi	98.94	46	P		Pdif		12 52 51.8	+0.8
WMQ					LR	LR			
comp=N,76nm,21.5s									
WMQ					LR	LR			
comp=E,69nm,18.7s									
WMQ					LR	LR			
comp=Z,50nm,24.3s									
LZH	Lanzhou	112.45	52	ePKP		PKiKP		12 57 44.5	-2.6
LZH				pPKP		pPKiKP		12 57 47.8	-3.7
LZH				sPKP				12 57 49.1	
LZH					LR	LR			
comp=N,130nm,17.9s									
LZH					LR	LR			
comp=E,140nm,18.0s									
LZH					LR	LR			
comp=Z,160nm,20.0s									
KDAK	Kodiak Island	116.64	337	ePKIKP		PKPdf		12 57 54.2	0.0
KDAK	Kodiak Island	116.64	337	ePKPdf		PKPdf		12 57 54.2	0.0
SPIA	Saint Paul Isl	122.73	346	ePKPdf		PKPdf		12 58 06.5	+0.6
MQZ	McQueen's Vall	133.78	185	ePKPdf		PKPdf		12 58 29.0	+1.5
ASAR	Alice Springs	138.06	130	PKhKP		PKPpre		12 58 24.1	
comp=Z,0.6nm,0.7s,baz=233,slow=3.3,SNR=10									
AS01	Alice Springs	138.10	130	ePKPpre		PKPpre		12 58 26.4	
WRA	Warramunga Arr	140.38	126	PKhKP		PKPpre		12 58 31.8	
comp=Z,0.6nm,0.5s,baz=239,slow=2.5,SNR=5.8									
CBIJ	Chichi jima	145.43	43	ePKPbc		PKPbc		12 58 48.1	-0.9

*ISCJB **16** 13:06:22.2±0.9, 10°.93S±0°.09×161°.9E±0°.1, h36km, mb3.6/6, MS3.4/2, Error ellipse: s-maj=19.1km s-min=7.7km az=145.9*

*IDC **16** 13:06:26.9±3.0, 10°.80S×161°.68E, h58km±25km, mb3.4/6, mb1 3.7/9, mb1mx3.5/29, mbtmp3.9/9, ML4.2/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/15, Error ellipse: s-maj=31.7km s-min=22.4km az=90.0*

ISC 16 13:06:24.6±1.0, 10°.8S±0°.1×161°.9E±0°.1, h36km, n15, σ1°65/13, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	2.36	306	P		Pn		13 07 00.8	0.0
143nm,0.3s,baz=128,slow=4.7,SNR=40									
HNR				S		Sn		13 07 31.0	+2.5
179nm,0.3s,baz=106,slow=23,SNR=21									
HNR	Honiara	2.36	306	eP		Pn		13 07 01.0	+0.2
HNR				eS		Sn		13 07 30.0	+1.5
DZM	Mont Dzumac	12.00	159	P		Pn		13 09 16.5	+3.2
0.8nm,0.3s,baz=331,slow=19,SNR=31									
DZM				S		Sn		13 11 24.8	-1.2
0.3nm,0.3s,baz=313,slow=19,SNR=3.4									
DZM				LR		LR		13 13 01.3	
comp=Z,139nm,18.9s,baz=333,slow=33									
PMG	Port Moresby	14.56	274	LR		LR		13 14 43.3	
comp=Z,123nm,18.2s,baz=117,slow=35									
CTA	Charters Tower	17.64	237	P		P		13 10 28.2	-0.1
0.4nm,0.3s,baz=69,slow=12,SNR=11									
AFI	Afiamalu	25.91	100	LR		LR		13 20 51.9	
comp=Z,61nm,19.6s,baz=296,slow=33									
WRA	Warramunga Arr	28.02	248	P		P		13 12 11.2	-1.3
1.8nm,0.8s,baz=79,slow=9.2,SNR=2.8									
H11S2	WAKE ISLAND Hy	29.52	9	T		T		13 43 14.8	
baz=189,slow=76,SNR=32									
H11S3	WAKE ISLAND Hy	29.52	9	T		T		13 43 21.4	
baz=189,slow=76,SNR=25									
H11S1	WAKE ISLAND Hy	29.54	9	T		T		13 43 30.0	
baz=189,slow=76,SNR=28									
ASAR	Alice Springs	29.54	241	P		P		13 12 24.5	-1.6
0.7nm,1.0s,baz=65,slow=10,SNR=6.7									
ASAR					LR	LR		13 23 21.8	
comp=Z,124nm,18.5s,baz=169,slow=34									
SONM	Songino Array	76.29	325	P		P		13 18 09.2	-0.6
0.4nm,0.6s,baz=142,slow=5.8,SNR=1.9									
MAW	Mawson	83.48	202	P		P		13 18 47.8	-0.4
1.0nm,0.9s,baz=106,slow=6.3,SNR=4.5									
ILAR	Eielson Array	84.55	20	P		P		13 18 53.8	+0.1
0.3nm,0.9s,baz=233,slow=5.2,SNR=4.6									
MKAR	Makanchi Array	90.78	317	P		P		13 19 22.7	-1.4
0.3nm,0.6s

FWVZ				SN	S	13 25 46.8	-1.8
MTVZ	**Mangateitei**	**0.55**	**134**	PN	Pn	13 25 24.5	-0.1
WHVZ	**Whangaehu Hut**	**0.57**	**119**	PN	Pn	13 25 24.6	-0.3
OTVZ	**Oturere**	**0.58**	**106**	PN	Pn	13 25 24.7	-0.1
WNVZ	**Wahianoa**	**0.59**	**123**	PN	Pn	13 25 24.8	-0.1
TUVZ	**Tukino**	**0.60**	**116**	PN	Pn	13 25 24.9	0.0
NEZ	**North Egmont**	**0.72**	**248**	PN	Pn	13 25 24.9	-0.5
MOVZ	**Moawhango**	**0.74**	**123**	PN	Pn	13 25 25.0	-0.4
WAZ	**Wanganui**	**0.75**	**178**	⇑PN	Pn	13 25 25.4	+0.1
BHHZ	**Black Hill Sta**	**0.99**	**120**	PN	Pn	13 25 26.3	-0.4
MRHZ	**Matea Rd**	**1.15**	**82**	⇓PN	Pn	13 25 26.8	-1.0
MRHZ				AML	AML	13 25 51.1	
MRHZ				AML	AML	13 25 51.2	
BKZ	**Black Stump Fm**	**1.21**	**98**	PN	Pn	13 25 27.5	-0.7
BKZ				AML	AML	13 26 39.7	
BKZ				AML	AML	13 26 39.9	
OHWZ	**Ohakea**	**1.23**	**167**	PN	Pn	13 25 28.5	+0.3
KRHZ	**Kereru**	**1.27**	**121**	PN	Pn	13 25 28.5	0.0
KRHZ				AML	AML	13 25 56.7	
KRHZ				AML	AML	13 25 57.0	
TSZ	**Takapari Road**	**1.31**	**144**	PN	Pn	13 25 28.8	0.0
TSZ				AML	AML	13 25 55.1	
TSZ				AML	AML	13 25 56.2	
PNHZ	**Pukenui**	**1.32**	**134**	PN	Pn	13 25 29.0	+0.1
PNHZ				AML	AML	13 25 56.6	
PNHZ				AML	AML	13 25 57.0	
MCHZ	**McNeill Hill**	**1.42**	**108**	PN	Pn	13 25 30.2	+0.6
NMHZ	**Naumai**	**1.45**	**94**	PN	Pn	13 25 30.3	+0.4
NMHZ				AML	AML	13 25 59.7	
NMHZ				AML	AML	13 26 04.3	
POWZ	**Post Office Ro**	**1.52**	**156**	PN	Pn	13 25 30.1	-0.3
POWZ				AML	AML	13 25 59.0	
WPWZ	**Waipukurau**	**1.56**	**133**	PN	Pn	13 25 30.9	+0.1
WPHZ				AML	AML	13 25 58.6	
WPHZ				AML	AML	13 26 00.1	
DVHZ	**Dannevirke**	**1.60**	**144**	⇓PN	Pn	13 25 30.8	-0.2
DVHZ				AML	AML	13 25 59.7	
DVHZ				AML	AML	13 26 00.1	
ARHZ	**Aropaoanui**	**1.61**	**100**	PN	Pn	13 25 31.3	+0.2
ARHZ				AML	AML	13 26 00.2	
ARHZ				AML	AML	13 26 02.2	
RTZ	**Ruatahuna**	**1.63**	**77**	PN	Pn	13 25 30.4	-1.1
KAHZ	**Kahuranaki**	**1.69**	**118**	⇓PN	Pn	13 25 32.2	+0.4
KAHZ				AML	AML	13 26 01.1	
KAHZ				AML	AML	13 26 03.1	
MRZ	**Mangatainoka R**	**1.72**	**164**	PN	Pn	13 25 31.5	-0.6
MRZ				AML	AML	13 26 00.2	
MRZ				AML	AML	13 26 00.4	
PRWZ	**Pori Road**	**1.73**	**153**	PN	Pn	13 25 32.1	-0.1
PRWZ				AML	AML	13 26 03.0	
PRWZ				AML	AML	13 26 03.4	
CKHZ	**Cape Kidnapper**	**1.77**	**112**	⇑PN	Pn	13 25 33.0	+0.4
CKHZ				AML	AML	13 26 03.8	
WHHZ	**Waihua**	**1.78**	**93**	PN	Pn	13 25 32.5	-0.2
WHHZ				AML	AML	13 26 03.9	
PXZ	**Pawanui**	**1.80**	**125**	⇓PN	Pn	13 25 32.8	0.0
PXZ				AML	AML	13 26 04.2	
PRHZ	**Porangahau**	**1.81**	**135**	PN	Pn	13 25 32.9	0.0
PRHZ				AML	AML	13 26 02.9	
PRHZ				AML	AML	13 26 04.8	
OGWZ	**Otaki Gorge**	**1.82**	**175**	PN	Pn	13 25 32.5	-0.5
OGWZ				AML	AML	13 26 01.9	
OGWZ				AML	AML	13 26 02.1	
URZ	**Urewera**	**1.85**	**67**	⇓PN	Pn	13 25 31.6	-1.7
URZ				AML	AML	13 26 02.5	
URZ				AML	AML	13 26 02.7	
KIW	**Kapiti Island**	**1.85**	**181**	⇑PN	Pn	13 25 32.5	-0.8
SNGZ	**Shannon Statio**	**1.88**	**84**	PN	Pn	13 25 32.1	-1.5
TIWZ	**Tintock**	**1.91**	**158**	PN	Pn	13 25 33.3	-0.6
TIWZ				AML	AML	13 26 05.9	
TIWZ				AML	AML	13 26 06.7	
HOWZ	**Holdsworth Sta**	**1.94**	**167**	⇑PN	Pn	13 25 33.2	-0.9
HOWZ				AML	AML	13 26 03.2	
HOWZ				AML	AML	13 26 04.7	
BFZ	**Birch Farm**	**1.95**	**150**	PN	Pn	13 25 33.3	-0.9
DUWZ	**D'Urville Isla**	**1.96**	**204**	⇑PN	Pn	13 25 33.2	-1.1
CAW	**Cannon Point**	**2.10**	**178**	⇑PN	Pn	13 25 34.8	-0.9
CAW				AML	AML	13 26 06.6	
CAW				AML	AML	13 26 09.1	
KNZ	**Kokohu**	**2.12**	**91**	PN	Pn	13 25 35.4	-0.4
MWZ	**Matawai**	**2.12**	**72**	⇓PN	Pn	13 25 34.6	-1.4
MTW	**Mount Morrison**	**2.19**	**169**	PN	Pn	13 25 35.4	-1.1
RIGZ	**Rimuhau**	**2.21**	**83**	PN	Pn	13 25 36.1	-0.8
RIGZ				AML	AML	13 26 09.4	
RIGZ				AML	AML	13 26 10.4	
TMWZ	**Te Maipa**	**2.22**	**161**	PN	Pn	13 25 36.0	-0.9
TMWZ				AML	AML	13 26 11.2	
TCW	**Tory Channel**	**2.26**	**193**	PN	Pn	13 25 36.3	-0.9
TCW				AML	AML	13 25 37.8	
TCW				AML	AML	13 26 11.2	
WEL	**Wellington**	**2.28**	**184**	PN	Pn	13 25 36.2	-1.2
PRGZ	**Paritu Road**	**2.29**	**89**	PN	Pn	13 25 37.1	-0.5
TKGZ	**Te Karaka**	**2.33**	**77**	PN	Pn	13 25 37.2	-0.8
TKGZ				AML	AML	13 26 15.0	
TKGZ				AML	AML	13 26 15.1	
RUGZ	**Raukumara Rang**	**2.38**	**65**	PN	Pn	13 25 36.2	-2.4
BHW	**Baring Head**	**2.40**	**181**	PN	Pn	13 25 37.3	-1.4
PAWZ	**Paruwai Farm**	**2.40**	**171**	⇑PN	Pn	13 25 37.6	-1.1
MSWZ	**Moikau Station**	**2.42**	**175**	⇑PN	Pn	13 25 37.6	-1.2
TRWZ	**Traveller**	**2.46**	**167**	PN	Pn	13 25 38.2	-1.1
TWGZ	**Tauwhareparae**	**2.51**	**72**	PN	Pn	13 25 39.0	-1.0
TWGZ				AML	AML	13 26 17.2	
TWGZ				AML	AML	13 26 17.6	
NNZ	**Nelson**	**2.52**	**208**	⇑PN	Pn	13 25 38.4	-1.7
TUWZ	**Tuamarina**	**2.54**	**197**	PN	Pn	13 25 38.9	-1.2
TUWZ				AML	AML	13 25 39.8	
TUWZ				AML	AML	13 25 39.9	
HAZ	**Te Kaha**	**2.55**	**62**	⇓PN	Pn	13 25 37.9	-2.4
HAZ				AML	AML	13 26 14.8	
PLWZ	**Palliser**	**2.57**	**175**	⇑PN	Pn	13 25 39.1	-1.4
CNGZ	**Carnagh Statio**	**2.60**	**79**	PN	Pn	13 25 40.3	-0.5
QRZ	**Quartz Range**	**2.60**	**225**	PN	Pn	13 25 38.2	-2.6
PKGZ	**Pakihiroa**	**2.69**	**67**	PN	Pn	13 25 40.0	-1.9
PKGZ				AML	AML	13 26 19.8	
PUZ	**Puketiti**	**2.75**	**71**	PN	Pn	13 25 40.8	-1.7
BSWZ	**Blackbirch Sta**	**2.83**	**197**	PN	Pn	13 25 41.9	-1.3
WMGZ	**Waiomatatini S**	**2.96**	**68**	PN	Pn	13 25 42.9	-1.9
WMGZ				AML	AML	13 26 23.3	
WMGZ				AML	AML	13 26 23.3	
THZ	**Tophouse**	**3.17**	**209**	PN	Pn	13 25 44.9	-2.3
KHZ	**Kahutara**	**3.57**	**197**	PN	Pn	13 25 49.9	-1.9
DSZ	**Denniston Nort**	**3.64**	**220**	PN	Pn	13 25 49.6	-3.1
LTZ	**Lake Taylor**	**4.29**	**207**	PN	Pn	13 25 57.6	-2.8
INZ	**Inchbonnie**	**4.57**	**214**	PN	Pn	13 26 00.3	-3.5
OXZ	**Oxford**	**4.84**	**206**	PN	Pn	13 26 03.8	-3.5
CRLZ	**Canterbury Las**	**4.89**	**200**	PN	Pn	13 26 04.1	-3.7
MQZ	**McQueen's Vall**	**5.00**	**199**	PN	Pn	13 26 05.5	-3.7
WVZ	**Waitaha Valley**	**5.17**	**217**	PN	Pn	13 26 07.8	-3.5
ODZ	**Otahua Downs**	**6.83**	**207**	PN	Pn	13 26 29.6	-2.8

*CSEM **16** 13:34:45.4±0.2, 44°.08N×19°.14E, h1km, ML1.7, Error ellipse: s-maj=4.0km s-min=3.2km az=61.0, Mining explosion.*

BEO 16 13:34:46.3±0.3, 44°.08N×19°.14E, h0km, M1.7/9, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAPS	**Han Pijesak,BI**	**0.14**	**273**	*e*Pg	Pg	13 34 48.0	-0.9
HAPS				*e*Sg	Sg	13 34 51.6	+0.9
HAPS	**Han Pijesak,BI**	**0.14**	**273**	*e*Pg	Pg	13 34 48.0	-0.9
HAPS				*e*Sg	Sg	13 34 51.5	+0.8
BBLS	**Lazići**	**0.29**	**138**	*e*Pg	Pg	13 34 51.1	-0.7
BBLS				*e*Sg	Sg	13 34 56.1	+0.6
BBLS	**Lazići**	**0.29**	**138**	*e*Pg	Pg	13 34 51.1	-0.7
BBLS				*e*Sg	Sg	13 34 55.4	-0.1
TEKS	**Tekeris**	**0.55**	**31**	*e*Pg	Pg	13 34 56.3	-0.5
TEKS	**Tekeris**	**0.55**	**31**	*e*Pg	Pg	13 34 56.3	-0.5
TEKS				*e*Sg	Sg	13 35 04.1	+0.2
DIVS	**Divibare**	**0.61**	**88**	*e*Pg	Pg	13 34 56.4	-1.7
DIVS				*e*Sg	Sg	13 35 04.8	-1.2
DIVS	**Divibare**	**0.61**	**88**	*e*Pg	Pg	13 34 56.4	-1.7
DIVS				*e*Sg	Sg	13 35 04.8	-1.2
IVAS	**Ivanjica**	**0.89**	**124**	*e*Pg	Pg	13 35 03.1	-0.2
IVAS				*e*Sg	Sg	13 35 14.2	-0.6
IVAS	**Ivanjica**	**0.89**	**124**	*e*Pg	Pg	13 35 03.1	-0.2
IVAS				*e*Sg	Sg	13 35 14.2	-0.6
TRUS	**Trudelj**	**0.92**	**81**	*e*Pg	Pg	13 35 02.0	-2.0
TRUS				*e*Sg	Sg	13 35 15.6	-0.3
TRUS	**Trudelj**	**0.92**	**81**	*e*Pg	Pg	13 35 02.0	-2.0
TRUS				*e*Sg	Sg	13 35 15.6	-0.3
SJES	**Sjenica**	**1.02**	**143**	*e*Pg	Pg	13 35 04.7	-1.1
SJES				*e*Sg	Sg	13 35 18.1	-0.9
GRUS	**Gruza**	**1.15**	**99**	*e*Sg	Sb	13 35 24.7	+0.1
GRUS	**Gruza**	**1.15**	**99**	*e*Sg	Sb	13 35 24.7	+0.1
FGSL	**Fruska Gora**	**1.18**	**24**	*e*Pg	Pg	13 35 07.7	-1.2
FGSL				*e*Sg	Sg	13 35 24.4	+0.2
FRGS	**Fruska Gora**	**1.18**	**24**	*e*Pg	Pg	13 35 07.7	-1.2
FRGS				*e*Sg	Sg	13 35 24.4	+0.2
SELS	**Selova**	**1.67**	**120**	*e*Pg	Pn	13 35 14.7	-2.2
SELS				*e*Sg	Sg	13 35 41.0	+0.9
BARS	**Barje**	**2.32**	**122**	*e*Pn	Pn	13 35 24.4	-1.4
BARS	**Barje**	**2.32**	**122**	*e*Pn	Pn	13 35 24.4	-1.4

*ISK **16** 13:36:26.2, 38°.76N×25°.56E, h8km, ML3.2*
*ATH **16** 13:36:27.7, 38°.79N×25°.74E, h30km±2km, ML3.3/4, Error ellipse: s-maj=3.1km s-min=0.8km az=92.0*
*ISCJB **16** 13:36:27.4±0.5, 38°.78N±0°.02×25°.65E±0°.02, h4km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=160.3*
*DDA **16** 13:36:28.5, 38°.80N×25°.72E, h14km, Ml3.6*
*CSEM **16** 13:36:28.4±0.1, 38°.78N×25°.66E, h10km, ML3.3, Error ellipse: s-maj=2.8km s-min=2.2km az=163.0*
*THE **16** 13:36:28.6, 38°.77N×25°.68E, h11km±1km, ML3.3/6, Error ellipse: s-maj=2.0km s-min=0.6km az=91.0*

ISC 16 13:36:28.1±1.0, 38°.78N±0°.02×25°.66E±0°.02, h10km±9km, n192, σ0°.73/236, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.46**	**20**	*e*PG	**Pg**	**13 36 36.5**	**-0.6**
SIGR				*e*SG	**Sg**	**13 36 44.0**	**+0.9**
SIGR	**SIGRI**	**0.46**	**20**	P	**Pg**	**13 36 37.0**	**-0.1**
SIGR				S	**Sg**	**13 36 43.9**	**+0.8**
SIGR	**SIGRI**	**0.46**	**20**	P	**Pg**	**13 36 36.9**	**-0.1**
SIGR				S	**Sg**	**13 36 43.2**	**+0.1**
SIGR				AML	AML	13 36 44.2	
	comp=E,15126μm,0.3s						
SIGR				AML	AML	13 36 44.4	
	comp=N,7755μm,0.2s						
SIGR	**SIGRI**	**0.46**	**20**	*e*Pg	**Pg**	**13 36 36.5**	**-0.6**
SIGR	**SIGRI**	**0.46**	**20**	P	**Pg**	**13 36 36.9**	**-0.1**
SIGR				S	**Sg**	**13 36 43.2**	**+0.1**
SIGR				*e*Sg	**Sg**	**13 36 44.0**	**+0.9**
CHOS	**Chios island**	**0.50**	**141**	*e*PG	**Pg**	**13 36 37.4**	**-0.5**
CHOS				*e*SG	**Sg**	**13 36 45.2**	**+0.7**
CHOS	**Chios island**	**0.50**	**141**	P	**Pg**	**13 36 38.3**	**+0.4**
CHOS				S	**Sg**	**13 36 44.7**	**+0.2**
CHOS	**Chios island**	**0.50**	**141**	P	**Pb**	**13 36 38.9**	**-0.2**
CHOS				S	**Sg**	**13 36 44.2**	**-0.3**
CHOS				AML	AML	13 36 45.2	
	comp=N,16936μm,0.3s						
CHOS				AML	AML	13 36 46.3	
	comp=E,22501μm,0.2s						
CHOS	**Chios island**	**0.50**	**141**	P	**Pb**	**13 36 38.9**	**-0.2**
CHOS				S	**Sg**	**13 36 44.2**	**-0.3**
CHOS				*e*Sg	**Sg**	**13 36 45.2**	**+0.7**
PRK	**Paraskevi**	**0.67**	**46**	P	**Pg**	**13 36 40.9**	**-0.1**
PRK				S	**Sb**	**13 36 51.1**	**-0.1**
PRK	**Paraskevi**	**0.67**	**46**	P	**Pb**	**13 36 41.6**	**-0.3**
PRK				S	**Sg**	**13 36 48.4**	**-1.4**
PRK				AML	AML	13 36 53.2	
	comp=N,5901μm,0.3s						
PRK				AML	AML	13 36 53.7	
	comp=E,6751μm,0.5s						
PRK	**Paraskevi**	**0.67**	**46**	P	**Pg**	**13 36 40.9**	**-0.1**
PRK				S	**Sg**	**13 36 48.4**	**-1.4**
CESE	**˜e˜me**	**0.67**	**132**	*e*PG	**Pg**	**13 36 40.6**	**-0.5**
KRBN	**Karaburun**	**0.72**	**105**	*e*PG	**Pg**	**13 36 42.0**	**-0.1**
KRBN	**Karaburun**	**0.72**	**105**	*e*Pg	**Pg**	**13 36 42.0**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.77**	**29**	*e*PG	**Pg**	**13 36 42.6**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.77**	**29**	*e*Pg	**Pg**	**13 36 42.6**	**-0.4**
FOCM	**Fo˜§a**	**0.84**	**94**	*e*PG	**Pg**	**13 36 44.2**	**-0.1**
FOCM	**Fo˜§a**	**0.84**	**94**	*e*Pg	**Pg**	**13 36 44.2**	**-0.1**
URLA	**Izmir**	**0.85**	**119**	*e*PG	**Pg**	**13 36 44.0**	**-0.4**
URLA	**Izmir**	**0.85**	**119**	*i* P	**Pg**	**13 36 44.5**	**+0.1**
URLA				*i* S	**Sb**	**13 36 56.4**	**0.0**
URLA	**Izmir**	**0.85**	**119**	P	**Pg**	**13 36 44.5**	**+0.1**
URLA				S	**Sb**	**13 36 56.4**	**0.0**
ZEY	**˜zmir**	**0.85**	**129**	*i* P	**Pg**	**13 36 44.6**	**+0.1**
ZEY				*i* S	**Sb**	**13 36 56.8**	**+0.2**
SKY	**Skiros Island**	**0.87**	**277**	P	**Pn**	**13 36 47.2**	**+0.7**
CAND	**Candarli**	**0.91**	**79**	*e*PG	**Pg**	**13 36 45.6**	**0.0**
AYVA	**Ayvalik**	**0.96**	**56**	*i* P	**Pg**	**13 36 46.5**	**-0.1**
AYVA				*i* S	**Sg**	**13 36 58.8**	**-0.3**
AYVA	**Ayvalik**	**0.96**	**56**	P	**Pg**	**13 36 46.5**	**-0.1**
AYVA				S	**Sg**	**13 36 58.8**	**-0.3**
CUND	**Cunda Adasi-Ba**	**0.96**	**54**	*e*PG	**Pg**	**13 36 46.5**	**-0.1**
CUND	**Cunda Adasi-Ba**	**0.96**	**54**	*e*Pg	**Pg**	**13 36 46.5**	**-0.1**
DKL	**Dikili**	**1.02**	**73**	*e*PN	**Pg**	**13 36 47.4**	**-0.2**
DKL	**Dikili**	**1.02**	**73**	*e*Pn	**Pg**	**13 36 47.4**	**-0.2**
BOZC	**Bozcaada**	**1.10**	**16**	*e*PN	**Pb**	**13 36 48.4**	**-0.9**
BOZC	**Bozcaada**	**1.10**	**16**	*i* P	**Pb**	**13 36 48.8**	**-0.5**
BOZC				*i* S	**Sb**	**13 37 04.3**	**+0.5**
BOZC	**Bozcaada**	**1.10**	**16**	*e*Pn	**Pb**	**13 36 48.4**	**-0.9**
EZN	**Ezine**	**1.17**	**26**	*e*PN	**Pb**	**13 36 49.9**	**-0.5**
EZN	**Ezine**	**1.17**	**26**	P	**Pg**	**13 36 50.6**	**+0.1**
EZN	**Ezine**	**1.17**	**26**	*e*Pn	**Pb**	**13 36 49.9**	**-0.5**
EZN	**Ezine**	**1.17**	**26**	P	**Pg**	**13 36 50.6**	**+0.1**
LIA	**Limnos Island**	**1.18**	**342**	P	**Pb**	**13 36 50.1**	**-0.4**
LIA				S	**Sg**	**13 37 05.9**	**-0.1**
LIA	**Limnos Island**	**1.18**	**342**	P	**Pg**	**13 36 50.9**	**+0.2**
LIA				S	**Sb**	**13 37 05.3**	**-0.5**
LIA				AML	AML	13 37 06.8	
	comp=E,1131μm,0.5s						
LIA				AML	AML	13 37 08.5	
	comp=N,918μm,0.4s						
LIA	**Limnos Island**	**1.18**	**342**	P	**Pb**	**13 36 50.1**	**-0.4**
LIA				S	**Sb**	**13 37 05.3**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.18**	**35**	*i* P	**Pb**	**13 36 50.2**	**-0.5**
BAYC				*i* S	**Sg**	**13 37 06.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.18**	**35**	P	**Pb**	**13 36 50.2**	**-0.5**
BAYC				S	**Sg**	**13 37 06.2**	**0.0**
DGB	**˜zmir**	**1.21**	**127**	*i* P	**Pn**	**13 36 50.2**	**-0.9**
DGB				*i* S	**Sb**	**13 37 06.5**	**-0.1**
GMLD	**Gumuldur**	**1.21**	**125**	*e*PN	**Pn**	**13 36 50.9**	**-0.2**
GMLD	**Gumuldur**	**1.21**	**125**	*e*Pn	**Pn**	**13 36 50.9**	**-0.2**
KARY	**Karystos**	**1.22**	**232**	P	**Pn**	**13 36 50.6**	**-0.6**
KARY				S	**Sb**	**13 37 07.0**	**0.0**
KARY	**Karystos**	**1.22**	**232**	P	**Pn**	**13 36 50.6**	**-0.6**
KARY				S	**Sb**	**13 37 07.0**	**0.0**
EREA	**Eretria**	**1.40**	**256**	P	**Pn**	**13 36 53.8**	**0.0**
EREA				S	**Sn**	**13 37 11.8**	**-0.5**
EREA	**Eretria**	**1.40**	**256**	P	**Pn**	**13 36 53.7**	**0.0**
EREA	**Eretria**	**1.40**	**256**	P	**Pn**	**13 36 53.7**	**0.0**
EREA				S	**Sn**	**13 37 11.8**	**-0.5**
GADA	**Gvkgeada**	**1.42**	**7**	*e*PN	**Pn**	**13 36 53.4**	**-0.6**
GADA	**Gvkgeada**	**1.42**	**7**	*e*Pn	**Pn**	**13 36 53.4**	**-0.6**
PTL	**Penteli**	**1.59**	**243**	P	**Pn**	**13 36 55.7**	**-0.6**
PTL				S	**Sn**	**13 37 16.7**	**-0.2**
PTL	**Penteli**	**1.59**	**243**	P	**Pn**	**13 36 55.4**	**-0.9**
PTL	**Penteli**	**1.59**	**243**	P	**Pn**	**13 36 55.7**	**-0.6**
PTL				S	**Sn**	**13 37 16.7**	**-0.2**
GCAM	**G?zelcaml?**	**1.64**	**130**	*i* P	**Pb**	**13 36 58.8**	**+0.3**
GCAM				*i* S	**Sg**	**13 37 21.1**	**+0.2**
GCAM	**G?zelcaml?**	**1.64**	**130**	P	**Pb**	**13 36 58.8**	**+0.3**
GCAM				S	**Sg**	**13 37 21.1**	**+0.2**
ATHU	**Athens Univers**	**1.68**	**242**	P	**Pn**	**13 36 57.2**	**-0.4**
ATHU	**Athens Univers**	**1.68**	**242**	P	**Pn**	**13 36 56.9**	**-0.7**
ATHU	**Athens Univers**	**1.68**	**242**	P	**Pn**	**13 36 57.2**	**-0.4**
AKHS	**Akhisar**	**1.69**	**86**	*i* P	**Pb**	**13 36 59.6**	**+0.4**
AKHS				*i* S	**Sb**	**13 37 20.4**	**-0.1**
AKHS	**Akhisar**	**1.69**	**86**	P	**Pb**	**13 36 59.7**	**+0.4**
AKHS				S	**Sb**	**13 37 20.4**	**-0.1**
SMTH	**Samothraki Isl**	**1.69**	**357**	P	**Pn**	**13 36 56.7**	**-1.1**
SMTH				S	**Sn**	**13 37 19.9**	**+0.4**
SMTH	**Samothraki Isl**	**1.69**	**357**	P	**Pn**	**13 36 57.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.69**	**357**	P	**Pn**	**13 36 57.0**	**-0.8**
APE	**Apeiranthos**	**1.71**	**183**	*e*PN	**Pn**	**13 36 56.8**	**-1.3**
APE	**Apeiranthos**	**1.71**	**183**	P	**Pn**	**13 36 56.8**	**-1.3**
APE				S	**Sn**	**13 37 19.1**	**-0.9**
APE	**Apeiranthos**	**1.71**	**183**	P	**Pn**	**13 36 56.0**	**-2.1**
APE	**Apeiranthos**	**1.71**	**183**	P	**Pn**	**13 36 56.8**	**-1.3**
APE				S	**Sn**	**13 37 19.1**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.71**	**69**	*i* P	**Pg**	**13 37 00.9**	**0.0**
STEP				*i* S	**Sg**	**13 37 22.7**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.71**	**69**	P	**Pg**	**13 37 00.9**	**0.0**
STEP				S	**Sg**	**13 37 22.7**	**-0.4**
ATH	**Athens Observa**	**1.73**	**243**	P	**Pn**	**13 36 57.9**	**-0.3**
ATH	**Athens Observa**	**1.73**	**243**	P	**Pn**	**13 36 57.9**	**-0.3**
VLY	**Voula,Athens**	**1.73**	**238**	P	**Pn**	**13 36 57.9**	**-0.4**
VLY				S	**Sn**	**13 37 20.3**	**-0.2**
VLY	**Voula,Athens**	**1.73**	**238**	P	**Pn**	**13 36 57.7**	**-0.6**
VLY	**Voula,Athens**	**1.73**	**238**	P	**Pn**	**13 36 57.9**	**-0.4**
VLY				S	**Sn**	**13 37 20.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.73**	**21**	*e*PN	**Pn**	**13 36 58.0**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.73**	**21**	*e*Pn	**Pn**	**13 36 58.0**	**-0.3**
SKIA	**Skiathos**	**1.75**	**283**	P	**Pn**	**13 36 58.6**	**0.0**
SKIA	**Skiathos**	**1.75**	**283**	P	**Pn**	**13 36 58.6**	**0.0**
LPK	**Lapseki**	**1.81**	**28**	*e*PN	**Pn**	**13 36 59.1**	**-0.2**
LPK	**Lapseki**	**1.81**	**28**	*e*Pn	**Pn**	**13 36 59.1**	**-0.2**
PAIG	**Paliouri**	**1.91**	**307**	P	**Pb**	**13 37 02.5**	**-0.6**
PAIG	**Paliouri**	**1.91**	**307**	P	**Pb**	**13 37 02.5**	**-0.6**
SMIA	**Simia**	**1.92**	**274**	P	**Pn**	**13 37 01.0**	**+0.2**
SMIA	**Simia**	**1.92**	**274**	P	**Pn**	**13 37 01.0**	**+0.2**
BALB	**Balikesir**	**1.93**	**63**	*e*PN	**Pn**	**13 37 01.0**	**0.0**
BALB	**Balikesir**	**1.93**	**63**	*e*Pn	**Pn**	**13 37 01.0**	**0.0**
VILL	**Villia**	**1.94**	**252**	P	**Pn**	**13 37 01.5**	**+0.3**
VILL	**Villia**	**1.94**	**252**	P	**Pn**	**13 37 01.5**	**+0.3**
VIL2	**Platees**	**1.96**	**254**	P	**Pn**	**13 37 01.6**	**+0.1**
NEO	**Neokhori**	**1.97**	**286**	P	**Pn**	**13 37 02.0**	**+0.4**
NEO	**Neokhori**	**1.97**	**286**	P	**Pn**	**13 37 02.0**	**+0.4**
ENEZ	**Enez**	**1.99**	**11**	*e*PN	**Pn**	**13 37 01.8**	**-0.1**
ENEZ	**Enez**	**1.99**	**11**	*e*Pn	**Pn**	**13 37 01.8**	**-0.1**
ERIK	**Erikli-Kesan**	**2.00**	**19**	*e*PN	**Pn**	**13 37 01.8**	**-0.2**
ERIK	**Erikli-Kesan**	**2.00**	**19**	*e*Pn	**Pn**	**13 37 01.8**	**-0.2**
XOR	**Xorichti**	**2.01**	**288**	P	**Pn**	**13 37 02.4**	**+0.3**
XOR	**Xorichti**	**2.01**	**288**	P	**Pn**	**13 37 02.4**	**+0.3**
GONE	**Gonen-Balikesi**	**2.02**	**51**	*e*PN	**Pn**	**13 37 02.2**	**0.0**
GONE	**Gonen-Balikesi**	**2.02**	**51**	*e*Pn	**Pn**	**13 37 02.2**	**0.0**
OUR	**Ouranopolis**	**2.02**	**321**	*e*PN	**Pn**	**13 37 01.1**	**-1.2**
OUR	**Ouranopolis**	**2.02**	**321**	P	**Pn**	**13 37 02.3**	**0.0**
OUR	**Ouranopolis**	**2.02**	**321**	P	**Pn**	**13 37 01.8**	**-0.5**
OUR	**Ouranopolis**	**2.02**	**321**	*e*Pn	**Pn**	**13 37 01.1**	**-1.2**
OUR	**Ouranopolis**	**2.02**	**321**	P	**Pn**	**13 37 02.3**	**0.0**
KRBG	**Karabiga-Canak**	**2.05**	**38**	*e*PN	**Pn**	**13 37 02.0**	**-0.7**
KRBG	**Karabiga-Canak**	**2.05**	**38**	*e*Pn	**Pn**	**13 37 02.0**	**-0.7**
AYDN	**Tasoluk**	**2.08**	**122**	*i* P	**Pn**	**13 37 02.2**	**-0.9**
AYDN				*i* S	**Sb**	**13 37 33.1**	**+1.3**
AYDN	**Tasoluk**	**2.08**	**122**	P	**Pn**	**13 37 02.2**	**-0.9**
AYDN				S	**Sb**	**13 37 33.1**	**+1.3**
LKR	**Lokris**	**2.08**	**267**	P	**Pn**	**13 37 03.2**	**+0.1**
LKR	**Lokris**	**2.08**	**267**	P	**Pn**	**13 37 03.0**	**-0.1**
LKR	**Lokris**	**2.08**	**267**	P	**Pn**	**13 37 03.0**	**-0.1**
ALN	**Alexandroupoli**	**

TWVZ				AML	AML	13 36 51.7	
TWVZ				AML	AML	13 36 52.7	
WTVZ	**West Tongariro**	**0.35**	**45**	⇓P*	Pb	13 36 46.7	-0.4
WTVZ				AML	AML	13 36 52.9	
WTVZ				AML	AML	13 36 53.5	
OTVZ	**Oturere**	**0.37**	**56**	⇓P*	Pb	13 36 47.0	-0.3
OTVZ				AML	AML	13 36 53.8	
OTVZ				AML	AML	13 36 53.9	
MOVZ	**Moawhango**	**0.38**	**96**	P*	Pb	13 36 46.8	-0.6
MOVZ				AML	AML	13 36 52.4	
MOVZ				AML	AML	13 36 52.4	
KRVZ	**Karewarewa**	**0.40**	**47**	⇓P*	Pb	13 36 47.2	-0.6
KRVZ				AML	AML	13 36 54.0	
KRVZ				AML	AML	13 36 54.4	
WAZ	**Wanganui**	**0.44**	**210**	⇑P*	Pb	13 36 48.0	-0.5
WAZ				AML	AML	13 36 55.7	
WAZ				AML	AML	13 36 57.0	
VRZ	**Vera Road**	**0.47**	**301**	⇑P*	Pb	13 36 48.3	-0.5
VRZ				AML	AML	13 36 57.2	
VRZ				AML	AML	13 36 58.4	
KATZ	**Kakaramea**	**0.51**	**40**	⇓P*	Pb	13 36 49.0	-0.7
KATZ				AML	AML	13 36 58.0	
KATZ				AML	AML	13 36 58.0	
RITZ	**Rihia Road**	**0.60**	**50**	P*	Pb	13 36 50.6	-0.4
RITZ				AML	AML	13 37 01.4	
RITZ				AML	AML	13 37 06.4	
BHHZ	**Black Hill Sta**	**0.62**	**101**	⇑P*	Pb	13 36 50.4	-1.1
BHHZ				AML	AML	13 36 58.6	
BHHZ				AML	AML	13 36 59.1	
RATZ	**Rangitukua**	**0.64**	**38**	⇓P*	Pb	13 36 51.0	-0.6
RATZ				AML	AML	13 37 03.2	
RATZ				AML	AML	13 37 05.0	
LREZ	**Lake Rotokare**	**0.68**	**262**	P*	Pb	13 36 51.1	-0.4
LREZ				AML	AML	13 37 06.3	
LREZ				AML	AML	13 37 07.6	
WATZ	**Wairara**	**0.75**	**29**	⇑P*	Pb	13 36 52.7	-0.8
WATZ				AML	AML	13 37 04.6	
WATZ				AML	AML	13 37 05.8	
MHEZ	**Mangahewa**	**0.79**	**291**	⇓P*	Pb	13 36 53.8	-0.4
OHWZ	**Ohakea**	**0.84**	**178**	⇑P*	Pb	13 36 54.0	-1.0
DREZ	**Durham Road**	**0.85**	**282**	⇑PN	Pb	13 36 54.8	-0.4
PREZ	**Palmer Road**	**0.86**	**271**	PN	Pb	13 36 55.1	-0.4
PREZ				AML	AML	13 37 09.3	
PREZ				AML	AML	13 37 13.2	
TSZ	**Takapari Road**	**0.87**	**143**	⇑PN	Pb	13 36 54.2	-1.3
TSZ				AML	AML	13 37 09.0	
TSZ				AML	AML	13 37 10.7	
WHTZ	**Whakaora**	**0.88**	**38**	PN	Pb	13 36 55.7	-0.1
KRHZ	**Kereru**	**0.89**	**108**	PN	Pb	13 36 54.7	-1.3
KRHZ				AML	AML	13 37 08.3	
KRHZ				AML	AML	13 37 08.8	
KWHZ	**Kaweka Forest**	**0.89**	**94**	PN	Pb	13 36 55.7	-0.3
KWHZ				AML	AML	13 37 09.2	
KWHZ				AML	AML	13 37 09.3	
PNHZ	**Pukenui**	**0.90**	**127**	PN	Pb	13 36 54.7	-1.4
PNHZ				AML	AML	13 37 08.2	
PNHZ				AML	AML	13 37 10.0	
HIZ	**Hauiti**	**0.91**	**339**	⇑PN	Pn	13 36 56.5	+0.2
HIZ				AML	AML	13 37 10.5	
HIZ				AML	AML	13 37 12.5	
NEZ	**North Egmont**	**0.92**	**276**	PN	Pb	13 36 55.7	-0.7
BKZ	**Black Stump Fm**	**0.97**	**78**	Pn	Pn	13 36 56.0	-1.2
BKZ				AML	AML	13 37 10.2	
BKZ				AML	AML	13 37 10.5	
KHEZ	**Kahui Hut**	**0.98**	**274**	PN	Pn	13 36 57.0	-0.3
KUTZ	**Kaahu Road**	**0.98**	**26**	⇑PN	Pn	13 36 56.1	-1.2
KUTZ				AML	AML	13 37 14.0	
KUTZ				AML	AML	13 37 15.5	
PKE	**Pukeiti**	**1.01**	**280**	PN	Pn	13 36 57.2	-0.5
PKE				AML	AML	13 37 13.0	
PKE				AML	AML	13 37 13.4	
MRHZ	**Matea Rd**	**1.04**	**59**	⇑PN	Pn	13 36 56.9	-1.2
MRHZ				AML	AML	13 37 18.5	
MRHZ				AML	AML	13 37 19.8	
TLZ	**Tolley Road**	**1.06**	**11**	PN	Pn	13 36 56.6	-1.8
TLZ				AML	AML	13 37 11.7	
TLZ				AML	AML	13 37 11.8	
NMEZ	**Namu Road**	**1.08**	**267**	PN	Pn	13 36 58.2	-0.4
POWZ	**Post Office Ro**	**1.09**	**160**	PN	Pn	13 36 58.1	-0.7
POWZ				AML	AML	13 37 14.9	
POWZ				AML	AML	13 37 17.2	
NWEZ	**Newall Road**	**1.09**	**274**	PN	Pn	13 36 58.6	-0.2
WPRZ	**Whakapapatarin**	**1.10**	**40**	PN	Pn	13 36 58.1	-0.8
WPRZ				AML	AML	13 37 22.7	
MCHZ	**McNeill Hill**	**1.11**	**94**	PN	Pb	13 37 00.4	+0.8
MCHZ				AML	AML	13 37 31.4	
MCHZ				AML	AML	13 37 28.4	
WPHZ	**Waipukurau**	**1.14**	**128**	PN	Pn	13 36 59.8	+0.3
WPHZ				AML	AML	13 37 18.2	
WPHZ				AML	AML	13 37 18.7	
DVHZ	**Dannevirke**	**1.16**	**144**	PN	Pn	13 36 59.5	-0.2
DVHZ				AML	AML	13 37 18.1	
DVHZ				AML	AML	13 37 18.8	
NMHZ	**Naumai**	**1.22**	**78**	PN	Pb	13 37 01.9	+0.3
NMHZ				AML	AML	13 37 27.1	
NMHZ				AML	AML	13 37 36.3	
HSRZ	**Hossack Road**	**1.30**	**36**	PN	Pn	13 37 01.7	0.0
PRWZ	**Pori Road**	**1.30**	**156**	PN	Pn	13 37 02.2	+0.6
PRWZ				AML	AML	13 37 22.0	
PRWZ				AML	AML	13 37 28.0	
KAHZ	**Kahuranaki**	**1.31**	**109**	PN	Pb	13 37 03.5	+0.4
KAHZ				AML	AML	13 37 36.8	
KAHZ				AML	AML	13 37 36.8	
MRZ	**Mangatainoka R**	**1.31**	**170**	⇑PN	Pn	13 37 01.4	-0.4
MRZ				AML	AML	13 37 19.6	
MRZ				AML	AML	13 37 19.8	
ARHZ	**Aropaoanui**	**1.34**	**86**	PN	Pb	13 37 03.5	0.0
ARHZ				AML	AML	13 37 35.2	
ARHZ				AML	AML	13 37 36.4	
PRHZ	**Porangahau**	**1.38**	**131**	PN	Pn	13 37 03.1	+0.4
PRHZ				AML	AML	13 37 34.0	
PRHZ				AML	AML	13 37 34.5	
UTU	**Utuhina**	**1.39**	**32**	PN	Pn	13 37 03.5	+0.6
UTU				AML	AML	13 37 37.4	
PXZ	**Pawanui**	**1.40**	**119**	PN	Pb	13 37 03.8	-0.7
OGWZ	**Otaki Gorge**	**1.45**	**183**	PN	Pn	13 37 03.2	-0.5
OGWZ				AML	AML	13 37 22.7	
OGWZ				AML	AML	13 37 25.3	
TIWZ	**Tintock**	**1.48**	**162**	PN	Pn	13 37 04.5	+0.3
TIWZ				AML	AML	13 37 29.3	
TIWZ				AML	AML	13 37 29.3	
BFZ	**Birch Farm**	**1.51**	**151**	PN	Pn	13 37 04.9	+0.4
BFZ				AML	AML	13 37 31.5	
KIW	**Kapiti Island**	**1.52**	**190**	PN	Pn	13 37 03.8	-0.8
KIW				AML	AML	13 37 24.0	
KIW				AML	AML	13 37 25.8	
RTZ	**Ruatahuna**	**1.53**	**61**	PN	Pn	13 37 02.2	-2.7
HOWZ	**Holdsworth Sta**	**1.54**	**173**	PN	Pn	13 37 05.2	+0.2
HOWZ				AML	AML	13 37 27.9	
HOWZ				AML	AML	13 37 28.5	
TOZ	**Tahuroa Road**	**1.65**	**6**	PN	Pn	13 37 04.6	-1.7
TOZ				AML	AML	13 37 29.4	
TOZ				AML	AML	13 37 29.4	
TOZ				AML	AML	13 37 29.5	
CAW	**Cannon Point**	**1.74**	**185**	PN	Pn	13 37 07.7	-0.1
CAW				AML	AML	13 37 33.1	
CAW				AML	AML	13 37 34.1	
DUWZ	**D'Urville Isla**	**1.77**	**215**	PN	Pn	13 37 07.0	-1.1
DUWZ				AML	AML	13 33.6	
DUWZ				AML	AML	13 37 34.4	
MTW	**Mount Morrison**	**1.80**	**174**	AML	AML	13 37 35.2	
MTW				AML	AML	13 37 40.1	
TMWZ	**Te Maipa**	**1.80**	**165**	PN	Pb	13 37 10.2	-1.2
TMWZ				AML	AML	13 37 43.6	
TMWZ				AML	AML	13 37 45.4	
WEL	**Wellington**	**1.95**	**191**	PN	Pn	13 37 10.9	+0.3
WEL				AML	AML	13 37 52.6	
WEL				AML	AML	13 37 54.2	
WEL				AML	AML	13 37 54.5	
WEL				AML	AML	13 37 54.5	
TCW	**Tory Channel**	**1.99**	**202**	PN	Pn	13 37 11.1	0.0
TCW				AML	AML	13 37 44.1	
TCW				AML	AML	13 37 44.6	
PAWZ	**Paruwai Farm**	**2.02**	**177**	AML	AML	13 37 46.9	
PAWZ				AML	AML	13 37 51.6	
MWZ	**Matawai**	**2.04**	**60**	PN	Pn	13 37 12.3	+0.4
MSWZ	**Moikau Station**	**2.04**	**180**	PN	Pn	13 37 11.3	-0.6
MSWZ				AML	AML	13 37 36.3	
MSWZ				AML	AML	13 37 57.7	
BHW	**Baring Head**	**2.06**	**188**	PN	Pn	13 37 12.3	+0.2
BHW				AML	AML	13 37 55.1	
BHW				AML	AML	13 37 55.4	
PLWZ	**Palliser**	**2.20**	**180**	PN	Pn	13 37 13.5	-0.6
MKAZ	**Moumakai**	**2.26**	**358**	PN	Pn	13 37 13.4	-1.4
KBAZ	**Karaka Road Bo**	**2.29**	**352**	PN	Pn	13 37 14.3	-0.9
TUWZ	**Tuamarina**	**2.29**	**206**	PN	Pn	13 37 15.5	+0.2
TUWZ				AML	AML	13 37 55.0	
TUWZ				AML	AML	13 37 58.3	
NNZ	**Nelson**	**2.35**	**217**	PN	Pn	13 37 15.9	-0.1
AWAZ	**Awhitu Peninsu**	**2.35**	**348**	PN	Pn	13 37 15.6	-0.5
ETAZ	**East Tamaki Re**	**2.43**	**353**	PN	Pn	13 37 15.9	-1.2
QRZ	**Quartz Range**	**2.56**	**234**	PN	Pn	13 37 17.9	-1.1
QRZ				AML	AML	13 37 55.1	
QRZ				AML	AML	13 38 09.8	
WIAZ	**Waiheke Island**	**2.57**	**358**	PN	Pn	13 37 18.1	-1.1
BSWZ	**Blackbirch Sta**	**2.57**	**204**	PN	Pn	13 37 19.9	+0.7
KUZ	**Kuaotunu**	**2.64**	**8**	PN	Pn	13 37 17.9	-2.1
RVAZ	**Riverhead Bore**	**2.65**	**348**	PN	Pn	13 37 19.5	-0.7
ABAZ	**Army Bay**	**2.79**	**353**	PN	Pn	13 37 21.2	-0.9
THZ	**Tophouse**	**2.99**	**216**	PN	Pn	13 37 25.9	+0.9
THZ				AML	AML	13 38 18.3	
THZ				AML	AML	13 38 20.2	
KHZ	**Kahutara**	**3.31**	**203**	PN	Pn	13 37 28.5	-0.8
WCZ	**Waipu Caves**	**3.50**	**348**	PN	Pn	13 37 30.8	-1.1
DSZ	**Denniston Nort**	**3.55**	**227**	PN	Pn	13 37 32.0	-0.6
OUZ	**Omahuta**	**4.35**	**342**	PN	Pn	13 37 43.1	-0.4
INZ	**Inchbonnie**	**4.43**	**220**	PN	Pn	13 37 43.8	-0.8
MQZ	**McQueen's Vall**	**4.76**	**204**	PN	Pn	13 37 46.3	-2.8
FOZ	**Fox Glacier**	**5.84**	**223**	PN	Pn	13 38 03.5	-0.5
ODZ	**Otahua Downs**	**6.63**	**210**	PN	Pn	13 38 12.7	-2.2

NIED ***16*** *13:40:00, 37°.70N×142°.10E, h14km, Mw3.7 Best double couple: M0 3.39000×10^14 NP1:φs=242.00000°, δ17.00000°, λ-7.00000°. NP2:φs=339.00000°, δ88.00000°, λ-107.00000°.*

IDC ***16*** *13:40:27.5±0.8, 37°.62N×142°.36E, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.8/50, mbtmp3.7/10, ML3.3/4, MS3.2/3, Ms1 3.2/3, ms1mx2.9/37, Error ellipse: s-maj=25.0km s-min=17.5km az=124.0*

ISCJB ***16*** *13:40:28.2±1.0, 37°.68N±0°.03×142°.25E±0°.05, h15km±6km, mb3.7/6, MS4.1/1, Error ellipse: s-maj=6.9km s-min=5.3km az=12.1*

JMA ***16*** *13:40:30.7±0.2, 37°.69N×142°.15E, h30km±3km, M4.0*

ISC 16 13:40:28.0±1.8, 37°.66N±0°.04×142°.19E±0°.06, h5km±10km, n31, σ1$41/39, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.03**	**320**	P	**Pg**	**13 40 48.6**	**+0.8**
JIO				S	**Sg**	**13 41 00.8**	**-0.4**
JFK	**Kawauchi**	**1.08**	**255**	P	**Pb**	**13 40 49.5**	**+0.2**
JFK				S	**Sg**	**13 41 02.9**	**0.0**
JMM	**Marumori**	**1.12**	**281**	P	**Pg**	**13 40 50.2**	**+0.6**
JMM				S	**Sg**	**13 41 03.6**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.24**	**244**	P	**Pg**	**13 40 51.9**	**+0.1**
ONAJ				S	**Sg**	**13 41 06.7**	**-1.1**
JOU	**Okura**	**1.39**	**301**	P	**Pn**	**13 40 54.5**	**+0.3**
JOU				S	**Sb**	**13 41 11.6**	**-1.0**
JFT	**Otama**	**1.48**	**265**	P	**Pb**	**13 40 56.0**	**0.0**
JFT				S	**Sn**	**13 41 14.2**	**-0.8**
JMK	**Ichinoseki**	**1.50**	**330**	P	**Pn**	**13 40 55.4**	**-0.1**
JMK				S	**Sn**	**13 41 13.1**	**-2.3**
JYS	**Shiratake**	**1.77**	**289**	P	**Pn**	**13 41 00.5**	**+1.2**
JYS				S	**Sn**	**13 41 22.4**	**+0.2**
JYK	**Kaneyama**	**1.91**	**312**	P	**Pn**	**13 41 01.9**	**+0.7**
JYK				*e*S	**Sn**	**13 41 25.6**	**0.0**
JOM	**Ohasama**	**1.94**	**339**	P	**Pn**	**13 41 01.8**	**+0.1**
JOM				S	**Sn**	**13 41 24.5**	**-1.9**
JFY	**Yanaizu**	**1.99**	**263**	P	**Pb**	**13 41 03.9**	**-0.8**
JFY				S	**Sn**	**13 41 27.4**	**-0.2**
JRG	**Rokugo**	**2.12**	**325**	P	**Pn**	**13 41 05.1**	**+1.0**
JRG				S	**Sn**	**13 41 30.5**	**-0.3**
JYA	**Atsumi**	**2.16**	**296**	*e*S	**Sn**	**13 41 31.5**	**-0.3**
MJAR	**Matsushiro Arr**	**3.37**	**252**	Pn	**Pn**	**13 41 24.1**	**+2.7**
	3.2nm,0.3s,baz=73,slow=14,SNR=32						
MJAR				Sn	**Sb**	**13 42 06.3**	**-3.3**
	4.9nm,0.3s,baz=59,slow=22,SNR=4.6						
MJAR				LR	LR	13 42 49.0	
	comp=Z,123nm,19.4s,baz=55,slow=41						
MAT	**Matsushiro**	**3.37**	**252**	P	**Pb**	**13 41 25.1**	**-3.2**
MAT				S	**Sn**	**13 42 04.6**	**+2.8**
JHJ	**Hachijo jima 2**	**4.94**	**204**	Pn	**Pn**	**13 41 43.5**	**+0.6**
	11nm,0.3s,baz=72,slow=18,SNR=9.1						
JHJ				Sn	**Sn**	**13 42 38.0**	**-2.3**
	26nm,0.3s,baz=88,slow=23,SNR=6.5						
ASAJ	**Asahikawa**	**6.46**	**3**	Pn	**Pn**	**13 42 04.7**	**+1.0**
	0.7nm,0.3s,baz=202,slow=19,SNR=5.8						
KSRS	**Korea Array**	**11.33**	**273**	Pn	**Pn**	**13 43 13.2**	**+2.7**
	0.1nm,0.3s,baz=90,slow=14,SNR=2.9						
KSRS				LR	LR	13 46 54.6	
	comp=Z,52nm,18.1s,baz=305,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	14 15 34.3	
	baz=315,slow=75,SNR=51						
SONM	**Songino Array**	**27.95**	**303**	P	**P**	**13 46 20.1**	**+0.7**
	1.5nm,0.8s,baz=106,slow=8.4,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**27.96**	**123**	T	T	14 15 43.5	
	baz=315,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.97**	**123**	T	T	14 15 38.8	
	baz=315,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	14 16 29.8	
	baz=317,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	14 16 43.1	
	baz=317,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	14 16 42.1	
	baz=317,slow=76,SNR=27						
ILAR	**Eielson Array**	**48.64**	**33**	P	**P**	**13 49 12.2**	**-0.3**
	0.5nm,0.8s,baz=268,slow=6.2,SNR=5.5						
WRA	**Warramunga Arr**	**57.77**	**189**	P	**P**	**13 50 19.8**	**-0.4**
	1.7nm,0.7s,baz=6.0,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**61.50**	**189**	P	**P**	**13 50 45.9**	**+0.1**
	0.9nm,0.7s,baz=12,slow=7.4,SNR=12						
PDAR	**Pinedale Array**	**76.79**	**46**	P	**P**	**13 52 21.4**	**+0.4**
	0.2nm,0.4s,baz=347,slow=6.8,SNR=2.9						
SCHQ	**Schefferville**	**84.56**	**16**	LR	LR	14 35 35.3	
	comp=Z,70nm,18.4s,baz=312,slow=39						
TXAR	**Lajitas Array**	**89.25**	**53**	P	**P**	**13 53 25.5**	**0.0**
	0.3nm,0.9s,baz=318,slow=3.9,SNR=2.5						

DJA 16 13:43:13.4±0.6, 8°S±3°×10°7E±°, h10km±4km, M4.1/9, MLv4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**41**	P	Pb	13 43 29.4	+0.6
CISI				S	Sb	13 43 38.9	-0.3
CNJI	**Cibinong**	**0.83**	**348**	P	Pb	13 43 30.6	+0.6
CNJI				S	Sb	13 43 40.9	-0.4
CMJI	**Cimerak**	**1.18**	**73**	P	Pb	13 43 35.0	-0.9
CMJI				S	Sb	13 43 49.5	-1.7
SKJI	**Sukabumi**	**1.34**	**326**	P	Pn	13 43 38.1	-0.2
SKJI				S	Sb	13 43 55.4	-0.6
DBJI	**Dramaga**	**1.66**	**340**	P	Pn	13 43 43.1	+0.5
TNG	**Tangerang**	**2.05**	**341**	P	Pn	13 43 48.0	0.0
CGJI	**Cibinong**	**2.20**	**313**	P	Pn	13 43 49.4	-0.6
UGM	**Wanagama**	**3.19**	**86**	P	Pn	13 44 03.4	-0.3
KASI	**Kota Agung**	**3.81**	**313**	P	Pn	13 44 12.2	0.0
PCJI	**Pacitan**	**3.83**	**91**	P	Pn	13 44 13.0	+0.6
MDSI	**Maura Dua**	**4.77**	**319**	P	Pn	13 44 25.7	+0.2

SOME ***16*** *13:44:42.8, 44°.17N×82°.73E, h15km, MS4.6*

IDC ***16*** *13:44:43.8±0.4, 44°.25N×82°.72E, h0km, mb4.9/34, mb1 4.9/44, mb1mx4.9/46, mbtmp4.8/44, ML4.0/9, MS4.1/25, Ms1 4.1/25, ms1mx3.9/46, Error ellipse: s-maj=8.3km s-min=6.7km az=70.0*

NNC ***16*** *13:44:45.6±1.9, 44°.30N×82°.72E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=21.2km s-min=6.6km az=122.0*

BJI ***16*** *13:44:46.1, 44°.25N×82°.70E, h18km, mb5.0/61, mB4.9/42, ML5.2/10, Ms4.8/41, Ms7 4.6/35*

ISCJB ***16*** *13:44:46.8±0.4, 44°.23N±0°.02×82°.72E±0°.02, h33km±3km, mb5.0/252, MS4.4/47, Error ellipse: s-maj=2.9km s-min=2.2km az=30.2*

MOS ***16*** *13:44:47.1±1.0, 44°.24N×82°.69E, h33km, mb5.3/79, MS4.2/21, Error ellipse: s-maj=4.8km s-min=3.7km az=117.9*

NEIC ***16*** *13:44:49.0±0.3, 44°.25N×82°.69E, h36km±3km, mb5.2/145, Error ellipse: s-maj=2.5km s-min=2.1km az=199.0*

NEIC Felt at Karamay.

GCMT ***16*** *13:44:49.0±0.4, 44°.45N×82°.70E, h29km±1km, MW4.8/59, Moment Tensor Solution. s31,c34; s59,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.81±.16; Mθθ-2.18±.10; Mφφ0.37±.10; Mrθ-0.12±.14; Mrφ-0.47±.07; Mθφ-0.77±.18; Best double couple: M0 2.21100×10^16 NP1:φs238.00000°, δ53.00000°, λ60.00000°. NP2: φs102.00000°, δ46.00000°, λ123.00000°. Principal axes: T 2.1420, Plg66.0000°, Azm87.0000°; N 0.1380, Plg23.0000°, Azm257.0000°; P -2.2800, Plg4.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 13:44:46.4±0.4, 44°.29N±0°.03×82°.69E±0°.02, h17km±2km, h17km:pP-P, n719, σ1$49/801, mb5.1/259, MS4.3/47, 65C-21D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.08**	**272**	*e*P	**Pn**	**13 45 22.5**	**+1.9**
	7μm,0.4s						
DJR				*e*S	**Sb**	**13 45 51.4**	**+2.1**
	17μm,0.3s						
MK01	**Makanchi Array**	**2.50**	**354**	*e*Pn	**Pn**	**13 45 28.9**	**+2.6**
PDGK	**Podgornoye**	**2.50**	**249**	⇑Pn	**Pn**	**13 45 27.5**	**+1.0**
	773nm,0.4s						
PDGK				⇓Sn	**Sb**	**13 46 01.8**	**+0.2**
	2μm,0.5s						
PDGK	**Podgornoye**	**2.50**	**249**	PN	**Pn**	**13 45 27.5**	**+1.0**
PDGK						13 46 01.7	
PDGK				pmax	pmax		
	comp=Z,773nm,0.4s						
PDGK				smax	smax		
	comp=N,2μm,0.5s						
MK31	**Makanchi Array**	**2.52**	**354**	⇑Pn	**Pn**	**13 45 29.6**	**+3.0**
	comp=N,4μm,0.5s,baz=189,slow=12						
MK31				⇑Lg	Lg	13 46 05.9	
	comp=N,20μm,0.7s,baz=175,slow=27,SNR=13						
MK31	**Makanchi Array**	**2.52**	**354**	*e*PN	**Pn**	**13 45 29.6**	**+3.0**
MK31						13 46 05.9	
MK31				pmax	pmax		
	comp=Z,4μm,0.5s						
MK31				smax	smax		
	comp=N,20μm,0.7s						
MK31	**Makanchi Array**	**2.52**	**354**	*e*Pn	**Pn**	**13 45 29.5**	**+3.0**
MKAR	**Makanchi Array**	**2.52**	**354**	Pn	**Pn**	**13 45 29.4**	**+2.8**
	comp=N,423nm,0.3s,baz=177,slow=16,SNR=1455						
MKAR				Pg	**Pb**	**13 45 32.5**	**+1.3**
	comp=N,1μm,0.3s,baz=172,slow=17,SNR=330						
MKAR				Lg	Lg	13 46 03.0	
	comp=N,2μm,0.3s,baz=174,slow=30,SNR=21						
MKAR	**Makanchi Array**	**2.52**	**354**	*i* Pn	**Pn**	**13 45 29.3**	**+2.7**
MKAR				pmax	pmax		
	comp=Z,2μm,0.4s						
MKAR	**Makanchi Array**	**2.52**	**354**	*e*Pn	**Pn**	**13 45 29.7**	**+3.1**
MKAR				Lg	Lg	13 46 03.0	
MAKZ	**Makanchi**	**2.57**	**349**	⇓Pn	**Pn**	**13 45 29.7**	**+2.4**
	comp=Z,1μm,0.5s						
MAKZ				⇑Lg	Lg	13 46 06.3	
	comp=Z,4μm,0.5s						
MAKZ	**Makanchi**	**2.57**	**349**	PN	**Pn**	**13 45 29.6**	**+2.4**
MAKZ						13 46 06.3	
MAKZ				pmax	pmax		
	comp=Z,1μm,0.5s						
MAKZ				smax	smax		
	comp=N,4μm,0.5s						
MAKZ	**Makanchi**	**2.57**	**349**	*e*Pn	**Pn**	**13 45 29.9**	**+2.7**
SHLS	**Shalkode**	**2.60**	**245**	*e*P	**Pn**	**13 45 26.0**	**-1.8**
	comp=N,3μm,0.5s						
SHLS				*e*S	**Sn**	**13 45 56.9**	**-2.1**
	comp=N,16μm,0.5s						
UZB	**Uzynbulak**	**2.89**	**248**	*e*P	**Pn**	**13 45 34.5**	**+2.7**
	comp=N,563nm,0.5s						
UZB				*e*S	**Sn**	**13 46 11.5**	**+5.2**
	comp=N,4μm,0.6s						
KPKS	**Kokpek**	**3.01**	**256**	*e*P	**Pn**	**13 45 35.6**	**+2.2**
	comp=N,3μm,0.3s						
KPKS				*e*S	**Sn**	**13 46 12.9**	**+3.8**
	comp=N,8μm,0.3s						
TDK	**Taldyqorghan**	**3.14**	**285**	*e*P	**Pb**	**13 45 41.1**	**-0.6**
	comp=N,3μm,0.9s						
TDK				*e*S	**Sb**	**13 46 22.3**	**+2.6**
	comp=N,7μm,0.8s						
ZHN	**Zhinishke**	**3.28**	**252**	*e*P	Pn	13 45 42.5	+5.3
	comp=N,743nm,0.3s						
ZHN				*e*S	**Sb**	**13 46 25.1**	**+1.3**
	comp=N,2μm,0.3s						
SATY	**Saty**	**3.34**	**250**	*e*P	**Pb**	**13 45 43.7**	**-1.6**
	comp=N,1μm,0.5s						
SATY				*e*S	**Sb**	**13 46 27.2**	**+1.6**
	comp=N,6μm,0.3s						
KURS	**Kuram**	**3.36**	**258**	*e*P	**Pb**	**13 45 45.5**	**0.0**
KURS				*e*S	**Sb**	**13 46 30.7**	**+4.5**
ARXS	**Arharly**	**3.49**	**270**	*e*P	**Pb**	**13 45 46.4**	**-1.4**
	comp=N,716nm,0.2s						
ARXS				*e*S	**Sb**	**13 46 32.1**	**+2.1**
	comp=N,2μm,0.3s						
ZSN	**Zaisan**	**3.51**	**25**	*e*P	**Pb**	**13 45 48.1**	**0.0**
	comp=N,263nm,0.3s						
ZSN				*e*S	**Sb**	**13 46 35.3**	**+4.9**
	comp=N,3μm,0.4s						
WMQ	**Urumqi**	**3.64**	**96**	Pn	**Pn**	**13 45 45.3**	**+3.3**
WMQ				Sn	**Sn**	**13 46 29.3**	**+4.7**
WMQ				smax	smax		
	comp=N,8μm,0.9s						
WMQ				smax	smax		
	comp=N,6μm,0.7s						
CHKK	**Chushkaly**	**4.13**	**266**	*e*P	**Pb**	**13 45 57.2**	**-1.4**
	comp=N,232nm,0.3s						
CHKK				*e*S	**Sb**	**13 46 51.4**	**+3.2**
	comp=N,4μm,0.3s						
**K

	comp=E,15nm,0.8s					
AAK			⇑Lg	Lg	13 48 02.0	
	comp=E,425nm,0.9s					
AAK	**Ala-Archa**	**6.19 257**	PN	**Pn**	**13 46 18.5**	**+1.4**
AAK			pmax	pmax		
	comp=Z,15nm,0.8s					
AAK	**Ala-Archa**	**6.19 257**	*e*Pn	**Pn**	**13 46 18.4**	**+1.3**
AAK			Lg	Lg	13 48 01.0	
AAK	**Ala-Archa**	**6.19 257**	Pn	**Pn**	**13 46 18.9**	**+1.8**
	SNR=26					
AAK	**Ala-Archa**	**6.19 257**	P	**Pn**	**13 46 18.9**	**+1.8**
	SNR=26					
DGZ	**Jazzator, Alta**	**6.31 29**	*i* PN	**Pn**	**13 46 22.1**	**+3.3**
KSH	**Kashi**	**6.91 229**	Pn	Pn	13 46 35.9	+8.8
KSH			Sn	Sn	13 47 55.8	+10
KSH			LR	LR		
	comp=Z,4μm,10.0s					
KSH			LR	LR		
	comp=Z,3μm,6.6s					
KURBB	**Kurchatov Arra**	**6.94 338**	Pn	**Pn**	**13 46 28.0**	**+0.9**
	comp=Z,6.6nm,0.3s,baz=154,slow=13,SNR=97					
KURBB			Sn	**Sn**	**13 47 45.5**	**-0.1**
	comp=Z,10nm,0.3s,baz=148,slow=24,SNR=5.9					
KURBB			Lg	Lg	13 48 25.6	
	comp=Z,20nm,0.3s,baz=166,slow=32,SNR=6.6					
KURK	**Kurchatov**	**6.99 338**	⇓Pn	**Pn**	**13 46 28.7**	**+0.7**
	comp=Z,24nm,0.4s					
KURK			⇓Lg	Lg	13 48 32.7	
	comp=Z,1μm,0.7s					
KURK	**Kurchatov**	**6.99 338**	PN	**Pn**	**13 46 28.6**	**+0.7**
KURK			pmax	pmax		
	comp=Z,24nm,0.4s					
KURK	**Kurchatov**	**6.99 338**	*e*Pn	**Pn**	**13 46 28.7**	**+0.7**
KURK			Sn	**Sn**	**13 47 45.5**	**-1.5**
KURK			Lg	Lg	13 48 25.6	
KURK	**Kurchatov**	**6.99 338**	Pn	**Pn**	**13 46 28.8**	**+0.7**
	SNR=27					
KURK	**Kurchatov**	**6.99 338**	P	**Pn**	**13 46 28.8**	**+0.7**
	SNR=27					
MNAS	**Manas**	**7.63 260**	⇑Pn	**Pn**	**13 46 38.2**	**+1.3**
	comp=Z,17nm,0.6s					
MNAS			⇓Lg	Lg	13 48 45.4	
	comp=Z,162nm,0.6s					
MNAS	**Manas**	**7.63 260**	P	**Pn**	**13 46 38.2**	**+1.3**
MNAS			pmax	pmax		
	comp=Z,17nm,0.6s					
KK31	**Karatay Array**	**8.90 267**	Pn	**Pn**	**13 46 55.0**	**+0.8**
	comp=Z,2.9nm,0.4s,baz=77,slow=14,SNR=193					
KK31			⇑Lg	Lg	13 49 27.2	
	comp=Z,62nm,0.4s,baz=67,slow=30,SNR=3.5					
KK31	**Karatay Array**	**8.90 267**	*e*P	**Pn**	**13 46 55.0**	**+0.8**
KK31			pmax	pmax		
	comp=Z,3.0nm,0.4s					
KKAR	**Karatay Array**	**8.90 267**	*e*P	**Pn**	**13 46 54.8**	**+0.6**
KKAR	**Karatay Array**	**8.90 267**	*e*Pn	**Pn**	**13 46 54.8**	**+0.6**
ZAA0	**Zalesovo Array**	**9.77 7**	⇑Pn	**Pn**	**13 47 06.8**	**+0.8**
	comp=Z,17nm,0.6s					
ZAA0			⇑Sn	**Sn**	**13 48 53.5**	**-1.7**
	comp=Z,22nm,0.5s					
ZAA0			⇑Lg	Lg	13 49 54.3	
	comp=Z,33nm,0.7s					
ZAA0	**Zalesovo Array**	**9.77 7**	*e*Pn	**Pn**	**13 47 06.4**	**+0.4**
ZALV	**Zalesovo Beam**	**9.77 7**	Pn	**Pn**	**13 47 06.4**	**+0.4**
	comp=Z,9.0nm,0.3s,baz=192,slow=13,SNR=245					
ZALV			Sn	**Sn**	**13 48 52.9**	**-2.4**
	comp=Z,55nm,0.3s,baz=189,slow=17,SNR=14					
ZALV			Lg	Lg	13 49 55.0	
	comp=Z,15nm,0.3s,baz=190,slow=25,SNR=2.7					
ZALV			LR	LR	13 51 05.8	
	comp=Z,1μm,21.7s,baz=246,slow=39					
NVS	**Novosibirsk**	**10.57 2**	*e*P	**Pn**	**13 47 17.5**	**+0.6**
NVS			*e*S	**Sn**	**13 49 12.0**	**-2.8**
DZET	**Dzherino**	**11.74 247**	⇑Pn	**Pn**	**13 47 31.4**	**-1.8**
	comp=Z,24nm,0.6s					
DZET			⇓Lg	Lg	13 50 58.1	
	comp=Z,28nm,0.7s					
DZET	**Dzherino**	**11.74 247**	P	**Pn**	**13 47 31.3**	**-1.8**
DZET			pmax	pmax		
	comp=Z,24nm,0.6s					
BVA0	**Borovoye Array**	**11.92 321**	⇑Pn	**Pn**	**13 47 35.6**	**+0.1**
	comp=Z,43nm,0.6s,baz=134,slow=15,SNR=218					
BVA0			⇓Sn	**Sn**	**13 49 51.4**	**+3.4**
	comp=Z,52nm,0.8s,baz=125,slow=22,SNR=5.9					
BVA0			⇓Lg	Lg	13 51 03.8	
BVA0	**Borovoye Array**	**11.92 321**	*i* P	**Pn**	**13 47 35.6**	**+0.1**
BVA0			*i*		13 49 42.3	
BVA0			pmax	pmax		
	comp=Z,43nm,0.6s					
BVA0			smax	smax		
	comp=N,52nm,0.8s					
BVAR	**Borovoye Array**	**11.92 321**	Pn	**Pn**	**13 47 35.7**	**+0.2**
	comp=N,6.4nm,0.3s,baz=130,slow=15,SNR=37					
BVAR			Sn	**Sn**	**13 49 43.2**	**-4.8**
	comp=N,5.4nm,0.3s,baz=121,slow=22,SNR=6.0					
BVAR			Lg	Lg	13 51 01.9	
	comp=N,10nm,0.3s,baz=133,slow=23,SNR=6.0					
BVAR			LR	LR	13 52 21.8	
	comp=N,2μm,19.0s,baz=122,slow=38					
BRVK	**Borovoye**	**11.99 321**	*c*e*P	**Pn**	**13 47 36.7**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,53nm,0.6s					
BRVK	**Borovoye**	**11.99 321**	*e*Pn	**Pn**	**13 47 36.5**	**0.0**
BRVK	**Borovoye**	**11.99 321**	Pn	**Pn**	**13 47 37.0**	**+0.6**
	SNR=27					
BRVK	**Borovoye**	**11.99 321**	P	**Pn**	**13 47 37.0**	**+0.6**
	SNR=27					
CHCP	**Chirah Chowk**	**12.89 218**	P	**Pn**	**13 47 48.4**	**-0.4**
THN	**Thein Dam**	**13.03 207**	*e*x	Pn	13 47 44.0	-6.7
THN			*e*S	Sn	13 50 02.6	-13
CEP	**Cherat**	**13.38 222**	P	**Pn**	**13 47 55.3**	**-0.3**
SDNR	**Sundarnagar**	**13.54 201**	*e*P	**Pn**	**13 47 57.0**	**-0.6**
GTA	**Gaotai**	**13.66 105**	⇓P	**Pn**	**13 47 58.8**	**-0.6**
GTA			pP	P	13 48 03.4	-4.8
GTA			sP		13 48 05.8	
GTA			S	**Sn**	**13 50 30.0**	**-0.8**
GTA			SS	**SnSn**	**13 50 45.9**	**+3.0**
GTA			pmax	pmax		
	comp=Z,12nm,1.2s					
GTA			pmax	pmax		
	comp=Z,120nm,4.5s					
SMLA	**Simla**	**13.84 200**	*e*P	**Pn**	**13 47 59.4**	**-2.3**
SMLA			AMB	AMB	13 48 02.5	
	comp=Z,36nm,0.8s					
SMLA			*e*x	Sn	13 50 26.9	-8.1
MOY	**Mondy**	**14.29 52**	*e*P	**Pn**	**13 48 10.7**	**+2.8**
MOY			*e*S	**Sn**	**13 50 44.8**	**-1.1**
THW	**Thamme Wali**	**14.30 220**	P	**Pn**	**13 48 07.6**	**-0.5**
KBL	**Kabul**	**14.33 232**	*e*P	**Pn**	**13 48 07.1**	**-1.6**
KBL	**Kabul**	**14.33 232**	*e*Pn	**Pn**	**13 48 07.1**	**-1.6**
SARP	**Sargodha**	**14.63 216**	P	Pn	13 48 09.9	-2.7
ZAK	**Zakamensk**	**15.21 59**	*e*P	**Pn**	**13 48 20.8**	**+0.4**
ZAK			pmax	pmax		
	comp=Z,20nm,1.0s					
ZAK			pmax	pmax		
	comp=Z,17nm,0.8s					
TLY	**Talaya**	**15.82 55**	Pn	**Pn**	**13 48 29.0**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=245,slow=12,SNR=1.8					
TLY			Lg	Lg	13 52 51.0	
	comp=Z,0.0nm,0.3s,baz=26,slow=18,SNR=3.1					
TLY			LR	LR	13 54 53.5	
	comp=Z,435nm,19.4s,baz=248,slow=38					
TLY	**Talaya**	**15.82 55**	*e*P	**P**	**13 48 33.9**	**+1.9**
TLY			pmax	pmax		
	comp=Z,13nm,0.8s					
TLY			MLR	MLR		
	comp=Z,216nm,14.0s					
DANN	**Dangsing**	**15.93 177**	*e*P	**Pn**	**13 48 29.7**	**-0.3**
LSA	**Lhasa**	**16.04 152**	P	**Pn**	**13 48 34.3**	**+2.7**
LSA			pmax	pmax		
	comp=Z,12nm,0.9s					
LSA	**Lhasa**	**16.04 152**	*e*P	**Pn**	**13 48 31.2**	**-0.4**
LSA			pmax	pmax		
	comp=Z,62nm,0.8s					
LSA	**Lhasa**	**16.04 152**	*e*Pn	**Pn**	**13 48 31.2**	**-0.4**
	comp=Z,62nm,0.8s					
PYUN	**Piuthan**	**16.16 179**	*e*P	**Pn**	**13 48 30.0**	**-2.9**
	comp=Z,154nm,0.7s					
NDI	**New Delhi**	**16.18 197**	*e*P	**Pn**	**13 48 33.0**	**+0.1**
NDI			*e*x	Sn	13 51 23.0	-8.9
GKN	**Gorkha**	**16.33 174**	*e*P	**Pn**	**13 48 34.5**	**-0.5**
	comp=Z,128nm,0.6s					
AB31	**Akbulak array**	**16.33 296**	P	**Pn**	**13 48 32.1**	**-2.6**
AB31			pmax	pmax		
	comp=Z,9.0nm,0.6s					
ABKAR	**Akbulak array**	**16.33 296**	*e*Pn	**Pn**	**13 48 32.1**	**-2.7**
	comp=Z,306nm,0.8s					
IRK	**Irkutsk**	**16.38 53**	*e*P	**Pn**	**13 48 36.6**	**+1.2**
IRK			*e*		13 51 46.3	
IRK			pmax	pmax		
	comp=Z,113nm,2.4s					
KOLN	**Koldanda**	**16.50 177**	*e*P	**Pn**	**13 48 35.3**	**-1.9**
	comp=Z,164nm,0.9s					
GUN	**Gumba**	**16.54 170**	*e*P	**Pn**	**13 48 37.5**	**-0.4**
	comp=Z,183nm,0.8s					
KKN	**Kakani**	**16.59 172**	*e*P	**Pn**	**13 48 37.2**	**-1.3**
	comp=Z,216nm,0.6s					
DMN	**Daman**	**16.76 173**	*e*P	**Pn**	**13 48 39.8**	**-0.8**
	comp=Z,134nm,0.7s					
SONM	**Songino Array**	**16.81 69**	Pn	**Pn**	**13 48 41.5**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=262,slow=14,SNR=90					
SONM			Lg	Lg	13 53 21.7	
	comp=Z,0.6nm,0.3s,baz=268,slow=30,SNR=4.0					
SONM			LR	LR	13 55 39.2	
	comp=Z,1μm,18.1s,baz=270,slow=39					
PKIN	**Phulchoki**	**16.82 172**	*e*P	**Pn**	**13 48 39.7**	**-1.6**
	comp=Z,239nm,0.6s					
SONA1	**Songino Array**	**16.82 69**	*e*Pn	**Pn**	**13 48 41.1**	**-0.1**
PKI	**Pulchoki**	**16.82 172**	*e*P	**Pn**	**13 48 40.0**	**-1.5**
JIRN	**Jiri**	**16.83 169**	*e*P	**Pn**	**13 48 41.7**	**+0.1**
	comp=Z,208nm,0.8s					
ULN	**Ulaanbaatar**	**17.26 69**	*c*e*P	**Pn**	**13 48 47.3**	**+0.7**
ULN			pmax	pmax		
	comp=Z,44nm,1.0s					
ULN	**Ulaanbaatar**	**17.26 69**	*e*Pn	**Pn**	**13 48 46.3**	**-0.3**
	comp=Z,33nm,0.9s					
ULN	**Ulaanbaatar**	**17.26 69**	Pn	**Pn**	**13 48 47.1**	**+0.5**
	SNR=23					
ULN	**Ulaanbaatar**	**17.26 69**	P	**Pn**	**13 48 47.1**	**+0.5**
	SNR=23					
TAPN	**Taplejung**	**17.38 165**	*e*P	**Pn**	**13 48 48.0**	**-0.4**
	comp=Z,206nm,0.9s					
RAMN	**Ramite**	**17.59 168**	*e*P	**Pn**	**13 48 49.1**	**-1.8**
	comp=Z,199nm,0.7s					
AKTO	**Aktyubinsk**	**17.76 299**	P	**Pn**	**13 48 51.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=96,slow=14,SNR=19					
AKTO			S	Sn	13 51 59.6	-11
	comp=Z,0.6nm,0.3s,baz=285,slow=20,SNR=2.7					
AKTO			Lg	Lg	13 54 09.6	
	comp=Z,0.5nm,0.3s,baz=208,slow=18,SNR=4.2					
AKTO			LR	LR	13 56 07.1	
	comp=Z,1μm,18.8s,baz=110,slow=38					
AKTO	**Aktyubinsk**	**17.76 299**	P	**Pn**	**13 48 51.5**	**-1.2**
AKTO			pmax	pmax		
	comp=Z,27nm,0.6s					
ODAN	**Odare**	**17.80 166**	*e*P	**Pn**	**13 48 52.7**	**-0.8**
	comp=Z,512nm,1.3s					
LZH	**Lanzhou**	**18.09 110**	⇓P	**Pn**	**13 48 57.3**	**+0.3**
LZH			pP	sP	13 49 06.3	+2.1
LZH			sP	pP	13 49 12.5	+10
LZH			PP	**PnPn**	**13 49 13.8**	**+5.8**
LZH			S	**Sn**	**13 52 14.5**	**-3.9**
LZH			sS	S	13 52 29.0	+4.9
LZH			SS	**SnSn**	**13 52 39.0**	**+7.1**
LZH			pmax	pmax		
	comp=Z,150nm,1.3s					
LZH			pmax	pmax		
	comp=Z,400nm,4.0s					
LZH			LR	LR		
	comp=Z,1μm,10.2s					
LZH			LR	LR		
	comp=Z,1μm,10.0s					
LZH			LR	LR		
	comp=Z,2μm,12.3s					
SVE	**Sverdlovsk**	**18.70 320**	*e*P	**P**	**13 49 04.6**	**+0.9**
SVE			*e*S	**Sn**	**13 52 30.4**	**-2.3**
SVE			pmax	pmax		
	comp=Z,134nm,0.9s					
SVE			MLR	MLR		
	comp=Z,2μm,11.0s					
ARU	**Arti**	**19.48 317**	P	**P**	**13 49 12.7**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=123,slow=7.0,SNR=15					
ARU			Lg	Lg	13 54 40.3	
	comp=Z,0.0nm,0.3s,baz=108,slow=19,SNR=2.8					
ARU			LR	LR	13 57 01.5	
	comp=Z,1μm,19.2s,baz=109,slow=38					
ARU	**Arti**	**19.48 317**	*d* *i* P	**P**	**13 49 15.0**	**+2.7**
ARU			pmax	pmax		
	comp=Z,29nm,0.8s					
ARU			MLR	MLR		
	comp=Z,1μm,17.0s					
ARU	**Arti**	**19.48 317**	*e*P	**P**	**13 49 11.0**	**-1.3**
	comp=Z,70nm,0.9s					
ARU			Lg	Lg	13 54 40.3	
	comp=Z,1.2nm,0.3s,baz=69,slow=8.1,SNR=35					
GEYT			LR	LR	13 57 37.8	
	comp=Z,674nm,18.9s,baz=55,slow=40					
SHL	**Shillong**	**20.12 155**	*e*P	**P**	**13 49 19.5**	**-0.1**
SHL			*e*S	**S**	**13 53 02.0**	**-3.0**
BTO	**Baotou**	**20.46 91**	*e*P	**P**	**13 49 23.6**	**+0.4**
BOK	**Bokaro**	**20.61 172**	*e*P	**P**	**13 49 25.7**	**+0.9**
JBP	**Jabalpur**	**21.18 187**	⇑*e*P	**P**	**13 49 31.0**	**+0.1**
JBP			*e*x	x	13 53 12.3	
CD2	**Chengdu**	**21.30 122**	P	**P**	**13 49 33.6**	**+1.4**
CD2			pP	sP	13 49 43.3	+4.1
CD2			sP	pP	13 49 48.4	+11
CD2			S	**S**	**13 53 28.3**	**0.0**
CD2			pmax	pmax		
	comp=Z,70nm,0.5s					
CD2			pmax	pmax		
	comp=Z,220nm,5.0s					
CD2			LR	LR		
	comp=Z,1μm,11.7s					
CD2			LR	LR		
	comp=Z,850nm,11.5s					
CD2			LR	LR		
	comp=Z,2μm,11.5s					
BHPL	**Bhopal**	**21.43 193**	*e*P	**P**	**13 49 33.2**	**-0.5**
HHC	**Hu-ho-hao-te**	**21.49 89**	*e*P	**P**	**13 49 35.3**	**+1.0**
HHC			pP	sP	13 49 45.4	+4.1
HHC			S	**S**	**13 53 25.0**	**-7.1**
HHC			sS	Sn	13 53 42.8	+2.4
HHC			pmax	pmax		
	comp=Z,100nm,0.6s					
HHC			pmax	pmax		
	comp=Z,240nm,4.7s					
HHC			LR	LR		
	comp=Z,5μm,11.1s					
HHC			LR	LR		
	comp=Z,5μm,11.7s					
HHC			LR	LR		
	comp=Z,4μm,12.4s					
CIT	**Chita**	**21.87 58**	*e*P	**P**	**13 49 39.0**	**+0.8**
CIT			*e*		13 49 52.8	
CIT			*e*		13 50 19.4	
CIT			pmax	pmax		
	comp=Z,183nm,1.3s					
SOKR	**Solikamsk**	**21.92 323**	*d* *i* P	**P**	**13 49 40.0**	**+1.5**
SOKR			S	**S**	**13 53 37.5**	**-2.2**
SOKR			pmax	pmax		
	comp=Z,49nm,0.8s					
SOKR			MLR	MLR		
	comp=Z,715nm,14.0s					
XAN	**Xi'an**	**22.68 108**	P	**P**	**13 49 46.4**	**-0.6**
XAN			sP	sP	13 50 03.3	+9.3
XAN			PP	**PnPn**	**13 50 20.6**	**+10**
XAN			S	**S**	**13 53 54.5**	**-0.1**
XAN			pmax	pmax		
	comp=Z,150nm,1.0s					
XAN			pmax	pmax		
	comp=Z,200nm,11.4s					
XAN			LR	LR		
	comp=Z,890nm,14.3s					
NGP	**Nagpur**	**23.27 189**	*e*P	**P**	**13 49 51.8**	**-1.3**
NGP			*e*S	**S**	**13 54 04.7**	**-0.1**
TIY	**Taiyuan**	**23.31 96**	*e*P	**P**	**13 49 53.0**	**-0.5**
TIY			pP	**sP**	**13 50 00.3**	**-0.3**
TIY			sP	pP	13 50 05.8	+7.4
TIY			S	**S**	**13 54 08.8**	**+3.5**
TIY			SS	**SnSn**	**13 54 44.0**	**+4.2**
TIY			pmax	pmax		
	comp=Z,56nm,0.9s					
TIY			pmax	pmax		
	comp=Z,210nm,6.8s					
TIY			LR	LR		
	comp=Z,400nm,6.7s					
TIY			LR	LR		
	comp=Z,740nm,10.8s					
TIY			LR	LR		
	comp=Z,690nm,11.3s					
BOD	**Bodaibo**	**23.63 44**	*e*P	**P**	**13 49 56.9**	**+0.5**
BOD			pmax	pmax		
	comp=Z,98nm,1.2s					
BJI	**Beijing**	**25.08 88**	P	**P**	**13 50 10.3**	**+0.4**
BJI			S	**S**	**13 54 32.3**	**-1.2**
BJI			pmax	pmax		
	comp=Z,30nm,0.9s					
BJI			pmax	pmax		
	comp=Z,180nm,4.3s					
BJI			LR	LR		
	comp=Z,890nm,16.1s					
BJI			LR	LR		
	comp=Z,770nm,16.7s					
BJT	**Baijiatuau**	**25.08 88**	*e*P	**P**	**13 50 10.0**	**+0.1**
BJT			pmax	pmax		
	comp=Z,47nm,0.7s					
BJT	**Baijiatuau**	**25.08 88**	*e*P	**P**	**13 50 10.0**	**+0.1**
	comp=Z,47nm,0.7s					
KMI	**Kunming**	**25.13 133**	P	**P**	**13 50 10.9**	**+0.2**
KMI			pP	pP	13 50 15.9	+0.1
KMI			sP	sP	13 50 18.8	+0.9
KMI			S	S	13 54 26.1	-8.9
KMI			pmax	pmax		
	comp=Z,29nm,1.0s					
KMI			pmax	pmax		
	comp=Z,190nm,4.3s					
NRIK	**Noril'sk**	**25.24 4**	P	**P**	**13 50 11.5**	**+0.4**
	comp=Z,51nm,1.0s,baz=181,slow=8.2,SNR=28					
ENH	**Enshi**	**25.36 114**	*e*P	**P**	**13 50 11.5**	**-1.1**
	comp=Z,100nm,0.8s					
MAK	**Makhachkala**	**25.39 279**	*e*P	**P**	**13 50 14.5**	**+1.8**
MAK			*e*S	**S**	**13 54 41.3**	**+2.9**
MAK			pmax	pmax		
	comp=Z,154nm,1.5s					
MAK			MLR	MLR		
	comp=Z,641nm,10.0s					
HIA	**Hailar**	**25.68 66**	*e*P	**P**	**13 50 15.4**	**+0.1**
HIA			pmax	pmax		
	comp=Z,34nm,0.8s					
HIA	**Hailar**	**25.68 66**	*e*P	**P**	**13 50 15.4**	**+0.1**
	comp=Z,34nm,0.8s					
LKRN	**Lenkeran, Azer**	**25.88 269**	P	**P**	**13 50 16.7**	**-0.5**
SEKA	**Sheki**	**26.12 276**	P	**P**	**13 50 18.2**	**-1.2**
GYA	**Guiyang**	**26.28 125**	⇑*i* P	**P**	**13 50 20.8**	**-0.3**
GYA			pP	sP	13 50 34.0	+5.7
GYA			PP	**PnPn**	**13 51 06.4**	**+6.2**
GYA			S	**S**	**13 54 50.3**	**-2.7**
GYA			SS	**SnSn**	**13 55 59.9**	**+7.0**
GYA			pmax	pmax		
	comp=Z,80nm,0.8s					
GYA			pmax	pmax		
	comp=Z,120nm,5.0s					
MNGR	**Mingechevir, A**	**26.34 275**	P	**P**	**13 50 20.8**	**-0.5**
ZKTA	**Zakatala**	**26.39 277**	P	**P**	**13 50 21.2**	**-0.7**
VIS	**Vishakhapatnam**	**26.49 179**	*i* P	**P**	**13 50 22.5**	**-0.3**
VIS			AMB	AMB	13 50 24.6	
	comp=Z,18nm,0.4s					
VIS			*i* x	x	13 56 37.0	
POO	**Poona**	**26.73 199**	*e*P	**P**	**13 50 21.0**	**-4.1**
	comp=Z,2.0nm,1.0s					
POO			*e*PP	PnPn	13 51 29.0	+23
POO			*e*PPP	PPP	13 51 46.5	
POO			*e*PCP	PcP	13 53 08.0	-40
POO			*i* PCS	PcS	13 56 52.0	-38
POO			*e*LQ	LQ	13 57 26.0	
POO			*e*SS		13 57 31.0	
POO			*e*SSS	SSS	13 57 54.0	
POO	**Poona**	**26.73 199**	*e*P	**P**	**13 50 24.4**	**-0.7**
GANJ	**Ganja**	**26.93 275**	P	**P**	**13 50 26.1**	**-0.6**
HYB	**Hyderabad**	**27.01 189**	*i* P	**P**	**13 50 29.0**	**+1.4**
HYB	**Hyderabad**	**27.01 189**	*e*P	**P**	**13 50 26.0**	**-1.6**
TIA	**Tai'an**	**27.34 95**	⇑P	**P**	**13 50 30.9**	**+0.5**
TIA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
TIA			LR	LR		
	comp=Z,640nm,10.1s					
DGRG	**David-gareji**	**27.34 277**	P	**P**	**13 50 32.2**	**+1.8**
DGRG	**David-gareji**	**27.34 277**	P	**P**	**13 50 32.2**	**+1.8**
ZEI	**Tsey**	**27.98 281**	*e*P	**P**	**13 50 36.8**	**+0.5**
ZEI			pmax	pmax		
	comp=Z,5.0nm,1.4s					
NCK	**Nalchik**	**28.00 282**	*i* P	**P**	**13 50 37.4**	**+1.1**
NCK			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GOF	**Gofitskoye**	**28.01 286**	⇑*e*P	**P**	**13 50 36.3**	**0.0**
GOF			pmax	pmax		
	comp=Z,47nm,1.0s					
NAX	**Nakhchivan**	**28.06 273**	P	**P**	**13 50 36.2**	**-0.7**
GNI	**Garni**	**28.23 275**	P	**P**	**13 50 39.2**	**+0.6**
	comp=Z,22nm,1.0s,baz=68,slow=5.4,SNR=7.4					
GNI			LR	LR	14 03 28.9	
	comp=Z,243nm,19.8s,baz=130,slow=40					
GNI	**Garni**	**28.23 275**	*c*e*P	**P**	**13 50 41.4**	**+2.8**
GNI			pmax	pmax		
	comp=Z,104nm,1.2s					
GNI	**Garni**	**28.23 275**	*e*P	**P**	**13 50 38.5**	**0.0**
	comp=Z,52nm,1.1s					
ONI	**Oni**	**28.36 280**	P	**P**	**13 50 41.3**	**+1.8**
ONI	**Oni**	**28.36 280**	P	**P**	**13 50 41.3**	**+1.8**
KBZ	**Khabaz**	**28.43 283**	P	**P**	**13 50 40.7**	**+0.6**
	comp=Z,6.7nm,0.8s,baz=72,slow=6.4,SNR=14					
KBZ			LR	LR	14 03 59.1	
	comp=Z,885nm,18.7s,baz=66,slow=41					
WHN	**Wuhan**	**28.45 108**	⇑P	**P**	**13 50 40.8**	**+0.5**
WHN			S	S	13 55 17.6	-9.3
WHN			pmax	pmax		
	comp=Z,190nm,1.0s					
WHN			LR	LR		
	comp=Z,2μm,11.5s					
WHN			LR	LR		
	comp=Z,730nm,9.9s					
WHN			LR	LR		
	comp=Z,2μm,11.7s					
KVAR	**Kislovodsk Arr**	**28.52 284**	P	**P**	**13 50 42.8**	**+1.8**
	comp=Z,6.3nm,0.8s,baz=24,slow=12,SNR=2.5					
KVAR			LR	LR	14 04 09.0	
	comp=Z,917nm,18.1s,baz=58,slow=41					
KIV	**Kislovodsk**	**28.52 284**	*e*P	**P**	**13 50 42.2**	**+1.2**
KIV			pmax	pmax		
	comp=Z,14nm,1.0s					
KIV			MLR	MLR		
	comp=Z,594nm,15.0s					
AKH	**Akhalkalaki**	**28.69 278**	P	**P**	**13 50 44.9**	**+2.3**
AKH	**Akhalkalaki**	**28.69 278**	P	**P**	**13 50 44.9**	**+2.3**
WSAR	**Wadi Sarin**	**28.81 231**	P	**P**	**13 50 44.9**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=55,slow=7.6,SNR=3.2					
WSAR			LR	LR	14 03 23.5	
	comp=Z,191nm,21.9s,baz=70,slow=39					
CHTO	**Chiang Mai**	**28.82 147**	P	**P**	**13 50 44.2**	**+0.5**
	comp=Z,122nm,1.1s					
CHTO	**Chiang Mai**	**28.82 147**	*e*P	**P**	**13 50 43.1**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,19nm,0.9s					
CHTO	**Chiang Mai**	**28.82 147**	*e*P	**P**	**13 50 43.1**	**-0.6**
	comp=Z,19nm,0.9s					
CHTO	**Chiang Mai**	**28.82 147**	P	**P**	**13 50 44.2**	**+0.5**
	SNR=7.1					
CHTO	**Chiang Mai**	**28.82 147**	P	**P**	**13 50 44.2**	**+0.5**
	SNR=7.1					
CLNS	**Chul'man**	**29.11 49**	*e*P	**P**	**13 50 46.5**	**+0.5**
CLNS			*e**PP	**sP**	**13 50 53.3**	**+0.1**
CLNS			*e*		13 51 38.6	
CLNS			*e*		13 53 54.0	
CLNS			*e*S	**S**	**13 55 34.0**	**-2.9**
CLNS			*e*SS	**SnSn**	**13 57 03.2**	**+2.2**
CLNS			pmax	pmax		
	comp=Z,23nm,0.8s					
CLNS			pmax	pmax		
	comp=E,17nm,1.0s					
CLNS			pmax	pmax		
	comp=N,6.0nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,6.0nm,0.9s					
CLNS			pmax	pmax		
	comp=N,3.0nm,0.8s					
CLNS			pmax	pmax		

CM31 Chiang Mai Arr 29.14 147 *eP* **P 13 50 46.6 +0.1**
CMAR Chiang Mai Arr 29.14 147 P **P 13 50 47.4 +0.8**
comp=N,17nm,0.8s,baz=325,slow=9.2,SNR=100
CMAR PcP **PcP 13 53 53.4 -0.7**
comp=N,4.3nm,1.0s,baz=314,slow=4.1,SNR=4.5
CM01 Chiang Mai Arr 29.18 147 *eP* **P 13 50 46.9 0.0**
LAMP Lampang 29.36 146 P **P 13 50 49.6 +1.1**
comp=N,6.0nm,0.9s
VORR Voronezh 29.66 300 P **P 13 50 51.0 +0.1**
VORR pmax pmax
comp=Z,250nm,1.0s
VSR Storozhevoye 29.71 299 *eP* **P 13 50 51.5 +0.2**
VSR pmax pmax
comp=Z,60nm,1.2s
ARTV Artvin 29.88 278 *eP* **P 13 50 53.6 +0.3**
comp=Z,7.5nm,0.8s
KLMR Klimovskoe 30.32 318 *eP* **P 13 50 56.4 -0.2**
KLMR *e*PPP PPP 13 52 04.4
KLMR pmax pmax
comp=Z,98nm,0.8s
UTTA Uttaradit 30.43 145 P **P 13 50 58.8 +0.8**
comp=Z,28nm,0.8s,comp=Z,203nm
CN2 Changchun 30.49 76 *eP* **P 13 50 58.8 +0.5**
CN2 *e*pP sP 13 51 10.8 +5.3
CN2 *e*S **S 13 55 54.8 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 Changchun 30.49 76 *e*S **S 13 55 54.8 -3.9**
MOS Moscow 30.60 308 *eP* **P 13 50 59.1 0.0**
MOS *e* 13 51 05.5
MOS *e* 13 52 01.6
MOS *e*PPP PPP 13 52 10.3
MOS pmax pmax
comp=Z,84nm,0.9s
MOS MLR MLR
comp=E,2μm,12.0s
MOS MLR MLR
comp=Z,2μm,12.0s
NJ2 Nanjing 30.70 101 *eP* **P 13 51 04.3 +4.0**
NJ2 pmax pmax
comp=Z,11nm,0.5s
UMPA Umpang Tak 31.16 149 P **P 13 51 08.8 +4.3**
comp=Z,6.0nm,1.0s,comp=Z,969nm
OBN Obninsk 31.18 307 *ceP* **P 13 51 04.7 +0.5**
OBN *i* 13 51 10.9
OBN *i* 13 52 05.4
OBN pmax pmax
comp=Z,46nm,0.9s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 31.18 307 *eP* **P 13 51 04.2 0.0**
comp=Z,68nm,0.9s
PBKT Sadao Pong 31.66 145 P **P 13 51 09.8 +1.0**
comp=Z,29nm,1.2s
TMCR Tamitsa 31.86 324 *eP* **P 13 51 11.3 +1.2**
TMCR pmax pmax
comp=Z,57nm,0.9s
ANN Anapa 31.94 287 *eP* **P 13 51 10.8 -0.3**
ANN *e*S **S 13 56 19.9 -1.5**
ANN pmax pmax
comp=Z,60nm,1.1s
ANN MLR MLR
comp=Z,421nm,14.0s
UTHA Uthaitani 31.98 148 P **P 13 51 12.9 +1.3**
comp=Z,18nm,0.7s,comp=Z,142nm
MARD Mardin 32.20 272 *eP* **P 13 51 14.6 +1.0**
comp=Z,58nm,0.7s
DGPR DIGLIPUR 32.22 161 *eP* **P 13 51 11.9 -1.9**
YAK Yakutsk 32.37 40 *eP* **P 13 51 14.5 -0.1**
YAK *e**PP **sP 13 51 24.8 +2.9**
YAK *e* 13 52 19.8
YAK *e* 13 54 01.3
YAK *e*S **S 13 56 26.9 -0.8**
YAK *e*SS **SnSn 13 58 18.1 -2.0**
YAK *e* 14 01 42.9
YAK pmax pmax
comp=Z,45nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=Z,161nm,3.3s
YAK pmax pmax
comp=N,124nm,3.5s
YAK smax smax
comp=N,115nm,2.7s
YAK MLR MLR
comp=Z,392nm,16.0s
YAK Yakutsk 32.37 40 *eP* **P 13 51 15.1 +0.5**
comp=Z,46nm,1.0s
KHON Khomkaen 32.66 142 P **P 13 51 18.3 +0.8**
comp=Z,34nm,0.9s
PANO Nakornpanom 32.77 139 P **P 13 51 20.0 +1.5**
comp=Z,50nm,1.0s
MDJ Mudanjiang 33.12 73 P **P 13 51 22.3 +0.9**
MDJ pP sP 13 51 33.8 +5.1
MDJ S **S 13 56 34.9 -4.9**
MDJ ScS **ScS 14 01 52.1 +4.2**
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ pmax pmax
comp=Z,100nm,3.8s
MDJ LR LR
comp=Z,620nm,14.6s
INCN Inchon 33.59 86 *eP* **P 13 51 25.4 -0.3**
comp=Z,40nm,0.6s
NAYO Nakonayok 33.84 146 P **P 13 51 29.9 +2.1**
comp=Z,114nm,0.8s,comp=Z,13μm
QIZ Qiongzhong 33.90 129 P **P 13 51 27.4 -1.0**
QIZ S **S 13 56 50.1 -2.1**
QIZ LR LR
comp=Z,430nm,13.5s
QIZ Qiongzhong 33.90 129 *eP* **P 13 51 28.5 +0.1**
SIM Simferopol' 34.17 289 *eP* **P 13 51 31.7 +1.2**
SIM pmax pmax
comp=Z,33nm,0.9s
SIM MLR MLR
comp=Z,220nm,14.3s
LVZ Lovozero 34.33 330 *eP* **P 13 51 32.3 +0.6**
LVZ pmax pmax
comp=Z,40nm,1.0s
LVZ Lovozero 34.33 330 *eP* **P 13 51 32.3 +0.6**
comp=Z,40nm,1.0s
KS01 Wonju Array Si 34.50 85 *eP* **P 13 51 33.1 -0.3**
KSAR Wonju Array Be 34.51 85 P **P 13 51 33.6 +0.1**
KSAR 13 54 07.9
KSAR Wonju Array Be 34.51 85 P **P 13 51 33.6 +0.1**
KSAR PcP **PcP 13 54 07.8 -0.4**
KSRS Korea Array 34.53 85 P **P 13 51 33.6 -0.1**
comp=Z,9.5nm,0.8s,baz=283,slow=8.3,SNR=26
KSRS PcP **PcP 13 54 07.8 -0.5**
comp=Z,5.5nm,0.8s,baz=295,slow=1.8,SNR=8.6
KSRS LR LR 14 08 01.3
comp=Z,140nm,18.8s,baz=298,slow=40
USRK Ussuriysk Ar. 34.89 72 P **P 13 51 37.2 +0.5**
comp=Z,14nm,0.7s,baz=294,slow=9.2,SNR=27
USRK LR LR 14 07 09.0
comp=Z,627nm,18.4s,baz=279,slow=39
PATY Pattaya 34.92 148 P **P 13 51 39.0 +1.7**
comp=Z,22nm,0.8s,comp=Z,1μm
TIXI Tiksi 35.16 23 *ceP* **P 13 51 39.0 +0.2**
TIXI pmax pmax
comp=Z,29nm,1.7s
TIXI Tiksi 35.16 23 *eP* **P 13 51 38.6 -0.2**
comp=Z,15nm,1.0s
CHBT CHBT 35.66 146 P **P 13 51 44.4 +0.8**
comp=Z,3μm,1.3s
ILGA Ilgaz 35.73 282 *eP* **P 13 51 43.4 -1.0**
comp=Z,38nm,0.9s
HABR Khabarovsk 35.78 64 *eP* **P 13 51 43.3 -1.1**
HABR *e* 13 53 04.0
HABR *e* 13 54 09.9
HABR *e*S **S 13 57 19.3 -1.4**
HABR *e**SS sS 13 57 35.6 +6.3
HABR *e*SS **SnSn 13 59 44.9 +1.8**
HABR *e* 14 01 58.8
HABR pmax pmax
comp=Z,90nm,1.8s
HABR pmax pmax
comp=N,53nm,1.8s
HABR pmax pmax
comp=E,21nm,0.9s
HABR MLR MLR
comp=Z,361nm,17.0s
AKASG Malin Array Be 36.01 300 P **P 13 51 46.6 +0.2**
comp=Z,15nm,0.8s,baz=68,slow=8.9,SNR=38
AKASG PcP **PcP 13 54 12.3 -0.2**
comp=Z,4.9nm,0.6s,baz=65,slow=3.6,SNR=6.7
AKASG Malin Array Be 36.01 300 *ceP* **P 13 51 46.5 +0.2**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKBB Malin Array Si 36.01 300 *eP* **P 13 51 46.1 -0.2**
AKBB pmax pmax
comp=Z,47nm,0.8s
AKBB Malin Array Si 36.01 300 *eP* **P 13 51 46.1 -0.2**
comp=Z,47nm,0.8s
KIEV Kiev 36.02 300 *c iP* **P 13 51 46.4 0.0**
KIEV pmax pmax
comp=Z,31nm,0.9s
KIEV Kiev 36.02 300 *eP* **P 13 51 45.8 -0.6**
comp=Z,46nm,0.8s
AK11 Malin Array Si 36.05 300 *eP* **P 13 51 46.0 -0.6**
BR131 Keskin Array S 36.30 280 *eP* **P 13 51 49.4 +0.3**
BRTR Keskin Array B 36.30 280 P **P 13 51 50.0 +0.9**
comp=Z,13nm,0.8s,baz=79,slow=6.9,SNR=52
BRTR LR LR 14 08 20.3
comp=Z,110nm,22.0s,baz=54,slow=39
BRTR Keskin Array B 36.30 280 P **P 13 51 50.0 +0.9**
BRTR pmax pmax
comp=Z,13nm,0.8s
BRTR MLR MLR
comp=Z,110nm,22.0s
VSU Vasula 36.55 313 *ceP* **P 13 51 52.0 +1.2**
VSU pmax pmax
comp=Z,176nm,1.2s
RAYN Ar Rayn 36.74 248 *eP* **P 13 51 52.6 -0.4**
comp=Z,52nm,0.8s
IDID Didziasalis 36.79 308 *eP* **P 13 51 53.8 +0.9**
IDID IAmb IAmb 13 52 00.8
comp=Z,24nm,0.8s
NACGM Naroch 36.81 307 *eP* **P 13 51 52.0 -1.1**
NACGM *e*LQ LQ 14 03 36.0
NACGM *e*LR LR 14 06 26.0
ANTO Ankara 36.83 281 *eP* **P 13 51 53.3 -0.3**
ANTO pmax pmax
comp=Z,29nm,1.0s
ANTO Ankara 36.83 281 *eP* **P 13 51 53.3 -0.3**
comp=Z,29nm,1.0s
FINES FINESS Array B 36.85 318 P **P 13 51 54.2 +0.8**
comp=Z,2.9nm,0.7s,baz=98,slow=8.5,SNR=9.6
FINES PcP **PcP 13 54 14.7 0.0**
comp=Z,9.4nm,0.7s,baz=84,slow=4.2,SNR=6.4
FINES LR LR 14 06 37.3
comp=Z,181nm,18.7s,baz=92,slow=36
BR231 Keskin MP Arra 36.86 281 *eP* **P 13 51 54.9 +1.0**
PALK Pallekele 36.91 183 *ceP* **P 13 51 55.5 +1.1**
PALK Pallekele 36.91 183 *eP* **P 13 51 55.0 +0.7**
comp=Z,17nm,0.8s
YHNB Yeheng 36.98 109 *eP* **P 13 51 55.1 +0.1**
comp=Z,73nm,0.7s
IZAR Zarasai 37.02 309 *eP* **P 13 51 55.8 +0.9**
IZAR IAmb IAmb 13 52 02.9
comp=Z,25nm,0.7s
IIGN Ignalina 37.08 308 *eP* **P 13 51 56.3 +0.9**
IIGN IAmb IAmb 13 52 03.5
comp=Z,39nm,0.7s
ISAL Salakas 37.11 308 *eP* **P 13 51 56.5 +0.9**
ISAL IAmb IAmb 13 52 04.7
comp=Z,57nm,1.2s
KIS Kishinev 37.14 294 ⇓ *iP* **P 13 51 56.0 0.0**
KIS Kishinev 37.14 294 ⇓ *iP* **P 13 51 56.0 0.0**
KIS *e* 13 52 01.0
KIS *e* 13 52 08.0
SORM Soroca 37.14 296 ⇑ *iP* **P 13 51 55.6 -0.4**
SSLB Suanglung 37.29 111 *eP* **P 13 51 57.8 +0.2**
comp=Z,35nm,0.8s
TPUB Ta-pu 37.40 111 *eP* **P 13 51 59.1 +0.6**
NACB Ninganchiao 37.46 109 *eP* **P 13 52 00.5 +1.6**
SURT Suratani 37.88 153 P **P 13 52 03.4 +0.9**
comp=Z,8.8nm,1.5s
ARA0 ARCESS Array S 37.97 331 *eP* **P 13 52 03.2 +0.4**
ARCES ARCESS Array B 37.97 331 P **P 13 52 03.8 +1.0**
comp=Z,19nm,0.7s,baz=101,slow=8.3,SNR=26
ARCES LR LR 14 09 26.1
comp=Z,242nm,19.2s,baz=86,slow=39
ARE0 ARCESS Array S 37.97 331 *eP* **P 13 52 03.8 +1.0**
ARE0 IAmb IAmb 13 52 05.0
comp=Z,27nm,0.9s
TWG Pinlang 38.02 112 *eP* **P 13 52 04.5 +0.8**
comp=Z,262nm,0.7s
CSS Mathiatis 38.63 273 *eP* **P 13 52 06.9 -1.9**
comp=Z,5.0nm,0.9s
KTK1 Kautokeino 38.68 330 *eP* **P 13 52 09.6 +0.8**
TESR Tescani 38.71 294 ⇑ *iP* **P 13 52 09.9 +0.6**
JNU Nakatsue 38.72 90 *eP* **P 13 52 08.1 -1.5**
comp=Z,11nm,0.7s
SUW Suwalki 39.03 306 *eP* **P 13 52 12.2 +0.4**
SUW Suwalki 39.03 306 *eP* **P 13 52 12.2 +0.4**
TRTT Trang 39.22 153 P **P 13 52 14.3 +0.5**
comp=Z,24nm,2.1s
ISP Isparta 39.31 279 ⇓ *iP* **P 13 52 15.1 +0.6**
ISP Isparta 39.31 279 *eP* **P 13 52 14.5 0.0**
ISP pmax pmax
comp=Z,42nm,0.8s
ISP Isparta 39.31 279 *eP* **P 13 52 14.5 0.0**
comp=Z,42nm,0.8s
BURAR Bucovina Array 39.31 296 ⇑ *iP* **P 13 52 15.0 +0.6**
BUR08 Bucovina Ar. S 39.31 296 *eP* **P 13 52 14.6 +0.1**
LVV L'vov 39.45 299 *eP* **P 13 52 17.9 +2.4**
DOPR Dopca 39.71 293 ⇓ *iP* **P 13 52 19.0 +1.3**
TYV Tymovskoe 40.00 59 *eP* **P 13 52 21.5 +1.6**
TYV pmax pmax
comp=Z,53nm,0.9s
VOIR 40.11 293 ⇑ *iP* **P 13 52 21.0 -0.1**
KWP Kalwaria Pacla 40.33 300 *eP* **P 13 52 24.1 +1.3**
KWP Kalwaria Pacla 40.33 300 *eP* **P 13 52 24.1 +1.3**
ARR Arges 40.41 293 ⇓ *iP* **P 13 52 24.8 +1.3**
LHMI Lhok Sumawe 40.87 158 *eP* **P 13 52 27.8 +0.3**
comp=Z,113nm,0.9s
UZH Uzhgorod 40.88 298 *eP* **P 13 52 28.2 +0.9**
UZH *e* 13 52 36.2
BEL Belsk 40.92 303 *eP* P 13 52 34.8 +7.2
BEL Belsk 40.92 303 *eP* P 13 52 34.8 +7.2
LOT Lotru 40.95 293 ⇑ *iP* **P 13 52 29.3 +1.2**
DRGR 41.19 295 ⇑ *iP* **P 13 52 31.0 +1.0**
STHS Stebnicka Huta 41.31 300 *eP* **P 13 52 32.2 +1.4**
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 41.31 300 *eP* **P 13 52 32.2 +1.4**
CRVS Cervenica-Dubn 41.33 299 *eP* **P 13 52 31.5 +0.5**
CRVS Cervenica-Dubn 41.33 299 *eP* **P 13 52 31.5 +0.5**
STEI Steigen 41.55 328 *eP* **P 13 52 33.6 +1.1**
STEI IAmb IAmb 13 52 34.4
comp=Z,20nm,0.8s
NIE Niedzica 41.90 300 *eP* **P 13 52 37.4 +1.7**
NIE Niedzica 41.90 300 *eP* **P 13 52 37.4 +1.7**
KULM Kulim 41.92 153 *eP* **P 13 52 36.0 -0.1**
comp=Z,29nm,1.0s
MOR8 Moi Rana 41.93 326 *eP* **P 13 52 35.2 -0.5**
MOR8 IAmb IAmb 13 52 41.9
comp=Z,30nm,0.8s
OJC Ojcow 41.97 301 *eP* **P 13 52 37.1 +0.9**
OJC Ojcow 41.97 301 *eP* **P 13 52 36.6 +0.4**
OJC pmax pmax
comp=Z,82nm,0.9s
OJC Ojcow 41.97 301 *eP* **P 13 52 36.6 +0.4**
comp=Z,82nm,0.9s
SIRR Siria 42.05 295 ⇓ *iP* **P 13 52 38.5 +1.5**
KECS Kecovo 42.07 299 *eP* **P 13 52 38.1 +1.0**
KECS *e* 13 52 43.9
KECS pmax pmax
comp=Z,8.0nm,0.8s
KECS Kecovo 42.07 299 *eP* **P 13 52 38.1 +1.0**
KECS *e* 13 52 43.9
ASAJ Asahikawa 42.09 68 *eP* **P 13 52 37.8 +0.5**
comp=Z,27nm,0.7s
LOF Lofoten 42.19 329 *eP* **P 13 52 37.9 +0.2**
MAT Matsushiro 42.27 81 P **P 13 52 37.7 -1.2**
MJAR Matsushiro Arr 42.27 81 P **P 13 52 38.3 -0.6**
comp=Z,5.5nm,0.8s,baz=299,slow=10.0,SNR=13
MJAR PcP **PcP 13 54 32.2 -0.3**
comp=Z,4.9nm,0.9s,baz=270,slow=4.2,SNR=6.5
MJAR LR LR 14 11 19.1
comp=Z,171nm,20.9s,baz=275,slow=38
BZS Buzias 42.31 294 ⇑ *iP* **P 13 52 40.3 +1.2**
VTS Vitosha 42.39 289 ⇓ *iP* **P 13 52 40.2 +0.3**
VTS Vitosha 42.39 289 *eP* **P 13 52 40.3 +0.3**
VTS pmax pmax
comp=Z,26nm,1.4s
VTS Vitosha 42.39 289 *eP* **P 13 52 40.2 +0.3**
comp=Z,26nm,1.4s
LANS Liptovska Anna 42.50 300 *eP* **P 13 52 42.9 +2.3**
LANS Liptovska Anna 42.50 300 *eP* **P 13 52 42.9 +2.3**
MDVR Moldovita 42.55 293 ⇓ *iP* **P 13 52 42.2 +1.1**
PSZ Piszkesteto 42.63 298 *eP* **P 13 52 42.2 +0.5**
PSZ pmax pmax
comp=Z,23nm,1.1s
PSZ Piszkesteto 42.63 298 *eP* **P 13 52 42.1 +0.5**
comp=Z,24nm,1.1s
GKP Gorka Klasztor 42.64 306 *eP* **P 13 52 43.2 +1.6**
GKP Gorka Klasztor 42.64 306 *eP* **P 13 52 43.2 +1.6**
MA2 Magadan 42.66 44 PcP **PcP 13 54 33.5 +0.1**
comp=Z,10nm,0.7s,baz=135,slow=4.3,SNR=3.7
MA2 Magadan 42.66 44 *i P* **P 13 52 40.0 -1.7**
IPM Ipoh 42.81 153 *eP* **P 13 52 42.4 -1.0**
comp=Z,22nm,0.8s
SEY Seymchan 42.88 39 PcP **PcP 13 54 34.6 +0.6**
comp=Z,10nm,0.8s,baz=261,slow=7.9,SNR=4.4
SEY Seymchan 42.88 39 *i P* **P 13 52 43.9 +0.5**
OKC Ostrava-Krasne 43.10 301 ⇑ *iP* **P 13 52 46.5 +1.1**
OKC *e*pP **sP 13 52 52.6 -0.1**
OKC AMS AMS 14 11 10.0
comp=Z,700nm,12.2s
OKC Ostrava-Krasne 43.10 301 ⇑ *iP* **P 13 52 46.5 +1.1**
OKC *e* 13 52 52.6
OKC MLR MLR
comp=Z,700nm,12.2s
VYHS Vyhne 43.10 299 *eP* **P 13 52 46.7 +1.2**
VYHS *e* 13 52 53.0
VYHS pmax pmax
comp=Z,13nm,1.4s
VYHS Vyhne 43.10 299 *eP* **P 13 52 46.7 +1.2**
VYHS *e* 13 52 53.0
APE Apeiranthos 43.18 281 ⇓ *iP* **P 13 52 46.9 +0.7**
APE Apeiranthos 43.18 281 *i P* **P 13 52 47.0 +0.7**
APE pmax pmax
comp=Z,51nm,0.9s
MORC Moravsky Berou 43.49 301 ⇑ *iP* **P 13 52 49.7 +1.1**
MORC Moravsky Berou 43.49 301 *eP* **P 13 52 49.0 +0.4**
MORC pmax pmax
comp=Z,123nm,0.9s
MORC Moravsky Berou 43.49 301 *eP* **P 13 52 49.0 +0.4**
comp=Z,123nm,0.9s
PSI Prapat 43.74 156 PcP **PcP 13 54 37.8 0.0**
comp=Z,7.1nm,0.5s,baz=281,slow=4.9,SNR=4.9
NC405 NORSAR Array S 43.78 318 *eP* **P 13 52 51.1 +0.4**
KRLC Kraliky 43.86 302 ⇑ *iP* **P 13 52 52.5 +0.9**
KRLC *e*pP **sP 13 52 58.4 -0.5**
KRLC *e*PP **PP 13 54 37.9 +4.4**
KRLC Kraliky 43.86 302 ⇑ *iP* **P 13 52 52.5 +0.9**
KRLC *e* 13 52 58.4
KRLC *e* 13 54 37.9
KSP Ksiaz 43.91 303 *eP* **P 13 52 53.0 +1.1**
KSP Ksiaz 43.91 303 *eP* **P 13 52 53.0 +1.1**
NC303 NORSAR Array S 43.92 319 *eP* **P 13 52 52.2 +0.3**
NC602 NORSAR Array S 43.94 318 *eP* **P 13 52 54.1 +2.1**
NC602 NORSAR Array S 43.94 318 *eP* **P 13 52 51.9 -0.1**
NB201 NORSAR Array S 43.99 318 *eP* **P 13 52 52.6 +0.2**
NB2 NORSAR Subarra 44.03 318 P **P 13 52 53.0 +0.2**
comp=Z,18nm,0.7s,baz=79,slow=8.6
NB2 NORSAR Subarra 44.03 318 P **P 13 52 53.0 +0.2**
baz=79,slow=8.6
NOA NORSAR Array B 44.03 318 P **P 13 52 53.4 +0.6**
comp=Z,12nm,0.6s,baz=79,slow=8.0,SNR=24
NOA LR LR 14 11 53.5
comp=Z,230nm,21.5s,baz=80,slow=37
DPC Dobruska-Polom 44.05 302 ⇑ *iP* **P 13 52 54.5 +1.4**
DPC *e*pP **sP 13 53 00.8 +0.4**
DPC AMS AMS 14 11 50.0
comp=Z,600nm,11.9s
DPC Dobruska-Polom 44.05 302 ⇑ *iP* **P 13 52 54.5 +1.4**
DPC *e* 13 53 00.8
DPC MLR MLR
comp=Z,600nm,11.9s
UPC Upice 44.18 303 ⇑ *iP* **P 13 52 55.6 +1.5**
UPC *e*pP **sP 13 53 01.1 -0.4**
UPC AMS AMS 14 12 00.0
comp=Z,1μm,9.9s
UPC Upice 44.18 303 ⇑ *iP* **P 13 52 55.6 +1.5**
UPC *e* 13 53 01.1
UPC MLR MLR
comp=Z,1μm,9.9s
NC204 NORSAR Array S 44.20 319 *eP* **P 13 52 54.1 0.0**
NBO02 NORSAR Array S 44.20 318 *eP* **P 13 52 54.2 +0.1**
NAO01 NORSAR Array S 44.23 318 *eP* **P 13 52 54.2 -0.2**
TREC Trest 44.91 301 ⇑ *iP* **P 13 53 01.3 +1.3**
TREC *e*pP **sP 13 53 07.5 +0.2**
TREC AMS AMS 14 12 20.0
comp=Z,800nm,14.2s
TREC Trest 44.91 301 ⇑ *iP* **P 13 53 01.3 +1.3**
TREC *e* 13 53 07.5
TREC MLR MLR
comp=Z,800nm,14.2s
PVCC Panska Ves 45.05 303 ⇑ *iP* **P 13 53 02.5 +1.5**
PVCC *e*pP **sP 13 53 08.4 0.0**
PVCC AMS AMS 14 12 20.0
comp=Z,900nm,9.8s
PVCC Panska Ves 45.05 303 ⇑ *iP* **P 13 53 02.5 +1.5**
PVCC *e* 13 53 08.4
PVCC MLR MLR
comp=Z,900nm,9.8s
GOPC GO Pecny, Ondr 45.12 302 ⇑ *iP* **P 13 53 02.9 +1.2**
GOPC *e*pP **sP 13 53 09.1 +0.1**
GOPC AMS AMS 14 12 20.0
comp=Z,900nm,9.0s
GOPC GO Pecny, Ondr 45.12 302 ⇑ *iP* **P 13 53 02.9 +1.2**
GOPC *e* 13 53 09.1
GOPC MLR MLR
comp=Z,900nm,9.0s
CONA Conrad Observa 45.17 299 *i P* **P 13 53 03.8 +1.7**
comp=Z,8.4nm,1.2s,SNR=11
PRU Pruhonice 45.25 302 ⇑ *iP* **P 13 53 03.7 +1.1**
PRU *e*pP **sP 13 53 09.7 -0.3**
PRU *e*PP **PcP 13 54 42.9 +0.6**
PRU AMS AMS 14 12 30.0
comp=Z,800nm,11.5s
PRU Pruhonice 45.25 302 ⇑ *iP* **P 13 53 03.7 +1.1**
PRU *e* 13 53 09.7
PRU *e* 13 54 42.9
PRU MLR MLR
comp=Z,800nm,11.5s
PRA Prague 45.28 303 ⇑ *eP* **P 13 53 04.6 +1.7**
PRA *e*pP **sP 13 53 10.5 +0.3**
PRA AMS AMS 14 12 30.0
comp=Z,800nm,12.8s
PRA Prague 45.28 303 *eP* **P 13 53 04.6 +1.7**
PRA *e* 13 53 10.5
PRA MLR MLR
comp=Z,800nm,12.8s
BRG Berggiesshubel 45.30 304 *i P* **P 13 53 04.0 +1.0**
comp=Z,10nm,0.9s
BRG *i* 13 53 10.3
comp=Z,20nm,0.9s
BRG *i* 13 53 24.1
comp=Z,16nm,1.1s
BRG *i* 13 54 43.1
comp=Z,9.7nm,0.9s
comp=N,337nm,16.3s
comp=E,683nm,10.0s
comp=Z,1μm,13.0s
BRG Berggiesshubel 45.30 304 *i P* **P 13 53 04.1 +1.0**
BRG *i* 13 53 10.4
BRG *i* 13 54 43.1
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,20nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG MLR MLR
comp=N,337nm,16.3s
BRG MLR MLR
comp=E,683nm,10.0s
BRG MLR MLR
comp=Z,1μm,13.0s
ARSA Arzberg 45.63 299 *i P* **P 13 53 06.8 +1.0**
comp=Z,5.4nm,0.9s

CLL Collm 45.72 305⇑ *i*P P 13 53 07.1 +0.8
CLL *i* 13 53 13.2
CLL pmax pmax
comp=Z,33nm,0.7s
CLL MLR MLR
comp=Z,800nm,16.3s
CLL Collm 45.72 305⇑ *i*P P 13 53 07.1 +0.8
comp=Z,33nm,0.7s
CLL *i* pP **sP 13 53 13.2 -0.4**
comp=Z,49nm,0.8s
CLL *e*(sP) pP 13 53 18.0 +6.4
CLL *e*PP **PP 13 54 55.0 +1.8**
CLL *e*pPP 13 55 01.0
CLL Collm 45.72 305 *e*P P 13 53 06.6 +0.3
comp=Z,45nm,0.7s
PERS Pernice 46.12 298 *i* P P 13 53 10.5 +0.8
PERS *i* 13 53 15.5
KHC Kasperske Hory 46.14 302⇑ *i*P P 13 53 10.6 +0.9
KHC *ex* x 13 53 16.4
KHC *e*PP **PP 13 54 57.6 -0.2**
KHC AMS AMS 14 12 50.0
comp=Z,900nm,11.7s
KHC Kasperske Hory 46.14 302⇑ *i*P P 13 53 10.6 +0.9
KHC *e* 13 53 16.4
KHC *e* 13 54 57.6
KHC MLR MLR
comp=Z,900nm,11.7s
KHC Kasperske Hory 46.14 302 *e*P P 13 53 09.9 +0.2
comp=Z,5.3nm,0.9s
SOKA Soboth 46.16 298 *i* P P 13 53 10.8 +0.9
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 46.17 301 *e*P P 13 53 10.5 +0.5
GEC2 pmax pmax
comp=Z,15nm,1.1s
GEC2 GERESS Array S 46.17 301 *e*P P 13 53 10.5 +0.5
comp=Z,15nm,1.1s
GERES GERESS Array B 46.17 301 P P 13 53 10.9 +0.9
comp=Z,2.7nm,0.7s,baz=69,slow=7.3,SNR=20
GERES PcP **PcP 13 54 45.9 +0.2**
comp=Z,3.9nm,0.9s,baz=48,slow=2.0,SNR=6.6
GEA0 GERESS Array S 46.17 301 *e*P P 13 53 09.6 -0.4
MOA Molln 46.19 300 *i* P P 13 53 11.3 +1.2
comp=Z,4.0nm,0.8s
MUD Monsted U'grnd 46.22 312 *i* P P 13 53 09.0 -1.1
MUD Monsted U'grnd 46.22 312 *i* P P 13 53 09.0 -1.1
MYKOM Kota Tinggi 46.29 150 *e*P P 13 53 10.8 -0.3
comp=Z,18nm,0.8s
NKC Novy Kostel 46.42 303⇑ *e*P P 13 53 12.9 +1.0
NKC AMS AMS 14 13 10.0
comp=Z,1μm,8.7s
NKC Novy Kostel 46.42 303 *e*P P 13 53 12.9 +1.0
NKC MLR MLR
comp=Z,1μm,8.7s
BOJS Bojanci 46.49 296 *i* P P 13 53 13.4 +1.0
BOJS *i* 13 53 19.3
OBKA Obir 46.53 298 *i* P P 13 53 13.9 +0.9
comp=Z,7.2nm,0.7s
VISS Visnje 46.63 297 *i* P P 13 53 14.4 +0.8
VISS *i* 13 53 20.2
BKNI Bangkinang 46.72 154 *e*P P 13 53 12.8 -1.7
MYKA Terra Mystica 47.06 298 *i* P P 13 53 16.6 -0.4
comp=Z,2.5nm,0.5s
KBA Koelnbreinsper 47.07 299 *i* P P 13 53 18.1 +0.9
comp=Z,4.3nm,0.5s
ATD Arta Tunnel 47.26 239 P P 13 53 19.2 +0.4
comp=Z,4.1nm,0.3s,baz=4.4,slow=13,SNR=3.8
ATD LR LR 14 15 16.4
comp=Z,90nm,21.4s,baz=20,slow=39
GRFO Grafenberg 47.36 303 *e*P P 13 53 20.0 +0.8
GRFO pmax pmax
comp=Z,49nm,1.0s
GRFO Grafenberg 47.36 303 *e*P P 13 53 20.0 +0.8
comp=Z,49nm,1.0s
BILL Bilibino 47.55 30*c* *i*P P 13 53 21.4 +1.0
BILL *e*S **S 14 00 18.5 +4.1**
BILL pmax pmax
comp=Z,18nm,0.9s
BILL MLR MLR
comp=Z,586nm,15.0s
PDSI Padang 47.72 156 P P 13 53 20.3 -2.0
ABTA Abfaltersbach 47.72 299 *i* P P 13 53 22.5 +0.3
comp=Z,2.6nm,0.7s
WTTA Wattenberg 48.06 300 *i* P P 13 53 26.0 +1.1
comp=Z,20nm,0.7s,SNR=9.2
PEA0 Petropavlovsk- 48.15 51 *e*P P 13 53 25.7 +0.4
PETK Petropavlovsk- 48.15 51 P P 13 53 25.5 +0.2
comp=Z,12nm,0.7s,baz=309,slow=7.2,SNR=13
PETK LR LR 14 14 40.3
comp=Z,105nm,21.1s,baz=287,slow=37
MOTA Moosalm 48.36 300 *i* P P 13 53 28.0 +0.8
comp=Z,13nm,0.8s,SNR=16
RETA Reutte 48.51 301 *i* P P 13 53 29.4 +1.2
comp=Z,6.0nm,0.7s,SNR=6.9
CUC Castrocucco 48.53 289 *e*P P 13 53 29.3 +0.8
comp=Z,17nm,0.9s
DSRI Dabo 48.66 150 P P 13 53 31.0 +1.5
FETA Feichten 48.72 300 *i* P P 13 53 30.7 +0.7
comp=Z,11nm,0.8s,SNR=8.0
DAVA Damuels 49.14 301 *i* P P 13 53 34.1 +0.9
comp=Z,6.5nm,0.6s
KSM Kuching 49.16 142 *e*P P 13 53 34.0 +0.6
comp=Z,34nm,0.8s
SBUM Sibu 49.17 139 *e*P P 13 53 34.5 +1.0
comp=Z,45nm,0.8s
FUORN Ofenpass-Fuorn 49.18 300 *e*P P 13 53 33.7 0.0
comp=Z,20nm,0.9s
BFO Black Forest 49.65 303*c*eP P 13 53 37.9 +1.0
BFO Black Forest 49.65 303 *e*P P 13 53 36.8 -0.1
comp=Z,19nm,1.1s
DAG Danmarks Havn 49.86 343 *i* P P 13 53 38.1 0.0
comp=Z,14nm,0.8s
DAG *i* 13 53 45.0
DAG Danmarks Havn 49.86 343 *i* P P 13 53 38.1 0.0
DAG *i* 13 53 45.0
DAG pmax pmax
comp=Z,11nm,0.8s
MYLDM Lahad Datu 50.02 130 *e*P P 13 53 40.1 0.0
comp=Z,22nm,1.1s
MEM Membach 50.08 306 P P 13 53 41.2 +1.2
comp=Z,8.6nm,1.3s
VLC Villacollemand 50.19 297 *e*P P 13 53 42.1 +1.0
comp=Z,34nm,0.8s
BEBN Eben Emael 50.19 306 P P 13 53 42.4 +1.5
comp=Z,8.7nm,1.1s
BEBN AP **sP 13 53 48.1 -0.2**
WLF Walferdange 50.39 305 P P 13 53 44.0 +1.6
comp=Z,11nm,1.3s
WLF AP **sP 13 53 49.8 -0.1**
WLF Walferdange 50.39 305 *e*P P 13 53 43.4 +1.0
WLF pmax pmax
comp=Z,12nm,0.8s
WLF Walferdange 50.39 305 *e*P P 13 53 43.4 +1.0
comp=Z,12nm,0.8s
BCLA Clavier 50.56 306 P P 13 53 45.0 +1.3
comp=Z,12nm,1.3s
STKI Sintang 50.94 142 P P 13 53 47.6 +0.7
DOU Dourbes 51.12 306 P P 13 53 48.8 +0.9
DOU AP **sP 13 53 54.8 -0.5**
SENIN Lac Senin/Sane 51.14 301 *e*P P 13 53 48.1 -0.3
comp=Z,7.6nm,0.8s
BNI Bardonecchia 52.13 299 *e*P P 13 53 55.8 +0.1
BNI pmax pmax
comp=Z,49nm,1.0s
BNI Bardonecchia 52.13 299 *e*P P 13 53 55.8 +0.1
comp=Z,49nm,1.0s
LWLI Liwa 52.71 153 P P 13 53 58.8 -1.5
MPSI Mapaga 54.83 132 P P 13 54 16.6 +0.9
comp=Z,20nm,1.3s
KEST Kesra 55.10 288 P P 13 54 17.8 +0.2
comp=Z,5.4nm,0.8s,baz=68,slow=5.4,SNR=4.4
MRSI Marisa 55.81 130 P P 13 54 23.5 +0.7
SUMG Summit 56.52 342 *i* P P 13 54 28.4 +0.8
comp=Z,35nm,1.2s
SUMG Summit 56.52 342 *i* P P 13 54 28.4 +0.8
SUMG pmax pmax
comp=Z,35nm,1.2s
SUMG Summit 56.52 342 *e*P P 13 54 28.1 +0.5
comp=Z,33nm,1.0s
KMSI Cibinong 56.87 128 P P 13 54 30.7 +0.4
TTSI Tana Toraja 57.65 134 P P 13 54 35.6 -0.2
SPSI Sidrap Palu 58.41 135 P P 13 54 40.5 -0.6
KULLO Kullorsuaq 58.43 348 *i* P P 13 54 40.5 0.0
comp=Z,56nm,0.9s
KULLO *e* 13 54 48.2
KULLO Kullorsuaq 58.43 348 *i* P P 13 54 40.5 0.0
KULLO *e* 13 54 48.2
KULLO pmax pmax
comp=Z,56nm,0.9s
LBMI Labuha 59.88 125 P P 13 54 50.3 -1.1
SANI Sanana 60.16 128 P P 13 54 52.2 -1.0
KMBO Kilima Mbogo 60.64 235 *i* P P 13 54 56.6 -0.2
comp=Z,5.1nm,0.7s,baz=349,slow=5.2,SNR=13
KMBO LR LR 14 23 12.7
comp=Z,110nm,19.6s,baz=84,slow=38
KMBO Kilima Mbogo 60.64 235*c*eP P 13 54 55.2 -1.6
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 60.64 235 *e*P P 13 54 55.2 -1.6
comp=Z,9.5nm,1.1s
TOLK Toolik Lake Re 60.89 19 P P 13 54 57.6 -0.1
baz=320
ES19 SONSECA Array 61.59 299 *e*P P 13 55 02.3 -0.5
ESDC Sonseca Array 61.65 299 P P 13 55 03.6 +0.4
comp=Z,6.3nm,0.6s,baz=52,slow=6.9,SNR=78
ESLA Sonseca Array 61.65 299 *e*P P 13 55 03.1 -0.1
comp=Z,10nm,0.9s
ILULI Ilulissat 61.80 343 *i* P P 13 55 03.7 0.0
comp=Z,69nm,0.8s
ILULI *i* 13 55 10.8
ILULI Ilulissat 61.80 343 *i* P P 13 55 03.7 0.0
ILULI *i* 13 55 10.8
ILULI pmax pmax
comp=Z,69nm,0.8s
COLD Coldfoot 61.82 21 *e*P P 13 55 04.2 +0.3
comp=Z,30nm,0.8s
PAB San Pablo 61.97 299 *e*P P 13 55 05.2 -0.2
PAB pmax pmax
comp=Z,10.0nm,0.9s
PAB San Pablo 61.97 299 *e*P P 13 55 05.2 -0.2
comp=Z,10nm,0.9s
PBRG Braganca 62.13 302 *e*P P 13 55 06.6 +0.2
MVO Moncorvo 62.68 302 *e*P P 13 55 10.9 +0.8
MVO Moncorvo 62.68 302 *e*PcP PcP 13 55 50.2 +1.4
PGAV Gavieira, Arco 62.96 303 *e*P P 13 55 11.3 -0.7
comp=Z,45nm,1.4s
PCAB Cabril 62.96 303 *e*P P 13 55 13.9 +1.9
comp=Z,46nm,1.6s
POLO Lamas de Olo 63.02 302 *e*P P 13 55 13.1 +0.7
PVRL Vila Real 63.03 302 *e*P P 13 55 12.9 +0.4
comp=Z,15nm,2.5s
PVRL Vila Real 63.03 302 *e*PcP PcP 13 55 51.3 +1.1
MLY Manley 63.36 22 *e*P P 13 55 14.4 +0.2
comp=Z,18nm,0.8s
TTA Tatalina 63.38 26 *e*P P 13 55 14.9 +0.4
TTA pmax pmax
comp=Z,30nm,1.8s
TTA Tatalina 63.38 26 *e*P P 13 55 14.8 +0.4
comp=Z,30nm,1.8s
MTE Manteigas 63.45 301 *e*P P 13 55 16.2 +1.0
MTE Manteigas 63.45 301 *e*P P 13 55 15.2 -0.1
comp=Z,13nm,1.0s
PVIS Viseu 63.47 302 *e*P P 13 55 16.3 +0.9
comp=Z,17nm,1.6s
PVIS Viseu 63.47 302 *e*PcP PcP 13 55 53.8 +1.8
EDFI Ende, Flores 63.48 136 P P 13 55 13.4 -2.3
SFJD Kangerlussuaq 63.50 341 *i* P P 13 55 15.4 +0.4
comp=Z,31nm,0.8s
SFJD *e* 13 55 21.4
SFJD Kangerlussuaq 63.50 341 *i* P P 13 55 15.4 +0.4
SFJD *e* 13 55 21.4
SFJD pmax pmax
comp=Z,31nm,0.8s
SFJD Kangerlussuaq 63.50 341 *e*P P 13 55 15.1 +0.1
comp=Z,37nm,0.8s
FYU Fort Yukon 63.56 19 *e*P P 13 55 15.9 +0.5
comp=Z,43nm,1.3s
MMRI Maumere 63.66 135 *e*P P 13 55 14.3 -2.5
comp=Z,104nm,1.3s
PCBR Castelo Branco 63.74 301 *e*P P 13 55 17.9 +0.8
comp=Z,14nm,1.7s
PMRV Marv??o 63.93 300 *e*P P 13 55 19.1 +0.7
comp=Z,19nm,1.1s
BPAW Bear Paw Mtn. 64.00 23 *e*P P 13 55 18.7 +0.2
comp=Z,27nm,0.8s
MDM Murphy Dome 64.09 22 *e*P P 13 55 19.1 +0.1
comp=Z,18nm,0.8s
CAST Castle Rocks 64.21 24 *e*P P 13 55 20.4 +0.5
comp=Z,31nm,1.0s
PCAS Casmilo, Conde 64.24 302 *e*P P 13 55 21.0 +0.6
comp=Z,25nm,1.7s
COLA College 64.25 21 *e*P P 13 55 20.1 +0.1
COLA pmax pmax
comp=Z,36nm,0.8s
COLA College 64.25 21 *e*P P 13 55 20.1 +0.1
comp=Z,36nm,0.8s
PESTR Estremoz 64.39 300 *e*P P 13 55 22.1 +0.7
comp=Z,17nm,1.3s
KTH Kantishna Hill 64.44 24 *e*P P 13 55 21.7 +0.3
comp=Z,46nm,0.9s
CCB Clear Creek Bu 64.45 22 *e*P P 13 55 21.4 +0.1
comp=Z,18nm,1.1s
PBAR Barrancos 64.47 299 *e*P P 13 55 22.6 +0.7
WRH Wood River Hil 64.51 22 *e*P P 13 55 21.5 -0.3
comp=Z,14nm,0.9s
FAKI Fak Fak 64.53 123 P P 13 55 23.0 +0.5
FAKI Fak Fak 64.53 123 *e*P P 13 55 21.8 -0.8
comp=Z,31nm,1.1s
PPLA Purkeypile 64.58 25 *e*P P 13 55 22.8 +0.4
comp=Z,47nm,0.7s
IL1 Eielson Array 64.59 21 *e*P P 13 55 21.9 -0.4
ILAR Eielson Array 64.59 21 P P 13 55 22.3 +0.1
comp=Z,21nm,0.8s,baz=316,slow=5.1,SNR=211
ILAR LR LR 14 27 04.7
comp=Z,193nm,18.2s,baz=308,slow=39
ILB Eielson Array 64.59 21 *e*P P 13 55 21.8 -0.5
PMTG Montargil 64.67 301 *e*P P 13 55 23.9 +0.7
PMTG Montargil 64.67 301 *e*PcP PcP 13 55 57.5 +0.6
TRF Thorofare Moun 64.70 23 *e*P P 13 55 23.4 +0.1
comp=Z,14nm,0.9s
EVO Evora 64.86 300 *e*P P 13 55 25.1 +0.6
HDA Harding Lake 64.86 21 *e*P P 13 55 23.2 -0.9
comp=Z,14nm,1.0s
MCK McKinley 64.86 23 *e*P P 13 55 24.5 +0.4
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 64.86 23 *e*P P 13 55 24.4 +0.4
comp=Z,8.8nm,0.8s
SVW2 Sparrevohn 64.87 27 *e*P P 13 55 25.3 +1.1
comp=Z,15nm,1.0s
PBEJ Beja 65.08 299 *e*P P 13 55 27.1 +1.2
RND Reindeer 65.14 23 *e*P P 13 55 25.7 -0.3
RND pmax pmax
comp=Z,18nm,1.2s
RND Reindeer 65.14 23 *e*P P 13 55 25.7 -0.3
comp=Z,18nm,1.2s
PCVE Castro Verde 65.43 299 *e*P P 13 55 32.9 +4.8
PCVE Castro Verde 65.43 299 *e*PcP PcP 13 56 01.3 +1.2
PNCL Nicolau / Gran 65.44 300 *e*P P 13 55 29.4 +1.2
PNCL Nicolau / Gran 65.44 300 *e*PcP PcP 13 56 01.2 +1.1
TAM Tamanrasset 65.46 278 *e*P P 13 55 27.7 -1.1
TAM pmax pmax
comp=Z,16nm,1.2s
TAM Tamanrasset 65.46 278 *e*P P 13 55 27.7 -1.1
comp=Z,16nm,1.2s
DHY Denali Highway 65.81 22 *e*P P 13 55 29.7 -0.8
comp=Z,30nm,0.8s
UNV Unalaska Valle 65.83 37 *e*P P 13 55 30.2 -0.3
comp=Z,12nm,0.7s
SPU Mount Spurr 65.93 26 *e*P P 13 55 30.9 -0.2
EGAK Eagle 66.00 19 *e*P P 13 55 31.5 +0.1
comp=Z,16nm,0.9s
SUA Susitna One 66.11 25 *e*P P 13 55 32.1 -0.2
comp=Z,97nm,1.8s
MDT Midelt 66.18 293 P P 13 55 34.0 +0.7
comp=Z,4.8nm,0.9s,baz=75,slow=6.9,SNR=6.8
DOT Dot Lake 66.23 21 *e*P P 13 55 32.2 -0.7
comp=Z,25nm,0.8s
RSO Redoubt South 66.26 26 *e*P P 13 55 34.2 +0.8
PAX Paxson 66.42 22 *e*P P 13 55 33.7 -0.5
PAX pmax pmax
comp=Z,18nm,0.8s
PAX Paxson 66.42 22 *e*P P 13 55 33.6 -0.5
comp=Z,18nm,0.8s
PMR Palmer 66.50 24 *e*P P 13 55 34.3 -0.3
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 66.50 24 *e*P P 13 55 34.3 -0.3
comp=Z,16nm,0.8s
SML Sawmill 66.56 24 *e*P P 13 55 35.0 -0.1
SML pmax pmax
comp=Z,59nm,0.7s
SML Sawmill 66.56 24 *e*P P 13 55 35.0 -0.1
comp=Z,59nm,0.7s
RC01 Rabbit Creek A 66.71 25 *e*P P 13 55 35.6 -0.4
comp=Z,36nm,0.8s
SCM Sheep Creek Mo 66.82 23 *e*P P 13 55 36.9 0.0
SCM pmax pmax
comp=Z,80nm,0.7s
SCM Sheep Creek Mo 66.82 23 *e*P P 13 55 36.9 0.0
comp=Z,80nm,0.7s
HARP HAARP 66.96 22 *e*P P 13 55 38.0 +0.4
comp=Z,71nm,1.2s
DAWY Dawson 67.01 19 *e*P P 13 55 37.7 -0.3
comp=Z,15nm,0.9s
CNPM China Poot 67.47 26 *e*P P 13 55 42.4 +1.5
comp=Z,47nm,1.0s
KLU Klutina 67.50 23 *e*P P 13 55 41.1 0.0
comp=Z,19nm,0.8s
DIV Divide 67.83 23 *e*P P 13 55 43.2 -0.1
comp=Z,59nm,1.7s
SMPI Sarmi 67.84 117 P P 13 55 43.8 0.0
FID Port Fidalgo 67.94 24 *e*P P 13 55 43.8 0.0
comp=Z,50nm,0.9s
BMRM Bremner River 68.29 23 *e*P P 13 55 46.5 +0.4
comp=Z,29nm,1.0s
KDAK Kodiak Island 68.38 28*c*eP P 13 55 47.0 +0.4
KDAK Kodiak Island 68.38 28 *e*P P 13 55 47.2 +0.6
comp=Z,152nm,1.6s
BALM Baldy 68.85 22 *e*P P 13 55 50.2 +0.5
BALM pmax pmax
comp=Z,30nm,0.9s
BALM Baldy 68.85 22 *e*P P 13 55 50.2 +0.5
comp=Z,30nm,0.9s
CRQM Cirque 68.87 22 *e*P P 13 55 50.3 +0.4
comp=Z,32nm,0.8s
GENI Genyem 69.24 116 P P 13 55 53.8 +1.3
JAY Jayapura 69.53 115 P P 13 55 55.7 +1.3
HYT Haines Junctio 70.26 20 *e*P P 13 55 58.8 +0.5
comp=Z,26nm,0.9s
WHY Whitehorse 71.02 19 *e*P P 13 56 02.5 -0.5
comp=Z,8.4nm,0.8s
SKAG Skagway 71.98 19 *e*P P 13 56 09.3 +0.7
comp=Z,28nm,1.0s
YKA Yellowknife Ar 72.67 8 P P 13 56 12.6 -0.1
comp=Z,12nm,0.6s,baz=340,slow=6.1,SNR=30
MBWA Marble Bar 73.42 144 *e*P P 13 56 16.6 -1.0
comp=Z,28nm,1.2s
TOA0 Torodi Ar. Sit 74.53 273 *e*P P 13 56 23.2 -1.2
TORD Torodi Ar. Bea 74.53 273 P P 13 56 23.9 -0.4
comp=Z,19nm,0.7s,baz=41,slow=5.4,SNR=66
TORD LR LR 14 34 54.8
comp=Z,59nm,18.7s,baz=340,slow=40
LSZ Lusaka 77.27 234 *e*P P 13 56 38.9 -1.1
LSZ pmax pmax
comp=Z,15nm,1.1s
LSZ Lusaka 77.27 234 *e*P P 13 56 38.9 -1.1
comp=Z,15nm,1.1s
SCHQ Schefferville 77.91 343 P P 13 56 42.8 -0.2
comp=Z,11nm,0.7s,baz=63,slow=6.8,SNR=3.5
RABL Rabaul 78.43 108 *e*P P 13 56 46.4 -0.1
comp=Z,24nm,0.6s
PMG Port Moresby 78.91 115*c*eP P 13 56 49.6 +0.6
PMG pmax pmax
comp=Z,59nm,1.0s
PMG Port Moresby 78.91 115 *e*P P 13 56 48.8 -0.2
comp=Z,24nm,0.8s
WRAB Tennant Creek 79.44 131*c*eP P 13 56 51.7 -0.1
WRAB pmax pmax
comp=Z,109nm,1.2s
WRAB Tennant Creek 79.44 131 *e*P P 13 56 51.1 -0.6
comp=Z,27nm,0.8s
WRA Warramunga Arr 79.44 131 P P 13 56 51.5 -0.3
comp=Z,20nm,0.7s,baz=332,slow=5.4,SNR=113
WRA PKKPbc **PKKPbc 14 15 41.1 +0.8**
comp=Z,0.8nm,0.7s,baz=149,slow=2.1,SNR=6.0
WB2 Warramunga Arr 79.45 131 *e*P P 13 56 51.0 -0.8
COEN Coen 79.82 121 *e*P P 13 56 53.2 -0.7
comp=Z,11nm,0.6s
FFC Flin Flon 81.28 3 *e*P P 13 57 00.6 -0.7
FFC pmax pmax
comp=Z,24nm,0.8s
FFC Flin Flon 81.28 3 *e*P P 13 57 00.6 -0.7
comp=Z,24nm,0.8s
AS31 Alice Springs 82.26 134 *e*P P 13 57 06.0 -0.8
comp=Z,3.6nm,0.9s
ASAR Alice Springs 82.26 134 P P 13 57 06.5 -0.3
comp=Z,11nm,0.9s,baz=325,slow=4.9,SNR=94
ASAR PKIKP **PKiKP 14 02 26.6 -1.9**
comp=Z,0.6nm,0.8s,baz=321,slow=1.3,SNR=5.6
ASAR PKKPbc **PKKPbc 14 15 34.4 +0.4**
comp=Z,0.5nm,0.7s,baz=121,slow=2.3,SNR=7.0
AS01 Alice Springs 82.28 134 *e*P P 13 57 06.0 -0.9
LLLB Lillooet 83.10 15 *e*P P 13 57 10.7 -0.3
comp=Z,7.1nm,1.0s
DBIC Dimbokro 83.64 273 P P 13 57 13.8 -0.5
comp=Z,10nm,0.7s,baz=35,slow=6.0,SNR=10
DBIC LR LR 14 40 21.0
comp=Z,104nm,18.4s,baz=23,slow=40
DBIC Dimbokro 83.64 273 *e*P P 13 57 13.3 -0.9
DBIC pmax pmax
comp=Z,100nm,1.9s
DBIC Dimbokro 83.64 273 *e*P P 13 57 13.3 -0.9
comp=Z,100nm,1.9s
KIC Kosan Boka 83.77 273 *e*P P 13 57 14.3 -0.6
comp=Z,53nm,1.1s
TIC Toumodi 83.77 273 *e*P P 13 57 14.2 -0.7
LIC Lamto 84.06 273 *e*P P 13 57 15.7 -0.7
comp=Z,66nm,1.3s
A04D Lummi Island 84.74 17 P P 13 57 18.9 -0.3
baz=342
B05A Bryant 85.29 16 P P 13 57 21.9 -0.2
baz=342
B08A Colville Reser 85.73 15 *e*P P 13 57 23.9 -0.5
comp=Z,9.5nm,0.9s
NLWA Neilton Lookou 85.75 18 *e*P P 13 57 25.6 +1.1
ULM Lac du Bonnet 85.83 359 P P 13 57 23.4 -1.4
comp=Z,8.1nm,0.9s,baz=328,slow=6.3,SNR=4.5
C06D Leavenworth 85.86 16 P P 13 57 24.9 -0.1
baz=343
WALA Waterton Lakes 85.91 11 *e*P P 13 57 24.2 -1.1
comp=Z,8.1nm,0.9s
NEW Newport 86.20 13 P P 13 57 26.2 -0.4
baz=346
NEW Newport 86.20 13 *e*P P 13 57 25.7 -1.0
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 86.20 13 *e*P P 13 57 25.7 -1.0
comp=Z,5.0nm,0.9s
VLDQ Val d'Or 86.34 347 *e*P P 13 57 27.5 +0.2
comp=Z,35nm,1.1s
D05A Enumclaw 86.34 17 *e*P P 13 57 28.1 +0.8
comp=Z,58nm,1.5s
BBTS Babate 86.35 287 P P 13 57 28.8 +1.0
comp=Z,44nm,0.9s,baz=14,slow=1.9,SNR=10
CTAO Charters Tower 86.39 123 *e*P P 13 57 26.7 -1.1
CTAO pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 86.39 123 *e*P P 13 57 26.7 -1.1
comp=Z,14nm,0.9s
LBTB Lobatse 86.48 230 *e*P P 13 57 27.5 -0.8
LBTB pmax pmax
comp=Z,16nm,0.9s
LBTB Lobatse 86.48 230 *e*P P 13 57 27.5 -0.8
comp=Z,16nm,0.9s
TSUM Tsumeb 86.66 239 P P 13 57 29.0 -0.3
comp=Z,9.0nm,0.8s,baz=27,slow=6.8,SNR=12
LON Longmire 86.80 17 *e*P P 13 57 29.5 -0.2
LON pmax pmax
comp=Z,6.0nm,0.8s
LON Longmire 86.80 17 *e*P P 13 57 29.4 -0.2
comp=Z,5.8nm,0.8s
BSMT Bassoo Peak 86.96 12 *e*P P 13 57 30.6 -0.1
A33A Warroad 87.14 359 P P 13 57 30.6 -0.6
baz=1.4
EGMT Eagleton 87.42 8 P P 13 57 32.1 -0.6
baz=351
EGMT Eagleton 87.42 8 *e*P P 13 57 32.1 -0.6
comp=Z,14nm,1.0s
DGMT Dagmar 87.43 5 P P 13 57 32.3 -0.3
baz=355
DGMT Dagmar 87.43 5 *e*P P 13 57 32.1 -0.5
comp=Z,22nm,1.1s
B34A Aery, Baudette 87.58 358 P P 13 57 32.5 -0.8
baz=1.9
B35A Bob, Littlefor 87.68 358 P P 13 57 33.1 -0.7
baz=2.6
B32A Ashes, Strandq 87.70 359 P P 13 57 33.2 -0.7
baz=0.6
SLMT Seeley Lake 87.74 11 *e*P P 13 57 33.2 -1.2

AGMN	Agassiz Nation	87.79	359	P	P	13 57 33.3	-1.0
	baz=1.0						
EYMN	Ely	88.01	356	P	P	13 57 34.6	-0.8
	baz=4.2						
C39A	Grand Marais	88.06	355	P	P	13 57 34.8	-0.8
	baz=5.1						
MSO	Missoula	88.08	11	P	P	13 57 35.3	-0.6
	baz=348						
MSO	Missoula	88.08	11	eP	P	13 57 34.4	-1.5
	comp=Z,5.7nm,1.0s						
CHMT	Chamberlain Mo	88.10	11	eP	P	13 57 35.0	-1.1
C36A	Pine Crest Far	88.25	357	P	P	13 57 35.9	-0.6
	baz=3.2						
C34A	RKJ Ranch, Bem	88.42	358	P	P	13 57 36.3	-1.0
	baz=1.7						
HRY	Holter Researc	88.48	10	eP	P	13 57 37.0	-0.8
D33A	AnnSam, Waubun	88.95	359	P	P	13 57 38.5	-1.4
	baz=1.1						
LAO	LASA Array	89.07	6	P	P	13 57 39.8	-0.7
	baz=354						
BMO	Blue Mountains	89.48	14	eP	P	13 57 41.4	-1.1
BMO				pmax	pmax		
	comp=Z,10.0nm,1.6s						
BMO	Blue Mountains	89.48	14	eP	P	13 57 41.4	-1.1
	comp=Z,10nm,1.6s						
E36A	McGregor	89.51	357	P	P	13 57 41.6	-0.8
	baz=2.9						
BOSA	Boshof	89.52	228	P	P	13 57 42.1	-0.6
	comp=Z,3.8nm,0.8s,baz=41,slow=4.3,SNR=6.0						
E39A	Mellen	89.52	355	P	P	13 57 41.7	-0.8
	baz=4.8						
E31A	Nome	89.54	0	P	P	13 57 41.5	-1.2
	baz=360						
BOZ	Bozeman (W)	89.60	10	P	P	13 57 42.4	-0.8
	baz=350						
BOZ	Bozeman (W)	89.60	10	eP	P	13 57 42.3	-0.8
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BOZ	Bozeman (W)	89.60	10	eP	P	13 57 42.3	-0.9
	comp=Z,5.7nm,0.8s						
GCMT	Greycliff	89.64	9	eP	P	13 57 42.8	-0.5
DLMT	Dillon	89.71	11	eP	P	13 57 43.1	-0.5
	comp=Z,9.3nm,1.1s						
F39A	Loretta	90.00	356	P	P	13 57 44.0	-0.9
	baz=4.6						
F38A	Pierce - Schro	90.01	356	P	P	13 57 44.7	-0.1
	baz=3.9						
J04D	Umpqua Nationa	90.08	18	P	P	13 57 46.0	+0.5
	baz=342						
MCMT	McKenzie Canyo	90.20	11	eP	P	13 57 45.5	-0.5
J05D	Fort Rock, OR	90.23	17	P	P	13 57 46.1	0.0
	baz=343						
RLMT	Red Lodge	90.34	8	P	P	13 57 46.1	-0.7
	baz=352						
RLMT	Red Lodge	90.34	8	eP	P	13 57 46.0	-0.7
	comp=Z,12nm,1.1s						
YHB	Horse Butte	90.49	10	eP	P	13 57 46.7	-0.7
	comp=Z,4.5nm,0.8s						
HUMO	Hull Mountain	90.49	19	eP	P	13 57 47.5	+0.3
	comp=Z,9.7nm,1.1s						
YHH	Holmes Hill	90.49	10	eP	P	13 57 47.2	-0.3
	comp=Z,3.7nm,0.9s						
LKWY	Lake	90.77	9	eP	P	13 57 49.6	+0.9
LKWY				pmax	pmax		
	comp=Z,12nm,0.8s						
LKWY	Lake	90.77	9	eP	P	13 57 49.6	+0.9
	comp=Z,12nm,0.8s						
H17A	Grant Village	90.91	9	eP	P	13 57 49.9	+0.5
	comp=Z,8.1nm,1.0s						
MFID	Camas Ranch	91.13	13	P	P	13 57 49.9	-0.3
	comp=Z,2.9nm,0.9s						
HLID	Hailey	91.21	12	P	P	13 57 50.3	-0.4
	baz=348						
IMW	Indian Meadow	91.36	10	eP	P	13 57 50.9	-0.7
	comp=Z,8.4nm,1.0s						
M04C	Macdoel	91.53	18	P	P	13 57 51.2	-0.9
	baz=343						
MOOW	Moose Ponds	91.53	10	eP	P	13 57 52.0	-0.2
	comp=Z,6.0nm,1.4s						
WVOR	Wild Horse Val	91.57	16	eP	P	13 57 52.2	-0.1
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WVOR	Wild Horse Val	91.57	16	eP	P	13 57 52.2	-0.1
	comp=Z,6.1nm,1.0s						
H32A	Carlson Farm,	91.59	0	P	P	13 57 52.0	-0.3
	baz=360						
M02C	Callahan	91.67	19	P	P	13 57 52.7	0.0
	baz=342						
LOHW	Long Hollow	91.68	10	eP	P	13 57 52.4	-0.6
	comp=Z,10nm,1.8s						
MOD	Modoc Plateau	91.75	17	eP	P	13 57 52.5	-0.7
	comp=Z,6.6nm,0.8s						
RSSD	Black Hills	91.77	5	P	P	13 57 53.3	0.0
	baz=355						
RSSD	Black Hills	91.77	5	eP	P	13 57 52.7	-0.7
RSSD				pmax	pmax		
	comp=Z,22nm,1.5s						
RSSD	Black Hills	91.77	5	eP	P	13 57 52.7	-0.7
	comp=Z,22nm,1.5s						
N02D	Trinity Center	92.10	19	P	P	13 57 54.9	+0.1
	baz=342						
ECSD	EROS Data Cent	92.36	359	P	P	13 57 55.4	-0.4
	baz=0.5						
J42A	Columbus	92.47	354	P	P	13 57 55.9	-0.4
	baz=5.9						
J41A	Loganville	92.49	355	P	P	13 57 56.0	-0.4
	baz=5.2						
BW06	Boulder Array	92.64	9	P	P	13 57 56.0	-1.4
	baz=351						
BW06	Boulder Array	92.64	9	eP	P	13 57 56.2	-1.2
PDAR	Pinedale Array	92.64	9	P	P	13 57 56.8	-0.6
	comp=Z,0.6nm,0.6s,baz=17,slow=2.4,SNR=7.1						
PDAR				LR	LR	14 44 29.0	
	comp=Z,106nm,18.4s,baz=18,slow=39						
STKA	Stephens Creek	92.88	133	P	P	13 57 57.4	-0.7
	comp=Z,12nm,0.8s,baz=333,slow=6.1,SNR=17						
STKA	Stephens Creek	92.88	133	eP	P	13 57 57.0	-1.1
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	92.88	133	eP	P	13 57 57.0	-1.1
	comp=Z,3.4nm,0.9s						
JFWS	Jewell Farm	92.95	355	eP	P	13 57 57.9	-0.7
JFWS				pmax	pmax		
	comp=Z,17nm,0.9s						
JFWS	Jewell Farm	92.95	355	eP	P	13 57 57.9	-0.7
	comp=Z,17nm,0.9s						
N59A	State Game Lan	92.99	344	P	P	13 57 58.9	+0.1
	baz=15						
M54A	Oil Creek Stat	93.13	347	P	P	13 57 59.2	-0.2
	baz=13						
HVU	Hansel Valley	93.20	12	eP	P	13 57 59.1	-0.8
HVU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HVU	Hansel Valley	93.20	12	eP	P	13 57 59.1	-0.8
	comp=Z,3.9nm,1.0s						
K40A	Colesburg	93.22	355	P	P	13 57 59.1	-0.7
	baz=4.4						
K39A	Oelwein	93.25	356	P	P	13 57 59.2	-0.7
	baz=3.9						
HWUT	Hardware Ranch	93.54	11	eP	P	13 58 01.4	-0.1
	comp=Z,8.8nm,1.0s						
BEKR	Beckworth	93.69	18	eP	P	13 58 01.8	-0.4
	comp=Z,4.7nm,0.8s						
M39A	Webster	94.49	356	P	P	13 58 04.8	-0.8
	baz=3.7						
M41A	Milan	94.50	355	P	P	13 58 04.8	-0.8
	baz=4.9						
M40A	Post Highland	94.53	356	P	P	13 58 04.9	-0.9
	baz=4.2						
M38A	Pleasantville	94.60	357	P	P	13 58 04.6	-1.5
	baz=3.0						
N46A	Monticello	94.67	352	P	P	13 58 05.7	-0.7
	baz=7.6						
DUG	Dugway, Tooele	94.75	12	P	P	13 58 06.8	-0.2
	baz=349						
DUG	Dugway, Tooele	94.75	12	eP	P	13 58 06.4	-0.6
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DUG	Dugway, Tooele	94.75	12	eP	P	13 58 06.4	-0.6
	comp=Z,6.1nm,1.0s						
N45A	Kentland	94.79	353	P	P	13 58 06.5	-0.5
	baz=7.0						
OGNE	Ogallala	95.04	4	P	P	13 58 07.1	-1.2
	baz=357						
N40A	Mertquake, Sal	95.05	356	P	P	13 58 07.4	-0.8
	baz=4.1						
NLU	North Lily Min	95.09	11	eP	P	13 58 08.9	+0.2
	comp=Z,3.4nm,1.0s						
N39A	Derby Farms, D	95.11	356	P	P	13 58 07.8	-0.6
	baz=3.5						
O20A	White River Ci	95.38	8	P	P	13 58 08.5	-1.6
	baz=352						
O20A	White River Ci	95.38	8	eP	P	13 58 09.9	-0.2
	comp=Z,4.6nm,0.9s						
O41A	Passleys Farm,	95.78	355	P	P	13 58 09.6	-1.9
	baz=4.6						
O40A	La Belle	95.83	356	P	P	13 58 10.6	-1.2
	baz=3.9						
R11A	Troy Canyon, C	96.10	14	P	P	13 58 11.6	-1.6
	baz=347						
R11A	Troy Canyon, C	96.10	14	eP	P	13 58 12.9	-0.3
	comp=Z,7.1nm,1.6s						
P43A	Skaggs, Pawnee	96.16	354	P	P	13 58 12.1	-1.2
	baz=5.6						
P41A	Barry, Barry	96.23	355	P	P	13 58 12.5	-1.1
	baz=4.5						
P44A	Sand Creek, Wi	96.26	353	P	P	13 58 12.9	-0.8
	baz=6.2						
P38A	Dawn	96.40	357	P	P	13 58 13.3	-1.1
	baz=2.7						
P40A	Paris	96.43	356	P	P	13 58 13.7	-0.8
	baz=3.8						
P36A	Good Intent, A	96.45	358	P	P	13 58 13.8	-0.8
	baz=1.5						
P39B	Salisbury	96.50	356	P	P	13 58 14.3	-0.6
	baz=3.3						
Q44A	Meyer Farm, Va	96.85	353	P	P	13 58 16.1	-0.3
	baz=6.0						
Q39A	Willow Grove F	96.95	357	P	P	13 58 16.4	-0.5
	baz=3.1						
Q42A	Golden Eagle	96.95	355	P	P	13 58 16.5	-0.4
	baz=4.9						
Q41A	Truxton	96.96	355	P	P	13 58 16.5	-0.4
	baz=4.4						
Q40A	Laux Farm, Aux	96.96	356	P	P	13 58 16.4	-0.5
	baz=3.8						
Q37A	Longview Farm,	97.17	358	P	P	13 58 17.7	-0.2
	baz=2.1						
R41A	Rosebud	97.62	355	P	P	13 58 19.4	-0.5
	baz=4.3						
R40A	Maddies Statio	97.67	356	P	P	13 58 18.8	-1.4
	baz=3.6						
R39A	Chumby, Stover	97.69	357	P	P	13 58 19.4	-0.8
	baz=3.1						
SDCO	Great Sand Dun	98.01	7	P	P	13 58 22.1	0.0
	baz=354						
S37A	Fort Scott	98.30	358	P	P	13 58 21.9	-1.1
	baz=1.8						
S39A	Bolivar	98.32	357	P	P	13 58 21.9	-1.2
	baz=2.9						
S41A	Jillco Farms,	98.35	356	P	P	13 58 22.0	-1.2
	baz=4.0						
S40A	Lebanon	98.38	356	P	P	13 58 22.4	-0.9
	baz=3.5						
T41A	Mountain View	98.89	356	P	P	13 58 25.1	-0.6
	baz=4.0						
U38A	Gravette	99.61	358	P	Pdif	13 58 28.0	-0.8
	baz=2.1						
U40A	Yellville	99.63	356	P	Pdif	13 58 28.1	-0.8
	baz=3.2						
U39A	Green Forest	99.63	357	P	Pdif	13 58 27.9	-1.1
	baz=2.8						
U37A	Salina	99.66	358	P	Pdif	13 58 28.2	-0.8
	baz=1.6						
SNAA	Sanae	129.97	204	PKP	PKPdf	14 03 53.5	-0.2
SNAA	Sanae	129.97	204	ePKIKP	PKPdf	14 03 53.1	-0.7
SNAA	Sanae	129.97	204	ePKPdf	PKPdf	14 03 53.1	-0.7
VNA2	Neumayer--Watz	131.11	206	PKP	PKPdf	14 03 55.7	-0.2
	baz=23,slow=1.3						
VNA1	Neumayer--Stat	131.30	206	PKP	PKPdf	14 03 56.4	+0.2
VNA3	Neumayer Olymp	131.91	206	PKP	PKPdf	14 03 56.9	-0.6
SAML	Samuel	134.02	310	ePKPdf	PKPdf	14 04 02.4	-0.7
LPAZ	La Paz	142.76	309	PKhKP	PKPpre	14 04 14.8	
	comp=Z,1.4nm,0.6s,baz=281,slow=4.7,SNR=8.7						
LPAZ	La Paz	142.76	309	ePKPpre	PKPpre	14 04 13.9	
CPUP	Villa Florida	143.21	286	PKhKP	PKPpre	14 04 15.1	
	comp=Z,3.8nm,0.7s,baz=59,slow=3.1,SNR=4.0						
CPUP				PKP	PKPbc	14 04 19.1	+2.6
	comp=Z,6.2nm,0.7s,baz=62,slow=3.5,SNR=10.0						
PB01	IPOC Station P	147.32	306	ePKPbc	PKPdf	14 04 28.9	+2.0
LVC	Limon Verde	148.19	304	ePKPbc	PKPdf	14 04 31.8	+3.1
TRQA	Tornquist	152.83	271	ePKPbc	PKPbc	14 04 41.4	-0.8
PLCA	Paso Flores	159.99	271	PKP	PKPdf	14 04 44.3	+0.1
	comp=Z,4.9nm,1.0s,baz=207,slow=0.6,SNR=5.8						

DJA 16 13:47:07.6±1.1, 8°S±6°×10°7E±°, h22km±6km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.63	43	P	Pn	13 47 21.2	-0.1
CISI				S	Sn	13 47 30.2	-0.5
CNJI	Cibinong	0.75	341	P	Pn	13 47 22.7	-0.2
CNJI				S	Sn	13 47 32.7	-0.8
CMJI	Cimerak	1.08	78	P	Pn	13 47 27.3	-0.2
CMJI				S	Sb	13 47 41.1	-0.3
SKJI	Sukabumi	1.30	321	P	Pn	13 47 30.1	-0.3
SKJI				S	Sb	13 47 47.7	+0.1
DBJI	Dramaga	1.58	337	P	Pn	13 47 34.0	-0.4
DBJI				S	Sn	13 47 55.0	+0.8
CGJI	Cibinong	2.18	310	P	Pn	13 47 41.7	-0.9
SBJI	Serang	2.26	327	P	Pn	13 47 43.7	0.0

*AZER **16** 13:57:12.4±0.1, 37°63N×48°75E, h0km±14km, Error ellipse: s-maj=22.4km s-min=8.6km az=352.0*
*CSEM **16** 13:57:14.1±0.3, 37°48N×48°79E, h10km, ML2.8, Error ellipse: s-maj=9.7km s-min=5.2km az=61.0*
*TEH **16** 13:57:15.0, 37°63N×48°89E, h10km, ML3.1*

ISC 16 13:57:13.1±3.5, 37°44N±0°03×48°85E±0°04, h8km±29km, n34, σ1§10/47, 4C-2D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNJK	Zanjan	0.78	190	ePg	Pb	13 57 28.1	-1.0
ZNJK				eSg	Sb	13 57 38.5	-1.4
ISRB	Sarab	1.01	293	ePg	Pb	13 57 32.6	-0.4
ISRB				eAMB	AMB	13 57 34.4	
	comp=Z,6μm,0.1s						
ISRB				eSg	Sb	13 57 46.3	-0.3
ISRB	Sarab	1.01	293	ePg	Pb	13 57 32.6	-0.4
ISRB				eSg	Sb	13 57 46.3	-0.3
ASTR	Astara	1.12	358	⇑P	Pn	13 57 33.5	-1.6
	SNR=15						
ASTR				⇑S	Sb	13 57 49.3	-0.1
ASTR	Astara	1.12	358	P	Pn	13 57 33.5	-1.6
	SNR=15						
ASTR				S	Sb	13 57 49.3	-0.1
LRK	Lerik	1.27	342	P	Pn	13 57 36.4	-0.9
	SNR=38						
LRK				⇑S	Sb	13 57 53.2	-0.6
LRK	Lerik	1.27	342	P	Pn	13 57 36.4	-0.9
	SNR=38						
LRK				S	Sb	13 57 53.2	-0.6
LKRN	Lenkeran, Azer	1.27	358	P	Pn	13 57 36.1	-1.0
	SNR=9.8						
LKRN				⇓S	Sn	13 57 53.7	-0.6
LKRN	Lenkeran, Azer	1.27	358	P	Pn	13 57 36.1	-1.0
	SNR=9.8						
LKRN				S	Sn	13 57 53.7	-0.6
IGZV	Ghazvin	1.52	133	ePn	Pn	13 57 40.3	-0.5
IGZV				eAMB	AMB	13 58 04.5	
	comp=Z,4μm,0.1s						
IGZV	Ghazvin	1.52	133	ePn	Pn	13 57 40.3	-0.5
GRMI	Germi	1.56	331	eP	Pn	13 57 41.9	+0.6
GRMI				eSg	Sb	13 58 03.2	+1.0
IBST	Bostanabad	1.58	280	ePn	Pb	13 57 42.5	-0.1
IBST				eAMB	AMB	13 57 44.0	
	comp=Z,2μm,0.1s						
IBST	Bostanabad	1.58	280	ePn	Pb	13 57 42.5	-0.1
IHRS	Heris	1.68	302	ePn	Pb	13 57 44.2	-0.2
IHRS				eAMB	AMB	13 57 44.9	
	comp=Z,5μm,0.1s						
IHRS	Heris	1.68	302	ePn	Pb	13 57 44.2	-0.2
GLBA	Ciilabad	1.83	349	⇑Pn	Pn	13 57 45.8	+0.9
GLBA				⇓Sn	Sb	13 58 11.9	+1.9
GLBA	Ciilabad	1.83	349	Pn	Pn	13 57 45.8	+0.9
GLBA				Sn	Sb	13 58 11.9	+1.9
IRAZ	Razeghan	2.21	156	ePn	Pb	13 57 52.0	-1.5
IRAZ				eAMB	AMB	13 58 24.9	
	comp=Z,755nm,0.1s						
IRAZ	Razeghan	2.21	156	ePn	Pb	13 57 52.0	-1.5
THKV	Tehran--Karaj	2.23	132	ePn	Pn	13 57 52.2	+1.6
THKV				eSg	Sb	13 58 23.8	+2.1
IMHD	Mahdasht	2.28	140	ePn	Pb	13 57 54.2	-0.4
IMHD				eAMB	AMB	13 58 27.5	
	comp=Z,1μm,0.1s						
IMHD	Mahdasht	2.28	140	ePn	Pb	13 57 54.2	-0.4
CHTH	Charan	2.39	129	ePn	Pn	13 57 54.4	+1.7
IR5	Iran Long-Peri	2.63	147	ePn	Pb	13 57 59.9	-0.6
IR5	Iran Long-Peri	2.63	147	ePn	Pb	13 57 59.9	-0.6
SNGE	Sanandaj	2.64	208	ePn	Pn	13 57 57.1	+0.9
ISHB	Shabestar	2.69	289	eAMB	AMB	13 58 04.8	
	comp=Z,334nm,0.2s						
ISHB				ePn	Pb	13 58 03.0	+1.3
IMRD	Marand	2.79	298	eAMB	AMB	13 58 10.2	
	comp=Z,715nm,0.2s						
IMRD				ePn	Pb	13 58 04.0	+0.7
IAFJ	Afjeh	2.79	124	eAMB	AMB	13 58 06.8	
	comp=Z,272nm,0.1s						
IAFJ				ePn	Pb	13 58 04.1	+0.6
IPRN	Peran	3.04	112	eAMB	AMB	13 58 02.6	
	comp=Z,930nm,0.1s						
IPRN				ePn	Pn	13 58 02.0	+0.3
IDMV	Damavand	3.17	125	eAMB	AMB	13 58 54.1	
	comp=Z,155nm,0.2s						
IDMV				ePn	Pb	13 58 07.6	-2.2
IALA	Alasht	3.46	112	eAMB	AMB	13 58 52.2	
	comp=Z,333nm,0.1s						
IALA				ePn	Pn	13 58 08.5	+1.0
ISHM	Shahmirzad	3.93	113	ePn	Pn	13 58 15.5	+1.5
ISHM				eAMB	AMB	13 59 16.4	
	comp=Z,199nm,0.2s						

JMA 16 14:07:14.4±0.1, 37°50N×141°45E, h46km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.48	254	P	Pn	14 07 25.2	0.0
JFK				S	Sn	14 07 32.5	-0.3
JMM	Marumori	0.64	305	P	Pn	14 07 27.3	+0.1
JMM				S	Sn	14 07 36.4	+0.1
ONAJ	Iwakimizuishiy	0.65	233	P	Pn	14 07 27.4	-0.1
ONAJ				S	Sn	14 07 36.3	-0.5
JFT	Otama	0.89	272	P	Pn	14 07 31.2	+0.7
JFT				S	Sn	14 07 43.2	+0.9
JIO	Ouri	0.96	355	P	Pn	14 07 31.4	0.0
JIO				S	Sn	14 07 43.2	-0.7
JOU	Okura	1.06	325	P	Pn	14 07 32.9	0.0
JYS	Shirataka	1.31	304	P	Pn	14 07 36.8	+0.5
JYS				S	Sn	14 07 52.8	+0.2
JFY	Yanaizu	1.39	267	P	Pn	14 07 37.9	+0.5
JFY				S	Sn	14 07 55.4	+0.8
JMK	Ichinoseki	1.46	353	P	Pn	14 07 38.3	0.0
JMK				S	Sn	14 07 56.0	-0.3
JYK	Kaneyama	1.66	329	P	Pn	14 07 41.6	+0.6
JYK				S	Sn	14 08 01.6	+0.5
MAT	Matsushiro	2.77	251	P	Pn	14 07 57.7	+1.5
MAT				S	Sn	14 08 32.1	+3.7

IDC 16 14:26:43.7±26.0, 21°99S×173°28W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.0/27, mbtmp4.5/4, Error ellipse: s-maj=481.6km s-min=145.3km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.74	265	P	P	14 34 02.2	+0.6
	8.9nm,0.4s,baz=94,slow=11,SNR=26						
STKA	Stephens Creek	41.17	246	P	P	14 34 29.2	-0.9
	1.0nm,0.4s,baz=102,slow=11,SNR=7.1						
ASAR	Alice Springs	48.48	257	P	P	14 35 28.2	-0.3
	2.4nm,0.5s,baz=100,slow=7.2,SNR=80						
WRA	Warramunga Arr	48.77	262	P	P	14 35 30.8	0.0
	4.1nm,0.3s,baz=96,slow=8.4,SNR=117						

*ISCJB **16** 14:28:28.0±0.5, 26°40S±0°03×27°52E±0°03, h8km±3km, Error ellipse: s-maj=6.0km s-min=3.8km az=152.8*
*PRE **16** 14:28:27.9±2.0, 26°39S×27°52E, h2km, ML2.6*

ISC 16 14:28:28.0±0.9, 26°37S±0°04×27°50E±0°03, h8km±6km, n15, σ1§20/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.09	231	eP	Pg	14 28 30.4	0.0
WDLM				eS	Sg	14 28 31.4	-0.6
WDLM				AML	AML	14 28 32.3	
	comp=Z,2μm,0.2s						
KLOF	Kloof	0.10	80	eP	Pg	14 28 30.9	+0.4
KLOF				eS	Sg	14 28 32.3	0.0
KLOF				AML	AML	14 28 32.6	
	comp=Z,2μm,0.2s						
PRYS	Parys	0.57	193	eP	Pg	14 28 39.1	+0.1
PRYS				eS	Sg	14 28 45.8	-0.8
PRYS				AML	AML	14 28 51.9	
	comp=Z,340nm,0.7s						
ERPM	east rand prop	0.67	88	eP	Pg	14 28 41.2	+0.3
ERPM				eS	Sg	14 28 48.7	-0.9
ERPM				AML	AML	14 28 58.2	
	comp=Z,52nm,0.7s						
BFSD	Buffelsfontein	0.81	232	eP	Pg	14 28 43.5	-0.1
BFSD				eS	Sg	14 28 53.2	-0.8
BFSD				AML	AML	14 28 54.8	
	comp=Z,61nm,0.2s						
SLR	Silverton	0.95	48	eP	Pg	14 28 45.9	-0.3
SLR				eS	Sg	14 28 58.2	-0.3
SLR				AML	AML	14 29 07.3	
	comp=Z,57nm,1.1s						
SEK	Senekal	1.95	177	eP	Pb	14 29 03.3	-0.6
SEK				eS	Sn	14 29 27.1	+0.7
SEK				AML	AML	14 29 29.6	
	comp=Z,92nm,0.7s						
SWZ	Schweizer	2.10	247	eP	Pn	14 29 05.4	+1.7
SWZ				eS	Sn	14 29 30.5	+0.5
SWZ				AML	AML	14 29 33.6	
	comp=Z,84nm,0.6s						
LBTB	Lobatse	2.18	308	eP	Pn	14 29 06.3	+1.6
LBTB				eS	Sn	14 29 33.4	+1.4
LBTB				AML	AML	14 29 37.0	
	comp=Z,68nm,0.5s						
BOSA	Boshof	3.00	221	i P	Pn	14 29 16.4	+0.5
BOSA				i		14 29 16.4	
	baz=45,slow=22						
BOSA				i S	Sb	14 29 59.2	+0.7
BOSA	Boshof	3.00	221	eP	Pn	14 29 15.6	-0.4
BOSA				eS	Sn	14 29 53.6	+1.4
BOSA				AML	AML	14 29 59.2	
	comp=Z,23nm,0.3s						
POGA	Pongola	3.81	106	eP	Pn	14 29 29.9	+2.8
POGA				eS	Sn	14 30 12.8	+0.8
POGA				AML	AML	14 30 36.8	
	comp=Z,11nm,0.4s						
KSD	Kokstad	4.49	158	eP	Pn	14 29 36.4	-0.1
KSD				eS	Sn	14 30 26.9	-2.1
KSD				AML	AML	14 30 45.2	
	comp=Z,14nm,0.8s						
PKA	Prieska	5.33	231	eP	Pn	14 29 49.4	+1.4
PKA				eS	Sn	14 30 48.8	-0.9
PKA				AML	AML	14 31 17.9	
	comp=Z,156nm,0.7s						
MATP	Matopo	5.99	9	i P	Pn	14 29 55.3	-1.8
MATP				i		14 29 55.3	
	baz=326,slow=2.0						
MATP				i S	Sn	14 31 04.1	-1.9

*NNC **16** 14:37:44.5±4.7, 44°39N×82°34E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=56.9km s-min=11.5km az=119.0*
*SOME **16** 14:37:45.1, 44°25N×82°43E, h10km*

**ISC 16 14:37:44.1±1.7, 44°21N±0°09×82°50E±0°09, h10km, n

4.0nm,0.2s
SHLS eS **Sn** **14 38 52.6 -1.5**
29nm,0.2s
MK31 Makanchi Array 2.59 357 ⇑Pg **Pb** **14 38 29.9 -0.8**
1.5nm,0.4s,baz=174,slow=17,SNR=14
MK31 ⇓Lg Lg 14 38 59.8
1.5nm,0.3s,baz=175,slow=26,SNR=4.8
MAKZ Makanchi 2.63 352 ⇑Pg **Pn** **14 38 27.4 +0.8**
0.7nm,0.3s
MAKZ ⇑Lg Lg 14 39 02.4
3.2nm,0.3s
UZB Uzynbulak 2.74 248 *e*P **Pb** **14 38 34.2 +1.0**
0.8nm,0.3s
UZB *e*S **Sg** **14 39 09.9 -2.1**
7.0nm,0.3s
KPKS Kokpek 2.86 256 *e*P **Pb** **14 38 35.5 +0.2**
3.6nm,0.2s
KPKS *e*S **Sb** **14 39 12.0 +1.6**
31nm,0.4s
ARXS Arharly 3.36 272 *e*P **Pb** **14 38 45.2 +1.4**
3.8nm,0.6s
ARXS *e*S **Sg** **14 39 29.1 -3.0**
6.8nm,0.4s
ZSN Zaisan 3.64 26 *e*P **Pb** **14 38 48.3 -0.2**
1.1nm,0.3s
ZSN *e*S **Sb** **14 39 34.1 +1.3**
3.6nm,0.5s

MAN 16 14:47:53,16°.65N×119°.67E,h67km,mb4.4,ML3.2,MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.36**	**139**	*e*P	Pn	14 48 05.7	+1.4
BOLP				*e*S	Sn	14 48 11.6	-1.0
SCZP	**Santa Cruz**	**0.90**	**165**	*e*P	Pn	14 48 13.0	+2.8
SCZP				*e*S	Sn	14 48 26.0	+3.2
ABRA	**Dolores**	**1.41**	**45**	*e*P	Pn	14 48 17.0	+0.3
ABRA				*e*S	Sn	14 48 33.3	-1.2
BALP	**Baler**	**2.05**	**116**	*e*P	Pn	14 48 27.2	+2.0
BALP				*e*S	Sn	14 48 51.0	+1.2
CAUP	**Cauayan**	**2.09**	**82**	*e*P	Pn	14 48 28.2	+2.4
CAUP				*e*S	Sn	14 48 53.1	+2.4
SGCP	**Mt. Cagua**	**2.77**	**55**	*e*P	Pn	14 48 36.8	+1.8
SGCP				*e*S	Sn	14 49 10.2	+2.9

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*ISCJB **16** 14:54:03.7±0.6,67°.02N±0°.04×20°.8E±0°.2,h0km,Error ellipse: s-maj=10.0km s-min=4.3km az=29.4*
*CSEM **16** 14:54:06.3±0.5,67°.17N×20°.69E,h1km,ML2.4,Error ellipse: s-maj=18.4km s-min=8.6km az=113.0,Suspected Mining explosion.*
*IDC **16** 14:54:07.7±0.9,67°.12N×20°.76E,h0km,mb1 3.1/4, mb1mx3.0/38,mbtmp3.1/4,ML2.6/4,Error ellipse: s-maj=15.1km s-min=6.4km az=117.0*
*NAO **16** 14:54:07.0±0.9,67°.15N×20°.87E,ML2.7*
*BER **16** 14:54:08.7±3.7,67°.17N×20°.72E,h0km,ML2.4, ML2.7(NAO),Suspected explosion*

ISC 16 14:54:06.7±1.0,67°.06N±0°.05×20°.83E±0°.07,h0km,n26, σ1=42/48,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.95**	**360**	Pn	**Pn**	**14 54 40.2**	**-0.8**
KIF				Lg	Lg	14 55 06.3	
KIF	**Kilpisjarvi**	**1.95**	**360**	Pn	**Pn**	**14 54 40.2**	**-0.8**
KIF				Lg	Lg	14 55 06.3	
KIF	**Kilpisjarvi**	**1.95**	**360**	Pn	**Pn**	**14 54 40.2**	**-0.8**
	SNR=50						
KIF				Lg	Lg	14 55 06.3	
KTK1	**Kautokeino**	**2.16**	**24**	*e*	Pn	14 54 36.4	-7.5
KTK1				*e*Pg	**Pn**	**14 54 44.0**	**+0.1**
KTK1				*e*Sg	**Sn**	**14 55 12.0**	**+0.7**
KTK1				IAML		14 55 13.9	
	comp=Z,54nm,0.6s						
KTK1	**Kautokeino**	**2.16**	**24**	*e*Pg	**Pn**	**14 54 44.0**	**+0.1**
	SNR=90						
KTK1				*e*Sg	**Sn**	**14 55 12.0**	**+0.7**
	SNR=90						
ARA0	**ARCESS Array S**	**3.04**	**33**	Pn	**Pn**	**14 54 55.7**	**-0.2**
	baz=215,slow=14						
ARA0				Sn	**Sn**	**14 55 32.5**	**-0.4**
	baz=220,slow=37						
ARA0	**ARCESS Array S**	**3.04**	**33**	Pn	**Pn**	**14 54 55.7**	**-0.2**
	baz=215,slow=14						
ARA0				Sn	**Sn**	**14 55 32.5**	**-0.4**
	baz=220,slow=37						
ARA0	**ARCESS Array S**	**3.04**	**33**	Pn	**Pn**	**14 54 55.7**	**-0.2**
	SNR=50						
ARA0				Sn	**Sn**	**14 55 32.5**	**-0.4**
	SNR=50						
ARCES	**ARCESS Array B**	**3.04**	**33**	Pn	**Pn**	**14 54 56.9**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=210,slow=14,SNR=23						
ARCES				Sn	**Sn**	**14 55 32.8**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=212,slow=24,SNR=11						
ARCES				Lg	Lg	14 55 42.5	
	comp=Z,3.2nm,0.3s,baz=221,slow=37,SNR=7.3						
KEV	**Kevo**	**3.54**	**37**	Pn	**Pn**	**14 55 02.1**	**-0.8**
KEV				Pg	**Pb**	**14 55 10.5**	**+0.4**
KEV				Sn	**Sn**	**14 55 42.9**	**-2.5**
KEV	**Kevo**	**3.54**	**37**	Pn	**Pn**	**14 55 02.1**	**-0.8**
KEV				Pg	**Pb**	**14 55 10.5**	**+0.4**
KEV				Sn	**Sn**	**14 55 42.9**	**-2.5**
KEV	**Kevo**	**3.54**	**37**	Pn	**Pn**	**14 55 02.1**	**-0.8**
	SNR=50						
KEV				Sn	**Sn**	**14 55 42.9**	**-2.5**
	SNR=50						
APA0	**Apatity Array**	**4.74**	**78**	Pn	**Pn**	**14 55 19.4**	**+0.1**
	baz=270,slow=6.9						
APA0				Sn	**Sn**	**14 56 13.3**	**-1.6**
	baz=285,slow=28						
APA0				Lg	Lg	14 56 33.1	
	baz=290,slow=28						
APA0	**Apatity Array**	**4.74**	**78**	Pn	**Pn**	**14 55 19.4**	**+0.1**
	baz=270,slow=6.9						
APA0				Sn	**Sn**	**14 56 13.3**	**-1.6**
	baz=285,slow=28						
APA0				Lg	Lg	14 56 33.1	
	baz=290,slow=28						
APA0	**Apatity Array**	**4.74**	**78**	Pn	**Pn**	**14 55 19.4**	**+0.1**
	SNR=50						
APA0				Sn	**Sn**	**14 56 13.3**	**-1.6**
	SNR=50						
APA0				Lg	Lg	14 56 33.1	
	SNR=8.0						
FIA0	**FINESS Array S**	**6.08**	**155**	Pn	**Pn**	**14 55 40.8**	**+3.0**
	baz=338,slow=14						
FIA0				Sn	**Sn**	**14 56 48.8**	**+0.9**
	baz=347,slow=28						
FIA0				Lg	Lg	14 57 19.3	
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.08**	**155**	Pn	**Pn**	**14 55 40.8**	**+3.0**
	baz=338,slow=14						
FIA0				Sn	**Sn**	**14 56 48.8**	**+0.9**
	baz=347,slow=28						
FIA0				Lg	Lg	14 57 19.3	
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.08**	**155**	Pn	**Pn**	**14 55 40.8**	**+3.0**
	SNR=50						
FIA0				Sn	**Sn**	**14 56 48.8**	**+0.9**
	SNR=50						
FIA0				Lg	Lg	14 57 19.3	
	SNR=3.6						
FINES	**FINESS Array B**	**6.08**	**155**	Pn	**Pn**	**14 55 39.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=5.4						
FINES				Sn	**Sn**	**14 56 49.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=343,slow=23,SNR=4.4						
FINES				Lg	Lg	14 57 21.1	
	comp=Z,1.2nm,0.3s,baz=344,slow=29,SNR=7.5						
NB2	**NORSAR Subarra**	**7.36**	**219**	Pn	**Pn**	**14 55 55.5**	**+0.2**
NB2	**NORSAR Subarra**	**7.36**	**219**	Pn	**Pn**	**14 55 55.5**	**+0.2**
NB2	**NORSAR Subarra**	**7.36**	**219**	Pn	**Pn**	**14 55 55.5**	**+0.2**
	SNR=50						
NOA	**NORSAR Array B**	**7.36**	**219**	Pn	**Pn**	**14 55 54.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=29,slow=11,SNR=3.9						
NOA				Sn	**Sn**	**14 57 16.6**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=313,slow=20,SNR=1.7						
NOA				Lg	Lg	14 58 00.2	
	comp=Z,0.7nm,0.3s,baz=311,slow=24,SNR=4.3						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**14 55 58.4**	**-0.7**
	baz=21,slow=12						
HFS				Sn	**Sn**	**14 57 24.0**	**-2.2**
	baz=28,slow=22						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**14 55 58.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=1.2						
HFS				Sn	**Sn**	**14 57 24.5**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=27,slow=20,SNR=3.7						
HFS				Lg	Lg	14 58 12.1	
	comp=Z,0.3nm,0.3s,baz=18,slow=29,SNR=3.0						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**14 55 58.4**	**-0.7**
	baz=21,slow=12						
HFS				Sn	**Sn**	**14 57 24.0**	**-2.2**
	baz=28,slow=22						

DJA 16 15:07:19.3±0.6,5°.N±3°.×9°.6E±°,h17km±5km,M3.7/7, MLv3.7/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.32**	**137**	P	Pb	15 07 27.2	+0.7
LHMI	**Lhok Sumawe**	**1.05**	**46**	P	Pg	15 07 39.8	+0.2
LHMI				S	Sb	15 07 52.6	+0.2
BSI	**Banda Aceh**	**1.33**	**318**	P	Pn	15 07 42.5	-0.7
TPTI		**1.58**	**141**	P	Pn	15 07 46.7	+0.2
TPTI				S	Sn	15 08 06.9	+0.3
KCSI	**Kotacane, Aceh**	**1.85**	**122**	P	Pn	15 07 51.2	+0.9
KCSI				S	Sn	15 08 14.2	+0.8
TSI	**Tuntungan**	**2.57**	**113**	P	Pn	15 08 01.2	+1.0
TPRI	**Tanjung Pinang**	**9.05**	**113**	P	Pn	15 09 27.0	-2.3

WEL 16 15:44:56.9±0.6,37°.50S×178°.47E,h53km±2km,ML3.6/20, 11C-13D,Error ellipse: s-maj=4.3km s-min=4.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.14**	**246**	AML	AML	15 45 08.8	
MXZ				AML	AML	15 45 09.1	
WMGZ	**Waiomatatini S**	**0.32**	**188**	⇑PN	Pn	15 45 06.3	-0.2
WMGZ				SN	Sn	15 45 14.0	+0.5
WMGZ				AML	AML	15 45 14.5	
PKGZ	**Pakihiroa**	**0.50**	**219**	⇓PN	Pn	15 45 07.5	-0.9
PKGZ				SN	Sn	15 45 15.7	-1.1
PKGZ				AML	AML	15 45 16.1	
PUZ	**Puketiti**	**0.59**	**197**	⇑PN	Pn	15 45 09.4	-0.2
PUZ				AML	AML	15 45 20.0	
PUZ				AML	AML	15 45 20.5	
HAZ	**Te Kaha**	**0.60**	**245**	⇓PN	Pn	15 45 09.0	-0.6
HAZ				AML	AML	15 45 19.6	
HAZ				AML	AML	15 45 21.6	
TWGZ	**Tauwhareparae**	**0.78**	**210**	⇓PN	Pn	15 45 12.1	+0.3
TWGZ				AML	AML	15 45 26.0	
TWGZ				AML	AML	15 45 26.1	
RUGZ	**Raukumara Rang**	**0.78**	**234**	⇓PN	Pn	15 45 11.8	-0.2
CNGZ	**Carnagh Statio**	**1.00**	**192**	PN	Pn	15 45 15.0	+0.2
CNGZ				AML	AML	15 45 32.2	
CNGZ				AML	AML	15 45 35.3	
TKGZ	**Te Karaka**	**1.06**	**208**	⇓PN	Pn	15 45 15.3	-0.2
TKGZ				AML	AML	15 45 30.9	
TKGZ				AML	AML	15 45 31.0	
MWZ	**Matawai**	**1.12**	**222**	PN	Pn	15 45 16.4	0.0
MWZ				AML	AML	15 45 31.9	
MWZ				AML	AML	15 45 33.8	
RAGZ	**Rawiri**	**1.30**	**220**	PN	Pn	15 45 18.8	0.0
RAGZ				AML	AML	15 45 40.0	
RAGZ				AML	AML	15 45 43.1	
URZ	**Urewera**	**1.32**	**235**	PN	Pn	15 45 18.8	-0.2
URZ				AML	AML	15 45 36.2	
URZ				AML	AML	15 45 36.3	
RIGZ	**Rimuhau**	**1.33**	**205**	⇓PN	Pn	15 45 18.8	-0.4
RIGZ				AML	AML	15 45 38.2	
RIGZ				AML	AML	15 45 38.7	
PRGZ	**Paritu Road**	**1.49**	**198**	PN	Pn	15 45 20.5	-0.9
PRGZ				AML	AML	15 45 42.8	
PRGZ				AML	AML	15 45 43.4	
EDRZ	**Edgecumbe**	**1.50**	**246**	PN	Pn	15 45 21.3	-0.3
MARZ	**Manawahe**	**1.50**	**251**	PN	Pn	15 45 20.7	-0.9
SNGZ	**Shannon Statio**	**1.56**	**215**	⇑PN	Pn	15 45 22.1	-0.2
SNGZ				AML	AML	15 45 45.7	
SNGZ				AML	AML	15 45 56.4	
OPRZ	**Ohinepanea**	**1.56**	**257**	PN	Pn	15 45 21.4	-0.9
RTZ	**Ruatahuna**	**1.62**	**226**	⇓PN	Pn	15 45 22.9	-0.3
KNZ	**Kokohu**	**1.64**	**202**	⇓PN	Pn	15 45 22.2	-1.2
MUGZ	**Murupara**	**1.66**	**234**	⇓PN	Pn	15 45 23.3	-0.4
MHGZ	**Mahia Peninsul**	**1.71**	**195**	PN	Pn	15 45 23.4	-0.9
TARZ	**Mount Tarawera**	**1.72**	**244**	PN	Pn	15 45 24.6	0.0
RRRZ	**Republican Roa**	**1.76**	**241**	PN	Pn	15 45 24.9	-0.2
WHHZ	**Waihua**	**1.85**	**211**	PN	Pn	15 45 25.8	-0.5
WHHZ				AML	AML	15 45 51.5	
WHHZ				AML	AML	15 45 51.7	
PRRZ	**Plateau Road**	**1.92**	**238**	PN	Pn	15 45 27.0	-0.3
ALRZ	**Allen Road**	**1.99**	**237**	PN	Pn	15 45 27.4	-0.7
NMHZ	**Naumai**	**2.06**	**219**	PN	Pn	15 45 29.2	0.0
NMHZ				AML	AML	15 45 56.0	
NMHZ				AML	AML	15 45 57.4	
MRHZ	**Matea Rd**	**2.10**	**230**	PN	Pn	15 45 29.6	-0.1
MRHZ				AML	AML	15 45 55.6	
MRHZ				AML	AML	15 45 58.3	
ARHZ	**Aropaoanui**	**2.11**	**213**	PN	Pn	15 45 29.5	-0.3
ARHZ				AML	AML	15 45 31.1	
ARHZ				AML	AML	15 45 56.8	
BKZ	**Black Stump Fm**	**2.28**	**223**	⇓PN	Pn	15 45 31.6	-0.6
KUZ	**Kuaotunu**	**2.33**	**288**	⇑PN	Pn	15 45 31.6	-1.1
MCHZ	**McNeill Hill**	**2.39**	**215**	PN	Pn	15 45 33.1	-0.5
MCHZ				AML	AML	15 46 07.0	
CKHZ	**Cape Kidnapper**	**2.41**	**207**	PN	Pn	15 45 32.5	-1.4
KWHZ	**Kaweka Forest**	**2.50**	**219**	⇑PN	Pn	15 45 34.5	-0.7
KWHZ				AML	AML	15 45 35.5	
KWHZ				AML	AML	15 46 08.5	
RITZ	**Rihia Road**	**2.53**	**234**	PN	Pn	15 45 35.8	+0.2
KAHZ	**Kahuranaki**	**2.61**	**208**	PN	Pn	15 45 35.0	-1.7
MKAZ	**Moumakai**	**2.67**	**278**	⇑PN	Pn	15 45 36.8	-0.6
KRHZ	**Kereru**	**2.70**	**217**	PN	Pn	15 45 36.5	-1.4
GRZ	**Great Barrier**	**2.72**	**296**	PN	Pn	15 45 37.6	-0.6
KRVZ	**Karewarewa**	**2.74**	**234**	⇑PN	Pn	15 45 38.4	-0.1
BHHZ	**Black Hill Sta**	**2.74**	**223**	PN	Pn	15 45 37.9	-0.6
WIAZ	**Waiheke Island**	**2.76**	**284**	PN	Pn	15 45 38.2	-0.5
WTVZ	**West Tongariro**	**2.78**	**234**	PN	Pn	15 45 39.1	0.0
NGZ	**Ngauruhoe**	**2.81**	**233**	⇑PN	Pn	15 45 39.3	-0.2
PXZ	**Pawanui**	**2.82**	**206**	⇓PN	Pn	15 45 36.9	-2.6
TUVZ	**Tukino**	**2.83**	**231**	PN	Pn	15 45 39.4	-0.4
TWVZ	**Taurewa**	**2.86**	**236**	PN	Pn	15 45 40.3	+0.2
MOVZ	**Moawhango**	**2.86**	**227**	PN	Pn	15 45 39.2	-0.9
WHVZ	**Whangaehu Hut**	**2.88**	**231**	⇑PN	Pn	15 45 40.0	-0.5
ETAZ	**East Tamaki Re**	**2.88**	**280**	⇑PN	Pn	15 45 40.1	-0.3
FWVZ	**Far West T-bar**	**2.89**	**232**	PN	Pn	15 45 40.1	-0.6
KBAZ	**Karaka Road Bo**	**2.89**	**277**	PN	Pn	15 45 40.6	+0.2
WNVZ	**Wahianoa**	**2.90**	**230**	⇓PN	Pn	15 45 40.2	-0.6
TRVZ	**Turoa**	**2.92**	**231**	PN	Pn	15 45 40.3	-0.7
PNHZ	**Pukenui**	**2.99**	**216**	PN	Pn	15 45 39.8	-2.1
WPHZ	**Waipukurau**	**3.01**	**211**	PN	Pn	15 45 40.3	-1.9
MTVZ	**Mangateitei**	**3.02**	**231**	⇑PN	Pn	15 45 41.7	-0.6
PKVZ	**Pokaka**	**3.04**	**233**	PN	Pn	15 45 42.2	-0.3
AWAZ	**Awhitu Peninsu**	**3.09**	**277**	PN	Pn	15 45 43.3	+0.2
PRHZ	**Porangahau**	**3.11**	**207**	PN	Pn	15 45 40.9	-2.6
RVAZ	**Riverhead Bore**	**3.20**	**282**	PN	Pn	15 45 44.8	+0.2
TSZ	**Takapari Road**	**3.22**	**217**	PN	Pn	15 45 42.6	-2.4
DVHZ	**Dannevirke**	**3.32**	**212**	PN	Pn	15 45 43.8	-2.7
VRZ	**Vera Road**	**3.34**	**240**	⇓PN	Pn	15 45 47.1	+0.4
WAZ	**Wanganui**	**3.54**	**229**	PN	Pn	15 45 48.9	-0.5
POWZ	**Post Office Ro**	**3.57**	**215**	PN	Pn	15 45 47.2	-2.6
BFZ	**Birch Farm**	**3.62**	**208**	PN	Pn	15 45 47.3	-3.1
OHWZ	**Ohakea**	**3.66**	**221**	PN	Pn	15 45 49.8	-1.2
WCZ	**Waipu Caves**	**3.67**	**294**	PN	Pn	15 45 51.2	+0.1
TIWZ	**Tintock**	**3.84**	**211**	PN	Pn	15 45 50.6	-2.9
MRZ	**Mangatainoka R**	**3.88**	**215**	PN	Pn	15 45 50.6	-3.3
HOWZ	**Holdsworth Sta**	**4.09**	**213**	PN	Pn	15 45 53.3	-3.7
TMWZ	**Te Maipa**	**4.12**	**208**	PN	Pn	15 45 53.6	-3.7
OGWZ	**Otaki Gorge**	**4.19**	**217**	PN	Pn	15 45 54.8	-3.5
MTW	**Mount Morrison**	**4.32**	**211**	PN	Pn	15 45 55.8	-4.2
KIW	**Kapiti Island**	**4.35**	**218**	PN	Pn	15 45 57.0	-3.5
TRWZ	**Traveller**	**4.45**	**208**	PN	Pn	15 45 57.6	-4.3
CAW	**Cannon Point**	**4.46**	**215**	PN	Pn	15 45 57.9	-4.1
OUZ	**Omahuta**	**4.55**	**299**	PN	Pn	15 46 03.8	+0.6
PLWZ	**Palliser**	**4.76**	**210**	PN	Pn	15 46 01.6	-4.6
DUWZ	**D'Urville Isla**	**4.83**	**226**	PN	Pn	15 46 03.9	-3.3
TCW	**Tory Channel**	**4.93**	**220**	PN	Pn	15 46 04.2	-4.2
TUWZ	**Tuamarina**	**5.26**	**220**	PN	Pn	15 46 08.6	-4.3
NNZ	**Nelson**	**5.42**	**225**	PN	Pn	15 46 11.2	-3.8
QRZ	**Quartz Range**	**5.69**	**232**	PN	Pn	15 46 15.2	-3.6
THZ	**Tophouse**	**6.05**	**224**	PN	Pn	15 46 19.5	-4.3
KHZ	**Kahutara**	**6.20**	**216**	PN	Pn	15 46 20.3	-5.5
INZ	**Inchbonnie**	**7.50**	**224**	PN	Pn	15 46 37.9	-5.7
OXZ	**Oxford**	**7.61**	**218**	PN	Pn	15 46 39.2	-5.9
MQZ	**McQueen's Vall**	**7.61**	**214**	PN	Pn	15 46 39.0	-6.2
ODZ	**Otahua Downs**	**9.56**	**216**	PN	Pn	15 47 05.5	-6.3

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*HLW **16** 15:44:49.2,20°.05N×40°.04E,h9km±23km,Md3.5,Ml3.5*
*ISCJB **16** 15:45:26.7±0.7,22°.07N±0°.08×37°.97E±0°.06,h10km,Error ellipse: s-maj=13.3km s-min=4.7km az=29.8*
*SGS **16** 15:45:32.8,22°.04N×38°.27E,h24km*

ISC 16 15:45:28.6±1.2,22°.03N±0°.09×38°.10E±0°.07,h10km,n13, σ1=91/18,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRJS	**Jabal Farasan**	**1.29**	**64**	S	**Sb**	**15 46 09.9**	**+0.1**
FRJS				P	**Pg**	**15 45 53.4**	**-0.1**
SHMS		**1.59**	**111**	S	**Sn**	**15 46 18.1**	**+0.6**
SHMS				P	**Pb**	**15 45 58.4**	**+0.3**
SHBS		**1.79**	**124**	S	**Sn**	**15 46 22.8**	**+0.3**
SHBS				P	**Pb**	**15 46 01.0**	**-0.6**
LBNS	**Jabal Laban**	**1.94**	**120**	S	**Sn**	**15 46 26.4**	**+0.3**
LBNS				P	**Pb**	**15 46 03.2**	**-0.9**
FDAS		**2.11**	**95**	P	**Pb**	**15 46 06.3**	**-0.6**
FRAS	**Faraa**	**2.45**	**113**	P	**Pb**	**15 46 11.5**	**-1.5**
LTHS	**Al Lith**	**2.78**	**129**	P	**Pn**	**15 46 15.1**	**+1.9**
EMRS	**Mersa Alam**	**4.21**	**315**	P	**Pn**	**15 46 30.9**	**-2.1**
	baz=317						
EMRS				AMP		15 47 00.0	
	comp=N,50μm,0.4s,logA/T=5.1,baz=317						
EMRS				S	**Sg**	**15 47 49.0**	**+5.0**
	baz=317						
HADB		**4.59**	**317**	P	**Pn**	**15 46 36.4**	**-1.7**
	baz=318						
HQSR		**5.03**	**318**	P	**Pn**	**15 46 42.4**	**-1.8**
	baz=319						
HEDF	**Idfu**	**5.45**	**305**	P	**Pn**	**15 46 48.4**	**-1.5**
	baz=310						
HSFG		**5.90**	**321**	P	**Pn**	**15 46 55.3**	**-0.9**
	baz=321						
HHRG	**Al Ghardaqah**	**6.61**	**322**	P	**Pn**	**15 47 03.0**	**-2.9**
	baz=322						

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*CSEM **16** 15:51:02.7,41°.45N×43°.95E,h7km,MD2.7*
*DDA **16** 15:51:02.7,41°.45N×43°.95E,h7km,Md2.7*
*ISCJB **16** 15:51:03.9±0.5,41°.43N±0°.03×44°.00E±0°.03,h4km±5km, Error ellipse: s-maj=6.2km s-min=3.2km az=157.8*
*TIF **16** 15:51:03.4,41°.44N×44°.02E,h15km±2km*

ISC 16 15:51:03.2±1.1,41°.45N±0°.04×43°.96E±0°.02,h9km±10km, n17,σ0=48/34,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.33**	**236**	P	**Pb**	**15 51 11.0**	**-0.4**
BGD				S	**Sb**	**15 51 16.1**	**-0.7**
KZR	**Kazreti**	**0.35**	**101**	P	**Pg**	**15 51 10.2**	**0.0**
KZR				S	**Sg**	**15 51 14.7**	**0.0**
AKH	**Akhalkalaki**	**0.35**	**264**	P	**Pb**	**15 51 11.6**	**-0.2**
AKH				S	**Sb**	**15 51 16.9**	**-0.6**
TBLG	**Delisi**	**0.65**	**64**	P	**Pb**	**15 51 16.2**	**-0.5**
TBLG				S	**Sb**	**15 51 25.1**	**-0.6**
TBLG	**Delisi**	**0.65**	**64**	P	**Pb**	**15 51 15.9**	**-0.8**
TBLG				S	**Sg**	**15 51 24.6**	**+0.4**
SEAG	**Tbilisi Sea**	**0.70**	**63**	P	**Pb**	**15 51 17.4**	**-0.3**
SEAG				S	**Sb**	**15 51 27.4**	**-0.1**
DGRG	**David-gareji**	**1.06**	**90**	P	**Pb**	**15 51 23.6**	**-0.1**
DGRG				S	**Sn**	**15 51 39.3**	**+0.1**
DGRG	**David-gareji**	**1.06**	**90**	P	**Pb**	**15 51 23.6**	**-0.1**
DGRG				S	**Sb**	**15 51 37.9**	**+0.2**
GUDG	**Gudauri**	**1.08**	**21**	P	**Pn**	**15 51 24.8**	**+0.1**
GUDG				S	**Sn**	**15 51 39.7**	**-0.3**
DIGO	**Kars**	**1.13**	**203**	*i* P	**Pb**	**15 51 24.7**	**-0.3**
DIGO				*i* S	**Sb**	**15 51 39.8**	**0.0**
DIGO	**Kars**	**1.13**	**203**	P	**Pb**	**15 51 24.7**	**-0.3**
DIGO				S	**Sb**	**15 51 39.8**	**0.0**
ONI	**Oni**	**1.20**	**342**	P	**Pn**	**15 51 26.7**	**+0.5**
ONI				S	**Sn**	**15 51 43.8**	**+1.1**
ARTV	**Artvin**	**1.56**	**261**	*i* P	**Pg**	**15 51 33.2**	**+0.2**
ARTV				*i* S	**Sg**	**15 51 54.1**	**+0.9**
ARTV	**Artvin**	**1.56**	**261**	P	**Pg**	**15 51 33.2**	**+0.2**
ARTV				S	**Sg**	**15 51 54.1**	**+0.9**
DAGI	**Agillar**	**1.59**	**257**	*i* P	**Pb**	**15 51 32.1**	**-0.6**
DAGI				*i* S	**Sg**	**15 51 54.6**	**+0.3**
DBOC	**Borcka**	**1.73**	**267**	*i* P	**Pg**	**15 51 36.0**	**-0.4**
DBOC				*i* S	**Sg**	**15 51 58.6**	**-0.2**
DBOC	**Borcka**	**1.73**	**267**	P	**Pg**	**15 51 36.0**	**-0.4**
DBOC				S	**Sg**	**15 51 58.6**	**-0.2**

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*ISCJB **16** 15:53:06.4±1.1,26°.1S±0°.2×179°.4W±0°.2,h500km,mb3.6/9, Error ellipse: s-maj=30.4km s-min=17.1km az=138.4*
*IDC **16** 15:53:06.2±6.7,26°.04S×179°.36W,h483km±65km,mb3.3/9, mb1 3.4/10,mb1mx3.3/21,mbtmp4.2/10,Error ellipse: s-maj=47.1km s-min=20.6km az=73.0*

ISC 16 15:53:07.3±1.2,26°.1S±0°.2×179°.4W±0°.2,h500km,n14, σ0=97/14,mb3.7/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.57**	**284**	P	**P**	**15 56 01.7**	**-1.0**
	0.4nm,0.3s,baz=102,slow=16,SNR=11						
CTA	**Charters Tower**	**32.14**	**273**	P	**P**	**15 58 53.5**	**+0.3**
	9.3nm,0.7s,baz=101,slow=11,SNR=26						
STKA	**Stephens Creek**	**34.

SDLR	**Sedlovina**	**5.39**	**24**	*e*P	**Pn**	**16 22 29.2**	**+1.9**
GNL	**Ganaly**	**5.56**	**17**	PN	**Pn**	**16 22 33.1**	**+3.5**
GNL	**Ganaly**	**5.56**	**17**	*e*P	**Pn**	**16 22 33.1**	**+3.5**
SPN	**Mys Shipunski**	**5.58**	**31**	PN	**Pn**	**16 22 30.3**	**+0.5**
SPN	**Mys Shipunski**	**5.58**	**31**	*e*P	**Pn**	**16 22 30.3**	**+0.5**
SPN				*e*S	**Sn**	**16 23 30.6**	**-2.1**
MKZ	**Mys Kozlova**	**7.36**	**31**	PN	**Pn**	**16 22 55.0**	**+0.8**
MKZ	**Mys Kozlova**	**7.36**	**31**	*e*P	**Pn**	**16 22 55.0**	**+0.8**
KBTR	**Krutoberegovo**	**9.08**	**28**	PN	**Pn**	**16 23 19.5**	**+1.8**
KBTR	**Krutoberegovo**	**9.08**	**28**	*e*P	**Pn**	**16 23 19.5**	**+1.8**
ASAJ	**Asahikawa**	**9.76**	**249**	P	**Pn**	**16 23 29.5**	**+2.4**
	1.6nm,0.3s,baz=62,slow=12,SNR=15						
ASAJ				S	**Sn**	**16 25 16.3**	**+1.0**
	0.3nm,0.3s,baz=216,slow=34,SNR=4.5						
MJAR	**Matsushiro Arr**	**17.23**	**233**	P	**P**	**16 25 09.7**	**+1.3**
	0.1nm,0.3s,baz=29,slow=10,SNR=2.9						
KSRS	**Korea Array**	**22.69**	**251**	P	**P**	**16 26 05.9**	**-1.7**
	1.0nm,0.6s,baz=51,slow=11,SNR=4.1						
H11N2	**WAKE ISLAND Hy 30.12**	**158**		T	T	16 59 35.5	
	baz=342,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy 30.14**	**158**		T	T	16 59 44.5	
	baz=342,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy 30.14**	**158**		T	T	16 59 43.0	
	baz=342,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy 31.25**	**159**		T	T	17 00 41.6	
	baz=345,slow=76,SNR=120						
H11S3	**WAKE ISLAND Hy 31.26**	**159**		T	T	17 00 33.9	
	baz=345,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy 31.27**	**159**		T	T	17 00 34.2	
	baz=345,slow=76,SNR=33						
MKAR	**Makanchi Array**	**47.47**	**297**	P	**P**	**16 29 36.6**	**-3.8**
	0.3nm,0.6s,baz=74,slow=7.9,SNR=5.1						
MKAR				PcP	**PcP**	**16 31 08.2**	**-2.1**
	0.1nm,0.4s,baz=47,slow=4.1,SNR=2.7						
MKAR	**Makanchi Array**	**47.47**	**297**	*e*P	**P**	**16 29 37.5**	**-2.9**
CMAR	**Chiang Mai Arr**	**54.16**	**257**	P	**P**	**16 30 29.9**	**-1.2**
	1.2nm,0.6s,baz=37,slow=7.1,SNR=12						
NOA	**NORSAR Array B**	**67.11**	**342**	P	P	16 31 52.7	-6.1
	0.6nm,0.8s,baz=18,slow=2.4,SNR=3.3						
NOA	**NORSAR Array B**	**67.11**	**342**	*e*P	P	16 31 53.0	-5.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.57**	**201**	P	**P**	**16 32 19.9**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=17,slow=6.5,SNR=2.6						
ASAR	**Alice Springs**	**74.26**	**200**	P	**P**	**16 32 42.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=10.0,slow=4.8,SNR=9.7						
ASAR	**Alice Springs**	**74.26**	**200**	*e*P	**P**	**16 32 43.3**	**+0.7**
TXAR	**Lajitas Array**	**75.43**	**62**	P	**P**	**16 32 51.2**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=306,slow=5.3,SNR=4.6						
TXAR	**Lajitas Array**	**75.43**	**62**	*e*P	**P**	**16 32 50.5**	**+0.9**

NIED ***16*** *16:32:00,37°.30N×142°.40E,h5km,Mw3.5 Best double couple: M₀2.12000×10¹⁴ NP1:φ₈167.00000°,δ41.00000°, λ-98.00000°. NP2:φ₈358.00000°,δ50.00000°, λ-83.00000°.*
ISCJB ***16*** *16:32:19.6±0.7,37°.18N±0°.07×142°.50E±0°.07,h9km, mb3.6/8,MS3.7/1,Error ellipse: s-maj=10.4km s-min=8.3km az=5.8*
JMA ***16*** *16:32:19.6±0.3,37°.25N×142°.42E,h2km±3km,M3.8*
IDC ***16*** *16:32:27.0±3.8,37°.07N×142°.31E,h51km±34km,mb3.3/8, mb1 3.5/10,mb1mx3.4/38,mbtmp3.6/10,ML3.2/2,MS3.0/2, Ms1 3.2/2,ms1mx2.6/29,Error ellipse: s-maj=29.5km s-min=19.1km az=73.0*

ISC 16 16:32:21.5±0.8,37°.24N±0°.07×142°.37E±0°.08,h9km,n27, σ1§26/22,mb3.6/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.20**	**277**	P	**Pn**	**16 32 43.3**	**-1.2**
JFK				*e*S	**Sb**	**16 32 59.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.26**	**264**	P	**Pn**	**16 32 44.2**	**-1.1**
JMM	**Marumori**	**1.40**	**297**	P	**Pn**	**16 32 46.1**	**-1.1**
JIO	**Ouri**	**1.46**	**327**	P	**Pn**	**16 32 46.7**	**-1.3**
JFT	**Otama**	**1.64**	**281**	P	**Pn**	**16 32 50.7**	**+0.1**
JOU	**Okura**	**1.76**	**310**	P	**Pn**	**16 32 52.2**	**0.0**
JYK	**Kaneyama**	**2.31**	**317**	P	**Pn**	**16 33 00.8**	**+1.1**
JAG	**Ashikaga**	**2.47**	**252**	P	**Pn**	**16 33 03.1**	**+1.1**
MJAR	**Matsushiro Arr**	**3.41**	**260**	P	**Pn**	**16 33 17.1**	**+2.3**
	1.6nm,0.3s,baz=87,slow=15,SNR=25						
MJAR				LR	LR	16 35 02.5	
	comp=Z,40nm,19.0s,baz=230,slow=47						
MAT	**Matsushiro**	**3.41**	**260**	P	**Pn**	**16 33 17.2**	**+2.4**
MAT				*e*S	**Sb**	**16 34 01.5**	**-2.0**
JHJ	**Hachijo jima 2**	**4.62**	**208**	P	**Pn**	**16 33 31.3**	**-0.2**
	5.1nm,0.3s,baz=104,slow=22,SNR=3.6						
H11N2	**WAKE ISLAND Hy 27.60**	**122**		T	T	17 07 01.8	
	baz=315,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy 27.61**	**122**		T	T	17 06 55.1	
	baz=315,slow=75,SNR=61						
H11N3	**WAKE ISLAND Hy 27.62**	**122**		T	T	17 06 54.5	
	baz=315,slow=75,SNR=61						
SONM	**Songino Array**	**28.31**	**303**	P	**P**	**16 38 16.2**	**+0.8**
	1.4nm,0.7s,baz=96,slow=8.4,SNR=8.2						
H11S1	**WAKE ISLAND Hy 28.34**	**125**		T	T	17 07 46.7	
	baz=317,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy 28.34**	**125**		T	T	17 07 48.3	
	baz=317,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy 28.35**	**125**		T	T	17 07 49.9	
	baz=317,slow=76,SNR=77						
CMAR	**Chiang Mai Arr**	**42.28**	**256**	LR	LR	16 58 17.1	
	comp=Z,105nm,21.2s,baz=184,slow=37						
ZALV	**Zalesovo Beam**	**42.34**	**312**	P	**P**	**16 40 16.4**	**+0.8**
	0.3nm,0.3s,baz=70,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**44.66**	**302**	P	**P**	**16 40 34.8**	**+0.4**
	0.5nm,0.8s,baz=88,slow=9.1,SNR=6.6						
ILAR	**Eielson Array**	**48.92**	**32**	P	**P**	**16 41 08.4**	**+1.0**
	0.3nm,0.7s,baz=278,slow=6.3,SNR=3.2						
WRA	**Warramunga Arr**	**57.37**	**189**	P	**P**	**16 42 08.3**	**-1.9**
	1.0nm,1.0s,baz=4.8,slow=6.8,SNR=3.8						
ASAR	**Alice Springs**	**61.10**	**189**	P	**P**	**16 42 35.0**	**-0.9**
	0.2nm,0.4s,baz=0.8,slow=6.5,SNR=5.7						
AKASG	**Malin Array Be**	**74.60**	**323**	P	**P**	**16 44 00.8**	**0.0**
	0.6nm,0.5s,baz=48,slow=5.9,SNR=5.4						
TXAR	**Lajitas Array**	**89.39**	**53**	P	**P**	**16 45 18.6**	**-0.3**
	0.3nm,0.8s,baz=318,slow=1.7,SNR=4.1						
LPAZ	**La Paz**	**145.93**	**60**	PKPbc	**PKPab**	**16 52 03.4**	**+0.2**
	0.7nm,0.8s,baz=46,slow=3.4,SNR=4.6						

MOS ***16*** *16:35:18.5±1.3,43°.91N×149°.80E,h36km,mb4.3/2,Error ellipse: s-maj=36.5km s-min=17.0km az=30.2*
SKHL ***16*** *16:35:21.9±1.0,43°.93N×149°.50E,h39km±3km,mb4.3/3*
JMA ***16*** *16:35:21.7±0.5,44°.39N×149°.39E,h30km,M3.9*
IDC ***16*** *16:35:32.2±8.9,46°.08N×147°.97E,h0km,mb3.8/3, mb1 3.8/4,mb1mx3.4/40,mbtmp3.7/4,ML2.9/1,Error ellipse: s-maj=202.1km s-min=43.2km az=134.0*

ISC 16 16:35:24.4±2.3,43°.98N±0°.08×149°.3E±0°.1,h47km±19km, n36,σ0§96/31,mb3.8/3,3C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.63**	**321**	*c i*PN	Pn	16 35 48.9	-1.7
KUR				*i* S	**Sn**	**16 36 09.9**	**-0.5**
KUR				pmax	pmax		
	comp=E,90nm,0.2s						
KUR				pmax	pmax		
	comp=Z,189nm,0.2s						
KUR				pmax	pmax		
	comp=N,105nm,0.1s						
KUR				smax	smax		
	comp=N,915nm,0.3s						
KUR				smax	smax		
	comp=E,546nm,0.3s						
KUR	**Kuril'sk**	**1.63**	**321**	*i* P	Pn	16 35 48.9	-1.7
KUR				AMB	AMB	16 35 50.7	
	comp=E,190nm,0.2s						
KUR				*i* S	**Sn**	**16 36 09.5**	**-0.9**
KUR				A	A	16 36 12.0	
	comp=E,920nm,0.3s						
KUR				A	A	16 36 12.0	
	comp=E,550nm,0.3s						
SHO	**Shikotan**	**1.80**	**267**	*c i*PN	Pn	16 35 52.0	-1.0
SHO				pmax	pmax		
	comp=Z,46nm,0.4s						
SHO				pmax	pmax		
	comp=N,26nm,0.3s						
SHO				pmax	pmax		
	comp=E,30nm,0.4s						
SHO	**Shikotan**	**1.80**	**267**	*i* P	Pn	16 35 52.0	-1.0
SHO				AMB	AMB	16 35 53.3	
	comp=E,46nm,0.4s						
SHO				*i* S	**Sn**	**16 36 13.7**	**-0.9**
SHO				A	A	16 36 15.1	
	comp=E,370nm,0.5s						
SHO				A	A	16 36 15.1	
	comp=E,150nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.49**	**272**	*c i*PN	Pn	16 36 01.6	-0.9
YUK				pmax	pmax		
	comp=Z,59nm,0.2s						
YUK				pmax	pmax		
	comp=N,56nm,0.3s						
YUK				pmax	pmax		
	comp=E,47nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.49**	**272**	*i* P	Pn	16 36 01.6	-0.9
YUK				AMB	AMB	16 36 04.5	
	comp=E,59nm,0.4s						
YUK				*i* S	**Sn**	**16 36 31.8**	**+0.1**
YUK				A	A	16 36 34.0	
	comp=E,110nm,0.4s						
YUK				A	A	16 36 34.0	
	comp=E,160nm,0.4s						
NEM2	**Nemuro 2**	**2.67**	**258**	P	Pn	16 36 04.0	-0.8
NEM2				*e*S	**Sn**	**16 36 35.0**	**-0.9**
JRA	**Rausu**	**3.03**	**271**	P	**Pn**	**16 36 09.8**	**0.0**
JNK	**Nakash**	**3.35**	**265**	P	**Pn**	**16 36 13.9**	**-0.4**
JNK				*e*S	**Sn**	**16 36 52.7**	**-0.1**
JAK	**Akkeshi**	**3.50**	**255**	P	**Pn**	**16 36 15.7**	**-0.6**
JAK				*e*S	**Sn**	**16 36 56.1**	**-0.4**
JTKR	**Abashiri--Toko**	**3.91**	**272**	P	**Pn**	**16 36 22.3**	**+0.5**
JAR	**Ashorobuto**	**4.08**	**262**	P	**Pn**	**16 36 24.7**	**+0.4**
JAR				*e*S	**Sn**	**16 37 11.2**	**+0.4**
JOB	**Onbets**	**4.13**	**257**	P	**Pn**	**16 36 25.0**	**0.0**
HRK	**Horoka**	**4.51**	**266**	*e*P	**Pn**	**16 36 31.3**	**+1.0**
JCH	**Churui**	**4.55**	**255**	P	**Pn**	**16 36 31.0**	**+0.2**
JCH				*e*S	**Sn**	**16 37 21.9**	**-0.5**
MYR	**Moyori**	**4.73**	**251**	*e*P	**Pn**	**16 36 33.9**	**+0.8**
ASAJ	**Asahikawa**	**4.85**	**274**	Pn	**Pn**	**16 36 38.1**	**+3.4**
	comp=E,0.5nm,0.3s,baz=181,slow=32,SNR=1.7						
JFR	**Furan**	**4.95**	**263**	P	**Pn**	**16 36 37.9**	**+1.6**
JNBK	**Urakawa-nobuka**	**5.09**	**253**	P	**Pn**	**16 36 38.3**	**+0.1**
JNBK				*e*S	**Sn**	**16 37 34.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.49**	**305**	*e*PN	**Pn**	**16 36 44.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**5.49**	**305**	*e*P	**Pn**	**16 36 44.8**	**+1.2**
JNB	**Noboribetsu**	**6.23**	**259**	P	**Pn**	**16 36 54.3**	**+0.5**
JKB	**Kayabe**	**6.43**	**254**	P	**Pn**	**16 36 56.4**	**-0.1**
JKB				*e*S	Sn	16 38 06.1	-2.4
JANG	**Nango**	**6.82**	**241**	*e*S	Sn	16 38 13.3	-4.9
JIO	**Ouri**	**8.15**	**230**	*e*S	Sn	16 38 44.3	-6.6
H11N2	**WAKE ISLAND Hy 28.29**	**143**		T	T	17 12 23.6	
	baz=334,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy 28.31**	**143**		T	T	17 12 24.6	
	baz=334,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy 28.31**	**143**		T	T	17 12 25.9	
	baz=334,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy 29.30**	**145**		T	T	17 13 32.3	
	baz=334,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy 29.30**	**145**		T	T	17 13 42.2	
	baz=334,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 29.32**	**145**		T	T	17 13 44.0	
	baz=334,slow=76,SNR=20						
MKAR	**Makanchi Array**	**45.86**	**298**	P	**P**	**16 43 41.8**	**-0.1**
	comp=E,0.4nm,0.6s,baz=75,slow=8.1,SNR=5.5						
FINES	**FINESS Array B**	**65.37**	**334**	P	**P**	**16 46 00.8**	**-0.6**
	comp=E,2.6nm,0.9s,baz=55,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**65.37**	**334**	P	**P**	**16 46 00.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**69.94**	**340**	P	**P**	**16 46 30.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.94**	**340**	P	**P**	**16 46 30.3**	**0.0**
	comp=Z,0.7nm,0.6s,baz=31,slow=6.6,SNR=7.2						

DJA 16 16:47:30.0±0.7,2°S±5°×14°0E±°,h10km,M3.7/3,MLv3.7/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.54**	**178**	P	Pg	16 47 39.8	-0.7
GENI				S	Sb	16 47 49.7	+0.3
JAY	**Jayapura**	**0.72**	**130**	P	Pb	16 47 44.6	-0.1
SMPI	**Sarmi**	**1.44**	**272**	P	Pn	16 47 55.0	-1.2
SRPI	**Serui, Papua**	**3.91**	**273**	P	Pn	16 48 32.5	+2.3
BAKI	**Biak**	**4.13**	**282**	P	Pn	16 48 32.4	-0.8

DJA 16 17:07:58.4±0.7,9°S±7°×11°9E±°,h92km±8km,M3.8/7, mb4.1/1,MLv3.7/7,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.04**	**127**	P	Pn	17 08 20.8	+2.1
WSI				S	Sn	17 08 32.6	-1.4
PLAI	**Plampang**	**1.67**	**277**	P	Pn	17 08 28.3	+1.9
PLAI				S	Sn	17 08 48.6	+1.0
TWSI	**Taliwang, Sumb**	**2.56**	**277**	P	Pn	17 08 38.6	+0.6
SRBI	**Singaraja**	**4.30**	**282**	P	Pn	17 09 01.6	+0.1
SRBI				S	Sn	17 09 47.8	-2.7
KMMI	**Kalianget**	**5.78**	**290**	P	Pn	17 09 21.4	-0.3

NIED ***16*** *17:13:00,37°.10N×141°.50E,h35km,Mw3.8 Best double couple: M₀5.97000×10¹⁴ NP1:φ₈187.00000°,δ14.00000°, λ81.00000°. NP2:φ₈16.00000°,δ76.00000°,λ92.00000°.*
ISCJB ***16*** *17:13:15.3±0.9,37°.07N±0°.03×141°.63E±0°.08,h42km±7km, mb3.9/14,MS4.2/1,Error ellipse: s-maj=10.3km s-min=5.5km az=11.1*
JMA ***16*** *17:13:17.1±0.2,37°.10N×141°.46E,h48km±2km,M3.9*
JMA Felt I J1.
IDC ***16*** *17:13:18.4±2.2,37°.00N×141°.72E,h58km±19km,mb3.7/14, mb1 3.7/19,mb1mx3.6/55,mbtmp3.9/19,ML3.7/4,MS3.1/4, Ms1 3.2/4,ms1mx3.0/41,Error ellipse: s-maj=18.0km s-min=11.6km az=82.0*

ISC 16 17:13:14.9±2.1,37°.08N±0°.04×141°.67E±0°.08,h23km±13km, n38,σ1§35/40,mb4.1/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.70**	**294**	P	**Pb**	**17 13 28.6**	**+0.2**
JFK				S	**Sb**	**17 13 36.6**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.70**	**272**	P	**Pb**	**17 13 28.6**	**+0.2**
ONAJ				S	**Sb**	**17 13 36.6**	**-1.1**
JHO	**Hitachi**	**1.00**	**242**	P	**Pn**	**17 13 32.6**	**-0.9**
JHO				S	**Sn**	**17 13 43.9**	**-3.0**
JMM	**Marumori**	**1.05**	**319**	P	**Pn**	**17 13 33.8**	**-0.4**
JMM				S	**Sn**	**17 13 45.7**	**-2.4**
JFT	**Otama**	**1.15**	**293**	P	**Pn**	**17 13 35.6**	**0.0**
JIO	**Ouri**	**1.40**	**350**	P	**Pn**	**17 13 39.3**	**+0.4**
JIO				S	**Sn**	**17 13 55.3**	**-1.3**
JOU	**Okura**	**1.51**	**328**	P	**Pn**	**17 13 41.1**	**+0.5**
JOU				S	**Sn**	**17 13 58.8**	**-0.8**
JFY	**Yanaizu**	**1.60**	**282**	P	**Pn**	**17 13 41.9**	**+0.1**
JFY				S	**Sn**	**17 14 01.0**	**-0.8**
JYS	**Shirataka**	**1.71**	**312**	P	**Pn**	**17 13 43.9**	**+0.6**
JYS				S	**Sn**	**17 14 03.5**	**-0.9**
JAG	**Ashikaga**	**1.90**	**251**	P	**Pn**	**17 13 45.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.83**	**260**	P	**Pn**	**17 13 59.5**	**+0.8**
	9.5nm,0.3s,baz=84,slow=15,SNR=131						
MJAR				S	**Sn**	**17 14 36.2**	**+4.1**
	9.6nm,0.3s,baz=83,slow=16,SNR=6.3						
MJAR				LR	LR	17 15 20.3	
	comp=Z,146nm,21.0s,baz=80,slow=43						
MAT	**Matsushiro**	**2.83**	**260**	P	**Pn**	**17 13 59.8**	**+1.1**
MAT				*e*S	**Sn**	**17 14 33.9**	**+1.8**
JHJ	**Hachijo jima 2**	**4.24**	**202**	P	**Pn**	**17 14 18.9**	**+0.8**
	25nm,0.3s,baz=131,slow=23,SNR=26						
JHJ				S	**Sn**	**17 15 06.7**	**-0.3**
	57nm,0.3s,baz=65,slow=22,SNR=8.8						
ASAJ	**Asahikawa**	**7.06**	**5**	P	**Pn**	**17 14 58.7**	**+1.9**
	1.4nm,0.3s,baz=207,slow=30,SNR=4.7						
USRK	**Ussuriysk Ar.**	**10.23**	**317**	P	Pn	17 15 45.5	+5.3
	0.3nm,0.3s,baz=134,slow=17,SNR=4.4						
KSRS	**Korea Array**	**10.97**	**276**	P	**Pn**	**17 15 53.4**	**+3.1**
	0.2nm,0.3s,baz=86,slow=14,SNR=3.8						
KSRS				LR	LR	17 19 35.9	
	comp=Z,65nm,21.0s,baz=192,slow=34						
PETK	**Petropavlovsk-**	**19.54**	**30**	LR	LR	17 24 38.3	
	comp=Z,35nm,20.7s,baz=207,slow=35						
YAK	**Yakutsk**	**26.07**	**347**	P	**P**	**17 18 46.3**	**-0.1**
	3.1nm,0.3s,baz=169,slow=2.6,SNR=6.1						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**17 19 03.2**	**-0.3**
	1.7nm,0.7s,baz=106,slow=8.8,SNR=11						
H11N2	**WAKE ISLAND Hy 27.99**	**121**		T	T	17 48 44.4	
	baz=314,slow=75,SNR=126						
H11N1	**WAKE ISLAND Hy 28.00**	**121**		T	T	17 48 45.1	
	baz=314,slow=75,SNR=172						
H11N3	**WAKE ISLAND Hy 28.01**	**121**		T	T	17 48 45.8	
	baz=314,slow=75,SNR=168						
H11S1	**WAKE ISLAND Hy 28.71**	**123**		T	T	17 49 36.6	
	baz=316,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy 28.71**	**123**		T	T	17 49 34.1	
	baz=316,slow=76,SNR=95						
H11S2	**WAKE ISLAND Hy 28.73**	**123**		T	T	17 49 35.2	
	baz=316,slow=76,SNR=69						
ZALV	**Zalesovo Beam**	**42.04**	**312**	P	**P**	**17 21 04.3**	**-0.1**
	1.4nm,0.5s,baz=84,slow=6.5,SNR=7.3						
MKAR	**Makanchi Array**	**44.27**	**302**	P	**P**	**17 21 22.4**	**-0.2**
	1.9nm,0.7s,baz=87,slow=9.9,SNR=21						
KURBB	**Kurchatov Arra**	**46.14**	**308**	P	**P**	**17 21 36.8**	**-0.5**
	4.0nm,0.5s,baz=83,slow=7.8,SNR=46						
ILAR	**Eielson Array**	**49.34**	**32**	P	**P**	**17 22 03.7**	**+1.7**
	0.3nm,0.7s,baz=272,slow=6.2,SNR=3.6						
BVAR	**Borovoye Array**	**50.69**	**312**	P	**P**	**17 22 11.7**	**-0.7**
	1.1nm,0.5s,baz=64,slow=8.4,SNR=7.4						
ARU	**Arti**	**56.46**	**319**	P	**P**	**17 22 54.2**	**-0.4**
	1.6nm,0.5s,baz=93,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**57.13**	**188**	P	**P**	**17 22 59.3**	**-0.4**
	0.2nm,0.4s,baz=5.5,slow=7.3,SNR=4.1						
AKTO	**Aktyubinsk**	**58.80**	**312**	P	**P**	**17 23 09.9**	**-1.2**
	1.4nm,0.7s,baz=78,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**60.86**	**189**	P	**P**	**17 23 24.7**	**-0.8**
	0.2nm,0.5s,baz=12,slow=8.4,SNR=5.9						
FINES	**FINESS Array B**	**68.87**	**332**	P	**P**	**17 24 17.4**	**+0.1**
	1.2nm,0.7s,baz=45,slow=8.3,SNR=3.9						
KBZ	**Khabaz**	**71.03**	**311**	LR	LR	17 59 32.2	
	comp=Z,118nm,19.4s,baz=116,slow=39						
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**17 24 50.2**	**-0.4**
	1.2nm,0.4s,baz=48,slow=6.4,SNR=8.9						
GERES	**GERESS Array B**	**82.78**	**328**	P	**P**	**17 25 37.1**	**+0.1**
	0.2nm,0.4s,baz=64,slow=6.1,SNR=5.0						

MAN 16 17:16:18,13°.50N×120°.55E,h31km,mb4.3,ML3.1,MS2.9, 1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**308**	*e*P	Pn	17 16 28.4	+1.1
LUBP				*e*S	Sn	17 16 35.6	+2.0
TGY	**Tagaytay City**	**0.70**	**32**	⇓*i*P	Pn	17 16 33.2	+1.3
TGY				*i* S	Sn	17 16 44.0	+2.3
LQP	**Lukban**	**1.13**	**58**	*e*P	Pb	17 16 46.1	+6.9
SJMP	**San Jose**	**1.17**	**152**	*e*P	Pn	17 16 38.3	0.0
SJMP				*e*S	Sn	17 16 53.7	+0.5
BOAC	**Boac**	**1.26**	**92**	*e*P	Pn	17 16 39.3	-0.1
BOAC				*e*S	Sn	17 16 54.3	-1.0
BUSP	**Coron**	**1.53**	**193**	*e*P	Pb	17 16 44.5	-1.2
BUSP				*e*S	Sb	17 17 04.3	-0.5
OTRP	**Odiongan**	**1.82**	**128**	*e*P	Pn	17 16 49.0	+1.7
OTRP				*e*S	Sb	17 17 11.8	-1.4
GQP	**Guinayangan**	**1.88**	**77**	⇑*e*P	Pb	17 16 52.3	+0.6
GQP				*e*S	Sb	17 17 14.4	-0.5
AUQP	**San Andres**	**2.07**	**95**	*e*P	Pb	17 16 55.5	+0.5
ENPP	**El Nido**	**2.54**	**206**	*e*P	Pn	17 16 58.6	+1.5
ENPP				*e*S	Sn	17 17 28.0	+1.1

KLM ***16*** *17:16:16.2,2°.37N×95°.84E,h26km,mb5.5*
BJI ***16*** *17:16:17.5,2°.18N×96°.27E,h43km,mb5.3/83,mB5.3/50, Ms5.0/85,Ms7 4.8/79*
MOS ***16*** *17:16:18.2±1.0,2°.53N×96°.25E,h33km,mb5.5/57, MS4.6/33,Error ellipse: s-maj=7.6km s-min=4.0km az=115.1*
ISCJB ***16*** *17:16:19.6±0.3,2°.43N±0°.02×96°.22E±0°.02,h47km±3km, mb5.4/180,MS4.8/163,Error ellipse: s-maj=3.5km s-min=2.7km az=41.9*
GCMT ***16*** *17:16:19.7±0.1,2°.46N×96°.10E,h31km,MW5.4/100, Moment Tensor Solution. s93,c156; s100,c198; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.01±.02; Mθθ-0.44±.02; Mφφ0.44±.02; Mrθ-0.18±.03; Mθφ-1.55±.02; Mφr-0.79±.04; Best double couple: M₀1.80300×10¹⁷ NP1:φ₈8.00000°,δ88.00000°, λ-27.00000°. NP2:φ₈98.00000°,δ64.00000°, λ-178.00000°. Principal axes: T 1.7800, Plg17.0000°, Azm56.0000°; N 0.0450, Plg63.0000°, Azm185.0000°; P -1.8250, Plg20.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***16*** *17:16:19.0±0.4,2°N±2°×9°6E±°,h35km±4km,M5.7/21, mb5.8/21,mB6.0/20,MLv5.8/15,Mw(mB)5.6/20,Mwp5.5/1*
NEIC ***16*** *17:16:20.2±0.2,2°.45N×96°.18E,h35km,mb5.5/62, MS4.9/109,Error ellipse: s-maj=4.6km s-min=3.0km az=206.0*
NEIC Felt [IV] at Sinabang.
IDC ***16*** *17:16:21.7±2.5,2°.49N×96°.25E,h50km±24km,mb4.8/45, mb1 4.8/48,mb1mx4.8/49,mbtmp5.1/48,ML4.5/3,MS4.5/25, Ms1 4.5/25,ms1

DGPR	**DIGLIPUR**	**11.10**	**343**	*e*P	Pn	17 18 51.3	-5.4
DGPR				IAmb	IAmb	17 19 05.2	
	comp=Z,213nm,1.2s						
KLSI		**11.13**	**130**	P	**Pn**	**17 18 55.8**	**-1.4**
	comp=Z,1μm,1.0s,comp=Z,11μm						
PATY	**Pattaya**	**11.37**	**24**	P	**Pn**	**17 19 02.4**	**+2.0**
	comp=Z,35nm,0.9s,comp=Z,857nm						
KASI	**Kota Agung**	**11.51**	**134**	P	**Pn**	**17 18 59.7**	**-2.6**
	comp=Z,2μm,0.9s,comp=Z,11μm						
BLSI	**Bandar Lampung**	**11.96**	**131**	P	**Pn**	**17 19 06.5**	**-2.0**
SRDT	**SRDT**	**12.15**	**14**	P	**Pn**	**17 19 13.7**	**+2.7**
	comp=Z,182nm,0.8s,comp=Z,2μm						
NAYO	**Nakonayok**	**12.81**	**23**	P	**Pn**	**17 19 21.7**	**+1.6**
	comp=Z,99nm,1.1s						
SRAK	**Srakaew**	**12.84**	**27**	P	**P**	**17 19 26.2**	**-4.5**
	comp=Z,350nm,0.8s,comp=Z,6μm						
SBJI	**Serang**	**13.11**	**131**	P	**Pn**	**17 19 21.7**	**-2.5**
CGJI	**Cibinong**	**13.12**	**134**	P	**Pn**	**17 19 19.9**	**-4.4**
	comp=Z,280nm,0.7s,comp=Z,4μm						
UTHA	**Uthaitani**	**13.39**	**14**	P	**Pn**	**17 19 31.3**	**+3.3**
	comp=Z,31nm,0.9s,comp=Z,222nm						
TNG	**Tangerang**	**13.54**	**129**	P	**P**	**17 19 35.2**	**-3.3**
DBJI	**Dramaga**	**13.86**	**130**	P	**Pn**	**17 19 31.4**	**-3.1**
UMPA	**Umpang Tak**	**13.89**	**11**	P	**Pn**	**17 19 38.2**	**+3.3**
	comp=Z,17nm,1.1s,comp=Z,252nm						
SKJI	**Sukabumi**	**14.01**	**132**	P	**Pn**	**17 19 33.0**	**-3.5**
KSM	**Kuching**	**14.16**	**94**	*e*Pn	**Pn**	**17 19 39.3**	**+0.6**
KSM	**Kuching**	**14.16**	**94**	⇑P	**Pn**	**17 19 39.4**	**+0.8**
CHAI	**Chaiyaphum**	**14.51**	**23**	P	**Pn**	**17 19 45.5**	**+2.2**
	comp=Z,60nm,0.9s,comp=Z,558nm						
CNJI	**Cibinong**	**14.64**	**132**	P	Pn	17 19 39.5	-5.5
KHON	**Khomkaen**	**15.25**	**25**	P	**Pn**	**17 19 54.2**	**+1.2**
	comp=Z,346nm,0.8s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**15.31**	**131**	P	**Pn**	**17 19 48.5**	**-5.5**
CISI	**Cisompet, Garu**	**15.31**	**131**	*e*Pn	**Pn**	**17 19 47.6**	**-6.3**
	comp=Z,287nm,1.0s						
STKI	**Sintang**	**15.49**	**99**	P	**P**	**17 19 58.4**	**-1.8**
UTTA	**Uttaradit**	**15.77**	**16**	P	**Pn**	**17 20 00.5**	**+0.7**
	comp=Z,33nm,0.8s,comp=Z,249nm						
CMJI	**Cimerak**	**15.94**	**130**	P	**Pn**	**17 19 58.3**	**-3.7**
XMIS	**Christmas Isla**	**15.97**	**144**	*e*Pn	**Pn**	**17 19 55.9**	**-6.5**
	comp=Z,393nm,1.0s						
SBUM	**Sibu**	**16.04**	**90**	*e*Pn	**Pn**	**17 20 04.1**	**+0.8**
	comp=Z,258nm,1.2s						
CM01	**Chiang Mai Arr**	**16.07**	**10**	*e*Pn	**P**	**17 20 07.3**	**+0.6**
CM31	**Chiang Mai Arr**	**16.11**	**10**	*e*Pn	**P**	**17 20 05.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.11**	**10**	P	**Pn**	**17 20 03.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=208,slow=11,SNR=58						
CMAR				LR	LR	17 26 52.7	
	comp=Z,2μm,21.3s,baz=196,slow=39						
CMAR	**Chiang Mai Arr**	**16.11**	**10**	*ce*P	**Pn**	**17 20 04.4**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,18nm,0.9s						
PALK	**Pallekele**	**16.13**	**288**	P	**Pn**	**17 20 05.3**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=119,slow=12,SNR=36						
PALK				LR	LR	17 25 48.3	
	comp=Z,3μm,19.9s,baz=115,slow=35						
PALK	**Pallekele**	**16.13**	**288**	*i* P	**Pn**	**17 20 05.2**	**+0.8**
	SNR=66						
PALK	**Pallekele**	**16.13**	**288**	*ce*P	**Pn**	**17 20 05.7**	**+1.2**
PALK	**Pallekele**	**16.13**	**288**	*e*Pn	**Pn**	**17 20 05.2**	**+0.8**
	comp=Z,404nm,1.0s						
LAMP	**Lampang**	**16.30**	**12**	P	**Pn**	**17 20 08.0**	**+1.4**
	comp=Z,26nm,0.9s,comp=Z,213nm						
SKNT	**Sakolnakorn**	**16.32**	**28**	P	**Pn**	**17 20 07.4**	**+0.5**
	comp=Z,178nm,1.1s,comp=Z,3μm						
PBKI	**Pangkalan Bun**	**16.33**	**108**	P	**P**	**17 20 11.9**	**+2.4**
CHTO	**Chiang Mai**	**16.46**	**9**	P	**Pn**	**17 20 09.0**	**+0.4**
	comp=Z,265nm,1.1s,comp=Z,5μm						
CHTO	**Chiang Mai**	**16.46**	**9**	*e*P	**Pn**	**17 20 08.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,120nm,1.1s						
CHTO	**Chiang Mai**	**16.46**	**9**	*e*Pn	**Pn**	**17 20 08.8**	**+0.2**
	comp=Z,120nm,1.1s						
CHTO				*e*Sn	**Sn**	**17 23 09.5**	**-0.8**
CHTO	**Chiang Mai**	**16.46**	**9**	Pn	**Pn**	**17 20 08.8**	**+0.2**
	SNR=20						
CHTO	**Chiang Mai**	**16.46**	**9**	P	**Pn**	**17 20 08.8**	**+0.2**
	SNR=20						
PANO	**Nakornpanom**	**16.77**	**29**	P	**Pn**	**17 20 12.7**	**+0.2**
	comp=Z,487nm,1.4s,comp=Z,6μm						
SMRI	**Semarang**	**17.10**	**124**	P	P	17 20 28.9	+11
SMRI	**Semarang**	**17.10**	**124**	*e*Pn	**Pn**	**17 20 16.2**	**-0.5**
	comp=Z,264nm,1.0s						
MDRS	**Chennai**	**18.94**	**305**	*e*P	**Pn**	**17 20 39.5**	**+0.2**
MDRS				IAmb	IAmb	17 20 42.8	
	comp=Z,104nm,0.3s						
MTKI	**Muara Teweh, K**	**19.03**	**100**	P	**Pn**	**17 20 40.8**	**+0.5**
VIS	**Vishakhapatnam**	**19.70**	**321**	*i* P	**P**	**17 20 47.2**	**+0.5**
VIS				*i* x	x	17 24 17.0	
SKHT	**Srikalahasti**	**19.74**	**305**	*e*P	**Pn**	**17 20 49.2**	**+0.3**
SKHT				IAmb	IAmb	17 20 52.3	
	comp=Z,584nm,1.5s						
SKHT				*e*		17 24 12.5	
SKHT				IVMs_BB	IVMs_BB	17 27 56.9	
	comp=Z,842nm,22.8s						
TRD	**Trivandrum**	**20.03**	**288**	*e*P	Pn	17 20 51.5	-0.7
KKM	**Kota Kinabalu**	**20.30**	**79**	*e*P	**P**	**17 20 54.4**	**+1.1**
KKM				LR	LR		
	comp=Z,1μm,19.0s						
KKM	**Kota Kinabalu**	**20.30**	**79**	⇓P	**P**	**17 20 53.8**	**+0.5**
PVM	**Polavaram**	**20.48**	**317**	*e*Pn	Pn	17 20 57.6	+0.1
PVM				IAmb	IAmb	17 21 00.6	
	comp=Z,1μm,1.8s						
PVM				*e*		17 24 29.8	
PVM				IVMs_BB	IVMs_BB	17 25 03.4	
	comp=Z,406nm,4.0s						
ADKI	**Addanki**	**20.76**	**311**	*e*Pn	Pn	17 21 00.5	-0.2
ADKI				IAmb	IAmb	17 21 04.7	
	comp=Z,368nm,1.0s						
ADKI				*e*		17 24 36.0	
ADKI				IVMs_BB	IVMs_BB	17 29 08.2	
	comp=Z,1μm,20.2s						
JAGI	**Jajag, Banyuwa**	**20.97**	**121**	P	**P**	**17 20 55.7**	**-4.8**
JAGI	**Jajag, Banyuwa**	**20.97**	**121**	*e*P	**P**	**17 21 00.1**	**-0.4**
	comp=Z,345nm,1.6s						
JAGI				LR	LR		
	comp=Z,3μm,20.0s						
KDM	**Kudat**	**21.05**	**77**	⇑P	**P**	**17 21 01.9**	**+0.5**
QIZ	**Qiongzhong**	**21.20**	**38**	P	**P**	**17 21 04.3**	**+1.4**
QIZ				S	**S**	**17 24 56.5**	**-0.2**
QIZ				pmax	pmax		
	comp=Z,100nm,1.0s						
QIZ				LR	LR		
	comp=Z,3μm,17.3s						
QIZ				LR	LR		
	comp=Z,3μm,16.1s						
QIZ				LR	LR		
	comp=Z,3μm,19.1s						
QIZ	**Qiongzhong**	**21.20**	**38**	*e*P	**P**	**17 21 01.4**	**-1.5**
	comp=Z,118nm,1.0s						
QIZ				LR	LR		
	comp=Z,3μm,19.0s						
NJS	**Nagarjunasagar**	**21.70**	**311**	*e*P	**P**	**17 21 09.6**	**+1.4**
NJS				IAmb	IAmb	17 21 14.0	
	comp=Z,311nm,1.0s						
NJS				*e*		17 24 57.1	
NJS				IVMs_BB	IVMs_BB	17 28 59.5	
	comp=Z,759nm,21.3s						
SRBI	**Singaraja**	**21.70**	**119**	P	**P**	**17 21 06.8**	**-1.5**
SRLM	**Srisailam**	**21.74**	**310**	*e*P	**P**	**17 21 09.9**	**+1.2**
SRLM				IAmb	IAmb	17 21 11.4	
	comp=Z,329nm,1.1s						
SRLM				*e*		17 25 01.0	
SRLM				IVMs_BB	IVMs_BB	17 29 45.4	
	comp=Z,923nm,21.0s						
TSM	**Tawau**	**21.74**	**85**	⇓P	**P**	**17 21 09.2**	**+0.5**
URV	**Uravakonda**	**22.39**	**305**	*e*P	**P**	**17 21 16.4**	**+0.7**
URV				IAmb	IAmb	17 21 19.7	
	comp=Z,276nm,1.1s						
URV				*e*S	**S**	**17 25 23.0**	**+3.4**
URV				IVMs_BB	IVMs_BB	17 29 16.4	
	comp=Z,734nm,12.9s						
MYLDM	**Lahad Datu**	**22.44**	**82**	*e*P	**P**	**17 21 18.1**	**+1.8**
	comp=Z,503nm,1.3s						
HYB	**Hyderabad**	**22.79**	**312**	⇓*i*P	**P**	**17 21 21.0**	**+1.0**
HYB				*e*S	**S**	**17 25 28.0**	**+1.4**
HYB	**Hyderabad**	**22.79**	**312**	*e*P	**P**	**17 21 20.4**	**+0.4**
HYB				IAmb	IAmb	17 21 24.0	
HYBB	**Hyderabad (bro**	**22.80**	**312**	*e*P	**P**	**17 21 20.8**	**+0.8**
HYBB				IAmb	IAmb	17 21 23.6	
	comp=Z,319nm,1.2s						
HYBB				*e*S	**S**	**17 25 28.5**	**+1.9**
HYBB				IVMs_BB	IVMs_BB	17 30 01.9	
	comp=Z,973nm,20.7s						
RPR	**Rampur**	**23.19**	**316**	*e*P	**P**	**17 21 25.3**	**+1.3**
RPR				IAmb	IAmb	17 21 32.3	
	comp=Z,281nm,1.1s						
RPR				*e*S	**S**	**17 25 35.1**	**+1.9**
RPR				IVMs_BB	IVMs_BB	17 26 11.8	
	comp=Z,747nm,19.3s						
SHL	**Shillong**	**23.32**	**350**	*e*P	**P**	**17 21 23.3**	**-2.1**
SHL				IAmb	IAmb	17 21 27.6	
	comp=Z,202nm,0.7s						
SHL				*e*S	**S**	**17 25 35.0**	**-0.5**
KMI	**Kunming**	**23.38**	**15**	P	**P**	**17 21 27.1**	**+1.0**
KMI				pP	pP	17 21 38.5	+2.1
KMI				sP	sP	17 21 46.9	+5.7
KMI				PP	**PnPn**	**17 21 59.1**	**+5.8**
KMI				S	**S**	**17 25 37.9**	**+1.3**
KMI				pmax	pmax		
	comp=Z,190nm,1.4s						
KMI				pmax	pmax		
	comp=Z,800nm,3.4s						
KMI				LR	LR		
	comp=Z,2μm,25.2s						
KMI				LR	LR		
	comp=Z,4μm,24.2s						
KMI				LR	LR		
	comp=Z,3μm,13.6s						
BOK	**Bokaro**	**23.41**	**336**	*e*P	**P**	**17 21 25.4**	**-0.6**
TWSI	**Taliwang, Sumb**	**23.46**	**119**	P	**P**	**17 21 27.1**	**+0.4**
MNGI	**Mangalore**	**23.54**	**297**	*ex*	pP	17 21 39.4	+1.5
PPR	**Puerto Princes**	**23.56**	**71**	⇓*e*P	**P**	**17 21 27.6**	**-0.1**
MPSI	**Mapaga**	**23.82**	**95**	P	**P**	**17 21 30.3**	**+0.2**
PCI	**Palu**	**23.90**	**98**	P	**P**	**17 21 30.8**	**-0.1**
SRSP	**Sriramsagar**	**23.91**	**314**	*e*P	**P**	**17 21 32.4**	**+1.5**
SRSP				IAmb	IAmb	17 21 34.6	
	comp=Z,265nm,1.1s						
SRSP				*e*S	**S**	**17 25 50.8**	**+5.9**
SRSP				IVMs_BB	IVMs_BB	17 31 34.9	
	comp=Z,459nm,14.0s						
TTSI	**Tana Toraja**	**24.27**	**103**	P	**P**	**17 21 35.0**	**+0.7**
SPSI	**Sidrap Palu**	**24.44**	**105**	P	**P**	**17 21 35.5**	**-0.3**
KLRI	**Killari**	**24.66**	**310**	*e*P	**P**	**17 21 39.5**	**+1.7**
KLRI				IAmb	IAmb	17 21 40.6	
	comp=Z,326nm,1.2s						
KLRI				*e*S	**S**	**17 26 01.0**	**+3.9**
KLRI				IVMs_BB	IVMs_BB	17 30 46.6	
	comp=Z,958nm,17.1s						
KAPI	**Kappang**	**24.71**	**108**	*e*P	**P**	**17 21 38.4**	**+0.1**
	comp=Z,182nm,1.0s						
KAPI				LR	LR		
	comp=Z,1μm,19.0s						
KAPI	**Kappang**	**24.71**	**108**	P	**P**	**17 21 38.5**	**+0.3**
	SNR=16						
KAPI	**Kappang**	**24.71**	**108**	P	**P**	**17 21 38.5**	**+0.3**
	SNR=16						
BNSI	**Bone**	**24.88**	**106**	P	**P**	**17 21 40.5**	**+0.7**
NGP	**Nagpur**	**24.95**	**319**	*e*P	**P**	**17 21 42.2**	**+1.8**
GOA	**Goa**	**25.54**	**302**	*e*P	**P**	**17 21 47.2**	**+1.5**
DGAR	**Diego Garcia**	**25.63**	**247**	PFAKE		17 22 00.0	+13
DGAR				LR	LR		
	comp=Z,2μm,21.0s						
ODAN	**Odare**	**25.66**	**342**	*e*P	**P**	**17 21 48.4**	**+1.4**
	comp=Z,704nm,1.0s						
H08S2	**Diego Garcia H**	**25.68**	**247**	T	T	17 48 14.2	
	baz=68,slow=76,SNR=6708						
H08S3	**Diego Garcia H**	**25.68**	**247**	T	T	17 47 59.2	
	baz=68,slow=76,SNR=5353						
H08S1	**Diego Carcia H**	**25.69**	**247**	T	T	17 48 15.4	
	baz=68,slow=76,SNR=8087						
APSI	**Ampana**	**25.70**	**97**	P	**P**	**17 21 47.1**	**-0.1**
BSSI	**Bau Bau, Buton**	**25.75**	**110**	P	**P**	**17 21 54.1**	**+6.4**
MCO	**Taipa Grande**	**25.82**	**40**	P	**P**	**17 21 50.0**	**+1.8**
MRSI	**Marisa**	**25.84**	**94**	P	**P**	**17 21 48.4**	**-0.1**
JBP	**Jabalpur**	**25.86**	**324**	⇓*e*P	**P**	**17 21 50.3**	**+1.8**
JBP				*ex*	x	17 26 15.2	
GYA	**Guiyang**	**25.88**	**22**	⇑*i*P	**P**	**17 21 48.8**	**-0.1**
GYA				pP	sP	17 22 04.4	0.0
GYA				sP	pP	17 22 10.0	+10
GYA				PP	**PnPn**	**17 22 35.3**	**+7.9**
GYA				PcP	**PcP**	**17 25 20.3**	**+2.9**
GYA				S	**S**	**17 26 11.9**	**-4.5**
GYA				sS	sS	17 26 38.8	+4.4
GYA				SS	**SnSn**	**17 27 25.6**	**+11**
GYA				pmax	pmax		
	comp=Z,320nm,1.1s						
GYA				pmax	pmax		
	comp=Z,200nm,5.0s						
GYA				LR	LR		
	comp=Z,2μm,13.7s						
GYA				LR	LR		
	comp=Z,850nm,13.7s						
GYA				LR	LR		
	comp=Z,2μm,15.6s						
RAMN	**Ramite**	**26.00**	**340**	*e*P	**P**	**17 21 52.2**	**+2.1**
	comp=Z,963nm,1.0s						
TAPN	**Taplejung**	**26.02**	**343**	*e*P	**P**	**17 21 52.1**	**+1.8**
	comp=Z,940nm,1.0s						
GZH	**Guangzhou**	**26.39**	**38**	P	**P**	**17 21 59.1**	**+5.7**
GZH				PP	**PnPn**	**17 22 42.4**	**+8.2**
GZH				S	**S**	**17 26 33.8**	**+9.5**
GZH				pmax	pmax		
	comp=Z,380nm,4.9s						
GZH				LR	LR		
	comp=Z,6μm,18.2s						
JIRN	**Jiri**	**26.79**	**340**	*e*P	**P**	**17 21 59.0**	**+1.6**
	comp=Z,1μm,0.9s						
JAP	**San Jose, Anti**	**26.87**	**71**	⇓*e*P	**P**	**17 21 59.3**	**+1.5**
PKI	**Pulchoki**	**26.99**	**339**	*e*P	**P**	**17 22 00.4**	**+1.3**
PKIN	**Phulchoki**	**27.00**	**339**	*e*P	**P**	**17 22 00.1**	**+1.0**
	comp=Z,346nm,1.1s						
TGY	**Tagaytay City**	**27.05**	**63**	P	**P**	**17 22 00.1**	**+0.5**
	comp=Z,111nm,0.3s,baz=261,slow=2.8,SNR=26						
TGY				LR	LR	17 32 46.7	
	comp=Z,641nm,19.0s,baz=238,slow=36						
POO	**Poona**	**27.07**	**308**	⇓*i*P	**P**	**17 21 56.0**	**-3.6**
	comp=Z,10.0nm,0.9s						
POO				*e*PP	**PP**	**17 23 03.5**	**+2.2**
POO				*e*PPP	PPP	17 23 18.5	
POO				*i* PCP	PcP	17 24 34.0	-46
POO				*i* S	S	17 27 10.0	+35
POO				*e*PCS	PcS	17 28 28.0	-34
POO				*e*LQ	LQ	17 28 56.5	
POO				*e*SS	**ScP**	**17 29 04.0**	**+6.3**
POO				*e*SSS	SSS	17 29 27.0	
POO				*e*LR	LR	17 30 31.5	
POO				*i* SCS	ScS	17 32 25.5	-24
POO	**Poona**	**27.07**	**308**	*e*P	**P**	**17 22 00.7**	**+1.1**
POO				IAmb	IAmb	17 22 02.5	
	comp=Z,79nm,0.4s						
GUN	**Gumba**	**27.13**	**340**	*e*P	**P**	**17 22 01.9**	**+1.5**
	comp=Z,582nm,0.7s						
DMN	**Daman**	**27.14**	**338**	*e*P	**P**	**17 22 01.7**	**+1.3**
	comp=Z,291nm,0.9s						
KKN	**Kakani**	**27.23**	**339**	*e*P	**P**	**17 22 02.4**	**+1.2**
	comp=Z,414nm,0.9s						
LSA	**Lhasa**	**27.48**	**351**	P	**P**	**17 22 05.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,260nm,1.1s						
LSA	**Lhasa**	**27.48**	**351**	*e*P	**P**	**17 22 04.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,305nm,1.1s						
LSA				MLR	MLR		
	comp=Z,2μm,21.0s						
LSA	**Lhasa**	**27.48**	**351**	*e*P	**P**	**17 22 04.8**	**+1.1**
	comp=Z,305nm,1.1s						
LSA				LR	LR		
	comp=Z,2μm,21.0s						
BHPL	**Bhopal**	**27.49**	**320**	*e*P	**P**	**17 22 05.0**	**+1.7**
BHPL				IAmb	IAmb	17 22 06.4	
GKN	**Gorkha**	**27.67**	**338**	*e*P	**P**	**17 22 06.4**	**+1.4**
RCP	**Roxas**	**27.85**	**70**	⇑*e*P	**P**	**17 22 07.5**	**+0.9**
KOLN	**Koldanda**	**27.87**	**336**	*e*P	**P**	**17 22 08.3**	**+1.4**
	comp=Z,303nm,0.8s						
DANN	**Dangsing**	**28.32**	**336**	*e*P	**P**	**17 22 12.3**	**+1.3**
PYUN	**Piuthan**	**28.41**	**335**	*e*P	**P**	**17 22 13.1**	**+1.4**
	comp=Z,310nm,0.9s						
LLP	**Lapu-Lapu**	**28.68**	**73**	⇑*e*P	**P**	**17 22 14.7**	**+0.7**
CD2	**Chengdu**	**29.17**	**13**	⇑P	**P**	**17 22 18.3**	**+0.1**
CD2				pP	pP	17 22 31.6	+2.5
CD2				sP	sP	17 22 38.3	+4.5
CD2				S	**S**	**17 27 05.4**	**-2.7**
CD2				sS	sS	17 27 32.0	+5.9
CD2				pmax	pmax		
	comp=Z,80nm,0.9s						
CD2				pmax	pmax		
	comp=Z,230nm,4.6s						
CD2				LR	LR		
	comp=Z,2μm,13.9s						
CD2				LR	LR		
	comp=Z,4μm,27.3s						
CD2				LR	LR		
	comp=Z,2μm,13.5s						
DAV	**Davao City (W)**	**29.65**	**80**	PFAKE		17 22 40.0	+17
DAV				LR	LR		
	comp=Z,584nm,22.0s						
ENH	**Enshi**	**30.38**	**23**	*e*P	**P**	**17 22 28.1**	**-0.9**
	comp=Z,140nm,0.9s						
ENH				LR	LR		
	comp=Z,2μm,21.0s						
SOEI	**Soe**	**30.51**	**114**	*e*P	**P**	**17 22 28.4**	**-2.0**
	comp=Z,153nm,1.1s						
LGTI	**Lohaghat**	**30.80**	**332**	*e*P	**P**	**17 22 34.9**	**+2.4**
QZH	**Quanzhou**	**31.08**	**42**	⇑*i*P	**P**	**17 22 34.8**	**-0.3**
QZH				S	**S**	**17 27 35.0**	**-3.0**
QZH				pmax	pmax		
	comp=Z,350nm,1.4s						
QZH				LR	LR		
	comp=Z,7μm,17.5s						
QZH				LR	LR		
	comp=Z,1μm,13.0s						
QZH				LR	LR		
	comp=Z,5μm,16.4s						
TPUB	**Ta-pu**	**31.46**	**47**	*e*P	**P**	**17 22 36.8**	**-1.8**
	comp=Z,108nm,1.2s						
TWG	**Pinlang**	**31.50**	**48**	*e*P	**P**	**17 22 39.1**	**+0.3**
	comp=Z,800nm,1.3s						
NDI	**New Delhi**	**31.70**	**327**	*e*P	**P**	**17 22 40.0**	**-0.6**
SSLB	**Suanglung**	**31.99**	**46**	*e*P	**P**	**17 22 43.0**	**-0.2**
	comp=Z,74nm,1.1s						
YULB	**Yu-li**	**32.00**	**47**	*e*P	**P**	**17 22 43.1**	**-0.2**
	comp=Z,63nm,0.8s						
DDI	**Dehra Dun**	**32.58**	**330**	*e*P	**P**	**17 22 49.5**	**+1.2**
WHN	**Wuhan**	**32.79**	**30**	P	**P**	**17 22 50.6**	**+0.5**
WHN				S	**S**	**17 28 05.3**	**+0.7**
WHN				pmax	pmax		
	comp=Z,170nm,1.0s						
WHN				LR	LR		
	comp=Z,3μm,14.5s						
WHN				LR	LR		
	comp=Z,3μm,14.8s						
WHN				LR	LR		
	comp=Z,3μm,12.8s						
YHNB	**Yeheng**	**32.83**	**46**	*e*P	**P**	**17 22 49.5**	**-1.2**
	comp=Z,55nm,1.0s						
YHNB				LR	LR		
	comp=Z,642nm,19.0s						
MBWA	**Marble Bar**	**32.93**	**137**	*e*P	**P**	**17 22 50.1**	**-1.3**
MBWA				LR	LR		
	comp=Z,2μm,20.0s						
TATO	**Taipei**	**33.10**	**45**	PFAKE		17 23 10.0	+17
TATO				LR	LR		
	comp=Z,1μm,19.0s						
XAN	**Xi'an**	**33.58**	**19**	P	**P**	**17 22 56.8**	**-0.2**
XAN				sP	sP	17 23 14.3	+1.7
XAN				PP	**PnPn**	**17 24 09.6**	**+0.2**
XAN				PcP	**PcP**	**17 25 37.4**	**+0.4**
XAN				S	**S**	**17 28 13.9**	**-3.0**
XAN				pmax	pmax		
	comp=Z,330nm,1.1s						
XAN				pmax	pmax		
	comp=Z,260nm,12.2s						
XAN				LR	LR		
	comp=Z,400nm,25.4s						
XAN				LR	LR		
	comp=Z,2μm,26.8s						
XAN				LR	LR		
	comp=Z,2μm,14.2s						
SMLA	**Simla**	**33.68**	**330**	*e*P	**P**	**17 22 58.5**	**+0.7**
SMLA				IAmb	IAmb	17 22 59.5	
	comp=Z,110nm,0.9s						
SDNR	**Sundarnagar**	**34.08**	**330**	*e*P	**P**	**17 23 02.0**	**+0.7**
LZH	**Lanzhou**	**34.18**	**11**	⇓P	**P**	**17 23 02.9**	**+0.5**
LZH				pP	pP	17 23 15.5	+2.2
LZH				sP	sP	17 23 20.8	+2.8
LZH				PP	**PP**	**17 24 20.3**	**0.0**
LZH				PcP	**PcP**	**17 25 39.8**	**+1.0**
LZH				S	**S**	**17 28 24.0**	**-2.4**
LZH				sS	sS	17 28 48.0	+3.5
LZH				SS	**SnSn**	**17 30 39.1**	**+2.1**
LZH				pmax	pmax		
	comp=Z,59nm,1.3s						
LZH				pmax	pmax		
	comp=Z,260nm,4.1s						
LZH				LR	LR		
	comp=Z,680nm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.3s						
DHRM	**DHARAMSHALA**	**35.02**	**330**	*e*P	**P**	**17 23 10.0**	**+0.3**
THN	**Thein Dam**	**35.46**	**329**	*e*P	**P**	**17 23 13.2**	**0.0**
THN				*ex*	x	17 26 37.0	
FITZ	**Fitzroy Crossi**	**35.51**	**126**	P	**P**	**17 23 12.6**	**-1.2**
	comp=Z,13nm,0.8s						
NJ2	**Nanjing**	**36.34**	**34**	*e*P	**P**	**17 23 21.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,57nm,1.0s						
FAKI	**Fak Fak**	**36.46**	**98**	*e*P	**P**	**17 23 21.1**	**-1.0**
	comp=Z,58nm,0.9s						
GTA	**Gaotai**	**36.91**	**5**	⇓P	**P**	**17 23 26.3**	**+0.6**
GTA				pP	pP	17 23 37.1	+0.5
GTA				sP	sP	17 23 41.0	-0.3
GTA				S	**S**	**17 29 05.4**	**-2.6**
GTA				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,5.7s						
GTA				LR	LR		
	comp=Z,820nm,23.3s						
GTA				LR	LR		
	comp=Z,680nm,21.4s						
GTA				LR	LR		
	comp=Z,790nm,23.8s						
KNRA	**Kununurra**	**36.94**	**120**	P	**P**	**17 23 25.5**	**-0.6**
	baz=37,SNR=6.1						
SSE	**Sheshan**	**36.99**	**37**	P	**P**	**17 23 27.3**	**+1.0**
SSE				pP	**pP**	**17 23 38.8**	**+1.5**
SSE				PP	**PnPn**	**17 24 54.8**	**+3.2**
SSE				S	**S**	**17 29 10.9**	**+1.7**
SSE				pmax	pmax		
	comp=Z,35nm,0.8s						
SSE				pmax	pmax		
	comp=Z,89nm,3.4s						
SSE				LR	LR		
	comp=Z,500nm,18.9s						
SSE				LR	LR		
	comp

NWAO pmax pmax
comp=Z,75nm,1.1s
NWAO Narrogin (SRO) 40.46 152 *e*P **P 17 23 54.1 -1.3**
comp=Z,76nm,1.1s
HHC Hu-ho-hao-te 40.65 18 *e*P **P 17 23 58.5 +1.5**
HHC pP sP 17 24 10.8 -1.9
HHC sP pP 17 24 16.3 +8.2
HHC S **S 17 30 06.3 +1.9**
HHC sS sS 17 30 27.8 +5.1
HHC SS **SS 17 33 03.0 -2.7**
HHC pmax pmax
comp=Z,77nm,1.4s
HHC pmax pmax
comp=Z,230nm,4.8s
HHC LR LR
comp=Z,1μm,14.8s
HHC LR LR
comp=Z,930nm,14.8s
HHC LR LR
comp=Z,1μm,13.6s
KBL Kabul 40.69 325 *e*P **P 17 23 57.9 +0.4**
KBL pmax pmax
comp=Z,60nm,1.3s
KBL Kabul 40.69 325 *e*P **P 17 23 57.9 +0.4**
comp=Z,60nm,1.4s
KSH Kashi 41.19 336 P **P 17 24 00.8 -0.7**
KSH pP pP 17 24 12.1 -0.5
KSH sP sP 17 24 19.0 +1.8
KSH PP **PnPn 17 25 40.4 -1.3**
KSH PcP **PcP 17 26 00.3 +0.1**
KSH PcS **PcS 17 29 46.8 -4.6**
KSH S **S 17 30 07.5 -5.0**
KSH SS **SS 17 33 07.8 -8.7**
KSH ScS **ScS 17 33 55.8 -7.1**
KSH pmax pmax
comp=Z,39nm,0.8s
KSH pmax pmax
comp=Z,360nm,6.8s
KSH LR LR
comp=Z,340nm,10.6s
KSH LR LR
comp=Z,290nm,14.5s
KSH LR LR
comp=Z,950nm,18.6s
MSEY Mahe Island 41.27 260 PFAKE 17 24 10.0 +7.5
MSEY LR LR
comp=Z,993nm,19.0s
BJT Baijiatuau 41.53 23 *e*P **P 17 24 05.4 +1.3**
BJT pmax pmax
comp=Z,142nm,0.9s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuau 41.53 23 *e*P **P 17 24 05.4 +1.3**
comp=Z,142nm,0.9s
BJT LR LR
comp=Z,1μm,19.0s
BJI Beijing 41.56 23 P **P 17 24 05.6 +1.3**
BJI S **S 17 30 19.3 +1.7**
BJI pmax pmax
comp=Z,160nm,1.0s
BJI LR LR
comp=Z,610nm,19.8s
BJI LR LR
comp=Z,950nm,24.1s
BJI LR LR
comp=Z,490nm,24.6s
WSAR Wadi Sarin 41.79 303 P **P 17 24 08.6 +2.0**
comp=Z,29nm,0.9s,baz=132,slow=8.3,SNR=20
WMQ Urumqi 41.85 351 P **P 17 24 08.6 +1.9**
WMQ pP pP 17 24 17.4 -0.4
WMQ sP sP 17 24 26.6 +4.1
WMQ PP **PnPn 17 25 52.3 +3.0**
WMQ S **S 17 30 23.3 +1.3**
WMQ SS **SS 17 33 25.5 -3.9**
WMQ pmax pmax
comp=Z,63nm,1.3s
WMQ pmax pmax
comp=Z,280nm,3.7s
WMQ LR LR
comp=Z,550nm,19.1s
WMQ LR LR
comp=Z,860nm,23.5s
WMQ LR LR
comp=Z,610nm,26.7s
BIDO Bidbid 42.33 303 P **P 17 24 13.0 +2.1**
SNR=13
BIDO Bidbid 42.33 303 P **P 17 24 13.0 +2.1**
SNR=13
BIDO P **P 17 24 13.0 +2.1**
SNR=13
DL2 Dalian 43.05 29 P **P 17 24 17.3 +0.8**
DL2 pP **pP 17 24 28.6 +0.9**
DL2 S **S 17 30 39.5 -0.2**
DL2 pmax pmax
comp=Z,170nm,1.0s
DL2 pmax pmax
comp=Z,230nm,3.5s
DL2 LR LR
comp=Z,1μm,21.7s
DL2 LR LR
comp=Z,1μm,26.3s
DL2 LR LR
comp=Z,1μm,21.9s
SHLS Shalkode 43.15 342 *i* P **P 17 24 14.5 -2.9**
comp=Z,411nm,1.2s
SHLS *i* S **S 17 30 38.4 -3.0**
UZB Uzynbulak 43.28 342 *i* P **P 17 24 16.6 -1.9**
comp=Z,788nm,1.0s
UZB *e*S **S 17 30 42.1 -1.1**
ZHN Zhinishke 43.48 341 *i* P **P 17 24 18.2 -1.9**
comp=Z,570nm,1.1s
WRA Warramunga Arr 43.59 123 P **P 17 24 20.4 -0.8**
comp=Z,16nm,1.0s,baz=300,slow=9.3,SNR=27
WRA LR LR 17 46 40.0
comp=Z,621nm,18.1s,baz=290,slow=42
WRAB Tennant Creek 43.59 122 *ce*P **P 17 24 21.0 -0.2**
WRAB pmax pmax
comp=Z,59nm,1.2s
WRAB Tennant Creek 43.59 122 *e*P **P 17 24 19.9 -1.3**
comp=Z,114nm,1.0s
WRAB LR LR
comp=Z,1μm,19.0s
WB2 Warramunga Arr 43.60 123 *e*P **P 17 24 20.9 -0.3**
KPKS Kokpek 43.67 342 *e*P **P 17 24 19.3 -2.3**
comp=Z,627nm,1.5s
KPKS *i* PP **PP 17 26 01.6 -2.2**
KPKS *e*S **S 17 30 47.3 -1.6**
MDOK Medeo 43.94 340 *i* P **P 17 24 21.5 -2.4**
comp=Z,901nm,1.5s
MDOK *i* PP **PP 17 26 04.1 -2.6**
MDOK *i* S **S 17 30 51.3 -1.7**
MDOK LRM MLR 17 45 09.3
comp=Z,282nm,17.9s
AAA Alma-Ata 44.03 340 *e*P **P 17 24 25.6 +1.2**
AAA *e*S **S 17 30 56.6 +2.5**
AAA pmax pmax
comp=Z,500nm,1.6s
AAA smax smax
comp=E,2μm,5.2s
AAA MLR MLR
comp=Z,700nm,20.0s
AAK Ala-Archa 44.43 337 P **P 17 24 29.3 +1.5**
comp=Z,41nm,0.9s,baz=150,slow=5.8,SNR=56
AAK Ala-Archa 44.43 337 *d* *i* P **P 17 24 28.8 +1.1**
AAK pmax pmax
comp=Z,142nm,1.1s
AAK Ala-Archa 44.43 337 *e*P **P 17 24 29.3 +1.5**
comp=Z,65nm,1.0s
AAK LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 44.43 337 P **P 17 24 29.3 +1.5**
SNR=45
AAK Ala-Archa 44.43 337 P **P 17 24 29.3 +1.5**
SNR=45
AAK P **P 17 24 29.3 +1.5**
SNR=45
UOSS Minazif 44.51 304 *e*P **P 17 24 29.6 +1.2**
HATD Hatta, Dubai 44.52 304 *i* P **P 17 24 30.2 +1.6**
SNR=12
ASHO Ashiyiah 44.52 303 P **P 17 24 30.1 +1.5**
SNR=12
ASHO Ashiyiah 44.52 303 P **P 17 24 30.1 +1.5**
SNR=12
ASHO P **P 17 24 30.1 +1.5**
SNR=12
FRU Bishkek 44.55 337 ⇓ *i* P **P 17 24 28.5 0.0**
FRU *i* 17 26 15.0
FRU *e*S **S 17 31 00.0 -1.5**
FRU pmax pmax
comp=Z,180nm,2.0s
FRU smax smax
comp=E,1μm,6.5s
FRU smax smax
comp=E,530nm,3.5s
JNU Nakatsue 44.55 43 P **P 17 24 27.2 -1.5**
comp=E,50nm,1.5s
INCN Inchon 44.67 35 PFAKE 17 24 40.0 +10
INCN LR LR
comp=Z,515nm,19.0s
FAQ Al Faqa, Dubai 44.94 303 *i* P **P 17 24 33.5 +1.6**
SNR=8.8
NAZ Nazwa, Dubai 44.98 303 *i* P **P 17 24 33.8 +1.6**
SNR=8.2
AS31 Alice Springs 44.99 127 *e*P **P 17 24 31.9 -0.4**
comp=Z,20nm,1.3s
ASAR Alice Springs 44.99 127 P **P 17 24 31.9 -0.5**
comp=Z,5.4nm,0.6s,baz=300,slow=8.0,SNR=108
ASAR LR LR 17 46 10.0
comp=Z,410nm,19.5s,baz=312,slow=40
AS01 Alice Springs 45.02 127 *e*P **P 17 24 32.1 -0.5**
KS15 Wonju Array Si 45.37 36 *e*P **P 17 24 36.0 +0.9**
KSAR Wonju Array Be 45.37 36 P **P 17 24 34.8 -0.3**
KSAR Wonju Array Be 45.37 36 P **P 17 24 34.8 -0.3**
KS01 Wonju Array Si 45.40 36 *e*P **P 17 24 35.0 -0.4**
KSRS Korea Array 45.40 36 P **P 17 24 34.8 -0.6**
comp=Z,23nm,0.9s,baz=227,slow=9.0,SNR=46
KSRS LR LR 17 45 43.3
comp=Z,1μm,18.4s,baz=223,slow=39
KSRS Korea Array 45.40 36 P **P 17 24 34.8 -0.6**
KSRS pmax pmax
comp=Z,23nm,0.9s
KSRS MLR MLR
comp=Z,1μm,18.5s
MK01 Makanchi Array 45.74 347 *e*P **P 17 24 38.8 +0.9**
MK31 Makanchi Array 45.76 347 *i* P **P 17 24 38.8 +0.7**
MK31 pmax pmax
comp=Z,107nm,0.9s
MK31 Makanchi Array 45.76 347 *e*P **P 17 24 39.1 +1.0**
MKAR Makanchi Array 45.76 347 P **P 17 24 38.7 +0.6**
comp=Z,79nm,0.8s,baz=159,slow=7.5,SNR=346
MKAR LR LR 17 47 41.0
comp=Z,971nm,21.2s,baz=158,slow=41
MKAR Makanchi Array 45.76 347 *e*P **P 17 24 38.8 +0.7**
comp=Z,672nm,0.9s
MAKZ Makanchi 45.85 346 P **P 17 24 39.1 +0.3**
MAKZ pmax pmax
comp=Z,70nm,0.8s
MAKZ Makanchi 45.85 346 *e*P **P 17 24 39.2 +0.5**
comp=Z,72nm,0.8s
ZSN Zaisan 45.85 349 *i* P **P 17 24 38.1 -0.7**
comp=Z,345nm,1.0s
ZSN *e*S **S 17 31 20.9 +0.6**
IUG Iuzhnay 45.91 333 *i* P **P 17 24 37.3 -2.1**
comp=Z,2μm,1.2s
IUG *e*S **S 17 31 20.4 -1.1**
IUG LRM MLR 17 45 38.2
comp=Z,320nm,15.1s
SONM Songino Array 46.03 10 P **P 17 24 41.0 +0.6**
comp=Z,49nm,1.2s,baz=190,slow=9.5,SNR=107
SONM PcP **PcP 17 26 17.6 +1.2**
comp=Z,7.0nm,0.8s,baz=208,slow=3.9,SNR=2.7
SONM LR LR 17 46 04.6
comp=Z,1μm,21.2s,baz=187,slow=39
SONM Songino Array 46.03 10 P **P 17 24 41.0 +0.6**
SONM 17 26 17.6
SONM pmax pmax
comp=Z,21nm,0.9s
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,1μm,21.3s
SONA1 Songino Array 46.05 10 *e*P **P 17 24 41.0 +0.5**
ULN Ulaanbaatar 46.18 10 *ce*P **P 17 24 41.7 +0.2**
ULN pmax pmax
comp=Z,23nm,1.2s
ULN Ulaanbaatar 46.18 10 *e*P **P 17 24 41.0 -0.6**
comp=Z,39nm,1.1s
ULN LR LR
comp=Z,993nm,19.0s
ULN Ulaanbaatar 46.18 10 P **P 17 24 41.8 +0.2**
SNR=15
ULN Ulaanbaatar 46.18 10 P **P 17 24 41.8 +0.2**
SNR=15
SNY Shenyang 46.26 28 ⇑ P **P 17 24 41.1 -0.9**
SNY S **S 17 31 25.3 -0.8**
SNY pmax pmax
comp=Z,59nm,1.4s
SNY pmax pmax
comp=Z,420nm,5.9s
SNY LR LR
comp=Z,900nm,25.7s
SNY LR LR
comp=Z,900nm,24.1s
SNY LR LR
comp=Z,1μm,23.1s
KK31 Karatay Array 46.46 334 *i* P **P 17 24 44.2 +0.5**
KK31 pmax pmax
comp=Z,153nm,1.2s
KKAR Karatay Array 46.46 334 *e*P **P 17 24 43.8 +0.1**
KKAR pmax pmax
comp=Z,850nm,1.1s
KKAR Karatay Array 46.46 334 *e*P **P 17 24 43.8 +0.1**
comp=Z,853nm,1.1s
DGZ Jazzator, Alta 47.63 352 *i* P **P 17 24 53.7 +0.9**
DGZ pmax pmax
comp=Z,17nm,0.9s
ZAK Zakamensk 48.11 6 *e*P **P 17 24 55.7 -0.7**
ZAK pmax pmax
comp=Z,20nm,1.4s
CN2 Changchun 48.65 28 ⇑ *i*P **P 17 25 00.0 -0.6**
CN2 *e*pP pP 17 25 12.4 +0.5
CN2 *e*S **S 17 31 58.1 -2.0**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
MOY Mondy 49.18 4 *e*P **P 17 25 05.7 +1.0**
MOY pmax pmax
comp=Z,28nm,2.8s
GUMO Guam 49.37 74 PFAKE 17 25 20.0 +13
GUMO LR LR
comp=Z,451nm,19.0s
COEN Coen 49.37 111 P **P 17 25 06.7 0.0**
baz=49,SNR=7.3
COEN Coen 49.37 111 *e*P **P 17 25 06.9 +0.2**
comp=Z,32nm,0.8s
TLY Talaya 49.43 6 P **P 17 25 07.7 +1.3**
comp=Z,13nm,0.7s,baz=263,slow=4.6,SNR=19
TLY Talaya 49.43 6 *e*P **P 17 25 07.8 +1.3**
TLY *e*S **S 17 32 11.6 +0.7**
TLY pmax pmax
comp=Z,16nm,0.8s
TLY MLR MLR
comp=Z,722nm,18.0s
TLY Talaya 49.43 6 P **P 17 25 07.7 +1.3**
TLY LR LR
comp=Z,636nm,21.0s
TLY Talaya 49.43 6 P **P 17 25 08.1 +1.6**
SNR=8.4
TLY Talaya 49.43 6 P **P 17 25 08.1 +1.6**
SNR=8.4
GEYT Alibeck 49.58 320 P **P 17 25 08.4 +0.6**
comp=Z,72nm,0.8s,baz=147,slow=8.5,SNR=178
GEYT LR LR 17 49 03.3
comp=Z,364nm,20.7s,baz=125,slow=40
SEM Semipalatinsk 49.62 347 *i* P **P 17 25 06.1 -2.2**
comp=Z,520nm,1.1s
SEM *i* S **S 17 32 13.0 -1.1**
SEM LRM MLR 17 49 51.0
comp=Z,308nm,20.0s
IRK Irkutsk 50.05 6 *e*P **P 17 25 12.0 +0.8**
IRK *e*S **S 17 32 20.8 +1.3**
IRK pmax pmax
comp=Z,81nm,2.0s
KURBB Kurchatov Arra 50.24 345 P **P 17 25 13.2 +0.6**
comp=Z,20nm,0.8s,baz=167,slow=6.9,SNR=180
KURK Kurchatov 50.30 346 *de*P **P 17 25 13.9 +0.9**
KURK pmax pmax
comp=Z,379nm,1.7s
KURK Kurchatov 50.30 346 *e*P **P 17 25 13.7 +0.7**
comp=Z,106nm,1.4s
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 50.30 346 P **P 17 25 13.5 +0.5**
SNR=44
KURK Kurchatov 50.30 346 P **P 17 25 13.5 +0.5**
SNR=44
KURK P **P 17 25 13.5 +0.5**
SNR=44
HIA Hailar 50.78 20 *e*P **P 17 25 16.8 0.0**
HIA pmax pmax
comp=Z,43nm,1.0s
HIA MLR MLR
comp=Z,1μm,22.0s
HIA Hailar 50.78 20 *e*P **P 17 25 16.8 0.0**
comp=Z,43nm,1.0s
HIA LR LR
comp=Z,1μm,22.0s
MDJ Mudanjiang 51.27 30 P **P 17 25 21.1 +0.6**
MDJ pP pP 17 25 33.4 +1.5
MDJ PcS **PcS 17 30 29.5 -3.3**
MDJ S **S 17 32 39.6 +2.9**
MDJ sS pS 17 33 01.3 +0.8
MDJ ScS **ScS 17 35 05.0 -2.9**
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ pmax pmax
comp=Z,210nm,3.8s
MDJ LR LR
comp=Z,780nm,15.6s
MDJ LR LR
comp=Z,940nm,16.3s
MDJ LR LR
comp=Z,990nm,14.9s
MDJ Mudanjiang 51.27 30 *e*P **P 17 25 20.3 -0.2**
comp=Z,47nm,1.3s
MDJ LR LR
comp=Z,723nm,20.0s
BRZS Berezniki 51.36 341 *i* P **P 17 25 19.3 -1.8**
comp=Z,51nm,1.2s
BRZS *i* S **S 17 32 37.2 -0.6**
BRZS LR LR 17 47 09.2
MJB9 Matsu-Tunnel 51.46 44 *e*P **P 17 25 22.8 +0.7**
MJB9 *e*PcP **PcP 17 26 37.1 +1.0**
MAJO Matsushiro 51.46 44 *e*P **P 17 25 21.8 -0.3**
MAJO pmax pmax
comp=Z,57nm,0.9s
MAJO Matsushiro 51.46 44 *e*P **P 17 25 22.9 +0.8**
comp=Z,35nm,1.0s
MAJO LR LR
comp=Z,737nm,20.0s
MAT Matsushiro 51.46 44 P **P 17 25 21.8 -0.3**
MAT S S 17 32 20.2 -19
MJAR Matsushiro Arr 51.46 44 P **P 17 25 21.2 -0.9**
comp=Z,11nm,1.0s,baz=215,slow=7.0,SNR=17
MJAR LR LR 17 50 14.3
comp=Z,463nm,18.4s,baz=235,slow=40
CIT Chita 51.46 14 *e*P **P 17 25 22.9 +1.0**
CIT *e* 17 25 33.8
CIT pmax pmax
comp=Z,60nm,1.8s
ZAA0 Zalesovo Array 52.14 352 *e*P **P 17 25 27.4 +0.6**
ZALV Zalesovo Beam 52.14 352 P **P 17 25 27.3 +0.5**
comp=Z,61nm,0.6s,baz=182,slow=6.6,SNR=329
ZALV LR LR 17 52 54.0
comp=Z,346nm,19.4s,baz=206,slow=42
PMG Port Moresby 52.15 104 *ce*P **P 17 25 27.8 +0.2**
PMG pmax pmax
comp=Z,67nm,0.6s
PMG Port Moresby 52.15 104 *e*P **P 17 25 27.7 +0.2**
comp=Z,47nm,0.8s
PMG LR LR
comp=Z,769nm,21.0s
USRK Ussuriysk Ar. 52.22 32 P **P 17 25 27.7 +0.1**
comp=Z,20nm,1.0s,baz=232,slow=4.6,SNR=20
USRK LR LR 17 50 52.9
comp=Z,1μm,18.2s,baz=213,slow=40
DAMY Dhamar 52.46 286 *e*P **P 17 25 31.3 +1.0**
comp=Z,162nm,1.3s
ABPO Ambohimpanom 52.63 244 *e*P **P 17 25 31.6 +0.3**
ABPO pmax pmax
comp=Z,161nm,1.4s
ABPO MLR MLR
comp=Z,236nm,21.0s
ABPO Ambohimpanom 52.63 244 *e*P **P 17 25 31.6 +0.3**
comp=Z,161nm,1.4s
ABPO LR LR
comp=Z,236nm,21.0s
NVS Novosibirsk 53.25 351 *e*P **P 17 25 35.5 +0.5**
NVS *e*S **S 17 32 59.6 -3.8**
NVS pmax pmax
comp=Z,50nm,1.1s
NVS pmax pmax
comp=N,19nm,0.7s
NVS pmax pmax
comp=E,13nm,0.6s
NVS smax smax
comp=N,9.0nm,0.8s
NVS smax smax
comp=E,63nm,1.8s
RAYN Ar Rayn 53.25 298 *e*P **P 17 25 36.5 +0.8**
comp=E,73nm,1.0s
RAYN LR LR
comp=Z,2μm,20.0s
ATD Arta Tunnel 53.60 282 P **P 17 25 39.8 +1.5**
comp=Z,32nm,1.0s,baz=74,slow=3.7,SNR=21
HTT Hallett 53.85 135 P **P 17 25 40.1 +0.2**
baz=54,SNR=4.9
CTAO Charters Tower 53.99 117 *e*P **P 17 25 41.6 +0.5**
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 53.99 117 *e*P **P 17 25 41.6 +0.5**
comp=Z,30nm,1.1s
BVA0 Borovoye Array 54.71 341 *i* P **P 17 25 45.3 -0.4**
BVA0 pmax pmax
comp=Z,38nm,0.8s
BVAR Borovoye Array 54.71 341 P **P 17 25 45.2 -0.6**
comp=Z,32nm,0.7s,baz=140,slow=7.8,SNR=170
BRVK Borovoye 54.77 341 *de*P **P 17 25 45.9 -0.3**
BRVK pmax pmax
comp=Z,160nm,1.2s
BRVK Borovoye 54.77 341 *e*P **P 17 25 45.8 -0.3**
comp=Z,44nm,0.9s
BRVK LR LR
comp=Z,494nm,22.0s
BRVK Borovoye 54.77 341 P **P 17 25 46.3 +0.2**
SNR=20
BRVK Borovoye 54.77 341 P **P 17 25 46.3 +0.2**
SNR=20
STKA Stephens Creek 54.98 132 P **P 17 25 47.3 -0.7**
comp=Z,12nm,0.7s,baz=308,slow=7.6,SNR=23
STKA LR LR 17 53 57.6
comp=Z,356nm,18.6s,baz=282,slow=41
STKA Stephens Creek 54.98 132 *e*P **P 17 25 48.1 +0.1**
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 54.98 132 *e*P **P 17 25 48.1 +0.1**
comp=Z,9.3nm,1.0s
AB31 Akbulak array 55.91 332 *i* P **P 17 25 54.4 0.0**
AB31 pmax pmax
comp=Z,83nm,1.0s
ABKAR Akbulak array 55.91 332 *e*P **P 17 25 54.6 +0.2**
comp=Z,594nm,1.0s
HABR Khabarovsk 56.66 30 *e*P **P 17 25 57.8 -1.9**
HABR *e**PP **pP 17 26 07.8 -3.4**
HABR *e**SP **sP 17 26 12.1 -3.7**
HABR *e* 17 26 53.5
HABR *e* 17 28 03.9
HABR *e*PPP PPP 17 29 19.6
HABR *e*S **S 17 33 48.4 -0.9**
HABR *e**SS **sS 17 34 05.9 -2.4**
HABR *e* 17 35 42.9
HABR *e*SS **SS 17 37 38.0 +0.5**
HABR pmax pmax
comp=N,13nm,1.0s
HABR pmax pmax
comp=Z,18nm,1.0s
HABR pmax pmax
comp=E,28nm,1.0s
HABR MLR MLR
comp=Z,929nm,19.0s
BOD Bodaibo 56.95 11 *e*P **P 17 26 01.1 -0.6**
BOD pmax pmax
comp=Z,48nm,1.0s

ERM Erimo 57.55 40 PFAKE 17 26 20.0 +14
ERM LR LR
comp=Z,782nm,21.0s
AKTO Aktyubinsk 57.62 332 P **P** **17 26 06.4 -0.2**
comp=Z,10nm,0.6s,baz=135,slow=7.5,SNR=32
AKTO Aktyubinsk 57.62 332 P **P** **17 26 05.8 -0.8**
AKTO pmax pmax
comp=Z,48nm,1.2s
RMQ Roma 58.34 123 P **P** **17 26 13.1 +1.1**
baz=58,SNR=5.7
CLNS Chul'man 58.84 18 *e*P **P** **17 26 15.9 +0.9**
CLNS *e**PP **pP** **17 26 22.6 -3.9**
CLNS *e* 17 27 00.6
CLNS *e* 17 28 24.3
CLNS *e*S **S** **17 34 14.7 -3.0**
CLNS *e* 17 36 03.0
CLNS pmax pmax
comp=Z,37nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS smax smax
comp=N,290nm,12.1s
CLNS smax smax
comp=E,227nm,12.5s
CLNS MLR MLR
comp=E,664nm,17.0s
CLNS MLR MLR
comp=Z,786nm,16.0s
CLNS MLR MLR
comp=N,691nm,15.0s
KMBO Kilima Mbogo 59.01 267 P **P** **17 26 18.3 +1.0**
comp=N,8.6nm,0.8s,baz=60,slow=9.8,SNR=17
KMBO LR LR 17 47 51.6
comp=N,554nm,19.9s,baz=94,slow=32
KMBO Kilima Mbogo 59.01 267 *e*P **P** **17 26 19.2 +1.9**
KMBO pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 59.01 267 *e*P **P** **17 26 19.2 +1.9**
comp=Z,22nm,0.9s
GNI Garni 59.66 316 P **P** **17 26 21.4 +0.2**
comp=Z,52nm,1.1s,baz=181,slow=3.4,SNR=15
GNI Garni 59.66 316 *i* P **P** **17 26 21.6 +0.4**
SNR=9.6
GNI Garni 59.66 316 *de*P **P** **17 26 21.6 +0.4**
GNI pmax pmax
comp=Z,293nm,1.2s
GNI Garni 59.66 316 *e*P **P** **17 26 22.1 +0.9**
comp=Z,88nm,1.1s
GNI LR LR
comp=Z,392nm,21.0s
GNI Garni 59.66 316 P **P** **17 26 21.6 +0.4**
SNR=9.5
GNI Garni 59.66 316 P **P** **17 26 21.6 +0.4**
SNR=9.5
GNI P **P** **17 26 21.6 +0.4**
SNR=9.5
DGRG David-gareji 59.80 318 P **P** **17 26 22.9 +0.9**
DGRG David-gareji 59.80 318 P **P** **17 26 22.9 +0.9**
YSS Yuzh-Sakhalins 59.89 35⇑ *e*P **P** **17 26 22.9 +0.6**
YSS *e* 17 26 30.2
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,800nm,13.0s
YSS Yuzh-Sakhalins 59.89 35 PFAKE 17 26 40.0 +18
YSS LR LR
comp=Z,358nm,19.0s
YUK Yuzh-Kuril'sk 60.27 39 *e*P P 17 26 14.6 -10
YUK *e* 17 28 39.6
YUK *e* 17 36 03.6
YUK MLR MLR
comp=Z,455nm,21.0s
YUK MLR MLR
comp=E,801nm,19.0s
YUK MLR MLR
comp=N,1μm,20.0s
TBLG Delisi 60.35 318 P **P** **17 26 26.2 +0.5**
TBLG Delisi 60.35 318 P **P** **17 26 26.2 +0.5**
GUDG Gudauri 60.84 318 P **P** **17 26 29.6 +0.3**
BGD Bogdanovka 60.92 317 P **P** **17 26 30.9 +1.1**
AKH Akhalkalaki 61.05 317 P **P** **17 26 31.3 +0.6**
AKH Akhalkalaki 61.05 317⇑ *i*P **P** **17 26 31.7 +1.0**
AKH Akhalkalaki 61.05 317 P **P** **17 26 31.3 +0.6**
EATA Eleskirt 61.12 315 *i* P **P** **17 26 32.6 +1.2**
SVE Sverdlovsk 61.12 339 *c i*P **P** **17 26 31.0 +0.4**
SVE pmax pmax
comp=Z,79nm,1.0s
SVE MLR MLR
comp=Z,836nm,23.0s
EKAR Karacoban 61.19 314 *i* P **P** **17 26 33.3 +1.5**
ZEI Tsey 61.37 318 *e*P **P** **17 26 31.5 -1.3**
ZEI pmax pmax
comp=Z,12nm,0.9s
MARD Mardin 61.42 312 *e*P **P** **17 26 33.6 +0.4**
comp=Z,77nm,0.8s
ONI Oni 61.58 318 P **P** **17 26 34.2 +0.1**
ARU Arti 61.61 337 P **P** **17 26 33.2 -0.7**
comp=Z,11nm,0.6s,baz=130,slow=3.2,SNR=31
ARU Arti 61.61 337 *d i*P **P** **17 26 33.4 -0.5**
ARU 17 28 48.8
ARU S **S** **17 34 55.4 +2.2**
ARU SS **SS** **17 38 52.9 -2.1**
ARU pmax pmax
comp=Z,87nm,1.7s
ARU Arti 61.61 337 *e*P **P** **17 26 33.5 -0.4**
comp=Z,63nm,1.2s
ARU LR LR
comp=Z,743nm,19.0s
EPOS Posof 61.62 317 *i* P **P** **17 26 35.3 +0.8**
NCK Nalchik 61.88 319 *d i*P **P** **17 26 36.4 +0.4**
NCK pmax pmax
comp=Z,27nm,1.3s
ERZM Erzurum 61.94 315 *i* P **P** **17 26 38.3 +1.5**
DAGI Agillar 62.01 316 *i* P **P** **17 26 37.0 0.0**
TYV Tymovskoe 62.02 31 *e*P **P** **17 26 32.1 -4.6**
TYV pmax pmax
comp=Z,13nm,1.3s
ARTV Artvin 62.04 316 *i* P **P** **17 26 38.0 +0.6**
ARTV Artvin 62.04 316 *e*P **P** **17 26 38.0 +0.6**
comp=Z,25nm,1.2s
DDEM Demirkent 62.05 316 *i* P **P** **17 26 37.9 +0.6**
PATS Pohnpei 62.05 84 P **P** **17 26 38.4 +0.7**
baz=62,SNR=5.1
PATS Pohnpei 62.05 84 *e*P **P** **17 26 38.8 +1.1**
comp=Z,67nm,1.1s
DBOC Borcka 62.28 316 *i* P P 17 26 44.5 +5.7
KBZ Khabaz 62.44 319 P **P** **17 26 39.3 -0.4**
comp=Z,24nm,0.9s,baz=124,slow=4.9,SNR=35
KVAR Kislovodsk Arr 62.66 319 P **P** **17 26 41.5 +0.1**
comp=Z,35nm,0.9s,baz=290,slow=4.8,SNR=17
KIV Kislovodsk 62.67 319 *i* P **P** **17 26 41.2 -0.2**
SNR=10.0
KIV Kislovodsk 62.67 319 *e*P **P** **17 26 41.2 -0.2**
KIV *e* 17 29 00.1
KIV *e*S **S** **17 35 08.2 +0.9**
KIV pmax pmax
comp=Z,70nm,1.0s
KIV pmax pmax
comp=Z,29nm,3.2s
KIV MLR MLR
comp=Z,181nm,17.0s
KIV Kislovodsk 62.67 319 *e*P **P** **17 26 41.8 +0.4**
comp=Z,86nm,1.1s
KIV LR LR
comp=Z,330nm,21.0s
KIV Kislovodsk 62.67 319 P **P** **17 26 42.2 +0.8**
SNR=13
KIV Kislovodsk 62.67 319 P **P** **17 26 42.2 +0.8**
SNR=13
KIV P **P** **17 26 42.2 +0.8**
SNR=13
ASF Jabal al Asfar 62.89 305 P **P** **17 26 44.0 +0.9**
comp=Z,16nm,1.0s,baz=80,slow=1.9,SNR=23
GOF Gofitskoye 62.92 320⇑ *e*P **P** **17 26 43.0 +0.1**
GOF pmax pmax
comp=Z,56nm,1.0s
TNCL Tunceli-Merkez 62.96 313 *i* P **P** **17 26 44.3 +0.8**
ROOS tl_aroos 63.12 307 *e*P **P** **17 26 46.2 +1.7**

MACK Trabzon 63.45 315 *i* P **P** **17 26 46.7 +0.1**
KELT Kelkit 63.53 314 *i* P **P** **17 26 48.2 +0.8**
TOTH TOTAH 63.59 306 *e*P **P** **17 26 48.8 +1.2**
MARH Ras Al Marh 63.72 307 *e*P **P** **17 26 49.0 +0.1**
KEMA Kemaliye 63.78 313 *i* P **P** **17 26 49.9 +1.0**
EIL Elat 63.91 302 P **P** **17 26 50.5 +0.7**
comp=Z,29nm,0.7s,baz=80,slow=1.9,SNR=28
HAWK Haweek 63.92 307 *e*P **P** **17 26 51.1 +1.2**
BIDA Albida 64.12 308 *e*P **P** **17 26 51.7 +0.6**
BTCH Batrach 64.30 309 *e*P **P** **17 26 51.9 -0.5**
SUSE Susehri 64.31 314 *i* P **P** **17 26 53.3 +0.8**
DRWC Darouich 64.31 310 *e*P **P** **17 26 52.4 0.0**
MMAI Mount Meron Ar 64.33 306 P **P** **17 26 53.6 +1.1**
comp=Z,18nm,0.8s,baz=100,slow=9.4,SNR=19
SOC Sochi 64.48 318 *d i*P **P** **17 26 52.0 -1.2**
SOC *e**SP **pP** **17 27 05.3 +0.4**
SOC *e*S **S** **17 35 27.0 -2.6**
SOC *e*SS **SS** **17 39 38.9 -1.6**
SOC pmax pmax
comp=Z,57nm,0.8s
SOC MLR MLR
comp=Z,115nm,15.0s
YAK Yakutsk 64.49 17 P **P** **17 26 52.6 -0.3**
comp=Z,96nm,0.8s,baz=140,slow=0.6,SNR=74
YAK Yakutsk 64.49 17 *c i*P **P** **17 26 52.5 -0.3**
YAK *e**PP **pP** **17 27 03.1 -1.4**
YAK *e* 17 27 25.6
YAK *e*S **S** **17 35 27.9 -1.1**
YAK *e* 17 36 38.3
YAK pmax pmax
comp=Z,167nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,149nm,3.3s
YAK pmax pmax
comp=N,84nm,3.6s
YAK smax smax
comp=N,405nm,2.0s
YAK MLR MLR
comp=Z,959nm,16.0s
YAK MLR MLR
comp=N,602nm,14.0s
YAK Yakutsk 64.49 17 *e*P **P** **17 26 52.6 -0.3**
comp=N,225nm,1.1s
YAK LR LR
comp=Z,510nm,22.0s
SOKR Solikamsk 64.54 339 *d i*P **P** **17 26 51.6 -1.6**
SOKR pmax pmax
comp=Z,70nm,1.0s
SOKR MLR MLR
comp=Z,710nm,23.0s
HNR Honiara 64.62 102 PFAKE 17 27 10.0 +15
HNR LR LR
comp=Z,417nm,19.0s
ARNB Al Arnab 64.63 309 *e*P **P** **17 26 54.6 +0.1**
CSS Mathiatis 66.48 307 *e*P **P** **17 27 06.4 0.0**
comp=Z,24nm,1.4s
CSS LR LR
comp=Z,110nm,20.0s
NRIK Noril'sk 67.00 357 P **P** **17 27 09.3 +0.4**
comp=Z,12nm,0.6s,baz=159,slow=6.5,SNR=9.6
BR131 Keskin Array S 67.49 312 *e*P **P** **17 27 12.4 -0.4**
BRTR Keskin Array B 67.49 312 P **P** **17 27 12.1 -0.8**
comp=Z,13nm,0.9s,baz=134,slow=7.3,SNR=58
BRTR LR LR 17 58 26.3
comp=Z,198nm,21.9s,baz=98,slow=37
BRTR Keskin Array B 67.49 312 P **P** **17 27 12.1 -0.8**
BRTR pmax pmax
comp=Z,14nm,0.9s
BRTR MLR MLR
comp=Z,198nm,21.9s
ILGA Ilgaz 67.82 314 *e*P **P** **17 27 15.5 +0.5**
comp=Z,64nm,1.2s
VSR Storozhevoye 67.94 325 *e*P **P** **17 27 13.9 -1.3**
VSR pmax pmax
comp=Z,60nm,1.1s
VORR Voronezh 68.11 326 *e*P **P** **17 27 15.0 -1.3**
VORR pmax pmax
comp=Z,300nm,1.2s
ANTO Ankara 68.16 312 *e*P **P** **17 27 17.2 +0.2**
ANTO pmax pmax
comp=Z,34nm,1.0s
ANTO Ankara 68.16 312 *e*P **P** **17 27 17.2 +0.2**
comp=Z,34nm,1.0s
ANTO LR LR
comp=Z,353nm,22.0s
BR231 Keskin MP Arra 68.16 312 *e*P **P** **17 27 17.3 +0.2**
SIM Simferopol' 68.73 318 *d i*P **P** **17 27 20.6 +0.3**
SIM *e*S **S** **17 36 21.0 0.0**
SIM pmax pmax
comp=Z,42nm,1.1s
SIM MLR MLR
comp=Z,380nm,18.6s
BOLV Bolvadin 69.25 311 *e*P **P** **17 27 24.0 +0.1**
comp=Z,39nm,1.1s
ISP Isparta 69.36 310⇑ *i*P **P** **17 27 25.6 +1.1**
ISP Isparta 69.36 310⇑ P **P** **17 27 25.6 +1.1**
ISP Isparta 69.36 310 *e*P **P** **17 27 25.0 +0.5**
comp=Z,45nm,1.3s
ISP LR LR
comp=Z,410nm,21.0s
LSZ Lusaka 69.50 253 *e*P **P** **17 27 27.0 +1.2**
LSZ pmax pmax
comp=Z,27nm,1.2s
LSZ Lusaka 69.50 253 *e*P **P** **17 27 27.0 +1.2**
comp=Z,27nm,1.2s
LSZ LR LR
comp=Z,546nm,21.0s
MA2 Magadan 70.63 26 *e*P **P** **17 27 31.5 -0.3**
MOS Moscow 70.71 329 *e*P **P** **17 27 30.6 -1.7**
MOS *e* 17 27 40.0
MOS *e* 17 30 10.9
MOS *e*S **S** **17 36 40.0 -3.8**
MOS *e* 17 37 34.5
MOS pmax pmax
comp=Z,150nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=Z,1μm,21.0s
WAKE Wake Island 70.77 71 PFAKE 17 27 50.0 +17
WAKE LR LR
comp=Z,941nm,20.0s
OBN Obninsk 70.99 328 P **P** **17 27 33.9 -0.1**
comp=Z,34nm,0.7s,baz=64,slow=2.9,SNR=19
OBN Obninsk 70.99 328 *de*P **P** **17 27 33.5 -0.5**
OBN *i* 17 27 46.0
OBN pmax pmax
comp=Z,144nm,1.7s
OBN MLR MLR
comp=Z,357nm,19.0s
OBN Obninsk 70.99 328 *e*P **P** **17 27 34.1 +0.1**
comp=Z,106nm,1.2s
OBN LR LR
comp=Z,543nm,19.0s
PETK Petropavlovsk- 71.25 34 LR LR 17 59 53.0
comp=Z,304nm,20.8s,baz=245,slow=37
KARP Karpathos 71.53 307 *e*P **P** **17 27 38.3 +0.6**
comp=Z,76nm,1.1s
PET Petropavlovsk 71.75 34 *e*P **P** **17 27 38.5 -0.1**
PET *e*S **S** **17 36 52.3 -3.7**
PET *e*PS **PnS** **17 37 22.9 -6.4**
PET *e*PPS PPS 17 37 33.0
PET *e*SS **SS** **17 41 29.1 -3.3**
PET MLR MLR
comp=Z,400nm,20.0s
PET MLR MLR
comp=Z,600nm,20.0s
PET Petropavlovsk 71.75 34 PFAKE 17 27 50.0 +11
PET LR LR
comp=Z,494nm,21.0s
TIXI Tiksi 72.11 10 P **P** **17 27 39.9 -0.6**
comp=Z,16nm,0.8s,baz=197,slow=2.2,SNR=45
TIXI Tiksi 72.11 10 *ce*P **P** **17 27 39.8 -0.6**
TIXI pmax pmax
comp=Z,40nm,1.2s
TIXI MLR MLR
comp=Z,715nm,24.0s
TIXI Tiksi 72.11 10 *e*P **P** **17 27 39.9 -0.6**
comp=Z,51nm,1.1s
TIXI LR LR
comp=Z,512nm,20.0s
KLMR Klimovskoe 72.16 335 *e*P **P** **17 27 38.9 -2.0**
KLMR *e* 17 27 56.7

KLMR pmax pmax
comp=Z,64nm,1.2s
TLCR 72.39 317⇑ *i*P **P** **17 27 42.5 -0.2**
TLCR 72.39 317 ⇑P **P** **17 27 42.5 -0.2**
TIRR Tirgusor 72.49 316⇓ *i*P **P** **17 27 43.3 +0.1**
TIRR Tirgusor 72.49 316 ⇓P **P** **17 27 43.3 +0.1**
DZM Mont Dzumac 72.74 114 *e*P **P** **17 27 49.3 +4.0**
comp=Z,64nm,1.3s
DZM Mont Dzumac 72.74 114 *e*LR LR 17 50 27.2
comp=Z,794nm,26.4s
CFR Carcaliu 72.86 317⇑ *i*P **P** **17 27 45.5 +0.1**
CFR Carcaliu 72.86 317⇑ P **P** **17 27 45.5 +0.1**
SEY Seymchan 73.00 23 *ce*P **P** **17 27 46.5 +0.6**
SANT Santorini 73.04 307 PFAKE 17 28 00.0 +13
SANT LR LR
comp=Z,233nm,19.0s
LEOM Leova 73.11 318⇑ *i*P **P** **17 27 47.3 +0.5**
LEOM Leova 73.11 318⇑ P **P** **17 27 47.3 +0.5**
IDI Anoyia 73.32 306 P **P** **17 27 48.4 -0.1**
comp=Z,22nm,0.7s,baz=81,slow=7.4,SNR=13
SORM Soroca 73.46 320⇑ *i*P **P** **17 27 49.0 +0.1**
SORM Soroca 73.46 320⇑ P **P** **17 27 49.0 +0.1**
AKASG Malin Array Be 73.62 322 P **P** **17 27 48.6 -1.2**
comp=Z,7.4nm,0.5s,baz=87,slow=5.0,SNR=63
AKASG PP **PP** **17 30 35.2 +0.9**
comp=Z,11nm,1.1s,baz=91,slow=7.0,SNR=8.3
AKBB Malin Array Si 73.62 322 *e*P **P** **17 27 49.0 -0.8**
AKBB Malin Array Si 73.62 322 *e*P **P** **17 27 49.0 -0.8**
KIEV Kiev 73.63 322 *d i*P **P** **17 27 48.7 -1.1**
KIEV pmax pmax
comp=Z,26nm,1.1s
KIEV Kiev 73.63 322 *e*P **P** **17 27 48.9 -0.9**
comp=Z,22nm,0.8s
KIEV LR LR
comp=Z,462nm,19.0s
AK11 Malin Array Si 73.65 322 *e*P **P** **17 27 49.4 -0.5**
MAW Mawson 73.72 193 P **P** **17 27 51.5 +1.4**
comp=Z,2.9nm,0.8s,baz=1.0,slow=9.7,SNR=6.8
MAW LR LR 17 53 18.5
comp=Z,163nm,19.6s,baz=54,slow=30
VRI Vrincioaia 73.98 317⇑ *i*P **P** **17 27 53.3 +1.2**
VRI Vrincioaia 73.98 317⇑ P **P** **17 27 53.3 +1.2**
PLOR Plostina 74.03 317⇓ *i*P **P** **17 27 52.9 +0.5**
PLOR Plostina 74.03 317 ⇓P **P** **17 27 52.9 +0.5**
TESR Tescani 74.19 318⇑ *i*P **P** **17 27 54.0 +0.8**
TMCR Tamitsa 74.35 337 *e*P **P** **17 27 53.9 +0.1**
TMCR pmax pmax
comp=Z,52nm,1.0s
MLR Muntele Rosu 74.43 317⇑ *i*P **P** **17 27 55.9 +1.0**
MLR Muntele Rosu 74.43 317⇑ P **P** **17 27 55.9 +1.0**
MLR Muntele Rosu 74.43 317 *e*P **P** **17 27 55.7 +0.8**
comp=Z,51nm,1.2s
ZIMR 74.45 315⇓ *i*P **P** **17 27 55.7 +0.9**
ZIMR 74.45 315 ⇓P **P** **17 27 55.7 +0.9**
PRAR RASCA 74.66 319⇓ *i*P **P** **17 27 56.7 +0.7**
HUMR Humele 74.90 315⇑ *i*P **P** **17 27 57.5 +0.1**
DOPR Dopca 74.92 317⇓ *i*P **P** **17 27 58.3 +0.8**
VOIR 75.04 316⇑ *i*P **P** **17 27 58.0 -0.3**
VOIR 75.04 316⇑ P **P** **17 27 58.0 -0.3**
ARR Arges 75.31 316⇑ *i*P **P** **17 28 00.0 +0.1**
BURAR Bucovina Array 75.39 319⇓ *i*P **P** **17 28 01.7 +1.4**
BURAR Bucovina Array 75.39 319 ⇓P **P** **17 28 01.7 +1.4**
BUR08 Bucovina Ar. S 75.41 319 *e*P **P** **17 28 01.3 +0.9**
MICGM Minsk 75.49 326 *e* **P** **17 28 02.0 +1.4**
MNK Minsk 75.49 326 *e*P **P** **17 28 02.0 +1.4**
VTS Vitosha 75.81 313⇑ *i*P **P** **17 28 03.0 +0.1**
VTS Vitosha 75.81 313⇑ P **P** **17 28 03.0 +0.1**
VTS Vitosha 75.81 313 *e*P **P** **17 28 02.3 -0.6**
comp=Z,21nm,1.0s
ARCR ARCALIA 75.85 318⇓ *i*P **P** **17 28 03.7 +0.9**
PUL Pulkovo 75.88 332 *e*P **P** **17 28 03.9 +1.2**
PUL pmax pmax
comp=Z,38nm,0.4s
LOT Lotru 75.92 316⇑ *i*P **P** **17 28 03.0 -0.4**
NACGM Naroch 76.22 326 *e* **P** **17 28 01.0 -3.7**
CJR Cluj-Napoca 76.28 317⇓ *i*P **P** **17 28 06.6 +1.2**
CJR Cluj-Napoca 76.28 317 ⇓P **P** **17 28 06.6 +1.2**
IDID Didziasalis 76.35 327 *e*P **P** **17 28 05.8 +0.4**
IDID IAmb IAmb 17 28 06.9
comp=Z,28nm,0.9s
BMR Baia Mare 76.54 318⇓ *i*P **P** **17 28 08.3 +1.6**
BMR Baia Mare 76.54 318 ⇓P **P** **17 28 08.3 +1.6**
DEV Deva 76.60 317⇑ *i*P **P** **17 28 08.9 +1.8**
DEV Deva 76.60 317⇑ P **P** **17 28 08.9 +1.8**
LVV L'vov 76.63 321 *e*P **P** **17 28 09.0 +1.8**
LVV *e*S **S** **17 37 54.0 +3.1**
LVV pmax pmax
comp=Z,100nm,1.7s
IIGN Ignalina 76.65 327 *e*P **P** **17 28 07.5 +0.3**
IIGN IAmb IAmb 17 28 08.6
comp=Z,38nm,1.1s
IZAR Zarasai 76.74 327 *e*P **P** **17 28 08.0 +0.4**
IZAR IAmb IAmb 17 28 09.0
comp=Z,26nm,1.0s
ISAL Salakas 76.76 327 *e*P **P** **17 28 08.2 +0.4**
ISAL IAmb IAmb 17 28 09.1
comp=Z,26nm,1.1s
DRGR 76.90 317⇑ *i*P **P** **17 28 09.8 +0.9**
DRGR 76.90 317⇑ P **P** **17 28 09.8 +0.9**
VSU Vasula 77.23 330 *c i*P **P** **17 28 10.4 +0.1**
VSU pmax pmax
comp=Z,108nm,1.0s
MDVR Moldovita 77.24 315⇓ *i*P **P** **17 28 11.1 +0.3**
TRPA Tarpa 77.26 319⇓ *e*P **P** **17 28 11.2 +0.5**
LVZ Lovozero 77.28 340 *e*P **P** **17 28 11.1 +0.6**
LVZ pmax pmax
comp=Z,25nm,1.0s
LVZ Lovozero 77.28 340 PFAKE 17 28 20.0 +9.5
LVZ LR LR
comp=Z,1μm,19.0s
KWP Kalwaria Pacla 77.43 320 *e*P **P** **17 28 12.7 +1.0**
KWP Kalwaria Pacla 77.43 320 *e*P **P** **17 28 12.7 +1.0**
BZS Buzias 77.44 316⇓ *i*P **P** **17 28 12.3 +0.5**
BZS Buzias 77.44 316 ⇓P **P** **17 28 12.3 +0.5**
UZH Uzhgorod 77.51 319 *e*P **P** **17 28 12.5 +0.4**
UZH *e* 17 28 20.5
UZH *e* 17 28 24.3
UZH *e* 17 31 11.5
SIRR Siria 77.52 317⇓ *i*P **P** **17 28 13.0 +0.7**
APA Apatity 77.57 340⇑ *i*P **P** **17 28 11.8 -0.3**
APA pmax pmax
comp=Z,25nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
SUW Suwalki 78.04 325 *e*P **P** **17 28 14.2 -0.7**
SUW Suwalki 78.04 325 *e*P **P** **17 28 14.2 -0.7**
TIR Tirane 78.09 312 PFAKE 17 28 30.0 +14
TIR LR LR
comp=Z,456nm,20.0s
CRVS Cervenica-Dubn 78.10 319 *e*P **P** **17 28 16.6 +1.1**
CRVS *e* 17 31 12.9
CRVS Cervenica-Dubn 78.10 319 *e*P **P** **17 28 16.6 +1.1**
CRVS *e*PP **PP** **17 31 12.9 +0.7**
STHS Stebnicka Huta 78.33 320 *e*P **P** **17 28 17.9 +1.2**
STHS pmax pmax
comp=Z,21nm,0.9s
STHS Stebnicka Huta 78.33 320 *e*P **P** **17 28 17.9 +1.2**
FIA1 FINESS Array S 78.39 333 *e*P **P** **17 28 17.3 +0.5**
FINES FINESS Array B 78.39 333 P **P** **17 28 16.7 -0.1**
comp=Z,21nm,0.7s,baz=95,slow=5.7,SNR=61
FINES LR LR 18 06 29.3
comp=Z,380nm,18.2s,baz=118,slow=38
FINES FINESS Array B 78.39 333 *i* P **P** **17 28 17.0 +0.2**
FINES pmax pmax
comp=Z,21nm,0.7s
KECS Kecovo 78.67 319 *e*P **P** **17 28 19.1 +0.5**
KECS pmax pmax
comp=Z,9.0nm,0.9s
KECS Kecovo 78.67 319 *e*P **P** **17 28 19.1 +0.5**
NIE Niedzica 78.94 320 *e*P **P** **17 28 21.1 +1.0**
NIE Niedzica 78.94 320 *e*P **P** **17 28 21.1 +1.0**
PSZ Piszkesteto 78.97 318⇓ *e*P **P** **17 28 20.8 +0.4**
PSZ Piszkesteto 78.97 318⇓ *e*P **P** **17 28 20.8 +0.4**
PSZ Piszkesteto 78.97 318 PFAKE 17 28 30.0 +10
PSZ LR LR
comp=Z,324nm,19.0s
OJC Ojcow 79.39 321 *e*P **P** **17 28 21.9 -0.6**
OJC Ojcow 79.39 321 *e*P **P** **17 28 21.9 -0.6**
OJC Ojcow 79.39 321 *e*P **P** **17 28 23.2 +0.7**
LANS Liptovska Anna 79.44 319 *e*P **P** **17 28 23.8 +1.0**
LANS Liptovska Anna 79.44 319 *e*P **P** **17 28 23.8 +1.0**
BUD Budapest 79.49 318 *e*P **P** **17 28 23.9 +0.8**
BUD Budapest 79.49 318 *e*P **P** **17 28 23.9 +0.8**

VYHS Vyhne 79.76 319 *e*P **P** **17 28 25.2 +0.6**
VYHS pmax pmax
comp=Z,29nm,1.7s
VYHS Vyhne 79.76 319 *e*P **P** **17 28 25.2 +0.6**
CSKK Cs‡tkako 79.99 318⇑ *e*P **P** **17 28 26.6 +0.8**
CSKK Cs‡tkako 79.99 318⇑ *e*P **P** **17 28 26.6 +0.8**
BILL Bilibino 80.34 21⇓ *e*P **P** **17 28 26.9 -0.4**
BILL pmax pmax
comp=Z,10.0nm,1.4s
BILL MLR MLR
comp=Z,815nm,16.0s
OKC Ostrava-Krasne 80.39 320 *e*P **P** **17 28 28.3 +0.4**
OKC *e*pP **pP** **17 28 40.7 +0.9**
OKC *e*PP **PP** **17 31 29.4 -1.7**
OKC Ostrava-Krasne 80.39 320 *e*P **P** **17 28 28.3 +0.4**
OKC *e* 17 28 40.7
OKC *e* 17 31 29.4
BLY Banja Luka 80.43 315 *e*P **P** **17 28 28.3 +0.1**
MORC Moravsky Berou 80.77 320⇑ *i*P **P** **17 28 30.8 +0.8**
MORC Moravsky Berou 80.77 320⇑ P **P** **17 28 30.8 +0.8**
MORC Moravsky Berou 80.77 320 *e*P **P** **17 28 30.4 +0.4**
BEHE Becsehely 80.90 317⇓ *e*P **P** **17 28 31.7 +1.0**
BEHE Becsehely 80.90 317⇓ *e*P **P** **17 28 31.7 +1.0**
SYO Syowa Base 80.90 198⇑ *e*P **P** **17 28 30.0 -0.2**
SYO Syowa Base 80.90 198⇑ *e*PcP **PcP** **17 28 35.4 -1.2**
ARA0 ARCESS Array S 80.99 340 *e*P **P** **17 28 31.4 +0.6**
ARCES ARCESS Array B 80.99 340 P **P** **17 28 31.3 +0.6**
comp=Z,21nm,0.9s,baz=94,slow=5.4,SNR=46
ARE0 ARCESS Array S 80.99 340 *e*P **P** **17 28 31.9 +1.1**
CUC Castrocucco 81.02 310 PFAKE 17 28 40.0 +8.4
CUC LR LR
comp=Z,259nm,20.0s
SOP Sopron 81.17 318⇓ *e*P **P** **17 28 32.4 +0.3**
SOP Sopron 81.17 318⇓ *e*P **P** **17 28 32.4 +0.3**
KOGS Kog 81.26 316 *i*P **P** **17 28 33.1 +0.4**
KRLC Kraliky 81.29 320 *e*P **P** **17 28 33.2 +0.4**
KRLC *e*PP **PP** **17 31 36.7 -2.0**
KRLC Kraliky 81.29 320 *e*P **P** **17 28 33.2 +0.4**
KRLC *e* 17 31 36.7
DPC Dobruska-Polom 81.61 320 *e*P **P** **17 28 35.3 +0.8**
DPC *e*pP **pP** **17 28 47.4 +0.9**
DPC *e*PP **PP** **17 31 37.5 -3.9**
DPC Dobruska-Polom 81.61 320 *e*P **P** **17 28 35.3 +0.8**
DPC *e* 17 28 47.4
DPC *e* 17 31 37.5
CONA Conrad Observa 81.67 318 *i*P **P** **17 28 35.0 +0.2**
comp=Z,11nm,1.1s,SNR=5.3
KSP Ksiaz 81.69 321 *e*P **P** **17 28 36.1 +1.3**
KSP Ksiaz 81.69 321 *e*P **P** **17 28 36.1 +1.3**
UPC Upice 81.83 321 *e*P **P** **17 28 36.6 +1.0**
UPC Upice 81.83 321 *e*P **P** **17 28 36.6 +1.0**
ARSA Arzberg 81.83 317 *i*P **P** **17 28 36.5 +0.8**
comp=Z,36nm,1.4s,SNR=11
BOJS Bojanci 81.87 315 *i*P **P** **17 28 36.5 +0.6**
VAE Valguarnera 81.95 307 P **P** **17 28 36.4 -0.2**
comp=Z,26nm,1.1s,baz=45,slow=14,SNR=3.0
TREC Trest 82.04 319 *e*P **P** **17 28 36.8 0.0**
TREC Trest 82.04 319 *e*P **P** **17 28 36.8 0.0**
PERS Pernice 82.05 317 *i*P **P** **17 28 37.6 +0.7**
SOKA Soboth 82.11 317 *i*P **P** **17 28 37.8 +0.6**
comp=Z,37nm,1.2s,SNR=12
OBKA Obir 82.43 316 *i*P **P** **17 28 39.2 +0.2**
comp=Z,19nm,1.1s
GOPC GO Pecny, Ondr 82.55 320 *e*P **P** **17 28 40.4 +1.0**
GOPC GO Pecny, Ondr 82.55 320 *e*P **P** **17 28 40.4 +1.0**
PRU Pruhonice 82.72 320 *e*P **P** **17 28 40.6 +0.4**
PRU *e*pP **pP** **17 28 49.3 -2.9**
PRU *e*x x 17 28 59.9
PRU *e*PP **PP** **17 31 46.8 -3.6**
PRU Pruhonice 82.72 320 *e*P **P** **17 28 40.6 +0.4**
PRU *e* 17 28 49.3
PRU *e* 17 31 46.8
MOA Molln 82.73 318 *i*P **P** **17 28 40.3 -0.1**
comp=Z,18nm,1.5s,SNR=8.0
PVCC Panska Ves 82.75 320 *e*P **P** **17 28 41.4 +1.0**
PVCC *e*x x 17 29 01.1
PVCC Panska Ves 82.75 320 *e*P **P** **17 28 41.4 +1.0**
PRA Prague 82.80 320 *e*P **P** **17 28 41.7 +1.1**
PRA *e*x x 17 29 01.9
PRA Prague 82.80 320 *e*P **P** **17 28 41.7 +1.1**
AQU L'Aquila 82.99 312 *e*P **P** **17 28 41.9 0.0**
AQU L'Aquila 82.99 312 *e*P **P** **17 28 41.9 0.0**
AQU LR LR
comp=Z,339nm,20.0s
SNZO South Karori 83.03 132 PFAKE 17 28 50.0 +8.0
SNZO LR LR
comp=Z,825nm,21.0s
MYKA Terra Mystica 83.07 317 *i*P **P** **17 28 42.8 +0.6**
comp=Z,29nm,1.6s
BRG Berggiesshubel 83.17 321⇑ *i*P **P** **17 28 42.8 +0.3**
comp=Z,36nm,1.6s
BRG *i* 17 29 03.5
comp=Z,27nm,1.3s
BRG *e*PP **PP** **17 31 52.8 -1.3**
comp=Z,27nm,1.3s
BRG Berggiesshubel 83.17 321⇑ *i*P **P** **17 28 42.8 +0.3**
BRG *e* 17 31 52.8
BRG pmax pmax
comp=Z,36nm,1.6s
BRG pmax pmax
comp=Z,27nm,1.3s
BRG pmax pmax
comp=Z,27nm,1.3s
GEA0 GERESS Array S 83.18 319 *e*P **P** **17 28 42.9 +0.1**
GEC2 GERESS Array S 83.18 319 *e*P **P** **17 28 43.6 +0.8**
GEC2 GERESS Array S 83.18 319 *e*P **P** **17 28 43.6 +0.8**
GERES GERESS Array B 83.18 319 P **P** **17 28 42.6 -0.1**
comp=Z,18nm,0.9s,baz=98,slow=5.5,SNR=116
GERES LR LR 18 10 17.6
comp=Z,158nm,20.1s,baz=82,slow=39
KHC Kasperske Hory 83.28 319 *e*P **P** **17 28 43.2 0.0**
KHC *e*x x 17 29 03.6
KHC *e*PP **PP** **17 31 59.9 +4.8**
KHC Kasperske Hory 83.28 319 *e*P **P** **17 28 43.2 0.0**
KHC *e* 17 31 59.9
KHC Kasperske Hory 83.28 319 *e*P **P** **17 28 43.8 +0.6**
KBA Koelnbreinsper 83.30 317 *i*P **P** **17 28 43.2 -0.3**
comp=Z,15nm,1.1s
FUNA Funafuti 83.47 99 PFAKE
FUNA LR LR
comp=Z,7μm,19.0s
CLL Collm 83.79 321 *e*P **P** **17 28 46.0 +0.3**
CLL Collm 83.79 321⇓ *i*P **P** **17 28 45.7 0.0**
comp=Z,14nm,1.2s
CLL *e*pP **pP** **17 28 56.0 -1.7**
CLL *e*sS **sS** **17 39 25.0 -1.0**
CLL *e*PS **PnS** **17 40 03.0 +0.6**
CLL *e*SSS SSS 17 48 12.0
CLL L L 18 04 00.0
comp=Z,200nm,20.4s
CLL Collm 83.79 321 *e*P **P** **17 28 46.1 +0.3**
ABTA Abfaltersbach 83.85 317 *i*P **P** **17 28 45.3 -0.9**
comp=Z,18nm,1.1s,SNR=5.5
BKZ Black Stump Fm 84.06 130 *e*P **P** **17 28 51.0 +3.6**
NKC Novy Kostel 84.08 320 *e*P **P** **17 28 48.0 +0.7**
NKC Novy Kostel 84.08 320 *e*P **P** **17 28 48.0 +0.7**
WTTA Wattenberg 84.47 317 *i*P **P** **17 28 49.3 -0.2**
comp=Z,22nm,1.0s,SNR=5.7
MOTA Moosalm 84.84 317 *i*P **P** **17 28 51.0 -0.4**
comp=Z,14nm,0.8s,SNR=14
GRFO Grafenberg 84.85 319 *e*P **P** **17 28 51.9 +0.7**
GRFO Grafenberg 84.85 319 *e*P **P** **17 28 51.9 +0.7**
RETA Reutte 85.07 317 *i*P **P** **17 28 52.6 +0.2**
comp=Z,19nm,0.8s,SNR=8.9
FETA Feichten 85.08 317 *i*P **P** **17 28 52.6 +0.1**
comp=Z,23nm,1.3s,SNR=6.5
VLC Villacollemand 85.25 314 PFAKE 17 29 00.0 +6.7
VLC LR LR
comp=Z,270nm,19.0s
FUORN Ofenpass-Fuorn 85.39 316 *e*P **P** **17 28 55.0 +0.7**
NB2 NORSAR Subarra 85.39 331 P **P** **17 28 53.0 -0.7**
comp=Z,23nm,1.1s,baz=96,slow=5.6
NB2 NORSAR Subarra 85.39 331 P **P** **17 28 53.0 -0.7**
baz=96,slow=5.6
NOA NORSAR Array B 85.39 331 P **P** **17 28 53.0 -0.7**
comp=Z,11nm,1.0s,baz=94,slow=5.4,SNR=12
NOA LR LR 18 10 04.3
comp=Z,244nm,21.4s,baz=100,slow=38
NOA NORSAR Array B 85.39 331 P **P** **17 28 53.0 -0.7**
NOA pmax pmax
comp=Z,11nm,1.0s
NOA MLR MLR
comp=Z,244nm,21.4s

DAVA Damuels 85.67 317 *i*P **P** **17 28 56.1 +0.6**
comp=Z,34nm,1.0s,SNR=12
KEST Kesra 85.98 305 P **P** **17 28 58.6 +1.4**
comp=Z,21nm,0.9s,baz=318,slow=2.3,SNR=14
KEST LR LR 18 11 59.5
comp=Z,112nm,18.6s,baz=18,slow=39
KEST Kesra 85.98 305 *e*P **P** **17 28 59.0 +1.8**
BFO Black Forest 86.72 318 *i*P **P** **17 29 00.6 +0.1**
BFO Black Forest 86.72 318 *e*P **P** **17 29 00.7 +0.2**
VNDA Vanda 87.28 169 P **P** **17 29 01.9 -0.6**
comp=Z,1.1nm,0.6s,baz=54,slow=3.4,SNR=5.2
VNDA LR LR 18 01 14.6
comp=Z,216nm,21.0s,baz=312,slow=31
SENIN Lac Senin/Sane 87.44 316 *e*P **P** **17 29 04.9 +0.6**
ECH Echery 87.51 318 *e*P **P** **17 29 02.8 -1.5**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 87.51 318 *e*P **P** **17 29 02.8 -1.5**
comp=Z,12nm,1.0s
ATKA Atka Island 87.83 38 *e*P **P** **17 29 06.1 +0.4**
BNI Bardonecchia 87.90 315 *e*P **P** **17 29 10.1 +3.7**
BNI Bardonecchia 87.90 315 *e*P **P** **17 29 10.1 +3.7**
WLF Walferdange 88.14 319 P **P** **17 29 08.5 +1.3**
comp=Z,16nm,1.6s
WLF AP **pP** **17 29 20.5 +1.2**
WLF Walferdange 88.14 319 *e*P **P** **17 29 08.5 +1.3**
WLF Walferdange 88.14 319 *e*P **P** **17 29 08.5 +1.3**
MEM Membach 88.20 320 P **P** **17 29 08.2 +0.7**
comp=Z,13nm,1.3s
MEM AP **pP** **17 29 20.8 +1.2**
SBA Scott Base 88.38 168 *e*P **P** **17 29 09.2 +1.4**
SBA Scott Base 88.38 168 *e*P **P** **17 29 09.2 +1.4**
BCLA Clavier 88.66 320 P **P** **17 29 10.2 +0.6**
comp=Z,8.4nm,1.5s
DOU Dourbes 89.13 320 P **P** **17 29 12.8 +1.0**
SNF Seneffe 89.31 320 P **P** **17 29 13.8 +1.1**
TAM Tamanrasset 89.65 293 *e*P **P** **17 29 16.9 +1.8**
TAM *e**PP **pP** **17 29 29.6 +2.4**
TAM Tamanrasset 89.65 293 *e*P **P** **17 29 16.9 +1.8**
TAM LR LR
comp=Z,259nm,19.0s
NVL N'lazarevskaya 90.45 199 *e*P pP 17 29 30.6 +0.9
QSPA South Pole Qui 92.42 180 PFAKE 17 29 40.0 +13
QSPA LR LR
comp=Z,414nm,20.0s
CWF Charnwood Fore 92.57 323 *e*P **P** **17 29 29.0 +1.1**
DAG Danmarks Havn 93.14 348 *i*P **P** **17 29 29.2 -0.8**
comp=Z,8.5nm,0.8s
DAG Danmarks Havn 93.14 348 *i*P **P** **17 29 29.2 -0.8**
DAG pmax pmax
comp=Z,6.0nm,0.8s
TORD Torodi Ar. Bea 93.80 283 P **P** **17 29 34.6 +0.3**
comp=Z,8.0nm,1.1s,baz=84,slow=5.2,SNR=29
TORD LR LR 18 11 53.5
comp=Z,293nm,18.0s,baz=65,slow=36
SNAA Sanae 95.18 198 *e*P **P** **17 29 39.2 -0.3**
SNAA pmax pmax
comp=Z,68nm,1.2s
TTA Tatalina 95.83 26 *e*P **P** **17 29 43.7 +1.0**
TTA Tatalina 95.83 26 *e*P **P** **17 29 43.7 +1.0**
ES19 SONSECA Array 96.17 310 *e*P **P** **17 29 45.5 +0.8**
ESDC Sonseca Array 96.22 310 P **P** **17 29 45.2 +0.2**
comp=Z,0.7nm,0.6s,baz=50,slow=3.4,SNR=7.9
ESDC PP **PP** **17 33 40.0 +1.7**
comp=Z,0.6nm,0.7s,baz=81,slow=7.2,SNR=4.0
CAST Castle Rocks 97.36 25 *e*P Pdif 17 29 50.8 +1.2
BPAW Bear Paw Mtn. 97.57 24 *e*P Pdif 17 29 51.2 +0.7
MDT Mistit 97.71 303 PP PP 17 33 49.7 -0.4
comp=Z,6.2nm,1.0s,baz=103,slow=9.1,SNR=9.2
COLA College 98.51 23 PFAKE 17 30 10.0 +15
COLA LR LR
comp=Z,400nm,21.0s
ILAR Eielson Array 98.92 23 P **P** **17 29 55.6 -0.9**
comp=Z,0.7nm,1.0s,baz=301,slow=4.3,SNR=4.9
ILAR PP **PP** **17 33 59.3 +1.1**
comp=Z,1.1nm,0.8s,baz=298,slow=7.4,SNR=6.9
ILAR LR LR 18 19 25.8
comp=Z,206nm,20.0s,baz=325,slow=38
RTC Rabat Centre 99.39 305 PFAKE 17 30 10.0 +11
RTC LR LR
comp=Z,1μm,20.0s
EGAK Eagle 101.08 22 PFAKE 17 30 20.0 +14
EGAK LR LR
comp=Z,423nm,19.0s
TBI Tubuai 113.32 114 *e*LR LR 18 09 03.0
comp=Z,414nm,24.0s
PPT2 Papeete2 113.85 108 *e*LR LR 18 09 25.0
comp=Z,215nm,24.0s
SACV Santiago Islan 117.94 288 PFAKE 17 35 20.0 +16
SACV LR LR
comp=Z,161nm,20.0s
NLWA Neilton Lookou 119.22 30 PFAKE 17 35 20.0 +14
NLWA LR LR
comp=Z,173nm,19.0s
FFC Flin Flon 121.04 12 PFAKE 17 35 20.0 +11
FFC LR LR
comp=Z,520nm,22.0s
NEW Newport 121.73 26 PFAKE 17 35 20.0 +10
NEW LR LR
comp=Z,308nm,21.0s
BMO Blue Mountains 124.23 28 PFAKE 17 35 30.0 +15
BMO LR LR
comp=Z,393nm,22.0s
EGMT Eagleton 124.84 21 PFAKE 17 35 30.0 +13
EGMT LR LR
comp=Z,434nm,22.0s
WVOR Wild Horse Val 125.33 31 PFAKE 17 35 30.0 +12
WVOR LR LR
comp=Z,314nm,20.0s
BOZ Bozeman (W) 126.15 24 PFAKE 17 35 30.0 +11
BOZ LR LR
comp=Z,541nm,20.0s
DGMT Dagmar 126.24 17 PFAKE 17 35 30.0 +11
DGMT LR LR
comp=Z,374nm,20.0s
HLID Hailey 126.56 27 P **PKPdf** **17 35 19.8 -0.2**
baz=321
HLID Hailey 126.56 27 PFAKE 17 35 30.0 +10
HLID LR LR
comp=Z,269nm,19.0s
LAO LASA Array 127.21 19 PFAKE 17 35 30.0 +8.9
LAO LR LR
comp=Z,325nm,21.0s
RLMT Red Lodge 127.47 23 PFAKE 17 35 30.0 +8.2
RLMT LR LR
comp=Z,516nm,20.0s
LKWY Lake 127.49 24 PFAKE 17 35 30.0 +8.1
LKWY LR LR
comp=Z,588nm,21.0s
A33A Warroad 127.81 10 P **PKPdf** **17 35 21.5 -0.5**
baz=345
AGMN Agassiz Nation 128.35 10 PFAKE 17 35 30.0 +6.9
AGMN LR LR
comp=Z,708nm,20.0s
BW06 Boulder Array 129.32 24 PFAKE 17 35 40.0 +15
BW06 LR LR
comp=Z,340nm,20.0s
EYMN Ely 129.33 7 PFAKE 17 35 40.0 +15
EYMN LR LR
comp=Z,509nm,19.0s
HWUT Hardware Ranch 129.40 27 PFAKE 17 35 40.0 +14
HWUT LR LR
comp=Z,302nm,19.0s
R11A Troy Canyon, C 129.89 33 P **PKPdf** **17 35 25.7 -0.8**
baz=317
DUG Dugway, Tooele 129.92 29 P **PKPdf** **17 35 25.9 -0.7**
baz=321
DUG Dugway, Tooele 129.92 29 PFAKE 17 35 40.0 +13
DUG LR LR
comp=Z,211nm,19.0s
MPMC Manual Prospec 130.44 36 P **PKPdf** **17 35 26.8 -0.9**
baz=313
RCBR Riachuelo 132.09 264 PFAKE 17 35 40.0 +8.8
RCBR LR LR
comp=Z,256nm,19.0s
ECSD EROS Data Cent 132.58 13 PFAKE 17 35 40.0 +8.7
ECSD LR LR
comp=Z,437nm,20.0s
GLMI Grayling 132.90 1 PFAKE 17 35 40.0 +8.2
GLMI LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 133.42 23 PFAKE 17 35 50.0 +17
ISCO LR LR
comp=Z,471nm,20.0s
OGNE Ogallala 133.70 19 PFAKE 17 35 50.0 +16

OGNE LR LR
comp=Z,447nm,19.0s
WUAZ Wupatki 134.25 32 PFAKE 17 35 50.0 +15
WUAZ LR LR
comp=Z,223nm,21.0s
MVCO Mesa Verde 134.34 28 PFAKE 17 35 50.0 +15
MVCO LR LR
comp=Z,299nm,20.0s
SCIA State Center 135.00 10 PFAKE 17 35 50.0 +14
SCIA LR LR
comp=Z,529nm,22.0s
SDCO Great Sand Dun 135.22 25 PFAKE 17 35 50.0 +13
SDCO LR LR
comp=Z,422nm,21.0s
AAM Ann Arbor 135.42 360 PFAKE 17 35 50.0 +13
AAM LR LR
comp=Z,398nm,21.0s
HDIL Hopedale 136.88 6 PFAKE 17 35 50.0 +11
HDIL LR LR
comp=Z,399nm,19.0s
KSU1 Kansas State U 136.98 15 PFAKE 17 35 50.0 +10
KSU1 LR LR
comp=Z,363nm,22.0s
TUC Tucson 136.99 34 PFAKE 17 35 50.0 +10
TUC LR LR
comp=Z,383nm,19.0s
ANMO Albuquerque 137.14 28 PFAKE 17 35 50.0 +10
ANMO LR LR
comp=Z,377nm,19.0s
ACSO Alum Creek Sta 137.49 359 PFAKE 17 35 50.0 +9.5
ACSO LR LR
comp=Z,405nm,20.0s
CBN Corbin Frederi 139.08 352 PFAKE 17 36 00.0 +17
CBN LR LR
comp=Z,471nm,22.0s
MNTX Cornudas Mount 140.31 29 PFAKE 17 36 00.0 +14
MNTX LR LR
comp=Z,339nm,20.0s
BLA Blacksburg 140.38 356 PFAKE 17 36 00.0 +14
BLA LR LR
comp=Z,399nm,19.0s
WMOK Wichita Mounta 140.40 19 PFAKE 17 36 00.0 +14
WMOK LR LR
comp=Z,329nm,20.0s
BBSR BB Station 140.88 334 PFAKE 17 36 00.0 +13
BBSR LR LR
comp=Z,296nm,19.0s
X37A Clayton 141.56 15 P **PKPdf** **17 35 45.5 -2.6**
baz=341
ABTX Abilene, Hawle 142.01 22 P **PKPdf** **17 35 45.4 -3.6**
baz=334
MIAR Mount Ida 142.04 13 PFAKE 17 36 00.0 +11
MIAR LR LR
comp=Z,481nm,19.0s
CNNC Cliffs of the 142.06 352 PFAKE 17 36 00.0 +11
CNNC LR LR
comp=Z,489nm,21.0s
BDFB Brasilia 142.38 247 PKP **PKPdf** **17 35 50.9 +0.7**
comp=Z,0.3nm,0.3s,baz=97,slow=2.4,SNR=3.6
BDFB Brasilia 142.38 247 PKIKP **PKPdf** **17 35 50.9 +0.7**
BDFB pmax pmax
comp=Z,2.0nm,1.1s
TXAR Lajitas Array 143.09 30 PKP PKPbc 17 35 48.5 +0.5
comp=Z,2.5nm,1.0s,baz=240,slow=0.7,SNR=17
Z40A Long Farm, Mag 143.32 13 P PKPab 17 35 47.4 +0.3
baz=344
137A Heron Place, G 143.33 17 P PKPbc 17 35 48.0 -0.3
baz=340
138A Matatall Enter 143.46 16 P PKPbc 17 35 50.2 +1.5
baz=341
Y46A Houston 143.52 7 P PKPbc 17 35 48.6 -0.2
baz=352
Y47A UCPARC, Winfie 143.61 6 P PKPab 17 35 48.5 +0.3
baz=353
Z42A Norrel Spur, H 143.62 12 P PKPbc 17 35 50.0 +0.9
baz=346
236A Katherine and 143.65 18 P PKPbc 17 35 49.7 +0.4
baz=338
JCT Junction City 143.85 24 P PKPbc 17 35 50.7 +0.6
baz=332
JCT Junction City 143.85 24 PFAKE 17 36 00.0 +7.6
JCT LR LR
comp=Z,309nm,20.0s
140A Cam and Jess, 143.87 14 P PKPbc 17 35 51.0 +1.1
baz=343
336A Riesel 144.11 19 P **PKPab** **17 35 50.6 +0.3**
baz=338
Z48A Northport 144.16 5 P PKPbc 17 35 50.8 0.0
baz=354
239A Gary 144.23 16 P PKPbc 17 35 51.4 +0.3
baz=342
Z47A Carrollton 144.28 6 P PKPbc 17 35 51.2 +0.1
baz=353
GOGA Godfrey 144.30 359 PFAKE 17 36 00.0 +7.0
GOGA LR LR
comp=Z,549nm,21.0s
NATX Nacogdoches 144.43 16 PFAKE 17 36 10.0 +17
NATX LR LR
comp=Z,431nm,20.0s
NHSC New Hope 144.44 355 PFAKE 17 36 10.0 +17
NHSC LR LR
comp=Z,460nm,20.0s
241A Mo Tay, Goldon 144.62 13 P **PKPdf** **17 35 53.2 -0.3**
baz=344
338A Crockett 144.62 17 P **PKPdf** **17 35 53.2 -0.4**
baz=340
145A Houston Renfro 144.63 9 P **PKPdf** **17 35 53.2 -0.3**
baz=350,SNR=6.9
436A Wall Ranch, Ga 144.70 20 P PKPbc 17 35 52.8 +0.3
baz=337
146A Union 144.72 8 P **PKPdf** **17 35 53.4 -0.4**
baz=351,SNR=9.4
242A Grayson 144.75 12 P **PKPdf** **17 35 53.4 -0.4**
baz=346
147A Livingston 144.78 7 P PKPbc 17 35 53.3 +0.5
baz=352
339A Huntington 144.86 16 P PKPbc 17 35 53.6 +0.6
baz=341
VBMS Vicksburg 144.91 10 P **PKPdf** **17 35 53.9 -0.1**
baz=348
340A Bronson 144.96 15 P **PKPab** **17 35 52.6 -0.7**
baz=342,SNR=15
244A Avery, Jackson 145.05 10 P **PKPbc** **17 35 52.8 -0.9**
baz=348,SNR=12
243A Waterproof 145.06 11 P **PKPdf** **17 35 54.6 +0.2**
baz=347
438A Sam Houston St 145.14 18 P **PKPdf** **17 35 54.8 +0.3**
baz=339,SNR=5.6
245A Little AP, Sta 145.19 9 P **PKPdf** **17 35 55.0 +0.5**
baz=349,SNR=9.1
341A Kurthwood 145.22 14 P **PKPdf** **17 35 55.0 +0.4**
baz=344,SNR=7.6
CPUP Villa Florida 145.22 225 PKPbc **PKPab** **17 35 54.7 +0.2**
comp=Z,3.9nm,0.8s,baz=60,slow=6.0,SNR=4.6
439A Center Grove, 145.31 17 P **PKPdf** **17 35 55.5 +0.7**
baz=341,SNR=5.0
246A Jackson Lee, B 145.32 8 P **PKPdf** **17 35 55.7 +0.9**
baz=351
247A Quitman 145.35 7 P **PKPdf** **17 35 55.9 +1.0**
baz=352
342A Flagon Creek P 145.37 13 P **PKPdf** **17 35 56.2 +1.3**
baz=345
248A Dixon Mills 145.41 6 P **PKPbc** **17 35 54.7 -0.1**
baz=353,SNR=7.6
440A Kirbyville 145.57 16 P **PKPab** **17 35 56.2 +0.6**
baz=342,SNR=5.1
344A Westbrook Farm 145.62 10 P **PKPbc** **17 35 55.6 +0.1**
baz=348
441A DeRidder 145.77 14 P **PKPab** **17 35 57.5 +1.2**
baz=343
636A Smothers Creek 145.79 21 P **PKPab** **17 35 57.7 +1.3**
baz=336
346A Big Creek Wild 145.89 9 P **PKPab** **17 35 57.2 +0.4**
baz=350
833A Chaparral WMA, 145.91 25 P **PKPab** **17 35 57.5 +0.5**
baz=332
539A Cross D Ranch, 145.96 17 P **PKPab** **17 35 58.2 +1.1**
baz=340
442A Mamou 145.99 13 P **PKPab** **17 35 58.4 +1.3**
baz=345
347A Saraland 146.01 7 P **PKPab** **17 35 58.0 +0.8**
baz=352
637A Eagle Lake 146.07 20 P **PKPab** **17 35 58.7 +1.1**
baz=337
735A Kenedy 146.08 22 P **PKPab** **17 35 58.8 +1.2**
baz=334,SNR=7.0
736A Circle Diamond 146.26 21 P **PKPab** **17 35 59.2 +1.0**

baz=336
TIGA Tifton 146.26 360 P PKPbc 17 35 57.4 0.0
baz=0.4
444A Pine Grove 146.34 11 P PKPab 17 35 59.3 +0.8
baz=348
445A Amite 146.39 10 P PKPab 17 35 59.4 +0.7
baz=348
541A Lake Charles 146.43 15 P PKPab 17 35 59.2 +0.3
baz=343
448A Bay Minette 146.55 6 P PKPab 17 35 59.6 +0.3
baz=353
835A Beeville 146.58 23 P PKPab 17 35 59.4 -0.1
baz=334,SNR=19
933A Laredo 146.58 25 P PKPdf 17 35 55.9 -1.2
baz=331
447A Lucedale 146.59 8 P PKPab 17 35 59.8 +0.4
baz=351
934A Benavides 146.91 24 P PKPab 17 36 00.9 +0.1
baz=332,SNR=6.4
KVTX Kingsville 147.22 23 PFAKE 17 36 10.0 +8.0
KVTX LR LR
comp=Z,414nm,21.0s
034A Hebbronville 147.32 25 P PKPbc 17 36 00.6 0.0
baz=332,SNR=9.0
035A Encino 147.67 24 P PKPbc 17 36 02.1 +0.5
baz=333
035Z Hargill 148.10 25 P PKPbc 17 36 02.5 -0.3
baz=332
ANWB Willy Bob 150.45 313 PFAKE 17 36 20.0 +4.7
ANWB LR LR
comp=Z,300nm,21.0s
FDF Fort de France 151.77 308 PFAKE 17 36 20.0 -0.9
FDF LR LR
comp=Z,323nm,21.0s
GRTK Grand Turk 153.11 333 PFAKE 17 36 20.0 +5.1
GRTK LR LR
comp=Z,269nm,22.0s
SJG San Juan 153.13 320 PFAKE 17 36 20.0 +5.0
SJG LR LR
comp=Z,282nm,20.0s
SDDR Presa de Saban 155.36 330 PFAKE 17 36 20.0 +9.2
SDDR LR LR
comp=Z,243nm,20.0s
GTBY Guantanamo Bay 156.14 339 PFAKE 17 36 20.0 +8.3
GTBY LR LR
comp=Z,301nm,22.0s
SAML Samuel 158.49 252 PFAKE 17 36 30.0 +15
SAML LR LR
comp=Z,254nm,20.0s
MTDJ Mount Denham 158.51 343 PFAKE 17 36 30.0 +15
MTDJ LR LR
comp=Z,294nm,19.0s
LPAZ La Paz 159.34 227 PKP PKPdf 17 36 17.3 +0.7
comp=Z,0.7nm,0.8s,baz=168,slow=4.0,SNR=3.4
SDV Santo Domingo 162.66 311 PFAKE 17 36 30.0 +10
SDV LR LR
comp=Z,337nm,20.0s
BCIP Isla Barro Col 167.76 341 PFAKE 17 36 30.0 +6.3
BCIP LR LR
comp=Z,277nm,22.0s
OTAV Otavalo 173.98 297 PFAKE 17 36 40.0 +12
OTAV LR LR
comp=Z,278nm,22.0s

*CSEM **16** 17:25:10.7, 39°.13N×29°.09E, h7km, MD2.2*
DDA 16 17:25:10.7, 39°.13N×29°.09E, h7km, Md2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**254**	*i* P	Pg	17 25 16.9	+0.3
DEMI				*i* S	Sg	17 25 21.4	+0.8
DEMI	**Demirci**	**0.30**	**254**	P	Pg	17 25 16.9	+0.3
DEMI				S	Sg	17 25 21.4	+0.8
GDZ	**Gediz**	**0.31**	**97**	*i* P	Pg	17 25 17.2	+0.4
GDZ				*i* S	Sg	17 25 21.6	+0.8
GDZ	**Gediz**	**0.31**	**97**	P	Pg	17 25 17.2	+0.4
GDZ				S	Sg	17 25 21.6	+0.7
MANT	**Manisa**	**0.76**	**213**	*i* P	Pg	17 25 25.4	+0.2
MANT				*i* S	Sg	17 25 35.3	+0.2
MANT	**Manisa**	**0.76**	**213**	P	Pg	17 25 25.4	+0.2
MANT				S	Sg	17 25 35.3	+0.2
KHAL	**Karahalli**	**0.82**	**157**	*i* P	Pb	17 25 27.0	-0.3
KHAL				*i* S	Sb	17 25 38.0	-0.6
KHAL	**Karahalli**	**0.82**	**157**	P	Pb	17 25 27.0	-0.3
KHAL				S	Sb	17 25 38.0	-0.5

*KRNET **16** 17:31:51.6±0.1, 39°.49N×74°.51E, mb3.1*
*ISCJB **16** 17:31:53.0±1.1, 39°.44N±0°.06×74°.53E±0°.05, h10km, Error ellipse: s-maj=9.0km s-min=5.5km az=159.6*
*NNC **16** 17:31:56.7±4.2, 40°.01N×74°.69E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=30.8km s-min=17.6km az=164.0*
ISC 16 17:31:55.9±1.8, 39°.62N±0°.09×74°.41E±0°.04, h10km, n19, σ1§32/35, 33C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**2.02**	**328**	⇑*e*P	**Pn**	**17 32 30.7**	**+0.4**
ARSB	baz=328			⇑*e*S	**Sg**	**17 33 00.0**	**-1.0**
ARLS	**Aral**	**2.24**	**358**	⇑*e*P	**Pn**	**17 32 33.3**	**0.0**
ARLS	baz=357			⇑*e*S	**Sb**	**17 33 05.1**	**+0.5**
KZA	**Kyzart**	**2.54**	**14**	⇑*i*P	**Pn**	**17 32 37.9**	**+0.3**
KZA	baz=12			⇑*i*S	**Sb**	**17 33 10.9**	**-2.5**
AML	**Almayashu**	**2.57**	**348**	⇑*i*P	**Pn**	**17 32 38.5**	**+0.5**
AML	baz=347			⇑*i*S	**Sn**	**17 33 11.8**	**+2.3**
TOKL	**Toktogul**	**2.60**	**334**	⇑*e*P	**Pn**	**17 32 38.8**	**+0.7**
TOKL	baz=334			⇑*i*S	**Sb**	**17 33 13.8**	**-0.9**
BTK	**Batken**	**2.80**	**280**	⇑*i*P	**Pn**	**17 32 41.1**	**+0.2**
BTK	baz=283			⇑*i*S	**Sn**	**17 33 16.0**	**+1.3**
ARK	**Arkit**	**2.86**	**320**	⇑*e*P	**Pn**	**17 32 41.9**	**+0.1**
ARK	baz=321			⇑*i*S	**Sb**	**17 33 19.5**	**-2.9**
ULHL	**Ulahol**	**2.97**	**27**	⇑*i*P	**Pn**	**17 32 42.9**	**-0.5**
ULHL	baz=25			⇑*i*S	**Sn**	**17 33 20.3**	**+1.1**
AAK	**Ala-Archa**	**3.02**	**1**	⇑*e*P	**Pn**	**17 32 43.9**	**-0.1**
AAK	baz=360			⇑*i*S	**Sn**	**17 33 21.6**	**+1.3**
AAK	**Ala-Archa**	**3.02**	**1**	⇑Pg	**Pn**	**17 32 44.2**	**+0.2**
AAK	9.3nm,0.5s			Lg	Lg	17 33 24.3	
EKS2	**Erkin-Say**	**3.08**	**351**	⇑*i*P	**Pn**	**17 32 44.6**	**-0.2**
EKS2	baz=351			⇑*i*S	**Sn**	**17 33 23.3**	**+1.6**
BOOM	**Boomskoye usch**	**3.10**	**21**	⇓*i*P	**Pn**	**17 32 44.5**	**-0.5**
BOOM	baz=19			⇓*i*S	**Sn**	**17 33 23.8**	**+1.6**
MNAS	**Manas**	**3.21**	**334**	⇑*i*P	**Pn**	**17 32 47.3**	**+0.7**
MNAS	baz=334			⇑*i*S	**Sn**	**17 33 28.5**	**+3.6**
MNAS	**Manas**	**3.21**	**334**	⇑Pg	**Pn**	**17 32 48.9**	**+2.3**
MNAS	3.8nm,0.5s			⇓Lg	Lg	17 33 32.0	
KDJ	**Kajisay**	**3.27**	**39**	⇑*i*P	**Pn**	**17 32 47.3**	**-0.2**
KDJ	baz=37			⇑*i*S	**Sn**	**17 33 27.2**	**+0.6**
TKM2	**Tokmak 2**	**3.42**	**15**	⇑*i*P	**Pn**	**17 32 49.3**	**-0.2**
TKM2	baz=13			⇑*i*S	**Sn**	**17 33 31.0**	**+0.7**
TKM2	**Tokmak 2**	**3.42**	**15**	⇓Pg	**Pn**	**17 32 50.1**	**+0.5**
TKM2	10nm,0.7s			⇑Lg	Lg	17 33 32.4	
	23nm,0.5s						
KK31	**Karatay Array**	**4.55**	**321**	Pn	**Pn**	**17 33 05.1**	**+0.2**
	0.6nm,0.5s,baz=126,slow=12,SNR=22						
KK31				⇑Pg	**Pb**	**17 33 14.6**	**-1.3**
	1.9nm,0.6s,baz=134,slow=14,SNR=3.6						
KK31				⇑Sn	**Sn**	**17 33 58.9**	**+1.0**
	1.9nm,0.5s,baz=130,slow=25,SNR=4.7						
KK31				⇑Lg	Lg	17 34 16.7	
	3.0nm,0.5s,baz=131,slow=26,SNR=5.8						
PDGK	**Podgornoye**	**5.32**	**44**	⇑Pg	**Pb**	**17 33 29.7**	**+0.6**
	5.7nm,0.7s						
PDGK				⇓Lg	Lg	17 34 33.4	
	7.7nm,0.7s						

*ISCJB **16** 17:33:08.5±0.2, 51°.88N±0°.04×171°.66W±0°.03, h44km, mb4.5/108, MS3.8/7, Error ellipse: s-maj=5.2km s-min=2.3km az=177.6*
*NEIC **16** 17:33:08.6±0.0, 51°.63N×171°.62W, h42km, mb4.6/83, ML4.2(AEIC), After AEIC.*
*MOS **16** 17:33:08.3±1.2, 52°.10N×171°.74W, h33km, mb4.6/40, Error ellipse: s-maj=8.9km s-min=7.7km az=75.2*
*IDC **16** 17:33:11.7±2.2, 52°.06N×171°.70W, h51km±18km, mb3.9/26, mb1 4.1/28, mb1mx4.0/49, mbtmp4.2/28, ML3.9/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/41, Error ellipse: s-maj=18.8km s-min=11.0km az=170.0*
ISC 16 17:33:10.6±0.5, 51°.91N±0°.08×171°.69W±0°.03, h44km, n454, σ1§26/461, mb4.5/108, MS3.5/7, 7C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.52**	**288**	P	**Pn**	**17 33 36.3**	**+0.9**
KOFF	**Korovin Flat P**	**1.53**	**285**	P	**Pn**	**17 33 35.9**	**+0.4**
KONE	**Korovin Northe**	**1.58**	**289**	P	**Pn**	**17 33 37.1**	**+1.0**
ATKA	**Atka Island**	**1.58**	**282**	*e*Pn	**Pn**	**17 33 35.2**	**-0.9**
KOKL	**Mount Kliuchef**	**1.60**	**286**	P	**Pn**	**17 33 37.2**	**+0.7**
NIKH	**Nikolski High**	**2.04**	**57**	*e*Pn	**Pn**	**17 33 41.4**	**-1.0**
OKSO	**Okmok South**	**2.59**	**55**	P	**Pn**	**17 33 50.5**	**+0.5**
OKSO				S	**Sn**	**17 34 22.9**	**+2.6**
OKAK	**Okmok**	**2.62**	**49**	P	**Pn**	**17 33 50.9**	**+0.4**
OKCE	**Okmok Cone E**	**2.63**	**53**	P	**Pn**	**17 33 51.7**	**+1.1**
OKNC	**Okmok New Cone**	**2.67**	**53**	P	**Pn**	**17 33 52.1**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**2.67**	**55**	P	**Pn**	**17 33 52.3**	**+1.2**
GSTR	**Great Sitkin T**	**2.71**	**276**	*e*Pn	**Pn**	**17 33 52.2**	**+0.5**
OKFG	**Magazine Ridge**	**2.75**	**55**	P	**Pn**	**17 33 52.7**	**+0.5**
GSTD	**Great Sitkin T**	**2.76**	**275**	P	**Pn**	**17 33 52.9**	**+0.5**
GSTD				S	**Sn**	**17 34 25.5**	**+0.9**
GSCK	**Great Sitkin C**	**2.77**	**274**	P	**Pn**	**17 33 52.1**	**-0.4**
ETKA	**Kagalaska Isla**	**2.93**	**271**	P	**Pn**	**17 33 54.6**	**0.0**
ADAG	**Mount Adagdak**	**3.04**	**273**	P	**Pn**	**17 33 57.1**	**+0.9**
ADK	**Adak**	**3.10**	**271**	*e*P	**Pn**	**17 33 56.8**	**-0.1**
ADK	**Adak**	**3.10**	**271**	*e*Pn	**Pn**	**17 33 56.8**	**-0.1**
KIKV	**Kanaga Island**	**3.40**	**272**	P	**Pn**	**17 34 01.8**	**+0.7**
MSW	**Makushin Switc**	**3.58**	**54**	P	**Pn**	**17 34 04.3**	**+0.6**
MTBL	**Makushin Table**	**3.67**	**54**	P	**Pn**	**17 34 05.8**	**+1.0**
UNV	**Unalaska Valle**	**3.69**	**56**	*e*Pn	**Pn**	**17 34 05.8**	**+0.7**
TAFP	**Tanaga Falls P**	**3.90**	**272**	P	**Pn**	**17 34 08.6**	**+0.6**
AKRB	**Akutan Reef Bi**	**4.06**	**55**	P	**Pn**	**17 34 12.9**	**+2.8**
AKMO	**Akutan Morgan**	**4.07**	**55**	P	**Pn**	**17 34 12.6**	**+2.4**
ZRO	**Akutan Zero**	**4.08**	**55**	P	**Pn**	**17 34 12.9**	**+2.4**
LVA	**Lava Point**	**4.09**	**54**	P	**Pn**	**17 34 12.3**	**+1.7**
AKLV	**Akutan Long Va**	**4.13**	**55**	P	**Pn**	**17 34 13.5**	**+2.3**
AKGG	**Akutan Green G**	**4.13**	**54**	P	**Pn**	**17 34 13.3**	**+2.1**
HSB	**Akutan Spr's B**	**4.16**	**55**	P	**Pn**	**17 34 14.8**	**+3.2**
AKUT	**Akutan**	**4.21**	**56**	*e*Pn	**Pn**	**17 34 13.5**	**+1.3**
AKUT				*e*Sn	**Sn**	**17 34 58.7**	**-1.3**
AKSA	**Akutan Strait**	**4.25**	**56**	P	**Pn**	**17 34 15.2**	**+2.5**
SPIA	**Saint Paul Isl**	**5.34**	**8**	*e*Pn	**Pn**	**17 34 29.6**	**+1.9**
SSLW	**Shishaldin Wes**	**5.36**	**55**	P	**Pn**	**17 34 30.4**	**+2.3**
FALS	**False Pass**	**5.76**	**56**	*e*Pn	**Pn**	**17 34 35.4**	**+1.9**
DT1	**Dutton Round H**	**6.46**	**57**	P	**Pn**	**17 34 43.9**	**+0.8**
DTNA	**Dutton South F**	**6.49**	**56**	P	**Pn**	**17 34 43.8**	**+0.3**
SDPT	**Sand Point**	**7.50**	**58**	*e*Pn	**Pn**	**17 34 57.4**	**+0.1**
CHGN	**Chignik**	**8.95**	**55**	*e*Pn	**Pn**	**17 35 17.4**	**+0.3**
OHAK	**Old Harbor**	**11.91**	**56**	*e*Pn	**Pn**	**17 35 55.5**	**-2.1**
KDAK	**Kodiak Island**	**12.46**	**54**	P	**Pn**	**17 36 02.3**	**-2.7**
	0.8nm,0.3s,baz=218,slow=4.9,SNR=14						
KDAK	**Kodiak Island**	**12.46**	**54**	*c*eP	**Pn**	**17 36 03.0**	**-2.1**
SPU	**Mount Spurr**	**14.21**	**42**	*e*Pn	**Pn**	**17 36 31.6**	**+2.6**
SEW	**Seward**	**14.84**	**48**	*e*Pn	**Pn**	**17 36 37.7**	**+0.5**
PPLA	**Purkeypile**	**15.14**	**36**	*e*Pn	**Pn**	**17 36 42.4**	**+1.0**
	45nm,1.3s						
CAST	**Castle Rocks**	**15.50**	**34**	*e*Pn	**P**	**17 36 48.5**	**-1.2**
	41nm,1.6s						
KTH	**Kantishna Hill**	**15.99**	**35**	*e*Pn	**P**	**17 36 54.3**	**-0.9**
	25nm,1.2s						
TRF	**Thorofare Moun**	**16.16**	**36**	*e*Pn	**Pn**	**17 36 55.3**	**+0.8**
	21nm,1.3s						
BPAW	**Bear Paw Mtn.**	**16.31**	**34**	*e*Pn	**Pn**	**17 36 57.3**	**+1.0**
	15nm,0.8s						
SCM	**Sheep Creek Mo**	**16.50**	**44**	*e*P	**Pn**	**17 36 59.7**	**+0.9**
SCM				pmax	pmax		
	comp=Z,24nm,0.9s						
SCM	**Sheep Creek Mo**	**16.50**	**44**	*e*Pn	**Pn**	**17 36 59.7**	**+0.9**
	comp=Z,24nm,0.9s						
MCK	**McKinley**	**16.82**	**36**	*e*P	**Pn**	**17 37 03.0**	**+0.3**
MCK				pmax	pmax		
	comp=Z,20nm,1.1s						
MCK	**McKinley**	**16.82**	**36**	*e*Pn	**Pn**	**17 37 03.0**	**+0.3**
	comp=Z,20nm,1.1s						
MLY	**Manley**	**16.99**	**31**	*e*Pn	**P**	**17 37 07.1**	**+0.9**
	comp=Z,20nm,1.3s						
RAGM	**Ragged Mountai**	**17.16**	**50**	*e*Pn	Pn	17 36 58.3	-8.7
	comp=Z,353nm,0.5s						
BMRM	**Bremner River**	**17.38**	**48**	*e*Pn	**Pn**	**17 37 10.3**	**+0.6**
	comp=Z,16nm,1.0s						
CCB	**Clear Creek Bu**	**17.75**	**35**	*e*Pn	**Pn**	**17 37 13.0**	**-1.1**
	comp=Z,32nm,1.8s						
PAX	**Paxson**	**17.79**	**41**	P	**Pn**	**17 37 10.4**	**-4.3**
PAX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PAX	**Paxson**	**17.79**	**41**	Pn	**Pn**	**17 37 10.4**	**-4.3**
	comp=Z,8.8nm,0.9s						
IL1	**Eielson Array**	**18.14**	**35**	*e*P	**Pn**	**17 37 17.1**	**-1.8**
ILAR	**Eielson Array**	**18.14**	**35**	P	**Pn**	**17 37 16.8**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=235,slow=11,SNR=20						
ILAR				ScP	**ScP**	**17 45 20.3**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=255,slow=3.0,SNR=4.4						
ILB	**Eielson Array**	**18.14**	**35**	*e*P	**Pn**	**17 37 16.8**	**-2.1**
PETK	**Petropavlovsk-**	**18.61**	**286**	P	**P**	**17 37 25.0**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=89,slow=13,SNR=4.5						
PETK	**Petropavlovsk-**	**18.61**	**286**	P	**P**	**17 37 25.0**	**+0.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DOT	**Dot Lake**	**18.66**	**40**	*e*P	**Pn**	**17 37 25.7**	**+0.5**
	comp=Z,21nm,1.0s						
BILL	**Bilibino**	**19.38**	**335**	*e*P	**Pn**	**17 37 34.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,35nm,1.0s						
BILL				MLR	MLR		
	comp=Z,234nm,21.0s						
FYU	**Fort Yukon**	**19.73**	**32**	*e*P	**Pn**	**17 37 40.4**	**+2.6**
	comp=Z,55nm,1.5s						
TOLK	**Toolik Lake Re**	**19.83**	**24**	P	**P**	**17 37 37.8**	**+0.5**
	baz=223,SNR=6.4						
EGAK	**Eagle**	**20.29**	**39**	*e*P	**P**	**17 37 42.5**	**+0.2**
	comp=Z,8.9nm,0.7s						
HYT	**Haines Junctio**	**20.70**	**51**	*e*P	**P**	**17 37 48.7**	**+1.7**
	comp=Z,40nm,0.7s						
DAWY	**Dawson**	**20.72**	**42**	*e*P	**P**	**17 37 45.9**	**-1.1**
	comp=Z,9.1nm,0.9s						
SKAG	**Skagway**	**21.61**	**55**	*e*P	**P**	**17 37 57.6**	**+1.1**
	comp=Z,37nm,0.9s						
SEY	**Seymchan**	**21.95**	**314**	P	**P**	**17 38 00.6**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=134,slow=9.9,SNR=8.2						
SEY	**Seymchan**	**21.95**	**314**	*i* P	**P**	**17 37 58.7**	**-1.4**
WHY	**Whitehorse**	**21.95**	**52**	*e*P	**P**	**17 38 03.3**	**+2.9**
	comp=Z,13nm,0.8s						
DLBC	**Dease Lake**	**24.34**	**58**	P	**P**	**17 38 25.8**	**+1.7**
	comp=Z,26nm,0.8s,baz=270,slow=8.2,SNR=41						
INK	**Inuvik**	**24.52**	**34**	P	**P**	**17 38 24.9**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=236,slow=7.7,SNR=13						
BBB	**Bella Bella**	**26.50**	**72**	P	**P**	**17 38 42.9**	**-0.6**
	comp=Z,17nm,1.1s,baz=155,slow=20,SNR=7.0						
BBB				LR	LR	17 47 38.4	
	comp=Z,85nm,19.9s,baz=234,slow=33						
LLLB	**Lillooet**	**30.71**	**72**	*e*P	**P**	**17 39 22.8**	**+1.7**
	comp=Z,5.9nm,0.8s						
B05A	**Bryant**	**31.53**	**77**	P	**P**	**17 39 29.2**	**+1.0**
	baz=295						
YKA	**Yellowknife Ar**	**31.61**	**48**	P	**P**	**17 39 30.2**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=275,slow=7.1,SNR=8.7						
D05A	**Enumclaw**	**32.07**	**78**	*e*P	**P**	**17 39 35.8**	**+2.8**
	comp=Z,63nm,1.4s						
TIXI	**Tiksi**	**32.40**	**329**	PcP	**PcP**	**17 42 22.0**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=86,slow=2.0,SNR=5.8						
TIXI	**Tiksi**	**32.40**	**329**	*i* P	**P**	**17 39 34.7**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YAK	**Yakutsk**	**32.40**	**311**	*i* P	**P**	**17 39 35.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
B08A	**Colville Reser**	**33.15**	**75**	*e*P	**P**	**17 39 43.3**	**+0.8**
	comp=Z,7.7nm,0.9s						
G05D	**Wamic, OR**	**33.41**	**81**	P	**P**	**17 39 45.6**	**+0.8**
	baz=300						
I05D	**Terrebonne, OR**	**33.86**	**83**	P	**P**	**17 39 49.6**	**+0.8**
	baz=301						
HAWA	**Hanford**	**33.94**	**78**	*e*P	**P**	**17 39 50.7**	**+1.3**
	comp=Z,9.7nm,0.9s						
J04D	**Umpqua Nationa**	**33.96**	**85**	P	**P**	**17 39 50.6**	**+0.7**
	baz=302						
YBH	**Yreka Blue Hor**	**34.42**	**87**	*e*P	**P**	**17 39 55.9**	**+2.2**
YBH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
YBH	**Yreka Blue Hor**	**34.42**	**87**	*e*P	**P**	**17 39 55.9**	**+2.2**
	comp=Z,7.4nm,1.2s						
J05D	**Fort Rock, OR**	**34.48**	**84**	P	**P**	**17 39 54.8**	**+0.5**
	baz=302						
NEW	**Newport**	**34.51**	**74**	P	**P**	**17 39 54.8**	**+0.5**
	baz=297,SNR=12						
NEW	**Newport**	**34.51**	**74**	*e*P	**P**	**17 39 54.8**	**+0.5**
NEW				pmax	pmax		
	comp=Z,11nm,0.9s						
NEW	**Newport**	**34.51**	**74**	*e*P	**P**	**17 39 54.8**	**+0.5**
	comp=Z,11nm,0.9s						
K04D	**Chiloquin, OR**	**34.52**	**85**	P	**P**	**17 39 55.1**	**+0.5**
	baz=303						
M02C	**Callahan**	**34.52**	**88**	P	**P**	**17 39 55.8**	**+1.3**
	baz=304						
N02D	**Trinity Center**	**34.85**	**89**	P	**P**	**17 39 58.9**	**+1.5**
	baz=305						
M04C	**Macdoel**	**34.93**	**87**	P	**P**	**17 39 58.9**	**+0.8**
	baz=304,SNR=5.6						
O03D	**Paynes Creek**	**35.81**	**89**	P	**P**	**17 40 06.3**	**+0.7**
	baz=306,SNR=5.9						
MOD	**Modoc Plateau**	**35.81**	**85**	*e*P	**P**	**17 40 07.0**	**+1.3**
	comp=Z,6.7nm,0.8s						
WALA	**Waterton Lakes**	**36.04**	**71**	*e*P	**P**	**17 40 08.4**	**+0.8**
	comp=Z,12nm,1.0s						
BMO	**Blue Mountains**	**36.06**	**79**	*e*P	**P**	**17 40 08.8**	**+1.0**
BMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BMO	**Blue Mountains**	**36.06**	**79**	*e*P	**P**	**17 40 08.8**	**+1.0**
	comp=Z,5.2nm,1.1s						
BSMT	**Bassoo Peak**	**36.09**	**73**	*e*P	**P**	**17 40 08.9**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	18 18 38.0	
	baz=21,slow=76,SNR=178						
H11N3	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	18 18 39.2	
	baz=21,slow=76,SNR=166						
H11N1	**WAKE ISLAND Hy**	**36.24**	**216**	T	T	18 18 43.0	
	baz=21,slow=76,SNR=132						
WVOR	**Wild Horse Val**	**36.54**	**84**	*e*P	**P**	**17 40 13.3**	**+1.4**
WVOR				pmax	pmax		
	comp=Z,12nm,0.9s						
WVOR	**Wild Horse Val**	**36.54**	**84**	*e*P	**P**	**17 40 13.3**	**+1.4**
	comp=Z,12nm,0.9s						
MSO	**Missoula**	**37.09**	**74**	P	**P**	**17 40 16.8**	**+0.3**
	baz=299						
MSO	**Missoula**	**37.09**	**74**	*e*P	**P**	**17 40 17.5**	**+1.0**
	comp=Z,7.1nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**37.42**	**215**	T	T	18 20 11.9	
	baz=22,slow=76,SNR=266						
H11S2	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	18 20 18.9	
	baz=22,slow=76,SNR=217						
H11S3	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	18 20 10.7	
	baz=22,slow=76,SNR=214						
CHMT	**Chamberlain Mo**	**37.45**	**74**	*e*P	**P**	**17 40 19.8**	**0.0**
PAHR	**Pah Rah Range**	**37.65**	**88**	*e*P	**P**	**17 40 22.8**	**+1.4**
	comp=Z,15nm,1.0s						
MFID	**Camas Ranch**	**37.72**	**80**	*e*P	**P**	**17 40 22.8**	**+0.8**
	comp=Z,5.0nm,0.9s						
PNTR	**Pine Nut**	**37.89**	**89**	*e*P	**P**	**17 40 25.2**	**+1.7**
	comp=Z,18nm,0.9s						
CMB	**Columbia Colle**	**38.05**	**91**	*e*P	**P**	**17 40 26.0**	**+1.4**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMB	**Columbia Colle**	**38.05**	**91**	*e*P	**P**	**17 40 26.0**	**+1.4**
	comp=Z,4.7nm,1.1s						
YERR	**Yerington**	**38.17**	**89**	*e*P	**P**	**17 40 27.5**	**+1.6**
	comp=Z,13nm,0.9s						
MJAR	**Matsushiro Arr**	**38.25**	**266**	P	**P**	**17 40 27.7**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=27,slow=8.3,SNR=6.4						
MAJO	**Matsushiro**	**38.25**	**266**	*i* P	**P**	**17 40 26.5**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,55nm,1.0s						
WAKR	**Walker**	**38.34**	**89**	*e*P	**P**	**17 40 29.1**	**+1.8**
	comp=Z,9.3nm,0.9s						
HRY	**Holter Researc**	**38.40**	**73**	*e*P	**P**	**17 40 28.1**	**+0.5**
HLID	**Hailey**	**38.51**	**79**	P	**P**	**17 40 28.9**	**+0.3**
	baz=303,SNR=5.8						
HLID	**Hailey**	**38.51**	**79**	*e*P	**P**	**17 40 29.4**	**+0.8**
	comp=Z,5.6nm,1.0s						
BMN	**Battle Mountai**	**38.56**	**85**	*e*P	**P**	**17 40 30.3**	**+1.2**
BMN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BMN	**Battle Mountai**	**38.56**	**85**	*e*P	**P**	**17 40 30.3**	**+1.2**
	comp=Z,7.3nm,1.1s						
MCMT	**McKenzie Canyo**	**38.77**	**77**	*e*P	**P**	**17 40 31.4**	**+0.5**
EGMT	**Eagleton**	**38.97**	**70**	P	**P**	**17 40 32.1**	**-0.2**
	baz=299						
BOZ	**Bozeman (W)**	**39.09**	**75**	P	**P**	**17 40 33.6**	**+0.1**
	baz=301,SNR=6.4						
BOZ	**Bozeman (W)**	**39.09**	**75**	*e*P	**P**	**17 40 33.8**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,22nm,1.6s						
BOZ	**Bozeman (W)**	**39.09**	**75**	*e*P	**P**	**17 40 33.8**	**+0.3**
	comp=Z,22nm,1.6s						
PAGB	**Antelope Grade**	**39.59**	**93**	*e*P	**P**	**17 40 39.1**	**+1.6**
	comp=Z,39nm,1.6s						
YHB	**Horse Butte**	**39.81**	**76**	*e*P	**P**	**17 40 40.1**	**+0.6**
	comp=Z,15nm,1.3s						
YHH	**Holmes Hill**	**39.99**	**75**	*e*P	**P**	**17 40 41.6**	**+0.5**
	comp=Z,15nm,1.1s						
YNR	**Norris Junctio**	**40.13**	**75**	*e*P	**P**	**17 40 44.0**	**+1.7**
	comp=Z,15nm,1.1s						
H17A	**Grant Village**	**40.37**	**76**	P	**P**	**17 40 45.1**	**+0.9**
	baz=303						
H17A	**Grant Village**	**40.37**	**76**	*e*P	**P**	**17 40 46.3**	**+2.1**
	comp=Z,22nm,1.4s						
PKM	**Mcpherson Peak**	**40.41**	**94**	P	**P**	**17 40 45.9**	**+1.3**
	baz=311						
IMW	**Indian Meadow**	**40.43**	**77**	*e*P	**P**	**17 40 45.7**	**+1.0

LAO	LASA Array	41.71	70	P	P	17 40 55.1	+0.1
	baz=302						
LAO	LASA Array	41.71	70	eP	P	17 40 55.9	+0.9
	comp=Z,9.3nm,0.8s						
CN2	Changchun	41.75	285	eP	P	17 40 54.8	-0.5
BW06	Boulder Array	41.90	77	P	P	17 40 56.8	+0.1
	baz=305,SNR=12						
BW06	Boulder Array	41.90	77	eP	P	17 40 57.2	+0.4
PD31	Pinedale Array	41.90	77	eP	P	17 40 57.1	+0.4
PDAR	Pinedale Array	41.90	77	P	P	17 40 56.8	+0.1
	comp=Z,5.4nm,0.8s,baz=305,slow=5.2,SNR=21						
MWC	Mount Wilson	41.94	93	eP	P	17 40 58.7	+1.6
MWC				pmax	pmax		
	comp=Z,23nm,1.3s						
MWC	Mount Wilson	41.94	93	eP	P	17 40 58.7	+1.6
	comp=Z,23nm,1.3s						
SHOC	Shoshone, Teco	41.94	90	P	P	17 40 57.8	+0.8
	baz=310						
DGMT	Dagmar	41.95	67	P	P	17 40 56.6	-0.2
	baz=301						
GSC	Goldstone, Bar	42.00	91	P	P	17 40 58.6	+1.1
	baz=310,SNR=9.4						
GSC	Goldstone, Bar	42.00	91	eP	P	17 40 58.7	+1.2
GSC				pmax	pmax		
	comp=Z,16nm,0.9s						
GSC	Goldstone, Bar	42.00	91	eP	P	17 40 58.7	+1.2
	comp=Z,16nm,0.9s						
NLU	North Lily Min	42.01	82	eP	P	17 40 58.5	+0.8
	comp=Z,4.7nm,0.9s						
BFSC	Mount Baldy Ra	42.17	93	P	P	17 40 59.5	+0.5
	baz=311						
TUQ	Turquoise Moun	42.46	90	P	P	17 41 01.8	+0.5
	baz=310						
HEC	Hector,Ludlow	42.60	91	P	P	17 41 02.0	-0.4
	baz=311						
CCUT	Cedar City	42.70	86	eP	P	17 41 04.3	+1.0
	comp=Z,22nm,1.8s						
TMUT	Trail Mountain	42.94	82	eP	P	17 41 06.4	+1.1
	comp=Z,6.6nm,0.8s						
GMRC	Granite Mounta	43.05	91	P	P	17 41 06.5	+0.4
	baz=311,SNR=5.7						
P17A	Butcher Ranch,	43.12	82	eP	P	17 41 07.6	+1.0
	comp=Z,6.5nm,0.8s						
P18A	Preston Nutter	43.33	81	eP	P	17 41 09.5	+1.0
	comp=Z,6.4nm,0.9s						
TPFO	Pinon Flats	43.34	93	P	P	17 41 08.3	-0.2
	baz=312						
BELC	Belle Mtn. Jos	43.36	92	P	P	17 41 08.1	-0.5
	baz=312						
SRU	San Rafael Swe	43.48	82	eP	P	17 41 10.5	+0.9
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SRU	San Rafael Swe	43.48	82	eP	P	17 41 10.5	+0.9
	comp=Z,8.4nm,0.9s						
IRM	Iron Mountain	43.78	91	P	P	17 41 11.5	-0.4
	baz=311						
MONP2	Monument Peak	43.84	93	P	P	17 41 12.0	-0.6
	baz=312						
BC3	Big Chuckawall	43.93	92	P	P	17 41 12.7	-0.4
	baz=312						
W13A	Hualapai Mount	43.94	89	eP	P	17 41 14.2	+0.8
	comp=Z,5.0nm,0.9s						
KSRS	Korea Array	44.03	275	P	P	17 41 14.2	+0.5
	comp=Z,3.5nm,1.0s,baz=66,slow=7.6,SNR=5.0						
KSRS				LR	LR	17 58 54.2	
	comp=Z,48nm,21.8s,baz=235,slow=35						
KSAR	Wonju Array Be	44.06	276	P	P	17 41 14.2	+0.2
KSAR	Wonju Array Be	44.06	276	P	P	17 41 14.2	+0.2
SWSC	Sam W. Stewart	44.19	93	P	P	17 41 15.2	+0.1
	baz=312						
IKP	In-Ko-Pah, Jac	44.20	93	P	P	17 41 15.3	0.0
	baz=313						
O20A	White River Ci	44.25	79	P	P	17 41 15.0	-0.7
	baz=307,SNR=9.3						
O20A	White River Ci	44.25	79	eP	P	17 41 15.9	+0.2
	comp=Z,23nm,1.1s						
PDMCI	Parker Dam,Lak	44.31	90	P	P	17 41 16.6	+0.6
	baz=311						
RSSD	Black Hills	44.42	72	P	P	17 41 16.4	-0.7
	baz=305						
RSSD	Black Hills	44.42	72	eP	P	17 41 16.9	-0.1
RSSD				pmax	pmax		
	comp=Z,156nm,1.4s						
RSSD	Black Hills	44.42	72	eP	P	17 41 16.9	-0.1
	comp=Z,156nm,1.4s						
Y12C	Blythe	44.44	91	P	P	17 41 17.4	+0.4
	baz=312,SNR=5.5						
Y12C	Blythe	44.44	91	eP	P	17 41 17.9	+0.8
	comp=Z,8.2nm,0.9s						
GLA	Glamis	44.72	92	eP	P	17 41 21.8	+2.4
GLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GLA	Glamis	44.72	92	eP	P	17 41 21.8	+2.4
	comp=Z,8.4nm,0.8s						
PV10	Paradox Valley	44.84	82	eP	P	17 41 21.6	+1.0
N23A	Red Feather La	45.18	77	P	P	17 41 23.3	0.0
	baz=307						
WUAZ	Wupatki	45.23	87	P	P	17 41 24.0	+0.5
	baz=310,SNR=5.4						
WUAZ	Wupatki	45.23	87	eP	P	17 41 24.6	+1.1
	comp=Z,9.7nm,0.9s						
PV01	Paradox Valley	45.28	82	eP	P	17 41 24.2	+0.2
ULM	Lac du Bonnet	45.62	61	P	P	17 41 26.0	-0.3
	comp=Z,3.9nm,0.6s,baz=298,slow=15,SNR=2.8						
ULM	Lac du Bonnet	45.62	61	P	P	17 41 26.0	-0.3
ULM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
X16A	Lo Mia Camp, P	45.91	88	eP	P	17 41 30.1	+1.2
MVCO	Mesa Verde	45.91	83	P	P	17 41 28.8	-0.2
	baz=309						
ISCO	Idaho Springs	46.05	78	P	P	17 41 29.2	-0.9
	baz=308						
S22A	4UR Ranch, Cre	46.59	81	P	P	17 41 35.0	+0.6
	baz=309						
S22A	4UR Ranch, Cre	46.59	81	eP	P	17 41 35.2	+0.8
	comp=Z,4.8nm,1.0s						
214A	Organ Pipe Nat	46.71	91	P	P	17 41 35.6	+0.5
	baz=313						
B34A	Aery, Baudette	47.27	62	P	P	17 41 38.5	-0.7
	baz=304						
D33A	AnnSam, Waubun	47.38	64	P	P	17 41 39.4	-0.7
	baz=305						
SDCO	Great Sand Dun	47.40	80	P	P	17 41 40.6	-0.2
	baz=309,SNR=5.9						
SDCO	Great Sand Dun	47.40	80	eP	P	17 41 41.1	+0.3
	comp=Z,4.3nm,1.0s						
TUC	Tucson	47.73	90	P	P	17 41 43.4	+0.4
	baz=313						
TUC	Tucson	47.73	90	eP	P	17 41 43.9	+0.9
TUC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TUC	Tucson	47.73	90	eP	P	17 41 43.9	+0.9
	comp=Z,7.4nm,0.9s						
J31A	Geddes	48.01	70	P	P	17 41 44.7	-0.4
	baz=307						
H32A	Carlson Farm,	48.03	68	P	P	17 41 44.7	-0.5
	baz=306						
G33A	Ortonville	48.19	67	P	P	17 41 45.1	-1.3
	baz=306						
H33A	Prehn Over Nor	48.32	67	P	P	17 41 46.2	-1.2
	baz=306						
T25A	Trinidad	48.46	80	P	P	17 41 49.1	+0.3
	baz=310,SNR=7.1						
T25A	Trinidad	48.46	80	eP	P	17 41 49.6	+0.8
	comp=Z,22nm,1.1s						
LAZ	Ladron	48.58	85	eP	P	17 41 50.9	+1.2
ANMO	Albuquerque	48.63	84	LR	LR	17 59 57.6	
	comp=Z,60nm,21.4s,baz=161,slow=33						
ANMO	Albuquerque	48.63	84	P	P	17 41 50.2	0.0
	baz=311						
ANMO	Albuquerque	48.63	84	ceP	P	17 41 51.2	+1.0
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	Albuquerque	48.63	84	eP	P	17 41 50.6	+0.4
	comp=Z,3.5nm,1.1s						
K32A	Verdigre	48.84	70	P	P	17 41 50.9	-0.6
	baz=308						
ECSD	EROS Data Cent	48.97	68	P	P	17 41 51.1	-1.3
	baz=307						
BNM	Barren Site	49.06	85	eP	P	17 41 54.5	+1.1
E36A	McGregor	49.19	63	P	P	17 41 52.6	-1.4
	baz=306						
121A	Cookes Peak, D	49.43	87	P	P	17 41 55.4	-0.9
	baz=313						
F36A	Milaca	49.43	64	P	P	17 41 54.5	-1.4
	baz=307						
K34A	Le Mars	49.91	69	P	P	17 41 58.5	-1.1
	baz=308						
ULN	Ulaanbaatar	49.93	300	ceP	P	17 41 59.5	-0.3
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
M33A	Taylor Creek F	49.97	71	P	P	17 41 58.9	-1.1
	baz=308						
F38A	Pierce - Schro	50.29	63	P	P	17 42 00.9	-1.4
	baz=307						
SONM	Songino Array	50.30	300	P	P	17 42 02.5	-0.1
	comp=Z,1.0nm,0.8s,baz=53,slow=7.0,SNR=6.9						
SONM				PcP	PcP	17 43 21.9	+1.1
	comp=Z,0.6nm,0.7s,baz=108,slow=2.6,SNR=3.9						
SONM				ScP	ScP	17 47 12.4	-0.4
	comp=Z,0.4nm,0.6s,baz=56,slow=2.6,SNR=5.4						
ZAK	Zakamensk	50.40	304	eP	P	17 42 02.0	-1.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
I37A	Lemond, Waseca	50.63	66	P	P	17 42 03.6	-1.4
	baz=308						
O33A	Hebron	50.68	73	P	P	17 42 04.6	-0.9
	baz=309						
H38A	Maiden Rock	50.85	65	P	P	17 42 05.3	-1.4
	baz=308						
J37A	Redenius Farm,	50.98	67	P	P	17 42 06.3	-1.3
	baz=308						
O34A	Beatrice	51.14	72	P	P	17 42 07.7	-1.2
	baz=310						
I38A	Scanlan Farm,	51.22	65	P	P	17 42 08.0	-1.4
	baz=308						
K37A	Belmond	51.27	67	P	P	17 42 08.6	-1.3
	baz=309						
F40A	Park Falls	51.28	62	P	P	17 42 08.6	-1.3
	baz=308						
N35A	Tabor	51.32	71	P	P	17 42 09.0	-1.2
	baz=309						
H39A	Augusta	51.41	64	P	P	17 42 10.4	-0.4
	baz=308						
P34A	Walnut Farm, R	51.47	73	P	P	17 42 10.1	-1.2
	baz=310						
MNTX	Cornudas Mount	51.49	86	P	P	17 42 11.0	-0.6
	baz=313,SNR=5.7						
MNTX	Cornudas Mount	51.49	86	eP	P	17 42 12.2	+0.6
	comp=Z,4.8nm,0.9s						
MSTX	Muleshoe	51.55	82	P	P	17 42 11.0	-1.1
	baz=312						
MSTX	Muleshoe	51.55	82	eP	P	17 42 12.2	0.0
	comp=Z,9.6nm,0.9s						
J38A	Wedel Dairy, R	51.59	66	P	P	17 42 10.9	-1.3
	baz=309						
L37A	Phoenix Point,	51.61	68	P	P	17 42 11.1	-1.3
	baz=309						
HHC	Hu-ho-hao-te	51.74	290	eP	P	17 42 15.0	+1.5
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,8.1s						
I39A	Houston	51.79	65	P	P	17 42 12.1	-1.6
	baz=309						
M37A	Trindle Farm,	51.90	69	P	P	17 42 13.3	-1.2
	baz=310						
F41A	Three Lakes	51.95	62	P	P	17 42 13.5	-1.4
	baz=308						
P35A	Duane Minner,	51.96	72	P	P	17 42 13.7	-1.3
	baz=310						
J39A	Decorah	52.01	66	P	P	17 42 14.1	-1.3
	baz=309						
L38A	Oak Wood Farm,	52.06	68	P	P	17 42 14.1	-1.6
	baz=309						
I40A	Norwalk	52.27	65	P	P	17 42 15.8	-1.5
	baz=309						
K39A	Oelwein	52.31	66	P	P	17 42 16.1	-1.5
	baz=309						
H41A	Junction City	52.35	63	P	P	17 42 16.2	-1.7
	baz=309						
P36A	Good Intent, A	52.38	71	P	P	17 42 16.7	-1.4
	baz=310						
J40A	Soldiers Grove	52.52	65	P	P	17 42 17.8	-1.3
	baz=309						
I41A	Arkdale	52.59	64	P	P	17 42 19.0	-0.6
	baz=309						
L39A	Vinton	52.62	67	P	P	17 42 18.3	-1.5
	baz=310						
G42A	Mountain	52.63	62	P	P	17 42 17.9	-2.0
	baz=309						
R35A	Emporia Munici	52.64	73	P	P	17 42 19.2	-0.9
	baz=311						
O37A	Wolven Farm, M	52.64	70	P	P	17 42 19.2	-0.8
	baz=310						
N38A	Joes South For	52.77	69	P	P	17 42 19.7	-1.3
	baz=310						
P37A	Lathrop	52.90	71	P	P	17 42 20.5	-1.5
	baz=310						
T34A	McClaskey Farm	52.90	75	P	P	17 42 20.9	-1.2
	baz=311						
M39A	Webster	52.94	68	P	P	17 42 21.0	-1.2
	baz=310,SNR=7.1						
F43A	Flat Rock, Esc	52.94	61	P	P	17 42 20.7	-1.5
	baz=309						
J41A	Loganville	52.95	65	P	P	17 42 20.6	-1.6
	baz=310						
S35A	Otter Creek Ra	52.99	74	P	P	17 42 21.7	-0.9
	baz=311						
R36A	Gordon, Harris	53.05	73	P	P	17 42 22.0	-1.1
	baz=311,SNR=5.4						
O38A	Galt	53.06	70	P	P	17 42 22.2	-1.0
	baz=310						
L40A	Anamosa	53.10	67	P	P	17 42 21.9	-1.5
	baz=310						
N39A	Derby Farms, D	53.13	69	P	P	17 42 22.5	-1.2
	baz=310,SNR=7.8						
NJ2	Nanjing	53.19	277	eP	P	17 42 24.3	+0.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
I42A	Draeger Farm,	53.22	64	P	P	17 42 22.6	-1.7
	baz=310						
K41A	Shullsburg	53.27	66	P	P	17 42 23.2	-1.5
	baz=310						
P38A	Dawn	53.35	70	P	P	17 42 23.9	-1.4
	baz=311						
WMOK	Wichita Mounta	53.47	78	P	P	17 42 25.1	-1.1
	baz=312						
WMOK	Wichita Mounta	53.47	78	eP	P	17 42 26.7	+0.4
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMOK	Wichita Mounta	53.47	78	eP	P	17 42 26.7	+0.4
	comp=Z,4.6nm,0.9s						
L41A	Preston	53.51	66	P	P	17 42 24.9	-1.5
	baz=310						
K42A	Prairie Point,	53.70	65	P	P	17 42 26.5	-1.3
	baz=310						
Q38A	Cooks Store, C	53.74	71	P	P	17 42 26.6	-1.5
	baz=311						
S37A	Fort Scott	53.82	73	P	P	17 42 27.5	-1.2
	baz=311,SNR=5.1						
LPIG	La Paz	53.85	97	LR	LR	18 00 22.5	
	comp=Z,41nm,18.7s,baz=319,slow=30						
P39B	Salisbury	53.90	70	P	P	17 42 27.8	-1.5
	baz=311,SNR=5.3						
O40A	La Belle	53.99	69	P	P	17 42 28.8	-1.1
	baz=311,SNR=9.5						
Q39A	Willow Grove F	54.06	71	P	P	17 42 29.0	-1.4
	baz=311,SNR=5.6						
R38A	Fenwick Farm,	54.08	72	P	P	17 42 28.7	-2.0
	baz=311						
T37A	Cheneyville 18	54.19	74	P	P	17 42 30.2	-1.3
	baz=312						
TX31	Lajitas Ar. Si	54.19	87	eP	P	17 42 31.8	+0.1
TXAR	Lajitas Array	54.19	87	P	P	17 42 31.8	+0.1
	comp=Z,5.7nm,0.8s,baz=298,slow=5.2,SNR=34						
TXAR				ScP	ScP	17 47 30.1	+0.1
	comp=Z,0.2nm,0.5s,baz=279,slow=2.4,SNR=3.4						
P40A	Paris	54.28	70	P	P	17 42 31.0	-1.0
	baz=311,SNR=10.0						
W35A	Tecumseh	54.34	77	P	P	17 42 31.6	-1.0
	baz=312						
ABTX	Abilene, Hawle	54.38	81	P	P	17 42 32.1	-0.9
	baz=313						
S38A	Stockton	54.45	72	P	P	17 42 31.5	-1.9
	baz=312						
V36A	Jenks	54.48	76	P	P	17 42 32.6	-0.9
	baz=312						
R39A	Chumby, Stover	54.51	71	P	P	17 42 32.6	-1.1
	baz=312						
U37A	Salina	54.55	74	P	P	17 42 32.8	-1.3
	baz=312						
O41A	Passleys Farm,	54.57	68	P	P	17 42 32.6	-1.5
	baz=311						
Q40A	Laux Farm, Aux	54.62	70	P	P	17 42 33.1	-1.4
	baz=311,SNR=5.5						
T38A	Diamond	54.62	73	P	P	17 42 33.0	-1.6
	baz=312						
W36A	Wetumka	54.74	76	P	P	17 42 34.5	-1.0
	baz=312						
P41A	Barry, Barry	54.76	69	P	P	17 42 34.4	-1.1
	baz=311						
S39A	Bolivar	54.76	72	P	P	17 42 33.4	-2.2
	baz=312						
V37A	Hulbert	54.89	75	P	P	17 42 35.1	-1.4
	baz=312						
U38A	Gravette	54.97	74	P	P	17 42 35.5	-1.6
	baz=312						
R40A	Maddies Statio	54.97	71	P	P	17 42 35.5	-1.6
	baz=312						
Y35A	Marietta	55.09	78	P	P	17 42 37.1	-0.9
	baz=313						
Q41A	Truxton	55.14	70	P	P	17 42 36.8	-1.5
	baz=312						
T39A	Clever	55.17	73	P	P	17 42 36.9	-1.7
	baz=312,SNR=5.2						
HDIL	Hopedale	55.19	67	P	P	17 42 36.4	-2.2
	baz=311						
P42A	Winchester	55.23	68	P	P	17 42 37.3	-1.6
	baz=312						
V38A	Canehill	55.34	74	P	P	17 42 38.8	-1.0
	baz=312						
R41A	Rosebud	55.49	70	P	P	17 42 39.3	-1.5
	baz=312						
U39A	Green Forest	55.54	73	P	P	17 42 39.7	-1.5
	baz=312						
Y36A	Durant	55.55	77	P	P	17 42 41.2	-0.1
	baz=313						
Q42A	Golden Eagle	55.57	69	P	P	17 42 40.3	-1.1
	baz=312,SNR=5.4						
T40A	Mansfield	55.59	72	P	P	17 42 39.9	-1.7
	baz=312						
X37A	Clayton	55.63	76	P	P	17 42 40.9	-1.0
	baz=313						
P43A	Skaggs, Pawnee	55.66	68	P	P	17 42 40.6	-1.4
	baz=312						
S41A	Jillco Farms,	55.75	71	P	P	17 42 41.0	-1.8
	baz=312,SNR=5.0						
JCT	Junction City	55.77	83	P	P	17 42 42.2	-0.8
	baz=314						
V39A	Pettigrew	55.81	74	P	P	17 42 41.7	-1.6
	baz=313						
W38A	Poteau	55.81	75	P	P	17 42 42.1	-1.1
	baz=313						
R42A	Luebbering	55.84	70	P	P	17 42 41.9	-1.5
	baz=312						
Y37A	Hugo	55.90	77	P	P	17 42 43.9	+0.1
	baz=313						
U40A	Yellville	55.93	73	P	P	17 42 42.2	-1.9
	baz=313						
Q43A	New Douglas	56.03	69	P	P	17 42 43.1	-1.6
	baz=312						
T41A	Mountain View	56.11	72	P	P	17 42 43.8	-1.5
	baz=312						
WHTX	Lake Whitney,	56.16	80	P	P	17 42 45.8	+0.1
	baz=314						
W39A	Magazine	56.17	75	P	P	17 42 44.6	-1.1
	baz=313						
S42A	Caledonia	56.19	70	P	P	17 42 44.3	-1.5
	baz=312						
P44A	Sand Creek, Wi	56.30	67	P	P	17 42 45.1	-1.5
	baz=312						
V40A	Witts Springs	56.32	73	P	P	17 42 45.4	-1.5
	baz=313,SNR=5.3						
R43A	Red Bud	56.34	69	P	P	17 42 45.4	-1.5
	baz=312,SNR=6.3						
X39A	Fountain Ranch	56.44	75	P	P	17 42 46.5	-1.1
	baz=313						
W40A	Ferguson Farm,	56.60	74	P	P	17 42 47.2	-1.5
	baz=313						
V41A	Mountainview	56.73	73	P	P	17 42 48.1	-1.7
	baz=313						
MIAR	Mount Ida	56.74	75	P	P	17 42 48.9	-0.9
	baz=313,SNR=5.4						
MIAR	Mount Ida	56.74	75	eP	P	17 42 49.4	-0.4
MIAR				pmax	pmax		
	comp=Z,13nm,1.0s						
MIAR	Mount Ida	56.74	75	eP	P	17 42 49.4	-0.4
	comp=Z,13nm,1.0s						
S43A	Fulton Ridge,	56.74	70	P	P	17 42 48.3	-1.5
	baz=313,SNR=9.3						
ZALV	Zalesovo Beam	56.79	317	P	P	17 42 50.3	+0.5
	comp=Z,1.0nm,0.6s,baz=18,slow=6.2,SNR=5.3						
ZALV				PcP	PcP	17 43 46.5	+1.3
	comp=Z,0.9nm,0.6s,baz=52,slow=2.6,SNR=4.5						
T43A	Greenville	56.95	71	P	P	17 42 49.4	-1.8
	baz=313,SNR=8.6						
PBMO	Poplar Bluff	57.07	71	eP	P	17 42 51.1	-1.0
	comp=Z,11nm,1.0s						
W41B	Gary Mavity, V	57.10	74	P	P	17 42 50.5	-1.8
	baz=313						
S44A	Carbondale	57.13	69	P	P	17 42 51.1	-1.5
	baz=313						
V42A	Cord	57.17	72	P	P	17 42 51.5	-1.3
	baz=313						
X40A	Basin Creek Fa	57.22	75	P	P	17 42 51.9	-1.3
	baz=314						
S45A	Carrier Mills	57.53	69	P	P	17 42 53.7	-1.6
	baz=313						
ARCES	ARCESS Array B	58.22	353	P	P	17 42 57.6	-2.1
	comp=Z,2.2nm,0.8s,baz=13,slow=7.8,SNR=4.8						
WCI	Wyandotte Cave	58.47	67	eP	P	17 43 01.0	-0.9
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
WCI	Wyandotte Cave	58.47	67	eP	P	17 43 01.0	-0.9
	comp=Z,12nm,0.9s						
Z42A	Norrel Spur, H	58.59	75	P	P	17 43 01.8	-1.0
	baz=314						
DGZ	Jazzator, Alta	58.59	312	eP	P	17 43 02.1	-0.7
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
934A	Benavides	58.60	84	P	P	17 43 01.9	-1.0
	baz=316						
034A	Hebbronville	58.88	85	P	P	17 43 04.1	-0.8
	baz=316						
GTA	Gaotai	59.41	296	‖P	P	17 43 07.8	-0.8
GTA				pP	pP	17 43 23.8	+2.7
GTA				sP	sP	17 43 30.8	+4.6
GTA				S	S	17 51 10.8	-3.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,370nm,5.7s						
GTA				LR	LR		
	comp=N,160nm,16.6s						
GTA				LR	LR		
	comp=E,120nm,17.1s						
GTA				LR	LR		
	comp=Z,150nm,17.3s						
LZH	Lanzhou	59.42	291	eP	P	17 43 06.1	-2.7
LZH				pP	pP	17 43 21.0	-0.3
LZH				sP	sP	17 43 27.5	+1.1
LZH				PP	PP	17 45 18.8	-1.1
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,73nm,4.9s						
LZH				LR	LR		
	comp=N,160nm,14.5s						
LZH				LR	LR		
	comp=E,170nm,14.3s						
LZH				LR	LR		
	comp=Z,200nm,18.2s						
Y46A	Houston	60.00	72	P	P	17 43 11.4	-1.2
	baz=315						
N54A	Moraine State	60.08	61	P	P	17 43 11.3	-1.7
	baz=314						
244A	Avery, Jackson	60.21	75	P	P	17 43 13.9	-0.1
	baz=315						
145A	Houston Renfro	60.27	74	P	P	17 43 13.9	-0.5
	baz=315						
Y47A	UCPARC, Winfie	60.58	72	P	P	17 43 15.7	-0.8
	baz=315,SNR=5.6						
Z47A	Carrollton	60.95	72	P	P	17 43 18.0	-1.0
	baz=315						
Z48A	Northport	61.13	72	P	P	17 43 19.0	-1.2
	baz=315						
O56A	Blue Knob Stat	61.34	61	P	P	17 43 20.2	-1.5
	baz=315						
247A	Quitman	61.44	74	P	P	17 43 21.0	-1.3
	baz=315						
KURK	Kurchatov	61.75	317	ceP	P	17 43 23.7	-0.5
KURK				pmax	pmax		

comp=Z,15nm,0.6s
KURK Kurchatov 61.75 317 *e*P **P 17 43 23.4 -0.8**
comp=Z,5.6nm,0.8s
248A Dixon Mills 61.93 73 P **P 17 43 25.3 -0.4**
baz=316
347A Saraland 61.95 74 P **P 17 43 24.2 -1.5**
baz=316
BLA Blacksburg 62.50 64 *e*P **P 17 43 29.1 -0.4**
BLA pmax pmax
comp=Z,16nm,0.8s
BLA Blacksburg 62.50 64 *e*P **P 17 43 29.1 -0.4**
comp=Z,16nm,0.8s
WMQ Urumqi 62.68 307 P **P 17 43 32.3 +1.7**
WMQ pP sP 17 43 47.3 -1.0
WMQ sP pP 17 43 53.5 +10
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,190nm,7.1s
WMQ LR LR
comp=N,91nm,21.9s
WMQ LR LR
comp=E,140nm,23.7s
WMQ LR LR
comp=Z,130nm,21.9s
MK31 Makanchi Array 63.07 312 *e*P **P 17 43 31.8 -1.3**
MK31 Makanchi Array 63.07 312 *e*P **P 17 43 31.8 -1.3**
MKAR Makanchi Array 63.07 312 P **P 17 43 31.7 -1.4**
comp=Z,0.9nm,0.4s,baz=46,slow=5.9,SNR=20
MKAR Makanchi Array 63.07 312 *e*P **P 17 43 31.8 -1.3**
MKAR Makanchi Array 63.07 312 *e*P **P 17 43 31.8 -1.3**
MK01 Makanchi Array 63.08 312 *e*P **P 17 43 31.8 -1.4**
MAKZ Makanchi 63.20 312 *e*P **P 17 43 32.3 -1.7**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MAKZ Makanchi 63.20 312 *e*P **P 17 43 32.2 -1.7**
comp=Z,1.9nm,1.0s
BRVK Borovoye 63.24 323 *c e*P **P 17 43 34.1 0.0**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 63.24 323 *e*P **P 17 43 34.2 0.0**
comp=Z,13nm,1.4s
IP07 Quail 63.31 62 *e*P **P 17 43 35.2 +0.4**
IP06 Yanceyville 63.33 62 *e*P **P 17 43 35.3 +0.5**
comp=Z,11nm,0.8s
KMSC Kings Mountain 63.47 66 P **P 17 43 34.5 -1.4**
baz=316
KMSC Kings Mountain 63.47 66 *e*P **P 17 43 35.5 -0.3**
comp=Z,15nm,0.8s
GOGA Godfrey 63.49 69 *e*P **P 17 43 34.8 -1.2**
GOGA pmax pmax
comp=Z,10.0nm,0.8s
GOGA Godfrey 63.49 69 *e*P **P 17 43 34.8 -1.2**
comp=Z,9.9nm,0.8s
ARU Arti 64.36 332 *c i*P **P 17 43 41.0 -0.4**
ARU 17 44 14.2
ARU 17 45 58.2
ARU S **S 17 52 17.3 +1.2**
ARU SS **SS 17 56 27.5 +2.1**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 64.36 332 *e*P **P 17 43 40.3 -1.1**
comp=Z,5.7nm,0.6s
FINES FINESS Array B 66.11 351 P **P 17 43 51.0 -1.6**
comp=Z,1.7nm,0.8s,baz=46,slow=8.2,SNR=3.9
FINES FINESS Array B 66.11 351 *c e*P **P 17 43 52.7 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 67.38 358 P **P 17 43 59.4 -1.3**
comp=Z,1.0nm,0.8s,baz=1.4,slow=6.5,SNR=3.0
HFS Hagfors 68.23 357 P **P 17 44 04.1 -2.0**
comp=Z,1.9nm,0.6s,baz=20,slow=4.6,SNR=15
FRU Bishkek 69.60 314 *i*P **P 17 44 14.0 -0.9**
AAK Ala-Archa 69.81 314 *e*P **P 17 44 15.9 -0.5**
AAK pmax pmax
comp=Z,15nm,0.6s
AAK Ala-Archa 69.81 314 *e*P **P 17 44 16.2 -0.2**
KSH Kashi 71.62 311 P **P 17 44 30.3 +2.9**
KSH pP sP 17 44 45.1 -0.2
KSH PcP **PcP 17 44 47.8 +1.3**
KSH sP pP 17 44 51.8 +12
KSH PP **PP 17 47 09.3 +3.2**
KSH S **S 17 53 43.3 -0.2**
KSH sS sS 17 54 09.3 +4.4
KSH SKS **SKSac 17 54 22.4 -4.8**
KSH ScS **SKKSac 17 54 25.4 -2.0**
KSH Kashi 71.62 311 SS SS 17 58 20.8 +2.4
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,190nm,8.7s
KSH LR LR
comp=N,140nm,8.6s
KSH LR LR
comp=E,140nm,9.6s
KSH LR LR
comp=Z,150nm,8.5s
TAPN Taplejung 75.09 295 *e*P **P 17 44 47.7 -0.5**
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 75.32 281 P **P 17 44 49.5 +0.2**
comp=Z,1.1nm,0.6s,baz=28,slow=6.4,SNR=8.7
ODAN Odare 75.65 295 *e*P **P 17 44 50.9 -0.5**
GUN Gumba 75.67 297 *e*P **P 17 44 51.2 -0.4**
JIRN Jiri 75.69 296 *e*P **P 17 44 51.4 -0.4**
RAMN Ramite 76.02 296 *e*P **P 17 44 52.8 -0.7**
comp=Z,36nm,0.8s
KKN Kakani 76.10 297 *e*P **P 17 44 53.2 -0.7**
PKIN Phulchoki 76.20 297 *e*P **P 17 44 53.8 -0.7**
comp=Z,16nm,1.2s
GKN Gorkha 76.28 298 *e*P **P 17 44 54.1 -0.8**
DANN Dangsing 76.49 299 *e*P **P 17 44 56.4 +0.2**
KOLN Koldanda 77.03 298 *e*P **P 17 44 58.3 -0.9**
PYUN Piuthan 77.10 299 *e*P **P 17 44 58.9 -0.7**
DPC Dobruska-Polom 77.89 355 *e*P **P 17 45 04.7 +1.3**
DPC Dobruska-Polom 77.89 355 *e*P **P 17 45 04.7 +1.3**
KHC Kasperske Hory 79.24 356 *e*P **P 17 45 12.8 +2.0**
KHC Kasperske Hory 79.24 356 *e*P **P 17 45 12.8 +2.0**
GERES GERESS Array B 79.52 356 P **P 17 45 11.3 -1.1**
comp=Z,0.3nm,0.6s,baz=19,slow=5.8,SNR=4.1
KIV Kislovodsk 80.00 336 *e*P **P 17 45 14.9 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 80.15 335 P **P 17 45 16.2 +0.5**
comp=Z,3.9nm,1.1s,baz=45,slow=8.6,SNR=3.2
GEYT Alibeck 80.54 322 P **P 17 45 16.9 -1.1**
comp=Z,2.2nm,0.9s,baz=359,slow=5.9,SNR=4.1
CTA Charters Tower 80.55 220 P **P 17 45 17.9 -0.1**
comp=Z,2.1nm,0.8s,baz=30,slow=7.3,SNR=2.5
CTA Charters Tower 80.55 220 P **P 17 45 18.0 -0.1**
CTA pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 86.11 341 P **P 17 45 47.5 +0.7**
comp=Z,0.8nm,0.8s,baz=75,slow=2.7,SNR=4.3
PSI Prapat 87.44 271 P **P 17 45 55.2 +1.6**
comp=Z,3.4nm,0.5s,baz=7.9,slow=3.3,SNR=5.3
ESDC Sonseca Array 88.17 9 P **P 17 45 55.7 -0.9**
comp=Z,0.4nm,0.6s,baz=343,slow=4.7,SNR=4.8
ASAR Alice Springs 89.01 228 P **P 17 46 00.3 -0.3**
comp=Z,2.6nm,0.8s,baz=29,slow=4.7,SNR=26
MAW Mawson 149.63 218 PKPbc **PKPbc 17 52 53.7 -0.1**
comp=Z,4.7nm,0.8s,baz=272,slow=3.2,SNR=12

*ISCJB **16** 17:38:59.9±1.0,51°.8N±0°.1×171°.62W±0°.06,h44km, mb3.6/2, Error ellipse: s-maj=18.7km s-min=3.5km az=168.3*
*NEIC **16** 17:39:01.1±0.0,51°.85N×171°.67W,h44km,ML3.1(AEIC), After AEIC.*
*IDC **16** 17:39:02.5±6.3,52°.18N×171°.65W,h50km±56km,mb3.2/2, mb1 3.5/5,mb1mx3.2/49,mbtmp3.6/5,ML3.3/3, Error ellipse: s-maj=73.7km s-min=26.8km az=4.0*
ISC 16 17:39:00.6±1.4,51°.8N±0°.2×171°.64W±0°.05,h44km,n25,
$_{\sigma}$1°26/29,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.60**	**292**	P	**Pn**	**17 39 27.4**	**+1.0**
KOFP	**Korovin Flat P**	**1.60**	**289**	P	**Pn**	**17 39 27.0**	**+0.5**
ATKA	**Atka Island**	**1.64**	**286**	P	**Pn**	**17 39 26.3**	**-0.7**
ATKA				S	**Sn**	**17 39 45.5**	**-1.3**
KONE	**Korovin Northe**	**1.66**	**293**	P	**Pn**	**17 39 28.3**	**+1.2**
KOKV	**Korovin Volcan**	**1.67**	**292**	P	**Pn**	**17 39 29.1**	**+1.7**
KOKV				S	**Sn**	**17 39 49.0**	**+1.3**
KOKL	**Mount Kliuchef**	**1.68**	**290**	P	**Pn**	**17 39 28.6**	**+1.1**
NIKH	**Nikolski High**	**2.09**	**54**	P	**Pn**	**17 39 32.4**	**-0.7**
NIKH				S	**Sn**	**17 39 56.4**	**-1.5**
OKSO	**Okmok South**	**2.65**	**52**	P	**Pn**	**17 39 41.9**	**+1.1**
OKCE	**Okmok Cone E**	**2.69**	**51**	P	**Pn**	**17 39 42.6**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**2.73**	**52**	P	**Pn**	**17 39 43.6**	**+1.7**
OKNC	**Okmok New Cone**	**2.73**	**50**	P	**Pn**	**17 39 43.4**	**+1.4**
GSTD	**Great Sitkin T**	**2.81**	**278**	P	**Pn**	**17 39 43.8**	**+0.8**
GSTD				S	**Sn**	**17 40 16.5**	**+0.9**
GSCK	**Great Sitkin C**	**2.81**	**277**	P	**Pn**	**17 39 43.7**	**+0.6**
ADAG	**Mount Adagdak**	**3.08**	**276**	P	**Pn**	**17 39 48.2**	**+1.4**
ADK	**Adak**	**3.13**	**274**	P	**Pn**	**17 39 48.0**	**+0.5**
ADK				S	**Sn**	**17 40 23.6**	**0.0**
MSW	**Makushin Switc**	**3.65**	**52**	P	**Pn**	**17 39 55.3**	**+0.8**
MSW				S	**Sn**	**17 40 38.4**	**+2.2**
UNV	**Unalaska Valle**	**3.75**	**54**	P	**Pn**	**17 39 56.7**	**+0.8**
UNV				S	**Sn**	**17 40 39.4**	**+0.7**
KDAK	**Kodiak Island**	**12.52**	**54**	P	**Pn**	**17 41 53.7**	**-2.1**
0.1nm,0.3s,baz=328,slow=22,SNR=1.3							
ILAR	**Eielson Array**	**18.24**	**35**	P	**P**	**17 43 08.3**	**-1.6**
0.1nm,0.3s,baz=232,slow=10.0,SNR=5.6							
PETK	**Petropavlovsk-**	**18.68**	**286**	P	**Pn**	**17 43 15.5**	**0.0**
0.2nm,0.3s,baz=85,slow=14,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**36.13**	**216**	T	T	18 24 28.3	
baz=20							
H11N3	**WAKE ISLAND Hy**	**36.13**	**216**	T	T	18 24 28.9	
baz=20							
H11N1	**WAKE ISLAND Hy**	**36.15**	**216**	T	T	18 24 29.7	
baz=20							
TXAR	**Lajitas Array**	**54.17**	**87**	P	**P**	**17 48 22.7**	**+1.2**
0.4nm,0.6s,baz=287,slow=5.6,SNR=4.6							
MKAR	**Makanchi Array**	**63.19**	**312**	P	**P**	**17 49 22.9**	**-1.0**
0.2nm,0.3s,baz=43,slow=6.0,SNR=5.0							

*DJA **16** 17:53:52.7±1.3,4°.N±12°.×12°.7E±°.,h166km±10km,M4.2/3, mb3.9/3,MLv4.4/2*
*ISCJB **16** 17:53:57.5±0.3,3°.74N±0°.04×126°.87E±0°.06,h36km, mb4.5/47,MS3.9/2, Error ellipse: s-maj=9.3km s-min=4.9km az=163.3*
*MOS **16** 17:54:00.7±0.9,3°.65N×126°.79E,h68km,mb4.8/21, Error ellipse: s-maj=19.5km s-min=7.8km az=117.0*
*IDC **16** 17:54:01.8±5.2,3°.62N×126°.85E,h62km±48km,mb4.0/21, mb1 4.0/21,mb1mx3.9/38,mbtmp4.2/21, Error ellipse: s-maj=21.8km s-min=13.6km az=73.0*
*NEIC **16** 17:54:04.2±1.1,3°.64N×126°.87E,h90km±10km,mb4.5/10, Error ellipse: s-maj=12.2km s-min=6.3km az=57.0*
ISC 16 17:53:59.5±0.4,3°.84N±0°.06×126°.79E±0°.07,h36km,n106,
$_{\sigma}$2°28/114,**mb4.5**/47,**11C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**263**	P	**Pn**	**17 54 23.4**	**+2.8**
KMSI	**Cibinong**	**4.29**	**221**	P	**Pn**	**17 55 02.0**	**-0.2**
LBMI	**Labuha**	**4.50**	**171**	P	**Pn**	**17 55 05.8**	**+0.7**
SANI	**Sanana**	**5.90**	**188**	P	**Pn**	**17 55 24.0**	**-0.4**
8.4nm,0.6s							
SWI	**Sorong**	**6.46**	**136**	P	**Pn**	**17 55 29.5**	**-2.6**
15nm,0.5s							
APSI	**Ampana**	**6.97**	**228**	P	**Pn**	**17 55 42.1**	**+3.0**
NLAI	**Namlea**	**7.03**	**177**	P	**Pn**	**17 55 39.3**	**-0.6**
MPSI	**Mapaga**	**7.71**	**243**	P	**Pn**	**17 55 45.5**	**-3.8**
MYLDM	**Lahad Datu**	**8.37**	**279**	*e*Pn	Pn	17 56 05.0	+6.7
FAKI	**Fak Fak**	**8.65**	**141**	*e*Pn	**Pn**	**17 56 03.4**	**+1.2**
KKM	**Kota Kinabalu**	**10.76**	**282**	*e*Pn	Pn	17 56 38.2	+7.0
SBUM	**Sibu**	**14.61**	**265**	*e*P	**P**	**17 57 32.1**	**+2.5**
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	**P**	**17 58 46.6**	**-2.2**
1.2nm,0.4s,baz=10,slow=8.5,SNR=5.7							
PMG	**Port Moresby**	**24.19**	**123**	*i* P	**P**	**17 59 15.3**	**+2.5**
PMG				pmax	pmax		
comp=Z,27nm,1.0s							
WRAB	**Tennant Creek**	**24.76**	**163**	*c e*P	**P**	**17 59 16.6**	**-1.3**
WRAB				pmax	pmax		
comp=Z,54nm,1.7s							
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P	**P**	**17 59 15.6**	**-2.3**
comp=Z,12nm,0.7s							
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**	**17 59 15.1**	**-2.9**
comp=Z,5.5nm,0.8s,baz=343,slow=9.8,SNR=21							
WRA	**Warramunga Arr**	**24.77**	**163**	*c e*P	**P**	**17 59 16.1**	**-1.9**
WRA				pmax	pmax		
comp=Z,7.0nm,0.8s							
WB2	**Warramunga Arr**	**24.77**	**163**	*e*P	**P**	**17 59 16.1**	**-1.9**
PSI	**Prapat**	**27.84**	**269**	P	**P**	**17 59 47.5**	**+1.5**
comp=Z,1.8nm,0.4s,baz=89,slow=14,SNR=3.4							
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**17 59 47.4**	**-1.6**
comp=Z,0.8nm,0.9s,baz=340,slow=7.6,SNR=10							
NJ2	**Nanjing**	**29.04**	**346**	*e*P	**P**	**17 59 58.3**	**+2.0**
NJ2				pmax	pmax		
comp=Z,12nm,0.7s							
JNU	**Nakatsue**	**29.39**	**7**	P	**P**	**18 00 01.4**	**+2.0**
comp=Z,3.2nm,0.7s,baz=202,slow=5.4,SNR=2.5							
CM01	**Chiang Mai Arr**	**30.84**	**300**	*e*P	**P**	**18 00 11.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	**P**	**18 00 13.9**	**+1.2**
comp=Z,2.3nm,0.8s,baz=111,slow=6.8,SNR=21							
CMAR	**Chiang Mai Arr**	**30.87**	**300**	*c e*P	**P**	**18 00 14.3**	**+1.6**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
ENH	**Enshi**	**30.97**	**330**	*e*P	**P**	**18 00 13.7**	**+0.3**
comp=Z,3.8nm,0.7s							
CHTO	**Chiang Mai**	**31.02**	**301**	*e*P	**P**	**18 00 13.4**	**-0.6**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**31.02**	**301**	*e*P	**P**	**18 00 13.4**	**-0.6**
comp=Z,3.6nm,0.8s							
KMI	**Kunming**	**31.35**	**315**	P	P	18 00 22.1	+5.0
KMI				pmax	pmax		
comp=Z,19nm,0.5s							
KSAR	**Wonju Array Be**	**33.46**	**2**	P	**P**	**18 00 37.1**	**+2.0**
KSAR	**Wonju Array Be**	**33.46**	**2**	P	**P**	**18 00 37.1**	**+2.0**
KSRS	**Korea Array**	**33.48**	**2**	P	**P**	**18 00 37.1**	**+1.9**
comp=Z,1.5nm,0.8s,baz=181,slow=10,SNR=4.1							
BJT	**Baijiatuau**	**37.28**	**346**	*e*P	**P**	**18 01 06.5**	**-1.4**
BJT				pmax	pmax		
comp=Z,9.0nm,0.6s							
BJT	**Baijiatuau**	**37.28**	**346**	*e*P	**P**	**18 01 06.5**	**-1.4**
comp=Z,9.1nm,0.6s							
STKA	**Stephens Creek**	**38.21**	**159**	P	**P**	**18 01 13.8**	**-2.1**
comp=Z,2.3nm,0.7s,baz=337,slow=12,SNR=3.2							
LZH	**Lanzhou**	**38.44**	**329**	*e*P	**P**	**18 01 21.5**	**+3.5**
LZH				pP	sP	18 01 43.3	+10
LZH				sP	pP	18 01 54.3	+26
LZH				PP	PP	18 01 56.1	-50
LZH				pmax	pmax		
comp=Z,20nm,1.0s							
LZH				pmax	pmax		
comp=Z,73nm,5.2s							
LZH				LR	LR		
comp=N,150nm,13.0s							
LZH				LR	LR		
comp=E,150nm,13.3s							
LZH				LR	LR		
comp=Z,180nm,16.5s							
HHC	**Hu-ho-hao-te**	**39.32**	**342**	*e*P	**P**	**18 01 28.4**	**+3.2**
HHC				pmax	pmax		
comp=Z,16nm,0.8s							
HHC				pmax	pmax		
comp=Z,100nm,7.0s							
CN2	**Changchun**	**39.82**	**358**	*e*P	**P**	**18 01 33.3**	**+4.1**
LSA	**Lhasa**	**42.41**	**311**	*e*P	**P**	**18 01 51.9**	**+0.6**
LSA				pmax	pmax		
comp=Z,6.0nm,0.6s							
LSA	**Lhasa**	**42.41**	**311**	*e*P	**P**	**18 01 51.9**	**+0.6**
comp=Z,6.3nm,0.6s							
GTA	**Gaotai**	**43.04**	**329**	*e*P	**P**	**18 01 58.5**	**+2.6**
GTA				pP	sP	18 02 21.0	+10
GTA				sP	pP	18 02 33.1	+27
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
TAPN	**Taplejung**	**44.00**	**306**	*e*P	**P**	**18 02 04.3**	**+0.3**
ODAN	**Odare**	**44.06**	**305**	*e*P	**P**	**18 02 04.7**	**+0.3**
comp=Z,11nm,0.7s							
RAMN	**Ramite**	**44.74**	**305**	*e*P	**P**	**18 02 10.4**	**+0.5**
comp=Z,10nm,0.6s							
JIRN	**Jiri**	**45.36**	**306**	*e*P	**P**	**18 02 15.2**	**+0.3**
comp=Z,11nm,0.7s							
GUN	**Gumba**	**45.71**	**306**	*e*P	**P**	**18 02 18.0**	**+0.3**
comp=Z,16nm,0.6s							
KKN	**Kakani**	**46.15**	**305**	*e*P	**P**	**18 02 21.1**	**+0.1**
ULN	**Ulaanbaatar**	**47.04**	**342**	*c e*P	**P**	**18 02 29.9**	**+2.3**
ULN				pmax	pmax		
comp=Z,9.0nm,1.0s							
ULN	**Ulaanbaatar**	**47.04**	**342**	*e*P	**P**	**18 02 27.7**	**+0.1**
comp=Z,6.4nm,0.9s							
SONM	**Songino Array**	**47.22**	**341**	P	**P**	**18 02 30.5**	**+1.6**
comp=Z,2.6nm,0.7s,baz=155,slow=9.2,SNR=15							
SONM				PcP	**PcP**	**18 04 00.6**	**+0.7**
comp=Z,1.0nm,0.8s,baz=177,slow=2.7,SNR=3.5							
SONA1	**Songino Array**	**47.23**	**341**	*e*P	**P**	**18 02 30.5**	**+1.5**
KOLN	**Koldanda**	**47.51**	**305**	*e*P	**P**	**18 02 32.0**	**+0.3**
DANN	**Dangsing**	**47.60**	**305**	*e*P	**P**	**18 02 32.8**	**+0.3**
PYUN	**Piuthan**	**48.14**	**305**	*e*P	**P**	**18 02 37.1**	**+0.6**
MOY	**Mondy**	**52.30**	**340**	*e*P	**P**	**18 03 10.0**	**+2.5**
WMQ	**Urumqi**	**52.67**	**325**	P	**P**	**18 03 12.4**	**+2.0**
WMQ				pP	sP	18 03 35.1	+10
WMQ				sP	pP	18 03 45.8	+25
WMQ				pmax	pmax		
comp=Z,10.0nm,0.6s							
WMQ				pmax	pmax		
comp=Z,220nm,3.9s							
WMQ				LR	LR		
comp=N,69nm,21.5s							
WMQ				LR	LR		
comp=E,100nm,19.3s							
WMQ				LR	LR		
comp=Z,72nm,19.3s							
PETK	**Petropavlovsk-**	**55.31**	**22**	P	**P**	**18 03 29.8**	**+0.5**
comp=Z,3.2nm,0.9s,baz=260,slow=7.2,SNR=3.7							
DGZ	**Jazzator, Alta**	**56.53**	**330**	*i* P	**P**	**18 03 39.7**	**+1.3**
DGZ				pmax	pmax		
comp=Z,1.0nm,0.7s							
MK01	**Makanchi Array**	**57.48**	**325**	*e*P	**P**	**18 03 45.9**	**+0.9**
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**18 03 46.2**	**+1.0**
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**18 03 46.1**	**+1.0**
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**18 03 46.1**	**+1.0**
comp=Z,2.9nm,0.5s,baz=121,slow=7.9,SNR=54							
MKAR				PcP	**PcP**	**18 04 39.7**	**+1.3**
comp=Z,0.8nm,0.7s,baz=135,slow=5.0,SNR=2.7							
MKAR	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**18 03 46.1**	**+1.0**
comp=Z,20nm,0.6s							
MKAR				PcP	**PcP**	**18 04 39.7**	**+1.3**
MAKZ	**Makanchi**	**57.69**	**325**	*e*P	**P**	**18 03 47.5**	**+1.0**
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.7s							
MAKZ	**Makanchi**	**57.69**	**325**	*e*P	**P**	**18 03 47.5**	**+1.0**
comp=Z,2.8nm,0.7s							
KSH	**Kashi**	**58.01**	**315**	P	**P**	**18 03 51.3**	**+2.3**
KSH				pP	pP	18 04 15.3	+15
KSH				sP	sP	18 04 26.9	+23
KSH				PcP	**PcP**	**18 04 39.8**	**-0.9**
KSH				PP	**PP**	**18 06 03.4**	**+5.6**
KSH				ScP	**ScP**	**18 08 30.4**	**-7.9**
KSH				PcS	**PcS**	**18 08 38.0**	**-4.2**
KSH				S	**S**	**18 11 41.8**	**-5.5**
KSH				sS	sS	18 12 23.9	+19
KSH				ScS	**ScS**	**18 13 25.9**	**-10**
KSH	**Kashi**	**58.01**	**315**	SS	SS	18 15 37.1	-1.9
KSH				pmax	pmax		
comp=Z,99nm,4.4s							
KSH				LR	LR		
comp=N,99nm,7.8s							
KSH				LR	LR		
comp=E,69nm,5.8s							
KSH				LR	LR		
comp=Z,140nm,5.8s							
YAK	**Yakutsk**	**58.10**	**2**	*e*P	**P**	**18 03 49.7**	**+0.7**
YAK				*e**PP	sP	18 04 12.3	+8.2
YAK				*e*		18 04 42.7	
YAK				*e*		18 05 56.5	
YAK				*e*S	**S**	**18 11 41.5**	**-5.9**
YAK				*e*		18 13 31.5	
YAK				*e*SS	**SS**	**18 15 37.7**	**-1.5**
YAK				pmax	pmax		
comp=Z,15nm,0.9s							
YAK				pmax	pmax		
comp=N,3.0nm,1.0s							
YAK				pmax	pmax		
comp=Z,100nm,3.8s							
YAK				pmax	pmax		
comp=N,138nm,3.2s							
YAK				smax	smax		
comp=N,141nm,3.0s							
YAK	**Yakutsk**	**58.10**	**2**	*e*P	**P**	**18 03 48.5**	**-0.5**
comp=N,18nm,0.9s							
AAK	**Ala-Archa**	**60.32**	**318**	*i* P	**P**	**18 04 06.9**	**+1.9**
AAK				pmax	pmax		
comp=Z,2.0nm,0.8s							
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	**P**	**18 04 05.9**	**0.0**
comp=Z,0.9nm,0.4s,baz=121,slow=5.7,SNR=8.0							
KURK	**Kurchatov**	**61.68**	**327**	*c e*P	**P**	**18 04 14.9**	**+1.1**
KURK				pmax	pmax		
comp=Z,22nm,0.6s							
KURK	**Kurchatov**	**61.68**	**327**	*e*P	**P**	**18 04 13.3**	**-0.5**
comp=Z,7.6nm,0.6s							
KKAR	**Karatay Array**	**63.20**	**317**	*e*P	**P**	**18 04 24.3**	**+0.2**
KKAR	**Karatay Array**	**63.20**	**317**	*e*P	**P**	**18 04 24.3**	**+0.2**
BRVK	**Borovoye**	**67.34**	**327**	*c e*P	**P**	**18 04 52.0**	**+1.3**
BRVK				pmax	pmax		
comp=Z,7.0nm,0.8s							
BRVK	**Borovoye**	**67.34**	**327**	*e*P	**P**	**18 04 51.3**	**+0.5**
comp=Z,3.8nm,0.8s							
TIXI	**Tiksi**	**67.74**	**1**	*e*P	**P**	**18 04 54.5**	**+1.6**
TIXI				pmax	pmax		
comp=Z,10.0nm,2.5s							
NRIK	**Noril'sk**	**70.34**	**346**	P	**P**	**18 05 10.7**	**+1.6**
comp=Z,5.3nm,0.7s,baz=135,slow=4.3,SNR=3.8							
GEYT	**Alibeck**	**70.87**	**309**	P	**P**	**18 05 12.8**	**-0.3**
comp=Z,1.1nm,0.7s,baz=76,slow=6.1,SNR=3.3							
ABKAR	**Abkulak array**	**72.11**	**321**	*e*P	**P**	**18 05 21.1**	**+0.9**
ARU	**Arti**	**74.88**	**328**	*c i*P	**P**	**18 05 36.5**	**+0.1**
ARU						18 08 25.5	
ARU				S	**S**	**18 15 07.9**	**-3.0**
ARU				SS	**SS**	**18 19 54.4**	**-5.0**
ARU				pmax	pmax		
comp=Z,9.0nm,1.7s							
ARU	**Arti**	**74.88**	**328**	*e*P	**P**	**18 05 36.8**	**+0.4**
KDAK	**Kodiak Island**	**81.77**	**32**	P	**P**	**18 06 15.0**	**+0.6**
comp=Z,2.6nm,0.7s,baz=281,slow=10,SNR=3.8							
KDAK	**Kodiak Island**	**81.77**	**32**	P	**P**	**18 06 15.0**	**+0.6**
KIV	**Kislovodsk**	**83.11**	**314**	*e*P	**P**	**18 06 21.1**	**-0.7**
KIV				pmax	pmax		
comp=Z,5.0nm,1.0s							
ILAR	**Eielson Array**	**84.98**	**25**	P	**P**	**18 06 30.6**	**-0.2**
comp=Z,0.4nm,0.8s,baz=246,slow=5.6,SNR=3.5							
KLMR	**Klimovskoe**	**85.34**	**331**	*e*P	**P**	**18 06 33.4**	**+0.7**
KLMR				pmax	pmax		
comp=Z,25nm,1.0s							
VSR	**Storozhevoye**	**85.54**	**321**	*e*P	**P**	**18 06 33.1**	**-0.8**
VSR				pmax	pmax		
comp=Z,8.0nm,0.9s							
TMCR	**Tamitsa**	**86.03**	**334**	*e*P	P	18 06 47.3	+11
TMCR				pmax	pmax		
comp=Z,20nm,0.8s							
OBN	**Obninsk**	**87.01**	**325**	*e*P	**P**	**18 06 41.1**	**+0.1**
OBN				pmax	pmax		
comp=Z,5.0nm,0.7s							
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**18 06 55.2**	**-0.5**
comp=Z,1.6nm,0.9s,baz=92,slow=3.7,SNR=6.3							
BRTR	**Keskin Array B**	**90.00**	**310**	*c e*P	**P**	**18 06 54.5**	**-1.3**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**90.37**	**340**	P	**P**	**18 06 56.9**	**+0.2**
comp=Z,3.3nm,0.6s,baz=69,slow=6.6,SNR=12							
BR231	**Keskin MP Arra**	**90.65**	**310**	*e*P	**P**	**18 06 56.4**	**-2.4**
FINES	**FINESS Array B**	**91.77**	**332**	P	**P**	**18 07 03.0**	**-0.3**
comp=Z,1.8nm,0.8s,baz=79,slow=9.9,SNR=7.2							
FINES	**FINESS Array B**	**91.77**	**332**	*c e*P	**P**	**18 07 03.5**	**+0.2**

Ms1 4.1/1, ms1mx2.9/23, Error ellipse: s-maj=112.8km s-min=61.7km az=117.0

ISC 16 18:10:10.8±1.4, 28°.19N±0°.04×130°.31E±0°.06, h33km±5km, n21, σ0:64/32, mb3.9/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.32**	**293**	P	**Pb**	**18 10 18.2**	**-0.6**
JZK				S	**Sb**	**18 10 25.4**	**+1.1**
JAM	**Amami Oshima**	**0.66**	**290**	P	**Pn**	**18 10 23.5**	**-0.3**
JAM				S	**Sn**	**18 10 33.1**	**+0.1**
JAMN	**Amaminishikomi**	**1.00**	**273**	P	**Pn**	**18 10 28.3**	**-0.2**
JAMN				S	**Sn**	**18 10 41.1**	**-0.4**
JTK	**Tokunoshima**	**1.27**	**252**	P	**Pn**	**18 10 32.7**	**+0.5**
JTK				S	**Sn**	**18 10 49.0**	**+0.9**
JTAJ	**Takarajima**	**1.36**	**315**	P	**Pn**	**18 10 33.2**	**-0.4**
JTAJ				eS	**Sn**	**18 10 50.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.75**	**242**	P	**Pn**	**18 10 39.4**	**+0.6**
JOKE				S	**Sn**	**18 11 00.8**	**+0.8**
JYAK	**Yakushimahirau**	**2.05**	**5**	P	**Pn**	**18 10 43.2**	**+0.2**
JYAK				S	**Sn**	**18 11 07.3**	**-0.1**
JOW	**Kunigami**	**2.26**	**234**	P	**Pn**	**18 10 46.4**	**+0.6**
JOW				eS	**Sn**	**18 11 13.6**	**+1.1**
JKC	**Kuchinoerabu**	**2.27**	**358**	S	**Sn**	**18 11 13.0**	**+0.3**
JIH	**Iheya**	**2.38**	**242**	P	**Pn**	**18 10 47.6**	**+0.2**
JIH				eS	**Sn**	**18 11 15.2**	**-0.2**
JMZ	**Minamidaito 2**	**2.50**	**161**	S	**Sn**	**18 11 17.6**	**-0.9**
JTN	**Tanegashima 3**	**2.52**	**13**	P	**Pn**	**18 10 49.9**	**+0.4**
JTN				eS	**Sn**	**18 11 19.4**	**+0.2**
JNTH	**Nagotoyohara**	**2.63**	**231**	P	**Pn**	**18 10 51.4**	**+0.5**
JNTH				eS	**Sn**	**18 11 21.6**	**-0.1**
JJT2	**Tamagusuku 2**	**3.06**	**229**	eS	**Sn**	**18 11 33.0**	**+0.6**
JAGN	**Aguni-jima**	**3.16**	**240**	S	**Sn**	**18 11 33.9**	**-0.9**
JKE	**Kume jima 2**	**3.64**	**240**	P	**Pn**	**18 11 04.7**	**-0.2**
JNU	**Nakatsue**	**4.94**	**6**	P	**Pn**	**18 11 24.0**	**+1.3**
	1.1nm,0.3s,baz=173,slow=17,SNR=11						
JNU				S	**Sn**	**18 12 18.4**	**-0.3**
	0.6nm,0.3s,baz=238,slow=19,SNR=4.0						
PSI	**Prapat**	**39.15**	**235**	LR	LR	18 33 31.0	
	comp=Z,303nm,21.8s,baz=272,slow=36						
MKAR	**Makanchi Array**	**41.66**	**310**	P	**P**	**18 17 55.1**	**-1.1**
	0.1nm,0.6s,baz=86,slow=9.1,SNR=2.3						
FINES	**FINESS Array B**	**72.07**	**331**	P	**P**	**18 21 31.2**	**-0.2**
	0.5nm,0.4s,baz=74,slow=7.4,SNR=11						
AKASG	**Malin Array Be**	**75.24**	**320**	P	**P**	**18 21 50.8**	**+0.6**
	0.8nm,0.5s,baz=63,slow=5.7,SNR=4.4						

*NEIC **16** 18:16:34.0±0.0, 38°.64S×175°.31E, h230km, MG4.0(WEL), After WEL.*

WEL 16 18:16:36.3±0.5, 38°.77S×175°.35E, h214km±3km, ML3.9/37, 28C-6D, Error ellipse: s-maj=3.0km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.31**	**167**	Pn	Pn	18 17 04.2	-0.4
TWVZ	**Taurewa**	**0.31**	**167**	PN	Pn	18 17 04.2	-0.4
TWVZ				SN	S	18 17 26.0	-0.9
WTVZ	**West Tongariro**	**0.39**	**151**	Pn	Pn	18 17 04.7	-0.2
WTVZ	**West Tongariro**	**0.39**	**151**	PN	Pn	18 17 04.7	-0.2
WTVZ				SN	S	18 17 26.7	-0.6
NGZ	**Ngauruhoe**	**0.45**	**154**	Pn	Pn	18 17 05.0	-0.1
NGZ	**Ngauruhoe**	**0.45**	**154**	PN	Pn	18 17 05.0	-0.1
HIZ	**Hauiti**	**0.46**	**303**	Pn	Pn	18 17 05.7	+0.8
HIZ	**Hauiti**	**0.46**	**303**	⇓PN	Pn	18 17 05.7	+0.8
HIZ				SN	S	18 17 29.1	+2.0
OTVZ	**Oturere**	**0.46**	**148**	PN	Pn	18 17 05.3	+0.2
PKVZ	**Pokaka**	**0.52**	**180**	Pn	Pn	18 17 05.0	-0.2
PKVZ	**Pokaka**	**0.52**	**180**	⇑PN	Pn	18 17 05.0	-0.2
WHVZ	**Whangaehu Hut**	**0.55**	**160**	Pn	Pn	18 17 05.4	0.0
WHVZ				Sn	S	18 17 29.0	+0.7
WHVZ	**Whangaehu Hut**	**0.55**	**160**	⇑PN	Pn	18 17 05.4	0.0
WHVZ				eSN	S	18 17 27.5	-0.8
TUVZ	**Tukino**	**0.55**	**154**	Pn	Pn	18 17 05.4	0.0
TUVZ				Sn	S	18 17 29.1	+0.9
TUVZ	**Tukino**	**0.55**	**154**	⇑PN	Pn	18 17 05.4	0.0
TUVZ				SN	S	18 17 28.0	-0.2
VRZ	**Vera Road**	**0.58**	**232**	PN	Pn	18 17 04.8	-0.5
VRZ				SN	S	18 17 27.6	-0.3
WNVZ	**Wahianoa**	**0.59**	**161**	Pn	Pn	18 17 05.5	-0.1
WNVZ	**Wahianoa**	**0.59**	**161**	⇑PN	Pn	18 17 05.5	-0.1
MTVZ	**Mangateitei**	**0.62**	**171**	Pn	Pn	18 17 05.5	-0.1
MTVZ	**Mangateitei**	**0.62**	**171**	⇑PN	Pn	18 17 05.5	-0.1
MOVZ	**Moawhango**	**0.71**	**154**	Pn	Pn	18 17 05.5	-0.4
MOVZ	**Moawhango**	**0.71**	**154**	PN	Pn	18 17 05.5	-0.4
MOVZ				SN	S	18 17 27.4	-1.8
MRHZ	**Matea Rd**	**0.84**	**95**	PN	Pn	18 17 05.9	-0.7
MRHZ				AML	AML	18 17 29.8	
MRHZ				AML	AML	18 17 30.1	
BKZ	**Black Stump Fm**	**0.98**	**114**	Pn	Pn	18 17 07.1	-0.3
BKZ	**Black Stump Fm**	**0.98**	**114**	⇑PN	Pn	18 17 07.1	-0.3
BKZ				AML	AML	18 17 33.2	
BKZ				AML	AML	18 17 33.7	
LREZ	**Lake Rotokare**	**1.01**	**227**	PN	Pn	18 17 07.3	-0.2
WAZ	**Wanganui**	**1.02**	**196**	Pn	Pn	18 17 07.6	0.0
WAZ	**Wanganui**	**1.02**	**196**	⇑PN	Pn	18 17 07.6	0.0
KWHZ	**Kaweka Forest**	**1.06**	**128**	PN	Pn	18 17 08.1	+0.2
KWHZ				AML	AML	18 17 35.1	
KWHZ				AML	AML	18 17 35.1	
NEZ	**North Egmont**	**1.10**	**242**	Pn	Pn	18 17 07.8	-0.4
NEZ	**North Egmont**	**1.10**	**242**	⇑PN	Pn	18 17 07.8	-0.4
KHEZ	**Kahui Hut**	**1.16**	**243**	Pn	Pn	18 17 08.1	-0.6
KHEZ	**Kahui Hut**	**1.16**	**243**	PN	Pn	18 17 08.1	-0.6
KRHZ	**Kereru**	**1.18**	**138**	PN	Pn	18 17 08.8	+0.1
KRHZ				AML	AML	18 17 35.9	
KRHZ				AML	AML	18 17 36.8	
NMHZ	**Naumai**	**1.18**	**107**	Pn	Pn	18 17 09.5	+0.6
NMHZ	**Naumai**	**1.18**	**107**	⇓PN	Pn	18 17 09.5	+0.6
NMHZ				AML	AML	18 17 43.3	
NMHZ				AML	AML	18 17 43.5	
MCHZ	**McNeill Hill**	**1.25**	**123**	Pn	Pn	18 17 09.7	+0.5
MCHZ	**McNeill Hill**	**1.25**	**123**	PN	Pn	18 17 09.7	+0.6
MCHZ				AML	AML	18 17 39.9	
MCHZ				AML	AML	18 17 46.3	
RTZ	**Ruatahuna**	**1.29**	**84**	PN	Pn	18 17 08.8	-0.8
PNHZ	**Pukenui**	**1.32**	**150**	Pn	Pn	18 17 09.8	0.0
PNHZ	**Pukenui**	**1.32**	**150**	⇑PN	Pn	18 17 09.8	0.0
PNHZ				AML	AML	18 17 37.3	
PNHZ				AML	AML	18 17 40.9	
TSZ	**Takapari Road**	**1.37**	**160**	Pn	Pn	18 17 10.2	0.0
TSZ	**Takapari Road**	**1.37**	**160**	⇑PN	Pn	18 17 10.2	0.0
TSZ				AML	AML	18 17 38.6	
TSZ				AML	AML	18 17 40.7	
ARHZ	**Aropaoanui**	**1.38**	**112**	Pn	Pn	18 17 10.5	+0.4
ARHZ	**Aropaoanui**	**1.38**	**112**	PN	Pn	18 17 10.5	+0.4
ARHZ				AML	AML	18 17 38.3	
ARHZ				AML	AML	18 17 41.6	
OHWZ	**Ohakea**	**1.44**	**181**	PN	Pn	18 17 10.9	+0.3
URZ	**Urewera**	**1.47**	**70**	Pn	Pn	18 17 09.5	-1.5
URZ	**Urewera**	**1.47**	**70**	PN	Pn	18 17 09.4	-1.6
URZ				AML	AML	18 17 36.7	
URZ				AML	AML	18 17 37.5	
WHHZ	**Waihua**	**1.50**	**102**	PN	Pn	18 17 11.5	+0.3
WHHZ				AML	AML	18 17 51.7	
WHHZ				AML	AML	18 17 57.6	
WPHZ	**Waipukurau**	**1.54**	**147**	Pn	Pn	18 17 11.7	+0.1
WPHZ	**Waipukurau**	**1.54**	**147**	⇑PN	Pn	18 17 11.7	+0.1
WPHZ				AML	AML	18 17 41.1	
WPHZ				AML	AML	18 17 45.0	
KAHZ	**Kahuranaki**	**1.57**	**131**	Pn	Pn	18 17 12.2	+0.4
KAHZ	**Kahuranaki**	**1.57**	**131**	⇑PN	Pn	18 17 12.2	+0.4
KAHZ				AML	AML	18 17 42.8	
KAHZ				AML	AML	18 17 43.0	
CKHZ	**Cape Kidnapper**	**1.61**	**124**	Pn	Pn	18 17 12.6	+0.4
CKHZ	**Cape Kidnapper**	**1.61**	**124**	PN	Pn	18 17 12.6	+0.4
POWZ	**Post Office Ro**	**1.65**	**169**	Pn	Pn	18 17 12.2	-0.3
POWZ	**Post Office Ro**	**1.65**	**169**	PN	Pn	18 17 12.2	-0.3
POWZ				AML	AML	18 17 49.3	
POWZ				AML	AML	18 17 50.2	
DVHZ	**Dannevirke**	**1.65**	**158**	Pn	Pn	18 17 12.2	-0.3
DVHZ	**Dannevirke**	**1.65**	**158**	⇑PN	Pn	18 17 12.2	-0.3
DVHZ				AML	AML	18 17 42.0	
DVHZ				AML	AML	18 17 42.2	
PXZ	**Pawanui**	**1.72**	**138**	Pn	Pn	18 17 13.0	-0.1
PXZ	**Pawanui**	**1.72**	**138**	⇑PN	Pn	18 17 13.0	-0.1
PXZ				AML	AML	18 17 43.0	
PXZ				AML	AML	18 17 43.0	
PXZ				AML	AML	18 17 44.1	
PXZ				AML	AML	18 17 44.1	
MWZ	**Matawai**	**1.76**	**76**	Pn	Pn	18 17 12.8	-0.8
MWZ	**Matawai**	**1.76**	**76**	PN	Pn	18 17 12.8	-0.8
PRHZ	**Porangahau**	**1.80**	**147**	Pn	Pn	18 17 13.8	-0.1
PRHZ	**Porangahau**	**1.80**	**147**	⇑PN	Pn	18 17 13.8	-0.1
PRHZ				AML	AML	18 17 45.1	
PRHZ				AML	AML	18 17 46.8	
KNZ	**Kokohu**	**1.83**	**99**	Pn	Pn	18 17 13.9	-0.3
KNZ	**Kokohu**	**1.83**	**99**	PN	Pn	18 17 13.9	-0.3
PRWZ	**Pori Road**	**1.85**	**165**	Pn	Pn	18 17 14.1	-0.2
PRWZ	**Pori Road**	**1.85**	**165**	PN	Pn	18 17 14.1	-0.2
PRWZ				AML	AML	18 17 45.5	
PRWZ				AML	AML	18 17 45.5	
RIGZ	**Rimuhau**	**1.89**	**89**	PN	Pn	18 17 14.3	-0.5
RIGZ				AML	AML	18 17 46.6	
RIGZ				AML	AML	18 17 48.6	
MRZ	**Mangatainoka R**	**1.90**	**175**	Pn	Pn	18 17 14.1	-0.7
MRZ	**Mangatainoka R**	**1.90**	**175**	⇑PN	Pn	18 17 14.1	-0.7
MRZ				AML	AML	18 17 45.2	
MRZ				AML	AML	18 17 45.6	
PRGZ	**Paritu Road**	**1.99**	**95**	Pn	Pn	18 17 16.5	+0.8
PRGZ	**Paritu Road**	**1.99**	**95**	PN	Pn	18 17 15.0	-0.7
RUGZ	**Raukumara Rang**	**2.00**	**67**	PN	Pn	18 17 13.6	-2.3
BFZ	**Birch Farm**	**2.03**	**160**	Pn	Pn	18 17 15.4	-0.7
BFZ	**Birch Farm**	**2.03**	**160**	⇑PN	Pn	18 17 15.4	-0.7
BFZ				AML	AML	18 17 48.2	
BFZ				AML	AML	18 17 48.4	
BFZ				AML	AML	18 17 48.5	
TIWZ	**Tintock**	**2.05**	**168**	Pn	Pn	18 17 15.6	-0.7
TIWZ	**Tintock**	**2.05**	**168**	⇑PN	Pn	18 17 15.6	-0.7
OGWZ	**Otaki Gorge**	**2.05**	**184**	Pn	Pn	18 17 15.8	-0.5
OGWZ	**Otaki Gorge**	**2.05**	**184**	⇑PN	Pn	18 17 15.7	-0.5
OGWZ				AML	AML	18 17 16.5	
OGWZ				AML	AML	18 17 46.8	
KIW	**Kapiti Island**	**2.12**	**189**	Pn	Pn	18 17 15.9	-1.1
KIW	**Kapiti Island**	**2.12**	**189**	PN	Pn	18 17 15.9	-1.1
KIW				AML	AML	18 17 47.7	
KIW				AML	AML	18 17 48.2	
HOWZ	**Holdsworth Sta**	**2.13**	**177**	Pn	Pn	18 17 16.1	-1.0
HOWZ	**Holdsworth Sta**	**2.13**	**177**	⇑PN	Pn	18 17 16.1	-1.0
HOWZ				AML	AML	18 17 49.1	
HOWZ				AML	AML	18 17 49.1	
TWGZ	**Tauwhareparae**	**2.15**	**75**	Pn	Pn	18 17 17.1	-0.3
TWGZ	**Tauwhareparae**	**2.15**	**75**	PN	Pn	18 17 17.1	-0.3
TWGZ				AML	AML	18 17 52.6	
TWGZ				AML	AML	18 17 53.3	
HAZ	**Te Kaha**	**2.17**	**63**	⇑PN	Pn	18 17 15.2	-2.3
HAZ				AML	AML	18 17 46.4	
HAZ				AML	AML	18 17 46.9	
CPWZ	**Castlepoint**	**2.24**	**163**	Pn	Pn	18 17 17.9	-0.3
CPWZ	**Castlepoint**	**2.24**	**163**	PN	Pn	18 17 17.9	-0.3
CPWZ				AML	AML	18 17 53.1	
CPWZ				AML	AML	18 17 54.6	
CNGZ	**Carnagh Statio**	**2.26**	**84**	PN	Pn	18 17 16.9	-1.6
DUWZ	**D'Urville Isla**	**2.31**	**208**	Pn	Pn	18 17 17.4	-1.6
DUWZ	**D'Urville Isla**	**2.31**	**208**	⇑PN	Pn	18 17 17.4	-1.6
CAW	**Cannon Point**	**2.34**	**185**	Pn	Pn	18 17 18.3	-1.1
CAW	**Cannon Point**	**2.34**	**185**	⇑PN	Pn	18 17 18.2	-1.1
CAW				AML	AML	18 17 53.0	
CAW				AML	AML	18 17 53.6	
TMWZ	**Te Maipa**	**2.37**	**170**	Pn	Pn	18 17 18.6	-1.1
TMWZ	**Te Maipa**	**2.37**	**170**	PN	Pn	18 17 18.5	-1.1
TMWZ				AML	AML	18 17 53.5	
TMWZ				AML	AML	18 17 54.1	
MTW	**Mount Morrison**	**2.39**	**177**	Pn	Pn	18 17 18.4	-1.4
MTW	**Mount Morrison**	**2.39**	**177**	PN	Pn	18 17 18.4	-1.4
PUZ	**Puketiti**	**2.39**	**74**	Pn	Pn	18 17 17.8	-2.1
PUZ	**Puketiti**	**2.39**	**74**	PN	Pn	18 17 17.8	-2.1
WEL	**Wellington**	**2.55**	**190**	Pn	Pn	18 17 20.1	-1.4
WEL	**Wellington**	**2.55**	**190**	PN	Pn	18 17 20.1	-1.4
WEL				AML	AML	18 17 20.7	
WEL				AML	AML	18 17 56.4	
TCW	**Tory Channel**	**2.57**	**198**	Pn	Pn	18 17 20.5	-1.3
TCW	**Tory Channel**	**2.57**	**198**	PN	Pn	18 17 20.5	-1.3
TCW				AML	AML	18 17 57.2	
TCW				AML	AML	18 17 58.4	
SNZO	**South Karori**	**2.58**	**191**	ePn	Pn	18 17 19.8	-2.1
WMGZ	**Waiomatatini S**	**2.59**	**69**	Pn	Pn	18 17 20.5	-1.5
WMGZ	**Waiomatatini S**	**2.59**	**69**	PN	Pn	18 17 20.5	-1.5
PAWZ	**Paruwai Farm**	**2.61**	**179**	Pn	Pn	18 17 20.8	-1.5
PAWZ	**Paruwai Farm**	**2.61**	**179**	PN	Pn	18 17 20.7	-1.5
PAWZ				AML	AML	18 17 56.6	
PAWZ				AML	AML	18 17 56.6	
MXZ	**Matakaoa Point**	**2.62**	**64**	Pn	Pn	18 17 20.6	-1.8
MXZ	**Matakaoa Point**	**2.62**	**64**	⇓PN	Pn	18 17 20.6	-1.8
TRWZ	**Traveller**	**2.64**	**174**	Pn	Pn	18 17 21.2	-1.3
TRWZ	**Traveller**	**2.64**	**174**	PN	Pn	18 17 21.2	-1.3
TRWZ				AML	AML	18 17 59.1	
TRWZ				AML	AML	18 17 59.1	
MSWZ	**Moikau Station**	**2.64**	**182**	Pn	Pn	18 17 21.0	-1.6
MSWZ	**Moikau Station**	**2.64**	**182**	⇑PN	Pn	18 17 21.0	-1.6
MSWZ				AML	AML	18 17 57.2	
MSWZ				AML	AML	18 17 57.7	
BHW	**Baring Head**	**2.66**	**188**	Pn	Pn	18 17 21.1	-1.6
BHW	**Baring Head**	**2.66**	**188**	PN	Pn	18 17 21.1	-1.6
BHW				AML	AML	18 17 58.6	
BHW				AML	AML	18 17 58.6	
PLWZ	**Palliser**	**2.80**	**181**	Pn	Pn	18 17 22.6	-1.7
PLWZ	**Palliser**	**2.80**	**181**	⇑PN	Pn	18 17 22.6	-1.7
PLWZ				AML	AML	18 17 23.6	
PLWZ				AML	AML	18 18 00.2	
TUWZ	**Tuamarina**	**2.87**	**202**	Pn	Pn	18 17 23.3	-1.7
TUWZ	**Tuamarina**	**2.87**	**202**	PN	Pn	18 17 23.3	-1.7
TUWZ				AML	AML	18 17 24.3	
TUWZ				AML	AML	18 17 24.3	
NNZ	**Nelson**	**2.87**	**211**	Pn	Pn	18 17 22.9	-2.3
NNZ	**Nelson**	**2.87**	**211**	⇑PN	Pn	18 17 22.8	-2.3
QRZ	**Quartz Range**	**2.99**	**226**	Pn	Pn	18 17 23.3	-3.2
QRZ	**Quartz Range**	**2.99**	**226**	⇑PN	Pn	18 17 23.3	-3.2
BSWZ	**Blackbirch Sta**	**3.15**	**200**	Pn	Pn	18 17 26.7	-1.6
BSWZ	**Blackbirch Sta**	**3.15**	**200**	PN	Pn	18 17 26.7	-1.6
THZ	**Tophouse**	**3.52**	**211**	Pn	Pn	18 17 29.9	-2.9
THZ	**Tophouse**	**3.52**	**211**	⇓PN	Pn	18 17 29.9	-2.9
KHZ	**Kahutara**	**3.89**	**200**	Pn	Pn	18 17 35.0	-2.2
KHZ	**Kahutara**	**3.89**	**200**	⇑PN	Pn	18 17 35.0	-2.2
DSZ	**Denniston Nort**	**4.02**	**221**	Pn	Pn	18 17 35.2	-3.6
DSZ	**Denniston Nort**	**4.02**	**221**	PN	Pn	18 17 35.2	-3.6
LTZ	**Lake Taylor**	**4.64**	**209**	Pn	Pn	18 17 43.2	-3.2
LTZ	**Lake Taylor**	**4.64**	**209**	PN	Pn	18 17 43.2	-3.3
INZ	**Inchbonnie**	**4.94**	**216**	PN	Pn	18 17 45.8	-4.4
OXZ	**Oxford**	**5.19**	**208**	Pn	Pn	18 17 49.3	-4.1
OXZ	**Oxford**	**5.19**	**208**	PN	Pn	18 17 49.3	-4.1
CRLZ	**Canterbury Las**	**5.22**	**202**	Pn	Pn	18 17 49.9	-3.8
CRLZ	**Canterbury Las**	**5.22**	**202**	PN	Pn	18 17 49.9	-3.8
MQZ	**McQueen's Vall**	**5.33**	**202**	Pn	Pn	18 17 51.1	-4.1
MQZ	**McQueen's Vall**	**5.33**	**202**	⇓PN	Pn	18 17 51.1	-4.1
WVZ	**Waitaha Valley**	**5.54**	**218**	Pn	Pn	18 17 53.8	-4.0
WVZ	**Waitaha Valley**	**5.54**	**218**	PN	Pn	18 17 53.8	-4.0
RPZ	**Rata Peaks**	**5.91**	**212**	Pn	Pn	18 17 58.1	-4.3
RPZ	**Rata Peaks**	**5.91**	**212**	⇓PN	Pn	18 17 58.1	-4.3
FOZ	**Fox Glacier**	**6.33**	**219**	Pn	Pn	18 18 03.0	-4.8
FOZ	**Fox Glacier**	**6.33**	**219**	PN	Pn	18 18 03.0	-4.8
LBZ	**Lake Benmore**	**6.82**	**213**	Pn	Pn	18 18 09.1	-5.0
LBZ	**Lake Benmore**	**6.82**	**213**	PN	Pn	18 18 09.1	-5.0
ODZ	**Otahua Downs**	**7.18**	**208**	Pn	Pn	18 18 15.5	-3.3
ODZ	**Otahua Downs**	**7.18**	**208**	PN	Pn	18 18 15.5	-3.3
JCZ	**Jackson Bay**	**7.24**	**221**	Pn	Pn	18 18 14.6	-5.1
JCZ	**Jackson Bay**	**7.24**	**221**	PN	Pn	18 18 14.6	-5.1
WKZ	**Wanaka**	**7.68**	**216**	PN	Pn	18 18 20.5	-4.7
TUZ	**Tuapeka**	**8.33**	**209**	Pn	Pn	18 18 30.2	-3.4
TUZ	**Tuapeka**	**8.33**	**209**	PN	Pn	18 18 30.2	-3.4
ARMA	**Armidale**	**21.19**	**286**	P	P	18 20 57.6	-7.7

KRSC 16 18:20:35.9±0.4, 55°.19N×160°.45E, h0km±1km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.03**	**298**	*i* P	Pg	18 20 37.2	+0.7
TUMD				eS	Sg	18 20 38.1	+1.2
TUMR	**Tumrok**	**0.20**	**299**	*i* P	Pg	18 20 40.9	+1.2
TUMR				eS	Sg	18 20 44.4	+2.2
KMNR	**Kamenistaya**	**0.58**	**348**	eP	Pb	18 20 48.3	-0.7
KMNR				eS	Sb	18 20 58.1	+0.2
BZMR	**Bezymyannaya**	**0.75**	**2**	eP	Pb	18 20 51.4	-0.5
BZMR				eS	Sb	18 21 04.1	+1.4
KIRR	**Kirishev**	**0.77**	**356**	eP	Pb	18 20 51.7	-0.5
KIRR				eS	Sb	18 21 04.8	+1.5
BZWR	**Bezymyannyi-We**	**0.78**	**2**	eP	Pb	18 20 52.5	+0.1
BZWR				eS	Sn	18 21 05.6	-1.2
KPT	**Kopyto**	**0.79**	**351**	eP	Pb	18 20 51.9	-0.7
KPT				eS	Sb	18 21 04.7	+0.9
ZLN	**Zelenaya**	**0.85**	**14**	eP	Pb	18 20 53.5	-0.2
ZLN				eS	Sb	18 21 06.8	+1.1
LGNR	**Loginova**	**0.91**	**9**	eP	Pb	18 20 54.9	+0.2
LGNR				eS	Sn	18 21 09.5	-0.6
KOZ	**Kozyrevsk**	**0.93**	**340**	eP	Pb	18 20 55.4	+0.5
KOZ				eS	Sn	18 21 10.3	0.0
CIRR	**Tsirk**	**0.94**	**10**	eP	Pb	18 20 55.3	+0.1
CIRR				eS	Sn	18 21 10.3	-0.5
MKZ	**Mys Kozlova**	**0.97**	**130**	eP	Pb	18 20 55.5	-0.1
MKZ				eS	Sn	18 21 10.2	-1.1
KRSR	**Krestovskiy**	**1.03**	**4**	eP	Pg	18 20 55.7	0.0
KRSR				eS	Sn	18 21 12.3	-0.7
KLY	**Klyuchi**	**1.13**	**6**	eP	Pb	18 20 58.5	+0.2
KLY				eS	Sn	18 21 15.9	+0.7
ESO	**Esso**	**1.24**	**307**	eP	Pg	18 20 59.4	-0.2
ESO				eS	Sn	18 21 17.3	-0.6
KII	**Karymskiy**	**1.29**	**207**	eP	Pg	18 21 00.8	+0.2
KII				eS	Sn	18 21 20.5	+1.2
SRKR	**Sorokina**	**1.52**	**15**	eP	Pb	18 21 04.8	-0.3
GNL	**Ganaly**	**2.09**	**225**	eP	Pn	18 21 12.9	+0.6
GNL				eS	Sb	18 21 40.7	-0.6
NLC	**Nalytchevo**	**2.12**	**198**	eP	Pb	18 21 14.7	-0.5
NLC				eS	Sg	18 21 43.5	-0.5
SDLR	**Sedlovina**	**2.12**	**206**	eP	Pn	18 21 13.4	+0.7
SDLR				eS	Sb	18 21 41.6	-0.6
KRER	**Koryakskii**	**2.13**	**209**	eP	Pn	18 21 14.1	+1.2
AVH	**Avacha**	**2.17**	**208**	eP	Pb	18 21 15.4	-0.7
KOK	**Koryaka**	**2.18**	**210**	eP	Pb	18 21 15.6	-0.6
UGLR	**Uglovaya**	**2.20**	**206**	eP	Pb	18 21 15.8	-0.8
APC	**Apacha**	**2.98**	**222**	eP	Pb	18 21 28.1	-1.7
RUS	**Russkaya**	**2.99**	**203**	eP	Pn	18 21 26.1	+1.6
RUS				eS	Sb	18 22 05.4	-1.6
ASAK	**Asacha**	**3.19**	**209**	eP	Pb	18 21 31.2	-2.2

*ISCJB **16** 18:24:43.7±0.5, 29°.25S±0°.03×67°.98W±0°.04, h117km±8km, Error ellipse: s-maj=7.0km s-min=4.9km az=33.8*
*SJA **16** 18:24:43.4±0.7, 29°.25S×68°.01W, h116km±3km, ML4.0, MW4.1*
*GUC **16** 18:24:44.0±0.5, 29°.65S×67°.86W, h39km±6km, ML4.2*

ISC 16 18:24:44.0±1.4, 29°.24S±0°.05×67°.97W±0°.04, h115km±10km, n33, σ0:93/40, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.52**	**241**	eP	**Pn**	**18 25 01.6**	**0.0**
VCA	**Vinchina**	**0.54**	**338**	eP	**Pn**	**18 25 02.2**	**+0.3**
VCA				eS	**Sn**	**18 25 15.2**	**0.0**
VCA				IAML		18 25 15.6	
	comp=N,8μm,0.4s						
VCA	**Vinchina**	**0.54**	**338**	eP	**Pn**	**18 25 02.2**	**+0.3**
VCA				eS	**Sn**	**18 25 15.2**	**0.0**
VCA				IAML		18 25 18.3	
	comp=Z,7μm,0.2s						
ACLC	**CERRO LA CRUZ**	**0.91**	**102**	eP	**Pn**	**18 25 05.4**	**+0.5**
ACDV	**Cuesta del Vie**	**1.36**	**227**	eP	**Pn**	**18 25 10.5**	**+0.8**
AVFE	**Valle Fertil**	**1.49**	**163**	eP	**Pn**	**18 25 11.5**	**+0.4**
AVFE				IAML		18 25 32.8	
	comp=Z,2μ

ISC 16 18:27:07.5±1.1, 37°.76N±0°.02×115°.11W±0°.02, h1km±10km, n75, σ1°51/109, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11A	**Troy Canyon, C**	**0.69**	**328**	P	**Pg**	**18 27 22.1**	**+1.3**
	baz=148,SNR=1000						
R11A				S	**Sg**	**18 27 31.4**	**+1.5**
	baz=148						
R11A	**Troy Canyon, C**	**0.69**	**328**	*e*Pg	**Pg**	**18 27 21.9**	**+1.0**
R11A				*e*Sg	**Sg**	**18 27 30.9**	**+1.0**
ICU	**Indian Springs**	**1.13**	**123**	*e*Pg	**Pb**	**18 27 29.9**	**0.0**
TPNV	**Topopah Spring**	**1.22**	**228**	P	**Pb**	**18 27 30.9**	**-0.5**
	baz=48,SNR=310						
TPNV				S	**Sg**	**18 27 47.5**	**+0.8**
	baz=48						
PSUT	**Pine Spring**	**1.25**	**52**	*e*Pg	**Pg**	**18 27 32.9**	**+1.3**
PSUT				*e*Sg	**Sn**	**18 27 50.4**	**+0.4**
SHPR	**Sheep Range**	**1.26**	**182**	*e*Pg	**Pn**	**18 27 31.7**	**-0.7**
SHPR				*e*Pn	**Pb**	**18 27 31.8**	**-0.3**
SHPR				*e*Sg	**Sn**	**18 27 49.5**	**-0.5**
ARUT	**Antelope Range**	**1.32**	**88**	*e*Pg	**Pg**	**18 27 34.0**	**+1.1**
CCUT	**Cedar City**	**1.40**	**98**	*e*Pg	**Pg**	**18 27 35.2**	**+0.7**
CCUT				*e*Sn	**Sg**	**18 27 53.6**	**+0.9**
SZCU	**Shurtz Canyon**	**1.61**	**95**	*e*Pn	**Pg**	**18 27 39.1**	**+0.6**
SZCU				*e*Sn	**Sn**	**18 27 56.7**	**-2.2**
LCMT	**Little Creek M**	**1.67**	**116**	*e*Pn	**Pb**	**18 27 38.8**	**-0.3**
LCMT				*e*Sn	**Sg**	**18 28 01.2**	**+0.1**
DWU	**Dry Willow Pea**	**1.71**	**78**	*e*Pn	**Pb**	**18 27 39.4**	**-0.4**
BHU	**Blowhard Mount**	**1.80**	**95**	*e*Pn	**Pg**	**18 27 42.7**	**+0.7**
FURC	**Furnace Creek,**	**1.91**	**228**	P	**Pn**	**18 27 40.5**	**-0.6**
	baz=47,SNR=36						
FURC				S	**Sn**	**18 28 05.2**	**-0.6**
	baz=47						
GRAC	**Grapevine Rang**	**1.95**	**248**	P	**Pn**	**18 27 41.6**	**-0.2**
	baz=66,SNR=60						
GRAC				S	**Sn**	**18 28 06.8**	**-0.2**
	baz=66						
KNB	**Kanab**	**1.97**	**112**	*e*Pn	**Pb**	**18 27 44.7**	**+0.4**
KNB				*e*Sn	**Sb**	**18 28 09.5**	**+0.1**
SHOC	**Shoshone, Teco**	**2.08**	**207**	P	**Pn**	**18 27 43.2**	**-0.4**
	baz=26						
SHOC				S	**Sn**	**18 28 10.3**	**+0.2**
	baz=26						
EKU	**East Kanab**	**2.19**	**107**	*e*Pn	**Pb**	**18 27 48.9**	**+0.8**
PKCU	**Pink Cliffs**	**2.25**	**97**	*e*Pn	**Pb**	**18 27 50.1**	**+1.0**
TCRU	**Three Creeks R**	**2.26**	**67**	*e*Pn	**Pg**	**18 27 51.3**	**+0.4**
MTPU	**Mount Pierson**	**2.33**	**82**	*e*Pn	**Pb**	**18 27 50.9**	**+0.3**
MTPU				*e*Sn	**Sg**	**18 28 23.7**	**+1.2**
FSU	**Fish Springs**	**2.38**	**34**	*e*Pn	**Pb**	**18 27 52.7**	**+1.5**
TUQ	**Turquoise Moun**	**2.41**	**196**	P	**Pn**	**18 27 48.0**	**-0.2**
	baz=15,SNR=14						
TUQ				Sb	**Sb**	**18 28 22.9**	**+0.8**
	baz=15						
MSU	**Marysvale**	**2.43**	**71**	*e*Pn	**Pb**	**18 27 52.6**	**+0.4**
DAC	**Darwin (Calif)**	**2.48**	**234**	*e*Pn	**Pn**	**18 27 49.1**	**-0.1**
DAC				*e*Sn	**Sn**	**18 28 19.6**	**-0.7**
MPMC	**Manual Prospec**	**2.56**	**229**	P	**Pn**	**18 27 49.8**	**-0.4**
	baz=48,SNR=19						
MPMC				Sb	**Sb**	**18 28 27.1**	**+0.8**
	baz=48						
TIN	**Tinemaha, Big**	**2.58**	**255**	Pg	**Pg**	**18 27 56.7**	**-0.3**
	baz=73						
TIN				Sb	**Sg**	**18 28 29.1**	**-1.3**
	baz=73						
U15A	**North Rim**	**2.62**	**120**	*e*Pn	**Pb**	**18 27 53.4**	**-2.0**
U15A				*e*Sn	**Sn**	**18 28 24.3**	**+0.5**
LDFC	**Landfair**	**2.68**	**180**	*e*Pn	**Pn**	**18 27 50.9**	**-1.0**
LDFC				*e*Sn	**Sn**	**18 28 25.6**	**+0.6**
CWC	**Cottonwood Cre**	**2.72**	**242**	P	**Pn**	**18 27 51.8**	**-0.7**
	baz=60						
CWC				Sb	**Sb**	**18 28 32.5**	**+1.7**
	baz=60						
GSC	**Goldstone, Bar**	**2.81**	**210**	P	**Pn**	**18 27 53.4**	**-0.3**
	baz=28,SNR=16						
GSC				Sb	**Sg**	**18 28 35.6**	**-2.2**
	baz=28						
GSC	**Goldstone, Bar**	**2.81**	**210**	*e*Pn	**Pb**	**18 27 58.6**	**+0.1**
W13A	**Hualapai Mount**	**2.84**	**159**	*e*Pn	**Pn**	**18 27 54.3**	**+0.1**
W13A				*e*Sn	**Sn**	**18 28 28.9**	**-0.2**
TVH2	**Borealis Mine**	**2.94**	**283**	*e*Pn	**Pb**	**18 27 59.4**	**-1.5**
TVH2				*e*Sn	**Sb**	**18 28 35.4**	**-2.1**
GMRC	**Granite Mounta**	**3.00**	**189**	P	**Pn**	**18 27 55.9**	**-0.5**
	baz=8.2						
NEE2	**Needles Airpor**	**3.02**	**172**	Pb	**Pb**	**18 28 02.3**	**+0.3**
	baz=352						
NEE2				Sb	**Sb**	**18 28 41.5**	**+2.2**
	baz=352						
DUG	**Dugway, Tooele**	**3.02**	**36**	Pb	**Pb**	**18 28 03.4**	**+1.3**
	baz=217						
DUG				Sb	**Sg**	**18 28 43.6**	**-0.9**
	baz=217						
DUG	**Dugway, Tooele**	**3.02**	**36**	Pn	**Pb**	**18 27 59.7**	**-2.4**
DUG				*e*Sn	**Sn**	**18 28 33.6**	**+0.1**
BMN	**Battle Mountai**	**3.13**	**329**	*e*Pn	**Pn**	**18 27 59.2**	**+1.0**
BMN				*e*Pg	**Pg**	**18 28 07.5**	**0.0**
BMN				*e*Sg	**Sg**	**18 28 48.1**	**0.0**
YERR	**Yerington**	**3.47**	**292**	*e*Pn	**Pn**	**18 28 02.2**	**-0.6**
WAKR	**Walker**	**3.49**	**284**	*e*Pn	**Pn**	**18 28 02.9**	**-0.2**
MPU	**Maple Canyon**	**3.52**	**49**	*e*Pg	**Pg**	**18 28 17.6**	**+2.5**
WUAZ	**Wupatki**	**3.75**	**126**	*e*Pg	**Pg**	**18 28 17.5**	**-1.9**
WUAZ				*e*Sn	**Sn**	**18 28 51.2**	**-0.3**
PNTR	**Pine Nut**	**3.77**	**292**	*e*Pn	**Pb**	**18 28 13.2**	**-1.8**
P17A	**Butcher Ranch,**	**3.83**	**62**	*e*Pg	**Pg**	**18 28 20.9**	**0.0**
SRU	**San Rafael Swe**	**3.85**	**68**	*e*Pg	**Pb**	**18 28 17.6**	**+1.3**
PAHR	**Pah Rah Range**	**3.86**	**301**	*e*Pn	**Pn**	**18 28 10.9**	**+2.7**
JLU	**Jordanelle**	**4.02**	**44**	*e*Pn	**Pn**	**18 28 13.8**	**+3.4**
Y12C	**Blythe**	**4.03**	**173**	*e*Pg	**Pg**	**18 28 23.7**	**-1.1**
BFSC	**Mount Baldy Ra**	**4.08**	**211**	*e*Pg	**Pg**	**18 28 25.0**	**-0.7**
SPUT	**South Promonto**	**4.10**	**29**	*e*Pn	**Pb**	**18 28 16.8**	**-3.7**
SSK	**Sunset Peak**	**4.12**	**211**	*e*Pg	**Pb**	**18 28 23.2**	**+2.3**
CHFC	**Chilao Flat St**	**4.16**	**215**	*e*Pn	**Pn**	**18 28 16.6**	**+4.3**
P18A	**Preston Nutter**	**4.24**	**62**	*e*Pg	**Pg**	**18 28 28.3**	**-0.5**
PFO	**Pinyon Flats O**	**4.29**	**195**	*e*Pg	**Pg**	**18 28 31.0**	**+1.3**
TCUT	**Toone Canyon**	**4.41**	**39**	*e*Pg	**Pg**	**18 28 34.2**	**+2.1**
X16A	**Lo Mia Camp, P**	**4.47**	**137**	*e*Pg	**Pg**	**18 28 30.4**	**-2.7**
BEKR	**Beckworth**	**4.61**	**299**	*e*Pg	Pg	18 28 41.1	+5.3
GLA	**Glamis**	**4.71**	**177**	*e*Pg	**Pg**	**18 28 40.1**	**+2.4**
AFDM	**Forest Hills D**	**4.76**	**286**	*e*Pg	**Pg**	**18 28 41.2**	**+2.5**
PV09	**Paradox Valley**	**4.77**	**79**	*e*Pg	**Pg**	**18 28 37.5**	**-1.5**
SWSC	**Sam W. Stewart**	**4.84**	**187**	*e*Pg	**Pg**	**18 28 43.5**	**+3.2**
PV04	**Paradox Valley**	**4.94**	**81**	*e*Pg	**Pg**	**18 28 42.3**	**+0.1**
PV04				*e*Sg	**Sg**	**18 29 45.5**	**-0.7**
HWB	**Hans Werner Br**	**4.96**	**198**	*e*Pg	**Pg**	**18 28 41.6**	**-1.0**
DPP	**Dos Picos Cty**	**4.98**	**198**	*e*Pn	**Pn**	**18 28 22.9**	**-0.5**
DPP				*e*Sn	**Sn**	**18 29 20.5**	**-1.2**
EML	**El Monte Cty P**	**5.06**	**197**	*e*Sn	**Sn**	**18 29 22.5**	**-1.2**
113A	**Mohawk Valley,**	**5.10**	**167**	*e*Pg	**Pg**	**18 28 42.3**	**-3.0**
PV01	**Paradox Valley**	**5.18**	**84**	Pg	**Pg**	**18 28 47.2**	**+0.3**
PV01				*e*Sg	**Sg**	**18 29 52.3**	**-1.8**
X18A	**Snowflake**	**5.28**	**126**	*e*Pg	**Pg**	**18 28 45.4**	**-3.3**
MVCO	**Mesa Verde**	**5.29**	**94**	*e*Pg	**Pg**	**18 28 48.5**	**-0.4**
WVOR	**Wild Horse Val**	**5.39**	**331**	*e*Pg	**Pg**	**18 28 50.8**	**0.0**
MFID	**Camas Ranch**	**5.67**	**355**	*e*Pg	**Pg**	**18 28 53.6**	**-2.6**
MFID				*e*Sg	**Sg**	**18 30 08.6**	**-1.1**
MOD	**Modoc Plateau**	**5.75**	**318**	*e*Pg	**Pg**	**18 28 57.0**	**-0.7**
HLID	**Hailey**	**5.82**	**5**	*e*Pg	**Pg**	**18 28 55.9**	**-3.1**
HLID				*e*Sg	**Sg**	**18 30 11.2**	**-3.2**
ANMO	**Albuquerque**	**7.53**	**109**	*e*Pg	**Pg**	**18 29 31.2**	**-0.6**
	1.5nm,0.6s						
121A	**Cookes Peak, D**	**7.95**	**129**	*e*Pg	**Pg**	**18 29 37.2**	**-2.6**
	9.2nm,0.8s						

*ISCJB **16** 18:29:27.3±0.4, 61°.17S±0°.05×53°.7W±0°.1, h10km, mb4.3/15, MS3.7/3, Error ellipse: s-maj=9.7km s-min=7.6km az=14.4*
*IDC **16** 18:29:27.1±0.6, 61°.14S×53°.73W, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.3/21, mbtmp4.3/13, ML4.7/1, MS3.7/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=23.8km s-min=13.9km az=79.0*
*NEIC **16** 18:29:32.0±0.4, 61°.20S×53°.92W, h35km, mb4.0/1, Error ellipse: s-maj=14.9km s-min=8.8km az=82.0*
ISC 16 18:29:28.6±0.5, 61°.17S±0°.07×53°.65W±0°.10, h10km, n31, σ1°11/29, mb4.3/15, MS3.6/3, 1D, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**5.96**	**228**	Pn	**Pn**	**18 30 56.5**	**-0.1**
	1.8nm,0.3s,baz=35,slow=12,SNR=8.3						
PMSA				Sn	**Sn**	**18 32 06.9**	**+2.1**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.3						
USHA	**Ushuaia**	**10.08**	**302**	LR	LR	18 35 32.1	
	comp=Z,277nm,19.0s,baz=79,slow=36						
VNA3	**Neumayer Olymp**	**19.87**	**139**	P	**Pn**	**18 34 01.0**	**0.0**
VNA1	**Neumayer--Stat**	**20.26**	**137**	P	Pn	18 34 05.8	+0.2
VNA2	**Neumayer--Watz**	**20.57**	**137**	P	Pn	18 34 08.8	-0.5
	baz=276,slow=11						
SNAA	**Sanae**	**22.08**	**139**	P	**P**	**18 34 24.7**	**+1.4**
SNAA	**Sanae**	**22.08**	**139**	P	**P**	**18 34 24.7**	**+1.4**
	15nm,0.8s,baz=278,slow=8.2,SNR=34						
SNAA				PcP	**PcP**	**18 38 19.5**	**-0.8**
	1.4nm,0.8s,baz=225,slow=5.9,SNR=4.9						
SNAA				LR	LR	18 40 57.8	
	comp=Z,94nm,21.6s,baz=354,slow=31						
PLCA	**Paso Flores**	**22.93**	**325**	P	**P**	**18 34 31.4**	**-1.1**
	7.2nm,0.7s,baz=176,slow=8.6,SNR=12						
TRQA	**Tornquist**	**23.72**	**343**	*e*P	**P**	**18 34 40.4**	**-0.1**
	3.7nm,0.7s						
QSPA	**South Pole Qui**	**29.06**	**180**	*e*P	**P**	**18 35 25.9**	**-2.8**
CPUP	**Villa Florida**	**34.92**	**354**	P	**P**	**18 36 20.1**	**-0.1**
	3.0nm,0.7s,baz=174,slow=7.5,SNR=7.3						
SYO	**Syowa Base**	**36.29**	**143**	⇓*e*P	**P**	**18 36 31.2**	**-0.3**
VNDA	**Vanda**	**39.84**	**191**	P	**P**	**18 37 02.2**	**+0.9**
	0.4nm,0.8s,baz=310,slow=4.0,SNR=2.3						
LVC	**Limon Verde**	**39.96**	**338**	P	**P**	**18 37 03.2**	**-0.1**
	15nm,0.9s,baz=170,slow=4.5,SNR=3.1						
MAW	**Mawson**	**43.53**	**150**	P	**P**	**18 37 33.1**	**+1.4**
	5.3nm,0.8s,baz=227,slow=7.2,SNR=10.0						
MAW				PcP	**PcP**	**18 39 19.3**	**+0.1**
	2.0nm,0.6s,baz=208,slow=5.9,SNR=4.7						
MAW				LR	LR	18 54 56.2	
	comp=Z,77nm,20.7s,baz=237,slow=35						
BDFB	**Brasilia**	**45.65**	**8**	P	**P**	**18 37 50.4**	**+1.2**
	1.6nm,0.6s,baz=338,slow=2.4,SNR=6.0						
LPAZ	**La Paz**	**46.01**	**341**	P	**P**	**18 37 53.1**	**+0.4**
	1.0nm,0.5s,baz=186,slow=5.7,SNR=7.3						
LPAZ				PcP	**PcP**	**18 39 28.7**	**-0.5**
	1.1nm,0.8s,baz=185,slow=4.4,SNR=2.6						
LIC	**Lamto**	**77.04**	**50**	*e*P	**P**	**18 41 22.3**	**+0.8**
	58nm,1.4s						
KIC	**Kosan Boka**	**77.27**	**50**	*e*P	**P**	**18 41 22.9**	**+0.1**
	81nm,1.6s						
TIC	**Toumodi**	**77.43**	**50**	*e*P	**P**	**18 41 25.3**	**+1.6**
DBIC	**Dimbokro**	**77.51**	**50**	P	**P**	**18 41 23.4**	**-0.7**
	3.7nm,0.9s,baz=186,slow=9.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**85.94**	**53**	P	**P**	**18 42 09.4**	**+0.9**
	3.2nm,0.7s,baz=204,slow=5.5,SNR=19						
STKA	**Stephens Creek**	**86.46**	**193**	LR	LR	19 18 30.5	
	comp=Z,109nm,19.0s,baz=215,slow=34						
ASAR	**Alice Springs**	**95.25**	**187**	P	**P**	**18 42 51.0**	**-1.3**
	0.4nm,0.8s,baz=180,slow=3.7,SNR=4.4						
WRA	**Warramunga Arr**	**98.92**	**188**	P	**P**	**18 43 08.7**	**-0.3**
	0.5nm,0.5s,baz=182,slow=4.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**133.13**	**143**	PKP	**PKPdf**	**18 48 43.4**	**-0.8**
	1.6nm,0.8s,baz=221,slow=3.3,SNR=9.3						
ARCES	**ARCESS Array B**	**141.88**	**34**	PKhKP	PKPpre	18 48 51.4	
	4.1nm,1.0s,baz=197,slow=2.8,SNR=8.2						
ILAR	**Eielson Array**	**143.32**	**314**	PKhKP	PKPpre	18 48 55.1	
	1.6nm,0.6s,baz=161,slow=2.4,SNR=18						
MKAR	**Makanchi Array**	**151.03**	**99**	PKPbc	**PKPbc**	**18 49 19.1**	**-1.4**
	3.1nm,0.8s,baz=210,slow=1.8,SNR=16						
ZALV	**Zalesovo Beam**	**156.93**	**89**	PKPab	**PKPab**	**18 49 53.5**	**+0.5**
	0.5nm,0.6s,baz=270,slow=2.9,SNR=3.7						
SONM	**Songino Array**	**162.42**	**130**	PKPab	**PKPab**	**18 50 16.8**	**-0.5**
	1.2nm,0.8s,baz=194,slow=3.0,SNR=8.7						

*ISCJB **16** 18:42:27.4±1.5, 44°.64N±0°.04×145°.42E±0°.05, h7km±10km, Error ellipse: s-maj=7.6km s-min=5.9km az=156.2*
*SKHL **16** 18:42:29.4±0.5, 44°.55N×145°.29E, h27km±1km, mb4.0/3*
*JMA **16** 18:42:29.1±0.2, 44°.62N×145°.38E, h16km±1km, M3.2*
ISC 16 18:42:25.1±1.2, 44°.75N±0°.05×145°.40E±0°.04, h14km±11km, n9, σ0°49/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.79**	**155**	*e*P	**Pn**	**18 42 41.6**	**-0.2**
YUK				AMB	AMB	18 42 42.2	
	86nm,0.3s						
YUK				*i* S	**Sg**	**18 42 50.4**	**-0.4**
YUK				A	A	18 42 52.8	
	2μm,0.3s						
YUK				A	A	18 42 52.8	
	600nm,0.3s						
JRA	**Rausu**	**0.84**	**194**	P	**Pn**	**18 42 42.6**	**+0.1**
JNK	**Nakash**	**1.27**	**203**	P	**Pg**	**18 42 49.7**	**+0.2**
JNK				*e*S	**Sb**	**18 43 04.5**	**-0.4**
JTKR	**Abashiri--Toko**	**1.33**	**234**	P	**Pg**	**18 42 51.1**	**+0.5**
JTKR				*e*S	**Sg**	**18 43 07.7**	**-0.2**
SHO	**Shikotan**	**1.35**	**130**	*i* P	**Pg**	**18 42 51.2**	**+0.1**
SHO				AMB	AMB	18 42 53.9	
	97nm,0.3s						
SHO				*i* S	**Sn**	**18 43 07.9**	**+0.7**
SHO				A	A	18 43 09.0	
	200nm,0.3s						
SHO				A	A	18 43 09.0	
	220nm,0.3s						
NEM2	**Nemuro 2**	**1.41**	**170**	P	**Pb**	**18 42 51.1**	**0.0**
NEM2				*e*S	**Sb**	**18 43 07.8**	**-1.1**
KUR	**Kuril'sk**	**1.81**	**74**	*i* P	**Pg**	**18 43 00.3**	**+0.4**
KUR				AMB	AMB	18 43 00.7	
	17nm,0.2s						
KUR				*i* S	**Sg**	**18 43 23.4**	**0.0**
KUR				A	A	18 43 24.2	
	50nm,0.3s						
KUR				A	A	18 43 24.2	
	67nm,0.3s						
JAK	**Akkeshi**	**1.83**	**196**	P	**Pb**	**18 42 58.3**	**0.0**
JAK				*e*S	**Sb**	**18 43 21.4**	**+0.4**
YSS	**Yuzh-Sakhalins**	**2.88**	**321**	*e*P	**Pb**	**18 43 15.7**	**-0.4**

*ISCJB **16** 19:25:37.9±0.6, 35°.72N±0°.04×140°.87E±0°.09, h47km±4km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=7.0km az=172.3*
*JMA **16** 19:25:38.0±0.1, 35°.72N×140°.85E, h42km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ_s=341.00000°, δ73.00000°, λ-105.00000°. NP2: ϕ_s=204.00000°, δ22.00000°, λ-50.00000°. Principal axes: T Plg27.0000°, Azm83.0000°; N Plg14.0000°, Azm346.0000°; P Plg59.0000°, Azm231.0000°;*
*IDC **16** 19:25:39.5±2.8, 35°.69N×140°.73E, h43km±26km, mb3.4/7, mb1 3.5/9, mb1mx3.4/44, mbtmp3.6/9, ML3.3/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/23 Error ellipse: s-maj=33.1km s-min=13.6km az=78.0*
ISC 16 19:25:38.7±0.8, 35°.74N±0°.05×140°.82E±0°.08, h39km±6km, n25, σ1°07/23, mb3.7/7, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**142**	⇓P	**Pn**	**19 25 44.6**	**-0.4**
CHOJ				*e*S	**Sn**	**19 25 49.6**	**+0.2**
JCN	**Nagara**	**0.60**	**238**	⇑P	**Pn**	**19 25 51.1**	**+0.3**
JCN				S	**Sn**	**19 25 59.8**	**+0.5**
JYT	**Yasato**	**0.71**	**314**	⇑P	**Pn**	**19 25 52.1**	**-0.1**
JYT				S	**Sn**	**19 26 02.7**	**+0.8**
BSO4	**Boso 4**	**0.85**	**208**	P	**Pn**	**19 25 54.0**	**0.0**
JHO	**Hitachi**	**0.89**	**347**	⇓P	**Pn**	**19 25 54.9**	**+0.1**
BSO3	**Boso 3**	**0.97**	**195**	P	**Pn**	**19 25 55.9**	**+0.3**
BSO1	**Boso 1**	**1.09**	**173**	P	**Pn**	**19 25 57.2**	**+0.2**
MJAR	**Matsushiro Arr**	**2.26**	**291**	P	**Pn**	**19 26 14.9**	**+1.3**
	7.8nm,0.3s,baz=98,slow=8.3,SNR=85						
MJAR				LR	LR	19 27 14.1	
	comp=Z,115nm,20.0s,baz=145,slow=44						
MAT	**Matsushiro**	**2.27**	**291**	P	**Pn**	**19 26 14.8**	**+1.2**
MAT				*e*S	**Sn**	**19 26 37.3**	**-3.0**
JHJ	**Hachijo jima 2**	**2.75**	**199**	P	**Pn**	**19 26 20.7**	**+0.4**
	13nm,0.3s,baz=327,slow=20,SNR=15						
JHJ				S	**Sn**	**19 26 51.0**	**-1.3**
	9.9nm,0.3s,baz=59,slow=19,SNR=3.3						
KSRS	**Korea Array**	**10.51**	**283**	LR	LR	19 32 00.8	
	comp=Z,32nm,18.1s,baz=325,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	20 00 33.0	
	baz=311,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	20 00 31.2	
	baz=311,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	20 00 33.9	
	baz=311,slow=75,SNR=23						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**19 31 25.8**	**-1.3**
	0.4nm,0.7s,baz=107,slow=9.5,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	20 01 23.4	
	baz=312,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	20 01 23.4	
	baz=312,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	20 01 24.3	
	baz=312,slow=75,SNR=25						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**19 33 29.0**	**-0.4**
	1.0nm,0.7s,baz=95,slow=5.8,SNR=4.8						
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**19 33 45.6**	**+0.1**
	0.4nm,0.3s,baz=88,slow=9.0,SNR=8.9						
ILAR	**Eielson Array**	**50.84**	**32**	P	**P**	**19 34 35.9**	**+0.8**
	0.7nm,0.7s,baz=264,slow=5.8,SNR=8.6						
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**19 35 12.7**	**+1.4**
	0.2nm,0.4s,baz=2.7,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**59.44**	**187**	P	**P**	**19 35 37.8**	**+0.3**
	0.3nm,0.8s,baz=14,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**19 37 17.2**	**+0.4**
	0.9nm,0.9s,baz=54,slow=11,SNR=2.9						
SIV	**San Ignacio**	**152.28**	**50**	PKPbc	**PKPbc**	**19 45 29.6**	**-1.2**
	0.7nm,0.4s,baz=296,slow=1.4,SNR=3.0						

*ISCJB **16** 19:32:56.5±0.9, 17°.65S±0°.09×169°.0E±0°.1, h200km, mb3.7/8, Error ellipse: s-maj=19.5km s-min=10.7km az=18.5*
*IDC **16** 19:32:58.5±2.7, 17°.76S×168°.93E, h209km±24km, mb3.5/8, mb1 3.7/10, mb1mx3.4/35, mbtmp4.1/10, Error ellipse: s-maj=25.6km s-min=20.8km az=171.0*
ISC 16 19:32:57.5±0.9, 17°.7S±0°.1×169°.0E±0°.1, h200km, n12, σ0°74/13, mb3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.97**	**208**	P	**Pn**	**19 34 12.4**	**+0.8**
	6.8nm,0.3s,baz=308,slow=23,SNR=97						
DZM				S	**Sn**	**19 35 10.0**	**-0.1**
	3.2nm,0.3s,baz=121,slow=19,SNR=3.8						
HNR	**Honiara**	**12.01**	**312**	P	**Pn**	**19 35 42.8**	**+0.1**
	3.6nm,0.3s,baz=209,slow=10,SNR=2.9						
CTA	**Charters Tower**	**21.63**	**260**	P	**P**	**19 37 32.1**	**-0.1**
	2.6nm,0.4s,baz=85,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**32.83**	**260**	P	**P**	**19 39 11.4**	**-1.1**
	0.6nm,0.5s,baz=80,slow=6.2,SNR=26						
ASAR	**Alice Springs**	**33.29**	**254**	P	**P**	**19 39 16.1**	**-0.4**
	3.7nm,0.4s,baz=84,slow=8.6,SNR=112						
FITZ	**Fitzroy Crossi**	**41.17**	**263**	P	**P**	**19 40 22.8**	**+0.1**
	2.3nm,0.7s,baz=109,slow=6.6						
SONM	**Songino Array**	**85.84**	**323**	P	**P**	**19 45 14.9**	**+0.2**
	0.7nm,0.9s,baz=159,slow=13,SNR=4.3						
ILAR	**Eielson Array**	**88.83**	**17**	P	**P**	**19 45 28.9**	**+0.5**
	0.4nm,0.5s,baz=238,slow=5.2,SNR=9.5						
SNAA	**Sanae**	**90.69**	**183**	P	**P**	**19 45 36.8**	**-0.4**
	0.5nm,0.8s,baz=196,slow=7.4,SNR=2.8						
TXAR	**Lajitas Array**	**96.25**	**61**	P	**P**	**19 46 03.0**	**-0.5**
	0.2nm,0.7s,baz=256,slow=6.4,SNR=2.8						
MKAR	**Makanchi Array**	**100.46**	**316**	P	**Pdif**	**19 46 23.5**	**+1.6**
	0.2nm,0.4s,baz=100,slow=5.0,SNR=3.7						
ARCES	**ARCESS Array B**	**123.51**	**345**	PKP	**PKPdf**	**19 51 30.3**	**-0.1**
	2.5nm,0.9s,baz=35,slow=4.4,SNR=3.8						

*IDC **16** 19:36:17.8±5.5, 28°.96S×68°.81W, h90km±38km, mb3.8/2, mb1 3.7/4, mb1mx3.3/24, mbtmp4.1/4, Error ellipse: s-maj=53.0km s-min=29.9km az=48.0*
*ISCJB **16** 19:36:19.2±0.5, 28°.95S±0°.04×68°.73W±0°.04, h120km±5km, mb4.0/2, Error ellipse: s-maj=7.0km s-min=6.4km az=171.2*
*SJA **16** 19:36:19.3±0.7, 28°.99S×68°.73W, h115km±3km, ML3.8, MW3.9*
*GUC **16** 19:36:20.2±0.3, 29°.08S×68°.78W, h99km±4km, ML4.1*
ISC 16 19:36:20.2±0.8, 28°.94S±0°.05×68°.73W±0°.04, h115km±6km, n32, σ0°83/37, 3C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.50**	**67**	⇑*i*P	**Pn**	**19 36

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	baz=285			S	Sn	19 54 43.9	-0.9
TWB1	baz=285 **Santiao Chiao**	**1.00**	**307**	*e*P	**Pn**	**19 54 31.4**	**+0.3**
TWB1	baz=309			*e*S	**Sn**	**19 54 46.0**	**+0.2**
ENA	baz=309 **Nanau**	**1.03**	**271**	*e*P	**Pn**	**19 54 32.1**	**+0.7**
ENA	baz=273			S	**Sn**	**19 54 45.7**	**-0.8**
JKRS	baz=273 **Kuro-shima**	**1.05**	**99**	P	**Pn**	**19 54 32.3**	**+0.7**
JKRS				S	**Sn**	**19 54 47.4**	**+0.6**
TWE	**Neicheng**	**1.14**	**286**	P	**Pn**	**19 54 32.6**	**-0.1**
TWE	baz=288			S	**Sn**	**19 54 48.3**	**-0.4**
JIJ	baz=288 **Ishigaki jima**	**1.16**	**92**	P	**Pn**	**19 54 33.1**	**+0.2**
JIJ				S	**Sn**	**19 54 48.1**	**-1.0**
ENTT	**Nioudou**	**1.21**	**281**	*e*P	**Pn**	**19 54 34.8**	**+1.2**
ENTT	baz=283			*e*S	**Sn**	**19 54 50.0**	**-0.3**
TWD	baz=283 **Chiawan**	**1.21**	**254**	*e*P	**Pn**	**19 54 34.1**	**+0.6**
TWD	baz=256			S	**Sn**	**19 54 49.7**	**-0.6**
JISG	baz=256 **Ishigakijimahi**	**1.32**	**82**	P	**Pn**	**19 54 35.1**	**+0.2**
JISG				S	**Sn**	**19 54 51.6**	**-1.0**
NNS	**Nan Shan**	**1.37**	**271**	*e*P	**Pn**	**19 54 35.6**	**0.0**
NNS	baz=273			*e*S	**Sn**	**19 54 53.5**	**-0.3**
NSK	baz=273 **Sanguang**	**1.41**	**281**	*e*P	**Pn**	**19 54 36.6**	**+0.6**
NSK	baz=283			S	**Sn**	**19 54 54.9**	**+0.4**
ESL	baz=283 **Shilin**	**1.45**	**246**	*e*P	**Pn**	**19 54 37.0**	**+0.6**
ESL	baz=247			*e*S	**Sn**	**19 54 54.4**	**-1.0**
WHF	baz=247 **Hehuan Shan**	**1.49**	**260**	*e*P	**Pn**	**19 54 37.7**	**+0.3**
WHF	baz=261			*e*S	**Sn**	**19 54 56.5**	**-0.6**
JTJ	baz=261 **Tarama**	**1.68**	**82**	P	**Pn**	**19 54 39.5**	**+0.1**
JTJ				S	**Sn**	**19 54 59.9**	**-0.8**
EHY	**Hungye**	**1.68**	**238**	*e*P	**Pn**	**19 54 39.9**	**+0.4**
EHY	baz=238			*e*S	**Sn**	**19 54 59.7**	**-1.1**
TWF1	baz=238 **Yuli**	**1.79**	**234**	*e*P	**Pn**	**19 54 41.8**	**+0.9**
TWF1	baz=235			*e*S	**Sn**	**19 55 02.4**	**-0.8**
SMLT	baz=235 **Sun Moon Lake**	**1.88**	**254**	*e*P	**Pn**	**19 54 42.3**	**+0.2**
SMLT	baz=255			*e*S	**Sn**	**19 55 04.4**	**-1.1**
CHKT	baz=255 **Chengkung**	**1.90**	**227**	*e*P	**Pn**	**19 54 43.3**	**+1.0**
CHKT	baz=227			S	**Sn**	**19 55 05.1**	**-0.7**
TYC	baz=227 **Yuchr**	**1.91**	**255**	*e*P	**Pn**	**19 54 42.8**	**+0.4**
TYC	baz=256			*e*S	**Sn**	**19 55 06.0**	**0.0**
YUS	baz=256 **Yu-Shan**	**1.98**	**243**	*e*P	**Pn**	**19 54 43.7**	**-0.2**
YUS	baz=243			*e*S	**Sn**	**19 55 07.1**	**-1.4**
ELDTW	baz=243 **Lidau**	**2.09**	**235**	*e*P	**Pn**	**19 54 45.6**	**+0.7**
ELDTW	baz=235			*e*S	**Sn**	**19 55 10.4**	**-0.1**
ALS	baz=235 **Alishan**	**2.10**	**245**	*e*P	**Pn**	**19 54 45.8**	**+0.7**
ALS	baz=245			*e*S	**Sn**	**19 55 10.2**	**-0.6**
CHN5	baz=245 **Tsauling**	**2.17**	**248**	*e*P	**Pn**	**19 54 47.4**	**+1.5**
CHN5	baz=249			*e*S	**Sn**	**19 55 12.0**	**-0.2**
TWG	baz=249 **Pinlang**	**2.29**	**227**	*e*P	**Pn**	**19 54 47.7**	**+0.3**
TWG	baz=226			*e*S	**Sn**	**19 55 14.3**	**-0.8**
	baz=226						

*IDC **16** 19:57:58.9±16.0, 0.°66S×124.°46E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/14, Error ellipse: s-maj=255.7km s-min=215.9km az=176.0*
*ISCJB **16** 19:58:01.0±0.7, 0.°24S±0.°08×124.°48E±0.°05, h60km, mb3.4/3, MS2.9/1, Error ellipse: s-maj=12.0km s-min=5.9km az=21.8*
*DJA **16** 19:58:00.8±1.6, 0.°S±6.°×12.°5E±.°, h23km±16km, M3.7/6, mb3.8/2, MLv3.6/6*
ISC 16 19:58:01.7±1.2, 0.°15S±0.°08×124.°49E±0.°06, h60km, n12, σ1°39/14, mb3.0/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.88**	**325**	P	**Pn**	**19 58 16.5**	**-1.7**
SANI	**Sanana**	**2.41**	**142**	P	**Pn**	**19 58 37.8**	**-1.0**
SANI				S	**Sn**	**19 59 04.4**	**-2.8**
MRSI	**Marisa**	**2.62**	**284**	P	**Pn**	**19 58 42.3**	**+0.6**
APSI	**Ampana**	**2.94**	**255**	P	**Pn**	**19 58 47.4**	**+1.4**
LBMI	**Labuha**	**3.05**	**99**	P	**Pn**	**19 58 49.2**	**+1.6**
LBMI				S	**Sn**	**19 59 23.9**	**+1.0**
NLAI	**Namlea**	**4.03**	**140**	P	**Pn**	**19 59 01.1**	**+0.1**
NLAI				S	**Sn**	**19 59 46.4**	**-0.6**
TTSI	**Tana Toraja**	**5.48**	**238**	P	**Pn**	**19 59 20.8**	**-0.1**
BNSI	**Bone**	**6.08**	**226**	P	**Pn**	**19 59 29.9**	**+0.8**
WRA	**Warramunga Arr**	**21.91**	**154**	P	**P**	**20 02 49.0**	**-1.2**
	0.5nm,0.8s,baz=331,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**25.10**	**159**	P	**P**	**20 03 21.6**	**+0.5**
	0.4nm,0.7s,baz=336,slow=7.6,SNR=7.1						
STKA	**Stephens Creek**	**35.47**	**154**	P	**P**	**20 04 53.3**	**+0.7**
	1.9nm,0.9s,baz=333,slow=11,SNR=4.4						
MJAR	**Matsushiro Arr**	**38.66**	**18**	LR	LR	20 18 58.5	
	comp=Z,21nm,21.9s,baz=75,slow=32						

*TIR **16** 20:14:19.5, 43.°48N×17.°69E, h9km, ML3.7*
*IDC **16** 20:14:20.7±1.2, 43.°56N×17.°69E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/35, mbtmp3.5/6, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/34, Error ellipse: s-maj=23.1km s-min=15.2km az=54.0*
*BEO **16** 20:14:20.0±0.6, 43.°46N×17.°34E, h5km±5km, M3.4/1*
*CSEM **16** 20:14:21.6±0.1, 43.°44N×17.°56E, h2km, ML3.5/12, Error ellipse: s-maj=3.9km s-min=2.5km az=36.0*
*PDG **16** 20:14:21.8±0.6, 43.°48N×17.°57E, h2km±1km, ML3.2/10, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*LDG **16** 20:14:21.9±0.1, 43.°54N×17.°60E, h2km, Ml3.6/6, Error ellipse: s-maj=5.2km s-min=2.9km az=29.0*
*PRU **16** 20:14:22.1, 43.°37N×17.°65E, h0km*
ISC 16 20:14:21.4±1.1, 43.°46N±0.°02×17.°55E±0.°02, h8km±8km, n217, σ1°99/321, mb3.3/4, 33C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.60**	**169**	*i* Pg	**Pg**	**20 14 32.1**	**-0.9**
STON				Sg	**Sg**	**20 14 41.6**	**+0.8**
STON	**Ston**	**0.60**	**169**	*i* Pg	**Pg**	**20 14 32.1**	**-0.9**
STON				Sg	**Sg**	**20 14 41.6**	**+0.8**
BRY	**Bratogost**	**0.92**	**127**	⇑*i*Pg	**Pg**	**20 14 38.0**	**-1.1**
BRY				*e*Sg	**Sb**	**20 14 52.9**	**+0.8**
BRY	**Bratogost**	**0.92**	**127**	⇑*i*Pg	**Pg**	**20 14 38.0**	**-1.1**
BRY				*e*Sg	**Sb**	**20 14 51.7**	**-0.4**
TREB	**Trebinje**	**0.95**	**141**	*e*Pg	**Pg**	**20 14 38.7**	**-1.0**
TREB	**Trebinje**	**0.95**	**141**	*e*Pg	**Pg**	**20 14 38.7**	**-1.0**
TREB				*e*Sg	**Sb**	**20 14 52.9**	**0.0**
UPM	**Unac-Piva**	**1.02**	**104**	⇓*i*Pg	**Pg**	**20 14 40.5**	**-0.6**
UPM				*e*Sg	**Sn**	**20 14 56.5**	**-0.5**
UPM	**Unac-Piva**	**1.02**	**104**	*e*Pg	**Pg**	**20 14 40.3**	**-0.8**
UPM				*e*Sg	**Sb**	**20 14 55.7**	**+0.5**
HAPS	**Han Pijesak,BI**	**1.19**	**58**	⇑*i*Pg	**Pg**	**20 14 42.1**	**-2.2**
HAPS				*e*Sg	**Sb**	**20 15 00.0**	**0.0**
HCY	**Herceg Novi**	**1.23**	**145**	⇑*i*Pg	**Pb**	**20 14 43.9**	**-1.0**
HCY				*e*Sg	**Sn**	**20 15 04.0**	**+2.2**
HCY	**Herceg Novi**	**1.23**	**145**	⇑*i*Pg	**Pb**	**20 14 43.9**	**-1.0**
HCY				*e*Sg	**Sb**	**20 15 01.2**	**+0.2**
NKME	**Niksic**	**1.24**	**124**	⇓*i*Pg	**Pn**	**20 14 44.5**	**-0.7**
NKME				*e*Sg	**Sn**	**20 15 03.8**	**+1.6**
NKME	**Niksic**	**1.24**	**124**	⇓*i*Pg	**Pn**	**20 14 44.5**	**-0.7**
NKY	**Niksic**	**1.24**	**121**	⇑*i*Pg	**Pb**	**20 14 44.6**	**-0.6**
NKY				*e*Sg	**Sn**	**20 15 03.9**	**+1.7**
NKY	**Niksic**	**1.24**	**121**	⇑*i*Pg	**Pb**	**20 14 44.6**	**-0.6**
BLY	**Banja Luka**	**1.31**	**349**	*e*Pg	**Pn**	**20 14 44.8**	**-1.3**
BLY				*e*Sg	**Sn**	**20 15 03.6**	**-0.2**
BLY	**Banja Luka**	**1.31**	**349**	*e*Pg	**Pn**	**20 14 43.7**	**-2.4**
BLY				*e*Sg	**Sn**	**20 15 03.6**	**-0.2**
PLE	**Pljevlja**	**1.35**	**95**	⇑*i*Pg	**Pn**	**20 14 46.5**	**-0.2**
PLE				*e*Sg	**Sn**	**20 15 07.4**	**+2.5**
PLE	**Pljevlja**	**1.35**	**95**	⇑*i*Pg	**Pn**	**20 14 46.5**	**-0.2**
CEME	**Cevo**	**1.36**	**132**	⇑*i*Pg	**Pn**	**20 14 46.5**	**-0.3**
CEME				*e*Sg	**Sg**	**20 15 08.2**	**+3.0**
CEME	**Cevo**	**1.36**	**132**	⇑*i*Pg	**Pn**	**20 14 46.5**	**-0.3**
BBLS	**Lazići**	**1.41**	**73**	*e*Pg	**Pn**	**20 14 47.0**	**-0.5**
BBLS				*e*Sn	**Sg**	**20 15 08.0**	**+1.3**
BBLS	**Lazići**	**1.41**	**73**	*e*Pg	**Pn**	**20 14 47.0**	**-0.5**
BBLS				*e*Sg	**Sg**	**20 15 07.1**	**+0.4**
BBLS				*e*Sn	**Sg**	**20 15 08.0**	**+1.3**
BUM	**Brajici-Budva**	**1.53**	**139**	⇑*i*Pg	**Pb**	**20 14 50.2**	**+0.2**
BUM				*e*Sg	**Sg**	**20 15 13.9**	**+3.4**
BUM	**Brajici-Budva**	**1.53**	**139**	⇑*i*Pg	**Pb**	**20 14 50.2**	**+0.2**
KOME	**Kolasin**	**1.57**	**112**	⇑*i*Pg	**Pb**	**20 14 50.9**	**+0.2**
KOME				*e*Sg	**Sg**	**20 15 15.2**	**+3.5**
KOME	**Kolasin**	**1.57**	**112**	⇑*i*Pg	**Pb**	**20 14 50.9**	**+0.2**
MRAK	**Mrakovica**	**1.62**	**344**	*e*Sn	**Sn**	**20 15 09.9**	**-1.5**
PDG	**Podgorica**	**1.62**	**129**	*e*Pn	**Pn**	**20 14 50.7**	**+0.4**
PDG				*e*Sn	**Sb**	**20 15 12.9**	**+0.6**
TTG	**Podgorica**	**1.62**	**129**	⇑*i*Pn	**Pn**	**20 14 51.6**	**0.0**
TTG				*e*Sn	**Sg**	**20 15 17.1**	**+3.5**
UDBI	**Udbina**	**1.67**	**310**	*i* Pn	**Pb**	**20 14 52.8**	**+0.3**
UDBI				Sn	**Sg**	**20 15 16.3**	**+1.2**
UDBI	**Udbina**	**1.67**	**310**	*i* Pn	**Pb**	**20 14 52.8**	**+0.3**
UDBI				Sn	**Sg**	**20 15 16.3**	**+1.2**
DRME	**Dracevica, Mon**	**1.75**	**136**	⇓*i*Pn	**Pb**	**20 14 54.3**	**+0.4**
DRME				*e*Sn	**Sg**	**20 15 20.6**	**+2.8**
DRME	**Dracevica, Mon**	**1.75**	**136**	*e*Pn	**Pn**	**20 14 53.0**	**+0.8**
DRME				*e*Sn	**Sb**	**20 15 16.6**	**+0.5**
SJES	**Sjenica**	**1.78**	**96**	*e*Pn	**Pb**	**20 14 53.9**	**-0.5**
SJES				*e*Sn	**Sg**	**20 15 19.0**	**+0.3**
TEKS	**Tekeris**	**1.80**	**52**	*e*Pn	**Pn**	**20 14 52.3**	**-0.5**
TEKS				*e*Sn	**Sb**	**20 15 16.5**	**-0.8**
TEKS	**Tekeris**	**1.80**	**52**	*e*Pn	**Pn**	**20 14 52.5**	**-0.2**
TEKS				*e*Sn	**Sn**	**20 15 16.0**	**+0.2**
BEY	**Berane**	**1.82**	**108**	⇓*i*Pn	**Pb**	**20 14 55.1**	**+0.1**
IVA	**Berane**	**1.82**	**108**	⇓*i*Pn	**Pb**	**20 14 55.1**	**+0.1**
IVA				*e*Sn	**Sg**	**20 15 21.3**	**+1.5**
DIVS	**Divibare**	**1.88**	**69**	*e*Pn	**Pn**	**20 14 54.2**	**+0.2**
DIVS				*e*Sn	**Sb**	**20 15 20.6**	**+0.8**
DIVS	**Divibare**	**1.88**	**69**	*e*Pn	**Pn**	**20 14 54.2**	**+0.2**
DIVS				*e*Sn	**Sn**	**20 15 18.7**	**+0.7**
IVAS	**Ivanjica**	**1.90**	**86**	*e*Pn	**Pb**	**20 14 56.0**	**-0.4**
IVAS				*e*Sn	**Sg**	**20 15 22.9**	**+0.5**
IVAS	**Ivanjica**	**1.90**	**86**	*e*Pn	**Pb**	**20 14 56.0**	**-0.4**
IVAS				*e*Sn	**Sg**	**20 15 22.9**	**+0.5**
ULC	**Ulcinj**	**1.95**	**140**	⇑*i*Pn	**Pb**	**20 14 57.0**	**-0.3**
ULC				*e*Sn	**Sg**	**20 15 25.0**	**+0.9**
ULC	**Ulcinj**	**1.95**	**140**	⇑*i*Pn	**Pb**	**20 14 57.0**	**-0.3**
PVY	**Plav**	**1.97**	**115**	⇑*i*Pn	**Pb**	**20 14 57.3**	**-0.3**
PVY				*e*Sn	**Sg**	**20 15 25.3**	**+0.6**
PVY	**Plav**	**1.97**	**115**	⇑*i*Pn	**Pb**	**20 14 57.3**	**-0.3**
MS1	**Monte Sant'Ang**	**2.12**	**215**	*e*Pn	**Pb**	**20 14 58.8**	**-1.3**
BCI	**Bajram Curri**	**2.15**	**120**	*i* PG	**Pb**	**20 15 01.1**	**+0.4**
BCI				*i* SG	**Sb**	**20 15 27.9**	**+0.4**
BCI	**Bajram Curri**	**2.15**	**120**	*i* Pg	**Sb**	**20 15 01.0**	**+0.4**
BCI				*i* Sg	**Sb**	**20 15 27.9**	**+0.4**
SISC	**Sisak**	**2.18**	**338**	*e*Pn	**Pb**	**20 15 00.2**	**-0.8**
SISC				Sn	**Sb**	**20 15 27.9**	**-0.3**
SISC	**Sisak**	**2.18**	**338**	*e*Pn	**Pb**	**20 15 00.2**	**-0.8**
SISC				Sn	**Sb**	**20 15 27.9**	**-0.3**
TRUS	**Trudelj**	**2.20**	**69**	*e*Pn	**Pn**	**20 14 58.2**	**-0.1**
TRUS	**Trudelj**	**2.20**	**69**	*e*Pn	**Pn**	**20 14 58.2**	**-0.1**
NVLJ	**Novalja**	**2.22**	**301**	*e*Pn	**Pb**	**20 15 00.8**	**-1.0**
NVLJ				Sn	**Sb**	**20 15 30.1**	**+0.6**
NVLJ	**Novalja**	**2.22**	**301**	*e*Pn	**Pb**	**20 15 00.8**	**-1.0**
NVLJ				Sn	**Sb**	**20 15 30.0**	**+0.6**
PUK	**Puka**	**2.24**	**129**	*i* PN	**Pg**	**20 15 03.5**	**-0.8**
PUK				*i* SN	**Sg**	**20 15 34.6**	**+1.4**
PUK	**Puka**	**2.24**	**129**	*i* Pn	**Pg**	**20 15 03.5**	**-0.8**
GRUS	**Gruza**	**2.34**	**78**	*e*Pn	**Pn**	**20 15 00.6**	**+0.4**
GRUS				*e*Sn	**Sb**	**20 15 31.7**	**-1.1**
GRUS	**Gruza**	**2.34**	**78**	*e*Pn	**Pn**	**20 15 00.6**	**+0.4**
GRUS				*e*Sn	**Sb**	**20 15 31.7**	**-1.1**
FGSL	**Fruska Gora**	**2.35**	**43**	*e*Pn	**Pn**	**20 14 59.5**	**-0.8**
FRGS	**Fruska Gora**	**2.35**	**43**	*e*Pn	**Pn**	**20 14 59.5**	**-0.8**
BAI	**Bari**	**2.41**	**192**	*e*Pn	**Pn**	**20 15 00.4**	**-0.7**
BAI				Sn	**Sn**	**20 15 30.1**	**-0.6**
OZLJ	**Ozalj**	**2.62**	**326**	*e*Pn	**Pn**	**20 15 06.0**	**+2.0**
OZLJ				Sn	**Sb**	**20 15 41.1**	**+0.3**
OZLJ	**Ozalj**	**2.62**	**326**	*e*Pn	**Pn**	**20 15 05.9**	**+2.0**
OZLJ				Sn	**Sb**	**20 15 41.0**	**+0.3**
SELS	**Selova**	**2.62**	**94**	*e*Pn	**Pn**	**20 15 04.5**	**+0.4**
SELS	**Selova**	**2.62**	**94**	*e*Pn	**Pn**	**20 15 04.5**	**+0.4**
BOJS	**Bojanci**	**2.62**	**322**	*i* Pn	**Pn**	**20 15 05.6**	**+1.6**
BOJS				*e*Sn	**Sb**	**20 15 38.7**	**-2.2**
BOJS	comp=Z,36nm,0.3s **Bojanci**	**2.62**	**322**	*i* Pn	**Pn**	**20 15 05.6**	**+1.6**
BOJS				*e*Sn	**Sb**	**20 15 38.7**	**-2.2**
SG1	comp=Z,36nm,0.3s **Sgolgore (BA)**	**2.70**	**194**	*e*Pn	**Pn**	**20 15 05.5**	**+0.3**
SG1				Sn	**Sn**	**20 15 37.9**	**-0.2**
TIR	**Tirane**	**2.72**	**140**	*i* PN	**Pb**	**20 15 08.6**	**-1.8**
TIR				*i* SN	**Sb**	**20 15 43.8**	**-0.1**
TIR	**Tirane**	**2.72**	**140**	⇓*i*P	**Pb**	**20 15 10.4**	**0.0**
TIR	**Tirane**	**2.72**	**140**	S	**Sb**	**20 15 44.5**	**+0.6**
TIR	**Tirane**	**2.72**	**140**	*i* Pn	**Pb**	**20 15 08.6**	**-1.8**
TIR	**Tirane**	**2.72**	**140**	⇓*i*P	**Pb**	**20 15 10.4**	**0.0**
PHP	**Peshkopia**	**2.78**	**129**	*i* PN	**Pb**	**20 15 09.6**	**-1.8**
PHP	**Peshkopia**	**2.78**	**129**	*i* Pn	**Pb**	**20 15 09.6**	**-1.8**
CRES	**Cresnjev**	**2.79**	**328**	*e*Pn	**Pn**	**20 15 04.9**	**-1.6**
CRES				*e*Sn	**Sn**	**20 15 38.3**	**-2.1**
BOVS	**Bovan**	**3.03**	**85**	*e*Pn	**Pn**	**20 15 10.7**	**+1.0**
BOVS	**Bovan**	**3.03**	**85**	*e*Pn	**Pn**	**20 15 10.7**	**+1.0**
BEHE	**Becsehely**	**3.06**	**350**	*e*Pn	**Pn**	**20 15 08.9**	**-1.1**
BEHE	**Becsehely**	**3.06**	**350**	*e*P	**Pn**	**20 15 10.7**	**+0.7**
BEHE				*e*Sn	**Sn**	**20 15 48.6**	**+1.8**
BEHE	**Becsehely**	**3.06**	**350**	*ex*	**Pn**	**20 15 10.7**	**+0.7**
BEHE				*ex*	**Sn**	**20 15 48.6**	**+1.8**
BEHE	**Becsehely**	**3.06**	**350**	*ex*	**Pn**	**20 15 10.7**	**+0.7**
BEHE				*ex*	**Sn**	**20 15 48.6**	**+1.8**
KUBS	**Kucevo**	**3.13**	**71**	*e*Pn	**Pn**	**20 15 11.4**	**+0.3**
KUBS	**Kucevo**	**3.13**	**71**	*e*Pn	**Pn**	**20 15 11.4**	**+0.3**
CEY	**Cerknica**	**3.18**	**317**	*e*Pn	**Pn**	**20 15 10.4**	**-1.4**
BARS	**Barje**	**3.19**	**100**	*e*Pn	**Pn**	**20 15 12.2**	**+0.3**
BARS	**Barje**	**3.19**	**100**	*e*Pn	**Pn**	**20 15 12.2**	**+0.3**
BANR	**Banloc**	**3.21**	**52**	⇑*i*P	**Pb**	**20 15 15.5**	**-3.1**
BANR	**Banloc**	**3.21**	**52**	⇑*i*P	**Pb**	**20 15 15.5**	**-3.1**
SKO	**Skopje**	**3.23**	**116**	*i* Pn	**Pn**	**20 15 15.4**	**+2.9**
SKO	**Skopje**	**3.23**	**116**	*i* Pn	**Pn**	**20 15 15.4**	**+2.9**
AQU	**L'Aquila**	**3.24**	**251**	*e*Pn	**Pn**	**20 15 10.1**	**-2.5**
MDVR	**Moldovita**	**3.28**	**65**	⇑*i*P	**Pb**	**20 15 16.9**	**-2.9**
MDVR	**Moldovita**	**3.28**	**65**	⇑*i*P	**Pb**	**20 15 16.9**	**-2.9**
MDVR				S	**Sn**	**20 15 52.5**	**+0.2**
LJU	**Ljubljana**	**3.36**	**321**	*e*Pn	**Pn**	**20 15 12.2**	**-2.0**
OHR	**Ohrid**	**3.37**	**133**	*i* Pn	**Pb**	**20 15 18.2**	**-3.2**
OHR	**Ohrid**	**3.37**	**133**	*i* Pn	**Pb**	**20 15 18.2**	**-3.2**
ZAGS	**Zajecar**	**3.42**	**83**	*e*Pn	**Pn**	**20 15 15.8**	**+0.8**
ZAGS	**Zajecar**	**3.42**	**83**	*e*Pn	**Pn**	**20 15 15.8**	**+0.8**
KRUS	**Krusevo**	**3.45**	**126**	*i* Pn	**Pn**	**20 15 17.9**	**+2.4**
KRUS	**Krusevo**	**3.45**	**126**	*i* Pn	**Pn**	**20 15 17.9**	**+2.4**
BZS	**Buzias**	**3.62**	**52**	*e*Pn	**Pn**	**20 15 17.8**	**0.0**
BZS	**Buzias**	**3.62**	**52**	⇓*i*P	**Pn**	**20 15 21.3**	**+3.5**
BZS	**Buzias**	**3.62**	**52**	*e*Pn	**Pn**	**20 15 17.8**	**0.0**
BZS	**Buzias**	**3.62**	**52**	⇓*i*P	**Pn**	**20 15 21.3**	**+3.5**
BZS				S	**Sn**	**20 16 00.8**	**+0.1**
SOKA	**Soboth**	**3.67**	**332**	*i* Pn	**Pn**	**20 15 19.3**	**+0.7**
	SNR=38						
SOKA				*i* Sn	**Sn**	**20 16 03.4**	**+1.2**
	comp=Z,5.1nm,0.3s						
SOKA	**Soboth**	**3.67**	**332**	Pn	**Pn**	**20 15 19.3**	**+0.7**
	SNR=38						
SOKA				Sn	**Sn**	**20 16 03.4**	**+1.2**
	comp=Z,5.1nm,0.3s						
OBKA	**Obir**	**3.71**	**326**	*i* Pn	**Pn**	**20 15 22.0**	**+2.8**
	comp=Z,0.9nm,0.2s						
OBKA	**Obir**	**3.71**	**326**	Pn	**Pn**	**20 15 22.0**	**+2.8**
	comp=Z,0.9nm,0.2s						
ZAPS	**Zavoj**	**3.71**	**91**	*e*Pn	**Pn**	**20 15 20.4**	**+1.3**
ZAPS				*e*Sn	**Sn**	**20 16 06.6**	**+3.5**
BIA	**Bitola**	**3.72**	**130**	*i* Pn	**Pn**	**20 15 17.5**	**-1.8**
BIA	**Bitola**	**3.72**	**130**	*i* Pn	**Pn**	**20 15 17.4**	**-1.8**
KBN	**Korca**	**3.73**	**139**	*i* PN	**Pb**	**20 15 24.0**	**-3.5**
KBN				*i* SN	**Sb**	**20 16 10.7**	**-2.1**
KBN	**Korca**	**3.73**	**139**	*i* Pn	**Pb**	**20 15 24.0**	**-3.5**
CSKK	**Cs̈‡kako**	**3.93**	**7**	*e*P	**Pn**	**20 15 23.5**	**+1.4**
CSKK	**Cs̈‡kako**	**3.93**	**7**	*ex*	**Pn**	**20 15 23.5**	**+1.4**
CSKK	**Cs̈‡kako**	**3.93**	**7**	*ex*	**Pn**	**20 15 23.5**	**+1.4**
SRN	**Sarande**	**4.03**	**152**	*i* PN	**Pn**	**20 15 21.8**	**-1.5**
SRN	**Sarande**	**4.03**	**152**	*i* Pn	**Pn**	**20 15 21.8**	**-1.5**
ARSA	**Arzberg**	**4.05**	**340**	*i* Pn	**Pn**	**20 15 24.0**	**+0.3**
	comp=Z,5.3nm,0.3s						
ARSA				*e*Sn	**Sn**	**20 16 13.6**	**+2.3**
	comp=Z,6.3nm,0.5s						
ARSA	**Arzberg**	**4.05**	**340**	Pn	**Pn**	**20 15 24.0**	**+0.3**
	comp=Z,5.3nm,0.3s						
ARSA				Sn	**Sn**	**20 16 13.6**	**+2.3**
	comp=Z,6.3nm,0.5s						
SIRR	**Siria**	**4.05**	**45**	⇑*i*P	**Pn**	**20 15 26.9**	**+3.2**
SIRR	**Siria**	**4.05**	**45**	⇑*i*P	**Pn**	**20 15 26.9**	**+3.2**
SIRR				S	**Sn**	**20 16 11.7**	**+0.3**
MYKA	**Terra Mystica**	**4.21**	**320**	*i* Pn	**Pn**	**20 15 29.3**	**+3.4**
	comp=Z,1.8nm,0.2s						
MYKA				Sg	**Sg**	**20 16 37.2**	**+0.8**
	comp=Z,11nm,0.4s						
MYKA	**Terra Mystica**	**4.21**	**320**	Pn	**Pn**	**20 15 29.3**	**+3.4**
	comp=Z,1.8nm,0.2s						
MYKA				Sg	**Sg**	**20 16 37.2**	**+0.8**
	comp=Z,11nm,0.4s						
VTS	**Vitosha**	**4.24**	**100**	*e*Pn	**Pn**	**20 15 27.1**	**+0.6**
VTS	**Vitosha**	**4.24**	**100**	⇓*i*P	**Pn**	**20 15 31.0**	**+4.5**
VTS	**Vitosha**	**4.24**	**100**	*e*Pn	**Pn**	**20 15 27.1**	**+0.6**
VTS	**Vitosha**	**4.24**	**100**	⇓*i*P	**Pn**	**20 15 31.0**	**+4.5**
VTS				S	**Sn**	**20 16 19.1**	**+2.8**
SOP	**Sopron**	**4.28**	**351**	*e*P	**Pn**	**20 15 30.1**	**+3.3**
SOP				*e*Sn	**Sn**	**20 16 18.7**	**+1.8**
SOP	**Sopron**	**4.28**	**351**	*ex*	**Pn**	**20 15 30.1**	**+3.3**
SOP				*ex*	x	20 16 18.7	
CONA	**Conrad Observa**	**4.62**	**346**	*i* Pn	**Pn**	**20 15 33.2**	**+1.6**
	comp=Z,0.7nm,0.2s						
CONA				*e*Sn	**Sn**	**20 16 25.7**	**+0.2**
	comp=Z,10nm,0.4s						
CONA	**Conrad Observa**	**4.62**	**346**	Pn	**Pn**	**20 15 33.2**	**+1.6**
	comp=Z,0.7nm,0.2s						
CONA				Sn	**Sn**	**20 16 25.7**	**+0.2**
	comp=Z,10nm,0.4s						
KBA	**Koelnbreinsper**	**4.67**	**322**	*i* Pn	**Pn**	**20 15 34.8**	**+2.3**
	comp=Z,1.2nm,0.2s						
KBA				Sg	**Sg**	**20 16 57.8**	**+6.3**
	comp=Z,0.2nm,0.0s						
KBA	**Koelnbreinsper**	**4.67**	**322**	Pn	**Pn**	**20 15 34.8**	**+2.3**
	comp=Z,1.2nm,0.2s						
KBA				Sg	**Sg**	**20 16 57.8**	**+6.3**
	comp=Z,0.2nm,0.0s						
PSZ	**Piszkesteto**	**4.75**	**19**	⇑*i*P	**Pn**	**20 15 36.8**	**+3.4**
PSZ	**Piszkesteto**	**4.75**	**19**	*e*P	**Pn**	**20 15 33.2**	**-0.2**
PSZ	**Piszkesteto**	**4.75**	**19**	*ex*	**Pn**	**20 15 33.2**	**-0.2**
PSZ	**Piszkesteto**	**4.75**	**19**	*ex*	**Pn**	**20 15 33.2**	**-0.2**
ABTA	**Abfaltersbach**	**4.84**	**314**	*e*Pn	**Pn**	**20 15 36.2**	**+1.5**
	comp=Z,2.7nm,0.3s,SNR=8.4						

SBF	**Sospel**	**7.34 277**	*e*Pn	**Pn**	**20 16 10.5**	**+1.5**
SBF			*e*Sn	**Sn**	**20 17 28.9**	**-3.7**
comp=Z,30nm,0.9s						
SBF	**Sospel**	**7.34 277**	*e*Pn	**Pn**	**20 16 10.5**	**+1.5**
BRG	**Berggiesshubel**	**7.81 343**	SG	Sn	20 17 53.4	+10
comp=Z,0.7nm,0.6s						
MBDF	**Montbardon**	**7.86 283**	*e*Pn	**Pn**	**20 16 16.1**	**-0.1**
MBDF	**Montbardon**	**7.86 283**	*e*Pn	**Pn**	**20 16 16.1**	**-0.1**
FRF	**La Foret Royal**	**7.92 274**	*e*Pn	**Pn**	**20 16 17.1**	**+0.2**
FRF			*e*Sn	**Sn**	**20 17 40.5**	**-6.2**
FRF	**La Foret Royal**	**7.92 274**	*e*Pn	**Pn**	**20 16 17.1**	**+0.2**
LPG	**La Plagne**	**7.98 288**	*e*Pn	**Pn**	**20 16 18.0**	**0.0**
LPG			*e*Sn	**Sn**	**20 17 42.3**	**-6.3**
comp=Z,8.6nm,0.5s						
LPG	**La Plagne**	**7.98 288**	*e*Pn	**Pn**	**20 16 18.0**	**0.0**
LPL	**La Plagne**	**8.00 289**	*e*Pn	**Pn**	**20 16 18.2**	**+0.1**
LPL	**La Plagne**	**8.00 289**	*e*Pn	**Pn**	**20 16 18.2**	**+0.1**
LMR	**La Mourre**	**8.04 273**	*e*Pn	**Pn**	**20 16 19.1**	**+0.6**
LMR			*e*Sn	**Sn**	**20 17 44.8**	**-4.8**
comp=Z,1.2nm,0.3s						
LMR	**La Mourre**	**8.04 273**	*e*Pn	**Pn**	**20 16 19.1**	**+0.6**
ORIF	**Oris-en-Rattie**	**8.51 284**	*e*Pn	**Pn**	**20 16 25.5**	**+0.5**
ORIF	**Oris-en-Rattie**	**8.51 284**	*e*Pn	**Pn**	**20 16 25.5**	**+0.5**
HINF	**Hinteralfeld**	**8.66 304**	*e*Pn	**Pn**	**20 16 26.0**	**-1.1**
HINF			*e*Sn	**Sn**	**20 17 59.8**	**-5.1**
comp=Z,5.5nm,0.4s						
CDF	**Champ du Feu**	**8.70 308**	*e*Pn	**Pn**	**20 16 26.5**	**-1.1**
CABF	**La Chapelle**	**8.70 295**	*e*Pn	**Pn**	**20 16 27.3**	**-0.4**
CABF			*e*Sn	**Sn**	**20 17 59.1**	**-6.9**
comp=Z,4.2nm,0.6s						
CABF	**La Chapelle**	**8.70 295**	*e*Pn	**Pn**	**20 16 27.3**	**-0.4**
HAU	**Haudompre**	**9.05 304**	*e*Pn	**Pn**	**20 16 33.3**	**+0.9**
HAU	**Haudompre**	**9.05 304**	*e*Pn	**Pn**	**20 16 33.3**	**+0.9**
VIVF	**Saint-Julien-l**	**9.36 283**	*e*Pn	**Pn**	**20 16 35.9**	**-0.7**
SMF	**Signal de Mont**	**10.21 293**	*e*Pn	**Pn**	**20 16 48.0**	**-0.2**
SMF			*e*Sn	**Sn**	**20 18 36.7**	**-6.1**
comp=Z,4.6nm,0.5s						
SMF	**Signal de Mont**	**10.21 293**	*e*Pn	**Pn**	**20 16 48.0**	**-0.2**
AVF	**Avril sur Loir**	**10.57 293**	*e*Pn	**Pn**	**20 16 52.9**	**-0.2**
AVF	**Avril sur Loir**	**10.57 293**	*e*Pn	**Pn**	**20 16 52.9**	**-0.2**
ARCES	**ARCESS Array B**	**26.46 6**	P	**P**	**20 19 57.4**	**-1.2**
comp=Z,2.5nm,1.0s,baz=187,slow=6.4,SNR=7.5						
ARCES			LR	LR	20 31 44.7	
comp=Z,65nm,18.9s,baz=80,slow=40						
ARU	**Arti**	**28.94 49**	LR	LR	20 31 19.1	
comp=Z,58nm,19.5s,baz=118,slow=35						
TORD	**Torodi Ar. Bea**	**33.15 209**	P	**P**	**20 20 59.3**	**+1.0**
comp=Z,0.1nm,0.4s,baz=22,slow=8.0,SNR=2.6						
MKAR	**Makanchi Array**	**44.64 62**	P	**P**	**20 22 33.6**	**-0.8**
comp=Z,0.2nm,0.5s,baz=308,slow=5.3,SNR=2.6						
SONM	**Songino Array**	**58.91 52**	P	**P**	**20 24 20.8**	**-0.2**
comp=Z,0.2nm,0.6s,baz=312,slow=9.2,SNR=2.5						

*ISCJB **16** 20:27:04.2±0.9, 5°.77N±0°.09×126°.0E±0°.1, h127km, mb3.4/6, Error ellipse: s-maj=21.3km s-min=8.1km az=151.0*
*IDC **16** 20:27:04.8±12.0, 6°.10N×126°.09E, h146km±114km, mb3.1/6, mb1 3.3/6, mb1mx3.1/39, mbtmp3.5/6, Error ellipse: s-maj=58.7km s-min=22.6km az=65.0*

ISC 16 20:27:03.6±0.9, 5°.9N±0°.1×126°.1E±0°.1, h127km, n10, σ2°.13/12, mb3.4/6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.16 281**		*e*P	**Pn**	**20 27 27.4**	**-0.5**
GSPH				*e*S	**Sn**	**20 27 46.4**	**0.0**
DMPH	**Davao City--Mi**	**1.34 334**		⇓*e*P	Pn	20 27 31.7	+2.0
DMPH				*e*S	**Sn**	**20 27 51.6**	**+2.1**
KCP	**Kidapawan**	**1.51 319**		⇑*i*P	**Pn**	**20 27 32.9**	**+1.3**
KCP				*i* S	**Sn**	**20 27 56.0**	**+3.0**
FITZ	**Fitzroy Crossi**	**23.83 181**		P	**P**	**20 32 07.2**	**+2.0**
1.3nm,0.9s,baz=4.1,slow=14,SNR=2.7							
WRA	**Warramunga Arr**	**26.91 163**		P	**P**	**20 32 34.5**	**+1.5**
0.3nm,0.5s,baz=344,slow=10.0,SNR=3.6							
ASAR	**Alice Springs**	**30.33 166**		P	**P**	**20 33 02.7**	**-0.7**
0.2nm,0.8s,baz=336,slow=7.2,SNR=3.6							
STKA	**Stephens Creek**	**40.34 159**		P	**P**	**20 34 31.4**	**+2.5**
1.8nm,0.9s,baz=345,slow=5.8,SNR=3.5							
MKAR	**Makanchi Array**	**55.45 325**		P	**P**	**20 36 22.9**	**-2.2**
0.8nm,0.5s,baz=117,slow=7.2,SNR=16							
ILAR	**Eielson Array**	**83.45 26**		P	**P**	**20 39 14.7**	**-2.1**
0.3nm,0.6s,baz=266,slow=5.6,SNR=6.9							
TORD	**Torodi Ar. Bea**	**121.64 289**		PKP	**PKPdf**	**20 45 41.5**	**-2.0**
0.5nm,1.0s,baz=87,slow=1.5,SNR=5.1							

IDC 16 20:32:39.3±1.3, 3°.76N×126°.91E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/31, mbtmp3.6/7, Error ellipse: s-maj=73.3km s-min=17.1km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.75 183**		P	P	20 37 31.7	-0.9
0.7nm,0.5s,baz=18,slow=6.4,SNR=3.3							
WRA	**Warramunga Arr**	**24.66 163**		P	P	20 38 00.6	-1.3
2.4nm,0.7s,baz=343,slow=10,SNR=8.4							
ASAR	**Alice Springs**	**28.09 166**		P	P	20 38 34.9	+2.0
0.3nm,0.5s,baz=337,slow=9.2,SNR=3.5							
CMAR	**Chiang Mai Arr**	**31.02 300**		P	P	20 38 59.6	+0.7
0.3nm,0.4s,baz=107,slow=6.2,SNR=4.7							
SONM	**Songino Array**	**47.33 341**		P	P	20 41 15.9	+1.0
0.7nm,0.7s,baz=142,slow=7.5,SNR=5.4							
MKAR	**Makanchi Array**	**57.64 325**		P	P	20 42 30.9	-0.5
0.7nm,0.5s,baz=122,slow=8.2,SNR=12							
ZALV	**Zalesovo Beam**	**60.65 333**		P	P	20 42 51.1	-0.9
0.3nm,0.3s,baz=134,slow=8.3,SNR=2.7							

*SOME **16** 21:00:53.1, 44°.30N×82°.62E, h10km*
*NNC **16** 21:00:54.3±2.7, 44°.31N×82°.55E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=25.8km s-min=10.0km az=125.0*

ISC 16 21:00:52.8±2.6, 44°.33N±0°.09×82°.6E±0°.1, h10km, n14, σ2°.52/21, 10C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.02 271**		*e*P	**Pg**	**21 01 31.5**	**0.0**
36nm,0.4s							
DJR				*e*S	**Sg**	**21 01 59.9**	**+2.2**
92nm,0.6s							
PDGK	**Podgornoye**	**2.46 247**		⇑Pg	**Pb**	**21 01 38.0**	**+0.8**
4.7nm,0.3s							
PDGK				⇓Lg	Lg	21 02 10.3	
39nm,0.3s							
MK31	**Makanchi Array**	**2.48 355**		⇑Pg	**Pg**	**21 01 41.5**	**+1.2**
5.3nm,0.5s,baz=170,slow=17,SNR=129							
MK31				⇑Lg	Lg	21 02 10.5	
11nm,0.4s,baz=178,slow=26,SNR=9.3							
MAKZ	**Makanchi**	**2.52 350**		⇑Pg	**Pb**	**21 01 38.6**	**+0.5**
3.0nm,0.5s							
MAKZ				⇑Lg	Lg	21 02 15.3	
15nm,0.6s							
KPKS	**Kokpek**	**2.96 255**		*e*P	**Pb**	**21 01 45.2**	**-0.5**
13nm,0.1s							
KPKS				*e*S	**Sb**	**21 02 21.8**	**-0.2**
156nm,0.3s							
SATY	**Saty**	**3.30 249**		*e*P	**Pb**	**21 01 51.8**	**+0.3**
4.9nm,0.2s							
SATY				*e*S	**Sb**	**21 02 33.3**	**+1.6**
50nm,0.2s							
ARXS	**Arharly**	**3.44 270**		*e*P	**Pb**	**21 01 56.1**	**+2.3**
3.3nm,0.5s							
ARXS				*e*S	**Sg**	**21 02 41.0**	**-2.1**
36nm,0.3s							
CHKK	**Chushkaly**	**4.08 265**		*e*P	**Pb**	**21 02 06.7**	**+2.1**
4.0nm,0.5s							
CHKK				*e*S	**Sg**	**21 02 59.4**	**-4.2**
20nm,0.3s							
TNSS	**Tian-Shan**	**4.30 255**		*e*P	**Pg**	**21 02 13.2**	**-2.0**
1.8nm,0.7s							
TNSS				*e*S	**Sg**	**21 03 10.9**	**0.0**
9.0nm,0.7s							
IZV	**Izvestkoviy**	**4.53 256**		*e*P	**Pb**	**21 02 14.6**	**+2.0**
4.2nm,0.6s							
IZV				*e*S	**Sb**	**21 03 12.7**	**+5.4**
7.7nm,0.4s							
TKM2	**Tokmak 2**	**5.28 257**		⇓Pg	**Pg**	**21 02 33.0**	**-0.9**
2.9nm,0.9s							
TKM2				⇓Lg	Lg	21 03 39.5	
8.1nm,0.8s							
AAK	**Ala-Archa**	**6.14 257**		⇑Pg	**Pg**	**21 02 46.5**	**-3.8**
2.2nm,0.9s							
AAK				⇑Lg	Lg	21 04 05.7	
6.5nm,0.8s							

KURBB	**Kurchatov Arra**	**6.88 338**		⇑Pg	**Pg**	**21 03 01.4**	**-3.0**
2.0nm,0.8s							
KURBB				⇑Lg	Lg	21 04 33.0	
13nm,0.6s							
KURK	**Kurchatov**	**6.94 339**		⇓Pg	**Pg**	**21 03 02.4**	**-3.2**
0.8nm,0.7s							
KURK				⇑Lg	Lg	21 04 37.6	
12nm,1.0s							

*IDC **16** 21:09:27.1±0.7, 6°.63S×142°.54E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/31, mbtmp4.2/15, ML4.2/1, Error ellipse: s-maj=27.1km s-min=14.9km az=92.0*
*ISCJB **16** 21:09:30.6±0.3, 6°.71S±0°.03×142°.44E±0°.05, h33km, mb4.5/21, Error ellipse: s-maj=6.7km s-min=4.4km az=176.5*
*NEIC **16** 21:09:32.5±0.4, 6°.73S×142°.46E, h35km, mb4.7/14, Error ellipse: s-maj=11.7km s-min=6.2km az=104.0*

ISC 16 21:09:32.5±0.5, 6°.76S±0°.05×142°.33E±0°.06, h35km, n65, σ1°.64/71, mb4.5/21, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46 119**		Pn	**Pn**	**21 10 49.9**	**-1.5**
2.3nm,0.3s,baz=161,slow=17,SNR=6.6							
PMG	**Port Moresby**	**5.46 119**		*e*Pn	**Pn**	**21 10 49.5**	**-2.0**
PMG				*e*Sn	**Sn**	**21 11 52.9**	**-0.2**
COEN	**Coen**	**7.20 173**		*e*Pn	**Pn**	**21 11 16.1**	**+0.7**
COEN				*e*Sn	**Sn**	**21 12 39.2**	**+3.1**
FAKI	**Fak Fak**	**10.74 290**		*e*Pn	**Pn**	**21 12 01.8**	**-2.2**
MTN	**Manton Dam**	**12.58 240**		*e*Pn	**Pn**	**21 12 29.5**	**+0.4**
CTA	**Charters Tower**	**13.79 164**		Lg	Lg	21 16 41.7	
0.6nm,0.3s,baz=55,slow=23,SNR=4.1							
WRAB	**Tennant Creek**	**15.22 210**		*e*Pn	**Pn**	**21 13 07.0**	**+2.1**
17nm,0.6s							
WB2	**Warramunga Arr**	**15.22 210**		*e*Pn	**Pn**	**21 13 04.7**	**-0.4**
WB2				*e*Sn	**Sn**	**21 15 50.6**	**-2.0**
WR1	**Warramunga Arr**	**15.23 210**		*e*Pn	**Pn**	**21 13 05.0**	**-0.1**
21nm,0.6s							
WR1				*e*Sn	**Sn**	**21 15 49.7**	**-3.1**
WRA	**Warramunga Arr**	**15.23 210**		Pn	**Pn**	**21 13 05.0**	**-0.1**
1.0nm,0.3s,baz=28,slow=14,SNR=17							
WRA				Sn	**Sn**	**21 15 49.7**	**-3.1**
0.7nm,0.3s,baz=30,slow=23,SNR=7.0							
WRA				Lg	Lg	21 17 33.5	
baz=20,slow=28,SNR=2.9							
SOEI	**Soe**	**18.12 259**		*e*Pn	**Pn**	**21 13 44.7**	**+3.0**
45nm,0.8s							
AS01	**Alice Springs**	**18.64 205**		*e*P	**Pn**	**21 13 49.6**	**+1.7**
AS31	**Alice Springs**	**18.66 205**		*e*P	**Pn**	**21 13 50.2**	**+2.1**
8.9nm,0.6s							
AS31				*e*Sn	**Sn**	**21 17 14.5**	**-1.4**
ASAR	**Alice Springs**	**18.66 205**		P	**Pn**	**21 13 50.0**	**+1.8**
1.7nm,0.3s,baz=33,slow=9.9,SNR=156							
ASAR				S	**Sn**	**21 17 14.5**	**-1.4**
0.3nm,0.3s,baz=17,slow=29,SNR=7.1							
ASAR				Lg	Lg	21 19 25.5	
0.1nm,0.3s,baz=26,slow=32,SNR=3.4							
FITZ	**Fitzroy Crossi**	**19.80 234**		P	**Pn**	**21 14 02.3**	**+0.6**
7.2nm,0.5s,baz=48,slow=9.5,SNR=28							
FITZ				S	**S**	**21 17 33.8**	**-7.6**
6.5nm,0.8s,baz=142,slow=17,SNR=3.1							
FITZ				Lg	Lg	21 20 00.0	
35nm,1.0s,baz=122,slow=16,SNR=2.3							
STKA	**Stephens Creek**	**25.00 181**		P	**P**	**21 14 52.2**	**-0.9**
3.2nm,0.7s,baz=5.5,slow=9.4,SNR=5.2							
STKA	**Stephens Creek**	**25.00 181**		*e*P	**P**	**21 14 51.8**	**-1.4**
3.7nm,1.4s							
MBWA	**Marble Bar**	**26.13 235**		*e*P	**P**	**21 15 04.5**	**+1.0**
12nm,0.8s							
BBOO	**Buckleboo**	**26.57 192**		*e*P	**P**	**21 15 05.7**	**-1.7**
84nm,1.6s							
FORT	**Forrest**	**27.39 207**		*e*P	**P**	**21 15 14.5**	**-0.3**
213nm,0.8s							
JAGI	**Jajag, Banyuwa**	**27.98 265**		*e*P	**P**	**21 15 20.9**	**+0.6**
86nm,1.6s							
YULB	**Yu-li**	**36.34 326**		*e*P	**P**	**21 16 34.5**	**+1.2**
36nm,1.3s							
FUNA	**Funafuti**	**36.58 95**		*e*P	**P**	**21 16 35.2**	**-0.2**
237nm,1.9s							
TPUB	**Ta-pu**	**36.64 325**		*e*P	**P**	**21 16 35.1**	**-0.8**
153nm,1.8s							
CM31	**Chiang Mai Arr**	**49.59 301**		*e*P	**P**	**21 18 21.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**49.59 301**		P	**P**	**21 18 21.4**	**+0.7**
0.9nm,0.8s,baz=126,slow=6.3,SNR=7.8							
USRK	**Ussuriysk Ar.**	**51.57 351**		P	**P**	**21 18 34.0**	**-1.2**
2.7nm,0.9s,baz=156,slow=13,SNR=4.2							
PETK	**Petropavlovsk-**	**61.05 11**		P	**P**	**21 19 42.3**	**-0.3**
5.6nm,0.8s,baz=190,slow=7.2,SNR=3.4							
PEA1	**Petropavlovsk-**	**61.05 11**		*e*P	**P**	**21 19 42.3**	**-0.3**
TAPN	**Taplejung**	**62.74 305**		*e*P	**P**	**21 19 56.1**	**+1.2**
15nm,1.0s							
ODAN	**Odare**	**62.80 305**		*e*P	**P**	**21 19 56.2**	**+1.0**
SONA0	**Songino Array**	**62.91 334**		*e*P	**P**	**21 19 55.6**	**+0.2**
11nm,1.9s							
SONM	**Songino Array**	**62.91 334**		P	**P**	**21 19 55.6**	**+0.2**
0.4nm,0.6s,baz=158,slow=6.0,SNR=4.2							
RAMN	**Ramite**	**63.48 304**		*e*P	**P**	**21 20 00.9**	**+1.2**
13nm,0.9s							
JIRN	**Jiri**	**64.10 305**		*e*P	**P**	**21 20 05.1**	**+1.2**
GUN	**Gumba**	**64.45 305**		*e*P	**P**	**21 20 07.5**	**+1.3**
PKIN	**Phulchoki**	**64.71 305**		*e*P	**P**	**21 20 08.5**	**+0.7**
KKN	**Kakani**	**64.89 305**		*e*P	**P**	**21 20 10.1**	**+1.2**
17nm,1.0s							
DMN	**Daman**	**64.96 305**		*e*P	**P**	**21 20 10.8**	**+1.3**
GKN	**Gorkha**	**65.50 305**		*e*P	**P**	**21 20 13.7**	**+0.9**
KOLN	**Koldanda**	**66.26 304**		*e*P	**P**	**21 20 18.8**	**+1.0**
10.0nm,0.8s							
DANN	**Dangsing**	**66.34 305**		*e*P	**P**	**21 20 19.6**	**+1.2**
PYUN	**Piuthan**	**66.88 304**		*e*P	**P**	**21 20 22.8**	**+1.1**
VNDA	**Vanda**	**71.48 176**		P	**P**	**21 20 50.2**	**+1.1**
1.0nm,0.7s,baz=311,slow=6.3,SNR=6.1							
MK01	**Makanchi Array**	**75.16 322**		*e*P	**P**	**21 21 11.4**	**+0.1**
MK31	**Makanchi Array**	**75.17 322**		*e*P	**P**	**21 21 12.0**	**+0.5**
MK32	**Makanchi Array**	**75.17 322**		*e*P	**P**	**21 21 12.0**	**+0.6**
MKAR	**Makanchi Array**	**75.17 322**		P	**P**	**21 21 12.0**	**+0.5**
2.4nm,0.6s,baz=110,slow=7.0,SNR=25							
MKAR	**Makanchi Array**	**75.17 322**		*e*P	**P**	**21 21 12.0**	**+0.5**
14nm,0.8s							
MAKZ	**Makanchi**	**75.37 322**		*e*P	**P**	**21 21 13.1**	**+0.5**
5.4nm,1.1s							
ZALV	**Zalesovo Beam**	**77.23 329**		P	**P**	**21 21 22.5**	**-0.4**
0.8nm,0.7s,baz=110,slow=5.4,SNR=4.2							
ZAA1	**Zalesovo Array**	**77.23 329**		*e*P	**P**	**21 21 22.5**	**-0.4**
KURK	**Kurchatov**	**79.08 325**		*e*P	**P**	**21 21 33.6**	**+0.3**
2.7nm,0.9s							
MAW	**Mawson**	**79.77 203**		P	**P**	**21 21 38.3**	**+1.6**
0.9nm,0.7s,baz=68,slow=11,SNR=3.0							
QSPA	**South Pole Qui**	**83.22 180**		*e*P	**P**	**21 21 55.9**	**+0.7**
NRIK	**Noril'sk**	**84.60 343**		P	**P**	**21 22 01.5**	**-0.4**
2.4nm,0.6s,baz=135,slow=7.1,SNR=3.2							
IL1	**Eielson Array**	**88.02 24**		*e*P	**P**	**21 22 20.6**	**+1.8**
ILAR	**Eielson Array**	**88.02 24**		P	**P**	**21 22 16.7**	**-2.1**
1.4nm,0.8s,baz=252,slow=5.2,SNR=14							
ILB	**Eielson Array**	**88.02 24**		*e*P	**P**	**21 22 16.7**	**-2.1**
LAB	**Little Aspen B**	**98.65 48**		*e*P	Pdif	21 23 08.4	-0.1
GEC2	**GERESS Array S**	**119.82 323**		*e*PKPdf	**PKPdf**	**21 28 19.1**	**-0.3**
GERES	**GERESS Array B**	**119.82 323**		PKP	**PKPdf**	**21 28 19.1**	**-0.3**
0.2nm,0.5s,baz=50,slow=1.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**140.75 282**		PKP	**PKPdf**	**21 29 01.3**	**+1.6**
0.4nm,0.7s,baz=75,slow=1.8,SNR=3.1							
TOA1	**Torodi Ar. Sit**	**140.75 282**		*e*PKPdf	**PKPdf**	**21 29 01.3**	**+1.6**
DBIC	**Dimbokro**	**147.41 272**		PKPbc	**PKPab**	**21 29 14.6**	**-1.2**
4.4nm,1.0s,baz=149,slow=7.8,SNR=3.5							

DJA 16 21:09:37.2±0.7, 0°.N±9°.×12°.5E±°, h46km±28km, M4.1/5, MLv4.1/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.83 306**		P	Pn	21 09 53.2	+0.7
KMSI				S	Sn	21 10 05.2	+1.5
SANI	**Sanana**	**2.50 148**		P	Pn	21 10 14.2	-1.2
MRSI	**Marisa**	**2.74 278**		P	Pn	21 10 17.0	-1.7
LBMI	**Labuha**	**2.94 104**		P	Pn	21 10 22.9	+1.5
LBMI				S	Sn	21 10 55.7	+0.2
APSI	**Ampana**	**3.16 252**		P	Pn	21 10 25.4	+1.0
NLAI	**Namlea**	**4.11 143**		P	Pn	21 10 37.1	-0.4
KDI	**Kendari**	**4.50 207**		P	Pn	21 10 42.9	+0.1
SPSI	**Sidrap Palu**	**6.32 230**		P	Pn	21 11 08.5	+0.6

JMA 16 21:42:18.8±0.3, 37°.60N×144°.45E, h50km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.59 290**		P	Pn	21 42 59.8	+1.6
JIO				S	Sn	21 43 30.2	+1.7
OFUJ	**Ofunato**	**2.64 305**		P	Pn	21 43 00.2	+1.3
OFUJ				S	Sn	21 43 31.0	+1.3
JMK	**Ichinoseki**	**2.88 299**		P	Pn	21 43 03.9	+1.8
JMK				*e*S	Sn	21 43 37.0	+1.5
JOM	**Ohasama**	**3.10 308**		P	Pn	21 43 07.3	+2.1
JOM				S	Sn	21 43 43.2	+2.1
JFT	**Otama**	**3.27 270**		P	Pn	21 43 09.7	+2.2
JFT				S	Sn	21 43 47.5	+2.3
JANG	**Nango**	**3.59 321**		P	Pn	21 43 13.1	+1.2
JANG				*e*S	Sn	21 43 53.1	0.0
JRY	**Ryogami san**	**4.72 252**		P	Pn	21 43 28.1	+0.6
JRY				*e*S	Sn	21 44 20.6	-0.4
JCH	**Churui**	**5.08 351**		P	Pn	21 43 31.4	-0.9
JCH				*e*S	Sn	21 44 26.1	-3.5

IDC 16 21:55:41.9±20.0, 4°.94S×130°.07E, h135km±209km, mb3.4/1, mb1 3.2/4, mb1mx3.0/32, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=163.9km s-min=58.4km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.78 198**		P	Pn	21 58 50.9	-0.7
0.1nm,0.3s,baz=9.5,slow=12,SNR=2.8							
FITZ				S	Sn	22 01 07.3	-17
0.1nm,0.3s,baz=311,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**15.48 165**		P	P	21 59 14.9	+0.4
0.1nm,0.3s,baz=350,slow=14,SNR=3.7							
WRA				S	Sn	22 01 58.3	-6.7
0.4nm,0.3s,baz=326,slow=22,SNR=7.5							
ASAR	**Alice Springs**	**18.98 169**		P	P	21 59 52.5	-0.5
0.1nm,0.3s,baz=352,slow=11,SNR=8.6							
MKAR	**Makanchi Array**	**66.56 326**		P	P	22 06 17.5	0.0
0.8nm,0.7s,baz=120,slow=8.3,SNR=8.5							

*IDC **16** 22:47:47.7±3.2, 46°.88N×152°.32E, h79km±28km, mb3.2/4, mb1 3.6/7, mb1mx3.2/51, mbtmp3.6/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/13, Error ellipse: s-maj=52.9km s-min=18.5km az=150.0*

ISC 16 22:47:43.0±1.2, 46°.3N±0°.2×152°.6E±0°.2, h50km, n24, σ2°.78/18, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.71 242**		P	**Pn**	**22 49 05.5**	**+0.4**
NEM2				*e*S	**Sn**	**22 50 08.6**	**-0.6**
JRA	**Rausu**	**5.81 249**		P	**Pn**	**22 49 09.6**	**+3.1**
JNK	**Nakash**	**6.23 247**		P	**Pn**	**22 49 14.4**	**+2.1**
JKK2	**Kamakawa 2**	**7.40 254**		P	**Pn**	**22 49 31.7**	**+3.4**
ASAJ	**Asahikawa**	**7.41 256**		P	**Pn**	**22 49 31.9**	**+3.5**
0.8nm,0.3s,baz=59,slow=18,SNR=4.1							
ASAJ	**Asahikawa**	**7.41 256**		P	**Pn**	**22 49 32.4**	**+3.9**
PETK	**Petropavlovsk-**	**7.57 24**		P	**Pn**	**22 49 29.1**	**-1.5**
1.4nm,0.3s,baz=182,slow=12,SNR=9.2							
JNBK	**Urakawa-nobuka**	**8.14 244**		*e*S	**Sn**	**22 51 05.5**	**-3.5**
JNB	**Noboribetsu**	**9.14 249**		P	**Pn**	**22 49 53.1**	**+1.0**
JKB	**Kayabe**	**9.43 246**		P	**Pn**	**22 49 56.3**	**+0.2**
JKB				*e*S	**Sn**	**22 51 37.7**	**-3.0**
JANG	**Nango**	**10.02 238**		*e*S	Sn	22 51 47.3	-7.9
JRG	**Rokugo**	**11.18 236**		*e*S	**Sn**	**22 52 18.2**	**-5.2**
MJAR	**Matsushiro Arr**	**14.54 233**		P	**P**	**22 51 13.8**	**+2.6**
0.3nm,0.3s,baz=38,slow=8.7,SNR=4.7							
KSRS	**Korea Array**	**20.34 253**		LR	LR	22 58 39.7	
comp=Z,33nm,21.9s,baz=200,slow=32							
H11N2	**WAKE ISLAND Hy**	**28.98 151**		T	T	23 25 05.9	
baz=340,slow=76,SNR=9.4							
H11N1	**WAKE ISLAND Hy**	**28.99 151**		T	T	23 25 07.2	
baz=340,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**29.00 151**		T	T	23 25 19.9	
baz=340,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**30.06 153**		T	T	23 26 23.5	
baz=340,slow=76,SNR=9.8							
H11S3	**WAKE ISLAND Hy**	**30.06 153**		T	T	23 26 29.9	
baz=340,slow=76,SNR=9.8					

	baz=221						
TTN				*e*S		**Sb**	**23 13 16.8 +1.2**
	baz=221						
TWG	**Pinlang**	**0.58**	**230**	P		**Pn**	**23 13 06.2 -1.4**
	baz=230						
TWG				S		**Sn**	**23 13 14.5 -1.5**
	baz=230						
ESL	**Shilin**	**0.62**	**349**	P		**Pn**	**23 13 07.2 -1.0**
	baz=347						
ESL				*e*S		**Sn**	**23 13 15.4 -1.6**
	baz=347						
YUS	**Yu-Shan**	**0.63**	**298**	*i* P		**Pn**	**23 13 08.1 -0.5**
	baz=296						
YUS				*i* S		**Sb**	**23 13 16.6 -0.8**
	baz=296						
STYT	**Tauyuan**	**0.74**	**267**	P		**Pn**	**23 13 09.2 -0.6**
	baz=266						
STYT				S		**Sn**	**23 13 19.3 -0.6**
	baz=266						
ALS	**Alishan**	**0.76**	**294**	*e*P		**Pn**	**23 13 10.4 +0.1**
	baz=293						
ALS				S		**Sn**	**23 13 20.9 +0.1**
	baz=293						
WTP	**Ta-pu**	**0.87**	**273**	P		**Pn**	**23 13 11.9 +0.4**
	baz=272						
WTP				*e*S		**Sn**	**23 13 23.4 +0.3**
	baz=272						
TWD	**Chiawan**	**0.88**	**2**	*e*P		**Pn**	**23 13 10.8 -0.8**
TWD				*e*S		**Sn**	**23 13 23.0 -0.2**
CHN4	**Tsaushan**	**0.90**	**280**	P		**Pn**	**23 13 12.7 +0.7**
	baz=279						
CHN4				*e*S		**Sb**	**23 13 24.9 +0.5**
	baz=279						
CHN5	**Tsauling**	**0.90**	**296**	P		**Pb**	**23 13 13.1 +0.3**
	baz=295						
CHN5				S		**Sb**	**23 13 24.9 +0.3**
	baz=295						
SGST	**Jiashian**	**0.91**	**263**	P		**Pn**	**23 13 12.4 +0.4**
	baz=262						
SGST				*e*S		**Sb**	**23 13 25.2 +0.6**
	baz=262						
SMLT	**Sun Moon Lake**	**0.91**	**319**	P		**Pn**	**23 13 12.5 +0.3**
	baz=317						
SMLT				S		**Sn**	**23 13 24.4 +0.2**
	baz=317						
CHN1	**Nanshi**	**0.95**	**269**	P		**Pn**	**23 13 13.3 +0.7**
	baz=269						
CHN1				S		**Sb**	**23 13 26.5 +0.7**
	baz=269						
TYC	**Yuchr**	**0.95**	**318**	P		**Pn**	**23 13 13.1 +0.5**
	baz=316						
TYC				*i* S		**Sb**	**23 13 26.3 +0.4**
	baz=316						
WHF	**Hehuan Shan**	**0.98**	**344**	*e*P		**Pn**	**23 13 12.9 -0.6**
	baz=342						
WHF				*e*S		**Sn**	**23 13 25.2 -1.2**
	baz=342						
TWK	**Hsinying**	**0.99**	**274**	*e*P		**Pn**	**23 13 13.8 +0.6**
	baz=273						
TWK				*e*S		**Sb**	**23 13 27.3 +0.3**
	baz=273						
TAW	**Tawu**	**1.04**	**216**	*e*P		**Pn**	**23 13 14.2 +0.4**
	baz=216						
TAW				*e*S		**Sn**	**23 13 25.0 -2.2**
	baz=216						
EAST	**Anshuo**	**1.04**	**219**	*e*P		**Pn**	**23 13 13.0 -0.9**
	baz=219						
EAST				*e*S		**Sn**	**23 13 28.3 +0.8**
	baz=219						
WNT	**Mingjian**	**1.05**	**310**	*e*P		**Pn**	**23 13 14.5 +0.5**
	baz=309						
WNT				*e*S		**Sn**	**23 13 27.8 +0.3**
	baz=309						
TWT	**Tachien**	**1.11**	**342**	*e*P		**Pn**	**23 13 15.5 +0.5**
	baz=339						
TWT				*e*S		**Sn**	**23 13 28.7 -0.5**
	baz=339						
TWM1	**Shoushan**	**1.11**	**251**	*e*P		**Pn**	**23 13 14.9 +0.1**
	baz=250						
TWM1				*e*S		**Sn**	**23 13 29.2 +0.2**
	baz=250						
LAY	**Lan-yu**	**1.15**	**180**	*e*P		**Pn**	**23 13 15.0 -0.5**
	baz=181						
LAY				*e*S		**Sn**	**23 13 31.0 +0.8**
	baz=181						
SCZT	**Fangliau**	**1.20**	**227**	*e*P		**Pn**	**23 13 15.8 -0.2**
	baz=226						
SCZT				*e*S		**Sn**	**23 13 30.6 -0.4**
	baz=226						
TCU	**Taichung**	**1.24**	**320**	*e*P		**Pn**	**23 13 16.7 0.0**
	baz=318						
TCU				*e*S		**Sn**	**23 13 33.4 +1.1**
	baz=318						
NNS	**Nan Shan**	**1.25**	**352**	*e*P		**Pn**	**23 13 17.7 +0.8**
	baz=351						
NNS				*e*S		**Sn**	**23 13 32.4 -0.2**
	baz=351						
TWQ1	**Liyutan**	**1.35**	**328**	*e*P		**Pb**	**23 13 19.9 -0.4**
	baz=326						
TWQ1				*e*S		**Sn**	**23 13 35.9 +0.9**
	baz=326						
TWC	**Suao**	**1.43**	**11**	*e*P		**Pn**	**23 13 19.4 +0.2**
	baz=10.0						
TWC				*e*S		**Sn**	**23 13 36.3 -0.5**
	baz=10.0						
TWK1	**Hengchun**	**1.43**	**209**	*e*P		**Pn**	**23 13 18.4 -0.8**
	baz=209						
TWK1				*e*S		**Sn**	**23 13 36.9 0.0**
	baz=209						
ENTT	**Nioudou**	**1.44**	**0**	*e*P		**Pn**	**23 13 18.8 -0.6**
	baz=359						
ENTT				*e*S		**Sn**	**23 13 37.1 +0.1**
	baz=359						
NSK	**Sanguang**	**1.48**	**353**	*e*P		**Pn**	**23 13 20.1 +0.1**
	baz=352						
NSK				*e*S		**Sn**	**23 13 38.1 -0.2**
	baz=352						
NSTT	**Nanjuang**	**1.52**	**340**	*e*P		**Pn**	**23 13 20.8 +0.4**
	baz=339						
NSTT				*e*S		**Sn**	**23 13 39.4 +0.4**
	baz=339						
TWE	**Neicheng**	**1.52**	**4**	*e*P		**Pn**	**23 13 20.0 -0.4**
	baz=3.0						
TWE				*e*S		**Sn**	**23 13 39.4 +0.3**
	baz=3.0						
JYNG	**Yonagunijimaku**	**1.78**	**45**	P		**Pn**	**23 13 24.7 +0.7**
HATJ	**Hateruma jima**	**2.23**	**67**	P		**Pn**	**23 13 30.2 0.0**
IRIF	**Iriomote-Funau**	**2.29**	**60**	P		**Pn**	**23 13 31.3 +0.3**
JIJ	**Ishigaki jima**	**2.64**	**63**	P		**Pn**	**23 13 35.5 -0.3**
JIJ				S		**Sn**	**23 13 46.9 +0.2**
JISG	**Ishigakijimahi**	**2.87**	**61**	P		**Pn**	**23 13 38.6 -0.5**
JTJ	**Tarama**	**3.21**	**63**	P		**Pn**	**23 13 43.8 0.0**
JTJ				S		**Sn**	**23 14 21.4 +0.5**

WEL 16 23:27:06.0±0.5, 34°.88S×178°.55E, h280km±4km, ML4.1/7, 1C, Error ellipse: s-maj=11.6km s-min=5.2km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.69**	**184**	PN	Pn	23 27 56.9	-0.2
MXZ				SN	S	23 28 37.9	0.0
WMGZ	**Waiomatatini S**	**2.94**	**182**	PN	Pn	23 28 00.3	+0.6
WMGZ				AML	AML	23 28 46.8	
WMGZ				AML	AML	23 28 47.4	
HAZ	**Te Kaha**	**2.94**	**192**	PN	Pn	23 27 59.7	+0.1
HAZ				AML	AML	23 28 45.7	
HAZ				AML	AML	23 28 48.4	
PKGZ	**Pakihiroa**	**3.03**	**187**	PN	Pn	23 28 01.7	+1.1
RUGZ	**Raukumara Rang**	**3.16**	**193**	PN	Pn	23 28 02.7	+0.6
PUZ	**Puketiti**	**3.20**	**184**	⇑PN	Pn	23 28 02.8	+0.4
PUZ				SN	S	23 28 47.2	-0.2
MWZ	**Matawai**	**3.55**	**193**	PN	Pn	23 28 07.1	+1.0
URZ	**Urewera**	**3.57**	**199**	PN	Pn	23 28 07.0	+0.7
URZ				AML	AML	23 28 59.2	
URZ				AML	AML	23 29 00.8	
CNGZ	**Carnagh Statio**	**3.61**	**184**	PN	Pn	23 28 07.6	+0.9
RIGZ	**Rimuhau**	**3.87**	**189**	PN	Pn	23 28 10.0	+0.3
RIGZ				AML	AML	23 29 03.3	
RIGZ				AML	AML	23 29 07.9	
RTZ	**Ruatahuna**	**3.94**	**198**	PN	Pn	23 28 10.8	+0.3
KNZ	**Kokohu**	**4.20**	**189**	PN	Pn	23 28 13.4	+0.1
MHGZ	**Mahia Peninsul**	**4.30**	**187**	PN	Pn	23 28 15.4	+0.9
WHHZ	**Waihua**	**4.32**	**194**	PN	Pn	23 28 15.6	+0.9
WHHZ				AML	AML	23 29 15.1	
WHHZ				AML	AML	23 29 16.0	
ARHZ	**Aropaoanui**	**4.55**	**195**	PN	Pn	23 28 18.8	+1.4
ARHZ				AML	AML	23 29 19.7	
ARHZ				AML	AML	23 29 21.9	
WHVZ	**Whangaehu Hut**	**5.00**	**207**	PN	Pn	23 28 24.1	+1.3
BHHZ	**Black Hill Sta**	**5.01**	**203**	PN	Pn	23 28 23.8	+0.9
WNVZ	**Wahianoa**	**5.03**	**207**	PN	Pn	23 28 24.5	+1.3
MOVZ	**Moawhango**	**5.04**	**205**	PN	Pn	23 28 24.1	+0.9
KRHZ	**Kereru**	**5.07**	**199**	PN	Pn	23 28 24.5	+1.0
KAHZ	**Kahuranaki**	**5.09**	**195**	PN	Pn	23 28 24.1	+0.4
PNHZ	**Pukenui**	**5.37**	**200**	PN	Pn	23 28 27.4	+0.3
DVHZ	**Dannevirke**	**5.73**	**199**	PN	Pn	23 28 31.7	+0.2
BFZ	**Birch Farm**	**6.08**	**197**	PN	Pn	23 28 35.7	+0.1
MRZ	**Mangatainoka R**	**6.24**	**201**	PN	Pn	23 28 37.0	-0.5
HOWZ	**Holdsworth Sta**	**6.47**	**201**	PN	Pn	23 28 39.8	-0.6
OGWZ	**Otaki Gorge**	**6.50**	**203**	PN	Pn	23 28 40.3	-0.5
OGWZ				AML	AML	23 30 00.2	
OGWZ				AML	AML	23 30 00.8	
TMWZ	**Te Maipa**	**6.56**	**198**	PN	Pn	23 28 41.3	-0.3
KIW	**Kapiti Island**	**6.63**	**205**	PN	Pn	23 28 41.9	-0.5
DUWZ	**D'Urville Isla**	**6.96**	**210**	PN	Pn	23 28 46.2	-0.3
TCW	**Tory Channel**	**7.17**	**207**	PN	Pn	23 28 48.2	-0.7
PLWZ	**Palliser**	**7.17**	**200**	PN	Pn	23 28 48.3	-0.8
NNZ	**Nelson**	**7.53**	**211**	PN	Pn	23 28 52.6	-0.8
QRZ	**Quartz Range**	**7.61**	**217**	PN	Pn	23 28 54.8	+0.3
THZ	**Tophouse**	**8.18**	**211**	PN	Pn	23 29 02.3	+0.7
KHZ	**Kahutara**	**8.49**	**206**	PN	Pn	23 29 04.6	-0.7
INZ	**Inchbonnie**	**9.60**	**213**	PN	Pn	23 29 18.7	-0.4

IDC 16 23:34:43.5±2.0, 15°.83S×177°.51W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/36, mbtmp3.8/4, Error ellipse: s-maj=120.8km s-min=27.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.89**	**257**	P	P	23 43 08.1	-0.1
	0.4nm,0.6s,baz=89,slow=8.2,SNR=3.3						
ASAR	**Alice Springs**	**46.21**	**252**	P	P	23 43 10.5	-0.2
	3.3nm,0.5s,baz=89,slow=8.1,SNR=36						
ILAR	**Eielson Array**	**83.68**	**13**	P	P	23 47 13.9	+0.2
	0.2nm,0.4s,baz=221,slow=5.3,SNR=6.6						
TXAR	**Lajitas Array**	**84.16**	**57**	P	P	23 47 17.0	-0.1
	0.2nm,0.6s,baz=208,slow=3.7,SNR=3.0						

*ISCJB **16** 23:37:22.7±0.5, 33°.78N±0°.03×35°.78E±0°.04, h3km±8km, Error ellipse: s-maj=6.0km s-min=4.2km az=165.9*
*GRAL **16** 23:37:23.2±0.3, 33°.78N×35°.78E, h0km±17km, MD2.9*
*CSEM **16** 23:37:23.2, 33°.78N×35°.78E, h0km, ML2.9*
*NSSC **16** 23:37:23.1±0.9, 33°.77N×35°.80E, h5km±4km, MD1.4, ML1.3*

ISC 16 23:37:22.6±1.0, 33°.78N±0°.03×35°.79E±0°.03, h6km±11km, n14, σ0s31/24, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.16**	**318**	*e*P	**Pg**	**23 37 26.1**	**+0.1**
BHL				*e*S	**Sg**	**23 37 28.2**	**0.0**
BHL	**Bhannes**	**0.16**	**318**	*e*P	**Pg**	**23 37 26.0**	**+0.1**
BHL				*e*S	**Sg**	**23 37 28.2**	**0.0**
DQRL	**Deir Qamar**	**0.20**	**247**	*e*P	**Pg**	**23 37 26.6**	**+0.1**
DQRL				*e*S	**Sg**	**23 37 29.1**	**-0.1**
DQRL	**Deir Qamar**	**0.20**	**247**	*e*P	**Pg**	**23 37 26.6**	**+0.1**
DQRL				*e*S	**Sg**	**23 37 29.1**	**-0.1**
BEYL	**Beirut**	**0.26**	**290**	*e*P	**Pg**	**23 37 27.8**	**+0.1**
BEYL	**Beirut**	**0.26**	**290**	*e*P	**Pg**	**23 37 27.8**	**+0.1**
RCY	**Rachaya**	**0.29**	**172**	*e*P	**Pg**	**23 37 28.3**	**0.0**
RCY				*e*S	**Sg**	**23 37 32.2**	**0.0**
BRBR	**Barbar**	**0.40**	**160**	*e*P	**Pg**	**23 37 30.3**	**0.0**
BRBR				*e*S	**Sg**	**23 37 36.0**	**+0.5**
BRBR				AML	AML	23 37 38.3	
	comp=N,12nm,0.8s						
BRBR				AML	AML	23 37 40.3	
	comp=E,37nm,0.7s						
HWQ	**Hawqa**	**0.51**	**15**	*e*P	**Pg**	**23 37 32.5**	**0.0**
HWQ	**Hawqa**	**0.51**	**15**	*e*P	**Pg**	**23 37 32.5**	**0.0**
MARH	**Ras Al Marh**	**0.63**	**67**	*e*P	**Pg**	**23 37 35.2**	**+0.5**
MARH				*e*S	**Sb**	**23 37 44.5**	**-0.7**
MARH				AML	AML	23 37 47.2	
	comp=N,25nm,0.4s						
MARH				AML	AML	23 37 48.0	
	comp=E,44nm,0.5s						
BIDA	**Albida**	**1.30**	**20**	*e*P	**Pg**	**23 37 48.1**	**+0.5**
BIDA				*e*S	**Sn**	**23 38 05.5**	**+0.3**
BIDA				AML	AML	23 38 10.8	
	comp=E,24nm,0.6s						
BIDA				AML	AML	23 38 12.6	
	comp=N,21nm,0.6s						
ROOS	**tl_alroos**	**1.31**	**72**	*e*P	**Pn**	**23 37 47.3**	**-0.1**
ROOS				*e*S	**Sg**	**23 38 03.9**	**-0.6**
ROOS				AML	AML	23 38 12.2	
	comp=E,8.6nm,0.4s						
ROOS				AML	AML	23 38 12.4	
	comp=N,9.5nm,0.4s						
SALA	**Sala**	**1.33**	**143**	*e*P	**Pn**	**23 37 48.0**	**+0.2**
SALA				*e*S	**Sg**	**23 38 05.2**	**-0.2**
SALA				AML	AML	23 38 11.3	
	comp=E,0.6nm,0.3s						
SALA				AML	AML	23 38 11.9	
	comp=N,4.2nm,0.3s						

MAN 16 23:38:50, 5°.73N×126°.28E, h52km, mb4.9, ML3.8, MS3.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.21**	**359**	*e*P	Pn	23 39 11.4	+0.7
MATI				*e*S	Sn	23 39 27.5	+1.4
GSPH	**General Santos**	**1.37**	**285**	*e*P	Pn	23 39 11.2	-1.7
KCP	**Kidapawan**	**1.74**	**317**	⇑*i* P	Pn	23 39 18.2	+0.3
BIPH	**Bislig**	**2.44**	**2**	⇑*e*P	Pn	23 39 29.9	+2.4
BIPH				*e*S	Sn	23 39 58.0	+1.8
BUKP	**Musuan**	**2.46**	**331**	*e*P	Pn	23 39 28.4	+0.7
BUKP				*e*S	Sn	23 39 58.9	+2.3
PAGZ	**Pagadian**	**3.56**	**306**	*e*P	Pn	23 39 44.2	+1.3
BESP	**Borongan**	**5.90**	**352**	*e*P	Pn	23 40 18.2	+3.4
ENPP	**El Nido**	**8.69**	**309**	*e*P	Pn	23 40 55.0	+1.8

*BJI **16** 23:41:16.1, 5°.66N×125°.98E, h103km, mb4.5/20, mB4.9/16*
*IDC **16** 23:41:17.3±2.2, 5°.98N×126°.14E, h95km±18km, mb4.0/16, mb1 4.2/16, mb1mx3.9/45, mbtmp4.3/16, MS3.7/5, Ms1 3.7/5, ms1mx3.1/44, Error ellipse: s-maj=29.1km s-min=10.9km az=67.0*
*ISCJB **16** 23:41:17.4±0.4, 5°.99N±0°.02×126°.25E±0°.05, h109km±3km, mb4.5/35, Error ellipse: s-maj=8.1km s-min=3.7km az=172.3*
*MAN **16** 23:41:17, 5°.89N×126°.14E, h83km, mb5.4, ML4.4, MS4.6*
*NEIC **16** 23:41:18.8±1.0, 5°.95N×126°.15E, h107km±9km, mb4.8/13, Error ellipse: s-maj=12.9km s-min=6.4km az=70.0*
*DJA **16** 23:41:18.9±0.7, 6°N±5°×12°6E±°, h50km±11km, M5.0/12, mb5.1/12, mB5.4/6, MLv5.2/6, Mw(mB)4.8/6*

ISC 16 23:41:17.7±0.6, 5°.95N±0°.04×126°.20E±0°.07, h96km±5km, n93, σ1s97/104, mb4.4/34, 7C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**3**	*e*P	**Pn**	**23 41 36.6**	**-1.3**
MATI				*e*S	**Sn**	**23 41 53.7**	**+0.8**
DAV	**Davao City (W)**	**1.27**	**331**	*e*Pn	**Pn**	**23 41 41.9**	**+0.8**
DMPH	**Davao City--Mi**	**1.32**	**329**	⇑*e*P	**Pn**	**23 41 42.7**	**+1.0**
DMPH				*e*S	**Sn**	**23 42 00.3**	**+0.7**
KCP	**Kidapawan**	**1.52**	**314**	⇑*i* P	**Pn**	**23 41 44.0**	**-0.2**
KCP				*i* S	**Sn**	**23 42 04.2**	**0.0**
BIPH	**Bislig**	**2.22**	**4**	⇑*e*P	**Pn**	**23 41 52.5**	**-0.6**
BIPH				*i* S	**Sn**	**23 42 20.5**	**+0.3**
BUKP	**Musuan**	**2.22**	**330**	*e*P	**Pn**	**23 41 53.8**	**+0.6**
BUKP				*e*S	**Sn**	**23 42 22.5**	**+2.2**
CTBH	**Cotabato--PC H**	**2.31**	**303**	⇑*e*P	**Pn**	**23 41 53.6**	**-0.7**
CTBH				*i* S	**Sn**	**23 42 21.5**	**-0.8**
SGSI	**Sangihe**	**2.35**	**197**	P	**Pn**	**23 41 57.3**	**+2.5**
SGSI				S	Sn	23 42 31.0	+7.9
PAGZ	**Pagadian**	**3.37**	**304**	*e*P	**Pn**	**23 42 09.4**	**+1.0**
DCPH	**Dipolog City**	**3.85**	**313**	⇑*e*P	**Pn**	**23 42 16.4**	**+1.6**
SCPH	**Surigao**	**3.87**	**350**	⇓*e*P	**Pn**	**23 42 17.1**	**+1.9**
MSLP	**Maasin**	**4.36**	**342**	*e*P	**Pn**	**23 42 24.2**	**+2.4**
MSLP				*e*S	**Sn**	**23 43 16.6**	**+5.0**
LLP	**Lapu-Lapu**	**4.87**	**333**	⇑*e*P	**Pn**	**23 42 29.9**	**+1.3**
LLP				*e*S	**Sn**	**23 43 25.7**	**+1.8**
OCLP	**Ormoc**	**5.31**	**343**	*e*P	**Pn**	**23 42 36.9**	**+2.3**
PLP	**Palo**	**5.32**	**347**	⇓*e*P	**Pn**	**23 42 36.3**	**+1.5**
PLP				*e*S	**Sn**	**23 43 33.1**	**-1.7**
BESP	**Borongan**	**5.66**	**352**	*e*P	**Pn**	**23 42 39.5**	**+0.1**
KMSI	**Cibinong**	**5.78**	**203**	P	Pn	23 42 45.6	+4.5
	283nm,0.6s,1.5nm						
GUIM	**Jordan**	**5.86**	**323**	*e*P	**Pn**	**23 42 44.6**	**+2.5**
RCP	**Roxas**	**6.54**	**329**	⇑*e*P	**Pn**	**23 42 53.6**	**+2.2**
LBMI	**Labuha**	**6.67**	**169**	P	**Pn**	**23 42 54.6**	**+1.4**
	120nm,0.8s,2μm0.6nm						
LBMI				S	**Sn**	**23 44 09.5**	**+1.7**
	120nm,0.8s,2μm0.6nm						
MRSI	**Marisa**	**6.90**	**218**	P	**Pn**	**23 42 58.1**	**+1.8**
	164nm,0.5s,2μm1.1nm						
MYLDM	**Lahad Datu**	**7.70**	**265**	*e*Pn	**Pn**	**23 43 08.7**	**+1.4**
APSI	**Ampana**	**8.19**	**214**	P	Pn	23 43 18.0	+4.1
	174nm,0.7s,2μm						
MPSI	**Mapaga**	**8.41**	**229**	P	**Pn**	**23 43 18.1**	**+1.3**
	20nm,1.1s,852nm						
ENPP	**El Nido**	**8.49**	**308**	*e*P	**Pn**	**23 43 18.8**	**+0.8**
NLAI	**Namlea**	**9.17**	**174**	P	**Pn**	**23 43 25.2**	**-2.1**
	155nm,0.7s,3μm						
KKM	**Kota Kinabalu**	**9.93**	**271**	*e*Pn	**Pn**	**23 43 35.5**	**-2.2**
KDI	**Kendari**	**10.47**	**200**	P	**Pn**	**23 43 46.5**	**+1.5**
TTSI	**Tana Toraja**	**10.98**	**216**	P	Pn	23 43 56.0	+4.2
SPSI	**Sidrap Palu**	**11.76**	**213**	P	**Pn**	**23 44 04.5**	**+2.1**
	55nm,0.6s,6μm						
BNSI	**Bone**	**11.95**	**211**	P	Pn	23 44 08.5	+3.6
	38nm,1.0s						
KAPI	**Kappang**	**12.65**	**211**	*e*Pn	**Pn**	**23 44 15.5**	**+1.2**
	56nm,0.8s						
SBUM	**Sibu**	**14.37**	**257**	*e*Pn	**P**	**23 44 38.1**	**-2.7**
EDFI	**Ende, Flores**	**15.28**	**197**	P	**P**	**23 44 49.7**	**-1.4**
	43nm,0.7s						
SOEI	**Soe**	**15.72**	**187**	P	**P**	**23 44 58.9**	**+2.9**
	76nm,0.7s						
SOEI	**Soe**	**15.72**	**187**	*e*Pn	**P**	**23 44 55.3**	**-0.7**
	61nm,0.8s						
PLAI	**Plampang**	**16.91**	**210**	P	**P**	**23 45 12.7**	**+3.6**
	77nm,0.8s						
TWSI	**Taliwang, Sumb**	**17.30**	**213**	P	**P**	**23 45 18.7**	**+5.4**
	39nm,0.7s						
GUMO	**Guam**	**19.89**	**66**	LR	LR	23 52 11.3	
	comp=Z,36nm,20.0s,baz=280,slow=33						
FITZ	**Fitzroy Crossi**	**23.91**	**181**	P	**P**	**23 46 22.7**	**-0.1**
	9.3nm,0.5s,baz=4.1,slow=7.3,SNR=46						
NJ2	**Nanjing**	**26.86**	**346**	*e*P	**P**	**23 46 51.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WRAB	**Tennant Creek**	**26.94**	**163**	*e*P	**P**	**23 46 49.8**	**-0.5**
	18nm,0.5s						
WRA	**Warramunga Arr**	**26.95**	**163**	P	**P**	**23 46 49.6**	**-0.8**
	6.1nm,0.4s,baz=344,slow=10,SNR=24						
WRA				S	S	23 51 33.4	+13
	1.5nm,1.0s,baz=333,slow=17,SNR=4.6						
WB2	**Warramunga Arr**	**26.95**	**163**	*e*P	**P**	**23 46 50.0**	**-0.4**
GYA	**Guiyang**	**27.63**	**320**	*e*P	**P**	**23 46 57.8**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MBWA	**Marble Bar**	**27.68**	**193**	*e*P	**P**	**23 46 56.0**	**-0.8**
	13nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.34**	**297**	P	**P**	**23 47 12.8**	**+1.1**
	0.7nm,0.4s,baz=103,slow=6.8,SNR=7.4						
CMAR				ScP	**ScP**	**23 53 49.9**	**+0.5**
	1.1nm,0.9s,baz=168,slow=1.6,SNR=6.4						
AS31	**Alice Springs**	**30.38**	**166**	*e*P	**P**	**23 47 20.8**	**-0.1**
	3.0nm,0.5s						
ASAR	**Alice Springs**	**30.38**	**166**	P	**P**	**23 47 20.6**	**-0.3**
	6.6nm,0.5s,baz=342,slow=7.1,SNR=66						
ASAR				PcP	**PcP**	**23 50 18.4**	**-0.3**
	0.8nm,0.6s,baz=0.0,slow=2.8,SNR=3.3						
ASAR				ScP	**ScP**	**23 53 52.9**	**+0.3**
	1.0nm,0.8s,baz=343,slow=2.6,SNR=5.7						
AS01	**Alice Springs**	**30.39**	**166**	*e*P	**P**	**23 47 20.5**	**-0.5**
CTA	**Charters Tower**	**32.53**	**143**	P	**P**	**23 47 40.9**	**+1.1**
	1.4nm,0.4s,baz=316,slow=14,SNR=4.2						
CD2	**Chengdu**	**32.56**	**322**	*e*P	**P**	**23 47 39.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**36.34**	**329**	*e*P	**P**	**23 48 13.3**	**+0.7**
LZH				pP	sP	23 48 37.8	-8.1
LZH				sP	pP	23 48 51.0	+16
LZH				PP	**PnPn**	**23 49 40.0**	**+2.2**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,5.4s						
LZH				LR	LR		
	comp=N,100nm,13.0s						
LZH				LR	LR		
	comp=E,110nm,13.2s						
LZH				LR	LR		
	comp=Z,120nm,16.7s						
HHC	**Hu-ho-hao-te**	**37.14**	**341**	*e*P	**P**	**23 48 18.8**	**-0.5**
HHC				pP	pP	23 48 44.3	+2.8
HHC				sP	sP	23 48 57.5	+4.9
HHC				S	**S**	**23 53 55.4**	**-3.4**
HHC				pmax	pmax		
	comp=Z,35nm,0.8s						
HHC				pmax	pmax		
	comp=Z,82nm,6.3s						
HHC				LR	LR		
	comp=N,640nm,14.8s						
HHC				LR	LR		
	comp=E,680nm,14.8s						
HHC				LR	LR		
	comp=Z,600nm,14.8s						
MDJ	**Mudanjiang**	**38.63**	**4**	P	P	23 48 38.8	+7.2
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,89nm,3.8s						
MDJ	**Mudanjiang**	**38.63**	**4**	P	**P**	**23 48 34.8**	**+3.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,89nm,3.8s						
BBOO	**Buckleboo**	**39.67**	**167**	*e*P	**P**	**23 48 40.7**	**+0.3**
	comp=Z,21nm,0.6s						
STKA	**Stephens Creek**	**40.38**	**160**	P	**P**	**23 48 46.7**	**+0.4**
	comp=Z,16nm,0.8s,baz=335,slow=8.7,SNR=24						
STKA	**Stephens Creek**	**40.38**	**160**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ				LR	LR		
	comp=Z,63nm,19.5s						
WMQ				LR	LR		
	comp=Z,59nm,19.5s						
MK01	**Makanchi Array**	**55.43**	**325**	*e*P	**P**	**23 50 41.3**	**-1.0**
MK01				*ep*P	**sP**	**23 51 11.7**	**-4.9**
MK31	**Makanchi Array**	**55.45**	**325**	*e*P	**P**	**23 50 41.2**	**-1.2**
MKAR	**Makanchi Array**	**55.45**	**325**	P	**P**	**23 50 41.1**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=117,slow=8.0,SNR=16						
MKAR				PcP	**PcP**	**23 51 39.9**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=135,slow=5.2,SNR=2.9						
MKAR				ScP	**ScP**	**23 55 30.4**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=120,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**55.45**	**325**	*e*P	**P**	**23 50 41.2**	**-1.2**
	comp=Z,16nm,0.4s						
MKAR				PcP	**PcP**	**23 51 39.9**	**-1.6**
MKAR				ScP	**ScP**	**23 55 30.4**	**-1.4**
MAKZ	**Makanchi**	**55.63**	**325**	*e*P	**P**	**23 50 45.1**	**+1.4**
	comp=Z,5.2nm,1.4s						
KSH	**Kashi**	**56.12**	**314**	*e*P	**P**	**23 50 49.3**	**+1.8**
KSH				pP	sP	23 51 14.9	-6.9
KSH				sP	PcP	23 51 29.3	-15
KSH				PcP	pP	23 51 45.8	+35
KSH				PP	**PP**	**23 52 58.0**	**+4.5**
KSH				PcS	**PcS**	**23 55 42.9**	**-2.2**
KSH				S	**S**	**23 58 26.8**	**-2.5**
KSH				sS	sS	23 59 13.8	+4.0
KSH				ScS	**ScS**	**00 00 22.3**	**-5.5**
KSH				SS	**SS**	**00 02 15.8**	**-1.3**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,150nm,4.8s						
KSH				LR	LR		
	comp=Z,67nm,5.2s						
KSH				LR	LR		
	comp=Z,130nm,5.9s						
KSH				LR	LR		
	comp=Z,170nm,5.9s						
ZAA0	**Zalesovo Array**	**58.38**	**333**	*e*P	**P**	**23 51 05.2**	**+2.2**
ZALV	**Zalesovo Beam**	**58.38**	**333**	P	**P**	**23 51 06.3**	**+3.4**
	comp=Z,1.5nm,0.4s,baz=112,slow=6.6,SNR=5.8						
ZALV				LR	LR	00 16 46.0	
	comp=Z,71nm,18.2s,baz=241,slow=36						
NRIK	**Noril'sk**	**68.16**	**346**	P	**P**	**23 52 07.0**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=132,slow=7.1,SNR=6.6						
ABKAR	**Akbulak array**	**70.11**	**320**	*e*P	**P**	**23 52 18.2**	**-1.5**
	comp=Z,13nm,0.5s						
RAR	**Rarotonga**	**77.39**	**113**	LR	LR	00 20 18.9	
	comp=Z,104nm,21.2s,baz=286,slow=30						
RAYN	**Ar Rayn**	**79.14**	**293**	*e*P	**P**	**23 53 10.7**	**-1.8**
	comp=Z,2.3nm,0.6s						
MLY	**Manley**	**81.71**	**25**	*e*P	**P**	**23 53 26.3**	**+0.9**
	comp=Z,18nm,1.8s						
ILAR	**Eielson Array**	**83.34**	**26**	P	**P**	**23 53 33.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=246,slow=5.0,SNR=20						
MAW	**Mawson**	**85.64**	**200**	P	**P**	**23 53 44.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=28,slow=8.4,SNR=4.3						
VNDA	**Vanda**	**85.68**	**173**	P	**P**	**23 53 45.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=319,slow=7.1,SNR=8.5						
ARCES	**ARCESS Array B**	**88.19**	**340**	P	**P**	**23 53 56.6**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=85,slow=6.5,SNR=12						
BRTR	**Keskin Array B**	**88.21**	**310**	P	**P**	**23 53 56.1**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=72,slow=4.0,SNR=4.1						
FINES	**FINESS Array B**	**89.64**	**332**	P	**P**	**23 54 03.5**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=70,slow=2.8,SNR=10.0						
LLLB	**Lillooet**	**99.04**	**37**	*e*P	**Pdif**	**23 54 48.7**	**+0.7**
	comp=Z,8.4nm,0.4s						
TXAR	**Lajitas Array**	**120.64**	**51**	PKP	**PKPdf**	**23 59 59.0**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=223,slow=3.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**121.71**	**289**	PKP	**PKPdf**	**00 00 00.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=73,slow=2.2,SNR=17						
TKL	**Tuckaleechee C**	**129.94**	**32**	PKP	**PKPdf**	**00 00 17.8**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=322,slow=4.9,SNR=3.3						

*IDC **16** 23:50:46.0±1.4, 24°.50S×179°.84E, h505km±14km, mb3.7/11, mb1 3.9/12, mb1mx3.7/29, mbtmp4.6/12, Error ellipse: s-maj=15.4km s-min=13.0km az=163.0*
*ISCJB **16** 23:50:46.2±0.2, 24°.64S±0°.03×179°.71E±0°.06, h517km, mb4.3/38, Error ellipse: s-maj=7.4km s-min=3.9km az=14.5*
*NEIC **16** 23:50:47.1±0.5, 24°.56S×179°.71E, h515km±6km, mb4.4/31, Error ellipse: s-maj=9.6km s-min=6.4km az=110.0*
ISC 16 23:50:46.4±0.4, 24°.61S±0°.06×179°.91E±0°.07, h517km, n121, σ1§50/134, mb4.3/38, 10C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.01**	**158**	P	**P**	**23 52 16.0**	**+1.7**
	212nm,0.3s,baz=78,slow=9.6,SNR=13						
RAO				S	**S**	**23 53 24.9**	**-1.3**
	52nm,0.3s,baz=255,slow=20,SNR=1.8						
RAO	**Raoul Island**	**5.01**	**158**	*e*P	**P**	**23 52 16.0**	**+1.7**
MSVF	**Nonsavu**	**7.06**	**345**	*e*P	**P**	**23 52 33.0**	**-0.9**
OUZ	**Omahuta**	**11.91**	**206**	*e*P	**P**	**23 53 25.2**	**+1.5**
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**23 53 33.5**	**+1.9**
	0.8nm,0.3s,baz=84,slow=17,SNR=14						
DZM	**Mont Dzumac**	**12.63**	**279**	*e*P	**P**	**23 53 31.6**	**-0.1**
	9.2nm,0.6s						
AFI	**Afiamalu**	**13.22**	**38**	P	**P**	**23 53 34.0**	**-3.9**
	3.0nm,0.3s,baz=234,slow=8.7,SNR=4.0						
AFI				S	S	23 55 46.9	-12
	2.9nm,0.3s,baz=3.6,slow=19,SNR=4.0						
WMGZ	**Waiomatatini S**	**13.23**	**185**	PN	**P**	**23 53 37.4**	**-0.3**
WMGZ				SN	**S**	**23 55 56.1**	**-2.7**
HAZ	**Te Kaha**	**13.23**	**187**	PN	**P**	**23 53 37.5**	**-0.2**
HAZ				SN	**S**	**23 55 57.0**	**-1.8**
PKGZ	**Pakihiroa**	**13.33**	**186**	PN	**P**	**23 53 38.5**	**-0.3**
PUZ	**Puketiti**	**13.50**	**186**	*e*PN	**P**	**23 53 38.5**	**-1.9**
TWGZ	**Tauwhareparae**	**13.63**	**186**	PN	**P**	**23 53 40.3**	**-1.5**
URZ	**Urewera**	**13.82**	**189**	P	**P**	**23 53 44.1**	**+0.4**
	16nm,0.3s,baz=21,slow=1.9,SNR=66						
URZ				S	**S**	**23 56 08.1**	**-1.9**
	4.9nm,0.3s,baz=347,slow=13,SNR=16						
URZ	**Urewera**	**13.82**	**189**	PN	**P**	**23 53 41.1**	**-2.6**
URZ				*e*SN	**S**	**23 56 08.2**	**-1.8**
MWZ	**Matawai**	**13.83**	**188**	PN	**P**	**23 53 41.3**	**-2.7**
MWZ				*e*SN	**S**	**23 56 08.1**	**-2.4**
WNVZ	**Wahianoa**	**15.12**	**193**	PN	**P**	**23 53 54.8**	**-2.8**
BHHZ	**Black Hill Sta**	**15.19**	**191**	PN	**P**	**23 53 53.9**	**-4.3**
KAHZ	**Kahuranaki**	**15.36**	**189**	*e*PN	**P**	**23 53 58.6**	**-1.3**
BFZ	**Birch Farm**	**16.32**	**190**	PN	**P**	**23 54 06.3**	**-3.5**
MRZ	**Mangatainoka R**	**16.41**	**192**	*e*PN	**P**	**23 54 06.5**	**-4.2**
DUWZ	**D'Urville Isla**	**16.91**	**196**	*e*PN	**P**	**23 54 12.7**	**-2.9**
QRZ	**Quartz Range**	**17.31**	**199**	*e*PN	**P**	**23 54 18.9**	**-0.5**
NNZ	**Nelson**	**17.44**	**197**	*e*PN	**P**	**23 54 19.1**	**-1.4**
THZ	**Tophouse**	**18.07**	**197**	*e*PN	**P**	**23 54 25.3**	**-1.2**
KHZ	**Kahutara**	**18.53**	**195**	*e*P	**P**	**23 54 29.7**	**-0.8**
	72nm,1.5s						
KHZ	**Kahutara**	**18.53**	**195**	*e*PN	**P**	**23 54 29.5**	**-0.9**
INZ	**Inchbonnie**	**19.38**	**199**	*e*PN	**P**	**23 54 37.6**	**-0.6**
OXZ	**Oxford**	**19.76**	**197**	*e*P	**P**	**23 54 41.6**	**-0.1**
	34nm,0.4s						
OXZ	**Oxford**	**19.76**	**197**	*e*PN	**P**	**23 54 40.6**	**-1.1**
WVZ	**Waitaha Valley**	**19.91**	**200**	*e*PN	**P**	**23 54 42.6**	**-0.4**
RPZ	**Rata Peaks**	**20.40**	**199**	P	**P**	**23 54 47.5**	**-0.1**
	22nm,0.5s,baz=11,slow=2.3,SNR=21						
RPZ	**Rata Peaks**	**20.40**	**199**	*e*P	**P**	**23 54 48.2**	**+0.7**
	24nm,0.5s						
TARA	**Tarawa**	**26.68**	**344**	*e*P	**P**	**23 55 42.9**	**-1.1**
	11nm,0.5s						
CTA	**Charters Tower**	**31.41**	**271**	P	**P**	**23 56 25.6**	**+0.6**
	17nm,0.4s,baz=92,slow=11,SNR=33						
CTAO	**Charters Tower**	**31.41**	**271**	*e*P	**P**	**23 56 24.1**	**-0.9**
	20nm,0.4s						
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**23 56 50.8**	**+0.6**
	1.4nm,0.6s,baz=108,slow=13,SNR=4.3						
PMG	**Port Moresby**	**34.66**	**290**	P	**P**	**23 56 52.1**	**-0.5**
	13nm,0.6s,baz=117,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**41.84**	**261**	P	**P**	**23 57 50.9**	**-0.2**
	2.0nm,0.7s,baz=88,slow=7.5,SNR=18						
ASAR				PP	**PcP**	**23 59 33.1**	**-1.9**
	2.0nm,0.8s,baz=97,slow=8.2,SNR=6.2						
ASAR				ScP	**ScP**	**00 02 38.0**	**+1.9**
	0.8nm,0.8s,baz=105,slow=4.3,SNR=4.5						
ASAR				S	**S**	**00 03 31.6**	**+0.2**
	0.9nm,0.8s,baz=101,slow=15,SNR=4						
WB2	**Warramunga Arr**	**42.27**	**267**	*e*P	**P**	**23 57 53.8**	**-0.6**
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**23 57 53.7**	**-0.8**
	6.5nm,0.5s,baz=99,slow=8.3,SNR=44						
WRA				ScP	**ScP**	**00 02 41.0**	**+3.2**
	6.5nm,0.9s,baz=99,slow=4.2,SNR=15						
WRA				S	**S**	**00 03 35.4**	**-2.4**
	0.9nm,0.8s,baz=94,slow=15,SNR=4.9						
VNDA	**Vanda**	**53.67**	**185**	PcP	**PcP**	**00 00 17.9**	**+1.1**
	0.6nm,0.8s,baz=335,slow=4.9,SNR=4.9						
QSPA	**South Pole Qui**	**65.48**	**180**	*e*P	**P**	**00 00 39.7**	**+1.7**
MJAR	**Matsushiro Arr**	**72.43**	**326**	P	**P**	**00 01 19.8**	**-0.3**
	0.7nm,0.3s,baz=152,slow=6.3,SNR=3.1						
MAW	**Mawson**	**77.06**	**200**	P	**P**	**00 01 46.9**	**+1.4**
	3.4nm,0.6s,baz=135,slow=5.3,SNR=22						
MAW	**Mawson**	**77.06**	**200**	*e*P	**P**	**00 01 46.9**	**+1.4**
	2.3nm,1.4s						
PMPB	**Monarch Peak**	**82.39**	**45**	*e*P	**P**	**00 02 16.2**	**+2.0**
	9.1nm,1.0s						
CMB	**Columbia Colle**	**83.77**	**43**	*e*P	**P**	**00 02 21.8**	**+0.8**
	5.4nm,0.9s						
SNAA	**Sanae**	**83.96**	**179**	P	**P**	**00 02 20.7**	**-0.9**
SNAA	**Sanae**	**83.96**	**179**	*e*P	**P**	**00 02 21.1**	**-0.4**
	3.0nm,0.6s						
AFDM	**Forest Hills D**	**83.97**	**42**	*e*P	**P**	**00 02 23.0**	**+1.1**
	4.9nm,0.9s						
ORV	**Oroville**	**84.02**	**42**	*e*P	**P**	**00 02 23.4**	**+1.2**
	4.1nm,0.9s						
VNA3	**Neumayer Olymp**	**84.18**	**177**	P	**P**	**00 02 22.3**	**-0.2**
GSC	**Goldstone, Bar**	**84.46**	**47**	*e*P	**P**	**00 02 25.6**	**+1.0**
	4.4nm,0.8s						
GLA	**Glamis**	**84.54**	**50**	*e*P	**P**	**00 02 26.5**	**+1.5**
	10.0nm,0.8s						
VNA2	**Neumayer--Watz**	**84.59**	**178**	P	**P**	**00 02 24.6**	**+0.1**
	baz=185,slow=4.3						
WAKR	**Walker**	**84.65**	**43**	*e*P	**P**	**00 02 27.0**	**+1.4**
	3.7nm,0.9s						
VNA1	**Neumayer--Stat**	**84.83**	**177**	P	**P**	**00 02 26.3**	**+0.7**
BEKR	**Beckworth**	**84.91**	**42**	*e*P	**P**	**00 02 26.2**	**-0.6**
	12nm,0.8s						
BEKR				*ep*P	**pP**	**00 04 20.4**	**+0.5**
Y12C	**Blythe**	**85.14**	**50**	*e*P	**P**	**00 02 29.7**	**+1.9**
	9.2nm,1.1s						
HSIG		**85.18**	**55**	*e*P	**P**	**00 02 29.5**	**+1.4**
	11nm,0.8s						
TPNV	**Topopah Spring**	**85.78**	**46**	*e*P	**P**	**00 02 32.1**	**+1.1**
	4.1nm,0.8s						
SHPR	**Sheep Range**	**86.24**	**47**	*e*P	**P**	**00 02 34.8**	**+1.6**
	5.6nm,1.3s						
Y14A	**Wickenburg**	**86.30**	**50**	*e*P	**P**	**00 02 35.0**	**+1.6**
TUC	**Tucson**	**87.01**	**52**	*e*P	**P**	**00 02 38.7**	**+1.8**
	8.2nm,0.9s						
GYA	**Guiyang**	**87.04**	**301**	*e*P	**P**	**00 02 37.9**	**+0.7**
GYA				pP	pP	00 04 34.3	+3.3
GYA				sP	sP	00 05 26.0	+2.5
GYA				SKS	**SKSac**	**00 12 12.3**	**-3.0**
GYA				S	**S**	**00 12 31.0**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WVOR	**Wild Horse Val**	**87.50**	**41**	*e*P	**P**	**00 02 40.4**	**+1.4**
	comp=Z,6.4nm,1.1s						
319A	**Douglas**	**87.63**	**54**	*e*P	**P**	**00 02 42.4**	**+2.5**
X16A	**Lo Mia Camp, P**	**87.65**	**50**	*e*P	**P**	**00 02 41.9**	**+1.9**
LCMT	**Little Creek M**	**87.81**	**47**	*e*P	**P**	**00 02 42.1**	**+1.5**
	comp=Z,3.3nm,0.9s						
CCUT	**Cedar City**	**88.02**	**47**	*e*P	**P**	**00 02 43.5**	**+1.8**
	comp=Z,3.3nm,0.9s						
KNB	**Kanab**	**88.09**	**48**	*e*P	**P**	**00 02 43.7**	**+1.8**
	comp=Z,23nm,2.0s						
U15A	**North Rim**	**88.13**	**48**	*e*P	**P**	**00 02 43.9**	**+1.6**
HPIG		**88.19**	**59**	*e*P	**P**	**00 02 43.5**	**+0.9**
	comp=Z,6.3nm,0.7s						
LON	**Longmire**	**88.37**	**36**	*e*P	**P**	**00 02 43.7**	**+0.9**
	comp=Z,3.4nm,0.7s						
X18A	**Snowflake**	**88.76**	**51**	*e*P	**P**	**00 02 46.7**	**+1.6**
MFID	**Camas Ranch**	**89.74**	**41**	*e*P	**P**	**00 02 50.7**	**+1.3**
	comp=Z,6.9nm,1.1s						
TMUT	**Trail Mountain**	**90.38**	**46**	*e*P	**P**	**00 02 54.6**	**+1.9**
	comp=Z,11nm,0.7s						
SPUT	**South Promonto**	**90.66**	**44**	*e*P	**P**	**00 02 55.4**	**+1.6**
	comp=Z,5.2nm,0.9s						
MNTX	**Cornudas Mount**	**90.68**	**55**	*e*P	**P**	**00 02 55.4**	**+1.5**
HVU	**Hansel Valley**	**90.70**	**44**	*e*P	**P**	**00 02 55.2**	**+1.3**
	comp=Z,4.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**90.86**	**315**	*e*P	**P**	**00 02 52.8**	**-1.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,54nm,8.3s						
TX31	**Lajitas Ar. Si**	**90.87**	**58**	*e*P	**P**	**00 02 56.6**	**+1.7**
TXAR	**Lajitas Array**	**90.87**	**58**	P	**P**	**00 02 56.5**	**+1.5**
	comp=Z,4.1nm,0.7s,baz=214,slow=6.5,SNR=54						
CD2	**Chengdu**	**91.40**	**303**	*e*P	**P**	**00 02 57.0**	**-0.3**
ILAR	**Eielson Array**	**92.73**	**14**	P	**P**	**00 03 01.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=221,slow=5.6,SNR=7.3						
PDAR	**Pinedale Array**	**93.25**	**44**	P	**P**	**00 03 05.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=209,slow=3.0,SNR=5.7						
LZH	**Lanzhou**	**93.75**	**308**	*e*P	**P**	**00 03 08.3**	**+0.2**
LZH				pP	pP	00 05 05.4	+2.4
LZH				sP	sP	00 05 57.3	+2.2
LZH				PP	**PP**	**00 07 05.5**	**+2.9**
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				pmax	pmax		
	comp=Z,43nm,9.2s						
MKAR	**Makanchi Array**	**112.57**	**312**	PKKPbc	PKKPbc	00 19 14.8	-0.1
	comp=Z,0.5nm,0.6s,baz=288,slow=2.9,SNR=4.6						
BVAR	**Borovoye Array**	**120.91**	**318**	PKP	**PKPdf**	**00 08 38.5**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=100,slow=3.0,SNR=4.1						
ARCES	**ARCESS Array B**	**132.56**	**348**	PKP	**PKPdf**	**00 09 01.8**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=60,slow=2.0,SNR=20						
TSUM	**Tsumeb**	**133.18**	**203**	PKP	**PKPdf**	**00 09 05.7**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=119,slow=7.7,SNR=8.7						
FINES	**FINESS Array B**	**139.09**	**341**	PKhKP	PKPpre	00 09 04.5	
	comp=Z,1.7nm,0.6s,baz=26,slow=3.9,SNR=11						
FINES				PKP	**PKPdf**	**00 09 14.6**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=31,slow=4.4,SNR=7.4						
NB2	**NORSAR Subarra1**	**142.76**	**351**	PKP	PKPpre	00 09 16.1	
	comp=Z,0.7nm,0.5s,baz=13,slow=3.8						
NOA	**NORSAR Array B**	**142.76**	**351**	PKhKP	PKPpre	00 09 16.5	
	comp=Z,1.8nm,1.1s,baz=31,slow=2.7,SNR=5.7						
AKASG	**Malin Array Be**	**145.52**	**327**	PKPbc	**PKPdf**	**00 09 25.6**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=44,slow=3.9,SNR=14						
SORM	**Soroca**	**147.52**	**324**	⇑*i*P	**PKPbc**	**00 09 31.7**	**-0.3**
MMAI	**Mount Meron Ar**	**147.91**	**293**	PKPbc	**PKPbc**	**00 09 34.8**	**+1.1**
	comp=Z,3.4nm,0.4s,baz=73,slow=7.2,SNR=23						
BRTR	**Keskin Array B**	**147.93**	**306**	PKPbc	**PKPbc**	**00 09 33.2**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=145,slow=5.4,SNR=14						
EIL	**Elat**	**148.49**	**287**	PKPbc	**PKPbc**	**00 09 36.2**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=68,slow=3.7,SNR=5.1						
LEOM	**Leova**	**148.54**	**321**	⇑*i*P	**PKPbc**	**00 09 34.9**	**+0.3**
TLCR		**148.90**	**319**	⇑*i*P	**PKPbc**	**00 09 35.7**	**+0.1**
BURAR	**Bucovina Array**	**149.51**	**325**	⇑*i*P	**PKPbc**	**00 09 38.5**	**+1.4**
PLOR	**Plostina**	**149.81**	**321**	⇑*i*P	**PKPbc**	**00 09 39.0**	**+1.2**
DOPR	**Dopca**	**150.44**	**323**	⇑*i*P	**PKPbc**	**00 09 39.9**	**+0.6**
ISP	**Isparta**	**150.84**	**304**	⇑*i*P	**PKPbc**	**00 09 39.7**	**-0.9**
OKC	**Ostrava-Krasne**	**151.09**	**335**	*e*PKP	**PKPbc**	**00 09 40.8**	**+0.2**
UPC	**Upice**	**151.29**	**338**	*e*PKP	**PKPbc**	**00 09 41.3**	**+0.2**
DPC	**Dobruska-Polom**	**151.32**	**338**	*e*PKP	**PKPbc**	**00 09 41.7**	**+0.5**
DRGR		**151.33**	**326**	⇑*i*P	**PKPbc**	**00 09 41.3**	**-0.1**
MORC	**Moravsky Berou**	**151.36**	**336**	⇓*i*P	**PKPbc**	**00 09 42.0**	**+0.7**
KRLC	**Kraliky**	**151.39**	**337**	*e*PKP	**PKPbc**	**00 09 41.8**	**+0.4**
CLL	**Colim**	**151.50**	**343**	⇑*i*PKPbc	**PKPbc**	**00 09 41.5**	**0.0**
	comp=Z,9.0nm,0.7s						
BRG	**Bergqiesshubel**	**151.63**	**341**	*i* PKP	**PKPbc**	**00 09 42.0**	**+0.2**
	comp=Z,7.5nm,0.5s						
BRG				*e*		00 11 33.7	
	comp=Z,2.8nm,0.7s						
PVCC	**Panska Ves**	**151.74**	**340**	*e*PKP	**PKPbc**	**00 09 42.4**	**+0.4**
PRU	**Pruhonice**	**152.22**	**340**	*e*PKP	**PKPbc**	**00 09 43.3**	**+0.2**
MDVR	**Moldovita**	**153.20**	**324**	⇑*i*P	**PKPbc**	**00 09 45.6**	**+0.1**
KHC	**Kasperske Hory**	**153.28**	**340**	*e*PKP	**PKPbc**	**00 09 45.5**	**0.0**
GERES	**GERESS Array B**	**153.49**	**339**	PKPbc	**PKPbc**	**00 09 45.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=5.7,slow=1.3,SNR=5.9						
ESDC	**Sonseca Array**	**164.63**	**11**	PKPab	**PKPab**	**00 10 49.5**	**-0.1**
	comp=Z,4.5nm,1.3s,baz=330,slow=5.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**168.48**	**189**	PKP	**PKPdf**	**00 09 53.7**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=25,slow=0.9,SNR=8.4						
TORD				PKPab	**PKPab**	**00 11 07.5**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=180,slow=3.3,SNR=14						
MDT	**Midelt**	**170.91**	**25**	PKP	**PKPdf**	**00 09 56.4**	**+0.9**
	comp=Z,2.4nm,1.1s,baz=169,slow=5.2,SNR=3.9						

*ISCJB **17** 00:02:44.3±0.4, 35°.49N±0°.04×54°.46E±0°.03, h10km, Error ellipse: s-maj=5.5km s-min=3.8km az=12.9*
*THR **17** 00:02:44.6±0.4, 35°.50N×54°.54E, h18km±7km, ML3.7*
*CSEM **17** 00:02:44.6±0.2, 35°.50N×54°.46E, h5km, ML3.8, Error ellipse: s-maj=7.6km s-min=4.5km az=2.0*
*TEH **17** 00:02:45.1, 35°.45N×54°.43E, h4km, ML3.8*
ISC 17 00:02:45.3±0.9, 35°.48N±0°.04×54°.43E±0°.03, h10km, n57, σ1§12/63, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**0.42**	**268**	*e*Pg	**Pg**	**00 02 52.6**	**-1.0**
IANJ				*e*Sg	**Sg**	**00 02 58.6**	**-0.6**
IANJ				*e*AMB	AMB	00 02 59.5	
	comp=Z,61μm,0.1s						
IANJ	**Anjilo**	**0.42**	**268**	*e*Pg	**Pg**	**00 02 52.6**	**-1.0**
IANJ				*e*Sg	**Sg**	**00 02 58.6**	**-0.6**
ISHM	**Shahmirzad**	**0.98**	**290**	*e*Sg	**Sg**	**00 03 16.5**	**-0.5**
ISHM				*e*Pg	**Pg**	**00 03 02.6**	**-1.6**
ISHM				*e*AMB	AMB	00 03 17.8	
	comp=Z,39μm,0.1s						
IGLO	**Ghaloghah**	**1.13**	**335**	*e*Sg	**Sg**	**00 03 21.9**	**+0.1**
IGLO				*e*Pg	**Pg**	**00 03 05.6**	**-1.5**
IGLO				*e*AMB	AMB	00 03 33.2	
	comp=Z,17μm,0.2s						
ILAS	**Lasjerd**	**1.20**	**266**	*e*AMB	AMB	00 03 28.0	
	comp=E,44μm,0.1s						
ILAS				*e*Pg	**Pb**	**00 03 07.6**	**-0.7**
IFIR	**Firoozkooh**	**1.38**	**277**	*e*AMB	AMB	00 03 12.8	
	comp=Z,27μm,0.1s						
IFIR				*e*Pg	**Pn**	**00 03 09.4**	**-1.4**
SHRO	**Shahrood**	**1.38**	**68**	*e*Pg	**Pn**	**00 03 08.7**	**-2.1**
SHRO	**Shahrood**	**1.38**	**68**	*e*Pg	**Pn**	**00 03 08.7**	**-2.1**
IALA	**Alasht**	**1.45**	**295**	*e*Pn	**Pn**	**00 03 11.8**	**0.0**
IALA				*e*AMB	AMB	00 03 36.2	
	comp=Z,21μm,0.2s						
IALA	**Alasht**	**1.45**	**295**	*e*Pn	**Pn**	**00 03 11.8**	**0.0**
IPRN	**Peran**	**1.86**	**295**	*e*Pn	**Pn**	**00 03 18.8**	**+1.4**
IPRN				*e*AMB	AMB	00 03 46.9	
	comp=Z,12μm,0.3s						
IDMV	**Damavand**	**1.96**	**274**	*e*Pn	**Pn**	**00 03 19.0**	**+0.2**
IDMV				*e*AMB	AMB	00 03 51.3	
	comp=Z,9μm,0.1s						
IDMV	**Damavand**	**1.96**	**274**	*e*Pn	**Pn**	**00 03 19.0**	**+0.2**
IAFJ	**Afjeh**	**2.24**	**280**	*e*Pn	**Pn**	**00 03 23.8**	**+1.0**
IAFJ				*e*AMB	AMB	00 03 59.0	
	comp=Z,9μm,0.1s						
IAFJ	**Afjeh**	**2.24**	**280**	*e*Pn	**Pn**	**00 03 23.8**	**+1.0**
IVRN	**Varamin**	**2.26**	**258**	*e*Pn	**Pn**	**00 03 23.1**	**+0.3**
IVRN				*e*AMB	AMB	00 03 57.5	
	comp=Z,33μm,0.1s						
IVRN	**Varamin**	**2.26**	**258**	*e*Pn	**Pn**	**00 03 23.1**	**+0.3**
CHTH	**Charan**	**2.72**	**280**	*e*Pn	**Pn**	**00 03 31.0**	**+1.7**
CHTH	**Charan**	**2.72**	**280**	*e*Pn	**Pn**	**00 03 31.0**	**+1.7**
GHVR	**GHOM**	**2.76**	**250**	*e*Pn	**Pn**	**00 03 31.7**	**+2.0**
GHVR				AML	AML	00 04 22.3	
	comp=N,198nm,0.5s						
GHVR				AML	AML	00 04 27.1	
	comp=E,182nm,0.6s						
GHVR	**GHOM**	**2.76**	**250**	*e*Pn	**Pn**	**00 03 31.7**	**+2.0**
TABS	**Tabas**	**2.88**	**129**	*e*Pn	**Pn**	**00 03 30.9**	**-0.4**
TABS				*e

MNAS								00 06 16.6
MNAS					pmax	pmax		
	comp=Z,46nm,0.5s							
MNAS					smax	smax		
	comp=N,230nm,0.7s							
KK31	**Karatay Array**	**4.63**	**7**	⇑Pn		**Pn**		**00 05 04.0 +3.0**
	comp=N,15nm,0.6s							
KK31				⇓Pg		**Pg**		**00 05 18.2 -1.7**
	comp=N,94nm,0.7s							
KK31				⇑Lg		Lg		00 06 22.1
	comp=N,110nm,0.5s							
KK31	**Karatay Array**	**4.63**	**7**	PN		**Pn**		**00 05 04.0 +3.0**
KK31								00 05 18.2
KK31								00 06 18.6
KK31				pmax	pmax			
	comp=Z,9.0nm,0.4s							
KK31				pmax	pmax			
	comp=Z,94nm,0.7s							
KK31				smax	smax			
	comp=N,110nm,0.5s							
KKAR	**Karatay Array**	**4.63**	**7**	*e*PN		**Pn**		**00 05 04.0 +3.0**
KKAR	**Karatay Array**	**4.63**	**7**	*e*Pn		**Pn**		**00 05 04.0 +3.0**
KSH	**Kashi**	**4.97**	**76**	P		**Pn**		**00 05 03.6 -2.1**
KSH				S		**Sn**		**00 06 00.1 -3.0**
KSH				smax	smax			
	comp=N,530nm,0.7s							
KSH				smax	smax			
	comp=N,470nm,0.7s							
AAK	**Ala-Archa**	**5.50**	**40**	Pn		**Pn**		**00 05 16.4 +3.5**
	comp=N,7.8nm,0.3s,baz=194,slow=7.4,SNR=59							
AAK				Sn		**Sb**		**00 06 28.0 -5.1**
	comp=N,3.5nm,0.3s,baz=300,slow=22,SNR=1.8							
AAK				Lg		Lg		00 06 45.2
	comp=N,8.5nm,0.3s,baz=356,slow=15,SNR=1.8							
AAK	**Ala-Archa**	**5.50**	**40**	⇓Pn		**Pn**		**00 05 17.3 +4.3**
	comp=N,22nm,0.4s							
AAK				⇓Lg		Lg		00 06 46.3
	comp=N,228nm,1.1s							
AAK	**Ala-Archa**	**5.50**	**40**	*d i*PN		**Pn**		**00 05 16.2 +3.2**
AAK				pmax	pmax			
	comp=Z,22nm,0.4s							
AAK	**Ala-Archa**	**5.50**	**40**	*e*Pn		**Pn**		**00 05 15.4 +2.5**
AAK				Sn		**Sb**		**00 06 28.0 -5.1**
FRU	**Bishkek**	**5.70**	**39**	*e*PN		**Pn**		**00 05 20.0 +4.3**
FRU				*e*				00 06 30.0
TKM2	**Tokmak 2**	**6.27**	**43**	⇑Pn		**Pn**		**00 05 26.0 +2.3**
	comp=Z,29nm,0.4s							
TKM2				⇑Sn		**Sn**		**00 06 42.8 +7.5**
	comp=Z,121nm,0.8s							
TKM2				⇓Lg		Lg		00 07 15.7
	comp=Z,62nm,0.7s							
AAA	**Alma-Ata**	**7.19**	**47**	*e*P		**Pb**		**00 05 57.4 +1.4**
MDOK	**Medeo**	**7.24**	**48**	⇓Pn		**Pn**		**00 05 40.3 +3.4**
MDOK				⇑Lg		Lg		00 07 42.1
GEYT	**Alibeck**	**9.16**	**270**	Pn		**Pn**		**00 06 00.3 -2.9**
	comp=Z,1.3nm,0.3s,baz=105,slow=9.5,SNR=1.7							
GEYT				Sn		**Sn**		**00 07 41.5 -4.6**
	comp=Z,2.2nm,0.3s,baz=73,slow=22,SNR=1.8							
MAKZ	**Makanchi**	**12.24**	**43**	*e*P		**Pn**		**00 06 47.3 +2.0**
MAKZ	**Makanchi**	**12.24**	**43**	*e*Pn		**Pn**		**00 06 47.3 +2.0**
MK01	**Makanchi Array**	**12.39**	**44**	*e*Pn		**Pn**		**00 06 48.5 +1.1**
MK31	**Makanchi Array**	**12.40**	**44**	⇓Pn		**Pn**		**00 06 48.3 +0.8**
	comp=Z,3.8nm,0.7s,baz=233,slow=13,SNR=5.0							
MK31				Lg		Lg		00 10 27.5
	comp=Z,16nm,1.1s,baz=240,slow=27,SNR=3.8							
MK31	**Makanchi Array**	**12.40**	**44**	*i* P		**Pn**		**00 06 48.3 +0.8**
MK31				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MK31	**Makanchi Array**	**12.40**	**44**	*e*Pn		**Pn**		**00 06 48.7 +1.2**
MKAR	**Makanchi Array**	**12.40**	**44**	Pn		**Pn**		**00 06 49.1 +1.6**
	comp=Z,0.6nm,0.3s,baz=226,slow=14,SNR=42							
MKAR				Lg		Lg		00 10 18.4
	comp=Z,0.1nm,0.3s,baz=243,slow=28,SNR=1.5							
MKAR	**Makanchi Array**	**12.40**	**44**	*i* P		**Pn**		**00 06 49.0 +1.5**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MKAR	**Makanchi Array**	**12.40**	**44**	*e*Pn		**Pn**		**00 06 48.7 +1.2**
AB31	**Akbulak array**	**12.84**	**330**	⇑Pn		**Pn**		**00 06 51.4 -2.1**
	comp=Z,3.5nm,0.4s							
AB31	**Akbulak array**	**12.84**	**330**	P		**Pn**		**00 06 51.1 -2.4**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.4s							
ABKAR	**Akbulak array**	**12.84**	**330**	*e*Pn		**Pn**		**00 06 54.7 +1.3**
KURBB	**Kurchatov Arra**	**13.63**	**24**	Pn		**Pn**		**00 07 04.7 +0.5**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=14							
KURBB				Sn		**Sn**		**00 09 28.5 -6.9**
	comp=Z,0.1nm,0.3s,baz=206,slow=28,SNR=2.3							
KURBB				Lg		Lg		00 11 05.8
	comp=Z,0.1nm,0.3s,baz=215,slow=30,SNR=4.3							
KURBB	**Kurchatov Arra**	**13.63**	**24**	⇑Pn		**Pn**		**00 07 03.7 -0.5**
	comp=Z,3.7nm,0.6s							
KURBB				⇓Lg		Lg		00 11 09.1
	comp=Z,43nm,0.8s							
KURK	**Kurchatov**	**13.74**	**24**	*e*P		**Pn**		**00 07 06.9 +1.2**
KURK				pmax	pmax			
	comp=Z,20nm,0.6s							
KURK	**Kurchatov**	**13.74**	**24**	*e*Pn		**Pn**		**00 07 06.9 +1.2**
	comp=Z,20nm,0.6s							
KURK				Sn		Sn		00 09 28.5 -10
BVA0	**Borovoye Array**	**14.53**	**2**	⇓Pn		**Pn**		**00 07 15.2 -1.3**
	comp=Z,6.7nm,1.0s,baz=181,slow=16,SNR=28							
BVA0				⇓Lg		Lg		00 11 40.7
	comp=Z,18nm,1.1s,baz=189,slow=24,SNR=4.2							
BVA0	**Borovoye Array**	**14.53**	**2**	P		**Pn**		**00 07 15.2 -1.3**
BVA0				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BVAR	**Borovoye Array**	**14.53**	**2**	Pn		**Pn**		**00 07 17.2 +0.7**
	comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=17							
BVAR				Sn		**Sn**		**00 09 54.1 -3.3**
	comp=Z,0.2nm,0.3s,baz=164,slow=16,SNR=1.6							
BVAR				Lg		Lg		00 11 31.5
	comp=Z,0.1nm,0.3s,baz=189,slow=24,SNR=3.5							
WMQ	**Urumqi**	**14.53**	**63**	P		**Pn**		**00 07 17.3 +0.7**
WMQ				pP		P		00 07 23.4 +0.2
WMQ				PP		**PnPn**		**00 07 30.0 +5.6**
WMQ				sP				00 07 38.8
WMQ				S		**Sn**		**00 09 50.3 -7.3**
WMQ				pmax	pmax			
	comp=Z,21nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,160nm,5.1s							
WMQ				LR	LR			
	comp=N,95nm,19.3s							
WMQ				LR	LR			
	comp=E,95nm,23.9s							
WMQ				LR	LR			
	comp=Z,59nm,19.3s							
WMQ	**Urumqi**	**14.53**	**63**	P		**Pn**		**00 07 17.3 +0.7**
WMQ				pP		P		00 07 23.4 +0.2
WMQ				PP		**PnPn**		**00 07 30.0 +5.6**
WMQ				S		**Sn**		**00 09 50.3 -7.3**
WMQ				pmax	pmax			
	comp=Z,21nm,1.1s							
WMQ				LR	LR			
	comp=N,95nm,19.3s							
WMQ				LR	LR			
	comp=Z,95nm,23.9s							
AKTO	**Aktyubinsk**	**14.54**	**329**	Pn		**Pn**		**00 07 16.7 0.0**
	comp=Z,0.5nm,0.3s,baz=131,slow=16,SNR=5.1							
AKTO				Sn		**Sn**		**00 09 54.9 -2.8**
	comp=Z,0.2nm,0.3s,baz=333,slow=22,SNR=2.6							
AKTO				LR	LR			00 13 20.2
	comp=Z,124nm,18.6s,baz=140,slow=38							
AKTO	**Aktyubinsk**	**14.54**	**329**	⇑Pn		**Pn**		**00 07 17.2 +0.5**
	comp=Z,20nm,0.8s							
BRVK	**Borovoye**	**14.56**	**1**	*c i*P		**P**		**00 07 20.9 -2.5**
BRVK	**Borovoye**	**14.56**	**1**	*e*Pn		**Pn**		**00 07 18.0 +1.1**
PYUN	**Piuthan**	**15.17**	**129**	*e*P		**Pn**		**00 07 22.8 -2.6**
GKN	**Gorkha**	**16.26**	**126**	*e*P		**Pn**		**00 07 37.1 -2.5**
	comp=Z,35nm,0.6s							
LKRN	**Lenkeran, Azer**	**16.38**	**277**	P		**Pn**		**00 07 41.3 +0.5**
KKN	**Kakani**	**16.82**	**125**	*e*P		**Pn**		**00 07 44.7 -2.1**
	comp=Z,17nm,0.7s							
DMN	**Daman**	**16.83**	**126**	*e*P		**Pn**		**00 07 42.6 -4.4**
DGZ	**Jazzator, Alta**	**16.89**	**43**	*i* P		**P**		**00 07 49.8 +0.3**
PKIN	**Phulchoki**	**17.04**	**125**	*e*P		**Pn**		**00 07 46.0 -3.6**
	comp=Z,12nm,0.4s							
GUN	**Gumba**	**17.13**	**123**	*e*P		**Pn**		**00 07 49.1 -1.7**
	comp=Z,21nm,0.5s							
MAK	**Makhachkala**	**17.41**	**292**	*e*P		**P**		**00 07 58.7 +3.7**
MAK				pmax	pmax			
	comp=Z,601nm,3.0s							
MAK				MLR	MLR			
	comp=Z,193nm,15.0s							
SEKA	**Sheki**	**17.50**	**286**	P		**Pn**		**00 07 54.4 -0.7**
MNGR	**Mingechevir, A**	**17.58**	**285**	P		**P**		**00 07 56.3 -0.7**
ZKTA	**Zakatala**	**17.95**	**287**	P		**P**		**00 08 00.7 -0.4**
GANJ	**Ganja**	**18.16**	**284**	P		**P**		**00 08 03.0 -0.4**
ZAA0	**Zalesovo Array**	**18.58**	**29**	*e*P		**P**		**00 08 07.4 -0.5**
ZALV	**Zalesovo Beam**	**18.58**	**29**	P		**P**		**00 08 07.4 -0.5**
	comp=Z,1.0nm,0.3s,baz=231,slow=12,SNR=17							
ZALV				S		**S**		**00 11 39.2 -0.2**
	comp=Z,0.1nm,0.3s,baz=225,slow=20,SNR=3.5							
ZALV				Lg		Lg		00 13 43.5
	comp=Z,0.1nm,0.3s,baz=229,slow=18,SNR=1.5							
NVS	**Novosibirsk**	**18.73**	**25**	*e*P		**P**		**00 08 06.3 -3.2**
NAX	**Nakhchivan**	**18.88**	**280**	P		**P**		**00 08 10.9 -0.5**
SVE	**Sverdlovsk**	**19.30**	**345**	*e*P		**Pn**		**00 08 19.7 +3.0**
SVE				*e*S		**Sn**		**00 11 44.7 -8.1**
SVE				pmax	pmax			
	comp=Z,26nm,1.2s							
GNI	**Garni**	**19.39**	**283**	P		**P**		**00 08 15.5 -1.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=5.3,SNR=2.1							
GNI	**Garni**	**19.39**	**283**	*ce*P		**Pn**		**00 08 19.3 +1.1**
GNI				pmax	pmax			
	comp=Z,121nm,1.2s							
GNI	**Garni**	**19.39**	**283**	*e*P		**P**		**00 08 17.0 0.0**
	comp=Z,28nm,1.0s							
ARU	**Arti**	**19.41**	**341**	P		**Pn**		**00 08 17.4 -0.8**
	comp=Z,0.0nm,0.3s,baz=126,slow=12,SNR=5.2							
ARU				LR		LR		00 16 57.2
	comp=Z,93nm,18.6s,baz=158,slow=40							
ARU	**Arti**	**19.41**	**341**	*d i*P		**P**		**00 08 16.3 -0.7**
ARU				S		**Sn**		**00 11 54.4 -1.2**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.7s							
ARU	**Arti**	**19.41**	**341**	*e*P		**Pn**		**00 08 19.2 +1.1**
	comp=Z,7.8nm,0.7s							
LSA	**Lhasa**	**19.76**	**110**	*e*P		**Pn**		**00 08 23.4 +0.4**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LSA	**Lhasa**	**19.76**	**110**	*e*P		**Pn**		**00 08 23.4 +0.4**
	comp=Z,6.3nm,0.7s							
ZEI	**Tsey**	**20.03**	**291**	*e*P		Pn		00 08 26.1 +0.3
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NCK	**Nalchik**	**20.31**	**293**	*i* P		Pn		00 08 28.8 -0.1
KBZ	**Khabaz**	**20.83**	**293**	P		**P**		**00 08 33.1 +0.6**
	comp=Z,2.2nm,0.7s,baz=105,slow=9.8,SNR=3.7							
KVAR	**Kislovodsk Arr**	**21.00**	**294**	P		**P**		**00 08 34.7 +0.2**
	comp=Z,6.7nm,0.7s,baz=181,slow=4.2,SNR=4.6							
KVAR				LR		LR		00 19 08.2
	comp=Z,56nm,18.0s,baz=48,slow=44							
KIV	**Kislovodsk**	**21.01**	**294**	*e*P		**P**		**00 08 36.4 +1.8**
KIV				pmax	pmax			
	comp=Z,14nm,1.0s							
KIV				MLR	MLR			
	comp=Z,53nm,15.0s							
KIV	**Kislovodsk**	**21.01**	**294**	*e*P		**P**		**00 08 35.1 +0.5**
	comp=Z,11nm,0.7s							
HYB	**Hyderabad**	**22.38**	**157**	*i* P		**P**		**00 08 52.0 +2.6**
SOKR	**Solikamsk**	**22.67**	**343**	*e*P		**P**		**00 08 54.3 +2.3**
SOKR				pmax	pmax			
	comp=Z,12nm,0.6s							
SOKR				MLR	MLR			
	comp=Z,312nm,23.0s							
GTA	**Gaotai**	**23.37**	**78**	*e*P		**P**		**00 09 01.8 +2.1**
GTA				pP		sP		00 09 12.3 +7.6
GTA				sP		pP		00 09 16.0 +13
GTA				sS		Sn		00 13 27.3 -3.7
GTA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,66nm,4.3s							
GTA				LR	LR			
	comp=Z,140nm,16.2s							
GTA				LR	LR			
	comp=Z,110nm,15.2s							
GTA				LR	LR			
	comp=Z,120nm,15.2s							
VSR	**Storozhevoye**	**24.91**	**311**	*e*P		**P**		**00 09 14.2 +0.3**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LZH	**Lanzhou**	**27.16**	**84**	*e*P		**P**		**00 09 33.8 -0.7**
LZH				pP		sP		00 09 46.0 +6.3
LZH				sP		pP		00 09 51.8 +14
LZH				PP		**PnPn**		**00 10 21.0 +3.5**
LZH				pmax	pmax			
	comp=Z,20nm,1.2s							
LZH				pmax	pmax			
	comp=Z,56nm,4.9s							
LZH				LR	LR			
	comp=Z,210nm,11.2s							
LZH				LR	LR			
	comp=Z,220nm,11.6s							
LZH				LR	LR			
	comp=Z,280nm,14.3s							
OBN	**Obninsk**	**27.77**	**318**	*i* P		**P**		**00 09 40.2 +0.7**
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRTR	**Keskin Array B**	**27.91**	**284**	*ce*P		**P**		**00 09 37.5 -3.7**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**28.09**	**59**	P		**P**		**00 09 43.5 +0.7**
	comp=Z,0.7nm,0.5s,baz=267,slow=8.5,SNR=8.1							
ULN	**Ulaanbaatar**	**28.54**	**59**	*ce*P		**P**		**00 09 47.1 +0.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.2s							
KMI	**Kunming**	**30.89**	**106**	P		**P**		**00 10 07.9 +0.1**
KMI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**30.92**	**307**	P		**P**		**00 10 07.2 -0.5**
	comp=Z,1.0nm,0.5s,baz=80,slow=7.6,SNR=8.1							
AKASG	**Malin Array Be**	**30.92**	**307**	*ce*P		**P**		**00 10 07.1 -0.5**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KIEV	**Kiev**	**30.93**	**306**	*e*P		**P**		**00 10 08.7 +1.0**
KIEV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**32.07**	**72**	*e*P		**P**		**00 10 17.4 -0.5**
HHC				pmax	pmax			
	comp=Z,19nm,1.0s							
HHC				pmax	pmax			
	comp=Z,120nm,9.9s							
CMAR	**Chiang Mai Arr**	**32.32**	**120**	*e*P		**P**		**00 10 20.0 -0.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NRIK	**Noril'sk**	**32.36**	**12**	P		**P**		**00 10 21.0 +1.0**
	comp=Z,4.3nm,0.6s,baz=214,slow=8.1,SNR=5.2							
NRIK				LR		LR		00 24 52.2
	comp=Z,128nm,21.1s,baz=141,slow=39							
FINES	**FINESS Array B**	**35.26**	**325**	P		**P**		**00 10 46.0 +0.7**
	comp=Z,2.8nm,0.8s,baz=127,slow=9.6,SNR=2.3							
FINES	**FINESS Array B**	**35.26**	**325**	*e*P		**P**		**00 10 49.5 +4.2**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
STHS	**Stebnicka Huta**	**35.99**	**304**	*e*P		**P**		**00 10 52.1 +0.3**
STHS	**Stebnicka Huta**	**35.99**	**304**	*e*P		**P**		**00 10 52.1 +0.3**
ARCES	**ARCESS Array B**	**38.91**	**337**	P		**P**		**00 11 16.4 +0.2**
	comp=Z,2.5nm,0.6s,baz=111,slow=6.6,SNR=3.0							
DPC	**Dobruska-Polom**	**39.13**	**305**	*e*P		**P**		**00 11 21.9 +3.5**
DPC	**Dobruska-Polom**	**39.13**	**305**	*e*P		**P**		**00 11 21.9 +3.5**
GERES	**GERESS Array B**	**40.97**	**303**	P		**P**		**00 11 34.7 +1.0**
	comp=Z,0.5nm,0.8s,baz=91,slow=6.9,SNR=4.1							
GERES	**GERESS Array B**	**40.97**	**303**	*e*P		**P**		**00 11 37.8 +4.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KHC	**Kasperske Hory**	**41.01**	**304**	*e*P		**P**		**00 11 32.6 -1.4**
KHC	**Kasperske Hory**	**41.01**	**304**	*e*P		**P**		**00 11 32.6 -1.4**
CLL	**Collm**	**41.16**	**307**	*e*P		**P**		**00 11 35.0 -0.2**
CLL	**Collm**	**41.16**	**307**	*e*P		**P**		**00 11 32.0 -3.2**
CLL				*ep*P		**sP**		**00 11 42.0 +1.6**
CLL				*es*P		**pP**		**00 11 46.0 +7.1**
NB2	**NORSAR Subarra**	**42.18**	**322**	P		**P**		**00 11 43.0 -0.4**
	comp=Z,2.2nm,0.6s,baz=94,slow=8.6							
NOA	**NORSAR Array B**	**42.18**	**322**	P		**P**		**00 11 43.0 -0.4**
	comp=Z,1.9nm,0.6s,baz=107,slow=7.2,SNR=2.6							
NOA				LR		LR		00 30 51.0
	comp=Z,29nm,19.1s,baz=100,slow=38							
NOA	**NORSAR Array B**	**42.18**	**322**	P		**P**		**00 11 43.0 -0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA				MLR	MLR			
	comp=Z,29nm,19.1s							
KONO	**Kongsberg**	**42.90**	**320**	*ce*P		**P**		**00 11 49.2 0.0**
KONO				pmax	pmax			
	comp=Z,144nm,2.5s							
TIXI	**Tiksi**	**44.31**	**23**	*ce*P		**P**		**00 12 00.6 +0.2**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TIXI	**Tiksi**	**44.31**	**23**	*e*P		**P**		**00 11 59.6 -0.8**
	comp=Z,8.2nm,1.0s							
NACB	**Ninganchiao**	**45.97**	**92**	*e*P		**P**		**00 12 13.8 -0.5**
	comp=Z,60nm,1.1s							
DAG	**Danmarks Havn**	**52.52**	**343**	*i* P		**P**		**00 13 07.1 +3.5**
	comp=Z,7.2nm,0.7s							
DAG	**Danmarks Havn**	**52.52**	**343**	*i* P		**P**		**00 13 07.1 +3.5**
DAG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ESDC	**Sonseca Array**	**55.65**	**296**	P		**P**		**00 13 27.1 0.0**
	comp=Z,0.3nm,0.5s,baz=60,slow=7.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**64.78**	**267**	P		**P**		**00 14 28.7 -1.2**
	comp=Z,2.0nm,0.6s,baz=48,slow=6.6,SNR=12							
INK	**Inuvik**	**72.09**	**9**	P		**P**		**00 15 16.5 +1.7**
	comp=Z,5.8nm,1.1s,baz=10,slow=8.5,SNR=2.6							
ILAR	**Eielson Array**	**73.12**	**15**	P		**P**		**00 15 21.7 +0.7**
	comp=Z,0.7nm,0.9s,baz=330,slow=5.4,SNR=5.2							
ILAR	**Eielson Array**	**73.12**	**15**	*e*P		**P**		**00 15 24.1 +3.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
DBIC	**Dimbokro**	**73.82**	**266**	P		**P**		**00 15 24.8 -1.1**
	comp=Z,2.1nm,0.9s,baz=16,slow=7.4,SNR=1.7							
WRA	**Warramunga Arr**	**83.90**	**121**	P		**P**		**00 16 18.7 -2.4**
	comp=Z,1.5nm,0.9s,baz=332,slow=4.6,SNR=4.2							
WRA	**Warramunga Arr**	**83.90**	**121**	*e*P		**P**		**00 16 19.9 -1.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**86.22**	**124**	P		**P**		**00 16 30.5 -2.2**
	comp=Z,0.3nm,0.3s,baz=324,slow=4.6,SNR=2.8							

JMA 17 00:10:31.2, 24°.73N×125°.41E, h46km±1km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.03**	**354**	P	Pn	00 10 38.3	-0.1
JOGS				S	Sn	00 10 43.4	0.0
JMJ	**Miyako jima 2**	**0.14**	**309**	P	Pn	00 10 38.6	-0.1
JMJ				S	Sn	00 10 44.0	0.0
JIRB	**Irabujima**	**0.24**	**294**	P	Pn	00 10 39.2	-0.2
JIRB				S	Sn	00 10 44.9	-0.3
JIKM	**Ikemajima**	**0.24**	**323**	P	Pn	00 10 39.3	-0.2
JIKM				S	Sn	00 10 45.4	+0.1
JTJ	**Tarama**	**0.65**	**262**	P	Pn	00 10 44.3	+0.2
JTJ				S	Sn	00 10 53.3	-0.1
JISG	**Ishigakijimahi**	**1.01**	**262**	P	Pn	00 10 49.1	+0.1
JISG				S	Sn	00 11 02.5	+0.5
JIJ	**Ishigaki jima**	**1.21**	**253**	P	Pn	00 10 52.4	+0.7
JIJ				*e*S	Sn	00 11 08.5	+1.6
JKRS	**Kuro-shima**	**1.37**	**249**	P	Pn	00 10 54.6	+0.8
IRIF	**Iriomote-Funau**	**1.58**	**256**	P	Pn	00 10 57.2	+0.5
HATJ	**Hateruma jima**	**1.61**	**246**	P	Pn	00 10 58.0	+0.8
JKE	**Kume jima 2**	**2.02**	**38**	P	Pn	00 11 03.1	+0.3
YOJ	**Yonaguni jima**	**2.20**	**264**	P	Pn	00 11 05.7	+0.4
JYNG	**Yonagunijimaku**	**2.26**	**263**	S	Sn	00 11 33.3	+0.5
JAGN	**Aguni-jima**	**2.48**	**41**	P	Pn	00 11 10.1	+1.0
JNTH	**Nagotoyohara**	**2.96**	**52**	P	Pn	00 11 16.5	+0.9

*ISCJB **17** 00:18:59.8±0.3, 15°.10S±0°.05×167°.29E±0°.06, h129km, mb4.5/32, Error ellipse: s-maj=8.4km s-min=6.5km az=167.5*
*NEIC **17** 00:19:01.1±0.6, 15°.06S×167°.34E, h129km±6km, mb4.6/14, Error ellipse: s-maj=7.2km s-min=6.9km az=107.0*
*IDC **17** 00:19:02.8±2.1, 15°.08S×167°.31E, h144km±19km, mb4.1/18, mb1 4.2/19, mb1mx4.1/29, mbtmp4.5/19, MS3.4/3, Ms1 3.4/3, ms1mx2.9/34, Error ellipse: s-maj=13.2km s-min=12.4km az=148.0*

ISC 17 00:19:01.1±0.4, 15°.09S±0°.06×167°.34E±0°.07, h129km, n88, σ1s 47/94, mb4.6/32, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.00**	**187**	P	**Pn**	**00 20 41.1**	**-0.1**
	8.2nm,0.3s,baz=2.8,slow=13,SNR=53						
DZM				S	**Sn**	**00 22 01.6**	**+2.2**
	31nm,0.3s,baz=136,slow=23,SNR=15						
DZM				LR	LR	00 23 16.4	
	comp=Z,182nm,19.7s,baz=28,slow=36						
DZM	**Mont Dzumac**	**7.00**	**187**	*e*Pn	**Pn**	**00 20 39.8**	**-1.4**
	63nm,0.3s						
DZM				*e*Sn	Sn	00 21 46.3	-13
	91nm,0.3s						
DZM	**Mont Dzumac**	**7.00**	**187**	*e*Pn	**Pn**	**00 20 39.6**	**-1.6**
DZM				S	**Sn**	**00 22 01.6**	**+2.2**
MSVF	**Nonsavu**	**10.61**	**106**	*e*Pn	**Pn**	**00 21 30.8**	**+1.1**
TARA	**Tarawa**	**17.24**	**19**	*e*P	**Pn**	**00 22 54.9**	**+0.8**
	49nm,1.6s						
EIDS	**Eidsvold**	**18.35**	**234**	*e*P	**Pn**	**00 23 07.2**	**-0.2**
	27nm,0.7s						
PMG	**Port Moresby**	**20.51**	**284**	P	**P**	**00 23 30.3**	**+1.1**
	6.3nm,0.3s,baz=111,slow=9.1,SNR=4.4						
CTA	**Charters Tower**	**20.70**	**253**	P	**P**	**00 23 32.7**	**+1.4**
	10nm,0.9s,baz=76,slow=12,SNR=12						
CTAO	**Charters Tower**	**20.70**	**253**	*e*P	**P**	**00 23 32.2**	**+0.9**
	13nm

QSPA	South Pole Qui	74.94	180	eP	P	00 30 28.0 +0.1
CM01	Chiang Mai Arr	75.13	294	eP	P	00 30 30.8 +1.1
CMAR	Chiang Mai Arr	75.16	294	P	P	00 30 30.7 +0.9
	comp=Z,3.9nm,0.8s,baz=127,slow=3.9,SNR=16					
CHTO	Chiang Mai	75.29	294	eP	P	00 30 30.7 +0.1
	comp=Z,22nm,1.6s					
HHC	Hu-ho-hao-te	75.90	320	eP	P	00 30 35.8 +2.1
HHC				pmax	pmax	
	comp=Z,8.0nm,0.7s					
HHC				pmax	pmax	
	comp=Z,54nm,6.5s					
LZH	Lanzhou	78.61	312	eP	P	00 30 50.0 +1.0
LZH				pP	pP	00 31 24.1 +2.7
LZH				sP	sP	00 31 38.8 +3.6
LZH				PP	PP	00 33 52.3 +3.4
LZH				pmax	pmax	
	comp=Z,23nm,1.3s					
LZH				pmax	pmax	
	comp=Z,82nm,7.9s					
LZH				LR	LR	
	comp=N,100nm,15.0s					
LZH				LR	LR	
	comp=E,110nm,15.2s					
LZH				LR	LR	
	comp=Z,130nm,18.7s					
MAW	Mawson	81.58	202	P	P	00 31 04.5 +0.3
	comp=Z,2.5nm,0.6s,baz=130,slow=4.0,SNR=9.5					
MAW	Mawson	81.58	202	eP	P	00 31 04.8 +0.6
	comp=Z,1.2nm,1.1s					
ULN	Ulaanbaatar	82.46	324	eP	P	00 31 09.6 +0.3
	comp=Z,8.2nm,0.8s					
SONM	Songino Array	82.82	324	P	P	00 31 10.8 -0.3
	comp=Z,3.7nm,0.8s,baz=151,slow=7.1,SNR=21					
SONA1	Songino Array	82.83	324	eP	P	00 31 11.0 -0.1
GTA	Gaotai	82.96	314	⇓P	P	00 31 13.1 +1.0
GTA				pP	pP	00 31 48.3 +3.5
GTA				sP	sP	00 32 03.5 +5.1
GTA	Gaotai	82.96	314	S	S	00 41 18.5 -2.1
GTA	Gaotai	82.96	314	sS	sS	00 42 21.0 +4.0
GTA				pmax	pmax	
	comp=Z,9.0nm,1.1s					
GTA				pmax	pmax	
	comp=Z,140nm,4.5s					
GTA				LR	LR	
	comp=N,78nm,15.2s					
GTA				LR	LR	
	comp=E,100nm,15.9s					
GTA				LR	LR	
	comp=Z,80nm,16.6s					
CAST	Castle Rocks	84.31	17	eP	P	00 31 16.9 -1.3
	comp=Z,6.8nm,1.1s					
ILAR	Eielson Array	86.84	18	P	P	00 31 29.0 -1.7
	comp=Z,1.2nm,0.8s,baz=246,slow=5.6,SNR=10.0					
YERR	Yerington	86.97	48	epP	pP	00 32 04.3 -0.8
SYO	Syowa Base	88.39	197	⇑eP	P	00 31 36.3 -1.8
WMQ	Urumqi	93.03	315	P	P	00 32 01.1 +0.9
WMQ				pP	pP	00 32 36.1 +2.7
WMQ				sP	sP	00 32 50.6 +3.6
WMQ				pmax	pmax	
	comp=Z,4.0nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,160nm,5.3s					
WMQ				LR	LR	
	comp=N,63nm,23.1s					
WMQ				LR	LR	
	comp=E,54nm,23.1s					
WMQ				LR	LR	
	comp=Z,44nm,23.1s					
SNAA	Sanae	93.20	183	P	P	00 31 59.2 -1.3
SNAA	Sanae	93.20	183	eP	P	00 31 59.4 -1.2
VNA3	Neumayer Olymp	93.86	181	P	P	00 32 02.0 -1.5
VNA2	Neumayer--Watz	94.13	182	P	P	00 32 03.6 -1.1
	baz=181,slow=4.0					
VNA1	Neumayer--Stat	94.43	181	P	P	00 32 04.5 -1.6
TXAR	Lajitas Array	96.38	61	P	P	00 32 17.7 +1.7
	comp=Z,0.2nm,0.7s,baz=236,slow=6.4,SNR=3.1					
MK01	Makanchi Array	97.50	316	eP	P	00 32 20.0 -0.5
MK31	Makanchi Array	97.51	316	eP	Pdif	00 32 21.1 +0.5
MKAR	Makanchi Array	97.51	316	P	P	00 32 20.5 -0.1
	comp=Z,2.9nm,0.7s,baz=95,slow=6.5,SNR=33					
MKAR	Makanchi Array	97.51	316	eP	Pdif	00 32 21.1 +0.5
ZALV	Zalesovo Beam	97.72	324	P	P	00 32 19.8 -1.5
	comp=Z,2.7nm,0.8s,baz=111,slow=5.4,SNR=11					
MAKZ	Makanchi	97.72	316	eP	P	00 32 21.3 -0.2
KSH	Kashi	100.47	308	eP	Pdif	00 32 33.4 -0.7
KSH				pP	pPdif	00 32 42.8 -25
KSH				sP	pP	00 32 48.3 -19
KSH				PP	PP	00 36 47.5 +4.9
KSH				pmax	pmax	
	comp=Z,9.0nm,1.5s					
KSH				pmax	pmax	
	comp=Z,81nm,4.3s					
ARCES	ARCESS Array B	120.61	345	PKP	PKPdf	00 37 36.2 -0.9
	comp=Z,3.4nm,0.6s,baz=63,slow=2.1,SNR=30					
FINES	FINESS Array B	126.08	338	PKP	PKPdf	00 37 47.0 -0.7
	comp=Z,3.8nm,0.9s,baz=180,slow=1.9,SNR=8.3					
NB2	NORSAR Subarra	130.98	345	PKPdf	PKPdf	00 37 57.3 +0.2
	comp=Z,1.7nm,0.9s,baz=31,slow=1.9					
NOA	NORSAR Array B	130.98	345	PKP	PKPdf	00 37 56.7 -0.5
	comp=Z,1.5nm,0.8s,baz=27,slow=4.0,SNR=4.6					
BRTR	Keskin Array B	132.79	311	PKP	PKPdf	00 38 00.6 -0.8
	comp=Z,0.8nm,0.8s,baz=222,slow=1.7,SNR=3.8					
CONA	Conrad Observa	139.66	330	i PKPdf	PKPdf	00 38 13.0 -0.8
	comp=Z,5.1nm,1.7s					
GERES	GERESS Array B	139.99	333	PKhKP	PKPpre	00 38 08.1
	comp=Z,0.6nm,0.8s,baz=45,slow=2.1,SNR=5.1					
MOA	Molln	140.47	331	i PKPdf	PKPdf	00 38 12.3 -2.9
	comp=Z,3.2nm,1.3s					
ABTA	Abfaltersbach	142.09	332	i PKPdf	PKPdf	00 38 16.9 -1.3
	comp=Z,1.3nm,0.5s					
MOTA	Moosalm	142.26	333	ePKPdf	PKPdf	00 38 14.7 -3.9
	comp=Z,0.5nm,0.3s					
RETA	Reutte	142.30	334	ePKPdf	PKPdf	00 38 14.7 -3.8
	comp=Z,0.5nm,0.4s					
FETA	Feichten	142.68	333	i PKPdf	PKPdf	00 38 15.8 -3.5
	comp=Z,3.7nm,0.7s					
DAVA	Damuels	142.83	334	ePKPdf	PKPdf	00 38 16.4 -3.2
	comp=Z,2.9nm,0.7s					
AQU	L'Aquila	144.77	326	ePKPab	PKPdf	00 38 23.0 0.0
BNI	Bardonecchia	145.95	335	ePKPbc	PKPab	00 38 26.7 +0.1
KEST	Kesra	151.53	320	PKPbc	PKPbc	00 38 40.5 0.0
	comp=Z,6.9nm,0.8s,baz=72,slow=1.7,SNR=8.4					
ESDC	Sonseca Array	154.35	344	PKPab	PKPab	00 38 59.8 -1.3
	comp=Z,0.3nm,0.7s,baz=54,slow=2.4,SNR=4.0					
TORD	Torodi Ar. Bea	165.95	264	PKP	PKPdf	00 38 50.6 -1.0
	comp=Z,2.2nm,0.6s,baz=36,slow=0.6,SNR=30					
KIC	Kosan Boka	168.36	223	ePKIKP	PKPdf	00 38 52.1 -1.4
	comp=Z,20nm,1.1s					
LIC	Lamto	168.44	221	ePKIKP	PKPdf	00 38 51.8 -1.8
	comp=Z,70nm,1.8s					
DBIC	Dimbokro	168.66	223	PKP	PKPdf	00 38 52.8 -0.9
	comp=Z,7.6nm,1.1s,baz=44,slow=11,SNR=3.2					
TIC	Toumodi	168.75	223	ePKIKP	PKPdf	00 38 52.3 -1.5

*ISCJB **17** 00:29:58.4±0.7, 17°.11S±0°.07×172°.6W±0°.1, h17km, mb4.5/13, Error ellipse: s-maj=17.5km s-min=8.3km az=25.4*
*NEIC **17** 00:29:58.9±0.6, 17°.16S×172°.50W, h10km, mb4.5/8, Error ellipse: s-maj=17.3km s-min=11.6km az=120.0*
*IDC **17** 00:29:58.4±1.8, 17°.11S×172°.69W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/33, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=62.6km s-min=24.0km az=120.0*
ISC 17 00:29:59.7±0.8, **17°.14S**±0°.09×**172°.5W**±0°.1, **h17**km, **n20,** σ0**94**/22, **mb4.5**/13, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.29	12	Pn	Pn	00 30 50.1	-0.4
	9.9nm,0.3s,baz=118,slow=0.7,SNR=11						
AFI				Sn	Sn	00 31 28.7	-0.5
	19nm,0.3s,baz=261,slow=17,SNR=8.0						
AFI	Afiamalu	3.29	12	ePn	Pn	00 30 51.1	+0.6
AFI				eSn	Sn	00 31 29.9	+0.6
FUNA	Funafuti	11.78	316	ePn	Pn	00 32 47.0	0.0
URZ	Urewera	22.93	201	P	P	00 35 03.2	+0.3
	4.6nm,0.3s,baz=90,slow=4.0,SNR=6.0						
EIDS	Eidsvold	34.82	250	P	P	00 36 48.1	-1.8
PMG	Port Moresby	39.94	276	eP	P	00 37 34.1	+0.6
	2.3nm,0.4s						
WRAB	Tennant Creek	50.30	258	eP	P	00 38 56.1	+0.3
	1.8nm,0.6s						
WRA	Warramunga Arr	50.31	258	P	P	00 38 55.3	-0.5
	0.9nm,0.5s,baz=97,slow=6.7,SNR=6.3						
ASAR	Alice Springs	50.41	253	P	P	00 38 56.9	+0.3
	7.0nm,0.7s,baz=86,slow=8.4,SNR=65						
QSPA	South Pole Qui	72.92	180	eP	P	00 41 28.1	+0.2
	6.5nm,0.9s						
KKM	Kota Kinabalu	74.06	282	P	P	00 41 36.1	+0.6
	3.2nm,0.6s						
TATO	Taipei	76.71	302	eP	P	00 41 50.4	0.0
	7.0nm,0.4s						
PV01	Paradox Valley	81.30	46	eP	P	00 42 15.1	-0.5
	36nm,0.6s						
MCK	McKinley	82.67	10	P	P	00 42 19.3	-2.6
	15nm,1.9s						
COLA	College	83.91	10	P	P	00 42 28.7	+0.6
	1.4nm,0.6s						
ILAR	Eielson Array	83.98	11	P	P	00 42 30.1	+1.5
	0.3nm,0.7s,baz=225,slow=6.2,SNR=5.6						
RSSD	Black Hills	87.16	42	eP	P	00 42 44.9	-0.3
	0.7nm,0.5s						
KIV	Kislovodsk	140.08	320	ePKPdf	PKPdf	00 49 27.9	+0.3
KMBO	Kilima Mbogo	145.51	241	ePKPbc	PKPab	00 49 39.7	+1.1
BRTR	Keskin Array B	148.04	320	PKPbc	PKPab	00 49 47.3	-0.2
	0.7nm,1.0s,baz=70,slow=2.6,SNR=1.5						

NNC 17 00:40:01.4±2.5, **38°.35N**×**69°.51E, h0**km, **mb3.7, mpv3.4, 6C-3D, Error ellipse: s-maj=22.5km s-min=8.1km az=12.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	0.70	311	⇑P	Pg	00 40 14.8	-0.1
	116nm,0.5s						
DZET				⇑S	Sg	00 40 25.3	+1.2
	191nm,0.6s						
MNAS	Manas	4.72	28	⇓Pn	Pn	00 41 16.0	+1.9
	2.9nm,0.5s						
MNAS				⇑Sn	Sn	00 42 09.2	-0.4
	6.0nm,0.5s						
MNAS				⇑Lg	Lg	00 42 28.7	
	8.9nm,0.6s						
KK31	Karatay Array	4.81	9	⇓Pn	Pn	00 41 17.1	+1.9
	0.6nm,0.3s,baz=0.0,slow=0.1,SNR=11						
KK31				Pg	Pb	00 41 29.7	+3.1
	11nm,0.9s,baz=192,slow=16,SNR=16						
KK31				⇑Lg	Lg	00 42 31.1	
	8.3nm,0.6s,baz=185,slow=29,SNR=7.5						
AAK	Ala-Archa	5.73	40	⇑Pn	Pn	00 41 30.8	+2.9
	2.0nm,0.6s						
AAK				⇓Sn	Sn	00 42 35.8	+1.5
	5.2nm,0.7s						

*ISCJB **17** 01:03:23.0±0.5, 7°.56N±0°.06×37°.88E±0°.09, h10km, mb4.1/16, MS3.8/16, Error ellipse: s-maj=13.9km s-min=7.1km az=28.9*
*IDC **17** 01:03:23.4±0.7, 7°.62N×38°.04E, h0km, mb4.1/15, mb1 4.1/16, mb1mx3.9/55, mbtmp4.1/16, ML3.0/1, MS3.8/18, Ms1 3.8/18, ms1mx3.6/36, Error ellipse: s-maj=19.8km s-min=14.0km az=123.0*
*NEIC **17** 01:03:25.6±0.6, 7°.64N×37°.87E, h10km, mb4.4/2, Error ellipse: s-maj=19.5km s-min=11.8km az=111.0*
ISC 17 01:03:25.3±0.6, **7°.65N**±0°.08×**37°.82E**±0°.10, **h10**km, **n35,** σ1**35**/30, **mb4.2**/16, **MS3.7**/16, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	Furi	1.50	34	i PN	Pn	01 03 51.8	-0.9
FURI				eS	Sn	01 04 12.0	-0.5
AAE	Adis Abeba	1.66	34	P	Pn	01 03 54.1	-0.7
AAE				S	Sg	01 04 19.8	+0.9
ATD	Arta Tunnel	6.28	52	Pn	Pn	01 05 00.8	+2.6
	0.5nm,0.3s,baz=254,slow=7.4,SNR=2.8						
ATD				Pg	Pb	01 05 16.9	+2.0
	2.2nm,0.3s,baz=277,slow=7.7,SNR=10						
ATD				Lg	Lg	01 06 40.0	
	3.4nm,0.3s,baz=118,slow=23,SNR=6.1						
ATD				LR	LR	01 07 29.3	
	comp=Z,1μm,18.4s,baz=192,slow=40						
KMBO	Kilima Mbogo	8.74	184	Pn	Pn	01 05 33.0	+0.9
	0.2nm,0.3s,baz=351,slow=14,SNR=7.7						
KMBO				Lg	Lg	01 07 51.8	
	2.8nm,0.3s,baz=41,slow=22,SNR=8.2						
KMBO				LR	LR	01 08 51.7	
	comp=Z,514nm,20.9s,baz=347,slow=38						
KMBO	Kilima Mbogo	8.74	184	ePn	Pn	01 05 33.2	+1.2
	7.6nm,0.8s						
KMBO				Lg	Lg	01 07 51.8	
KMBO				eS	Sg	01 07 53.9	-12
EIL	Elat	22.07	353	P	P	01 08 21.6	+1.0
	2.6nm,0.8s,baz=131,slow=11,SNR=3.7						
EIL				LR	LR	01 15 27.8	
	comp=Z,95nm,19.4s,baz=178,slow=33						
ASF	Jabal al Asfar	24.42	358	P	P	01 08 46.0	+1.7
	4.3nm,1.0s,baz=322,slow=5.0,SNR=3.9						
LSZ	Lusaka	24.70	203	P	P	01 08 48.0	+1.0
	2.4nm,0.7s,baz=23,slow=12,SNR=3.8						
LSZ				Lg	Lg	01 16 26.5	
	3.6nm,1.0s,baz=307,slow=20,SNR=4.0						
LSZ				LR	LR	01 19 08.2	
	comp=Z,272nm,18.0s,baz=22,slow=38						
LSZ	Lusaka	24.70	203	Pn	P	01 08 48.5	+1.5
	8.2nm,1.1s						
LSZ				Lg	Lg	01 16 26.5	
WSAR	Wadi Sarin	25.29	50	LR	LR	01 19 14.4	
	comp=Z,295nm,18.7s,baz=240,slow=38						
OPO	Ambohidratompo	27.64	161	LR	LR	01 20 27.7	
	comp=Z,149nm,18.2s,baz=254,slow=37						
MATP	Matopo	29.36	198	P	P	01 09 28.3	-0.6
	3.1nm,1.1s,baz=277,slow=8.1,SNR=3.1						
MATP				LR	LR	01 20 50.3	
	comp=Z,128nm,21.8s,baz=26,slow=36						
IDI	Anoyia	29.96	338	LR	LR	01 22 14.5	
	comp=Z,143nm,19.1s,baz=108,slow=38						
GEYT	Alibeck	35.31	28	LR	LR	01 25 15.1	
	comp=Z,124nm,19.5s,baz=90,slow=37						
TORD	Torodi Ar. Bea	35.92	282	P	P	01 10 25.9	-0.4
	0.8nm,1.0s,baz=80,slow=6.3,SNR=4.6						
TORD				LR	LR	01 26 23.3	
	comp=Z,360nm,20.9s,baz=90,slow=38						
DBIC	Dimbokro	42.34	272	LR	LR	01 28 23.6	
	comp=Z,139nm,20.6s,baz=85,slow=35						
GERES	GERESS Array B	45.82	338	P	P	01 11 47.5	-0.1
	2.5nm,1.0s,baz=100,slow=5.5,SNR=8.9						
GERES				LR	LR	01 36 30.2	
	comp=Z,72nm,18.4s,baz=144,slow=43						
KHC	Kasperske Hory	46.10	338	eP	P	01 11 49.3	-0.4
KHC				epP	pP	01 11 53.3	+0.4
DPC	Dobruska-Polom	46.18	341	eP	P	01 11 50.3	0.0
AAK	Ala-Archa	47.48	37	eP	P	01 12 01.2	+0.4
	4.0nm,1.0s						
ESDC	Sonseca Array	49.12	317	P	P	01 12 14.9	+1.6
	2.3nm,0.8s,baz=121,slow=7.2,SNR=15						
ARU	Arti	51.32	15	P	P	01 12 29.8	+0.1
	3.0nm,0.7s,baz=178,slow=2.7,SNR=9.0						
MKAR	Makanchi Array	54.41	36	P	P	01 12 51.0	-1.7
	2.7nm,0.9s,baz=240,slow=4.9,SNR=19						
MKAR				LR	LR	01 39 29.0	
	comp=Z,108nm,19.5s,baz=212,slow=40						
KURBB	Kurchatov Arra	54.51	31	P	P	01 12 52.4	-1.0
	0.9nm,0.5s,baz=235,slow=7.9,SNR=9.1						
KURK	Kurchatov	54.62	31	P	P	01 12 52.4	-1.7
ZALV	Zalesovo Beam	59.59	30	P	P	01 13 27.3	-1.9
	1.8nm,0.8s,baz=245,slow=6.4,SNR=10						
CMAR	Chiang Mai Arr	60.27	73	P	P	01 13 32.9	-1.7
	0.5nm,0.3s,baz=262,slow=6.9,SNR=3.5						
CMAR				LR	LR	01 37 25.6	
	comp=Z,48nm,20.6s,baz=230,slow=34						
PSI	Prapat	61.00	91	P	P	01 13 37.7	-2.1
	1.4nm,0.4s,baz=158,slow=6.8,SNR=4.5						
ARCES	ARCESS Array B	62.33	355	LR	LR	01 44 11.4	
	comp=Z,62nm,19.7s,baz=159,slow=39						
NRIK	Noril'sk	69.45	17	P	P	01 14 32.4	-1.1
	2.0nm,0.4s,baz=238,slow=5.9,SNR=4.7						
SONM	Songino Array	70.02	42	P	P	01 14 36.2	-1.4
	3.2nm,1.1s,baz=249,slow=7.3,SNR=16						
BDFB	Brasília	88.05	254	LR	LR	01 51 08.6	
	comp=Z,33nm,21.8s,baz=288,slow=32						
CPUP	Villa Florida	97.94	244	LR	LR	02 00 41.7	
	comp=Z,53nm,18.1s,baz=98,slow=35						
WRA	Warramunga Arr	98.67	109	LR	LR	02 00 39.9	
	comp=Z,97nm,18.6s,baz=355,slow=35						
TXAR	Lajitas Array	127.79	317	PKP	PKPdf	01 22 33.7	+1.6
	0.4nm,0.9s,baz=99,slow=7.0,SNR=4.1						

*IDC **17** 01:25:06.5±2.1, 52°.32N×169°.41W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/46, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=51.0km s-min=27.6km az=10.0*
*NEIC **17** 01:25:09.2±0.0, 52°.06N×169°.38W, h27km, ML3.2(AEIC), After AEIC.*
ISC 17 01:25:06.5±2.1, **52°.1N**±0°.1×**169°.27W**±0°.08, **h9**km±12km, **n25,** σ2**33**/28, **mb3.8**/5, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.93	16	P	Pn	01 25 25.9	+0.1
NIKH				S	Sn	01 25 40.7	+1.5
OKCE	Okmok Cone E	1.51	26	P	Pg	01 25 35.3	-0.1
OKNC	Okmok New Cone	1.55	26	P	Pg	01 25 36.1	0.0
OKFG	Magazine Ridge	1.57	31	P	Pb	01 25 35.8	+0.1
OKFG				S	Sg	01 25 57.4	+0.5
MCIR	Makushin Cirqu	2.36	37	P	Pb	01 25 47.8	-1.5
MSW	Makushin Switc	2.38	38	P	Pn	01 25 47.7	+2.1
MSW				S	Sb	01 26 17.8	-1.0
UNV	Unalaska Valle	2.44	42	ePn	Pn	01 25 48.2	+1.8
UNV				eS	Sn	01 26 16.5	+0.2
MTBL	Makushin Table	2.46	39	P	Pb	01 25 49.2	-1.6
AKRB	Akutan Reef Bi	2.82	42	P	Pn	01 25 54.7	+3.0
AKGG	Akutan Green G	2.90	42	P	Pn	01 25 55.4	+2.6
AKUT	Akutan	2.95	44	ePn	Pb	01 25 57.1	-2.0
AKUT				eS	Sn	01 26 31.7	+2.8
GSCK	Great Sitkin C	4.25	272	P	Pn	01 26 09.4	-2.0
ADK	Adak	4.58	270	ePn	Pn	01 26 16.6	+0.7
SPIA	Saint Paul Isl	5.14	354	P	Pn	01 26 24.6	+1.0
KDAK	Kodiak Island	11.16	53	Pn	Pn	01 27 44.3	-1.7
	0.4nm,0.3s,baz=326,slow=18,SNR=7.8						
KDAK				Sn	Sn	01 29 42.3	-8.4
	0.2nm,0.3s,baz=235,slow=17,SNR=2.0						
ILAR	Eielson Array	17.16	34	P	Pn	01 29 06.6	+0.4
	0.1nm,0.3s,baz=217,slow=11,SNR=4.6						
PETK	Petropavlovsk-	20.00	286	P	P	01 29 39.0	0.0
	0.9nm,0.3s,baz=85,slow=14,SNR=6.7						
INK	Inuvik	23.56	33	P	P	01 30 16.1	-0.7
	2.1nm,0.8s,baz=224,slow=7.8,SNR=5.0						
H11S1	WAKE ISLAND Hy	38.45	218	T	T	02 13 42.5	
	baz=23,slow=76,SNR=7.3						
H11S2	WAKE ISLAND Hy	38.47	218	T	T	02 13 41.4	
	baz=23,slow=76,SNR=4.7						
H11S3	WAKE ISLAND Hy	38.47	218	T	T	02 13 40.4	
	baz=23,slow=76,SNR=4.8						
PDAR	Pinedale Array	40.40	79	P	P	01 32 47.1	+2.1
	0.2nm,0.5s,baz=256,slow=3.6,SNR=2.5						
TXAR	Lajitas Array	52.70	89	P	P	01 34 22.8	+1.5
	0.1nm,0.4s,baz=317,slow=7.3,SNR=3.9						
FINES	FINESS Array B	66.16	352	P	P	01 35 53.6	-0.1
	2.3nm,0.9s,baz=347,slow=5.7,SNR=5.3						
NOA	NORSAR Array B	67.23	360	P	P	01 36 00.2	-0.5
	1.0nm,0.8s,baz=1.6,slow=6.2,SNR=1.5						

*SJA **17** 01:35:53.6±0.9, 27°.93S×66°.84W, h176km±6km, ML3.1, MW3.5*
*ISCJB **17** 01:35:54.4±0.5, 27°.95S±0°.05×66°.81W±0°.06, h164km, Error ellipse: s-maj=8.1km s-min=6.1km az=36.4*
*GUC **17** 01:35:55.1±0.6, 28°.16S×66°.78W, h171km±6km, ML3.3*
ISC 17 01:35:54.6±1.3, **27°.93S**±0°.06×**66°.84W**±0°.06, **h164**km, **n22,** σ0**86**/28, **1D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	1.05	119	eP	Pn	01 36 21.9	+0.7
CYA				i S	Sn	01 36 41.9	+0.3
CYA				IAML		01 36 42.8	
	comp=E,141nm,0.4s						
CYA	Choya	1.05	119	eP	Pn	01 36 22.4	+1.2
CYA				IAML		01 36 22.7	
	comp=Z,343nm,0.4s						
CYA				eS	Sn	01 36 41.9	+0.3
VCA	Vinchina	1.45	236	eP	Pn	01 36 25.9	+0.9
VCA				eS	Sn	01 36 49.9	+1.6
VCA				IAML		01 36 50.8	
	comp=E,683nm,0.6s						
VCA	Vinchina	1.45	236	eP	Pn	01 36 25.8	+0.9
VCA				IAML		01 36 53.4	
	comp=Z,270nm,0.4s						
ACLC	CERRO LA CRUZ	1.49	184	eP	Pn	01 36 26.5	+1.0
AHML	Horco Molle	1.76	50	eP	Pn	01 36 28.2	+0.1
AHML				i S	Sn	01 36 52.6	-1.2
AHML				IAML		01 36 54.4	
	comp=E,88nm,0.6s						
AHML	Horco Molle	1.76	50	eP	Pn	01 36 28.3	+0.3
AHML				IAML		01 36 28.7	
	comp=Z,45nm,0.2s						
FSA	Cafayete	1.97	23	eP	Pn	01 36 31.1	+0.6
FSA				IAML		01 36 31.4	
	comp=Z,9.5nm,0.3s						
AGUA	GUANDACOL	2.12	223	eP	Pn	01 36 32.8	+0.7
APLL	PUNTA DE LOS L	2.47	174	eP	Pn	01 36 36.9	+0.7
AVFE	Valle Fertil	2.77	191	eP	Pn	01 36 40.1	+0.3
AVFE				IAML		01 37 17.4	
	comp=Z,57nm,0.5s						
LCO	Las Campanas	3.57	252	eP	Pn	01 36 49.4	-0.6
RTLL	Cerro Vilicun	3.67	202	eP	Pn	01 36 51.1	0.0
TCA	Tanti	3.92	151	⇓i P	Pn	01 36 54.6	+0.3
TCA				i S	Sn	01 37 38.6	-2.2
TCA				IAML		01 37 40.8	
	comp=E,30nm,0.5s						
TCA	Tanti	3.92	151	eP	Pn	01 36 54.5	+0.3
TCA				eP	Pn	01 36 54.6	+0.3
TCA				IAML		01 37 41.4	
	comp=N,31nm,0.5s						
RTCV	Cerro Valdivia	4.19	200	eP	Pn	01 36 57.8	+0.1
RTLS	Leoncito	4.41	208	eP	Pn	01 37 00.8	0.0
RTLS				IAML		01 37 02.2	
	comp=Z,23nm,0.2s						
AUSP	Uspallata	4.81	207	eP	Pn	01 37 06.3	+0.2
ASAL	Salagasta	4.96	200	eP	Pn	01 37 07.5	-0.2
ARCO	CERRO ARCO	5.22	200	eP	Pn	01 37 11.3	0.0
ARCO				IAML		01 37 11.8	
	comp=Z,31nm,0.2s						
LVC	Limon Verde	5.62	340	eP	Pn	01 37 16.7	-0.1
ROC1	El Roble	6.19	215	eP	Pn	01 37 22.6	-1.6

*IDC **17** 01:36:15.5±1.0, 10°.41N×56°.91E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/42, mbtmp3.9/11, Error ellipse: s-maj=29.0km s

mb2.9/1, mb1 3.3/4, mb1mx3.0/32, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=88.6km s-min=54.2km az=24.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.58**	**198**	P	Pn	01 41 06.7	+1.2
	0.1nm,0.3s,baz=352,slow=11,SNR=2.1						
FITZ				S	Sn	01 43 08.8	-4.8
	0.2nm,0.3s,baz=120,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**13.76**	**160**	P	Pn	01 41 34.4	+0.9
	0.3nm,0.3s,baz=343,slow=10,SNR=5.8						
WRA				S	Sn	01 43 56.9	-9.2
	0.2nm,0.3s,baz=343,slow=22,SNR=1.4						
ASAR	**Alice Springs**	**17.14**	**165**	P	Pn	01 42 14.9	-0.3
	0.3nm,0.3s,baz=344,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	01 49 06.2	-0.2
	0.2nm,0.5s,baz=124,slow=7.8,SNR=2.0						

*IDC **17** 01:46:32.5±3.4, 18°.54S×168°.72E, h68km±28km, mb4.1/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.5/13, ML5.3/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/25, Error ellipse: s-maj=26.7km s-min=15.7km az=79.0*

*ISCJB **17** 01:46:35.7±0.3, 18°.64S±0°.05×168°.45E±0°.07, h100km, mb4.6/33, Error ellipse: s-maj=9.3km s-min=6.5km az=159.7*

*NEIC **17** 01:46:36.0±1.2, 18°.58S×168°.50E, h94km±12km, mb4.7/19, Error ellipse: s-maj=11.1km s-min=9.1km az=73.0*

ISC 17 01:46:36.7±0.4, 18°.69S±0°.06×168°.48E±0°.08, h100km, n86, σ1§44/83, mb4.7/33, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**209**	P	**Pn**	**01 47 32.0**	**-2.3**
	86nm,0.3s,baz=44,slow=18,SNR=412						
DZM				S	**Sn**	**01 48 16.6**	**-2.2**
	234nm,0.3s,baz=149,slow=21,SNR=12						
DZM				LR	LR	01 48 46.8	
	comp=Z,453nm,21.2s,baz=32,slow=33						
DZM	**Mont Dzumac**	**3.87**	**209**	*e*Pn	**Pn**	**01 47 31.0**	**-3.3**
DZM				*e*S	**Sn**	**01 48 16.2**	**-2.6**
MSVF	**Nonsavu**	**9.15**	**86**	*e*Pn	**Pn**	**01 48 48.0**	**+2.0**
HNR	**Honiara**	**12.37**	**317**	P	**Pn**	**01 49 27.3**	**-2.0**
	45nm,0.3s,baz=200,slow=4.7,SNR=6.1						
HNR				LR	LR	01 53 18.7	
	comp=Z,135nm,20.4s,baz=140,slow=33						
HNR	**Honiara**	**12.37**	**317**	*e*Pn	**Pn**	**01 49 27.9**	**-1.5**
OUZ	**Omahuta**	**17.08**	**166**	*e*Pn	**P**	**01 50 31.1**	**+1.6**
	23nm,0.8s						
ARMA	**Armidale**	**19.24**	**229**	*e*P	Pn	01 51 05.8	+10
TARA	**Tarawa**	**20.39**	**13**	*e*P	**P**	**01 51 03.8**	**-2.0**
	23nm,1.4s						
URZ	**Urewera**	**20.91**	**161**	P	**P**	**01 51 11.8**	**+0.7**
	9.1nm,0.8s,baz=333,slow=8.4,SNR=7.7						
URZ				LR	LR	01 58 15.7	
	comp=Z,105nm,18.4s,baz=332,slow=34						
URZ	**Urewera**	**20.91**	**161**	*e*P	**P**	**01 51 12.4**	**+1.3**
	20nm,0.9s						
BKZ	**Black Stump Fm**	**21.56**	**163**	*e*P	**P**	**01 51 19.0**	**+0.8**
	27nm,1.3s						
PMG	**Port Moresby**	**22.62**	**291**	P	**P**	**01 51 33.3**	**+3.8**
	7.4nm,0.5s,baz=101,slow=5.5,SNR=4.4						
BFZ	**Birch Farm**	**22.92**	**165**	*e*P	**P**	**01 51 31.5**	**-0.6**
	71nm,1.5s						
THZ	**Tophouse**	**23.31**	**172**	*e*P	**P**	**01 51 37.3**	**+1.4**
	29nm,0.9s						
KHZ	**Kahutara**	**24.04**	**171**	*e*P	**P**	**01 51 41.8**	**-0.7**
	53nm,1.3s						
RPZ	**Rata Peaks**	**25.05**	**176**	LR	LR	02 01 24.5	
	comp=Z,112nm,19.1s,baz=330,slow=35						
STKA	**Stephens Creek**	**27.54**	**236**	P	**P**	**01 52 15.3**	**+1.1**
	3.4nm,0.8s,baz=56,slow=8.8,SNR=6.6						
STKA				LR	LR	02 04 08.6	
	comp=Z,200nm,18.9s,baz=219,slow=38						
STKA	**Stephens Creek**	**27.54**	**236**	*e*P	**P**	**01 52 16.5**	**+2.3**
	3.5nm,0.9s						
WB2	**Warramunga Arr**	**32.20**	**262**	*e*P	**P**	**01 52 58.1**	**+2.6**
WRAB	**Tennant Creek**	**32.20**	**262**	*e*P	**P**	**01 52 55.8**	**+0.2**
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**32.21**	**262**	P	**P**	**01 52 55.3**	**-0.4**
	0.6nm,0.4s,baz=89,slow=8.4,SNR=7.0						
AS01	**Alice Springs**	**32.52**	**255**	*e*P	**P**	**01 52 58.8**	**+0.5**
AS31	**Alice Springs**	**32.56**	**255**	*e*P	**P**	**01 52 59.2**	**+0.5**
	3.8nm,0.5s						
ASAR	**Alice Springs**	**32.57**	**255**	P	**P**	**01 52 59.1**	**+0.4**
	6.1nm,0.5s,baz=84,slow=8.4,SNR=32						
ASAR				LR	LR	02 05 00.1	
	comp=Z,188nm,19.2s,baz=218,slow=34						
GUMO	**Guam**	**39.62**	**322**	LR	LR	02 08 08.2	
	comp=Z,62nm,21.5s,baz=172,slow=33						
MBWA	**Marble Bar**	**45.76**	**258**	*e*P	**P**	**01 54 49.9**	**+1.4**
	5.3nm,0.4s						
VNDA	**Vanda**	**58.96**	**182**	P	**P**	**01 56 25.2**	**0.0**
	1.6nm,0.8s,baz=2.8,slow=7.7,SNR=8.1						
VNDA				LR	LR	02 18 10.2	
	comp=Z,37nm,21.3s,baz=343,slow=32						
VNDA	**Vanda**	**58.96**	**182**	*e*P	**P**	**01 56 26.2**	**+1.0**
	18nm,1.9s						
SBA	**Scott Base**	**59.21**	**180**	*e*P	**P**	**01 56 28.8**	**+1.9**
	16nm,1.0s						
SBA				*e*		01 56 46.0	
MJAR	**Matsushiro Arr**	**61.93**	**333**	P	**P**	**01 56 44.1**	**-1.9**
	6.3nm,0.8s,baz=166,slow=7.9,SNR=11						
MAT	**Matsushiro**	**61.93**	**333**	P	**P**	**01 56 44.7**	**-1.3**
JNU	**Nakatsue**	**62.80**	**325**	*e*P	**P**	**01 56 50.8**	**-1.0**
	13nm,0.8s						
KSRS	**Korea Array**	**67.64**	**326**	P	**P**	**01 57 23.5**	**+0.5**
	1.2nm,0.4s,baz=144,slow=7.3,SNR=4.6						
KSAR	**Wonju Array Be**	**67.66**	**326**	P	**P**	**01 57 23.5**	**+0.4**
QIZ	**Qiongzhong**	**68.68**	**300**	P	**P**	**01 57 32.1**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,27nm,2.5s						
NJ2	**Nanjing**	**69.31**	**316**	*e*P	**P**	**01 57 33.6**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.92**	**333**	P	**P**	**01 57 42.9**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=137,slow=6.8,SNR=8.7						
QSPA	**South Pole Qui**	**71.36**	**180**	*e*P	**P**	**01 57 46.1**	**+0.4**
	comp=Z,88nm,0.9s						
QSPA				*e*		01 58 04.3	
PETK	**Petropavlovsk-**	**72.10**	**353**	LR	LR	02 23 19.3	
	comp=Z,31nm,19.8s,baz=209,slow=31						
GYA	**Guiyang**	**74.91**	**305**	*e*P	**P**	**01 58 10.0**	**+2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**77.37**	**302**	P	**P**	**01 58 23.1**	**+1.8**
KMI				pmax	pmax		
	comp=Z,23nm,0.7s						
CM01	**Chiang Mai Arr**	**77.59**	**294**	*e*P	**P**	**01 58 23.9**	**+1.5**
CM31	**Chiang Mai Arr**	**77.62**	**294**	*e*P	**P**	**01 58 24.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**77.62**	**294**	P	**P**	**01 58 24.1**	**+1.6**
	comp=Z,5.3nm,0.5s,baz=132,slow=5.5,SNR=27						
CHTO	**Chiang Mai**	**77.77**	**295**	*e*P	**P**	**01 58 24.3**	**+0.9**
	comp=Z,9.2nm,0.8s						
MAW	**Mawson**	**78.67**	**202**	P	**P**	**01 58 28.3**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=91,slow=7.5,SNR=11						
MAW				LR	LR	02 30 23.7	
	comp=Z,61nm,19.9s,baz=61,slow=33						
MAW	**Mawson**	**78.67**	**202**	*e*P	**P**	**01 58 29.8**	**+2.3**
	comp=Z,1.2nm,0.6s						
HHC	**Hu-ho-hao-te**	**79.33**	**320**	*e*P	**P**	**01 58 33.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,69nm,8.6s						
LZH	**Lanzhou**	**81.82**	**312**	*e*P	**P**	**01 58 46.1**	**+1.0**
LZH				pP	pP	01 59 05.0	-6.1
LZH				sP	sP	01 59 12.8	-9.0
LZH				PP	**PP**	**02 01 56.0**	**+2.1**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,8.2s						
LZH				LR	LR		
	comp=N,130nm,15.2s						
LZH				LR	LR		
	comp=E,130nm,15.6s						
LZH				LR	LR		
	comp=Z,160nm,19.0s						
SYO	**Syowa Base**	**85.26**	**196⇑**	*e*PcP	**PcP**	**01 59 04.8**	**-0.1**
ULN	**Ulaanbaatar**	**85.99**	**324**	*e*P	**P**	**01 59 05.7**	**-0.3**
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**86.22**	**314**	*e*P	**P**	**01 59 08.0**	**+0.6**
GTA				pP	PcP	01 59 13.3	+3.5
GTA				sP	pP	01 59 16.4	-17
SONM	**Songino Array**	**86.35**	**323**	P	**P**	**01 59 07.6**	**-0.2**
	comp=Z,9.1nm,0.9s,baz=147,slow=6.4,SNR=35						
SONA1	**Songino Array**	**86.35**	**323**	*e*P	**P**	**01 59 07.3**	**-0.5**
CMB	**Columbia Colle**	**87.33**	**48**	*e*P	**P**	**01 59 11.8**	**-0.8**
	comp=Z,4.6nm,0.7s						
SNAA	**Sanae**	**89.68**	**183**	P	**P**	**01 59 23.0**	**-0.2**
SNAA	**Sanae**	**89.68**	**183**	*e*P	**P**	**01 59 22.9**	**-0.3**
	comp=Z,104nm,0.6s						
ILAR	**Eielson Array**	**89.92**	**18**	P	**P**	**01 59 20.9**	**-3.3**
	comp=Z,1.0nm,0.7s,baz=236,slow=4.7,SNR=15						
ILAR				LR	LR	02 30 59.5	
	comp=Z,34nm,21.0s,baz=276,slow=30						
VNA3	**Neumayer Olymp**	**90.30**	**181**	P	**P**	**01 59 24.9**	**-1.2**
VNA2	**Neumayer--Watz**	**90.58**	**181**	P	**P**	**01 59 27.2**	**-0.2**
	baz=181,slow=3.7						
VNA1	**Neumayer--Stat**	**90.87**	**181**	P	**P**	**01 59 29.1**	**+0.4**
LTY	**Liberty**	**91.22**	**40**	*e*P	**P**	**01 59 30.6**	**-0.2**
	comp=Z,10nm,0.4s						
TXAR	**Lajitas Array**	**97.14**	**62**	LR	LR	02 34 44.0	
	comp=Z,43nm,21.1s,baz=0.0,slow=30						
MKAR	**Makanchi Array**	**100.84**	**316**	P	**Pdif**	**02 00 14.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=89,slow=7.0,SNR=10						
ARCES	**ARCESS Array B**	**124.35**	**345**	PKP	**PKPdf**	**02 05 22.1**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=72,slow=2.0,SNR=24						
FINES	**FINESS Array B**	**129.80**	**338**	PKP	**PKPdf**	**02 05 32.5**	**-1.4**
	comp=Z,3.1nm,1.0s,baz=150,slow=1.5,SNR=4.2						
NOA	**NORSAR Array B**	**134.72**	**345**	PKP	**PKPdf**	**02 05 43.3**	**0.0**
	comp=Z,1.2nm,0.9s,baz=44,slow=3.2,SNR=2.8						
CONA	**Conrad Observa**	**143.30**	**329**	*e*PKPdf	**PKPdf**	**02 05 57.8**	**-1.6**
	comp=Z,2.4nm,0.6s						
GERES	**GERESS Array B**	**143.66**	**332**	PKP	PKPbc	02 05 57.0	-0.7
	comp=Z,1.7nm,0.8s,baz=40,slow=2.8,SNR=11						
ARSA	**Arzberg**	**143.93**	**328**	*e*PKPdf	**PKPdf**	**02 06 01.2**	**+0.7**
	comp=Z,5.5nm,1.3s						
MOA	**Molln**	**144.12**	**330**	*e*PKPdf	**PKPdf**	**02 05 59.2**	**-1.6**
	comp=Z,3.7nm,0.6s						
SOKA	**Soboth**	**144.56**	**328**	*i* PKPab	PKPbc	02 06 00.1	-0.5
	comp=Z,6.3nm,0.6s						
OBKA	**Obir**	**144.92**	**328**	*i* PKPdf	**PKPdf**	**02 06 01.9**	**-0.5**
	comp=Z,5.4nm,0.7s						
KBA	**Koelnbreinsper**	**145.11**	**330**	*e*PKPbc	**PKPdf**	**02 06 01.7**	**-1.0**
	comp=Z,14nm,1.0s						
MYKA	**Terra Mystica**	**145.29**	**329**	*i* PKPbc	**PKPbc**	**02 06 01.9**	**-1.0**
	comp=Z,9.4nm,0.5s						
ABTA	**Abfaltersbach**	**145.75**	**330**	*e*PKPdf	**PKPbc**	**02 06 03.4**	**-0.9**
	comp=Z,19nm,0.8s,SNR=7.8						
WTTA	**Wattenberg**	**145.77**	**332**	*e*PKPab	**PKPab**	**02 06 04.2**	**-0.8**
	comp=Z,9.3nm,1.0s						
MOTA	**Moosalm**	**145.94**	**332**	*e*PKPbc	**PKPab**	**02 06 04.5**	**-1.1**
	comp=Z,13nm,1.0s,SNR=9.8						
RETA	**Reutte**	**145.99**	**333**	*e*PKPdf	**PKPbc**	**02 06 04.1**	**-0.9**
	comp=Z,4.1nm,0.6s						
WLF	**Walferdange**	**145.99**	**339**	*e*PKPbc	**PKPab**	**02 06 04.8**	**-0.6**
BFO	**Black Forest**	**146.32**	**336**	*e*PKPbc	**PKPbc**	**02 06 05.3**	**-0.6**
FETA	**Feichten**	**146.36**	**332**	*e*PKPbc	**PKPab**	**02 06 05.8**	**-1.4**
	comp=Z,9.6nm,0.7s						
DAVA	**Damuels**	**146.52**	**333**	*e*PKPbc	**PKPab**	**02 06 06.5**	**-1.4**
	comp=Z,9.2nm,0.7s						
BNI	**Bardonecchia**	**149.65**	**334**	*e*PKPbc	**PKPbc**	**02 06 14.9**	**-0.1**
BNI				*e*PKPab	**PKPab**	**02 06 19.7**	**-0.7**
ESDC	**Sonseca Array**	**158.09**	**344**	PKPab	**PKPab**	**02 06 54.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=9.6,slow=4.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**166.15**	**248**	PKP	**PKPdf**	**02 06 30.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=19,slow=0.7,SNR=6.3						

DDA 17 01:57:32.9, 38°.73N×27°.52E, h7km, Md2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.27**	**57**	*i* P	Pg	01 57 38.5	+0.2
AKHS				*i* S	Sg	01 57 43.1	+1.2
AKHS	**Akhisar**	**0.27**	**57**	*i* P	Pg	01 57 38.2	-0.1
AKHS				*i* S	Sg	01 57 43.2	+1.3

*IDC **17** 01:57:53.0±0.9, 29°.69S×176°.18W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/25, mbtmp4.0/8, MS3.5/2, Ms1 3.5/2, ms1mx3.0/20, Error ellipse: s-maj=33.8km s-min=18.9km az=1.0*

ISC 17 01:57:54.4±0.8, 29°.93S±0°.09×176°.30W±0°.08, h10km, n17, σ1§50/15, mb4.0/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.56**	**295**	Pn	**Pg**	**01 58 23.5**	**-0.9**
	197nm,0.3s,baz=58,slow=22,SNR=13						
RAO				Sn	**Sg**	**01 58 44.2**	**-0.5**
	461nm,0.3s,baz=150,slow=23,SNR=6.7						
URZ	**Urewera**	**9.94**	**212**	Pn	**Pn**	**02 00 15.7**	**-1.5**
	0.8nm,0.3s,baz=83,slow=16,SNR=3.5						
URZ				Sn	**Sn**	**02 02 07.1**	**-1.7**
	4.1nm,0.3s,baz=222,slow=19,SNR=8.1						
RAR	**Rarotonga**	**17.24**	**64**	LR	LR	02 06 21.0	
	comp=Z,172nm,20.9s,baz=222,slow=30						
DZM	**Mont Dzumac**	**17.36**	**293**	P	**P**	**02 01 59.8**	**+1.5**
	0.2nm,0.3s,baz=90,slow=14,SNR=4.2						
TBI	**Tubuai**	**24.84**	**81**	*e*LR	LR	02 09 00.9	
	217nm,28.0s						
PPT2	**Papeete2**	**27.30**	**69**	*e*LR	LR	02 10 11.4	
	107nm,24.8s						
PPT	**Papeete**	**27.31**	**69**	LR	LR	02 12 38.6	
	comp=Z,73nm,18.1s,baz=205,slow=33						
CTA	**Charters Tower**	**35.19**	**277**	P	**P**	**02 04 50.3**	**+1.5**
	2.1nm,0.5s,baz=97,slow=8.1,SNR=4.7						
STKA	**Stephens Creek**	**36.02**	**256**	P	**P**	**02 04 57.5**	**+1.6**
	2.0nm,0.6s,baz=101,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**44.61**	**266**	P	**P**	**02 06 07.0**	**-0.1**
	1.2nm,0.7s,baz=110,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**45.56**	**271**	P	**P**	**02 06 14.6**	**-0.1**
	2.9nm,0.6s,baz=110,slow=7.8,SNR=18						
MAW	**Mawson**	**73.25**	**200**	P	**P**	**02 09 28.0**	**+2.6**
	1.0nm,0.6s,baz=89,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**90.90**	**56**	P	**P**	**02 10 57.2**	**-1.4**
	0.4nm,0.8s,baz=203,slow=6.1,SNR=3.7						
PDAR	**Pinedale Array**	**94.79**	**43**	P	**P**	**02 11 16.5**	**+0.1**
	0.4nm,0.8s,baz=237,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**97.15**	**12**	P	**P**	**02 11 25.0**	**-1.3**
	0.2nm,0.8s,baz=216,slow=4.5,SNR=6.0						
FINES	**FINESS Array B**	**145.20**	**341**	PKP	**PKPdf**	**02 17 30.0**	**-1.5**
	1.7nm,0.6s,baz=68,slow=1.0,SNR=8.3						
TORD	**Torodi Ar. Bea**	**163.19**	**173**	PKPab	**PKPab**	**02 18 48.6**	**+0.9**
	2.7nm,0.7s,baz=195,slow=4.0,SNR=24						

*BJI **17** 02:02:37.9, 1°.50N×124°.24E, h320km, mb4.4/34, mB4.4/21*

*ISCJB **17** 02:02:39.2±0.2, 1°.83N±0°.03×124°.26E±0°.03, h311km±3km, mb4.5/54, Error ellipse: s-maj=5.0km s-min=4.4km az=152.4*

*KLM **17** 02:02:40.0, 1°.94N×124°.33E, h297km, mb4.9*

*DJA **17** 02:02:41.1±0.2, 2°N±2°×12°4E±°, h276km±2km, M4.5/15, mb4.6/15, mB4.9/6, MLv4.6/3, Mw(mB)4.2/6*

*NEIC **17** 02:02:41.7±0.7, 1°.80N×124°.19E, h327km±8km, mb4.6/26, Error ellipse: s-maj=8.3km s-min=5.1km az=64.0*

*IDC **17** 02:02:43.1±2.6, 1°.80N×124°.14E, h342km±29km, mb3.8/18, mb1 3.8/19, mb1mx3.7/31, mbtmp4.4/19, Error ellipse: s-maj=16.2km s-min=9.4km az=72.0*

ISC 17 02:02:40.6±0.5, 1°.82N±0°.04×124°.19E±0°.05, h312km±5km, n130, σ1§81/152, mb4.4/53, 3C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.25**	**190**	P	**Pn**	**02 03 22.3**	**-1.3**
KMSI				S	**S**	**02 03 53.1**	**-4.7**
SGSI	**Sangihe**	**2.28**	**36**	P	**Pn**	**02 03 30.1**	**-0.7**
SGSI				S	**S**	**02 04 07.4**	**-3.4**
MRSI	**Marisa**	**2.62**	**239**	P	**Pn**	**02 03 33.2**	**-0.4**
MRSI				S	**S**	**02 04 12.7**	**-3.3**
APSI	**Ampana**	**3.72**	**223**	P	**Pn**	**02 03 42.7**	**-1.8**
APSI				S	**S**	**02 04 30.9**	**-4.8**
LBMI	**Labuha**	**4.11**	**126**	P	**Pn**	**02 03 47.4**	**-1.3**
LBMI				S	**S**	**02 04 38.6**	**-4.8**
SANI	**Sanana**	**4.24**	**155**	P	**Pn**	**02 03 46.8**	**-3.3**
SANI				S	S	02 04 36.7	-9.3
MPSI	**Mapaga**	**4.54**	**251**	P	**Pn**	**02 03 52.4**	**-1.0**
MPSI				S	**S**	**02 04 49.0**	**-2.9**
PCI	**Palu**	**5.13**	**238**	P	**Pn**	**02 03 58.4**	**-1.7**
	133nm,0.9s,1μm0.5nm						
PCI				S	**S**	**02 04 59.1**	**-5.0**
	133nm,0.9s,1μm0.5nm						
NLAI	**Namlea**	**5.80**	**150**	P	**Pn**	**02 04 06.2**	**-1.8**
NLAI				S	**S**	**02 05 14.9**	**-3.6**
KDI	**Kendari**	**5.95**	**195**	P	**Pn**	**02 04 07.3**	**-2.4**
	50nm,1.0s,784nm0.3nm						
TTSI	**Tana Toraja**	**6.52**	**222**	P	**Pn**	**02 04 16.6**	**+0.2**
MYLDM	**Lahad Datu**	**6.59**	**301**	*e*Pn	**Pn**	**02 04 18.7**	**+1.4**
MYLDM	**Lahad Datu**	**6.59**	**301**	⇓P	**Pn**	**02 04 18.7**	**+1.4**
TSM	**Tawau**	**6.77**	**291**	⇑P	**Pn**	**02 04 19.5**	**0.0**
MSAI	**Masohi**	**6.98**	**137**	P	**Pn**	**02 04 23.0**	**+1.0**
MSAI				S	**S**	**02 05 43.2**	**-1.0**
SPSI	**Sidrap Palu**	**7.25**	**218**	P	**Pn**	**02 04 25.0**	**-0.3**
BNSI	**Bone**	**7.41**	**213**	P	**Pn**	**02 04 27.7**	**+0.6**
BNSI				S	**S**	**02 05 53.2**	**-0.3**
BKB	**Balikpapan**	**7.91**	**247**	P	**Pn**	**02 04 33.4**	**+0.1**
KDM	**Kudat**	**8.91**	**305**	⇓P	**Pn**	**02 04 46.9**	**+1.4**
KKM	**Kota Kinabalu**	**9.00**	**298**	*e*Pn	**Pn**	**02 04 46.5**	**-0.1**
KKM	**Kota Kinabalu**	**9.00**	**298**	⇓P	**Pn**	**02 04 46.8**	**+0.2**
FAKI	**Fak Fak**	**9.33**	**120**	P	**Pn**	**02 04 49.8**	**-0.8**
FAKI	**Fak Fak**	**9.33**	**120**	*e*Pn	**Pn**	**02 04 49.5**	**-1.1**
MTKI	**Muara Teweh, K**	**9.69**	**254**	P	**Pn**	**02 04 55.1**	**+0.1**
EDFI	**Ende, Flores**	**10.79**	**193**	P	**Pn**	**02 05 09.0**	**+0.5**
	35nm,0.8s						
SJMP	**San Jose**	**11.00**	**344**	*e*P	**P**	**02 05 12.1**	**-0.8**
BTM	**Bintulu**	**11.18**	**277**	⇓P	**Pn**	**02 05 14.0**	**+0.8**
SOEI	**Soe**	**11.50**	**180**	P	**P**	**02 05 19.5**	**+0.9**
SOEI	**Soe**	**11.50**	**180**	*e*Pn	**P**	**02 05 18.7**	**+0.1**
SOEI				*e*S	**S**	**02 07 28.3**	**+2.6**
SBUM	**Sibu**	**11.98**	**273**	*e*Pn	**Pn**	**02 05 23.1**	**+0.2**
SBUM	**Sibu**	**11.98**	**273**	⇓P	**P**	**02 05 23.5**	**-0.4**
PLAI	**Plampang**	**12.36**	**211**	P	**P**	**02 05 29.4**	**+1.4**
LUBP	**Lubang**	**12.46**	**342**	*e*P	**P**	**02 05 30.1**	**+0.9**
TGY	**Tagaytay City**	**12.62**	**345**	P	**P**	**02 05 31.4**	**+0.5**
	15nm,0.3s,baz=220,slow=3.8,SNR=7.7						
TWSI	**Tatiwang, Sumb**	**12.77**	**215**	P	**P**	**02 05 34.5**	**+1.9**
STKI	**Sintang**	**12.83**	**262**	P	**P**	**02 05 34.6**	**+1.3**
KSM	**Kuching**	**13.88**	**269**	*e*P	**Pn**	**02 05 46.2**	**+0.6**
KSM	**Kuching**	**13.88**	**269**	⇑P	**Pn**	**02 05 46.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**14.31**	**224**	P	**Pn**	**02 05 53.6**	**+3.0**
	73nm,0.8s						
JAGI	**Jajag, Banyuwa**	**14.31**	**224**	*e*P	**Pn**	**02 05 51.1**	**+0.4**
SMPI	**Sarmi**	**15.00**	**105**	P	**Pn**	**02 06 03.0**	**+4.2**
MTN	**Manton Dam**	**16.11**	**155**	*e*P	**P**	**02 06 09.8**	**+0.5**
	84nm,1.6s						
GENI	**Genyem**	**16.56**	**105**	P	**Pn**	**02 06 20.9**	**+3.9**
JAY	**Jayapura**	**17.06**	**105**	P	**Pn**	**02 06 25.3**	**+2.5**
	258nm,0.8s,3μm						
CBJI	**Citeko**	**19.15**	**245**	P	**P**	**02 06 46.7**	**+4.7**
DBJI	**Dramaga**	**19.30**	**244**	P	**P**	**02 06 47.4**	**+3.8**
FITZ	**Fitzroy Crossi**	**19.85**	**176**	P	**P**	**02 06 50.1**	**+0.7**
	0.5nm,0.3s,baz=6.1,slow=11,SNR=15						
CGJI	**Cibinong**	**20.28**	**245**	P	**P**	**02 06 55.2**	**+1.4**
MYKOM	**Kota Tinggi**	**20.33**	**270**	⇓P	**P**	**02 06 56.3**	**+1.9**
KGM	**Kluang**	**20.86**	**271**	⇓P	**P**	**02 07 00.1**	**+0.6**
MDSI	**Maura Dua**	**20.96**	**253**	P	**P**	**02 07 00.8**	**+0.4**
KASI	**Kota Agung**	**20.98**	**250**	P	**P**	**02 07 04.2**	**+3.6**
	123nm,0.8s						
TWG	**Pinlang**	**21.09**	**352**	*e*P	**P**	**02 07 01.9**	**+0.4**
	202nm,0.6s						
KTGM	**Kuala Trenggan**	**21.30**	**280**	⇓P	**P**	**02 07 04.3**	**+0.7**
LHSI	**Lahat**	**21.41**	**255**	P	**P**	**02 07 08.7**	**+4.2**
	83nm,0.7s						
YULB	**Yu-li**	**21.63**	**353**	*e*P	**P**	**02 07 05.9**	**-0.5**
	37nm,0.7s						
TPUB	**Ta-pu**	**21.63**	**351**	*e*P	**P**	**02 07 06.2**	**-0.2**
	167nm,0.8s						
SSLB	**Suanglung**	**22.06**	**352**	*e*P	**P**	**02 07 12.0**	**+1.6**
	74nm,0.8s						
NACB	**Ninganchiao**	**22.36**	**354**	*e*P	**P**	**02 07 14.2**	**+1.1**
	25nm,1.0s						
MASI	**Maura Aman, Be**	**22.49**	**257**	P	**P**	**02 07 19.1**	**+4.7**
	128nm,1.0s						
FRIM	**Kepong**	**22.59**	**274**	⇑P	**P**	**02 07 17.6**	**+2.3**
YHNB	**Yeheng**	**22.88**	**353**	*e*P	**P**	**02 07 20.1**	**+2.3**
	51nm,0.8s						
**WRA

DMN	Daman	45.33	308	eP	P	02 10 28.4	-0.5
GKN	Gorkha	45.88	308	eP	P	02 10 33.6	+0.5
KOLN	Koldanda	46.59	307	eP	P	02 10 38.6	-0.1
30nm,0.7s							
PYUN	Piuthan	47.22	308	eP	P	02 10 43.6	+0.1
44nm,0.8s							
HIA	Hailar	47.42	356	eP	P	02 10 44.4	0.0
3.9nm,0.3s							
ULN	Ulaanbaatar	48.21	345	eP	P	02 10 52.0	+1.4
11nm,0.9s							
SONM	Songino Array	48.36	344	P	P	02 10 51.5	-0.2
8.6nm,0.7s,baz=159,slow=9.2,SNR=33							
SONM				PcP	PcP	02 12 12.0	-0.9
0.5nm,0.5s,baz=181,slow=3.6,SNR=3.7							
SONA1	Songino Array	48.37	344	eP	P	02 10 51.3	-0.4
KSH	Kashi	57.65	317	P	P	02 12 00.3	+1.1
KSH				PcP	PcP	02 12 48.5	0.0
KSH				pP	pP	02 13 15.1	+8.5
KSH				PP	PP	02 14 15.4	+4.3
KSH				PcS	PcS	02 16 45.6	-4.6
KSH				S	S	02 19 27.4	-5.3
KSH				pmax	pmax		
comp=Z,5.0nm,1.0s							
KSH				pmax	pmax		
comp=Z,70nm,4.3s							
KSH				LR	LR		
comp=N,140nm,6.3s							
KSH				LR	LR		
comp=E,140nm,10.5s							
KSH				LR	LR		
comp=Z,130nm,11.1s							
MK01	Makanchi Array	57.70	327	eP	P	02 11 58.8	-0.5
MK01				ePcP	PcP	02 12 47.8	-0.6
MK31	Makanchi Array	57.72	327	eP	P	02 11 58.8	-0.7
MK31				ePcP	PcP	02 12 47.8	-0.7
MKAR	Makanchi Array	57.72	327	P	P	02 11 59.0	-0.5
6.9nm,0.6s,baz=125,slow=8.1,SNR=44							
MKAR				PcP	PcP	02 12 48.0	-0.5
3.4nm,0.6s,baz=124,slow=4.3,SNR=10							
MKAR	Makanchi Array	57.72	327	eP	P	02 11 59.0	-0.5
47nm,0.8s							
MKAR				PcP	PcP	02 12 48.0	-0.5
MAKZ	Makanchi	57.90	327	eP	P	02 12 00.0	-0.7
6.8nm,0.7s							
AAK	Ala-Archa	60.11	320	eP	P	02 12 16.6	+0.6
1.5nm,0.6s							
YAK	Yakutsk	60.21	3	eP	P	02 12 16.2	+0.2
105nm,0.7s							
ZAA0	Zalesovo Array	61.17	335	eP	P	02 12 21.1	-1.6
ZALV	Zalesovo Beam	61.17	335	P	P	02 12 21.2	-1.5
3.7nm,0.5s,baz=122,slow=6.3,SNR=16							
KURK	Kurchatov	62.02	329	eP	P	02 12 27.7	-0.6
145nm,0.6s							
KKAR	Karatay Array	62.93	318	eP	P	02 12 34.2	-0.4
15nm,0.5s							
BRVK	Borovoye	67.63	328	eP	P	02 13 03.6	-0.7
20nm,0.9s							
GEYT	Alibeck	70.13	310	P	P	02 13 20.3	+0.3
3.2nm,0.7s,baz=160,slow=4.7,SNR=6.4							
NRIK	Noril'sk	71.69	347	P	P	02 13 28.6	0.0
10nm,0.5s,baz=129,slow=6.6,SNR=13							
ABKAR	Akbulak array	72.04	322	eP	P	02 13 30.1	-1.0
27nm,0.6s							
ARU	Arti	75.21	328	eP	P	02 13 47.8	-1.4
7.6nm,0.9s							
RAYN	Ar Rayn	78.90	293	eP	P	02 14 09.4	-1.1
3.7nm,1.1s							
DHY	Denali Highway	87.68	27	eP	P	02 14 55.4	+1.2
18nm,0.8s							
ILAR	Eielson Array	87.90	25	P	P	02 14 53.7	-1.3
0.5nm,0.5s,baz=246,slow=4.6,SNR=10							
BRTR	Keskin Array B	89.28	310	P	P	02 15 00.3	-2.0
0.5nm,0.9s,baz=110,slow=5.6,SNR=3.0							
ARCES	ARCESS Array B	91.35	340	P	P	02 15 09.0	-2.0
2.2nm,0.6s,baz=68,slow=4.2,SNR=19							
FINES	FINESS Array B	92.30	332	P	P	02 15 13.7	-1.8
1.7nm,0.7s,baz=96,slow=7.7,SNR=4.2							
TORD	Torodi Ar. Bea	121.06	286	PKP	PKPdf	02 20 56.0	-1.4
0.7nm,0.7s,baz=44,slow=1.2,SNR=4.6							
TXAR	Lajitas Array	124.76	52	PKP	PKPdf	02 21 05.0	+0.7
0.3nm,0.7s,baz=257,slow=0.6,SNR=5.3							

*IDC **17** 02:24:14.3±14.0, 41°.39N×141°.83E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/39, mbtmp3.8/4, Error ellipse: s-maj=356.9km s-min=41.3km az=169.0*
*ISCJB **17** 02:24:22.4±0.5, 41°.41N±0°.04×141°.72E±0°.06, h72km±5km, mb3.6/4, Error ellipse: s-maj=8.5km s-min=6.3km az=26.8*
*JMA **17** 02:24:22.9±0.1, 41°.42N×141°.75E, h68km±1km, M3.4*
JMA Felt I J1.

ISC 17 02:24:23.1±0.9, 41°.41N±0°.04×141°.73E±0°.05, h66km±9km, n17, σ0$64/23, mb3.8/4, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.52	267	⇓P	Pn	02 24 35.8	+0.1
JOT				S	Sn	02 24 45.6	+0.7
JKB	Kayabe	0.71	312	⇓P	Pn	02 24 37.6	-0.2
JKB				S	Sn	02 24 48.7	+0.1
JTM	Tenmabayashi	0.80	219	⇓P	Pn	02 24 39.1	+0.2
JTM				S	Sn	02 24 50.6	0.0
JANG	Nango	1.05	189	⇑P	Pn	02 24 41.5	-0.5
JANG				eS	Sn	02 24 55.1	-1.0
JNBK	Urakawa-nobuka	1.16	41	P	Pn	02 24 42.8	-0.6
JNB	Noboribetsu	1.18	334	⇓P	Pn	02 24 43.2	-0.5
JNB				eS	Sn	02 24 58.0	-1.0
JEM	Erimo	1.23	60	P	Pn	02 24 44.6	+0.3
JEM				eS	Sn	02 25 00.6	+0.5
JYM2	Yakumo 2	1.24	305	⇓P	Pn	02 24 44.8	+0.3
JEW	Eniwo	1.44	352	P	Pn	02 24 47.2	0.0
JBT2	Biratori 2	1.45	19	P	Pn	02 24 47.6	+0.4
JAH	Hinai	1.48	215	P	Pn	02 24 48.3	+0.7
JIW	Iwasaki	1.54	239	⇓P	Pn	02 24 48.9	+0.4
JCH	Churui	1.71	45	P	Pn	02 24 51.5	+0.8
ZALV	Zalesovo Beam	39.27	309	P	P	02 31 46.4	+1.4
0.8nm,0.4s,baz=66,slow=7.1,SNR=2.2							
MKAR	Makanchi Array	42.14	298	P	P	02 32 08.7	-0.1
0.5nm,0.5s,baz=90,slow=7.2,SNR=6.4							
ILAR	Eielson Array	45.71	35	P	P	02 32 37.0	-0.1
0.2nm,0.7s,baz=265,slow=5.9,SNR=2.7							
FINES	FINESS Array B	65.08	331	P	P	02 34 55.4	-0.8
3.4nm,1.1s,baz=44,slow=7.5,SNR=8.8							

*KRNET **17** 02:52:10.4±0.1, 40°.34N×72°.06E, h17km, mb2.4*
*NNC **17** 02:52:10.5±2.5, 40°.21N×72°.23E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=28.2km s-min=13.0km az=125.0*
*SOME **17** 02:52:12.8, 40°.35N×72°.02E, h10km*

ISC 17 02:52:10.5±1.4, 40°.34N±0°.05×72°.12E±0°.03, h5km±12km, n19, σ1$40/35, 21C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.04	254	⇑iP	Pg	02 52 29.5	-0.9
BTK				⇑iS	Sb	02 52 43.2	-1.7
baz=254							
ARSB	Arslanbob	1.18	33	⇑iP	Pb	02 52 33.5	+0.1
baz=35							
ARSB				⇑iS	Sn	02 52 50.2	-0.1
baz=35							
ARK	Arkit	1.46	355	⇓iP	Pn	02 52 37.2	-0.4
baz=358							
ARK				⇓iS	Sg	02 52 57.2	-0.2
baz=358							
MNAS	Manas	2.16	8	⇑eP	Pb	02 52 49.1	-1.1
baz=9.0							
MNAS				⇑eS	Sb	02 53 17.2	-0.2
baz=9.0							
MNAS	Manas	2.16	8	⇑Pn	Pn	02 52 47.1	-0.2
1.6nm,0.5s							
MNAS				⇑Sn	Sg	02 53 19.3	-0.7
5.4nm,0.3s							
MNAS				⇑Lg	Lg	02 53 25.8	
5.9nm,0.4s							
ARLS	Aral	2.25	47	⇑eP	Pb	02 52 50.9	-0.8
baz=48							
ARLS				⇑iS	Sb	02 53 20.0	0.0
baz=48							
IUG	Iuzhnay	2.39	320	eP	Pb	02 52 54.4	+0.3
13nm,0.2s							
IUG				eS	Sb	02 53 24.2	+0.2
23nm,0.2s							
MRKS	Merke	2.54	19	eP	Pg	02 52 58.7	-0.4
5.4nm,0.3s							
MRKS				eS	Sg	02 53 31.4	-0.6
15nm,0.5s							
EKS2	Erkin-Say	2.63	28	⇑iP	Pb	02 52 57.1	-1.1
baz=29							
EKS2				⇑iS	Sb	02 53 30.2	-0.6
baz=29							
AAK	Ala-Archa	2.90	37	Pg	Pg	02 53 06.4	+0.3
2.7nm,0.6s							
AAK				⇑Lg	Lg	02 53 44.9	
5.7nm,0.4s							
KZA	Kyzart	2.93	53	⇑eP	Pb	02 53 01.8	-1.6
baz=53							
KZA				⇑iS	Sb	02 53 39.0	-0.7
baz=53							
DZET	Dzherino	2.97	240	⇑Pn	Pn	02 52 59.6	+1.2
0.8nm,0.3s							
DZET				⇑Lg	Lg	02 53 42.1	
19nm,0.6s							
KK31	Karatay Array	3.01	337	⇑Pn	Pb	02 53 04.6	+0.1
0.7nm,0.2s,baz=147,slow=11,SNR=17							
KK31				⇓Pg	Pg	02 53 08.9	+0.8
1.1nm,0.3s,baz=154,slow=15,SNR=5.9							
KK31				⇑Lg	Lg	02 53 49.1	
1.4nm,0.3s,baz=161,slow=27,SNR=5.8							
BRLS	Borolday	3.18	328	eP	Pb	02 53 08.3	+0.7
0.7nm,0.2s							
BRLS				eS	Sb	02 53 47.9	+1.3
4.8nm,0.2s							
TKM2	Tokmak 2	3.66	44	⇓Pg	Pb	02 53 18.1	+2.2
1.7nm,0.6s							
TKM2				⇑Lg	Lg	02 54 08.1	
5.2nm,0.7s							
KST	Kastek	3.94	46	eP	Pg	02 53 24.9	-1.1
1.0nm,0.2s							
KST				eS	Sg	02 54 16.9	-0.2
4.8nm,0.6s							
DGS	Degeres	3.98	42	eP	Pg	02 53 27.4	+0.7
4.0nm,0.4s							
DGS				eS	Sg	02 54 21.3	+3.0
4.3nm,0.4s							
MDOK	Medeo	4.64	51	eP	Pg	02 53 40.4	+1.0
1.0nm,0.2s							
MDOK				eS	Sg	02 54 43.6	+4.2
3.3nm,0.4s							
KUU	Kurty	4.74	40	eP	Pg	02 53 38.6	-2.5
1.5nm,0.2s							
KUU				eS	Sg	02 54 40.5	-2.0
3.4nm,0.4s							

*KRNET **17** 03:06:20.6±0.1, 39°.20N×72°.57E, mb3.2*
*SOME **17** 03:06:21.5, 39°.47N×72°.50E, h10km*
*NNC **17** 03:06:23.2±1.8, 39°.39N×72°.60E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=20.1km s-min=10.6km az=142.0*

ISC 17 03:06:22.1±1.2, 39°.32N±0°.06×72°.56E±0°.03, h10km, n29, σ3$01/54, 23C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.53	299	⇑iP	Pb	03 06 50.0	-0.6
BTK				⇑iS	Sg	03 07 11.7	+0.4
baz=303							
ARSB	Arslanbob	2.02	9	⇑eP	Pb	03 06 58.9	-0.1
baz=8.0							
ARSB				⇑eS	Sg	03 07 26.4	-0.7
baz=8.0							
ARK	Arkit	2.51	350	⇑iP	Pb	03 07 05.1	-2.2
baz=350							
ARK				⇑iS	Sb	03 07 37.7	-0.7
baz=350							
TOKL	Toktogul	2.62	5	⇑iP	Pb	03 07 07.2	-2.0
baz=5.0							
TOKL				⇑iS	Sb	03 07 40.7	-0.8
baz=5.0							
ARLS	Aral	2.87	27	⇓iP	Pb	03 07 10.3	-3.1
baz=26							
ARLS				⇓eS	Sb	03 07 46.6	-2.0
baz=26							
AML	Almayashu	2.93	17	⇓iP	Pn	03 07 10.8	+1.7
baz=16							
AML				⇓iS	Sb	03 07 48.0	-2.7
baz=16							
DZET	Dzherino	2.95	261	⇑Pn	Pb	03 07 10.9	-3.9
12nm,0.5s							
DZET				⇓Pg	Pg	03 07 19.0	+0.4
20nm,0.4s							
DZET				⇑Lg	Lg	03 07 57.4	
91nm,0.5s							
MNAS	Manas	3.16	359	⇓eP	Pn	03 07 14.3	+2.3
baz=359							
MNAS				⇓eS	Sn	03 07 53.9	+4.1
baz=359							
UCH	Uchtor	3.26	26	⇑iP	Pn	03 07 15.8	+2.2
baz=25							
UCH				⇑iS	Sn	03 07 56.4	+3.7
baz=25							
IUG	Iuzhnay	3.41	327	eP	Pb	03 07 23.6	+1.0
22nm,0.3s							
IUG				eS	Sb	03 08 07.9	+3.7
129nm,0.7s							
KZA	Kyzart	3.43	36	⇑eP	Pn	03 07 18.2	+2.3
baz=34							
KZA				⇑iS	Sn	03 07 59.5	+2.7
baz=34							
MRKS	Merke	3.45	8	eP	Pb	03 07 22.8	-0.6
42nm,0.4s							
MRKS				eS	Sb	03 08 06.4	+0.9
18nm,0.4s							
EKS2	Erkin-Say	3.46	15	⇑iP	Pn	03 07 19.1	+3.0
baz=15							
EKS2				⇑iS	Sn	03 08 01.4	+4.2
baz=15							
AAK	Ala-Archa	3.62	23	⇓iP	Pn	03 07 21.0	+2.7
baz=22							
AAK				⇓iS	Sn	03 08 04.2	+3.0
baz=22							
AAK	Ala-Archa	3.62	23	⇑Pn	Pn	03 07 21.0	+2.7
9.9nm,0.3s							
AAK				Lg	Lg	03 08 13.5	
26nm,0.8s							
BOOM	Boomskoye usch	4.07	38	⇓iP	Pn	03 07 26.6	+2.1
baz=37							
BOOM				⇓iS	Sn	03 08 14.4	+2.1
baz=37							
KK31	Karatay Array	4.08	338	Pn	Pn	03 07 27.2	+2.7
1.3nm,0.3s,baz=150,slow=12,SNR=59							
KK31				⇑Sn	Sn	03 08 15.8	+3.5
14nm,0.5s,baz=144,slow=23,SNR=7.2							
BRLS	Borolday	4.23	332	eP	Pb	03 07 34.1	-2.5
0.6nm,0.3s							
BRLS				eS	Sb	03 08 26.0	-1.8
16nm,0.6s							
TKM2	Tokmak 2	4.26	32	⇓Pn	Pn	03 07 29.4	+2.2
2.1nm,0.4s							
TKM2				⇑Pg	Pb	03 07 37.1	-0.2
6.9nm,0.7s							
TKM2				⇓Lg	Lg	03 08 33.0	
8.5nm,0.6s							
DGS	Degeres	4.60	31	eP	Pg	03 07 47.4	-2.8
23nm,0.5s							
DGS				eS	Sg	03 08 48.8	-1.0
9.0nm,0.5s							
IZV	Izvestkoviy	4.81	38	eP	Pb	03 07 48.2	+1.7
15nm,0.6s							
IZV				eS	Sg	03 08 50.6	-5.7
18nm,0.6s							
TNSS	Tian-Shan	4.97	40	eP	Pb	03 07 52.3	+2.9
9.4nm,0.5s							
TNSS				eS	Sg	03 08 57.9	-3.8
7.7nm,0.6s							
MDOK	Medeo	5.11	40	eP	Pb	03 07 53.4	+1.7
8.9nm,0.6s							
MDOK				eS	Sb	03 08 59.6	+6.4
10nm,1.3s							
CHKK	Chushkaly	5.61	35	eP	Pb	03 08 03.9	+3.8
3.0nm,0.2s							
CHKK				eS	Sg	03 09 17.8	-4.4
14nm,0.3s							
SATY	Saty	5.78	48	eP	Pb	03 08 05.9	+3.0
9.0nm,0.6s							
SATY				eS	Sg	03 09 21.3	-6.1
14nm,1.1s							
UZB	Uzynbulak	6.19	50	eP	Pb	03 08 14.3	+4.3
2.7nm,0.5s							
UZB				eS	Sg	03 09 35.3	-5.4
4.5nm,0.7s							
ARXS	Arharly	6.27	37	eP	Pb	03 08 16.3	+4.9
5.4nm,0.5s							
ARXS				eS	Sg	03 09 38.7	-4.7
8.2nm,0.4s							
PDGK	Podgornoye	6.57	50	⇑Pn	Pn	03 08 00.3	+1.5
3.2nm,1.0s							
PDGK				⇑Lg	Lg	03 09 18.0	
7.3nm,1.0s							
AB31	Akbulak array	13.41	322	⇑Pn	Pn	03 09 30.0	-2.2
0.6nm,0.5s,baz=130,slow=13,SNR=21							
AB31				⇑Sn	Sn	03 12 01.2	-0.1
0.6nm,0.6s,baz=130,slow=25,SNR=3.8							

NNC 17 03:16:37.5±13.0, 37°.71N×72°.03E, h0km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=117.1km s-min=44.5km az=154.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.75	294	⇓Pn	Pn	03 17 22.9	-0.1
20nm,0.3s,baz=147,slow=25							
DZET				⇑Sn	Sn	03 17 57.2	+0.3
99nm,0.6s,baz=147,slow=25							
MNAS	Manas	4.79	4	⇓Pn	Pn	03 17 52.2	+1.1
4.9nm,0.3s,baz=147,slow=25							
MNAS				⇑Sn	Sn	03 18 48.2	+1.0
12nm,0.5s,baz=147,slow=25							
AAK	Ala-Archa	5.27	20	⇑Pn	Pn	03 17 58.3	+0.6
1.7nm,0.4s,baz=147,slow=25							
AAK				Sn	Sn	03 19 03.5	+4.2
10nm,0.8s,baz=147,slow=25							
KK31	Karatay Array	5.51	348	Pn	Pn	03 18 00.7	-0.2
0.2nm,0.2s,baz=154,slow=15,SNR=16							
KK31				⇑Sn	Sn	03 19 04.5	-0.4
1.4nm,0.3s,baz=147,slow=25,SNR=12							

*KRNET **17** 03:22:25.9±0.1, 40°.04N×71°.09E, mb2.0*
*ISCJB **17** 03:22:26.0±1.3, 39°.98N±0°.09×71°.06E±0°.08, h10km, Error ellipse: s-maj=14.1km s-min=6.4km az=154.3*
*NNC **17** 03:22:26.7±6.2, 40°.00N×71°.25E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=85.1km s-min=15.8km az=120.0*

ISC 17 03:22:26.3±1.4, 40°.00N±0°.08×71°.09E±0°.08, h10km, n6, σ1$71/9, 10C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.21	285	⇑iP	Pg	03 22 30.5	-0.3
BTK				⇑iS	Sg	03 22 33.9	+0.1
baz=276							
DZET	Dzherino	2.12	236	⇑Pg	Pg	03 23 07.2	+0.3
2.8nm,0.5s							
DZET				⇓Lg	Lg	03 23 36.7	
5.5nm,0.4s							
MNAS	Manas	2.70	23	⇑iP	Pb	03 23 11.7	-3.2
baz=23							
MNAS				⇑iS	Sn	03 23 44.1	+1.3
baz=23							
MNAS	Manas	2.70	23	⇑Lg	Lg	03 23 49.0	
2.3nm,0.4s							
AML	Almayashu	2.90	42	⇑iP	Pn	03 23 14.5	+1.6
baz=42							
AML				⇑iS	Sn	03 23 48.5	+0.5
baz=42							
KK31	Karatay Array	3.13	352	⇑Pn	Pn	03 23 17.4	+1.7
0.3nm,0.4s,baz=172,slow=15,SNR=8.9							
KK31				⇑Pg	Pg	03 23 26.8	+0.5
0.7nm,0.5s,baz=160,slow=15,SNR=4.2							
KK31				Lg	Lg	03 24 03.0	
0.8nm,0.4s,baz=158,slow=26,SNR=7.2							

IDC 17 03:23:02.5±1.1, 86°.90N×54°.05E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/50, mbtmp3.6/8, ML3.2/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/36, Error ellipse: s-maj=34.6km s-min=21.5km az=85.0, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	9.62	229	Pn	Pn	03 25 21.0	-0.9
baz=39,slow=16,SNR=1.1							
SPITS				Sn	Sn	03 27 03.6	-6.8
baz=5.2,slow=33,SNR=1.2							
ARCES	ARCESS Array B	17.91	213	P	Pn	03 27 11.0	-1.5
0.1nm,0.3s,baz=16,slow=11,SNR=2.2							
NRIK	Noril'sk	18.26	141	LR	LR	03 34 09.0	
comp=Z,58nm,18.2s,baz=216,slow=36							
INK	Inuvik	24.92	7	LR	LR	03 38 52.6	
comp=Z,41nm,19.0s,baz=116,slow=38							
ARU	Arti	30.64	175	LR	LR	03 41 07.1	
comp=Z,53nm,19.0s,baz=86,slow=35							
ZALV	Zalesovo Beam	33.59	147	LR	LR	03 45 07.9	
comp=Z,62nm,18.3s,baz=253,slow=40							
KURBB	Kurchatov Arra	36.74	154	P	P	03 30 11.6	+0.7
0.4nm,0.8s,baz=348,slow=8.5,SNR=2.0							
GERES	GERESS Array B	39.01	223	P	P	03 30 30.9	+0.7
0.5nm,0.8s,baz=23,slow=11,SNR=3.5							
SONM	Songino Array	40.51	125	LR	LR	03 49 00.2	
comp=Z,93nm,18.0s,baz=165,slow=38							
MKAR	Makanchi Array	40.67	150	P	P	03 30 43.1	-0.8
0.5nm,0.8s,baz=17,slow=8.9,SNR=4.9							
GEYT	Alibeck	49.15	176	LR	LR	03 54 48.4	
comp=Z,77nm,18.6s,baz=175,slow=39							
PDAR	Pinedale Array	50.42	344	P	P	03 32 01.5	+0.1
0.9nm,0.9s,baz=14,slow=3.1,SNR=4.3							
PDAR				LR	LR	03 52 55.4	
comp=Z,33nm,18.1s,baz=132,slow=36							
TXAR	Lajitas Array	63.72	338	P	P	03 33 35.2	-0.3
0.7nm,0.8s,baz=6.8,slow=2.5,SNR=7.3							
TORD	Torodi Ar. Bea	75.04	233	P	P	03 34 45.9	+0.3
0.3nm,0.8s,baz=7.8,slow=4.1,SNR=2.3							

*IDC **17** 03:54:14.8±1.4, 4°.08N×94°.87E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/53, mbtmp3.8/8, ML4.0/2, MS3.7/2, Ms1 3.8/2, ms1mx3.0/42, Error ellipse: s-maj=53.1km s-min=19.7km az=51.0*
*DJA **17** 03:54:20.3±0.3, 5°.N±3°.×9°.6E±°, h10km, M4.4/7, mb4.3/1, MLv4.5/7*

ISC 17 03:54:17.4±1.7, 4°.62N±0°.06×95°.45E±0°.09, h2km±11km, n19, σ1$53/19, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.88	350	P	Pb	03 54 35.4	0.0
BSI				S	Sg	03 54 46.1	+0.3
MLSI	Meulaboh, Aceh	1.01	110	P	Pg	03 54 36.6	-0.2
MLSI				S	Sg	03 54 48.1	-1.9
LHMI	Lhok Sumawe	1.61	68	P	Pn	03 54 40.3	-6.5
LHMI				S	Sn	03 54 55.6	-12
TPTI		2.19	128	P	Pn	03 54 56.1	+1.3
TPTI				S	Sb	03 55 25.3	-0.1
SNSI	Sinabang, Aceh	2.37	158	P	Pb	03 55 00.9	+0.2
SNSI				S	Sg	03 55 34.1	+0.7
KCSI	Kotacane, Aceh	2.56	115	P	Pn	03 55 00.8	+0.9
KCSI				S	Sn	03 55 32.3	+0.7
PSI	Prapat	3.91	117	Pn	Pn	03 55 20.1	+1.6
3.7nm,0.3s,baz=316,slow=12,SNR=33							
PSI				Sn	Sn	03 56 05.1	0.0
4.5nm,0.3s,baz=123,slow=17,SNR=4.4							
CMAR	Chiang Mai Arr	14.17	14	Pn	P	03 57 46.4	-0.6
0.4nm,0.3s,baz=204,slow=12,SNR=5.1							
H08S2	Diego Garcia H	25.95	242	T	T	04 26 59.3	
baz=61,slow=75,SNR=11							
H08S3	Diego Garcia H	25.95	242	T	T	04 26 59.4	
baz=61,slow=75,SNR=10.0							
H08S1	Diego Garcia H	25.96	242	T	T	04 27 00.6	
baz=61,slow=75,SNR=10							
MKAR	Makanchi Array	43.53	347	P	P	04 02 24.5	+2.0
0.3nm,0.4s,baz=148,slow=7.0,SNR=3.8							
SONM	Songino Array	44.07	11	P	P	04 02 29.7	+2.8
0.5nm,0.6s,baz=175,slow=8.4,SNR=4.4							
WRA	Warramunga Arr	45.35	124	P	P	04 02 36.3	-1.1
0.7nm,0.6s,baz=306,slow=9.2,SNR=7.8	

GUC 17 03:59:51.8±0.6, 36°.03S×72°.80W, h33km±2km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.10**	**175**	*eP*	Pn	03 59 56.9	+0.6
COCH				*i* S	Sb	04 00 01.0	-0.5
COCH				IAML		04 00 01.3	
	comp=E,8μm,0.2s						
CCHI	**Chillan**	**0.82**	**135⇑**	*i* P	Pn	04 00 06.5	-0.5
CCHI				*e*S	Sn	04 00 17.0	-1.0
CCHI				IAML		04 00 18.0	
	comp=E,2μm,0.3s						
CCSP	**San Pedro de C**	**0.85**	**197**	*e*P	Pn	04 00 06.5	-1.0
CCSP				*e*S	Sn	04 00 18.2	-0.6
CCSP				IAML		04 00 24.2	
	comp=N,4μm,0.3s						
LNCH	**Linares**	**0.99**	**80⇑**	*i* P	Pb	04 00 10.2	-0.2
LNCH				*i* S	Sn	04 00 22.7	+0.4
GO05	**HualaæØ**	**1.24**	**35**	*e*P	Pn	04 00 12.4	-0.4
GO05				*e*S	Sn	04 00 28.9	+0.4
GO05				IAML		04 00 33.3	
	comp=N,697nm,0.2s						
NICH	**Los Niches**	**1.64**	**52**	*e*P	Pn	04 00 19.3	+0.9
NICH				*e*S	Sb	04 00 40.1	-1.7
CLCH	**Cerro Calan**	**3.22**	**36**	*e*P	Pn	04 00 41.4	+1.2
CLCH				*i* S	Sn	04 01 18.4	+0.9
CLCH				IAML		04 01 39.1	
	comp=N,326nm,0.3s						
PEL	**Peldehue**	**3.37**	**32**	*e*P	Pn	04 00 43.4	+1.2
ROCH	**El Roble**	**3.39**	**26**	*e*P	Pn	04 00 43.4	+0.8
ROCH				IAML		04 01 41.1	
	comp=N,147nm,0.4s						
FCH	**Farellones**	**3.40**	**38**	IAML		04 01 36.2	
	comp=N,152nm,0.3s						

IDC 17 04:01:45.7±3.0, 6°.22S×149°.94E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/35, mbtmp3.7/3, ML1.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=114.6km s-min=35.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.20**	**221**	Pn	Pn	04 02 52.4	+1.4
	3.8nm,0.3s,baz=43,slow=15,SNR=5.6						
PMG				Sn	Sn	04 03 39.5	-1.3
	9.6nm,0.3s,baz=112,slow=21,SNR=11						
WRA	**Warramunga Arr**	**20.39**	**227**	P	P	04 06 24.1	-0.2
	2.4nm,0.5s,baz=52,slow=11,SNR=33						
ASAR	**Alice Springs**	**23.21**	**220**	P	P	04 06 54.4	-0.1
	0.7nm,0.7s,baz=57,slow=7.7,SNR=7.5						
AFI	**Afiamalu**	**38.41**	**104**	LR	LR	04 23 23.1	
	comp=Z,26nm,21.2s,baz=148,slow=34						
TORD	**Torodi Ar. Bea**	**147.98**	**285**	PKPbc	PKPbc	04 21 33.4	-0.7
	1.1nm,0.6s,baz=54,slow=3.0,SNR=18						

SKHL 17 04:05:59.4±0.6, 44°.03N×148°.39E, h34km±4km, mb4.4/3
JMA 17 04:05:59.0±0.4, 43°.79N×148°.01E, h0km, M3.8

ISC 17 04:05:57.4±3.1, 44°.0N±0°.1×148°.3E±0°.2, h15km±14km, n9, σ1°36/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.09**	**262**	*i* P	**Pg**	**04 06 18.2**	**-0.2**
SHO				AMB	AMB	04 06 19.3	
	117nm,0.3s						
SHO				*i* S	**Sb**	**04 06 32.4**	**+0.5**
SHO				A	A	04 06 34.8	
	2μm,0.4s						
SHO				A	A	04 06 34.8	
	1μm,0.4s						
KUR	**Kuril'sk**	**1.24**	**345**	*i* P	**Pb**	**04 06 20.0**	**-0.5**
KUR				AMB	AMB	04 06 21.2	
	51nm,0.2s						
KUR				*i* S	**Sb**	**04 06 35.0**	**-1.3**
KUR				A	A	04 06 37.3	
	430nm,0.3s						
KUR				A	A	04 06 37.3	
	460nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.78**	**271**	*e*P	**Pn**	**04 06 27.7**	**+0.2**
YUK				AMB	AMB	04 06 32.1	
	220nm,0.3s						
YUK				*i* S	**Sn**	**04 06 49.3**	**-0.4**
YUK				A	A	04 06 52.2	
	400nm,0.3s						
NEM2	**Nemuro 2**	**1.99**	**251**	P	**Pn**	**04 06 30.3**	**-0.1**
NEM2				*e*S	**Sn**	**04 06 53.0**	**-2.0**
JRA	**Rausu**	**2.31**	**269**	P	**Pn**	**04 06 36.3**	**+1.4**
JNK	**Nakash**	**2.65**	**261**	P	**Pn**	**04 06 40.3**	**+0.8**
JAK	**Akkeshi**	**2.83**	**250**	P	**Pn**	**04 06 42.7**	**+0.7**
JAK				*e*S	**Sn**	**04 07 14.6**	**-1.3**
JCH	**Churui**	**3.89**	**250**	P	**Pn**	**04 06 58.3**	**+1.8**
JCH				*e*S	**Sn**	**04 07 42.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.88**	**309**	*e*P	**Pn**	**04 07 12.5**	**+2.3**

ISCJB 17 04:06:08.2±0.2, 17°.67S±0°.04×168°.70E±0°.04, h200km, mb4.6/86, Error ellipse: s-maj=6.7km s-min=4.6km az=143.6
NEIC 17 04:06:11.6±0.8, 17°.75S×168°.72E, h224km±7km, mb4.7/66, Error ellipse: s-maj=6.5km s-min=4.4km az=165.0
IDC 17 04:06:12.7±1.6, 17°.82S×168°.76E, h233km±15km, mb4.0/16, mb1 4.1/17, mb1mx3.9/37, mbtmp4.5/17, Error ellipse: s-maj=15.3km s-min=11.7km az=143.0

ISC 17 04:06:09.4±0.4, 17°.66S±0°.06×168°.72E±0°.07, h200km, n218, σ0°91/219, mb4.7/86, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.88**	**206**	P	**Pn**	**04 07 24.0**	**+1.7**
	6.5nm,0.3s,baz=69,slow=12,SNR=47						
DZM				S	**Sn**	**04 08 21.0**	**+1.1**
	14nm,0.3s,baz=72,slow=20,SNR=4.7						
DZM	**Mont Dzumac**	**4.88**	**206**	*e*Pn	**Pn**	**04 07 22.4**	**+0.1**
DZM				*e*S	**Sn**	**04 08 20.0**	**+0.1**
MSVF	**Nonsavu**	**8.89**	**92**	*e*Pn	**Pn**	**04 08 17.2**	**+2.8**
OUZ	**Omahuta**	**18.02**	**167**	*e*P	**P**	**04 10 06.6**	**+1.3**
	57nm,0.9s						
EIDS	**Eidsvold**	**18.10**	**242**	*e*Pn	**P**	**04 10 08.9**	**+2.6**
TARA	**Tarawa**	**19.35**	**13**	*e*P	**P**	**04 10 20.4**	**+0.5**
	14nm,0.7s						
CTA	**Charters Tower**	**21.39**	**260**	P	**P**	**04 10 43.9**	**+2.3**
	4.7nm,0.4s,baz=78,slow=9.2,SNR=7.7						
CTAO	**Charters Tower**	**21.39**	**260**	*e*P	**P**	**04 10 42.3**	**+0.7**
	20nm,0.5s						
URZ	**Urewera**	**21.80**	**162**	P	**P**	**04 10 45.5**	**+0.1**
	16nm,0.7s,baz=344,slow=1.8,SNR=13						
URZ	**Urewera**	**21.80**	**162**	*e*P	**P**	**04 10 45.6**	**+0.1**
	29nm,1.0s						
BKZ	**Black Stump Fm**	**22.47**	**164**	*e*P	**P**	**04 10 51.5**	**-0.4**
	41nm,0.6s						
PMG	**Port Moresby**	**22.49**	**289**	P	**P**	**04 10 54.4**	**+2.1**
	12nm,0.8s,baz=122,slow=5.6,SNR=5.4						
PMG	**Port Moresby**	**22.49**	**289**	*e*P	**P**	**04 10 53.6**	**+1.3**
	58nm,0.9s						
BFZ	**Birch Farm**	**23.84**	**166**	*e*P	**P**	**04 11 03.1**	**-1.2**
	51nm,1.1s						
THZ	**Tophouse**	**24.29**	**172**	*e*P	**P**	**04 11 08.0**	**-0.4**
	125nm,1.8s						
STKA	**Stephens Creek**	**28.30**	**235**	P	**P**	**04 11 45.2**	**+0.7**
	5.9nm,0.7s,baz=65,slow=8.2,SNR=10						
STKA	**Stephens Creek**	**28.30**	**235**	*e*P	**P**	**04 11 45.4**	**+0.9**
	1.4nm,0.8s						
WB2	**Warramunga Arr**	**32.58**	**260**	*e*P	**P**	**04 12 21.6**	**-0.6**
WRAB	**Tennant Creek**	**32.58**	**260**	*e*P	**P**	**04 12 21.7**	**-0.5**
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**32.59**	**260**	P	**P**	**04 12 22.0**	**-0.3**
	0.7nm,0.3s,baz=80,slow=6.4,SNR=12						
BBOO	**Buckleboo**	**33.01**	**237**	*e*P	**P**	**04 12 25.4**	**-0.3**
	85nm,1.9s						
AS01	**Alice Springs**	**33.02**	**254**	*e*P	**P**	**04 12 25.3**	**-0.7**
AS01				*e*PcP	**PcP**	**04 15 03.3**	**-1.7**
AS31	**Alice Springs**	**33.06**	**254**	*e*P	**P**	**04 12 26.0**	**-0.4**
	6.1nm,0.3s						
ASAR	**Alice Springs**	**33.06**	**254**	P	**P**	**04 12 26.4**	**0.0**
	7.5nm,0.4s,baz=84,slow=8.7,SNR=85						
ASAR				pP	**pP**	**04 13 07.1**	**-0.4**
	3.4nm,0.6s,baz=82,slow=8.6,SNR=2.4						
ASAR				S	**S**	**04 17 27.5**	**-2.9**
	5.1nm,1.0s,baz=80,slow=17,SNR=24						
FITZ	**Fitzroy Crossi**	**40.93**	**263**	P	**P**	**04 13 33.2**	**+0.6**
	8.6nm,0.7s,baz=116,slow=8.6						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**46.19**	**257**	*e*P	**P**	**04 14 14.8**	**+0.2**
	16nm,0.5s						
KSM	**Kuching**	**60.56**	**282**	*e*P	**P**	**04 15 59.5**	**+0.3**
	57nm,0.6s						
MJAR	**Matsushiro Arr**	**61.14**	**332**	P	**P**	**04 16 02.7**	**+0.1**
	9.2nm,0.9s,baz=164,slow=6.8,SNR=16						
MAJO	**Matsushiro**	**61.14**	**332**	*e*P	**P**	**04 16 02.8**	**+0.2**
	15nm,0.9s						
MAT	**Matsushiro**	**61.14**	**332**	P	**P**	**04 16 02.4**	**-0.3**
MJB9	**Matsu-Tunnel**	**61.14**	**332**	*e*P	**P**	**04 16 02.3**	**-0.4**
	3.8nm,0.9s						
JNU	**Nakatsue**	**62.10**	**324**	P	**P**	**04 16 09.7**	**+0.4**
	9.7nm,0.7s,baz=122,slow=3.4,SNR=8.7						
JNU	**Nakatsue**	**62.10**	**324**	*e*P	**P**	**04 16 09.5**	**+0.3**
	13nm,0.7s						
KSRS	**Korea Array**	**66.93**	**326**	P	**P**	**04 16 41.5**	**+1.2**
	2.8nm,0.8s,baz=153,slow=5.4,SNR=5.9						
KSAR	**Wonju Array Be**	**66.95**	**326**	P	**P**	**04 16 41.5**	**+1.1**
KS01	**Wonju Array Si**	**66.97**	**326**	*e*P	**P**	**04 16 41.6**	**+1.0**
NJ2	**Nanjing**	**68.74**	**316**	*e*P	**P**	**04 16 52.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.12**	**333**	P	**P**	**04 17 01.1**	**+1.3**
	comp=Z,4.5nm,0.7s,baz=119,slow=9.0,SNR=5.1						
QSPA	**South Pole Qui**	**72.38**	**180**	*e*P	**P**	**04 17 12.3**	**-1.1**
CN2	**Changchun**	**72.86**	**329**	*e*P	**P**	**04 17 17.1**	**+0.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
UNV	**Unalaska Valle**	**74.34**	**15**	*e*P	**P**	**04 17 23.5**	**-1.2**
	comp=Z,17nm,1.1s						
GYA	**Guiyang**	**74.52**	**305**	*e*P	**P**	**04 17 28.0**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**75.41**	**321**	P	**P**	**04 17 32.3**	**+1.2**
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
BJI				pmax	pmax		
	comp=Z,78nm,4.7s						
KMI	**Kunming**	**77.03**	**302**	P	**P**	**04 17 42.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CM01	**Chiang Mai Arr**	**77.38**	**294**	*e*P	**P**	**04 17 43.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**77.41**	**294**	P	**P**	**04 17 44.1**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=132,slow=4.0,SNR=14						
HHC	**Hu-ho-hao-te**	**78.71**	**319**	*e*P	**P**	**04 17 50.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,9.5s						
LZH	**Lanzhou**	**81.31**	**312**	*e*P	**P**	**04 18 04.9**	**+1.1**
LZH				pP	pP	04 18 57.3	+5.0
LZH				sP	sP	04 19 20.0	+6.6
LZH				PP	PP	04 22 16.3	+64
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,8.1s						
SEY	**Seymchan**	**81.35**	**353**	P	**P**	**04 18 03.2**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=166,slow=3.7,SNR=4.5						
KCPM	**Cahto Peak**	**84.99**	**46**	*e*P	**P**	**04 18 22.0**	**-0.4**
	comp=Z,36nm,1.0s						
KMRM	**Mail Ridge**	**85.15**	**45**	*e*P	**P**	**04 18 24.2**	**+1.0**
	comp=Z,24nm,1.0s						
SAO	**San Andreas Ge**	**85.17**	**49**	*e*P	**P**	**04 18 23.5**	**+0.2**
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**85.23**	**343**	P	**P**	**04 18 23.2**	**+0.2**
	comp=Z,37nm,0.5s,baz=274,slow=0.4,SNR=10						
ULN	**Ulaanbaatar**	**85.31**	**324**	*e*P	**P**	**04 18 24.0**	**+0.1**
	comp=Z,11nm,1.0s						
PMPB	**Monarch Peak**	**85.40**	**50**	*e*P	**P**	**04 18 25.1**	**+0.6**
	comp=Z,18nm,1.1s						
KHMM	**Horse Mountain**	**85.44**	**45**	*e*P	**P**	**04 18 25.8**	**+1.1**
	comp=Z,19nm,0.9s						
PKM	**Mcpherson Peak**	**85.56**	**51**	P	**P**	**04 18 25.2**	**-0.3**
	baz=245						
PAGB	**Antelope Grade**	**85.59**	**51**	*e*P	**P**	**04 18 25.4**	**0.0**
	comp=Z,23nm,1.5s						
SMMC	**Simmler**	**85.61**	**51**	P	**P**	**04 18 25.8**	**+0.2**
	baz=245						
SONM	**Songino Array**	**85.67**	**323**	P	**P**	**04 18 26.0**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=141,slow=5.7,SNR=24						
SONA1	**Songino Array**	**85.67**	**323**	*e*P	**P**	**04 18 25.6**	**-0.1**
GTA	**Gaotai**	**85.69**	**314**	⇑P	**P**	**04 18 26.8**	**+0.8**
GTA				pP	pP	04 19 16.9	+1.9
GTA				sP	sP	04 19 38.3	+2.3
GTA	**Gaotai**	**85.69**	**314**	S	**S**	**04 28 40.8**	**-0.7**
GTA	**Gaotai**	**85.69**	**314**	sS	sS	04 30 08.1	+1.0
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,5.5s						
GTA				LR	LR		
	comp=N,79nm,16.9s						
GTA				LR	LR		
	comp=E,97nm,16.4s						
GTA				LR	LR		
	comp=Z,88nm,16.6s						
WDC	**Whiskeytown Da**	**86.11**	**45**	*e*P	**P**	**04 18 27.0**	**-0.8**
	comp=Z,33nm,1.5s						
N02D	**Trinity Center**	**86.18**	**45**	P	**P**	**04 18 28.8**	**+0.6**
	baz=243,SNR=7.2						
OSI	**Osito Audit: C**	**86.26**	**52**	P	**P**	**04 18 29.3**	**+0.5**
	baz=246						
M02C	**Callahan**	**86.27**	**45**	P	**P**	**04 18 29.4**	**+0.7**
	baz=242,SNR=7.5						
ORV	**Oroville**	**86.36**	**47**	*e*P	**P**	**04 18 29.1**	**0.0**
	comp=Z,12nm,0.9s						
ARVC	**Arvin**	**86.39**	**52**	P	**P**	**04 18 29.8**	**+0.5**
	baz=246						
DECC	**Green Verdugo**	**86.41**	**53**	P	**P**	**04 18 29.2**	**-0.3**
	baz=246						
AFDM	**Forest Hills D**	**86.46**	**47**	*e*P	**P**	**04 18 29.9**	**+0.3**
	comp=Z,21nm,1.0s						
CMB	**Columbia Colle**	**86.48**	**48**	*e*P	**P**	**04 18 29.6**	**-0.1**
	comp=Z,15nm,0.9s						
O03D	**Paynes Creek**	**86.48**	**46**	P	**P**	**04 18 29.4**	**-0.3**
	baz=243,SNR=8.7						
VES	**Vestal, Richgr**	**86.50**	**51**	P	**P**	**04 18 29.4**	**-0.4**
	baz=245						
YBH	**Yreka Blue Hor**	**86.52**	**44**	*e*P	**P**	**04 18 30.7**	**+0.8**
	comp=Z,10.0nm,1.1s						
MWC	**Mount Wilson**	**86.61**	**53**	*e*P	**P**	**04 18 30.7**	**0.0**
	comp=Z,11nm,1.2s						
HUMO	**Hull Mountain**	**86.76**	**43**	*e*P	**P**	**04 18 31.8**	**+0.8**
	comp=Z,11nm,1.0s						
TRF	**Thorofare Moun**	**86.91**	**17**	*e*P	**P**	**04 18 30.4**	**-1.0**
	comp=Z,39nm,2.0s						
BFSC	**Mount Baldy Ra**	**86.92**	**53**	P	**P**	**04 18 31.7**	**-0.4**
	baz=246						
EDW2	**Edwards Air Fo**	**86.92**	**52**	P	**P**	**04 18 31.8**	**-0.2**
	baz=246						
MURC	**Murrieta**	**87.02**	**53**	P	**P**	**04 18 31.7**	**-0.7**
	baz=246						
M04C	**Macdoel**	**87.12**	**45**	P	**P**	**04 18 32.9**	**0.0**
	baz=243						
BEKR	**Beckworth**	**87.29**	**47**	*e*P	**P**	**04 18 34.1**	**+0.3**
	comp=Z,11nm,0.9s						
MONP2	**Monument Peak**	**87.33**	**54**	P	**P**	**04 18 33.9**	**-0.3**
	baz=247						
WAKR	**Walker**	**87.36**	**48**	*e*P	**P**	**04 18 34.9**	**+0.7**
	comp=Z,23nm,1.3s						
LRMC	**Laurel Mtn Rad**	**87.39**	**52**	P	**P**	**04 18 33.9**	**-0.4**
	baz=246						
IKP	**In-Ko-Pah, Jac**	**87.48**	**55**	P	**P**	**04 18 34.5**	**-0.2**
	baz=247						
BBRC	**Big Bear Solar**	**87.48**	**53**	P	**P**	**04 18 34.8**	**-0.1**
	baz=247						
CWC	**Cottonwood Cre**	**87.49**	**51**	P	**P**	**04 18 34.4**	**-0.4**
	baz=246						
PNTR	**Pine Nut**	**87.49**	**48**	*e*P	**P**	**04 18 35.4**	**+0.5**
	comp=Z,12nm,0.9s						
K04D	**Chiloquin, OR**	**87.56**	**44**	P	**P**	**04 18 35.0**	**+0.1**
	baz=243						
J04D	**Umpqua Nationa**	**87.60**	**43**	P	**P**	**04 18 35.5**	**+0.3**
	baz=243						
YERR	**Yerington**	**87.70**	**48**	*e*P	**P**	**04 18 35.8**	**+0.1**
	comp=Z,11nm,1.0s						
G03D	**McMinnville, O**	**87.77**	**41**	P	**P**	**04 18 36.5**	**+0.8**
	baz=242						
MPMC	**Manual Prospec**	**87.77**	**51**	P	**P**	**04 18 36.3**	**+0.1**
	baz=246						
DAC	**Darwin (Calif)**	**87.78**	**51**	*e*P	**P**	**04 18 35.7**	**-0.5**
	comp=Z,9.9nm,1.4s						
SWSC	**Sam W. Stewart**	**87.84**	**55**	P	**P**	**04 18 36.4**	**+0.1**
	baz=247						
PAHR	**Pah Rah Range**	**87.90**	**47**	*e*P	**P**	**04 18 36.8**	**+0.1**
	comp=Z,17nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSC	**Goldstone, Bar**	**87.98**	**52**	P	**P**	**04 18 37.1**	**+0.1**
	baz=247						
BELC	**Belle Mtn. Jos**	**88.09**	**54**	P	**P**	**04 18 37.7**	**0.0**
	baz=247						
HEC	**Hector,Ludlow**	**88.15**	**53**	P	**P**	**04 18 37.7**	**-0.2**
	baz=247						
J05D	**Fort Rock, OR**	**88.19**	**43**	P	**P**	**04 18 38.1**	**+0.1**
	baz=244,SNR=5.9						
MOD	**Modoc Plateau**	**88.21**	**45**	*e*P	**P**	**04 18 37.9**	**-0.1**
	comp=Z,23nm,1.5s						
GRAC	**Grapevine Rang**	**88.24**	**50**	P	**P**	**04 18 38.3**	**+0.1**
	baz=246						
F04D	**Rainier, OR**	**88.33**	**40**	P	**P**	**04 18 39.1**	**+0.8**
	baz=242						
BC3	**Big Chuckawall**	**88.38**	**54**	P	**P**	**04 18 39.2**	**+0.2**
	baz=248						
FURC	**Furnace Creek,**	**88.40**	**51**	P	**P**	**04 18 38.8**	**0.0**
	baz=247						
I05D	**Terrebonne, OR**	**88.59**	**42**	P	**P**	**04 18 40.0**	**+0.3**
	baz=244						
SHOC	**Shoshone, Teco**	**88.61**	**52**	P	**P**	**04 18 40.2**	**+0.2**
	baz=247						
GLA	**Glamis**	**88.63**	**55**	P	**P**	**04 18 39.9**	**-0.2**
	baz=248						
GMRC	**Granite Mounta**	**88.65**	**53**	P	**P**	**04 18 40.1**	**-0.1**
	baz=247						
TUQ	**Turquoise Moun**	**88.70**	**52**	P	**P**	**04 18 40.3**	**-0.2**
	baz=247						
VBEM	**Beaver Butte**	**88.75**	**42**	P	**P**	**04 18 40.8**	**+0.2**
IRM	**Iron Mountain**	**88.80**	**54**	P	**P**	**04 18 41.1**	**+0.3**
	baz=248						
IL1	**Eielson Array**	**88.88**	**17**	*e*P	**P**	**04 18 38.7**	**-1.8**
ILAR	**Eielson Array**	**88.88**	**17**	P	**P**	**04 18 38.3**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=238,slow=5.0,SNR=13						
G05D	**Wamic, OR**	**89.01**	**42**	P	**P**	**04 18 41.9**	**+0.3**
	baz=244						
TPNV	**Topopah Spring**	**89.04**	**51**	P	**P**	**04 18 42.2**	**+0.1**
	baz=247						
TPNV	**Topopah Spring**	**89.04**	**51**	*e*P	**P**	**04 18 42.5**	**+0.4**
	comp=Z,9.2nm,1.0s						
Y12C	**Blythe**	**89.13**	**54**	P	**P**	**04 18 42.4**	**+0.1**
	baz=248						
Y12C	**Blythe**	**89.13**	**54**	*e*P	**P**	**04 18 41.0**	**-1.3**
	comp=Z,8.2nm,1.1s						
LDFC	**Landfair**	**89.18**	**53**	*e*P	**P**	**04 18 41.8**	**-1.0**
	comp=Z,18nm,1.1s						
113A	**Mohawk Valley,**	**89.36**	**55**	*e*P	**P**	**04 18 43.1**	**-0.4**
	comp=Z,6.9nm,1.3s						
NEE2	**Needles Airpor**	**89.43**	**53**	P	**P**	**04 18 44.0**	**+0.3**
	baz=248						
VTHM	**Trough**	**89.46**	**42**	P	**P**	**04 18 44.0**	**+0.3**
D05A	**Enumclaw**	**89.46**	**40**	*e*P	**P**	**04 18 43.0**	**-0.6**
	comp=Z,33nm,1.1s						
WVOR	**Wild Horse Val**	**89.55**	**45**	*e*P	**P**	**04 18 44.2**	**-0.1**
	comp=Z,23nm,1.3s						
PDMCI	**Parker Dam,Lak**	**89.63**	**54**	P	**P**	**04 18 45.0**	**+0.3**
	baz=248						
SHPR	**Sheep Range**	**89.68**	**51**	*e*P	**P**	**04 18 45.6**	**+0.5**
	comp=Z,18nm,1.6s						
BMN	**Battle Mountai**	**89.71**	**47**	*e*P	**P**	**04 18 45.3**	**+0.2**
	comp=Z,13nm,1.1s						
A04D	**Lummi Island**	**89.73**	**38**	P	**P**	**04 18 45.5**	**+0.8**
	baz=242						
214A	**Organ Pipe Nat**	**89.82**	**56**	P	**P**	**04 18 45.9**	**+0.3**
	baz=249						
B05A	**Bryant**	**89.89**	**39**	P	**P**	**04 18 45.7**	**+0.2**
	baz=243						
TRW	**Toppenish Ridg**	**89.95**	**41**	P	**P**	**04 18 46.4**	**+0.4**
NAC	**Naches**	**89.97**	**40**	P	**P**	**04 18 46.3**	**+0.2**
JBO	**Jordan Butte**	**90.04**	**42**	P	**P**	**04 18 46.5**	**+0.1**
R11A	**Troy Canyon, C**	**90.06**	**50**	P	**P**	**04 18 46.6**	**-0.3**
	baz=247						
R11A	**Troy Canyon, C**	**90.06**	**50**	*e*P	**P**	**04 18 46.8**	**-0.1**
	comp=Z,18nm,2.0s						
W13A	**Hualapai Mount**	**90.12**	**53**	*e*P	**P**	**04 18 46.9**	**-0.3**
	comp=Z,6.8nm,1.1s						
EBG	**Ellensburg**	**90.21**	**40**	P	**P**	**04 18 47.5**	**+0.4**
LTY	**Liberty**	**90.30**	**40**	*e*P	**P**	**04 18 47.2**	**-0.3**
	comp=Z,7.2nm,0.8s						
C06D	**Leavenworth**	**90.45**	**39**	P	**P**	**04 18 48.5**	**+0.3**
	baz=244						
E07A	**Sunnyside**	**90.50**	**41**	*e*P	**P**	**04 18 49.0**	**+0.5**
	comp=Z,12nm,0.8s						
BENWA	**Benson Ranch**	**90.57**	**41**	P	**P**	**04 18 49.3**	**+0.5**
HAWA	**Hanford**	**90.63**	**41**	*e*P	**P**	**04 18 49.1**	**+0.1**
	comp=Z,14nm,1.0s						
SNAA	**Sanae**	**90.70**	**183**	P	P	04 18 45.1	-4.0
SNAA	**Sanae**	**90.70**	**183**	*e*P	**P**	**04 18 47.5**	**-1.7**
	comp=Z,12nm,1.8s						
WTV	**Waterville**	**90.93**	**40**	P	**P**	**04 18 50.3**	**-0.2**
LLLB	**Lillooet**	**91.07**	**37**	*e*P	**P**	**04 18 50.9**	**-0.2**
	comp=Z,9.5nm,1.1s						
TOLK	**Toolik Lake Re**	**91.14**	**14**	P	**P**	**04 18 51.8**	**+0.8**
	baz=219						
D08A	**Wollman Farm,**	**91.29**	**41**	*e*P	**P**	**04 18 52.5**	**+0.4**
	comp=Z,8.6nm,1.1s						
LCMT	**Little Creek M**	**91.29**	**52**	*e*P	**P**	**04 18 51.1**	**-1.4**
	comp=Z,5.9nm,0.9s						
VNA3	**Neumayer Olymp**	**91.31**	**181**	P	**P**	**04 18 49.2**	**-2.7**
CCUT	**Cedar City**	**91.40**	**51**	*e*P	**P**	**04 18 52.2**	**-0.9**
	comp=Z,6.6nm,1.3s						
BMO	**Blue Mountains**	**91.42**	**43**	*e*P	**P**	**04 18 51.4**	**-1.5**
	comp=Z,14nm,1.6s					

OBKA	Obir	144.18	329	*e*PKPdf	PKPab	04 25 19.8	0.0
	comp=Z,7.5nm,1.0s						
PDKS	Podkum	144.26	328	*i* PKPbc	PKPab	04 25 19.8	-0.2
KBA	Koelnbreinsper	144.34	331	*e*PKPdf	PKPab	04 25 20.0	-0.4
	comp=Z,13nm,1.0s						
LJU	Ljubljana	144.51	329	*i* PKPbc	PKPab	04 25 20.8	-0.1
MYKA	Terra Mystica	144.53	330	*i* PKPdf	PKPab	04 25 20.4	-0.6
	comp=Z,12nm,0.7s						
CRNS	Crni Vrh	144.62	329	*i* PKPbc	PKPab	04 25 20.7	-0.7
ABTA	Abfaltersbach	144.97	331	*e*PKPab	PKPbc	04 25 21.8	-0.8
	comp=Z,19nm,0.8s,SNR=11						
WTTA	Wattenberg	144.98	332	*e*PKPab	PKPbc	04 25 22.3	-0.4
	comp=Z,11nm,0.8s						
MOTA	Moosalm	145.15	333	*i* PKPab	PKPdf	04 25 22.9	-0.3
	comp=Z,17nm,0.9s,SNR=11						
RETA	Reutte	145.18	334	*e*PKPab	PKPdf	04 25 23.1	0.0
	comp=Z,13nm,0.9s,SNR=5.7						
BFO	Black Forest	145.48	337	*e*PKPbc	PKPdf	04 25 23.5	-0.1
FETA	Feichten	145.56	333	*i* PKPab	PKPdf	04 25 24.7	+0.7
	comp=Z,7.9nm,0.6s						
DAVA	Damuels	145.71	334	*i* PKPab	PKPdf	04 25 24.9	+0.7
	comp=Z,7.7nm,0.7s,SNR=5.3						
ECH	Echery	146.01	338	*e*PKPbc	PKPdf	04 25 25.0	+0.5
BNI	Bardonecchia	148.83	335	*e*PKPbc	PKPdf	04 25 33.2	+3.8
BNI				*e*PKPab	PKiKP	04 25 37.0	+2.2
PBRG	Braganca	155.63	352	*e*PKPab	PKPab	04 26 06.3	-0.1
PGAV	Gavieira, Arco	155.64	355	*e*PKPab	PKPab	04 26 06.1	-0.5
POLO	Lamas de Olo	156.18	353	*e*PKPab	PKPab	04 26 08.9	0.0
PVRL	Vila Real	156.27	353	*e*PKPab	PKPab	04 26 09.3	+0.1
MVO	Moncorvo	156.29	352	*e*PKPab	PKPab	04 26 08.6	-0.7
MVO	Moncorvo	156.29	352	*e*PKPbc	PKPab	04 26 08.6	-0.7
PVIS	Viseu	156.84	353	*e*PKPab	PKPab	04 26 11.9	+0.2
ESDC	Sonseca Array	157.16	345	PKPab	PKPab	04 26 12.8	-0.3
	comp=Z,1.6nm,0.8s,baz=17,slow=3.8,SNR=8.7						
PCAS	Casmilo, Conde	157.56	354	*e*PKPab	PKPab	04 26 15.0	+0.3
PCBR	Castelo Branco	157.66	352	*e*PKPab	PKPab	04 26 15.3	+0.2
PESTR	Estremoz	158.63	352	*e*PKPab	PKPab	04 26 19.5	+0.1
PBEJ	Beja	159.49	352	*e*PKPab	PKPab	04 26 23.8	+0.6
PCVE	Castro Verde	159.90	352	*e*PKPab	PKPab	04 26 25.6	+0.6
PVAQ	Vaqueiros	160.09	352	*e*PKPab	PKPab	04 26 26.3	+0.5
TORD	Torodi Ar. Bea	166.71	252	PKP	PKPdf	04 25 50.0	-1.8
	comp=Z,2.4nm,1.0s,baz=42,slow=0.6,SNR=10						

IDC 17 04:12:34.3±5.4, 20°.86S×179°.05W, h550km±56km, mb2.9/5, mb1 3.3/6, mb1mx3.0/38, mbtmp3.9/6, Error ellipse: s-maj=120.3km s-min=29.2km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.56	262	P	P	04 15 29.4	+0.3
	0.7nm,0.3s,baz=76,slow=19,SNR=7.2						
ASAR	Alice Springs	43.48	257	P	P	04 19 49.8	+0.2
	0.8nm,0.5s,baz=97,slow=8.3,SNR=15						
WRA	Warramunga Arr	43.58	263	P	P	04 19 49.6	-0.8
	0.4nm,0.4s,baz=91,slow=5.9,SNR=7.3						
TXAR	Lajitas Array	88.08	58	P	P	04 24 27.2	+0.2
	0.6nm,1.0s,baz=224,slow=5.0,SNR=3.6						
ILAR	Eielson Array	88.89	13	P	P	04 24 29.5	-0.3
	0.5nm,0.7s,baz=222,slow=5.7,SNR=5.9						
PDAR	Pinedale Array	89.90	44	P	P	04 24 35.0	-0.3
	0.6nm,0.8s,baz=225,slow=1.9,SNR=5.2						
ARCES	ARCESS Array B	129.09	349	PKP	PKPdf	04 30 38.9	-0.5
	2.4nm,0.8s,baz=343,slow=3.8,SNR=5.1						
AKASG	Malin Array Be	142.84	330	PKP	PKPdf	04 31 03.1	-2.1
	1.0nm,0.6s,baz=44,slow=4.0,SNR=12						
BRTR	Keskin Array B	146.34	311	PKPbc	PKPbc	04 31 14.2	0.0
	0.7nm,0.6s,baz=76,slow=5.2,SNR=3.6						
GERES	GERESS Array B	150.27	343	PKPbc	PKPbc	04 31 23.9	+0.2
	0.7nm,0.6s,baz=29,slow=3.0,SNR=6.3						

GUC 17 04:18:16.0±0.5, 31°.24S×69°.26W, h133km±7km, ML2.8
ISCJB 17 04:18:17.2±0.6, 31°.27S±0°.02×69°.11W±0°.03, h114km±6km, Error ellipse: s-maj=5.0km s-min=3.6km az=27.9
SJA 17 04:18:17.5±1.0, 31°.27S×69°.09W, h104km±3km, ML2.8, MW3.2

ISC 17 04:18:17.6±1.3, 31°.27S±0°.03×69°.13W±0°.03, h110km±8km, n26, σ0°.76/51, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.55	196	*i* P	Pn	04 18 35.0	-0.2
RTLS				*i* S	Sn	04 18 48.6	+0.3
RTLS				IAML		04 18 48.8	
	comp=Z,229nm,0.1s						
SJA	San Juan	0.55	118	*e*P	Pn	04 18 35.2	+0.3
SJA				*e*S	Sn	04 18 46.9	-0.9
SJA				IAML		04 18 51.1	
	comp=Z,192nm,0.2s						
RTLL	Cerro Villicun	0.56	96	↑*i* P	Pn	04 18 34.6	-0.3
RTLL				*i* S	Sn	04 18 47.0	-0.9
RTLL	Cerro Villicun	0.56	96	*e*P	Pn	04 18 34.6	-0.3
RTLL				*i* S	Sn	04 18 48.2	+0.2
RTLL				IAML		04 18 48.8	
	comp=Z,200nm,0.2s						
AMOG	MOGNA	0.64	59	*e*P	Pn	04 18 35.7	+0.1
AMOG				*e*S	Sn	04 18 48.0	-1.0
RTCV	Cerro Valdivia	0.77	140	*i* P	Pn	04 18 36.8	+0.1
RTCV				*e*S	Sn	04 18 51.0	0.0
AUSP	Uspallata	0.97	193	*i* P	Pn	04 18 39.0	0.0
AUSP				*e*S	Sn	04 18 54.9	0.0
ACDV	Cuesta del Vie	1.10	0	*e*P	Pn	04 18 40.4	+0.3
ACDV				*e*S	Sn	04 18 57.5	+0.6
ASAL	Salagasta	1.34	169	*e*P	Pn	04 18 43.1	+0.5
ASAL				*e*S	Sn	04 19 02.9	+1.3
AVFE	Valle Fertil	1.56	67	*e*P	Pn	04 18 45.6	+0.3
AVFE				*e*S	Sn	04 19 06.1	-0.1
AVFE				IAML		04 19 07.6	
	comp=Z,183nm,0.2s						
ARCO	CERRO ARCO	1.57	174	*e*P	Pn	04 18 46.0	+0.5
ARCO				*i* S	Sn	04 19 07.9	+1.2
ARCO				IAML		04 19 09.7	
	comp=Z,98nm,0.6s						
TLL	Tololo Astrono	1.82	307	*e*P	Pn	04 18 48.4	-0.2
TLL				*i* S	Sn	04 19 12.1	0.0
TLL				IAML		04 19 15.4	
	comp=E,135nm,0.3s						
AAGR	Agrelo	1.83	172	*e*P	Pn	04 18 49.1	+0.6
AAGR				*e*S	Sn	04 19 12.8	+0.7
AGUA	GUANDACOL	1.86	17	*e*P	Pn	04 18 50.1	+1.1
AGUA				*e*S	Sn	04 19 14.7	+1.8
ACAN	Cantantal	1.93	122	*i* P	Pn	04 18 50.2	+0.4
ACAN				*e*S	Sn	04 19 13.0	-1.3
ACHE	Chepes	2.11	88	*e*P	Pn	04 18 52.4	+0.2
ACHE				*i* S	Sn	04 19 18.5	-0.1
FCH	Farellones	2.28	205	↓*i* P	Pn	04 18 54.7	+0.2
FCH				*i* S	Sn	04 19 23.9	+1.3
FCH				IAML		04 19 32.1	
	comp=E,41nm,0.2s						
PEL	Peldehue	2.29	215	*e*P	Pn	04 18 53.8	-0.5
PEL				*i* S	Sn	04 19 22.6	+0.1
PEL				IAML		04 19 25.9	
	comp=E,33nm,0.5s						
ROCH	El Roble	2.33	223	*e*P	Pn	04 18 54.5	-0.6
ROCH				IAML		04 19 26.0	
	comp=E,50nm,0.1s						
ROC1	El Roble	2.34	223	*e*P	Pn	04 18 54.7	-0.5
ROC1				*e*S	Sn	04 19 23.3	-0.6
APLL	PUNTA DE LOS L	2.40	69	*e*P	Pn	04 18 56.0	+0.1
APLL				*i* S	Sn	04 19 25.0	-0.1
ACLC	CERRO LA CRUZ	2.63	46	*e*P	Pn	04 18 59.5	+0.5
ACLC				*i* S	Sn	04 19 30.6	0.0
LCO	Las Campanas	2.63	328	*e*P	Pn	04 18 58.4	-0.7
LCO				*i* S	Sn	04 19 30.0	-0.9
LCO				IAML		04 19 31.1	
	comp=E,35nm,0.3s						
LCO	Las Campanas	2.63	328	*e*P	Pn	04 18 58.9	-0.2
LCO				*e*S	Sn	04 19 30.0	-0.9
LCO				IAML		04 19 31.0	
	comp=E,37nm,0.3s						
VCA	Vinchina	2.65	18	*e*P	Pn	04 19 00.2	+1.0
VCA				*e*S	Sn	04 19 31.8	+0.7
VCA				IAML		04 19 36.8	
	comp=Z,27nm,0.2s						
TCA	Tanti	3.88	92	*e*P	Pn	04 19 14.8	-0.6
TCA				*e*S	Sn	04 19 57.9	-2.3
TCA				IAML		04 20 00.2	
	comp=Z,20nm,0.7s						

SOF 17 04:18:37.1, 42°.20N×26°.26E, h6km, MD2.5

CSEM 17 04:18:38.1±0.2, 42°.11N×26°.17E, h2km, ML2.8, Error ellipse: s-maj=5.8km s-min=3.4km az=50.0
ISK 17 04:18:38.2, 42°.15N×26°.35E, h9km, ML2.8
BEO 17 04:18:42.4±1.0, 42°.52N×25°.85E, h0km, M2.3/6

ISC 17 04:18:37.4±1.1, 42°.22N±0°.02×26°.26E±0°.02, h8km±10km, n70, σ1°.13/85, 9C-4D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	Yambol	0.35	44	*i* P	Pg	04 18 43.9	-0.3
JMB	Yambol	0.35	44	*i* P	Pg	04 18 43.9	-0.3
EDRB	Edirne	0.52	135	PG	Pg	04 18 47.2	-0.1
EDRB				SG	Sg	04 18 53.4	-0.6
EDRB	Edirne	0.52	135	*i* Pg	Pg	04 18 47.3	-0.1
DIM	Dimitrovgrad	0.56	253	*i* P	Pg	04 18 47.9	-0.4
DIM	Dimitrovgrad	0.56	253	*i* P	Pg	04 18 47.9	-0.4
KDZ	Kurdzhali	0.84	228	*i* P	Pg	04 18 54.6	+1.0
KDZ	Kurdzhali	0.84	228	*i* P	Pg	04 18 54.6	+1.0
SZH	Strazhica	1.08	347	*i* P	Pb	04 18 58.6	+0.3
SZH	Strazhica	1.08	347	*i* P	Pb	04 18 58.6	+0.3
PHSR	Pinarhisar	1.11	121	*e*PG	Pb	04 18 58.4	-0.4
PHSR				*e*SG	Sb	04 19 12.7	-0.7
PHSR	Pinarhisar	1.11	121	*e*Pg	Pb	04 18 58.4	-0.4
PHSR				*e*Sg	Sb	04 19 12.7	-0.7
PLD	Plovdiv	1.16	265	*e*Pg	Pn	04 18 58.9	-1.1
PLD	Plovdiv	1.16	265	*e*Pg	Pn	04 18 58.9	-1.1
PVL	Pavlikeni	1.21	326	*i* P	Pn	04 19 00.0	-0.6
PVL	Pavlikeni	1.21	326	*i* P	Pn	04 19 00.0	-0.6
PRD	Provadia	1.29	40	*i* P	Pb	04 19 01.8	-0.2
PRD	Provadia	1.29	40	*i* P	Pb	04 19 01.8	-0.2
ALN	Alexandroupoli	1.33	187	*e*PN	Pn	04 19 02.3	+0.1
ALN				*e*SN	Sg	04 19 20.8	+0.8
ALN	Alexandroupoli	1.33	187	*e*Pn	Pn	04 19 02.3	+0.1
ALN				*e*Sn	Sg	04 19 20.8	+0.8
ENEZ	Enez	1.48	183	*e*PN	Pb	04 19 05.0	-0.1
ENEZ				*e*SN	Sb	04 19 24.6	+0.5
ENEZ	Enez	1.48	183	*e*Pn	Pb	04 19 05.0	-0.1
ENEZ				*e*Sn	Sb	04 19 24.6	+0.5
ERIK	Erikli-Kesan	1.55	173	*e*PN	Pn	04 19 05.7	+0.4
ERIK				*e*SN	Sb	04 19 25.9	-0.3
ERIK	Erikli-Kesan	1.55	173	*e*Pn	Pn	04 19 05.7	+0.4
ERIK				*e*Sn	Sb	04 19 25.9	-0.3
ZIMR		1.58	336	↑*i* P	Pg	04 19 08.2	+0.4
ZIMR		1.58	336	S	Sg	04 19 30.2	+1.9
SLVT	Silivri	1.76	123	*e*PN	Pb	04 19 08.8	-1.1
SLVT	Silivri	1.76	123	*e*Pn	Pb	04 19 08.8	-1.1
GELI	Tayfur-Gelibol	1.82	175	*e*PN	Pn	04 19 09.6	+0.6
GELI	Tayfur-Gelibol	1.82	175	*e*Pn	Pn	04 19 09.6	+0.6
SBT3	Marmara-Eregli	1.85	135	*e*PN	Pb	04 19 10.2	-1.2
LPK	Lapseki	1.88	168	*e*PN	Pn	04 19 10.0	+0.2
LPK	Lapseki	1.88	168	*e*Pn	Pn	04 19 10.0	+0.2
CTKS	Kestanelik-??a	1.94	119	*e*PN	Pn	04 19 11.0	+0.3
CTKS	Kestanelik-??a	1.94	119	*e*Pn	Pn	04 19 11.0	+0.3
GADA	Gvkgeada	2.04	188	*e*PN	Pn	04 19 12.9	+0.9
GADA	Gvkgeada	2.04	188	*e*Pn	Pn	04 19 12.9	+0.9
SBT2	Guzelce-Avcila	2.15	128	*e*PN	Pn	04 19 14.0	+0.5
VTS	Vitosha	2.29	280	*e*Pn	Pn	04 19 16.4	+0.8
VTS				*e*Sg	Sn	04 19 44.2	+0.1
VTS	Vitosha	2.29	280	↓*i* P	Pn	04 19 15.7	+0.1
VTS	Vitosha	2.29	280	S	Sn	04 19 41.8	-2.3
VTS	Vitosha	2.29	280	↓*i* P	Pn	04 19 15.7	+0.1
VTS	Vitosha	2.29	280	*e*Pn	Pn	04 19 16.4	+0.8
HUMR	Humele	2.49	338	↑*i* P	Pb	04 19 21.1	-1.3
HUMR	Humele	2.49	338	↑*i* P	Pb	04 19 21.1	-1.3
HUMR				S	Sb	04 19 53.1	-0.2
TIRR	Tirgusor	2.74	34	↑*i* P	Pb	04 19 27.3	+0.7
TIRR	Tirgusor	2.74	34	↑*i* P	Pb	04 19 27.3	+0.7
TIRR				S	Sg	04 20 04.1	-1.2
ZAPS	Zavoj	2.87	293	*e*Pn	Pn	04 19 24.9	+1.4
CFR	Carcaliu	3.26	24	↓*i* P	Pb	04 19 35.5	0.0
CFR	Carcaliu	3.26	24	↓*i* P	Pb	04 19 35.5	0.0
CFR				S	Sb	04 20 17.1	+1.8
MLR	Muntele Rosu	3.28	356	S	Sb	04 20 14.3	-1.8
MLR	Muntele Rosu	3.28	356	S	Sb	04 20 14.3	-1.8
VOIR		3.34	345	↑*i* P	Pn	04 19 33.2	+3.2
VOIR		3.34	345	↑*i* P	Pn	04 19 33.2	+3.2
VOIR				S	Sb	04 20 14.1	-3.6
BARS	Barje	3.34	282	*e*Pn	Pn	04 19 30.8	+0.9
BARS	Barje	3.34	282	*e*Pn	Pn	04 19 30.8	+0.9
ZAGS	Zajecar	3.36	300	*e*Pn	Pn	04 19 30.1	0.0
BOVS	Bovan	3.63	295	*e*Pn	Pn	04 19 35.3	+1.4
SELS	Selova	3.92	287	*e*Pn	Pn	04 19 38.1	+0.2
SELS	Selova	3.92	287	*e*Pn	Pn	04 19 38.1	+0.2
KUBS	Kucevo	4.00	305	*e*Pn	Pn	04 19 37.4	-1.6
KUBS	Kucevo	4.00	305	*e*Pn	Pn	04 19 37.4	-1.6
MDVR	Moldovita	4.19	309	↑*i* P	Pn	04 19 42.0	+0.4
MDVR	Moldovita	4.19	309	↑*i* P	Pn	04 19 42.0	+0.4
MDVR				S	Sn	04 20 28.5	-2.2
GRUS	Gruza	4.39	294	*e*Pn	Pn	04 19 45.3	+0.9
GRUS	Gruza	4.39	294	*e*Pn	Pn	04 19 45.3	+0.9
TRUS	Trudelj	4.72	297	*e*Pn	Pn	04 19 49.6	+0.6
TRUS	Trudelj	4.72	297	*e*Pn	Pn	04 19 49.6	+0.6
BZS	Buzias	4.78	317	S	Sn	04 20 47.3	+2.1
BZS	Buzias	4.78	317	S	Sn	04 20 47.3	+2.1

IDC 17 04:21:43.4±3.6, 7°.50S×106°.19E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, Error ellipse: s-maj=189.8km s-min=20.9km az=53.0
ISCJB 17 04:21:49.8±1.2, 7°.76S±0°.07×106°.53E±0°.05, h34km±16km, mb3.5/5, Error ellipse: s-maj=13.6km s-min=6.0km az=27.2
DJA 17 04:21:49.7±0.6, 8°.5±3°.×10°.7E±°, h26km±5km, M4.2/10, MLv4.2/10

ISC 17 04:21:51.7±1.6, 7°.6S±0°.1×106°.59E±0°.08, h55km±15km, n18, σ1°.57/21, mb3.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.61	357	P	Pn	04 22 03.8	-0.8
SKJI				S	Sn	04 22 14.1	+0.1
CNJI	Cibinong	0.62	60	P	Pn	04 22 04.4	-0.3
CNJI				S	Sn	04 22 14.0	-0.1
DBJI	Dramaga	1.07	9	P	Pn	04 22 11.4	+0.8
DBJI				S	Sn	04 22 26.5	+2.0
CISI	Cisompet, Garu	1.22	87	P	Pn	04 22 12.1	-0.4
CISI				S	Sn	04 22 27.5	-0.6
CGJI	Cibinong	1.34	318	P	Pn	04 22 13.2	-0.9
SBJI	Serang	1.56	343	P	Pn	04 22 17.7	+0.6
SBJI				S	Sn	04 22 37.7	+1.4
CMJI	Cimerak	1.85	95	P	Pn	04 22 20.8	-0.2
CMJI				S	Sn	04 22 42.3	-1.0
KASI	Kota Agung	2.94	315	P	Pn	04 22 36.0	0.0
KASI				S	Sn	04 23 10.6	+0.5
MDSI	Maura Dua	3.93	322	P	Pn	04 22 49.5	0.0
CMAR	Chiang Mai Arr	26.99	344	P	P	04 27 25.4	-3.2
	0.6nm,0.3s,baz=188,slow=8.3,SNR=4.4						
WRA	Warramunga Arr	29.54	117	P	P	04 27 53.3	+1.9
	0.2nm,0.4s,baz=304,slow=7.6,SNR=3.3						
ASAR	Alice Springs	30.67	124	P	P	04 28 03.9	+2.6
	0.1nm,0.3s,baz=307,slow=8.0,SNR=3.4						
H08S2	Diego Garcia H	33.79	268	T	T	05 03 55.1	
	baz=92,slow=76,SNR=159						
H08S3	Diego Garcia H	33.80	268	T	T	05 03 45.1	
	baz=92,slow=76,SNR=124						
H08S1	Diego Carcia H	33.81	268	T	T	05 03 51.1	
	baz=92,slow=76,SNR=141						
STKA	Stephens Creek	40.53	131	P	P	04 29 27.6	+1.8
	2.1nm,0.4s,baz=304,slow=7.9,SNR=9.8						
MKAR	Makanchi Array	58.33	341	P	P	04 31 38.2	-2.9
	0.3nm,0.4s,baz=147,slow=7.1,SNR=4.9						
TXAR	Lajitas Array	144.28	49	PKP	PKPbc	04 41 22.1	+1.3
	0.2nm,0.6s,baz=339,slow=2.4,SNR=4.0						

IDC 17 04:31:54.3±1.0, 2°.55N×129°.08E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/46, mbtmp3.7/7, Error ellipse: s-maj=69.8km s-min=18.8km az=75.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.80	189	P	P	04 36 36.5	-0.9
	0.7nm,0.6s,baz=5.0,slow=9.3,SNR=0.8						
WRA	Warramunga Arr	22.95	167	P	P	04 36 59.9	-0.6
	1.1nm,0.5s,baz=344,slow=11,SNR=3.6						
ASAR	Alice Springs	26.48	170	P	P	04 37 33.3	-0.2
	1.0nm,0.8s,baz=353,slow=8.1,SNR=4.3						
STKA	Stephens Creek	36.25	162	P	P	04 38 59.9	+0.5
	1.6nm,0.8s,baz=345,slow=12,SNR=1.7						
H11S3	WAKE ISLAND Hy	40.09	64	T	T	05 22 47.2	
	baz=252,slow=75,SNR=36						
H11S2	WAKE ISLAND Hy	40.10	64	T	T	05 22 46.2	
	baz=252,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	40.17	64	T	T	05 22 49.3	
	baz=252,slow=75,SNR=16						
H11N1	WAKE ISLAND Hy	40.67	62	T	T	05 23 38.7	
	baz=250,slow=75,SNR=15						
H11N2	WAKE ISLAND Hy	40.69	62	T	T	05 23 24.4	
	baz=250,slow=75,SNR=7.3						
H11N3	WAKE ISLAND Hy	40.69	62	T	T	05 23 37.7	
	baz=250,slow=75,SNR=14						
SONM	Songino Array	49.18	340	P	P	04 40 44.7	+0.4
	0.5nm,0.6s,baz=132,slow=5.2,SNR=3.2						
MKAR	Makanchi Array	59.86	325	P	P	04 42 01.1	-0.8
	2.7nm,0.6s,baz=116,slow=8.3,SNR=21						
ILAR	Eielson Array	85.15	25	P	P	04 44 31.5	-0.8
	0.1nm,0.5s,baz=245,slow=5.8,SNR=1.9						
TORD	Torodi Ar. Bea	125.51	288	PKP	PKPdf	04 51 00.8	+2.1
	0.2nm,0.6s,baz=92,slow=3.2,SNR=1.5						

IDC 17 04:33:14.5±3.1, 32°.25S×178°.70W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/37, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=69.7km s-min=46.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.91	209	Pn	Pn	04 34 55.8	-1.2
	1.5nm,0.3s,baz=276,slow=5.4,SNR=11						
URZ				Sn	Sn	04 36 10.4	-5.9
	1.2nm,0.3s,baz=103,slow=21,SNR=9.3						
ASAR	Alice Springs	42.45	269	P	P	04 41 11.4	0.0
	1.1nm,0.7s,baz=112,slow=7.2,SNR=8.1						
WRA	Warramunga Arr	43.61	274	P	P	04 41 20.7	-0.1
	0.8nm,0.3s,baz=113,slow=8.0,SNR=15						
VNA3	Neumayer Olymp	76.50	176	P	P	04 45 09.3	+3.3
VNA2	Neumayer--Watz	76.93	177	P	P	04 45 13.2	+4.8
	baz=177,slow=3.5						
FINES	FINESS Array B	146.66	339	PKPbc	PKPbc	04 52 56.8	-0.6
	2.4nm,0.9s,baz=60,slow=3.4,SNR=4.4						

NIED 17 04:39:00.35°.70N×142°.60E, h5km, Mw3.9 Best double couple: M0 9.04000×10^14 NP1:φs 12.00000°, δ38.00000°, λ-92.00000°. NP2:φs 195.00000°, δ52.00000°, λ-88.00000°.
IDC 17 04:39:30.5±0.7, 35°.55N×142°.66E, h0km, mb4.0/12, mb1 4.1/15, mb1mx3.9/45, mbtmp4.0/15, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/35, Error ellipse: s-maj=19.7km s-min=17.8km az=101.0
NEIC 17 04:39:32.0±0.4, 35°.56N×142°.70E, h10km, mb4.2/1, Error ellipse: s-maj=9.5km s-min=8.2km az=220.0
ISCJB 17 04:39:33.6±1.7, 35°.63N±0°.04×142°.58E±0°.05, h33km±13km, mb4.0/13, Error ellipse: s-maj=7.2km s-min=6.1km az=31.0
JMA 17 04:39:33.6±0.3, 35°.67N×142°.55E, h79km, M3.7

ISC 17 04:39:32.7±2.8, 35°.62N±0°.05×142°.56E±0°.07, h13km±16km, n42, σ1°.44/47, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.39	274	P	Pn	04 39 57.8	+0.1
CHOJ				*e*S	Sg	04 40 15.8	-1.5
BSO1	Boso 1	1.61	234	P	Pn	04 40 00.4	0.0
JHO	Hitachi	1.89	302	P	Pn	04 40 04.2	-0.4
JHO				*e*S	Sn	04 40 26.7	-1.6
JFT	Otama	2.60	317	P	Pn	04 40 14.5	0.0
JFT				S	Sn	04 40 44.7	-1.2
JAG	Ashikaga	2.64	289	P	Pn	04 40 14.8	-0.2
JAG				S	Sn	04 40 45.1	-1.8
JOD2	Odawara 2	2.85	264	P	Pn	04 40 18.1	+0.2
JOD2				*e*S	Sn	04 40 50.9	-1.3
JRY	Ryogami san	3.00	279	P	Pn	04 40 20.7	+0.8
JRY				*e*S	Sn	04 40 55.3	-0.4
JYN	Shimob	3.27	269	P	Pn	04 40 24.5	+0.7
JHJ2	Mitsune	3.38	223	P	Pn	04 40 25.6	+0.5
JHJ	Hachijo jima 2	3.39	223	Pn	Pn	04 40 25.8	+0.5
	40nm,0.3s,baz=93,slow=22,SNR=7.4						
JHJ				Sn	Sn	04 41 02.2	-3.2
	174nm,0.3s,baz=138,slow=20,SNR=10						
JNS	Sasagawa	3.40	311	S	Sn	04 41 05.2	-0.4
JMK	Ichinoseki	3.49	343	P	Pn	04 40 25.6	-1.0
JMK				S	Sn	04 41 05.6	-2.2
MJAR	Matsushiro Arr	3.64	286	Pn	Pn	04 40 29.6	+0.8
	5.9nm,0.3s,baz=111,slow=9.4,SNR=17						
MJAR				Sn	Sn	04 41 10.7	-0.8
	5.8nm,0.3s,baz=35,slow=4.8,SNR=5.6						
MJAR				L

KONE	Korovin Northe	1.76	288	P	Pn	04 42 55.0	+1.4
ATKA	Atka Island	1.77	281	P	Pn	04 42 53.4	-0.3
ATKA				S	Sn	04 43 15.5	+0.7
KOKL	Mount Kliuchef	1.79	285	P	Pn	04 42 55.1	+1.0
NIKH	Nikolski High	1.89	54	P	Pn	04 42 55.9	+0.5
OKSO	Okmok South	2.45	52	P	Pn	04 43 04.4	+1.4
OKSO				S	Sn	04 43 34.4	+2.6
OKCE	Okmok Cone E	2.49	51	P	Pn	04 43 05.6	+1.9
OKCE				S	Sn	04 43 37.4	+4.7
OKAK	Okmok	2.50	46	P	Pn	04 43 03.8	+0.1
OKTU	Okmok Mt. Tuli	2.52	52	P	Pn	04 43 05.5	+1.4
OKNC	Okmok New Cone	2.53	50	P	Pn	04 43 06.1	+1.9
OKFG	Magazine Ridge	2.60	53	P	Pn	04 43 07.4	+2.2
GSTR	Great Sitkin T	2.90	276	P	Pn	04 43 09.8	+0.6
GSTD	Great Sitkin T	2.95	275	P	Pn	04 43 10.7	+0.7
GSTD				S	Sn	04 43 45.5	+1.3
GSCK	Great Sitkin C	2.96	274	P	Pn	04 43 10.8	+0.7
ETKA	Kagalaska Isla	3.12	271	P	Pn	04 43 12.4	+0.2
ADAG	Mount Adagdak	3.23	274	P	Pn	04 43 15.4	+1.6
ADK	Adak	3.29	272	*e*Pn	Pn	04 43 14.6	+0.1
ADK				*e*S	Sn	04 43 51.4	-0.9
MSOM	Makushin Julie	3.31	53	P	Pn	04 43 16.2	+1.4
MREP	Makushin Rep't	3.40	54	P	Pn	04 43 18.1	+1.9
MSW	Makushin Switc	3.44	52	P	Pn	04 43 18.1	+1.4
MTBL	Makushin Table	3.52	52	P	Pn	04 43 19.3	+1.4
KIRH	Kanaga Island	3.54	272	P	Pn	04 43 19.2	+1.2
UNV	Unalaska Valle	3.54	55	*e*Pn	Pn	04 43 18.8	+0.7
UNV				*e*S	Sn	04 43 58.0	-0.6
KIKV	Kanaga Island	3.59	272	P	Pn	04 43 19.6	+0.9
AKRB	Akutan Reef Bi	3.91	53	P	Pn	04 43 24.6	+1.5
AKGG	Akutan Green G	3.99	52	P	Pn	04 43 26.9	+2.7
TAPA	Tanaga Point A	3.99	271	P	Pn	04 43 25.1	+0.9
AKUT	Akutan	4.06	54	*e*Pn	Pn	04 43 27.5	+2.4
AKUT				*e*S	Sn	04 44 05.9	-5.5
TAFP	Tanaga Falls P	4.09	273	P	Pn	04 43 26.3	+0.7
AKSA	Akutan Strait	4.10	55	P	Pn	04 43 28.1	+2.4
TASE	Tanaga Southea	4.13	272	P	Pn	04 43 26.9	+0.8
SPIA	Saint Paul Isl	5.34	7	P	Pn	04 43 44.5	+1.9
FALS	False Pass	5.62	55	*e*Pn	Pn	04 43 48.2	+1.7
FALS				*e*S	Sn	04 44 45.4	-4.2
SDPT	Sand Point	7.35	58	*e*Pn	Pn	04 44 10.4	+0.2
SDPT				*e*S	Sn	04 45 21.8	-10
SMY	Shemya	8.94	281	*e*Pn	Pn	04 44 31.3	-0.6
OHAK	Old Harbor	11.77	56	*e*Pn	Pn	04 45 07.5	-3.0
KDAK	Kodiak Island	12.31	54	Pn	Pn	04 45 16.4	-1.6
	0.4nm,0.3s,baz=268,slow=6.1,SNR=9.3						
BPAW	Bear Paw Mtn.	16.22	33	*e*Pn	Pn	04 46 11.6	+1.5
BMRM	Bremner River	17.25	48	*e*Pn	Pn	04 46 22.8	-0.3
ILAR	Eielson Array	18.05	35	P	Pn	04 46 30.6	-2.1
	0.3nm,0.3s,baz=228,slow=9.7,SNR=27						
EGAK	Eagle	20.18	39	*e*P	P	04 46 55.8	-0.4
	2.5nm,0.4s						
SKAG	Skagway	21.46	55	*e*P	P	04 47 11.2	+1.3
	7.1nm,0.7s						
DLBC	Dease Lake	24.19	58	P	P	04 47 39.6	+1.9
	4.2nm,0.5s,baz=234,slow=4.6,SNR=12						
INK	Inuvik	24.43	33	P	P	04 47 39.2	-0.3
	2.8nm,0.4s,baz=239,slow=7.1,SNR=28						
YKA	Yellowknife Ar	31.49	48	P	P	04 48 43.0	+0.4
	1.3nm,0.6s,baz=274,slow=9.2,SNR=8.5						
H11N2	WAKE ISLAND Hy	36.32	216	T	T	05 27 59.3	
	baz=21,slow=75,SNR=48						
H11N3	WAKE ISLAND Hy	36.33	216	T	T	05 28 01.3	
	baz=21,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	36.34	216	T	T	05 27 57.3	
	baz=21,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	37.52	216	T	T	05 29 33.3	
	baz=21,slow=76,SNR=67						
H11S2	WAKE ISLAND Hy	37.53	216	T	T	05 29 30.5	
	baz=21,slow=76,SNR=74						
H11S3	WAKE ISLAND Hy	37.53	216	T	T	05 29 33.0	
	baz=21,slow=76,SNR=47						
PDAR	Pinedale Array	41.71	77	P	P	04 50 11.2	+0.9
	0.2nm,0.3s,baz=291,slow=7.6,SNR=4.1						
KSRS	Korea Array	44.22	276	LR	LR	05 08 43.3	
	comp=Z,66nm,18.5s,baz=241,slow=36						
TXAR	Lajitas Array	54.00	87	P	P	04 51 46.0	+0.7
	0.5nm,0.8s,baz=298,slow=6.1,SNR=5.0						
TXAR	Lajitas Array	54.00	87	P	P	04 51 46.0	+0.7
ARCES	ARCESS Array B	58.26	353	P	P	04 52 13.1	-1.9
	2.3nm,0.8s,baz=7.3,slow=7.0,SNR=5.0						
KURK	Kurchatov	61.90	317	P	P	04 52 39.8	-0.3
KURBB	Kurchatov Arra	62.00	317	P	P	04 52 39.8	-1.0
	0.8nm,0.7s,baz=43,slow=7.2,SNR=5.8						
MKAR	Makanchi Array	63.22	312	P	P	04 52 48.3	-0.7
	0.3nm,0.3s,baz=32,slow=8.5,SNR=6.4						
BVAR	Borovoye Array	63.36	323	P	P	04 52 49.4	-0.4
	1.4nm,0.6s,baz=38,slow=8.3,SNR=5.8						
WRA	Warramunga Arr	85.74	230	P	P	04 54 59.6	-0.3
	0.4nm,0.8s,baz=38,slow=6.5,SNR=2.5						
ASAR	Alice Springs	89.14	228	P	P	04 55 16.6	+0.4
	0.5nm,0.5s,baz=30,slow=4.6,SNR=5.6						

JMA 17 04:51:17.1±0.1,37°.27N×144°.18E,h0km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.53	299	P	Pn	04 52 00.5	+1.0
JFK	Kawauchi	2.64	273	P	Pn	04 52 01.9	+1.0
JFK				*e*S	Sn	04 52 34.9	+1.2
ONAJ	Iwakimizuishiy	2.71	267	P	Pn	04 52 03.1	+1.2
ONAJ				S	Sn	04 52 37.0	+1.6
JFT	Otama	3.07	276	P	Pn	04 52 08.9	+2.0
JFT				*e*S	Sn	04 52 46.0	+1.7

ISCJB 17 04:59:02.9±1.3,2°.0S±0°.1×77°.0W±0°.2,h33km,mb3.6/1, Error ellipse: s-maj=30.1km s-min=11.8km az=158.9
IDC 17 04:59:20.3±4.5,1°.79S×73°.02W,h0km,mb3.7/1,mb1 3.6/3, mb1mx3.4/22,mbtmp3.6/3,ML2.6/2,Error ellipse: s-maj=134.7km s-min=27.1km az=71.0

ISC 17 04:59:02.9±1.5,2°.1S±0°.1×77°.1W±0°.2,h35km,n8,σ0s72/7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	2.70	331	*e*P	Pn	04 59 43.5	-0.8
CMBC	Cumbal	3.13	347	*e*P	Pn	04 59 50.8	+0.6
CRUC	La Cruz	3.68	3	*e*P	Pn	04 59 57.9	+0.2
FLOC	Florencia	3.98	22	*e*P	Pn	05 00 00.6	-0.9
POPC	Popayan, Colom	4.67	6	*e*P	Pn	05 00 11.5	+0.4
ROSC	El Rosal	7.48	22	Pn	Pn	05 01 01.3	+11
	0.5nm,0.3s,baz=197,slow=20,SNR=2.3						
ROSC				Lg	Lg	05 02 52.6	
	4.5nm,0.3s,baz=235,slow=23,SNR=2.4						
LPAZ	La Paz	16.62	148	Pn	P	05 02 56.2	+0.1
	0.1nm,0.3s,baz=345,slow=16,SNR=2.7						
LPAZ				Lg	Lg	05 07 50.0	
	0.1nm,0.3s,baz=199,slow=2.9,SNR=3.2						
TORD	Torodi Ar. Bea	79.61	76	P	P	05 11 07.5	+0.2
	0.6nm,0.8s,baz=285,slow=5.1,SNR=3.7						

MEX 17 05:04:30.3±0.4,18°.64N×104°.19W,h10km±18km,MD4.1, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.87	114	*e*P	Pg	05 04 44.6	-2.5
MMIG				*e*S	Sg	05 04 55.9	-2.6
CJM	Chamela	1.18	317	*e*P	Pb	05 04 49.0	-3.7
ZIIG	Zihuatanejo	2.78	111	*e*P	Pn	05 05 13.1	-1.8
ARIG	Puente Sto Nin	3.66	95	*e*P	Pn	05 05 24.2	-2.8
ARIG				*i* S	Sn	05 06 06.2	-4.0

IDC 17 05:14:52.9±3.1,30°.14S×138°.65E,h0km,mb1 3.3/4, mb1mx3.3/29,mbtmp3.1/4,ML2.5/4,Error ellipse: s-maj=120.1km s-min=15.1km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.07	125	Pn	Pn	05 15 42.5	-0.2
	0.1nm,0.3s,baz=302,slow=13,SNR=2.2						
STKA				Pg	Pb	05 15 49.4	+1.0
	0.5nm,0.3s,baz=303,slow=17,SNR=3.2						
STKA				Sn	Sn	05 16 21.1	+1.1
	1.0nm,0.3s,baz=285,slow=12,SNR=3.8						
STKA				Lg	Lg	05 16 30.0	
	0.9nm,0.3s,baz=198,slow=23,SNR=3.3						
ASAR	Alice Springs	7.71	326	Pn	Pn	05 16 46.5	+0.1
	0.1nm,0.3s,baz=150,slow=12,SNR=2.3						
ASAR				Sn	Sn	05 18 15.2	+0.6
	0.1nm,0.3s,baz=159,slow=21,SNR=1.8						
WRA	Warramunga Arr	10.87	338	Pn	Pn	05 17 30.5	+0.6
	0.1nm,0.3s,baz=155,slow=12,SNR=2.5						
FITZ	Fitzroy Crossi	16.85	312	Pn	Pn	05 18 49.6	-0.7
	0.0nm,0.3s,baz=132,slow=14,SNR=1.6						

IDC 17 05:40:34.9±8.0,25°.51N×112°.92W,h0km,mb3.5/1, mb1 3.7/3,mb1mx3.5/27,mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=140.1km s-min=42.6km az=5.0,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	9.06	63	Pn	Pn	05 42 48.3	+1.1
	0.1nm,0.3s,baz=240,slow=12,SNR=9.2						
PDAR	Pinedale Array	17.44	8	P	Pn	05 44 40.1	+0.3
	0.0nm,0.3s,baz=185,slow=10.0,SNR=4.5						
ILAR	Eielson Array	44.92	340	P	P	05 48 51.0	-0.2
	0.5nm,0.8s,baz=144,slow=7.1,SNR=6.2						

NIED 17 06:03:00,22°.90N×124°.90E,h41km,Mw5.2 Best double couple: M0 6.38000×10^16 NP1:φs 36.00000°,δ77.00000°, λ173.00000°. NP2:φs 128.00000°,δ83.00000°,λ13.00000°.
ISCJB 17 06:03:45.5±0.7,22°.79N±0°.02×124°.88E±0°.02,h1km±4km, mb4.8/119,MS4.4/38,Error ellipse: s-maj=3.2km s-min=2.6km az=12.3
IDC 17 06:03:46.2±0.4,22°.73N×125°.03E,h0km,mb4.6/31, mb1 4.7/34,mb1mx4.6/53,mbtmp4.6/34,ML4.3/3,MS4.2/26, Ms1 4.2/26,ms1mx4.0/44,Error ellipse: s-maj=14.3km s-min=10.0km az=75.0
GCMT 17 06:03:48.3±0.2,22°.74N×124°.84E,h17km,MW5.1/100, Moment Tensor Solution. s68,c94; s100,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.92±.16; Mθθ 6.50±.13; Mφφ-4.58±.13; Mrθ 0.66±.32; Mφθ 0.25±.12; Mφr-0.05±.35; Best double couple: M0 5.57200×10^16 NP1:φs 134.00000°,δ88.00000°,λ4.00000°. NP2: φs 44.00000°,δ86.00000°,λ178.00000°. Principal axes: T 6.5570, Plg4.0000°, Azm359.0000°; N -1.9690, Plg85.0000°, Azm161.0000°; P -4.5870, Plg1.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 17 06:03:48.3,23°.00N×124°.89E,h9km,mb4.7/70,mB5.0/55, ML4.9/4,Ms4.9/80,Ms7 4.6/74
NEIC 17 06:03:48.3±0.2,22°.70N×124°.84E,h10km,mb5.0/56,Error ellipse: s-maj=4.8km s-min=4.7km az=175.0
MOS 17 06:03:50.1±1.3,22°.70N×124°.89E,h33km,mb5.1/46, MS4.5/5,Error ellipse: s-maj=9.6km s-min=5.5km az=114.7
JMA 17 06:03:50.5±0.2,22°.88N×124°.89E,h43km,M5.0

ISC 17 06:03:50.6±0.7,22°.72N±0°.03×124°.95E±0°.03,h23km±4km, n325,σ2s24/369,mb4.8/119,MS4.4/38,19C-9D,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.69	322	P	Pn	06 04 16.0	-2.8
HATJ				S	Sn	06 04 34.6	-5.2
JKRS	Kuro-shima	1.74	330	P	Pn	06 04 17.2	-2.2
JKRS				S	Sn	06 04 36.6	-4.2
JIJ	Ishigaki jima	1.79	336	P	Pn	06 04 17.6	-2.6
JIJ				S	Sn	06 04 36.8	-5.4
JTJ	Tarama	1.92	353	P	Pn	06 04 19.8	-2.1
JTJ				*e*S	Sn	06 04 41.4	-4.0
JISG	Ishigakijimahi	1.95	343	P	Pn	06 04 19.7	-2.6
JISG				*e*S	Sn	06 04 41.6	-4.4
IRIF	Iriomote-Funau	1.96	325	P	Pn	06 04 20.2	-2.2
IRIF				*e*S	Sn	06 04 42.0	-4.2
JOGS	Gusukube	2.07	12	P	Pn	06 04 21.8	-2.2
JOGS				*e*S	Sn	06 04 45.7	-3.4
JIRB	Irabujima	2.11	6	P	Pn	06 04 22.0	-2.4
JIRB				*e*S	Sn	06 04 46.0	-3.9
JMJ	Miyako jima 2	2.11	9	P	Pn	06 04 22.2	-2.3
JMJ				*e*S	Sn	06 04 46.7	-3.2
JIKM	Ikemajima	2.21	7	P	Pn	06 04 23.6	-2.2
JIKM				S	Sn	06 04 49.0	-3.4
YOJ	Yonaguni jima	2.48	315	P	Pn	06 04 27.8	-1.8
YOJ				S	Sn	06 04 54.7	-4.5
YOJ	Yonaguni jima	2.48	315	*e*P	Pn	06 04 28.0	-1.6
YOJ				*e*		06 04 55.1	
YOJ	Yonaguni jima	2.48	315	*e*Pn	Pn	06 04 28.0	-1.6
YOJ				*e*Sn	Sn	06 04 55.0	-4.2
JYNG	Yonagunijimaku	2.52	314	P	Pn	06 04 28.3	-1.8
JYNG				*e*S	Sn	06 04 55.7	-4.4
NACB	Ninganchiao	3.40	296	*e*Pn	Pn	06 04 39.0	-3.3
NACB				*e*Sn	Sn	06 05 14.6	-7.4
YULB	Yu-li	3.43	282	*e*Pn	Pn	06 04 39.1	-3.6
YULB				*e*Sn	Sn	06 05 18.9	-3.8
TWG	Pinlang	3.58	272	*e*Pn	Pn	06 04 40.9	-3.8
TWG				*e*Sn	Sn	06 05 18.0	-8.4
YHNB	Yeheng	3.81	301	*e*Pn	Pn	06 04 46.3	-1.6
YHNB				*e*Sn	Sn	06 05 29.2	-2.9
SSLB	Suanglung	3.83	287	*e*Pn	Pn	06 04 45.4	-2.7
SSLB				*e*Sn	Sn	06 05 30.5	-1.9
TATO	Taipei	3.88	306	*e*Pn	Pn	06 04 47.3	-1.6
TATO				*e*Sn	Sn	06 05 30.9	-2.9
JKE	Kume jima 2	3.96	25	P	Pn	06 04 46.5	-3.4
TPUB	Ta-pu	4.02	279	*e*Pn	Pn	06 04 49.2	-1.6
TPUB				*e*Sn	Sn	06 05 34.3	-2.9
JJT2	Tamagusuku 2	4.25	36	P	Pn	06 04 51.4	-2.6
JAGN	Aguni-jima	4.38	28	P	Pn	06 04 52.5	-3.2
JNTH	Nagotoyohara	4.70	36	P	Pn	06 04 57.1	-3.0
JOW	Kunigami	5.09	36	P	Pn	06 05 02.6	-2.8
JOW	Kunigami	5.09	36	*e*Pn	Pn	06 05 02.8	-2.7
JOW				*e*Sn	Sn	06 05 56.7	-6.8
JIH	Iheya	5.09	32	P	Pn	06 05 02.2	-3.3
SGCP	Mt. Cagua	5.22	212	*e*P	Pn	06 05 05.9	-1.4
SGCP				*e*S	Sn	06 06 00.4	-6.4
JOKE	Okinoerabujima	5.67	35	P	Pn	06 05 09.7	-3.7
JTK	Tokunoshima	6.21	35	P	Pn	06 05 16.8	-4.0
QZH	Quanzhou	6.23	292	Pn	Pn	06 05 17.8	-3.3
QZH				Sn	Sn	06 06 22.5	-9.1
QZH				smax	smax		
	comp=N,670nm,0.8s						
QZH				smax	smax		
	comp=E,590nm,0.8s						
QZH				LR	LR		
	comp=N,7μm,11.0s						
QZH				LR	LR		
	comp=E,2μm,6.2s						
QZH				LR	LR		
	comp=Z,6μm,13.4s						
ABRA	Dolores	6.43	219	*e*P	Pn	06 05 22.4	-1.5
ABRA				*e*S	Sn	06 06 32.3	-4.3
CAUP	Cauayan	6.46	208	*e*P	Pn	06 05 25.3	+1.0
JMZ	Minamidaito 2	6.50	60	P	Pn	06 05 19.6	-5.2
JAMN	Amaminishikomi	6.69	34	P	Pn	06 05 23.5	-4.0
BALP	Baler	7.64	205	*e*P	Pn	06 05 39.8	-0.7
BOLP	Bolinao	7.89	218	*e*P	Pn	06 05 42.8	-1.3
BOLP				*e*S	Sn	06 07 13.8	+1.2
GQP	Guinayangan	9.09	196	⇓*e*P	Pn	06 05 58.8	-1.6
GQP				*e*S	Sn	06 07 34.2	-7.8
PVCP	Virac	9.11	185	*e*P	Pn	06 05 58.6	-2.1
LQP	Lukban	9.15	201	⇑*e*P	Pn	06 06 01.9	+0.4
TGY	Tagaytay City	9.38	205	Pn	Pn	06 06 04.0	-0.5
	233nm,0.3s,baz=25,slow=1.9,SNR=18						
TGY				LR	LR	06 10 09.4	
	comp=Z,1μm,19.2s,baz=22,slow=41						
AUQP	San Andres	9.59	193	*e*P	Pn	06 06 07.6	+0.3
BOAC	Boac	9.67	198	*e*P	Pn	06 06 08.8	+0.3
LUBP	Lubang	9.99	207	*e*P	Pn	06 06 11.8	-1.0
OTRP	Odiongan	10.67	196	*e*P	Pn	06 06 20.6	-1.5
GZH	Guangzhou	10.71	274	P	Pn	06 06 17.9	-4.7
GZH				S	Sn	06 08 17.5	-4.2
GZH				pmax	pmax		
	comp=Z,43nm,1.2s						
NJ2	Nanjing	10.75	331	*e*P	Pn	06 06 22.0	-1.2
NJ2				S	Sn	06 08 25.3	+2.5
NJ2				pmax	pmax		
	comp=Z,21nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,740nm,11.1s						
NJ2				LR	LR		
	comp=Z,3μm,13.0s						
NJ2				LR	LR		
	comp=Z,2μm,10.3s						
NJ2				LR	LR		
	comp=Z,3μm,13.0s						
SJMP	San Jose	10.84	200	*e*P	Pn	06 06 25.3	+0.9
JNU	Nakatsue	11.61	26	Pn	Pn	06 06 31.6	-3.3
	comp=Z,1.9nm,0.3s,baz=217,slow=6.8,SNR=12						
JNU	Nakatsue	11.61	26	*e*Pn	Pn	06 06 31.6	-3.3
JNU				*e*Sn	Sn	06 08 39.3	-4.5
GUIM	Jordan	12.24	191	*e*P	Pn	06 06 41.4	-2.2
WHN	Wuhan	12.27	312	P	Pn	06 06 44.3	+0.4
WHN				S	Sn	06 08 59.6	-0.3
WHN				LR	LR		
	comp=Z,7μm,12.8s						
WHN				LR	LR		
	comp=Z,7μm,12.8s						
WHN				LR	LR		
	comp=Z,7μm,11.8s						
QIZ	Qiongzhong	14.59	258	P	Pn	06 07 12.8	-2.9
QIZ				S	Sn	06 09 58.5	+1.7
QIZ				pmax	pmax		
	comp=Z,21nm,1.8s						
QIZ				LR	LR		
	comp=Z,2μm,15.2s						
QIZ				LR	LR		
	comp=Z,650nm,15.2s						
QIZ				LR	LR		
	comp=Z,1μm,20.4s						
KS15	Wonju Array Si	14.89	9	*e*Pn	Pn	06 07 17.6	-2.0
KSRS	Korea Array	14.91	9	Pn	Pn	06 07 17.2	-2.7
	comp=Z,0.9nm,0.3s,baz=191,slow=13,SNR=39						
KSRS				LR	LR	06 12 41.2	
	comp=Z,468nm,19.3s,baz=190,slow=36						
KS01	Wonju Array Si	14.92	9	*e*Pn	Pn	06 07 18.1	-2.0
TIA	Tai'an	15.06	335	⇑P	Pn	06 07 22.3	+0.3
TIA				S	Sn	06 10 08.0	-0.1
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
TIA				pmax	pmax		
	comp=Z,630nm,2.7s						
TIA				LR	LR		
	comp=Z,2μm,13.5s						
TIA				LR	LR		
	comp=Z,1μm,11.0s						
TIA				LR	LR		
	comp=Z,2μm,11.0s						
CBIJ	Chichi jima	16.23	71	*e*Pn	Pn	06 07 38.1	+0.9
	comp=Z,179nm,0.8s						
DL2	Dalian	16.38	351	P	Pn	06 07 40.3	+1.3
DL2				*e*S	Sn	06 10 43.5	+3.4
DL2				pmax	pmax		
	comp=Z,110nm,0.9s						
DL2				pmax	pmax		
	comp=Z,650nm,10.0s						
DL2				LR	LR		
	comp=Z,1μm,15.5s						
DL2				LR	LR		
	comp=Z,2μm,13.2s						
DL2				LR	LR		
	comp=Z,1μm,15.6s						
INU	Inuyama	16.40	37	*e*Pn	Pn	06 07 37.1	-2.2
	comp=Z,111nm,1.5s						
GYA	Guiyang	17.04	286	P	Pn	06 07 47.3	-0.3
GYA				PP	sP	06 08 01.0	+2.3
GYA				S	Sn	06 10 54.5	-2.0
GYA				SS	SnSn	06 11 14.8	+5.0
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,520nm,14.9s						
GYA				LR	LR		
	comp=Z,510nm,15.0s						
GYA				LR	LR		
	comp=Z,560nm,15.4s						
MAJO	Matsushiro	17.93	37	*ce*P	P	06 07 59.7	+0.8
MAJO	Matsushiro	17.93	37	*e*Pn	P	06 08 00.0	+1.1
	comp=Z,66nm,1.0s						
MAT	Matsushiro	17.93	37	P	P	06 07 59.0	+0.1
MAT				S	Sn	06 11 17.2	-0.6
MJAR	Matsushiro Arr	17.93	37	P	Pn	06 07 58.1	-0.4
	comp=Z,1.5nm,0.3s,baz=221,slow=9.8,SNR=29						
MJAR				LR	LR	06 14 36.4	
	comp=Z,684nm,21.1s,baz=230,slow=36						
MJB9	Matsu-Tunnel	17.93	37	*e*Pn	P	06 08 00.0	+1.1
	comp=Z,16nm,1.0s						
TIY	Taiyuan	18.42	327	*e*P	P	06 08 04.4	+0.1
TIY				sP	sP	06 08 14.9	+1.1
TIY				S	Sn	06 11 29.1	-0.5
TIY				pmax	pmax		
	comp=Z,160nm,1.5s						
TIY				pmax	pmax		
	comp=Z,590nm,4.2s						
TIY				LR	LR		
	comp=Z,670nm,11.6s						
TIY				LR	LR		
	comp=Z,2μm,11.1s						
TIY				LR	LR		
	comp=Z,1μm,14.1s						
MYLDM	Lahad Datu	18.52	201	*e*P	P	06 08 05.5	0.0
	comp=Z,164nm,1.4s						
MYLDM	Lahad Datu	18.52	201	⇓P	Pn	06 08 06.8	+1.1
KKM	Kota Kinabalu	18.60	208	⇑P	Pn	06 08 07.0	+0.2
BJT	Baijiatuau	18.79	339	*e*P	P	06 08 07.8	-0.4
BJT				pmax	pmax		
	comp=Z,215nm,1.6s						
BJT	Baijiatuau	18.79	339	*e*P	P	06 08 07.8	-0.4
	comp=Z,215nm,1.6s						
BJI	Beijing	18.80	339	P	P	06 08 06.8	-1.6
BJI				S	Sn	06 11 33.6	-5.1
BJI				pmax	pmax		
	comp=Z,50nm,1.6s						
BJI				pmax	pmax		
	comp=Z,580nm,3.8s						
BJI				LR	LR		
	comp=Z,2μm,13.1s						
BJI				LR	LR		
	comp=Z,1μm,16.6s						
BJI				LR	LR		
	comp=Z,860nm,27.5s						
SNY	Shenyang	19.09	357	⇑P	P	06 08 09.8	-1.7
SNY				S	Sn	06 11 46.1	+0.5
SNY				pmax	pmax		
	comp=Z,33nm,0.9s						
SNY				pmax	pmax		
	comp=Z,990nm,3.7s						
SNY				LR	LR		
	comp=Z,2μm,15.7s						
SNY				LR	LR		
	comp=Z,2μm,11.8s						
SNY				LR	LR		
	comp=Z,2μm,15.9s						
TSM	Tawau	19.56	202	⇓P	P	06 08 17.6	+0.7
PANO	Nakornpanom	19.90	257	P	Pn	06 08 25.5	+3.1
	comp=Z,90nm,1.3s,comp=Z,6μm						
KMI	Kunming	20.44	281	P	Pn	06 08 29.6	+0.7
KMI				pP	pP	06 08 32.8	-0.4
KMI				sP	sP	06 08 34.4	-1.8
KMI				S	S	06 12 11.9	-2.9

comp=Z,190nm,0.7s,baz=196,slow=6.2,SNR=27
GUMO Guam 20.97 112 *e*P **P 06 08 33.5 +1.2**
GUMO Guam 20.97 112 *e*P **P 06 08 33.5 +1.2**
CN2 Changchun 21.03 1 *e*P **P 06 08 30.4 -2.3**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,15.0s
VLA Vladivostok 21.14 14⇑*e*P **P 06 08 33.7 -0.2**
VLA *e* 06 08 54.0
VLA *i* S **S 06 12 29.9 +2.0**
VLA pmax pmax
comp=Z,99nm,1.4s
HHC Hu-ho-hao-te 21.31 331 *e*P **P 06 08 34.4 -1.5**
HHC S **S 06 12 28.1 -3.4**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,320nm,7.4s
HHC LR LR
comp=Z,1μm,12.6s
HHC LR LR
comp=Z,960nm,14.1s
HHC LR LR
comp=Z,960nm,12.9s
KHON Khomkaen 21.79 257 P **P 06 08 43.4 +2.4**
comp=Z,24nm,1.1s,comp=Z,940nm
BTO Baotou 21.84 328 *e*P **P 06 08 37.8 -3.7**
BTO pmax pmax
comp=Z,10.0nm,0.9s
MDJ Mudanjiang 22.17 9 P **P 06 08 47.3 +2.4**
MDJ pP pP 06 08 50.0 -1.4
MDJ sP sP 06 08 51.5 -2.9
MDJ PcP **PcP 06 12 41.6 +0.3**
MDJ ScP **ScP 06 16 18.8 +1.4**
MDJ PcS **PcS 06 16 20.8 +1.0**
MDJ pmax pmax
comp=Z,21nm,0.9s
MDJ pmax pmax
comp=Z,190nm,5.6s
MDJ LR LR
comp=Z,530nm,12.4s
MDJ LR LR
comp=Z,880nm,14.6s
MDJ LR LR
comp=Z,900nm,11.8s
USRK Ussuriysk Ar. 22.20 13 P **P 06 08 41.9 -3.3**
comp=Z,32nm,0.7s,baz=202,slow=9.5,SNR=34
MRSI Marisa 22.30 188 P **P 06 08 49.4 +2.9**
comp=Z,81nm,1.5s,comp=Z,2μm
BTM Bintulu 22.56 212⇓P **P 06 08 49.2 -0.1**
LZH Lanzhou 22.64 311 *e*P **P 06 08 47.6 -2.6**
LZH pP pP 06 08 50.5 -6.3
LZH PP **PnPn 06 09 15.8 +1.6**
LZH *e*S **S 06 12 51.3 -5.8**
LZH sS pS 06 12 56.3 -8.5
LZH pmax pmax
comp=Z,78nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.6s
LZH LR LR
comp=Z,1μm,11.2s
LZH LR LR
comp=Z,1μm,11.0s
LZH LR LR
comp=Z,2μm,12.5s
CHAI Chaiyaphum 22.69 257 P **P 06 08 51.5 +0.8**
comp=Z,18nm,1.2s,comp=Z,183nm
MPSI Mapaga 22.79 193 P **P 06 08 52.9 +1.2**
comp=Z,25nm,1.7s
LBMI Labuha 23.35 174 P **P 06 09 01.6 +4.1**
comp=Z,88nm,0.8s,comp=Z,4μm
SRAK Srakaew 23.38 252 P **P 06 08 54.8 -3.0**
PBKT Sadao Pong 23.38 259 P **P 06 08 59.2 +1.4**
comp=Z,66nm,2.2s,comp=Z,2μm
UTTA Uttaradit 23.41 262 P **P 06 09 03.2 +5.2**
comp=Z,3.9nm,1.0s,comp=Z,218nm
SBUM Sibu 23.64 213 *e*P **P 06 09 00.0 -0.2**
comp=Z,33nm,1.2s
SBUM Sibu 23.64 213⇑P **P 06 08 58.0 -2.3**
APSI Ampana 23.71 188 P **P 06 09 03.8 +2.9**
NAYO Nakonayok 23.89 254 P **P 06 09 05.5 +2.8**
comp=Z,16nm,1.1s,comp=Z,670nm
PCI Palu 24.01 193 P **P 06 09 07.2 +3.4**
LAMP Lampang 24.05 265 P **P 06 09 05.3 +1.1**
comp=Z,7.7nm,1.0s
CHTO Chiang Mai 24.61 266 P **P 06 09 10.2 +0.8**
comp=Z,146nm,1.1s
CHTO Chiang Mai 24.61 266 *e*P **P 06 09 09.6 +0.2**
CHTO pmax pmax
comp=Z,48nm,1.3s
CHTO Chiang Mai 24.61 266 *e*P **P 06 09 09.6 +0.2**
comp=Z,48nm,1.3s
CHTO Chiang Mai 24.61 266 P **P 06 09 10.4 +1.0**
SNR=9.9
SANI Sanana 24.64 178 P **P 06 09 10.9 +1.3**
CM01 Chiang Mai Arr 24.69 265 *e*P **P 06 09 09.9 -0.2**
CMAR Chiang Mai Arr 24.70 265 P **P 06 09 10.8 +0.6**
comp=Z,20nm,1.0s,baz=68,slow=7.4,SNR=31
CMAR LR LR 06 19 57.8
comp=Z,539nm,18.5s,baz=98,slow=39
UTHA Uthaitani 25.10 258 P **P 06 09 16.8 +3.0**
comp=Z,5.1nm,0.9s,comp=Z,71nm
UMPA Umpang Tak 25.42 260 P **P 06 09 22.8 +6.1**
comp=Z,9.3nm,1.3s,comp=Z,919nm
KSM Kuching 25.46 216⇑P **P 06 09 14.0 -3.0**
ASAJ Asahikawa 25.82 30 P **P 06 09 18.4 -1.7**
comp=Z,14nm,0.7s,baz=232,slow=9.3,SNR=6.4
ASAJ Asahikawa 25.82 30 *e*P **P 06 09 21.9 +1.8**
comp=Z,28nm,0.9s
SRDT SRDT 25.84 256 P **P 06 09 23.8 +3.4**
comp=Z,42nm,1.1s
PHET Kaeng Krachan 25.97 252 P **P 06 09 24.9 +3.2**
comp=Z,6.1nm,1.1s
STKI Sintang 26.06 212 P P 06 09 30.2 +7.7
TTSI Tana Toraja 26.09 192 P **P 06 09 26.1 +3.4**
HIA Hailar 26.81 352 *e*P **P 06 09 29.1 +0.1**
HIA pmax pmax
comp=Z,75nm,1.3s
HIA Hailar 26.81 352 *e*P **P 06 09 29.1 +0.1**
comp=Z,76nm,1.3s
GTA Gaotai 27.08 314⇑P **P 06 09 30.8 -0.8**
GTA pP pP 06 09 35.0 -3.6
GTA sP sP 06 09 37.8 -3.7
GTA S **S 06 14 06.8 -1.7**
GTA sS pS 06 14 13.9 -2.2
GTA SS **SnSn 06 15 21.8 +6.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,100nm,4.5s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,1μm,15.2s
GTA LR LR
comp=Z,1μm,15.4s
YSS Yuzh-Sakhalins 28.12 26 *e*P P 06 09 45.7 +5.0
YSS *e*S **S 06 14 30.6 +6.3**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=Z,800nm,3.4s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 28.12 26 *e*P **P 06 09 43.4 +2.7**
comp=Z,192nm,1.1s
ULN Ulaanbaatar 28.89 335*c i*P **P 06 09 46.8 -0.9**
ULN pmax pmax
comp=Z,9.0nm,1.4s
ULN Ulaanbaatar 28.89 335 *e*P **P 06 09 47.1 -0.6**
comp=Z,52nm,1.9s
ULN Ulaanbaatar 28.89 335 P **P 06 09 46.9 -0.8**
SNR=5.8
SONA0 Songino Array 29.13 334 *e*P **P 06 09 49.3 -0.6**
comp=Z,13nm,0.8s
SONM Songino Array 29.13 334 P **P 06 09 49.3 -0.6**
comp=Z,11nm,0.7s,baz=151,slow=9.6,SNR=52
SONM LR LR 06 22 26.0
comp=Z,422nm,18.6s,baz=138,slow=38

SONA1 Songino Array 29.13 334 *e*P **P 06 09 48.7 -1.2**
KUR Kuril'sk 29.23 34 *e*P **P 06 09 53.4 +2.8**
LSA Lhasa 31.03 290 P **P 06 10 09.0 +1.7**
TYV Tymovskoe 31.30 22 *e*P **P 06 10 13.1 +4.3**
TYV pmax pmax
comp=Z,41nm,1.2s
EDFI Ende, Flores 31.44 186 P **P 06 10 14.7 +4.2**
comp=Z,25nm,0.7s
ZAK Zakamensk 32.40 334 *e*P **P 06 10 16.5 -2.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
MLSI Meulaboh, Aceh 33.15 241 P P 06 10 31.5 +6.0
MDSI Maura Dua 33.81 219 P **P 06 10 33.7 +2.5**
comp=Z,12nm,1.1s
TAPN Taplejung 33.97 286 *e*P **P 06 10 33.4 +0.5**
comp=Z,27nm,0.7s
ODAN Odare 34.27 285 *e*P **P 06 10 35.5 +0.1**
MOY Mondy 34.31 333 *e*P **P 06 10 34.6 -0.7**
RAMN Ramite 34.97 285 *e*P **P 06 10 41.6 +0.1**
comp=Z,157nm,1.4s
JIRN Jiri 35.32 286 *e*P **P 06 10 44.8 +0.2**
GUN Gumba 35.59 287 *e*P **P 06 10 47.1 +0.2**
comp=Z,166nm,1.4s
PKIN Phulchoki 36.02 286 *e*P **P 06 10 50.6 0.0**
KKN Kakani 36.12 286 *e*P **P 06 10 51.0 -0.3**
comp=Z,78nm,1.2s
DMN Daman 36.28 286 *e*P **P 06 10 53.0 +0.3**
comp=Z,56nm,0.9s
GKN Gorkha 36.69 287 *e*P **P 06 10 57.0 +0.9**
comp=Z,49nm,1.0s
WMQ Urumqi 37.16 314 P **P 06 11 00.8 +1.0**
WMQ pP pP 06 11 03.8 -3.1
WMQ sP sP 06 11 06.0 -3.8
WMQ S **S 06 16 43.3 -1.9**
WMQ SS **SnSn 06 19 16.8 -3.7**
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,130nm,5.3s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,840nm,16.1s
WMQ LR LR
comp=Z,360nm,19.3s
KOLN Koldanda 37.61 286 *e*P **P 06 11 03.9 -0.1**
comp=Z,51nm,1.2s
PYUN Piuthan 38.14 287 *e*P **P 06 11 08.9 +0.4**
comp=Z,54nm,1.0s
PMG Port Moresby 38.64 143 P **P 06 11 11.4 -1.0**
comp=Z,8.7nm,0.6s,baz=339,slow=10.0,SNR=3.4
PMG Port Moresby 38.64 143⇑*i*P **P 06 11 12.4 0.0**
PMG pmax pmax
comp=Z,125nm,2.5s
PETK Petropavlovsk- 39.23 31 P **P 06 11 16.9 -0.2**
comp=Z,30nm,1.1s,baz=217,slow=7.2,SNR=5.9
PETK Petropavlovsk- 39.23 31 *e*P **P 06 11 14.1 -3.0**
PETK Petropavlovsk- 39.23 31 *e*P **P 06 11 14.1 -3.0**
PEA1 Petropavlovsk- 39.24 31 *e*P **P 06 11 16.9 -0.2**
YAK Yakutsk 39.42 4 P **P 06 11 17.1 -1.3**
comp=Z,20nm,0.5s,baz=339,slow=1.8,SNR=4.7
YAK LR LR 06 28 44.8
comp=Z,326nm,18.1s,baz=91,slow=38
YAK Yakutsk 39.42 4 *e*P **P 06 11 17.0 -1.4**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,17nm,1.5s
YAK Yakutsk 39.42 4 *e*P **P 06 11 16.9 -1.6**
comp=N,38nm,1.0s
PET Petropavlovsk 39.64 32 *e*P **P 06 11 24.5 +4.1**
PET *e*S **S 06 17 26.1 +4.0**
PET pmax pmax
comp=Z,72nm,1.1s
PET Petropavlovsk 39.64 32 *e*P P 06 11 25.0 +4.6
comp=Z,93nm,1.2s
DGZ Jazzator, Alta 39.86 322 *e*P **P 06 11 22.1 -0.4**
DGZ pmax pmax
comp=Z,7.0nm,1.6s
FITZ Fitzroy Crossi 40.58 179 P **P 06 11 26.5 -2.0**
comp=Z,6.0nm,0.6s,baz=6.4,slow=11,SNR=11
FITZ LR LR 06 30 29.8
comp=Z,180nm,18.8s,baz=323,slow=40
FITZ Fitzroy Crossi 40.58 179 *e*P **P 06 11 26.5 -2.0**
comp=Z,13nm,0.7s
COEN Coen 40.59 152 *e*P **P 06 11 28.7 +0.1**
comp=Z,26nm,0.6s
MK01 Makanchi Array 41.78 316 *e*P **P 06 11 37.9 -0.4**
MK31 Makanchi Array 41.79 316 *i*P **P 06 11 37.9 -0.5**
MK31 pmax pmax
comp=Z,43nm,1.3s
MK31 Makanchi Array 41.79 316 *e*P **P 06 11 38.1 -0.2**
MK32 Makanchi Array 41.79 316 *e*P **P 06 11 38.1 -0.3**
MKAR Makanchi Array 41.79 316 P **P 06 11 38.1 -0.3**
comp=Z,4.0nm,0.3s,baz=107,slow=9.7,SNR=81
MKAR ScP **ScP 06 17 23.4 +0.2**
comp=Z,0.3nm,0.6s,baz=182,slow=5.8,SNR=3.8
MKAR Makanchi Array 41.79 316 *e*P **P 06 11 38.1 -0.3**
comp=Z,128nm,1.1s
MAKZ Makanchi 42.00 316 *e*P **P 06 11 39.8 -0.2**
MAKZ pmax pmax
comp=Z,17nm,0.7s
MAKZ Makanchi 42.00 316 *e*P **P 06 11 39.8 -0.2**
comp=Z,17nm,0.7s
PDGK Podgornoye 42.68 310 P **P 06 11 45.7 -0.1**
PDGK pmax pmax
comp=Z,50nm,1.0s
ZAA0 Zalesovo Array 43.36 326 *e*P **P 06 11 50.0 -0.9**
ZALV Zalesovo Beam 43.36 326 P **P 06 11 50.0 -0.9**
comp=Z,16nm,0.7s,baz=109,slow=8.0,SNR=37
ZALV LR LR 06 30 06.1
comp=Z,365nm,18.6s,baz=78,slow=36
ZALV Zalesovo Beam 43.36 326 *e*P **P 06 11 49.6 -1.3**
ZALV Zalesovo Beam 43.36 326 *e*P **P 06 11 49.6 -1.3**
ZAA1 Zalesovo Array 43.36 326 *e*P **P 06 11 50.0 -0.9**
WRAB Tennant Creek 43.38 167⇓*e*P **P 06 11 51.1 -0.3**
WRAB pmax pmax
comp=Z,65nm,1.0s
WRAB Tennant Creek 43.38 167 *e*P **P 06 11 50.7 -0.7**
comp=Z,22nm,0.6s
WR1 Warramunga Arr 43.38 167 *e*P **P 06 11 50.8 -0.7**
comp=Z,30nm,0.6s
WRA Warramunga Arr 43.38 167 P **P 06 11 50.8 -0.7**
comp=Z,11nm,0.7s,baz=347,slow=9.0,SNR=36
WRA LR LR 06 28 27.1
comp=Z,164nm,21.3s,baz=325,slow=34
WB2 Warramunga Arr 43.39 167 *e*P **P 06 11 50.5 -0.9**
HYB Hyderabad 43.77 272 *i*P **P 06 11 58.0 +3.3**
SEY Seymchan 44.24 18 P **P 06 11 57.3 -0.6**
comp=Z,4.8nm,0.8s,baz=211,slow=7.3,SNR=8.7
KSH Kashi 44.59 304 *e*P P 06 12 07.5 +6.3
KSH pP sP 06 12 12.3 +1.1
KSH sP pP 06 12 14.5 +6.1
KSH PcP **PP 06 13 48.9 +3.6**
KSH PP PcP 06 13 53.8 +10
KSH S S 06 18 45.8 +10
KSH ScS **ScS 06 22 02.3 +4.4**
KSH pmax pmax
comp=Z,16nm,1.1s
KSH pmax pmax
comp=Z,110nm,5.4s
KSH LR LR
comp=Z,730nm,13.0s
KSH LR LR
comp=Z,740nm,14.4s
KSH LR LR
comp=Z,490nm,14.6s
NVS Novosibirsk 44.61 327 *e*P **P 06 12 00.3 -0.6**
TKM2 Tokmak 2 45.38 308 P **P 06 12 06.0 -1.5**
TKM2 pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 45.43 320 *e*P **P 06 12 06.7 -0.9**
KURK pmax pmax
comp=Z,25nm,1.1s
KURK Kurchatov 45.43 320 *e*P **P 06 12 06.7 -0.9**
comp=Z,25nm,1.1s
AAK Ala-Archa 46.13 308 LR LR 06 32 18.5
comp=Z,538nm,18.7s,baz=88,slow=37
AAK Ala-Archa 46.13 308⇓*e*P **P 06 12 15.3 +1.9**
AAK pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 46.13 308 *e*P **P 06 12 14.5 +1.0**
comp=Z,18nm,1.7s
AS31 Alice Springs 46.92 169 *e*P **P 06 12 19.6 0.0**
comp=Z,3.7nm,0.5s
ASAR Alice Springs 46.92 169 P **P 06 12 19.2 -0.3**

comp=Z,3.3nm,0.5s,baz=350,slow=8.2,SNR=44
ASAR PcP **PcP 06 13 50.1 -1.9**
comp=Z,3.2nm,0.6s,baz=348,slow=3.1,SNR=6.6
ASAR LR LR 06 36 55.4
comp=Z,122nm,18.2s,baz=314,slow=42
AS01 Alice Springs 46.93 169 *e*P **P 06 12 17.2 -2.4**
MNAS Manas 47.57 307 P **P 06 12 25.5 +0.9**
MNAS pmax pmax
comp=Z,15nm,1.1s
TIXI Tiksi 49.00 2 P **P 06 12 33.5 -1.6**
comp=Z,19nm,1.0s,baz=154,slow=5.9,SNR=15
TIXI LR LR 06 33 53.7
comp=Z,472nm,21.2s,baz=184,slow=37
TIXI Tiksi 49.00 2⇓*e*P **P 06 12 37.1 +2.1**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 49.00 2 *e*P **P 06 12 34.0 -1.0**
KK31 Karatay Array 49.10 308 P **P 06 12 36.5 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 49.10 308 *e*P **P 06 12 35.6 -0.7**
KKAR pmax pmax
comp=Z,38nm,0.9s
KKAR Karatay Array 49.10 308 *e*P **P 06 12 35.6 -0.7**
comp=Z,38nm,0.9s
KBL Kabul 49.91 297 *e*P **P 06 12 43.6 +0.8**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 49.91 297 *e*P **P 06 12 43.6 +0.8**
comp=Z,19nm,0.9s
BVA0 Borovoye Array 50.99 321 P **P 06 12 48.6 -1.9**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 50.99 321 P **P 06 12 49.8 -0.7**
comp=Z,3.1nm,0.5s,baz=96,slow=7.4,SNR=12
BRVK Borovoye 51.06 321*ce*P **P 06 12 50.3 -0.7**
BRVK pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 51.06 321 *e*P **P 06 12 50.5 -0.5**
comp=Z,14nm,0.9s
BRVK Borovoye 51.06 321 P **P 06 12 50.3 -0.7**
SNR=7.7
NRIK Noril'sk 51.73 344 P **P 06 12 55.2 -0.5**
comp=Z,9.0nm,0.6s,baz=124,slow=7.3,SNR=7.4
NRIK LR LR 06 38 59.4
comp=Z,396nm,19.1s,baz=134,slow=41
BILL Bilibino 51.93 18 *i*P **P 06 12 56.2 -1.0**
BILL pmax pmax
comp=Z,14nm,1.1s
BILL MLR MLR
comp=Z,323nm,18.0s
STKA Stephens Creek 56.58 163 P **P 06 13 29.5 -2.0**
comp=Z,1.6nm,0.5s,baz=23,slow=6.0,SNR=3.6
STKA LR LR 06 38 54.4
comp=Z,189nm,18.8s,baz=301,slow=37
STKA Stephens Creek 56.58 163 *e*P **P 06 13 29.5 -2.0**
STKA pmax pmax
comp=Z,6.0nm,1.8s
STKA Stephens Creek 56.58 163 *e*P **P 06 13 29.5 -2.0**
comp=Z,5.7nm,1.8s
AB31 Akbulak array 56.93 315 *i*P **P 06 13 36.2 +2.3**
AB31 pmax pmax
comp=Z,16nm,0.9s
ABKAR Akbulak array 56.93 315 *e*P **P 06 13 33.4 -0.5**
comp=Z,118nm,0.9s
SVE Sverdlovsk 57.26 324 *e*P **P 06 13 35.9 -0.2**
SVE pmax pmax
comp=Z,30nm,1.3s
AKTO Aktyubinsk 58.23 316 P **P 06 13 43.3 +0.3**
comp=Z,4.0nm,0.8s,baz=113,slow=9.5,SNR=10
ARU Arti 58.35 323*c i*P **P 06 13 42.6 -1.1**
ARU 06 14 30.0
ARU S **S 06 21 46.1 +1.3**
ARU SS **SS 06 25 37.3 +0.6**
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 58.35 323 *e*P **P 06 13 42.9 -0.8**
comp=Z,18nm,1.2s
GEYT Alibeck 58.51 302 P **P 06 13 46.0 +0.8**
comp=Z,6.9nm,0.8s,baz=62,slow=3.5,SNR=11
GEYT LR LR 06 39 50.1
comp=Z,345nm,21.4s,baz=35,slow=37
SOKR Solikamsk 59.64 327 *e*P **P 06 13 53.1 +0.5**
SOKR pmax pmax
comp=Z,5.0nm,0.6s
SOKR MLR MLR
comp=Z,304nm,16.0s
DZM Mont Dzumac 60.13 135 P **P 06 13 56.0 -0.6**
comp=Z,3.5nm,0.6s,baz=244,slow=10,SNR=7.6
DZM LR LR 06 35 44.4
comp=Z,173nm,21.6s,baz=25,slow=32
DZM Mont Dzumac 60.13 135 *e*LR LR 06 31 39.9
comp=Z,547nm,26.4s
DZM Mont Dzumac 60.13 135 *e*P **P 06 13 55.7 -0.9**
comp=Z,46nm,1.9s
ASHO Ashiyiah 62.49 287 P P 06 14 20.1 +7.5
SNR=7.2
TTA Tatalina 65.05 30 *e*P **P 06 14 30.1 +1.2**
TTA pmax pmax
comp=Z,8.0nm,1.0s
TTA Tatalina 65.05 30 *e*P **P 06 14 30.1 +1.2**
comp=Z,8.1nm,1.0s
IMAR Indian Mountai 65.95 26 *e*P **P 06 14 35.6 +1.0**
CAST Castle Rocks 66.81 29 *e*P **P 06 14 41.2 +1.1**
comp=Z,12nm,1.1s
KDAK Kodiak Island 67.10 35 P **P 06 14 41.2 -0.8**
comp=Z,5.0nm,0.8s,baz=341,slow=1.2,SNR=4.3
KDAK Kodiak Island 67.10 35 *e*P **P 06 14 42.1 +0.1**
KDAK pmax pmax
comp=Z,56nm,1.2s
KDAK Kodiak Island 67.10 35 *e*P **P 06 14 42.1 +0.1**
comp=Z,56nm,1.2s
BPAW Bear Paw Mtn. 67.23 28 *e*P **P 06 14 42.8 -0.1**
comp=Z,8.2nm,0.9s
MLY Manley 67.26 27 *e*P **P 06 14 44.0 +0.9**
comp=Z,22nm,1.4s
SUA Susitna One 67.61 31 *e*P **P 06 14 45.9 +0.5**
comp=Z,17nm,0.7s
MCK McKinley 68.17 29 *e*P **P 06 14 49.7 +0.9**
MCK pmax pmax
comp=Z,27nm,1.4s
MCK McKinley 68.17 29 *e*P **P 06 14 49.7 +0.9**
comp=Z,27nm,1.4s
KLMR Klimovskoe 68.23 328 *e*P **P 06 14 46.8 -2.3**
KLMR pmax pmax
comp=Z,16nm,1.2s
RND Reindeer 68.25 29 *e*P **P 06 14 49.4 +0.1**
RND pmax pmax
comp=Z,19nm,0.8s
RND Reindeer 68.25 29 *e*P **P 06 14 49.4 +0.1**
comp=Z,19nm,0.8s
MDM Murphy Dome 68.33 27 *e*P **P 06 14 50.8 +1.1**
comp=Z,18nm,1.0s
WRH Wood River Hil 68.45 28 *e*P **P 06 14 51.3 +0.8**
comp=Z,13nm,1.4s
GNI Garni 68.47 306⇑*e*P **P 06 14 53.6 +2.4**
GNI pmax pmax
comp=Z,27nm,1.0s
CCB Clear Creek Bu 68.55 28 *e*P **P 06 14 51.5 +0.5**
comp=Z,8.3nm,1.3s
ZEI Tsey 68.55 309 *e*P **P 06 14 50.1 -1.7**
ZEI pmax pmax
comp=Z,7.0nm,1.4s
IL1 Eielson Array 68.92 27 *e*P **P 06 14 52.4 -1.0**
ILAR Eielson Array 68.92 27 P **P 06 14 52.4 -1.0**
comp=Z,1.3nm,0.8s,baz=272,slow=4.1,SNR=22
ILAR LR LR 06 46 39.7
comp=Z,76nm,18.1s,baz=278,slow=37
ILB Eielson Array 68.92 27 *e*P **P 06 14 54.6 +1.3**
KBZ Khabaz 69.08 310 P **P 06 14 55.8 +1.0**
comp=Z,3.9nm,1.0s,baz=140,slow=5.8,SNR=4.2
KBZ LR LR 06 48 33.5
comp=Z,227nm,20.1s,baz=68,slow=39
KIV Kislovodsk 69.18 310 *e*P **P 06 14 53.8 -1.7**
KIV *e*S **S 06 24 00.4 +0.2**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,261nm,17.0s
LVZ Lovozero 69.29 336⇓*e*P **P 06 14 56.7 +1.0**
LVZ pmax pmax
comp=Z,23nm,1.2s
APA Apatity 69.81 336⇑*i*P **P 06 14 55.4 -3.4**
APA MLR MLR
comp=Z,1μm,17.0s
VSR Storozhevoye 70.05 318 *e*P **P 06 15 01.1 +0.5**
VSR pmax pmax

comp=Z,10.0nm,1.2s
DOT Dot Lake 70.33 28 *e*P **P 06 15 02.3 +0.1**
comp=Z,18nm,1.0s
OBN Obninsk 70.77 323 *i* P **P 06 15 06.5 +1.6**
OBN *i* 06 15 13.5
OBN *i* 06 15 26.9
OBN *i* S **S 06 24 20.9 +2.8**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,360nm,20.0s
EGAK Eagle 71.33 27 *e*P **P 06 15 08.6 +0.5**
comp=Z,6.1nm,0.8s
AFI Afiamalu 71.85 114 LR LR 06 42 37.9
comp=Z,94nm,20.2s,baz=306,slow=32
AFI Afiamalu 71.85 114 *e*P **P 06 15 12.2 +0.1**
AFI pmax pmax
comp=Z,43nm,1.0s
AFI Afiamalu 71.85 114 *e*P **P 06 15 12.2 +0.1**
comp=Z,43nm,1.0s
RAYN Ar Rayn 72.08 288 *e*P **P 06 15 12.3 -1.2**
comp=Z,9.9nm,1.2s
ARA0 ARCESS Array S 72.17 339 *e*P **P 06 15 12.4 -0.8**
ARCES ARCESS Array B 72.17 339 P **P 06 15 12.4 -0.8**
comp=Z,3.1nm,1.0s,baz=72,slow=7.8,SNR=5.2
ARCES LR LR 06 51 09.4
comp=Z,189nm,18.7s,baz=69,slow=39
DAWY Dawson 72.25 27 *e*P **P 06 15 14.6 +0.8**
comp=Z,8.3nm,1.1s
MSEY Mahe Island 73.04 257 *i* P **P 06 15 19.8 +0.5**
INK Inuvik 73.27 22 P **P 06 15 20.1 +0.5**
comp=Z,6.5nm,1.0s,baz=284,slow=8.1,SNR=3.1
FIA0 FINESS Array S 74.43 330 *e*P **P 06 15 26.0 -0.6**
FIA0 FINESS Array S 74.43 330 *e*P **P 06 15 26.0 -0.6**
FINES FINESS Array B 74.43 330 P **P 06 15 26.0 -0.6**
comp=Z,3.2nm,0.8s,baz=58,slow=4.7,SNR=5.6
VSU Vasula 75.09 327 *de*P **P 06 15 29.7 -0.7**
VSU pmax pmax
comp=Z,140nm,2.5s
AKASG Malin Array Be 76.24 319 P **P 06 15 35.9 -1.3**
comp=Z,3.0nm,0.8s,baz=59,slow=6.3,SNR=8.9
AKASG LR LR 06 51 03.0
comp=Z,240nm,20.0s,baz=90,slow=37
AKASG Malin Array Be 76.24 319 *ce*P **P 06 15 39.4 +2.2**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 76.24 319 *e*P **P 06 15 35.9 -1.3**
AKBB pmax pmax
comp=Z,28nm,1.6s
AKBB Malin Array Si 76.24 319 *e*P **P 06 15 35.9 -1.3**
comp=Z,28nm,1.6s
KIEV Kiev 76.25 319⇑ *e*P **P 06 15 39.0 +1.7**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
AK11 Malin Array Si 76.28 319 *e*P **P 06 15 37.4 -0.1**
BR101 Keskin Array S 76.81 308 *e*P **P 06 15 40.0 -0.8**
BR131 Keskin Array S 76.81 308 *e*P **P 06 15 40.4 -0.4**
BRTR Keskin Array B 76.81 308 P **P 06 15 40.0 -0.8**
comp=Z,7.6nm,1.1s,baz=94,slow=3.1,SNR=12
BRTR LR LR 06 51 54.8
comp=Z,90nm,21.2s,baz=47,slow=38
BRTR Keskin Array B 76.81 308 *i* P **P 06 15 43.7 +2.8**
BRTR pmax pmax
comp=Z,8.0nm,1.1s
BR231 Keskin MP Arra 77.40 308 *e*P **P 06 15 41.1 -3.0**
NB2 NORSAR Subarra 81.11 333 P **P 06 16 02.8 -1.0**
comp=Z,4.1nm,0.8s,baz=63,slow=5.6
NB200 NORSAR Array S 81.11 333 *e*P **P 06 16 03.1 -0.7**
NOA NORSAR Array B 81.11 333 P **P 06 16 03.1 -0.7**
comp=Z,2.3nm,0.8s,baz=54,slow=5.6,SNR=5.0
KONO Kongsberg 82.53 332 *ce*P **P 06 16 11.7 +0.4**
KONO pmax pmax
comp=Z,1μm,1.7s
YKA Yellowknife Ar 82.94 24 P **P 06 16 13.7 +0.3**
comp=Z,1.4nm,0.7s,baz=302,slow=5.3,SNR=2.9
CLL Collm 85.28 324 *e*P **P 06 16 28.0 +2.5**
GEC2 GERESS Array S 86.14 322 *e*P **P 06 16 29.1 -0.9**
GEC2 pmax pmax
comp=Z,9.0nm,1.4s
GEC2 GERESS Array S 86.14 322 *e*P **P 06 16 29.1 -0.9**
comp=Z,8.9nm,1.4s
GERES GERESS Array B 86.14 322 P **P 06 16 28.8 -1.2**
comp=Z,0.6nm,0.6s,baz=26,slow=3.4,SNR=5.5
GERES LR LR 06 58 43.2
comp=Z,202nm,19.0s,baz=58,slow=38
GEA0 GERESS Array S 86.15 322 *e*P **P 06 16 29.6 -0.4**
KMBO Kilima Mbogo 88.31 268 LR LR 06 58 44.2
comp=Z,45nm,18.1s,baz=84,slow=37
B08A Colville Reser 88.92 37 *e*P **P 06 16 44.4 +1.1**
comp=Z,13nm,1.4s
D08A Wollman Farm, 89.87 38 *e*P **P 06 16 49.2 +1.5**
comp=Z,3.7nm,0.8s
BMO Blue Mountains 92.05 39 *e*P **P 06 16 58.7 +0.7**
BMO pmax pmax
comp=Z,4.0nm,1.3s
BMO Blue Mountains 92.05 39 *e*P **P 06 16 58.7 +0.7**
comp=Z,4.0nm,1.3s
PPT Papeete 92.62 108 LR LR 06 49 12.9
comp=Z,63nm,20.1s,baz=312,slow=30
PPT2 Papeete2 92.63 108 *e*LR LR 06 46 48.8
comp=Z,205nm,24.5s
MFID Camas Ranch 93.75 40 *e*P **P 06 17 07.5 +1.5**
comp=Z,4.9nm,1.1s
CMB Columbia Colle 93.93 46 *e*P **P 06 17 07.5 +0.7**
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 93.93 46 *e*P **P 06 17 07.5 +0.7**
comp=Z,2.2nm,0.9s
HLID Hailey 94.49 39 *e*P **P 06 17 10.6 +1.1**
comp=Z,4.4nm,1.2s
YMR Madison River 95.75 36 *e*P **P 06 17 14.3 -0.9**
comp=Z,16nm,1.8s
TAOE Nuku Hiva Isla 97.86 96 *e*LR LR 06 49 14.0
comp=Z,96nm,22.5s
ULM Lac du Bonnet 98.86 25 LR LR 07 06 56.1
comp=Z,88nm,18.2s,baz=344,slow=38
TOA1 Torodi Ar. Sit 113.98 297 *e*PKiKP **PKiKP 06 22 26.3 -2.3**
TORD Torodi Ar. Bea 113.98 297 PKP **PKiKP 06 22 26.3 -2.3**
comp=Z,0.4nm,0.8s,baz=169,slow=1.5,SNR=3.5
SNAA Sanae 122.91 197 PKP **PKPdf 06 22 47.2 +3.1**
VNA2 Neumayer--Watz 124.55 197 PKP **PKPdf 06 22 46.9 -0.4**
baz=75,slow=1.8
VNA1 Neumayer--Stat 124.95 197 PKP **PKPdf 06 22 47.7 -0.3**
VNA3 Neumayer Olymp 124.97 196 PKP **PKPdf 06 22 47.3 -0.8**
MOTC Monteria, Cord 142.75 35 *e*P PKPpre 06 23 16.5
SDV Santo Domingo 145.07 28 *e*PKPbc **PKPbc 06 23 26.6 -0.1**
PAMC Pamplona, Colo 145.49 32 *e*P **PKPab 06 23 29.2 +0.7**
BARC Barichara 145.89 33 *e*P **PKPdf 06 23 28.7 -0.1**
RUSC La Rusia 146.53 34 *e*P **PKPdf 06 23 30.5 +0.3**
RUSC La Rusia 146.53 34 *e*PKPdf **PKPdf 06 23 30.9 +0.7**
POPC Popayan, Colom 147.20 43 *e*P **PKPbc 06 23 33.0 -0.2**
OTAV Otavalo 147.75 48 *e*P **PKPbc 06 23 34.6 -0.4**
LPAZ La Paz 166.11 65 PKP **PKPdf 06 23 56.6 +1.2**
comp=Z,1.2nm,1.0s,baz=178,slow=0.9,SNR=3.7
LPAZ PKPab **PKPab 06 24 54.1 -1.8**
comp=Z,0.7nm,0.4s,baz=19,slow=3.4,SNR=8.1

NEIC ***17*** *06:14:38.2±1.0, 56°.33N×167°.81W, h13km±6km, mb4.5/74, ML4.5(AEIC), Error ellipse: s-maj=2.8km s-min=2.6km az=139.0*
ISCJB ***17*** *06:14:39.3±0.1, 56°.38N±0°.02×167°.73W±0°.03, h33km, mb4.6/109, MS4.1/7, Error ellipse: s-maj=2.7km s-min=2.4km az=21.2*
MOS ***17*** *06:14:39.6±0.9, 56°.47N×167°.78W, h33km, mb4.8/31, Error ellipse: s-maj=10.7km s-min=6.9km az=92.4*
IDC ***17*** *06:14:41.6±2.7, 56°.35N×167°.67W, h39km±22km, mb4.1/26, mb1 4.3/29, mb1mx4.2/51, mbtmp4.4/29, ML4.0/3, MS3.7/5, Ms1 3.7/5, ms1mx3.2/46, Error ellipse: s-maj=21.0km s-min=13.1km az=2.0*
ISC 17 06:14:40.9±1.4, 56°.36N±0°.04×167°.76W±0°.04, h32km±9km, n275, σ1.9 06/291, mb4.6/109, MS4.2/7, 7C-4D, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIA	**Saint Paul Isl**	**1.59**	**302**	*e*Pn	**Pn**	**06 15 04.1**	**-2.7**
SPIA				*e*Sn	**Sn**	**06 15 26.6**	**+0.3**
AKGG	**Akutan Green G**	**2.39**	**154**	P	**Pn**	**06 15 16.8**	**-1.0**
AKGG				S	**Sn**	**06 15 45.9**	**-0.1**
LVA	**Lava Point**	**2.42**	**155**	P	**Pn**	**06 15 17.1**	**-1.0**
AKLV	**Akutan Long Va**	**2.43**	**154**	*e*Pn	**Pn**	**06 15 17.0**	**-1.4**
AKRB	**Akutan Reef Bi**	**2.44**	**156**	*e*Pn	**Pn**	**06 15 17.3**	**-1.2**
AKRB				*e*Sn	**Sn**	**06 15 48.3**	**+1.2**
WEBT	**Westdahl Beart**	**2.46**	**135**	P	**Pn**	**06 15 17.9**	**-0.9**
MTBL	**Makushin Table**	**2.48**	**165**	*e*Pn	**Pn**	**06 15 17.8**	**-1.2**
AKUT	**Akutan**	**2.50**	**152**	*e*Pn	**Pn**	**06 15 18.0**	**-1.3**
AKUT				*e*Sn	**Sb**	**06 15 53.7**	**-1.8**
MSW	**Makushin Switc**	**2.52**	**167**	*e*Pn	**Pn**	**06 15 17.6**	**-1.9**
MSW				*e*Sn	**Sn**	**06 15 50.1**	**+1.0**
AKSA	**Akutan Strait**	**2.52**	**151**	*e*Pn	**Pn**	**06 15 19.0**	**-0.6**
WESN	**West Dahl Nort**	**2.55**	**134**	*e*Pn	**Pn**	**06 15 18.7**	**-1.3**
WESP	**Westdahl Peak**	**2.55**	**136**	*e*Pn	**Pn**	**06 15 19.1**	**-0.9**
SSLW	**Shishaldin Wes**	**2.61**	**126**	P	**Pn**	**06 15 19.3**	**-1.5**
WESE	**West Dahl East**	**2.62**	**135**	*e*Pn	**Pn**	**06 15 20.0**	**-1.0**
MGOD	**Makushin Gods**	**2.62**	**168**	*e*Pn	**Pn**	**06 15 19.9**	**-1.1**
UNV	**Unalaska Valle**	**2.62**	**164**	*e*Pn	**Pn**	**06 15 19.1**	**-1.8**
SSLN	**Shishaldin Nor**	**2.64**	**124**	*e*Pn	**Pn**	**06 15 20.3**	**-0.9**
FALS	**False Pass**	**2.89**	**120**	*e*Pn	**Pn**	**06 15 23.5**	**-1.1**
OKNC	**Okmok New Cone**	**2.92**	**184**	P	**Pn**	**06 15 23.2**	**-1.8**
OKTU	**Okmok Mt. Tuli**	**2.99**	**183**	*e*Pn	**Pn**	**06 15 25.1**	**-1.0**
DTNA	**Dutton South F**	**3.34**	**109**	*e*Pn	**Pn**	**06 15 29.4**	**-1.4**
DT1	**Dutton Round H**	**3.34**	**110**	*e*Pn	**Pn**	**06 15 29.0**	**-1.8**
NIKH	**Nikolski High**	**3.46**	**191**	*e*Pn	**Pn**	**06 15 31.4**	**-1.0**
NIKH				*e*Sn	**Sn**	**06 16 13.0**	**+0.8**
PS4A	**Pavlof South-4**	**3.48**	**105**	P	**Pn**	**06 15 31.1**	**-1.6**
DOL	**Dolgoi Island**	**3.55**	**108**	P	**Pn**	**06 15 32.3**	**-1.3**
SDPT	**Sand Point**	**4.23**	**101**	*e*Pn	**Pn**	**06 15 41.8**	**-1.2**
VNWF	**Veniaminof 8**	**4.58**	**89**	P	**Pn**	**06 15 46.8**	**-1.1**
VNNF	**Veniaminof 3**	**4.70**	**87**	P	**Pn**	**06 15 48.5**	**-1.1**
VNHG	**Veniaminof 1**	**4.79**	**88**	P	**Pn**	**06 15 49.7**	**-1.1**
CHGN	**Chignik**	**5.20**	**87**	*e*Pn	**Pn**	**06 15 55.4**	**-0.9**
CHGN				*e*Sn	**Sn**	**06 16 56.1**	**+1.0**
ANPB	**Aniakchak Plen**	**5.26**	**81**	P	**Pn**	**06 15 56.6**	**-0.6**
KOFP	**Korovin Flat P**	**5.52**	**225**	*e*Pn	**Pn**	**06 16 00.4**	**-0.5**
KOKL	**Mount Kliuchef**	**5.53**	**226**	*e*Pn	**Pn**	**06 16 00.6**	**-0.4**
ATKA	**Atka Island**	**5.62**	**225**	*e*Pn	**Pn**	**06 16 02.2**	**+0.1**
PLK1	**Peulik 1**	**6.25**	**72**	P	**Pn**	**06 16 10.1**	**-0.6**
PLK3	**Peulik 3**	**6.42**	**73**	P	**Pn**	**06 16 12.4**	**-0.6**
KELA	**Mount Kelaz**	**6.82**	**67**	P	**Pn**	**06 16 17.7**	**-0.9**
ADK	**Adak**	**6.90**	**233**	*e*P	**Pn**	**06 16 20.5**	**+0.8**
ADK				*e*		06 17 33.8	
ADK	**Adak**	**6.90**	**233**	*e*Pn	**Pn**	**06 16 20.4**	**+0.8**
ADK				*e*Sn	**Sn**	**06 17 33.8**	**-3.2**
KVTA	**Katmai Vly 10**	**7.04**	**68**	P	**Pn**	**06 16 20.7**	**-0.9**
KAKN	**Katmai Knife C**	**7.14**	**69**	P	**Pn**	**06 16 22.3**	**-0.8**
KABR	**Katmai Barrier**	**7.16**	**70**	P	**Pn**	**06 16 22.4**	**-0.9**
KAHC	**Katmai Hardscr**	**7.24**	**66**	P	**Pn**	**06 16 23.5**	**-1.0**
KAWH	**Katmai**	**7.29**	**69**	P	**Pn**	**06 16 24.4**	**-0.7**
GAMB	**Gambell**	**7.69**	**347**	*e*Pn	**Pn**	**06 16 31.0**	**+0.5**
SVW2	**Sparrevohn**	**7.91**	**48**	*e*Pn	**Pn**	**06 16 31.7**	**-1.8**
OHAK	**Old Harbor**	**7.99**	**78**	*e*Pn	**Pn**	**06 16 35.1**	**+0.5**
KDAK	**Kodiak Island**	**8.39**	**74**	Pn	**Pn**	**06 16 39.0**	**-1.1**
	6.8nm,0.3s,baz=249,slow=2.4,SNR=86						
KDAK				LR	LR	06 20 07.6	
	comp=Z,270nm,21.2s,baz=266,slow=39						
KDAK	**Kodiak Island**	**8.39**	**74**	*i* P	**Pn**	**06 16 40.4**	**+0.3**
KDAK	**Kodiak Island**	**8.39**	**74**	*e*Pn	**Pn**	**06 16 40.6**	**+0.5**
TT01	**Tatalina**	**8.84**	**37**	*e*Pn	**Pn**	**06 16 45.6**	**-0.6**
RDWB	**Redoubt West**	**8.85**	**56**	P	**Pn**	**06 16 46.0**	**-0.5**
RED	**Redoubt Volcan**	**8.85**	**56**	P	**Pn**	**06 16 46.1**	**-0.4**
TTA	**Tatalina**	**8.86**	**37**	*e*P	**Pn**	**06 16 45.7**	**-0.9**
TTA	**Tatalina**	**8.86**	**37**	*e*Pn	**Pn**	**06 16 45.7**	**-0.9**
RSO	**Redoubt South**	**8.88**	**56**	*e*Pn	**Pn**	**06 16 46.3**	**-0.6**
SPWE	**Spurr West**	**9.29**	**52**	P	**Pn**	**06 16 52.2**	**-0.2**
CNPM	**China Poot**	**9.34**	**63**	*e*Pn	**Pn**	**06 16 54.0**	**+1.0**
SPU	**Mount Spurr**	**9.47**	**53**	*e*Pn	**Pn**	**06 16 55.4**	**+0.5**
BRLK	**Bradley Lake**	**9.56**	**62**	*e*Pn	**Pn**	**06 16 56.5**	**+0.3**
STLK	**Strandline Lak**	**9.70**	**51**	P	**Pn**	**06 16 57.9**	**-0.1**
SUA	**Susitna One**	**10.16**	**53**	*e*Pn	**Pn**	**06 17 04.3**	**-0.2**
CAST	**Castle Rocks**	**10.56**	**42**	*e*Pn	**Pn**	**06 17 07.7**	**-2.1**
KTH	**Kantishna Hill**	**11.07**	**42**	*e*Pn	**Pn**	**06 17 18.6**	**+1.9**
BPAW	**Bear Paw Mtn.**	**11.35**	**40**	*e*Pn	**Pn**	**06 17 19.8**	**-0.8**
MLY	**Manley**	**12.00**	**37**	*e*Pn	**Pn**	**06 17 27.5**	**-1.9**
WRH	**Wood River Hil**	**12.61**	**42**	*e*Pn	**Pn**	**06 17 38.6**	**+0.8**
CCB	**Clear Creek Bu**	**12.81**	**42**	*e*Pn	**Pn**	**06 17 40.8**	**+0.3**
COLA	**College**	**12.91**	**41**	*e*P	**Pn**	**06 17 43.3**	**+1.4**
COLA	**College**	**12.91**	**41**	*e*Pn	**Pn**	**06 17 43.3**	**+1.4**
ILAR	**Eielson Array**	**13.21**	**42**	Pn	**Pn**	**06 17 44.5**	**-1.5**
	0.1nm,0.3s,baz=242,slow=13,SNR=20						
ILB	**Eielson Array**	**13.21**	**42**	*e*Pn	**Pn**	**06 17 46.5**	**+0.5**
COLD	**Coldfoot**	**13.63**	**30**	*e*Pn	**Pn**	**06 17 54.4**	**+2.8**
DOT	**Dot Lake**	**13.85**	**49**	*e*Pn	**Pn**	**06 17 54.2**	**-0.4**
FYU	**Fort Yukon**	**14.74**	**37**	*e*Pn	**Pn**	**06 18 07.9**	**+1.2**
EGAK	**Eagle**	**15.44**	**46**	*e*Pn	**P**	**06 18 20.1**	**-0.1**
	19nm,1.0s						
DAWY	**Dawson**	**15.94**	**50**	*e*Pn	**P**	**06 18 24.4**	**-1.4**
	19nm,1.0s						
HYT	**Haines Junctio**	**16.30**	**62**	*e*Pn	**P**	**06 18 30.1**	**+0.2**
	40nm,1.6s						
BILL	**Bilibino**	**16.66**	**325**	*i* P	**Pn**	**06 18 29.2**	**-2.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,127nm,17.0s						
SKAG	**Skagway**	**17.41**	**66**	*e*Pn	**P**	**06 18 41.7**	**-0.2**
	comp=Z,9.8nm,0.8s						
WHY	**Whitehorse**	**17.59**	**62**	*e*Pn	**P**	**06 18 44.2**	**+0.1**
	comp=Z,12nm,0.9s						
BESE	**Bessie Mountai**	**17.73**	**69**	*e*Pn	**P**	**06 18 47.9**	**+2.2**
	comp=Z,25nm,1.3s						
WRAK	**Wrangell Islan**	**19.47**	**75**	*e*P	**Pn**	**06 19 07.0**	**+1.0**
	comp=Z,53nm,1.1s						
INK	**Inuik**	**19.55**	**39**	P	**P**	**06 19 04.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=247,slow=8.4,SNR=21						
INK				LR	LR	06 26 48.0	
	comp=Z,100nm,20.8s,baz=238,slow=37						
PEA1	**Petropavlovsk-**	**20.08**	**275**	*e*P	**P**	**06 19 11.4**	**+0.1**
PETK	**Petropavlovsk-**	**20.08**	**275**	P	**P**	**06 19 11.4**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=77,slow=19,SNR=2.4						
DLBC	**Dease Lake**	**20.26**	**68**	P	**P**	**06 19 13.3**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=235,slow=9.5,SNR=8.1						
DLBC				LR	LR	06 26 55.2	
	comp=Z,132nm,18.3s,baz=266,slow=36						
SEY	**Seymchan**	**20.90**	**305**	P	**P**	**06 19 20.0**	**-0.1**
	comp=Z,15nm,1.1s,baz=48,slow=10.0,SNR=5.2						
SEY	**Seymchan**	**20.90**	**305⇑**	*e*P	**P**	**06 19 20.2**	**+0.1**
YKA	**Yellowknife Ar**	**27.03**	**55**	P	**P**	**06 20 19.6**	**0.0**
	comp=Z,3.3nm,0.7s,baz=270,slow=9.5,SNR=4.7						
YKB5	**Yellowknife Ar**	**27.03**	**55**	*e*P	**P**	**06 20 19.6**	**0.0**
LON	**Longmire**	**29.62**	**89**	*e*P	**P**	**06 20 43.5**	**+0.5**
LON				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LON	**Longmire**	**29.62**	**89**	*e*P	**P**	**06 20 43.5**	**+0.5**
	comp=Z,3.3nm,0.9s						
TIXI	**Tiksi**	**29.88**	**325⇑**	*e*P	**P**	**06 20 44.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.5s						
B08A	**Colville Reser**	**30.08**	**85**	*e*P	**P**	**06 20 48.0**	**+1.1**
	comp=Z,7.2nm,1.1s						
D08A	**Wollman Farm,**	**31.05**	**86**	*e*P	**P**	**06 20 56.6**	**+1.1**
	comp=Z,19nm,1.5s						
NEW	**Newport**	**31.35**	**83**	*e*P	**P**	**06 20 59.2**	**+1.0**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NEW	**Newport**	**31.35**	**83**	*e*P	**P**	**06 20 59.2**	**+1.0**
	comp=Z,6.3nm,0.9s						
E09A	**Wood Farm, Sta**	**31.80**	**87**	*e*P	**P**	**06 21 03.2**	**+1.1**
	comp=Z,7.2nm,1.0s						
JTMT	**Jette**	**33.21**	**82**	*e*P	**P**	**06 21 15.4**	**+0.8**
BMO	**Blue Mountains**	**33.28**	**88**	*e*P	**P**	**06 21 16.3**	**+1.1**
BMO				pmax	pmax		
	comp=Z,12nm,1.8s						
BMO	**Blue Mountains**	**33.28**	**88**	*e*P	**P**	**06 21 16.2**	**+1.1**
	comp=Z,12nm,1.8s						
MOD	**Modoc Plateau**	**33.52**	**95**	*e*P	**P**	**06 21 19.1**	**+1.7**
	comp=Z,4.7nm,0.8s						
WVOR	**Wild Horse Val**	**34.09**	**93**	*e*P	**P**	**06 21 23.5**	**+1.2**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WVOR	**Wild Horse Val**	**34.09**	**93**	*e*P	**P**	**06 21 23.5**	**+1.2**
	comp=Z,5.8nm,0.9s						
ORV	**Oroville**	**34.47**	**99**	*e*P	**P**	**06 21 26.5**	**+1.0**
ORV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ORV	**Oroville**	**34.47**	**99**	*e*P	**P**	**06 21 26.5**	**+1.0**
	comp=Z,2.6nm,0.8s						
BEKR	**Beckworth**	**34.88**	**98**	*e*P	**P**	**06 21 30.5**	**+1.3**
	comp=Z,13nm,0.2s						
MFID	**Camas Ranch**	**35.01**	**89**	*e*P	**P**	**06 21 31.2**	**+1.0**
	comp=Z,2.9nm,1.0s						
HRY	**Holter Researc**	**35.17**	**82**	*e*P	**P**	**06 21 32.1**	**+0.5**
AFDM	**Forest Hills D**	**35.19**	**100**	*e*P	**P**	**06 21 31.5**	**-0.2**
	comp=Z,10nm,1.6s						
PAHR	**Pah Rah Range**	**35.53**	**97**	*e*P	**P**	**06 21 36.0**	**+1.2**
	comp=Z,9.8nm,1.1s						
HLID	**Hailey**	**35.70**	**88**	*e*P	**P**	**06 21 36.1**	**-0.1**
	comp=Z,4.1nm,1.1s						
PNTR	**Pine Nut**	**35.84**	**98**	*e*P	**P**	**06 21 39.1**	**+1.6**
	comp=Z,11nm,0.8s						
YERR	**Yerington**	**36.11**	**98**	*e*P	**P**	**06 21 40.9**	**+1.1**
	comp=Z,6.6nm,1.0s						
CMB	**Columbia Colle**	**36.16**	**100**	*e*P	**P**	**06 21 41.4**	**+1.3**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMB	**Columbia Colle**	**36.16**	**100**	*e*P	**P**	**06 21 41.4**	**+1.3**
	comp=Z,3.8nm,1.0s						
WAKR	**Walker**	**36.34**	**99**	*e*P	**P**	**06 21 43.7**	**+1.9**
	comp=Z,4.9nm,0.9s						
YHB	**Horse Butte**	**36.73**	**84**	*e*P	**P**	**06 21 45.6**	**+0.5**
	comp=Z,16nm,1.1s						
YHH	**Holmes Hill**	**36.90**	**84**	*e*P	**P**	**06 21 47.1**	**+0.5**
	comp=Z,12nm,1.3s						
YMR	**Madison River**	**36.91**	**84**	*e*P	**P**	**06 21 47.5**	**+0.8**
	comp=Z,15nm,1.2s						
YFT	**Old Faithful**	**37.12**	**84**	*e*P	**P**	**06 21 50.6**	**+2.2**
	comp=Z,7.8nm,1.1s						
MDPB	**Devils Postpil**	**37.16**	**99**	*e*P	**P**	**06 21 50.5**	**+1.6**
	comp=Z,6.5nm,1.1s						
HVU	**Hansel Valley**	**37.78**	**89**	*e*P	**P**	**06 21 54.9**	**+0.9**
HVU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HVU	**Hansel Valley**	**37.78**	**89**	*e*P	**P**	**06 21 54.9**	**+0.9**
	comp=Z,7.6nm,0.9s						
LOHW	**Long Hollow**	**37.79**	**85**	*e*P	**P**	**06 21 54.8**	**+0.8**
	comp=Z,6.9nm,1.3s						
SNOW	**Snow King Moun**	**37.80**	**85**	*e*P	**P**	**06 21 54.8**	**+0.6**
	comp=Z,6.3nm,1.2s						
HWUT	**Hardware Ranch**	**38.57**	**88**	*e*P	**P**	**06 22 01.2**	**+0.6**
	comp=Z,5.4nm,1.0s						
R11A	**Troy Canyon, C**	**38.58**	**95**	*e*P	**P**	**06 22 01.4**	**+0.7**
	comp=Z,4.0nm,1.0s						
BW06	**Boulder Array**	**38.92**	**85**	*e*P	**P**	**06 22 04.5**	**+1.0**
	comp=Z,2.1nm,0.7s						
PD31	**Pinedale Array**	**38.92**	**85**	*e*P	**P**	**06 22 03.9**	**+0.3**
PDAR	**Pinedale Array**	**38.92**	**85**	P	**P**	**06 22 02.9**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=315,slow=2.2,SNR=14						
PDAR	**Pinedale Array**	**38.92**	**85**	*e*P	**P**	**06 22 03.4**	**-0.1**
DAC	**Darwin (Calif)**	**38.97**	**99**	*e*P	**P**	**06 22 00.0**	**-4.0**
	comp=Z,11nm,1.4s						
DAC				*e*S	**S**	**06 28 00.0**	**-0.5**
TPNV	**Topopah Spring**	**39.22**	**97**	*e*P	**P**	**06 22 06.5**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TPNV	**Topopah Spring**	**39.22**	**97**	*e*P	**P**	**06 22 06.5**	**+0.4**
	comp=Z,7.6nm,0.9s						
GSC	**Goldstone, Bar**	**40.12**	**100**	*e*P	**P**	**06 22 14.7**	**+1.3**
GSC				pmax	pmax		
	comp=Z,13nm,1.4s						
GSC	**Goldstone, Bar**	**40.12**	**100**	*e*P	**P**	**06 22 14.7**	**+1.3**
	comp=Z,13nm,1.4s						
PASC	**Pasadena Art C**	**40.21**	**102**	*e*P	**P**	**06 22 15.3**	**+1.1**
TMUT	**Trail Mountain**	**40.35**	**90**	*e*P	**P**	**06 22 16.6**	**+1.0**
	comp=Z,9.8nm,1.0s						
MSU	**Marysvale**	**40.36**	**92**	*e*P	**P**	**06 22 16.6**	**+1.0**
MSU	**Marysvale**	**40.36**	**92**	*e*P	**P**	**06 22 16.6**	**+1.0**
CCUT	**Cedar City**	**40.38**	**94**	*e*P	**P**	**06 22 14.1**	**-1.7**
	comp=Z,2.6nm,0.9s						
FMP	**Fort Macarthur**	**40.49**	**103**	*e*P	**P**	**06 22 13.6**	**-2.9**
LCMT	**Little Creek M**	**40.84**	**95**	*e*P	**P**	**06 22 19.4**	**0.0**
	comp=Z,3.8nm,0.9s						
SRU	**San Rafael Swe**	**40.86**	**90**	*e*P	**P**	**06 22 20.5**	**+0.8**
SRU				pmax	pmax		
	comp=Z,16nm,0.9s						
SRU	**San Rafael Swe**	**40.86**	**90**	*e*P	**P**	**06 22 20.4**	**+0.8**
	comp=Z,16nm,0.9s						
O20A	**White River Ci**	**41.42**	**87**	*e*P	**P**	**06 22 24.6**	**+0.3**
	comp=Z,13nm,1.0s						
U15A	**North Rim**	**41.78**	**94**	*e*P	**P**	**06 22 25.8**	**-1.6**
	comp=Z,7.2nm,1.1s						
N23A	**Red Feather La**	**42.17**	**84**	*e*P	**P**	**06 22 28.8**	**-1.7**
	comp=Z,9.7nm,1.3s						
Y12C	**Blythe**	**42.52**	**99**	*e*P	**P**	**06 22 34.1**	**+1.0**
	comp=Z,7.9nm,0.9s						
PV01	**Paradox Valley**	**42.63**	**89**	*e*P	**P**	**06 22 34.4**	**+0.1**
CN2	**Changchun**	**42.96**	**282**	*e*P	**P**	**06 22 36.4**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
Y14A	**Wickenburg**	**43.22**	**97**	*e*P	**P**	**06 22 39.8**	**+0.9**
	comp=Z,14nm,0.8s						
MVCO	**Mesa Verde**	**43.33**	**90**	*e*P	**P**	**06 22 39.8**	**-0.2**
	comp=Z,6.9nm,1.0s						
X16A	**Lo Mia Camp, P**	**43.73**	**96**	*e*P	**P**	**06 22 44.3**	**+1.2**
	comp=Z,6.1nm,1.1s						
X18A	**

NJ2	**Nanjing**	**54.98 276**	*e*P	**P**	**06 24 09.3 +0.6**
NJ2			pmax	pmax	
comp=Z,28nm,0.5s					
ZALV	**Zalesovo Beam**	**55.13 317**	PcP	**PcP**	**06 25 10.5 0.0**
comp=Z,5.5nm,0.3s,baz=35,slow=5.3,SNR=6.2					
DGZ	**Jazzator, Alta**	**57.35 312**	*e*P	**P**	**06 24 26.4 +0.8**
DGZ			pmax	pmax	
comp=Z,4.0nm,1.1s					
SOKR	**Solikamsk**	**59.10 335**	*e*P	**P**	**06 24 35.7 -1.7**
SOKR			pmax	pmax	
comp=Z,16nm,0.8s					
GTA	**Gaotai**	**59.53 296**	P	**P**	**06 24 41.5 +0.6**
GTA			pP	pP	06 24 45.8 -5.0
GTA			sP	sP	06 24 48.6 -6.0
GTA			S	**S**	**06 32 48.0 -0.3**
GTA			pmax	pmax	
comp=Z,9.0nm,1.3s					
GTA			LR	LR	
comp=N,100nm,17.3s					
GTA			LR	LR	
comp=E,160nm,16.2s					
GTA			LR	LR	
comp=Z,200nm,17.6s					
LZH	**Lanzhou**	**60.01 291**	*e*P	**P**	**06 24 44.6 +0.3**
LZH			pP	sP	06 24 59.0 +1.0
LZH			sP	pP	06 25 05.3 +11
LZH			PP	**PP**	**06 26 58.5 +2.0**
LZH			pmax	pmax	
comp=Z,20nm,1.3s					
LZH			pmax	pmax	
comp=Z,54nm,7.2s					
LZH			LR	LR	
comp=N,160nm,14.7s					
LZH			LR	LR	
comp=E,160nm,15.0s					
LZH			LR	LR	
comp=Z,200nm,18.3s					
KURK	**Kurchatov**	**60.03 318**	*e*P	**P**	**06 24 44.4 +0.4**
KURK			pmax	pmax	
comp=Z,17nm,1.4s					
KURK	**Kurchatov**	**60.03 318**	*e*P	**P**	**06 24 44.4 +0.4**
comp=Z,17nm,1.4s					
KURBB	**Kurchatov Arra**	**60.14 318**	P	**P**	**06 24 45.0 +0.2**
comp=Z,6.6nm,0.9s,baz=29,slow=6.9,SNR=32					
SVE	**Sverdlovsk**	**60.60 332**	*e*P	**P**	**06 24 48.5 +0.7**
SVE			pmax	pmax	
comp=Z,19nm,1.3s					
BVAR	**Borovoye Array**	**61.01 324**	P	**P**	**06 24 50.4 -0.2**
comp=Z,9.9nm,0.8s,baz=46,slow=8.5,SNR=38					
BVAR			PcP	**PcP**	**06 25 34.0 +0.3**
comp=Z,2.4nm,0.7s,baz=42,slow=4.6,SNR=4.3					
BRVK	**Borovoye**	**61.01 324**	*d i*P	**P**	**06 24 50.9 +0.2**
BRVK			pmax	pmax	
comp=Z,66nm,1.7s					
BRVK	**Borovoye**	**61.01 324**	*e*P	**P**	**06 24 51.3 +0.6**
comp=Z,15nm,1.0s					
KLMR	**Klimovskoe**	**61.16 345**	*e*P	**P**	**06 24 50.3 -1.3**
KLMR			*e*		06 27 05.8
KLMR			pmax	pmax	
comp=Z,22nm,1.4s					
ARU	**Arti**	**61.49 333**	P	**P**	**06 24 53.5 -0.4**
comp=Z,6.3nm,0.5s,baz=34,slow=3.4,SNR=13					
ARU	**Arti**	**61.49 333**	*d i*P	**P**	**06 24 53.5 -0.4**
ARU			S	**S**	**06 33 12.5 -0.1**
ARU			SS	**SS**	**06 37 12.3 -0.5**
ARU			pmax	pmax	
comp=Z,21nm,1.2s					
ARU	**Arti**	**61.49 333**	*e*P	**P**	**06 24 54.1 +0.3**
comp=Z,14nm,0.8s					
MK31	**Makanchi Array**	**61.76 313**	*e*P	**P**	**06 24 55.7 -0.2**
MK31	**Makanchi Array**	**61.76 313**	*e*P	**P**	**06 24 55.7 -0.2**
MK32	**Makanchi Array**	**61.76 313**	*e*P	**P**	**06 24 55.6 -0.3**
MKAR	**Makanchi Array**	**61.76 313**	P	**P**	**06 24 55.6 -0.3**
comp=Z,1.7nm,0.8s,baz=47,slow=7.1,SNR=13					
MKAR	**Makanchi Array**	**61.76 313**	*c e*P	**P**	**06 24 55.5 -0.4**
MKAR			pmax	pmax	
comp=Z,2.0nm,0.8s					
MKAR	**Makanchi Array**	**61.76 313**	*e*P	**P**	**06 24 55.6 -0.3**
comp=Z,14nm,1.0s					
MK01	**Makanchi Array**	**61.77 313**	*e*P	**P**	**06 24 55.1 -0.8**
WMQ	**Urumqi**	**61.83 307**	P	**P**	**06 24 58.8 +2.3**
WMQ			pP	sP	06 25 13.3 +3.1
WMQ			sP	pP	06 25 19.4 +13
WMQ			pmax	pmax	
comp=Z,9.0nm,0.7s					
WMQ			pmax	pmax	
comp=Z,460nm,5.9s					
WMQ			LR	LR	
comp=N,95nm,23.5s					
WMQ			LR	LR	
comp=E,2.0nm,21.1s					
WMQ			LR	LR	
comp=Z,43nm,23.5s					
MAKZ	**Makanchi**	**61.87 313**	*e*P	**P**	**06 24 56.4 -0.3**
MAKZ			pmax	pmax	
comp=Z,3.0nm,0.7s					
MAKZ	**Makanchi**	**61.87 313**	*e*P	**P**	**06 24 56.4 -0.3**
comp=Z,2.5nm,0.7s					
FIA0	**FINESS Array S**	**62.03 353**	*e*P	**P**	**06 24 57.3 -0.1**
FIA0	**FINESS Array S**	**62.03 353**	*e*P	**P**	**06 24 57.3 -0.1**
FINES	**FINESS Array B**	**62.03 353**	P	**P**	**06 24 57.3 -0.1**
comp=Z,4.0nm,0.8s,baz=1.0,slow=11,SNR=8.1					
NB2	**NORSAR Subarra**	**62.94 1**	P	**P**	**06 25 03.2 -0.4**
comp=Z,1.4nm,0.6s,baz=358,slow=6.9					
NB200	**NORSAR Array S**	**62.94 1**	*e*P	**P**	**06 25 03.5 0.0**
NOA	**NORSAR Array B**	**62.94 1**	P	**P**	**06 25 03.5 0.0**
comp=Z,2.2nm,0.8s,baz=358,slow=7.0,SNR=5.5					
AKTO	**Aktyubinsk**	**67.01 330**	P	**P**	**06 25 30.6 +0.5**
comp=Z,9.7nm,0.8s,baz=32,slow=7.4,SNR=29					
ABKAR	**Akbulak array**	**67.53 328**	*e*P	**P**	**06 25 33.8 +0.4**
comp=Z,53nm,0.9s					
AAK	**Ala-Archa**	**68.31 315**	P	**P**	**06 25 39.4 +0.7**
comp=Z,6.0nm,0.8s,baz=98,slow=2.8,SNR=13					
AAK	**Ala-Archa**	**68.31 315**	*d e*P	**P**	**06 25 39.2 +0.5**
AAK			pmax	pmax	
comp=Z,14nm,1.0s					
AAK	**Ala-Archa**	**68.31 315**	*e*P	**P**	**06 25 39.6 +0.9**
KMI	**Kunming**	**69.19 284**	P	**P**	**06 25 46.3 +1.8**
KMI			pmax	pmax	
comp=Z,17nm,0.5s					
KKAR	**Karatay Array**	**69.43 318**	*e*P	**P**	**06 25 45.9 +0.5**
KKAR			pmax	pmax	
comp=Z,57nm,0.8s					
KKAR	**Karatay Array**	**69.43 318**	*e*P	**P**	**06 25 45.9 +0.5**
comp=Z,57nm,0.8s					
KSH	**Kashi**	**70.36 313**	P	**P**	**06 25 55.4 +4.0**
KSH			pP	PcP	06 26 11.4 -1.4
KSH			PcP	sP	06 26 16.3 +11
KSH			sP	pP	06 26 18.5 +17
KSH			PP	PP	06 28 34.8 +8.0
KSH			S	**S**	**06 35 01.9 +0.4**
KSH			sS	SKiKP	06 35 30.3 -2.7
KSH			SKS	**SKSac**	**06 35 46.3 -4.2**
KSH			ScS	**SKKSac**	**06 35 50.4 -0.1**
KSH	**Kashi**	**70.36 313**	SS	SS	06 39 37.3 +5.9
KSH			pmax	pmax	
comp=Z,7.0nm,0.9s					
KSH			pmax	pmax	
comp=Z,120nm,5.3s					
KSH			LR	LR	
comp=N,140nm,8.2s					
KSH			LR	LR	
comp=E,140nm,5.9s					
KSH			LR	LR	
comp=Z,150nm,11.1s					
AKASG	**Malin Array Be**	**72.38 349**	P	**P**	**06 26 02.4 -0.8**
comp=Z,4.9nm,0.5s,baz=14,slow=6.2,SNR=16					
AKBB	**Malin Array Si**	**72.38 349**	*e*P	**P**	**06 26 02.3 -0.9**
AKBB			pmax	pmax	
comp=Z,8.0nm,0.8s					
AKBB	**Malin Array Si**	**72.38 349**	*e*P	**P**	**06 26 02.3 -0.9**
comp=Z,8.1nm,0.8s					
KIEV	**Kiev**	**72.39 349**	*e*P	**P**	**06 26 02.6 -0.6**
KIEV			pmax	pmax	
comp=Z,6.0nm,0.9s					
KIEV	**Kiev**	**72.39 349**	*e*P	**P**	**06 26 02.3 -0.9**
comp=Z,7.5nm,0.7s					
AK11	**Malin Array Si**	**72.41 349**	*e*P	**P**	**06 26 02.3 -1.0**
STHS	**Stebnicka Huta**	**74.32 354**	*e*P	**P**	**06 26 15.8 +1.1**
STHS			pmax	pmax	
comp=Z,5.0nm,0.7s					
STHS	**Stebnicka Huta**	**74.32 354**	*e*P	**P**	**06 26 15.8 +1.1**
LANS	**Liptovska Anna**	**74.68 355**	*e*P	**P**	**06 26 17.5 +0.7**
LANS	**Liptovska Anna**	**74.68 355**	*e*P	**P**	**06 26 17.5 +0.7**
CRVS	**Cervenica-Dubn**	**74.82 354**	*e*P	**P**	**06 26 18.3 +0.7**
CRVS	**Cervenica-Dubn**	**74.82 354**	*e*P	**P**	**06 26 18.2 +0.7**
GEC2	**GERESS Array S**	**75.15 359**	*e*P	**P**	**06 26 18.9 -0.7**
GEC2			pmax	pmax	
comp=Z,13nm,1.8s					
GEC2	**GERESS Array S**	**75.15 359**	*e*P	**P**	**06 26 18.9 -0.7**
comp=Z,13nm,1.8s					
GERES	**GERESS Array B**	**75.15 359**	P	**P**	**06 26 18.9 -0.7**
comp=Z,0.3nm,0.3s,baz=339,slow=7.1,SNR=4.0					
VYHS	**Vyhne**	**75.37 355**	*e*P	**P**	**06 26 19.6 -1.1**
VYHS			pmax	pmax	
comp=Z,4.0nm,1.1s					
VYHS	**Vyhne**	**75.37 355**	*e*P	**P**	**06 26 19.6 -1.1**
CM31	**Chiang Mai Arr**	**76.64 283**	*e*P	**P**	**06 26 28.6 +0.3**
CMAR	**Chiang Mai Arr**	**76.64 283**	P	**P**	**06 26 29.1 +0.8**
comp=Z,2.3nm,0.8s,baz=17,slow=5.8,SNR=13					
CM01	**Chiang Mai Arr**	**76.66 283**	*e*P	**P**	**06 26 29.4 +0.9**
KIV	**Kislovodsk**	**76.81 338**	*e*P	**P**	**06 26 29.7 +0.6**
KIV			pmax	pmax	
comp=Z,19nm,1.1s					
KBZ	**Khabaz**	**76.98 338**	P	**P**	**06 26 31.4 +1.5**
comp=Z,5.3nm,0.8s,baz=346,slow=4.6,SNR=10.0					
NCK	**Nalchik**	**77.06 337**	*e*P	**P**	**06 26 31.6 +1.2**
NCK			pmax	pmax	
comp=Z,14nm,0.7s					
ZEI	**Tsey**	**77.67 337**	*e*P	**P**	**06 26 34.3 +0.2**
ZEI			pmax	pmax	
comp=Z,6.0nm,1.2s					
GEYT	**Alibeck**	**78.34 325**	P	**P**	**06 26 37.9 +0.2**
comp=Z,3.9nm,0.3s,baz=336,slow=3.3,SNR=5.9					
BR101	**Keskin Array S**	**82.57 344**	*e*P	**P**	**06 26 60.0 -0.6**
BRTR	**Keskin Array B**	**82.57 344**	P	**P**	**06 26 60.0 -0.6**
comp=Z,2.2nm,0.8s,baz=346,slow=2.7,SNR=8.5					
BRTR	**Keskin Array B**	**82.57 344**	*c e*P	**P**	**06 27 02.4 +1.9**
BRTR			pmax	pmax	
comp=Z,2.0nm,0.8s					
BR231	**Keskin MP Arra**	**82.59 344**	*e*P	**P**	**06 26 59.8 -0.8**
ES19	**SONSECA Array**	**83.33 12**	*e*P	**P**	**06 27 04.8 +0.5**
ESDC	**Sonseca Array**	**83.35 13**	P	**P**	**06 27 04.2 -0.2**
comp=Z,1.0nm,0.6s,baz=349,slow=5.1,SNR=7.9					
ASF	**Jabal al Asfar**	**89.35 339**	LR	LR	07 11 50.2
comp=Z,83nm,18.1s,baz=40,slow=38					
MDT	**Midelt**	**90.02 14**	LR	LR	07 07 11.2
comp=Z,68nm,20.2s,slow=35					
WRAB	**Tennant Creek**	**90.19 233**	*e*P	**P**	**06 27 37.1 -0.7**
WRAB			pmax	pmax	
comp=Z,10.0nm,1.0s					
WR1	**Warramunga Arr**	**90.20 233**	*e*P	**P**	**06 27 37.3 -0.5**
comp=Z,27nm,1.8s					
WRA	**Warramunga Arr**	**90.20 233**	P	**P**	**06 27 37.3 -0.6**
comp=Z,1.4nm,0.9s,baz=37,slow=5.6,SNR=5.8					
ASAR	**Alice Springs**	**93.66 231**	P	**P**	**06 27 53.2 -0.5**
comp=Z,0.7nm,0.9s,baz=34,slow=4.3,SNR=7.0					

IDC ***17*** *06:32:27.8±2.0, 8°.65S×160°.64E, h90km±17km, mb3.5/5, mb1 3.7/5, mb1mx3.5/29, mbtmp3.8/5, Error ellipse: s-maj=77.5km s-min=25.8km az=132.0*

ISC 17 06:32:24.1±1.4, 8.15S±0.10×160.3E±0.3, h35km, n13, σ1§29/9, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**194**	P	**Pn**	**06 32 47.2**	**+1.2**
346nm,0.3s,baz=309,slow=2.6,SNR=39							
HNR				S	**Sn**	**06 33 03.4**	**+1.2**
236nm,0.3s,baz=249,slow=23,SNR=7.8							
HNR				LR	LR	06 33 15.7	
comp=Z,171nm,19.1s,baz=340,slow=46							
HNR	**Honiara**	**1.31**	**194**	*i* P	**Pn**	**06 32 45.0**	**-1.0**
HNR				*i* S	**Sn**	**06 33 02.0**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**27.23**	**13**	T	T	07 06 40.3	
baz=194,slow=76,SNR=479							
H11S3	**WAKE ISLAND Hy**	**27.23**	**13**	T	T	07 06 40.6	
baz=194,slow=76,SNR=674							
H11S1	**WAKE ISLAND Hy**	**27.24**	**13**	T	T	07 06 38.8	
baz=194,slow=76,SNR=544							
WRA	**Warramunga Arr**	**27.69**	**242**	P	**P**	**06 38 08.6**	**-0.7**
1.5nm,0.6s,baz=70,slow=9.2,SNR=10							
H11N1	**WAKE ISLAND Hy**	**28.45**	**13**	T	T	07 08 10.5	
baz=194,slow=76,SNR=604							
H11N3	**WAKE ISLAND Hy**	**28.46**	**13**	T	T	07 08 13.1	
baz=194,slow=76,SNR=464							
H11N2	**WAKE ISLAND Hy**	**28.47**	**13**	T	T	07 08 11.9	
baz=194,slow=76,SNR=336							
ASAR	**Alice Springs**	**29.59**	**236**	P	**P**	**06 38 24.6**	**-1.5**
0.3nm,0.3s,baz=66,slow=9.8,SNR=8.2							
SONM	**Songino Array**	**73.18**	**325**	P	**P**	**06 43 53.1**	**+1.6**
0.4nm,0.5s,baz=123,slow=5.3,SNR=2.5							
ILAR	**Eielson Array**	**82.59**	**20**	P	**P**	**06 44 42.4**	**-1.0**
0.4nm,0.5s,baz=244,slow=5.3,SNR=13							
MKAR	**Makanchi Array**	**87.74**	**318**	P	**P**	**06 45 09.8**	**+0.3**
0.2nm,0.5s,baz=102,slow=6.6,SNR=2.5							

KRSC 17 06:37:06.1±1.1, 49°.22N×156°.90E, h16km±18km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**341**	*e*P	Pn	06 37 33.1	+0.1
SKR				*e*S	Sn	06 37 53.2	+0.5
ASAK	**Asacha**	**3.23**	**11**	*e*P	Pb	06 38 00.0	-3.1
RUS	**Russkaya**	**3.38**	**17**	*e*P	Pn	06 38 00.7	+2.6
AVH	**Avacha**	**4.21**	**15**	*e*P	Pn	06 38 13.3	+3.7
GNL	**Ganaly**	**4.53**	**8**	*e*P	Pn	06 38 18.2	+4.2

DDA ***17*** *06:41:38.4, 39°.27N×29°.08E, h7km, Md2.4*
ISK ***17*** *06:41:39.0, 39°.07N×29°.10E, h15km, MD2.5*
CSEM ***17*** *06:41:40.0±0.3, 39°.13N×29°.03E, h15km, MD2.5, Error ellipse: s-maj=9.2km s-min=5.2km az=126.0*

ISC 17 06:41:39.4±1.1, 39.11N±0.06×29.08E±0.05, h15km±8km, n11, σ0§30/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.08**	**254**	*e*PG	**Pg**	**06 41 42.4**	**-0.1**
DEMI	**Demirci**	**0.29**	**258**	*i* P	**Pb**	**06 41 46.6**	**+0.3**
DEMI				*i* S	**Sb**	**06 41 51.1**	**+0.1**
DEMI	**Demirci**	**0.29**	**258**	P	**Pb**	**06 41 46.6**	**+0.3**
DEMI				S	**Sb**	**06 41 51.1**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**41**	*e*PG	**Pb**	**06 41 49.2**	**0.0**
TVSB				*e*SG	**Sb**	**06 41 55.7**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	**Pb**	**06 41 49.2**	**0.0**
TVSB				*e*Sg	**Sb**	**06 41 55.7**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**06 41 52.4**	**-0.2**
KULA				*e*SG	**Sg**	**06 42 01.4**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**06 41 52.4**	**-0.2**
KULA				*e*Sg	**Sg**	**06 42 01.4**	**-0.1**
MANT	**Manisa**	**0.74**	**214**	*i* P	**Pn**	**06 41 55.4**	**-0.1**
MANT	**Manisa**	**0.74**	**214**	P	**Pn**	**06 41 55.4**	**-0.1**
KHAL	**Karahalli**	**0.80**	**156**	*i* P	**Pn**	**06 41 56.9**	**+0.6**
KHAL				*i* S	**Sn**	**06 42 07.6**	**-0.4**
KHAL	**Karahalli**	**0.80**	**156**	P	**Pn**	**06 41 56.9**	**+0.6**
KHAL				S	**Sn**	**06 42 07.6**	**-0.4**

IDC 17 06:50:04.9±12.0, 7°.84S×128°.65E, h170km±134km, mb3.4/2, mb1 3.4/5, mb1mx3.1/39, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=85.1km s-min=49.9km az=18.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.62**	**196**	P	Pn	06 52 33.2	+0.5
0.8nm,0.3s,baz=7.9,slow=8.7,SNR=31							
FITZ				S	Sn	06 54 29.2	-1.3
1.1nm,0.3s,baz=335,slow=24,SNR=6.9							
WRA	**Warramunga Arr**	**13.24**	**156**	P	Pn	06 53 05.1	-1.4
0.3nm,0.3s,baz=335,slow=12,SNR=9.9							
WRA				S	Sn	06 55 26.6	-7.1
1.0nm,0.3s,baz=331,slow=23,SNR=11							
ASAR	**Alice Springs**	**16.53**	**163**	P	Pn	06 53 48.4	+1.2
0.3nm,0.3s,baz=338,slow=9.7,SNR=20							
ASAR				S	S	06 56 46.0	-4.0
0.2nm,0.3s,baz=348,slow=26,SNR=5.6							
MKAR	**Makanchi Array**	**68.20**	**328**	P	P	07 00 47.1	+0.1
0.5nm,0.4s,baz=121,slow=7.4,SNR=8.2							
KURBB	**Kurchatov Arra**	**72.53**	**329**	P	P	07 01 13.1	0.0
0.5nm,0.5s,baz=130,slow=4.6,SNR=8.4							

IDC 17 07:07:26.0±396.0, 50°.92N×114°.22E, h0km, Error ellipse: s-maj=170.2km s-min=119.1km az=47.0,

Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.98**	**242**	*i*		07 44 20.0	
baz=56,slow=331,SNR=0.4							
I45RU	**USSURIYSK INFR**	**13.73**	**112**	*i*		08 31 30.0	
baz=307,slow=315,SNR=1.0							
I30JP	**ISUMI INFRASON**	**24.45**	**120**	*i*		09 38 00.0	
baz=318,slow=320,SNR=0.9							

ISCJB ***17*** *07:19:16.3±0.5, 24°.39N±0°.06×123°.10E±0°.02, h56km±6km, Error ellipse: s-maj=10.2km s-min=3.3km az=0.3*
JMA ***17*** *07:19:16.4±0.1, 24°.44N×123°.11E, h57km±1km, M2.6*
TAP ***17*** *07:19:17.1, 24°.35N×122°.86E, h5km±1km, ML3.1, D*

ISC 17 07:19:16.7±1.3, 24°.38N±0°.07×123°.10E±0°.03, h54km±8km, n23, σ0§82/40, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.12**	**314**	P	**Pn**	**07 19 25.0**	**-0.1**
YOJ				S	**Sn**	**07 19 31.2**	**+0.2**
JYNG	**Yonagunijimaku**	**0.16**	**296**	P	**Pn**	**07 19 25.2**	**0.0**
JYNG				S	**Sn**	**07 19 31.4**	**+0.1**
IRIF	**Iriomote-Funau**	**0.57**	**95**	P	**Pn**	**07 19 28.9**	**-0.2**
IRIF				S	**Sn**	**07 19 38.3**	**+0.3**
HATJ	**Hateruma jima**	**0.72**	**117**	P	**Pn**	**07 19 31.0**	**+0.1**
HATJ				S	**Sn**	**07 19 41.5**	**+0.4**
JKRS	**Kuro-shima**	**0.84**	**100**	P	**Pn**	**07 19 32.6**	**+0.2**
JKRS				S	**Sn**	**07 19 44.5**	**+0.6**
JIJ	**Ishigaki jima**	**0.95**	**91**	P	**Pn**	**07 19 33.4**	**-0.5**
JIJ				S	**Sn**	**07 19 46.0**	**-0.5**
JISG	**Ishigakijimahi**	**1.12**	**79**	P	**Pn**	**07 19 35.7**	**-0.4**
JISG				S	**Sn**	**07 19 50.2**	**-0.4**
TWC	**Suao**	**1.16**	**281**	*e*P	**Pn**	**07 19 35.9**	**-0.8**
baz=285							
TWC				*e*S	**Sn**	**07 19 50.1**	**-1.6**
baz=285							
TWB1	**Santiao Chiao**	**1.19**	**302**	S	**Sn**	**07 19 52.4**	**+0.2**
baz=309							
ENA	**Nanau**	**1.24**	**272**	*e*P	**Pn**	**07 19 38.7**	**+0.9**
baz=274							
ENA				*e*S	**Sn**	**07 19 52.4**	**-1.1**
baz=274							
TWE	**Neicheng**	**1.35**	**285**	*e*P	**Pn**	**07 19 39.5**	**+0.2**
baz=289							
TWE				*e*S	**Sn**	**07 19 55.3**	**-0.8**
baz=289							
ENTT	**Nioudou**	**1.42**	**281**	*e*P	**Pn**	**07 19 41.3**	**+1.1**
baz=283							
ENTT				*e*S	**Sn**	**07 19 58.4**	**+0.4**
baz=283							
JTJ	**Tarama**	**1.48**	**80**	P	**Pn**	**07 19 41.3**	**+0.3**
JTJ				S	**Sn**	**07 19 59.0**	**-0.3**
WHF	**Hehuan Shan**	**1.69**	**262**	*e*S	**Sn**	**07 20 04.3**	**-0.8**
baz=262							
EHY	**Hungye**	**1.85**	**242**	*e*P	**Pn**	**07 19 45.8**	**-0.3**
baz=239							
EHY				*e*S	**Sn**	**07 20 07.4**	**-0.9**
baz=239							
WDT	**Danda**	**1.91**	**251**	*e*P	**Pn**	**07 19 46.9**	**-0.2**
baz=249							
WDT				*e*S	**Sn**	**07 20 09.9**	**-0.2**
baz=249							
TWF1	**Yuli**	**1.94**	**239**	*e*P	**Pn**	**07 19 46.8**	**-0.6**
baz=235							
TWF1				*e*S	**Sn**	**07 20 09.3**	**-1.4**
baz=235							
SMLT	**Sun Moon Lake**	**2.07**	**257**	*e*P	**Pn**	**07 19 50.3**	**+1.1**
baz=255							
TYC	**Yuchr**	**2.11**	**257**	*e*P	**Pn**	**07 19 50.5**	**+0.9**
baz=256							
TYC				*e*S	**Sn**	**07 20 15.0**	**+0.4**
baz=256							
YUS	**Yu-Shan**	**2.16**	**246**	*e*P	**Pn**	**07 19 51.0**	**+0.2**
baz=243							
YUS				*e*S	**Sn**	**07 20 15.5**	**-1.1**
baz=243							
ALS	**Alishan**	**2.27**	**248**	*e*P	**Pn**	**07 19 52.8**	**+0.6**
baz=245							
CHN5	**Tsauling**	**2.35**	**251**	*e*P	**Pn**	**07 19 54.9**	**+1.9**
baz=249							
CHN4	**Tsaushan**	**2.52**	**246**	*e*P	**Pn**	**07 19 57.2**	**+2.0**
baz=244							

GCMT ***17*** *07:21:52.0±0.3, 37°.11S×78°.06E, h17km±1km, MW5.0/74, Moment Tensor Solution. s14,c15; s74,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.57±.16; Mθθ-2.62±.13; Mφφ3.19±.15; Mrθ-1.25±.38; Mφθ0.51±.12; Mφr1.21±.36; Best double couple: M0=3.45500×10^16 NP1:φs=143.00000°, δ83.00000°, λ-148.00000°. NP2: φs=48.00000°, δ59.00000°, λ-9.00000°. Principal axes: T 3.5490, Plg16.0000°, Azm271.0000°; N -0.1850, Plg58.0000°, Azm154.0000°; P -3.3620, Plg27.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***17*** *07:21:54.0±0.5, 37°.5S±0°.1×78°.4E±0°.1, h10km, mb4.0/11, MS4.3/19 Error ellipse: s-maj=17.7km s-min=13.8km az=31.7*
IDC ***17*** *07:21:54.0±0.8, 37°.36S×78°.41E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/45, mbtmp3.9/9, MS4.2/19, Ms1 4.2/19, ms1mx4.0/34, Error ellipse: s-maj=26.5km s-min=24.0km az=177.0*
NEIC ***17*** *07:21:55.8±0.6, 37°.40S×78°.40E, h10km, mb4.3/2, Error ellipse: s-maj=17.3km s-min=16.7km az=172.0*

ISC 17 07:21:55.8±0.7, 37°.4S±0°.1×78°.4E±0°.2, h10km, n31, σ1§12/16, mb4.0/11, MS4.3/19, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.12**	**348**	T	T	07 59 21.3	
baz=171,slow=76,SNR=933							
H08S1	**Diego Garcia H**	**30.12**	**348**	T	T	07 59 20.0	
baz=171,slow=76,SNR=980							
H08S3	**Diego Garcia H**	**30.14**	**348**	T	T	07 59 22.4	
baz=171,slow=76,SNR=1188							
MAW	**Mawson**	**31.48**	**191**	P	**P**	**07 28 18.7**	**+1.5**
1.1nm,0.8s,baz=262,slow=11,SNR=4.7							
MAW				LR	LR	07 38 44.1	
comp=Z,542nm,18.7s,baz=55,slow=32							
OPO	**Ambohidratompo**	**33.12**	**296**	LR	LR	07 38 18.2	
comp=Z,636nm,20.8s,baz=157,slow=30							
FITZ	**Fitzroy Crossi**	**45.50**	**78**	LR	LR	07 45 50.3	
comp=Z,357nm,20.7s,baz=284,slow=32							
ASAR	**Alice Springs**	**49.09**	**90**	P	**P**	**07 30 43.0**	**-0.7**
3.2nm,1.0s,baz=241,slow=6.9,SNR=14							
ASAR				LR	LR	07 49 52.5	
comp=Z,346nm,18.2s,baz=276,slow=34							
WRA	**Warramunga Arr**	**51.35**	**86**	P	**P**	**07 30 59.8**	**-0.9**
4.0nm,0.9s,baz=238,slow=7.5,SNR=10							
WRA				LR	LR	07 50 40.9	
comp=Z,397nm,19.9s,baz=220,slow=34							
WRAB	**

0.5nm,0.6s,baz=146,slow=10,SNR=3.4
TORD Torodi Ar. Bea 87.61 288 P **P 07 34 43.6 -1.0**
0.3nm,0.8s,baz=120,slow=3.5,SNR=2.4
TORD LR LR 08 12 43.5
comp=Z,321nm,18.0s,baz=125,slow=35
KURBB Kurchatov Arra 87.67 0 P **P 07 34 44.0 +0.1**
0.2nm,0.3s,baz=192,slow=4.9,SNR=4.2
KURK Kurchatov 87.76 0 P **P 07 34 44.0 -0.4**
SONM Songino Array 88.48 18 LR LR 08 13 14.6
comp=Z,80nm,19.2s,baz=188,slow=35
DBIC Dimbokro 88.67 279 LR LR 08 12 22.4
comp=Z,166nm,18.1s,baz=97,slow=34
AKTO Aktyubinsk 89.31 347 LR LR 08 10 38.7
comp=Z,68nm,19.9s,slow=33
ZALV Zalesovo Beam 91.17 4 LR LR 08 13 49.7
comp=Z,107nm,20.4s,baz=254,slow=34
AFI Afiamalu 96.77 113 LR LR 08 10 31.5
comp=Z,36nm,19.9s,baz=210,slow=30
KEST Kesra 96.90 310 LR LR 08 19 04.6
comp=Z,105nm,18.0s,baz=266,slow=35

ISN 17 07:24:25.6±0.9, 35°.25N×46°.03E, h0km±3km, ML3.1
CSEM 17 07:24:27.2±0.2, 35°.14N×46°.09E, h10km, ML3.1, Error ellipse: s-maj=5.2km s-min=3.8km az=43.0

TEH 17 07:24:27.5, 35°.18N×46°.04E, h3km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.55**	**149**	*e*Pg	Pg	07 24 36.5	-1.6
IDHR				*e*AMB	AMB	07 24 49.5	
	comp=Z,23μm,0.1s						
IDHR	**Dehrash**	**0.55**	**149**	*e*Pg	Pg	07 24 36.5	-1.6
ILIN	**Lien**	**0.80**	**109**	*e*Pg	Pg	07 24 42.0	-0.8
ILIN				*e*AMB	AMB	07 24 43.7	
	comp=Z,12μm,0.1s						
ILIN	**Lien**	**0.80**	**109**	*e*Pg	Pg	07 24 42.0	-0.8
IVIS	**Veis**	**0.93**	**134**	*e*Pg	Pg	07 24 44.0	-1.3
IVIS				*e*AMB	AMB	07 24 48.8	
	comp=Z,3μm,0.1s						
IVIS	**Veis**	**0.93**	**134**	*e*Pg	Pg	07 24 44.0	-1.3
IGHG	**Ghaleghazi**	**0.95**	**153**	*e*Pg	Pg	07 24 44.3	-1.4
IGHG				*e*Sg	Sg	07 24 58.2	+0.1
IGHG				*e*AMB	AMB	07 25 06.6	
	comp=Z,5μm,0.2s						
IGHG	**Ghaleghazi**	**0.95**	**153**	*e*Pg	Pg	07 24 44.3	-1.4
IGHG				*e*Sg	Sg	07 24 58.2	+0.1
IKOM	**Komasi**	**1.57**	**129**	*e*Pn	Pn	07 24 56.0	-0.4
IKOM				*e*AMB	AMB	07 25 28.3	
	comp=Z,4μm,0.2s						
IKOM	**Komasi**	**1.57**	**129**	*e*Pn	Pn	07 24 56.0	-0.4
BHD	**Baghdad**	**2.35**	**216**	*e*Pn	Pn	07 25 06.0	-1.0
	SNR=3.0						
BHD				*i* Sn	Sn	07 25 35.0	-1.3
	SNR=3.0						
IBST	**Bostanabad**	**2.61**	**15**	*e*AMB	AMB	07 25 56.9	
	comp=Z,459nm,0.3s						
ISRB	**Sarab**	**2.95**	**26**	*e*Pn	Pn	07 25 14.7	-0.7
ISRB				*e*AMB	AMB	07 25 25.1	
	comp=Z,538nm,0.2s						
ISRB	**Sarab**	**2.95**	**26**	*e*Pn	Pn	07 25 14.7	-0.7
ITBZ	**Tabriz**	**3.05**	**2**	*e*Pn	Pn	07 25 16.5	-0.3
ITBZ				*e*AMB	AMB	07 25 24.7	
	comp=Z,374nm,0.2s						
ITBZ	**Tabriz**	**3.05**	**2**	*e*Pn	Pn	07 25 16.5	-0.3
ISHB	**Shabestar**	**3.12**	**354**	*e*Pn	Pn	07 25 17.8	0.0
ISHB				*e*AMB	AMB	07 26 12.3	
	comp=E,2μm,0.4s						
IMRD	**Marand**	**3.54**	**356**	*e*Pn	Pn	07 25 23.0	-0.5
IMRD				*e*AMB	AMB	07 25 32.8	
	comp=Z,482nm,0.2s						
IMRD	**Marand**	**3.54**	**356**	*e*Pn	Pn	07 25 23.0	-0.5
RTB	**Rutbah**	**5.22**	**247**	*e*Pn	Pn	07 25 46.0	-0.5
	SNR=3.0						
RTB				*i* Sn	Sn	07 26 43.0	-4.2
	SNR=3.0						

IDC 17 07:24:50.6±5.9, 37°.81S×78°.26E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/45, mbtmp4.0/5, Error ellipse: s-maj=207.1km s-min=33.0km az=37.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.48**	**349**	T	T	08 02 14.7	
	baz=171,slow=76,SNR=122						
H08S1	**Diego Garcia H**	**30.49**	**349**	T	T	08 02 19.9	
	baz=171,slow=76,SNR=116						
H08S3	**Diego Garcia H**	**30.50**	**349**	T	T	08 02 18.3	
	baz=171,slow=76,SNR=119						
ASAR	**Alice Springs**	**49.20**	**90**	P	P	07 33 39.7	-1.0
	1.3nm,1.0s,baz=240,slow=6.5,SNR=6.8						
STKA	**Stephens Creek**	**51.45**	**104**	P	P	07 33 57.5	-0.2
	2.0nm,0.8s,baz=243,slow=9.0,SNR=2.3						
WRA	**Warramunga Arr**	**51.48**	**86**	P	P	07 33 58.9	+0.9
	1.7nm,0.7s,baz=239,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**84.31**	**3**	P	P	07 37 24.3	+0.4
	0.3nm,0.6s,baz=189,slow=8.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**88.06**	**0**	P	P	07 37 41.8	-0.4
	0.2nm,0.3s,baz=163,slow=6.6,SNR=3.9						

IDC 17 07:41:43.8±5.0, 6°.15S×148°.98E, h75km±51km, mb3.5/4, mb1 3.8/6, mb1mx3.5/26, mbtmp3.9/6, ML4.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/18, Error ellipse: s-maj=69.6km s-min=30.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**209**	P	Pn	07 42 39.1	+0.3
	12nm,0.3s,baz=36,slow=7.9,SNR=18						
PMG				S	Sn	07 43 22.2	+0.8
	17nm,0.3s,baz=142,slow=21,SNR=8.6						
HNR	**Honiara**	**11.34**	**107**	LR	LR	07 47 50.4	
	comp=Z,94nm,18.9s,baz=329,slow=32						
WRA	**Warramunga Arr**	**19.76**	**225**	P	P	07 46 08.0	0.0
	0.6nm,0.3s,baz=48,slow=11,SNR=30						
GUMO	**Guam**	**20.03**	**348**	LR	LR	07 52 09.6	
	comp=Z,64nm,20.9s,baz=194,slow=31						
ASAR	**Alice Springs**	**22.67**	**218**	P	P	07 46 38.6	-0.6
	1.9nm,0.6s,baz=52,slow=9.4,SNR=38						
FITZ	**Fitzroy Crossi**	**25.69**	**240**	P	P	07 47 07.0	-0.2
	1.2nm,0.3s,baz=51,slow=9.8,SNR=6.8						
MKAR	**Makanchi Array**	**78.87**	**320**	P	P	07 53 39.9	+0.9
	0.1nm,0.4s,baz=101,slow=7.5,SNR=3.0						
ILAR	**Eielson Array**	**84.84**	**23**	P	P	07 54 09.2	-0.7
	0.7nm,0.8s,baz=244,slow=4.9,SNR=6.6						

DJA 17 07:44:20.7±0.5, 2°.5±2°.×11°.9E±°, h10km, M3.6/6, MLv3.6/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.00**	**29**	P	Pg	07 44 39.8	-0.3
PCI				S	Sb	07 44 54.3	+0.8
TTSI	**Tana Toraja**	**1.33**	**159**	P	Pn	07 44 44.0	-1.4
TTSI				S	Sb	07 45 02.4	-0.5
MPSI	**Mapaga**	**2.18**	**15**	P	Pn	07 44 55.9	-1.2
SPSI	**Sidrap Palu**	**2.20**	**169**	P	Pn	07 44 57.1	-0.2
SPSI				S	Sn	07 45 25.6	+1.0
APSI	**Ampana**	**2.46**	**69**	P	Pn	07 45 01.4	+0.5
APSI				S	Sn	07 45 32.0	+1.0
BNSI	**Bone**	**2.70**	**164**	P	Pn	07 45 04.6	+0.4

MEX 17 07:50:14.7±0.3, 16°.80N×92°.00W, h29km±159km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.53**	**194**	*e*P	Pb	07 50 24.1	-1.7
CCIG				*e*S	Sb	07 50 31.1	-2.1
PCIG		**1.60**	**227**	*e*P	Pn	07 50 39.0	-2.0
PCIG				*e*S	Sn	07 50 58.0	-2.7
HUIG	**Huatulco**	**4.08**	**256**	*e*P	Pn	07 51 12.9	-2.2

IDC 17 08:09:44.1±2.5, 12°.24S×167°.20E, h258km±23km, mb3.9/16, mb1 4.0/18, mb1mx3.8/36, mbtmp4.4/18, Error ellipse: s-maj=20.8km s-min=13.0km az=131.0
NEIC 17 08:09:45.2±1.2, 12°.24S×167°.23E, h271km±11km, mb4.5/10, Error ellipse: s-maj=11.0km s-min=8.1km az=124.0

ISC 17 08:09:42.1±0.6, 12°.4S±0°.1×167°.5E±0°.1, h250km, n45, σ0592/46, mb4.3/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.94**	**291**	*e*Pn	**Pn**	**08 11 35.0**	**+0.1**
DZM	**Mont Dzumac**	**9.66**	**186**	P	**P**	**08 12 01.8**	**-1.0**
	0.5nm,0.3s,baz=35,slow=12,SNR=8.4						
DZM	**Mont Dzumac**	**9.66**	**186**	*e*Pn	**P**	**08 12 01.1**	**-1.7**
EIDS	**Eidsvold**	**20.12**	**228**	*e*P	Pn	08 13 59.9	-2.8
	50nm,0.6s						
PMG	**Port Moresby**	**20.15**	**276**	P	**P**	**08 13 56.7**	**-1.3**
	1.8nm,0.3s,baz=110,slow=12,SNR=5.6						
PMG	**Port Moresby**	**20.15**	**276**	*e*P	**P**	**08 13 57.5**	**-0.4**
	23nm,1.0s						
CTA	**Charters Tower**	**21.72**	**247**	P	**P**	**08 14 13.8**	**0.0**
	7.2nm,0.5s,baz=77,slow=11,SNR=19						
STKA	**Stephens Creek**	**30.67**	**227**	P	**P**	**08 15 34.5**	**+0.8**
	4.1nm,0.6s,baz=52,slow=10.0,SNR=11						
STKA	**Stephens Creek**	**30.67**	**227**	*e*P	**P**	**08 15 35.8**	**+2.1**
	6.0nm,1.8s						
WB2	**Warramunga Arr**	**32.62**	**252**	*e*P	**P**	**08 15 49.4**	**-1.5**
WR1	**Warramunga Arr**	**32.63**	**252**	*e*P	**P**	**08 15 50.0**	**-1.0**
	4.7nm,0.6s						
WRA	**Warramunga Arr**	**32.63**	**252**	P	**P**	**08 15 50.0**	**-1.1**
	3.2nm,0.5s,baz=85,slow=9.1,SNR=32						
AS31	**Alice Springs**	**33.72**	**246**	*e*P	**P**	**08 15 59.7**	**-0.8**
	1.8nm,0.8s						
ASAR	**Alice Springs**	**33.72**	**246**	P	**P**	**08 15 59.6**	**-0.8**
	3.5nm,0.4s,baz=70,slow=9.4,SNR=74						
ASAR				pP	**pP**	**08 16 52.4**	**+1.8**
	1.1nm,0.7s,baz=68,slow=9.9,SNR=4.3						
ASAR				ScP	**ScP**	**08 21 55.4**	**+0.6**
	1.6nm,1.2s,baz=54,slow=4.7,SNR=5.1						
BBOO	**Buckleboo**	**35.18**	**230**	*e*P	**P**	**08 16 13.9**	**+1.2**
	15nm,0.7s						
FORT	**Forrest**	**40.67**	**237**	*e*P	**P**	**08 16 59.3**	**+0.8**
	335nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.67**	**257**	P	**P**	**08 16 57.9**	**-0.7**
	2.6nm,0.3s,baz=62,slow=7.9						
FITZ	**Fitzroy Crossi**	**40.67**	**257**	*e*P	**P**	**08 16 58.6**	**0.0**
	9.0nm,1.0s						
MJAR	**Matsushiro Arr**	**55.95**	**332**	P	**P**	**08 18 53.1**	**-1.6**
	1.7nm,0.7s,baz=167,slow=8.7,SNR=6.0						
JNU	**Nakatsue**	**57.16**	**323**	P	**P**	**08 19 02.5**	**-0.8**
	3.4nm,0.6s,baz=108,slow=3.2,SNR=5.4						
JNU	**Nakatsue**	**57.16**	**323**	*e*P	**P**	**08 19 02.8**	**-0.5**
	20nm,1.5s						
ASAJ	**Asahikawa**	**60.64**	**340**	P	**P**	**08 19 26.9**	**+0.1**
	6.4nm,0.7s,baz=180,slow=5.1						
ASAJ	**Asahikawa**	**60.64**	**340**	*e*P	**P**	**08 19 24.3**	**-2.5**
	61nm,1.7s						
PETK	**Petropavlovsk-**	**65.79**	**354**	P	**P**	**08 20 00.9**	**+0.5**
	3.3nm,0.8s,baz=138,slow=6.1,SNR=3.3						
PEA1	**Petropavlovsk-**	**65.79**	**354**	*e*P	**P**	**08 20 00.9**	**+0.5**
KDAK	**Kodiak Island**	**77.24**	**21**	P	**P**	**08 21 09.1**	**+0.6**
	5.5nm,0.9s,baz=220,slow=7.9,SNR=5.2						
KDAK	**Kodiak Island**	**77.24**	**21**	*e*P	**P**	**08 21 09.1**	**+0.6**
	66nm,1.7s						
SONA0	**Songino Array**	**80.75**	**323**	*e*P	**P**	**08 21 28.1**	**+0.1**
SONM	**Songino Array**	**80.75**	**323**	P	**P**	**08 21 28.0**	**+0.1**
	0.5nm,0.4s,baz=144,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**84.28**	**18**	P	**P**	**08 21 45.6**	**+0.2**
	9.9nm,0.6s,baz=218,slow=5.5,SNR=226						
ILB	**Eielson Array**	**84.28**	**18**	*e*P	**P**	**08 21 45.7**	**+0.2**
PD31	**Pinedale Array**	**93.25**	**47**	*e*P	**P**	**08 22 28.5**	**-0.3**
PDAR	**Pinedale Array**	**93.25**	**47**	P	**P**	**08 22 28.9**	**+0.1**
	0.1nm,0.4s,baz=266,slow=1.4,SNR=2.9						
TXAR	**Lajitas Array**	**95.01**	**61**	P	P	08 22 38.9	+1.9
	0.4nm,0.7s,baz=228,slow=4.3,SNR=6.9						
YKA	**Yellowknife Ar**	**95.41**	**27**	P	**P**	**08 22 37.9**	**+0.1**
	0.7nm,0.4s,baz=258,slow=5.0,SNR=7.3						
YKB5	**Yellowknife Ar**	**95.41**	**27**	*e*P	**P**	**08 22 37.8**	**-0.1**
MK32	**Makanchi Array**	**95.66**	**317**	*e*P	**P**	**08 22 39.5**	**+0.1**
MKAR	**Makanchi Array**	**95.66**	**317**	P	**P**	**08 22 39.5**	**+0.1**
	2.4nm,0.7s,baz=91,slow=6.3,SNR=15						
ARA0	**ARCESS Array S**	**118.06**	**346**	*e*PKPdf	**PKPdf**	**08 27 59.2**	**+0.6**
ARCES	**ARCESS Array B**	**118.06**	**346**	PKP	**PKPdf**	**08 27 59.2**	**+0.6**
	2.2nm,0.6s,baz=78,slow=1.9,SNR=11						
FIA0	**FINESS Array S**	**123.64**	**339**	*e*PKPdf	**PKPdf**	**08 28 10.3**	**+0.7**
FINES	**FINESS Array B**	**123.64**	**339**	PKP	**PKPdf**	**08 28 10.3**	**+0.7**
	2.7nm,1.0s,baz=318,slow=1.9,SNR=4.6						
AKASG	**Malin Array Be**	**128.91**	**327**	PKKP	**PKKPdf**	**08 38 28.2**	**-0.1**
	0.5nm,0.3s,baz=228,slow=2.4,SNR=6.8						
KEST	**Kesra**	**149.50**	**323**	PKPbc	**PKPbc**	**08 29 01.8**	**-0.6**
	2.2nm,0.6s,baz=61,slow=4.6,SNR=2.7						
ESDC	**Sonseca Array**	**151.80**	**346**	PKPbc	**PKPbc**	**08 29 07.6**	**0.0**
	0.6nm,0.5s,baz=7.3,slow=3.4,SNR=4.8						
ESDC				PKPab	**PKPab**	**08 29 17.9**	**+0.4**
	0.3nm,0.3s,baz=17,slow=3.8,SNR=4.5						

DJA 17 08:15:04.3±0.6, 5°.N±4°.×9°.4E±°, h10km, M4.7/7, mB6.0/2, mb4.7/7, MLv4.8/7, Mw(mB)5.6/2
ISCJB 17 08:15:10.1±0.8, 5°.13N±0°.04×94°.35E±0°.06, h61km±8km, mb4.4/27, Error ellipse: s-maj=10.2km s-min=5.6km az=156.1
IDC 17 08:15:10.8±0.7, 5°.29N×94°.43E, h46km±5km, mb4.0/17, mb1 4.1/19, mb1mx3.9/53, mbtmp4.3/19, MS3.5/5, Ms1 3.6/5, ms1mx3.2/46, Error ellipse: s-maj=23.7km s-min=9.7km az=47.0
NEIC 17 08:15:11.8±0.6, 5°.22N×94°.37E, h58km±5km, mb4.6/13, Error ellipse: s-maj=7.6km s-min=4.4km az=49.0
NEIC Felt [III] at Banda Aceh.

ISC 17 08:15:10.3±0.6, 5°.13N±0°.06×94°.20E±0°.06, h47km±5km, h47km: pP-P, n92, σ1°.46/106, mb4.4/27, MS3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.36**	**111**	P	**Pn**	**08 15 47.9**	**+1.4**
MLSI				S	**Sn**	**08 16 19.7**	**+5.4**
LHMI	**Lhok Sumawe**	**2.74**	**88**	P	**Pn**	**08 15 51.5**	**-0.3**
LHMI				S	**Sn**	**08 16 29.4**	**+5.8**
LHMI	**Lhok Sumawe**	**2.74**	**88**	*e*Pn	**Pn**	**08 15 51.3**	**-0.5**
SNSI	**Sinabang, Aceh**	**3.43**	**142**	P	**Pn**	**08 16 00.4**	**-1.0**
SNSI				S	**Sn**	**08 16 39.7**	**-1.1**
TPTI		**3.50**	**122**	P	**Pn**	**08 16 02.1**	**-0.2**
TPTI				S	**Sn**	**08 16 46.5**	**+4.0**
KCSI	**Kotacane, Aceh**	**3.90**	**114**	P	**Pn**	**08 16 08.8**	**+1.0**
GSI	**Gunungsitoli**	**5.08**	**138**	*e*Pn	**Pn**	**08 16 25.6**	**+1.7**
PSI	**Prapat**	**5.25**	**116**	P	**Pn**	**08 16 27.2**	**+0.8**
	5.5nm,0.3s,baz=309,slow=13,SNR=22						
PSI				S	**Sn**	**08 17 23.9**	**-1.7**
	2.2nm,0.3s,baz=126,slow=18,SNR=1.9						
KRAB	**Krabi**	**5.84**	**58**	P	**Pn**	**08 16 33.4**	**-0.9**
TRTT	**Trang**	**6.08**	**63**	P	**Pn**	**08 16 35.7**	**-2.0**
KULM	**Kulim**	**6.42**	**88**	*e*Pn	**Pn**	**08 16 41.8**	**-0.7**
PBSI	**Pulau Batu**	**6.56**	**142**	P	**Pn**	**08 16 43.1**	**-1.3**
	118nm,1.4s,0.6nm						
IPM	**Ipoh**	**6.83**	**95**	*e*Pn	**Pn**	**08 16 48.0**	**0.0**
BKNI	**Bangkinang**	**8.33**	**125**	*e*Pn	**Pn**	**08 17 06.1**	**-2.4**
PDSI	**Padang**	**8.66**	**134**	P	**Pn**	**08 17 11.5**	**-1.7**
PHET	**Kaeng Krachan**	**9.41**	**34**	P	**Pn**	**08 17 23.3**	**0.0**
	7.3nm,0.7s,0.0nm						
PPSI	**Pulau Pagai**	**9.75**	**143**	P	**Pn**	**08 17 27.6**	**-0.5**
	628nm,0.7s,9μm						
CHBT	**CHBT**	**11.04**	**46**	P	**Pn**	**08 17 47.2**	**+1.6**
	202nm,0.7s,274μm						
NAYO	**Nakonayok**	**11.51**	**37**	P	**Pn**	**08 17 55.8**	**+3.7**
	8.2nm,1.2s						
SRAK	**Srakaew**	**11.73**	**41**	P	Pn	08 18 02.3	+7.2
UMPA	**Umpang Tak**	**11.92**	**22**	P	**Pn**	**08 17 57.6**	**-0.2**
PBKT	**Sadao Pong**	**13.17**	**30**	P	**Pn**	**08 18 16.5**	**+1.8**
	16nm,0.9s,1μm						
PALK	**Pallekele**	**13.59**	**280**	P	**Pn**	**08 18 23.7**	**+3.1**
	1.1nm,0.3s,baz=117,slow=13,SNR=4.7						
PALK				S	Sn	08 20 42.1	-8.2
	2.7nm,0.3s,baz=112,slow=5.5,SNR=15						
PALK				LR	LR	08 22 58.5	
	comp=Z,311nm,18.6s,baz=116,slow=34						
PALK	**Pallekele**	**13.59**	**280**	*e*Pn	**Pn**	**08 18 24.1**	**+3.5**
UTTA	**Uttaradit**	**13.99**	**26**	P	**P**	**08 18 32.5**	**-0.3**
	8.6nm,0.7s,81nm						
CMAR	**Chiang Mai Arr**	**14.04**	**19**	P	**Pn**	**08 18 26.6**	**0.0**
	2.1nm,0.3s,baz=208,slow=14,SNR=29						
CMAR				LR	LR	08 23 09.4	
	comp=Z,129nm,20.7s,baz=195,slow=35						
LAMP	**Lampang**	**14.33**	**21**	P	**P**	**08 18 35.9**	**-0.7**
	11nm,0.7s						
CHTO	**Chiang Mai**	**14.37**	**18**	P	**P**	**08 18 33.9**	**-3.1**
PKI	**Pulchoki**	**23.84**	**340**	*e*P	**P**	**08 20 19.6**	**-0.1**
	12nm,0.5s						
PKIN	**Phulchoki**	**23.85**	**340**	*e*P	**P**	**08 20 20.1**	**+0.4**
	12nm,0.4s						
DMN	**Daman**	**23.98**	**340**	*e*P	**P**	**08 20 20.8**	**0.0**
	15nm,0.7s						
GUN	**Gumba**	**24.00**	**342**	*e*P	**P**	**08 20 19.9**	**-1.3**
	33nm,0.6s						
KKN	**Kakani**	**24.08**	**340**	*e*P	**P**	**08 20 21.9**	**+0.1**
	17nm,0.7s						
GKN	**Gorkha**	**24.50**	**339**	*e*P	**P**	**08 20 24.3**	**-1.2**
	12nm,0.3s						
LSA	**Lhasa**	**24.61**	**354**	*e*P	**P**	**08 20 27.4**	**+0.6**
	13nm,0.6s						
KOLN	**Koldanda**	**24.68**	**337**	*e*P	**P**	**08 20 27.7**	**+0.5**
	24nm,0.6s						
H08S3	**Diego Garcia H**	**25.10**	**240**	T	T	08 46 32.5	
	baz=60,slow=75,SNR=404						
H08S2	**Diego Garcia H**	**25.10**	**240**	T	T	08 46 23.9	
	baz=60,slow=75,SNR=594						
H08S1	**Diego Garcia H**	**25.12**	**240**	T	T	08 46 26.7	
	baz=60,slow=75,SNR=410						
PYUN	**Piuthan**	**25.21**	**336**	*e*P	**P**	**08 20 32.7**	**+0.7**
	40nm,0.4s						
FITZ	**Fitzroy Crossi**	**38.66**	**127**	P	**P**	**08 22 28.8**	**-0.9**
	4.5nm,0.9s,baz=304,slow=8.5,SNR=6.3						
FITZ	**Fitzroy Crossi**	**38.66**	**127**	*e*P	**P**	**08 22 29.2**	**-0.5**
	6.7nm,1.1s						
MK01	**Makanchi Array**	**42.74**	**348**	*e*P	**P**	**08 23 03.0**	**0.0**
MK31	**Makanchi Array**	**42.77**	**348**	*e*P	**P**	**08 23 03.3**	**+0.1**
MK32	**Makanchi Array**	**42.77**	**348**	*e*P	**P**	**08 23 03.4**	**+0.1**
MK32				*e*PcP	**PcP**	**08 24 53.6**	**-0.4**
MKAR	**Makanchi Array**	**42.77**	**348**	P	**P**	**08 23 03.4**	**+0.1**
	17nm,0.7s,baz=168,slow=7.8,SNR=101						
MKAR				PcP	**PcP**	**08 24 53.6**	**-0.4**
	0.3nm,0.4s,baz=188,slow=4.0,SNR=3.0						
MKAR	**Makanchi Array**	**42.77**	**348**	*e*P	**P**	**08 23 03.3**	**+0.1**
	98nm,0.6s						
MKAR				PcP	**PcP**	**08 24 53.6**	**-0.4**
MAKZ	**Makanchi**	**42.85**	**348**	*e*P	**P**	**08 23 03.7**	**-0.1**
	18nm,0.6s						
KKAR	**Karatay Array**	**43.24**	**335**	*e*P	**P**	**08 23 08.0**	**+0.9**
	25nm,0.5s						
SONA0	**Songino Array**	**43.82**	**12**	*e*P	**P**	**08 23 10.6**	**-1.2**
SONA0				*e*pP	**pP**	**08 23 22.8**	**-1.8**
SONA0				*e*PcP	**PcP**	**08 24 57.0**	**-0.7**
SONM	**Songino Array**	**43.82**	**12**	P	**P**	**08 23 10.6**	**-1.2**
	2.6nm,0.7s,baz=196,slow=9.7,SNR=12						
SONM				pP	**pP**	**08 23 22.8**	**-1.8**
	4.8nm,1.0s,baz=194,slow=8.5,SNR=8.8						
SONM				PcP	**PcP**	**08 24 57.0**	**-0.7**
	1.2nm,0.5s,baz=191,slow=3.5,SNR=4.1						
SONA1	**Songino Array**	**43.83**	**12**	*e*P	**P**	**08 23 10.5**	**-1.5**
ULN	**Ulaanbaatar**	**43.98**	**12**	*e*P	**P**	**08 23 12.0**	**-1.2**
	2.7nm,0.6s						
KS15	**Wonju Array Si**	**44.48**	**39**	*e*P	**P**	**08 23 16.2**	**-1.0**
KSAR	**Wonju Array Be**	**44.48**	**39**	P	**P**	**08 23 16.1**	**-1.0**
KSRS	**Korea Array**	**44.52**	**39**	P	**P**	**08 23 16.1**	**-1.3**
	1.1nm,0.6s,baz=214,slow=8.7,SNR=4.7						
KSRS				LR	LR	08 44 17.4	
	comp=Z,67nm,18.6s,baz=260,slow=40						
GEYT	**Alibeck**	**46.30**	**320**	P	**P**	**08 23 33.2**	**+1.6**
	3.0nm,0.8s,baz=133,slow=8.5,SNR=4.4						
WR1	**Warramunga Arr**	**46.66**	**124**	*e*P	**P**	**08 23 34.8**	**+0.1**
WR1				*e*pP	**pP**	**08 23 46.9**	**-0.6**
WRA	**Warramunga Arr**	**46.66**	**124**	P	**P**	**08 23 34.8**	**+0.1**
	5.3nm,0.7s,baz=303,slow=9.1,SNR=36						
WRA				pP	**pP**	**08 23 46.9**	**-0.6**
	5.0nm,0.6s,baz=302,slow=9.3,SNR=8.8						
WRAB	**Tennant Creek**	**46.67**	**123**	*e*P	**P**	**08 23 34.9**	**+0.2**
	8.8nm,0.6s						
WB2	**Warramunga Arr**	**46.67**	**124**	*e*P	**P**	**08 23 35.0**	**+0.3**
KURK	**Kurchatov**	**47.28**	**347**	*e*P	**P**	**08 23 39.5**	**+0.6**
	10nm,0.8s						
ASAR	**Alice Springs**	**48.15**	**128**	P	**P**	**08 23 46.5**	**+0.4**
	1.1nm,0.4s,baz=300,slow=7.5,SNR=31						
ASAR				pP	**pP**	**08 23 59.8**	**+0.7**
	2.7nm,0.5s,baz=303,slow=7.9,SNR=9.4						
ASAR				PcP	**PcP**	**08 25 13.5**	**+0.3**
	0.6nm,0.4s,baz=317,slow=2.9,SNR=3.1						
AS31	**Alice Springs**	**48.15**	**128**	*e*P	**P**	**08 23 46.7**	**+0.5**
	1.0nm,0.6s						
ZAA0	**Zalesovo Array**	**49.27**	**353**	*e*P	**P**	**08 23 54.4**	**+0.2**
ZALV	**Zalesovo Beam**	**49.27**	**353**	P	**P**	**08 23 54.3**	**+0.1**
	8.6nm,0.5s,baz=170,slow=7.0,SNR=19						
ZALV				pP	**pP**	**08 24 06.3**	**-0.9**
	3.0nm,0.4s,baz=178,slow=7.5,SNR=3.6						
ZAA1	**Zalesovo Array**	**49.27**	**353**	*e*P	**P**	**08 23 54.3**	**+0.1**
ZAA1				*e*pP	**pP**	**08 24 06.3**	**-0.9**
MJAR	**Matsushiro Arr**	**50.98**	**46**	LR	LR	08 46 45.7	
	comp=Z,38nm,20.9s,baz=285,sl

YSS	**Yuzh-Sakhalins**	**2.78**	**277**	*e*P	**Pn**	**08 26 22.5**	**+3.9**
YSS				AMB	AMB	08 26 23.2	
	50nm,0.7s						
SHO	**Shikotan**	**2.81**	**179**	*e*P	**Pn**	**08 26 18.9**	**0.0**
SHO				AMB	AMB	08 26 20.5	
	44nm,0.3s						
SHO				*e*S	**S**	**08 27 02.3**	**-2.1**
SHO				A	A	08 27 02.8	
	330nm,0.5s						
SHO				A	A	08 27 02.8	
	180nm,0.5s						
JTKR	**Abashiri--Toko**	**3.38**	**218**	P	**Pn**	**08 26 27.1**	**+2.8**
NEM2	**Nemuro 2**	**3.39**	**193**	P	**Pn**	**08 26 24.5**	**+0.1**
NEM2				*e*S	**S**	**08 27 12.6**	**-1.7**
JSE	**Soyaes**	**3.40**	**241**	P	**Pn**	**08 26 28.0**	**+3.6**
ASAJ	**Asahikawa**	**3.91**	**231**	P	**Pn**	**08 26 33.1**	**+3.5**
	5.3nm,0.3s,baz=57,slow=12,SNR=32						
ASAJ	**Asahikawa**	**3.91**	**231**	P	**Pn**	**08 26 33.3**	**+3.8**
UGL	**Uglegorsk**	**3.98**	**309**	*e*P	**Pn**	**08 26 32.3**	**+2.2**
JAR	**Ashorobuto**	**4.00**	**213**	P	**Pn**	**08 26 33.0**	**+2.5**
JCH	**Churui**	**4.74**	**212**	P	**Pn**	**08 26 39.4**	**+1.0**
JCH				*e*S	**S**	**08 27 38.7**	**-1.2**
TYV	**Tymovskoe**	**5.00**	**328**	*e*P	**Pn**	**08 26 39.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**5.26**	**215**	P	**Pn**	**08 26 44.7**	**+0.5**
JNBK				*e*S	**S**	**08 27 48.3**	**-2.1**
JKB	**Kayabe**	**6.32**	**223**	P	**Pn**	**08 26 57.1**	**+0.7**
JKB				*e*S	**S**	**08 28 09.7**	**-2.9**
JOT	**Ohata**	**6.72**	**220**	P	**Pn**	**08 27 01.1**	**+0.1**
JOT				*e*S	**S**	**08 28 16.9**	**-4.2**
JANG	**Nango**	**7.37**	**213**	P	**Pn**	**08 27 08.8**	**0.0**
JANG				*e*S	**S**	**08 28 30.9**	**-4.4**
PETK	**Petropavlovsk-**	**9.53**	**44**	P	**Pn**	**08 27 34.0**	**-0.4**
	0.2nm,0.3s,baz=239,slow=5.7,SNR=4.0						
USRK	**Ussuriysk Ar.**	**10.69**	**262**	P	**Pn**	**08 27 49.0**	**+0.6**
	0.5nm,0.3s,baz=61,slow=12,SNR=4.9						
MJAR	**Matsushiro Arr**	**11.98**	**215**	P	**P**	**08 28 06.2**	**+1.9**
	0.3nm,0.3s,baz=22,slow=11,SNR=3.9						
KSRS	**Korea Array**	**16.73**	**243**	P	**P**	**08 28 57.0**	**+0.8**
	0.2nm,0.3s,baz=52,slow=11,SNR=3.3						
SONM	**Songino Array**	**27.22**	**287**	P	**P**	**08 30 35.1**	**-1.1**
	0.2nm,0.3s,baz=93,slow=8.7,SNR=2.3						
ILAR	**Eielson Array**	**39.31**	**38**	P	**P**	**08 32 18.0**	**-1.2**
	1.3nm,0.7s,baz=269,slow=7.5,SNR=20						
MKAR	**Makanchi Array**	**43.06**	**295**	P	**P**	**08 32 49.5**	**-0.3**
	1.2nm,0.6s,baz=69,slow=7.5,SNR=13						
KURBB	**Kurchatov Arra**	**43.82**	**301**	P	**P**	**08 32 55.2**	**-0.4**
	2.4nm,0.6s,baz=70,slow=8.7,SNR=13						
INK	**Inuvik**	**44.03**	**32**	P	**P**	**08 32 55.3**	**-1.7**
	1.4nm,0.3s,baz=302,slow=9.0,SNR=23						
BVAR	**Borovoye Array**	**47.49**	**307**	P	**P**	**08 33 23.0**	**-1.0**
	0.5nm,0.3s,baz=67,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**62.16**	**332**	P	**P**	**08 35 06.6**	**-1.4**
	5.4nm,1.1s,baz=52,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**67.25**	**193**	P	**P**	**08 35 42.6**	**+1.5**
	0.5nm,0.7s,baz=7.8,slow=6.9,SNR=2.6						
PDAR	**Pinedale Array**	**68.23**	**50**	P	**P**	**08 35 47.5**	**+0.2**
	0.7nm,0.5s,baz=23,slow=0.6,SNR=14						
ASAR	**Alice Springs**	**70.98**	**192**	P	**P**	**08 36 06.3**	**+2.6**
	0.1nm,0.3s,baz=9.8,slow=6.0,SNR=7.3						
TXAR	**Lajitas Array**	**81.24**	**56**	P	**P**	**08 37 02.0**	**+0.6**
	0.3nm,0.5s,baz=298,slow=3.8,SNR=7.6						

*JMA **17** 08:40:16.5±0.2, 43°.09N×148°.03E, h6km, M4.1*
*SKHL **17** 08:40:17.9±0.7, 44°.32N×148°.14E, h33km±2km, mb4.6/3*
ISC 17 08:40:11.6±2.8, 44°.22N±0°.08×148°.2E±0°.1, h1km±14km, n13, σ1§77/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.04**	**251**	*e*P	**Pn**	**08 40 35.0**	**+1.7**
SHO				AMB	AMB	08 40 35.4	
	118nm,0.3s						
SHO				*i* S	**Sn**	**08 40 47.4**	**-1.1**
SHO				A	A	08 40 47.9	
	180nm,0.2s						
SHO				A	A	08 40 47.9	
	2μm,0.2s						
KUR	**Kuril'sk**	**1.04**	**347**	*i* P	**Pn**	**08 40 33.7**	**+0.3**
KUR				AMB	AMB	08 40 34.1	
	440nm,0.3s						
KUR				*i* S	**Sg**	**08 40 45.3**	**+0.2**
KUR				A	A	08 40 48.0	
	779nm,0.2s						
KUR				A	A	08 40 48.0	
	340nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.69**	**265**	*i* P	**Pg**	**08 40 44.2**	**+0.3**
YUK				AMB	AMB	08 40 45.9	
	320nm,0.3s						
YUK				*i* S	**Sb**	**08 41 04.5**	**-0.7**
YUK				A	A	08 41 08.3	
	580nm,0.3s						
YUK				A	A	08 41 08.3	
	700nm,0.3s						
NEM2	**Nemuro 2**	**1.97**	**245**	P	**Pb**	**08 40 47.7**	**-0.5**
NEM2				*e*S	**Sn**	**08 41 10.3**	**-1.1**
JRA	**Rausu**	**2.23**	**264**	P	**Pb**	**08 40 52.7**	**0.0**
JRA				*e*S	**Sb**	**08 41 19.6**	**-1.2**
JNK	**Nakash**	**2.59**	**257**	P	**Pb**	**08 40 57.3**	**-1.5**
JNK				*e*S	**Sn**	**08 41 27.1**	**+0.4**
JAK	**Akkeshi**	**2.81**	**246**	P	**Pb**	**08 40 59.9**	**-2.8**
JAK				*e*S	**Sn**	**08 41 31.1**	**-1.2**
JTKR	**Abashiri--Toko**	**3.09**	**267**	P	**Pb**	**08 41 06.3**	**-1.1**
JAR	**Ashorobuto**	**3.33**	**256**	P	**Pb**	**08 41 08.4**	**-3.1**
JAR				*e*S	**Sn**	**08 41 46.4**	**+1.3**
JCH	**Churui**	**3.86**	**247**	*e*S	**Sn**	**08 41 58.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.70**	**308**	*e*P	**Pn**	**08 41 26.2**	**+2.6**
JKB	**Kayabe**	**5.74**	**249**	P	**Pn**	**08 41 41.1**	**+3.2**
JKB				*e*S	**Sn**	**08 42 43.9**	**-0.5**
JOT	**Ohata**	**5.97**	**244**	P	**Pn**	**08 41 43.8**	**+2.7**
JOT				*e*S	**Sn**	**08 42 48.2**	**-1.9**

*ISCJB **17** 08:49:12.7±0.4, 39°.09N±0°.02×27°.56E±0°.04, h0km, Error ellipse: s-maj=4.2km s-min=3.2km az=153.0*
*DDA **17** 08:49:12.2, 39°.09N×27°.52E, h7km, Md2.5, Suspected Mining explosion.*
*CSEM **17** 08:49:13.2±0.3, 39°.11N×27°.59E, h1km, MD2.9, Error ellipse: s-maj=8.3km s-min=5.7km az=61.0, Suspected Mining explosion.*
*ISK **17** 08:49:13.8, 39°.09N×27°.73E, h20km, MD2.9*
ISC 17 08:49:12.6±0.8, 39°.14N±0°.02×27°.62E±0°.02, h0km, n28, σ1§03/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.25**	**18**	*i* P	**Pg**	**08 49 18.3**	**+0.8**
STEP				*i* S	**Sb**	**08 49 24.3**	**-0.8**
AKHS	**Akhisar**	**0.30**	**149**	*i* P	**Pg**	**08 49 18.4**	**0.0**
AKHS				*i* S	**Sg**	**08 49 23.8**	**+1.5**
AKHS	**Akhisar**	**0.30**	**149**	P	**Pg**	**08 49 18.4**	**0.0**
AKHS				S	**Sg**	**08 49 23.8**	**+1.5**
AKS	**Akhisar**	**0.30**	**149**	*e*PG	**Pg**	**08 49 18.9**	**+0.5**
AKS				*e*SG	**Sg**	**08 49 23.7**	**+1.5**
AKS	**Akhisar**	**0.30**	**149**	*e*Pg	**Pg**	**08 49 18.9**	**+0.5**
AKS				*e*Sg	**Sg**	**08 49 23.7**	**+1.5**
BALB	**Balikesir**	**0.54**	**22**	*e*PG	**Pb**	**08 49 25.9**	**+0.8**
BALB				*e*SG	**Sb**	**08 49 34.3**	**+0.9**
BALB	**Balikesir**	**0.54**	**22**	*e*Pg	**Pb**	**08 49 25.9**	**+0.8**
BALB				*e*Sg	**Sb**	**08 49 34.3**	**+0.9**
BALY	**Balya**	**0.60**	**0**	*i* P	**Pg**	**08 49 24.8**	**+0.6**
BALY	**Balya**	**0.60**	**0**	P	**Pg**	**08 49 24.8**	**+0.6**
DEMI	**Demirci**	**0.86**	**96**	*i* P	**Pb**	**08 49 31.1**	**+0.6**
DEMI				*i* S	**Sb**	**08 49 43.3**	**+0.7**
DEMI	**Demirci**	**0.86**	**96**	P	**Pb**	**08 49 31.1**	**+0.6**
DEMI				S	**Sb**	**08 49 43.3**	**+0.7**
MANT	**Manisa**	**0.98**	**131**	*i* P	**Pb**	**08 49 32.9**	**+0.3**
MANT	**Manisa**	**0.98**	**131**	P	**Pb**	**08 49 32.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.02**	**306**	*i* P	**Pg**	**08 49 31.4**	**-0.9**
BAYC				*i* S	**Sb**	**08 49 48.1**	**+0.8**
KULA	**Kula-Manisa**	**1.03**	**127**	*e*PG	**Pg**	**08 49 32.2**	**-0.1**
KULA				*e*SG	**Sg**	**08 49 45.5**	**0.0**
KULA	**Kula-Manisa**	**1.03**	**127**	*e*Pg	**Pg**	**08 49 32.2**	**-0.1**
KULA				*e*Sg	**Sg**	**08 49 45.6**	**0.0**
SIMA	**Simav-Kutahya**	**1.06**	**92**	*e*PG	**Pg**	**08 49 33.1**	**0.0**
EDC	**Edincik**	**1.22**	**9**	*e*PN	**Pn**	**08 49 37.1**	**+0.1**
EDC				*e*SN	**Sn**	**08 49 53.9**	**-0.4**
EDC	**Edincik**	**1.22**	**9**	*e*Pn	**Pn**	**08 49 37.1**	**+0.1**
EDC				*e*Sn	**Sn**	**08 49 53.9**	**-0.4**
DGB	**˜zmir**	**1.23**	**208**	*i* P	**Pg**	**08 49 34.6**	**-1.5**
DGB				*i* S	**Sg**	**08 49 50.0**	**-2.0**
SIGR	**SIGRI**	**1.37**	**274**	*e*PN	**Pb**	**08 49 40.1**	**+0.9**
SIGR	**SIGRI**	**1.37**	**274**	*e*Pn	**Pb**	**08 49 40.1**	**+0.9**
CHOS	**Chios island**	**1.43**	**239**	*e*PN	**Pg**	**08 49 40.1**	**0.0**
CHOS	**Chios island**	**1.43**	**239**	*e*Pn	**Pg**	**08 49 40.1**	**0.0**
GDZ	**Gediz**	**1.45**	**91**	*i* P	**Pg**	**08 49 40.5**	**0.0**
GDZ	**Gediz**	**1.45**	**91**	P	**Pg**	**08 49 40.5**	**0.0**
TVSB	**Tavsanli**	**1.47**	**77**	*e*PN	**Pn**	**08 49 39.2**	**-1.2**
TVSB				*e*SN	**Sg**	**08 49 56.9**	**-2.8**
TVSB	**Tavsanli**	**1.47**	**77**	*e*Pn	**Pn**	**08 49 39.2**	**-1.2**
TVSB				*e*Sn	**Sg**	**08 49 56.9**	**-2.8**

IDC 17 09:12:16.7±8.7, 9°.65S×124°.73E, h125km±66km, mb3.9/1, mb1 3.4/4, mb1mx3.1/56, mbtmp3.6/4, Error ellipse: s-maj=69.1km s-min=60.7km az=33.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.45**	**174**	P	Pn	09 14 15.8	-0.4
	0.3nm,0.3s,baz=3.5,slow=13,SNR=9.4						
FITZ				S	Sn	09 15 50.8	+0.9
	1.2nm,0.3s,baz=198,slow=12,SNR=13						
WRA	**Warramunga Arr**	**13.81**	**139**	P	Pn	09 15 27.7	+0.4
	0.2nm,0.3s,baz=320,slow=13,SNR=8.3						
WRA				S	Sn	09 18 01.3	+1.5
	0.5nm,0.3s,baz=310,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**16.46**	**149**	P	P	09 16 01.9	+1.0
	0.0nm,0.3s,baz=327,slow=13,SNR=5.7						
ASAR				S	Sn	09 19 02.5	-1.2
	0.0nm,0.3s,baz=312,slow=21,SNR=3.0						
STKA	**Stephens Creek**	**27.08**	**147**	P	P	09 17 47.4	-0.3
	2.1nm,0.6s,baz=321,slow=11,SNR=6.3						

*NIED **17** 09:15:00, 37°.80N×141°.90E, h8km, Mw4.2 Best double couple: M0:2.07000×10^15 NP1:φ=136.00000°, δ=42.00000°, λ=-69.00000°. NP2:φ=288.00000°, δ=51.00000°, λ=-108.00000°.*
*BJI **17** 09:15:17.3, 37°.28N×142°.27E, h26km, mb4.6/27, mB4.9/15, Ms4.3/13, Ms7 4.1/8*
*ISCJB **17** 09:15:18.8±0.7, 37°.74N±0°.02×141°.98E±0°.04, h17km±4km, mb4.5/50, MS3.8/5, Error ellipse: s-maj=5.4km s-min=3.7km az=27.4*
*IDC **17** 09:15:18.2±0.6, 37°.76N×141°.86E, h0km, mb4.2/21, mb1 4.3/24, mb1mx4.2/68, mbtmp4.2/24, ML4.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/42, Error ellipse: s-maj=18.1km s-min=13.6km az=87.0*
*JMA **17** 09:15:19.9±0.1, 37°.73N×141°.93E, h25km±2km, M4.3*
JMA Felt I J1.
*MOS **17** 09:15:21.3±0.9, 37°.78N×141°.87E, h33km, mb4.4/22, Error ellipse: s-maj=10.4km s-min=7.1km az=102.5*
*NEIC **17** 09:15:23.4±0.5, 37°.74N×141°.89E, h35km±4km, mb5.0/14, Error ellipse: s-maj=5.1km s-min=4.2km az=106.0*
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi.
ISC 17 09:15:18.5±1.2, 37°.74N±0°.03×142°.00E±0°.04, h4km±7km, n138, σ1§70/149, mb4.5/50, MS3.8/5, 10C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.88**	**325**	P	**Pg**	**09 15 35.7**	**+0.3**
JIO				S	**Sg**	**09 15 46.8**	**0.0**
JMM	**Marumori**	**0.96**	**278**	P	**Pg**	**09 15 36.5**	**-0.4**
JMM				S	**Sg**	**09 15 48.3**	**-1.1**
JFK	**Kawauchi**	**0.96**	**248**	P	**Pg**	**09 15 36.8**	**-0.2**
JFK				S	**Sg**	**09 15 48.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.14**	**237**	P	**Pg**	**09 15 39.5**	**-0.9**
ONAJ				S	**Sg**	**09 15 53.3**	**-2.0**
JOU	**Okura**	**1.22**	**301**	P	**Pg**	**09 15 41.5**	**-0.4**
JOU				S	**Sg**	**09 15 56.6**	**-1.2**
JFT	**Otama**	**1.33**	**261**	P	**Pn**	**09 15 42.9**	**-0.9**
JFT				S	**Sb**	**09 15 59.4**	**-2.1**
JMK	**Ichinoseki**	**1.36**	**334**	P	**Pn**	**09 15 43.2**	**-0.9**
JMK				S	**Sb**	**09 15 59.9**	**-2.2**
OFUJ	**Ofunato**	**1.36**	**349**	P	**Pn**	**09 15 42.9**	**-1.4**
OFUJ				*e*S	**Sb**	**09 15 58.9**	**-3.5**
JYS	**Shiratake**	**1.60**	**288**	P	**Pn**	**09 15 47.6**	**+0.1**
JYS				*e*S	**Sn**	**09 16 07.2**	**-1.4**
JYK	**Kaneyama**	**1.75**	**313**	P	**Pn**	**09 15 49.1**	**-0.4**
JYK				S	**Sn**	**09 16 10.8**	**-1.3**
JOM	**Ohasama**	**1.82**	**343**	P	**Pn**	**09 15 50.1**	**-0.4**
JFY	**Yanaizu**	**1.85**	**260**	P	**Pn**	**09 15 50.8**	**-0.1**
JFY				*e*S	**Sn**	**09 16 13.4**	**-1.3**
MJAR	**Matsushiro Arr**	**3.25**	**250**	Pn	**Pn**	**09 16 10.8**	**+0.5**
	29nm,0.3s,baz=82,slow=16,SNR=156						
MJAR				Sn	**Sb**	**09 16 53.7**	**-3.0**
	20nm,0.3s,baz=80,slow=28,SNR=4.7						
MAJO	**Matsushiro**	**3.25**	**250**	*c i* P	**Pn**	**09 16 11.1**	**+0.9**
MAJO	**Matsushiro**	**3.25**	**250**	*e*Pn	**Pn**	**09 16 11.4**	**+1.1**
MAT	**Matsushiro**	**3.25**	**250**	P	**Pn**	**09 16 11.2**	**+1.0**
MAT				S	**Sn**	**09 16 51.2**	**+1.8**
MJB9	**Matsu-Tunnel**	**3.25**	**250**	*e*Pn	**Pn**	**09 16 11.7**	**+1.4**
INU	**Inuyama**	**4.66**	**241**	*e*Pn	**Pn**	**09 16 31.3**	**+1.7**
JHJ2	**Mitsune**	**4.95**	**202**	*e*Pn	**Pn**	**09 16 34.3**	**+0.9**
JHJ	**Hachijo jima 2**	**4.95**	**202**	Pn	**Pn**	**09 16 33.7**	**+0.2**
	44nm,0.3s,baz=70,slow=23,SNR=31						
JHJ				Sn	**Sn**	**09 17 28.5**	**-2.7**
	60nm,0.3s,baz=31,slow=23,SNR=7.9						
ASAJ	**Asahikawa**	**6.39**	**4**	Pn	**Pn**	**09 16 54.0**	**+0.7**
	2.7nm,0.3s,baz=203,slow=8.8,SNR=9.7						
ASAJ				Sn	**Sn**	**09 18 05.7**	**-1.0**
	baz=66,slow=20						
ASAJ	**Asahikawa**	**6.39**	**4**	*e*Pn	**Pn**	**09 16 53.7**	**+0.4**
ASAJ				*e*Sn	**Sn**	**09 18 05.7**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.94**	**24**	*e*P	**Pn**	**09 17 02.7**	**+1.9**
YUK				*e*S	**Sn**	**09 18 14.6**	**-5.5**
YUK				pmax	pmax		
	comp=Z,150nm,0.5s						
YUK				pmax	pmax		
	comp=N,90nm,0.3s						
YUK				pmax	pmax		
	comp=E,81nm,0.3s						
SHO	**Shikotan**	**7.14**	**29**	*e*P	**Pn**	**09 17 01.2**	**-2.4**
SHO				pmax	pmax		
	comp=Z,67nm,0.4s						
KUR	**Kuril'sk**	**8.69**	**29**	*e*P	**Pn**	**09 17 28.3**	**+3.5**
KUR				*e*S	**Sn**	**09 18 58.4**	**-4.7**
KUR				pmax	pmax		
	comp=Z,49nm,0.5s						
KUR				smax	smax		
	comp=N,107nm,0.5s						
KUR				smax	smax		
	comp=E,27nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.23**	**3**	*e*P	Pn	09 17 39.8	+7.6
YSS				pmax	pmax		
	comp=Z,50nm,1.5s						
YSS	**Yuzh-Sakhalins**	**9.23**	**3**	*e*Pn	**Pn**	**09 17 33.9**	**+1.7**
MSHR	**Mys Shultsa**	**9.60**	**304**	*e*P	**Pn**	**09 17 37.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.94**	**314**	Pn	Pn	09 17 47.4	+5.4
	comp=Z,0.7nm,0.3s,baz=118,slow=14,SNR=7.0						
KSRS	**Korea Array**	**11.17**	**273**	Pn	Pn	09 18 07.7	+8.9
	comp=Z,0.3nm,0.3s,baz=83,slow=15,SNR=6.7						
KSRS				LR	LR	09 21 45.8	
	comp=Z,49nm,20.2s,baz=217,slow=35						
KS15	**Wonju Array Si**	**11.20**	**273**	*e*Pn	**Pn**	**09 17 59.4**	**+0.1**
KSAR	**Wonju Array Be**	**11.20**	**273**	P	Pn	09 18 07.7	+8.4
KSAR	**Wonju Array Be**	**11.20**	**273**	Pn	Pn	09 18 07.7	+8.4
MDJ	**Mudanjiang**	**11.59**	**310**	P	Pn	09 18 13.3	+8.7
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.8s						
MDJ	**Mudanjiang**	**11.59**	**310**	*e*Pn	**Pn**	**09 18 05.9**	**+1.3**
MDJ				*e*Pn	Pn	09 18 15.8	+11
PETK	**Petropavlovsk-**	**18.85**	**30**	LR	LR	09 26 43.0	
	comp=Z,37nm,21.1s,baz=231,slow=36						
PET	**Petropavlovsk**	**19.18**	**32**	*e*P	**Pn**	**09 19 44.6**	**+1.0**
PET				pmax	pmax		
	comp=Z,73nm,1.7s						
NJ2	**Nanjing**	**19.79**	**260**	*e*P	**Pn**	**09 19 50.9**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.70**	**287**	*e*P	**P**	**09 20 30.8**	**-0.5**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,92nm,8.6s						
YAK	**Yakutsk**	**25.49**	**346**	*e*P	**P**	**09 20 49.1**	**+1.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SEY	**Seymchan**	**26.01**	**11**	*e*P	**P**	**09 20 52.9**	**+0.7**
XAN	**Xi'an**	**26.97**	**272**	P	**P**	**09 21 07.8**	**+6.6**
XAN				pP	sP	09 21 14.3	+11
XAN				pmax	pmax		
	comp=Z,15nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,5.7s						
ULN	**Ulaanbaatar**	**27.35**	**303**	*e*P	**P**	**09 21 02.1**	**-2.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SONA0	**Songino Array**	**27.79**	**303**	*e*P	**P**	**09 21 08.7**	**+0.2**
	comp=Z,17nm,1.8s						
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**09 21 08.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=87,slow=8.9,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.12**	**123**	T	T	09 50 40.8	
	baz=315,slow=75,SNR=2362						
H11N1	**WAKE ISLAND Hy**	**28.13**	**123**	T	T	09 50 43.3	
	baz=315,slow=75,SNR=1863						
H11N3	**WAKE ISLAND Hy**	**28.14**	**123**	T	T	09 50 42.2	
	baz=315,slow=75,SNR=2398						
H11S1	**WAKE ISLAND Hy**	**28.87**	**125**	T	T	09 51 38.9	
	baz=317,slow=76,SNR=1667						
H11S3	**WAKE ISLAND Hy**	**28.87**	**125**	T	T	09 51 38.5	
	baz=317,slow=76,SNR=1657						
H11S2	**WAKE ISLAND Hy**	**28.88**	**125**	T	T	09 51 35.2	
	baz=317,slow=76,SNR=1419						
LZH	**Lanzhou**	**30.41**	**279**	*e*P	**P**	**09 21 31.6**	**-0.4**
LZH				pP	sP	09 21 39.3	+5.4
LZH				sP	pP	09 21 42.5	+9.2
LZH				PP	**PnPn**	**09 22 30.4**	**+0.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,4.7s						
LZH				LR	LR		
	comp=Z,220nm,12.3s						
LZH				LR	LR		
	comp=Z,220nm,13.0s						
LZH				LR	LR		
	comp=Z,290nm,15.8s						
GYA	**Guiyang**	**31.80**	**260**	*e*P	**P**	**09 21 44.0**	**-0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**32.14**	**269**	*e*P	**P**	**09 21 45.5**	**-1.6**
GTA	**Gaotai**	**32.80**	**286**	*e*P	P	09 21 59.1	+6.2
GTA				pP	sP	09 22 06.4	+12
GTA				sP	pP	09 22 09.8	+15
GTA				S	**S**	**09 27 18.8**	**+8.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,92nm,5.9s						
GTA				LR	LR		
	comp=Z,83nm,15.2s						
GTA				LR	LR		
	comp=Z,120nm,15.7s						
GTA				LR	LR		
	comp=Z,140nm,16.6s						
TIXI	**Tiksi**	**34.65**	**353**	P	**P**	**09 22 08.9**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=137,slow=5.7,SNR=3.6						
MIDW	**Midway**	**35.16**	**94**	P	**P**	**09 22 14.0**	**+0.8**
KMI	**Kunming**	**35.53**	**261**	P	**P**	**09 22 16.3**	**-0.5**
KMI				pP	sP	09 22 22.6	+3.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DGZ	**Jazzator, Alta**	**40.36**	**305**	*e*P	**P**	**09 22 57.9**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WMQ	**Urumqi**	**40.94**	**296**	P	**P**	**09 23 03.4**	**+1.4**
WMQ				pP	sP	09 23 11.3	+7.3
WMQ				sP	pP	09 23 13.9	+10
WMQ				pmax	pmax		
	comp=Z,21nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,89nm,5.1s						
WMQ				LR	LR		
	comp=Z,60nm,22.1s						
WMQ				LR	LR		
	comp=Z,99nm,24.5s						
ZAA0	**Zalesovo Array**	**41.79**	**312**	*e*P	**P**	**09 23 08.3**	**-0.5**
ZAA0				*e*P	P	09 23 13.9	+5.2
ZAA1	**Zalesovo Array**	**41.79**	**312**	*e*P	**P**	**09 23 08.1**	**-0.7**
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**09 23 08.1**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=79,slow=7.9,SNR=3.8						
NVS	**Novosibirsk**	**42.69**	**313**	*e*P	P	09 23 21.5	+5.4
MK01	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**09 23 27.3**	**-0.7**
MK31	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**09 23 28.3**	**+0.3**
MK31	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**09 23 28.3**	**+0.3**
MK32	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**09 23 27.4**	**-0.6**
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**09 23 27.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=83,slow=9.9,SNR=9.9						
MKAR	**Makanchi Array**	**44.14**	**302**	*c e*P	**P**	**09 23 27.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**09 23 28.3**	**+0.3**
	comp=Z,54nm,1.0s						
MAKZ	**Makanchi**	**44.35**	**302**	*e*P	**P**	**09 23 29.8**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAKZ	**Makanchi**	**44.35**	**302**	*e*P	**P**	**09 23 29.8**	**+0.2**
	comp=Z,6.9nm,0.9s						
KURK	**Kurchatov**	**45.87**	**308**	*e*P	**P**	**09 23 41.

WRA	Warramunga Arr	57.82	189	P	P	09 25 10.8	-0.3
	comp=Z,8.7nm,0.6s,baz=5.9,slow=7.3,SNR=85						
ABKAR	Akbulak array	57.84	310	eP	P	09 25 10.4	-0.5
	comp=Z,23nm,0.6s						
SPITS	Spitsbergen Ar	59.92	349	LR	LR	09 52 37.6	
	comp=Z,52nm,18.6s,baz=235,slow=37						
AS01	Alice Springs	61.54	188	eP	P	09 25 36.7	+0.1
AS31	Alice Springs	61.55	188	eP	P	09 25 37.1	+0.5
	comp=Z,1.5nm,0.8s						
ASAR	Alice Springs	61.55	188	P	P	09 25 36.9	+0.2
	comp=Z,4.1nm,0.7s,baz=11,slow=6.1,SNR=56						
ARA0	ARCESS Array S	63.50	339	eP	P	09 25 49.8	+0.6
ARCES	ARCESS Array B	63.50	339	P	P	09 25 49.8	+0.6
	comp=Z,4.0nm,1.0s,baz=50,slow=8.4,SNR=2.5						
OBN	Obninsk	67.81	323	iP	P	09 26 15.8	-1.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FIA0	FINESS Array S	68.41	332	eP	P	09 26 20.4	-0.5
FIA0	FINESS Array S	68.41	332	eP	P	09 26 20.4	-0.5
FINES	FINESS Array B	68.41	332	P	P	09 26 20.4	-0.5
	comp=Z,1.9nm,0.9s,baz=64,slow=6.5,SNR=3.6						
VSR	Storozhevoye	68.71	319	eP	P	09 26 28.8	+5.8
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KIV	Kislovodsk	70.80	311	eP	P	09 26 36.8	+0.7
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,59nm,18.0s						
KBZ	Khabaz	70.80	311	P	P	09 26 35.6	-0.3
	comp=Z,1.1nm,0.5s,baz=59,slow=8.2,SNR=3.9						
KBZ	Khabaz	70.80	311	P	P	09 26 35.6	-0.3
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANN	Anapa	73.38	314	eP	P	09 26 49.6	-1.8
ANN				pmax	pmax		
	comp=Z,68nm,1.2s						
NB2	NORSAR Subarra	73.72	337	P	P	09 26 50.3	-2.9
	comp=Z,7.9nm,1.2s,baz=40,slow=6.2						
NB200	NORSAR Array S	73.72	337	eP	P	09 26 52.7	-0.5
NOA	NORSAR Array B	73.72	337	P	P	09 26 52.7	-0.5
	comp=Z,0.9nm,0.7s,baz=43,slow=5.9,SNR=2.6						
AKASG	Malin Array Be	74.02	322	P	P	09 26 54.4	-0.7
	comp=Z,1.7nm,0.5s,baz=47,slow=6.1,SNR=5.3						
AKBB	Malin Array Si	74.02	322	eP	P	09 26 54.4	-0.7
AKBB				pmax	pmax		
	comp=Z,34nm,1.8s						
AKBB	Malin Array Si	74.02	322	eP	P	09 26 54.4	-0.7
	comp=Z,34nm,1.8s						
KIEV	Kiev	74.04	322⇑	eP	P	09 26 54.6	-0.6
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BW06	Boulder Array	76.84	46	eP	P	09 27 12.4	+0.6
PD31	Pinedale Array	76.84	46	eP	P	09 27 12.7	+0.9
PDAR	Pinedale Array	76.84	46	P	P	09 27 12.8	+0.9
	comp=Z,0.9nm,0.6s,baz=253,slow=1.9,SNR=12						
DEVC	Devers	77.99	56	eP	P	09 27 17.2	-0.9
BR101	Keskin Array S	78.73	312	eP	P	09 27 22.5	+0.3
BRTR	Keskin Array B	78.73	312	P	P	09 27 22.5	+0.3
	comp=Z,0.6nm,0.7s,baz=35,slow=5.3,SNR=2.5						
SMCO	Snowmass	80.66	47	eP	P	09 27 34.5	+1.5
	comp=Z,55nm,0.4s						
CLL	Collm	80.72	330	eP	P	09 27 32.0	-0.6
CLL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CLL	Collm	80.72	330	eP	P	09 27 32.0	-0.6
RAYN	Ar Rayn	80.82	293	eP	P	09 27 34.3	+0.6
	comp=Z,20nm,0.8s						
GEC2	GERESS Array S	82.36	328	eP	P	09 27 41.1	-0.3
GEC2				pmax	pmax		
	comp=Z,13nm,1.7s						
GEC2	GERESS Array S	82.36	328	eP	P	09 27 41.1	-0.3
	comp=Z,13nm,1.7s						
GERES	GERESS Array B	82.36	328	P	P	09 27 41.1	-0.3
	comp=Z,0.9nm,0.6s,baz=19,slow=6.2,SNR=4.0						
ANMO	Albuquerque	83.78	50⇑	eP	P	09 27 48.6	-0.6
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TX31	Lajitas Ar. Si	89.33	53	eP	P	09 28 17.1	+0.7
TXAR	Lajitas Array	89.33	53	P	P	09 28 17.4	+1.0
	comp=Z,1.0nm,0.6s,baz=300,slow=3.5,SNR=19						
LPAZ	La Paz	145.94	59	PKPbc	PKPbc	09 35 00.7	+0.3
	comp=Z,2.7nm,0.6s,baz=12,slow=5.4,SNR=17						
LPAZ	La Paz	145.94	59	ePKP2	PKPbc	09 35 00.4	0.0
LPAZ	La Paz	145.94	59	ePKPdf	PKPbc	09 35 00.4	0.0

NNC 17 09:16:29.1±1.7, 51°.96N×75°.79E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=29.5km s-min=10.2km az=27.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.17	124	⇓Lg	Lg	09 17 36.1	
	9.5nm,1.0s						
KURBB	Kurchatov Arra	2.18	127	⇑Pg	Pb	09 17 09.2	-0.1
	2.5nm,0.8s,baz=304,slow=17						
KURBB				⇑Lg	Lg	09 17 39.1	
	18nm,0.7s,baz=312,slow=29						
BVA0	Borovoye Array	3.47	290	⇓Pg	Pg	09 17 34.4	-1.1
	16nm,0.9s,baz=315,slow=33,SNR=11						
BVA0				⇑Lg	Lg	09 18 18.2	
	9.3nm,1.3s,baz=91,slow=24,SNR=4.4						
BRVK	Borovoye	3.54	290	⇑Pg	Pb	09 17 32.4	-0.1
	11nm,0.8s						
BRVK				⇑Lg	Lg	09 18 18.9	
	6.9nm,0.8s						
MK31	Makanchi Array	6.69	138	⇓Lg	Lg	09 19 56.7	
	1.5nm,0.7s						

IDC 17 09:23:15.9±0.9, 18°.05S×176°.10E, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/24, mbtmp4.0/7, MS3.6/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=39.0km s-min=24.5km az=139.0

ISCJB 17 09:23:19.2±0.7, 18°.2S±0°.1×176°.1E±0°.2, h33km, mb3.9/6, MS3.7/8, Error ellipse: s-maj=23.6km s-min=18.7km az=29.6

ISC 17 09:23:20.9±0.7, 18°.1S±0°.2×176°.1E±0°.2, h35km, n29, σ0s87/16, mb4.0/6, MS3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.88	245	LR	LR	09 28 40.8	
	comp=Z,221nm,21.3s,baz=44,slow=33						
DZM	Mont Dzumac	9.88	245	eLR	LR	09 28 09.0	
	423nm,25.6s						
RAO	Raoul Island	12.36	155	LR	LR	09 29 40.6	
	comp=Z,411nm,20.4s,baz=112,slow=31						
AFI	Afiamalu	12.39	72	LR	LR	09 30 07.2	
	comp=Z,201nm,20.9s,baz=246,slow=33						
HNR	Honiara	17.89	297	LR	LR	09 34 04.3	
	comp=Z,139nm,18.4s,baz=142,slow=36						
URZ	Urewera	20.08	178	P	P	09 27 51.8	+0.4
	8.9nm,0.9s,baz=31,slow=5.9,SNR=2.7						
RAR	Rarotonga	22.93	102	LR	LR	09 34 57.7	
	comp=Z,197nm,21.3s,baz=282,slow=31						
TBI	Tubuai	32.58	105	eLR	LR	09 38 33.8	
	139nm,42.5s						
PPT2	Papeete2	32.65	94	eLR	LR	09 38 39.3	
	150nm,23.5s						
PPT	Papeete	32.66	94	LR	LR	09 39 49.2	
	comp=Z,60nm,20.1s,baz=265,slow=30						
WRA	Warramunga Arr	39.44	260	P	P	09 30 47.7	-0.3
	0.8nm,0.8s,baz=93,slow=8.5,SNR=4.1						
ASAR	Alice Springs	39.69	255	P	P	09 30 50.8	+0.6
	3.1nm,0.9s,baz=86,slow=9.0,SNR=9.5						
ASAR				LR	LR	09 46 06.3	
	comp=Z,196nm,19.1s,baz=280,slow=34						
FITZ	Fitzroy Crossi	47.83	262	LR	LR	09 51 06.2	
	comp=Z,215nm,19.2s,baz=328,slow=35						
KSRS	Korea Array	71.49	321	LR	LR	09 59 58.9	
	comp=Z,20nm,21.7s,baz=250,slow=31						
PETK	Petropavlovsk-	72.70	349	LR	LR	10 03 07.0	
	comp=Z,31nm,18.8s,baz=245,slow=33						
MAW	Mawson	81.84	201	P	P	09 35 36.5	+0.4
	2.3nm,0.9s,baz=131,slow=4.5,SNR=5.3						
ILAR	Eielson Array	87.36	15	P	P	09 36 02.6	-1.3
	0.7nm,0.9s,baz=234,slow=6.3,SNR=6.3						
ILAR				LR	LR	10 11 21.9	
	comp=Z,27nm,18.7s,baz=308,slow=33						
YAK	Yakutsk	87.91	340	LR	LR	10 08 11.9	
	comp=Z,52nm,21.2s,baz=184,slow=31						
SNAA	Sanae	90.43	180	P	P	09 36 17.7	-0.9
TXAR	Lajitas Array	90.57	59	P	P	09 36 21.2	+1.2
	1.1nm,0.9s,baz=232,slow=4.4,SNR=11						
VNA3	Neumayer Olymp	90.77	178	P	P	09 36 18.9	-1.2
VNA2	Neumayer--Watz	91.15	179	P	P	09 36 20.8	-1.0
	baz=201,slow=3.0						
PDAR	Pinedale Array	91.16	45	P	P	09 36 22.6	0.0
	0.3nm,0.7s,baz=226,slow=4.8,SNR=3.1						
VNA1	Neumayer--Stat	91.41	179	P	P	09 36 22.3	-0.7
ARCES	ARCESS Array B	125.51	348	PKP	PKPdf	09 42 17.4	-0.4
	2.1nm,0.8s,baz=352,slow=2.7,SNR=3.7						
PRU	Pruhonice	144.93	339	ePKP	PKPdf	09 42 54.8	+0.5
NKC	Novy Kostel	145.39	341	ePKP	PKPab	09 42 56.4	+1.2
KHC	Kasperske Hory	145.99	339	ePKP	PKPab	09 42 58.1	+0.6
KHC				ex	x	09 43 05.0	
GERES	GERESS Array B	146.19	339	PKPbc	PKPab	09 42 58.5	+0.1
	1.7nm,0.6s,baz=25,slow=3.5,SNR=9.3						

IDC 17 09:30:10.7±6.6, 28°.84N×143°.71E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/46, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=264.5km s-min=21.4km az=73.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	8.97	330	Pn	Pn	09 32 21.6	0.0
	1.0nm,0.3s,baz=217,slow=17,SNR=8.9						
WRA	Warramunga Arr	49.33	192	P	P	09 39 01.9	+0.1
	1.4nm,0.4s,baz=14,slow=8.7,SNR=17						
MKAR	Makanchi Array	50.43	308	P	P	09 39 09.2	-0.8
	0.4nm,0.4s,baz=104,slow=7.9,SNR=4.3						
KURBB	Kurchatov Arra	52.81	313	P	P	09 39 27.3	-0.4
	1.8nm,0.6s,baz=90,slow=7.2,SNR=16						
ASAR	Alice Springs	53.05	191	P	P	09 39 29.5	-0.2
	0.2nm,0.5s,baz=11,slow=5.9,SNR=4.7						
BVAR	Borovoye Array	57.69	317	P	P	09 40 03.3	+0.4
	1.7nm,0.6s,baz=88,slow=7.9,SNR=8.6						

ISCJB 17 09:42:22.8±0.7, 24°.42N±0°.06×36°.54E±0°.05, h10km, mb3.7/4, MS3.1/2, Error ellipse: s-maj=8.6km s-min=6.7km az=164.0

SGS 17 09:42:24.9, 24°.45N×36°.48E, h25km

IDC 17 09:42:24.4±1.6, 24°.46N×36°.37E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/56, mbtmp3.7/7, ML3.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/38, Error ellipse: s-maj=34.1km s-min=23.5km az=165.0

ISC 17 09:42:24.1±1.0, 24°.40N±0°.07×36°.66E±0°.06, h10km, n25, σ0s97/29, mb3.7/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	1.02	36	S	Sg	09 42 56.8	-0.2
UMJS				P	Pg	09 42 43.1	-0.6
UMJS	Umm Lajj	1.02	36	S	Sg	09 42 56.7	-0.2
UMJS				P	Pg	09 42 43.2	-0.6
LNY07	LNY07	1.10	49	S	Sb	09 43 00.2	+0.5
LNY07				P	Pb	09 42 44.7	-0.5
LNY07				P	Pb	09 42 44.7	-0.5
LNY07	LNY07	1.10	49	S	Sb	09 42 60.0	+0.3
LNY07				P	Pb	09 42 45.0	-0.3
YNBS	Yanbu' al Bahr	1.22	93	P	Pn	09 42 45.8	-1.4
YNBS	Yanbu' al Bahr	1.22	93	P	Pn	09 42 45.9	-1.4
LNY06	LNY06	1.30	52	P	Pn	09 42 48.0	-0.4
LNY06	LNY06	1.30	52	P	Pn	09 42 48.0	-0.4
LNY09	LNY09	1.35	42	S	Sb	09 43 06.5	-0.3
LNY09				P	Pn	09 42 48.5	-0.6
YOBS		1.90	91	P	Pn	09 42 56.9	+0.2
YOBS		1.90	91	P	Pn	09 42 56.7	+0.1
RHT07	RHT07	2.19	83	P	Pn	09 43 01.6	+1.0
RHT07	RHT07	2.19	83	P	Pn	09 43 01.8	+1.2
RHT06	RHT06	2.31	90	P	Pn	09 43 02.8	+0.4
RHT05	RHT05	2.34	102	P	Pn	09 43 02.4	-0.3
RHT09	RHT09	2.99	82	P	Pn	09 43 13.2	+1.5
EIL	Elat	5.46	344	Pn	Pn	09 43 45.2	-0.4
	1.1nm,0.3s,baz=147,slow=4.5,SNR=6.4						
EIL				Lg	Lg	09 45 22.7	
	0.6nm,0.3s,baz=330,slow=20,SNR=2.0						
ASF	Jabal al Asfar	7.74	2	Pn	Pn	09 44 18.1	+1.1
	0.2nm,0.3s,baz=335,slow=17,SNR=1.9						
ASF				Lg	Lg	09 46 20.5	
	0.3nm,0.3s,baz=140,slow=19,SNR=3.1						
BRTR	Keskin Array B	15.49	351	Pn	Pn	09 46 01.1	-1.6
	0.1nm,0.3s,baz=150,slow=12,SNR=3.0						
KVAR	Kislovodsk Arr	20.12	13	LR	LR	09 54 38.3	
	comp=Z,60nm,18.0s,baz=110,slow=36						
WSAR	Wadi Sarin	20.14	89	P	Pn	09 47 03.5	+3.2
	2.6nm,0.7s,baz=308,slow=7.7,SNR=3.6						
AKASG	Malin Array Be	26.88	350	P	P	09 48 05.4	+0.4
	1.0nm,0.6s,baz=168,slow=8.4,SNR=5.3						
TORD	Torodi Ar. Bea	34.85	258	P	P	09 49 14.9	-0.7
	0.3nm,0.4s,baz=58,slow=9.4,SNR=4.4						
TORD				LR	LR	10 05 48.9	
	comp=Z,51nm,20.6s,baz=75,slow=41						
ESDC	Sonseca Array	37.31	304	P	P	09 49 37.2	+0.6
	1.4nm,0.7s,baz=101,slow=8.6,SNR=6.4						
MKAR	Makanchi Array	42.56	47	P	P	09 50 23.0	+2.9
	1.1nm,0.7s,baz=246,slow=7.3,SNR=10						

KRSC 17 09:50:15.3±0.9, 50°.38N×159°.45E, h7km±19km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.14	344	eP	Pn	09 50 52.7	+1.3
RUS				eS	Sb	09 51 20.1	-1.0
ASAK	Asacha	2.23	335	eP	Pn	09 50 53.7	+1.0
KRMR	Karymshinskiy	2.59	342	eP	Pn	09 50 59.3	+1.7
KRMR				eS	Sb	09 51 32.7	-1.3
DALK	Dalny	2.69	351	S	Sb	09 51 34.9	-2.0
AVH	Avacha	2.92	352	eP	Pn	09 51 04.9	+2.6
GNL	Ganaly	3.45	345	eP	Pb	09 51 13.4	-3.3

CSEM 17 09:51:50.9±0.8, 36°.88N×39°.23E, h10km, MD2.6, Error ellipse: s-maj=21.5km s-min=8.9km az=3.0

ISK 17 09:51:52.8, 37°.13N×39°.30E, h2km, ML2.3

DDA 17 09:51:53.5, 37°.04N×39°.22E, h7km, Md2.6

ISC 17 09:51:53.4±1.9, 37°.1N±0°.1×39°.30E±0°.03, h14km±11km, n11, σ0s53/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.52	313	ePG	Pg	09 52 03.2	-0.5
URFA				eSG	Sg	09 52 10.9	+0.2
URFA	Urfa	0.52	313	ePg	Pg	09 52 03.2	-0.5
URFA				eSg	Sg	09 52 10.9	+0.2
ATAB	Bozova	0.89	296	iP	Pg	09 52 10.2	-0.4
ATAB				iS	Sg	09 52 22.8	+0.5
ATAB	Bozova	0.89	296	P	Pg	09 52 10.2	-0.4
ATAB				S	Sg	09 52 22.8	+0.5
MAZI	Mazidag	0.99	67	ePG	Pg	09 52 12.4	-0.2
MAZI				eSG	Sn	09 52 26.6	-0.3
MAZI	Mazidag	0.99	67	ePg	Pg	09 52 12.4	-0.2
MAZI				eSg	Sn	09 52 26.6	-0.3
SVRC	Sivrice-ELAZID	1.29	0	ePN	Pb	09 52 17.5	-0.1
SVRC	Sivrice-ELAZID	1.29	0	ePn	Pb	09 52 17.5	-0.1
GZT	Gaziantep	1.41	282	iP	Pn	09 52 19.6	+0.8
GZT				iS	Sn	09 52 37.1	-0.3
BTMN	Batman	1.76	62	iP	Pb	09 52 25.0	-0.6
BTMN				iS	Sg	09 52 51.2	+1.0
BTMN	Batman	1.76	62	P	Pb	09 52 25.0	-0.6

NNC 17 09:52:01.4±10.0, 30°.64N×69°.52E, h0km, mb4.0, Error ellipse: s-maj=187.0km s-min=86.5km az=101.0

ISCJB 17 09:52:02.1±1.1, 30°.70N±0°.04×69°.6E±0°.1, h10km, Error ellipse: s-maj=15.6km s-min=5.6km az=167.9

ISC 17 09:52:02.1±1.4, 30°.58N±0°.06×69°.58E±0°.09, h10km, n8, σ3s37/17, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	Jaisalmer	3.82	162	eP	Pn	09 53 02.1	+1.1
JASL				eS	Sb	09 53 52.6	-3.4
JASL				IAML		09 53 54.6	
	comp=Z,117nm,0.7s						
KHET	Khetri	5.98	113	eP	Pb	09 53 43.8	-2.7
KHET				eS	Sb	09 54 59.3	+1.1
KHET				IAML		09 55 06.3	
	comp=E,70nm,0.9s						
KHET				IAML		09 55 07.5	
	comp=N,67nm,0.8s						
NDI	New Delhi	6.91	104	eP	Pn	09 53 43.5	0.0
NDI				eS	Sn	09 55 07.6	+5.4
NDI				eS	Sn	09 55 07.6	+5.4
NDI	New Delhi	6.91	104	eP	Pn	09 53 45.5	+2.0
NDI				eS	Sn	09 55 07.6	+5.4
JOSI	Joshimath	8.61	88	eP	Pn	09 54 03.6	-3.3
JOSI				eS	Sn	09 55 41.0	-3.2
MNAS	Manas	12.12	10	⇓P	Pn	09 54 56.2	+1.3
	comp=N,4.4nm,0.7s						
MNAS				⇑S	Sn	09 57 11.4	+1.3
	comp=N,13nm,1.5s						
KK31	Karatay Array	12.52	3	P	Pn	09 55 02.0	+1.7
	comp=N,0.5nm,0.5s,baz=179,slow=11,SNR=25						
KK31				⇑S	Sn	09 57 22.0	+2.1
	comp=N,2.9nm,0.7s,baz=189,slow=31,SNR=4.2						
AAK	Ala-Archa	12.66	17	P	Pn	09 54 58.5	-3.9
AAK				⇑S	Sn	09 57 23.5	0.0
	comp=N,7.7nm,1.0s						

MOS 17 09:53:55.9±0.9, 5°.19N×94°.17E, h33km, mb4.9/16, Error ellipse: s-maj=14.9km s-min=7.8km az=107.8

ISCJB 17 09:53:58.6±0.9, 5°.14N±0°.04×94°.27E±0°.06, h58km±8km, mb4.6/46, MS3.7/9, Error ellipse: s-maj=9.8km s-min=5.3km az=155.3

DJA 17 09:53:58.3±2.1, 5°N±5°×9°4E±1°5, h29km±35km, M4.6/7, mB4.5/1, mb4.6/5, MLv4.7/7, Mw(mB)3.7/1

BJI 17 09:53:59.0, 5°.15N×94°.24E, h57km, mb4.7/32, mB4.8/21, Ms4.3/12, Ms7 4.1/7

IDC 17 09:53:59.3±3.3, 5°.23N×94°.33E, h44km±29km, mb4.0/14, mb1 4.2/16, mb1mx3.9/38, mbtmp4.3/16, ML4.6/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/36, Error ellipse: s-maj=36.0km s-min=11.9km az=54.0

NEIC 17 09:54:01.7±1.2, 5°.24N×94°.37E, h67km±9km, mb4.7/14, Error ellipse: s-maj=13.2km s-min=4.5km az=61.0

NEIC Felt [III] at Banda Aceh.

ISC 17 09:53:59.5±0.7, 5°.13N±0°.05×94°.23E±0°.06, h49km±5km, n131, σ1s58/148, mb4.7/46, MS3.7/10, 5C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	2.33	111	P	Pn	09 54 36.4	+0.9
MLSI				S	Sn	09 55 04.4	+1.4
MLSI	Meulaboh, Aceh	2.33	111	P	Pn	09 54 37.1	+1.6
LHMI	Lhok Sumawe	2.71	88	P	Pn	09 54 39.8	-0.8
LHMI				S	Sn	09 55 13.3	+1.0
LHMI	Lhok Sumawe	2.71	88	P	Pn	09 54 44.8	+4.2
LHMI	Lhok Sumawe	2.71	88	ePn	Pn	09 54 40.0	-0.6
SNSI	Sinabang, Aceh	3.42	142	P	Pn	09 54 50.4	0.0
SNSI				S	Sn	09 55 27.0	-2.7
TPTI		3.48	122	P	Pn	09 54 51.1	-0.1
TPTI				S	Sn	09 55 28.7	-2.5
TPTI		3.48	122	P	Pn	09 54 52.5	+1.3
KCSI	Kotacane, Aceh	3.88	114	P	Pn	09 54 57.2	+0.5
KCSI	Kotacane, Aceh	3.88	114	P	Pn	09 54 59.6	+2.9
PSI	Prapat	5.23	116	P	Pn	09 55 16.4	+1.1
	5.6nm,0.3s,baz=280,slow=8.3,SNR=26						
PSI				S	Sn	09 56 13.4	-1.0
	1.9nm,0.3s,baz=342,slow=20,SNR=2.3						
KRAB	Krabi	5.81	58	P	Pn	09 55 21.9	-1.3
TRTT	Trang	6.06	63	P	Pn	09 55 24.3	-2.3
KULM	Kulim	6.40	88	ePn	Pn	09 55 30.2	-1.0
PBSI	Pulau Batu	6.55	142	P	Pn	09 55 33.6	+0.2
	90nm,1.2s,0.7nm						
PBSI				S	Sn	09 56 43.0	-3.8
	90nm,1.2s,0.7nm						
IPM	Ipoh	6.81	95	ePn	Pn	09 55 37.6	+0.7
PHET	Kaeng Krachan	9.39	34	P	Pn	09 56 11.8	-0.5
	10nm,0.6s,215nm0.0nm						
CHBT	CHBT	11.02	46	P	Pn	09 56 42.4	+7.8
NAYO	Nakonayok	11.49	37	P	Pn	09 56 43.7	+2.6
	9.9nm,0.7s						
SRAK	Srakaew	11.71	41	P	Pn	09 56 51.8	+7.7
UMPA	Umpang Tak	11.91	22	P	Pn	09 56 46.2	-0.6
	7.3nm,0.6s,1μm						
CHAI	Chaiyaphum	13.14	35	P	P	09 57 13.7	+1.3
PBKT	Sadao Pong	13.15	30	P	Pn	09 57 04.9	+1.2
	17nm,0.6s,3μm						
PALK	Pallekele	13.61	280	LR	LR	10 02 06.1	
	comp=Z,252nm,22.0s,baz=116,slow=36						
KHON	Khomkaen	13.97	36	P	P	09 57 21.7	+0.1
UTTA	Uttaradit	13.98	26	P	P	09 57 20.9	-0.8
	9.5nm,0.6s,147nm						
CM01	Chiang Mai Arr	13.99	19	ePn	Pn	09 57 15.9	+0.6
CM31	Chiang Mai Arr	14.03	19	ePn	Pn	09 57 15.3	-0.3
CMAR	Chiang Mai Arr	14.03	19	P	Pn	09 57 15.7	0.0
	2.6nm,0.3s,baz=207,slow=14,SNR=43						
LAMP	Lampang	14.32	21	P	P	09 57 24.5	-1.0
	13nm,0.8s						
CHTO	Chiang Mai	14.36	18	P	Pn	09 57 22.3	+2.2
	147nm,0.7s,2μm						
CHTO	Chiang Mai	14.36	18	eP	Pn	09 57 22.1	+2.0
CHTO	Chiang Mai	14.36	18	ePn	Pn	09 57 22.1	+2.0
KMI	Kunming	21.49	21	P	P	09 58 45.3	+0.8
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
PKIN	Phulchoki	23.85	340	eP	P	09 59 08.5	-0.3
	13nm,0.5s						
DMN	Daman	23.98	340	eP	P	09 59 09.3	-0.6
GUN	Gumba	24.01	342	eP	P	09 59 09.8	-0.4
	30nm,0.5s						
GYA	Guiyang	24.31	28⇑	iP	P	09 59 11.8	-1.0
GYA				pP	pP	09 59 25.8	+0.3
GYA				PP	PnPn	09 59 49.0	+4.1
GYA				PcP	PcP	10 02 54.3	+2.5
GYA				S	S	10 03 25.0	-3.8
GYA				sS	sS	10 03 47.4	-2.6
GYA				SS	SnSn	10 04 21.6	+6.0
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,510nm,17.2s						
GYA				LR	LR		
	comp=E,480nm,17.0s						
GYA				LR	LR		
	comp=Z,490nm,17.4s						
GKN	Gorkha	24.51	339	eP	P	09

GTA SS **SnSn** **10 08 17.4 -5.8**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.8s
GTA LR LR
comp=Z,100nm,15.9s
GTA LR LR
comp=Z,140nm,15.7s
NJ2 Nanjing 35.34 38 *e*P **P** **10 00 48.8 -1.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
KSH Kashi 38.00 337 *e*P **P** **10 01 15.4 +2.3**
KSH pP pP 10 01 26.0 0.0
KSH sP sP 10 01 32.3 +0.5
KSH PP **PnPn** **10 02 46.1 +3.7**
KSH PcP **PcP** **10 03 29.5 +1.6**
KSH S **S** **10 07 03.6 +1.6**
KSH PcS **PcS** **10 07 19.0 +2.1**
KSH sS sS 10 07 26.3 +2.5
KSH pmax pmax
comp=Z,7.0nm,0.4s
KSH pmax pmax
comp=Z,130nm,7.2s
KSH LR LR
comp=Z,120nm,10.8s
KSH LR LR
comp=Z,100nm,7.0s
KSH LR LR
comp=Z,140nm,8.9s
FITZ Fitzroy Crossi 38.64 127 P **P** **10 01 17.6 -0.9**
comp=Z,1.3nm,0.5s,baz=299,slow=8.0,SNR=7.4
FITZ PcP **PcP** **10 03 30.1 0.0**
comp=Z,1.2nm,0.6s,baz=338,slow=5.4,SNR=3.0
FITZ Fitzroy Crossi 38.64 127 *e*P **P** **10 01 18.4 -0.1**
FITZ PcP **PcP** **10 03 30.1 0.0**
HHC Hu-ho-hao-te 38.82 21 *e*P **P** **10 01 22.0 +2.1**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,90nm,7.4s
WMQ Urumqi 38.96 352 P **P** **10 01 20.1 -0.9**
WMQ pP pP 10 01 34.5 +0.5
WMQ sP sP 10 01 40.8 +1.1
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.7s
AAK Ala-Archa 41.26 338 LR LR 10 22 36.4
comp=Z,114nm,18.7s,baz=142,slow=42
AAK Ala-Archa 41.26 338‖ *e*P **P** **10 01 38.0 -2.1**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 41.26 338 *e*P **P** **10 01 40.6 +0.5**
comp=Z,4.9nm,0.8s
MK01 Makanchi Array 42.74 348 *e*P **P** **10 01 51.5 -0.5**
MK31 Makanchi Array 42.77 348 *e*P **P** **10 01 52.0 -0.2**
MK31 Makanchi Array 42.77 348 *e*P **P** **10 01 52.0 -0.2**
MK32 Makanchi Array 42.77 348 *e*P **P** **10 01 51.9 -0.3**
MKAR Makanchi Array 42.77 348 P **P** **10 01 51.9 -0.3**
comp=Z,16nm,0.5s,baz=168,slow=7.6,SNR=138
MKAR Makanchi Array 42.77 348 *e*P **P** **10 01 52.0 -0.3**
MKAR pmax pmax
comp=Z,113nm,0.6s
MKAR Makanchi Array 42.77 348 *e*P **P** **10 01 52.0 -0.3**
comp=Z,113nm,0.6s
MAKZ Makanchi 42.85 348 *e*P **P** **10 01 52.5 -0.4**
MAKZ pmax pmax
comp=Z,20nm,0.6s
MAKZ Makanchi 42.85 348 *e*P **P** **10 01 52.5 -0.4**
comp=Z,20nm,0.6s
KKAR Karatay Array 43.25 335 *e*P **P** **10 01 56.6 +0.4**
KKAR pmax pmax
comp=Z,31nm,0.5s
KKAR Karatay Array 43.25 335 *e*P **P** **10 01 56.6 +0.4**
comp=Z,31nm,0.5s
SONA0 Songino Array 43.81 12 *e*P **P** **10 01 59.1 -1.6**
comp=Z,8.1nm,1.0s
SONA0 *e*PP **PcP** **10 03 46.8 +0.2**
SONM Songino Array 43.81 12 P **P** **10 01 59.1 -1.6**
comp=Z,2.6nm,0.6s,baz=194,slow=8.3,SNR=15
SONM PcP **PcP** **10 03 46.8 +0.2**
comp=Z,1.5nm,0.5s,baz=197,slow=3.4,SNR=5.8
SONM LR LR 10 23 51.2
comp=Z,89nm,18.7s,baz=196,slow=41
SONA1 Songino Array 43.82 12 *e*P **P** **10 01 59.1 -1.8**
SONA1 *e*pP **pP** **10 02 11.7 -2.3**
ULN Ulaanbaatar 43.98 12 *e*P **P** **10 02 00.3 -1.8**
ULN pmax pmax
comp=Z,12nm,1.5s
ULN Ulaanbaatar 43.98 12 *e*P **P** **10 02 00.3 -1.8**
comp=Z,12nm,1.5s
KS15 Wonju Array Si 44.47 39 *e*P **P** **10 02 05.2 -0.8**
KSAR Wonju Array Be 44.47 39 P **P** **10 02 05.2 -0.8**
KSAR Wonju Array Be 44.47 39 P **P** **10 02 05.2 -0.8**
KSRS Korea Array 44.50 39 P **P** **10 02 05.2 -1.0**
comp=Z,1.3nm,0.6s,baz=220,slow=9.2,SNR=4.3
KSRS LR LR 10 23 26.8
comp=Z,81nm,18.2s,baz=207,slow=40
DGZ Jazzator, Alta 44.78 354 *e*P **P** **10 02 08.4 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,0.5s
GEYT Alibeck 46.31 320 P **P** **10 02 21.3 +0.6**
comp=Z,2.4nm,0.5s,baz=156,slow=7.3,SNR=3.8
WRA Warramunga Arr 46.65 124 P **P** **10 02 23.4 -0.1**
comp=Z,4.6nm,0.7s,baz=304,slow=9.2,SNR=30
WRA PcP **PcP** **10 03 57.1 +0.3**
comp=Z,0.3nm,0.3s,baz=315,slow=2.6,SNR=2.3
WRA Warramunga Arr 46.65 124 *i* P **P** **10 02 23.6 +0.1**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WR1 Warramunga Arr 46.65 124 *e*P **P** **10 02 23.4 -0.1**
comp=Z,16nm,1.3s
WR1 *e*PcP **PcP** **10 03 57.1 +0.3**
WRAB Tennant Creek 46.65 124‖ *e*P **P** **10 02 24.0 +0.5**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 46.65 124 *e*P **P** **10 02 23.8 +0.2**
comp=Z,32nm,1.6s
WB2 Warramunga Arr 46.66 124 *e*P **P** **10 02 23.3 -0.3**
WB2 *e*P **P** **10 02 23.7 +0.1**
KURK Kurchatov 47.28 347 *c i*P **P** **10 02 27.7 -0.2**
KURK pmax pmax
comp=Z,19nm,0.8s
KURK Kurchatov 47.28 347 *e*P **P** **10 02 28.4 +0.5**
KURK *e*pP **pP** **10 02 40.0 -1.2**
AS31 Alice Springs 48.13 128 *e*P **P** **10 02 35.1 +0.1**
comp=Z,1.4nm,0.6s
ASAR Alice Springs 48.13 128 P **P** **10 02 35.1 +0.1**
comp=Z,1.2nm,0.4s,baz=300,slow=7.8,SNR=30
ASAR PcP **PcP** **10 04 02.6 +0.5**
comp=Z,0.6nm,0.4s,baz=318,slow=2.9,SNR=3.2
AS01 Alice Springs 48.17 128 *e*P **P** **10 02 36.1 +0.7**
ZALV Zalesovo Beam 49.27 353 P **P** **10 02 42.9 -0.3**
comp=Z,11nm,0.5s,baz=189,slow=7.8,SNR=16
ZALV LR LR 10 28 54.2
comp=Z,42nm,18.1s,baz=72,slow=43
ZAA1 Zalesovo Array 49.27 353 *e*P **P** **10 02 42.9 -0.3**
NVS Novosibirsk 50.35 352 *i* P **P** **10 02 51.0 -0.4**
NVS pmax pmax
comp=N,5.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS pmax pmax
comp=Z,8.0nm,0.5s
MJAR Matsushiro Arr 50.96 46 LR LR 10 27 36.7
comp=Z,30nm,19.2s,baz=250,slow=40
BRVK Borovoye 51.66 342‖ *e*P **P** **10 03 00.7 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 51.66 342 *e*P **P** **10 03 01.1 -0.3**
comp=Z,6.5nm,0.9s
ABKAR Akbulak array 52.67 332 *e*P **P** **10 03 09.1 +0.2**
comp=Z,37nm,0.6s
SVE Sverdlovsk 57.97 339 *e*P **pP** **10 04 01.2 +0.7**
SVE pmax pmax
comp=Z,31nm,1.1s
STKA Stephens Creek 58.18 133 P **P** **10 03 50.1 +1.4**
comp=Z,0.8nm,0.6s,baz=304,slow=9.1,SNR=1.5
STKA Stephens Creek 58.18 133 *e*P **P** **10 03 50.2 +1.4**
STKA pmax pmax
comp=Z,4.0nm,1.8s
STKA Stephens Creek 58.18 133 *e*P **P** **10 03 50.1 +1.4**
comp=Z,3.8nm,1.8s
ARU Arti 58.44 338 *d i*P **pP** **10 04 04.5 +0.7**
ARU *PP sP 10 04 17.3 +7.9
ARU pmax pmax 10 04 47.4
ARU pmax pmax
comp=Z,19nm,1.7s
KIV Kislovodsk 59.41 319 *e*P **P** **10 03 55.5 -1.8**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,36nm,16.0s
BR101 Keskin Array S 64.29 312 *e*P **P** **10 04 30.6 +0.4**
BRTR Keskin Array B 64.29 312 P **P** **10 04 30.7 +0.4**
comp=Z,1.4nm,0.6s,baz=142,slow=8.5,SNR=7.9
BRTR Keskin Array B 64.29 312 *i* P **P** **10 04 30.3 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
TIXI Tiksi 69.89 11‖ *e*P **P** **10 05 03.1 -1.9**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 69.89 11 *e*P **P** **10 05 02.8 -2.1**
comp=Z,10nm,1.3s
AKASG Malin Array Be 70.35 322 P **P** **10 05 07.2 -0.9**
comp=Z,1.6nm,0.5s,baz=89,slow=5.6,SNR=7.6
AKBB Malin Array Si 70.35 322 *e*P **P** **10 05 07.3 -0.9**
AKBB pmax pmax
comp=Z,26nm,1.8s
AKBB Malin Array Si 70.35 322 *e*P **P** **10 05 07.2 -0.9**
comp=Z,26nm,1.8s
KIEV Kiev 70.36 322‖ *e*P **P** **10 05 07.6 -0.6**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
FIA0 FINESS Array S 75.17 333 *e*P **P** **10 05 36.0 -0.5**
FIA0 FINESS Array S 75.17 333 *e*P **P** **10 05 36.0 -0.5**
FINES FINESS Array B 75.17 333 P **P** **10 05 36.0 -0.5**
comp=Z,2.8nm,0.8s,baz=96,slow=4.1,SNR=7.0
FINES FINESS Array B 75.17 333 *i* P **P** **10 05 36.2 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 75.41 319 *e*P **P** **10 05 38.7 +0.5**
KECS Kecovo 75.41 319 *e*P **P** **10 05 38.7 +0.5**
MAW Mawson 75.88 192 *e*P **P** **10 05 42.1 +1.7**
MAW *e* 10 05 54.1
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 75.88 192 *e*P **P** **10 05 42.1 +1.7**
comp=Z,0.7nm,0.8s
MAW *e*PcP **pP** **10 05 54.1 -0.4**
ARA0 ARCESS Array S 77.86 340 *e*P **P** **10 05 52.4 +0.7**
ARCES ARCESS Array B 77.86 340 P **P** **10 05 52.4 +0.7**
comp=Z,1.2nm,0.5s,baz=93,slow=5.3,SNR=8.5
BRG Berggiesshubel 79.91 321 *e*P P 10 06 09.4 +6.2
comp=Z,18nm,1.5s
BRG Berggiesshubel 79.91 321 *e*P P 10 06 09.4 +6.2
BRG pmax pmax
comp=Z,18nm,1.5s
ILAR Eielson Array 97.24 22 P **P** **10 07 26.4 -0.4**
comp=Z,0.2nm,0.6s,baz=308,slow=4.6,SNR=5.3
ILB Eielson Array 97.24 22 *e*P **P** **10 07 26.4 -0.4**
PDAR Pinedale Array 127.67 22 PKP **PKPdf** **10 13 00.5 +0.4**
comp=Z,0.2nm,0.4s,baz=70,slow=2.2,SNR=4.2
TXAR Lajitas Array 141.66 26 PKhKP PKPpre 10 13 20.2
comp=Z,0.3nm,0.4s,baz=260,slow=0.7,SNR=11

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*ATH **17** 10:00:04.5, 38.89N×20.62E, h37km, ML3.1/12, Error ellipse: s-maj=1.2km s-min=0.6km az=255.0*
*CSEM **17** 10:00:05.2±0.2, 38.92N×20.60E, h30km, ML3.1, Error ellipse: s-maj=4.9km s-min=2.6km az=60.0*
*THE **17** 10:00:06.0, 38.89N×20.64E, h24km, ML3.5/9, Error ellipse: s-maj=1.0km s-min=0.5km az=254.0*
ISC 17 10:00:05.3±0.9, 38.90N±0.02×20.61E±0.02, h32km±5km, n155, σ1§09/207, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.12**	**160**	P	**Pb**	**10 00 11.0**	**-0.1**
LKD2				S	**Sb**	**10 00 14.3**	**-0.8**
LKD2	**Lefkada island**	**0.12**	**160**	P	**Pb**	**10 00 10.8**	**-0.3**
LKD2				S	**Sb**	**10 00 15.9**	**+0.8**
LKD2	**Lefkada island**	**0.12**	**160**	P	**Pb**	**10 00 11.0**	**-0.1**
DSL	**Palaion Diasel**	**0.45**	**58**	P	**Pb**	**10 00 14.5**	**-0.6**
DSL				S	**Sb**	**10 00 22.0**	**+0.2**
DSL	**Palaion Diasel**	**0.45**	**58**	P	**Pb**	**10 00 14.2**	**-0.9**
DSL				S	**Sb**	**10 00 22.4**	**+0.6**
DSL				AML	AML	10 00 22.5	
DSL	comp=E,28616μm,0.2s			AML	AML	10 00 22.5	
DSL	comp=N,33029μm,0.3s						
DSL	**Palaion Diasel**	**0.45**	**58**	P	**Pb**	**10 00 14.5**	**-0.6**
DSL				S	**Sb**	**10 00 22.4**	**+0.6**
VLS	**Valsamata**	**0.72**	**181**	P	**Pb**	**10 00 18.8**	**-0.6**
VLS				S	**Sb**	**10 00 29.5**	**+0.4**
VLS	**Valsamata**	**0.72**	**181**	P	**Pb**	**10 00 18.2**	**-1.2**
VLS				S	**Sb**	**10 00 29.6**	**+0.6**
VLS				AML	AML	10 00 29.9	
VLS	comp=E,8945μm,0.5s			AML	AML	10 00 31.1	
VLS	comp=N,7389μm,0.4s						
VLS	**Valsamata**	**0.72**	**181**	P	**Pb**	**10 00 18.8**	**-0.6**
VLS				S	**Sb**	**10 00 29.5**	**+0.4**
SGD	**Sagiada**	**0.77**	**338**	P	**Pb**	**10 00 20.7**	**+0.5**
SGD				S	**Sn**	**10 00 32.0**	**+1.7**
SGD	**Sagiada**	**0.77**	**338**	P	**Pb**	**10 00 21.0**	**+0.7**
SGD				S	**Sb**	**10 00 31.3**	**+0.9**
SGD	**Sagiada**	**0.77**	**338**	P	**Pb**	**10 00 20.7**	**+0.5**
SGD				S	**Sb**	**10 00 31.3**	**+0.9**
PVO	**Paravola**	**0.77**	**111**	P	**Pb**	**10 00 19.4**	**-0.9**
PVO				S	**Sb**	**10 00 30.5**	**0.0**
PVO	**Paravola**	**0.77**	**111**	P	**Pb**	**10 00 19.4**	**-0.9**
PVO				S	**Sn**	**10 00 31.4**	**+1.0**
PVO				AML	AML	10 00 32.0	
PVO	comp=E,9544μm,0.3s			AML	AML	10 00 32.6	
PVO	comp=N,9016μm,0.5s						
PVO	**Paravola**	**0.77**	**111**	P	**Pb**	**10 00 19.4**	**-0.9**
PVO				S	**Sn**	**10 00 31.4**	**+1.0**
JAN	**Janina**	**0.78**	**14**	P	**Pb**	**10 00 20.4**	**-0.1**
JAN				S	**Sn**	**10 00 31.9**	**+1.2**
JAN	**Janina**	**0.78**	**14**	P	**Pb**	**10 00 20.6**	**+0.2**
JAN				S	**Sn**	**10 00 31.9**	**+1.2**
JAN				AML	AML	10 00 32.8	
JAN	comp=N,3155μm,0.3s			AML	AML	10 00 34.1	
JAN	comp=E,4257μm,0.3s						
JAN	**Janina**	**0.78**	**14**	P	**Pb**	**10 00 20.4**	**-0.1**
JAN				S	**Sn**	**10 00 31.9**	**+1.2**
AXS	**Araxos**	**0.93**	**139**	P	**Pb**	**10 00 22.2**	**-0.6**
AXS				S	**Sn**	**10 00 35.5**	**+1.4**
AXS	**Araxos**	**0.93**	**139**	P	**Pb**	**10 00 22.2**	**-0.6**
AXS				S	**Sb**	**10 00 34.3**	**-0.5**
AXS	**Araxos**	**0.93**	**139**	P	**Pb**	**10 00 22.2**	**-0.6**
AXS				S	**Sn**	**10 00 35.5**	**+1.4**
EVR	**Evrytania**	**0.94**	**89**	P	**Pb**	**10 00 22.3**	**-0.9**
EVR				S	**Sn**	**10 00 36.0**	**+1.4**
EVR	**Evrytania**	**0.94**	**89**	P	**Pb**	**10 00 22.2**	**-0.9**
EVR				S	**Sn**	**10 00 36.0**	**+1.4**
EVR				AML	AML	10 00 37.2	
EVR	comp=E,1750μm,0.3s			AML	AML	10 00 37.6	
EVR	comp=N,2133μm,0.4s						
EVR	**Evrytania**	**0.94**	**89**	P	**Pb**	**10 00 22.3**	**-0.9**
EVR				S	**Sn**	**10 00 36.0**	**+1.4**
KEK	**Kerkira**	**1.03**	**323**	P	**Pn**	**10 00 24.1**	**+0.7**
KEK				S	**Sn**	**10 00 39.3**	**+2.6**
KEK	**Kerkira**	**1.03**	**323**	P	**Pn**	**10 00 23.9**	**+0.5**
KEK				S	**Sb**	**10 00 38.4**	**+0.7**
KEK				AML	AML	10 00 41.4	
KEK	comp=E,1377μm,0.4s			AML	AML	10 00 42.6	
KEK	comp=N,1031μm,0.3s						
KEK	**Kerkira**	**1.03**	**323**	P	**Pn**	**10 00 23.9**	**+0.5**
KEK				S	**Sb**	**10 00 38.4**	**+0.7**
RLS	**Riolos of Patr**	**1.08**	**141**	P	**Pn**	**10 00 24.8**	**+0.7**
RLS				S	**Sn**	**10 00 39.2**	**+1.3**
RLS	**Riolos of Patr**	**1.08**	**141**	P	**Pn**	**10 00 24.4**	**+0.3**
RLS				S	**Sb**	**10 00 38.8**	**-0.3**
RLS				AML	AML	10 00 40.4	
RLS	comp=E,1055μm,0.7s			AML	AML	10 00 40.4	
RLS	comp=N,1174μm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**141**	P	**Pn**	**10 00 24.4**	**+0.3**
RLS				S	**Sb**	**10 00 38.8**	**-0.3**
VTN	**Vitineika**	**1.08**	**155**	P	**Pn**	**10 00 25.5**	**+1.4**
VTN	**Vitineika**	**1.08**	**155**	P	**Pn**	**10 00 25.5**	**+1.4**
UPR	**University Cam**	**1.11**	**123**	P	**Pb**	**10 00 26.1**	**+0.2**
UPR	**University Cam**	**1.11**	**123**	P	**Pn**	**10 00 26.1**	**+0.2**
EFP	**Efpalio**	**1.12**	**114**	P	**Pn**	**10 00 25.1**	**+0.4**
EFP	**Efpalio**	**1.12**	**114**	P	**Pn**	**10 00 24.9**	**+0.3**
EFP				S	**Sn**	**10 00 40.4**	**+1.4**
EFP	**Efpalio**	**1.12**	**114**	P	**Pn**	**10 00 25.1**	**+0.4**
EFP				S	**Sn**	**10 00 40.4**	**+1.4**
KPRO	**Kipourio**	**1.21**	**29**	P	**Pn**	**10 00 27.1**	**+1.1**
KPRO				S	**Sn**	**10 00 42.5**	**+1.3**
KPRO	**Kipourio**	**1.21**	**29**	P	**Pn**	**10 00 27.7**	**+1.7**
KPRO				S	**Sb**	**10 00 43.4**	**+0.5**
KPRO				AML	AML	10 00 46.9	
KPRO	comp=E,1690μm,0.6s			AML	AML	10 00 47.6	
KPRO	comp=N,2311μm,0.6s						
SERG	**Sergoula**	**1.23**	**113**	P	**Pn**	**10 00 26.8**	**+0.5**
SERG	**Sergoula**	**1.23**	**113**	P	**Pn**	**10 00 27.2**	**+0.9**
SERG				S	**Sn**	**10 00 42.4**	**+0.6**
SERG	**Sergoula**	**1.23**	**113**	P	**Pn**	**10 00 27.2**	**+0.9**
SERG				S	**Sn**	**10 00 42.4**	**+0.6**
LAKA	**Lakka**	**1.26**	**121**	P	**Pn**	**10 00 27.5**	**+0.9**
LAKA	**Lakka**	**1.26**	**121**	P	**Pn**	**10 00 27.6**	**+1.0**
LAKA	**Lakka**	**1.26**	**121**	P	**Pn**	**10 00 27.5**	**+0.9**
TRIZ	**Trizonia**	**1.27**	**114**	P	**Pn**	**10 00 28.2**	**+1.5**
TRIZ				S	**Sn**	**10 00 42.8**	**+0.2**
TRIZ	**Trizonia**	**1.27**	**114**	P	**Pn**	**10 00 28.2**	**+1.5**
TRIZ				S	**Sn**	**10 00 42.8**	**+0.2**
THL	**Klokotos Trika**	**1.28**	**58**	P	**Pn**	**10 00 27.4**	**+0.5**
THL	**Klokotos Trika**	**1.28**	**58**	P	**Pn**	**10 00 27.4**	**+0.5**
THL				S	**Sn**	**10 00 44.5**	**+1.6**
THL				AML	AML	10 00 47.2	
THL	comp=E,998μm,0.4s			AML	AML	10 00 48.8	
THL	comp=N,464μm,0.4s						
THL	**Klokotos Trika**	**1.28**	**58**	P	**Pn**	**10 00 27.4**	**+0.5**
THL				S	**Sn**	**10 00 44.5**	**+1.6**
DRO	**Drossia**	**1.28**	**137**	P	**Pn**	**10 00 27.4**	**+0.5**
DRO	**Drossia**	**1.28**	**137**	P	**Pn**	**10 00 27.0**	**+0.1**
DRO	**Drossia**	**1.28**	**137**	P	**Pn**	**10 00 27.4**	**+0.5**
KALE	**Kalithea**	**1.30**	**112**	P	**Pn**	**10 00 28.9**	**+1.6**
KALE	**Kalithea**	**1.30**	**112**	P	**Pn**	**10 00 28.9**	**+1.6**
AGG	**Agios Georgios**	**1.35**	**84**	P	**Pn**	**10 00 29.0**	**+1.1**
AGG				S	**Sn**	**10 00 45.7**	**+1.0**
AGG	**Agios Georgios**	**1.35**	**84**	P	**Pn**	**10 00 29.5**	**+1.6**
AGG				S	**Sb**	**10 00 46.4**	**-0.5**
AGG				AML	AML	10 00 50.3	
AGG	comp=N,2490μm,0.2s			AML	AML	10 00 50.5	
AGG	comp=E,2845μm,0.4s						
AGG	**Agios Georgios**	**1.35**	**84**	P	**Pn**	**10 00 29.0**	**+1.1**
AGG				S	**Sb**	**10 00 46.4**	**-0.5**
PENT	**Pentalofos**	**1.36**	**17**	P	**Pn**	**10 00 29.3**	**+1.2**
PENT	**Pentalofos**	**1.36**	**17**	P	**Pn**	**10 00 29.3**	**+1.2**
KLV	**Kalavryta, Ach**	**1.48**	**125**	P	**Pn**	**10 00 30.6**	**+0.9**
KLV	**Kalavryta, Ach**	**1.48**	**125**	P	**Pn**	**10 00 30.8**	**+1.1**
KLV				S	**Sn**	**10 00 49.7**	**+1.7**
KLV				AML	AML	10 00 56.3	
KLV	comp=E,353μm,0.6s			AML	AML	10 00 59.3	
KLV	comp=N,438μm,0.5s						
KLV	**Kalavryta, Ach**	**1.48**	**125**	P	**Pn**	**10 00 30.6**	**+0.9**
KLV				S	**Sn**	**10 00 49.7**	**+1.7**
DSF	**Desfina**	**1.58**	**107**	P	**Pn**	**10 00 33.1**	**+2.0**
DSF	**Desfina**	**1.58**	**107**	P	**Pn**	**10 00 33.1**	**+2.0**
GUR	**Goura**	**1.67**	**125**	P	**Pn**	**10 00 33.4**	**+1.1**
GUR	**Goura**	**1.67**	**125**	P	**Pn**	**10 00 34.2**	**+1.9**
GUR	**Goura**	**1.67**	**125**	P	**Pn**	**10 00 33.4**	**+1.1**
KZN	**Kozani**	**1.67**	**32**	P	**Pn**	**10 00 33.2**	**+0.9**
KZN	**Kozani**	**1.67**	**32**	P	**Pn**	**10 00 34.6**	**+2.3**
KZN	**Kozani**	**1.67**	**32**	P	**Pn**	**10 00 33.2**	**+0.9**
THAL	**Thalero**	**1.83**	**117**	P	**Pn**	**10 00 35.5**	**+1.1**
THAL	**Thalero**	**1.83**	**117**	P	**Pn**	**10 00 35.1**	**+0.7**
THAL	**Thalero**	**1.83**	**117**	P	**Pn**	**10 00 35.1**	**+0.7**
FYTO	**Fytoko, Volos**	**1.88**	**74**	P	**Pn**	**10 00 34.3**	**-0.9**
FYTO	**Fytoko, Volos**	**1.88**	**74**	P	**Pn**	**10 00 34.3**	**-0.9**
LKR	**Lokris**	**1.89**	**97**	P	**Pn**	**10 00 35.1**	**-0.1**
LKR	**Lokris**	**1.89**	**97**	P	**Pn**	**10 00 35.1**	**-0.1**
LIT	**Litokhoron**	**1.89**	**50**	P	**Pn**	**10 00 35.3**	**0.0**
LIT	**Litokhoron**	**1.89**	**50**	P	**Pn**	**10 00 34.5**	**-0.8**
LIT	**Litokhoron**	**1.89**	**50**	P	**Pn**	**10 00 35.3**	**0.0**
KTI	**Kastanea**	**1.89**	**38**	P	**Pn**	**10 00 36.8**	**+1.3**
KTI	**Kastanea**	**1.89**	**38**	P	**Pn**	**10 00 36.8**	**+1.3**
PROD	**Prodromos**	**1.91**	**109**	P	**Pn**	**10 00 36.7**	**+1.2**
PROD	**Prodromos**	**1.91**	**109**	P	**Pn**	**10 00 36.7**	**+1.2**
SCTE	**Santa Cesarea**	**2.03**	**306**	P	**Pn**	**10 00 36.6**	**-0.6**
SCTE	**Santa Cesarea**	**2.03**	**306**	P	**Pn**	**10 00 36.6**	**-0.6**
LTK	**Loutraki**	**2.05**	**115**	P	**Pn**	**10 00 37.4**	**-0.2**
LTK	**Loutraki**	**2.05**	**115**	P	**Pn**	**10 00 37.3**	**-0.2**
XOR	**Xorichti**	**2.06**	**76**	P	**Pn**	**10 00 37.9**	**+0.2**
XOR	**Xorichti**	**2.06**	**76**	P	**Pn**	**10 00 37.3**	**-0.4**
XOR	**Xorichti**	**2.06**	**76**	P	**Pn**	**10 00 37.9**	**+0.2**
VLX	**Vlachokerasia**	**2.07**	**137**	P	**Pn**	**10 00 38.4**	**+0.6**
VLX	**Vlachokerasia**	**2.07**	**137**	P	**Pn**	**10 00 38.4**	**+0.6**
NEO	**Neokhori**	**2.08**	**78**	P	**Pn**	**10 00 37.3**	**-0.6**
NEO	**Neokhori**	**2.08**	**78**	P	**Pn**	**10 00 37.3**	**-0.6**
BIA	**Bitola**	**2.19**	**14**	*e*Pn	**Pn**	**10 00 39.7**	**+0.3**
BIA				*e*Sn	**Sn**	**10 01 07.1**	**+1.7**
BIA	**Bitola**	**2.19**	**14**	*e*Pn	**Pn**	**10 00 39.7**	**+0.3**
BIA				*e*Sn	**Sn**	**10 01 07.1**	**+1.7**
PYL	**PYLOS**	**2.19**	**155**	P	**Pn**	**10 00 38.8**	**-0.6**
PYL	**PYLOS**	**2.19**	**155**	P	**Pn**	**10 00 38.8**	**-0.6**
VIL2	**Platees**	**2.20**	**107**	P	**Pn**	**10 00 38.8**	**-0.7**
SKIA	**Skiathos**	**2.24**	**82**	P	**Pn**	**10 00 40.1**	**0.0**
SKIA	**Skiathos**	**2.24**	**82**	P	**Pn**	**10 00 40.1**	**0.0**
VILL	**Villia**	**2.25**	**108**	P	**Pn**	**10 00 38.8**	**-1.4**
GRG	**Griva**	**2.48**	**33**	P	**Pn**	**10 00 42.1**	**-1.2**
GRG	**Griva**	**2.48**	**33**	P	**Pn**	**10 00 42.1**	**-1.2**
DID	**Didima**	**2.50**	**123**	P	**Pn**	**10 00 42.9**	**-0.8**
DID	**Didima**	**2.50**	**123**	P	**Pn**	**10 00 42.8**	**-0.8**
TIR	**Tirane**	**2.51**	**347**	P	**Pn**	**10 00 44.8**	**+1.0**
TIR	**Tirane**	**2.51**	**347**	P	**Pn**	**10 00 44.8**	**+1.0**
KRUS	**Krusevo**	**2.52**	**11**	*i* Pn	**Pn**	**10 00 44.2**	**+0.2**
KRUS				*e*Sn	**Sn**	**10 01 13.9**	**+0.3**
KRUS	**Krusevo**	**2.52**	**11**	*i* Pn	**Pn**	**10 00 44.1**	**+0.2**
KRUS				*e*Sn	**Sn**	**10 01 13.8**	**+0.3**
HORT	**Hortiatis**	**2.56**	**48**	P	**Pn**	**10 00 42.0**	**-2.7**
HORT				S	**Sn**	**10 01 15.6**	**+0.8**
HORT				AML	AML	10 01 15.7	
HORT	comp=E,66μm,0.2s			AML	AML	10 01 16.8	
HORT	comp=N,98μm,0.3s						
PAIG	**Paliouri**	**2.59**	**66**	P	**Pn**	**10 00 43.1**	**-1.8**
EREA	**Eretria**	**2.65**	**99**	P	**Pn**	**10 00 45.5**	**-0.2**
EREA	**Eretria**	**2.65**	**99**	P	**Pn**	**10 00 45.5**	**-0.2**
ATHU	**Athens Univers**	**2.66**	**109**	P	**Pn**	**10 00 45.3**	**-0.6**
ATHU	**Athens Univers**	**2.66**	**109**	P	**Pn**	**10 00 45.3**	**-0.6**
VLY	**Voula,Athens**	**2.71**	**112**	P	**Pn**	**10 00 47.0**	**+0.4**
VLY	**Voula,Athens**	**2.71**	**112**	P	**Pn**	**10 00 47.0**	**+0.4**
VLI	**Veliai**	**2.85**	**139**	P	**Pn**	**10 00 49.5**	**+1.0**
VLI	**Veliai**	**2.85**	**139**	P	**Pn**	**10 00 49.5**	**+1.0**
SOH	**Sokhos**	**2.86**	**47**	P	**Pn**	**10 00 46.9**	**-1.8**
SOH	**Sokhos**	**2.86**	**47**	P	**Pn**	**10 00 46.8**	**-1.8**
KNT	**Kendrikon**	**2.86**	**37**	P	**Pn**	**10 00 47.1**	**-1.6**
KNT	**Kendrikon**	**2.86**	**37**	P	**Pn**	**10 00 47.1**	**-1.6**
OUR	**Ouranopolis**	**2.98**	**60**	P	**Pn**	**10 00 47.8**	**-2.4**
SRS	**Serrai**	**3.19**	**45**	P	**Pn**	**10 00 51.6**	**-1.5**
SRS	**Serrai**	**3.19**	**45**	P	**Pn**	**10 00 51.6**	**-1.5**
KYTH	**Kithira**	**3.27**	**143**	P	**Pn**	**10 00 56.1**	**+1.8**
NOCI	**Noci**	**3.32**	**306**	P	**Pn**	**10 00 54.7**	**-0.2**
NOCI	**Noci**	**3.32**	**306**	P	**Pn**	**10 00 54.7**	**-0.2**
KAVA	**Kavala**	**3.66**	**54**	P	**Pn**	**10 00 58.4**	**-1.3**
KAVA	**Kavala**	**3.66**	**54**

UDBI	**Udbina**	**6.69 329**	*e*Pn	**Pn**	**10 01 41.5**	**+0.3**
UDBI			Sn	**Sn**	**10 02 53.8**	**-2.5**
NVLJ	**Novalja**	**7.10 325**	*i* Pn	**Pn**	**10 01 45.9**	**-0.9**
NVLJ			Sn	**Sn**	**10 03 01.7**	**-4.6**
NVLJ	**Novalja**	**7.10 325**	*i* Pn	**Pn**	**10 01 45.9**	**-0.9**

KRNET 17 10:03:30.6±0.1, 41°.97N×78°.29E, mb1.9, 7C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.84**	**281**	⇑*i*P	Pg	10 03 47.0	+0.4
	baz=281						
KDJ				⇑*i*S	Sb	10 03 59.2	-0.8
	baz=281						
ULHL	**Ulahol**	**1.54**	**281**	⇑*i*P	Pb	10 04 00.6	+0.4
	baz=280						
ULHL				⇑*i*S	Sn	10 04 22.5	+2.1
	baz=280						
TKM2	**Tokmak 2**	**2.21**	**296**	⇑*i*P	Pb	10 04 11.3	-0.1
	baz=296						
TKM2				⇑*i*S	Sb	10 04 40.3	+0.9
	baz=296						
KZA	**Kyzart**	**2.26**	**274**	⇑*i*P	Pb	10 04 12.4	-0.2
	baz=274						

KRNET 17 10:04:02.0±0.1, 41°.94N×78°.20E, mb2.4, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.79**	**285**	⇓*i*P	Pg	10 04 16.8	-0.2
	baz=299						
KDJ				⇓*i*S	Sb	10 04 29.1	-0.8
	baz=299						
KDJ	**Kajisay**	**0.79**	**285**	⇑*i*P	Pb	10 04 18.0	-0.7
	baz=285						
KDJ				⇑*i*S	Sb	10 04 28.6	-1.3
	baz=285						
ULHL	**Ulahol**	**1.49**	**283**	⇑*i*P	Pn	10 04 30.2	0.0
	baz=282						
ULHL				⇑*i*S	Sn	10 04 52.4	+1.8
	baz=282						
PDGK	**Podgornoye**	**1.69**	**34**	⇓*i*P	Pg	10 04 34.6	+0.3
	baz=30						
PDGK				⇓*i*S	Sg	10 04 59.9	+3.8
	baz=30						
BOOM	**Boomskoye usch**	**1.77**	**289**	⇑*i*P	Pn	10 04 34.1	+0.1
	baz=295						
BOOM				⇑*i*S	Sg	10 04 59.3	+0.4
	baz=295						
TKM2	**Tokmak 2**	**2.17**	**298**	⇑*i*P	Pb	10 04 41.7	-0.5
	baz=298						
TKM2				⇑*i*S	Sb	10 05 10.6	+0.9
	baz=298						
KZA	**Kyzart**	**2.21**	**275**	⇑*i*P	Pb	10 04 42.2	-0.8
	baz=275						
KZA				⇑*i*S	Sb	10 05 11.9	+0.9
	baz=275						
AAK	**Ala-Archa**	**2.84**	**286**	⇑*i*P	Pb	10 04 52.9	-0.7
	baz=285						
AAK				⇑*i*S	Sb	10 05 29.3	+0.3
	baz=285						

CSEM 17 10:07:39.8, 28°.17N×59°.37E, h10km, ML3.7
TEH 17 10:07:39.8, 28°.17N×59°.37E, h10km, ML3.7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**2.33**	**317**	*e*Pn	Pb	10 08 20.7	-1.4
CHMN	**Cheshme madani**	**2.33**	**317**	*e*Pn	Pb	10 08 20.7	-1.4
IBND	**Bandar-abas**	**2.60**	**255**	*e*Pn	Pb	10 08 25.1	-1.5
IBND				*e*AMB	AMB	10 09 14.6	
	comp=Z,10μm,0.3s						
IBND	**Bandar-abas**	**2.60**	**255**	*e*Pn	Pb	10 08 25.1	-1.5
NGRK	**Negar Kerman**	**2.74**	**303**	*e*Pn	Pb	10 08 28.0	-1.2
NGRK	**Negar Kerman**	**2.74**	**303**	*e*Pn	Pb	10 08 28.0	-1.2
TVBK	**TV Kerman**	**2.92**	**309**	*e*Pn	Pb	10 08 30.4	-1.7
TVBK	**TV Kerman**	**2.92**	**309**	*e*Pn	Pb	10 08 30.4	-1.7
KHGB	**Koh Gabri**	**3.35**	**312**	*e*Pn	Pb	10 08 36.1	-3.4
KHGB	**Koh Gabri**	**3.35**	**312**	*e*Pn	Pb	10 08 36.1	-3.4
IDAH	**Dahanechah**	**4.58**	**5**	*e*Pn	Pn	10 08 52.8	+3.4
IDAH				*e*AMB	AMB	10 10 23.8	
	comp=N,835nm,0.3s						
IDAH	**Dahanechah**	**4.58**	**5**	*e*Pn	Pn	10 08 52.8	+3.4
ITEG	**Tejag**	**4.75**	**354**	*e*Pn	Pn	10 08 54.7	+3.1
ITEG				*e*Sg	Sg	10 10 14.5	+2.2
IBAF	**Bafgh**	**4.75**	**317**	*e*Pn	Pb	10 09 02.4	-0.8
IBAF				*e*AMB	AMB	10 10 20.6	
	comp=Z,488nm,0.4s						
IBAF	**Bafgh**	**4.75**	**317**	*e*Pn	Pb	10 09 02.4	-0.8

ISCJB 17 10:34:06.9±0.4, 36°.30N±0°.02×37°.01E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.6km az=33.3
CSEM 17 10:34:06.6±0.7, 36°.27N×37°.04E, h1km, MD2.8, Error ellipse: s-maj=13.6km s-min=6.5km az=139.0, Suspected Mining explosion.
DDA 17 10:34:06.4, 36°.25N×37°.02E, h7km, Md2.8, Suspected Mining explosion.
ISK 17 10:34:08.8, 36°.44N×36°.96E, h12km, MD2.7
NSSC 17 10:34:10.0±1.3, 36°.32N×36°.82E, h11km±6km, ML1.9
ISC 17 10:34:06.8±0.8, 36°.34N±0°.02×36°.92E±0°.03, h0km, n26, σ0°94/48, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.35**	**324**	*e*P	**Pb**	**10 34 16.1**	**+0.1**
DRWC				*e*S	**Sb**	**10 34 21.8**	**-0.4**
DRWC				AML	AML	10 34 32.3	
	comp=N,166nm,0.4s						
DRWC				AML	AML	10 34 35.0	
	comp=E,57nm,0.4s						
KUZU	**Kuzuini**	**0.46**	**16**	*i* P	**Pb**	**10 34 16.7**	**-1.0**
KUZU				*i* S	**Sb**	**10 34 24.0**	**-1.1**
KUZU	**Kuzuini**	**0.46**	**16**	P	**Pb**	**10 34 16.7**	**-1.0**
KUZU				S	**Sb**	**10 34 24.0**	**-1.1**
BTCH	**Batrach**	**0.48**	**232**	*e*P	**Pb**	**10 34 18.3**	**+0.1**
BTCH				*e*S	**Sb**	**10 34 24.3**	**-1.5**
BTCH				AML	AML	10 34 33.6	
	comp=E,99nm,0.4s						
BTCH				AML	AML	10 34 34.1	
	comp=N,124nm,0.3s						
TAHT	**Tahtakopru-Hat**	**0.60**	**274**	*e*PG	**Pn**	**10 34 21.5**	**-1.1**
TAHT				*e*SG	**Sb**	**10 34 30.7**	**+1.6**
TAHT	**Tahtakopru-Hat**	**0.60**	**274**	*e*Pg	**Pn**	**10 34 21.5**	**-1.1**
TAHT				*e*Sg	**Sb**	**10 34 30.7**	**+1.6**
YAYL	**Yayladag**	**0.72**	**246**	*i* P	**Pg**	**10 34 20.6**	**-0.1**
YAYL				*i* S	**Sb**	**10 34 32.6**	**-0.3**
YAYL	**Yayladag**	**0.72**	**246**	P	**Pg**	**10 34 20.5**	**-0.1**
YAYL				S	**Sb**	**10 34 32.6**	**-0.3**
DORT	**Dortyol-Hatay**	**0.76**	**310**	*e*PG	**Pb**	**10 34 23.3**	**+0.3**
GAZ	**Gaziantep**	**0.87**	**15**	*e*PG	**Pg**	**10 34 23.9**	**+0.5**
GAZ				*e*SG	**Sg**	**10 34 34.8**	**+0.1**
GAZ	**Gaziantep**	**0.87**	**15**	*e*Pg	**Pg**	**10 34 23.9**	**+0.5**
GAZ				*e*Sg	**Sg**	**10 34 34.8**	**+0.1**
ARNB	**Al Arnab**	**0.90**	**239**	*e*P	**Pb**	**10 34 25.9**	**+0.5**
ARNB				*e*S	**Sb**	**10 34 37.9**	**-0.1**
ARNB				AML	AML	10 34 43.6	
	comp=E,44nm,0.4s						
ARNB				AML	AML	10 34 43.8	
	comp=N,49nm,0.2s						
HCB	**Kahramanmara˜**	**1.01**	**359**	*i* P	**Pn**	**10 34 28.1**	**-0.1**
HCB				*i* S	**Sn**	**10 34 43.0**	**-0.2**
KMRS	**Kahramanmaras**	**1.17**	**359**	*e*PG	**Pb**	**10 34 29.8**	**-0.1**
KMRS				*e*SG	**Sg**	**10 34 44.9**	**+0.5**
KMRS	**Kahramanmaras**	**1.17**	**359**	*e*Pg	**Pb**	**10 34 29.8**	**-0.1**
KMRS				*e*Sg	**Sg**	**10 34 44.9**	**+0.5**
ANDN	**Andirin**	**1.33**	**340**	*i* P	**Pn**	**10 34 34.3**	**+1.6**
ANDN				*i* S	**Sn**	**10 34 51.6**	**+0.5**
ANDN	**Andirin**	**1.33**	**340**	P	**Pn**	**10 34 34.3**	**+1.6**
ANDN				S	**Sn**	**10 34 51.6**	**+0.5**
JHLN	**Al Jahlan**	**1.40**	**118**	*e*P	**Pb**	**10 34 35.6**	**+1.8**
JHLN				*e*S	**Sn**	**10 34 55.8**	**+3.1**
JHLN				AML	AML	10 35 03.4	
	comp=E,26nm,0.3s						
JHLN				AML	AML	10 35 06.8	
	comp=N,25nm,0.3s						
BIDA	**Albida**	**1.41**	**201**	*e*P	**Pb**	**10 34 33.9**	**-0.1**
BIDA				*e*S	**Sg**	**10 34 51.0**	**-0.9**
BIDA				AML	AML	10 34 58.0	
	comp=E,58nm,0.3s						
BIDA				AML	AML	10 35 03.1	
	comp=Z,49nm,0.3s						
KOZT	**Kozan**	**1.44**	**323**	*e*PN	**Pn**	**10 34 33.9**	**-0.3**
KOZT	**Kozan**	**1.44**	**323**	*e*Pn	**Pn**	**10 34 33.9**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.47**	**68**	*i* P	**Pn**	**10 34 33.6**	**-0.9**
SURC				*i* S	**Sg**	**10 34 53.6**	**-0.3**
HAWK	**Haweek**	**1.86**	**193**	*e*P	**Pb**	**10 34 41.0**	**-0.7**
HAWK				*e*S	**Sn**	**10 35 04.0**	**-0.2**
HAWK				AML	AML	10 35 10.1	
	comp=N,9.1nm,0.2s						
HAWK				AML	AML	10 35 11.5	
	comp=E,13nm,0.2s						
URFA	**Urfa**	**1.88**	**53**	*e*PN	**Pn**	**10 34 40.2**	**-0.1**
URFA				*e*SN	**Sn**	**10 35 03.5**	**-1.3**
URFA	**Urfa**	**1.88**	**53**	*e*Pn	**Pn**	**10 34 40.2**	**-0.1**
URFA				*e*Sn	**Sn**	**10 35 03.5**	**-1.3**
SARI	**SarD1z-Kayseri**	**2.11**	**349**	*e*PN	**Pn**	**10 34 43.6**	**+0.1**

MOS 17 10:54:06.4±1.5, 48°.17N×155°.35E, h9km, mb4.2/1, Error ellipse: s-maj=37.9km s-min=8.1km az=74.6
ISCJB 17 10:54:10.6±0.7, 48°.38N±0°.09×155°.2E±0°.2, h36km, mb3.5/5, Error ellipse: s-maj=24.1km s-min=7.7km az=28.9
KRSC 17 10:54:14.3±1.6, 48°.73N×156°.29E, h6km±24km, ML4.2
IDC 17 10:54:15.8±3.9, 48°.57N×154°.80E, h76km±39km, mb3.2/5, mb1 3.6/7, mb1mx3.2/38, mbtmp3.6/7, ML2.2/1, Error ellipse: s-maj=67.6km s-min=20.1km az=139.0
ISC 17 10:54:12.3±0.9, 48°.4N±0°.1×155°.2E±0°.2, h36km, n23, σ2°07/26, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.33**	**14**	*e*PN	**Pn**	**10 54 47.6**	**-0.4**
SKR	**Severo-Kuril's**	**2.33**	**14**	*e*P	**Pn**	**10 54 47.4**	**-0.6**
SKR				*e*S	**Sn**	**10 55 13.5**	**-1.8**
ASAK	**Asacha**	**4.31**	**22**	PN	**Pn**	**10 55 17.1**	**+1.8**
ASAK	**Asacha**	**4.31**	**22**	*e*P	**Pn**	**10 55 17.1**	**+1.8**
RUS	**Russkaya**	**4.53**	**26**	PN	**Pn**	**10 55 18.5**	**+0.4**
RUS	**Russkaya**	**4.53**	**26**	*e*P	**Pn**	**10 55 18.5**	**+0.4**
RUS				*e*S	**Sn**	**10 56 06.9**	**-2.5**
KRMR	**Karymshinskiy**	**4.78**	**22**	PN	**Pn**	**10 55 23.4**	**+1.8**
KRMR	**Karymshinskiy**	**4.78**	**22**	*e*P	**Pn**	**10 55 23.4**	**+1.8**
PETK	**Petropavlovsk-**	**4.94**	**18**	P	**Pn**	**10 55 25.7**	**+1.8**
	0.5nm,0.3s,baz=176,slow=12,SNR=22						
DALK	**Dalny**	**5.12**	**25**	PN	**Pn**	**10 55 28.5**	**+2.2**
DALK	**Dalny**	**5.12**	**25**	*e*P	**Pn**	**10 55 28.5**	**+2.2**
DALK				*e*S	**Sn**	**10 56 23.2**	**-0.9**
AVH	**Avacha**	**5.33**	**23**	PN	**Pn**	**10 55 32.2**	**+3.0**
AVH	**Avacha**	**5.33**	**23**	P	**Pn**	**10 55 32.2**	**+3.0**
SDLR	**Sedlovina**	**5.38**	**24**	PN	**Pn**	**10 55 31.1**	**+1.1**
SDLR	**Sedlovina**	**5.38**	**24**	P	**Pn**	**10 55 31.1**	**+1.1**
GNL	**Ganaly**	**5.54**	**17**	PN	**Pn**	**10 55 35.9**	**+3.7**
GNL	**Ganaly**	**5.54**	**17**	P	**Pn**	**10 55 35.9**	**+3.7**
ASAJ	**Asahikawa**	**9.75**	**248**	P	**Pn**	**10 56 31.8**	**+1.9**
	baz=71,slow=12						
CMAR	**Chiang Mai Arr**	**54.15**	**257**	P	**P**	**11 03 31.2**	**-2.7**
	0.8nm,0.3s,baz=39,slow=7.3,SNR=4.3						
PDAR	**Pinedale Array**	**62.61**	**56**	P	**P**	**11 04 33.6**	**+0.8**
	0.2nm,0.7s,baz=339,slow=4.8,SNR=2.9						
WRA	**Warramunga Arr**	**70.58**	**201**	P	**P**	**11 05 22.7**	**-0.8**
	0.3nm,0.5s,baz=16,slow=6.1,SNR=2.2						
ASAR	**Alice Springs**	**74.27**	**200**	P	**P**	**11 05 44.2**	**-1.2**
	0.2nm,0.5s,baz=10,slow=4.8,SNR=5.3						
TXAR	**Lajitas Array**	**75.43**	**62**	P	**P**	**11 05 53.1**	**+0.7**
	0.1nm,0.4s,baz=302,slow=6.5,SNR=3.8						

MOS 17 10:55:51.6±1.0, 48°.42N×155°.12E, h53km, mb4.3/16, Error ellipse: s-maj=11.3km s-min=4.7km az=73.0
KRSC 17 10:55:51.1±2.3, 48°.28N×156°.66E, h31km±48km, ML4.6
SKHL 17 10:55:52.4±0.4, 48°.41N×155°.03E, h64km±2km, mb5.1/5
IDC 17 10:55:53.9±3.2, 48°.46N×154°.85E, h57km±29km, mb3.7/17, mb1 3.9/20, mb1mx3.8/41, mbtmp4.0/20, ML3.3/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/52, Error ellipse: s-maj=20.4km s-min=13.5km az=144.0
ISC 17 10:55:51.2±0.6, 48°.33N±0°.06×155°.30E±0°.06, h36km, n113, σ1°84/127, mb4.2/24, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.42**	**12**	*e*PN	**Pn**	**10 56 28.2**	**0.0**
SKR				*e*S	**Sn**	**10 56 56.2**	**-0.3**
SKR				pmax	pmax		
	comp=Z,482nm,0.6s						
SKR				smax	smax		
	comp=N,1μm,0.7s						
SKR				smax	smax		
	comp=E,931nm,0.7s						
SKR	**Severo-Kuril's**	**2.42**	**12**	*e*P	**Pn**	**10 56 28.6**	**+0.4**
SKR				AMB	AMB	10 56 31.2	
	comp=E,380nm,0.4s						
SKR				*e*S	**Sn**	**10 56 55.7**	**-0.8**
SKR				A	A	10 57 07.2	
	comp=E,1μm,0.7s						
SKR				A	A	10 57 07.2	
	comp=E,930nm,0.7s						
SKR	**Severo-Kuril's**	**2.42**	**12**	*e*P	**Pn**	**10 56 29.0**	**+0.8**
SKR				*e*S	**Sn**	**10 56 57.5**	**+1.0**
ASAK	**Asacha**	**4.39**	**21**	PN	**Pn**	**10 56 57.5**	**+2.2**
ASAK	**Asacha**	**4.39**	**21**	*e*P	**Pn**	**10 56 57.5**	**+2.2**
MTVR	**Mutnovka**	**4.55**	**23**	PN	**Pn**	**10 56 58.5**	**+0.9**
MTVR				S	**Sn**	**10 57 50.9**	**+1.6**
MTVR	**Mutnovka**	**4.55**	**23**	*e*P	**Pn**	**10 56 58.5**	**+0.9**
MTVR				*e*S	**Sn**	**10 57 50.9**	**+1.6**
RUS	**Russkaya**	**4.60**	**25**	PN	**Pn**	**10 56 58.5**	**+0.4**
RUS				S	**Sn**	**10 57 49.4**	**-0.8**
RUS	**Russkaya**	**4.60**	**25**	*e*P	**Pn**	**10 56 58.4**	**+0.4**
RUS				*e*P	**Pn**	**10 56 58.5**	**+0.4**
RUS				*e*S	**Sn**	**10 57 48.8**	**-1.4**
RUS				*e*S	**Sn**	**10 57 49.4**	**-0.8**
APC	**Apacha**	**4.76**	**14**	PN	**Pn**	**10 57 03.1**	**+2.9**
APC	**Apacha**	**4.76**	**14**	*e*P	**Pn**	**10 57 03.1**	**+2.9**
KRMR	**Karymshinskiy**	**4.86**	**21**	PN	**Pn**	**10 57 03.1**	**+1.5**
KRMR	**Karymshinskiy**	**4.86**	**21**	*e*P	**Pn**	**10 57 03.1**	**+1.5**
PETK	**Petropavlovsk-**	**5.03**	**17**	P	**Pn**	**10 57 06.2**	**+2.2**
	comp=E,8.1nm,0.3s,baz=203,slow=11,SNR=35						
PETK				LR	LR	10 59 16.3	
	comp=E,265nm,20.4s,baz=211,slow=41						
PET	**Petropavlovsk**	**5.17**	**23**	*e*PN	**Pn**	**10 57 07.0**	**+1.1**
PET				*e*S	**Sn**	**10 58 05.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,56nm,0.6s						
PET				smax	smax		
	comp=E,205nm,0.7s						
PET				smax	smax		
	comp=N,186nm,0.7s						
PET	**Petropavlovsk**	**5.17**	**23**	*e*P	**Pn**	**10 57 07.9**	**+2.0**
PET				AMB	AMB	10 57 16.1	
	comp=N,47nm,0.5s						
PET				*e*S	**Sn**	**10 58 04.2**	**+0.1**
PET				A	A	10 58 11.7	
	comp=N,111nm,0.5s						
PET				A	A	10 58 11.7	
	comp=N,85nm,0.5s						
PET	**Petropavlovsk**	**5.17**	**23**	*e*P	**Pn**	**10 57 07.9**	**+2.0**
PET				*e*S	**Sn**	**10 58 04.7**	**+0.6**
DALK	**Dalny**	**5.20**	**24**	PN	**Pn**	**10 57 07.9**	**+1.6**
DALK				S	**Sn**	**10 58 05.6**	**+0.7**
DALK	**Dalny**	**5.20**	**24**	*e*P	**Pn**	**10 57 07.9**	**+1.6**
DALK				*e*S	**Sn**	**10 58 05.6**	**+0.7**
UGLR	**Uglovaya**	**5.38**	**23**	PN	**Pn**	**10 57 11.9**	**+3.0**
UGLR	**Uglovaya**	**5.38**	**23**	*e*P	**Pn**	**10 57 11.9**	**+3.0**
AVH	**Avacha**	**5.41**	**23**	PN	**Pn**	**10 57 12.3**	**+3.0**
AVH	**Avacha**	**5.41**	**23**	*e*P	**Pn**	**10 57 12.3**	**+3.0**
SDLR	**Sedlovina**	**5.46**	**23**	PN	**Pn**	**10 57 11.6**	**+1.6**
SDLR	**Sedlovina**	**5.46**	**23**	*e*P	**Pn**	**10 57 11.6**	**+1.6**
KRX	**Arik**	**5.47**	**22**	PN	**Pn**	**10 57 12.6**	**+2.4**
KRX	**Arik**	**5.47**	**22**	*e*P	**Pn**	**10 57 12.6**	**+2.4**
GNL	**Ganaly**	**5.63**	**16**	PN	**Pn**	**10 57 14.8**	**+2.4**
GNL	**Ganaly**	**5.63**	**16**	*e*P	**Pn**	**10 57 14.8**	**+2.4**
SPN	**Mys Shipunski**	**5.64**	**30**	PN	**Pn**	**10 57 13.3**	**+0.9**
SPN	**Mys Shipunski**	**5.64**	**30**	*e*P	**Pn**	**10 57 13.3**	**+0.9**
SPN				*e*S	**Sn**	**10 58 14.2**	**-1.7**
KUR	**Kuril'sk**	**5.97**	**242**	*d i*PN	**Pn**	**10 57 18.5**	**+1.6**
KUR				*i* S	**Sn**	**10 58 24.7**	**+0.8**
KUR				pmax	pmax		
	comp=Z,137nm,0.7s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=N,57nm,0.7s						
KUR				smax	smax		
	comp=N,98nm,0.6s						
KUR				smax	smax		
	comp=E,47nm,0.7s						
KUR	**Kuril'sk**	**5.97**	**242**	*e*P	**Pn**	**10 57 17.7**	**+0.8**
KUR				AMB	AMB	10 57 19.6	
	comp=E,43nm,0.3s						
KUR				*e*S	**Sn**	**10 58 21.8**	**-2.1**
KUR				A	A	10 58 36.0	
	comp=E,210nm,0.8s						
SHO	**Shikotan**	**7.38**	**236**	*e*PN	**Pn**	**10 57 34.4**	**-1.9**
SHO				pmax	pmax		
	comp=Z,46nm,0.5s						
SHO	**Shikotan**	**7.38**	**236**	*e*P	**Pn**	**10 57 34.7**	**-1.6**
SHO				AMB	AMB	10 57 35.1	
	comp=Z,46nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**240**	*e*PN	**Pn**	**10 57 42.9**	**+0.5**
YUK				pmax	pmax		
	comp=Z,134nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**240**	*e*P	**Pn**	**10 57 42.9**	**+0.5**
YUK				AMB	AMB	10 57 43.7	
	comp=Z,130nm,0.3s						
YUK				*e*S	**Sn**	**10 59 06.1**	**-3.6**
YUK				A	A	10 59 17.3	
	comp=Z,80nm,0.6s						
YUK				A	A	10 59 17.3	
	comp=Z,48nm,0.6s						
ZLN	**Zelenaya**	**8.41**	**22**	PN	**Pn**	**10 57 52.0**	**+1.5**
ZLN	**Zelenaya**	**8.41**	**22**	*e*P	**Pn**	**10 57 52.0**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.58**	**265**	⇓*e*PN	**Pn**	**10 57 56.2**	**+3.5**
YSS				*e*S	**Sn**	**10 59 32.1**	**+3.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				smax	smax		
	comp=N,40nm,1.4s						
TYV	**Tymovskoe**	**8.60**	**292**	*e*P	**Pn**	**10 57 52.1**	**-0.8**
UGL	**Uglegorsk**	**8.79**	**280**	*e*PN	**Pn**	**10 57 51.4**	**-4.1**
UGL				*e*SS	**Sn**	**10 59 39.0**	**+5.8**
BKI	**Bering**	**9.54**	**40**	*e*S	Sn	10 59 41.2	-11
ASAJ	**Asahikawa**	**9.75**	**249**	P	**Pn**	**10 58 12.0**	**+3.2**
	comp=N,2.1nm,0.3s,baz=41,slow=15,SNR=7.9						
MA2	**Magadan**	**11.58**	**348**	LR	LR	11 02 53.1	
	comp=N,104nm,20.4s,baz=244,slow=37						
HABR	**Khabarovsk**	**13.45**	**278**	*e*PN	**Pn**	**10 58 55.1**	**-4.2**
HABR				*e*SS	**Sn**	**11 01 34.3**	**+6.9**
HABR				pmax	pmax		
	comp=N,59nm,1.6s						
HABR				pmax	pmax		
	comp=E,92nm,1.6s						
HABR				pmax	pmax		
	comp=Z,109nm,1.6s						
HABR				MLR	MLR		
	comp=Z,236nm,16.0s						
SEY	**Seymchan**	**14.73**	**355**	P	**P**	**10 59 19.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=155,slow=13,SNR=7.2						
USRK	**Ussuriysk Ar.**	**16.62**	**264**	P	**Pn**	**10 59 39.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=3.5						
USRK				LR	LR	11 05 23.0	
	comp=Z,86nm,19.2s,baz=206,slow=35						
MJA0	**Matsu Arr-Jizo**	**17.19**	**233**	*e*P	**P**	**10 59 51.3**	**+1.6**
MJAR	**Matsushiro Arr**	**17.21**	**233**	P	**Pn**	**10 59 48.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=5.0						
YAK	**Yakutsk**	**19.87**	**323**	*e*P	**P**	**11 00 17.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK	**Yakutsk**	**19.87**	**323**	*e*P	**P**	**11 00 18.6**	**-0.3**
KSRS	**Korea Array**	**22.69**	**252**	P	**P**	**11 00 48.5**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=45,slow=10,SNR=10						
KSRS				LR	LR	11 09 15.9	
	comp=Z,42nm,18.3s,baz=65,slow=36						
TIXI	**Tiksi**	**26.41**	**342**	⇓*e*P	**P**	**11 01 23.5**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**26.41**	**342**	*e*P	**P**	**11 01 23.5**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**30.03**	**158**	T	T	11 33 40.0	
	baz=344,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**30.05**	**158**	T	T	11 33 47.6	
	baz=344,slow=76,SNR=178						
H11N3	**WAKE ISLAND Hy**	**30.05**	**158**	T	T	11 33 45.9	
	baz=344,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**31.16**	**159**	T	T	11 35 08.8	
	baz=344,slow=76,SNR=1537						
H11S3	**WAKE ISLAND Hy**	**31.16**	**159**	T	T	11 35 05.9	
	baz=344,slow=76,SNR=1267						
H11S2	**WAKE ISLAND Hy**	**31.17**	**159**	T	T	11 35 06.7	
	baz=344,slow=76,SNR=1267						
SONM	**Songino Array**	**32.23**	**288**	P	**P**	**11 02 14.0**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=77,slow=6.2,SNR=1.7						
SONM				LR	LR	11 16 28.8	
	comp=Z,102nm,19.4s,baz=190,slow=39						
SONM	**Songino Array**	**32.23**	**288**	P	**P**	**11 02 14.0**	**-2.0**
SONM				MLR	MLR		
	comp=Z,102nm,19.4s						
COLA	**College**	**33.98**	**40**	*e*P	**P**	**11 02 32.0**	**+1.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
COLA	**College**	**33.98**	**40**	*e*P	**P**	**11 02 32.0**	**+1.2**
ILAR	**Eielson Array**	**34.39**	**40**	P	**P**	**11 02 35.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=260,slow=7.2,SNR=9.2						
ILAR	**Eielson Array**	**34.39**	**40**	*e*P	**P**	**11 02 36.6**	**+2.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**34.39**	**40**	*e*P	**P**	**11 02 36.5**	**+2.1**
INK	**Inuvik**	**39.52**	**34**	P	**P**	**11 03 19.1**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=277,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**47

ASAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ASAR	**Alice Springs**	**74.19 200**	*e*P	**P**	**11 07 24.8**	**+0.8**
TXAR	**Lajitas Array**	**75.44 62**	P	**P**	**11 07 33.0**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=297,slow=4.3,SNR=19					
DPC	**Dobruska-Polom**	**75.57 334**	*e*P	**P**	**11 07 31.8**	**0.0**
DPC	**Dobruska-Polom**	**75.57 334**	*e*P	**P**	**11 07 31.8**	**0.0**
CLL	**Collm**	**75.62 337**	*i*P	**P**	**11 07 31.5**	**-0.5**
CLL			pmax	pmax		
	comp=Z,8.0nm,0.9s					
CLL	**Collm**	**75.62 337**	⇓*i*P	**P**	**11 07 31.5**	**-0.5**
	comp=Z,8.0nm,0.9s					
GOPC	**GO Pecny, Ondr**	**76.40 335**	*e*P	**P**	**11 07 36.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**76.40 335**	*e*P	**P**	**11 07 36.3**	**-0.2**
PRU	**Pruhonice**	**76.40 335**	*e*P	**P**	**11 07 36.4**	**-0.1**
PRU	**Pruhonice**	**76.40 335**	*e*P	**P**	**11 07 36.4**	**-0.1**
KHC	**Kasperske Hory**	**77.44 335**	*e*P	**P**	**11 07 42.6**	**+0.2**
KHC	**Kasperske Hory**	**77.44 335**	*e*P	**P**	**11 07 42.6**	**+0.2**
GERES	**GERESS Array B**	**77.67 335**	P	**P**	**11 07 43.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=31,slow=5.6,SNR=11					
BRTR	**Keskin Array B**	**78.23 318**	P	**P**	**11 07 46.2**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=51,slow=4.6,SNR=3.7					
BRTR	**Keskin Array B**	**78.23 318**	*i*P	**P**	**11 07 48.2**	**+1.1**
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
PLCA	**Paso Flores**	**146.86 94**	*e*PKP2	**PKPab**	**11 15 30.4**	**-0.2**
PLCA			pmax	pmax		
	comp=Z,1.0nm,0.6s					

IDC 17 11:10:47.0±5.7, 55°.34N×85°.26E, h0km, Error ellipse: s-maj=37.8km s-min=24.1km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**191**	*i*		11 19 50.0	
	baz=11,slow=326,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.42**	**191**	Pg	Pn	11 11 13.4	-0.6
	0.5nm,0.3s,baz=7.5,slow=14,SNR=3.3						
ZALV				Lg	Lg	11 11 32.0	
	0.6nm,0.3s,baz=9.4,slow=27,SNR=3.8						
I34MN	**SONGINO INFRAS**	**15.12**	**111**	*i*		12 39 50.0	
	baz=310,slow=328,SNR=0.3						

MEX 17 11:13:50.1±0.6, 18°.00N×100°.74W, h54km±14km, MD3.7, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.46**	**54**	*e*P	Pn	11 13 59.7	-1.5
ARIG				*e*S	Sn	11 14 07.5	-1.8
ZIIG	**Zihuatanejo**	**0.80**	**240**	*e*P	Pn	11 14 04.3	-1.0
ZIIG				*e*S	Sn	11 14 15.1	-1.3
CAIG	**El Cayaco**	**1.05**	**155**	*e*P	Pn	11 14 06.6	-2.1
CAIG				*e*S	Sn	11 14 20.3	-2.1
MEIG	**Mezcala**	**1.07**	**94**	*e*P	Pn	11 14 07.1	-1.8
MEIG				*i*S	Sn	11 14 20.8	-2.1
PLIG	**Platanillo**	**1.24**	**72**	*e*P	Pn	11 14 09.8	-1.4
PLIG				*i*S	Sn	11 14 25.1	-1.8
YAIG	**Yautepec**	**1.80**	**61**	*e*P	Pn	11 14 16.6	-2.3
TLIG	**Tlapa**	**2.12**	**102**	⇑*e*P	Pn	11 14 22.6	-0.6

NIED ***17*** *11:15:00, 38°.30N×141°.80E, h35km, Mw3.5 Best double couple: M0=2.33000×10^14 NP1:φ=128.00000°, δ=19.00000°, λ=-43.00000°. NP2:φ=259.00000°, δ=77.00000°, λ=-104.00000°.*
ISCJB ***17*** *11:15:03.2±1.0, 38°.32N±0°.04×141°.9E±0°.1, h49km±9km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=5.5km az=16.2*
JMA ***17*** *11:15:04.3±0.1, 38°.35N×141°.80E, h45km±1km, M3.7*
JMA Felt I J1.
IDC ***17*** *11:15:06.4±4.0, 38°.27N×141°.69E, h62km±35km, mb3.2/4, mb1 3.4/6, mb1mx3.2/52, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=42.8km s-min=24.2km az=84.0*

ISC 17 11:15:02.9±1.0, 38°.30N±0°.04×141°.85E±0°.07, h31km±6km, n25, σ1§19/31, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.43**	**292**	P	**Pn**	**11 15 13.7**	**+0.8**
JIO				S	**Sb**	**11 15 19.9**	**+1.3**
OFUJ	**Ofunato**	**0.79**	**350**	P	**Pb**	**11 15 18.2**	**-0.1**
OFUJ				S	**Sb**	**11 15 28.0**	**-0.7**
JMK	**Ichinoseki**	**0.82**	**323**	P	**Pb**	**11 15 18.8**	**+0.1**
JMK				S	**Sn**	**11 15 28.8**	**-0.6**
JOU	**Okura**	**0.94**	**274**	P	**Pn**	**11 15 20.7**	**+0.7**
JOU				S	**Sn**	**11 15 32.8**	**+0.4**
JMM	**Marumori**	**0.94**	**243**	P	**Pn**	**11 15 20.4**	**+0.4**
JMM				S	**Sn**	**11 15 32.2**	**-0.2**
JFK	**Kawauchi**	**1.21**	**220**	P	**Pn**	**11 15 24.6**	**+0.8**
JFK				S	**Sn**	**11 15 39.4**	**+0.3**
JOM	**Ohasama**	**1.25**	**340**	P	**Pn**	**11 15 24.8**	**+0.5**
JOM				S	**Sn**	**11 15 39.8**	**-0.3**
JYK	**Kaneyama**	**1.32**	**298**	P	**Pn**	**11 15 26.1**	**+0.8**
JYS	**Shirataka**	**1.41**	**267**	P	**Pn**	**11 15 27.4**	**+0.9**
JFT	**Otama**	**1.43**	**237**	P	**Pn**	**11 15 28.2**	**+1.4**
JFT				S	**Sn**	**11 15 45.2**	**+0.7**
JRG	**Rokugo**	**1.45**	**319**	P	**Pn**	**11 15 27.9**	**+0.8**
JYA	**Atsumi**	**1.71**	**281**	P	**Pn**	**11 15 31.7**	**+1.2**
MJAR	**Matsushiro Arr**	**3.39**	**240**	P	**Pn**	**11 15 55.4**	**+1.7**
	0.5nm,0.3s,baz=56,slow=10,SNR=5.0						
MJAR				S	**Sb**	**11 16 41.1**	**-2.0**
	1.2nm,0.3s,baz=182,slow=30,SNR=5.8						
MAT	**Matsushiro**	**3.39**	**240**	P	**Pn**	**11 15 56.5**	**+2.8**
MAT				S	**Sb**	**11 16 40.6**	**-2.5**
JHJ	**Hachijo jima 2**	**5.43**	**199**	P	**Pn**	**11 16 23.4**	**+1.6**
	5.2nm,0.3s,baz=144,slow=23,SNR=12						
JHJ				S	**Sn**	**11 17 21.8**	**-1.5**
	11nm,0.3s,baz=152,slow=23,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	11 51 09.6	
	baz=316,slow=76,SNR=151						
H11N1	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	11 51 08.1	
	baz=316,slow=76,SNR=213						
H11N3	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	11 51 10.9	
	baz=316,slow=76,SNR=250						
H11S1	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	11 52 05.2	
	baz=318,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	11 52 05.0	
	baz=318,slow=76,SNR=75						
H11S2	**WAKE ISLAND Hy**	**29.30**	**125**	T	T	11 52 06.5	
	baz=318,slow=76,SNR=75						
KURBB	**Kurchatov Arra**	**45.51**	**307**	P	**P**	**11 23 18.5**	**-0.8**
	0.7nm,0.7s,baz=83,slow=8.7,SNR=7.7						
ILAR	**Eielson Array**	**48.24**	**33**	P	**P**	**11 23 41.3**	**+0.9**
	0.3nm,0.9s,baz=266,slow=7.1,SNR=2.0						
WRA	**Warramunga Arr**	**58.36**	**188**	P	**P**	**11 24 54.8**	**-0.4**
	0.5nm,0.4s,baz=6.0,slow=7.0,SNR=6.6						
WRA				pP	**sP**	**11 25 08.0**	**-0.4**
	0.8nm,1.0s,baz=5.2,slow=7.1,SNR=2.1						
ASAR	**Alice Springs**	**62.09**	**188**	P	**P**	**11 25 20.5**	**-0.2**
	0.3nm,0.6s,baz=9.8,slow=7.6,SNR=6.4						

IDC 17 11:17:43.6±562.0, 47°.72N×50°.04E, h0km, Error ellipse: s-maj=211.2km s-min=120.8km az=52.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.90**	**60**	*i*		11 58 40.0	
	baz=246,slow=322,SNR=24						
I43RU	**DUBNA INFRASONI**	**1.94**	**324**	*i*		12 36 40.0	
	baz=135,slow=329,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**22.66**	**61**	*i*		13 32 50.0	
	baz=271,slow=311,SNR=1.7						

ISK ***17*** *11:29:01.2, 39°.70N×36°.61E, h16km, MD2.6*
ISCJB ***17*** *11:29:04.8±0.6, 39°.63N±0°.03×37°.00E±0°.05, h0km, Error ellipse: s-maj=5.9km s-min=4.3km az=35.4*
CSEM ***17*** *11:29:04.5±0.2, 39°.65N×37°.04E, h1km, ML2.6, Error ellipse: s-maj=7.0km s-min=5.0km az=117.0, Suspected Mining explosion.*
DDA ***17*** *11:29:14.3, 39°.67N×37°.00E, h6km, Ml2.6, Suspected Mining explosion.*

ISC 17 11:29:05.2±1.1, 39°.65N±0°.03×37°.01E±0°.03, h0km, n17, σ1§41/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCER	**sogukcermik**	**0.23**	**23**	*i*P	**Pg**	**11 29 09.2**	**-0.4**
SCER				*i*S	**Sg**	**11 29 16.0**	**+3.5**
SCER	**sogukcermik**	**0.23**	**23**	P	**Pg**	**11 29 09.2**	**-0.4**
SCER				S	**Sg**	**11 29 16.0**	**+3.5**
SVSK	**Karacayir**	**0.26**	**357**	*e*PG	**Pg**	**11 29 09.1**	**-1.2**
SVSK				*e*SG	**Sg**	**11 29 15.0**	**+1.3**
SVSK	**Karacayir**	**0.26**	**357**	*e*Pg	**Pg**	**11 29 09.1**	**-1.2**
SVSK				*e*Sg	**Sg**	**11 29 15.0**	**+1.2**
CUALT	**Altinyayla-SIV**	**0.43**	**208**	*i*P	**Pg**	**11 29 13.6**	**+0.2**
CUALT				*i*S	**Sb**	**11 29 22.4**	**-0.4**
CUALT	**Altinyayla-SIV**	**0.43**	**208**	P	**Pg**	**11 29 13.6**	**+0.2**
CUALT				S	**Sb**	**11 29 22.4**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.63**	**68**	*i*P	**Pg**	**11 29 16.6**	**-0.7**
CUZAR				*i*S	**Sb**	**11 29 28.6**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.63**	**68**	P	**Pg**	**11 29 16.6**	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**0.64**	**249**	*i*P	**Pg**	**11 29 16.7**	**-0.8**
CUSAR				*i*S	**Sb**	**11 29 27.9**	**-1.0**
CUSAR	**Sarkisla-SIVAS**	**0.64**	**249**	P	**Pg**	**11 29 16.7**	**-0.8**
CUSAR				S	**Sb**	**11 29 27.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**0.78**	**18**	*e*PG	**Pg**	**11 29 19.0**	**-1.2**
RSDY				*e*SG	**Sb**	**11 29 31.6**	**-1.3**
RSDY	**Resadiye-TOKAT**	**0.78**	**18**	*e*Pg	**Pg**	**11 29 19.0**	**-1.2**
RSDY				*e*Sg	**Sb**	**11 29 31.6**	**-1.3**
DARE	**Darende-Malaty**	**1.14**	**161**	*e*PN	**Pg**	**11 29 25.5**	**-1.6**
BNN	**Bunyan**	**1.21**	**229**	*e*PG	Pg	11 29 21.5	-6.9
KEMA	**Kemaliye**	**1.21**	**108**	*i*P	**Pg**	**11 29 27.1**	**-1.3**
KEMA				*i*S	**Sn**	**11 29 46.8**	**+0.1**
KEMA	**Kemaliye**	**1.21**	**108**	P	**Pg**	**11 29 27.1**	**-1.3**
SARI	**SarD1z-Kayseri**	**1.33**	**201**	*e*PN	Pg	11 29 25.3	-5.4

ISK ***17*** *11:33:49.7, 41°.38N×35°.92E, h5km, MD2.9*
DDA ***17*** *11:33:50.6, 41°.35N×35°.86E, h7km, Ml2.8, Suspected Mining explosion.*
ISCJB ***17*** *11:33:51.4±0.5, 41°.35N±0°.03×35°.83E±0°.04, h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=151.5*
CSEM ***17*** *11:33:51.5±0.3, 41°.33N×35°.84E, h1km, ML2.8, Error ellipse: s-maj=6.4km s-min=4.5km az=57.0, Suspected Mining explosion.*

ISC 17 11:33:51.4±0.9, 41°.34N±0°.02×35°.82E±0°.03, h0km, n18, σ0§84/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVZ	**Havza**	**0.28**	**195**	*i*P	**Pg**	**11 33 56.4**	**-0.2**
HAVZ				*i*S	**Sg**	**11 34 01.9**	**+1.7**
HAVZ	**Havza**	**0.28**	**195**	P	**Pg**	**11 33 56.4**	**-0.2**
HAVZ				S	**Sg**	**11 34 01.9**	**+1.7**
SAMS	**Samsun-Alacam**	**0.28**	**86**	*i*P	**Pg**	**11 33 56.4**	**-0.4**
SAMS				*i*S	**Sg**	**11 34 01.6**	**+1.1**
SAMS	**Samsun-Alacam**	**0.28**	**86**	P	**Pg**	**11 33 56.4**	**-0.4**
SAMS				S	**Sg**	**11 34 01.5**	**+1.1**
KVT	**Kavak**	**0.31**	**146**	*e*PG	**Pg**	**11 33 56.9**	**-0.5**
KVT				*e*SG	**Sg**	**11 34 02.8**	**+1.4**
KVT	**Kavak**	**0.31**	**146**	*e*Pg	**Pg**	**11 33 56.9**	**-0.5**
KVT				*e*Sg	**Sg**	**11 34 02.8**	**+1.4**
DIKM	**Dikmen**	**0.52**	**307**	*e*PG	**Pg**	**11 34 01.8**	**+0.4**
DIKM				*e*SG	**Sb**	**11 34 10.5**	**-1.0**
DIKM	**Dikmen**	**0.52**	**307**	*e*Pg	**Pg**	**11 34 01.8**	**+0.4**
DIKM				*e*Sg	**Sb**	**11 34 10.5**	**-1.0**
SNOP	**Sinop**	**0.82**	**326**	*e*PG	**Pg**	**11 34 06.9**	**-0.2**
SNOP				*e*SG	**Sb**	**11 34 19.2**	**-0.9**
SNOP	**Sinop**	**0.82**	**326**	*e*Pg	**Pg**	**11 34 06.9**	**-0.2**
SNOP				*e*Sg	**Sb**	**11 34 19.2**	**-0.9**
SINO	**SINOP_Merkez**	**0.82**	**326**	*i*P	**Pg**	**11 34 06.8**	**-0.3**
SINO				*i*S	**Sg**	**11 34 18.4**	**+0.8**
CTAK	**Corum_Osmancik**	**1.04**	**229**	*i*P	**Pg**	**11 34 10.5**	**-0.8**
CTAK				*i*S	**Sb**	**11 34 27.1**	**+0.5**
COAL	**Corum-Alaca**	**1.25**	**210**	*i*P	**Pg**	**11 34 14.4**	**-1.0**
COAL				*i*S	**Sn**	**11 34 33.5**	**-0.4**
COAL	**Corum-Alaca**	**1.25**	**210**	P	**Pg**	**11 34 14.4**	**-1.0**
COAL				S	**Sn**	**11 34 33.5**	**-0.4**
CORM	**Corum**	**1.47**	**218**	*e*PN	**Pb**	**11 34 19.6**	**0.0**
CORM	**Corum**	**1.47**	**218**	*e*Pn	**Pb**	**11 34 19.6**	**0.0**
BZK	**Bozkurt**	**1.49**	**295**	*e*PN	**Pg**	**11 34 19.9**	**-0.1**
BZK	**Bozkurt**	**1.49**	**295**	*e*Pn	**Pg**	**11 34 19.9**	**-0.1**

KRNET ***17*** *11:44:45.8±0.1, 43°.79N×77°.94E, h24km, mb3.8*
NNC ***17*** *11:44:46.9±0.9, 43°.74N×77°.96E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=10.4km s-min=3.7km az=165.0*
ISCJB ***17*** *11:44:48.0±0.7, 43°.79N±0°.02×77°.96E±0°.02, h14km±5km, Error ellipse: s-maj=3.5km s-min=2.8km az=165.4*
SOME ***17*** *11:44:48.9, 43°.80N×77°.88E, h20km, MS2.6*

ISC 17 11:44:45.2±1.2, 43°.79N±0°.02×77°.91E±0°.02, h2km±10km, n41, σ1§41/77, 27C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.35**	**148**	*e*P	**Pn**	**11 44 56.3**	**-1.2**
	287nm,0.3s						
KURS				*e*S	**Sb**	**11 45 01.1**	**+0.8**
	472nm,0.2s						
ARXS	**Arharly**	**0.43**	**352**	*e*P	**Pn**	**11 44 57.6**	**-1.0**
	420nm,0.3s						
ARXS				*e*S	**Sb**	**11 45 03.8**	**+1.1**
	714nm,0.1s						
KPKS	**Kokpek**	**0.65**	**119**	*e*P	**Pn**	**11 44 59.8**	**-1.7**
	1μm,0.1s						
KPKS				*e*S	**Sb**	**11 45 07.6**	**-1.2**
	4μm,0.2s						
CHKK	**Chushkaly**	**0.67**	**276**	*e*P	**Pn**	**11 45 01.2**	**-0.6**
	169nm,0.3s						
CHKK				*e*S	**Sb**	**11 45 10.0**	**+0.5**
	3μm,0.3s						
ZHN	**Zhinishke**	**0.73**	**148**	*e*P	**Pn**	**11 45 01.1**	**-1.5**
	648nm,0.2s						
ZHN				*e*S	**Sb**	**11 45 10.4**	**-0.7**
	3μm,0.3s						
KOTS	**Kotyrbulak**	**0.80**	**227**	*e*P	**Pn**	**11 45 03.7**	**0.0**
	536nm,0.2s						
KOTS				*e*S	**Sb**	**11 45 14.2**	**+0.8**
	382nm,0.1s						
SATY	**Saty**	**0.81**	**153**	*e*P	**Pn**	**11 45 02.7**	**-1.1**
	875nm,0.1s						
SATY				*e*S	**Sb**	**11 45 13.2**	**-0.4**
	3μm,0.2s						
MDOK	**Medeo**	**0.89**	**226**	⇑P	**Pn**	**11 45 04.1**	**-0.7**
MDOK				⇑S	**Sb**	**11 45 15.7**	**0.0**
MDOK	**Medeo**	**0.89**	**226**	*e*P	**Pn**	**11 45 04.2**	**-0.7**
	427nm,0.2s						
MDOK				*e*S	**Sg**	**11 45 14.9**	**+1.2**
	719nm,0.2s						
KTBS	**Karatobe**	**0.89**	**266**	*e*P	**Pn**	**11 45 05.2**	**+0.3**
	128nm,0.4s						
KTBS				*e*S	**Sn**	**11 45 16.8**	**-1.6**
	129nm,0.2s						
AAA	**Alma-Ata**	**0.93**	**232**	*e*P	**Pn**	**11 45 05.2**	**-0.2**
	1μm,0.1s						
AAA				*e*S	**Sb**	**11 45 16.9**	**0.0**
	3μm,0.1s						
ANVS	**Anan'yevo**	**1.02**	**190**	⇑*e*P	**Pn**	**11 45 06.3**	**-0.4**
	baz=192						
ANVS				⇑*e*S	**Sb**	**11 45 19.9**	**+0.3**
	baz=192						
TNSS	**Tian-Shan**	**1.03**	**224**	*e*P	**Pn**	**11 45 07.5**	**+0.5**
	256nm,0.2s						
TNSS				*e*S	**Sn**	**11 45 20.8**	**-1.4**
	1μm,0.4s						
UZB	**Uzynbulak**	**1.03**	**128**	*e*P	**Pn**	**11 45 06.4**	**-0.5**
	98nm,0.1s						
UZB				*e*S	**Sb**	**11 45 19.6**	**-0.4**
	3μm,0.3s						
KUU	**Kurty**	**1.14**	**276**	*e*P	**Pn**	**11 45 08.2**	**-0.1**
	379nm,0.3s						
KUU				*e*S	**Sb**	**11 45 22.3**	**-0.8**
	3μm,0.4s						
IZV	**Izvestkoviy**	**1.21**	**232**	*e*P	**Pg**	**11 45 10.6**	**+2.2**
	412nm,0.4s						
IZV				*e*S	**Sn**	**11 45 25.9**	**-0.4**
	453nm,0.2s						
PDGK	**Podgornoye**	**1.23**	**111**	⇑*e*P	**Pg**	**11 45 09.7**	**+0.8**
	baz=112						
PDGK				⇑*i*S	**Sn**	**11 45 25.7**	**-1.3**
	baz=112						
PDGK	**Podgornoye**	**1.23**	**111**	⇑P	**Pg**	**11 45 09.6**	**+0.8**
	59nm,0.3s						
PDGK				⇑S	**Sn**	**11 45 25.8**	**-1.1**
	394nm,0.4s						
MTBS	**Maitube**	**1.26**	**239**	*e*P	**Pg**	**11 45 10.5**	**+1.1**
	854nm,0.1s						
MTBS				*e*S	**Sb**	**11 45 25.8**	**-0.7**
	2μm,0.2s						
TDK	**Taldyqorghan**	**1.27**	**16**	*e*P	**Pg**	**11 45 11.3**	**+1.8**
	53nm,0.1s						
TDK				*e*S	**Sn**	**11 45 27.1**	**-0.5**
	448nm,0.2s						
SHLS	**Shalkode**	**1.29**	**119**	*e*P	Pg	11 45 15.6	+5.6
	71nm,0.2s						
SHLS				*e*S	**Sn**	**11 45 35.5**	**+7.2**
	974nm,0.6s						
DJR	**Jarkent**	**1.46**	**67**	*e*P	**Pg**	**11 45 13.5**	**+0.3**
	333nm,0.1s						
DJR				*e*S	**Sg**	**11 45 31.9**	**-0.2**
	771nm,0.3s						
KST	**Kastek**	**1.60**	**243**	*e*P	**Pg**	**11 45 16.3**	**+0.4**
	200nm,0.2s						
KST				*e*S	**Sn**	**11 45 35.7**	**-0.4**
	240nm,0.2s						
DGS	**Degeres**	**1.65**	**251**	*e*P	**Pg**	**11 45 17.6**	**+0.8**
	613nm,0.3s						
DGS				*e*S	**Sb**	**11 45 38.0**	**+0.3**
	1μm,0.5s						
KDJ	**Kajisay**	**1.74**	**198**	⇓*e*P	**Pg**	**11 45 19.2**	**+0.6**
	baz=199						
KDJ				⇓*i*S	**Sg**	**11 45 41.2**	**+0.1**
	baz=199						
TKM2	**Tokmak 2**	**1.90**	**244**	⇑*i*P	**Pb**	**11 45 20.9**	**+0.2**
	baz=244						
TKM2				⇑*i*S	**Sb**	**11 45 45.8**	**+0.9**
	baz=244						
TKM2	**Tokmak 2**	**1.90**	**244**	⇑Pn	**Pb**	**11 45 20.7**	**0.0**
	144nm,0.6s						
TKM2				⇑Lg	Lg	11 45 46.2	
	7.2nm,0.1s						
BOOM	**Boomskoye usch**	**1.94**	**229**	⇓*e*P	**Pb**	**11 45 21.6**	**+0.2**
	baz=229						
BOOM				⇓*i*S	**Sg**	**11 45 47.8**	**+0.3**
	baz=229						
ULHL	**Ulahol**	**1.97**	**219**	⇑*i*P	**Pb**	**11 45 22.6**	**+0.7**
	baz=219						
ULHL				⇑*i*S	**Sg**	**11 45 48.3**	**-0.1**
	baz=219						
CHMS	**Chumysh**	**2.44**	**252**	⇑*i*P	**Pb**	**11 45 28.0**	**-1.8**
	baz=252						
CHMS				⇑*i*S	**Sb**	**11 45 59.3**	**-0.9**
	baz=252						
KBK	**Karagaybulak**	**2.44**	**243**	⇑*i*P	**Pb**	**11 45 28.6**	**-1.4**
	baz=244						
KBK				⇑*i*S	**Sb**	**11 46 00.9**	**+0.3**
	baz=244						
USP	**Ospenovka**	**2.54**	**259**	⇓*i*P	**Pn**	**11 45 28.9**	**+1.4**
	baz=259						
USP				⇓*i*S	**Sb**	**11 46 02.3**	**-0.8**
	baz=259						
FRU1	**Bishkek**	**2.59**	**249**	⇑*e*P	**Pb**	**11 45 32.1**	**-0.3**
	baz=249						
FRU1				⇑*i*S	**Sb**	**11 46 04.2**	**-0.4**
	baz=249						
KZA	**Kyzart**	**2.60**	**230**	⇓*i*P	**Pb**	**11 45 31.8**	**-0.9**
	baz=230						
KZA				⇓*i*S	**Sb**	**11 46 06.8**	**+1.6**
	baz=230						
AAK	**Ala-Archa**	**2.75**	**246**	⇓Pn	**Pb**	**11 45 34.9**	**-0.3**
	22nm,0.3s						
AAK				⇑Sn	**Sg**	**11 46 11.8**	**-1.7**
	114nm,0.5s						
MRKS	**Merke**	**3.58**	**255**	*e*P	**Pg**	**11 45 51.8**	**-2.0**
	83nm,0.3s						
MRKS				*e*S	**Sb**	**11 46 36.5**	**+3.4**
	42nm,0.3s						
MNAS	**Manas**	**4.17**	**254**	⇓Pg	**Pb**	**11 46 01.6**	**+2.2**
	12nm,0.6s						
MNAS				⇑Lg	Lg	11 46 58.1	
	14nm,0.4s						
MAKZ	**Makanchi**	**4.17**	**42**	⇑Pg	**Pg**	**11 46 03.9**	**-1.1**
	3.8nm,0.4s						
MAKZ				⇑Lg	Lg	11 46 56.7	
	9.1nm,0.2s						
MK31	**Makanchi Array**	**4.31**	**44**	Pn	**Pn**	**11 45 53.6**	**+1.8**
	0.6nm,0.2s,baz=220,slow=15,SNR=72						
MK31				⇑Pg	**Pg**	**11 46 05.7**	**-2.1**
	2.7nm,0.3s,baz=221,slow=15,SNR=10						
MK31				⇓Sn	**Sn**	**11 46 43.4**	**+0.7**
	2.3nm,0.2s						
MK31				⇓Lg	Lg	11 47 01.7	
	10nm,0.3s,baz=225,slow=28,SNR=7.7						
KK31	**Karatay Array**	**5.43**	**265**	⇑Pg	**Pg**	**11 46 26.4**	**-2.9**
	1.9nm,0.3s,baz=77,slow=17,SNR=28						
KK31				⇑Lg	Lg	11 47 37.5	
	8.4nm,0.4s						
KURBB	**Kurchatov Arra**	**6.85**	**3**	⇓Pn	**Pn**	**11 46 26.7**	**0.0**
	1.1nm,0.3s						
KURBB				⇓Lg	Lg	11 48 23.1	
	62nm,0.8s						

IDC 17 11:59:13.6±1.7, 6°.41S×129°.54E, h0km, mb4.1/2, mb1 4.0/4, mb1mx3.6/30, mbtmp3.9/4, ML4.0/2, MS4.0/1, Ms1 4.2/1, ms1mx3.0/37, Error ellipse: s-maj=107.6km s-min=26.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.24**	**161**	Pn	Pn	12 02 36.3	-0.5
	0.7nm,0.3s,baz=340,slow=13,SNR=22						
WRA				Sn	Sn	12 05 00.5	-15
	1.8nm,0.3s,baz=334,slow=23,SNR=14						
ASAR	**Alice Springs**	**17.67**	**167**	P	Pn	12 03 21.7	+0.4
	0.4nm,0.3s,baz=351,slow=11,SNR=23						
ASAR				S	Sn	12 06 22.9	-16
	0.2nm,0.3s,baz=352,slow=26,SNR=3.9						
STKA	**Stephens Creek**	**27.73**	**158**	P	P	12 05 03.9	-0.1
	0.6nm,0.5s,baz=335,slow=14,SNR=2.9						
CMAR	**Chiang Mai Arr**	**39.00**	**310**	LR	LR	12 24 52.2	
	comp=Z,220nm,19.0s,baz=202,slow=39						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	12 10 11.5	0.0
	1.8nm,0.5s,baz=119,slow=8.1,SNR=6.3						

NIED

2.7nm,0.3s,baz=246,slow=19,SNR=5.5
JHJ Sn **Sn** **12 06 43.3 -5.8**
9.0nm,0.3s,baz=258,slow=23,SNR=6.9
ASAJ Asahikawa 6.12 351 Pn **Pn** **12 05 44.3 +0.6**
1.1nm,0.3s,baz=219,slow=7.9,SNR=8.0
ASAJ Sn **Sn** **12 06 51.6 -0.9**
0.4nm,0.3s,baz=55,slow=17,SNR=3.1
NRIK Noril'sk 43.17 334 LR LR 12 31 27.3
comp=Z,38nm,18.7s,baz=157,slow=38
KDAK Kodiak Island 44.99 43 LR LR 12 28 06.0
comp=Z,33nm,21.3s,baz=257,slow=32
MKAR Makanchi Array 45.26 302 P P 12 12 35.6 +5.8
1.0nm,0.7s,baz=83,slow=9.7,SNR=5.6
MKAR LR LR 12 31 41.7
comp=Z,65nm,18.7s,baz=172,slow=36
ILAR Eielson Array 47.55 33 P **P** **12 12 47.8 +0.2**
0.7nm,0.8s,baz=271,slow=5.5,SNR=8.0
WRA Warramunga Arr 58.40 191 P **P** **12 14 07.5 -0.5**
1.7nm,0.6s,baz=11,slow=7.3,SNR=12
ASAR Alice Springs 62.13 190 P **P** **12 14 32.9 -0.5**
0.4nm,0.6s,baz=9.6,slow=15,SNR=5.8
PDAR Pinedale Array 75.52 47 P **P** **12 15 57.1 +0.2**
0.3nm,0.6s,baz=253,slow=1.5,SNR=4.7
PPT Papeete 83.35 118 LR LR 12 46 54.4
comp=Z,34nm,19.5s,baz=256,slow=31
TXAR Lajitas Array 87.91 54 P **P** **12 17 02.6 +0.4**
0.2nm,0.9s,baz=322,slow=2.8,SNR=3.1

IDC 17 12:05:44.8±7.3, 22°.65N×143°.05E, h148km±68km, mb3.5/6, mb1 3.7/7, mb1mx3.3/37, mbtmp3.9/7, Error ellipse: s-maj=45.2km s-min=20.8km az=95.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.47**	**344**	P	Pn	12 09 02.1	-0.6
	0.4nm,0.3s,baz=159,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**43.18**	**192**	P	P	12 13 31.0	-0.1
	0.6nm,0.3s,baz=16,slow=9.3,SNR=10						
ILAR	**Eielson Array**	**61.26**	**27**	P	P	12 15 44.0	0.0
	0.4nm,0.7s,baz=262,slow=4.8,SNR=4.7						
BVAR	**Borovoye Array**	**61.87**	**319**	P	P	12 15 48.9	+0.5
	0.8nm,0.5s,baz=91,slow=10,SNR=4.9						
YKA	**Yellowknife Ar**	**75.68**	**28**	P	P	12 17 13.8	+0.3
	0.7nm,0.5s,baz=294,slow=5.8,SNR=1.6						
ARCES	**ARCESS Array B**	**77.99**	**341**	P	P	12 17 26.6	+0.2
	3.6nm,1.0s,baz=70,slow=7.8,SNR=4.0						
FINES	**FINESS Array B**	**82.28**	**334**	P	P	12 17 48.3	-1.2
	2.0nm,0.8s,baz=58,slow=5.2,SNR=1.7						

WEL 17 12:06:00.6±0.4, 38°.82S×175°.25E, h203km±3km, ML3.5/18, 6C-5D, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.49**	**231**	⇑PN	Pn	12 06 27.7	-0.2
FWVZ	**Far West T-bar**	**0.50**	**152**	⇑PN	Pn	12 06 28.3	0.0
FWVZ				SN	S	12 06 48.9	-1.1
WNVZ	**Wahianoa**	**0.58**	**152**	PN	Pn	12 06 28.6	+0.1
MRHZ	**Matea Rd**	**0.91**	**91**	PN	Pn	12 06 29.6	-0.5
MRHZ				AML	AML	12 06 51.5	
MRHZ				AML	AML	12 06 51.8	
BHHZ	**Black Hill Sta**	**0.92**	**137**	PN	Pn	12 06 30.0	-0.2
WAZ	**Wanganui**	**0.96**	**192**	⇑PN	Pn	12 06 30.5	+0.1
BKZ	**Black Stump Fm**	**1.03**	**110**	PN	Pn	12 06 30.7	-0.2
KWHZ	**Kaweka Forest**	**1.10**	**124**	PN	Pn	12 06 31.6	+0.2
KWHZ				AML	AML	12 06 56.7	
KWHZ				AML	AML	12 06 57.1	
KRHZ	**Kereru**	**1.20**	**134**	PN	Pn	12 06 32.2	+0.1
KRHZ				SN	S	12 06 55.6	-0.8
KRHZ				AML	AML	12 06 57.8	
PNHZ	**Pukenui**	**1.32**	**146**	PN	Pn	12 06 33.0	0.0
TSZ	**Takapari Road**	**1.36**	**156**	PN	Pn	12 06 33.2	-0.1
OHWZ	**Ohakea**	**1.39**	**178**	PN	Pn	12 06 33.8	+0.3
OHWZ				SN	S	12 06 58.7	-0.3
ARHZ	**Aropaoanui**	**1.43**	**109**	PN	Pn	12 06 34.3	+0.4
ARHZ				SN	S	12 06 59.4	-0.1
ARHZ				AML	AML	12 07 00.3	
WPHZ	**Waipukurau**	**1.55**	**144**	PN	Pn	12 06 35.0	0.0
WPHZ				SN	S	12 07 00.6	-0.8
WPHZ				AML	AML	12 07 02.6	
URZ	**Urewera**	**1.56**	**70**	⇓PN	Pn	12 06 34.0	-1.1
WHHZ	**Waihua**	**1.57**	**100**	PN	Pn	12 06 35.2	+0.1
KAHZ	**Kahuranaki**	**1.60**	**128**	⇓PN	Pn	12 06 35.7	+0.3
POWZ	**Post Office Ro**	**1.62**	**166**	PN	Pn	12 06 35.2	-0.4
SNGZ	**Shannon Statio**	**1.64**	**89**	PN	Pn	12 06 35.5	-0.2
SNGZ				AML	AML	12 07 06.4	
DVHZ	**Dannevirke**	**1.64**	**155**	PN	Pn	12 06 35.3	-0.5
DVHZ				AML	AML	12 07 01.8	
DVHZ				AML	AML	12 07 03.4	
CKHZ	**Cape Kidnapper**	**1.65**	**121**	PN	Pn	12 06 36.1	+0.3
PXZ	**Pawanui**	**1.74**	**135**	PN	Pn	12 06 36.5	-0.2
PRHZ	**Porangahau**	**1.80**	**144**	PN	Pn	12 06 37.1	-0.2
PRHZ				AML	AML	12 07 07.4	
PRWZ	**Pori Road**	**1.82**	**162**	PN	Pn	12 06 37.1	-0.4
PRWZ				AML	AML	12 07 06.7	
MWZ	**Matawai**	**1.85**	**76**	⇓PN	Pn	12 06 36.9	-0.9
MWZ				SN	S	12 07 03.8	-2.5
MRZ	**Mangatainoka R**	**1.86**	**172**	PN	Pn	12 06 37.0	-0.9
MRZ				AML	AML	12 07 05.4	
MRZ				AML	AML	12 07 06.5	
ANWZ	**Angora Road**	**1.90**	**150**	PN	Pn	12 06 38.0	-0.2
ANWZ				AML	AML	12 07 08.8	
KNZ	**Kokohu**	**1.90**	**97**	PN	Pn	12 06 37.9	-0.4
RIGZ	**Rimuhau**	**1.97**	**88**	PN	Pn	12 06 38.6	-0.4
RIGZ				AML	AML	12 07 09.7	
OGWZ	**Otaki Gorge**	**2.00**	**182**	⇑PN	Pn	12 06 38.5	-0.7
OGWZ				AML	AML	12 07 07.7	
OGWZ				AML	AML	12 07 07.8	
BFZ	**Birch Farm**	**2.02**	**158**	⇑PN	Pn	12 06 38.5	-0.9
KIW	**Kapiti Island**	**2.06**	**187**	PN	Pn	12 06 38.7	-1.2
TKGZ	**Te Karaka**	**2.07**	**80**	PN	Pn	12 06 39.7	-0.3
TKGZ				AML	AML	12 07 11.6	
TKGZ				AML	AML	12 07 12.1	
HOWZ	**Holdsworth Sta**	**2.09**	**174**	PN	Pn	12 06 39.0	-1.1
RUGZ	**Raukumara Rang**	**2.09**	**67**	PN	Pn	12 06 38.5	-1.9
MHGZ	**Mahia Peninsul**	**2.10**	**100**	PN	Pn	12 06 40.0	-0.3
CPWZ	**Castlepoint**	**2.22**	**161**	PN	Pn	12 06 41.0	-0.5
DUZ	**D'Urville Isla**	**2.23**	**207**	⇑PN	Pn	12 06 40.2	-1.4
TWGZ	**Tauwhareparae**	**2.24**	**74**	PN	Pn	12 06 41.3	-0.5
TWGZ				AML	AML	12 07 16.7	
TWGZ				AML	AML	12 07 17.2	
HAZ	**Te Kaha**	**2.26**	**63**	⇓PN	Pn	12 06 40.2	-1.8
CAW	**Cannon Point**	**2.29**	**183**	PN	Pn	12 06 41.1	-1.2
CAW				AML	AML	12 07 14.1	
CAW				AML	AML	12 07 14.2	
MTW	**Mount Morrison**	**2.35**	**175**	PN	Pn	12 06 41.5	-1.4
PKGZ	**Pakihiroa**	**2.41**	**68**	PN	Pn	12 06 42.3	-1.4
PUZ	**Puketiti**	**2.48**	**73**	PN	Pn	12 06 43.1	-1.3
TCW	**Tory Channel**	**2.50**	**197**	PN	Pn	12 06 43.3	-1.3
TCW				AML	AML	12 07 17.5	
TCW				AML	AML	12 07 18.3	
MSWZ	**Moikau Station**	**2.60**	**180**	PN	Pn	12 06 43.9	-1.8
WMGZ	**Waiomatatini S**	**2.68**	**69**	PN	Pn	12 06 45.2	-1.4
MXZ	**Matakaoa Point**	**2.71**	**64**	PN	Pn	12 06 45.9	-1.1
NNZ	**Nelson**	**2.79**	**210**	⇓PN	Pn	12 06 45.8	-2.0
TUWZ	**Tuamarina**	**2.80**	**201**	PN	Pn	12 06 46.3	-1.6
TUWZ				AML	AML	12 07 23.9	
QRZ	**Quartz Range**	**2.90**	**225**	PN	Pn	12 06 46.3	-2.8
BSWZ	**Blackbirch Sta**	**3.08**	**199**	PN	Pn	12 06 49.7	-1.5

MEX 17 12:15:43.5±0.7, 32°.42N×114°.98W, h10km, MD3.6, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.18**	**265**	*e*P	Pg	12 15 46.4	-1.0
MBIG				*i*S	Sg	12 15 49.6	-0.5
CBX	**Cerro Bola**	**1.43**	**266**	*e*P	Pn	12 16 05.9	-3.7
SPIG	**San Pedro Mart**	**1.43**	**197**	*e*P	Pn	12 16 06.2	-3.7

*SJA **17** 12:16:40.9±0.4, 21°.61S×68°.55W, h118km±7km, ML2.9, MW3.1*
*ISCJB **17** 12:16:41.5±0.9, 21°.66S±0°.04×68°.58W±0°.06, h132km±10km, Error ellipse: s-maj=9.3km s-min=6.0km az=150.1*
*GUC **17** 12:16:41.6±0.6, 21°.66S×68°.70W, h136km±4km, ML3.8*

ISC 17 12:16:41.7±1.6, 21°.67S±0°.05×68°.59W±0°.05, h132km±14km, n13, σ0°90/24, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.62**	**258**	*e*P	Pn	**12 17 02.1**	**+0.2**
PB09				*e*S	Sn	**12 17 17.5**	**+0.4**
PB09				IAML		12 17 18.9	
	comp=E,6μm,0.5s						
LVC	**Limon Verde**	**0.98**	**197**	*i*P	Pn	**12 17 04.7**	**-0.4**
LVC				*i*S	Sn	**12 17 21.8**	**-0.9**
PB01	**IPOC Station P**	**1.04**	**307**	*e*P	Pn	**12 17 05.4**	**+0.1**
PB01				*e*S	Sn	**12 17 23.4**	**+0.3**
PB01				IAML		12 17 25.4	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.20**	**267**	*e*P	Pn	**12 17 07.3**	**+0.4**
PB07				*e*S	Sn	**12 17 26.5**	**+0.4**
PB07				IAML		12 17 27.4	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**1.37**	**221**	*e*P	Pn	**12 17 08.9**	**+0.2**
PB06				*e*S	Sn	**12 17 29.5**	**+0.2**
PB06				IAML		12 17 31.0	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.59**	**245**	⇑*i*P	Pn	**12 17 11.4**	**+0.3**
PB04				*i*S	Sn	**12 17 33.4**	**-0.1**
PB04				IAML		12 17 35.1	
	comp=N,1μm,0.2s						
HMBC	**Humberstone**	**1.84**	**319**	*e*P	Pn	**12 17 13.9**	**-0.1**
HMBC				*e*S	Sn	**12 17 38.8**	**+0.2**
HMBC				IAML		12 17 40.8	
	comp=N,1μm,0.5s						
PSGC	**Pisagua**	**2.51**	**325**	*i*P	Pn	**12 17 21.5**	**-0.8**
PSGC				*i*S	Sn	**12 17 52.2**	**-1.2**
PSGC				IAML		12 17 57.3	
	comp=N,296nm,0.3s						
PB10	**IPOC Station P**	**2.58**	**224**	*e*P	Pn	**12 17 24.7**	**+1.7**
PB10				*e*S	Sn	**12 17 51.9**	**-2.9**
MNMC	**Minye Minye**	**2.69**	**339**	⇑*i*P	Pn	**12 17 25.2**	**+0.5**
MNMC				*i*S	Sn	**12 17 58.4**	**+0.5**
YJA	**Yavi**	**2.90**	**101**	*e*P	Pn	**12 17 27.6**	**0.0**
YJA				*e*S	Sn	**12 18 02.5**	**-0.4**
YJA				IAML		12 18 05.9	
	comp=Z,12nm,0.8s						
HJA	**Humahuaca**	**3.32**	**118**	*e*P	Pn	**12 17 33.2**	**+0.4**
HJA				IAML		12 17 34.3	
	comp=Z,23nm,0.2s						
SLA	**San Lorenzo**	**4.16**	**138**	*i*P	Pn	**12 17 44.4**	**+0.7**
SLA				IAML		12 17 46.2	
	comp=Z,35nm,0.6s						

*IDC **17** 12:24:27.1±0.7, 19°.33S×167°.85E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/24, mbtmp4.2/13, ML4.2/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/21, Error ellipse: s-maj=26.8km s-min=18.1km az=125.0*
*ISCJB **17** 12:24:29.9±0.2, 19°.44S±0°.05×167°.80E±0°.05, h26km, mb4.8/58, MS4.1/6, Error ellipse: s-maj=8.7km s-min=5.3km az=140.2*
*NEIC **17** 12:24:29.8±3.1, 19°.35S×167°.81E, h15km±18km, mb4.9/42, Error ellipse: s-maj=9.1km s-min=5.3km az=157.0*
*BJI **17** 12:24:31.0, 19°.04S×168°.13E, h25km, mb4.8/24, mB5.2/16, Ms4.9/9, Ms7 4.7/6*
*MOS **17** 12:24:31.1±0.8, 19°.42S×167°.71E, h35km, mb5.0/15, Error ellipse: s-maj=14.2km s-min=10.7km az=156.5*
ISC 17 12:24:31.0±0.4, 19°.47S±0°.07×167°.89E±0°.07, h26km, n160, σ1°07/159, mb4.9/56, MS3.9/6, 4C-2D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.92**	**207**	Pn	**Pn**	**12 25 16.2**	**+0.2**
	33nm,0.3s,baz=64,slow=12,SNR=582						
DZM				Sn	**Sn**	**12 25 49.9**	**-0.3**
	116nm,0.3s,baz=184,slow=21,SNR=14						
DZM				LR	LR	12 25 56.6	
	comp=Z,675nm,18.9s,baz=24,slow=30						
DZM	**Mont Dzumac**	**2.92**	**207**	*e*Pn	**Pn**	**12 25 14.5**	**-1.4**
	209nm,0.3s						
DZM				*e*Sn	**Sn**	**12 25 49.0**	**-1.2**
	941nm,0.3s						
DZM	**Mont Dzumac**	**2.92**	**207**	*e*Pn	**Pn**	**12 25 14.9**	**-1.0**
DZM				*e*Sn	**Sn**	**12 25 49.9**	**-0.3**
MSVF	**Nonsavu**	**9.79**	**81**	*e*P	**Pn**	**12 26 51.8**	**+1.5**
MSVF	**Nonsavu**	**9.79**	**81**	*e*Pn	**Pn**	**12 26 51.8**	**+1.5**
HNR	**Honiara**	**12.59**	**321**	LR	LR	12 31 17.2	
	comp=Z,92nm,20.8s,baz=166,slow=33						
CTA	**Charters Tower**	**20.37**	**265**	P	**P**	**12 29 05.9**	**+0.1**
	8.8nm,0.9s,baz=89,slow=15,SNR=3.8						
CTAO	**Charters Tower**	**20.37**	**265**	*e*P	**P**	**12 29 06.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,485nm,1.0s						
CTAO	**Charters Tower**	**20.37**	**265**	*e*P	**P**	**12 29 06.1**	**+0.3**
	comp=Z,485nm,1.0s						
TARA	**Tarawa**	**21.27**	**14**	*e*P	**P**	**12 29 13.0**	**-2.6**
	comp=Z,8.2nm,1.0s						
PMG	**Port Moresby**	**22.40**	**294**	*e*P	**P**	**12 29 26.4**	**-1.4**
PMG				pmax	pmax		
	comp=Z,48nm,1.0s						
PMG	**Port Moresby**	**22.40**	**294**	*e*P	**P**	**12 29 26.4**	**-1.4**
	comp=Z,48nm,1.0s						
COEN	**Coen**	**24.28**	**279**	*e*P	**P**	**12 29 47.0**	**+0.6**
	comp=Z,43nm,1.2s						
STKA	**Stephens Creek**	**26.65**	**237**	P	**P**	**12 30 08.6**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=85,slow=11,SNR=5.1						
STKA				LR	LR	12 39 34.0	
	comp=Z,262nm,20.1s,baz=30,slow=34						
STKA	**Stephens Creek**	**26.65**	**237**	*e*P	**P**	**12 30 08.6**	**+0.9**
STKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STKA	**Stephens Creek**	**26.65**	**237**	*e*P	**P**	**12 30 08.6**	**+0.9**
	comp=Z,4.9nm,1.0s						
WB2	**Warramunga Arr**	**31.55**	**263**	*e*P	**P**	**12 30 51.5**	**0.0**
WRAB	**Tennant Creek**	**31.55**	**263**	⇓*e*P	**P**	**12 30 50.2**	**-1.3**
WR1	**Warramunga Arr**	**31.56**	**263**	*e*P	**P**	**12 30 50.5**	**-1.1**
	comp=Z,15nm,1.1s						
WR1				*e*PcP	**PcP**	**12 33 43.8**	**-0.2**
WRA	**Warramunga Arr**	**31.56**	**263**	P	**P**	**12 30 50.5**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=86,slow=8.3,SNR=11						
WRA				PcP	**PcP**	**12 33 43.8**	**-0.2**
	comp=Z,1.9nm,1.1s,baz=96,slow=3.0,SNR=4.9						
WRA				LR	LR	12 41 49.7	
	comp=Z,172nm,21.7s,baz=120,slow=33						
AS01	**Alice Springs**	**31.79**	**256**	*e*P	**P**	**12 30 54.9**	**+1.3**
AS31	**Alice Springs**	**31.83**	**256**	*e*P	**P**	**12 30 54.0**	**0.0**
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**31.83**	**256**	P	**P**	**12 30 54.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=82,slow=8.1,SNR=42						
ASAR				PcP	**PcP**	**12 33 44.0**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=90,slow=2.8,SNR=2.8						
ASAR				LR	LR	12 42 54.4	
	comp=Z,242nm,19.9s,baz=2.5,slow=35						
FITZ	**Fitzroy Crossi**	**39.95**	**265**	*e*P	**P**	**12 32 04.0**	**+0.4**
	comp=Z,20nm,0.8s						
PPT2	**Papeete2**	**40.30**	**94**	*e*LR	LR	12 43 08.5	
	comp=Z,296nm,31.8s						
MBWA	**Marble Bar**	**45.06**	**259**	*e*P	**P**	**12 32 45.8**	**+0.7**
	comp=Z,30nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.97**	**243**	*e*P	**P**	**12 32 57.6**	**-2.4**
NWAO				pmax	pmax		
	comp=Z,136nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.97**	**243**	*e*P	**P**	**12 32 57.6**	**-2.4**
	comp=Z,136nm,1.0s						
TAOE	**Nuku Hiva Isla**	**51.31**	**86**	*e*S	**S**	**12 40 46.4**	**-5.1**
	comp=Z,76nm,24.4s						
TAOE				*e*LR	LR	12 48 06.9	
	comp=Z,109nm,34.0s						
POHA	**Pohakuloa**	**52.97**	**45**	*e*P	**P**	**12 33 47.0**	**+1.2**
VNDA	**Vanda**	**58.17**	**182**	P	**P**	**12 34 23.6**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=27,slow=5.8,SNR=3.0						
SBA	**Scott Base**	**58.43**	**180**	*e*P	**P**	**12 34 26.4**	**+2.4**
SBA				pmax	pmax		
	comp=Z,14nm,1.3s						
SBA	**Scott Base**	**58.43**	**180**	*e*P	**P**	**12 34 26.4**	**+2.4**
	comp=Z,14nm,1.3s						
KSM	**Kuching**	**60.18**	**283**	*e*P	**P**	**12 34 36.9**	**-0.2**
	comp=Z,3.8nm,0.8s						
NJ2	**Nanjing**	**69.49**	**317**	*e*P	P	12 35 43.1	+5.7
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
PETK	**Petropavlovsk-**	**72.81**	**354**	P	**P**	**12 35 56.9**	**-0.2**
	comp=Z,7.7nm,0.8s,baz=144,slow=9.3,SNR=7.0						
PEA1	**Petropavlovsk-**	**72.81**	**354**	*e*P	**P**	**12 35 56.9**	**-0.2**
GYA	**Guiyang**	**74.91**	**306**	*e*P	**P**	**12 36 12.0**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**77.31**	**303**	P	**P**	**12 36 26.6**	**+2.6**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CM01	**Chiang Mai Arr**	**77.41**	**295**	*e*P	**P**	**12 36 24.8**	**+0.5**
CM31	**Chiang Mai Arr**	**77.44**	**295**	*e*P	**P**	**12 36 24.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**77.44**	**295**	P	**P**	**12 36 24.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=124,slow=3.6,SNR=7.3						
CMAR	**Chiang Mai Arr**	**77.44**	**295**	*i*P	**P**	**12 36 25.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MAW	**Mawson**	**77.74**	**202**	P	**P**	**12 36 26.0**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=94,slow=8.9,SNR=4.4						
MAW				LR	LR	13 08 25.6	
	comp=Z,58nm,18.3s,baz=59,slow=34						
MAW	**Mawson**	**77.74**	**202**	*e*P	**P**	**12 36 26.0**	**+0.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**79.57**	**320**	*e*P	**P**	**12 36 37.8**	**+1.9**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,8.6s						
LZH	**Lanzhou**	**81.94**	**313**	*e*P	**P**	**12 36 49.8**	**+1.0**
LZH				pP	pP	12 36 58.0	+0.8
LZH				sP	sP	12 37 01.3	+1.1
LZH				PP	**PP**	**12 39 59.8**	**+3.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,9.2s						
LZH				LR	LR		
	comp=Z,250nm,15.3s						
LZH				LR	LR		
	comp=Z,240nm,15.6s						
LZH				LR	LR		
	comp=Z,290nm,19.2s						
KDAK	**Kodiak Island**	**83.68**	**20**	*i*P	**P**	**12 36 59.1**	**+2.1**
SVW2	**Sparrevohn**	**85.48**	**17**	*e*P	**P**	**12 37 06.1**	**0.0**
	comp=Z,15nm,1.1s						
RSO	**Redoubt South**	**85.77**	**18**	*e*P	**P**	**12 37 08.2**	**+0.3**
ULN	**Ulaanbaatar**	**86.29**	**324**	⇓*e*P	**P**	**12 37 10.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**86.29**	**324**	*e*P	**P**	**12 37 10.8**	**+0.1**
	comp=Z,16nm,1.4s						
SONA0	**Songino Array**	**86.64**	**324**	*e*P	**P**	**12 37 12.2**	**-0.1**
	comp=Z,21nm,1.7s						
SONM	**Songino Array**	**86.64**	**324**	P	**P**	**12 37 12.2**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=137,slow=5.1,SNR=12						
SONA1	**Songino Array**	**86.64**	**324**	*e*P	**P**	**12 37 12.4**	**+0.1**
YAK	**Yakutsk**	**86.71**	**343**	*e*P	**P**	**12 37 12.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK	**Yakutsk**	**86.71**	**343**	*e*P	**P**	**12 37 12.1**	**0.0**
	comp=Z,18nm,0.8s						
TT01	**Tatalina**	**86.87**	**16**	*e*P	**P**	**12 37 13.2**	**+0.2**
TTA	**Tatalina**	**86.89**	**16**	*e*P	**P**	**12 37 13.1**	**-0.1**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TTA	**Tatalina**	**86.89**	**16**	*e*P	**P**	**12 37 13.1**	**-0.1**
	comp=Z,4.4nm,1.0s						
WDC	**Whiskeytown Da**	**87.93**	**46**	*e*P	**P**	**12 37 19.2**	**+0.6**
WDC				pmax	pmax		
	comp=Z,13nm,1.4s						
WDC	**Whiskeytown Da**	**87.93**	**46**	*e*P	**P**	**12 37 19.2**	**+0.6**
	comp=Z,13nm,1.4s						
ORV	**Oroville**	**88.17**	**47**	*e*P	**P**	**12 37 20.0**	**+0.3**
ORV				pmax	pmax		
	comp=Z,33nm,2.0s						
ORV	**Oroville**	**88.17**	**47**	*e*P	**P**	**12 37 20.0**	**+0.3**
	comp=Z,32nm,2.0s						
AFDM	**Forest Hills D**	**88.26**	**48**	*e*P	**P**	**12 37 20.6**	**+0.3**
	comp=Z,5.2nm,0.9s						
CMB	**Columbia Colle**	**88.26**	**49**	*e*P	**P**	**12 37 20.6**	**+0.3**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMB	**Columbia Colle**	**88.26**	**49**	*e*P	**P**	**12 37 20.6**	**+0.3**
	comp=Z,5.2nm,0.8s						
CAST	**Castle Rocks**	**88.33**	**17**	*e*P	**P**	**12 37 20.3**	**+0.3**
	comp=Z,12nm,0.5s						
SNAA	**Sanae**	**88.87**	**183**	P	**P**	**12 37 22.7**	**0.0**
SNAA	**Sanae**	**88.87**	**183**	⇑*e*P	**P**	**12 37 23.0**	**+0.3**
SNAA	**Sanae**	**88.87**	**183**	*e*P	**P**	**12 37 23.3**	**+0.6**
	comp=Z,6.9nm,1.0s						
BEKR	**Beckworth**	**89.09**	**47**	*e*P	**P**	**12 37 24.7**	**+0.4**
	comp=Z,4.0nm,0.8s						
WAKR	**Walker**	**89.14**	**49**	*e*P	**P**	**12 37 25.0**	**+0.3**
	comp=Z,3.3nm,0.9s						
PNTR	**Pine Nut**	**89.28**	**48**	*e*P	**P**	**12 37 25.6**	**+0.3**
	comp=Z,5.8nm,0.9s						
VNA3	**Neumayer Olymp**	**89.51**	**181**	P	**P**	**12 37 26.2**	**+0.5**
PAHR	**Pah Rah Range**	**89.70**	**47**	*e*P	**P**	**12 37 27.4**	**+0.2**
	comp=Z,7.6nm,1.1s						
VNA2	**Neumayer--Watz**	**89.79**	**182**	P	**P**	**12 37 27.7**	**+0.8**
	baz=170,slow=4.0						
MOD	**Modoc Plateau**	**90.03**	**45**	*e*P	**P**	**12 37 29.0**	**+0.3**
	comp=Z,4.8nm,0.8s						
VNA1	**Neumayer--Stat**	**90.08**	**181**	P	**P**	**12 37 29.2**	**+1.0**
CCB	**Clear Creek Bu**	**90.48**	**18**	*e*P	**P**	**12 37 28.8**	**-1.2**
	comp=Z,23nm,2.0s						
F04A	**Amboy**	**90.50**	**41**	*e*P	**P**	**12 37 30.7**	**+0.2**
	comp=Z,11nm,0.9s						
HDA	**Harding Lake**	**90.54**	**18**	*e*P	**P**	**12 37 29.5**	**-0.8**
	comp=Z,14nm,1.5s						
MDM	**Murphy Dome**	**90.59**	**17**	*e*P	**P**	**12 37 29.3**	**-1.2**
	comp=Z,24

comp=Z,0.3nm,0.7s,baz=234,slow=5.7,SNR=4.7
DGZ Jazzator, Alta 98.65 320 *e*P **P 12 38 07.0 -0.9**
MK32 Makanchi Array 101.01 316 *e*Pdif **Pdif 12 38 19.6 +1.3**
MKAR Makanchi Array 101.01 316 P **Pdif 12 38 19.6 +1.3**
comp=Z,0.2nm,0.4s,baz=76,slow=6.1,SNR=3.5
MKAR Makanchi Array 101.01 316 *i* P **Pdif 12 38 20.5 +2.1**
ARA0 ARCESS Array S 124.96 345 *e*PKPdf **PKPdf 12 43 27.7 -0.5**
ARCES ARCESS Array B 124.96 345 PKP **PKPdf 12 43 27.7 -0.4**
comp=Z,1.8nm,0.8s,baz=29,slow=2.1,SNR=2.5
KLMR Klimovskoe 125.14 332 *e*PKIKP **PKPdf 12 43 27.4 -1.3**
KLMR pmax pmax
comp=Z,12nm,1.3s
GNI Garni 127.46 306⇑*i*PKIKP **PKPdf 12 43 30.9 -3.1**
AKASG Malin Array Be 134.92 324 PKP **PKPdf 12 43 47.3 -0.3**
comp=Z,0.5nm,0.5s,baz=60,slow=2.6,SNR=2.5
AKBB Malin Array Si 134.92 324 *e*PKIKP **PKPdf 12 43 47.4 -0.1**
AKBB Malin Array Si 134.92 324 *e*PKPdf **PKPdf 12 43 47.4 -0.1**
CONA Conrad Observa 143.67 328 *i* PKPdf **PKPdf 12 44 02.5 -1.2**
comp=Z,7.5nm,1.2s
KHC Kasperske Hory 143.93 331 *e*PKP PKPbc 12 44 02.6 +0.7
KHC *e*pPKP **PKiKP 12 44 07.8 +0.2**
KHC Kasperske Hory 143.93 331 *e*PKIKP PKPbc 12 44 02.6 +0.7
KHC *e* 12 44 07.8
GEC2 GERESS Array S 144.08 331 *e*PKIKP PKPbc 12 44 03.1 +0.7
GEC2 GERESS Array S 144.08 331 *e*PKPdf PKPbc 12 44 03.1 +0.6
GERES GERESS Array B 144.08 331 PKP PKPbc 12 44 02.9 +0.4
comp=Z,2.2nm,0.8s,baz=60,slow=3.2,SNR=11
ARSA Arzberg 144.29 327 *i* PKPdf **PKPdf 12 44 04.0 -0.8**
comp=Z,7.1nm,1.1s
MOA Molln 144.51 329 *i* PKPdf **PKPdf 12 44 04.7 -0.4**
comp=Z,17nm,1.1s,SNR=7.1
PERS Pernice 144.90 327 *i* PKPbc PKPbc 12 44 05.1 0.0
SOKA Soboth 144.92 327 *i* PKPdf PKPbc 12 44 05.2 0.0
comp=Z,24nm,1.7s,SNR=6.7
OBKA Obir 145.28 327 *i* PKPdf **PKPbc 12 44 06.3 0.0**
comp=Z,8.9nm,0.8s
KBA Koelnbreinsper 145.49 329 *i* PKPdf **PKPdf 12 44 06.7 -0.3**
comp=Z,22nm,1.1s,SNR=7.2
LJU Ljubljana 145.60 326 *e*PKPbc **PKPab 12 44 07.5 0.0**
MYKA Terra Mystica 145.66 328 *i* PKPdf **PKPdf 12 44 07.0 -0.2**
comp=Z,21nm,1.5s
CRNS Crni Vrh 145.72 327 *i* PKPbc **PKPbc 12 44 07.5 -0.1**
MEM Membach 145.76 339 PKP **PKPab 12 44 08.2 +0.3**
MEM E 12 44 12.7
ABTA Abfaltersbach 146.13 329 *i* PKPab **PKPdf 12 44 08.4 +0.4**
comp=Z,28nm,0.9s,SNR=7.5
BCLA Clavier 146.15 340 PKP **PKPab 12 44 10.6 +1.2**
WTTA Wattenberg 146.18 330 *i* PKPab **PKPbc 12 44 09.4 +0.1**
comp=Z,25nm,1.2s
MOTA Moosalm 146.36 331 *i* PKPab **PKPbc 12 44 09.6 -0.1**
comp=Z,14nm,0.8s,SNR=6.9
RETA Reutte 146.41 332 *i* PKPab **PKPbc 12 44 09.8 +0.1**
comp=Z,13nm,1.4s
LANF Langenberg 146.48 336 PKP **PKPbc 12 44 10.2 +0.4**
WLF Walferdange 146.51 338 PKP **PKPab 12 44 11.0 +0.1**
WLF APKP **pPKPdf 12 44 15.4 -1.8**
WLF Walferdange 146.51 338 *e*PKP2 **PKPbc 12 44 10.2 +0.3**
WLF Walferdange 146.51 338 *e*PKPdf **PKPbc 12 44 10.2 +0.3**
DOU Dourbes 146.66 340 PKP **PKPab 12 44 11.0 -0.4**
DOU APKP **pPKPdf 12 44 15.5 -1.9**
FETA Feichten 146.78 331 *i* PKPab **PKPbc 12 44 11.1 +0.2**
comp=Z,16nm,1.0s,SNR=5.4
BFO Black Forest 146.79 335 *i* PKP2 **PKPbc 12 44 11.3 +0.5**
BFO Black Forest 146.79 335 *e*PKPdf **PKPbc 12 44 10.4 -0.4**
DAVA Damuels 146.96 332 *i* PKPab **PKPbc 12 44 12.1 +0.6**
comp=Z,19nm,1.1s
ECH Echery 147.35 336 PKP **PKPbc 12 44 12.5 +0.1**
ECH Echery 147.35 336 *e*PKP2 **PKPbc 12 44 12.0 -0.4**
ECH Echery 147.35 336 *e*PKPdf **PKPbc 12 44 12.0 -0.4**
MOF Molkenrain 147.66 335 PKP **PKPbc 12 44 12.5 -0.8**
LOMF Lomont 148.18 335 PKP **PKPbc 12 44 14.2 -0.5**
BNI Bardonecchia 150.09 333 *e*PKPdf **PKPdf 12 44 16.6 +1.9**
PLDF La Plantade 150.55 337 PKP **PKPbc 12 44 21.9 +1.2**
PYM Petit Puy Mans 150.96 338 PKP **PKPbc 12 44 21.3 -0.3**
LBL Lubilhac 151.32 337 PKP **PKPbc 12 44 23.2 +0.7**
ESDC Sonseca Array 158.67 342 PKPab **PKPab 12 45 00.8 -1.1**
comp=Z,0.2nm,0.4s,baz=6.0,slow=4.7,SNR=5.2
TORD Torodi Ar. Bea 165.34 247 PKP **PKPdf 12 44 33.1 -0.9**
comp=Z,0.6nm,0.9s,baz=60,slow=0.8,SNR=3.9
TORD PKPab **PKPab 12 45 31.9 +0.1**
comp=Z,1.6nm,1.0s,baz=64,slow=3.4,SNR=6.5
TOA1 Torodi Ar. Sit 165.34 247 *e*PKPdf **PKPdf 12 44 33.1 -0.9**
TOA1 *e*PKPab **PKPab 12 45 31.9 +0.1**

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*NEIC **17** 12:43:14.3±0.0, 35°.89S×178°.92E, h115km, MG4.6(WEL), After WEL.*
*WEL **17** 12:43:15.4±0.5, 36°.12S×178°.69E, h171km±5km, ML4.6/50, Error ellipse: s-maj=3.9km s-min=3.9km az=0.0*
*IDC **17** 12:43:15.3±5.2, 35°.99S×178°.86E, h98km±38km, mb3.9/6, mb1 4.1/7, mb1mx3.8/21, mbtmp4.3/7, Error ellipse: s-maj=46.9km s-min=26.2km az=56.0*
ISC 17 12:43:20.1±1.3, 36°.38S±0°.09×178°.56E±0°.08, h150km, n151, σ1§61/140, mb4.0/6, 4C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.20**	**190**	Pn	**Pn**	**12 43 43.9**	**-2.7**
MXZ	**Matakaoa Point**	**1.20**	**190**	AML	AML	12 44 09.6	
MXZ				AML	AML	12 44 18.5	
WMGZ	**Waiomatatini S**	**1.44**	**185**	PN	**Pn**	**12 43 49.2**	**+0.1**
HAZ	**Te Kaha**	**1.51**	**204**	SN	**Sn**	**12 44 15.6**	**+3.2**
HAZ				AML	AML	12 44 20.6	
HAZ				AML	AML	12 44 20.6	
HAZ				AML	AML	12 44 26.1	
PKGZ	**Pakihiroa**	**1.56**	**194**	PN	**Pn**	**12 43 49.9**	**-0.4**
PKGZ				AML	AML	12 44 21.3	
PKGZ				AML	AML	12 44 23.9	
PUZ	**Puketiti**	**1.71**	**188**	Pn	**Pn**	**12 43 51.1**	**-0.8**
PUZ	**Puketiti**	**1.71**	**188**	PN	**Pn**	**12 43 51.1**	**-0.8**
PUZ				AML	AML	12 44 27.6	
PUZ				AML	AML	12 44 28.4	
RUGZ	**Raukumara Rang**	**1.73**	**204**	PN	**Pn**	**12 43 51.8**	**-0.5**
TWGZ	**Tauwhareparae**	**1.85**	**194**	Pn	**Pn**	**12 43 53.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.85**	**194**	Pn	**Pn**	**12 43 53.6**	**0.0**
TWGZ				AML	AML	12 44 34.2	
TWGZ				AML	AML	12 44 36.6	
MWZ	**Matawai**	**2.12**	**203**	Pn	**Pn**	**12 43 56.6**	**0.0**
MWZ	**Matawai**	**2.12**	**203**	⇑PN	**Pn**	**12 43 56.6**	**0.0**
MWZ				AML	AML	12 44 38.5	
MWZ				AML	AML	12 44 41.1	
CNGZ	**Carnagh Statio**	**2.12**	**187**	Pn	**Pn**	**12 43 56.6**	**0.0**
CNGZ	**Carnagh Statio**	**2.12**	**187**	PN	**Pn**	**12 43 56.6**	**0.0**
CNGZ				AML	AML	12 44 30.6	
CNGZ				AML	AML	12 44 31.0	
TKGZ	**Te Karaka**	**2.13**	**195**	Pn	**Pn**	**12 43 56.6**	**-0.1**
TKGZ	**Te Karaka**	**2.13**	**195**	⇑PN	**Pn**	**12 43 56.6**	**-0.1**
TKGZ				SN	**Sn**	**12 44 26.7**	**+1.7**
TKGZ				AML	AML	12 44 39.7	
OPRZ	**Ohinepanea**	**2.17**	**227**	Pn	**Pn**	**12 43 56.0**	**-1.1**
OPRZ	**Ohinepanea**	**2.17**	**227**	PN	**Pn**	**12 43 56.0**	**-1.1**
URZ	**Urewera**	**2.21**	**211**	P	**Pn**	**12 43 57.0**	**-0.5**
115nm,0.3s,baz=307,slow=1.7,SNR=308							
URZ				S	**Sn**	**12 44 28.4**	**+1.9**
50nm,0.3s,baz=277,slow=21,SNR=6.2							
URZ	**Urewera**	**2.21**	**211**	Pn	**Pn**	**12 43 56.9**	**-0.7**
URZ				P	**Pn**	**12 43 57.0**	**-0.5**
URZ				S	**Sn**	**12 44 28.4**	**+1.9**
URZ	**Urewera**	**2.21**	**211**	⇓PN	**Pn**	**12 43 56.8**	**-0.7**
URZ				AML	AML	12 44 35.5	
URZ				AML	AML	12 44 35.8	
RIGZ	**Rimuhau**	**2.41**	**195**	PN	**Pn**	**12 43 59.7**	**-0.4**
RIGZ				AML	AML	12 44 55.0	
RIGZ				AML	AML	12 45 00.5	
TARZ	**Mount Tarawera**	**2.47**	**221**	Pn	**Pn**	**12 44 03.9**	**+3.0**
TARZ	**Mount Tarawera**	**2.47**	**221**	PN	**Pn**	**12 44 03.5**	**+2.6**
MUGZ	**Murupara**	**2.53**	**214**	PN	**Pn**	**12 44 02.0**	**+0.4**
RRRZ	**Republican Roa**	**2.55**	**219**	Pn	**Pn**	**12 44 02.5**	**+0.7**
RRRZ	**Republican Roa**	**2.55**	**219**	PN	**Pn**	**12 44 02.5**	**+0.7**
RRRZ				SN	**Sn**	**12 44 39.5**	**+5.5**
RTZ	**Ruatahuna**	**2.56**	**209**	PN	**Pn**	**12 44 01.9**	**-0.1**
SNGZ	**Shannon Statio**	**2.59**	**202**	Pn	**Pn**	**12 44 02.6**	**+0.3**
SNGZ	**Shannon Statio**	**2.59**	**202**	PN	**Pn**	**12 44 02.6**	**+0.3**
SNGZ				AML	AML	12 44 58.8	
SNGZ				AML	AML	12 44 59.4	
PRGZ	**Paritu Road**	**2.60**	**192**	Pn	**Pn**	**12 44 01.9**	**-0.5**
PRGZ	**Paritu Road**	**2.60**	**192**	PN	**Pn**	**12 44 02.2**	**-0.2**
PRGZ				AML	AML	12 44 39.4	
PRGZ				AML	AML	12 44 40.7	
PRRZ	**Plateau Road**	**2.73**	**219**	Pn	**Pn**	**12 44 04.3**	**+0.4**
PRRZ	**Plateau Road**	**2.73**	**219**	PN	**Pn**	**12 44 04.3**	**+0.4**
KNZ	**Kokohu**	**2.73**	**195**	Pn	**Pn**	**12 44 03.0**	**-1.0**
KNZ	**Kokohu**	**2.73**	**195**	PN	**Pn**	**12 44 03.0**	**-1.0**
KNZ				AML	AML	12 44 48.1	
KNZ				AML	AML	12 45 14.6	
TOZ	**Tahuroa Road**	**2.79**	**240**	Pn	**Pn**	**12 44 03.6**	**-1.2**
TOZ	**Tahuroa Road**	**2.79**	**240**	PN	**Pn**	**12 44 03.6**	**-1.2**
ALRZ	**Allen Road**	**2.81**	**218**	Pn	**Pn**	**12 44 05.2**	**+0.2**
ALRZ	**Allen Road**	**2.81**	**218**	PN	**Pn**	**12 44 05.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.82**	**190**	Pn	**Pn**	**12 44 04.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.82**	**190**	PN	**Pn**	**12 44 04.8**	**-0.3**
MHGZ				AML	AML	12 44 49.7	
MHGZ				AML	AML	12 44 59.2	
MKAZ	**Moumakai**	**2.83**	**254**	Pn	**Pn**	**12 44 03.1**	**-2.0**
MKAZ	**Moumakai**	**2.83**	**254**	PN	**Pn**	**12 44 03.1**	**-2.0**
WHHZ	**Waihua**	**2.89**	**201**	PN	**Pn**	**12 44 06.0**	**0.0**
WHHZ				AML	AML	12 45 07.6	
WHHZ				AML	AML	12 45 07.7	
MRHZ	**Matea Rd**	**2.98**	**214**	PN	**Pn**	**12 44 07.1**	**-0.1**
MRHZ				AML	AML	12 44 59.6	
MRHZ				AML	AML	12 45 00.3	
KBAZ	**Karaka Road Bo**	**3.04**	**255**	Pn	**Pn**	**12 44 06.8**	**-1.0**
KBAZ	**Karaka Road Bo**	**3.04**	**255**	PN	**Pn**	**12 44 06.8**	**-1.0**
NMHZ	**Naumai**	**3.05**	**207**	Pn	**Pn**	**12 44 08.4**	**+0.3**
NMHZ	**Naumai**	**3.05**	**207**	PN	**Pn**	**12 44 08.4**	**+0.3**
NMHZ				AML	AML	12 45 03.8	
NMHZ				AML	AML	12 45 07.3	
ARHZ	**Aropaoanui**	**3.14**	**203**	Pn	**Pn**	**12 44 08.9**	**-0.2**
ARHZ	**Aropaoanui**	**3.14**	**203**	PN	**Pn**	**12 44 08.9**	**-0.2**
ARHZ				AML	AML	12 45 08.8	
ARHZ				AML	AML	12 45 11.7	
AWAZ	**Awhitu Peninsu**	**3.22**	**257**	PN	**Pn**	**12 44 08.9**	**-1.3**
RVAZ	**Riverhead Bore**	**3.23**	**262**	Pn	**Pn**	**12 44 08.8**	**-1.5**
RVAZ	**Riverhead Bore**	**3.23**	**262**	PN	**Pn**	**12 44 08.8**	**-1.5**
BKZ	**Black Stump Fm**	**3.23**	**210**	Pn	**Pn**	**12 44 09.9**	**-0.5**
BKZ	**Black Stump Fm**	**3.23**	**210**	PN	**Pn**	**12 44 09.9**	**-0.5**
BKZ				AML	AML	12 45 06.5	
BKZ				AML	AML	12 45 11.6	
MCHZ	**McNeill Hill**	**3.40**	**205**	Pn	**Pn**	**12 44 12.2**	**-0.3**
MCHZ	**McNeill Hill**	**3.40**	**205**	PN	**Pn**	**12 44 12.2**	**-0.3**
MCHZ				AML	AML	12 45 14.8	
MCHZ				AML	AML	12 45 16.8	
CKHZ	**Cape Kidnapper**	**3.48**	**199**	Pn	**Pn**	**12 44 12.8**	**-0.7**
CKHZ	**Cape Kidnapper**	**3.48**	**199**	PN	**Pn**	**12 44 12.8**	**-0.7**
CKHZ				AML	AML	12 45 04.0	
CKHZ				AML	AML	12 45 11.6	
KWHZ	**Kaweka Forest**	**3.48**	**208**	PN	**Pn**	**12 44 12.8**	**-0.8**
KWHZ				AML	AML	12 45 14.7	
KWHZ				AML	AML	12 45 16.5	
KRVZ	**Karewarewa**	**3.56**	**220**	Pn	**Pn**	**12 44 15.8**	**+1.1**
KRVZ	**Karewarewa**	**3.56**	**220**	PN	**Pn**	**12 44 16.4**	**+1.7**
OTVZ	**Oturere**	**3.60**	**219**	Pn	**Pn**	**12 44 16.9**	**+1.6**
OTVZ	**Oturere**	**3.60**	**219**	PN	**Pn**	**12 44 16.9**	**+1.6**
HIZ	**Hauiti**	**3.64**	**233**	Pn	**Pn**	**12 44 16.0**	**+0.5**
HIZ	**Hauiti**	**3.64**	**233**	PN	Pn	12 44 18.8	+3.3
KAHZ	**Kahuranaki**	**3.66**	**201**	Pn	**Pn**	**12 44 15.3**	**-0.6**
KAHZ	**Kahuranaki**	**3.66**	**201**	PN	**Pn**	**12 44 15.3**	**-0.6**
KAHZ				AML	AML	12 45 20.9	
KAHZ				AML	AML	12 45 21.6	
BHHZ	**Black Hill Sta**	**3.68**	**212**	Pn	**Pn**	**12 44 16.1**	**0.0**
BHHZ	**Black Hill Sta**	**3.68**	**212**	PN	**Pn**	**12 44 16.0**	**-0.1**
BHHZ				AML	AML	12 45 18.9	
BHHZ				AML	AML	12 45 19.7	
KRHZ	**Kereru**	**3.69**	**207**	PN	**Pn**	**12 44 14.9**	**-1.4**
KRHZ				AML	AML	12 45 20.0	
KRHZ				AML	AML	12 45 20.7	
FWVZ	**Far West T-bar**	**3.73**	**219**	Pn	**Pn**	**12 44 18.3**	**+1.3**
FWVZ	**Far West T-bar**	**3.73**	**219**	PN	**Pn**	**12 44 18.2**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.73**	**218**	Pn	**Pn**	**12 44 18.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.73**	**218**	PN	**Pn**	**12 44 17.3**	**+0.2**
MOVZ	**Moawhango**	**3.75**	**215**	Pn	**Pn**	**12 44 17.0**	**-0.1**
MOVZ	**Moawhango**	**3.75**	**215**	PN	**Pn**	**12 44 17.0**	**-0.1**
WNVZ	**Wahianoa**	**3.76**	**218**	Pn	**Pn**	**12 44 18.2**	**+0.9**
WNVZ	**Wahianoa**	**3.76**	**218**	PN	**Pn**	**12 44 18.2**	**+0.9**
PXZ	**Pawanui**	**3.88**	**200**	Pn	**Pn**	**12 44 16.9**	**-1.8**
PXZ	**Pawanui**	**3.88**	**200**	⇑PN	**Pn**	**12 44 16.9**	**-1.8**
PXZ				AML	AML	12 45 14.5	
PXZ				AML	AML	12 45 14.5	
PXZ				AML	AML	12 45 16.7	
PXZ				AML	AML	12 45 16.7	
PNHZ	**Pukenui**	**3.99**	**207**	Pn	**Pn**	**12 44 18.7**	**-1.5**
PNHZ	**Pukenui**	**3.99**	**207**	PN	**Pn**	**12 44 18.7**	**-1.5**
PNHZ				AML	AML	12 45 29.8	
PNHZ				AML	AML	12 45 30.0	
WPHZ	**Waipukurau**	**4.04**	**204**	Pn	**Pn**	**12 44 20.7**	**-0.1**
WPHZ	**Waipukurau**	**4.04**	**204**	PN	**Pn**	**12 44 20.7**	**-0.1**
WPHZ				AML	AML	12 45 34.4	
WPHZ				AML	AML	12 45 38.0	
PRHZ	**Porangahau**	**4.17**	**201**	Pn	**Pn**	**12 44 21.2**	**-1.3**
PRHZ	**Porangahau**	**4.17**	**201**	PN	**Pn**	**12 44 21.2**	**-1.3**
PRHZ				AML	AML	12 45 23.9	
PRHZ				AML	AML	12 45 24.3	
TSZ	**Takapari Road**	**4.21**	**208**	Pn	**Pn**	**12 44 21.1**	**-1.9**
TSZ	**Takapari Road**	**4.21**	**208**	PN	**Pn**	**12 44 21.1**	**-1.9**
TSZ				AML	AML	12 45 34.4	
TSZ				AML	AML	12 45 35.1	
DVHZ	**Dannevirke**	**4.34**	**205**	Pn	**Pn**	**12 44 23.8**	**-1.0**
DVHZ	**Dannevirke**	**4.34**	**205**	PN	**Pn**	**12 44 23.8**	**-1.0**
DVHZ				AML	AML	12 45 29.7	
DVHZ				AML	AML	12 45 50.3	
ANWZ	**Angora Road**	**4.39**	**201**	PN	**Pn**	**12 44 24.1**	**-1.2**
ANWZ				AML	AML	12 45 40.3	
ANWZ				AML	AML	12 45 56.9	
WAZ	**Wanganui**	**4.40**	**219**	Pn	**Pn**	**12 44 25.9**	**+0.4**
WAZ	**Wanganui**	**4.40**	**219**	PN	**Pn**	**12 44 25.6**	**+0.2**
POWZ	**Post Office Ro**	**4.57**	**208**	Pn	**Pn**	**12 44 27.4**	**-0.3**
POWZ	**Post Office Ro**	**4.57**	**208**	AML	AML	12 45 56.1	
POWZ				AML	AML	12 45 59.5	
OHWZ	**Ohakea**	**4.60**	**213**	PN	**Pn**	**12 44 27.4**	**-0.6**
PRWZ	**Pori Road**	**4.64**	**205**	PN	**Pn**	**12 44 27.1**	**-1.6**
PRWZ				AML	AML	12 45 32.3	
PRWZ				AML	AML	12 45 32.9	
BFZ	**Birch Farm**	**4.67**	**202**	Pn	**Pn**	**12 44 26.8**	**-2.2**
BFZ	**Birch Farm**	**4.67**	**202**	PN	**Pn**	**12 44 26.7**	**-2.2**
BFZ				AML	AML	12 45 37.0	
BFZ				AML	AML	12 45 38.9	
BFZ				AML	AML	12 45 38.9	
BFZ				AML	AML	12 45 42.8	
TIWZ	**Tintock**	**4.87**	**205**	Pn	**Pn**	**12 44 30.0**	**-1.7**
TIWZ	**Tintock**	**4.87**	**205**	PN	**Pn**	**12 44 30.0**	**-1.7**
TIWZ				AML	AML	12 45 38.5	
TIWZ				AML	AML	12 45 44.6	
MRZ	**Mangatainoka R**	**4.87**	**208**	Pn	**Pn**	**12 44 29.1**	**-2.7**
MRZ	**Mangatainoka R**	**4.87**	**208**	PN	**Pn**	**12 44 29.1**	**-2.7**
MRZ				AML	AML	12 45 34.3	
MRZ				AML	AML	12 45 37.2	
CPWZ	**Castlepoint**	**4.89**	**201**	Pn	**Pn**	**12 44 30.3**	**-1.6**
CPWZ	**Castlepoint**	**4.89**	**201**	PN	**Pn**	**12 44 30.3**	**-1.6**
CPWZ				AML	AML	12 45 41.5	
CPWZ				AML	AML	12 45 42.0	
HOWZ	**Holdsworth Sta**	**5.10**	**207**	Pn	**Pn**	**12 44 32.0**	**-2.8**
HOWZ	**Holdsworth Sta**	**5.10**	**207**	PN	**Pn**	**12 44 32.0**	**-2.8**
HOWZ				AML	AML	12 45 58.9	
HOWZ				AML	AML	12 46 01.6	
TMWZ	**Te Maipa**	**5.16**	**203**	AML	AML	12 45 46.2	
OGWZ	**Otaki Gorge**	**5.17**	**210**	Pn	**Pn**	**12 44 33.6**	**-2.0**
OGWZ	**Otaki Gorge**	**5.17**	**210**	PN	**Pn**	**12 44 33.6**	**-2.0**
OGWZ				AML	AML	12 45 54.8	
OGWZ				AML	AML	12 46 00.6	
KIW	**Kapiti Island**	**5.31**	**211**	AML	AML	12 45 59.5	
KIW				AML	AML	12 46 02.0	
MTW	**Mount Morrison**	**5.34**	**206**	AML	AML	12 46 02.0	
MTW				AML	AML	12 46 12.9	
CAW	**Cannon Point**	**5.46**	**209**	AML	AML	12 46 07.3	
CAW				AML	AML	12 46 09.9	
TRWZ	**Traveller**	**5.49**	**203**	Pn	**Pn**	**12 44 37.2**	**-2.8**
TRWZ	**Traveller**	**5.49**	**203**	PN	**Pn**	**12 44 37.2**	**-2.8**
TRWZ				AML	AML	12 45 57.4	
TRWZ				AML	AML	12 45 58.8	
PAWZ	**Paruwai Farm**	**5.56**	**205**	Pn	**Pn**	**12 44 38.7**	**-2.2**
PAWZ	**Paruwai Farm**	**5.56**	**205**	PN	**Pn**	**12 44 38.7**	**-2.2**
PAWZ				AML	AML	12 45 53.2	
PAWZ				AML	AML	12 46 07.7	
MSWZ	**Moikau Station**	**5.66**	**206**	AML	AML	12 46 10.3	
MSWZ				AML	AML	12 46 17.5	
DUWZ	**D'Urville Isla**	**5.72**	**218**	Pn	**Pn**	**12 44 42.4**	**-0.6**
DUWZ	**D'Urville Isla**	**5.72**	**218**	PN	**Pn**	**12 44 42.4**	**-0.6**
TCW	**Tory Channel**	**5.87**	**213**	PN	**Pn**	**12 44 43.7**	**-1.3**
TCW				AML	AML	12 46 03.0	
TCW				AML	AML	12 46 05.3	
TUWZ	**Tuamarina**	**6.20**	**214**	AML	AML	12 46 07.1	
TUWZ				AML	AML	12 46 10.9	
NNZ	**Nelson**	**6.30**	**218**	PN	**Pn**	**12 44 48.7**	**-2.0**
BSWZ	**Blackbirch Sta**	**6.46**	**213**	Pn	**Pn**	**12 44 50.4**	**-2.4**
BSWZ	**Blackbirch Sta**	**6.46**	**213**	PN	**Pn**	**12 44 51.5**	**-1.2**
QRZ	**Quartz Range**	**6.48**	**225**	PN	**Pn**	**12 44 51.5**	**-1.6**
KHZ	**Kahutara**	**7.17**	**211**	PN	**Pn**	**12 45 01.5**	**-0.8**
KHZ				AML	AML	12 46 40.0	
LTZ	**Lake Taylor**	**8.03**	**215**	Pn	**Pn**	**12 45 10.1**	**-3.7**
LTZ	**Lake Taylor**	**8.03**	**215**	PN	**Pn**	**12 45 10.0**	**-3.7**
CTZ	**Chatham Island**	**8.22**	**155**	Pn	**Pn**	**12 45 16.6**	**+0.3**
CTZ	**Chatham Island**	**8.22**	**155**	PN	**Pn**	**12 45 16.6**	**+0.3**
INZ	**Inchbonnie**	**8.39**	**219**	PN	**Pn**	**12 45 17.6**	**-0.9**
OXZ	**Oxford**	**8.56**	**214**	PN	**Pn**	**12 45 16.6**	**-4.2**
RPZ	**Rata Peaks**	**9.31**	**216**	P	**Pn**	**12 45 27.6**	**-3.3**
1.0nm,0.3s,baz=18,slow=20,SNR=5.5							
RPZ				S	**Sn**	**12 47 08.5**	**-5.6**
2.4nm,0.3s,baz=125,slow=23,SNR=6.5							
STKA	**Stephens Creek**	**30.80**	**267**	P	P	12 49 24.5	+2.8
1.5nm,0.9s,baz=90,slow=5.5,SNR=3.7							
ASAR	**Alice Springs**	**40.35**	**276**	P	P	12 50 44.8	+1.6
6.2nm,0.6s,baz=118,slow=7.9,SNR=131							
WRA	**Warramunga Arr**	**41.90**	**281**	P	P	12 50 57.2	+1.4
3.9nm,0.4s,baz=120,slow=7.8,SNR=52							
MAW	**Mawson**	**65.71**	**202**	P	P	12 53 52.0	+4.0
1.3nm,0.9s,baz=117,slow=6.7,SNR=6.7							
SYO	**Syowa Base**	**70.64**	**195**⇑	*e*P	P	12 54 21.6	+2.9
KSRS	**Korea Array**	**87.15**	**322**	P	P	12 55 50.6	+1.7
1.4nm,0.6s,baz=134,slow=4.3,SNR=5.4							
KSAR	**Wonju Array Be**	**87.16**	**322**	P	P	12 55 50.6	+1.7
CMAR	**Chiang Mai Arr**	**92.74**	**291**	P	P	12 56 18.9	+3.4
0.5nm,0.8s,baz=141,slow=3.5,SNR=2.6							
MKAR	**Makanchi Array**	**119.32**	**308**	PKP	**PKPdf**	**13 01 50.0**	**-1.1**
0.1nm,0.4s,baz=10,slow=1.6,SNR=1.9							
MKAR	**Makanchi Array**	**119.32**	**308**	PKP	**PKPdf**	**13 01 50.0**	**-1.1**
KURK	**Kurchatov**	**122.98**	**312**	PKP	**PKPdf**	**13 01 58.1**	**+0.2**
KURBB	**Kurchatov Arra**	**123.01**	**312**	PKP	**PKPdf**	**13 01 58.1**	**+0.1**
0.1nm,0.3s,baz=142,slow=2.1,SNR=4.5							
ARCES	**ARCESS Array B**	**143.69**	**344**	PKP	**PKPdf**	**13 02 35.4**	**-0.6**
4.8nm,1.0s,baz=38,slow=4.8,SNR=3.8							
TORD	**Torodi Ar. Bea**	**156.70**	**188**	PKPab	**PKPab**	**13 03 31.0**	**+3.3**
1.4nm,0.7s,baz=170,slow=3.8,SNR=8.2							

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*ISCJB **17** 12:59:55.3±0.7, 32°.42N±0°.04×115°.08W±0°.05, h14km±4km, Error ellipse: s-maj=7.2km s-min=6.4km az=9.7*
*ECX **17** 12:59:56.6±0.3, 32°.43N×115°.10W, h6km, ML2.7*
*MEX **17** 12:59:57.7±0.9, 32°.40N×115°.09W, h5km, MD3.8*
ISC 17 12:59:54.9±1.1, 32°.41N±0°.05×115°.10W±0°.04, h17km±4km, n15, σ0§35/20, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.08**	**269**	*e*P	**Pb**	**12 59 58.2**	**+0.1**
MBIG				*i* S	**Sg**	**13 00 00.7**	**+0.3**
MBIG	**Mexicali**	**0.08**	**269**	*e*P	**Pb**	**12 59 58.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.17**	**273**⇑	*e*P	**Pb**	**12 59 59.9**	**+0.3**
CPBX				*e*S	**Sg**	**13 00 02.8**	**+0.6**
CPBX				IAML		13 00 07.2	
comp=E,5μm,0.2s							
CPBX				*e*		13 00 07.2	
EMSC	**East Mesa**	**0.34**	**16**⇓	*i*P	**Pb**	**13 00 02.6**	**0.0**
COA	**Coachella**	**0.45**	**358**⇓	*i*P	**Pb**	**13 00 04.4**	**0.0**
YMD	**Yuma Desert**	**0.49**	**73**⇓	*i*P	**Pb**	**13 00 05.3**	**+0.2**
DREC	**Desert Rsrch C**	**0.49**	**324

TATO	Taipei	3.53	284	*e*Pn	Pn	13 18 24.5	+2.3
YHNB	Yeheng	3.58	279	*e*Pn	Pn	13 18 24.0	+1.0
YULB	Yu-li	3.72	259	*e*Pn	Pn	13 18 23.8	-1.1
JOW	Kunigami	3.79	45	P	Pn	13 18 26.6	+0.8
JOW	Kunigami	3.79	45	*e*Pn	Pn	13 18 26.5	+0.8
SSLB	Suanglung	3.96	265	*e*Pn	Pn	13 18 27.7	-0.6
TWG	Pinlang	4.08	251	*e*Pn	Pn	13 18 28.1	-1.7
TPUB	Ta-pu	4.34	259	*e*Pn	Pn	13 18 34.4	+1.0
JOKE	Okinoerabujima	4.34	43	P	Pn	13 18 32.9	-0.6
JTK	Tokunoshima	4.88	42	P	Pn	13 18 39.8	-1.1
JAMN	Amaminishikomi	5.35	40	P	Pn	13 18 45.6	-1.7
JMZ	Minamidaito 2	5.64	72	P	Pn	13 18 49.1	-2.2
NJ2	Nanjing	9.66	326	*e*P	Pn	13 19 48.3	+1.9
NJ2				pmax	pmax		
	comp=Z,25nm,0.5s						
JNU	Nakatsue	10.17	28	Pn	Pn	13 19 52.2	-1.3
	0.3nm,0.3s,baz=299,slow=10,SNR=3.5						
TGY	Tagaytay City	10.83	203	LR	LR	13 24 27.5	
	comp=Z,110nm,19.1s,baz=172,slow=38						
KSAR	Wonju Array Be	13.40	9	P	Pn	13 20 34.9	-2.7
KSAR	Wonju Array Be	13.40	9	Pn	Pn	13 20 34.9	-2.7
KSRS	Korea Array	13.42	9	Pn	Pn	13 20 34.9	-2.9
	0.2nm,0.3s,baz=187,slow=8.6,SNR=2.6						
KSRS				LR	LR	13 25 42.6	
	comp=Z,78nm,20.8s,baz=196,slow=38						
MAJO	Matsushiro	16.60	39⇑	*e*P	Pn	13 21 19.5	-0.6
MAJO				pmax	pmax		
	comp=Z,45nm,1.1s						
MAT	Matsushiro	16.60	39	P	P	13 21 22.9	+0.5
MJAR	Matsushiro Arr	16.60	39	Pn	P	13 21 23.3	+0.9
	comp=Z,0.3nm,0.3s,baz=230,slow=11,SNR=6.7						
MJAR				LR	LR	13 28 39.7	
	comp=Z,50nm,18.1s,baz=240,slow=41						
CN2	Changchun	19.57	0	*e*P	P	13 21 52.3	-2.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VLA	Vladivostok	19.66	15⇑	*i*P	P	13 21 55.9	-0.1
VLA				*i* *SP	sP	13 22 08.2	+2.5
VLA				*e*S	Sn	13 25 40.3	+2.8
VLA				pmax	pmax		
	comp=Z,55nm,1.2s						
HHC	Hu-ho-hao-te	20.19	329	*e*P	Pn	13 22 05.8	+1.8
HHC				S	S	13 25 47.3	-0.3
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,7.4s						
HHC				LR	LR		
	comp=Z,880nm,15.5s						
HHC				LR	LR		
	comp=Z,840nm,13.3s						
HHC				LR	LR		
	comp=Z,850nm,17.5s						
CD2	Chengdu	20.19	294	*e*P	P	13 22 01.0	-1.0
KMI	Kunming	20.49	277	P	P	13 22 03.3	-2.2
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
GUMO	Guam	21.31	116	LR	LR	13 29 24.5	
	comp=Z,79nm,20.4s,baz=264,slow=33						
LZH	Lanzhou	21.94	308	*e*P	P	13 22 20.3	-0.7
LZH				pP	sP	13 22 33.3	+2.5
LZH				sP	pP	13 22 39.8	+12
LZH				PP	PnPn	13 22 48.5	+5.7
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,37nm,4.3s						
LZH				LR	LR		
	comp=Z,350nm,10.2s						
LZH				LR	LR		
	comp=Z,340nm,10.5s						
LZH				LR	LR		
	comp=Z,390nm,14.3s						
ASAJ	Asahikawa	24.42	31	P	P	13 22 45.1	-0.5
	comp=Z,2.7nm,0.5s,baz=217,slow=20,SNR=2.7						
CHTO	Chiang Mai	25.05	263	*e*P	P	13 22 47.9	-3.6
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CHTO	Chiang Mai	25.05	263	*e*P	P	13 22 47.9	-3.6
	comp=Z,7.7nm,0.6s						
CMAR	Chiang Mai Arr	25.15	262	P	P	13 22 51.4	-1.0
	comp=Z,0.4nm,0.3s,baz=76,slow=6.8,SNR=5.6						
CMAR				LR	LR	13 33 07.1	
	comp=Z,43nm,20.9s,baz=195,slow=38						
GTA	Gaotai	26.30	311	P	P	13 23 01.8	-1.1
GTA				pP	sP	13 23 13.3	+0.3
GTA				sP	pP	13 23 19.3	+9.3
GTA				S	S	13 27 32.4	-2.0
GTA				sS	sS	13 27 51.8	+5.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,86nm,4.0s						
GTA				LR	LR		
	comp=Z,86nm,14.7s						
GTA				LR	LR		
	comp=Z,84nm,15.2s						
GTA				LR	LR		
	comp=Z,130nm,15.7s						
ULN	Ulaanbaatar	27.70	333⇓	*e*P	P	13 23 14.2	-1.2
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
SONM	Songino Array	27.96	332	P	P	13 23 15.2	-2.5
	comp=Z,0.6nm,0.4s,baz=157,slow=12,SNR=4.7						
SONM				LR	LR	13 34 44.0	
	comp=Z,120nm,20.8s,baz=202,slow=38						
TAPN	Taplejung	33.88	283	*e*P	P	13 24 11.5	+1.2
	comp=Z,16nm,0.7s						
ODAN	Odare	34.20	283	*e*P	P	13 24 13.5	+0.5
	comp=Z,25nm,0.9s						
RAMN	Ramite	34.90	283	*e*P	P	13 24 19.5	+0.4
	comp=Z,14nm,0.8s						
JIRN	Jiri	35.22	284	*e*P	P	13 24 22.5	+0.6
	comp=Z,17nm,0.8s						
GUN	Gumba	35.48	285	*e*P	P	13 24 24.6	+0.5
PKIN	Phulchoki	35.92	284	*e*P	P	13 24 27.8	-0.1
	comp=Z,21nm,0.3s						
KKN	Kakani	36.01	284	*e*P	P	13 24 29.0	+0.4
	comp=Z,16nm,0.8s						
DMN	Daman	36.18	284	*e*P	P	13 24 29.6	-0.5
WMQ	Urumqi	36.38	312	P	P	13 24 31.3	-0.1
WMQ				pP	sP	13 24 45.3	+3.7
WMQ				sP	pP	13 24 51.4	+13
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,260nm,5.1s						
WMQ				LR	LR		
	comp=Z,66nm,23.5s						
WMQ				LR	LR		
	comp=Z,84nm,19.1s						
GKN	Gorkha	36.57	285	*e*P	P	13 24 33.3	0.0
	comp=Z,8.1nm,0.4s						
KOLN	Koldanda	37.50	285	*e*P	P	13 24 41.6	+0.4
	comp=Z,15nm,0.8s						
YAK	Yakutsk	37.95	3	*e*P	P	13 24 45.1	+0.8
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PYUN	Piuthan	38.01	285	*e*P	P	13 24 46.2	+0.6
	comp=Z,25nm,0.7s						
H11N1	WAKE ISLAND Hy	38.76	88	T	T	14 06 18.3	
	baz=283,slow=74,SNR=6.4						
H11N2	WAKE ISLAND Hy	38.77	88	T	T	14 06 19.6	
	baz=283,slow=74,SNR=6.6						
H11N3	WAKE ISLAND Hy	38.78	88	T	T	14 06 11.5	
	baz=283,slow=74,SNR=6.0						
H11S3	WAKE ISLAND Hy	38.89	90	T	T	14 06 23.1	
	baz=274,slow=76,SNR=4.4						
H11S1	WAKE ISLAND Hy	38.90	90	T	T	14 06 23.8	
	baz=274,slow=76,SNR=3.0						
DGZ	Jazzator, Alta	38.90	321	*e*P	P	13 24 52.2	-0.5
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11S2	WAKE ISLAND Hy	38.91	90	T	T	14 06 23.9	
	baz=274,slow=76,SNR=2.9						
MK01	Makanchi Array	40.95	314	*e*P	P	13 25 08.7	-1.0
MK31	Makanchi Array	40.96	314	*e*P	P	13 25 08.7	-1.0
MK31	Makanchi Array	40.96	314	*e*P	P	13 25 08.7	-1.0
MKAR	Makanchi Array	40.96	314	P	P	13 25 08.6	-1.1
	comp=Z,3.8nm,0.4s,baz=102,slow=9.7,SNR=89						
MKAR				PcP	PcP	13 27 09.3	-0.5
	comp=Z,0.4nm,0.8s,baz=98,slow=4.4,SNR=2.6						
MKAR				LR	LR	13 43 28.5	
	comp=Z,94nm,18.6s,baz=152,slow=39						
MKAR	Makanchi Array	40.96	314	*ce*P	P	13 25 09.0	-0.7
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	Makanchi Array	40.96	314	*e*P	P	13 25 08.7	-1.1
	comp=Z,38nm,0.5s						
MKAR				PcP	PcP	13 27 09.3	-0.5
MAKZ	Makanchi	41.17	314	*e*P	P	13 25 10.7	-0.8
MAKZ				pmax	pmax		
	comp=Z,11nm,1.2s						
MAKZ	Makanchi	41.17	314	*e*P	P	13 25 10.7	-0.8
	comp=Z,11nm,1.2s						
FITZ	Fitzroy Crossi	42.03	179	P	P	13 25 26.1	+7.4
	comp=Z,1.1nm,0.6s,baz=19,slow=13,SNR=4.8						
ZAA0	Zalesovo Array	42.32	325	*e*P	P	13 25 18.3	-2.3
ZALV	Zalesovo Beam	42.32	325	P	P	13 25 18.8	-1.9
	comp=Z,2.5nm,0.4s,baz=113,slow=7.6,SNR=13						
ZALV				LR	LR	13 44 26.7	
	comp=Z,60nm,19.5s,baz=124,slow=39						
SEY	Seymchan	42.77	18	P	P	13 25 24.2	+0.1
	comp=Z,3.4nm,0.9s,baz=88,slow=22,SNR=4.1						
SEY	Seymchan	42.77	18⇑	*e*P	P	13 25 22.5	-1.7
KSH	Kashi	44.03	302	*e*P	P	13 25 38.3	+3.4
KSH				pP	sP	13 25 53.8	+8.6
KSH				sP	pP	13 26 01.1	+19
KSH				PcP	PcP	13 27 20.8	+0.6
KSH				PP	PP	13 27 25.0	+7.4
KSH				S	S	13 32 11.0	+5.1
KSH				ScS	ScS	13 35 29.8	-2.7
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,100nm,7.3s						
KSH				LR	LR		
	comp=Z,170nm,4.7s						
KSH				LR	LR		
	comp=Z,99nm,5.3s						
KSH				LR	LR		
	comp=Z,180nm,5.4s						
KURK	Kurchatov	44.51	319⇓	*e*P	P	13 25 37.7	-0.7
KURK				pmax	pmax		
	comp=Z,17nm,0.8s						
WRA	Warramunga Arr	44.75	168	P	P	13 25 48.7	+8.1
	comp=Z,2.2nm,0.7s,baz=351,slow=8.8,SNR=9.4						
AAK	Ala-Archa	45.48	307⇑	*e*P	P	13 25 46.2	-0.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PALK	Pallekele	45.83	256	*i* P	P	13 25 41.9	-7.5
TIXI	Tiksi	47.53	2⇑	*e*P	P	13 26 00.3	-1.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s						
BRVK	Borovoye	50.12	320⇑	*e*P	P	13 26 20.8	-1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NRIK	Noril'sk	50.41	344	LR	LR	13 48 54.2	
	comp=Z,70nm,20.0s,baz=116,slow=38						
ABKAR	Akbulak array	56.11	314	*e*P	P	13 27 05.8	-0.4
	comp=Z,12nm,0.6s						
ARU	Arti	57.35	323	*d* *i*P	P	13 27 14.2	-0.8
ARU						13 28 03.3	
ARU						13 29 20.0	
ARU				S	S	13 35 14.0	+4.0
ARU				SS	SS	13 39 02.5	+3.3
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	Stephens Creek	57.90	164	P	P	13 27 27.6	+8.6
	comp=Z,4.2nm,1.0s,baz=342,slow=6.4,SNR=3.7						
GEYT	Alibeck	58.00	301	P	P	13 27 20.8	+0.9
	comp=Z,5.9nm,0.8s,baz=35,slow=3.5,SNR=7.6						
KLMR	Klimovskoe	67.14	328	*e*P	P	13 28 18.5	-1.9
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ILAR	Eielson Array	67.49	28	P	P	13 28 24.1	+1.4
	comp=Z,0.5nm,0.7s,baz=297,slow=9.3,SNR=14						
ZEI	Tsey	67.87	308	*e*P	P	13 28 23.5	-2.2
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	Khabaz	68.37	309	P	P	13 28 28.0	-0.5
	comp=Z,2.3nm,0.9s,baz=90,slow=9.1,SNR=3.1						
KBZ	Khabaz	68.37	309	P	P	13 28 28.0	-0.5
KIV	Kislovodsk	68.47	310	*e*P	P	13 28 25.4	-3.9
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,46nm,17.0s						
EGAK	Eagle	69.90	27	*e*P	P	13 28 32.1	-5.5
	comp=Z,261nm,1.1s						
ARCES	ARCESS Array B	70.92	338	P	P	13 28 43.6	-0.2
	comp=Z,3.3nm,1.1s,baz=79,slow=6.5,SNR=4.9						
INK	Inuvik	71.81	23	P	P	13 28 51.2	+2.1
	comp=Z,3.8nm,0.9s,baz=339,slow=8.6,SNR=2.8						
FINES	FINESS Array B	73.31	330	P	P	13 28 58.0	-0.2
	comp=Z,5.5nm,0.6s,baz=57,slow=6.4,SNR=21						
FINES				LR	LR	14 06 07.6	
	comp=Z,83nm,18.6s,baz=91,slow=40						
FINES	FINESS Array B	73.31	330	P	P	13 28 58.0	-0.2
AKASG	Malin Array Be	75.33	319	P	P	13 29 09.4	-0.8
	comp=Z,0.6nm,0.4s,baz=63,slow=6.3,SNR=2.7						
BRTR	Keskin Array B	76.15	307	P	P	13 29 15.4	+0.1
	comp=Z,1.0nm,0.9s,baz=134,slow=6.2,SNR=3.2						
NB2	NORSAR Subarra	79.93	333	P	P	13 29 35.0	-0.7
	comp=Z,4.8nm,0.9s,baz=57,slow=5.6						
NOA	NORSAR Array B	79.93	333	P	P	13 29 35.2	-0.6
	comp=Z,2.8nm,0.9s,baz=58,slow=5.3,SNR=6.5						
YKA	Yellowknife Ar	81.49	24	P	P	13 29 46.8	+2.8
	comp=Z,0.9nm,0.5s,baz=299,slow=5.3,SNR=3.3						
CLL	Collm	84.26	324	*e*P	P	13 29 57.0	-1.6
GERES	GERESS Array B	85.17	322	P	P	13 30 02.5	-0.9
	comp=Z,0.4nm,0.5s,baz=38,slow=6.8,SNR=3.9						
ELK	Elko	94.40	42	LR	LR	14 08 10.1	
	comp=Z,18nm,20.1s,baz=62,slow=32						

*ISCJB **17** 13:20:44.6±0.7, 4°.89S±0°.08×151°.4E±0°.1, h129km, mb3.9/13, Error ellipse: s-maj=17.4km s-min=8.7km az=24.8*
*IDC **17** 13:20:44.7±1.1, 4°.94S×151°.50E, h119km±8km, mb3.7/10, mb1 3.9/13, mb1mx3.7/33, mbtmp4.2/13, Error ellipse: s-maj=20.4km s-min=11.5km az=114.0*
ISC 17 13:20:45.7±0.8, 4°.96S±0°.10×151°.5E±0°.1, h129km, n21, σ1§05/29, mb4.0/13, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.14	224	P	Pn	13 22 14.6	+0.5
	12nm,0.3s,baz=8.6,slow=8.6,SNR=30						
PMG				S	Sn	13 23 23.3	+0.1
	20nm,0.3s,baz=240,slow=20,SNR=6.5						
CTA	Charters Tower	15.87	198	P	P	13 24 23.9	+0.8
	0.8nm,0.3s,baz=23,slow=11,SNR=9.6						
GUMO	Guam	19.55	341	P	P	13 25 03.0	-0.5
	2.9nm,0.3s,baz=202,slow=19,SNR=2.9						
WRAB	Tennant Creek	22.34	227	*ce*P	P	13 25 32.7	-0.4
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s						
WRAB	Tennant Creek	22.34	227	*e*P	P	13 25 32.6	-0.5
	comp=Z,8.4nm,0.8s						
WB2	Warramunga Arr	22.34	227	*e*P	P	13 25 32.8	-0.4
	comp=Z,17nm,1.4s						
WRA	Warramunga Arr	22.35	227	P	P	13 25 33.0	-0.2
	comp=Z,3.6nm,0.6s,baz=50,slow=10,SNR=36						
WRA				pP	pP	13 25 56.4	-0.9
	comp=Z,3.8nm,0.7s,baz=50,slow=12,SNR=6.9						
WRA				S	S	13 29 28.9	-1.1
	comp=Z,0.9nm,0.7s,baz=77,slow=17,SNR=4.5						
WRA				ScP	ScP	13 32 49.1	-0.7
	comp=Z,1.2nm,0.7s,baz=50,slow=2.7,SNR=8.7						
WRA	Warramunga Arr	22.35	227	*i* P	P	13 25 33.0	-0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DZM	Mont Dzumac	22.36	141	P	P	13 25 33.6	+0.2
	comp=Z,3.8nm,0.5s,baz=268,slow=5.7,SNR=11						
AS01	Alice Springs	25.11	221	*e*P	P	13 25 59.1	+0.4
AS31	Alice Springs	25.14	221	*e*P	P	13 25 59.3	+0.3
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	25.15	221	P	P	13 25 59.5	+0.4
	comp=Z,3.2nm,0.4s,baz=55,slow=9.0,SNR=157						
ASAR				pP	pP	13 26 23.7	-2.9
	comp=Z,3.3nm,0.8s,baz=53,slow=8.8,SNR=3.1						
ASAR				S	S	13 30 17.6	+2.9
	comp=Z,0.3nm,0.9s,baz=34,slow=17,SNR=3.4						
ASAR				ScP	ScP	13 32 56.8	-0.5
	comp=Z,1.7nm,1.1s,baz=70,slow=2.8,SNR=7.5						
STKA	Stephens Creek	28.33	198	P	P	13 26 27.1	-0.4
	comp=Z,0.9nm,0.5s,baz=44,slow=12,SNR=5.2						
FITZ	Fitzroy Crossi	28.42	241	P	P	13 26 28.2	-0.2
	comp=Z,1.2nm,0.6s,baz=48,slow=7.0,SNR=8.6						
FITZ				pP	pP	13 26 54.8	-1.4
	comp=Z,10nm,1.0s,baz=87,slow=8.2,SNR=5.9						
SONM	Songino Array	65.75	328	P	P	13 31 18.9	+1.9
	comp=Z,0.8nm,0.6s,baz=162,slow=5.8,SNR=4.3						
MKAR	Makanchi Array	79.57	319	P	P	13 32 38.8	+0.3
	comp=Z,0.2nm,0.5s,baz=90,slow=7.2,SNR=3.0						
ZALV	Zalesovo Beam	80.55	327	P	P	13 32 43.6	+0.1
	comp=Z,0.7nm,0.4s,baz=134,slow=4.2,SNR=4.1						
ILAR	Eielson Array	82.81	22	P	P	13 32 54.5	-0.8
	comp=Z,1.5nm,0.6s,baz=247,slow=5.2,SNR=34						
MAW	Mawson	84.91	203	P	P	13 33 06.5	+0.6
	comp=Z,1.0nm,0.8s,baz=347,slow=18,SNR=3.2						
PTGA	Pitinga	148.10	99	PKPbc	PKPbc	13 40 17.7	+0.2
	comp=Z,3.4nm,0.7s,baz=45,slow=2.3,SNR=6.1						
TORD	Torodi Ar. Bea	149.08	287	PKPbc	PKPbc	13 40 19.7	-0.2
	comp=Z,0.6nm,0.3s,baz=78,slow=2.2,SNR=11						

*GRAL **17** 13:30:34.3±0.3, 34°.55N×36°.37E, h0km±63km, MD2.9*
*CSEM **17** 13:30:34.9±0.3, 34°.44N×36°.36E, h2km, ML2.9, Error ellipse: s-maj=8.5km s-min=4.1km az=96.0*
*NSSC **17** 13:30:35.2±1.4, 34°.48N×36°.29E, h0km±3km, ML2.5*
*DDA **17** 13:30:37.4, 34°.79N×35°.89E, h5km, Ml3.2*
ISC 17 13:30:33.5±1.1, 34°.54N±0°.02×36°.18E±0°.03, h5km±10km, n32, σ1§20/60, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	Haweek	0.19	95	*e*P	Pg	13 30 36.9	-0.4
HAWK				*e*S	Sg	13 30 39.1	-0.7
HAWK				AML	AML	13 30 41.2	
	comp=N,4μm,0.3s						
HAWK				AML	AML	13 30 41.2	
	comp=E,6μm,0.3s						
HWQ	Hawqa	0.32	216	*e*P	Pb	13 30 42.2	+0.4
HWQ				*e*S	Sb	13 30 48.1	+0.7
HWQ	Hawqa	0.32	216	*e*P	Pb	13 30 42.2	+0.4
HWQ				*e*S	Sb	13 30 48.1	+0.7
FKH	Fakeheh	0.35	146	*e*P	Pg	13 30 39.8	-0.5
FKH	Fakeheh	0.35	146	*e*P	Pg	13 30 39.8	-0.5
BIDA	Albida	0.49	14	*e*P	Pn	13 30 45.5	-1.8
BIDA				*e*S	Sb	13 30 55.2	+3.0
BIDA				AML	AML	13 31 00.1	
	comp=E,544nm,0.4s						
BIDA				AML	AML	13 31 00.6	
	comp=N,504nm,0.5s						
MARH	Ras Al Marh	0.57	153	*e*P	Pg	13 30 43.8	-0.7
MARH				*e*S	Sg	13 30 51.4	-0.5
MARH				AML	AML	13 30 53.9	
	comp=N,325nm,0.3s						
MARH				AML	AML	13 30 54.5	
	comp=E,473nm,0.2s						
BHL	Bhannes	0.77	214	*e*P	Pb	13 30 50.1	+0.7
BHL	Bhannes	0.77	214	*e*P	Pb	13 30 50.1	+0.7
KFRA	Kufra	0.85	37	*e*P	Pn	13 30 52.0	-0.2
KFRA				*e*S	Sn	13 31 03.9	-1.2
KFRA				AML	AML	13 31 10.0	
	comp=E,462nm,0.3s						
KFRA				AML	AML	13 31 13.3	
	comp=N,304nm,0.3s						
RABH	Abou Rabah	0.86	97	*e*P	Pb	13 30 51.0	+0.1
RABH				*e*S	Sg	13 31 01.3	+0.2
RABH				AML	AML	13 31 07.3	
	comp=N,88nm,0.4s						
RABH				AML	AML	13 31 08.2	
	comp=E,104nm,0.4s						
DQRL	Deir Qamar	0.97	211	*e*P	Pn	13 30 53.7	-0.2
DQRL				*e*S	Sn	13 31 07.9	-0.2
DQRL	Deir Qamar	0.97	211	*e*P	Pn	13 30 53.7	-0.2
DQRL				*e*S	Sn	13 31 07.9	-0.2
ROOS	tl_alroos	0.99	111	*e*P	Pg	13 30 52.6	+0.1
ROOS				*e*S	Sg	13 31 05.5	+0.1
ROOS				AML	AML	13 31 11.5	
	comp=N,207nm,0.6s						
ROOS				AML	AML	13 31 14.8	
	comp=E,213nm,0.5s						
QASN	Qassioun	1.01	175	*i* P	Pn	13 30 54.4	0.0
QASN				*e*S	Sg	13 31 06.9	+1.0
QASN				AML	AML	13 31 21.0	
	comp=N,163nm,0.5s						
QASN				AML	AML	13 31 21.0	
	comp=E,247nm,0.4s						
RCY	Rachaya	1.08	195	*e*P	Pg	13 30 54.9	+0.7
RCY				*e*S	Sb	13 31 10.0	+0.9
BRBR	Barbar	1.14	189	*e*P	Pn	13 30 56.6	+0.2
BRBR				*e*S	Sn	13 31 12.2	-0.3
BRBR				AML	AML	13 31 24.2	
	comp=N,42nm,0.5s						
BRBR				AML	AML	13 31 24.4	
	comp=E,66nm,0.7s						
TOTH	TOTAH	1.19	170	*e*P	Pn	13 30 56.8	-0.1
TOTH				*e*S	Sb	13 31 12.5	+0.1
TOTH				AML	AML	13 31 14.4	
	comp=E,64nm,0.3s						
TOTH				AML	AML	13 31 14.6	
	comp=N,98nm,0.5s						
ARNB	Al Arnab	1.33	353	*e*P	Pg	13 31 00.5	+1.5
ARNB				*e*S	Sg	13 31 20.4	+4.1
ARNB				AML	AML	13 31 24.0	
	comp=N,110nm,0.5s						
ARNB				AML	AML	13 31 25.8	
	comp=E,124nm,0.4s						
YAYL	Yayladag	1.49	358	*i* P	Pn	13 31 00.8	-0.4
YAYL				*i* S	Sg	13 31 22.2	+0.6
YAYL	Yayladag	1.49	358	P	Pn	13 31 00.8	-0.4
YAYL				S	Sg	13 31 22.2	+0.6
BTCH	Batrach	1.51	9	*e*P	Pg	13 31 04.0	+1.4
BTCH				*e*S	Sg	13 31 25.2	+3.0
BTCH				AML	AML	13 31 29.4	
	comp=N,170nm,0.4s						
BTCH				AML	AML	13 31 34.9	
	comp=E,87nm,0.5s						
TCHB	Talchebab	1.87	185	*e*P	Pb	13 31 08.9	+0.6
TCHB				*e*S	Sb	13 31 32.4	+0.4
TCHB				AML	AML	13 31 40.7	
	comp=N,95nm,0.4s						
TCHB				AML	AML	13 31 43.6	
	comp=E,61nm,0.6s						
SALA	Sala	1.88	166	*e*P	Pb	13 31 08.0	-0.5
SALA				*e*S	Sn	13 31 30.7	0.0
SALA				AML	AML	13 31 39.6	
	comp=N,70nm,0.4s						
SALA				AML	AML	13 31 40.5	
	comp=E,8.4nm,0.4s						
DRWC	Darouich	2.12	11	*e*P	Pb	13 31 12.3	-0.2
DRWC				*e*S	Sg	13 31 40.6	-0.9
DRWC				AML	AML	13 31 47.6	
	comp=E,27nm,0.5s						
DRWC				AML	AML	13 31 50.7	
	comp=N,50nm,0.4s						
KUZU	Kuzuini	2.35	18	*i* P	Pg	13 31 19.4	+0.9
KUZU				*i* S	Sg	13 31 49.6	+0.6

PKGZ			AML	AML	13 42 42.6		
PKGZ			AML	AML	13 42 43.1		
OPRZ	**Ohinepanea**	**0.98 226**	Pn	Pn	13 42 19.9	-0.1	
OPRZ	**Ohinepanea**	**0.98 226**	PN	Pn	13 42 20.1	+0.1	
WMGZ	**Waiomatatini S**	**1.02 131**	Pn	Pn	13 42 20.5	+0.1	
WMGZ			Sn	Sn	13 42 38.4	+0.3	
WMGZ	**Waiomatatini S**	**1.02 131**	⇑PN	Pn	13 42 20.5	+0.1	
WMGZ			SN	Sn	13 42 38.4	+0.3	
WMGZ			AML	AML	13 42 39.6		
TWGZ	**Tauwhareparae**	**1.10 157**	Pn	Pn	13 42 21.7	+0.5	
TWGZ	**Tauwhareparae**	**1.10 157**	PN	Pn	13 42 21.7	+0.5	
TWGZ			AML	AML	13 42 43.3		
TWGZ			AML	AML	13 42 46.4		
PUZ	**Puketiti**	**1.12 145**	Pn	Pn	13 42 20.9	-0.5	
PUZ	**Puketiti**	**1.12 145**	PN	Pn	13 42 21.3	-0.1	
PUZ			AML	AML	13 42 48.1		
PUZ			AML	AML	13 42 55.5		
URZ	**Urewera**	**1.13 193**	Pn	Pn	13 42 21.3	-0.1	
URZ	**Urewera**	**1.13 193**	⇓PN	Pn	13 42 21.3	-0.1	
URZ			AML	AML	13 42 40.1		
URZ			AML	AML	13 42 41.3		
MWZ	**Matawai**	**1.17 177**	Pn	Pn	13 42 21.9	-0.1	
MWZ	**Matawai**	**1.17 177**	⇑PN	Pn	13 42 21.9	-0.1	
MWZ			AML	AML	13 42 42.3		
MWZ			AML	AML	13 42 42.4		
TKGZ	**Te Karaka**	**1.31 166**	Pn	Pn	13 42 23.4	0.0	
TKGZ	**Te Karaka**	**1.31 166**	⇑PN	Pn	13 42 23.4	0.0	
TKGZ			AML	AML	13 42 49.8		
TKGZ			AML	AML	13 42 52.0		
RAGZ	**Rawiri**	**1.33 181**	Pn	Pn	13 42 23.9	+0.2	
RAGZ	**Rawiri**	**1.33 181**	PN	Pn	13 42 23.9	+0.2	
RAGZ			AML	AML	13 42 46.2		
RAGZ			AML	AML	13 42 46.7		
RRRZ	**Republican Roa**	**1.39 212**	Pn	Pn	13 42 24.4	+0.3	
RRRZ			Sn	Sn	13 42 45.6	+0.8	
RRRZ	**Republican Roa**	**1.39 212**	PN	Pn	13 42 24.4	+0.3	
RRRZ			SN	Sn	13 42 45.6	+0.8	
MUGZ	**Murupara**	**1.42 202**	PN	Pn	13 42 24.4	-0.1	
KUZ	**Kuaotunu**	**1.44 286**	Pn	Pn	13 42 24.5	-0.2	
KUZ	**Kuaotunu**	**1.44 286**	PN	Pn	13 42 24.5	-0.2	
CNGZ	**Carnagh Statio**	**1.45 156**	Pn	Pn	13 42 25.1	+0.3	
CNGZ	**Carnagh Statio**	**1.45 156**	PN	Pn	13 42 25.1	+0.3	
CNGZ			AML	AML	13 42 48.4		
RTZ	**Ruatahuna**	**1.50 194**	PN	Pn	13 42 25.0	-0.4	
RIGZ	**Rimuhau**	**1.56 171**	PN	Pn	13 42 26.0	-0.1	
RIGZ			SN	Sn	13 42 48.3	0.0	
RIGZ			AML	AML	13 42 50.2		
PRRZ	**Plateau Road**	**1.57 212**	Pn	Pn	13 42 26.4	+0.3	
PRRZ	**Plateau Road**	**1.57 212**	⇓PN	Pn	13 42 26.4	+0.3	
SNGZ	**Shannon Statio**	**1.62 183**	Pn	Pn	13 42 26.4	-0.3	
SNGZ	**Shannon Statio**	**1.62 183**	PN	Pn	13 42 26.4	-0.3	
SNGZ			AML	AML	13 42 51.6		
SNGZ			AML	AML	13 42 52.9		
TOZ	**Tahuroa Road**	**1.64 249**	Pn	Pn	13 42 27.6	+0.6	
TOZ	**Tahuroa Road**	**1.64 249**	PN	Pn	13 42 27.6	+0.6	
ALRZ	**Allen Road**	**1.65 212**	Pn	Pn	13 42 27.3	+0.3	
ALRZ	**Allen Road**	**1.65 212**	⇓PN	Pn	13 42 27.3	+0.3	
PRGZ	**Paritu Road**	**1.79 169**	Pn	Pn	13 42 28.4	-0.4	
PRGZ	**Paritu Road**	**1.79 169**	PN	Pn	13 42 28.4	-0.4	
PRGZ			AML	AML	13 42 56.7		
PRGZ			AML	AML	13 42 59.1		
MKAZ	**Moumakai**	**1.82 271**	Pn	Pn	13 42 29.7	+0.7	
MKAZ	**Moumakai**	**1.82 271**	PN	Pn	13 42 29.7	+0.7	
GRZ	**Great Barrier**	**1.83 299**	⇑PN	Pn	13 42 29.5	+0.3	
MRHZ	**Matea Rd**	**1.85 206**	PN	Pn	13 42 27.5	-2.0	
MRHZ			AML	AML	13 42 55.8		
MRHZ			AML	AML	13 42 55.8		
KNZ	**Kokohu**	**1.87 174**	Pn	Pn	13 42 29.0	-0.6	
KNZ	**Kokohu**	**1.87 174**	PN	Pn	13 42 29.0	-0.6	
KNZ			AML	AML	13 42 55.3		
TLZ	**Tolley Road**	**1.91 232**	Pn	Pn	13 42 31.0	+0.8	
TLZ	**Tolley Road**	**1.91 232**	PN	Pn	13 42 30.7	+0.6	
WHHZ	**Waihua**	**1.92 185**	Pn	Pn	13 42 30.1	-0.1	
WHHZ			AML	AML	13 42 56.2		
WHHZ			AML	AML	13 42 56.5		
NMHZ	**Naumai**	**2.00 194**	Pn	Pn	13 42 31.4	+0.2	
NMHZ	**Naumai**	**2.00 194**	⇓PN	Pn	13 42 31.4	+0.2	
NMHZ			AML	AML	13 42 59.1		
NMHZ			AML	AML	13 43 08.2		
MHGZ	**Mahia Peninsul**	**2.02 170**	Pn	Pn	13 42 31.1	-0.3	
MHGZ	**Mahia Peninsul**	**2.02 170**	PN	Pn	13 42 31.1	-0.3	
MHGZ			AML	AML	13 42 59.5		
MHGZ			AML	AML	13 43 04.3		
KBAZ	**Karaka Road Bo**	**2.04 271**	Pn	Pn	13 42 33.3	+1.6	
KBAZ	**Karaka Road Bo**	**2.04 271**	⇑PN	Pn	13 42 33.3	+1.6	
ARHZ	**Aropaoanui**	**2.13 189**	Pn	Pn	13 42 32.7	-0.5	
ARHZ	**Aropaoanui**	**2.13 189**	PN	Pn	13 42 32.3	-0.5	
ARHZ			AML	AML	13 43 01.5		
ARHZ			AML	AML	13 43 01.8		
BKZ	**Black Stump Fm**	**2.13 200**	Pn	Pn	13 42 32.2	-0.7	
BKZ	**Black Stump Fm**	**2.13 200**	PN	Pn	13 42 32.2	-0.7	
BKZ			AML	AML	13 43 02.4		
BKZ			AML	AML	13 43 08.0		
RITZ	**Rihia Road**	**2.20 214**	Pn	Pn	13 42 34.3	+0.6	
RITZ	**Rihia Road**	**2.20 214**	PN	Pn	13 42 34.3	+0.6	
MCHZ	**McNeill Hill**	**2.35 194**	Pn	Pn	13 42 35.2	-0.4	
MCHZ	**McNeill Hill**	**2.35 194**	PN	Pn	13 42 35.2	-0.4	
MCHZ			AML	AML	13 43 08.5		
MCHZ			AML	AML	13 43 11.6		
KRVZ	**Karewarewa**	**2.40 216**	Pn	Pn	13 42 36.7	+0.5	
KRVZ	**Karewarewa**	**2.40 216**	PN	Pn	13 42 36.7	+0.5	
KWHZ	**Kaweka Forest**	**2.40 199**	Pn	Pn	13 42 35.1	-1.1	
KWHZ			AML	AML	13 43 10.0		
KWHZ			AML	AML	13 43 17.7		
OTVZ	**Oturere**	**2.44 214**	Pn	Pn	13 42 36.9	+0.2	
OTVZ	**Oturere**	**2.44 214**	PN	Pn	13 42 36.9	+0.2	
CKHZ	**Cape Kidnapper**	**2.51 186**	Pn	Pn	13 42 36.4	-1.1	
CKHZ	**Cape Kidnapper**	**2.51 186**	PN	Pn	13 42 36.4	-1.1	
CKHZ			AML	AML	13 43 08.6		
CKHZ			AML	AML	13 43 09.0		
BHHZ	**Black Hill Sta**	**2.56 205**	Pn	Pn	13 42 37.3	-1.0	
BHHZ	**Black Hill Sta**	**2.56 205**	PN	Pn	13 42 37.3	-1.0	
BHHZ			AML	AML	13 43 14.5		
BHHZ			AML	AML	13 43 14.6		
FWVZ	**Far West T-bar**	**2.56 215**	Pn	Pn	13 42 38.3	-0.2	
FWVZ	**Far West T-bar**	**2.56 215**	PN	Pn	13 42 38.3	-0.2	
WHVZ	**Whangaehu Hut**	**2.57 214**	Pn	Pn	13 42 38.2	-0.3	
WHVZ	**Whangaehu Hut**	**2.57 214**	PN	Pn	13 42 38.2	-0.3	
WNVZ	**Wahianoa**	**2.60 213**	Pn	Pn	13 42 38.5	-0.4	
WNVZ	**Wahianoa**	**2.60 213**	⇓PN	Pn	13 42 38.4	-0.4	
MOVZ	**Moawhango**	**2.60 210**	Pn	Pn	13 42 37.8	-1.0	
MOVZ	**Moawhango**	**2.60 210**	PN	Pn	13 42 37.8	-1.0	
KRHZ	**Kereru**	**2.62 198**	PN	Pn	13 42 37.5	-1.4	
KRHZ			AML	AML	13 43 10.4		
KRHZ			AML	AML	13 43 11.2		
KAHZ	**Kahuranaki**	**2.67 189**	Pn	Pn	13 42 38.5	-1.0	
KAHZ	**Kahuranaki**	**2.67 189**	PN	Pn	13 42 38.5	-1.0	
KAHZ			AML	AML	13 43 12.8		
KAHZ			AML	AML	13 43 13.7		
MTVZ	**Mangateitei**	**2.71 214**	Pn	Pn	13 42 39.8	-0.3	
MTVZ	**Mangateitei**	**2.71 214**	PN	Pn	13 42 39.8	-0.3	
PXZ	**Pawanui**	**2.90 189**	PN	Pn	13 42 40.8	-1.7	
PXZ			AML	AML	13 43 16.0		
PXZ			AML	AML	13 43 16.0		
PXZ			AML	AML	13 43 16.2		
PXZ			AML	AML	13 43 16.2		
PNHZ	**Pukenui**	**2.91 199**	Pn	Pn	13 42 40.8	-2.0	
PNHZ	**Pukenui**	**2.91 199**	PN	Pn	13 42 40.8	-2.0	
PNHZ			AML	AML	13 43 19.7		
PNHZ			AML	AML	13 43 19.8		
WPHZ	**Waipukurau**	**3.00 195**	Pn	Pn	13 42 42.2	-1.6	
WPHZ	**Waipukurau**	**3.00 195**	PN	Pn	13 42 42.2	-1.7	
WPHZ			AML	AML	13 43 20.6		
WPHZ			AML	AML	13 43 28.7		
TSZ	**Takapari Road**	**3.12 201**	Pn	Pn	13 42 43.0	-2.3	
TSZ	**Takapari Road**	**3.12 201**	⇑PN	Pn	13 42 43.0	-2.3	
TSZ			AML	AML	13 43 22.9		
TSZ			AML	AML	13 43 23.5		
PRHZ	**Porangahau**	**3.16 191**	Pn	Pn	13 42 43.8	-2.1	
PRHZ	**Porangahau**	**3.16 191**	⇓PN	Pn	13 42 43.8	-2.1	
PRHZ			AML	AML	13 43 23.1		
PRHZ			AML	AML	13 43 23.5		
WAZ	**Wanganui**	**3.23 216**	Pn	Pn	13 42 46.1	-0.7	
WAZ	**Wanganui**	**3.23 216**	PN	Pn	13 42 46.1	-0.7	
DVHZ	**Dannevirke**	**3.29 197**	Pn	Pn	13 42 45.0	-2.5	
DVHZ	**Dannevirke**	**3.29 197**	PN	Pn	13 42 45.0	-2.5	
DVHZ			AML	AML	13 43 26.9		
DVHZ			AML	AML	13 43 27.5		
ANWZ	**Angora Road**	**3.38 193**	PN	Pn	13 42 46.7	-2.0	
ANWZ			AML	AML	13 43 27.9		
ANWZ			AML	AML	13 43 29.5		
OHWZ	**Ohakea**	**3.46 208**	PN	Pn	13 42 48.6	-1.2	
POWZ	**Post Office Ro**	**3.48 202**	Pn	Pn	13 42 47.6	-2.4	
POWZ	**Post Office Ro**	**3.48 202**	PN	Pn	13 42 47.6	-2.4	
POWZ			AML	AML	13 43 30.8		
POWZ			AML	AML	13 43 32.9		
PRWZ	**Pori Road**	**3.58 198**	Pn	Pn	13 42 49.2	-2.1	
PRWZ	**Pori Road**	**3.58 198**	PN	Pn	13 42 49.2	-2.1	
PRWZ			AML	AML	13 43 33.4		
PRWZ			AML	AML	13 43 34.2		
BFZ	**Birch Farm**	**3.64 194**	Pn	Pn	13 42 49.1	-3.0	
BFZ	**Birch Farm**	**3.64 194**	PN	Pn	13 42 49.1	-3.0	
BFZ			AML	AML	13 43 32.4		
BFZ			AML	AML	13 43 32.4		
BFZ			AML	AML	13 43 33.2		
BFZ			AML	AML	13 43 33.2		
MRZ	**Mangatainoka R**	**3.78 202**	Pn	Pn	13 42 50.9	-3.1	
MRZ	**Mangatainoka R**	**3.78 202**	PN	Pn	13 42 50.9	-3.1	
MRZ			AML	AML	13 43 34.8		
MRZ			AML	AML	13 43 35.3		
TIWZ	**Tintock**	**3.81 198**	Pn	Pn	13 42 51.5	-2.9	
TIWZ	**Tintock**	**3.81 198**	PN	Pn	13 42 51.5	-2.9	
TIWZ			AML	AML	13 43 36.5		
TIWZ			AML	AML	13 43 37.0		
CPWZ	**Castlepoint**	**3.87 194**	Pn	Pn	13 42 52.8	-2.3	
CPWZ	**Castlepoint**	**3.87 194**	PN	Pn	13 42 52.8	-2.3	
CPWZ			AML	AML	13 43 38.7		
CPWZ			AML	AML	13 43 41.4		
HOWZ	**Holdsworth Sta**	**4.02 201**	Pn	Pn	13 42 53.6	-3.6	
HOWZ	**Holdsworth Sta**	**4.02 201**	PN	Pn	13 42 53.6	-3.6	
HOWZ			AML	AML	13 43 40.0		
HOWZ			AML	AML	13 43 40.4		
OGWZ	**Otaki Gorge**	**4.05 205**	Pn	Pn	13 42 54.5	-3.1	
OGWZ	**Otaki Gorge**	**4.05 205**	PN	Pn	13 42 54.5	-3.1	
OGWZ			AML	AML	13 43 41.8		
OGWZ			AML	AML	13 43 43.2		
TMWZ	**Te Maipa**	**4.12 197**	Pn	Pn	13 42 55.4	-3.1	
TMWZ	**Te Maipa**	**4.12 197**	PN	Pn	13 42 55.4	-3.1	
TMWZ			AML	AML	13 43 43.2		
TMWZ			AML	AML	13 43 43.4		
KIW	**Kapiti Island**	**4.19 207**	Pn	Pn	13 42 55.9	-3.4	
KIW	**Kapiti Island**	**4.19 207**	PN	Pn	13 42 55.9	-3.4	
KIW			AML	AML	13 43 44.3		
KIW			AML	AML	13 43 46.3		
MTW	**Mount Morrison**	**4.26 200**	PN	Pn	13 42 56.5	-3.9	
MTW			AML	AML	13 43 46.0		
MTW			AML	AML	13 43 46.0		
CAW	**Cannon Point**	**4.35 204**	Pn	Pn	13 42 57.8	-3.7	
CAW	**Cannon Point**	**4.35 204**	PN	Pn	13 42 57.8	-3.7	
CAW			AML	AML	13 43 50.2		
CAW			AML	AML	13 43 51.4		
TRWZ	**Traveller**	**4.44 197**	Pn	Pn	13 42 58.9	-3.9	
TRWZ	**Traveller**	**4.44 197**	PN	Pn	13 42 58.9	-3.9	
TRWZ			AML	AML	13 43 50.5		
TRWZ			AML	AML	13 43 50.9		
PAWZ	**Paruwai Farm**	**4.49 200**	Pn	Pn	13 42 59.4	-4.1	
PAWZ	**Paruwai Farm**	**4.49 200**	PN	Pn	13 42 59.4	-4.1	
PAWZ			AML	AML	13 43 51.0		
PAWZ			AML	AML	13 43 51.5		
DUWZ	**D'Urville Isla**	**4.55 216**	PN	Pn	13 43 00.8	-3.5	
MSWZ	**Moikau Station**	**4.58 201**	Pn	Pn	13 43 00.2	-4.4	
MSWZ	**Moikau Station**	**4.58 201**	PN	Pn	13 43 00.2	-4.4	
MSWZ			AML	AML	13 43 53.5		
MSWZ			AML	AML	13 43 54.4		
WEL	**Wellington**	**4.61 206**	Pn	Pn	13 43 01.1	-3.8	
WEL	**Wellington**	**4.61 206**	PN	Pn	13 43 01.1	-3.8	
WEL			AML	AML	13 43 53.8		
WEL			AML	AML	13 43 53.9		
WEL			AML	AML	13 43 54.4		
WEL			AML	AML	13 43 54.4		
PLWZ	**Palliser**	**4.72 200**	Pn	Pn	13 43 02.1	-4.4	
PLWZ	**Palliser**	**4.72 200**	PN	Pn	13 43 02.1	-4.4	
PLWZ			AML	AML	13 43 55.4		
PLWZ			AML	AML	13 43 56.0		
TCW	**Tory Channel**	**4.73 210**	Pn	Pn	13 43 02.6	-4.0	
TCW	**Tory Channel**	**4.73 210**	PN	Pn	13 43 02.6	-4.0	
TCW			AML	AML	13 43 57.7		
TCW			AML	AML	13 43 59.5		
TUWZ	**Tuamarina**	**5.05 211**	Pn	Pn	13 43 06.7	-4.2	
TUWZ	**Tuamarina**	**5.05 211**	PN	Pn	13 43 06.7	-4.2	
TUWZ			AML	AML	13 44 04.0		
TUWZ			AML	AML	13 44 05.6		
BSWZ	**Blackbirch Sta**	**5.32 210**	Pn	Pn	13 43 10.3	-4.1	
BSWZ	**Blackbirch Sta**	**5.32 210**	PN	Pn	13 43 10.3	-4.1	
THZ	**Tophouse**	**5.78 216**	Pn	Pn	13 43 16.2	-4.4	
THZ	**Tophouse**	**5.78 216**	PN	Pn	13 43 16.2	-4.4	

*ISCJB **17** 13:50:30.6±0.4, 39.°17N±0.°02×29.°10E±0.°03, h1km±5km,*
Error ellipse: s-maj=4.0km s-min=3.5km az=169.9
*CSEM **17** 13:50:30.6±0.1, 39.°16N×29.°11E, h8km, MD2.8, Error*
ellipse: s-maj=2.1km s-min=1.8km az=113.0
*ISK **17** 13:50:30.3, 39.°18N×29.°10E, h5km, MD2.8*
*DDA **17** 13:50:30.9, 39.°13N×29.°08E, h7km, Ml2.8*

ISC 17 13:50:31.0±0.9, 39.°17N±0.°02×29.°09E±0.°02, h9km±7km, n42, σ0.°45/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**226**	*e*PG	**Pg**	**13 50 34.0**	**+0.2**
SIMA				*e*SG	**Sg**	**13 50 35.8**	**+0.1**
GDZ	**Gediz**	**0.31**	**104**	*i* P	**Pg**	**13 50 37.3**	**+0.1**
GDZ				*i* S	**Sg**	**13 50 41.8**	**+0.4**
GDZ	**Gediz**	**0.31**	**104**	P	**Pg**	**13 50 37.3**	**+0.1**
GDZ				S	**Sg**	**13 50 41.8**	**+0.4**
DEMI	**Demirci**	**0.32**	**247**	*i* P	**Pg**	**13 50 37.1**	**-0.1**
DEMI				*i* S	**Sg**	**13 50 41.4**	**-0.1**
DEMI	**Demirci**	**0.32**	**247**	P	**Pg**	**13 50 37.1**	**-0.1**
DEMI				S	**Sg**	**13 50 41.4**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**45**	*e*PG	**Pg**	**13 50 38.8**	**-0.1**
TVSB				*e*SG	**Sg**	**13 50 44.0**	**-0.3**
TVSB	**Tavsanli**	**0.40**	**45**	*e*Pg	**Pg**	**13 50 38.8**	**-0.1**
TVSB				*e*Sg	**Sg**	**13 50 44.0**	**-0.3**
DST	**Dursunbey**	**0.57**	**320**	*e*PG	**Pg**	**13 50 41.7**	**-0.3**
DST	**Dursunbey**	**0.57**	**320**	*e*Pg	**Pg**	**13 50 41.7**	**-0.3**
KULA	**Kula-Manisa**	**0.73**	**207**	*e*PG	**Pg**	**13 50 44.9**	**-0.2**
KULA	**Kula-Manisa**	**0.73**	**207**	*e*Pg	**Pg**	**13 50 44.9**	**-0.2**
MANT	**Manisa**	**0.79**	**212**	*i* P	**Pg**	**13 50 45.8**	**-0.5**
MANT				*i* S	**Sg**	**13 50 56.1**	**-0.5**
MANT	**Manisa**	**0.79**	**212**	P	**Pg**	**13 50 45.8**	**-0.5**
MANT				S	**Sg**	**13 50 56.1**	**-0.5**
KHAL	**Karahalli**	**0.85**	**158**	*i* P	**Pg**	**13 50 46.9**	**-0.5**
KHAL				*i* S	**Sg**	**13 50 58.5**	**0.0**
KHAL	**Karahalli**	**0.85**	**158**	P	**Pg**	**13 50 46.9**	**-0.5**
KHAL				S	**Sg**	**13 50 58.5**	**0.0**
ORLT	**Orhaneli**	**0.89**	**350**	*e*PG	**Pg**	**13 50 47.6**	**-0.5**
ORLT	**Orhaneli**	**0.89**	**350**	*e*Pg	**Pg**	**13 50 47.6**	**-0.5**
AKHS	**Akhisar**	**1.03**	**254**	*i* P	**Pb**	**13 50 50.8**	**-0.3**
AKHS				*i* S	**Sb**	**13 51 04.8**	**0.0**
AKHS	**Akhisar**	**1.03**	**254**	P	**Pb**	**13 50 50.8**	**-0.3**
AKHS				S	**Sb**	**13 51 04.8**	**0.0**
BALB	**Balikesir**	**1.05**	**297**	*e*PG	**Pb**	**13 50 51.3**	**0.0**
BALB				*e*SG	**Sb**	**13 51 06.0**	**+0.8**
BALB	**Balikesir**	**1.05**	**297**	*e*Pg	**Pb**	**13 50 51.3**	**0.0**
BALB				*e*Sg	**Sb**	**13 51 06.0**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.09**	**282**	*i* P	**Pn**	**13 50 52.2**	**-0.2**
STEP				*i* S	**Sn**	**13 51 08.1**	**+0.4**
IGD	**Bursa**	**1.10**	**4**	*i* P	**Pn**	**13 50 52.5**	**-0.1**
IGD				*i* S	**Sn**	**13 51 09.8**	**+1.8**
CAVI	**Cavuskoy**	**1.19**	**29**	*e*PN	**Pg**	**13 50 53.1**	**-0.6**
CAVI	**Cavuskoy**	**1.19**	**29**	*e*Pn	**Pg**	**13 50 53.2**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.21**	**353**	*e*PN	**Pb**	**13 50 53.0**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.21**	**353**	*e*Pn	**Pb**	**13 50 53.0**	**-1.1**
KZIL	**AFYON_Kizioren**	**1.22**	**137**	*i* P	**Pn**	**13 50 54.2**	**-0.2**
KZIL				*i* S	**Sn**	**13 51 11.5**	**+0.4**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*PN	**Pb**	**13 50 54.2**	**-0.3**
KCTX				*e*SN	**Sn**	**13 51 11.8**	**+0.5**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*Pn	**Pb**	**13 50 54.2**	**-0.3**
KCTX				*e*Sn	**Sn**	**13 51 11.8**	**+0.5**
BALY	**Balya**	**1.28**	**297**	*i* P	**Pg**	**13 50 55.3**	**-0.1**
BALY				*i* S	**Sn**	**13 51 12.3**	**0.0**
BALY	**Balya**	**1.28**	**297**	P	**Pg**	**13 50 55.3**	**-0.1**
BALY				S	**Sn**	**13 51 12.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**309**	*e*PN	**Pb**	**13 50 57.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**309**	*e*Pn	**Pb**	**13 50 57.2**	**0.0**
ARMT	**Armutlu**	**1.41**	**353**	*e*PN	**Pn**	**13 50 56.9**	**0.0**
ARMT	**Armutlu**	**1.41**	**353**	*e*Pn	**Pn**	**13 50 56.9**	**0.0**
YLV	**Yalova**	**1.42**	**9**	*e*PN	**Pb**	**13 50 57.3**	**-0.3**
YLV	**Yalova**	**1.42**	**9**	*e*Pn	**Pb**	**13 50 57.3**	**-0.3**
EDC	**Edincik**	**1.51**	**322**	*e*PN	**Pn**	**13 50 58.6**	**+0.3**
EDC	**Edincik**	**1.51**	**322**	*e*Pn	**Pn**	**13 50 58.6**	**+0.3**
GULT	**Gulveren**	**1.67**	**40**	*e*PN	**Pn**	**13 51 00.7**	**+0.1**
GULT	**Gulveren**	**1.67**	**40**	*e*Pn	**Pn**	**13 51 00.7**	**+0.1**

*VIE **17** 13:52:36.7±1.8, 46.°18N×17.°50E, h6km, mb1.9/2, ML1.9/4,*
Error ellipse: s-maj=10.6km s-min=6.7km az=111.0
*CSEM **17** 13:52:37.9±0.2, 45.°81N×17.°45E, h10km, ML2.5, Error*
ellipse: s-maj=6.2km s-min=3.9km az=47.0
*PRU **17** 13:52:37.4, 45.°76N×17.°55E, h25km*
*ISCJB **17** 13:52:39.5±0.7, 45.°83N±0.°02×17.°45E±0.°03, h25km±7km,*
Error ellipse: s-maj=4.8km s-min=3.1km az=136.1
*BEO **17** 13:52:41.0±1.2, 45.°76N×17.°66E, h0km, M2.3/5*

ISC 17 13:52:38.7±1.1, 45.°81N±0.°02×17.°44E±0.°02, h20km±5km, n53, σ1.°29/85, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEHE	**Becsehely**	**0.81**	**326**	*e*Pg	**Pb**	**13 52 54.1**	**0.0**
BEHE				*e*Sg	**Sg**	**13 53 05.6**	**+0.3**
BEHE	**Becsehely**	**0.81**	**326**	*e*Pg	**Pb**	**13 52 54.1**	**0.0**
BEHE				*e*Sg	**Sg**	**13 53 05.6**	**+0.3**
BEHE	**Becsehely**	**0.81**	**326**	*e*Pg	**Pb**	**13 52 54.1**	**0.0**
BEHE				*e*Sg	**Sg**	**13 53 05.6**	**+0.3**
KOGS	**Kog**	**1.05**	**308**	*i* Pg	**Pn**	**13 52 58.3**	**0.0**
KOGS				*e*Sg	**Sg**	**13 53 13.0**	**+0.2**
	comp=Z,31nm,0.1s						
KOGS	**Kog**	**1.05**	**308**	*i* Pn	**Pn**	**13 52 58.3**	**0.0**
KOGS				*e*Sg	**Sg**	**13 53 13.0**	**+0.2**
	comp=Z,31nm,0.1s						
BLY	**Banja Luka**	**1.07**	**190**	*e*Pg	**Pg**	**13 52 58.8**	**-0.7**
BLY				*e*Sg	**Sg**	**13 53 13.8**	**+0.2**
BLY	**Banja Luka**	**1.07**	**190**	*e*Pg	**Pg**	**13 52 58.8**	**-0.7**
BLY				*e*Sg	**Sg**	**13 53 12.8**	**-0.8**
GCIS	**Gornji Cirnik**	**1.27**	**273**	*i* Pg	**Pn**	**13 53 00.6**	**-0.7**
	comp=Z,8.0nm,0.2s						
GCIS	**Gornji Cirnik**	**1.27**	**273**	*i* Pn	**Pn**	**13 53 00.6**	**-0.7**
GOLS	**Golise**	**1.28**	**280**	*i* Pg	**Pn**	**13 53 00.9**	**-0.7**
	comp=Z,13nm,0.2s						
GOLS	**Golise**	**1.28**	**280**	*i* Pn	**Pn**	**13 53 00.8**	**-0.7**
CRES	**Cresnjev**	**1.39**	**272**	*i* Pg	**Pn**	**13 53 02.2**	**-0.7**
	comp=Z,12nm,0.2s						
CRES	**Cresnjev**	**1.39**	**272**	*i* Pn	**Pn**	**13 53 02.2**	**-0.7**
CRES	**Cresnjev**	**1.39**	**272**	⇑*i*Pg	**Pg**	**13 53 05.2**	**-0.3**
CRES				*e*Sg	**Sg**	**13 53 25.3**	**+1.7**
OZLJ	**Ozalj**	**1.39**	**263**	*i* Pg	**Pg**	**13 53 05.2**	**-0.4**
OZLJ				Sg	**Sg**	**13 53 23.7**	**-0.1**
LEGS	**Legarje**	**1.49**	**276**	*i* Pg	**Pn**	**13 53 03.5**	**-0.9**
LEGS	**Legarje**	**1.49**	**276**	*i* Pn	**Pn**	**13 53 03.4**	**-0.9**
CSKK	**Cs˘‡kako**	**1.66**	**20**	*e*Pn	**Pn**	**13 53 07.0**	**+0.3**
CSKK				*e*Sn	**Sn**	**13 53 28.0**	**+0.6

MAZI	**Mazidag**	**0.91**	**158**	*e*PG	**Pg**	**14 02 32.3**	**+0.1**
MAZI				*e*SG	**Sb**	**14 02 45.3**	**-0.9**
MAZI	**Mazidag**	**0.91**	**158**	*e*PG	**Pg**	**14 02 32.3**	**+0.1**
MAZI				*e*Sg	**Sb**	**14 02 45.3**	**-0.9**
SVAN	**Silvan-Diyarba**	**0.94**	**99**	*e*PG	**Pg**	**14 02 33.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**0.94**	**99**	*i* P	**Pg**	**14 02 33.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**0.94**	**99**	P	**Pg**	**14 02 33.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**0.94**	**99**	*e*Pg	**Pg**	**14 02 33.2**	**+0.3**
BTMN	**Batman**	**1.07**	**112**	*i* P	**Pg**	**14 02 35.7**	**+0.4**
BTMN	**Batman**	**1.07**	**112**	P	**Pg**	**14 02 35.7**	**+0.4**
MARD	**Mardin**	**1.16**	**148**	*i* P	**Pg**	**14 02 37.3**	**+0.3**
MARD				*i* S	**Sb**	**14 02 54.0**	**+0.6**
URFA	**Urfa**	**1.28**	**228**	*e*PN	**Pg**	**14 02 38.1**	**-1.1**
URFA	**Urfa**	**1.28**	**228**	*e*Pn	**Pg**	**14 02 38.2**	**-1.1**
SURC	**SANLIURFA_SURC**	**1.81**	**219**	*i* P	**Pg**	**14 02 51.6**	**+2.2**
SURC				*i* S	**Sg**	**14 03 14.7**	**+1.9**

*IDC **17** 14:03:02.9±1.6, 34.°24N×23.°96E, h0km, mb3.7/3, mb1 3.5/6, mb1mx3.4/44, mbtmp3.5/6, ML4.3/2, Error ellipse: s-maj=46.7km s-min=26.1km az=138.0*
*ISCJB **17** 14:03:05.9±1.1, 34.°4N±0.°1×23.°7E±0.°1, h29km, mb3.6/3, Error ellipse: s-maj=19.9km s-min=11.0km az=141.8*
*CSEM **17** 14:03:10.4, 34.°73N×23.°90E, h28km, ML2.9/2*
*ATH **17** 14:03:10.4, 34.°73N×23.°90E, h28km±2km, ML2.9/2, Error ellipse: s-maj=7.0km s-min=3.1km az=23.0*

ISC 17 14:03:07.7±1.2, 34.°5N±0.°1×23.°77E±0.°08, h29km, n18, σ1°23/20, mb3.8/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.40**	**40**	P	**Pb**	**14 03 15.8**	**-0.8**
GVD				AML	AML	14 03 34.5	
	comp=N,4254μm,0.3s						
GVD				AML	AML	14 03 39.2	
	comp=E,3974μm,0.5s						
GVD	**Gavdhos**	**0.40**	**40**	P	**Pb**	**14 03 15.8**	**-0.8**
VAM	**Vamos**	**0.94**	**22**	P	**Pb**	**14 03 25.4**	**-0.1**
VAM	**Vamos**	**0.94**	**22**	P	**Pb**	**14 03 25.4**	**-0.1**
IMMV	**Iera Moni Meta**	**0.94**	**10**	P	**Pn**	**14 03 24.4**	**-0.6**
IMMV	**Iera Moni Meta**	**0.94**	**10**	P	**Pn**	**14 03 24.4**	**-0.6**
SIVA	**Sivas**	**0.98**	**60**	P	**Pb**	**14 03 27.1**	**+1.0**
SIVA				S	**Sb**	**14 03 36.7**	**-2.0**
SIVA				AML	AML	14 03 53.9	
	comp=N,2085μm,0.7s						
SIVA				AML	AML	14 03 55.2	
	comp=E,2585μm,0.7s						
SIVA	**Sivas**	**0.98**	**60**	P	**Pb**	**14 03 27.1**	**+1.0**
SIVA				S	**Sb**	**14 03 36.7**	**-2.0**
IDI	**Anoyia**	**1.19**	**50**	P	**Pb**	**14 03 30.4**	**+0.7**
IDI	**Anoyia**	**1.19**	**50**	P	**Pb**	**14 03 30.4**	**+0.7**
LAST	**Lasithi**	**1.54**	**65**	P	**Pb**	**14 03 35.1**	**-0.5**
LAST	**Lasithi**	**1.54**	**65**	P	**Pb**	**14 03 35.1**	**-0.5**
BRTR	**Keskin Array B**	**9.43**	**54**	Pn	**Pn**	**14 05 23.2**	**+1.5**
	comp=E,0.1nm,0.3s,baz=224,slow=9.7,SNR=2.1						
GERES	**GERESS Array B**	**16.14**	**335**	Pn	**P**	**14 06 57.4**	**+2.0**
	comp=E,0.6nm,0.3s,baz=151,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**16.64**	**12**	Pn	**Pn**	**14 06 59.8**	**+1.1**
	comp=E,0.7nm,0.3s,baz=200,slow=9.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**29.22**	**229**	P	**P**	**14 09 05.7**	**-1.4**
	comp=E,0.3nm,0.6s,baz=42,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**45.07**	**56**	P	**P**	**14 11 20.1**	**-0.9**
	comp=E,1.0nm,0.7s,baz=278,slow=6.8,SNR=11						
ZALV	**Zalesovo Beam**	**46.26**	**46**	P	**P**	**14 11 31.7**	**+1.4**
	comp=E,0.4nm,0.3s,baz=274,slow=11,SNR=2.1						

SJA 17 14:06:44.8±0.9, 31.°29S×68.°54W, h106km±3km, ML3.5, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.06**	**124**	*i* P	Pn	14 07 00.3	+0.7
RTLL				IAML		14 07 00.4	
	comp=Z,2μm,0.3s						
RTLL				*e*S	Sn	14 07 11.1	+0.6
SJA	**San Juan**	**0.23**	**185**	*i* P	Pn	14 07 01.0	+1.0
SJA				IAML		14 07 01.3	
	comp=Z,3μm,0.2s						
SJA				*e*S	Sn	14 07 12.1	+0.8
AMOG	**MOGNA**	**0.36**	**6**	*i* P	Pn	14 07 01.4	+0.9
AMOG				*e*S	Sn	14 07 13.6	+1.4
RTCV	**Cerro Valdivia**	**0.57**	**180**	*i* P	Pn	14 07 02.7	+0.9
RTCV				*i* S	Sn	14 07 15.6	+1.1
RTLS	**Leoncito**	**0.82**	**232**	*e*P	Pn	14 07 05.7	+1.5
RTLS				*e*S	Sn	14 07 20.2	+1.3
RTLS				IAML		14 07 22.9	
	comp=Z,349nm,0.2s						
AVFE	**Valle Fertil**	**1.12**	**56**	*e*P	Pn	14 07 08.1	+1.0
AVFE				*e*S	Sn	14 07 24.9	+1.0
AVFE				IAML		14 07 26.1	
	comp=Z,578nm,0.3s						
AUSP	**Uspallata**	**1.18**	**218**	*e*P	Pn	14 07 09.4	+1.5
AUSP				*e*S	Sn	14 07 26.9	+1.6
ACDV	**Cuesta del Vie**	**1.23**	**336**	*i* P	Pn	14 07 09.5	+1.1
ACDV				*e*S	Sn	14 07 27.5	+1.3
ASAL	**Salagasta**	**1.32**	**191**	*e*P	Pn	14 07 10.8	+1.5
ASAL				*e*S	Sn	14 07 28.9	+1.0
ACAN	**Cantantal**	**1.51**	**131**	*i* P	Pn	14 07 13.1	+1.6
ACAN				*e*S	Sn	14 07 33.0	+1.3
ARCO	**CERRO ARCO**	**1.58**	**192**	*e*P	Pn	14 07 14.0	+1.4
ARCO				*e*S	Sn	14 07 36.0	+2.5
ARCO				IAML		14 07 36.9	
	comp=Z,262nm,0.3s						
ACHE	**Chepes**	**1.61**	**86**	*e*P	Pn	14 07 14.0	+1.1
AGUA	**GUANDACOL**	**1.80**	**1**	*e*P	Pn	14 07 16.7	+1.4
AGUA				*e*S	Sn	14 07 39.4	+1.0
AAGR	**Agrelo**	**1.80**	**188**	*e*P	Pn	14 07 16.7	+1.5
AAGR				*e*S	Sn	14 07 39.3	+0.9
APLL	**PUNTA DE LOS L**	**1.94**	**63**	*e*P	Pn	14 07 18.0	+1.0
APLL				*i* S	Sn	14 07 42.5	+1.0
ACLC	**CERRO LA CRUZ**	**2.31**	**37**	*e*P	Pn	14 07 22.6	+0.7
ACLC				*e*S	Sn	14 07 50.8	+0.7
VCA	**Vinchina**	**2.56**	**6**	*e*P	Pn	14 07 26.7	+1.6
VCA				*e*S	Sn	14 07 57.4	+1.4
VCA				IAML		14 08 01.2	
	comp=Z,255nm,0.3s						
ROC1	**El Roble**	**2.69**	**231**	*e*P	Pn	14 07 27.8	+1.0
ROC1				*e*S	Sn	14 08 00.1	+1.0
LCO	**Las Campanas**	**2.95**	**320**	*e*P	Pn	14 07 31.2	+1.0
LCO				*e*S	Sn	14 08 06.6	+1.3
LCO				IAML		14 08 10.4	
	comp=E,120nm,0.3s						
TCA	**Tanti**	**3.37**	**92**	*e*P	Pn	14 07 36.3	+0.5
TCA				IAML		14 08 16.0	
	comp=Z,93nm,0.7s						
CYA	**Choya**	**3.70**	**41**	*e*P	Pn	14 07 40.0	-0.1
CYA				*e*S	Sn	14 08 20.6	-2.4

IDC 17 14:11:53.8±10.0, 22.°15S×171.°90W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/32, mbtmp4.1/5, Error ellipse: s-maj=214.1km s-min=134.3km az=41.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.07**	**266**	P	P	14 16 29.3	+0.3
	3.0nm,0.6s,baz=99,slow=19,SNR=5.5						
CTA	**Charters Tower**	**39.01**	**265**	P	P	14 19 22.4	+0.1
	4.0nm,0.3s,baz=99,slow=9.1,SNR=23						
STKA	**Stephens Creek**	**42.28**	**247**	P	P	14 19 47.9	-1.4
	1.4nm,0.8s,baz=106,slow=15,SNR=2.1						
ASAR	**Alice Springs**	**49.69**	**257**	P	P	14 20 47.9	-0.1
	0.3nm,0.4s,baz=97,slow=7.7,SNR=24						
WRA	**Warramunga Arr**	**50.01**	**262**	P	P	14 20 50.7	+0.3
	1.1nm,0.3s,baz=97,slow=8.2,SNR=23						

*ISCJB **17** 14:16:29.8±0.7, 21.°00S±0.°09×178.°1W±0.°1, h400km, mb3.7/9, Error ellipse: s-maj=15.8km s-min=10.7km az=32.9*
*IDC **17** 14:16:30.5±2.2, 21.°12S×178.°01W, h403km±22km, mb3.5/9, mb1 3.7/11, mb1mx3.5/29, mbtmp4.4/11, Error ellipse: s-maj=19.2km s-min=14.5km az=132.0*

ISC 17 14:16:30.2±0.7, 21.°1S±0.°1×177.°9W±0.°1, h400km, n20, σ1°10/22, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.27**	**40**	P	**P**	**14 18 39.7**	**-0.2**
	4.9nm,0.3s,baz=209,slow=4.0,SNR=13						
AFI				S	S	14 20 17.0	-9.5
	2.5nm,0.3s,baz=217,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**14.57**	**263**	P	**P**	**14 19 40.6**	**+2.4**
	0.9nm,0.3s,baz=143,slow=9.9,SNR=12						
URZ	**Urewera**	**17.60**	**193**	P	**P**	**14 20 10.8**	**+0.4**
	8.6nm,0.3s,baz=321,slow=2.5,SNR=20						
URZ				S	**S**	**14 23 12.7**	**0.0**
	0.8nm,0.3s,baz=288,slow=20,SNR=5.7						
CTA	**Charters Tower**	**33.50**	**265**	P	**P**	**14 22 34.0**	**-0.4**
	5.1nm,0.7s,baz=86,slow=13,SNR=5.8						
PMG	**Port Moresby**	**35.55**	**284**	P	**P**	**14 22 51.6**	**-0.1**
	18nm,0.8s,baz=84,slow=7.2,SNR=5.1						
STKA	**Stephens Creek**	**37.58**	**245**	P	**P**	**14 23 08.3**	**-0.1**
	2.2nm,0.6s,baz=98,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**44.44**	**257**	P	**P**	**14 24 02.8**	**-1.1**
	5.8nm,0.8s,baz=99,slow=7.7,SNR=47						
ASAR				PcP	**PcP**	**14 25 38.7**	**-0.8**
	1.5nm,0.6s,baz=108,slow=3.8,SNR=15						
WRA	**Warramunga Arr**	**44.58**	**263**	P	**P**	**14 24 03.5**	**-1.4**
	1.9nm,0.5s,baz=96,slow=7.4,SNR=15						
WRA				PcP	**PcP**	**14 25 40.0**	**0.0**
	0.8nm,0.5s,baz=99,slow=2.9,SNR=4.5						
MAW	**Mawson**	**81.00**	**200**	P	**P**	**14 28 01.0**	**-0.2**
	0.9nm,0.6s,baz=131,slow=9.3,SNR=4.5						
TXAR	**Lajitas Array**	**87.34**	**57**	P	**P**	**14 28 35.4**	**+1.9**
	0.2nm,0.6s,baz=238,slow=5.1,SNR=3.2						
PDAR	**Pinedale Array**	**89.37**	**43**	P	**P**	**14 28 43.7**	**+0.8**
	0.2nm,0.4s,baz=212,slow=3.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**90.39**	**290**	P	**P**	**14 28 49.1**	**+1.3**
	2.2nm,0.9s,baz=116,slow=3.1,SNR=13						
MKAR	**Makanchi Array**	**111.67**	**313**	PKiKP	**PKiKP**	**14 34 17.0**	**-1.0**
	0.2nm,0.5s,baz=59,slow=2.2,SNR=2.5						
BVAR	**Borovoye Array**	**119.60**	**320**	PKP	**PKPdf**	**14 34 31.4**	**-1.5**
	0.6nm,0.5s,baz=113,slow=1.9,SNR=5.9						
ARCES	**ARCESS Array B**	**129.55**	**350**	PKP	**PKPdf**	**14 34 50.2**	**-1.4**
	7.8nm,1.2s,baz=59,slow=0.5,SNR=3.2						
AKASG	**Malin Array Be**	**143.59**	**331**	PKhKP	PKPpre	14 35 11.0	
	2.1nm,0.4s,baz=43,slow=4.5,SNR=4.3						
AKASG				PKP	PKPab	14 35 15.2	-0.8
	2.1nm,0.4s,baz=42,slow=4.5,SNR=14						
BRTR	**Keskin Array B**	**147.31**	**312**	PKPbc	**PKPbc**	**14 35 26.9**	**-0.9**
	1.2nm,0.6s,baz=142,slow=4.0,SNR=5.5						
MMAI	**Mount Meron Ar**	**148.18**	**299**	PKPbc	**PKPbc**	**14 35 30.1**	**-0.1**
	1.9nm,0.4s,baz=68,slow=4.8,SNR=6.6						
GERES	**GERESS Array B**	**150.82**	**344**	PKPbc	**PKPbc**	**14 35 35.1**	**-1.0**
	0.2nm,0.3s,baz=35,slow=3.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**172.06**	**177**	PKPab	**PKPab**	**14 37 17.9**	**-0.2**
	0.4nm,0.6s,baz=179,slow=3.4,SNR=3.6						

*IDC **17** 14:27:54.3±5.1, 4.°52S×103.°29E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/39, mbtmp3.3/4, Error ellipse: s-maj=301.4km s-min=25.5km az=50.0*
*ISCJB **17** 14:28:00.4±1.1, 5.°02S±0.°09×102.°98E±0.°08, h71km±9km, mb3.3/4, Error ellipse: s-maj=18.5km s-min=7.4km az=40.4*
*DJA **17** 14:28:01.4±0.8, 5.°S±4.°×10.°3E±.°, h21km±5km, M3.4/6, MLv3.4/6*

ISC 17 14:28:01.2±1.5, 5.°0S±0.°1×103.°00E±0.°09, h61km±12km, n12, σ1°11/19, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.66**	**356**	P	**Pn**	**14 28 14.4**	**-0.6**
MNAI				S	**Sn**	**14 28 24.4**	**-0.7**
LWLI	**Liwa**	**1.06**	**90**	P	**Pn**	**14 28 20.2**	**+0.1**
LWLI				S	**Sn**	**14 28 33.7**	**-0.5**
MDSI	**Maura Dua**	**1.29**	**66**	P	**Pn**	**14 28 23.4**	**+0.3**
MDSI				S	**Sn**	**14 28 40.0**	**+0.5**
LHSI	**Lahat**	**1.29**	**24**	P	**Pn**	**14 28 23.4**	**+0.2**
LHSI				S	**Sn**	**14 28 39.9**	**+0.3**
KASI	**Kota Agung**	**1.57**	**109**	P	**Pn**	**14 28 27.7**	**+0.8**
KASI				S	**Sn**	**14 28 46.4**	**+0.1**
KLSI		**1.76**	**79**	P	**Pn**	**14 28 30.3**	**+0.9**
KLSI				S	**Sn**	**14 28 52.1**	**+1.3**
MASI	**Maura Aman, Be**	**2.01**	**338**	P	**Pn**	**14 28 34.5**	**+1.6**
MASI				S	**Sn**	**14 28 59.5**	**+2.5**
WRA	**Warramunga Arr**	**33.91**	**119**	P	**P**	**14 34 39.1**	**+0.4**
	0.3nm,0.7s,baz=296,slow=9.3,SNR=1.9						
ASAR	**Alice Springs**	**35.08**	**125**	P	**P**	**14 34 50.0**	**+1.2**
	0.1nm,0.3s,baz=302,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**54.75**	**343**	P	**P**	**14 37 23.5**	**-1.1**
	0.5nm,1.0s,baz=145,slow=7.9,SNR=1.8						
BVAR	**Borovoye Array**	**64.05**	**339**	P	**P**	**14 38 27.0**	**-1.5**
	0.4nm,0.5s,baz=125,slow=7.2,SNR=2.6						
TXAR	**Lajitas Array**	**145.06**	**43**	PKP	**PKPdf**	**14 47 32.5**	**-0.1**
	0.2nm,0.6s,baz=298,slow=1.9,SNR=3.4						

*DDA **17** 14:29:34.6, 39.°14N×29.°09E, h7km, Md2.3*
*ISK **17** 14:29:34.6, 39.°09N×29.°12E, h6km, MD2.7*
*ISCJB **17** 14:29:35.1±0.5, 39.°08N±0.°04×29.°11E±0.°04, h8km±4km, Error ellipse: s-maj=7.4km s-min=4.9km az=154.9*
*CSEM **17** 14:29:35.1±0.1, 39.°10N×29.°10E, h5km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.1km az=118.0*

ISC 17 14:29:35.1±0.9, 39.°10N±0.°03×29.°10E±0.°03, h9km±8km, n25, σ0°28/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**259**	*e*PG	**Pg**	**14 29 37.6**	**-0.1**
SIMA				*e*SG	**Sg**	**14 29 39.3**	**-0.1**
GDZ	**Gediz**	**0.29**	**92**	*i* P	**Pg**	**14 29 41.0**	**-0.1**
GDZ				*i* S	**Sg**	**14 29 45.5**	**+0.4**
GDZ	**Gediz**	**0.29**	**92**	P	**Pg**	**14 29 41.0**	**-0.1**
GDZ				S	**Sg**	**14 29 45.5**	**+0.4**
DEMI	**Demirci**	**0.31**	**259**	*i* P	**Pg**	**14 29 41.3**	**0.0**
DEMI				*i* S	**Sg**	**14 29 45.7**	**+0.3**
DEMI	**Demirci**	**0.31**	**259**	P	**Pg**	**14 29 41.3**	**0.0**
DEMI				S	**Sg**	**14 29 45.7**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG	**Pg**	**14 29 43.6**	**-0.3**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg	**Pg**	**14 29 43.6**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*PG	**Pg**	**14 29 48.2**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*Pg	**Pg**	**14 29 48.2**	**-0.1**
MANT	**Manisa**	**0.74**	**215**	*i* P	**Pg**	**14 29 49.4**	**-0.2**
MANT				*i* S	**Sg**	**14 29 58.9**	**-0.3**
MANT	**Manisa**	**0.74**	**215**	P	**Pg**	**14 29 49.3**	**-0.2**
MANT				S	**Sg**	**14 29 58.9**	**-0.3**
KHAL	**Karahalli**	**0.79**	**157**	*i* P	**Pb**	**14 29 51.1**	**0.0**
KHAL	**Karahalli**	**0.79**	**157**	P	**Pb**	**14 29 51.1**	**0.0**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pn**	**14 29 59.0**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pn**	**14 29 59.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*PN	**Pg**	**14 29 59.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pg**	**14 29 59.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*PN	**Pg**	**14 30 00.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn	**Pg**	**14 30 00.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**353**	*e*PN	**Pb**	**14 30 02.6**	**-0.1**
ARMT	**Armutlu**	**1.47**	**353**	*e*Pn	**Pb**	**14 30 02.6**	**-0.1**
YLV	**Yalova**	**1.48**	**8**	*e*PN	**Pg**	**14 30 02.9**	**-0.6**
YLV	**Yalova**	**1.48**	**8**	*e*Pn	**Pg**	**14 30 02.9**	**-0.6**
GULT	**Gulveren**	**1.72**	**39**	*e*PN	**Pn**	**14 30 05.3**	**0.0**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn	**Pn**	**14 30 05.3**	**0.0**

*ISCJB **17** 14:31:47.5±0.6, 54.°94N±0.°06×158.°26W±0.°07, h33km, mb3.9/8, Error ellipse: s-maj=9.4km s-min=3.3km az=150.5*
*NEIC **17** 14:31:50.8±0.5, 55.°09N×158.°45W, h49km±4km, ML3.6(AEIC), Error ellipse: s-maj=8.2km s-min=2.2km az=148.0*
*IDC **17** 14:31:53.6±1.9, 56.°57N×159.°26W, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/57, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=47.2km s-min=17.8km az=0.0*

ISC 17 14:31:48.9±1.1, 55.°0N±0.°1×158.°32W±0.°06, h35km, n64, σ1°33/61, mb3.9/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNSG	**Veniaminof 6**	**1.20**	**339**	P	**Pn**	**14 32 09.4**	**+0.2**
VNSW	**Veniaminof 7**	**1.27**	**327**	P	**Pn**	**14 32 10.5**	**+0.3**
SDPT	**Sand Point**	**1.28**	**286**	P	**Pn**	**14 32 09.9**	**-0.4**
SDPT				S	**Sn**	**14 32 24.6**	**-1.6**
CHGN	**Chignik**	**1.29**	**358**	P	**Pn**	**14 32 10.3**	**-0.1**
CHGN				S	**Sn**	**14 32 25.9**	**-0.5**
VNHG	**Veniaminof 1**	**1.30**	**339**	P	**Pn**	**14 32 11.3**	**+0.6**
VNWF	**Veniaminof 8**	**1.34**	**329**	P	**Pn**	**14 32 11.6**	**+0.3**
VNNF	**Veniaminof 3**	**1.39**	**336**	P	**Pn**	**14 32 12.8**	**+0.8**
ANPB	**Aniakchak Plen**	**1.79**	**1**	P	**Pn**	**14 32 18.3**	**+0.9**
ANPK	**Aniakchak Peak**	**1.83**	**3**	P	**Pn**	**14 32 19.2**	**+1.2**
ANNE	**Aniakchak Nort**	**1.91**	**4**	P	**Pn**	**14 32 20.1**	**+1.1**
ANNW	**Aniakchak Nort**	**1.96**	**2**	P	**Pn**	**14 32 21.4**	**+1.8**
PVV	**Pavlof Volcano**	**2.02**	**282**	P	**Pn**	**14 32 21.1**	**+0.6**
DOL	**Dolgoi Island**	**2.04**	**275**	P	**Pn**	**14 32 21.1**	**+0.3**
PS4A	**Pavlof South-4**	**2.06**	**281**	P	**Pn**	**14 32 21.1**	**+0.1**
HAG	**Hague Volcano**	**2.08**	**280**	P	**Pn**	**14 32 22.4**	**+1.0**
DT1	**Dutton Round H**	**2.28**	**274**	P	**Pn**	**14 32 24.3**	**+0.3**
SII	**Sitkinak Islan**	**2.80**	**55**	P	**Pn**	**14 32 33.7**	**+2.5**
PLK4	**Peulik 4**	**2.84**	**22**	P	**Pn**	**14 32 34.1**	**+2.2**
PLK3	**Peulik 3**	**2.91**	**22**	P	**Pn**	**14 32 35.1**	**+2.4**
FALS	**False Pass**	**2.95**	**269**	P	**Pn**	**14 32 33.9**	**+0.8**
FALS				S	**Sn**	**14 33 08.7**	**+1.5**
PLK1	**Peulik 1**	**2.95**	**18**	P	**Pn**	**14 32 35.0**	**+1.8**
ISLZ	**Isanotski Laza**	**3.13**	**267**	P	**Pn**	**14 32 36.6**	**+0.8**
SSLN	**Shishaldin Nor**	**3.29**	**269**	P	**Pn**	**14 32 38.2**	**+0.3**
SSLW	**Shishaldin Wes**	**3.36**	**268**	P	**Pn**	**14 32 40.0**	**+1.0**
OHAK	**Old Harbor**	**3.58**	**50**	P	**Pn**	**14 32 43.6**	**+1.7**
KABR	**Katmai Barrier**	**3.63**	**29**	P	**Pn**	**14 32 44.3**	**+1.7**
WESN	**West Dahl Nort**	**3.66**	**266**	P	**Pn**	**14 32 44.5**	**+1.5**
WESE	**West Dahl East**	**3.67**	**264**	P	**Pn**	**14 32 44.7**	**+1.4**
KELA	**Mount Kelaz**	**3.71**	**21**	P	**Pn**	**14 32 45.3**	**+1.5**
WESP	**Westdahl Peak**	**3.75**	**265**	P	**Pn**	**14 32 45.8**	**+1.5**
KVTA	**Katmai Vly 10**	**3.76**	**25**	P	**Pn**	**14 32 46.5**	**+2.1**
KAHC	**Katmai Hardscr**	**4.07**	**25**	P	**Pn**	**14 32 51.2**	**+2.5**
KDAK	**Kodiak Island**	**4.22**	**47**	Pn	**Pn**	**14 32 52.0**	**+1.4**
	3.7nm,0.3s,baz=184,slow=4.1,SNR=212						
KDAK				Sn	**Sn**	**14 33 37.2**	**-1.5**
	6.2nm,0.3s,baz=358,slow=21,SNR=16						
KDAK				Lg	Lg	14 33 54.7	
	baz=18,slow=20,SNR=2.4						
KDAK	**Kodiak Island**	**4.22**	**47**	P	**Pn**	**14 32 52.3**	**+1.6**
AKSA	**Akutan Strait**	**4.38**	**261**	P	**Pn**	**14 32 54.1**	**+1.2**
AKLV	**Akutan Long Va**	**4.53**	**262**	P	**Pn**	**14 32 55.5**	**+0.6**
AKMO	**Akutan Morgan**	**4.58**	**261**	P	**Pn**	**14 32 57.3**	**+1.7**
CDD	**Cape Douglas**	**4.68**	**31**	P	**Pn**	**14 32 59.3**	**+2.2**
UNV	**Unalaska Valle**	**4.92**	**260**	P	**Pn**	**14 33 00.7**	**+0.5**
MTBL	**Makushin Table**	**4.99**	**261**	P	**Pn**	**14 33 02.4**	**+1.1**
MSW	**Makushin Switc**	**5.06**	**261**	P	**Pn**	**14 33 02.8**	**+0.6**
SEW	**Seward**	**6.98**	**39**	P	**Pn**	**14 33 29.2**	**+0.7**
RC01	**Rabbit Creek A**	**7.60**	**33**	*e*Pn	**Pn**	**14 33 38.9**	**+1.9**
PWL	**Port Wells**	**7.90**	**38**	P	**Pn**	**14 33 41.8**	**+0.6**
TT01	**Tatalina**	**8.00**	**8**	P	**Pn**	**14 33 42.9**	**+0.4**
KNK	**Knik Glacier**	**8.25**	**35**	P	**Pn**	**14 33 46.3**	**+0.3**
PPLA	**Purkeypile**	**8.51**	**19**	*e*Pn	**Pn**	**14 33 52.6**	**+3.0**
	5.6nm,0.7s						
SML	**Sawmill**	**8.58**	**33**	*e*Pn	**Pn**	**14 33 51.5**	**+0.9**
SCM	**Sheep Creek Mo**	**8.93**	**36**	P	**Pn**	**14 33 55.8**	**+0.5**
ILAR	**Eielson Array**	**11.32**	**26**	Pn	**Pn**	**14 34 25.6**	**-2.3**
	0.2nm,0.3s,baz=216,slow=13,SNR=17						
ILAR				Sn	Sn	14 36 23.0	-10
	0.1nm,0.3s,baz=225,slow=16,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**43.95**	**231**	T	T	15 26 21.6	
	baz=28,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**43.96**	**231**	T	T	15 26 16.6	
	baz=28,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**43.97**	**231**	T	T	15 26 11.8	
	baz=28,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**45.11**	**230**	T	T	15 28 26.6	
	baz=25,slow=74						
H11S2	**WAKE ISLAND Hy**	**45.13**	**230**	T	T	15 28 27.7	
	baz=25,slow=74						
H11S3	**WAKE ISLAND Hy**	**45.13**	**230**	T	T	15 28 50.7	
	baz=25						
TXAR	**Lajitas Array**	**46.42**	**101**	P	P	14 40 28.5	+16
	0.2nm,0.6s,baz=308,slow=6.2,SNR=3.9						
SONM	**Songino Array**	**55.37**	**305**	P	**P**	**14 41 19.1**	**-0.1**
	0.8nm,0.7s,baz=

DDEM	**Demirkent**	**1.71**	**255**	*i* P	**Pb**	**14 35 53.2**	**-0.3**
DDEM	**Demirkent**	**1.71**	**255**	P	**Pb**	**14 35 53.2**	**-0.3**
KORR	**Kora**	**1.74**	**3**	⇑*i*PN	**Pg**	**14 35 55.3**	**0.0**
KORR	**Kora**	**1.74**	**3**	*i* Pn	**Pg**	**14 35 55.3**	**0.0**
VLKR	**Vladikavkaz**	**1.79**	**18**	*e*PN	**Pg**	**14 35 56.6**	**+0.4**
VLKR	**Vladikavkaz**	**1.79**	**18**	*e*Pn	**Pg**	**14 35 56.6**	**+0.4**
KMGR	**Komgaron**	**1.84**	**22**	⇑*i*PN	**Pg**	**14 35 57.0**	**-0.3**
EATA	**Eleskirt**	**1.84**	**217**	*i* P	**Pg**	**14 35 56.8**	**-0.5**
EATA	**Eleskirt**	**1.84**	**217**	P	**Pg**	**14 35 56.8**	**-0.5**
ARNR	**Ardon**	**1.85**	**8**	*e*PN	**Pg**	**14 35 57.5**	**+0.1**
ARNR	**Ardon**	**1.85**	**8**	*e*Pn	**Pg**	**14 35 57.5**	**+0.1**
GANJ	**Ganja**	**1.95**	**110**	⇑Pn	**Pb**	**14 35 56.3**	**-1.3**
	SNR=5.3						
GANJ				⇓Sn	**Sb**	**14 36 21.5**	**-0.5**
GANJ	**Ganja**	**1.95**	**110**	PN	**Pb**	**14 35 56.3**	**-1.3**
GANJ	**Ganja**	**1.95**	**110**	Pn	**Pb**	**14 35 56.3**	**-1.3**
	SNR=5.3						
GANJ				Sn	**Sb**	**14 36 21.5**	**-0.5**
STDR	**Stavd-Durt**	**2.02**	**3**	⇑*i*PN	**Pg**	**14 36 01.2**	**+0.5**
STDR				*e*S	**Sg**	**14 36 28.4**	**+1.5**
STDR	**Stavd-Durt**	**2.02**	**3**	*i* Pn	**Pg**	**14 36 01.2**	**+0.5**
ZKTA	**Zakatala**	**2.05**	**81**	⇑Pn	**Pb**	**14 35 58.9**	**-0.5**
	SNR=7.3						
ZKTA				⇓Sn	**Sg**	**14 36 26.7**	**-1.0**
ZKTA	**Zakatala**	**2.05**	**81**	PN	**Pb**	**14 35 58.8**	**-0.5**
ZKTA	**Zakatala**	**2.05**	**81**	Pn	**Pb**	**14 35 58.8**	**-0.5**
NEY	**Neytrino**	**2.10**	**335**	*de*PN	**Pg**	**14 36 01.1**	**-1.1**
NEY				*e*S	**Sg**	**14 36 28.0**	**-1.3**
NEY				pmax	pmax		
	comp=Z,8.0nm,0.2s						
NEY				smax	smax		
	comp=E,110nm,0.3s						
NEY	**Neytrino**	**2.10**	**335**	*e*Pn	**Pg**	**14 36 01.1**	**-1.1**
	comp=E,8.0nm,0.2s						
NEY				*e*Sn	**Sg**	**14 36 28.0**	**-1.3**
NCK	**Nalchik**	**2.16**	**354**	⇓*e*PN	**Pg**	**14 36 01.9**	**-1.4**
NCK	**Nalchik**	**2.16**	**354**	*e*Pn	**Pg**	**14 36 01.9**	**-1.4**
GROC	**Groznyy**	**2.31**	**36**	*e*PN	**Pg**	**14 36 06.6**	**+0.3**
GROC				*e*S	**Sg**	**14 36 38.0**	**+1.7**
MNGR	**Mingechevir, A**	**2.46**	**103**	⇓Pn	**Pn**	**14 36 02.9**	**+0.7**
MNGR	**Mingechevir, A**	**2.46**	**103**	PN	**Pn**	**14 36 02.9**	**+0.7**
MNGR	**Mingechevir, A**	**2.46**	**103**	Pn	**Pn**	**14 36 02.9**	**+0.7**
SEKA	**Sheki**	**2.47**	**92**	⇓Pn	**Pb**	**14 36 05.3**	**-1.3**
	SNR=9.6						
SEKA				⇑Sn	**Sb**	**14 36 37.7**	**+0.6**
SEKA	**Sheki**	**2.47**	**92**	PN	**Pb**	**14 36 05.6**	**-1.0**
SEKA	**Sheki**	**2.47**	**92**	Pn	**Pb**	**14 36 05.3**	**-1.3**
	SNR=9.6						
SEKA				Sn	**Sb**	**14 36 37.7**	**+0.6**
NAX	**Nakhchivan**	**2.48**	**151**	PN	**Pn**	**14 36 03.0**	**+0.4**
NAX	**Nakhchivan**	**2.48**	**151**	Pn	**Pn**	**14 36 03.0**	**+0.4**
GNBR	**Gunib**	**2.50**	**64**	*e*PN	**Pg**	**14 36 08.8**	**-1.0**
GNBR				*e*S	**Sg**	**14 36 40.7**	**-1.4**
SHA1	**Shidzhatmaz**	**2.56**	**339**	⇑*e*PN	**Pg**	**14 36 07.0**	**-1.2**
SHA1				*e*S	**Sb**	**14 36 40.5**	**+0.6**
KIV	**Kislovodsk**	**2.76**	**341**	*e*PN	**Pb**	**14 36 09.3**	**-2.2**
KIV				*i* S	**Sb**	**14 36 44.2**	**-1.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**2.76**	**341**	*e*Pn	**Pb**	**14 36 09.3**	**-2.2**
	comp=Z,6.0nm,0.9s						
KIV				*i* Sn	**Sb**	**14 36 44.2**	**-1.2**
XNQ	**Khinaliq**	**3.18**	**92**	⇓Pn	**Pb**	**14 36 14.5**	**-4.3**
	SNR=7.5						
XNQ				⇓Sn	**Sb**	**14 36 54.0**	**-3.7**
XNQ	**Khinaliq**	**3.18**	**92**	Pn	**Pb**	**14 36 14.5**	**-4.3**
	SNR=7.5						
XNQ				Sn	**Sb**	**14 36 54.0**	**-3.7**
PQL	**Pirkuli**	**3.57**	**97**	⇓Pn	**Pn**	**14 36 19.5**	**+1.8**
PQL				⇑Sn	**Sn**	**14 37 02.6**	**+2.5**
PQL	**Pirkuli**	**3.57**	**97**	Pn	**Pn**	**14 36 19.5**	**+1.8**
PQL				Sn	**Sn**	**14 37 02.6**	**+2.5**
KIEV	**Kiev**	**13.83**	**317**	⇑*e*P	**P**	**14 38 42.6**	**-3.9**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**17.84**	**27**	*e*P	**P**	**14 39 36.6**	**+5.7**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	**Ala-Archa**	**22.70**	**77**	⇓*e*P	**P**	**14 40 29.3**	**+5.3**

*IDC **17** 14:46:37.7±1.0, 3.°76N×127.°13E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/35, mbtmp3.8/9, Error ellipse: s-maj=65.8km s-min=15.5km az=67.0*
*NEIC **17** 14:46:38.7±0.7, 3.°82N×127.°15E, h10km, mb4.5/3, Error ellipse: s-maj=39.5km s-min=8.9km az=67.0*
*ISCJB **17** 14:46:40.9±0.8, 3.°7N±0.°1×127.°0E±0.°3, h36km, mb3.9/12, Error ellipse: s-maj=43.5km s-min=10.2km az=155.7*
ISC 17 14:46:42.7±0.9, 3.°8N±0.°1×127.°1E±0.°3, h36km, n16, σ1§37/18, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.54**	**335**	**Pn**	**Pn**	**14 47 31.5**	**-3.7**
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**14 51 32.3**	**+0.1**
	1.0nm,0.7s,baz=14,slow=8.3,SNR=1.7						
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**14 51 30.9**	**-1.3**
WRAB	**Tennant Creek**	**24.68**	**163**	*e*P	**P**	**14 51 59.8**	**-0.6**
	5.5nm,0.8s						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**14 51 59.5**	**-1.0**
	4.7nm,0.7s,baz=343,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.13**	**167**	P	**P**	**14 52 30.2**	**-1.4**
	0.3nm,0.8s,baz=344,slow=10,SNR=10						
ASAR				PcP	**PcP**	**14 55 46.4**	**+1.0**
	0.2nm,0.6s,baz=354,slow=2.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**31.11**	**300**	P	**P**	**14 52 59.1**	**+1.0**
	0.7nm,0.6s,baz=118,slow=7.0,SNR=7.6						
CHTO	**Chiang Mai**	**31.26**	**301**	*e*P	**P**	**14 53 00.0**	**+0.6**
	1.7nm,0.6s						
STKA	**Stephens Creek**	**38.11**	**160**	P	**P**	**14 53 58.0**	**-0.3**
	1.4nm,0.7s,baz=343,slow=13,SNR=4.3						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**14 55 14.6**	**+1.7**
	0.8nm,0.7s,baz=160,slow=7.3,SNR=5.1						
SONM				PcP	**PcP**	**14 56 44.8**	**+1.3**
	0.4nm,0.5s,baz=160,slow=3.5,SNR=3.3						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**14 56 30.4**	**+0.9**
	1.4nm,0.5s,baz=120,slow=7.8,SNR=23						
ZALV	**Zalesovo Beam**	**60.65**	**333**	P	**P**	**14 56 50.5**	**+0.5**
	0.6nm,0.4s,baz=95,slow=7.2,SNR=3.6						
KURK	**Kurchatov**	**61.84**	**327**	*e*P	**P**	**14 56 58.9**	**+0.8**
	16nm,0.6s						
ABKAR	**Akbulak array**	**72.29**	**321**	*e*P	**P**	**14 58 04.7**	**+0.1**
AKASG	**Malin Array Be**	**92.03**	**321**	P	**P**	**14 59 47.9**	**-0.1**
	0.1nm,0.3s,baz=63,slow=5.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.21**	**288**	PKP	**PKPdf**	**15 05 37.8**	**+1.0**
	0.3nm,0.8s,baz=99,slow=1.9,SNR=2.3						

*IASPEI **17** 15:01:28.5±1.0, 35.°37N±0.°02×92.°28W±0.°02, h8km±8km, Error ellipse: s-maj=3.8km s-min=3.0km az=120.9, GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **17** 15:01:28.9±0.0, 35.°36N×92.°28W, h5km, MD2.5(CERI), After CERI.*
ISC 17 15:01:28.7±1.0, 35.°37N±0.°02×92.°27W±0.°02, h5km±9km, n35, σ0§60/59, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.08**	**189**	*e*Pg	**Pg**	**15 01 30.5**	**0.0**
WHAR				*e*Sg	**Sg**	**15 01 31.8**	**+0.1**
W41B	**Gary Mavity, V**	**0.20**	**174**	P	**Pg**	**15 01 32.5**	**-0.1**
	baz=353,SNR=142						
W41B				S	**Sg**	**15 01 35.2**	**0.0**
	baz=353						
V41A	**Mountainview**	**0.42**	**13**	P	**Pg**	**15 01 37.0**	**+0.1**
	baz=193,SNR=108						
V41A				S	**Sg**	**15 01 42.9**	**+0.3**
	baz=193						
UALR	**University of**	**0.60**	**186**	*e*Pg	**Pg**	**15 01 40.4**	**+0.2**
W42A	**Bald Knob**	**0.62**	**99**	P	**Pg**	**15 01 40.8**	**+0.2**
	baz=279,SNR=5.8						
W42A				S	**Sg**	**15 01 49.1**	**+0.3**
	baz=279						
V40A	**Witts Springs**	**0.62**	**314**	P	**Pg**	**15 01 40.7**	**-0.1**
	baz=134,SNR=88						
V40A				S	**Sg**	**15 01 48.9**	**+0.1**
	baz=134						
W40A	**Ferguson Farm,**	**0.68**	**255**	P	**Pg**	**15 01 41.8**	**+0.1**
	baz=75,SNR=26						
W40A				S	**Sg**	**15 01 50.8**	**+0.4**
	baz=75						
V42A	**Cord**	**0.84**	**59**	P	**Pg**	**15 01 44.4**	**-0.4**
	baz=239,SNR=29						
V42A				S	**Sg**	**15 01 55.6**	**-0.2**
	baz=239						
X41A	**Kaden, Bauxite**	**0.90**	**193**	P	**Pg**	**15 01 45.4**	**-0.5**
	baz=13						
X41A				S	**Sg**	**15 01 57.7**	**+0.2**
	baz=13						
X42A	**Stuttgart**	**0.97**	**147**	P	**Pg**	**15 01 47.2**	**-0.2**
	baz=327,SNR=9.7						
X40A	**Basin Creek Fa**	**0.99**	**208**	P	**Pg**	**15 01 47.3**	**-0.5**
	baz=27						
X40A				S	**Sg**	**15 02 00.7**	**+0.1**
	baz=27						
U41A	**Viola**	**1.01**	**16**	P	**Pg**	**15 01 47.6**	**-0.6**
	baz=196,SNR=20						
U41A				S	**Sg**	**15 02 01.4**	**+0.1**
	baz=196						
U40A	**Yellville**	**1.09**	**335**	P	**Pg**	**15 01 49.1**	**-0.6**
	baz=155,SNR=41						
U40A				S	**Sg**	**15 02 03.6**	**-0.3**
	baz=155						
W39A	**Magazine**	**1.25**	**262**	P	**Pg**	**15 01 51.9**	**-0.8**
	baz=82,SNR=36						
W39A				S	**Sg**	**15 02 08.7**	**-0.2**
	baz=82						
U42A	**Revenden**	**1.29**	**40**	P	**Pn**	**15 01 52.6**	**-0.9**
	baz=221,SNR=18						
U42A				S	**Sg**	**15 02 09.7**	**-0.5**
	baz=221						
W43A	**Forest City**	**1.31**	**102**	P	**Pn**	**15 01 53.1**	**-0.6**
	baz=283						
HBAR	**Harrisburg**	**1.33**	**82**	*e*Pg	**Pn**	**15 01 53.2**	**-0.8**
MIAR	**Mount Ida**	**1.35**	**233**	P	**Pn**	**15 01 53.5**	**-0.8**
	baz=52						
MIAR				S	**Sg**	**15 02 11.7**	**-0.4**
	baz=52						
MIAR	**Mount Ida**	**1.35**	**233**	*e*Pn	**Pn**	**15 01 53.4**	**-0.8**
MIAR				*e*Sn	**Sg**	**15 02 09.6**	**-2.5**
U39A	**Green Forest**	**1.41**	**316**	Pb	**Pn**	**15 01 54.7**	**-0.4**
	baz=136,SNR=17						
U39A				S	**Sb**	**15 02 13.2**	**-0.6**
	baz=136						
X43A	**Marvell**	**1.43**	**126**	Sb	**Sg**	**15 02 14.8**	**+0.3**
	baz=307						
CCAR	**Cane Creek**	**1.51**	**164**	*e*Pn	**Pn**	**15 01 56.6**	**+0.2**
Y41A	**Eaglette Beard**	**1.51**	**191**	Pb	**Pn**	**15 01 56.6**	**+0.1**
	baz=10						
Y41A				Sb	**Sg**	**15 02 17.4**	**0.0**
	baz=10						
Y42A	**Garnett, Star**	**1.58**	**165**	Pb	**Pn**	**15 01 57.9**	**+0.4**
	baz=345,SNR=5.9						
Y40A	**Okolona**	**1.59**	**212**	Pb	**Pn**	**15 01 57.8**	**+0.3**
	baz=31,SNR=5.3						
Y40A				S	**Sb**	**15 02 18.7**	**-0.2**
	baz=31						
HHAR	**Hobbs**	**1.63**	**304**	*e*Pn	**Pn**	**15 01 58.6**	**+0.5**
HHAR				*e*Sn	**Sn**	**15 02 20.0**	**+0.4**
T41A	**Mountain View**	**1.72**	**14**	Pb	**Pn**	**15 01 59.9**	**+0.5**
	baz=194						
T41A				Sb	**Sb**	**15 02 22.9**	**+0.1**
	baz=194						
X39A	**Fountain Ranch**	**1.74**	**241**	Pb	**Pn**	**15 02 00.3**	**+0.6**
	baz=60,SNR=29						
T40A	**Mansfield**	**1.79**	**354**	Pb	**Pn**	**15 02 00.9**	**+0.6**
	baz=174,SNR=26						
T40A				Sb	**Sb**	**15 02 25.1**	**+0.3**
	baz=174						
V38A	**Canehill**	**1.81**	**286**	Pb	**Pn**	**15 02 01.1**	**+0.5**
	baz=105,SNR=20						
V38A				Sb	**Sb**	**15 02 25.1**	**-0.2**
	baz=105						
U43A	**Rector**	**1.81**	**56**	Sb	**Sb**	**15 02 25.7**	**+0.2**
	baz=237						
W38A	**Poteau**	**1.86**	**261**	Pb	**Pn**	**15 02 02.4**	**+1.1**
	baz=80,SNR=16						
W38A				Sb	**Sb**	**15 02 27.5**	**+0.7**
	baz=80						
T39A	**Clever**	**1.88**	**332**	Pb	**Pn**	**15 02 02.6**	**+1.1**
	baz=152						
T39A				Sb	**Sb**	**15 02 28.0**	**+0.7**
	baz=152						
X44A	**Crenshaw**	**1.95**	**116**	Sb	**Sb**	**15 02 30.3**	**+0.9**
	baz=297						
PBMO	**Poplar Bluff**	**2.05**	**46**	*e*Sn	**Sb**	**15 02 31.8**	**-0.5**

*CSEM **17** 15:20:51.1±0.1, 46.°28N×8.°58E, h1km, ML1.4, Error ellipse: s-maj=3.2km s-min=1.9km az=126.0, Suspected Mining explosion.*
*GEN **17** 15:20:51.2, 46.°29N×8.°56E, h0km, ML1.1*
ZUR 17 15:20:51.5, 46.°31N×8.°59E, h4km±2km, ML1.4/10, 12C, Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSIO	**Fusio**	**0.16**	**19**	⇑*i*Pg	Pg	15 20 55.1	+0.4
	138nm,0.1s						
FUSIO				*i* Sg	Sg	15 20 57.5	+0.7
	138nm,0.1s						
FUSIO	**Fusio**	**0.16**	**19**	⇑*i*Pg	Pg	15 20 55.1	+0.4
	138nm,0.1s						
FUSIO				*i* Sg	Sg	15 20 57.5	+0.7
	138nm,0.1s						
RITOM	**Lago Ritom (SB**	**0.24**	**15**	⇑*i*Pg	Pg	15 20 56.6	+0.5
	52nm,0.2s						
RITOM	**Lago Ritom (SB**	**0.24**	**15**	⇑*i*Pg	Pg	15 20 56.6	+0.5
	52nm,0.2s						
FIESA	**Fiescheralp**	**0.36**	**291**	⇑*i*Pg	Pg	15 20 58.7	+0.2
	14nm,0.6s						
FIESA	**Fiescheralp**	**0.36**	**291**	⇑*i*Pg	Pg	15 20 58.7	+0.2
	14nm,0.6s						
CUNA	**Curaglia**	**0.41**	**26**	⇑*i*Pg	Pg	15 20 58.7	-0.7
	70nm,0.6s						
CUNA	**Curaglia**	**0.41**	**26**	⇑*i*Pg	Pg	15 20 58.7	-0.7
	70nm,0.6s						
MUGIO	**Muggio**	**0.50**	**141**	⇑*i*Pg	Pg	15 21 01.4	+0.4
	49nm,0.4s						
MUGIO	**Muggio**	**0.50**	**141**	⇑*i*Pg	Pg	15 21 01.4	+0.4
	49nm,0.4s						
EMBD	**Embd, Matterta**	**0.53**	**261**	*e*Pg	Pg	15 21 01.6	-0.2
	23nm,0.2s						
EMBD	**Embd, Matterta**	**0.53**	**261**	*e*Pg	Pg	15 21 01.6	-0.2
	23nm,0.2s						
HASLI	**Hasliberg/Brie**	**0.54**	**326**	⇑*i*Pg	Pg	15 21 02.2	+0.3
	49nm,0.2s						
HASLI	**Hasliberg/Brie**	**0.54**	**326**	⇑*i*Pg	Pg	15 21 02.2	+0.3
	49nm,0.2s						
BNALP	**Bannalp**	**0.57**	**349**	*e*Pg	Pg	15 21 02.9	+0.3
	18nm,0.3s						
BNALP	**Bannalp**	**0.57**	**349**	*e*Pg	Pg	15 21 02.9	+0.3
	18nm,0.3s						
LAUCH	**Lauchernalp**	**0.58**	**281**	*e*Pg	Pg	15 21 02.7	+0.1
	70nm,0.2s						
LAUCH	**Lauchernalp**	**0.58**	**281**	*e*Pg	Pg	15 21 02.7	+0.1
	70nm,0.2s						
VDL	**Val di Lei**	**0.62**	**73**	*e*Pg	Pg	15 21 03.6	+0.2
	27nm,0.2s						
SATI	**Passo dei Sala**	**0.66**	**230**	P	Pg	15 21 03.8	-0.4
SATI				S	Sg	15 21 12.4	-0.4
TRAV	**Traversella**	**0.99**	**217**	P	Pg	15 21 09.5	-0.9
TRAV				S	Sg	15 21 21.7	-1.6
CIRO	**Champorcher**	**1.00**	**226**	P	Pg	15 21 09.7	-1.0
CIRO				S	Sg	15 21 22.6	-1.1

*SOME **17** 15:22:01.9, 40.°98N×71.°15E, h15km*
*KRNET **17** 15:22:02.9±0.1, 41.°02N×70.°91E, h30km, mb2.1*
*NNC **17** 15:22:02.8±5.2, 41.°00N×71.°28E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=38.1km s-min=20.9km az=179.0*
ISC 17 15:22:04.3±1.1, 40.°91N±0.°04×71.°00E±0.°05, h22km±12km, n15, σ1§27/30, 18C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.86**	**189**	⇑*e*P	**Pb**	**15 22 20.7**	**+0.1**
	baz=184						
BTK				⇑*e*S	**Sn**	**15 22 33.8**	**+0.7**
	baz=184						
ARK	**Arkit**	**1.15**	**39**	⇑*e*P	**Pn**	**15 22 23.3**	**-1.8**
	baz=46						
ARK				⇑*i*S	**Sb**	**15 22 37.9**	**-2.1**
	baz=46						
IUG	**Iuzhnay**	**1.43**	**330**	*e*P	**Pn**	**15 22 27.5**	**-1.5**
	35nm,0.3s						
IUG				*e*S	**Sn**	**15 22 46.1**	**-1.1**
	30nm,0.3s						
ARSB	**Arslanbob**	**1.56**	**74**	⇓*e*P	**Pn**	**15 22 30.7**	**-0.1**
	baz=78						
ARSB				⇓*i*S	**Sb**	**15 22 51.1**	**-0.7**
	baz=78						
TOKL	**Toktogul**	**1.75**	**53**	⇑*e*P	**Pn**	**15 22 33.4**	**+0.1**
	baz=57						
TOKL				⇑*e*S	**Sn**	**15 22 55.3**	**+0.4**
	baz=57						
MNAS	**Manas**	**1.94**	**35**	⇑*e*P	**Pn**	**15 22 35.4**	**-0.6**
	baz=39						
MNAS				⇑*e*S	**Sn**	**15 22 58.7**	**-1.1**
	baz=39						
MNAS	**Manas**	**1.94**	**35**	⇓P	**Pn**	**15 22 35.3**	**-0.7**
	0.9nm,0.3s						
MNAS				⇓S	**Sn**	**15 22 58.5**	**-1.3**
	2.5nm,0.2s						
DZA	**Taraz**	**2.00**	**7**	*e*P	**Pn**	**15 22 36.6**	**-0.1**
	62nm,0.1s						
DZA				*e*S	**Sn**	**15 23 02.6**	**+1.6**
	167nm,0.1s						
KK31	**Karatay Array**	**2.22**	**351**	⇑Pn	**Pn**	**15 22 39.6**	**-0.1**
	2.2nm,0.3s,baz=179,slow=14,SNR=28						
KK31				⇑Pg	**Pb**	**15 22 45.4**	**+1.6**
	1.3nm,0.2s,baz=169,slow=16,SNR=8.9						
KK31				⇑Sn	**Sn**	**15 23 08.1**	**+1.6**
	4.9nm,0.5s,baz=165,slow=26,SNR=9.2						
AML	**Almayashu**	**2.37**	**58**	⇑*i*P	**Pn**	**15 22 41.7**	**-0.4**
	baz=61						
AML				⇑*i*S	**Sn**	**15 23 10.6**	**0.0**
	baz=61						
MRKS	**Merke**	**2.48**	**42**	*e*P	**Pn**	**15 22 43.6**	**+0.2**
	3.5nm,0.4s						
MRKS				*e*S	**Sn**	**15 23 14.8**	**+1.9**
	18nm,0.6s						
ARLS	**Aral**	**2.68**	**68**	⇑*e*P	**Pn**	**15 22 46.5**	**+0.3**
	baz=71						
ARLS				⇑*e*S	**Sn**	**15 23 18.8**	**+0.8**
	baz=71						
EKS2	**Erkin-Say**	**2.72**	**49**	⇑*i*P	**Pn**	**15 22 47.0**	**+0.3**
	baz=51						
EKS2				⇑*i*S	**Sn**	**15 23 18.8**	**-0.2**
	baz=51						
AAK	**Ala-Archa**	**3.13**	**55**	⇓Pg	**Pn**	**15 22 52.9**	**+0.4**
	1.4nm,0.8s						
AAK				⇑Lg	Lg	15 23 32.7	
	3.3nm,0.6s						
KST	**Kastek**	**4.27**	**58**	*e*P	**Pb**	**15 23 17.4**	**-1.3**
	0.5nm,0.3s						
KST				*e*S	**Sb**	**15 24 13.3**	**+3.4**
	3.4nm,0.5s						

*IDC **17** 15:22:37.5±0.5, 5.°43S×77.°36W, h0km, mb4.3/14, mb1 4.5/19, mb1mx4.4/28, mbtmp4.3/19, ML4.2/5, MS4.0/10, Ms1 4.0/10, ms1mx3.7/26, Error ellipse: s-maj=17.7km s-min=11.5km az=77.0*
*ISCJB **17** 15:22:39.1±0.2, 5.°52S±0.°02×77.°22W±0.°04, h22km, mb4.5/41, MS4.1/8, Error ellipse: s-maj=6.5km s-min=3.3km az=172.4*
*NEIC **17** 15:22:40.7±1.1, 5.°49S×77.°33W, h21km±8km, mb4.7/32, ML4.7(ARE), Error ellipse: s-maj=7.4km s-min=4.3km az=72.0*
NEIC Felt at Rioja.
*IGQ **17** 15:22:42.7±0.3, 5.°S±4.°×7.°7W±.°, h21km, M5.1/22, mb5.1/13, mB5.4/10, MLv5.4/22, Mw(mB)4.8/10, Mwp5.3/1*
ISC 17 15:22:40.7±0.4, 5.°46S±0.°04×77.°27W±0.°08, h22km, n157, σ1§78/160, mb4.6/40, MS4.0/8, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.01**	**214**	Pn	**Pn**	**15 23 13.0**	**-0.7**
	266nm,0.3s,baz=30,slow=8.5,SNR=908						
ATAH				Sn	**Sn**	**15 23 37.5**	**-0.8**
	168nm,0.3s,baz=97,slow=13,SNR=15						
RIOE1	**Riobamba**	**3.92**	**340**	P	**Pn**	**15 23 41.9**	**+1.9**
RIOE1				S	**Sb**	**15 24 33.1**	**-3.6**
BPAT	**Tungurahua Vol**	**4.09**	**343**	P	**Pn**	**15 23 43.8**	**+1.4**
BMAS	**Trigal station**	**4.11**	**343**	P	**Pn**	**15 23 44.2**	**+1.6**
RETU	**Refugio**	**4.15**	**344**	P	**Pn**	**15 23 44.8**	**+1.6**
BULB	**Ulba Tungurahu**	**4.15**	**344**	P	**Pn**	**15 23 44.2**	**+1.0**
BBL	**Ulba Tungurahu**	**4.16**	**343**	P	**Pn**	**15 23 45.3**	**+2.0**
POND	**Pondoa**	**4.18**	**344**	P	**Pn**	**15 23 45.0**	**+1.5**
JUI6	**Juive**	**4.18**	**343**	P	**Pn**	**15 23 44.9**	**+1.5**
PISA	**Pisayambo**	**4.51**	**346**	P	**Pn**	**15 23 50.0**	**+1.8**
BMOR	**Cotopaxi Volca**	**4.84**	**346**	P	**Pn**	**15 23 54.8**	**+2.0**
BTAM	**Cotopaxi Volca**	**4.88**	**347**	P	**Pn**	**15 23 56.3**	**+2.9**
BREF	**Cotopaxi Volca**	**4.90**	**346**	P	**Pn**	**15 23 56.3**	**+2.7**
BVC2	**Cotopaxi Volca**	**4.90**	**347**	P	**Pn**	**15 23 55.7**	**+2.0**
BNAS	**Cotopaxi Volca**	**4.90**	**346**	P	**Pn**	**15 23 55.7**	**+2.1**
CAMI	**Rancho Maria**	**4.91**	**345**	P	**Pn**	**15 23 56.2**	**+2.6**
VC1	**Cotopaxi 1**	**4.91**	**347**	P	**Pn**	**15 23 56.0**	**+2.2**
PAST	**Pastocalle**	**4.92**	**344**	P	**Pn**	**15 23 57.1**	**+3.3**
NAS2	**Nasa**	**4.93**	**346**	P	**Pn**	**15 23 57.2**	**+3.2**
ANTI	**Antisana**	**5.05**	**350**	P	**Pn**	**15 23 56.4**	**+0.6**
JUA2	**San Juan 2**	**5.38**	**346**	P	Pn	15 24 05.9	+5.9
GGP	**Refugio Guagua**	**5.41**	**346**	P	**Pn**	**15 24 04.2**	**+3.6**
TERV	**Terraza Guagua**	**5.41**	**346**	P	**Pn**	**15 24 05.0**	**+4.3**
CAYA	**Cayambe**	**5.54**	**353**	P	**Pn**	**15 24 03.7**	**+1.4**
PULU	**Pululahua**	**5.58**	**347**	P	**Pn**	**15 24 06.7**	**+3.9**
OTAV	**Otavalo**	**5.78**	**348**	*e*P	**Pn**	**15 24 08.4**	**+2.8**
OTAV

LPAZ LR LR 15 32 34.2
comp=Z,754nm,19.9s,baz=296,slow=42
LPAZ La Paz 14.01 141 *e*Pn **Pn 15 25 56.1 -2.5**
LPAZ Lg Lg 15 29 56.0
LPAZ La Paz 14.01 141 P **Pn 15 25 57.6 -0.9**
8.2nm,0.6s
OCAC Ocana 14.16 16 *e*P **P 15 26 07.1 -0.6**
OCAC Ocana 14.16 16 *e*P **P 15 26 07.1 -0.6**
MOTC Monteria, Cord 14.23 6 *e*P Pn 15 25 53.8 -7.3
MOTC Monteria, Cord 14.23 6 *e*P Pn 15 25 53.8 -7.3
SAML Samuel 14.40 105 *e*Pn **Pn 15 26 01.6 -1.8**
SAML Samuel 14.40 105 P **Pn 15 26 00.9 -2.5**
13nm,0.7s
BCIP Isla Barro Col 14.75 350 *e*Pn **Pn 15 26 08.9 +0.7**
MNMC Minye Minye 15.52 152 P **P 15 26 22.6 -0.2**
35nm,0.8s
SDV Santo Domingo 15.71 25 Pn **Pn 15 26 20.8 -0.2**
1.3nm,0.3s,baz=275,slow=11,SNR=6.6
SDV Lg Lg 15 30 41.7
1.0nm,0.3s,baz=270,slow=20,SNR=2.8
SDV Santo Domingo 15.71 25 *e*Pn **Pn 15 26 21.1 +0.1**
17nm,0.6s
SDV Lg Lg 15 30 41.7
SDV Santo Domingo 15.71 25 P **Pn 15 26 22.5 +1.5**
25nm,0.5s
PB01 IPOC Station P 17.24 155 *e*Pn **P 15 26 41.9 +0.2**
25nm,1.5s
PTGA Pitinga 17.90 75 P **Pn 15 26 48.8 +0.3**
3.4nm,0.3s,baz=318,slow=21,SNR=12
PTGA Pitinga 17.90 75 *e*Pn **Pn 15 26 48.5 +0.1**
13nm,0.6s
LVC Limon Verde 18.87 155 P **Pn 15 27 02.0 +1.4**
19nm,0.3s,baz=296,slow=8.3,SNR=6.9
LVC Limon Verde 18.87 155 *e*P **Pn 15 27 01.0 +0.4**
34nm,1.4s
LVC Limon Verde 18.87 155 P **Pn 15 27 02.0 +1.4**
SIV San Ignacio 19.03 125 P **Pn 15 27 03.3 +1.0**
1.4nm,0.3s,baz=313,slow=12,SNR=11
PCRV Puerto La Cruz 19.99 39 P Pn 15 27 14.2 +0.5
23nm,0.6s,baz=207,slow=5.1,SNR=11
SJG San Juan 25.86 25 P **P 15 28 11.9 +0.9**
37nm,0.5s,baz=203,slow=5.8,SNR=16
SJG San Juan 25.86 25 *e*P **P 15 28 11.8 +0.9**
40nm,0.6s
HUMP Col San Antoni 26.02 25 *e*P **P 15 28 13.4 +1.1**
19nm,0.6s
CBYP Canovanas 26.13 25 *e*P **P 15 28 14.3 +0.9**
56nm,0.5s
CPUP Villa Florida 28.17 140 P **P 15 28 31.6 -0.1**
3.6nm,0.8s,baz=332,slow=11,SNR=8.1
CPUP Villa Florida 28.17 140 *e*P **P 15 28 33.1 +1.4**
PLCA Paso Flores 35.64 171 P **P 15 29 39.2 +2.1**
2.0nm,0.6s,baz=13,slow=11,SNR=5.9
PLCA LR LR 15 42 10.2
comp=Z,82nm,20.1s,baz=0.5,slow=33
GOGA Godfrey 39.10 352 *e*P **P 15 30 06.8 +0.3**
LRAL Lakeview Retre 39.38 347 *e*P **P 15 30 08.7 0.0**
9.9nm,0.8s
KMSC Kings Mountain 40.56 355 *e*P **P 15 30 19.0 +0.5**
6.1nm,0.8s
SWET Sewanee 41.27 349 *e*P **P 15 30 22.4 -2.0**
31nm,1.4s
TX31 Lajitas Ar. Si 42.90 325 *e*P **P 15 30 38.1 +0.1**
TXAR Lajitas Array 42.90 325 P **P 15 30 38.7 +0.8**
1.1nm,0.6s,baz=147,slow=9.3,SNR=20
TXAR PcP **PcP 15 32 28.5 -0.1**
0.3nm,0.6s,baz=148,slow=5.8,SNR=2.7
WMOK Wichita Mounta 44.83 335 *e*P **P 15 30 53.5 +0.1**
15nm,1.6s
CCM Cathedral Cave 45.20 344 *e*P **P 15 30 55.0 -1.1**
53nm,2.0s
MNTX Cornudas Mount 45.65 326 *e*P **P 15 30 59.9 0.0**
9.2nm,1.4s
AMTX Amarillo 46.25 332 *e*P **P 15 31 04.8 +0.2**
9.0nm,0.5s
319A Douglas 47.69 322 *e*P **P 15 31 16.9 +0.9**
8.7nm,0.6s
ANMO Albuquerque 48.69 328 *e*P **P 15 31 24.3 +0.5**
3.2nm,0.6s
USHA Ushuaia 49.75 173 LR LR 15 50 41.6
comp=Z,542nm,18.1s,baz=37,slow=34
SDCO Great Sand Dun 50.38 331 *e*P **P 15 31 37.4 +0.7**
4.3nm,0.7s
X16A Lo Mia Camp, P 51.11 323 *e*P **P 15 31 42.8 +0.6**
14nm,1.9s
ECSD EROS Data Cent 51.99 342 *e*P **P 15 31 47.8 -0.5**
6.6nm,0.6s
W13A Hualapai Mount 53.05 322 *e*P **P 15 31 55.8 -0.9**
2.7nm,0.9s
AGMN Agassiz Nation 55.96 345 *e*P **P 15 32 17.1 -0.2**
19nm,0.6s
BW06 Boulder Array 56.23 332 *e*P **P 15 32 19.2 -0.4**
PD31 Pinedale Array 56.23 332 *e*P **P 15 32 19.5 -0.1**
PDAR Pinedale Array 56.23 332 P **P 15 32 19.0 -0.6**
0.7nm,0.5s,baz=116,slow=6.8,SNR=6.6
PDAR PcP **PcP 15 33 17.0 -0.1**
0.8nm,0.5s,baz=128,slow=5.9,SNR=5.1
HWUT Hardware Ranch 56.34 329 *e*P **P 15 32 20.3 -0.1**
23nm,2.0s
ELK Elko 57.66 326 P **P 15 32 29.7 -0.1**
0.4nm,0.5s,baz=238,slow=13,SNR=3.2
IMW Indian Meadow 57.74 332 *e*P **P 15 32 30.8 +0.4**
2.5nm,0.6s
ULM Lac du Bonnet 57.77 346 P **P 15 32 29.5 -0.6**
8.5nm,0.6s,baz=161,slow=7.6,SNR=16
YHH Holmes Hill 58.38 332 *e*P **P 15 32 35.4 +0.6**
9.3nm,1.6s
GCMT Greycliff 58.62 334 *e*P **P 15 32 36.7 +0.4**
BOZ Bozeman (W) 59.35 333 *e*P **P 15 32 41.1 -0.3**
2.6nm,0.7s
MFID Camas Ranch 59.83 328 *e*P **P 15 32 44.8 +0.1**
6.0nm,0.9s
PMSA Palmer Station 59.96 173 LR LR 15 57 37.8
comp=Z,62nm,18.8s,baz=146,slow=35
ORV Oroville 60.55 322 *e*P **P 15 32 50.4 +0.8**
8.5nm,1.3s
SCHQ Schefferville 60.70 7 LR LR 16 01 01.5
comp=Z,61nm,18.9s,baz=86,slow=38
NEW Newport 63.87 332 P **P 15 33 12.0 +0.3**
3.8nm,0.6s,baz=126,slow=7.4,SNR=3.7
DBIC Dimbokro 73.27 81 P **P 15 34 11.5 +0.5**
2.3nm,0.5s,baz=267,slow=6.7,SNR=6.7
YKA Yellowknife Ar 73.51 343 P **P 15 34 11.0 -0.4**
1.9nm,0.5s,baz=139,slow=6.2,SNR=8.4
VNA3 Neumayer Olymp 77.75 162 P **P 15 34 36.3 +0.6**
VNA1 Neumayer--Stat 78.00 161 P **P 15 34 40.3 +3.3**
VNA2 Neumayer--Watz 78.36 162 P **P 15 34 40.0 +1.0**
baz=301,slow=6.2
SNAA Sanae 79.97 162 P **P 15 34 47.8 -0.1**
SNAA Sanae 79.97 162 *e*P **P 15 34 50.4 +2.4**
9.0nm,1.4s
TOA0 Torodi Ar. Sit 80.54 76 *e*P **P 15 34 52.1 0.0**
TORD Torodi Ar. Bea 80.54 76 P **P 15 34 52.3 +0.3**
0.9nm,0.5s,baz=291,slow=6.7,SNR=11
TORD LR LR 16 10 15.6
comp=Z,76nm,18.2s,baz=110,slow=35
ESDC Sonseca Array 80.76 49 P **P 15 34 53.7 +0.9**
0.6nm,0.5s,baz=252,slow=6.7,SNR=4.1
ILAR Eielson Array 86.37 336 P **P 15 35 20.2 -0.8**
0.7nm,0.8s,baz=126,slow=4.6,SNR=8.0
ILAR LR LR 16 16 48.7
comp=Z,50nm,18.4s,baz=12,slow=38
MDM Murphy Dome 86.98 336 *e*P **P 15 35 24.1 +0.1**
25nm,1.7s
BPAW Bear Paw Mtn. 87.84 335 *e*P **P 15 35 27.5 -0.6**
9.6nm,1.3s
MLY Manley 88.01 336 *e*P **P 15 35 28.4 -0.5**
3.4nm,0.7s
CAST Castle Rocks 88.11 334 *e*P **P 15 35 28.9 -0.5**
6.1nm,0.7s
RAO Raoul Island 96.59 240 LR LR 16 09 38.0
comp=Z,113nm,19.1s,slow=29
ARCES ARCESS Array B 99.55 20 P **Pdif 15 36 21.5 -0.3**
2.3nm,0.9s,baz=280,slow=5.2,SNR=4.1
ABKAR Akbulak array 123.37 32 *e*PKPdf **PKPdf 15 41 36.7 +0.5**
ZALV Zalesovo Beam 129.50 14 PKP **PKPdf 15 41 47.6 -0.2**
0.7nm,0.5s,baz=321,slow=2.1,SNR=5.3
KURK Kurchatov 130.59 20 SKPbc **SKPab 15 45 14.0 +1.6**
KURBB Kurchatov Arra 130.63 20 SKPbc **SKPab 15 45 14.0 +1.4**
0.1nm,0.3s,baz=322,slow=5.3,SNR=5.6
MKAR Makanchi Array 135.20 20 PKP **PKPdf 15 41 58.8 -0.1**
0.5nm,0.5s,baz=318,slow=2.0,SNR=12
ASAR Alice Springs 138.01 225 PKhKP PKPpre 15 41 55.6
0.1nm,0.5s,baz=124,slow=3.3,SNR=4.3
ASAR PKP **PKPdf 15 42 05.2 +0.4**
0.5nm,0.6s,baz=119,slow=2.2,SNR=9.9
KSH Kashi 138.37 32 *e*PKP **PKPdf 15 42 03.1 -2.0**

KSH sPKP 15 42 15.8
KSH *e*PP **PP 15 44 56.5 +2.6**
KSH PKS **PKSdf 15 45 38.9 -2.4**
KSH SKS **SKSdf 15 49 08.6 -6.2**
KSH SKKS **SKKSac 15 51 42.3 -5.7**
WRA Warramunga Arr 139.96 230 PKhKP PKPpre 15 42 04.5
0.8nm,0.5s,baz=119,slow=2.3,SNR=3.9
WRA PKP **PKPdf 15 42 08.9 +0.5**
0.9nm,0.5s,baz=117,slow=2.3,SNR=8.2
GTA Gaotai 146.09 4 *e*PKPbc **PKPdf 15 42 18.9 +0.1**
GTA PKPab **PKiKP 15 42 21.9 -1.1**
GTA pPKP sPKPbc 15 42 29.6 0.0
GTA sPKP 15 42 33.3
GTA PP **PP 15 45 44.8 +4.7**
MBWA Marble Bar 148.73 212 *e*PKPbc **PKPbc 15 42 26.2 -1.1**
LZH Lanzhou 149.50 358 *e*PKPbc **PKPdf 15 42 20.5 -4.1**
LZH PKPbc **pPKPdf 15 42 31.6 -0.5**
LZH pPKP **PKPab 15 42 32.8 -1.0**
LZH sPKP 15 42 37.3
LZH LR LR
comp=N,150nm,18.0s
LZH LR LR
comp=E,150nm,18.1s
LZH LR LR
comp=Z,180nm,20.0s
CMAR Chiang Mai Arr 166.56 16 PKPab **PKPab 15 43 47.0 -0.3**
comp=Z,0.5nm,0.7s,baz=324,slow=5.2,SNR=5.1

*IDC **17** 15:45:19.3±0.9, 55°.57S×29°.44W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=41.0km s-min=22.4km az=64.0*
*ISCJB **17** 15:45:22.3±0.8, 55°.6S±0°.1×29°.8W±0°.3, h28km, mb4.1/5, Error ellipse: s-maj=26.3km s-min=9.8km az=143.8*
*NEIC **17** 15:45:23.7±6.5, 55°.63S×29°.72W, h30km±46km, mb4.2/1, Error ellipse: s-maj=34.8km s-min=12.8km az=53.0*
ISC 17 15:45:23.4±0.8, 55°.6S±0°.1×29°.7W±0°.2, h28km, n20, σ1§24/14, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.13**	**286**	*e*Pn	**Pn**	**15 46 23.8**	**-0.7**
VNA1	**Neumayer--Stat**	**17.75**	**156**	P	**P**	**15 49 30.1**	**+1.4**
VNA3	**Neumayer Olymp**	**17.89**	**159**	P	**P**	**15 49 32.3**	**+2.0**
VNA2	**Neumayer--Watz**	**18.14**	**156**	P	**P**	**15 49 34.2**	**+1.1**
baz=314,slow=14							
SNAA	**Sanae**	**19.73**	**155**	P	**P**	**15 49 49.2**	**-1.2**
SNAA	**Sanae**	**19.73**	**155**	P	**Pn**	**15 49 50.5**	**-1.6**
0.1nm,0.3s,baz=283,slow=14,SNR=12							
SNAA				LR	LR	15 55 39.9	
comp=Z,118nm,20.2s,baz=93,slow=32							
CPUP	**Villa Florida**	**35.47**	**314**	P	**P**	**15 52 17.6**	**+0.3**
1.5nm,0.7s,baz=139,slow=11,SNR=4.7							
VNDA	**Vanda**	**46.93**	**183**	P	**P**	**15 53 51.5**	**+0.6**
2.2nm,0.7s,baz=185,slow=6.0,SNR=12							
H10S2	**ASCENSION HYDR**	**48.04**	**20**	T	T	16 45 46.3	
baz=192,slow=75,SNR=29							
H10S3	**ASCENSION HYDR**	**48.04**	**20**	T	T	16 46 00.5	
baz=192,slow=75,SNR=30							
H10S1	**ASCENSION HYDR**	**48.06**	**20**	T	T	16 46 00.1	
baz=192,slow=75,SNR=35							
LPAZ	**La Paz**	**48.98**	**308**	P	**P**	**15 54 09.2**	**+1.2**
3.3nm,0.6s,baz=163,slow=5.7,SNR=15							
H10N1	**ASCENSION HYDR**	**49.16**	**20**	T	T	16 47 10.3	
baz=191,slow=75,SNR=11							
H10N3	**ASCENSION HYDR**	**49.16**	**20**	T	T	16 47 19.8	
baz=191,slow=75,SNR=36							
H10N2	**ASCENSION HYDR**	**49.17**	**20**	T	T	16 47 11.4	
baz=191,slow=75,SNR=19							
SAML	**Samuel**	**53.50**	**317**	*e*P	**P**	**15 54 41.6**	**+0.3**
1.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.41**	**32**	P	**P**	**15 56 53.2**	**+0.4**
0.9nm,0.8s,baz=199,slow=6.2,SNR=4.8							
INK	**Inuvik**	**144.57**	**321**	PKP	**PKPdf**	**16 04 54.1**	**-1.4**
5.1nm,1.1s,baz=94,slow=4.5,SNR=3.9							
ILAR	**Eielson Array**	**148.77**	**313**	PKPbc	**PKPbc**	**16 05 06.5**	**-0.2**
3.2nm,0.7s,baz=128,slow=1.8,SNR=35							
SONM	**Songino Array**	**152.12**	**88**	PKPbc	**PKPbc**	**16 05 14.3**	**-1.0**
0.3nm,0.3s,baz=204,slow=3.2,SNR=2.7							

*ISCJB **17** 15:49:39.4±0.6, 36°.31N±0°.04×71°.19E±0°.08, h35km, mb3.6/3, Error ellipse: s-maj=9.5km s-min=4.9km az=153.0*
*IDC **17** 15:49:42.9±5.2, 36°.23N×71°.19E, h56km±35km, mb3.6/4, mb1 3.6/9, mb1mx3.3/54, mbtmp3.8/9, ML3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/38, Error ellipse: s-maj=65.7km s-min=26.7km az=147.0*
*NNC **17** 15:49:50.4±6.8, 37°.00N×70°.90E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=57.8km s-min=35.6km az=159.0*
ISC 17 15:49:41.4±0.9, 36°.27N±0°.07×71°.10E±0°.07, h35km, n23, σ2§11/29, mb3.8/3, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.11**	**325**	⇑Pn	**Pn**	**15 50 32.2**	**+4.2**
6.2nm,0.3s							
DZET				⇑Lg	Lg	15 51 06.6	
151nm,0.5s							
MNAS	**Manas**	**6.30**	**10**	⇓Pn	**Pn**	**15 51 14.5**	**+2.6**
8.9nm,0.5s							
MNAS				⇓Sn	**Sn**	**15 52 21.8**	**-1.0**
7.1nm,0.4s							
MNAS				⇓Lg	Lg	15 52 38.2	
13nm,0.5s							
KK31	**Karatay Array**	**6.84**	**356**	Pn	**Pn**	**15 51 21.9**	**+2.8**
3.2nm,0.3s,baz=188,slow=15,SNR=70							
KK31				⇓Pg		15 51 27.1	
1.9nm,0.3s,baz=182,slow=13,SNR=6.1							
KK31				⇓Sn	**Sn**	**15 52 36.7**	**+0.9**
6.5nm,0.7s,baz=185,slow=26							
AAK	**Ala-Archa**	**6.88**	**21**	P	**Pn**	**15 51 23.3**	**+3.5**
9.7nm,0.3s,baz=173,slow=6.2,SNR=100							
AAK				S	**Sn**	**15 52 35.6**	**-1.4**
0.6nm,0.3s,baz=320,slow=19,SNR=3.7							
AAK	**Ala-Archa**	**6.88**	**21**	Pn	**Pn**	**15 51 23.1**	**+3.2**
15nm,0.4s							
AAK				⇓Sn	**Sn**	**15 52 35.1**	**-1.9**
8.2nm,1.0s							
GEYT	**Alibeck**	**10.50**	**283**	P	**Pn**	**15 52 11.5**	**+2.1**
0.7nm,0.3s,baz=109,slow=13,SNR=7.4							
GEYT				S	**Sn**	**15 54 02.8**	**-3.0**
2.7nm,0.3s,baz=114,slow=24,SNR=9.7							
PYUN	**Piuthan**	**12.95**	**126**	*e*P	**Pn**	**15 52 43.3**	**+0.3**
13nm,0.3s							
MKAR	**Makanchi Array**	**13.43**	**35**	P	**Pn**	**15 52 50.4**	**+0.9**
0.1nm,0.3s,baz=219,slow=12,SNR=4.6							
MKAR				LR	LR	15 58 21.2	
comp=Z,40nm,20.8s,baz=158,slow=39							
KOLN	**Koldanda**	**13.57**	**125**	*e*P	**Pn**	**15 52 51.3**	**-0.2**
7.9nm,0.4s							
GKN	**Gorkha**	**14.11**	**122**	*e*P	**Pn**	**15 52 58.1**	**-0.8**
6.3nm,0.3s							
PKIN	**Phulchoki**	**14.90**	**122**	*e*P	**Pn**	**15 53 08.2**	**-1.5**
4.8nm,0.3s							
GUN	**Gumba**	**15.04**	**119**	*e*P	**Pn**	**15 53 10.5**	**-1.1**
7.4nm,0.3s							
KURBB	**Kurchatov Arra**	**15.32**	**18**	P	**Pn**	**15 53 17.6**	**+2.8**
0.1nm,0.3s,baz=208,slow=11,SNR=6.0							
JIRN	**Jiri**	**15.40**	**120**	*e*P	**Pn**	**15 53 14.8**	**-1.7**
18nm,0.3s							
RAMN	**Ramite**	**16.13**	**121**	*e*P	**Pn**	**15 53 25.1**	**-0.6**
13nm,0.6s							
TAPN	**Taplejung**	**16.67**	**118**	*e*P	**Pn**	**15 53 31.3**	**-1.3**
6.1nm,0.4s							
ODAN	**Odare**	**16.74**	**120**	*e*P	**Pn**	**15 53 32.1**	**-1.3**
4.2nm,0.4s							
BVAR	**Borovoye Array**	**16.76**	**359**	P	**Pn**	**15 53 32.4**	**-0.9**
0.5nm,0.3s,baz=160,slow=10,SNR=9.3							
AKTO	**Aktyubinsk**	**17.02**	**330**	P	**Pn**	**15 53 36.6**	**+0.1**
0.7nm,0.3s,baz=146,slow=8.8,SNR=8.6							
AKTO				S	**Sn**	**15 56 40.3**	**-4.2**
0.1nm,0.3s,baz=300,slow=20,SNR=2.4							
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**15 54 10.2**	**-1.5**
2.7nm,0.3s,baz=228,slow=11,SNR=9.7							
ARCES	**ARCESS Array B**	**41.39**	**338**	P	**P**	**15 57 24.2**	**+0.4**
1.3nm,0.6s,baz=115,slow=8.1,SNR=6.9							
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**15 57 50.3**	**+0.3**
0.3nm,0.5s,baz=102,slow=8.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P	**P**	**16 00 22.8**	**-0.5**
0.5nm,0.5s,baz=60,slow=6.4,SNR=4.1							

JMA 17 15:51:56.8, 34°.84N×136°.93E, h36km±1km, M3.2, 4C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.27**	**140**	⇑P	Pn	15 52 04.2	-0.7
JAA				S	Sn	15 52 09.6	-2.2
TSUJ	**Tsu 2**	**0.44**	**253**	⇑P	Pn	15 52 06.0	-0.4
TSUJ				S	Sn	15 52 13.0	-0.3
JIE	**Ise**	**0.48**	**202**	⇓P	Pn	15 52 07.0	-0.1
JIE				S	Sn	15 52 14.0	-0.4
JKN2	**Miekihoku**	**0.81**	**222**	⇑P	Pn	15 52 11.4	-0.2
JKN2				S	Sn	15 52 22.2	-0.2
JHE	**Heguri**	**1.04**	**260**	⇑P	Pn	15 52 14.9	0.0
JHE				S	Sn	15 52 28.6	+0.4
SHZ3	**Shizuoka 3**	**1.07**	**78**	P	Pn	15 52 15.9	+0.5
TTO2	**TONANKAI O.B.S**	**1.11**	**176**	P	Pn	15 52 15.8	+0.3
TTO2				*e*S	Sn	15 52 30.8	+1.5
MAT	**Matsushiro**	**1.99**	**31**	P	Pn	15 52 30.8	+2.9
MAT				S	Sn	15 52 54.2	+2.6

*NEIC **17** 16:06:26.2±0.0, 35°.37N×92°.28W, h1km, MD2.5(CERI), After CERI.*
NEIC Felt at Quitman.
ISC 17 16:06:25.1±0.9, 35°.40N±0°.02×92°.26W±0°.02, h7km±8km, n40, σ0§51/67, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.11**	**193**	*e*Pg	**Pg**	**16 06 27.7**	**+0.2**
WHAR				*e*Sg	**Sg**	**16 06 29.0**	**-0.1**
W41B	**Gary Mavity, V**	**0.23**	**178**	P	**Pg**	**16 06 29.7**	**+0.2**
baz=351,SNR=214							
W41B				S	**Sg**	**16 06 32.4**	**-0.2**
baz=351							
V41A	**Mountainview**	**0.39**	**12**	P	**Pb**	**16 06 34.2**	**-0.2**
baz=194,SNR=128							
V41A				S	**Sb**	**16 06 40.1**	**-0.6**
baz=194							
V40A	**Witts Springs**	**0.61**	**311**	P	**Pb**	**16 06 37.9**	**-0.3**
baz=135,SNR=177							
V40A				S	**Sb**	**16 06 46.2**	**-0.8**
baz=135							
W42A	**Bald Knob**	**0.61**	**102**	P	**Pb**	**16 06 37.9**	**-0.3**
baz=279,SNR=6.8							
W42A				S	**Sb**	**16 06 46.4**	**-0.7**
baz=279							
UALR	**University of**	**0.63**	**186**	*e*Pg	**Pg**	**16 06 37.3**	**+0.2**
W40A	**Ferguson Farm,**	**0.69**	**253**	P	**Pg**	**16 06 38.9**	**+0.5**
baz=74,SNR=37							
W40A				S	**Sg**	**16 06 48.2**	**+0.7**
baz=74							
V42A	**Cord**	**0.82**	**60**	P	**Pb**	**16 06 41.7**	**0.0**
baz=239,SNR=37							
V42A				S	**Sb**	**16 06 52.9**	**+0.1**
baz=239							
X41A	**Kaden, Bauxite**	**0.93**	**193**	P	**Pg**	**16 06 42.6**	**-0.3**
baz=12							
X41A				S	**Sg**	**16 06 55.1**	**+0.2**
baz=12							
U41A	**Viola**	**0.98**	**16**	P	**Pb**	**16 06 44.8**	**+0.3**
baz=197,SNR=20							
U41A				S	**Sn**	**16 06 58.6**	**-0.9**
baz=197							
X42A	**Stuttgart**	**0.99**	**148**	P	**Pg**	**16 06 44.3**	**+0.2**
baz=327,SNR=9.8							
X42A				S	**Sb**	**16 06 57.8**	**-0.1**
baz=327							
X40A	**Basin Creek Fa**	**1.03**	**208**	P	**Pg**	**16 06 44.6**	**-0.2**
baz=27							
X40A				S	**Sg**	**16 06 58.0**	**-0.1**
baz=27							
U40A	**Yellville**	**1.07**	**333**	P	**Pn**	**16 06 46.3**	**-0.3**
baz=155,SNR=42							
U40A				S	**Sb**	**16 07 00.6**	**+0.4**
baz=155							
V39A	**Pettigrew**	**1.21**	**292**	P	**Pb**	**16 06 48.4**	**-0.1**
baz=113,SNR=40							
V39A				S	**Sb**	**16 07 04.4**	**+0.1**
baz=113							
U42A	**Revenden**	**1.26**	**41**	P	**Pg**	**16 06 49.7**	**+0.4**
baz=221,SNR=25							
U42A				S	**Sn**	**16 07 06.9**	**+0.6**
baz=221							
W39A	**Magazine**	**1.26**	**261**	P	**Pn**	**16 06 49.1**	**-0.1**
baz=82,SNR=60							
W39A				S	**Sb**	**16 07 06.0**	**+0.2**
baz=82							
W43A	**Forest City**	**1.31**	**103**	Pb	**Pg**	**16 06 50.4**	**+0.2**
baz=283							
W43A				S	**Sn**	**16 07 08.5**	**+1.0**
baz=283							
HBAR	**Harrisburg**	**1.32**	**83**	*e*Pg	**Pn**	**16 06 49.0**	**-0.9**
MIAR	**Mount Ida**	**1.38**	**232**	P	**Pn**	**16 06 50.6**	**-0.1**
baz=52							
MIAR				S	**Sb**	**16 07 09.1**	**+0.1**
baz=52							
MIAR	**Mount Ida**	**1.38**	**232**	*e*Pn	**Pn**	**16 06 50.7**	**-0.1**
U39A	**Green Forest**	**1.40**	**315**	Pb	**Pg**	**16 06 51.7**	**-0.1**
baz=136,SNR=20							
U39A				S	**Sg**	**16 07 10.4**	**+0.4**
baz=136							
X43A	**Marvell**	**1.43**	**127**	S	**Sg**	**16 07 11.8**	**+0.6**
baz=307							
CCAR	**Cane Creek**	**1.53**	**165**	*e*Pn	**Pb**	**16 06 53.8**	**0.0**
Y41A	**Eaglette Beard**	**1.54**	**191**	Pb	**Pb**	**16 06 53.8**	**-0.2**
baz=10,SNR=5.9							
Y41A				Sb	**Sg**	**16 07 14.6**	**-0.1**
baz=10							
Y40A	**Okolona**	**1.62**	**212**	Pb	**Pb**	**16 06 55.1**	**-0.2**
baz=31,SNR=6.9							
Y40A				S	**Sb**	**16 07 15.8**	**-0.1**
baz=31							
HHAR	**Hobbs**	**1.63**	**303**	*e*Pn	**Pg**	**16 06 56.0**	**-0.2**
HHAR				*e*Sn	**Sg**	**16 07 17.1**	**-0.3**
T41A	**Mountain View**	**1.69**	**14**	Pb	**Pg**	**16 06 57.1**	**-0.4**
baz=194							
T41A				Sb	**Sg**	**16 07 20.0**	**+0.6**
baz=194							
T40A	**Mansfield**	**1.76**	**353**	Pb	**Pb**	**16 06 58.2**	**+0.4**
baz=174							
T40A				Sb	**Sg**	**16 07 22.1**	**+0.4**
baz=174							
X39A	**Fountain Ranch**	**1.76**	**240**	Pb	**Pb**	**16 06 57.5**	**-0.3**
baz=60,SNR=31							
X39A				Sb	**Sb**	**16 07 20.6**	**+0.5**
baz=60							
U43A	**Rector**	**1.79**	**57**	Sb	**Sg**	**16 07 22.9**	**+0.3**
baz=237							
V38A	**Canehill**	**1.81**	**285**	Pb	**Pb**	**16 06 58.3**	**-0.3**
baz=105,SNR=6.7							
V38A				Sb	**Sg**	**16 07 22.5**	**-0.8**
baz=105							
Y43A	**Makayla and Ka**	**1.84**	**143**	Sb	**Sg**	**16 07 23.8**	**-0.5**
baz=323							
T39A	**Clever**	**1.86**	**331**	Pb	**Pb**	**16 06 59.7**	**+0.3**
baz=152,SNR=14							
W38A	**Poteau**	**1.88**	**261**	Pb	**Pb**	**16 06 59.4**	**-0.3**
baz=80,SNR=7.6							
W38A				Sb	**Sg**	**16 07 24.7**	**-0.7**
baz=80							
PBMO	**Poplar Bluff**	**2.02**	**47**	*e*Pn	**Pb**	**16 07 01.1**	**-1.1**
PBMO				*e*Sn	**Sg**	**16 07 29.4**	**-0.6**
S40A	**Lebanon**	**2.20**	**355**	P	**Pb**	**16 07 05.0**	**-0.3**
baz=175,SNR=13							
S41A	**Jillco Farms,**	**2.22**	**11**	P	**Pb**	**16 07 05.5**	**-0.2**
baz=191,SNR=9.3							
X38A	**Whitesboro**	**2.23**	**252**	P	**Pb**	**16 07 04.9**	**-0.9**
baz=71,SNR=18							
OXF	**Oxford**	**2.50**	**110**	*e*Pn	**Pn**	**16 07 07.0**	**+0.7**
U37A	**Salina**	**2.53**	**294**	P	**Pn**	**16 07 08.4**	**+1.8**
baz=114,SNR=5.9							

IDC 17 16:07:57.1±3.0, 58°.70S×149°.42E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/24, mbtmp3.9/4, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/22, Error ellipse: s-maj=193.1km s-min=21.7km az=80.0, West of Macquarie Island

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

RPZ	Rata Peaks	20.08	51	LR	LR	16 19 03.6	
	comp=Z,221nm,19.8s,baz=218,slow=33						
ASAR	Alice Springs	36.71	336	P	P	16 15 05.4	-0.4
	1.5nm,0.9s,baz=161,slow=9.5,SNR=10						
MAW	Mawson	36.88	220	LR	LR	16 30 02.5	
	comp=Z,160nm,18.3s,baz=62,slow=36						
WRA	Warramunga Arr	40.24	338	P	P	16 15 35.7	+0.3
	1.5nm,0.8s,baz=166,slow=7.6,SNR=4.6						
SNAA	Sanae	48.47	191	P	P	16 16 40.7	-0.1
	2.3nm,0.7s,baz=171,slow=8.8,SNR=16						

IDC 17 16:15:34.1±3.1, 2°.65S×127°.11E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=377.7km s-min=25.6km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.58	158	P	P	16 19 51.2	-1.7
	0.3nm,0.3s,baz=333,slow=12,SNR=5.5						
ASAR	Alice Springs	21.90	163	P	P	16 20 29.9	+0.9
	2.7nm,0.6s,baz=342,slow=11,SNR=18						
MKAR	Makanchi Array	63.03	327	P	P	16 26 03.0	-0.1
	0.4nm,0.4s,baz=121,slow=7.9,SNR=8.5						

*IASPEI **17** 16:19:17.9±0.9, 35°.37N±0°.02×92°.28W±0°.02, h8km±7km, Error ellipse: s-maj=3.4km s-min=2.9km az=125.1, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ISCJB **17** 16:19:18.0±0.4, 35°.37N±0°.02×92°.28W±0°.02, h4km±3km, Error ellipse: s-maj=2.6km s-min=2.5km az=138.1*

*NEIC **17** 16:19:18.3±0.0, 35°.36N×92°.28W, h6km, MD2.8(CERI), After CERI.*

NEIC Felt [III] at Benton. Also felt at Bee Branch, Damascus, Little Rock, Quitman and West Memphis.

ISC 17 16:19:18.2±0.9, 35°.36N±0°.02×92°.28W±0°.02, h7km±8km, n56, σ0°.70/78, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	Wooly Hollow	0.07	187	*e*Pg	Pg	16 19 20.0	0.0
WHAR				*e*Sg	Sg	16 19 21.3	0.0
W41B	Gary Mavity, V	0.19	173	P	Pg	16 19 21.9	-0.1
	baz=353,SNR=514						
W41B				S	Sg	16 19 24.7	+0.1
	baz=353						
V41A	Mountainview	0.43	13	P	Pg	16 19 26.6	0.0
	baz=193						
V41A				S	Sg	16 19 32.4	+0.1
	baz=193						
UALR	University of	0.59	185	*e*Pg	Pg	16 19 29.6	+0.1
W42A	Bald Knob	0.62	98	P	Pg	16 19 30.3	+0.1
	baz=278,SNR=12						
W42A				S	Sg	16 19 38.6	+0.3
	baz=278						
V40A	Witts Springs	0.62	315	P	Pg	16 19 30.2	-0.1
	baz=135						
V40A				S	Sg	16 19 38.5	+0.1
	baz=135						
W40A	Ferguson Farm,	0.67	255	P	Pg	16 19 31.3	+0.2
	baz=75,SNR=74						
W40A				S	Sg	16 19 40.4	+0.6
	baz=75						
V42A	Cord	0.85	58	P	Pg	16 19 33.9	-0.5
	baz=239						
V42A				S	Sg	16 19 45.2	-0.3
	baz=239						
X41A	Kaden, Bauxite	0.89	193	P	Pg	16 19 35.0	-0.3
	baz=13,SNR=13						
X41A				S	Sg	16 19 47.0	+0.3
	baz=13						
X42A	Stuttgart	0.97	146	P	Pg	16 19 36.5	-0.2
	baz=327,SNR=25						
X42A				S	Sb	16 19 50.0	-0.3
	baz=327						
X40A	Basin Creek Fa	0.99	208	P	Pg	16 19 36.8	-0.4
	baz=28,SNR=39						
X40A				S	Sg	16 19 50.3	+0.4
	baz=28						
U41A	Viola	1.02	16	P	Pg	16 19 37.1	-0.6
	baz=196						
U41A				S	Sg	16 19 50.8	-0.2
	baz=196						
U40A	Yellville	1.09	335	P	Pg	16 19 38.6	-0.6
	baz=155						
U40A				S	Sg	16 19 53.0	-0.5
	baz=155						
V39A	Pettigrew	1.21	293	P	Pg	16 19 40.7	-0.8
	baz=113						
V39A				S	Sg	16 19 56.7	-0.5
	baz=113						
W39A	Magazine	1.24	263	P	Pb	16 19 41.4	-0.6
	baz=82,SNR=146						
W39A				S	Sg	16 19 58.1	-0.1
	baz=82						
U42A	Revenden	1.30	40	P	Pn	16 19 42.0	-0.8
	baz=221						
U42A				S	Sb	16 19 59.2	-0.7
	baz=221						
W43A	Forest City	1.32	102	S	Sg	16 20 00.7	+0.2
	baz=282						
HBAR	Harrisburg	1.34	81	*e*Pn	Pn	16 19 42.7	-0.6
HBAR				*e*Sn	Sb	16 20 00.7	-0.2
MIAR	Mount Ida	1.34	233	P	Pn	16 19 42.9	-0.5
	baz=52,SNR=85						
MIAR				S	Sb	16 20 01.2	+0.1
	baz=52						
MIAR	Mount Ida	1.34	233	*e*Pn	Pn	16 19 43.0	-0.5
MIAR				*e*Sn	Sb	16 20 01.2	+0.1
U39A	Green Forest	1.41	316	P	Pn	16 19 44.0	-0.4
	baz=136						
U39A				S	Sb	16 20 02.8	-0.3
	baz=136						
X43A	Marvell	1.42	126	P	Pn	16 19 44.4	-0.1
	baz=307						
X43A				S	Sg	16 20 04.2	+0.3
	baz=307						
CCAR	Cane Creek	1.50	164	*e*Pn	Pn	16 19 45.4	-0.2
Y41A	Eaglette Beard	1.50	191	P	Pn	16 19 46.0	+0.4
	baz=10,SNR=12						
Y42A	Garnett, Star	1.58	165	P	Pn	16 19 47.2	+0.6
	baz=345,SNR=11						
Y40A	Okolona	1.58	212	P	Pn	16 19 47.1	+0.4
	baz=31,SNR=19						
HHAR	Hobbs	1.63	305	*e*Pn	Pn	16 19 47.8	+0.4
HHAR				*e*Sn	Sn	16 20 09.1	+0.4
T41A	Mountain View	1.73	14	P	Pn	16 19 49.4	+0.7
	baz=194						
X39A	Fountain Ranch	1.73	241	P	Pn	16 19 49.6	+0.9
	baz=60,SNR=90						
T40A	Mansfield	1.79	354	P	Pn	16 19 50.5	+0.8
	baz=174,SNR=45						
V38A	Canehill	1.81	287	P	Pn	16 19 50.4	+0.6
	baz=106,SNR=44						
WLAR	White Oak Lake	1.81	203	*e*Pn	Pb	16 19 50.9	-0.8
U43A	Rector	1.82	56	P	Pn	16 19 50.8	+0.9
	baz=237,SNR=8.3						
U43A				S	Sb	16 20 14.9	0.0
	baz=237						
Y43A	Makayla and Ka	1.83	142	P	Pn	16 19 50.5	+0.4
	baz=323,SNR=5.5						
W38A	Poteau	1.86	262	P	Pb	16 19 51.7	-0.8
	baz=80,SNR=61						
T39A	Clever	1.88	332	P	Pn	16 19 51.9	+1.1
	baz=152,SNR=36						
PBMO	Poplar Bluff	2.06	46	*e*Pn	Pn	16 19 54.1	+0.9
Z41A	Richland Creek	2.15	192	P	Pn	16 19 54.9	+0.5
	baz=12						
S40A	Lebanon	2.24	355	P	Pn	16 19 57.1	+1.3
	baz=175,SNR=36						
S41A	Jillco Farms,	2.26	11	P	Pn	16 19 57.4	+1.4
	baz=191,SNR=21						
T38A	Diamond	2.33	316	P	Pn	16 19 58.1	+1.1
	baz=135,SNR=12						
V37A	Hulbert	2.39	283	P	Pn	16 19 58.6	+0.9
	baz=102,SNR=8.6						
S39A	Bolivar	2.47	340	P	Pn	16 20 00.0	+1.1
	baz=160,SNR=16						
Y38A	Idabel	2.48	235	Pb	Pb	16 20 03.2	+0.2
	baz=54						

OXF	Oxford	2.50	109	*e*Pn	Pn	16 19 59.6	+0.2
U37A	Salina	2.53	295	P	Pn	16 20 00.8	+1.1
	baz=114,SNR=8.9						
U44B	Burton Farm, H	2.57	67	P	Pn	16 20 01.4	+1.1
	baz=248,SNR=10						
W37B	Quinton	2.59	266	P	Pn	16 20 01.6	+1.0
	baz=84,SNR=10.0						
GLAT	Glass	2.59	69	*e*Pn	Pn	16 20 02.4	+1.8
S38A	Stockton	2.62	330	P	Pn	16 20 02.2	+1.3
	baz=150,SNR=8.2						
CCM	Cathedral Cave	2.81	17	*e*Pn	Pn	16 20 05.3	+1.7
TUL1	Leonard	2.91	282	*e*Pn	Pn	16 20 05.5	+0.5
V36A	Jenks	3.02	279	P	Pn	16 20 07.1	+0.7
	baz=97,SNR=5.3						
WVT	Waverly	3.70	77	*e*Pn	Pn	16 20 16.5	+0.7
W35A	Tecumseh	3.77	268	P	Pn	16 20 17.4	+0.6
	baz=86,SNR=6.5						
WMOK	Wichita Mounta	5.37	265	*e*Pn	Pn	16 20 37.2	-1.6

*IDC **17** 16:27:47.0±0.7, 5°.16S×133°.51E, h0km, mb3.9/7, mb1 4.2/11, mb1mx4.0/35, mbtmp4.1/11, ML4.7/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/28, Error ellipse: s-maj=36.5km s-min=15.8km az=65.0*

*ISCJB **17** 16:27:47.4±0.3, 5°.18S±0°.03×133°.67E±0°.03, h25km, mb4.1/11, MS3.7/6, Error ellipse: s-maj=4.7km s-min=4.1km az=37.3*

*NEIC **17** 16:27:47.9±0.5, 5°.25S×133°.61E, h10km, mb4.4/4, Error ellipse: s-maj=11.1km s-min=7.0km az=75.0*

*DJA **17** 16:27:52.0±0.3, 5°.5S±2°.×13°.4E±°., h49km±21km, M4.7/12, mb4.9/10, mB5.2/7, MLv4.7/12, Mw(mB)4.6/7*

ISC 17 16:27:49.7±0.5, 5°.23S±0°.04×133°.64E±0°.05, h25km, n57, σ2°.88/67, mb4.2/11, MS3.7/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.56	3	P	Pn	16 28 12.2	-3.6
KMPI				S	Sn	16 28 29.4	-5.8
FAKI	Fak Fak	2.68	329	P	Pn	16 28 29.2	-2.0
FAKI				S	Sn	16 28 57.8	-5.1
FAKI	Fak Fak	2.68	329	*e*Pn	Pn	16 28 29.7	-1.6
SAUI	Saumlaki	3.59	220	P	Pn	16 28 48.4	+4.6
SAUI				S	Sb	16 29 32.8	-2.8
SAUI	Saumlaki	3.59	220	*e*Pn	Pn	16 28 43.2	-0.6
RKPI	Ransiki, Papua	3.73	8	P	Pn	16 28 44.6	-1.1
RKPI				S	Sn	16 29 23.5	-5.4
BNDI	Bandanaira	3.78	281	P	Pn	16 28 48.1	+1.7
BNDI				S	Sn	16 29 31.2	+1.0
BAKI	Biak	4.71	32	P	Pn	16 28 57.0	-2.2
MSAI	Masohi	5.05	292	P	Pn	16 29 04.8	+0.9
MSAI				S	Sn	16 30 00.3	-1.2
AAI	Ambon	5.64	286	P	Pn	16 29 12.6	+0.7
	148nm,0.6s,3μm0.7nm						
AAI				S	Sn	16 30 12.5	-3.4
	148nm,0.6s,3μm0.7nm						
SMPI	Sarmi	6.00	58	P	Pn	16 29 15.4	-1.5
	22nm,1.0s,727nm0.2nm						
SMPI				S	Sn	16 30 20.8	-4.1
	22nm,1.0s,727nm0.2nm						
NLAI	Namlea	6.81	287	P	Pn	16 29 30.9	+2.8
	59nm,0.5s,2μm0.4nm						
NLAI				S	Sn	16 30 45.7	+0.8
	59nm,0.5s,2μm0.4nm						
GENI	Genyem	7.02	68	P	Pn	16 29 31.0	0.0
	48nm,0.7s,0.2nm						
MMPI	Merauke	7.43	116	P	Pn	16 29 39.0	+2.4
LBMI	Labuha	7.64	306	P	Pn	16 29 39.0	-0.4
	40nm,1.0s,715nm0.2nm						
LBMI				S	Sn	16 31 01.9	-3.3
	40nm,1.0s,715nm0.2nm						
MTN	Manton Dam	7.96	198	*e*Pn	Pn	16 29 45.7	+1.9
SANI	Sanana	8.26	292	P	Pn	16 29 46.5	-1.5
SOEI	Soe	10.32	244	P	Pn	16 30 20.0	+3.7
	76nm,0.8s						
SOEI				S	Sn	16 32 13.5	+2.1
	76nm,0.8s						
SOEI	Soe	10.32	244	*e*Pn	Pn	16 30 17.6	+1.3
SOEI				*e*Sn	Sn	16 32 12.3	+0.9
KMSI	Cibinong	11.23	301	P	Pn	16 30 28.2	-0.6
APSI	Ampana	12.71	289	P	Pn	16 30 50.1	+1.1
COEN	Coen	12.79	133	*e*Pn	Pn	16 30 48.4	-1.7
PMG	Port Moresby	14.04	108	Pn	Pn	16 31 08.2	+1.1
	0.8nm,0.3s,baz=256,slow=17,SNR=3.5						
PMG				Sn	Sn	16 33 32.7	-10
	0.7nm,0.3s,baz=228,slow=16,SNR=2.7						
WRAB	Tennant Creek	14.63	177	*e*Pn	Pn	16 31 14.0	-1.3
WRA	Warramunga Arr	14.64	177	Pn	Pn	16 31 13.1	-2.2
	1.6nm,0.3s,baz=3.5,slow=13,SNR=47						
WRA				Sn	Sn	16 33 48.3	-8.7
	0.7nm,0.3s,baz=351,slow=24,SNR=3.6						
WRA				LR	LR	16 37 41.6	
	comp=Z,446nm,19.6s,baz=5.0,slow=40						
WB2	Warramunga Arr	14.64	177	*e*Pn	Pn	16 31 13.3	-2.1
FITZ	Fitzroy Crossi	14.99	211	Pn	Pn	16 31 18.4	-1.7
	2.6nm,0.3s,baz=31,slow=9.7,SNR=74						
FITZ				Sn	Sn	16 33 56.4	-9.1
	4.4nm,0.3s,baz=186,slow=12,SNR=11						
FITZ	Fitzroy Crossi	14.99	211	*e*Pn	Pn	16 31 18.1	-2.0
FITZ				*e*Sn	Sn	16 33 57.2	-8.3
AS31	Alice Springs	18.33	179	*e*P	P	16 32 01.4	-0.9
	14nm,0.6s						
AS01	Alice Springs	18.33	179	*e*Pn	P	16 32 02.3	-0.1
ASAR	Alice Springs	18.33	179	P	P	16 32 02.0	-0.3
	2.5nm,0.3s,baz=3.9,slow=11,SNR=131						
ASAR				S	Sn	16 35 17.4	-9.2
	0.3nm,0.3s,baz=0.7,slow=29,SNR=3.2						
ASAR				LR	LR	16 40 03.7	
	comp=Z,265nm,19.2s,baz=350,slow=40						
CTA	Charters Tower	19.21	141	P	Pn	16 32 14.3	+1.3
	1.6nm,0.3s,baz=324,slow=12,SNR=18						
MBWA	Marble Bar	20.80	219	*e*Pn	Pn	16 32 31.8	0.0
STKA	Stephens Creek	27.54	165	P	P	16 33 36.2	+1.6
	2.7nm,0.6s,baz=341,slow=10,SNR=11						
STKA				LR	LR	16 46 55.1	
	comp=Z,232nm,20.9s,baz=359,slow=42						
STKA	Stephens Creek	27.54	165	*e*P	P	16 33 33.5	-1.1
	4.7nm,1.7s						
CMAR	Chiang Mai Arr	41.52	305	P	P	16 35 35.5	+0.2
	1.1nm,1.0s,baz=132,slow=7.2,SNR=6.9						
MJAR	Matsushiro Arr	41.77	6	LR	LR	16 50 26.7	
	comp=Z,105nm,20.7s,baz=125,slow=33						
KSRS	Korea Array	42.80	353	LR	LR	16 52 38.0	
	comp=Z,69nm,20.9s,baz=215,slow=35						
HHC	Hu-ho-hao-te	50.12	338	*e*P	P	16 36 45.0	+2.0
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,7.4s						
GTA	Gaotai	54.29	328	*e*P	P	16 37 16.8	+2.7
GTA				pP	pP	16 37 21.3	-0.5
GTA				sP	sP	16 37 23.8	-1.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	Songino Array	58.02	339	P	P	16 37 41.0	+0.5
	comp=Z,0.3nm,0.5s,baz=134,slow=4.2,SNR=3.1						
WMQ	Urumqi	63.97	325	P	P	16 38 22.3	+1.3
WMQ				pP	pP	16 38 25.9	-3.0
WMQ				sP	sP	16 38 28.4	-3.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,6.1s						
WMQ				LR	LR		
	comp=N,32nm,19.9s						
WMQ				LR	LR		
	comp=E,80nm,19.9s						
WMQ				LR	LR		
	comp=Z,44nm,19.9s						
MK01	Makanchi Array	68.78	325	*e*P	P	16 38 51.3	-0.4
MK31	Makanchi Array	68.80	325	*e*P	P	16 38 52.6	+0.7
MKAR	Makanchi Array	68.80	325	P	P	16 38 51.7	-0.1
	comp=Z,0.4nm,0.5s,baz=117,slow=7.1,SNR=7.4						
MKAR	Makanchi Array	68.80	325	*e*P	P	16 38 52.5	+0.7
	comp=Z,26nm,1.4s						
ZAA0	Zalesovo Array	71.66	332	*e*P	P	16 39 08.8	-0.3
ZALV	Zalesovo Beam	71.66	332	P	P	16 39 09.1	0.0
	comp=Z,0.9nm,0.7s,baz=88,slow=3.5,SNR=4.0						
KURK	Kurchatov	72.95	327	*e*P	P	16 39 17.5	+0.5
	comp=Z,6.0nm,1.2s						
VNDA	Vanda	73.78	174	P	P	16 39 23.4	+2.0
	comp=Z,0.8nm,0.6s,baz=314,slow=7.1,SNR=9.0						
MAW	Mawson	77.92	202	P	P	16 39 47.3	+2.2
	comp=Z,1.3nm,0.6s,baz=93,slow=9.9,SNR=7.0						
NRIK	Noril'sk	80.76	345	LR	LR	17 15 49.5	
	comp=Z,47nm,22.0s,baz=176,slow=36						
ILAR	Eielson Array	90.22	25	LR	LR	17 18 32.2	
	comp=Z,28nm,21.6s,baz=224,slow=34						
TORD	Torodi Ar. Bea	131.98	283	PKP	PKPdf	16 47 03.5	+1.4
	comp=Z,0.4nm,0.7s,baz=48,slow=2.1,SNR=2.6						
ATAH	Atahualpa	145.76	111	PKPbc	PKPab	16 47 29.4	+0.8
	comp=Z,3.8nm,0.9s,baz=310,slow=7.9,SNR=2.9						
CPUP	Villa Florida	146.88	162	PKPbc	PKPab	16 47 33.1	+1.2
	comp=Z,1.1nm,0.6s,baz=202,slow=9.1,SNR=3.3						
LPAZ	La Paz	149.66	135	PKPbc	PKPbc	16 47 40.1	+1.1
	comp=Z,0.6nm,0.6s,baz=234,slow=8.7,SNR=2.2						

*ISCJB **17** 16:31:14.3±1.0, 22°.7S±0°.1×176°.7W±0°.2, h10km, mb4.2/5, MS3.2/2, Error ellipse: s-maj=26.4km s-min=8.6km az=42.3*

*IDC **17** 16:31:15.7±1.4, 22°.65S×176°.83W, h0km, mb4.0/4, mb1 4.2/6, mb1mx4.0/33, mbtmp4.1/6, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/30, Error ellipse: s-maj=46.9km s-min=24.1km az=143.0*

*NEIC **17** 16:31:20.1±1.0, 22°.69S×176°.87W, h30km, mb4.4/1, Error ellipse: s-maj=31.3km s-min=18.3km az=195.0*

ISC 17 16:31:16.6±0.9, 22°.7S±0°.1×176°.8W±0°.2, h10km, n23, σ0°.99/17, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.94	30	Pn	Pn	16 33 40.2	+0.5
	3.2nm,0.3s,baz=79,slow=8.4,SNR=6.4						
AFI				Sn	Sn	16 35 31.8	+0.4
	1.5nm,0.3s,baz=180,slow=20,SNR=2.6						
AFI	Afiamalu	9.94	30	*e*Pn	Pn	16 33 39.3	-0.4
AFI				Sn	Sn	16 35 31.8	+0.4
DZM	Mont Dzumac	15.51	269	Pn	Pn	16 34 55.4	-0.2
	0.2nm,0.3s,baz=330,slow=20,SNR=4.5						
RPZ	Rata Peaks	23.27	203	LR	LR	16 45 55.7	
	comp=Z,124nm,18.9s,baz=25,slow=38						
TBI	Tubuai	25.17	97	*e*T	T	17 01 08.2	
	11nm,0.3s						
PAE	Paea	26.02	84	*e*T	T	17 02 36.0	
	7.3nm,0.3s						
PPT2	Papeete2	26.04	84	*e*LR	LR	16 42 45.3	
	129nm,26.5s						
PPT2	Papeete2	26.04	84	*e*T	T	17 02 37.8	
	8.1nm,0.4s						
PPT	Papeete	26.05	84	LR	LR	16 45 59.3	
	comp=Z,47nm,19.1s,baz=259,slow=34						
TVO	Taravao	26.29	84	*e*T	T	17 02 54.1	
	1.8nm,0.4s						
CTA	Charters Tower	34.44	267	P	P	16 38 05.6	+0.9
	6.8nm,0.8s,baz=96,slow=13,SNR=4.4						
CTAO	Charters Tower	34.44	267	*e*P	P	16 38 04.5	-0.2
	95nm,1.2s						
STKA	Stephens Creek	37.90	247	P	P	16 38 34.4	+0.1
	1.0nm,0.5s,baz=123,slow=17,SNR=2.9						
RKT	Rikitea	38.44	99	*e*T	T	17 17 39.0	
	5.4nm,0.4s						
ASAR	Alice Springs	45.15	259	P	P	16 39 36.0	+2.2
	0.9nm,0.4s,baz=97,slow=6.5,SNR=4.5						
WRAB	Tennant Creek	45.43	264	*e*P	P	16 39 35.5	-0.6
WRA	Warramunga Arr	45.44	264	P	P	16 39 35.0	-1.1
	0.5nm,0.3s,baz=95,slow=8.3,SNR=17						
SBA	Scott Base	55.79	184	P	P	16 40 53.3	-0.1
	4.1nm,1.0s						
H06E1	SOCORRO T-PHAS	76.41	63	T	T	18 06 30.0	
	SNR=7.1						
AKASG	Malin Array Be	145.44	331	PKPbc	PKPbc	16 50 54.5	-0.3
	0.3nm,0.4s,baz=38,slow=3.8,SNR=2.7						
BRTR	Keskin Array B	149.10	310	PKPbc	PKPbc	16 51 06.2	+0.6
	1.3nm,1.1s,baz=7.6,slow=4.4,SNR=2.6						
CLL	Collm	150.42	347	*e*PKPbc	PKPbc	16 51 07.0	-1.2
CLL				*e*PKPab	pPKPab	16 51 16.0	-2.0
TORD	Torodi Ar. Bea	170.42	171	PKPab	PKPab	16 52 42.4	+0.3
	1.6nm,1.0s,baz=180,slow=4.8,SNR=5.7						

*MOS **17** 16:33:57.6±1.1, 52°.68N×155°.30E, h543km, Error ellipse: s-maj=53.0km s-min=25.5km az=137.7*

*KRSC **17** 16:33:57.6±2.5, 52°.68N×155°.30E, h544km±36km, ML4.3*

ISC 17 16:34:00.8±3.7, 52°.8N±0°.2×154°.7E±0°.3, h499km±30km, n29, σ0°.82/39, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	1.50	82	P	P	16 35 02.7	-0.7
APC	Apacha	1.50	82	*e*P	P	16 35 02.7	-0.7
KRMR	Karymshinskiy	2.08	86	P	P	16 35 06.6	+0.6
KRMR	Karymshinskiy	2.08	86	*e*P	P	16 35 06.6	+0.6
GNL	Ganaly	2.16	63	P	P	16 35 06.2	-0.4
GNL	Ganaly	2.16	63	*e*P	P	16 35 06.2	-0.4
SKR	Severo-Kuril's	2.25	157	P	P	16 35 07.2	+0.1
SKR	Severo-Kuril's	2.25	157	*e*P	P	16 35 07.2	+0.1
RUS	Russkaya	2.34	96	P	P	16 35 07.6	+0.1
RUS				S	S	16 36 01.3	-0.5
RUS	Russkaya	2.34	96	*e*P	P	16 35 07.6	+0.1
RUS				*e*S	S	16 36 01.3	-0.5
PET	Petropavlovsk	2.41	82	*e*P	P	16 35 08.0	+0.2
PET				*e*S	S	16 36 03.2	+0.8
PET				pmax	pmax		
	comp=Z,16nm,0.4s						
PET				smax	smax		
	comp=N,53nm,0.9s						
PET	Petropavlovsk	2.41	82	*e*P	P	16 35 08.3	+0.5
PET				*e*S	S	16 36 03.3	+0.8
DALK	Dalny	2.47	82	P	P	16 35 08.3	+0.2
DALK				S	S	16 36 03.2	+0.1
DALK	Dalny	2.47	82	*e*P	P	16 35 08.3	+0.2
DALK				S	S	16 36 03.2	+0.1
AVH	Avacha	2.49	76	P	P	16 35 09.6	+1.2
AVH	Avacha	2.49	76	*e*P	P	16 35 09.6	+1.2
UGLR	Uglovaya	2.53	78	P	P	16 35 09.6	+0.9
UGLR	Uglovaya	2.53	78	*e*P	P	16 35 09.6	+0.9
SDLR	Sedlovina	2.58	76	P	P	16 35 09.5	+0.5
SDLR				S	S	16 36 05.3	+0.6
SDLR	Sedlovina	2.58	76	*e*P	P	16 35 09.5	+0.5
SDLR				S	S	16 36 05.3	+0.6
NLC	Nalytchevo	2.83	80	P	P	16 35 11.2	+0.8
NLC				S	S	16 36 08.1	+0.8
NLC	Nalytchevo	2.83	80	*e*P	P	16 35 11.2	+0.8
NLC				*e*S	S	16 36 08.1	+0.8
SPN	Mys Shipunski	3.23	82	P	P	16 35 13.0	-0.2
SPN				S	S	16 36 10.0	-2.3
SPN	Mys Shipunski	3.23	82	*e*P	P	16 35 13.0	-0.2
SPN				*e*S	S	16 36 10.0	-2.3
TUMR	Tumrok	4.09	49	P	P	16 35 19.5	-0.3
TUMR	Tumrok	4.09	49	*e*P	P	16 35 19.5	-0.3
TUMD	Tumrok D	4.16	52	*e*P	P	16 35 21.0	+0.7
KBTR	Krutoberegovo	5.86	51	P	P	16 35 31.9	-3.6
KBTR				S	S	16 36 43.8	-9.3
KBTR	Krutoberegovo	5.86	51	*e*P	P	16 35 31.9	-3.6
KBTR				*e*S	S	16 36 43.8	-9.3

**IDC 17 16:37:58.8±2.2, 19

P -2.0600, Plg37.0000°, Azm360.0000°; **New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**0.99**	**204**	*e*Pg	Pg	16 39 09.2	-1.8
ANMO				*e*Sg	Sg	16 39 21.7	-2.0
LPM	**Los Pinos Moun**	**1.63**	**199**	*e*Pn	Pn	16 39 21.2	-0.3
LPM				*e*Sn	Sn	16 39 41.6	-1.3
LAZ	**Ladron**	**1.73**	**214**	*e*Pn	Pn	16 39 22.9	-0.1
BNM	**Barren Site**	**1.78**	**198**	*e*Pn	Pn	16 39 23.6	-0.1
BNM				*e*Sn	Sn	16 39 46.6	-0.1
T25A	**Trinidad**	**1.80**	**44**	*e*Pn	Pn	16 39 23.4	-0.5
SDCO	**Great Sand Dun**	**1.93**	**11**	*e*Pn	Pn	16 39 25.2	-0.5
SDCO				*e*Sn	Sn	16 39 49.9	-0.6
Y22D	**IRIS PASSCAL I**	**1.94**	**204**	*e*Pn	Pb	16 39 27.3	-0.5
S22A	**4UR Ranch, Cre**	**2.01**	**340**	*e*Pn	Pn	16 39 26.9	0.0
S22A				*e*Sn	Sn	16 39 52.5	-0.1
MVCO	**Mesa Verde**	**2.44**	**304**	*e*Pn	Pn	16 39 34.1	+1.4
PV01	**Paradox Valley**	**3.08**	**318**	*e*Pn	Pn	16 39 41.3	-0.2
W18A	**Petrified Fore**	**3.15**	**258**	*e*Pn	Pn	16 39 42.4	-0.1
Q24A	**Divide**	**3.17**	**12**	*e*Pn	Pn	16 39 42.6	-0.3
MSTX	**Muleshoe**	**3.23**	**125**	*e*Pn	Pn	16 39 43.5	+0.1
CPRX	**Cap Rock**	**3.31**	**148**	*e*P	Pn	16 39 45.6	+1.0
PV05	**Paradox Valley**	**3.34**	**313**	*e*Pn	Pn	16 39 44.8	-0.3
SMCO	**Snowmass**	**3.41**	**347**	*e*Pn	Pn	16 39 45.5	-0.8
PV04	**Paradox Valley**	**3.45**	**318**	*e*Pn	Pn	16 39 47.8	+1.3
PV10	**Paradox Valley**	**3.51**	**317**	*e*Pn	Pn	16 39 44.3	-3.2
X18A	**Snowflake**	**3.51**	**249**	*e*Pn	Pn	16 39 46.8	-0.7
AMTX	**Amarillo**	**3.64**	**104**	*e*Pn	Pn	16 39 49.2	+0.1
PV09	**Paradox Valley**	**3.65**	**317**	*e*Pg	Pb	16 39 57.5	+0.3
ISCO	**Idaho Springs**	**3.95**	**4**	*e*Pn	Pn	16 39 52.6	-1.0
ISCO				*e*Sg	Sb	16 40 53.3	+2.8
CLNB	**Carlsbad**	**3.98**	**153**	*e*Pn	Pn	16 39 51.7	-2.1
KSCO	**Kaye Shedlock'**	**4.13**	**39**	*e*Pn	Pn	16 39 55.6	-0.2
MNTX	**Cornudas Mount**	**4.17**	**173**	*e*Pn	Pn	16 39 55.7	-0.7
MNTX				*e*Sg	Sb	16 40 58.1	+1.5
WUAZ	**Wupatki**	**4.41**	**267**	*e*Pn	Pn	16 39 59.4	-0.3
X16A	**Lo Mia Camp, P**	**4.70**	**254**	*e*Pn	Pn	16 40 02.7	-1.1
SRU	**San Rafael Swe**	**4.86**	**313**	*e*Pn	Pn	16 40 06.4	+0.4
P18A	**Preston Nutter**	**5.07**	**319**	*e*Pn	Pn	16 40 08.9	+0.1
U15A	**North Rim**	**5.14**	**278**	*e*Pn	Pn	16 40 10.1	+0.2
TUC	**Tucson**	**5.33**	**230**	*e*Pn	Pn	16 40 12.0	-0.3
MSU	**Marysvale**	**5.62**	**300**	*e*Pn	Pn	16 40 15.5	-0.8
KNB	**Kanab**	**5.64**	**284**	*e*Pn	Pn	16 40 15.8	-0.8
CBKS	**Cedar Bluff**	**5.78**	**57**	*e*Pg	Pb	16 40 35.2	+1.9
RWWY	**Rawlins**	**5.91**	**351**	*e*Pn	Pn	16 40 19.9	-0.4
SZCU	**Shurtz Canyon**	**5.97**	**289**	*e*Pn	Pn	16 40 20.1	-1.2
LCMT	**Little Creek M**	**5.97**	**283**	*e*Pn	Pn	16 40 20.2	-1.0
WMOK	**Wichita Mounta**	**5.99**	**99**	*e*Pn	Pn	16 40 22.8	+1.5
ABTX	**Abilene, Hawle**	**6.15**	**120**	*e*Pn	Pn	16 40 23.2	-0.4
ABTX				*e*Pg	Pb	16 40 43.0	+3.4
CCUT	**Cedar City**	**6.17**	**288**	*e*Pn	Pn	16 40 19.9	-4.1
TX31	**Lajitas Ar. Si**	**6.79**	**163**	*e*Pn	Pn	16 40 34.5	+2.2
PSUT	**Pine Spring**	**6.83**	**295**	*e*Pg	Pg	16 41 06.3	+3.4
DUG	**Dugway, Tooele**	**6.92**	**311**	*e*Pg	Pg	16 40 58.9	-5.7
BW06	**Boulder Array**	**7.44**	**339**	*e*Pg	Pb	16 41 05.7	+4.1
JCT	**Junction City**	**7.45**	**134**	*e*Pn	Pn	16 40 41.2	-0.1
RSSD	**Black Hills**	**8.39**	**10**	*e*Pg	Pg	16 41 26.2	-6.4
LOHW	**Long Hollow**	**8.53**	**337**	*e*Pg	Pg	16 41 33.3	-2.0
TPAW	**Teton Pass**	**8.54**	**335**	*e*Pg	Pg	16 41 30.0	-5.4
GSC	**Goldstone, Bar**	**8.84**	**270**	*e*Pg	Pg	16 41 35.5	-5.7
IMW	**Indian Meadow**	**8.89**	**336**	*e*Pg	Pg	16 41 36.7	-5.5
IMW				*e*Sg	Sg	16 43 34.6	-2.7

GUC 17 16:48:33.7±0.5, 24°.10S×67°.40W, h214km±12km, ML4.0, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.83**	**110**	*e*P	Pn	16 49 06.9	-5.0
SLA				*e*S	S	16 49 32.3	-9.0
LVC	**Limon Verde**	**2.03**	**317**	*e*P	Pn	16 49 15.4	+1.3
LVC				*e*S	S	16 49 46.9	+1.8
PB06	**IPOC Station P**	**2.43**	**304**	*e*P	Pn	16 49 19.7	+1.8
PB06				*e*S	S	16 49 54.7	+2.6
PB06				IAML		16 49 55.8	
	comp=E,197nm,0.3s						
PB09	**IPOC Station P**	**2.85**	**323⇑**	*e*P	Pn	16 49 24.7	+2.0
PB09				*e*S	S	16 50 03.2	+2.6
PB09				IAML		16 50 05.2	
	comp=N,298nm,0.3s						
PB10	**IPOC Station P**	**2.95**	**281**	*e*P	Pn	16 49 25.4	+1.8
PB10				*e*S	S	16 50 04.3	+2.1
PB10				IAML		16 50 09.7	
	comp=N,301nm,0.4s						
PB04	**IPOC Station P**	**3.08**	**304⇓**	*e*P	Pn	16 49 27.3	+2.1
PB04				*e*S	S	16 50 06.6	+1.4
PB07	**IPOC Station P**	**3.29**	**315⇑**	*e*P	Pn	16 49 29.3	+1.6
PB07				IAML		16 50 12.5	
	comp=N,110nm,0.4s						
PB01	**IPOC Station P**	**3.60**	**327**	*e*P	Pn	16 49 32.3	+1.0

*ISCJB **17** 16:52:23.6±0.3, 6°.88S±0°.03×129°.58E±0°.04, h150km, mb4.3/12, Error ellipse: s-maj=5.6km s-min=4.1km az=7.5*
*IDC **17** 16:52:23.2±9.2, 6°.84S×129°.53E, h138km±90km, mb3.8/5, mb1 4.0/8, mb1mx3.6/33, mbtmp4.3/8, Error ellipse: s-maj=90.5km s-min=18.9km az=54.0*
*DJA **17** 16:52:25.4±0.3, 7°S±2°×13°0E±°, h181km±6km, M4.7/11, mb4.8/8, mB5.2/6, MLv4.7/11, Mw(mB)4.6/6*
*NEIC **17** 16:52:26.2±0.6, 6°.78S×129°.57E, h168km±7km, mb4.4/3, Error ellipse: s-maj=10.5km s-min=7.0km az=74.0*

ISC 17 16:52:25.1±0.5, 6°.85S±0°.04×129°.58E±0°.05, h150km, n42, σ2°34/51, mb4.4/12, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**123**	P	**Pn**	**16 53 04.7**	**+3.9**
SAUI				S	**Sn**	**16 53 33.0**	**+4.9**
SAUI	**Saumlaki**	**2.04**	**123**	*e*Pn	**Pn**	**16 53 04.9**	**+4.1**
SAUI				*e*Sn	**Sn**	**16 53 29.3**	**+1.2**
BNDI	**Bandanaira**	**2.34**	**8**	P	**Pn**	**16 53 08.2**	**+3.9**
BNDI				S	**Sn**	**16 53 32.4**	**-2.1**
AAI	**Ambon**	**3.44**	**336**	P	**Pn**	**16 53 20.7**	**+2.6**
MSAI	**Masohi**	**3.54**	**349**	P	**Pn**	**16 53 23.2**	**+3.7**
FAKI	**Fak Fak**	**4.73**	**34**	P	**Pn**	**16 53 35.0**	**0.0**
FAKI				S	**Sn**	**16 54 26.9**	**-2.6**
FAKI	**Fak Fak**	**4.73**	**34**	*e*Pn	**Pn**	**16 53 35.0**	**0.0**
KMPI	**Kaimana, Papua**	**5.19**	**53**	P	**Pn**	**16 53 41.9**	**+0.8**
KMPI				S	**Sn**	**16 54 38.8**	**-1.6**
SOEI	**Soe**	**6.00**	**241**	P	**Pn**	**16 53 52.8**	**+0.8**
SOEI				S	**Sn**	**16 54 58.8**	**-1.0**
SOEI	**Soe**	**6.00**	**241**	*e*Pn	**Pn**	**16 53 53.5**	**+1.5**
MTN	**Manton Dam**	**6.15**	**166**	*e*Pn	**Pn**	**16 53 54.8**	**+1.0**
LBMI	**Labuha**	**6.51**	**341**	P	**Pn**	**16 54 01.7**	**+2.9**
	83nm,0.7s,806nm0.3nm						
LBMI				S	**Sn**	**16 55 13.4**	**+1.3**
	83nm,0.7s,806nm0.3nm						
RKPI	**Ransiki, Papua**	**7.01**	**41**	P	**Pn**	**16 54 06.4**	**+1.0**
RKPI				S	**Sn**	**16 55 21.1**	**-3.0**
BAKI	**Biak**	**8.60**	**49**	P	**Pn**	**16 54 28.3**	**+1.6**
WSI	**Waingapu**	**9.60**	**252**	P	**Pn**	**16 54 41.0**	**+1.0**
WSI				S	Sn	16 56 18.6	-7.8
PCI	**Palu**	**11.37**	**301**	P	**P**	**16 55 13.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.82**	**199**	P	**Pn**	**16 55 06.8**	**-2.4**
	2.0nm,0.3s,baz=32,slow=11,SNR=63						
FITZ				S	Sn	16 57 10.8	-9.1
	2.4nm,0.3s,baz=240,slow=20,SNR=5.1						
JAY	**Jayapura**	**11.89**	**69**	P	**Pn**	**16 55 10.5**	**+0.3**
WRAB	**Tennant Creek**	**13.80**	**161**	*e*Pn	**Pn**	**16 55 32.7**	**-2.0**
WRAB				*e*S	Sn	16 57 58.1	-10
WRA	**Warramunga Arr**	**13.81**	**161**	P	**Pn**	**16 55 32.3**	**-2.4**
	1.3nm,0.3s,baz=338,slow=12,SNR=23						
WRA				S	Sn	16 57 58.9	-8.9
	2.3nm,0.3s,baz=336,slow=23,SNR=5.9						
WB2	**Warramunga Arr**	**13.81**	**161**	*e*Pn	**Pn**	**16 55 32.0**	**-2.8**
WB2				*e*S	Sn	16 57 53.8	-14
COEN	**Coen**	**15.11**	**119**	*e*Pn	**Pn**	**16 55 51.8**	**+0.7**
	72nm,1.8s						
AS31	**Alice Springs**	**17.23**	**166**	*e*P	**P**	**16 56 17.1**	**+1.1**
	9.9nm,0.6s						
ASAR	**Alice Springs**	**17.23**	**167**	P	**P**	**16 56 17.1**	**+1.0**
	3.8nm,0.3s,baz=341,slow=9.4,SNR=385						
ASAR				S	**S**	**16 59 20.9**	**-7.1**
	1.2nm,0.3s,baz=348,slow=25,SNR=8.8						
AS01	**Alice Springs**	**17.23**	**166**	*e*P	**P**	**16 56 16.9**	**+0.7**
AS01				*e*S	S	16 59 15.6	-13
STKA	**Stephens Creek**	**27.31**	**157**	P	**P**	**16 57 55.6**	**-0.3**
	3.5nm,0.5s,baz=335,slow=9.3,SNR=15						
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	**P**	**16 59 38.9**	**-1.0**
	2.2nm,0.8s,baz=136,slow=7.2,SNR=19						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**41.14**	**322**	P	**P**	**16 59 54.8**	**-0.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LZH	**Lanzhou**	**49.08**	**332**	⇓P	**P**	**17 01 00.1**	**+2.6**
LZH				pP	pP	17 01 37.9	+6.3
LZH				sP	sP	17 01 56.8	+8.5
LZH				PP	**PP**	**17 02 56.3**	**+3.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,46nm,5.4s						
HHC	**Hu-ho-hao-te**	**50.28**	**342**	*e*P	**P**	**17 01 08.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,7.4s						
GTA	**Gaotai**	**53.65**	**331**	P	P	17 01 37.4	+6.0
GTA				pP	pP	17 01 41.8	-24
GTA				sP	sP	17 01 44.4	-38
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**58.17**	**342**	P	**P**	**17 02 03.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=151,slow=14,SNR=3.6						
WMQ	**Urumqi**	**63.05**	**327**	P	**P**	**17 02 37.1**	**+0.6**
WMQ				pP	PcP	17 03 16.0	+3.1
WMQ				sP	sP	17 03 32.8	+4.4
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.3s						
WMQ				LR	LR		
	comp=N,41nm,23.1s						
WMQ				LR	LR		
	comp=E,75nm,23.1s						
WMQ				LR	LR		
	comp=Z,37nm,20.5s						
MK01	**Makanchi Array**	**67.86**	**327**	*e*P	**P**	**17 03 06.0**	**-1.3**
MK31	**Makanchi Array**	**67.88**	**327**	*e*P	**P**	**17 03 06.4**	**-1.0**
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**17 03 06.5**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=114,slow=8.8,SNR=56						
MKAR	**Makanchi Array**	**67.88**	**327**	*e*P	**P**	**17 03 06.2**	**-1.2**
	comp=Z,19nm,0.4s						
MAKZ	**Makanchi**	**68.06**	**327**	*e*P	**P**	**17 03 07.4**	**-1.1**
	comp=Z,2.2nm,0.5s						
ZAA0	**Zalesovo Array**	**71.27**	**334**	*e*P	**P**	**17 03 25.7**	**-2.3**
ZALV	**Zalesovo Beam**	**71.27**	**334**	P	**P**	**17 03 26.3**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=131,slow=4.5,SNR=7.2						
ABKAR	**Akbulak array**	**82.14**	**322**	*e*P	**P**	**17 04 27.6**	**-1.4**
	comp=Z,21nm,0.4s						
TXAR	**Lajitas Array**	**125.21**	**59**	PKP	**PKPdf**	**17 11 07.5**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.7,SNR=3.8						

*SJA **17** 16:54:32.7±0.5, 34°.76S×69°.90W, h5km±4km, ML3.8, MW3.6*
*GUC **17** 16:54:37.0±0.5, 34°.32S×70°.02W, h2km±3km, ML3.4*
*IDC **17** 16:54:37.8±1.2, 34°.26S×69°.74W, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.8/32, mbtmp3.8/8, ML3.8/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=34.4km s-min=16.3km az=102.0*

ISC 17 16:54:38.2±1.3, 34°.31S±0°.03×70°.24W±0°.04, h7km±9km, n37, σ1°76/49, mb3.9/4, MS4.2/5, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.51**	**317**	*e*P	**Pb**	**16 54 49.5**	**0.0**
CHCH				*i* S	**Sb**	**16 54 59.0**	**+1.9**
YECH	**El Yeso**	**0.66**	**11**	IAML		16 55 02.1	
	comp=N,6μm,0.5s						
ANTU	**Antumapu**	**0.81**	**336**	*e*P	**Pb**	**16 54 54.2**	**-0.4**
ANTU				*e*S	**Sn**	**16 55 07.2**	**-1.1**
ANTU				IAML		16 55 07.7	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**0.86**	**344**	*e*P	**Pb**	**16 54 54.8**	**-0.8**
FSR				*e*S	**Sn**	**16 55 08.6**	**-1.2**
TACH	**Talagante**	**0.88**	**318**	*e*P	**Pn**	**16 54 55.7**	**-1.2**
TACH				*e*S	**Sn**	**16 55 10.1**	**+0.1**
CLCH	**Cerro Calan**	**0.94**	**345**	*e*P	**Pb**	**16 54 56.1**	**-0.9**
CLCH				IAML		16 55 16.3	
	comp=E,3μm,0.5s						
FCH	**Farellones**	**0.98**	**357**	⇓*i*P	**Pg**	**16 54 56.5**	**-0.6**
FCH				*i* S	**Sb**	**16 55 11.1**	**+0.1**
FCH				IAML		16 55 14.7	
	comp=N,2μm,0.4s						
NICH	**Los Niches**	**1.07**	**229**	*e*P	**Pg**	**16 54 58.2**	**-0.5**
NICH				*i* S	**Sn**	**16 55 15.0**	**+0.2**
PEL	**Peldehue**	**1.22**	**342**	⇑*i*P	**Pb**	**16 55 01.1**	**-0.5**
PEL				*e*S	**Sn**	**16 55 19.7**	**+1.2**
PEL				IAML		16 55 27.4	
	comp=N,920nm,0.6s						
ROCH	**El Roble**	**1.48**	**334**	*e*P	**Pb**	**16 55 05.5**	**-0.7**
ROCH				*i* S	**Sn**	**16 55 28.3**	**+3.1**
ROCH				IAML		16 55 34.1	
	comp=N,1μm,0.6s						
GO05	**HualaæØ**	**1.56**	**243**	*e*P	**Pn**	**16 55 04.8**	**-1.6**
AAGR	**Agrelo**	**1.69**	**44**	*e*P	**Pn**	**16 55 08.1**	**-0.2**
ARCO	**CERRO ARCO**	**1.83**	**37**	*e*P	**Pn**	**16 55 10.7**	**+0.6**
ARCO				*e*S	**Sg**	**16 55 38.7**	**+1.8**
ARCO				IAML		16 55 41.5	
	comp=Z,628nm,0.4s						
LNCH	**Linares**	**1.90**	**216**	*e*P	**Pb**	**16 55 13.4**	**+0.2**
LNCH				*i* S	**Sg**	**16 55 41.0**	**+1.7**
ASAL	**Salagasta**	**2.08**	**35**	*e*P	**Pn**	**16 55 14.5**	**+0.9**
ASAL				*e*S	**Sb**	**16 55 45.1**	**+2.8**
RTLS	**Leoncito**	**2.63**	**18**	*e*P	**Pb**	**16 55 24.4**	**-1.4**
RTLS				*e*S	**Sg**	**16 56 02.4**	**-0.3**
CCHI	**Chillan**	**2.74**	**213**	*e*P	**Pb**	**16 55 25.9**	**-1.5**
CCHI				*i* S	**Sb**	**16 56 04.0**	**+2.8**
RTCV	**Cerro Valdivia**	**2.83**	**31**	*e*P	**Pn**	**16 55 25.3**	**+1.4**
RTCV				*e*S	**Sb**	**16 56 04.0**	**+0.2**
ACAN	**Cantantal**	**3.26**	**52**	*e*P	**Pn**	**16 55 28.7**	**-1.1**
ACAN				*e*S	**Sn**	**16 56 10.9**	**+1.9**
AMOG	**MOGNA**	**3.67**	**24**	*e*P	**Pn**	**16 55 37.9**	**+2.4**
AMOG				*e*S	**Sb**	**16 56 26.0**	**-2.1**
ACDV	**Cuesta del Vie**	**4.23**	**13**	*e*P	**Pn**	**16 55 47.6**	**+4.3**
ACDV				*e*S	**Sb**	**16 56 42.7**	**-1.9**
AVFE	**Valle Fertil**	**4.33**	**34**	*e*P	**Pn**	**16 55 46.4**	**+1.8**
ACHE	**Chepes**	**4.35**	**45**	*e*P	**Pn**	**16 55 45.1**	**+0.2**
ACHE				*e*S	**Sn**	**16 56 39.2**	**+3.2**
APLL	**PUNTA DE LOS L**	**5.01**	**40**	*e*P	**Pn**	**16 55 54.7**	**+0.8**
AGUA	**GUANDACOL**	**5.03**	**18**	*e*P	**Pn**	**16 55 57.5**	**+3.3**
PLCA	**Paso Flores**	**6.42**	**182**	Pn	**Pn**	**16 56 16.3**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=21,slow=14,SNR=7.8						
PLCA				Pg	Pb	16 56 36.5	+6.3
	comp=Z,0.4nm,0.3s,baz=27,slow=21,SNR=8.1						
PLCA				Lg	Lg	16 58 05.8	
	comp=Z,0.6nm,0.3s,baz=319,slow=20,SNR=2.3						
PLCA				LR	LR	16 58 50.5	
	comp=Z,232nm,21.6s,baz=14,slow=39						
LVC	**Limon Verde**	**11.71**	**6**	Lg	Lg	17 00 47.3	
	comp=Z,8.3nm,0.3s,baz=352,slow=18,SNR=3.3						
CPUP	**Villa Florida**	**13.69**	**58**	Pn	Pn	16 57 48.2	-4.5
	comp=Z,0.3nm,0.3s,baz=234,slow=17,SNR=2.6						
CPUP				Lg	Lg	17 01 39.6	
	comp=Z,0.2nm,0.3s,baz=84,slow=3.6,SNR=3.2						
CPUP				LR	LR	17 03 14.3	
	comp=Z,66nm,20.4s,baz=232,slow=39						
LPAZ	**La Paz**	**18.05**	**7**	P	**P**	**16 58 51.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=200,slow=7.9,SNR=11						
LPAZ				LR	LR	17 07 16.1	
	comp=Z,122nm,19.7s,baz=114,slow=42						
SIV	**San Ignacio**	**20.02**	**27**	P	**P**	**16 59 11.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=224,slow=13,SNR=14						
SIV				LR	LR	17 08 34.4	
	comp=Z,171nm,19.3s,baz=178,slow=42						
USHA	**Ushuaia**	**20.56**	**177**	LR	LR	17 08 31.0	
	comp=Z,1μm,18.1s,baz=36,slow=40						
BDFB	**Brasilia**	**27.30**	**53**	P	**P**	**17 00 20.8**	**-3.0**
	comp=Z,1.0nm,0.4s,baz=199,slow=18,SNR=4.0						
BDFB				LR	LR	17 10 44.3	
	comp=Z,42nm,21.6s,baz=276,slow=36						
SDV	**Santo Domingo**	**42.96**	**359**	LR	LR	17 20 04.6	
	comp=Z,1μm,21.6s,baz=144,slow=36						
SNAA	**Sanae**	**50.74**	**158**	P	**P**	**17 03 37.4**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=292,slow=7.9,SNR=7.4						
TXAR	**Lajitas Array**	**70.75**	**329**	P	**P**	**17 05 56.3**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=154,slow=9.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**82.92**	**69**	P	**P**	**17 07 03.0**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=225,slow=5.1,SNR=5.2						
URZ	**Urewera**	**84.55**	**227**	LR	LR	17 38 45.2	
	comp=Z,85nm,18.2s,baz=180,slow=31						

*ISCJB **17** 17:02:53.6±0.9, 42°.33N±0°.03×19°.95E±0°.06, h19km±10km, Error ellipse: s-maj=7.1km s-min=4.6km az=12.5*
*TIR **17** 17:02:54.3, 42°.35N×19°.86E, h7km, ML2.5*
*PDG **17** 17:02:54.5±0.1, 42°.36N×19°.84E, h9km±1km, ML1.6/12, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*CSEM **17** 17:02:54.0±0.2, 42°.36N×19°.87E, h10km, ML1.6, Error ellipse: s-maj=3.6km s-min=3.3km az=154.0*

ISC 17 17:02:54.3±0.9, 42°.36N±0°.02×19°.86E±0°.03, h11km±9km, n31, σ0°71/61, 11C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.15**	**85**	*i* PG	**Pg**	**17 02 57.5**	**-0.3**
BCI				*i* SG	**Sg**	**17 03 00.5**	**+0.2**
BCI	**Bajram Curri**	**0.15**	**85**	*i* Pg	**Pg**	**17 02 57.5**	**-0.3**
BCI				*i* Sg	**Sg**	**17 03 00.4**	**+0.1**
PVY	**Plav**	**0.25**	**17**	⇓*i*Pg	**Pg**	**17 02 59.3**	**-0.2**
PVY				*e*Sg	**Sg**	**17 03 03.5**	**+0.4**
PVY	**Plav**	**0.25**	**17**	⇓*i*Pg	**Pg**	**17 02 59.3**	**-0.2**
PVY				*e*Sg	**Sg**	**17 03 03.5**	**+0.4**
PUK	**Puka**	**0.31**	**176**	*i* PG	**Pg**	**17 03 00.4**	**-0.2**
PUK				*i* SG	**Sg**	**17 03 05.6**	**+0.8**
PUK	**Puka**	**0.31**	**176**	*i* Pg	**Pg**	**17 03 00.4**	**-0.2**
PUK				*i* Sg	**Sg**	**17 03 05.6**	**+0.8**
PDG	**Podgorica**	**0.46**	**280**	⇓*i*Pg	**Pg**	**17 03 02.8**	**-0.4**
PDG				*e*Sg	**Sg**	**17 03 09.6**	**+0.3**
TTG	**Podgorica**	**0.46**	**280**	⇓*i*Pg	**Pg**	**17 03 02.8**	**-0.4**
TTG				*e*Sg	**Sg**	**17 03 09.6**	**+0.3**
BEY	**Berane**	**0.52**	**3**	⇓*i*Pg	**Pg**	**17 03 04.0**	**-0.4**
BEY				*e*Sg	**Sg**	**17 03 11.9**	**+0.6**
IVA	**Berane**	**0.52**	**3**	⇓*i*Pg	**Pg**	**17 03 04.0**	**-0.4**
IVA				*e*Sg	**Sg**	**17 03 11.9**	**+0.6**
DRME	**Dracevica, Mon**	**0.53**	**252**	⇑*i*Pg	**Pg**	**17 03 03.9**	**-0.7**
DRME				*e*Sg	**Sg**	**17 03 12.3**	**+0.7**
DRME	**Dracevica, Mon**	**0.53**	**252**	⇑*i*Pg	**Pg**	**17 03 03.9**	**-0.7**
DRME				*e*Sg	**Sg**	**17 03 12.3**	**+0.7**
KOME	**Kolasin**	**0.56**	**333**	⇑*i*Pg	**Pg**	**17 03 04.9**	**-0.3**
KOME				*e*Sg	**Sg**	**17 03 13.4**	**+0.8**
ULC	**Ulcinj**	**0.60**	**230**	⇑*i*Pg	**Pg**	**17 03 05.6**	**-0.4**
ULC				*e*Sg	**Sb**	**17 03 14.9**	**-0.5**
ULC	**Ulcinj**	**0.60**	**230**	⇑*i*Pg	**Pg**	**17 03 05.6**	**-0.4**
ULC				*e*Sg	**Sb**	**17 03 14.9**	**-0.5**
BUM	**Brajici-Budva**	**0.72**	**266**	⇓*i*Pg	**Pg**	**17 03 07.7**	**-0.5**
BUM				*e*Sg	**Sb**	**17 03 18.6**	**-0.2**
BUM	**Brajici-Budva**	**0.72**	**266**	⇓*i*Pg	**Pg**	**17 03 07.7**	**-0.5**
BUM				*e*Sg	**Sb**	**17 03 18.6**	**-0.2**
CEME	**Cevo**	**0.72**	**286**	⇓*i*Pg	**Pg**	**17 03 07.4**	**-0.9**
CEME				*e*Sg	**Sb**	**17 03 18.8**	**-0.2**
CEME	**Cevo**	**0.72**	**286**	⇓*i*Pg	**Pg**	**17 03 07.4**	**-0.9**
CEME				*e*Sg	**Sb**	**17 03 18.8**	**-0.2**
NKME	**Niksic**	**0.79**	**302**	⇓*i*Pg	**Pg**	**17 03 08.8**	**-0.7**
NKME				*e*Sg	**Sb**	**17 03 20.9**	**+0.1**
NKME	**Niksic**	**0.79**	**302**	⇓*i*Pg	**Pg**	**17 03 08.8**	**-0.7**
NKME				*e*Sg	**Sb**	**17 03 20.9**	**+0.1**
NKY	**Niksic**	**0.79**	**306**	⇓*i*Pg	**Pg**	**17 03 08.8**	**-0.7**
NKY				*e*Sg	**Sb**	**17 03 20.8**	**-0.1**
NKY	**Niksic**	**0.79**	**306**	⇓*i*Pg	**Pg**	**17 03 08.8**	**-0.7**
NKY				*e*Sg	**Sb**	**17 03 20.8**	**-0.1**
HCY	**Herceg Novi**	**1.02**	**276**

VAY			S	Sg	17 15 41.0	+0.9
VAY			eLg	Lg	17 15 44.1	
	comp=E,941nm,0.4s					
KNT	**Kendrikon**	**0.82 198**	ePG	**Pg**	**17 15 30.2**	**0.0**
KNT			eSG	**Sg**	**17 15 40.1**	**-0.7**
KNT	**Kendrikon**	**0.82 198**	P	**Pg**	**17 15 30.0**	**-0.2**
KNT			S	**Sg**	**17 15 40.6**	**-0.3**
KNT	**Kendrikon**	**0.82 198**	P	**Pg**	**17 15 29.9**	**-0.2**
KNT			S	**Sg**	**17 15 39.9**	**-1.0**
KNT			AML	AML	17 15 41.1	
	comp=E,841μm,0.2s					
KNT			AML	AML	17 15 41.3	
	comp=N,767μm,0.2s					
KNT	**Kendrikon**	**0.82 198**	P	**Pg**	**17 15 30.0**	**-0.2**
KNT			eSg	**Sg**	**17 15 40.1**	**-0.7**
SRS	**Serrai**	**0.87 162**	P	**Pg**	**17 15 31.0**	**-0.1**
SRS			S	**Sg**	**17 15 42.5**	**+0.2**
SRS	**Serrai**	**0.87 162**	P	**Pg**	**17 15 30.9**	**-0.2**
SRS			S	**Sb**	**17 15 43.6**	**0.0**
SRS	**Serrai**	**0.87 162**	P	**Pg**	**17 15 31.0**	**-0.1**
SRS			S	**Sg**	**17 15 42.5**	**+0.2**
PLD	**Plovdiv**	**1.10 81**	ePg	**Pb**	**17 15 35.2**	**-0.6**
PLD			eSg	**Sg**	**17 15 50.6**	**+0.7**
PLD	**Plovdiv**	**1.10 81**	ePg	**Pb**	**17 15 35.2**	**-0.6**
PLD			eSg	**Sg**	**17 15 50.6**	**+0.7**
SOH	**Sokhos**	**1.13 176**	P	**Pb**	**17 15 35.9**	**-0.3**
SOH			S	**Sb**	**17 15 50.8**	**-0.3**
SOH	**Sokhos**	**1.13 176**	P	**Pb**	**17 15 36.1**	**-0.1**
SOH			S	**Sg**	**17 15 51.5**	**+1.0**
SOH			AML	AML	17 15 51.6	
	comp=N,768μm,0.4s					
SOH			AML	AML	17 15 52.0	
	comp=E,394μm,0.5s					
SOH	**Sokhos**	**1.13 176**	P	**Pb**	**17 15 36.1**	**-0.1**
SOH			S	**Sb**	**17 15 50.8**	**-0.3**
GRG	**Griva**	**1.17 213**	ePG	**Pg**	**17 15 37.5**	**+0.7**
GRG	**Griva**	**1.17 213**	P	**Pb**	**17 15 36.5**	**-0.5**
GRG			S	**Sb**	**17 15 52.1**	**-0.2**
GRG	**Griva**	**1.17 213**	P	**Pb**	**17 15 36.3**	**-0.7**
GRG			S	**Sb**	**17 15 51.5**	**-0.8**
GRG			AML	AML	17 15 52.4	
	comp=N,792μm,0.3s					
GRG			AML	AML	17 15 53.9	
	comp=E,705μm,0.3s					
GRG	**Griva**	**1.17 213**	P	**Pb**	**17 15 36.5**	**-0.5**
GRG			S	**Sb**	**17 15 52.1**	**-0.2**
THE	**Thessaloniki**	**1.33 189**	P	**Pb**	**17 15 39.5**	**-0.1**
THE			S	**Sb**	**17 15 56.7**	**-0.1**
THE	**Thessaloniki**	**1.33 189**	P	**Pb**	**17 15 39.7**	**+0.1**
THE			S	**Sb**	**17 15 56.6**	**-0.2**
THE	**Thessaloniki**	**1.33 189**	P	**Pb**	**17 15 39.5**	**-0.1**
THE			S	**Sb**	**17 15 56.7**	**-0.1**
KAVA	**Kavala**	**1.35 134**	P	**Pb**	**17 15 39.9**	**0.0**
KAVA			S	**Sg**	**17 15 58.5**	**+0.8**
KAVA	**Kavala**	**1.35 134**	P	**Pn**	**17 15 39.5**	**-0.1**
KAVA	**Kavala**	**1.35 134**	P	**Pn**	**17 15 39.5**	**-0.1**
HORT	**Hortiatis**	**1.35 184**	ePN	**Pg**	**17 15 40.6**	**+0.4**
HORT	**Hortiatis**	**1.35 184**	P	**Pb**	**17 15 40.0**	**0.0**
HORT			S	**Sn**	**17 15 58.0**	**+0.1**
HORT	**Hortiatis**	**1.35 184**	P	**Pb**	**17 15 40.3**	**+0.3**
HORT			S	**Sg**	**17 15 58.2**	**+0.4**
HORT			AML	AML	17 16 00.2	
	comp=E,362μm,0.3s					
HORT			AML	AML	17 16 00.5	
	comp=N,220μm,0.3s					
HORT	**Hortiatis**	**1.35 184**	P	**Pb**	**17 15 40.0**	**0.0**
HORT	**Hortiatis**	**1.35 184**	ePn	**Pg**	**17 15 40.6**	**+0.4**
HORT			S	**Sn**	**17 15 58.0**	**+0.1**
BARS	**Barje**	**1.37 310** ⇓	iPg	**Pb**	**17 15 40.1**	**-0.2**
BARS			eSg	**Sg**	**17 15 58.9**	**+0.6**
BARS	**Barje**	**1.37 310** ⇓	iPg	**Pb**	**17 15 40.1**	**-0.2**
BARS			eSg	**Sg**	**17 15 58.9**	**+0.6**
ZAPS	**Zavoj**	**1.40 342**	ePn	**Pg**	**17 15 41.7**	**+0.4**
ZAPS			eSn	**Sg**	**17 15 59.8**	**+0.4**
PLG	**Polygyros**	**1.58 174**	P	**Pb**	**17 15 44.0**	**+0.1**
PLG	**Polygyros**	**1.58 174**	P	**Pb**	**17 15 44.0**	**+0.1**
OUR	**Ouranopolis**	**1.70 161**	ePN	**Pb**	**17 15 46.7**	**+0.7**
OUR			eSN	**Sg**	**17 16 09.2**	**0.0**
OUR	**Ouranopolis**	**1.70 161**	P	**Pn**	**17 15 45.1**	**+0.6**
OUR			S	**Sb**	**17 16 07.6**	**0.0**
OUR	**Ouranopolis**	**1.70 161**	P	**Pn**	**17 15 43.2**	**-1.3**
OUR	**Ouranopolis**	**1.70 161**	P	**Pn**	**17 15 45.1**	**+0.6**
OUR	**Ouranopolis**	**1.70 161**	ePn	**Pb**	**17 15 46.7**	**+0.7**
FNA	**Florina**	**1.82 231**	ePN	**Pb**	**17 15 46.8**	**+0.7**
FNA	**Florina**	**1.82 231**	P	**Pn**	**17 15 46.6**	**+0.5**
RDO	**Rodhopi**	**1.90 114**	P	**Pb**	**17 15 49.2**	**-0.2**
RDO			S	**Sb**	**17 16 13.2**	**-0.1**
RDO	**Rodhopi**	**1.90 114**	P	**Pb**	**17 15 50.2**	**+0.9**
RDO	**Rodhopi**	**1.90 114**	P	**Pb**	**17 15 49.2**	**-0.2**
RDO			S	**Sb**	**17 16 13.2**	**-0.1**
LIT	**Litokhoron**	**1.93 197**	P	**Pb**	**17 15 49.0**	**-0.8**
LIT	**Litokhoron**	**1.93 197**	P	**Pb**	**17 15 49.0**	**-0.8**
ZAGS	**Zajecar**	**2.01 339**	ePn	**Pn**	**17 15 48.8**	**+0.1**
ZAGS			eSn	**Sb**	**17 16 15.7**	**-0.7**
SELS	**Selova**	**2.02 310** ⇑	iPn	**Pn**	**17 15 48.8**	**-0.1**
SELS			eSn	**Sb**	**17 16 16.2**	**-0.5**
BOVS	**Bovan**	**2.03 327**	ePn	**Pn**	**17 15 49.3**	**+0.3**
BOVS			eSn	**Sb**	**17 16 17.6**	**+0.5**
PAIG	**Paliouri**	**2.04 170**	P	**Pn**	**17 15 49.4**	**+0.2**
PAIG	**Paliouri**	**2.04 170**	P	**Pn**	**17 15 49.3**	**+0.1**
PAIG	**Paliouri**	**2.04 170**	P	**Pn**	**17 15 49.4**	**+0.2**
BOLS	**Boljevac**	**2.11 334**	ePn	**Pn**	**17 15 49.8**	**-0.3**
BOLS			eSn	**Sb**	**17 16 19.3**	**0.0**
BOLS	**Boljevac**	**2.11 334**	ePn	**Pn**	**17 15 49.8**	**-0.3**
BOLS			eSn	**Sb**	**17 16 19.3**	**0.0**
ALN	**Alexandroupoli**	**2.36 115**	ePN	**Pb**	**17 15 57.8**	**+0.6**
ALN	**Alexandroupoli**	**2.36 115**	P	**Pn**	**17 15 52.9**	**-0.6**
ALN	**Alexandroupoli**	**2.36 115**	P	**Pn**	**17 15 52.9**	**-0.6**
ALN	**Alexandroupoli**	**2.36 115**	ePn	**Pb**	**17 15 57.8**	**+0.6**
ENEZ	**Enez**	**2.50 118**	ePN	**Pb**	**17 15 59.8**	**+0.1**
ENEZ	**Enez**	**2.50 118**	ePn	**Pb**	**17 15 59.8**	**+0.1**
XOR	**Xorichti**	**2.58 181**	P	**Pn**	**17 15 55.2**	**-1.3**
XOR	**Xorichti**	**2.58 181**	P	**Pn**	**17 15 55.2**	**-1.3**
GRUS	**Gruza**	**2.69 317**	ePn	**Pn**	**17 15 58.6**	**+0.6**
GRUS			eSn	**Sn**	**17 16 32.2**	**+1.4**
GRUS	**Gruza**	**2.69 317**	ePn	**Pn**	**17 15 58.6**	**+0.6**
GRUS			eSn	**Sn**	**17 16 32.2**	**+1.4**
KUBS	**Kucevo**	**2.72 336**	i Pn	**Pn**	**17 15 57.4**	**-1.1**
KUBS			eSn	**Sn**	**17 16 30.7**	**-0.9**
KUBS	**Kucevo**	**2.72 336**	i Pn	**Pn**	**17 15 57.4**	**-1.1**
KUBS			eSn	**Sn**	**17 16 30.7**	**-0.9**
ERIK	**Erikli-Kesan**	**2.78 116**	ePN	**Pb**	**17 16 03.6**	**-0.7**
ERIK	**Erikli-Kesan**	**2.78 116**	ePn	**Pb**	**17 16 03.6**	**-0.7**
IVAS	**Ivanjica**	**2.80 307**	ePn	**Pn**	**17 16 01.7**	**+2.1**
IVAS			eSn	**Sb**	**17 16 35.8**	**-3.4**
IVAS	**Ivanjica**	**2.80 307**	ePn	**Pn**	**17 16 01.7**	**+2.1**
IVAS			eSn	**Sb**	**17 16 35.8**	**-3.4**
MDVR	**Moldovita**	**3.05 339** ⇓	iP	**Pn**	**17 16 03.3**	**+0.3**
DIVS	**Divibare**	**3.21 313**	ePn	**Pn**	**17 16 05.9**	**+0.6**
DIVS			eSn	**Sn**	**17 16 43.6**	**-0.2**
DIVS	**Divibare**	**3.21 313**	ePn	**Pn**	**17 16 05.9**	**+0.6**
DIVS			eSn	**Sn**	**17 16 43.6**	**-0.2**
GZR	**Gura Zlata**	**3.46 355** ⇑	iP	**Pg**	**17 16 19.5**	**-1.2**
LOT	**Lotru**	**3.52 6** ⇓	iP	**Pn**	**17 16 09.9**	**+0.3**
LOT	**Lotru**	**3.52 6** ⇓	iP	**Pn**	**17 16 09.9**	**+0.3**
BZS	**Buzias**	**3.85 343**	S	**Sn**	**17 17 03.4**	**+3.8**

PGC 17 17:17:25.3±0.0, 60°.05N×139°.51W, h12km, ML2.0/9, 85km northeast of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.39**	**172**	P	Pg	17 17 33.0	-0.1
PNL				S	Sg	17 17 37.8	-0.5
YUK7	**Dusty Glacier**	**0.83**	**54**	P	Pg	17 17 40.4	-1.1
YUK7				S	Sg	17 17 50.5	-1.9
YUK6	**Outpost Mounta**	**1.06**	**32**	P	Pb	17 17 44.9	-0.8
YUK6				S	Sg	17 17 58.3	-1.2
HYT	**Haines Junctio**	**1.26**	**51**	P	Pn	17 17 47.8	-1.0
HYT				S	Sb	17 18 04.1	-1.2
CTGM	**Chitina Glacie**	**1.28**	**316**	P	Pn	17 17 48.5	-0.8
CTGM				S	Sb	17 18 05.4	-0.6
YUK5	**Granite Creek**	**1.35**	**36**	Pn	Pn	17 17 50.1	0.0
YUK5				S	Sb	17 18 07.7	-0.3
PLBC	**Pleasant Camp**	**1.70**	**109**	Pn	Pn	17 17 55.1	+0.4
PLBC				Sn	Sn	17 18 16.5	+0.1
BALM	**Baldy**	**1.71**	**306**	Pn	Pn	17 17 54.7	-0.4
BALM				Sn	Sn	17 18 17.1	+0.2
YUK3	**Moose Creek**	**1.79**	**345**	Pn	Pn	17 17 55.8	-0.4
YUK3				Sn	Sn	17 18 18.5	-0.4
YUK2	**White River**	**1.86**	**340**	Pn	Pn	17 17 57.0	-0.1
YUK2				Sn	Sn	17 18 20.5	0.0
YUK1	**Sand Pete Hill**	**2.17**	**347**	Pn	Pn	17 18 01.1	-0.1
WHY	**Whitehorse**	**2.38**	**73**	Pn	Pn	17 18 03.7	-0.5
WHY				Sn	Sn	17 18 32.7	-0.6
DAWY	**Dawson**	**4.03**	**1**	Pn	Pn	17 18 26.8	0.0

*ISCJB **17** 17:19:57.0±0.4, 18°.47S±0°.09×177°.81W±0°.08, h550km, mb4.1/17, Error ellipse: s-maj=12.9km s-min=8.3km az=143.6*
*IDC **17** 17:19:58.3±1.5, 18°.47S×177°.74W, h556km±17km, mb3.6/17, mb1 3.7/19, mb1mx3.5/39, mbtmp4.5/19, Error ellipse: s-maj=15.0km s-min=11.8km az=136.0*
ISC 17 17:19:57.7±0.5, 18°.5S±0°.1×177°.77W±0°.09, h550km, n29, σ1§01/33, mb3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.32**	**53**	P	**P**	**17 21 49.8**	**+0.9**
	6.4nm,0.3s,baz=189,slow=2.5,SNR=8.3						
AFI				S	**S**	**17 23 18.7**	**-1.3**
	3.2nm,0.3s,baz=198,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**15.24**	**254**	P	**P**	**17 23 10.1**	**+0.3**
	0.8nm,0.3s,baz=90,slow=15,SNR=8.2						
URZ	**Urewera**	**20.22**	**192**	P	**P**	**17 23 54.9**	**-0.6**
	14nm,0.9s,baz=56,slow=20,SNR=4.7						
CTA	**Charters Tower**	**33.96**	**261**	P	**P**	**17 25 56.6**	**+0.6**
	13nm,0.6s,baz=82,slow=10,SNR=26						
PMG	**Port Moresby**	**35.15**	**280**	P	**P**	**17 26 07.1**	**+1.1**
	32nm,0.8s,baz=78,slow=6.7,SNR=9.1						
STKA	**Stephens Creek**	**38.90**	**242**	P	**P**	**17 26 37.4**	**+0.9**
	3.2nm,0.5s,baz=98,slow=10,SNR=11						
WRA	**Warramunga Arr**	**45.13**	**260**	P	**P**	**17 27 25.3**	**-0.4**
	5.9nm,0.4s,baz=97,slow=7.1,SNR=101						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**17 27 26.6**	**+0.2**
	12nm,0.6s,baz=89,slow=9.0,SNR=226						
ASAR				ScP	**ScP**	**17 31 55.3**	**+0.1**
	0.8nm,0.8s,baz=93,slow=4.6,SNR=4.1						
ASAR				S	**S**	**17 33 23.6**	**-3.2**
	2.1nm,0.7s,baz=90,slow=16,SNR=19						
GUMO	**Guam**	**48.70**	**308**	P	**P**	**17 27 52.6**	**+0.1**
	27nm,0.7s,baz=140,slow=16,SNR=3.2						
FITZ	**Fitzroy Crossi**	**53.54**	**261**	P	**P**	**17 28 27.6**	**0.0**
	1.5nm,0.4s,baz=112,slow=5.8,SNR=15						
VNDA	**Vanda**	**59.94**	**185**	P	**P**	**17 29 11.3**	**+0.8**
	1.8nm,0.9s,baz=98,slow=3.2,SNR=3.7						
JHJ	**Hachijo jima 2**	**65.39**	**321**	P	**P**	**17 29 46.5**	**+0.2**
	76nm,0.8s,baz=72,slow=19,SNR=5.7						
MJAR	**Matsushiro Arr**	**68.72**	**323**	P	**P**	**17 30 06.3**	**-0.4**
	1.3nm,0.5s,baz=163,slow=5.5,SNR=6.3						
PETK	**Petropavlovsk-**	**74.37**	**345**	P	**P**	**17 30 39.4**	**+0.1**
	1.2nm,0.4s,baz=103,slow=6.2,SNR=4.8						
MAW	**Mawson**	**83.54**	**200**	P	**P**	**17 31 27.8**	**+0.1**
	1.6nm,0.5s,baz=167,slow=6.0,SNR=3.8						
SEY	**Seymchan**	**84.45**	**347**	P	**P**	**17 31 31.9**	**-0.3**
	1.2nm,0.7s,baz=192,slow=8.8,SNR=4.1						
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**17 31 40.8**	**+1.3**
	4.0nm,0.8s,baz=220,slow=6.1,SNR=25						
ILAR	**Eielson Array**	**86.29**	**13**	P	**P**	**17 31 39.9**	**-1.1**
	0.5nm,0.4s,baz=215,slow=5.1,SNR=16						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**17 31 47.1**	**+0.4**
	1.8nm,1.0s,baz=189,slow=2.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**89.64**	**289**	P	**P**	**17 31 58.7**	**+1.0**
	0.5nm,0.9s,baz=196,slow=1.5,SNR=5.9						
SNAA	**Sanae**	**90.03**	**178**	P	**P**	**17 31 57.5**	**-1.1**
VNA3	**Neumayer Olymp**	**90.14**	**176**	P	**P**	**17 31 58.9**	**-0.1**
VNA2	**Neumayer--Watz**	**90.59**	**177**	P	**P**	**17 32 01.2**	**+0.1**
	baz=198,slow=3.8						
VNA1	**Neumayer--Stat**	**90.82**	**177**	P	**P**	**17 32 02.4**	**+0.4**
MKAR	**Makanchi Array**	**109.96**	**314**	PKiKP	**PKiKP**	**17 37 25.4**	**-1.3**
	0.2nm,0.3s,baz=113,slow=1.5,SNR=3.1						
ARCES	**ARCESS Array B**	**126.97**	**350**	PKP	**PKPdf**	**17 37 57.5**	**-1.2**
	4.8nm,1.0s,baz=13,slow=2.6,SNR=7.7						
BRTR	**Keskin Array B**	**145.61**	**315**	PKPbc	**PKPdf**	**17 38 34.8**	**+0.9**
	0.5nm,0.7s,baz=115,slow=2.8,SNR=2.7						
GERES	**GERESS Array B**	**148.30**	**346**	PKPbc	**PKPbc**	**17 38 41.9**	**-0.3**
	1.0nm,0.6s,baz=40,slow=2.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**174.69**	**174**	PKP	**PKPdf**	**17 39 03.3**	**-2.0**
	0.6nm,0.7s,baz=95,slow=1.4,SNR=3.8						
TORD				PKPab	**PKPab**	**17 40 42.6**	**-0.3**
	0.5nm,0.6s,baz=182,slow=4.1,SNR=4.1						

IDC 17 17:21:19.0±3.3, 21°.23S×179°.15W, h587km±34km, mb3.0/6, mb1 3.3/7, mb1mx3.0/35, mbtmp4.1/7, Error ellipse: s-maj=33.4km s-min=20.8km az=33.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.28**	**190**	P	P	17 24 46.7	-1.7
	0.6nm,0.3s,baz=326,slow=3.6,SNR=2.3						
URZ				S	S	17 27 31.0	-7.8
	0.4nm,0.3s,baz=240,slow=20,SNR=3.0						
CTA	**Charters Tower**	**32.36**	**266**	P	P	17 27 02.2	+0.5
	2.1nm,0.3s,baz=87,slow=14,SNR=6.5						
ASAR	**Alice Springs**	**43.31**	**258**	P	P	17 28 29.9	-0.6
	1.1nm,0.5s,baz=90,slow=7.7,SNR=2.4						
ASAR				ScP	ScP	17 33 01.1	-0.8
	0.5nm,0.7s,baz=105,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**43.44**	**263**	P	P	17 28 30.8	-0.7
	1.9nm,0.7s,baz=96,slow=8.0,SNR=6.7						
FITZ	**Fitzroy Crossi**	**51.87**	**263**	P	P	17 29 34.8	+0.5
	0.5nm,0.3s,baz=86,slow=7.0,SNR=3.2						
VNDA	**Vanda**	**57.10**	**185**	P	P	17 30 11.2	+1.4
	0.6nm,0.5s,baz=33,slow=9.1,SNR=3.7						
TXAR	**Lajitas Array**	**88.35**	**58**	P	P	17 33 09.6	+0.1
	0.7nm,0.8s,baz=211,slow=6.8,SNR=4.0						
ARCES	**ARCESS Array B**	**129.43**	**349**	PKP	PKPdf	17 39 19.5	-1.4
	2.6nm,0.9s,baz=27,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**143.11**	**330**	PKhKP	PKPpre	17 39 42.7	
	0.2nm,0.4s,baz=48,slow=4.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**171.93**	**186**	PKPab	PKPab	17 41 47.0	-1.5
	0.2nm,0.5s,baz=198,slow=3.8,SNR=2.9						

*MOS **17** 17:23:51.5±1.1, 48°.21N×155°.35E, h20km, mb4.2/3, Error ellipse: s-maj=30.3km s-min=6.1km az=73.3*
*ISCJB **17** 17:23:54.4±0.6, 48°.52N±0°.08×155°.0E±0°.2, h36km, mb3.6/9, Error ellipse: s-maj=19.4km s-min=5.2km az=32.2*
*KRSC **17** 17:23:57.5±2.2, 48°.61N×156°.38E, h18km±37km, ML4.4*
*IDC **17** 17:23:59.8±2.9, 48°.65N×154°.72E, h77km±26km, mb3.3/9, mb1 3.6/11, mb1mx3.4/40, mbtmp3.6/11, Error ellipse: s-maj=26.6km s-min=14.8km az=139.0*
ISC 17 17:23:55.1±0.8, 48°.5N±0°.1×155°.0E±0°.1, h36km, n45, σ2§15/45, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.33**	**18**	ePN	**Pn**	**17 24 31.1**	**+0.3**
SKR				pmax	pmax		
	comp=Z,147nm,1.0s						
SKR	**Severo-Kuril's**	**2.33**	**18**	eP	**Pn**	**17 24 31.3**	**+0.5**
SKR				eS	**Sn**	**17 24 56.8**	**-1.4**
ASAK	**Asacha**	**4.33**	**24**	PN	**Pn**	**17 25 00.9**	**+2.4**
ASAK	**Asacha**	**4.33**	**24**	eP	**Pn**	**17 25 00.9**	**+2.4**
MTVR	**Mutnovka**	**4.50**	**26**	S	**Sn**	**17 25 51.6**	**-0.4**
RUS	**Russkaya**	**4.56**	**28**	PN	**Pn**	**17 25 02.1**	**+0.7**
RUS	**Russkaya**	**4.56**	**28**	eP	**Pn**	**17 25 02.1**	**+0.7**
RUS				eS	**Sn**	**17 25 51.1**	**-2.0**
KRMR	**Karymshinskiy**	**4.80**	**23**	PN	**Pn**	**17 25 07.7**	**+3.0**
KRMR	**Karymshinskiy**	**4.80**	**23**	P	**Pn**	**17 25 07.7**	**+3.0**
PETK	**Petropavlovsk-**	**4.95**	**19**	P	**Pn**	**17 25 09.6**	**+2.8**
	comp=Z,1.2nm,0.3s,baz=170,slow=12,SNR=34						
PETK				S	**Sn**	**17 26 04.3**	**+1.6**
	baz=181,slow=14,SNR=2.3						
PET	**Petropavlovsk**	**5.12**	**26**	ePN	**Pn**	**17 25 12.4**	**+3.3**
PET				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PET	**Petropavlovsk**	**5.12**	**26**	eP	**Pn**	**17 25 10.8**	**+1.7**
PET				eS	**Sn**	**17 26 06.8**	**0.0**
DALK	**Dalny**	**5.15**	**26**	PN	**Pn**	**17 25 11.3**	**+1.7**
DALK	**Dalny**	**5.15**	**26**	eP	**Pn**	**17 25 11.3**	**+1.7**
DALK				eS	**Sn**	**17 26 07.4**	**-0.3**
UGLR	**Uglovaya**	**5.33**	**26**	PN	**Pn**	**17 25 14.2**	**+2.1**
UGLR	**Uglovaya**	**5.33**	**26**	eP	**Pn**	**17 25 14.2**	**+2.1**
KOK	**Koryaka**	**5.35**	**24**	PN	**Pn**	**17 25 16.1**	**+3.7**
KOK	**Koryaka**	**5.35**	**24**	eP	**Pn**	**17 25 16.1**	**+3.7**
AVH	**Avacha**	**5.35**	**25**	PN	**Pn**	**17 25 16.0**	**+3.6**
AVH	**Avacha**	**5.35**	**25**	eP	**Pn**	**17 25 16.0**	**+3.6**
SDLR	**Sedlovina**	**5.41**	**26**	PN	**Pn**	**17 25 14.9**	**+1.7**
SDLR	**Sedlovina**	**5.41**	**26**	eP	**Pn**	**17 25 14.9**	**+1.7**
NLC	**Nalytchevo**	**5.45**	**29**	eS	**Sn**	**17 26 10.7**	**-4.4**
GNL	**Ganaly**	**5.55**	**18**	PN	**Pn**	**17 25 18.5**	**+3.3**
GNL	**Ganaly**	**5.55**	**18**	eP	**Pn**	**17 25 18.5**	**+3.3**
SPN	**Mys Shipunski**	**5.62**	**33**	PN	**Pn**	**17 25 16.4**	**+0.3**
SPN	**Mys Shipunski**	**5.62**	**33**	eP	**Pn**	**17 25 16.4**	**+0.3**
SPN				eS	**Sn**	**17 26 16.8**	**-2.5**
KBTR	**Krutoberegovo**	**9.10**	**29**	PN	**Pn**	**17 26 04.7**	**+0.9**
KBTR	**Krutoberegovo**	**9.10**	**29**	eP	**Pn**	**17 26 04.7**	**+0.9**
ASAJ	**Asahikawa**	**9.62**	**248**	P	Pn	17 26 15.7	+4.8
	comp=Z,1.5nm,0.3s,baz=43,slow=17,SNR=7.2						
KSRS	**Korea Array**	**22.55**	**251**	P	**P**	**17 28 51.8**	**0.0**
	comp=Z,1.4nm,0.8s,baz=51,slow=11,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**30.24**	**157**	T	T	18 01 55.5	
	baz=345,slow=76,SNR=67						
H11N1	**WAKE ISLAND Hy**	**30.26**	**157**	T	T	18 01 56.7	
	baz=345,slow=76,SNR=110						
H11N3	**WAKE ISLAND Hy**	**30.26**	**157**	T	T	18 01 55.3	
	baz=345,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**31.37**	**158**	T	T	18 03 15.9	
	baz=345,slow=76,SNR=447						
H11S3	**WAKE ISLAND Hy**	**31.38**	**158**	T	T	18 03 15.3	
	baz=345,slow=76,SNR=618						
H11S2	**WAKE ISLAND Hy**	**31.39**	**158**	T	T	18 03 15.9	
	baz=345,slow=76,SNR=317						
ILAR	**Eielson Array**	**34.41**	**40**	P	**P**	**17 30 38.4**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=264,slow=9.0,SNR=3.2						
MKAR	**Makanchi Array**	**47.29**	**297**	P	**P**	**17 32 22.8**	**-1.9**
	comp=Z,0.2nm,0.2s,baz=51,slow=7.6,SNR=3.5						
MKAR				PcP	**PcP**	**17 33 54.8**	**-0.5**
	comp=Z,0.2nm,0.2s,baz=48,slow=2.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**54.01**	**257**	P	**P**	**17 33 15.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=33,slow=7.1,SNR=11						
PDAR	**Pinedale Array**	**62.71**	**56**	P	**P**	**17 34 17.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=17,slow=6.2,SNR=3.5						
FINES	**FINESS Array B**	**63.02**	**335**	P	**P**	**17 34 16.1**	**-1.8**
	comp=Z,2.6nm,1.0s,baz=38,slow=7.0,SNR=2.8						
WRA	**Warramunga Arr**	**70.56**	**201**	P	**P**	**17 35 06.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=12,slow=6.5,SNR=3.5						
ASAR	**Alice Springs**	**74.25**	**200**	P	**P**	**17 35 29.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=13,slow=5.2,SNR=9.0						
TXAR	**Lajitas Array**	**75.55**	**62**	P	**P**	**17 35 37.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=297,slow=4.1,SNR=5.2						

*NEIC **17** 17:33:11.8±0.0, 33°.00N×116°.40W, h10km, ML3.1(PAS), After PAS.*
NEIC Felt [II] at La Mesa. Also felt at Alpine, Chula Vista, La Jolla, Lakeside, Pine Valley and San Diego.
*MEX **17** 17:33:14.0±0.6, 32°.89N×116°.35W, h38km±45km, MD3.7*
ISC 17 17:33:10.3±0.9, 32°.91N±0°.03×116°.40W±0°.02, h23km±6km, n38, σ1§57/53, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.02**	**230**	P	**Pb**	**17 33 14.7**	**+0.1**
	baz=11,SNR=1000						
MONP2				S	**Sb**	**17 33 16.7**	**-0.8**
	baz=11						
IKP	**In-Ko-Pah, Jac**	**0.36**	**136**	P	**Pn**	**17 33 19.8**	**-0.4**
	baz=325,SNR=260						
IKP				S	**Sn**	**17 33 25.4**	**-1.1**
	baz=325						
SWSC	**Sam W. Stewart**	**0.51**	**86**	P	**Pn**	**17 33 21.1**	**-1.0**
	baz=276,SNR=91						
SWSC				S	**Sb**	**17 33 27.8**	**+0.2**
	baz=276						
TJIG	**Tijuana**	**0.53**

YURE	YUREGIR	0.37	247	*e*PG	Pb	18 04 40.3	+0.2
YURE	YUREGIR	0.37	247	*e*Pg	Pb	18 04 40.3	+0.2
KOZT	Kozan	0.54	340	*e*PG	Pg	18 04 42.0	-0.4
KOZT	Kozan	0.54	340	*e*Pg	Pg	18 04 42.0	-0.4
TAHT	Tahtakopru-Hat	0.60	170	*e*PG	Pb	18 04 44.5	+0.5
TAHT				*e*SG	Sb	18 04 53.8	+1.5
TAHT	Tahtakopru-Hat	0.60	170	*e*Pg	Pb	18 04 44.5	+0.5
TAHT				*e*Sg	Sb	18 04 53.8	+1.5
ANDN	Andirin	0.65	20	*i* P	Pb	18 04 45.1	+0.3
ANDN				*i* S	Sb	18 04 53.8	+0.1
ANDN	Andirin	0.65	20	P	Pb	18 04 45.1	+0.3
ANDN				S	Sb	18 04 53.8	+0.1
AKO	Adana	0.69	315	*i* P	Pg	18 04 44.8	-0.4
AKO				*i* S	Sb	18 04 55.1	+0.1
HCB	Kahramanmara¯	0.77	61	*i* P	Pn	18 04 47.7	-0.4
HCB				*i* S	Sb	18 04 57.6	+0.4
KUZU	Kuzuini	0.84	103	*i* P	Pb	18 04 48.8	+0.8
KUZU				*i* S	Sb	18 04 59.8	+0.7
KUZU	Kuzuini	0.84	103	P	Pb	18 04 48.8	+0.8
KUZU				S	Sb	18 04 59.8	+0.7
KMRS	Kahramanmaras	0.85	51	*e*PG	Pg	18 04 47.7	-0.6
KMRS	Kahramanmaras	0.85	51	*e*Pg	Pg	18 04 47.7	-0.6
YAYL	Yayladag	0.94	178	*i* S	Pg	18 04 48.0	-1.9
YAYL				*i* S	Sg	18 05 01.4	-0.8
YAYL	Yayladag	0.94	178	S	Sg	18 05 01.4	-0.8
GAZ	Gaziantep	0.94	77	*e*PG	Pg	18 04 49.6	-0.3
GAZ	Gaziantep	0.94	77	*e*Pg	Pg	18 04 49.6	-0.3
GZT	Gaziantep	1.26	72	*i* P	Pb	18 04 55.3	+0.1
SARI	SarD1z-Kayseri	1.46	11	*e*PN	Pn	18 04 58.2	+0.5

*ISCJB **17** 18:12:33.8±0.5, 0°.00N±0°.07×122°.19E±0°.04, h251^{km}±4^{km}, mb3.4/7, Error ellipse: s-maj=11.0km s-min=7.1km az=9.5*
*DJA **17** 18:12:35.3±0.5, 0°.N±5°×12°.2E±°, h234^{km}±5^{km}, M3.7/10, mb3.9/2, MLv3.7/10*
*IDC **17** 18:12:36.9±4.7, 0°.12S×122°.14E, h266^{km}±49^{km}, mb3.1/7, mb1 3.2/8, mb1mx3.0/38, mbtmp3.7/8, Error ellipse: s-maj=58.7km s-min=12.2km az=63.0*
ISC 17 18:12:35.0±0.7, **0°.02S**±0°.07×**122°.19E**±0°.05, **h249**^{km}±6^{km}, **n19**, σ**1º45/27**, **mb3.3/7, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.56	334	P	Pn	18 13 08.1	+0.2
MRSI				S	S	18 13 32.9	-0.9
APSI	Ampana	1.03	211	P	Pn	18 13 11.3	+1.2
APSI				S	S	18 13 37.4	-0.3
KMSI	Cibinong	1.89	72	P	Pn	18 13 15.1	-1.3
KMSI				S	S	18 13 53.1	+4.2
MPSI	Mapaga	2.32	279	P	Pn	18 13 19.8	-0.5
MPSI				S	S	18 13 53.2	-2.9
PCI	Palu	2.51	250	P	Pn	18 13 21.9	-0.3
PCI				S	S	18 13 58.3	-1.2
TTSI	Tana Toraja	3.82	218	P	Pn	18 13 36.9	+0.2
KDI	Kendari	3.93	174	P	Pn	18 13 38.2	+0.2
SANI	Sanana	4.30	118	P	Pn	18 13 42.8	+0.5
SANI				S	S	18 14 32.9	-2.9
SPSI	Sidrap Palu	4.60	212	P	Pn	18 13 45.6	-0.3
BNSI	Bone	4.82	206	P	Pn	18 13 50.0	+1.4
LBMI	Labuha	5.35	97	P	Pn	18 13 53.2	-1.9
LBMI				S	S	18 14 58.6	-0.3
FITZ	Fitzroy Crossi	18.28	169	P	P	18 16 30.8	0.0
	0.1nm,0.3s,baz=14,slow=10,SNR=5.3						
WRA	Warramunga Arr	23.10	150	P	P	18 17 18.9	-0.3
	2.6nm,0.4s,baz=326,slow=11,SNR=21						
ASAR	Alice Springs	26.11	155	P	P	18 17 46.5	0.0
	1.2nm,0.5s,baz=335,slow=9.3,SNR=31						
ASAR				PcP	PcP	18 21 06.5	-0.6
	0.3nm,0.3s,baz=344,slow=2.1,SNR=8.4						
CMAR	Chiang Mai Arr	29.31	310	P	P	18 18 15.6	+0.7
	0.3nm,0.7s,baz=134,slow=8.2,SNR=4.5						
STKA	Stephens Creek	36.62	152	P	P	18 19 17.7	-0.1
	2.0nm,0.6s,baz=328,slow=11,SNR=6.7						
SONM	Songino Array	49.61	346	P	P	18 21 02.4	+1.0
	0.5nm,0.7s,baz=148,slow=6.8,SNR=2.9						
MKAR	Makanchi Array	58.21	329	P	P	18 22 03.6	+0.3
	0.2nm,0.5s,baz=117,slow=7.3,SNR=3.8						
VNDA	Vanda	80.34	172	P	P	18 24 17.8	-0.3
	0.4nm,0.6s,baz=306,slow=5.3,SNR=4.3						

*IDC **17** 18:12:36.7±1.5, 43°.73N×105°.44W, h0^{km}, mb1 3.9/2, mb1mx3.4/47, mbtmp3.7/2, ML3.4/2, Error ellipse: s-maj=32.9km s-min=9.5km az=150.0*
*ISCJB **17** 18:12:37.6±0.6, 43°.78N±0°.05×105°.26W±0°.07, h0^{km}, Error ellipse: s-maj=7.2km s-min=6.8km az=149.0*
*NEIC **17** 18:12:38.5±0.5, 43°.77N×105°.22W, h0^{km}, ML3.1, Error ellipse: s-maj=6.6km s-min=6.0km az=144.0, Suspected Mining explosion.*
NEIC 62 km [38 miles] SSE of Gillette.
ISC 17 18:12:37.8±1.1, **43°.77N**±0°.06×**105°.28W**±0°.05, **h0**^{km}, **n25**, σ**1º45/24**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.97	68	*e*P	Pg	18 12 56.1	-0.2
K22A	Casper	1.44	220	*e*P	Pn	18 13 04.0	-1.3
PHWY	Pilot Hill	2.47	183	*e*P	Pn	18 13 19.9	+0.3
RWWY	Rawlins	2.52	215	*e*P	Pn	18 13 21.7	+1.5
LAO	LASA Array	3.00	348	*e*P	Pn	18 13 28.0	+1.3
RLMT	Red Lodge	3.16	297	*e*P	Pn	18 13 28.9	-0.2
PDAR	Pinedale Array	3.28	254	Pn	Pn	18 13 31.3	+0.6
	4.2nm,0.3s,baz=70,slow=14,SNR=40						
PDAR				Lg	Lg	18 14 15.1	
	9.5nm,0.3s,baz=73,slow=31,SNR=12						
BW06	Boulder Array	3.28	254	*e*P	Pn	18 13 31.1	+0.4
OGNE	Ogallala	3.71	138	*e*P	Pn	18 13 37.8	+1.3
LKWY	Lake	3.77	284	*e*P	Pn	18 13 38.8	+1.4
LOHW	Long Hollow	3.86	270	*e*Pn	Pn	18 13 40.5	+1.8
H17A	Grant Village	3.87	281	*e*P	Pn	18 13 40.3	+1.5
MOOW	Moose Ponds	3.96	272	*e*P	Pn	18 13 41.3	+1.3
ISCO	Idaho Springs	3.97	184	*e*P	Pn	18 13 41.5	+1.2
SNOW	Snow King Moun	3.98	267	*e*Pn	Pn	18 13 42.4	+2.0
REDW	Red Top Meadow	4.07	266	*e*Pg	Pb	18 13 49.3	-1.1
IMW	Indian Meadow	4.09	274	*e*P	Pn	18 13 44.0	+2.1
TPAW	Teton Pass	4.12	268	*e*P	Pn	18 13 43.6	+1.3
SMCO	Snowmass	4.76	196	*e*Pn	Pn	18 13 52.6	+1.5
DGMT	Dagmar	4.76	9	*e*Pn	Pn	18 13 52.5	+1.6
BOZ	Bozeman (W)	4.88	294	Pn	Pn	18 13 54.8	+2.2
HWUT	Hardware Ranch	5.11	247	*e*Pn	Pn	18 13 55.5	-0.3
	7.2nm,0.4s						
EGMT	Eagleton	5.28	325	*e*Pn	Pn	18 13 57.8	-0.2
	12nm,0.4s						
ULM	Lac du Bonnet	9.12	41	Pn	Pn	18 14 48.5	-2.1
	0.8nm,0.3s,baz=235,slow=11,SNR=5.5						
ULM				Lg	Lg	18 17 21.4	
	0.6nm,0.3s,baz=311,slow=20,SNR=2.6						
TXAR	Lajitas Array	14.46	174	Pg	P	18 16 58.1	+47
	0.1nm,0.3s,baz=356,slow=12,SNR=2.1						
TXAR				Lg	Lg	18 20 03.8	
	baz=351,slow=34,SNR=2.4						

IDC 17 18:17:25.6±2.5, **30°.48N**×**138°.75E**, **h419**^{km}±27^{km}, **mb3.2/4, mb1 3.2/6, mb1mx2.8/46, mbtmp3.8/6, Error ellipse: s-maj=78.0km s-min=16.1km az=82.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.07	356	P	P	18 18 59.2	-0.1
	0.4nm,0.3s,baz=181,slow=12,SNR=4.8						
KSRS	Korea Array	11.36	311	P	P	18 19 58.2	+0.5
	0.2nm,0.3s,baz=127,slow=10,SNR=4.9						
WRA	Warramunga Arr	50.31	185	P	P	18 25 41.6	-0.4
	0.3nm,0.4s,baz=1.4,slow=7.7,SNR=8.3						
ASAR	Alice Springs	54.03	185	P	P	18 26 09.2	+0.1
	0.3nm,0.5s,baz=356,slow=5.1,SNR=13						
ARCES	ARCESS Array B	69.35	340	P	P	18 27 49.6	+0.4
	2.2nm,1.1s,baz=57,slow=7.9,SNR=3.4						
FINES	FINESS Array B	73.58	332	P	P	18 28 13.6	-0.6
	3.0nm,1.0s,baz=86,slow=6.5,SNR=4.1						

*IDC **17** 18:19:09.7±0.7, 26°.14S×138°.81W, h0^{km}, mb4.0/7, mb1 4.3/7, mb1mx4.1/37, mbtmp4.0/7, MS4.0/17, Ms1 4.0/17, ms1mx3.9/25, Error ellipse: s-maj=47.8km s-min=21.7km az=119.0*
*ISCJB **17** 18:19:10.7±0.4, 26°.22S±0°.08×139°.4W±0°.2, h10^{km}, mb4.4/30, MS4.0/15, Error ellipse: s-maj=21.4km s-min=10.3km az=16.7*
*NEIC **17** 18:19:12.0±0.4, 26°.27S×139°.36W, h10^{km}, mb4.7/23, Error ellipse: s-maj=18.2km s-min=10.8km az=120.0*
ISC 17 18:19:11.8±0.5, **26°.2S**±0°.1×**139°.3W**±0°.2, **h10**^{km}, **n83**, σ**1º33/63**, **mb4.6/30**, **MS4.0/15**, **South Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	5.02	53	*e*Pn	Pn	18 20 23.1	-4.1
	8.6nm,0.2s						
RKT				*e*Sn	Sn	18 21 13.0	-12
	32nm,0.2s						
RKT				*e*LR	LR	18 21 20.3	
	1μm,25.2s						
RKT				*e*T	T	18 24 34.0	
	6.5nm,0.3s						
TBI	Tubuai	9.67	285	*e*Pn	Pn	18 21 15.2	-16
	7.1nm,0.2s						
TBI				*e*Sn	Sn	18 22 48.3	-31
	5.3nm,0.1s						
TBI				*e*LR	LR	18 23 17.5	
	1μm,26.8s,baz=110						
TBI				*e*T	T	18 30 15.2	
	5.9nm,0.3s						
TVO	Taravao	12.48	310	*e*Pn	Pn	18 21 53.2	-17
	2.2nm,0.2s						
TVO				*e*Sn	Sn	18 23 47.2	-42
	1.6nm,0.1s						
TIAR	Tiarei	12.71	311	*e*Sn	Sn	18 23 57.0	-37
	4.0nm,0.2s						
PPT2	Papeete2	12.84	310	*e*Pn	Pn	18 21 58.3	-16
	4.6nm,0.2s						
PPT2				*e*Sn	Sn	18 23 56.3	-41
	7.9nm,0.2s						
PPT2				*e*LR	LR	18 24 46.7	
	2μm,20.5s,baz=136						
PPT	Papeete	12.86	310	LR	LR	18 25 27.0	
	comp=Z,743nm,20.5s,baz=155,slow=29						
PMOR	Pomariorio Ree	13.77	323	*e*Pn	Pn	18 22 07.6	-20
	1.4nm,0.2s						
PMOR				*e*Sn	Sn	18 24 23.2	-37
	2.2nm,0.2s						
TAOE	Nuku Hiva Isla	17.31	357	*e*LR	LR	18 26 48.9	
	900nm,25.3s						
RAR	Rarotonga	19.39	281	LR	LR	18 28 21.5	
	comp=Z,546nm,19.9s,baz=74,slow=28						
RPN	Rapa Nui	26.76	99	LR	LR	18 32 38.1	
	comp=Z,349nm,18.9s,baz=12,slow=31						
DZM	Mont Dzumac	49.38	263	LR	LR	18 44 31.1	
	comp=Z,87nm,19.9s,baz=218,slow=30						
PLCA	Paso Flores	57.78	123	P	P	18 29 04.1	+0.7
	2.4nm,0.9s,baz=259,slow=9.7,SNR=3.9						
PLCA				LR	LR	18 47 38.1	
	comp=Z,164nm,21.2s,baz=331,slow=30						
VNDA	Vanda	57.97	193	P	P	18 29 05.9	+1.9
	2.0nm,1.0s,baz=35,slow=5.4,SNR=6.4						
VNDA				LR	LR	18 47 39.0	
	comp=Z,89nm,21.4s,baz=18,slow=29						
VNDA	Vanda	57.97	193	*e*P	P	18 29 06.2	+2.1
VNDA				*e*sP	pP	18 29 06.4	-0.9
HNR	Honiara	59.70	274	LR	LR	18 49 25.5	
	comp=Z,103nm,21.6s,baz=134,slow=30						
Y14A	Wickenburg	64.85	24	*e*P	P	18 29 50.6	-0.5
	15nm,0.9s						
TX31	Lajitas Ar. Si	64.98	34	*e*P	P	18 29 53.9	+1.8
TXAR	Lajitas Array	64.98	34	P	P	18 29 47.6	-4.6
	0.9nm,0.9s,baz=204,slow=8.8,SNR=8.0						
TXAR				LR	LR	18 51 29.2	
	comp=Z,75nm,20.4s,baz=0.0,slow=30						
BDM	Black Diamond	65.92	15	*e*P	P	18 29 56.0	-1.9
MNTX	Cornudas Mount	66.09	31	*e*P	P	18 30 00.4	+1.2
	3.0nm,0.9s						
LPAZ	La Paz	66.36	97	LR	LR	18 52 32.3	
	comp=Z,103nm,20.1s,baz=212,slow=30						
LPAZ	La Paz	66.36	97	*e*P	P	18 30 02.5	+0.4
TPNV	Topopah Spring	66.50	20	*e*P	P	18 30 03.4	+1.6
	4.4nm,0.9s						
KFPM	Farley Peak	67.20	13	*e*P	P	18 30 08.0	+1.8
CCUT	Cedar City	67.98	22	*e*P	P	18 30 13.0	+1.6
	11nm,1.7s						
R11A	Troy Canyon, C	67.99	20	*e*P	P	18 30 12.8	+1.5
	3.3nm,0.9s						
BEKR	Beckworth	68.10	16	*e*P	P	18 30 12.7	+0.7
	12nm,0.8s						
BEKR				*e*S	S	18 39 10.8	-1.1
MSU	Marysvale	69.25	22	*e*P	P	18 30 20.4	+1.2
SRU	San Rafael Swe	70.36	23	*e*P	P	18 30 26.5	+0.5
	5.4nm,0.7s						
WVOR	Wild Horse Val	70.95	16	*e*P	P	18 30 29.7	+0.3
	5.8nm,1.2s						
SMCO	Snowmass	71.75	26	*e*P	P	18 30 36.0	+1.3
	10nm,1.4s						
HVU	Hansel Valley	72.00	21	*e*P	P	18 30 37.2	+1.3
	4.5nm,0.9s						
CPUP	Villa Florida	72.15	111	LR	LR	18 56 51.0	
	comp=Z,80nm,19.1s,baz=230,slow=32						
CPUP	Villa Florida	72.15	111	*e*P	P	18 30 36.3	-0.7
HLID	Hailey	73.13	19	*e*P	P	18 30 43.3	+0.7
	3.3nm,0.9s						
BMO	Blue Mountains	73.55	16	*e*P	P	18 30 45.7	+0.8
	16nm,1.9s						
BW06	Boulder Array	73.94	22	*e*P	P	18 30 46.9	-0.5
	18nm,2.0s						
PD31	Pinedale Array	73.94	22	*e*P	P	18 30 48.0	+0.6
PDAR	Pinedale Array	73.94	22	P	P	18 30 45.8	-1.7
	1.4nm,0.7s,baz=227,slow=3.6,SNR=11						
PDAR				LR	LR	18 57 20.8	
	comp=Z,86nm,18.5s,baz=227,slow=31						
PDAR	Pinedale Array	73.94	22	*e*P	P	18 30 46.8	-0.6
FXWY	Fox Creek	74.23	21	*e*P	P	18 30 50.4	+1.3
	4.6nm,1.0s						
MOOW	Moose Ponds	74.42	21	*e*P	P	18 30 51.1	+0.9
	5.8nm,1.3s						
IMW	Indian Meadow	74.49	21	*e*P	P	18 30 51.2	+0.5
	11nm,0.6s						
YMR	Madison River	75.17	21	*e*P	P	18 30 56.6	+2.0
	4.6nm,0.8s						
MSO	Missoula	76.26	18	*e*P	P	18 31 01.7	+1.1
	6.9nm,0.9s						
VNA3	Neumayer Olymp	76.65	165	P	P	18 31 02.3	-0.3
SWMT	Swartz Lake	76.87	17	*e*P	P	18 31 03.8	-0.2
RSSD	Black Hills	77.12	25	*e*P	P	18 31 06.4	+0.8
	7.4nm,1.1s						
ASAR	Alice Springs	77.20	250	P	P	18 31 07.9	+1.4
	0.9nm,0.8s,baz=105,slow=5.3,SNR=7.5						
VNA2	Neumayer--Watz	77.40	165	P	P	18 31 07.8	+1.1
	baz=220,slow=3.8						
VNA1	Neumayer--Stat	77.40	165	P	P	18 31 08.1	+1.4
SNAA	Sanae	77.81	167	P	P	18 31 05.2	-3.9
WB2	Warramunga Arr	78.29	253	*e*P	P	18 31 10.5	-2.1
WR1	Warramunga Arr	78.30	253	*e*P	P	18 31 13.3	+0.6
	26nm,1.9s						
WRA	Warramunga Arr	78.30	253	P	P	18 31 13.3	+0.6
	2.1nm,1.1s,baz=113,slow=4.8,SNR=4.0						
ECSD	ERS Data Cent	79.89	30	*e*P	P	18 31 21.8	+1.1
	8.1nm,0.9s						
SFIN	Lafayette	82.15	38	*e*P	P	18 31 30.6	-2.1
	72nm,1.6s						
MAW	Mawson	84.98	188	P	P	18 31 46.0	-1.0
	2.5nm,0.8s,baz=152,slow=7.5,SNR=5.6						
MAW				LR	LR	19 05 58.4	
	comp=Z,113nm,18.5s,baz=62,slow=33						
MAW	Mawson	84.98	188	*e*P	P	18 31 47.1	+0.1
	1.7nm,1.2s						
ULM	Lac du Bonnet	85.32	26	LR	LR	19 04 55.1	
	comp=Z,55nm,18.3s,baz=338,slow=32						
ILAR	Eielson Array	90.91	357	P	P	18 32 13.7	-1.5
	0.5nm,0.8s,baz=183,slow=6.1,SNR=4.1						
ILAR				LR	LR	19 04 52.2	
	comp=Z,67nm,19.7s,baz=202,slow=30						
ILB	Eielson Array	90.91	357	*e*P	P	18 32 14.6	-0.6
PETK	Petropavlovsk-	96.03	327	LR	LR	19 07 36.4	
	comp=Z,126nm,20.9s,baz=128,slow=30						
RCBR	Riachuelo	99.36	101	LR	LR	19 13 19.1	
	comp=Z,68nm,18.1s,baz=234,slow=33						
MJAR	Matsushiro Arr	99.57	306	LR	LR	19 09 07.5	
	comp=Z,47nm,22.0s,baz=225,slow=30						
CMAR	Chiang Mai Arr	125.95	274	PKP	PKPdf	18 38 15.6	+0.7
	1.9nm,1.0s,baz=8.6,slow=0.1,SNR=9.1						
ZAA1	Zalesovo Array	137.38	323	*e*PKPdf	PKPdf	18 38 33.7	-1.6
ZALV	Zalesovo Beam	137.38	323	PKP	PKPdf	18 38 33.7	-1.6
	0.6nm,0.5s,baz=32,slow=3.6,SNR=2.8						
TOA1	Torodi Ar. Sit	141.19	102	*e*PKPpre	PKPpre	18 38 35.0	
TOA1				*e*PKPdf	PKPdf	18 38 41.6	-1.9
TORD	Torodi Ar. Bea	141.19	102	PKhKP	PKPpre	18 38 35.0	
	0.4nm,0.9s,baz=267,slow=1.6,SNR=3.5						
TORD				PKP	PKPdf	18 38 41.6	-1.9
	0.6nm,1.0s,baz=265,slow=3.2,SNR=3.6						
MK32	Makanchi Array	141.36	313	*e*PKPpre	PKPpre	18 38 39.0	
MKAR	Makanchi Array	141.36	313	PKhKP	PKPpre	18 38 39.0	
	0.3nm,0.8s,baz=75,slow=1.6,SNR=3.0						
KURBB	Kurchatov Arra	142.26	320	PKhKP	PKPpre	18 38 38.8	
	0.9nm,1.0s,baz=46,slow=2.7,SNR=4.2						
FIA0	FINESS Array S	143.44	12	*e*PKPdf	PKPdf	18 38 45.2	-0.9
FINES	FINESS Array B	143.44	12	PKP	PKPdf	18 38 45.2	-0.9
	4.1nm,1.0s,baz=328,slow=6.8,SNR=4.5						
BVAR	Borovoye Array	145.26	328	PKPbc	PKPbc	18 38 49.4	+0.2
	6.1nm,0.8s,baz=64,slow=3.4,SNR=30						
ARU	Arti	147.20	342	PKPbc	PKPdf	18 38 54.0	+1.3
	5.0nm,0.9s,baz=329,slow=2.2,SNR=8.5						
ARU	Arti	147.20	342	*e*PKPbc	PKPbc	18 38 55.1	+0.2
CLL	Collm	147.30	33	*e*PKPbc	PKPab	18 38 58.0	+0.8
AAK	Ala-Archa	147.95	309	PKPbc	PKPbc	18 38 57.2	-0.5
	4.9nm,1.0s,baz=112,slow=3.2,SNR=11						
GERES	GERESS Array B	149.18	36	PKPbc	PKPbc	18 38 59.2	-1.3
	0.5nm,0.9s,baz=276,slow=2.8,SNR=2.2						
AKTO	Aktyubinsk	152.43	336	PKPbc	PKPbc	18 39 09.6	+1.5
	2.6nm,0.9s,baz=44,slow=2.1,SNR=8.0						
AKASG	Malin Array Be	154.04	17	PKPbc	PKPbc	18 39 10.8	-0.7
	2.5nm,0.8s,baz=341,slow=2.3,SNR=9.3						

*SJA **17** 18:21:52.2±0.3, 23°.88S×66°.98W, h220^{km}±2^{km}, ML3.8, MW3.5*
*ISCJB **17** 18:21:54.7±0.3, 23°.96S±0°.04×66°.85W±0°.04, h200^{km}, mb3.3/3, Error ellipse: s-maj=6.4km s-min=3.3km az=138.2*
*IDC **17** 18:21:55.8±1.5, 23°.89S×66°.62W, h199^{km}±13^{km}, mb3.1/3, mb1 3.4/8, mb1mx3.2/32, mbtmp3.7/8, MS2.5/1, Ms1 2.6/1, ms1mx2.4/9, Error ellipse: s-maj=22.8km s-min=16.3km az=18.0*
*GUC **17** 18:21:57.0±0.4, 23°.61S×67°.46W, h267^{km}±9^{km}, ML4.5*
ISC 17 18:21:55.0±0.7, **23°.98S**±0°.05×**66°.84W**±0°.05, **h200**^{km}, **n32**, σ**1º66/47**, **mb3.3/3**, **3C**, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.43	122	*e*P	Pn	18 22 29.2	+1.0
SLA				*e*S	Sn	18 22 56.5	+2.5
HJA	Humahuaca	1.52	60	*e*P	Pn	18 22 29.6	+0.3
AZAP	Zapla	1.64	99	*e*P	Pn	18 22 31.2	+1.0
ASTB	Santa Barbara	2.19	90	*e*P	Pn	18 22 36.2	+0.6
FSA	Cafayete	2.27	160	*e*P	Pn	18 22 37.2	+0.8
FSA				*e*S	Sn	18 23 10.5	+1.6
LVC	Limon Verde	2.34	305	P	Pn	18 22 39.1	+1.6
	2μm,0.3s,baz=139,slow=6.2,SNR=452						
LVC				S	Sn	18 23 11.5	+1.0
	1μm,0.3s,baz=45,slow=20,SNR=21						
ALOL	LOMAS DE OLMED	2.62	87	*e*P	Pn	18 22 40.6	+0.3
PB06	IPOC Station P	2.81	296	*e*P	Pn	18 22 44.1	+1.5
PB06				*e*S	Sn	18 23 20.1	+0.4
PB09	IPOC Station P	3.10	314⇑	*i*P	Pn	18 22 47.5	+1.5
PB09				*e*S	Sn	18 23 25.7	-0.2
PB09				IAML		18 23 28.8	
	comp=E,1μm,0.6s						
AHML	Horco Molle	3.11	154	*e*P	Pn	18 22 46.5	+0.6
AHML				*e*S	Sn	18 23 26.6	+0.6
PB10	IPOC Station P	3.43	277⇑	*i*P	Pn	18 22 51.2	+1.4
PB10				*e*S	Sn	18 23 32.3	-0.4
PB10	IPOC Station P	3.43	277	*e*P	Pn	18 22 50.8	+1.0
PB04	IPOC Station P	3.46	298	*e*P	Pn	18 22 51.1	+0.9
PB04				*e*S	Sn	18 23 32.1	-1.3
PB04				IAML		18 23 40.4	
	comp=E,364nm,0.3s						
PB07	IPOC Station P	3.59	308	*e*P	Pn	18 22 52.5	+0.6
PB07				*e*S	Sn	18 23 34.4	-2.1
PB07				IAML		18 23 36.6	
	comp=E,387nm,0.3s						
PB01	IPOC Station P	3.81	320	*e*P	Pn	18 22 54.9	+0.3
PB01				*e*S	Sn	18 23 38.9	-2.3
PB02	IPOC Station P	3.87	313⇑	*i*P	Pn	18 22 55.3	+0.1
PB02				*e*S	Sn	18 23 39.8	-2.7
PB02				IAML		18 23 46.4	
	comp=E,486nm,0.2s						
ACLC	CERRO LA CRUZ	5.43	181	*e*P	Pn	18 23 14.7	-0.3
MNMC	Minye Minye	5.46	331	*e*P	Pn	18 23 15.7	+0.1
APLL	PUNTA DE LOS L	6.40	178	*e*P	Pn	18 23 27.0	-0.4
APLL				*e*S	Sn	18 24 37.1	-3.6
AVFE	Valle Fertil	6.68	185	*e*P	Pn	18 23 30.2	-0.9
AVFE				*e*S	Sn	18 24 42.7	-4.6
AVFE				IAML		18 24 48.2	
	comp=Z,14nm,0.3s						
ACHE	Chepes	7.16	179	*e*P	Pn	18 23 36.9	-0.5
ACHE				*e*S	Sn	18 24 54.3	-4.4
LPAZ	La Paz	7.75	351	P	Pn	18 23 46.1	+0.6
	comp=Z,1.2nm,0.3s,baz=183,slow=9.2,SNR=22						
LPAZ				S	Sn	18 25 10.4	-3.0
	comp=Z,0.3nm,0.3s,baz=134,slow=24,SNR=6.1						
LPAZ				LR	LR	18 27 25.8	
	comp=Z,32nm,18.6s,baz=189,slow=

SIGR	SIGRI	0.73	38	P	Pg	18 55 49.5	-0.4
SIGR				S	Sg	18 56 00.2	+0.9
SIGR				AML	AML	18 56 00.9	
	comp=E,1920μm,0.6s						
SIGR				AML	AML	18 56 01.6	
	comp=N,2960μm,0.5s						
SIGR	SIGRI	0.73	38	P	Pg	18 55 50.4	+0.5
SIGR	SIGRI	0.73	38	*e*Pg	Pb	18 55 51.3	0.0
SIGR				S	Sb	18 56 00.8	-1.0
CESE	˜e¯me	0.85	111	*e*PG	Pb	18 55 53.8	+0.4
KARY	Karystos	0.90	228	P	Pb	18 55 54.0	-0.2
KARY				S	Sb	18 56 07.4	+0.8
KARY	Karystos	0.90	228	P	Pb	18 55 54.0	-0.2
PRK	Paraskevi	0.98	51	P	Pb	18 55 55.3	-0.4
PRK				S	Sb	18 56 09.5	+0.4
PRK	Paraskevi	0.98	51	P	Pb	18 55 55.7	0.0
PRK				S	Sg	18 56 07.8	+0.3
PRK	Paraskevi	0.98	51	P	Pb	18 55 55.7	0.0
PRK				S	Sg	18 56 07.8	+0.3
KRBN	Karaburun	0.99	92	*e*PG	Pn	18 55 56.0	-0.9
ZEY	˜zmir	1.04	112	*i* P	Pb	18 55 56.0	-0.5
ZEY				*i* S	Sn	18 56 11.8	-0.8
GPNR	Gulpinar-Canak	1.05	39	*e*PN	Pb	18 55 56.7	-0.2
URLA	Izmir	1.06	104	*e*PN	Pb	18 55 57.1	0.0
URLA				*e*SN	Sn	18 56 11.7	-1.7
URLA	Izmir	1.06	104	*i* P	Pb	18 55 57.0	0.0
URLA				*i* S	Sn	18 56 11.6	-1.7
URLA	Izmir	1.06	104	*e*Pn	Pb	18 55 57.1	0.0
URLA				*e*Sn	Sn	18 56 11.7	-1.7
EREA	Eretria	1.08	259	P	Pg	18 55 57.3	+0.6
EREA				S	Sb	18 56 12.0	0.0
EREA	Eretria	1.08	259	P	Pg	18 55 57.2	+0.6
EREA				S	Sn	18 56 13.2	-0.5
EREA				AML	AML	18 56 14.8	
	comp=E,1554μm,0.3s						
EREA				AML	AML	18 56 15.7	
	comp=N,2544μm,0.4s						
EREA	Eretria	1.08	259	P	Pg	18 55 57.3	+0.6
EREA				S	Sb	18 56 12.0	0.0
FOCM	Foˆ§a	1.14	86	*e*PN	Pb	18 55 58.0	-0.2
CAND	Candarli	1.23	74	*e*PN	Pg	18 55 59.4	-0.1
PTL	Penteli	1.26	243	P	Pg	18 55 59.5	-0.6
PTL				S	Sg	18 56 16.6	+0.2
PTL	Penteli	1.26	243	P	Pg	18 55 58.8	-1.3
PTL				S	Sg	18 56 15.2	-1.2
PTL				AML	AML	18 56 20.9	
	comp=E,1369μm,0.6s						
PTL				AML	AML	18 56 22.9	
	comp=N,1483μm,0.6s						
PTL	Penteli	1.26	243	P	Pg	18 55 59.5	-0.6
PTL				S	Sg	18 56 16.6	+0.2
LIA	Limnos Island	1.27	356	P	Pg	18 55 59.4	-0.7
LIA				S	Sb	18 56 17.0	-0.2
LIA	Limnos Island	1.27	356	P	Pg	18 55 59.5	-0.7
LIA				AML	AML	18 56 20.5	
	comp=E,1240μm,0.6s						
LIA				AML	AML	18 56 22.7	
	comp=N,1001μm,0.7s						
LIA	Limnos Island	1.27	356	P	Pg	18 55 59.5	-0.7
LIA				S	Sb	18 56 17.0	-0.2
AYVA	Ayvalik	1.29	58	*i* P	Pg	18 55 60.0	-0.6
AYVA				*i* S	Sn	18 56 19.1	+0.4
AYVA	Ayvalik	1.29	58	P	Pg	18 56 00.0	-0.6
AYVA				S	Sn	18 56 19.1	+0.4
DKL	Dikili	1.34	70	*e*PN	Pn	18 56 01.0	-0.7
DKL	Dikili	1.34	70	*e*Pn	Pn	18 56 01.0	-0.7
BOZC	Bozcaada	1.35	26	*e*PN	Pn	18 56 00.2	-1.5
BOZC	Bozcaada	1.35	26	*e*Pn	Pn	18 56 00.2	-1.5
ATHU	Athens Univers	1.35	241	P	Pn	18 56 00.8	-1.1
ATHU				S	Sn	18 56 20.3	-0.2
ATHU	Athens Univers	1.35	241	P	Pn	18 56 00.3	-1.6
ATHU	Athens Univers	1.35	241	P	Pn	18 56 00.8	-1.1
ATHU				S	Sn	18 56 20.3	-0.2
DGB	˜zmir	1.39	114	*i* P	Pn	18 56 00.9	-1.3
DGB				*i* S	Sn	18 56 22.1	+0.9
ATH	Athens Observa	1.40	242	P	Pn	18 56 01.1	-1.4
ATH				S	Sb	18 56 20.6	-0.5
ATH	Athens Observa	1.40	242	P	Pn	18 56 00.8	-1.7
ATH				AML	AML	18 56 24.5	
	comp=N,1384μm,0.8s						
ATH				AML	AML	18 56 26.4	
	comp=E,1116μm,0.3s						
ATH	Athens Observa	1.40	242	P	Pn	18 56 01.1	-1.4
ATH				S	Sb	18 56 20.6	-0.5
VLY	Voula,Athens	1.41	237	P	Pn	18 56 01.3	-1.3
VLY				S	Sb	18 56 20.2	-1.2
VLY	Voula,Athens	1.41	237	P	Pn	18 56 00.9	-1.7
VLY				AML	AML	18 56 25.3	
	comp=N,1055μm,0.5s						
VLY				AML	AML	18 56 28.8	
	comp=E,1394μm,0.5s						
VLY	Voula,Athens	1.41	237	P	Pn	18 56 01.3	-1.3
VLY				S	Sb	18 56 20.2	-1.2
EZN	Ezine	1.44	34	*e*PN	Pn	18 56 01.7	-1.3
EZN	Ezine	1.44	34	P	Pn	18 56 01.7	-1.3
EZN				S	Sb	18 56 20.8	-1.4
EZN	Ezine	1.44	34	P	Pn	18 56 01.7	-1.3
EZN				S	Sb	18 56 20.8	-1.4
BAYC	CANAKKALE_Bayr	1.48	41	*i* P	Pn	18 56 02.1	-1.5
BAYC				*i* S	Sn	18 56 22.3	-1.3
SKIA	Skiathos	1.52	291	P	Pn	18 56 03.6	-0.5
SKIA				S	Sn	18 56 24.0	-0.4
SKIA	Skiathos	1.52	291	P	Pn	18 56 03.8	-0.3
SKIA	Skiathos	1.52	291	P	Pn	18 56 03.8	-0.3
SKIA				S	Sn	18 56 24.0	-0.4
APE	Apeiranthos	1.57	173	*e*PN	Pn	18 56 03.3	-1.6
APE	Apeiranthos	1.57	173	P	Pn	18 56 03.6	-1.3
APE				S	Sn	18 56 25.4	-0.5
APE	Apeiranthos	1.57	173	P	Pn	18 56 03.0	-2.0
APE	Apeiranthos	1.57	173	*e*Pn	Pn	18 56 03.3	-1.6
APE	Apeiranthos	1.57	173	P	Pn	18 56 03.6	-1.3
APE				S	Sn	18 56 25.4	-0.5
SERI	Serifos	1.60	203	P	Pn	18 56 02.8	-2.5
SERI	Serifos	1.60	203	P	Pn	18 56 02.8	-2.5
VILL	Villia	1.62	254	P	Pn	18 56 05.0	-0.6
VILL				S	Sn	18 56 26.9	-0.1
VILL	Villia	1.62	254	P	Pn	18 56 05.2	-0.4
VILL				S	Sn	18 56 26.9	-0.1
GADA	Gvkgeada	1.63	17	*e*PN	Pn	18 56 04.4	-1.2
GADA	Gvkgeada	1.63	17	P	Pn	18 56 04.4	-1.2
GADA				S	Sn	18 56 25.5	-1.6
GADA	Gvkgeada	1.63	17	P	Pn	18 56 04.4	-1.2
GADA				S	Sn	18 56 25.5	-1.6
VIL2	Platees	1.64	256	P	Pn	18 56 05.2	-0.5
SMIA	Simia	1.64	279	P	Pn	18 56 06.0	+0.2
SMIA				S	Sn	18 56 26.8	-0.7
SMIA	Simia	1.64	279	P	Pb	18 56 06.7	-0.2
SMIA	Simia	1.64	279	P	Pn	18 56 06.0	+0.2
SMIA				S	Sn	18 56 26.8	-0.7
NEO	Neokhori	1.74	293	P	Pn	18 56 06.8	-0.4
NEO				S	Sn	18 56 28.8	-1.2
NEO	Neokhori	1.74	293	P	Pn	18 56 07.4	+0.1
NEO	Neokhori	1.74	293	P	Pn	18 56 06.8	-0.4
NEO				S	Sn	18 56 28.8	-1.2
XOR	Xorichti	1.79	295	P	Pn	18 56 07.6	-0.2
XOR				S	Sn	18 56 29.9	-1.3
XOR	Xorichti	1.79	295	P	Pn	18 56 06.7	-1.2
XOR	Xorichti	1.79	295	P	Pn	18 56 07.6	-0.2
XOR				S	Sn	18 56 29.9	-1.3
LKR	Lokris	1.79	271	P	Pn	18 56 07.2	-0.6
LKR				S	Sn	18 56 29.6	-1.6
LKR	Lokris	1.79	271	P	Pn	18 56 07.1	-0.8
LKR	Lokris	1.79	271	P	Pn	18 56 07.2	-0.6
LKR				S	Sn	18 56 29.6	-1.6
PAIG	Paliouri	1.79	317	P	Pn	18 56 07.8	-0.1
PAIG				S	Sn	18 56 30.3	-1.0
PAIG	Paliouri	1.79	317	P	Pn	18 56 08.1	+0.2
PAIG	Paliouri	1.79	317	P	Pn	18 56 07.8	-0.1
PAIG				S	Sn	18 56 30.3	-1.0
PROD	Prodromos	1.91	259	P	Pn	18 56 09.4	-0.1
PROD	Prodromos	1.91	259	P	Pn	18 56 09.4	-0.1
LTK	Loutraki	1.92	252	P	Pn	18 56 09.1	-0.6
LTK				S	Sn	18 56 33.0	-1.5
LTK	Loutraki	1.92	252	P	Pn	18 56 08.6	-1.1
LTK	Loutraki	1.92	252	P	Pn	18 56 09.1	-0.6
LTK				S	Sn	18 56 33.0	-1.5
LOUT	Loutraki	1.93	251	P	Pn	18 56 08.9	-0.9
LOUT				S	Sn	18 56 34.8	+0.2
LOUT	Loutraki	1.93	251	P	Pn	18 56 08.8	-0.9
LOUT	Loutraki	1.93	251	P	Pn	18 56 08.9	-0.9
LOUT				S	Sn	18 56 34.8	+0.2
DID	Didima	1.97	236	P	Pn	18 56 09.3	-1.1
DID				S	Sn	18 56 34.8	-0.9
DID	Didima	1.97	236	P	Pn	18 56 08.9	-1.5
DID	Didima	1.97	236	P	Pn	18 56 09.3	-1.1
DID				S	Sn	18 56 34.8	-0.9
FYTO	Fytoko, Volos	1.98	294	P	Pn	18 56 10.2	-0.3
FYTO				S	Sn	18 56 34.8	-1.1
FYTO	Fytoko, Volos	1.98	294	P	Pn	18 56 09.5	-1.0
FYTO	Fytoko, Volos	1.98	294	P	Pn	18 56 10.2	-0.3
FYTO				S	Sn	18 56 34.8	-1.1
GELI	Tayfur-Gelibol	1.99	27	*e*PN	Pn	18 56 09.9	-0.7
GELI	Tayfur-Gelibol	1.99	27	*e*Pn	Pn	18 56 09.9	-0.7
AKHS	Akhisar	1.99	82	*i* P	Pg	18 56 14.2	0.0
AKHS	Akhisar	1.99	82	P	Pg	18 56 14.1	0.0
STEP	BALIKESIR_Sava	2.04	68	*i* P	Pn	18 56 10.2	-1.1
STEP				*i* S	Sg	18 56 41.1	-0.2
AXAR	Agios Charalam	2.06	274	P	Pn	18 56 10.8	-0.8
AXAR	Agios Charalam	2.06	274	P	Pn	18 56 10.8	-0.8
MHLO	Agia Marina, M	2.06	200	P	Pn	18 56 11.5	-0.1
MHLO	Agia Marina, M	2.06	200	P	Pn	18 56 11.5	-0.1
LPK	Lapseki	2.08	33	*e*PN	Pn	18 56 11.3	-0.5
LPK	Lapseki	2.08	33	*e*Pn	Pn	18 56 11.3	-0.5
BALY	Balya	2.12	58	*i* P	Pn	18 56 10.1	-2.4
BALY				*i* S	Sg	18 56 45.3	+1.1
BALY	Balya	2.12	58	P	Pn	18 56 10.1	-2.4
THAL	Thalero	2.15	255	P	Pn	18 56 12.7	0.0
THAL				S	Sn	18 56 39.5	-0.4
THAL	Thalero	2.15	255	P	Pn	18 56 12.7	0.0
THAL				S	Sn	18 56 39.5	-0.4
DSF	Desfina	2.17	265	P	Pn	18 56 12.6	-0.6
DSF				S	Sn	18 56 40.4	-0.3
DSF	Desfina	2.17	265	P	Pn	18 56 12.2	-0.9
DSF	Desfina	2.17	265	P	Pn	18 56 12.6	-0.6
DSF				S	Sn	18 56 40.4	-0.3
ENEZ	Enez	2.20	17	*e*PN	Pn	18 56 12.9	-0.6
ENEZ	Enez	2.20	17	*e*Pn	Pn	18 56 12.9	-0.6
THR5	Thira Island,	2.21	179	P	Pn	18 56 13.1	-0.6
THR5	Thira Island,	2.21	179	P	Pn	18 56 13.1	-0.6
ERIK	Erikli-Kesan	2.25	25	*e*PN	Pn	18 56 13.6	-0.5
ERIK	Erikli-Kesan	2.25	25	*e*Pn	Pn	18 56 13.6	-0.5
BALB	Balikesir	2.25	63	*e*PN	Pn	18 56 13.7	-0.5
BALB	Balikesir	2.25	63	*e*Pn	Pn	18 56 13.7	-0.5
AYDN	Tasoluk	2.27	115	*i* S	Sg	18 56 49.2	+0.5
ALN	Alexandroupoli	2.33	14	*e*PN	Pn	18 56 14.7	-0.7
ALN	Alexandroupoli	2.33	14	P	Pn	18 56 14.2	-1.1
ALN				S	Sn	18 56 43.0	-1.6
ALN	Alexandroupoli	2.33	14	P	Pn	18 56 13.6	-1.7
ALN	Alexandroupoli	2.33	14	P	Pn	18 56 14.2	-1.1
ALN	Alexandroupoli	2.33	14	*e*Pn	Pn	18 56 14.7	-0.7
ALN				S	Sn	18 56 43.0	-1.6
AGG	Agios Georgios	2.34	280	P	Pn	18 56 15.0	-0.5
AGG				S	Sn	18 56 43.4	-1.4
AGG	Agios Georgios	2.34	280	P	Pn	18 56 16.5	+1.1
AGG	Agios Georgios	2.34	280	P	Pn	18 56 15.0	-0.5
AGG				S	Sn	18 56 43.4	-1.4
MLSB	Milas	2.38	123	*e*PN	Pn	18 56 15.4	-0.6
MLSB	Milas	2.38	123	*e*Pn	Pn	18 56 15.4	-0.6
GUR	Goura	2.42	254	P	Pn	18 56 15.7	-0.9
GUR				S	Sn	18 56 46.4	-0.4
GUR	Goura	2.42	254	P	Pn	18 56 16.5	-0.1
GUR	Goura	2.42	254	P	Pn	18 56 16.5	-0.1
GUR				S	Sn	18 56 46.4	-0.4
KALE	Kalithea	2.48	265	P	Pn	18 56 17.4	0.0
KALE				S	Sn	18 56 48.3	0.0
KALE	Kalithea	2.48	265	P	Pn	18 56 17.6	+0.2
KALE	Kalithea	2.48	265	P	Pn	18 56 17.4	0.0
KALE				S	Sn	18 56 48.3	0.0
RDO	Rodhopi	2.52	4	P	Pn	18 56 16.5	-1.3
RDO	Rodhopi	2.52	4	P	Pn	18 56 16.5	-1.3
KLV	Kalavryta, Ach	2.53	258	P	Pn	18 56 17.5	-0.6
KLV	Kalavryta, Ach	2.53	258	P	Pn	18 56 17.6	-0.6
KLV	Kalavryta, Ach	2.53	258	P	Pn	18 56 17.6	-0.6
TRIZ	Trizonia	2.53	265	P	Pn	18 56 18.9	+0.8
TRIZ	Trizonia	2.53	265	P	Pn	18 56 18.9	+0.8
SERG	Sergoula	2.54	266	P	Pn	18 56 19.0	+0.8
SERG	Sergoula	2.54	266	P	Pn	18 56 19.0	+0.8
MANT	Manisa	2.57	92	*i* P	Pn	18 56 17.8	-1.0
MANT				*i* S	Sn	18 56 51.4	+0.6
MANT	Manisa	2.57	92	P	Pn	18 56 17.8	-1.0
MANT				S	Sn	18 56 51.4	+0.6
VLX	Vlachokerasia	2.62	242	P	Pn	18 56 19.2	-0.1
VLX				S	Sn	18 56 50.6	-1.2
VLX	Vlachokerasia	2.62	242	P	Pn	18 56 19.5	+0.2
VLX	Vlachokerasia	2.62	242	P	Pn	18 56 19.2	-0.1
VLX				S	Sn	18 56 50.6	-1.2
LAKA	Lakka	2.62	262	P	Pn	18 56 19.9	+0.5
LAKA	Lakka	2.62	262	P	Pn	18 56 19.9	+0.5
EDC	Edincik	2.63	49	*e*PN	Pn	18 56 19.3	-0.1
EDC	Edincik	2.63	49	*e*Pn	Pn	18 56 19.3	-0.1
DAT	Datca	2.63	136	*e*PN	Pn	18 56 18.7	-0.8
DAT	Datca	2.63	136	*e*Pn	Pn	18 56 18.7	-0.8
KULA	Kula-Manisa	2.65	92	*e*PN	Pn	18 56 19.5	-0.2
KULA	Kula-Manisa	2.65	92	*e*Pn	Pn	18 56 19.5	-0.2
VLI	Veliai	2.67	225	P	Pn	18 56 19.1	-0.8
VLI				S	Sn	18 56 52.3	-0.6
VLI	Veliai	2.67	225	P	Pn	18 56 19.1	-0.8
VLI	Veliai	2.67	225	P	Pn	18 56 19.1	-0.8
VLI				S	Sn	18 56 52.3	-0.6
THL	Klokotos Trika	2.71	291	P	Pn	18 56 20.5	0.0
THL	Klokotos Trika	2.71	291	P	Pn	18 56 21.0	+0.6
THL	Klokotos Trika	2.71	291	P	Pn	18 56 20.5	0.0
KCTX	Karacabey (Bur	2.88	55	*e*PN	Pn	18 56 22.6	-0.3
KCTX	Karacabey (Bur	2.88	55	*e*Pn	Pn	18 56 22.6	-0.3
DRO	Drossia	2.89	257	P	Pn	18 56 23.6	+0.5
DRO	Drossia	2.89	257	P	Pn	18 56 23.6	+0.5
SIMA	Simav-Kutahya	2.92	80	*e*PN	Pn	18 56 23.8	+0.3
KYTH	Kithira	2.96	218	P	Pn	18 56 23.7	-0.3
KYTH	Kithira	2.96	218	P	Pn	18 56 23.7	-0.3
AMT	Artemida-Makis	3.03	250	P	Pn	18 56 25.2	+0.3
AMT	Artemida-Makis	3.03	250	P	Pn	18 56 25.2	+0.3
TVSB	Tavsanli	3.35	75	*e*PN	Pn	18 56 29.6	+0.1
TVSB	Tavsanli	3.35	75	*e*Pn	Pn	18 56 29.6	+0.1
ZAGS	Zajecar	5.66	337	*e*Pn	Pn	18 57 01.5	+0.4
BOLS	Boljevac	5.76	335	*e*Pn	Pn	18 57 03.6	+1.1
BRTR	Keskin Array B	6.58	78	Pn	Pn	18 57 14.7	+0.8
	comp=E,0.1nm,0.3s,baz=252,slow=14,SNR=3.4						
TORD	Torodi Ar. Bea	32.89	226	P	P	19 02 11.3	-0.2
	comp=E,0.5nm,0.6s,baz=39,slow=8.9,SNR=6.2						
MKAR	Makanchi Array	41.86	60	P	P	19 03 30.4	+3.1
	comp=E,0.3nm,0.7s,baz=288,slow=8.1,SNR=3.4						

SJA 17 19:19:14.1±0.5, 29°98S×67°22W, h22km±3km, ML2.6, MW3.7, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	CERRO LA CRUZ	0.60	23	*e*P	Pb	19 19 26.4	+0.4
ACLC				*e*S	Sn	19 19 35.6	-0.9
AVFE	Valle Fertil	0.71	196	*e*P	Pn	19 19 28.6	-0.4
AVFE				IAML		19 19 41.3	
	comp=Z,267nm,0.2s						
APLL	PUNTA DE LOS L	0.73	125	*e*P	Pb	19 19 28.4	+0.2
AGUA	GUANDACOL	1.21	293	*e*P	Pb	19 19 36.9	+0.6
AMOG	MOGNA	1.46	228	*e*P	Pb	19 19 41.2	+0.6
AMOG				*e*S	Sb	19 20 01.2	+2.5
RTCV	Cerro Valdivia	2.19	211	*e*P	Pb	19 19 51.9	-1.3

MEX 17 19:19:49.9±0.3, 16°16N×97°98W, h13km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.27	328	*i* P	Pg	19 19 55.2	-0.4
PNIG				*e*S	Sg	19 19 59.2	-0.3
VHO	Vista Hermosa	1.50	53	*i* P	Pn	19 20 13.2	-3.6
VHO				*i* S	Sn	19 20 31.0	-5.2
TLIG	Tlapa	1.51	338	*e*P	Pn	19 20 12.3	-4.4
TLIG				*i* S	Sn	19 20 31.6	-4.8

*ISCJB **17** 19:23:20.6±0.8, 36°99N±0°05×28°45E±0°05, h20km±11km, Error ellipse: s-maj=8.6km s-min=6.7km az=11.3*
*CSEM **17** 19:23:20.6±0.3, 36°92N×28°40E, h12km, MD2.8, Error ellipse: s-maj=15.2km s-min=5.7km az=19.0*
*ISK **17** 19:23:20.0, 36°93N×28°40E, h12km, MD2.7*
*DDA **17** 19:23:20.6, 37°00N×28°52E, h7km, Md2.8*

ISC 17 19:23:20.9±0.9, 36°99N±0°04×28°44E±0°04, h14km±8km, n14, σ1§32/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.17	130	*i* P	Pb	19 23 26.3	+0.4
TURN				*i* S	Sg	19 23 31.5	+3.7
TURN	Turunc	0.17	130	P	Pb	19 23 26.3	+0.4
DALY	Dalyan (Mu¨la	0.24	134	*e*PG	Pg	19 23 25.3	-0.8
DALY				*e*SG	Sg	19 23 29.2	-0.4
DALY	Dalyan (Mu¨la	0.24	134	*i* P	Pg	19 23 24.8	-1.3
DALY				*i* S	Sg	19 23 29.1	-0.5
DALY	Dalyan (Mu¨la	0.24	134	P	Pg	19 23 24.8	-1.3
DALY	Dalyan (Mu¨la	0.24	134	*e*Pg	Pg	19 23 25.3	-0.8
DALY				*e*Sg	Sg	19 23 29.2	-0.4
MLSB	Milas	0.61	301	*e*PG	Pg	19 23 32.6	-0.3
MLSB				*e*SG	Sb	19 23 41.6	-0.4
MLSB	Milas	0.61	301	*e*Pg	Pg	19 23 32.6	-0.3
MLSB				*e*Sg	Sb	19 23 41.6	-0.4
TAVA	DENIZLI_Tavas	0.61	38	*i* P	Pg	19 23 31.9	-1.1
TAVA				*i* S	Sg	19 23 40.0	-1.1
DAT	Datca	0.73	250	*e*PG	Pg	19 23 33.9	-1.3
DAT				*e*SG	Sb	19 23 44.0	-1.6
DAT	Datca	0.73	250	*i* P	Pn	19 23 38.8	+1.7
DAT				*i* S	Sn	19 23 48.4	+0.2
DAT	Datca	0.73	250	*e*Pg	Pg	19 23 33.9	-1.3
DAT				*e*Sg	Sb	19 23 44.0	-1.6
AKAS	Kas	1.20	128	*e*PN	Pg	19 23 43.4	-0.7
AKAS	Kas	1.20	128	*e*Pn	Pg	19 23 43.4	-0.7

IDC 17 19:32:00.9±2.3, 3°81N×126°97E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/35, mbtmp3.3/3, Error ellipse: s-maj=179.9km s-min=26.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.69	163	P	P	19 37 22.4	-1.3
	0.4nm,0.6s,baz=343,slow=10,SNR=3.4						
ASAR	Alice Springs	28.13	166	P	P	19 37 56.2	+1.3
	0.2nm,0.9s,baz=344,slow=11,SNR=3.8						
MKAR	Makanchi Array	57.63	325	P	P	19 41 52.8	-0.1
	0.2nm,0.4s,baz=121,slow=8.1,SNR=5.2						

*IDC **17** 19:47:01.0±0.9, 6°33S×148°07E, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/33, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=36.4km s-min=17.3km az=101.0*
*ISCJB **17** 19:47:07.3±0.5, 6°38S±0°06×147°7E±0°1, h51km, mb3.9/9, Error ellipse: s-maj=15.7km s-min=6.8km az=17.0*
*NEIC **17** 19:47:10.1±0.7, 6°47S×147°85E, h66km±7km, mb4.0/5, Error ellipse: s-maj=13.8km s-min=6.1km az=113.0*

ISC 17 19:47:09.1±0.7, 6°44S±0°06×147°8E±0°1, h51km, n27, σ1§20/31, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.01	192	Pn	Pn	19 47 54.0	-0.3
	22nm,0.3s,baz=43,slow=8.1,SNR=28						
PMG				Sn	Sn	19 48 32.1	+2.9
	23nm,0.3s,baz=16,slow=20,SNR=7.1						
PMG	Port Moresby	3.01	192	*e*Pn	Pn	19 47 55.0	+0.7
PMG				Sn	Sn	19 48 32.1	+2.9
MANU	Manus Island	4.39	354	*e*Pn	Pn	19 48 14.8	+1.5
RABL	Rabaul	4.89	63	*e*Pn	Pn	19 48 21.4	+1.3
COEN	Coen	8.74	211	*e*Pn	Pn	19 49 13.6	+0.6
WB2	Warramunga Arr	18.73	223	*e*P	P	19 51 23.5	-0.2
	33nm,1.8s						
WR1	Warramunga Arr	18.73	223	*e*P	P	19 51 23.8	0.0
	16nm,1.4s						
WRA	Warramunga Arr	18.73	223	P	P	19 51 23.8	0.0
	0.7nm,0.3s,baz=52,slow=10,SNR=19						
AS01	Alice Springs	21.69	216	*e*P	P	19 51 56.1	+0.3
AS31	Alice Springs	21.72	217	*e*P	P	19 51 56.5	+0.3
	2.2nm,0.6s						
AS31				*e*S	S	19 55 53.0	-0.9
ASAR	Alice Springs	21.72	217	P	P	19 51 56.5	+0.4
	3.4nm,0.5s,baz=51,slow=8.8,SNR=90						
ASAR				S	S	19 55 53.0	-0.9
	0.9nm,0.8s,baz=32,slow=20,SNR=4.6						
FITZ	Fitzroy Crossi	24.52	240	P	P	19 52 24.7	+0.7
	9.7nm,0.4s,baz=55,slow=8.1,SNR=130						
FITZ	Fitzroy Crossi	24.52	240	*e*P	P	19 52 24.7	+0.7
	13nm,0.6s						
STKA	Stephens Creek	25.96	192	P	P	19 52 36.3	-0.6
	1.7nm,0.5s,baz=19,slow=7.3,SNR=6.8						
SONA0	Songino Array	65.17	331	*e*P	P	19 57 45.3	+0.2
SONM	Songino Array	65.17	331	P	P	19 57 45.3	+0.2
	0.3nm,0.5s,baz=134,slow=6.2,SNR=3.5						
VNDA	Vanda	71.43	177	P	P	19 58 23.7	+0.1
	0.7nm,0.7s,baz=334,slow=5.9,SNR=4.9						
VNDA	Vanda	71.43	177	*e*P	P	19 58 21.8	-1.8

MTSU Mount Surprise 13.87 208 P **Pn 19 55 09.1 +0.8**
baz=14,SNR=9.6
PATS Pohnpei 14.53 30 *e*Pn **Pn 19 55 17.7 +0.5**
CTA Charters Tower 14.90 198 Pn **Pn 19 55 23.4 +1.3**
comp=Z,0.3nm,0.3s,baz=26,slow=15,SNR=3.8
CTA LR LR 20 01 01.9
comp=Z,3μm,18.4s,baz=24,slow=37
QIS Mount Isa 18.37 216 P **Pn 19 56 06.0 +0.1**
baz=18,SNR=29
EIDS Eidsvold 19.39 180 P **P 19 56 16.8 +0.3**
baz=20,SNR=5.8
EIDS Eidsvold 19.39 180 *e*P **P 19 56 16.6 +0.1**
comp=Z,181nm,2.0s
KDU Kakadu 19.57 248 P **P 19 56 19.3 +0.7**
baz=20,SNR=7.0
GUMO Guam 20.29 342 P **P 19 56 27.4 +0.9**
comp=Z,167nm,1.0s,baz=113,slow=3.2,SNR=5.9
GUMO LR LR 20 02 41.9
comp=Z,2μm,21.2s,baz=170,slow=32
GUMO Guam 20.29 342 *e*P Pn 19 56 28.7 0.0
GUMO pmax pmax
comp=Z,389nm,1.2s
GUMO Guam 20.29 342 *e*P Pn 19 56 28.7 0.0
comp=Z,389nm,1.2s
RMQ Roma 20.62 186 P **P 19 56 30.9 +0.9**
baz=21,SNR=11
MTN Manton Dam 20.87 249 P **P 19 56 32.5 -0.1**
baz=21,SNR=16
MTN Manton Dam 20.87 249 *e*P **P 19 56 32.6 -0.1**
comp=Z,114nm,1.0s
PALU Palau 21.15 308 P **P 19 56 37.4 +1.6**
baz=21,SNR=16
WRAB Tennant Creek 21.45 228*c i*P **P 19 56 38.8 -0.2**
WRAB pmax pmax
comp=Z,219nm,1.2s
WRAB Tennant Creek 21.45 228 *e*P **P 19 56 38.5 -0.5**
comp=Z,61nm,0.8s
WB2 Warramunga Arr 21.46 228 *e*P **P 19 56 37.6 -1.5**
WR1 Warramunga Arr 21.47 228 *e*P **P 19 56 38.5 -0.6**
comp=Z,83nm,0.8s
WR1 *e*S **S 20 00 32.2 -3.0**
WR1 *e*ScP **ScP 20 04 16.8 +1.7**
WR1 *e* 20 06 40.6
WRA Warramunga Arr 21.47 228 P **P 19 56 38.5 -0.6**
comp=Z,48nm,0.9s,baz=53,slow=10,SNR=36
WRA S **S 20 00 32.2 -3.0**
comp=Z,4.0nm,1.0s,baz=54,slow=19,SNR=5.8
WRA ScP **ScP 20 04 16.8 +1.7**
comp=Z,5.6nm,0.8s,baz=54,slow=2.4,SNR=10
WRA LR LR 20 06 40.6
comp=Z,2μm,18.1s,baz=45,slow=41
QLP Quilpie 21.61 197 P **P 19 56 40.7 +0.1**
baz=22,SNR=21
DZM Mont Dzumac 21.90 139 P **P 19 56 43.4 -0.5**
comp=Z,21nm,0.6s,baz=301,slow=7.1,SNR=24
DZM LR LR 20 04 30.6
comp=Z,5μm,18.8s,baz=312,slow=34
DZM Mont Dzumac 21.90 139 *e*P **P 19 56 43.3 -0.6**
comp=Z,87nm,1.4s
DZM *e*LQ LQ 20 01 09.6
comp=Z,4μm,25.1s
DZM *e*LR LR 20 02 07.0
comp=Z,5μm,23.4s
DZM Mont Dzumac 21.90 139 *e*P **P 19 56 43.8 -0.1**
comp=Z,36nm,1.0s
KNRA Kununurra 23.98 244 P **P 19 57 05.1 +0.3**
baz=24,SNR=11
LBMI Labuha 24.11 282 P **P 19 57 07.1 +1.0**
AS01 Alice Springs 24.19 221 *e*P **P 19 57 06.5 -0.3**
AS31 Alice Springs 24.22 221 *e*P **P 19 57 06.7 -0.5**
comp=Z,14nm,0.6s
AS31 *e*S **S 20 01 26.5 +3.6**
AS31 *e*ScP **ScP 20 04 22.9 +0.7**
ASAR Alice Springs 24.22 221 P **P 19 57 06.7 -0.4**
comp=Z,30nm,0.7s,baz=57,slow=8.9,SNR=116
ASAR S **S 20 01 26.5 +3.6**
comp=Z,1.3nm,0.9s,baz=43,slow=19,SNR=2.2
ASAR ScP **ScP 20 04 22.9 +0.6**
comp=Z,2.2nm,0.8s,baz=43,slow=4.0,SNR=6.9
ASAR LR LR 20 06 40.5
comp=Z,2μm,20.1s,baz=74,slow=37
CMSA Cobar Meteorol 26.03 191 P **P 19 57 22.6 -0.8**
baz=26,SNR=8.9
SOEI Soe 26.85 260 P **P 19 57 31.0 -0.1**
SOEI Soe 26.85 260 *e*P **P 19 57 29.8 -1.3**
comp=Z,87nm,1.0s
STKA Stephens Creek 27.36 198 P **P 19 57 35.2 -0.1**
comp=Z,11nm,1.0s,baz=31,slow=14,SNR=9.7
STKA ScP **ScP 20 04 33.8 +2.7**
comp=Z,11nm,1.3s,baz=79,slow=4.2,SNR=6.2
STKA LR LR 20 09 04.5
comp=Z,2μm,18.6s,baz=22,slow=38
STKA Stephens Creek 27.36 198 *e*P **P 19 57 35.3 -0.1**
STKA pmax pmax
comp=Z,5.0nm,0.9s
STKA Stephens Creek 27.36 198 *e*P **P 19 57 35.3 -0.1**
comp=Z,5.3nm,0.9s
STKA *e*ScP **ScP 20 04 34.8 +3.7**
FITZ Fitzroy Crossi 27.66 242 P **P 19 57 37.3 -0.8**
comp=Z,21nm,0.7s,baz=73,slow=6.4,SNR=46
FITZ LR LR 20 09 54.9
comp=Z,1μm,19.2s,baz=64,slow=39
FITZ Fitzroy Crossi 27.66 242 P **P 19 57 37.6 -0.6**
baz=28,SNR=46
FITZ Fitzroy Crossi 27.66 242 *e*P **P 19 57 37.4 -0.8**
comp=Z,34nm,0.7s
WRKA Warakurna 28.99 226 P **P 19 57 49.6 -0.5**
baz=29,SNR=15
EDFI Ende, Flores 29.30 263 P P 19 57 46.2 -6.8
HTT Hallett 29.67 201 P **P 19 57 56.7 +0.8**
baz=30,SNR=5.9
WSI Waingapu 30.74 261 P P 19 58 12.1 +6.5
ARPS Mount Arapiles 31.90 194 P **P 19 58 15.2 -0.3**
baz=32
TOO Toolangi 31.97 188 P **P 19 58 16.2 +0.1**
baz=32
FORT Forrest 32.90 218 P **P 19 58 24.7 +0.3**
baz=33
MBWA Marble Bar 33.97 240 *e*P **P 19 58 33.9 0.0**
comp=Z,27nm,0.9s
RAO Raoul Island 37.38 132 LR LR 20 12 16.2
comp=Z,1μm,19.0s,baz=340,slow=33
AFI Afiamalu 37.40 105 LR LR 20 12 09.3
comp=Z,827nm,19.9s,baz=283,slow=32
GIRL Giralia 39.26 241 P **P 19 59 19.9 +0.9**
baz=39,SNR=6.3
URZ Urewera 39.97 147 P **P 19 59 25.0 +0.5**
comp=Z,19nm,1.0s,baz=353,slow=16,SNR=4.0
URZ LR LR 20 15 04.7
comp=Z,1μm,18.6s,baz=356,slow=35
KLBR Kellerberrin 40.34 226 P **P 19 59 27.3 -0.5**
baz=40,SNR=7.6
MORW Morawa 40.36 231 P **P 19 59 27.4 -0.6**
baz=40,SNR=10
BLDU Ballidu 40.60 228 P **P 19 59 29.2 -0.7**
baz=41,SNR=9.3
YULB Yu-li 41.14 316 *e*P **P 19 59 34.3 -0.1**
comp=Z,47nm,0.8s
NWAO Narrogin (SRO) 41.43 225 P **P 19 59 39.4 +2.6**
comp=Z,13nm,1.0s,baz=29,slow=19,SNR=3.9
NWAO LR LR 20 17 09.6
comp=Z,2μm,19.7s,baz=316,slow=37
NACB Ninganchiao 41.45 317 *e*P **P 19 59 37.4 +0.3**
comp=Z,92nm,0.8s
TPUB Ta-pu 41.54 315 *e*P **P 19 59 37.3 -0.5**
comp=Z,65nm,0.7s
RPZ Rata Peaks 41.59 158 P **P 19 59 38.0 +0.1**
comp=Z,14nm,0.9s,baz=317,slow=4.5,SNR=2.5
RPZ LR LR 20 15 55.1
comp=Z,3μm,19.0s,baz=315,slow=35
SSLB Suanglung 41.64 316 *e*P **P 19 59 38.8 +0.2**
comp=Z,34nm,0.8s
MUN Mundaring 41.66 227 P **P 19 59 38.7 0.0**
baz=42
YHNB Yeheng 41.94 318 *e*P **P 19 59 41.7 +0.7**
comp=Z,124nm,0.9s
CISI Cisompet, Garu 43.00 265 *e*P **P 19 59 47.6 -2.2**
comp=Z,146nm,0.9s
JNU Nakatsue 43.27 335 P **P 19 59 52.6 +1.0**
comp=Z,0.4nm,0.3s,baz=171,slow=7.0,SNR=3.9
JNU Nakatsue 43.27 335 *e*P **P 19 59 52.9 +1.2**
comp=Z,37nm,0.7s
MJAR Matsushiro Arr 43.88 345 P **P 19 59 54.3 -2.2**
comp=Z,0.5nm,0.4s,baz=166,slow=9.7,SNR=5.1
MJAR ScP **ScP 20 05 32.1 +1.5**
comp=Z,0.9nm,0.4s,baz=183,slow=4.9,SNR=4.4
MJAR LR LR 20 17 55.9
comp=Z,882nm,18.6s,baz=175,slow=36

MAJO Matsushiro 43.88 345⇑*i*P **P 19 59 54.9 -1.6**
MAJO pmax pmax
comp=Z,51nm,1.1s
QIZ Qiongzhong 47.57 302 P **P 20 00 27.1 +1.2**
QIZ S **S 20 07 20.3 +1.8**
QIZ pmax pmax
comp=Z,240nm,10.7s
QIZ LR LR
comp=Z,700nm,22.4s
QIZ LR LR
comp=Z,1μm,24.3s
KSRS Korea Array 48.22 335 P **P 20 00 30.4 -0.1**
comp=Z,6.4nm,0.8s,baz=153,slow=8.3,SNR=18
KSRS LR LR 20 19 14.2
comp=Z,606nm,21.0s,baz=150,slow=34
KS15 Wonju Array Si 48.22 335 *e*P **P 20 00 30.4 -0.2**
KSAR Wonju Array Be 48.22 335 P **P 20 00 30.5 -0.2**
KSAR Wonju Array Be 48.22 335 P **P 20 00 30.4 -0.2**
KS01 Wonju Array Si 48.25 335 *e*P **P 20 00 31.0 +0.1**
NJ2 Nanjing 48.63 323 *e*P **P 20 00 35.4 +1.5**
NJ2 pmax pmax
comp=Z,40nm,0.9s
YUK Yuzh-Kuril'sk 49.90 355*d i*P P 20 00 28.5 -15
YUK pmax pmax
comp=Z,925nm,1.6s
YUK pmax pmax
comp=E,757nm,1.4s
YUK pmax pmax
comp=N,650nm,1.1s
WHN Wuhan 50.48 318⇓P **P 20 00 49.4 +1.4**
WHN LR LR
comp=N,3μm,20.7s
WHN LR LR
comp=N,5μm,27.0s
WHN LR LR
comp=N,3μm,19.6s
XMAS Kiritimati 51.99 83 *e*P **P 20 01 01.5 +1.9**
comp=N,65nm,1.0s
DL2 Dalian 52.24 331 P **P 20 00 57.3 -3.8**
DL2 *e*S **S 20 08 17.1 -6.0**
DL2 sS **pS 20 08 39.0 +1.6**
DL2 pmax pmax
comp=Z,22nm,1.1s
DL2 pmax pmax
comp=Z,390nm,9.9s
DL2 LR LR
comp=N,550nm,19.5s
DL2 LR LR
comp=E,540nm,17.9s
DL2 LR LR
comp=Z,810nm,18.6s
TIA Tai'an 52.59 325⇓P **P 20 01 03.8 +0.1**
TIA S S 20 08 38.8 +11
TIA pmax pmax
comp=Z,30nm,0.8s
TIA LR LR
comp=Z,730nm,21.2s
TIA LR LR
comp=Z,600nm,17.4s
TIA LR LR
comp=Z,880nm,19.7s
USRK Ussuriysk Ar. 52.73 343 P **P 20 01 03.8 -0.8**
comp=Z,3.5nm,0.8s,baz=174,slow=9.6,SNR=3.5
USRK LR LR 20 21 51.9
comp=Z,500nm,21.2s,baz=143,slow=34
CHAI Chaiyaphum 53.20 295 P **P 20 01 09.0 +0.4**
comp=Z,3.3nm,0.8s
ENH Enshi 53.66 315 *e*P **P 20 01 12.5 +0.7**
comp=Z,46nm,1.2s
SNY Shenyang 53.70 335⇓P P 20 01 20.6 +8.8
SNY S S 20 08 52.3 +9.4
SNY pmax pmax
comp=Z,24nm,2.5s
SNY pmax pmax
comp=Z,200nm,4.9s
SNY LR LR
comp=N,610nm,21.1s
SNY LR LR
comp=E,950nm,20.0s
SNY LR LR
comp=Z,1μm,20.8s
GYA Guiyang 53.71 309⇑*i*P **P 20 01 11.8 -0.5**
GYA pP sP 20 01 28.3 -1.2
GYA PP **PP 20 03 18.0 +4.4**
GYA ScP **ScP 20 06 11.8 -1.0**
GYA S **S 20 08 44.4 +0.6**
GYA sS sS 20 09 07.8 +3.6
GYA SS **SS 20 12 25.5 +0.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.9s
GYA LR LR
comp=Z,580nm,19.2s
GYA LR LR
comp=Z,520nm,20.0s
GYA LR LR
comp=Z,550nm,18.4s
MDJ Mudanjiang 53.85 341 P **P 20 01 15.9 +3.1**
MDJ pP sP 20 01 27.9 -2.1
MDJ sP pP 20 01 32.5 +7.5
MDJ PcP **PcP 20 02 19.9 +1.8**
MDJ ScP **ScP 20 06 14.4 +1.6**
MDJ PcS **PcS 20 06 19.1 +1.9**
MDJ S **S 20 08 46.1 +1.4**
MDJ pmax pmax
comp=Z,4.0nm,1.3s
MDJ pmax pmax
comp=Z,220nm,6.4s
MDJ LR LR
comp=Z,430nm,13.6s
MDJ LR LR
comp=Z,310nm,18.7s
MDJ LR LR
comp=Z,730nm,18.7s
CN2 Changchun 54.60 337 *e*P P 20 01 23.6 +5.3
CN2 *e*S **S 20 08 58.6 +3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,700nm,18.0s
NANT Nan 55.37 298 P **P 20 01 27.4 +3.1**
comp=Z,2.8nm,0.7s
BJI Beijing 55.86 328 P **P 20 01 29.8 +2.4**
BJI S **S 20 09 16.1 +4.2**
BJI SS **SS 20 13 04.3 +5.9**
BJI pmax pmax
comp=Z,11nm,1.1s
BJI LR LR
comp=Z,590nm,19.8s
BJI LR LR
comp=Z,530nm,19.4s
BJI LR LR
comp=Z,540nm,18.7s
HABR Khabarovsk 55.91 347 *e*P P 20 01 38.6 +11
HABR *e**SP sP 20 01 44.5 -0.4
HABR *e* 20 03 29.7
HABR *e*S **S 20 09 08.7 -3.6**
HABR *e**SS sS 20 09 32.5 -0.2
HABR *e* 20 11 08.7
HABR *e*SS **SS 20 12 56.2 -2.7**
HABR pmax pmax
comp=Z,44nm,2.3s
HABR pmax pmax
comp=N,115nm,2.3s
HABR pmax pmax
comp=E,107nm,2.3s
HABR pmax pmax
comp=Z,157nm,2.2s
HABR MLR MLR
comp=Z,559nm,19.0s
KMI Kunming 56.19 305 P **P 20 01 32.6 +2.2**
KMI pP pP 20 01 44.3 +1.6
KMI S **S 20 09 15.9 -1.4**
KMI sS sS 20 09 37.9 +0.1
KMI SS **SS 20 13 03.3 -1.3**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,130nm,7.0s

KMI LR LR
comp=Z,350nm,14.6s
KMI LR LR
comp=Z,290nm,20.4s
KMI LR LR
comp=Z,680nm,23.2s
XAN Xi'an 56.24 318 P **P 20 01 30.0 -0.4**
XAN pP pP 20 01 42.6 -0.1
XAN PcP **PcP 20 02 25.5 -2.1**
XAN PP **PP 20 03 37.5 +1.4**
XAN S **S 20 09 17.3 -0.1**
XAN ScS **ScS 20 11 12.0 -4.4**
XAN SS **SS 20 13 06.4 +1.7**
XAN pmax pmax
comp=Z,20nm,0.8s
XAN pmax pmax
comp=Z,250nm,8.0s
XAN LR LR
comp=Z,430nm,19.8s
XAN LR LR
comp=Z,480nm,19.5s
XAN LR LR
comp=Z,1μm,19.2s
CM01 Chiang Mai Arr 56.78 296 *e*P **P 20 01 33.6 -0.8**
KIP Kipapa 56.78 60*de*P **P 20 01 35.3 +0.9**
KIP pmax pmax
comp=Z,907nm,1.2s
KIP Kipapa 56.78 60 *e*P **P 20 01 34.6 +0.2**
comp=Z,94nm,0.9s
CMAR Chiang Mai Arr 56.81 296 LR LR 20 26 13.4
comp=Z,270nm,19.5s,baz=132,slow=36
OPA Opana 56.89 60 *e*P **P 20 01 36.9 +1.8**
OPA pmax pmax
comp=Z,135nm,0.9s
OPA Opana 56.89 60 *e*P **P 20 01 36.9 +1.8**
comp=Z,135nm,0.9s
CD2 Chengdu 58.16 312 *e*P **P 20 01 45.0 +1.0**
CD2 sP sP 20 02 03.9 +2.6
CD2 S **S 20 09 44.3 +1.6**
CD2 SS **SS 20 13 38.0 +3.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.2s
CD2 LR LR
comp=Z,890nm,19.4s
CD2 LR LR
comp=Z,2μm,20.9s
CD2 LR LR
comp=Z,1μm,22.8s
POHA Pohakuloa 58.34 63 *e*P **P 20 01 47.3 +1.7**
comp=Z,162nm,1.0s
HHC Hu-ho-hao-te 58.94 326 *e*P **P 20 01 53.3 +4.0**
HHC S **S 20 09 55.3 +2.7**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,100nm,7.4s
HHC LR LR
comp=Z,640nm,17.5s
HHC LR LR
comp=Z,660nm,19.7s
HHC LR LR
comp=Z,680nm,17.6s
PET Petropavlovsk 59.02 5 *e*P **P 20 01 51.6 +2.2**
PET *e*S **S 20 09 54.3 +1.4**
PET pmax pmax
comp=Z,100nm,18.1s
PETK Petropavlovsk- 59.02 5 P **P 20 01 47.9 -1.6**
comp=Z,6.1nm,0.7s,baz=153,slow=5.4,SNR=11
PETK LR LR 20 23 45.5
comp=Z,663nm,21.5s,baz=198,slow=32
PEA1 Petropavlovsk- 59.02 5 *e*P **P 20 01 47.9 -1.6**
PPT Papeete 59.03 107 LR LR 20 21 41.6
comp=Z,113nm,21.5s,baz=238,slow=30
PPT2 Papeete2 59.04 107 *e*S **S 20 09 55.5 +0.9**
comp=Z,799nm,27.8s
PPT2 *e*LQ LQ 20 16 41.0
comp=Z,2μm,31.8s
PPT2 *e*LR LR 20 19 09.5
comp=Z,366nm,24.5s
TBI Tubuai 59.68 114 *e*S **S 20 10 04.3 +1.7**
comp=Z,434nm,29.8s
TBI *e*LQ LQ 20 17 03.6
comp=Z,2μm,33.2s
TBI *e*LR LR 20 19 38.8
comp=Z,418nm,32.5s
LZH Lanzhou 60.83 317⇑P **P 20 02 03.3 +0.9**
LZH pP pP 20 02 16.8 +1.9
LZH sP sP 20 02 22.0 +2.2
LZH PP **PP 20 04 20.3 +3.4**
LZH S **S 20 10 15.1 -2.1**
LZH sS sS 20 10 39.3 +1.4
LZH *e*SS **SS 20 14 15.5 -1.5**
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,170nm,6.8s
LZH LR LR
comp=Z,620nm,15.0s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,820nm,18.4s
MA2 Magadan 65.24 360 LR LR 20 33 55.6
comp=Z,574nm,18.0s,baz=174,slow=39
GTA Gaotai 65.30 318 P **P 20 02 32.3 +0.3**
GTA pP pP 20 02 45.3 +0.7
GTA sP sP 20 02 50.3 +0.8
GTA S **S 20 11 11.0 -1.9**
GTA sS sS 20 11 32.3 -1.5
GTA SS **SS 20 15 25.3 -1.4**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,62nm,5.5s
GTA LR LR
comp=Z,200nm,18.5s
GTA LR LR
comp=Z,440nm,19.0s
GTA LR LR
comp=Z,610nm,19.5s
ULN Ulaanbaatar 66.02 329⇓*e*P **P 20 02 37.1 +0.6**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 66.02 329 *e*P **P 20 02 35.9 -0.6**
comp=Z,7.1nm,0.9s
SONA0 Songino Array 66.33 329 *e*P **P 20 02 38.0 -0.5**
SONM Songino Array 66.33 329 P **P 20 02 38.0 -0.5**
comp=Z,4.3nm,0.8s,baz=130,slow=4.5,SNR=26
SONM LR LR 20 31 05.0
comp=Z,946nm,20.9s,baz=134,slow=36
SONM Songino Array 66.33 329 P **P 20 02 38.0 -0.5**
SONA1 Songino Array 66.34 329 *e*P **P 20 02 38.4 -0.2**
LSA Lhasa 67.45 305 *e*P **P 20 02 47.3 +0.9**
LSA pmax pmax
comp=Z,16nm,1.4s
LSA Lhasa 67.45 305 *e*P **P 20 02 47.3 +0.9**
comp=Z,16nm,1.4s
TAOE Nuku Hiva Isla 68.18 97 *e*LR LR 20 23 38.7
comp=Z,339nm,23.0s
SEY Seymchan 68.61 1 LR LR 20 27 56.6
comp=Z,635nm,21.5s,baz=150,slow=32
TAPN Taplejung 69.51 302 *e*P **P 20 02 57.9 -1.2**
comp=Z,17nm,0.9s
ZAK Zakamensk 69.53 330 *e*P **P 20 02 57.4 -1.1**
ZAK pmax pmax
comp=Z,12nm,1.0s
ODAN Odare 69.63 301 *e*P **P 20 02 58.4 -1.4**
comp=Z,16nm,0.7s
YAK Yakutsk 69.69 349 LR LR 20 31 24.1
comp=Z,467nm,21.7s,baz=178,slow=34
YAK Yakutsk 69.69 349 *e*P **P 20 02 57.0 -2.1**
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,11nm,1.6s
YAK Yakutsk 69.69 349 *e*P **P 20 02 59.0 -0.1**
comp=N,40nm,1.4s
TLY Talaya 70.16 331 LR LR 20 31 36.5
comp=N,495nm,22.0s,baz=126,slow=34
BOD Bodaibo 70.19 340 *e*P **P 20 03 00.5 -1.8**
BOD pmax pmax
comp=Z,18nm,2.4s
RAMN Ramite 70.33 301 *e*P **P 20 03 02.4 -1.7**
comp=Z,10nm,0.7s

JIRN Jiri 70.89 302 eP P 20 03 06.2 -1.5
comp=Z,133nm,1.0s
GUN Gumba 71.23 302 eP P 20 03 09.0 -0.7
comp=Z,24nm,0.7s
MOY Mondy 71.46 330 eP P 20 03 10.2 -0.1
PKIN Phulchoki 71.54 301 eP P 20 03 10.3 -1.2
comp=Z,13nm,1.0s
KKN Kakani 71.70 302 eP P 20 03 11.5 -0.9
comp=Z,17nm,0.8s
DMN Daman 71.79 301 eP P 20 03 11.6 -1.4
comp=Z,38nm,0.9s
VNDA Vanda 71.84 178 P P 20 03 12.2 +0.3
comp=Z,1.7nm,0.8s,baz=334,slow=6.7,SNR=7.1
VNDA LR LR 20 33 42.7
comp=Z,267nm,18.2s,baz=5.0,slow=35
GKN Gorkha 72.30 302 eP P 20 03 14.9 -1.0
comp=Z,24nm,0.9s
MIR Mirnyy 72.33 201 i P P 20 03 16.0 +0.9
MIR pmax pmax
comp=Z,4.0nm,1.2s
SBA Scott Base 72.41 177 eP P 20 03 17.3 +1.9
SBA pmax pmax
comp=Z,14nm,1.4s
SBA Scott Base 72.41 177 eP P 20 03 17.3 +1.9
comp=Z,14nm,1.4s
KOLN Koldanda 73.12 301 eP P 20 03 19.7 -1.1
comp=Z,22nm,0.7s
PYUN Piuthan 73.73 301 eP P 20 03 23.1 -1.3
comp=Z,44nm,0.8s
BILL Bilibino 74.51 6 eP P 20 03 26.0 -1.9
BILL i 20 03 39.6
BILL i 20 06 13.5
BILL pmax pmax
comp=Z,7.0nm,0.9s
HYB Hyderabad 75.24 290 i P P 20 03 32.0 -1.2
WMQ Urumqi 75.38 318 P P 20 03 33.5 0.0
WMQ pP PcP 20 03 47.1 +0.6
WMQ sP sP 20 03 54.5 +3.4
WMQ eS S 20 13 07.4 -3.0
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,250nm,4.7s
WMQ LR LR
comp=Z,180nm,19.5s
WMQ LR LR
comp=Z,230nm,22.3s
WMQ LR LR
comp=Z,260nm,22.3s
KDAK Kodiak Island 77.89 27 i P P 20 03 46.5 -0.7
DGZ Jazzator, Alta 77.92 323 i P P 20 03 47.1 -0.7
DGZ pmax pmax
comp=Z,4.0nm,0.9s
SVW2 Sparrevohn 78.47 23 eP P 20 03 50.4 -0.1
comp=Z,11nm,1.0s
TIXI Tiksi 78.73 353⇑ eP P 20 03 49.1 -2.5
TIXI pmax pmax
comp=Z,11nm,2.5s
TT01 Tatalina 79.36 22 eP P 20 03 54.5 -0.8
CNPM China Poot 79.41 26 eP P 20 03 54.3 -1.4
comp=Z,36nm,0.7s
MK01 Makanchi Array 80.00 319 eP P 20 03 57.5 -1.6
MK31 Makanchi Array 80.02 319 eP P 20 03 58.4 -0.8
MK31 Makanchi Array 80.02 319 eP P 20 03 58.4 -0.8
MK32 Makanchi Array 80.02 319 eP P 20 03 57.8 -1.4
MK32 ePP PP 20 06 59.9 -1.7
MKAR Makanchi Array 80.02 319 P P 20 03 57.8 -1.4
comp=Z,6.2nm,0.8s,baz=109,slow=5.5,SNR=35
MKAR PP PP 20 06 59.9 -1.7
comp=Z,2.3nm,0.9s,baz=104,slow=10,SNR=4.8
MKAR LR LR 20 37 43.9
comp=Z,484nm,21.9s,baz=92,slow=34
MKAR Makanchi Array 80.02 319 ceP P 20 03 58.7 -0.5
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 80.02 319 eP P 20 03 58.4 -0.8
comp=Z,36nm,0.8s
MKAR PP PP 20 06 59.9 -1.7
MAKZ Makanchi 80.22 319 eP P 20 03 59.1 -1.2
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 80.22 319 eP P 20 03 59.1 -1.2
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 81.10 327 eP P 20 04 02.3 -2.5
ZALV Zalesovo Beam 81.10 327 P P 20 04 02.2 -2.6
comp=Z,6.5nm,0.8s,baz=98,slow=4.4,SNR=21
ZALV LR LR 20 39 08.6
comp=Z,581nm,21.4s,baz=70,slow=35
ZALV Zalesovo Beam 81.10 327 eP P 20 04 01.8 -3.0
ZALV Zalesovo Beam 81.10 327 eP P 20 04 01.8 -3.0
ZAA1 Zalesovo Array 81.10 327 eP P 20 04 02.2 -2.6
CAST Castle Rocks 81.13 22 eP P 20 04 02.9 -1.9
comp=Z,8.0nm,0.8s
SML Sawmill 81.80 25 eP P 20 04 06.6 -1.8
SML pmax pmax
comp=Z,14nm,0.8s
SML Sawmill 81.80 25 eP P 20 04 06.6 -1.8
comp=Z,14nm,0.8s
TRF Thorofare Moun 81.83 23 eP P 20 04 08.2 -0.5
comp=Z,12nm,1.3s
BPAW Bear Paw Mtn. 81.91 22 eP P 20 04 07.4 -1.5
comp=Z,5.8nm,0.9s
IMAR Indian Mountai 81.95 20 eP P 20 04 06.5 -2.6
KSH Kashi 82.34 311 P P 20 04 12.5 +0.6
KSH pP pP 20 04 25.8 +1.1
KSH sP sP 20 04 31.8 +2.2
KSH ePP PP 20 07 25.9 +4.8
KSH S S 20 14 21.3 -3.6
KSH sS sS 20 14 46.3 -0.2
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,110nm,11.8s
KSH LR LR
comp=Z,210nm,13.4s
KSH LR LR
comp=Z,370nm,19.9s
RND Reindeer 82.37 23 eP P 20 04 09.6 -1.8
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 82.37 23 eP P 20 04 09.6 -1.8
comp=Z,11nm,0.8s
MLY Manley 82.49 21 eP P 20 04 10.2 -1.8
comp=Z,11nm,0.6s
MCK McKinley 82.50 23 eP P 20 04 10.0 -2.0
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 82.50 23 eP P 20 04 10.0 -2.0
comp=Z,20nm,0.9s
KLU Klutina 82.67 26 eP P 20 04 12.8 -0.2
comp=Z,18nm,1.2s
DHY Denali Highway 82.80 24 eP P 20 04 13.0 -0.8
comp=Z,6.1nm,0.8s
WRH Wood River Hil 83.19 22 eP P 20 04 13.5 -2.0
comp=Z,7.1nm,1.0s
CCB Clear Creek Bu 83.38 22 eP P 20 04 13.6 -2.9
comp=Z,6.6nm,0.7s
KURK Kurchatov 83.56 322 deP P 20 04 16.6 -1.1
KURK pmax pmax
comp=Z,69nm,1.2s
KURK Kurchatov 83.56 322 eP P 20 04 16.1 -1.6
comp=Z,16nm,1.1s
CRQM Cirque 83.57 27 eP P 20 04 18.2 +0.4
comp=Z,22nm,0.6s
IL1 Eielson Array 83.78 22 eP P 20 04 15.7 -2.9
ILAR Eielson Array 83.78 22 P P 20 04 15.2 -3.4
comp=Z,6.4nm,0.6s,baz=249,slow=5.3,SNR=45
ILAR LR LR 20 39 30.5
comp=Z,557nm,19.6s,baz=270,slow=34
ILB Eielson Array 83.78 22 eP P 20 04 15.7 -2.9
MAW Mawson 83.94 203 P P 20 04 18.7 -0.7
comp=Z,4.2nm,0.6s,baz=90,slow=7.7,SNR=14
MAW LR LR 20 39 30.4
comp=Z,519nm,20.4s,baz=65,slow=34
MAW Mawson 83.94 203 P P 20 04 19.0 -0.4
baz=84,SNR=11
MAW Mawson 83.94 203 eP P 20 04 19.1 -0.2
MAW pmax pmax
comp=Z,7.0nm,1.5s
MAW Mawson 83.94 203 eP P 20 04 19.1 -0.2
comp=Z,6.5nm,1.5s
BALM Baldy 84.04 27 eP P 20 04 19.4 -0.7
BALM pmax pmax
comp=Z,8.0nm,0.8s
BALM Baldy 84.04 27 eP P 20 04 19.4 -0.7
comp=Z,8.2nm,0.8s
QSPA South Pole Qui 84.10 180 eP P 20 04 20.0 -0.4
FRU Bishkek 84.13 314 eP P 20 04 20.0 -0.9
FRU pmax pmax
comp=Z,40nm,1.8s
AAK Ala-Archa 84.17 314⇓ eP P 20 04 21.1 -0.2
AAK pmax pmax
comp=Z,22nm,1.1s
AAK Ala-Archa 84.17 314 eP P 20 04 20.6 -0.7
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 84.76 18 P P 20 04 24.6 +1.1
baz=239
EGAK Eagle 86.01 23 eP P 20 04 29.3 -0.4
comp=Z,7.7nm,0.9s
HYT Haines Junctio 86.16 28 eP P 20 04 30.3 -0.4
NRIK Noril'sk 86.42 341 LR LR 20 41 33.4
comp=Z,300nm,21.6s,baz=121,slow=34
DAWY Dawson 86.45 24 eP P 20 04 31.6 -0.4
comp=Z,48nm,2.0s
KKAR Karatay Array 87.13 314 eP P 20 04 34.8 -1.0
KKAR pmax pmax
comp=Z,162nm,1.5s
KKAR Karatay Array 87.13 314 eP P 20 04 34.8 -1.0
comp=Z,162nm,1.5s
WHY Whitehorse 87.34 28 eP P 20 04 36.5 0.0
comp=Z,9.6nm,1.0s
BVAR Borovoye Array 89.08 323 LR LR 20 46 32.1
comp=Z,305nm,18.8s,baz=72,slow=37
BRVK Borovoye 89.14 323⇓ eP P 20 04 43.1 -2.0
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 89.14 323 eP P 20 04 42.2 -2.8
comp=Z,4.4nm,1.0s
DLBC Dease Lake 89.17 31 P P 20 04 44.2 -0.9
comp=Z,3.1nm,0.8s,baz=259,slow=6.3,SNR=5.1
INK Inuvik 90.06 21 P P 20 04 48.1 -0.9
comp=Z,8.0nm,1.1s,baz=305,slow=4.2,SNR=4.2
INK LR LR 20 41 54.9
comp=Z,415nm,21.3s,baz=263,slow=33
L02D Cave Junction, 90.42 48 P P 20 04 52.0 +0.6
baz=263
GDXM Geysers 90.61 51 eP P 20 04 53.4 +1.1
comp=Z,9.3nm,1.0s
I03D Drain, OR 90.81 46 P P 20 04 52.8 -0.3
baz=263,SNR=6.0
M02C Callahan 90.88 49 P P 20 04 54.1 +0.6
baz=263,SNR=8.3
N02D Trinity Center 90.94 49 P P 20 04 54.2 +0.3
baz=263,SNR=7.9
HUMO Hull Mountain 90.95 47 eP P 20 04 53.9 +0.1
comp=Z,26nm,1.0s
E03A Lebam 91.02 43 eP P 20 04 54.6 +0.7
comp=Z,20nm,0.9s
WDC Whiskeytown Da 91.02 49 eP P 20 04 55.1 +1.0
WDC pmax pmax
comp=Z,26nm,1.5s
WDC Whiskeytown Da 91.02 49 eP P 20 04 55.1 +1.0
comp=Z,26nm,1.5s
YBH Yreka Blue Hor 91.03 48 eP P 20 04 54.6 +0.3
YBH pmax pmax
comp=Z,47nm,1.4s
YBH Yreka Blue Hor 91.03 48 eP P 20 04 54.6 +0.3
comp=Z,47nm,1.4s
O03D Paynes Creek 91.55 50 P P 20 04 56.2 -0.5
baz=264,SNR=11
J04D Umpqua Nationa 91.65 47 P P 20 04 57.0 -0.2
baz=264
M04C Macdoel 91.68 48 P P 20 04 57.3 0.0
baz=264,SNR=8.7
ORV Oroville 91.70 51 eP P 20 04 57.2 -0.1
ORV pmax pmax
comp=Z,16nm,1.2s
ORV Oroville 91.70 51 eP P 20 04 57.2 -0.1
comp=Z,16nm,1.2s
MCW Mount Constitu 91.77 41 P P 20 04 58.0 +0.5
MCW Mount Constitu 91.77 41 P P 20 04 58.0 +0.5
FL2 Flat Top 2 91.81 44 eP P 20 04 58.5 +0.7
K04D Chiloquin, OR 91.84 48 P P 20 04 58.4 +0.4
baz=264
PMPB Monarch Peak 91.90 54 eP P 20 04 59.3 +0.9
comp=Z,176nm,1.1s
AFDM Forest Hills D 92.04 51 eP P 20 04 59.9 +0.9
comp=Z,18nm,1.1s
SYO Syowa Base 92.10 200⇑ eX P 20 04 56.2 -2.3
B05A Bryant 92.21 42 P P 20 05 00.0 +0.6
baz=264
J05D Fort Rock, OR 92.29 47 P P 20 05 00.8 +0.7
baz=264
PAGB Antelope Grade 92.30 54 eP P 20 05 00.4 +0.2
comp=Z,132nm,0.8s
I05D Terrebonne, OR 92.32 46 P P 20 05 00.7 +0.6
baz=264
VFP Flag Point 92.33 45 P P 20 05 00.2 -0.1
CMB Columbia Colle 92.41 52 eP P 20 05 01.7 +1.0
CMB pmax pmax
comp=Z,39nm,0.8s
CMB Columbia Colle 92.41 52 eP P 20 05 01.7 +1.0
comp=Z,39nm,0.8s
G05D Wamic, OR 92.43 45 P P 20 05 00.9 +0.4
baz=264
SMMC Simmler 92.47 55 P P 20 05 01.5 +0.5
baz=265
PKM Mcpherson Peak 92.57 55 P P 20 05 02.2 +0.5
baz=265
BEKR Beckworth 92.61 50 eP P 20 05 01.7 0.0
comp=Z,15nm,0.7s
SCZ2 Santa Cruz Isl 92.64 56 P P 20 05 02.3 +0.5
baz=265
MOD Modoc Plateau 92.84 48 eP P 20 05 02.6 -0.1
comp=Z,30nm,1.2s
BLG Laguna Peak, P 93.12 56 P P 20 05 04.3 +0.3
baz=265
PNTR Pine Nut 93.12 51 eP P 20 05 04.3 +0.1
comp=Z,32nm,0.7s
WAKR Walker 93.20 52 eP P 20 05 04.5 0.0
comp=Z,30nm,0.7s
VES Vestal, Richgr 93.25 54 P P 20 05 04.5 0.0
baz=265
PAHR Pah Rah Range 93.34 51 eP P 20 05 05.7 +0.6
comp=Z,14nm,1.1s
YERR Yerington 93.39 51 eP P 20 05 06.2 +0.8
comp=Z,126nm,1.9s
ARVC Arvin 93.40 55 P P 20 05 05.5 +0.3
baz=265
OSI Osito Audit: C 93.44 56 P P 20 05 06.1 +0.5
baz=265
MLAC Mammoth, Mammo 93.60 53 P P 20 05 06.4 0.0
baz=266
CIS Catalina Islan 93.60 57 P P 20 05 06.8 +0.5
baz=266
FMP Fort Macarthur 93.73 57 P P 20 05 07.2 +0.5
baz=266
ISA Isabella, Lake 93.73 55 P P 20 05 06.6 -0.3
baz=266
DECC Green Verdugo 93.74 56 P P 20 05 07.3 +0.4
baz=266
PASC Pasadena Art C 93.85 56 eP P 20 05 07.9 +0.6
comp=Z,18nm,0.8s
MWC Mount Wilson 93.96 56 eP P 20 05 08.7 +0.6
MWC Mount Wilson 93.96 56 eP P 20 05 08.7 +0.6
TIN Tinemaha, Big 94.03 53 P P 20 05 08.5 +0.2
baz=266
EDW2 Edwards Air Fo 94.06 55 P P 20 05 08.6 +0.2
baz=266,SNR=14
CWC Cottonwood Cre 94.11 54 P P 20 05 08.9 +0.1
baz=266
WVOR Wild Horse Val 94.11 48 eP P 20 05 08.8 +0.2
WVOR pmax pmax
comp=Z,26nm,1.4s
WVOR Wild Horse Val 94.11 48 eP P 20 05 08.8 +0.2
comp=Z,26nm,1.4s
BFSC Mount Baldy Ra 94.29 56 P P 20 05 09.5 -0.1
baz=266
LRMC Laurel Mtn Rad 94.36 55 P P 20 05 10.3 +0.5
baz=266,SNR=11
WSAR Wadi Sarin 94.54 293 LR LR 20 49 37.3
comp=Z,67nm,21.1s,baz=108,slow=37
MPMC Manual Prospec 94.56 54 P P 20 05 11.1 +0.3
baz=266,SNR=18
MURC Murrieta 94.63 57 P P 20 05 11.6 +0.6
baz=266
109C Camp Elliot, M 94.66 58 P P 20 05 11.7 +0.7
baz=266
GRAC Grapevine Rang 94.72 53 P P 20 05 11.4 +0.1
baz=266
E09A Wood Farm, Sta 94.74 44 eP P 20 05 11.3 +0.2
comp=Z,9.7nm,0.9s
RRX Edison Barstow 94.88 56 P P 20 05 12.3 +0.2
baz=266
BBRC Big Bear Solar 94.90 56 P P 20 05 12.6 +0.1
baz=266
GSC Goldstone, Bar 95.06 55 P P 20 05 13.1 0.0
baz=266,SNR=6.7
GSC Goldstone, Bar 95.06 55 eP P 20 05 13.4 +0.4
GSC Goldstone, Bar 95.06 55 eP P 20 05 13.4 +0.4
FURC Furnace Creek, 95.09 54 P P 20 05 13.3 +0.3
baz=267
ABKAR Akbulak array 95.15 319 eP P 20 05 11.8 -1.2
comp=Z,1.4nm,0.7s
BMO Blue Mountains 95.23 46 eP P 20 05 12.4 -1.2
BMO pmax pmax
comp=Z,13nm,1.4s
BMO Blue Mountains 95.23 46 eP P 20 05 12.3 -1.2
comp=Z,13nm,1.4s
MONP2 Monument Peak 95.23 58 P P 20 05 15.0 +1.0
baz=266,SNR=9.0
PFO Pinyon Flats O 95.25 57 P P 20 05 14.6 +0.6
comp=Z,2.3nm,0.6s,baz=283,slow=7.8,SNR=5.3
PFO Pinyon Flats O 95.25 57 P P 20 05 14.5 +0.5
baz=267
PFO Pinyon Flats O 95.25 57 eP P 20 05 14.6 +0.6
PFO pmax pmax
comp=Z,9.0nm,1.1s
PFO Pinyon Flats O 95.25 57 eP P 20 05 14.6 +0.6
comp=Z,8.7nm,1.1s
HEC Hector,Ludlow 95.42 56 P P 20 05 14.9 +0.3
baz=267,SNR=7.7
IKP In-Ko-Pah, Jac 95.48 58 P P 20 05 15.3 +0.3
baz=267
NEW Newport 95.53 42 P P 20 05 14.9 +0.2
baz=268
SHOC Shoshone, Teco 95.53 55 P P 20 05 15.4 +0.4
baz=267
TPNV Topopah Spring 95.61 54 P P 20 05 15.5 -0.1
baz=267,SNR=18
TPNV Topopah Spring 95.61 54 eP P 20 05 15.8 +0.2
TPNV pmax pmax
comp=Z,442nm,0.7s
TPNV Topopah Spring 95.61 54 eP P 20 05 15.8 +0.2
comp=Z,442nm,0.7s
BELC Belle Mtn. Jos 95.65 56 P P 20 05 16.0 +0.2
baz=267,SNR=8.9
SWSC Sam W. Stewart 95.76 58 P P 20 05 16.4 +0.3
baz=267
TUQ Turquoise Moun 95.79 55 P P 20 05 16.1 -0.3
baz=267
GEYT Alibeck 95.91 307 P P 20 05 15.1 -1.7
comp=Z,1.2nm,0.9s,baz=60,slow=5.7,SNR=5.2
GEYT LR LR 20 51 46.6
comp=Z,214nm,18.0s,baz=35,slow=38
FRK Frink 95.92 57 eP P 20 05 13.9 -2.9
GMRC Granite Mounta 95.97 56 P P 20 05 17.4 +0.2
baz=267,SNR=11
BC3 Big Chuckawall 96.09 57 P P 20 05 17.9 +0.2
baz=267
R11A Troy Canyon, C 96.20 52 P P 20 05 18.4 +0.1
baz=268,SNR=13
R11A Troy Canyon, C 96.20 52 eP P 20 05 18.4 +0.1
comp=Z,50nm,0.6s
MFID Camas Ranch 96.23 47 eP P 20 05 18.1 -0.1
comp=Z,7.7nm,1.1s
IRM Iron Mountain 96.37 56 P P 20 05 19.3 +0.4
baz=267,SNR=12
SHPR Sheep Range 96.46 54 eP P 20 05 20.4 +0.9
comp=Z,437nm,0.7s
GLA Glamis 96.58 57 P P 20 05 20.7 +0.8
baz=267
NEE2 Needles Airpor 96.83 56 P P 20 05 21.3 +0.4
baz=268
Y12C Blythe 96.86 57 P P 20 05 21.6 +0.4
baz=268
PDMCI Parker Dam,Lak 97.20 56 P Pdif 20 05 23.1 +0.3
baz=268
HLID Hailey 97.26 47 P Pdif 20 05 23.1 +0.1
baz=269
HLID Hailey 97.26 47 eP P 20 05 22.8 -0.1
comp=Z,4.1nm,0.6s
W13A Hualapai Mount 97.44 55 eP Pdif 20 05 25.3 +1.2
MSO Missoula 97.64 44 P Pdif 20 05 24.7 +0.2
baz=270
WALA Waterton Lakes 97.67 41 eP Pdif 20 05 25.1 +0.5
comp=Z,9.7nm,0.9s
CCUT Cedar City 97.94 53 eP Pdif 20 05 27.3 +1.0
comp=Z,111nm,0.9s
LCMT Little Creek M 98.02 54 eP Pdif 20 05 27.9 +1.4
comp=Z,197nm,0.8s
214A Organ Pipe Nat 98.24 59 eP Pdif 20 05 28.9 +1.4
comp=Z,12nm,0.9s
KNB Kanab 98.36 54 eP Pdif 20 05 29.4 +1.4
KNB pmax pmax
comp=Z,264nm,0.8s
KNB Kanab 98.36 54 eP Pdif 20 05 29.4 +1.3
comp=Z,264nm,0.8s
HVU Hansel Valley 98.45 49 eP Pdif 20 05 29.0 +0.7
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU Hansel Valley 98.45 49 eP Pdif 20 05 29.0 +0.7
comp=Z,8.4nm,0.9s
U15A North Rim 98.77 54 eP Pdif 20 05 31.4 +1.4
comp=Z,235nm,0.7s
MTPU Mount Pierson 98.88 53 eP Pdif 20 05 32.2 +1.6
comp=Z,82nm,1.0s
HWUT Hardware Ranch 99.35 49 eP Pdif 20 05 32.1 -0.3
comp=Z,6.5nm,0.9s
WUAZ Wupatki 99.51 55 Pdiff Pdif 20 05 34.0 +0.8
baz=270
TUC Tucson 99.97 58 Pdiff Pdif 20 05 36.2 +1.1
baz=269
H17A Grant Village 100.03 46 Pdiff Pdif 20 05 36.3 +0.9
baz=272
PD31 Pinedale Array 100.82 48 ePdif Pdif 20 05 37.0 -2.0
PDAR Pinedale Array 100.82 48 P Pdif 20 05 37.0 -2.0
comp=Z,2.7nm,0.8s,baz=211,slow=1.7,SNR=5.1
W18A Petrified Fore 100.85 55 Pdiff Pdif 20 05 40.8 +1.6
baz=271
S22A 4UR Ranch, Cre 103.12 53 Pdiff Pdif 20 05 51.0 +1.7
baz=273
ANMO Albuquerque 103.54 56 Pdiff Pdif 20 05 52.7 +1.6
baz=272
TXAR Lajitas Array 106.13 61 PP PP 20 10 27.0 0.0
comp=Z,0.8nm,0.9s,baz=264,slow=9.9,SNR=5.0
ARA0 ARCESS Array S 107.38 343 ePKiKP PKiKP 20 10 14.4 -1.1
ARCES ARCESS Array B 107.38 343 PKiKP PKiKP 20 10 14.4 -1.1
comp=Z,2.3nm,0.9s,baz=42,slow=2.8,SNR=7.0
ANN Anapa 110.83 316 i P Pdif 20 06 13.8 -9.2
ANN pmax pmax
comp=Z,57nm,1.1s
ANN MLR MLR
comp=Z,465nm,21.0s
ANN MLR MLR
comp=N,302nm,21.0s
FIA0 FINESS Array S 111.31 335 ePKiKP PKiKP 20 10 22.2 -0.9
FIA0 FINESS Array S 111.31 335 ePKiKP PKiKP 20 10 22.1 -0.9
FINES FINESS Array B 111.31 335 PKiKP PKiKP 20 10 22.1 -0.9
comp=N,6.0nm,1.1s,baz=127,slow=1.7,SNR=3.7
AKASG Malin Array Be 114.36 324 PKP PKPdf 20 10 27.6 -1.6
comp=N,1.7nm,0.7s,baz=69,slow=2.3,SNR=6.8
AKASG Malin Array Be 114.36 324 c iPKIKP PKPdf 20 10 28.3 -1.0
AKASG pmax pmax
comp=Z,2.0nm,0.7s
KIEV Kiev 114.37 324⇑ iPKIKP PKPdf 20 10 30.2 +0.9
BR101 Keskin Array S 114.73 311 ePKiKP PKPdf 20 10 29.5 -1.1
BRTR Keskin Array B 114.73 311 PKP PKPdf 20 10 29.5 -1.1
comp=Z,1.8nm,0.8s,baz=44,slow=0.8,SNR=7.7
BRTR Keskin Array B 114.73 311 c iPKIKP PKPdf 20 10 30.8 +0.2
BRTR pmax pmax
comp=Z,2.0nm,0.7s
NB200 NORSAR Array S 117.32 339 ePKPdf PKPdf 20 10 33.0 -1.8
NOA NORSAR Array B 117.32 339 PKP PKPdf 20 10 33.0 -1.8
comp=Z,1.4nm,0.9s,baz=48,slow=1.8,SNR=3.4
NOA NORSAR Array B 117.32 339 PKIKP PKPdf 20 10 33.0 -1.8
ARR Arges 119.26 319 ⇓ iP PKPdf 20 10 40.3 +1.3
STHS Stebnicka Huta 119.55 325 ePKiKP PKPdf 20 10 40.6 +1.2
STHS Stebnicka Huta 119.55 325 ePKP PKPdf 20 10 40.6 +1.2
DRGR 119.88 322 ⇑ iP PKPdf 20 10 39.6 -0.5
DRGR 119.88 322 ⇑ PKIKP PKPdf 20 10 39.6 -0.5
LANS Liptovska Anna 120.70 325 ePKiKP PKPdf 20 10 43.3 +1.7
LANS Liptovska Anna 120.70 325 ePKP PKPdf 20 10 43.3 +1.7
SIRR Siria 120.76 321 ⇓ iP PKPdf 20 10 41.5 -0.3
BZS Buzias 121.08 321 ⇓ iP PKPdf 20 10 40.1 -2.3
BZS Buzias 121.08 321 ⇓ PKIKP PKPdf 20 10 40.1 -2.3
OKC Ostrava-Krasne 121.08 326 AMS AMS 21 04 50.0
VTS Vitosha 121.31 317⇑ iP PKPdf 20 10 42.4 -0.7

VTS	Vitosha	121.31 317	⇑PKIKP	PKPdf	20 10 42.4	-0.7
VTS	Vitosha	121.31 317	*e*PKPdf	PKPdf	20 10 42.4	-0.7
MDVR	Moldovita	121.39 320	‖*P*	PKPdf	20 10 41.9	-1.2
VYHS	Vyhne	121.39 325	*e*PKIKP	PKPdf	20 10 42.9	0.0
VYHS	Vyhne	121.39 325	*e*PKP	PKPdf	20 10 42.9	0.0
KRLC	Kraliky	121.70 327	*e*PKPdf	PKPdf	20 10 44.1	+0.6
KRLC	Kraliky	121.70 327	*e*PKIKP	PKPdf	20 10 44.1	+0.6
DPC	Dobruska-Polom	121.79 328	*e*PKPdf	PKPdf	20 10 44.1	+0.4
DPC			*ep*PKP	pPKPdf	20 10 52.2	-4.9
DPC			AMS	AMS	21 05 00.0	
DPC	Dobruska-Polom	121.79 328	*e*PKIKP	PKPdf	20 10 44.1	+0.4
DPC			*e*		20 10 52.2	
BRG	Berggiesshubel	122.73 329	*e*PKP	PKPdf	20 10 45.1	-0.3
	comp=Z,17nm,1.5s					
BRG	Berggiesshubel	122.73 329	*e*PKIKP	PKPdf	20 10 45.1	-0.3
BRG			pmax	pmax		
	comp=Z,17nm,1.5s					
TREC	Trest	122.83 327	*e*PKPdf	PKPdf	20 10 45.9	+0.2
TREC			AMS	AMS	21 05 20.0	
TREC	Trest	122.83 327	*e*PKIKP	PKPdf	20 10 45.9	+0.2
GOPC	GO Pecny, Ondr	122.85 328	*e*PKPdf	PKPdf	20 10 45.7	0.0
GOPC	GO Pecny, Ondr	122.85 328	*e*PKIKP	PKPdf	20 10 45.7	0.0
PRU	Pruhonice	122.94 328	*e*PKPdf	PKPdf	20 10 46.6	+0.8
PRU			AMS	AMS	21 04 00.0	
	comp=Z,500nm,22.8s					
PRU	Pruhonice	122.94 328	*e*PKIKP	PKPdf	20 10 46.6	+0.8
PRU			MLR	MLR		
	comp=Z,500nm,22.8s					
CLL	Collm	122.94 330	*e*PKIKP	PKPdf	20 10 45.0	-0.8
CLL			*e*		20 12 29.0	
CLL			*e*PS	PS	20 22 26.0	+4.9
CLL	Collm	122.94 330	*e*PKPdf	PKPdf	20 10 45.0	-0.8
CLL			*e*PP	PP	20 12 29.0	+4.6
CLL			*e*PS	PS	20 22 26.0	+4.9
CLL			*e*PPS	PPS	20 23 37.0	
CLL			*e*SS	SS	20 29 30.0	+25
CONA	Conrad Observa	123.38 325	*i* PKiKP	PKPdf	20 10 46.9	0.0
	comp=Z,4.6nm,1.0s					
BLA	Blacksburg	123.74 49	*e*PKIKP	PKPpre	20 10 37.0	
BLA	Blacksburg	123.74 49	*e*PKPpre	PKPpre	20 10 37.0	
NKC	Novy Kostel	123.88 329	*e*PKPdf	PKPdf	20 10 47.0	-0.7
NKC	Novy Kostel	123.88 329	*e*PKIKP	PKPdf	20 10 47.0	-0.7
O56A	Blue Knob Stat	123.93 45	PKiKP	PKPdf	20 10 47.8	-0.3
	baz=294					
ARSA	Arzberg	123.94 325	*i* PKiKP	PKPdf	20 10 47.6	-0.3
	comp=Z,2.8nm,1.0s					
KHC	Kasperske Hory	123.95 328	*e*PKPdf	PKPdf	20 10 47.8	-0.1
KHC			*ep*PKP	pPKPdf	20 10 55.2	-6.1
KHC			AMS	AMS	21 04 30.0	
	comp=Z,600nm,22.9s					
KHC	Kasperske Hory	123.95 328	*e*PKIKP	PKPdf	20 10 47.8	-0.1
KHC			*e*		20 10 55.2	
KHC			MLR	MLR		
	comp=Z,600nm,22.9s					
KHC	Kasperske Hory	123.95 328	*e*PKPdf	PKPdf	20 10 47.9	0.0
GEC2	GERESS Array S	124.05 327	*e*PKIKP	PKPdf	20 10 48.2	+0.1
GEC2	GERESS Array S	124.05 327	*e*PKPdf	PKPdf	20 10 48.2	+0.1
GEC2			*e*SKPdf	SKPdf	20 14 20.4	+0.1
GERES	GERESS Array B	124.05 327	PKP	PKPdf	20 10 47.5	-0.7
	comp=Z,2.9nm,0.7s,baz=87,slow=1.3,SNR=25					
GERES			SKP		20 14 20.4	
	comp=Z,0.6nm,0.7s,baz=48,slow=1.5,SNR=4.0					
GEA0	GERESS Array S	124.06 327	*e*PKPdf	PKPdf	20 10 47.3	-0.8
SOKA	Soboth	124.53 325	*i* PKiKP	PKPdf	20 10 48.7	-0.4
	comp=Z,5.0nm,1.0s					
VISS	Visnje	125.12 324	*e*PKPdf	PKPdf	20 10 49.9	-0.2
LJU	Ljubljana	125.17 324	*e*PKPdf	PKPdf	20 10 50.1	-0.1
CRNS	Crni Vrh	125.31 324	*i* PKPdf	PKPdf	20 10 49.9	-0.6
ABTA	Abfaltersbach	125.92 326	*i* PKiKP	PKPdf	20 10 50.9	-0.8
	comp=Z,8.6nm,1.1s					
WTTA	Wattenberg	126.10 327	*i* PKiKP	PKPdf	20 10 52.2	0.0
	comp=Z,13nm,1.2s					
MOTA	Moosalm	126.34 327	*i* PKiKP	PKPdf	20 10 52.2	-0.4
	comp=Z,4.7nm,0.7s					
RETA	Reutte	126.44 327	*i* PKiKP	PKPdf	20 10 52.6	-0.1
	comp=Z,3.1nm,0.8s					
FETA	Feichten	126.74 327	*i* PKiKP	PKPdf	20 10 53.5	+0.1
	comp=Z,8.6nm,0.9s					
DAVA	Damuels	127.03 328	*i* PKiKP	PKPdf	20 10 53.7	-0.3
	comp=Z,7.8nm,0.9s					
FUORN	Ofenpass-Fuorn	127.24 327	*e*PKPdf	PKPdf	20 10 54.7	+0.1
KEST	Kesra	134.00 316	PKP	PKPdf	20 11 06.9	-0.5
	comp=Z,6.6nm,0.9s,baz=327,slow=8.0,SNR=5.8					
PRAC	Prado	134.14 91	*e*PKPdf	PKPdf	20 11 08.3	+0.1
ROSC	El Rosal	134.78 89	PKP	PKPdf	20 11 09.5	-0.4
	comp=Z,5.1nm,0.8s,baz=253,slow=19,SNR=4.1					
LPAZ	La Paz	135.38 120	PKhKP	PKPpre	20 10 59.5	
	comp=Z,0.6nm,0.5s,baz=318,slow=5.0,SNR=3.7					
LPAZ			PKP	PKPdf	20 11 11.7	+0.5
	comp=Z,1.6nm,0.6s,baz=241,slow=5.4,SNR=7.4					
LPAZ	La Paz	135.38 120	*e*PKHKP	PKPpre	20 11 00.5	
LPAZ	La Paz	135.38 120	*e*PKPpre	PKPpre	20 11 00.5	
RUSC	La Rusia	136.07 88	*e*PKPdf	PKPdf	20 11 12.7	+0.3
CPUP	Villa Florida	137.76 141	PKP	PKPdf	20 11 15.2	+0.6
	comp=Z,0.9nm,0.4s,baz=153,slow=2.3,SNR=2.9					
SDV	Santo Domingo	138.53 83	PKP	PKPdf	20 11 16.1	-0.5
	comp=Z,12nm,0.8s,baz=275,slow=1.8,SNR=8.7					
ESDC	Sonseca Array	139.53 330	PKhKP	PKPpre	20 11 10.8	
	comp=Z,0.3nm,0.6s,baz=13,slow=2.9,SNR=2.8					
ESDC			PKP	PKPdf	20 11 16.9	-0.7
	comp=Z,0.3nm,0.6s,baz=11,slow=3.0,SNR=4.1					
TAM	Tamanrasset	142.78 300	*e*PKIKP	PKPdf	20 11 24.8	+0.8
TAM	Tamanrasset	142.78 300	*e*PKPdf	PKPdf	20 11 24.8	+0.8
SAML	Samuel	142.80 113	*e*PKPdf	PKPpre	20 11 19.1	
PCRV	Puerto La Cruz	144.38 81	PKP	PKPab	20 11 23.6	-1.4
	comp=Z,10nm,0.6s,baz=235,slow=2.7,SNR=4.3					
SMRT	St. Maarten	144.53 67	*e*PKPdf	PKPab	20 11 24.6	-0.8
TOA0	Torodi Ar. Sit	148.99 286	*e*PKPdf	PKPdf	20 11 33.5	+1.0
TOA0			*e*PKPbc	PKPbc	20 11 37.3	-1.3
TORD	Torodi Ar. Bea	148.99 286	PKPbc	PKPbc	20 11 37.1	-1.4
	comp=Z,50nm,0.8s,baz=64,slow=2.8,SNR=183					
TOA1	Torodi Ar. Sit	148.99 286	*e*PKPbc	PKPbc	20 11 37.1	-1.4
BDFB	Brasilia	151.46 139	PKPbc	PKPbc	20 11 43.6	-1.0
	comp=Z,2.6nm,0.5s,baz=285,slow=3.0,SNR=6.6					
BDFB	Brasilia	151.46 139	*e*PKIKP	PKPbc	20 11 43.6	-1.0
BDFB			*e*		20 11 52.5	
BDFB	Brasilia	151.46 139	*e*PKPbc	PKPbc	20 11 43.6	-1.0
BDFB			*e*PKPab	PKPab	20 11 52.5	-0.4
DBIC	Dimbokro	156.08 273	PKPab	PKPab	20 12 11.6	-1.0
	comp=Z,4.5nm,0.5s,baz=82,slow=3.6,SNR=7.9					

ISCJB ***17*** *20:05:56.6±0.3, 34°.69N±0°.01×116°.24W±0°.01, h3km±2km, Error ellipse: s-maj=2.0km s-min=1.9km az=144.6*
NEIC ***17*** *20:05:57.8±0.0, 34°.69N×116°.29W, h1km, ML4.0(PAS), After PAS.*
NEIC Felt [II] at Riverside. Also felt at Apple Valley, California City, Fort Irwin, Joshua Tree, Laguna Woods, Ontario, Redondo Beach, Ridgecrest, San Bernardino, Twentynine Palms, Victorville and Wilmington. Felt at Las Vegas and North Las Vegas, Nevada and at Tijuana, Baja California.

ISC 17 20:05:56.9±0.9, 34°.68N±0°.01×116°.28W±0°.01, h7km±7km, n153, σ1§07/193, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	Hector,Ludlow	0.15	344	P	Pg	20 06 00.7	+0.5
	baz=166,SNR=1000						
HEC				S	Sg	20 06 02.9	+0.5
	baz=166						
HEC	Hector,Ludlow	0.15	344	*e*Pg	Pg	20 06 00.7	+0.5
HDB	Hidalgo Marine	0.28	181	*e*Pg	Pb	20 06 03.7	-0.6
DSCC	Desert Studies	0.48	18	*e*Pg	Pg	20 06 06.9	+0.6
GMRC	Granite Mounta	0.52	78	P	Pg	20 06 07.6	+0.5
	baz=260,SNR=1000						
GMRC				S	Sg	20 06 15.3	+1.3
	baz=260						
GMRC	Granite Mounta	0.52	78	*e*Pg	Pb	20 06 07.9	-0.6
TPC	Twentynine Pal	0.61	161	*e*Pg	Pb	20 06 09.7	-0.2
RRX	Edison Barstow	0.62	288	P	Pb	20 06 09.5	-0.6
	baz=107,SNR=160						
RRX				S	Sb	20 06 18.4	-0.6
	baz=107						
BBRC	Big Bear Solar	0.67	232	P	Pb	20 06 10.6	-0.5
	baz=50,SNR=30						
BBRC				S	Sb	20 06 20.2	-0.5
	baz=50						
BBRC	Big Bear Solar	0.67	232	*e*Pg	Pb	20 06 11.0	-0.1
BELC	Belle Mtn. Jos	0.72	161	P	Pb	20 06 11.7	-0.1
	baz=341,SNR=1000						
BELC				S	Sb	20 06 21.7	-0.3
	baz=341						
BELC	Belle Mtn. Jos	0.72	161	*e*Pg	Pb	20 06 11.7	-0.1
DANC	Danby, Needles	0.74	93	*e*Pg	Pb	20 06 12.3	+0.1
GSC	Goldstone, Bar	0.75	325	P	Pb	20 06 11.9	-0.5
	baz=145,SNR=715						
GSC				S	Sg	20 06 21.9	+0.7
	baz=145						
GSC	Goldstone, Bar	0.75	325	*e*Pg	Pb	20 06 11.9	-0.5
GSC				*e*Sg	Sg	20 06 21.9	+0.7
DEVC	Devers	0.78	198	*e*Pg	Pb	20 06 13.0	+0.2
TUQ	Turquoise Moun	0.81	21	P	Pg	20 06 12.8	+0.3
	baz=202,SNR=567						
TUQ				S	Sg	20 06 23.6	+0.6
	baz=202						
TUQ	Turquoise Moun	0.81	21	*e*Pg	Pg	20 06 12.8	+0.3
VTV	Victorville	0.87	262	*e*Pg	Pb	20 06 14.0	-0.4
SVD	Seven Oaks Dam	0.89	230	*e*Pg	Pb	20 06 14.4	-0.2
LDFC	Landfair	1.04	67	*e*Pg	Pg	20 06 16.9	0.0
LDFC				*e*Sn	Sb	20 06 31.9	+0.7
EL2	El Mirage 2	1.05	262	*e*Pg	Pn	20 06 18.8	+0.7
CTCC	Cactus City	1.05	167	*e*Pg	Pn	20 06 18.3	+0.2
CTW	Cottonwood Mou	1.06	161	*e*Pg	Pn	20 06 18.1	-0.1
IRM	Iron Mountain	1.08	119	P	Pg	20 06 17.7	+0.1
	baz=300,SNR=940						
IRM				S	Sb	20 06 32.8	+0.7
	baz=300						
IRM	Iron Mountain	1.08	119	*e*Pg	Pg	20 06 17.7	+0.1
PFO	Pinyon Flats O	1.08	188	P	Pb	20 06 17.8	-0.1
	baz=7.2,SNR=973						
PFO	Pinyon Flats O	1.08	188	*e*Pg	Pb	20 06 17.7	-0.2
PFO				*e*Sn	Sn	20 06 36.2	+2.5
XPFO	Piæon Flat	1.08	188	*e*Pg	Pb	20 06 17.7	-0.2
XPFO				*e*Sn	Sn	20 06 35.6	+1.8
HAY	Hayfield	1.09	153	*e*Pg	Pn	20 06 18.8	+0.2
HAY				*e*Sn	Sn	20 06 34.0	+0.1
RVR	Riverside	1.14	233	*e*Pg	Pb	20 06 18.8	0.0
RVR				*e*Sn	Sb	20 06 34.2	+0.5
HMTC	Hemet	1.14	212	*e*Pg	Pn	20 06 19.1	-0.2
DNR	Dunn Ranch,Anz	1.15	195	*e*Pg	Pn	20 06 19.3	-0.2
SNDA	J Saunders Pla	1.16	194	*e*Pg	Pb	20 06 19.4	+0.1
CRY	Cary Ranch	1.18	199	*e*Pg	Pn	20 06 19.7	-0.1
DGR	Domenigoni Val	1.19	211	*e*Pg	Pn	20 06 20.0	0.0
DGR				*e*Sn	Sn	20 06 36.1	-0.3
FRD	Ford Ranch, An	1.21	193	*e*Pg	Pn	20 06 20.4	+0.1
SHOC	Shoshone, Teco	1.22	0	P	Pg	20 06 19.8	-0.5
	baz=181,SNR=341						
SHOC				S	Sb	20 06 36.6	+0.4
	baz=181						
BFSC	Mount Baldy Ra	1.22	249	P	Pb	20 06 20.3	-0.1
	baz=68,SNR=458						
BFSC				S	Sb	20 06 36.5	+0.2
	baz=68						
CCCA	Chr Cany lake	1.22	314	*e*Pg	Pg	20 06 20.3	-0.1
BC3	Big Chuckawall	1.23	146	P	Pg	20 06 20.2	-0.4
	baz=326,SNR=522						
BC3				S	Sn	20 06 37.6	+0.1
	baz=326						
BACC	Bachelor Mtn.	1.24	211	*e*Pg	Pn	20 06 20.7	+0.1
SSK	Sunset Peak	1.26	248	*e*Pg	Pn	20 06 21.1	+0.1
BATC	Bat Cave Butte	1.27	163	*e*Pn	Pg	20 06 22.7	+1.4
HOLC	Holcomb Ridge	1.31	261	*e*Pn	Pn	20 06 21.3	-0.4
MURC	Murrieta	1.32	215	P	Pg	20 06 21.9	-0.3
	baz=34,SNR=150						
MURC				S	Sn	20 06 39.7	+0.2
	baz=34						
NEE2	Needles Airpor	1.37	86	P	Pn	20 06 21.9	-0.6
	baz=267,SNR=158						
FRK	Frink	1.38	157	*e*Pn	Pg	20 06 24.2	+0.8
LRMC	Laurel Mtn Rad	1.40	305	P	Pn	20 06 22.6	-0.4
	baz=124,SNR=234						
PLM	Palomar	1.41	200	*e*Pn	Pg	20 06 23.8	-0.2
EDW2	Edwards Air Fo	1.42	279	P	Pn	20 06 22.6	-0.6
	baz=97,SNR=380						
EDW2	Edwards Air Fo	1.42	279	*e*Pn	Pg	20 06 24.2	+0.1
LRRC	Littlerock Res	1.45	264	*e*Pn	Pg	20 06 24.3	-0.4
CHFC	Chilao Flat St	1.48	257	*e*Pn	Pb	20 06 24.7	-0.1
CHFC				*e*Sn	Sg	20 06 44.2	-0.3
CCAC	Calif City Air	1.50	289	*e*Pn	Pn	20 06 23.8	-0.4
MWC	Mount Wilson	1.54	253	*e*Pn	Pb	20 06 25.5	-0.3
CLC	China Lake	1.56	317	*e*Pn	Pn	20 06 24.6	-0.5
CLC				*e*Sn	Sg	20 06 46.9	-0.2
GVRC	Garvey Reservo	1.65	248	*e*Pn	Pg	20 06 28.6	+0.2
PASC	Pasadena Art C	1.65	253	*e*Pn	Pn	20 06 26.8	+0.5
ALPC	Antelope	1.66	271	*e*Pn	Pg	20 06 28.3	-0.5
RCWM	Renegade Canyo	1.69	319	*e*Pn	Pb	20 06 28.7	+0.4
MPMC	Manual Prospec	1.69	325	P	Pn	20 06 26.7	-0.3
	baz=144,SNR=140						
MPMC				Sb	Sg	20 06 50.8	-0.5
	baz=144						
BLYC	Blythe	1.73	122	*e*Pn	Pn	20 06 27.0	-0.3
Y12C	Blythe	1.73	122	P	Pn	20 06 26.7	-0.7
	baz=303,SNR=163						
Y12C				S	Sn	20 06 48.7	-1.0
	baz=303						
Y12C	Blythe	1.73	122	*e*Pn	Pn	20 06 26.6	-0.7
Y12C				*e*Sn	Sn	20 06 49.4	-0.2
HWB	Hans Werner Br	1.74	199	*e*Pn	Pb	20 06 28.9	-0.4
HWB				*e*Sn	Sg	20 06 52.6	-0.3
WBSM	Bird Springs	1.74	300	*e*Pn	Pg	20 06 30.5	+0.1
WBSM				*e*Sn	Sg	20 06 53.3	+0.3
DECC	Green Verdugo	1.75	256	Pb	Pg	20 06 29.8	-0.6
	baz=75						
DECC	Green Verdugo	1.75	256	*e*Pn	Pg	20 06 30.6	+0.2
IR2C	Iron Canyon	1.77	261	*e*Pn	Pn	20 06 28.2	+0.2
CBKC	Canebrake	1.78	179	*e*Pn	Pg	20 06 31.1	+0.1
SWSC	Sam W. Stewart	1.78	167	P	Pn	20 06 27.4	-0.6
	baz=347,SNR=38						
MONP2	Monument Peak	1.79	184	P	Pn	20 06 28.5	+0.2
	baz=3.4						
STTC	Scott Ranch	1.80	274	*e*Pn	Pg	20 06 31.1	-0.3
CRR	Carrizo Plain	1.81	172	*e*Pn	Pg	20 06 31.8	+0.2
PDMCI	Parker Dam,Lak	1.81	101	P	Pn	20 06 27.9	-0.5
	baz=283,SNR=196						
PDMCI				S	Sn	20 06 51.1	-0.5
	baz=283						
WWPM	Walker Pass	1.81	306	*e*Pn	Pn	20 06 28.4	-0.3
FURC	Furnace Creek,	1.84	345	Pb	Pb	20 06 30.9	0.0
	baz=165						
DJJ	Donna J Jenkin	1.89	253	*e*Pn	Pg	20 06 32.5	-0.5
BTPC	Burnt Peak	1.89	271	*e*Pn	Pg	20 06 32.6	-0.5
WCHM	Chimney Peak	1.89	310	*e*Pn	Pn	20 06 29.6	-0.3
WORM	Onyx Ranch	1.90	303	*e*Pn	Pg	20 06 32.7	-0.6
109C	Camp Elliot, M	1.91	201	P	Pn	20 06 30.2	+0.3
	baz=20,SNR=19						
109C				Sb	Sg	20 06 57.5	-1.0
	baz=20						
CPE	Camp Elliot	1.91	201	*e*Pn	Pb	20 06 32.1	0.0
CPE				*e*Sn	Sg	20 06 57.5	-0.9
FMP	Fort Macarthur	1.93	240	Pb	Pb	20 06 32.6	+0.3
	baz=59						
OSI	Osito Audit: C	2.01	269	Pb	Pb	20 06 34.3	+0.4
	baz=87,SNR=14						
OSI	Osito Audit: C	2.01	269	*e*Pn	Pb	20 06 33.1	-0.7
W13A	Hualapai Mount	2.02	77	*e*Pn	Pn	20 06 31.3	-0.2
W13A				*e*Sn	Sg	20 07 02.3	+0.6
BAR	Barrett	2.02	189	*e*Pn	Pn	20 06 31.9	+0.5
GLA	Glamis	2.03	143	P	Pn	20 06 30.9	-0.7
	baz=324,SNR=176						
GLA	Glamis	2.03	143	*e*Pn	Pn	20 06 30.8	-0.7
GLA				*e*Pg	Pg	20 06 36.2	+0.4
IKP	In-Ko-Pah, Jac	2.03	176	P	Pn	20 06 31.5	-0.1
	baz=356,SNR=64						
SHPR	Sheep Range	2.04	26	*e*Pn	Pn	20 06 31.9	+0.2
SHPR				*e*Sn	Sg	20 07 03.4	+1.0
ISA	Isabella, Lake	2.04	299	P	Pn	20 06 31.4	-0.3
	baz=118,SNR=123						
ISA				Sb	Sg	20 07 01.9	-0.7
	baz=118						
ISA	Isabella, Lake	2.04	299	*e*Pn	Pn	20 06 31.4	-0.3
ISA				*e*Sn	Sg	20 07 02.8	+0.2
ARVC	Arvin	2.14	283	P	Pn	20 06 33.4	+0.4
	baz=101,SNR=22						
CIS	Catalina Islan	2.18	235	Pb	Pb	20 06 37.3	+0.6
	baz=53,SNR=34						
CIS				Sb	Sg	20 07 05.6	-1.5
	baz=53						
TPNV	Topopah Spring	2.26	1	P	Pn	20 06 35.0	+0.1
	baz=181,SNR=126						
TPNV				Sb	Sg	20 07 08.3	-1.3
	baz=181						
TPNV	Topopah Spring	2.26	1	*e*Pn	Pn	20 06 35.0	+0.1
CWC	Cottonwood Cre	2.29	321	P	Pn	20 06 35.3	+0.2
	baz=140						
CWC				Sb	Sg	20 07 09.3	-1.1
	baz=140						
BLG	Laguna Peak, P	2.37	257	Pb	Pb	20 06 40.2	+0.3
	baz=75,SNR=48						
BLG				Sb	Sg	20 07 11.6	-1.5
	baz=75						
GRAC	Grapevine Rang	2.47	339	P	Pn	20 06 38.2	+0.6
	baz=159,SNR=28						
VES	Vestal, Richgr	2.57	298	P	Pn	20 06 39.0	+0.1
	baz=116						
Y14A	Wickenburg	2.81	104	*e*Pn	Pn	20 06 42.1	-0.2
Y14A				*e*Sn	Sg	20 07 27.7	+0.4
113A	Mohawk Valley,	2.83	132	*e*Pn	Pn	20 06 41.4	-1.1
113A				*e*Sn	Sg	20 07 28.5	+0.5
SCZ2	Santa Cruz Isl	2.85	257	P	Pn	20 06 43.4	+0.5
	baz=75,SNR=9.2						
PKM	Mcpherson Peak	2.91	275	P	Pn	20 06 43.8	0.0
	baz=93						
SNCC	San Nicolas Is	3.05	243	Pb	Pb	20 06 51.7	+0.2
	baz=61						
SNCC	San Nicolas Is	3.05	243	*e*Pn	Pn	20 06 45.2	-0.3
SMMC	Simmler	3.11	283	P	Pn	20 06 46.1	-0.3
	baz=100,SNR=17						
LCMT	Little Creek M	3.39	46	*e*Pn	Pn	20 06 51.1	+0.8
PAGB	Antelope Grade	3.41	289	*e*Pn	Pn	20 06 51.0	+0.5
GATR	Gnd/Air Tx Cnt	3.48	269	*e*Pn	Pn	20 06 51.7	+0.2
KNB	Kanab	3.65	49	*e*Pn	Pn	20 06 54.9	+1.0
U15A	North Rim	3.69	61	*e*Pn	Pn	20 06 55.8	+1.1
PTAM	Tassajara Cree	3.70	282	*e*Sn	Sb	20 07 43.5	-4.1
R11A	Troy Canyon, C	3.70	9	*e*Pn	Pn	20 06 56.9	+2.2
CCUT	Cedar City	3.71	39	*e*Pn	Pn	20 06 56.3	+1.4
SZCU	Shurtz Canyon	3.89	41	*e*Pn	Pn	20 06 58.4	+1.1
EKU	East Kanab	3.89	51	*e*Pn	Pn	20 06 58.7	+1.4
214A	Organ Pipe Nat	3.98	132	P	Pn	20 06 57.7	-0.7
	baz=314						
PMPB	Monarch Peak	3.99	294	*e*Pn	Pn	20 06 59.4	+0.8
WUAZ	Wupatki	4.11	77	P	Pn	20 06 59.9	-0.3
	baz=260,SNR=8.4						
WUAZ	Wupatki	4.11	77	*e*Pn	Pn	20 07 01.6	+1.3
PKCU	Pink Cliffs	4.24	48	*e*Pn	Pn	20 07 03.7	+1.5
PSUT	Pine Spring	4.31	26	*e*Pn	Pn	20 07 05.0	+1.9
DWU	Dry Willow Pea	4.32	37	*e*Pn	Pn	20 07 04.7	+1.4
WAKR	Walker	4.58	327	*e*Pn	Pn	20 07 08.2	+1.4
SAO	San Andreas Ge	4.69	298	*e*Pn	Pn	20 07 08.7	+0.6
CMB	Columbia Colle	4.71	316	*e*Pn	Pn	20 07 10.4	+2.0
MTPU	Mount Pierson	4.71	43	*e*Pn	Pn	20 07 11.1	+2.5
YERR	Yerington	4.91	332	*e*Pn	Pn	20 07 12.7	+1.5
TCRU	Three Creeks R	4.99	37	*e*Pn	Pn	20 07 09.6	-2.8
MSU	Marysvale	5.05	40	*e*Pn	Pn	20 07 11.2	-2.0
TUC	Tucson	5.17	116	P	Pn	20 07 14.7	0.0
	baz=299						
TUC	Tucson	5.17	116	*e*Pn	Pn	20 07 14.4	-0.3
X18A	Snowflake	5.22	90	*e*Pn	Pn	20 07 17.2	+1.6
W18A	Petrified Fore	5.40	84	*e*Pn	Pn	20 07 19.6	+1.7
BDM	Black Diamond	5.56	308	*e*Sn	Sn	20 08 30.3	+6.0
PAHR	Pah Rah Range	5.59	335	*e*Pn	Pn	20 07 22.2	+1.6
AFDM	Forest Hills D	5.68	320	*e*Pn	Pn	20 07 23.0	+1.3
NLU	North Lily Min	6.24	31	*e*Pg	Pg	20 07 53.2	-3.2
SRU	San Rafael Swe	6.39	45	*e*Pn	Pn	20 07 32.9	+1.3
319A	Douglas	6.74	117	*e*Pn	Pn	20 07 37.1	+0.7
BGU	Big Grassy Mou	6.74	21	*e*Pn	Pn	20 07 37.1	+0.7
PV09	Paradox Valley	6.90	54	*e*Sg	Sg	20 09 35.2	-3.1
P18A	Preston Nutter	6.90	43	*e*Pg	Pg	20 08 06.0	-3.0
PV01	Paradox Valley	7.11	59	*e*Pn	Pn	20 07 43.8	+2.3
121A	Cookes Peak, D	7.41	104	P	Pn	20 07 45.8	+0.2
	baz=289,SNR=6.8						
BNM	Barren Site	8.00	91	*e*Pg	Pg	20 08 27.2	-2.9
S22A	4UR Ranch, Cre	8.23	65	*e*Pg	Pg	20 08 32.5	-2.0
BPO	Bald Peter	10.79	339	*e*Pn	Pn	20 08 34.6	+2.7
RPW	Rockport	14.30	346	*e*Sn	Sn	20 11 57.7	-0.8

IDC ***17*** *20:09:20.0±1.3, 5°.81S×151°.52E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/40, mbtmp4.0/8, ML2.3/1, Error ellipse: s-maj=52.7km s-min=19.9km az=120.0*
ISCJB ***

JFK Kawauchi 0.89 316 P **Pg 20 16 16.2 +0.2**
JFK *e*S **Sb 20 16 26.5 -1.0**
JYT Yasato 1.27 247 P **Pn 20 16 21.8 -0.1**
JYT *e*S **Sn 20 16 36.5 -2.1**
JFT Otama 1.31 308 P **Pb 20 16 23.5 +0.4**
JFT *e*S **Sb 20 16 36.9 -2.7**
JMM Marumori 1.32 330 P **Pn 20 16 22.7 0.0**
JMM *e*S **Sb 20 16 37.7 -2.3**
JSB Shiboa 1.40 280 P **Pn 20 16 24.9 +1.1**
JSB S **Sn 20 16 42.1 +0.1**
MJAR Matsushiro Arr 2.77 267 Pn **Pn 20 16 43.8 +1.3**
14nm,0.3s,baz=100,slow=11,SNR=89
MJAR Sn **Sn 20 17 17.9 +2.2**
8.1nm,0.3s,baz=72,slow=25,SNR=9.8
MAJO Matsushiro 2.77 267 *e*Pn **Pn 20 16 44.7 +2.2**
MAT Matsushiro 2.77 267 P **Pn 20 16 44.6 +2.0**
MAT S **Sn 20 17 16.1 +0.4**
MJB9 Matsu-Tunnel 2.77 267 *e*Pn **Pn 20 16 44.8 +2.1**
JHJ2 Mitsune 3.91 203 *e*Pn **Pn 20 16 59.3 +1.2**
JHJ Hachijo jima 2 3.91 204 Pn **Pn 20 16 59.2 +1.0**
23nm,0.3s,baz=343,slow=9.6,SNR=21
JHJ Sn **Sn 20 17 42.4 -1.4**
33nm,0.3s,baz=38,slow=23,SNR=7.0
INU Inuyama 3.99 251 *e*Pn **Pn 20 17 01.7 +2.4**
ASAJ Asahikawa 7.42 5 *e*Pn **Pn 20 17 48.7 +2.3**
CBIJ Chichi jima 9.61 177 *e*Pn **Pn 20 18 17.5 +1.0**
ENH Enshi 27.49 266 *e*P **P 20 21 44.5 0.0**
5.4nm,0.8s
H11N2 WAKE ISLAND Hy 27.83 121 T T 20 51 09.5
baz=313,slow=75,SNR=113
H11N1 WAKE ISLAND Hy 27.84 121 T T 20 51 12.6
baz=313,slow=75,SNR=79
H11N3 WAKE ISLAND Hy 27.85 121 T T 20 51 08.9
baz=313,slow=75,SNR=66
SONA0 Songino Array 28.11 304 *e*P **P 20 21 50.8 +0.8**
SONM Songino Array 28.11 304 P **P 20 21 50.8 +0.8**
0.8nm,0.7s,baz=107,slow=7.5,SNR=4.8
H11S1 WAKE ISLAND Hy 28.54 123 T T 20 52 02.6
baz=315,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 28.54 123 T T 20 52 06.6
baz=315,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 28.55 123 T T 20 52 10.6
baz=315,slow=76,SNR=27
CM31 Chiang Mai Arr 41.60 256 *e*P **P 20 23 46.4 +0.2**
CMAR Chiang Mai Arr 41.60 256 P **P 20 23 46.4 +0.2**
0.2nm,0.5s,baz=51,slow=7.1,SNR=3.4
ZAA1 Zalesovo Array 42.26 313 *e*P **P 20 23 51.5 +0.3**
ZALV Zalesovo Beam 42.26 313 P **P 20 23 51.5 +0.3**
1.1nm,0.5s,baz=96,slow=6.1,SNR=5.2
MK32 Makanchi Array 44.44 302 *e*P **P 20 24 09.1 +0.1**
MKAR Makanchi Array 44.44 302 P **P 20 24 09.1 +0.1**
0.2nm,0.3s,baz=85,slow=10,SNR=5.2
WR1 Warramunga Arr 56.78 188 *e*P **P 20 25 41.4 -0.9**
16nm,1.4s
WRA Warramunga Arr 56.78 188 P **P 20 25 41.4 -0.9**
0.5nm,0.6s,baz=3.1,slow=7.7,SNR=4.6
ASAR Alice Springs 60.51 188 P **P 20 26 07.5 -0.7**
0.5nm,0.8s,baz=6.7,slow=7.8,SNR=5.1
LPAZ La Paz 146.69 60 PKPbc **PKPbc 20 35 41.5 +0.5**
0.5nm,0.5s,baz=291,slow=3.5,SNR=3.7
LPAZ La Paz 146.69 60 *e*PKPdf **PKPdf 20 35 37.7 -1.7**

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*ISCJB **17** 20:18:36.8±1.5, 37.°02N±0.°05×141.°47E±0.°07, h10km±7km, mb3.4/4, Error ellipse: s-maj=9.8km s-min=8.4km az=18.0*
*IDC **17** 20:18:37.0±1.3, 37.°01N×141.°36E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/48, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=28.9km s-min=25.4km az=154.0*
*JMA **17** 20:18:38.6±0.1, 37.°05N×141.°38E, h27km±1km, M3.1*
ISC 17 20:18:37.9±2.1, 37.°06N±0.°06×141.°39E±0.°08, h7km±12km, n17, σ0°71/18, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**275**	P	**Pb**	**20 18 48.0**	**-0.7**
ONAJ				S	**Sg**	**20 18 54.7**	**+1.3**
JFK	**Kawauchi**	**0.52**	**307**	P	**Pb**	**20 18 48.7**	**-0.6**
JFK				S	**Sb**	**20 18 56.0**	**-1.0**
JHO	**Hitachi**	**0.80**	**236**	P	**Pg**	**20 18 53.1**	**-0.1**
JHO				*e*S	**Sg**	**20 19 03.3**	**-0.3**
JMM	**Marumori**	**0.94**	**329**	P	**Pb**	**20 18 55.9**	**-0.6**
JMM				S	**Sb**	**20 19 08.7**	**-0.4**
JFT	**Otama**	**0.96**	**299**	P	**Pb**	**20 18 56.7**	**-0.2**
JFT				S	**Sb**	**20 19 09.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.61**	**260**	Pn	**Pn**	**20 19 20.8**	**+0.3**
MJAR	0.7nm,0.3s,baz=81,slow=14,SNR=3.7			Sn	**Sn**	**20 19 53.2**	**+0.7**
	0.7nm,0.3s,baz=88,slow=23,SNR=4.3						
MAT	**Matsushiro**	**2.61**	**260**	P	**Pn**	**20 19 21.3**	**+0.8**
MAT				S	**Sb**	**20 19 56.9**	**-0.4**
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**20 24 26.9**	**-0.4**
	0.2nm,0.4s,baz=96,slow=9.6,SNR=2.4						
H11N2	**WAKE ISLAND Hy 28.18 121**			T	T	20 53 57.9	
	baz=313,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy 28.18 121**			T	T	20 53 59.6	
	baz=313,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy 28.19 121**			T	T	20 54 00.1	
	baz=313,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy 28.89 123**			T	T	20 54 54.6	
	baz=316,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy 28.89 123**			T	T	20 54 50.8	
	baz=316,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy 28.90 123**			T	T	20 54 53.3	
	baz=316,slow=75,SNR=16						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**20 26 46.5**	**-0.1**
	0.2nm,0.2s,baz=81,slow=6.8,SNR=2.2						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**20 27 29.5**	**+0.9**
	0.3nm,0.8s,baz=278,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**20 28 24.4**	**-0.5**
	0.5nm,0.7s,baz=3.0,slow=7.4,SNR=2.9						

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*ISCJB **17** 20:20:22.9±0.9, 2.°7N±0.°2×99.°0E±0.°3, h164km±6km, mb3.8/9, Error ellipse: s-maj=53.3km s-min=15.6km az=149.4*
*IDC **17** 20:20:23.9±0.6, 2.°66N×99.°00E, h158km±6km, mb3.6/9, mb1 3.6/10, mb1mx3.3/49, mbtmp4.0/10, Error ellipse: s-maj=52.6km s-min=12.2km az=55.0*
ISC 17 20:20:24.0±1.2, 2.°7N±0.°2×99.°0E±0.°4, h160km±8km, n11, σ0°28/12, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.17**	**327**	P	**Pn**	**20 20 45.8**	**+0.2**
	143nm,0.3s,baz=106,slow=20,SNR=374						
PSI				S	**Sn**	**20 21 01.8**	**-0.3**
	66nm,0.3s,baz=143,slow=20,SNR=33						
CMAR	**Chiang Mai Arr**	**15.71**	**360**	P	**Pn**	**20 23 56.8**	**0.0**
	0.2nm,0.3s,baz=190,slow=11,SNR=7.7						
FITZ	**Fitzroy Crossi**	**33.37**	**129**	P	**P**	**20 26 47.0**	**-0.3**
	0.9nm,0.5s,baz=296,slow=7.8,SNR=6.7						
WRA	**Warramunga Arr**	**41.31**	**125**	P	**P**	**20 27 54.4**	**+0.1**
	1.3nm,0.4s,baz=305,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**42.87**	**130**	P	**P**	**20 28 07.0**	**+0.2**
	0.8nm,0.5s,baz=304,slow=8.3,SNR=13						
AAK	**Ala-Archa**	**45.44**	**335**	P	**P**	**20 28 27.4**	**+0.3**
	0.5nm,0.3s,baz=180,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**45.46**	**7**	P	**P**	**20 28 27.3**	**+0.1**
	0.2nm,0.3s,baz=189,slow=7.3,SNR=2.0						
MKAR	**Makanchi Array**	**46.31**	**344**	P	**P**	**20 28 33.6**	**-0.2**
	0.6nm,0.4s,baz=152,slow=8.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**52.44**	**349**	P	**P**	**20 29 19.9**	**-0.2**
	1.5nm,0.4s,baz=168,slow=7.1,SNR=9.4						
FINES	**FINESS Array B**	**79.56**	**332**	P	**P**	**20 32 12.6**	**-0.4**
	1.0nm,0.4s,baz=102,slow=6.6,SNR=8.9						
HFS	**Hagfors**	**85.38**	**330**	P	**P**	**20 32 43.3**	**+0.1**
	12nm,1.3s,baz=69,slow=7.9,SNR=6.0						

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*NIED **17** 20:33:00, 39.°60N×143.°80E, h17km, Mw4.7 Best double couple: M0 1.38000×10^16 NP1:φ176.00000°, δ33.00000°, λ53.00000°. NP2:φ38.00000°, δ65.00000°, λ111.00000°.*
*JMA **17** 20:33:56.6±0.2, 39.°60N×143.°75E, h25km, M4.8*
JMA Felt I J1.
*IDC **17** 20:33:56.4±0.5, 39.°55N×143.°54E, h0km, mb4.7/34, mb1 4.8/40, mb1mx4.6/66, mbtmp4.7/40, ML4.1/5, MS4.0/18, Ms1 4.0/18, ms1mx3.7/54, Error ellipse: s-maj=13.2km s-min=10.7km az=134.0*
*ISCJB **17** 20:33:57.3±0.7, 39.°55N±0.°02×143.°60E±0.°03, h15km±4km, mb4.8/146, MS4.4/35, Error ellipse: s-maj=4.1km s-min=2.8km az=145.3*

*BJI **17** 20:33:58.7, 39.°57N×143.°35E, h23km, mb5.0/74, mB5.1/50, Ms4.7/73, Ms7 4.5/67*
*MOS **17** 20:34:00.3±1.0, 39.°66N×143.°50E, h33km, mb5.1/60, MS4.1/12, Error ellipse: s-maj=7.0km s-min=4.5km az=108.7*
*NEIC **17** 20:34:01.1±1.2, 39.°53N×143.°50E, h30km±8km, mb4.9/62, Error ellipse: s-maj=4.9km s-min=3.4km az=135.0*
NEIC Recorded [1 JMA] in Aomori, Iwate and Miyagi.
ISC 17 20:33:59.6±0.5, 39.°57N±0.°04×143.°64E±0.°04, h23km±3km, h23km:pP-P, n383, σ1°71/436, mb4.9/148, MS4.4/35, 32C-18D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.41**	**271**	P	**Pn**	**20 34 22.6**	**-1.2**
MIYJ				*e*S	**Sn**	**20 34 41.4**	**-0.3**
JTH	**Tanohata**	**1.42**	**286**	P	**Pn**	**20 34 22.3**	**-1.7**
JTH				*e*S	**Sn**	**20 34 41.1**	**-0.9**
OFUJ	**Ofunato**	**1.61**	**253**	P	**Pn**	**20 34 25.4**	**-1.2**
JANG	**Nango**	**1.82**	**297**	P	**Pn**	**20 34 27.6**	**-1.9**
JOM	**Ohasama**	**1.82**	**268**	P	**Pn**	**20 34 28.9**	**-0.6**
JOM				*e*S	**Sn**	**20 34 52.0**	**+0.1**
JMK	**Ichinoseki**	**1.98**	**253**	P	**Pn**	**20 34 30.9**	**-0.8**
JIO	**Ouri**	**2.11**	**239**	P	**Pn**	**20 34 32.0**	**-1.4**
JIO				*e*S	**Sn**	**20 34 58.0**	**-0.9**
JTM	**Tenmabayashi**	**2.32**	**302**	P	**Pn**	**20 34 35.4**	**-0.9**
JTM				*e*S	**Sn**	**20 35 02.8**	**-1.3**
JRG	**Rokugo**	**2.33**	**267**	P	**Pn**	**20 34 36.0**	**-0.6**
JRG				*e*S	**Sn**	**20 35 05.7**	**+1.2**
JAH	**Hinai**	**2.39**	**286**	P	**Pn**	**20 34 37.1**	**-0.3**
JAH				*e*S	**Sn**	**20 35 06.3**	**+0.3**
JOU	**Okura**	**2.62**	**244**	P	**Pn**	**20 34 39.7**	**-0.7**
JOU				*e*S	**Sn**	**20 35 12.0**	**+0.5**
JYK	**Kaneyama**	**2.63**	**257**	P	**Pn**	**20 34 39.5**	**-1.2**
JYK				*e*S	**Sn**	**20 35 11.8**	**-0.1**
JOT	**Ohata**	**2.68**	**313**	P	**Pn**	**20 34 40.5**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.79**	**346**	P	**Pn**	**20 34 42.3**	**-0.5**
JNBK				*e*S	**Sn**	**20 35 14.9**	**-0.8**
JCH	**Churui**	**3.05**	**356**	P	**Pn**	**20 34 45.0**	**-1.3**
JCH				*e*S	**Sn**	**20 35 20.1**	**-2.0**
JKB	**Kayabe**	**3.05**	**320**	P	**Pn**	**20 34 46.1**	**-0.2**
JKB				*e*S	**Sn**	**20 35 22.7**	**+0.6**
ASAJ	**Asahikawa**	**4.61**	**351**	Pn	**Pn**	**20 35 07.1**	**-0.7**
ASAJ	8.2nm,0.3s,baz=205,slow=8.9,SNR=40			Sn	**Sn**	**20 36 00.8**	**+0.2**
	13nm,0.3s,baz=218,slow=19,SNR=3.7						
ASAJ	**Asahikawa**	**4.61**	**351**	*e*Pn	**Pn**	**20 35 07.6**	**-0.2**
ASAJ				*e*Sn	**Sn**	**20 36 00.8**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**4.76**	**20**	*d i*P	**Pn**	**20 35 08.0**	**-1.8**
YUK				*i* S	**Sn**	**20 36 00.0**	**-4.2**
YUK				pmax	pmax		
	comp=Z,466nm,0.5s						
SHO	**Shikotan**	**4.91**	**28**	*i*P	**Pn**	**20 35 09.7**	**-2.3**
SHO				*i* S	**Sn**	**20 36 02.4**	**-5.6**
SHO				smax	smax		
	comp=N,2μm,0.4s						
SHO				smax	smax		
	comp=E,843nm,0.3s						
MJAR	**Matsushiro Arr**	**5.25**	**236**	Pn	**Pn**	**20 35 16.9**	**+0.3**
	comp=E,18nm,0.3s,baz=41,slow=12,SNR=397						
MJAR				Sn	**Sn**	**20 36 16.2**	**-0.3**
	comp=E,2.4nm,0.3s,baz=32,slow=23,SNR=4.3						
MJAR				LR	LR	20 37 31.4	
	comp=E,1μm,20.3s,baz=60,slow=42						
MAJO	**Matsushiro**	**5.25**	**237**	*c i*P	**Pn**	**20 35 17.4**	**+0.8**
MAJO	**Matsushiro**	**5.25**	**237**	*e*Pn	**Pn**	**20 35 17.4**	**+0.8**
MAT	**Matsushiro**	**5.25**	**237**	P	**Pn**	**20 35 17.3**	**+0.7**
MAT				*e*S	**Sn**	**20 36 17.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**5.25**	**237**	*e*Pn	**Pn**	**20 35 17.4**	**+0.7**
KUR	**Kuril'sk**	**6.46**	**28**	*e*P	**Pn**	**20 35 33.4**	**+0.2**
KUR				*i* S	**Sn**	**20 36 43.1**	**-3.1**
KUR				pmax	pmax		
	comp=Z,79nm,0.2s						
KUR				pmax	pmax		
	comp=N,86nm,0.4s						
KUR				pmax	pmax		
	comp=E,142nm,0.4s						
KUR				smax	smax		
	comp=N,444nm,0.5s						
KUR				smax	smax		
	comp=E,213nm,0.5s						
INU	**Inuyama**	**6.75**	**233**	*e*Pn	**Pn**	**20 35 37.1**	**-0.1**
JHJ2	**Mitsune**	**7.15**	**207**	*e*Pn	**Pn**	**20 35 41.3**	**-1.4**
JHJ	**Hachijo jima 2**	**7.15**	**207**	Pn	**Pn**	**20 35 40.7**	**-2.1**
	comp=E,38nm,0.3s,baz=321,slow=23,SNR=29						
JHJ				Sn	**Sn**	**20 36 55.1**	**-8.2**
	comp=E,89nm,0.3s,baz=53,slow=23,SNR=12						
YSS	**Yuzh-Sakhalins**	**7.41**	**355**	*e*P	**Pn**	**20 35 47.5**	**+1.3**
YSS				*e*S	**Sn**	**20 37 09.4**	**-0.1**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**7.41**	**355**	*e*Pn	**Pn**	**20 35 46.1**	**-0.1**
VLA	**Vladivostok**	**9.53**	**296**	*i*P	**Pn**	**20 36 18.0**	**+2.7**
VLA				*e*S	**Sn**	**20 38 05.3**	**+3.8**
VLA				pmax	pmax		
	comp=Z,62nm,1.4s						
USRK	**Ussuriysk Ar.**	**9.84**	**302**	Pn	**Pn**	**20 36 20.3**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=103,slow=14,SNR=47						
USRK				LR	LR	20 40 06.3	
	comp=Z,1μm,18.2s,baz=108,slow=38						
MSHR	**Mys Shultsa**	**9.90**	**292**	*e*P	**Pn**	**20 36 19.9**	**-0.4**
HABR	**Khabarovsk**	**10.83**	**328**	*e*P	**Pn**	**20 36 30.9**	**-2.2**
HABR				*e*S	**Sn**	**20 38 30.3**	**-3.2**
HABR				pmax	pmax		
	comp=E,109nm,1.5s						
HABR				pmax	pmax		
	comp=Z,124nm,1.5s						
HABR				pmax	pmax		
	comp=N,17nm,0.7s						
HABR				MLR	MLR		
	comp=Z,875nm,11.0s						
MDJ	**Mudanjiang**	**11.59**	**300**	P	**Pn**	**20 36 44.4**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,46nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,380nm,6.7s						
MDJ	**Mudanjiang**	**11.59**	**300**	*e*Pn	**Pn**	**20 36 44.8**	**+1.3**
JNU	**Nakatsue**	**12.13**	**242**	Pn	**Pn**	**20 36 50.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=142,slow=3.4,SNR=11						
JNU	**Nakatsue**	**12.13**	**242**	*e*Pn	**Pn**	**20 36 50.7**	**-0.4**
KSRS	**Korea Array**	**12.50**	**265**	Pn	**Pn**	**20 36 57.7**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=88,slow=13,SNR=33						
KSRS				Sn	**Sn**	**20 39 12.6**	**-1.8**
	baz=73,slow=23,SNR=2.5						
KSRS				LR	LR	20 41 24.5	
	comp=Z,941nm,18.2s,baz=74,slow=36						
CBIJ	**Chichi jima**	**12.50**	**186**	*e*Pn	**Pn**	**20 36 54.9**	**-1.1**
KS01	**Wonju Array Si**	**12.51**	**265**	*e*Pn	**Pn**	**20 36 56.1**	**-0.1**
KS15	**Wonju Array Si**	**12.53**	**265**	*e*Pn	**Pn**	**20 36 59.0**	**+2.7**
KS15				*e*Sn	**Sn**	**20 39 12.6**	**-2.6**
KSAR	**Wonju Array Be**	**12.53**	**265**	P	**Pn**	**20 36 57.7**	**+1.3**
KSAR						20 39 12.6	
KSAR	**Wonju Array Be**	**12.53**	**265**	Pn	**Pn**	**20 36 57.7**	**+1.3**
KSAR				Sn	**Sn**	**20 39 12.6**	**-2.6**
OKH	**Okha**	**13.99**	**358**	*e*P	Pn	20 37 08.6	-7.6
OKH				pmax	pmax		
	comp=Z,500nm,14.0s						
OKH				MLR	MLR		
	comp=Z,2μm,19.0s						
CN2	**Changchun**	**14.23**	**293**	*e*P	**Pn**	**20 37 21.1**	**+1.5**
CN2				*e*pP	P	20 37 28.3	+1.5
CN2				*e*sP		20 37 33.4	
CN2				*e*S	**Sn**	**20 39 59.5**	**+2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
SNY	**Shenyang**	**15.38**	**285**	⇑P	**Pn**	**20 37 28.8**	**-6.3**
SNY				pmax	pmax		
	comp=Z,11nm,0.5s						
SNY				pmax	pmax		
	comp=Z,340nm,5.1s						
SNY				LR	LR		
	comp=Z,930nm,13.7s						
SNY				LR	LR		
	comp=Z,1μm,15.7s						
SNY				LR	LR		
	comp=Z,2μm,15.3s						
PEA0	**Petropavlovsk-**	**16.61**	**31**	*e*Pn	**Pn**	**20 37 47.2**	**-3.6**
PETK	**Petropavlovsk-**	**16.61**	**31**	Pn	**P**	**20 37 53.1**	**-0.1**
	baz=206,slow=11,SNR=6.6						
PETK				LR	LR	20 43 54.4	
	comp=Z,145nm,20.8s,baz=218,slow=36						
PETK	**Petropavlovsk-**	**16.61**	**31**	*e*P	**P**	**20 37 52.5**	**-0.7**
PETK	**Petropavlovsk-**	**16.61**	**31**	*e*Pn	**P**	**20 37 52.5**	**-0.7**
PEA1	**Petropavlovsk-**	**16.62**	**31**	*e*Pn	**P**	**20 37 53.1**	**-0.1**
PET	**Petropavlovsk**	**16.94**	**32**	*e*P	P	20 38 05.6	+8.9
PET				pmax	pmax		
	comp=Z,70nm,1.2s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,500nm,15.0s						
DL2	**Dalian**	**17.07**	**275**	P	**Pn**	**20 37 57.0**	**+0.4**
DL2				S	**Sn**	**20 41 06.6**	**+1.0**
DL2				pmax	pmax		
	comp=Z,90nm,0.8s						
DL2				pmax	pmax		
	comp=Z,390nm,8.2s						
DL2				LR	LR		
	comp=Z,1μm,13.6s						
DL2				LR	LR		
	comp=Z,740nm,14.8s						
DL2				LR	LR		
	comp=Z,1μm,16.2s						
HIA	**Hailar**	**19.56**	**308**	*e*P	**P**	**20 38 23.4**	**-2.2**
HIA				pmax	pmax		
	comp=Z,46nm,0.7s						
HIA	**Hailar**	**19.56**	**308**	*e*P	**P**	**20 38 23.4**	**-2.2**
	comp=Z,46nm,0.7s						
MA2	**Magadan**	**20.53**	**10**	P	**P**	**20 38 37.0**	**+1.0**
	comp=Z,69nm,0.7s,baz=199,slow=8.9,SNR=18						
MA2				LR	LR	20 48 04.7	
	comp=Z,413nm,18.0s,baz=186,slow=41						
MA2	**Magadan**	**20.53**	**10**	*d i*P	**P**	**20 38 37.2**	**+1.2**
BJI	**Beijing**	**21.08**	**280**	P	**P**	**20 38 39.8**	**-2.4**
BJI				S	**S**	**20 42 31.3**	**-4.4**
BJI				pmax	pmax		
	comp=Z,42nm,1.0s						
BJI				pmax	pmax		
	comp=Z,170nm,3.7s						
BJI				LR	LR		
	comp=Z,680nm,14.5s						
BJI				LR	LR		
	comp=Z,1μm,16.3s						
BJI				LR	LR		
	comp=Z,670nm,17.0s						
BJT	**Baijiatuau**	**21.09**	**280**	*e*P	**P**	**20 38 39.9**	**-2.4**
BJT				pmax	pmax		
	comp=Z,53nm,1.1s						
BJT	**Baijiatuau**	**21.09**	**280**	*e*P	**P**	**20 38 39.9**	**-2.4**
	comp=Z,54nm,1.1s						
TIA	**Tai'an**	**21.17**	**269**	⇑P	**P**	**20 38 40.5**	**-2.7**
TIA				pmax	pmax		
	comp=Z,90nm,1.0s						
TIA				LR	LR		
	comp=Z,1μm,13.7s						
TIA				LR	LR		
	comp=Z,1μm,14.2s						
TIA				LR	LR		
	comp=Z,2μm,14.4s						
CLNS	**Chul'man**	**21.20**	**331**	*e*P	**P**	**20 38 43.2**	**-0.2**
CLNS				*e**PP	**sP**	**20 38 52.8**	**+0.1**
CLNS				*e*		20 39 03.3	
CLNS				*e*S	**S**	**20 42 40.8**	**+3.0**
CLNS				*e*		20 42 44.2	
CLNS				*e*SS	**SnSn**	**20 43 12.9**	**+13**
CLNS				*e*		20 50 08.5	
CLNS				pmax	pmax		
	comp=N,28nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,39nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,1.2s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,27nm,0.9s						
CLNS				pmax	pmax		
	comp=N,34nm,1.0s						
CLNS				smax	smax		
	comp=E,371nm,12.7s						
CLNS				smax	smax		
	comp=N,298nm,12.9s						
CLNS				MLR	MLR		
	comp=E,919nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,15.0s						
CLNS				MLR	MLR		
	comp=N,908nm,14.0s						
NJ2	**Nanjing**	**21.41**	**257**	*e*P	**P**	**20 38 43.6**	**-2.2**
NJ2				sP	**sP**	**20 38 57.3**	**+2.2**
NJ2				S	**S**	**20 42 42.3**	**-0.1**
NJ2				pmax	pmax		
	comp=N,24nm,0.8s						
NJ2				LR	LR		
	comp=N,570nm,19.0s						
NJ2				LR	LR		
	comp=N,880nm,14.6s						
NJ2				LR	LR		
	comp=N,800nm,17.4s						
YHNB	**Yeheng**	**23.92**	**238**	*e*P	**P**	**20 39 09.4**	**-2.5**
	comp=N,31nm,0.7s						
SEY	**Seymchan**	**23.98**	**10**	P	**P**	**20 39 12.1**	**+0.1**
	comp=N,36nm,0.7s,baz=187,slow=8.6,SNR=36						
SEY	**Seymchan**	**23.98**	**10**	*e*P	**P**	**20 39 13.1**	**+1.1**
YAK	**Yakutsk**	**24.05**	**344**	P	**P**	**20 39 11.3**	**-1.4**
	comp=N,49nm,0.7s,baz=184,slow=3.1,SNR=13						
YAK				LR	LR	20 49 17.1	
	comp=N,332nm,18.7s,baz=272,slow=38						
YAK	**Yakutsk**	**24.05**	**344**	*e*P	**P**	**20 39 11.0**	**-1.7**
YAK				pmax	pmax		
	comp=N,24nm,1.1s						
YAK				pmax	pmax		
	comp=Z,76nm,1.0s						
YAK	**Yakutsk**	**24.05**	**344**	*e*P	**P**	**20 39 11.3**	**-1.4**
	comp=Z,72nm,0.8s						
NACB	**Ninganchiao**	**24.12**	**237**	*e*P	**P**	**20 39 10.5**	**-3.2**
	comp=Z,30nm,0.8s						
CIT	**Chita**	**24.20**	**311**	*e*P	**P**	**20 39 12.6**	**-1.7**
CIT				*e*		20 39 21.9	
CIT				*e*		20 39 42.6	
CIT				*e*		20 39 54.1	
CIT				pmax	pmax		
	comp=Z,157nm,1.1s						
TIY	**Taiyuan**	**24.39**	**276**	*e*P	**P**	**20 39 17.5**	**+1.3**
TIY				pmax	pmax		
	comp=Z,41nm,1.0s						
TIY				pmax	pmax		
	comp=Z,170nm,4.8s						
TIY				LR	LR		
	comp=Z,790nm,14.2s						
TIY				LR	LR		
	comp=Z,660nm,15.3s						
TIY				LR	LR		
	comp=Z,770nm,16.3s						
HHC	**Hu-ho-hao-te**	**24.46**	**283**	*e*P	**P**	**20 39 16.4**	**-0.5**
HHC				S	**S**	**20 43 30.4**	**-5.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=

WHN LR LR
comp=Z,1μm,15.8s
WHN LR LR
comp=Z,1μm,11.2s
WHN LR LR
comp=Z,2μm,18.4s
BTO Baotou 25.66 283 *e*P **P 20 39 22.4 -5.3**
BOD Bodaibo 26.43 324 *e*P **P 20 39 33.7 -0.6**
BOD pmax pmax
comp=Z,57nm,0.9s
ULN Ulaanbaatar 27.50 300*c i*P **P 20 39 44.6 +0.3**
ULN pmax pmax
comp=Z,55nm,1.2s
ULN Ulaanbaatar 27.50 300 *e*P **P 20 39 44.7 +0.4**
comp=Z,56nm,1.2s
SONA1 Songino Array 27.94 300 *e*P **P 20 39 48.4 +0.2**
SONA0 Songino Array 27.94 300 *e*P **P 20 39 48.7 +0.4**
SONM Songino Array 27.94 300 P **P 20 39 48.7 +0.4**
comp=Z,15nm,0.8s,baz=95,slow=8.5,SNR=100
SONM LR LR 20 51 30.7
comp=Z,654nm,20.9s,baz=70,slow=38
H11N2 WAKE ISLAND Hy 28.13 128 T T 21 10 47.9
baz=318,slow=75,SNR=716
H11N1 WAKE ISLAND Hy 28.14 128 T T 21 10 48.4
baz=318,slow=75,SNR=591
H11N3 WAKE ISLAND Hy 28.15 128 T T 21 10 49.1
baz=318,slow=75,SNR=836
XAN Xi'an 28.23 270 P **P 20 39 50.9 +0.1**
XAN pP sP 20 40 00.0 -0.4
XAN PP **PnPn 20 40 41.1 +1.9**
XAN S **S 20 44 32.1 -3.3**
XAN SS **SnSn 20 45 55.8 +3.4**
XAN pmax pmax
comp=Z,40nm,1.0s
XAN pmax pmax
comp=Z,220nm,14.9s
XAN LR LR
comp=Z,250nm,16.8s
XAN LR LR
comp=Z,740nm,17.1s
XAN LR LR
comp=Z,910nm,15.7s
H11S1 WAKE ISLAND Hy 28.95 130 T T 21 11 53.9
baz=318,slow=76,SNR=50
H11S3 WAKE ISLAND Hy 28.95 130 T T 21 12 03.6
baz=318,slow=76,SNR=64
H11S2 WAKE ISLAND Hy 28.97 130 T T 21 11 55.9
baz=318,slow=76,SNR=38
ENH Enshi 29.36 262 *e*P **P 20 40 00.2 -0.6**
comp=Z,45nm,0.9s
SZP Santa 29.77 229 *e*P **P 20 40 04.5 -0.1**
comp=Z,30nm,0.7s
SZP *e*S **S 20 44 58.2 -1.5**
TLY Talaya 30.10 307 P **P 20 40 08.0 +0.8**
comp=Z,6.8nm,0.6s,baz=118,slow=9.1,SNR=6.1
TLY LR LR 20 52 32.4
comp=Z,210nm,18.6s,baz=84,slow=37
TLY Talaya 30.10 307 *e*P P 20 40 02.0 -5.2
TLY *e*S **S 20 45 01.9 -2.5**
TLY pmax pmax
comp=Z,9.0nm,0.6s
TLY MLR MLR
comp=Z,463nm,16.0s
ZAK Zakamensk 30.18 304 *e*P **P 20 40 07.7 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 31.10 16*d i*P **P 20 40 16.5 +0.7**
BILL pmax pmax
comp=Z,12nm,1.0s
LZH Lanzhou 31.45 276 *e*P **P 20 40 19.5 +0.1**
LZH pP sP 20 40 29.1 0.0
LZH PP **PnPn 20 41 22.8 +0.3**
LZH *e*S **S 20 45 22.0 -4.1**
LZH sS sS 20 45 40.0 +2.6
LZH *e*SS **SnSn 20 47 10.0 -1.0**
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.8s
LZH LR LR
comp=Z,600nm,12.0s
LZH LR LR
comp=Z,1μm,12.5s
LZH LR LR
comp=Z,2μm,13.5s
MOY Mondy 31.74 307 *e*P **P 20 40 22.2 +0.5**
MOY pmax pmax
comp=Z,42nm,2.2s
TIXI Tiksi 33.01 351 P **P 20 40 31.7 -0.8**
comp=Z,1.7nm,0.4s,baz=126,slow=0.8,SNR=5.4
TIXI LR LR 20 55 54.0
comp=Z,429nm,18.0s,baz=184,slow=40
TIXI Tiksi 33.01 351⇓ *e*P **P 20 40 32.4 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
GYA Guiyang 33.42 258 *e*P **P 20 40 37.3 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 33.48 268 P **P 20 40 35.8 -1.3**
CD2 S **S 20 45 54.9 -2.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,1μm,12.9s
CD2 LR LR
comp=Z,770nm,15.4s
CD2 LR LR
comp=Z,1μm,13.4s
GTA Gaotai 33.57 284 ⇑P **P 20 40 38.3 +0.3**
GTA pP sP 20 40 47.8 +0.1
GTA sP pP 20 40 51.5 +6.7
GTA PcP **PcP 20 43 19.3 +1.2**
GTA S **S 20 45 58.8 -0.3**
GTA sS sS 20 46 14.8 +4.4
GTA pmax pmax
comp=Z,46nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.9s
GTA LR LR
comp=Z,360nm,18.3s
GTA LR LR
comp=Z,1μm,16.9s
GTA LR LR
comp=Z,1μm,16.4s
QIZ Qiongzhong 35.58 245 P **P 20 40 55.1 -0.3**
QIZ S **S 20 46 36.6 +6.5**
QIZ LR LR
comp=Z,570nm,14.1s
QIZ LR LR
comp=Z,560nm,16.1s
KMI Kunming 37.11 260 P **P 20 41 08.5 -0.1**
KMI pP sP 20 41 17.3 -1.1
KMI pmax pmax
comp=Z,23nm,0.9s
KMI LR LR
comp=Z,410nm,15.1s
KMI LR LR
comp=Z,480nm,15.1s
KMI LR LR
comp=Z,390nm,12.8s
SLVN Son La 38.41 254 *e*P **P 20 41 18.3 -1.1**
comp=Z,10nm,0.8s
DGZ Jazzator, Alta 40.39 304 *i*P **P 20 41 36.7 +0.9**
DGZ pmax pmax
comp=Z,15nm,0.8s
WMQ Urumqi 41.32 295 P **P 20 41 44.5 +1.1**
WMQ pP sP 20 41 54.4 +1.2
WMQ PcP **PcP 20 43 43.0 +1.4**
WMQ S **S 20 47 56.6 +0.2**
WMQ SS **SS 20 50 51.6 -8.5**
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ pmax pmax
comp=Z,280nm,5.9s
WMQ LR LR
comp=Z,140nm,21.3s
WMQ LR LR
comp=Z,220nm,17.5s
WMQ LR LR
comp=Z,210nm,17.5s
ZAA0 Zalesovo Array 41.56 310 *e*P **P 20 41 45.1 0.0**
ZAA1 Zalesovo Array 41.56 310 *e*P **P 20 41 45.0 -0.1**
ZAA1 *e*PcP **PcP 20 43 42.4 +0.3**
ZALV Zalesovo Beam 41.56 310 P **P 20 41 45.0 -0.1**
comp=Z,18nm,0.6s,baz=94,slow=7.6,SNR=75
ZALV PcP **PcP 20 43 42.4 +0.3**
comp=Z,9.0nm,0.7s,baz=74,slow=3.3,SNR=5.9
ZALV LR LR 20 59 22.8
comp=Z,229nm,18.3s,baz=70,slow=37
NRIK Noril'sk 41.73 334 P **P 20 41 49.4 +3.0**
comp=Z,5.7nm,0.5s,baz=88,slow=13,SNR=4.0
NRIK LR LR 21 00 06.7
comp=Z,202nm,19.5s,baz=113,slow=38
NVS Novosibirsk 42.41 312 *e*P **P 20 41 52.4 +0.3**
NVS pmax pmax
comp=Z,19nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.7s
IMAR Indian Mountai 43.58 32 *e*P **P 20 42 02.6 +1.2**
CHTO Chiang Mai 43.63 255 *e*P **P 20 42 02.0 -0.4**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 43.63 255 *e*P **P 20 42 02.0 -0.4**
comp=Z,15nm,0.8s
LSA Lhasa 43.76 274 *e*P **P 20 42 05.0 +1.1**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 43.76 274 *e*P **P 20 42 05.0 +1.1**
comp=Z,12nm,0.7s
RSO Redoubt South 43.83 40 *e*P **P 20 42 04.1 +0.3**
CM31 Chiang Mai Arr 43.85 255 *e*P **P 20 42 04.8 +0.6**
CMAR Chiang Mai Arr 43.85 255 P **P 20 42 04.3 +0.1**
comp=Z,6.2nm,0.7s,baz=43,slow=8.1,SNR=69
CMAR LR LR 21 02 22.1
comp=Z,224nm,18.9s,baz=40,slow=39
CM01 Chiang Mai Arr 43.86 254 *e*P **P 20 42 04.3 +0.1**
KDAK Kodiak Island 44.05 44 P **P 20 42 05.8 +0.5**
comp=Z,7.9nm,0.6s,baz=285,slow=6.6,SNR=11
KDAK Kodiak Island 44.05 44 *i*P **P 20 42 06.9 +1.7**
KDAK Kodiak Island 44.05 44 *e*P **P 20 42 05.8 +0.5**
comp=Z,63nm,1.9s
CAST Castle Rocks 44.14 36 *e*P **P 20 42 08.6 +2.6**
comp=Z,9.7nm,0.9s
MK01 Makanchi Array 44.30 300 *e*P **P 20 42 07.5 -0.1**
MK31 Makanchi Array 44.31 300*c e*P **P 20 42 07.1 -0.5**
MK31 pmax pmax
comp=Z,22nm,0.7s
MK31 Makanchi Array 44.31 300 *e*P **P 20 42 07.7 +0.2**
MK32 Makanchi Array 44.31 300 *e*P **P 20 42 07.6 +0.1**
MKAR Makanchi Array 44.31 300 P **P 20 42 07.6 +0.1**
comp=Z,19nm,0.7s,baz=84,slow=9.5,SNR=166
MKAR LR LR 21 00 46.2
comp=Z,156nm,18.6s,baz=92,slow=36
MKAR Makanchi Array 44.31 300 *e*P **P 20 42 07.7 +0.1**
MKAR pmax pmax
comp=Z,160nm,0.7s
MKAR Makanchi Array 44.31 300 *e*P **P 20 42 07.7 +0.1**
comp=Z,160nm,0.7s
MAKZ Makanchi 44.51 300 *i*P **P 20 42 08.8 -0.4**
MAKZ pmax pmax
comp=Z,22nm,0.8s
MAKZ Makanchi 44.51 300 *e*P **P 20 42 09.4 +0.2**
comp=Z,28nm,0.9s
KURK Kurchatov 45.79 306*c i*P **P 20 42 19.0 -0.2**
KURK pmax pmax
comp=Z,162nm,0.8s
KURK Kurchatov 45.79 306 *e*P **P 20 42 19.2 -0.1**
comp=Z,48nm,0.9s
MDM Murphy Dome 45.84 33 *e*P **P 20 42 21.5 +2.0**
comp=Z,9.1nm,0.9s
KURBB Kurchatov Arra 45.87 306 P **P 20 42 19.6 -0.3**
comp=Z,39nm,0.7s,baz=80,slow=8.3,SNR=262
WRH Wood River Hil 45.91 34 *e*P **P 20 42 21.5 +1.5**
comp=Z,8.6nm,1.0s
CCB Clear Creek Blu 46.02 34 *e*P **P 20 42 22.1 +1.3**
comp=Z,14nm,1.4s
IL1 Eielson Array 46.41 34 *e*P **P 20 42 24.9 +1.0**
ILAR Eielson Array 46.41 34 P **P 20 42 25.1 +1.1**
comp=Z,3.6nm,0.8s,baz=262,slow=6.6,SNR=34
ILB Eielson Array 46.41 34 *e*P **P 20 42 25.3 +1.3**
FYU Fort Yukon 47.03 31 *e*P **P 20 42 30.9 +2.1**
comp=Z,14nm,0.8s
KLU Klutina 47.09 38 *e*P **P 20 42 32.6 +3.2**
comp=Z,20nm,1.2s
PDGK Podgornoye 47.18 296 *i*P **P 20 42 30.1 -0.3**
PDGK pmax pmax
comp=Z,15nm,0.7s
TAPN Taplejung 47.54 273 *e*P **P 20 42 34.1 +0.5**
comp=Z,94nm,1.2s
ODAN Odare 48.03 273 *e*P **P 20 42 37.5 +0.1**
comp=Z,54nm,0.7s
CRQM Cirque 48.52 39 *e*P **P 20 42 42.4 +1.7**
comp=Z,18nm,1.0s
JIRN Jiri 48.56 274 *e*P **P 20 42 42.0 +0.4**
comp=Z,541nm,0.8s
RAMN Ramite 48.60 273 *e*P **P 20 42 42.1 +0.4**
comp=Z,151nm,0.9s
GUN Gumba 48.68 275 *e*P **P 20 42 42.8 +0.3**
comp=Z,137nm,0.7s
KKN Kakani 49.20 275 *e*P **P 20 42 46.7 +0.4**
comp=Z,138nm,0.7s
PKIN Phulchoki 49.21 275 *e*P **P 20 42 46.3 -0.2**
comp=Z,30nm,0.7s
DMN Daman 49.42 275 *e*P **P 20 42 48.3 +0.2**
comp=Z,65nm,0.9s
GKN Gorkha 49.59 275 *e*P **P 20 42 49.3 +0.1**
comp=Z,54nm,0.7s
TKM2 Tokmak 2 50.00 297 *i*P **P 20 42 52.8 +0.6**
TKM2 pmax pmax
comp=Z,38nm,0.7s
BVAR Borovoye Array 50.20 311 P **P 20 42 53.6 +0.3**
comp=Z,20nm,0.7s,baz=75,slow=8.0,SNR=101
BRVK Borovoye 50.25 311*c i*P **P 20 42 54.1 +0.4**
BRVK pmax pmax
comp=Z,65nm,0.8s
BRVK Borovoye 50.25 311 *e*P **P 20 42 54.1 +0.4**
comp=Z,25nm,0.8s
KOLN Koldanda 50.50 276 *e*P **P 20 42 56.6 +0.4**
comp=Z,44nm,0.6s
FRU Bishkek 50.70 297 *e*P **P 20 42 56.0 -1.3**
FRU *e* 20 43 07.0
FRU pmax pmax
comp=Z,50nm,2.0s
PYUN Piuthan 50.81 276 *e*P **P 20 42 58.8 +0.3**
comp=Z,138nm,0.9s
AAK Ala-Archa 50.86 297*c i*P **P 20 42 58.7 0.0**
AAK pmax pmax
comp=Z,24nm,0.9s
AAK Ala-Archa 50.86 297 *e*P **P 20 42 58.8 +0.1**
comp=Z,8.2nm,0.8s
KSH Kashi 51.00 293 P **P 20 43 04.0 +4.2**
KSH pP sP 20 43 13.0 +3.4
KSH sP pP 20 43 17.4 +11
KSH PcP **PcP 20 44 19.3 +3.6**
KSH PP **PP 20 45 00.9 +4.8**
KSH PcS **PcS 20 48 15.9 +2.6**
KSH S **S 20 50 18.6 +2.9**
KSH sS sS 20 50 35.0 +7.7
KSH ScS **ScS 20 52 50.4 +1.3**
KSH SS **SS 20 53 52.1 +1.7**
KSH pmax pmax
comp=Z,11nm,0.9s
KSH pmax pmax
comp=Z,140nm,6.5s
KSH LR LR
comp=Z,340nm,14.0s
KSH LR LR
comp=Z,310nm,12.0s
KSH LR LR
comp=Z,260nm,17.9s
HNR Honiara 51.05 159 LR LR 21 02 32.0
comp=Z,111nm,20.8s,baz=308,slow=34
HYT Haines Junctio 51.22 38 *e*P **P 20 43 04.0 +2.9**
comp=Z,16nm,0.9s
INK Inuvik 51.33 28 P **P 20 43 02.7 +1.1**
comp=Z,7.6nm,0.8s,baz=301,slow=7.7,SNR=12
MNAS Manas 52.28 298 *i*P **P 20 43 09.4 +0.1**
MNAS pmax pmax
comp=Z,27nm,0.9s
KK31 Karatay Array 53.40 299*c e*P **P 20 43 16.9 -0.5**
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 53.40 299 *e*P **P 20 43 17.3 -0.1**
KKAR pmax pmax
comp=Z,75nm,0.6s
KKAR Karatay Array 53.40 299 *e*P **P 20 43 17.3 -0.1**
comp=Z,75nm,0.6s
SVE Sverdlovsk 54.43 318*d i*P **P 20 43 25.5 +0.9**
SVE pmax pmax
comp=Z,44nm,1.0s
SVE MLR MLR
comp=Z,1μm,15.0s
PSI Prapat 54.59 240 P **P 20 43 26.6 +0.1**
comp=Z,3.5nm,0.5s,baz=39,slow=6.5,SNR=3.2
SOKR Solikamsk 55.40 322 *e*P **P 20 43 29.9 -1.6**
SOKR pmax pmax
comp=Z,5.0nm,0.4s
SOKR MLR MLR
comp=Z,275nm,16.0s
DLBC Dease Lake 55.55 40 P **P 20 43 35.1 +2.3**
comp=Z,3.0nm,0.9s,baz=336,slow=12,SNR=3.7
ARU Arti 55.64 318 P **P 20 43 33.1 -0.3**
comp=Z,28nm,0.8s,baz=58,slow=2.6,SNR=46
ARU Arti 55.64 318*c i*P **P 20 43 33.7 +0.3**
ARU S **S 20 51 18.3 +0.4**
ARU SS **SS 20 55 00.5 -2.1**
ARU pmax pmax
comp=Z,48nm,1.0s
ARU MLR MLR
comp=Z,856nm,15.0s
ARU Arti 55.64 318 *e*P **P 20 43 33.9 +0.5**
comp=Z,39nm,0.9s
AB31 Akbulak array 57.66 310*c e*P **P 20 43 47.6 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 57.66 310 *e*P **P 20 43 48.0 +0.1**
comp=Z,152nm,0.6s
KBL Kabul 58.16 290 *e*P **P 20 43 51.4 -0.5**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 58.16 290 *e*P **P 20 43 51.4 -0.5**
comp=Z,15nm,0.8s
BBB Bella Bella 59.03 46 LR LR 21 11 06.2
comp=Z,24nm,18.3s,baz=193,slow=38
FITZ Fitzroy Crossi 59.79 200 LR LR 21 09 15.5
comp=Z,152nm,18.7s,baz=345,slow=36
WRAB Tennant Creek 59.83 190⇓ *e*P **P 20 44 04.1 +0.9**
WRAB pmax pmax
comp=Z,11nm,0.9s
WR1 Warramunga Arr 59.84 190 *e*P **P 20 44 02.0 -1.2**
comp=Z,7.9nm,0.8s
WRA Warramunga Arr 59.84 190 P **P 20 44 02.0 -1.2**
comp=Z,5.5nm,1.0s,baz=9.3,slow=7.0,SNR=5.5
HYB Hyderabad 60.03 268 *i*P **P 20 44 05.0 +0.2**
YKA Yellowknife Ar 60.73 31 P **P 20 44 09.4 +0.5**
comp=Z,1.9nm,0.6s,baz=301,slow=6.2,SNR=3.6
APA Apatity 61.10 336⇑ *i*P **P 20 44 11.0 -0.3**
APA pmax pmax
comp=Z,1μm,19.0s
TMCR Tamitsa 61.37 331 *e*P **P 20 44 13.3 +0.2**
TMCR pmax pmax
comp=Z,35nm,1.0s
ARA0 ARCESS Array S 62.24 339 *e*P **P 20 44 19.1 +0.1**
ARCES ARCESS Array B 62.24 339 P **P 20 44 19.1 +0.1**
comp=Z,6.1nm,0.9s,baz=37,slow=6.4,SNR=4.7
KLMR Klimovskoe 62.55 328 *e*P **P 20 44 20.2 -1.0**
KLMR *e* 20 46 38.4
KLMR pmax pmax
comp=Z,34nm,1.5s
POO Poona 63.02 272 *e*P P 20 44 20.0 -5.0
DAG Danmarks Havn 63.39 356 *i*P **P 20 44 25.1 -1.4**
comp=Z,11nm,0.9s
DAG Danmarks Havn 63.39 356 *i*P **P 20 44 25.1 -1.4**
DAG pmax pmax
comp=Z,10.0nm,0.9s
AS01 Alice Springs 63.56 190 *e*P **P 20 44 28.6 +0.3**
AS31 Alice Springs 63.56 190 *e*P **P 20 44 28.6 +0.3**
comp=Z,1.4nm,0.9s
ASAR Alice Springs 63.56 190 P **P 20 44 28.6 +0.3**
comp=Z,2.2nm,0.8s,baz=9.6,slow=6.4,SNR=8.7
GEYT Alibeck 64.15 299 P **P 20 44 32.1 -0.1**
comp=Z,7.4nm,0.7s,baz=29,slow=3.4,SNR=20
C09A Chrisman Ranch 66.71 47 *e*P **P 20 44 50.6 +2.0**
comp=Z,6.4nm,0.8s
NEW Newport 67.10 46 P **P 20 44 52.1 +1.1**
comp=Z,5.1nm,0.8s,baz=322,slow=11,SNR=3.8
OBN Obninsk 67.11 323 *i*P **P 20 44 49.4 -1.5**
OBN *i* 20 44 59.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,428nm,15.0s
FIA1 FINESS Array S 67.38 333 *e*P **P 20 44 52.6 +0.1**
FIA0 FINESS Array S 67.38 333 *e*P **P 20 44 52.5 -0.1**
FIA0 FINESS Array S 67.38 333 *e*P **P 20 44 52.5 -0.1**
FINES FINESS Array B 67.38 333 P **P 20 44 52.5 -0.1**
comp=Z,14nm,0.7s,baz=58,slow=6.9,SNR=38
FINES LR LR 21 17 28.8
comp=Z,493nm,18.6s,baz=46,slow=39
SUMG Summit 68.14 1 *i*P **P 20 44 58.8 +1.1**
comp=Z,18nm,0.9s
SUMG Summit 68.14 1 *i*P **P 20 44 58.8 +1.1**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 68.14 1 *e*P **P 20 44 59.4 +1.7**
comp=Z,18nm,0.9s
VSR Storozhevoye 68.17 319 *e*P **P 20 44 56.2 -1.6**
VSR pmax pmax
comp=Z,9.0nm,0.6s
MAK Makhachkala 68.27 308 *e*P **P 20 44 59.9 +1.4**
MAK *e*S **S 20 53 57.8 0.0**
MAK pmax pmax
comp=Z,197nm,1.3s
VSU Vasula 69.15 330⇓ *e*P **P 20 45 03.6 -0.1**
VSU pmax pmax
comp=Z,50nm,0.7s
SWMT Swartz Lake 69.25 45 *e*P **P 20 45 06.3 +1.6**
SLMT Seeley Lake 69.69 45 *e*P **P 20 45 08.8 +1.3**
GOF Gofitskoye 69.71 312⇑ *e*P **P 20 45 07.7 +0.3**
NCK Nalchik 70.30 310⇓ *e*P **P 20 45 11.6 +0.5**
NCK pmax pmax
comp=Z,14nm,1.0s
ZEI Tsey 70.54 310 *e*P **P 20 45 10.6 -2.2**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.56 311 *e*P **P 20 45 13.7 +0.9**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV Kislovodsk 70.56 311 *e*P **P 20 45 13.8 +1.0**
comp=Z,48nm,0.9s
KBZ Khabaz 70.57 311 P **P 20 45 13.7 +1.0**
comp=Z,16nm,0.8s,baz=69,slow=4.0,SNR=23
NEY Neytrino 70.96 311⇑ *e*P **P 20 45 16.8 +1.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 71.11 182 P **P 20 45 16.2 +0.3**
comp=Z,2.4nm,0.9s,baz=14,slow=7.2,SNR=5.1
STKA Stephens Creek 71.11 182 *e*P **P 20 45 16.6 +0.7**
STKA pmax pmax
comp=Z,8.0nm,2.0s
STKA Stephens Creek 71.11 182 *e*P **P 20 45 16.6 +0.7**
comp=Z,7.8nm,2.0s
LRM Limekiln Ridge 71.11 46 *e*P **P 20 45 18.0 +1.6**
HLID Hailey 71.37 49 *e*P **P 20 45 17.2 -0.6**
comp=Z,3.7nm,1.0s
NACGM Naroch 71.56 327 *e* **P 20 45 18.0 -0.5**
BOZ Bozeman (W) 71.71 46 *e*P **P 20 45 20.9 +1.1**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 71.71 46 *e*P **P 20 45 20.9 +1.1**
comp=Z,5.9nm,0.9s
WSAR Wadi Sarin 71.90 285 P **P 20 45 21.2 +0.1**
comp=Z,2.4nm,0.8s,baz=88,slow=9.1,SNR=3.2
NC204 NORSAR Array S 72.45 338 *e*P **P 20 45 24.1 +0.2**
HFS Hagfors 72.49 336 P **P 20 45 24.5 +0.5**
comp=Z,8.8nm,0.6s,baz=57,slow=5.3,SNR=23
NB2 NORSAR Subarra 72.51 338 P **P 20 45 24.4 +0.2**
comp=Z,11nm,0.7s,baz=38,slow=6.2
NB200 NORSAR Array S 72.51 338 *e*P **P 20 45 24.4 +0.2**
NOA NORSAR Array B 72.51 338 P **P 20 45 24.4 +0.2**
comp=Z,9.4nm,0.8s,baz=38,slow=6.0,SNR=18
NBO02 NORSAR Array S 72.61 338 *e*P **P 20 45 25.6 +0.8**
ARTV Artvin 72.68 309 *e*P **P 20 45 26.9 +1.2**
comp=Z,7.9nm,0.9s
IMW Indian Meadow 73.15 47 *e*P **P 20 45 30.9 +2.3**
comp=Z,5.2nm,0.9s
FXWY Fox Creek 73.26 47 *e*P **P 20 45 31.3 +2.1**
comp=Z,4.3nm,1.0s
AKASG Malin Array Be 73.35 323 P **P 20 45 29.2 0.0**
comp=Z,10nm,0.7s,baz=45,slow=6.0,SNR=33
AKBB Malin Array Si 73.35 323 *e*P **P 20 45 29.7 +0.4**
AKBB pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 73.35 323 *e*P **P 20 45 29.6 +0.4**
comp=Z,11nm,0.7s
KIEV Kiev 73.36 323*d i*P **P 20 45 29.4 +0.1**

KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 73.36 323 *e*P **P 20 45 29.2 -0.2**
comp=Z,12nm,0.8s
AK11 Malin Array Si 73.39 323 *e*P **P 20 45 29.3 -0.2**
KOPT Kop Dagi 74.25 309 *e*P **P 20 45 35.7 +0.5**
comp=Z,9.8nm,0.8s
BW06 Boulder Array 74.65 47 *e*P **P 20 45 38.5 +1.2**
comp=Z,4.3nm,1.2s
PD31 Pinedale Array 74.65 47 *e*P **P 20 45 38.5 +1.1**
PDAR Pinedale Array 74.65 47 P **P 20 45 38.5 +1.1**
comp=Z,1.3nm,0.7s,baz=263,slow=1.5,SNR=15
PDAR Pinedale Array 74.65 47 *e*P **P 20 45 38.2 +0.9**
MARD Mardin 75.77 307 *e*P **P 20 45 44.6 +0.9**
comp=Z,23nm,0.8s
LCMT Little Creek M 76.12 53 *e*P **P 20 45 43.4 -2.3**
comp=Z,5.9nm,1.0s
MTPU Mount Pierson 76.12 52 *e*P **P 20 45 47.2 +1.2**
comp=Z,8.5nm,1.1s
BEL Belsk 76.27 328 *e*P **P 20 45 48.0 +1.9**
BEL Belsk 76.27 328 *e*P **P 20 45 48.0 +1.9**
KNB Kanab 76.37 53 *e*P **P 20 45 48.9 +1.7**
KNB pmax pmax
comp=Z,12nm,1.2s
KNB Kanab 76.37 53 *e*P **P 20 45 48.9 +1.7**
comp=Z,12nm,1.2s
SRU San Rafael Swe 76.43 50 *e*P **P 20 45 48.8 +1.3**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 76.43 50 *e*P **P 20 45 48.8 +1.3**
comp=Z,5.5nm,0.8s
RSSD Black Hills 76.78 43 *e*P **P 20 45 50.2 +0.7**
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD Black Hills 76.78 43 *e*P **P 20 45 50.1 +0.7**
comp=Z,4.0nm,0.6s
KWP Kalwaria Pacla 77.07 325 *e*P **P 20 45 51.5 +0.7**
KWP Kalwaria Pacla 77.07 325 *e*P **P 20 45 51.5 +0.7**
U15A North Rim 77.08 53 *e*P **P 20 45 53.1 +1.8**
comp=Z,9.4nm,1.1s
BUR08 Bucovina Ar. S 77.38 322 *e*P **P 20 45 53.1 +0.5**
BURAR Bucovina Array 77.39 322⇑*i*P **P 20 45 53.4 +0.7**
BURAR Bucovina Array 77.39 322⇑⇑P **P 20 45 53.4 +0.7**
TESR Tescani 77.49 321⇓⇓*i*P **P 20 45 53.8 +0.7**
STHS Stebnicka Huta 77.88 326 *e*P **P 20 45 57.1 +1.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 77.88 326 *e*P **P 20 45 57.1 +1.9**
OJC Ojcow 77.89 327 *e*P **P 20 45 56.3 +1.0**
OJC Ojcow 77.89 327 *e*P **P 20 45 56.3 +1.0**
OJC Ojcow 77.89 327 *e*P **P 20 45 56.0 +0.7**
comp=Z,20nm,0.9s
CRVS Cervenica-Dubn 78.16 325 *e*P **P 20 45 57.7 +0.9**
CRVS Cervenica-Dubn 78.16 325 *e*P **P 20 45 57.7 +0.9**
ARCR ARCALIA 78.18 322⇑*i*P **P 20 45 58.8 +1.8**
NIE Niedzica 78.28 326 *e*P **P 20 45 58.9 +1.4**
NIE Niedzica 78.28 326 *e*P **P 20 45 58.9 +1.4**
BR101 Keskin Array S 78.46 312 *e*P **P 20 45 59.0 +0.2**
BRTR Keskin Array B 78.46 312 P **P 20 45 59.0 +0.2**
comp=Z,1.8nm,0.8s,baz=74,slow=4.4,SNR=7.2
DOPR Dopca 78.49 321⇓⇓*i*P **P 20 46 00.4 +1.7**
CJR Cluj-Napoca 78.81 323⇑⇑*i*P **P 20 45 58.3 -2.2**
CJR Cluj-Napoca 78.81 323⇑⇑P **P 20 45 58.3 -2.2**
LANS Liptovska Anna 78.84 326 *e*P **P 20 46 02.7 +2.1**
LANS Liptovska Anna 78.84 326 *e*P **P 20 46 02.7 +2.1**
KSP Ksiaz 78.85 329 *e*P **P 20 46 01.5 +0.9**
KSP Ksiaz 78.85 329 *e*P **P 20 46 01.5 +0.9**
OKC Ostrava-Krasne 78.88 328 *e*P **P 20 46 02.1 +1.4**
OKC *ep*P **sP 20 46 11.2 +0.4**
OKC Ostrava-Krasne 78.88 328 *e*P **P 20 46 02.1 +1.4**
OKC *e* 20 46 11.2
BR231 Keskin MP Arra 78.88 313 *e*P **P 20 45 60.0 -1.1**
VOIR 79.04 321⇑⇑*i*P **P 20 46 03.4 +1.6**
VOIR 79.04 321⇑⇑P **P 20 46 03.4 +1.6**
DRGR 79.16 323⇓⇓*i*P **P 20 46 02.1 -0.4**
DRGR 79.16 323⇓⇓P **P 20 46 02.1 -0.4**
MORC Moravsky Berou 79.17 328 *e*P **P 20 46 02.5 +0.1**
MORC pmax pmax
comp=Z,36nm,0.9s
MORC Moravsky Berou 79.17 328 *e*P **P 20 46 02.5 +0.1**
comp=Z,36nm,0.9s
DPC Dobruska-Polom 79.22 329 *e*P **P 20 46 04.0 +1.3**
DPC *ep*P **sP 20 46 13.3 +0.5**
DPC *ep*P **PP 20 48 57.0 -4.7**
DPC Dobruska-Polom 79.22 329 *e*P **P 20 46 04.0 +1.3**
DPC *e* 20 46 13.3
DPC *e* 20 48 57.0
UPC Upice 79.22 329 AMS AMS 21 26 40.0
comp=Z,400nm,17.8s
KRLC Kraliky 79.25 328 *e*P **P 20 46 03.7 +0.8**
KRLC Kraliky 79.25 328 *e*P **P 20 46 03.7 +0.8**
ARR Arges 79.29 321⇑⇑*i*P **P 20 46 05.5 +2.3**
PSZ Piszkesteto 79.59 325⇓⇓*i*P **P 20 46 06.0 +1.2**
PSZ Piszkesteto 79.59 325⇓⇓P **P 20 46 06.0 +1.2**
PSZ Piszkesteto 79.59 325 *e*P **P 20 46 05.8 +1.0**
comp=Z,13nm,1.0s
VYHS Vyhne 79.61 326 *e*P **P 20 46 05.6 +0.8**
VYHS pmax pmax
comp=Z,146nm,4.4s
VYHS Vyhne 79.61 326 *e*P **P 20 46 05.6 +0.8**
BRG Berggiesshubel 79.74 330 *e*P **P 20 46 05.8 +0.4**
comp=Z,4.5nm,0.9s
BRG *e* 20 46 15.6
comp=Z,10nm,1.5s
BRG Berggiesshubel 79.74 330 *e*P **P 20 46 05.8 +0.4**
BRG *e* 20 46 15.6
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.5s
CLL Collm 79.75 331 *i*P **P 20 46 05.8 +0.3**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 79.75 331⇑⇑*i*P **P 20 46 05.8 +0.3**
comp=Z,11nm,0.9s
CLL *i*pP **sP 20 46 15.2 -0.4**
CLL LmH 21 19 00.0
comp=N,300nm,20.4s
CLL LmH 21 19 00.0
comp=E,400nm,19.5s
CLL LmV 21 24 00.0
comp=Z,300nm,18.1s
CLL Collm 79.75 331 *e*P **P 20 46 05.9 +0.4**
comp=Z,9.4nm,0.8s
SIRR Siria 80.04 323⇓⇓*i*P **P 20 46 08.5 +1.3**
GOPC GO Pecny, Ondr 80.18 329 *e*P **P 20 46 08.8 +1.0**
GOPC *ep*P **sP 20 46 18.1 +0.1**
GOPC GO Pecny, Ondr 80.18 329 *e*P **P 20 46 08.8 +1.0**
GOPC *e* 20 46 18.1
PRU Pruhonice 80.21 329 *e*P **P 20 46 09.9 +1.5**
PRU *ep*P **sP 20 46 17.9 -0.2**
PRU Pruhonice 80.21 329 *e*P **P 20 46 09.5 +1.5**
PRU *e* 20 46 17.9
TREC Trest 80.39 329 *e*P **P 20 46 10.0 +1.0**
TREC Trest 80.39 329 *e*P **P 20 46 10.0 +1.0**
BZS Buzias 80.54 323⇑⇑*i*P **P 20 46 10.4 +0.5**
BZS Buzias 80.54 323⇑⇑P **P 20 46 10.4 +0.5**
NKC Novy Kostel 80.83 331 *e*P **P 20 46 11.9 +0.6**
NKC *ep*P **sP 20 46 21.5 0.0**
NKC Novy Kostel 80.83 331 *e*P **P 20 46 11.9 +0.6**
NKC *e* 20 46 21.5
KHC Kasperske Hory 81.28 329 *e*P **P 20 46 14.6 +0.8**
KHC *ep*P **sP 20 46 23.9 0.0**
KHC *ex* x 20 46 36.1
KHC Kasperske Hory 81.28 329 *e*P **P 20 46 14.6 +0.8**
KHC *e* 20 46 23.9
KHC Kasperske Hory 81.28 329 *e*P **P 20 46 14.7 +0.8**
comp=Z,3.3nm,1.0s
RAYN Ar Rayn 81.29 293 *e*P **P 20 46 14.5 +0.2**
comp=Z,6.8nm,0.8s
CONA Conrad Observa 81.31 327 *e*P **P 20 46 15.0 +1.0**
comp=Z,8.7nm,1.1s
GEC2 GERESS Array S 81.46 329 *e*P **P 20 46 15.0 +0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 81.46 329 *e*P **P 20 46 15.0 +0.2**
comp=Z,3.7nm,0.9s
GERES GERESS Array B 81.46 329 P **P 20 46 15.0 +0.2**
comp=Z,1.8nm,0.8s,baz=37,slow=5.2,SNR=15
GERES GERESS Array B 81.46 329 P **P 20 46 15.0 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GEA0 GERESS Array S 81.46 329 *e*P **P 20 46 15.1 +0.2**
GRFO Grafenberg 81.73 331 *e*P **P 20 46 16.8 +0.7**
GRFO pmax pmax
comp=Z,61nm,1.8s
GRFO Grafenberg 81.73 331 *e*P **P 20 46 16.8 +0.7**
comp=Z,61nm,1.8s
ARSA Arzberg 81.98 327 *e*P **P 20 46 18.3 +0.8**
comp=Z,4.5nm,0.8s
VTS Vitosha 82.03 320⇑⇑*i*P **P 20 46 19.1 +1.1**
VTS Vitosha 82.03 320⇑⇑P **P 20 46 19.1 +1.1**
VTS Vitosha 82.03 320 *e*P **P 20 46 18.4 +0.4**
comp=Z,12nm,0.9s
MOA Molln 82.03 328 *i* PcP **P 20 46 19.9 +2.2**
comp=Z,7.5nm,1.1s
GROS Grobnik 82.62 327 *e*P **P 20 46 21.2 +0.3**
PERS Pernice 82.64 327 *i* P **P 20 46 21.6 +0.6**
SOKA Soboth 82.64 327 *e*P **P 20 46 21.6 +0.6**
comp=Z,11nm,1.0s,SNR=10
MEM Membach 82.81 334 P **P 20 46 22.4 +0.7**
comp=Z,9.8nm,1.6s
GOLS Golise 82.92 326 *e*P **P 20 46 22.7 +0.3**
OBKA Obir 82.98 327 *i* P **P 20 46 23.9 +1.0**
comp=Z,4.5nm,0.9s
KBA Koelnbreinsper 83.02 328 *i* PcP **P 20 46 24.7 +1.6**
comp=Z,7.6nm,0.9s
MYKA Terra Mystica 83.26 328 *i* P **P 20 46 24.4 +0.2**
comp=Z,14nm,1.7s
WTTA Wattenberg 83.55 329 *i* P **P 20 46 26.3 +0.4**
comp=Z,5.5nm,1.1s
PMOR Pomariorio Ree 83.63 115 *e*T T 22 19 41.2
comp=Z,3.9nm,0.2s
MOTA Moosalm 83.69 330 *i* P **P 20 46 26.9 +0.3**
comp=Z,6.0nm,0.9s
RETA Reutte 83.71 330 *i* P **P 20 46 27.3 +0.8**
comp=Z,9.6nm,1.2s
FETA Feichten 84.11 330 *i* P **P 20 46 29.1 +0.4**
comp=Z,5.2nm,0.9s
DAVA Damuels 84.21 330 *e*P **P 20 46 29.7 +0.5**
comp=Z,7.3nm,0.8s,SNR=4.2
PPT Papeete 84.24 118 LR LR 21 15 54.7
comp=Z,60nm,21.5s,baz=2.5,slow=30
PPT2 Papeete2 84.26 118 *e*LR LR 21 13 30.3
comp=Z,138nm,23.0s
FUORN Ofenpass-Fuorn 84.62 330 *e*P **P 20 46 32.6 +1.2**
comp=Z,13nm,0.8s
LTX Lajitas 87.20 54 *e*P **P 20 46 45.6 +1.3**
LTX Lajitas 87.20 54 *e*P **P 20 46 45.6 +1.3**
TXAR Lajitas Array 87.20 54 P **P 20 46 45.6 +1.3**
comp=Z,0.9nm,0.7s,baz=286,slow=3.7,SNR=2.2
BLA Blacksburg 93.52 34 *e*P **P 20 47 10.5 -3.1**
BLA pmax pmax
comp=Z,23nm,0.6s
BLA Blacksburg 93.52 34 *e*P **P 20 47 10.5 -3.1**
comp=Z,23nm,0.6s
TOA1 Torodi Ar. Sit 116.71 318 *e*PKPdf **PKPdf 20 52 41.7 -0.8**
TOA1 *e*PP **PP 20 53 48.9 -0.6**
TORD Torodi Ar. Bea 116.71 318 PKP **PKPdf 20 52 41.7 -0.8**
comp=Z,0.2nm,0.5s,baz=350,slow=0.6,SNR=4.7
TORD PP **PP 20 53 48.9 -0.6**
comp=Z,2.2nm,1.0s,baz=34,slow=5.1,SNR=7.8
LSZ Lusaka 119.13 274 PKP **PKPdf 20 52 46.9 -0.2**
comp=Z,1.2nm,0.7s,baz=1.5,slow=6.7,SNR=4.1
SNAA Sanae 143.69 197 PKP PKPbc 20 53 29.2 +0.2
SNAA Sanae 143.69 197 *e*PKIKP PKPbc 20 53 30.1 +1.1
SNAA Sanae 143.69 197 *e*PKPpre PKPbc 20 53 30.1 +1.0
LPAZ La Paz 143.89 59 PKP **PKPdf 20 53 36.9 +2.7**
comp=Z,1.7nm,0.8s,baz=12,slow=6.5,SNR=8.2
LPAZ La Paz 143.89 59 *e*PKPdf **PKPdf 20 53 37.4 +3.2**
VNA2 Neumayer--Watz 145.24 196 PKP **PKPab 20 53 34.0 0.0**
baz=113,slow=3.3
PB11 IPOC Station P 145.25 65 *e*PKPbc **PKPdf 20 53 36.7 +0.9**
VNA3 Neumayer Olymp 145.47 195 PKP **PKPdf 20 53 34.4 -0.1**
VNA1 Neumayer--Stat 145.64 196 PKP **PKPdf 20 53 30.6 -4.1**
LVC Linn Verde 147.62 68 PKPbc **PKPbc 20 53 43.3 +0.6**
comp=Z,7.7nm,0.6s,baz=0.0,slow=2.0,SNR=2.5
SIV San Ignacio 148.10 50 PKPbc **PKPbc 20 53 44.4 +0.6**
comp=Z,4.0nm,0.8s,baz=14,slow=4.7,SNR=7.5

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*IDC **17** 20:37:09.1±1.0, 5.°81S×151.°27E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/46, mbtmp4.0/9, ML2.0/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/32, Error ellipse: s-maj=28.6km s-min=20.6km az=109.0*
*ISCJB **17** 20:37:14.5±0.6, 5.°97S±0.°09×151.°1E±0.°1, h43km, mb4.0/11, MS3.5/4, Error ellipse: s-maj=18.1km s-min=8.2km az=40.1*
*NEIC **17** 20:37:14.7±0.6, 5.°92S×151.°23E, h35km, mb4.3/6, Error ellipse: s-maj=19.6km s-min=9.8km az=124.0*
ISC 17 20:37:15.6±0.7, 5.°9S±0.°1×151.°2E±0.°1, h43km, n27, σ1s07/24, mb4.1/11, MS3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.97**	**30**	*e*Pn		**Pn**	**20 37 47.7**	**+1.1**
PMG	**Port Moresby**	**5.29**	**229**	Pn		**Pn**	**20 38 33.1**	**+0.9**
	3.3nm,0.3s,baz=47,slow=10,SNR=6.6							
PMG				Sn		**Sn**	**20 39 31.4**	**-0.5**
	6.4nm,0.3s,baz=96,slow=19,SNR=9.2							
PMG				LR		LR	20 40 35.3	
	comp=Z,567nm,20.7s,baz=348,slow=38							
MANU	**Manus Island**	**5.41**	**315**	*e*Pn		Pn	20 38 41.3	+7.4
HNR	**Honiara**	**9.36**	**112**	LR		LR	20 42 42.2	
	comp=Z,116nm,20.4s,baz=272,slow=36							
GUMO	**Guam**	**20.37**	**342**	LR		LR	20 48 13.7	
	comp=Z,199nm,19.2s,baz=354,slow=33							
WRAB	**Tennant Creek**	**21.49**	**228**	*e*P		**P**	**20 41 60.0**	**-1.0**
	59nm,1.9s							
WB2	**Warramunga Arr**	**21.50**	**228**	*e*P		**P**	**20 42 00.2**	**-0.8**
WR1	**Warramunga Arr**	**21.51**	**228**	*e*P		**P**	**20 42 00.8**	**-0.2**
	12nm,1.0s							
WRA	**Warramunga Arr**	**21.51**	**228**	P		**P**	**20 42 00.8**	**-0.2**
	3.9nm,0.5s,baz=54,slow=11,SNR=33							
DZM	**Mont Dzumac**	**21.81**	**139**	P		**P**	**20 42 05.0**	**+0.6**
	3.5nm,0.6s,baz=289,slow=12,SNR=5.4							
DZM				LR		LR	20 49 17.9	
	comp=Z,156nm,20.7s,baz=266,slow=33							
DZM	**Mont Dzumac**	**21.81**	**139**	*e*P		**P**	**20 42 04.2**	**-0.2**
	24nm,1.4s							
DZM				*e*			20 49 17.9	
AS01	**Alice Springs**	**24.22**	**221**	*e*P		**P**	**20 42 29.2**	**+0.6**
AS31	**Alice Springs**	**24.25**	**222**	*e*P		**P**	**20 42 29.6**	**+0.7**
	2.7nm,0.8s							
ASAR	**Alice Springs**	**24.25**	**222**	P		**P**	**20 42 29.4**	**+0.5**
	7.6nm,0.7s,baz=56,slow=9.3,SNR=73							
STKA	**Stephens Creek**	**27.34**	**198**	P		**P**	**20 42 55.8**	**-0.9**
	3.4nm,0.8s,baz=346,slow=13,SNR=5.5							
STKA				LR		LR	20 53 51.4	
	comp=Z,174nm,18.1s,baz=9.7,slow=36							
STKA	**Stephens Creek**	**27.34**	**198**	*e*P		**P**	**20 42 55.8**	**-0.9**
	1.8nm,1.1s							
STKA				*e*ScS		ScS	20 53 51.4	+7.3
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P		**P**	**20 43 00.1**	**-0.2**
	2.9nm,0.7s,baz=62,slow=7.2,SNR=12							
FITZ	**Fitzroy Crossi**	**27.72**	**242**	*e*P		**P**	**20 43 00.3**	**+0.1**
	26nm,1.8s							
KSRS	**Korea Array**	**48.30**	**335**	LR		LR	21 04 13.5	
	comp=Z,43nm,21.4s,baz=135,slow=34							
SONA0	**Songino Array**	**66.42**	**329**	*e*P		**P**	**20 48 01.7**	**+1.1**
SONM	**Songino Array**	**66.42**	**329**	P		**P**	**20 48 01.7**	**+1.1**
	0.2nm,0.6s,baz=146,slow=6.6,SNR=1.9							
VNDA	**Vanda**	**71.79**	**178**	P		**P**	**20 48 34.0**	**+0.8**
	1.0nm,0.9s,baz=334,slow=4.8,SNR=4.6							
VNDA	**Vanda**	**71.79**	**178**	*e*P		**P**	**20 48 34.4**	**+1.2**
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**20 49 37.8**	**-2.4**
	0.8nm,0.8s,baz=250,slow=5.6,SNR=6.2							
ILB	**Eielson Array**	**83.79**	**22**	*e*P		**P**	**20 49 37.8**	**-2.4**
TORD	**Torodi Ar. Bea**	**149.09**	**286**	PKPbc		**PKPbc**	**20 56 59.6**	**-0.7**
	2.0nm,0.7s,baz=74,slow=2.4,SNR=14							
TOA1	**Torodi Ar. Sit**	**149.09**	**286**	*e*PKPbc		**PKPbc**	**20 56 59.6**	**-0.7**

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*IDC **17** 20:42:14.1±1.1, 5.°71S×151.°35E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/41, mbtmp4.0/9, ML2.0/1, Error ellipse: s-maj=41.9km s-min=18.8km az=115.0*
*NEIC **17** 20:42:19.3±0.9, 6.°01S×151.°58E, h35km, mb4.1/5, Error ellipse: s-maj=29.5km s-min=13.0km az=115.0*
ISC 17 20:42:21.4±0.9, 5.°8S±0.°2×151.°1E±0.°2, h43km, n25, σ1s17/26, mb3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.90**	**35**	*e*Pn		**Pn**	**20 42 53.6**	**+2.3**
MANU	**Manus Island**	**5.24**	**315**	*e*Pn		Pn	20 43 45.9	+8.7
PMG	**Port Moresby**	**5.31**	**227**	Pn		**Pn**	**20 43 39.7**	**+1.5**
	3.0nm,0.3s,baz=25,slow=4.6,SNR=5.1							
PMG				Sn		**Sn**	**20 44 37.5**	**-0.7**
	9.0nm,0.3s,baz=349,slow=20,SNR=6.2							
PMG	**Port Moresby**	**5.31**	**227**	*e*Pn		**Pn**	**20 43 40.4**	**+2.2**
PMG				Sn		**Sn**	**20 44 37.5**	**-0.7**
WB2	**Warramunga Arr**	**21.52**	**228**	*e*P		**P**	**20 47 07.4**	**+0.4**
	12nm,1.1s							
WR1	**Warramunga Arr**	**21.53**	**228**	*e*P		**P**	**20 47 06.8**	**-0.3**
	8.9nm,0.9s							
WRA	**Warramunga Arr**	**21.53**	**228**	P		**P**	**20 47 06.8**	**-0.3**
	3.7nm,0.6s,baz=53,slow=11,SNR=9.4							
AS01	**Alice Springs**	**24.26**	**221**	*e*P		**P**	**20 47 36.5**	**+1.8**
AS31	**Alice Springs**	**24.29**	**221**	*e*P		**P**	**20 47 36.9**	**+1.9**
	1.9nm,0.6s							
ASAR	**Alice Springs**	**24.30**	**221**	P		**P**	**20 47 36.3**	**+1.3**
	4.6nm,0.7s,baz=58,slow=9.1,SNR=31							
STKA	**Stephens Creek**	**27.45**	**198**	P		**P**	**20 48 02.8**	**-0.7**
	2.0nm,0.9s,baz=40,slow=9.8,SNR=2.9							
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P		**P**	**20 48 05.7**	**-0.1**
	3.1nm,0.7s,baz=44,slow=7.2,SNR=9.9							
FITZ	**Fitzroy Crossi**	**27.70**	**242**	*e*P		**P**	**20 48 05.7**	**-0.1**
	18nm,1.5s							
SONA0	**Songino Array**	**66.25**	**329**	*e*P		**P**	**20 53 05.1**	**-0.1**
SONM	**Songino Array**	**66.25**	**329**	P		**P**	**20 53 05.1**	**-0.1**
	0.3nm,0.4s,baz=154,slow=4.4,SNR=3.7							
MK32	**Makanchi Array**	**79.94**	**319**	*e*P		**P**	**20 54 26.2**	**+0.2**
MKAR	**Makanchi Array**	**79.94**	**319**	P		**P**	**20 54 26.2**	**+0.2**
	0.4nm,0.6s,baz=109,slow=7.2,SNR=4.8							
ZALV	**Zalesovo Beam**	**81.01**	**327**	P		**P**	**20 54 30.6**	**-1.0**
	0.5nm,0.3s,baz=112,slow=6.4,SNR=2.8							
ZAA1	**Zalesovo Array**	**81.01**	**327**	*e*P		**P**	**20 54 30.6**	**-1.0**
ILAR	**Eielson Array**	**83.69**	**22**	P		**P**	**20 54 43.8**	**-1.6**
	1.0nm,0.6s,baz=247,slow=4.4,SNR=14							
ILB	**Eielson Array**	**83.69**	**22**	*e*P		**P**	**20 54 43.8**	**-1.6**
GERES	**GERESS Array B**	**123.96**	**327**	PKP		**PKPdf**	**21 01 15.1**	**-0.2**
	0.2nm,0.4s,baz=52,slow=1.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**148.95**	**286**	PKPbc		**PKPbc**	**21 02 05.6**	**-0.2**
	8.3nm,0.7s,baz=64,slow=2.5,SNR=80							
TOA1	**Torodi Ar. Sit**	**148.96**	**286**	*e*PKPbc		**PKPbc**	**21 02 05.6**	**-0.2**
BDFB	**Brasilia**	**151.54**	**139**	PKPbc		**PKPbc**	**21 02 10.7**	**-1.3**
	0.7nm,0.3s,baz=150,slow=3.0,SNR=3.1							

IDC 17 20:46:57.2±2.0, 7.°70S×129.°96E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/29, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=72.7km s-min=28.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.16**	**202**	Pn		Pn	20 49 38.6	+0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=5.5							
FITZ				Sn		Sn	20 51 34.6	-9.1
	0.4nm,0.3s,baz=301,slow=19,SNR=5.2							
WRA	**Warramunga Arr**	**12.89**	**161**	Pn		Pn	20 50 01.6	-0.1
	0.2nm,0.3s,baz=339,slow=14,SNR=6.2							
WRA				Sn		Sn	20 52 17.1	-8.9
	0.8nm,0.3s,baz=334,slow=22,SNR=7.1							
ASAR	**Alice Springs**	**16.32**	**167**	Pn		Pn	20 50 47.4	-0.5
	0.1nm,0.3s,baz=355,slow=9.3,SNR=4.7							
ASAR				Sn		Sn	20 53 37.9	-12
	0.1nm,0.3s,baz=346,slow=27,SNR=3.0							
MKAR	**Makanchi Array**	**68.79**	**327**	P		P	20 58 03.2	0.0
	0.1nm,0.3s,baz=135,slow=8.1,SNR=2.5							

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*ISCJB **17** 21:05:18.6±0.9, 36.°91N±0.°03×141.°38E±0.°08, h41km±10km, mb3.4/3, Error ellipse: s-maj=10.5km s-min=5.3km az=15.7*
*JMA **17** 21:05:20.3±0.1, 36.°96N×141.°18E, h54km±1km, M3.8*
JMA Felt I J1.
*IDC **17** 21:05:21.9±4.1, 36.°79N×141.°38E, h58km±33km, mb3.3/3, mb1 3.5/6, mb1mx3.3/45, mbtmp3.6/6, ML3.0/3, Error ellipse: s-maj=35.9km s-min=13.9km az=66.0*
ISC 17 21:05:19.6±1.6, 36.°93N±0.°04×141.°36E±0.°08, h36km±3km, n23, σ0s94/28, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**291**	P		**Pn**	**21 05 30.1**	**+0.1**
ONAJ				S		**Sn**	**21 05 36.9**	**-0.4**
JFK	**Kawauchi**	**0.58**	**318**	P		**Pn**	**21 05 31.4**	**-0.2**
JFK				*i* S		**Sn**	**21 05 39.2**	**-0.7**
JHO	**Hitachi**	**0.71**	**244**	P		**Pn**	**21 05 32.9**	**-0.3**
JHO				*e*S		**Sn**	**21 05 41.8**	**-1.1**
JFT	**Otama**	**1.01**	**306**	P		**Pn**	**21 05 37.5**	**+0.3**
JFT				S		**Sn**	**21 05 49.4**	**-0.7**
JMM	**Marumori**	**1.04**	**334**	P		**Pn**	**21 05 37.5**	**-0.1**
JMM				S		**Sn**	**21 05 50.2**	**-0.7**
JFY	**Yanaizu**	**1.41**	**290**	P		**Pn**	**21 05 42.2**	**-0.5**
JIO	**Ouri**	**1.52**	**360**	P		**Pn**	**21 05 44.7**	**+0.4**
JIO				*e*S		**Sn**	**21 06 02.3**	**-0.5**
JOU	**Okura**	**1.54**	**339**	P		**Pn**	**21 05 44.6**	**+0.1**
JOU				*e*S		**Sn**	**21 06 03.2**	**0.0**
JAG	**Ashikaga**	**1.61**	**252**	P		**Pn**	**21 05 45.1**	**-0.4**
JAG				S		**Sn**	**21 06 03.4**	**-1.7**
JYS	**Shiratake**	**1.65**	**322**	P		**Pn**	**21 05 46.5**	**+0.5**
JYS				*e*S		**Sn**	**21 06 05.6**	**-0.4**
MJAR	**Matsushiro Arr**	**2.56**	**262**	P		**Pn**	**21 05 58.8**	**+0.2**
	4.4nm,0.3s,baz=83,slow=15,SNR=32							
MJAR				S		**Sn**	**21 06 31.1**	**+2.6**
	8.4nm,0.3s,baz=17,slow=15,SNR=3.1							
MAT	**Matsushiro**	**2.56**	**262**	P		**Pn**	**21 05 59.2**	**+0.6**
MAT				S		**Sn**	**21 06 29.3**	**+0.7**
JHJ	**Hachijo jima 2**	**4.02**	**199**	P		**Pn**	**21 06 19.3**	**+0.7**
	15nm,0.3s,baz=330,slow=22,SNR=39							
JHJ				S		**Sn**	**21 07 04.2**	**-0.2**
	17nm,0.3s,baz=118,slow=23,SNR=7.4							
USRK	**Ussuriysk Ar.**	**10.17**	**318**	P		Pn	21 07 47.6	+4.7
	0.2nm,0.3s,baz=138,slow=16,SNR=4.6							
SONM	**Songino Array**	**27.81**	**304**	P		**P**	**21 11 07.4**	**+2.0**
	0.3nm,0.4s,baz=107,slow=10,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**28.13**	**121**	T		T	21 41 02.3	
	baz=313,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T		T	21 41 02.9	
	baz=313,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**28.15**	**121**	T		T	21 41 00.8	
	baz=313,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T		T	21 42 02.1	
	baz=314,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**28.84**	**123**	T		T	21 41 53.3	
	baz=314,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T		T	21 42 02.5	
	baz=314,slow=76,SNR=15							
MKAR	**Makanchi Array**	**44.14**	**302**	P		**P**	**21 13 24.3**	**-0.3**
	0.2nm,0.2s,baz=91,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**56.95**	**188**	P		**P**	**21 15 00.1**	**-1.3**
	0.5nm,0.7s,baz=7.1,slow=7.4,SNR=3.9							

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*NEIC **17** 21:25:34.3±0.0, 34.°69N×116.°29W, h1km, ML3.5(PAS), After PAS.*
**ISC 17 21:25:33.7±1.0, 34.

PFO	Pinyon Flats O	1.08	188	P		Pg	21 25 54.3	-0.1
	baz=7.2,SNR=288							
PFO	Pinyon Flats O	1.08	188	*e*Pg		Pg	21 25 54.3	-0.1
PFO				*e*S		Sn	21 26 11.8	+1.1
SHOC	Shoshone, Teco	1.21	0	P		Pb	21 25 56.4	-0.6
	baz=181,SNR=270							
BFSC	Mount Baldy Ra	1.23	249	P		Pb	21 25 56.7	-0.6
	baz=68,SNR=116							
BFSC				S		Sb	21 26 12.9	-0.4
	baz=68							
BC3	Big Chuckawall	1.23	146	P		Pn	21 25 56.6	-0.8
	baz=326,SNR=213							
MURC	Murrieta	1.32	215	P		Pn	21 25 58.4	-0.3
	baz=34,SNR=88							
NEE2	Needles Airpor	1.37	86	P		Pn	21 25 58.4	-0.8
	baz=267							
LRMC	Laurel Mtn Rad	1.40	305	P		Pn	21 25 59.0	-0.7
	baz=124,SNR=158							
EDW2	Edwards Air Fo	1.43	278	P		Pn	21 25 59.2	-0.8
	baz=97,SNR=197							
PASC	Pasadena Art C	1.66	253	*e*Pn		Pb	21 26 04.4	-0.2
PASC				*e*S		Sg	21 26 26.6	-0.5
MPMC	Manual Prospec	1.69	324	P		Pn	21 26 03.2	-0.7
	baz=144,SNR=85							
MPMC				Sb		Sg	21 26 27.5	-0.6
	baz=144							
Y12C	Blythe	1.73	122	P		Pn	21 26 03.4	-0.7
	baz=303,SNR=59							
Y12C				S		Sn	21 26 25.1	-1.3
	baz=303							
DECC	Green Verdugo	1.75	256	Pb		Pb	21 26 06.2	0.0
	baz=75,SNR=13							
DECC				Sb		Sg	21 26 30.1	0.0
	baz=75							
SWSC	Sam W. Stewart	1.78	167	P		Pn	21 26 04.1	-0.8
	baz=347							
MONP2	Monument Peak	1.79	184	Pb		Pb	21 26 07.1	+0.1
	baz=3.4,SNR=34							
PDMCI	Parker Dam,Lak	1.80	102	P		Pn	21 26 04.4	-0.7
	baz=283,SNR=33							
PDMCI				S		Sn	21 26 27.6	-0.7
	baz=283							
109C	Camp Elliot, M	1.92	201	Pb		Pb	21 26 08.8	-0.2
	baz=20							
109C				Sb		Sb	21 26 33.8	+0.6
	baz=20							
FMP	Fort Macarthur	1.93	240	Pb		Pb	21 26 09.3	+0.1
	baz=59							
OSI	Osito Audit: C	2.02	269	Pb		Pb	21 26 10.8	+0.1
	baz=87							
GLA	Glamis	2.03	143	P		Pn	21 26 07.4	-0.9
	baz=324,SNR=23							
IKP	In-Ko-Pah, Jac	2.03	176	Sb		Sb	21 26 38.0	+1.4
	baz=356							
ISA	Isabella, Lake	2.05	299	Pb		Pb	21 26 11.9	+0.7
	baz=118							
ISA				Sb		Sg	21 26 38.3	-1.2
	baz=118							
ARVC	Arvin	2.15	283	Pb		Pb	21 26 13.1	+0.2
	baz=101,SNR=12							
CIS	Catalina Islan	2.19	235	Sb		Sb	21 26 42.1	+1.2
	baz=53							
TPNV	Topopah Spring	2.26	1	P		Pn	21 26 11.6	0.0
	baz=181,SNR=80							
CWC	Cottonwood Cre	2.29	320	Sb		Sg	21 26 45.9	-1.3
	baz=140							
BLG	Laguna Peak, P	2.38	257	Sb		Sg	21 26 48.3	-1.7
	baz=75							
PKM	Mcpherson Peak	2.92	275	P		Pn	21 26 20.3	-0.4
	baz=93,SNR=10.0							
SMMC	Simmler	3.12	283	Pb		Pb	21 26 29.7	+0.2
	baz=100							
R11A	Troy Canyon, C	3.70	8	*e*Pn		Pn	21 26 33.2	+1.7
R11A				*e*Pg		Pg	21 26 43.2	-1.4
R11A				*e*S		Sg	21 27 29.3	-3.2
214A	Organ Pipe Nat	3.98	132	*e*Pn		Pn	21 26 34.9	-0.3
214A				*e*S		Sg	21 27 39.5	-2.0
WUAZ	Wupatki	4.10	77	*e*Pn		Pn	21 26 38.4	+1.4
WUAZ				*e*Pg		Pg	21 26 51.6	-0.7
WUAZ				*e*Sg		Sb	21 27 41.1	+4.9
CMB	Columbia Colle	4.71	316	Pn		Pn	21 26 46.7	+1.5
CMB				*e*S		Sg	21 27 59.2	-5.7
TUC	Tucson	5.16	116	*e*Pn		Pn	21 26 51.0	-0.4
TUC				*e*S		Sg	21 28 17.0	-2.5
W18A	Petrified Fore	5.39	84	*e*Pn		Pn	21 26 58.0	+3.3
	14nm,0.6s							
W18A				*e*Pg		Pg	21 27 13.5	-3.5
W18A				*e*S		Sb	21 28 15.2	+1.9
PV04	Paradox Valley	6.99	56	*e*Pn		Pn	21 27 20.9	+4.3
PV04				*e*Sg		Sg	21 29 12.1	-6.0
PV01	Paradox Valley	7.10	59	*e*Pn		Pn	21 27 22.7	+4.5
PV01				*e*Sg		Sg	21 29 18.0	-3.7
121A	Cookes Peak, D	7.40	104	*e*Pn		Pn	21 27 23.0	+0.7
121A				*e*S		Sn	21 28 47.4	+0.7

BJI ***17*** *21:28:23.4, 37°.72S×77°.67E, h10km, mb4.8/38, mB5.2/21, Ms5.0/18, Ms7 4.7/19*

IDC ***17*** *21:28:24.8±0.5, 37°.44S×78°.10E, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/34, mbtmp4.3/21, MS4.4/23, Ms1 4.4/23, ms1mx4.3/32, Error ellipse: s-maj=16.7km s-min=14.4km az=3.0*

NEIC ***17*** *21:28:26.5±0.3, 37°.53S×78°.11E, h10km, mb4.9/19, Error ellipse: s-maj=11.1km s-min=9.4km az=180.0*

GCMT ***17*** *21:28:26.5±0.2, 37°.34S×78°.08E, h18km±1km, MW5.1/83, Moment Tensor Solution. s43,c52; s83,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.18; $M_{\theta\theta}$-4.94±.17; $M_{\phi\phi}$5.40±.17; $M_{r\theta}$0.85±.39; $M_{\theta\phi}$2.41±.13; $M_{\phi r}$-0.73±.33; Best double couple: $M_0$5.82000×10^{16} NP1:ϕ_s328.00000°, δ86.00000°, λ-169.00000°. NP2: ϕ_s237.00000°, δ79.00000°, λ-4.00000°. Principal axes: T 5.9790, Plg5.0000°, Azm102.0000°; N -0.3130, Plg78.0000°, Azm349.0000°; P -5.6620, Plg11.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***17*** *21:28:27.9±0.3, 37°.52S±0°.06×78°.12E±0°.07, h33km, mb4.6/49, MS4.5/30 Error ellipse: s-maj=8.8km s-min=8.1km az=135.6*

ISC 17 21:28:30.4±2.2, 37°.54S±0°.08×77°.97E±0°.08, h35km±11km, n108, σ2°.05/112, mb4.6/49, MS4.6/30, 2C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	30.17	349	T	T	22 05 57.7	
	baz=171,slow=76,SNR=1882						
H08S1	Diego Carcia H	30.17	349	T	T	22 05 49.8	
	baz=171,slow=76,SNR=2127						
H08S3	Diego Garcia H	30.19	349	T	T	22 05 52.0	
	baz=171,slow=76,SNR=2462						
MAW	Mawson	31.30	191	P	P	21 34 46.6	-0.1
	1.0nm,0.7s,baz=9.0,slow=15,SNR=2.6						
MAW				LR	LR	21 45 04.2	
	comp=Z,1μm,18.9s,baz=53,slow=32						
NWAO	Narrogin (SRO)	32.23	94	LR	LR	21 44 55.3	
	comp=Z,2μm,19.6s,baz=116,slow=31						
SYO	Syowa Base	37.77	201	*e*P	P	21 35 42.0	-0.6
SYO	Syowa Base	37.77	201	*e*pP	P	21 35 44.2	+1.6
BKNI	Bangkinang	43.28	35	*e*P	P	21 36 31.2	+2.4
	133nm,1.3s						
PSI	Prapat	44.60	31	P	P	21 36 36.5	-3.0
	1.8nm,0.4s,baz=137,slow=9.4,SNR=3.0						
PSI				LR	LR	21 51 04.7	
	comp=Z,1μm,21.1s,baz=198,slow=31						
PALK	Pallekele	44.65	4	LR	LR	21 50 35.4	
	comp=Z,868nm,21.4s,baz=116,slow=30						
FITZ	Fitzroy Crossi	45.85	78	LR	LR	21 53 14.9	
	comp=Z,339nm,19.6s,slow=33						
LBTB	Lobatse	45.94	270	P	P	21 36 49.7	-0.4
	2.0nm,0.6s,baz=102,slow=9.3,SNR=3.1						
MATP	Matopo	45.98	278	P	P	21 36 50.6	+0.2
	1.6nm,0.7s,baz=119,slow=5.7,SNR=5.4						
SUR	Sutherland	46.52	258	P	P	21 36 54.6	0.0
	0.6nm,0.8s,baz=76,slow=8.3,SNR=4.7						
SUR	Sutherland	46.52	258	*e*P	P	21 36 56.1	+1.4
LSZ	Lusaka	49.14	283	P	P	21 37 15.2	+0.2
	8.1nm,1.0s,baz=124,slow=7.2,SNR=11						
ASAR	Alice Springs	49.42	90	P	P	21 37 15.1	-2.0
	3.1nm,1.0s,baz=237,slow=6.6,SNR=13						
ASAR				PcP	PcP	21 38 39.7	+0.7
	0.6nm,0.9s,baz=229,slow=3.5,SNR=5.2						
ASAR				LR	LR	21 55 47.8	
	comp=Z,624nm,19.4s,baz=252,slow=33						
AS31	Alice Springs	49.42	90	*e*P	P	21 37 15.8	-1.3
	4.7nm,1.2s						
AS01	Alice Springs	49.46	90	*e*P	P	21 37 14.9	-2.4
AS01				*e*PcP	PcP	21 38 36.9	-2.3
SOEI	Soe	49.94	69	*e*P	P	21 37 22.9	+1.8
	55nm,1.2s						
WRA	Warramunga Arr	51.69	87	P	P	21 37 32.3	-1.9
	5.6nm,0.9s,baz=237,slow=7.5,SNR=12						
WRA				LR	LR	21 57 11.9	
	comp=Z,544nm,19.5s,baz=260,slow=34						
WB2	Warramunga Arr	51.70	87	*e*P	P	21 37 32.2	-2.0
WRAB	Tennant Creek	51.70	87	*e*P	P	21 37 32.2	-2.1
	29nm,1.1s						
STKA	Stephens Creek	51.73	104	P	P	21 37 33.5	-0.8
	15nm,1.0s,baz=235,slow=6.3,SNR=9.7						
STKA				LR	LR	21 55 25.6	
	comp=Z,730nm,20.2s,baz=246,slow=31						
STKA	Stephens Creek	51.73	104	P	P	21 37 33.5	-0.8
	3.7nm,1.0s						
SNAA	Sanae	52.00	203	P	P	21 37 35.9	+0.1
	3.6nm,1.1s,baz=104,slow=3.8,SNR=6.6						
SNAA	Sanae	52.00	203	*e*P	P	21 37 36.0	+0.2
SNAA				*e*PcP	PcP	21 38 48.6	+0.9
KMBO	Kilima Mbogo	52.10	304	P	P	21 37 37.1	-0.5
	1.2nm,0.3s,baz=154,slow=6.8,SNR=4.6						
KMBO				LR	LR	21 54 31.1	
	comp=Z,279nm,21.8s,baz=98,slow=30						
KMBO	Kilima Mbogo	52.10	304	*e*P	P	21 37 37.5	0.0
VNDA	Vanda	52.37	164	P	P	21 37 39.6	+1.2
	2.1nm,1.0s,baz=261,slow=8.0,SNR=4.1						
VNDA				LR	LR	21 57 41.0	
	comp=Z,388nm,20.0s,baz=270,slow=34						
VNDA	Vanda	52.37	164	*e*P	P	21 37 37.3	-1.1
	18nm,2.0s						
QSPA	South Pole Qui	52.62	180	*e*P	P	21 37 41.4	+0.8
HYB	Hyderabad	54.66	1	*i* P	P	21 37 55.0	-0.9
TSUM	Tsumeb	55.28	272	*e*P	P	21 38 01.3	+0.6
	7.0nm,0.9s						
CM01	Chiang Mai Arr	59.06	23	*e*P	P	21 38 26.4	-0.7
CM01				*e*PcP	PcP	21 39 15.3	-0.3
CM31	Chiang Mai Arr	59.09	23	*e*P	P	21 38 26.9	-0.4
CHTO	Chiang Mai	59.43	23	*e*P	P	21 38 29.4	-0.2
	6.3nm,1.2s						
WSAR	Wadi Sarin	63.13	340	P	P	21 38 53.0	-1.6
	9.4nm,0.7s,baz=145,slow=8.1,SNR=4.9						
QIZ	Qiongzhong	63.77	34	P	P	21 38 59.1	+0.3
QIZ				S	S	21 47 34.0	+2.7
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
QIZ				LR	LR		
	comp=Z,380nm,20.9s						
RAMN	Ramite	64.65	9	*e*P	P	21 39 03.3	-1.5
	82nm,1.3s						
ODAN	Odare	64.66	9	*e*P	P	21 39 02.7	-2.2
	50nm,1.1s						
DMN	Daman	65.14	7	*e*P	P	21 39 06.1	-1.9
	41nm,1.1s						
KOLN	Koldanda	65.17	5	*e*P	P	21 39 05.9	-2.2
	29nm,1.4s						
TAPN	Taplejung	65.19	10	*e*P	P	21 39 07.6	-0.7
	85nm,1.0s						
JIRN	Jiri	65.31	8	*e*P	P	21 39 08.6	-0.6
	343nm,1.2s						
KKN	Kakani	65.34	7	*e*P	P	21 39 07.2	-2.0
	29nm,1.0s						
PYUN	Piuthan	65.46	5	*e*P	P	21 39 07.7	-2.3
	64nm,1.2s						
GKN	Gorkha	65.49	6	*e*P	P	21 39 08.2	-1.9
	45nm,1.3s						
GUN	Gumba	65.52	8	*e*P	P	21 39 10.2	-0.4
	109nm,1.2s						
KMI	Kunming	66.54	24	P	P	21 39 20.6	+3.6
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
KMI				LR	LR		
	comp=N,300nm,15.0s						
KMI				LR	LR		
	comp=E,300nm,15.7s						
KMI				LR	LR		
	comp=Z,310nm,18.6s						
PMG	Port Moresby	67.84	85	*e*P	P	21 39 22.9	-2.4
	32nm,1.3s						
RAYN	Ar Rayn	67.99	328	*e*P	P	21 39 25.6	-0.4
	3.6nm,0.8s						
LSA	Lhasa	68.01	12	*e*P	P	21 39 27.2	+0.7
	17nm,1.3s						
GYA	Guiyang	69.13	27	*e*P	P	21 39 36.0	+2.9
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBL	Kabul	72.19	352	*e*P	P	21 39 50.6	-1.1
	58nm,1.8s						
CD2	Chengdu	72.23	23	*e*P	P	21 39 53.4	+1.5
ENH	Enshi	73.62	28	*e*P	P	21 40 00.4	+0.3
	26nm,1.4s						
ENH				*e*PP	PP	21 42 40.1	-4.8
URZ	Urewera	74.05	126	LR	LR	22 07 40.0	
	comp=Z,261nm,18.5s,baz=258,slow=32						
DZM	Mont Dzumac	75.74	107	LR	LR	22 08 38.5	
	comp=Z,274nm,19.6s,baz=214,slow=32						
DZM	Mont Dzumac	75.74	107	*e*LR	LR	22 03 35.7	
	598nm,24.7s						
WHN	Wuhan	75.79	32	P	P	21 40 13.5	+0.9
KSH	Kashi	76.70	358	P	P	21 40 15.4	-2.3
KSH				pP	pP	21 40 20.8	-7.8
KSH				sP	sP	21 40 22.9	-10
KSH				PcP	PcP	21 40 27.6	-1.4
KSH				PP	PP	21 43 10.0	-1.0
KSH				S	S	21 49 57.1	-4.9
KSH				SKS	SKSac	21 50 18.1	-8.6
KSH				ScS	SKKSac	21 50 25.3	-2.0
KSH				SS	SS	21 54 56.6	-2.4
KSH				pmax	pmax		
	comp=Z,21nm,1.6s						
KSH				pmax	pmax		
	comp=Z,170nm,5.4s						
KSH				LR	LR		
	comp=N,93nm,5.5s						
KSH				LR	LR		
	comp=E,110nm,5.2s						
KSH				LR	LR		
	comp=Z,350nm,19.3s						
LZH	Lanzhou	77.08	21	*e*P	P	21 40 20.3	+0.3
LZH				pP	pP	21 40 24.0	-6.9
LZH				sP	sP	21 40 25.1	-10
LZH				PP	PP	21 43 18.0	+3.7
LZH				*e*S	S	21 50 08.6	+2.3
LZH				pmax	pmax		
	comp=Z,41nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,5.7s						
LZH				LR	LR		
	comp=N,260nm,13.0s						
LZH				LR	LR		
	comp=E,300nm,13.7s						
LZH				LR	LR		
	comp=Z,460nm,17.5s						
GEYT	Alibeck	77.30	344	P	P	21 40 20.1	-1.0
	2.4nm,0.8s,baz=242,slow=18,SNR=2.2						
GEYT				LR	LR	22 09 04.8	
	comp=Z,94nm,21.6s,baz=250,slow=32						
NJ2	Nanjing	79.05	34	*e*P	P	21 40 29.5	-1.3
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
GTA	Gaotai	79.16	17	P	P	21 40 31.8	+0.4
GTA				pP	pP	21 40 35.3	-7.0
GTA				sP	PcP	21 40 37.8	-1.9
GTA				S	S	21 50 32.3	+3.8
GTA				sS	pS	21 50 40.1	-2.1
GTA				SS	SS	21 55 42.8	+6.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,150nm,6.2s						
GTA				LR	LR		
	comp=N,180nm,17.1s						
GTA				LR	LR		
	comp=E,180nm,19.5s						
GTA				LR	LR		
	comp=Z,260nm,19.0s						
AAK	Ala-Archa	79.86	357	P	P	21 40 34.9	-0.3
	2.4nm,0.8s,baz=152,slow=5.1,SNR=7.6						
AAK	Ala-Archa	79.86	357	*e*P	P	21 40 36.2	+1.0
KKAR	Karatay Array	80.55	354	*e*P	P	21 40 39.8	+1.1
	155nm,1.4s						
MMAI	Mount Meron Ar	80.62	325	P	P	21 40 39.4	0.0
	1.8nm,0.8s,baz=315,slow=57,SNR=3.3						
WMQ	Urumqi	81.46	7	P	P	21 40 44.5	+0.9
WMQ				pP	PcP	21 40 47.6	-1.9
WMQ				sP	pP	21 40 52.6	-1.9
WMQ				PP	PP	21 43 52.6	+2.1
WMQ				S	S	21 50 51.9	-0.4
WMQ				SS	SS	21 56 09.4	-0.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.5s						
WMQ				LR	LR		
	comp=N,400nm,26.3s						
WMQ				LR	LR		
	comp=E,160nm,22.1s						
WMQ				LR	LR		
	comp=Z,390nm,24.3s						
GNI	Garni	83.11	335	P	P	21 40 56.5	+4.1
	3.0nm,0.8s,baz=144,slow=12,SNR=3.8						
BTO	Baotou	83.12	24	*e*P	P	21 40 51.4	-1.0
HHC	Hu-ho-hao-te	83.85	25	*e*P	P	21 40 57.6	+1.4
HHC				S	S	21 51 20.5	+3.5
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,9.9s						
HHC				LR	LR		
	comp=N,330nm,14.8s						
HHC				LR	LR		
	comp=E,170nm,13.6s						
HHC				LR	LR		
	comp=Z,200nm,16.0s						
MK01	Makanchi Array	84.02	3	*e*P	P	21 40 55.0	-1.7
MK31	Makanchi Array	84.04	3	*e*P	P	21 40 56.4	-0.5
MKAR	Makanchi Array	84.04	3	P	P	21 40 55.3	-1.6
	2.7nm,0.7s,baz=168,slow=6.2,SNR=18						
MKAR				LR	LR	22 15 41.2	
	comp=Z,343nm,21.2s,baz=182,slow=34						
MKAR	Makanchi Array	84.04	3	*e*P	P	21 40 56.4	-0.5
MAKZ	Makanchi	84.04	3	*e*P	P	21 40 56.0	-0.9
	7.4nm,1.0s						
AKAS	Kas	85.99	323	*e*P	P	21 41 05.2	-1.8
	48nm,0.4s						
KBZ	Khabaz	86.92	335	LR	LR	22 17 16.5	
	comp=Z,56nm,19.7s,baz=168,slow=34						
BRTR	Keskin Array B	87.00	327	P	P	21 41 13.4	+1.4
	1.3nm,0.8s,baz=138,slow=4.5,SNR=6.6						
BRTR				LR	LR	22 17 18.4	
	comp=Z,50nm,18.5s,baz=162,slow=34						
TOA0	Torodi Ar. Sit	87.33	289	*e*P	P	21 41 12.3	-1.6
TORD	Torodi Ar. Bea	87.33	289	P	P	21 41 15.6	+1.6
	0.8nm,0.7s,baz=105,slow=5.3,SNR=5.8						
TORD				LR	LR	22 18 48.3	
	comp=Z,641nm,18.1s,baz=115,slow=35						
KSRS	Korea Array	87.72	38	LR	LR	22 20 38.9	
	comp=Z,69nm,18.2s,baz=226,slow=36						
KURK	Kurchatov	87.88	0	*e*P	P	21 41 14.7	-1.0
	8.8nm,1.1s						
ABKAR	Akbulak array	87.88	348	P	P	21 41 18.0	+2.2
	1.2nm,0.8s						
DBIC	Dimbokro	88.36	280	LR	LR	22 17 15.1	
	comp=Z,309nm,20.3s,baz=101,slow=33						
SONM	Songino Array	88.70	19	P	P	21 41 19.9	+0.1
	2.2nm,0.8s,baz=190,slow=5.5,SNR=11						
SONM				LR	LR	22 19 27.5	
	comp=Z,175nm,19.7s,baz=205,slow=35						
SONA1	Songino Array	88.71	19	*e*P	P	21 41 19.3	-0.6
ULN	Ulaanbaatar	88.89	19	*e*P	P	21 41 20.2	-0.6
	6.6nm,1.1s						
ZAA0	Zalesovo Array	91.31	4	*e*P	P	21 41 31.6	-0.1
ZALV	Zalesovo Beam	91.31	4	P	P	21 41 32.2	+0.6
	1.1nm,0.6s,baz=189,slow=5.2,SNR=6.4						
ZALV				LR	LR	22 20 32.3	
	comp=Z,251nm,20.4s,baz=248,slow=34						
MJAR	Matsushiro Arr	92.40	44	P	P	21 41 37.3	+0.1
	3.5nm,1.0s,baz=209,slow=5.8,SNR=6.7						
USRK	Ussuriysk Ar.	94.91	36	LR	LR	22 25 17.7	
	comp=Z,87nm,18.1s,baz=211,slow=36						
KEST	Kesra	96.72	310	LR	LR	22 25 17.6	
	comp=Z,214nm,18.2s,baz=18,slow=35						
PPT2	Papeete2	109.24	132	*e*LR	LR	22 18 58.4	
	225nm,25.8s						
ILAR	Eielson Array	142.15	30	PKP	PKPdf	21 47 55.1	-2.8
	0.3nm,0.7s,baz=225,slow=5.0,SNR=2.6						
PAX	Paxson	143.45	32	*e*PKPdf	PKPdf	21 48 01.9	+1.6
BMRM	Bremner River	144.60	35	*e*PKPdf	PKPdf	21 48 04.9	+2.5
INK	Inuvik	144.61	20	PKP	PKPbc	21 48 01.0	+0.1
	9.4nm,1.0s,baz=297,slow=2.7,SNR=5.6						
CRQM	Cirque	145.34	35	*e*PKPbc	PKPab	21 48 04.2	+0.3
DAWY	Dawson	145.36	28	*e*PKPdf	PKPab	21 48 04.0	+0.3
BALM	Baldy	145.59	34	*e*PKPdf	PKPab	21 48 06.0	+1.3
HYT	Haines Junctio	147.78	32	*e*PKPbc	PKPbc	21 48 12.1	+1.2
SKAG	Skagway	149.42	33	*e*PKPbc	PKPbc	21 48 14.0	-0.8
YKA	Yellowknife Ar	153.84	13	PKPbc	PKPbc	21 48 27.8	+2.9
	4.7nm,0.9s,baz=331,slow=2.9,SNR=6.8						
YKA	Yellowknife Ar	153.84	13	*c i* P	PKPbc	21 48 27.7	+2.8
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						

MEX 17 21:29:05.6±0.5, 18°.09N×103°.21W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.24	327	*i* P	Pg	21 29 09.8	-0.4
MMIG				*i* S	Sg	21 29 13.7	+0.3
ZIIG	Zihuatanejo	1.73	106	*e*P	Pn	21 29 33.6	-2.8
CJM	Chamela	2.23	309	*e*P	Pn	21 29 41.6	-1.7

NIED ***17*** *21:29:00, 38°.10N×141°.80E, h56km, Mw3.9 Best double couple: $M_0$7.35000×10^{14} NP1:ϕ_s196.00000°, δ44.00000°, λ48.00000°. NP2:ϕ_s68.00000°, δ59.00000°, λ123.00000°.*

ISCJB ***17*** *21:29:39.2±0.8, 38°.12N±0°.04×141°.83E±0°.09, h61km±6km, mb3.8/9, Error ellipse: s-maj=12.6km s-min=5.4km az=21.4*

IDC ***17*** *21:29:39.7±1.9, 38°.04N×141°.68E, h55km±18km, mb3.6/8, mb1 3.9/11, mb1mx3.6/39, mbtmp4.0/11, ML3.6/3, Error ellipse: s-maj=21.8km s-min=12.4km az=101.0*

JMA ***17*** *21:29:39.9±0.1, 38°.12N×141°.81E, h54km±1km, M3.8*

JMA Felt II J1.

ISC 17 21:29:39.5±1.6, 38°.11N±0°.05×141°.9E±0°.1, h48km±13km, n35, σ1°.51/39, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.54	310	P	Pn	21 29 51.5	+0.3
JIO				S	Sn	21 29 59.5	0.0
JMM	Marumori	0.89	255	P	Pn	21 29 55.5	-0.2
JMM				*e*S	Sn	21 30 06.8	-0.7
JOU	Okura	0.98	286	P	Pn	21 29 57.2	+0.2
JOU				S	Sn	21 30 09.8	-0.1
JMK	Ichinoseki	0.99	329	P	Pn	21 29 57.4	+0.4
JMK				S	Sn	21 30 09.8	-0.1
JFK	Kawauchi	1.08	227	P	Pn	21 29 58.4	0.0
JFK				*e*S	Sn	21 30 12.2	-0.1
JFT	Otama	1.35	245	P	Pn	21 30 02.6	+0.6
JFT				S	Sn	21 30 19.3	+0.5
JYS	Shiratake	1.43	275	P	Pn	21 30 03.3	+0.3

H11N2	WAKE ISLAND Hy 28.41 123		T	T		22 05 48.5	
	baz=316,slow=75,SNR=410						
H11N1	WAKE ISLAND Hy 28.41 123		T	T		22 05 50.5	
	baz=316,slow=75,SNR=448						
H11N3	WAKE ISLAND Hy 28.42 123		T	T		22 05 46.6	
	baz=316,slow=75,SNR=417						
H11S1	WAKE ISLAND Hy 29.16 125		T	T		22 06 43.0	
	baz=318,slow=76,SNR=205						
H11S3	WAKE ISLAND Hy 29.16 125		T	T		22 06 43.0	
	baz=318,slow=76,SNR=378						
H11S2	WAKE ISLAND Hy 29.17 125		T	T		22 06 47.1	
	baz=318,slow=76,SNR=198						
ZALV	Zalesovo Beam	41.47 311	P	P		21 37 19.1	-2.4
	0.6nm,0.4s,baz=93,slow=8.2,SNR=3.6						
MKAR	Makanchi Array	43.87 301	P	P		21 37 39.6	-1.4
	1.2nm,0.7s,baz=88,slow=9.5,SNR=8.2						
ILAR	Eielson Array	48.40 33	P	P		21 38 16.5	+0.2
	1.0nm,0.7s,baz=268,slow=6.8,SNR=16						
AAK	Ala-Archa	50.31 298	P	P		21 38 33.6	+2.2
	0.6nm,0.4s,baz=92,slow=20,SNR=2.2						
WRA	Warramunga Arr	58.17 188	pP	pP		21 39 41.5	-0.6
	0.8nm,0.4s,baz=5.7,slow=7.7,SNR=1.8						
ASAR	Alice Springs	61.90 188	pP	pP		21 40 08.2	+0.6
	0.4nm,0.7s,baz=10,slow=6.8,SNR=3.3						
FINES	FINESS Array B	68.04 332	P	P		21 40 31.8	-1.7
	1.4nm,0.7s,baz=52,slow=11,SNR=5.0						
AKASG	Malin Array Be	73.67 322	P	P		21 41 06.5	-1.3
	0.6nm,0.5s,baz=41,slow=6.6,SNR=3.4						
PDAR	Pinedale Array	76.66 46	P	P		21 41 26.1	+0.5
	0.9nm,0.6s,baz=279,slow=2.9,SNR=10						
TXAR	Lajitas Array	89.18 53	P	P		21 42 30.6	+0.3
	0.7nm,0.6s,baz=284,slow=3.2,SNR=5.1						
LPAZ	La Paz	145.83 59	PKPbc	PKPbc		21 49 14.3	-0.3
	1.5nm,0.5s,baz=36,slow=5.1,SNR=7.4						

SJA ***17*** *21:31:36.6±0.9, 31°.55S×70°.58W, h7km±7km, ML2.9, MW3.0*

GUC ***17*** *21:31:38.3±0.4, 31°.51S×70°.93W, h13km±3km, ML2.7*

ISC 17 21:31:39.1±1.3, 31°.54S±0°.03×70°.7W±0°.1, h33km±5km, n13, σ1§74/22, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	1.31	122	eP	Pn	21 32 00.2	-1.2
TLL	Tololo Astrono	1.37	356	eP	Pb	21 32 03.2	-1.2
TLL				eS	Sb	21 32 21.6	-0.1
TLL				IAML		21 32 22.7	
	comp=N,262nm,0.5s						
ROCH	El Roble	1.45	190	eP	Pb	21 32 04.9	-0.8
ROCH				eS	Sb	21 32 25.3	+1.3
ROCH				IAML		21 32 26.2	
	comp=E,155nm,0.2s						
ROC1	El Roble	1.45	190	eP	Pb	21 32 04.9	-0.9
ROC1				eS	Sb	21 32 25.2	+1.1
PEL	Peldehue	1.60	179	eP	Pb	21 32 07.3	-0.8
PEL				eS	Sb	21 32 29.2	+1.3
PEL				IAML		21 32 31.7	
	comp=E,128nm,0.6s						
FCH	Farellones	1.81	169	eP	Pb	21 32 11.8	-0.1
FCH				eS	Sb	21 32 35.9	+1.4
CLCH	Cerro Calan	1.85	176	eP	Pb	21 32 11.5	-0.9
CLCH				eS	Sb	21 32 37.0	+1.7
CLCH				IAML		21 32 45.2	
	comp=E,174nm,0.4s						
ASAL	Salagasta	1.90	124	eP	Pn	21 32 10.9	+1.6
ASAL				eS	Sn	21 32 27.9	-4.3
RCDM	Rinconada Maip	1.94	182	eP	Pb	21 32 12.4	-1.5
RCDM				eS	Sb	21 32 38.5	+0.6
ARCO	CERRO ARCO	1.98	131	eP	Pb	21 32 13.2	-1.5
ARCO				IAML		21 32 50.9	
	comp=Z,29nm,0.4s						
AMOG	MOGNA	1.99	73	eP	Pn	21 32 11.6	+1.1
AMOG				eS	Sn	21 32 33.7	-0.6
AVFE	Valle Fertil	2.92	73	eP	Pn	21 32 24.3	+1.0
AVFE				eS	Sn	21 33 00.6	+3.3
AVFE				IAML		21 33 06.6	
	comp=Z,60nm,0.4s						
VCA	Vinchina	3.54	38	IAML		21 33 32.5	
	comp=Z,61nm,0.4s						

CSEM ***17*** *21:40:53.9±0.1, 46°.04N×6°.87E, h10km, ML2.4/24, Error ellipse: s-maj=1.8km s-min=1.5km az=80.0*

ROM ***17*** *21:40:54.0±0.2, 46°.02N×6°.93E, h8km±2km, Md1.9/6, Ml1.8/4, Error ellipse: s-maj=5.4km s-min=2.2km az=90.0*

IASPEI ***17*** *21:40:54.1±0.8, 46°.03N±0°.02×6°.88E±0°.02, h7km±4km, Error ellipse: s-maj=3.4km s-min=2.5km az=84.1, GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨ jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

GEN ***17*** *21:40:54.5, 46°.03N×6°.90E, h5km, ML1.7*

LDG ***17*** *21:40:54.6±0.0, 46°.03N×6°.90E, h2km, Md2.5/3, Ml2.4/23, Error ellipse: s-maj=1.1km s-min=0.8km az=111.0*

ZUR ***17*** *21:40:54.6, 46°.03N×6°.89E, h4km±1km, ML2.0/18*

ISC 17 21:40:54.4±0.8, 46°.04N±0°.01×6°.88E±0°.02, h9km±4km, n117, σ1§11/184, 13C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.03	28	Pg	Pg	21 40 56.0	-0.4
EMV				Sg	Sg	21 40 56.9	-0.9
	669nm,0.2s						
EMV	Vieux Emosson	0.03	28	⇑iPg	Pg	21 40 56.0	-0.4
EMV				i Sg	Sg	21 40 56.9	-0.9
EMV	Vieux Emosson	0.03	28	⇑iPg	Pg	21 40 56.0	-0.4
EMV				Sg	Sg	21 40 56.9	-0.9
	669nm,0.2s						
SALAN	Lac Salanfe	0.13	31	⇑iPg	Pg	21 40 57.5	+0.1
	210nm,0.1s						
SALAN				i Sg	Sg	21 40 59.3	-0.2
	210nm,0.1s						
SALAN	Lac Salanfe	0.13	31	⇑iPg	Pg	21 40 57.5	+0.1
	210nm,0.1s						
SALAN				i Sg	Sg	21 40 59.3	-0.2
	210nm,0.1s						
GRYON	Gryon	0.27	37	⇑iPg	Pg	21 41 00.0	+0.2
	49nm,0.2s						
GRYON	Gryon	0.27	37	⇑iPg	Pg	21 41 00.0	+0.2
	49nm,0.2s						
MRGE	Morge	0.29	154	Pg	Pg	21 41 00.5	+0.2
MRGE				Sg	Sg	21 41 04.5	+0.2
	233nm,0.4s						
MRGE	Morge	0.29	154	⇓iPg	Pg	21 41 00.5	+0.2
	976nm,0.3s						
MRGE	Morge	0.29	154	⇓iPg	Pg	21 41 00.5	+0.2
	976nm,0.3s						
MRGE				Sg	Sg	21 41 04.5	+0.2
	233nm,0.4s						
AIGLE	Aigle	0.31	10	⇑iPg	Pg	21 41 00.7	+0.1
	361nm,0.6s						
AIGLE	Aigle	0.31	10	⇑iPg	Pg	21 41 00.7	+0.1
	361nm,0.6s						
NOV2	NOV2	0.34	359	⇑iPg	Pg	21 41 01.1	0.0
	315nm,0.3s						
NOV1	NOV1	0.35	353	⇓iPg	Pg	21 41 01.6	+0.2
	665nm,0.6s						
DIX	Grande Dixence	0.37	83	Pg	Pg	21 41 02.1	+0.3
DIX				Sg	Sg	21 41 07.0	+0.3
	102nm,0.1s						
DIX	Grande Dixence	0.37	83	⇓iPg	Pg	21 41 01.8	0.0
	522nm,0.2s						
DIX	Grande Dixence	0.37	83	⇓iPg	Pg	21 41 01.8	0.0
	522nm,0.2s						
DIX				Sg	Sg	21 41 07.0	+0.3
	102nm,0.1s						
RSL	Roselend	0.39	207	⇑ePg	Pg	21 41 02.1	0.0
RSL	Roselend	0.39	207	⇑ePg	Pg	21 41 02.1	0.0
NOV3	NOV3	0.40	6	ePg	Pg	21 41 02.4	+0.1
	175nm,0.2s						
SENIN	Lac Senin/Sane	0.44	42	⇑iPg	Pg	21 41 03.1	+0.1
	80nm,0.3s						
SENIN	Lac Senin/Sane	0.44	42	⇑iPg	Pg	21 41 03.1	+0.1
	80nm,0.3s						
LPL	La Plagne	0.53	191	ePg	Pg	21 41 04.6	-0.1
	SNR=1.0						
LPL				eSg	Sg	21 41 11.7	0.0
	19nm,0.3s,SNR=1.0						
LPL	La Plagne	0.53	191	ePg	Pg	21 41 04.6	-0.1
	SNR=1.0						
LPL				eSg	Sg	21 41 11.7	0.0
	9.5nm,0.3s,SNR=1.0						
LPG	La Plagne	0.55	189	ePg	Pg	21 41 04.9	-0.1
	SNR=1.0						
LPG	La Plagne	0.55	189	eP	Pb	21 41 06.2	-0.1
LPG				eSg	Sg	21 41 11.9	-0.3
	25nm,0.2s,SNR=1.0						
LPG	La Plagne	0.55	189	ePg	Pg	21 41 04.9	-0.1
	SNR=1.0						
LPG	La Plagne	0.55	189	eP	Pb	21 41 06.2	-0.1
LPG				eSg	Sg	21 41 11.9	-0.3
	12nm,0.2s,SNR=1.0						
LSD	Lago del Serru	0.60	163	Pg	Pg	21 41 06.1	0.0
LSD				Sg	Sg	21 41 13.5	-0.6
	44nm,0.4s						
LSD	Lago del Serru	0.60	163	ePg	Pg	21 41 06.1	0.0
	209nm,0.3s						
LSD	Lago del Serru	0.60	163	ePg	Pg	21 41 06.1	0.0
	209nm,0.3s						
LSD				S	Sg	21 41 13.5	-0.6
LKBD	Leukerbad	0.63	56	⇓iPg	Pg	21 41 06.7	+0.1
	18nm,0.3s						
LKBD	Leukerbad	0.63	56	⇓iPg	Pg	21 41 06.7	+0.1
	18nm,0.3s						
LKBD2	Leukerbad 2	0.63	57	ePg	Pg	21 41 06.8	+0.2
	19nm,0.2s						
LKBD2	Leukerbad 2	0.63	57	ePg	Pg	21 41 06.8	+0.2
	19nm,0.2s						
CIRO	Champorcher	0.65	132	Pg	Pg	21 41 06.7	-0.2
CIRO				Sg	Sg	21 41 15.0	-0.5
	19nm,0.4s						
CIRO	Champorcher	0.65	132	ePg	Pg	21 41 06.8	-0.2
	197nm,0.3s						
CIRO	Champorcher	0.65	132	ePg	Pg	21 41 06.8	-0.2
	197nm,0.3s						
CIRO				S	Sg	21 41 14.4	-1.1
CIRO				Sg	Sg	21 41 15.0	-0.5
	19nm,0.4s						
SATI	Passo dei Sala	0.71	103	ePg	Pg	21 41 07.6	-0.5
	146nm,0.8s						
SATI	Passo dei Sala	0.71	103	ePg	Pg	21 41 07.6	-0.5
	146nm,0.8s						
SATI				S	Sg	21 41 16.9	-0.5
LAUCH	Lauchernalp	0.73	58	ePg	Pg	21 41 08.6	+0.1
	145nm,0.2s						
LAUCH	Lauchernalp	0.73	58	ePg	Pg	21 41 08.6	+0.1
	145nm,0.2s						
MMK	Mattmark	0.76	89	ePg	Pg	21 41 08.6	-0.4
	31nm,0.5s						
MMK	Mattmark	0.76	89	ePg	Pg	21 41 08.6	-0.4
	31nm,0.5s						
CABF	La Chapelle	0.79	317	ePg	Pg	21 41 09.8	+0.1
CABF	La Chapelle	0.79	317	ePn	Pn	21 41 12.1	+0.2
	SNR=1.0						
CABF				eSg	Sg	21 41 20.2	+0.1
	18nm,0.3s,SNR=1.0						
CABF				eSn	Sb	21 41 23.7	+2.3
CABF	La Chapelle	0.79	317	ePg	Pg	21 41 09.8	+0.1
CABF	La Chapelle	0.79	317	ePn	Pn	21 41 12.1	+0.2
	SNR=1.0						
CABF				eSg	Sg	21 41 20.2	+0.1
	8.9nm,0.3s,SNR=1.0						
CABF				eSn	Sb	21 41 23.7	+2.3
TRAV	Traversella	0.80	130	Pg	Pg	21 41 09.5	-0.3
TRAV	Traversella	0.80	130	P	Pg	21 41 09.5	-0.3
TRAV				S	Sg	21 41 19.6	-0.7
SIMPL	Simplonpass	0.82	75	ePg	Pg	21 41 09.9	-0.3
	70nm,0.2s						
SIMPL	Simplonpass	0.82	75	ePg	Pg	21 41 09.9	-0.3
	70nm,0.2s						
RSP	Reno Superiore	0.93	163	P	Pg	21 41 12.0	-0.3
RSP				S	Sg	21 41 24.2	-0.1
FIESA	Fiescheralp	0.94	65	ePg	Pg	21 41 11.9	-0.7
	23nm,1.6s						
FIESA	Fiescheralp	0.94	65	ePg	Pg	21 41 11.9	-0.7
	23nm,1.6s						
RRL	Rocca Remolon	1.12	183	P	Pg	21 41 15.2	-0.7
RRL				S	Sg	21 41 29.0	-1.4
BHB	Bricherasio	1.23	167	P	Pg	21 41 17.6	-0.3
BHB				S	Sg	21 41 33.1	-0.7
MBDF	Montbardon	1.31	183	ePn	Pn	21 41 18.7	-0.4
	SNR=1.0						
MBDF				eSn	Sg	21 41 35.5	-1.1
	6.0nm,0.3s,SNR=1.0						
MBDF	Montbardon	1.31	183	ePn	Pn	21 41 18.7	-0.4
	SNR=1.0						
MBDF				eSn	Sg	21 41 35.5	-1.1
	3.0nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	1.32	212	ePn	Pn	21 41 18.6	-0.5
	SNR=1.0						
ORIF				eSn	Sg	21 41 35.0	-1.9
	15nm,0.3s,SNR=1.0						
ORIF				eS	Sn	21 41 39.0	+2.1
HINF	Hinteralfeld	1.78	359	ePn	Pn	21 41 25.9	+0.5
	SNR=1.0						
HINF	Hinteralfeld	1.78	359	ePg	Pb	21 41 26.9	-0.4
	SNR=1.0						
HINF				eSn	Sn	21 41 46.0	-2.3
	6.4nm,0.2s,SNR=1.0						
HINF				eSg	Sb	21 41 50.8	+1.1
	6.5nm,0.2s						
VIVF	Saint-Julien-I	1.95	234	ePn	Pn	21 41 27.9	+0.2
	SNR=1.0						
VIVF	Saint-Julien-I	1.95	234	ePg	Pb	21 41 31.1	+1.0
	SNR=1.0						
VIVF				eSn	Sn	21 41 51.4	-1.0
	SNR=1.0						
VIVF				eSg	Sb	21 41 55.7	+1.1
	16nm,0.2s						
VIVF	Saint-Julien-I	1.95	234	ePg	Pb	21 41 31.1	+1.0
	SNR=1.0						
VIVF				eSn	Sn	21 41 51.4	-1.0
	SNR=1.0						
VIVF				eSg	Sb	21 41 55.7	+1.1
	7.8nm,0.2s						
HAU	Haudompre	2.00	350	ePn	Pn	21 41 28.0	-0.5
	SNR=1.0						
HAU	Haudompre	2.00	350	ePg	Pb	21 41 32.1	+1.1
HAU				eSg	Sg	21 41 58.0	-0.8
	8.9nm,0.3s,SNR=1.0						
HAU	Haudompre	2.00	350	ePn	Pn	21 41 28.0	-0.5
	SNR=1.0						
HAU				eSg	Sg	21 41 58.0	-0.8
	4.4nm,0.3s,SNR=1.0						
SMF	Signal de Mont	2.19	287	ePn	Pn	21 41 31.5	+0.5
	SNR=1.0						
SMF	Signal de Mont	2.19	287	ePg	Pb	21 41 35.5	+1.3
SMF				eS	Sb	21 42 01.0	-0.5
	SNR=1.0						
SMF				eSg	Sg	21 42 02.9	-1.9
	4.6nm,0.2s						
SMF	Signal de Mont	2.19	287	ePn	Pn	21 41 31.5	+0.5
	SNR=1.0						
SMF	Signal de Mont	2.19	287	ePg	Pb	21 41 35.5	+1.3
SMF				eS	Sb	21 42 01.0	-0.5
	SNR=1.0						
SMF				eSg	Sg	21 42 02.9	-1.9
	2.3nm,0.2s						
SBF	Sospel	2.21	169	ePg	Pg	21 41 36.5	-0.2
	SNR=1.0						
SBF				eSg	Sb	21 42 01.0	-1.0
	3.2nm,0.3s,SNR=1.0						
SBF	Sospel	2.21	169	ePg	Pg	21 41 36.5	-0.2
	SNR=1.0						
SBF				eSg	Sb	21 42 01.0	-1.0
	1.6nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	2.26	205	ePn	Pn	21 41 33.4	+1.4
	SNR=1.0						
SMRF	Simiane la Rot	2.26	205	ePg	Pg	21 41 37.5	-0.2
	SNR=1.0						
SMRF				eSg	Sg	21 42 07.2	+0.3
	2.2nm,0.4s,SNR=1.0						
SMRF	Simiane la Rot	2.26	205	ePn	Pn	21 41 33.4	+1.4
	SNR=1.0						
SMRF	Simiane la Rot	2.26	205	ePg	Pg	21 41 37.5	-0.2
	SNR=1.0						
SMRF				eSg	Sg	21 42 07.2	+0.3
	1.1nm,0.4s,SNR=1.0						
CDF	Champ du Feu	2.39	6	ePn	Pn	21 41 33.4	-0.5
	SNR=1.0						
CDF	Champ du Feu	2.39	6	ePg	Pg	21 41 39.6	-0.6
	SNR=1.0						
CDF				eSg	Sg	21 42 10.1	-1.1
	3.4nm,0.3s,SNR=1.0						
CDF	Champ du Feu	2.39	6	ePn	Pn	21 41 33.4	-0.5
	SNR=1.0						
CDF	Champ du Feu	2.39	6	ePg	Pg	21 41 39.6	-0.6
	SNR=1.0						
CDF				eSg	Sg	21 42 10.1	-1.1
	1.7nm,0.3s,SNR=1.0						
LOR	Lormes	2.42	302	ePn	Pn	21 41 33.4	-0.8
	SNR=1.0						
LOR	Lormes	2.42	302	ePg	Pb	21 41 39.6	+1.5
	SNR=1.0						
LOR				eSn	Sn	21 42 01.0	-2.9
	SNR=1.0						
LOR				eSg	Sg	21 42 11.5	-0.5
	3.4nm,0.3s,SNR=1.0						
LOR	Lormes	2.42	302	ePn	Pn	21 41 33.4	-0.8
	SNR=1.0						
LOR	Lormes	2.42	302	ePg	Pb	21 41 39.6	+1.5
	SNR=1.0						
LOR				eSn	Sn	21 42 01.0	-2.9
	SNR=1.0						
LOR				eSg	Sg	21 42 11.5	-0.5
	1.7nm,0.3s,SNR=1.0						
FRF	La Foret Royal	2.48	184	eP	Pn	21 41 36.5	+1.5
	SNR=1.0						
FRF	La Foret Royal	2.48	184	ePg	Pg	21 41 41.1	-0.8
FRF				eSn	Sn	21 42 04.6	-0.8
	SNR=1.0						
FRF				eSg	Sg	21 42 12.6	-1.5
	2.5nm,0.3s,SNR=1.0						
FRF	La Foret Royal	2.48	184	eP	Pn	21 41 36.5	+1.5
	SNR=1.0						
FRF	La Foret Royal	2.48	184	ePg	Pg	21 41 41.1	-0.8
FRF				eSn	Sn	21 42 04.6	-0.8
	SNR=1.0						
FRF				eSg	Sg	21 42 12.6	-1.5
	1.2nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	2.51	331	eSg	Sg	21 42 14.0	-0.9
	3.7nm,0.2s						
SFTF	Sexfontaines	2.51	331	eSg	Sg	21 42 14.0	-0.9
	1.9nm,0.2s						
SSF	Saint Saulge	2.54	295	ePn	Pn	21 41 35.5	-0.4
	SNR=1.0						
SSF	Saint Saulge	2.54	295	ePg	Pb	21 41 41.9	+1.7
SSF				eSn	Sn	21 42 06.6	-0.4
	SNR=1.0						
SSF				eSg	Sb	21 42 14.6	+3.0
	2.4nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.54	295	ePn	Pn	21 41 35.5	-0.4
	SNR=1.0						
SSF	Saint Saulge	2.54	295	ePg	Pb	21 41 41.9	+1.7
SSF				eSn	Sn	21 42 06.6	-0.4
	SNR=1.0						
SSF				eSg	Sb	21 42 14.6	+3.0
	1.2nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	2.55	288	ePn	Pn	21 41 37.0	+1.0
	SNR=1.0						
AVF	Avril sur Loir	2.55	288	ePg	Pb	21 41 42.0	+1.6
	SNR=1.0						
AVF				eSg	Sb	21 42 12.6	+0.7
	2.4nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	2.55	288	ePn	Pn	21 41 37.0	+1.0
	SNR=1.0						
AVF	Avril sur Loir	2.55	288	ePg	Pb	21 41 42.0	+1.6
	SNR=1.0						
AVF				eSg	Sb	21 42 12.6	+0.7
	1.2nm,0.3s,SNR=1.0						
LMR	La Mourre	2.71	186	ePg	Pg	21 41 45.2	-1.2
LMR				eSg	Sg	21 42 20.1	-1.5
	1.2nm,0.3s,SNR=1.0						
LMR	La Mourre	2.71	186	ePg	Pg	21 41 45.2	-1.2
LMR				eSg	Sg	21 42 20.1	-1.5
	0.6nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	2.76	334	eSg	Sg	21 42 21.2	-1.9
	5.3nm,0.3s						
MEZF	Maizieres J'vi	2.76	334	eSg	Sg	21 42 21.2	-1.9
	2.7nm,0.3s						
BGF	Bois d'Agland	2.84	282	ePn	Pn	21 41 39.5	-0.5
	SNR=1.0						
BGF	Bois d'Agland	2.84	282	ePn	Pn	21 41 39.5	-0.5
	SNR=1.0						
LASF	Ste Croix	2.90	229	eP	Pn	21 41 43.0	+2.2
	SNR=1.0						
LASF	Ste Croix	2.90	229	ePg	Pg	21 41 48.6	-1.4
LASF				eSg	Sb	21 42 23.6	+1.6
	3.4nm,0.3s,SNR=1.0						
LASF	Ste Croix	2.90	229	eP	Pn	21 41 43.0	+2.2
	SNR=1.0						
LASF	Ste Croix	2.90	229	ePg	Pg	21 41 48.6	-1.4
LASF				eSg	Sb	21 42 23.6	+1.6
	1.7nm,0.3s,SNR=1.0						
TCF	Toulx Ste Croi	3.25	276	ePg	Pg	21 41 55.3	-1.4
CAF	Calviac	3.56	254	eSg	Sb	21 42 44.7	+3.7
	2.3nm,0.3s,SNR=1.0						
CAF	Calviac	3.56	254	eSg	Sb	21 42 44.7	+3.7
	1.1nm,0.3s,SNR=1.0						
RJF	Les Rejaudoux	3.83	261	eSg	Sg	21 42 56.2	-1.1
	2.9nm,0.3s,SNR=1.0						
RJF	Les Rejaudoux	3.83	261	eSg	Sg	21 42 56.2	-1.1
	1.5nm,0.3s,SNR=1.0						
MTLF	Montolieu	4.28	233	eSg	Sg	21 43 08.7	-3.0
MTLF	Montolieu	4.28	233	eSg	Sg	21 43 08.7	-3.0

IDC ***17*** *21:41:12.6±1.0, 55°.66N×166°.41E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/48, mbtmp3.9/9, ML3.5/1, MS3.4/5, Ms1 3.5/5, ms1mx3.1/34, Error ellipse: s-maj=35.4km s-min=15.2km az=165.0*

KRSC ***17*** *21:41:12.8±2.5, 55°.25N×166°.31E, h32km±13km, ML4.5*

ISCJB ***17*** *21:41:13.0±0.5, 55°.32N±0°.04×166°.43E±0°.05, h20km, mb3.8/8, MS3.7/3, Error ellipse: s-maj=5.8km s-min=4.1km az=164.8*

MOS ***17*** *21:41:14.2±0.8, 55°.37N×166°.46E, h33km, mb4.2/6, Error ellipse: s-maj=10.7km s-min=6.7km az=164.3*

ISC 17 21:41:14.3±0.8, 55°.42N±0°.05×166°.42E±0°.06, h20km, n82, σ1§54/117, mb3.9/8, MS3.9/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.34	230	PN	Pb	21 41 19.6	-2.0
BKI	Bering	0.34	230	eP	Pb	21 41 19.6	-2.0
BKI				eS	Sb	21 41 25.2	-1.3
KBTR	Krutoberegovo	2.18	293	PN	Pn	21 41 47.0	-2.4
KBTR				S	Sn	21 42 13.8	-2.0
KBTR	Krutoberegovo	2.18	293	eP	Pn	21 41 47.0	-2.4
KBTR				eS	Sn	21 42 13.8	-2.0
KBG	Krutoberegovo	2.26	293	eS	Sn	21 42 14.9	-2.7
SRKR	Sorokina	3.19	295	PN	Pn	21 42 03.2	-0.2
SRKR	Sorokina	3.19	295	eP	Pn	21 42 03.2	-0.2
ZLN	Zelenaya	3.23	283	PN	Pn	21 42 04.3	+0.3
ZLN				S	Sn	21 42 43.8	+1.9
ZLN	Zelenaya	3.23	283	eP	Pn	21 42 04.3	+0.3
ZLN				eS	Sn	21 42 43.8	+1.9
CIRR	Tsirk	3.28	285	PN	Pn	21 42 05.3	+0.6
CIRR				S	Sn	21 42 43.8	+0.7
CIRR	Tsirk	3.28	285	eP	Pn	21 42 05.3	+0.6
CIRR				eS	Sn	21 42 43.8	+0.7
LGNR	Loginova	3.31	284	PN	Pn	21 42 05.6	+0.4
LGNR				S	Sn	21 42 45.7	+1.7
LGNR	Loginova	3.31	284	eP	Pn	21 42 05.6	+0.4
LGNR				eS	Sn	21 42 45.7	+1.7
KLY	Klyuchi	3.37	288	PN	Pn	21 42 04.1	-1.7
KLY				S	Sn	21 42 43.5	-1.

KMNR	**Kamenistaya**	**3.53 278**	PN	**Pn**	**21 42 10.4**	**+2.4**
KMNR			S	**Sn**	**21 42 52.4**	**+3.3**
KMNR	**Kamenistaya**	**3.53 278**	*e*P	**Pn**	**21 42 10.4**	**+2.4**
KMNR			*e*S	**Sn**	**21 42 52.4**	**+3.3**
KPT	**Kopyto**	**3.55 281**	PN	**Pn**	**21 42 10.6**	**+2.3**
KPT			S	**Sn**	**21 42 52.0**	**+2.3**
KPT	**Kopyto**	**3.55 281**	*e*P	**Pn**	**21 42 10.6**	**+2.3**
KPT			*e*S	**Sn**	**21 42 52.0**	**+2.3**
TUMR	**Tumrok**	**3.58 270**	PN	**Pn**	**21 42 07.4**	**-1.4**
TUMR	**Tumrok**	**3.58 270**	*e*P	**Pn**	**21 42 09.8**	**+1.0**
KOZ	**Kozyrevsk**	**3.76 282**	PN	**Pn**	**21 42 12.7**	**+1.6**
KOZ			S	**Sn**	**21 42 58.1**	**+3.4**
KOZ	**Kozyrevsk**	**3.76 282**	*e*P	**Pn**	**21 42 12.7**	**+1.6**
KOZ			*e*S	**Sn**	**21 42 58.1**	**+3.4**
OSSR	**Ossora**	**4.25 336**	S	**Sb**	**21 43 16.4**	**-2.6**
SPN	**Mys Shipunski**	**4.42 241**	PN	**Pn**	**21 42 19.1**	**-1.0**
SPN	**Mys Shipunski**	**4.42 241**	*e*P	**Pn**	**21 42 19.1**	**-1.0**
SPN			*e*S	**Sn**	**21 43 08.0**	**-2.9**
NLC	**Nalytchevo**	**4.72 244**	*e*S	**Sn**	**21 43 16.3**	**-2.0**
SDLR	**Sedlovina**	**4.90 247**	PN	**Pn**	**21 42 27.7**	**+0.7**
SDLR	**Sedlovina**	**4.90 247**	*e*P	**Pn**	**21 42 27.7**	**+0.7**
SDLR			*e*S	**Sn**	**21 43 23.8**	**+0.7**
KRER	**Koryakskii**	**4.96 248**	PN	**Pn**	**21 42 29.0**	**+1.2**
KRER	**Koryakskii**	**4.96 248**	*e*P	**Pn**	**21 42 29.0**	**+1.2**
KRER			*e*S	**Sn**	**21 43 24.4**	**-0.3**
UGLR	**Uglovaya**	**4.97 247**	PN	**Pn**	**21 42 28.6**	**+0.8**
UGLR	**Uglovaya**	**4.97 247**	*e*P	**Pn**	**21 42 28.6**	**+0.8**
AVH	**Avacha**	**4.99 247**	PN	**Pn**	**21 42 29.2**	**+1.1**
AVH	**Avacha**	**4.99 247**	*e*P	**Pn**	**21 42 29.2**	**+1.1**
AVH			*e*S	**Sn**	**21 43 25.4**	**+0.3**
KRX	**Arik**	**4.99 249**	PN	**Pn**	**21 42 29.2**	**+1.0**
KRX	**Arik**	**4.99 249**	*e*P	**Pn**	**21 42 29.2**	**+1.0**
KRX			*e*S	**Sn**	**21 43 24.9**	**-0.4**
KOK	**Koryaka**	**5.03 248**	PN	**Pn**	**21 42 29.6**	**+1.0**
KOK	**Koryaka**	**5.03 248**	*e*P	**Pn**	**21 42 29.6**	**+1.0**
KOK			*e*S	**Sn**	**21 43 25.3**	**-0.9**
DALK	**Dalny**	**5.10 245**	PN	**Pn**	**21 42 30.0**	**+0.5**
DALK	**Dalny**	**5.10 245**	*e*P	**Pn**	**21 42 30.0**	**+0.5**
DALK			*e*S	**Sn**	**21 43 25.5**	**-2.1**
PET	**Petropavlovsk**	**5.15 245**	*e*PN	**Pn**	**21 42 31.4**	**+1.2**
PET			pmax	pmax		
	comp=Z,31nm,0.5s					
PET	**Petropavlovsk**	**5.15 245**	*e*P	**Pn**	**21 42 30.4**	**+0.2**
PET			*e*S	**Sn**	**21 43 28.3**	**-0.7**
GNL	**Ganaly**	**5.23 254**	PN	**Pn**	**21 42 32.8**	**+1.4**
GNL	**Ganaly**	**5.23 254**	*e*P	**Pn**	**21 42 32.8**	**+1.4**
KRMR	**Karymshinskiy**	**5.52 245**	PN	**Pn**	**21 42 36.5**	**+1.2**
KRMR	**Karymshinskiy**	**5.52 245**	*e*P	**Pn**	**21 42 36.5**	**+1.2**
KRMR			*e*S	**Sn**	**21 43 36.8**	**-1.4**
RUS	**Russkaya**	**5.55 241**	PN	**Pn**	**21 42 35.5**	**-0.2**
RUS	**Russkaya**	**5.55 241**	*e*P	**Pn**	**21 42 35.5**	**-0.2**
RUS			*e*S	**Sn**	**21 43 35.4**	**-3.4**
PETK	**Petropavlovsk-**	**5.61 249**	Pn	**Pn**	**21 42 37.5**	**+0.9**
	comp=Z,7.2nm,0.3s,baz=75,slow=19,SNR=13					
PETK			Sn	**Sn**	**21 43 42.9**	**+2.5**
	comp=Z,6.0nm,0.3s,baz=78,slow=41,SNR=5.9					
PETK			LR	LR	21 45 01.5	
	comp=Z,174nm,19.1s,baz=74,slow=40					
MTVR	**Mutnovka**	**5.69 242**	PN	**Pn**	**21 42 38.5**	**+0.8**
MTVR	**Mutnovka**	**5.69 242**	*e*P	**Pn**	**21 42 38.5**	**+0.8**
MTVR			*e*S	**Sn**	**21 43 39.8**	**-2.6**
ASAK	**Asacha**	**5.88 242**	PN	**Pn**	**21 42 41.8**	**+1.4**
ASAK	**Asacha**	**5.88 242**	*e*P	**Pn**	**21 42 41.8**	**+1.4**
APC	**Apacha**	**5.99 249**	PN	**Pn**	**21 42 43.8**	**+2.1**
APC	**Apacha**	**5.99 249**	*e*P	**Pn**	**21 42 43.8**	**+2.1**
MA2	**Magadan**	**9.39 303**	LR	LR	21 46 34.1	
	comp=Z,74nm,19.9s,baz=276,slow=35					
KDAK	**Kodiak Island**	**22.44 67**	P	**P**	**21 46 11.0**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=232,slow=8.3,SNR=2.7					
KDAK			LR	LR	21 54 36.4	
	comp=Z,54nm,18.9s,baz=285,slow=36					
KDAK	**Kodiak Island**	**22.44 67**	P	**P**	**21 46 11.0**	**-0.6**
KDAK			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KDAK			MLR	MLR		
	comp=Z,54nm,18.9s					
TIXI	**Tiksi**	**22.72 330**	P	**P**	**21 46 14.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=99,slow=12,SNR=2.8					
ILAR	**Eielson Array**	**24.51 49**	P	**P**	**21 46 31.8**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=258,slow=8.0,SNR=35					
MJAR	**Matsushiro Arr**	**26.92 237**	P	**P**	**21 46 57.4**	**+3.4**
	comp=Z,2.4nm,0.8s,baz=29,slow=10,SNR=6.8					
H11N2	**WAKE ISLAND Hy 35.63 179**		T	T	22 26 02.4	
	baz=359,slow=76,SNR=195					
H11N3	**WAKE ISLAND Hy 35.65 179**		T	T	22 26 17.3	
	baz=359,slow=76,SNR=134					
H11N1	**WAKE ISLAND Hy 35.65 179**		T	T	22 25 60.0	
	baz=359,slow=76,SNR=158					
SONM	**Songino Array**	**36.96 284**	P	**P**	**21 48 22.9**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=54,slow=7.9,SNR=8.3					
MKAR	**Makanchi Array**	**50.43 298**	P	**P**	**21 50 09.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=6.5,SNR=4.6					
PDAR	**Pinedale Array**	**53.16 66**	P	**P**	**21 50 32.0**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=299,slow=8.2,SNR=2.4					
TXAR	**Lajitas Array**	**66.35 72**	P	**P**	**21 52 02.5**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=301,slow=4.5,SNR=12					
PPT	**Papeete**	**81.68 138**	LR	LR	22 25 06.2	
	comp=Z,57nm,19.9s,baz=192,slow=32					
ESDC	**Sonseca Array**	**84.92 353**	LR	LR	22 35 15.3	
	comp=Z,97nm,18.5s,baz=85,slow=38					

IDC 17 21:45:47.8±2.3, 3°32S×145°99E, $h0^{km}$, mb3.9/5, mb1 4.2/6, mb1mx3.7/36, mbtmp4.0/6, ML2.1/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/27, Error ellipse: s-maj=62.8km s-min=26.1km az=87.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.16**	**169**	Pn	Pn	21 47 19.1	-1.0
	3.0nm,0.3s,baz=352,slow=12,SNR=2.7						
PMG				LR	LR	21 49 26.5	
	comp=Z,185nm,19.1s,baz=8.0,slow=36						
HNR	**Honiara**	**15.14**	**114**	LR	LR	21 54 18.0	
	comp=Z,96nm,18.6s,baz=157,slow=34						
GUMO	**Guam**	**16.83**	**356**	LR	LR	21 55 36.9	
	comp=Z,55nm,18.1s,baz=194,slow=35						
WRA	**Warramunga Arr**	**20.05**	**214**	P	P	21 50 23.1	+0.2
	6.3nm,0.8s,baz=38,slow=11,SNR=21						
ASAR	**Alice Springs**	**23.36**	**209**	P	P	21 50 57.6	-0.6
	3.5nm,0.9s,baz=44,slow=7.6,SNR=31						
FITZ	**Fitzroy Crossi**	**24.76**	**232**	P	P	21 51 11.2	-0.3
	7.5nm,1.0s,baz=50,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**28.71**	**188**	P	P	21 51 48.3	+1.5
	1.6nm,0.9s,baz=164,slow=23,SNR=2.0						
MKAR	**Makanchi Array**	**74.80**	**320**	P	P	21 57 30.1	0.0
	0.3nm,0.6s,baz=113,slow=8.2,SNR=3.5						

KRSC 17 21:46:36.7±1.7, 55°38N×166°33E, $h30^{km}$±10^{km}, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.28**	**229**	*e*P	Pb	21 46 43.7	0.0
BKI				*e*S	Sn	21 46 49.2	-0.6
KBTR	**Krutoberegovo**	**2.15**	**294**	*e*P	Pn	21 47 10.9	+0.4
KBTR				*e*S	Sb	21 47 38.7	-2.4
ZLN	**Zelenaya**	**3.19**	**284**	*e*P	Pb	21 47 29.0	-3.7
ZLN				*e*S	Sb	21 48 07.7	-3.5
SPN	**Mys Shipunski**	**4.35**	**241**	*e*S	Sn	21 48 33.6	+3.2
SDLR	**Sedlovina**	**4.84**	**247**	*e*P	Pn	21 47 52.0	+4.4
SDLR				*e*S	Sn	21 48 47.7	+5.0
UGLR	**Uglovaya**	**4.91**	**247**	*e*P	Pn	21 47 53.3	+4.8
AVH	**Avacha**	**4.93**	**248**	*e*P	Pn	21 47 53.4	+4.7
AVH				*e*S	Sn	21 48 50.4	+5.7
KRMR	**Karymshinskiy**	**5.46**	**245**	*e*P	Pn	21 48 01.7	+5.7
KRMR				*e*S	Sn	21 49 03.2	+5.5
RUS	**Russkaya**	**5.49**	**241**	P	Pn	21 48 01.8	+5.5

*CSEM **17** 21:48:54.2±0.7, 50°37N×19°16E, $h1^{km}$, Error ellipse: s-maj=13.5km s-min=5.6km az=34.0*

PRU 17 21:48:57.3, 50°25N×19°08E, $h0^{km}$, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.73**	**236**	*e*SG	Sg	21 49 21.9	+1.2
OKC	**Ostrava-Krasne**	**0.73**	**236**	Sg	Sg	21 49 21.9	+1.2
MORC	**Moravsky Berou**	**1.10**	**245**	*e*Pg	Pg	21 49 17.5	-0.8
MORC				*e*Sg	Sg	21 49 32.6	0.0
LANS	**Liptovska Anna**	**1.13**	**167**	*e*Pg	Pg	21 49 18.5	-0.4
LANS				*e*Sg	Sg	21 49 32.4	-1.1
LANS	**Liptovska Anna**	**1.13**	**167**	*e*PG	Pg	21 49 18.5	-0.4
LANS				*e*SG	Sg	21 49 32.4	-1.1
KRLC	**Kraliky**	**1.49**	**264**	*e*PG	Pn	21 49 23.6	-1.8
KRLC				*e*SG	Sg	21 49 44.0	-1.1
KRLC	**Kraliky**	**1.49**	**264**	Pg	Pn	21 49 23.6	-1.8
KRLC				Sg	Sg	21 49 44.0	-1.1
VYHS	**Vyhne**	**1.77**	**185**	*e*Sn	Sn	21 49 50.6	-1.7
VYHS	**Vyhne**	**1.77**	**185**	*e*SN	Sn	21 49 50.6	-1.7
DPC	**Dobruska-Polom**	**1.77**	**274**	*e*PG	Pn	21 49 29.1	-0.1
DPC				*e*SG	Sb	21 49 53.8	+0.4
DPC	**Dobruska-Polom**	**1.77**	**274**	Pg	Pn	21 49 29.1	-0.1
DPC				Sg	Sb	21 49 53.8	+0.4

*PRU **17** 21:50:44.5, 50°26N×18°74E, $h0^{km}$*

CSEM 17 21:50:43.8±0.3, 50°28N×18°76E, $h2^{km}$, ML2.3/4, Error ellipse: s-maj=7.4km s-min=3.4km az=12.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.59**	**222**	*e*PG	Pb	21 50 56.5	-0.3
OKC				*e*SG	Sg	21 51 03.4	+0.7
	comp=Z,6.3nm,0.3s						
OKC	**Ostrava-Krasne**	**0.59**	**222**	Pg	Pb	21 50 56.5	-0.3
OKC				Sg	Sg	21 51 03.4	+0.7
	6.3nm,0.3s						
OJC	**Ojcow**	**0.67**	**94**	*e*Pg	Pg	21 50 56.5	-0.2
OJC				*e*Sg	Sg	21 51 05.4	0.0
OJC	**Ojcow**	**0.67**	**94**	*e*Pg	Pg	21 50 56.5	-0.2
OJC				*e*Sg	Sg	21 51 05.4	0.0
MORC	**Moravsky Berou**	**0.93**	**238**	*e*Pg	Pb	21 51 02.5	-0.1
MORC				*e*Sg	Sg	21 51 14.2	+0.6
LANS	**Liptovska Anna**	**1.22**	**157**	*e*Pg	Pg	21 51 06.9	-0.2
LANS				*e*Sg	Sg	21 51 23.0	+0.1
LANS	**Liptovska Anna**	**1.22**	**157**	*e*PG	Pg	21 51 06.9	-0.2
LANS				*e*SG	Sg	21 51 23.0	+0.1
KRLC	**Kraliky**	**1.28**	**262**	*e*PG	Pg	21 51 07.9	-0.5
KRLC				*e*SG	Sg	21 51 24.7	-0.3
KRLC	**Kraliky**	**1.28**	**262**	Pg	Pg	21 51 07.9	-0.5
KRLC				Sg	Sg	21 51 24.7	-0.3
NIE	**Niedzica**	**1.32**	**130**	*e*Pg	Pg	21 51 08.5	-0.5
NIE				*e*Sg	Sb	21 51 27.0	+0.4
NIE	**Niedzica**	**1.32**	**130**	*e*Pg	Pg	21 51 08.5	-0.5
NIE				*e*Sg	Sb	21 51 27.0	+0.4
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	Pb	21 51 13.5	+0.1
DPC				*e*SG	Sg	21 51 34.3	+0.4
	comp=Z,4.7nm,0.4s						
DPC	**Dobruska-Polom**	**1.56**	**274**	Pg	Pb	21 51 13.5	+0.1
DPC				Sg	Sg	21 51 34.3	+0.4
	4.7nm,0.4s						
KSP	**Ksiaz**	**1.67**	**291**	*e*Pg	Pg	21 51 16.3	+0.5
KSP				*e*Sg	Sg	21 51 38.8	+1.4
KSP	**Ksiaz**	**1.67**	**291**	*e*Pg	Pg	21 51 16.3	+0.5
KSP				*e*Sg	Sg	21 51 38.8	+1.4
VRAC	**Vranov**	**1.70**	**236**	*e*Pn	Pg	21 51 16.2	-0.2
VRAC				*e*Sg	Sn	21 51 37.2	+0.3
UPC	**Upice**	**1.77**	**279**	*e*SG	Sg	21 51 41.3	+0.6
UPC	**Upice**	**1.77**	**279**	Sg	Sg	21 51 41.3	+0.6
VYHS	**Vyhne**	**1.78**	**178**	*e*Pn	Pn	21 51 15.1	-0.5
VYHS				*e*Sn	Sn	21 51 39.0	+0.1
VYHS	**Vyhne**	**1.78**	**178**	*e*PN	Pn	21 51 15.1	-0.5
VYHS				*e*SN	Sn	21 51 39.0	+0.1
TREC	**Trest**	**2.33**	**246**	*e*SG	Sg	21 51 57.7	-1.0
	comp=Z,3.0nm,0.4s						
TREC	**Trest**	**2.33**	**246**	Sg	Sg	21 51 57.7	-1.0
	3.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.58**	**263**	*e*SG	Sb	21 52 04.1	+1.1
GOPC	**GO Pecny, Ondr**	**2.58**	**263**	Sg	Sb	21 52 04.1	+1.1
PRU	**Pruhonice**	**2.73**	**266**	*e*SG	Sb	21 52 08.9	+1.8
PRU	**Pruhonice**	**2.73**	**266**	Sg	Sb	21 52 08.9	+1.8
KHC	**Kasperske Hory**	**3.55**	**253**	*e*SG	Sg	21 52 36.0	-1.8
	comp=Z,3.0nm,0.5s						
KHC	**Kasperske Hory**	**3.55**	**253**	Sg	Sg	21 52 36.0	-1.8
	3.0nm,0.5s						

IDC 17 22:07:09.7±1.5, 33°24S×179°05W, $h0^{km}$, mb3.9/2, mb1 4.2/3, mb1mx3.8/23, mbtmp4.0/3, ML4.2/1, MS3.7/2, Ms1 3.6/2, ms1mx3.1/21, Error ellipse: s-maj=43.8km s-min=37.7km az=138.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.90**	**211**	Pn	Pn	22 08 38.4	+0.1
	5.7nm,0.3s,baz=257,slow=2.7,SNR=17						
URZ				Sn	Sn	22 09 41.1	-5.4
	5.9nm,0.3s,baz=72,slow=24,SNR=6.0						
RAR	**Rarotonga**	**20.87**	**60**	LR	LR	22 19 16.9	
	comp=Z,150nm,18.6s,baz=242,slow=35						
ASAR	**Alice Springs**	**42.15**	**271**	P	P	22 15 03.9	-0.3
	1.7nm,0.7s,baz=113,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**43.40**	**276**	P	P	22 15 14.1	-0.1
	0.5nm,0.3s,baz=116,slow=7.7,SNR=9.8						
MAW	**Mawson**	**69.34**	**201**	LR	LR	22 47 59.0	
	comp=Z,57nm,18.0s,baz=65,slow=35						
FINES	**FINESS Array B**	**147.47**	**338**	PKPbc	PKPbc	22 26 54.2	-0.6
	4.6nm,0.9s,baz=46,slow=5.5,SNR=12						
NB2	**NORSAR Subarra**	**151.40**	**350**	PKP	PKPbc	22 27 04.4	-0.3
	comp=Z,1.3nm,0.7s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**151.40**	**350**	PKPbc	PKPbc	22 27 04.5	-0.1
	comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**159.98**	**182**	PKPab	PKPab	22 27 50.0	-0.6
	comp=Z,0.4nm,0.6s,baz=181,slow=2.6,SNR=4.1						

*ISCJB **17** 22:08:01.8±0.2, 46°04N±0°01×6°79E±0°02, $h5^{km}$±2^{km}, Error ellipse: s-maj=2.5km s-min=2.0km az=163.7*

*IASPEI **17** 22:08:02.5±0.8, 46°02N±0°02×6°89E±0°02, $h9^{km}$±5^{km}, Error ellipse: s-maj=3.3km s-min=2.5km az=86.9, GT5 selection from ISC bulletin GT5 identified by Bondár and McLaughlin (2009) selection criteria Bondár and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*CSEM **17** 22:08:02.7±0.1, 46°04N×6°86E, $h10^{km}$, ML2.4/26, Error ellipse: s-maj=1.9km s-min=1.7km az=96.0*

*GEN **17** 22:08:03.0, 46°05N×6°87E, $h8^{km}$, ML1.7*

*ZUR **17** 22:08:03.5, 46°03N×6°89E, $h4^{km}$±1^{km}, ML2.0/20*

*ROM **17** 22:08:03.0±0.2, 46°02N×6°93E, $h7^{km}$±2^{km}, Ml1.9/3, Error ellipse: s-maj=3.2km s-min=2.5km az=112.0*

*LDG **17** 22:08:03.4±0.1, 46°04N×6°91E, $h2^{km}$, Md2.5/3, Ml2.5/23, Error ellipse: s-maj=2.8km s-min=2.1km az=113.0*

ISC 17 22:08:02.2±0.8, 46°02N±0°01×6°86E±0°01, $h10^{km}$±4^{km}, n117, σ0°96/187, 14C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.05**	**33**	Pg	**Pg**	**22 08 04.9**	**+0.4**
EMV				Sg	**Sg**	**22 08 05.8**	**-0.4**
EMV	**Vieux Emosson**	**0.05**	**33**	⇑*i*Pg	**Pg**	**22 08 04.9**	**+0.4**
EMV				*i* Sg	**Sg**	**22 08 05.8**	**-0.4**
EMV	**Vieux Emosson**	**0.05**	**33**	⇑*i*Pg	**Pg**	**22 08 04.9**	**+0.4**
EMV				*i* Sg	**Sg**	**22 08 05.8**	**-0.4**
SALAN	**Lac Salanfe**	**0.15**	**33**	⇑*i*Pg	**Pg**	**22 08 06.4**	**+0.7**
	245nm,0.1s						
SALAN				*i* Sg	**Sg**	**22 08 08.3**	**+0.2**
	245nm,0.1s						
SALAN	**Lac Salanfe**	**0.15**	**33**	⇑*i*Pg	**Pg**	**22 08 06.4**	**+0.7**
	245nm,0.1s						
SALAN				*i* Sg	**Sg**	**22 08 08.3**	**+0.2**
	245nm,0.1s						
MRGE	**Morge**	**0.29**	**150**	Pg	**Pb**	**22 08 09.4**	**-0.1**
MRGE				Sg	**Sb**	**22 08 13.4**	**-1.0**
	235nm,0.4s						
MRGE	**Morge**	**0.29**	**150**	⇓*i*Pg	**Pb**	**22 08 09.4**	**-0.1**
	885nm,0.3s						
MRGE	**Morge**	**0.29**	**150**	⇓*i*Pg	**Pb**	**22 08 09.4**	**-0.1**
	885nm,0.3s						
MRGE				Sg	**Sb**	**22 08 13.4**	**-1.0**
	235nm,0.4s						
GRYON	**Gryon**	**0.29**	**37**	⇑*i*Pg	**Pg**	**22 08 08.9**	**+0.8**
	45nm,0.2s						
GRYON	**Gryon**	**0.29**	**37**	⇑*i*Pg	**Pg**	**22 08 08.9**	**+0.8**
	45nm,0.2s						
AIGLE	**Aigle**	**0.33**	**12**	⇑*i*Pg	**Pg**	**22 08 09.6**	**+0.8**
	406nm,0.6s						
AIGLE	**Aigle**	**0.33**	**12**	⇑*i*Pg	**Pg**	**22 08 09.6**	**+0.8**
	406nm,0.6s						
NOV2	**NOV2**	**0.35**	**2**	⇑*i*Pg	**Pg**	**22 08 10.0**	**+0.8**
	332nm,0.3s						
RSL	**Roselend**	**0.37**	**206**	⇑*e*Pg	**Pb**	**22 08 11.0**	**+0.1**
RSL	**Roselend**	**0.37**	**206**	⇑*e*Pg	**Pb**	**22 08 11.0**	**+0.1**
NOV1	**NOV1**	**0.37**	**355**	*e*Pg	**Pb**	**22 08 10.5**	**-0.4**
	648nm,0.6s						
DIX	**Grande Dixence**	**0.39**	**81**	Pg	**Pb**	**22 08 11.0**	**-0.3**
DIX				Sg	**Sg**	**22 08 15.8**	**+0.7**
	111nm,0.1s						
DIX	**Grande Dixence**	**0.39**	**81**	⇓*i*Pg	**Pg**	**22 08 10.7**	**+0.8**
	567nm,0.2s						
DIX	**Grande Dixence**	**0.39**	**81**	⇓*i*Pg	**Pg**	**22 08 10.7**	**+0.8**
	567nm,0.2s						
DIX				Sg	**Sg**	**22 08 15.8**	**+0.7**
	111nm,0.1s						
NOV3	**NOV3**	**0.42**	**8**	⇑*i*Pg	**Pg**	**22 08 11.3**	**+0.9**
	175nm,0.1s						
SENIN	**Lac Senin/Sane**	**0.46**	**42**	⇑*i*Pg	**Pg**	**22 08 12.0**	**+0.7**
	89nm,0.1s						
SENIN	**Lac Senin/Sane**	**0.46**	**42**	⇑*i*Pg	**Pg**	**22 08 12.0**	**+0.7**
	89nm,0.1s						
LPL	**La Plagne**	**0.51**	**190**	*e*Pg	**Pb**	**22 08 13.5**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**22 08 20.4**	**-0.5**
	23nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.51**	**190**	*e*Pg	**Pb**	**22 08 13.5**	**+0.2**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**22 08 20.4**	**-0.5**
	11nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.53**	**188**	*e*Pg	**Pb**	**22 08 13.9**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**22 08 20.3**	**-1.1**
	33nm,0.3s						
LPG	**La Plagne**	**0.53**	**188**	*e*Pg	**Pb**	**22 08 13.9**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**22 08 20.3**	**-1.1**
	17nm,0.3s						
LSD	**Lago del Serru**	**0.59**	**161**	Pg	**Pb**	**22 08 15.0**	**+0.2**
LSD				Sg	**Sb**	**22 08 22.5**	**-0.8**
	39nm,0.2s						
LSD	**Lago del Serru**	**0.59**	**161**	P	**Pb**	**22 08 14.9**	**+0.2**
LSD				S	**Sb**	**22 08 22.5**	**-0.8**
CIRO	**Champorcher**	**0.65**	**130**	*e*Pg	**Pb**	**22 08 15.6**	**-0.1**
	165nm,0.5s						
CIRO	**Champorcher**	**0.65**	**130**	P	**Pb**	**22 08 15.6**	**-0.1**
CIRO				S	**Sg**	**22 08 23.9**	**+0.6**
LKBD	**Leukerbad**	**0.65**	**55**	⇓*i*Pg	**Pb**	**22 08 15.6**	**-0.1**
	22nm,0.3s						
LKBD	**Leukerbad**	**0.65**	**55**	⇓*i*Pg	**Pb**	**22 08 15.6**	**-0.1**
	22nm,0.3s						
LKBD2	**Leukerbad 2**	**0.65**	**57**	*e*Pg	**Pb**	**22 08 15.7**	**-0.1**
	21nm,0.2s						
LKBD2	**Leukerbad 2**	**0.65**	**57**	*e*Pg	**Pb**	**22 08 15.7**	**-0.1**
	21nm,0.2s						
GIMEL	**St. Georges /**	**0.66**	**322**	*e*Pg	**Pb**	**22 08 16.4**	**+0.6**
	85nm,0.2s						
GIMEL	**St. Georges /**	**0.66**	**322**	*e*Pg	**Pb**	**22 08 16.4**	**+0.6**
	85nm,0.2s						
EMBD	**Embd, Matterta**	**0.71**	**73**	*e*Pg	**Pb**	**22 08 16.5**	**-0.1**
	61nm,0.4s						
EMBD	**Embd, Matterta**	**0.71**	**73**	*e*Pg	**Pb**	**22 08 16.5**	**-0.1**
	61nm,0.4s						
SATI	**Passo dei Sala**	**0.72**	**101**	*e*Pg	**Pb**	**22 08 16.6**	**-0.4**
	114nm,0.3s						
SATI	**Passo dei Sala**	**0.72**	**101**	P	**Pb**	**22 08 16.6**	**-0.4**
SATI				S	**Sg**	**22 08 25.8**	**+0.2**
LAUCH	**Lauchernalp**	**0.75**	**58**	*e*Pg	**Pb**	**22 08 17.5**	**+0.1**
	131nm,0.3s						
LAUCH	**Lauchernalp**	**0.75**	**58**	*e*Pg	**Pb**	**22 08 17.5**	**+0.1**
	131nm,0.3s						
MMK	**Mattmark**	**0.77**	**87**	Pg	**Pb**	**22 08 17.6**	**-0.2**
MMK				Sg	**Sg**	**22 08 27.0**	**-0.2**
MMK	**Mattmark**	**0.77**	**87**	*e*Pg	**Pb**	**22 08 17.6**	**-0.2**
	40nm,0.3s						
MMK	**Mattmark**	**0.77**	**87**	*e*Pg	**Pb**	**22 08 17.6**	**-0.2**
	40nm,0.3s						
MMK				Sg	**Sg**	**22 08 27.0**	**-0.2**
CABF	**La Chapelle**	**0.80**	**318**	*e*Pg	**Pb**	**22 08 18.8**	**+0.6**
	SNR=1.0						
CABF	**La Chapelle**	**0.80**	**318**	*e*Pn	**Pn**	**22 08 21.1**	**+1.6**
CABF				*e*Sg	**Sb**	**22 08 29.0**

SMF				*e*Sg	**Sg**	**22 09 11.2**	**-1.0**
	3.4nm,0.2s,SNR=1.0						
SBF	**Sospel**	**2.19 169**		*e*Pg	**Pg**	**22 08 45.0**	**+0.8**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**22 09 11.2**	**-1.5**
	3.6nm,0.3s,SNR=1.0						
SBF	**Sospel**	**2.19 169**		*e*Pg	**Pg**	**22 08 45.0**	**+0.8**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**22 09 11.2**	**-1.5**
	1.8nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.24 204**		*e*Pn	**Pb**	**22 08 42.3**	**-0.4**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.24 204**		*e*Pg	**Pg**	**22 08 46.4**	**+1.4**
SMRF				*e*Sg	**Sg**	**22 09 15.2**	**+1.2**
	1.6nm,0.4s						
SMRF	**Simiane la Rot**	**2.24 204**		*e*Pn	**Pb**	**22 08 42.3**	**-0.4**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.24 204**		*e*Pg	**Pg**	**22 08 46.4**	**+1.4**
SMRF				*e*Sg	**Sg**	**22 09 15.2**	**+1.2**
	0.8nm,0.4s						
CDF	**Champ du Feu**	**2.41**	**7**	*e*Pn	**Pn**	**22 08 41.5**	**-0.2**
	SNR=1.0						
CDF	**Champ du Feu**	**2.41**	**7**	*e*Pg	**Pg**	**22 08 48.5**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**22 09 10.6**	**-0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 09 19.6**	**0.0**
	2.7nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.41**	**7**	*e*Pn	**Pn**	**22 08 41.5**	**-0.2**
	SNR=1.0						
CDF	**Champ du Feu**	**2.41**	**7**	*e*Pg	**Pg**	**22 08 48.5**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**22 09 10.6**	**-0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 09 19.6**	**0.0**
	1.4nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.41 302**		*e*Pg	**Pg**	**22 08 48.8**	**+0.4**
	baz=113,SNR=1.0						
LOR				*e*Sg	**Sg**	**22 09 20.2**	**+0.5**
	2.6nm,0.2s,baz=138,SNR=1.0						
LOR	**Lormes**	**2.41 302**		*e*Pg	**Pg**	**22 08 48.8**	**+0.4**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 09 20.2**	**+0.5**
	1.3nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**2.46 184**		*e*P	**Pb**	**22 08 45.5**	**-1.0**
FRF	**La Foret Royal**	**2.46 184**		*e*Pg	**Pg**	**22 08 50.0**	**+0.7**
FRF				*e*Sg	**Sg**	**22 09 21.4**	**+0.1**
	4.0nm,0.4s						
FRF	**La Foret Royal**	**2.46 184**		*e*P	**Pb**	**22 08 45.5**	**-1.0**
FRF	**La Foret Royal**	**2.46 184**		*e*Pg	**Pg**	**22 08 50.0**	**+0.7**
FRF				*e*Sg	**Sg**	**22 09 21.4**	**+0.1**
	2.0nm,0.4s						
SFTF	**Sexfontaines**	**2.52 331**		*e*Sg	**Sg**	**22 09 22.7**	**-0.2**
	3.5nm,0.3s						
SFTF	**Sexfontaines**	**2.52 331**		*e*Sg	**Sg**	**22 09 22.7**	**-0.2**
	1.8nm,0.3s						
SSF	**Saint Saulge**	**2.54 295**		*e*Pn	**Pn**	**22 08 43.0**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 09 16.1**	**+1.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 09 23.1**	**-0.5**
	2.1nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.54 295**		*e*Pn	**Pn**	**22 08 43.0**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 09 16.1**	**+1.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 09 23.1**	**-0.5**
	1.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.54 289**		*e*Pn	**Pn**	**22 08 44.9**	**+1.4**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.54 289**		*e*Pg	**Pg**	**22 08 50.5**	**-0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 09 22.0**	**-1.9**
	1.9nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.54 289**		*e*Pn	**Pn**	**22 08 44.9**	**+1.4**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.54 289**		*e*Pg	**Pg**	**22 08 50.5**	**-0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 09 22.0**	**-1.9**
	0.9nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**2.70 185**		*e*Pn	**Pn**	**22 08 46.5**	**+1.0**
	SNR=1.0						
LMR	**La Mourre**	**2.70 185**		*e*Pg	**Pg**	**22 08 54.2**	**+0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**22 09 28.1**	**-0.6**
	1.5nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**2.70 185**		*e*Pn	**Pn**	**22 08 46.5**	**+1.0**
	SNR=1.0						
LMR	**La Mourre**	**2.70 185**		*e*Pg	**Pg**	**22 08 54.2**	**+0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**22 09 28.1**	**-0.6**
	0.8nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**2.83 282**		*e*Pn	**Pn**	**22 08 48.4**	**+1.0**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.83 282**		*e*Pn	**Pn**	**22 08 48.4**	**+1.0**
	SNR=1.0						
LASF	**Ste Croix**	**2.88 229**		*e*Pg	**Pg**	**22 08 57.4**	**+0.1**
LASF				*e*Sn	**Sn**	**22 09 20.6**	**-2.2**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**22 09 32.1**	**-2.6**
	3.4nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.88 229**		*e*Pg	**Pg**	**22 08 57.4**	**+0.1**
LASF				*e*Sn	**Sn**	**22 09 20.6**	**-2.2**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**22 09 32.1**	**-2.6**
	1.7nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.24 276**		*e*Sn	**Sn**	**22 09 31.6**	**-0.1**
	2.5nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.24 276**		*e*Sn	**Sn**	**22 09 31.6**	**-0.1**
	1.2nm,0.4s,SNR=1.0						
CAF	**Calviac**	**3.54 254**		*e*Pn	**Pn**	**22 08 59.5**	**+2.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**22 09 54.2**	**-1.8**
	3.4nm,0.3s,SNR=1.0						
CAF	**Calviac**	**3.54 254**		*e*Pn	**Pn**	**22 08 59.5**	**+2.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**22 09 54.2**	**-1.8**
	1.7nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.81 261**		*e*Sg	**Sg**	**22 10 05.0**	**+0.5**
	3.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.81 261**		*e*Sg	**Sg**	**22 10 05.0**	**+0.5**
	2.0nm,0.3s						
MTLF	**Montolieu**	**4.26 233**		*e*Sg	**Sg**	**22 10 18.3**	**-0.5**
	1.3nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**4.26 233**		*e*Sg	**Sg**	**22 10 18.3**	**-0.5**
	0.6nm,0.3s,SNR=1.0						

*CSEM **17** 22:40:03.7±0.4,50.°44N×18.°88E,h1km, Error ellipse: s-maj=9.1km s-min=3.5km az=7.0*

PRU 17 22:40:04.9,50.°37N×18.°88E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61 104**		*e*Pg	Pg	22 40 16.2	-0.3
OJC				*e*Sg	Sg	22 40 24.7	+0.3
OJC	**Ojcow**	**0.61 104**		*e*Pg	Pg	22 40 16.2	-0.3
OJC				*e*Sg	Sg	22 40 24.7	+0.3
OKC	**Ostrava-Krasne**	**0.71 222**		*e*PG	Pg	22 40 19.2	+0.7
OKC				*e*SG	Sb	22 40 30.2	-0.3
OKC	**Ostrava-Krasne**	**0.71 222**		Pg	Pg	22 40 19.2	+0.7
OKC				Sg	Sb	22 40 30.2	-0.3
MORC	**Moravsky Berou**	**1.05 236**		*e*Pg	Pg	22 40 24.7	-0.2
MORC				*e*Sg	Sg	22 40 39.2	+0.7
LANS	**Liptovska Anna**	**1.28 162**		*e*Pg	Pg	22 40 29.0	-0.4
LANS				*e*Sg	Sg	22 40 46.0	+0.1
LANS	**Liptovska Anna**	**1.28 162**		*e*PG	Pg	22 40 29.0	-0.4
LANS				*e*SG	Sg	22 40 46.0	+0.1
NIE	**Niedzica**	**1.32 136**		*e*Pg	Pn	22 40 30.8	+0.2
NIE				*e*Sg	Sg	22 40 47.6	+0.3
NIE	**Niedzica**	**1.32 136**		*e*Pg	Pn	22 40 30.8	+0.1
NIE				*e*Sg	Sg	22 40 47.6	+0.2
KRLC	**Kraliky**	**1.38 258**		*e*PG	Pg	22 40 30.1	-1.2
KRLC				*e*SG	Sg	22 40 49.3	+0.1
KRLC	**Kraliky**	**1.38 258**		Pg	Pg	22 40 30.1	-1.2
KRLC				Sg	Sg	22 40 49.3	+0.1
DPC	**Dobruska-Polom**	**1.64 270**		*e*PG	Pn	22 40 34.5	-0.5
DPC				*e*SG	Sb	22 40 57.3	+0.1
DPC	**Dobruska-Polom**	**1.64 270**		Pg	Pn	22 40 34.5	-0.5
DPC				Sg	Sb	22 40 57.3	+0.1
STHS	**Stebnicka Huta**	**1.80 121**		*e*Pg	Pb	22 40 38.6	-0.2
STHS	**Stebnicka Huta**	**1.80 121**		*e*PG	Pb	22 40 38.6	-0.2
VRAC	**Vranov**	**1.82 235**		*e*Pn	Pn	22 40 37.9	+0.4
VRAC				*e*Sg	Sb	22 41 01.9	-0.6
VYHS	**Vyhne**	**1.88 181**		*e*Pg	Pn	22 40 37.2	-1.1
VYHS	**Vyhne**	**1.88 181**		*e*PG	Pn	22 40 37.2	-1.1

*CSEM **17** 22:41:53.1±0.3,50.°07N×18.°64E,h1km, Error ellipse: s-maj=5.8km s-min=2.2km az=28.0*

PRU 17 22:41:54.5,50.°01N×18.°61E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.34 240**		*e*PG	Pg	22 42 00.7	-0.4
OKC				*e*SG	Sg	22 42 05.6	0.0
OKC	**Ostrava-Krasne**	**0.34 240**		Pg	Pg	22 42 00.7	-0.4
OKC				Sg	Sg	22 42 05.6	0.0
MORC	**Moravsky Berou**	**0.73 252**		*e*Pg	Pg	22 42 08.2	-0.2
MORC				*e*Sg	Sg	22 42 17.4	-0.5
LANS	**Liptovska Anna**	**1.03 147**		*e*Pg	Pg	22 42 13.4	-0.7
LANS				*e*Sg	Sg	22 42 27.8	+0.4
LANS	**Liptovska Anna**	**1.03 147**		*e*PG	Pg	22 42 13.4	-0.7
LANS				*e*SG	Sg	22 42 27.8	+0.4
KRLC	**Kraliky**	**1.18 274**		*e*PG	Pg	22 42 15.8	-1.3
KRLC				*e*SG	Sg	22 42 32.0	-0.4
KRLC	**Kraliky**	**1.18 274**		Pg	Pg	22 42 15.8	-1.3
KRLC				Sg	Sg	22 42 32.0	-0.4
DPC	**Dobruska-Polom**	**1.51 284**		*e*PG	Pn	22 42 22.4	-0.4
DPC				*e*SG	Sg	22 42 42.5	-0.5
DPC	**Dobruska-Polom**	**1.51 284**		Pg	Pn	22 42 22.4	-0.4
DPC				Sg	Sg	22 42 42.5	-0.5

IDC 17 22:48:33.8±1.2,0.°72N×124.°53E,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.7/39,mbtmp3.9/5,ML4.0/1,Error ellipse: s-maj=108.1km s-min=18.8km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.74 177**		P	Pn	22 52 55.0	+0.4
	0.4nm,0.3s,baz=16,slow=4.9,SNR=6.1						
WRA	**Warramunga Arr**	**22.68 155**		P	P	22 53 36.8	-0.2
	2.5nm,0.3s,baz=336,slow=10,SNR=27						
ASAR	**Alice Springs**	**25.90 160**		P	P	22 54 07.5	-0.2
	0.8nm,0.4s,baz=347,slow=12,SNR=14						
SONM	**Songino Array**	**49.50 344**		P	P	22 57 27.8	+1.7
	0.5nm,0.8s,baz=156,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**58.82 327**		P	P	22 58 32.8	-1.4
	0.6nm,0.4s,baz=126,slow=8.4,SNR=11						

*ECX **17** 22:54:41.7±0.6,31.°26N×115.°89W,h5km, MD2.6,ML2.8*
*MEX **17** 22:54:42.4±0.8,31.°06N×115.°92W,h18km±84km,MD3.7*

ISC 17 22:54:40.0±1.2,31.°18N±0.°05×115.°93W±0.°04, h16km±10km,n20,σ0s61/38,6C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.42 109**		*i* P	**Pb**	**22 54 49.7**	**+0.3**
SPIG				*e*S	**Sg**	**22 54 54.5**	**-0.1**
SPIG	**San Pedro Mart**	**0.42 109**	⇑	*e*P	**Pb**	**22 54 49.3**	**0.0**
SPIG				*e*S	**Sb**	**22 54 55.3**	**-0.3**
SPX	**San Pedro Mart**	**0.43 109**	⇑	*e*P	**Pb**	**22 54 49.7**	**+0.3**
SPX				*e*S	**Sb**	**22 54 55.3**	**-0.4**
SPX			⇑	*e*		22 54 55.6	
SPX				IAML		22 54 55.6	
	comp=N,478nm,0.4s						
ZAX	**El Zacaton**	**0.44 319**	⇓	*e*P	**Pb**	**22 54 49.2**	**-0.2**
ZAX				*e*S	**Sg**	**22 54 54.8**	**-0.1**
ECNX	**Esteban Cantu**	**0.74 310**	⇑	*e*P	**Pg**	**22 54 54.8**	**+0.4**
ECNX				*e*P	**Pn**	**22 54 57.5**	**+1.6**
ECNX				*e*S	**Sb**	**22 55 04.4**	**-0.1**
ECBX	**El Chinero**	**0.81 69**	⇑	*e*P	**Pg**	**22 54 55.4**	**-0.3**
ECBX				*e*S	**Sb**	**22 55 05.1**	**-1.2**
PBX	**Punta Banda**	**0.88 310**	⇑	*e*P	**Pg**	**22 54 57.1**	**+0.1**
PBX				*e*S	**Sb**	**22 55 08.5**	**+0.2**
CBX	**Cerro Bola**	**1.28 331**		*e*P	**Pn**	**22 55 03.3**	**-0.1**
CBX				*e*S	**Sb**	**22 55 20.5**	**+0.3**
CBX	**Cerro Bola**	**1.28 331**	⇓	*e*P	**Pb**	**22 55 03.5**	**-0.4**
CBX				*e*S	**Sn**	**22 55 19.7**	**-0.8**
CBX				IAML		22 55 25.5	
	comp=E,235nm,0.5s						
TJIG	**Tijuana**	**1.40 333**		*e*P	**Pn**	**22 55 04.8**	**0.0**
TJIG				*e*S	**Sb**	**22 55 23.4**	**0.0**
IKP	**In-Ko-Pah, Jac**	**1.47 354**		P	**Pb**	**22 55 07.0**	**0.0**
	baz=171,SNR=66						
IKP				S	**Sn**	**22 55 24.8**	**-0.1**
	baz=171						
IKP	**In-Ko-Pah, Jac**	**1.47 354**	⇓	*e*P	**Pb**	**22 55 07.0**	**0.0**
MONP2	**Monument Peak**	**1.75 346**		P	**Pb**	**22 55 11.5**	**-0.4**
	baz=163,SNR=37						
MONP2				S	**Sb**	**22 55 33.0**	**-0.8**
	baz=163						
SWSC	**Sam W. Stewart**	**1.76**	**4**	P	**Pb**	**22 55 12.2**	**+0.3**
	baz=182,SNR=32						
SWSC				S	**Sb**	**22 55 34.8**	**+1.1**
	baz=182						
109C	**Camp Elliot, M**	**1.97 330**		P	**Pb**	**22 55 14.5**	**-1.0**
	baz=146						
109C				Sb	**Sb**	**22 55 39.2**	**-0.6**
	baz=146						
GLA	**Glamis**	**2.08**	**26**	P	**Pb**	**22 55 17.2**	**-0.3**
	baz=207						
GLA				S	**Sb**	**22 55 44.4**	**+1.2**
	baz=207						
PFO	**Pinyon Flats O**	**2.46 350**		Pb	**Pb**	**22 55 24.3**	**+0.3**
	baz=167,SNR=15						
PFO				Sb	**Sb**	**22 55 54.9**	**+0.8**
	baz=167						
MURC	**Murrieta**	**2.63 336**		Pb	**Pb**	**22 55 26.4**	**-0.5**
	baz=153						
MURC				Sb	**Sb**	**22 55 58.8**	**-0.2**
	baz=153						
BELC	**Belle Mtn. Jos**	**2.81 359**		Pb	**Pb**	**22 55 30.4**	**+0.5**
	baz=177						
BFSC	**Mount Baldy Ra**	**3.38 335**		Pb	**Pb**	**22 55 38.7**	**-0.8**
	baz=152						

*ISCJB **17** 22:56:58.5±0.5,24.°87N±0.°03×122.°69E±0.°02, h123km±4km,Error ellipse: s-maj=4.8km s-min=2.7km az=170.0*
*TAP **17** 22:56:58.6,24.°94N×122.°67E,h127km±1km,ML4.2,D*
*JMA **17** 22:56:58.0±0.2,24.°84N×122.°63E,h131km±3km,M3.1*

ISC 17 22:56:58.1±1.5,24.°90N±0.°05×122.°69E±0.°03,h130km±8km, n58,σ0s79/111,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51 152**		P	**Pn**	**22 57 17.4**	**+0.2**
JYNG				S	**Sn**	**22 57 31.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.53 146**		P	**Pn**	**22 57 17.5**	**+0.2**
YOJ				S	**Sn**	**22 57 31.7**	**-0.1**
TWB1	**Santiao Chiao**	**0.64 280**	⇑	*i* P	**Pn**	**22 57 18.3**	**+0.3**
	baz=276						
TWB1				*i* S	**Sn**	**22 57 33.3**	**+0.2**
	baz=276						
TWC	**Suao**	**0.81 249**		P	**Pn**	**22 57 19.3**	**0.0**
	baz=246						
TWC				S	**Sn**	**22 57 35.1**	**-0.3**
	baz=246						
NWF	**Wu-fen Shan**	**0.84 282**		*i* P	**Pn**	**22 57 19.8**	**+0.2**
	baz=279						
NWF				S	**Sn**	**22 57 34.8**	**-1.2**
	baz=279						
PCYT	**Pengchaiyu**	**0.91 323**		P	**Pn**	**22 57 21.1**	**+0.9**
	baz=322						
PCYT				*e*S	**Sn**	**22 57 36.0**	**-1.0**
	baz=322						
TWE	**Neicheng**	**0.94 259**	⇑	*i* P	**Pn**	**22 57 20.7**	**+0.3**
	baz=256						
TWE				S	**Sn**	**22 57 36.4**	**-1.0**
	baz=256						
ENA	**Nanau**	**0.98 241**		P	**Pn**	**22 57 21.1**	**+0.3**
	baz=238						
ENA				S	**Sn**	**22 57 38.3**	**+0.3**
	baz=238						
TWA	**Mucha**	**1.00 275**		*i* P	**Pn**	**22 57 21.4**	**+0.3**
	baz=272						
TWA				S	**Sn**	**22 57 37.3**	**-1.1**
	baz=272						
ENTT	**Nioudou**	**1.05 256**		*i* P	**Pn**	**22 57 22.1**	**+0.6**
	baz=253						
ENTT				*e*S	**Sn**	**22 57 39.1**	**-0.1**
	baz=253						
TWY	**Chenhua**	**1.05 291**		P	**Pn**	**22 57 21.8**	**+0.3**
	baz=289						
TWY				*e*S	**Sn**	**22 57 38.7**	**-0.6**
	baz=289						
TAP1	**Taipei**	**1.06 278**		P	**Pn**	**22 57 21.9**	**+0.4**
	baz=275						
TAP1				*e*S	**Sn**	**22 57 39.0**	**-0.3**
	baz=275						
TAP	**Taipei**	**1.08 278**		P	**Pn**	**22 57 21.9**	**+0.2**
	baz=275						
TAP				S	**Sn**	**22 57 39.0**	**-0.6**
	baz=275						
IRIF	**Iriomote-Funau**	**1.10 121**		P	**Pn**	**22 57 22.4**	**+0.4**
IRIF				S	**Sn**	**22 57 40.1**	**0.0**
TWS1	**Kuangyinshan**	**1.17 280**		*e*P	**Pn**	**22 57 23.0**	**+0.4**
	baz=278						
TWS1				*e*S	**Sn**	**22 57 40.5**	**-0.7**
	baz=278						
NSK	**Sanguang**	**1.23 260**		*i* P	**Pn**	**22 57 23.5**	**+0.2**
	baz=257						
NSK				*i* S	**Sn**	**22 57 42.2**	**-0.2**
	baz=257						
NNS	**Nan Shan**	**1.28 249**		P	**Pn**	**22 57 24.4**	**+0.4**
	baz=247						
NNS				S	**Sn**	**22 57 42.6**	**-1.0**
	baz=247						
TWD	**Chiawan**	**1.29 231**		*e*P	**Pn**	**22 57 23.6**	**-0.2**
	baz=228						
TWD				S	**Sn**	**22 57 43.0**	**-0.4**
	baz=228						
HATJ	**Hateruma jima**	**1.32 129**		P	**Pn**	**22 57 25.3**	**+1.1**
HATJ				S	**Sn**	**22 57 44.4**	**+0.3**
HWA	**Hwalien**	**1.35 227**		P	**Pn**	**22 57 24.5**	**0.0**
	baz=225						
HWA				S	**Sn**	**22 57 45.0**	**+0.4**
	baz=225						
NCU	**National Centr**	**1.36 273**		*e*P	**Pn**	**22 57 25.6**	**+0.9**
	baz=271						
NCU				*e*S	**Sn**	**22 57 45.0**	**+0.1**
	baz=271						
JKRS	**Kuro-shima**	**1.37 118**		P	**Pn**	**22 57 25.4**	**+0.6**
JKRS				*e*S	**Sn**	**22 57 45.1**	**0.0**
JIJ	**Ishigaki jima**	**1.43 112**		P	**Pn**	**22 57 25.6**	**+0.2**
JIJ				S	**Sn**	**22 57 45.1**	**-1.1**
ESF	**Shoufeng Towns**	**1.49 227**		*e*P	**Pn**	**22 57 26.8**	**+0.8**
	baz=224						
ESF				*e*S	**Sn**	**22 57 47.4**	**+0.1**
	baz=224						
WHF	**Hehuan Shan**	**1.50 240**		P	**Pn**	**22 57 26.9**	**+0.3**
	baz=238						
WHF				S	**Sn**	**22 57 48.2**	**-0.1**
	baz=238						
JISG	**Ishigakijimahi**	**1.51 102**		P	**Pn**	**22 57 26.4**	**+0.1**
JISG				S	**Sn**	**22 57 47.4**	**-0.3**
TWT	**Tachien**	**1.52 245**		P	**Pn**	**22 57 27.6**	**+1.0**
	baz=243						
TWT				S	**Sn**	**22 57 48.5**	**+0.2**
	baz=243						
NSTT	**Nanjuang**	**1.56 260**		P	**Pn**	**22 57 26.9**	**+0.1**
	baz=258						
NSTT				S	**Sn**	**22 57 48.0**	**-0.7**
	baz=258						
HSN	**Hsinchu**	**1.56 267**		*e*S	**Sn**	**22 57 48.5**	**-0.3**
	baz=265						
ESL	**Shilin**	**1.57 227**		*e*P	**Pn**	**22 57 26.6**	**-0.5**
	baz=224						
ESL				S	**Sn**	**22 57 47.8**	**-1.3**
	baz=224						
TEGC	**Jichi Village**	**1.58 222**		P	**Pn**	**22 57 28.1**	**+1.0**
	baz=219						
TEGC				*e*S	**Sn**	**22 57 50.2**	**+1.0**
	baz=219						
NSY	**Sanyi**	**1.82 255**		*e*P	**Pn**	**22 57 30.4**	**+0.5**
	baz=253						
NSY				*e*S	**Sn**	**22 57 53.9**	**-0.3**
	baz=253						
TWQ1	**Liyutan**	**1.83 253**		P	**Pn**	**22 57 30.4**	**+0.5**
	baz=251						
TWQ1				S	**Sn**	**22 57 54.5**	**+0.1**
	baz=251						
JTJ	**Tarama**	**1.85**	**98**	P	**Pn**	**22 57 30.8**	**+0.6**
JTJ				S	**Sn**	**22 57 55.1**	**+0.3**
SMLT	**Sun Moon Lake**	**1.92 238**		P	**Pn**	**22 57 32.2**	**+1.0**
	baz=236						
SMLT				*e*S	**Sn**	**22 57 56.4**	**0.0**
	baz=236						
TYC	**Yuchr**	**1.94 240**		*e*P	**Pn**	**22 57 32.1**	**+0.8**
	baz=237						
TYC				*e*S	**Sn**	**22 57 57.2**	**+0.5**
	baz=237						
TWF1	**Yuli**	**2.00 220**		*e*P	**Pn**	**22 57 31.7**	**-0.4**
	baz=218						
TWF1				*e*S	**Sn**	**22 57 56.4**	**-1.6**
	baz=218						
YUS	**Yu-Shan**	**2.12 229**		P	**Pn**	**22 57 34.6**	**+0.6**
	baz=227						
YUS				*e*S	**Sn**	**22 58 00.9**	**-0.6**
	baz=227						
CHKT	**Chengkung**	**2.16 214**		*e*P	**Pn**	**22 57 33.7**	**-0.4**
	baz=212						
CHKT				*e*S	**Sn**	**22 58 00.1**	**-1.5**
	baz=212						
ALS	**Alishan**	**2.21 232**		P	**Pn**	**22 57 36.1**	**+1.2**
	baz=229						
ALS				*e*S	**Sn**	**22 58 02.8**	**-0.3**
	baz=229						
CHN5	**Tsauling**	**2.25 235**		*e*P	**Pn**	**22 57 36.2**	**+1.0**
	baz=233						
CHN5				*e*S	**Sn**	**22 58 03.9**	**+0.3**
	baz=233						
JIRB	**Irabujima**	**2.26**	**91**	S	**Sn**	**22 58 04.3**	**+0.6**
WGK	**Gukeng**	**2.29 238**		*e*P	**Pn**	**22 57 36.9**	**+1.3**
	baz=236						
WGK				*e*S	**Sn**	**22 58 04.3**	**0.0**
	baz=236						
ELDTW	**Lidau**	**2.29 222**		P	**Pn**	**22 57 35.4**	**-0.3**
	baz=220						
ELDTW				S	**Sn**	**22 58 04.3**	**-0.3**
	baz=220						
JIKM	**Ikemajima**	**2.33**	**89**	S	**Sn**	**22 58 05.3**	**+0.1**
CHN2	**Minshiung**	**2.44 236**		*e*P	**Pn**	**22 57 38.0**	**+0.5**
	baz=235						
CHN2				*e*S	**Sn**	**22 58 07.2**	**-0.6**
	baz=235						
CHN4	**Tsaushan**	**2.46 232**		P	**Pn**	**22 57 38.7**	**+0.9**
	baz=230						
CHN4				*e*S	**Sn**	**22 58 08.4**	**+0.1**
	baz=230						
STYT	**Tauyuan**	**2.47 226**		P	**Pn**	**22 57 39.3**	**+1.3**
	baz=224						
STYT				*e*S	**Sn**	**22 58 08.7**	**0.0**
	baz=224						
WTP	**Ta-pu**

GUC 17 22:57:04.3±0.7, 37.49S×73.90W, h28km±4km, ML4.4
NEIC 17 22:57:04.0±0.0, 37.49S×73.90W, h28km, ML4.4(GUC), After GUC.
NEIC Felt [V] at Lebu, [IV] at Canete and [III] at Concepcion, Hualpen, La Laja, San Pedro de la Paz and Talcahuano.
IDC 17 22:57:09.1±6.4, 37.49S×73.14W, h34km±42km, mb3.9/7, mb1 3.9/10, mb1mx3.8/25, mbtmp4.0/10, ML4.2/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/14, Error ellipse: s-maj=61.5km s-min=16.0km az=93.0

ISC 17 22:57:03.6±2.2, 37.48S±0.05×73.8W±0.1, h12km±11km, n36, σ1§24/43, mb4.4/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.85**	**42**	*e*P	**Pg**	**22 57 20.1**	**+0.1**
CCSP				*e*S	**Sg**	**22 57 31.3**	**+0.2**
CCSP				IAML		22 57 35.5	
	comp=N,15μm,0.5s						
PSCH	**Puerto Saavedr**	**1.36**	**166**	*e*P	**Pn**	**22 57 27.3**	**-1.1**
PSCH				*e*S	**Sb**	**22 57 44.7**	**-1.7**
COCH	**Cobquecura**	**1.58**	**32**	*e*P	**Pn**	**22 57 30.8**	**-0.7**
COCH				*e*S	**Sn**	**22 57 51.6**	**-0.2**
CCHI	**Chillan**	**1.65**	**58**	*e*P	**Pn**	**22 57 32.4**	**0.0**
CCHI				*e*S	**Sn**	**22 57 54.2**	**+0.8**
CCHI				IAML		22 58 02.7	
	comp=E,11μm,0.5s						
GO05	**HualaæØ**	**2.90**	**32**	*e*P	**Pn**	**22 57 50.1**	**+0.4**
GO05				*e*S	**Sn**	**22 58 29.0**	**+4.6**
GO05				IAML		22 58 43.3	
	comp=E,2μm,0.6s						
NICH	**Los Niches**	**3.24**	**41**	*e*P	**Pn**	**22 57 54.9**	**+0.7**
PLCA	**Paso Flores**	**4.13**	**143**	Pn	**Pn**	**22 58 06.9**	**+0.3**
	comp=E,2.7nm,0.3s,baz=334,slow=12,SNR=41						
PLCA				Lg	Lg	22 59 09.7	
	comp=E,8.0nm,0.3s,baz=266,slow=19,SNR=6.4						
PLCA				LR	LR	22 59 50.2	
	comp=E,396nm,20.2s,baz=317,slow=42						
ROC1	**El Roble**	**5.04**	**28**	*e*P	**Pn**	**22 58 19.0**	**-0.3**
ROC1				*e*S	**Sn**	**22 59 17.2**	**-0.5**
AAGR	**Agrelo**	**5.99**	**44**	*e*P	**Pn**	**22 58 33.0**	**+0.8**
ARCO	**CERRO ARCO**	**6.12**	**42**	*e*P	**Pn**	**22 58 33.5**	**-0.5**
ARCO				IAML		22 58 56.2	
	comp=Z,24nm,0.5s						
ASAL	**Salagasta**	**6.36**	**41**	*i*P	**Pn**	**22 58 37.8**	**+0.5**
AUSP	**Uspallata**	**6.38**	**36**	*e*P	**Pn**	**22 58 38.3**	**+0.5**
RTLS	**Leoncito**	**6.78**	**35**	*i*P	**Pn**	**22 58 43.8**	**+0.5**
RTLS				IAML		23 00 47.6	
	comp=Z,35nm,0.7s						
ACAN	**Cantantal**	**7.53**	**48**	*e*P	**Pn**	**22 58 52.8**	**-0.4**
RTLL	**Cerro Villicun**	**7.56**	**37**	*i*P	**Pn**	**22 58 52.6**	**-1.1**
RTLL				IAML		22 58 55.6	
	comp=Z,30nm,0.4s						
AMOG	**MOGNA**	**7.87**	**36**	*i*P	**Pn**	**22 58 57.1**	**-0.9**
AVFE	**Valle Fertil**	**8.61**	**40**	*e*P	**Pn**	**22 59 05.9**	**-2.2**
LCO	**Las Campanas**	**8.84**	**18**	*e*Pn	**Pn**	**22 59 11.0**	**-0.4**
	comp=Z,8.8nm,0.6s						
LCO				*e*S	**Sn**	**23 00 48.4**	**-2.7**
TRQA	**Tornquist**	**9.39**	**97**	*e*Pn	**Pn**	**22 59 18.8**	**0.0**
	comp=Z,6.0nm,0.6s						
TRQA				*e*S	Sn	23 01 27.9	+24
LVC	**Limon Verde**	**15.41**	**17**	Pn	**Pn**	**23 00 40.9**	**-0.4**
	comp=Z,7.4nm,0.3s,baz=184,slow=12,SNR=2.8						
CPUP	**Villa Florida**	**17.85**	**56**	P	**Pn**	**23 01 10.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=14,SNR=3.4						
CPUP				LR	LR	23 08 34.2	
	comp=Z,142nm,19.9s,baz=226,slow=39						
LPAZ	**La Paz**	**21.70**	**15**	P	**P**	**23 01 57.1**	**+2.0**
	comp=Z,2.1nm,0.5s,baz=50,slow=1.6,SNR=6.3						
LPAZ				LR	LR	23 12 15.0	
	comp=Z,110nm,18.7s,baz=146,slow=42						
SIV	**San Ignacio**	**24.19**	**31**	P	**P**	**23 02 20.2**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=343,slow=3.0,SNR=9.2						
PMSA	**Palmer Station**	**27.94**	**171**	P	**P**	**23 02 55.9**	**+2.5**
	comp=Z,6.5nm,0.8s,baz=178,slow=21,SNR=2.8						
SNAA	**Sanae**	**48.94**	**157**	P	**P**	**23 05 49.7**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=293,slow=5.8,SNR=8.5						
SNAA	**Sanae**	**48.94**	**157**	*e*P	**P**	**23 05 49.4**	**0.0**
	comp=Z,153nm,1.1s						
MAW	**Mawson**	**70.26**	**164**	P	**P**	**23 08 16.7**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=252,slow=6.0,SNR=3.6						
LIC	**Lamto**	**77.24**	**72**	*e*P	**P**	**23 08 57.6**	**-0.4**
	comp=Z,39nm,1.4s						
TIC	**Toumodi**	**77.52**	**72**	*e*P	**P**	**23 08 59.8**	**+0.3**
KIC	**Kosan Boka**	**77.55**	**72**	*e*P	**P**	**23 08 59.5**	**-0.2**
	comp=Z,125nm,2.0s						
DBIC	**Dimbokro**	**77.66**	**72**	P	**P**	**23 08 59.6**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=187,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.74**	**71**	P	**P**	**23 09 46.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=207,slow=5.0,SNR=5.8						
ABKAR	**Abkulak array**	**144.91**	**55**	*e*PKPbc	**PKPab**	**23 16 39.3**	**0.0**
AAK	**Ala-Archa**	**155.29**	**68**	*e*PKPab	**PKPab**	**23 17 21.1**	**-0.9**
ZALV	**Zalesovo Beam**	**157.92**	**35**	PKPab	**PKPab**	**23 17 33.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=294,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**160.05**	**55**	PKPab	**PKPab**	**23 17 41.5**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=277,slow=2.6,SNR=3.7						

MOS 17 22:57:29.2±1.2, 55.23N×165.98E, h30km, mb4.1/1, Error ellipse: s-maj=0.1km s-min=0.0km az=82.9

KRSC 17 22:57:24.4±1.8, 55.15N×166.32E, h30km±12km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.21**	**285**	PN	Pb	22 57 30.8	+0.1
BKI	**Bering**	**0.21**	**285**	*e*P	Pb	22 57 30.8	+0.1
BKI				*e*S	Sn	22 57 36.1	+0.2
BZMR	**Bezymyannaya**	**3.41**	**286**	PN	Pn	22 58 19.1	+3.5
BZMR				S	Sn	22 58 58.8	+3.8
BZMR	**Bezymyannaya**	**3.41**	**286**	*e*P	Pn	22 58 19.1	+3.5
BZMR				*e*S	Sn	22 58 58.8	+3.8
BZWR	**Bezymyannyi-We**	**3.41**	**286**	PN	Pn	22 58 18.6	+3.0
BZWR				S	Sn	22 58 59.0	+3.9
BZWR	**Bezymyannyi-We**	**3.41**	**286**	*e*P	Pn	22 58 18.6	+3.0
BZWR				*e*S	Sn	22 58 59.0	+3.9
TUMR	**Tumrok**	**3.54**	**275**	PN	Pn	22 58 21.0	+3.6
TUMR				S	Sn	22 59 03.5	+5.2
TUMR	**Tumrok**	**3.54**	**275**	*e*P	Pn	22 58 21.0	+3.6
TUMR				*e*S	Sn	22 59 03.5	+5.2
SPN	**Mys Shipunski**	**4.24**	**244**	PN	Pn	22 58 30.7	+3.8
SPN				S	Sn	22 59 18.5	+3.2
SPN	**Mys Shipunski**	**4.24**	**244**	*e*P	Pn	22 58 30.7	+3.8
SPN				*e*S	Sn	22 59 18.5	+3.2
NLC	**Nalytchevo**	**4.55**	**247**	*e*S	Sn	22 59 26.6	+3.5
SDLR	**Sedlovina**	**4.75**	**250**	PN	Pn	22 58 38.8	+4.7
SDLR				S	Sn	22 59 34.5	+6.4
SDLR	**Sedlovina**	**4.75**	**250**	*e*P	Pn	22 58 38.8	+4.7
SDLR				*e*S	Sn	22 59 34.5	+6.4
KRER	**Koryakskii**	**4.81**	**250**	PN	Pn	22 58 39.2	+4.2
KRER	**Koryakskii**	**4.81**	**250**	*e*P	Pn	22 58 39.2	+4.2
UGLR	**Uglovaya**	**4.81**	**249**	PN	Pn	22 58 40.2	+5.3
UGLR				S	Sn	22 59 35.6	+5.9
UGLR	**Uglovaya**	**4.81**	**249**	*e*P	Pn	22 58 40.2	+5.3
UGLR				*e*S	Sn	22 59 35.6	+5.9
AVH	**Avacha**	**4.84**	**250**	PN	Pn	22 58 40.0	+4.8
AVH				S	Sn	22 59 35.6	+5.5
AVH	**Avacha**	**4.84**	**250**	*e*P	Pn	22 58 40.0	+4.8
AVH				*e*P	Pn	22 58 40.4	+5.2
AVH				*e*S	Sn	22 59 35.6	+5.5
AVH				*e*S	Sn	22 59 36.8	+6.7
KRX	**Arik**	**4.84**	**251**	PN	Pn	22 58 40.4	+5.1
KRX				S	Sn	22 59 35.8	+5.4
KRX	**Arik**	**4.84**	**251**	*e*P	Pn	22 58 40.4	+5.1
KRX				*e*S	Sn	22 59 35.8	+5.4
KOK	**Koryaka**	**4.88**	**251**	*e*S	Sn	22 59 37.6	+6.4
DALK	**Dalny**	**4.94**	**248**	*e*S	Sn	22 59 36.5	+4.1
KRMR	**Karymshinskiy**	**5.36**	**248**	PN	Pn	22 58 47.1	+4.8
KRMR				S	Sn	22 59 48.1	+5.1
KRMR	**Karymshinskiy**	**5.36**	**248**	*e*P	Pn	22 58 47.1	+4.8
KRMR				*e*S	Sn	22 59 48.1	+5.1
RUS	**Russkaya**	**5.37**	**243**	PN	Pn	22 58 46.9	+4.5
RUS	**Russkaya**	**5.37**	**243**	*e*P	Pn	22 58 46.9	+4.5
RUS				*e*S	Sn	22 59 47.6	+4.5
ASAK	**Asacha**	**5.71**	**244**	PN	Pn	22 58 52.9	+5.7
ASAK	**Asacha**	**5.71**	**244**	*e*P	Pn	22 58 52.9	+5.7

SOME 17 23:01:50.7, 44.23N×82.70E, h20km
NNC 17 23:01:52.8±1.9, 44.33N×82.30E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=24.2km s-min=5.5km az=119.0

ISC 17 23:01:48.8±2.1, 44.15N±0.09×82.8E±0.1, h10km, n16, σ2§60/31, 6C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.17**	**276**	⇑*i*P	**Pb**	**23 02 28.6**	**+0.4**
	17nm,0.4s						
DJR				*e*S	**Sb**	**23 02 55.9**	**+0.7**
	42nm,0.5s						
PDGK	**Podgornoye**	**2.54**	**252**	⇑Pg	**Pb**	**23 02 33.8**	**-0.7**
	0.8nm,0.3s						
PDGK				⇓Lg	Lg	23 03 06.3	
	24nm,0.9s						
SHLS	**Shalkode**	**2.62**	**249**	*e*P	**Pn**	**23 02 31.7**	**+0.5**
	6.2nm,0.2s						
SHLS				*e*S	**Sn**	**23 03 01.5**	**-1.7**
	53nm,0.1s						
MK31	**Makanchi Array**	**2.67**	**352**	⇑Pn	**Pn**	**23 02 34.7**	**+2.9**
	0.2nm,0.2s,baz=196,slow=15,SNR=40						
MK31				⇑Pg	**Pb**	**23 02 37.2**	**+0.5**
	1.7nm,0.4s,baz=172,slow=18,SNR=7.5						
MK31				⇑Sn	**Sb**	**23 03 06.4**	**-3.0**
	4.4nm,0.6s,baz=172,slow=28,SNR=10.0						
MK31				⇑Lg	Lg	23 03 10.0	
	19nm,0.7s,baz=173,slow=31,SNR=6.5						
MAKZ	**Makanchi**	**2.72**	**348**	⇓Pn	**Pn**	**23 02 34.5**	**+2.0**
	0.4nm,0.2s						
MAKZ				⇓Lg	Lg	23 03 10.4	
	3.6nm,0.6s						
UZB	**Uzynbulak**	**2.92**	**251**	*e*P	**Pb**	**23 02 41.4**	**+0.3**
	1.6nm,0.2s						
UZB				*e*S	**Sb**	**23 03 17.5**	**+0.6**
	14nm,0.1s						
SATY	**Saty**	**3.37**	**253**	*e*P	**Pb**	**23 02 48.0**	**-0.8**
	5.4nm,0.3s						
SATY				*e*S	**Sb**	**23 03 29.4**	**-0.5**
	17nm,0.2s						
KURS	**Kuram**	**3.42**	**260**	*e*P	**Pb**	**23 02 50.4**	**+0.9**
	1.7nm,0.6s						
KURS				*e*S	**Sb**	**23 03 33.4**	**+2.3**
	2.7nm,0.5s						
ARXS	**Arharly**	**3.58**	**273**	*e*P	**Pb**	**23 02 52.5**	**+0.3**
	3.1nm,0.3s						
ARXS				*e*S	**Sb**	**23 03 37.5**	**+1.7**
	9.1nm,0.4s						
CHKK	**Chushkaly**	**4.20**	**268**	*e*P	**Pb**	**23 03 04.7**	**+1.8**
	3.0nm,0.2s						
CHKK				*e*S	**Sb**	**23 03 57.7**	**+4.0**
	7.9nm,0.3s						
KOTS	**Kotyrbulak**	**4.23**	**259**	*e*P	**Pb**	**23 03 06.0**	**+2.7**
	2.7nm,0.1s						
KOTS				*e*S	**Sg**	**23 04 00.4**	**-4.1**
	8.5nm,0.3s						
MDOK	**Medeo**	**4.29**	**259**	*e*P	**Pb**	**23 03 05.0**	**+0.6**
	1.6nm,0.5s						
MDOK				*e*S	**Sb**	**23 03 58.1**	**+1.8**
	2.7nm,0.4s						
TNSS	**Tian-Shan**	**4.40**	**257**	*e*P	**Pb**	**23 03 10.3**	**+4.0**
	1.2nm,0.5s						
TNSS				*e*S	**Sg**	**23 04 08.3**	**-1.6**
	6.7nm,0.4s						
KTBS	**Karatobe**	**4.44**	**266**	*e*P	**Pb**	**23 03 10.1**	**+3.2**
	1.0nm,0.4s						
KTBS				*e*S	**Sg**	**23 04 07.6**	**-3.8**
	1.9nm,0.4s						
IZV	**Izvestkoviy**	**4.63**	**258**	*e*P	**Pg**	**23 03 14.9**	**-2.5**
	2.1nm,0.3s						
IZV				*e*S	**Sg**	**23 04 15.4**	**-2.1**
	8.1nm,0.4s						
DGS	**Degeres**	**5.18**	**262**	*e*P	**Pb**	**23 03 22.2**	**+2.8**
	1.1nm,0.4s						
DGS				*e*S	**Sb**	**23 04 28.3**	**+6.6**
	5.3nm,0.5s						

SJA 17 23:17:36.9±0.7, 23.20S×63.44W, h70km±12km, ML3.2, MW3.6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALOL	**LOMAS DE OLMED**	**0.79**	**219**	*e*P	Pn	23 17 53.6	+0.7
ALOL				*e*S	Sn	23 18 06.3	+1.6
ASTB	**Santa Barbara**	**1.19**	**231**	*e*P	Pn	23 17 59.6	+1.6
ASTB				*e*S	Sn	23 18 16.1	+2.3
AZAP	**Zapla**	**1.81**	**235**	*e*P	Pn	23 18 08.1	+1.9
AZAP				IAML		23 18 59.3	
	comp=Z,158nm,0.5s						
HJA	**Humahuaca**	**1.81**	**269**	*e*P	Pn	23 18 08.6	+2.2
HJA				IAML		23 18 12.2	
	comp=Z,228nm,0.3s						
HJA				*e*S	Sn	23 18 31.6	+2.8
YJA	**Yavi**	**2.17**	**298**	*e*P	Pn	23 18 13.4	+2.1
YJA				*i*S	Sn	23 18 41.4	+3.9
YJA				IAML		23 18 42.2	
	comp=Z,155nm,0.5s						
SLA	**San Lorenzo**	**2.42**	**231**	*e*P	Pn	23 18 17.5	+3.1

ISCJB 17 23:23:22.7±0.4, 39.25N±0.02×28.03E±0.03, h2km±5km, Error ellipse: s-maj=3.9km s-min=3.3km az=174.7
DDA 17 23:23:22.6, 39.26N×28.04E, h7km, Md2.7
ISK 17 23:23:22.3, 39.24N×27.98E, h5km, MD2.8
CSEM 17 23:23:23.0±0.1, 39.24N×27.99E, h8km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.3km az=97.0

ISC 17 23:23:23.0±1.0, 39.24N±0.02×27.97E±0.02, h6km±10km, n55, σ0§63/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.24**	**306**	*i*P	**Pg**	**23 23 25.4**	**-2.4**
STEP				*i*S	**Sg**	**23 23 32.7**	**+1.7**
AKHS	**Akhisar**	**0.38**	**199**	*i*P	**Pg**	**23 23 30.7**	**+0.4**
AKHS				*i*S	**Sb**	**23 23 37.8**	**-0.3**
AKHS	**Akhisar**	**0.38**	**199**	P	**Pg**	**23 23 30.7**	**+0.4**
AKHS				S	**Sb**	**23 23 37.8**	**-0.3**
AKS	**Akhisar**	**0.38**	**199**	*e*PG	**Pg**	**23 23 30.4**	**+0.1**
AKS	**Akhisar**	**0.38**	**199**	*e*Pg	**Pg**	**23 23 30.4**	**+0.1**
BALB	**Balikesir**	**0.41**	**350**	*e*PG	**Pg**	**23 23 31.1**	**+0.1**
BALB				*e*SG	**Sg**	**23 23 37.5**	**+1.1**
BALB	**Balikesir**	**0.41**	**350**	*e*Pg	**Pg**	**23 23 31.1**	**+0.1**
BALY	**Balya**	**0.57**	**332**	*i*P	**Pg**	**23 23 34.0**	**0.0**
BALY				*i*S	**Sg**	**23 23 42.4**	**+0.8**
BALY	**Balya**	**0.57**	**332**	P	**Pg**	**23 23 34.0**	**0.0**
BALY				S	**Sg**	**23 23 42.4**	**+0.8**
DEMI	**Demirci**	**0.61**	**108**	*i*P	**Pg**	**23 23 34.3**	**-0.4**
DEMI				*i*S	**Sg**	**23 23 43.1**	**+0.4**
DEMI	**Demirci**	**0.61**	**108**	P	**Pg**	**23 23 34.3**	**-0.4**
DEMI				S	**Sg**	**23 23 43.1**	**+0.4**
SIMA	**Simav-Kutahya**	**0.80**	**101**	*e*PG	**Pg**	**23 23 38.1**	**-0.3**
GONE	**Gonen-Balikesi**	**0.84**	**345**	*e*PG	**Pg**	**23 23 38.9**	**-0.2**
GONE	**Gonen-Balikesi**	**0.84**	**345**	*e*Pg	**Pg**	**23 23 38.9**	**-0.2**
DKL	**Dikili**	**0.85**	**259**	*e*PG	**Pg**	**23 23 38.8**	**-0.4**
DKL	**Dikili**	**0.85**	**259**	*e*Pg	**Pg**	**23 23 38.8**	**-0.4**
MANT	**Manisa**	**0.87**	**148**	*i*P	**Pb**	**23 23 40.2**	**-0.4**
MANT				*i*S	**Sg**	**23 23 51.0**	**-0.1**
MANT	**Manisa**	**0.87**	**148**	P	**Pb**	**23 23 40.2**	**-0.4**
MANT				S	**Sg**	**23 23 51.0**	**-0.1**
KULA	**Kula-Manisa**	**0.90**	**143**	*e*PG	**Pg**	**23 23 40.2**	**0.0**
KULA	**Kula-Manisa**	**0.90**	**143**	*e*Pg	**Pg**	**23 23 40.2**	**0.0**
AYVA	**Ayvalik**	**1.00**	**275**	*i*P	**Pn**	**23 23 43.4**	**-0.1**
AYVA				*i*S	**Sn**	**23 23 58.8**	**+1.0**
AYVA	**Ayvalik**	**1.00**	**275**	P	**Pn**	**23 23 43.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.07**	**16**	*e*PG	**Pg**	**23 23 43.1**	**-0.4**
KCTX				*e*SG	**Sb**	**23 23 57.8**	**-0.4**
KCTX	**Karacabey (Bur**	**1.07**	**16**	*e*Pg	**Pg**	**23 23 43.1**	**-0.4**
KCTX				*e*Sg	**Sb**	**23 23 57.8**	**-0.4**
ORLT	**Orhaneli**	**1.08**	**41**	*e*PG	**Pg**	**23 23 43.6**	**-0.1**
ORLT	**Orhaneli**	**1.08**	**41**	*e*Pg	**Pg**	**23 23 43.6**	**-0.1**
EDC	**Edincik**	**1.11**	**356**	*e*PN	**Pb**	**23 23 43.9**	**-0.7**
EDC	**Edincik**	**1.11**	**356**	*e*Pn	**Pb**	**23 23 43.9**	**-0.7**
TVSB	**Tavsanli**	**1.17**	**79**	*e*PN	**Pb**	**23 23 45.0**	**-0.7**
TVSB	**Tavsanli**	**1.17**	**79**	*e*Pn	**Pb**	**23 23 45.0**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.33**	**31**	*e*PN	**Pb**	**23 23 48.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.33**	**31**	*e*Pn	**Pb**	**23 23 48.1**	**-0.2**
URLA	**Izmir**	**1.39**	**231**	*e*PN	**Pb**	**23 23 48.2**	**-0.7**
URLA	**Izmir**	**1.39**	**231**	*e*Pn	**Pb**	**23 23 48.2**	**-0.7**
EZN	**Ezine**	**1.41**	**295**	*e*PN	**Pb**	**23 23 49.1**	**-0.4**
EZN	**Ezine**	**1.41**	**295**	*e*Pn	**Pb**	**23 23 49.2**	**-0.4**
DGB	**¨zmir**	**1.46**	**216**	*i*P	**Pg**	**23 23 50.9**	**0.0**
DGB				*i*S	**Sg**	**23 24 10.3**	**+0.5**
ARMT	**Armutlu**	**1.49**	**27**	*e*PN	**Pn**	**23 23 50.2**	**-0.1**
ARMT	**Armutlu**	**1.49**	**27**	*e*Pn	**Pn**	**23 23 50.2**	**-0.1**
ZEY	**¨zmir**	**1.52**	**230**	*i*S	**Sg**	**23 24 13.8**	**+2.0**
GELI	**Tayfur-Gelibol**	**1.64**	**316**	*e*PN	**Pn**	**23 23 52.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.64**	**316**	*e*Pn	**Pn**	**23 23 52.6**	**+0.3**
SIGR	**SIGRI**	**1.65**	**270**	*e*PN	**Pb**	**23 23 53.0**	**-0.6**
SIGR	**SIGRI**	**1.65**	**270**	*e*Pn	**Pb**	**23 23 53.0**	**-0.6**
SBT3	**Marmara-Eregli**	**1.65**	**0**	*e*PN	**Pb**	**23 23 52.9**	**-0.8**
YLV	**Yalova**	**1.71**	**39**	*e*PN	**Pn**	**23 23 53.4**	**0.0**
YLV	**Yalova**	**1.71**	**39**	*e*Pn	**Pn**	**23 23 53.4**	**0.0**
CHOS	**Chios island**	**1.72**	**241**	*e*PN	**Pn**	**23 23 53.2**	**-0.3**
CHOS	**Chios island**	**1.72**	**241**	*e*Pn	**Pn**	**23 23 53.2**	**-0.3**
ADVT	**Abdulvahap**	**1.81**	**48**	*e*PN	**Pn**	**23 23 55.0**	**+0.3**
ADVT	**Abdulvahap**	**1.81**	**48**	*e*Pn	**Pn**	**23 23 55.0**	**+0.3**
CTKS	**Kestanelik-??a**	**2.04**	**11**	*e*PN	**Pn**	**23 23 58.1**	**+0.3**
CTKS	**Kestanelik-??a**	**2.04**	**11**	*e*Pn	**Pn**	**23 23 58.1**	**+0.3**
GULT	**Gulveren**	**2.29**	**58**	*e*PN	**Pn**	**23 24 01.8**	**+0.4**
GULT	**Gulveren**	**2.29**	**58**	*e*Pn	**Pn**	**23 24 01.8**	**+0.4**

ISCJB 17 23:33:12.2±0.8, 9.72S±0.05×114.56E±0.05, h31km, mb4.0/6, Error ellipse: s-maj=7.9km s-min=6.6km az=27.1
DJA 17 23:33:15.8±0.5, 10.5±6.×11.5E±., h44km±23km, M4.7/11, mb5.1/1, MLv4.4/11
IDC 17 23:33:28.7±7.8, 9.14S×115.22E, h195km±78km, mb3.4/6, mb1 3.6/7, mb1mx3.2/41, mbtmp4.0/7, Error ellipse: s-maj=124.1km s-min=17.5km az=51.0

ISC 17 23:33:12.1±0.9, 9.69S±0.08×114.48E±0.06, h31km, n16, σ1§72/21, mb3.9/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.09**	**37**	P	**Pb**	**23 33 32.3**	**-0.1**
IGBI				S	**Sn**	**23 33 44.6**	**-0.6**
DNP	**Denpasar**	**1.24**	**36**	P	**Pb**	**23 33 34.9**	**0.0**
DNP				S	**Sn**	**23 33 48.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.26**	**345**	P	**Pb**	**23 33 34.9**	**-0.4**
JAGI				S	**Sn**	**23 33 49.6**	**+0.1**
SRBI	**Singaraja**	**1.75**	**24**	P	**Pn**	**23 33 41.6**	**+1.2**
TWSI	**Taliwang, Sumb**	**2.55**	**68**	P	**Pn**	**23 33 52.8**	**+1.4**
TWSI				S	**Sn**	**23 34 20.3**	**-1.1**
KMMI	**Kalianget**	**2.67**	**349**	P	**Pn**	**23 33 55.7**	**+2.6**
PLAI	**Plampang**	**3.36**	**75**	P	**Pn**	**23 34 04.1**	**+1.5**
PLAI				S	**Sn**	**23 34 41.0**	**-0.5**
UGM	**Wanagama**	**4.29**	**294**	P	**Pn**	**23 34 19.3**	**+3.9**
WSI	**Waingapu**	**5.73**	**90**	P	**Pn**	**23 34 38.8**	**+3.6**
FITZ	**Fitzroy Crossi**	**13.68**	**129**	P	**P**	**23 36 33.3**	**+0.8**
	0.6nm,0.3s,baz=356,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**21.71**	**120**	P	**P**	**23 38 00.4**	**-0.5**
	1.4nm,0.4s,baz=294,slow=12,SNR=13						
ASAR	**Alice Springs**	**23.18**	**129**	P	**P**	**23 38 16.4**	**-0.1**
	1.5nm,0.4s,baz=302,slow=8.6,SNR=34						
CMAR	**Chiang Mai Arr**	**31.90**	**331**	P	**P**	**23 39 35.2**	**+0.2**
	0.3nm,0.3s,baz=152,slow=5.8,SNR=3.9						
STKA	**Stephens Creek**	**33.44**	**135**	P	**P**	**23 39 48.6**	**+0.2**
	3.1nm,0.6s,baz=314,slow=11,SNR=10						
MKAR	**Makanchi Array**	**63.15**	**336**	P	**P**	**23 43 34.7**	**-2.3**
	0.4nm,0.4s,baz=152,slow=6.8,SNR=6.2						
GEYT	**Alibeck**	**70.77**	**316**	P	**P**	**23 44 23.6**	**-2.1**
	2.5nm,0.8s,baz=116,slow=6.6,SNR=3.1						

ISCJB 17 23:36:06.8±0.6, 70.98N±0.08×6.51W±0.10, h9km, Error ellipse: s-maj=11.9km s-min=4.6km az=177.9
CSEM 17 23:36:07.4±0.4, 70.84N×6.55W, h5km, ML3.5, Error ellipse: s-maj=15.8km s-min=7.4km az=13.0
NAO 17 23:36:07.8±5.4, 70.81N×6.67W, h6km±65km, ML3.6
BER 17 23:36:08.8±5.4, 70.81N×6.66W, h2km±65km, ML3.5, ML3.6(NAO)

ISC 17 23:36:08.3±0.9, 70.9N±0.1×6.71W±0.05, h9km, n29, σ0§99/35, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.54**	**284**	*e*P	**Pg**	**23 36 19.3**	**+0.7**
JNE				*e*S	**Sg**	**23 36 26.6**	**+1.0**
JNE	**Jan Mayen East**	**0.54**	**284**	*e*P	**Pg**	**23 36 19.3**	**+0.7**
	SNR=92						
JNE				*e*S	**Sg**	**23 36 26.6**	**+1.0**
	SNR=92						
JNW	**Jan Mayen West**	**0.59**	**287**	⇑*i*P	**Pg**	**23 36 19.9**

JOD2	**Odawara 2**	**2.23 253**	P	**Pn**	**23 40 10.7**	**+0.6**
JRY	**Ryogami san**	**2.26 272**	P	**Pn**	**23 40 09.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.88 283**	P	**Pn**	**23 40 19.9**	**+1.0**
	13nm,0.3s,baz=101,slow=8.4,SNR=58					
MJAR			LR	LR	23 41 33.5	
	comp=Z,165nm,18.6s,baz=125,slow=41					
MAT	**Matsushiro**	**2.88 283**	P	**Pn**	**23 40 20.1**	**+1.1**
MAT			*e*S	**Sb**	**23 40 57.7**	**-2.5**
JHJ	**Hachijo jima 2**	**3.23 210**	P	**Pn**	**23 40 24.8**	**+1.0**
	52nm,0.3s,baz=57,slow=21,SNR=8.5					
JHJ			S	**Sn**	**23 41 00.9**	**-0.6**
	86nm,0.3s,baz=73,slow=23,SNR=14					
ASAJ	**Asahikawa**	**8.19 5**	P	**Pn**	**23 41 32.7**	**+0.8**
	1.5nm,0.3s,baz=166,slow=11,SNR=3.7					
USRK	**Ussuriysk Ar.**	**11.09 321**	P	**Pn**	**23 42 14.1**	**+2.5**
	0.4nm,0.3s,baz=142,slow=46,SNR=2.9					
KSRS	**Korea Array**	**11.16 282**	P	**Pn**	**23 42 15.8**	**+3.3**
	0.1nm,0.3s,baz=96,slow=14,SNR=2.6					
KSRS			LR	LR	23 45 40.9	
	comp=Z,78nm,18.7s,baz=203,slow=32					
H11N2	**WAKE ISLAND Hy 27.41**	**119**	T	T	00 13 53.2	
	baz=311,slow=75,SNR=13					
H11N1	**WAKE ISLAND Hy 27.42**	**119**	T	T	00 14 05.1	
	baz=311,slow=75,SNR=9.5					
H11N3	**WAKE ISLAND Hy 27.43**	**119**	T	T	00 14 06.9	
	baz=311,slow=75,SNR=9.0					
H11S1	**WAKE ISLAND Hy 28.09**	**122**	T	T	00 14 45.4	
	baz=314,slow=75,SNR=30					
H11S3	**WAKE ISLAND Hy 28.09**	**122**	T	T	00 14 41.6	
	baz=314,slow=75,SNR=19					
H11S2	**WAKE ISLAND Hy 28.11**	**122**	T	T	00 14 46.5	
	baz=314,slow=75,SNR=23					
SONM	**Songino Array**	**28.59 306**	P	**P**	**23 45 28.5**	**-0.2**
	1.1nm,0.6s,baz=108,slow=9.7,SNR=6.6					
ZALV	**Zalesovo Beam**	**42.81 313**	P	**P**	**23 47 30.5**	**+0.3**
	1.5nm,0.4s,baz=92,slow=6.1,SNR=8.7					
MKAR	**Makanchi Array**	**44.89 303**	P	**P**	**23 47 47.5**	**+0.4**
	1.5nm,0.6s,baz=87,slow=8.7,SNR=17					
ILAR	**Eielson Array**	**50.29 32**	P	**P**	**23 48 28.9**	**+0.2**
	0.4nm,0.7s,baz=265,slow=6.0,SNR=6.1					
WRA	**Warramunga Arr**	**56.02 188**	P	**P**	**23 49 10.6**	**-0.7**
	0.8nm,0.5s,baz=5.8,slow=7.4,SNR=8.1					
ARU	**Arti**	**57.32 319**	P	**P**	**23 49 19.9**	**-0.3**
	1.9nm,0.5s,baz=217,slow=6.8,SNR=5.8					
ASAR	**Alice Springs**	**59.75 188**	P	**P**	**23 49 36.6**	**-0.9**
	0.2nm,0.5s,baz=7.5,slow=7.8,SNR=3.7					
FINES	**FINESS Array B**	**69.88 333**	P	**P**	**23 50 43.0**	**0.0**
	3.1nm,0.9s,baz=50,slow=6.0,SNR=5.8					
LPAZ	**La Paz**	**147.03 61**	PKPbc	**PKPbc**	**23 59 16.4**	**0.0**
	0.7nm,0.5s,baz=27,slow=6.6,SNR=5.4					

NIED ***18*** *00:04:00,37°.00N×141°.60E,h32km,Mw3.6 Best double couple: M₀2.76000×10¹⁴ NP1:φ₀=75.00000°,δ14.00000°, λ123.00000°. NP2:φ₀=221.00000°,δ79.00000°,λ82.00000°.*
ISCJB ***18*** *00:04:48.8±1.3,37°.01N±0°.05×141°.69E±0°.09, h38km±11km,mb3.6/7,Error ellipse: s-maj=12.9km s-min=7.1km az=20.8*
JMA ***18*** *00:04:49.9±0.2,37°.01N×141°.55E,h49km±2km,M3.8*
IDC ***18*** *00:04:50.3±1.5,36°.96N×141°.65E,h34km±8km,mb3.4/7, mb1 3.6/8,mb1mx3.4/47,mbtmp3.6/8,ML3.1/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/34,Error ellipse: s-maj=30.8km s-min=23.0km az=73.0*

ISC 18 00:04:49.3±1.1,37°.03N±0°.06×141°.68E±0°.07,h27km±5km, n26,σ1$34/29,mb3.6/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.70**	**276**	P	**Pb**	**00 05 02.4**	**-0.7**
ONAJ				S	**Sb**	**00 05 11.2**	**-1.2**
JFK	**Kawauchi**	**0.72**	**298**	P	**Pb**	**00 05 02.8**	**-0.5**
JFK				*e*S	**Sb**	**00 05 11.7**	**-1.2**
JHO	**Hitachi**	**0.98**	**245**	P	**Pn**	**00 05 05.8**	**-1.5**
JHO				*e*S	**Sb**	**00 05 17.5**	**-2.8**
JMM	**Marumori**	**1.09**	**320**	P	**Pn**	**00 05 08.4**	**-0.4**
JMM				*e*S	**Sn**	**00 05 21.2**	**-1.7**
JFT	**Otama**	**1.17**	**295**	P	**Pn**	**00 05 10.1**	**+0.2**
JIO	**Ouri**	**1.44**	**350**	P	**Pn**	**00 05 13.5**	**-0.1**
JIO				*e*S	**Sn**	**00 05 30.2**	**-1.4**
JOU	**Okura**	**1.55**	**329**	P	**Pn**	**00 05 15.9**	**+0.7**
JOU				*e*S	**Sn**	**00 05 34.9**	**+0.4**
JYS	**Shiratake**	**1.74**	**313**	*e*S	**Sn**	**00 05 39.9**	**+0.8**
JAG	**Ashikaga**	**1.89**	**252**	P	**Pn**	**00 05 19.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.83**	**261**	Pn	**Pn**	**00 05 33.7**	**+1.0**
	3.4nm,0.3s,baz=72,slow=13,SNR=11						
MJAR				Sn	**Sn**	**00 06 09.1**	**+3.3**
	5.7nm,0.3s,baz=97,slow=9.0,SNR=8.3						
MAT	**Matsushiro**	**2.83**	**261**	P	**Pn**	**00 05 34.1**	**+1.4**
MAT				*e*S	**Sn**	**00 06 07.5**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.26**	**317**	Pn	Pn	00 07 21.4	+6.7
	0.2nm,0.3s,baz=117,slow=11,SNR=5.0						
KSRS	**Korea Array**	**10.97**	**276**	LR	LR	00 11 16.0	
	comp=Z,38nm,18.5s,baz=55,slow=35						
SONM	**Songino Array**	**27.96**	**304**	P	**P**	**00 10 37.6**	**+0.1**
	0.6nm,0.8s,baz=111,slow=7.9,SNR=2.4						
SONM				pP	**pP**	**00 10 46.7**	**+1.2**
	0.8nm,0.8s,baz=93,slow=8.1,SNR=3.5						
H11N2	**WAKE ISLAND Hy 27.97**	**121**	T	T	00 40 00.2		
	baz=313,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy 27.98**	**121**	T	T	00 39 58.5		
	baz=313,slow=75,SNR=88						
H11N3	**WAKE ISLAND Hy 27.99**	**121**	T	T	00 39 59.3		
	baz=313,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy 28.68**	**123**	T	T	00 40 49.9		
	baz=316,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy 28.68**	**123**	T	T	00 40 51.6		
	baz=316,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy 28.70**	**123**	T	T	00 40 51.1		
	baz=316,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**42.07**	**312**	P	**P**	**00 12 38.8**	**+0.3**
	0.3nm,0.3s,baz=90,slow=5.9,SNR=2.6						
ZALV				pP	**pP**	**00 12 48.7**	**+2.0**
	1.9nm,0.8s,baz=84,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**44.30**	**302**	P	**P**	**00 12 56.4**	**-0.3**
	0.2nm,0.2s,baz=90,slow=6.1,SNR=3.7						
MKAR				pP	**sP**	**00 13 07.5**	**-0.6**
	0.6nm,0.6s,baz=93,slow=9.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**00 13 11.3**	**-0.1**
	1.5nm,0.7s,baz=84,slow=8.2,SNR=17						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**00 13 37.1**	**+1.0**
	0.2nm,0.6s,baz=266,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**57.09**	**188**	P	**P**	**00 14 32.2**	**-1.0**
	0.5nm,0.5s,baz=7.2,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	**60.82**	**188**	P	**P**	**00 14 58.7**	**-0.4**
	0.3nm,0.5s,baz=356,slow=6.4,SNR=3.0						

CSEM ***18*** *00:39:27.1,37°.60N×25°.31W,h10km,ML2.5*

PDA 18 00:39:27.1±1.3,37°.60N×25°.31W,h10km,MD3.5,ML2.5, 2C,Error ellipse: s-maj=4.9km s-min=2.4km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.21**	**31**	*e*P	Pg	00 39 31.0	-0.5
BART				*e*S	Sg	00 39 34.7	+0.1
BART				A	A	00 39 35.7	
	846nm,0.3s						
BART	**Pico Bartolome**	**0.21**	**31**	*e*P	Pg	00 39 31.0	-0.5
BART				*e*S	Sg	00 39 34.7	+0.1
PCALD	**Caldeiras da R**	**0.25**	**324**	*e*P	Pg	00 39 31.1	-1.1
PCALD				*e*S	Sg	00 39 34.8	-0.8
PCALD				A	A	00 39 35.4	
	551nm,0.1s						
PCALD	**Caldeiras da R**	**0.25**	**324**	*e*P	Pg	00 39 31.1	-1.1
PCALD				*e*S	Sg	00 39 34.8	-0.8
PDA	**Ponta Delgada**	**0.32**	**298**	⇑*i*P	Pg	00 39 32.4	-1.1
PDA				*e*S	Sg	00 39 37.4	-0.4
PDA				A	A	00 39 38.9	
	206nm,0.3s						
PDA	**Ponta Delgada**	**0.32**	**298**	⇑*i*P	Pg	00 39 32.4	-1.1
PDA				*e*S	Sg	00 39 37.4	-0.4
PSET	**Sete Cidades**	**0.40**	**305**	*e*P	Pg	00 39 34.0	-1.0
PSET				*e*S	Sg	00 39 39.8	-0.5
PSET				A	A	00 39 41.1	
	220nm,0.1s						
PSET	**Sete Cidades**	**0.40**	**305**	*e*P	Pg	00 39 34.0	-1.0
PSET				*e*S	Sg	00 39 39.8	-0.5
PSMA	**Santa Maria**	**0.62**	**167**	*e*P	Pg	00 39 37.2	-1.9
PSMA				*e*S	Sg	00 39 44.9	-2.2
PSMA				A	A	00 39 47.3	
	44nm,0.1s						
PSMN	**Pico do Norte,**	**0.62**	**162**	*e*P	Pg	00 39 37.0	-2.2
PSMN				*e*S	Sg	00 39 45.0	-2.3
PSMN				A	A	00 39 46.1	
	26nm,0.2s						
PSMN	**Pico do Norte,**	**0.62**	**162**	*e*P	Pg	00 39 37.0	-2.2
PSMN				*e*S	Sg	00 39 45.0	-2.3

NDI ***18*** *00:40:05.4±2.4,34°.76N×75°.28E,h15km,ML3.4*
ISCJB ***18*** *00:40:06.6±0.3,34°.54N±0°.02×75°.71E±0°.05,h33km, mb3.7/13,MS4.2/2,Error ellipse: s-maj=6.2km s-min=2.7km az=158.7*
NNC ***18*** *00:40:12.9±1.6,34°.60N×75°.13E,h79km±14km,mb3.6, mpv3.9,Error ellipse: s-maj=12.6km s-min=9.4km az=0.0*
IDC ***18*** *00:40:12.3±3.5,34°.60N×75°.53E,h60km±32km,mb3.6/15, mb1 3.7/20,mb1mx3.5/50,mbtmp3.8/20,ML3.7/5,MS3.7/3, Ms1 3.7/3,ms1mx2.9/43,Error ellipse: s-maj=20.2km s-min=14.5km az=30.0*

ISC 18 00:40:09.2±0.5,34°.54N±0°.05×75°.59E±0°.06,h35km,n52, σ2$46/69,mb3.7/13,7C-6D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.10**	**177**	*e*P	**Pn**	**00 40 40.0**	**-1.8**
THN				*e*S	**Sn**	**00 41 06.4**	**-0.3**
JWA	**Jwalamukhi**	**2.73**	**167**	*e*P	**Pn**	**00 40 53.0**	**+2.5**
JWA				*e*S	**Sn**	**00 41 30.0**	**+7.7**
SDNR	**Sundarnagar**	**3.24**	**159**	*ex*	Pn	00 41 04.0	+6.4
JOSI	**Joshimath**	**5.19**	**139**	*e*P	**Pn**	**00 41 26.4**	**+1.8**
JOSI				*e*S	**Sn**	**00 42 26.6**	**+3.2**
JOSI				IAML		00 42 59.8	
	comp=N,164nm,0.7s						
JOSI				IAML		00 43 01.2	
	comp=E,198nm,0.8s						
NDI	**New Delhi**	**6.00**	**166**	*e*S	**Sn**	**00 42 43.0**	**+0.1**
KUDL	**Kundal**	**6.42**	**173**	*e*P	**Pn**	**00 41 41.7**	**+0.6**
KUDL				*e*S	**Sn**	**00 42 53.7**	**+0.5**
KUDL				IAML		00 43 40.6	
	comp=N,16nm,0.5s						
KUDL				IAML		00 43 40.8	
	comp=E,20nm,0.4s						
KHET	**Khetri**	**6.45**	**178**	*e*S	**Sn**	**00 42 53.0**	**-0.9**
KHET				IAML		00 43 35.9	
	comp=E,27nm,0.6s						
KHET				IAML		00 43 36.9	
	comp=N,18nm,0.3s						
DZET	**Dzherino**	**6.91**	**310**	⇓Pn	**Pn**	**00 41 48.0**	**+0.1**
	comp=N,3.0nm,0.3s						
DZET				⇓Sn	**Sn**	**00 43 00.2**	**-5.1**
	comp=N,32nm,0.7s						
AAK	**Ala-Archa**	**8.13**	**354**	P	**Pn**	**00 42 08.8**	**+3.9**
	comp=N,0.7nm,0.3s,baz=196,slow=8.8,SNR=8.4						
AAK				S	**Sn**	**00 43 35.6**	**0.0**
	comp=N,0.5nm,0.3s,baz=124,slow=7.3,SNR=2.4						
AAK				LR	LR	00 45 51.5	
	comp=N,66nm,19.9s,baz=222,slow=42						
AAK	**Ala-Archa**	**8.13**	**354**	⇑Pn	**Pn**	**00 42 06.2**	**+1.3**
	comp=N,3.8nm,0.9s						
AAK				⇑Sn	**Sn**	**00 43 37.6**	**+1.9**
	comp=N,9.8nm,1.3s						
MNAS	**Manas**	**8.30**	**344**	⇓Pn	**Pn**	**00 42 08.3**	**+1.2**
	comp=N,3.2nm,0.4s						
MNAS				⇑Sn	**Sn**	**00 43 39.7**	**+0.1**
	comp=N,6.5nm,0.6s						
TKM2	**Tokmak 2**	**8.37**	**0**	⇑Pn	**Pn**	**00 42 12.0**	**+3.8**
	comp=N,3.6nm,0.5s						
TKM2				⇓Sn	**Sn**	**00 43 44.8**	**+3.3**
	comp=N,3.6nm,0.7s						
PYUN	**Piuthan**	**9.01**	**133**	*e*Pn	**Pn**	**00 42 17.9**	**+0.9**
PYUN				*e*Sn	**Sn**	**00 43 54.0**	**-3.3**
	comp=N,48nm,0.5s						
PDGK	**Podgornoye**	**9.29**	**18**	⇑Pn	**Pn**	**00 42 24.6**	**+3.9**
	comp=N,2.2nm,0.7s						
KK31	**Karatay Array**	**9.43**	**337**	Pn	**Pn**	**00 42 22.4**	**0.0**
	comp=N,6.3nm,0.5s,baz=150,slow=12,SNR=149						
KK31				Sn	**Sn**	**00 44 06.2**	**-1.0**
	comp=N,8.5nm,0.6s,baz=155,slow=22,SNR=17						
KOLN	**Koldanda**	**9.62**	**132**	*e*Pn	**Pn**	**00 42 25.3**	**0.0**
KOLN				*e*Sn	**Sn**	**00 44 09.2**	**-3.1**
	comp=N,16nm,0.5s						
GKN	**Gorkha**	**10.11**	**128**	*e*Pn	**Pn**	**00 42 32.0**	**0.0**
GKN				*e*Sn	**Sn**	**00 44 19.9**	**-4.4**
	comp=N,44nm,0.5s						
KKN	**Kakani**	**10.68**	**126**	*e*Pn	**Pn**	**00 42 39.2**	**-0.6**
DMN	**Daman**	**10.68**	**128**	*e*Pn	**Pn**	**00 42 38.5**	**-1.5**
PKIN	**Phulchoki**	**10.90**	**127**	*e*Pn	**Pn**	**00 42 42.6**	**-0.3**
PKIN				*e*Sn	**Sn**	**00 44 40.6**	**-3.1**
	comp=N,18nm,0.5s						
GUN	**Gumba**	**11.00**	**124**	*e*Pn	**Pn**	**00 42 43.7**	**-0.7**
GUN				*e*Sn	**Sn**	**00 44 41.1**	**-5.3**
	comp=N,29nm,0.7s						
JIRN	**Jiri**	**11.38**	**124**	*e*Pn	**Pn**	**00 42 49.3**	**-0.2**
JIRN				*e*Sn	**Sn**	**00 44 52.6**	**-3.0**
	comp=N,373nm,0.6s						
RAMN	**Ramite**	**12.11**	**126**	*e*Pn	**Pn**	**00 42 58.1**	**-1.4**
TAPN	**Taplejung**	**12.62**	**121**	*e*Pn	**Pn**	**00 43 05.1**	**-1.4**
TAPN				*e*Sn	**Sn**	**00 45 20.2**	**-5.8**
	comp=N,18nm,0.9s						
ODAN	**Odare**	**12.71**	**124**	*e*Pn	**Pn**	**00 43 05.9**	**-1.7**
ODAN				*e*Sn	**Sn**	**00 45 23.3**	**-4.6**
	comp=N,16nm,0.6s						
MK31	**Makanchi Array**	**13.25**	**20**	Pn	**Pn**	**00 43 18.2**	**+3.4**
	comp=N,1.2nm,0.5s,baz=205,slow=9.9,SNR=18						
MKAR	**Makanchi Array**	**13.25**	**20**	P	**Pn**	**00 43 18.6**	**+3.8**
	comp=N,0.1nm,0.3s,baz=195,slow=12,SNR=6.4						
MKAR				S	**Sn**	**00 45 40.3**	**-0.5**
	comp=N,0.1nm,0.3s,baz=203,slow=24,SNR=2.8						
KURBB	**Kurchatov Arra**	**16.22**	**7**	P	**Pn**	**00 43 54.0**	**-0.2**
	comp=N,0.4nm,0.3s,baz=192,slow=11,SNR=8.8						
KURBB	**Kurchatov Arra**	**16.22**	**7**	⇓Pn	**P**	**00 43 56.7**	**-0.3**
	comp=N,1.6nm,0.3s						
WSAR	**Wadi Sarin**	**18.61**	**237**	P	**Pn**	**00 44 25.2**	**+1.2**
	comp=N,0.2nm,0.3s,baz=120,slow=11,SNR=6.2						
AB31	**Akbulak array**	**18.70**	**327**	⇓P	**P**	**00 44 21.4**	**-3.0**
	comp=N,2.0nm,0.6s,baz=131,slow=12,SNR=44						
AB31				S	**Sn**	**00 47 48.2**	**-4.9**
	comp=N,0.8nm,0.8s,baz=135,slow=22,SNR=3.6						
BVAR	**Borovoye Array**	**18.85**	**350**	P	**Pn**	**00 44 26.5**	**-0.3**
	comp=N,0.8nm,0.3s,baz=148,slow=9.9,SNR=14						
AKTO	**Aktyubinsk**	**20.42**	**326**	P	**P**	**00 44 43.0**	**-0.1**
	comp=N,4.9nm,0.4s,baz=120,slow=12,SNR=21						
AKTO	**Aktyubinsk**	**20.42**	**326**	⇑P	**P**	**00 44 41.8**	**-1.4**
	comp=N,7.3nm,0.8s						
ZAA0	**Zalesovo Array**	**20.47**	**16**	⇑P	**P**	**00 44 43.7**	**+0.1**
	comp=N,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**20.47**	**16**	P	**P**	**00 44 44.0**	**+0.4**
	comp=N,3.9nm,0.4s,baz=206,slow=9.5,SNR=22						
ARU	**Arti**	**24.80**	**337**	P	**P**	**00 45 25.8**	**-1.9**
	comp=N,1.4nm,0.4s,baz=264,slow=19,SNR=3.0						
CMAR	**Chiang Mai Arr**	**26.23**	**122**	P	**P**	**00 45 41.4**	**+0.4**
	comp=N,1.4nm,0.6s,baz=306,slow=7.7,SNR=7.8						
SONM	**Songino Array**	**26.52**	**51**	P	**P**	**00 45 45.1**	**+1.6**
	comp=N,1.2nm,0.7s,baz=245,slow=11,SNR=6.5						
BRTR	**Keskin Array B**	**33.62**	**291**	P	**P**	**00 46 47.0**	**+0.6**
	comp=N,0.6nm,0.7s,baz=106,slow=11,SNR=3.3						
AKASG	**Malin Array Be**	**37.08**	**310**	P	**P**	**00 47 15.4**	**-0.4**
	comp=N,0.6nm,0.4s,baz=86,slow=6.8,SNR=3.4						
FINES	**FINESS Array B**	**41.20**	**326**	P	**P**	**00 47 50.8**	**+0.8**
	comp=N,2.4nm,0.7s,baz=124,slow=9.5,SNR=5.2						
ARCES	**ARCESS Array B**	**44.39**	**337**	P	**P**	**00 48 16.5**	**+0.6**
	comp=N,2.2nm,0.8s,baz=109,slow=7.9,SNR=6.7						
NB2	**NORSAR Subarra**	**48.18**	**324**	P	**P**	**00 48 46.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**48.18**	**324**	P	**P**	**00 48 46.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=95,slow=7.6,SNR=6.6						
JMIC	**Jan Mayen**	**55.88**	**337**	LR	LR	01 11 47.2	
	comp=Z,313nm,21.8s,baz=9.0,slow=34						
ESDC	**Sonseca Array**	**61.68**	**300**	P	**P**	**00 50 23.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=60,slow=7.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**69.47**	**272**	P	**P**	**00 51 14.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=46,slow=5.3,SNR=20						
SFJD	**Kangerlussuaq**	**70.90**	**340**	LR	LR	01 23 45.8	
	comp=Z,80nm,18.0s,baz=348,slow=37						
ILAR	**Eielson Array**	**75.59**	**17**	P	**P**	**00 51 50.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.6,SNR=4.0						
WRA	**Warramunga Arr**	**77.79**	**125**	P	**P**	**00 52 03.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=322,slow=6.0,SNR=5.8						
ASAR	**Alice Springs**	**80.08**	**128**	P	**P**	**00 52 16.6**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=317,slow=5.3,SNR=4.9						

ROM ***18*** *00:50:26.5±0.3,39°.40N×15°.49E,h286km±4km,Ml3.1/40, Error ellipse: s-maj=5.8km s-min=2.9km az=96.0*
LDG ***18*** *00:50:26.7±0.2,39°.39N×15°.51E,h286km,Ml2.9/3,Error ellipse: s-maj=6.4km s-min=5.4km az=70.0*
ISCJB ***18*** *00:50:27.7±0.4,39°.45N±0°.04×15°.49E±0°.06,h281km±4km, mb3.6/3,Error ellipse: s-maj=7.2km s-min=5.6km az=151.3*
IDC ***18*** *00:50:27.9±1.1,39°.62N×15°.20E,h281km±17km,mb3.2/4, mb1 3.1/11,mb1mx2.9/51,mbtmp3.7/11,Error ellipse: s-maj=18.0km s-min=14.0km az=86.0*
CSEM ***18*** *00:50:28.2±0.3,39°.44N×15°.47E,h278km±3km,ML3.0/5, Error ellipse: s-maj=7.9km s-min=4.4km az=99.0*

ISC 18 00:50:27.6±0.7,39°.47N±0°.07×15°.47E±0°.06,h279km±7km, n117,σ1$10/129,mb3.9/3,30D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.58**	**43**	Pg	**Pn**	**00 51 04.7**	**+0.8**
	18nm,0.2s						
MMN	**Mormanno**	**0.58**	**43**	Pg	**Pn**	**00 51 04.7**	**+0.8**
	18nm,0.2s						
CUC	**Castrocucco**	**0.59**	**27**	⇓*i*Pg	**Pn**	**00 51 04.7**	**+0.7**
CUC				Sg	**S**	**00 51 32.6**	**-0.3**
	44nm,0.8s						
CUC	**Castrocucco**	**0.59**	**27**	⇓*i*Pg	**Pn**	**00 51 04.7**	**+0.7**
CUC				Sg	**S**	**00 51 32.6**	**-0.3**
	44nm,0.8s						
CAR1	**CAROLEI**	**0.61**	**110**	Pg	**Pn**	**00 51 04.3**	**+0.2**
CAR1				Sg	**S**	**00 51 31.6**	**-1.5**
	103nm,0.6s						
BULG	**Bulgheria - Ca**	**0.61**	**353**	⇓*i*Pg	**Pn**	**00 51 05.2**	**+1.1**
	49nm,0.4s						
BULG	**Bulgheria - Ca**	**0.61**	**353**	⇓*i*Pg	**Pn**	**00 51 05.2**	**+1.1**
	49nm,0.4s						
MGR	**Morigerati**	**0.67**	**5**	⇓*i*Pg	**Pn**	**00 51 05.1**	**+0.9**
	39nm,0.6s						
MGR	**Morigerati**	**0.67**	**5**	⇓*i*Pg	**Pn**	**00 51 05.1**	**+0.9**
	39nm,0.6s						
SIRI	**Monte Sirino -**	**0.78**	**23**	⇓*i*Pg	**Pn**	**00 51 05.5**	**+0.8**
	44nm,0.3s						
SIRI	**Monte Sirino -**	**0.78**	**23**	⇓*i*Pg	**Pn**	**00 51 05.5**	**+0.8**
	44nm,0.3s						
SALB	**San Lorenzo Be**	**0.79**	**59**	Pg	**Pn**	**00 51 05.8**	**+1.0**
	43nm,0.4s						
SALB	**San Lorenzo Be**	**0.79**	**59**	Pg	**Pn**	**00 51 05.8**	**+1.0**
	43nm,0.4s						
MTSN	**Montesano sull**	**0.83**	**15**	Pg	**Pn**	**00 51 05.4**	**+0.5**
	19nm,0.4s						
MTSN	**Montesano sull**	**0.83**	**15**	Pg	**Pn**	**00 51 05.4**	**+0.5**
	19nm,0.4s						
CMPR	**Campora**	**0.86**	**351**	⇓*i*Pg	**Pn**	**00 51 06.1**	**+1.1**
	17nm,0.4s						
CMPR	**Campora**	**0.86**	**351**	⇓*i*Pg	**Pn**	**00 51 06.1**	**+1.1**
	17nm,0.4s						
SCHR	**S. Chirico Rap**	**0.87**	**32**	⇓*i*Pg	**Pn**	**00 51 06.5**	**+1.4**
	35µm,30.0s						
JOPP	**Joppolo**	**0.92**	**159**	⇓*i*Pg	**Pn**	**00 51 05.3**	**-0.1**
	42nm,0.2s						
JOPP	**Joppolo**	**0.92**	**159**	⇓*i*Pg	**Pn**	**00 51 05.3**	**-0.1**
	42nm,0.2s						
SLCN	**Sala Consilina**	**0.93**	**8**	Pg	**Pn**	**00 51 06.5**	**+1.2**
	54nm,0.3s						
SLCN	**Sala Consilina**	**0.93**	**8**	Pg	**Pn**	**00 51 06.5**	**+1.2**
	54nm,0.3s						
ORI	**Oriolo Calabro**	**0.96**	**51**	Pg	**Pn**	**00 51 06.8**	**+1.4**
	122nm,0.3s						
ORI	**Oriolo Calabro**	**0.96**	**51**	Pg	**Pn**	**00 51 06.8**	**+1.4**
	122nm,0.3s						
GRI	**Girifalco**	**0.98**	**131**	Pg	**Pn**	**00 51 06.4**	**+0.8**
	17µm,16.0s						
GRI	**Girifalco**	**0.98**	**131**	Pg	**Pn**	**00 51 06.4**	**+0.8**
	17µm,16.0s						
CDRU	**Civita di Ruta**	**1.03**	**353**	Pg	**Pn**	**00 51 06.8**	**+1.0**
	10.0nm,0.5s						
CDRU	**Civita di Ruta**	**1.03**	**353**	Pg	**Pn**	**00 51 06.8**	**+1.0**
	10.0nm,0.5s						
SERS	**Sersale**	**1.04**	**114**	⇓*i*Pg	**Pn**	**00 51 06.6**	**+0.6**
SERS				Sg	**S**	**00 51 35.6**	**-0.8**
	38nm,0.5s						
SERS	**Sersale**	**1.04**	**114**	⇓*i*Pg	**Pn**	**00 51 06.6**	**+0.6**
SERS				Sg	**S**	**00 51 35.6**	**-0.8**
	38nm,0.5s						
PIPA	**Pietrapaola**	**1.04**	**89**	Pg

MESG Mesagne 2.14 58 ⇓*i*Pg Pn 00 51 14.2 +0.6
VAE Valguarnera 2.15 203 P Pn 00 51 15.2 +1.3
1.7nm,0.3s,baz=157,slow=18,SNR=11
ALJA Alia 2.18 219 Pg Pn 00 51 15.6 +1.5
85nm,1.0s
ALJA Alia 2.18 219 Pg Pn 00 51 15.6 +1.5
85nm,1.0s
SSY Sortino 2.33 188 Pg Pn 00 51 15.1 -0.4
152nm,1.0s
SSY Sortino 2.33 188 Pg Pn 00 51 15.1 -0.4
152nm,1.0s
CLTB Caltabellotta 2.59 224 Pg Pn 00 51 18.5 +0.6
111nm,1.0s
CLTB Caltabellotta 2.59 224 Pg Pn 00 51 18.5 +0.6
111nm,1.0s
MMGO Monte Magaggia 2.66 228 Pg Pn 00 51 18.8 +0.3
MMGO Monte Magaggia 2.66 228 Pg Pn 00 51 18.8 +0.3
PGF Pioggiola 5.78 304 *e*Sn S 00 53 04.2 +1.3
1.2nm,0.2s
PGF Pioggiola 5.78 304 *e*Sn S 00 53 04.2 +1.3
0.6nm,0.2s
KEST Kesra 6.13 234 P Pn 00 51 58.4 +0.4
0.2nm,0.3s,baz=329,slow=12,SNR=4.4
ABTA Abfaltersbach 7.59 344 *i* Pn Pn 00 52 16.8 +1.0
1.6nm,0.5s
ABTA Abfaltersbach 7.59 344 Pn Pn 00 52 16.8 +1.0
1.6nm,0.5s
LMR La Mourre 7.76 303 *e*P Pn 00 52 17.7 -0.2
LMR La Mourre 7.76 303 *e*P Pn 00 52 17.7 -0.2
FETA Feichten 8.30 337 *i* Pn Pn 00 52 26.4 +1.7
4.7nm,0.7s
FETA Feichten 8.30 337 Pn Pn 00 52 26.4 +1.7
4.7nm,0.7s
MBDF Montbardon 8.33 312 *e*P Pn 00 52 25.9 +0.8
MBDF Montbardon 8.33 312 *e*P Pn 00 52 25.9 +0.8
DAVOX Davos/Dischmat 8.37 333 P Pn 00 52 27.6 +2.0
0.4nm,0.3s,baz=304,slow=19,SNR=3.6
MOTA Moosalm 8.49 339 *i* Pn Pn 00 52 28.6 +1.5
1.8nm,0.4s
MOTA Moosalm 8.49 339 Pn Pn 00 52 28.6 +1.5
1.8nm,0.4s
IDI Anoyia 8.58 116 P Pn 00 52 30.8 +2.6
0.5nm,0.3s,baz=285,slow=8.4,SNR=6.2
LPG La Plagne 8.82 316 *e*P Pn 00 52 33.6 +2.3
LPL La Plagne 8.84 316 *e*P Pn 00 52 33.6 +2.1
ORIF Oris-en-Rattie 8.96 311 *e*P Pn 00 52 34.3 +1.4
ORIF *e*Sn S 00 54 14.4 -0.2
0.5nm,0.4s
ORIF Oris-en-Rattie 8.96 311 *e*Sn S 00 54 14.4 -0.2
0.2nm,0.4s
GERES GERESS Array B 9.46 353 P Pn 00 52 38.7 -0.3
0.1nm,0.3s,baz=159,slow=9.5,SNR=2.9
CABF La Chapelle 9.90 319 *e*P Pn 00 52 43.5 -1.1
HINF Hinteralfeld 10.42 326 *e*P Pn 00 52 52.5 +1.6
HAU Haudompre 10.78 325 *e*P Pn 00 52 56.1 +0.7
SMF Signal de Mont 11.12 314 *e*P Pn 00 52 59.9 +0.3
LFF La Frestale 12.21 301 *e*P Pn 00 53 13.6 +0.7
ETSF Etsaut 12.55 291 *e*P P 00 53 18.1 -0.6
BRTR Keskin Array B 14.02 83 P Pn 00 53 38.0 +2.9
0.1nm,0.3s,baz=261,slow=12,SNR=6.3
LDF La Druitiere 14.44 314 *e*P P 00 53 37.9 -1.4
ESDC Sonseca Array 14.99 277 P Pn 00 53 49.2 +2.6
0.3nm,0.3s,baz=74,slow=11,SNR=10
MMAI Mount Meron Ar 17.30 106 P Pn 00 54 13.6 -0.3
0.8nm,0.3s,baz=312,slow=10.0,SNR=9.3
EKA Eskdalemuir Ar 20.17 328 P P 00 54 38.4 -2.9
baz=140,slow=11,SNR=7.3
HFS Hagfors 20.72 357 P P 00 54 43.8 -3.1
1.5nm,0.5s,baz=170,slow=9.5,SNR=7.4
FINES FINESS Array B 22.95 13 P P 00 55 07.8 +0.3
2.4nm,0.4s,baz=189,slow=8.5,SNR=22
TORD Torodi Ar. Bea 28.90 209 P P 00 56 01.6 +0.5
0.4nm,0.5s,baz=18,slow=9.0,SNR=8.1
ARCES ARCESS Array B 30.60 7 P P 00 56 14.8 -0.7
3.5nm,1.0s,baz=191,slow=9.3,SNR=18

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*ISCJB **18** 01:09:31.3±0.3, 86°.83N±0°.05×5°.2E±°, h10km, mb3.9/21, MS3.1/6, Error ellipse: s-maj=11.0km s-min=6.0km az=21.3*
*IDC **18** 01:09:31.6±0.7, 86°.89N×53°.99E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/52, mbtmp3.8/16, ML3.8/2, MS3.1/10, Ms1 3.1/10, ms1mx2.9/45, Error ellipse: s-maj=21.9km s-min=13.4km az=96.0*
*NEIC **18** 01:09:33.0±0.3, 86°.84N×53°.14E, h10km, mb4.5/9, Error ellipse: s-maj=9.9km s-min=5.1km az=109.0*
ISC 18 01:09:33.2±0.6, 86°.78N±0°.07×52°.2E±0°.1, h10km, n44, σ1§72/41, mb3.9/21, MS3.1/6, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**8.92**	**234**	*e*P	**Pn**		**01 11 43.0**	**+1.1**
SPA0	**Spitsbergen Ar**	**9.46**	**227**	*e*P	**Pn**		**01 11 49.8**	**+0.5**
SPA0	**Spitsbergen Ar**	**9.46**	**227**	*e*Pn	**Pn**		**01 11 49.8**	**+0.5**
SPITS	**Spitsbergen Ar**	**9.46**	**227**	Pn	**Pn**		**01 11 49.8**	**+0.5**
	baz=49,slow=17,SNR=50							
SPITS				LR	LR		01 14 57.1	
	comp=Z,69nm,21.9s,baz=70,slow=34							
HSPB	**Hornsund (broa**	**10.66**	**227**	*e*P	**Pn**		**01 12 08.5**	**+2.9**
ARA0	**ARCESS Array S**	**17.75**	**211**	*e*Pn	**Pn**		**01 13 39.9**	**-0.2**
ARA0				*e*Sn	**Sn**		01 16 52.0	-5.4
ARCES	**ARCESS Array B**	**17.75**	**211**	P	**Pn**		**01 13 39.9**	**-0.2**
ARCES	0.3nm,0.3s,baz=3.9,slow=9.7,SNR=11			S	**Sn**		**01 16 52.0**	**-5.5**
ARCES	0.1nm,0.3s,baz=9.2,slow=19,SNR=3.4							
ARCES				LR	LR		01 19 55.2	
	comp=Z,52nm,20.6s,baz=4.5,slow=35							
ARE0	**ARCESS Array S**	**17.75**	**211**	*e*Pn	**Pn**		**01 13 39.6**	**-0.4**
	103nm,1.9s							
RES	**Resolute Bay**	**18.21**	**332**	LR	LR		01 20 07.4	
	comp=Z,63nm,18.0s,baz=23,slow=35							
NRIK	**Noril'sk**	**18.24**	**139**	LR	LR		01 21 06.0	
	comp=Z,76nm,21.6s,baz=75,slow=38							
INK	**Inuvik**	**25.05**	**5**	P	**P**		**01 14 55.5**	**-1.4**
	1.4nm,0.7s,baz=5.8,slow=6.0,SNR=3.7							
INK				LR	LR		01 25 44.7	
	comp=Z,42nm,18.2s,baz=218,slow=39							
FIA0	**FINESS Array S**	**25.84**	**209**	*e*P	**P**		**01 15 04.3**	**+0.1**
FINES	**FINESS Array B**	**25.84**	**209**	P	**P**		**01 15 04.3**	**+0.1**
	2.4nm,0.9s,baz=9.8,slow=9.0,SNR=2.6							
FINES				LR	LR		01 25 21.9	
	comp=Z,48nm,20.9s,baz=337,slow=37							
NC303	**NORSAR Array S**	**26.56**	**225**	*e*P	**P**		**01 15 09.5**	**-1.3**
IMAR	**Indian Mountai**	**27.11**	**23**	*e*P	**P**		**01 15 15.6**	**-0.1**
ILAR	**Eielson Array**	**28.46**	**17**	P	**P**		**01 15 25.1**	**-2.6**
	0.7nm,0.9s,baz=351,slow=8.6,SNR=5.9							
ILB	**Eielson Array**	**28.46**	**17**	*e*P	**P**		**01 15 25.1**	**-2.6**
DOT	**Dot Lake**	**29.63**	**15**	*e*P	**P**		**01 15 35.2**	**-2.9**
	30nm,1.7s							
TT01	**Tatalina**	**30.14**	**26**	*e*P	**P**		**01 15 42.4**	**-0.2**
YKA	**Yellowknife Ar**	**30.83**	**348**	P	**P**		**01 15 47.9**	**-0.7**
	0.8nm,0.7s,baz=350,slow=9.6,SNR=3.4							
YKA				LR	LR		01 28 16.3	
	comp=Z,6.0nm,18.2s,baz=0.0,slow=37							
YKB5	**Yellowknife Ar**	**30.83**	**348**	*e*P	**P**		**01 15 47.9**	**-0.7**
SUA	**Susitna One**	**31.70**	**21**	*e*P	**P**		**01 15 56.4**	**-0.2**
	23nm,1.6s							
DLBC	**Dease Lake**	**34.97**	**2**	P	**P**		**01 16 25.5**	**+0.5**
	1.4nm,0.7s,baz=292,slow=3.2,SNR=3.9							
AKTO	**Aktyubinsk**	**36.53**	**174**	P	**P**		**01 16 40.1**	**+1.8**
	1.0nm,0.5s,baz=28,slow=15,SNR=4.1							
GEC2	**GERESS Array S**	**38.85**	**221**	*e*P	**P**		**01 16 60.0**	**+1.9**
	13nm,1.8s							
GERES	**GERESS Array B**	**38.85**	**221**	P	**P**		**01 16 60.0**	**+1.9**
	0.9nm,0.7s,baz=0.0,slow=5.9,SNR=6.5							
SONA0	**Songino Array**	**40.53**	**123**	*e*P	**P**		**01 17 11.5**	**-0.6**
	11nm,1.8s							
SONM	**Songino Array**	**40.53**	**123**	P	**P**		**01 17 11.5**	**-0.6**
	0.3nm,0.3s,baz=347,slow=5.9,SNR=2.4							
MK32	**Makanchi Array**	**40.62**	**148**	*e*P	**P**		**01 17 13.0**	**+0.3**
MKAR	**Makanchi Array**	**40.62**	**148**	P	**P**		**01 17 13.0**	**+0.3**
	0.7nm,0.8s,baz=1.9,slow=7.3,SNR=6.5							
ULM	**Lac du Bonnet**	**42.72**	**330**	LR	LR		01 35 01.6	
	comp=Z,46nm,19.1s,baz=5.0,slow=36							
B08A	**Colville Reser**	**45.04**	**352**	*e*P	**P**		**01 17 48.8**	**+0.2**
	7.6nm,1.1s							
BRTR	**Keskin Array B**	**47.40**	**199**	LR	LR		01 41 46.3	
	comp=Z,29nm,18.3s,baz=94,slow=41							
ESDC	**Sonseca Array**	**48.76**	**238**	P	**P**		**01 18 18.8**	**+1.1**
	0.1nm,0.3s,baz=343,slow=6.1,SNR=3.5							
PD31	**Pinedale Array**	**50.51**	**343**	*e*P	**P**		**01 18 30.9**	**-0.3**
PDAR	**Pinedale Array**	**50.51**	**343**	P	**P**		**01 18 30.9**	**-0.3**
	0.9nm,0.9s,baz=15,slow=6.4,SNR=6.3							
R11A	**Troy Canyon, C**	**55.01**	**348**	*e*P	**P**		**01 19 05.0**	**+0.6**
	5.2nm,1.4s							
S22A	**4UR Ranch, Cre**	**55.47**	**340**	*e*P	**P**		**01 19 08.7**	**+0.7**
	3.0nm,1.0s							
TXAR	**Lajitas Array**	**63.80**	**337**	P	**P**		**01 20 04.3**	**-0.8**
	0.7nm,0.8s,baz=357,slow=3.3,SNR=6.8							
CM31	**Chiang Mai Arr**	**69.45**	**132**	*e*P	**P**		**01 20 41.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**69.45**	**132**	P	**P**		**01 20 41.0**	**-0.2**
	0.5nm,0.4s,baz=347,slow=8.2,SNR=4.4							
TOA1	**Torodi Ar. Sit**	**74.88**	**231**	*e*P	**P**		**01 21 14.7**	**+1.0**
	6.0nm,1.4s							
TORD	**Torodi Ar. Bea**	**74.89**	**231**	P	**P**		**01 21 14.7**	**+1.0**
	0.6nm,0.8s,baz=349,slow=7.7,SNR=3.3							
RCBR	**Riachuelo**	**95.67**	**268**	LR	LR		01 57 48.3	
	comp=Z,38nm,19.9s,baz=355,slow=30							

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*IDC **18** 01:28:08.3±4.1, 3°.51S×102°.47E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.8/3, Error ellipse: s-maj=103.7km s-min=77.3km az=133.0*
*ISCJB **18** 01:28:32.7±0.5, 2°.65S±0°.07×102°.31E±0°.06, h187km, mb3.5/3, Error ellipse: s-maj=12.0km s-min=5.4km az=39.2*
*DJA **18** 01:28:34.2±0.5, 3°S±4°×10°2E±°, h168km±5km, M3.6/9, MLv3.6/9*
ISC 18 01:28:34.1±0.9, 2°.64S±0°.08×102°.33E±0°.07, h187km, n13, σ1§51/18, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.51**	**191**	P	**Pn**		**01 28 59.2**	**-0.6**
MASI				S	**Sn**		**01 29 17.7**	**-2.0**
SDSI	**Sungai Dareh**	**1.92**	**332**	P	**Pn**		**01 29 09.7**	**-1.1**
SDSI				S	**Sn**		**01 29 37.0**	**-2.4**
PPSI	**Pulau Pagai**	**2.32**	**267**	P	**Pn**		**01 29 14.2**	**-1.0**
PPSI				S	**Sn**		**01 29 45.7**	**-1.4**
PMBI	**Palembang**	**2.45**	**97**	P	**Pn**		**01 29 15.0**	**-1.6**
PDSI	**Padang**	**2.54**	**312**	P	**Pn**		**01 29 16.8**	**-0.8**
PDSI				S	**Sn**		**01 29 49.5**	**-2.1**
MDSI	**Maura Dua**	**2.60**	**135**	P	**Pn**		**01 29 17.9**	**-0.5**
SISI	**Saibi**	**3.49**	**292**	P	**Pn**		**01 29 29.1**	**0.0**
SISI				S	**Sn**		**01 30 10.3**	**-1.8**
KASI	**Kota Agung**	**3.59**	**143**	P	**Pn**		**01 29 29.9**	**-0.4**
KASI				S	**Sn**		**01 30 12.7**	**-1.6**
PBSI	**Pulau Batu**	**4.79**	**302**	P	**Pn**		**01 29 45.0**	**-0.6**
SONM	**Songino Array**	**50.39**	**4**	P	**P**		**01 37 14.2**	**+1.9**
	0.7nm,0.5s,baz=185,slow=9.3,SNR=3.8							
MKAR	**Makanchi Array**	**52.30**	**343**	P	**P**		**01 37 27.6**	**+1.1**
	0.8nm,0.5s,baz=145,slow=8.9,SNR=7.7							
BRTR	**Keskin Array B**	**75.47**	**312**	P	**P**		**01 39 58.9**	**+0.9**
	0.7nm,0.8s,baz=101,slow=7.6,SNR=3.1							
TXAR	**Lajitas Array**	**143.73**	**40**	PKP	PKPab		01 47 46.3	+1.4
	0.1nm,0.4s,baz=356,slow=1.3,SNR=2.4							

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*DDA **18** 01:30:01.9, 39°.09N×29°.06E, h7km, Md2.7*
*ISK **18** 01:30:01.8, 39°.10N×29°.08E, h6km, MD2.4*
*ISCJB **18** 01:30:02.2±0.5, 39°.09N±0°.04×29°.06E±0°.04, h5km±6km, Error ellipse: s-maj=6.2km s-min=4.6km az=154.5*
*CSEM **18** 01:30:02.3±0.2, 39°.12N×29°.03E, h5km, MD2.4, Error ellipse: s-maj=5.2km s-min=3.9km az=127.0*
ISC 18 01:30:02.3±1.0, 39°.09N±0°.03×29°.06E±0°.03, h7km±8km, n19, σ0§28/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.06**	**261**	*e*PG	**Pg**		**01 30 04.2**	**0.0**
SIMA				*e*SG	**Sg**		**01 30 05.4**	**-0.1**
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pg**		**01 30 07.7**	**0.0**
DEMI				*i* S	**Sg**		**01 30 11.7**	**+0.3**
DEMI	**Demirci**	**0.27**	**260**	P	**Pg**		**01 30 07.7**	**0.0**
DEMI				S	**Sg**		**01 30 11.7**	**+0.3**
GDZ	**Gediz**	**0.33**	**91**	*i* P	**Pg**		**01 30 08.6**	**-0.2**
GDZ				*i* S	**Sg**		**01 30 13.7**	**+0.5**
GDZ	**Gediz**	**0.33**	**91**	P	**Pg**		**01 30 08.6**	**-0.2**
GDZ				S	**Sg**		**01 30 13.7**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**41**	*e*PG	**Pg**		**01 30 11.3**	**-0.2**
TVSB				*e*SG	**Sg**		**01 30 17.7**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**41**	*e*Pg	**Pg**		**01 30 11.3**	**-0.2**
TVSB				*e*Sg	**Sg**		**01 30 17.7**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG	**Pg**		**01 30 15.1**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg	**Pg**		**01 30 15.1**	**+0.1**
MANT	**Manisa**	**0.72**	**213**	*i* P	**Pg**		**01 30 16.0**	**-0.2**
MANT				*i* S	**Sg**		**01 30 25.4**	**-0.1**
MANT	**Manisa**	**0.72**	**213**	P	**Pg**		**01 30 16.0**	**-0.2**
MANT				S	**Sg**		**01 30 25.4**	**-0.1**
KHAL	**Karahalli**	**0.80**	**155**	*i* P	**Pn**		**01 30 19.8**	**-0.2**
KHAL				*i* S	**Sg**		**01 30 28.5**	**+0.5**
KHAL	**Karahalli**	**0.80**	**155**	P	**Pn**		**01 30 19.8**	**-0.2**
KHAL				S	**Sg**		**01 30 28.5**	**+0.5**
BALB	**Balikesir**	**1.06**	**301**	*e*PN	**Pn**		**01 30 23.3**	**-0.3**
BALB	**Balikesir**	**1.06**	**301**	*e*Pn	**Pn**		**01 30 23.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*PN	**Pg**		**01 30 27.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn	**Pg**		**01 30 27.4**	**+0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**		**01 30 33.1**	**+0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**		**01 30 33.2**	**+0.1**

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*SJA **18** 01:39:28.8±0.8, 23°.13S×67°.08W, h247km±12km, ML4.3, MW4.8*
*ISCJB **18** 01:39:32.9±0.3, 23°.10S±0°.02×66°.65W±0°.03, h204km±2km, mb5.0/253, Error ellipse: s-maj=5.2km s-min=3.4km az=145.8*
*SCB **18** 01:39:32.2±0.5, 22°.73S×66°.28W, h272km±4km, Ml4.8/2, Error ellipse: s-maj=12.7km s-min=6.4km az=28.0*
*BJI **18** 01:39:33.5, 23°.20S×66°.60W, h192km, mB5.2/17*
*IDC **18** 01:39:33.3±0.6, 23°.20S×66°.63W, h195km±5km, mb4.6/28, mb1 4.7/35, mb1mx4.6/40, mbtmp5.1/35, Error ellipse: s-maj=8.6km s-min=7.0km az=60.0*
*NEIC **18** 01:39:33.0±0.4, 23°.22S×66°.56W, h191km±3km, mb5.1/229, MD4.8(SJA), Error ellipse: s-maj=4.5km s-min=3.0km az=65.0*
*GCMT **18** 01:39:33.0±0.3, 23°.28S×66°.88W, h214km±2km, MW5.1/77, Moment Tensor Solution. s29,c34; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.22±.15; $M_{\theta\theta}$0.25±.18; $M_{\phi\phi}$2.97±.22; $M_{r\theta}$0.55±.12; $M_{\theta\phi}$-1.53±.17; $M_{\phi r}$-3.70±.15; Best double couple: $M_0$5.09000×10^{16} NP1:ϕ_s348.00000°, δ69.00000°, λ-80.00000°. NP2: ϕ_s142.00000°, δ23.00000°, λ-114.00000°. Principal axes: T 5.2260, Plg23.0000°, Azm70.0000°; N -0.2750, Plg9.0000°, Azm164.0000°; P -4.9530, Plg65.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **18** 01:39:33.8±1.3, 23°.16S×66°.65W, h209km, mb5.0/46 Error ellipse: s-maj=13.8km s-min=6.1km az=113.1*
*GUC **18** 01:39:34.7±0.5, 23°.19S×67°.37W, h243km±7km, ML5.5*
ISC 18 01:39:34.5±0.5, 23°.22S±0°.03×66°.80W±0°.04, h209km±4km, n986, σ1§31/1050, mb5.0/252, 20C-6D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.28**	**90**	*i* P	**Pn**		**01 40 07.6**	**0.0**
YJA	**Yavi**	**1.58**	**49**	*i* P	**Pn**		**01 40 10.2**	**0.0**
YJA				IAML			01 40 15.3	
	comp=Z,744nm,0.4s							
YJA				*i* S	**S**		**01 40 40.8**	**+3.2**
SLA	**San Lorenzo**	**1.91**	**142**	*i* P	**Pn**		**01 40 13.3**	**+0.3**
SLA				IAML			01 40 15.5	
	comp=Z,4μm,0.6s							
SLA				*i* S	**S**		**01 40 45.7**	**+3.1**
LVC	**Limon Verde**	**2.03**	**287**	P	**Pn**		**01 40 14.7**	**+0.2**
	comp=Z,64μm,0.3s,baz=104,slow=6.2,SNR=6521							
LVC				S	**S**		**01 40 44.6**	**-0.4**
	comp=Z,19μm,0.3s,baz=197,slow=19,SNR=6.7							
LVC	**Limon Verde**	**2.03**	**287**	*e*P	**Pn**		**01 40 14.6**	**+0.2**
LVC				*i* S	**S**		**01 40 44.5**	**-0.4**
LVC	**Limon Verde**	**2.03**	**287**	*e*Pn	**Pn**		**01 40 14.1**	**-0.3**
LVC				*e*Sn	**S**		**01 40 45.1**	**+0.1**
MOCB	**Mochara**	**2.24**	**29**	⇓*i*Pn	**Pn**		**01 40 17.0**	**+0.4**
MOCB				*e*Sn	**S**		**01 40 48.7**	**-0.3**
	comp=Z,6μm,1.3s							
PB06	**IPOC Station P**	**2.60**	**281**	⇑*i*P	**Pn**		**01 40 20.2**	**0.0**
PB06				*i* S	**S**		**01 40 54.2**	**-1.2**
PB06				IAML			01 40 56.4	
	comp=N,6μm,0.4s							
PB09	**IPOC Station P**	**2.66**	**302**	IAML			01 41 01.5	
	comp=N,11μm,0.3s							
FSA	**Cafayete**	**2.98**	**166**	*i* P	**Pn**		**01 40 23.7**	**-0.8**
FSA				*i* S	**S**		**01 41 03.9**	**+0.7**
FSA				IAML			01 41 04.5	
	comp=Z,132nm,0.5s							
PB04	**IPOC Station P**	**3.21**	**285**	⇑*i*P	**Pn**		**01 40 26.8**	**-0.4**
PB04				*i* S	**S**		**01 41 05.6**	**-2.4**
PB04				IAML			01 41 13.2	
	comp=N,7μm,0.3s							
PB04	**IPOC Station P**	**3.21**	**285**	*e*Pn	**Pn**		**01 40 25.7**	**-1.5**
PB04				*e*Sn	**S**		**01 41 06.5**	**-1.5**
PB07	**IPOC Station P**	**3.21**	**297**	⇑*i*P	**Pn**		**01 40 26.9**	**-0.4**
PB07				*i* S	**S**		**01 41 05.8**	**-2.3**
PB07				IAML			01 41 06.6	
	comp=N,14μm,0.3s							
PB01	**IPOC Station P**	**3.30**	**310**	⇑*i*P	**Pn**		**01 40 27.9**	**-0.3**
PB01				*i* S	**S**		**01 41 08.3**	**-1.5**
PB01	**IPOC Station P**	**3.30**	**310**	*e*Pn	**Pn**		**01 40 27.7**	**-0.5**
PB01				*e*Sn	**S**		**01 41 08.6**	**-1.2**
PB02	**IPOC Station P**	**3.43**	**303**	⇑*i*P	**Pn**		**01 40 29.2**	**-0.6**
PB02				*i* S	**S**		**01 41 10.1**	**-2.6**
PB10	**IPOC Station P**	**3.46**	**264**	⇑*i*P	**Pn**		**01 40 29.6**	**-0.4**
PB10				*i* S	**S**		**01 41 10.4**	**-2.7**
PB10	**IPOC Station P**	**3.46**	**264**	*i* P	**Pn**		**01 40 28.5**	**-1.5**
PB10	**IPOC Station P**	**3.46**	**264**	*e*Pn	**Pn**		**01 40 29.4**	**-0.6**
PB10				*e*Sn	**S**		**01 41 10.7**	**-2.3**
PB14	**IPOC Station P**	**3.58**	**246**	⇑*i*P	**Pn**		**01 40 30.8**	**-0.9**
PB14				*i* S	**S**		**01 41 13.5**	**-2.8**
PB14	**IPOC Station P**	**3.58**	**246**	*i* P	**Pn**		**01 40 30.8**	**-0.9**
PB08	**IPOC Station P**	**3.76**	**324**	⇑*i*P	**Pn**		**01 40 34.6**	**+0.5**
PB08				*i* S	**S**		**01 41 20.6**	**+0.2**
AHML	**Horco Molle**	**3.79**	**160**	*i* P	**Pn**		**01 40 32.8**	**-1.3**
HMBC	**Humberstone**	**4.10**	**315**	⇑*i*P	**Pn**		**01 40 36.4**	**-1.5**
HMBC				*i* S	**S**		**01 41 24.4**	**-3.0**
MNMC	**Minye Minye**	**4.83**	**327**	*e*Pn	**Pn**		**01 40 46.4**	**-0.8**
MNMC				*e*Sn	**S**		**01 41 42.4**	**-1.9**
BBOJ	**La Paz, Jacaqu**	**6.35**	**348**	*e*Pn	**Pn**		**01 41 07.9**	**+1.0**
BBOE	**La Paz, Chanca**	**6.47**	**350**	*e*Pn	**Pn**		**01 41 09.8**	**+1.3**
LCO	**Las Campanas**	**6.75**	**210**	*e*Pn	**Pn**		**01 41 08.2**	**-3.5**
LCO				*e*Sn	S		01 42 15.0	-14
BBOD	**La Paz, Gloria**	**6.76**	**345**	*e*Pn	**Pn**		**01 41 13.6**	**+1.3**
LPAZ	**La Paz**	**7.01**	**349**	P	**Pn**		**01 41 16.0**	**+0.6**
	comp=N,15nm,0.3s,baz=151,slow=6.4,SNR=319							
LPAZ				S	**S**		**01 42 33.4**	**-2.2**
	baz=152,slow=17,SNR=2.9							
LPAZ	**La Paz**	**7.01**	**349**	*e*P	**Pn**		**01 41 16.1**	**+0.6**
LPAZ				*e*			01 42 32.3	
LPAZ	**La Paz**	**7.01**	**349**	*e*Pn	**Pn**		**01 41 15.9**	**+0.4**
LPAZ				*e*Sn	**S**		**01 42 32.4**	**-3.2**
LPAZ	**La Paz**	**7.01**	**349**	*e*Pn	**Pn**		**01 41 16.1**	**+0.6**
LPAZ				*e*Sn	**S**		**01 42 32.3**	**-3.3**
BBOB	**La Paz, Bander**	**7.15**	**350**	⇓*e*Pn	**Pn**		**01 41 17.5**	**+0.2**
BBOB				*e*Sn	**S**		**01 42 34.8**	**-4.1**
	comp=N,451nm,1.1s							
SIV	**San Ignacio**	**8.99**	**38**	P	**Pn**		**01 41 38.0**	**-2.7**
	comp=N,15nm,0.3s,baz=229,slow=12,SNR=533							
SIV	**San Ignacio**	**8.99**	**38**	⇑*i*Pn	**Pn**		**01 41 37.9**	**-2.7**
CPUP	**Villa Florida**	**9.15**	**112**	P	**Pn**		**01 41 39.7**	**-2.9**
	comp=N,2.0nm,0.3s,baz=295,slow=12,SNR=64							
ROC1	**El Roble**	**10.41**	**200**	*e*Pn	**Pn**		**01 41 56.6**	**-2.4**
ROC1				*e*Sn	**S**		**01 43 48.6**	**-7.1**
GO05	**HualaæØ**	**12.57**	**200**	*e*Pn	**Pn**		**01 42 26.1**	**-0.2**
SAML	**Samuel**	**14.61**	**14**	*e*Pn	**Pn**		**01 42 49.8**	**-1.9**
NNA	**Nana**	**14.70**	**318**	P	**P**		**01 42 54.2**	**+0.6**
	comp=N,1.9nm,0.3s,baz=150,slow=8.9,SNR=29							
NNA	**Nana**	**14.70**	**318**	*e*P	**P**		**01 42 54.4**	**+0.8**
NNA	**Nana**	**14.70**	**318**	*e*Pn	**P**		**01 42 54.4**	**+0.8**
TRQA	**Tornquist**	**15.36**	**165**	*e*Pn	**Pn**		**01 42 57.6**	**-3.0**
	comp=N,29nm,0.6s							
PLCA	**Paso Flores**	**17.75**	**189**	P	**P**		**01 43 26.5**	**-0.4**
	comp=N,2.1nm,0.3s,baz=33,slow=12,SNR=58							
PLCA				PcP	**PcP**		**01 47 54.9**	**+0.7**
	comp=N,0.3nm,0.3s,baz=354,slow=3.6,SNR=5.0							
PLCA				ScP	**ScP**		**01 51 10.7**	**+1.2**
	comp=N,0.0nm,0.3s,baz=347,slow=14,SNR=3.0							
PLCA	**Paso Flores**	**17.75**	**189**	*e*P	**P**		**01 43 26.7**	**-0.3**
PLCA				pmax	pmax			
	comp=Z,50nm,0.6s							
PLCA	**Paso Flores**	**17.75**	**189**	*e*P	**P**		**01 43 26.6**	**-0.3**
	comp=Z,50nm,0.6s							
PLCA				*e*PcP	**PcP**		**01 47 54.9**	**+0.7**
PLCA				*e*ScP	**ScP**		**01 51 10.7**	**+1.2**
SPB	**Sao Paulo**	**17.79**	**95**	*e*P	**P**		**01 43 25.8**	**-1.6**
	comp=Z,178nm,1.0s							
BDFB	**Brasilia**	**19.24**	**70

CBYP	Canovanas	41.25	1	eP	P	01 46 58.8	-0.6
	comp=Z,34nm,1.3s						
PMSA	Palmer Station	41.59	178	P	P	01 47 00.7	-0.8
	comp=Z,14nm,0.8s,baz=6.9,slow=7.9,SNR=6.1						
PMSA	Palmer Station	41.59	178	eP	P	01 47 02.5	+1.0
TGUH	Tegucigalpa,Un	42.12	330	eP	P	01 47 07.5	+1.1
	comp=Z,84nm,0.9s						
SDDR	Presa de Saban	42.17	354	eP	P	01 47 08.5	+1.7
	comp=Z,17nm,0.4s						
GTBY	Guantanamo Bay	43.64	349	eP	P	01 47 17.4	-1.1
	comp=Z,22nm,0.8s						
GRTK	Grand Turk	44.66	354	eP	P	01 47 25.7	-0.8
	comp=Z,152nm,1.0s						
CCIG	Comitan	46.42	325	eP	P	01 47 40.8	+0.1
	comp=Z,64nm,1.0s						
CMIG	Matias Romero	48.56	323	P	P	01 47 57.8	+0.9
	comp=Z,22nm,0.7s,baz=125,slow=5.0,SNR=28						
TLIG	Tlapa	51.05	320	eP	P	01 48 16.9	+1.1
	comp=Z,38nm,1.0s						
MOIG	Morelia	54.25	319	eP	P	01 48 41.8	+2.4
	comp=Z,67nm,0.7s						
BBSR	BB Station	55.31	2	eP	P	01 48 45.7	-0.7
	comp=Z,49nm,1.4s						
TIGA	Tifton	56.68	343	P	P	01 48 55.9	-0.2
	baz=161						
RGRS	Roger Stewart	57.26	347	eP	P	01 49 01.0	+0.8
	comp=Z,965nm,0.6s						
CSU	Charleston Sou	57.31	347	eP	P	01 49 01.8	+1.4
LNIG	Linares	57.37	324	eP	P	01 49 01.3	+0.1
	comp=Z,42nm,1.4s						
ZAIG	Zacatecas	57.44	320	eP	P	01 49 04.2	+2.2
	comp=Z,37nm,0.8s						
NHSC	New Hope	57.45	347	eP	P	01 49 02.7	+1.3
	comp=Z,154nm,1.0s						
BRAL	Brewton	57.45	339	eP	P	01 49 02.0	+0.4
	comp=Z,102nm,0.8s						
448A	Bay Minette	57.50	339	P	P	01 49 02.4	+0.5
	baz=157						
447A	Lucedale	57.65	338	P	P	01 49 03.2	+0.2
	baz=156						
VNA3	Neumayer Olymp	57.83	161	P	P	01 49 04.4	+0.6
446A	Poplarville	57.90	337	P	P	01 49 05.0	+0.4
	baz=155						
035Z	Hargill	57.92	327	P	P	01 49 05.6	+0.8
	baz=146						
348A	Jackson	57.96	339	P	P	01 49 05.3	+0.2
	baz=157						
VNA1	Neumayer--Stat	58.02	160	P	P	01 49 06.3	+1.3
347A	Saraland	58.17	338	P	P	01 49 06.4	-0.1
	baz=156,SNR=8.7						
035A	Encino	58.32	327	P	P	01 49 08.4	+0.7
	baz=146						
444A	Pine Grove	58.34	336	P	P	01 49 08.5	+0.7
	baz=154						
VNA2	Neumayer--Watz	58.39	161	P	P	01 49 08.2	+0.6
	baz=284,slow=8.7						
346A	Big Creek Wild	58.48	337	P	P	01 49 08.7	0.0
	baz=155						
GOGA	Godfrey	58.51	344	eP	P	01 49 08.6	-0.3
GOGA				pmax	pmax		
	comp=Z,25nm,0.8s						
GOGA	Godfrey	58.51	344	eP	P	01 49 08.6	-0.3
	comp=Z,25nm,0.8s						
248A	Dixon Mills	58.53	339	P	P	01 49 08.9	-0.1
	baz=157						
345A	Thompson Farm,	58.61	337	P	P	01 49 09.8	+0.2
	baz=155						
034A	Hebbronville	58.72	327	P	P	01 49 11.4	+1.0
	baz=145,SNR=5.4						
541A	Lake Charles	58.73	333	P	P	01 49 11.6	+1.2
	baz=151						
247A	Quitman	58.78	338	P	P	01 49 10.9	+0.1
	baz=156,SNR=5.7						
JSC	Jenkinsville	58.81	346	eP	P	01 49 11.5	+0.6
JSC				pmax	pmax		
	comp=Z,56nm,0.7s						
JSC	Jenkinsville	58.81	346	eP	P	01 49 11.5	+0.6
	comp=Z,56nm,0.7s						
246A	Jackson Lee, B	58.93	338	P	P	01 49 11.6	-0.2
	baz=156						
442A	Mamou	58.99	334	P	P	01 49 13.5	+1.3
	baz=152						
HODGE	Hodges	58.99	345	eP	P	01 49 12.8	+0.6
	comp=Z,21nm,0.9s						
344A	Westbrook Farm	58.99	336	P	P	01 49 12.7	+0.5
	baz=154,SNR=6.8						
934A	Benavides	59.08	327	P	P	01 49 13.9	+1.0
	baz=146						
LRAL	Lakeview Retre	59.16	340	eP	P	01 49 12.9	-0.5
	comp=Z,53nm,1.3s						
245A	Little AP, Sta	59.21	337	P	P	01 49 13.8	+0.1
	baz=155,SNR=14						
147A	Livingston	59.24	339	P	P	01 49 13.5	-0.3
	baz=157						
835A	Beeville	59.31	328	P	P	01 49 15.9	+1.5
	baz=146						
441A	DeRidder	59.33	334	P	P	01 49 16.3	+1.8
	baz=152						
539A	Cross D Ranch,	59.42	332	P	P	01 49 17.1	+2.0
	baz=150						
146A	Union	59.47	338	P	P	01 49 15.6	+0.1
	baz=156						
933A	Laredo	59.47	326	P	P	01 49 16.4	+0.8
	baz=145,SNR=12						
736A	Circle Diamond	59.50	329	P	P	01 49 17.6	+1.8
	baz=147,SNR=22						
244A	Avery, Jackson	59.51	336	P	P	01 49 15.7	-0.1
	baz=154						
342A	Flagon Creek P	59.53	335	P	P	01 49 17.2	+1.3
	baz=152,SNR=10						
637A	Eagle Lake	59.56	330	P	P	01 49 17.8	+1.6
	baz=148,SNR=11						
VBMS	Vicksburg	59.60	337	P	P	01 49 16.5	+0.1
	baz=154						
440A	Kirbyville	59.65	333	P	P	01 49 18.2	+1.5
	baz=151						
KMSC	Kings Mountain	59.65	346	P	P	01 49 17.2	+0.4
	baz=164,SNR=25						
KMSC	Kings Mountain	59.65	346	eP	P	01 49 17.1	+0.4
	comp=Z,52nm,0.8s						
Z48A	Northport	59.65	340	P	P	01 49 16.2	-0.5
	baz=158,SNR=19						
Z47A	Carrollton	59.66	339	P	P	01 49 16.3	-0.4
	baz=157,SNR=10.0						
243A	Waterproof	59.66	336	P	P	01 49 16.8	0.0
	baz=153						
145A	Houston Renfro	59.74	337	P	P	01 49 17.6	+0.2
	baz=155,SNR=7.9						
735A	Kenedy	59.77	328	P	P	01 49 18.6	+1.0
	baz=147						
HKT	Hockley	59.77	331	eP	P	01 49 17.6	+0.1
HKT				pmax	pmax		
	comp=Z,23nm,1.0s						
HKT	Hockley	59.77	331	eP	P	01 49 17.6	+0.1
	comp=Z,23nm,1.0s						
341A	Kurthwood	59.84	334	P	P	01 49 18.8	+0.8
	baz=152,SNR=12						
538A	Harpers Horsep	59.85	331	P	P	01 49 19.3	+1.1
	baz=149						
BG3	Lake Jocassee	59.88	345	eP	P	01 49 19.0	+0.7
	comp=Z,30nm,0.9s						
636A	Smothers Creek	59.94	329	P	P	01 49 20.0	+1.3
	baz=148,SNR=8.2						
Z46A	Louisville	59.94	339	P	P	01 49 18.8	+0.1
	baz=156,SNR=6.9						
144A	Alexander Plac	59.94	337	P	P	01 49 19.0	+0.3
	baz=155						
SNAA	Sanae	60.03	161	P	P	01 49 19.3	+0.4
SNAA	Sanae	60.03	161	P	P	01 49 19.1	+0.3
	comp=Z,14nm,0.7s,baz=283,slow=7.2,SNR=126						
SNAA	Sanae	60.03	161	eP	P	01 49 18.2	-0.7
SNAA	Sanae	60.03	161	eP	P	01 49 18.9	+0.1
	comp=Z,19nm,0.8s						
439A	Center Grove,	60.03	332	P	P	01 49 20.9	+1.6
	baz=150,SNR=7.3						
242A	Grayson	60.08	335	P	P	01 49 20.4	+0.8
	baz=153						
537A	Green Hill Far	60.10	330	P	P	01 49 20.9	+1.1
	baz=148						
833A	Chaparral WMA,	60.11	327	P	P	01 49 20.8	+0.9
	baz=145,SNR=48						
340A	Bronson	60.20	333	P	P	01 49 21.7	+1.2
	baz=151,SNR=8.9						
Y47A	UCPARC, Winfie	60.23	340	P	P	01 49 20.3	-0.3
	baz=158,SNR=21						
438A	Sam Houston St	60.30	332	P	P	01 49 22.6	+1.5
	baz=149						
241A	Mo Tay, Goldon	60.34	335	P	P	01 49 22.7	+1.3
	baz=152,SNR=8.3						
Z45A	Winona	60.35	338	P	P	01 49 21.7	+0.3
	baz=156						
143A	Socs Landing,	60.37	336	P	P	01 49 21.8	+0.3
	baz=154						
339A	Huntington	60.41	333	P	P	01 49 23.0	+1.2
	baz=150,SNR=5.5						
142A	Monroe	60.43	336	P	P	01 49 22.6	+0.6
	baz=153						
536A	Bastrop	60.44	330	P	P	01 49 22.9	+0.7
	baz=148,SNR=6.1						
Z44A	Pea Ridge, Bel	60.53	337	P	P	01 49 22.9	+0.3
	baz=155						
Y46A	Houston	60.54	339	P	P	01 49 22.1	-0.7
	baz=156,SNR=13						
437A	Phantom Ranch,	60.66	331	P	P	01 49 24.9	+1.3
	baz=149						
240A	Hunter Patters	60.70	334	P	P	01 49 25.1	+1.3
	baz=151						
CPCT	Cooper Cave	60.72	343	eP	P	01 49 23.8	-0.1
	comp=Z,21nm,0.8s						
TKL	Tuckaleechee C	60.72	344	eP	P	01 49 23.6	-0.4
TKL				pmax	pmax		
	comp=Z,38nm,1.1s						
TKL	Tuckaleechee C	60.72	344	eP	P	01 49 23.6	-0.4
	comp=Z,38nm,1.1s						
338A	Crockett	60.75	332	P	P	01 49 25.7	+1.5
	baz=150,SNR=12						
Y45A	Yeager Farm, C	60.75	338	P	P	01 49 24.0	-0.1
	baz=156,SNR=14						
Z43A	Armstrong Fami	60.76	337	P	P	01 49 24.5	+0.3
	baz=154						
NATX	Nacogdoches	60.82	333	P	P	01 49 25.8	+1.1
	baz=150,SNR=5.6						
NATX	Nacogdoches	60.82	333	eP	P	01 49 26.1	+1.4
	comp=Z,69nm,0.9s						
141A	Papa Simpson,	60.85	335	P	P	01 49 25.9	+1.1
	baz=152,SNR=5.0						
SWET	Sewanee	60.88	342	eP	P	01 49 24.8	-0.2
	comp=Z,61nm,0.8s						
436A	Wall Ranch, Ga	60.91	331	P	P	01 49 26.1	+0.9
	baz=148,SNR=8.8						
337A	Centerville	60.96	332	P	P	01 49 27.3	+1.7
	baz=149						
239A	Gary	60.97	333	P	P	01 49 26.9	+1.2
	baz=151,SNR=6.5						
Y44A	Strider, Charl	61.07	338	P	P	01 49 26.0	-0.3
	baz=155						
Z42A	Norrel Spur, H	61.08	336	P	P	01 49 26.3	0.0
	baz=153						
140A	Cam and Jess,	61.15	334	P	P	01 49 28.0	+1.2
	baz=152,SNR=6.3						
X45A	UM Field Stati	61.21	339	P	P	01 49 26.4	-0.8
	baz=156,SNR=9.2						
238A	Jacksonville	61.23	333	P	P	01 49 28.7	+1.3
	baz=150,SNR=7.4						
435B	Jarrell	61.28	330	P	P	01 49 28.2	+0.5
	baz=147						
Y43A	Makayla and Ka	61.28	337	P	P	01 49 27.8	+0.1
	baz=154						
OXF	Oxford	61.30	339	eP	P	01 49 27.4	-0.4
OXF				pmax	pmax		
	comp=Z,52nm,0.8s						
OXF	Oxford	61.30	339	eP	P	01 49 27.4	-0.4
	comp=Z,52nm,0.8s						
URVA	University of	61.30	350	eP	P	01 49 28.1	+0.4
Z41A	Richland Creek	61.39	335	P	P	01 49 28.9	+0.5
	baz=152						
VWCC	Virginia Weste	61.41	348	eP	P	01 49 29.4	+0.9
336A	Riesel	61.45	331	P	P	01 49 29.5	+0.6
	baz=148,SNR=16						
BLA	Blacksburg	61.46	348	eP	P	01 49 29.9	+1.0
BLA				pmax	pmax		
	comp=Z,99nm,1.6s						
BLA	Blacksburg	61.46	348	eP	P	01 49 29.9	+1.0
	comp=Z,99nm,1.6s						
JSRW	J. Sargeant Re	61.48	350	eP	P	01 49 30.3	+1.4
139A	Bunkhouse Ranc	61.51	334	P	P	01 49 30.4	+1.1
	baz=151						
237A	Washetta, Mont	61.52	332	P	P	01 49 30.4	+1.0
	baz=149,SNR=8.0						
Y42A	Garnett, Star	61.52	336	P	P	01 49 29.6	+0.3
	baz=154						
X44A	Crenshaw	61.54	338	P	P	01 49 28.9	-0.5
	baz=155						
CCAR	Cane Creek	61.59	336	eP	P	01 49 30.8	+1.0
	comp=Z,47nm,0.8s						
IP05	Hopewell Churc	61.59	350	eP	P	01 49 30.3	+0.6
	comp=Z,16nm,1.0s						
Z40A	Long Farm, Mag	61.62	335	P	P	01 49 31.2	+1.2
	baz=152,SNR=15						
IP07	Quail	61.72	350	eP	P	01 49 31.1	+0.6
	comp=Z,33nm,0.8s						
IP06	Yanceyville	61.73	350	eP	P	01 49 31.2	+0.6
	comp=Z,33nm,0.8s						
IP01	Cuckoo	61.74	350	eP	P	01 49 31.5	+0.8
	comp=Z,28nm,1.0s						
138A	Matatall Enter	61.78	333	P	P	01 49 32.4	+1.3
	baz=150						
X43A	Marvell	61.81	338	P	P	01 49 31.4	+0.2
	baz=155,SNR=5.3						
W45A	Hickory Valley	61.81	339	P	P	01 49 30.6	-0.6
	baz=156,SNR=9.2						
IP03	Louisa	61.82	350	eP	P	01 49 32.1	+0.9
	comp=Z,34nm,0.8s						
236A	Katherine and	61.83	331	P	P	01 49 32.3	+0.8
	baz=149,SNR=12						
CVRD	Centerville Ro	61.83	350	eP	P	01 49 31.6	+0.4
	comp=Z,16nm,0.8s						
Y41A	Eaglette Beard	61.87	336	P	P	01 49 32.2	+0.6
	baz=153,SNR=8.7						
WLAR	White Oak Lake	61.89	335	eP	P	01 49 33.1	+1.3
	comp=Z,136nm,0.8s						
IP04	Greensprings	61.90	350	eP	P	01 49 32.6	+0.9
	comp=Z,26nm,1.1s						
Z39A	Irene McRaven,	61.92	334	P	P	01 49 33.1	+1.1
	baz=151						
BBTS	Babate	61.93	58	P	P	01 49 32.7	+0.3
	comp=Z,37nm,0.8s,baz=254,slow=3.6,SNR=7.8						
W44A	Shelby Farms P	62.01	339	P	P	01 49 32.2	-0.3
	baz=156						
137A	Heron Place, G	62.01	332	P	P	01 49 33.8	+1.2
	baz=150,SNR=18						
JCT	Junction City	62.08	328	P	P	01 49 33.6	+0.5
	baz=145,SNR=33						
JCT	Junction City	62.08	328	eP	P	01 49 33.7	+0.5
JCT				pmax	pmax		
	comp=Z,51nm,0.8s						
JCT	Junction City	62.08	328	eP	P	01 49 33.7	+0.5
	comp=Z,51nm,0.8s						
X42A	Stuttgart	62.10	337	P	P	01 49 33.1	-0.1
	baz=154						
136A	Ennis	62.24	332	P	P	01 49 34.8	+0.7
	baz=149,SNR=5.5						
WHTX	Lake Whitney,	62.24	331	P	P	01 49 34.5	+0.3
	baz=148						
WHTX	Lake Whitney,	62.24	331	eP	P	01 49 35.0	+0.9
	comp=Z,40nm,0.6s						
Y40A	Okolona	62.24	335	P	P	01 49 34.6	+0.5
	baz=152,SNR=8.2						
Z38A	Mt. Pleasant	62.25	333	P	P	01 49 35.3	+1.1
	baz=150						
V45A	Humboldt	62.28	340	P	P	01 49 33.5	-0.8
	baz=157						
WVT	Waverly	62.28	341	eP	P	01 49 33.7	-0.6
WVT				pmax	pmax		
	comp=Z,60nm,0.8s						
WVT	Waverly	62.28	341	eP	P	01 49 33.7	-0.6
	comp=Z,60nm,0.8s						
X41A	Kaden, Bauxite	62.38	336	P	P	01 49 34.9	-0.1
	baz=153						
HPIG		62.43	321	eP	P	01 49 37.1	+1.3
	comp=Z,19nm,0.8s						
Z37A	Pogue Cattle C	62.47	333	P	P	01 49 36.5	+0.8
	baz=150						
X40A	Basin Creek Fa	62.49	336	P	P	01 49 35.5	-0.2
	baz=153						
Y39A	Lockesburg	62.49	335	P	P	01 49 36.4	+0.6
	baz=152,SNR=18						
UALR	University of	62.56	336	eP	P	01 49 36.4	+0.2
	comp=Z,16nm,0.8s						
SLBS	Sierra La Lagu	62.69	315	eP	P	01 49 39.5	+2.1
	comp=Z,48nm,1.2s						
W42A	Bald Knob	62.72	337	P	P	01 49 36.9	-0.3
	baz=154						
Y38A	Idabel	62.74	334	P	P	01 49 37.6	+0.2
	baz=151,SNR=6.4						
U45A	Rockin P Farm,	62.77	340	P	P	01 49 37.2	-0.4
	baz=157,SNR=6.8						
UTMT	University of	62.80	340	eP	P	01 49 38.5	+0.7
	comp=Z,138nm,0.8s						
MIAR	Mount Ida	62.83	335	P	P	01 49 38.0	0.0
	baz=152,SNR=19						
MIAR	Mount Ida	62.83	335	eP	P	01 49 38.2	+0.2
MIAR				pmax	pmax		
	comp=Z,47nm,1.1s						
MIAR	Mount Ida	62.83	335	eP	P	01 49 38.2	+0.2
	comp=Z,47nm,1.1s						
V43A	Jonesboro	62.84	338	P	P	01 49 38.0	0.0
	baz=155						
GLAT	Glass	62.87	340	eP	P	01 49 39.1	+0.9
	comp=Z,229nm,1.2s						
Z36A	Blue Ridge	62.88	332	P	P	01 49 39.1	+0.7
	baz=149,SNR=24						
W41B	Gary Mavity, V	62.89	337	P	P	01 49 38.1	-0.2
	baz=154,SNR=6.8						
U44B	Burton Farm, H	62.95	340	P	P	01 49 38.5	-0.2
	baz=156						
X39A	Fountain Ranch	63.00	335	P	P	01 49 39.8	+0.7
	baz=152,SNR=23						
WHAR	Wooly Hollow	63.01	337	eP	P	01 49 39.2	+0.1
	comp=Z,17nm,0.8s						
Y37A	Hugo	63.15	333	P	P	01 49 41.2	+1.1
	baz=150,SNR=25						
V42A	Cord	63.15	338	P	P	01 49 39.2	-0.8
	baz=154						
TXAR	Lajitas Array	63.15	324	P	P	01 49 41.0	+0.7
	comp=Z,5.5nm,0.7s,baz=151,slow=8.5,SNR=70						
LTX	Lajitas	63.15	324	eP	P	01 49 41.0	+0.6
LTX	Lajitas	63.15	324	eP	P	01 49 41.0	+0.6
TX31	Lajitas Ar. Si	63.15	324	eP	P	01 49 41.0	+0.6
W40A	Ferguson Farm,	63.21	336	P	P	01 49 41.0	+0.6
	baz=153,SNR=13						
W40A	Ferguson Farm,	63.21	336	eP	P	01 49 41.2	+0.7
	comp=Z,93nm,1.2s						
U44A	Portageville	63.21	339	P	P	01 49 40.5	+0.1
	baz=156						
PARMO	Parma	63.38	339	eP	P	01 49 42.6	+1.1
	comp=Z,235nm,0.7s						
V41A	Mountainview	63.40	337	P	P	01 49 41.3	-0.5
	baz=154,SNR=19						
X38A	Whitesboro	63.42	334	P	P	01 49 42.7	+0.8
	baz=151,SNR=21						
W39A	Magazine	63.48	335	P	P	01 49 42.8	+0.6
	baz=152,SNR=33						
MVL	Millersville	63.52	352	eP	P	01 49 43.2	+0.8
	comp=Z,8.3nm,0.7s						
X37A	Clayton	63.57	334	P	P	01 49 43.6	+0.7
	baz=150,SNR=18						
U42A	Revenden	63.59	338	P	P	01 49 42.5	-0.4
	baz=155,SNR=11						
W38A	Poteau	63.65	335	P	P	01 49 44.3	+0.9
	baz=151,SNR=27						
V40A	Witts Springs	63.66	337	P	P	01 49 43.1	-0.4
	baz=153,SNR=18						
Y35A	Marietta	63.68	332	P	P	01 49 44.3	+0.7
	baz=149,SNR=10						
PBMO	Poplar Bluff	63.70	339	eP	P	01 49 43.4	-0.2
	comp=Z,60nm,0.8s						
T44A	Benton	63.71	340	P	P	01 49 43.2	-0.5
	baz=156,SNR=7.2						
MCWV	Mont Chateau	63.72	349	eP	P	01 49 44.2	+0.5
	comp=Z,18nm,0.7s						
ABTX	Abilene, Hawle	63.77	329	P	P	01 49 44.6	+0.3
	baz=146,SNR=6.6						
ABTX	Abilene, Hawle	63.77	329	eP	P	01 49 44.7	+0.4
	comp=Z,61nm,1.4s						
WCI	Wyandotte Cave	63.80	343	eP	P	01 49 43.5	-0.9
WCI				pmax	pmax		
	comp=Z,35nm,0.6s						
WCI	Wyandotte Cave	63.80	343	eP	P	01 49 43.5	-0.9
	comp=Z,35nm,0.6s						
U41A	Viola	63.82	338	P	P	01 49 44.1	-0.4
	baz=154,SNR=12						
T43A	Greenville	63.93	339	P	P	01 49 44.9	-0.3
	baz=156,SNR=55						
USIN	University of	63.94	342	eP	P	01 49 44.3	-0.9
	comp=Z,22nm,0.9s						
S45A	Carrier Mills	63.94	341	P	P	01 49 44.4	-0.8
	baz=158						
X36A	Centrahoma	63.96	333	P	P	01 49 45.3	-0.1
	baz=150,SNR=19						
V39A	Pettigrew	63.99	336	P	P	01 49 45.9	+0.2
	baz=152,SNR=45						
X35A	Drake	64.07	332	P	P	01 49 46.1	0.0
	baz=149,SNR=38						
W37B	Quinton	64.08	334	P	P	01 49 46.7	+0.6
	baz=150,SNR=12						
O56A	Blue Knob Stat	64.10	350	P	P	01 49 46.9	+0.7
	baz=168						
T42A	Van Buren	64.15	339	P	P	01 49 46.0	-0.6
	baz=155						
U40A	Yellville	64.16	337	P	P	01 49 46.6	-0.1
	baz=153,SNR=19						
S44A	Carbondale	64.16	340	P	P	01 49 46.0	-0.7
	baz=157,SNR=7.3						
V38A	Canehill	64.31	335	P	P	01 49 47.7	0.0
	baz=152,SNR=29						
S43A	Fulton Ridge,	64.31	340	P	P	01 49 46.9	-0.7
	baz=156,SNR=14						
N59A	State Game Lan	64.35	352	P	P	01 49 48.1	+0.3
	baz=171						
SSPA	Standing Stone	64.36	351	eP	P	01 49 48.7	+0.8
	comp=Z,11nm,0.7s						
T41A	Mountain View	64.39	338	P	P	01 49 47.7	-0.5
	baz=154,SNR=13						
W36A	Wetumka	64.40	333	P	P	01 49 48.1	-0.2
	baz=150,SNR=26						
U39A	Green Forest	64.42	336	P	P	01 49 48.1	-0.2
	baz=153,SNR=24						
HHAR	Hobbs	64.50	336	eP	P	01 49 49.3	+0.4
	comp=Z,37nm,0.8s						
NVL	N'lazarevskaya	64.54	159	eP	P	01 49 48.9	+0.2
V37A	Hulbert	64.61	335	P	P	01 49 49.9	+0.3
	baz=151,SNR=22						
R44A	Waltonville	64.62	341	P	P	01 49 48.4	-1.2
	baz=157						
W35A	Tecumseh	64.68	333	P	P	01 49 49.8	-0.3
	baz=149,SNR=9.6						
S42A	Caledonia	64.72	339	P	P	01 49 49.4	-0.9
	baz=155,SNR=35						
BLO	Bloomington	64.75	343	eP	P	01 49 50.0	-0.4
BLO				pmax	pmax		
	comp=Z,26nm,0.6s						
BLO	Bloomington	64.75	343	eP	P	01 49 50.0	-0.4
	comp=Z,26nm,0.6s						
T40A	Mansfield	64.75	337	P	P	01 49 50.3	-0.2
	baz=154,SNR=15						
U38A	Gravette	64.80	336	P	P	01 49 50.7	-0.2
	baz=152,SNR=10						
V36A	Jenks	64.84	334	P	P	01 49 51.3	+0.2
	baz=150,SNR=26						
S41A	Jillco Farms,	64.88	338	P	P	01 49 51.1	-0.2
	baz=154,SNR=51						
TUL1	Leonard	64.89	334	P	P	01 49 51.6	+0.2
	baz=150,SNR=7.8						
TUL1	Leonard	64.89	334	eP	P	01 49 51.6	+0.2
	comp=Z,70nm,1.3s						
ACSO	Alum Creek Sta	64.90	346	eP	P	01 49 51.0	-0.3
	comp=Z,32nm,0.8s						
R43A	Red Bud	64.91	340	P	P	01 49 50.4	-1.1
	baz=156,SNR=5.3						
T39A	Clever	64.95	337	P	P	01 49 51.4	-0.3
	baz=153,SNR=16						
BRYW	Bryant College	64.95	356	eP	P	01 49 52.6	+0.9
	comp=Z,73nm,1.0s						
N54A	Moraine State	65.02	349	P	P	01 49 52.3	+0.1
	baz=166						
U37A	Salina	65.06	335	P	P	01 49 52.8	+0.3
	baz=151,SNR=14						
CCM	Cathedral Cave	65.13	339	eP	P	01 49 52.6	-0.3
CCM				pmax	pmax		
	comp=Z,70nm,0.7s						
CCM	Cathedral Cave	65.13	339	eP	P	01 49 52.6	-

R42A	Luebbering	65.19 339	P	P	01 49 52.9	-0.3
	baz=156,SNR=17					
Q44A	Meyer Farm, Va	65.20 341	P	P	01 49 52.2	-1.1
	baz=157					
U36A	Oologah	65.28 335	P	P	01 49 54.0	+0.1
	baz=151,SNR=8.5					
T38A	Diamond	65.30 336	P	P	01 49 54.2	+0.2
	baz=152,SNR=39					
R41A	Rosebud	65.40 339	P	P	01 49 54.3	-0.3
	baz=155,SNR=34					
Q43A	New Douglas	65.45 341	P	P	01 49 53.8	-1.1
	baz=157					
M54A	Oil Creek Stat	65.49 349	P	P	01 49 55.5	+0.3
	baz=167					
S39A	Bolivar	65.52 337	P	P	01 49 55.4	0.0
	baz=153,SNR=60					
T37A	Cheneyville 18	65.61 336	P	P	01 49 56.4	+0.4
	baz=151,SNR=57					
BINY	Binghamton	65.64 353	eP	P	01 49 57.2	+1.1
	comp=Z,52nm,0.8s					
U35A	Pawnee	65.67 334	P	P	01 49 56.9	+0.5
	baz=150,SNR=31					
S38A	Stockton	65.68 337	P	P	01 49 56.5	0.0
	baz=152,SNR=21					
Q42A	Golden Eagle	65.68 340	P	P	01 49 56.0	-0.4
	baz=156,SNR=10					
R40A	Maddies Statio	65.69 338	P	P	01 49 56.0	-0.5
	baz=154,SNR=18					
MNTX	Cornudas Mount	65.92 324	P	P	01 49 58.1	0.0
	baz=141,SNR=45					
MNTX	Cornudas Mount	65.92 324	eP	P	01 49 58.2	0.0
	comp=Z,24nm,0.9s					
TRY	Troy	65.92 354	eP	P	01 49 59.2	+1.3
	comp=Z,46nm,0.8s					
T36A	Boggs Farm, Ca	65.92 335	P	P	01 49 58.3	+0.3
	baz=151,SNR=19					
Q41A	Truxton	65.94 339	P	P	01 49 57.5	-0.6
	baz=155,SNR=12					
R39A	Chumby, Stover	65.98 338	P	P	01 49 58.3	0.0
	baz=153,SNR=16					
SFIN	Lafayette	66.03 343	P	P	01 49 57.3	-1.3
	baz=159					
SFIN	Lafayette	66.03 343	eP	P	01 49 57.8	-0.9
	comp=Z,27nm,0.8s					
P43A	Skaggs, Pawnee	66.04 341	P	P	01 49 57.7	-1.0
	baz=157,SNR=8.2					
T35A	Sooner Cattle	66.05 334	P	P	01 49 59.2	+0.4
	baz=150,SNR=10					
S37A	Fort Scott	66.13 336	P	P	01 49 59.5	+0.1
	baz=152,SNR=34					
R38A	Fenwick Farm,	66.17 337	P	P	01 49 59.5	0.0
	baz=153,SNR=42					
P42A	Winchester	66.24 340	P	P	01 49 59.0	-0.9
	baz=156,SNR=8.0					
Q40A	Laux Farm, Aux	66.26 339	P	P	01 49 59.5	-0.5
	baz=154,SNR=9.4					
MSTX	Muleshoe	66.37 328	P	P	01 50 01.3	+0.2
	baz=144,SNR=38					
MSTX	Muleshoe	66.37 328	eP	P	01 50 01.4	+0.3
	comp=Z,90nm,0.8s					
S36A	Lake Cedric, C	66.39 335	P	P	01 50 01.2	+0.3
	baz=151,SNR=14					
T34A	McClaskey Farm	66.41 334	P	P	01 50 01.5	+0.4
	baz=149,SNR=9.5					
MMNY	Mt. Morris Dam	66.41 351	eP	P	01 50 01.8	+0.8
N46A	Monticello	66.42 344	P	P	01 49 59.8	-1.3
	baz=160					
P41A	Barry, Barry	66.54 340	P	P	01 50 01.0	-0.8
	baz=156,SNR=8.9					
O43A	Sugar Creek Fa	66.57 341	P	P	01 50 01.0	-1.1
	baz=157					
EPT	El Paso	66.58 324	eP	P	01 50 03.5	+1.0
	comp=Z,16nm,0.8s					
N45A	Kentland	66.58 343	P	P	01 50 00.7	-1.4
	baz=159					
AMTX	Amarillo	66.59 329	P	P	01 50 02.5	+0.1
	baz=145					
AMTX	Amarillo	66.59 329	eP	P	01 50 03.0	+0.6
	comp=Z,18nm,0.7s					
Q39A	Willow Grove F	66.61 338	P	P	01 50 02.1	-0.2
	baz=154,SNR=33					
R37A	Teagarden Farm	66.62 336	P	P	01 50 02.4	0.0
	baz=152,SNR=21					
U32A	Winter Ranch,	66.62 332	P	P	01 50 02.9	+0.4
	baz=148					
S35A	Otter Creek Ra	66.64 335	P	P	01 50 03.0	+0.5
	baz=150,SNR=20					
O42A	Bath	66.72 341	P	P	01 50 02.0	-1.0
	baz=156,SNR=5.2					
P40A	Paris	66.73 339	P	P	01 50 02.7	-0.4
	baz=155,SNR=7.9					
Q38A	Cooks Store, C	66.76 337	P	P	01 50 03.4	+0.2
	baz=153,SNR=27					
HDIL	Hopedale	66.81 342	P	P	01 50 02.6	-0.9
	baz=157					
HDIL	Hopedale	66.81 342	eP	P	01 50 02.6	-0.9
	comp=Z,32nm,0.7s					
R36A	Gordon, Harris	66.88 336	P	P	01 50 04.1	+0.1
	baz=151,SNR=22					
O41A	Passleys Farm,	66.89 340	P	P	01 50 03.1	-1.0
	baz=156,SNR=5.6					
P39B	Salisbury	66.93 338	P	P	01 50 04.0	-0.3
	baz=154,SNR=18					
S34A	Willow Spring	66.97 334	P	P	01 50 04.7	0.0
	baz=150					
Q37A	Longview Farm,	66.98 337	P	P	01 50 04.6	0.0
	baz=152,SNR=19					
QSPA	South Pole Qui	66.98 180	eP	P	01 50 04.1	-0.5
	comp=Z,48nm,0.8s					
LIC	Lamto	67.03 72	eP	P	01 50 03.5	-2.0
	comp=Z,57nm,0.9s					
HSIG		67.11 319	eP	P	01 50 07.4	+1.7
	comp=Z,50nm,1.1s					
R35A	Emporia Munici	67.15 335	P	P	01 50 06.2	+0.5
	baz=150,SNR=6.0					
O40A	La Belle	67.21 339	P	P	01 50 05.5	-0.6
	baz=155,SNR=16					
TIC	Toumodi	67.23 72	eP	P	01 50 04.8	-2.0
N42A	Yates City	67.28 341	P	P	01 50 05.7	-0.8
	baz=157,SNR=7.4					
P38A	Dawn	67.32 338	P	P	01 50 06.6	-0.1
	baz=153,SNR=24					
KIC	Kosan Boka	67.34 72	eP	P	01 50 05.7	-1.8
	comp=Z,60nm,0.7s					
DBIC	Dimbokro	67.39 72	P	P	01 50 06.1	-1.7
	comp=Z,31nm,0.8s,baz=217,slow=7.2,SNR=28					
DBIC			PP	PP	01 52 30.0	-9.2
	comp=Z,8.5nm,0.8s,baz=186,slow=9.2,SNR=4.8					
DBIC	Dimbokro	67.39 72	eP	P	01 50 06.1	-1.7
	comp=Z,30nm,0.8s					
DBIC			ePP	PP	01 52 31.9	-7.4
N41A	Harden Midland	67.42 340	P	P	01 50 06.5	-0.8
	baz=156					
Q36A	Arnold C. Orve	67.42 336	P	P	01 50 07.3	-0.1
	baz=151					
R34A	Isabella, Hill	67.54 334	P	P	01 50 08.6	+0.4
	baz=150,SNR=14					
O39A	Kirksville	67.55 339	P	P	01 50 07.9	-0.3
	baz=154,SNR=6.0					
Q35A	Mercer Eighty,	67.55 336	P	P	01 50 08.1	-0.1
	baz=151,SNR=6.8					
P37A	Lathrop	67.57 337	P	P	01 50 08.1	-0.3
	baz=152,SNR=26					
O38A	Galt	67.74 338	P	P	01 50 09.2	-0.2
	baz=153,SNR=16					
M42A	Sheffield	67.78 342	P	P	01 50 08.7	-0.9
	baz=157					
N40A	Mertquake, Sal	67.81 340	P	P	01 50 09.2	-0.6
	baz=155,SNR=15					
319A	Douglas	67.84 321	eP	P	01 50 12.3	+1.9
	comp=Z,48nm,0.7s					
121A	Cookes Peak, D	67.86 323	P	P	01 50 12.5	+1.9
	baz=139,SNR=31					
LONY	Lake Ozonia	67.88 354	eP	P	01 50 10.7	+0.5
	comp=Z,18nm,0.9s					
P36A	Good Intent, A	67.91 337	P	P	01 50 09.9	-0.6
	baz=152,SNR=10					
L44A	Lake County Fo	67.93 343	P	P	01 50 09.6	-1.0
	baz=159					
M41A	Milan	67.94 341	P	P	01 50 09.7	-0.9
	baz=156,SNR=11					
Q34A	Chapman	67.95 335	P	P	01 50 11.0	+0.2
	baz=150,SNR=13					
KSU1	Kansas State U	67.98 335	P	P	01 50 10.9	-0.1
	baz=150					
KSU1	Kansas State U	67.98 335	eP	P	01 50 11.1	+0.1
	comp=Z,45nm,0.8s					
O37A	Wolven Farm, M	68.02 338	P	P	01 50 10.9	-0.2
	baz=153,SNR=15					
N39A	Derby Farms, D	68.10 339	P	P	01 50 11.1	-0.5
	baz=154,SNR=11					
P35A	Duane Minner,	68.13 336	P	P	01 50 11.7	-0.2
	baz=151,SNR=8.9					
L43A	Garden Prairie	68.16 343	P	P	01 50 11.3	-0.6
	baz=158,SNR=7.7					
M40A	Post Highland	68.26 340	P	P	01 50 12.0	-0.6
	baz=155,SNR=17					
N38A	Joes South For	68.26 339	P	P	01 50 12.2	-0.5
	baz=154,SNR=5.8					
O36A	Bolckow	68.27 337	P	P	01 50 12.3	-0.4
	baz=152,SNR=14					
P34A	Walnut Farm, R	68.45 335	P	P	01 50 14.3	+0.4
	baz=150,SNR=28					
BNM	Barren Site	68.47 325	eP	P	01 50 16.1	+1.6
M39A	Webster	68.53 340	P	P	01 50 13.7	-0.6
	baz=155					
L41A	Preston	68.56 341	P	P	01 50 13.5	-1.0
	baz=156,SNR=8.5					
N37A	Lee Faris, Mou	68.56 338	P	P	01 50 14.1	-0.4
	baz=153,SNR=15					
LPM	Los Pinos Moun	68.60 325	eP	P	01 50 16.9	+1.8
O35A	Humboldt	68.73 336	P	P	01 50 14.8	-0.8
	baz=151					
L40A	Anamosa	68.77 341	P	P	01 50 15.2	-0.5
	baz=156,SNR=11					
M38A	Pleasantville	68.81 339	P	P	01 50 15.4	-0.7
	baz=154,SNR=18					
N36A	Muff Farm, Cla	68.88 337	P	P	01 50 16.4	-0.1
	baz=152,SNR=10.0					
LAZ	Ladron	68.94 325	eP	P	01 50 19.0	+1.8
O34A	Beatrice	68.95 336	P	P	01 50 16.8	-0.2
	baz=150,SNR=13					
CBKS	Cedar Bluff	68.99 333	P	P	01 50 18.2	+1.0
	baz=148,SNR=20					
CBKS	Cedar Bluff	68.99 333	eP	P	01 50 18.4	+1.1
CBKS			pmax	pmax		
	comp=Z,94nm,0.8s					
CBKS	Cedar Bluff	68.99 333	eP	P	01 50 18.4	+1.1
	comp=Z,94nm,0.8s					
K41A	Shullsburg	69.00 342	P	P	01 50 16.5	-0.6
	baz=157,SNR=9.3					
ANMO	Albuquerque	69.00 326	P	P	01 50 19.0	+1.4
	baz=141					
ANMO	Albuquerque	69.00 326	diP	P	01 50 18.8	+1.2
ANMO			pmax	pmax		
	comp=Z,35nm,0.9s					
ANMO	Albuquerque	69.00 326	eP	P	01 50 19.2	+1.6
	comp=Z,30nm,0.8s					
L39A	Vinton	69.06 340	P	P	01 50 17.0	-0.6
	baz=155,SNR=9.8					
M37A	Trindle Farm,	69.08 338	P	P	01 50 17.8	0.0
	baz=153,SNR=12					
N35A	Tabor	69.16 337	P	P	01 50 18.0	-0.2
	baz=152,SNR=10					
O33A	Hebron	69.20 335	P	P	01 50 18.9	+0.4
	baz=150,SNR=20					
JFWS	Jewell Farm	69.26 342	eP	P	01 50 18.3	-0.4
JFWS			pmax	pmax		
	comp=Z,38nm,0.7s					
JFWS	Jewell Farm	69.26 342	eP	P	01 50 18.3	-0.4
	comp=Z,38nm,0.7s					
K40A	Colesburg	69.33 341	P	P	01 50 18.5	-0.6
	baz=156,SNR=5.6					
L38A	Oak Wood Farm,	69.38 339	P	P	01 50 19.8	+0.3
	baz=154					
M36A	Felix, Anita	69.39 338	P	P	01 50 19.4	-0.2
	baz=152,SNR=9.1					
TUC	Tucson	69.39 321	P	P	01 50 21.5	+1.6
	baz=137					
TUC	Tucson	69.39 321	eP	P	01 50 21.4	+1.5
TUC			pmax	pmax		
	comp=Z,34nm,1.1s					
TUC	Tucson	69.39 321	eP	P	01 50 21.4	+1.5
	comp=Z,34nm,1.1s					
N34A	Lincoln	69.45 336	P	P	01 50 19.7	-0.3
	baz=151,SNR=13					
TRQ	Mont Tremblant	69.47 354	eP	P	01 50 20.4	+0.3
K39A	Oelwein	69.56 341	P	P	01 50 20.0	-0.6
	baz=155,SNR=13					
J41A	Loganville	69.61 342	P	P	01 50 20.5	-0.4
	baz=157					
L37A	Phoenix Point,	69.63 339	P	P	01 50 20.4	-0.6
	baz=153					
M35A	Neola	69.71 337	P	P	01 50 21.3	-0.2
	baz=152,SNR=5.8					
T25A	Trinidad	69.71 329	P	P	01 50 23.4	+1.5
	baz=143,SNR=22					
T25A	Trinidad	69.71 329	eP	P	01 50 23.5	+1.5
	comp=Z,122nm,1.8s					
N33A	J Bar K, Exete	69.72 336	P	P	01 50 21.6	0.0
	baz=150					
K38A	Parkersburg	69.78 340	P	P	01 50 21.6	-0.3
	baz=154					
I42A	Draeger Farm,	69.79 343	P	P	01 50 21.8	-0.2
	baz=158					
MHTCO	State Highway	69.84 328	eP	P	01 50 24.4	+1.7
	comp=Z,54nm,1.0s					
J40A	Soldiers Grove	69.85 342	P	P	01 50 21.9	-0.4
	baz=156,SNR=8.3					
L36A	Harm Buss Farm	69.91 338	P	P	01 50 22.5	-0.3
	baz=153,SNR=10.0					
H43A	Windswept, Lux	70.04 344	P	P	01 50 22.9	-0.6
	baz=159					
M34A	Aspy Farms, Fr	70.06 337	P	P	01 50 23.7	0.0
	baz=151,SNR=6.0					
J39A	Decorah	70.08 341	P	P	01 50 23.0	-0.7
	baz=156,SNR=7.4					
K37A	Belmond	70.17 339	P	P	01 50 23.6	-0.7
	baz=154,SNR=11					
I41A	Arkdale	70.21 343	P	P	01 50 24.3	-0.2
	baz=157					
L35A	Bielow Farm, R	70.23 338	P	P	01 50 24.6	0.0
	baz=152,SNR=7.6					
I40A	Norwalk	70.27 342	P	P	01 50 24.5	-0.4
	baz=157					
H42A	Shiocton	70.27 344	P	P	01 50 24.6	-0.2
	baz=159					
J38A	Wedel Dairy, R	70.30 340	P	P	01 50 24.7	-0.3
	baz=155					
K36A	Gilmore City	70.32 339	P	P	01 50 25.1	-0.2
	baz=153,SNR=6.7					
214A	Organ Pipe Nat	70.33 319	P	P	01 50 27.6	+2.0
	baz=135,SNR=22					
M33A	Taylor Creek F	70.35 336	P	P	01 50 25.3	-0.2
	baz=150,SNR=8.4					
L34A	Svendsen Farm,	70.39 337	P	P	01 50 25.5	-0.2
	baz=151,SNR=5.0					
KSCO	Kaye Shedlock'	70.40 331	P	P	01 50 27.3	+1.3
	baz=145,SNR=8.0					
KSCO	Kaye Shedlock'	70.40 331	eP	P	01 50 27.2	+1.3
	comp=Z,52nm,1.0s					
I39A	Houston	70.49 341	P	P	01 50 25.7	-0.6
	baz=156,SNR=6.0					
X18A	Snowflake	70.55 323	eP	P	01 50 29.0	+2.0
	comp=Z,20nm,0.9s					
BGNE	Belgrade	70.57 335	P	P	01 50 27.3	+0.5
	baz=149,SNR=24					
BGNE	Belgrade	70.57 335	eP	P	01 50 27.3	+0.5
	comp=Z,291nm,0.6s					
F46A	Macinaw City C	70.58 347	P	P	01 50 26.4	-0.3
	baz=162					
J37A	Redenius Farm,	70.63 340	P	P	01 50 26.7	-0.3
	baz=154,SNR=5.3					
F45A	CMU Biological	70.65 346	P	P	01 50 26.8	-0.3
	baz=162					
K35A	Storm Lake	70.66 338	P	P	01 50 27.1	-0.1
	baz=152					
H41A	Junction City	70.67 343	P	P	01 50 26.7	-0.5
	baz=158					
SDCO	Great Sand Dun	70.72 328	P	P	01 50 29.7	+1.6
	baz=142,SNR=49					
SDCO	Great Sand Dun	70.72 328	eP	P	01 50 29.7	+1.6
	comp=Z,36nm,1.0s					
W18A	Petrified Fore	70.87 324	P	P	01 50 30.6	+1.7
	baz=138,SNR=12					
W18A	Petrified Fore	70.87 324	eP	P	01 50 30.8	+1.8
	comp=Z,43nm,0.9s					
H40A	Chili	70.87 342	P	P	01 50 28.3	-0.3
	baz=157,SNR=5.8					
J36A	Seneca 1, Swea	70.90 339	P	P	01 50 28.5	-0.2
	baz=153					
I38A	Scanlan Farm,	70.91 341	P	P	01 50 28.4	-0.3
	baz=155,SNR=7.4					
G42A	Mountain	70.93 344	P	P	01 50 28.4	-0.4
	baz=159					
K34A	Le Mars	70.93 338	P	P	01 50 28.7	-0.2
	baz=151					
L32A	Elgin	71.03 336	P	P	01 50 29.4	-0.2
	baz=150					
G41A	Antigo	71.09 343	P	P	01 50 29.7	-0.1
	baz=158					
F44A	Big Bay de Noc	71.13 346	P	P	01 50 29.4	-0.6
	baz=161					
F43A	Flat Rock, Esc	71.17 345	P	P	01 50 29.8	-0.4
	baz=160					
H39A	Augusta	71.18 342	P	P	01 50 29.9	-0.5
	baz=156					
I37A	Lemond, Waseca	71.21 340	P	P	01 50 30.4	-0.1
	baz=154,SNR=6.7					
E45A	Wooded Hills,	71.22 347	P	P	01 50 30.4	-0.1
	baz=162					
X16A	Lo Mia Camp, P	71.30 322	eP	P	01 50 33.5	+2.0
	comp=Z,38nm,1.1s					
S22A	4UR Ranch, Cre	71.37 327	P	P	01 50 33.4	+1.4
	baz=141,SNR=21					
S22A	4UR Ranch, Cre	71.37 327	eP	P	01 50 33.4	+1.4
	comp=Z,14nm,0.9s					
J34A	George	71.40 338	P	P	01 50 31.7	-0.1
	baz=152					
I36A	Fitzsimmons Fa	71.41 340	P	P	01 50 31.9	+0.1
	baz=154					
G40A	Rib Lake	71.42 343	P	P	01 50 31.8	0.0
	baz=157					
H38A	Maiden Rock	71.47 341	P	P	01 50 32.0	0.0
	baz=155					
113A	Mohawk Valley,	71.47 319	eP	P	01 50 34.0	+1.6
	comp=Z,12nm,0.8s					
Q24A	Divide	71.52 329	P	P	01 50 34.5	+1.5
	baz=143,SNR=29					
Q24A	Divide	71.52 329	eP	P	01 50 34.4	+1.5
	comp=Z,41nm,0.8s					
F41A	Three Lakes	71.56 344	P	P	01 50 32.6	-0.1
	baz=158					
H37A	Dierke Farm, C	71.57 341	P	P	01 50 32.5	-0.2
	baz=155					
K32A	Verdigre	71.58 336	P	P	01 50 32.7	-0.1
	baz=150					
I35A	Creekview Farm	71.58 339	P	P	01 50 32.6	-0.2
	baz=153					
E43A	Lone Tree Farm	71.64 345	P	P	01 50 32.9	-0.2
	baz=160					
G39A	Holcombe	71.70 342	P	P	01 50 32.7	-0.8
	baz=156					
OGNE	Ogallala	71.74 333	P	P	01 50 34.8	+0.9
	baz=146,SNR=9.2					
OGNE	Ogallala	71.74 333	eP	P	01 50 35.2	+1.3
	comp=Z,51nm,0.7s					
J33A	Davis	71.79 337	P	P	01 50 34.0	0.0
	baz=151,SNR=5.2					
G38A	Ridgeland	71.79 342	P	P	01 50 33.6	-0.4
	baz=156					
MVCO	Mesa Verde	71.80 326	P	P	01 50 36.0	+1.4
	baz=140,SNR=23					
MVCO	Mesa Verde	71.80 326	eP	P	01 50 36.2	+1.7
	comp=Z,40nm,0.9s					
K31A	O'Neill	71.84 336	P	P	01 50 34.9	+0.5
	baz=149,SNR=7.6					
Y14A	Wickenburg	71.85 321	eP	P	01 50 36.5	+1.8
	comp=Z,134nm,1.3s					
H36A	Jessenland, He	71.88 340	P	P	01 50 34.5	0.0
	baz=154					
E42A	Champion	71.91 345	P	P	01 50 34.6	-0.1
	baz=159					
F40A	Park Falls	72.00 343	P	P	01 50 35.3	0.0
	baz=157,SNR=6.2					
ECSD	EROS Data Cent	72.03 338	P	P	01 50 35.2	-0.2
	baz=151,SNR=15					
ECSD	EROS Data Cent	72.03 338	eP	P	01 50 35.4	-0.1
	comp=Z,45nm,1.3s					
WUAZ	Wupatki	72.07 323	P	P	01 50 38.0	+1.9
	baz=137,SNR=29					
WUAZ	Wupatki	72.07 323	eP	P	01 50 38.1	+2.0
	comp=Z,40nm,0.8s					
SPMN	Marine on St.	72.12 341	P	P	01 50 35.5	-0.5
	baz=155,SNR=7.4					
SPMN	Marine on St.	72.12 341	eP	P	01 50 35.8	-0.1
	comp=Z,40nm,1.3s					
J32A	Parkston	72.15 337	P	P	01 50 36.1	-0.1
	baz=150,SNR=5.4					
F39A	Loretta	72.21 343	P	P	01 50 36.4	0.0
	baz=157					
H35A	Sunnyside Ranc	72.28 339	P	P	01 50 36.9	0.0
	baz=153					
GLA	Glamis	72.30 319	P	P	01 50 39.2	+1.8
	baz=134,SNR=9.2					
GLA	Glamis	72.30 319	eP	P	01 50 39.2	+1.8
GLA			pmax	pmax		
	comp=Z,20nm,0.9s					
GLA	Glamis	72.30 319	eP	P	01 50 39.2	+1.8
	comp=Z,20nm,0.9s					
ISCO	Idaho Springs	72.40 330	P	P	01 50 39.5	+1.4
	baz=143,SNR=25					
ISCO	Idaho Springs	72.40 330	eP	P	01 50 39.5	+1.4
ISCO			pmax	pmax		
	comp=Z,22nm,0.9s					
ISCO	Idaho Springs	72.40 330	eP	P	01 50 39.5	+1.4
	comp=Z,22nm,0.9s					
J31A	Geddes	72.41 336	P	P	01 50 38.0	+0.3
	baz=149,SNR=11					
G36A	St. Michael	72.42 340	P	P	01 50 37.2	-0.5
	baz=154					
E40A	Wakefield	72.42 343	P	P	01 50 38.1	+0.4
	baz=158,SNR=5.4					
F38A	Pierce - Schro	72.52 342	P	P	01 50 38.2	0.0
	baz=156					
F37A	Hinrichs Farm,	72.52 341	P	P	01 50 38.3	0.0
	baz=155,SNR=7.4					
E39A	Mellen	72.54 343	P	P	01 50 38.3	0.0
	baz=157					
PV01	Paradox Valley	72.54 327	eP	P	01 50 40.8	+1.9
SMCO	Snowmass	72.56 328	eP	P	01 50 41.0	+1.8
	comp=Z,27nm,0.9s					
H34A	Spellman Lake,	72.56 339	P	P	01 50 38.4	-0.2
	baz=152					
I32A	Karley and Nic	72.58 337	P	P	01 50 38.7	0.0
	baz=150					
Y12C	Blythe	72.61 320	P	P	01 50 41.1	+2.0
	baz=134,SNR=17					
Y12C	Blythe	72.61 320	eP	P	01 50 41.1	+2.0
	comp=Z,37nm,1.1s					
G35A	Watkins	72.64 340	P	P	01 50 38.9	-0.1
	baz=153					
D41A	Chassel	72.66 345	P	P	01 50 39.8	+0.7
	baz=159					
PV05	Paradox Valley	72.77 326	eP	P	01 50 42.0	+1.7
PDMCI	Parker Dam,Lak	72.77 320	P	P	01 50 41.3	+1.3
	baz=135					
IKP	In-Ko-Pah, Jac	72.81 318	P	P	01 50 42.3	+1.9
	baz=133,SNR=7.9					
SWSC	Sam W. Stewart	72.82 318	P	P	01 50 42.1	+1.8
	baz=133					
H33A	Prehn Over Nor	72.90 338	P	P	01 50 40.7	+0.1
	baz=151,SNR=11					
F36A	Milaca	72.91 341	P	P	01 50 40.3	-0.3
	baz=154,SNR=11					
PV10	Paradox Valley	72.96 326	eP	P	01 50 42.8	+1.4
I31A	Royce, Wessing	72.97 337	P	P	01 50 41.1	+0.1
	baz=150					
H32A	Carlson Farm,	72.99 338	P	P	01 50 40.9	-0.2
	baz=150,SNR=11					
BC3	Big Chuckawall	73.10 319	P	P	01 50 43.9	+1.8
	baz=134,SNR=26					
PV09	Paradox Valley	73.10 326	eP	P	01 50 44.4	+2.1
MONP2	Monument Peak	73.17 318	P	P	01 50 44.4	+1.7
	baz=133,SNR=10					
BAR	Barrett	73.18 318	eP	P	01 50 44.4	+1.9
	comp=Z,27nm,0.8s					
W13A	Hualapai Mount	73.18 321	eP	P	01 50 44.8	+2.1
	comp=Z,11nm,0.8s					
F35A	Swanville	73.23 340	P	P	01 50 42.6	+0.1
	baz=153					
U15A	North Rim	73.24 323	eP	P	01 50 45.5	+2.3
	comp=Z,33nm,0.9s					
G33A	Ortonville	73.25 339	P	P	01 50 42.3	-0.3
	baz=152,SNR=10					
IRM	Iron Mountain	73.26 320	P	P	01 50 44.8	+1.8
	baz=134,SNR=18					
H31A	Wolsey	73.34 337	P	P	01 50 43.1	-0.1
	baz=150,SNR=8.1					
NEE2	Needles Airpor	73.38 320	P	P	01 50 45.6	+2.0
	baz=135					
F34A	Alexandria	73.39 340	P	P	01 50 43.2	-0.2
	baz=153					
N23A	Red Feather La	73.42 330	P	P	01 50 45.5	+1.4

baz=143,SNR=14
N23A Red Feather La 73.42 330 *e*P **P 01 50 45.7 +1.6**
comp=Z,27nm,0.8s
E36A McGregor 73.43 341 P **P 01 50 43.3 -0.3**
baz=154
SUSD Miller 73.48 337 P **P 01 50 44.0 +0.1**
baz=149,SNR=6.1
PHWY Pilot Hill 73.53 331 *e*P **P 01 50 46.0 +1.3**
comp=Z,43nm,1.4s
109C Camp Elliot, M 73.59 318 P **P 01 50 46.0 +1.1**
baz=132
G32A Webster 73.66 338 P **P 01 50 45.7 +0.6**
baz=151
BELC Belle Mtn. Jos 73.67 319 P **P 01 50 47.3 +1.8**
baz=133,SNR=13
XPFO Piæon Flat 73.68 318 *e*P **P 01 50 47.5 +2.0**
comp=Z,24nm,1.0s
PFO Pinyon Flats O 73.68 318 P **P 01 50 47.5 +2.0**
baz=133,SNR=12
PFO Pinyon Flats O 73.68 318 *e*P **P 01 50 47.5 +2.0**
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 73.68 318 *e*P **P 01 50 47.5 +2.0**
comp=Z,23nm,1.0s
D37A Cotton 73.77 342 P **P 01 50 45.7 +0.2**
baz=155
F33A 5 Mile Ranch, 73.77 339 P **P 01 50 45.5 -0.1**
baz=152
E35A Pequot Lakes 73.81 341 P **P 01 50 45.6 -0.2**
baz=154
LDFC Landfair 73.88 320 *e*P **P 01 50 49.5 +2.9**
comp=Z,39nm,1.0s
G31A Conde 73.89 337 P **P 01 50 46.1 -0.2**
baz=150,SNR=5.6
O20A White River Ci 73.92 328 P **P 01 50 48.4 +1.5**
baz=141,SNR=33
O20A White River Ci 73.92 328 *e*P **P 01 50 48.5 +1.6**
comp=Z,51nm,0.9s
KNB Kanab 73.96 323 *e*P **P 01 50 49.6 +2.4**
KNB pmax pmax
comp=Z,87nm,1.0s
KNB Kanab 73.96 323 *e*P **P 01 50 49.6 +2.4**
comp=Z,87nm,1.0s
PKCU Pink Cliffs 73.99 324 *e*P **P 01 50 49.9 +2.4**
PKCU *e*PcP **PcP 01 51 05.0 +3.3**
GMRC Granite Mounta 74.00 320 P **P 01 50 49.5 +2.1**
baz=134,SNR=40
GMRC Granite Mounta 74.00 320 *e*P **P 01 50 49.6 +2.2**
E34A Wadena 74.00 340 P **P 01 50 46.9 -0.1**
baz=153
MURC Murrieta 74.12 318 P **P 01 50 49.8 +1.8**
baz=132,SNR=6.8
D35A Remer 74.17 341 P **P 01 50 48.3 +0.4**
baz=154
LCMT Little Creek M 74.19 323 *e*P **P 01 50 50.5 +2.0**
comp=Z,19nm,0.9s
SYO Syowa Base 74.21 159|| *e*P **P 01 50 46.8 -1.1**
SRU San Rafael Swe 74.28 326 *e*P **P 01 50 50.6 +1.6**
SRU pmax pmax
comp=Z,43nm,0.8s
SRU San Rafael Swe 74.28 326 *e*P **P 01 50 50.6 +1.6**
comp=Z,43nm,0.8s
MTPU Mount Pierson 74.36 324 *e*P **P 01 50 51.4 +1.7**
comp=Z,18nm,0.8s
BBRC Big Bear Solar 74.40 319 P **P 01 50 52.0 +2.1**
baz=133,SNR=6.0
C36A Pine Crest Far 74.43 342 P **P 01 50 49.3 -0.1**
baz=155
HEC Hector,Ludlow 74.44 319 P **P 01 50 52.0 +2.2**
baz=133,SNR=7.1
F31A Hecla 74.45 338 P **P 01 50 49.7 +0.1**
baz=150,SNR=9.9
SBA Scott Base 74.49 190 *e*P **P 01 50 51.3 +1.9**
SBA pmax pmax
comp=Z,22nm,1.4s
SBA Scott Base 74.49 190 *e*P **P 01 50 51.3 +1.9**
comp=Z,22nm,1.4s
D34A Park Rapids 74.52 340 P **P 01 50 49.4 -0.6**
baz=153
SZCU Shurtz Canyon 74.52 323 *e*P **P 01 50 51.3 +0.9**
comp=Z,61nm,1.7s
P18A Preston Nutter 74.52 327 *e*P **P 01 50 52.4 +1.9**
comp=Z,40nm,0.8s
TUQ Turquoise Moun 74.61 320 P **P 01 50 52.8 +1.9**
baz=134,SNR=7.1
RWWY Rawlins 74.64 330 *e*P **P 01 50 52.6 +1.5**
comp=Z,40nm,0.9s
CCUT Cedar City 74.64 323 *e*P **P 01 50 53.7 +2.5**
comp=Z,44nm,0.9s
P17A Butcher Ranch, 74.66 326 *e*P **P 01 50 52.9 +1.7**
comp=Z,50nm,1.0s
MSU Marysvale 74.70 325 *e*P **P 01 50 53.5 +2.0**
MSU Marysvale 74.70 325 *e*P **P 01 50 53.5 +2.0**
C35A Jirik Farms, M 74.71 341 P **P 01 50 50.9 -0.1**
baz=154
CIS Catalina Islan 74.75 317 P **P 01 50 53.2 +1.7**
baz=132
D33A AnnSam, Waubun 74.78 340 P **P 01 50 51.5 +0.1**
baz=152
BFSC Mount Baldy Ra 74.84 318 P **P 01 50 53.8 +1.6**
baz=132,SNR=9.7
RRX Edison Barstow 74.86 319 P **P 01 50 54.3 +2.1**
baz=133
FMP Fort Macarthur 74.88 317 P **P 01 50 54.1 +1.8**
baz=132
SHPR Sheep Range 74.91 321 *e*P **P 01 50 54.8 +2.1**
comp=Z,23nm,1.1s
E31A Nome 74.93 338 P **P 01 50 52.4 +0.1**
baz=150
C34A RKJ Ranch, Bem 74.94 341 P **P 01 50 51.9 -0.4**
baz=153
GSC Goldstone, Bar 75.04 320 P **P 01 50 55.3 +2.0**
baz=133,SNR=18
GSC Goldstone, Bar 75.04 320 *e*P **P 01 50 54.6 +1.3**
GSC pmax pmax
comp=Z,50nm,1.4s
GSC Goldstone, Bar 75.04 320 *e*P **P 01 50 54.6 +1.3**
comp=Z,50nm,1.4s
MWC Mount Wilson 75.07 318 *e*P **P 01 50 55.4 +1.8**
MWC pmax pmax
comp=Z,66nm,1.5s
MWC Mount Wilson 75.07 318 *e*P **P 01 50 55.4 +1.8**
comp=Z,66nm,1.5s
K22A Casper 75.08 331 P **P 01 50 54.9 +1.4**
baz=142,SNR=16
K22A Casper 75.08 331 *e*P **P 01 50 54.9 +1.4**
comp=Z,39nm,1.1s
PASC Pasadena Art C 75.11 318 *e*P **P 01 50 55.9 +2.2**
comp=Z,31nm,1.1s
SHOC Shoshone, Teco 75.14 320 P **P 01 50 55.4 +1.7**
baz=134
RSSD Black Hills 75.19 333 P **P 01 50 55.0 +0.8**
baz=145
RSSD Black Hills 75.19 333 *e*P **P 01 50 55.2 +1.1**
RSSD pmax pmax
comp=Z,30nm,0.9s
RSSD Black Hills 75.19 333 *e*P **P 01 50 55.2 +1.1**
comp=Z,30nm,0.9s
B35A Bob, Littlefor 75.23 342 P **P 01 50 55.0 +1.1**
baz=154,SNR=5.2
DECC Green Verdugo 75.26 318 P **P 01 50 56.4 +1.9**
baz=132
C33A Trail 75.30 340 P **P 01 50 54.2 -0.2**
baz=152
EDW2 Edwards Air Fo 75.47 319 P **P 01 50 57.1 +1.4**
baz=132,SNR=12
VNDA Vanda 75.50 190 P **P 01 50 57.0 +1.8**
comp=Z,6.0nm,0.9s,baz=130,slow=4.1,SNR=24
VNDA Vanda 75.50 190 *e*P **P 01 50 56.9 +1.7**
VNDA pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 75.50 190 *e*P **P 01 50 56.9 +1.7**
comp=Z,11nm,1.1s
MPU Maple Canyon 75.52 326 *e*P **P 01 50 58.2 +2.1**
comp=Z,30nm,1.0s
B34A Aery, Baudette 75.61 341 P **P 01 50 56.3 +0.2**
baz=154
PSUT Pine Spring 75.62 324 *e*P **P 01 50 59.2 +2.6**
comp=Z,19nm,0.8s
BLG Laguna Peak, P 75.62 317 P **P 01 50 58.2 +1.7**
baz=131
LRMC Laurel Mtn Rad 75.69 319 P **P 01 50 58.8 +1.8**
baz=132,SNR=10
NLU North Lily Min 75.70 326 *e*P **P 01 50 59.4 +2.2**
comp=Z,24nm,1.2s
AGMN Agassiz Nation 75.81 340 P **P 01 50 57.4 +0.2**
baz=152
AGMN Agassiz Nation 75.81 340 *e*P **P 01 50 57.6 +0.4**
comp=Z,11nm,0.8s
TPNV Topopah Spring 75.84 321 P **P 01 50 00.2 +2.3**
baz=134,SNR=39
TPNV Topopah Spring 75.84 321 *e*P **P 01 50 00.3 +2.3**
TPNV pmax pmax
comp=Z,55nm,1.3s
TPNV Topopah Spring 75.84 321 *e*P **P 01 50 00.3 +2.3**
comp=Z,55nm,1.3s
JLU Jordanelle 75.86 327 *e*P **P 01 50 60.0 +1.9**
comp=Z,42nm,1.1s
FURC Furnace Creek, 75.87 320 P **P 01 50 59.9 +2.1**
baz=133,SNR=27
SCZ2 Santa Cruz Isl 75.90 317 P **P 01 50 59.9 +1.8**
baz=131
MPMC Manual Prospec 75.96 320 P **P 01 51 00.1 +1.5**
baz=133,SNR=18
SUR Sutherland 76.04 119 P **P 01 50 59.6 +0.3**
comp=Z,0.7nm,0.7s,baz=211,slow=4.3,SNR=10
SUR Sutherland 76.04 119 *e*P **P 01 50 59.6 +0.3**
comp=Z,122nm,1.7s
B32A Ashes, Strandq 76.10 340 P **P 01 50 59.0 +0.1**
baz=152,SNR=6.3
TOA0 Torodi Ar. Sit 76.12 69 *e*P **P 01 50 58.4 -1.3**
TOA1 Torodi Ar. Sit 76.12 69 *e*P **P 01 50 58.5 -1.2**
comp=Z,46nm,0.6s
TOA1 *e*PP PP 01 53 38.3 -16
TORD Torodi Ar. Bea 76.12 69 P **P 01 50 58.5 -1.2**
comp=Z,33nm,0.6s,baz=254,slow=5.3,SNR=306
TORD PP PP 01 53 38.3 -16
comp=Z,4.6nm,0.8s,baz=247,slow=7.8,SNR=4.0
TORD S **S 02 00 20.9 -5.5**
comp=Z,1.0nm,0.8s,baz=240,slow=11,SNR=6.4
ARVC Arvin 76.15 318 P **P 01 51 01.2 +1.8**
baz=132
TCUT Toone Canyon 76.23 327 *e*P **P 01 51 02.1 +2.0**
comp=Z,24nm,0.7s
A33A Warroad 76.23 341 P **P 01 50 59.8 +0.2**
baz=153,SNR=6.0
DUG Dugway, Tooele 76.27 325 P **P 01 51 02.0 +1.8**
baz=137,SNR=17
ISA Isabella, Lake 76.29 319 P **P 01 51 02.4 +2.0**
baz=132,SNR=6.8
ISA Isabella, Lake 76.29 319 *e*P **P 01 51 02.8 +2.5**
ISA pmax pmax
comp=Z,24nm,0.8s
ISA Isabella, Lake 76.29 319 *e*P **P 01 51 02.8 +2.5**
comp=Z,24nm,0.8s
R11A Troy Canyon, C 76.44 323 P **P 01 51 03.4 +2.1**
baz=135,SNR=39
R11A Troy Canyon, C 76.44 323 *e*P **P 01 51 03.2 +2.0**
comp=Z,29nm,1.2s
GRAC Grapevine Rang 76.53 321 P **P 01 51 03.7 +2.1**
baz=133,SNR=11
MCU Monte Cristo P 76.53 327 *e*P **P 01 51 03.3 +1.4**
A32A Rocking H Ranc 76.55 340 P **P 01 51 01.3 -0.1**
baz=152
CWC Cottonwood Cre 76.57 320 P **P 01 51 03.9 +1.8**
baz=132
BW06 Boulder Array 76.57 329 P **P 01 51 02.9 +0.9**
baz=140,SNR=15
BW06 Boulder Array 76.57 329 *e*P **P 01 51 02.8 +0.9**
comp=Z,9.1nm,0.8s
PD31 Pinedale Array 76.57 329 *e*P **P 01 51 02.8 +0.8**
PDAR Pinedale Array 76.57 329 P **P 01 51 02.9 +0.8**
comp=Z,7.8nm,0.7s,baz=129,slow=7.2,SNR=50
PDAR Pinedale Array 76.57 329 *e*P **P 01 51 01.7 -0.2**
PKM Mcpherson Peak 76.59 318 P **P 01 51 04.1 +1.9**
baz=131,SNR=18
MDND Maddock 76.64 338 P **P 01 51 02.7 +0.8**
baz=149,SNR=12
MDND Maddock 76.64 338 *e*P **P 01 51 03.2 +1.3**
comp=Z,129nm,0.8s
HWUT Hardware Ranch 76.67 327 *e*P **P 01 51 03.6 +1.1**
comp=Z,26nm,0.9s
BMUT Black Mountain 76.77 328 *e*P **P 01 51 04.8 +1.7**
VES Vestal, Richgr 76.78 319 P **P 01 51 04.6 +1.6**
baz=132,SNR=18
SPUT South Promonto 76.89 326 *e*P **P 01 51 05.4 +1.7**
comp=Z,37nm,1.0s
BGU Big Grassy Mou 76.91 326 *e*P **P 01 51 05.3 +1.4**
comp=Z,28nm,1.1s
SMMC Simmler 76.99 318 P **P 01 51 06.4 +2.1**
baz=131
TIN Tinemaha, Big 77.07 320 P **P 01 51 06.8 +2.0**
baz=132
RCTC Rector, Farmer 77.18 319 P **P 01 51 06.4 +1.2**
baz=132
HVU Hansel Valley 77.41 327 *e*P **P 01 51 07.8 +1.2**
HVU pmax pmax
comp=Z,27nm,0.9s
HVU Hansel Valley 77.41 327 *e*P **P 01 51 07.8 +1.2**
comp=Z,27nm,0.9s
PAGB Antelope Grade 77.42 318 *e*P **P 01 51 08.9 +2.4**
comp=Z,66nm,1.4s
ULM Lac du Bonnet 77.55 341 P **P 01 51 06.7 -0.2**
comp=Z,8.4nm,0.6s,baz=164,slow=6.6,SNR=12
ULM Lac du Bonnet 77.55 341 *e*P **P 01 51 07.2 +0.3**
ULM Lac du Bonnet 77.55 341 *e*P **P 01 51 07.2 +0.3**
REDW Red Top Meadow 77.64 329 *e*P **P 01 51 09.4 +1.5**
comp=Z,30nm,0.8s
SNOW Snow King Moun 77.67 329 *e*P **P 01 51 08.2 +0.1**
comp=Z,32nm,0.9s
TSUM Tsumeb 77.69 106 P **P 01 51 07.9 -0.8**
comp=Z,22nm,0.9s,baz=235,slow=10,SNR=39
TSUM Tsumeb 77.69 106 *e*P **P 01 51 07.9 -0.8**
comp=Z,23nm,0.9s
TSUM *e*pP **pP 01 52 00.1 +1.4**
LOHW Long Hollow 77.71 329 *e*P **P 01 51 09.8 +1.5**
comp=Z,24nm,0.7s
SCHQ Schefferville 77.73 360 P **P 01 51 07.9 +0.1**
comp=Z,18nm,0.6s,baz=199,slow=4.0,SNR=21
SCHQ Schefferville 77.73 360 *e*P **P 01 51 08.3 +0.4**
TPAW Teton Pass 77.78 329 *e*P **P 01 51 10.2 +1.4**
comp=Z,28nm,0.9s
MLAC Mammoth, Mammo 77.82 320 P **P 01 51 10.9 +1.9**
baz=132
MOOW Moose Ponds 77.88 329 *e*P **P 01 51 10.6 +1.4**
comp=Z,77nm,1.8s
FXWY Fox Creek 77.93 329 *e*P **P 01 51 10.8 +1.3**
comp=Z,12nm,0.8s
ELK Elko 77.94 324 P **P 01 51 11.6 +2.0**
comp=Z,8.3nm,0.9s,baz=346,slow=5.0,SNR=8.0
PMPB Monarch Peak 78.07 318 *e*P **P 01 51 13.2 +3.0**
comp=Z,35nm,1.1s
IMW Indian Meadow 78.08 329 *e*P **P 01 51 12.1 +1.7**
comp=Z,39nm,0.8s
LAO LASA Array 78.18 333 P **P 01 51 11.6 +1.1**
baz=143,SNR=18
LAO LASA Array 78.18 333 *e*P **P 01 51 11.7 +1.1**
comp=Z,46nm,0.9s
RLMT Red Lodge 78.25 331 P **P 01 51 12.7 +1.5**
baz=140,SNR=43
RLMT Red Lodge 78.25 331 *e*P **P 01 51 12.7 +1.5**
comp=Z,43nm,0.6s
TVH2 Borealis Mine 78.27 321 *e*P **P 01 51 13.3 +1.8**
comp=Z,23nm,1.6s
H17A Grant Village 78.29 330 P **P 01 51 14.2 +2.7**
baz=139,SNR=6.3
H17A Grant Village 78.29 330 *e*P **P 01 51 14.0 +2.5**
comp=Z,15nm,0.8s
YFT Old Faithful 78.46 329 *e*P **P 01 51 15.5 +3.1**
comp=Z,20nm,0.8s
YNR Norris Junctio 78.58 330 *e*P **P 01 51 16.1 +3.0**
comp=Z,11nm,0.9s
YMR Madison River 78.68 330 *e*P **P 01 51 15.9 +2.3**
comp=Z,48nm,0.9s
YHH Holmes Hill 78.72 330 *e*P **P 01 51 15.9 +2.0**
comp=Z,45nm,0.8s
WAKR Walker 78.75 321 *e*P **P 01 51 16.3 +2.2**
comp=Z,35nm,1.3s
BMN Battle Mountai 78.80 323 *e*P **P 01 51 15.3 +1.0**
BMN pmax pmax
comp=Z,10.0nm,1.1s
BMN Battle Mountai 78.80 323 *e*P **P 01 51 15.3 +1.0**
comp=Z,9.9nm,1.1s
DGMT Dagmar 78.82 336 P **P 01 51 15.5 +1.5**
baz=145,SNR=10
DGMT Dagmar 78.82 336 *e*P **P 01 51 15.5 +1.5**
comp=Z,90nm,0.8s
YHB Horse Butte 78.85 329 *e*P **P 01 51 16.7 +2.2**
comp=Z,38nm,0.8s
GCMT Greycliff 78.95 331 *e*P **P 01 51 16.1 +1.3**
YERR Yerington 78.96 321 *e*P **P 01 51 17.2 +2.0**
comp=Z,68nm,1.4s
CMB Columbia Colle 79.00 320 *e*P **P 01 51 16.4 +1.1**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 79.00 320 *e*P **P 01 51 16.4 +1.1**
comp=Z,5.8nm,1.0s
QLMT Earthquake Lak 79.02 329 *e*P **P 01 51 17.5 +2.1**
PNTR Pine Nut 79.24 321 *e*P **P 01 51 18.9 +2.1**
comp=Z,42nm,0.9s
PAHR Pah Rah Range 79.53 321 *e*P **P 01 51 20.2 +2.0**
comp=Z,56nm,1.0s
HLID Hailey 79.53 327 P **P 01 51 20.1 +1.9**
baz=136,SNR=101
HLID Hailey 79.53 327 *e*P **P 01 51 20.1 +1.9**
comp=Z,49nm,0.8s
BOZ Bozeman (W) 79.69 330 P **P 01 51 20.1 +1.2**
baz=139,SNR=12
BOZ Bozeman (W) 79.69 330 *e*P **P 01 51 20.1 +1.2**
BOZ pmax pmax
comp=Z,11nm,0.9s
BOZ Bozeman (W) 79.69 330 *e*P **P 01 51 20.1 +1.2**
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 79.69 329 *e*P **P 01 51 21.1 +2.0**
AFDM Forest Hills D 79.95 320 *e*P **P 01 51 21.6 +1.3**
comp=Z,25nm,1.2s
DLMT Dillon 79.97 329 *e*P **P 01 51 21.8 +1.4**
comp=Z,47nm,1.3s
MFID Camas Ranch 80.15 326 *e*P **P 01 51 22.5 +1.1**
comp=Z,16nm,0.9s
BEKR Beckworth 80.19 321 *e*P **P 01 51 23.8 +2.0**
comp=Z,36nm,1.3s
LRM Limekiln Ridge 80.24 330 *e*P **P 01 51 23.4 +1.4**
HRY Holter Researc 80.62 330 *e*P **P 01 51 25.4 +1.6**
ORV Oroville 80.65 320 *e*P **P 01 51 25.6 +1.6**
ORV pmax pmax
comp=Z,46nm,1.1s
ORV Oroville 80.65 320 *e*P **P 01 51 25.6 +1.6**
comp=Z,46nm,1.1s
EGMT Eagleton 80.71 332 P **P 01 51 24.7 +0.5**
baz=140,SNR=16
EGMT Eagleton 80.71 332 *e*P **P 01 51 24.9 +0.7**
comp=Z,49nm,0.8s
GCRM Castle Rock Sp 80.88 319 *e*P **P 01 51 29.8 +4.5**
GDXM Geysers 80.95 319 *e*P **P 01 51 28.2 +2.5**
comp=Z,11nm,1.1s
WVOR Wild Horse Val 80.95 324 *e*P **P 01 51 27.1 +1.4**
WVOR pmax pmax
comp=Z,13nm,1.3s
WVOR Wild Horse Val 80.95 324 *e*P **P 01 51 27.1 +1.4**
comp=Z,14nm,1.3s
O03D Paynes Creek 81.31 321 P **P 01 51 27.7 +0.1**
baz=130,SNR=13
MORF Marmelete 81.34 43 *e*P **P 01 51 28.9 +1.1**
MDT Midelt 81.37 49 P **P 01 51 28.6 +0.5**
comp=Z,26nm,0.9s,baz=231,slow=4.5,SNR=58
CHMT Chamberlain Mo 81.42 330 *e*P **P 01 51 29.0 +0.8**
MOD Modoc Plateau 81.51 323 *e*P **P 01 51 30.2 +1.5**
comp=Z,27nm,1.0s
MSO Missoula 81.68 329 P **P 01 51 30.9 +1.5**
baz=137,SNR=9.0
MSO Missoula 81.68 329 *e*P **P 01 51 30.8 +1.4**
comp=Z,44nm,1.5s
PBDV Barranco-do-Ve 81.76 44 *e*P **P 01 51 30.9 +1.0**
SLMT Seeley Lake 81.78 330 *e*P **P 01 51 31.1 +1.1**
BMO Blue Mountains 81.91 326 *e*P **P 01 51 29.9 -0.8**
BMO pmax pmax
comp=Z,87nm,1.6s
BMO Blue Mountains 81.91 326 *e*P **P 01 51 29.9 -0.8**
comp=Z,87nm,1.6s
PNCL Nicolau / Gran 81.91 43 *e*P **P 01 51 31.6 +0.9**
WDC Whiskeytown Da 81.92 321 *e*P **P 01 51 30.9 +0.2**
WDC pmax pmax
comp=Z,12nm,0.8s
WDC Whiskeytown Da 81.92 321 *e*P **P 01 51 30.9 +0.2**
comp=Z,12nm,0.8s
PCVE Castro Verde 81.93 43 *e*P **P 01 51 31.5 +0.7**
comp=Z,34nm,1.8s
PVAQ Vaqueiros 81.99 44 *e*P **P 01 51 31.9 +0.8**
MAW Mawson 82.12 163 P **P 01 51 32.1 +0.8**
comp=Z,12nm,0.9s,baz=214,slow=6.3,SNR=21
SWMT Swartz Lake 82.20 330 *e*P **P 01 51 33.3 +1.1**
N02D Trinity Center 82.27 321 P **P 01 51 32.9 +0.3**
baz=130,SNR=5.6
PBEJ Beja 82.28 43 *e*P **P 01 51 33.3 +0.7**
M04C Macdoel 82.30 322 P **P 01 51 34.0 +1.2**
baz=130,SNR=8.1
KMRM Mail Ridge 82.39 320 *e*P **P 01 51 35.8 +2.6**
comp=Z,49nm,1.3s
YBMT Yellow Bay 82.47 330 *e*P **P 01 51 34.8 +1.3**
EVO Evora 82.49 43 *e*P **P 01 51 34.2 +0.5**
JTMT Jette 82.51 330 *e*P **P 01 51 34.9 +1.2**
LBTB Lobatse 82.54 114 P **P 01 51 34.0 -0.5**
comp=Z,8.5nm,0.6s,baz=236,slow=5.8,SNR=22
M02C Callahan 82.63 321 P **P 01 51 35.0 +0.6**
baz=130
PMTG Montargil 82.69 42 *e*P **P 01 51 35.2 +0.6**
comp=Z,32nm,1.6s
YBH Yreka Blue Hor 82.76 321 *e*P **P 01 51 35.1 0.0**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 82.76 321 *e*P **P 01 51 35.1 0.0**
comp=Z,6.9nm,0.9s
K04D Chiloquin, OR 82.79 322 P **P 01 51 36.6 +1.3**
baz=130,SNR=5.7
BSMT Bassoo Peak 82.82 330 *e*P **P 01 51 36.6 +1.2**
PBAR Barrancos 82.89 43 *e*P **P 01 51 36.0 +0.3**
PTOM Tomar 82.91 42 *e*P **P 01 51 36.4 +0.6**
comp=Z,45nm,1.1s
J05D Fort Rock, OR 82.94 323 P **P 01 51 37.3 +1.3**
baz=131,SNR=17
PESTR Estremoz 82.96 43 *e*P **P 01 51 37.1 +1.0**
PCAS Casmilo, Conde 83.12 41 *e*P **P 01 51 37.9 +1.0**
WALA Waterton Lakes 83.30 331 *e*P **P 01 51 37.8 0.0**
comp=Z,17nm,0.8s
J04D Umpqua Nationa 83.39 323 P **P 01 51 39.6 +1.2**
baz=130,SNR=7.7
HUMO Hull Mountain 83.46 322 *e*P **P 01 51 39.2 +0.7**
comp=Z,45nm,1.8s
E09A Wood Farm, Sta 83.49 327 *e*P **P 01 51 39.5 +1.0**
comp=Z,44nm,1.8s
L02D Cave Junction, 83.55 321 P **P 01 51 40.6 +1.6**
baz=129
PCBR Castelo Branco 83.61 42 *e*P **P 01 51 39.9 +0.5**
comp=Z,18nm,2.0s
I05D Terrebonne, OR 83.69 324 P **P 01 51 41.2 +1.5**
baz=131,SNR=12
TAM Tamanrasset 83.87 62 *e*P **P 01 51 41.0 -0.3**
TAM pmax pmax
comp=Z,27nm,1.0s
TAM Tamanrasset 83.87 62 *e*P **P 01 51 41.0 -0.3**
comp=Z,27nm,1.0s
G06A Carlson Farm, 83.90 325 *e*P **P 01 51 42.8 +2.0**
comp=Z,49nm,1.8s
MTE Manteigas 83.91 41 *e*P **P 01 51 41.5 +0.5**
HAWA Hanford 84.11 326 *e*P **P 01 51 43.0 +1.3**
comp=Z,30nm,0.8s
NEW Newport 84.21 329 P **P 01 51 42.7 +0.4**
comp=Z,10nm,0.7s,baz=143,slow=6.4,SNR=14
NEW Newport 84.21 329 *e*P **P 01 51 42.7 +0.4**
comp=Z,12nm,0.8s
D08A Wollman Farm, 84.25 327 *e*P **P 01 51 43.6 +1.1**
comp=Z,32nm,1.0s
G05D Wamic, OR 84.27 325 P **P 01 51 44.3 +1.7**
baz=131,SNR=6.9
PVRL Vila Real 84.34 41 *e*P **P 01 51 43.9 +0.8**
I03D Drain, OR 84.38 323 P **P 01 51 44.0 +0.9**
baz=129,SNR=5.3
E07A Sunnyside 84.38 326 *e*P **P 01 51 44.9 +1.7**
comp=Z,18nm,0.9s
PCAB Cabril 84.42 40 *e*P **P 01 51 44.3 +0.8**
C09A Chrisman Ranch 84.44 328 *e*P **P 01 51 44.5 +1.1**
comp=Z,58nm,0.7s
MVO Moncorvo 84.69 41 *e*P **P 01 51 45.4 +0.6**
comp=Z,20nm,0.9s
SAW Saint Andrews 84.93 327 P **P 01 51 46.9 +1.1**
TBM Table Mountain 85.17 326 *e*P **P 01 51 48.7 +1.6**
WTV Waterville 85.20 327 *e*P **P 01 51 48.2 +1.0**
PBRG Braganca 85.24 41 *e*P **P 01 51 48.4 +0.8**
LTY Liberty 85.27 326 *e*P **P 01 51 48.4 +0.8**
comp=Z,23nm,0.8s
F04A Amboy 85.31 325 *e*P **P 01 51 48.9 +1.2**
comp=Z,24nm,0.8s
ETW Entiat 85.33 327 *e*P **P 01 51 49.0 +1.1**
B08A Colville Reser 85.34 328 *e*P **P 01 51 48.5 +0.7**
comp=Z,37nm,1.4s
PAB San Pablo 85.39 43 *e*P **P 01 51 48.6 +0.2**
PAB pmax pmax
comp=Z,15nm,1.0s
PAB San Pablo 85.39 43 *e*P **P 01 51 48.6 +0.2**
comp=Z,15nm,1.0s
LON Longmire 85.52 326 *e*P **P 01 51 49.1 +0.3**

LON pmax pmax
comp=Z,8.0nm,0.8s
LON Longmire 85.52 326 *eP* **P 01 51 49.1 +0.3**
comp=Z,8.2nm,0.8s
ESDC Sonseca Array 85.71 44 P **P 01 51 50.2 +0.3**
comp=Z,6.3nm,1.0s,baz=228,slow=5.4,SNR=22
ESLA Sonseca Array 85.71 44 *eP* **P 01 51 50.6 +0.7**
comp=Z,13nm,1.1s
ES19 SONSECA Array 85.76 44 *eP* **P 01 51 50.6 +0.4**
D05A Enumclaw 85.90 326 *eP* **P 01 51 51.6 +1.1**
comp=Z,33nm,0.8s
E03A Lebam 86.31 325 *eP* **P 01 51 54.1 +1.5**
comp=Z,40nm,1.0s
RPW Rockport 86.48 327 *eP* **P 01 51 53.5 0.0**
B06A Marblemount 86.51 327 *eP* **P 01 51 53.9 +0.3**
comp=Z,43nm,0.8s
JCW Jim Creek 86.52 327 *eP* **P 01 51 53.7 0.0**
B05A Bryant 86.65 327 P **P 01 51 54.5 +0.3**
baz=131,SNR=16
HDW Hoodsport 86.75 326 P **P 01 51 56.1 +1.2**
CMW Cultus Mountai 86.77 327 P **P 01 51 55.4 +0.4**
NLWA Neilton Lookou 87.01 325 *eP* **P 01 51 57.5 +1.5**
comp=Z,23nm,0.9s
A04D Lummi Island 87.26 327 P **P 01 51 58.0 +0.9**
baz=130,SNR=5.1
MCW Mount Constitu 87.30 327 P **P 01 51 58.4 +1.0**
MCW Mount Constitu 87.30 327 P **P 01 51 58.4 +1.0**
PGC Sidney 87.59 326 *eP* **P 01 52 00.1 +1.5**
comp=Z,39nm,0.9s
LLLB Lillooet 88.08 328 *eP* **P 01 52 01.4 +0.3**
comp=Z,27nm,0.9s
LSZ Lusaka 88.55 106 *eP* **P 01 52 05.6 +1.4**
LSZ pmax pmax
comp=Z,20nm,0.9s
LSZ Lusaka 88.55 106 *eP* **P 01 52 05.6 +1.4**
comp=Z,20nm,0.9s
KEST Kesra 92.79 52 P **P 01 52 23.8 +0.4**
comp=Z,6.6nm,0.9s,baz=222,slow=1.9,SNR=6.9
KEST PKKPbc **PKKPbc 02 09 33.8 -0.7**
comp=Z,1.5nm,0.6s,baz=289,slow=2.2,SNR=4.9
YKA Yellowknife Ar 93.46 340 P **P 01 52 25.7 +0.1**
comp=Z,7.3nm,0.7s,baz=131,slow=4.4,SNR=23
YKB5 Yellowknife Ar 93.46 340 *eP* **P 01 52 25.7 +0.1**
DAVOX Davos/Dischmat 98.00 42 P Pdif 01 52 47.4 +0.4
comp=Z,3.4nm,0.8s,baz=289,slow=4.6,SNR=4.8
GEC2 GERESS Array S 101.19 42 *e*PKKPbc PKKPbc 02 09 10.3 -1.8
GERES GERESS Array B 101.19 42 PKKPbc PKKPbc 02 09 10.3 -1.7
comp=Z,0.6nm,0.8s,baz=158,slow=1.4,SNR=5.1
ILAR Eielson Array 106.64 334 Pdiff **Pdif 01 53 25.1 +0.4**
comp=Z,0.4nm,0.7s,baz=174,slow=3.4,SNR=5.0
ILAR PP **PKiKP 01 57 39.5 +5.5**
comp=Z,0.8nm,0.9s,baz=108,slow=5.4,SNR=5.8
ILB Eielson Array 106.64 334 *e*Pdif **Pdif 01 53 25.1 +0.4**
ILB *e*PP **PKiKP 01 57 39.5 +5.5**
AKASG Malin Array Be 111.34 43 PKiKP **PKiKP 01 57 42.6 -0.6**
comp=Z,0.8nm,0.6s,baz=259,slow=2.6,SNR=4.2
AKBB Malin Array Si 111.34 43 *e*PKIKP **PKiKP 01 57 42.6 -0.6**
AKBB Malin Array Si 111.34 43 *e*PKiKP **PKiKP 01 57 42.6 -0.6**
FIA0 FINESS Array S 111.47 31 *e*PKKPbc PKKPbc 02 08 36.3 -4.1
FINES FINESS Array B 111.47 31 PKKPbc PKKPbc 02 08 36.3 -4.1
comp=Z,2.7nm,0.9s,baz=67,slow=5.0,SNR=5.2
BR101 Keskin Array S 112.22 55 *e*PKiKP **PKiKP 01 57 45.0 -0.4**
BRTR Keskin Array B 112.22 55 PKiKP **PKiKP 01 57 45.0 -0.4**
comp=Z,0.6nm,0.7s,baz=299,slow=0.7,SNR=3.8
BRTR Keskin Array B 112.22 55*c i*PKIKP **PKiKP 01 57 44.2 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 116.30 39 *i* PKIKP **PKPdf 01 57 53.3 +0.7**
OBN pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 117.93 32 *e*PKIKP **PKPdf 01 57 53.3 -2.3**
KLMR pmax pmax
comp=Z,11nm,1.4s
KBZ Khabaz 119.66 52 PKP **PKPdf 01 57 58.7 -0.7**
comp=Z,3.5nm,0.8s,baz=261,slow=4.2,SNR=6.5
GNI Garni 120.71 56 PKP **PKPdf 01 58 00.5 -1.3**
comp=Z,2.6nm,0.7s,baz=264,slow=6.0,SNR=4.1
BILL Bilibino 124.83 339 *e*PKIKP **PKPdf 01 58 07.3 -1.3**
BILL pmax pmax
comp=Z,6.0nm,1.3s
ARU Arti 128.44 35 PKP **PKPdf 01 58 15.9 0.0**
comp=Z,3.5nm,0.5s,baz=276,slow=3.5,SNR=9.3
ARU SKPbc SKPbc 02 01 17.5
comp=Z,1.3nm,0.3s,baz=215,slow=4.4,SNR=3.9
ARU Arti 128.44 35 *i* PKIKP **PKPdf 01 58 16.5 +0.6**
ARU 02 00 25.0
ARU 02 05 08.9
ARU SS SS 02 17 25.7 +3.0
ARU Arti 128.44 35 *e*PKPdf **PKPdf 01 58 16.8 +0.9**
ARU *e* 02 01 17.5
AS01 Alice Springs 129.22 205 *e*PKPdf **PKPdf 01 58 17.6 -1.0**
ASAR Alice Springs 129.24 205 PKP **PKPdf 01 58 18.4 -0.1**
comp=Z,7.9nm,0.8s,baz=146,slow=2.2,SNR=46
ASAR SKPbc SKPbc 02 01 20.8 +0.7
comp=Z,1.3nm,0.7s,baz=159,slow=3.7,SNR=8.6
AS31 Alice Springs 129.24 205 *e*PKPdf **PKPdf 01 58 18.8 +0.2**
AS31 *e* 02 01 20.8
TIXI Tiksi 130.72 354 ⇑*i*PKIKP **PKPdf 01 58 19.7 -0.1**
comp=Z,3.5nm,0.4s,baz=44,slow=2.5,SNR=8.2
TIXI Tiksi 130.72 354 ⇑*i*PKIKP **PKPdf 01 58 19.7 -0.1**
TIXI pmax pmax
comp=Z,17nm,2.5s
GEYT Alibeck 131.03 59 SKPbc **SKPab 02 01 27.4 +0.7**
comp=Z,6.2nm,1.0s,baz=281,slow=8.9,SNR=14
ABKAR Akbulak array 131.05 44 *e*PKPdf **PKPdf 01 58 22.1 +1.0**
WB2 Warramunga Arr 132.40 207 *e*PKPpre PKPpre 01 58 11.8
WB2 *e*PKPdf **PKPdf 01 58 25.1 +0.6**
WR1 Warramunga Arr 132.40 207 *e*PKPpre PKPpre 01 58 09.9
WR1 *e*PKPdf **PKPdf 01 58 24.8 +0.2**
WR1 *e*SKPbc **SKPbc 02 01 32.1 +0.3**
WRA Warramunga Arr 132.40 207 PKhKP PKPpre 01 58 09.9
comp=Z,0.7nm,0.6s,baz=130,slow=2.5,SNR=5.9
WRA PKP **PKPdf 01 58 24.8 +0.2**
comp=Z,3.3nm,0.5s,baz=158,slow=1.7,SNR=26
WRA SKPbc **SKPbc 02 01 32.1 +0.3**
comp=Z,2.7nm,0.7s,baz=154,slow=3.6,SNR=10.0
WRAB Tennant Creek 132.40 207 ⇑*i*PKIKP **PKPdf 01 58 25.3 +0.7**
WRAB pmax pmax
comp=Z,46nm,2.5s
SEY Seymchan 132.44 337 PKP **PKPdf 01 58 24.6 +1.4**
comp=Z,6.8nm,0.6s,baz=20,slow=1.8,SNR=10
SEY SKPbc **SKPbc 02 01 31.1 +0.7**
comp=Z,1.6nm,0.5s,baz=21,slow=14,SNR=3.9
SEY Seymchan 132.44 337*c i*PKIKP **PKPdf 01 58 24.4 +1.1**
PMG Port Moresby 133.57 230 ⇑*i*PKIKP **PKPdf 01 58 28.4 +1.5**
PEA1 Petropavlovsk- 135.10 323 *e*PKPpre PKPpre 01 58 17.9
PEA1 *e*PKPdf **PKiKP 01 58 29.6 -0.4**
PEA1 *e*SKPbc **SKPbc 02 01 40.1 +0.6**
PETK Petropavlovsk- 135.10 323 PKhKP PKPpre 01 58 17.9
comp=Z,2.5nm,0.6s,baz=62,slow=3.8,SNR=5.6
PETK PKP **PKPdf 01 58 29.6 +1.1**
comp=Z,5.2nm,0.7s,baz=61,slow=4.1,SNR=3.8
PETK SKPbc **SKPbc 02 01 40.1 +0.6**
comp=Z,8.4nm,0.8s,baz=87,slow=6.5,SNR=4.6
PETK Petropavlovsk- 135.10 323 PKIKP **PKPdf 01 58 29.7 +1.1**
PETK pmax pmax
comp=Z,4.0nm,0.6s
PETK pmax pmax
comp=N,8.0nm,0.8s
BRVK Borovoye 135.99 36 ⇑*i*PKIKP **PKPdf 01 58 31.4 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 135.99 36 *e*PKPdf **PKPdf 01 58 30.7 +0.5**
BVAR Borovoye Array 136.06 36 PKP **PKPdf 01 58 31.1 +0.7**
comp=Z,2.4nm,0.6s,baz=291,slow=3.1,SNR=16
BVAR SKPbc **SKPbc 02 01 43.9 +1.4**
comp=Z,1.3nm,0.9s,baz=270,slow=4.4,SNR=5.9
MTN Manton Dam 140.09 208 *e*PKPpre PKPpre 01 58 31.6
KURK Kurchatov 141.64 36 *e*PKiKP **PKPdf 01 58 38.4 -2.2**
KURK Kurchatov 141.64 36 *e*PKPdf **PKPdf 01 58 38.4 -2.2**
AAK Ala-Archa 142.59 49 ⇑*i*PKIKP **PKPdf 01 58 44.5 +1.7**
AAK Ala-Archa 142.59 49 *e*PKPdf **PKPdf 01 58 44.6 +1.7**
ZAA1 Zalesovo Array 142.62 28 *e*PKPpre PKPpre 01 58 38.9
ZAA1 *e*SKPbc **SKiKP 02 02 01.8 +0.2**
ZAA0 Zalesovo Array 142.62 28 *e*PKPpre PKPpre 01 58 40.0
ZALV Zalesovo Beam 142.62 28 PKhKP PKPpre 01 58 38.9
comp=Z,7.9nm,0.8s,baz=293,slow=4.1,SNR=14
ZALV SKPbc **SKiKP 02 02 01.8 +0.2**
comp=Z,2.3nm,0.7s,baz=290,slow=4.4,SNR=5.8
ZALV Zalesovo Beam 142.62 28 *e*PKPpre PKPpre 01 58 38.7
KSH Kashi 144.60 54 *e*PKP **PKPab 01 58 45.4 -0.2**
KSH PP **PP 02 02 06.3 +1.1**
KSH PKS **PKSdf 02 02 18.3 -3.7**
KSH SKS **SKSdf 02 05 30.6 -5.3**
KSH SKKS **SKKSac 02 08 31.0 -5.8**
KSH SS **SS 02 20 30.4 -5.4**
KSH AMB AMB
comp=Z,110nm,6.1s
KSH LR LR
comp=Z,110nm,7.7s
KSH LR LR
comp=Z,130nm,6.3s
KSH LR LR
comp=Z,160nm,6.9s
BOD Bodaibo 145.43 359 ⇓*i*PKP2 **PKPdf 01 58 47.1 +0.1**
BOD pmax pmax
comp=Z,57nm,1.1s
SOEI Soe 145.49 200 *e*PKPdf **PKPab 01 58 50.4 +0.9**
MAKZ Makanchi 145.62 39 *e*PKP2 **PKPbc 01 58 48.5 +0.1**
MAKZ Makanchi 145.62 39 *e*PKPdf **PKPbc 01 58 48.5 +0.1**
MK31 Makanchi Array 145.81 39 *e*PKP2 **PKPbc 01 58 48.6 -0.4**
MK31 Makanchi Array 145.81 39 *e*PKPdf **PKPbc 01 58 48.6 -0.4**
MK32 Makanchi Array 145.81 39 *e*PKPdf **PKPbc 01 58 48.6 -0.4**
MK32 *e*SKPbc **SKPbc 02 02 08.2 0.0**
MK32 *e* 02 10 01.6
MKAR Makanchi Array 145.81 39 PKPbc **PKPbc 01 58 48.6 -0.4**
comp=Z,31nm,0.8s,baz=308,slow=2.6,SNR=149
MKAR SKPbc **SKPbc 02 02 08.2 0.0**
comp=Z,2.8nm,0.8s,baz=327,slow=2.0,SNR=5.3
MKAR SKKPbc **SKKPab 02 10 01.6 -1.0**
comp=Z,1.4nm,0.9s,baz=103,slow=4.2,SNR=6.7
MK01 Makanchi Array 145.83 39 *e*PKPdf **PKPbc 01 58 48.7 -0.4**
YSS Yuzh-Sakhalins 146.49 322 *e*PKP2 **PKPbc 01 58 51.1 +0.2**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 146.49 322 *e*PKPdf **PKPbc 01 58 51.6 +0.7**
DGZ Jazzator, Alta 146.73 31*ce*PKP2 **PKPdf 01 58 50.7 +1.0**
HYB Hyderabad 147.06 94 *i* PKP **PKPdf 01 58 52.0 +1.0**
HYB *e* 01 59 48.5
FAKI Fak Fak 148.06 218 *e*PKPbc **PKPbc 01 58 57.2 +1.0**
ASAJ Asahikawa 148.12 318 PKPbc **PKPbc 01 58 55.6 +0.2**
comp=Z,21nm,0.9s,baz=90,slow=20,SNR=7.5
ASAJ Asahikawa 148.12 318 *e*PKPbc **PKPbc 01 58 56.1 +0.6**
JAGI Jajag, Banyuwa 148.49 182 *e*PKPbc **PKPbc 01 58 56.9 -0.4**
GUMO Guam 148.52 258 PKPbc **PKPbc 01 58 57.7 +0.4**
comp=Z,114nm,0.7s,baz=148,slow=19,SNR=5.8
CISI Cisompet, Garu 148.97 170 *e*PKPbc **PKPbc 01 58 59.2 +0.6**
MOY Mondy 150.08 15 *e*PKP2 **PKPbc 01 59 01.5 +1.2**
MOY pmax pmax
comp=Z,234nm,1.4s
WMQ Urumqi 150.63 39 PKPbc **PKPdf 01 58 55.4 -0.7**
WMQ LR LR
comp=Z,94nm,17.1s
WMQ LR LR
comp=Z,66nm,22.3s
WMQ LR LR
comp=Z,35nm,27.5s
TLY Talaya 150.64 12 PKPbc **PKPbc 01 59 02.4 +0.9**
comp=Z,6.5nm,0.6s,baz=337,slow=7.7,SNR=6.5
TLY PKPab **PKPab 01 59 09.9 +0.8**
comp=Z,12nm,0.8s,baz=269,slow=2.5,SNR=11
KAPI Kappang 151.22 194 PKPbc **PKPbc 01 59 05.2 +1.3**
comp=Z,99nm,0.5s,baz=211,slow=15,SNR=2.7
USRK Ussuriysk Ar. 154.00 328 PKPbc **PKPbc 01 59 09.0 -0.1**
comp=Z,4.5nm,0.7s,baz=358,slow=0.6,SNR=8.8
USRK PKPab **PKPab 01 59 24.4 +1.0**
comp=Z,3.9nm,0.7s,baz=44,slow=2.1,SNR=6.4
MJAR Matsushiro Arr 154.66 307 PKP **PKPdf 01 59 01.0 -1.2**
comp=Z,0.9nm,0.3s,baz=93,slow=6.1,SNR=2.7
MJAR PKPbc **PKPbc 01 59 10.8 -0.1**
comp=Z,5.2nm,0.7s,baz=90,slow=1.3,SNR=8.5
MJAR PKPab **PKPab 01 59 27.1 +0.6**
comp=Z,6.2nm,0.9s,baz=62,slow=4.2,SNR=6.0
MAJO Matsushiro 154.66 307 *e*PKIKP **PKPbc 01 59 09.9 -0.9**
MAJO Matsushiro 154.66 307 *e*PKPbc **PKPbc 01 59 09.9 -0.9**
MAT Matsushiro 154.66 307 PKP **PKPbc 01 59 11.2 +0.4**
MJB9 Matsu-Tunnel 154.66 307 *e*PKPbc **PKPbc 01 59 10.3 -0.5**
SONA1 Songino Array 154.83 11 *e*PKPdf **PKPdf 01 59 02.9 +0.7**
SONA1 *e*PKPbc **PKiKP 01 59 11.3 +0.3**
SONA1 *e*PKPab **PKPab 01 59 27.9 +1.0**
SONA0 Songino Array 154.84 11 *e*PKPdf **PKPdf 01 59 03.0 +0.8**
SONA0 *e*PKPbc **PKiKP 01 59 11.4 +0.4**
SONA0 *e*PKPab **PKPab 01 59 27.0 0.0**
SONM Songino Array 154.84 11 PKP **PKPdf 01 59 03.0 +0.8**
comp=Z,3.8nm,0.8s,baz=319,slow=2.1,SNR=15
SONM PKPbc **PKiKP 01 59 11.4 +0.4**
comp=Z,3.2nm,0.8s,baz=323,slow=2.0,SNR=9.7
SONM PKPab **PKPab 01 59 27.0 0.0**
comp=Z,4.4nm,0.7s,baz=323,slow=4.6,SNR=11
ULN Ulaanbaatar 154.92 10 *e*PKP2 **PKPab 01 59 28.6 +1.2**
ULN Ulaanbaatar 154.92 10 *e*PKPab **PKPab 01 59 28.6 +1.2**
SBUM Sibu 159.33 177 *e*PKPab **PKPab 01 59 48.4 +1.4**
GTA Gaotai 160.26 32 ⇑PKP **PKPdf 01 59 10.3 +1.1**
GTA PKPab **PKPab 01 59 56.3 +5.6**
GTA pPKP pPKPdf 02 00 03.3 -0.2
GTA sPKP 02 00 22.8
GTA PP **PP 02 03 35.8 +2.8**
GTA SKS **SKSdf 02 05 54.4 -0.3**
GTA SKKS **SKKSac 02 10 03.8 +2.2**
GTA SS **SS 02 23 26.4 +0.7**
GTA AMB AMB
comp=Z,120nm,5.0s
GTA LR LR
comp=Z,170nm,16.2s
GTA LR LR
comp=Z,120nm,16.2s
GTA LR LR
comp=Z,98nm,16.6s
KSRS Korea Array 160.99 322 PKP **PKPdf 01 59 10.8 +1.0**
comp=Z,4.1nm,0.9s,baz=153,slow=1.5,SNR=11
KSRS PKPab **PKPab 01 59 55.1 +1.3**
comp=Z,4.2nm,0.8s,baz=30,slow=4.3,SNR=10
KS01 Wonju Array Si 160.99 322 *e*PKPdf **PKPdf 01 59 10.2 +0.4**
KS01 *e*PKPab **PKPab 01 59 54.6 +0.8**
KS15 Wonju Array Si 161.02 322 *e*PKPdf **PKPdf 01 59 10.8 +1.0**
KS15 *e*PKPab **PKPab 01 59 55.1 +1.2**
KSAR Wonju Array Be 161.02 322 PKIKP **PKPdf 01 59 10.9 +1.0**
KSAR Wonju Array Be 161.02 322 PKP **PKPdf 01 59 10.8 +1.0**
HHC Hu-ho-hao-te 162.37 4 *e*PKP **PKPdf 01 59 07.9 -3.4**
BJI Beijing 163.04 352 PKP **PKPdf 01 59 06.0 -5.8**
LZH Lanzhou 164.83 30 *e*PKP **PKPdf 01 59 13.6 -0.2**
LZH pPKP pPKPdf 02 00 03.4 -4.8
LZH sPKP 02 00 23.8
CM01 Chiang Mai Arr 165.86 107 *e*PKPdf **PKPdf 01 59 15.2 +0.3**
CM01 *e*PKPab **PKPab 02 00 15.7 -0.1**
CM31 Chiang Mai Arr 165.86 107 *e*PKPdf **PKPdf 01 59 14.5 -0.5**
CM31 *e*PKPab **PKPab 02 00 15.9 +0.1**
CMAR Chiang Mai Arr 165.86 107 PKP **PKPdf 01 59 14.5 -0.5**
comp=Z,1.0nm,0.5s,baz=270,slow=2.6,SNR=9.9
CMAR PKPab **PKPab 02 00 15.9 +0.1**
comp=Z,9.5nm,0.7s,baz=252,slow=5.5,SNR=30
CMAR Chiang Mai Arr 165.86 107 PKP2 **PKPab 02 00 16.0 +0.1**
CMAR pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 165.99 106 *e*PKP2 **PKPab 02 00 16.7 +0.2**
CHTO Chiang Mai 165.99 106 *e*PKPab **PKPab 02 00 16.7 +0.2**
CD2 Chengdu 168.63 46 PKP **PKPdf 01 59 16.3 -0.4**
NJ2 Nanjing 169.87 332 *e*PKP **PKPdf 01 59 17.4 +0.1**
GYA Guiyang 173.25 60 *e*PKP **PKPdf 01 59 18.0 -1.3**
GYA pPKP pPKPdf 02 00 09.0 -4.7
GYA sPKP 02 00 28.4
GYA PKPab **PKPab 02 00 48.8 +0.3**
GYA PKS **PKSdf 02 02 49.3 -2.5**
GYA PP **PP 02 04 41.0 +0.4**
GYA AMB AMB
comp=Z,130nm,8.2s

KRSC 18 01:46:21.3±0.8, 53°.37N×160°.50E, h59km±10km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**226**	*e*P	Pn	01 46 33.3	+1.2
SPN				*e*S	Sn	01 46 40.9	+0.9
NLC	**Nalytchevo**	**0.72**	**254**	*e*P	Pn	01 46 37.2	+1.5
NLC				*e*S	Sn	01 46 46.7	+0.5
KII	**Karymskiy**	**0.91**	**317**	*e*P	Pn	01 46 39.6	+1.4
KII				*e*S	Sn	01 46 51.9	+1.3
SDLR	**Sedlovina**	**0.97**	**265**	*e*P	Pn	01 46 40.4	+1.4
SDLR				*e*S	Sn	01 46 53.7	+1.6
UGLR	**Uglovaya**	**1.02**	**261**	*e*P	Pn	01 46 41.3	+1.7
UGLR				*e*S	Sn	01 46 55.0	+1.8
KRER	**Koryakskii**	**1.05**	**267**	*e*P	Pn	01 46 41.7	+1.6
KRER				*e*S	Sn	01 46 55.2	+1.1
AVH	**Avacha**	**1.06**	**265**	*e*P	Pn	01 46 41.9	+1.8
AVH				*e*P	Pn	01 46 42.1	+2.0
AVH				*e*S	Sn	01 46 56.3	+2.2
AVH				*e*S	Sn	01 46 56.3	+2.2
DALK	**Dalny**	**1.10**	**253**	*e*P	Pn	01 46 41.9	+1.3
DALK				*e*S	Sn	01 46 56.4	+1.4
KRX	**Arik**	**1.11**	**270**	*e*P	Pn	01 46 42.2	+1.4
KOK	**Koryaka**	**1.12**	**267**	*e*P	Pn	01 46 42.6	+1.7
KOK				*e*S	Sn	01 46 57.0	+1.5
PET	**Petropavlovsk**	**1.16**	**253**	*e*P	Pn	01 46 43.0	+1.6
PET				*e*S	Sn	01 46 57.8	+1.4
KRMR	**Karymshinskiy**	**1.53**	**250**	*e*P	Pn	01 46 48.1	+1.8
KRMR				*e*S	Sn	01 47 07.5	+2.4
RUS	**Russkaya**	**1.53**	**233**	*e*P	Pn	01 46 47.9	+1.6
RUS				*e*P	Pn	01 46 48.0	+1.7
RUS				*e*S	Sn	01 47 06.1	+1.0
RUS				*e*S	Sn	01 47 06.1	+1.0
GNL	**Ganaly**	**1.56**	**283**	*e*P	Pn	01 46 48.9	+2.1
GNL				*e*S	Sn	01 47 08.4	+2.3
MTVR	**Mutnovka**	**1.66**	**238**	*e*P	Pn	01 46 50.7	+2.5
MTVR				*e*S	Sn	01 47 10.5	+1.9
KZV	**Kizimen**	**1.75**	**356**	*e*P	Pn	01 46 51.9	+2.5
KZV				*e*S	Sn	01 47 12.6	+1.9
TUMD	**Tumrok D**	**1.83**	**358**	*e*P	Pn	01 46 52.7	+2.2
TUMD				*e*S	Sn	01 47 13.9	+1.3
ASAK	**Asacha**	**1.86**	**239**	*e*P	Pn	01 46 53.5	+2.6
ASAK				*e*S	Sn	01 47 16.4	+3.1
TUMR	**Tumrok**	**1.92**	**354**	*e*P	Pn	01 46 54.7	+2.9
TUMR				*e*S	Sn	01 47 18.4	+3.5
ZLN	**Zelenaya**	**2.66**	**4**	*e*P	Pn	01 47 02.5	+0.8
KBTR	**Krutoberegovo**	**3.14**	**24**	*e*P	Pn	01 47 11.8	+3.6
KBTR				*e*S	Sn	01 47 46.8	+2.3

*ISCJB **18** 01:53:47.2±0.6, 43°.7S±0°.1×16°.1W±0°.2, h10km, mb4.1/9, MS3.8/12, Error ellipse: s-maj=16.6km s-min=14.0km az=146.1*
*IDC **18** 01:53:47.5±0.8, 43°.63S×16°.13W, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/23, mbtmp4.1/9, MS3.8/12, Ms1 3.8/12, ms1mx3.7/18, Error ellipse: s-maj=26.0km s-min=19.2km az=14.0*
ISC 18 01:53:48.9±0.7, 43°.6S±0°.1×16°.1W±0°.1, h10km, n22, σ0.57/13, mb4.1/9, MS3.8/12, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**27.71**	**174**	P	**P**	**01 59 37.0**	**+0.1**
baz=341,slow=12							
VNA3	**Neumayer Olymp**	**27.87**	**176**	P	**P**	**01 59 38.3**	**-0.1**
SNAA	**Sanae**	**28.85**	**171**	LR	LR	02 07 54.1	
comp=Z,103nm,21.3s,baz=72,slow=29							
H10S2	**ASCENSION HYDR**	**34.57**	**3**	T	T	02 37 18.8	
baz=182,slow=75,SNR=28							
H10S3	**ASCENSION HYDR**	**34.57**	**3**	T	T	02 37 18.9	
baz=182,slow=75,SNR=23							
H10S1	**ASCENSION HYDR**	**34.59**	**3**	T	T	02 37 19.3	
baz=182,slow=75,SNR=25							
BOSA	**Boshof**	**36.25**	**80**	P	**P**	**02 00 52.2**	**-0.1**
5.9nm,1.1s,baz=270,slow=9.1,SNR=3.7							
CPUP	**Villa Florida**	**37.47**	**284**	P	**P**	**02 01 03.2**	**+0.7**
4.1nm,0.8s,baz=110,slow=7.1,SNR=11							
CPUP				LR	LR	02 14 25.3	
comp=Z,132nm,18.1s,baz=134,slow=33							
BDFB	**Brasilia**	**38.90**	**306**	P	**P**	**02 01 15.5**	**+0.7**
1.0nm,0.5s,baz=328,slow=7.9,SNR=3.6							
BDFB				LR	LR	02 14 15.0	
comp=Z,82nm,21.7s,baz=269,slow=32							
PLCA	**Paso Flores**	**39.82**	**255**	LR	LR	02 14 39.5	
comp=Z,191nm,21.1s,baz=168,slow=31							
MATP	**Matopo**	**43.69**	**73**	P	**P**	**02 01 54.5**	**+0.2**
1.5nm,0.7s,baz=231,slow=7.9,SNR=6.3							
MAW	**Mawson**	**46.51**	**149**	P	**P**	**02 02 15.7**	**-0.2**
2.6nm,0.8s,baz=232,slow=11,SNR=5.3							
MAW				LR	LR	02 17 49.6	
comp=Z,81nm,19.6s,baz=246,slow=31							
LPAZ	**La Paz**	**51.61**	**285**	P	**P**	**02 02 54.9**	**-1.4**
1.0nm,0.7s,baz=175,slow=7.0,SNR=3.7							
LPAZ				LR	LR	02 24 24.8	
comp=Z,247nm,19.2s,baz=126,slow=36							
TORD	**Torodi Ar. Bea**	**58.81**	**20**	P	**P**	**02 03 47.3**	**-0.2**
2.2nm,1.0s,baz=188,slow=5.9,SNR=9.2							
TORD				LR	LR	02 23 02.1	
comp=Z,76nm,21.8s,baz=320,slow=30							
VNDA	**Vanda**	**59.12**	**179**	P	**P**	**02 03 49.2**	**+0.3**
1.5nm,1.1s,baz=180,slow=2.0,SNR=3.6							
VNDA				LR	LR	02 25 52.9	
comp=Z,57nm,21.2s,baz=204,slow=33							
KMBO	**Kilima Mbogo**	**63.49**	**64**	LR	LR	02 28 55.0	
comp=Z,194nm,20.8s,baz=82,slow=33							
ROSC	**El Rosal**	**71.11**	**296**	LR	LR	02 35 22.3	
comp=Z,139nm,19.4s,baz=197,slow=35							
KEST	**Kesra**	**82.33**	**21**	LR	LR	02 38 52.4	
comp=Z,60nm,20.2s,baz=274,slow=33							
ESDC	**Sonseca Array**	**83.66**	**9**	P	**P**	**02 06 17.3**	**0.0**
1.1nm,0.8s,baz=178,slow=5.1,SNR=5.8							
BRTR	**Keskin Array B**	**94.37**	**36**	LR	LR	02 48 53.5	
comp=Z,21nm,19.9s,baz=142,slow=35							
SONM	**Songino Array**	**140.46**	**63**	PKP	**PKPdf**	**02 13 17.9**	**0.0**
0.5nm,0.7s,baz=186,slow=4.5,SNR=3.5							
ILAR	**Eielson Array**	**145.53**	**325**	PKPbc	**PKPdf**	**02 13 26.0**	**-0.1**
3.5nm,0.8s,baz=97,slow=1.5,SNR=34							

*ISK **18** 02:02:38.8, 39°.68N×38°.70E, h3km, MD2.5*
*ISCJB **18** 02:02:39.4±0.7, 39°.69N±0°.03×38°.72E±0°.05, h7km±7km, Error ellipse: s-maj=7.4km s-min=5.1km az=32.6*
*CSEM **18** 02:02:39.3±0.3, 39°.69N×38°.72E, h2km, MD2.7, Error ellipse: s-maj=6.4km s-min=4.6km az=120.0*
*DDA **18** 02:02:39.5, 39°.64N×38°.78E, h7km, Md2.7*
ISC 18 02:02:37.7±1.3, 39°.75N±0°.04×38°.81E±0°.04, h8km±11km, n15, σ0.49/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.35**	**212**	*e*PG	**Pg**	**02 02 44.5**	**-0.1**
ILIC				*e*SG	**Sg**	**02 02 48.8**	**-0.5**
ILIC	**ilic-Erzincan**	**0.35**	**212**	*e*Pg	**Pg**	**02 02 44.5**	**-0.1**
ILIC				*e*Sg	**Sg**	**02 02 48.8**	**-0.5**
REFA	**Refahiye_ERZ¨**	**0.35**	**186**	*i* P	**Pg**	**02 02 44.7**	**0.0**
REFA				*i* S	**Sg**	**02 02 49.5**	**+0.1**
REFA	**Refahiye_ERZ¨**	**0.35**	**186**	P	**Pg**	**02 02 44.7**	**0.0**
REFA				S	**Sg**	**02 02 49.5**	**+0.1**
KELT	**Kelkit**	**0.53**	**40**	*i* P	**Pn**	**02 02 51.9**	**+0.1**
KELT				*i* S	**Sn**	**02 03 00.3**	**-0.7**
KELT	**Kelkit**	**0.53**	**40**	P	**Pn**	**02 02 51.9**	**+0.1**
KELT				S	**Sn**	**02 03 00.3**	**-0.7**
KEMA	**Kemaliye**	**0.54**	**207**	*i* P	**Pg**	**02 02 48.2**	**+0.1**
KEMA				*i* S	**Sg**	**02 02 54.7**	**-0.5**
KEMA	**Kemaliye**	**0.54**	**207**	P	**Pg**	**02 02 48.2**	**+0.1**
KEMA				S	**Sg**	**02 02 54.7**	**-0.5**
ERZN	**Erzincan**	**0.72**	**103**	*e*PG	**Pn**	**02 02 54.9**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.85**	**138**	*i* P	**Pg**	**02 02 54.7**	**+0.6**
TNCL				*i* S	**Sn**	**02 03 08.2**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.85**	**138**	P	**Pg**	**02 02 54.7**	**+0.6**
TNCL				S	**Sn**	**02 03 08.2**	**-0.6**
PTK	**Pertek**	**0.97**	**152**	*e*PG	**Pn**	**

comp=Z,17nm,18.1s,baz=77,slow=38
ILAR Eielson Array 86.44 25 P P 02 38 15.7 -0.3
0.3nm,0.8s,baz=235,slow=7.6,SNR=3.4
TORD Torodi Ar. Bea 131.68 286 PKP PKPdf 02 44 47.4 -0.4
0.3nm,0.7s,baz=76,slow=1.8,SNR=3.4

JMA 18 03:05:41.7±0.1, 24°.14N×123°.80E, h19km±2km, M2.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.08**	**177**	P	Pg	03 05 45.1	-0.3
HATJ				S	Sg	03 05 47.4	-0.4
IRIF	**Iriomote-Funau**	**0.20**	**342**	P	Pg	03 05 46.7	-0.1
IRIF				S	Sg	03 05 50.2	-0.1
JKRS	**Kuro-shima**	**0.21**	**63**	P	Pg	03 05 47.2	+0.2
JKRS				S	Sg	03 05 51.1	+0.6
JIJ	**Ishigaki jima**	**0.38**	**55**	P	Pg	03 05 49.5	-0.3
JIJ				S	Sg	03 05 54.7	-0.5
JISG	**Ishigakijimahi**	**0.64**	**46**	P	Pb	03 05 54.1	-0.2
JISG				S	Sb	03 06 02.9	+0.1
YOJ	**Yonaguni jima**	**0.79**	**294**	P	Pb	03 05 56.9	+0.1
YOJ				eS	Sg	03 06 07.4	-0.3
JYNG	**Yonagunijimaku**	**0.84**	**292**	P	Pb	03 05 57.8	+0.1
JYNG				eS	Sb	03 06 08.8	+0.2
JTJ	**Tarama**	**0.96**	**59**	P	Pn	03 06 00.0	-0.2
JTJ				eS	Sn	03 06 13.4	+0.1

TAP 18 03:06:21.6, 24°.25N×121°.68E, h29km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.18**	**204**	eP	Pb	03 06 27.9	+0.4
	baz=201						
TWD				i S	Sb	03 06 32.4	+0.9
	baz=201						
ENA	**Nanau**	**0.19**	**18**	P	Pb	03 06 27.9	+0.4
	baz=20						
ENA				S	Sb	03 06 32.4	+0.9
	baz=20						
NNS	**Nan Shan**	**0.34**	**304**	eP	Pb	03 06 29.9	+0.4
	baz=304						
NNS				eS	Sn	03 06 36.0	-0.7
	baz=304						
TWC	**Suao**	**0.39**	**24**	eP	Pn	03 06 31.1	-0.3
	baz=24						
TWC				eS	Sn	03 06 37.4	-0.5
	baz=24						
WHF	**Hehuan Shan**	**0.39**	**255**	eP	Pb	03 06 31.0	+0.4
	baz=253						
WHF				eS	Sb	03 06 37.1	+0.4
	baz=253						
ENTT	**Nioudou**	**0.40**	**345**	eP	Pn	03 06 31.0	-0.5
	baz=346						
ENTT				eS	Sn	03 06 37.4	-0.8
	baz=346						
NSK	**Sanguang**	**0.52**	**326**	eP	Pn	03 06 33.3	+0.2
	baz=326						
NSK				eS	Sn	03 06 40.5	-0.5
	baz=326						
WDT	**Danda**	**0.70**	**225**	eP	Pb	03 06 35.6	+0.1
	baz=224						
WDT				eS	Sb	03 06 45.2	+0.3
	baz=224						

*IDC **18** 03:10:26.5±7.6, 36°.57N×82°.35E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/46, mbtmp3.6/3, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=94.7km s-min=32.3km az=30.0*
*BJI **18** 03:10:26.4, 36°.42N×82°.49E, h8km, ML3.5/7*
*NNC **18** 03:10:30.5±1.1, 36°.79N×82°.92E, h9km±5km, mb3.5, mpv3.5, Error ellipse: s-maj=10.7km s-min=6.9km az=38.0*
ISC 18 03:10:31.9±2.4, 36°.8N±0°.2×82°.40E±0°.07, h10km, n12, σ2°69/16, 3C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.77**	**301**	Pg	**Pb**	**03 12 15.0**	**+2.3**
KSH				Sg	**Sg**	**03 13 31.5**	**-5.6**
KSH				smax	smax		
	comp=N,26nm,0.5s						
KSH				smax	smax		
	comp=E,36nm,0.5s						
PDGK	**Podgornoye**	**6.94**	**342**	⇓Pn	**Pn**	**03 12 13.8**	**+0.1**
	2.2nm,0.7s						
PDGK				⇑Sn	**Sn**	**03 13 35.0**	**+2.3**
	7.7nm,0.4s						
PDGK				⇓Lg	Lg	03 14 14.1	
	44nm,1.3s						
MDOK	**Medeo**	**7.61**	**329**	Pg	Pg	03 12 52.4	-5.1
MDOK				Sn	**Sn**	**03 13 53.9**	**+4.7**
MDOK				⇓Lg	Lg	03 14 37.3	
TKM2	**Tokmak 2**	**8.08**	**322**	⇓Lg	Lg	03 14 57.2	
	2.9nm,0.7s						
WMQ	**Urumqi**	**8.14**	**28**	P	**Pn**	**03 12 31.1**	**+1.0**
WMQ				S	**Sn**	**03 14 03.5**	**+1.4**
WMQ				smax	smax		
	comp=N,8.0nm,0.7s						
WMQ				smax	smax		
	comp=E,8.0nm,0.5s						
AAK	**Ala-Archa**	**8.47**	**316**	Pg	**Pb**	**03 13 01.7**	**+3.2**
	0.2nm,0.3s,baz=121,slow=12,SNR=1.9						
AAK				Lg	Lg	03 14 58.6	
	0.2nm,0.3s,baz=151,slow=19,SNR=2.6						
MK31	**Makanchi Array**	**10.04**	**360**	⇓Pn	**Pn**	**03 12 54.7**	**-1.4**
	0.1nm,0.2s,baz=180,slow=12,SNR=6.7						
MK31				⇑Sn	**Sn**	**03 14 48.3**	**-0.4**
	1.4nm,0.6s						
MK31				⇓Lg	Lg	03 15 49.0	
	4.4nm,0.9s						
MKAR	**Makanchi Array**	**10.04**	**360**	Pn	**Pn**	**03 12 55.5**	**-0.6**
	0.3nm,0.3s,baz=181,slow=12,SNR=8.3						
MKAR				Sn	**Sn**	**03 14 48.8**	**+0.2**
	0.4nm,0.3s,baz=181,slow=25,SNR=3.9						
MAKZ	**Makanchi**	**10.05**	**358**	⇑Pn	**Pn**	**03 12 54.7**	**-1.6**
	0.7nm,0.5s						
MAKZ				⇓Sn	**Sn**	**03 14 48.3**	**-0.8**
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**17.28**	**5**	P	**Pn**	**03 14 30.5**	**-2.5**
	0.2nm,0.3s,baz=195,slow=10,SNR=4.7						
SONM	**Songino Array**	**20.83**	**50**	P	**P**	**03 15 11.5**	**-2.2**
	1.4nm,0.7s,baz=241,slow=12,SNR=7.8						
BRTR	**Keskin Array B**	**38.04**	**290**	LR	LR	03 37 04.0	
	comp=Z,26nm,19.3s,baz=112,slow=42						

IDC 18 03:12:47.5±8.6, 31°.56S×179°.05W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/30, mbtmp3.9/2, Error ellipse: s-maj=371.9km s-min=59.8km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.39**	**204**	Sn	Sn	03 16 10.7	+9.4
	0.4nm,0.3s,baz=22,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**42.17**	**269**	P	P	03 20 42.0	-0.1
	1.1nm,0.7s,baz=105,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**43.26**	**274**	P	P	03 20 50.8	-0.2
	0.9nm,0.5s,baz=116,slow=7.5,SNR=7.9						
FINES	**FINESS Array B**	**145.91**	**339**	PKPbc	PKPdf	03 32 27.3	-0.2
	2.4nm,0.9s,baz=7.6,slow=4.2,SNR=4.5						

*IDC **18** 03:28:13.0±1.0, 26°.66S×177°.71W, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.0/30, mbtmp4.1/5, ML4.5/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/25, Error ellipse: s-maj=34.8km s-min=26.0km az=149.0*
*ISCJB **18** 03:28:17.1±0.8, 26°.8S±0°.1×177°.8W±0°.2, h33km, mb4.0/4, MS3.1/2, Error ellipse: s-maj=23.1km s-min=18.6km az=6.8*
ISC 18 03:28:18.2±0.8, 26°.8S±0°.1×177°.7W±0°.2, h35km, n30, σ1°36/12, mb4.0/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.48**	**184**	Pn	**Pn**	**03 28 55.8**	**-0.2**
	84nm,0.3s,baz=60,slow=20,SNR=3.3						
RAO				Sn	Sn	03 29 36.0	+11
	43nm,0.3s,baz=84,slow=19,SNR=3.2						
RAO				LR	LR	03 29 57.6	
	comp=Z,496nm,19.0s,baz=62,slow=40						
URZ	**Urewera**	**12.25**	**199**	LR	LR	03 35 04.1	
	comp=Z,151nm,21.1s,baz=52,slow=33						
DZM	**Mont Dzumac**	**15.14**	**285**	LR	LR	03 36 25.4	
	comp=Z,119nm,19.9s,baz=186,slow=32						
DZM	**Mont Dzumac**	**15.14**	**285**	eLR	LR	03 35 04.6	
	327nm,28.9s						
TBI	**Tubuai**	**25.82**	**89**	eLQ	LQ	03 38 25.8	
	531nm,34.8s						
TBI				eLR	LR	03 39 57.1	
	187nm,31.0s						
TBI	**Tubuai**	**25.82**	**89**	eT	T	04 00 21.5	
	9.1nm,0.4s						
HNR	**Honiara**	**27.25**	**305**	LR	LR	03 43 37.4	
	comp=Z,110nm,19.1s,baz=131,slow=34						
PAE	**Paea**	**27.55**	**77**	eT	T	04 02 23.7	
	3.2nm,0.4s						
PPT2	**Papeete2**	**27.58**	**76**	eLR	LR	03 40 54.0	
	114nm,27.2s						
PPT2	**Papeete2**	**27.58**	**76**	eT	T	04 02 27.4	
	3.6nm,0.3s						
PPT	**Papeete**	**27.59**	**76**	LR	LR	03 43 33.9	
	comp=Z,26nm,18.2s,baz=242,slow=34						
TVO	**Taravao**	**27.79**	**77**	eT	T	04 02 41.9	
	1.5nm,0.3s						
RKT	**Rikitea**	**38.82**	**94**	eT	T	04 16 38.7	
	3.3nm,0.3s						
ASAR	**Alice Springs**	**43.66**	**263**	P	**P**	**03 36 20.3**	**+0.6**
	7.6nm,1.1s,baz=109,slow=8.2,SNR=25						
WRA	**Warramunga Arr**	**44.31**	**268**	P	**P**	**03 36 25.1**	**+0.1**
	5.1nm,0.7s,baz=106,slow=8.2,SNR=16						
SNAA	**Sanae**	**81.77**	**178**	P	**P**	**03 40 30.0**	**-3.0**
VNA3	**Neumayer Olymp**	**81.90**	**176**	P	**P**	**03 40 34.9**	**+1.3**
VNA2	**Neumayer--Watz**	**82.34**	**177**	P	**P**	**03 40 37.4**	**+1.5**
	baz=172,slow=5.4						
TXAR	**Lajitas Array**	**90.23**	**57**	P	**P**	**03 41 15.7**	**+0.2**
	0.2nm,0.8s,baz=196,slow=6.3,SNR=2.9						
PDAR	**Pinedale Array**	**93.35**	**43**	P	**P**	**03 41 30.1**	**+0.4**
	0.2nm,0.7s,baz=223,slow=4.9,SNR=2.5						
H10S3	**ASCENSION HYDR**	**140.88**	**153**	T	T	06 25 32.8	
	baz=205,slow=75,SNR=118						
H10S2	**ASCENSION HYDR**	**140.88**	**153**	T	T	06 25 32.8	
	baz=205,slow=75,SNR=130						
H10S1	**ASCENSION HYDR**	**140.89**	**153**	T	T	06 25 31.7	
	baz=205,slow=75,SNR=129						
H10N3	**ASCENSION HYDR**	**141.95**	**152**	T	T	06 26 50.5	
	baz=204,slow=75,SNR=58						
H10N1	**ASCENSION HYDR**	**141.95**	**152**	T	T	06 26 52.2	
	baz=204,slow=75,SNR=63						
H10N2	**ASCENSION HYDR**	**141.97**	**152**	T	T	06 26 51.1	
	baz=204,slow=75,SNR=40						
NB2	**NORSAR Subarra**	**145.20**	**352**	PKP	**PKPab**	**03 47 51.5**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=18,slow=3.3						
NOA	**NORSAR Array B**	**145.20**	**352**	PKPbc	**PKPbc**	**03 47 49.6**	**-1.5**
	comp=Z,5.9nm,1.0s,baz=18,slow=2.5,SNR=6.0						
AKASG	**Malin Array Be**	**146.48**	**327**	PKPbc	**PKPbc**	**03 48 00.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=43,slow=3.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.44**	**178**	PKPab	**PKPab**	**03 49 22.8**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=199,slow=5.1,SNR=3.9						

KRSC 18 04:03:50.5±0.8, 52°.95N×160°.07E, h46km±5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.15**	**350**	eP	Pn	04 03 59.1	+1.0
SPN				eS	Sn	04 04 04.6	+1.1
NLC	**Nalytchevo**	**0.49**	**298**	eP	Pn	04 04 02.2	+0.8
NLC				eS	Sn	04 04 09.9	+0.8
SDLR	**Sedlovina**	**0.79**	**295**	eP	Pn	04 04 06.3	+0.9
SDLR				eS	Sn	04 04 17.5	+1.4
UGLR	**Uglovaya**	**0.79**	**290**	eP	Pn	04 04 06.5	+1.0
UGLR				eS	Sn	04 04 18.5	+2.2
DALK	**Dalny**	**0.80**	**277**	eP	Pn	04 04 06.1	+0.7
DALK				eS	Sn	04 04 16.7	+0.5
PET	**Petropavlovsk**	**0.86**	**276**	eP	Pn	04 04 06.8	+0.6
PET				eS	Sn	04 04 18.1	+0.5
AVH	**Avacha**	**0.86**	**292**	eP	Pn	04 04 07.5	+1.1
AVH				eS	Sn	04 04 20.2	+2.3
KRER	**Koryakskii**	**0.87**	**295**	eP	Pn	04 04 08.0	+1.4
KRER				eS	Sn	04 04 20.0	+1.7
KOK	**Koryaka**	**0.93**	**292**	eP	Pn	04 04 08.6	+1.3
KRX	**Arik**	**0.95**	**296**	eP	Pn	04 04 08.4	+0.8
RUS	**Russkaya**	**1.08**	**242**	eP	Pn	04 04 10.1	+0.9
RUS				eS	Sn	04 04 23.8	+0.9
KRMR	**Karymshinskiy**	**1.18**	**265**	eP	Pn	04 04 11.5	+0.9
KRMR				eS	Sn	04 04 26.4	+1.0
MTVR	**Mutnovka**	**1.24**	**249**	eP	Pn	04 04 13.0	+1.5
MTVR				eS	Sn	04 04 28.5	+1.4
ASAK	**Asacha**	**1.44**	**248**	eP	Pn	04 04 16.2	+2.1
ASAK				eS	Sn	04 04 34.8	+3.0
GNL	**Ganaly**	**1.48**	**301**	eP	Pn	04 04 16.3	+1.5
GNL				eS	Sn	04 04 35.9	+2.9
APC	**Apacha**	**1.76**	**270**	eP	Pn	04 04 20.8	+2.3
APC				eS	Sn	04 04 43.1	+3.4
KZV	**Kizimen**	**2.17**	**3**	eP	Pn	04 04 26.6	+2.2
KZV				eS	Sn	04 04 53.5	+3.4
TUMD	**Tumrok D**	**2.27**	**5**	eP	Pn	04 04 27.6	+2.1
TUMD				eS	Sn	04 04 53.7	+1.4
TUMR	**Tumrok**	**2.34**	**1**	eP	Pn	04 04 28.8	+2.2
ZLN	**Zelenaya**	**3.11**	**8**	P	Pn	04 04 41.2	+4.1

*IDC **18** 04:10:36.6±1.1, 37°.09N×140°.84E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/32, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=29.6km s-min=22.8km az=157.0*
*ISCJB **18** 04:10:37.5±0.6, 37°.12N±0°.03×140°.82E±0°.06, h12km±4km, mb3.5/4, Error ellipse: s-maj=8.0km s-min=4.6km az=10.3*
*JMA **18** 04:10:38.1, 37°.13N×140°.71E, h7km±1km, M3.5*
Broadband fault plane solution: P waves. NP1: φs=217.00000°, δ=46.00000°, λ=-88.00000°. NP2: φs=33.00000°, δ=44.00000°, λ=-93.00000°. Principal axes: T Plg1.0000°, Azm305.0000°; N Plg2.0000°, Azm35.0000°; P Plg88.0000°, Azm188.0000°;
JMA Felt II J1.
ISC 18 04:10:38.1±0.9, 37°.12N±0°.04×140°.77E±0°.05, h10km±5km, n19, σ0°54/21, mb3.4/4, 6C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.03**	**117**	⇑P	**Pg**	**04 10 40.0**	**-0.1**
ONAJ				S	**Sg**	**04 10 41.4**	**-0.1**
JFK	**Kawauchi**	**0.27**	**19**	⇑P	**Pg**	**04 10 43.6**	**0.0**
JFK				S	**Sg**	**04 10 47.5**	**+0.3**
JHO	**Hitachi**	**0.53**	**197**	⇑P	**Pg**	**04 10 48.2**	**-0.2**
JHO				S	**Sb**	**04 10 55.7**	**-1.4**
JFT	**Otama**	**0.53**	**320**	⇑P	**Pg**	**04 10 47.9**	**-0.5**
JFT				S	**Sg**	**04 10 54.7**	**-0.7**
JSB	**Shiboa**	**0.69**	**258**	⇑P	**Pg**	**04 10 51.4**	**-0.1**
JSB				S	**Sg**	**04 11 00.7**	**+0.1**
JMM	**Marumori**	**0.75**	**2**	⇑P	**Pg**	**04 10 52.1**	**-0.5**
JMM				S	**Sg**	**04 11 02.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.13**	**255**	Pn	**Pn**	**04 11 14.4**	**+0.6**
	8.9nm,0.3s,baz=72,slow=14,SNR=49						
MJAR				Sn	**Sb**	**04 11 43.3**	**+0.1**
	14nm,0.3s,baz=189,slow=9.3,SNR=5.1						
MAT	**Matsushiro**	**2.13**	**255**	P	**Pn**	**04 11 14.7**	**+0.9**
MAT				S	**Sb**	**04 11 43.2**	**-0.1**
SONM	**Songino Array**	**27.31**	**304**	P	**P**	**04 16 23.3**	**+0.3**
	0.3nm,0.5s,baz=101,slow=7.5,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	04 46 18.3	
	baz=349,slow=76,SNR=55						
H11N1	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	04 46 19.5	
	baz=349,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	04 46 12.0	
	baz=349,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	04 47 20.1	
	baz=314,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	04 47 14.1	
	baz=314,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	04 47 15.2	
	baz=314,slow=76,SNR=16						
MKAR	**Makanchi Array**	**43.64**	**302**	P	**P**	**04 18 42.8**	**+0.2**
	0.2nm,0.2s,baz=95,slow=8.8,SNR=3.8						
ILAR	**Eielson Array**	**49.70**	**32**	P	**P**	**04 19 30.1**	**+0.2**
	0.3nm,0.8s,baz=268,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**57.07**	**187**	P	**P**	**04 20 24.3**	**-0.2**
	0.6nm,0.4s,baz=2.8,slow=7.2,SNR=8.8						
LPAZ	**La Paz**	**147.10**	**59**	PKPbc	**PKPbc**	**04 30 22.0**	**-0.5**
	0.6nm,0.5s,baz=315,slow=4.3,SNR=3.5						

*NIED **18** 04:23:00, 38°.40N×142°.20E, h29km, Mw4.0 Best double couple: M0=1.27000×10^15 NP1: φs=320.00000°, δ=26.00000°, λ=-121.00000°. NP2: φs=174.00000°, δ=68.00000°, λ=-76.00000°.*
*ISCJB **18** 04:23:13.9±0.9, 38°.35N±0°.04×142°.29E±0°.08, h41km±8km, mb4.2/19, Error ellipse: s-maj=10.5km s-min=5.7km az=19.5*
*JMA **18** 04:23:14.1±0.1, 38°.41N×142°.27E, h37km±2km, M4.2*
JMA Felt II J1.
*IDC **18** 04:23:16.0±0.7, 38°.32N×142°.35E, h42km±7km, mb3.8/14, mb1 4.1/19, mb1mx3.9/46, mbtmp4.1/19, ML4.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/46, Error ellipse: s-maj=16.7km s-min=11.7km az=123.0*
*NEIC **18** 04:23:17.4±0.9, 38°.37N×142°.28E, h57km±8km, mb4.7/4, Error ellipse: s-maj=10.3km s-min=6.2km az=127.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
ISC 18 04:23:14.0±0.7, 38°.33N±0°.04×142°.28E±0°.05, h28km±4km, n45, σ1°51/52, mb4.2/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.74**	**280**	P	**Pb**	**04 23 28.0**	**-0.4**
JIO				S	**Sb**	**04 23 37.5**	**-0.6**
OFUJ	**Ofunato**	**0.89**	**327**	P	**Pn**	**04 23 29.4**	**-1.3**
OFUJ				eS	**Sb**	**04 23 40.0**	**-2.3**
JMK	**Ichinoseki**	**1.04**	**307**	P	**Pn**	**04 23 32.0**	**-0.7**
JMK				eS	**Sn**	**04 23 45.0**	**-1.3**
JMM	**Marumori**	**1.26**	**249**	P	**Pn**	**04 23 35.5**	**-0.3**
JMM				eS	**Sn**	**04 23 51.7**	**-0.2**
JOU	**Okura**	**1.27**	**272**	P	**Pn**	**04 23 36.0**	**0.0**
JOU				eS	**Sn**	**04 23 52.2**	**+0.1**
JOM	**Ohasama**	**1.38**	**326**	P	**Pn**	**04 23 36.9**	**-0.5**
JOM				eS	**Sn**	**04 23 53.6**	**-1.1**
JFK	**Kawauchi**	**1.47**	**230**	P	**Pn**	**04 23 38.3**	**-0.5**
JFK				eS	**Sn**	**04 23 55.7**	**-1.4**
JYK	**Kaneyama**	**1.61**	**292**	P	**Pn**	**04 23 40.6**	**-0.1**
JRG	**Rokugo**	**1.67**	**310**	P	**Pn**	**04 23 41.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.70**	**242**	P	**Pn**	**04 24 12.7**	**+3.3**
	12nm,0.3s,baz=63,slow=10,SNR=89						
MJAR				S	**Sb**	**04 25 01.4**	**-1.8**
	4.7nm,0.3s,baz=68,slow=19,SNR=4.5						
MJAR				LR	LR	04 25 44.3	
	comp=Z,265nm,20.4s,baz=55,slow=40						
MAJO	**Matsushiro**	**3.70**	**242**	ePn	**Pn**	**04 24 11.6**	**+2.2**
MAJO				eSn	**Sn**	**04 24 52.9**	**+0.7**
MAT	**Matsushiro**	**3.70**	**242**	P	**Pn**	**04 24 12.9**	**+3.5**
MAT				S	**Sb**	**04 25 00.0**	**-3.2**
JHJ	**Hachijo jima 2**	**5.58**	**202**	P	**Pn**	**04 24 35.1**	**-0.1**
	23nm,0.3s,baz=156,slow=23,SNR=12						
JHJ				S	**Sn**	**04 25 36.0**	**-2.5**
	54nm,0.3s,baz=131,slow=23,SNR=7.1						
ASAJ	**Asahikawa**	**5.78**	**2**	P	**Pn**	**04 24 39.0**	**+1.0**
	1.4nm,0.3s,baz=196,slow=15,SNR=3.7						
USRK	**Ussuriysk Ar.**	**9.71**	**310**	P	Pn	04 25 37.2	+5.4
	0.6nm,0.3s,baz=123,slow=14,SNR=18						
JNU	**Nakatsue**	**10.62**	**244**	P	**Pn**	**04 25 47.5**	**+3.1**
	2.1nm,0.3s,baz=102,slow=4.2,SNR=5.1						
KSRS	**Korea Array**	**11.38**	**270**	P	**Pn**	**04 25 58.9**	**+4.2**
	0.4nm,0.3s,baz=81,slow=14,SNR=5.2						
KSRS				LR	LR	04 29 59.7	
	comp=Z,121nm,20.3s,baz=94,slow=35						
KSAR	**Wonju Array Be**	**11.41**	**270**	P	**Pn**	**04 25 58.9**	**+3.7**
SEY	**Seymchan**	**25.39**	**11**	P	**P**	**04 28 39.9**	**+1.2**
	2.7nm,0.6s,baz=197,slow=19,SNR=3.5						
SONM	**Songino Array**	**27.66**	**302**	P	**P**	**04 28 59.7**	**+0.2**
	0.9nm,0.6s,baz=105,slow=9.1,SNR=3.0						
ENH	**Enshi**	**28.15**	**263**	eP	**P**	**04 29 03.6**	**-0.3**
	31nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**124**	T	T	04 59 27.6	
	baz=316,slow=75,SNR=984						
H11N1	**WAKE ISLAND Hy**	**28.27**	**124**	T	T	04 59 27.0	
	baz=316,slow=75,SNR=1346						
H11N3	**WAKE ISLAND Hy**	**28.28**	**124**	T	T	04 59 29.0	
	baz=316,slow=75,SNR=1212						
H11S1	**WAKE ISLAND Hy**	**29.02**	**126**	T	T	05 00 22.5	
	baz=318,slow=76,SNR=408						
H11S3	**WAKE ISLAND Hy**	**29.03**	**126**	T	T	05 00 22.6	
	baz=318,slow=76,SNR=650						
H11S2	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	05 00 23.7	
	baz=318,slow=76,SNR=466						
ZALV	**Zalesovo Beam**	**41.56**	**311**	P	**P**	**04 30 59.1**	**+0.2**
	1.9nm,0.3s,baz=81,slow=9.2,SNR=2.4						
CHTO	**Chiang Mai**	**42.28**	**255**	eP	**P**	**04 31 05.2**	**-0.1**
	3.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.50**	**255**	P	**P**	**04 31 07.7**	**+0.6**
	0.6nm,0.3s,baz=59,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**44.02**	**301**	P	**P**	**04 31 19.1**	**-0.1**
	0.5nm,0.4s,baz=84,slow=12,SNR=4.7						
KDAK	**Kodiak Island**	**45.68**	**43**	P	**P**	**04 31 31.5**	**-0.5**
	4.4nm,0.8s,baz=310,slow=11,SNR=3.4						
KURK	**Kurchatov**	**45.69**	**307**	eP	**P**	**04 31 30.6**	**-1.6**
	55nm,0.8s						
ILAR	**Eielson Array**	**48.03**	**33**	P	**P**	**04 31 50.4**	**0.0**
	0.7nm,0.7s,baz=272,slow=6.7,SNR=10.0						
ILAR				pP	**sP**	**04 32 02.4**	**+0.3**
	1.3nm,0.7s,baz=270,slow=6.4,SNR=11						
DIV	**Divide**	**48.83**	**38**	eP	**P**	**04 31 56.3**	**-0.3**
	14nm,0.6s						
ABKAR	**Akbulak array**	**57.63**	**310**	eP	**P**	**04 33 00.6**	**-0.8**
	1.8nm,0.6s						
WRAB	**Tennant Creek**	**58.43**	**189**	eP	**P**	**04 33 06.7**	**-0.5**
WRA	**Warramunga Arr**	**58.44**	**189**	P	**P**	**04 33 07.2**	**-0.2**
	3.9nm,0.7s,baz=8.8,slow=7.3,SNR=19						
WRA				pP	**sP**	**04 33 19.4**	**+0.2**
	1.3nm,0.5s,baz=6.0,slow=7.2,SNR=4.4						
ASAR	**Alice Springs**	**62.17**	**189**	P	**P**	**04 33 33.0**	**+0.2**
	1.7nm,0.7s,baz=13,slow=5.7,SNR=18						
ASAR				pP	**sP**	**04 33 45.0**	**+0.3**
	0.8nm,0.7s,baz=4.9,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**62.34**	**31**	P	**P**	**04 33 33.8**	**+0.3**
	0.4nm,0.5s,baz=310,slow=14,SNR=3.5						
FINES	**FINESS Array B**	**67.99**	**332**	P	**P**	**04 34 10.2**	**+0.1**
	3.2nm,0.9s,baz=142,slow=5.3,SNR=3.4						
AKASG	**Malin

comp=E,824nm,0.1s
PB04 IPOC Station P 1.91 232 IAML 04 26 27.2
comp=N,342nm,0.3s
PSGC Pisagua 2.17 316 ⇓*i*P **Pn 04 25 55.9 -0.6**
PSGC *i* S **Sn 04 26 23.2 -1.2**
MNMC Minye Minye 2.27 333 ⇓*i*P **Pn 04 25 58.4 +0.5**
MNMC *i* S **Sn 04 26 27.7 +1.0**
MNMC IAML 04 26 32.2
comp=N,678nm,0.1s
LPAZ La Paz 4.87 4 P **Pn 04 26 34.1 +1.9**
comp=N,1.1nm,0.3s,baz=176,slow=5.2,SNR=42
SIV San Ignacio 8.74 55 P **Pn 04 27 20.4 -3.3**
comp=N,1.8nm,0.3s,baz=245,slow=13,SNR=21
TORD Torodi Ar. Bea 76.90 70 P **P 04 36 58.4 -0.1**
comp=N,0.3nm,0.5s,baz=253,slow=5.4,SNR=8.1
MKAR Makanchi Array 145.15 36 PKPbc **PKPdf 04 44 43.0 +0.8**
comp=N,0.3nm,0.3s,baz=330,slow=2.6,SNR=4.6

*ISCJB **18** 04:38:36.5±0.3,37°.46S×0°.07×78°.28E±0°.08,h13km, mb4.8/25,MS4.7/4,Error ellipse: s-maj=11.0km s-min=8.9km az=143.3*
*IDC **18** 04:38:36.3±0.7,37°.47S×78°.19E,h0km,mb4.2/12, mb1 4.3/12,mb1mx4.0/42,mbtmp4.2/12,MS4.7/4, Ms1 4.6/4,ms1mx4.2/39,Error ellipse: s-maj=23.0km s-min=18.4km az=7.0*
*NEIC **18** 04:38:37.7±0.4,37°.43S×78°.22E,h10km,mb4.9/12,Error ellipse: s-maj=11.8km s-min=9.4km az=182.0*
*GCMT **18** 04:38:37.7±0.3,37°.29S×78°.15E,h12km,MW5.0/59, Moment Tensor Solution. s23,c27; s59,c78; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.27±.18; Mθθ-2.84±.17; Mφφ4.12±.13; Mrθ1.22±.52; Mθφ0.15±.16; Mφr0.34±.43; Best double couple: M0 3.82800×10¹⁶ NP1:φs222.00000°,δ73.00000°,λ-24.00000°. NP2: φs320.00000°,δ67.00000°,λ-162.00000°. Principal axes: T 4.1500, Plg4.0000°, Azm272.0000°; N -0.6340, Plg61.0000°, Azm9.0000°; P -3.5060, Plg29.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 04:38:38.2±0.5,37°.45±0°.1×78°.22E±0°.09,h13km,n49, σ0s97/41,mb4.8/25,MS4.6/4,2C,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.11**	**349**	T	T	05 15 57.8	
baz=171,slow=76,SNR=1001							
H08S1	**Diego Garcia H**	**30.12**	**349**	T	T	05 15 56.3	
baz=171,slow=76,SNR=1077							
H08S3	**Diego Garcia B**	**30.13**	**349**	T	T	05 15 59.3	
baz=171,slow=76,SNR=1176							
MAW	**Mawson**	**31.43**	**191**	LR	LR	04 55 28.4	
comp=Z,620nm,18.7s,baz=48,slow=32							
NWAO	**Narrogin (SRO)**	**32.04**	**94**	P	**P**	**04 45 04.9**	**+0.4**
3.2nm,0.3s,baz=156,slow=19,SNR=8.1							
NWAO	**Narrogin (SRO)**	**32.04**	**94**	*e*P	**P**	**04 45 04.9**	**+0.4**
60nm,1.4s							
SYO	**Syowa Base**	**37.93**	**201**⇑	*e*P	**P**	**04 45 54.0**	**-0.8**
SYO	**Syowa Base**	**37.93**	**201**⇑	*ep*P	pP	04 45 56.9	-1.9
CISI	**Cisompet, Garu**	**40.07**	**50**	*e*P	**P**	**04 46 13.0**	**-0.4**
106nm,1.5s							
UGM	**Wanagama**	**41.48**	**53**	*e*P	**P**	**04 46 23.5**	**-1.5**
805nm,1.8s							
LBTB	**Lobatse**	**46.14**	**270**	P	**P**	**04 47 02.0**	**-0.5**
1.6nm,0.5s,baz=102,slow=9.3,SNR=3.0							
LBTB	**Lobatse**	**46.14**	**270**	*e*P	**P**	**04 47 00.7**	**-1.8**
41nm,1.8s							
MMRI	**Maumere**	**48.98**	**66**	*e*P	**P**	**04 47 24.1**	**-0.5**
155nm,1.6s							
ASAR	**Alice Springs**	**49.22**	**90**	P	**P**	**04 47 26.8**	**+0.3**
3.4nm,1.0s,baz=242,slow=6.8,SNR=14							
AS31	**Alice Springs**	**49.23**	**90**	*e*P	**P**	**04 47 28.1**	**+1.7**
1.9nm,1.0s							
AS01	**Alice Springs**	**49.26**	**90**	*e*P	**P**	**04 47 26.3**	**-0.4**
LSZ	**Lusaka**	**49.31**	**283**	*e*P	**P**	**04 47 27.0**	**-0.2**
22nm,1.5s							
KAPI	**Kappang**	**49.75**	**60**	*e*P	**P**	**04 47 28.4**	**-2.0**
217nm,0.8s							
SBUM	**Sibu**	**50.69**	**46**	*e*P	**P**	**04 47 37.2**	**-0.3**
123nm,0.4s							
WRA	**Warramunga Arr**	**51.48**	**87**	P	**P**	**04 47 43.6**	**+0.1**
4.1nm,0.8s,baz=238,slow=7.4,SNR=14							
WR1	**Warramunga Arr**	**51.48**	**87**	*e*P	**P**	**04 47 43.6**	**+0.1**
26nm,1.8s							
WB2	**Warramunga Arr**	**51.49**	**87**	*e*P	**P**	**04 47 44.7**	**+1.1**
24nm,1.8s							
STKA	**Stephens Creek**	**51.56**	**104**	P	**P**	**04 47 44.4**	**+0.4**
7.0nm,0.8s,baz=281,slow=6.3,SNR=7.6							
STKA	**Stephens Creek**	**51.56**	**104**	*e*P	**P**	**04 47 45.1**	**+1.1**
1.7nm,0.9s							
SNAA	**Sanae**	**52.16**	**203**	P	**P**	**04 47 47.9**	**-0.2**
SNAA	**Sanae**	**52.16**	**203**	P	**P**	**04 47 47.8**	**-0.2**
1.8nm,0.8s,baz=95,slow=7.8,SNR=6.6							
SNAA	**Sanae**	**52.16**	**203**	*e*P	**P**	**04 47 47.9**	**-0.2**
7.6nm,1.3s							
KMBO	**Kilima Mbogo**	**52.22**	**304**	LR	LR	05 04 52.8	
comp=Z,208nm,20.7s,baz=100,slow=30							
VNDA	**Vanda**	**52.40**	**164**	P	**P**	**04 47 50.2**	**+0.6**
0.6nm,0.7s,baz=302,slow=11,SNR=3.2							
QSPA	**South Pole Qui**	**52.72**	**180**	*e*P	**P**	**04 47 52.3**	**0.0**
16nm,1.2s							
VNA2	**Neumayer--Watz**	**53.72**	**204**	P	**P**	**04 48 00.5**	**+1.1**
baz=88,slow=8.8							
VNA1	**Neumayer--Stat**	**54.05**	**204**	P	**P**	**04 48 02.2**	**+0.4**
VNA3	**Neumayer Olymp**	**54.39**	**203**	P	**P**	**04 48 05.1**	**+0.8**
CAN	**Canberra**	**55.75**	**111**	*e*P	**P**	**04 48 13.8**	**-0.9**
47nm,1.8s							
CM01	**Chiang Mai Arr**	**58.90**	**23**	*e*P	**P**	**04 48 35.2**	**-1.7**
CM31	**Chiang Mai Arr**	**58.93**	**23**	*e*P	**P**	**04 48 37.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.93**	**23**	P	**P**	**04 48 37.1**	**+0.1**
1.0nm,0.3s,baz=210,slow=7.1,SNR=4.5							
KKAR	**Karatay Array**	**80.47**	**354**	*e*P	**P**	**04 50 50.9**	**+1.5**
48nm,0.9s							
RAO	**Raoul Island**	**82.66**	**121**	LR	LR	05 21 25.2	
comp=Z,2μm,20.7s,baz=168,slow=31							
MK01	**Makanchi Array**	**83.91**	**3**	*e*P	**P**	**04 51 07.2**	**-0.1**
MK32	**Makanchi Array**	**83.94**	**3**	*e*P	**P**	**04 51 07.7**	**+0.2**
MKAR	**Makanchi Array**	**83.94**	**3**	P	**P**	**04 51 07.7**	**+0.2**
2.2nm,0.8s,baz=165,slow=5.0,SNR=8.1							
BR101	**Keskin Array S**	**87.03**	**327**	*e*P	**P**	**04 51 25.1**	**+1.9**
BRTR	**Keskin Array B**	**87.03**	**327**	P	**P**	**04 51 25.1**	**+1.9**
1.1nm,0.9s,baz=175,slow=5.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**87.49**	**289**	P	**P**	**04 51 25.3**	**-0.6**
0.3nm,0.7s,baz=114,slow=3.5,SNR=3.0							
TOA1	**Torodi Ar. Sit**	**87.50**	**289**	*e*P	**P**	**04 51 25.3**	**-0.6**
15nm,1.8s							
KURBB	**Kurchatov Arra**	**87.69**	**0**	P	**P**	**04 51 27.2**	**+1.3**
2.0nm,0.7s,baz=194,slow=4.7,SNR=6.6							
KURK	**Kurchatov**	**87.78**	**0**	*e*P	**P**	**04 51 27.2**	**+0.8**
DBIC	**Dimbokro**	**88.54**	**279**	LR	LR	05 29 23.8	
comp=Z,440nm,18.1s,baz=161,slow=34							

*IDC **18** 05:05:01.5±0.3,5°.71S×151°.08E,h0km,mb5.0/32, mb1 5.0/34,mb1mx5.0/38,mbtmp5.0/34,ML4.4/2,MS5.6/27, Ms1 5.6/27,ms1mx5.4/31,Error ellipse: s-maj=12.6km s-min=9.3km az=90.0*
*BJI **18** 05:05:03.6,5°.88S×151°.05E,h20km,mb5.4/69,mB5.9/73, Ms5.9/92,Ms7 5.8/87*
*ISCJB **18** 05:05:04.8±1.0,5°.78S±0°.02×151°.00E±0°.02,h26km±7km, mb5.3/110,MS5.8/228,Error ellipse: s-maj=3.8km s-min=3.0km az=164.5*
*NEIC **18** 05:05:04.0±0.0,5°.99S×151°.19E,h30km,Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr1.12; Mθθ-1.26; Mφφ0.14; Mrθ1.35; Mθφ-0.29; Mφr0.08; Best double couple: M0 1.80000×10¹⁸ NP1:φs85.00000°, δ69.00000°,λ95.00000°. NP2:φs250.00000°,δ21.00000°, λ76.00000°. Principal axes: T 1.7300, Plg65.0000°, Azm4.0000°; N 0.1800, Plg4.0000°, Azm263.0000°; P -1.9100, Plg23.0000°, Azm170.0000°;*
*GCMT **18** 05:05:06.2±0.1,6°.12S×151°.10E,h33km,MW6.0/141, Moment Tensor Solution. s141,c322; s138,c452; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr1.08±.01; Mθθ-1.19±.01; Mφφ0.11±.01; Mrθ0.72±.01; Mθφ-0.29±.01; Mφr-0.10±.01; Best double couple: M0 1.37900×10¹⁸ NP1:φs90.00000°,δ61.00000°, λ103.00000°. NP2:φs245.00000°,δ31.00000°,λ68.00000°. Principal axes: T 1.3160, Plg71.0000°, Azm28.0000°; N 0.1290, Plg11.0000°, Azm263.0000°; P -1.4410, Plg15.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **18** 05:05:06.2±0.1,5°.79S×151°.04E,h26km,mb5.5/4,ME5.3, MS5.9/164,MW6.0,MW6.1 Error ellipse: s-maj=3.6km s-min=2.8km az=144.0 Broadband fault plane solution: P waves. NP1:φs260.00000°,δ25.00000°,λ90.00000°. NP2:φs80.00000°,δ65.00000°,λ90.00000°. Principal axes: T Plg70.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm170.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kimbe.
*MOS **18** 05:05:06.6±1.2,5°.63S×150°.96E,h35km,mb5.6/26, MS5.9/39 Error ellipse: s-maj=7.3km s-min=5.7km az=90.1*
*DJA **18** 05:05:16.2±0.6,6°.5±3°.×15°.1E±°,h110km±5km,M5.7/33, mb5.5/33,mB6.1/29,Mw(mB)5.7/29,Mwp6.1/1*
*NEIC **18** 05:05:25.2±0.0,5°.38S×151°.40E,h10km Best double couple: NP1:φs234.00000°,δ25.00000°,λ51.00000°. NP2:φs95.00000°,δ71.00000°,λ106.00000°. Principal axes: T 1.2600, Plg61.0000°, Azm29.0000°; N -0.0400, Plg15.0000°, Azm269.0000°; P -1.2300, Plg24.0000°, Azm172.0000°;*
ISC 18 05:05:06.7±0.4,5°.77S±0°.03×151°.11E±0°.03,h30km±2km, h30km:pP-P,n1111,σ1s81/1100,mb5.3/119,MS5.8/230, 40C-20D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.89**	**34**	*e*Pn	**Pb**	**05 05 40.3**	**-0.3**
MANU	**Manus Island**	**5.25**	**315**	*e*Pn	Pn	05 06 30.4	+7.1
PMG	**Port Moresby**	**5.33**	**227**	Pn	**Pn**	**05 06 25.1**	**+0.9**
22nm,0.3s,baz=46,slow=5.4,SNR=61							
PMG				Sn	**Sn**	**05 07 24.1**	**-0.5**
338nm,0.3s,baz=106,slow=7.4,SNR=6.2							
PMG				LR	LR	05 07 49.1	
comp=Z,14μm,21.6s,baz=10.0,slow=31							
PMG	**Port Moresby**	**5.33**	**227**	*d*iP	**Pn**	**05 06 25.5**	**+1.3**
HNR	**Honiara**	**9.49**	**113**	Pn	**Pn**	**05 07 21.3**	**-0.1**
5.7nm,0.3s,baz=178,slow=10,SNR=3.0							
HNR				Sn	**Sn**	**05 09 10.1**	**+3.0**
6.9nm,0.3s,baz=344,slow=19,SNR=2.4							
HNR				LR	LR	05 10 26.9	
comp=Z,43μm,21.3s,baz=282,slow=34							
HNR	**Honiara**	**9.49**	**113**	*e*P	**Pn**	**05 07 24.0**	**+2.6**
HNR				*e*S	**Sn**	**05 09 10.0**	**+2.9**
HNR	**Honiara**	**9.49**	**113**	*e*P	**Pn**	**05 07 20.4**	**-1.0**
JAY	**Jayapura**	**10.86**	**287**	P	Pn	05 07 45.9	+5.6
MMPI	**Merauke**	**10.97**	**255**	P	Pn	05 07 54.2	+12
COEN	**Coen**	**11.28**	**223**	P	**Pn**	**05 07 46.2**	**+0.3**
baz=11,SNR=15							
COEN	**Coen**	**11.28**	**223**	*e*Pn	**Pn**	**05 07 46.8**	**+0.9**
GENI	**Genyem**	**11.35**	**286**	P	Pn	05 08 00.9	+14
SMPI	**Sarmi**	**12.92**	**286**	P	P	05 08 23.6	+4.9
MTSU	**Mount Surprise**	**13.96**	**208**	P	**Pn**	**05 08 23.9**	**+1.2**
baz=14,SNR=33							
PATS	**Pohnpei**	**14.44**	**30**	P	**P**	**05 08 33.0**	**-2.6**
baz=15,SNR=3.6							
PATS	**Pohnpei**	**14.44**	**30**	*e*Pn	**P**	**05 08 32.9**	**-2.7**
CTA	**Charters Tower**	**14.99**	**198**	Pn	**Pn**	**05 08 35.3**	**-1.3**
0.8nm,0.3s,baz=28,slow=16,SNR=12							
CTA				Sn	**Sn**	**05 11 25.5**	**+3.6**
0.3nm,0.3s,baz=27,slow=14,SNR=1.5							
CTA				LR	LR	05 14 16.0	
comp=Z,27μm,19.0s,baz=24,slow=37							
CTAO	**Charters Tower**	**14.99**	**198**	*e*P	**Pn**	**05 08 34.5**	**-2.1**
CTAO	**Charters Tower**	**14.99**	**198**	*e*Pn	**Pn**	**05 08 36.4**	**-0.3**
QIS	**Mount Isa**	**18.46**	**216**	P	**P**	**05 09 19.8**	**-0.3**
baz=18,SNR=100							
FAKI	**Fak Fak**	**19.01**	**278**	P	**Pn**	**05 09 33.2**	**+6.0**
FAKI				S	**S**	**05 13 02.4**	**+1.8**
FAKI	**Fak Fak**	**19.01**	**278**	*e*P	**P**	**05 09 25.3**	**-1.0**
FAKI				*e*Pn	**Pn**	**05 09 25.7**	**-1.5**
EIDS	**Eidsvold**	**19.49**	**180**	P	**P**	**05 09 31.3**	**-0.1**
baz=19,SNR=10							
EIDS	**Eidsvold**	**19.49**	**180**	*e*P	**P**	**05 09 31.8**	**+0.4**
KDU	**Kakadu**	**19.62**	**248**	P	**P**	**05 09 33.2**	**+0.3**
baz=20,SNR=14							
SAUI	**Saumlaki**	**19.79**	**262**	P	**Pn**	**05 09 41.5**	**+5.1**
SAUI	**Saumlaki**	**19.79**	**262**	*e*P	**P**	**05 09 33.5**	**-1.2**
GUMO	**Guam**	**20.20**	**342**	P	Pn	05 09 42.6	+1.4
406nm,0.9s,baz=148,slow=4.4,SNR=25							
GUMO				S	Sn	05 13 31.6	+3.6
42nm,0.7s,baz=195,slow=20,SNR=2.1							
GUMO				LR	LR	05 15 57.7	
comp=Z,22μm,21.1s,baz=165,slow=33							
GUMO	**Guam**	**20.20**	**342**	*e*P	Pn	05 09 42.1	+0.8
GUMO				pmax	pmax		
comp=Z,2μm,1.2s							
GUMO	**Guam**	**20.20**	**342**	*e*P	Pn	05 09 42.1	+0.8
GUMO				*e*S	Sn	05 13 31.6	+3.6
RMQ	**Roma**	**20.72**	**186**	P	**P**	**05 09 45.4**	**+0.6**
baz=21,SNR=153							
MTN	**Manton Dam**	**20.91**	**249**	P	**P**	**05 09 47.3**	**+0.3**
baz=21,SNR=14							
MTN	**Manton Dam**	**20.91**	**249**	*e*P	**P**	**05 09 46.8**	**-0.1**
PALU	**Palau**	**21.09**	**308**	P	**P**	**05 09 50.9**	**+2.0**
baz=21,SNR=48							
BNDI	**Bandanaira**	**21.15**	**272**	P	P	05 10 01.9	+12
WRAB	**Tennant Creek**	**21.53**	**228**	*d*iP	**P**	**05 09 53.8**	**+0.2**
WRAB				pmax	pmax		
comp=Z,481nm,1.2s							
WRAB	**Tennant Creek**	**21.53**	**228**	*e*P	**P**	**05 09 53.5**	**-0.1**
WRAB				LR	LR		
comp=Z,21μm,21.0s							
WB2	**Warramunga Arr**	**21.54**	**228**	*e*P	**P**	**05 09 51.5**	**-2.1**
WB2				*ep*P	**P**	**05 09 52.5**	**-1.2**
WB2				*e*P	**P**	**05 09 53.6**	**0.0**
WR1	**Warramunga Arr**	**21.55**	**228**	*e*P	**P**	**05 09 53.3**	**-0.5**
WR1				*e*S	**S**	**05 13 48.3**	**-2.9**
WR1				*e*		05 19 55.0	
WRA	**Warramunga Arr**	**21.55**	**228**	P	**P**	**05 09 53.3**	**-0.5**
comp=Z,90nm,0.7s,baz=52,slow=10,SNR=76							
WRA				S	**S**	**05 13 48.3**	**-3.0**
comp=Z,136nm,1.4s,baz=51,slow=20,SNR=12							
WRA				ScP	**ScP**	**05 17 32.7**	**+1.8**
comp=Z,28nm,1.2s,baz=38,slow=2.8,SNR=5.4							
WRA				LR	LR	05 19 55.0	
comp=Z,15μm,18.1s,baz=50,slow=41							
QLP	**Quilpie**	**21.71**	**197**	P	**P**	**05 09 55.3**	**-0.1**
baz=22,SNR=67							
KWAJ	**Kwajalein Atol**	**21.92**	**49**	*e*P	**P**	**05 09 55.3**	**-2.4**
KWAJ				pmax	pmax		
comp=Z,1μm,1.6s							
KWAJ	**Kwajalein Atol**	**21.92**	**49**	*e*P	**P**	**05 09 58.1**	**+0.4**
DZM	**Mont Dzumac**	**21.97**	**139**	P	**P**	**05 09 57.7**	**-0.7**
comp=Z,26nm,0.6s,baz=289,slow=6.4,SNR=23							
DZM				LR	LR	05 17 35.7	
comp=Z,41μm,19.3s,baz=314,slow=34							
DZM	**Mont Dzumac**	**21.97**	**139**	*e*P	**P**	**05 09 56.9**	**-1.5**
comp=Z,363nm,1.1s							
DZM				*e*LQ	LQ	05 14 16.3	
comp=Z,48μm,27.1s							
DZM				*e*LR	LR	05 15 16.0	
comp=Z,56μm,24.9s							
DZM	**Mont Dzumac**	**21.97**	**139**	*e*P	**P**	**05 09 57.9**	**-0.4**
TARA	**Tarawa**	**22.91**	**73**	*e*P	**P**	**05 10 06.7**	**-1.6**
TARA				LR	LR		
comp=Z,1μm,21.0s							
AAI	**Ambon**	**22.93**	**274**	P	**P**	**05 10 13.1**	**+4.6**
SARN	**Sarigan**	**22.94**	**347**	*e*P	**P**	**05 10 09.1**	**+0.5**
SARN				*ep*P	**P**	**05 10 09.8**	**+1.2**
KNRA	**Kununurra**	**24.03**	**244**	P	**P**	**05 10 19.3**	**0.0**
baz=24,SNR=24							
NLAI	**Namlea**	**24.06**	**275**	P	**P**	**05 10 21.4**	**+1.8**
LBMI	**Labuha**	**24.10**	**281**	P	**P**	**05 10 19.4**	**-0.6**
AS01	**Alice Springs**	**24.27**	**221**	*e*P	**P**	**05 10 22.0**	**+0.4**
AS31	**Alice Springs**	**24.31**	**221**	*e*P	**P**	**05 10 22.2**	**+0.4**
ASAR	**Alice Springs**	**24.31**	**221**	P	**P**	**05 10 21.9**	**+0.1**
comp=Z,92nm,0.8s,baz=56,slow=9.5,SNR=429							
ASAR				S	**S**	**05 14 43.1**	**+3.9**
comp=Z,11nm,1.0s,baz=32,slow=20,SNR=4.5							
ASAR				ScP	**ScP**	**05 17 40.6**	**+2.5**
comp=Z,8.7nm,1.0s,baz=49,slow=2.8,SNR=8.2							
ASAR				LR	LR	05 19 54.6	
comp=Z,20μm,20.0s,baz=70,slow=37							
ASAR	**Alice Springs**	**24.31**	**221**	P	**P**	**05 10 22.0**	**+0.1**
ARMA	**Armidale**	**24.53**	**179**	P	**P**	**05 10 23.8**	**0.0**
baz=24,SNR=17							
ARMA	**Armidale**	**24.53**	**179**	*e*P	**P**	**05 10 24.0**	**+0.2**
SANI	**Sanana**	**25.32**	**277**	P	**P**	**05 10 30.9**	**-0.2**
CMSA	**Cobar Meteorol**	**26.13**	**191**	P	**P**	**05 10 37.7**	**-0.6**
baz=26,SNR=49							
SOEI	**Soe**	**26.88**	**260**	P	**P**	**05 10 50.8**	**+5.5**
SOEI				S	S	05 15 45.2	+25
SOEI	**Soe**	**26.88**	**260**	*e*P	**P**	**05 10 46.0**	**+0.7**
STKA	**Stephens Creek**	**27.46**	**198**	P	**P**	**05 10 48.8**	**-1.5**
comp=Z,38nm,0.8s,baz=5.0,slow=9.3,SNR=18							
STKA				S	**S**	**05 15 25.7**	**-3.3**
comp=Z,11nm,1.0s,baz=0.0,slow=4.0,SNR=2.3							
STKA				ScP	**ScP**	**05 17 49.1**	**+2.1**
comp=Z,11nm,1.1s,baz=342,slow=3.2,SNR=5.5							
STKA				LR	LR	05 22 18.7	
comp=Z,19μm,18.6s,baz=19,slow=38							
STKA	**Stephens Creek**	**27.46**	**198**	P	**P**	**05 10 49.6**	**-0.6**
baz=27,SNR=12							
STKA	**Stephens Creek**	**27.46**	**198**	*e*P	**P**	**05 10 48.7**	**-1.5**
STKA				*ep*P	**P**	**05 10 49.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P	**P**	**05 10 52.1**	**-0.5**
comp=Z,69nm,0.7s,baz=68,slow=7.1,SNR=147							
FITZ				S	**S**	**05 15 29.8**	**-3.6**
baz=330,slow=20							
FITZ				LR	LR	05 23 09.5	
comp=Z,16μm,19.4s,baz=63,slow=39							
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P	**P**	**05 10 52.2**	**-0.5**
baz=28,SNR=87							
FUNA	**Funafuti**	**28.00**	**97**	*e*P	**P**	**05 10 53.7**	**-1.5**
FUNA				LR	LR		
comp=Z,10μm,19.0s							
BBSI	**Bau Bau**	**28.40**	**269**	P	P	05 11 11.5	+13
DAV	**Davao City (W)**	**28.48**	**296**⇑	*e*P	**P**	**05 10 55.1**	**-4.5**
DAV	**Davao City (W)**	**28.48**	**296**	*e*P	**P**	**05 10 58.9**	**-0.7**
DAV				LR	LR		
comp=Z,6μm,19.0s							
MMRI	**Maumere**	**28.78**	**263**	P	**P**	**05 11 02.6**	**+0.4**
comp=Z,390nm,1.3s							
MMRI	**Maumere**	**28.78**	**263**	*e*P	**P**	**05 11 02.0**	**-0.2**
MSVF	**Nonsavu**	**28.89**	**117**	*e*P	**P**	**05 11 04.5**	**+1.3**
MSVF				pmax	pmax		
comp=Z,290nm,1.8s							
MSVF	**Nonsavu**	**28.89**	**117**	*e*P	**P**	**05 11 04.5**	**+1.3**
MSVF				LR	LR		
comp=Z,9μm,22.0s							
WRKA	**Warakurna**	**29.07**	**226**	P	**P**	**05 11 04.3**	**-0.4**
baz=29,SNR=67							
WAKE	**Wake Island**	**29.23**	**31**	*e*P	**P**	**05 11 06.6**	**+0.6**
WAKE				LR	LR		
comp=Z,15μm,19.0s							
EDFI	**Ende, Flores**	**29.32**	**262**	P	**P**	**05 11 06.6**	**-0.6**
CNB	**Canberra Magne**	**29.45**	**183**	P	**P**	**05 11 08.3**	**+0.3**
baz=29,SNR=5.3							
CAN	**Canberra**	**29.47**	**184**	*e*P	**P**	**05 11 07.3**	**-0.8**
CAN				MLR	MLR		
comp=Z,17μm,21.0s							
CAN	**Canberra**	**29.47**	**184**	*e*P	**P**	**05 11 07.3**	**-0.8**
CAN				*ep*P	**P**	**05 11 07.8**	**-0.3**
CAN				LR	LR		
comp=Z,17μm,21.0s							
HTT	**Hallett**	**29.76**	**201**	P	**P**	**05 11 10.1**	**-0.7**
baz=30,SNR=12							
APSI	**Ampana**	**29.79**	**278**	P	**P**	**05 11 14.1**	**+2.9**
BBOO	**Buckleboo**	**30.34**	**206**	P	**P**	**05 11 15.0**	**-0.8**
baz=30,SNR=10.0							
BBOO	**Buckleboo**	**30.34**	**206**	*e*P	**P**	**05 11 15.4**	**-0.4**
BSSI	**Bau Bau, Buton**	**30.45**	**268**	P	P	05 11 21.9	+4.9
comp=Z,209nm,1.3s,comp=Z,4μm							
BASI	**Baing, Sumba**	**30.54**	**260**	P	P	05 11 28.5	+11
BNSI	**Bone**	**30.90**	**271**	P	P	05 11 26.1	+5.1
PLP	**Palo**	**30.97**	**303**⇑	*e*P	**P**	**05 11 19.5**	**-2.0**
KAPI	**Kappang**	**31.22**	**270**	PFAKE		05 11 40.0	+16
KAPI				LR	LR		
comp=Z,5μm,21.0s							
TTSI	**Tana Toraja**	**31.31**	**274**	P	**P**	**05 11 29.3**	**+4.7**
PCI	**Palu**	**31.58**	**278**	P	**P**	**05 11 29.9**	**+2.9**
comp=Z,109nm,0.9s,comp=Z,2μm							
MPSI	**Mapaga**	**31.74**	**280**	P	**P**	**05 11 31.0**	**+2.6**
ARPS	**Mount Arapiles**	**32.00**	**194**	P	**P**	**05 11 29.9**	**-0.5**
baz=32,SNR=11							
TOO	**Toolangi**	**32.07**	**188**	P	**P**	**05 11 30.5**	**-0.5**
baz=32,SNR=11							
FORT	**Forrest**	**32.98**	**218**	*e*P	**P**	**05 11 38.0**	**-1.0**
FORT				*ep*P	**P**	**05 11 39.2**	**+0.1**
PLAI	**Plampang**	**33.19**	**263**	P	**P**	**05 11 40.8**	**-0.3**
MBWA	**Marble Bar**	**34.03**	**240**	*e*P	**P**	**05 11 47.7**	**-0.6**
MBWA				LR	LR		
comp=Z,17μm,20.0s							
TWSI	**Taliwang, Sumb**	**34.07**	**263**	P	**P**	**05 11 51.0**	**+2.2**
comp=Z,72nm,1.1s							
MYLDM	**Lahad Datu**	**34.32**	**288**	*e*P	**P**	**05 11 51.0**	**0.0**
SRBI	**Singaraja**	**35.70**	**264**	P	**P**	**05 12 05.0**	**+2.2**
DNP	**Denpasar**	**35.72**	**263**	P	**P**	**05 12 05.7**	**+2.7**
IGBI	**Denpasar**	**35.79**	**263**	P	**P**	**05 12 05.2**	**+1.6**
MOO	**Moorlands**	**36.69**	**185**	P	**P**	**05 12 12.1**	**+1.2**
baz=37,SNR=5.1							
KKM	**Kota Kinabalu**	**36.75**	**288**	PFAKE		05 12 20.0	+8.0
KKM				LR	LR		
comp=Z,4μm,22.0s							
JAGI	**Jajag, Banyuwa**	**36.76**	**264**	P	**P**	**05 12 13.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**36.76**	**264**	*e*P	**P**	**05 12 10.3**	**-1.5**
TAU	**Tasmania Unive**	**37.14**	**185**	*e*P	**P**	**05 12 15.7**	**+1.0**
TAU				pmax	pmax		
comp=Z,450nm,1.5s							
**TAU

TATO LR LR
comp=Z,17μm,20.0s
MLZ Mavora Lakes 42.14 162 *e*P **P 05 12 57.2 +0.8**
CRLZ Canterbury Las 42.16 157 *e*P **P 05 12 57.9 +1.4**
CMJI Cimerak 42.39 265 P **P 05 12 58.7 -0.2**
RKGY Rocky Gully 42.62 223 P **P 05 13 01.0 +0.5**
baz=43,SNR=5.6
CISI Cisompet, Garu 43.02 265 P **P 05 13 05.5 +1.4**
CISI Cisompet, Garu 43.02 265 *e*P **P 05 13 03.1 -1.0**
JNU Nakatsue 43.18 335 *e*P **P 05 13 06.1 +1.1**
CNJI Cibinong 43.70 265 P **P 05 13 09.8 +0.3**
MJAR Matsushiro Arr 43.79 345 P **P 05 13 08.0 -1.8**
comp=Z,2.6nm,0.7s,baz=164,slow=8.4,SNR=7.5
MJAR ScP **ScP 05 18 47.4 +1.5**
comp=Z,3.8nm,0.9s,baz=171,slow=4.6,SNR=5.3
MJAR LR LR 05 31 11.5
comp=Z,9μm,18.3s,baz=165,slow=36
MJAR Matsushiro Arr 43.79 345 P **P 05 13 08.0 -1.8**
MAJO Matsushiro 43.79 345*c i*P **P 05 13 08.2 -1.6**
MAJO pmax pmax
comp=Z,54nm,1.2s
MAJO Matsushiro 43.79 345 PFAKE 05 13 20.0 +10
MAJO LR LR
comp=Z,11μm,19.0s
MAT Matsushiro 43.79 345 P **P 05 13 07.6 -2.2**
MAT S **S 05 19 45.4 +6.7**
QZH Quanzhou 43.96 315⇑*i*P **P 05 13 11.6 +0.3**
QZH S **S 05 19 34.1 -7.3**
QZH pmax pmax
comp=Z,5μm,4.2s
QZH LR LR
comp=Z,12μm,18.2s
QZH LR LR
comp=Z,15μm,19.6s
QZH LR LR
comp=Z,21μm,21.1s
DBJI Dramaga 44.10 267 P **P 05 13 13.1 +0.4**
comp=Z,191nm,1.7s,comp=Z,7μm
JOHN Johnston Islan 44.89 59 *e*P **P 05 13 20.7 +1.8**
JOHN LR LR
comp=Z,1μm,21.0s
CGJI Cibinong 45.14 266 P **P 05 13 21.0 0.0**
XMIS Christmas Isla 45.21 261 *e*P **P 05 13 22.2 +0.7**
MIDW Midway 45.45 40 PFAKE 05 13 40.0 +17
MIDW LR LR
comp=Z,8μm,22.0s
HKC Hong Kong Obse 45.66 309⇑P **P 05 13 27.0 +2.1**
KLSI 46.19 269 P **P 05 13 30.6 +1.3**
comp=Z,31nm,1.4s,comp=Z,1μm
KASI Kota Agung 46.37 268 P **P 05 13 30.4 -0.3**
comp=Z,287nm,1.0s
SSE Sheshan 46.49 324 P **P 05 13 32.6 +1.3**
SSE S **S 05 20 25.8 +8.0**
SSE pmax pmax
comp=Z,100nm,1.1s
SSE pmax pmax
comp=Z,2μm,10.9s
SSE LR LR
comp=Z,6μm,23.3s
SSE LR LR
comp=Z,7μm,23.4s
SSE LR LR
comp=Z,9μm,23.8s
GZH Guangzhou 46.73 309 P **P 05 13 35.8 +2.5**
GZH PcP **PcP 05 15 09.8 +3.2**
GZH PP **PP 05 15 24.4 +0.7**
GZH ScP **ScP 05 18 57.8 -0.5**
GZH PcS **PcS 05 19 01.4 -0.2**
GZH S **S 05 20 21.5 0.0**
GZH pmax pmax
comp=Z,4μm,9.4s
GZH LR LR
comp=Z,35μm,20.2s
DSRI Dabo 46.73 275 P P 05 13 45.3 +12
MDSI Maura Dua 46.75 269 P **P 05 13 33.5 -0.2**
comp=Z,104nm,1.3s,comp=Z,2μm
LWLI Liwa 46.83 269 P **P 05 13 35.6 +1.1**
comp=Z,150nm,1.1s,comp=Z,6μm
TPRI Tanjung Pinang 46.98 277 P P 05 13 47.8 +12
LHSI Lahat 47.44 270 P **P 05 13 39.8 +0.7**
comp=Z,163nm,1.5s,comp=Z,4μm
QIZ Qiongzhong 47.53 302 PFAKE 05 13 50.0 +10
QIZ LR LR
comp=Z,10μm,20.0s
MYKOM **Kota Tinggi 47.78 278** *e*P **P 05 13 42.6 +0.8**
ERM Erimo 48.10 352 PFAKE 05 14 00.0 +16
ERM LR LR
comp=Z,8μm,20.0s
KSRS Korea Array 48.13 335 P **P 05 13 44.7 +0.7**
comp=Z,7.1nm,0.6s,baz=152,slow=7.7,SNR=22
KSRS LR LR 05 32 30.3
comp=Z,5μm,20.9s,baz=154,slow=34
KS15 Wonju Array Si 48.14 335 *e*P **P 05 13 46.4 +2.4**
KSAR Wonju Array Be 48.14 335 P **P 05 13 44.7 +0.7**
KSAR Wonju Array Be 48.14 335 P **P 05 13 44.7 +0.7**
KS01 Wonju Array Si 48.16 335 *e*P **P 05 13 44.5 +0.2**
NJ2 Nanjing 48.56 323 *e*P **P 05 13 49.0 +1.6**
NJ2 sP **sP 05 13 58.4 -1.6**
NJ2 PcP **PcP 05 15 15.3 +2.4**
NJ2 PP **PP 05 15 41.3 +0.8**
NJ2 ScP **ScP 05 19 05.8 -0.1**
NJ2 S **S 05 20 43.8 -3.4**
NJ2 sS **sS 05 21 00.4 -1.7**
NJ2 pmax pmax
comp=Z,160nm,1.1s
NJ2 pmax pmax
comp=Z,3μm,4.5s
NJ2 LR LR
comp=Z,9μm,20.6s
NJ2 LR LR
comp=Z,6μm,20.6s
NJ2 LR LR
comp=Z,10μm,17.9s
INCN Inchon 48.71 334 *e*P **P 05 13 49.8 +1.3**
INCN LR LR
comp=Z,980nm,22.0s
YUK Yuzh-Kuril'sk 49.80 355*c i*P **P 05 13 55.5 -1.1**
YUK *i* 05 15 49.3
YUK *i* S **S 05 21 02.3 -1.9**
YUK pmax pmax
comp=Z,612nm,1.3s
YUK pmax pmax
comp=E,447nm,1.4s
YUK pmax pmax
comp=N,399nm,1.3s
YUK pmax pmax
comp=Z,1μm,3.0s
SDSI Sungai Dareh 49.80 274 P P 05 14 07.1 +10
RAR Rarotonga 49.95 113 PFAKE 05 14 10.0 +12
RAR LR LR
comp=Z,3μm,19.0s
ASAJ Asahikawa 50.24 352 P **P 05 14 00.2 +0.1**
comp=Z,14nm,1.0s,baz=135,slow=11,SNR=3.0
WHN Wuhan 50.41 318⇑P **P 05 14 03.3 +1.7**
WHN pmax pmax
comp=Z,410nm,1.3s
WHN pmax pmax
comp=Z,4μm,3.9s
WHN LR LR
comp=Z,18μm,22.5s
WHN LR LR
comp=Z,23μm,19.1s
WHN LR LR
comp=Z,32μm,20.5s
KUR Kuril'sk 50.85 357*d i*P **P 05 14 08.5 +3.9**
KUR *e* 05 15 19.7
KUR *e* 05 15 58.2
KUR *e* 05 23 43.6
KUR *e*SSS SSS 05 26 20.7
IPM Ipoh 51.03 280 *e*P **P 05 14 06.7 0.0**
KULM Kulim 51.56 281 *e*P **P 05 14 09.4 -1.1**
comp=Z,36nm,0.9s
KULM LR LR
comp=Z,4μm,20.0s
VLA Vladivostok 51.69 342*c i*P **P 05 14 11.3 +0.4**
VLA pmax pmax
comp=Z,33nm,1.0s
SKNT Sakolnakorn 51.76 297 P **P 05 14 14.0 +2.0**
comp=Z,119nm,1.3s,comp=Z,6μm
XMAS Kiritimati 51.96 83 *e*P **P 05 14 14.9 +1.4**
DL2 Dalian 52.16 331⇑*i*P **P 05 14 15.0 +0.4**
DL2 S **S 05 21 38.3 +1.1**
DL2 SS **SS 05 25 08.3 -6.8**
DL2 pmax pmax
comp=Z,91nm,0.8s
DL2 pmax pmax
comp=Z,2μm,10.0s
DL2 LR LR
comp=Z,3μm,17.2s
DL2 LR LR
comp=Z,5μm,17.8s
DL2 LR LR
comp=Z,8μm,21.2s
TIA Tai'an 52.52 325⇑P **P 05 14 17.4 +0.1**
TIA pP **pP 05 14 27.1 +0.7**
TIA pmax pmax
comp=Z,90nm,1.6s
TIA pmax pmax
comp=Z,2μm,3.5s
TIA LR LR
comp=Z,5μm,20.5s
TIA LR LR
comp=Z,5μm,20.1s
TIA LR LR
comp=Z,8μm,20.6s
KHON Khomkaen 52.57 296 P **P 05 14 21.3 +3.4**
comp=Z,9.7nm,0.8s
USRK Ussuriysk Ar. 52.64 343 P **P 05 14 18.3 +0.3**
comp=Z,5.4nm,0.7s,baz=204,slow=8.1,SNR=9.7
USRK LR LR 05 35 07.6
comp=Z,5μm,21.0s,baz=156,slow=34
PSI Prapat 52.80 278 *e*P **P 05 14 18.3 -1.7**
PSI Prapat 52.80 278 *e*P **P 05 14 18.3 -1.7**
YSS Yuzh-Sakhalins 53.01 353⇑*i*P **P 05 14 20.0 -0.7**
YSS *e**SP **sP 05 14 32.4 -0.9**
YSS *e* 05 16 16.9
YSS *e* 05 17 26.2
YSS *e*S **S 05 21 44.2 -4.3**
YSS *e*SS **SS 05 25 24.4 -3.8**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,800nm,4.3s
YSS MLR MLR
comp=Z,5μm,18.0s
YSS MLR MLR
comp=N,4μm,21.0s
YSS MLR MLR
comp=E,2μm,17.0s
YSS Yuzh-Sakhalins 53.01 353 PFAKE 05 14 30.0 +9.3
YSS LR LR
comp=Z,2μm,22.0s
TRTT Trang 53.03 284 P **P 05 14 22.2 +0.7**
comp=Z,62nm,1.2s
CHAI Chaiyaphum 53.17 295 P **P 05 14 23.6 +1.2**
comp=Z,6.8nm,0.8s,comp=Z,827nm
NAYO Nakonayok 53.26 293 P **P 05 14 24.8 +1.7**
comp=Z,36nm,1.3s,comp=Z,1μm
SLVN Son La 53.55 302 *e*P **P 05 14 25.9 +0.7**
ENH Enshi 53.60 314 *e*P **P 05 14 25.8 +0.4**
ENH LR LR
comp=Z,12μm,22.0s
SNY Shenyang 53.62 335⇑P **P 05 14 25.6 +0.4**
SNY PP **PP 05 16 28.5 +2.2**
SNY S **S 05 22 05.8 +8.9**
SNY SS **SS 05 25 35.5 -2.5**
SNY pmax pmax
comp=Z,2μm,4.5s
SNY LR LR
comp=Z,5μm,20.2s
SNY LR LR
comp=Z,8μm,21.0s
SNY LR LR
comp=Z,13μm,20.2s
GYA Guiyang 53.66 309⇑*i*P **P 05 14 26.3 +0.3**
GYA pP pP 05 14 35.8 +0.7
GYA PP **PP 05 16 31.0 +3.9**
GYA S **S 05 22 00.4 +2.1**
GYA sS sS 05 22 11.8 -1.5
GYA SS **SS 05 25 40.0 +0.6**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,190nm,7.2s
GYA LR LR
comp=Z,6μm,19.2s
GYA LR LR
comp=Z,5μm,20.0s
GYA LR LR
comp=Z,7μm,18.4s
MDJ Mudanjiang 53.76 341 P **P 05 14 26.8 +0.6**
MDJ pP pP 05 14 33.1 -2.2
MDJ sP sP 05 14 35.9 -3.0
MDJ S **S 05 22 04.3 +5.6**
MDJ SS **SS 05 25 43.0 +2.9**
MDJ pmax pmax
comp=Z,1μm,10.0s
MDJ LR LR
comp=Z,4μm,26.2s
MDJ LR LR
comp=Z,3μm,21.3s
MDJ LR LR
comp=Z,7μm,21.3s
MDJ Mudanjiang 53.76 341 PFAKE 05 14 40.0 +14
MDJ LR LR
comp=Z,7μm,21.0s
COCO West Island 53.91 259 PFAKE 05 14 40.0 +12
COCO LR LR
comp=Z,4μm,21.0s
KCSI Kotacane, Aceh 54.06 279 P **P 05 14 27.6 -1.4**
PBKT Sadao Pong 54.31 295 P **P 05 14 34.9 +4.1**
comp=Z,14nm,2.3s,comp=Z,1μm
CN2 Changchun 54.51 337 *e*P **P 05 14 31.5 -0.2**
CN2 *es*P pP 05 14 42.4 +1.5
CN2 *e*S **S 05 22 09.3 +0.4**
CN2 SS **SS 05 25 52.1 +0.1**
CN2 pmax pmax
comp=Z,1μm,11.0s
CN2 LR LR
comp=Z,3μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,5μm,23.0s
UTTA Uttaradit 55.09 296 P **P 05 14 39.2 +2.8**
comp=Z,3.8nm,0.8s,comp=Z,66nm
SRDT SRDT 55.30 292 P **P 05 14 40.0 +2.1**
comp=Z,176nm,1.1s,comp=Z,3μm
NANT Nan 55.34 297 P **P 05 14 40.6 +2.4**
comp=Z,6.7nm,1.0s
UTHA Uthaitani 55.37 293 P **P 05 14 40.4 +2.0**
comp=Z,5.5nm,0.8s
BJT Baijiatuau 55.77 328 *e*P **P 05 14 42.4 +1.5**
BJT MLR MLR
comp=Z,8μm,20.0s
BJT Baijiatuau 55.77 328 *e*P **P 05 14 42.4 +1.5**
BJT LR LR
comp=Z,8μm,20.0s
BJI Beijing 55.78 328 P **P 05 14 41.3 +0.3**
BJI PP **PP 05 16 45.8 0.0**
BJI S **S 05 22 29.9 +3.8**
BJI SS **SS 05 26 16.8 +4.6**
BJI pmax pmax
comp=Z,75nm,2.5s
BJI pmax pmax
comp=Z,2μm,9.5s
BJI LR LR
comp=Z,6μm,24.7s
BJI LR LR
comp=Z,3μm,22.1s
BJI LR LR
comp=Z,6μm,24.7s
KMI Kunming 56.15 305 P **P 05 14 44.3 +0.1**
KMI pP pP 05 14 49.4 -3.9
KMI sP sP 05 14 52.9 -4.0
KMI PP **PP 05 16 46.9 -2.7**
KMI S **S 05 22 31.4 -0.5**
KMI sS pS 05 22 41.3 -1.6
KMI pmax pmax
comp=Z,28nm,0.9s
KMI pmax pmax
comp=Z,1μm,12.7s
KMI LR LR
comp=Z,3μm,20.3s
KMI LR LR
comp=Z,6μm,19.6s
KMI LR LR
comp=Z,7μm,23.6s
XAN Xi'an 56.18 318 P **P 05 14 44.5 +0.5**
XAN sP pP 05 14 53.3 +0.1
XAN PcP **PcP 05 15 45.5 +3.9**
XAN PP **PP 05 16 47.9 -1.6**
XAN S **S 05 22 24.5 -7.2**
XAN ScS **ScS 05 24 29.1 -2.4**
XAN pmax pmax
comp=Z,48nm,0.9s
XAN pmax pmax
comp=Z,2μm,13.4s
XAN LR LR
comp=Z,4μm,20.1s
XAN LR LR
comp=Z,4μm,19.1s
XAN LR LR
comp=Z,13μm,19.7s
LAMP Lampang 56.18 297 P **P 05 14 46.6 +2.3**
comp=Z,4.9nm,0.9s
TIY Taiyuan 56.27 323 *e*P **P 05 14 45.3 +0.7**
TIY PP **PP 05 16 46.9 -3.4**
TIY pmax pmax
comp=Z,1μm,4.4s
TIY LR LR
comp=Z,4μm,16.9s
TIY LR LR
comp=Z,2μm,13.9s
TIY LR LR
comp=Z,7μm,18.5s
SKR Severo-Kuril's 56.39 4 *e*P P 05 14 40.0 -5.1
SKR *e*SS **SS 05 26 12.6 -8.7**
SKR pmax pmax
comp=Z,190nm,1.2s
SKR pmax pmax
comp=Z,2μm,6.9s
SKR MLR MLR
comp=Z,6μm,18.4s
HON Honolulu 56.70 60 *e*P **P 05 14 49.9 +2.1**
HON Honolulu 56.70 60 *e*P **P 05 14 49.9 +2.1**
KIP Kipapa 56.72 60*c i*P **P 05 14 49.2 +1.2**
KIP pmax pmax
comp=Z,4μm,1.7s
KIP Kipapa 56.72 60 *e*P **P 05 14 49.4 +1.4**
KIP LR LR
comp=Z,14μm,20.0s
CM01 Chiang Mai Arr 56.75 296 *e*P **P 05 14 49.0 +0.7**
CM31 Chiang Mai Arr 56.77 296 *e*P **P 05 14 49.0 +0.5**
CMAR Chiang Mai Arr 56.77 296 P **P 05 14 48.0 -0.4**
comp=Z,4.3nm,0.8s,baz=128,slow=5.8,SNR=15
CMAR ScP **ScP 05 19 44.3 +2.4**
comp=Z,1.4nm,0.5s,baz=103,slow=2.0,SNR=3.9
CMAR LR LR 05 39 28.3
comp=Z,2μm,19.1s,baz=114,slow=36
CMAR PKPPKP **P'P'df 05 44 47.0 +4.4**
comp=Z,0.8nm,0.3s,baz=251,slow=2.6,SNR=5.7
CMAR Chiang Mai Arr 56.77 296 *i* P **P 05 14 49.0 +0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
OPA Opana 56.83 60 *e*P **P 05 14 50.6 +1.8**
OPA Opana 56.83 60 *e*P **P 05 14 50.6 +1.8**
CHTO Chiang Mai 56.90 297 P P 05 15 01.6 +12
CHTO Chiang Mai 56.90 297 PFAKE 05 15 00.0 +11
CHTO LR LR
comp=Z,4μm,20.0s
HLK Haleakala 58.01 61 *e*P **P 05 14 59.3 +1.9**
CD2 Chengdu 58.10 312⇑P **P 05 14 58.4 +0.7**
CD2 PcS **PcS 05 19 51.1 +0.3**
CD2 S **S 05 23 00.9 +3.7**
CD2 ScS **ScS 05 24 48.1 +2.5**
CD2 SS **SS 05 26 54.0 +4.9**
CD2 pmax pmax
comp=Z,80nm,0.7s
CD2 pmax pmax
comp=Z,2μm,5.2s
CD2 LR LR
comp=Z,8μm,19.9s
CD2 LR LR
comp=Z,12μm,22.8s
CD2 LR LR
comp=Z,14μm,21.4s
MWH Moku'aweowe 58.13 63 *e*P **P 05 15 00.7 +2.0**
MLOA Mauna Loa Obse 58.17 63 *e*P **P 05 15 00.6 +1.8**
AIN Ainahou 58.22 63 *e*P **P 05 15 01.1 +2.2**
HPAH Hawaii Prepara 58.23 62 *e*P **P 05 14 59.6 +0.8**
POHA Pohakuloa 58.28 63 *e*P **P 05 15 01.2 +1.8**
POHA LR LR
comp=Z,9μm,21.0s
MLH Mauna Loa 58.33 63 *e*P **P 05 15 01.5 +1.8**
MLH Mauna Loa 58.33 63 *e*P **P 05 15 01.5 +1.8**
PUH Pauahi 58.44 63 *e*P **P 05 15 01.2 +1.0**
HHC Hu-ho-hao-te 58.87 326 *e*P **P 05 15 03.3 +0.4**
HHC S **S 05 23 07.6 +0.7**
HHC SS **SS 05 27 01.9 +1.0**
HHC pmax pmax
comp=Z,52nm,1.3s
HHC pmax pmax
comp=Z,1μm,7.3s
HHC LR LR
comp=Z,6μm,17.1s
HHC LR LR
comp=Z,5μm,16.4s
HHC LR LR
comp=Z,6μm,16.7s
PET Petropavlovsk 58.92 5*c i*P **P 05 15 02.5 -0.3**
PET *e*S **S 05 23 05.5 -1.3**
PET pmax pmax
comp=Z,1μm,15.8s
PET Petropavlovsk 58.92 5 PFAKE 05 15 20.0 +17
PET LR LR
comp=Z,6μm,21.0s
PETK Petropavlovsk- 58.92 5 P **P 05 15 02.4 -0.5**
comp=Z,11nm,0.6s,baz=162,slow=6.5,SNR=8.3
PETK LR LR 05 37 01.6
comp=Z,6μm,21.6s,baz=190,slow=33
PEA1 Petropavlovsk- 58.92 5 *e*P **P 05 15 02.4 -0.5**
PPT Papeete 59.05 107 LR LR 05 34 56.4
comp=Z,1μm,21.5s,baz=272,slow=30
PPT2 Papeete2 59.05 107 *e*S **S 05 23 10.0 0.0**
comp=Z,4μm,25.5s
PPT2 *e*LQ LQ 05 29 59.7
comp=Z,15μm,31.0s
PPT2 *e*LR LR 05 32 23.2
comp=Z,3μm,24.5s
BTO Baotou 59.58 325 *e*P **P 05 15 07.3 -0.6**
TBI Tubuai 59.71 114 *e*S **S 05 23 17.9 -0.3**
comp=Z,5μm,28.5s
TBI *e*SS **SS 05 27 11.8 -2.6**
comp=Z,2μm,26.0s
TBI *e*LQ LQ 05 30 17.3
comp=Z,18μm,33.2s
TBI *e*LR LR 05 32 39.4
comp=Z,5μm,35.5s
PMOR Pomariorio Ree 60.54 104 *e*P **P 05 15 15.2 +0.5**
comp=Z,159nm,1.1s
LZH Lanzhou 60.76 317⇑P **P 05 15 17.4 +1.3**
LZH pP pP 05 15 24.4 -1.0
LZH sP sP 05 15 26.9 -2.0
LZH PP **PP 05 17 30.0 -0.3**
LZH S **S 05 23 30.0 -1.6**
LZH sS sS 05 23 45.3 -1.5
LZH SS **SS 05 27 31.3 +0.3**
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,620nm,4.2s
LZH LR LR
comp=Z,3μm,15.3s
LZH LR LR
comp=Z,4μm,17.0s
LZH LR LR
comp=Z,4μm,17.1s
HIA Hailar 61.24 337 *e*P **P 05 15 19.2 +0.3**
HIA MLR MLR
comp=Z,5μm,20.0s
HIA Hailar 61.24 337 *e*P **P 05 15 19.2 +0.3**
HIA LR LR
comp=Z,5μm,20.0s
ADK Adak 63.67 22 *e*P **P 05 15 35.2 +0.2**
ADK Adak 63.67 22 *e*P **P 05 15 35.2 +0.2**
ADK LR LR
comp=Z,8μm,22.0s
MA2 Magadan 65.14 360 LR LR 05 40 24.2
comp=Z,6μm,21.9s,baz=192,slow=33
GTA Gaotai 65.23 318⇑P **P 05 15 46.4 +0.7**
GTA pP pP 05 15 52.6 -2.4
GTA sP sP 05 15 55.5 -3.1
GTA PP **PP 05 18 11.0 +1.4**
GTA S **S 05 24 27.4 0.0**
GTA sS pS 05 24 39.3 +0.5

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GTA                                  SS      SS      05 28 42.3 +1.6
GTA                                  pmax    pmax
      comp=Z,44nm,1.8s
GTA                                  pmax    pmax
      comp=Z,1µm,6.9s
GTA                                  LR      LR
      comp=Z,2µm,20.4s
GTA                                  LR      LR
      comp=Z,4µm,19.5s
GTA                                  LR      LR
      comp=Z,6µm,19.5s
SHL   Shillong        65.35 301 eP           P       05 15 45.5 -1.3
SHL                                  eS      S       05 24 24.5 -5.0
CIT   Chita           65.86 336 eP           P       05 15 50.2 +0.8
CIT                                  e               05 15 58.3
CIT                                  e               05 16 09.0
CIT                                  pmax    pmax
      comp=Z,138nm,1.7s
ULN   Ulaanbaatar     65.94 329c iP          P       05 15 50.6 +0.5
ULN                                  pmax    pmax
      comp=Z,30nm,1.2s
ULN   Ulaanbaatar     65.94 329 eP           P       05 15 51.0 +0.8
ULN                                  LR      LR
      comp=Z,6µm,20.0s
CLNS  Chul'man        65.97 345 eP           P       05 15 49.2 -0.8
CLNS                                 e*PP    pP      05 15 56.0 -3.3
CLNS                                 e               05 16 20.6
CLNS                                 e               05 18 13.4
CLNS                                 eS      S       05 24 34.0 -1.6
CLNS                                 eSS     SS      05 28 43.3 -8.0
CLNS                                 pmax    pmax
      comp=E,5.0nm,0.8s
CLNS                                 pmax    pmax
      comp=N,13nm,1.1s
CLNS                                 pmax    pmax
      comp=Z,16nm,0.8s
CLNS                                 pmax    pmax
      comp=N,10.0nm,0.9s
CLNS                                 pmax    pmax
      comp=E,4.0nm,0.9s
CLNS                                 pmax    pmax
      comp=Z,7.0nm,1.0s
CLNS                                 smax    smax
      comp=N,753nm,11.5s
CLNS                                 smax    smax
      comp=E,407nm,14.8s
CLNS                                 MLR     MLR
      comp=Z,2µm,16.0s
SONA0 Songino Array   66.26 329 eP           P       05 15 52.6 +0.5
SONM  Songino Array   66.26 329 P            P       05 15 52.6 +0.5
      comp=Z,8.9nm,0.7s,baz=143,slow=5.6,SNR=22
SONM                                 LR      LR      05 44 10.3
      comp=Z,9µm,21.1s,baz=143,slow=36
SONM                                 PKP2bc          05 44 29.4
      comp=Z,1.7nm,0.9s,baz=209,slow=2.6,SNR=9.4
SONA1 Songino Array   66.26 329 eP           P       05 15 52.6 +0.4
LSA   Lhasa           67.40 305 P            P       05 16 01.0 +0.7
LSA                                  S       S       05 24 56.8 +2.0
LSA                                  pmax    pmax
      comp=Z,19nm,0.7s
LSA                                  LR      LR
      comp=Z,1µm,20.8s
LSA                                  LR      LR
      comp=Z,5µm,30.6s
LSA                                  LR      LR
      comp=Z,4µm,20.8s
LSA   Lhasa           67.40 305 eP           P       05 16 01.0 +0.7
LSA                                  MLR     MLR
      comp=Z,4µm,19.0s
LSA   Lhasa           67.40 305 eP           P       05 16 01.0 +0.7
LSA                                  LR      LR
      comp=Z,4µm,19.0s
TAOE  Nuku Hiva Isla  68.18  97 eS           S       05 25 05.0 +1.1
      comp=Z,3µm,27.3s
TAOE                                 eSS     SS      05 29 24.5 -2.7
      comp=Z,625nm,33.9s
TAOE                                 eLR     LR      05 36 38.6
      comp=Z,3µm,23.1s,baz=279
SEY   Seymchan        68.51   1 P            P       05 16 04.6 -1.4
      comp=Z,6.1nm,0.8s,baz=182,slow=8.8,SNR=5.8
SEY   Seymchan        68.51   1⇑eP           P       05 16 05.2 -0.7
ZAK   Zakamensk       69.45 330 eP           P       05 16 11.7 -0.5
ZAK                                  pmax    pmax
      comp=Z,30nm,1.2s
TAPN  Taplejung       69.47 302 eP           P       05 16 12.6 -0.4
      comp=Z,57nm,1.0s
ODAN  Odare           69.59 301 eP           P       05 16 13.2 -0.5
      comp=Z,49nm,0.7s
YAK   Yakutsk         69.60 349 eP           P       05 16 13.0 +0.4
YAK                                  e*PP    pP      05 16 23.0 +1.0
YAK                                  e               05 16 35.2
YAK                                  ePPP    PPP     05 20 27.3
YAK                                  eS      S       05 25 19.5 +0.9
YAK                                  e*SS    sS      05 25 40.7 +6.6
YAK                                  e               05 26 05.4
YAK                                  pmax    pmax
      comp=Z,46nm,1.0s
YAK                                  pmax    pmax
      comp=N,19nm,1.3s
YAK                                  pmax    pmax
      comp=Z,1µm,4.1s
YAK                                  pmax    pmax
      comp=N,600nm,4.2s
YAK                                  smax    smax
      comp=N,554nm,3.3s
YAK   Yakutsk         69.60 349 PFAKE                05 16 20.0 +7.4
YAK                                  LR      LR
      comp=Z,6µm,22.0s
TLY   Talaya          70.08 331 LR           LR      05 44 52.1
      comp=Z,5µm,21.8s,baz=111,slow=34
TLY   Talaya          70.08 331 eP           P       05 16 16.1 +0.2
TLY                                  e               05 18 50.4
TLY                                  ePPP    PPP     05 20 31.9
TLY                                  eS      S       05 25 27.2 +2.3
TLY                                  eSS     SS      05 29 56.9 +1.8
TLY                                  pmax    pmax
      comp=Z,21nm,1.0s
BOD   Bodaibo         70.10 340 eP           P       05 16 15.2 -0.7
BOD                                  pmax    pmax
      comp=Z,53nm,1.6s
IRK   Irkutsk         70.13 332 eP           P       05 16 13.7 -2.5
IRK                                  pmax    pmax
      comp=Z,118nm,4.2s
RAMN  Ramite          70.29 301 eP           P       05 16 17.4 -0.6
      comp=Z,46nm,0.9s
CHLP  Challavanipeta  70.32 292 eP           P       05 16 17.0 -1.0
CHLP                                 IAmb    IAmb    05 16 19.6
      comp=Z,31nm,0.7s
JIRN  Jiri            70.85 302 eP           P       05 16 21.2 -0.4
GUN   Gumba           71.19 302 eP           P       05 16 22.8 -0.8
      comp=Z,80nm,0.9s
MOY   Mondy           71.38 330 eP           P       05 16 24.3 +0.3
MOY                                  pmax    pmax
      comp=Z,145nm,4.2s
PALK  Pallekele       71.43 280 LR           LR      05 50 03.5
      comp=Z,2µm,21.8s,baz=116,slow=38
PALK  Pallekele       71.43 280 i P          P       05 16 26.9 +2.0
PALK  Pallekele       71.43 280 eP           P       05 16 26.0 +1.1
PKI   Pulchoki        71.48 301 eP           P       05 16 24.5 -0.9
PKIN  Phulchoki       71.50 301 eP           P       05 16 24.7 -0.7
KKN   Kakani          71.66 302 eP           P       05 16 25.8 -0.5
DMN   Daman           71.75 301 eP           P       05 16 26.5 -0.4
VNDA  Vanda           71.94 178 P            P       05 16 26.6 -0.1
      comp=Z,3.6nm,0.8s,baz=331,slow=6.9,SNR=20
VNDA                                 LR      LR      05 47 05.7
      comp=Z,2µm,18.0s,baz=9.0,slow=35
VNDA  Vanda           71.94 178 eP           P       05 16 26.6 -0.1
VNDA                                 e               05 16 26.9
GKN   Gorkha          72.26 302 eP           P       05 16 28.8 -1.0
PVM   Polavaram       72.31 290 eP           P       05 16 28.2 -1.8
PVM                                  IAmb    IAmb    05 16 31.2
      comp=Z,20nm,1.0s
MIR   Mirnyy          72.42 201⇑iP           P       05 16 29.5 -0.3
MIR                                  i S     S       05 25 50.0 -1.4
MIR                                  pmax    pmax
      comp=Z,30nm,1.8s
MIR                                  pmax    pmax
      comp=Z,2µm,12.0s
MIR                                  smax    smax
      comp=E,4µm,8.0s
MIR                                  MLR     MLR
      comp=Z,8µm,17.0s
SBA   Scott Base      72.51 177 eP           P       05 16 31.6 +1.4
SBA   Scott Base      72.51 177 eP           P       05 16 31.6 +1.4
SBA                                  LR      LR
      comp=Z,2µm,20.0s
RKT   Rikitea         72.98 112 eS           S       05 25 58.8 -0.6
      comp=Z,3µm,30.5s
RKT                                  eSS     SS      05 30 37.1 -3.4
      comp=Z,1µm,32.2s
RKT                                  eLQ     LQ      05 35 45.4
      comp=Z,6µm,38.0s
RKT                                  eLR     LR      05 38 59.0
      comp=Z,4µm,30.0s
KOLN  Koldanda        73.08 301 eP           P       05 16 33.9 -0.8
      comp=Z,54nm,0.7s
DANN  Dangsing        73.10 302 eP           P       05 16 33.8 -1.2
SKHT  Srikalahasti    73.45 286 eP           P       05 16 35.4 -1.5
SKHT                                 IAmb    IAmb    05 16 37.8
      comp=Z,80nm,1.8s
PYUN  Piuthan         73.69 301 eP           P       05 16 37.2 -1.1
      comp=Z,90nm,0.8s
CHGN  Chignik         74.33  27 eP           P       05 16 41.9 +0.7
NJS   Nagarjunasagar  74.35 289 eP           P       05 16 39.8 -2.3
NJS                                  IAmb    IAmb    05 16 43.7
      comp=Z,45nm,1.3s
BILL  Bilibino        74.41   6 eP           P       05 16 40.3 -1.1
BILL                                 i               05 16 55.1
BILL                                 i SS    SS      05 31 06.9 +6.2
BILL                                 pmax    pmax
      comp=Z,11nm,1.7s
SRLM  Srisailam       74.65 288 eP           P       05 16 42.2 -1.7
SRLM                                 IAmb    IAmb    05 16 44.5
      comp=Z,31nm,0.9s
RPR   Rampur          74.81 291 eP           P       05 16 42.8 -2.0
RPR                                  IAmb    IAmb    05 16 45.1
      comp=Z,22nm,0.7s
HYB   Hyderabad       75.22 290 i P          P       05 16 45.0 -2.2
HYB                                  eS      S       05 26 24.0 -0.8
HYBB  Hyderabad (bro  75.22 290 eP           P       05 16 45.5 -1.7
HYBB                                 IAmb    IAmb    05 16 48.7
      comp=Z,26nm,0.9s
WMQ   Urumqi          75.32 318 P            P       05 16 47.9 +0.6
WMQ                                  sP      pP      05 16 56.3 -0.4
WMQ                                  PP      PP      05 19 36.3  0.0
WMQ                                  S       S       05 26 23.3 -1.7
WMQ                                  sS      pS      05 26 36.4 -0.4
WMQ                                  SKS     SKSac   05 26 53.6 -1.3
WMQ                                  pmax    pmax
      comp=Z,960nm,4.7s
WMQ                                  LR      LR
      comp=Z,3µm,19.9s
WMQ                                  LR      LR
      comp=Z,3µm,18.7s
WMQ                                  LR      LR
      comp=Z,3µm,19.9s
SRSP  Sriramsagar     75.70 291 eP           P       05 16 48.1 -1.9
SRSP                                 IAmb    IAmb    05 16 50.4
      comp=Z,34nm,1.1s
URV   Uravakonda      76.00 287 eP           P       05 16 49.6 -2.0
URV                                  IAmb    IAmb    05 16 53.3
      comp=Z,37nm,1.3s
KLRI  Killari         77.17 290 eP           P       05 16 56.3 -2.0
KLRI                                 IAmb    IAmb    05 16 59.6
      comp=Z,24nm,0.9s
OHAK  Old Harbor      77.18  27 eP           P       05 16 57.0 -0.4
KDAK  Kodiak Island   77.80  27 i P          P       05 17 00.8 -0.1
KDAK  Kodiak Island   77.80  27 eP           P       05 17 01.1 +0.2
      comp=Z,141nm,1.4s
KDAK                                 LR      LR
      comp=Z,2µm,22.0s
DGZ   Jazzator, Alta  77.84 323c iP          P       05 17 01.0 -0.6
DGZ                                  pmax    pmax
      comp=Z,16nm,1.0s
DGAR  Diego Garcia    78.06 264 PFAKE                05 17 10.0 +6.7
DGAR                                 LR      LR
      comp=Z,2µm,21.0s
SVW2  Sparrevohn      78.37  23 eP           P       05 17 04.3 +0.2
TIXI  Tiksi           78.64 353⇓eP           P       05 17 06.3 +1.0
TIXI                                 pmax    pmax
      comp=Z,9.0nm,1.2s
TIXI  Tiksi           78.64 353 eP           P       05 17 05.0 -0.3
TIXI                                 LR      LR
      comp=Z,3µm,20.0s
RSO   Redoubt South   79.17  25 eP           P       05 17 07.7 -1.0
TT01  Tatalina        79.27  22 eP           P       05 17 08.7 -0.2
CNPM  China Poot      79.32  26 eP           P       05 17 09.0 -0.3
BRLK  Bradley Lake    79.59  26 eP           P       05 17 11.3 +0.5
PAF   Port-aux-Franc  79.72 221 PFAKE                05 17 20.0 +8.3
PAF                                  LR      LR
      comp=Z,5µm,20.0s
MK01  Makanchi Array  79.94 319 eP           P       05 17 12.3 -0.7
MK31  Makanchi Array  79.95 319 i P          P       05 17 12.2 -0.8
MK31                                 pmax    pmax
      comp=Z,54nm,1.3s
MK31  Makanchi Array  79.95 319 eP           P       05 17 12.6 -0.4
MK32  Makanchi Array  79.95 319 eP           P       05 17 12.4 -0.6
MK32                                 ePP     PP      05 20 13.7 -1.4
MKAR  Makanchi Array  79.95 319 P            P       05 17 12.4 -0.6
      comp=Z,12nm,0.8s,baz=101,slow=6.3,SNR=46
MKAR                                 PP      PP      05 20 13.7 -1.4
      comp=Z,3.8nm,0.9s,baz=98,slow=8.7,SNR=3.5
MKAR                                 PKKPbc  PKKPbc  05 36 06.1 +5.7
      comp=Z,0.9nm,0.8s,baz=310,slow=4.1,SNR=4.0
MKAR                                 LR      LR      05 50 59.3
      comp=Z,5µm,21.8s,baz=90,slow=34
MKAR  Makanchi Array  79.95 319 i P          P       05 17 12.3 -0.7
MKAR                                 pmax    pmax
      comp=Z,12nm,0.8s
MKAR  Makanchi Array  79.95 319 eP           P       05 17 12.6 -0.4
MAKZ  Makanchi        80.16 319 eP           P       05 17 13.5 -0.6
MAKZ  Makanchi        80.16 319 eP           P       05 17 13.5 -0.6
SEW   Seward          80.39  26 eP           P       05 17 15.1 +0.1
SUA   Susitna One     80.53  24 eP           P       05 17 15.1 -0.9
PPLA  Purkeypile      80.71  23 eP           P       05 17 16.8 -0.1
PDGK  Podgornoye      80.75 315 P            P       05 17 16.4 -1.2
PDGK                                 pmax    pmax
      comp=Z,29nm,1.0s
RC01  Rabbit Creek A  80.76  25 eP           P       05 17 17.0  0.0
UZB   Uzynbulak       81.03 315 i P          P       05 17 16.6 -2.5
      comp=Z,352nm,1.8s
UZB                                  eS      S       05 27 22.5 -4.1
UZB                                  LRM     MLR     05 54 02.0
      comp=Z,934nm,20.3s
ZAA0  Zalesovo Array  81.03 327 eP           P       05 17 16.7 -1.9
ZAA0                                 eP      P       05 17 17.0 -1.6
ZALV  Zalesovo Beam   81.03 327 P            P       05 17 16.9 -1.7
      comp=Z,9.1nm,0.7s,baz=112,slow=5.6,SNR=16
ZALV                                 PKPPKP  P'P'df  05 44 07.3 +8.1
      comp=Z,2.6nm,1.0s,baz=268,slow=4.3,SNR=5.1
ZALV                                 LR      LR      05 52 24.0
      comp=Z,5µm,21.3s,baz=96,slow=35
ZAA1  Zalesovo Array  81.03 327 eP           P       05 17 16.9 -1.7
CAST  Castle Rocks    81.03  22 eP           P       05 17 17.6 -0.9
PMR   Palmer          81.26  25 eP           P       05 17 19.2 -0.5
PMR   Palmer          81.26  25 eP           P       05 17 19.2 -0.5
KPKS  Kokpek          81.35 315 i P          P       05 17 18.5 -2.3
      comp=Z,500nm,1.8s
KPKS                                 eS      S       05 27 26.2 -3.7
KPKS                                 LRM     MLR     05 53 29.5
      comp=Z,2µm,19.4s
SML   Sawmill         81.70  25 eP           P       05 17 21.7 -0.4
SML   Sawmill         81.70  25 eP           P       05 17 21.7 -0.4
TRF   Thorofare Moun  81.74  23 eP           P       05 17 21.9 -0.5
GLI   Glacier Island  81.78  26 eP           P       05 17 23.3 +0.8
BPAW  Bear Paw Mtn.   81.81  22 eP           P       05 17 21.8 -0.8
FID   Port Fidalgo    81.99  26 eP           P       05 17 23.5 -0.1
SCM   Sheep Creek Mo  82.13  25 eP           P       05 17 24.7 +0.3
SCM   Sheep Creek Mo  82.13  25 eP           P       05 17 24.7 +0.3
NVS   Novosibirsk     82.22 327⇓iP           P       05 17 25.0 +0.1
NVS                                  eS      S       05 27 40.0 +1.9
NVS                                  pmax    pmax
      comp=Z,92nm,2.0s
NVS                                  pmax    pmax
      comp=N,8.0nm,1.2s
NVS                                  pmax    pmax
      comp=E,50nm,2.0s
NVS                                  smax    smax
      comp=E,97nm,3.0s
RND   Reindeer        82.27  23 eP           P       05 17 23.9 -1.2
RND   Reindeer        82.27  23 eP           P       05 17 23.9 -1.2
KSH   Kashi           82.29 311 P            P       05 17 26.6 +0.8
KSH                                  pP      pP      05 17 33.3 -2.0
KSH                                  sP      sP      05 17 35.6 -3.2
KSH                                  PP      PP      05 20 38.8 +4.1
KSH                                  S       S       05 27 37.8 -2.0
KSH                                  SS      SS      05 33 02.8 +2.2
KSH                                  pmax    pmax
      comp=E,55nm,1.4s
KSH                                  pmax    pmax
      comp=E,810nm,5.8s
KSH                                  LR      LR
      comp=E,2µm,19.5s
KSH                                  LR      LR
      comp=E,2µm,16.4s
KSH                                  LR      LR
      comp=E,3µm,18.3s
MLY   Manley          82.39  21 eP           P       05 17 24.8 -0.9
MCK   McKinley        82.40  23 eP           P       05 17 24.1 -1.6
MCK   McKinley        82.40  23 eP           P       05 17 24.1 -1.6
SEM   Semipalatinsk   82.41 322 i P          P       05 17 23.8 -2.5
      comp=E,161nm,1.2s
SEM                                  LRM     MLR     05 55 24.9
      comp=E,896nm,19.5s
MDOK  Medeo           82.42 315 i P          P       05 17 24.5 -1.9
      comp=E,215nm,2.1s
MDOK                                 i S     S       05 27 38.2 -2.8
MDOK                                 LRM     MLR     05 55 14.8
      comp=E,1µm,19.1s
DIV   Divide          82.47  26 eP           P       05 17 27.4 +1.2
AAA   Alma-Ata        82.53 315 i P          P       05 17 26.4 -0.5
AAA                                  i S     S       05 27 43.3 +1.4
AAA                                  pmax    pmax
      comp=Z,1µm,3.1s
AAA                                  smax    smax
      comp=E,700nm,3.5s
KLU   Klutina         82.57  26 eP           P       05 17 26.5 -0.2
DHY   Denali Highway  82.70  24 eP           P       05 17 26.5 -1.0
BMRM  Bremner River   82.91  26 eP           P       05 17 28.6 +0.1
WRH   Wood River Hil  83.09  22 eP           P       05 17 27.8 -1.4
MDM   Murphy Dome     83.27  22 eP           P       05 17 29.3 -0.9
CCB   Clear Creek Bu  83.28  22 eP           P       05 17 28.2 -2.0
HARP  HAARP           83.30  25 eP           P       05 17 31.3 +0.9
COLA  College         83.37  22 eP           P       05 17 29.0 -1.6
COLA                                 MLR     MLR
      comp=Z,5µm,20.0s
COLA  College         83.37  22 eP           P       05 17 29.0 -1.6
COLA                                 LR      LR
      comp=Z,5µm,20.0s
TKM2  Tokmak 2        83.39 314 P            P       05 17 30.8 -0.7
TKM2                                 pmax    pmax
      comp=Z,39nm,1.4s
PAX   Paxson          83.42  24 eP           P       05 17 31.8 +0.7
PAX   Paxson          83.42  24 eP           P       05 17 31.8 +0.7
CRQM  Cirque          83.47  27 eP           P       05 17 32.0 +0.5
HDA   Harding Lake    83.49  23 eP           P       05 17 30.2 -1.1
KURK  Kurchatov       83.49 322c iP          P       05 17 30.5 -1.1
KURK                                 pmax    pmax
      comp=Z,242nm,1.2s
KURK  Kurchatov       83.49 322 eP           P       05 17 30.7 -0.9
KURK                                 LR      LR
      comp=Z,9µm,20.0s
KURBB Kurchatov Arra  83.52 322 P            P       05 17 30.7 -1.0
      comp=Z,12nm,0.8s,baz=112,slow=4.1,SNR=55
KURBB                                PKKPbc  PKKPbc  05 35 59.3 +7.0
      comp=Z,0.6nm,0.3s,baz=294,slow=3.1,SNR=4.5
ILAR  Eielson Array   83.69  22 P            P       05 17 30.1 -2.2
      comp=Z,13nm,0.6s,baz=250,slow=4.7,SNR=83
ILAR                                 PKKPbc  PKKPbc  05 35 49.5 -3.1
      comp=Z,0.4nm,0.9s,baz=324,slow=1.9,SNR=4.3
ILAR                                 LR      LR      05 52 36.8
      comp=Z,6µm,19.9s,baz=260,slow=34
ILB   Eielson Array   83.69  22 eP           P       05 17 30.1 -2.2
COLD  Coldfoot        83.72  20 eP           P       05 17 32.9 +0.4
BALM  Baldy           83.94  27 eP           P       05 17 34.2 +0.4
BALM  Baldy           83.94  27 eP           P       05 17 34.2 +0.4
MAW   Mawson          84.03 203 P            P       05 17 33.3 -0.7
      comp=Z,6.9nm,0.6s,baz=108,slow=6.6,SNR=31
MAW                                  LR      LR      05 52 54.9
      comp=Z,5µm,20.3s,baz=85,slow=34
MAW   Mawson          84.03 203 P            P       05 17 33.4 -0.6
      baz=84,SNR=17
MAW   Mawson          84.03 203 eP           P       05 17 33.6 -0.4
MAW   Mawson          84.03 203 eP           P       05 17 33.6 -0.4
FRU   Bishkek         84.07 314⇑eP           P       05 17 34.0 -0.8
FRU                                  i               05 17 43.0
FRU                                  eS      S       05 27 51.0 -6.5
FRU                                  pmax    pmax
      comp=Z,350nm,2.2s
FRU                                  MLR     MLR
      comp=E,4µm,21.0s
AAK   Ala-Archa       84.11 314 P            P       05 17 34.9 -0.2
      comp=E,19nm,0.9s,baz=120,slow=6.3,SNR=6.2
AAK   Ala-Archa       84.11 314c iP          P       05 17 35.0 -0.2
AAK                                  pmax    pmax
      comp=Z,156nm,1.4s
AAK   Ala-Archa       84.11 314 eP           P       05 17 34.9 -0.2
AAK                                  LR      LR
      comp=Z,7µm,22.0s
MENT  Mentasta        84.13  25 eP           P       05 17 34.3 -0.4
QSPA  South Pole Qui  84.20 180 eP           P       05 17 34.4 -0.7
QSPA                                 LR      LR
      comp=Z,3µm,19.0s
DOT   Dot Lake        84.29  24 eP           P       05 17 34.6 -0.8
TOLK  Toolik Lake Re  84.66  18 P            P       05 17 37.0 -0.2
      baz=239
BTLS  Baital          84.98 316 i P          P       05 17 37.1 -2.2
      comp=Z,824nm,1.8s
BTLS                                 i S     S       05 27 57.6 -8.8
FYU   Fort Yukon      85.12  21 eP           P       05 17 40.8 +1.3
MNAS  Manas           85.51 313 P            P       05 17 41.7 -0.5
MNAS                                 pmax    pmax
      comp=Z,199nm,1.3s
EGAK  Eagle           85.91  23 eP           P       05 17 43.2 -0.3
EGAK                                 LR      LR
      comp=Z,7µm,22.0s
HYT   Haines Junctio  86.07  28 eP           P       05 17 45.0 +0.5
NRIK  Noril'sk        86.33 341 P            P       05 17 44.1 -1.4
      comp=Z,6.7nm,0.6s,baz=119,slow=8.0,SNR=6.2
NRIK                                 LR      LR      05 54 49.2
      comp=Z,3µm,21.7s,baz=130,slow=35
DAWY  Dawson          86.36  24 eP           P       05 17 45.1 -0.6
SKAG  Skagway         86.68  29 eP           P       05 17 49.6 +2.2
KK31  Karatay Array   87.07 314 i P          P       05 17 48.1 -1.6
KK31                                 pmax    pmax
      comp=Z,53nm,1.2s
KKAR  Karatay Array   87.07 314 eP           P       05 17 48.9 -0.8
KKAR  Karatay Array   87.07 314 eP           P       05 17 48.9 -0.8
WHY   Whitehorse      87.25  28 eP           P       05 17 50.9 +0.7
WRAK  Wrangell Islan  87.39  33 PFAKE                05 18 00.0 +9.2
WRAK                                 LR      LR
      comp=Z,8µm,20.0s
DZET  Dzherino        87.58 309 P            P       05 17 50.6 -1.8
DZET                                 pmax    pmax
      comp=Z,34nm,1.3s
BVAR  Borovoye Array  89.00 323 P            P       05 17 56.3 -2.3
      comp=Z,8.4nm,0.8s,baz=104,slow=6.3,SNR=29
BRVK  Borovoye        89.07 323c iP          P       05 17 56.9 -2.0
BRVK                                 pmax    pmax
      comp=Z,65nm,1.7s
BRVK  Borovoye        89.07 323 eP           P       05 17 57.5 -1.4
BRVK                                 LR      LR
      comp=Z,3µm,20.0s
INK   Inuvik          89.96  21 P            P       05 18 01.9 -0.8
      comp=Z,11nm,0.9s,baz=314,slow=3.4,SNR=13
KMRM  Mail Ridge      90.02  50 eP           P       05 18 05.4 +1.6
KRMB  Red Mountain    90.04  48 eP           P       05 18 05.3 +1.3
KCPM  Cahto Peak      90.04  50 eP           P       05 18 04.7 +0.7
KHMM  Horse Mountain  90.08  49 eP           P       05 18 05.4 +1.2
L02D  Cave Junction,  90.35  48 P            P       05 18 06.2 +1.0
      baz=263,SNR=7.0
HOPS  Hopland Field   90.35  51 eP           P       05 18 06.5 +1.2
GDXM  Geysers         90.54  51 eP           P       05 18 07.5 +1.2
I03D  Drain, OR       90.73  46 P            P       05 18 07.6 +0.7
      baz=263,SNR=11
M02C  Callahan        90.81  49 P            P       05 18 08.5 +1.0
      baz=263,SNR=30
NLWA  Neilton Lookou  90.84  43 eP           P       05 18 08.1 +0.7
NLWA                                 LR      LR
      comp=Z,7µm,21.0s
N02D  Trinity Center  90.87  49 P            P       05 18 09.0 +1.2
      baz=263,SNR=26
HUMO  Hull Mountain   90.88  47 eP           P       05 18 08.5 +0.8
E03A  Lebam           90.94  43 eP           P       05 18 08.8 +1.0
WDC   Whiskeytown Da  90.94  49 eP           P       05 18 09.1 +1.1
WDC   Whiskeytown Da  90.94  49 eP           P       05 18 09.1 +1.1
YBH   Yreka Blue Hor  90.95  48 eP           P       05 18 09.0 +0.8
YBH   Yreka Blue Hor  90.95  48 eP           P       05 18 09.0 +0.8
G03D  McMinnville, O  90.98  45 P            P       05 18 08.2 +0.2
      baz=263
F04D  Rainier, OR     91.26  44 P            P       05 18 09.8 +0.5
      baz=263
PGC   Sidney          91.28  41 eP           P       05 18 10.1 +0.8
SAO   San Andreas Ge  91.37  53 eP           P       05 18 11.0 +0.9
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SAO	San Andreas Ge	91.37	53	eP	P	05 18 11.0	+0.9
O03D	Paynes Creek	91.47	50	P	P	05 18 10.9	+0.3
	baz=264,SNR=27						
J04D	Umpqua Nationa	91.57	47	P	P	05 18 11.6	+0.5
	baz=264,SNR=16						
M04C	Macdoel	91.61	48	P	P	05 18 11.9	+0.7
	baz=264,SNR=24						
ORV	Oroville	91.62	51	eP	P	05 18 11.5	+0.3
ORV	Oroville	91.62	51	eP	P	05 18 11.5	+0.3
F04A	Amboy	91.65	44	eP	P	05 18 12.6	+1.4
FL2	Flat Top 2	91.73	44	eP	P	05 18 11.9	+0.2
K04D	Chiloquin, OR	91.76	48	P	P	05 18 12.5	+0.5
	baz=264						
A04D	Lummi Island	91.78	41	P	P	05 18 12.3	+0.7
	baz=263						
PMPB	Monarch Peak	91.83	54	eP	P	05 18 13.4	+1.1
AFDM	Forest Hills D	91.97	51	eP	P	05 18 13.4	+0.5
D05A	Enumclaw	92.08	43	eP	P	05 18 14.5	+1.3
B05A	Bryant	92.13	42	P	P	05 18 13.6	+0.3
	baz=264						
LON	Longmire	92.16	43	eP	P	05 18 14.5	+0.9
LON	Longmire	92.16	43	eP	P	05 18 14.5	+0.9
SYO	Syowa Base	92.20	200‖	eP	P	05 18 10.8	-2.4
SYO	Syowa Base	92.20	200‖	ePcP	P	05 18 13.2	0.0
J05D	Fort Rock, OR	92.21	47	P	P	05 18 14.7	+0.7
	baz=264,SNR=45						
PAGB	Antelope Grade	92.23	54	eP	P	05 18 15.8	+1.6
I05D	Terrebonne, OR	92.24	46	P	P	05 18 14.6	+0.6
	baz=264						
VFP	Flag Point	92.25	45	P	P	05 18 14.1	-0.1
MBW	Mount Baker	92.31	41	P	P	05 18 13.9	-0.5
CMB	Columbia Colle	92.34	52	eP	P	05 18 15.0	+0.4
CMB	Columbia Colle	92.34	52	eP	P	05 18 15.0	+0.4
G05D	Wamic, OR	92.35	45	P	P	05 18 14.8	+0.3
	baz=264						
SMMC	Simmler	92.40	55	P	P	05 18 16.5	+1.6
	baz=265						
PKM	Mcpherson Peak	92.51	55	P	P	05 18 17.1	+1.5
	baz=265						
LLLB	Lillooet	92.52	40	eP	P	05 18 15.7	+0.6
RPW	Rockport	92.53	42	eP	P	05 18 14.8	-0.4
SBC	Santa Barbara	92.55	56	P	P	05 18 17.3	+1.7
	baz=265						
SBC	Santa Barbara	92.55	56	eP	P	05 18 19.3	+3.7
B06A	Marblemount	92.56	42	eP	P	05 18 16.1	+0.8
SCZ2	Santa Cruz Isl	92.57	56	P	P	05 18 17.0	+1.2
	baz=265						
SNCC	San Nicolas Is	92.60	57	P	P	05 18 17.4	+1.6
	baz=265						
MOD	Modoc Plateau	92.76	48	eP	P	05 18 17.0	+0.4
G06A	Carlson Farm,	92.83	45	eP	P	05 18 17.1	+0.5
C06D	Leavenworth	92.90	42	P	P	05 18 16.9	0.0
	baz=265						
RER	Riviere de l'E	92.92	249	PFAKE		05 18 30.0	+12
RER				LR	LR		
	comp=Z,3μm,20.0s						
PNTR	Pine Nut	93.05	51	eP	P	05 18 19.1	+1.0
BLG	Laguna Peak, P	93.05	56	P	P	05 18 18.8	+0.8
	baz=265						
RCTC	Rector, Farmer	93.09	54	P	P	05 18 18.8	+0.8
	baz=265						
WAKR	Walker	93.12	52	eP	P	05 18 19.4	+1.0
VES	Vestal, Richgr	93.18	54	P	P	05 18 18.7	+0.3
	baz=265,SNR=22						
PAHR	Pah Rah Range	93.27	51	eP	P	05 18 19.6	+0.6
YERR	Yerington	93.32	51	eP	P	05 18 20.0	+0.7
ARVC	Arvin	93.33	55	P	P	05 18 20.4	+1.3
	baz=265						
OSI	Osito Audit: C	93.38	56	P	P	05 18 20.9	+1.4
	baz=265						
SCI2	San Clemente I	93.39	57	P	P	05 18 21.0	+1.5
	baz=265						
E07A	Sunnyside	93.48	44	eP	P	05 18 20.6	+0.9
MLAC	Mammoth, Mammo	93.53	53	P	P	05 18 21.4	+1.1
	baz=266						
CIS	Catalina Islan	93.54	57	P	P	05 18 21.2	+1.0
	baz=266,SNR=6.7						
TVH2	Borealis Mine	93.65	52	eP	P	05 18 21.7	+0.8
FMP	Fort Macarthur	93.66	57	P	P	05 18 21.8	+1.1
	baz=266						
ISA	Isabella, Lake	93.66	55	P	P	05 18 21.6	+0.8
	baz=266						
ISA	Isabella, Lake	93.66	55	eP	P	05 18 21.8	+1.0
ISA	Isabella, Lake	93.66	55	eP	P	05 18 21.8	+1.0
DECC	Green Verdugo	93.67	56	P	P	05 18 21.8	+1.0
	baz=266						
HAWA	Hanford	93.69	44	eP	P	05 18 21.3	+0.8
HAWA				LR	LR		
	comp=Z,6μm,22.0s						
PASC	Pasadena Art C	93.79	56	eP	P	05 18 22.7	+1.4
MWC	Mount Wilson	93.90	56	eP	P	05 18 23.1	+1.1
MWC	Mount Wilson	93.90	56	eP	P	05 18 23.1	+1.1
TIN	Tinemaha, Big	93.97	53	P	P	05 18 23.3	+1.1
	baz=266						
B08A	Colville Reser	93.97	42	eP	P	05 18 21.6	-0.3
EDW2	Edwards Air Fo	94.00	55	P	P	05 18 23.4	+1.1
	baz=266,SNR=27						
WVOR	Wild Horse Val	94.04	48	eP	P	05 18 22.9	+0.4
WVOR				MLR	MLR		
	comp=Z,6μm,19.0s						
WVOR	Wild Horse Val	94.04	48	eP	P	05 18 22.9	+0.4
WVOR				LR	LR		
	comp=Z,6μm,19.0s						
CWC	Cottonwood Cre	94.04	54	P	P	05 18 23.5	+0.8
	baz=266						
D08A	Wollman Farm,	94.16	43	eP	P	05 18 23.4	+0.7
BFSC	Mount Baldy Ra	94.23	56	P	P	05 18 24.4	+0.9
	baz=266,SNR=15						
LRMC	Laurel Mtn Rad	94.29	55	P	P	05 18 25.1	+1.3
	baz=266,SNR=15						
MPMC	Manual Prospec	94.49	54	P	P	05 18 25.8	+1.1
	baz=266,SNR=58						
MURC	Murrieta	94.57	57	P	P	05 18 25.9	+1.0
	baz=266,SNR=6.0						
109C	Camp Elliot, M	94.59	58	P	P	05 18 26.3	+1.3
	baz=266						
C09A	Chrisman Ranch	94.65	43	eP	P	05 18 25.4	+0.5
GRAC	Grapevine Rang	94.65	53	P	P	05 18 26.3	+1.0
	baz=266,SNR=8.5						
E09A	Wood Farm, Sta	94.66	44	eP	P	05 18 25.1	+0.2
RRX	Edison Barstow	94.81	56	P	P	05 18 27.1	+1.0
	baz=266						
BBRC	Big Bear Solar	94.84	56	P	P	05 18 27.3	+0.9
	baz=266,SNR=6.4						
BAR	Barrett	94.94	58	eP	P	05 18 28.0	+1.3
BMN	Battle Mountai	94.97	50	eP	P	05 18 27.4	+0.6
BMN	Battle Mountai	94.97	50	eP	P	05 18 27.4	+0.6
GSC	Goldstone, Bar	95.00	55	P	P	05 18 27.9	+1.0
	baz=266,SNR=24						
GSC	Goldstone, Bar	95.00	55	eP	P	05 18 27.8	+0.8
GSC	Goldstone, Bar	95.00	55	eP	P	05 18 27.8	+0.8
FURC	Furnace Creek,	95.02	54	P	P	05 18 28.0	+1.1
	baz=267,SNR=54						
AB31	Akbulak array	95.08	319	iP	P	05 18 23.9	-3.0
AB31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ABKAR	Akbulak array	95.08	319	eP	P	05 18 25.5	-1.4
MSEY	Mahe Island	95.11	265	PFAKE		05 18 40.0	+12
MSEY				LR	LR		
	comp=Z,2μm,21.0s						
BMO	Blue Mountains	95.15	46	eP	P	05 18 27.3	-0.2
BMO				MLR	MLR		
	comp=Z,8μm,22.0s						
BMO	Blue Mountains	95.15	46	eP	P	05 18 27.2	-0.2
BMO				LR	LR		
	comp=Z,8μm,22.0s						
MONP2	Monument Peak	95.17	58	P	P	05 18 29.4	+1.4
	baz=266,SNR=18						
PFO	Pinyon Flats O	95.18	57	P	P	05 18 29.0	+1.1
	comp=Z,9.3nm,0.9s,baz=286,slow=3.9,SNR=18						
PFO	Pinyon Flats O	95.18	57	P	P	05 18 29.0	+1.1
	baz=267,SNR=9.5						
PFO	Pinyon Flats O	95.18	57	eP	P	05 18 28.9	+1.1
PFO				MLR	MLR		
	comp=Z,8μm,20.0s						
PFO	Pinyon Flats O	95.18	57	eP	P	05 18 28.9	+1.0
PFO				LR	LR		
	comp=Z,8μm,20.0s						
XPFO	Piæon Flat	95.18	57	eP	P	05 18 28.9	+1.0
HEC	Hector,Ludlow	95.36	56	P	P	05 18 29.6	+1.0
	baz=267,SNR=23						
IKP	In-Ko-Pah, Jac	95.42	58	P	P	05 18 30.6	+1.6
	baz=267,SNR=9.5						
NEW	Newport	95.44	42	P	P	05 18 28.7	+0.1
	baz=268						
NEW	Newport	95.44	42	eP	P	05 18 28.5	-0.1
NEW				MLR	MLR		
	comp=Z,7μm,20.0s						
NEW	Newport	95.44	42	eP	P	05 18 28.5	-0.1
NEW				LR	LR		
	comp=Z,7μm,20.0s						
SHOC	Shoshone, Teco	95.46	55	P	P	05 18 29.9	+0.9
	baz=267,SNR=27						
TPNV	Topopah Spring	95.54	54	P	P	05 18 30.5	+1.0
	baz=267,SNR=53						
TPNV	Topopah Spring	95.54	54	eP	P	05 18 29.3	-0.2
TPNV	Topopah Spring	95.54	54	eP	P	05 18 29.3	-0.2
BELC	Belle Mtn. Jos	95.59	56	P	P	05 18 30.9	+1.2
	baz=267,SNR=30						
SWSC	Sam W. Stewart	95.69	58	P	P	05 18 31.4	+1.3
	baz=267,SNR=8.7						
TUQ	Turquoise Moun	95.72	55	P	P	05 18 31.2	+0.8
	baz=267,SNR=18						
RPN	Rapa Nui	95.86	118	PFAKE		05 18 40.0	+9.1
RPN				LR	LR		
	comp=Z,1μm,20.0s						
GEYT	Alibeck	95.86	307	P	P	05 18 30.0	-0.8
	comp=Z,2.8nm,0.3s,baz=116,slow=6.6,SNR=3.9						
GEYT				LR	LR	06 04 44.1	
	comp=Z,2μm,18.4s,baz=90,slow=37						
GMRC	Granite Mounta	95.91	56	P	P	05 18 32.3	+1.2
	baz=267,SNR=25						
BC3	Big Chuckawall	96.02	57	P	P	05 18 33.2	+1.5
	baz=267,SNR=19						
R11A	Troy Canyon, C	96.13	52	P	P	05 18 33.0	+0.8
	baz=268,SNR=28						
R11A	Troy Canyon, C	96.13	52	eP	P	05 18 32.6	+0.5
MFID	Camas Ranch	96.15	47	eP	P	05 18 32.8	+0.8
ARU	Arti	96.17	326	P	P	05 18 30.2	-1.4
	comp=Z,3.8nm,0.3s,baz=80,slow=4.7,SNR=4.8						
ARU	Arti	96.17	326	P	P	05 18 30.8	-0.9
ARU						05 22 25.0	
ARU				PPP	PPP	05 24 27.6	
ARU				S	SKSac	05 29 07.5	+1.5
ARU				SP	SP	05 31 10.1	+2.3
ARU				SS	SS	05 36 29.4	+8.4
ARU				MLR	MLR		
	comp=Z,9μm,23.0s						
ARU	Arti	96.17	326	eP	P	05 18 30.2	-1.4
ARU				LR	LR		
	comp=Z,8μm,21.0s						
IRM	Iron Mountain	96.30	56	P	P	05 18 34.2	+1.4
	baz=267,SNR=29						
LDFC	Landfair	96.37	55	eP	P	05 18 34.6	+1.3
AKTO	Aktyubinsk	96.38	320	P	P	05 18 30.2	-2.5
	comp=Z,1.4nm,0.6s,baz=15,slow=4.8,SNR=4.8						
SHPR	Sheep Range	96.39	54	eP	P	05 18 34.6	+1.2
GLA	Glamis	96.52	57	P	P	05 18 35.7	+1.8
	baz=267						
GLA	Glamis	96.52	57	eP	P	05 18 36.3	+2.4
GLA	Glamis	96.52	57	eP	P	05 18 36.3	+2.4
NEE2	Needles Airpor	96.76	56	P	P	05 18 36.1	+1.2
	baz=268						
Y12C	Blythe	96.80	57	P	P	05 18 36.6	+1.5
	baz=268,SNR=12						
Y12C	Blythe	96.80	57	eP	P	05 18 36.4	+1.4
BSMT	Bassoo Peak	97.00	43	eP	P	05 18 35.7	-0.2
YKA	Yellowknife Ar	97.06	28	P	P	05 18 34.7	-0.9
	comp=Z,2.4nm,0.6s,baz=269,slow=4.8,SNR=14						
YKA				LR	LR	05 59 03.4	
	comp=Z,407nm,20.4s,baz=0.0,slow=33						
YKB5	Yellowknife Ar	97.06	28	eP	P	05 18 35.0	-0.6
PDMCI	Parker Dam,Lak	97.14	56	P	Pdif	05 18 38.3	+1.6
	baz=268,SNR=9.4						
HLID	Hailey	97.19	47	P	Pdif	05 18 37.3	+0.4
	baz=269						
HLID	Hailey	97.19	47	eP	Pdif	05 18 37.1	+0.2
HLID				LR	LR		
	comp=Z,6μm,19.0s						
W13A	Hualapai Mount	97.38	55	eP	Pdif	05 18 39.1	+1.1
113A	Mohawk Valley,	97.39	58	eP	Pdif	05 18 39.2	+1.3
SWMT	Swartz Lake	97.53	43	eP	Pdif	05 18 38.4	+0.2
MSO	Missoula	97.56	44	P	P	05 18 37.8	-0.6
	baz=270						
WALA	Waterton Lakes	97.59	41	eP	Pdif	05 18 39.1	+0.6
CCUT	Cedar City	97.86	53	eP	Pdif	05 18 41.4	+1.2
SLMT	Seeley Lake	97.87	43	eP	P	05 18 39.7	-0.1
LCMT	Little Creek M	97.95	54	eP	Pdif	05 18 41.6	+1.2
CHMT	Chamberlain Mo	98.03	44	eP	P	05 18 40.5	-0.2
Y14A	Wickenburg	98.07	57	eP	Pdif	05 18 42.6	+1.7
SZCU	Shurtz Canyon	98.08	53	eP	Pdif	05 18 42.2	+1.1
BGU	Big Grassy Mou	98.17	50	eP	Pdif	05 18 42.0	+0.6
214A	Organ Pipe Nat	98.18	59	P	Pdif	05 18 43.4	+2.0
	baz=268,SNR=11						
214A	Organ Pipe Nat	98.18	59	eP	Pdif	05 18 42.9	+1.5
	comp=Z,92nm,1.4s						
KNB	Kanab	98.29	54	eP	Pdif	05 18 43.1	+1.1
KNB	Kanab	98.29	54	eP	Pdif	05 18 43.0	+1.1
MCMT	McKenzie Canyo	98.32	46	eP	Pdif	05 18 43.0	+0.9
DUG	Dugway, Tooele	98.33	50	Pdiff	Pdif	05 18 42.6	+0.5
	baz=270						
DUG	Dugway, Tooele	98.33	50	eP	Pdif	05 18 42.8	+0.7
DUG				MLR	MLR		
	comp=Z,7μm,21.0s						
DUG	Dugway, Tooele	98.33	50	eP	Pdif	05 18 42.8	+0.7
DUG				LR	LR		
	comp=Z,7μm,21.0s						
HVU	Hansel Valley	98.37	49	eP	Pdif	05 18 42.6	+0.4
HVU	Hansel Valley	98.37	49	eP	Pdif	05 18 42.6	+0.3
DLMT	Dillon	98.50	45	eP	Pdif	05 18 43.1	+0.5
LRM	Limekiln Ridge	98.60	45	eP	Pdif	05 18 43.6	+0.4
SPUT	South Promonto	98.62	49	eP	Pdif	05 18 43.9	+0.6
U15A	North Rim	98.70	54	eP	Pdif	05 18 45.3	+1.3
MTPU	Mount Pierson	98.81	53	eP	Pdif	05 18 46.1	+1.7
MSU	Marysvale	98.81	52	eP	Pdif	05 18 45.6	+1.3
MSU	Marysvale	98.81	52	eP	Pdif	05 18 45.6	+1.3
NLU	North Lily Min	98.90	51	eP	Pdif	05 18 45.3	+0.6
HRY	Holter Researc	99.01	44	eP	Pdif	05 18 45.0	+0.1
BOZ	Bozeman (W)	99.17	45	Pdiff	Pdif	05 18 46.2	+0.5
	baz=271						
BOZ	Bozeman (W)	99.17	45	eP	Pdif	05 18 46.5	+0.8
BOZ				MLR	MLR		
	comp=Z,6μm,22.0s						
BOZ	Bozeman (W)	99.17	45	eP	Pdif	05 18 46.5	+0.8
BOZ				LR	LR		
	comp=Z,6μm,22.0s						
HWUT	Hardware Ranch	99.28	49	eP	Pdif	05 18 46.7	+0.4
HWUT				LR	LR		
	comp=Z,6μm,20.0s						
QLMT	Earthquake Lak	99.33	46	eP	Pdif	05 18 47.8	+1.4
X16A	Lo Mia Camp, P	99.37	56	eP	Pdif	05 18 48.5	+1.6
JLU	Jordanelle	99.38	50	eP	Pdif	05 18 47.6	+0.8
TCUT	Toone Canyon	99.40	49	eP	Pdif	05 18 48.4	+1.4
WUAZ	Wupatki	99.44	55	Pdiff	Pdif	05 18 48.8	+1.6
	baz=270						
WUAZ	Wupatki	99.44	55	eP	Pdif	05 18 48.9	+1.7
WUAZ				LR	LR		
	comp=Z,7μm,20.0s						
YHB	Horse Butte	99.50	46	ePdif	Pdif	05 18 49.6	+2.3
TMUT	Trail Mountain	99.57	51	ePdif	Pdif	05 18 49.3	+1.5
FXWY	Fox Creek	99.64	47	ePdif	Pdif	05 18 48.1	+0.2
IMW	Indian Meadow	99.70	47	ePdif	Pdif	05 18 48.6	+0.3
TPAW	Teton Pass	99.70	47	ePdif	Pdif	05 18 49.0	+0.8
YHH	Holmes Hill	99.74	46	ePdif	Pdif	05 18 49.5	+1.1
REDW	Red Top Meadow	99.78	47	ePdif	Pdif	05 18 49.1	+0.6
MOOW	Moose Ponds	99.85	47	ePdif	Pdif	05 18 48.9	+0.1
TUC	Tucson	99.90	58	Pdiff	Pdif	05 18 51.2	+2.1
	baz=269						
TUC	Tucson	99.90	58	PFAKE		05 19 00.0	+11
TUC				LR	LR		
	comp=Z,6μm,22.0s						
H17A	Grant Village	99.95	46	Pdiff	Pdif	05 18 51.0	+1.7
	baz=272						
LKWY	Lake	100.07	46	PFAKE		05 19 00.0	+10
LKWY				LR	LR		
	comp=Z,9μm,20.0s						
SRU	San Rafael Swe	100.10	51	eP	Pdif	05 18 51.1	+1.1
SRU	San Rafael Swe	100.10	51	ePdif	Pdif	05 18 51.1	+1.1
EGMT	Eagleton	100.38	42	Pdiff	Pdif	05 18 50.8	-0.1
	baz=273						
EGMT	Eagleton	100.38	42	ePdif	Pdif	05 18 51.2	+0.4
EGMT				LR	LR		
	comp=Z,4μm,19.0s						
X18A	Snowflake	100.61	56	ePdif	Pdif	05 18 54.6	+2.3
BW06	Boulder Array	100.74	48	Pdiff	Pdif	05 18 52.2	-0.7
	baz=272						
BW06	Boulder Array	100.74	48	ePdif	Pdif	05 18 52.4	-0.4
BW06				LR	LR		
	comp=Z,8μm,21.0s						
PD31	Pinedale Array	100.74	48	ePdif	Pdif	05 18 52.4	-0.4
PDAR	Pinedale Array	100.74	48	P	Pdif	05 18 52.0	-0.9
	comp=Z,1.9nm,0.6s,baz=214,slow=2.2,SNR=30						
W18A	Petrified Fore	100.78	55	Pdiff	Pdif	05 18 54.8	+1.7
	baz=270						
SNAA	Sanae	100.84	188	P	Pdif	05 18 48.4	-4.1
SNAA	Sanae	100.84	188	P	PP	05 22 54.5	-5.3
SNAA	Sanae	100.84	188⇑	eP	Pdif	05 18 51.2	-1.3
SNAA	Sanae	100.84	188	ePdif	Pdif	05 18 51.9	-0.6
RLMT	Red Lodge	100.86	45	Pdiff	Pdif	05 18 54.3	+1.0
	baz=273						
RLMT	Red Lodge	100.86	45	PFAKE		05 19 00.0	+6.7
RLMT				LR	LR		
	comp=Z,6μm,22.0s						
ABPO	Ambohimpanom	101.15	249	PFAKE		05 19 10.0	+15
ABPO				LR	LR		
	comp=Z,1μm,19.0s						
319A	Douglas	101.18	59	ePdif	Pdif	05 18 55.9	+1.0
MVCO	Mesa Verde	101.74	53	Pdiff	Pdif	05 18 58.5	+1.1
	baz=272						
MVCO	Mesa Verde	101.74	53	ePdif	Pdif	05 18 58.1	+0.7
MVCO				LR	LR		
	comp=Z,7μm,21.0s						
O20A	White River Ci	101.84	50	Pdiff	Pdif	05 18 58.1	+0.4
	baz=272						
O20A	White River Ci	101.84	50	ePdif	Pdif	05 18 58.6	+0.9
VNA3	Neumayer Olymp	102.09	186	P	Pdif	05 18 56.7	-1.3
VNA3	Neumayer Olymp	102.09	186	P	PP	05 23 02.9	-6.3
VNA3	Neumayer Olymp	102.09	186	P	PKKPbc	05 34 59.9	-4.4
VNA2	Neumayer--Watz	102.13	187	P	Pdif	05 19 02.9	+4.8
	baz=168,slow=4.7						
VNA2	Neumayer--Watz	102.13	187	P	PP	05 23 15.1	+5.7
	baz=212,slow=1.1						
121A	Cookes Peak, D	102.44	58	Pdiff	Pdif	05 19 02.8	+2.3
	baz=271						
VNA1	Neumayer--Stat	102.49	187	P	Pdif	05 18 59.8	+0.1
VNA1	Neumayer--Stat	102.49	187	P	PP	05 23 13.5	+1.4
VNA1	Neumayer--Stat	102.49	187	P	PKKPbc	05 35 06.2	+3.2
SMCO	Snowmass	102.86	51	ePdif	Pdif	05 19 03.6	+1.1
LAO	LASA Array	102.87	44	Pdiff	Pdif	05 19 02.4	+0.5
	baz=275						
LAO	LASA Array	102.87	44	ePdif	Pdif	05 19 03.7	+1.7
LAO				LR	LR		
	comp=Z,4μm,19.0s						
K22A	Casper	102.98	48	Pdiff	Pdif	05 19 02.5	-0.2
	baz=274						
K22A	Casper	102.98	48	ePdif	Pdif	05 19 03.3	+0.5
S22A	4UR Ranch, Cre	103.05	53	Pdiff	Pdif	05 19 04.7	+1.5
	baz=273						
S22A	4UR Ranch, Cre	103.05	53	ePdif	Pdif	05 19 04.3	+1.1
Y22D	IRIS PASSCAL I	103.12	56	Pdiff	Pdif	05 19 05.9	+2.4
	baz=272						
BNM	Barren Site	103.36	56	ePdif	Pdif	05 19 05.1	+0.4
ANMO	Albuquerque	103.47	56	Pdiff	Pdif	05 19 06.5	+1.4
	comp=Z,1.3nm,0.9s,baz=102,slow=3.8,SNR=8.6						
ANMO				PP	PP	05 23 16.3	-5.0
	comp=Z,0.4nm,0.5s,baz=88,slow=3.7,SNR=4.2						
ANMO	Albuquerque	103.47	56	Pdiff	Pdif	05 19 07.0	+1.9
	baz=272						
ANMO	Albuquerque	103.47	56	eP	Pdif	05 19 07.2	+2.1
ANMO				MLR	MLR		
	comp=Z,3μm,22.0s						
ANMO	Albuquerque	103.47	56	ePdif	Pdif	05 19 07.2	+2.1
ANMO				LR	LR		
	comp=Z,3μm,22.0s						
N23A	Red Feather La	103.54	49	Pdiff	Pdif	05 19 06.4	+1.0
	baz=274						
N23A	Red Feather La	103.54	49	ePdif	Pdif	05 19 06.5	+1.1
MAK	Makhachkala	103.86	313	eP	Pdif	05 19 03.4	-2.9
MAK				i		05 23 21.6	
MAK				ePPP	PPP	05 25 39.6	
MAK				eSP	SP	05 32 37.6	+6.7
MAK				eSS	SS	05 38 08.7	-0.2
MAK				pmax	pmax		
	comp=Z,174nm,1.4s						
ISCO	Idaho Springs	103.87	51	Pdiff	Pdif	05 19 07.4	+0.5
	baz=274						
ISCO	Idaho Springs	103.87	51	PFAKE		05 19 20.0	+13
ISCO				LR	LR		
	comp=Z,7μm,22.0s						
DGMT	Dagmar	104.04	42	Pdiff	Pdif	05 19 07.5	+0.5
	baz=277						
DGMT	Dagmar	104.04	42	PFAKE		05 19 20.0	+13
DGMT				LR	LR		
	comp=Z,4μm,19.0s						
KBS	Kingsbay	104.09	353	PFAKE		05 19 20.0	+13
KBS				LR	LR		
	comp=Z,2μm,21.0s						
SDCO	Great Sand Dun	104.10	53	Pdiff	Pdif	05 19 08.8	+0.9
	baz=274						
SDCO	Great Sand Dun	104.10	53	ePdif	Pdif	05 19 09.3	+1.4
SDCO				LR	LR		
	comp=Z,10μm,21.0s						
Q24A	Divide	104.29	51	Pdiff	Pdif	05 19 09.5	+0.7
	baz=274						
FFC	Flin Flon	104.44	35	PFAKE		05 19 20.0	+11
FFC				LR	LR		
	comp=Z,7μm,20.0s						
MNTX	Cornudas Mount	104.50	59	Pdiff	Pdif	05 19 11.7	+2.1
	baz=272						
MNTX	Cornudas Mount	104.50	59	PFAKE		05 19 20.0	+10
MNTX				LR	LR		
	comp=Z,4μm,22.0s						
RSSD	Black Hills	104.66	46	Pdiff	Pdif	05 19 09.8	-0.4
	baz=276						
RSSD	Black Hills	104.66	46	eP	Pdif	05 19 11.2	+1.0
RSSD	Black Hills	104.66	46	ePdif	Pdif	05 19 11.2	+1.0
PMSA	Palmer Station	104.98	165	PFAKE		05 19 20.0	+9.2
PMSA				LR	LR		
	comp=Z,1μm,20.0s						
T25A	Trinidad	105.00	53	ePdif	Pdif	05 19 13.9	+2.0
LVZ	Lovozero	105.08	339	PFAKE		05 23 40.0	
LVZ				LR	LR		
	comp=Z,3μm,22.0s						
APA	Apatity	105.65	339⇑	iP	Pdif	05 19 14.9	+1.2
APA				pmax	pmax		
	comp=Z,6.0nm,1.0s			

JCT LR LR
comp=Z,9μm,20.0s
AGMN Agassiz Nation 109.53 41 PFAKE 05 23 50.0
AGMN LR LR
comp=Z,5μm,22.0s
WMOK Wichita Mounta 109.78 55 PFAKE 05 23 50.0
WMOK LR LR
comp=Z,4μm,22.0s
F33A 5 Mile Ranch, 109.80 43 PKiKP **PKiKP 05 23 38.1 +3.0**
baz=283
G33A Ortonville 109.84 44 PKiKP **PKiKP 05 23 37.7 +2.6**
baz=282
ECSD EROS Data Cent 110.01 46 PFAKE 05 23 50.0
ECSD LR LR
comp=Z,5μm,22.0s
934A Benavides 110.70 63 PKiKP **PKiKP 05 23 39.8 +2.5**
baz=274
ANN Anapa 110.76 316 *i* PKIKP **PKiKP 05 23 30.3 -6.6**
ANN *e* 05 24 13.9
ANN *e*PS **PS 05 33 44.4 -0.8**
ANN pmax pmax
comp=Z,78nm,1.4s
KSU1 Kansas State U 110.87 50 PKiKP **PKiKP 05 23 38.9 +1.6**
baz=280
KSU1 Kansas State U 110.87 50 PFAKE 05 23 50.0
KSU1 LR LR
comp=Z,10μm,22.0s
M35A Neola 111.13 48 PKiKP **PKiKP 05 23 40.6 +2.8**
baz=281
G35A Watkins 111.18 44 PKiKP **PKiKP 05 23 40.3 +2.6**
baz=284
K35A Storm Lake 111.21 46 PKiKP **PKiKP 05 23 40.0 +2.1**
baz=282
FIA0 FINESS Array S 111.22 335 *e*P **Pdif 05 19 38.1 -0.6**
FIA0 *i* 05 23 36.3
FIA0 FINESS Array S 111.22 335 *e*Pdif **Pdif 05 19 38.0 -0.6**
FIA0 *e*PKiKP **PKiKP 05 23 36.3 -0.9**
FINES FINESS Array B 111.22 335 Pdiff **Pdif 05 19 38.0 -0.6**
comp=Z,2.0nm,0.8s,baz=90,slow=9.5,SNR=4.1
FINES PKIKP **PKiKP 05 23 36.3 -0.9**
comp=Z,3.8nm,0.7s,baz=48,slow=2.8,SNR=7.9
KVTX Kingsville 111.26 63 PFAKE 05 23 50.0
KVTX LR LR
comp=Z,6μm,20.0s
X35A Drake 111.30 55 PKiKP **PKiKP 05 23 36.3 -2.0**
baz=278
Q35A Mercer Eighty, 111.36 51 PKiKP **PKiKP 05 23 41.0 +2.8**
baz=280
D36A Goodland 111.57 41 PKiKP **PKiKP 05 23 40.6 +2.2**
baz=286
V36A Jenks 111.94 54 PKiKP **PKiKP 05 23 41.7 +2.3**
baz=279
D37A Cotton 112.06 41 PKiKP **PKiKP 05 23 41.9 +2.6**
baz=286
I37A Lemond, Waseca 112.22 45 PKiKP **PKiKP 05 23 42.6 +2.9**
baz=284
M37A Trindle Farm, 112.35 48 PKiKP **PKiKP 05 23 42.1 +2.1**
baz=283
EYMN Ely 112.44 40 PFAKE 05 23 50.0
EYMN LR LR
comp=Z,6μm,21.0s
W37B Quinton 112.45 54 PKiKP **PKiKP 05 23 41.9 +1.5**
baz=279
E38A The Farm, Brul 112.79 42 PKiKP **PKiKP 05 23 42.6 +1.8**
baz=287
SCIA State Center 112.85 47 PFAKE 05 23 50.0
SCIA LR LR
comp=Z,7μm,21.0s
L38A Oak Wood Farm, 112.98 47 PKiKP **PKiKP 05 23 44.1 +2.9**
baz=284
X38A Whitesboro 113.02 55 PKiKP **PKiKP 05 23 43.8 +2.3**
baz=279
G39A Holcombe 113.42 43 PKiKP **PKiKP 05 23 45.3 +3.3**
baz=286
NATX Nacogdoches 113.59 58 PFAKE 05 23 50.0
NATX LR LR
comp=Z,4μm,22.0s
KMBO Kilima Mbogo 113.60 266 PFAKE 05 24 00.0
KMBO LR LR
comp=Z,1μm,22.0s
N39A Derby Farms, D 113.61 48 PKiKP **PKiKP 05 23 46.8 +4.4**
baz=284
MIAR Mount Ida 114.05 55 PFAKE 05 24 00.0 +17
MIAR LR LR
comp=Z,5μm,21.0s
AKASG Malin Array Be 114.28 324 PKP PKPdf 05 23 42.1 -1.3
comp=Z,4.5nm,0.8s,baz=62,slow=2.3,SNR=11
AKASG PKKPab **PKKPab 05 34 28.8 -1.2**
comp=Z,0.2nm,0.3s,baz=259,slow=4.0,SNR=4.9
340A Bronson 114.29 58 PKiKP **PKiKP 05 23 46.6 +2.6**
baz=278
KIEV Kiev 114.29 324c *i*PKIKP PKPdf 05 23 43.2 -0.2
KIEV Kiev 114.29 324 *e*PKPdf PKPdf 05 23 43.2 -0.3
KIEV LR LR
comp=Z,5μm,21.0s
440A Kirbyville 114.33 59 PKiKP **PKiKP 05 23 47.4 +3.3**
baz=278
W40A Ferguson Farm, 114.35 54 PKiKP **PKiKP 05 23 46.7 +2.7**
baz=281
Q40A Laux Farm, Aux 114.36 50 PKiKP **PKiKP 05 23 47.1 +3.1**
baz=283
E41A Kenton 114.54 41 PKiKP **PKiKP 05 23 46.3 +2.2**
baz=289
BR101 Keskin Array S 114.67 311 *e*PKiKP PKPdf 05 23 43.4 -1.3
BRTR Keskin Array B 114.68 311 PKP PKPdf 05 23 43.4 -1.3
comp=Z,3.3nm,0.8s,baz=118,slow=1.6,SNR=10
BRTR PKKPab **PKKPab 05 34 29.5 +0.8**
comp=Z,1.4nm,1.0s,baz=177,slow=2.5,SNR=4.3
JFWS Jewell Farm 114.72 45 PFAKE 05 24 00.0 +15
JFWS LR LR
comp=Z,5μm,22.0s
J41A Loganville 114.76 45 PKiKP PKPdf 05 23 47.5 +2.9
baz=286
P41A Barry, Barry 114.96 49 PKiKP PKPdf 05 23 46.0 +0.9
baz=284
Q41A Truxton 115.01 50 PKiKP **PKPdf 05 23 49.5 +4.3**
baz=284
ANTO Ankara 115.27 311 *e*PKIKP **PKPdf 05 23 45.9 +0.1**
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 115.27 311 *e*PKPdf **PKPdf 05 23 45.9 +0.1**
ANTO LR LR
comp=Z,1μm,20.0s
SORM Soroca 115.77 321 ⇓*i*P **PKPdf 05 23 46.1 -0.2**
SORM Soroca 115.77 321 ⇓PKIKP **PKPdf 05 23 46.1 -0.2**
F43A Flat Rock, Esc 115.93 41 PKiKP **PKPdf 05 23 51.2 +4.5**
baz=290
CSS Mathiatis 115.96 306 PFAKE 05 24 00.0 +13
CSS LR LR
comp=Z,397nm,21.0s
HDIL Hopedale 116.05 48 PFAKE 05 24 00.0 +13
HDIL LR LR
comp=Z,5μm,20.0s
544A White Castle 116.81 59 PKiKP **PKiKP 05 23 51.8 +2.9**
baz=279
244A Avery, Jackson 116.88 57 PKiKP **PKiKP 05 23 52.7 +3.7**
baz=281
HFS Hagfors 116.94 338 PKP **PKPdf 05 23 47.9 -0.4**
comp=Z,3.1nm,0.8s,baz=0.0,slow=2.9,SNR=2.8
344A Westbrook Farm 116.95 58 PKiKP **PKiKP 05 23 53.6 +4.5**
baz=280
SFJD Kangerlussuaq 117.07 9 PFAKE 05 24 00.0 +12
SFJD LR LR
comp=Z,3μm,20.0s
NB2 NORSAR Subarra 117.23 339 PKPdf **PKPdf 05 23 48.3 -0.6**
comp=Z,2.2nm,0.7s,baz=44,slow=1.9
NB200 NORSAR Array S 117.23 339 *e*PKPdf **PKPdf 05 23 47.5 -1.3**
NOA NORSAR Array B 117.23 339 PKP **PKPdf 05 23 47.5 -1.3**
comp=Z,1.8nm,0.7s,baz=49,slow=1.8,SNR=5.3
NOA SKP 05 27 22.9
comp=Z,2.1nm,0.8s,baz=92,slow=4.0,SNR=3.2
S45A Carrier Mills 117.34 50 PKiKP **PKiKP 05 23 53.9 +4.2**
baz=285
445A Amite 117.41 58 PKiKP **PKiKP 05 23 53.7 +3.7**
baz=280
ISP Isparta 117.51 310 PFAKE 05 24 00.0 +10
ISP LR LR
comp=Z,1μm,20.0s
EFI East Falkland 117.57 160 PFAKE 05 24 00.0 +10
EFI LR LR
comp=Z,2μm,19.0s
BUR08 Bucovina Ar. S 117.91 322 *e*PKPdf **PKPdf 05 23 51.5 +0.8**
BURAR Bucovina Array 117.91 322 ⇑*i*P **PKPdf 05 23 51.0 +0.3**
BURAR Bucovina Array 117.91 322 ⇑PKIKP **PKPdf 05 23 51.0 +0.3**
GLMI Grayling 117.97 42 PFAKE 05 24 00.0 +9.3
GLMI LR LR
comp=Z,6μm,22.0s
MLR Muntele Rosu 118.30 319 PKP **PKPdf 05 23 50.2 -1.3**
comp=Z,0.9nm,0.5s,baz=331,slow=16,SNR=3.9
MLR Muntele Rosu 118.30 319 ⇑*i*P **PKPdf 05 23 52.2 +0.7**
MLR Muntele Rosu 118.30 319 ⇑PKIKP **PKPdf 05 23 52.2 +0.7**
MLR Muntele Rosu 118.30 319 *e*PKPdf **PKPdf 05 23 50.2 -1.3**
MLR *e*PKPdf **PKiKP 05 23 52.0 +0.5**
PAYG Puerto Ayora 118.38 94 PFAKE 05 24 00.0 +7.6
PAYG LR LR
comp=Z,2μm,19.0s
DOPR Dopca 118.47 320 ⇓*i*P **PKPdf 05 23 52.8 +1.1**
KWP Kalwaria Pacla 118.53 325 *e*PKP **PKPdf 05 23 51.5 -0.2**
KWP Kalwaria Pacla 118.53 325 *e*PKIKP **PKPdf 05 23 51.5 -0.2**
Z47A Carrollton 118.81 55 PKiKP **PKiKP 05 23 56.8 +4.1**
baz=283
VOIR 118.90 319 ⇑*i*P **PKPdf 05 23 53.1 +0.5**
VOIR 118.90 319 ⇑PKIKP **PKPdf 05 23 53.1 +0.5**
ARR Arges 119.19 320 ⇑*i*P **PKPdf 05 23 54.2 +1.0**
UZH Uzhgorod 119.24 324 *e*PKIKP **PKPdf 05 23 55.9 +2.9**
UZH *i* 05 24 08.1
UZH *i* 05 25 20.0
UZH *e* 05 30 56.5
UZH *e* 05 45 55.9
SUR Sutherland 119.42 228 PFAKE 05 24 10.0 +16
SUR LR LR
comp=Z,5μm,20.0s
STHS Stebnicka Huta 119.48 325 *e*PKIKP **PKPdf 05 23 54.2 +0.7**
STHS *e* 05 24 03.6
STHS Stebnicka Huta 119.48 325 *e*PKP **PKPdf 05 23 54.2 +0.7**
STHS *e* 05 24 03.6
AAM Ann Arbor 119.53 44 PFAKE 05 24 10.0 +16
AAM LR LR
comp=Z,4μm,20.0s
BSD Bornholm Skovb 119.62 333 *i* P **PP 05 25 12.7 -3.1**
comp=Z,5μm,19.0s
LOT Lotru 119.72 320 ⇓*i*P **PKPdf 05 23 54.9 +0.7**
LSZ Lusaka 119.72 249 *e*PKIKP **PKPdf 05 23 56.0 +0.9**
LSZ MLR MLR
comp=Z,2μm,20.0s
LSZ Lusaka 119.72 249 *e*PKPdf **PKPdf 05 23 56.0 +0.9**
LSZ LR LR
comp=Z,2μm,20.0s
LRAL Lakeview Retre 119.72 55 *e*PKPdf **PKPdf 05 23 54.3 -0.1**
HOPE Hope Point 119.83 175 PFAKE 05 24 10.0 +16
HOPE LR LR
comp=Z,3μm,20.0s
OJC Ojcow 119.90 326 *e*PKP **PKPdf 05 23 54.2 -0.1**
OJC Ojcow 119.90 326 *e*PKIKP **PKPdf 05 23 54.2 -0.1**
OJC Ojcow 119.90 326 *e*PKPdf **PKPdf 05 23 54.6 +0.3**
PLCA Paso Flores 120.00 144 PKP **PKPdf 05 23 55.8 +0.9**
comp=Z,1.0nm,0.4s,baz=255,slow=4.3,SNR=5.3
NIE Niedzica 120.02 325 *e*PKP **PKPdf 05 23 55.4 +0.8**
NIE Niedzica 120.02 325 *e*PKIKP **PKPdf 05 23 55.4 +0.8**
BRAL Brewton 120.09 57 PFAKE 05 24 10.0 +15
BRAL LR LR
comp=Z,5μm,20.0s
COP Copenhagen 120.36 334 *i* P **PP 05 25 15.8 -5.0**
comp=Z,3μm,22.0s
KECS Kecovo 120.37 324 *e*PKIKP **PKPdf 05 23 55.6 +0.4**
KECS Kecovo 120.37 324 *e*PKP **PKPdf 05 23 55.6 +0.4**
LANS Liptovska Anna 120.62 325 *e*PKIKP **PKPdf 05 23 57.5 +1.7**
LANS *e* 05 24 05.4
LANS Liptovska Anna 120.62 325 *e*PKP **PKPdf 05 23 57.5 +1.7**
LANS *e* 05 24 05.4
SIRR Siria 120.69 321 ⇑*i*P **PKPdf 05 23 56.3 +0.4**
ACSO Alum Creek Sta 120.73 46 *e*PKPdf **PKPdf 05 23 55.8 -0.4**
ACSO LR LR
comp=Z,4μm,20.0s
PSZ Piszkesteto 120.99 324 ⇓*e*PKPdf **PKPdf 05 23 56.7 +0.2**
PSZ Piszkesteto 120.99 324 PFAKE 05 24 10.0 +13
PSZ LR LR
comp=Z,3μm,22.0s
OKC Ostrava-Krasne 121.00 326 *e*PKPdf **PKPdf 05 23 58.1 +1.7**
OKC *e*pPKP **pPKPdf 05 24 04.3 -2.0**
OKC *e*SP SP 05 35 18.4 +5.0
OKC AMS AMS 06 17 30.0
comp=Z,3μm,20.1s
OKC Ostrava-Krasne 121.00 326 *e*PKIKP **PKPdf 05 23 58.1 +1.7**
OKC *e* 05 24 04.3
OKC *e*SP SP 05 35 18.4 +5.0
OKC MLR MLR
comp=Z,3μm,20.1s
BZS Buzias 121.01 321 ⇓*i*P **PKPdf 05 23 56.2 -0.3**
BZS Buzias 121.01 321 ⇓PKIKP **PKPdf 05 23 56.2 -0.3**
VLDQ Val d'Or 121.03 36 *e*PKPdf **PKPdf 05 23 55.6 -0.8**
VTS Vitosha 121.24 317 ⇓*i*P **PKPdf 05 23 58.0 +0.7**
VTS Vitosha 121.24 317 ⇓PKIKP **PKPdf 05 23 58.0 +0.7**
VTS Vitosha 121.24 317 *e*PKPdf **PKPdf 05 23 57.0 -0.3**
VYHS Vyhne 121.31 325 *e*PKIKP **PKPdf 05 23 57.3 +0.2**
VYHS *e* 05 24 05.9
VYHS Vyhne 121.31 325 *e*PKP **PKPdf 05 23 57.2 +0.2**
VYHS *e* 05 24 05.9
MDVR Moldovita 121.32 320 ⇓*i*P **PKPdf 05 23 56.6 -0.6**
MORC Moravsky Berou 121.37 327 ⇑*i*P **PKPdf 05 23 57.7 +0.5**
MORC Moravsky Berou 121.37 327 ⇑PKIKP **PKPdf 05 23 57.7 +0.5**
MORC Moravsky Berou 121.37 327 *e*PKPdf **PKPdf 05 23 57.2 +0.1**
KSP Ksiaz 121.45 328 *e*PKP **PKPdf 05 23 58.5 +1.3**
KSP Ksiaz 121.45 328 *e*PKIKP **PKPdf 05 23 58.5 +1.3**
SADO Sadowa 121.55 40 PKP **PKPdf 05 23 57.0 -0.6**
comp=Z,7.3nm,0.7s,baz=341,slow=4.1,SNR=5.2
TKL Tuckaleechee C 121.61 51 PKP **PKPdf 05 23 58.0 0.0**
comp=Z,3.5nm,0.6s,baz=167,slow=7.8,SNR=9.3
TKL Tuckaleechee C 121.61 51 *e*PKIKP **PKPdf 05 23 57.9 -0.1**
TKL Tuckaleechee C 121.61 51 *e*PKPdf **PKPdf 05 23 57.9 -0.1**
KRLC Kraliky 121.62 327 *e*PKPdf **PKPdf 05 23 58.1 +0.4**
KRLC *e*pPKP **pPKPdf 05 24 05.5 -2.0**
KRLC Kraliky 121.62 327 *e*PKIKP **PKPdf 05 23 58.1 +0.4**
KRLC *e* 05 24 05.5
DPC Dobruska-Polom 121.71 328 *e*PKPdf **PKPdf 05 23 58.0 +0.2**
DPC *e*pPKP **pPKPdf 05 24 07.5 -0.2**
DPC *e*PP **PP 05 25 31.3 +0.9**
DPC *e*SP SP 05 35 20.9 +1.2
DPC *e*x x 05 36 50.7
DPC *e*PKPPKP **P'P'df 05 42 39.7 -3.1**
DPC AMS AMS 06 18 00.0
comp=Z,4μm,22.0s
DPC Dobruska-Polom 121.71 328 *e*PKIKP **PKPdf 05 23 58.0 +0.2**
DPC *e* 05 24 07.5
DPC *e* 05 25 31.3
DPC *e*SP SP 05 35 20.9 +1.2
DPC *e* 05 36 50.7
DPC MLR MLR
comp=Z,4μm,22.0s
UPC Upice 121.79 328 *e*PKPdf **PKPdf 05 23 58.1 +0.2**
UPC *e*PP **PP 05 25 31.4 +0.6**
UPC *e*SP SP 05 35 19.9 -0.4
UPC *e*x x 05 36 42.3
UPC *e*PKPPKP **P'P'df 05 42 40.7 -1.8**
UPC AMS AMS 06 18 20.0
comp=Z,5μm,20.2s
UPC Upice 121.79 328 *e*PKIKP **PKPdf 05 23 58.1 +0.2**
UPC *e* 05 25 31.4
UPC *e*SP SP 05 35 19.9 -0.4
UPC *e* 05 36 42.3
UPC MLR MLR
comp=Z,5μm,20.2s
SANT Santorini 121.80 309 PFAKE 05 24 10.0 +12
SANT LR LR
comp=Z,1μm,20.0s
VAY Valandovo 122.18 316 *e*PKP **PKPdf 05 23 56.2 -2.7**
CSKK Cs‡tkako 122.22 324 ⇓*e*PKPdf **PKPdf 05 23 58.6 -0.2**
CSKK Cs‡tkako 122.22 324 ⇓*e*PKPdf **PKPdf 05 23 58.6 -0.2**
SCHQ Schefferville 122.37 25 PKP **PKPdf 05 23 58.8 -0.1**
comp=Z,4.6nm,0.6s,baz=11,slow=5.8,SNR=3.9
BG3 Lake Jocassee 122.46 52 *e*PKPdf **PKPdf 05 23 59.7 0.0**
GOGA Godfrey 122.49 54 PFAKE 05 24 10.0 +10
GOGA LR LR
comp=Z,5μm,20.0s
PVCC Panska Ves 122.53 329 *e*PKPdf **PKPdf 05 24 00.5 +1.2**
PVCC *e*PP **PP 05 25 35.9 +0.1**
PVCC AMS AMS 06 16 50.0
comp=Z,5μm,22.1s
PVCC Panska Ves 122.53 329 *e*PKIKP **PKPdf 05 24 00.5 +1.2**
PVCC *e* 05 25 35.9
PVCC MLR MLR
comp=Z,5μm,22.1s
IDI Anoyia 122.57 308 *e*PKPdf **PKPdf 05 24 01.1 +1.1**
BRG Berggiesshubel 122.65 329 *i* PKP **PKPdf 05 23 59.7 +0.2**
comp=Z,64nm,1.6s
BRG *i* 05 24 09.0
comp=Z,38nm,1.2s
BRG PP **PP 05 25 38.0 +1.4**
BRG SKP 05 27 34.4
comp=Z,20nm,1.5s
BRG SP SP 05 35 31.0 +3.1
BRG SS SS 05 42 34.0 +18
comp=N,2μm,18.6s
comp=E,2μm,18.8s
comp=Z,4μm,23.4s
BRG Berggiesshubel 122.65 329 *i* PKIKP **PKPdf 05 23 59.7 +0.2**
BRG *i* 05 24 09.0
BRG 05 25 38.0
BRG SP SP 05 35 31.0 +3.1
BRG SS SS 05 42 34.0 +18
BRG pmax pmax
comp=Z,64nm,1.6s
BRG pmax pmax
comp=Z,38nm,1.2s
BRG pmax pmax
comp=N,20nm,1.5s
BRG MLR MLR
comp=N,2μm,18.6s
BRG MLR MLR
comp=E,2μm,18.8s
BRG MLR MLR
comp=Z,4μm,23.4s
SKO Skopje 122.69 317 *i* PKP **PKPdf 05 23 59.2 -0.7**
TREC Trest 122.75 327 *e*PKPdf **PKPdf 05 24 00.0 +0.2**
TREC *e*PP **PP 05 25 40.6 +3.2**
TREC AMS AMS 06 18 10.0
comp=Z,6μm,20.0s
TREC Trest 122.75 327 *e*PKIKP **PKPdf 05 24 00.0 +0.2**
TREC *e* 05 25 40.6
TREC MLR MLR
comp=Z,6μm,20.0s
GOPC GO Pecny, Ondr 122.78 328 *e*PKPdf **PKPdf 05 24 00.4 +0.6**
GOPC *e*pPKP **pPKPdf 05 24 08.0 -1.7**
GOPC *e*PP **PP 05 25 40.2 +2.7**
GOPC *e*SP SP 05 35 25.6 -3.5
GOPC AMS AMS 06 23 40.0
comp=Z,4μm,19.5s
GOPC GO Pecny, Ondr 122.78 328 *e*PKIKP **PKPdf 05 24 00.4 +0.6**
GOPC *e* 05 24 08.0
GOPC *e* 05 25 40.2
GOPC *e*SP SP 05 35 25.6 -3.5
GOPC MLR MLR
comp=Z,4μm,19.5s
CLL Collm 122.86 330 *e*P **Pdif 05 20 35.0 +4.3**
CLL *i* 05 23 59.2
CLL *e* 05 25 41.0
CLL *e*PS **PS 05 35 31.0 -3.4**
CLL pmax pmax
comp=Z,35nm,1.4s
CLL MLR MLR
comp=Z,4μm,22.7s
CLL Collm 122.86 330 *e*Pdif **Pdif 05 20 35.0 +4.3**
CLL *i* PKPdf **PKPdf 05 23 59.2 -0.7**
comp=Z,35nm,1.4s
CLL *i* pPKPdf **pPKPdf 05 24 08.1 -1.7**
comp=Z,27nm,1.1s
CLL *e*PP **PP 05 25 41.0 +3.0**
comp=Z,800nm,19.0s
CLL *e*PPP PPP 05 28 18.0
CLL *e*PS **PS 05 35 31.0 -3.4**
CLL *e*PPS PPS 05 36 56.0
CLL *e*SS SS 05 42 36.0 +17
CLL *e*SSS SSS 05 47 12.0
PRU Pruhonice 122.86 328 *e*PKPdf **PKPdf 05 23 59.8 -0.2**
PRU *e*pPKP **pPKPdf 05 24 09.4 -0.5**
PRU *e*PP **PP 05 25 37.9 -0.2**
PRU *e*SP SP 05 35 33.1 +3.3
PRU *e*x x 05 36 55.2
PRU *e*x x 05 42 43.8
PRU AMS AMS 06 16 40.0
comp=Z,4μm,22.5s
PRU Pruhonice 122.86 328 *e*PKIKP **PKPdf 05 23 59.8 -0.2**
PRU *e* 05 24 09.4
PRU *e* 05 25 37.9
PRU *e*SP SP 05 35 33.1 +3.3
PRU *e* 05 36 55.2
PRU *e*SS SS 05 42 43.8 +25
PRU MLR MLR
comp=Z,4μm,22.5s
PRA Prague 122.87 328 *e*SP SP 05 35 29.8 -0.1
PRA *e*x x 05 36 51.8
PRA AMS AMS 06 16 40.0
comp=Z,5μm,21.6s
KRUS Krusevo 123.07 316 *i* PKP **PKPdf 05 24 00.9 +0.1**
BIA Bitola 123.16 316 *i* PKP **PKPdf 05 24 01.4 +0.5**
HODGE Hodges 123.22 53 *e*PKPdf **PKPdf 05 24 01.4 +0.3**
AGG Agios Georgios 123.23 313 *e*PKIKP **PKPdf 05 24 00.0 -1.1**
AGG Agios Georgios 123.23 313 *e*PKPdf **PKPdf 05 23 60.0 -1.1**
CONA Conrad Observa 123.30 325 *e*PKiKP **PKPdf 05 24 00.9 -0.1**
comp=Z,40nm,1.8s,SNR=5.6
OHR Ohrid 123.49 316 *i* PKP **PKPdf 05 24 00.5 -1.1**
BEHE Becsehely 123.55 324 ⇓*e*PKPdf **PKPdf 05 24 01.8 +0.4**
BEHE Becsehely 123.55 324 ⇓*e*PKPdf **PKPdf 05 24 01.8 +0.4**
KMSC Kings Mountain 123.66 51 *e*PKPdf **PKPdf 05 24 02.0 0.0**
BLA Blacksburg 123.67 49 *e*PKIKP **PKPdf 05 24 02.7 +0.7**
BLA MLR MLR
comp=Z,10μm,20.0s
BLA Blacksburg 123.67 49 *e*PKPdf **PKPdf 05 24 02.6 +0.7**
BLA LR LR
comp=Z,10μm,20.0s
NKC Novy Kostel 123.80 329 AMS AMS 06 18 40.0
comp=Z,4μm,19.4s
ARSA Arzberg 123.86 325 *i* PKPdf **PKPdf 05 24 01.4 -0.7**
comp=Z,7.6nm,0.8s
KHC Kasperske Hory 123.87 328 *e*PKPdf **PKPdf 05 24 02.1 +0.1**
KHC *e*pPKP **pPKPdf 05 24 10.3 -1.6**
KHC *e*PP **PP 05 25 43.3 -1.7**
KHC *e*SP SP 05 35 42.8 +4.0
KHC *e*x x 05 42 52.3
KHC AMS AMS 06 17 10.0
comp=Z,5μm,23.3s
KHC Kasperske Hory 123.87 328 *e*PKIKP **PKPdf 05 24 02.1 +0.1**
KHC *e* 05 24 10.3
KHC *e* 05 25 43.3
KHC *e*SP SP 05 35 42.8 +4.0
KHC *e*SS SS 05 42 52.3 +20
KHC MLR MLR
comp=Z,5μm,23.3s
KHC Kasperske Hory 123.87 328 *e*PKPdf **PKPdf 05 24 01.4 -0.6**
GEC2 GERESS Array S 123.97 327 *e*PKIKP **PKPdf 05 24 02.2 -0.1**
GEC2 GERESS Array S 123.97 327 *e*PKPdf **PKPdf 05 24 02.2 -0.1**
GERES GERESS Array B 123.97 327 PKP **PKPdf 05 24 02.1 -0.2**
comp=Z,3.0nm,0.4s,baz=48,slow=2.0,SNR=30
GEA0 GERESS Array S 123.98 327 *e*PKPdf **PKPdf 05 24 01.5 -0.8**
JSC Jenkinsville 123.99 52 *e*PKIKP **PKPdf 05 24 03.1 +0.5**
JSC Jenkinsville 123.99 52 *e*PKPdf **PKPdf 05 24 03.1 +0.5**
TIR Tirane 124.03 317 PFAKE 05 24 10.0 +7.5
TIR LR LR
comp=Z,2μm,21.0s
SSPA Standing Stone 124.17 44 *e*PKPdf **PKPdf 05 24 03.3 +0.5**
BLY Banja Luka 124.18 322 *e*PKPdf **PKPdf 05 24 02.5 -0.1**
MOA Molln 124.24 326 *i* PKiKP **PKiKP 05 24 03.1 +0.1**
comp=Z,18nm,1.2s
PERS Pernice 124.43 325 *i* PKPdf **PKPdf 05 24 03.1 -0.1**
PERS *e* 05 24 10.5
SOKA Soboth 124.46 325 *e*PKPdf **PKPdf 05 24 02.4 -0.9**
comp=Z,38nm,1.7s,SNR=12
LONY Lake Ozonia 124.49 38 PFAKE 05 24 20.0 +17
LONY LR LR
comp=Z,8μm,22.0s
ROC1 El Roble 124.49 137 *e*PKPdf **PKPdf 05 24 05.2 +1.2**
BINY Binghamton 124.76 41 PFAKE 05 24 20.0 +16
BINY LR LR
comp=Z,7μm,20.0s
OBKA Obir 124.83 325 *i* PKPdf **PKPdf 05 24 03.1 -0.9**
comp=Z,17nm,1.4s
BOJS Bojanci 124.97 323 *e*PKPdf **PKPdf 05 24 04.3 +0.2**
BOJS *i* 05 24 12.4
VISS Visnje 125.05 324 *i* PKPdf **PKPdf 05 24 05.1 +0.8**
VISS *e* 05 24 12.5
IP04 Greensprings 125.05 47 *e*PKPdf **PKPdf 05 24 05.0 +0.5**
LJU Ljubljana 125.10 324 *e*PKPdf **PKPdf 05 24 03.6 -0.8**
IP03 Louisa 125.14 47 *e*PKPdf **PKPdf 05 24 05.0 +0.3**
KBA Koelnbreinsper 125.19 326 *e*PKPdf **PKPdf 05 24 03.5 -1.3**
comp=Z,15nm,1.2s
NHSC New Hope 125.21 53 PFAKE 05 24 20.0 +15
NHSC LR LR
comp=Z,3μm,20.0s
IP01 Cuckoo 125.24 47 *e*PKPdf **PKPdf 05 24 05.4 +0.6**
MYKA Terra Mystica 125.28 325 *e*PKPdf **PKPdf 05 24 03.3 -1.5**
comp=Z,13nm,1.2s,SNR=5.0

JSRW	J. Sargeant Re	125.37	47	ePKPdf	PKPdf	05 24 05.8	+0.7
IP05	Hopewell Churc	125.40	47	ePKPdf	PKPdf	05 24 06.0	+0.8
SDMD	Soldier's Deli	125.41	45	ePKPdf	PKPdf	05 24 06.2	+1.1
JAVS	Javornik	125.45	324	i PKPdf	PKPdf	05 24 05.1	-0.1
JAVS				e		05 24 12.1	
MVL	Millersville	125.50	44	ePKPdf	PKPdf	05 24 05.7	+0.4
CBN	Corbin Frederi	125.53	46	PFAKE		05 24 20.0	+15
CBN				LR	LR		
	comp=Z,5μm,19.0s						
MDV	Middlebury	125.67	38	ePKPdf	PKPdf	05 24 05.7	+0.1
TRI	Trieste	125.73	324	ePKIKP	PKPdf	05 24 06.0	+0.4
TRI	Trieste	125.73	324	ePKPdf	PKPdf	05 24 06.0	+0.4
ABTA	Abfaltersbach	125.85	326	ePKPdf	PKPdf	05 24 04.7	-1.2
	comp=Z,39nm,1.5s,SNR=8.9						
WTTA	Wattenberg	126.03	327	i PKPdf	PKPdf	05 24 05.7	-0.7
	comp=Z,49nm,1.3s,SNR=11						
PSUB	Penn St. - Bra	126.15	44	ePKPdf	PKPdf	05 24 07.2	+0.7
MOTA	Moosalm	126.27	327	ePKPdf	PKPdf	05 24 05.7	-1.1
	comp=Z,41nm,0.9s,SNR=8.2						
CNNC	Cliffs of the	126.28	50	PFAKE		05 24 20.0	+13
CNNC				LR	LR		
	comp=Z,7μm,22.0s						
LBNH	Lisbon	126.31	37	ePKIKP	PKPdf	05 24 08.1	+1.3
LBNH	Lisbon	126.31	37	ePKPdf	PKPdf	05 24 08.1	+1.3
RETA	Reutte	126.36	327	ePKPdf	PKPdf	05 24 05.8	-1.1
	comp=Z,22nm,1.3s,SNR=8.4						
ESK	Eskdalemuir	126.47	342	PFAKE		05 24 20.0	+13
ESK				LR	LR		
	comp=Z,3μm,21.0s						
TRQA	Tornquist	126.64	148	PFAKE		05 24 20.0	+12
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
MEM	Membach	126.65	333	PKP	PKPdf	05 24 07.7	+0.5
MEM	Membach	126.65	333	APKP	pPKPdf	05 24 15.4	-1.7
FETA	Feichten	126.67	327	ePKIKP	PKPdf	05 24 07.2	-0.4
	comp=Z,35nm,1.2s,SNR=14						
LANF	Langenberg	126.92	330	PKP	PKPdf	05 24 03.4	-4.4
DAVA	Damuels	126.96	328	ePKIKP	PKPdf	05 24 07.8	-0.3
	comp=Z,37nm,1.6s,SNR=6.6						
LCO	Las Campanas	126.97	133	ePKPdf	PKPdf	05 24 09.2	+0.3
LCO				LR	LR		
	comp=Z,2μm,21.0s						
BFO	Black Forest	127.09	330	ePKIKP	PKPdf	05 24 08.1	-0.1
BFO				MLR	MLR		
	comp=Z,3μm,22.0s						
BFO	Black Forest	127.09	330	ePKPdf	PKPdf	05 24 08.1	-0.1
BFO				LR	LR		
	comp=Z,3μm,22.0s						
BCLA	Clavier	127.10	333	APKP	pPKPdf	05 24 16.5	-1.5
FUORN	Ofenpass-Fuorn	127.17	327	ePKPdf	PKPdf	05 24 08.7	0.0
WLF	Walferdange	127.24	332	PKP	PKPdf	05 24 09.1	+0.7
WLF				APKP	pPKPdf	05 24 17.2	-1.0
WLF	Walferdange	127.24	332	ePKIKP	PKPdf	05 24 08.9	+0.5
WLF				MLR	MLR		
	comp=Z,5μm,21.0s						
WLF	Walferdange	127.24	332	ePKPdf	PKPdf	05 24 08.9	+0.5
WLF				LR	LR		
	comp=Z,5μm,21.0s						
PKME	Peaks-Kenny Pk	127.29	35	PFAKE		05 24 20.0	+11
PKME				LR	LR		
	comp=Z,4μm,20.0s						
CUC	Castrocucco	127.38	317	PFAKE		05 24 20.0	+11
CUC				LR	LR		
	comp=Z,2μm,22.0s						
DOU	Dourbes	127.65	333	PKP	PKPdf	05 24 09.9	+0.7
ECH	Echery	127.75	330	PKP	PKPdf	05 24 05.5	-3.9
ECH	Echery	127.75	330	PFAKE		05 24 20.0	+11
ECH				LR	LR		
	comp=Z,5μm,22.0s						
AQU	L'Aquila	127.77	321	PFAKE		05 24 20.0	+10
AQU				LR	LR		
	comp=Z,3μm,21.0s						
TSUM	Tsumeb	127.94	240	ePKPdf	PKPdf	05 24 11.0	+0.2
TSUM				LR	LR		
	comp=Z,2μm,19.0s						
CWF	Charnwood Fore	127.99	339	ePKPdf	PKPdf	05 24 10.6	+0.9
MOF	Molkenrain	128.01	330	PKP	PKPpre	05 24 05.8	
LOMF	Lomont	128.50	330	PKP	PKPpre	05 24 07.5	
VLC	Villacollemand	128.58	324	PFAKE		05 24 20.0	+8.9
VLC				LR	LR		
	comp=Z,4μm,22.0s						
SENIN	Lac Senin/Sane	128.91	328	ePKPdf	PKPdf	05 24 12.2	+0.2
NNA	Nana	129.16	110	i PKIKP	PKPdf	05 24 15.2	+2.1
NNA	Nana	129.16	110	ePKPdf	PKPdf	05 24 13.0	-0.1
NNA				LR	LR		
	comp=Z,722nm,20.0s						
BCIP	Isla Barro Col	129.41	83	eP	PKPdf	05 24 16.5	+3.0
BCIP	Isla Barro Col	129.41	83	PFAKE		05 24 30.0	+17
BCIP				LR	LR		
	comp=Z,2μm,20.0s						
BNI	Bardonecchia	130.10	327	ePKIKP	PKPdf	05 24 14.4	+0.3
BNI				MLR	MLR		
	comp=Z,7μm,21.0s						
BNI	Bardonecchia	130.10	327	ePKPdf	PKPdf	05 24 14.4	+0.3
BNI				LR	LR		
	comp=Z,7μm,21.0s						
WDD	Wied Dalam	130.20	313	PFAKE		05 24 30.0	+16
WDD				LR	LR		
	comp=Z,1μm,20.0s						
OTAV	Otavalo	130.23	95	eP	PKPdf	05 24 13.7	-2.0
OTAV	Otavalo	130.23	95	ePKPdf	PKPdf	05 24 15.8	+0.1
OTAV				LR	LR		
	comp=Z,1μm,19.0s						
CLTB	Caltabellotta	130.32	316	PFAKE		05 24 30.0	+15
CLTB				LR	LR		
	comp=Z,1μm,22.0s						
CMBC	Cumbal	130.94	94	eP	PKPdf	05 24 21.0	+4.0
MTDJ	Mount Denham	130.99	71	PFAKE		05 24 30.0	+13
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
PLDF	La Plantade	131.05	330	PKP	PKPpre	05 24 11.9	
AGO	Saint Agoulin	131.23	331	PKP	PKPpre	05 24 12.9	
PYM	Petit Puy Mans	131.51	330	PKP	PKPpre	05 24 13.2	
LBL	Lubilhac	131.76	330	PKP	PKPpre	05 24 13.2	
LVC	Limon Verde	131.76	127	ePKPdf	PKPdf	05 24 17.3	-1.0
LVC				LR	LR		
	comp=Z,2μm,22.0s						
VSL	Villasalto	131.89	320	ePKPdf	PKPdf	05 24 17.8	+0.2
VSL				LR	LR		
	comp=Z,2μm,22.0s						
PB01	IPOC Station P	132.08	125	ePKPdf	PKPdf	05 24 18.9	+0.4
POPC	Popayan, Colom	132.25	92	eP	PKPdf	05 24 21.6	+2.4
PB11	IPOC Station P	132.55	123	ePKPdf	PKPdf	05 24 19.9	+0.4
GTBY	Guantanamo Bay	132.97	68	PFAKE		05 24 30.0	+10
GTBY				LR	LR		
	comp=Z,1μm,21.0s						
FLOC	Florencia	133.17	93	eP	PKPdf	05 24 19.9	-0.8
HELC	Santa Helena	133.63	87	eP	PKPdf	05 24 20.5	-1.5
HELC	Santa Helena	133.63	87	ePKPdf	PKPdf	05 24 22.0	+0.1
GUYC	Guyana, Colomb	133.72	88	eP	PKPdf	05 24 23.3	+1.0
KEST	Kesra	133.94	316	PKP	PKPdf	05 24 21.5	-0.1
	comp=Z,8.6nm,0.8s,baz=346,slow=0.3,SNR=8.0						
KEST				SKPbc	SKPbc	05 27 48.8	0.0
	comp=Z,17nm,0.9s,baz=106,slow=2.2,SNR=8.7						
KEST	Kesra	133.94	316	ePKPdf	PKPdf	05 24 21.9	+0.3
FILF	Fillols	133.98	328	PKP	PKPpre	05 24 17.3	
PRAC	Prado	134.13	90	ePKPdf	PKPdf	05 24 22.6	+0.1
VALF	Valcebollere	134.38	328	PKP	PKPpre	05 24 19.0	
TRIS	Tristan da Cun	134.66	199	PFAKE		05 24 30.0	+7.2
TRIS				LR	LR		
	comp=Z,2μm,19.0s						
ROSC	El Rosal	134.77	89	PKP	PKPdf	05 24 24.7	+0.5
	comp=Z,6.9nm,0.6s,baz=360,slow=1.2,SNR=12						
ROSC	El Rosal	134.77	89	eP	PKPpre	05 24 19.9	
ROSC	El Rosal	134.77	89	ePKPdf	PKPdf	05 24 25.0	+0.9
RESF	Ens	134.96	329	PKP	PKPpre	05 24 19.7	
VIEF	Viey	135.06	330	PKP	PKPpre	05 24 19.7	
REYF	Montagne du Re	135.13	330	PKP	PKPpre	05 24 19.6	
LPAZ	La Paz	135.42	120	PKhKP	PKPpre	05 24 15.1	
LPAZ				PKP	PKPdf	05 24 25.9	+0.3
	comp=Z,1.2nm,0.5s,baz=220,slow=5.2,SNR=11						
	comp=Z,4.1nm,0.8s,baz=288,slow=1.5,SNR=6.2						
LPAZ	La Paz	135.42	120	ePKIKP	PKPdf	05 24 24.4	-1.2
LPAZ	La Paz	135.42	120	ePKPpre	PKPdf	05 24 24.4	-1.2
OCAC	Ocana	135.85	84	eP	PKPdf	05 24 26.1	+0.3
BARC	Barichara	135.97	86	eP	PKPdf	05 24 31.2	+5.0
RUSC	La Rusia	136.05	88	eP	PKPdf	05 24 28.9	+2.3
GRTK	Grand Turk	136.25	65	PFAKE		05 24 40.0	+14
GRTK				LR	LR		
	comp=Z,3μm,21.0s						
PAMC	Pamplona, Colo	136.47	85	eP	PKPdf	05 24 29.5	+2.1
SDDR	Presa de Saban	136.69	68	ePKPdf	PKPdf	05 24 28.0	+0.9
SDDR				LR	LR		
	comp=Z,4μm,19.0s						
BBSR	BB Station	137.40	47	PFAKE		05 24 40.0	+12
BBSR				LR	LR		
	comp=Z,6μm,21.0s						
CPUP	Villa Florida	137.83	140	PKP	PKPdf	05 24 28.9	-0.1
	comp=Z,3.7nm,0.8s,baz=291,slow=4.4,SNR=3.3						
CPUP	Villa Florida	137.83	140	ePKIKP	PKPdf	05 24 28.7	-0.3
CPUP	Villa Florida	137.83	140	ePKPdf	PKPdf	05 24 28.7	-0.3
SDV	Santo Domingo	138.50	83	PKhKP	PKPpre	05 24 19.5	
	comp=Z,1.6nm,0.3s,baz=328,slow=6.4,SNR=3.5						
SDV				PKP	PKPdf	05 24 30.8	0.0
	comp=Z,19nm,0.8s,baz=264,slow=5.1,SNR=11						
SDV	Santo Domingo	138.50	83	eP	PKPdf	05 24 31.2	+0.4
SDV	Santo Domingo	138.50	83	ePKPdf	PKPdf	05 24 28.4	-2.4
SDV				LR	LR		
	comp=Z,1μm,20.0s						
PBRG	Braganca	139.05	335	i P	SKPbc	05 28 04.3	+0.3
PBRG	Braganca	139.05	335	eLR	LR	06 14 20.0	
	comp=Z,3μm,22.0s						
ES19	SONSECA Array	139.40	330	ePKPdf	PKPdf	05 24 29.4	-2.2
ESDC	Sonseca Array	139.45	330	PKhKP	PKPpre	05 24 24.1	
	comp=Z,0.3nm,0.3s,baz=28,slow=5.8,SNR=6.6						
ESDC				PKP	PKPdf	05 24 32.5	+0.8
	comp=Z,0.3nm,0.4s,baz=14,slow=2.4,SNR=9.0						
ESDC				PP	PP	05 27 19.4	-5.9
	comp=Z,0.1nm,0.3s,baz=1.9,slow=3.9,SNR=3.2						
ESLA	Sonseca Array	139.45	330	ePKPdf	PKPdf	05 24 32.1	+0.4
PGAV	Gavieira, Arco	139.55	336	ePKPdf	PKPdf	05 24 30.0	-1.9
PGAV				i P	SKPbc	05 28 06.2	+0.7
PGAV	Gavieira, Arco	139.55	336	eLR	LR	06 12 37.3	
	comp=Z,2μm,18.0s						
PCAB	Cabril	139.67	336	ePKPdf	PKPdf	05 24 33.2	+1.2
MVO	Moncorvo	139.70	334	ePKPdf	PKPdf	05 24 32.5	+0.4
MVO				i P	SKPbc	05 28 06.5	+0.7
MVO	Moncorvo	139.70	334	eLR	LR	06 11 52.0	
	comp=Z,2μm,20.0s						
PAB	San Pablo	139.74	330	ePKIKP	PKPdf	05 24 32.9	+0.7
PAB				MLR	MLR		
	comp=Z,2μm,21.0s						
PAB	San Pablo	139.74	330	ePKPdf	PKPdf	05 24 32.9	+0.7
PAB				LR	LR		
	comp=Z,2μm,21.0s						
POLO	Lamas de Olo	139.85	335	ePKPdf	PKPdf	05 24 29.6	-2.8
POLO				i P	SKPbc	05 28 06.8	+0.5
POLO	Lamas de Olo	139.85	335	eLR	LR	06 14 34.6	
	comp=Z,1μm,18.0s						
PVRL	Vila Real	139.90	335	ePKPdf	PKPdf	05 24 33.1	+0.7
PVRL				i P	SKPbc	05 28 07.2	+0.9
PVIS	Viseu	140.44	335	i P	SKPbc	05 28 08.8	+1.0
MTE	Manteigas	140.55	334	ePKPdf	PKPdf	05 24 30.2	-3.5
MTE	Manteigas	140.55	334	eLR	LR	06 14 54.2	
	comp=Z,3μm,22.0s						
MTE	Manteigas	140.55	334	ePKPdf	PKPdf	05 24 34.2	+0.6
MTE				LR	LR		
	comp=Z,3μm,21.0s						
PCBR	Castelo Branco	140.98	333	ePKPdf	PKPdf	05 24 35.6	+1.2
PCBR				i P	SKPbc	05 28 09.9	+0.7
PCAS	Casmilo, Conde	141.25	335	ePKPdf	PKPdf	05 24 32.3	-2.6
PCAS	Casmilo, Conde	141.25	335	ePKPdf	PKPdf	05 24 35.6	+0.7
PCAS				i P	SKPbc	05 28 10.6	+0.7
PCAS	Casmilo, Conde	141.25	335	eLR	LR	06 14 37.4	
	comp=Z,3μm,18.0s						
PMRV	Marv??o	141.27	333	ePKPdf	PKPdf	05 24 36.0	+1.1
PMRV				i P	SKPbc	05 28 10.6	+0.6
PMRV	Marv??o	141.27	333	eLR	LR	06 14 14.0	
	comp=Z,2μm,20.0s						
PTOM	Tomar	141.57	334	ePKPdf	PKPdf	05 24 34.0	-1.4
PTOM	Tomar	141.57	334	ePKPdf	PKPdf	05 24 35.3	-0.1
PTOM				i P	SKPbc	05 28 10.9	+0.2
SJG	San Juan	141.63	68	PKhKP	PKPpre	05 24 30.9	
	comp=Z,15nm,0.8s,baz=336,slow=4.5,SNR=3.5						
SJG				PKP	PKPdf	05 24 37.3	+1.2
	comp=Z,14nm,0.6s,baz=335,slow=2.8,SNR=5.6						
SJG	San Juan	141.63	68	ePKHKP	PKPpre	05 24 30.9	
SJG				e		05 24 36.0	
SJG				MLR	MLR		
	comp=Z,2μm,22.0s						
SJG	San Juan	141.63	68	ePKPpre	PKPpre	05 24 30.9	
SJG				ePKPdf	PKPdf	05 24 36.0	-0.1
SJG				ePKPdf	PKPdf	05 24 37.3	+1.2
SJG				LR	LR		
	comp=Z,2μm,22.0s						
PESTR	Estremoz	141.82	333	eLR	LR	06 15 40.0	
	comp=Z,2μm,22.0s						
PMTG	Montargil	141.94	334	ePKPdf	PKPdf	05 24 35.8	-0.3
PMTG				i P	SKPbc	05 28 10.2	-1.4
PMTG	Montargil	141.94	334	eLR	LR	06 15 20.0	
	comp=Z,2μm,22.0s						
PBAR	Barrancos	142.12	331	ePKPdf	PKPdf	05 24 35.3	-1.2
PBAR	Barrancos	142.12	331	ePKPdf	PKPdf	05 24 37.6	+1.1
PBAR				i P	SKPbc	05 28 13.1	+1.0
PBAR	Barrancos	142.12	331	eLR	LR	06 13 51.0	
	comp=Z,5μm,18.0s						
EVO	Evora	142.28	333	ePKPdf	PKPdf	05 24 37.5	+0.8
EVO				i P	SKPbc	05 28 13.0	+0.5
PMAFR	Mafra	142.50	335	eLR	LR	06 16 08.6	
	comp=Z,2μm,18.0s						
PBEJ	Beja	142.63	332	ePKPdf	PKPdf	05 24 37.2	-0.2
PBEJ	Beja	142.63	332	ePKPdf	PKPdf	05 24 38.7	+1.3
PBEJ				i P	SKPbc	05 28 14.4	+1.0
LIS	Lisbon	142.64	334	eP	PKPdf	05 24 36.9	-0.5
LIS				AMS	AMS	06 31 08.5	
	comp=N,2μm,19.8s						
LIS	Lisbon	142.64	334	ePKIKP	PKPdf	05 24 36.8	-0.5
TAM	Tamanrasset	142.74	300	ePKIKP	PKPdf	05 24 35.5	-2.7
TAM				MLR	MLR		
	comp=Z,1μm,20.0s						
TAM	Tamanrasset	142.74	300	ePKPdf	PKPdf	05 24 35.5	-2.7
TAM				LR	LR		
	comp=Z,1μm,20.0s						
SAML	Samuel	142.82	113	ePKPpre	PKPpre	05 24 34.0	
SAML				LR	LR		
	comp=Z,2μm,21.0s						
PNCL	Nicolau / Gran	142.86	333	ePKPdf	PKPdf	05 24 37.8	0.0
PNCL				i P	SKPbc	05 28 14.6	+0.7
PNCL	Nicolau / Gran	142.86	333	eLR	LR	06 14 48.9	
	comp=Z,2μm,24.0s						
PCVE	Castro Verde	143.03	332	ePKPdf	PKPdf	05 24 39.3	+1.2
PCVE				i P	SKPbc	05 28 15.5	+1.1
PCVE	Castro Verde	143.03	332	eLR	LR	06 15 40.9	
	comp=Z,2μm,20.0s						
PVAQ	Vaqueiros	143.06	331	eLR	LR	06 15 40.0	
	comp=Z,2μm,20.0s						
PBDV	Barranco-do-Ve	143.29	331	eLR	LR	06 14 56.8	
MORF	Marmelete	143.57	332	eP	PKPdf	05 24 38.2	-1.0
MORF				AMS	AMS	06 29 02.0	
	comp=Z,2μm,17.8s						
MORF	Marmelete	143.57	332	ePKPdf	PKPdf	05 24 39.5	+0.4
MORF	Marmelete	143.57	332	ePKIKP	PKPdf	05 24 38.1	-1.0
PFVI	Vila Bispo	143.80	332	eLR	LR	06 14 31.2	
	comp=Z,2μm,22.0s						
SMRT	St. Maarten	144.48	67	eP	PKPab	05 24 38.4	-1.1
SMRT	St. Maarten	144.48	67	ePKPdf	PKPbc	05 24 39.6	-0.1
SKI	Saint Kitts	144.98	68	ePKIKP	PKPab	05 24 41.2	-0.1
SKI	Saint Kitts	144.98	68	ePKPbc	PKPab	05 24 41.2	-0.1
RTC	Rabat Centre	145.27	327	PFAKE		05 24 50.0	+7.9
RTC				LR	LR		
	comp=Z,7μm,20.0s						
SPB	Sao Paulo	145.66	149	ePKPdf	PKPab	05 24 43.6	0.0
SPB				LR	LR		
	comp=Z,2μm,20.0s						
ANWB	Willy Bob	145.76	67	eP	PKPdf	05 24 42.9	-0.4
ANWB	Willy Bob	145.76	67	ePKPdf	PKPdf	05 24 43.5	+0.1
ANWB				LR	LR		
	comp=Z,2μm,21.0s						
GDHS	Morne Mazeau,	146.15	69	ePKPdf	PKPbc	05 24 45.2	+0.2
H07S1	FLORES T-PHASB	146.47	3	ePKPdf	PKPdf	05 24 44.7	+0.7
PGRA	Graciosa	146.88	359	ePKPdf	PKPdf	05 24 45.5	+0.8
CXM	Morne La Croix	147.04	72	eP	PKPbc	05 24 48.2	+0.4
GRGR	Grenville	147.05	77	PFAKE		05 25 00.0	+11
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
BAMF	Morne Balai	147.06	72	eP	PKPbc	05 24 47.3	-0.4
FDF	Fort de France	147.07	72	eP	PKPbc	05 24 47.9	+0.1
FDF	Fort de France	147.07	72	ePKIKP	PKPdf	05 24 46.7	+1.0
FDF				MLR	MLR		
	comp=Z,2μm,22.0s						
FDF	Fort de France	147.07	72	ePKPdf	PKPdf	05 24 46.7	+1.0
FDF				LR	LR		
	comp=Z,2μm,22.0s						
ROSA	Rosais	147.19	359	ePKPdf	PKPdf	05 24 43.8	-1.4
BIM	Bigot	147.19	72	eP	PKPbc	05 24 48.2	+0.1
SVB	Belmont	147.26	74	ePKPdf	PKPdf	05 24 46.2	+0.2
PSET	Sete Cidades	147.96	355	ePKPdf	PKPdf	05 24 46.4	-0.2
CMLA	Cha da Macela	148.00	355	PFAKE		05 25 00.0	+7.7
CMLA				LR	LR		
	comp=Z,3μm,22.0s						
PTGA	Pitinga	148.31	101	ePKPdf	PKPdf	05 24 47.5	-0.3
SHEL	Horse Pasture	148.52	226	ePKP2	PKPbc	05 24 51.0	-0.7
SHEL				MLR	MLR		
	comp=Z,1μm,20.0s						
SHEL	Horse Pasture	148.52	226	ePKPbc	PKPbc	05 24 51.0	-0.7
SHEL				LR	LR		
	comp=Z,1μm,20.0s						
PSMN	Pico do Norte,	148.72	354	ePKPdf	PKPdf	05 24 44.7	-3.1
BBGH	Gun Hill	148.90	74	PFAKE		05 25 00.0	+3.4
BBGH				LR	LR		
	comp=Z,4μm,20.0s						
TOA0	Torodi Ar. Sit	148.97	286	ePKPdf	PKPdf	05 24 47.3	-1.5
TOA0				ePKPdf	PKPdf	05 24 48.0	-0.8
TORD	Torodi Ar. Bea	148.97	286	PKP	PKPdf	05 24 47.7	-1.1
	comp=Z,20nm,0.6s,baz=0.5,slow=1.3,SNR=167						
TORD				PKPbc	PKPbc	05 24 52.0	-0.8
	comp=Z,70nm,0.6s,baz=30,slow=3.1,SNR=243						
TOA1	Torodi Ar. Sit	148.98	286	ePKPdf	PKPdf	05 24 47.7	-1.1
TOA1				ePKPbc	PKPbc	05 24 52.0	-0.8
BDFB	Brasilia	151.52	139	PKP	PKPdf	05 24 52.4	-0.5
	comp=Z,1.6nm,0.7s,baz=323,slow=5.1,SNR=3.4						
BDFB				PKPbc	PKPbc	05 24 57.9	-1.1
	comp=Z,4.1nm,0.5s,baz=29,slow=3.3,SNR=18						
BDFB				PKPab	sPKPdf	05 25 06.4	+0.2
	comp=Z,22nm,0.9s,baz=14,slow=0.6,SNR=17						
BDFB	Brasilia	151.52	139	ePKIKP	PKPdf	05 24 52.4	-0.5
BDFB				e		05 24 53.7	
BDFB				e		05 24 57.9	
BDFB				e		05 25 06.4	
BDFB	Brasilia	151.52	139	ePKPdf	PKPdf	05 24 52.4	-0.5
BDFB				ePKPdf	PKPdf	05 24 53.6	+0.7
BDFB				ePKPbc	PKPbc	05 24 57.9	-1.1
BDFB				ePKPab	sPKPdf	05 25 06.4	+0.2
KIC	Kosan Boka	155.97	273	eP	PKPdf	05 24 57.4	-1.8
	comp=Z,612nm,1.8s						
DBIC	Dimbokro	156.09	273	PKP	PKPdf	05 24 58.5	-0.9
	comp=Z,8.7nm,1.2s,baz=107,slow=2.6,SNR=7.3						
DBIC				PKPab	PKPab	05 25 25.7	-1.1
	comp=Z,23nm,1.0s,baz=95,slow=5.0,SNR=6.9						
DBIC	Dimbokro	156.09	273	ePKIKP	PKPdf	05 24 59.1	-0.2
DBIC	Dimbokro	156.09	273	ePKPdf	PKPdf	05 24 59.1	-0.2
TIC	Toumodi	156.25	273	eP	PKPdf	05 24 57.6	-2.0
LIC	Lamto	156.26	272	eP	PKPdf	05 24 58.8	-0.8
	comp=Z,486nm,2.3s						
ASCN	Ascension	160.12	227	PFAKE		05 25 20.0	+16
ASCN				LR	LR		
	comp=Z,2μm,19.0s						
RCBR	Riachuelo	166.52	149	PFAKE		05 25 20.0	+10
RCBR				LR	LR		
	comp=Z,3μm,22.0s						
SACV	Santiago Islan	169.48	331	PFAKE		05 25 20.0	+7.7
SACV				LR	LR		
	comp=Z,1μm,20.0s						

MEX 18 05:07:34.3±0.4, 13°.80N×93°.20W, h11km±999km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.89	359	eP	Pn	05 08 03.0	-3.5
PCIG				i S	Sn	05 08 25.5	-4.9
CCIG	Comitan	2.67	22	eP	Pn	05 08 14.4	-3.0
CCIG				eS	Sn	05 08 45.9	-4.0
TGIG		2.96	1	eP	Pn	05 08 19.1	-2.2
TGIG				eS	Sn	05 08 52.7	-4.2

MEX 18 05:28:34.6±0.4, 18°.02N×103°.80W, h12km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.51	58	eP	Pg	05 28 43.6	-1.0
MMIG				eS	Sg	05 28 50.6	-0.8
ZIIG	Zihuatanejo	2.26	100	eP	Pn	05 29 08.2	-3.6
ARIG	Puente Sto Nin	3.29	85	eP	Pn	05 29 24.6	-1.5

IDC 18 05:42:02.3±2.2, 6°.51S×129°.29E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/31, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=88.6km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.06	197	Pn	Pn	05 44 56.3	+0.6
	0.1nm,0.3s,baz=14,slow=8.6,SNR=11						
FITZ				Sn	Sn	05 46 56.8	-14
	0.7nm,0.3s,baz=151,slow=23,SNR=5.7						
WRA	Warramunga Arr	14.23	160	Pn	Pn	05 45 24.9	-0.3
	0.5nm,0.3s,baz=342,slow=13,SNR=13						
WRA				Sn	Sn	05 47 51.8	-12
	1.2nm,0.3s,baz=333,slow=23,SNR=12						
ASAR	Alice Springs	17.63	166	P	Pn	05 46 09.2	-0.4
	0.5nm,0.3s,baz=345,slow=11,SNR=25						
ASAR				S	Sn	05 49 14.

U32A				Sb	Sb	05 52 17.4	-0.1
	baz=124						
W37B	**Quinton**	**1.61**	**101**	P	**Pn**	05 51 56.1	+0.4
	baz=282,SNR=65						
W37B				S	**Sg**	05 52 18.5	+0.3
	baz=282						
Y36A	**Durant**	**1.80**	**150**	P	**Pn**	05 51 58.8	+0.5
	baz=331						
Y36A				Sb	**Sg**	05 52 24.5	+0.2
	baz=331						
V37A	**Hulbert**	**1.85**	**77**	P	**Pn**	05 51 59.5	+0.5
	baz=257,SNR=278						
X37A	**Clayton**	**1.86**	**118**	P	**Pn**	05 51 59.5	+0.5
	baz=299,SNR=171						
X37A				Sb	**Sg**	05 52 26.4	+0.3
	baz=299						
T36A	**Boggs Farm, Ca**	**1.98**	**37**	P	**Pn**	05 52 01.3	+0.5
	baz=217,SNR=60						
U37A	**Salina**	**2.04**	**62**	P	**Pn**	05 52 02.2	+0.6
	baz=243,SNR=115						
Y37A	**Hugo**	**2.07**	**136**	Sb	**Sg**	05 52 32.6	-0.3
	baz=317						
X38A	**Whitesboro**	**2.23**	**110**	P	**Pn**	05 52 05.0	+0.8
	baz=292,SNR=20						
X38A				S	**Sb**	05 52 33.8	-1.4
	baz=292						
S34A	**Willow Spring**	**2.23**	**5**	P	**Pn**	05 52 03.9	-0.3
	baz=185						
Z36A	**Blue Ridge**	**2.33**	**161**	Sb	**Sb**	05 52 39.7	+1.6
	baz=341						
S35A	**Otter Creek Ra**	**2.36**	**21**	P	**Pn**	05 52 05.9	0.0
	baz=200,SNR=18						
S35A				Sb	**Sb**	05 52 40.5	+1.5
	baz=200						
W38A	**Poteau**	**2.36**	**99**	P	**Pn**	05 52 06.4	+0.5
	baz=280,SNR=33						
V38A	**Canehill**	**2.44**	**80**	P	**Pn**	05 52 07.3	+0.3
	baz=261,SNR=36						
T37A	**Cheneyville 18**	**2.57**	**49**	P	**Pn**	05 52 08.8	-0.1
	baz=230						
S36A	**Lake Cedric, C**	**2.66**	**32**	P	**Pn**	05 52 10.8	+0.7
	baz=212,SNR=13						
Y38A	**Idabel**	**2.66**	**125**	P	**Pn**	05 52 10.6	+0.5
	baz=306						
R34A	**Isabella, Hill**	**2.82**	**2**	P	**Pn**	05 52 12.5	+0.1
	baz=182,SNR=10						
X39A	**Fountain Ranch**	**2.83**	**109**	P	**Pn**	05 52 13.2	+0.7
	baz=290,SNR=20						
X39A				S	**Sn**	05 52 48.3	+1.1
	baz=290						
HHAR	**Hobbs**	**2.89**	**73**	*e*Pn	**Pn**	05 52 14.3	+0.9
HHAR				*e*Sn	**Sn**	05 52 46.5	-2.1
T38A	**Diamond**	**2.93**	**57**	P	**Pn**	05 52 14.0	+0.2
	baz=238						
W39A	**Magazine**	**2.94**	**94**	P	**Pn**	05 52 14.2	+0.2
	baz=276,SNR=43						
Z38A	**Mt. Pleasant**	**2.96**	**138**	P	**Pn**	05 52 13.9	-0.4
	baz=319						
Z38A				Sb	**Sb**	05 52 59.2	+2.8
	baz=319						
R35A	**Emporia Munici**	**2.99**	**18**	S	**Sn**	05 52 51.9	+0.8
	baz=198						
V39A	**Pettigrew**	**3.05**	**82**	P	**Pn**	05 52 15.5	0.0
	baz=264,SNR=24						
S37A	**Fort Scott**	**3.06**	**41**	P	**Pn**	05 52 15.9	+0.3
	baz=222,SNR=17						
R36A	**Gordon, Harris**	**3.21**	**27**	P	**Pn**	05 52 17.7	0.0
	baz=208,SNR=11						
R36A				S	**Sn**	05 52 57.0	+0.5
	baz=208						
MIAR	**Mount Ida**	**3.24**	**106**	P	**Pn**	05 52 18.9	+0.8
	baz=287,SNR=9.9						
MIAR				S	**Sn**	05 52 58.2	+1.0
	baz=287						
MIAR	**Mount Ida**	**3.24**	**106**	*e*Pn	**Pn**	05 52 19.1	+1.0
U39A	**Green Forest**	**3.28**	**73**	P	**Pn**	05 52 19.1	+0.5
	baz=254						
ABTX	**Abilene, Hawle**	**3.42**	**214**	*e*Pn	**Pn**	05 52 22.1	+1.5
Q34A	**Chapman**	**3.46**	**5**	P	**Pn**	05 52 21.2	+0.1
	baz=185,SNR=36						
WHTX	**Lake Whitney,**	**3.48**	**181**	P	**Pn**	05 52 21.4	+0.1
	baz=1.6						
WHTX	**Lake Whitney,**	**3.48**	**181**	*e*Pn	**Pn**	05 52 21.9	+0.5
R37A	**Teagarden Farm**	**3.48**	**35**	P	**Pn**	05 52 21.6	+0.2
	baz=216,SNR=20						
S38A	**Stockton**	**3.52**	**51**	P	**Pn**	05 52 22.0	+0.1
	baz=233						
W40A	**Ferguson Farm,**	**3.52**	**93**	P	**Pn**	05 52 22.4	+0.5
	baz=276						
Q35A	**Mercer Eighty,**	**3.54**	**17**	P	**Pn**	05 52 22.0	-0.2
	baz=197						
T39A	**Clever**	**3.57**	**63**	P	**Pn**	05 52 22.6	-0.1
	baz=245						
AMTX	**Amarillo**	**3.59**	**262**	*e*Pn	**Pn**	05 52 25.4	+2.4
AMTX				*e*Sn	**Sn**	05 53 09.5	+3.6
Y40A	**Okolona**	**3.66**	**112**	P	**Pn**	05 52 23.9	0.0
	baz=294						
KSU1	**Kansas State U**	**3.67**	**9**	P	**Pn**	05 52 23.9	-0.2
	baz=189						
KSU1	**Kansas State U**	**3.67**	**9**	*e*Pn	**Pn**	05 52 25.4	+1.4
KSU1				*e*Sn	**Sn**	05 53 06.4	-1.3
237A	**Washetta, Mont**	**3.70**	**159**	P	**Pn**	05 52 24.1	-0.3
	baz=340						
V40A	**Witts Springs**	**3.71**	**84**	P	**Pn**	05 52 24.6	0.0
	baz=266,SNR=22						
U40A	**Yellville**	**3.76**	**75**	P	**Pn**	05 52 25.3	0.0
	baz=257,SNR=16						
Q36A	**Arnold C. Orve**	**3.80**	**23**	P	**Pn**	05 52 25.9	+0.2
	baz=204						
CBKS	**Cedar Bluff**	**3.84**	**331**	P	**Pn**	05 52 26.1	-0.2
	baz=150						
CBKS	**Cedar Bluff**	**3.84**	**331**	*e*Pn	**Pn**	05 52 26.6	+0.2
X40A	**Basin Creek Fa**	**3.84**	**104**	P	**Pn**	05 52 26.7	+0.3
	baz=286						
R38A	**Fenwick Farm,**	**3.87**	**45**	P	**Pn**	05 52 26.7	-0.1
	baz=226,SNR=9.5						
S39A	**Bolivar**	**3.93**	**55**	P	**Pn**	05 52 27.5	-0.1
	baz=236,SNR=11						
WLAR	**White Oak Lake**	**3.93**	**116**	*e*Pn	**Pn**	05 52 28.8	+1.2
Z40A	**Long Farm, Mag**	**3.95**	**123**	P	**Pn**	05 52 27.7	-0.2
	baz=305						
P34A	**Walnut Farm, R**	**4.09**	**6**	P	**Pn**	05 52 30.1	+0.3
	baz=186,SNR=30						
WHAR	**Wooly Hollow**	**4.15**	**91**	*e*Pn	**Pn**	05 52 31.0	+0.4
UALR	**University of**	**4.17**	**98**	*e*Pn	**Pn**	05 52 31.8	+0.9
UALR				*e*Sg	**Sg**	05 53 37.5	-2.8
P35A	**Duane Minner,**	**4.18**	**14**	P	**Pn**	05 52 30.8	-0.3
	baz=195						
W41B	**Gary Mavity, V**	**4.19**	**93**	P	**Pn**	05 52 31.7	+0.6
	baz=275,SNR=27						
V41A	**Mountainview**	**4.25**	**84**	P	**Pn**	05 52 32.2	+0.1
	baz=267,SNR=14						
T40A	**Mansfield**	**4.25**	**65**	P	**Pn**	05 52 32.3	+0.3
	baz=248						
S40A	**Lebanon**	**4.45**	**60**	P	**Pn**	05 52 34.7	0.0
	baz=242						
R39A	**Chumby, Stover**	**4.47**	**49**	P	**Pn**	05 52 34.9	-0.2
	baz=232						
P36A	**Good Intent, A**	**4.48**	**22**	P	**Pn**	05 52 35.0	-0.2
	baz=203						
Q38A	**Cooks Store, C**	**4.58**	**40**	P	**Pn**	05 52 35.8	-0.8
	baz=221						
435B	**Jarrell**	**4.68**	**182**	P	**Pn**	05 52 37.6	-0.3
	baz=2.5						
MSTX	**Muleshoe**	**4.70**	**253**	*e*Pn	**Pn**	05 52 41.9	+3.5
P37A	**Lathrop**	**4.75**	**29**	P	**Pn**	05 52 38.8	-0.1
	baz=211						
CCAR	**Cane Creek**	**4.86**	**107**	*e*Pn	**Pn**	05 52 41.3	+0.9
R40A	**Maddies Statio**	**4.96**	**54**	P	**Pn**	05 52 41.3	-0.4
	baz=236,SNR=13						
U42A	**Revenden**	**5.04**	**78**	P	**Pn**	05 52 42.1	-0.8
	baz=262						
JCT	**Junction City**	**5.39**	**203**	P	**Pn**	05 52 47.4	-0.3
	baz=22						
JCT	**Junction City**	**5.39**	**203**	*e*Pn	**Pn**	05 52 47.8	+0.1
HBAR	**Harrisburg**	**5.47**	**87**	*e*Pn	**Pn**	05 52 49.9	+1.2
KSCO	**Kaye Shedlock'**	**5.49**	**312**	*e*Pn	**Pn**	05 52 49.7	+0.6
O38A	**Galt**	**5.57**	**32**	P	**Pn**	05 52 49.7	-0.3
	baz=214						
T25A	**Trinidad**	**5.93**	**288**	*e*Pn	**Pn**	05 52 54.6	-0.7
BGNE	**Belgrade**	**5.96**	**354**	*e*Pn	**Pn**	05 52 56.4	+0.9
P41A	**Barry, Barry**	**6.53**	**48**	P	**Pn**	05 53 03.1	-0.2
	baz=232						
GLAT	**Glass**	**6.60**	**81**	*e*Pn	**Pn**	05 53 06.3	+2.0
SDCO	**Great Sand Dun**	**6.93**	**291**	*e*Pn	**Pn**	05 53 09.8	+0.7
BNM	**Barren Site**	**7.74**	**263**	*e*Pn	**Pn**	05 53 20.9	+0.8

MAN 18 06:11:22.6±92N×124°66E, h26km, mb4.6, ML3.5, MS3.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.43**	**78**	↓*i* P	Pn	06 11 33.3	+0.7
KCP				*i* S	Sn	06 11 40.0	+0.3
CTBH	**Cotabato--PC H**	**0.51**	**306**	↓*i* P	Pb	06 11 32.7	+0.2
CTBH				*i* S	Sb	06 11 38.7	-0.8

WEL 18 06:20:27.6±0.3, 43°07S×175°19E, h33km, ML3.7/34, 7C-3D, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**1.38**	**298**	*e*PN	Pn	06 20 49.8	-0.6
KHZ				S*	Sn	06 21 06.1	-1.4
KHZ				AML	AML	06 21 10.8	
KHZ				AML	AML	06 21 10.8	
KHZ				AML	AML	06 21 11.1	
PLWZ	**Palliser**	**1.50**	**2**	PN	Pn	06 20 51.4	-0.8
MSWZ	**Moikau Station**	**1.65**	**2**	↑PN	Pn	06 20 53.4	-0.9
MSWZ				S*	Sn	06 21 11.7	-2.6
MSWZ				AML	AML	06 21 13.3	
BSWZ	**Blackbirch Sta**	**1.66**	**324**	PN	Pn	06 20 54.2	-0.2
BSWZ				AML	AML	06 21 33.3	
BSWZ				AML	AML	06 21 39.4	
BHW	**Baring Head**	**1.67**	**352**	PN	Pn	06 20 53.9	-0.6
PAWZ	**Paruwai Farm**	**1.69**	**6**	↑PN	Pn	06 20 54.0	-0.8
PAWZ				AML	AML	06 21 14.8	
TRWZ	**Traveller**	**1.71**	**13**	PN	Pn	06 20 54.3	-0.8
TRWZ				AML	AML	06 21 44.2	
WEL	**Wellington**	**1.81**	**350**	PN	Pn	06 20 55.9	-0.5
WEL				AML	AML	06 21 17.1	
WEL				AML	AML	06 21 17.2	
TUWZ	**Tuamarina**	**1.88**	**330**	PN	Pn	06 20 57.0	-0.4
MTW	**Mount Morrison**	**1.92**	**7**	↑PN	Pn	06 20 57.0	-1.0
MTW				AML	AML	06 21 18.7	
MTW				AML	AML	06 21 20.7	
CRLZ	**Canterbury Las**	**1.94**	**254**	PN	Pn	06 20 57.4	-0.8
MQZ	**McQueen's Vall**	**1.95**	**250**	PN	Pn	06 20 57.0	-1.4
MQZ				SN	Sn	06 21 19.5	-2.2
MQZ				AML	AML	06 21 21.1	
CAW	**Cannon Point**	**1.96**	**357**	↑PN	Pn	06 20 58.0	-0.5
CAW				AML	AML	06 21 20.2	
CAW				AML	AML	06 21 20.9	
TCW	**Tory Channel**	**1.97**	**340**	PN	Pn	06 20 58.1	-0.6
TCW				AML	AML	06 21 23.0	
TMWZ	**Te Maipa**	**2.03**	**15**	PN	Pn	06 20 58.5	-0.9
THZ	**Tophouse**	**2.13**	**307**	PN	Pn	06 21 01.4	+0.4
THZ				AML	AML	06 21 29.0	
THZ				AML	AML	06 21 37.8	
LTZ	**Lake Taylor**	**2.16**	**277**	PN	Pn	06 21 01.3	0.0
LTZ				AML	AML	06 21 28.1	
HOWZ	**Holdsworth Sta**	**2.18**	**7**	PN	Pn	06 21 00.6	-1.0
KIW	**Kapiti Island**	**2.21**	**355**	PN	Pn	06 21 01.7	-0.3
OGWZ	**Otaki Gorge**	**2.25**	**360**	PN	Pn	06 21 02.0	-0.5
OGWZ				AML	AML	06 21 28.2	
OGWZ				AML	AML	06 21 28.2	
CPWZ	**Castlepoint**	**2.28**	**20**	PN	Pn	06 21 02.3	-0.6
CPWZ				AML	AML	06 21 29.6	
CPWZ				AML	AML	06 21 30.6	
NNZ	**Nelson**	**2.28**	**323**	PN	Pn	06 21 02.4	-0.6
OXZ	**Oxford**	**2.31**	**262**	PN	Pn	06 21 02.8	-0.6
OXZ				AML	AML	06 21 03.7	
OXZ				AML	AML	06 21 04.1	
TIWZ	**Tintock**	**2.35**	**13**	PN	Pn	06 21 02.8	-1.1
TIWZ				AML	AML	06 21 31.7	
TIWZ				AML	AML	06 21 31.9	
MRZ	**Mangatainoka R**	**2.42**	**7**	PN	Pn	06 21 03.9	-1.0
MRZ				AML	AML	06 21 30.9	
MRZ				AML	AML	06 21 31.7	
DUWZ	**D'Urville Isla**	**2.45**	**337**	*e*PN	Pn	06 21 05.3	0.0
BFZ	**Birch Farm**	**2.51**	**19**	PN	Pn	06 21 04.8	-1.2
BFZ				AML	AML	06 21 35.0	
POWZ	**Post Office Ro**	**2.71**	**9**	PN	Pn	06 21 08.8	0.0
POWZ				AML	AML	06 21 40.0	
POWZ				AML	AML	06 21 41.7	
INZ	**Inchbonnie**	**2.77**	**276**	PN	Pn	06 21 10.2	+0.6
DSZ	**Denniston Nort**	**2.83**	**297**	PN	Pn	06 21 11.6	+1.1
DSZ				AML	AML	06 21 51.1	
DSZ				AML	AML	06 21 55.8	
DSZ				AML	AML	06 21 55.8	
QRZ	**Quartz Range**	**2.99**	**318**	PN	Pn	06 21 12.9	+0.3
QRZ				AML	AML	06 21 47.9	
QRZ				AML	AML	06 21 51.3	
QRZ				AML	AML	06 21 52.1	
QRZ				AML	AML	06 22 53.1	
TSZ	**Takapari Road**	**3.06**	**11**	PN	Pn	06 21 12.8	-0.9
TSZ				SN	Sn	06 21 46.0	-3.2
RPZ	**Rata Peaks**	**3.08**	**256**	↓PN	Pn	06 21 13.8	-0.1
RPZ				AML	AML	06 21 19.8	
PNHZ	**Pukenui**	**3.24**	**14**	PN	Pn	06 21 15.2	-0.9
PNHZ				AML	AML	06 21 52.3	
PNHZ				AML	AML	06 21 54.3	
WVZ	**Waitaha Valley**	**3.26**	**268**	PN	Pn	06 21 17.2	+0.9
WVZ				AML	AML	06 23 20.6	
PXZ	**Pawanui**	**3.28**	**23**	PN	Pn	06 21 15.0	-1.7
WAZ	**Wanganui**	**3.31**	**357**	PN	Pn	06 21 18.7	+1.6
KAHZ	**Kahuranaki**	**3.51**	**22**	*e*PN	Pn	06 21 18.1	-1.8
KRHZ	**Kereru**	**3.53**	**15**	PN	Pn	06 21 19.0	-1.2
KRHZ				AML	AML	06 22 00.1	
KRHZ				AML	AML	06 22 00.2	
BHHZ	**Black Hill Sta**	**3.63**	**11**	PN	Pn	06 21 21.4	-0.2
MOVZ	**Moawhango**	**3.68**	**7**	PN	Pn	06 21 22.3	+0.1
WNVZ	**Wahianoa**	**3.75**	**5**	PN	Pn	06 21 23.9	+0.6
KWHZ	**Kaweka Forest**	**3.76**	**15**	PN	Pn	06 21 22.5	-0.8
KWHZ				AML	AML	06 22 06.3	
KWHZ				AML	AML	06 22 08.0	
TRVZ	**Turoa**	**3.77**	**4**	PN	Pn	06 21 24.2	+0.5
PKVZ	**Pokaka**	**3.77**	**2**	PN	Pn	06 21 24.4	+0.9
WHVZ	**Whangaehu Hut**	**3.79**	**5**	PN	Pn	06 21 24.5	+0.6
TUVZ	**Tukino**	**3.81**	**5**	PN	Pn	06 21 24.7	+0.6
FWVZ	**Far West T-bar**	**3.82**	**4**	PN	Pn	06 21 24.8	+0.5
FWVZ				AML	AML	06 21 26.6	
ODZ	**Otahua Downs**	**3.82**	**237**	↓PN	Pn	06 21 23.3	-0.8
ODZ				AML	AML	06 22 06.3	
ODZ				AML	AML	06 22 08.4	
LBZ	**Lake Benmore**	**3.86**	**248**	↑PN	Pn	06 21 24.4	-0.1
LBZ				AML	AML	06 23 15.9	
LBZ				AML	AML	06 23 55.5	
NGZ	**Ngauruhoe**	**3.90**	**5**	PN	Pn	06 21 26.0	+0.6
FOZ	**Fox Glacier**	**3.95**	**261**	AML	AML	06 21 20.8	
FOZ				PN	Pn	06 21 27.2	+1.5
FOZ				AML	AML	06 21 43.5	
WTVZ	**West Tongariro**	**3.96**	**5**	PN	Pn	06 21 26.6	+0.5
TWVZ	**Taurewa**	**4.00**	**3**	PN	Pn	06 21 27.0	+0.4
BKZ	**Black Stump Fm**	**4.02**	**15**	↑PN	Pn	06 21 25.7	-1.2
NMHZ	**Naumai**	**4.15**	**18**	PN	Pn	06 21 27.9	-0.8
NMHZ				AML	AML	06 22 16.1	
NMHZ				AML	AML	06 22 16.5	
HIZ	**Hauiti**	**4.56**	**357**	↓PN	Pn	06 21 36.7	+2.5
EAZ	**Earnscleugh**	**4.75**	**241**	PN	Pn	06 21 36.5	-0.4
EAZ				AML	AML	06 22 10.8	
JCZ	**Jackson Bay**	**4.76**	**256**	PN	Pn	06 21 37.3	+0.3
JCZ				AML	AML	06 23 21.5	
JCZ				AML	AML	06 23 41.9	
TUZ	**Tuapeka**	**4.91**	**232**	↑PN	Pn	06 21 38.6	-0.4
TUZ				AML	AML	06 21 40.0	
TUZ				AML	AML	06 22 49.4	

IDC 18 06:28:50.7±9.7, 17°02S×175°21W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/32, mbtmp3.7/3, Error ellipse: s-maj=430.8km s-min=35.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.80**	**258**	P	P	06 37 30.3	0.0
	0.3nm,0.5s,baz=94,slow=7.3,SNR=3.9						
ASAR	**Alice Springs**	**47.97**	**253**	P	P	06 37 31.4	-0.2
	1.4nm,0.6s,baz=90,slow=8.3,SNR=16						
ILAR	**Eielson Array**	**84.37**	**12**	P	P	06 41 24.4	0.0
	0.3nm,0.5s,baz=223,slow=5.8,SNR=9.8						

*IDC **18** 06:35:16.9±0.7, 38°46N×144°93E, h0km, mb3.9/12, mb1 4.1/15, mb1mx3.9/58, mbtmp4.0/15, ML3.5/3, Error ellipse: s-maj=21.4km s-min=14.7km az=98.0*

*ISCJB **18** 06:35:19.2±0.5, 38°65N±0°03×144°68E±0°04, h29km, mb3.9/13, Error ellipse: s-maj=4.9km s-min=4.5km az=33.3*

*JMA **18** 06:35:20.4±0.1, 38°60N×144°60E, h39km, M3.9*

ISC 18 06:35:21.5±0.7, 38°62N±0°05×144°72E±0°07, h29km, n39, σ2°38/55, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**282**	P	**Pn**	06 35 57.9	-1.2
OFUJ				*e*S	**Sn**	06 36 25.7	-2.1
MIYJ	**Miyakonagasawa**	**2.45**	**294**	P	**Pn**	06 35 58.2	-1.3
MIYJ				*e*S	**Sn**	06 36 26.5	-1.9
JTH	**Tanohata**	**2.58**	**302**	P	**Pn**	06 36 00.0	-1.2
JTH				*e*S	**Sn**	06 36 30.1	-1.5
JMK	**Ichinoseki**	**2.75**	**278**	P	**Pn**	06 36 02.8	-0.8
JOM	**Ohasama**	**2.80**	**289**	P	**Pn**	06 36 03.5	-0.8
JANG	**Nango**	**3.04**	**306**	P	**Pn**	06 36 06.3	-1.2
JANG				*e*S	**Sn**	06 36 40.4	-2.5
JOU	**Okura**	**3.19**	**267**	P	**Pn**	06 36 08.8	-0.9
JOU				*e*S	**Sn**	06 36 44.8	-1.9
JRG	**Rokugo**	**3.27**	**285**	P	**Pn**	06 36 10.4	-0.4
JYK	**Kaneyama**	**3.42**	**276**	P	**Pn**	06 36 12.0	-0.8
JAH	**Hinai**	**3.53**	**298**	P	**Pn**	06 36 14.0	-0.3
JAH				*e*S	**Sn**	06 36 54.1	-1.0
JTM	**Tenmabayashi**	**3.55**	**309**	P	**Pn**	06 36 14.3	-0.3
JTM				*e*S	**Sn**	06 36 53.5	-2.1
JFT	**Otama**	**3.63**	**254**	P	**Pn**	06 36 14.7	-1.0
JFT				*e*S	**Sn**	06 36 55.6	-1.9
JOT	**Ohata**	**3.94**	**316**	*e*S	**Sn**	06 37 03.0	-2.3
JCH	**Churui**	**4.12**	**346**	P	**Pn**	06 36 21.1	-1.4
JCH				*e*S	**Sn**	06 37 06.0	-3.7
JKB	**Kayabe**	**4.31**	**320**	*e*S	**Sn**	06 37 12.8	-1.6
NEM2	**Nemuro 2**	**4.81**	**9**	P	**Pn**	06 36 29.0	-2.9
NEM2				*e*S	**Sn**	06 37 19.7	-6.8
BSO1	**Boso 1**	**4.97**	**218**	P	**Pn**	06 36 30.6	-3.0
BSO1				*e*S	**Sn**	06 37 25.3	-4.5
JOSM	**Okushiri--Mats**	**5.29**	**313**	P	**Pn**	06 36 38.8	+0.3
JRY	**Ryogami san**	**5.31**	**243**	P	**Pn**	06 36 37.1	-1.8
JRY				*e*S	**Sn**	06 37 33.0	-6.1
JTKR	**Abashiri--Toko**	**5.38**	**354**	P	**Pn**	06 36 38.3	-1.5
JTKR				*e*S	**Sn**	06 37 36.0	-4.7
MJAR	**Matsushiro Arr**	**5.57**	**250**	Pn	**Pn**	06 36 42.0	-0.3
	3.3nm,0.3s,baz=55,slow=9.8,SNR=35						
MJAR				Sn	**Sn**	06 37 46.1	+0.7
	1.2nm,0.3s,baz=63,slow=23,SNR=6.5						
MAT	**Matsushiro**	**5.57**	**250**	P	**Pn**	06 36 42.2	-0.2
MAT				S	**Sn**	06 37 45.0	-0.4
JHR	**Hokuryu**	**5.60**	**337**	*e*S	**Sn**	06 37 45.4	-0.6
JOD2	**Odawara 2**	**5.61**	**235**	*e*S	**Sn**	06 37 40.7	-5.8
ASAJ	**Asahikawa**	**5.72**	**345**	Pn	**Pn**	06 36 44.1	-0.4
	1.5nm,0.3s,baz=190,slow=11,SNR=2.9						
ASAJ				Sn	**Sn**	06 37 46.6	-2.5
	1.8nm,0.3s,baz=53,slow=20,SNR=4.1						
USRK	**Ussuriysk Ar.**	**11.06**	**304**	Pn	**Pn**	06 37 60.0	+2.3
	0.7nm,0.3s,baz=103,slow=14,SNR=8.1						
SEY	**Seymchan**	**24.79**	**8**	P	**P**	06 40 41.4	+0.9
	2.6nm,0.6s,baz=164,slow=9.2,SNR=5.4						
SONM	**Songino Array**	**29.15**	**301**	P	**P**	06 41 23.8	+3.7
	0.3nm,0.5s,baz=80,slow=10,SNR=2.7						
KDAK	**Kodiak Island**	**44.17**	**43**	P	**P**	06 43 26.5	-0.7
	4.3nm,0.7s,baz=259,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**45.51**	**301**	P	**P**	06 43 39.3	+1.1
	0.2nm,0.3s,baz=93,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**46.75**	**33**	P	**P**	06 43 47.5	-0.2
	0.5nm,0.7s,baz=265,slow=6.3,SNR=7.7						
KURBB	**Kurchatov Arra**	**47.11**	**307**	P	**P**	06 43 51.4	+0.8
	0.7nm,0.5s,baz=79,slow=7.9,SNR=6.5						
BVAR	**Borovoye Array**	**51.45**	**312**	P	**P**	06 44 26.5	+2.7
	0.3nm,0.4s,baz=91,slow=6.2,SNR=3.7						
CTA	**Charters Tower**	**58.41**	**178**	P	**P**	06 45 14.6	+0.2
	7.2nm,0.9s,baz=7.6,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**59.06**	**191**	P	**P**	06 45 17.2	-1.7
	2.5nm,0.8s,baz=12,slow=7.5,SNR=8.5						
FITZ	**Fitzroy Crossi**	**59.19**	**201**	P	**P**	06 45 18.8	-1.0
	1.1nm,0.7s,baz=359,slow=6.1,SNR=2.7						
ASAR	**Alice Springs**	**62.78**	**191**	P	**P**	06 45 42.6	-1.6
	1.2nm,0.8s,baz=10,slow=6.3,SNR=8.3						
FINES	**FINESS Array B**	**68.61**	**333**	P	**P**	06 46 23.6	+2.3
	3.7nm,1.0s,baz=357,slow=13,SNR=2.8						
PDAR	**Pinedale Array**	**74.68**	**47**	P	**P**	06 46 58.6	0.0
	0.4nm,0.8s,baz=20,slow=2.9,SNR=3.2						

*DDA **18** 06:40:29.8, 36°91N×28°07E, h69km, MI3.7*

*ISCJB **18** 06:40:30.1±0.3, 36°90N±0°02×28°07E±0°02, h69km±5km, Error ellipse: s-maj=3.8km s-min=2.8km az=151.5*

*ISK **18** 06:40:30.8, 37°01N×28°12E, h28km, ML2.9*

*ATH **18** 06:40:30.1, 36°88N×28°00E, h77km±2km, ML3.3/4, Error ellipse: s-maj=3.1km s-min=1.4km az=216.0*

*THE **18** 06:40:31.7, 36°89N×28°06E, h68km±7km, ML3.1/9, Error ellipse: s-maj=7.9km s-min=0.8km az=186.0*

*CSEM **18** 06:40:31.1±0.1, 36°92N×28°09E, h60km, ML3.7, Error ellipse: s-maj=2.6km s-min=2.0km az=164.0*

**IS

FETY	**Fethiye**	**0.85**	**109**	P	**Pn**	06 40 47.1	**-0.1**
FETY				S	**Sn**	**06 41 00.3**	**+1.3**
FETY	**Fethiye**	**0.85**	**109**	P	**Pn**	06 40 47.2	**0.0**
FETY	**Fethiye**	**0.85**	**109**	*i* Pg	**Pn**	**06 40 47.4**	**+0.2**
FETY				S	**Sn**	**06 40 58.3**	**-0.7**
FETY				*e*Sg	**Sn**	**06 40 59.4**	**+0.4**
GCAM	**G?zelcaml?**	**1.04**	**319**	*i* P	**Pn**	**06 40 50.1**	**+0.5**
GCAM				*i* S	**Sn**	**06 41 04.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.04**	**319**	P	**Pn**	**06 40 50.1**	**+0.5**
GCAM				S	**Sn**	**06 41 04.4**	**+1.0**
DNZL	**Cakiroluk**	**1.09**	**44**	*i* P	**Pn**	**06 40 50.8**	**+0.3**
DNZL				*i* S	**Sn**	**06 41 06.6**	**+1.7**
DNZL	**Cakiroluk**	**1.09**	**44**	P	**Pn**	**06 40 50.8**	**+0.3**
DNZL				S	**Sn**	**06 41 06.6**	**+1.7**
DENT	**Denizli**	**1.13**	**42**	*e*PG	**Pn**	**06 40 49.9**	**-1.0**
DENT	**Denizli**	**1.13**	**42**	*i* Pg	**Pn**	**06 40 49.9**	**-1.0**
KUSD	**Kusadasi-Aydin**	**1.14**	**326**	*e*PG	**Pn**	**06 40 50.4**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.16**	**77**	*e*PN	**Pn**	**06 40 51.0**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.16**	**77**	*e*Pn	**Pn**	**06 40 51.0**	**-0.2**
GOLH	**Golhisar**	**1.22**	**74**	*i* P	**Pn**	**06 40 52.8**	**+0.6**
GOLH				*i* S	**Sn**	**06 41 09.2**	**+1.3**
GOLH	**Golhisar**	**1.22**	**74**	P	**Pn**	**06 40 52.8**	**+0.6**
GOLH				S	**Sn**	**06 41 09.2**	**+1.3**
AKAS	**Kas**	**1.40**	**119**	*e*PN	**Pn**	**06 40 54.8**	**+0.3**
AKAS	**Kas**	**1.40**	**119**	*i* P	**Pn**	**06 40 54.4**	**-0.1**
AKAS				*i* S	**Sn**	**06 41 11.3**	**-0.8**
AKAS	**Kas**	**1.40**	**119**	P	**Pn**	**06 40 54.4**	**-0.1**
AKAS	**Kas**	**1.40**	**119**	*e*Pn	**Pn**	**06 40 54.8**	**+0.3**
AKAS				S	**Sn**	**06 41 11.3**	**-0.8**
ELL	**Elmali**	**1.47**	**96**	*e*PN	**Pn**	**06 40 55.5**	**0.0**
ELL	**Elmali**	**1.47**	**96**	*e*Pn	**Pn**	**06 40 55.5**	**0.0**
DGB	**¨zmir**	**1.49**	**320**	*i* P	**Pn**	**06 40 55.6**	**0.0**
GMLD	**Gumuldur**	**1.49**	**322**	*e*PN	**Pn**	**06 40 55.5**	**-0.1**
KARP	**Karpathos**	**1.55**	**209**	P	**Pn**	**06 40 56.1**	**-0.4**
KARP				S	**Sn**	**06 41 15.1**	**-0.6**
KARP	**Karpathos**	**1.55**	**209**	P	**Pn**	**06 40 56.0**	**-0.4**
KARP				S	**Sn**	**06 41 14.8**	**-0.9**
KARP				AML	AML	06 41 15.9	
	comp=E,1735μm,0.1s						
KARP				AML	AML	06 41 16.5	
	comp=N,1756μm,0.3s						
KARP	**Karpathos**	**1.55**	**209**	P	**Pn**	**06 40 56.1**	**-0.4**
KARP				S	**Sn**	**06 41 15.1**	**-0.6**
MANT	**Manisa**	**1.62**	**13**	*i* P	**Pn**	**06 40 57.4**	**-0.2**
MANT	**Manisa**	**1.62**	**13**	P	**Pn**	**06 40 57.4**	**-0.2**
KULA	**Kula-Manisa**	**1.66**	**16**	*e*PN	**Pn**	**06 40 57.4**	**-0.6**
KULA	**Kula-Manisa**	**1.66**	**16**	P	**Pn**	**06 40 58.0**	**0.0**
KULA				S	**Sn**	**06 41 17.8**	**-0.6**
KULA	**Kula-Manisa**	**1.66**	**16**	*e*Pn	**Pn**	**06 40 57.4**	**-0.6**
KULA	**Kula-Manisa**	**1.66**	**16**	P	**Pn**	**06 40 58.0**	**0.0**
KULA				S	**Sn**	**06 41 17.8**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.76**	**63**	*i* P	**Pn**	**06 40 59.2**	**-0.1**
KHL	**Karahalli**	**1.81**	**39**	*e*PN	**Pn**	**06 40 59.7**	**-0.4**
KHL	**Karahalli**	**1.81**	**39**	*e*Pn	**Pn**	**06 40 59.7**	**-0.4**
KORT	**Korkueli**	**1.81**	**87**	*e*PN	**Pn**	**06 41 00.6**	**+0.5**
KORT	**Korkueli**	**1.81**	**87**	*i* P	**Pn**	**06 41 01.2**	**+1.1**
KORT	**Korkueli**	**1.81**	**87**	*e*Pn	**Pn**	**06 41 00.6**	**+0.5**
KORT	**Korkueli**	**1.81**	**87**	P	**Pn**	**06 41 01.2**	**+1.1**
ZEY	**¨zmir**	**1.83**	**317**	*i* P	**Pn**	**06 40 59.9**	**-0.3**
ZEY				*i* S	**Sn**	**06 41 21.6**	**-0.6**
KHAL	**Karahalli**	**1.83**	**37**	*i* P	**Pn**	**06 40 59.9**	**-0.5**
KHAL	**Karahalli**	**1.83**	**37**	P	**Pn**	**06 40 59.9**	**-0.5**
URLA	**Izmir**	**1.87**	**321**	*e*PN	**Pn**	**06 41 00.8**	**0.0**
URLA	**Izmir**	**1.87**	**321**	*i* P	**Pn**	**06 40 59.9**	**-0.9**
URLA				*i* S	**Sn**	**06 41 23.1**	**-0.2**
URLA	**Izmir**	**1.87**	**321**	P	**Pn**	**06 40 59.9**	**-0.9**
URLA	**Izmir**	**1.87**	**321**	*e*Pn	**Pn**	**06 41 00.8**	**0.0**
URLA				S	**Sn**	**06 41 23.1**	**-0.2**
AKHS	**Akhisar**	**1.98**	**354**	*i* P	**Pn**	**06 41 02.0**	**-0.2**
AKHS				*i* S	**Sn**	**06 41 26.0**	**+0.1**
AKHS	**Akhisar**	**1.98**	**354**	P	**Pn**	**06 41 02.0**	**-0.2**
AKHS				S	**Sn**	**06 41 26.0**	**+0.1**
AKS	**Akhisar**	**1.98**	**354**	*e*PN	**Pn**	**06 41 01.9**	**-0.3**
AKS	**Akhisar**	**1.98**	**354**	*e*Pn	**Pn**	**06 41 01.9**	**-0.3**
APE	**Apeiranthos**	**2.05**	**275**	*e*PN	**Pn**	**06 41 04.6**	**+1.3**
APE	**Apeiranthos**	**2.05**	**275**	P	**Pn**	**06 41 03.8**	**+0.5**
APE				S	**Sn**	**06 41 26.9**	**-0.9**
APE	**Apeiranthos**	**2.05**	**275**	P	**Pn**	**06 41 04.2**	**+0.9**
APE	**Apeiranthos**	**2.05**	**275**	P	**Pn**	**06 41 03.8**	**+0.5**
APE	**Apeiranthos**	**2.05**	**275**	*e*Pn	**Pn**	**06 41 04.6**	**+1.3**
APE				S	**Sn**	**06 41 26.9**	**-0.9**
ANTB	**Antalya**	**2.06**	**90**	*e*PN	**Pn**	**06 41 04.2**	**+0.9**
ANTB	**Antalya**	**2.06**	**90**	*e*Pn	**Pn**	**06 41 04.2**	**+0.9**
BCK	**Bucak**	**2.07**	**74**	*e*PN	**Pn**	**06 41 04.0**	**+0.4**
BCK	**Bucak**	**2.07**	**74**	*e*Pn	**Pn**	**06 41 04.0**	**+0.4**
KRBN	**Karaburun**	**2.07**	**325**	*e*PN	**Pn**	**06 41 03.7**	**+0.2**
FOCM	**Fo¨ça**	**2.10**	**330**	*e*PN	**Pn**	**06 41 03.9**	**+0.1**
KZIL	**AFYON_Kizioren**	**2.11**	**50**	*i* P	**Pn**	**06 41 03.9**	**-0.2**
KZIL				*i* S	**Sn**	**06 41 29.3**	**-0.1**
CHOS	**Chios island**	**2.18**	**313**	*e*PN	**Pn**	**06 41 05.5**	**+0.4**
CHOS	**Chios island**	**2.18**	**313**	P	**Pn**	**06 41 05.5**	**+0.4**
CHOS				S	**Sn**	**06 41 30.5**	**-0.6**
CHOS	**Chios island**	**2.18**	**313**	P	**Pn**	**06 41 05.2**	**+0.1**
CHOS	**Chios island**	**2.18**	**313**	P	**Pn**	**06 41 05.2**	**+0.1**
CHOS	**Chios island**	**2.18**	**313**	*e*Pn	**Pn**	**06 41 05.5**	**+0.4**
CHOS				S	**Sn**	**06 41 30.5**	**-0.6**
DEMI	**Demirci**	**2.19**	**13**	*i* P	**Pn**	**06 41 04.7**	**-0.4**
DEMI				*i* S	**Sn**	**06 41 30.5**	**-0.6**
DEMI	**Demirci**	**2.19**	**13**	P	**Pn**	**06 41 04.7**	**-0.4**
DEMI				S	**Sn**	**06 41 30.5**	**-0.6**
CAND	**Candarli**	**2.28**	**334**	*e*PN	**Pn**	**06 41 06.5**	**+0.2**
SIMA	**Simav-Kutahya**	**2.28**	**18**	*e*PN	**Pn**	**06 41 06.2**	**-0.3**
ZKR	**Zakros**	**2.35**	**221**	P	**Pn**	**06 41 07.3**	**0.0**
ZKR				S	**Sn**	**06 41 34.6**	**-0.4**
ZKR	**Zakros**	**2.35**	**221**	P	**Pn**	**06 41 07.8**	**+0.6**
ZKR	**Zakros**	**2.35**	**221**	P	**Pn**	**06 41 07.3**	**0.0**
ZKR				S	**Sn**	**06 41 34.6**	**-0.4**
DKL	**Dikili**	**2.35**	**337**	*e*PN	**Pn**	**06 41 07.4**	**+0.1**
DKL	**Dikili**	**2.35**	**337**	*e*Pn	**Pn**	**06 41 07.4**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.39**	**75**	*e*PN	**Pn**	**06 41 08.2**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.39**	**75**	*e*Pn	**Pn**	**06 41 08.2**	**+0.2**
GDZ	**Gediz**	**2.44**	**26**	*i* P	**Pn**	**06 41 08.3**	**-0.3**
GDZ				*i* S	**Sn**	**06 41 36.2**	**-1.1**
GDZ	**Gediz**	**2.44**	**26**	P	**Pn**	**06 41 08.3**	**-0.3**
GDZ				S	**Sn**	**06 41 36.2**	**-1.1**
SHUT	**Suhut-Afyon**	**2.55**	**49**	*e*PN	**Pn**	**06 41 10.3**	**+0.2**
SHUT	**Suhut-Afyon**	**2.55**	**49**	*e*Pn	**Pn**	**06 41 10.3**	**+0.2**
LAST	**Lasithi**	**2.74**	**231**	P	**Pn**	**06 41 12.7**	**0.0**
LAST				S	**Sn**	**06 41 43.8**	**-0.9**
LAST	**Lasithi**	**2.74**	**231**	P	**Pn**	**06 41 11.8**	**-0.9**
LAST	**Lasithi**	**2.74**	**231**	P	**Pn**	**06 41 12.7**	**0.0**
LAST				S	**Sn**	**06 41 43.8**	**-0.9**
SIGR	**SIGRI**	**2.89**	**323**	P	**Pn**	**06 41 13.8**	**-0.9**
SIGR	**SIGRI**	**2.89**	**323**	P	**Pn**	**06 41 13.8**	**-0.9**
IDI	**Anoyia**	**3.05**	**239**	P	**Pn**	**06 41 17.1**	**+0.1**
IDI				S	**Sn**	**06 41 50.8**	**-1.5**
IDI	**Anoyia**	**3.05**	**239**	P	**Pn**	**06 41 17.2**	**+0.2**
IDI	**Anoyia**	**3.05**	**239**	P	**Pn**	**06 41 17.1**	**+0.1**
IDI				S	**Sn**	**06 41 50.8**	**-1.5**
IMMV	**Iera Moni Meta**	**3.62**	**248**	P	**Pn**	**06 41 23.8**	**-0.9**
IMMV	**Iera Moni Meta**	**3.62**	**248**	P	**Pn**	**06 41 23.8**	**-0.9**
LIA	**Limnos Island**	**3.75**	**323**	P	**Pn**	**06 41 27.8**	**+1.4**
LIA	**Limnos Island**	**3.75**	**323**	P	**Pn**	**06 41 27.8**	**+1.4**
GVD	**Gavdhos**	**3.85**	**239**	P	**Pn**	**06 41 29.4**	**+1.6**
GVD	**Gavdhos**	**3.85**	**239**	P	**Pn**	**06 41 29.4**	**+1.6**
ANKY	**Antikythira Is**	**4.00**	**256**	P	**Pn**	**06 41 29.7**	**-0.1**
ANKY	**Antikythira Is**	**4.00**	**256**	P	**Pn**	**06 41 29.7**	**-0.1**
KYTH	**Kithira**	**4.11**	**262**	P	**Pn**	**06 41 30.9**	**-0.5**
KYTH	**Kithira**	**4.11**	**262**	P	**Pn**	**06 41 30.9**	**-0.5**
VLI	**Veliai**	**4.14**	**269**	P	**Pn**	**06 41 32.8**	**+1.1**
VLI	**Veliai**	**4.14**	**269**	P	**Pn**	**06 41 32.8**	**+1.1**
GUR	**Goura**	**4.69**	**284**	P	**Pn**	**06 41 40.4**	**+1.1**
GUR	**Goura**	**4.69**	**284**	P	**Pn**	**06 41 40.4**	**+1.1**

IDC 18 06:40:38.9±3.1, 7°.06S×149°.19E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/28, mbtmp3.8/4, ML3.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/29, Error ellipse: s-maj=101.3km s-min=33.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**221**	Pn	Pn	06 41 30.7	+1.9
	12nm,0.3s,baz=54,slow=6.7,SNR=19						
PMG				Sn	Sn	06 42 06.4	+0.2
	25nm,0.3s,baz=136,slow=22,SNR=12						
WRA	**Warramunga Arr**	**19.27**	**227**	P	P	06 45 04.8	-0.5
	0.3nm,0.3s,baz=53,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.09**	**220**	P	P	06 45 35.3	-0.6
	1.0nm,0.6s,baz=54,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**25.43**	**242**	P	P	06 46 08.6	0.0
	2.5nm,0.5s,baz=64,slow=8.1,SNR=15						
RAR	**Rarotonga**	**51.23**	**111**	LR	LR	07 09 45.2	
	comp=Z,111nm,18.9s,baz=36,slow=34						
TORD	**Torodi Ar. Bea**	**147.45**	**283**	PKPbc	PKPbc	07 00 25.2	-0.8
	1.2nm,0.7s,baz=63,slow=2.8,SNR=12						

SOME 18 07:11:01.1, 43°.73N×83°.78E, h10km
NNC 18 07:11:03.9±2.9, 43°.73N×83°.60E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=26.0km s-min=16.3km az=132.0
ISC 18 07:11:02.1±4.4, 43°.6N±0°.2×84°.4E±0°.2, h32km, n6, σ2°82/10, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**3.40**	**283**	*e*P	**Pn**	**07 11 54.0**	**+0.9**
	3.8nm,0.1s						
DJR				*e*S	**Sn**	**07 12 32.2**	**-0.1**
	8.0nm,0.3s						
MK31	**Makanchi Array**	**3.50**	**335**	⇑Pn	**Pn**	**07 11 56.4**	**+2.1**
	0.6nm,0.7s,baz=167,slow=15,SNR=21						
MK31				⇑Pg	**Pb**	**07 12 02.0**	**-1.3**
	0.5nm,0.3s,baz=154,slow=17,SNR=9.2						
MK31				⇑Lg	Lg	07 12 44.9	
	1.2nm,0.3s,baz=157,slow=28,SNR=7.9						
PDGK	**Podgornoye**	**3.59**	**267**	⇓Lg	Lg	07 12 39.3	
	2.4nm,0.4s						
MAKZ	**Makanchi**	**3.61**	**332**	⇓Pn	**Pn**	**07 11 56.4**	**+0.6**
	1.1nm,1.1s						
MAKZ				⇓Pg	**Pb**	**07 12 03.6**	**-1.6**
	2.1nm,0.9s						
MAKZ				⇑Lg	Lg	07 12 49.6	
	1.4nm,0.5s						
SHLS	**Shalkode**	**3.63**	**264**	*e*P	**Pn**	**07 11 55.1**	**-1.2**
	5.4nm,0.1s						
SHLS				*e*S	**Sn**	**07 12 34.0**	**-4.1**
	23nm,0.3s						
KPKS	**Kokpek**	**4.16**	**270**	*e*P	**Pn**	**07 12 07.2**	**+3.7**
	3.9nm,0.1s						
KPKS				*e*S	**Sn**	**07 12 54.9**	**+3.8**
	6.7nm,0.2s						

MOS 18 07:31:58.9±0.9, 26°.00N×140°.78E, h131km, mb4.3/38, Error ellipse: s-maj=12.8km s-min=6.8km az=96.0
ISCJB 18 07:32:01.4±0.2, 26°.07N±0°.03×140°.85E±0°.04, h150km, mb4.3/101, Error ellipse: s-maj=5.5km s-min=4.3km az=172.5
NEIC 18 07:32:01.6±0.6, 25°.98N×140°.83E, h139km±5km, mb4.5/73, Error ellipse: s-maj=5.7km s-min=4.6km az=120.0
IDC 18 07:32:02.3±2.3, 26°.03N×140°.85E, h148km±20km, mb3.9/20, mb1 4.0/24, mb1mx3.9/39, mbtmp4.4/24, Error ellipse: s-maj=16.6km s-min=10.8km az=92.0
JMA 18 07:32:02.9±0.1, 26°.07N×141°.28E, h146km, M4.3
ISC 18 07:32:02.6±0.4, 26°.13N±0°.06×141°.00E±0°.06, h150km, n194, σ1°89/210, mb4.4/101, 2C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.17**	**65**	P	**Pn**	**07 32 27.2**	**-1.7**
JHHJ				S	**Sn**	**07 32 45.6**	**-3.3**
CBIJ	**Chichi jima**	**1.44**	**48**	P	**Pn**	**07 32 30.3**	**-1.2**
CBIJ				S	**Sn**	**07 32 51.5**	**-2.1**
CBIJ	**Chichi jima**	**1.44**	**48**	*e*Pn	**Pn**	**07 32 30.9**	**-0.6**
CBIJ				*e*Sn	**Sn**	**07 32 52.0**	**-1.5**
JHJ2	**Mitsune**	**7.03**	**352**	*e*S	**Sn**	**07 35 02.5**	**+0.7**
JHJ2	**Mitsune**	**7.03**	**352**	*e*Pn	**Pn**	**07 33 43.5**	**+0.5**
JHJ	**Hachijo jima 2**	**7.05**	**352**	P	**Pn**	**07 33 43.6**	**+0.4**
	12nm,0.3s,baz=221,slow=20,SNR=3.3						
JHJ				S	**Sn**	**07 35 02.4**	**+0.3**
	21nm,0.3s,baz=75,slow=20,SNR=3.5						
BSO1	**Boso 1**	**8.50**	**360**	P	**Pn**	**07 34 01.9**	**-0.1**
BSO3	**Boso 3**	**8.65**	**357**	P	**Pn**	**07 34 03.9**	**-0.5**
BSO4	**Boso 4**	**8.85**	**356**	P	**Pn**	**07 34 06.9**	**-0.2**
JOD2	**Odawara 2**	**9.25**	**350**	P	**Pn**	**07 34 13.4**	**+0.8**
JOD2				*e*S	**Sn**	**07 35 51.4**	**-3.8**
JNY	**Yasuok**	**9.59**	**344**	P	**Pn**	**07 34 19.1**	**+2.0**
JAO	**Obara**	**9.66**	**341**	P	**Pn**	**07 34 21.1**	**+3.1**
JHU	**Hanno**	**9.80**	**352**	P	**Pn**	**07 34 19.2**	**-0.7**
INU	**Inuyama**	**9.81**	**341**	*e*Pn	**Pn**	**07 34 19.5**	**-0.4**
JRY	**Ryogami san**	**10.02**	**350**	P	**Pn**	**07 34 22.6**	**-0.2**
JAG	**Ashikaga**	**10.35**	**353**	P	**Pn**	**07 34 24.8**	**-2.3**
JAG				S	**Sn**	**07 36 19.5**	**-2.1**
JAG	**Ashikaga**	**10.35**	**353**	*e*S	**Sn**	**07 36 19.4**	**-2.2**
JHO	**Hitachi**	**10.46**	**358**	P	**Pn**	**07 34 26.6**	**-1.9**
MJAR	**Matsushiro Arr**	**10.65**	**348**	P	**Pn**	**07 34 30.8**	**-0.3**
	2.0nm,0.3s,baz=169,slow=12,SNR=9.9						
MJAR				S	**Sn**	**07 36 24.8**	**-4.1**
	1.4nm,0.3s,baz=143,slow=13,SNR=4.4						
MAJO	**Matsushiro**	**10.65**	**348**	*e*P	**Pn**	**07 34 29.2**	**-1.9**
MAJO	**Matsushiro**	**10.65**	**348**	*e*Pn	**Pn**	**07 34 32.9**	**+1.7**
MAT	**Matsushiro**	**10.65**	**348**	P	**Pn**	**07 34 31.1**	**0.0**
MAT				*e*S	**Sn**	**07 36 24.1**	**-4.8**
MJB9	**Matsu-Tunnel**	**10.65**	**348**	*e*Pn	**Pn**	**07 34 33.1**	**+1.9**
JNU	**Nakatsue**	**11.22**	**311**	P	**P**	**07 34 44.4**	**-2.4**
	1.3nm,0.3s,baz=194,slow=4.2,SNR=3.9						
KSRS	**Korea Array**	**15.82**	**319**	P	**P**	**07 35 42.2**	**+4.4**
	0.7nm,0.3s,baz=128,slow=12,SNR=25						
KS15	**Wonju Array Si**	**15.84**	**319**	*e*Pn	**P**	**07 35 39.3**	**+1.3**
KSAR	**Wonju Array Be**	**15.84**	**319**	P	**P**	**07 35 42.3**	**+4.3**
KSAR	**Wonju Array Be**	**15.84**	**319**	P	**P**	**07 35 42.2**	**+4.3**
KS01	**Wonju Array Si**	**15.86**	**319**	*e*Pn	**P**	**07 35 41.4**	**+3.2**
ASAJ	**Asahikawa**	**17.99**	**4**	P	**Pn**	**07 36 04.7**	**+1.5**
	3.6nm,0.3s,baz=256,slow=6.2,SNR=18						
ASAJ	**Asahikawa**	**17.99**	**4**	*e*P	**Pn**	**07 36 05.0**	**+1.8**
	17nm,0.6s						
USRK	**Ussuriysk Ar.**	**19.45**	**340**	P	**P**	**07 36 18.2**	**+0.7**
	0.4nm,0.3s,baz=161,slow=15,SNR=4.6						
NJ2	**Nanjing**	**20.21**	**292**	*e*P	**P**	**07 36 24.3**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
YSS	**Yuzh-Sakhalins**	**20.83**	**3⇑**	*e*P	**P**	**07 36 25.2**	**-7.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.5s						
HHC	**Hu-ho-hao-te**	**28.44**	**308**	*e*P	**P**	**07 37 44.1**	**+0.7**
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,81nm,4.7s						
XAN	**Xi'an**	**28.77**	**294**	P	**P**	**07 37 50.0**	**+3.7**
XAN				sP	sP	07 38 35.3	+0.1
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,13.1s						
PETK	**Petropavlovsk-**	**29.71**	**20**	P	**P**	**07 37 55.4**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=224,slow=4.0,SNR=3.1						
KKM	**Kota Kinabalu**	**30.96**	**234**	*e*P	**P**	**07 38 03.2**	**-2.7**
	comp=Z,21nm,1.3s						
LZH	**Lanzhou**	**33.15**	**297**	*e*P	**P**	**07 38 27.5**	**+2.6**
LZH				pP	pP	07 38 54.4	-2.5
LZH				sP	sP	07 39 11.4	-2.7
LZH				PP	**PnPn**	**07 39 40.5**	**-0.1**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,89nm,4.3s						
ULN	**Ulaanbaatar**	**34.31**	**318**	*i* P	**P**	**07 38 35.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KMI	**Kunming**	**34.43**	**277**	P	**P**	**07 38 35.6**	**-0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
SONM	**Songino Array**	**34.69**	**318**	P	**P**	**07 38 38.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=130,slow=9.2,SNR=6.1						
GTA	**Gaotai**	**36.76**	**302**	*e*P	**P**	**07 38 57.3**	**+1.5**
GTA				pP	pP	07 39 25.5	-2.7
GTA				sP	sP	07 39 40.1	-5.3
GTA				S	**S**	**07 44 31.0**	**+2.4**
GTA				sS	sS	07 45 19.5	-5.9
GTA				SS	**SS**	**07 47 06.1**	**-10**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,98nm,4.8s						
GTA				LR	LR		
	comp=N,240nm,21.4s						
GTA				LR	LR		
	comp=E,260nm,19.5s						
GTA				LR	LR		
	comp=Z,250nm,18.5s						
SEY	**Seymchan**	**37.57**	**9**	P	**P**	**07 39 03.9**	**+1.8**
	comp=Z,7.5nm,0.5s,baz=192,slow=9.2,SNR=26						
SEY	**Seymchan**	**37.57**	**9**	*e*P	**P**	**07 39 01.2**	**-0.8**
MTN	**Manton Dam**	**39.91**	**195**	*e*P	**P**	**07 39 20.5**	**-1.5**
	comp=Z,9.2nm,0.6s						
ADK	**Adak**	**40.91**	**40**	*e*P	**P**	**07 39 31.2**	**+1.3**
ADK				pmax	pmax		
	comp=Z,31nm,1.5s						
ADK	**Adak**	**40.91**	**40**	*e*P	**P**	**07 39 31.2**	**+1.3**
	comp=Z,31nm,1.5s						
ATKA	**Atka Island**	**42.46**	**40**	*e*P	**P**	**07 39 43.4**	**+0.9**
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**46.06**	**355**	*e*P	**P**	**07 40 11.4**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**46.06**	**355**	*e*P	**P**	**07 40 11.1**	**+0.2**
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**46.22**	**173**	*e*P	**P**	**07 40 12.0**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,28nm,1.4s						
CTAO	**Charters Tower**	**46.22**	**173**	*e*P	**P**	**07 40 12.0**	**-0.8**
	comp=Z,28nm,1.4s						
WRAB	**Tennant Creek**	**46.24**	**189**	*i* P	**P**	**07 40 11.4**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**46.24**	**189**	*e*P	**P**	**07 40 11.9**	**-1.0**
	comp=Z,9.3nm,0.6s						
WB2	**Warramunga Arr**	**46.25**	**189**	*e*P	**P**	**07 40 11.9**	**-1.0**
	comp=Z,9.2nm,0.6s						
WRA	**Warramunga Arr**	**46.25**	**189**	P	**P**	**07 40 11.7**	**-1.2**
	comp=Z,8.1nm,0.6s,baz=9.7,slow=8.5,SNR=72						
WRA	**Warramunga Arr**	**46.25**	**189**	*i* P	**P**	**07 40 11.6**	**-1.4**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ	**Urumqi**	**46.28**	**307**	P	**P**	**07 40 15.1**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,99nm,5.7s						
WMQ				LR	LR		
	comp=N,120nm,21.5s						
WMQ				LR	LR		
	comp=E,120nm,20.5s						
WMQ				LR	LR		
	comp=Z,120nm,19.3s						
SPIA	**Saint Paul Isl**	**46.36**	**34**	*e*P	**P**	**07 40 15.2**	**+1.8**
	comp=Z,84nm,1.2s						
FITZ	**Fitzroy Crossi**	**46.43**	**200**	*e*P	**P**	**07 40 13.9**	**-0.5**
	comp=Z,6.6nm,0.8s						
DGZ	**Jazzator, Alta**	**47.17**	**315**	*e*P	**P**	**07 40 18.3**	**-1.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKUT	**Akutan**	**47.87**	**39**	*e*P	**P**	**07 40 26.4**	**+1.3**
	comp=Z,26nm,0.7s						
ZALV	**Zalesovo Beam**	**49.53**	**320**	P	**P**	**07 40 37.8**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=101,slow=6.3,SNR=4.4						
AS01	**Alice Springs**	**49.97**	**188**	*e*P	**P**	**07 40 40.0**	**-1.5**
ASAR	**Alice Springs**	**49.98**	**189**	P	**P**	**07 40 40.4**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=13,slow=14,SNR=18						
MK01	**Makanchi Array**	**50.27**	**310**	*e*P	**P**	**07 40 44.5**	**+0.9**
MK31	**Makanchi Array**	**50.28**	**310**	*e*P	**P**	**07 40 44.9**	**+1.3**
MK31	**Makanchi Array**	**50.28**	**310**	*e*P	**P**	**07 40 44.9**	**+1.3**
MKAR	**Makanchi Array**	**50.28**	**310**	P	**P**	**07 40 44.2**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=96,slow=10,SNR=22						
MKAR	**Makanchi Array**	**50.28**	**310**	*c i* P	**P**	**07 40 44.9**	**+1.3**
MKAR				pmax	pmax	

SCM				pmax	pmax			
	comp=Z,17nm,0.9s							
SCM	**Sheep Creek Mo**	**58.69**	**32**	*eP*	**P**		**07 41 46.0**	**+1.9**
	comp=Z,17nm,0.9s							
DHY	**Denali Highway**	**58.74**	**30**	*eP*	**P**		**07 41 45.9**	**+1.3**
	comp=Z,2.5nm,0.7s							
GLI	**Glacier Island**	**58.76**	**33**	*eP*	**P**		**07 41 45.5**	**+0.9**
	comp=Z,26nm,1.1s							
KKAR	**Karatay Array**	**58.79**	**306**	*eP*	**P**		**07 41 46.0**	**+0.9**
KKAR				pmax	pmax			
	comp=Z,42nm,0.5s							
KKAR	**Karatay Array**	**58.79**	**306**	*eP*	**P**		**07 41 46.0**	**+0.9**
	comp=Z,42nm,0.5s							
IL1	**Eielson Array**	**59.07**	**28**	*eP*	**P**		**07 41 46.9**	**+0.3**
ILAR	**Eielson Array**	**59.07**	**28**	P	**P**		**07 41 47.0**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=252,slow=6.0,SNR=20							
ILB	**Eielson Array**	**59.07**	**28**	*eP*	**P**		**07 41 49.5**	**+2.9**
KLU	**Klutina**	**59.35**	**32**	*eP*	**P**		**07 41 50.3**	**+1.6**
	comp=Z,6.8nm,0.6s							
HARP	**HAARP**	**59.73**	**31**	*eP*	**P**		**07 41 53.5**	**+2.2**
	comp=Z,18nm,0.9s							
BMRM	**Bremner River**	**59.98**	**33**	*eP*	**P**		**07 41 55.1**	**+2.1**
	comp=Z,10nm,0.7s							
DOT	**Dot Lake**	**60.25**	**30**	*eP*	**P**		**07 41 56.2**	**+1.5**
	comp=Z,14nm,0.8s							
MENT	**Mentasta**	**60.40**	**31**	*eP*	**P**		**07 41 58.0**	**+2.3**
	comp=Z,2.7nm,0.6s							
BALM	**Baldy**	**61.08**	**33**	*eP*	**P**		**07 42 01.9**	**+1.4**
BALM				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BALM	**Baldy**	**61.08**	**33**	*eP*	**P**		**07 42 01.9**	**+1.4**
	comp=Z,7.2nm,0.7s							
EGAK	**Eagle**	**61.52**	**28**	*eP*	**P**		**07 42 04.6**	**+1.3**
	comp=Z,2.6nm,0.6s							
DAWY	**Dawson**	**62.31**	**29**	*eP*	**P**		**07 42 10.9**	**+2.3**
	comp=Z,6.4nm,1.4s							
INK	**Inuvik**	**64.35**	**24**	P	**P**		**07 42 22.7**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=286,slow=6.0,SNR=16							
SKAG	**Skagway**	**64.71**	**34**	*eP*	**P**		**07 42 26.9**	**+2.5**
	comp=Z,20nm,1.4s							
WHY	**Whitehorse**	**64.75**	**33**	*eP*	**P**		**07 42 27.3**	**+2.5**
	comp=Z,13nm,1.4s							
ABKAR	**Akbulak array**	**65.01**	**314**	*eP*	**P**		**07 42 26.4**	**-0.1**
	comp=Z,19nm,0.6s							
AKTO	**Aktyubinsk**	**65.98**	**316**	P	**P**		**07 42 32.3**	**-0.4**
	baz=108,slow=9.6							
KLMR	**Klimovskoe**	**72.88**	**330**	*eP*	**P**		**07 43 11.3**	**-3.5**
KLMR				*e*			07 43 28.3	
KLMR				pmax	pmax			
	comp=Z,16nm,1.4s							
YKA	**Yellowknife Ar**	**73.49**	**28**	P	**P**		**07 43 19.3**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=297,slow=5.7,SNR=6.2							
ARA0	**ARCESS Array S**	**74.10**	**341**	*eP*	**P**		**07 43 22.3**	**+0.5**
ARCES	**ARCESS Array B**	**74.10**	**341**	P	**P**		**07 43 22.4**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=74,slow=8.9,SNR=11							
NLWA	**Neilton Lookou**	**74.53**	**45**	*eP*	**P**		**07 43 27.6**	**+2.8**
	comp=Z,19nm,1.5s							
B08A	**Colville Reser**	**76.96**	**42**	*eP*	**P**		**07 43 40.5**	**+1.9**
	comp=Z,6.5nm,0.8s							
YBH	**Yreka Blue Hor**	**77.48**	**50**	*eP*	**P**		**07 43 44.1**	**+2.4**
YBH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YBH	**Yreka Blue Hor**	**77.48**	**50**	*eP*	**P**		**07 43 44.1**	**+2.4**
	comp=Z,2.5nm,0.8s							
KCPM	**Cahto Peak**	**77.70**	**52**	*eP*	**P**		**07 43 44.9**	**+1.9**
	comp=Z,6.0nm,0.8s							
D08A	**Wollman Farm,**	**77.76**	**44**	*eP*	**P**		**07 43 44.6**	**+1.6**
	comp=Z,3.7nm,0.8s							
NEW	**Newport**	**78.33**	**42**	*eP*	**P**		**07 43 47.8**	**+1.6**
NEW				pmax	pmax			
	comp=Z,6.0nm,0.8s							
NEW	**Newport**	**78.33**	**42**	*eP*	**P**		**07 43 47.8**	**+1.6**
	comp=Z,5.5nm,0.8s							
FIA1	**FINESS Array S**	**78.34**	**334**	*eP*	**P**		**07 43 45.3**	**-0.6**
	comp=Z,16nm,1.0s							
FINES	**FINESS Array B**	**78.34**	**334**	P	**P**		**07 43 45.5**	**-0.4**
	comp=Z,5.8nm,0.5s,baz=73,slow=5.3,SNR=46							
BMO	**Blue Mountains**	**79.73**	**45**	*eP*	**P**		**07 43 55.7**	**+1.7**
BMO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BMO	**Blue Mountains**	**79.73**	**45**	*eP*	**P**		**07 43 55.7**	**+1.7**
	comp=Z,4.7nm,0.8s							
WALA	**Waterton Lakes**	**79.87**	**40**	*eP*	**P**		**07 43 57.1**	**+2.4**
	comp=Z,9.9nm,1.5s							
PAHR	**Pah Rah Range**	**80.63**	**50**	*eP*	**P**		**07 44 00.7**	**+1.7**
	comp=Z,2.4nm,0.8s							
CMB	**Columbia Colle**	**80.66**	**52**	*eP*	**P**		**07 43 59.9**	**+0.9**
CMB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CMB	**Columbia Colle**	**80.66**	**52**	*eP*	**P**		**07 43 59.9**	**+0.9**
	comp=Z,2.9nm,0.8s							
PNTR	**Pine Nut**	**80.75**	**51**	*eP*	**P**		**07 44 01.6**	**+1.9**
	comp=Z,2.5nm,0.8s							
MSO	**Missoula**	**80.91**	**42**	*eP*	**P**		**07 44 02.2**	**+2.0**
SLMT	**Seeley Lake**	**80.98**	**42**	*eP*	**P**		**07 44 02.4**	**+1.7**
YERR	**Yerington**	**81.05**	**51**	*eP*	**P**		**07 44 02.7**	**+1.5**
	comp=Z,2.3nm,0.8s							
WAKR	**Walker**	**81.12**	**52**	*eP*	**P**		**07 44 03.8**	**+2.1**
	comp=Z,2.1nm,1.3s							
MFID	**Camas Ranch**	**81.34**	**46**	*eP*	**P**		**07 44 04.0**	**+1.4**
	comp=Z,4.4nm,0.8s							
LRM	**Limekiln Ridge**	**82.30**	**43**	*eP*	**P**		**07 44 09.5**	**+1.8**
AKASG	**Malin Array Be**	**82.76**	**323**	P	**P**		**07 44 08.8**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=51,slow=5.4,SNR=11							
AKBB	**Malin Array Si**	**82.76**	**323**	*eP*	**P**		**07 44 09.7**	**0.0**
AKBB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
AKBB	**Malin Array Si**	**82.76**	**323**	*eP*	**P**		**07 44 09.7**	**0.0**
	comp=Z,5.6nm,1.1s							
KIEV	**Kiev**	**82.77**	**323**	*eP*	**P**		**07 44 08.9**	**-0.8**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIEV	**Kiev**	**82.77**	**323**	*eP*	**P**		**07 44 09.7**	**0.0**
	comp=Z,4.6nm,1.1s							
BOZ	**Bozeman (W)**	**82.91**	**42**	*eP*	**P**		**07 44 12.7**	**+1.9**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BOZ	**Bozeman (W)**	**82.91**	**42**	*eP*	**P**		**07 44 12.7**	**+1.9**
	comp=Z,2.8nm,0.8s							
R11A	**Troy Canyon, C**	**83.88**	**50**	*eP*	**P**		**07 44 17.6**	**+1.7**
	comp=Z,1.9nm,0.9s							
NC405	**NORSAR Array S**	**83.89**	**338**	*eP*	**P**		**07 44 14.9**	**-0.3**
NB201	**NORSAR Array S**	**84.07**	**338**	*eP*	**P**		**07 44 15.5**	**-0.7**
TPNV	**Topopah Spring**	**84.08**	**52**	*eP*	**P**		**07 44 18.2**	**+1.3**
TPNV				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TPNV	**Topopah Spring**	**84.08**	**52**	*eP*	**P**		**07 44 18.2**	**+1.3**
	comp=Z,1.8nm,0.8s							
NC204	**NORSAR Array S**	**84.09**	**338**	*eP*	**P**		**07 44 15.4**	**-0.9**
NB2	**NORSAR Subarra**	**84.11**	**338**	P	**P**		**07 44 15.3**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=46,slow=4.6							
NOA	**NORSAR Array B**	**84.11**	**338**	P	**P**		**07 44 15.3**	**-1.1**
	comp=Z,5.9nm,0.7s,baz=47,slow=4.9,SNR=10							
NBO02	**NORSAR Array S**	**84.22**	**338**	*eP*	**P**		**07 44 16.5**	**-0.4**
RLMT	**Red Lodge**	**84.58**	**42**	*eP*	**P**		**07 44 21.9**	**+2.5**
	comp=Z,2.9nm,0.8s							
PFO	**Pinyon Flats O**	**85.50**	**55**	*eP*	**P**		**07 44 25.5**	**+1.4**
PFO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PFO	**Pinyon Flats O**	**85.50**	**55**	*eP*	**P**		**07 44 25.5**	**+1.4**
	comp=Z,3.4nm,0.8s							
PDAR	**Pinedale Array**	**85.64**	**44**	P	**P**		**07 44 25.8**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=302,slow=2.8,SNR=4.4							
KNB	**Kanab**	**86.44**	**50**	*eP*	**P**		**07 44 31.5**	**+2.8**
KNB				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KNB	**Kanab**	**86.44**	**50**	*eP*	**P**		**07 44 31.5**	**+2.8**
	comp=Z,2.2nm,0.8s							
DPC	**Dobruska-Polom**	**89.50**	**328**	*eP*	**P**		**07 44 42.4**	**-0.4**
DPC	**Dobruska-Polom**	**89.50**	**328**	*eP*	**P**		**07 44 42.4**	**-0.4**
KHC	**Kasperske Hory**	**91.64**	**329**	*eP*	**P**		**07 44 52.1**	**-0.6**
KHC	**Kasperske Hory**	**91.64**	**329**	*eP*	**P**		**07 44 52.1**	**-0.6**
GERES	**GERESS Array B**	**91.78**	**328**	P	**P**		**07 44 52.3**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=62,slow=3.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**124.40**	**310**	PKP	**PKPdf**		**07 50 43.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=80,slow=1.5,SNR=4.7							
PTGA	**Pitinga**	**147.67**	**42**	PKPbc	**PKPbc**		**07 51 30.5**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=298,slow=4.0,SNR=14							
PTGA	**Pitinga**	**147.67**	**42**	*e*PKPbc	**PKPbc**		**07 51 30.8**	**+0.6**
LPAZ	**La Paz**	**151.19**	**76**	PKPbc	**PKPbc**		**07 51 40.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=270,slow=2.0,SNR=4.1							
LPAZ	**La Paz**	**151.19**	**76**	*e*PKPbc	**PKPbc**		**07 51 40.4**	**+0.8**
SAML	**Samuel**	**151.40**	**58**	*e*PKPbc	**PKPbc**		**07 51 39.4**	**0.0**

JMA 18 07:35:40.7±0.1, 36°.61N×141°.05E, h35km±1km, M2.7,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.39**	**270**	P	Pn	07 35 49.4	-0.4
JHO				S	Sn	07 35 55.6	-0.4
ONAJ	**Iwakimizuishiy**	**0.53**	**338**	P	Pn	07 35 51.5	-0.4
ONAJ				S	Sn	07 35 58.6	-1.0
JFK	**Kawauchi**	**0.77**	**350**	P	Pn	07 35 54.4	-0.7
JFK				S	Sn	07 36 04.4	-1.1
JYT	**Yasato**	**0.79**	**241**	P	Pn	07 35 55.3	0.0
JYT				S	Sn	07 36 05.7	-0.2
JSB	**Shiboa**	**0.97**	**292**	P	Pn	07 35 59.5	+1.6
JFT	**Otama**	**1.07**	**328**	P	Pn	07 36 00.4	+1.2
JFT				S	Sn	07 36 14.0	+1.1
JMM	**Marumori**	**1.27**	**351**	P	Pn	07 36 02.2	+0.2
JMM				S	Sn	07 36 17.7	-0.1
JAG	**Ashikaga**	**1.30**	**262**	P	Pn	07 36 03.2	+0.8

NNC 18 07:44:42.3±1.9, 54°.30N×86°.36E, h0km, mb3.5, mpv2.8, 4C-3D, Error ellipse: s-maj=13.5km s-min=7.0km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.98**	**249**	⇑P	Pg	07 45 00.9	-0.1
	0.2nm,0.2s,baz=65,slow=17						
ZAA0				⇓S	Sb	07 45 14.9	-0.6
	1.2nm,0.3s,baz=70,slow=28						
KURK	**Kurchatov**	**5.94**	**236**	⇓Pn	Pn	07 46 12.8	+1.3
	0.9nm,0.5s						
KURK				⇑Lg	Lg	07 47 50.3	
	5.4nm,1.3s						
KURBB	**Kurchatov Arra**	**6.04**	**236**	⇑Pn	Pn	07 46 12.5	-0.4
	1.4nm,0.5s						
KURBB				⇓Lg	Lg	07 47 55.3	
	3.5nm,0.6s						
MK31	**Makanchi Array**	**7.95**	**201**	Pn	Pn	07 46 40.5	+1.4
	0.4nm,0.4s,baz=30,slow=15,SNR=13						
MK31				⇑Lg	Lg	07 48 55.1	
	1.5nm,0.8s						

*ISCJB **18** 07:45:04.3±0.5, 37°.95±0°.1×78°.04E±0°.09, h10km, mb4.4/20, MS4.3/13, Error ellipse: s-maj=16.8km s-min=9.7km az=8.2*
*IDC **18** 07:45:04.8±1.1, 37°.75S×78°.04E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/27, mbtmp4.1/8, MS4.3/13, Ms1 4.2/13, ms1mx4.0/35, Error ellipse: s-maj=50.4km s-min=19.6km az=11.0*
*NEIC **18** 07:45:06.1±0.3, 37°.88S×78°.02E, h10km, mb4.5/15, Error ellipse: s-maj=13.5km s-min=8.2km az=186.0*
ISC 18 07:45:06.1±0.6, 37°.9S±0°.1×77°.99E±0°.10, h10km, n50, σ0°.88/34, mb4.3/20, MS4.3/13, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.52**	**349**	T	T	08 22 24.0	
	baz=171,slow=76,SNR=1660						
H08S1	**Diego Carcia H**	**30.52**	**349**	T	T	08 22 24.3	
	baz=171,slow=76,SNR=1612						
H08S3	**Diego Garcia H**	**30.54**	**349**	T	T	08 22 25.5	
	baz=171,slow=76,SNR=1930						
MAW	**Mawson**	**30.95**	**191**	LR	LR	08 01 48.0	
	comp=Z,518nm,18.7s,baz=45,slow=32						
MAW	**Mawson**	**30.95**	**191**	*eP*	**P**	**07 51 23.0**	**+0.2**
	0.7nm,1.0s						
H08N1	**Diego Carcia H**	**32.04**	**347**	T	T	08 25 09.6	
	baz=124,slow=72,SNR=7.7						
H08N3	**Diego Garcia H**	**32.04**	**347**	T	T	08 24 53.8	
	baz=124,slow=72,SNR=9.3						
H08N2	**Diego Garcia H**	**32.06**	**347**	T	T	08 25 00.8	
	baz=124,slow=72,SNR=6.9						
MBWA	**Marble Bar**	**39.60**	**77**	*eP*	**P**	**07 52 38.4**	**+0.6**
	6.9nm,1.1s						
CISI	**Cisompet, Garu**	**40.50**	**49**	*eP*	**P**	**07 52 46.1**	**+0.7**
	48nm,1.0s						
JAGI	**Jajag, Banyuwa**	**43.83**	**57**	*eP*	**P**	**07 53 12.0**	**-0.5**
	42nm,1.1s						
LBTB	**Lobatse**	**45.95**	**270**	P	**P**	**07 53 29.6**	**+0.1**
	1.9nm,0.6s,baz=123,slow=9.9,SNR=2.8						
LBTB	**Lobatse**	**45.95**	**270**	*eP*	**P**	**07 53 29.6**	**+0.1**
	4.4nm,1.1s						
ASAR	**Alice Springs**	**49.41**	**90**	P	**P**	**07 53 56.1**	**-0.1**
	1.9nm,1.0s,baz=237,slow=7.4,SNR=10						
ASAR				LR	LR	08 12 26.1	
	comp=Z,638nm,19.1s,baz=283,slow=33						
AS31	**Alice Springs**	**49.41**	**90**	*eP*	**P**	**07 53 56.1**	**-0.2**
	1.6nm,1.0s						
AS01	**Alice Springs**	**49.45**	**90**	*eP*	**P**	**07 53 56.4**	**-0.1**
STKA	**Stephens Creek**	**51.64**	**104**	P	**P**	**07 54 13.6**	**+0.6**
	1.7nm,0.6s,baz=264,slow=8.6,SNR=6.1						
STKA				LR	LR	08 12 55.1	
	comp=Z,486nm,18.9s,baz=244,slow=32						
STKA	**Stephens Creek**	**51.64**	**104**	*eP*	**P**	**07 54 13.6**	**+0.6**
	1.2nm,1.0s						
WR1	**Warramunga Arr**	**51.70**	**86**	*eP*	**P**	**07 54 12.8**	**-0.8**
	4.0nm,1.1s						
WRA	**Warramunga Arr**	**51.70**	**86**	P	**P**	**07 54 12.8**	**-0.8**
	2.5nm,0.7s,baz=238,slow=7.4,SNR=8.7						
WRA				LR	LR	08 13 52.7	
	comp=Z,482nm,20.3s,baz=270,slow=34						
WB2	**Warramunga Arr**	**51.71**	**86**	*eP*	**P**	**07 54 13.3**	**-0.3**
	5.6nm,1.1s						
VNDA	**Vanda**	**52.02**	**164**	LR	LR	08 14 32.0	
	comp=Z,446nm,19.5s,baz=302,slow=34						
VNDA	**Vanda**	**52.02**	**164**	*eP*	P	07 54 09.7	-5.4
VNDA				*es*P	pP	07 54 10.3	-8.0
KMBO	**Kilima Mbogo**	**52.31**	**304**	P	**P**	**07 54 17.9**	**-0.5**
	0.9nm,0.3s,baz=186,slow=8.6,SNR=3.6						
TSUM	**Tsumeb**	**55.30**	**272**	*eP*	**P**	**07 54 40.3**	**+0.1**
	5.5nm,1.1s						
CAN	**Canberra**	**55.77**	**111**	*eP*	**P**	**07 54 42.8**	**-0.4**
	1.9nm,0.8s						
RAYN	**Ar Rayn**	**68.29**	**328**	*eP*	**P**	**07 56 08.3**	**+0.9**
	3.1nm,1.1s						
LSA	**Lhasa**	**68.36**	**12**	*eP*	**P**	**07 56 08.1**	**0.0**
	14nm,0.4s						
GEYT	**Alibeck**	**77.64**	**344**	LR	LR	08 26 38.6	
	comp=Z,132nm,19.3s,baz=185,slow=32						
AAK	**Ala-Archa**	**80.21**	**357**	P	**P**	**07 57 17.0**	**+0.5**
	0.9nm,0.5s,baz=191,slow=16,SNR=2.9						
GNI	**Garni**	**83.43**	**335**	*eP*	**P**	**07 57 34.1**	**+0.5**
	6.7nm,0.6s						
MK31	**Makanchi Array**	**84.39**	**3**	*eP*	**P**	**07 57 37.0**	**-1.2**
MK32	**Makanchi Array**	**84.39**	**3**	*eP*	**P**	**07 57 37.1**	**-1.0**
MKAR	**Makanchi Array**	**84.39**	**3**	P	**P**	**07 57 37.1**	**-1.0**
	1.9nm,0.8s,baz=164,slow=5.9,SNR=10						
MKAR				LR	LR	08 31 36.4	
	comp=Z,143nm,21.7s,baz=183,slow=33						
MKAR	**Makanchi Array**	**84.39**	**3**	*eP*	**P**	**07 57 36.8**	**-1.3**
	14nm,0.8s						
KBZ	**Khabaz**	**87.25**	**335**	LR	LR	08 34 01.7	
	comp=Z,59nm,18.8s,baz=61,slow=34						
BRTR	**Keskin Array B**	**87.31**	**327**	LR	LR	08 34 03.7	
	comp=Z,40nm,18.6s,baz=132,slow=34						
TOA0	**Torodi Ar. Sit**	**87.46**	**289**	*eP*	**P**	**07 57 53.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**87.46**	**289**	P	**P**	**07 57 54.9**	**+0.9**
	0.7nm,0.9s,baz=112,slow=3.4,SNR=4.2						
TORD				LR	LR	08 34 30.4	
	comp=Z,169nm,19.2s,baz=70,slow=34						
TOA1	**Torodi Ar. Sit**	**87.46**	**289**	*eP*	**P**	**07 57 55.0**	**+0.9**
BR231	**Keskin MP Arra**	**87.77**	**327**	*eP*	**P**	**07 57 54.1**	**-1.0**
DBIC	**Dimbokro**	**88.43**	**280**	LR	LR	08 31 56.9	
	comp=Z,113nm,20.2s,baz=114,slow=32						
SONM	**Songino Array**	**89.03**	**19**	LR	LR	08 36 33.5	
	comp=Z,117nm,19.1s,baz=146,slow=35						
ZALV	**Zalesovo Beam**	**91.66**	**4**	LR	LR	08 36 09.3	
	comp=Z,100nm,21.2s,baz=250,slow=34						
ILAR	**Eielson Array**	**142.45**	**30**	PKP	**PKPdf**	**08 04 39.9**	**+1.8**
	0.2nm,0.7s,baz=336,slow=2.0,SNR=3.1						
ILB	**Eielson Array**	**142.45**	**30**	*e*PKPdf	**PKPdf**	**08 04 39.9**	**+1.8**
RAGM	**Ragged Mountai**	**145.06**	**36**	*e*PKPbc	PKPbc	08 04 41.9	-0.4
DAWY	**Dawson**	**145.66**	**28**	*e*PKPdf	**PKPab**	**08 04 43.9**	**-0.5**
HYT	**Haines Junctio**	**148.08**	**33**	*e*PKPdf	**PKPdf**	**08 04 46.6**	**-1.4**
GTBY	**Guantanamo Bay**	**150.58**	**240**	*e*PKPdf	**PKPdf**	**08 04 51.7**	**-1.4**

MEX 18 07:45:30.2±0.4, 16°.11N×98°.62W, h2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**60**	*i* P	Pg	07 45 40.2	-0.5
PNIG				*i* S	Sg	07 45 48.4	+0.5
TLIG	**Tlapa**	**1.44**	**2**	*e*P	Pn	07 45 53.6	-3.9
TLIG				*e*S	Sg	07 46 12.6	-4.0
CAIG	**El Cayaco**	**1.83**	**301**	*e*P	Pn	07 46 01.9	-0.9
VHO	**Vista Hermosa**	**2.04**	**62**	*e*P	Pn	07 46 02.8	-3.0
VHO				*e*S	Sn	07 46 27.8	-4.2
ARIG	**Puente Sto Nin**	**2.71**	**323**	*e*P	Pn	07 46 12.6	-2.3
ARIG				*e*S	Sn	07 46 44.4	-4.0

*KRSC **18** 08:05:55.0±0.9, 55°.73N×162°.49E, h54km±18km, ML4.1*
*ISCJB **18** 08:05:56.6±0.4, 55°.76N±0°.03×162°.47E±0°.05, h48km±6km, mb3.8/8, Error ellipse: s-maj=5.1km s-min=4.4km az=43.0*
*MOS **18** 08:05:56.7±1.0, 55°.81N×162°.44E, h52km, mb4.1/6, Error ellipse: s-maj=9.7km s-min=5.8km az=65.4*
*IDC **18** 08:06:00.0±3.4, 55°.78N×162°.41E, h64km±34km, mb3.6/8, mb1 3.7/9, mb1mx3.4/49, mbtmp3.9/9, ML2.3/1, Error ellipse: s-maj=26.1km s-min=20.0km az=150.0*
ISC 18 08:05:56.7±1.1, 55°.79N±0°.03×162°.43E±0°.03, h31km±9km, n72, σ1°.15/100, mb3.9/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.49**	**18**	PN	**Pb**	**08 06 07.2**	**+0.2**
KBG				S	**Sn**	**08 06 16.2**	**+1.2**
KBG	**Krutoberegovo**	**0.49**	**18**	*e*P	**Pb**	**08 06 07.2**	**+0.2**
KBG				*e*S	**Sn**	**08 06 16.2**	**+1.2**
ZLN	**Zelenaya**	**0.94**	**285**	PN	**Pn**	**08 06 14.2**	**+0.4**
ZLN				S	**Sn**	**08 06 27.4**	**+1.1**
ZLN	**Zelenaya**	**0.94**	**285**	*e*P	**Pn**	**08 06 14.2**	**+0.4**
ZLN				*e*S	**Sn**	**08 06 27.4**	**+1.1**
CIRR	**Tsirk**	**1.00**	**290**	PN	**Pn**	**08 06 14.9**	**+0.2**
CIRR				S	**Sb**	**08 06 28.0**	**-0.4**
CIRR	**Tsirk**	**1.00**	**290**	*e*P	**Pn**	**08 06 14.9**	**+0.2**
CIRR				*e*S	**Sb**	**08 06 28.0**	**-0.4**
LGNR	**Loginova**	**1.02**	**287**	PN	**Pb**	**08 06 15.5**	**+0.4**
LGNR				S	**Sb**	**08 06 28.5**	**-0.7**
LGNR	**Loginova**	**1.02**	**287**	*e*P	**Pn**	**08 06 15.5**	**+0.4**
LGNR				*e*S	**Sb**	**08 06 28.5**	**-0.7**
BZMR	**Bezymyannaya**	**1.10**	**278**	PN	**Pn**	**08 06 16.2**	**+0.1**
BZMR	**Bezymyannaya**	**1.10**	**278**	*e*P	**Pn**	**08 06 16.2**	**+0.1**
SRKR	**Sorokina**	**1.12**	**321**	PN	**Pb**	**08 06 17.1**	**-0.4**
SRKR	**Sorokina**	**1.12**	**321**	*e*P	**Pb**	**08 06 17.1**	**-0.4**
KLY	**Klyuchi**	**1.13**	**298**	PN	**Pn**	**08 06 15.1**	**-1.1**
KLY				S	**Sn**	**08 06 29.2**	**-1.4**
KLY	**Klyuchi**	**1.13**	**298**	*e*P	**Pn**	**08 06 15.1**	**-1.1**
KLY				*e*S	**Sn**	**08 06 29.2**	**-1.4**
KRSR	**Krestovskiy**	**1.13**	**293**	PN	**Pn**	**08 06 16.4**	**0.0**
KRSR				S	**Sn**	**08 06 30.3**	**-0.6**
KRSR	**Krestovskiy**	**1.13**	**293**	*e*P	**Pn**	**08 06 16.4**	**0.0**
KRSR				*e*S	**Sn**	**08 06 30.3**	**-0.6**
KIRR	**Kirishev**	**1.19**	**279**	PN	**Pn**	**08 06 17.7**	**+0.5**
KIRR				S	**Sn**	**08 06 32.5**	**+0.1**
KIRR	**Kirishev**	**1.19**	**279**	*e*P	**Pn**	**08 06 17.7**	**+0.5**
KIRR				*e*S	**Sn**	**08 06 32.5**	**+0.1**
KMNR	**Kamenistaya**	**1.24**	**269**	PN	**Pn**	**08 06 18.5**	**+0.6**
KMNR				S	**Sb**	**08 06 35.0**	**-0.2**
KMNR	**Kamenistaya**	**1.24**	**269**	*e*P	**Pn**	**08 06 18.5**	**+0.6**
KMNR				*e*S	**Sb**	**08 06 35.0**	**-0.2**
KPT	**Kopyto**	**1.26**	**279**	PN	**Pn**	**08 06 18.9**	**+0.8**
KPT	**Kopyto**	**1.26**	**279**	*e*P	**Pn**	**08 06 18.9**	**+0.8**
KZV	**Kizimen**	**1.39**	**242**	PN	**Pn**	**08 06 20.3**	**+0.2**
KZV				S	**Sn**	**08 06 38.1**	**+0.7**
KZV	**Kizimen**	**1.39**	**242**	*e*P	**Pn**	**08 06 20.3**	**+0.2**
KZV				*e*S	**Sn**	**08 06 38.1**	**+0.7**
TUMR	**Tumrok**	**1.39**	**250**	PN	**Pn**	**08 06 21.1**	**+1.1**
TUMR				S	**Sb**	**08 06 39.2**	**-0.4**
TUMR	**Tumrok**	**1.39**	**250**	*e*P	**Pn**	**08 06 21.1**	**+1.1**
TUMR				*e*S	**Sb**	**08 06 39.2**	**-0.4**
**K

GOKC				eSG	Sb	08 08 18.2	-0.4
GADA	**Gvkgeada**	**0.21**	**200**	ePG	Pg	08 08 14.9	+0.3
GADA				eSG	Sb	08 08 18.6	-0.4
GADA	**Gvkgeada**	**0.21**	**200**	P	Pb	08 08 15.1	-0.2
GADA				S	Sb	08 08 18.9	-0.1
GADA	**Gvkgeada**	**0.21**	**200**	P	Pb	08 08 15.1	-0.2
GADA				eSg	Sb	08 08 18.6	-0.4
GELI	**Tayfur-Gelibol**	**0.37**	**88**	ePG	Pg	08 08 17.3	-0.1
GELI				eSG	Sg	08 08 21.9	-0.6
GELI	**Tayfur-Gelibol**	**0.37**	**88**	ePg	Pg	08 08 17.3	-0.1
GELI				eSg	Sg	08 08 21.9	-0.6
ENEZ	**Enez**	**0.37**	**19**	ePG	Pg	08 08 17.6	+0.1
ENEZ				eSG	Sg	08 08 22.8	+0.2
ENEZ	**Enez**	**0.37**	**19**	P	Pg	08 08 17.5	+0.1
ENEZ				S	Sb	08 08 23.4	-0.3
ENEZ	**Enez**	**0.37**	**19**	P	Pg	08 08 17.5	+0.1
ENEZ				eSg	Sg	08 08 22.8	+0.2
ENEZ				S	Sb	08 08 23.4	-0.3
ERIK	**Erikli-Kesan**	**0.49**	**54**	ePG	Pg	08 08 19.3	-0.3
ERIK	**Erikli-Kesan**	**0.49**	**54**	ePg	Pg	08 08 19.3	-0.3
ALN	**Alexandroupoli**	**0.51**	**4**	ePG	Pg	08 08 20.2	+0.1
ALN	**Alexandroupoli**	**0.51**	**4**	P	Pg	08 08 19.9	-0.1
ALN				S	Sg	08 08 27.1	+0.2
ALN	**Alexandroupoli**	**0.51**	**4**	P	Pg	08 08 20.1	+0.1
ALN				S	Sg	08 08 26.8	-0.1
ALN				AML	AML	08 08 27.6	
	comp=N,619μm,0.3s						
ALN				AML	AML	08 08 28.1	
	comp=E,390μm,0.3s						
ALN	**Alexandroupoli**	**0.51**	**4**	P	Pg	08 08 19.9	-0.1
ALN	**Alexandroupoli**	**0.51**	**4**	ePg	Pg	08 08 20.2	+0.1
ALN				S	Sg	08 08 26.8	-0.1
BOZC	**Bozcaada**	**0.55**	**175**	ePG	Pg	08 08 20.8	+0.2
BOZC	**Bozcaada**	**0.55**	**175**	iP	Pg	08 08 20.7	0.0
BOZC				iS	Sg	08 08 28.1	+0.2
BOZC	**Bozcaada**	**0.55**	**175**	ePg	Pg	08 08 20.8	+0.2
LPK	**Lapseki**	**0.59**	**91**	ePG	Pg	08 08 21.5	+0.1
LPK	**Lapseki**	**0.59**	**91**	ePg	Pg	08 08 21.5	+0.1
EZN	**Ezine**	**0.61**	**155**	ePG	Pg	08 08 22.0	+0.1
EZN	**Ezine**	**0.61**	**155**	ePg	Pg	08 08 22.0	+0.1
KESN	**Edirne-Kesan**	**0.68**	**50**	iP	Pg	08 08 22.8	-0.5
KESN				iS	Sg	08 08 32.5	+0.1
KESN	**Edirne-Kesan**	**0.68**	**50**	P	Pg	08 08 22.8	-0.5
KESN				S	Sg	08 08 32.5	+0.1
BAYC	**CANAKKALE_Bayr**	**0.77**	**146**	iP	Pg	08 08 24.6	-0.2
BAYC				iS	Sg	08 08 34.8	-0.3
LIA	**Limnos Island**	**0.79**	**232**	P	Pg	08 08 25.3	+0.1
LIA				S	Sb	08 08 36.8	+1.1
LIA	**Limnos Island**	**0.79**	**232**	P	Pg	08 08 25.3	+0.1
LIA				S	Sg	08 08 34.3	-1.3
LIA				AML	AML	08 08 39.9	
	comp=E,298μm,0.3s						
LIA				AML	AML	08 08 41.0	
	comp=N,250μm,0.3s						
LIA	**Limnos Island**	**0.79**	**232**	P	Pg	08 08 25.3	+0.1
LIA				S	Sb	08 08 36.8	+1.1
RDO	**Rodhopi**	**0.83**	**336**	P	Pg	08 08 25.6	-0.5
RDO				S	Sg	08 08 36.8	-0.3
RDO	**Rodhopi**	**0.83**	**336**	P	Pg	08 08 25.6	-0.5
RDO				S	Sg	08 08 36.9	-0.2
RDO				AML	AML	08 08 40.0	
	comp=E,303μm,0.2s						
RDO				AML	AML	08 08 40.8	
	comp=N,254μm,0.2s						
RDO	**Rodhopi**	**0.83**	**336**	P	Pg	08 08 25.6	-0.5
RDO				S	Sg	08 08 36.9	-0.2
KRBG	**Karabiga-Canak**	**1.00**	**89**	ePG	Pb	08 08 28.3	-0.5
KRBG	**Karabiga-Canak**	**1.00**	**89**	ePg	Pb	08 08 28.3	-0.5
PRK	**Paraskevi**	**1.16**	**169**	P	Pn	08 08 31.6	+0.1
PRK				S	Sg	08 08 48.2	+0.9
PRK	**Paraskevi**	**1.16**	**169**	P	Pn	08 08 31.5	+0.1
PRK				S	Sb	08 08 46.8	+0.5
PRK				AML	AML	08 08 48.6	
	comp=E,775μm,0.5s						
PRK				AML	AML	08 08 49.9	
	comp=N,773μm,0.5s						
PRK	**Paraskevi**	**1.16**	**169**	P	Pn	08 08 31.6	+0.1
PRK				S	Sb	08 08 46.8	+0.5
CUND	**Cunda Adasi-Ba**	**1.17**	**153**	ePN	Pg	08 08 32.3	-0.1
SIGR	**SIGRI**	**1.18**	**185**	ePN	Pn	08 08 31.2	-0.5
SIGR	**SIGRI**	**1.18**	**185**	P	Pn	08 08 31.1	-0.7
SIGR				S	Sn	08 08 47.5	+0.1
SIGR	**SIGRI**	**1.18**	**185**	P	Pn	08 08 31.0	-0.7
SIGR				S	Sb	08 08 46.8	-0.1
SIGR				AML	AML	08 08 47.6	
	comp=E,181μm,0.5s						
SIGR				AML	AML	08 08 48.5	
	comp=N,548μm,0.3s						
SIGR	**SIGRI**	**1.18**	**185**	ePn	Pn	08 08 31.2	-0.5
SIGR				S	Sn	08 08 47.5	+0.1
AYVA	**Ayvalik**	**1.20**	**153**	iP	Pg	08 08 33.0	-0.1
AYVA				iS	Sn	08 08 48.2	+0.1
AYVA	**Ayvalik**	**1.20**	**153**	P	Pg	08 08 33.0	-0.1
AYVA				S	Sn	08 08 48.2	+0.1
KAVA	**Kavala**	**1.28**	**299**	P	Pn	08 08 33.1	0.0
KAVA				S	Sb	08 08 49.5	-0.3
KAVA	**Kavala**	**1.28**	**299**	P	Pn	08 08 33.3	+0.2
KAVA				S	Sb	08 08 49.9	+0.1
KAVA				AML	AML	08 08 53.3	
	comp=N,110μm,0.2s						
KAVA				AML	AML	08 08 54.1	
	comp=E,82μm,0.2s						
KAVA	**Kavala**	**1.28**	**299**	P	Pn	08 08 33.3	+0.2
KAVA				S	Sb	08 08 49.9	+0.1
TKR	**Tekirdag**	**1.32**	**62**	ePN	Pb	08 08 34.5	+0.2
TKR	**Tekirdag**	**1.32**	**62**	ePn	Pb	08 08 34.5	+0.2
GONE	**Gonen-Balikesi**	**1.34**	**104**	ePN	Pn	08 08 34.3	+0.4
GONE	**Gonen-Balikesi**	**1.34**	**104**	ePn	Pn	08 08 34.3	+0.4
BALY	**Balya**	**1.41**	**117**	iP	Pb	08 08 35.8	0.0
BALY				iS	Sn	08 08 53.1	0.0
BALY	**Balya**	**1.41**	**117**	P	Pb	08 08 35.8	0.0
BALY				S	Sn	08 08 53.1	0.0
EDC	**Edincik**	**1.43**	**91**	ePN	Pn	08 08 34.7	-0.5
EDC	**Edincik**	**1.43**	**91**	ePn	Pn	08 08 34.7	-0.5
DKL	**Dikili**	**1.49**	**152**	ePN	Pn	08 08 35.9	-0.1
DKL	**Dikili**	**1.49**	**152**	ePn	Pn	08 08 35.9	-0.1
OUR	**Ouranopolis**	**1.54**	**269**	P	Pn	08 08 35.6	-1.1
OUR				S	Sn	08 08 56.9	+0.5
OUR				AML	AML	08 09 02.4	
	comp=N,160μm,0.4s						
OUR				AML	AML	08 09 03.6	
	comp=E,212μm,0.6s						
OUR	**Ouranopolis**	**1.54**	**269**	P	Pn	08 08 36.2	-0.5
OUR				S	Sn	08 08 56.9	+0.5
CAND	**Candarli**	**1.56**	**156**	ePN	Pn	08 08 37.7	+0.7
EDRB	**Edirne**	**1.57**	**21**	ePN	Pn	08 08 37.9	+0.8
EDRB	**Edirne**	**1.57**	**21**	P	Pn	08 08 36.7	-0.4
EDRB				S	Sn	08 08 57.1	0.0
EDRB	**Edirne**	**1.57**	**21**	P	Pn	08 08 36.7	-0.4
EDRB	**Edirne**	**1.57**	**21**	ePn	Pn	08 08 37.9	+0.8
EDRB				S	Sn	08 08 57.1	0.0
BALB	**Balikesir**	**1.63**	**117**	ePN	Pn	08 08 38.0	+0.1
BALB	**Balikesir**	**1.63**	**117**	ePn	Pn	08 08 38.0	+0.1
NVR	**Nevrokopi**	**1.88**	**301**	P	Pn	08 08 41.0	-0.5
NVR				S	Sn	08 09 06.1	+1.2
NVR				AML	AML	08 09 13.1	
	comp=N,37μm,0.2s						
NVR				AML	AML	08 09 15.1	
	comp=E,28μm,0.2s						
NVR	**Nevrokopi**	**1.88**	**301**	P	Pn	08 08 41.0	-0.5
NVR				S	Sn	08 09 06.1	+1.2
SLVT	**Silivri**	**1.88**	**63**	ePN	Pn	08 08 42.4	+1.0
SLVT	**Silivri**	**1.88**	**63**	ePn	Pn	08 08 42.4	+1.0
PLG	**Polygyros**	**1.95**	**270**	P	Pn	08 08 42.4	0.0
PLG				S	Sb	08 09 08.2	-0.9
PLG				AML	AML	08 09 14.9	
	comp=N,54μm,0.3s						
PLG				AML	AML	08 09 15.0	
	comp=E,84μm,0.4s						
PLG	**Polygyros**	**1.95**	**270**	P	Pn	08 08 42.4	0.0
PLG				S	Sb	08 09 08.2	-0.9
SRS	**Serrai**	**1.96**	**293**	P	Pn	08 08 43.9	+1.2
SRS				S	Sb	08 09 08.7	-0.9
SRS				AML	AML	08 09 14.6	
	comp=E,67μm,0.4s						
SRS				AML	AML	08 09 14.7	
	comp=N,54μm,0.5s						
SRS	**Serrai**	**1.96**	**293**	P	Pn	08 08 43.8	+1.2
SRS				S	Sb	08 09 08.7	-0.9
CHOS	**Chios island**	**2.00**	**179**	P	Pn	08 08 43.4	+0.3
CHOS				S	Sn	08 09 08.0	+0.2
CHOS	**Chios island**	**2.00**	**179**	P	Pn	08 08 43.4	+0.3
CHOS				S	Sb	08 09 09.5	-1.1
CHOS				AML	AML	08 09 17.4	
	comp=N,105μm,0.5s						
CHOS				AML	AML	08 09 19.1	
	comp=E,116μm,0.5s						
CHOS	**Chios island**	**2.00**	**179**	P	Pn	08 08 43.4	+0.3
CHOS				S	Sn	08 09 08.0	+0.2
CTKS	**Kestanelik-??a**	**2.09**	**65**	ePN	Pn	08 08 44.8	+0.6
CTKS	**Kestanelik-??a**	**2.09**	**65**	ePn	Pn	08 08 44.8	+0.6
KNT	**Kendrikon**	**2.48**	**289**	P	Pn	08 08 50.5	+0.9
KNT	**Kendrikon**	**2.48**	**289**	P	Pn	08 08 50.5	+0.9

MEX 18 08:14:41.4±0.5, 17°.43N×101°.62W, h15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.23**	**40**	iP	Pg	08 14 45.9	-0.6
ZIIG				iS	Sg	08 14 50.0	-0.1
CAIG	**El Cayaco**	**1.35**	**106**	eP	Pn	08 15 02.5	-3.1
CAIG				iS	Sn	08 15 18.3	-5.0
ARIG	**Puente Sto Nin**	**1.48**	**55**	eP	Pn	08 15 03.2	-4.4
ARIG				eS	Sn	08 15 21.5	-5.1
MMIG	**Aquila**	**1.85**	**298**	eP	Pn	08 15 09.7	-3.0
MMIG				eS	Sn	08 15 31.0	-4.9
MEIG	**Mezcala**	**1.97**	**75**	eP	Pn	08 15 10.1	-4.2
PLIG	**Platanillo**	**2.23**	**64**	iP	Pn	08 15 14.0	-3.9
TLIG	**Tlapa**	**2.92**	**87**	eP	Pn	08 15 25.1	-2.3

*SCB **18** 08:26:25.1±0.8, 23°.29S×67°.17W, h185km, Ml4.4/1, Error ellipse: s-maj=22.7km s-min=9.4km az=35.0*
*SJA **18** 08:26:26.2±0.7, 23°.30S×67°.02W, h213km±37km, ML4.0, MW4.5*
*NEIC **18** 08:26:27.6±0.5, 23°.44S×66°.85W, h169km±4km, mb4.4/35, Error ellipse: s-maj=7.2km s-min=5.3km az=77.0*
*ISCJB **18** 08:26:28.2±0.3, 23°.44S±0°.03×67°.05W±0°.03, h189km±2km, mb4.3/40, Error ellipse: s-maj=5.0km s-min=4.1km az=136.5*
*IDC **18** 08:26:28.1±0.9, 23°.37S×66°.85W, h173km±7km, mb3.9/11, mb1 4.1/18, mb1mx4.0/33, mbtmp4.5/18, Error ellipse: s-maj=12.1km s-min=10.4km az=165.0*
*GUC **18** 08:26:30.3±0.6, 23°.37S×67°.40W, h204km±8km, ML5.3*

ISC 18 08:26:28.6±0.6, 23°.39S±0°.04×67°.02W±0°.04, h183km±5km, n122, σ1°.49/150, mb4.3/40, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.49**	**83**	iP	Pn	08 27 02.1	+0.9
HJA				iS	Sn	08 27 28.6	+2.2
YJA	**Yavi**	**1.84**	**49**	iP	Pn	08 27 05.3	+0.5
YJA				IAML		08 27 07.7	
	comp=Z,152nm,0.5s						
YJA				iS	Sn	08 27 33.9	+1.1
LVC	**Limon Verde**	**1.91**	**294**	P	Pn	08 27 06.5	+1.1
	comp=Z,12μm,0.3s,baz=109,slow=6.5,SNR=1513						
LVC				S	Sn	08 27 34.3	+0.5
	comp=Z,10μm,0.3s,baz=281,slow=21,SNR=18						
LVC	**Limon Verde**	**1.91**	**294**	↑iP	Pn	08 27 06.5	+1.1
LVC				iS	Sn	08 27 34.2	+0.5
LVC	**Limon Verde**	**1.91**	**294**	ePn	Pn	08 27 06.4	+1.1
LVC				eSn	Sn	08 27 34.8	+1.1
SLA	**San Lorenzo**	**1.92**	**134**	iP	Pn	08 27 06.6	+1.4
SLA				IAML		08 27 08.8	
	comp=Z,2μm,0.7s						
SLA				iS	Sn	08 27 36.2	+2.5
PB06	**IPOC Station P**	**2.45**	**286**	↑iP	Pn	08 27 12.1	+1.0
PB06				eS	Sn	08 27 43.7	-0.4
PB06				IAML		08 27 44.8	
	comp=E,4μm,0.3s						
MOCB	**Mochara**	**2.49**	**31**	ePn	Pn	08 27 13.3	+1.4
PB09	**IPOC Station P**	**2.60**	**307**	↑iP	Pn	08 27 14.3	+1.4
PB09				iS	Sn	08 27 47.8	+0.6
PB09				IAML		08 27 50.8	
	comp=N,8μm,0.2s						
FSA	**Cafayete**	**2.87**	**161**	iP	Pn	08 27 16.7	+0.6
PB04	**IPOC Station P**	**3.07**	**289**	↑iP	Pn	08 27 18.9	+0.5
PB04				iS	Sn	08 27 55.9	-1.5
PB04				IAML		08 28 01.6	
	comp=N,5μm,0.5s						
PB04	**IPOC Station P**	**3.07**	**289**	ePn	Pn	08 27 19.0	+0.5
PB04				eSn	Sn	08 27 56.0	-1.3
PB07	**IPOC Station P**	**3.12**	**301**	↑iP	Pn	08 27 19.7	+0.5
PB07				iS	Sn	08 27 56.9	-1.7
PB07				IAML		08 27 57.5	
	comp=N,11μm,0.3s						
PB10	**IPOC Station P**	**3.25**	**267**	↑iP	Pn	08 27 20.8	+0.4
PB10				iS	Sn	08 27 59.0	-1.9
PB10				IAML		08 28 01.3	
	comp=N,5μm,0.3s						
PB10	**IPOC Station P**	**3.25**	**267**	ePn	Pn	08 27 20.8	+0.4
PB10				eSn	Sn	08 28 00.0	-0.9
PB01	**IPOC Station P**	**3.27**	**315**	↓iP	Pn	08 27 21.3	+0.4
PB01				iS	Sn	08 28 00.6	-1.0
PB01				IAML		08 28 03.0	
	comp=E,4μm,0.2s						
PB01	**IPOC Station P**	**3.27**	**315**	ePn	Pn	08 27 20.7	-0.2
PB01				eSn	Sn	08 28 01.6	0.0
PB14	**IPOC Station P**	**3.33**	**248**	↑iP	Pn	08 27 21.7	-0.1
PB14				iS	Sn	08 28 01.2	-2.0
AHML	**Horco Molle**	**3.71**	**156**	iP	Pn	08 27 26.4	+0.2
PB08	**IPOC Station P**	**3.79**	**328**	↓iP	Pn	08 27 28.9	+1.2
PB08				iS	Sn	08 28 14.0	+0.2
HMBC	**Humberstone**	**4.09**	**319**	iP	Pn	08 27 30.1	-1.1
HMBC				iS	Sn	08 28 17.2	-2.8
BBOJ	**La Paz, Jacaqu**	**6.48**	**350**	ePn	Pn	08 28 04.1	+1.6
LCO	**Las Campanas**	**6.50**	**210**	ePn	Pn	08 27 59.5	-2.9
LCO				eSn	Sn	08 29 11.7	-4.8
BBOE	**La Paz, Chanca**	**6.61**	**352**	ePn	Pn	08 28 05.6	+1.3
BBOD	**La Paz, Gloria**	**6.88**	**347**	ePn	Pn	08 28 08.8	+1.0
LPAZ	**La Paz**	**7.14**	**351**	P	Pn	08 28 12.0	+0.6
	comp=E,45nm,0.3s,baz=153,slow=6.9,SNR=473						
LPAZ				S	Sn	08 29 32.3	-0.2
	baz=26,slow=15,SNR=1.4						
LPAZ	**La Paz**	**7.14**	**351**	ePn	Pn	08 28 12.0	+0.6
LPAZ				eSn	Sn	08 29 31.0	-1.4
BBOB	**La Paz, Bander**	**7.29**	**352**	ePn	Pn	08 28 13.5	+0.3
BBOB				eSn	Sn	08 29 33.2	-2.5
	comp=E,83nm,0.6s						
SIV	**San Ignacio**	**9.25**	**38**	P	Pn	08 28 36.0	-2.5
	comp=E,12nm,0.3s,baz=228,slow=14,SNR=158						
SIV				S	Sn	08 30 17.8	-4.0
	baz=280,slow=12,SNR=3.1						
SIV	**San Ignacio**	**9.25**	**38**	eP	Pn	08 28 35.8	-2.7
CPUP	**Villa Florida**	**9.27**	**110**	P	Pn	08 28 37.1	-1.6
	comp=E,0.2nm,0.3s,baz=294,slow=12,SNR=12						
CPUP	**Villa Florida**	**9.27**	**110**	ePn	Pn	08 28 37.2	-1.4
ROC1	**El Roble**	**10.18**	**199**	ePn	Pn	08 28 48.8	-1.8
GO05	**HualaæØ**	**12.34**	**199**	ePn	Pn	08 29 17.7	-0.6
NNA	**Nana**	**14.70**	**319**	P	P	08 29 49.3	-0.1
	comp=E,1.4nm,0.3s,baz=137,slow=7.5,SNR=8.5						
NNA				S	S	08 32 33.3	-0.4
	comp=E,1.4nm,0.3s,baz=236,slow=20,SNR=2.9						
SAML	**Samuel**	**14.82**	**15**	ePn	Pn	08 29 48.4	-1.2
TRQA	**Tornquist**	**15.24**	**165**	ePn	Pn	08 29 51.7	-2.8
	comp=E,22nm,0.9s						
PLCA	**Paso Flores**	**17.54**	**189**	P	P	08 30 20.7	+0.1
	comp=E,1.1nm,0.3s,baz=34,slow=13,SNR=25						
PLCA	**Paso Flores**	**17.54**	**189**	eP	P	08 30 20.6	0.0
	comp=E,27nm,0.9s						
SPB	**Sao Paulo**	**17.97**	**95**	eP	P	08 30 24.4	-0.9
	comp=E,31nm,0.8s						
BDFB	**Brasilia**	**19.49**	**70**	P	P	08 30 41.6	-0.4
	comp=E,3.0nm,0.3s,baz=36,slow=11,SNR=133						
BDFB	**Brasilia**	**19.49**	**70**	eP	P	08 30 41.6	-0.4
	comp=E,91nm,0.7s						
ATAH	**Atahualpa**	**19.51**	**324**	P	Pn	08 30 45.4	-0.6
	comp=E,0.4nm,0.3s,baz=115,slow=16,SNR=8.0						
PTGA	**Pitinga**	**23.54**	**18**	P	P	08 31 21.5	-1.0
	comp=E,2.3nm,0.4s,baz=317,slow=23,SNR=12						
PTGA	**Pitinga**	**23.54**	**18**	eP	P	08 31 21.5	-1.0
	comp=E,16nm,1.5s						
CHRN	**Cochrane**	**24.22**	**189**	eP	P	08 31 29.2	+0.8
	comp=E,8.8nm,0.9s						
OTAV	**Otavalo**	**25.98**	**333**	eP	P	08 31 48.8	+3.6
	comp=E,2.2nm,0.7s						
OTAV				ePcP	PcP	08 35 10.1	+1.4
RUSC	**La Rusia**	**29.70**	**348**	eP	P	08 32 18.6	+0.4
	comp=E,11nm,1.5s						
HELC	**Santa Helena**	**30.55**	**343**	eP	P	08 32 24.3	-1.3
	comp=E,12nm,0.5s						
RCBR	**Riachuelo**	**34.68**	**65**	P	P	08 33 00.6	-0.6
	comp=E,11nm,0.7s,baz=231,slow=8.7,SNR=5.2						
RCBR	**Riachuelo**	**34.68**	**65**	eP	P	08 33 00.8	-0.4
	comp=E,20nm,1.1s						
BCIP	**Isla Barro Col**	**34.70**	**337**	eP	P	08 33 04.0	+2.8
	comp=E,47nm,1.4s						
SEUS	**St. Eustatius**	**40.83**	**6**	eP	P	08 33 50.4	-2.0
	comp=E,70nm,0.8s						
SWET	**Sewanee**	**60.98**	**342**	eP	P	08 36 22.7	+0.1
	comp=E,4.9nm,0.8s						
WVT	**Waverly**	**62.38**	**341**	eP	P	08 36 31.2	-0.6
	comp=E,5.7nm,0.8s						
CCM	**Cathedral Cave**	**65.22**	**339**	eP	P	08 36 50.1	-0.3
	comp=E,31nm,0.6s						
MMNY	**Mt. Morris Dam**	**66.56**	**351**	eP	P	08 36 58.8	0.0
LIC	**Lamto**	**67.27**	**72**	eP	P	08 37 02.1	-1.9
	comp=E,7.8nm,0.2s						
TIC	**Toumodi**	**67.47**	**72**	eP	P	08 37 02.5	-2.8
KIC	**Kosan Boka**	**67.58**	**72**	eP	P	08 37 04.4	-1.5
	comp=E,9.2nm,0.6s						
DBIC	**Dimbokro**	**67.63**	**72**	P	P	08 37 04.9	-1.3
	comp=E,4.5nm,0.8s,baz=211,slow=6.7,SNR=10						
DBIC	**Dimbokro**	**67.63**	**72**	eP	P	08 37 04.9	-1.3
	comp=E,12nm,1.3s						
ANMO	**Albuquerque**	**69.03**	**326**	P	P	08 37 16.4	+1.6
	comp=E,1.2nm,0.7s,baz=333,slow=4.8,SNR=5.2						
JFWS	**Jewell Farm**	**69.36**	**342**	eP	P	08 37 16.2	-0.1
	comp=E,29nm,1.4s						
SDCO	**Great Sand Dun**	**70.76**	**329**	eP	P	08 37 27.1	+1.8
	comp=E,1.6nm,0.8s						
ECSD	**EROS Data Cent**	**72.11**	**338**	eP	P	08 37 33.0	+0.1
	comp=E,2.8nm,0.9s						
PV01	**Paradox Valley**	**72.58**	**327**	eP	P	08 37 38.3	+2.2
SYO	**Syowa Base**	**74.12**	**159**	eP	P	08 37 40.0	-4.4
SYO	**Syowa Base**	**74.12**	**159**	eP	P	08 37 43.8	-0.6
LCMT	**Little Creek M**	**74.21**	**323**	eP	P	08 37 47.8	+2.3
	comp=E,1.3nm,0.7s						
LCMT				ePP	pP	08 38 30.2	+0.7
P17A	**Butcher Ranch,**	**74.69**	**326**	eP	P	08 37 50.2	+1.9
	comp=E,2.5nm,0.9s						
MSU	**Marysvale**	**74.72**	**325**	eP	P	08 37 50.9	+2.3
SHPR	**Sheep Range**	**74.92**	**322**	eP	P	08 37 51.9	+2.3
	comp=E,4.3nm,1.5s						
GSC	**Goldstone, Bar**	**75.04**	**320**	eP	P	08 37 53.1	+2.8
	comp=E,6.6nm,1.4s						
VNDA	**Vanda**	**75.29**	**190**	P	P	08 37 52.4	+1.3
	comp=E,1.0nm,0.8s,baz=105,slow=1.7,SNR=3.7						
JLU	**Jordanelle**	**75.90**	**327**	eP	P	08 37 57.7	+2.4
	comp=E,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.37**	**69**	P	P	08 37 56.8	-1.3
	comp=E,4.3nm,0.5s,baz=252,slow=5.3,SNR=34						
PDAR	**Pinedale Array**	**76.62**	**329**	P	P	08 38 00.2	+1.0
	comp=E,0.6nm,0.6s,baz=119,slow=5.8,SNR=7.0						
BW06	**Boulder Array**	**76.62**	**329**	eP	P	08 38 00.5	+1.2
HWUT	**Hardware Ranch**	**76.71**	**327**	eP	P	08 38 01.2	+1.5
	comp=E,2.1nm,0.6s						
MDND	**Maddock**	**76.72**	**338**	eP	P	08 38 00.6	+1.2
	comp=E,16nm,0.9s						
ULM	**Lac du Bonnet**	**77.65**	**342**	P	P	08 38 04.2	-0.3
	comp=E,3.7nm,0.6s,baz=176,slow=6.3,SNR=5.1						
ULM	**Lac du Bonnet**	**77.65**	**342**	eP	P	08 38 04.4	-0.1
	comp=E,12nm,1.4s						
REDW	**Red Top Meadow**	**77.69**	**329**	eP	P	08 38 06.6	+1.4
	comp=E,2.3nm,1.0s						
LOHW	**Long Hollow**	**77.76**	**329**	eP	P	08 38 07.4	+1.9
	comp=E,1.4nm,0.7s						
YHB	**Horse Butte**	**78.90**	**330**	eP	P	08 38 12.9	+1.1
	comp=E,8.4nm,1.3s						
HLID	**Hailey**	**79.57**	**327**	eP	P	08 38 17.6	+2.2
	comp=E,1.3nm,0.5s						
MAW	**Mawson**	**82.02**	**163**	P	P	08 38 28.7	+0.8
	comp=E,6.1nm,0.8s,baz=209,slow=6.2,SNR=18						
LBTB	**Lobatse**	**82.65**	**114**	eP	P	08 38 32.3	+0.2
	comp=E,9.4nm,1.0s						
TAM	**Tamanrasset**	**84.13**	**62**	eP	P	08 38 40.2	+0.6
	comp=E,6.6nm,1.1s						
LTY	**Liberty**	**85.30**	**327**	eP	P	08 38 46.2	+1.3
	comp=E,6.0nm,1.4s						
PAB	**San Pablo**	**85.65**	**44**	eP	P	08 38 47.1	+0.3
	comp=E,10nm,1.1s						
ESDC	**Sonseca Array**	**85.97**	**44**	P	P	08 38 48.8	+0.5
	comp=E,2.5nm,0.8s,baz=245,slow=4.8,SNR=8.4						
YKA	**Yellowknife Ar**	**93.55**	**340**	P	P	08 39 23.5	+0.3
	comp=E,1.7nm,0.5s,baz=135,slow=4.7,SNR=14						
KBZ	**Khabaz**	**119.92**	**52**	PKP	**PKPdf**	**08 44 57.2**	**0.0**
	comp=E,2.4nm,0.8s,baz=239,slow=1.9,SNR=4.1						
AS01	**Alice Springs**	**128.98**	**205**	ePKPdf	**PKPdf**	**08 45 15.3**	**-0.1**
ASAR	**Alice Springs**	**129.00**	**205**	PKP	**PKPdf**	**08 45 15.2**

GTA	**Gaotai**	**6.97**	**141**	Pn	**Pn**	**08 39 17.6**	**+2.4**
GTA				Pg	Pb	08 39 38.4	+4.3
GTA				Sn	**Sn**	**08 40 33.8**	**-0.7**
GTA				Sg	**Sg**	**08 41 08.3**	**-8.2**
GTA				smax	smax		
	comp=N,26nm,1.0s						
GTA				smax	smax		
	comp=E,29nm,1.1s						
MK31	**Makanchi Array**	**8.48**	**287**	Pn	**Pn**	**08 39 34.8**	**-0.9**
	0.2nm,0.2s,baz=99,slow=15,SNR=7.8						
MK31				⇓Pg	**Pb**	**08 40 02.7**	**+3.0**
	0.7nm,0.4s						
MK31				⇑Sn	**Sn**	**08 41 06.4**	**-5.1**
	2.3nm,0.6s,baz=111,slow=28,SNR=4.8						
MK31				⇓Lg	Lg	08 41 48.5	
	6.8nm,0.6s,baz=111,slow=28,SNR=4.8						
MAKZ	**Makanchi**	**8.69**	**286**	⇑Pn	**Pn**	**08 39 36.9**	**-1.8**
	3.7nm,1.4s						
MAKZ				⇓Lg	Lg	08 41 59.6	
	20nm,0.8s						
SONB4	**Songino Array**	**8.90**	**67**	*e*Sg	**Sg**	**08 42 17.0**	**-1.5**
	68nm,1.1s						
SONB5	**Songino Array**	**8.91**	**67**	*e*Sg	**Sg**	**08 42 16.9**	**-2.0**
	54nm,0.8s						
SONA0	**Songino Array**	**8.93**	**67**	*e*Sg	**Sg**	**08 42 15.9**	**-3.3**
SONA2	**Songino Array**	**8.93**	**67**	*e*Sg	**Sg**	**08 42 17.4**	**-2.0**
	70nm,1.0s						
SONA4	**Songino Array**	**8.93**	**67**	*e*Sg	**Sg**	**08 42 16.8**	**-2.7**
	62nm,1.0s						
SONA1	**Songino Array**	**8.94**	**67**	*e*Sg	**Sg**	**08 42 17.1**	**-2.4**
	66nm,1.0s						
SONB1	**Songino Array**	**8.94**	**67**	*e*Sg	**Sg**	**08 42 17.0**	**-2.7**
	70nm,1.2s						
SONB3	**Songino Array**	**8.94**	**67**	*e*Sg	**Sg**	**08 42 17.3**	**-2.3**
	40nm,0.7s						
SONB2	**Songino Ar. Si**	**8.95**	**67**	*e*Sg	Sn	08 42 17.1	+54
	72nm,1.1s						
UB5M		**9.18**	**67**	*e*Sg	Sn	08 42 23.5	+55
ALFM		**9.22**	**66**	*e*Sg	Sn	08 42 25.6	+56
SEMM		**9.25**	**69**	*e*Sg	Sn	08 42 26.7	+56
KURK	**Kurchatov**	**11.90**	**304**	⇓Sn	**Sn**	**08 42 40.4**	**+5.1**
	2.3nm,0.6s						
KURK				⇓Lg	Lg	08 43 53.0	
	20nm,0.9s						
KURBB	**Kurchatov Arra**	**11.92**	**304**	⇓Lg	Lg	08 43 53.6	
	27nm,0.8s						
CD2	**Chengdu**	**15.94**	**149**	*e*P	**Pn**	**08 41 15.8**	**-1.4**

*IDC **18** 08:41:23.4±0.9, 13°.45N×146°.49E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/50, mbtmp4.1/10, Error ellipse: s-maj=23.2km s-min=18.9km az=125.0*
*ISCJB **18** 08:41:24.9±0.4, 13°.42N±0°.06×146°.65E±0°.06, h26km, mb4.3/26, Error ellipse: s-maj=8.3km s-min=7.6km az=140.3*
*NEIC **18** 08:41:24.4±0.2, 13°.44N×146°.60E, h10km, mb4.5/14, Error ellipse: s-maj=7.9km s-min=5.8km az=86.0*

ISC 18 08:41:26.7±0.6, 13°.4N±0°.1×146°.57E±0°.07, h26km, n40, σ0§86/42, mb4.4/26, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.66**	**277**	Pn	**Pn**	**08 41 53.3**	**-0.9**
	92nm,0.3s,baz=122,slow=5.9,SNR=50						
GUMO				Sn	**Sb**	**08 42 16.3**	**-0.9**
	187nm,0.3s,baz=332,slow=14,SNR=11						
GUMO	**Guam**	**1.66**	**277**	*e*Pn	**Pn**	**08 41 53.4**	**-0.8**
GUMO				*e*Sn	**Sb**	**08 42 16.6**	**-0.6**
PATS	**Pohnpei**	**13.27**	**118**	*e*Pn	**Pn**	**08 44 32.2**	**-1.4**
INU	**Inuyama**	**23.49**	**340**	*e*P	**P**	**08 46 34.1**	**-0.4**
	11nm,1.1s						
KSRS	**Korea Array**	**29.16**	**329**	P	**P**	**08 47 25.9**	**+0.1**
	1.0nm,0.7s,baz=144,slow=10,SNR=4.8						
KS15	**Wonju Array Si**	**29.17**	**328**	*e*P	**P**	**08 47 25.9**	**-0.1**
KSAR	**Wonju Array Be**	**29.17**	**328**	P	**P**	**08 47 25.9**	**0.0**
WRAB	**Tennant Creek**	**35.24**	**200**	*e*P	**P**	**08 48 19.4**	**+0.1**
	4.1nm,0.8s						
WB2	**Warramunga Arr**	**35.24**	**200**	*e*P	**P**	**08 48 20.0**	**+0.7**
	6.6nm,1.1s						
WR1	**Warramunga Arr**	**35.25**	**200**	*e*P	**P**	**08 48 19.9**	**+0.5**
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**35.25**	**200**	P	**P**	**08 48 19.9**	**+0.5**
	2.2nm,0.8s,baz=22,slow=9.6,SNR=9.6						
SBUM	**Sibu**	**35.66**	**255**	*e*P	**P**	**08 48 23.5**	**+0.5**
	4.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**37.50**	**214**	*e*P	**P**	**08 48 38.5**	**-0.1**
	2.3nm,0.9s						
AS01	**Alice Springs**	**38.85**	**199**	*e*P	**P**	**08 48 51.1**	**+1.2**
AS31	**Alice Springs**	**38.86**	**199**	*e*P	**P**	**08 48 51.0**	**+0.9**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**38.86**	**199**	P	**P**	**08 48 51.0**	**+0.9**
	0.4nm,0.7s,baz=36,slow=7.5,SNR=5.3						
MSVF	**Nonsavu**	**43.84**	**134**	*e*P	**P**	**08 49 31.2**	**+0.1**
	8.9nm,1.1s						
ZALV	**Zalesovo Beam**	**62.74**	**324**	P	**P**	**08 51 48.8**	**-0.7**
	0.9nm,0.4s,baz=102,slow=8.6,SNR=3.1						
ZAA1	**Zalesovo Array**	**62.74**	**324**	*e*P	**P**	**08 51 48.8**	**-0.7**
MK01	**Makanchi Array**	**62.76**	**316**	*e*P	**P**	**08 51 50.8**	**+0.9**
MK31	**Makanchi Array**	**62.77**	**316**	*e*P	**P**	**08 51 50.8**	**+0.9**
MKAR	**Makanchi Array**	**62.77**	**316**	*e*P	**P**	**08 51 50.8**	**+0.8**
	14nm,0.3s						
MAKZ	**Makanchi**	**62.99**	**316**	*e*P	**P**	**08 51 52.4**	**+1.0**
	2.6nm,0.8s						
KURK	**Kurchatov**	**65.79**	**320**	*e*P	**P**	**08 52 08.9**	**-0.7**
	4.4nm,1.0s						
ILAR	**Eielson Array**	**68.04**	**25**	P	**P**	**08 52 24.1**	**+0.4**
	0.6nm,0.8s,baz=253,slow=5.6,SNR=8.7						
ILB	**Eielson Array**	**68.04**	**25**	*e*P	**P**	**08 52 24.1**	**+0.4**
CRQM	**Cirque**	**68.80**	**30**	*e*P	**P**	**08 52 27.2**	**-1.5**
	6.3nm,0.9s						
MENT	**Mentasta**	**68.96**	**27**	*e*P	**P**	**08 52 28.5**	**-1.0**
	2.7nm,0.9s						
BVAR	**Borovoye Array**	**71.10**	**322**	P	**P**	**08 52 43.2**	**+0.4**
	1.4nm,0.5s,baz=97,slow=8.4,SNR=6.4						
INK	**Inuvik**	**73.91**	**22**	P	**P**	**08 53 01.7**	**+2.5**
	4.5nm,1.2s,baz=229,slow=14,SNR=2.4						
ABKAR	**Akbulak array**	**77.79**	**318**	*e*P	**P**	**08 53 22.8**	**+1.0**
	12nm,0.6s						
YKA	**Yellowknife Ar**	**82.27**	**28**	P	**P**	**08 53 46.3**	**+0.7**
	0.6nm,0.7s,baz=280,slow=4.8,SNR=3.3						
YKB5	**Yellowknife Ar**	**82.27**	**28**	*e*P	**P**	**08 53 46.3**	**+0.7**
KEV	**Kevo**	**87.20**	**342**	*e*P	**P**	**08 54 09.2**	**-1.2**
	14nm,1.1s						
ARA0	**ARCESS Array S**	**87.77**	**342**	*e*P	**P**	**08 54 13.3**	**+0.1**
ARCES	**ARCESS Array B**	**87.77**	**342**	P	**P**	**08 54 13.3**	**+0.1**
	2.0nm,0.8s,baz=49,slow=5.5,SNR=6.0						
FIA0	**FINESS Array S**	**92.02**	**336**	*e*P	**P**	**08 54 32.4**	**-0.8**
FINES	**FINESS Array B**	**92.02**	**336**	P	**P**	**08 54 32.4**	**-0.8**
	4.4nm,0.9s,baz=111,slow=4.3,SNR=4.1						
SMCO	**Snowmass**	**93.98**	**48**	*e*P	**P**	**08 54 42.5**	**-0.8**
	5.2nm,1.0s						
SNAA	**Sanae**	**118.91**	**191**	*e*PKPdf	**PKPdf**	**09 00 12.9**	**+0.5**

*ISCJB **18** 09:06:00.1±0.7, 38°.61N±0°.03×142°.01E±0°.08, h55km±4km, mb4.3/19, MS3.1/1, Error ellipse: s-maj=10.4km s-min=4.7km az=15.6*
*NIED **18** 09:06:00, 38°.60N×141°.90E, h50km, Mw4.1 Best double couple: M0=1.70000×10^15 NP1:φ=236.00000°, δ21.00000°, λ129.00000°. NP2:φ=15.00000°, δ74.00000°, λ76.00000°.*
*JMA **18** 09:06:01.9±0.1, 38°.62N×141°.91E, h48km±1km, M4.1*
JMA Felt III J1.
*NEIC **18** 09:06:02.5±0.6, 38°.64N×142°.02E, h61km±5km, mb4.7/6, Error ellipse: s-maj=8.1km s-min=5.1km az=112.0*
NEIC Recorded [3 JMA] in Miyagi.
*IDC **18** 09:06:03.1±2.1, 38°.61N×141°.92E, h63km±18km, mb3.8/13, mb1 4.0/19, mb1mx3.8/46, mbtmp4.1/19, MS3.2/4, Ms1 3.2/4, ms1mx2.9/31, Error ellipse: s-maj=21.7km s-min=13.9km az=92.0*

ISC 18 09:06:01.1±1.3, 38°.60N±0°.04×142°.03E±0°.09, h48km±10km, n65, σ1§36/73, mb4.2/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.56**	**255**	P	**Pn**	**09 06 12.6**	**-0.3**
JIO				S	**Sn**	**09 06 19.9**	**-1.4**
OFUJ	**Ofunato**	**0.56**	**330**	P	**Pn**	**09 06 13.0**	**+0.1**
OFUJ				S	**Sn**	**09 06 20.8**	**-0.6**
JMK	**Ichinoseki**	**0.72**	**299**	P	**Pn**	**09 06 14.8**	**-0.3**
JMK				S	**Sn**	**09 06 24.0**	**-1.2**
JOM	**Ohasama**	**1.04**	**327**	P	**Pn**	**09 06 19.5**	**+0.1**
JOM				*e*S	**Sn**	**09 06 31.3**	**-1.5**
JOU	**Okura**	**1.10**	**258**	P	**Pn**	**09 06 19.7**	**-0.4**
JOU				*e*S	**Sn**	**09 06 32.9**	**-1.3**
JMM	**Marumori**	**1.22**	**233**	P	**Pn**	**09 06 21.2**	**-0.5**
JMM				S	**Sn**	**09 06 35.5**	**-1.6**
JYK	**Kaneyama**	**1.35**	**284**	P	**Pn**	**09 06 23.1**	**-0.3**
JRG	**Rokugo**	**1.35**	**307**	P	**Pn**	**09 06 23.2**	**-0.3**
JFK	**Kawauchi**	**1.53**	**217**	P	**Pn**	**09 06 26.1**	**0.0**
JFK				S	**Sn**	**09 06 43.5**	**-1.3**
JYS	**Shiratake**	**1.59**	**257**	P	**Pn**	**09 06 26.7**	**-0.1**
JYS				*e*S	**Sn**	**09 06 45.4**	**-0.8**
MJAR	**Matsushiro Arr**	**3.67**	**237**	P	**Pn**	**09 06 57.0**	**+1.7**
	9.5nm,0.3s,baz=39,slow=12,SNR=70						
MJAR				S	**Sn**	**09 07 42.1**	**+4.8**
	2.2nm,0.3s,baz=94,slow=28,SNR=3.4						
MJAR				LR	LR	09 08 32.7	
	comp=Z,221nm,20.9s,baz=70,slow=42						
MAJO	**Matsushiro**	**3.67**	**237**	*e*Pn	**Pn**	**09 06 57.0**	**+1.7**
MAT	**Matsushiro**	**3.67**	**237**	P	**Pn**	**09 06 56.8**	**+1.5**
MAT				S	**Sn**	**09 07 41.9**	**+4.6**
MJB9	**Matsu-Tunnel**	**3.67**	**237**	*e*Pn	**Pn**	**09 06 57.0**	**+1.7**
MJB9				*e*Sn	Sn	09 07 27.8	-10
INU	**Inuyama**	**5.16**	**233**	*e*Pn	**Pn**	**09 07 18.2**	**+2.4**
ASAJ	**Asahikawa**	**5.53**	**4**	P	**Pn**	**09 07 22.0**	**+1.2**
	2.5nm,0.3s,baz=221,slow=11,SNR=16						
ASAJ				S	**Sn**	**09 08 25.4**	**+2.4**
	2.6nm,0.3s,baz=128,slow=19,SNR=5.0						
JHJ2	**Mitsune**	**5.76**	**199**	*e*Pn	**Pn**	**09 07 24.8**	**+0.7**
JHJ2				*e*Sn	**Sn**	**09 08 26.6**	**-2.3**
JHJ	**Hachijo jima 2**	**5.77**	**199**	P	**Pn**	**09 07 24.4**	**+0.3**
	12nm,0.3s,baz=317,slow=19,SNR=8.4						
JHJ				S	**Sn**	**09 08 26.6**	**-2.3**
	28nm,0.3s,baz=53,slow=20,SNR=4.3						
YSS	**Yuzh-Sakhalins**	**8.37**	**3**	*e*Pn	**Pn**	**09 07 60.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.39**	**310**	P	**Pn**	**09 08 14.3**	**+0.7**
	0.6nm,0.3s,baz=113,slow=14,SNR=13						
USRK				LR	LR	09 11 16.8	
	comp=Z,128nm,20.4s,baz=174,slow=34						
JNU	**Nakatsue**	**10.57**	**242**	P	**Pn**	**09 08 31.5**	**+1.6**
	0.5nm,0.3s,baz=186,slow=2.1,SNR=7.3						
JNU	**Nakatsue**	**10.57**	**242**	*e*Pn	**Pn**	**09 08 31.8**	**+1.9**
KSRS	**Korea Array**	**11.19**	**269**	P	**Pn**	**09 08 41.2**	**+2.9**
	0.5nm,0.3s,baz=82,slow=14,SNR=8.5						
KSRS				LR	LR	09 12 34.1	
	comp=Z,137nm,19.0s,baz=156,slow=35						
KS15	**Wonju Array Si**	**11.22**	**268**	*e*Pn	**Pn**	**09 08 39.0**	**+0.2**
KSAR	**Wonju Array Be**	**11.22**	**268**	P	**Pn**	**09 08 41.2**	**+2.5**
MA2	**Magadan**	**21.72**	**12**	LR	LR	09 19 57.3	
	comp=Z,72nm,19.4s,baz=142,slow=38						
SEY	**Seymchan**	**25.16**	**11**	P	**P**	**09 11 21.4**	**-0.1**
	5.7nm,0.8s,baz=155,slow=5.8,SNR=5.2						
SONA0	**Songino Array**	**27.35**	**301**	*e*P	**P**	**09 11 41.2**	**-0.5**
SONM	**Songino Array**	**27.35**	**301**	P	**P**	**09 11 41.2**	**-0.5**
	0.7nm,0.4s,baz=104,slow=9.1,SNR=5.0						
ENH	**Enshi**	**27.99**	**263**	*e*P	**P**	**09 11 47.1**	**-0.3**
	18nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	09 42 20.9	
	baz=317,slow=76,SNR=2012						
H11N1	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	09 42 11.3	
	baz=317,slow=76,SNR=2642						
H11N3	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	09 42 25.3	
	baz=317,slow=76,SNR=2513						
H11S1	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	09 43 20.2	
	baz=319,slow=76,SNR=201						
H11S3	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	09 43 20.0	
	baz=319,slow=76,SNR=260						
H11S2	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	09 43 21.6	
	baz=319,slow=76,SNR=165						
ZAA1	**Zalesovo Array**	**41.24**	**311**	*e*P	**P**	**09 13 41.3**	**+0.1**
ZAA1				*e*PcP	**PcP**	**09 15 38.8**	**-0.4**
ZAA0	**Zalesovo Array**	**41.24**	**311**	*e*P	**P**	**09 13 41.4**	**+0.2**
ZALV	**Zalesovo Beam**	**41.24**	**311**	P	**P**	**09 13 41.3**	**+0.1**
	3.8nm,0.4s,baz=86,slow=7.2,SNR=18						
ZALV				PcP	**PcP**	**09 15 38.8**	**-0.4**
	1.3nm,0.4s,baz=108,slow=2.5,SNR=3.9						
MK01	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**09 14 01.4**	**-0.1**
MK31	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**09 14 01.7**	**+0.2**
MK32	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**09 14 01.4**	**0.0**
MKAR	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**09 14 01.4**	**0.0**
	1.5nm,0.4s,baz=83,slow=9.9,SNR=9.7						
MKAR	**Makanchi Array**	**43.72**	**301**	*e*P	**P**	**09 14 01.7**	**+0.2**
	29nm,0.9s						
MAKZ	**Makanchi**	**43.93**	**301**	*e*P	**P**	**09 14 03.1**	**0.0**
	4.8nm,1.0s						
KURK	**Kurchatov**	**45.37**	**307**	*e*P	**P**	**09 14 14.3**	**-0.2**
	90nm,0.4s						
ILAR	**Eielson Array**	**47.91**	**33**	P	**P**	**09 14 35.8**	**+1.6**
	0.6nm,0.7s,baz=264,slow=5.9,SNR=12						
ILB	**Eielson Array**	**47.91**	**33**	*e*P	**P**	**09 14 33.6**	**-0.6**
KKAR	**Karatay Array**	**52.77**	**299**	*e*P	**P**	**09 15 11.0**	**-0.3**
	1.0nm,0.5s						
ABKAR	**Akbulak array**	**57.31**	**310**	*e*P	**P**	**09 15 43.6**	**-0.3**
	2.2nm,0.5s						
WR1	**Warramunga Arr**	**58.68**	**188**	*e*P	**P**	**09 15 53.8**	**+0.1**
	32nm,1.9s						
WRA	**Warramunga Arr**	**58.68**	**188**	P	**P**	**09 15 53.8**	**+0.1**
	1.4nm,0.7s,baz=7.8,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**62.41**	**58**	P	**P**	**09 16 18.9**	**-0.2**
	0.5nm,0.7s,baz=12,slow=5.0,SNR=9.0						
ARA0	**ARCESS Array S**	**62.71**	**339**	*e*P	**P**	**09 16 18.7**	**-1.9**
ARCES	**ARCESS Array B**	**62.71**	**339**	P	**P**	**09 16 18.7**	**-1.9**
	3.1nm,0.9s,baz=58,slow=10,SNR=3.9						
FIA0	**FINESS Array S**	**67.66**	**332**	*e*P	**P**	**09 16 52.3**	**-0.4**
FINES	**FINESS Array B**	**67.66**	**332**	P	**P**	**09 16 52.3**	**-0.4**
	1.9nm,0.7s,baz=27,slow=13,SNR=4.8						
KBZ	**Khabaz**	**70.26**	**310**	P	**P**	**09 17 09.3**	**+0.2**
	3.0nm,0.8s,baz=345,slow=4.3,SNR=5.1						
NB2	**NORSAR Subarra**	**72.93**	**337**	P	**P**	**09 17 25.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=40,slow=6.2						
NB200	**NORSAR Array S**	**72.93**	**337**	*e*P	**P**	**09 17 24.7**	**-0.3**
NOA	**NORSAR Array B**	**72.93**	**337**	P	**P**	**09 17 24.7**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=40,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**73.36**	**322**	P	**P**	**09 17 27.6**	**0.0**
	comp=Z,3.3nm,0.5s,baz=45,slow=6.0,SNR=5.4						
BR101	**Keskin Array S**	**78.18**	**312**	*e*P	**P**	**09 17 55.5**	**-0.2**
BRTR	**Keskin Array B**	**78.18**	**312**	P	**P**	**09 17 55.5**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=137,slow=3.5,SNR=4.8						
LPAZ	**La Paz**	**145.47**	**58**	PKPbc	**PKPab**	**09 25 36.4**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=56,slow=3.5,SNR=4.8						

MEX 18 09:08:43.9±0.5, 18°.03N×100°.71W, h48km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.42**	**54**	*e*P	Pn	09 08 52.2	-2.0
ARIG				*i*S	Sn	09 08 59.8	-1.7
ZIIG	**Zihuatanejo**	**0.83**	**240**	*e*P	Pn	09 08 57.9	-1.4
ZIIG				*i*S	Sn	09 09 08.7	-2.0
MEIG	**Mezcala**	**1.04**	**95**	*e*P	Pn	09 09 00.6	-1.6
MEIG				*e*S	Sn	09 09 14.0	-1.7
CAIG	**El Cayaco**	**1.06**	**157**	*e*P	Pn	09 09 00.8	-1.6
CAIG				*e*S	Sn	09 09 13.7	-2.4
PLIG	**Platanillo**	**1.20**	**72**	*e*P	Pn	09 09 03.2	-1.2
PLIG				*e*S	Sn	09 09 17.4	-2.2
TLIG	**Tlapa**	**2.09**	**102**	*e*P	Pn	09 09 15.7	-0.9
TLIG				*e*S	Sn	09 09 39.6	-1.9

*ISCJB **18** 09:22:45.0±0.6, 33°.85N±0°.03×35°.81E±0°.04, h5km±6km, Error ellipse: s-maj=6.3km s-min=4.4km az=152.2*
*GRAL **18** 09:22:45.2±0.2, 33°.87N×35°.85E, h0km±28km, MD3.1*
*CSEM **18** 09:22:45.2, 33°.87N×35°.85E, h0km, ML3.1*
*NSSC **18** 09:22:45.4±1.7, 33°.82N×35°.79E, h5km±9km, MD0.8, ML2.1*

ISC 18 09:22:44.2±1.0, 33°.89N±0°.03×35°.83E±0°.05, h13km±10km, n17, σ0§38/28, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**278**	*e*P	**Pg**	**09 22 48.1**	**+0.2**
BHL	**Bhannes**	**0.14**	**278**	*e*P	**Pg**	**09 22 48.1**	**+0.2**
BEYL	**Beirut**	**0.28**	**267**	*e*P	**Pg**	**09 22 50.4**	**+0.4**
BEYL	**Beirut**	**0.28**	**267**	*e*P	**Pg**	**09 22 50.4**	**+0.4**
DQRL	**Deir Qamar**	**0.28**	**230**	*e*P	**Pg**	**09 22 50.2**	**+0.1**
DQRL				*e*S	**Sg**	**09 22 53.9**	**-0.1**
DQRL	**Deir Qamar**	**0.28**	**230**	*e*P	**Pg**	**09 22 50.2**	**+0.1**
DQRL				*e*S	**Sg**	**09 22 53.9**	**-0.1**
QRWL	**Qaraoun**	**0.36**	**200**	*e*P	**Pg**	**09 22 51.3**	**-0.1**
QRWL				*e*S	**Sg**	**09 22 56.0**	**-0.4**
QRWL	**Qaraoun**	**0.36**	**200**	*e*P	**Pg**	**09 22 51.3**	**-0.1**
QRWL				*e*S	**Sg**	**09 22 56.0**	**-0.4**
RCY	**Rachaya**	**0.39**	**179**	*e*P	**Pg**	**09 22 51.8**	**-0.3**
RCY				*e*S	**Sg**	**09 22 56.7**	**-0.6**
HWQ	**Hawqa**	**0.40**	**14**	*e*P	**Pg**	**09 22 52.7**	**+0.4**
HWQ	**Hawqa**	**0.40**	**14**	*e*P	**Pg**	**09 22 52.7**	**+0.4**
BRBR	**Barbar**	**0.48**	**168**	*e*P	**Pg**	**09 22 53.8**	**0.0**
BRBR				*e*S	**Sg**	**09 23 00.7**	**+0.4**
BRBR				AML	AML	09 23 02.5	
	comp=E,186nm,0.3s						
BRBR				AML	AML	09 23 10.4	
	comp=N,90nm,0.6s						
QASN	**Qassioun**	**0.51**	**133**	*e*P	**Pb**	**09 22 54.9**	**-0.2**
QASN				*e*S	**Sb**	**09 23 02.9**	**+0.4**
QASN				AML	AML	09 23 08.5	
	comp=N,333nm,0.7s						
QASN				AML	AML	09 23 09.1	
	comp=E,475nm,0.7s						
TOTH	**TOTAH**	**0.72**	**136**	*e*P	**Pb**	**09 22 59.0**	**+0.3**
TOTH				*e*S	**Sb**	**09 23 09.1**	**+0.5**
TOTH				AML	AML	09 23 15.0	
	comp=N,78nm,0.7s						
TOTH				AML	AML	09 23 17.6	
	comp=E,57nm,0.8s						
TCHB	**Talchebab**	**1.22**	**174**	*e*P	**Pg**	**09 23 07.8**	**+0.1**
TCHB				*e*S	**Sb**	**09 23 22.9**	**+0.2**
TCHB				AML	AML	09 23 29.8	
	comp=E,37nm,0.4s						
TCHB				AML	AML	09 23 32.9	
	comp=N,65nm,0.6s						
SALA	**Sala**	**1.40**	**147**	*e*P	**Pb**	**09 23 10.3**	**+0.1**
SALA				*e*S	**Sn**	**09 23 27.7**	**-0.1**
SALA				AML	AML	09 23 33.6	
	comp=N,32nm,0.6s						
ARNB	**Al Arnab**	**1.98**	**3**	*e*P	**Pb**	**09 23 19.6**	**-0.4**
ARNB				*e*S	**Sg**	**09 23 46.8**	**-0.9**
ARNB				AML	AML	09 23 58.6	
	comp=N,34nm,0.5s						
ARNB				AML	AML	09 24 01.5	
	comp=E,28nm,0.7s						

*CSEM **18** 09:34:44.6±0.3, 35°.52N×34°.39E, h10km, ML2.6, Error ellipse: s-maj=8.2km s-min=5.3km az=117.0*
*DDA **18** 09:34:45.3, 35°.62N×34°.58E, h37km, Ml3.4*
*ISCJB **18** 09:34:45.2±0.5, 35°.50N±0°.02×34°.38E±0°.04, h26km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=162.9*
*ISK **18** 09:34:45.6, 35°.57N×34°.31E, h17km, ML2.6*
*NSSC **18** 09:34:47.9±1.1, 35°.50N×34°.59E, h99km±30km, MD1.7, ML2.5*
*NIC **18** 09:34:49.4±0.2, 35°.36N×34°.13E, h23km, ML3.2*

ISC 18 09:34:44.6±1.1, 35°.46N±0°.02×34°.37E±0°.02, h27km±12km, n40, σ0§81/68, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.54**	**211**	P	**Pn**	**09 34 57.0**	**+0.6**
PHNC				S	**Sb**	**09 35 03.8**	**+1.0**
PHNC	**Paralimni**	**0.54**	**211**	P	**Pn**	**09 34 57.0**	**+0.6**
	baz=12						
PHNC				S	**Sb**	**09 35 03.8**	**+1.0**
LFK	**Lefkose**	**0.71**	**255**	*e*PG	**Pn**	**09 34 59.3**	**+0.4**
LFK	**Lefkose**	**0.71**	**255**	*e*Pg	**Pn**	**09 34 59.3**	**+0.4**
YESI	**Yesilovacik-Me**	**0.94**	**321**	*e*PG	**Pn**	**09 35 02.1**	**+0.1**
AKK2	**Akkuyu-Mersin**	**0.95**	**315**	*e*PG	**Pn**	**09 35 02.0**	**-0.1**
AKK2				*e*SG	**Sb**	**09 35 14.4**	**-0.1**
IKL	**Isikli**	**0.95**	**324**	*e*PG	**Pn**	**09 35 02.5**	**+0.3**
IKL				*e*SG	**Sb**	**09 35 14.2**	**-0.5**
IKL	**Isikli**	**0.95**	**324**	*e*Pg	**Pn**	**09 35 02.5**	**+0.3**
IKL				*e*Sg	**Sb**	**09 35 14.2**	**-0.5**
AKKU	**Akkuyu-Mersin**	**0.96**	**316**	*e*PG	**Pb**	**09 35 02.7**	**+0.1**
AKKU				*e*SG	**Sb**	**09 35 14.7**	**-0.3**
SILI	**Silifke-Mersin**	**0.97**	**338**	*e*PG	**Pb**	**09 35 03.1**	**+0.3**
SILI				*e*SG	**Sb**	**09 35 14.7**	**-0.5**
MAMC	**Mammari**	**0.99**	**253**	P	**Pn**	**09 35 03.4**	**+0.7**
MAMC	**Mammari**	**0.99**	**253**	P	**Pn**	**09 35 03.4**	**+0.7**
	baz=75						
CSS	**Mathiatis**	**0.99**	**240**	P	**Pn**	**09 35 03.3**	**+0.6**
CSS				S	**Sb**	**09 35 13.7**	**-2.0**
CSS	**Mathiatis**	**0.99**	**240**	P	**Pn**	**09 35 03.3**	**+0.6**
	baz=58						
CSS				S

AML			⇑*i*S		**Sg**	**09 36 40.3 -1.3**
	baz=5.0					
ARK	**Arkit**	**2.77**	**332**	⇑*i*P	**Pb**	**09 36 01.4 -1.2**
	baz=337					
ARK				⇑*i*S	**Sb**	**09 36 36.6 -0.1**
	baz=337					
UCH	**Uchtor**	**2.92**	**12**	⇑*e*P	**Pg**	**09 36 07.7 -1.1**
	baz=16					
UCH				⇑*e*S	**Sg**	**09 36 44.2 -2.5**
	baz=16					
KZA	**Kyzart**	**2.95**	**23**	⇑*e*P	**Pg**	**09 36 08.1 -1.2**
	baz=27					
KZA				⇑*i*S	**Sg**	**09 36 45.6 -2.0**
	baz=27					
MNAS	**Manas**	**3.25**	**344**	⇓*e*P	**Pb**	**09 36 09.3 -1.4**
	baz=348					
MNAS				⇓*i*S	**Sb**	**09 36 48.6 -1.8**
	baz=348					
MNAS	**Manas**	**3.25**	**344**	⇑Pn	**Pb**	**09 36 09.0 -1.7**
	1.6nm,0.4s					
MNAS				⇓Sn	**Sb**	**09 36 46.5 -3.9**
	2.4nm,0.3s					
MNAS				⇑Lg	Lg	09 36 55.9
	14nm,0.9s					
EKS2	**Erkin-Say**	**3.29**	**1**	⇑*i*P	**Pb**	**09 36 11.8 +0.4**
	baz=5.0					
EKS2				⇑*e*S	**Sb**	**09 36 52.3 +0.7**
	baz=5.0					
AAK	**Ala-Archa**	**3.32**	**10**	⇓Pg	**Pg**	**09 36 14.4 -2.1**
	2.6nm,0.6s					
AAK				⇓Lg	Lg	09 36 59.5
	10nm,0.7s					
TKM2	**Tokmak 2**	**3.82**	**21**	⇓Pn	**Pn**	**09 36 14.5 +2.6**
	1.0nm,0.6s					
TKM2				⇑Pg	**Pg**	**09 36 26.0 -0.1**
	1.3nm,0.4s					
TKM2				⇑Lg	Lg	09 37 16.3
	5.3nm,0.7s					
DZET	**Dzherino**	**3.85**	**263**	⇑Pn	**Pn**	**09 36 14.4 +2.2**
	3.8nm,0.5s					
DZET				⇓Pg	**Pg**	**09 36 25.6 -0.9**
	7.3nm,0.5s					
DZET				⇓Sn	**Sb**	**09 37 05.2 -2.4**
	14nm,0.6s					
DZET				⇓Lg	Lg	09 37 17.4
	53nm,0.8s					
KK31	**Karatay Array**	**4.45**	**328**	⇑Pn	**Pn**	**09 36 23.8 +3.5**
	0.7nm,0.5s,baz=47,slow=43,SNR=5.0					
KK31				⇑Pg	**Pb**	**09 36 33.2 +2.2**
	0.4nm,0.3s,baz=144,slow=17,SNR=3.1					
KK31				⇓Sn	**Sn**	**09 37 15.0 +2.8**
	0.7nm,0.3s,baz=132,slow=19,SNR=4.9					
KK31				⇓Lg	Lg	09 37 34.4
	3.0nm,0.4s					

*IDC **18** 10:12:27.0±1.2, 11°.63N×87°.41W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/32, mbtmp3.9/9, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/36, Error ellipse: s-maj=45.0km s-min=21.0km az=61.0*

*NEIC **18** 10:12:28.2±0.4, 11°.57N×87°.39W, h10km, mb4.0/12, MD4.2(SNET), Error ellipse: s-maj=15.5km s-min=5.8km az=50.0*

NEIC Felt [II] at La Union, El Salvador.

*CASC **18** 10:12:42.1±1.6, 12°.53N×87°.84W, h34km±19km, MD3.9, ML3.9, mb4.0(NEIC)*

ISC 18 10:12:28.1±0.7, 11°.66N±0°.07×87°.47W±0°.05, h10km, n52, σ1§93/50, mb3.9/20, MS3.0/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.01**	**59**	*e*P	**Sn**	**10 13 02.9**	**+0.3**
COPN				AML	AML	10 13 23.7	
	comp=Z,2μm,0.5s						
XAVN	**Gruta Xavier**	**1.22**	**66**	*e*P	**Sn**	**10 13 07.4**	**-0.6**
TISN	**Laguna Tiscapa**	**1.27**	**67**	*e*P	**Sn**	**10 13 07.7**	**-1.4**
MGAN	**Managua**	**1.29**	**68**	*e*P	**Sn**	**10 13 07.9**	**-1.8**
MGAN				AML	AML	10 13 28.4	
	comp=N,324nm,0.5s						
MASN	**Masaya**	**1.33**	**76**	*e*P	**Sn**	**10 13 09.5**	**-1.2**
BRAN	**Las Pilas**	**1.52**	**46**	*e*P	**Sn**	**10 13 06.8**	**-8.6**
ESTN	**Estel**	**1.80**	**37**	*e*P	Pg	10 13 07.6	+5.0
ESTN				*e*S	**Sg**	**10 13 27.3**	**+1.4**
PACA	**Pacayal**	**1.99**	**335**	*e*P	**Pn**	**10 13 01.3**	**-0.6**
PACA				*e*S	Sn	10 13 14.9	-12
UESV	**Ojushtada**	**2.15**	**323**	*e*P	**Pb**	**10 13 06.2**	**-0.9**
UESV				*e*S	**Sn**	**10 13 24.0**	**-6.8**
SNVI	**San Vicente**	**2.36**	**326**	*e*P	**Pn**	**10 13 08.6**	**+1.5**
LFRS	**El Faro**	**2.50**	**322**	*e*P	**Pn**	**10 13 08.5**	**-0.4**
LBRS	**Las Brisas**	**2.58**	**324**	*e*P	**Pn**	**10 13 09.8**	**-0.2**
LFU	**La Fuente**	**2.63**	**323**	*e*P	**Pn**	**10 13 10.8**	**+0.1**
UDBS	**Soyapango**	**2.63**	**322**	*e*P	**Pn**	**10 13 10.4**	**-0.4**
UDBS				*e*S	Sn	10 13 31.1	-12
UDBS				AML	AML	10 13 35.2	
	comp=Z,4μm,0.3s						
SNET	**Serv Nac Est T**	**2.65**	**320**	*e*P	**Pn**	**10 13 10.5**	**-0.5**
SNET				*e*S	Sn	10 13 31.8	-12
SNET				AML	AML	10 13 35.8	
	comp=Z,2μm,0.4s						
OPAM	**San Salvador**	**2.66**	**321**	*e*P	**Pn**	**10 13 10.9**	**-0.2**
OPAM				*e*S	Sn	10 13 32.1	-11
UEES	**San Salvador**	**2.69**	**320**	*e*P	**Pn**	**10 13 11.0**	**-0.6**
UEES				*e*S	Sn	10 13 32.4	-12
JTS	**JuntasAbangare**	**2.82**	**118**	Pn	**Pn**	**10 13 10.8**	**-2.5**
SBLS	**San Blas**	**3.02**	**316**	*e*P	**Pn**	**10 13 17.0**	**+0.8**
SNJE	**San Jose**	**3.03**	**317**	*e*P	**Pn**	**10 13 16.9**	**+0.6**
MONT	**Ecomontaæa**	**3.05**	**316**	*e*P	**Pn**	**10 13 17.7**	**+1.0**
UNIC	**Santa Ana**	**3.09**	**319**	*e*P	**Pn**	**10 13 17.2**	**+0.1**
UNIC				*e*S	Sn	10 13 43.4	-11
ESPN	**Las Esperanzas**	**3.15**	**80**	*e*P	Pg	10 13 34.1	+5.6
RBDL	**Robledal**	**3.26**	**319**	*e*P	**Pn**	**10 13 19.8**	**+0.3**
MTO3	**Montecristo**	**3.29**	**326**	*e*P	**Pn**	**10 13 19.6**	**-0.4**
CUS1	**Cusmapa**	**3.30**	**313**	*e*P	**Pn**	**10 13 20.7**	**+0.8**
CUS1				*e*S	Sn	10 13 48.8	-10
CMIG	**Matias Romero**	**8.99**	**308**	Pn	**Pn**	**10 14 40.2**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=149,slow=10,SNR=9.3						
CMIG				Sn	Sn	10 16 10.3	-9.1
	comp=Z,0.5nm,0.3s,baz=36,slow=19,SNR=3.3						
OTAV	**Otavalo**	**14.45**	**141**	Pn	**Pn**	**10 15 52.0**	**-1.3**
ATAH	**Atahualpa**	**20.74**	**154**	LR	LR	10 23 22.8	
	comp=Z,47nm,19.9s,baz=87,slow=32						
TXAR	**Lajitas Array**	**23.18**	**322**	P	**P**	**10 17 35.9**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=142,slow=8.8,SNR=21						
MIAR	**Mount Ida**	**23.46**	**347**	*e*P	**P**	**10 17 37.8**	**0.0**
	comp=Z,4.2nm,0.7s						
TKL	**Tuckaleechee C**	**24.13**	**7**	P	**P**	**10 17 45.6**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=170,slow=10,SNR=4.0						
TKL				LR	LR	10 28 13.5	
	comp=Z,42nm,18.1s,baz=277,slow=39						
WMOK	**Wichita Mounta**	**25.18**	**338**	*e*P	**P**	**10 17 54.6**	**+0.8**
	comp=Z,1.5nm,0.5s						
ANMO	**Albuquerque**	**28.90**	**326**	P	**P**	**10 18 29.1**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=3.1						
BBSR	**BB Station**	**29.39**	**42**	*e*P	**P**	**10 18 33.9**	**+2.2**
	comp=Z,6.6nm,0.7s						
SDCO	**Great Sand Dun**	**30.59**	**331**	*e*P	**P**	**10 18 43.4**	**+0.8**
	comp=Z,0.8nm,0.4s						
SAML	**Samuel**	**31.66**	**129**	*e*P	**P**	**10 18 50.2**	**-1.6**
	comp=Z,0.4nm,0.4s						
RSSD	**Black Hills**	**35.36**	**339**	*e*P	**P**	**10 19 25.5**	**+1.4**
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**36.46**	**332**	P	**P**	**10 19 34.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=124,slow=9.6,SNR=8.1						
REDW	**Red Top Meadow**	**37.52**	**332**	*e*P	**P**	**10 19 43.8**	**+1.2**
	comp=Z,7.3nm,0.4s						
SNOW	**Snow King Moun**	**37.55**	**332**	*e*P	**P**	**10 19 44.4**	**+1.5**
	comp=Z,6.5nm,0.5s						
LOHW	**Long Hollow**	**37.60**	**332**	*e*P	**P**	**10 19 44.4**	**+1.2**
	comp=Z,1.0nm,0.5s						
TPAW	**Teton Pass**	**37.66**	**332**	*e*P	**P**	**10 19 45.2**	**+1.3**
	comp=Z,2.8nm,0.6s						
MOOW	**Moose Ponds**	**37.77**	**332**	*e*P	**P**	**10 19 45.0**	**+0.3**
	comp=Z,1.2nm,0.7s						
IMW	**Indian Meadow**	**37.97**	**332**	*e*P	**P**	**10 19 47.3**	**+0.8**
	comp=Z,1.4nm,0.6s						
LVC	**Limon Verde**	**38.61**	**152**	P	**P**	**10 19 51.9**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=329,slow=12,SNR=3.1						
SCHQ	**Schefferville**	**46.04**	**16**	P	**P**	**10 20 52.7**	**+0.8**
	comp=Z,3.3nm,0.5s,baz=225,slow=7.6,SNR=5.6						
YKA	**Yellowknife Ar**	**54.37**	**345**	P	**P**	**10 21 54.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=147,slow=6.9,SNR=3.4						
ILAR	**Eielson Array**	**66.74**	**336**	P	**P**	**10 23 19.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=146,slow=5.7,SNR=7.8						
NRIK	**Noril'sk**	**99.13**	**2**	LR	LR	11 12 38.0	
	comp=Z,45nm,18.4s,baz=182,slow=36						
ASAR	**Alice Springs**	**138.95**	**247**	PKP	**PKPdf**	**10 31 56.6**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=113,slow=2.1,SNR=3.1						
WRA	**Warramunga Arr**	**139.02**	**253**	PKP	**PKPdf**	**10 31 57.1**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=92,slow=3.2,SNR=2.4						

HEL 18 10:15:40.1±0.1, 67°.86N×20°.01E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.77**	**75**	PG	Pg	10 15 53.9	-0.9
	baz=253						
LANU				SG	Sg	10 16 04.0	-0.8
KIF	**Kilpisjarvi**	**1.19**	**14**	PN	Pn	10 16 04.2	+0.2
KIF				SB	Sb	10 16 18.9	-0.6
HEF	**Hetta**	**1.48**	**66**	MSG		10 16 24.4	
	comp=Z,1.8nm,0.2s						
HEF				SN	Sn	10 16 30.1	+2.2
ERTU	**Ertsjaerv**	**1.56**	**146**	PN	Pn	10 16 08.9	-0.1
	baz=329						
ERTU				SN	Sn	10 16 29.5	-0.4
TOF	**Tornio**	**2.46**	**134**	SG	Sb	10 16 55.6	-0.3
SGF	**Sodankyl**	**2.53**	**96**	PN	Pn	10 16 22.4	+0.1
ARE0	**ARCESS Array S**	**2.62**	**47**	PB	Pn	10 16 25.1	+1.5
	baz=231						
ARE0				SB	Sn	10 16 58.2	+2.1
RNF	**Rovaniemi**	**2.65**	**115**	PG	Pb	10 16 26.9	-1.4
RNF				SG	Sb	10 17 00.2	-1.2

*DDA **18** 10:22:43.6, 38°.08N×35°.67E, h7km, Ml2.5*

*ISK **18** 10:22:43.4, 37°.98N×35°.56E, h9km, ML2.2*

*CSEM **18** 10:22:43.9±0.5, 38°.00N×35°.63E, h15km, ML2.2, Error ellipse: s-maj=15.6km s-min=9.8km az=85.0*

*ISCJB **18** 10:22:44.2±0.5, 37°.99N±0°.03×35°.59E±0°.04, h10km±5km, Error ellipse: s-maj=5.9km s-min=4.4km az=5.7*

ISC 18 10:22:44.1±1.0, 38°.01N±0°.03×35°.62E±0°.03, h12km±9km, n23, σ0§95/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.22**	**292**	*i* P	**Pg**	**10 22 48.7**	**-0.1**
YAHY				*i* S	**Sg**	**10 22 52.7**	**+0.7**
KOZT	**Kozan**	**0.55**	**163**	*e*PG	**Pg**	**10 22 54.5**	**-0.4**
KOZT				*e*SG	**Sb**	**10 23 02.5**	**-1.2**
KOZT	**Kozan**	**0.55**	**163**	*e*Pg	**Pg**	**10 22 54.5**	**-0.4**
KOZT				*e*Sg	**Sb**	**10 23 02.5**	**-1.2**
AKO	**Adana**	**0.57**	**194**	*i* P	**Pg**	**10 22 54.2**	**-0.9**
AKO				*i* S	**Sb**	**10 23 03.2**	**-0.8**
ANDN	**Andirin**	**0.72**	**127**	*i* P	**Pg**	**10 22 57.6**	**-0.4**
ANDN				*i* S	**Sb**	**10 23 08.7**	**+0.2**
ANDN	**Andirin**	**0.72**	**127**	P	**Pg**	**10 22 57.6**	**-0.4**
ANDN				S	**Sb**	**10 23 08.7**	**+0.2**
SARI	**SarD1z-Kayseri**	**0.74**	**58**	*e*PG	**Pb**	**10 22 59.3**	**+0.2**
SARI				*e*SG	**Sn**	**10 23 10.9**	**-1.1**
BNN	**Bunyan**	**0.86**	**12**	*e*PG	**Pb**	**10 23 01.1**	**+0.1**
BNN				*e*SG	**Sn**	**10 23 14.2**	**-0.6**
BNN	**Bunyan**	**0.86**	**12**	*e*Pg	**Pb**	**10 23 01.1**	**+0.1**
BNN				*e*Sg	**Sn**	**10 23 14.2**	**-0.6**
CEYT	**Ceyhan**	**1.00**	**174**	*e*PG	**Pg**	**10 23 02.7**	**-0.7**
CEYT	**Ceyhan**	**1.00**	**174**	*e*Pg	**Pg**	**10 23 02.7**	**-0.7**
KMRS	**Kahramanmaras**	**1.13**	**116**	*e*PN	**Pn**	**10 23 06.2**	**+0.3**
KMRS	**Kahramanmaras**	**1.13**	**116**	*e*Pn	**Pn**	**10 23 06.2**	**+0.3**
GULA	**Gulagac**	**1.14**	**287**	*e*PN	**Pg**	**10 23 05.0**	**-1.0**
GULA	**Gulagac**	**1.14**	**287**	*e*Pn	**Pg**	**10 23 05.0**	**-1.0**
DED	**Mersin**	**1.23**	**212**	*i* P	**Pg**	**10 23 08.9**	**+1.0**
DED				*i* S	**Sn**	**10 23 27.0**	**+3.1**
MERS	**Mersin**	**1.44**	**218**	*e*PN	**Pn**	**10 23 09.4**	**-0.6**
MERS	**Mersin**	**1.44**	**218**	*e*Pn	**Pn**	**10 23 09.4**	**-0.6**
DARE	**Darende-Malaty**	**1.57**	**69**	*e*PN	**Pb**	**10 23 13.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.69**	**164**	*e*PN	**Pn**	**10 23 13.8**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.69**	**164**	*e*Pn	**Pn**	**10 23 13.8**	**+0.3**
SVSK	**Karacayir**	**2.19**	**29**	*e*PN	**Pn**	**10 23 21.6**	**+1.3**
SVSK	**Karacayir**	**2.19**	**29**	*e*Pn	**Pn**	**10 23 21.6**	**+1.3**

NNC 18 10:34:25.4±3.2, 37°.58N×72°.03E, h0km, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=27.1km s-min=10.7km az=149.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.80**	**297**	⇑P	Pn	10 35 11.2	-0.3
	2.5nm,0.3s						
DZET				⇑S	Sn	10 35 47.7	+1.6
	54nm,0.8s						
MNAS	**Manas**	**4.91**	**4**	⇓P	Pn	10 35 41.3	+0.7
	2.5nm,0.3s						
MNAS				⇓S	Sn	10 36 40.6	+2.4
	9.8nm,0.6s						
AAK	**Ala-Archa**	**5.39**	**20**	⇓S	Sn	10 36 51.5	+1.4
	4.8nm,0.8s						
KK31	**Karatay Array**	**5.64**	**349**	⇓P	Pn	10 35 49.6	-0.8
	2.0nm,0.6s,baz=165,slow=11,SNR=15						
KK31				S	Sn	10 36 55.1	-0.7
	0.8nm,0.2s,baz=167,slow=17,SNR=16						

*OBM **18** 10:34:46.6±0.1, 51°.47N×97°.97E, h2km, Ml3.9/3, Error ellipse: s-maj=2.7km s-min=1.0km az=171.0*

*IDC **18** 10:34:51.5±0.7, 51°.26N×98°.24E, h0km, mb3.8/7, mb1 3.8/12, mb1mx3.6/48, mbtmp3.7/12, ML2.8/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/38, Error ellipse: s-maj=19.8km s-min=10.3km az=4.0*

*MOS **18** 10:34:52.5±0.9, 51°.35N×98°.06E, h15km, mb4.1/6, Error ellipse: s-maj=12.7km s-min=10.3km az=162.5*

*NEIC **18** 10:34:56.0±2.0, 51°.35N×98°.12E, h29km±17km, mb4.0/2, Error ellipse: s-maj=11.2km s-min=6.0km az=183.0*

*NNC **18** 10:34:55.6±4.5, 51°.01N×97°.45E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=38.2km s-min=26.1km az=103.0*

ISC 18 10:34:55.0±0.5, 51°.51N±0°.03×98°.15E±0°.03, h10km, n67, σ3§36/72, mb3.9/7, 4C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.45**	**44**	⇓*i*PN	**Pn**	**10 35 21.3**	**-0.1**
ORL				*e*		10 35 42.9	
ORL				pmax	pmax		
	comp=Z,409nm,0.7s						
ORL				smax	smax		
	comp=E,865nm,0.7s						
ORL	**Orlik**	**1.45**	**44**	⇑*i*P	**Pn**	**10 35 21.3**	**-0.1**
HTG	**Hatgal**	**1.65**	**129**	*e*Pg	Pn	10 35 21.0	-3.2
HTG				*e*Sg	**Sn**	**10 35 42.0**	**-3.6**
MOY	**Mondy**	**1.78**	**84**	⇓*i*PN	**Pn**	**10 35 25.8**	**-0.1**
MOY				*e*		10 35 51.7	
MOY				pmax	pmax		
	comp=Z,374nm,0.5s						
MOY				smax	smax		
	comp=N,3μm,0.6s						
KZLR	**Kyzyl**	**2.31**	**276**	*i* PN	Pn	10 35 30.1	-3.1
KZLR				*i*		10 35 59.1	
ARS	**Arshan**	**2.69**	**80**	⇓*i*PN	**Pn**	**10 35 38.8**	**+0.4**
ARS				*e*		10 35 42.5	
ARS				*e*		10 36 19.1	
ARS				pmax	pmax		
	comp=Z,269nm,0.5s						
ARS				smax	smax		
	comp=E,3μm,0.8s						
ARS	**Arshan**	**2.69**	**80**	*e*P	**Pn**	**10 35 41.6**	**+3.2**
TSC	**Tosontsengel**	**2.75**	**179**	*e*Pg	**Pn**	**10 35 38.6**	**-0.6**
TSC				*e*Sg	**Sn**	**10 36 13.8**	**+1.3**
TLY	**Talaya**	**3.43**	**85**	Pn	**Pn**	**10 35 47.1**	**-1.4**
	comp=E,0.0nm,0.3s,baz=183,slow=18,SNR=3.1						
TLY				Lg	Lg	10 36 31.8	
	comp=E,0.1nm,0.3s,baz=76,slow=18,SNR=3.2						
TLY	**Talaya**	**3.43**	**85**	*e*PN	**Pn**	**10 35 48.2**	**-0.3**
TLY				*e*		10 35 55.3	
TLY				*e*		10 36 40.1	
TLY				pmax	pmax		
	comp=Z,57nm,0.5s						
TLY	**Talaya**	**3.43**	**85**	*e*Pn	**Pn**	**10 35 47.9**	**-0.6**
TLY				*e*Sn	**Sn**	**10 36 25.6**	**-3.6**
ZAK	**Zakamensk**	**3.44**	**107**	*e*PN	**Pn**	**10 35 52.9**	**+4.2**
ZAK				*e*		10 36 39.1	
ZAK				pmax	pmax		
	comp=Z,99nm,0.6s						
ZAK				smax	smax		
	comp=N,964nm,0.9s						
ZAK	**Zakamensk**	**3.44**	**107**	*e*P	**Pn**	**10 35 52.9**	**+4.2**
TBRR	**Tiberkul'**	**3.58**	**313**	*i* PN	**Pn**	**10 35 54.9**	**+4.3**
TBRR				*i*		10 36 42.8	
BLRR	**Bol'shaya Rech**	**3.83**	**296**	*i* PN	**Pn**	**10 35 58.2**	**+4.1**
BLRR				*i*		10 36 48.1	
IRK	**Irkutsk**	**3.86**	**77**	*e*PN	**Pb**	**10 36 02.4**	**-0.8**
IRK				*e*		10 36 53.5	
IRK				pmax	pmax		
	comp=Z,369nm,0.1s						
IRK				smax	smax		
	comp=N,2μm,0.8s						
ORY	**Orie**	**3.95**	**334**	*i* PN	**Pb**	**10 36 03.1**	**-1.5**
ORY				*i*		10 36 56.1	
ORY				pmax	pmax		
	comp=Z,41nm,0.5s						
ORY				smax	smax		
	comp=Z,217nm,1.0s						
ULG	**Ulaangom**	**4.17**	**251**	*e*Pg	**Pn**	**10 36 01.7**	**+3.0**
ULG				*e*Sg	**Sn**	**10 36 54.4**	**+6.9**
	comp=Z,707nm,0.5s						
TTS	**Tsetserleg**	**4.57**	**151**	*e*Pg	Pn	10 36 10.6	+6.3
TTS				*e*Sg	**Sb**	**10 37 09.9**	**-0.6**
TRG	**Tyrgan**	**5.20**	**73**	*e*PN	**Pb**	**10 36 27.7**	**+1.7**
TRG				*e*S	**Sb**	**10 37 36.3**	**+7.8**
TRG				smax	smax		
	comp=N,449nm,0.8s						
KAB	**Kabansk**	**5.31**	**81**	*e*PN	**Pb**	**10 36 31.5**	**+3.7**
KAB				*e*		10 37 39.9	
KAB				pmax	pmax		
	comp=Z,187nm,0.3s						
KAB				smax	smax		
	comp=E,1μm,1.5s						
BYO	**Bayan-Olgiy**	**5.84**	**247**	*e*Pg	Pn	10 36 31.7	+10
BYO				*e*Sg	**Sb**	**10 37 45.5**	**-1.7**
	comp=E,406nm,0.6s						
OGRR	**Ongureny**	**6.14**	**66**	*e*PN	**Pn**	**10 36 27.6**	**+1.9**
OGRR				*e*		10 36 45.7	
SONB5	**Songino Array**	**6.47**	**121**	*e*Pg	**Pb**	**10 36 45.7**	**-1.9**
SONB5				*e*Sg	**Sb**	**10 38 11.3**	**+6.3**
	comp=E,367nm,1.0s						
SONB4	**Songino Array**	**6.47**	**121**	*e*Pg	**Pb**	**10 36 45.7**	**-2.0**
SONB4				*e*Sg	**Sb**	**10 38 10.4**	**+5.2**
	comp=E,562nm,1.4s						
SONB1	**Songino Array**	**6.48**	**121**	*e*Pg	**Pb**	**10 36 45.6**	**-2.3**
SONB1				*e*Sg	**Sb**	**10 38 11.6**	**+6.2**
	comp=E,212nm,0.6s						
SONA2	**Songino Array**	**6.48**	**121**	*e*Sg	**Sb**	**10 38 11.8**	**+6.3**
SONA1	**Songino Array**	**6.49**	**121**	*e*Sg	**Sb**	**10 38 12.0**	**+6.4**
SONA3	**Songino Array**	**6.49**	**121**	*e*Pg	**Pb**	**10 36 46.0**	**-2.1**
SONA0	**Songino Array**	**6.49**	**121**	*e*Pg	**Pb**	**10 36 46.0**	**-2.0**
SONA0				*e*Sg	**Sb**	**10 38 12.3**	**+6.6**
SONA0				*e*Sg	Sg	10 38 12.5	-11
SONM	**Songino Array**	**6.49**	**121**	Pg	**Pb**	**10 36 46.2**	**-1.8**
	comp=E,4.6nm,0.3s,baz=300,slow=18,SNR=36						
SONM				Lg	Lg	10 38 11.3	
	comp=E,5.6nm,0.3s,baz=303,slow=28,SNR=12						
SONM				LR	LR	10 38 35.2	
	comp=E,26nm,18.8s,baz=295,slow=35						
SONA4	**Songino Array**	**6.49**	**121**	*e*Sg	**Sb**	**10 38 11.5**	**+5.7**
	comp=E,352nm,1.1s						
SONB2	**Songino Ar. Si**	**6.50**	**121**	*e*Pg	**Pb**	**10 36 46.0**	**-2.2**
SONB2				*e*Sg	**Sb**	**10 38 11.3**	**+5.4**
	comp=E,370nm,1.0s						
SONB3	**Songino Array**	**6.50**	**121**	*e*Pg	**Pb**	**10 36 46.2**	**-2.0**
SONB3				*e*Sg	**Sb**	**10 38 11.5**	**+5.5**
	comp=E,423nm,1.0s						
ALFM		**6.61**	**119**	*e*Pg	**Pb**	**10 36 48.5**	**-1.5**
ALFM				*e*Sg	**Sb**	**10 38 16.4**	**+7.4**
	comp=E,243nm,0.7s						
UB5M		**6.71**	**120**	*e*Pg	**Pb**	**10 36 49.9**	**-1.8**
UB5M				*e*Sg	**Sb**	**10 38 19.7**	**+7.8**
ULN	**Ulaanbaatar**	**6.83**	**119**	*e*PN	**Pn**	**10 36 34.4**	**-0.9**
ULN	**Ulaanbaatar**	**6.83**	**119**	*e*Pn	**Pn**	**10 36 34.4**	**-0.9**
ULN				*e*Sn	Sn	10 37 41.9	-11
ULN				*e*Lg	Lg	10 38 23.9	
ARTM		**6.91**	**118**	*e*Pg	**Pb**	**10 36 54.4**	**-0.8**
ARTM				*e*Sg	Sb	10 38 28.0	+10
	comp=E,247nm,0.8s						
SEMM		**6.97**	**121**	*e*Pg	**Pb**	**10 36 55.3**	**-1.0**
SEMM				*e*Sg	Sb	10 38 30.1	+11
DGZ	**Jazzator, Alta**	**7.06**	**259**	*i* PN	**Pn**	**10 36 37.7**	**-0.8**
UGDM		**7.15**	**119**	*e*Pg	**Pb**	**10 36 59.1**	**-0.2**
UGDM				*e*Sg	Sb	10 38 33.9	+9.2
NIZ	**Nizh Angarsk**	**8.00**	**53**	*e*P	**Pn**	**10 36 52.6**	**+1.4**
NIZ				pmax	pmax		
	comp=Z,14nm,0.7s						
ZAA0	**Zalesovo Array**	**8.45**	**292**	⇓Pn	**Pn**	**10 36 56.7**	**-0.7**
	comp=Z,0.3nm,0.6s						
ZAA0				⇑Pg	**Pb**	**10 37 25.1**	**+3.8**
	comp=Z,1.1nm,0.8s,baz=107,slow=13						
ZAA0				⇓Lg	Lg	10 39 17.3	
	comp=Z,6.9nm,0.8s,baz=105,slow=23						
ZALV	**Zalesovo Beam**	**8.45**	**292**	Pn	**Pn**	**10 36 57.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=5.5						
ZALV				Lg	Lg	10 39 10.0	
	comp=Z,0.9nm,0.3s,baz=107,slow=20,SNR=6.3						
ZALV				LR	LR	10 40 13.6	
	comp=Z,88nm,20.1s,baz=88,slow=37						
MK31	**Makanchi Array**	**11.40**	**252**	⇑Pg

s-min=27.2km az=1.0
*ISCJB **18** 10:35:11.7±1.0, 22°.5S±0°.2×172°.3E±0°.1, h33km, mb4.1/10, MS3.8/6, Error ellipse: s-maj=26.9km s-min=11.9km az=15.4*
*NEIC **18** 10:35:13.6±0.8, 22°.44S×172°.35E, h35km, mb4.3/2, Error ellipse: s-maj=21.5km s-min=12.8km az=201.0*
ISC 18 10:35:13.8±1.2, 22°.5S±0°.2×172°.3E±0°.1, h35km, n28, σ2°28/17, mb4.1/10, MS3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.41**	**273**	Pn	**Pn**	**10 36 33.7**	**+1.5**
	5.9nm,0.3s,baz=104,slow=10,SNR=79						
DZM				Sn	**Sn**	**10 37 34.4**	**+1.2**
	5.9nm,0.3s,baz=158,slow=21,SNR=3.5						
DZM	**Mont Dzumac**	**5.41**	**273**	*e*Sn	**Sn**	**10 37 25.9**	**-7.4**
	84nm,0.3s						
DZM				*e*LR	LR	10 37 41.0	
	459nm,23.9s						
DZM	**Mont Dzumac**	**5.41**	**273**	*e*Pn	**Pn**	**10 36 32.5**	**+0.3**
	28nm,0.5s						
DZM				*e*Sn	**Sn**	**10 37 36.2**	**+3.0**
URZ	**Urewera**	**16.29**	**166**	LR	LR	10 42 49.7	
	comp=Z,139nm,21.2s,baz=8.0,slow=28						
AFI	**Afiamalu**	**17.36**	**63**	LR	LR	10 45 08.6	
	comp=Z,66nm,21.4s,baz=130,slow=35						
RPZ	**Rata Peaks**	**21.23**	**182**	LR	LR	10 46 38.6	
	comp=Z,322nm,18.8s,baz=31,slow=33						
STKA	**Stephens Creek**	**28.78**	**244**	P	**P**	**10 41 08.9**	**+0.5**
	1.3nm,0.6s,baz=96,slow=11,SNR=5.6						
STKA				LR	LR	10 51 28.7	
	comp=Z,206nm,19.1s,baz=36,slow=34						
BBOO	**Buckleboo**	**33.55**	**244**	*e*P	**P**	**10 41 51.3**	**+0.8**
	7.8nm,0.8s						
ASAR	**Alice Springs**	**35.25**	**260**	P	**P**	**10 42 05.8**	**+0.5**
	2.7nm,0.9s,baz=84,slow=9.3,SNR=18						
ASAR				LR	LR	10 56 18.2	
	comp=Z,149nm,18.5s,baz=102,slow=36						
WRAB	**Tennant Creek**	**35.38**	**267**	*e*P	**P**	**10 42 06.3**	**-0.1**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**35.39**	**267**	P	**P**	**10 42 06.3**	**-0.3**
	0.4nm,0.4s,baz=97,slow=8.6,SNR=7.5						
PPT2	**Papeete2**	**36.10**	**89**	*e*LR	LR	10 51 59.9	
	69nm,25.8s						
H11S2	**WAKE ISLAND Hy**	**41.06**	**352**	T	T	11 26 42.8	
	baz=171,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**41.06**	**352**	T	T	11 26 48.6	
	baz=171,slow=76,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**41.08**	**352**	T	T	11 26 45.7	
	baz=171,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**42.24**	**352**	T	T	11 28 15.6	
	baz=172,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**42.24**	**352**	T	T	11 28 08.9	
	baz=172,slow=76,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**42.26**	**352**	T	T	11 28 09.9	
	baz=172,slow=76,SNR=24						
FITZ	**Fitzroy Crossi**	**43.82**	**267**	P	**P**	**10 43 16.3**	**-0.4**
	5.4nm,0.9s,baz=125,slow=9.5,SNR=7.6						
FITZ	**Fitzroy Crossi**	**43.82**	**267**	*e*P	**P**	**10 43 18.1**	**+1.3**
TAOE	**Nuku Hiva Isla**	**47.56**	**81**	*e*LR	LR	10 56 59.7	
	40nm,23.7s						
VNDA	**Vanda**	**55.35**	**183**	LR	LR	11 04 21.4	
	comp=Z,91nm,20.8s,baz=349,slow=32						
SBA	**Scott Base**	**55.51**	**181**	*e*P	**P**	**10 44 45.4**	**+0.5**
QSPA	**South Pole Qui**	**67.61**	**180**	*e*P	**P**	**10 46 06.4**	**-0.5**
	16nm,1.1s						
PETK	**Petropavlovsk-**	**76.30**	**351**	LR	LR	11 18 27.8	
	comp=Z,54nm,18.8s,baz=164,slow=34						
MAW	**Mawson**	**76.52**	**202**	P	**P**	**10 47 00.2**	**+0.3**
	1.1nm,0.7s,baz=99,slow=9.2,SNR=3.8						
SNAA	**Sanae**	**86.06**	**182**	P	**P**	**10 47 49.2**	**-1.4**
	1.5nm,1.1s,baz=177,slow=5.2,SNR=4.5						
ILAR	**Eielson Array**	**92.48**	**16**	P	**P**	**10 48 20.5**	**-0.2**
	0.3nm,0.9s,baz=207,slow=5.4,SNR=3.2						
ILAR				LR	LR	11 24 14.1	
	comp=Z,48nm,19.0s,baz=234,slow=32						

*DDA **18** 10:39:17.7, 40°.57N×35°.03E, h7km, Ml2.1*
*ISK **18** 10:39:17.2, 40°.62N×34°.97E, h5km, ML2.5*
*ISCJB **18** 10:39:18.3±0.5, 40°.59N±0°.03×35°.02E±0°.05, h11km±7km, Error ellipse: s-maj=7.6km s-min=3.9km az=34.9*
*CSEM **18** 10:39:18.1±0.3, 40°.57N×35°.01E, h2km, ML2.1, Error ellipse: s-maj=12.8km s-min=4.9km az=123.0*
ISC 18 10:39:17.8±1.1, 40°.56N±0°.03×35°.05E±0°.04, h8km±11km, n16, σ0°67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAK	**Corum_Osmancik**	**0.22**	**295**	*i* P	**Pg**	**10 39 21.6**	**-0.7**
CTAK				*i* S	**Sg**	**10 39 25.8**	**+0.5**
CTAK	**Corum_Osmancik**	**0.22**	**295**	P	**Pg**	**10 39 21.6**	**-0.7**
CTAK				S	**Sg**	**10 39 25.8**	**+0.5**
COAL	**Corum-Alaca**	**0.30**	**189**	*i* P	**Pg**	**10 39 23.8**	**0.0**
COAL				*i* S	**Sb**	**10 39 29.9**	**-0.9**
COAL	**Corum-Alaca**	**0.30**	**189**	P	**Pg**	**10 39 23.8**	**0.0**
COAL				S	**Sb**	**10 39 29.9**	**-0.9**
CORM	**Corum**	**0.49**	**220**	*e*PG	**Pg**	**10 39 27.9**	**+0.5**
CORM				*e*SG	**Sb**	**10 39 36.6**	**+0.3**
CORM	**Corum**	**0.49**	**220**	*e*Pg	**Pg**	**10 39 27.9**	**+0.5**
CORM				*e*Sg	**Sb**	**10 39 36.6**	**+0.3**
HAVZ	**Havza**	**0.73**	**44**	*i* P	**Pg**	**10 39 30.7**	**-1.1**
HAVZ				*i* S	**Sb**	**10 39 43.5**	**+0.6**
HAVZ	**Havza**	**0.73**	**44**	P	**Pg**	**10 39 30.7**	**-1.1**
HAVZ				S	**Sb**	**10 39 43.5**	**+0.6**
KVT	**Kavak**	**0.92**	**55**	*e*PG	**Pb**	**10 39 36.7**	**+0.6**
KVT				*e*SG	**Sn**	**10 39 50.5**	**-0.1**
KVT	**Kavak**	**0.92**	**55**	*e*Pg	**Pb**	**10 39 36.7**	**+0.6**
KVT				*e*Sg	**Sn**	**10 39 50.5**	**-0.1**
CDAG	**Cicekdag**	**1.07**	**209**	*i* P	**Pg**	**10 39 37.4**	**-0.9**
CDAG				*i* S	**Sb**	**10 39 53.7**	**+1.0**
CDAG	**Cicekdag**	**1.07**	**209**	P	**Pg**	**10 39 37.4**	**-0.9**
CDAG				S	**Sb**	**10 39 53.7**	**+1.0**
DIKM	**Dikmen**	**1.10**	**8**	*e*PG	**Pg**	**10 39 38.8**	**-0.2**
DIKM				*e*SG	**Sb**	**10 39 53.9**	**+0.1**
DIKM	**Dikmen**	**1.10**	**8**	*e*Pg	**Pg**	**10 39 38.8**	**-0.2**
DIKM				*e*Sg	**Sb**	**10 39 53.9**	**+0.1**
AFSR	**Af¯ar-Bala (A**	**1.88**	**235**	*e*PN	**Pb**	**10 39 51.9**	**-0.5**
AFSR	**Af¯ar-Bala (A**	**1.88**	**235**	*e*Pn	**Pb**	**10 39 51.9**	**-0.5**

*IDC **18** 10:40:27.4±2.8, 33°.28S×177°.96W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=52.4km s-min=43.3km az=81.0*
ISC 18 10:40:31.3±2.1, 33°.4S±0°.2×177°.7W±0°.3, h35km, n16, σ2°14/25, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.44**	**214**	*e*PN	**Pn**	**10 41 50.1**	**+0.3**
WMGZ				SN	**Sn**	**10 42 55.4**	**+4.2**
PKGZ	**Pakihiroa**	**5.66**	**216**	*e*PN	**Pn**	**10 41 53.3**	**+0.3**
HAZ	**Te Kaha**	**5.71**	**219**	*e*PN	**Pn**	**10 41 54.4**	**+1.0**
PUZ	**Puketiti**	**5.72**	**214**	*e*PN	**Pn**	**10 41 52.8**	**-0.9**
PUZ				*e*SN	**Sn**	**10 42 59.7**	**+1.6**
TWGZ	**Tauwhareparae**	**5.93**	**215**	*e*PN	**Pn**	**10 41 55.8**	**-0.8**
TWGZ				SN	**Sn**	**10 43 04.8**	**+1.3**
CNGZ	**Carnagh Statio**	**6.08**	**212**	*e*PN	**Pn**	**10 41 58.1**	**-0.5**
CNGZ				SN	**Sn**	**10 43 11.3**	**+4.4**
MWZ	**Matawai**	**6.28**	**217**	*e*PN	**Pn**	**10 42 01.0**	**-0.4**
MWZ				*e*SN	**Sn**	**10 43 13.6**	**+1.7**
URZ	**Urewera**	**6.43**	**219**	Pn	**Pn**	**10 42 02.3**	**-1.2**
	1.0nm,0.3s,baz=254,slow=5.7,SNR=8.4						
URZ				Sn	**Sn**	**10 43 15.7**	**0.0**
	4.2nm,0.3s,baz=134,slow=20,SNR=14						
URZ	**Urewera**	**6.43**	**219**	*e*PN	**Pn**	**10 42 02.9**	**-0.6**
URZ				*e*SN	**Sn**	**10 43 16.2**	**+0.5**
URZ				SN	**Sn**	**10 43 17.0**	**+1.3**
SNGZ	**Shannon Statio**	**6.72**	**215**	*e*PN	**Pn**	**10 42 07.8**	**+0.4**
KNZ	**Kokohu**	**6.76**	**212**	*e*PN	**Pn**	**10 42 06.2**	**-1.7**
BFZ	**Birch Farm**	**8.74**	**212**	*e*SN	**Sn**	**10 44 08.7**	**-3.8**
MRZ	**Mangatainoka R**	**9.03**	**214**	*e*PN	**Pn**	**10 42 36.1**	**-3.0**
MRZ				*e*SN	**Sn**	**10 44 15.0**	**-4.6**
ASAR	**Alice Springs**	**43.26**	**270**	P	**P**	**10 48 29.5**	**-0.1**
	0.7nm,0.9s,baz=106,slow=7.2,SNR=9.9						
WRA	**Warramunga Arr**	**44.51**	**275**	P	**P**	**10 48 39.3**	**-0.3**
	0.6nm,0.5s,baz=114,slow=7.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**159.87**	**178**	PKPab	**PKPab**	**11 01 07.8**	**+1.6**
	0.8nm,1.0s,baz=157,slow=2.4,SNR=4.0						

IDC 18 11:08:57.5±999.0, 49°.55N×55°.02E, h0km, Error ellipse: s-maj=2726.0km s-min=47.3km az=65.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**2.13**	**65**	*i*		**11 22 30.0**	
	baz=247,slow=326,SNR=6.4						
I46RU	**ZALESOVO INFRA**	**18.89**	**65**	*i*		**12 58 30.0**	
	baz=268,slow=318,SNR=4.8						
I34MN	**SONGINO INFRAS**	**33.44**	**73**	*i*		**14 35 50.0**	
	baz=292,slow=327,SNR=0.4						

IDC 18 11:15:03.3±7.8, 28°.03S×74°.66E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/49, mbtmp3.9/6, MS3.6/2, Ms1 3.6/2, ms1mx3.0/43, Error ellipse: s-maj=260.4km s-min=29.3km az=43.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.38**	**354**	T	T	11 41 11.1	
	baz=176,slow=76,SNR=34						
H08S1	**Diego Carcia H**	**20.38**	**354**	T	T	11 41 12.8	
	baz=176,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**20.39**	**354**	T	T	11 41 14.4	
	baz=176,slow=76,SNR=27						
ASAR	**Alice Springs**	**53.06**	**100**	P	P	11 24 22.4	-0.2
	1.3nm,0.9s,baz=252,slow=6.6,SNR=17						
ASAR				LR	LR	11 44 47.9	
	comp=Z,68nm,19.1s,baz=304,slow=34						
WRA	**Warramunga Arr**	**54.67**	**95**	P	P	11 24 34.3	-0.1
	2.1nm,0.8s,baz=252,slow=7.2,SNR=7.2						
MKAR	**Makanchi Array**	**74.79**	**5**	P	P	11 26 44.6	-0.5
	1.1nm,0.9s,baz=188,slow=7.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**78.38**	**3**	P	P	11 27 05.0	-0.2
	0.2nm,0.5s,baz=193,slow=5.2,SNR=4.0						
SONM	**Songino Array**	**80.73**	**21**	P	P	11 27 18.9	+0.6
	0.5nm,0.7s,baz=190,slow=4.4,SNR=3.3						
BVAR	**Borovoye Array**	**80.79**	**357**	P	P	11 27 18.5	+0.2
	1.9nm,0.8s,baz=139,slow=7.0,SNR=8.4						
MJAR	**Matsuhiro Arr**	**87.71**	**46**	LR	LR	12 06 11.9	
	comp=Z,25nm,19.5s,baz=65,slow=35						

*ISCJB **18** 11:22:38.8±0.9, 39°.14N±0°.04×27°.53E±0°.04, h2km±.9km, Error ellipse: s-maj=6.3km s-min=5.0km az=178.4*
*ISK **18** 11:22:38.9, 39°.11N×27°.54E, h7km, MD2.6*
*CSEM **18** 11:22:39.0±0.2, 39°.16N×27°.52E, h2km, ML2.5, Error ellipse: s-maj=6.5km s-min=3.6km az=11.0*
*DDA **18** 11:22:39.7, 39°.07N×27°.51E, h7km, Ml2.5*
ISC 18 11:22:38.9±1.4, 39°.10N±0°.04×27°.56E±0°.02, h7km±11km, n24, σ0°41/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.30**	**138**	*i* P	**Pg**	**11 22 45.0**	**+0.2**
AKHS				*i* S	**Sb**	**11 22 51.3**	**-0.4**
AKHS	**Akhisar**	**0.30**	**138**	P	**Pg**	**11 22 45.0**	**+0.2**
AKHS				S	**Sb**	**11 22 51.3**	**-0.4**
DEMI	**Demirci**	**0.90**	**93**	*i* P	**Pn**	**11 22 58.2**	**0.0**
DEMI				*i* S	**Sb**	**11 23 09.9**	**+0.6**
DEMI	**Demirci**	**0.90**	**93**	P	**Pn**	**11 22 58.2**	**0.0**
DEMI				S	**Sb**	**11 23 09.9**	**+0.6**
MANT	**Manisa**	**0.99**	**128**	*i* P	**Pn**	**11 22 59.5**	**0.0**
MANT				*i* S	**Sn**	**11 23 13.7**	**-0.1**
MANT	**Manisa**	**0.99**	**128**	P	**Pn**	**11 22 59.5**	**0.0**
MANT				S	**Sn**	**11 23 13.7**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.01**	**310**	*i* P	**Pg**	**11 22 57.5**	**-0.8**
BAYC				*i* S	**Sn**	**11 23 14.4**	**+0.3**
KULA	**Kula-Manisa**	**1.04**	**124**	*e*PG	**Pb**	**11 22 59.2**	**-0.2**
KULA				*e*SG	**Sn**	**11 23 14.5**	**-0.4**
KULA	**Kula-Manisa**	**1.04**	**124**	*e*Pg	**Pb**	**11 22 59.2**	**-0.2**
KULA				*e*Sg	**Sn**	**11 23 14.5**	**-0.4**
URLA	**Izmir**	**1.05**	**226**	*e*PG	**Pb**	**11 22 59.8**	**+0.2**
URLA				*e*SG	**Sn**	**11 23 14.6**	**-0.6**
URLA	**Izmir**	**1.05**	**226**	*i* P	**Pg**	**11 22 59.2**	**0.0**
URLA				*i* S	**Sn**	**11 23 15.9**	**+0.7**
URLA	**Izmir**	**1.05**	**226**	P	**Pg**	**11 22 59.2**	**0.0**
URLA	**Izmir**	**1.05**	**226**	*e*Pg	**Pb**	**11 22 59.8**	**+0.2**
URLA				*e*Sg	**Sn**	**11 23 14.6**	**-0.6**
URLA				S	**Sn**	**11 23 15.9**	**+0.7**
SIMA	**Simav-Kutahya**	**1.11**	**90**	*e*PN	**Pn**	**11 23 01.2**	**+0.2**
DGB	**¯zmir**	**1.17**	**207**	*i* P	**Pg**	**11 23 00.8**	**-0.6**
DGB				*i* S	**Sb**	**11 23 16.7**	**-0.2**
ZEY	**¯zmir**	**1.19**	**224**	*i* P	**Pg**	**11 23 01.3**	**-0.5**
ZEY				*i* S	**Sn**	**11 23 19.3**	**+0.9**
EZN	**Ezine**	**1.20**	**308**	*e*PN	**Pg**	**11 23 01.8**	**-0.1**
EZN	**Ezine**	**1.20**	**308**	*e*Pn	**Pg**	**11 23 01.8**	**-0.1**
SIGR	**SIGRI**	**1.33**	**275**	*e*PN	**Pn**	**11 23 03.9**	**-0.1**
SIGR	**SIGRI**	**1.33**	**275**	*e*Pn	**Pn**	**11 23 03.9**	**-0.1**
CHOS	**Chios island**	**1.37**	**239**	*e*PN	**Pg**	**11 23 05.3**	**0.0**
CHOS	**Chios island**	**1.37**	**239**	*e*Pn	**Pg**	**11 23 05.3**	**0.0**
BOZC	**Bozcaada**	**1.38**	**303**	*e*PN	**Pn**	**11 23 04.9**	**+0.2**
BOZC	**Bozcaada**	**1.38**	**303**	*e*Pn	**Pn**	**11 23 04.9**	**+0.2**

*NNC **18** 11:35:34.9±1.7, 39°.41N×73°.86E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=15.3km s-min=7.0km az=120.0*
*KRNET **18** 11:35:37.9±0.1, 39°.40N×73°.37E, mb2.6*
ISC 18 11:35:35.8±2.1, 39°.44N±0°.08×73°.80E±0°.08, h1km±14km, n13, σ1°42/25, 18C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.98**	**342**	⇑*i*P	**Pg**	**11 36 13.9**	**0.0**
	baz=351						
ARSB				⇑*i*S	**Sg**	**11 36 40.8**	**+1.2**
	baz=351						
BTK	**Batken**	**2.38**	**286**	⇑*e*P	**Pn**	**11 36 16.3**	**+0.2**
	baz=289						
BTK				⇑*i*S	**Sn**	**11 36 44.0**	**-2.0**
	baz=289						
ARLS	**Aral**	**2.45**	**9**	⇑*i*P	**Pg**	**11 36 23.2**	**+0.4**
	baz=16						
ARLS				⇑*i*S	**Sg**	**11 36 56.0**	**+1.4**
	baz=16						
AML	**Almayashu**	**2.69**	**358**	⇓*i*P	**Pg**	**11 36 26.2**	**-1.2**
	baz=5.0						
AML				⇓*i*S	**Sg**	**11 37 02.9**	**+0.6**
	baz=5.0						
UCH	**Uchtor**	**2.84**	**11**	⇑*e*P	**Pg**	**11 36 29.5**	**-0.8**
	baz=17						
UCH				⇑*i*S	**Sg**	**11 37 07.7**	**+0.6**
	baz=17						
KZA	**Kyzart**	**2.86**	**22**	⇑*e*P	**Pg**	**11 36 30.2**	**-0.4**
	baz=27						
KZA				⇑*e*S	**Sg**	**11 37 09.2**	**+1.5**
	baz=27						
MNAS	**Manas**	**3.20**	**343**	⇑*i*P	**Pb**	**11 36 31.4**	**-2.2**
	baz=348						
MNAS				⇑*i*S	**Sb**	**11 37 10.5**	**-2.6**
	baz=348						
MNAS	**Manas**	**3.20**	**343**	⇑Pg	**Pb**	**11 36 34.1**	**+0.6**
	1.0nm,0.5s						
MNAS				⇑Lg	Lg	11 37 16.8	
	7.3nm,0.9s						
EKS2	**Erkin-Say**	**3.22**	**360**	⇓*e*P	**Pb**	**11 36 33.3**	**-0.6**
	baz=5.0						
EKS2				⇓*i*S	**Sb**	**11 37 15.1**	**+1.4**
	baz=5.0						
AAK	**Ala-Archa**	**3.24**	**9**	⇓*e*P	**Pb**	**11 36 34.5**	**+0.2**
	baz=14						
AAK				⇓*i*S	**Sg**	**11 37 16.9**	**-3.0**
	baz=14						
AAK	**Ala-Archa**	**3.24**	**9**	Pg	**Pb**	**11 36 34.2**	**0.0**
	1.7nm,0.7s						
AAK				Lg	Lg	11 37 17.4	
	8.4nm,1.1s						
DZET	**Dzherino**	**3.92**	**262**	⇑Pn	**Pn**	**11 36 37.0**	**-0.2**
	1.8nm,0.5s						
DZET				⇓Pg	**Pb**	**11 36 46.5**	**+0.7**
	1.5nm,0.4s						
DZET				⇑Lg	Lg	11 37 40.0	
	28nm,0.8s						
KK31	**Karatay Array**	**4.42**	**327**	⇑Pn	**Pn**	**11 36 44.7**	**+0.7**
	0.2nm,0.3s						
KK31				Pg	**Pb**	**11 36 55.4**	**+1.1**
KK31				⇑Sn	**Sn**	**11 37 38.3**	**+2.1**
	0.7nm,0.4s,baz=135,slow=20,SNR=4.8						

*ISCJB **18** 11:35:59.5±1.0, 60°.5S±0°.1×47°.1W±0°.3, h10km, mb3.9/2, MS3.4/4, Error ellipse: s-maj=21.1km s-min=19.0km az=10.3*

*IDC **18** 11:35:59.7±1.0, 60°.37S×47°.11W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.9/4, ML5.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/21, Error ellipse: s-maj=37.7km s-min=28.0km az=31.0*
ISC 18 11:36:01.1±1.0, 60°.4S±0°.2×47°.1W±0°.2, h10km, n18, σ0°60/8, MS3.4/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.98**	**233**	Pn	**Pn**	**11 38 10.9**	**+0.3**
	4.0nm,0.3s,baz=65,slow=13,SNR=10						
PMSA				LR	LR	11 41 25.5	
	comp=Z,246nm,18.1s,baz=60,slow=36						
USHA	**Ushuaia**	**12.69**	**286**	LR	LR	11 42 28.6	
	comp=Z,667nm,21.8s,baz=38,slow=31						
SNAA	**Sanae**	**20.63**	**141**	P	**P**	**11 40 40.1**	**-0.2**
	0.9nm,0.9s,baz=328,slow=1.0,SNR=2.0						
SNAA				LR	LR	11 47 25.8	
	comp=Z,74nm,18.4s,baz=328,slow=33						
PLCA	**Paso Flores**	**24.43**	**313**	P	**P**	**11 41 19.4**	**-0.3**
	1.5nm,0.5s,baz=184,slow=23,SNR=5.8						
VNDA	**Vanda**	**41.20**	**189**	LR	LR	12 02 43.1	
	comp=Z,45nm,19.1s,baz=330,slow=39						
MAW	**Mawson**	**42.56**	**148**	LR	LR	12 00 58.9	
	comp=Z,72nm,18.1s,baz=252,slow=35						
LPAZ	**La Paz**	**46.59**	**332**	LR	LR	12 05 55.2	
	comp=Z,41nm,18.4s,baz=102,slow=38						
H10S2	**ASCENSION HYDR**	**56.72**	**39**	T	T	12 47 27.9	
	baz=199,slow=75,SNR=19						
H10S3	**ASCENSION HYDR**	**56.72**	**39**	T	T	12 47 25.0	
	baz=199,slow=75,SNR=14						
H10S1	**ASCENSION HYDR**	**56.74**	**39**	T	T	12 47 34.6	
	baz=199,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**57.82**	**39**	T	T	12 49 01.1	
	baz=199,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**57.82**	**39**	T	T	12 49 16.8	
	baz=199,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**57.84**	**39**	T	T	12 49 03.2	
	baz=199,slow=75,SNR=18						
TORD	**Torodi Ar. Bea**	**82.94**	**48**	P	**P**	**11 48 26.8**	**+0.9**
	1.0nm,0.7s,baz=210,slow=5.1,SNR=7.1						
ILAR	**Eielson Array**	**145.12**	**312**	PKPbc	**PKPbc**	**11 55 36.1**	**-0.4**
	0.6nm,0.5s,baz=134,slow=1.3,SNR=16						
BVAR	**Borovoye Array**	**146.10**	**74**	PKPbc	**PKPbc**	**11 55 39.9**	**-0.1**
	1.6nm,0.6s,baz=270,slow=2.6,SNR=9.4						
MKAR	**Makanchi Array**	**147.89**	**92**	PKPbc	**PKPbc**	**11 55 44.7**	**-0.6**
	0.8nm,0.6s,baz=234,slow=2.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**148.56**	**83**	PKPbc	**PKPbc**	**11 55 46.4**	**-0.5**

BUC 18 11:38:06.2±0.5, 45°.82N×21°.57E, h12km±3km, MD2.3/2, 6C-2D, Error ellipse: s-maj=9.6km s-min=1.1km az=88.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.21**	**171**	⇑*i*P	Pg	**11 38 11.0**	+0.4
BZS				*i* S	Sg	**11 38 14.2**	+0.6
BZS	**Buzias**	**0.21**	**171**	⇑*i*P	Pg	**11 38 11.0**	+0.4
BZS	**Buzias**	**0.21**	**171**	S	Sg	**11 38 14.2**	+0.6
SIRR	**Siria**	**0.45**	**8**	⇓*i*P	Pg	**11 38 15.4**	+0.3
SIRR				*i* S	Sg	**11 38 20.6**	-0.5
SIRR	**Siria**	**0.45**	**8**	⇓*i*P	Pg	**11 38 15.4**	+0.3
SIRR	**Siria**	**0.45**	**8**	S	Sg	**11 38 20.6**	-0.5
GZR	**Gura Zlata**	**0.95**	**116**	⇑*i*P	Pn	**11 38 25.1**	-0.3
GZR	**Gura Zlata**	**0.95**	**116**	⇑*i*P	Pn	**11 38 25.1**	-0.3
MDVR	**Moldovita**	**1.04**	**174**	*i* S	Sb	**11 38 40.5**	+0.6
MDVR	**Moldovita**	**1.04**	**174**	S	Sb	**11 38 40.5**	+0.6
DRGR		**1.25**	**39**	*i* S	Sn	**11 38 46.4**	-0.1
DRGR		**1.25**	**39**	S	Sn	**11 38 46.4**	-0.1
LOT	**Lotru**	**1.59**	**103**	⇑*i*P	Pb	**11 38 35.3**	-0.3
LOT				*i* S	Sb	**11 38 55.4**	-0.2
LOT	**Lotru**	**1.59**	**103**	⇑*i*P	Pb	**11 38 35.3**	-0.3

*ISCJB **18** 12:03:10.7±0.7, 20°.1S±0°.1×66°.4E±0°.2, h16km, mb4.2/15, MS3.8/3, Error ellipse: s-maj=23.2km s-min=15.6km az=147.8*
*IDC **18** 12:03:10.1±0.8, 20°.06S×66°.40E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/50, mbtmp4.1/12, MS3.8/4, Ms1 3.8/4, ms1mx3.3/32, Error ellipse: s-maj=26.0km s-min=19.4km az=59.0*
*NEIC **18** 12:03:11.7±0.5, 20°.09S×66°.39E, h10km, mb4.8/3, Error ellipse: s-maj=17.4km s-min=11.9km az=56.0*
ISC 18 12:03:12.7±0.8, 20°.1S±0°.2×66°.4E±0°.2, h16km, n25, σ0°64/15, mb4.3/15, MS3.9/3, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.71**	**26**	T	T	12 20 38.6	
	baz=204,slow=76,SNR=132						
H08S2	**Diego Garcia H**	**13.72**	**26**	T	T	12 20 21.9	
	baz=204,slow=76,SNR=71						
H08S3	**Diego Garcia H**	**13.73**	**26**	T	T	12 20 42.2	
	baz=204,slow=76,SNR=121						
H08N3	**Diego Garcia H**	**14.38**	**19**	T	T	12 21 56.1	
	baz=197,slow=76,SNR=25						
H08N1	**Diego Carcia H**	**14.39**	**19**	T	T	12 21 55.3

baz=171,slow=76,SNR=566
H08S3 Diego Garcia H 30.02 349 T T 12 49 24.5
baz=171,slow=76,SNR=1121
SYO Syowa Base 37.89 201⇑ *e*P P 12 19 13.9 -4.4
PALK Pallekele 44.50 4 LR LR 12 35 17.6
comp=Z,258nm,18.2s,baz=116,slow=31
LBTB Lobatse 45.88 270 LR LR 12 36 05.9
comp=Z,375nm,19.5s,baz=120,slow=32
FITZ Fitzroy Crossi 45.88 79 LR LR 12 35 58.1
comp=Z,202nm,22.0s,baz=265,slow=31
MATP Matopo 45.89 277 LR LR 12 35 51.3
comp=Z,214nm,20.6s,slow=31
LSZ Lusaka 49.04 283 LR LR 12 38 07.0
comp=Z,257nm,20.3s,baz=172,slow=32
ASAR Alice Springs 49.49 91 P P 12 20 52.0 -0.4
4.7nm,1.1s,baz=234,slow=6.6,SNR=13
ASAR LR LR 12 39 14.2
comp=Z,351nm,19.5s,baz=262,slow=33
WRA Warramunga Arr 51.74 87 P P 12 21 08.8 -0.6
2.2nm,1.0s,baz=238,slow=7.6,SNR=5.6
WRA LR LR 12 40 48.9
comp=Z,244nm,19.9s,baz=240,slow=33
STKA Stephens Creek 51.83 104 P P 12 21 10.4 +0.6
5.6nm,0.7s,baz=254,slow=6.4,SNR=3.2
KMBO Kilima Mbogo 51.97 304 LR LR 12 38 07.1
comp=Z,115nm,21.8s,baz=93,slow=30
SNAA Sanae 52.11 203 P P 12 21 11.1 -0.4
1.3nm,0.7s,baz=14,slow=6.1,SNR=6.7
VNDA Vanda 52.53 164 P P 12 21 14.7 +0.2
1.4nm,1.1s,baz=271,slow=7.3,SNR=3.9
TSUM Tsumeb 55.21 272 LR LR 12 41 30.7
comp=Z,477nm,21.1s,baz=150,slow=32
ATD Arta Tunnel 58.73 319 LR LR 12 41 52.5
comp=Z,65nm,19.5s,baz=70,slow=30
GEYT Alibeck 77.13 344 LR LR 12 53 58.7
comp=Z,46nm,19.8s,baz=30,slow=33
MKAR Makanchi Array 83.89 3 P P 12 24 30.6 -0.6
1.1nm,0.9s,baz=178,slow=6.8,SNR=6.1
MKAR LR LR 12 58 21.8
comp=Z,86nm,21.6s,baz=186,slow=33
TORD Torodi Ar. Bea 87.22 289 LR LR 13 02 34.0
comp=Z,168nm,18.1s,baz=115,slow=35
DBIC Dimbokro 88.27 280 LR LR 13 02 30.1
comp=Z,114nm,18.1s,baz=107,slow=34
SONM Songino Array 88.57 19 P P 12 24 55.2 +0.9
0.3nm,0.5s,baz=204,slow=3.2,SNR=2.6
ZALV Zalesovo Beam 91.16 4 LR LR 13 04 06.2
comp=Z,58nm,19.8s,baz=248,slow=34

WEL 18 12:13:59.9±0.3,36°.97S×176°.54E,h254km±6km,ML3.5/18, 1C,Error ellipse: s-maj=9.3km s-min=9.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.27**	**129**	PN	Pn	12 14 37.2	+0.3
HAZ				SN	S	12 15 05.6	-0.4
HAZ				AML	AML	12 16 02.7	
RUGZ	**Raukumara Rang**	**1.35**	**138**	PN	Pn	12 14 37.3	-0.3
URZ	**Urewera**	**1.37**	**161**	⇑PN	Pn	12 14 37.9	+0.3
URZ				*e*SN	S	12 15 07.4	0.0
MWZ	**Matawai**	**1.57**	**150**	PN	Pn	12 14 39.3	+0.2
MWZ				*e*SN	S	12 15 10.1	-0.1
WMGZ	**Waiomatatini S**	**1.72**	**120**	PN	Pn	12 14 40.4	+0.1
WMGZ				*e*SN	S	12 15 11.9	-0.2
WMGZ				AML	AML	12 15 14.7	
RIGZ	**Rimuhau**	**1.99**	**151**	PN	Pn	12 14 42.9	+0.4
BKZ	**Black Stump Fm**	**2.20**	**181**	PN	Pn	12 14 44.3	-0.2
KNZ	**Kokohu**	**2.24**	**157**	PN	Pn	12 14 44.2	-0.6
ARHZ	**Aropaoanui**	**2.32**	**171**	PN	Pn	12 14 45.3	-0.3
KWHZ	**Kaweka Forest**	**2.46**	**182**	PN	Pn	12 14 46.8	-0.2
MCHZ	**McNeill Hill**	**2.48**	**177**	PN	Pn	12 14 47.1	0.0
BHHZ	**Black Hill Sta**	**2.55**	**188**	PN	Pn	12 14 47.6	-0.3
KAHZ	**Kahuranaki**	**2.83**	**175**	PN	Pn	12 14 50.2	-0.7
PXZ	**Pawanui**	**3.07**	**175**	PN	Pn	12 14 51.9	-1.3
PXZ				*e*SN	S	12 15 34.7	-1.0
BFZ	**Birch Farm**	**3.72**	**183**	PN	Pn	12 14 58.5	-2.0
MRZ	**Mangatainoka R**	**3.76**	**191**	PN	Pn	12 14 58.8	-2.2
MRZ				*e*SN	S	12 15 47.1	-2.6
CAW	**Cannon Point**	**4.29**	**195**	PN	Pn	12 15 04.5	-2.6
TCW	**Tory Channel**	**4.59**	**202**	PN	Pn	12 15 08.4	-2.3
TUWZ	**Tuamarina**	**4.89**	**204**	PN	Pn	12 15 11.9	-2.4
NNZ	**Nelson**	**4.91**	**209**	*e*PN	Pn	12 15 11.6	-2.9
THZ	**Tophouse**	**5.56**	**209**	PN	Pn	12 15 20.1	-2.4
KHZ	**Kahutara**	**5.91**	**202**	PN	Pn	12 15 24.1	-2.8

IDC 18 12:17:03.1±1.5,5°.81S×152°.61E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/31,mbtmp3.8/7,ML1.7/1,Error ellipse: s-maj=60.2km s-min=21.6km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**236**	Pn	Pn	12 18 41.1	+1.3
1.0nm,0.3s,baz=63,slow=16,SNR=3.7							
PMG				Sn	Sn	12 19 56.2	+1.7
2.3nm,0.3s,baz=56,slow=15,SNR=3.6							
WRA	**Warramunga Arr**	**22.65**	**230**	P	P	12 22 05.4	-0.7
0.5nm,0.6s,baz=56,slow=10,SNR=6.2							
ASAR	**Alice Springs**	**25.29**	**224**	P	P	12 22 31.5	0.0
0.9nm,0.7s,baz=62,slow=9.0,SNR=13							
STKA	**Stephens Creek**	**27.91**	**200**	P	P	12 22 55.5	+0.5
0.7nm,0.4s,baz=9.6,slow=9.8,SNR=3.1							
FITZ	**Fitzroy Crossi**	**29.02**	**243**	P	P	12 23 04.8	-0.3
1.5nm,0.4s,baz=53,slow=8.8,SNR=16							
MKAR	**Makanchi Array**	**80.96**	**319**	P	P	12 29 20.2	+0.6
0.6nm,0.8s,baz=109,slow=7.5,SNR=3.6							
ILAR	**Eielson Array**	**83.16**	**22**	P	P	12 29 30.9	+0.1
1.0nm,1.1s,baz=254,slow=4.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**150.42**	**286**	PKPbc	PKPbc	12 36 56.8	-1.0
1.3nm,0.7s,baz=76,slow=2.7,SNR=10							

*IDC **18** 12:26:03.6±3.9,21°.13S×177°.14W,h439km±30km,mb3.2/6, mb1 3.4/8,mb1mx3.2/29,mbtmp4.2/8,Error ellipse: s-maj=93.4km s-min=17.4km az=143.0*
*ISCJB **18** 12:26:04.1±3.3,20°.7S±0°.6×177°.3W±0°.5,h450km,mb3.5/6, Error ellipse: s-maj=108.8km s-min=10.1km az=142.9*
ISC 18 12:26:05.8±2.8,20°.6S±0°.6×177°.3W±0°.4,h450km,n9, σ1§95/10,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.48**	**39**	P	**P**	**12 28 07.6**	**+1.1**
3.7nm,0.3s,baz=241,slow=3.0,SNR=8.7							
AFI				S	**S**	**12 29 42.3**	**-3.4**
2.1nm,0.3s,baz=75,slow=20,SNR=4.1							
DZM	**Mont Dzumac**	**15.21**	**261**	P	**P**	**12 29 19.9**	**+0.5**
0.5nm,0.3s,baz=74,slow=20,SNR=4.3							
CTA	**Charters Tower**	**34.12**	**264**	P	**P**	**12 32 11.1**	**-0.7**
3.2nm,0.6s,baz=111,slow=8.6,SNR=4.9							
ASAR	**Alice Springs**	**45.13**	**257**	P	**P**	**12 33 39.8**	**-1.2**
1.8nm,0.6s,baz=92,slow=7.9,SNR=36							
WRA	**Warramunga Arr**	**45.23**	**262**	P	**P**	**12 33 39.7**	**-2.0**
0.7nm,0.6s,baz=99,slow=7.9,SNR=7.6							
FITZ	**Fitzroy Crossi**	**53.66**	**262**	P	**P**	**12 34 43.8**	**-0.4**
1.5nm,0.7s,baz=102,slow=6.2,SNR=5.5							
PETK	**Petropavlovsk-**	**76.51**	**345**	P	**P**	**12 37 10.1**	**+2.0**
2.4nm,0.7s,baz=164,slow=8.0,SNR=3.2							
ILAR	**Eielson Array**	**88.25**	**13**	P	**P**	**12 38 09.1**	**+1.6**
0.2nm,0.5s,baz=216,slow=5.6,SNR=6.6							
AKASG	**Malin Array Be**	**143.39**	**332**	PKP	**PKPdf**	**12 44 46.8**	**-1.1**
1.0nm,0.5s,baz=42,slow=4.4,SNR=8.4							

*ISCJB **18** 12:29:56.0±1.1,6°.41S±0°.09×146°.8E±0°.1,h78km,mb4.2/6, Error ellipse: s-maj=15.7km s-min=12.9km az=8.9*
*IDC **18** 12:29:58.6±5.9,6°.44S×146°.82E,h94km±46km,mb3.9/3, mb1 4.1/6,mb1mx3.6/32,mbtmp4.3/6,Error ellipse: s-maj=53.6km s-min=47.5km az=65.0*
*NEIC **18** 12:30:00.1±2.2,6°.59S×146°.86E,h99km±17km,mb4.3/4, Error ellipse: s-maj=22.2km s-min=14.8km az=177.0*
ISC 18 12:29:57.6±1.2,6°.4S±0°.1×146°.8E±0°.1,h78km,n15, σ1§28/17,mb4.2/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.02**	**174**	P	**Pn**	**12 30 43.0**	**-0.2**
41nm,0.3s,baz=26,slow=9.3,SNR=311							
PMG				S	**Sn**	**12 31 19.8**	**+1.4**
18nm,0.3s,baz=35,slow=17,SNR=3.1							
PMG	**Port Moresby**	**3.02**	**174**	*e*Pn	**Pn**	**12 30 42.5**	**-0.8**
PMG				*e*Sn	**Sn**	**12 31 21.3**	**+3.0**
COEN Coen 8.34 205 *e*Pn **Pn 12 31 57.3 +1.4**							
18nm,0.3s							
COEN				*e*Sn	**Sn**	**12 33 28.2**	**-0.2**
CTA Charters Tower 13.63 182 P **Pn 12 33 06.2 -1.4**							
0.5nm,0.3s,baz=6.7,slow=14,SNR=3.1							
WRAB Tennant Creek 18.12 221 *e*P **P 12 34 03.2 -0.4**							
7.5nm,0.9s							
WRA Warramunga Arr 18.13 221 P **P 12 34 02.9 -0.8**							
0.7nm,0.3s,baz=42,slow=12,SNR=25							
ASAR Alice Springs 21.21 215 P **P 12 34 36.9 -0.3**							
2.3nm,0.4s,baz=52,slow=8.3,SNR=65							
FITZ Fitzroy Crossi 23.72 239 P **P 12 35 01.6 -1.2**							
6.6nm,0.6s,baz=46,slow=6.5,SNR=28							
FITZ Fitzroy Crossi 23.72 239 *e*P **P 12 35 02.4 -0.4**							
STKA Stephens Creek 25.83 190 P **P 12 35 20.1 -1.6**							
2.1nm,0.5s,baz=354,slow=9.9,SNR=8.8							
BBOO Buckleboo 28.14 199 *e*P **P 12 35 41.7 -0.8**							
3.1nm,0.7s							
MSVF Nonsavu 32.49 113 *e*P **P 12 36 21.6 +0.4**							
10nm,0.9s							
KULM Kulim 47.53 283 *e*P **P 12 38 26.8 +1.2**							
8.9nm,0.9s							
CSS Mathiatis 112.86 305 *e*PKPdf **PKiKP 12 48 26.6 +0.5**							
TORD Torodi Ar. Bea 145.02 284 PKPbc PKPbc 12 49 25.5 -1.0							
0.8nm,0.6s,baz=84,slow=4.3,SNR=6.0							

*NIED **18** 13:07:00,39°.60N×143°.80E,h14km,Mw3.9 Best double couple: M0 7.50000×10^14 NP1:φs178.00000°,δ36.00000°, λ59.00000°. NP2:φs35.00000°,δ60.00000°,λ111.00000°.*
*JMA **18** 13:07:18.9±0.2,39°.56N×143°.78E,h19km,M4.2*
*ISCJB **18** 13:07:19.2±0.7,39°.55N±0°.04×143°.69E±0°.07,h11km, mb3.8/8,MS3.3/1,Error ellipse: s-maj=8.7km s-min=4.1km az=33.6*
*IDC **18** 13:07:19.6±1.1,39°.58N×143°.70E,h0km,mb3.9/8, mb1 4.0/12,mb1mx3.8/51,mbtmp3.8/12,ML3.2/4,MS3.0/3, Ms1 3.0/3,ms1mx2.7/44,Error ellipse: s-maj=23.1km s-min=21.0km az=139.0*
ISC 18 13:07:21.1±0.9,39°.56N±0°.06×143°.66E±0°.08,h11km,n27, σ1§36/35,mb3.9/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.42**	**271**	P	**Pn**	**13 07 45.6**	**-1.3**
MIYJ				*e*S	**Sn**	**13 08 04.4**	**-1.1**
JTH	**Tanohata**	**1.43**	**286**	P	**Pn**	**13 07 45.6**	**-1.5**
OFUJ	**Ofunato**	**1.61**	**254**	P	**Pn**	**13 07 48.2**	**-1.3**
OFUJ				*e*S	**Sn**	**13 08 09.2**	**-1.1**
JOM	**Ohasama**	**1.83**	**268**	P	**Pn**	**13 07 51.8**	**-0.7**
JANG	**Nango**	**1.84**	**297**	P	**Pn**	**13 07 51.1**	**-1.5**
JMK	**Ichinoseki**	**1.98**	**253**	P	**Pn**	**13 07 53.6**	**-1.0**
JIO	**Ouri**	**2.11**	**239**	P	**Pn**	**13 07 55.0**	**-1.3**
JYK	**Kaneyama**	**2.64**	**257**	P	**Pn**	**13 08 03.4**	**-0.2**
JOT	**Ohata**	**2.70**	**313**	P	**Pn**	**13 08 03.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.81**	**346**	P	**Pn**	**13 08 05.8**	**-0.1**
JNBK				*e*S	**Sn**	**13 08 39.1**	**-0.7**
JCH	**Churui**	**3.06**	**356**	P	**Pn**	**13 08 08.5**	**-1.0**
JCH				*e*S	**Sn**	**13 08 42.9**	**-3.2**
JKB	**Kayabe**	**3.07**	**320**	P	**Pn**	**13 08 09.3**	**-0.2**
JFT	**Otama**	**3.30**	**233**	P	**Pn**	**13 08 12.2**	**-0.6**
JFT				*e*S	**Sn**	**13 08 50.2**	**-1.9**
JAK	**Akkeshi**	**3.53**	**13**	P	**Pn**	**13 08 14.9**	**-0.9**
JAK				*e*S	**Sn**	**13 08 55.0**	**-2.5**
ASAJ	**Asahikawa**	**4.63**	**350**	Pn	**Pn**	**13 08 30.6**	**-0.3**
1.5nm,0.3s,baz=193,slow=16,SNR=17							
ASAJ				Sn	**Sn**	**13 09 27.9**	**+3.3**
2.3nm,0.3s,baz=270,slow=31,SNR=3.6							
MAT	**Matsushiro**	**5.25**	**237**	P	**Pn**	**13 08 39.8**	**+0.3**
MAT				*e*S	**Sn**	**13 09 40.4**	**+0.4**
MJAR	**Matsushiro Arr**	**5.25**	**237**	Pn	**Pn**	**13 08 40.4**	**+0.9**
2.4nm,0.3s,baz=39,slow=12,SNR=44							
MJAR				LR	LR	13 10 53.4	
comp=Z,54nm,20.9s,baz=270,slow=41							
USRK Ussuriysk Ar.		**9.86**	**302**	Pn	**Pn**	**13 09 44.6**	**+1.9**
0.3nm,0.3s,baz=94,slow=13,SNR=3.9							
KSRS Korea Array		**12.50**	**265**	Pn	**Pn**	**13 10 21.4**	**+2.5**
0.2nm,0.3s,baz=95,slow=14,SNR=5.4							
KSRS				LR	LR	13 15 04.2	
comp=Z,62nm,18.3s,baz=112,slow=37							
SONM Songino Array		**27.96**	**300**	P	**P**	**13 13 11.2**	**-0.5**
0.9nm,0.6s,baz=92,slow=7.9,SNR=6.2							
SONM				LR	LR	13 24 24.0	
comp=Z,70nm,18.8s,baz=174,slow=37							
ZALV Zalesovo Beam		**41.58**	**310**	P	**P**	**13 15 08.7**	**+0.1**
1.3nm,0.5s,baz=102,slow=7.3,SNR=5.5							
MKAR Makanchi Array		**44.32**	**300**	P	**P**	**13 15 30.9**	**-0.2**
1.2nm,0.6s,baz=85,slow=9.9,SNR=12							
ILAR Eielson Array		**46.42**	**34**	P	**P**	**13 15 47.8**	**+0.4**
0.3nm,0.7s,baz=273,slow=6.4,SNR=6.9							
BVAR Borovoye Array		**50.21**	**311**	P	**P**	**13 16 17.0**	**+0.1**
1.2nm,0.4s,baz=78,slow=8.2,SNR=5.4							
WRA Warramunga Arr		**59.82**	**190**	P	**P**	**13 17 26.9**	**+0.3**
0.5nm,0.7s,baz=9.3,slow=7.0,SNR=5.2							
FINES FINESS Array B		**67.40**	**333**	P	**P**	**13 18 15.7**	**-0.4**
11nm,1.2s,baz=90,slow=2.8,SNR=3.1							
PDAR Pinedale Array		**74.65**	**47**	P	**P**	**13 19 01.0**	**+0.2**
0.2nm,0.5s,baz=335,slow=4.0,SNR=3.3							

IDC 18 13:20:36.6±999.0,47°.91N×5°.18W,h0km,Error ellipse: s-maj=422.8km s-min=193.8km az=92.0,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**12.60**	**79**	*i*		14 37 40.0	
baz=274,slow=320,SNR=0.4							
I48TN	**KESRA INFRASON**	**16.18**	**133**	*i*		14 56 10.0	
baz=324,slow=386,SNR=1.0							
I43RU	**DUBNA INFRASON**	**26.98**	**55**	*i*		16 07 50.0	
baz=271,slow=322,SNR=0.5							

*CSEM **18** 13:22:59.8±0.6,35°.13N×23°.03E,h10km,ML3.4,Error ellipse: s-maj=13.6km s-min=5.5km az=33.0*
*ISCJB **18** 13:23:01.6±0.8,35°.18N±0°.06×23°.12E±0°.06,h71km±5km, mb4.0/8,Error ellipse: s-maj=12.0km s-min=5.3km az=39.4*
*THE **18** 13:23:02.5,35°.17N×23°.12E,h15km±1km,ML3.5/6,Error ellipse: s-maj=1.6km s-min=0.7km az=262.0*
*ATH **18** 13:23:02.5,35°.18N×23°.11E,h12km±2km,ML3.4/4,Error ellipse: s-maj=2.7km s-min=0.7km az=15.0*
*IDC **18** 13:23:02.6±2.6,35°.18N×23°.06E,h64km±22km,mb3.8/8, mb1 3.8/10,mb1mx3.5/46,mbtmp4.0/10,MS3.4/5, Ms1 3.4/5,ms1mx2.8/42,Error ellipse: s-maj=25.2km s-min=22.0km az=102.0*
ISC 18 13:23:02.1±1.1,35°.20N±0°.06×23°.08E±0°.06,h58km±9km, n99,σ1§16/95,mb4.1/8,MS3.7/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.69**	**15**	P	**Pn**	**13 23 15.9**	**-0.2**
ANKY				S	**Sn**	**13 23 26.1**	**-0.3**
ANKY	**Antikythira Is**	**0.69**	**15**	P	**Pn**	**13 23 16.1**	**0.0**
ANKY				S	**Sn**	**13 23 26.6**	**+0.2**
ANKY				AML	AML	13 23 29.2	
comp=N,7007μm,0.4s							
ANKY				AML	AML	13 23 33.6	
comp=E,6393μm,0.4s							
ANKY	**Antikythira Is**	**0.69**	**15**	P	**Pn**	**13 23 16.1**	**0.0**
ANKY				S	**Sn**	**13 23 26.6**	**+0.2**
IMMV	**Iera Moni Meta**	**0.78**	**70**	P	**Pn**	**13 23 17.3**	**+0.1**
IMMV				S	**Sn**	**13 23 28.7**	**+0.3**
IMMV	**Iera Moni Meta**	**0.78**	**70**	P	**Pn**	**13 23 17.1**	**-0.1**
IMMV				S	**Sn**	**13 23 29.1**	**+0.7**
IMMV				AML	AML	13 23 30.6	
comp=E,7378μm,0.8s							
IMMV				AML	AML	13 23 31.9	
comp=N,8997μm,0.7s							
IMMV	**Iera Moni Meta**	**0.78**	**70**	P	**Pn**	**13 23 17.1**	**-0.1**
IMMV				S	**Sn**	**13 23 29.1**	**+0.7**
GVD	**Gavdhos**	**0.90**	**113**	P	**Pn**	**13 23 18.5**	**-0.2**
GVD				S	**Sn**	**13 23 31.1**	**+0.1**
GVD	**Gavdhos**	**0.90**	**113**	P	**Pn**	**13 23 18.4**	**-0.2**
GVD				S	**Sn**	**13 23 30.2**	**-0.8**
GVD				AML	AML	13 23 34.9	
comp=E,4056μm,0.4s							
GVD				AML	AML	13 23 35.8	
comp=N,3911μm,0.6s							
GVD	**Gavdhos**	**0.90**	**113**	P	**Pn**	**13 23 18.5**	**-0.2**
GVD				S	**Sn**	**13 23 30.2**	**-0.8**
VAM	**Vamos**	**0.94**	**77**	P	**Pn**	**13 23 19.5**	**+0.3**
VAM				S	**Sn**	**13 23 32.2**	**+0.3**
VAM	**Vamos**	**0.94**	**77**	P	**Pn**	**13 23 19.5**	**+0.3**
VAM				S	**Sn**	**13 23 32.2**	**+0.3**
VAM				AML	AML	13 23 35.8	
comp=N,5577μm,0.6s							
VAM				AML	AML	13 23 35.8	
comp=E,4031μm,0.6s							
VAM	**Vamos**	**0.94**	**77**	P	**Pn**	**13 23 19.5**	**+0.3**
VAM				S	**Sn**	**13 23 32.2**	**+0.3**
KYTH	**Kithira**	**1.07**	**359**	P	**Pn**	**13 23 22.1**	**+1.1**
KYTH				S	**Sn**	**13 23 38.0**	**+3.0**
KYTH	**Kithira**	**1.07**	**359**	P	**Pn**	**13 23 22.0**	**+1.1**
IDI	**Anoyia**	**1.48**	**86**	P	**Pn**	**13 23 27.1**	**+0.5**
comp=E,18nm,0.3s,baz=251,slow=12,SNR=54							
IDI				S	**Sn**	**13 23 48.2**	**+3.2**
comp=E,27nm,0.3s,baz=31,slow=11,SNR=7.2							
IDI	**Anoyia**	**1.48**	**86**	P	**Pn**	**13 23 27.0**	**+0.5**
IDI				S	**Sn**	**13 23 46.8**	**+1.8**
IDI	**Anoyia**	**1.48**	**86**	P	**Pn**	**13 23 27.2**	**+0.5**
IDI	**Anoyia**	**1.48**	**86**	P	**Pn**	**13 23 27.0**	**+0.5**
IDI				S	**Sn**	**13 23 46.8**	**+1.8**
VLI	**Veliai**	**1.52**	**356**	P	**Pn**	**13 23 28.3**	**+1.3**
VLI	**Veliai**	**1.52**	**356**	P	**Pn**	**13 23 28.3**	**+1.3**
VLI	**Veliai**	**1.52**	**356**	P	**Pn**	**13 23 28.3**	**+1.3**
MHLO	**Agia Marina, M**	**1.84**	**35**	P	**Pn**	**13 23 31.9**	**+0.6**
MHLO	**Agia Marina, M**	**1.84**	**35**	P	Pn	13 23 33.1	+1.8
MHLO	**Agia Marina, M**	**1.84**	**35**	P	**Pn**	**13 23 31.9**	**+0.6**
MHLA	**Plaka, Milos I**	**1.89**	**35**	P	**Pn**	**13 23 32.3**	**+0.3**
LAST	**Lasithi**	**1.96**	**90**	P	**Pn**	**13 23 34.2**	**+1.1**
LAST	**Lasithi**	**1.96**	**90**	P	Pn	13 23 34.7	+1.6
LAST	**Lasithi**	**1.96**	**90**	P	Pn	13 23 34.7	+1.6
PYL	**PYLOS**	**2.01**	**328**	P	**Pn**	**13 23 33.0**	**-0.7**
PYL	**PYLOS**	**2.01**	**328**	P	**Pn**	**13 23 33.0**	**-0.7**
NPS	**Neapolis**	**2.07**	**87**	P	Pn	13 23 36.5	+2.0
NPS	**Neapolis**	**2.07**	**87**	P	Pn	13 23 36.5	+2.0
ITM	**Ithomi**	**2.19**	**335**	P	**Pn**	**13 23 37.4**	**+1.3**
ITM	**Ithomi**	**2.19**	**335**	P	**Pn**	**13 23 37.4**	**+1.3**
SAP1	**Santorini-Akro**	**2.21**	**58**	P	**Pn**	**13 23 36.0**	**-0.3**
THR6	**Thira Island,**	**2.21**	**58**	P	**Pn**	**13 23 36.5**	**+0.2**
THR6	**Thira Island,**	**2.21**	**58**	P	**Pn**	**13 23 36.5**	**+0.2**
THR3	**Thira Island,**	**2.24**	**57**	P	**Pn**	**13 23 36.1**	**-0.6**
THR3	**Thira Island,**	**2.24**	**57**	P	**Pn**	**13 23 36.1**	**-0.6**
THT1	**Athinios (Pele**	**2.25**	**57**	P	**Pn**	**13 23 36.3**	**-0.5**
SANT	**Santorini**	**2.26**	**58**	P	**Pn**	**13 23 36.5**	**-0.6**
SANT	**Santorini**	**2.26**	**58**	P	**Pn**	**13 23 36.5**	**-0.6**
SERI	**Serifos**	**2.27**	**30**	P	**Pn**	**13 23 36.4**	**-0.8**
SERI	**Serifos**	**2.27**	**30**	P	**Pn**	**13 23 36.4**	**-0.8**
DID	**Didima**	**2.31**	**3**	P	**Pn**	**13 23 38.4**	**+0.7**
DID	**Didima**	**2.31**	**3**	P	**Pn**	**13 23 38.1**	**+0.4**
DID	**Didima**	**2.31**	**3**	P	**Pn**	**13 23 38.1**	**+0.4**
ZKR	**Zakros**	**2.57**	**91**	P	**Pn**	**13 23 42.8**	**+1.5**
ZKR	**Zakros**	**2.57**	**91**	P	**Pn**	**13 23 42.8**	**+1.5**
VLY	**Voula,Athens**	**2.71**	**12**	P	**Pn**	**13 23 44.0**	**+0.8**
VLY				S	**Sn**	**13 24 10.3**	**-4.5**
VLY	**Voula,Athens**	**2.71**	**12**	P	**Pn**	**13 23 44.2**	**+1.0**
VLY	**Voula,Athens**	**2.71**	**12**	P	**Pn**	**13 23 44.2**	**+1.0**
APE	**Apeiranthos**	**2.73**	**46**	P	**Pn**	**13 23 41.9**	**-1.5**
APE	**Apeiranthos**	**2.73**	**46**	P	**Pn**	**13 23 41.9**	**-1.5**
LOUT	**Loutraki**	**2.79**	**358**	P	Pn	13 23 46.7	+2.5
LOUT	**Loutraki**	**2.79**	**358**	P	Pn	13 23 46.7	+2.5
GUR	**Goura**	**2.80**	**348**	P	Pn	13 23 46.3	+1.8
GUR	**Goura**	**2.80**	**348**	P	Pn	13 23 46.9	+2.4
GUR	**Goura**	**2.80**	**348**	P	Pn	13 23 46.3	+1.8
ATHU	**Athens Univers**	**2.82**	**11**	P	**Pn**	**13 23 45.9**	**+1.2**
ATHU	**Athens Univers**	**2.82**	**11**	P	**Pn**	**13 23 45.9**	**+1.2**
LTK	**Loutraki**	**2.82**	**358**	P	**Pn**	**13 23 46.2**	**+1.5**
LTK	**Loutraki**	**2.82**	**358**	P	Pn	13 23 46.8	+2.1
LTK	**Loutraki**	**2.82**	**358**	P	**Pn**	**13 23 46.2**	**+1.5**
KLV	**Kalavryta, Ach**	**2.94**	**346**	P	Pn	13 23 48.1	+1.7
KLV	**Kalavryta, Ach**	**2.94**	**346**	P	Pn	13 23 48.1	+1.7
VILL	**Villia**	**2.97**	**4**	P	**Pn**	**13 23 48.3**	**+1.5**
VILL	**Villia**	**2.97**	**4**	P	**Pn**	**13 23 48.3**	**+1.5**
VIL2	**Platees**	**3.01**	**3**	P	**Pn**	**13 23 46.5**	**-0.9**
KARY	**Karystos**	**3.03**	**21**	P	**Pn**	**13 23 48.0**	**+0.4**
PROD	**Prodromos**	**3.06**	**357**	P	**Pn**	**13 23 49.2**	**+1.2**
PROD	**Prodromos**	**3.06**	**357**	P	**Pn**	**13 23 49.2**	**+1.2**
DSF	**Desfina**	**3.24**	**352**	P	**Pn**	**13 23 51.1**	**+0.6**
DSF	**Desfina**	**3.24**	**352**	P	**Pn**	**13 23 51.1**	**+0.6**
KALE	**Kalithea**	**3.28**	**347**	P	**Pn**	**13 23 52.4**	**+1.3**
KALE	**Kalithea**	**3.28**	**347**	P	**Pn**	**13 23 52.3**	**+1.3**
EREA	**Eretria**	**3.29**	**12**	P	**Pn**	**13 23 52.7**	**+1.6**
EREA	**Eretria**	**3.29**	**12**	P	**Pn**	**13 23 52.7**	**+1.6**
AXS	**Araxos**	**3.29**	**336**	P	Pn	13 23 53.0	+1.9
AXS	**Araxos**	**3.29**	**336**	P	Pn	13 23 53.0	+1.9
BRTR	**Keskin Array B**	**9.53**	**59**	P	**Pn**	**13 25 17.1**	**+0.4**
comp=E,0.1nm,0.3s,

TGL	Tana Glacier	1.23	307	P	Pg	13 25 11.1	-1.2
BALM	Baldy	1.25	324	P	Pg	13 25 11.3	-1.5
BALM				S	Sb	13 25 30.1	+0.9
BALM	Baldy	1.25	324	P	Pg	13 25 11.3	-1.5
BALM				S	Sg	13 25 29.7	+0.6
KHIT	Khitrov Hills	1.28	290	P	Pn	13 25 12.1	-1.0
KHIT				S	Sg	13 25 30.5	+0.7
CRQM	Cirque	1.36	303	P	Pn	13 25 13.1	-1.2
PTPK	Patty Peak	1.41	326	P	Pn	13 25 13.9	-1.1
YUK7	Dusty Glacier	1.43	69	Pn	Pn	13 25 15.7	+0.4
YUK7				Sg	Sn	13 25 35.0	+0.7
BERG	Berg Lake	1.48	285	P	Pn	13 25 15.4	-0.4
YUK6	Outpost Mounta	1.52	52	Pn	Pn	13 25 17.3	+0.7
YUK6				Sg	Sg	13 25 38.5	+0.9
NICHA	Nichawak Mount	1.58	279	P	Pn	13 25 17.2	-0.1
MCARA	McCarthy VSAT	1.73	322	P	Pn	13 25 19.3	0.0
HMT	Hamilton	1.74	281	P	Pn	13 25 19.4	0.0
YUK3	Moose Creek	1.75	6	Pn	Pn	13 25 20.4	+0.6
YUK3				Sg	Sg	13 25 46.5	+1.4
YUK2	White River	1.76	360	Pn	Pn	13 25 20.4	+0.7
YUK2				Sg	Sg	13 25 45.9	+0.7
VRDI	Verde Repeater	1.76	314	P	Pn	13 25 19.4	-0.5
HYT	Haines Junctio	1.83	63	Pn	Pn	13 25 21.2	+0.6
HYT				Sg	Sb	13 25 46.0	+0.3
YUK5	Granite Creek	1.83	52	Pn	Pn	13 25 22.0	+1.2
YUK5				Sg	Sg	13 25 46.6	-0.9
BMRM	Bremner River	2.09	298	P	Pn	13 25 24.2	0.0
YUK1	Sand Pete Hill	2.13	4	Pn	Pn	13 25 26.2	+1.4
YUK1				Sg	Sg	13 25 56.9	-0.2
PLBC	Pleasant Camp	2.33	103	Pn	Pn	13 25 27.8	+0.3
PLBC				Sg	Sb	13 25 58.9	-1.1
BVCY	Beaver Creek	2.38	360	Pn	Pn	13 25 30.5	+2.2
BVCY				Sg	Sg	13 26 05.5	+0.1
DIV	Divide	2.68	296	Pn	Pn	13 25 33.1	+0.8
DIV				Sn	Sn	13 26 05.4	+0.4
DIV				Sg	Sb	13 26 08.6	-1.4
DIV	Divide	2.68	296	*e*Pn	Pn	13 25 32.4	+0.1
WHY	Whitehorse	3.02	76	Pn	Pn	13 25 36.7	-0.4
WHY				Sn	Sn	13 26 13.9	+0.4
HARP	HAARP	3.17	321	Pg	Pb	13 25 43.3	-2.1
DAWY	Dawson	4.10	9	Pn	Pn	13 25 53.0	+1.2
DAWY				Sn	Sn	13 26 39.7	-0.3
DAWY				Sg	Sg	13 26 59.6	-0.7
DAWY	Dawson	4.10	9	*e*Pn	Pn	13 25 52.5	+0.7
PMR	Palmer	4.36	295	*e*Pn	Pn	13 25 58.1	+2.8

*ISCJB **18** 13:37:01.7±0.9, 16°.1S±0°.2×67°.5E±0°.2, h10km, mb4.0/8, MS3.3/1, Error ellipse: s-maj=32.5km s-min=21.5km az=157.1*
*IDC **18** 13:37:02.0±0.9, 16°.08S×67°.46E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/49, mbtmp3.9/7, MS3.3/1, Ms1 3.3/1, ms1mx2.7/39, Error ellipse: s-maj=33.9km s-min=23.3km az=72.0*
*NEIC **18** 13:37:03.7±0.6, 16°.07S×67°.44E, h10km, mb4.7/1, Error ellipse: s-maj=22.8km s-min=15.4km az=65.0*
ISC 18 13:37:03.7±1.0, 16°.1S±0°.2×67°.4E±0°.3, h10km, n16, σ0s38/9, mb4.1/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.72	31	T	T	13 49 21.8	
	baz=210,slow=75,SNR=167						
H08S2	Diego Garcia H	9.73	31	T	T	13 49 32.8	
	baz=210,slow=75,SNR=99						
H08S3	Diego Garcia H	9.74	31	T	T	13 49 28.7	
	baz=210,slow=75,SNR=163						
H08N3	Diego Garcia H	10.28	20	T	T	13 50 21.9	
	baz=199,slow=76,SNR=90						
H08N1	Diego Garcia H	10.29	20	T	T	13 50 27.4	
	baz=199,slow=76,SNR=73						
H08N2	Diego Garcia H	10.30	20	T	T	13 50 23.6	
	baz=199,slow=76,SNR=92						
GNI	Garni	59.79	340	LR	LR	14 09 20.7	
	comp=Z,26nm,21.1s,baz=74,slow=32						
ASAR	Alice Springs	62.50	109	P	P	13 47 27.6	-0.4
	1.5nm,0.8s,baz=270,slow=6.0,SNR=18						
WRA	Warramunga Arr	63.38	105	P	P	13 47 33.5	-0.3
	3.8nm,0.8s,baz=269,slow=6.2,SNR=22						
WRAB	Tennant Creek	63.39	105	*e*P	P	13 47 34.1	+0.2
	5.0nm,0.8s						
MKAR	Makanchi Array	63.99	11	P	P	13 47 37.6	+0.4
	0.4nm,0.8s,baz=220,slow=8.5,SNR=2.9						
SNAA	Sanae	68.67	199	P	P	13 48 07.3	+0.2
	1.4nm,0.9s,baz=135,slow=5.6,SNR=8.1						
ZALV	Zalesovo Beam	71.31	11	P	P	13 48 22.9	-0.3
	0.6nm,0.4s,baz=188,slow=10,SNR=5.2						
SONM	Songino Array	72.52	26	P	P	13 48 31.3	+0.4
	0.7nm,0.8s,baz=210,slow=8.3,SNR=3.9						
AKASG	Malin Array Be	74.45	336	P	P	13 48 41.6	-0.4
	0.7nm,0.5s,baz=142,slow=5.4,SNR=5.1						
PDAR	Pinedale Array	153.27	355	PKPbc	PKPbc	13 57 02.5	-0.1
	0.3nm,0.6s,baz=27,slow=2.2,SNR=2.5						

*TIR **18** 13:44:16.3±1.6, 42°.00N×20°.24E, h0km±445km, ML2.5*
*CSEM **18** 13:44:17.4±0.3, 41°.95N×20°.20E, h2km, ML2.5, Error ellipse: s-maj=4.6km s-min=3.7km az=3.0*
*PDG **18** 13:44:18.2±0.2, 41°.98N×20°.16E, h9km, ML2.2/9, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*BEO **18** 13:44:19.3±0.8, 41°.97N×20°.15E, h0km, M1.8/6*
ISC 18 13:44:18.0±1.1, 41°.96N±0°.03×20°.18E±0°.02, h3km±10km, n40, σ0s87/80, 11C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.23	291	*i* PG	Pg	13 44 22.5	+0.1
PUK				*i* SG	Sg	13 44 26.0	+0.6
PUK	Puka	0.23	291	*i* Pg	Pg	13 44 22.5	+0.1
	SNR=92						
PUK				*i* Sg	Sg	13 44 26.0	+0.6
	SNR=92						
PHP	Peshkopia	0.34	145	*i* PG	Pg	13 44 24.0	-0.5
PHP				*i* SG	Sg	13 44 29.5	+0.6
PHP	Peshkopia	0.34	145	*i* Pg	Pg	13 44 24.0	-0.5
	SNR=91						
PHP				*i* Sg	Sg	13 44 29.5	+0.6
	SNR=91						
BCI	Bajram Curri	0.41	348	*i* PG	Pg	13 44 25.7	-0.2
BCI				*i* SG	Sg	13 44 31.1	-0.2
BCI	Bajram Curri	0.41	348	*i* Pg	Pg	13 44 25.7	-0.2
	SNR=91						
BCI				*i* Sg	Sg	13 44 31.1	-0.2
	SNR=91						
PVY	Plav	0.65	345	⇓*i*Pg	Pg	13 44 29.6	-0.9
PVY				*e*Sg	Sb	13 44 40.4	-1.2
PVY	Plav	0.65	345	⇓*i*Pg	Pg	13 44 29.6	-0.9
PVY				*e*Sg	Sb	13 44 40.4	-1.2
ULC	Ulcinj	0.70	270	⇓*i*Pg	Pg	13 44 31.1	-0.2
ULC				*e*Sg	Sb	13 44 42.1	-0.7
ULC	Ulcinj	0.70	270	⇓*i*Pg	Pg	13 44 31.1	-0.2
ULC				*e*Sg	Sb	13 44 42.1	-0.7
DRME	Dracevica, Mon	0.78	287	⇓*i*Pg	Pg	13 44 31.9	-0.9
DRME				*e*Sg	Sb	13 44 44.3	-0.7
DRME	Dracevica, Mon	0.78	287	⇓*i*Pg	Pg	13 44 31.9	-0.9
DRME				*e*Sg	Sb	13 44 44.3	-0.7
PDG	Podgorica	0.83	304	*e*Pg	Pg	13 44 32.2	-1.7
PDG				*e*Sg	Sg	13 44 45.5	+0.8
PDG	Podgorica	0.83	304	⇓*i*Pg	Pg	13 44 32.8	-1.1
PDG				*e*Sg	Sg	13 44 45.5	+0.8
TTG	Podgorica	0.83	304	⇓*i*Pg	Pg	13 44 32.8	-1.1
TTG				*e*Sg	Sb	13 44 45.8	-0.8
BEY	Berane	0.93	347	⇓*i*Pg	Pg	13 44 35.2	-0.7
BEY				*e*Sg	Sb	13 44 49.7	0.0
IVA	Berane	0.93	347	⇓*i*Pg	Pg	13 44 35.2	-0.7
IVA				*e*Sg	Sb	13 44 49.7	0.0
BUM	Brajici-Budva	1.01	290	⇑*i*Pg	Pg	13 44 36.9	-0.5
BUM				*e*Sg	Sb	13 44 52.1	+0.1
BUM	Brajici-Budva	1.01	290	⇑*i*Pg	Pg	13 44 36.9	-0.5
BUM				*e*Sg	Sb	13 44 52.1	+0.1
KOME	Kolasin	1.01	331	⇑*i*Pg	Pg	13 44 36.8	-0.6
KOME				*e*Sg	Sb	13 44 51.9	-0.1
CEME	Cevo	1.10	302	⇑*i*Pg	Pg	13 44 37.7	-1.4
CEME				*e*Sg	Sb	13 44 55.4	+0.8
CEME	Cevo	1.10	302	⇑*i*Pg	Pg	13 44 37.7	-1.4
CEME				*e*Sg	Sb	13 44 55.4	+0.8
NKME	Niksic	1.21	312	*e*Pg	Pg	13 44 40.4	-0.8
NKME				*e*Sg	Sn	13 44 58.5	-0.4
NKME	Niksic	1.21	312	*e*Pg	Pg	13 44 40.4	-0.8
NKME				*e*Sg	Sn	13 44 58.5	-0.4
NKY	Niksic	1.22	314	⇑*i*Pg	Pg	13 44 40.7	-0.7
NKY				*e*Sg	Sn	13 44 59.2	0.0
NKY	Niksic	1.22	314	⇑*i*Pg	Pg	13 44 40.7	-0.7
NKY				*e*Sg	Sn	13 44 59.2	0.0
SJES	Sjenica	1.31	353	*e*Pg	Pg	13 44 42.2	-0.8
SJES				*e*Sg	Sb	13 45 00.4	-0.1
SJES	Sjenica	1.31	353	*e*Pg	Pg	13 44 42.2	-0.8
SJES				*e*Sg	Sb	13 45 00.4	-0.1
HCY	Herceg Novi	1.34	292	⇓*i*Pg	Pn	13 44 42.6	-1.0
HCY				*e*Sg	Sn	13 45 03.4	+1.4
HCY	Herceg Novi	1.34	292	⇓*i*Pg	Pn	13 44 42.6	-1.0
HCY				*e*Sg	Sn	13 45 03.4	+1.4
SELS	Selova	1.43	29	*e*Pg	Pb	13 44 44.9	-0.5
SELS				*e*Sg	Sn	13 45 05.7	+1.4
BARS	Barje	1.48	54	*e*Pg	Pg	13 44 46.5	+0.2
BARS				*e*Sg	Sn	13 45 06.4	+1.0
BRY	Bratogost	1.54	308	⇑*i*Pg	Pn	13 44 46.2	-0.2
BRY				*e*Sg	Sg	13 45 09.2	+1.9
BRY	Bratogost	1.54	308	⇑*i*Pg	Pn	13 44 46.2	-0.2
BRY				*e*Sg	Sg	13 45 09.2	+1.9
TREB	Trebinje	1.55	300	*e*Pn	Pb	13 44 47.2	-0.1
TREB				*e*Sn	Sg	13 45 09.7	+1.9
TREB	Trebinje	1.55	300	*e*Pn	Pb	13 44 47.2	-0.1
TREB				*e*Sn	Sg	13 45 09.7	+1.9
UPM	Unac-Piva	1.56	323	⇑*i*Pg	Pn	13 44 46.8	+0.1
UPM				*e*Sg	Sg	13 45 09.5	+1.5
UPM	Unac-Piva	1.56	323	⇑*i*Pg	Pn	13 44 46.8	+0.1
UPM				*e*Sg	Sg	13 45 09.5	+1.5
IVAS	Ivanjica	1.61	359	*e*Pg	Pg	13 44 48.5	-0.4
IVAS				*e*Sg	Sb	13 45 09.0	-0.2
IVAS	Ivanjica	1.61	359	*e*Pg	Pg	13 44 48.5	-0.4
IVAS				*e*Sg	Sb	13 45 09.0	-0.2

IDC 18 13:46:22.7±14.0, 18°.30S×167°.26E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/26, mbtmp3.8/4, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=236.4km s-min=38.6km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.83	191	Pn	Pn	13 47 22.5	-0.5
	13nm,0.3s,baz=26,slow=9.9,SNR=69						
DZM				Sn	Sn	13 48 08.2	-0.7
	15nm,0.3s,baz=328,slow=23,SNR=9.9						
STKA	Stephens Creek	26.80	235	P	P	13 52 05.7	+1.1
	3.0nm,1.0s,baz=80,slow=12,SNR=4.2						
WRA	Warramunga Arr	31.12	262	P	P	13 52 42.6	-0.6
	0.2nm,0.4s,baz=89,slow=9.0,SNR=4.0						
ASAR	Alice Springs	31.55	254	P	P	13 52 47.0	-0.1
	0.8nm,0.5s,baz=80,slow=9.0,SNR=39						
NWAO	Narrogin (SRO)	46.98	242	LR	LR	14 13 49.7	
	comp=Z,86nm,18.1s,baz=287,slow=35						

*TIR **18** 13:50:59.3±1.6, 41°.94N×20°.17E, h21km±19km, ML2.6*
*CSEM **18** 13:51:00.5±0.3, 41°.96N×20°.21E, h2km, ML2.6, Error ellipse: s-maj=4.2km s-min=4.0km az=30.0*
*PDG **18** 13:51:00.6±0.1, 41°.99N×20°.22E, h13km, ML2.3/9, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
*BEO **18** 13:51:01.4±0.3, 41°.94N×20°.16E, h3km±4km, M2.0/7*
ISC 18 13:51:00.7±0.9, 41°.97N±0°.02×20°.21E±0°.02, h13km±7km, n42, σ1s03/82, 13C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.24	288	*i* PG	Pg	13 51 06.1	+0.1
PUK				*i* SG	Sg	13 51 09.1	-0.4
PUK	Puka	0.24	288	*i* Pg	Pg	13 51 06.1	+0.1
	SNR=122						
PUK				*i* Sg	Sg	13 51 09.1	-0.5
	SNR=122						
PHP	Peshkopia	0.33	148	*i* PG	Pg	13 51 07.4	-0.1
PHP				*i* SG	Sb	13 51 12.7	-1.1
PHP	Peshkopia	0.33	148	*i* Pg	Pg	13 51 07.4	-0.1
	SNR=110						
PHP				*i* Sg	Sb	13 51 12.7	-1.1
	SNR=110						
BCI	Bajram Curri	0.41	346	*i* PG	Pg	13 51 08.7	-0.3
BCI				*i* SG	Sg	13 51 15.2	+0.6
BCI	Bajram Curri	0.41	346	*i* Pg	Pg	13 51 08.7	-0.3
	SNR=99						
BCI				*i* Sg	Sg	13 51 15.2	+0.6
	SNR=99						
PVY	Plav	0.65	344	⇓*i*Pg	Pg	13 51 12.4	-1.1
PVY				*e*Sg	Sb	13 51 22.7	-0.4
PVY	Plav	0.65	344	⇓*i*Pg	Pg	13 51 12.4	-1.1
PVY				*e*Sg	Sb	13 51 22.7	-0.4
TIR	Tirane	0.67	203	*e*Pg	Pg	13 51 13.1	-0.6
TIR	Tirane	0.67	203	*e*Pg	Pg	13 51 13.1	-0.6
ULC	Ulcinj	0.72	270	⇓*i*Pg	Pg	13 51 14.2	-0.4
ULC				*e*Sg	Sb	13 51 25.7	+0.9
ULC	Ulcinj	0.72	270	⇓*i*Pg	Pg	13 51 14.2	-0.4
ULC				*e*Sg	Sb	13 51 25.7	+0.9
DRME	Dracevica, Mon	0.79	286	⇑*i*Pg	Pg	13 51 15.3	-0.8
DRME				*e*Sg	Sb	13 51 27.9	+1.0
DRME	Dracevica, Mon	0.79	286	⇑*i*Pg	Pg	13 51 15.3	-0.8
DRME				*e*Sg	Sb	13 51 27.9	+1.0
PDG	Podgorica	0.84	304	*e*Pg	Pg	13 51 13.0	-4.1
PDG				*e*Sg	Sb	13 51 28.8	+0.3
PDG	Podgorica	0.84	304	⇑*i*Pg	Pg	13 51 16.2	-0.9
PDG				*e*Sg	Sb	13 51 28.8	+0.3
TTG	Podgorica	0.84	304	⇑*i*Pg	Pg	13 51 16.2	-0.9
TTG				*e*Sg	Sn	13 51 29.8	-0.7
BEY	Berane	0.93	346	*e*Pg	Pg	13 51 17.9	-0.9
BEY				*e*Sg	Sn	13 51 32.1	-0.8
IVA	Berane	0.93	346	*e*Pg	Pg	13 51 17.9	-0.9
IVA				*e*Sg	Sn	13 51 32.1	-0.8
KOME	Kolasin	1.02	330	⇑*i*Pg	Pb	13 51 19.4	-0.9
KOME				*e*Sg	Sn	13 51 35.0	-0.1
BUM	Brajici-Budva	1.03	289	⇑*i*Pg	Pb	13 51 19.9	-0.6
BUM				*e*Sg	Sn	13 51 36.2	+0.9
BUM	Brajici-Budva	1.03	289	⇑*i*Pg	Pb	13 51 19.9	-0.6
BUM				*e*Sg	Sn	13 51 36.2	+0.9
CEME	Cevo	1.12	302	*e*Pg	Pb	13 51 21.2	-0.7
CEME				*e*Sg	Sn	13 51 38.9	+1.5
CEME	Cevo	1.12	302	*e*Pg	Pb	13 51 21.2	-0.7
CEME				*e*Sg	Sn	13 51 38.9	+1.5
NKME	Niksic	1.23	311	⇓*i*Pg	Pn	13 51 23.1	-0.5
NKME				*e*Sg	Sg	13 51 42.4	+2.1
NKME	Niksic	1.23	311	⇓*i*Pg	Pn	13 51 23.1	-0.5
NKME				*e*Sg	Sg	13 51 42.4	+2.1
NKY	Niksic	1.23	314	⇓*i*Pg	Pn	13 51 23.3	-0.5
NKY				*e*Sg	Sg	13 51 42.6	+2.1
NKY	Niksic	1.23	314	⇓*i*Pg	Pn	13 51 23.3	-0.5
NKY				*e*Sg	Sg	13 51 42.6	+2.1
SJES	Sjenica	1.31	353	*e*Pg	Pg	13 51 25.5	-0.3
SJES				*e*Sg	Sg	13 51 43.8	+1.0
HCY	Herceg Novi	1.36	291	⇑*i*Pg	Pb	13 51 25.9	-0.1
HCY				*e*Sg	Sg	13 51 46.8	+2.3
HCY	Herceg Novi	1.36	291	⇑*i*Pg	Pb	13 51 25.9	-0.1
HCY				*e*Sg	Sg	13 51 46.8	+2.3
SELS	Selova	1.42	28	*e*Pg	Pb	13 51 27.3	+0.2
SELS				*e*Sg	Sg	13 51 47.7	+1.1
BARS	Barje	1.46	54	*e*Pn	Pg	13 51 28.7	-0.1
BARS				*e*Sg	Sg	13 51 49.5	+1.6
BARS	Barje	1.46	54	*e*Pn	Pg	13 51 28.7	-0.1
BARS				*e*Sg	Sg	13 51 49.5	+1.6
BRY	Bratogost	1.55	308	⇑*i*Pg	Pb	13 51 28.9	-0.4
BRY				*e*Sg	Sg	13 51 51.4	+0.8
BRY	Bratogost	1.55	308	⇑*i*Pg	Pb	13 51 28.9	-0.4
BRY				*e*Sg	Sg	13 51 51.4	+0.8
UPM	Unac-Piva	1.56	323	⇑*i*Pg	Pb	13 51 29.1	-0.5
UPM				*e*Sg	Sg	13 51 51.4	+0.3
UPM	Unac-Piva	1.56	323	⇑*i*Pg	Pb	13 51 29.1	-0.5
UPM				*e*Sg	Sg	13 51 51.4	+0.3
TREB	Trebinje	1.57	299	*e*Pn	Pg	13 51 30.4	-0.4
TREB				*e*Sn	Sg	13 51 51.2	+0.1
TREB	Trebinje	1.57	299	*e*Pn	Pg	13 51 30.4	-0.4
TREB				*e*Sn	Sg	13 51 51.2	+0.1
IVAS	Ivanjica	1.61	359	*e*Pg	Pg	13 51 31.6	0.0
IVAS				*e*Sg	Sg	13 51 53.4	+0.9
IVAS	Ivanjica	1.61	359	*e*Pg	Pg	13 51 31.6	0.0
IVAS				*e*Sg	Sg	13 51 53.4	+0.9

*MOS **18** 13:59:18.8±0.8, 54°.05N×123°.85E, h12km, mb4.4/1, Error ellipse: s-maj=15.2km s-min=10.4km az=125.0*
MOS Felt (III) at Skovorodino.
*SKHL **18** 13:59:20.4±0.5, 54°.20N×123°.99E, h20km±8km, mb4.7/9*
SKHL Felt (III) at Skovorodino.

*BJI **18** 13:59:21.8, 53°.67N×124°.07E, h7km, mb4.2/2, ML4.5/5*
ISC 18 13:59:19.7±2.0, 54°.08N±0°.04×123°.95E±0°.03, h1km±14km, n29, σ1s99/48, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	Kirovskiy	1.81	77	⇓*i*Pn	Pn	13 59 49.5	-2.4
KROS				*e*Pg	Pb	13 59 52.1	-1.4
KROS				AMB	AMB	13 59 53.8	
	140nm,0.4s						
KROS				*e*Sg	Sn	14 00 15.0	-0.5
ZEA	Zeya	1.98	99	*e*P	Pn	13 59 53.8	-0.5
ZEA				*i*		14 00 22.6	
ZEA				pmax	pmax		
	comp=Z,240nm,0.6s						
ZEA				smax	smax		
	comp=N,3μm,1.0s						
ZEA				smax	smax		
	comp=E,3μm,0.8s						
ZEA	Zeya	1.98	99	*e*Pn	Pn	13 59 53.8	-0.5
ZEA				*i* Pg	Pb	13 59 56.2	-0.3
ZEA				AMB	AMB	13 59 57.6	
	comp=E,240nm,0.6s						
ZEA				*i* Sg	Sb	14 00 22.6	+0.9
ZEA				A	A	14 00 24.5	
	comp=E,3μm,1.0s						
ZEA				A	A	14 00 24.6	
	comp=E,3μm,0.8s						
TUP	Tupik	2.37	280	*e*P	Pn	13 59 59.1	-0.6
TUP	Tupik	2.37	280	*e*Pn	Pn	13 59 59.1	-0.6
TUP				*e*Pg	Pb	14 00 02.7	-0.4
TUP				AMB	AMB	14 00 07.2	
	comp=E,348nm,0.5s						
TUP				*e*Sn	Sn	14 00 27.7	-1.7
TUP				*e*Sg	Sb	14 00 33.3	+0.5
TUP				A	A	14 00 37.0	
	comp=E,2μm,0.6s						
CLNS	Chul'man	2.82	11	*e*P	Pn	14 00 05.9	+0.1
CLNS				*e*S	Sn	14 00 37.3	-3.1
CLNS				pmax	pmax		
	comp=Z,13nm,0.3s						
CLNS				pmax	pmax		
	comp=N,15nm,0.4s						
CLNS				pmax	pmax		
	comp=E,13nm,0.3s						
CLNS				smax	smax		
	comp=E,44nm,0.2s						
CLNS				smax	smax		
	comp=Z,107nm,0.3s						
CLNS				smax	smax		
	comp=N,142nm,0.3s						
CLNS	Chul'man	2.82	11	*e*Pn	Pn	14 00 05.9	+0.1
CLNS				*e*Pg	Pb	14 00 10.2	-0.6
CLNS				*e*Sn	Sn	14 00 37.4	-3.0
CLNS				*e*Sg	Sb	14 00 45.3	-0.5
BMKR	Bomnak	2.93	75	⇓*i*Pn	Pn	14 00 06.0	-1.3
BMKR				*e*Pg	Pb	14 00 12.5	-0.1
BMKR				AMB	AMB	14 00 16.0	
	comp=N,196nm,0.5s						
BMKR				*e*Sg	Sb	14 00 50.9	+2.0
BMKR				A	A	14 00 57.0	
	comp=N,341nm,0.5s						
BMKR				A	A	14 00 57.0	
	comp=N,515nm,0.5s						
CRS	Chara	4.29	314	*e*P	Pn	14 00 26.3	+0.2
CRS	Chara	4.29	314	*e*Pn	Pn	14 00 26.3	+0.2
CRS				*e*Pg	Pb	14 00 37.1	+1.2
CRS				*e*Sg	Sb	14 01 31.3	+3.1
CRS				A	A	14 01 40.5	
	comp=N,650nm,1.0s						
NLYR	Nelyaty	5.30	301	*e*P	Pn	14 00 39.0	-0.9
EKMR	Ekimchan	5.46	97	⇑*i*Pn	Pn	14 00 41.1	-1.0
EKMR				AMB	AMB	14 00 42.0	
	comp=N,34nm,0.5s						
EKMR				*e*Pg	Pb	14 00 59.9	+4.2
EKMR				*e*Sg	Sg	14 02 11.0	-3.8
EKMR				A	A	14 02 21.8	
	comp=N,180nm,0.7s						
EKMR				A	A	14 02 21.8	
	comp=N,140nm,0.7s						
CIT	Chita	6.60	256	*e*P	Pn	14 00 57.8	0.0
BOD	Bodaibo	6.73	308	*e*P	Pn	14 00 58.2	-1.2
GRNR	Gornyy	8.31	108	*e*Sg	Sg	14 03 38.6	-7.7
KPC	Khapcheranga	8.39	243	*e*P	Pn	14 01 20.9	-1.4
NIZ	Nizh Angarsk	8.47	287	*e*P	Pn	14 01 23.3	-0.1
YAK	Yakutsk	8.53	19	*e*P	Pn	14 01 25.4	+1.3
YAK				*e*S	Sn	14 03 00.8	-0.1
YAK				pmax	pmax		
	comp=Z,20nm,0.5s						
YAK				smax	smax		
	comp=N,360nm,0.7s						
YAK	Yakutsk	8.53	19	*e*Pn	Pn	14 01 25.4	+1.3
YAK				*e*Pg	Pg	14 01 54.6	-8.3
YAK				AMB	AMB	14 01 57.2	
	comp=N,20nm,0.5s						
YAK				*e*Sg	Sg	14 03 43.2	-10
CN2	Changchun	10.33	174	*e*P	Pn	14 01 42.8	-6.1
CN2				*e*sP		14 01 48.8	
CN2				*e*S	Sn	14 03 38.1	-7.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,300nm,10.0s						
TYV	Tymovskoe	11.85	98	*e*P	Pn	14 02 11.7	+2.1
TYV	Tymovskoe	11.85	98	*e*P

IDC 18 14:30:13.8±2.0, 6.74S×128.65E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/28, mbtmp3.2/4, ML3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=87.8km s-min=27.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.67**	**194**	Pn	Pn	14 33 00.4	-1.3
	0.2nm,0.3s,baz=15,slow=14,SNR=9.8						
WRA	**Warramunga Arr**	**14.24**	**158**	Pn	Pn	14 33 36.8	-0.1
	0.1nm,0.3s,baz=338,slow=11,SNR=5.1						
WRA				Sn	Sn	14 36 01.0	-15
	0.1nm,0.3s,baz=332,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**17.57**	**164**	P	P	14 34 21.2	-0.2
	0.1nm,0.3s,baz=340,slow=11,SNR=8.2						
TGY	**Tagaytay City**	**22.08**	**340**	LR	LR	14 44 59.8	
	comp=Z,67nm,19.3s,baz=14,slow=40						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	14 41 10.4	+0.1
	0.2nm,0.5s,baz=117,slow=10,SNR=2.8						

IDC 18 14:37:48.8±692.0, 50.93N×51.13E, h0km, Error ellipse: s-maj=344.9km s-min=100.9km az=92.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.42**	**94**	*i*		15 03 30.0	
	baz=280,slow=319,SNR=8.8						
I46RU	**ZALESOVO INFRA**	**20.64**	**68**	*i*		16 45 10.0	
	baz=274,slow=323,SNR=4.4						
I34MN	**SONGINO INFRAS**	**35.42**	**73**	*i*		18 17 10.0	
	baz=300,slow=327,SNR=0.1						

*MDD **18** 14:38:39.8±4.6, 32.30N×7.73W, h0km, mb3.7/3, Error ellipse: s-maj=92.0km s-min=41.9km az=98.0, PRXIMO*
*CSEM **18** 14:38:43.2±1.2, 32.60N×7.76W, h5km, ML2.1, Error ellipse: s-maj=40.7km s-min=23.0km az=102.0*

INMG 18 14:38:40.5±0.5, 32.38N×7.83W, h0km, ML2.1, Error ellipse: s-maj=7.2km s-min=2.9km az=37.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**4.81**	**350**	*e*Pn	Pn	14 39 53.5	-0.7
PFVI	**Vila Bisbo**	**4.81**	**350**	P	Pn	14 39 53.0	-1.2
	1.1nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.81**	**350**	P	Pn	14 39 53.0	-1.2
	1.1nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.81**	**350**	*e*Pn	Pn	14 39 53.5	-0.7
PBDV	**Barranco-do-Ve**	**4.85**	**359**	*e*Pn	Pn	14 39 55.7	+0.9
PBDV	**Barranco-do-Ve**	**4.85**	**359**	P	Pn	14 39 55.7	+0.9
PBDV	**Barranco-do-Ve**	**4.85**	**359**	P	Pn	14 39 55.7	+0.9
MORF	**Marmelete**	**4.96**	**352**	*e*Pn	Pn	14 39 55.0	-1.3
MORF	**Marmelete**	**4.96**	**352**	P	Pn	14 39 55.0	-1.3
MORF	**Marmelete**	**4.96**	**352**	P	Pn	14 39 55.0	-1.3
PVAQ	**Vaqueiros**	**5.01**	**1**	*e*Pn	Pn	14 39 55.8	-1.1
PVAQ				*e*Sn	Sn	14 40 52.9	-2.6
PVAQ				A	A	14 40 55.9	
	1.3nm,0.3s						
PVAQ	**Vaqueiros**	**5.01**	**1**	P	Pn	14 39 55.8	-1.1
PVAQ				S	Sn	14 40 52.9	-2.6
	1.3nm,0.3s						
PVAQ	**Vaqueiros**	**5.01**	**1**	P	Pn	14 39 55.8	-1.1
PVAQ				S	Sn	14 40 52.9	-2.6
	1.3nm,0.3s						
EGRO	**El Granado**	**5.15**	**3**	P	Pn	14 39 58.0	-0.9
	0.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.15**	**3**	P	Pn	14 39 58.0	-0.8
	0.4nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.24**	**358**	*e*Pn	Pn	14 39 59.4	-0.7
PCVE				*e*Sn	Sn	14 40 57.9	-3.3
PCVE	**Castro Verde**	**5.24**	**358**	P	Pn	14 39 59.4	-0.7
PCVE				S	Sn	14 40 57.9	-3.3
PCVE	**Castro Verde**	**5.24**	**358**	P	Pn	14 39 59.4	-0.7
PCVE				S	Sn	14 40 57.9	-3.3
EMIN	**Mina Concepcio**	**5.46**	**10**	P	Pn	14 40 01.6	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 41 01.6	-4.9
	SNR=7.9						
EMIN	**Mina Concepcio**	**5.46**	**10**	P	Pn	14 40 01.6	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 41 01.6	-4.9
	SNR=7.9						
PNCL	**Nicolau / Gran**	**5.74**	**354**	*e*Pn	Pn	14 40 06.0	-1.0
PNCL	**Nicolau / Gran**	**5.74**	**354**	*e*Pn	Pn	14 40 06.0	-1.0
PBAR	**Barrancos**	**5.81**	**6**	*e*Pn	Pn	14 40 07.3	-0.7
PBAR	**Barrancos**	**5.81**	**6**	P	Pn	14 40 07.3	-0.7
PBAR	**Barrancos**	**5.81**	**6**	P	Pn	14 40 07.3	-0.7

IDC 18 14:43:58.3±32.0, 21.79S×176.97W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/30, mbtmp3.9/4, Error ellipse: s-maj=623.0km s-min=157.6km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.12**	**246**	P	P	14 51 19.2	0.0
	0.8nm,0.4s,baz=90,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**45.18**	**258**	P	P	14 52 17.1	-0.1
	0.8nm,0.7s,baz=91,slow=8.3,SNR=9.2						
WRA	**Warramunga Arr**	**45.39**	**263**	P	P	14 52 18.7	-0.2
	1.4nm,0.8s,baz=102,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**53.82**	**263**	P	P	14 53 23.2	-0.1
	2.4nm,1.0s,baz=91,slow=6.1,SNR=4.2						

IDC 18 14:58:49.0±4.1, 15.51S×173.21W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/38, mbtmp3.8/4, ML3.8/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/40, Error ellipse: s-maj=189.4km s-min=23.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**41**	Pn	Pn	14 59 24.0	-1.6
	30nm,0.3s,baz=227,slow=19,SNR=64						
AFI				Sn	Sn	14 59 45.1	-7.5
	94nm,0.3s,baz=49,slow=19,SNR=14						
RAR	**Rarotonga**	**13.96**	**116**	LR	LR	15 06 37.1	
	comp=Z,214nm,18.4s,baz=284,slow=34						
PPT	**Papeete**	**22.75**	**98**	LR	LR	15 10 47.5	
	comp=Z,82nm,20.5s,baz=280,slow=32						
PPT2	**Papeete2**	**22.75**	**99**	*e*LQ	LQ	15 08 29.1	
	361nm,26.8s						
PPT2				*e*LR	LR	15 09 27.0	
	389nm,27.2s,baz=271						
TBI	**Tubuai**	**23.69**	**113**	*e*LQ	LQ	15 08 58.2	
	392nm,28.0s						
TBI				*e*LR	LR	15 09 50.2	
	472nm,31.2s,baz=303						
TAOE	**Nuku Hiva Isla**	**32.96**	**82**	*e*LR	LR	15 13 58.2	
	212nm,26.4s						
H11S2	**WAKE ISLAND Hy**	**39.15**	**329**	T	T	15 47 06.1	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	15 47 18.1	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	15 47 09.8	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.09**	**330**	T	T	15 48 17.5	
	baz=143						
H11N1	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	15 48 17.7	
	baz=143						
H11N2	**WAKE ISLAND Hy**	**40.11**	**330**	T	T	15 48 17.7	
	baz=143						
WRA	**Warramunga Arr**	**50.00**	**257**	P	P	15 07 45.3	-0.2
	0.4nm,0.4s,baz=92,slow=7.5,SNR=5.5						
WRA				LR	LR	15 27 14.5	
	comp=Z,97nm,20.4s,baz=325,slow=34						
ASAR	**Alice Springs**	**50.25**	**252**	P	P	15 07 46.6	-0.8
	2.0nm,0.7s,baz=85,slow=8.1,SNR=21						
ASAR				LR	LR	15 27 00.3	
	comp=Z,95nm,20.9s,baz=84,slow=34						
MJAR	**Matsushiro Arr**	**69.14**	**320**	LR	LR	15 34 39.0	
	comp=Z,33nm,21.7s,baz=255,slow=31						
PETK	**Petropavlovsk-**	**72.79**	**342**	LR	LR	15 34 18.9	
	comp=Z,45nm,21.9s,baz=129,slow=29						
KSRS	**Korea Array**	**76.36**	**315**	LR	LR	15 43 32.8	
	comp=Z,30nm,18.3s,baz=215,slow=35						
USRK	**Ussuriysk Ar.**	**77.58**	**323**	LR	LR	15 37 21.9	
	comp=Z,63nm,20.6s,baz=142,slow=30						
ILAR	**Eielson Array**	**82.52**	**11**	P	P	15 11 13.8	+0.7
	0.2nm,0.6s,baz=219,slow=5.6,SNR=3.9						
MAW	**Mawson**	**87.75**	**199**	LR	LR	15 49 34.8	
	comp=Z,48nm,18.5s,baz=61,slow=35						
PLCA	**Paso Flores**	**89.30**	**132**	LR	LR	15 45 06.8	
	comp=Z,43nm,18.4s,baz=322,slow=31						
CMAR	**Chiang Mai Arr**	**92.82**	**288**	LR	LR	15 54 29.7	
	comp=Z,69nm,18.3s,baz=225,slow=36						
ULM	**Lac du Bonnet**	**93.90**	**39**	LR	LR	15 45 49.9	
	comp=Z,53nm,21.4s,baz=346,slow=30						
SONM	**Songino Array**	**95.05**	**318**	LR	LR	15 47 26.3	
	comp=Z,38nm,21.2s,baz=169,slow=31						
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	PKPbc	15 18 32.3	0.0
	0.9nm,0.8s,baz=41,slow=3.5,SNR=4.2						

*NIED **18** 15:04:00,39.00N×142.40E, h35km, Mw3.7 Best double couple: M0=4.12000×10^14 NP1:φ=275.00000°, δ=49.00000°, λ=-122.00000°. NP2:φ=139.00000°, δ=51.00000°, λ=-59.00000°.*
*ISCJB **18** 15:04:40.7±1.1, 39.02N±0.03×142.44E±0.07, h20km±6km, mb3.7/6, Error ellipse: s-maj=9.5km s-min=5.0km az=21.6*
*JMA **18** 15:04:41.4±0.1, 39.04N×142.42E, h28km±2km, M3.6*
*IDC **18** 15:04:46.1±3.1, 38.93N×142.23E, h53km±29km, mb3.4/6, mb1 3.6/8, mb1mx3.3/49, mbtmp3.6/8, ML3.0/2, Error ellipse: s-maj=28.6km s-min=20.5km az=112.0*

ISC 18 15:04:40.6±1.8, 39.02N±0.04×142.36E±0.07, h8km±10km, n25, σ1=10/31, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**276**	P	**Pb**	15 04 53.0	+0.7
OFUJ				S	**Sb**	15 05 01.0	+0.8
MIYJ	**Miyakonagasawa**	**0.69**	**323**	P	**Pb**	15 04 54.7	-0.2
MIYJ				S	**Sg**	15 05 03.8	+0.9
JMK	**Ichinoseki**	**0.89**	**266**	P	**Pb**	15 04 58.5	+0.3
JMK				S	**Sb**	15 05 10.5	+0.3
JOM	**Ohasama**	**0.94**	**299**	P	**Pb**	15 04 59.3	+0.2
JOM				S	**Sb**	15 05 12.1	+0.3
JIO	**Ouri**	**0.97**	**234**	P	**Pg**	15 04 58.9	-0.3
JIO				S	**Sg**	15 05 11.1	-0.7
JTH	**Tanohata**	**0.99**	**338**	P	**Pg**	15 04 59.2	-0.4
JTH				S	**Sg**	15 05 12.8	+0.4
JKZ	**Kuzumaki**	**1.25**	**321**	P	**Pg**	15 05 03.9	-0.6
JKZ				S	**Sg**	15 05 19.4	-1.2
JRG	**Rokugo**	**1.39**	**286**	P	**Pb**	15 05 06.8	0.0
JRG				S	**Sb**	15 05 25.1	+0.4
JOU	**Okura**	**1.48**	**244**	P	**Pn**	15 05 07.4	-0.1
JOU				S	**Sb**	15 05 26.7	-0.6
JANG	**Nango**	**1.50**	**335**	P	**Pn**	15 05 08.1	+0.3
JANG				S	**Sn**	15 05 26.7	-0.8
MJAR	**Matsushiro Arr**	**4.11**	**234**	P	**Pn**	15 05 45.5	+1.7
	2.8nm,0.3s,baz=34,slow=13,SNR=29						
MAT	**Matsushiro**	**4.12**	**234**	P	**Pn**	15 05 45.9	+2.1
MAT				*e*S	**Sn**	15 06 33.9	+1.8
ASAJ	**Asahikawa**	**5.09**	**2**	P	**Pn**	15 05 59.9	+2.8
	0.3nm,0.3s,baz=198,slow=20,SNR=3.6						
ASAJ				S	**Sn**	15 06 55.7	-0.5
	0.4nm,0.3s,baz=18,slow=20,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	15 40 56.5	
	baz=318,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	15 40 57.2	
	baz=318,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	15 40 57.5	
	baz=318,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	15 41 55.1	
	baz=319,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	15 41 56.2	
	baz=319,slow=76,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	15 41 56.9	
	baz=319,slow=76,SNR=6.3						
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	15 12 45.7	-0.5
	0.2nm,0.3s,baz=77,slow=6.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.39**	**307**	P	**P**	15 12 58.6	-0.8
	0.8nm,0.5s,baz=80,slow=8.3,SNR=8.9						
ILAR	**Eielson Array**	**47.42**	**33**	P	**P**	15 13 14.9	-0.3
	0.3nm,0.6s,baz=275,slow=6.1,SNR=4.1						
BVAR	**Borovoye Array**	**49.80**	**311**	P	**P**	15 13 33.0	-0.7
	0.3nm,0.4s,baz=69,slow=8.2,SNR=3.2						
INK	**Inuvik**	**52.28**	**28**	P	**P**	15 13 53.8	+1.8
	4.9nm,1.0s,baz=295,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**59.13**	**189**	P	**P**	15 14 39.8	-1.9
	0.4nm,0.5s,baz=6.8,slow=7.0,SNR=7.6						

*IDC **18** 15:12:27.4±2.2, 0.67S×127.89E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=168.6km s-min=27.2km az=67.0*
*ISCJB **18** 15:12:30.9±0.6, 0.84S±0.05×127.27E±0.05, h31km, mb3.6/2, MS3.2/1, Error ellipse: s-maj=7.9km s-min=6.0km az=147.1*
*DJA **18** 15:12:30.4±0.3, 1.3S±3.12.7E±, h10km, M3.8/8, mB4.8/2, mb4.3/3, MLv3.5/8, Mw(mB)4.0/2*

ISC 18 15:12:32.4±0.9, 0.90S±0.06×127.28E±0.06, h31km, n12, σ1=51/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.34**	**40**	P	**Pb**	15 12 38.4	-2.2
LBMI				S	**Sb**	15 12 43.9	-2.2
SANI	**Sanana**	**1.72**	**229**	P	**Pn**	15 13 00.0	-0.3
SANI				S	**Sn**	15 13 21.2	-0.1
NLAI	**Namlea**	**2.33**	**184**	P	**Pn**	15 13 09.0	+0.4
NLAI				S	**Sn**	15 13 37.4	+1.2
AAI	**Ambon**	**2.91**	**162**	P	**Pn**	15 13 18.3	+1.6
MSAI	**Masohi**	**2.94**	**146**	P	**Pn**	15 13 16.8	-0.2
FAKI	**Fak Fak**	**5.36**	**112**	P	**Pn**	15 13 52.6	+2.3
APSI	**Ampana**	**5.63**	**270**	P	**Pn**	15 13 54.9	+0.8
	49nm,0.4s,1μm0.3nm						
APSI				S	**Sn**	15 14 59.0	+1.3
	49nm,0.4s,1μm0.3nm						
TTSI	**Tana Toraja**	**7.75**	**254**	P	**Pn**	15 14 21.0	-2.2
WRA	**Warramunga Arr**	**20.15**	**160**	P	**P**	15 17 03.8	-0.4
	0.7nm,0.7s,baz=341,slow=12,SNR=3.5						
PMG	**Port Moresby**	**21.51**	**114**	LR	LR	15 27 30.0	
	comp=Z,87nm,19.8s,baz=262,slow=43						
ASAR	**Alice Springs**	**23.52**	**165**	P	**P**	15 17 39.8	-0.3
	1.2nm,0.8s,baz=343,slow=10,SNR=9.0						
MKAR	**Makanchi Array**	**61.67**	**327**	P	**P**	15 22 48.2	+0.7
	0.3nm,0.4s,baz=126,slow=8.6,SNR=4.3						

*ISK **18** 15:15:38.9, 37.55N×42.59E, h7km, MD3.1*
*ISCJB **18** 15:15:39.6±0.8, 37.37N±0.06×42.57E±0.04, h12km±5km, Error ellipse: s-maj=10.3km s-min=4.4km az=11.4*
*CSEM **18** 15:15:39.5±0.2, 37.51N×42.62E, h8km, MD2.8, Error ellipse: s-maj=9.2km s-min=4.3km az=16.0*
*DDA **18** 15:15:39.9, 37.53N×42.64E, h7km, Md2.8*
*ISN **18** 15:15:49.5±0.3, 36.95N×42.87E, h0km, ML3.0*

ISC 18 15:15:40.0±1.0, 37.51N±0.05×42.62E±0.03, h7km±9km, n25, σ1=07/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S¯–rnak**	**0.17**	**266**	*i* P	**Pg**	15 15 42.2	-1.2
SIRN				*i* S	**Sg**	15 15 47.6	+1.8
SIRN	**S¯–rnak**	**0.17**	**266**	P	**Pg**	15 15 42.2	-1.2
SIRN				S	**Sg**	15 15 47.6	+1.8
CUKT	**Cukurca**	**0.83**	**108**	*e*PG	**Pg**	15 15 55.9	0.0
CUKT				*e*SG	**Sb**	15 16 08.4	+0.2
CUKT	**Cukurca**	**0.83**	**108**	*i* P	**Pb**	15 15 56.7	-0.1
CUKT				*i* S	**Sn**	15 16 10.5	-0.2
CUKT	**Cukurca**	**0.83**	**108**	*e*Pg	**Pg**	15 15 55.9	0.0
CUKT	**Cukurca**	**0.83**	**108**	P	**Pb**	15 15 56.7	-0.1
CUKT				*e*Sg	**Sb**	15 16 08.4	+0.2
HAKT	**HAKKARI**	**0.86**	**86**	*i* P	**Pg**	15 15 55.0	-1.6
HAKT				*i* S	**Sb**	15 16 09.2	-0.1
HAKT	**HAKKARI**	**0.86**	**86**	P	**Pg**	15 15 55.0	-1.6
HAKT				S	**Sb**	15 16 09.2	-0.1
GEVA	**Gevas**	**0.87**	**23**	*i* P	**Pg**	15 15 56.5	-0.3
GEVA				*i* S	**Sn**	15 16 13.7	+1.7
GEVA	**Gevas**	**0.87**	**23**	P	**Pg**	15 15 56.5	-0.3
BTMN	**Batman**	**1.14**	**290**	*i* P	**Pb**	15 16 02.2	+0.1
BTMN				*i* S	**Sn**	15 16 21.1	+2.7
BTMN	**Batman**	**1.14**	**290**	P	**Pb**	15 16 02.2	+0.1
SVAN	**Silvan-Diyarba**	**1.30**	**300**	*e*PN	**Pn**	15 16 03.3	-1.3
SVAN	**Silvan-Diyarba**	**1.30**	**300**	*i* P	**Pb**	15 16 04.8	+0.1
SVAN				*i* S	**Sb**	15 16 20.3	-1.3
SVAN	**Silvan-Diyarba**	**1.30**	**300**	*e*Pn	**Pn**	15 16 03.3	-1.3
SVAN	**Silvan-Diyarba**	**1.30**	**300**	P	**Pb**	15 16 04.8	+0.1
SVAN				S	**Sb**	15 16 20.3	-1.3
MARD	**Mardin**	**1.48**	**263**	*i* P	**Pn**	15 16 06.2	-0.9
MARD				*i* S	**Sg**	15 16 28.8	+1.2
MAZI	**Mazidag**	**1.73**	**269**	*e*PN	**Pn**	15 16 09.8	-0.8
MAZI	**Mazidag**	**1.73**	**269**	*e*Pn	**Pn**	15 16 09.8	-0.8
SVRC	**Sivrice-ELAZID**	**2.76**	**289**	*e*PN	**Pn**	15 16 24.2	-0.6
SVRC	**Sivrice-ELAZID**	**2.76**	**289**	*e*Pn	**Pn**	15 16 24.2	-0.6
PTK	**Pertek**	**2.90**	**299**	*e*PN	**Pn**	15 16 26.1	-0.6
PTK	**Pertek**	**2.90**	**299**	*e*Pn	**Pn**	15 16 26.1	-0.6
URFA	**Urfa**	**3.02**	**270**	*e*PN	**Pn**	15 16 28.2	-0.1
URFA	**Urfa**	**3.02**	**270**	*e*Pn	**Pn**	15 16 28.3	-0.1

*IDC **18** 15:23:05.9±1.1, 0.10N×124.62E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/37, mbtmp3.5/6, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=46.1km s-min=19.0km az=71.0*
*ISCJB **18** 15:23:12.9±0.5, 0.05S±0.05×124.45E±0.03, h73km, mb3.5/5, Error ellipse: s-maj=7.1km s-min=4.2km az=20.9*
*DJA **18** 15:23:14.0±0.8, 0.5S±4.12.4E±, h32km±14km, M4.3/11, mb4.7/4, mB4.8/4, MLv4.2/11, Mw(mB)4.1/4*

ISC 18 15:23:14.3±0.8, 0.02S±0.05×124.46E±0.04, h73km, n21, σ1=50/27, mb3.3/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.76**	**321**	P	**Pn**	15 23 29.1	-1.0
KMSI				S	**Sn**	15 23 40.6	-1.2
SANI	**Sanana**	**2.53**	**143**	P	**Pn**	15 23 51.3	-1.9
SANI				S	**Sn**	15 24 18.8	-4.2
MRSI	**Marisa**	**2.57**	**281**	P	**Pn**	15 23 50.8	-2.9
APSI	**Ampana**	**2.95**	**253**	P	**Pn**	15 23 59.5	+0.7
APSI				S	**Sn**	15 24 34.4	+1.2
LBMI	**Labuha**	**3.10**	**101**	P	**Pn**	15 24 00.8	-0.1
LBMI				S	**Sn**	15 24 38.7	+1.8
NLAI	**Namlea**	**4.14**	**141**	P	**Pn**	15 24 15.0	-0.2
NLAI				S	**Sn**	15 25 01.2	-1.2
KDI	**Kendari**	**4.32**	**205**	P	**Pn**	15 24 16.7	-0.9
MPSI	**Mapaga**	**4.58**	**274**	P	**Pn**	15 24 21.3	+0.3
PCI	**Palu**	**4.71**	**259**	P	**Pn**	15 24 24.1	+1.3
AAI	**Ambon**	**5.21**	**134**	P	**Pn**	15 24 30.8	+1.0
TTSI	**Tana Toraja**	**5.53**	**237**	P	**Pn**	15 24 34.3	+0.2
	112nm,0.6s,1μm						
TTSI				S	**Sn**	15 25 35.5	-0.8
	112nm,0.6s,1μm						
MSAI	**Masohi**	**5.55**	**127**	P	**Pn**	15 24 36.5	+2.1
MSAI				S	**Sn**	15 25 37.6	+0.6
BBSI	**Bau Bau**	**5.75**	**199**	P	**Pn**	15 24 37.2	+0.1
SPSI	**Sidrap Palu**	**6.11**	**230**	P	**Pn**	15 24 42.3	+0.3
FITZ	**Fitzroy Crossi**	**18.01**	**176**	P	**Pn**	15 27 20.0	+0.3
	0.1nm,0.3s,baz=9.7,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**22.04**	**155**	P	**P**	15 28 01.9	-1.2
	0.6nm,0.5s,baz=332,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**25.23**	**159**	P	**P**	15 28 34.6	+1.1
	0.8nm,0.8s,baz=334,slow=7.5,SNR=11						
ASAR				LR	LR	15 40 06.4	
	comp=Z,74nm,18.2s,baz=344,slow=40						
CMAR	**Chiang Mai Arr**	**31.07**	**308**	P	**P**	15 29 27.8	+2.0
	0.5nm,0.8s,baz=123,slow=9.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**38.55**	**18**	P	**P**	15 30 29.3	-0.6
	1.0nm,0.6s,baz=193,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**59.41**	**328**	P	**P**	15 33 08.7	-0.5
	0.3nm,0.3s,baz=132,slow=7.5,SNR=4.7						
GEYT	**Alibeck**	**71.51**	**310**	LR	LR	16 10 45.7	
	comp=Z,23nm,20.4s,baz=215,slow=40						

MAN 18 15:32:20, 7.52N×124.92E, h92km, mb4.8, ML3.7, MS3.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**2.32**	**14**	⇓*e*P	Pn	15 32 57.2	+0.7

IDC 18 15:46:13.9±2.3, 30.82N×142.44E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/50, mbtmp3.7/5, ML3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/47, Error ellipse: s-maj=92.4km s-min=25.3km az=78.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.71**	**329**	Pn	Pn	15 47 54.2	+0.5
	2.1nm,0.3s,baz=162,slow=12,SNR=23						
MJAR				Sn	Sn	15 49 05.2	-5.6
	0.1nm,0.3s,baz=143,slow=49,SNR=2.6						
MAT	**Matsushiro**	**6.71**	**329**	P	Pn	15 47 54.1	+0.4
ASAJ	**Asahikawa**	**13.27**	**1**	Pn	Pn	15 49 24.6	+1.0
	0.3nm,0.3s,baz=164,slow=18,SNR=3.0						
KSRS	**Korea Array**	**13.71**	**303**	LR	LR	15 54 31.8	
	comp=Z,21nm,18.0s,baz=230,slow=36						
MKAR	**Makanchi Array**	**48.34**	**307**	P	P	15 54 57.8	+0.5
	0.3nm,0.4s,baz=88,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**51.07**	**190**	P	P	15 55 18.3	+0.1
	0.4nm,0.3s,baz=6.2,slow=7.6,SNR=12						
AKASG	**Malin Array Be**	**79.76**	**324**	P	P	15 58 22.8	-1.0
	0.2nm,0.3s,baz=51,slow=5.3,SNR=3.0						

*SCB **18** 15:48:39.8±0.6, 23.52S×66.66W, h290km, Ml3.6/1, Error ellipse: s-maj=16.9km s-min=8.8km az=28.0*
*NEIC **18** 15:48:43.5±0.6, 23.94S×66.96W, h174km±8km, mb4.3/4, Error ellipse: s-maj=12.5km s-min=9.4km az=53.0*
*SJA **18** 15:48:43.6±1.0, 23.80S×67.01W, h213km±15km, ML3.6, MW3.

PB07				*e*S	**Sn**	15 50 16.4	-1.9
PB07				IAML		15 50 18.3	
	comp=E,879nm,0.1s						
PB01	**IPOC Station P**	**3.49**	**321**	*e*Pn	**Pn**	**15 49 39.9**	**-0.1**
PB02	**IPOC Station P**	**3.54**	**314**	*e*P	**Pn**	**15 49 40.4**	**-0.1**
PB02				*e*S	**Sn**	**15 50 22.0**	**-2.4**
PB08	**IPOC Station P**	**4.09**	**333**	*e*P	**Pn**	**15 49 48.3**	**+0.6**
PB08				*e*S	**Sn**	**15 50 35.6**	**-1.5**
LCO	**Las Campanas**	**6.09**	**211**	*e*Pn	**Pn**	**15 50 10.8**	**-2.3**
BBOJ	**La Paz, Jacaqu**	**6.86**	**352**	*e*Pn	**Pn**	**15 50 24.8**	**+1.3**
BBOE	**La Paz, Chanca**	**7.00**	**353**	*e*Pn	**Pn**	**15 50 26.2**	**+0.9**
BBOD	**La Paz, Gloria**	**7.25**	**349**	*e*Pn	**Pn**	**15 50 29.7**	**+1.0**
LPAZ	**La Paz**	**7.53**	**353**	P	**Pn**	**15 50 32.7**	**+0.4**
	comp=E,1.0nm,0.3s,baz=184,slow=5.7,SNR=13						
LPAZ				S	**Sn**	**15 51 53.8**	**-4.0**
	comp=E,0.3nm,0.3s,baz=49,slow=16,SNR=2.4						
LPAZ	**La Paz**	**7.53**	**353**	*e*Pn	**Pn**	**15 50 32.8**	**+0.4**
LPAZ				*e*Sn	**Sn**	**15 51 55.6**	**-2.2**
BBOB	**La Paz, Bander**	**7.67**	**353**	*e*Pn	**Pn**	**15 50 34.3**	**+0.2**
BBOB				*e*Sn	**Sn**	**15 51 59.4**	**-1.6**
CPUP	**Villa Florida**	**9.25**	**108**	P	**Pn**	**15 50 51.9**	**-2.2**
	comp=E,0.3nm,0.3s,baz=288,slow=11,SNR=10						
SIV	**San Ignacio**	**9.64**	**37**	P	**Pn**	**15 50 57.0**	**-2.4**
	comp=E,3.9nm,0.3s,baz=235,slow=11,SNR=12						
SIV	**San Ignacio**	**9.64**	**37**	*e*Pn	**Pn**	**15 50 56.8**	**-2.6**
TRQA	**Tornquist**	**14.88**	**164**	*e*Pn	**Pn**	**15 52 02.8**	**-2.8**
NNA	**Nana**	**14.93**	**320**	LR	LR	15 57 11.9	
	comp=E,22nm,20.8s,baz=106,slow=34						
PLCA	**Paso Flores**	**17.12**	**189**	P	**P**	**15 52 31.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=27,slow=11,SNR=6.3						
BDFB	**Brasilia**	**19.74**	**69**	P	**P**	**15 52 58.7**	**-1.2**
	comp=E,0.9nm,0.3s,baz=39,slow=10,SNR=19						
BDFB	**Brasilia**	**19.74**	**69**	*e*P	**P**	**15 52 58.5**	**-1.4**
	comp=E,16nm,0.9s						
PTGA	**Pitinga**	**23.97**	**18**	P	**P**	**15 53 41.6**	**+0.2**
	comp=E,0.7nm,0.3s,baz=107,slow=19,SNR=3.1						
RCBR	**Riachuelo**	**34.96**	**64**	P	**P**	**15 55 18.6**	**0.0**
	comp=E,4.7nm,0.7s,baz=225,slow=8.6,SNR=3.7						
TXAR	**Lajitas Array**	**63.44**	**324**	P	**P**	**15 58 55.7**	**+1.7**
	comp=E,0.2nm,0.4s,baz=145,slow=4.9,SNR=3.0						
SDCO	**Great Sand Dun**	**71.05**	**329**	*e*P	**P**	**15 59 44.0**	**+2.1**
	comp=E,14nm,2.0s						
KNB	**Kanab**	**74.23**	**323**	*e*P	**P**	**16 00 03.6**	**+3.0**
	comp=E,5.0nm,1.2s						
CCUT	**Cedar City**	**74.92**	**324**	*e*P	**P**	**16 00 07.7**	**+3.2**
	comp=E,2.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.62**	**69**	*e*P	**P**	**16 00 13.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**16 00 14.2**	**-0.2**
	comp=E,1.1nm,0.4s,baz=261,slow=5.8,SNR=19						
MAW	**Mawson**	**81.67**	**163**	P	**P**	**16 00 42.3**	**+1.5**
	comp=E,0.8nm,0.5s,baz=207,slow=6.8,SNR=6.1						
ASAR	**Alice Springs**	**128.58**	**205**	PKP	**PKPdf**	**16 07 30.1**	**+0.8**
	comp=E,0.6nm,0.7s,baz=128,slow=2.0,SNR=10						
WRA	**Warramunga Arr**	**131.74**	**208**	PKP	**PKPdf**	**16 07 36.3**	**+0.9**
	comp=E,0.5nm,0.5s,baz=158,slow=1.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**143.28**	**28**	PKP	PKPbc	16 07 53.6	+0.6
	comp=E,0.5nm,0.4s,baz=321,slow=2.6,SNR=3.0						
MKAR	**Makanchi Array**	**146.46**	**39**	PKPbc	**PKPbc**	**16 08 02.3**	**-0.5**
	comp=E,0.9nm,0.6s,baz=294,slow=3.7,SNR=5.8						

NNC 18 15:51:28.1±1.6, 36°.30N×68°.91E, h0km, mb3.7, mpv3.4, 5C-5D, Error ellipse: s-maj=14.6km s-min=12.5km az=117.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**358**	⇑Pn	Pn	15 52 09.6	-0.6
	1.6nm,0.3s						
DZET				⇓Pg	Pb	15 52 14.4	+0.4
	16nm,0.5s						
DZET				⇓Lg	Lg	15 52 47.9	
	50nm,0.5s						
MNAS	**Manas**	**6.78**	**23**	⇑Pn	Pn	15 53 09.4	+0.6
	1.8nm,0.5s						
MNAS				⇓Sn	Sn	15 54 26.6	-0.1
	3.1nm,0.6s						
MNAS				⇑Lg	Lg	15 55 05.3	
	5.1nm,1.1s						
KK31	**Karatay Array**	**6.91**	**10**	Pn	Pn	15 53 10.6	+0.1
	0.4nm,0.2s,baz=194,slow=13,SNR=3.9						
KK31				⇑Sn	Sn	15 54 31.3	+1.5
	0.6nm,0.3s,baz=206,slow=34,SNR=4.5						
KK31				⇑Lg	Lg	15 55 05.4	
	1.3nm,0.5s						
AAK	**Ala-Archa**	**7.66**	**33**	Pn	Pn	15 53 21.2	+0.2
	1.8nm,0.5s						
AAK				Sn	Sn	15 54 50.7	+2.1
	4.3nm,0.6s						
TKM2	**Tokmak 2**	**8.38**	**36**	⇓Pn	Pn	15 53 31.3	+0.3
	2.2nm,0.9s						
TKM2				⇓Sn	Sn	15 55 07.1	+0.7
	3.2nm,0.8s						

*ISCJB **18** 15:52:19.6±0.7, 35°.07S±0°.06×138°.63E±0°.06, h10km, Error ellipse: s-maj=9.9km s-min=5.0km az=39.9*
*AUST **18** 15:52:24.0±0.0, 35°.07S×138°.65E, h24km, Error ellipse: s-maj=0.4km s-min=0.1km az=37.0*
*NEIC **18** 15:52:25.0±0.0, 35°.03S×138°.67E, h17km, ML3.3(AUST), After AUST.*
NEIC Felt [III] at Adelaide, Crafers-Bridgewater, Gawler and Mount Barker. Also felt at Victor Harbour.
*IDC **18** 15:52:28.6±5.5, 34°.26S×138°.37E, h0km, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML3.6/4, Error ellipse: s-maj=62.5km s-min=23.7km az=169.0*

ISC 18 15:52:21.0±0.9, 35°.00S±0°.05×138°.60E±0°.06, h10km, n17, σ3s44/26, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.59**	**10**	P	**Pg**	**15 52 52.7**	**+1.3**
	baz=1.7,SNR=119						
HTT				S	**Sg**	**15 53 12.4**	**+0.4**
	baz=1.7						
BBOO	**Buckleboo**	**3.04**	**315**	P	**Pn**	**15 53 13.1**	**+3.9**
	baz=3.1,SNR=13						
BBOO				S	**Sn**	**15 53 48.3**	**+2.7**
	baz=3.1						
BBOO	**Buckleboo**	**3.04**	**315**	*e*Pn	**Pn**	**15 53 13.0**	**+3.9**
ARPS	**Mount Arapiles**	**3.17**	**125**	P	**Pn**	**15 53 12.2**	**+1.3**
	baz=3.1,SNR=24						
ARPS				S	**Sn**	**15 53 46.7**	**-2.0**
	baz=3.1						
STKA	**Stephens Creek**	**3.99**	**40**	Pn	**Pn**	**15 53 25.4**	**+3.2**
	1.5nm,0.3s,baz=210,slow=12,SNR=26						
STKA				Sn	**Sn**	**15 54 09.2**	**0.0**
	4.3nm,0.3s,baz=328,slow=13,SNR=5.9						
STKA				Lg	Lg	15 54 24.6	
	13nm,0.3s,baz=284,slow=17,SNR=8.1						
STKA	**Stephens Creek**	**3.99**	**40**	P	**Pn**	**15 53 25.3**	**+3.0**
	baz=4.0,SNR=23						
STKA				S	**Sn**	**15 54 10.1**	**+1.0**
	baz=4.0						
TOO	**Toolangi**	**6.13**	**117**	P	**Pn**	**15 53 53.5**	**+1.9**
	baz=6.0,SNR=6.0						
TOO				S	**Sn**	**15 55 00.4**	**-1.4**
	baz=6.0						
CMSA	**Cobar Meteorol**	**6.87**	**62**	P	**Pn**	**15 54 03.1**	**+1.4**
	baz=6.9						
YNG	**Young**	**8.10**	**88**	P	**Pn**	**15 54 20.8**	**+2.1**
	baz=8.0						
CAN	**Canberra**	**8.52**	**95**	*e*Pn	**Pn**	**15 54 25.2**	**+0.8**
FORT	**Forrest**	**9.81**	**292**	P	**Pn**	**15 54 44.8**	**+2.7**
	baz=9.9						
FORT				S	**Sn**	**15 56 28.5**	**-3.9**
	baz=9.9						
FORT	**Forrest**	**9.81**	**292**	*e*Pn	**Pn**	**15 54 44.3**	**+2.2**
AS01	**Alice Springs**	**12.00**	**339**	*e*Pn	**Pn**	**15 55 13.6**	**+1.5**
ASAR	**Alice Springs**	**12.01**	**339**	Pn	**Pn**	**15 55 12.3**	**0.0**
	0.9nm,0.3s,baz=170,slow=8.5,SNR=147						
ASAR				Sn	**Sn**	**15 57 18.4**	**-8.0**
	0.5nm,0.3s,baz=156,slow=22,SNR=7.8						
AS31	**Alice Springs**	**12.01**	**339**	*e*Pn	**Pn**	**15 55 13.1**	**+0.8**
WRA	**Warramunga Arr**	**15.46**	**345**	Pn	**Pn**	**15 55 55.9**	**-3.4**
	0.4nm,0.3s,baz=161,slow=11,SNR=18						
WRA				Sn	**Sn**	**15 58 41.4**	**-9.3**
	0.1nm,0.3s,baz=167,slow=23,SNR=3.7						
FITZ	**Fitzroy Crossi**	**20.40**	**322**	P	**P**	**15 56 59.7**	**+1.6**
	0.1nm,0.3s,baz=159,slow=8.8,SNR=4.9						

*ISCJB **18** 16:00:59.8±0.6, 20°.52S±0°.05×66°.85W±0°.09, h250km, mb3.2/1, Error ellipse: s-maj=11.3km s-min=6.3km az=165.7*

*SJA **18** 16:01:00.9±1.2, 20°.50S×66°.76W, h236km±13km, ML3.3, MW3.8*
*IDC **18** 16:01:00.4±1.1, 20°.46S×66°.84W, h220km±18km, mb3.0/2, mb1 3.2/5, mb1mx3.0/21, mbtmp3.6/5, Error ellipse: s-maj=34.0km s-min=10.2km az=104.0*

ISC 18 16:01:00.4±1.0, 20°.51S±0°.05×66°.87W±0°.08, h250km, n13, σ1s95/19, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**2.09**	**143**	*e*P	**Pn**	**16 01 43.8**	**-0.3**
YJA				*e*S	**S**	**16 02 15.2**	**-3.5**
YJA				IAML		16 02 16.4	
	comp=Z,47nm,0.2s						
LVC	**Limon Verde**	**2.82**	**222**	P	**Pn**	**16 01 50.8**	**-0.5**
	comp=Z,34nm,0.3s,baz=17,slow=8.6,SNR=13						
LVC				S	**S**	**16 02 28.7**	**-2.9**
	comp=Z,111nm,0.3s,baz=234,slow=24,SNR=13						
LVC	**Limon Verde**	**2.82**	**222**	*e*P	**Pn**	**16 01 51.4**	**0.0**
LVC				*e*S	**S**	**16 02 30.4**	**-1.3**
HJA	**Humahuaca**	**3.01**	**153**	*e*P	**Pn**	**16 01 53.6**	**+0.3**
HJA				IAML		16 01 54.6	
	comp=Z,111nm,0.6s						
HJA				*e*S	**S**	**16 02 33.7**	**-1.6**
AZAP	**Zapla**	**4.06**	**156**	*e*P	**Pn**	**16 02 04.6**	**-0.5**
AZAP				IAML		16 02 05.4	
	comp=Z,28nm,0.4s						
AZAP				*e*S	**S**	**16 02 53.9**	**-2.6**
ASTB	**Santa Barbara**	**4.09**	**147**	*i* P	**Pn**	**16 02 05.2**	**-0.2**
LPAZ	**La Paz**	**4.37**	**344**	P	**Pn**	**16 02 09.4**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=148,slow=9.2,SNR=34						
LPAZ				S	**S**	**16 03 00.7**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=293,slow=15,SNR=9.0						
LPAZ	**La Paz**	**4.37**	**344**	*i* P	**Pn**	**16 02 09.6**	**+0.4**
LPAZ				*e*S	**S**	**16 03 01.9**	**-2.0**
FSA	**Cafayete**	**5.64**	**172**	*i* P	**Pn**	**16 02 25.3**	**+1.2**
SIV	**San Ignacio**	**7.11**	**52**	P	**Pn**	**16 02 41.8**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=249,slow=14,SNR=15						
PLCA	**Paso Flores**	**20.40**	**188**	P	Pn	16 05 22.9	-1.3
	comp=Z,1.9nm,0.6s,baz=18,slow=15,SNR=5.3						
TORD	**Torodi Ar. Bea**	**75.23**	**70**	P	**P**	**16 12 17.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**131.65**	**206**	PKP	**PKPdf**	**16 19 47.4**	**+3.1**
	comp=Z,0.3nm,0.9s,baz=138,slow=1.8,SNR=4.5						

*MEX **18** 16:19:39.9±0.7, 33°.08N×116°.71W, h17km±130km, MD3.6*

ISC 18 16:19:37.9±1.0, 32°.87N±0°.04×116°.22W±0°.03, h19km±2km, n15, σ0s92/25, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.18**	**279**	P	**Pg**	**16 19 42.8**	**0.0**
	baz=85,SNR=237						
MONP2				S	**Sb**	**16 19 45.4**	**+1.1**
	baz=85						
IKP	**In-Ko-Pah, Jac**	**0.23**	**157**	P	**Pg**	**16 19 44.5**	**+1.0**
	baz=338,SNR=151						
IKP				S	**Sg**	**16 19 48.4**	**+1.1**
	baz=338						
SWSC	**Sam W. Stewart**	**0.36**	**77**	P	**Pb**	**16 19 45.9**	**+0.2**
	baz=264,SNR=32						
SWSC				S	**Sb**	**16 19 51.0**	**-0.1**
	baz=264						
TJIG	**Tijuana**	**0.58**	**222**	*e*P	**Pn**	**16 19 50.3**	**-0.8**
TJIG				*e*S	**Sn**	**16 19 58.2**	**-1.9**
CBX	**Cerro Bola**	**0.67**	**215**	*e*P	**Pn**	**16 19 52.1**	**-0.4**
CBX				*e*S	**Sn**	**16 20 01.5**	**-1.0**
109C	**Camp Elliot, M**	**0.75**	**272**	P	**Pg**	**16 19 52.7**	**+0.1**
	baz=88,SNR=8.9						
109C				S	**Sg**	**16 20 02.6**	**+0.1**
	baz=88						
PFO	**Pinyon Flats O**	**0.77**	**345**	P	**Pb**	**16 19 52.5**	**-0.3**
	baz=165,SNR=19						
PFO				S	**Sb**	**16 20 01.8**	**-1.2**
	baz=165						
BC3	**Big Chuckawall**	**1.01**	**39**	S	**Sb**	**16 20 08.9**	**-1.1**
	baz=221						
MURC	**Murrieta**	**1.10**	**312**	P	**Pb**	**16 19 58.6**	**+0.2**
	baz=130						
MURC				S	**Sb**	**16 20 12.6**	**+0.2**
	baz=130						
BELC	**Belle Mtn. Jos**	**1.15**	**9**	P	**Pn**	**16 19 58.6**	**-0.5**
	baz=190,SNR=27						
BFSC	**Mount Baldy Ra**	**1.82**	**319**	Sb	**Sb**	**16 20 33.6**	**+0.3**
	baz=138						
SPIG	**San Pedro Mart**	**1.92**	**160**	*e*P	**Pg**	**16 20 15.1**	**+0.2**
SPIG				*i* S	**Sg**	**16 20 40.3**	**+0.3**
FMP	**Fort Macarthur**	**1.93**	**296**	Sb	**Sb**	**16 20 37.6**	**+1.3**
	baz=114						
HEC	**Hector,Ludlow**	**1.96**	**357**	Pg	**Pb**	**16 20 14.2**	**+1.2**
	baz=177,SNR=7.8						
GMRC	**Granite Mounta**	**1.97**	**13**	Pg	**Pb**	**16 20 14.3**	**+1.1**
	baz=194,SNR=5.7						
GMRC				Sb	**Sb**	**16 20 38.7**	**+1.2**
	baz=194						

*ISCJB **18** 16:24:16.8±1.0, 55°.5S±0°.1×27°.1W±0°.5, h10km, mb3.9/3, Error ellipse: s-maj=41.4km s-min=16.4km az=158.2*
*IDC **18** 16:24:17.1±1.1, 55°.39S×27°.32W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=44.4km s-min=34.4km az=85.0*

ISC 18 16:24:18.4±1.0, 55°.5S±0°.2×27°.3W±0°.3, h10km, n13, σ0s85/7, mbB4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.76**	**159**	P	**Pn**	**16 28 24.3**	**-1.1**
	baz=319,slow=13						
SNAA	**Sanae**	**19.31**	**157**	P	**P**	**16 28 43.5**	**+0.3**
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**16 32 51.3**	**+1.0**
	0.7nm,0.6s,baz=192,slow=6.8,SNR=4.0						
H10S2	**ASCENSION HYDR**	**47.44**	**17**	T	T	17 24 24.5	
	baz=190,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**47.44**	**17**	T	T	17 24 27.3	
	baz=190,slow=75,SNR=13						
H10S1	**ASCENSION HYDR**	**47.45**	**17**	T	T	17 24 26.2	
	baz=190,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**48.55**	**17**	T	T	17 25 46.4	
	baz=191						
H10N3	**ASCENSION HYDR**	**48.56**	**17**	T	T	17 25 48.1	
	baz=191,slow=74						
H10N2	**ASCENSION HYDR**	**48.57**	**17**	T	T	17 25 47.0	
	baz=191,slow=74						
LPAZ	**La Paz**	**50.00**	**305**	P	**P**	**16 33 13.2**	**-0.3**
	1.2nm,0.7s,baz=148,slow=9.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**72.55**	**30**	P	**P**	**16 35 45.9**	**+0.5**
	0.9nm,0.6s,baz=202,slow=6.4,SNR=8.4						
ILAR	**Eielson Array**	**149.69**	**312**	PKPbc	**PKPbc**	**16 44 06.3**	**-0.4**
	0.7nm,0.7s,baz=109,slow=1.8,SNR=9.0						
SONM	**Songino Array**	**150.72**	**85**	PKPbc	**PKPbc**	**16 44 09.5**	**-0.5**
	0.5nm,0.6s,baz=242,slow=2.2,SNR=3.6						

TAP 18 16:33:55.0, 22°.19N×120°.19E, h24km, ML3.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.22**	**45**	*i* P	Pb	16 34 00.9	+0.1
	baz=46						
TWP				*i* S	Sb	16 34 05.7	+0.9
	baz=46						
KAU	**Kaohsiung**	**0.39**	**16**	*i* P	Pb	16 34 04.2	+0.8
	baz=17						
KAU				*i* S	Sn	16 34 11.3	-0.5
	baz=17						
SCZT	**Fangliau**	**0.44**	**65**	*i* P	Pb	16 34 04.5	+0.4
	baz=66						
SCZT				*i* S	Sn	16 34 11.8	-1.1
	baz=66						
HEN	**Hengchun**	**0.54**	**110**	P	Pn	16 34 07.7	+0.5
	baz=109						
HEN				*e*S	Sn	16 34 14.6	-0.8
	baz=109						
SGLT	**Jiouru**	**0.60**	**27**	*i* P	Pn	16 34 07.6	-0.4
	baz=28						
SGLT				*i* S	Sn	16 34 16.8	-0.2
	baz=28						
TWK1	**Hengchun**	**0.62**	**113**	*i* P	Pn	16 34 08.5	+0.2
	baz=113						
TWK1				S	Sn	16 34 18.6	+1.1
	baz=113						
EAST	**Anshuo**	**0.64**	**72**	*i* P	Pb	16 34 07.8	+0.4
	baz=72						
EAST				S	Sn	16 34 18.0	0.0
	baz=72						
TWM1	**Shoushan**	**0.67**	**19**	P	Pn	16 34 08.9	-0.1
	baz=19						
TWM1				S	Sn	16 34 18.4	-0.3
	baz=19						
TAW	**Tawu**	**0.67**	**76**	*i* P	Pb	16 34 08.4	+0.4
	baz=75						
TAW				S	Sn	16 34 18.9	+0.2
	baz=75						
TSEB	**Hengchuen, Pin**	**0.72**	**114**	*e*P	Pb	16 34 08.4	-0.4
	baz=115						
TSEB				*e*S	Sb	16 34 18.7	+0.5
	baz=115						
ECL	**Taimali**	**0.81**	**60**	*i* P	Pb	16 34 10.1	-0.3
	baz=60						
ECL				S	Sn	16 34 22.4	+0.1
	baz=60						
TAI1	**Yung-k'ang**	**0.85**	**2**	*e*P	Pn	16 34 11.6	+0.2
	baz=2.0						
TAI1				*e*S	Sb	16 34 22.2	+0.3
	baz=2.0						
CHN3	**Shinhua**	**0.90**	**10**	*e*P	Pn	16 34 12.6	+0.5
	baz=10.0						
CHN3				*e*S	Sn	16 34 24.6	+0.3
	baz=10.0						
SGST	**Jiashian**	**0.96**	**22**	P	Pb	16 34 12.1	-0.9
	baz=22						
SGST				S	Sn	16 34 26.0	+0.1
	baz=22						
SCLT	**Jiali**	**0.98**	**0**	*e*P	Pn	16 34 13.1	-0.2
SCLT				*e*S	Sn	16 34 26.8	+0.4
TWG	**Pinlang**	**1.03**	**52**	P	Pn	16 34 13.7	-0.2
	baz=52						
TWG				*e*S	Sn	16 34 28.2	+0.6
	baz=52						
CHN1	**Nanshi**	**1.04**	**17**	*e*P	Pn	16 34 13.4	-0.7
	baz=17						
CHN1				*e*S	Sn	16 34 28.2	+0.3
	baz=17						
TTN	**Taitung**	**1.05**	**57**	*e*P	Pb	16 34 14.8	+0.4
	baz=57						
TTN				*e*S	Sn	16 34 29.3	+1.3
	baz=57						
STYT	**Tauyuan**	**1.10**	**28**	*e*P	Pn	16 34 14.9	-0.1
	baz=28						
STYT				*e*S	Sn	16 34 29.8	+0.3
	baz=28						
TWK	**Hsinying**	**1.11**	**14**	*e*P	Pn	16 34 14.1	-1.0
	baz=15						
TWK				*e*S	Sb	16 34 29.5	0.0
	baz=15						
WTP	**Ta-pu**	**1.12**	**20**	*e*P	Pn	16 34 14.1	-1.1
	baz=20						
WTP				*e*S	Sn	16 34 30.4	+0.5
	baz=20						
WDGT	**Dungji**	**1.17**	**335**	*e*P	Pb	16 34 16.5	-0.1
	baz=335						
WDGT				*e*S	Sb	16 34 31.5	+0.2
	baz=335						
CHN4	**Tsaushan**	**1.21**	**18**	*e*P	Pn	16 34 15.1	-1.4
	baz=17						
CHN4				S	Sb	16 34 32.9	+0.3
	baz=17						
ELDTW	**Lidau**	**1.25**	**37**	*e*P	Pn	16 34 16.0	-1.1
	baz=37						
ELDTW				*e*S	Sb	16 34 33.8	+0.1
	baz=37						
CHY	**Chiayi**	**1.32**	**9**	*e*P	Pb	16 34 18.9	-0.2
	baz=9.0						
CHY				*e*S	Sn	16 34 35.1	+0.4
	baz=9.0						
CHN2	**Minshiung**	**1.36**	**11**	*e*P	Pb	16 34 19.2	-0.6
	baz=11						
CHN2				*e*S	Sn	16 34 35.8	0.0
	baz=11						
CHKT	**Chengkung**	**1.41**	**50**	*e*P	Pb	16 34 20.1	-0.6
	baz=50						
CHKT				*e*S	Sb	16 34 37.7	-0.6
	baz=50						
ALS	**Alishan**	**1.43**	**23**	*e*P	Pn	16 34 19.4	-0.3
	baz=23						
ALS				*e*S	Sb	16 34 38.7	-0.4
	baz=23						
WSF	**Szhu**	**1.44**	**1**	*e*P	Pb	16 34 20.8	-0.4
	baz=1.0						
WSF				*e*S	Sn	16 34 38.2	+0.4
	baz=1.0						
CHN5	**Tsauling**	**1.47**	**18**	*e*P	Pn	16 34 18.9	-1.2
	baz=17						
CHN5				*e*S	Sb	16 34 39.5	-0.5
	baz=17						
YUS	**Yu-Shan**	**1.47**	**28**	*e*P	Pn	16 34 19.7	-0.7
	baz=28						
YUS				*e*S	Sn	16 34 38.8	-0.4
	baz=28						
TWF1	**Yuli**	**1.54**	**41**	*e*P	Pn	16 34 20.6	-0.3
	baz=41						
TWF1				*e*S	Sn	16 34 39.9	-0.4
	baz=41						
EHY	**Hungye**	**1.67**	**38**	*e*P	Pn	16 34 23.0	+0.2
	baz=38						
EHY				*e*S	Sn	16 34 44.5	+0.9
	baz=38						
WNT	**Mingjian**	**1.74**	**15**	*e*P	Pn	16 34 24.8	+1.1
	baz=15						
WNT				*e*S	Sn	16 34 46.2	+1.0
	baz=15						
SMLT	**Sun Moon Lake**	**1.81**	**21**	*e*P	Pn	16 34 25.6	+0.9
	baz=21						
SMLT				*e*S	Sn	16 34 47.4	+0.4
	baz=21						
TYC	**Yuchr**	**1.81**	**20**	*e*P	Pn	16 34 24.2	-0.5
	baz=20						
TYC				*e*S	Sn	16 34 47.5	+0.6
	baz=20						
ESL	**Shilin**	**1.98**	**35**	*e*P	Pn	16 34 27.5	+0.5
	baz=35						
ESL				*e*S	Sn	16 34 51.8	+0.7
	baz=35						
WHF	**Hehuan Shan**	**2.18**	**27**	*e*P	Pn	16 34 30.1	0.0
	baz=27						
WHF				*e*S	Sn	16 34 56.2	-0.5
	baz=27						
TWQ1	**Liyutan**	**2.21**	**14**	*e*P	Pn	16 34 30.9	+0.7
	baz=14						
TWQ1				*e*S	Sn	16 34 57.3	+0.4
	baz=14						
NNS	**Nan Shan**	**2.49**	**26**	*e*P	Pn	16 34 34.0	-0.1
	baz=26						
NNS				*e*S	Sn	16 35 04.0	+0.1
	baz=26						
ENA	**Nanau**	**2.64**	**32**	*e*P	Pn	16 34 37.3	+1.2
	baz=32						
ENA				*e*S	Sn	16 35 07.4	-0.1
	baz=32						
NSK	**Sanguang**	**2.70**	**23**	*e*P	Pn	16 34 38.4	+1.

*ISCJB **18** 16:48:30.1±0.3,24°.37N±0°.01×121°.51E±0°.02,h0km±3km, Error ellipse: s-maj=2.9km s-min=1.8km az=135.4*
ISC 18 16:48:29.9±0.8,24°.39N±0°.02×121°.50E±0°.02,h12km±5km, n65,σ0=86/103,4C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan** baz=311	**0.13**	**295**	⇑*i*P	**Pg**	**16 48 32.9**	**-0.3**
NNS	baz=311			*e*S	**Sg**	**16 48 34.6**	**-1.0**
ENA	**Nanau** baz=77	**0.22**	**79**	⇓*i*P	**Pb**	**16 48 35.3**	**-0.6**
ENA	baz=77			*e*S	**Sb**	**16 48 38.7**	**+0.9**
EHP	**Heping Village** baz=105	**0.23**	**109**	*e*P	**Pg**	**16 48 34.8**	**+0.1**
ENTT	**Nioudou** baz=13	**0.26**	**13**	⇓*i*P	**Pb**	**16 48 36.0**	**-0.6**
TWD	**Chiawan** baz=158	**0.32**	**164**	P	**Pg**	**16 48 36.7**	**+0.5**
TWD	baz=158			S	**Sg**	**16 48 40.7**	**+0.1**
NSK	**Sanguang** baz=333	**0.32**	**335**	⇓*i*P	**Pg**	**16 48 36.9**	**+0.5**
NSK	baz=333			*i*S	**Sg**	**16 48 40.8**	**+0.1**
WHF	**Hehuan Shan** baz=211	**0.32**	**222**	⇓*i*P	**Pg**	**16 48 36.2**	**-0.4**
WHF	baz=211			*e*S	**Sg**	**16 48 40.4**	**-0.7**
TWT	**Tachien** baz=238	**0.33**	**246**	⇓*i*P	**Pg**	**16 48 36.5**	**-0.1**
TWT	baz=238			S	**Sg**	**16 48 40.7**	**-0.3**
TWE	**Neicheng** baz=39	**0.37**	**24**	⇓*i*P	**Pb**	**16 48 38.1**	**-0.2**
TWE	baz=39			S	**Sb**	**16 48 43.4**	**-0.7**
TWC	**Suao** baz=49	**0.39**	**55**	⇓*i*P	**Pb**	**16 48 38.2**	**-0.4**
TWC	baz=49			S	**Sb**	**16 48 43.8**	**-0.8**
HWA	**Hwalien** baz=156	**0.42**	**167**	*e*P	**Pg**	**16 48 36.9**	**-1.3**
ILA	**Ilan** baz=43	**0.44**	**30**	*e*P	**Pb**	**16 48 39.3**	**-0.3**
ESF	**Shoufeng Towns** baz=177	**0.51**	**180**	*e*P	**Pb**	**16 48 40.5**	**-0.3**
NSTT	**Nanjuang** baz=301	**0.52**	**298**	⇓*i*P	**Pb**	**16 48 40.7**	**-0.2**
NSTT	baz=301			*i*S	**Sg**	**16 48 47.1**	**+0.1**
ESL	**Shilin** baz=184	**0.57**	**186**	⇓*i*P	**Pg**	**16 48 41.0**	**-0.1**
ESL	baz=184			S	**Sg**	**16 48 48.5**	**-0.1**
TWA	**Mucha** baz=10.0	**0.60**	**7**	⇓P	**Pb**	**16 48 42.5**	**+0.2**
TWA	baz=10.0			S	**Sb**	**16 48 50.1**	**-0.7**
HSN	**Hsinchu** baz=317	**0.64**	**311**	*e*P	**Pn**	**16 48 43.9**	**-0.9**
NCU	**National Centr** baz=336	**0.65**	**334**	*e*P	**Pn**	**16 48 44.5**	**-0.5**
TAP	**Taipei** baz=14	**0.65**	**0**	*e*P	**Pb**	**16 48 43.7**	**+0.5**
TAP	baz=14			*e*S	**Sb**	**16 48 52.4**	**+0.1**
TAP1	**Taipei** baz=14	**0.65**	**2**	*e*P	**Pb**	**16 48 43.6**	**+0.4**
TAP1	baz=14			*e*S	**Sb**	**16 48 52.2**	**-0.1**
TWQ1	**Liyutan** baz=267	**0.67**	**267**	P	**Pb**	**16 48 43.7**	**+0.2**
TWQ1	baz=267			*e*S	**Sg**	**16 48 52.1**	**+0.5**
NSY	**Sanyi** baz=273	**0.68**	**273**	⇓P	**Pb**	**16 48 44.3**	**+0.6**
NSY	baz=273			*e*S	**Sb**	**16 48 52.6**	**-0.5**
TWS1	**Kuangyinshan** baz=7.0	**0.72**	**354**	⇓*i*P	**Pn**	**16 48 45.6**	**-0.3**
TWS1	baz=7.0			S	**Sn**	**16 48 55.3**	**-1.5**
NWF	**Wu-fen Shan** baz=22	**0.73**	**20**	⇓*i*P	**Pb**	**16 48 45.0**	**+0.4**
SMLT	**Sun Moon Lake** baz=227	**0.74**	**228**	⇓*i*P	**Pg**	**16 48 44.0**	**-0.3**
SMLT	baz=227			*e*S	**Sb**	**16 48 54.9**	**-0.2**
TWB1	**Santiao Chiao** baz=45	**0.76**	**35**	*e*P	**Pb**	**16 48 44.9**	**-0.2**
TWB1	baz=45			*e*S	**Sb**	**16 48 55.0**	**-0.5**
TYC	**Yuchr** baz=224	**0.76**	**231**	⇓*i*P	**Pg**	**16 48 44.2**	**-0.4**
TYC	baz=224			*e*S	**Sg**	**16 48 53.0**	**-1.5**
TCU	**Taichung** baz=252	**0.79**	**253**	⇓*i*P	**Pn**	**16 48 46.5**	**-0.4**
EHY	**Hungye** baz=184	**0.89**	**191**	⇑P	**Pb**	**16 48 46.6**	**-0.7**
EHY	baz=184			*e*S	**Sb**	**16 48 59.0**	**-0.2**
TWY	**Chenhua** baz=8.0	**0.89**	**6**	*e*P	**Pn**	**16 48 48.8**	**+0.5**
WNT	**Mingjian** baz=229	**0.90**	**236**	P	**Pn**	**16 48 48.2**	**-0.3**
WNT	baz=229			*e*S	**Sn**	**16 49 01.9**	**+0.4**
YUS	**Yu-Shan** baz=208	**1.02**	**210**	⇓*i*P	**Pb**	**16 48 48.7**	**-1.2**
TWF1	**Yuli** baz=179	**1.05**	**190**	P	**Pb**	**16 48 49.4**	**-0.6**
TWF1	baz=179			*e*S	**Sg**	**16 49 03.9**	**+0.3**
ALS	**Alishan** baz=222	**1.08**	**216**	⇓*e*P	**Pb**	**16 48 50.2**	**-0.5**
CHN5	**Tsauling** baz=223	**1.09**	**224**	*e*P	**Pg**	**16 48 51.2**	**+0.3**
CHN5	baz=223			*e*S	**Sn**	**16 49 06.2**	**0.0**
WGK	**Gukeng** baz=229	**1.11**	**231**	*e*P	**Pg**	**16 48 51.5**	**+0.3**
WTCT	**Ta-ch'eng** baz=243	**1.23**	**245**	*e*P	**Pg**	**16 48 53.5**	**-0.1**
WTCT	baz=243			*e*S	**Sg**	**16 49 10.7**	**+1.1**
CHN2	**Minshiung** baz=227	**1.27**	**228**	*e*P	**Pg**	**16 48 54.3**	**+0.1**
CHN2	baz=227			*e*S	**Sg**	**16 49 11.9**	**+1.1**
ELDTW	**Lidau** baz=191	**1.27**	**201**	*e*P	**Pn**	**16 48 53.0**	**-0.6**
CHKT	**Chengkung** baz=173	**1.29**	**186**	*e*P	**Pg**	**16 48 54.8**	**+0.2**
JYNG	**Yonagunijimaku**	**1.32**	**87**	P	**Pg**	**16 48 55.4**	**+0.2**
CHN4	**Tsaushan** baz=218	**1.32**	**219**	⇓P	**Pg**	**16 48 55.4**	**0.0**
CHN4	baz=218			*e*S	**Sg**	**16 49 15.6**	**+3.0**
CHY	**Chiayi** baz=240	**1.32**	**228**	*e*P	**Pg**	**16 48 55.9**	**+0.5**
YOJ	**Yonaguni jima** baz=76	**1.38**	**87**	*e*P	**Pg**	**16 48 56.3**	**0.0**
YOJ	**Yonaguni jima**	**1.38**	**87**	P	**Pg**	**16 48 56.0**	**-0.3**
YOJ				*e*S	**Sg**	**16 49 15.5**	**+1.3**
WSF	**Szhu** baz=236	**1.39**	**238**	*e*P	**Pb**	**16 48 56.0**	**+0.2**
STYT	**Tauyuan** baz=197	**1.40**	**209**	*e*P	**Pb**	**16 48 55.8**	**-0.2**
STYT	baz=197			*e*S	**Sg**	**16 49 15.2**	**+0.3**
WTP	**Ta-pu** baz=215	**1.40**	**216**	⇓*e*P	**Pb**	**16 48 56.1**	**+0.1**
WTP	baz=215			S	**Sg**	**16 49 16.2**	**+1.3**
TWK	**Hsinying** baz=219	**1.45**	**220**	⇑P	**Pg**	**16 48 57.6**	**-0.2**
TWK	baz=219			*e*S	**Sg**	**16 49 18.1**	**+1.5**
CHN1	**Nanshi** baz=216	**1.49**	**217**	⇓*i*P	**Pg**	**16 48 58.3**	**-0.2**
CHN1	baz=216			S	**Sg**	**16 49 18.8**	**+0.8**
SGST	**Jiashian** baz=224	**1.55**	**213**	⇑P	**Pg**	**16 48 59.6**	**-0.1**
SGST	baz=224			*e*S	**Sg**	**16 49 20.6**	**+0.9**
CHN8	**Yiju** baz=238	**1.57**	**229**	*e*P	**Pb**	**16 48 59.1**	**+0.2**
CHN8	baz=238			*e*S	**Sb**	**16 49 19.1**	**+0.3**
TWG	**Pinlang** baz=177	**1.61**	**194**	*e*P	**Pb**	**16 48 59.4**	**-0.1**
CHN3	**Shinhua** baz=218	**1.67**	**219**	*e*P	**Pb**	**16 49 00.7**	**+0.1**
CHN3	baz=218			S	**Sg**	**16 49 25.5**	**+1.9**
TWM1	**Shoushan** baz=211	**1.84**	**213**	*e*P	**Pb**	**16 49 04.1**	**+0.5**
ECL	**Taimali** baz=180	**1.85**	**196**	*e*P	**Pb**	**16 49 03.4**	**-0.3**
SGLT	**Jiouru** baz=208	**1.90**	**210**	*e*P	**Pb**	**16 49 03.7**	**-0.7**
WDGT	**Dungji** baz=235	**2.03**	**237**	*e*P	**Pb**	**16 49 05.8**	**-0.9**
IRIF	**Iriomote-Funau**	**2.03**	**91**	P	**Pb**	**16 49 05.3**	**-1.5**
IRIF				S	**Sb**	**16 49 31.4**	**-0.6**
EAST	**Anshuo** baz=180	**2.08**	**197**	*e*P	**Pb**	**16 49 08.2**	**+0.6**
SCZT	**Fangliau** baz=217	**2.16**	**202**	*e*P	**Pb**	**16 49 07.7**	**-1.3**
JKRS	**Kuro-shima**	**2.29**	**93**	P	**Pb**	**16 49 09.3**	**-1.9**
JKRS				S	**Sb**	**16 49 38.5**	**-1.0**
JIJ	**Ishigaki jima**	**2.41**	**90**	P	**Pn**	**16 49 10.7**	**+1.6**
JIJ				*e*S	**Sn**	**16 49 39.9**	**+1.3**
JISG	**Ishigakijimahi**	**2.57**	**85**	P	**Pn**	**16 49 12.8**	**+1.5**
JISG				*e*S	**Sb**	**16 49 44.5**	**-2.9**
JTJ	**Tarama**	**2.92**	**84**	P	**Pn**	**16 49 18.7**	**+2.4**

*JMA **18** 16:50:51.5±0.1,23°.58N×121°.23E,h0km*
*TAP **18** 16:50:52.1,23°.58N×121°.30E,h9km,ML3.2,B*
*ISCJB **18** 16:50:53.2±0.3,23°.58N±0°.01×121°.30E±0°.02,h7km±2km, Error ellipse: s-maj=3.1km s-min=1.8km az=32.6*
ISC 18 16:50:52.8±0.8,23°.59N±0°.02×121°.26E±0°.02,h11km±6km, n43,σ0=56/84,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye** baz=161	**0.11**	**146**	*i*P	**Pg**	**16 50 55.4**	**-0.2**
EHY	baz=161			*i*S	**Sg**	**16 50 56.9**	**-0.7**
TWF1	**Yuli** baz=178	**0.24**	**171**	*i*P	**Pg**	**16 50 57.8**	**-0.1**
TWF1	baz=178			S	**Sg**	**16 51 01.6**	**+0.4**
ESL	**Shilin** baz=29	**0.27**	**36**	*i*P	**Pg**	**16 50 58.5**	**+0.2**
ESL	baz=29			*i*S	**Sg**	**16 51 02.6**	**+0.5**
YUS	**Yu-Shan** baz=253	**0.30**	**250**	⇓*i*P	**Pg**	**16 50 59.5**	**+0.4**
YUS	baz=253			*i*S	**Sg**	**16 51 04.0**	**+0.8**
ESF	**Shoufeng Towns** baz=33	**0.36**	**40**	*e*P	**Pb**	**16 51 01.3**	**+0.1**
ESF	baz=33			S	**Sb**	**16 51 06.0**	**-0.9**
ALS	**Alishan** baz=260	**0.42**	**259**	⇓*i*P	**Pb**	**16 51 02.0**	**-0.5**
ALS	baz=260			S	**Sb**	**16 51 08.8**	**-0.2**
SMLT	**Sun Moon Lake** baz=309	**0.44**	**311**	P	**Pb**	**16 51 02.2**	**-0.4**
SMLT	baz=309			S	**Sb**	**16 51 08.4**	**-0.8**
ELDTW	**Lidau** baz=212	**0.46**	**209**	*e*P	**Pg**	**16 51 01.3**	**-0.6**
ELDTW	baz=212			S	**Sg**	**16 51 07.4**	**-0.6**
TYC	**Yuchr** baz=309	**0.48**	**310**	P	**Pb**	**16 51 02.9**	**-0.4**
TYC	baz=309			*e*S	**Sb**	**16 51 10.9**	**+0.6**
HWA	**Hwalien** baz=36	**0.50**	**40**	*e*P	**Pg**	**16 51 02.5**	**0.0**
HWA	baz=36			S	**Sb**	**16 51 10.1**	**-0.8**
CHKT	**Chengkung** baz=172	**0.50**	**169**	*e*P	**Pb**	**16 51 03.9**	**+0.3**
CHKT	baz=172			*e*S	**Sb**	**16 51 11.6**	**+0.6**
CHN5	**Tsauling** baz=271	**0.53**	**270**	*i*P	**Pb**	**16 51 04.4**	**+0.2**
CHN5	baz=271			*e*S	**Sb**	**16 51 12.9**	**+0.9**
WHF	**Hehuan Shan** baz=357	**0.55**	**1**	*e*P	**Pg**	**16 51 03.7**	**+0.1**
WHF	baz=357			*e*S	**Sb**	**16 51 13.2**	**+0.4**
TWD	**Chiawan** baz=29	**0.57**	**33**	P	**Pg**	**16 51 04.2**	**+0.2**
TWD	baz=29			S	**Sb**	**16 51 12.4**	**-0.7**
WNT	**Mingjian** baz=297	**0.60**	**298**	*e*P	**Pb**	**16 51 05.8**	**+0.5**
WNT	baz=297			*e*S	**Sb**	**16 51 14.4**	**+0.7**
STYT	**Tauyuan** baz=229	**0.63**	**227**	P	**Pg**	**16 51 05.2**	**+0.1**
STYT	baz=229			S	**Sb**	**16 51 15.1**	**+0.4**
WGK	**Gukeng** baz=278	**0.64**	**278**	P	**Pn**	**16 51 07.5**	**-0.4**
WGK	baz=278			S	**Sb**	**16 51 15.8**	**+0.7**
CHN4	**Tsaushan** baz=250	**0.66**	**248**	P	**Pb**	**16 51 06.7**	**+0.4**
CHN4	baz=250			S	**Sn**	**16 51 17.3**	**-1.1**
TWT	**Tachien** baz=349	**0.66**	**354**	*e*P	**Pb**	**16 51 06.4**	**-0.1**
TWT	baz=349			*e*S	**Sb**	**16 51 16.3**	**+0.6**
WTP	**Ta-pu** baz=241	**0.69**	**240**	P	**Pb**	**16 51 07.0**	**+0.1**
WTP	baz=241			*e*S	**Sb**	**16 51 16.9**	**+0.6**
CHN2	**Minshiung** baz=266	**0.72**	**265**	*e*P	**Pb**	**16 51 07.8**	**+0.5**
CHN2	baz=266			S	**Sn**	**16 51 19.1**	**-0.9**
CHY	**Chiayi** baz=263	**0.77**	**263**	*e*P	**Pb**	**16 51 08.5**	**+0.3**
CHY	baz=263			*e*S	**Sn**	**16 51 20.4**	**-0.8**
TWK	**Hsinying** baz=246	**0.78**	**245**	P	**Pn**	**16 51 09.1**	**-0.7**
TWK	baz=246			*e*S	**Sb**	**16 51 20.1**	**+1.1**
CHN1	**Nanshi** baz=240	**0.78**	**239**	P	**Pn**	**16 51 09.2**	**-0.6**
CHN1	baz=240			S	**Sn**	**16 51 21.1**	**-0.5**
TWG	**Pinlang** baz=194	**0.79**	**193**	*e*P	**Pb**	**16 51 08.3**	**-0.3**
TWG	baz=194			S	**Sb**	**16 51 18.9**	**-0.3**
SGST	**Jiashian** baz=232	**0.80**	**231**	*e*P	**Pb**	**16 51 08.9**	**+0.1**
SGST	baz=232			*e*S	**Sn**	**16 51 21.1**	**-0.9**
NNS	**Nan Shan** baz=5.0	**0.85**	**7**	*e*P	**Pb**	**16 51 10.0**	**+0.4**
NNS	baz=5.0			*e*S	**Sn**	**16 51 22.2**	**-1.2**
ENA	**Nanau** baz=26	**0.94**	**28**	*e*P	**Pb**	**16 51 11.3**	**+0.2**
ENA	baz=26			*e*S	**Sb**	**16 51 24.4**	**+0.7**
CHN3	**Shinhua** baz=239	**0.97**	**238**	*e*P	**Pn**	**16 51 12.4**	**+0.1**
CHN3	baz=239			*e*S	**Sn**	**16 51 26.5**	**+0.4**
CHN8	**Yiju** baz=256	**0.99**	**256**	*e*P	**Pn**	**16 51 12.7**	**+0.1**
CHN8	baz=256			*e*S	**Sn**	**16 51 27.4**	**+0.8**
ECL	**Taimali** baz=197	**1.03**	**196**	*e*P	**Pg**	**16 51 12.2**	**-0.4**
ECL	baz=197			S	**Sb**	**16 51 26.7**	**+0.5**
NSTT	**Nanjuang** baz=345	**1.06**	**347**	*e*P	**Pg**	**16 51 12.9**	**-0.3**
NSTT	baz=345			*e*S	**Sn**	**16 51 28.2**	**-0.2**
SCLT	**Jiali** baz=248	**1.06**	**247**	*e*P	**Pg**	**16 51 12.9**	**-0.4**
SCLT	baz=248			*e*S	**Sn**	**16 51 28.2**	**-0.2**
ENTT	**Nioudou** baz=13	**1.08**	**15**	*e*P	**Pn**	**16 51 13.7**	**-0.2**
ENTT	baz=13			S	**Sn**	**16 51 28.4**	**-0.5**
NSK	**Sanguang** baz=3.0	**1.08**	**5**	*e*P	**Pn**	**16 51 14.0**	**0.0**
NSK	baz=3.0			S	**Sn**	**16 51 29.0**	**0.0**
SGLT	**Jiouru** baz=220	**1.12**	**219**	*e*P	**Pn**	**16 51 14.8**	**+0.4**
SGLT	baz=220			*e*S	**Sn**	**16 51 30.6**	**+0.9**
TWC	**Suao** baz=26	**1.15**	**28**	*e*P	**Pn**	**16 51 15.1**	**+0.3**
TWC	baz=26			*e*S	**Sn**	**16 51 30.9**	**+0.4**
TWE	**Neicheng** baz=17	**1.18**	**18**	*e*P	**Pn**	**16 51 15.2**	**-0.1**
TWE	baz=17			*e*S	**Sn**	**16 51 31.7**	**+0.3**
EAST	**Anshuo** baz=198	**1.26**	**197**	*e*P	**Pn**	**16 51 16.2**	**-0.3**
EAST	baz=198			*e*S	**Sg**	**16 51 33.1**	**-0.4**
TWA	**Mucha** baz=10.0	**1.41**	**12**	*e*P	**Pn**	**16 51 17.6**	**-0.9**
TWA	baz=10.0			*e*S	**Sn**	**16 51 37.1**	**0.0**
NWF	**Wu-fen Shan** baz=16	**1.55**	**18**	*e*P	**Pn**	**16 51 19.4**	**-1.0**
NWF	baz=16			*e*S	**Sn**	**16 51 40.2**	**-0.3**
JIJ	**Ishigaki jima**	**2.75**	**73**	P	**Pn**	**16 51 37.8**	**+1.0**
JISG	**Ishigakijimahi**	**2.96**	**70**	P	**Pn**	**16 51 40.5**	**+0.7**

MAN 18 16:59:43,13°.71N×120°.61E,h31km,mb4.5,ML3.4,MS3.2, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**274**	*e*P	Pn	16 59 53.4	+1.3
LUBP				*e*S	Sn	16 59 59.9	+1.9
PGP	**Puerto Galera**	**0.39**	**122**	⇑*i*P	Pb	16 59 48.7	-3.2
PGP				*e*S	Sb	16 59 53.0	-4.9
BOAC	**Boac**	**1.23**	**102**	*e*P	Pb	17 00 04.9	-0.7
BOAC				*e*S	Sn	17 00 20.1	+0.6
SJMP	**San Jose**	**1.33**	**158**	*e*P	Pn	17 00 05.5	0.0
SJMP				*e*S	Sn	17 00 22.6	+0.3
BUSP	**Coron**	**1.74**	**193**	*e*P	Pn	17 00 12.3	+1.2
BUSP				*e*S	Sn	17 00 33.6	+1.3
ENPP	**El Nido**	**2.74**	**205**	*e*P	Pn	17 00 26.1	+1.2
ENPP				*e*S	Sn	17 00 55.4	-1.6

NNC 18 17:07:12.9±2.7,37°.65N×71°.42E,h0km,mb3.7,mpv3.3, 4C-4D,Error ellipse: s-maj=22.9km s-min=9.0km az=160.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 19nm,0.3s	**2.35**	**300**	⇑Pn	Pn	17 07 52.5	-0.4
DZET	48nm,0.3s			⇑Sn	Sn	17 08 23.7	+1.3
MNAS	**Manas** 1.5nm,0.5s	**4.90**	**9**	⇓Pn	Pn	17 08 28.8	+0.8
MNAS	5.5nm,0.3s			⇓Sn	Sn	17 09 27.6	+2.1
KK31	**Karatay Array** 1.1nm,0.2s,baz=181,slow=13,SNR=20	**5.49**	**353**	Pn	Pn	17 08 36.8	+0.8
KK31	2.4nm,0.4s,baz=172,slow=21,SNR=5.9			⇓Sn	Sn	17 09 40.2	+0.3
AAK	**Ala-Archa** 1.6nm,0.6s	**5.51**	**24**	⇑Pn	Pn	17 08 37.3	+0.9
AAK	5.9nm,0.8s			⇓Sn	Sn	17 09 40.5	0.0
AB31	**Akbulak array** 0.2nm,0.2s,baz=163,slow=11,SNR=14	**14.27**	**328**	P	Pn	17 10 31.9	-4.3
AB31	0.8nm,0.7s,baz=155,slow=22,SNR=3.9			⇑S	Sn	17 13 09.3	-5.6

*CSEM **18** 17:07:36.0±1.0,46°.36N×15°.14E,h1km,ML1.0,Error ellipse: s-maj=17.6km s-min=6.0km az=145.0,Suspected Mining induced.*
*LJU **18** 17:07:36.9,46°.39N×15°.07E,h0km Rockburst*
VIE 18 17:07:36.5±0.2,46°.37N×15°.06E,h0km,mb0.5/1,ML1.0/4, Error ellipse: s-maj=1.7km s-min=1.5km az=136.0, Suspected Mining induced.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth** 2.6nm,0.3s	**0.31**	**356**	Pg	Pg	17 07 42.3	-0.1
SOKA	0.6nm,0.2s			Sg	Sg	17 07 47.4	+1.0
OBKA	**Obir** 1.5nm,0.3s	**0.38**	**291**	Pg	Pg	17 07 44.4	+0.6
OBKA	8.3nm,0.3s			Sg	Sg	17 07 50.5	+1.7
ARSA	**Arzberg** 1.0nm,0.3s	**0.94**	**20**	Pg	Pg	17 07 53.9	-0.5
ARSA				Sg	Sb	17 08 07.9	-0.7
KBA	**Koelnbreinsper**	**1.38**	**302**	Pg	Pg	17 08 02.7	-0.2
KBA	0.2nm,0.0s			Sg	Sn	17 08 21.9	-0.3

IDC 18 17:11:27.4±8.3,17°.65S×178°.68W,h611km±94km, mb3.1/5,mb1 3.4/5,mb1mx2.9/36,mbtmp4.1/5,Error ellipse: s-maj=102.2km s-min=33.9km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 2.2nm,0.4s,baz=82,slow=11,SNR=5.3	**33.23**	**260**	P	P	17 17 16.4	+0.3
WRA	**Warramunga Arr** 1.6nm,0.5s,baz=95,slow=7.2,SNR=33	**44.42**	**259**	P	P	17 18 45.5	-0.5
ASAR	**Alice Springs** 8.7nm,0.6s,baz=88,slow=8.5,SNR=138	**44.61**	**254**	P	P	17 18 47.4	0.0
ASAR	0.3nm,0.5s,baz=124,slow=3.8,SNR=4.7			PcP	PcP	17 20 16.4	-0.2
ILAR	**Eielson Array** 0.1nm,0.5s,baz=225,slow=5.3,SNR=3.6	**85.69**	**13**	P	P	17 23 02.4	0.0
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=197,slow=2.8,SNR=3.2	**86.08**	**58**	P	P	17 23 05.2	-0.1

*ISCJB **18** 17:17:22.7±0.8,24°.20S±0°.09×179°.9W±0°.1,h505km, mb4.1/7,Error ellipse: s-maj=16.7km s-min=11.5km az=5.2*
*IDC **18** 17:17:22.4±1.7,24°.11S×179°.80W,h492km±15km,mb3.7/8, mb1 3.9/10,mb1mx3.5/26,mbtmp4.5/10,Error ellipse: s-maj=22.3km s-min=17.6km az=158.0*
ISC 18 17:17:23.2±0.7,24°.3S±0°.1×179°.9W±0°.1,h505km,n17, σ1=36/22,mb4.2/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=315,slow=19,SNR=2.6	**12.80**	**277**	P	**P**	**17 20 08.8**	**-1.5**
URZ	**Urewera** 2.4nm,0.3s,baz=113,slow=0.3,SNR=9.3	**14.18**	**190**	P	**P**	**17 20 23.9**	**-0.6**
URZ	0.5nm,0.3s,baz=48,slow=16,SNR=3.2			S	**S**	**17 22 52.7**	**-1.3**
RPZ	**Rata Peaks** 10nm,0.6s,baz=23,slow=3.3,SNR=6.2	**20.78**	**199**	P	**P**	**17 21 30.2**	**+1.8**
STKA	**Stephens Creek** 3.3nm,0.6s,baz=98,slow=10,SNR=9.1	**34.71**	**249**	P	**P**	**17 23 30.9**	**+0.6**
PMG	**Port Moresby** 19nm,0.7s,baz=132,slow=17,SNR=4.3	**34.75**	**289**	P	**P**	**17 23 31.0**	**+0.2**
ASAR	**Alice Springs** 5.5nm,0.7s,baz=93,slow=7.1,SNR=64	**42.11**	**261**	P	**P**	**17 24 31.8**	**+1.1**
ASAR				ScP	**ScP**	**17 29 18.7**	**+2.6**

1.0nm,0.8s,baz=105,slow=4.0,SNR=5.5
WRA Warramunga Arr 42.52 266 P **P 17 24 34.5 +0.5**
11nm,0.5s,baz=98,slow=8.4,SNR=77
WRA ScP **ScP 17 29 20.7 +2.9**
2.8nm,0.9s,baz=97,slow=4.1,SNR=8.2
TXAR Lajitas Array 90.51 58 P **P 17 29 32.3 +1.2**
2.2nm,0.8s,baz=210,slow=6.4,SNR=16
ILAR Eielson Array 92.36 13 P **P 17 29 37.7 -1.0**
0.5nm,0.7s,baz=216,slow=5.8,SNR=5.2
PDAR Pinedale Array 92.86 44 P **P 17 29 41.6 -0.2**
0.7nm,0.8s,baz=212,slow=5.3,SNR=6.0
ZALV Zalesovo Beam 112.33 320 PKiKP **PKiKP 17 34 59.3 -1.6**
0.3nm,0.3s,baz=270,slow=1.4,SNR=2.6
MKAR Makanchi Array 112.51 313 PKiKP **PKiKP 17 35 00.6 -0.9**
0.2nm,0.5s,baz=98,slow=3.7,SNR=2.3
ARCES ARCESS Array B 132.28 348 PKP **PKPdf 17 35 39.1 +0.4**
4.0nm,1.0s,baz=47,slow=1.5,SNR=4.9
ARCES SKPbc **SKPbc 17 38 16.8 -1.2**
22nm,1.4s,baz=37,slow=4.6,SNR=3.9
FINES FINESS Array B 138.84 341 PKP **PKPdf 17 35 52.3 +1.3**
4.8nm,0.9s,baz=76,slow=2.4,SNR=5.0
FINES SKPbc **SKPbc 17 38 38.0 -0.2**
1.8nm,0.7s,baz=69,slow=7.7,SNR=5.2
AKASG Malin Array Be 145.36 327 PKPbc **PKPbc 17 36 03.4 -0.6**
0.8nm,0.4s,baz=45,slow=3.8,SNR=6.9
BRTR Keskin Array B 147.91 307 PKPbc **PKPbc 17 36 10.5 -1.0**
0.7nm,0.7s,baz=148,slow=4.5,SNR=3.6
TORD Torodi Ar. Bea 168.83 188 PKPab **PKPab 17 37 46.9 +0.3**
0.3nm,0.6s,baz=176,slow=2.9,SNR=2.5

IDC 18 17:21:10.7±18.0, 19°69S×177°33W, h520km±157km, mb2.9/3, mb1 3.2/3, mb1mx2.9/23, mbtmp3.8/3, Error ellipse: s-maj=219.9km s-min=48.0km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.32**	**256**	P	P	17 28 42.3	+0.1
	0.8nm,0.4s,baz=88,slow=8.8,SNR=16						
ASAR				PcP	PcP	17 30 10.4	-0.7
	0.4nm,0.7s,baz=101,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**45.34**	**261**	P	P	17 28 42.0	-0.4
	0.7nm,0.5s,baz=97,slow=8.0,SNR=5.6						
ILAR	**Eielson Array**	**87.39**	**13**	P	P	17 33 01.6	-0.2
	0.3nm,0.6s,baz=225,slow=4.8,SNR=4.9						
BRTR	**Keskin Array B**	**146.75**	**314**	PKPbc	PKPbc	17 39 54.1	-0.5
	0.6nm,0.6s,baz=118,slow=3.1,SNR=2.9						
GERES	**GERESS Array B**	**149.58**	**346**	PKPbc	PKPbc	17 40 01.0	-0.3
	0.1nm,0.3s,baz=33,slow=2.3,SNR=4.6						

*IDC **18** 17:53:59.4±1.2, 30°.86S×178°.04W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/20, mbtmp4.1/4, ML3.1/1, Error ellipse: s-maj=37.5km s-min=23.4km az=122.0*
*ISCJB **18** 17:54:01.3±0.9, 31°.03S±0°.06×177°.9W±0°.2, h33km, mb4.7/13, Error ellipse: s-maj=19.3km s-min=7.5km az=15.9*
*NEIC **18** 17:54:01.6±0.5, 30°.86S×178°.08W, h15km, mb4.9/9, Error ellipse: s-maj=14.3km s-min=9.2km az=122.0*
ISC 18 17:54:05.3±0.7, 30°.85S±0°.07×178°.1W±0°.1, h46km, n35, σ1§80/38, mb4.8/13, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.60**	**7**	Pn	**Pn**	**17 54 29.5**	**-1.7**
	59nm,0.3s,baz=217,slow=20,SNR=7.5						
RAO				Sn	**Sn**	**17 54 48.9**	**-1.8**
	215nm,0.3s,baz=246,slow=24,SNR=5.0						
RAO	**Raoul Island**	**1.60**	**7**	*e*Pn	**Pn**	**17 54 28.3**	**-2.9**
RAO				*e*Sn	**Sn**	**17 54 47.4**	**-3.2**
OUZ	**Omahuta**	**8.19**	**236**	*e*Pn	**Pn**	**17 55 58.2**	**-3.4**
URZ	**Urewera**	**8.37**	**207**	Pn	**Pn**	**17 56 00.7**	**-3.1**
	0.2nm,0.3s,baz=316,slow=18,SNR=3.1						
URZ				Sn	**Sn**	**17 57 34.4**	**-2.6**
	0.8nm,0.3s,baz=270,slow=19,SNR=5.0						
URZ	**Urewera**	**8.37**	**207**	*e*Pn	**Pn**	**17 56 04.7**	**+0.9**
URZ				*e*Sn	**Sn**	**17 57 34.4**	**-2.6**
BKZ	**Black Stump Fm**	**9.39**	**206**	*e*Pn	**Pn**	**17 56 14.9**	**-3.1**
BFZ	**Birch Farm**	**10.82**	**203**	*e*Pn	Pn	17 56 32.0	-5.4
CTAO	**Charters Tower**	**33.76**	**280**	*e*P	**P**	**18 00 42.9**	**+0.2**
	55nm,1.5s						
STKA	**Stephens Creek**	**34.26**	**258**	P	**P**	**18 00 48.8**	**+1.8**
	2.1nm,0.7s,baz=100,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**34.26**	**258**	*e*P	**P**	**18 00 47.8**	**+0.8**
	4.7nm,1.9s						
XMAS	**Kiritimati**	**38.19**	**35**	*e*P	**P**	**18 01 20.8**	**+0.1**
	42nm,1.0s						
BBOO	**Buckleboo**	**38.73**	**255**	*e*P	**P**	**18 01 25.6**	**+0.5**
	90nm,2.0s						
COEN	**Coen**	**39.28**	**287**	*e*P	**P**	**18 01 32.1**	**+2.3**
	54nm,1.8s						
AS01	**Alice Springs**	**42.93**	**268**	*e*P	**P**	**18 02 00.5**	**+0.7**
AS31	**Alice Springs**	**42.97**	**267**	*e*P	**P**	**18 02 00.8**	**+0.7**
	4.1nm,1.8s						
ASAR	**Alice Springs**	**42.97**	**267**	P	**P**	**18 02 01.1**	**+1.0**
	1.6nm,0.8s,baz=104,slow=7.4,SNR=28						
WB2	**Warramunga Arr**	**43.99**	**273**	*e*P	**P**	**18 02 09.1**	**+0.7**
WRAB	**Tennant Creek**	**43.99**	**273**	*e*P	**P**	**18 02 09.2**	**+0.8**
	17nm,1.5s						
WR1	**Warramunga Arr**	**44.00**	**273**	*e*P	**P**	**18 02 09.0**	**+0.6**
	21nm,1.5s						
WRA	**Warramunga Arr**	**44.00**	**273**	P	**P**	**18 02 09.0**	**+0.6**
	2.9nm,0.7s,baz=111,slow=7.9,SNR=14						
FORT	**Forrest**	**45.82**	**256**	*e*P	**P**	**18 02 24.6**	**+1.8**
	733nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.24**	**270**	*e*P	**P**	**18 03 12.9**	**+0.9**
	22nm,1.9s						
QSPA	**South Pole Qui**	**59.26**	**180**	*e*P	**P**	**18 04 00.7**	**-1.2**
	19nm,2.0s						
MK32	**Makanchi Array**	**117.97**	**310**	*e*PKPdf	**PKPdf**	**18 12 48.2**	**+1.6**
MKAR	**Makanchi Array**	**117.97**	**310**	PKiKP	**PKiKP**	**18 12 48.2**	**+1.5**
	0.3nm,0.6s,baz=144,slow=2.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**118.29**	**318**	PKiKP	**PKiKP**	**18 12 49.7**	**+2.8**
	0.3nm,0.4s,baz=136,slow=3.6,SNR=2.5						
ZAA1	**Zalesovo Array**	**118.29**	**318**	*e*PKPdf	**PKPdf**	**18 12 49.7**	**+2.8**
FIA0	**FINESS Array S**	**145.52**	**340**	*e*PKPdf	**PKPdf**	**18 13 37.5**	**-0.1**
FINES	**FINESS Array B**	**145.52**	**340**	PKPbc	**PKPdf**	**18 13 37.5**	**-0.1**
	4.8nm,0.5s,baz=54,slow=4.1,SNR=20						
NB2	**NORSAR Subarra**	**149.18**	**351**	PKP	**PKPab**	**18 13 52.3**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=15,slow=2.7						
NB200	**NORSAR Array S**	**149.18**	**351**	*e*PKPbc	**PKPbc**	**18 13 48.7**	**+0.7**
NOA	**NORSAR Array B**	**149.18**	**351**	PKPbc	**PKPbc**	**18 13 48.7**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=17,slow=4.3,SNR=4.5						
AKASG	**Malin Array Be**	**151.58**	**322**	PKPbc	**PKPbc**	**18 13 53.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=51,slow=2.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.38**	**179**	PKPab	**PKPab**	**18 14 51.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=162,slow=4.4,SNR=2.4						
TOA1	**Torodi Ar. Sit**	**162.39**	**179**	*e*PKPab	**PKPab**	**18 14 51.2**	**+1.3**

*ISCJB **18** 18:07°44.8±0.7, 38°.69N±0°.02×41°.37E±0°.04, h1km±6km, Error ellipse: s-maj=5.5km s-min=4.0km az=160.3*
*CSEM **18** 18:07°44.9±0.2, 38°.71N×41°.34E, h5km, ML2.8, Error ellipse: s-maj=4.7km s-min=3.9km az=64.0*
*DDA **18** 18:07°44.5, 38°.68N×41°.39E, h7km, Ml2.8*
*ISK **18** 18:07°45.3, 38°.69N×41°.30E, h8km, MD2.8*
ISC 18 18:07°45.1±1.1, 38°.69N±0°.02×41°.35E±0°.03, h9km±10km, n31, σ§66/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.30**	**329**	*i* P	**Pb**	**18 07 52.1**	**-0.7**
BNGL				*i* S	**Sb**	**18 07 58.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**0.56**	**193**	*e*PG	**Pb**	**18 07 56.4**	**-0.6**
SVAN				*e*SG	**Sb**	**18 08 04.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**0.56**	**193**	*i* P	**Pg**	**18 07 56.0**	**+0.2**
SVAN				*i* S	**Sg**	**18 08 03.7**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.56**	**193**	P	**Pg**	**18 07 56.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.56**	**193**	*e*Pg	**Pb**	**18 07 56.4**	**-0.6**
SVAN				S	**Sg**	**18 08 03.7**	**+0.6**
SVAN				*e*Sg	**Sb**	**18 08 04.4**	**-0.6**
BNGB	**Bing¶l**	**0.60**	**300**	*e*PG	**Pb**	**18 07 57.2**	**-0.6**
BINT	**Bingol**	**0.70**	**285**	*e*Pg	**Pg**	**18 07 57.2**	**-1.4**
BTMN	**Batman**	**0.80**	**185**	*i* P	**Pg**	**18 08 00.5**	**0.0**
BTMN				*i* S	**Sb**	**18 08 12.3**	**+0.1**
BTMN	**Batman**	**0.80**	**185**	P	**Pg**	**18 08 00.5**	**0.0**
BTMN				S	**Sb**	**18 08 12.3**	**+0.1**
ECAT	**Cat-ERZURUM**	**0.96**	**342**	*i* P	**Pg**	**18 08 03.2**	**-0.3**
ECAT				*i* S	**Sb**	**18 08 17.3**	**+0.5**
ECAT	**Cat-ERZURUM**	**0.96**	**342**	P	**Pg**	**18 08 03.2**	**-0.3**
ECAT				S	**Sb**	**18 08 17.3**	**+0.5**
YEDI	**Yedisu-Bingol**	**0.97**	**320**	*e*PG	**Pg**	**18 08 03.6**	**-0.2**
DIYA	**Diyarbakir**	**1.24**	**232**	*i* P	**Pg**	**18 08 08.3**	**-0.5**
DIYA				*i* S	**Sn**	**18 08 25.5**	**+0.1**
DIYA	**Diyarbakir**	**1.24**	**232**	P	**Pg**	**18 08 08.3**	**-0.5**
DIYA				S	**Sn**	**18 08 25.5**	**+0.1**
GEVA	**Gevas**	**1.39**	**105**	*i* P	**Pn**	**18 08 10.2**	**-0.6**
GEVA				*i* S	**Sb**	**18 08 29.4**	**+0.2**
GEVA	**Gevas**	**1.39**	**105**	P	**Pn**	**18 08 10.2**	**-0.6**
GEVA				S	**Sb**	**18 08 29.4**	**+0.2**
MAZI	**Mazidag**	**1.43**	**210**	*e*PN	**Pb**	**18 08 11.7**	**-0.1**
MAZI	**Mazidag**	**1.43**	**210**	*e*Pn	**Pb**	**18 08 11.7**	**-0.1**
MARD	**Mardin**	**1.45**	**198**	*i* P	**Pn**	**18 08 11.9**	**+0.4**
MARD				*i* S	**Sg**	**18 08 31.4**	**-0.3**
SIRN	**S¨–rnak**	**1.46**	**145**	*i* P	**Pn**	**18 08 10.7**	**-0.9**
SIRN				*i* S	**Sg**	**18 08 32.2**	**+0.2**
SIRN	**S¨–rnak**	**1.46**	**145**	P	**Pn**	**18 08 10.7**	**-0.9**
SIRN				S	**Sg**	**18 08 32.2**	**+0.2**
TNCL	**Tunceli-Merkez**	**1.47**	**287**	*i* P	**Pb**	**18 08 12.2**	**-0.5**
TNCL				*i* S	**Sg**	**18 08 34.4**	**+1.9**
TNCL	**Tunceli-Merkez**	**1.47**	**287**	P	**Pb**	**18 08 12.2**	**-0.5**
PTK	**Pertek**	**1.54**	**278**	*e*PN	**Pn**	**18 08 13.0**	**+0.1**
PTK	**Pertek**	**1.54**	**278**	*e*Pn	**Pn**	**18 08 13.0**	**+0.1**
AGRB	**Hanur-Agry**	**1.55**	**55**	*e*PN	**Pg**	**18 08 14.6**	**-0.2**
AGRB	**Hanur-Agry**	**1.55**	**55**	*e*Pn	**Pg**	**18 08 14.6**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.64**	**260**	*e*PN	**Pn**	**18 08 14.6**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.64**	**260**	*e*Pn	**Pn**	**18 08 14.6**	**+0.5**
CUKT	**Cukurca**	**2.29**	**128**	*e*PN	**Pn**	**18 08 24.8**	**+1.7**
CUKT	**Cukurca**	**2.29**	**128**	*e*Pn	**Pn**	**18 08 24.8**	**+1.7**

TRN 18 18:12:41.4, 17°.11N×62°.27W, h18km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLYT	**Lee's Yard**	**0.39**	**169**	*e*P	Pn	18 12 51.3	-0.9
MLYT				*e*S	Sn	18 12 58.4	-0.8
BPA	**Boggy Peak**	**0.40**	**98**	*e*S	Sn	18 12 58.3	-1.1
SKI	**Saint Kitts**	**0.50**	**297**	*e*P	Pn	18 12 54.2	+0.5
SKI				*e*S	Sn	18 13 01.4	-0.6
ANWB	**Willy Bob**	**0.73**	**39**	*i* P	Pn	18 12 57.2	+0.4
ANWB				*e*S	Sn	18 13 10.6	+3.2
SSG	**Sans Toucher**	**1.16**	**151**	*e*P	Pg	18 13 05.3	+1.5
MLG	**Mont-d'or**	**1.17**	**153**	*e*P	Pg	18 13 05.8	+1.8
DEG	**La Desirade**	**1.40**	**124**	*e*P	Pg	18 13 08.2	-0.2
DEG				*e*S	Sg	18 13 27.5	+0.8

*BJI **18** 18:19:17.1, 3°.42S×101°.09E, h40km, mb4.7/38, mB5.0/26, Ms4.4/18, Ms7 4.1/16*
*MOS **18** 18:19:22.5±1.1, 2°.70S×101°.26E, h49km, mb5.0/25, Error ellipse: s-maj=14.8km s-min=5.7km az=112.7*
*IDC **18** 18:19:23.9±0.5, 2°.83S×101°.12E, h49km±3km, mb4.4/32, mb1 4.4/32, mb1mx4.3/42, mbtmp4.6/32, MS3.7/23, Ms1 3.7/23, ms1mx3.6/37, Error ellipse: s-maj=15.3km s-min=9.3km az=56.0*
*DJA **18** 18:19:24.5±0.5, 3°.5S±2°×10°1E±°, h24km±4km, M4.7/18, mb4.8/17, mB5.1/7, MLv4.8/18, Mw(mB)4.4/7*
*ISCJB **18** 18:19:24.3±0.4, 2°.92S±0°.03×101°.04E±0°.03, h70km±3km, mb4.7/79, Error ellipse: s-maj=6.1km s-min=3.2km az=42.8*
*KLM **18** 18:19:24.8, 2°.96S×100°.42E, h93km, mb4.7*
*NEIC **18** 18:19:25.3±0.8, 2°.87S×101°.17E, h65km±6km, mb4.8/29, Error ellipse: s-maj=9.9km s-min=4.2km az=54.0*
ISC 18 18:19:24.1±0.4, 2°.91S±0°.04×101°.00E±0°.04, h56km±3km, h56km:pP-P, n269, σ§72/281, mb4.8/87, MS3.8/29, 21C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.00**	**278**	P	**Pn**	**18 19 43.9**	**+1.9**
PPSI				S	**Sn**	**18 19 57.4**	**+2.2**
MASI	**Maura Aman, Be**	**1.26**	**100**	P	**Pn**	**18 19 44.9**	**-0.6**
MASI				S	**Sn**	**18 20 00.3**	**-1.2**
SDSI	**Sungai Dareh**	**2.01**	**12**	P	**Pn**	**18 19 56.6**	**+0.9**
SDSI				S	**Sn**	**18 20 20.8**	**+1.1**
PDSI	**Padang**	**2.06**	**345**	P	**Pn**	**18 19 57.3**	**+0.9**
PDSI				S	**Sn**	**18 20 23.9**	**+3.0**
MNAI	**Manna**	**2.43**	**126**	*e*Pn	**Pn**	**18 20 01.1**	**-0.2**
SISI	**Saibi**	**2.47**	**309**	P	**Pn**	**18 20 03.8**	**+1.8**
SISI				S	**Sn**	**18 20 32.0**	**+1.0**
LHSI	**Lahat**	**2.68**	**110**	P	**Pn**	**18 20 06.3**	**+1.5**
RGRI	**Rengat**	**2.87**	**28**	P	**Pn**	**18 20 09.2**	**+1.7**
JMBI	**JAMBI**	**2.93**	**64**	P	**Pn**	**18 20 08.3**	**0.0**
BKNI	**Bangkinang**	**3.22**	**1**	P	**Pn**	**18 20 14.4**	**+2.2**
BKNI	**Bangkinang**	**3.22**	**1**	*e*Pn	**Pn**	**18 20 13.8**	**+1.7**
MDSI	**Maura Dua**	**3.54**	**116**	P	**Pn**	**18 20 18.7**	**+2.1**
MDSI				S	**Sn**	**18 21 00.8**	**+3.6**
LWLI	**Liwa**	**3.70**	**125**	P	**Pn**	**18 20 21.3**	**+2.4**
LWLI				S	**Sn**	**18 21 03.3**	**+1.9**
KLSI		**4.12**	**115**	P	**Pn**	**18 20 26.9**	**+2.3**
KASI	**Kota Agung**	**4.35**	**127**	P	**Pn**	**18 20 29.2**	**+1.5**
KASI				S	**Sn**	**18 21 19.3**	**+2.2**
PPBI	**Pangkal Pinang**	**5.19**	**82**	P	**Pn**	**18 20 39.8**	**+0.6**
	32nm,0.8s,771nm0.3nm						
TPRI	**Tanjung Pinang**	**5.19**	**43**	P	**Pn**	**18 20 40.1**	**+0.9**
	287nm,0.8s,3μm1.0nm						
KGM	**Kluang**	**5.42**	**25**	⇓P	**Pn**	**18 20 44.2**	**+1.8**
MYKOM	**Kota Tinggi**	**5.47**	**31**	*e*Pn	**Pn**	**18 20 43.9**	**+0.8**
MYKOM	**Kota Tinggi**	**5.47**	**31**	⇓P	**Pn**	**18 20 44.9**	**+1.8**
CGJI	**Cibinong**	**5.95**	**128**	P	**Pn**	**18 20 49.0**	**-0.7**
	119nm,0.9s,2μm0.9nm						
PSI	**Prapat**	**6.04**	**340**	P	Pn	18 21 05.1	+14
	baz=149,slow=18,SNR=4.5						
PSI	**Prapat**	**6.04**	**340**	*e*P	**Pn**	**18 20 50.7**	**-0.4**
PSI	**Prapat**	**6.04**	**340**	*e*Pn	**Pn**	**18 20 50.7**	**-0.4**
FRIM	**Kepong**	**6.14**	**6**	⇑P	**Pn**	**18 20 54.8**	**+2.5**
DBJI	**Dramaga**	**6.78**	**122**	P	**Pn**	**18 21 02.1**	**+1.1**
	75nm,1.2s,0.5nm						
KCSI	**Kotacane, Aceh**	**7.16**	**333**	P	**Pn**	**18 21 07.7**	**+1.4**
	39nm,0.9s,0.5nm						
IPM	**Ipoh**	**7.34**	**0**	*e*Pn	**Pn**	**18 21 11.6**	**+2.8**
IPM	**Ipoh**	**7.34**	**0**	⇑P	**Pn**	**18 21 13.4**	**+4.6**
KULM	**Kulim**	**8.15**	**358**	*e*Pn	**Pn**	**18 21 22.5**	**+2.6**
KULM	**Kulim**	**8.15**	**358**	⇓P	**Pn**	**18 21 23.5**	**+3.6**
CISI	**Cisompet, Garu**	**8.21**	**124**	P	**Pn**	**18 21 19.7**	**-1.0**
	154nm,0.6s,3μm						
CISI	**Cisompet, Garu**	**8.21**	**124**	*e*Pn	**Pn**	**18 21 19.2**	**-1.4**
CISI				*e*Sn	**Sn**	**18 22 46.8**	**-5.3**
KTGM	**Kuala Trenggan**	**8.46**	**15**	⇓P	**Pn**	**18 21 28.4**	**+4.4**
MLSI	**Meulaboh, Aceh**	**8.48**	**327**	P	**Pn**	**18 21 24.8**	**+0.4**
	81nm,0.6s						
SKLT	**Songkhla**	**10.02**	**358**	P	Pn	18 21 50.5	+5.0
	36nm,0.9s						
SBUM	**Sibu**	**12.42**	**65**	*e*Pn	Pn	18 22 13.3	-4.9
SBUM	**Sibu**	**12.42**	**65**	⇑P	**Pn**	**18 22 22.6**	**+4.3**
MTKI	**Muara Teweh, K**	**14.03**	**82**	P	**P**	**18 22 47.8**	**+1.4**
JAGI	**Jajag, Banyuwa**	**14.20**	**113**	*e*Pn	**Pn**	**18 22 39.4**	**-3.1**
PHET	**Kaeng Krachan**	**15.78**	**355**	P	**P**	**18 23 08.5**	**+2.7**
	6.3nm,0.8s						
KKM	**Kota Kinabalu**	**17.61**	**60**	*e*Pn	**Pn**	**18 23 23.3**	**-2.6**
	41nm,1.2s						
TSM	**Tawau**	**18.32**	**67**	⇑P	**Pn**	**18 23 36.1**	**+1.7**
KDM	**Kudat**	**18.58**	**58**	⇑P	**Pn**	**18 23 38.7**	**+1.1**
SPSI	**Sidrap Palu**	**18.77**	**94**	P	**Pn**	**18 23 43.2**	**+3.4**
	20nm,0.9s,3μm						
TTSI	**Tana Toraja**	**18.80**	**91**	P	**Pn**	**18 23 42.9**	**+2.7**
	42nm,0.9s						
MPSI	**Mapaga**	**19.17**	**81**	P	**Pn**	**18 23 45.5**	**+0.9**
	46nm,1.0s,405nm						
MYLDM	**Lahad Datu**	**19.24**	**65**	*e*P	**Pn**	**18 23 45.1**	**-0.4**
	47nm,1.0s						
MYLDM	**Lahad Datu**	**19.24**	**65**	⇑P	**Pn**	**18 23 47.3**	**+1.8**
PBKT	**Sadao Pong**	**19.36**	**360**	P	**Pn**	**18 23 49.9**	**+3.1**
	8.9nm,0.9s						
SKNT	**Sakolnakorn**	**19.98**	**8**	P	**P**	**18 23 52.6**	**+0.6**
	21nm,1.1s						
PANO	**Nakornpanom**	**20.25**	**10**	P	Pn	18 23 59.5	+2.2
	280nm,0.8s						
UTTA	**Uttaradit**	**20.53**	**359**	P	Pn	18 24 01.8	+1.1
APSI	**Ampana**	**20.73**	**85**	P	Pn	18 24 03.2	0.0
	96nm,1.0s,702nm						
MRSI	**Marisa**	**21.20**	**81**	P	**P**	**18 24 07.2**	**+1.8**
	28nm,1.1s,352nm						
CM01	**Chiang Mai Arr**	**21.29**	**355**	*e*P	**P**	**18 24 03.9**	**-2.3**
CMAR	**Chiang Mai Arr**	**21.33**	**355**	P	**P**	**18 24 04.7**	**-1.9**
	6.0nm,0.8s,baz=186,slow=9.2,SNR=37						
CMAR				PcP	**PcP**	**18 28 10.6**	**+1.2**
	1.4nm,0.9s,baz=206,slow=3.7,SNR=6.2						
CMAR				LR	LR	18 34 05.4	
	comp=Z,157nm,18.4s,baz=178,slow=42						
CM31	**Chiang Mai Arr**	**21.33**	**355**	*e*P	**P**	**18 24 04.4**	**-2.2**
CHTO	**Chiang Mai**	**21.68**	**355**	*e*P	**P**	**18 24 08.5**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**21.68**	**355**	*e*P	**P**	**18 24 08.5**	**-1.9**
	comp=Z,6.0nm,0.9s						
MMRI	**Maumere**	**21.88**	**106**	*e*P	**P**	**18 24 09.9**	**-2.7**
	comp=Z,39nm,1.0s						
PALK	**Pallekele**	**22.64**	**297**	LR	LR	18 31 27.4	
	comp=Z,116nm,20.4s,baz=116,slow=32						
TGY	**Tagaytay City**	**26.01**	**49**	P	**P**	**18 24 52.5**	**+0.2**
	comp=Z,65nm,0.3s,baz=265,slow=12,SNR=6.8						
TGY				LR	LR	18 36 16.0	
	comp=Z,160nm,19.6s,baz=262,slow=39						
LBMI	**Labuha**	**26.58**	**86**	P	**P**	**18 25 00.8**	**+3.4**
KMI	**Kunming**	**27.92**	**3**	P	**P**	**18 25 13.3**	**+3.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				LR	LR		
	comp=Z,180nm,6.8s						
KMI				LR	LR		
	comp=Z,150nm,8.3s						
KMI				LR	LR		
	comp=Z,250nm,14.7s						
FITZ	**Fitzroy Crossi**	**28.48**	**124**	P	**P**	**18 25 13.8**	**-0.5**
	comp=Z,8.1nm,0.8s,baz=299,slow=5.4,SNR=11						
FITZ				LR	LR	18 36 06.9	
	comp=Z,102nm,21.0s,baz=329,slow=35						
FITZ	**Fitzroy Crossi**	**28.48**	**124**	*e*P	**P**	**18 25 13.2**	**-1.1**
	comp=Z,9.7nm,0.9s						
H08S2	**Diego Garcia H**	**28.76**	**259**	T	T	18 54 52.1	
	baz=83,slow=75,SNR=693						
H08S3	**Diego Garcia H**	**28.77**	**259**	T	T	18 54 51.4	
	baz=83,slow=75,SNR=662						
H08S1	**Diego Carcia H**	**28.78**	**259**	T	T	18 54 53.5	
	baz=83,slow=75,SNR=568						
GYA	**Guiyang**	**29.71**	**10**	*e*P	**P**	**18 25 29.0**	**+3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ODAN	**Odare**	**32.38**	**337**	*e*P	**P**	**18 25 50.5**	**+1.6**
	comp=Z,96nm,0.9s						
TAPN	**Taplejung**	**32.70**	**338**	*e*P	**P**	**18 25 53.5**	**+1.7**
RAMN	**Ramite**	**32.78**	**336**	*e*P	**P**	**18 25 54.3**	**+1.9**
	comp=Z,65nm,0.9s						
JIRN	**Jiri**	**33.58**	**336**	*e*P	**P**	**18 26 01.2**	**+1.7**
	comp=Z,1μm,1.0s						
CD2	**Chengdu**	**33.73**	**4**	*e*P	**P**	**18 26 02.0**	**+1.6**
CD2				S	**S**	**18 31 25.1**	**+5.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,310nm,16.4s						
CD2				LR	LR		
	comp=Z,330nm,16.9s						
LSA	**Lhasa**	**33.77**	**344**	*e*P	**P**	**18 26 02.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSA	**Lhasa**	**33.77**	**344**	*e*P	**P**	**18 26 02.0**	**+0.7**
	comp=Z,5.6nm,0.9s						
PKIN	**Phulchoki**	**33.84**	**335**	*e*P	**P**	**18 26 03.1**	**+1.5**
	comp=Z,4.8nm,0.3s						
GUN	**Gumba**	**33.93**	**336**	*e*P	**P**	**18 26 04.2**	**+1.7**
ENH	**Enshi**	**33.98**	**13**	*e*P	**P**	**18 26 01.7**	**-0.8**
	comp=Z,11nm,1.0s						
DMN	**Daman**	**33.99**	**334**	*e*P	**P**	**18 26 04.5**	**+1.6**
	comp=Z,35nm,0.8s						
KKN	**Kakani**	**34.07**	**335**	*e*P	**P**	**18 26 05.0**	**+1.4**
GKN	**Gorkha**	**34.54**	**334**	*e*P	**P**	**18 26 09.1**	**+1.5**
KOLN	**Koldanda**	**34.80**	**332**	*e*P	**P**	**18 26 11.6**	**+1.7**
	comp=Z,34nm,0.7s						
DANN	**Dangsing**	**35.23**	**333**	*e*P	**P**	**18 26 15.6**	**+1.9**
	comp=Z,4.8nm,0.8s						
PYUN	**Piuthan**	**35.37**	**332**	*e*P	**P**	**18 26 16.6**	**+1.8**
	comp=Z,53nm,0.9s						
WR1	**Warramunga Arr**	**36.67**	**120**

WMQ LR LR
comp=Z,82nm,19.5s
WMQ LR LR
comp=Z,93nm,16.5s
KSH Kashi 48.08 334 P **P 18 27 58.4 0.0**
KSH pP pP 18 28 10.9 -2.2
KSH sP sP 18 28 16.3 -3.2
KSH *e*PcP **PcP 18 29 26.0 +0.5**
KSH *e*PP **PP 18 29 50.4 -0.7**
KSH PcS **PcS 18 33 20.8 -0.6**
KSH S **S 18 34 51.4 -1.7**
KSH ScS **ScS 18 37 42.0 -4.8**
KSH SS **SS 18 38 15.5 -7.5**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,140nm,4.4s
KSH LR LR
comp=Z,130nm,9.2s
KSH LR LR
comp=Z,200nm,5.2s
KSH LR LR
comp=Z,140nm,5.6s
PDGK Podgornoye 49.94 340 P **P 18 28 13.5 +0.9**
PDGK pmax pmax
comp=Z,26nm,1.0s
SONA0 Songino Array 50.76 5 *e*P **P 18 28 19.5 +0.9**
comp=Z,22nm,0.9s
SONM Songino Array 50.76 5 P **P 18 28 19.5 +0.9**
comp=Z,18nm,0.8s,baz=186,slow=8.9,SNR=40
SONM LR LR 18 52 05.5
comp=Z,94nm,18.8s,baz=196,slow=39
SONA1 Songino Array 50.77 5 *e*P **P 18 28 19.0 +0.3**
ULN Ulaanbaatar 50.84 5*c i*P **P 18 28 18.8 -0.5**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 50.84 5 *e*P **P 18 28 19.9 +0.5**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 51.06 336 P **P 18 28 22.0 +0.9**
TKM2 pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 51.28 335 P **P 18 28 24.0 +1.3**
comp=Z,6.4nm,0.9s,baz=162,slow=4.6,SNR=13
AAK Ala-Archa 51.28 335 ⇓*i*P **P 18 28 22.9 +0.1**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 51.28 335 *e*P **P 18 28 24.2 +1.5**
comp=Z,6.3nm,0.9s
MNAS Manas 52.03 333 P **P 18 28 29.4 +1.1**
MNAS pmax pmax
comp=Z,25nm,0.9s
MK01 Makanchi Array 52.15 344 *e*P **P 18 28 29.4 +0.5**
MK31 Makanchi Array 52.17 344 *e*P **P 18 28 29.5 +0.3**
MK31 Makanchi Array 52.17 344 *e*P **P 18 28 29.5 +0.3**
MK32 Makanchi Array 52.17 344 *e*P **P 18 28 29.5 +0.3**
MKAR Makanchi Array 52.17 344 P **P 18 28 29.5 +0.3**
comp=Z,16nm,0.8s,baz=149,slow=8.1,SNR=65
MKAR LR LR 18 55 26.0
comp=Z,92nm,18.3s,baz=154,slow=42
MKAR Makanchi Array 52.17 344 *i* P **P 18 28 30.0 +0.9**
MKAR pmax pmax
comp=Z,16nm,0.8s
MKAR Makanchi Array 52.17 344 *e*P **P 18 28 29.5 +0.3**
comp=Z,95nm,0.8s
MAKZ Makanchi 52.27 344 P **P 18 28 29.6 -0.3**
MAKZ pmax pmax
comp=Z,15nm,1.0s
MAKZ Makanchi 52.27 344 *e*P **P 18 28 30.2 +0.3**
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 52.36 38 P **P 18 28 29.4 -1.3**
comp=Z,2.7nm,0.8s,baz=209,slow=6.6,SNR=9.1
MJAR LR LR 18 50 16.2
comp=Z,34nm,21.4s,baz=255,slow=36
ZAK Zakamensk 53.12 2 *e*P **P 18 28 34.6 -1.6**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 53.42 332 *e*P **P 18 28 38.5 +0.1**
KKAR pmax pmax
comp=Z,23nm,0.6s
KKAR Karatay Array 53.42 332 *e*P **P 18 28 38.5 +0.1**
comp=Z,23nm,0.6s
DGZ Jazzator, Alta 53.70 349*c i*P **P 18 28 40.4 -0.1**
DGZ pmax pmax
comp=Z,29nm,0.8s
MOY Mondy 54.37 360 *e*P **P 18 28 46.6 +1.3**
TLY Talaya 54.43 2 P **P 18 28 46.5 +0.9**
comp=Z,9.3nm,0.9s,baz=212,slow=7.9,SNR=11
TLY Talaya 54.43 2 *e*P **P 18 28 46.6 +0.9**
TLY pmax pmax
comp=Z,15nm,1.0s
TLY Talaya 54.43 2 *e*P **P 18 28 46.3 +0.7**
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 54.50 27 P **P 18 28 46.0 -0.2**
comp=Z,9.6nm,0.8s,baz=215,slow=6.2,SNR=18
USRK pP **pP 18 29 00.1 -1.0**
comp=Z,11nm,0.8s,baz=219,slow=6.0,SNR=8.7
USRK LR LR 18 55 00.1
comp=Z,107nm,18.4s,baz=202,slow=39
KURBB Kurchatov Arra 56.70 343 P **P 18 29 02.4 +0.5**
comp=Z,4.9nm,0.7s,baz=159,slow=6.6,SNR=21
KURBB pP **pP 18 29 16.0 -0.9**
comp=Z,5.8nm,0.8s,baz=162,slow=6.8,SNR=10
KURK Kurchatov 56.76 343 *e*P **P 18 29 02.4 +0.1**
KURK Kurchatov 56.76 343 *e*P **P 18 29 02.4 +0.1**
GEYT Alibeck 56.78 320 P **P 18 29 04.0 +1.2**
comp=Z,12nm,0.6s,baz=128,slow=8.5,SNR=11
GEYT LR LR 18 55 03.6
comp=Z,74nm,21.6s,baz=145,slow=38
ZAA0 Zalesovo Array 58.25 349 *e*P **P 18 29 12.7 0.0**
ZALV Zalesovo Beam 58.25 349 P **P 18 29 13.1 +0.4**
comp=Z,62nm,0.9s,baz=163,slow=5.6,SNR=152
ZALV LR LR 18 58 11.6
comp=Z,63nm,19.1s,baz=72,slow=40
ZALV Zalesovo Beam 58.25 349 *e*P **P 18 29 12.8 +0.1**
ZALV Zalesovo Beam 58.25 349 *e*P **P 18 29 12.8 +0.1**
ZAA1 Zalesovo Array 58.25 349 *e*P **P 18 29 13.1 +0.4**
DAMY Dhamar 58.69 289 *e*P **P 18 29 18.1 +1.1**
comp=Z,9.5nm,0.8s
HNR Honiara 58.90 99 LR LR 18 57 03.7
comp=Z,55nm,19.1s,baz=210,slow=38
NVS Novosibirsk 59.40 348 *e*P **P 18 29 20.3 -0.4**
NVS *e*S **S 18 37 25.5 +0.1**
NVS pmax pmax
comp=Z,20nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS smax smax
comp=E,10.0nm,1.5s
ASAJ Asahikawa 59.81 34 P **P 18 29 22.6 -1.1**
comp=E,6.8nm,0.8s,baz=230,slow=11,SNR=7.7
ASAJ Asahikawa 59.81 34 *e*P **P 18 29 23.5 -0.2**
comp=E,20nm,1.2s
RAYN Ar Rayn 60.05 299 *e*P **P 18 29 27.1 +1.3**
comp=E,5.1nm,1.2s
BVA0 Borovoye Array 61.38 339 *i* P **P 18 29 33.1 -1.2**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 61.38 339 P **P 18 29 34.2 -0.1**
comp=Z,5.8nm,0.6s,baz=141,slow=7.6,SNR=46
BVAR pP **pP 18 29 47.3 -2.2**
comp=Z,5.2nm,0.7s,baz=146,slow=8.4,SNR=10
BOD Bodaibo 61.44 8 *e*P **P 18 29 34.7 +0.2**
BOD pmax pmax
comp=Z,13nm,2.0s
BRVK Borovoye 61.44 339*c i*P **P 18 29 34.3 -0.4**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 61.44 339 *e*P **P 18 29 34.0 -0.7**
comp=Z,6.8nm,0.8s
YSS Yuzh-Sakhalins 61.73 31 *e*P **P 18 29 32.5 -4.2**
YSS pmax pmax
comp=Z,30nm,2.2s
AB31 Akbulak array 62.91 331 *i* P **P 18 29 44.2 -0.4**
AB31 pmax pmax
comp=Z,16nm,0.7s
ABKAR Akbulak array 62.91 331 *e*P **P 18 29 44.6 0.0**
comp=Z,175nm,0.9s
KMBO Kilima Mbogo 63.72 270 LR LR 18 54 24.7
comp=Z,46nm,20.2s,baz=92,slow=33
AKTO Aktyubinsk 64.63 331 P **P 18 29 55.8 -0.1**
comp=Z,9.1nm,1.0s,baz=138,slow=4.9,SNR=21
AKTO Aktyubinsk 64.63 331 P **P 18 29 55.4 -0.5**
AKTO pmax pmax
comp=Z,9.0nm,1.0s

SVE Sverdlovsk 67.90 337 ⇑*i*P **P 18 30 17.6 +0.9**
SVE pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 68.37 14 P **P 18 30 17.7 -1.9**
comp=Z,23nm,0.8s,baz=138,slow=1.5,SNR=18
YAK LR LR 19 03 11.7
comp=Z,98nm,18.1s,baz=269,slow=38
YAK Yakutsk 68.37 14 *e*P **P 18 30 18.3 -1.2**
YAK *e**PP **sP 18 30 40.9 -0.2**
YAK *e* 18 30 47.5
YAK *e* 18 32 51.3
YAK *e*PPP PPP 18 34 28.5
YAK *e*S **S 18 39 11.1 -5.3**
YAK *e**SS sS 18 39 53.1 +11
YAK *e* 18 40 09.0
YAK *e*SS **SS 18 43 39.0 -1.9**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,109nm,2.7s
YAK pmax pmax
comp=N,196nm,3.5s
YAK smax smax
comp=N,607nm,4.1s
YAK Yakutsk 68.37 14 *e*P **P 18 30 17.6 -1.9**
comp=N,35nm,0.9s
ARU Arti 68.44 336 P **P 18 30 20.6 +0.5**
comp=N,9.5nm,1.0s,baz=128,slow=3.6,SNR=11
ARU Arti 68.44 336 *e*P **P 18 30 20.2 +0.1**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 68.44 336 *e*P **P 18 30 20.2 +0.1**
comp=Z,9.5nm,0.9s
ZEI Tsey 68.58 318 *e*P **P 18 30 20.7 -0.8**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
MARD Mardin 68.59 312 *e*P **P 18 30 23.6 +2.0**
comp=Z,14nm,0.9s
NCK Nalchik 69.09 319 *e*P **P 18 30 25.0 +0.6**
NCK pmax pmax
comp=Z,6.0nm,0.8s
NEY Neytrino 69.56 318 *e*P **P 18 30 28.3 +0.8**
NEY pmax pmax
comp=Z,1.0nm,0.9s
KBZ Khabaz 69.64 319 P **P 18 30 28.6 +0.8**
comp=Z,7.1nm,0.8s,baz=115,slow=6.6,SNR=11
KBZ pP **pP 18 30 42.0 -1.2**
comp=Z,8.4nm,0.8s,baz=150,slow=3.7,SNR=8.4
KBZ LR LR 19 06 28.2
comp=Z,50nm,18.2s,baz=260,slow=40
MAW Mawson 69.66 195 P **P 18 30 28.9 +1.5**
comp=Z,0.7nm,0.7s,baz=57,slow=5.3,SNR=3.1
MAW LR LR 18 54 56.8
comp=Z,44nm,19.1s,baz=60,slow=31
MAW Mawson 69.66 195 *e*P **P 18 30 30.2 +2.8**
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 69.66 195 *e*P **P 18 30 30.2 +2.8**
comp=Z,1.4nm,1.0s
KIV Kislovodsk 69.88 319 *e*P **P 18 30 30.1 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,47nm,17.0s
NRIK Noril'sk 72.69 355 P **P 18 30 45.6 -0.1**
comp=Z,9.5nm,0.8s,baz=188,slow=6.0,SNR=6.8
NRIK LR LR 19 06 30.4
comp=Z,73nm,19.6s,baz=127,slow=39
PETK Petropavlovsk- 73.12 32 LR LR 19 03 56.1
comp=Z,31nm,19.6s,baz=94,slow=37
BR101 Keskin Array S 74.67 312 *e*P **P 18 30 58.7 +0.6**
BRTR Keskin Array B 74.67 312 P **P 18 30 58.7 +0.6**
comp=Z,4.0nm,0.9s,baz=126,slow=6.0,SNR=12
BRTR pP **pP 18 31 13.8 +0.1**
comp=Z,3.9nm,0.9s,baz=136,slow=7.4,SNR=4.8
BRTR Keskin Array B 74.67 312 *i* P **P 18 30 58.5 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
VSR Storozhevoye 75.09 325 *e*P **P 18 30 59.9 -0.2**
VSR pmax pmax
comp=Z,20nm,0.9s
BR231 Keskin MP Arra 75.34 312 *e*P **P 18 30 59.4 -2.6**
SEY Seymchan 76.10 22 *e*P **P 18 31 04.5 -1.1**
TIXI Tiksi 76.60 9 P **P 18 31 07.2 -1.1**
comp=Z,6.2nm,0.8s,baz=218,slow=3.6,SNR=14
TIXI Tiksi 76.60 9*c i*P **P 18 31 07.2 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 76.60 9 *e*P **P 18 31 07.1 -1.1**
comp=Z,9.5nm,0.9s
SYO Syowa Base 77.33 199⇑*e*PcP **PcP 18 31 24.0 +1.2**
OBN Obninsk 78.09 328 *i* P **P 18 31 17.6 +0.7**
OBN *i* 18 31 26.8
OBN pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 79.08 334 *e*P **P 18 31 20.5 -1.8**
KLMR pmax pmax
comp=Z,28nm,1.4s
TLCR 79.61 317⇑*i*P pP 18 31 40.3 -0.9
TLCR 79.61 317 ⇑P pP 18 31 40.3 -0.9
TLB Topalu 79.99 316 ⇓*i*P pP 18 31 42.7 -0.6
TLB Topalu 79.99 316 ⇓P pP 18 31 42.7 -0.6
CFR Carcaliu 80.07 317 ⇓*i*P P 18 31 33.1 +5.1
CFR Carcaliu 80.07 317 ⇓P P 18 31 33.1 +5.1
SORM Soroca 80.67 320 ⇑*i*P **P 18 31 31.8 +0.6**
SORM Soroca 80.67 320 ⇑P **P 18 31 31.8 +0.6**
AKASG Malin Array Be 80.81 322 P **P 18 31 32.1 +0.2**
comp=Z,2.1nm,0.9s,baz=84,slow=5.3,SNR=7.6
AKASG pP **pP 18 31 46.8 -0.9**
comp=Z,0.3nm,0.3s,baz=84,slow=5.0,SNR=3.6
KIEV Kiev 80.82 322 *e*P **P 18 31 31.3 -0.6**
KIEV pmax pmax
comp=Z,4.0nm,1.1s
VNDA Vanda 81.08 169 P **P 18 31 33.8 +0.9**
comp=Z,0.6nm,0.8s,baz=307,slow=5.1,SNR=3.5
VNDA pP **pP 18 31 49.0 +0.4**
comp=Z,2.9nm,0.8s,baz=274,slow=5.7,SNR=10
VNDA Vanda 81.08 169 *e*P **P 18 31 33.1 +0.3**
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 81.08 169 *e*P **P 18 31 33.1 +0.3**
comp=Z,8.2nm,1.3s
TMCR Tamitsa 81.17 337 *e*P **P 18 31 34.7 +1.3**
VRI Vrincioaia 81.19 317 ⇓*i*P **P 18 31 36.5 +2.4**
VRI Vrincioaia 81.19 317 ⇓P **P 18 31 36.5 +2.4**
TESR Tescani 81.40 318 ⇓*i*P **P 18 31 36.8 +1.7**
MLR Muntele Rosu 81.64 317 ⇓*i*P **P 18 31 38.6 +2.0**
MLR Muntele Rosu 81.64 317 ⇓P **P 18 31 38.6 +2.0**
BURAR Bucovina Array 82.60 319⇑*i*P **P 18 31 43.7 +2.2**
BURAR Bucovina Array 82.60 319⇑P **P 18 31 43.7 +2.2**
BUR08 Bucovina Ar. S 82.62 319 *e*P **P 18 31 43.6 +2.0**
VTS Vitosha 83.00 313 ⇓*i*P **P 18 31 45.0 +1.3**
VTS Vitosha 83.00 313 ⇓P **P 18 31 45.1 +1.3**
BZS Buzias 84.65 316⇑*i*P **P 18 31 53.8 +1.9**
BZS Buzias 84.65 316⇑P **P 18 31 53.8 +1.9**
FIA0 FINESS Array S 85.38 332 *e*P **P 18 31 56.3 +1.1**
FIA0 FINESS Array S 85.38 332 *e*P **P 18 31 56.2 +1.1**
FINES FINESS Array B 85.38 332 P **P 18 31 56.3 +1.1**
comp=Z,8.1nm,1.1s,baz=104,slow=5.9,SNR=5.7
STHS Stebnicka Huta 85.54 320 *e*P **P 18 31 58.3 +2.0**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 85.54 320 *e*P **P 18 31 58.3 +2.0**
ARA0 ARCESS Array S 87.66 340 *e*P **P 18 32 06.0 -0.2**
ARCES ARCESS Array B 87.66 340 P **P 18 32 06.0 -0.2**
comp=Z,5.4nm,0.9s,baz=98,slow=6.5,SNR=5.8
ARCES LR LR 19 16 09.3
comp=Z,48nm,18.1s,baz=196,slow=39
KRLC Kraliky 88.50 320 *e*P **P 18 32 12.3 +1.6**
KRLC Kraliky 88.50 320 *e*P **P 18 32 12.3 +1.6**
DPC Dobruska-Polom 88.82 320 *e*P **P 18 32 14.5 +2.3**
DPC Dobruska-Polom 88.82 320 *e*P **P 18 32 14.5 +2.3**
ARSA Arzberg 89.04 317 *i* PcP **P 18 32 15.5 +2.2**
comp=Z,4.4nm,0.9s
SOKA Soboth 89.32 317 *i* PcP **P 18 32 16.5 +1.8**
comp=Z,4.8nm,0.9s
OBKA Obir 89.64 316 *e*PcP **P 18 32 18.4 +2.2**
comp=Z,4.5nm,1.2s
GERES GERESS Array B 90.39 319 P **P 18 32 20.2 +0.5**
comp=Z,2.0nm,0.8s,baz=90,slow=5.3,SNR=11
KHC Kasperske Hory 90.49 319 *e*P **P 18 32 19.4 -0.6**
KHC Kasperske Hory 90.49 319 *e*P **P 18 32 19.4 -0.6**
KBA Koelnbreinsper 90.51 317 *e*PcP **P 18 32 22.8 +2.4**
comp=Z,7.4nm,1.4s
MOTA Moosalm 92.05 317 *i* PcP **P 18 32 28.6 +1.1**
comp=Z,4.4nm,0.9s
RETA Reutte 92.28 317 *i* PcP **P 18 32 29.5 +1.1**
comp=Z,3.0nm,0.8s
FETA Feichten 92.29 317 PcP **P 18 32 29.7 +1.1**
comp=Z,2.1nm,0.8s
NOA NORSAR Array B 92.42 331 LR LR 19 17 20.9
comp=Z,41nm,19.0s,baz=60,slow=38
DAVA Damuels 92.88 317 *i* PcP **P 18 32 33.1 +1.8**
comp=Z,8.3nm,1.1s
IMAR Indian Mountai 98.83 24 P Pdif 18 32 57.9 +0.1
TORD Torodi Ar. Bea 99.71 283 LR LR 19 15 43.9
comp=Z,25nm,18.3s,baz=105,slow=34
CPUP Villa Florida 144.16 214 PKP **PKPdf 18 38 55.1 +0.6**
comp=Z,1.7nm,0.7s,baz=90,slow=1.0,SNR=3.9
CPUP pPKP **pPKPdf 18 39 08.8 -2.3**
comp=Z,6.5nm,0.9s,baz=88,slow=2.7,SNR=7.2
BDFB Brasilia 144.23 238 PKP **PKPdf 18 38 54.9 -0.2**
comp=Z,1.2nm,0.6s,baz=243,slow=4.5,SNR=3.3
BDFB pPKP **pPKPdf 18 39 10.4 -1.2**
comp=Z,1.7nm,0.4s,baz=282,slow=2.5,SNR=3.7
PBMO Poplar Bluff 144.69 16 *e*PKPdf **PKPab 18 38 53.3 -0.6**
TX31 Lajitas Ar. Si 144.79 39 *e*PKPdf PKPbc 18 38 55.1 +0.4
TX31 *e*PKPdf **PKPdf 18 38 55.3 -0.4**
TXAR Lajitas Array 144.79 39 PKP PKPbc 18 38 55.2 +0.4
comp=Z,5.5nm,0.7s,baz=267,slow=1.2,SNR=45
TXAR pPKP pPKPdf 18 39 09.4 -2.9
comp=Z,2.6nm,0.5s,baz=265,slow=0.9,SNR=8.9
IP04 Greensprings 144.98 359 *e*PKPbc **PKPab 18 38 54.6 -0.2**
IP01 Cuckoo 145.11 358 *e*PKPbc **PKPab 18 38 55.5 +0.1**
W40A Ferguson Farm, 145.33 20 *e*PKPbc **PKPbc 18 38 56.0 -0.1**
URVA University of 145.48 358 *e*PKPdf **PKPab 18 38 56.8 +0.1**
WHAR Wooly Hollow 145.50 19 *e*PKPdf **PKPdf 18 38 55.8 -0.8**
MIAR Mount Ida 145.73 22 *e*PKIKP **PKPab 18 38 57.9 +0.1**
MIAR Mount Ida 145.73 22 *e*PKPdf **PKPab 18 38 57.9 +0.1**
WVT Waverly 145.95 13 *e*PKP2 **PKPdf 18 38 57.3 0.0**
WVT Waverly 145.95 13 *e*PKPdf **PKPdf 18 38 57.3 0.0**
JCT Junction City 146.25 33 *e*PKP2 **PKPbc 18 38 59.3 +0.1**
JCT Junction City 146.25 33 *e*PKPdf **PKPbc 18 38 59.3 +0.1**
CPCT Cooper Cave 147.22 8 *e*PKPbc **PKPbc 18 39 01.7 -0.1**
KMSC Kings Mountain 147.86 4 *e*PKPbc **PKPbc 18 39 03.4 -0.2**

MOS 18 18:21:54.6±2.3, 51°.72N×98°.53E, h10km, mb4.3/1, 1D,
Error ellipse: s-maj=16.5km s-min=13.1km az=43.3,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.14**	**44**	⇓*i*PG		Pn	18 22 16.7	0.0
ORL					*e*		18 22 38.7	
ORL				pmax		pmax		
	comp=Z,58nm,0.3s							
ORL				smax		smax		
	comp=N,177nm,0.7s							
MOY	**Mondy**	**1.54**	**91**	*e*P*		Pn	18 22 21.2	-1.0
MOY					*e*		18 22 47.1	
MOY				pmax		pmax		
	comp=Z,77nm,0.4s							
MOY				smax		smax		
	comp=N,541nm,0.6s							
ARS	**Arshan**	**2.43**	**84**	*e*PN		Pn	18 22 34.3	-0.1
ARS					*e*		18 23 15.3	
ARS				pmax		pmax		
	comp=Z,26nm,0.2s							
ARS				smax		smax		
	comp=E,724nm,0.8s							
KZLR	**Kyzyl**	**2.53**	**271**	*i* PN		Pn	18 22 27.1	-8.7
TLY	**Talaya**	**3.19**	**89**	*e*PN		Pb	18 22 51.1	-0.2
TLY					*e*		18 23 35.7	
TLY				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ZAK	**Zakamensk**	**3.29**	**112**	*e*PN		Pn	18 22 47.8	+1.6
ZAK					*e*		18 23 34.0	
ZAK				pmax		pmax		
	comp=Z,22nm,0.5s							
ZAK				smax		smax		
	comp=N,206nm,0.5s							
IRK	**Irkutsk**	**3.59**	**79**	*e*PN		Pb	18 22 59.0	+0.9
IRK					*e*		18 23 48.9	
IRK				pmax		pmax		
	comp=Z,32nm,0.2s							
IRK				smax		smax		
	comp=N,326nm,0.8s							
TBRR	**Tiberkul'**	**3.62**	**309**	*i* PN		Pn	18 22 50.4	-0.3
TBRR				*i*			18 23 37.9	
ORY	**Orie**	**3.87**	**329**	*i* PN		Pn	18 22 57.8	+3.7
ORY				*i*			18 23 50.2	
ORY				pmax		pmax		
	comp=Z,12nm,0.4s							
ORY				smax		smax		
	comp=Z,45nm,0.6s							
BLRR	**Bol'shaya Rech**	**3.96**	**292**	*i* PN		Pn	18 22 54.7	-0.7
BLRR				*i*			18 23 45.0	
KTRR	**Kuturchin**	**4.13**	**323**	*i* PN		Pn	18 23 01.7	+4.0
KTRR				*i*			18 23 57.1	
TBTR	**Tabat**	**4.94**	**287**	*i* PN		Pn	18 23 11.9	+3.1
TBTR				*i*			18 24 14.6	
OGRR	**Ongureny**	**5.84**	**67**	*e*PN		Pb	18 23 41.1	+4.6
NIZ	**Nizh Angarsk**	**7.69**	**54**	*e*P		Pn	18 23 45.8	-0.7
NIZ				*e*S		Sn	18 25 16.2	+2.7
NIZ				pmax		pmax		
	comp=Z,16nm,2.8s							
NIZ				smax		smax		
	comp=N,52nm,1.3s							

MEX 18 18:23:28.1±0.6, 17°.09N×96°.46W, h77km±9km, MD3.5,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.27**	**267**	*e*P		Pn	18 23 39.1	-1.0
VHO				*e*S		Sn	18 23 46.8	-2.1
HUIG	**Huatulco**	**1.35**	**166**	*e*P		Pn	18 23 49.8	-1.7
PNIG	**Pinotepa**	**1.74**	**247**	*e*P		Pn	18 23 56.0	-0.6

MAN 18 18:24:44, 11°.65N×124°.32E, h91km, mb4.4, ML3.3, MS3.2,
1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.81**	**127**	⇓*i*P		Pn	18 25 03.4	+1.6
PLP				*e*S		Sn	18 25 18.3	+3.3

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*ISCJB **18** 18:49:25.0±1.2, 33°.39N±0°.08×141°.2E±0°.1, h48km, mb3.3/2, Error ellipse: s-maj=14.2km s-min=11.7km az=13.4*
*JMA **18** 18:49:27.5±0.4, 33°.52N×140°.93E, h65km, M2.9*
*IDC **18** 18:49:28.2±4.3, 33°.36N×140°.97E, h55km±43km, mb3.0/2, mb1 3.2/3, mb1mx3.0/38, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=51.0km s-min=25.1km az=102.0*
ISC 18 18:49:27.0±1.6, 33°.43N±0°.09×141°.0E±0°.1, h48km, n8, σ0 48/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.07**	**253**	P		**Pn**	**18 49 46.0**	**+0.4**
JHJ2					X		18 49 59.9	
JHJ	**Hachijo jima 2**	**1.09**	**254**	P		**Pn**	**18 49 46.1**	**+0.2**
	80nm,0.3s,baz=74,slow=15,SNR=23							
JHJ					S	**Sn**	**18 49 59.6**	**-0.3**
	84nm,0.3s,baz=77,slow=20,SNR=16							
BSO3	**Boso 3**	**1.44**	**343**	P		**Pn**	**18 49 50.5**	**+0.1**
BSO3					X		18 50 08.7	
JIZS	**Izushimoda**	**2.20**	**306**	P		**Pn**	**18 50 01.0**	**-0.1**
JOD2	**Odawara 2**	**2.44**	**319**	P		**Pn**	**18 50 03.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.87**	**324**	P		**Pn**	**18 50 24.9**	**+0.9**
	0.4nm,0.3s,baz=144,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**53.46**	**188**	P		**P**	**18 58 42.2**	**-0.2**
	0.2nm,0.3s,baz=5.5,slow=7.5,SNR=5.7							
ASAR	**Alice Springs**	**57.18**	**188**	P		**P**	**18 59 09.0**	**-0.2**
	0.1nm,0.5s,baz=3.5,slow=6.7,SNR=5.6							

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*ISCJB **18** 19:17:55.5±0.5, 45°.17N±0°.04×106°.84W±0°.06, h0km, Error ellipse: s-maj=6.6km s-min=5.5km az=153.0*
*IDC **18** 19:17:56.2±1.2, 44°.67N×106°.43W, h0km, mb1 3.8/2, mb1mx3.3/48, mbtmp3.6/2, ML3.4/2, Error ellipse: s-maj=60.8km s-min=8.8km az=140.0*

*NEIC **18** 19:17:56.3±0.6, 45°.17N×106°.83W, h0km, ML3.1, Error ellipse: s-maj=7.6km s-min=6.7km az=72.0, Suspected Mining explosion.*
NEIC 42 km [26 miles] NNE of Sheridan.

ISC 18 19:17:54.9±1.0, 45°.15N±0°.05×106°.89W±0°.04, h0km, n48, σ2°05/47, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.61**	**17**	*e*Pn	**Pb**	**19 18 25.7**	**+0.1**
RLMT	**Red Lodge**	**1.68**	**270**	*e*Pn	**Pn**	**19 18 25.8**	**-0.1**
GCMT	**Greycliff**	**2.06**	**289**	*e*Pn	**Pn**	**19 18 30.7**	**-0.2**
RSSD	**Black Hills**	**2.28**	**116**	*e*Pn	**Pb**	**19 18 36.1**	**-1.0**
K22A	**Casper**	**2.51**	**174**	*e*Pn	**Pn**	**19 18 38.4**	**+1.2**
LKWY	**Lake**	**2.56**	**258**	*e*Pn	**Pn**	**19 18 38.4**	**+0.4**
YNR	**Norris Junctio**	**2.72**	**262**	*e*Pn	**Pn**	**19 18 42.0**	**+1.8**
H17A	**Grant Village**	**2.73**	**255**	*e*Pn	**Pn**	**19 18 42.7**	**+2.5**
YHH	**Holmes Hill**	**2.83**	**264**	*e*Pn	**Pn**	**19 18 43.6**	**+1.9**
YFT	**Old Faithful**	**2.89**	**257**	*e*Pn	**Pb**	**19 18 47.0**	**-0.6**
YMR	**Madison River**	**2.93**	**262**	*e*Pn	**Pn**	**19 18 47.1**	**+4.1**
PD31	**Pinedale Array**	**3.06**	**220**	*e*Pn	**Pn**	**19 18 46.9**	**+2.1**
PDAR	**Pinedale Array**	**3.06**	**220**	Pn	**Pn**	**19 18 48.0**	**+3.1**
	4.4nm,0.3s,baz=54,slow=17,SNR=36						
PDAR				Lg	Lg	19 19 28.1	
	6.9nm,0.3s,baz=54,slow=31,SNR=20						
PDAR	**Pinedale Array**	**3.06**	**220**	*e*Pn	**Pn**	**19 18 47.2**	**+2.4**
PDAR				Lg	Lg	19 19 28.1	
BW06	**Boulder Array**	**3.06**	**220**	*e*Pn	**Pn**	**19 18 46.5**	**+1.7**
LOHW	**Long Hollow**	**3.07**	**241**	*e*Pn	**Pn**	**19 18 47.3**	**+2.3**
YHB	**Horse Butte**	**3.08**	**264**	*e*Pn	**Pb**	**19 18 49.7**	**-1.1**
MOOW	**Moose Ponds**	**3.09**	**244**	*e*Pn	**Pn**	**19 18 47.7**	**+2.4**
IMW	**Indian Meadow**	**3.15**	**248**	*e*Pn	**Pn**	**19 18 49.6**	**+3.5**
QLMT	**Earthquake Lak**	**3.23**	**266**	*e*Pn	**Pb**	**19 18 51.8**	**-1.6**
SNOW	**Snow King Moun**	**3.25**	**240**	*e*Pn	**Pn**	**19 18 50.5**	**+3.2**
FXWY	**Fox Creek**	**3.33**	**244**	*e*Pn	**Pn**	**19 18 50.6**	**+2.2**
TPAW	**Teton Pass**	**3.35**	**242**	*e*Pn	**Pn**	**19 18 52.5**	**+3.7**
REDW	**Red Top Meadow**	**3.36**	**239**	*e*Pn	**Pn**	**19 18 51.3**	**+2.4**
BOZ	**Bozeman (W)**	**3.37**	**279**	*e*Pn	**Pn**	**19 18 53.3**	**+4.4**
RWWY	**Rawlins**	**3.47**	**184**	*e*Pn	**Pn**	**19 18 52.7**	**+2.3**
EGMT	**Eagleton**	**3.49**	**327**	*e*Pn	**Pn**	**19 18 51.9**	**+1.4**
HRY	**Holter Researc**	**3.78**	**296**	*e*Pn	**Pn**	**19 18 56.7**	**+2.1**
DGMT	**Dagmar**	**3.80**	**28**	*e*Pn	**Pn**	**19 18 56.6**	**+1.8**
PHWY	**Pilot Hill**	**3.98**	**164**	*e*Pn	**Pn**	**19 18 59.0**	**+1.4**
DLMT	**Dillon**	**4.03**	**275**	*e*Pn	**Pn**	**19 18 59.8**	**+1.7**
MCMT	**McKenzie Canyo**	**4.24**	**268**	*e*Pn	**Pn**	**19 19 03.4**	**+2.4**
N23A	**Red Feather La**	**4.31**	**170**	*e*Pn	**Pn**	**19 19 05.0**	**+3.1**
CHMT	**Chamberlain Mo**	**4.77**	**294**	*e*Pn	**Pn**	**19 19 09.2**	**+1.0**
HWUT	**Hardware Ranch**	**4.91**	**226**	*e*Pn	**Pn**	**19 19 11.7**	**+1.5**
SLMT	**Seeley Lake**	**5.04**	**297**	*e*Pn	**Pn**	**19 19 11.0**	**-0.9**
O20A	**White River Ci**	**5.11**	**192**	*e*Pn	**Pn**	**19 19 12.5**	**-0.4**
MSO	**Missoula**	**5.19**	**291**	*e*Pn	**Pn**	**19 19 14.1**	**+0.1**
TCUT	**Toone Canyon**	**5.21**	**221**	*e*Pn	**Pn**	**19 19 16.0**	**+1.7**
HVU	**Hansel Valley**	**5.45**	**234**	*e*Pn	**Pn**	**19 19 16.8**	**-0.7**
SPUT	**South Promonto**	**5.59**	**229**	*e*Pn	**Pn**	**19 19 18.7**	**-0.7**
YBMT	**Yellow Bay**	**5.62**	**301**	*e*Pn	**Pn**	**19 19 20.4**	**+0.6**
JLU	**Jordanelle**	**5.64**	**218**	*e*Pn	**Pn**	**19 19 19.4**	**-0.9**
P18A	**Preston Nutter**	**6.05**	**205**	*e*Pn	**Pn**	**19 19 27.5**	**+1.6**
SRU	**San Rafael Swe**	**6.61**	**205**	*e*Pn	**Pn**	**19 19 34.0**	**+0.5**
PV01	**Paradox Valley**	**7.12**	**191**	*e*Pn	**Pn**	**19 19 41.9**	**+1.4**
I10CA	**LAC DU BONNET**	**8.90**	**52**	*i*		20 15 20.0	
	baz=233,slow=323,SNR=2.4						
ULM	**Lac du Bonnet**	**9.01**	**52**	Pn	**Pn**	**19 20 05.8**	**-0.4**
	0.8nm,0.3s,baz=234,slow=11,SNR=6.0						
ULM				Lg	Lg	19 22 38.2	
	0.3nm,0.3s,baz=321,slow=22,SNR=3.7						

*ISCJB **18** 19:30:57.7±0.8, 51°.47N±0°.04×16°.06E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.9km az=10.1*
*CSEM **18** 19:30:59.7±0.4, 51°.45N×16°.06E, h2km, ML2.8/10*
*VIE **18** 19:31:01.7±0.7, 51°.28N×15°.92E, h0km, mb2.4/1, ML2.3/6, Error ellipse: s-maj=5.5km s-min=3.4km az=20.0, Suspected Mining induced.*

ISC 18 19:31:01.7±1.0, 51°.37N±0°.05×16°.08E±0°.02, h0km, n39, σ1°26/69, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.54**	**166**	*e*Pg	**Pg**	**19 31 12.4**	**+0.3**
KSP				*e*Sg	**Sb**	19 31 21.5	-0.9
KSP	**Ksiaz**	**0.54**	**166**	*e*Pg	**Pg**	**19 31 12.4**	**+0.3**
KSP				*e*Sg	**Sb**	19 31 21.5	-0.9
KSP	**Ksiaz**	**0.54**	**166**	*e*Pg	**Pg**	**19 31 12.4**	**+0.3**
KSP				*e*Sg	**Sb**	19 31 21.5	-0.9
UPC	**Upice**	**0.86**	**183**	*e*PG	**Pg**	**19 31 18.4**	**+0.2**
UPC				*e*SG	**Sb**	19 31 31.6	0.0
UPC	**Upice**	**0.86**	**183**	Pg	**Pg**	**19 31 18.4**	**+0.2**
UPC				Sg	**Sb**	19 31 31.6	0.0
DPC	**Dobruska-Polom**	**1.03**	**171**	*e*PG	**Pg**	**19 31 21.2**	**-0.2**
DPC				*e*SG	**Sb**	19 31 36.3	-0.2
	comp=Z,14nm,0.2s						
DPC	**Dobruska-Polom**	**1.03**	**171**	Pg	**Pg**	**19 31 21.2**	**-0.2**
DPC				Sg	**Sb**	19 31 36.3	-0.2
	14nm,0.2s						
PVCC	**Panska Ves**	**1.27**	**229**	*e*PG	**Pg**	**19 31 25.4**	**-0.7**
PVCC				*e*SG	**Sb**	19 31 43.6	+0.2
	comp=Z,56nm,0.2s						
PVCC	**Panska Ves**	**1.27**	**229**	Pg	**Pg**	**19 31 25.4**	**-0.7**
PVCC				Sg	**Sb**	19 31 43.6	+0.2
	56nm,0.2s						
KRLC	**Kraliky**	**1.37**	**161**	*e*PG	**Pb**	**19 31 27.9**	**-0.3**
KRLC				*e*SG	**Sg**	19 31 45.9	+0.3
KRLC	**Kraliky**	**1.37**	**161**	Pg	**Pb**	**19 31 27.9**	**-0.3**
KRLC				Sg	**Sg**	19 31 45.9	+0.3
BRG	**Berggiesshubel**	**1.44**	**251**	PG	**Pn**	**19 31 27.3**	**-1.7**
BRG				SG	**Sg**	19 31 47.1	-0.6
	34nm,0.3s						
BRG	**Berggiesshubel**	**1.44**	**251**	SG	**Sn**	**19 31 55.0**	**+6.6**
	15nm,0.5s						
PRA	**Prague**	**1.67**	**219**	*e*SG	**Sg**	**19 31 56.4**	**+1.2**
PRA	**Prague**	**1.67**	**219**	Sg	**Sg**	**19 31 56.4**	**+1.2**
GOPC	**GO Pecny, Ondr**	**1.67**	**210**	*e*PG	**Pg**	**19 31 33.6**	**-0.1**
GOPC				*e*SG	**Sg**	19 31 56.3	+0.9
	comp=Z,8.9nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.67**	**210**	Pg	**Pg**	**19 31 33.6**	**-0.1**
GOPC				Sg	**Sg**	19 31 56.3	+0.9
	8.9nm,0.5s						
PRU	**Pruhonice**	**1.69**	**216**	*e*PG	**Pn**	**19 31 32.1**	**-0.4**
PRU				*e*SG	**Sb**	19 31 56.0	+0.5
	comp=Z,11nm,0.3s						
PRU	**Pruhonice**	**1.69**	**216**	Pg	**Pn**	**19 31 32.1**	**-0.4**
PRU				Sg	**Sb**	19 31 56.0	+0.5
	11nm,0.3s						
MORC	**Moravsky Berou**	**1.85**	**149**	*e*Pn	**Pn**	**19 31 33.1**	**-1.6**
MORC				*e*Sg	**Sg**	19 32 00.9	-0.1
CLL	**Collm**	**1.93**	**269**	*e*Pg	**Pn**	**19 31 34.0**	**-1.8**
CLL				*e*Sg	**Sb**	19 32 01.0	-1.4
OKC	**Ostrava-Krasne**	**2.02**	**139**	*e*SG	**Sg**	**19 32 06.1**	**-0.5**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**2.02**	**139**	Sg	**Sg**	**19 32 06.1**	**-0.5**
	12nm,0.6s						
VRAC	**Vranov**	**2.09**	**171**	*e*Sg	**Sg**	**19 32 10.0**	**+1.3**
TREC	**Trest**	**2.11**	**191**	*e*SG	**Sg**	**19 32 10.4**	**+1.0**
TREC	**Trest**	**2.11**	**191**	Sg	**Sg**	**19 32 10.4**	**+1.0**
NKC	**Novy Kostel**	**2.57**	**245**	*e*PN	**Pn**	**19 31 43.5**	**-1.1**
NKC				*e*PG	**Pb**	19 31 49.1	+0.5
NKC				*e*SG	**Sg**	19 32 24.0	-0.2
	comp=Z,22nm,0.4s						
NKC	**Novy Kostel**	**2.57**	**245**	Pn	**Pn**	**19 31 43.5**	**-1.1**
OJC	**Ojcow**	**2.62**	**115**	*e*Pg	**Pb**	**19 31 50.1**	**+0.5**
OJC				*e*Sg	**Sg**	19 32 25.1	-0.9
OJC	**Ojcow**	**2.62**	**115**	*e*Pg	**Pb**	**19 31 50.1**	**+0.5**
OJC				*e*Sg	**Sg**	19 32 25.1	-0.9
OJC	**Ojcow**	**2.62**	**115**	*e*Pg	**Pb**	**19 31 50.1**	**+0.5**
OJC				*e*Sg	**Sg**	19 32 25.1	-0.9
KHC	**Kasperske Hory**	**2.75**	**217**	*e*PN	**Pn**	**19 31 46.2**	**-1.0**
KHC				*e*PG	**Pb**	19 31 51.6	-0.2
KHC				*e*SN	**Sn**	19 32 19.4	-1.7
KHC				*e*SG	**Sg**	19 32 29.9	-0.3
KHC	**Kasperske Hory**	**2.75**	**217**	Pn	**Pn**	**19 31 46.2**	**-1.0**
CONA	**Conrad Observa**	**3.45**	**182**	Pg	**Pg**	**19 32 06.4**	**-1.3**
	0.2nm,0.1s						
CONA				Sg	**Sg**	**19 32 51.2**	**-1.2**
	0.7nm,0.2s						
MOA	**Molln**	**3.71**	**199**	Pn	**Pn**	**19 31 59.6**	**-0.7**
	0.6nm,0.2s						
MOA				Sg	**Sg**	**19 33 00.0**	**-0.9**
	0.8nm,0.2s						
STHS	**Stebnicka Huta**	**3.84**	**119**	*e*Pg	**Pg**	**19 32 15.5**	**+0.3**
STHS	**Stebnicka Huta**	**3.84**	**119**	*e*PG	**Pg**	**19 32 15.5**	**+0.3**
STHS				*e*SG	**Sg**	**19 33 09.3**	**+4.4**
ARSA	**Arzberg**	**4.14**	**185**	Sg	**Sg**	**19 33 14.8**	**+0.3**
	0.1nm,0.1s						
KBA	**Koelnbreinsper**	**4.65**	**204**	Pn	**Pn**	**19 32 11.8**	**-1.5**
KBA				Sg	**Sg**	**19 33 31.7**	**+0.6**
	0.1nm,0.1s						

*ISCJB **18** 19:36:08.8±0.5, 62°.55S±0°.06×156°.9E±0°.3, h10km, mb4.8/12, MS4.3/14, Error ellipse: s-maj=20.6km s-min=8.1km az=168.7*
*NEIC **18** 19:36:10.1±0.4, 62°.58S×156°.98E, h10km, mb4.7/10, Error ellipse: s-maj=17.5km s-min=7.7km az=76.0*
*GCMT **18** 19:36:10.1±0.2, 62°.57S×155°.45E, h15km, MW5.2/93, Moment Tensor Solution. s52,c67; s93,c153; Duration: 1±0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$0.70±.01; $M_{\phi\phi}$-0.52±.02; $M_{r\theta}$-0.34±.05; $M_{\theta\phi}$-0.50±.01; $M_{\phi r}$-0.04±.05; Best double couple: $M_0$0.85500×10^{17} NP1:ϕs66.00000°, δ89.00000°, λ-157.00000°. NP2: ϕs335.00000°, δ67.00000°, λ-1.00000°. Principal axes: T 0.9600, Plg15.0000°, Azm198.0000°; N -0.2100, Plg67.0000°, Azm68.0000°; P -0.7500, Plg17.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **18** 19:36:10.2±1.4, 62°.71S×155°.66E, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.1/22, mbtmp4.2/5, ML4.2/1, MS4.3/15, Ms1 4.3/15, ms1mx4.3/16 Error ellipse: s-maj=67.1km s-min=22.2km az=85.0*

ISC 18 19:36:10.5±0.6, 62°.60S±0°.09×156°.9E±0°.2, h10km, n59, σ1°33/35, mb4.7/12, MS4.2/14, 1D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.07**	**176**	Pn	**Pn**	**19 39 41.3**	**-1.8**
	0.9nm,0.3s,baz=341,slow=13,SNR=17						
VNDA				LR	LR	19 44 60.0	
	comp=Z,4μm,19.6s,baz=360,slow=35						
VNDA	**Vanda**	**15.07**	**176**	*e*Pn	Pn	19 39 35.9	-7.2
SBA	**Scott Base**	**15.64**	**172**	*e*Pn	**Pn**	**19 39 49.3**	**-1.2**
	14nm,0.8s						
RPZ	**Rata Peaks**	**20.65**	**30**	LR	LR	19 47 42.0	
	comp=Z,3μm,18.1s,baz=189,slow=33						
URZ	**Urewera**	**27.32**	**36**	LR	LR	19 51 48.4	
	comp=Z,1μm,19.1s,baz=214,slow=34						
QSPA	**South Pole Qui**	**27.48**	**180**	*e*P	**P**	**19 41 58.2**	**+1.6**
STKA	**Stephens Creek**	**32.27**	**335**	P	**P**	**19 42 40.1**	**+1.1**
	0.7nm,0.3s,baz=162,slow=7.1,SNR=3.9						
STKA				LR	LR	19 52 24.3	
	comp=Z,653nm,20.6s,baz=158,slow=30						
STKA	**Stephens Creek**	**32.27**	**335**	*e*P	**P**	**19 42 39.7**	**+0.7**
	4.3nm,1.4s						
MAW	**Mawson**	**36.25**	**220**	P	**P**	**19 43 10.7**	**-2.4**
	5.0nm,0.9s,baz=127,slow=11,SNR=7.7						
MAW				LR	LR	19 58 03.6	
	comp=Z,2μm,19.3s,baz=116,slow=37						
MAW	**Mawson**	**36.25**	**220**	*e*P	**P**	**19 43 13.4**	**+0.4**
	2.3nm,1.1s						
DZM	**Mont Dzumac**	**41.03**	**14**	*e*S	S	19 50 18.8	+13
	186nm,24.6s						
DZM				*e*LR	LR	19 55 05.9	
	2μm,25.2s						
SYO	**Syowa Base**	**41.36**	**209**	*e*P	**P**	**19 43 55.0**	**-0.9**
AS01	**Alice Springs**	**41.89**	**328**	*e*P	**P**	**19 43 59.8**	**-0.9**
ASAR	**Alice Springs**	**41.90**	**328**	P	**P**	**19 43 59.7**	**-1.2**
	3.2nm,0.8s,baz=165,slow=8.0,SNR=24						
ASAR				LR	LR	19 58 43.4	
	comp=Z,632nm,18.6s,baz=160,slow=32						
AS31	**Alice Springs**	**41.90**	**328**	*e*P	**P**	**19 44 00.3**	**-0.5**
	9.5nm,1.8s						
SNAA	**Sanae**	**45.27**	**189**	P	**P**	**19 44 28.7**	**+1.1**
SNAA	**Sanae**	**45.27**	**189**	*e*P	**P**	**19 44 26.9**	**-0.6**
	6.9nm,1.3s						
WB2	**Warramunga Arr**	**45.37**	**330**	*e*P	**P**	**19 44 27.6**	**-1.1**
WR1	**Warramunga Arr**	**45.37**	**330**	*e*P	**P**	**19 44 28.2**	**-0.6**
	79nm,2.0s						
WRA	**Warramunga Arr**	**45.37**	**330**	P	**P**	**19 44 28.2**	**-0.6**
	2.4nm,0.7s,baz=164,slow=7.0,SNR=9.9						
WRA				LR	LR	20 00 47.0	
	comp=Z,447nm,19.9s,baz=145,slow=33						
WRAB	**Tennant Creek**	**45.38**	**330**	*e*P	**P**	**19 44 30.8**	**+2.0**
	51nm,1.8s						
VNA3	**Neumayer Olymp**	**46.10**	**186**	P	**P**	**19 44 36.8**	**+2.7**
VNA2	**Neumayer--Watz**	**46.30**	**187**	P	**P**	**19 44 36.7**	**+1.1**
	baz=159,slow=6.1						
VNA1	**Neumayer--Stat**	**46.62**	**187**	P	**P**	**19 44 40.5**	**+2.4**
MSVF	**Nonsavu**	**47.19**	**28**	*e*P	**P**	**19 44 42.9**	**-0.3**
	76nm,2.0s						
MBWA	**Marble Bar**	**48.53**	**311**	*e*P	**P**	**19 44 52.6**	**-0.9**
	47nm,1.7s						
FITZ	**Fitzroy Crossi**	**49.46**	**320**	*e*P	**P**	**19 45 00.2**	**-0.5**
	20nm,1.4s						
TBI	**Tubuai**	**53.03**	**68**	*e*LQ	LQ	19 58 06.3	
	656nm,26.2s						
TBI				*e*LR	LR	20 00 36.0	
	256nm,28.8s						
TBI	**Tubuai**	**53.03**	**68**	*e*T	T	20 42 31.0	
	30nm,0.3s						
PAE	**Paea**	**58.03**	**65**	*e*T	T	20 48 37.4	
	3.0nm,0.3s						
TVO	**Taravao**	**58.06**	**65**	*e*T	T	20 48 40.8	
	4.3nm,0.4s						
PPT2	**Papeete2**	**58.09**	**65**	*e*S	S	19 54 27.1	+22
	74nm,25.8s						
PPT2				*e*LR	LR	20 03 05.6	
	464nm,30.2s						
PPT	**Papeete**	**58.11**	**65**	LR	LR	20 06 13.9	
	comp=Z,159nm,20.4s,baz=194,slow=31						
RKT	**Rikitea**	**59.69**	**82**	*e*T	T	20 51 21.5	
	4.9nm,0.2s						
TAOE	**Nuku Hiva Isla**	**69.92**	**70**	*e*P	**P**	**19 47 20.5**	**-1.2**
	288nm,0.2s						
PLCA	**Paso Flores**	**70.22**	**143**	LR	LR	20 15 04.1	
	comp=Z,111nm,18.2s,baz=161,slow=33						
GUMO	**Guam**	**76.53**	**348**	LR	LR	20 16 44.6	
	comp=Z,74nm,21.8s,baz=176,slow=32						
H08S2	**Diego Garcia H**	**80.68**	**271**	T	T	21 16 40.7	
	baz=152,slow=76,SNR=159						
H08S1	**Diego Garcia H**	**80.69**	**271**	T	T	21 16 41.4	
	baz=152,slow=128,SNR=128						
H08S3	**Diego Garcia H**	**80.70**	**271**	T	T	21 16 42.3	
	baz=152,slow=76,SNR=201						
H08N1	**Diego Garcia H**	**82.51**	**271**	T	T	21 19 40.9	
	baz=167,slow=76,SNR=7.2						
H08N3	**Diego Garcia H**	**82.52**	**271**	T	T	21 19 46.1	
	baz=167,slow=76,SNR=7.7						
H08N2	**Diego Garcia H**	**82.53**	**271**	T	T	21 19 46.3	
	baz=167,slow=76,SNR=8.0						
CPUP	**Villa Florida**	**87.26**	**150**	LR	LR	20 26 30.3	
	comp=Z,89nm,19.1s,baz=198,slow=34						
CMAR	**Chiang Mai Arr**	**92.63**	**306**	LR	LR	20 29 44.1	
	comp=Z,136nm,19.0s,baz=178,slow=35						
LPAZ	**La Paz**	**93.84**	**137**	LR	LR	20 25 38.0	
	comp=Z,44nm,18.1s,baz=150,slow=32						
LPAZ	**La Paz**	**93.84**	**137**	*e*P	**P**	**19 49 28.1**	**-0.5**
BDFB	**Brasilia**	**99.60**	**156**	LR	LR	20 35 49.2	
	comp=Z,18nm,18.6s,baz=289,slow=36						
MJAR	**Matsushiro Arr**	**99.94**	**345**	LR	LR	20 33 00.7	
	comp=Z,42nm,19.8s,baz=190,slow=34						
MK32	**Makanchi Array**	**124.04**	**307**	*e*PKPdf	**PKPdf**	**19 55 08.2**	**+0.4**
MKAR	**Makanchi Array**	**124.04**	**307**	PKP	**PKPdf**	**19 55 08.2**	**+0.4**
	0.6nm,0.8s,baz=96,slow=1.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**127.55**	**211**	PKP	**PKPdf**	**19 55 15.0**	**-0.5**
	0.4nm,0.8s,baz=129,slow=1.7,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**127.55**	**211**	*e*PKPdf	**PKPdf**	**19 55 15.0**	**-0.5**
ILAR	**Eielson Array**	**133.69**	**30**	PKP	**PKPdf**	**19 55 28.4**	**+2.9**
	1.0nm,1.0s,baz=225,slow=3.8,SNR=5.2						
KEST	**Kesra**	**146.41**	**232**	PKPbc	**PKPbc**	**19 55 50.9**	**0.0**
	1.2nm,0.6s,baz=137,slow=19,SNR=2.9						
KEST	**Kesra**	**146.41**	**232**	*e*PKPdf	**PKPab**	**19 55 53.7**	**+1.8**
MDT	**Midelt**	**147.95**	**210**	PKPbc	**PKPbc**	**19 55 55.3**	**-0.1**
	1.9nm,0.9s,baz=183,slow=4.8,SNR=2.5						
AKASG	**Malin Array Be**	**149.76**	**271**	PKPbc	**PKPbc**	**19 55 58.1**	**-1.1**
	1.2nm,0.6s,baz=103,slow=2.7,SNR=6.0						
ESDC	**Sonseca Array**	**154.29**	**216**	PKPbc	**PKPbc**	**19 56 10.5**	**+0.5**
	0.2nm,0.5s,baz=191,slow=2.1,SNR=2.3						

*NIED **18** 19:51:00.38°.40N×144°.60E, h8km, Mw3.6 Best double couple: $M_0$2.73000×10^{14} NP1:ϕs17.00000°, δ31.00000°, λ-61.00000°. NP2:ϕs165.00000°, δ63.00000°, λ-106.00000°.*

JMA 18 19:51:45.6±0.2, 38°.40N×144°.55E, h31km, M4.2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.35**	**288**	P	Pn	19 52 23.7	+1.6
OFUJ				S	Sn	19 52 51.8	+1.9
MIYJ	**Miyakonagasawa**	**2.43**	**300**	P	Pn	19 52 24.4	+1.2
MIYJ				*e*S	Sn	19 52 53.0	+1.2
JIO	**Ouri**	**2.52**	**272**	P	Pn	19 52 25.8	+1.5
JIO				S	Sn	19 52 55.3	+1.4
JMK	**Ichinoseki**	**2.66**	**283**	P	Pn	19 52 28.2	+1.8
JOM	**Ohasama**	**2.76**	**294**	P	Pn	19 52 29.5	+1.8
JOM				*e*S	Sn	19 53 02.2	+2.3
JOU	**Okura**	**3.05**	**271**	S	Sn	19 53 09.8	+2.5
JANG	**Nango**	**3.07**	**311**	P	Pn	19 52 33.6	+1.7
JRG	**Rokugo**	**3.21**	**289**	P	Pn	19 52 36.4	+2.5
JRG				S	Sn	19 53 14.6	+3.5
JYK	**Kaneyama**	**3.32**	**280**	P	Pn	19 52 37.9	+2.5
JYK				S	Sn	19 53 16.8	+3.0
JFT	**Otama**	**3.44**	**256**	P	Pn	19 52 39.6	+2.5
JFT				S	Sn	19 53 19.3	+2.4
JAH	**Hinai**	**3.52**	**302**	*e*S	Sn	19 53 21.5	+2.7
JTM	**Tenmabayashi**	**3.59**	**313**	P	Pn	19 52 41.9	+2.8
JTM				S	Sn	19 53 21.2	+0.7
JOT	**Ohata**	**4.01**	**319**	P	Pn	19 52 47.2	+2.3
JOT				S	Sn	19 53 30.6	-0.3
JCH	**Churui**	**4.31**	**348**	P	Pn	19 52 48.0	-0.9
JCH				S	Sn	19 53 35.8	-2.3
JKB	**Kayabe**	**4.40**	**323**	P	Pn	19 52 53.3	+3.0
NEM2	**Nemuro 2**	**5.04**	**10**	P	Pn	19 52 56.5	-2.5
NEM2				S	Sn	19 53 51.1	-5.1
JRY	**Ryogami san**	**5.10**	**244**	P	Pn	19 53 01.2	+1.3
JRY				S	Sn	19 53 57.8	+0.1
MAT	**Matsushiro**	**5.38**	**252**	P	Pn	19 53 06.4	+2.7
MAT				*e*S	Sn	19 54 03.6	-0.9
JOD2	**Odawara 2**	**5.38**	**236**	P	Pn	19 53 04.6	+0.8
JOD2				S	Sn	19 54 03.4	-1.3
JTKR	**Abashiri--Toko**	**5.59**	**355**	P	Pn	19 53 05.6	-0.9
JTKR				S	Sn	19 54 05.4	-4.2

*ISCJB **18** 19:57:36.8±0.5, 46°.21N±0°.05×143°.16E±0°.10, h341km, mb3.2/6, Error ellipse: s-maj=9.2km s-min=6.2km az=6.6*
*IDC **18** 19:57:37.4±0.7, 46°.22N×142°.96E, h349km±15km, mb3.1/6, mb1 3.2/11, mb1mx3.0/41, mbtmp3.8/11, Error ellipse: s-maj=29.8km s-min=15.6km az=158.0*
*JMA **18** 19:57:38.3±0.4, 46°.04N×143°.09E, h349km±4km, M3.5*

ISC 18 19:57:36.8±0.7, 46°.08N±0°.07×143°.05E±0°.08, h341km, n28, σ2°03/38, mb3.2/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.11**	**227**	P	**Pn**	**19 58 24.5**	**+2.4**
JWK2				*e*S	**S**	**19 59 00.9**	**+2.6**
JSE	**Soyaes**	**1.17**	**197**	P	**Pn**	**19 58 24.4**	**+2.1**
JRR	**Rishiri**	**1.54**	**233**	P	**Pn**	**19 58 26.5**	**+2.2**
JSS	**Shosan**	**1.88**	**207**	P	**Pn**	**19 58 28.9**	**+2.4**
ASAJ	**Asahikawa**	**1.99**	**189**	P	**Pn**	**19 58 29.9**	**+2.6**
	4.0nm,0.3s,baz=28,slow=11,SNR=36						
ASAJ				S	**S**	**19 59 11.4**	**+3.7**
	baz=60,slow=20,SNR=2.5						
JTKR	**Abashiri--Toko**	**2.19**	**164**	P	**Pn**	**19 58 31.0**	**+2.3**
JKK2	**Kamakawa 2**	**2.22**	**186**	P	**Pn**	**19 58 31.4**	**+2.4**
JRA	**Rausu**	**2.60**	**145**	P	**Pn**	**19 58 34.6**	**+2.7**
JAR	**Ashorobuto**	**2.83**	**169**	P	**Pn**	**19 58 36.8**	**+2.8**
JAR				*e*S	**S**	**19 59 22.3**	**+2.4**
JAK	**Akkeshi**	**3.30**	**159**	P	**Pn**	**19 58 39.4**	**+1.1**
JAK				*e*S	**S**	**19 59 27.6**	**-0.1**
NEM2	**Nemuro 2**	**3.32**	**144**	P	**Pn**	**19 58 39.4**	**+0.9**
NEM2				*e*S	**S**	**19 59 27.1**	**-1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK32	**Makanchi Array**	**58.14**	**341**	*e*P	**P**	**20 17 44.5**	**-0.4**
MKAR	**Makanchi Array**	**58.14**	**341**	P	**P**	**20 17 44.5**	**-0.4**
	0.5nm,0.6s,baz=139,slow=8.5,SNR=6.2						
TLY	**Talaya**	**59.12**	**358**	*e*P	**P**	**20 17 50.2**	**-1.4**
	8.0nm,0.7s						
KURBB	**Kurchatov Arra**	**62.70**	**341**	P	**P**	**20 18 14.5**	**-1.4**
	0.3nm,0.2s,baz=156,slow=5.7,SNR=4.9						
KURK	**Kurchatov**	**62.75**	**341**	*e*P	**P**	**20 18 14.5**	**-1.8**
ABKAR	**Akbulak array**	**69.43**	**330**	*e*P	**P**	**20 18 59.2**	**0.0**
	8.3nm,0.8s						
NOA	**NORSAR Array B**	**98.93**	**331**	LR	LR	21 13 03.5	
	comp=Z,37nm,19.0s,baz=290,slow=40						

*IDC **18** 20:08:44.3±2.1,36.°34N×58.°04E,h0km,mb3.0/2,*
mb1 3.7/8,mb1mx3.4/55,mbtmp3.6/8,ML3.4/5,MS2.9/1,
Ms1 2.9/1,ms1mx2.3/31,Error ellipse: s-maj=21.7km
s-min=14.1km az=178.0
*ISCJB **18** 20:08:46.8±0.6,36.°46N±0.°04×58.°34E±0.°04,h19km±8km,*
Error ellipse: s-maj=6.3km s-min=4.9km az=33.8
*CSEM **18** 20:08:46.5±0.2,36.°51N×58.°36E,h10km,ML3.6,Error*
ellipse: s-maj=6.1km s-min=5.1km az=39.0
*TEH **18** 20:08:47.4,36.°45N×58.°34E,h9km,ML3.6*
*NNC **18** 20:08:52.9±6.4,37.°19N×59.°81E,h0km,mb3.9,mpv4.5,*
Error ellipse: s-maj=59.7km s-min=29.2km az=3.0
ISC 18 20:08:46.9±1.2,36.°46N±0.°04×58.°36E±0.°04,h19km±5km,
n42,σ1§55/48,5C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAKL	**Akhelmad**	**0.35**	**66**	*e*Pg	**Pg**	**20 08 54.3**	**-0.3**
IAKL				*e*AMB	AMB	20 09 00.4	
	comp=Z,29μm,0.0s						
IPAY	**Payeh**	**0.52**	**91**	*e*Pg	**Pg**	**20 08 57.0**	**-0.4**
IPAY	**Payeh**	**0.52**	**91**	*e*Pg	**Pg**	**20 08 57.0**	**-0.4**
ISFR	**Sfrayin**	**0.66**	**334**	⇑*e*Pg	**Pg**	**20 08 59.0**	**-1.1**
ISFR				*e*Sg	**Sg**	**20 09 08.5**	**-0.4**
ISFR				*e*AMB	AMB	20 09 09.8	
	comp=Z,54μm,0.1s						
ISFR	**Sfrayin**	**0.66**	**334**	⇑*e*Pg	**Pg**	**20 08 59.0**	**-1.1**
ISFR				*e*Sg	**Sg**	**20 09 08.5**	**-0.4**
IMOG	**Moghan**	**0.87**	**113**	*e*Sg	**Sg**	**20 09 15.2**	**-0.3**
IMOG				*e*Pg	**Pg**	**20 09 02.6**	**-1.3**
IMOG				*e*AMB	AMB	20 09 17.4	
	comp=Z,30μm,0.1s						
ISRO	**Mashad**	**0.91**	**99**	*e*Sg	**Sg**	**20 09 15.9**	**-0.9**
ISRO				*e*Pg	**Pg**	**20 09 03.8**	**-0.9**
ISRO				*e*AMB	AMB	20 09 17.4	
	comp=Z,16μm,0.3s						
IEMG	**Emamgholi**	**0.98**	**14**	*e*AMB	AMB	20 09 22.1	
	comp=Z,41μm,0.1s						
IEMG				⇓*e*Pg	**Pg**	**20 09 05.2**	**-0.9**
IMYA	**Miami**	**1.41**	**94**	*e*Pn	**Pn**	**20 09 12.8**	**+1.0**
IMYA				*e*AMB	AMB	20 09 35.8	
	comp=Z,15μm,0.2s						
IMYA	**Miami**	**1.41**	**94**	*e*Pn	**Pn**	**20 09 12.8**	**+1.0**
BJRD	**Bojnurd**	**1.45**	**329**	*e*Pg	**Pn**	**20 09 13.2**	**+0.9**
GEYT	**Alibeck**	**1.48**	**353**	Pg	**Pn**	**20 09 13.9**	**+1.3**
	comp=Z,59nm,0.3s,baz=181,slow=17,SNR=325						
GEYT				LR	LR	20 09 33.3	
	comp=Z,56nm,18.8s,baz=235,slow=31						
GEYT				Lg	Lg	20 09 34.1	
	comp=Z,191nm,0.3s,baz=114,slow=35,SNR=37						
ASHT	**Ashkhabad**	**1.48**	**1**	⇓P	**Pg**	**20 09 16.1**	**+0.6**
	comp=Z,262nm,0.5s						
ASHT				S	**Sg**	**20 09 37.4**	**+2.7**
	comp=Z,2μm,0.6s						
ASHT	**Ashkhabad**	**1.48**	**1**	P	**Pg**	**20 09 16.1**	**+0.6**
	comp=Z,262nm,0.5s						
SHRO	**Shahrood**	**1.95**	**257**	*e*Pg	**Pn**	**20 09 19.8**	**+0.6**
SHRO				*e*Sg	**Sn**	**20 09 44.0**	**+0.7**
MRVT	**Maraveh tapeh**	**2.17**	**304**	*e*Pg	**Pn**	**20 09 23.8**	**+1.6**
TABS	**Tabas**	**2.98**	**200**	*e*Pn	**Pn**	**20 09 35.2**	**+1.9**
ITEG	**Tejag**	**3.57**	**175**	*e*Pn	**Pn**	**20 09 43.4**	**+1.9**
ITEG				*e*AMB	AMB	20 09 54.7	
	comp=Z,954nm,0.2s						
ITEG	**Tejag**	**3.57**	**175**	*e*Pn	**Pn**	**20 09 43.4**	**+1.9**
IGLO	**Ghaloghah**	**3.65**	**272**	*e*Pn	**Pn**	**20 09 44.4**	**+1.8**
IGLO				*e*AMB	AMB	20 10 59.5	
	comp=Z,1μm,0.2s						
IANJ	**Anjilo**	**3.74**	**256**	*e*Pn	**Pn**	**20 09 44.7**	**+0.9**
IANJ				*e*AMB	AMB	20 11 04.6	
	comp=Z,448nm,0.2s						
IANJ	**Anjilo**	**3.74**	**256**	*e*Pn	**Pn**	**20 09 44.7**	**+0.9**
IDAH	**Dahanechah**	**3.92**	**161**	*e*Pn	**Pn**	**20 09 47.5**	**+1.2**
IDAH				*e*AMB	AMB	20 10 02.6	
	comp=Z,615nm,0.3s						
IDAH	**Dahanechah**	**3.92**	**161**	*e*Pn	**Pn**	**20 09 47.5**	**+1.2**
ISHM	**Shahmirzad**	**4.15**	**262**	*e*Pn	**Pn**	**20 09 50.0**	**+0.5**
ISHM				*e*AMB	AMB	20 10 17.8	
	comp=Z,610nm,0.2s						
IFIR	**Firoozkooh**	**4.61**	**261**	*e*Pn	**Pn**	**20 09 56.5**	**+0.6**
IFIR				*e*AMB	AMB	20 09 59.7	
	comp=Z,505nm,0.1s						
IFIR	**Firoozkooh**	**4.61**	**261**	*e*Pn	**Pn**	**20 09 56.5**	**+0.6**
ICHK	**Chekchek**	**5.32**	**219**	*e*AMB	AMB	20 10 07.6	
	comp=Z,647nm,0.1s						
ICHK				*e*Pn	**Pn**	**20 10 06.4**	**+0.8**
IBAF	**Bafgh**	**5.38**	**206**	*e*Pn	**Pn**	**20 10 07.9**	**+1.6**
IBAF				*e*AMB	AMB	20 11 52.7	
	comp=Z,260nm,0.4s						
IBAF	**Bafgh**	**5.38**	**206**	*e*Pn	**Pn**	**20 10 07.9**	**+1.6**
GNI	**Garni**	**11.31**	**293**	Pn	**Pn**	**20 11 28.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=34,slow=18,SNR=2.7						
AB31	**Akbulak array**	**12.84**	**5**	⇑Pn	**Pn**	**20 11 49.5**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=184,slow=13						
AB31				⇑Sn	Sn	20 14 00.8	-10
	comp=Z,1.4nm,0.8s,baz=184,slow=24,SNR=4.3						
AB31	**Akbulak array**	**12.84**	**5**	Pn	**Pn**	**20 11 49.5**	**+1.2**
	comp=Z,0.2nm,0.5s						
KBZ	**Khabaz**	**13.87**	**306**	Pn	**Pn**	**20 12 00.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=320,slow=16,SNR=3.0						
AAK	**Ala-Archa**	**13.89**	**59**	Pn	**Pn**	**20 12 03.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=221,slow=4.7,SNR=6.4						
AKTO	**Aktyubinsk**	**13.97**	**359**	Pn	**Pn**	**20 12 06.4**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=181,slow=15,SNR=4.8						
AKTO				Sn	**Sn**	**20 14 34.6**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=41,slow=19,SNR=4.9						
AKTO				LR	LR	20 17 00.2	
	comp=Z,53nm,21.1s,baz=114,slow=35						
AKTO	**Aktyubinsk**	**13.97**	**359**	⇑Pn	**Pn**	**20 12 01.2**	**-2.6**
	comp=Z,4.1nm,1.2s						
AKTO				⇓Sn	Sn	20 14 30.8	-7.6
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**13.97**	**359**	Pn	**Pn**	**20 12 01.2**	**-2.6**
	comp=Z,4.1nm,1.2s						
KVAR	**Kislovodsk Arr**	**14.10**	**307**	Pn	**Pn**	**20 12 02.8**	**-2.9**
	baz=122,slow=19,SNR=2.4						
BVAR	**Borovoye Array**	**18.59**	**23**	P	**P**	**20 13 04.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=198,slow=9.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**20.26**	**39**	P	**P**	**20 13 23.5**	**+2.4**
	comp=Z,0.4nm,0.2s,baz=238,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**20.58**	**52**	P	Pn	20 13 29.6	+2.6
	comp=Z,0.4nm,0.8s,baz=242,slow=12,SNR=2.4						

IDC 18 20:22:58.1±2.2,2.°76N×129.°38E,h0km,mb3.6/4,
mb1 3.8/4,mb1mx3.4/40,mbtmp3.6/4,Error ellipse:
s-maj=163.0km s-min=23.0km az=68.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**168**	P	P	20 28 03.9	-1.7
	1.0nm,0.5s,baz=345,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.63**	**171**	P	P	20 28 38.7	0.0
	0.2nm,0.5s,baz=347,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**36.35**	**162**	P	P	20 30 03.8	-0.2
	1.2nm,0.3s,baz=336,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**59.87**	**324**	P	P	20 33 06.8	+1.1
	0.4nm,0.8s,baz=117,slow=6.8,SNR=2.5						

*DDA **18** 20:43:47.3,38.°64N×25.°19E,h17km,Md3.2*
*ISCJB **18** 20:43:49.1±0.4,38.°62N±0.°01×25.°29E±0.°01,h10km±3km,*
mb3.7/7,Error ellipse: s-maj=2.1km s-min=1.6km
az=151.1
*ATH **18** 20:43:49.3,38.°63N×25.°33E,h31km±1km,ML3.2/69,Error*
ellipse: s-maj=1.6km s-min=0.7km az=58.0
*ISK **18** 20:43:49.3,38.°65N×25.°25E,h19km,ML3.5*
*THE **18** 20:43:50.0,38.°62N×25.°31E,h13km,ML3.4/28,Error*
ellipse: s-maj=0.9km s-min=0.4km az=94.0
*IDC **18** 20:43:50.0±1.0,38.°52N×25.°14E,h0km,mb3.6/6,*
mb1 3.7/10,mb1mx3.5/48,mbtmp3.5/10,ML3.1/4,Error
ellipse: s-maj=18.2km s-min=15.2km az=142.0
*CSEM **18** 20:43:50.0±0.2,38.°61N×25.°30E,h13km±1km,ML3.2,*
Error ellipse: s-maj=2.0km s-min=1.6km az=146.0
ISC 18 20:43:50.2±1.1,38.°61N±0.°02×25.°31E±0.°01,h5km±8km,
n361,σ1§58/453,mb3.7/7,10C-9D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.63**	**111**	*e*PG	**Pg**	**20 44 02.9**	**+0.7**
CHOS	**Chios island**	**0.63**	**111**	P	**Pg**	**20 44 02.8**	**+0.5**
CHOS				S	**Sb**	**20 44 11.7**	**-1.1**
CHOS	**Chios island**	**0.63**	**111**	P	**Pb**	**20 44 03.9**	**+0.2**
CHOS				S	**Sb**	**20 44 12.7**	**-0.2**
CHOS				AML	AML	20 44 14.9	
	comp=E,18644μm,0.2s						
CHOS				AML	AML	20 44 14.9	
	comp=N,13208μm,0.2s						
CHOS	**Chios island**	**0.63**	**111**	P	**Pg**	**20 44 02.8**	**+0.5**
CHOS				S	**Sb**	**20 44 11.7**	**-1.1**
SKY	**Skiros Island**	**0.65**	**294**	P	**Pg**	**20 44 02.7**	**+0.1**
SKY				S	**Sg**	**20 44 11.7**	**+0.7**
SKY	**Skiros Island**	**0.65**	**294**	P	**Pg**	**20 44 02.9**	**+0.3**
SKY				S	**Sg**	**20 44 11.7**	**+0.7**
SKY				AML	AML	20 44 14.8	
	comp=E,8389μm,0.2s						
SKY				AML	AML	20 44 15.1	
	comp=N,7945μm,0.4s						
SKY	**Skiros Island**	**0.65**	**294**	P	**Pg**	**20 44 02.7**	**+0.1**
SKY				S	**Sg**	**20 44 11.7**	**+0.7**
SIGR	**SIGRI**	**0.74**	**36**	PG	**Pg**	**20 44 04.4**	**+0.1**
SIGR				SG	**Sb**	**20 44 14.9**	**-0.9**
SIGR	**SIGRI**	**0.74**	**36**	P	**Pg**	**20 44 03.4**	**-0.9**
SIGR				S	**Sg**	**20 44 13.8**	**-0.1**
SIGR	**SIGRI**	**0.74**	**36**	P	**Pg**	**20 44 03.2**	**-1.1**
SIGR				S	**Sg**	**20 44 13.8**	**-0.1**
SIGR				AML	AML	20 44 14.0	
	comp=E,5713μm,0.5s						
SIGR				AML	AML	20 44 14.7	
	comp=N,8752μm,0.5s						
SIGR	**SIGRI**	**0.74**	**36**	P	**Pg**	**20 44 03.4**	**-0.9**
SIGR	**SIGRI**	**0.74**	**36**	*i* Pg	**Pg**	**20 44 04.4**	**+0.1**
SIGR				S	**Sg**	**20 44 13.8**	**-0.1**
SIGR				*i* Sg	**Sb**	**20 44 14.9**	**-0.9**
CESE	**ˆe¯me**	**0.83**	**110**	*e*PG	**Pg**	**20 44 06.5**	**+0.4**
CESE	**ˆe¯me**	**0.83**	**110**	*e*Pg	**Pg**	**20 44 06.5**	**+0.4**
KARY	**Karystos**	**0.90**	**230**	P	**Pg**	**20 44 06.9**	**-0.4**
KARY				S	**Sb**	**20 44 19.9**	**-0.5**
KARY	**Karystos**	**0.90**	**230**	P	**Pg**	**20 44 07.3**	**0.0**
KARY				S	**Sb**	**20 44 20.5**	**+0.1**
KARY	**Karystos**	**0.90**	**230**	P	**Pg**	**20 44 06.9**	**-0.4**
KARY				S	**Sb**	**20 44 19.9**	**-0.5**
KRBN	**Karaburun**	**0.98**	**91**	*e*PG	**Pb**	**20 44 09.6**	**0.0**
KRBN	**Karaburun**	**0.98**	**91**	*e*Pg	**Pb**	**20 44 09.6**	**0.0**
PRK	**Paraskevi**	**0.98**	**50**	P	**Pg**	**20 44 08.4**	**-0.7**
PRK				S	**Sg**	**20 44 22.0**	**+0.2**
PRK	**Paraskevi**	**0.98**	**50**	P	**Pg**	**20 44 09.2**	**+0.1**
PRK				AML	AML	20 44 30.4	
	comp=E,5106μm,0.5s						
PRK				AML	AML	20 44 31.1	
	comp=N,7787μm,0.6s						
PRK	**Paraskevi**	**0.98**	**50**	P	**Pg**	**20 44 09.1**	**+0.1**
PRK				S	**Sg**	**20 44 22.0**	**+0.2**
ZEY	**¯zmir**	**1.01**	**111**	*i* P	**Pg**	**20 44 09.4**	**-0.2**
ZEY				*i* S	**Sb**	**20 44 24.1**	**+0.4**
URLA	**Izmir**	**1.04**	**104**	*e*PN	**Pg**	**20 44 10.1**	**-0.1**
URLA	**Izmir**	**1.04**	**104**	*i* P	**Pg**	**20 44 09.8**	**-0.4**
URLA				*i* S	**Sb**	**20 44 24.7**	**0.0**
URLA	**Izmir**	**1.04**	**104**	P	**Pg**	**20 44 09.8**	**-0.4**
URLA	**Izmir**	**1.04**	**104**	*e*Pn	**Pg**	**20 44 10.1**	**-0.1**
URLA				S	**Sb**	**20 44 24.7**	**0.0**
GPNR	**Gulpinar-Canak**	**1.06**	**37**	*e*PG	**Pg**	**20 44 09.2**	**-1.2**
GPNR	**Gulpinar-Canak**	**1.06**	**37**	*e*Pg	**Pg**	**20 44 09.3**	**-1.2**
EREA	**Eretria**	**1.09**	**260**	P	**Pg**	**20 44 10.2**	**-1.0**
EREA				S	**Sg**	**20 44 25.1**	**-0.3**
EREA	**Eretria**	**1.09**	**260**	P	**Pg**	**20 44 10.5**	**-0.6**
EREA				S	**Sb**	**20 44 25.7**	**-0.4**
EREA				AML	AML	20 44 28.1	
	comp=E,3829μm,0.3s						
EREA				AML	AML	20 44 28.5	
	comp=N,5700μm,0.5s						
EREA	**Eretria**	**1.09**	**260**	P	**Pg**	**20 44 10.2**	**-1.0**
EREA				S	**Sg**	**20 44 25.1**	**-0.3**
FOCM	**Foˆ§a**	**1.12**	**84**	*e*PN	**Pg**	**20 44 11.2**	**-0.5**
FOCM				*e*SN	**Sb**	**20 44 26.8**	**-0.1**
FOCM	**Foˆ§a**	**1.12**	**84**	*e*Pn	**Pg**	**20 44 11.2**	**-0.5**
FOCM				*e*Sn	**Sb**	**20 44 26.8**	**-0.1**
CAND	**Candarli**	**1.22**	**73**	*e*PN	**Pg**	**20 44 12.8**	**-0.8**
CAND				*e*SN	**Sb**	**20 44 29.4**	**-0.3**
PTL	**Penteli**	**1.27**	**244**	P	**Pn**	**20 44 12.6**	**-1.9**
PTL				S	**Sg**	**20 44 30.0**	**-0.8**
PTL	**Penteli**	**1.27**	**244**	P	**Pn**	**20 44 12.5**	**-1.9**
PTL				S	**Sg**	**20 44 30.4**	**-0.4**
PTL				AML	AML	20 44 34.2	
	comp=E,4046μm,0.6s						
PTL				AML	AML	20 44 36.1	
	comp=N,4076μm,0.6s						
PTL	**Penteli**	**1.27**	**244**	P	**Pn**	**20 44 12.6**	**-1.9**
PTL				S	**Sg**	**20 44 30.0**	**-0.8**
AYVA	**Ayvalik**	**1.28**	**57**	*i* P	**Pn**	**20 44 12.6**	**-2.1**
AYVA				*i* S	**Sn**	**20 44 32.1**	**-0.2**
AYVA	**Ayvalik**	**1.28**	**57**	P	**Pn**	**20 44 12.6**	**-2.1**
AYVA				S	**Sn**	**20 44 32.1**	**-0.2**
CUND	**Cunda Adasi-Ba**	**1.28**	**55**	*e*PN	**Pn**	**20 44 12.9**	**-1.9**
CUND	**Cunda Adasi-Ba**	**1.28**	**55**	*e*Pn	**Pn**	**20 44 12.9**	**-1.9**
LIA	**Limnos Island**	**1.29**	**356**	P	**Pn**	**20 44 12.4**	**-2.4**
LIA				S	**Sb**	**20 44 30.1**	**-1.6**
LIA	**Limnos Island**	**1.29**	**356**	P	**Pn**	**20 44 12.4**	**-2.4**
LIA				AML	AML	20 44 33.7	
	comp=E,3217μm,0.5s						
LIA				AML	AML	20 44 37.0	
	comp=N,3130μm,0.8s						
LIA	**Limnos Island**	**1.29**	**356**	P	**Pn**	**20 44 12.4**	**-2.4**
LIA				S	**Sb**	**20 44 30.1**	**-1.6**
DKL	**Dikili**	**1.33**	**69**	*e*PN	**Pn**	**20 44 13.5**	**-1.9**
DKL	**Dikili**	**1.33**	**69**	*e*Pn	**Pn**	**20 44 13.5**	**-1.9**
BOZC	**Bozcaada**	**1.36**	**25**	*e*PN	**Pn**	**20 44 13.4**	**-2.3**
BOZC	**Bozcaada**	**1.36**	**25**	*i* P	**Pn**	**20 44 13.3**	**-2.5**
BOZC				*i* S	**Sb**	**20 44 33.2**	**-0.5**
BOZC	**Bozcaada**	**1.36**	**25**	*e*Pn	**Pn**	**20 44 13.4**	**-2.3**
ATHU	**Athens Univers**	**1.36**	**242**	P	**Pn**	**20 44 13.7**	**-2.1**
ATHU				S	**Sb**	**20 44 32.1**	**-1.7**
ATHU	**Athens Univers**	**1.36**	**242**	P	**Pn**	**20 44 13.1**	**-2.7**
ATHU				S	**Sn**	**20 44 35.3**	**+1.1**
ATHU				AML	AML	20 44 38.5	
	comp=N,1500μm,0.6s						
ATHU				AML	AML	20 44 38.7	
	comp=E,741μm,0.6s						
ATHU	**Athens Univers**	**1.36**	**242**	P	**Pn**	**20 44 13.7**	**-2.1**
ATHU				S	**Sb**	**20 44 32.1**	**-1.7**
DGB	**¯zmir**	**1.36**	**114**	*i* P	**Pn**	**20 44 14.5**	**-1.3**
DGB				*i* S	**Sg**	**20 44 34.7**	**+0.8**
GMLD	**Gumuldur**	**1.38**	**112**	*e*PN	**Pn**	**20 44 15.6**	**-0.4**
GMLD	**Gumuldur**	**1.38**	**112**	*e*Pn	**Pn**	**20 44 15.6**	**-0.4**
ATH	**Athens Observa**	**1.40**	**243**	P	**Pn**	**20 44 14.6**	**-1.8**
ATH				S	**Sb**	**20 44 33.9**	**-1.1**
ATH	**Athens Observa**	**1.40**	**243**	P	**Pn**	**20 44 14.2**	**-2.2**
ATH				S	**Sn**	**20 44 35.0**	**-0.2**
ATH				AML	AML	20 44 37.7	
	comp=N,3686μm,0.4s						
ATH				AML	AML	20 44 38.5	
	comp=E,3778μm,0.5s						
ATH	**Athens Observa**	**1.40**	**243**	P	**Pn**	**20 44 14.6**	**-1.8**
ATH				S	**Sb**	**20 44 33.9**	**-1.1**
VLY	**Voula,Athens**	**1.41**	**238**	P	**Pn**	**20 44 14.6**	**-1.9**
VLY	**Voula,Athens**	**1.41**	**238**	P	**Pn**	**20 44 14.5**	**-2.0**
VLY				AML	AML	20 44 38.5	
	comp=N,3017μm,0.4s						
VLY				AML	AML	20 44 46.2	
	comp=E,3910μm,0.6s						
VLY	**Voula,Athens**	**1.41**	**238**	P	**Pn**	**20 44 14.6**	**-1.9**
EZN	**Ezine**	**1.45**	**33**	PN	**Pn**	**20 44 15.1**	**-1.9**
EZN	**Ezine**	**1.45**	**33**	P	**Pn**	**20 44 14.6**	**-2.4**
EZN				S	**Sn**	**20 44 34.2**	**-2.1**
EZN	**Ezine**	**1.45**	**33**	P	**Pn**	**20 44 14.6**	**-2.4**
EZN	**Ezine**	**1.45**	**33**	*i* Pn	**Pn**	**20 44 15.1**	**-1.9**
EZN				S	**Sn**	**20 44 34.2**	**-2.1**
BAYC	**CANAKKALE_Bayr**	**1.48**	**40**	*i* P	**Pn**	**20 44 15.1**	**-2.4**
BAYC				*i* S	**Sb**	**20 44 37.2**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.48**	**40**	P	**Pn**	**20 44 15.1**	**-2.4**
BAYC				S	**Sb**	**20 44 37.2**	**-0.2**
SKIA	**Skiathos**	**1.54**	**292**	P	**Pn**	**20 44 16.5**	**-1.8**
SKIA				S	**Sn**	**20 44 35.4**	**-3.2**
SKIA	**Skiathos**	**1.54**	**292**	P	**Pn**	**20 44 16.4**	**-1.8**
SKIA				AML	AML	20 44 43.4	
	comp=N,3517μm,0.6s						
SKIA				AML	AML	20 44 43.5	
	comp=E,1937μm,0.5s						
SKIA	**Skiathos**	**1.54**	**292**	P	**Pn**	**20 44 16.5**	**-1.8**
SKIA				S	**Sn**	**20 44 35.4**	**-3.2**
APE	**Apeiranthos**	**1.55**	**173**	P	**Pn**	**20 44 16.1**	**-2.4**
APE				S	**Sn**	**20 44 36.7**	**-2.3**
APE	**Apeiranthos**	**1.55**	**173**	⇓*i* P	**Pn**	**20 44 16.4**	**-2.1**
APE				S	**Sn**	**20 44 36.5**	**-2.5**
APE	**Apeiranthos**	**1.55**	**173**	P	**Pn**	**20 44 15.9**	**-2.5**
APE				AML	AML	20 44 50.0	
	comp=N,1161μm,0.6s						
APE				AML	AML	20 44 54.9	
	comp=E,1295μm,0.9s						
APE	**Apeiranthos**	**1.55**	**173**	P	**Pn**	**20 44 16.1**	**-2.4**
APE				S	**Sn**	**20 44 36.7**	**-2.3**
VILL	**Villia**	**1.63**	**255**	P	**Pn**	**20 44 17.9**	**-1.6**
VILL	**Villia**	**1.63**	**255**	P	**Pn**	**20 44 17.9**	**-1.6**
GADA	**Gvkgeada**	**1.64**	**16**	*e*PN	**Pn**	**20 44 16.9**	**-2.8**
GADA	**Gvkgeada**	**1.64**	**16**	P	**Pn**	**20 44 17.2**	**-2.5**
GADA				S	**Sn**	**20 44 38.8**	**-2.3**
GADA	**Gvkgeada**	**1.64**	**16**	*e*Pn	**Pn**	**20 44 16.9**	**-2.8**
GADA	**Gvkgeada**	**1.64**	**16**	P	**Pn**	**20 44 17.2**	**-2.5**
GADA				S	**Sn**	**20 44 38.8**	**-2.3**
VIL2	**Platees**	**1.65**	**257**	P	**Pn**	**20 44 17.9**	**-1.9**
VIL2				AML	AML	20 44 47.1	
	comp=E,2116μm,0.6s						
VIL2				AML	AML	20 44 50.8	
	comp=N,2444μm,0.8s						
GOKC	**Gokceada-Canak**	**1.65**	**16**	*e*PN	**Pn**	**20 44 17.6**	**-2.2**
GOKC	**Gokceada-Canak**	**1.65**	**16**	*e*Pn	**Pn**	**20 44 17.6**	**-2.2**
SMIA	**Simia**	**1.66**	**280**	P	**Pn**	**20 44 18.6**	**-1.3**
SMIA				S	**Sn**	**20 44 39.3**	**-2.4**
SMIA	**Simia**	**1.66**	**280**	P	**Pn**	**20 44 18.6**	**-1.3**
SMIA				AML	AML	20 44 49.3	
	comp=E,6994μm,1.1s						
SMIA				AML	AML	20 44 54.4	
	comp=N,5039μm,0.8s						
SMIA	**Simia**	**1.66**	**280**	P	**Pn**	**20 44 18.6**	**-1.3**
SMIA				S	**Sn**	**20 44 39.3**	**-2.4**
NEO	**Neokhori**	**1.77**	**294**	P	**Pn**	**20 44 19.4**	**-2.0**
NEO	**Neokhori**	**1.77**	**294**	P	**Pn**	**20 44 19.1**	**-2.2**
NEO				AML	AML	20 44 53.9	
	comp=E,1116μm,0.5s						
NEO				AML	AML	20 44 54.1	
	comp=N,1446μm,0.7s						
NEO	**Neokhori**	**1.77**	**294**	P	**Pn**	**20 44 19.4**	**-2.0**
GCAM	**G?zelcaml?**	**1.77**	**120**	*i* P	**Pn**	**20 44 20.0**	**-1.4**
GCAM	**G?zelcaml?**	**1.77**	**120**	P	**Pn**	**20 44 20.0**	**-1.4**
LKR	**Lokris**	**1.81**	**272**	P	**Pn**	**20 44 20.0**	**-1.9**
LKR				AML	AML	20 44 55.8	
	comp=N,593μm,0.7s						
LKR				AML	AML	20 45 04.2	
	comp=E,532μm,0.8s						
LKR	**Lokris**	**1.81**	**272**	P	**Pn**	**20 44 20.0**	**-1.9**
XOR	**Xorichti**	**1.81**	**295**	P	**Pn**	**20 44 19.9**	**-2.1**
XOR				S	**Sn**	**20 44 43.4**	**-2.0**
XOR	**Xorichti**	**1.81**	**295**	P	**Pn**	**20 44 19.2**	**-2.9**
XOR				AML	AML	20 44 54.2	
	comp=E,556μm,0.7s						
XOR				AML	AML	20 44 57.3	
	comp=N,1384μm,0.5s						
XOR	**Xorichti**	**1.81**	**295**	P	**Pn**	**20 44 19.9**	**-2.1**
XOR				S	**Sn**	**20 44 43.4**	**-2.0**
PAIG	**Paliouri**	**1.82**	**317**	P	**Pn**	**20 44 20.2**	**-1.9**
PAIG				S	**Sn**	**20 44 43.1**	**-2.5**
PAIG	**Paliouri**	**1.82**	**317**	P	**Pn**	**20 44 19.6**	**-2.5**
PAIG				AML	AML	20 44 51.6	
	comp=N,664μm,1.0s						
PAIG				AML	AML	20 44 53.5	
	comp=E,405μm,0.5s						
PAIG	**Paliouri**	**1.82**	**317**	P	**Pn**	**20 44 20.2**	**-1.9**
PAIG				S	**Sn**	**20 44 43.1**	**-2.5**
PROD	**Prodromos**	**1.92**	**

DSF	**Desfina**	**2.19 266**	P	**Pn**	**20 44 25.5**	**-1.8**
DSF			S	**Sn**	**20 44 53.4**	**-1.3**
THR5	**Thira Island,**	**2.19 179**	P	**Pn**	**20 44 25.1**	**-2.1**
THR5	**Thira Island,**	**2.19 179**	P	**Pn**	**20 44 25.1**	**-2.1**
THR3	**Thira Island,**	**2.20 178**	P	**Pn**	**20 44 25.2**	**-2.1**
THR3	**Thira Island,**	**2.20 178**	P	**Pn**	**20 44 25.2**	**-2.1**
ENEZ	**Enez**	**2.22 17**	*e*PN	**Pn**	**20 44 26.1**	**-1.5**
ENEZ	**Enez**	**2.22 17**	*e*Pn	**Pn**	**20 44 26.1**	**-1.5**
AYDN	**Tasoluk**	**2.24 114**	*i* P	**Pn**	**20 44 27.5**	**-0.5**
AYDN			*i* S	**Sn**	**20 44 51.3**	**-4.7**
AYDN	**Tasoluk**	**2.24 114**	P	**Pn**	**20 44 27.5**	**-0.5**
AYDN			S	**Sn**	**20 44 51.3**	**-4.7**
SANT	**Santorini**	**2.24 177**	P	**Pn**	**20 44 24.4**	**-3.5**
SANT			AML	AML	20 45 19.2	
	comp=N,676μm,0.6s					
SANT			AML	AML	20 45 24.5	
	comp=E,592μm,0.6s					
SANT	**Santorini**	**2.24 177**	P	**Pn**	**20 44 24.4**	**-3.5**
BALB	**Balikesir**	**2.25 62**	*e*PN	**Pn**	**20 44 27.1**	**-0.9**
BALB	**Balikesir**	**2.25 62**	*e*Pn	**Pn**	**20 44 27.1**	**-0.9**
THR6	**Thira Island,**	**2.25 178**	P	**Pn**	**20 44 26.3**	**-1.8**
THR6	**Thira Island,**	**2.25 178**	P	**Pn**	**20 44 26.3**	**-1.8**
ERIK	**Erikli-Kesan**	**2.26 24**	*e*PN	**Pn**	**20 44 26.5**	**-1.6**
ERIK	**Erikli-Kesan**	**2.26 24**	*e*Pn	**Pn**	**20 44 26.5**	**-1.6**
PLG	**Polygyros**	**2.27 321**	P	**Pn**	**20 44 27.7**	**-0.7**
PLG			AML	AML	20 44 57.6	
	comp=N,158μm,0.8s					
PLG			AML	AML	20 45 19.6	
	comp=E,152μm,0.8s					
PLG	**Polygyros**	**2.27 321**	P	**Pn**	**20 44 27.7**	**-0.7**
BDRM	**Kayabasi**	**2.29 132**	*i* P	**Pn**	**20 44 27.4**	**-1.2**
BDRM			*i* S	**Sn**	**20 44 49.5**	**-7.7**
BDRM	**Kayabasi**	**2.29 132**	P	**Pn**	**20 44 27.4**	**-1.2**
GONE	**Gonen-Balikesi**	**2.34 51**	*e*PN	**Pn**	**20 44 28.0**	**-1.2**
GONE	**Gonen-Balikesi**	**2.34 51**	*e*Pn	**Pn**	**20 44 28.0**	**-1.2**
ALN	**Alexandroupoli**	**2.35 14**	*e*PN	**Pn**	**20 44 26.9**	**-2.5**
ALN	**Alexandroupoli**	**2.35 14**	P	**Pn**	**20 44 27.1**	**-2.3**
ALN			S	**Sn**	**20 44 57.1**	**-1.6**
ALN	**Alexandroupoli**	**2.35 14**	P	**Pn**	**20 44 26.7**	**-2.7**
ALN			AML	AML	20 45 09.6	
	comp=E,428μm,0.7s					
ALN			AML	AML	20 45 12.5	
	comp=N,393μm,0.6s					
ALN	**Alexandroupoli**	**2.35 14**	P	**Pn**	**20 44 27.1**	**-2.3**
ALN			S	**Sn**	**20 44 57.1**	**-1.6**
KRBG	**Karabiga-Canak**	**2.35 40**	*e*PN	**Pn**	**20 44 27.9**	**-1.5**
KRBG	**Karabiga-Canak**	**2.35 40**	*e*Pn	**Pn**	**20 44 27.9**	**-1.5**
AGG	**Agios Georgios**	**2.36 281**	P	**Pn**	**20 44 28.2**	**-1.4**
AGG	**Agios Georgios**	**2.36 281**	P	**Pn**	**20 44 29.0**	**-0.6**
AGG			AML	AML	20 45 14.1	
	comp=N,846μm,1.3s					
AGG			AML	AML	20 45 23.7	
	comp=E,783μm,1.0s					
AGG	**Agios Georgios**	**2.36 281**	P	**Pn**	**20 44 28.2**	**-1.4**
GUR	**Goura**	**2.43 255**	P	**Pn**	**20 44 29.1**	**-1.5**
GUR	**Goura**	**2.43 255**	P	**Pn**	**20 44 29.3**	**-1.3**
GUR			AML	AML	20 45 09.9	
	comp=N,1211μm,0.5s					
GUR			AML	AML	20 45 13.3	
	comp=E,800μm,0.4s					
GUR	**Goura**	**2.43 255**	P	**Pn**	**20 44 29.1**	**-1.5**
KESN	**Edirne-Kesan**	**2.45 25**	*i* P	**Pn**	**20 44 29.3**	**-1.9**
KESN	**Edirne-Kesan**	**2.45 25**	P	**Pn**	**20 44 29.3**	**-1.9**
KAVA	**Kavala**	**2.46 346**	P	**Pn**	**20 44 28.8**	**-2.1**
KAVA			S	**Sn**	**20 44 59.9**	**-1.4**
KAVA	**Kavala**	**2.46 346**	P	**Pn**	**20 44 28.2**	**-2.7**
KAVA			AML	AML	20 45 13.6	
	comp=N,292μm,0.7s					
KAVA			AML	AML	20 45 14.4	
	comp=E,203μm,0.8s					
KAVA	**Kavala**	**2.46 346**	P	**Pn**	**20 44 28.8**	**-2.1**
KAVA			S	**Sn**	**20 44 59.9**	**-1.4**
KALE	**Kalithea**	**2.49 266**	P	**Pn**	**20 44 30.3**	**-1.1**
KALE			AML	AML	20 45 22.6	
	comp=N,683μm,1.0s					
KALE			AML	AML	20 45 26.9	
	comp=E,617μm,0.8s					
KALE	**Kalithea**	**2.49 266**	P	**Pn**	**20 44 30.3**	**-1.1**
RDO	**Rodhopi**	**2.54 4**	P	**Pn**	**20 44 30.0**	**-2.0**
RDO	**Rodhopi**	**2.54 4**	P	**Pn**	**20 44 29.9**	**-2.0**
RDO			AML	AML	20 45 19.6	
	comp=N,261μm,1.4s					
RDO			AML	AML	20 45 24.6	
	comp=E,219μm,0.7s					
RDO	**Rodhopi**	**2.54 4**	P	**Pn**	**20 44 30.0**	**-2.0**
KLV	**Kalavryta, Ach**	**2.54 258**	P	**Pn**	**20 44 30.6**	**-1.6**
KLV			S	**Sn**	**20 45 02.3**	**-1.2**
KLV	**Kalavryta, Ach**	**2.54 258**	P	**Pn**	**20 44 30.4**	**-1.7**
KLV			AML	AML	20 45 15.0	
	comp=N,288μm,0.8s					
KLV			AML	AML	20 45 21.5	
	comp=E,225μm,0.8s					
KLV	**Kalavryta, Ach**	**2.54 258**	P	**Pn**	**20 44 30.6**	**-1.6**
KLV			S	**Sn**	**20 45 02.3**	**-1.2**
TRIZ	**Trizonia**	**2.55 265**	P	**Pn**	**20 44 32.1**	**0.0**
TRIZ	**Trizonia**	**2.55 265**	P	**Pn**	**20 44 32.1**	**0.0**
SERG	**Sergoula**	**2.56 267**	P	**Pn**	**20 44 33.2**	**+0.9**
SERG			AML	AML	20 45 23.8	
	comp=N,433μm,0.6s					
SERG			AML	AML	20 45 32.8	
	comp=E,327μm,0.9s					
SERG	**Sergoula**	**2.56 267**	P	**Pn**	**20 44 33.2**	**+0.9**
DAT	**Datca**	**2.60 136**	*i* P	**Pn**	**20 44 32.0**	**-1.0**
DAT	**Datca**	**2.60 136**	P	**Pn**	**20 44 32.0**	**-1.0**
HORT	**Hortiatis**	**2.61 320**	*e*PN	**Pn**	**20 44 31.2**	**-1.9**
HORT	**Hortiatis**	**2.61 320**	P	**Pn**	**20 44 32.7**	**-0.4**
HORT			AML	AML	20 45 16.3	
	comp=N,90μm,0.4s					
HORT			AML	AML	20 45 19.4	
	comp=E,126μm,0.5s					
HORT	**Hortiatis**	**2.61 320**	*e*Pn	**Pn**	**20 44 31.2**	**-1.9**
HORT	**Hortiatis**	**2.61 320**	P	**Pn**	**20 44 32.7**	**-0.4**
VLX	**Vlachokerasia**	**2.62 243**	P	**Pn**	**20 44 31.7**	**-1.6**
VLX	**Vlachokerasia**	**2.62 243**	P	**Pn**	**20 44 32.4**	**-0.9**
VLX			AML	AML	20 45 19.0	
	comp=E,1639μm,0.7s					
VLX			AML	AML	20 45 26.1	
	comp=N,974μm,0.7s					
VLX	**Vlachokerasia**	**2.62 243**	P	**Pn**	**20 44 31.7**	**-1.6**
EDC	**Edincik**	**2.63 48**	*e*PN	**Pn**	**20 44 32.2**	**-1.0**
EDC	**Edincik**	**2.63 48**	*e*Pn	**Pn**	**20 44 32.2**	**-1.0**
KULA	**Kula-Manisa**	**2.63 91**	*e*PN	**Pn**	**20 44 32.5**	**-0.9**
KULA	**Kula-Manisa**	**2.63 91**	*e*Pn	**Pn**	**20 44 32.5**	**-0.9**
LAKA	**Lakka**	**2.64 263**	P	**Pn**	**20 44 33.0**	**-0.4**
LAKA	**Lakka**	**2.64 263**	P	**Pn**	**20 44 33.0**	**-0.4**
LIT	**Litokhoron**	**2.64 305**	P	**Pn**	**20 44 32.1**	**-1.3**
LIT			S	**Sn**	**20 45 03.3**	**-2.5**
LIT	**Litokhoron**	**2.64 305**	P	**Pn**	**20 44 32.1**	**-1.3**
LIT			AML	AML	20 45 22.1	
	comp=E,99μm,0.6s					
LIT			AML	AML	20 45 25.2	
	comp=N,117μm,0.7s					
LIT	**Litokhoron**	**2.64 305**	P	**Pn**	**20 44 32.1**	**-1.3**
LIT			S	**Sn**	**20 45 03.3**	**-2.5**
ANX	**Ano Chora**	**2.65 271**	P	**Pn**	**20 44 33.4**	**-0.2**
ANX			AML	AML	20 45 23.8	
	comp=N,441μm,0.5s					
ANX			AML	AML	20 45 24.8	
	comp=E,492μm,0.7s					
ANX	**Ano Chora**	**2.65 271**	P	**Pn**	**20 44 33.4**	**-0.2**
VLI	**Veliai**	**2.67 226**	P	**Pn**	**20 44 31.7**	**-2.0**
VLI			S	**Sn**	**20 45 05.1**	**-1.3**
VLI	**Veliai**	**2.67 226**	P	**Pn**	**20 44 31.5**	**-2.2**
VLI			AML	AML	20 45 21.7	
	comp=N,624μm,0.7s					
VLI			AML	AML	20 45 27.5	
	comp=E,538μm,1.0s					
VLI	**Veliai**	**2.67 226**	P	**Pn**	**20 44 31.7**	**-2.0**
VLI			S	**Sn**	**20 45 05.1**	**-1.3**
SOH	**Sokhos**	**2.67 326**	P	**Pn**	**20 44 33.9**	**0.0**
SOH			AML	AML	20 45 20.2	
	comp=N,220μm,0.7s					
SOH			AML	AML	20 45 28.7	
	comp=E,250μm,0.7s					
SOH	**Sokhos**	**2.67 326**	P	**Pn**	**20 44 33.9**	**0.0**
EFP	**Efpalio**	**2.67 267**	P	**Pn**	**20 44 33.2**	**-0.6**
EFP			AML	AML	20 45 27.0	
	comp=N,422μm,1.3s					
EFP			AML	AML	20 45 28.0	
	comp=E,627μm,1.2s					
EFP	**Efpalio**	**2.67 267**	P	**Pn**	**20 44 33.2**	**-0.6**
DEMI	**Demirci**	**2.70 80**	*i* P	**Pn**	**20 44 34.5**	**+0.2**
DEMI	**Demirci**	**2.70 80**	P	**Pn**	**20 44 34.5**	**+0.2**
THL	**Klokotos Trika**	**2.73 291**	P	**Pn**	**20 44 34.4**	**-0.3**
THL			AML	AML	20 45 23.1	
	comp=E,87μm,0.6s					
THL			AML	AML	20 45 30.0	
	comp=N,130μm,0.7s					
THL	**Klokotos Trika**	**2.73 291**	P	**Pn**	**20 44 34.4**	**-0.3**
EVR	**Evrytania**	**2.75 277**	P	**Pn**	**20 44 35.7**	**+0.7**
EVR			AML	AML	20 45 30.1	
	comp=N,164μm,1.0s					
EVR			AML	AML	20 45 33.9	
	comp=E,213μm,1.2s					
EVR	**Evrytania**	**2.75 277**	P	**Pn**	**20 44 35.7**	**+0.7**
SRS	**Serrai**	**2.83 333**	P	**Pn**	**20 44 34.0**	**-2.0**
SRS			AML	AML	20 45 31.3	
	comp=E,121μm,1.0s					
SRS			AML	AML	20 45 44.6	
	comp=N,96μm,1.6s					
SRS	**Serrai**	**2.83 333**	P	**Pn**	**20 44 34.0**	**-2.0**
KCTX	**Karacabey (Bur**	**2.88 54**	*e*PN	**Pn**	**20 44 35.9**	**-0.8**
KCTX	**Karacabey (Bur**	**2.88 54**	*e*Pn	**Pn**	**20 44 35.9**	**-0.8**
DRO	**Drossia**	**2.91 258**	P	**Pn**	**20 44 36.5**	**-0.6**
DRO			AML	AML	20 45 29.7	
	comp=N,556μm,1.0s					
DRO			AML	AML	20 45 37.6	
	comp=E,686μm,0.7s					
DRO	**Drossia**	**2.91 258**	P	**Pn**	**20 44 36.5**	**-0.6**
SIMA	**Simav-Kutahya**	**2.91 80**	*e*PN	**Pn**	**20 44 36.4**	**-0.8**
SIMA	**Simav-Kutahya**	**2.91 80**	*e*Pn	**Pn**	**20 44 36.4**	**-0.8**
TKR	**Tekirdag**	**2.93 35**	*e*PN	**Pn**	**20 44 36.1**	**-1.3**
TKR	**Tekirdag**	**2.93 35**	*e*Pn	**Pn**	**20 44 36.1**	**-1.3**
NVR	**Nevrokopi**	**2.95 338**	P	**Pn**	**20 44 35.9**	**-1.9**
NVR			AML	AML	20 45 37.7	
	comp=N,145μm,0.8s					
NVR			AML	AML	20 45 51.3	
	comp=E,102μm,0.8s					
NVR	**Nevrokopi**	**2.95 338**	P	**Pn**	**20 44 35.8**	**-1.9**
KYTH	**Kithira**	**2.95 218**	P	**Pn**	**20 44 35.8**	**-1.9**
KYTH			AML	AML	20 45 30.5	
	comp=N,332μm,0.7s					
KYTH			AML	AML	20 45 36.0	
	comp=E,332μm,1.0s					
KYTH	**Kithira**	**2.95 218**	P	**Pn**	**20 44 35.8**	**-1.9**
PVO	**Paravola**	**2.96 271**	P	**Pn**	**20 44 36.8**	**-1.0**
PVO	**Paravola**	**2.96 271**	P	**Pn**	**20 44 36.8**	**-1.0**
ITM	**Ithomi**	**3.03 243**	P	**Pn**	**20 44 38.5**	**-0.3**
ITM			AML	AML	20 45 34.2	
	comp=E,254μm,1.0s					
ITM			AML	AML	20 45 35.4	
	comp=N,243μm,0.9s					
ITM	**Ithomi**	**3.03 243**	P	**Pn**	**20 44 38.5**	**-0.3**
AMT	**Artemida-Makis**	**3.04 250**	P	**Pn**	**20 44 40.5**	**+1.7**
AMT			AML	AML	20 45 30.0	
	comp=N,445μm,0.7s					
AMT			AML	AML	20 45 44.0	
	comp=E,543μm,0.8s					
SBT3	**Marmara-Eregli**	**3.06 41**	*e*PN	**Pn**	**20 44 38.2**	**-0.9**
SBT3	**Marmara-Eregli**	**3.06 41**	*e*Pn	**Pn**	**20 44 38.2**	**-0.9**
RLS	**Riolos of Patr**	**3.07 261**	P	**Pn**	**20 44 38.2**	**-1.1**
RLS			S	**Sn**	**20 45 15.6**	**-0.7**
RLS	**Riolos of Patr**	**3.07 261**	P	**Pn**	**20 44 39.9**	**+0.6**
RLS			AML	AML	20 45 36.7	
	comp=N,163μm,1.0s					
RLS			AML	AML	20 45 48.6	
	comp=E,168μm,0.9s					
RLS	**Riolos of Patr**	**3.07 261**	P	**Pn**	**20 44 38.2**	**-1.1**
RLS			S	**Sn**	**20 45 15.6**	**-0.7**
CRLT	**Corlu**	**3.13 36**	*e*PN	**Pn**	**20 44 38.6**	**-1.6**
CRLT	**Corlu**	**3.13 36**	*e*Pn	**Pn**	**20 44 38.6**	**-1.6**
TURN	**Turunc**	**3.14 123**	*i* P	Pn	20 44 35.2	-5.0
TURN	**Turunc**	**3.14 123**	P	Pn	20 44 35.2	-5.0
KNT	**Kendrikon**	**3.15 325**	*e*PN	**Pn**	**20 44 39.1**	**-1.3**
KNT	**Kendrikon**	**3.15 325**	P	**Pn**	**20 44 39.1**	**-1.3**
KNT			S	**Sn**	**20 45 17.5**	**-0.8**
KNT	**Kendrikon**	**3.15 325**	P	**Pn**	**20 44 40.4**	**0.0**
KNT			AML	AML	20 45 37.5	
	comp=E,98μm,0.7s					
KNT			AML	AML	20 45 49.8	
	comp=N,95μm,1.2s					
KNT	**Kendrikon**	**3.15 325**	P	**Pn**	**20 44 39.1**	**-1.3**
KNT			S	**Sn**	**20 45 17.5**	**-0.8**
ANKY	**Antikythira Is**	**3.17 211**	P	**Pn**	**20 44 38.6**	**-2.1**
ANKY			S	**Sn**	**20 45 18.9**	**0.0**
ANKY	**Antikythira Is**	**3.17 211**	P	**Pn**	**20 44 38.5**	**-2.1**
ANKY			AML	AML	20 45 48.8	
	comp=N,314μm,0.9s					
ANKY			AML	AML	20 45 48.8	
	comp=E,394μm,0.7s					
ANKY	**Antikythira Is**	**3.17 211**	P	**Pn**	**20 44 38.6**	**-2.1**
ANKY			S	**Sn**	**20 45 18.9**	**0.0**
MDNY	**Mudanya-Bursa**	**3.28 57**	*e*PN	**Pn**	**20 44 41.3**	**-0.8**
MDNY	**Mudanya-Bursa**	**3.28 57**	*e*Pn	**Pn**	**20 44 41.3**	**-0.8**
ARG	**Arkhangelos**	**3.28 136**	P	**Pn**	**20 44 42.5**	**+0.3**
ARG			AML	AML	20 45 09.2	
	comp=E,132μm,0.9s					
ARG			AML	AML	20 45 17.1	
	comp=N,151μm,1.2s					
ARG	**Arkhangelos**	**3.28 136**	P	**Pn**	**20 44 42.5**	**+0.3**
PYL	**PYLOS**	**3.30 240**	P	**Pn**	**20 44 43.7**	**+1.2**
IMMV	**Iera Moni Meta**	**3.32 199**	P	**Pn**	**20 44 41.5**	**-1.2**
IMMV			AML	AML	20 45 55.1	
	comp=N,530μm,1.2s					
IMMV			AML	AML	20 45 57.3	
	comp=E,502μm,1.3s					
IMMV	**Iera Moni Meta**	**3.32 199**	P	**Pn**	**20 44 41.5**	**-1.2**
VAM	**Vamos**	**3.32 196**	P	**Pn**	**20 44 42.1**	**-0.7**
VAM			AML	AML	20 45 42.7	
	comp=E,254μm,0.8s					
VAM			AML	AML	20 45 43.6	
	comp=N,273μm,1.3s					
VAM	**Vamos**	**3.32 196**	P	**Pn**	**20 44 42.1**	**-0.7**
DSL	**Palaion Diasel**	**3.33 280**	P	**Pn**	**20 44 43.1**	**+0.2**
DSL			AML	AML	20 45 32.0	
	comp=E,175μm,0.9s					
DSL			AML	AML	20 45 54.8	
	comp=N,177μm,1.1s					
DSL	**Palaion Diasel**	**3.33 280**	P	**Pn**	**20 44 43.1**	**+0.2**
IDI	**Anoyia**	**3.33 186**	Pn	**Pn**	**20 44 41.4**	**-1.6**
	comp=N,1.5nm,0.3s,baz=296,slow=18,SNR=31					
IDI			Sn	**Sn**	**20 45 21.0**	**-2.0**
	comp=N,1.9nm,0.3s,baz=250,slow=13,SNR=3.5					
IDI	**Anoyia**	**3.33 186**	P	**Pn**	**20 44 41.1**	**-1.9**
IDI			S	**Sn**	**20 45 22.4**	**-0.6**
IDI	**Anoyia**	**3.33 186**	P	**Pn**	**20 44 40.4**	**-2.7**
IDI			AML	AML	20 45 44.6	
	comp=E,182μm,1.0s					
IDI			AML	AML	20 45 49.9	
	comp=N,130μm,0.7s					
IDI	**Anoyia**	**3.33 186**	P	**Pn**	**20 44 41.1**	**-1.9**
IDI			S	**Sn**	**20 45 22.4**	**-0.6**
KPRO	**Kipourio**	**3.34 295**	P	**Pn**	**20 44 42.7**	**-0.4**
KPRO			S	**Sn**	**20 45 23.2**	**0.0**
KPRO	**Kipourio**	**3.34 295**	P	**Pn**	**20 44 43.0**	**0.0**
KPRO			AML	AML	20 45 08.7	
	comp=E,136μm,0.8s					
KPRO			AML	AML	20 45 34.6	
	comp=N,99μm,1.0s					
KPRO	**Kipourio**	**3.34 295**	P	**Pn**	**20 44 42.7**	**-0.4**
KPRO			S	**Sn**	**20 45 23.2**	**0.0**
TVSB	**Tavsanli**	**3.34 74**	*e*PN	**Pn**	**20 44 42.5**	**-0.7**
TVSB	**Tavsanli**	**3.34 74**	*e*Pn	**Pn**	**20 44 42.5**	**-0.7**
NPS	**Neapolis**	**3.35 176**	P	**Pn**	**20 44 41.7**	**-1.5**
NPS			S	**Sn**	**20 45 22.0**	**-1.4**
NPS	**Neapolis**	**3.35 176**	P	**Pn**	**20 44 41.9**	**-1.3**
NPS			AML	AML	20 45 46.5	
	comp=E,270μm,1.5s					
NPS			AML	AML	20 45 47.0	
	comp=N,184μm,1.0s					
NPS	**Neapolis**	**3.35 176**	P	**Pn**	**20 44 41.9**	**-1.3**
NPS			S	**Sn**	**20 45 22.0**	**-1.4**
SBT2	**Guzelce-Avcila**	**3.35 47**	*e*PN	**Pn**	**20 44 42.9**	**-0.2**
SBT2	**Guzelce-Avcila**	**3.35 47**	*e*Pn	**Pn**	**20 44 42.9**	**-0.2**
KARP	**Karpathos**	**3.40 154**	P	**Pn**	**20 44 42.4**	**-1.4**
KARP	**Karpathos**	**3.40 154**	P	**Pn**	**20 44 42.5**	**-1.4**
KARP			AML	AML	20 45 53.1	
	comp=N,168μm,0.9s					
KARP			AML	AML	20 45 56.9	
	comp=E,160μm,0.6s					
KARP	**Karpathos**	**3.40 154**	P	**Pn**	**20 44 42.5**	**-1.4**
EDRB	**Edirne**	**3.41 18**	*e*PN	**Pn**	**20 44 42.9**	**-1.1**
EDRB	**Edirne**	**3.41 18**	*e*Pn	**Pn**	**20 44 42.9**	**-1.1**
SBT5	**Esenkoy-Cinarc**	**3.42 53**	*e*PN	**Pn**	**20 44 43.4**	**-0.6**
SBT5	**Esenkoy-Cinarc**	**3.42 53**	*e*Pn	**Pn**	**20 44 43.4**	**-0.6**
SLVT	**Silivri**	**3.44 40**	*e*PN	**Pn**	**20 44 43.7**	**-0.7**
SLVT	**Silivri**	**3.44 40**	*e*Pn	**Pn**	**20 44 43.7**	**-0.7**
LAST	**Lasithi**	**3.45 178**	P	**Pn**	**20 44 42.9**	**-1.7**
LAST			AML	AML	20 45 50.3	
	comp=N,105μm,0.7s					
LAST			AML	AML	20 46 00.7	
	comp=E,156μm,1.2s					
LAST	**Lasithi**	**3.45 178**	P	**Pn**	**20 44 42.9**	**-1.7**
PHSR	**Pinarhisar**	**3.46 29**	*e*PN	**Pn**	**20 44 43.8**	**-0.9**
PHSR	**Pinarhisar**	**3.46 29**	*e*Pn	**Pn**	**20 44 43.8**	**-0.9**
ZKR	**Zakros**	**3.57 168**	P	**Pn**	**20 44 45.0**	**-1.2**
ZKR			AML	AML	20 45 58.1	
	comp=N,71μm,0.8s					
ZKR			AML	AML	20 46 00.6	
	comp=E,130μm,0.9s					
ZKR	**Zakros**	**3.57 168**	P	**Pn**	**20 44 45.0**	**-1.2**
CTKS	**Kestanelik-??a**	**3.59 42**	*e*PN	**Pn**	**20 44 45.0**	**-1.5**
CTKS	**Kestanelik-??a**	**3.59 42**	*e*Pn	**Pn**	**20 44 45.0**	**-1.5**
SIVA	**Sivas**	**3.61 186**	P	**Pn**	**20 44 46.0**	**-0.7**
SIVA			AML	AML	20 45 59.6	
	comp=N,311μm,1.8s					
SIVA			AML	AML	20 46 15.6	
	comp=E,402μm,0.7s					
SIVA	**Sivas**	**3.61 186**	P	**Pn**	**20 44 46.0**	**-0.7**
LKD2	**Lefkada island**	**3.64 274**	P	**Pn**	**20 44 47.6**	**+0.4**
LKD2			AML	AML	20 45 40.5	
	comp=N,114μm,0.9s					
LKD2			AML	AML	20 45 44.5	
	comp=E,122μm,1.1s					
LKD2	**Lefkada island**	**3.64 274**	P	**Pn**	**20 44 47.6**	**+0.4**
BUY	**Buyukada**	**3.69 52**	*e*PN	**Pn**	**20 44 47.4**	**-0.4**
BUY	**Buyukada**	**3.69 52**	*e*Pn	**Pn**	**20 44 47.4**	**-0.4**
YLV	**Yalova**	**3.70 57**	*e*PN	**Pn**	**20 44 47.7**	**-0.3**
YLV	**Yalova**	**3.70 57**	*e*Pn	**Pn**	**20 44 47.7**	**-0.3**
VLS	**Valsamata**	**3.73 265**	P	**Pn**	**20 44 49.3**	**+0.9**
VLS			AML	AML	20 46 05.1	
	comp=E,93μm,1.0s					
VLS			AML	AML	20 46 14.9	
	comp=N,115μm,1.2s					
VLS	**Valsamata**	**3.73 265**	P	**Pn**	**20 44 49.3**	**+0.9**
ISK	**Istanbul-Kandi**	**3.79 49**	*e*PN	**Pn**	**20 44 49.0**	**-0.2**
ISK	**Istanbul-Kandi**	**3.79 49**	*e*Pn	**Pn**	**20 44 49.0**	**-0.2**
KAVV	**Kandilli-Istan**	**3.79 49**	*e*PN	**Pn**	**20 44 47.7**	**-1.5**
KAVV	**Kandilli-Istan**	**3.79 49**	*e*Pn	**Pn**	**20 44 47.7**	**-1.5**
ADVT	**Abdulvahap**	**3.88 61**	*e*PN	**Pn**	**20 44 50.4**	**-0.1**
ADVT	**Abdulvahap**	**3.88 61**	*e*Pn	**Pn**	**20 44 50.4**	**-0.1**
HRT	**Hereke**	**4.02 55**	*e*PN	**Pn**	**20 44 51.7**	**-0.7**
HRT	**Hereke**	**4.02 55**	*e*Pn	**Pn**	**20 44 51.7**	**-0.7**
VTS	**Vitosha**	**4.28 339** ⇑	*i* P	**Pn**	**20 44 56.2**	**+0.1**
VTS	**Vitosha**	**4.28 339**	S	**Sn**	**20 45 48.2**	**+1.7**
VTS	**Vitosha**	**4.28 339** ⇑	*i* P	**Pn**	**20 44 56.2**	**+0.1**
GULT	**Gulveren**	**4.42 64**	*e*PN	**Pn**	**20 44 58.3**	**+0.4**
GULT	**Gulveren**	**4.42 64**	*e*Pn	**Pn**	**20 44 58.3**	**+0.4**
KEK	**Kerkira**	**4.42 286**	P	**Pn**	**20 44 59.9**	**+2.0**
KEK			AML	AML	20 46 00.7	
	comp=E,86μm,1.0s					
KEK			AML	AML	20 46 08.2	
	comp=N,79μm,0.9s					
BARS	**Barje**	**4.97 329**	*e*Pn	**Pn**	**20 45 05.5**	**+0.1**
ZAGS	**Zajecar**	**5.69 337**	*e*Pn	**Pn**	**20 45 13.6**	**-1.7**
BOVS	**Bovan**	**5.71 333**	*e*Pn	**Pn**	**20 45 15.3**	**-0.2**
BOLS	**Boljevac**	**5.79 335**	*e*Pn	**Pn**	**20 45 15.2**	**-1.5**
GRUS	**Gruza**	**6.30 328**	*e*Pn	**Pn**	**20 45 24.3**	**+0.6**
KUBS	**Kucevo**	**6.40 336**	*e*Pn	**Pn**	**20 45 25.1**	**0.0**
BRTR	**Keskin Array B**	**6.57 78**	Pn	**Pn**	**20 45 31.0**	**+3.5**
	comp=N,0.5nm,0.3s,baz=252,slow=14,SNR=11					
BRTR			Sn	**Sn**	**20 46 45.8**	**+2.9**
	baz=262,slow=18,SNR=1.9					
BRTR			Lg	Lg	20 47 25.5	
	baz=258,slow=20,SNR=2.5					
MDVR	**Moldovita**	**6.72 338** ⇑	*i* P	**Pn**	**20 45 28.8**	**-0.7**
MDVR	**Moldovita**	**6.72 338**	S	**Sn**	**20 46 48.0**	**+1.5**
MDVR	**Moldovita**	**6.72 338** ⇑	*i* P	**Pn**	**20 45 28.8**	**-0.7**
ARR	**Arges**	**6.77 356** ⇑	*i* P	**Pn**	**20 45 28.9**	**-1.3**
ARR	**Arges**	**6.77 356** ⇑	*i* P	**Pn**	**20 45 28.9**	**-1.3**
VOIR		**6.82 358** ⇓	*i* P	**Pn**	**20 45 29.6**	**-1.3**
VOIR		**6.82 358** ⇓	*i* P	**Pn**	**20 45 29.6**	**-1.3**
MLR	**Muntele Rosu**	**6.89 4**	Pn	**Pn**	**20 45 32.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=201,slow=11,SNR=3.8					
MLR	**Muntele Rosu**	**6.89 4** ⇑	*i* P	**Pn**	**20 45 31.6**	**-0.3**
MLR	**Muntele Rosu**	**6.89 4** ⇑	*i* P	**Pn**	**20 45 31.6**	**-0.3**
VRI	**Vrincioaia**	**7.33 8** ⇓	*i* P	**Pn**	**20 45 38.0**	**+0.2**
VRI	**Vrincioaia**	**7.33 8** ⇓	*i* P	**Pn**	**20 45 38.0**	**+0.2**
BZS	**Buzias**	**7.52 340** ⇓	*i* P	**Pn**	**20 45 38.7**	**-1.7**

JHJ2	Mitsune	2.14	75	P	Pn	21 08 52.3	+2.0
JHJ2				eS	S	21 09 37.7	+2.0
JWY	Kouya	2.21	319	P	Pn	21 08 52.5	+1.7
JAI	Aioi	2.72	297	P	Pn	21 08 56.2	+1.7
JAI				S	S	21 09 45.3	+1.9
JOD2	Odawara 2	3.05	28	P	Pn	21 08 58.1	+1.0
JOD2				eS	S	21 09 49.2	+1.0
JYN	Shimob	3.08	18	P	Pn	21 08 58.8	+1.4
JMN	Monobe	3.14	293	P	Pn	21 08 59.8	+1.9
JWT	Wachi	3.15	330	P	Pn	21 08 59.7	+1.7
JWT				eS	S	21 09 50.1	+0.3
JRY	Ryogami san	3.67	20	P	Pn	21 09 03.7	+1.2
JRY				S	S	21 09 57.7	-0.4
JKG	Kaga	3.79	347	P	Pn	21 09 05.0	+1.4
JTO	Tosashimizu	3.85	276	P	Pn	21 09 05.7	+1.4
MJAR	Matsushiro Arr	4.02	10	P	Pn	21 09 06.6	+0.7
	11nm,0.3s,baz=183,slow=9.6,SNR=155						
MJAR				S	S	21 10 04.0	-0.2
	1.4nm,0.3s,baz=184,slow=16,SNR=4.4						
MAT	Matsushiro	4.02	10	P	Pn	21 09 06.8	+0.9
MAT				eS	S	21 10 04.7	+0.5
MAT	Matsushiro	4.02	10	P	Pn	21 09 06.8	+0.9
MAT				eS	S	21 10 04.4	+0.2
JNA	Nagahama	4.21	285	P	Pn	21 09 09.2	+1.5
JNU	Nakatsue	5.48	277	P	Pn	21 09 22.1	+1.3
	0.7nm,0.3s,baz=86,slow=1.6,SNR=6.3						
KSRS	Korea Array	9.14	305	P	P	21 10 03.8	+1.7
	0.6nm,0.3s,baz=120,slow=10,SNR=16						
ASAJ	Asahikawa	12.23	18	P	Pn	21 10 38.2	+0.4
	0.9nm,0.3s,baz=258,slow=17,SNR=4.5						
ASAJ				S	S	21 12 49.5	-1.0
	0.3nm,0.3s,baz=48,slow=26,SNR=3.6						
SONM	Songino Array	27.90	312	P	P	21 13 09.6	-0.1
	0.4nm,0.4s,baz=108,slow=8.0,SNR=4.1						
ZALV	Zalesovo Beam	42.63	316	P	P	21 15 13.1	-0.2
	0.6nm,0.3s,baz=104,slow=7.4,SNR=3.9						
TAPN	Taplejung	43.02	277	eP	P	21 15 15.9	-1.2
	6.6nm,0.4s						
ODAN	Odare	43.45	276	eP	P	21 15 19.0	-1.5
	6.8nm,0.3s						
MKAR	Makanchi Array	43.82	306	P	P	21 15 22.6	-0.3
	0.8nm,0.4s,baz=85,slow=10,SNR=9.0						
RAMN	Ramite	44.08	276	eP	P	21 15 24.6	-0.8
	9.6nm,0.4s						
JIRN	Jiri	44.19	278	eP	P	21 15 26.1	-0.3
GUN	Gumba	44.37	278	eP	P	21 15 27.3	-0.5
PKIN	Phulchoki	44.88	278	eP	P	21 15 30.9	-0.8
	5.4nm,0.5s						
KKN	Kakani	44.91	278	eP	P	21 15 30.9	-0.9
DMN	Daman	45.11	278	eP	P	21 15 33.0	-0.5
GKN	Gorkha	45.37	279	eP	P	21 15 34.5	-0.9
	6.5nm,0.6s						
DANN	Dangsing	45.99	279	eP	P	21 15 40.6	+0.3
KOLN	Koldanda	46.32	279	eP	P	21 15 42.0	-0.7
PYUN	Piuthan	46.72	279	eP	P	21 15 45.2	-0.6
	16nm,0.4s						
BVAR	Borovoye Array	51.20	315	P	P	21 16 18.4	-0.4
	0.4nm,0.4s,baz=92,slow=7.5,SNR=5.6						
WRA	Warramunga Arr	52.30	184	P	P	21 16 25.3	-1.7
	1.1nm,0.3s,baz=0.4,slow=7.7,SNR=39						
ILAR	Eielson Array	55.03	30	P	P	21 16 45.7	-0.4
	0.5nm,0.4s,baz=255,slow=5.8,SNR=16						
ASAR	Alice Springs	56.02	184	P	P	21 16 52.2	-1.4
	0.9nm,0.6s,baz=13,slow=12,SNR=17						
ARCES	ARCESS Array B	66.98	339	P	P	21 18 03.7	-1.6
	1.3nm,0.6s,baz=54,slow=6.2,SNR=6.0						
FINES	FINESS Array B	71.18	332	P	P	21 18 30.4	-0.5
	4.4nm,0.9s,baz=51,slow=5.5,SNR=9.2						
HFS	Hagfors	76.73	335	P	P	21 19 01.9	-0.8
	7.1nm,1.0s,baz=115,slow=9.7,SNR=2.1						
PDAR	Pinedale Array	83.19	43	P	P	21 19 37.6	+0.1
	0.8nm,0.7s,baz=326,slow=1.5,SNR=4.6						
TXAR	Lajitas Array	95.51	50	P	P	21 20 36.0	+0.4
	0.6nm,0.6s,baz=270,slow=2.7,SNR=3.9						
PTGA	Pitinga	144.37	31	PKP	PKPbc	21 26 42.9	-1.2
	3.1nm,0.7s,baz=347,slow=7.0,SNR=7.2						

*ISN **18** 21:10:06.6±0.3, 37.°19N×45.°82E, h0km, ML3.1*
*AZER **18** 21:10:09.2±0.2, 37.°42N×46.°40E, h3km±4km, Error ellipse: s-maj=21.8km s-min=4.2km az=24.0*
*TEH **18** 21:10:11.8, 37.°38N×46.°49E, h7km, ML3.1*
*CSEM **18** 21:10:13.2±0.5, 37.°41N×46.°54E, h10km, ML3.1, Error ellipse: s-maj=11.4km s-min=9.3km az=28.0*

ISC 18 21:10:11.0±1.3, 37.°40N±0.°03×46.°50E±0.°03, h2km±11km, n49, σ1§25/72, 14C-11D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.43	46	ePg	Pg	21 10 19.8	+0.4
IBST				eAMB	AMB	21 10 19.9	
	comp=Z,42μm,0.1s						
IBST				eSg	Sg	21 10 25.7	+0.6
IBST	Bostanabad	0.43	46	ePg	Pg	21 10 19.8	+0.4
IBST				eSg	Sg	21 10 25.7	+0.6
ITBZ	Tabriz	0.88	342	ePg	Pg	21 10 27.9	+0.1
ITBZ				eSg	Sb	21 10 40.4	-0.9
ITBZ				eAMB	AMB	21 10 41.7	
	comp=Z,7μm,0.0s						
ITBZ	Tabriz	0.88	342	ePg	Pg	21 10 27.9	+0.1
ITBZ				eSg	Sb	21 10 40.4	-0.9
IHRS	Heris	1.01	25	ePg	Pg	21 10 30.6	+0.1
IHRS				eAMB	AMB	21 10 35.3	
	comp=Z,4μm,0.1s						
IHRS	Heris	1.01	25	ePg	Pg	21 10 30.6	+0.1
ISRB	Sarab	1.02	65	ePg	Pg	21 10 30.1	-0.5
ISRB				eSg	Sb	21 10 44.7	-0.8
ISRB				eAMB	AMB	21 10 45.9	
	comp=Z,11μm,0.1s						
ISRB	Sarab	1.02	65	ePg	Pg	21 10 30.1	-0.5
ISRB				eSg	Sb	21 10 44.7	-0.8
ISHB	Shabestar	1.12	322	ePg	Pg	21 10 32.1	-0.5
ISHB				eSg	Sg	21 10 47.6	+0.4
ISHB				eAMB	AMB	21 10 50.2	
	comp=Z,11μm,0.1s						
IMRD	Marand	1.46	335	ePn	Pn	21 10 38.3	-0.1
IMRD				eAMB	AMB	21 10 59.4	
	comp=Z,16μm,0.1s						
IMRD	Marand	1.46	335	ePn	Pn	21 10 38.3	-0.1
GRMI	Germi	1.79	38	ePg	Pb	21 10 44.1	-0.4
ZNJK	Zanjan	1.90	112	ePg	Pn	21 10 45.2	+0.7
LRK	Lerik	1.91	49	⇓P	Pb	21 10 46.3	-0.4
	SNR=3.2						
LRK				⇑S	Sg	21 11 13.9	+1.4
LRK	Lerik	1.91	49	P	Pb	21 10 46.3	-0.4
	SNR=3.2						
LRK				S	Sg	21 11 13.9	+1.4
NAX	Nakhchivan	1.94	336	⇓P	Pb	21 10 47.2	+0.1
NAX				⇑S	Sg	21 11 14.0	+0.6
NAX	Nakhchivan	1.94	336	P	Pb	21 10 47.2	+0.1
NAX				S	Sg	21 11 14.0	+0.6
ASTR	Astara	2.15	57	⇑P	Pb	21 10 49.8	-0.8
	SNR=7.7						
ASTR				⇑S	Sg	21 11 21.2	+1.1
ASTR	Astara	2.15	57	P	Pb	21 10 49.8	-0.8
	SNR=7.7						
ASTR				S	Sg	21 11 21.2	+1.1
LKRN	Lenkeran, Azer	2.23	53	⇑P	Pb	21 10 51.5	-0.4
	SNR=4.0						
LKRN				⇓S	Sg	21 11 23.5	+0.9
LKRN	Lenkeran, Azer	2.23	53	P	Pb	21 10 51.5	-0.4
	SNR=4.0						
LKRN				S	Sg	21 11 23.5	+0.9
GLBA	Clilabad	2.37	38	⇑P	Pb	21 10 53.7	-0.6
	SNR=25						
GLBA				⇓S	Sg	21 11 26.7	-0.4
GLBA	Clilabad	2.37	38	P	Pb	21 10 53.7	-0.6
	SNR=25						
GLBA				S	Sg	21 11 26.7	-0.4
SNGE	Sanandaj	2.40	163	ePn	Pb	21 10 54.0	-1.0
MAKU	Maku	2.42	324	ePn	Pb	21 10 56.2	+0.9
IVIS	Veis	2.88	174	ePn	Pb	21 11 03.0	-0.1
IVIS				eAMB	AMB	21 11 46.9	
	comp=Z,216nm,0.3s						
IVIS	Veis	2.88	174	ePn	Pb	21 11 03.0	-0.1
BRDA	Brd	2.91	10	⇑P	Pn	21 11 00.1	+1.9
BRDA				⇑S	Sb	21 11 36.8	-2.8
BRDA	Brd	2.91	10	P	Pn	21 11 00.1	+1.9
BRDA				S	Sb	21 11 36.8	-2.8
IGZV	Ghazvin	3.15	108	ePn	Pn	21 11 01.7	-0.1
IGZV				eAMB	AMB	21 11 55.5	
	comp=Z,279nm,0.2s						
IGZV	Ghazvin	3.15	108	ePn	Pn	21 11 01.7	-0.1
GANJ	Ganja	3.25	358	⇑P	Pb	21 11 06.6	-2.7
GANJ				⇑S	Sb	21 11 46.9	-2.4
GANJ	Ganja	3.25	358	P	Pb	21 11 06.6	-2.7
GANJ				S	Sb	21 11 46.9	-2.4
IRAZ	Razeghan	3.41	125	eAMB	AMB	21 11 19.0	
	comp=Z,138nm,0.2s						
IRAZ				ePn	Pn	21 11 05.6	+0.3
IML	Ismayilli	3.63	21	⇑P	Pn	21 11 09.7	+1.4
IML				⇓S	Sb	21 11 58.1	-2.4
IML	Ismayilli	3.63	21	P	Pn	21 11 09.7	+1.4
IML				S	Sb	21 11 58.1	-2.4
PQL	Pirkuli	3.76	25	⇓P	Pn	21 11 11.5	+1.4
PQL	Pirkuli	3.76	25	P	Pn	21 11 11.5	+1.4
QZX	Qazax, Azerbai	3.76	347	⇓P	Pn	21 11 10.9	+0.9
QZX				⇓S	Sn	21 11 56.8	+2.1
QZX	Qazax, Azerbai	3.76	347	P	Pn	21 11 10.9	+0.9
QZX				S	Sn	21 11 56.8	+2.1
SEKA	Sheki	3.84	8	⇑P	Pn	21 11 12.8	+1.6
SEKA	Sheki	3.84	8	P	Pn	21 11 12.8	+1.6
XNQ	Khinaliq	3.98	18	⇓P	Pn	21 11 14.3	+1.1
XNQ	Khinaliq	3.98	18	P	Pn	21 11 14.3	+1.1
BARS	Barje	19.61	294	ePn	Pn	21 14 41.4	-0.4
MDVR	Moldovita	20.04	299	⇑iP	P	21 14 45.2	+0.1
MDVR	Moldovita	20.04	299	⇑iP	P	21 14 45.2	+0.1
BZS	Buzias	20.30	302	⇓iP	Pn	21 14 49.4	-0.5
BZS	Buzias	20.30	302	⇓iP	Pn	21 14 49.4	-0.5

*ISCJB **18** 21:13:07.1±0.2, 42.°43N±0.°01×13.°43E±0.°02, h2km±2km, mb3.4/2, Error ellipse: s-maj=2.9km s-min=2.2km az=142.3*
*IASPEI **18** 21:13:07.7±1.0, 42.°40N±0.°02×13.°42E±0.°02, h10km±5km, Error ellipse: s-maj=3.1km s-min=2.8km az=79.9, GT5 selection from ISC bulletin GT5 identified by Bond˙ir and McLaughlin (2009) selection criteria Bond˙ir and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*LDG **18** 21:13:07.7±0.1, 42.°39N×13.°43E, h10km, Ml3.3/5, Error ellipse: s-maj=2.3km s-min=1.9km az=33.0*
*ROM **18** 21:13:07.3±0.1, 42.°39N×13.°43E, h10km, Ml3.4/36, Error ellipse: s-maj=1.1km s-min=0.8km az=51.0*
*PRU **18** 21:13:08.0, 42.°37N×13.°28E, h0km*
*IDC **18** 21:13:08.9±1.4, 42.°50N×13.°49E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.4/38, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=36.5km s-min=15.2km az=95.0*
*CSEM **18** 21:13:08.0±0.1, 42.°40N×13.°38E, h2km, ML3.5/14, Error ellipse: s-maj=3.0km s-min=2.4km az=46.0*

ISC 18 21:13:08.7±0.8, 42.°41N±0.°02×13.°40E±0.°02, h5km±5km, n196, σ1§64/241, 14C-8D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	0.06	178	iPg	Pg	21 13 09.4	-0.8
AQU				Sg	Sg	21 13 10.8	-0.4
	83μm,0.7s						
AQU	L'Aquila	0.06	178	⇑iPg	Pg	21 13 09.4	-0.8
AQU				Sg	Sg	21 13 10.8	-0.4
	83μm,0.7s						
T0104	Madonna delle	0.07	220	⇑iPg	Pg	21 13 09.9	-0.4
T0104				Sg	Sg	21 13 11.7	+0.2
FAGN	Fagnano	0.20	137	⇓iPg	Pg	21 13 11.8	-0.8
FAGN				Sg	Sg	21 13 15.3	0.0
	28μm,0.6s						
FAGN	Fagnano	0.20	137	⇓iPg	Pg	21 13 11.8	-0.8
FAGN				Sg	Sg	21 13 15.3	0.0
	28μm,0.6s						
FIAM	Fiamignano	0.25	235	Pg	Pg	21 13 13.4	-0.2
FIAM				Sg	Sg	21 13 17.8	+0.8
	13μm,1.0s						
FIAM	Fiamignano	0.25	235	Pg	Pg	21 13 13.4	-0.2
FIAM				Sg	Sg	21 13 17.8	+0.8
	13μm,1.0s						
TERO	Teramo	0.26	36	⇑iPg	Pg	21 13 13.0	-0.7
TERO				Sg	Sg	21 13 17.6	+0.4
	15μm,0.4s						
TERO	Teramo	0.26	36	⇑iPg	Pg	21 13 13.0	-0.7
TERO				Sg	Sg	21 13 17.6	+0.4
	15μm,0.4s						
LNSS	Leonessa	0.33	306	Pg	Pg	21 13 14.7	-0.3
LNSS				Sg	Sg	21 13 20.3	+0.9
	6μm,0.5s						
LNSS	Leonessa	0.33	306	Pg	Pg	21 13 14.7	-0.3
TRTR	Tortoreto Alta	0.55	44	Pg	Pg	21 13 18.9	-0.3
TRTR	Tortoreto Alta	0.55	44	Pg	Pg	21 13 18.9	-0.3
INTR	Introdacqua	0.55	137	⇓iPg	Pg	21 13 17.7	-1.5
	6μm,0.8s						
INTR	Introdacqua	0.55	137	⇓iPg	Pg	21 13 17.7	-1.5
	6μm,0.8s						
CERT	Cerreto	0.56	214	Pg	Pg	21 13 18.2	-1.2
CERT				Sg	Sg	21 13 26.9	+0.3
	2μm,0.8s						
CERT	Cerreto	0.56	214	Pg	Pg	21 13 18.2	-1.2
CERT				Sg	Sg	21 13 26.9	+0.3
	2μm,0.8s						
VVLD	Villa Vallelon	0.57	163	Pg	Pg	21 13 17.9	-1.7
	1μm,0.5s						
VVLD	Villa Vallelon	0.57	163	Pg	Pg	21 13 17.9	-1.7
	1μm,0.5s						
MTCE	Montecelio	0.62	232	Pg	Pg	21 13 19.6	-1.1
	2μm,1.1s						
MTCE	Montecelio	0.62	232	Pg	Pg	21 13 19.6	-1.1
	2μm,1.1s						
CESX	Cesi	0.64	288	Pg	Pg	21 13 19.8	-1.1
CESX	Cesi	0.64	288	Pg	Pg	21 13 19.8	-1.1
FDMO	Fiordimonte	0.66	340	Pg	Pg	21 13 20.4	-1.0
FDMO				Sg	Sg	21 13 31.2	+1.1
	990nm,0.5s						
FDMO	Fiordimonte	0.66	340	Pg	Pg	21 13 20.4	-1.0
CESI	CESI - Serrava	0.69	329	Pg	Pg	21 13 21.2	-0.8
CESI				Sg	Sb	21 13 32.4	-0.8
	663nm,0.5s						
CESI	CESI - Serrava	0.69	329	Pg	Pg	21 13 21.2	-0.8
CAFR	Castel Frentan	0.73	104	Pg	Pg	21 13 21.2	-1.4
	2μm,0.5s						
CAFR	Castel Frentan	0.73	104	Pg	Pg	21 13 21.2	-1.4
	2μm,0.5s						
POFI	Posta Fibreno	0.73	161	Pg	Pg	21 13 21.0	-1.7
	570nm,0.6s						
POFI	Posta Fibreno	0.73	161	Pg	Pg	21 13 21.0	-1.7
	570nm,0.6s						
GUMA	Gualdo di Mace	0.76	31	Pg	Pg	21 13 20.5	-2.8
	5μm,0.4s						
GUMA	Gualdo di Mace	0.76	31	Pg	Pg	21 13 20.5	-2.8
	5μm,0.4s						
RMP	Rome, Mte Porz	0.79	221	Pg	Pg	21 13 22.7	-1.2
	1μm,0.6s						
RMP	Rome, Mte Porz	0.79	221	Pg	Pg	21 13 22.7	-1.2
	1μm,0.6s						
RDP	Rocca di Papa	0.83	218	Pg	Pg	21 13 24.1	-0.4
	2μm,0.4s						
RDP	Rocca di Papa	0.83	218	Pg	Pg	21 13 24.1	-0.4
	2μm,0.4s						
GIUL	Giuliano Di Ro	0.86	187	Pg	Pg	21 13 23.2	-2.0
	777nm,0.7s						
GIUL	Giuliano Di Ro	0.86	187	Pg	Pg	21 13 23.2	-2.0
	777nm,0.7s						
RNI2	Rionero Sannit	0.91	141	Pg	Pg	21 13 24.0	-2.0
	3μm,1.3s						
RNI2	Rionero Sannit	0.91	141	Pg	Pg	21 13 24.0	-2.0
	3μm,1.3s						
SNTG	Esanatoglia	0.91	338	Pg	Pg	21 13 24.6	-1.5
	581nm,0.5s						
SNTG	Esanatoglia	0.91	338	Pg	Pg	21 13 24.6	-1.5
	581nm,0.5s						
CERA	Filignano	0.94	150	Pg	Pg	21 13 24.2	-2.4
CERA	Filignano	0.94	150	Pg	Pg	21 13 24.2	-2.4
ATCC	AVT- Casa Cast	0.95	324	Pg	Pg	21 13 25.6	-1.4
	1μm,0.7s						
ATCC	AVT- Casa Cast	0.95	324	Pg	Pg	21 13 25.6	-1.4
	1μm,0.7s						
CING	Cingoli	0.97	351	Pg	Pg	21 13 25.9	-1.5
	653nm,0.4s						
CING	Cingoli	0.97	351	Pg	Pg	21 13 25.9	-1.5
	653nm,0.4s						
MIDA	Miranda	1.00	140	Pg	Pg	21 13 25.2	-2.6
	1μm,1.0s						
MURB	Monte Urbino	1.07	323	Pg	Pg	21 13 27.7	-1.4
	1μm,0.3s						
MURB	Monte Urbino	1.07	323	Pg	Pg	21 13 27.7	-1.4
	1μm,0.3s						
MGAB	Montegabbione	1.07	298	Pg	Pg	21 13 28.4	-0.8
	790nm,0.6s						
MGAB	Montegabbione	1.07	298	Pg	Pg	21 13 28.4	-0.8
	790nm,0.6s						
TRIV	Trivento	1.07	127	Pg	Pg	21 13 27.2	-2.0
	966nm,1.2s						
TRIV	Trivento	1.07	127	Pg	Pg	21 13 27.2	-2.0
	966nm,1.2s						
TOLF	Tolfa	1.09	252	Pg	Pg	21 13 28.9	-0.8
	510nm,0.8s						
TOLF	Tolfa	1.09	252	Pg	Pg	21 13 28.9	-0.8
	510nm,0.8s						
SSFR	Montelago di S	1.12	336	Pg	Pg	21 13 28.4	-1.7
	839nm,0.3s						
SSFR	Montelago di S	1.12	336	Pg	Pg	21 13 28.4	-1.7
	839nm,0.3s						
AOI	Ancona	1.15	7	Pg	Pg	21 13 29.6	-1.1
	1μm,1.0s						
AOI	Ancona	1.15	7	Pg	Pg	21 13 29.6	-1.1
	1μm,1.0s						
VAGA	Valle Agricola	1.18	148	Pg	Pg	21 13 28.7	-2.5
	440nm,0.7s						
VAGA	Valle Agricola	1.18	148	Pg	Pg	21 13 28.7	-2.5
	440nm,0.7s						
FRON	Frontone	1.21	336	Pg	Pg	21 13 29.9	-2.0
	629nm,0.5s						
FRON	Frontone	1.21	336	Pg	Pg	21 13 29.9	-2.0
	629nm,0.5s						
ATVO	AVT- Monte Val	1.21	323	Pg	Pg	21 13 30.3	-1.6
	974nm,1.1s						
ATVO	AVT- Monte Val	1.21	323	Pg	Pg	21 13 30.3	-1.6
	974nm,1.1s						
ATPC	Poggio Castell	1.27	327	Pg	Pg	21 13 31.5	-1.6
	701nm,0.5s						
ATPC	Poggio Castell	1.27	327	Pg	Pg	21 13 31.5	-1.6
	701nm,0.5s						
PIEI	Pieia	1.29	331	Pg	Pn	21 13 31.8	-1.6
	424nm,0.5s						
PIEI	Pieia	1.29	331	Pg	Pn	21 13 31.8	-1.6
	424nm,0.5s						
MPAG	Monte Paganucc	1.30	339	Pg	Pn	21 13 31.9	-1.7
	481nm,0.7s						
MPAG	Monte Paganucc	1.30	339	Pg	Pn	21 13 31.9	-1.7
	481nm,0.7s						
FSSB	Fossombrone	1.36	341	Pg	Pn	21 13 32.8	-1.5
	2μm,0.5s						
FSSB	Fossombrone	1.36	341	Pg	Pn	21 13 32.8	-1.5
	2μm,0.5s						
BADI	Badiali	1.39	323	Pg	Pn	21 13 33.9	-0.8
	617nm,0.9s						
BADI	Badiali	1.39	323	Pg	Pn	21 13 33.9	-0.8
	617nm,0.9s						
CAFI	Castiglion Fio	1.40	311	Pg	Pn	21 13 34.1	-0.7
CAFI	Castiglion Fio	1.40	311	Pg	Pn	21 13 34.1	-0.7
MAON	Monte Argentar	1.68	271	Pg	Pn	21 13 38.0	-0.7
	159nm,0.9s						
MAON	Monte Argentar	1.68	271	Pg	Pn	21 13 38.0	-0.7
	159nm,0.9s						
MS1	Monte Sant'Ang	2.02	110	ePn	Pb	21 13 45.8	-0.1
NVLJ	Novalja	2.40	26	ePn	Pn	21 13 48.2	-0.5
NVLJ				Sn	Sn	21 14 18.6	+0.3
NVLJ	Novalja	2.40	26	ePn	Pn	21 13 48.1	-0.5
NVLJ				Sn	Sn	21 14 18.6	+0.3
CDT	Castel del Mon	2.53	121	ePn	Pn	21 13 49.6	-0.8
UDBI	Udbina	2.73	38	iPn	Pn	21 13 53.7	+0.5
UDBI				Sn	Sn	21 14 28.0	+1.5
UDBI	Udbina	2.73	38	iPn	Pn	21 13 53.6	+0.5
UDBI				Sn	Sn	21 14 28.0	+1.5
BAI	Bari	2.91	115	ePn	Pn	21 13 57.4	+1.8
SG1	Sgolgore (BA)	2.92	121	ePn	Pn	21 13 56.2	+0.5
RIY	Rijeka	3.02	15	ePn	Pn	21 13 56.5	-0.5
SKDS	Skadanscina	3.16	8	iPn	Pn	21 13 58.2	-0.9
SKDS	Skadanscina	3.16	8	iPn	Pn	21 13 58.2	-0.9
STON	Ston	3.21	80	ePn	Pn	21 13 59.4	-0.3
STON				Sn	Sn	21 14 37.0	-1.2
STON	Ston	3.21	80	ePn	Pn	21 13 59.3	-0.3
STON				Sn	Sn	21 14 37.0	-1.2
PGF	Pioggiola	3.26	274	eP	Pn	21 14 01.1	+0.6
PGF	Pioggiola	3.26	274	eP	Pn	21 14 01.1	+0.6
BOJS	Bojanci	3.37	23	iPn	Pn	21 14 02.7	+0.8
BOJS	Bojanci	3.37	23	iPn	Pn	21 14 02.7	+0.8
FASA	Fasano	3.37	117	ePn	Pn	21 14 02.0	+0.1
CEY	Cerknica	3.41	12	ePn	Pn	21 14 01.3	-1.2
JAVS	Javornik	3.51	8	iPn	Pn	21 14 03.4	-0.6
JAVS	Javornik	3.51	8	iPn	Pn	21 14 03.3	-0.6
OZLJ	Ozalj	3.53	24	ePn	Pn	21 14 04.1	0.0
OZLJ				Sn	Sn	21 14 48.5	+2.3
OZLJ	Ozalj	3.53	24	ePn	Pn	21 14 04.1	0.0
OZLJ				Sn	Sn	21 14 48.5	+2.3
VISS	Visnje	3.54	17	iPn	Pn	21 14 03.8	-0.5
VISS	Visnje	3.54	17	iPn	Pn	21 14 03.8	-0.5
BLY	Banja Luka	3.61	48	ePn	Pn	21 14 05.8	+0.6
TREB	Trebinje	3.67	84	ePn	Pn	21 14 05.3	-0.7
CRES	Cresnjev	3.72	23	ePn	Pn	21 14 05.8	-0.9
LJU	Ljubljana	3.72	12	ePn	Pn	21 14 06.0	-0.7
HCY	Herceg Novi	3.77	88	ePn	Pn	21 14 07.5	+0.1
BRY	Bratogost	3.82	81	ePn	Pn	21 14 07.8	-0.5
UPM	Unac-Piva	4.13	77	ePn	Pn	21 14 12.8	+0.3
OBKA	Obir	4.18	11	iPn	Pn	21 14 14.6	+1.5
	5.7nm,0.5s						
OBKA	Obir	4.18	11	Pn	Pn	21 14 14.6	+1.5
	5.7nm,0.5s						
MYKA	Terra Mystica	4.22	2	iPn	Pn	21 14 15.4	+1.7
	4.6nm,0.4s						
MYKA	Terra Mystica	4.22	2	Pn	Pn	21 14 15.4	+1.7
	4.6nm,0.4s						
DRME	Dracevica, Mon	4.30	91	⇑iPn	Pn	21 14 15.3	+0.6
PDG	Podgorica	4.34	88	⇑iP	Pn	21 14 16.0	+0.8
PDG	Podgorica	4.34	88	S	Sn	21 15 06.5	+0.4

5.6nm,0.8s
WATA *i* Sn **Sn** **21 15 21.2 -3.7**
6.6nm,0.6s
WATA Walderalm 5.09 346 Pn **Pn** **21 14 26.3 +0.6**
5.6nm,0.8s
WATA Sn **Sn** **21 15 21.2 -3.7**
6.6nm,0.6s
DIVS Divibare 5.10 68 *e*Pn **Pn** **21 14 26.1 +0.3**
LMR La Mourre 5.15 283 *e*P **Pn** **21 14 26.1 -0.2**
LMR La Mourre 5.15 283 *e*P **Pn** **21 14 26.1 -0.2**
MOTA Moosalm 5.19 342 *i* Pn **Pn** **21 14 29.0 +1.9**
4.0nm,0.5s,SNR=10.0
MOTA Moosalm 5.19 342 Pn **Pn** **21 14 29.0 +1.9**
4.0nm,0.5s,SNR=10.0
MBDF Montbardon 5.34 298 *e*P **Pn** **21 14 30.7 +1.6**
MBDF Montbardon 5.34 298 *e*P **Pn** **21 14 30.7 +1.6**
RETA Reutte 5.41 341 *e*Pn **Pn** **21 14 31.8 +1.8**
9.6nm,1.1s
RETA *e*Sn **Sn** **21 15 35.0 +2.4**
6.4nm,0.5s
RETA Reutte 5.41 341 Pn **Pn** **21 14 31.8 +1.8**
9.6nm,1.1s
RETA Sn **Sn** **21 15 35.0 +2.4**
6.4nm,0.5s
TRUS Trudelj 5.42 68 *e*Pn **Pn** **21 14 30.2 +0.1**
MOA Molln 5.47 6 *i* Pn **Pn** **21 14 31.8 +1.0**
4.7nm,0.5s
MOA *i* Sn **Sn** **21 15 33.8 -0.3**
9.2nm,0.7s
MOA Molln 5.47 6 Pn **Pn** **21 14 31.8 +1.0**
4.7nm,0.5s
MOA Sn **Sn** **21 15 33.8 -0.3**
9.2nm,0.7s
DAVA Damuels 5.48 334 *e*Pn **Pn** **21 14 32.4 +1.4**
3.4nm,0.4s
DAVA *e*Sn **Sn** **21 15 35.5 +1.1**
12nm,0.9s
DAVA Damuels 5.48 334 Pn **Pn** **21 14 32.4 +1.4**
3.4nm,0.4s
DAVA Sn **Sn** **21 15 35.5 +1.1**
12nm,0.9s
GRUS Gruza 5.55 72 *e*Pn **Pn** **21 14 31.8 -0.1**
LPG La Plagne 5.70 305 *e*Sn Sn 21 15 30.7 -9.5
2.1nm,0.2s
SELS Selova 5.74 79 *e*Pn **Pn** **21 14 34.9 +0.5**
CONA Conrad Observa 5.78 17 *i* Pn **Pn** **21 14 35.0 -0.2**
4.7nm,0.8s
CONA *e*Sn **Sn** **21 15 41.5 -0.4**
3.0nm,0.5s
CONA Conrad Observa 5.78 17 Pn **Pn** **21 14 35.0 -0.2**
4.7nm,0.8s
CONA Sn **Sn** **21 15 41.5 -0.4**
3.0nm,0.5s
SMRF Simiane la Rot 5.93 288 *e*P **Pn** **21 14 38.6 +1.5**
SMRF Simiane la Rot 5.93 288 *e*P **Pn** **21 14 38.6 +1.5**
ORIF Oris-en-Rattie 6.00 297 *e*P **Pn** **21 14 41.1 +3.0**
BOVS Bovan 6.21 76 *e*Pn **Pn** **21 14 41.0 +0.1**
GERES GERESS Array B 6.44 2 Pn **Pn** **21 14 43.5 -0.6**
0.5nm,0.3s,baz=173,slow=12,SNR=8.1
GERES Sn **Sn** **21 15 57.2 -0.8**
0.9nm,0.3s,baz=182,slow=27,SNR=4.4
ZAGS Zajecar 6.62 75 *e*Pn **Pn** **21 14 45.6 -0.9**
CABF La Chapelle 6.70 311 *e*P **Pn** **21 14 49.5 +1.7**
CABF La Chapelle 6.70 311 *e*P **Pn** **21 14 49.5 +1.7**
KHC Kasperske Hory 6.72 1 *e*PN **Pn** **21 14 46.9 -1.1**
KHC *e*SN **Sn** **21 16 01.5 -3.4**
KHC Kasperske Hory 6.72 1 Pn **Pn** **21 14 46.9 -1.1**
ZAPS Zavoj 6.84 80 *e*Pn **Pn** **21 14 51.0 +1.3**
HINF Hinteralfeld 7.11 322 *e*P **Pn** **21 14 54.4 +1.0**
HINF *e*Sn **Sn** **21 16 06.7 -7.9**
6.1nm,0.4s
HINF Hinteralfeld 7.11 322 *e*P **Pn** **21 14 54.4 +1.0**
VYHS Vyhne 7.18 30 *e*PN **Pn** **21 14 56.6 +2.3**
VTS Vitosha 7.25 85 ‖ *i*P **Pn** **21 14 55.8 +0.4**
VTS Vitosha 7.25 85 ‖ *i*P **Pn** **21 14 55.8 +0.4**
KEST Kesra 7.38 207 Pn **Pn** **21 15 00.6 +3.5**
0.5nm,0.3s,baz=289,slow=4.0,SNR=4.3
CDF Champ du Feu 7.38 326 *e*P **Pn** **21 14 58.1 +1.0**
CDF *e*Sn **Sn** **21 16 13.3 -8.0**
5.3nm,0.4s
CDF Champ du Feu 7.38 326 *e*P **Pn** **21 14 58.1 +1.0**
HAU Haudompre 7.49 321 *e*P **Pn** **21 14 58.6 +0.2**
HAU *e*Sn **Sn** **21 16 16.4 -7.3**
16nm,0.7s
HAU Haudompre 7.49 321 *e*P **Pn** **21 14 58.6 +0.2**
DRGR 7.96 53 ⇑ *i*P **Pn** **21 15 06.8 +1.9**
DRGR 7.96 53 ⇑ *i*P **Pn** **21 15 06.8 +1.9**
VOIR 8.94 66 ⇑ *i*P **Pn** **21 15 20.0 +1.6**
VOIR 8.94 66 ⇑ *i*P **Pn** **21 15 20.0 +1.6**
BURAR Bucovina Array 9.85 54 ‖ *i*P **Pn** **21 15 33.1 +2.2**
BURAR Bucovina Array 9.85 54 ‖ *i*P **Pn** **21 15 33.1 +2.2**
FINES FINESS Array B 20.53 18 Pn Pn 21 17 50.7 +1.1
4.4nm,1.0s,baz=193,slow=9.5,SNR=1.5
TORD Torodi Ar. Bea 30.88 203 P **P** **21 19 27.4 +1.4**
0.3nm,0.6s,baz=6.8,slow=7.6,SNR=2.8
MKAR Makanchi Array 47.82 60 P **P** **21 21 47.2 +0.3**
0.2nm,0.5s,baz=287,slow=5.5,SNR=1.9

*ISCJB **18** 21:36:32.2±0.5, 6°.80N±0°.04×73°.06W±0°.05, h164km±4km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=5.8km az=26.5*
*IDC **18** 21:36:32.8±0.7, 6°.75N×72°.96W, h162km±8km, mb3.3/4, mb1 3.6/6, mb1mx3.3/26, mbtmp3.9/6, Error ellipse: s-maj=23.9km s-min=7.7km az=133.0*
*RSNC **18** 21:36:34.4±0.9, 6°.76N×73°.13W, h152km±6km, ML3.7*
ISC 18 21:36:32.8±0.8, **6°.79N**±0°.04×**73°.08W**±0°.05, **h160**km±6km, **n24**, σ0°**83**/34, **mb3.4**/4, **1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**207**	*i* P	**Pn**	**21 36 54.6**	**0.0**
BARC				*e*S	**Sn**	**21 37 10.0**	**-1.3**
BARC				*i*		21 37 11.5	
comp=Z,1μm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**35**	*e*P	**Pn**	**21 36 57.5**	**+0.8**
PAMC				*e*S	**Sn**	**21 37 14.7**	**-0.3**
BRRC	**Barranca, Sant**	**0.70**	**297**	*e*P	**Pn**	**21 36 56.6**	**+0.3**
BRRC				*e*S	**Sn**	**21 37 14.2**	**-0.1**
BRRC				*i*		21 37 16.4	
comp=Z,964nm,0.2s							
RUSC	**La Rusia**	**0.89**	**180**	‖ *i*P	**Pn**	**21 36 58.5**	**+0.2**
RUSC				*e*S	**Sn**	**21 37 17.5**	**-0.2**
RUSC				*i*		21 37 19.1	
comp=Z,518nm,0.4s							
OCAC	**Ocana**	**1.46**	**351**	*e*P	**Pn**	**21 37 03.4**	**+0.6**
OCAC				*e*S	**Sn**	**21 37 27.2**	**+1.2**
OCAC				*i*		21 37 31.2	
comp=Z,710nm,0.3s							
YOPC	**Yopal, Colombi**	**1.57**	**155**	*i* P	**Pn**	**21 37 05.1**	**+1.1**
YOPC				*i*		21 37 05.9	
comp=Z,250nm,0.6s							
YOPC				*e*S	**Sn**	**21 37 28.0**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.90**	**292**	*e*P	**Pn**	**21 37 07.1**	**-0.2**
ZARC				*i*		21 37 39.2	
comp=Z,1μm,0.4s							
NORC	**Norcasia**	**2.15**	**236**	*e*P	**Pn**	**21 37 10.5**	**+0.2**
NORC				*e*S	**Sn**	**21 37 37.6**	**-1.7**
ROSC	**El Rosal**	**2.30**	**213**	P	**Pn**	**21 37 14.3**	**+2.0**
comp=Z,47nm,0.3s,baz=53,slow=5.9,SNR=52							
ROSC				S	**Sn**	**21 37 43.7**	**+0.8**
comp=Z,48nm,0.3s,baz=204,slow=15,SNR=9.7							
HELC	**Santa Helena**	**2.50**	**256**	*e*P	**Pn**	**21 37 15.3**	**+0.5**
HELC				*i*		21 37 53.7	
comp=Z,351nm,0.3s							
VILC	**Villavicencio,**	**2.73**	**193**	*e*P	**Pn**	**21 37 16.8**	**-0.5**
VILC				*e*S	**Sn**	**21 37 52.0**	**+0.1**
VILC				*i*		21 37 59.0	
comp=Z,159nm,0.6s							
GUYC	**Guyana, Colomb**	**2.77**	**236**	*e*P	**Pn**	**21 37 18.9**	**+0.7**
GUYC				*i*		21 37 59.9	
comp=Z,436nm,0.6s							
DBBC	**Dabeiba**	**3.11**	**274**	*e*P	**Pn**	**21 37 22.6**	**+0.6**
TOLC	**Tolima**	**3.12**	**226**	*e*P	**Pn**	**21 37 23.4**	**+0.9**
SDV	**Santo Domingo**	**3.20**	**49**	P	**Pn**	**21 37 24.0**	**+0.8**
comp=Z,51nm,0.3s,baz=220,slow=4.0,SNR=63							
SDV				S	**Sn**	**21 38 01.1**	**-1.3**
comp=Z,56nm,0.3s,baz=61,slow=21,SNR=27							
SDV	**Santo Domingo**	**3.20**	**49**	*e*P	**Pn**	**21 37 24.1**	**+0.9**
SDV				*i*		21 38 03.6	
comp=Z,120nm,0.4s							
PRAC	**Prado**	**3.55**	**211**	*e*P	**Pn**	**21 37 27.9**	**+0.3**
PLMC	**San Jos^ del**	**3.69**	**240**	*e*P	**Pn**	**21 37 29.9**	**+0.5**
PLMC				*i*		21 37 31.8	
comp=Z,166nm,0.3s							

TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**21 43 23.5 +0.4**
comp=Z,0.6nm,0.6s,baz=120,slow=9.1,SNR=7.3						
ULM	**Lac du Bonnet**	**47.33**	**340**	P	**P**	**21 44 50.2 -0.2**
comp=Z,2.8nm,0.4s,baz=116,slow=5.6,SNR=4.7						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**21 44 57.6 +0.7**
comp=Z,0.4nm,0.5s,baz=121,slow=9.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**73.71**	**78**	P	**P**	**21 47 48.6 -1.2**
comp=Z,0.2nm,0.5s,baz=285,slow=7.0,SNR=5.5						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**21 56 02.8 -0.4**
comp=Z,0.5nm,0.6s,baz=118,slow=3.3,SNR=4.8						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**21 56 06.0 -0.2**
comp=Z,0.4nm,0.5s,baz=107,slow=2.7,SNR=8.3						

*ISCJB **18** 21:53:57.3±1.6, 31°.98S±0°.08×178°.0W±0°.3, h24km, mb4.2/2, Error ellipse: s-maj=41.1km s-min=5.7km az=14.2*
*IDC **18** 21:53:57.6±1.9, 31°.82S×178°.24W, h0km, mb4.3/2, mb1 4.5/4, mb1mx4.0/25, mbtmp4.3/4, ML4.0/2, Error ellipse: s-maj=46.9km s-min=25.0km az=110.0*
ISC 18 21:53:59.5±1.5, **31°.94S**±0°.10×**178°.0W**±0°.3, **h24**km, **n12**, σ1**38**/17, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**2**	Pn	**Pn**	**21 54 41.9**	**+0.7**
33nm,0.3s,baz=71,slow=23,SNR=1.5							
RAO				Sn	**Sn**	**21 55 11.7**	**-1.2**
79nm,0.3s,baz=96,slow=21,SNR=2.4							
HAZ	**Te Kaha**	**6.75**	**210**	*e*PN	**Pn**	**21 55 37.9**	**+0.9**
HAZ				*e*SN	**Sn**	**21 56 54.2**	**+1.1**
PUZ	**Puketiti**	**6.83**	**206**	*e*PN	**Pn**	**21 55 38.1**	**-0.2**
PUZ				*e*SN	**Sn**	**21 56 55.7**	**+0.4**
CNGZ	**Carnagh Statio**	**7.22**	**204**	*e*PN	**Pn**	**21 55 43.7**	**+0.2**
URZ	**Urewera**	**7.46**	**211**	Pn	**Pn**	**21 55 48.8**	**+2.0**
2.6nm,0.3s,baz=272,slow=4.6,SNR=2.2							
URZ				Sn	**Sn**	**21 57 10.0**	**-0.6**
0.7nm,0.3s,baz=3.1,slow=16,SNR=1.2							
URZ	**Urewera**	**7.46**	**211**	*e*PN	**Pn**	**21 55 45.9**	**-0.9**
URZ				SN	**Sn**	**21 57 10.4**	**-0.2**
KNZ	**Kokohu**	**7.89**	**205**	*e*PN	**Pn**	**21 55 51.7**	**-0.9**
BFZ	**Birch Farm**	**9.87**	**206**	*e*PN	**Pn**	**21 56 16.1**	**-3.8**
ASAR	**Alice Springs**	**43.04**	**269**	P	**P**	**22 01 57.5**	**0.0**
1.7nm,0.6s,baz=106,slow=7.6,SNR=11							
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**22 02 06.5**	**0.0**
4.2nm,0.5s,baz=113,slow=7.9,SNR=16							
FINES	**FINESS Array B**	**146.58**	**339**	PKPbc	**PKPab**	**22 13 39.3**	**+0.1**
5.4nm,0.9s,baz=14,slow=2.9,SNR=2.5							
TORD	**Torodi Ar. Bea**	**161.29**	**179**	PKPab	**PKPab**	**22 14 43.5**	**+1.3**
0.1nm,0.4s,baz=168,slow=3.1,SNR=1.2							

*ATH **18** 22:18:00.9, 35°.30N×27°.78E, h7km±3km, ML2.2/2, Error ellipse: s-maj=6.5km s-min=1.9km az=330.0*
*CSEM **18** 22:18:01.2±0.7, 35°.36N×27°.82E, h2km, ML2.2, Error ellipse: s-maj=17.2km s-min=5.8km az=142.0*
*DDA **18** 22:18:32.3, 35°.31N×27°.53E, h61km, Md3.1*
ISC 18 22:18:01.3±1.9, **35°.31N**±0°.06×**27°.80E**±0°.06, **h9**km±11km, **n24**, σ0°**73**/35, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**295**	P	**Pg**	**22 18 11.3**	**-1.1**
KARP				S	**Sg**	**22 18 20.2**	**+0.3**
KARP				AML	AML	22 18 21.4	
comp=E,1003μm,0.3s							
KARP				AML	AML	22 18 23.0	
comp=N,921μm,0.3s							
KARP	**Karpathos**	**0.57**	**295**	P	**Pg**	**22 18 11.3**	**-1.1**
KARP				S	**Sg**	**22 18 20.2**	**+0.3**
ARG	**Arkhangelos**	**0.95**	**16**	P	**Pg**	**22 18 19.2**	**-0.4**
ARG	**Arkhangelos**	**0.95**	**16**	P	**Pg**	**22 18 19.2**	**-0.4**
ZKR	**Zakros**	**1.31**	**262**	P	**Pn**	**22 18 25.4**	**-0.4**
ZKR				S	**Sn**	**22 18 43.8**	**+0.4**
ZKR				AML	AML	22 18 55.6	
comp=N,73μm,0.6s							
ZKR				AML	AML	22 18 59.5	
comp=E,163μm,0.8s							
ZKR	**Zakros**	**1.31**	**262**	P	**Pn**	**22 18 25.4**	**-0.4**
ZKR				S	**Sn**	**22 18 43.8**	**+0.4**
DAT	**Datca**	**1.43**	**353**	*i* P	**Pn**	**22 18 27.5**	**-0.1**
DAT				*i* S	**Sg**	**22 18 48.5**	**+1.1**
DAT	**Datca**	**1.43**	**353**	P	**Pn**	**22 18 27.5**	**-0.1**
DAT				S	**Sg**	**22 18 48.5**	**+1.1**
DALY	**Dalyan (Mu¨la**	**1.66**	**25**	*i* P	**Pg**	**22 18 34.1**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.66**	**25**	P	**Pg**	**22 18 34.1**	**+0.9**
TURN	**Turunc**	**1.69**	**22**	*i* P	**Pn**	**22 18 29.6**	**-1.5**
TURN				*i* S	**Sb**	**22 18 53.9**	**-0.2**
TURN	**Turunc**	**1.69**	**22**	P	**Pn**	**22 18 29.6**	**-1.5**
TURN				S	**Sb**	**22 18 53.9**	**-0.2**
BDRM	**Kayabasi**	**1.78**	**351**	*i* P	**Pn**	**22 18 32.3**	**0.0**
BDRM				*i* S	**Sn**	**22 18 54.4**	**-0.7**
BDRM	**Kayabasi**	**1.78**	**351**	P	**Pn**	**22 18 32.3**	**0.0**
BDRM				S	**Sn**	**22 18 54.4**	**-0.7**
NPS	**Neapolis**	**1.79**	**269**	P	**Pb**	**22 18 34.7**	**+0.4**
NPS	**Neapolis**	**1.79**	**269**	P	**Pb**	**22 18 34.7**	**+0.4**
LAST	**Lasithi**	**1.90**	**266**	P	**Pb**	**22 18 36.1**	**-0.2**
LAST	**Lasithi**	**1.90**	**266**	P	**Pb**	**22 18 36.1**	**-0.2**
TAVA	**DENIZLI_Tavas**	**2.34**	**22**	*i* P	**Pn**	**22 18 39.6**	**-0.5**
TAVA				*i* S	**Sg**	**22 19 16.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.34**	**22**	P	**Pn**	**22 18 39.6**	**-0.5**
AYDN	**Tasoluk**	**2.35**	**2**	*i* P	**Pn**	**22 18 40.6**	**+0.4**
AYDN	**Tasoluk**	**2.35**	**2**	P	**Pn**	**22 18 40.6**	**+0.4**
IDI	**Anoyia**	**2.38**	**270**	P	**Pn**	**22 18 41.6**	**+1.0**
IDI	**Anoyia**	**2.38**	**270**	P	**Pn**	**22 18 41.6**	**+1.0**

*IDC **18** 22:26:03.7±1.2, 3°.77S×99°.59E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/44, mbtmp3.9/9, Error ellipse: s-maj=53.4km s-min=19.1km az=51.0*
*ISCJB **18** 22:26:07.4±0.7, 3°.59S±0°.06×99°.85E±0°.06, h33km, mb3.9/9, Error ellipse: s-maj=10.9km s-min=5.1km az=44.9*
*DJA **18** 22:26:07.2±0.6, 4°.S±4°×10°.0E±°, h62km±12km, M4.2/8, MLv4.2/8*
ISC 18 22:26:09.0±0.9, **3°.63S**±0°.08×**99°.79E**±0°.08, **h35**km, **n21**, σ1**30**/24, **mb3.9**/9, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.89**	**15**	P	**Pn**	**22 26 24.3**	**-0.7**
PPSI				S	**Sn**	**22 26 37.5**	**+0.9**
SISI	**Saibi**	**2.39**	**343**	P	**Pn**	**22 26 44.0**	**-1.6**
SISI				S	**Sn**	**22 27 13.0**	**-0.7**
MASI	**Maura Aman, Be**	**2.50**	**79**	P	**Pn**	**22 26 46.2**	**-1.0**
PDSI	**Padang**	**2.78**	**14**	P	**Pn**	**22 26 50.6**	**-0.5**
PDSI				S	**Sn**	**22 27 21.6**	**-1.8**
SDSI	**Sungai Dareh**	**3.14**	**32**	P	**Pn**	**22 26 55.2**	**-0.8**
MNAI	**Manna**	**3.25**	**103**	P	**Pn**	**22 26 56.5**	**-1.0**
MNAI				S	**Sn**	**22 27 32.6**	**-2.3**
PBSI	**Pulau Batu**	**3.85**	**337**	P	**Pn**	**22 27 03.7**	**-2.1**
PBSI				S	**Sn**	**22 27 47.5**	**-2.4**
MDSI	**Maura Dua**	**4.46**	**101**	P	**Pn**	**22 27 13.6**	**-0.6**
MDSI				S	**Sn**	**22 28 03.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**21.96**	**358**	P	**P**	**22 31 00.3**	**+0.4**
1.1nm,0.7s,baz=188,slow=9.2,SNR=6.9							
H08S2	**Diego Garcia H**	**27.45**	**260**	T	T	23 01 12.6	
baz=82,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**27.45**	**260**	T	T	23 01 24.4	
baz=82,slow=75,SNR=7.1							
H08S1	**Diego Garcia H**	**27.46**	**260**	T	T	23 01 20.5	
baz=82,slow=75,SNR=11							
WRA	**Warramunga Arr**	**37.38**	**119**	P	**P**	**22 33 19.2**	**+0.4**
0.5nm,0.6s,baz=293,slow=8.3,SNR=3.9							
ASAR	**Alice Springs**	**38.50**	**124**	P	**P**	**22 33 28.6**	**+0.4**
0.2nm,0.3s,baz=304,slow=8.2,SNR=3.3							
SONM	**Songino Array**	**51.57**	**6**	P	**P**	**22 35 13.0**	**+1.2**
0.9nm,0.7s,baz=185,slow=9.8,SNR=7.5							
MKAR	**Makanchi Array**	**52.53**	**345**	P	**P**	**22 35 19.6**	**+0.8**
1.4nm,0.5s,baz=153,slow=8.6,SNR=16							
ZALV	**Zalesovo Beam**	**58.72**	**350**	P	**P**	**22 36 03.6**	**+0.5**
2.2nm,0.7s,baz=193,slow=4.7,SNR=14							
BRTR	**Keskin Array B**	**74.26**	**313**	P	**P**	**22 37 42.1**	**-0.8**
0.8nm,0.5s,baz=135,slow=6.4,SNR=4.1							
FINES	**FINESS Array B**	**85.44**	**332**	P	**P**	**22 38 43.3**	**+0.5**
2.1nm,0.8s,baz=171,slow=3.7,SNR=5.5							
GERES	**GERESS Array B**	**90.12**	**319**	P	**P**	**22 39 06.4**	**+0.7**
0.5nm,0.7s,baz=92,slow=4.9,SNR=3.7							
TXAR	**Lajitas Array**	**146.11**	**39**	PKPbc	**PKPbc**	**22 45 47.0**	**+0.7**
0.7nm,0.7s,baz=277,slow=1.1,SNR=7.1							

*IDC **18** 22:32:55.3±0.9, 31°.69S×177°.72W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.2/22, mbtmp4.5/6, ML4.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=29.9km s-min=26.8km az=112.0*
*ISCJB **18** 22:32:57.0±0.8, 32°.01S±0°.06×178°.0W±0°.1, h10km, mb4.9/8, MS3.8/6, Error ellipse: s-maj=17.4km s-min=7.8km az=16.2*
*NEIC **18** 22:33:00.3±0.6, 31°.58S×177°.68W, h35km, mb4.8/1, Error ellipse: s-maj=18.5km s-min=14.0km az=79.0*
ISC 18 22:32:56.8±0.7, **31°.75S**±0°.06×**177°.9W**±0°.2, **h10**km, **n41**, σ2°**37**/38, **mb4.8**/8, **MS3.8**/6, **2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.48**	**0**	Pn	**Pn**	**22 33 34.9**	**-2.4**
213nm,0.3s,baz=64,slow=22,SNR=10							
RAO				Sn	**Sn**	**22 34 03.9**	**-3.8**
669nm,0.3s,baz=28,slow=22,SNR=8.0							
RAO	**Raoul Island**	**2.48**	**0**	*e*Pn	**Pn**	**22 33 35.0**	**-2.3**
RAO				*e*S	**Sn**	**22 34 03.8**	**-3.9**
PUZ	**Puketiti**	**7.04**	**205**	*e*PN	**Pn**	**22 34 37.4**	**-2.5**
PUZ				*e*SN	**Sn**	**22 35 54.7**	**-5.3**
TWGZ	**Tauwhareparae**	**7.24**	**206**	*e*PN	**Pn**	**22 34 39.7**	**-3.0**
TWGZ				*e*SN	**Sn**	**22 36 03.9**	**-1.0**
URZ	**Urewera**	**7.66**	**211**	Pn	**Pn**	**22 34 46.5**	**-1.9**
0.4nm,0.3s,baz=253,slow=3.3,SNR=5.2							
URZ				Sn	**Sn**	**22 36 13.4**	**-1.9**
10nm,0.3s,baz=137,slow=20,SNR=14							
URZ	**Urewera**	**7.66**	**211**	*e*PN	Pn	22 34 44.6	-3.8
URZ				*e*SN	**Sn**	**22 36 13.5**	**-1.7**
URZ				SN	**Sn**	**22 36 14.1**	**-1.1**
KNZ	**Kokohu**	**8.09**	**205**	SN	**Sn**	**22 36 23.4**	**-2.5**
BFZ	**Birch Farm**	**10.07**	**206**	SN	**Sn**	**22 37 08.2**	**-6.4**
MRZ	**Mangatainoka R**	**10.32**	**209**	*e*SN	Sn	22 37 12.7	-7.9
DZM	**Mont Dzumac**	**16.92**	**301**	*e*LR	LR	22 41 14.7	
482nm,22.6s							
RAR	**Rarotonga**	**19.33**	**62**	LR	LR	22 44 26.8	
comp=Z,56nm,19.2s,baz=316,slow=36							
TBI	**Tubuai**	**26.54**	**79**	*e*LR	LR	22 45 00.3	
196nm,32.2s							
PPT2	**Papeete2**	**29.27**	**68**	*e*LR	LR	22 46 10.3	
153nm,29.5s,baz=231							
PPT	**Papeete**	**29.28**	**68**	LR	LR	22 51 42.4	
comp=Z,77nm,18.0s,baz=220,slow=39							
CTA	**Charters Tower**	**34.08**	**281**	P	**P**	**22 39 44.2**	**+2.6**
19nm,0.9s,baz=105,slow=10,SNR=5.6							
CTAO	**Charters Tower**	**34.08**	**281**	*e*P	**P**	**22 39 44.3**	**+2.6**
50nm,0.8s							
STKA	**Stephens Creek**	**34.24**	**259**	P	**P**	**22 39 45.1**	**+2.2**
3.4nm,0.7s,baz=107,slow=13,SNR=7.5							
STKA				LR	LR	22 53 08.2	
comp=Z,150nm,18.4s,baz=33,slow=35							
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**22 40 58.1**	**+0.7**
4.1nm,0.8s,baz=109,slow=8.1,SNR=24							
ASAR				LR	LR	22 59 03.7	
comp=Z,122nm,18.5s,baz=109,slow=36							
WRAB	**Tennant Creek**	**44.21**	**274**	*e*P	**P**	**22 41 07.0**	**+0.7**
11nm,0.8s							
WRA	**Warramunga Arr**	**44.21**	**273**	P	**P**	**22 41 07.3**	**+1.0**
6.5nm,0.5s,baz=113,slow=7.9,SNR=94							
WRA				LR	LR	22 59 02.4	
comp=Z,214nm,18.7s,baz=165,slow=35							
VNDA	**Vanda**	**46.77**	**186**	LR	LR	22 59 40.3	
comp=Z,56nm,18.8s,baz=17,slow=34							
QSPA	**South Pole Qui**	**58.37**	**180**	*e*P	**P**	**22 42 53.4**	**+1.3**
80nm,1.3s							
MAW	**Mawson**	**71.07**	**201**	P	**P**	**22 44 14.2**	**-0.5**
1.4nm,0.8s,baz=117,slow=6.8,SNR=3.5							
MAW				LR	LR	23 15 51.1	
comp=Z,117nm,18.6s,baz=60,slow=36							
SYO	**Syowa Base**	**75.82**	**193** ‖	*e*P	**P**	**22 44 45.0**	**+2.4**
SYO	**Syowa Base**	**75.82**	**193** ‖	*e*X	P	22 44 49.0	+6.4
SNAA	**Sanae**	**76.81**	**178**	P	P	22 45 00.2	+12
SNAA	**Sanae**	**76.81**	**178**	*e*P	**P**	**22 44 47.6**	**-0.8**
447nm,1.2s							
VNA3	**Neumayer Olymp**	**76.96**	**176**	P	**P**	**22 44 49.2**	**+0.1**
VNA2	**Neumayer--Watz**	**77.40**	**177**	P	**P**	**22 44 51.6**	**0.0**
baz=168,slow=5.4							
VNA1	**Neumayer--Stat**	**77.63**	**176**	P	**P**	**22 44 55.8**	**+3.0**
KURK	**Kurchatov**	**122.01**	**313**	*e*PKPdf	**PKPdf**	**22 51 49.2**	**-1.8**
KURBB	**Kurchatov Arra**	**122.04**	**313**	PKP	**PKPdf**	**22 51 50.1**	**-1.0**
0.4nm,0.5s,baz=108,slow=2.0,SNR=3.6							
BVAR	**Borovoye Array**	**127.39**	**315**	PKP	**PKPdf**	**22 52 01.4**	**+0.1**
0.4nm,0.5s,baz=85,slow=3.1,SNR=3.6							
KBZ	**Khabaz**	**145.88**	**302**	PKPbc	**PKPdf**	**22 52 36.8**	**+1.2**
7.1nm,1.1s,baz=116,slow=2.4,SNR=5.1							
KVAR	**Kislovodsk Arr**	**146.00**	**303**	PKPbc	**PKPbc**	**22 52 39.0**	**+2.2**
6.2nm,0.9s,baz=292,slow=3.4,SNR=3.7							
FINES	**FINESS Array B**	**146.42**	**339**	PKPbc	**PKPdf**	**22 52 36.3**	**+0.3**
2.3nm,0.4s,baz=46,slow=3.9,SNR=28							
ASF	**Jabal al Asfar**	**150.51**	**280**	PKPbc	**PKPbc**	**22 52 50.5**	**+1.4**
2.4nm,0.8s,baz=34,slow=3.6,SNR=3.1							
MMAI	**Mount Meron Ar**	**151.87**	**282**	PKPbc	**PKPbc**	**22 52 53.3**	**+1.1**
2.7nm,0.5s,baz=82,slow=6.2,SNR=20							
AKASG	**Malin Array

IRAM	**Ramesheh**	**5.66 339**	*e*Pn	**Pn**	**23 26 32.8**	**-0.4**
IRAM			*e*AMB	AMB	23 26 35.8	
	comp=Z,70nm,0.2s					
IRAM			*e*Sn	**Sn**	**23 27 34.9**	**-3.4**

IDC ***18*** *23:25:09.0±2.9, 8˚.52S×108˚.60E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/50, mbtmp3.8/4, Error ellipse: s-maj=151.1km s-min=29.5km az=51.0*
DJA ***18*** *23:25:12.6±1.2, 9˚.5S±6˚.1×10˚.9E±˚, h21km±9km, M3.7/6, MLv3.7/6*
ISCJB ***18*** *23:25:14.6±0.9, 8˚.65S±0˚.08×108˚.63E±0˚.06, h55km, mb3.6/4, Error ellipse: s-maj=12.6km s-min=6.3km az=32.5*
ISC 18 23:25:16.4±1.1, 8˚.6S±0˚.1×108˚.65E±0˚.07, h55km, n8, σ1§01/12, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.80**	**346**	P	**Pn**	**23 25 31.1**	**-0.5**
CMJI				S	**Sn**	**23 25 43.5**	**+0.9**
CISI	**Cisompet, Garu**	**1.29**	**320**	P	**Pn**	**23 25 37.5**	**-0.7**
CISI				S	**Sn**	**23 25 54.6**	**+0.1**
CNJI	**Cibinong**	**1.95**	**309**	P	**Pn**	**23 25 46.1**	**-1.0**
CNJI				S	**Sn**	**23 26 11.8**	**+1.4**
UGM	**Wanagama**	**1.97**	**71**	P	**Pn**	**23 25 46.8**	**-0.5**
UGM				S	**Sn**	**23 26 11.1**	**+0.2**
WRA	**Warramunga Arr**	**27.31**	**117**	P	**P**	**23 30 55.5**	**-0.6**
	1.0nm,0.8s,baz=290,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**28.46**	**125**	P	**P**	**23 31 08.3**	**+1.9**
	0.3nm,0.4s,baz=301,slow=9.3,SNR=3.1						
STKA	**Stephens Creek**	**38.39**	**132**	P	**P**	**23 32 31.9**	**-0.7**
	3.1nm,0.5s,baz=307,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**59.90**	**339**	P	**P**	**23 35 16.4**	**-0.3**
	0.2nm,0.4s,baz=154,slow=8.5,SNR=2.4						

AZER ***18*** *23:26:27.6±1.0, 42˚.29N×43˚.97E, h2km, Error ellipse: s-maj=2.3km s-min=1.4km az=351.0*
TIF ***18*** *23:26:28.8, 42˚.50N×44˚.10E, h7km±1km*
IDC ***18*** *23:26:28.6±0.9, 42˚.50N×44˚.04E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.7/39, mbtmp3.8/13, ML3.4/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=13.1km s-min=8.5km az=26.0*
DDA ***18*** *23:26:28.0, 42˚.58N×44˚.04E, h4km, Md3.3*
MOS ***18*** *23:26:29.5±1.1, 42˚.50N×44˚.07E, h10km, mb4.3/8, Error ellipse: s-maj=6.5km s-min=3.9km az=95.5*
CSEM ***18*** *23:26:30.2±0.1, 42˚.50N×44˚.04E, h2km, mb4.0/14, Error ellipse: s-maj=2.6km s-min=2.1km az=69.0*
ISK ***18*** *23:26:30.2, 42˚.39N×44˚.27E, h6km, ML3.8*
NNC ***18*** *23:26:37.1±6.3, 43˚.07N×44˚.67E, h3km±48km, mb4.0, Error ellipse: s-maj=68.9km s-min=26.9km az=121.0*
ISC 18 23:26:30.0±0.9, 42˚.50N±0˚.01×44˚.10E±0˚.01, h8km±7km, n219, σ1§85/319, mb4.0/19, MS3.0/4, 27C-37D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.28**	**97**	P	**Pg**	**23 26 34.7**	**-0.9**
GUDG				S	**Sg**	**23 26 39.1**	**-0.4**
GUDG	**Gudauri**	**0.28**	**97**	P	**Pg**	**23 26 34.8**	**-0.9**
ZEI	**Tsey**	**0.32**	**333**	⇓*i*PG	**Pg**	**23 26 35.7**	**-0.7**
ZEI				*i* S	**Sg**	**23 26 40.7**	**0.0**
LACR	**Lac**	**0.36**	**24**	⇓*i*PG	**Pg**	**23 26 36.2**	**-0.9**
LACR				*e*S	**Sg**	**23 26 41.6**	**-0.2**
LACR	**Lac**	**0.36**	**24**	*i* Pg	**Pg**	**23 26 36.2**	**-0.9**
LACR				*e*Sg	**Sg**	**23 26 41.6**	**-0.2**
ONI	**Oni**	**0.48**	**281**	P	**Pg**	**23 26 39.1**	**-0.3**
ONI				S	**Sg**	**23 26 46.6**	**+0.8**
ONI	**Oni**	**0.48**	**281**	PG	**Pg**	**23 26 39.1**	**-0.3**
ONI				S	**Sg**	**23 26 46.6**	**+0.8**
ONI	**Oni**	**0.48**	**281**	P	**Pg**	**23 26 39.1**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.55**	**316**	⇓*i*PG	**Pg**	**23 26 40.1**	**-0.6**
DIGR				*e*S	**Sg**	**23 26 47.6**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.55**	**316**	*i* Pg	**Pg**	**23 26 40.1**	**-0.6**
DIGR				*e*Sg	**Sg**	**23 26 47.6**	**-0.4**
KORR	**Kora**	**0.59**	**358**	⇓*i*PG	**Pg**	**23 26 41.4**	**+0.1**
KORR				*e*S	**Sb**	**23 26 50.1**	**-0.9**
KORR	**Kora**	**0.59**	**358**	*i* Pg	**Pg**	**23 26 41.4**	**+0.1**
KORR				*e*Sg	**Sb**	**23 26 50.1**	**-0.9**
ARNR	**Ardon**	**0.69**	**11**	⇑*i*PG	**Pb**	**23 26 43.8**	**-0.6**
ARNR				*e*S	**Sb**	**23 26 54.0**	**-0.1**
ARNR	**Ardon**	**0.69**	**11**	*i* Pg	**Pb**	**23 26 43.8**	**-0.6**
ARNR				*e*Sg	**Sb**	**23 26 54.0**	**-0.1**
VLKR	**Vladikavkaz**	**0.69**	**38**	⇓PG	**Pg**	**23 26 43.7**	**+0.3**
VLKR				*i* S	**Sb**	**23 26 54.4**	**+0.3**
VLKR	**Vladikavkaz**	**0.69**	**38**	*i* Pg	**Pg**	**23 26 43.7**	**+0.3**
VLKR				*i* Sg	**Sb**	**23 26 54.4**	**+0.3**
KMGR	**Komgaron**	**0.79**	**45**	⇓*i*PG	**Pg**	**23 26 45.1**	**-0.2**
KMGR				*e*S	**Sb**	**23 26 57.2**	**+0.2**
KMGR	**Komgaron**	**0.79**	**45**	*i* Pg	**Pg**	**23 26 45.1**	**-0.2**
KMGR				*e*Sg	**Sb**	**23 26 57.2**	**+0.2**
LSNR	**Lesken**	**0.80**	**346**	⇓*i*PG	**Pg**	**23 26 45.2**	**-0.2**
LSNR				*e*S	**Sb**	**23 26 56.6**	**-0.7**
LSNR	**Lesken**	**0.80**	**346**	*i* Pg	**Pg**	**23 26 45.2**	**-0.2**
LSNR				*e*Sg	**Sb**	**23 26 56.6**	**-0.7**
STDR	**Stavd-Durt**	**0.87**	**358**	⇓*i*PG	**Pb**	**23 26 47.2**	**-0.1**
STDR				*e*S	**Sb**	**23 27 00.0**	**+0.9**
STDR	**Stavd-Durt**	**0.87**	**358**	*i* Pg	**Pb**	**23 26 47.2**	**-0.1**
STDR				*e*Sg	**Sb**	**23 27 00.0**	**+0.9**
SEAG	**Tbilisi Sea**	**0.90**	**144**	P	**Pg**	**23 26 47.1**	**-0.3**
SEAG				S	**Sb**	**23 27 00.4**	**+0.2**
SEAG	**Tbilisi Sea**	**0.90**	**144**	P	**Pg**	**23 26 47.1**	**-0.3**
SEAG				S	**Sb**	**23 27 00.4**	**+0.2**
TBLG	**Delisi**	**0.91**	**148**	P	**Pg**	**23 26 46.8**	**-0.6**
TBLG				S	**Sb**	**23 26 59.9**	**-0.3**
TBLG	**Delisi**	**0.91**	**148**	PG	**Pg**	**23 26 46.8**	**-0.6**
TBLG				S	**Sb**	**23 26 59.9**	**-0.3**
TBLG	**Delisi**	**0.91**	**148**	P	**Pg**	**23 26 47.0**	**-0.4**
TBLG				S	**Sb**	**23 27 00.2**	**0.0**
BTKR	**Batakoyurt**	**0.93**	**20**	⇓*i*PG	**Pn**	**23 26 48.9**	**-0.5**
BTKR				*e*S	**Sn**	**23 27 03.1**	**+0.1**
BTKR	**Batakoyurt**	**0.93**	**20**	*i* Pg	**Pn**	**23 26 48.9**	**-0.5**
BTKR				*e*Sg	**Sn**	**23 27 03.1**	**+0.1**
NCK	**Nalchik**	**1.06**	**340**	⇓*i*PG	**Pb**	**23 26 50.4**	**-0.2**
NCK				*e*S	**Sn**	**23 27 06.2**	**0.0**
NCK	**Nalchik**	**1.06**	**340**	*i* Pg	**Pb**	**23 26 50.4**	**-0.2**
NCK				*e*Sg	**Sn**	**23 27 06.2**	**0.0**
KZR	**Kazreti**	**1.14**	**168**	P	**Pg**	**23 26 50.8**	**-1.2**
KZR				S	**Sg**	**23 27 06.3**	**-0.4**
KZR	**Kazreti**	**1.14**	**168**	P	**Pg**	**23 26 50.6**	**-1.3**
KZR				S	**Sg**	**23 27 05.9**	**-0.9**
AKH	**Akhalkalaki**	**1.18**	**203**	PN	**Pg**	**23 26 52.6**	**0.0**
AKH				*e*SN	**Sb**	**23 27 08.5**	**+0.3**
AKH	**Akhalkalaki**	**1.18**	**203**	P	**Pg**	**23 26 51.6**	**-1.0**
AKH				S	**Sb**	**23 27 08.5**	**+0.3**
AKH	**Akhalkalaki**	**1.18**	**203**	PG	**Pg**	**23 26 51.6**	**-1.0**
AKH				S	**Sb**	**23 27 08.5**	**+0.3**
AKH	**Akhalkalaki**	**1.18**	**203**	P	**Pg**	**23 26 51.6**	**-1.0**
AKH	**Akhalkalaki**	**1.18**	**203**	*i* Pn	**Pg**	**23 26 52.6**	**0.0**
AKH				S	**Sb**	**23 27 08.5**	**+0.3**
NEY	**Neytrino**	**1.26**	**307**	*d i*PG	**Pn**	**23 26 53.0**	**-1.1**
NEY	**Neytrino**	**1.26**	**307**	*i* Pg	**Pn**	**23 26 53.0**	**-1.1**
PRTR	**Priterechnaya**	**1.26**	**6**	⇑*i*PG	**Pg**	**23 26 54.4**	**+0.3**
PRTR				*e*S	**Sn**	**23 27 12.4**	**+1.4**
PRTR	**Priterechnaya**	**1.26**	**6**	*i* Pg	**Pg**	**23 26 54.4**	**+0.3**
PRTR				*e*Sg	**Sn**	**23 27 12.4**	**+1.4**
BGD	**Bogdanovka**	**1.29**	**197**	P	**Pn**	**23 26 53.5**	**-1.0**
BGD				S	**Sb**	**23 27 11.3**	**-0.1**
BGD	**Bogdanovka**	**1.29**	**197**	P	**Pn**	**23 26 53.5**	**-1.0**
BGD				S	**Sb**	**23 27 11.4**	**-0.1**
TRKR	**Terskaya**	**1.31**	**21**	⇑*i*PG	**Pg**	**23 26 55.2**	**+0.1**
TRKR				*i* S	**Sn**	**23 27 14.8**	**+2.6**
TRKR	**Terskaya**	**1.31**	**21**	*i* Pg	**Pg**	**23 26 55.2**	**+0.1**
TRKR				*i* Sg	**Sn**	**23 27 14.8**	**+2.6**
DGRG	**David-gareji**	**1.42**	**137**	P	**Pg**	**23 26 57.0**	**-0.2**
DGRG				S	**Sg**	**23 27 17.9**	**+2.4**
DGRG	**David-gareji**	**1.42**	**137**	PG	**Pg**	**23 26 57.0**	**-0.2**
DGRG				S	**Sg**	**23 27 18.2**	**+2.7**
DGRG	**David-gareji**	**1.42**	**137**	P	**Pg**	**23 26 57.0**	**-0.2**
DGRG				S	**Sg**	**23 27 18.2**	**+2.7**
EPOS	**Posof**	**1.43**	**226**	*i* P	**Pn**	**23 26 55.9**	**-0.4**
EPOS				*i* S	**Sg**	**23 27 16.2**	**+0.3**
EPOS	**Posof**	**1.43**	**226**	P	**Pn**	**23 26 55.9**	**-0.4**
EPOS				S	**Sg**	**23 27 16.2**	**+0.3**
GROC	**Groznyy**	**1.43**	**60**	⇑*i*PG	**Pg**	**23 26 58.2**	**+0.7**
GROC				*e*S	**Sg**	**23 27 18.9**	**+2.9**
GROC	**Groznyy**	**1.43**	**60**	*i* Pg	**Pg**	**23 26 58.2**	**+0.7**
GROC				*e*Sg	**Sg**	**23 27 18.9**	**+2.9**
KBZ	**Khabaz**	**1.51**	**325**	Pg	**Pn**	**23 26 57.3**	**-0.1**
	352nm,0.3s,baz=153,slow=9.2,SNR=4320						
KBZ				Lg	Lg	23 27 17.5	
	197nm,0.3s,baz=54,slow=20,SNR=14						
SHA1	**Shidzhatmaz**	**1.63**	**320**	⇓*i*PG	**Pn**	**23 26 59.3**	**+0.1**
SHA1				*e*S	**Sb**	**23 27 20.7**	**-0.5**
SHA1	**Shidzhatmaz**	**1.63**	**320**	*i* Pg	**Pn**	**23 26 59.3**	**+0.1**
SHA1				*e*Sg	**Sb**	**23 27 20.7**	**-0.5**
QZX	**Qazax, Azerbai**	**1.73**	**146**	⇑P	**Pn**	**23 27 00.5**	**+0.1**
	SNR=296						
QZX				⇓S	**Sb**	**23 27 24.6**	**+0.7**
QZX	**Qazax, Azerbai**	**1.73**	**146**	P	**Pn**	**23 27 00.5**	**+0.1**
	SNR=296						
QZX				S	**Sb**	**23 27 24.6**	**+0.7**
KVAR	**Kislovodsk Arr**	**1.78**	**325**	Pg	**Pb**	**23 27 02.1**	**-0.8**
	baz=143,slow=5.5,SNR=1046						
KVAR				Lg	Lg	23 27 26.1	
	baz=219,slow=18,SNR=14						
KIV	**Kislovodsk**	**1.78**	**325**	⇓*i*PN	**Pn**	**23 27 01.6**	**+0.4**
KIV				*e*S	**Sb**	**23 27 25.3**	**-0.2**
KIV	**Kislovodsk**	**1.78**	**325**	*i* Pn	**Pn**	**23 27 01.6**	**+0.4**
KIV				*e*Sg	**Sb**	**23 27 25.3**	**-0.2**
EAK	**Akyaka**	**1.85**	**192**	*i* P	**Pn**	**23 27 02.9**	**+0.6**
EAK				*i* S	**Sb**	**23 27 28.4**	**+0.9**
EAK	**Akyaka**	**1.85**	**192**	P	**Pn**	**23 27 02.8**	**+0.6**
EAK				S	**Sb**	**23 27 28.4**	**+0.9**
ZKTA	**Zakatala**	**2.07**	**114**	⇑P	**Pn**	**23 27 06.4**	**+1.3**
	SNR=99						
ZKTA				⇑S	**Sg**	**23 27 35.6**	**-0.8**
ZKTA	**Zakatala**	**2.07**	**114**	PN	**Pn**	**23 27 06.3**	**+1.3**
ZKTA	**Zakatala**	**2.07**	**114**	Pn	**Pn**	**23 27 06.3**	**+1.3**
ARTV	**Artvin**	**2.09**	**232**	*i* P	**Pn**	**23 27 06.7**	**+1.2**
ARTV				*i* S	**Sb**	**23 27 35.6**	**+1.2**
ARTV	**Artvin**	**2.09**	**232**	P	**Pn**	**23 27 06.7**	**+1.2**
GNBR	**Gunib**	**2.12**	**92**	*e*PN	**Pb**	**23 27 08.4**	**-0.4**
GNBR				*e*S	**Sb**	**23 27 36.3**	**+1.0**
GNBR	**Gunib**	**2.12**	**92**	*e*Pn	**Pb**	**23 27 08.4**	**-0.4**
GNBR				*e*Sb	**Sb**	**23 27 36.3**	**+1.0**
DBOC	**Borcka**	**2.15**	**238**	*i* P	**Pn**	**23 27 07.0**	**+0.7**
DBOC				*i* S	**Sb**	**23 27 37.4**	**+1.4**
DBOC	**Borcka**	**2.15**	**238**	P	**Pn**	**23 27 06.9**	**+0.7**
DIGO	**Kars**	**2.15**	**195**	*i* P	**Pn**	**23 27 07.5**	**+1.1**
DIGO				*i* S	**Sg**	**23 27 38.8**	**-0.4**
DIGO	**Kars**	**2.15**	**195**	P	**Pn**	**23 27 07.5**	**+1.1**
DAGI	**Agillar**	**2.17**	**230**	*i* P	**Pn**	**23 27 07.5**	**+1.1**
DAGI				*i* S	**Sg**	**23 27 38.9**	**-0.6**
GDB	**GEDABAY**	**2.17**	**145**	⇑P	**Pn**	**23 27 07.4**	**+0.8**
	SNR=128						
GDB				⇓S	**Sb**	**23 27 36.3**	**-0.4**
GDB	**GEDABAY**	**2.17**	**145**	P	**Pn**	**23 27 07.4**	**+0.8**
	SNR=128						
GDB				S	**Sb**	**23 27 36.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.34**	**215**	*e*PN	**Pn**	**23 27 10.6**	**+1.6**
SENK				*e*SN	**Sn**	**23 27 39.5**	**+1.5**
SENK	**Senkaya-Erzuru**	**2.34**	**215**	*e*Pn	**Pn**	**23 27 10.6**	**+1.6**
SENK				*e*Sn	**Sn**	**23 27 39.5**	**+1.5**
DDEM	**Demirkent**	**2.38**	**228**	*i* P	**Pb**	**23 27 12.1**	**-1.1**
DDEM				*i* S	**Sg**	**23 27 45.4**	**-1.1**
DDEM	**Demirkent**	**2.38**	**228**	P	**Pb**	**23 27 12.1**	**-1.1**
GNI	**Garni**	**2.40**	**168**	Pg	**Pb**	**23 27 12.0**	**-1.5**
	36nm,0.3s,baz=358,slow=3.7,SNR=29						
GNI				Lg	Lg	23 27 44.1	
	45nm,0.3s,baz=223,slow=19,SNR=6.6						
GNI	**Garni**	**2.40**	**168**	*e*PN	**Pb**	**23 27 11.7**	**-1.8**
GNI	**Garni**	**2.40**	**168**	*e*Pn	**Pb**	**23 27 11.7**	**-1.8**
GANJ	**Ganja**	**2.49**	**137**	⇑P	**Pn**	**23 27 11.7**	**+0.7**
	SNR=76						
GANJ				⇓S	**Sb**	**23 27 44.0**	**-1.9**
GANJ	**Ganja**	**2.49**	**137**	PN	**Pn**	**23 27 11.6**	**+0.7**
GANJ	**Ganja**	**2.49**	**137**	P	**Pn**	**23 27 11.7**	**+0.7**
	SNR=76						
GANJ				S	**Sb**	**23 27 44.0**	**-1.9**
MAK	**Makhachkala**	**2.55**	**78**	*e*PN	**Pg**	**23 27 18.8**	**-0.1**
MAK				*e*		23 27 52.2	
MAK				*e*		23 27 54.8	
MAK				pmax	pmax		
	comp=Z,86nm,0.7s						
MAK				smax	smax		
	comp=E,375nm,0.7s						
MAK				MLR	MLR		
	comp=Z,800nm,8.0s						
MAK	**Makhachkala**	**2.55**	**78**	*e*Sb	**Sb**	**23 27 52.2**	**+0.2**
MAK				*e*Sg	**Sb**	**23 27 54.8**	**+7.3**
	comp=Z,800nm,8.0s						
SEKA	**Sheki**	**2.65**	**118**	⇓P	**Pn**	**23 27 14.1**	**+1.0**
	SNR=56						
SEKA				⇓S	**Sb**	**23 27 50.1**	**-0.3**
SEKA	**Sheki**	**2.65**	**118**	P	**Pn**	**23 27 14.1**	**+1.0**
	SNR=56						
SEKA				S	**Sb**	**23 27 50.2**	**-0.3**
GOF	**Gofitskoye**	**2.67**	**344**	⇑*e*PN	**Pb**	**23 27 16.2**	**-1.8**
GOF				*e*S	**Sb**	**23 27 49.2**	**-1.7**
GOF				pmax	pmax		
	comp=Z,673nm,0.9s						
GOF				smax	smax		
	comp=E,605nm,0.9s						
GOF				smax	smax		
	comp=N,977nm,0.8s						
GOF	**Gofitskoye**	**2.67**	**344**	*e*Pn	**Pb**	**23 27 16.2**	**-1.8**
	comp=N,673nm,0.9s						
GOF				*e*Sn	**Sb**	**23 27 49.2**	**-1.7**
	comp=N,977nm,0.8s						
MNGR	**Mingechevir, A**	**2.83**	**127**	⇓P	**Pn**	**23 27 16.6**	**+1.1**
	SNR=7.4						
MNGR				⇑S	**Sb**	**23 27 54.1**	**-1.3**
MNGR	**Mingechevir, A**	**2.83**	**127**	PN	**Pn**	**23 27 17.7**	**+2.3**
MNGR	**Mingechevir, A**	**2.83**	**127**	P	**Pn**	**23 27 16.6**	**+1.1**
	SNR=7.4						
MNGR	**Mingechevir, A**	**2.83**	**127**	Pn	**Pn**	**23 27 17.7**	**+2.3**
MNGR				S	**Sb**	**23 27 54.1**	**-1.3**
AKT	**Akhty**	**2.89**	**109**	⇓*i*PN	**Pb**	**23 27 19.5**	**-2.4**
AKT				*e*S	**Sb**	**23 27 55.9**	**-1.6**
AKT	**Akhty**	**2.89**	**109**	*i* Pn	**Pb**	**23 27 19.5**	**-2.4**
AKT				*e*Sn	**Sb**	**23 27 55.9**	**-1.6**
AGRB	**Hanur-Agry**	**3.04**	**196**	*e*PN	**Pn**	**23 27 18.8**	**+0.2**
AGRB	**Hanur-Agry**	**3.04**	**196**	*e*Pn	**Pn**	**23 27 18.8**	**+0.2**
QBL	**Gabala**	**3.20**	**118**	⇓P	**Pn**	**23 27 22.3**	**+1.7**
	SNR=23						
QBL				⇑S	**Sn**	**23 28 02.1**	**+3.1**
QBL	**Gabala**	**3.20**	**118**	P	**Pn**	**23 27 22.3**	**+1.7**
	SNR=23						
QBL				S	**Sn**	**23 28 02.1**	**+3.1**
BRDA	**Brd**	**3.22**	**133**	⇓P	**Pn**	**23 27 21.8**	**+0.9**
	SNR=15						
BRDA				⇑S	**Sn**	**23 28 02.4**	**+3.0**
BRDA	**Brd**	**3.22**	**133**	P	**Pn**	**23 27 21.8**	**+0.9**
	SNR=15						
BRDA				S	**Sn**	**23 28 02.4**	**+3.0**
QSAR	**Qusar**	**3.26**	**106**	⇓P	**Pn**	**23 27 23.6**	**+2.2**
	SNR=15						
QSAR				⇓S	**Sb**	**23 28 07.7**	**-0.2**
QSAR	**Qusar**	**3.26**	**106**	P	**Pn**	**23 27 23.6**	**+2.2**
	SNR=15						
QSAR				S	**Sb**	**23 28 07.7**	**-0.2**
XNQ	**Khinaliq**	**3.30**	**112**	⇓P	**Pn**	**23 27 24.0**	**+1.9**
	SNR=9.3						
XNQ				⇓S	**Sb**	**23 28 07.1**	**-2.2**
XNQ	**Khinaliq**	**3.30**	**112**	P	**Pn**	**23 27 24.0**	**+1.9**
	SNR=9.3						
XNQ				S	**Sb**	**23 28 07.1**	**-2.2**
CLDR	**Caldiran**	**3.36**	**182**	*e*PN	**Pn**	**23 27 23.1**	**+0.1**
CLDR	**Caldiran**	**3.36**	**182**	*e*Pn	**Pn**	**23 27 23.1**	**+0.1**
SOC	**Sochi**	**3.39**	**290**	*e*PN	**Pn**	**23 27 22.2**	**-1.0**
SOC				*e*		23 27 31.8	
SOC				pmax	pmax		
	comp=Z,24nm,0.6s						
SOC				MLR	MLR		
	comp=Z,315nm,8.0s						
SOC	**Sochi**	**3.39**	**290**	*e*Pn	**Pn**	**23 27 22.2**	**-1.0**
	comp=Z,24nm,0.6s						
QUBA	**Quba, Azerbaij**	**3.47**	**108**	⇑P	**Pn**	**23 27 26.8**	**+2.4**
	SNR=7.9						
QUBA				⇑S	**Sb**	**23 28 11.5**	**-2.6**
QUBA	**Quba, Azerbaij**	**3.47**	**108**	P	**Pn**	**23 27 26.8**	**+2.4**
	SNR=7.9						
QUBA				S	**Sb**	**23 28 11.5**	**-2.6**
NAX	**Nakhchivan**	**3.49**	**162**	⇓P	**Pn**	**23 27 24.8**	**+0.2**
	SNR=20						
NAX	**Nakhchivan**	**3.49**	**162**	P	**Pn**	**23 27 24.8**	**+0.2**
	SNR=20						
ZRD	**Zardab**	**3.49**	**128**	⇑P	**Pn**	**23 27 26.0**	**+1.4**
	SNR=16						
ZRD				⇓S	**Sn**	**23 28 10.3**	**+4.2**
ZRD	**Zardab**	**3.49**	**128**	P	**Pn**	**23 27 26.0**	**+1.4**
	SNR=16						
ZRD				S	**Sn**	**23 28 10.3**	**+4.2**
IML	**Ismayilli**	**3.50**	**118**	⇓P	**Pn**	**23 27 26.7**	**+1.9**
	SNR=31						
IML				⇑S	**Sb**	**23 28 11.0**	**-4.0**
IML	**Ismayilli**	**3.50**	**118**	P	**Pn**	**23 27 26.7**	**+1.9**
	SNR=31						
IML				S	**Sb**	**23 28 11.0**	**-4.0**
KTUT	**Trabzon**	**3.58**	**246**	*e*PN	**Pn**	**23 27 28.7**	**+2.9**
KTUT	**Trabzon**	**3.58**	**246**	*e*Pn	**Pn**	**23 27 28.7**	**+2.9**
ECAT	**Cat-ERZURUM**	**3.73**	**220**	*i* P	**Pn**	**23 27 29.4**	**+1.3**
ECAT	**Cat-ERZURUM**	**3.73**	**220**	P	**Pn**	**23 27 29.4**	**+1.3**
PQL	**Pirkuli**	**3.78**	**115**	⇑P	**Pn**	**23 27 30.7**	**+2.0**
	SNR=6.6						
PQL				⇓S	**Sb**	**23 28 19.2**	**-3.8**
PQL	**Pirkuli**	**3.78**	**115**	P	**Pn**	**23 27 30.7**	**+2.0**
	SNR=6.6						
PQL				S	**Sb**	**23 28 19.2**	**-3.8**
SIZA	**Siyzn**	**3.86**	**110**	⇑P	**Pn**	**23 27 32.0**	**+2.2**
	SNR=4.2						
SIZA				⇓S	**Sb**	**23 28 22.1**	**-3.2**
SIZA	**Siyzn**	**3.86**	**110**	P	**Pn**	**23 27 32.0**	**+2.2**
	SNR=4.2						
SIZA				S	**Sb**	**23 28 22.1**	**-3.2**
VRTB	**Varto-Mus**	**3.89**	**212**	*e*PN	**Pn**	**23 27 32.4**	**+2.1**
VRTB	**Varto-Mus**	**3.89**	**212**	*e*Pn	**Pn**	**23 27 32.4**	**+2.1**
ATGJ	**Altiaghaj**	**3.98**	**113**	⇓P	**Pn**	**23 27 33.6**	**+2.2**
	SNR=4.1						
ATGJ				⇑S	**Sb**	**23 28 24.6**	**-4.1**
ATGJ	**Altiaghaj**	**3.98**	**113**	P	**Pn**	**23 27 33.6**	**+2.2**
	SNR=4.1						
ATGJ				S	**Sb**	**23 28 24.6**	**-4.1**
YEDI	**Yedisu-Bingol**	**4.07**	**223**	*e*PN	**Pn**	**23 27 34.4**	**+1.6**
YEDI	**Yedisu-Bingol**	**4.07**	**223**	*e*Pn	**Pn**	**23 27 34.4**	**+1.6**
GBS	**Qobustan**	**4.13**	**117**	⇓P	**Pn**	**23 27 35.5**	**+2.0**
	SNR=13						
GBS	**Qobustan**	**4.13**	**117**	P	**Pn**	**23 27 35.5**	**+2.0**
	SNR=13						
SAAT	**Saatly**	**4.20**	**127**	⇓S	**Sn**	**23 28 26.3**	**+2.8**
SAAT	**Saatly**	**4.20**	**127**	S	**Sn**	**23 28 26.3**	**+2.8**
BNGB	**Bing¶ll**	**4.36**	**218**	*e*PN	**Pn**	**23 27 39.1**	**+2.4**
ERZN	**Erzincan**	**4.41**	**230**	*e*PN	**Pn**	**23 27 39.6**	**+2.3**
ALIB	**Äli-Bayra**	**4.49**	**123**	⇓P	**Pn**	**23 27 40.1**	**+1.8**
	SNR=2.9						
ALIB				⇑S	**Sn**	**23 28 34.3**	**+3.6**
ALIB	**Äli-Bayra**	**4.49**	**123**	P	**Pn**	**23 27 40.1**	**+1.8**
	SNR=2.9						
ALIB				S	**Sn**	**23 28 34.3**	**+3.6**
EZC	**Erzincan**	**4.51**	**234**	PN	**Pn**	**23 27 41.7**	**+2.9**
EZC	**Erzincan**	**4.51**	**234**	*e*Pn	**Pn**	**23 27 39.6**	**+0.8**
BINT	**Bingol**	**4.54**	**218**	PN	**Pn**	**23 27 39.0**	**-0.2**
BINT	**Bingol**	**4.54**	**218**	Pn	**Pn**	**23 27 39.0**	**-0.2**
GLBA	**Clilabad**	**4.60**	**134**	⇓P	**Pn**	**23 27 41.3**	**+1.4**
	SNR=4.2						
GLBA	**Clilabad**	**4.60**	**134**	P	**Pn**	**23 27 41.3**	**+1.4**
	SNR=4.2						
LRK	**Lerik**	**5.03**	**139**	⇑P	**Pn**	**23 27 46.9**	**+1.0**
	SNR=7.7						
LRK	**Lerik**	**5.03**	**139**	P	**Pn**	**23 27 46.9**	**+1.0**
	SNR=7.7						
PTK	**Pertek**	**5.08**	**226**	*e*PN	**Pn**	**23 27 49.5**	**+2.9**
PTK	**Pertek**	**5.08**	**226**	*e*Pn	**Pn**	**23 27 49.5**	**+2.9**
LKRN	**Lenkeran, Azer**	**5.20**	**135**	⇑P	**Pn**	**23 27 49.3**	**+1.3**
	SNR=3.3						
LKRN	**Lenkeran, Azer**	**5.20**	**135**	P	**Pn**	**23 27 49.3**	**+1.3**
	SNR=3.3	

comp=Z,9.0nm,1.3s
WTTA Wattenberg 23.39 293 P **P 23 31 41.0 +1.8**
comp=Z,9.0nm,1.3s
MOTA Moosalm 23.75 293 *i* P **P 23 31 41.5 -1.3**
comp=Z,2.9nm,0.8s
MOTA Moosalm 23.75 293 P **P 23 31 41.5 -1.3**
comp=Z,2.9nm,0.8s
FETA Feichten 24.01 292 *i* pP **P 23 31 45.9 +0.6**
comp=Z,6.8nm,1.2s
FETA Feichten 24.01 292 P **P 23 31 45.9 +0.6**
comp=Z,6.8nm,1.2s
KURBB Kurchatov Arra 24.85 59 P **P 23 31 51.2 -1.5**
comp=Z,1.7nm,0.8s,baz=269,slow=8.9,SNR=16
KURBB Kurchatov Arra 24.85 59 ⇑P **P 23 31 53.5 +0.8**
comp=Z,5.6nm,1.2s
KURK Kurchatov 24.91 59 *e*P **P 23 31 52.0 -1.3**
KURK pmax pmax
comp=Z,10.0nm,1.0s
HFS Hagfors 25.58 324 P **P 23 32 00.1 +0.9**
comp=Z,4.6nm,0.8s,baz=124,slow=7.8,SNR=3.1
HFS LR LR 23 42 52.8
comp=Z,78nm,20.9s,baz=64,slow=38
NOA NORSAR Array B 27.09 325 LR LR 23 42 34.0
comp=Z,36nm,18.4s,baz=115,slow=36
MK31 Makanchi Array 27.32 68 ⇑P **P 23 32 18.3 +3.1**
comp=Z,4.2nm,1.1s,baz=272,slow=8.3,SNR=7.7
MK31 Makanchi Array 27.32 68 P **P 23 32 18.3 +3.1**
MK31 Makanchi Array 27.32 68 P **P 23 32 18.3 +3.1**
comp=Z,4.2nm,1.1s,SNR=7.7
MKAR Makanchi Array 27.32 68 P **P 23 32 15.9 +0.7**
comp=Z,1.9nm,0.9s,baz=281,slow=7.8,SNR=7.2
ZALV Zalesovo Beam 29.04 53 LR LR 23 46 16.3
comp=Z,29nm,21.0s,baz=72,slow=41
SONM Songino Array 43.19 61 P **P 23 34 31.3 -0.2**
comp=Z,0.4nm,0.5s,baz=289,slow=9.6,SNR=5.3
SONM Songino Array 43.19 61 *e*P **P 23 34 31.2 -0.2**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 43.19 61 *e*P **P 23 34 31.2 -0.2**
comp=Z,1.0nm,0.4s
ULN Ulaanbaatar 43.61 60 *e*P **P 23 34 34.9 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 43.61 60 *e*P **P 23 34 34.9 +0.1**
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 46.84 244 P **P 23 34 59.7 -0.8**
comp=Z,0.4nm,0.7s,baz=46,slow=5.1,SNR=2.8
KSRS Korea Array 61.91 64 P **P 23 36 50.1 +0.1**
comp=Z,0.8nm,0.3s,baz=286,slow=5.1,SNR=4.1

*IDC **18** 23:31:32.6±1.4, 3°.25N×128°.41E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/40, mbtmp3.8/7, Error ellipse: s-maj=70.1km s-min=18.2km az=71.0*
*ISCJB **18** 23:31:42.9±0.8, 3°.15N±0°.07×128°.27E±0°.07, h100km, mb3.6/7, Error ellipse: s-maj=12.0km s-min=7.8km az=135.1*
*DJA **18** 23:31:47.8±0.8, 3°N±5°×12°8E±°, h117km±7km, M4.3/7, mb4.2/6, mB4.8/4, MLv4.4/7, Mw(mB)4.0/4*
ISC 18 23:31:44.9±1.0, 3°.02N±0°.08×128°.2E±0°.1, h100km, n16, σ1°50/18, mb3.6/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.74**	**284**	P		**Pn**	**23 32 27.8**	**+0.6**
SGSI				S		**Sn**	**23 32 59.6**	**-0.2**
LBMI	**Labuha**	**3.70**	**191**	P		**Pn**	**23 33 41.7**	**+1.6**
KMSI	**Cibinong**	**4.86**	**240**	P		**Pn**	**23 32 58.0**	**+2.2**
SANI	**Sanana**	**5.49**	**204**	P		**Pn**	**23 33 04.2**	**-0.2**
SANI				S		**Sn**	**23 34 03.2**	**-3.1**
NLAI	**Namlea**	**6.31**	**190**	P		**Pn**	**23 33 16.8**	**+1.3**
MRSI	**Marisa**	**6.74**	**248**	P		**Pn**	**23 33 23.7**	**+2.4**
	100nm,1.0s,1μm0.3nm							
FAKI	**Fak Fak**	**7.16**	**145**	P		**Pn**	**23 33 29.1**	**+2.0**
APSI	**Ampana**	**7.62**	**239**	P		**Pn**	**23 33 34.1**	**+0.8**
	62nm,0.8s,744nm0.2nm							
MPSI	**Mapaga**	**8.71**	**252**	P		**Pn**	**23 33 48.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.14**	**187**	P		**P**	**23 36 23.1**	**+1.1**
	2.2nm,1.0s,baz=21,slow=8.6,SNR=2.1							
WRA	**Warramunga Arr**	**23.60**	**165**	P		**P**	**23 36 46.4**	**-0.6**
	0.6nm,0.6s,baz=344,slow=10.0,SNR=5.9							
ASAR	**Alice Springs**	**27.10**	**168**	P		**P**	**23 37 18.4**	**-0.2**
	0.1nm,0.4s,baz=349,slow=11,SNR=1.2							
CMAR	**Chiang Mai Arr**	**32.49**	**300**	P		**P**	**23 38 06.7**	**+0.4**
	0.8nm,0.4s,baz=118,slow=7.6,SNR=5.8							
SONM	**Songino Array**	**48.44**	**340**	P		**P**	**23 40 16.5**	**-0.9**
	0.6nm,0.7s,baz=159,slow=8.4,SNR=3.3							
MKAR	**Makanchi Array**	**58.97**	**325**	P		**P**	**23 41 33.6**	**-0.5**
	1.4nm,0.5s,baz=116,slow=8.0,SNR=20							
KURBB	**Kurchatov Arra**	**63.12**	**327**	P		**P**	**23 42 01.0**	**-1.0**
	2.1nm,0.7s,baz=127,slow=6.1,SNR=26							

*CSEM **18** 23:32:35.2, 36°.59N×4°.49W, h80km, mb1.5/6*
MDD 18 23:32:35.2±1.8, 36°.59N×4°.49W, h80km±11km, mb1.5/6, Error ellipse: s-maj=17.1km s-min=7.1km az=169.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.23**	**263**	S		Sn	23 32 55.3	-0.7
	0.3nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**0.23**	**263**	S		Sn	23 32 55.3	-0.7
	0.3nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**0.60**	**30**	P		Pn	23 32 50.0	-0.1
	0.2nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**0.60**	**30**	P		Pn	23 32 50.0	-0.1
	0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.57**	**358**	P		Pn	23 33 01.3	-0.2
	0.2nm,0.0s,SNR=7.9							
EADA				S		Sn	23 33 20.0	-1.4
	0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.57**	**358**	P		Pn	23 33 01.3	-0.2
	0.2nm,0.0s,SNR=7.9							
EADA				S		Sn	23 33 20.0	-1.4
	0.7nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**1.66**	**334**	P		Pn	23 33 01.8	-0.8
	0.1nm,0.1s,SNR=4.0							
ECAB				S		Sn	23 33 21.7	-1.6
	0.3nm,0.1s,SNR=7.0							
ECAB	**El Cabril**	**1.66**	**334**	P		Pn	23 33 01.8	-0.8
	0.1nm,0.1s,SNR=4.0							
ECAB				S		Sn	23 33 21.7	-1.6
	0.3nm,0.1s,SNR=7.0							
EQES	**Quesada**	**1.66**	**43**	P		Pn	23 33 02.0	-0.7
	0.1nm,0.1s,SNR=7.9							
EQES				S		Sn	23 33 21.7	-1.8
	0.1nm,0.1s,SNR=7.9							
EQES	**Quesada**	**1.66**	**43**	P		Pn	23 33 02.0	-0.7
	0.1nm,0.1s,SNR=7.9							
EQES				S		Sn	23 33 21.7	-1.8
	0.1nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.10**	**305**	P		Pn	23 33 07.7	-0.7
	0.5nm,0.0s,SNR=7.9							
EMIN				S		Sn	23 33 31.9	-1.8
	0.1nm,0.0s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.10**	**305**	P		Pn	23 33 07.7	-0.7
	0.5nm,0.0s,SNR=7.9							
EMIN				S		Sn	23 33 31.9	-1.9
	0.1nm,0.0s,SNR=7.9							
SESP	**Santiago Espad**	**2.18**	**45**	S		Sn	23 33 33.4	-2.5
	0.8nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**2.18**	**45**	S		Sn	23 33 33.4	-2.4
	0.8nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.57**	**292**	P		Pn	23 33 14.0	-0.7
	0.4nm,0.1s,SNR=4.0							
EGRO				S		Sn	23 33 42.7	-2.4
	0.2nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.57**	**292**	P		Pn	23 33 14.0	-0.7
	0.4nm,0.1s,SNR=4.0							
EGRO				S		Sn	23 33 42.7	-2.4
	0.2nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**2.57**	**309**	*e*S		Sn	23 33 43.4	-1.7
PBAR	**Barrancos**	**2.57**	**309**	S		Sn	23 33 43.4	-1.7
PBAR	**Barrancos**	**2.57**	**309**	S		Sn	23 33 43.4	-1.7
PVAQ	**Vaqueiros**	**2.71**	**288**	*e*P		Pn	23 33 15.9	-0.7
PVAQ				*e*S		Sn	23 33 45.6	-2.8
PVAQ	**Vaqueiros**	**2.71**	**288**	P		Pn	23 33 15.9	-0.7
PVAQ				S		Sn	23 33 45.6	-2.8
PVAQ	**Vaqueiros**	**2.71**	**288**	P		Pn	23 33 15.9	-0.7
PVAQ				S		Sn	23 33 45.6	-2.8
EBAD	**Badajoz**	**2.94**	**318**	S		Sn	23 33 51.3	-2.8
	0.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.94**	**318**	S		Sn	23 33 51.3	-2.8
	0.1nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.11**	**48**	S		Sn	23 33 54.7	-3.5
	0.0nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.11**	**48**	S		Sn	23 33 54.7	-3.5
	SNR=7.9							

*IDC **18** 23:32:43.6±0.8, 11°.58S×166°.39E, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.6/29, mbtmp4.6/14, MS4.0/19, Ms1 4.0/19, ms1mx4.0/21, Error ellipse: s-maj=28.1km s-min=16.8km az=103.0*
*ISCJB **18** 23:32:51.3±1.6, 11°.64S±0°.06×166°.09E±0°.06, h54km±12km, mb4.9/49, MS4.1/22, Error ellipse: s-maj=10.2km s-min=8.4km az=139.5*
*BJI **18** 23:32:52.6, 11°.10S×166°.52E, h68km, mb5.0/42, mB5.0/27, Ms4.9/14, Ms7 4.6/14*
*NEIC **18** 23:32:55.5±1.6, 11°.59S×166°.08E, h80km±13km, mb4.8/35, Error ellipse: s-maj=12.0km s-min=7.3km az=129.0*
*GCMT **18** 23:32:55.5±0.3, 11°.63S×165°.98E, h44km, MW5.0/58, Moment Tensor Solution. s54,c69; s58,c70; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.76±.17; $M_{\theta\theta}$-0.31±.14; $M_{\phi\phi}$-3.45±.12; $M_{r\theta}$-0.06±.11; $M_{\theta\phi}$0.72±.12; $M_{\phi r}$1.32±.09; Best double couple: $M_0$3.91400×10^{16} NP1:ϕ_s351.00000°, δ55.00000°, λ94.00000°. NP2: ϕ_s165.00000°, δ35.00000°, λ85.00000°. Principal axes: T 3.9950, Plg80.0000°, Azm276.0000°; N -0.1670, Plg3.0000°, Azm169.0000°; P -3.8330, Plg10.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 23:32:53.7±1.1, 11°.60S±0°.07×166°.16E±0°.07, h66km±8km, n117, σ1°63/116, mb4.8/49, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.47**	**289**	Pn		**Pn**	**23 34 26.5**	**0.0**
	89nm,0.3s,baz=150,slow=4.7,SNR=11							
HNR				Sn		**Sn**	**23 35 38.4**	**-0.6**
	42nm,0.3s,baz=275,slow=23,SNR=6.1							
HNR	**Honiara**	**6.47**	**289**	*e*Pn		**Pn**	**23 34 26.6**	**0.0**
HNR				*e*Sn		**Sn**	**23 35 37.3**	**-1.7**
MSVF	**Nonsavu**	**13.02**	**119**	*e*Pn		**P**	**23 36 05.5**	**+1.5**
TARA	**Tarawa**	**14.52**	**28**	*e*Pn		**Pn**	**23 36 15.5**	**-0.3**
	12nm,1.0s							
PMG	**Port Moresby**	**18.81**	**275**	LR		LR	23 43 47.0	
	comp=Z,1μm,21.5s,baz=128,slow=35							
EIDS	**Eidsvold**	**19.77**	**224**	*e*P		**P**	**23 37 19.4**	**+0.8**
	16nm,1.0s							
PATS	**Pohnpei**	**19.91**	**337**	*e*P		**P**	**23 37 20.6**	**+0.5**
	140nm,0.9s							
CTA	**Charters Tower**	**20.91**	**244**	P		**P**	**23 37 33.7**	**+2.7**
	17nm,0.9s,baz=71,slow=15,SNR=6.6							
CTA				LR		LR	23 44 39.4	
	comp=Z,963nm,21.5s,baz=54,slow=34							
CTAO	**Charters Tower**	**20.91**	**244**	*e*P		**P**	**23 37 33.5**	**+2.5**
	302nm,1.3s							
MANU	**Manus Island**	**20.91**	**296**	*e*P		Pn	23 37 33.2	-1.0
	116nm,1.3s							
AFI	**Afiamalu**	**21.64**	**98**	LR		LR	23 44 17.4	
	comp=Z,475nm,21.4s,baz=292,slow=32							
COEN	**Coen**	**22.53**	**262**	*e*P		**P**	**23 37 47.6**	**-0.8**
	37nm,1.2s							
RAO	**Raoul Island**	**23.00**	**142**	LR		LR	23 45 44.3	
	comp=Z,195nm,18.9s,baz=314,slow=34							
ARMA	**Armidale**	**23.08**	**214**	*e*P		**P**	**23 37 54.2**	**+0.2**
	50nm,1.0s							
URZ	**Urewera**	**28.30**	**162**	LR		LR	23 48 10.1	
	comp=Z,517nm,18.4s,baz=324,slow=33							
H11S2	**WAKE ISLAND Hy**	**29.90**	**1**	T		T	00 09 24.0	
	baz=181,slow=76,SNR=54							
H11S3	**WAKE ISLAND Hy**	**29.90**	**1**	T		T	00 09 25.6	
	baz=181,slow=76,SNR=43							
H11S1	**WAKE ISLAND Hy**	**29.92**	**1**	T		T	00 09 25.3	
	baz=181,slow=76,SNR=42							
STKA	**Stephens Creek**	**30.33**	**224**	P		**P**	**23 38 59.1**	**-0.1**
	8.7nm,0.9s,baz=30,slow=9.5,SNR=12							
STKA				PcP		**PcP**	**23 41 57.5**	**-0.6**
	2.4nm,0.6s,baz=117,slow=1.2,SNR=4.5							
STKA				LR		LR	23 50 29.0	
	comp=Z,644nm,19.7s,baz=41,slow=35							
H11N1	**WAKE ISLAND Hy**	**31.12**	**1**	T		T	00 10 57.5	
	baz=182,slow=76,SNR=38							
H11N3	**WAKE ISLAND Hy**	**31.12**	**1**	T		T	00 10 56.6	
	baz=182,slow=76,SNR=18							
H11N2	**WAKE ISLAND Hy**	**31.14**	**1**	T		T	00 10 58.8	
	baz=182,slow=76,SNR=22							
WB2	**Warramunga Arr**	**31.67**	**251**	*e*P		**P**	**23 39 10.6**	**-0.5**
	35nm,1.4s							
WB2				*e*PcP		**PcP**	**23 42 01.9**	**+0.1**
WRAB	**Tennant Creek**	**31.67**	**251**	*e*P		**P**	**23 39 09.9**	**-1.2**
	29nm,1.4s							
WRA	**Warramunga Arr**	**31.68**	**251**	P		**P**	**23 39 10.6**	**-0.6**
	12nm,0.9s,baz=83,slow=9.1,SNR=26							
WRA				PcP		**PcP**	**23 42 01.4**	**-0.5**
	2.6nm,0.7s,baz=80,slow=3.1,SNR=9.4							
WRA				LR		LR	23 51 49.9	
	comp=Z,339nm,18.8s,baz=70,slow=36							
AS01	**Alice Springs**	**32.87**	**244**	*e*P		**P**	**23 39 20.2**	**-1.4**
AS01				*e*PcP		**PcP**	**23 42 04.3**	**-0.8**
ASAR	**Alice Springs**	**32.91**	**244**	P		**P**	**23 39 20.9**	**-1.1**
	7.7nm,0.8s,baz=75,slow=9.5,SNR=57							
ASAR				PcP		**PcP**	**23 42 04.8**	**-0.4**
	3.3nm,0.8s,baz=82,slow=3.1,SNR=11							
ASAR				ScP		**ScP**	**23 45 52.0**	**+8.2**
	0.5nm,0.8s,baz=67,slow=5.1,SNR=4.6							
ASAR				LR		LR	23 52 14.8	
	comp=Z,468nm,18.1s,baz=69,slow=35							
MTN	**Manton Dam**	**34.24**	**264**	*e*P		**P**	**23 39 34.3**	**+0.7**
	31nm,1.1s							
BBOO	**Buckleboo**	**34.76**	**228**	*e*P		**P**	**23 39 37.3**	**-0.6**
	11nm,1.0s							
NLAI	**Namlea**	**39.57**	**279**	P		**P**	**23 40 20.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**39.63**	**256**	P		**P**	**23 40 19.1**	**-0.3**
	16nm,0.9s,baz=91,slow=6.2,SNR=20							
FITZ	**Fitzroy Crossi**	**39.63**	**256**	*e*P		**P**	**23 40 19.0**	**-0.3**
	16nm,0.9s							
LBMI	**Labuha**	**39.88**	**283**	P		**P**	**23 40 24.5**	**+3.0**
FORT	**Forrest**	**40.06**	**236**	*e*P		**P**	**23 40 22.5**	**-0.3**
SANI	**Sanana**	**40.94**	**280**	P		**P**	**23 40 32.2**	**+2.0**
PPT	**Papeete**	**43.17**	**103**	LR		LR	23 55 35.8	
	comp=Z,151nm,19.1s,baz=237,slow=32							
PPT2	**Papeete2**	**43.17**	**103**	*e*S		S	23 47 25.0	+14
	121nm,26.5s							
PPT2				*e*LR		LR	23 53 02.6	
	787nm,29.5s							
MBWA	**Marble Bar**	**45.41**	**252**	*e*P		**P**	**23 41 06.2**	**0.0**
	109nm,0.9s							
PCI	**Palu**	**47.17**	**280**	P		**P**	**23 41 21.9**	**+1.7**
MYLDM	**Lahad Datu**	**50.25**	**287**	*e*P		**P**	**23 41 46.9**	**+3.2**
	42nm,1.2s							
KKM	**Kota Kinabalu**	**52.68**	**287**	*e*P		**P**	**23 42 03.0**	**+1.0**
	66nm,1.2s							
TAOE	**Nuku Hiva Isla**	**52.85**	**92**	*e*S		S	23 49 37.4	+10
	92nm,25.1s							
TAOE				*e*LR		LR	23 57 25.3	
	275nm,24.1s							
MJAR	**Matsushiro Arr**	**54.64**	**332**	P		**P**	**23 42 14.2**	**-1.7**
	3.8nm,0.7s,baz=165,slow=9.2,SNR=10							
RKT	**Rikitea**	**57.02**	**110**	*e*LR		LR	23 59 26.8	
	834nm,27.2s							
KSRS	**Korea Array**	**60.56**	**326**	P		**P**	**23 42 56.6**	**-0.7**
	2.5nm,0.7s,baz=137,slow=7.0,SNR=9.5							
KSRS				LR		LR	00 06 46.8	
	comp=Z,63nm,20.9s,baz=124,slow=34							
KSAR	**Wonju Array Be**	**60.57**	**326**	P		**P**	**23 42 56.6**	**-0.8**
QIZ	**Qiongzhong**	**63.30**	**298**	P		**P**	**23 43 16.3**	**+0.2**
QIZ				S		**S**	**23 51 44.0**	**+0.4**
QIZ				LR		LR		
	comp=Z,300nm,20.2s							
USRK	**Ussuriysk Ar.**	**63.62**	**333**	P		**P**	**23 43 17.4**	**-0.3**
	5.2nm,0.9s,baz=144,slow=7.1,SNR=7.7							
PETK	**Petropavlovsk-**	**64.85**	**354**	LR		LR	00 07 40.5	
	comp=Z,92nm,19.2s,baz=143,slow=32							
VNDA	**Vanda**	**65.95**	**181**	P		**P**	**23 43 31.4**	**-1.0**
	3.5nm,1.0s,baz=358,slow=6.3,SNR=12							
VNDA				LR		LR	00 08 12.9	
	comp=Z,78nm,20.6s,baz=346,slow=32							
VNDA	**Vanda**	**65.95**	**181**	*e*P		**P**	**23 43 31.2**	**-1.2**
	10.0nm,1.3s							
SBA	**Scott Base**	**66.25**	**180**	*e*P		**P**	**23 43 34.5**	**+0.2**
	9.9nm,1.1s							
IPM	**Ipoh**	**66.71**	**280**	*e*P		**P**	**23 43 38.4**	**-0.1**
	12nm,0.8s							
ENH	**Enshi**	**68.56**	**309**	*e*P		**P**	**23 43 49.1**	**-0.6**
	5.4nm,0.6s							
GYA	**Guiyang**	**69.06**	**304**	*e*P		**P**	**23 43 55.0**	**+1.9**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BJI	**Beijing**	**69.16**	**321**	P		**P**	**23 43 53.0**	**-0.2**
BJI				pmax		pmax		
	comp=Z,15nm,0.8s							
BJI				pmax		pmax		
	comp=Z,170nm,3.9s							
XAN	**Xi'an**	**70.79**	**312**	P		**P**	**23 44 03.4**	**0.0**
XAN				pmax		pmax		
	comp=Z,22nm,1.1s							
XAN				pmax		pmax		
	comp=Z,160nm,7.6s							
KMI	**Kunming**	**71.75**	**301**	P		**P**	**23 44 11.3**	**+1.6**
KMI				pmax		pmax		
	comp=Z,28nm,1.4s							
CM01	**Chiang Mai Arr**	**72.67**	**294**	*e*P		**P**	**23 44 15.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**72.70**	**294**	P		**P**	**23 44 16.5**	**+1.3**
	10nm,0.7s,baz=125,slow=5.0,SNR=48							
CMAR				LR		LR	00 16 44.5	
	comp=Z,58nm,18.0s,baz=180,slow=36							
CHTO	**Chiang Mai**	**72.81**	**294**	*e*P		**P**	**23 44 16.8**	**+1.0**
	31nm,1.4s							
CD2	**Chengdu**	**73.26**	**307**	*e*P		**P**	**23 44 18.0**	**-0.3**
LZH	**Lanzhou**	**75.42**	**312**	*e*P		**P**	**23 44 32.5**	**+1.6**
LZH				pP		sP	23 44 50.3	-6.0
LZH				sP		pP	23 44 58.8	+10
LZH				PP		**PP**	**23 47 18.1**	**-2.8**
LZH				*e*S		**S**	**23 54 04.1**	**-2.1**
LZH				SS		**SS**	**23 59 01.3**	**+3.2**
LZH				pmax		pmax		
	comp=Z,33nm,1.1s							
LZH				pmax		pmax		
	comp=Z,130nm,4.7s							
LZH				LR		LR		
	comp=N,260nm,13.0s							
LZH				LR		LR		
	comp=E,300nm,13.7s							
LZH				LR		LR		
	comp=Z,460nm,15.5s							
QSPA	**South Pole Qui**	**78.41**	**180**	*e*P		**P**	**23 44 45.8**	**-1.3**
ULN	**Ulaanbaatar**	**78.98**	**324**	*e*P		**P**	**23 44 50.6**	**0.0**
	16nm,1.0s							
SONM	**Songino Array**	**79.35**	**324**	P		**P**	**23 44 52.5**	**0.0**
	4.3nm,0.8s,baz=140,slow=5.4,SNR=25							
SONM				LR		LR	00 19 42.8	
	comp=Z,36nm,20.0s,baz=118,slow=36							
SONA1	**Songino Array**	**79.35**	**324**	*e*P		**P**	**23 44 52.5**	**-0.1**
GTA	**Gaotai**	**79.73**	**314**	⇑P		**P**	**23 44 55.6**	**+0.8**
GTA				S		**S**	**23 54 55.8**	**+3.3**
GTA				pmax		pmax		
	comp=Z,17nm,1.1s							
GTA				pmax		pmax		
	comp=Z,72nm,5.2s							
GTA				LR		LR		
	comp=N,110nm,17.3s							
GTA				LR		LR		
	comp=E,89nm,18.1s							
GTA				LR		LR		
	comp=Z,200nm,20.4s							
PMR	**Palmer**	**80.93**	**20**	*e*P		**P**	**23 45 01.1**	**+0.6**
	48nm,2.0s							
LSA	**Lhasa**	**82.99**	**302**	*e*P		**P**	**23 45 13.3**	**+0.7**
	7.3nm,0.8s							
HDA	**Harding Lake**	**83.63**	**19**	*e*P		**P**	**23 45 13.4**	**-1.3**
	8.9nm,0.9s							
ILAR	**Eielson Array**	**83.90**	**18**	P		**P**	**23 45 14.2**	**-1.8**
	1.5nm,0.9s,baz=238,slow=4.8,SNR=14							
MAW	**Mawson**	**84.37**	**202**	P		**P**	**23 45 17.7**	**-0.7**
	3.2nm,0.9s,baz=93,slow=10.0,SNR=6.7							
MAW				LR		LR	00 16 56.8	
	comp=Z,87nm,21.5s,baz=62,slow=31							
MAW	**Mawson**	**84.37**	**202**	*e*P		**P**	**23 45 17.9**	**-0.5**
	2.6nm,1.5s							
TAPN	**Taplejung**	**85.22**	**299**	*e*P		**P**	**23 45 24.1**	**+0.2**
	48nm,1.2s							
WAKR	**Walker**	**85.25**	**49**	*e*P		**P**	**23 45 25.4**	**+1.8**
	9.3nm,1.2s							
ODAN	**Odare**	**85.37**	**298**	*e*P		**P**	**23 45 25.0**	**+0.4**
	53nm,0.8s							
RAMN	**Ramite**	**86.07**	**298**	*e*P		**P**	**23 45 28.1**	**0.0**
	111nm,1.4s							
JIRN	**Jiri**	**86.61**	**299**	*e*P		**P**	**23 45 31.0**	**+0.2**
	555nm,1.3s							
GUN	**Gumba**	**86.94**	**299**	*e*P		**P**	**23 45 32.4**	**0.0**
	29nm,0.8s							
PKIN	**Phulchoki**	**87.27**	**299**	*e*P		**P**	**23 45 34.4**	**+0.5**
	23nm,0.9s							
KKN	**Kakani**	**87.42**	**299**	*e*P		**P**	**23 45 34.6**	**0.0**
	32nm,0.9s							
DMN	**Daman**	**87.53**	**299**	*e*P		**P**	**23 45 35.6**	**+0.5**
	64nm,0.8s							
GKN	**Gorkha**	**88.02**	**299**	*e*P		**P**	**23 45 36.9**	**-0.5**
	50nm,0.8s							
W13A	**Hualapai Mount**	**88.52**	**54**	*e*P		**P**	**23 45 41.5**	**+1.8**
	6.7nm,1.3s							
DANN	**Dangsing**	**88.86**	**299**	*e*P		**P**	**23 45 41.1**	**-0.4**
	2.5nm,0.8s							
KOLN	**Koldanda**	**88.86**	**298**	*e*P		**P**	**23 45 40.7**	**-0.7**
	27nm,0.8s							
PYUN	**Piuthan**	**89.46**	**299**	*e*P		**P**	**23 45 43.3**	**-0.9**
	51nm,0.9s							
LCMT	**Little Creek M**	**89.52**	**52**	*e*P		**P**	**23 45 46.1**	**+1.9**
	5.7nm,1.1s							
WMQ	**Urumqi**	**89.77**	**315**	P		**P**	**23 45 44.9**	**-0.2**
WMQ				pP		sP	23 46 05.5	-5.3
WMQ				sP		pP	23 46 13.6	+10
WMQ				pmax		pmax		
	comp=Z,15nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,230nm,6.7s							
WMQ				LR		LR		
	comp=N,63nm,16.9s							
WMQ				LR		LR		
	comp=E,110nm,22.1s							
U15A	**North Rim**	**90.11**	**

0.1nm,0.3s,baz=70,slow=8.8,SNR=2.5
KEST Kesra 148.09 323 PKPbc **PKPbc 23 52 31.6 -0.9**
2.7nm,0.8s,baz=123,slow=2.7,SNR=5.7
ESDC Sonseca Array 150.69 344 PKPbc **PKPbc 23 52 37.9 -1.0**
0.1nm,0.3s,baz=17,slow=3.9,SNR=4.0
TORD Torodi Ar. Bea 164.74 277 PKP **PKPdf 23 52 50.2 -0.9**
0.6nm,0.9s,baz=116,slow=3.4,SNR=3.3
TORD PKPab **PKPab 23 53 46.6 -0.5**
2.0nm,0.9s,baz=92,slow=5.8,SNR=7.5
DBIC Dimbokro 169.87 242 PKPab **PKPab 23 54 08.9 -0.8**
3.8nm,0.9s,baz=165,slow=5.5,SNR=3.5

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*IDC **18** 23:49:38.7±0.7, 17°.88N×61°.51W, h0km, mb3.9/8, mb1 4.2/13, mb1mx3.9/49, mbtmp4.0/13, ML3.6/5, MS3.4/8, Ms1 3.4/8, ms1mx3.2/33, Error ellipse: s-maj=18.2km s-min=14.0km az=82.0*
*ISCJB **18** 23:49:42.0±0.6, 17°.87N±0°.02×61°.68W±0°.03, h32km±4km, mb4.0/16, MS3.4/4, Error ellipse: s-maj=5.3km s-min=2.8km az=139.9*
*NEIC **18** 23:49:42.9±0.0, 17°.71N×61°.76W, h26km, mb4.1/12, MD4.0(TRN), After TRN.*
NEIC Felt on Barbuda.
*TRN **18** 23:49:42.3, 17°.72N×61°.77W, h23km, MD4.5*
TRN Felt in Antigua MMI II and Barbuda MMI II.
ISC 18 23:49:42.7±0.9, 17°.86N±0°.04×61°.72W±0°.04, h27km±6km, n117, σ1s24/142, mb4.0/16, MS3.4/4, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.20**	**198**	*eP*	**Pb**	**23 49 48.4**	**-0.2**
ANWB				*eS*	**Sb**	**23 49 52.7**	**+0.1**
ANWB	**Willy Bob**	**0.20**	**198**	*e*Pn	**Pb**	**23 49 48.4**	**-0.2**
ANWB				*e*Sn	**Sb**	**23 49 52.6**	**+0.1**
BPA	**Boggy Peak**	**0.82**	**189**	*i P*	**Pb**	**23 49 58.2**	**-0.2**
BPA				*eS*	**Sb**	**23 50 08.8**	**-0.3**
BPA	**Boggy Peak**	**0.82**	**189**	*i P*	**Pb**	**23 49 58.2**	**-0.2**
BPA				*eS*	**Sb**	**23 50 08.8**	**-0.3**
SKI	**Saint Kitts**	**1.10**	**242**	*eP*	**Pn**	**23 50 02.4**	**-0.1**
SKI				*eS*	**Sb**	**23 50 17.1**	**-0.1**
SKI	**Saint Kitts**	**1.10**	**242**	*e*Pn	**Pn**	**23 50 02.3**	**-0.2**
SKI				*e*Sn	**Sn**	**23 50 15.5**	**-1.4**
MLYT	**Lee's Yard**	**1.22**	**202**	*eP*	**Pn**	**23 50 03.2**	**-0.9**
MLYT				*eS*	**Sn**	**23 50 19.7**	**0.0**
SEUS	**St. Eustatius**	**1.26**	**253**	*eP*	**Pb**	**23 50 05.3**	**-0.5**
SEUS				*eS*	**Sb**	**23 50 22.5**	**+0.9**
SEUS	**St. Eustatius**	**1.26**	**253**	*e*Pn	**Pb**	**23 50 05.5**	**-0.3**
SEUS				*e*Sn	**Sn**	**23 50 20.7**	**+0.1**
SMRT	**St. Maarten**	**1.30**	**279**	*eP*	**Pb**	**23 50 06.0**	**-0.5**
SMRT				*eS*	**Sb**	**23 50 22.9**	**0.0**
SMRT	**St. Maarten**	**1.30**	**279**	*e*Pn	**Pb**	**23 50 06.1**	**-0.5**
SMRT				*e*Sn	**Sb**	**23 50 22.7**	**-0.2**
SEG	**Port Louis**	**1.46**	**172**	*eP*	**Pn**	**23 50 05.8**	**-1.6**
SABA	**Saba**	**1.47**	**261**	*eP*	**Pb**	**23 50 09.0**	**-0.4**
SABA				*eS*	**Sb**	**23 50 28.1**	**+0.3**
SABA	**Saba**	**1.47**	**261**	*e*Pn	**Pb**	**23 50 08.6**	**-0.8**
SABA				*e*Sn	**Sb**	**23 50 27.2**	**-0.5**
GDHS	**Morne Mazeau,**	**1.58**	**182**	*e*Pn	**Pn**	**23 50 07.5**	**-1.5**
GDHS				*e*Sn	**Sn**	**23 50 27.1**	**-1.5**
H05N1	**Guadeloupe/Mar**	**1.66**	**157**	Pn	**Pn**	**23 50 08.0**	**-2.2**
H05N1				Sn	**Sn**	**23 50 30.4**	**-0.2**
DEG	**La Desirade**	**1.66**	**158**	*eP*	**Pn**	**23 50 10.6**	**+0.4**
DEG				*eS*	**Sn**	**23 50 30.4**	**-0.3**
DEG	**La Desirade**	**1.66**	**158**	*eP*	**Pn**	**23 50 10.6**	**+0.4**
DEG				*eS*	**Sn**	**23 50 30.4**	**-0.3**
LZG	**Guadaloupe-1**	**1.71**	**182**	⇑*i P*	**Pn**	**23 50 09.6**	**-1.3**
SSG	**Sans Toucher**	**1.76**	**179**	*eP*	**Pn**	**23 50 10.4**	**-1.2**
MGG	**Marie-Galante**	**1.97**	**169**	*eP*	**Pn**	**23 50 13.9**	**-0.5**
MGG				*eS*	**Sn**	**23 50 38.4**	**+0.2**
MGG	**Marie-Galante**	**1.97**	**169**	*eP*	**Pn**	**23 50 13.9**	**-0.5**
MGG				*eS*	**Sn**	**23 50 38.4**	**+0.2**
TBG	**Guadaloupe-3**	**2.00**	**178**	*eP*	**Pn**	**23 50 13.9**	**-0.9**
TBG				*eS*	**Sn**	**23 50 38.6**	**-0.3**
DWS	**Wesley**	**2.31**	**170**	*eP*	**Pn**	**23 50 19.8**	**+0.7**
DWS	**Wesley**	**2.31**	**170**	*eP*	**Pn**	**23 50 19.8**	**+0.7**
BBL	**Barber's Block**	**2.33**	**174**	*eP*	**Pn**	**23 50 18.9**	**-0.5**
BBL	**Barber's Block**	**2.33**	**174**	*eP*	**Pn**	**23 50 18.9**	**-0.5**
MDN	**Morne-Daniel**	**2.55**	**173**	*eP*	**Pn**	**23 50 21.8**	**-0.5**
MDN				*eS*	**Sn**	**23 50 52.0**	**-0.4**
MDN	**Morne-Daniel**	**2.55**	**173**	*eP*	**Pn**	**23 50 23.7**	**+1.4**
MDN				*eS*	**Sb**	**23 51 05.6**	**+6.9**
DLPL	**La Plaine**	**2.55**	**170**	*eP*	**Pn**	**23 50 22.7**	**+0.3**
DLPL				*eS*	**Sn**	**23 50 51.6**	**-1.1**
DLPL	**La Plaine**	**2.55**	**170**	*eP*	**Pn**	**23 50 22.7**	**+0.3**
DBCT	**Belle View Cho**	**2.60**	**172**	*eP*	**Pn**	**23 50 23.9**	**+0.8**
DBCT	**Belle View Cho**	**2.60**	**172**	*eP*	**Pn**	**23 50 23.9**	**+0.8**
DPMT	**Pointe Michel**	**2.60**	**173**	*eP*	**Pn**	**23 50 24.0**	**+0.9**
DPMT				*eS*	**Sn**	**23 50 53.0**	**-0.9**
DPMT	**Pointe Michel**	**2.60**	**173**	*eP*	**Pn**	**23 50 24.0**	**+0.9**
DPMT				*eS*	**Sn**	**23 50 53.0**	**-0.9**
DSHT	**Scott's Head**	**2.65**	**173**	*eP*	**Pn**	**23 50 24.1**	**+0.3**
DSHT				*eS*	**Sn**	**23 50 54.5**	**-0.6**
DSHT	**Scott's Head**	**2.65**	**173**	*eP*	**Pn**	**23 50 24.1**	**+0.3**
DSHT				*eS*	**Sn**	**23 50 55.3**	**+0.2**
CDVI	**St. Croix**	**2.90**	**268**	*e*Pn	**Pn**	**23 50 28.6**	**+1.3**
PCM	**Pelee Case Pet**	**3.07**	**171**	*eP*	**Pn**	**23 50 29.8**	**+0.3**
PCM	**Pelee Case Pet**	**3.07**	**171**	*eP*	**Pn**	**23 50 29.9**	**+0.3**
BAMF	**Morne Balai**	**3.08**	**170**	*eP*	**Pn**	**23 50 30.2**	**+0.5**
CXM	**Morne La Croix**	**3.08**	**170**	*eP*	**Pn**	**23 50 29.2**	**-0.5**
GBMF	**Grand Be**	**3.09**	**170**	*eP*	**Pn**	**23 50 30.6**	**+0.7**
PML	**Morne Lenard**	**3.10**	**170**	*eP*	**Pn**	**23 50 31.1**	**+1.1**
STVI	**Saint Thomas**	**3.11**	**280**	*e*Pn	**Pn**	**23 50 30.1**	**0.0**
STVI				*e*Sn	**Sn**	**23 51 06.7**	**+0.2**
FDF	**Fort de France**	**3.16**	**170**	*eP*	**Pn**	**23 50 31.5**	**+0.7**
FDF				*eS*	**Sn**	**23 51 06.5**	**-1.1**
FDF	**Fort de France**	**3.16**	**170**	*e*Pn	**Pn**	**23 50 31.0**	**+0.3**
ZAM	**Aeronautique**	**3.33**	**168**	*eP*	**Pn**	**23 50 33.9**	**+0.7**
TRMF	**Trois Ilets**	**3.37**	**169**	*eP*	**Pn**	**23 50 33.2**	**-0.4**
MVM	**Montagne Vaucl**	**3.38**	**166**	*eP*	**Pn**	**23 50 34.3**	**+0.5**
H05S1	**Guadeloupe/Mar**	**3.52**	**166**	Pn	**Pn**	**23 50 33.9**	**-1.8**
H05S1				Sn	**Sn**	**23 51 17.3**	**+0.9**
MTP	**Monte Pirata**	**3.65**	**274**	*e*Pn	**Pn**	**23 50 38.7**	**+1.1**
MTP				*e*Sn	**Sn**	**23 51 18.9**	**-0.9**
HUMP	**Col San Antoni**	**3.94**	**275**	*e*Pn	**Pn**	**23 50 43.2**	**+1.7**
HUMP				*e*Sn	**Sn**	**23 51 28.9**	**+2.1**
CBYP	**Canovanas**	**3.96**	**277**	*e*Pn	**Pn**	**23 50 43.0**	**+1.2**
CBYP				*e*Sn	**Sn**	**23 51 27.6**	**+0.2**
SLB	**Belfond**	**4.06**	**171**	*eP*	**Pn**	**23 50 43.8**	**+0.5**
SLB	**Belfond**	**4.06**	**171**	*eP*	**Pn**	**23 50 43.8**	**+0.5**
MCLT	**Moule a Chique**	**4.19**	**170**	*eP*	**Pn**	**23 50 45.4**	**+0.4**
MCLT	**Moule a Chique**	**4.19**	**170**	*eP*	**Pn**	**23 50 45.4**	**+0.4**
SJG	**San Juan**	**4.22**	**274**	Pn	**Pn**	**23 50 47.5**	**+2.1**
	20nm,0.3s,baz=97,slow=12,SNR=37						
SJG				Sn	**Sn**	**23 51 35.2**	**+1.4**
	26nm,0.3s,baz=25,slow=20,SNR=7.3						
SJG				LR	LR	23 52 30.9	
	comp=Z,400nm,21.8s,baz=96,slow=39						
SJG	**San Juan**	**4.22**	**274**	*e*Pn	**Pn**	**23 50 47.5**	**+2.1**
SJG				*e*Sn	**Sn**	**23 51 33.0**	**-0.9**
SVB	**Belmont**	**4.58**	**174**	*eP*	**Pn**	**23 50 51.6**	**+1.2**
SVB	**Belmont**	**4.58**	**174**	*eS*	**Sn**	**23 51 46.5**	**+3.7**
SVB	**Belmont**	**4.58**	**174**	*e*Pn	**Pn**	**23 50 51.2**	**+0.8**
CELP	**Cerrillos**	**4.63**	**273**	*e*Pn	**Pn**	**23 50 52.1**	**+1.1**
AGP	**Aguadilla**	**5.18**	**277**	*e*Pn	**Pn**	**23 50 59.5**	**+0.9**
IDE	**Isla Desecheo**	**5.50**	**276**	*e*Pn	**Pn**	**23 51 04.3**	**+1.4**
GRGR	**Grenville**	**5.69**	**179**	*e*Pn	**Pn**	**23 51 06.0**	**+0.4**
PCRV	**Puerto La Cruz**	**8.14**	**201**	Pn	**Pn**	**23 51 40.3**	**+0.9**
	1.7nm,0.3s,baz=3.6,slow=13,SNR=5.3						
SDDR	**Presa de Saban**	**9.15**	**278**	*e*Pn	**Pn**	**23 51 53.0**	**-0.1**
	24nm,0.6s						
SDDR				*e*Sn	**Sn**	**23 53 35.8**	**+0.4**
URIC	**Uribia, Colomb**	**11.66**	**240**	*eP*	Pn	23 52 41.1	+14
SDV	**Santo Domingo**	**12.43**	**225**	Pn	**Pn**	**23 52 41.2**	**+3.0**
	0.4nm,0.3s,baz=52,slow=12,SNR=12						
SDV				LR	LR	23 57 33.5	
	comp=Z,122nm,20.2s,baz=56,slow=38						
SDV	**Santo Domingo**	**12.43**	**225**	*e*Pn	**Pn**	**23 52 40.0**	**+1.8**
	37nm,1.3s						
OCAC	**Ocana**	**14.79**	**231**	*eP*	**P**	**23 53 14.3**	**-1.8**
PAMC	**Pamplona, Colo**	**14.96**	**227**	*eP*	**Pn**	**23 53 12.6**	**-0.4**
RUSC	**La Rusia**	**16.27**	**224**	*eP*	**Pn**	**23 53 30.9**	**+0.9**
RUSC	**La Rusia**	**16.27**	**224**	*e*Pn	**P**	**23 53 31.8**	**-1.1**
	16nm,1.5s						
MOTC	**Monteria, Cord**	**16.29**	**238**	*eP*	**Pn**	**23 53 26.0**	**-3.7**
ZARC	**Zaragoza, Cauc**	**16.43**	**233**	*eP*	**P**	**23 53 34.3**	**+0.1**
NORC	**Norcasia**	**17.73**	**228**	*eP*	**Pn**	**23 53 46.1**	**-1.9**
HELC	**Santa Helena**	**17.78**	**231**	*eP*	**Pn**	**23 53 47.5**	**-1.4**
ROSC	**El Rosal**	**17.87**	**225**	P	**P**	**23 53 53.2**	**+2.7**
	1.8nm,0.3s,baz=354,slow=14,SNR=3.9						
ROSC				LR	LR	00 02 16.1	
	comp=Z,159nm,18.2s,baz=39,slow=42						
GUYC	**Guyana, Colomb**	**18.34**	**228**	*eP*	**Pn**	**23 53 56.4**	**+0.5**
PTGA	**Pitinga**	**18.55**	**174**	P	**P**	**23 53 56.3**	**-1.3**
	0.7nm,0.3s,baz=353,slow=15,SNR=9.3						
PTGA				LR	LR	00 01 42.6	
	comp=Z,139nm,20.8s,baz=6.5,slow=39						
PTGA	**Pitinga**	**18.55**	**174**	*eP*	**P**	**23 53 56.3**	**-1.3**
	9.7nm,1.2s						
PRAC	**Prado**	**19.08**	**224**	*eP*	**P**	**23 54 02.7**	**-0.8**
PRAC	**Prado**	**19.08**	**224**	*eP*	**P**	**23 54 03.4**	**0.0**
	9.4nm,0.9s						
BCIP	**Isla Barro Col**	**19.61**	**246**	*eP*	**P**	**23 54 08.4**	**-0.8**
	20nm,0.8s						
JTS	**JuntasAbangare**	**23.74**	**255**	LR	LR	00 04 17.8	
	comp=Z,59nm,18.7s,baz=125,slow=37						
OTAV	**Otavalo**	**24.03**	**225**	*eP*	**P**	**23 54 57.1**	**+0.9**
	7.4nm,0.9s						
TKL	**Tuckaleeschee C**	**26.39**	**317**	LR	LR	00 04 26.7	
	comp=Z,65nm,21.0s,baz=124,slow=34						
SAML	**Samuel**	**26.68**	**183**	*eP*	**P**	**23 55 18.4**	**-1.3**
	5.7nm,0.6s						
LPAZ	**La Paz**	**34.51**	**191**	LR	LR	00 11 15.1	
	comp=Z,105nm,18.7s,baz=47,slow=38						
JCT	**Junction City**	**36.77**	**297**	*eP*	**P**	**23 56 49.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**39.91**	**295**	*eP*	**P**	**23 57 17.6**	**+2.8**
TXAR	**Lajitas Array**	**39.91**	**295**	P	**P**	**23 57 16.1**	**+1.4**
	0.8nm,0.8s,baz=114,slow=12,SNR=3.6						
MNTX	**Cornudas Mount**	**41.70**	**298**	*eP*	**P**	**23 57 29.8**	**+0.3**
	1.4nm,0.7s						
ULM	**Lac du Bonnet**	**42.30**	**328**	P	**P**	**23 57 33.9**	**-0.1**
	4.0nm,0.7s,baz=313,slow=2.4,SNR=3.0						
ANMO	**Albuquerque**	**43.15**	**302**	*eP*	**P**	**23 57 42.3**	**+0.9**
	1.7nm,1.0s						
121A	**Cookes Peak, D**	**43.83**	**299**	*eP*	**P**	**23 57 47.9**	**+0.9**
TUC	**Tucson**	**46.32**	**298**	*eP*	**P**	**23 58 07.8**	**+1.1**
	9.7nm,1.4s						
BW06	**Boulder Array**	**47.39**	**312**	*eP*	**P**	**23 58 15.7**	**+0.6**
PDAR	**Pinedale Array**	**47.39**	**312**	P	**P**	**23 58 15.7**	**+0.7**
	0.6nm,0.7s,baz=108,slow=9.5,SNR=4.7						
DUG	**Dugway, Tooele**	**49.14**	**308**	*eP*	**P**	**23 58 29.6**	**+1.1**
	1.9nm,0.7s						
BGU	**Big Grassy Mou**	**49.45**	**309**	*eP*	**P**	**23 58 32.6**	**+1.7**
	4.1nm,1.1s						
BOZ	**Bozeman (W)**	**49.63**	**315**	*eP*	**P**	**23 58 32.7**	**+0.6**
	0.7nm,0.4s						
H10N3	**ASCENSION HYDR**	**53.16**	**115**	T	T	00 56 07.6	
	baz=299,slow=75,SNR=539						
H10N2	**ASCENSION HYDR**	**53.17**	**115**	T	T	00 56 08.1	
	baz=299,slow=75,SNR=564						
H10N1	**ASCENSION HYDR**	**53.18**	**115**	T	T	00 56 09.2	
	baz=299,slow=75,SNR=522						
H10S3	**ASCENSION HYDR**	**53.56**	**116**	T	T	00 56 40.6	
	baz=300,slow=75,SNR=602						
H10S1	**ASCENSION HYDR**	**53.57**	**116**	T	T	00 56 32.7	
	baz=300,slow=75,SNR=414						
H10S2	**ASCENSION HYDR**	**53.58**	**116**	T	T	00 56 42.0	
	baz=300,slow=75,SNR=453						
ESDC	**Sonseca Array**	**54.13**	**54**	P	**P**	**23 59 05.9**	**+0.3**
	0.2nm,0.4s,baz=282,slow=7.4,SNR=3.7						
PLCA	**Paso Flores**	**58.87**	**188**	LR	LR	00 31 02.6	
	comp=Z,48nm,18.8s,baz=308,slow=42						
TORD	**Torodi Ar. Bea**	**61.05**	**85**	P	**P**	**23 59 52.6**	**-2.1**
	0.9nm,0.8s,baz=288,slow=7.2,SNR=9.1						
GERES	**GERESS Array B**	**67.22**	**44**	P	**P**	**00 00 35.0**	**+0.2**
	0.3nm,0.5s,baz=308,slow=4.8,SNR=2.9						
ILAR	**Eielson Array**	**71.95**	**333**	P	**P**	**00 01 03.6**	**+0.1**
	1.2nm,0.8s,baz=102,slow=4.9,SNR=13						
FINES	**FINESS Array B**	**73.45**	**30**	P	**P**	**00 01 11.4**	**-1.1**
	5.4nm,1.0s,baz=231,slow=6.6,SNR=3.3						

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*IDC **18** 23:55:38.4±1.2, 37°.89N×98°.27E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.5/50, mbtmp3.6/8, ML3.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=54.4km s-min=20.9km az=54.0*
*ISCJB **18** 23:55:41.1±1.0, 38°.0N±0°.1×98°.3E±0°.2, h33km, mb3.7/4, Error ellipse: s-maj=24.9km s-min=15.0km az=145.6*
ISC 18 23:55:43.2±1.3, 38°.0N±0°.2×98°.1E±0°.2, h35km, n9, σ1s63/8, mb3.6/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.58**	**29**	Pn	**Pn**	**23 58 25.3**	**-0.7**
	0.3nm,0.3s,baz=209,slow=16,SNR=6.9						
MKAR	**Makanchi Array**	**14.61**	**312**	Pn	**Pn**	**23 59 04.8**	**-2.5**
	0.2nm,0.3s,baz=118,slow=14,SNR=2.2						
ZALV	**Zalesovo Beam**	**18.40**	**335**	P	**Pn**	**23 59 55.6**	**+0.3**
	0.1nm,0.3s,baz=128,slow=12,SNR=4.2						
AAK	**Ala-Archa**	**18.57**	**292**	LR	LR	00 07 21.6	
	comp=Z,66nm,19.0s,baz=178,slow=38						
KURBB	**Kurchatov Arra**	**18.80**	**319**	P	**Pn**	**23 59 59.9**	**-0.3**
	0.0nm,0.3s,baz=122,slow=13,SNR=9.9						
BVAR	**Borovoye Array**	**24.36**	**317**	P	**P**	**00 00 59.2**	**+1.5**
	0.5nm,0.6s,baz=100,slow=8.1,SNR=3.9						
FINES	**FINESS Array B**	**49.11**	**323**	P	**P**	**00 04 28.8**	**+1.9**
	6.4nm,1.0s,baz=84,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**66.93**	**143**	P	**P**	**00 06 31.3**	**-0.8**
	0.5nm,0.7s,baz=343,slow=6.6,SNR=2.6						
ASAR	**Alice Springs**	**69.94**	**145**	P	**P**	**00 06 50.9**	**0.0**
	0.3nm,0.6s,baz=335,slow=6.4,SNR=1.8						

ATH 19 00:14:06.7, 38°.08N×21°.60E, h13km±3km, ML1.4/10, Error ellipse: s-maj=3.8km s-min=1.0km az=282.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.10**	**260**	P	Pb	00 14 10.1	-0.4
RLS				S	Sg	00 14 12.4	+0.6
DRO	**Drossia**	**0.15**	**144**	P	Pg	00 14 10.1	-0.3
DRO				S	Sg	00 14 13.7	+0.7
AXS	**Araxos**	**0.21**	**305**	P	Pg	00 14 09.8	-1.5
AXS				S	Sg	00 14 13.8	-0.7
UPR	**University Cam**	**0.26**	**36**	P	Pg	00 14 12.1	0.0
UPR				S	Sg	00 14 15.7	0.0
LAKA	**Lakka**	**0.34**	**61**	P	Pg	00 14 14.1	+0.5
LAKA				AML	AML	00 14 23.1	
	comp=E,65μm,0.1s						
EFP	**Efpalio**	**0.43**	**35**	P	Pg	00 14 15.6	+0.4
EFP				S	Sb	00 14 22.6	+0.2
KLV	**Kalavryta, Ach**	**0.44**	**94**	P	Pg	00 14 14.9	-0.5
KLV				S	Sg	00 14 20.4	-0.9
KLV				AML	AML	00 14 28.2	
	comp=E,49μm,0.2s						
KLV				AML	AML	00 14 29.2	
	comp=N,46μm,0.2s						
TRIZ	**Trizonia**	**0.47**	**52**	P	Pg	00 14 16.3	+0.3
TRIZ				S	Sb	00 14 23.9	+0.1
KALE	**Kalithea**	**0.53**	**53**	P	Pg	00 14 17.4	+0.3
KALE				S	Sb	00 14 25.3	-0.2
KALE				AML	AML	00 14 28.3	
	comp=N,148μm,0.2s						
KALE				AML	AML	00 14 30.6	
	comp=E,180μm,0.3s						
AMT	**Artemida-Makis**	**0.55**	**171**	P	Pb	00 14 18.4	+0.2
GUR	**Goura**	**0.60**	**103**	P	Pg	00 14 18.2	-0.3
GUR				S	Sg	00 14 26.2	-0.3
GUR				AML	AML	00 14 35.4	
	comp=N,182μm,0.2s						
TRIP	**Tripoli**	**0.76**	**135**	P	Pb	00 14 22.1	+0.3
TRIP				S	Sb	00 14 32.0	-0.2
TRIP				AML	AML	00 14 43.1	
	comp=E,52μm,0.6s						
TRIP				AML	AML	00 14 44.0	
	comp=N,47μm,0.3s						
THAL	**Thalero**	**0.84**	**92**	P	Pg	00 14 21.4	-1.5
THAL				S	Sg	00 14 33.8	-0.2
VLX	**Vlachokerasia**	**0.94**	**138**	P	Pg	00 14 23.8	-1.0
VLX				S	Sg	00 14 36.9	-0.2
VLX				AML	AML	00 14 49.6	
	comp=E,53μm,0.7s						
VLX				AML	AML	00 14 50.9	
	comp=N,56μm,0.6s						

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*CSEM **19** 00:14:12.8±0.1, 38°.19N×21°.68E, h15km, ML1.6, Error ellipse: s-maj=2.6km s-min=2.4km az=67.0*
*THE **19** 00:14:13.1, 38°.19N×21°.70E, h18km, ML1.7/10, Error ellipse: s-maj=0.6km s-min=0.3km az=337.0*
ATH 19 00:14:12.6, 38°.20N×21°.69E, h23km±1km, ML1.6/9, Error ellipse: s-maj=1.9km s-min=0.7km az=234.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.11**	**41**	P	Pb	00 14 17.1	0.0
UPR				S	Sb	00 14 19.9	-0.2
UPR	**University Cam**	**0.11**	**41**	P	Pb	00 14 17.1	0.0
UPR				S	Sb	00 14 19.7	-0.4
UPR	**University Cam**	**0.11**	**41**	P	Pb	00 14 17.1	0.0
UPR				S	Sb	00 14 19.7	-0.4
RLS	**Riolos of Patr**	**0.23**	**232**	P	Pb	00 14 18.3	0.0
RLS				S	Sb	00 14 22.6	+0.4
RLS	**Riolos of Patr**	**0.23**	**232**	P	Pb	00 14 18.3	-0.1
RLS				S	Sb	00 14 22.7	+0.5
RLS				AML	AML	00 14 22.8	
	comp=N,445μm,0.1s						
RLS				AML	AML	00 14 22.9	
	comp=E,530μm,0.1s						
RLS	**Riolos of Patr**	**0.23**	**232**	P	Pb	00 14 18.3	0.0
RLS				S	Sb	00 14 22.7	+0.5
LAKA	**Lakka**	**0.23**	**79**	P	Pb	00 14 18.4	0.0
LAKA				S	Sb	00 14 22.4	0.0
LAKA	**Lakka**	**0.23**	**79**	P	Pb	00 14 18.4	0.0
LAKA				S	Sb	00 14 22.4	0.0
LAKA	**Lakka**	**0.23**	**79**	S	Pb	00 14 18.1	-0.3
DRO	**Drossia**	**0.25**	**176**	P	Pb	00 14 18.6	0.0
DRO				S	Sb	00 14 22.6	-0.2
DRO	**Drossia**	**0.25**	**176**	P	Pb	00 14 18.6	-0.1
DRO				AML	AML	00 14 23.6	
	comp=E,1033μm,0.3s						
DRO				S	Sb	00 14 23.8	+1.0
DRO				AML	AML	00 14 24.5	
	comp=N,437μm,0.1s						
DRO	**Drossia**	**0.25**	**176**	P	Pb	00 14 18.6	0.0
DRO				S	Sb	00 14 23.8	+1.0
AXS	**Araxos**	**0.25**	**270**	P	Pb	00 14 18.5	-0.1
AXS				S	Sb	00 14 22.9	+0.1
AXS	**Araxos**	**0.25**	**270**	P	Pb	00 14 18.2	-0.4
AXS				S	Sb	00 14 22.7	-0.1
AXS	**Araxos**	**0.25**	**270**	P	Pb	00 14 18.2	-0.4
AXS				S	Sb	00 14 22.7	-0.1
EFP	**Efpalio**	**0.28**	**36**	P	Pb	00 14 19.1	-0.1
EFP				S	Sb	00 14 24.2	+0.5
EFP	**Efpalio**	**0.28**	**36**	P	Pb	00 14 19.0	-0.2
EFP				AML	AML	00 14 24.3	
	comp=E,292μm,0.3s						
EFP				S	Sb	00 14 24.5	+0.8
EFP				AML	AML	00 14 25.6	
	comp=N,255μm,0.2s						
EFP	**Efpalio**	**0.28**	**36**	P	Pb	00 14 19.0	-0.2
EFP				S	Sb	00 14 24.5	+0.8
SERG	**Sergoula**	**0.36**	**53**	P	Pb	00 14 20.3	-0.1
SERG				S	Sb	00 14 26.1	+0.4
SERG	**Sergoula**	**0.36**	**53**	P	Pb	00 14 20.3	-0.1
SERG				S	Sb	00 14 26.1	+0.4
KLV	**Kalavryta, Ach**	**0.39**	**113**	P	Pb	00 14 20.9	-0.1
KLV				S	Sb	00 14 27.1	+0.4
KLV	**Kalavryta, Ach**	**0.39**	**113**	P	Pb	00 14 20.9	-0.1
KLV				S	Sb	00 14 27.2	+0.5
KLV	**Kalavryta, Ach**	**0.39**	**113**	P	Pb	00 14 20.9	-0.1
KLV				S	Sb	00 14 27.2	+0.5
KALE	**Kalithea**	**0.40**	**61**	P	Pb	00 14 21.1	0.0
KALE				S	Sb	00 14 27.4	+0.5
KALE	**Kalithea**	**0.40**	**61**	P	Pb	00 14 21.1	0.0
ANX	**Ano Chora**	**0.43**	**24**	P	Pb	00 14 21.7	0.0
ANX				S	Sb	00 14 28.6	+0.7
ANX	**Ano Chora**	**0.43**	**24**	P	Pb	00 14 22.0	+0.4
ANX	**Ano Chora**	**0.43**	**24**	P	Pb	00 14 22.0	+0.3
ANX				S	Sb	00 14 28.6	+0.7
PVO	**Paravola**	**0.44**	**343**	P	Pb	00 14 21.9	+0.2
PVO				S	Sb	00 14 29.1	+1.2
PVO	**Paravola**	**0.44**	**343**	P	Pb	00 14 22.1	+0.4
PVO				S	Sb	00 14 28.9	+1.0
PVO				AML	AML	00 14 29.7	
	comp=N,58μm,0.2s						
PVO				AML	AML	00 14 31.1	

DWS	**Wesley**	**0.62 160**	*e*P	Pn	00 21 15.8	+0.6
DWS			*e*S	Sn	00 21 25.1	+0.6
BBL	**Barber's Block**	**0.63 175**	*e*P	Pn	00 21 16.0	+0.6
MLYT	**Lee's Yard**	**0.85 311**	*e*P	Pn	00 21 19.6	+1.3
MLYT			*e*S	Sn	00 21 33.8	+3.7
MDN	**Morne-Daniel**	**0.85 171**	*e*P	Pn	00 21 20.6	+2.3
MDN			*e*S	Sn	00 21 32.9	+2.8
DLPL	**La Plaine**	**0.87 162**	*e*P	Pn	00 21 20.4	+1.8
DLPL			*e*S	Sn	00 21 33.9	+3.3
DBCT	**Belle View Cho**	**0.90 169**	⇑*i*P	Pn	00 21 21.8	+2.7
DBCT			*e*S	Sn	00 21 34.8	+3.3
BPA	**Boggy Peak**	**0.94 340**	⇑*i*P	Pn	00 21 20.9	+1.4
BPA	**Boggy Peak**	**0.94 340**	*e*S	Sn	00 21 34.8	+2.5
PCM	**Pelee Case Pet**	**1.37 167**	*e*P	Pb	00 21 27.9	+1.2
PCM	**Pelee Case Pet**	**1.37 167**	*e*P	Pb	00 21 28.3	+1.6
CXM	**Morne La Croix**	**1.39 165**	*e*P	Pb	00 21 28.5	+1.6
CXM			*e*S	Sb	00 21 46.7	+2.4
BAMF	**Morne Balai**	**1.39 165**	*e*P	Pb	00 21 28.4	+1.4
GBMF	**Grand Be**	**1.40 165**	*e*P	Pb	00 21 28.4	+1.2
PML	**Morne Lenard**	**1.41 166**	*e*P	Pb	00 21 28.3	+0.9
FDF	**Fort de France**	**1.47 166**	*e*P	Pb	00 21 28.8	+0.6
FDF			*e*S	Sb	00 21 47.3	+0.9
ANWB	**Willy Bob**	**1.52 351**	*e*P	Pb	00 21 28.4	-0.8
ANWB			*e*S	Sn	00 21 47.2	+0.5
SKI	**Saint Kitts**	**1.65 315**	*e*P	Pb	00 21 30.8	-0.5
ZAM	**Aeronautique**	**1.65 163**	*e*P	Pb	00 21 31.8	+0.4
TRMF	**Trois Ilets**	**1.68 164**	*e*P	Pb	00 21 32.1	+0.2
MVM	**Montagne Vauci**	**1.71 159**	*e*P	Pb	00 21 32.1	-0.3

*ISCJB **19** 00:21:12.5±0.3, 43°.91N±0°.02×11°.86E±0°.03, h13km±3km, Error ellipse: s-maj=4.6km s-min=2.4km az=32.3*
*CSEM **19** 00:21:12.8±0.1, 43°.91N×11°.87E, h10km, ML2.5/11, Error ellipse: s-maj=3.4km s-min=2.2km az=37.0*
*ROM **19** 00:21:12.1±0.1, 43°.93N×11°.87E, h7km±1km, Md2.5/24, Ml2.0/24, Error ellipse: s-maj=1.9km s-min=1.0km az=27.0*
ISC 19 00:21:12.4±0.8, 43°.93N±0°.02×11°.88E±0°.02, h6km±5km, n70, σ0°82/103, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.04**	**217**	Pg	**Pg**	**00 21 13.6**	**-0.1**
SFI				Sg	**Sg**	**00 21 14.8**	**+0.1**
	535nm,0.3s						
SFI	**Santa Sofia**	**0.04**	**217**	Pg	**Pg**	**00 21 13.6**	**-0.1**
SFI				Sg	**Sg**	**00 21 14.8**	**+0.1**
	535nm,0.3s						
ASQU	**Asqua**	**0.15**	**205**	Pg	**Pg**	**00 21 15.7**	**+0.2**
ASQU				Sg	**Sg**	**00 21 19.0**	**+1.4**
	648nm,0.1s						
ASQU	**Asqua**	**0.15**	**205**	Pg	**Pg**	**00 21 15.7**	**+0.2**
ASQU				Sg	**Sg**	**00 21 19.0**	**+1.4**
	648nm,0.1s						
VMG	**Vicchio**	**0.24**	**277**	Pg	**Pg**	**00 21 17.5**	**+0.3**
VMG				Sg	**Sg**	**00 21 22.0**	**+1.6**
VMG	**Vicchio**	**0.24**	**277**	Pg	**Pg**	**00 21 17.5**	**+0.3**
VMG				Sg	**Sg**	**00 21 22.0**	**+1.6**
CPGN	**Carpegna, Ital**	**0.35**	**112**	Pg	**Pb**	**00 21 20.2**	**-0.8**
CPGN				Sg	**Sb**	**00 21 26.9**	**+0.1**
	10μm,7.9s						
CPGN	**Carpegna, Ital**	**0.35**	**112**	Pg	**Pb**	**00 21 20.2**	**-0.8**
PARC	**Parchiule**	**0.39**	**137**	Pg	**Pg**	**00 21 20.1**	**+0.2**
PARC				Sg	**Sb**	**00 21 26.5**	**-1.3**
	81nm,0.2s						
PARC	**Parchiule**	**0.39**	**137**	Pg	**Pg**	**00 21 20.1**	**+0.2**
PARC				Sg	**Sb**	**00 21 26.5**	**-1.3**
	81nm,0.2s						
SEI	**Scarperia**	**0.40**	**288**	Pg	**Pg**	**00 21 20.0**	**-0.1**
SEI				Sg	**Sb**	**00 21 26.8**	**-1.3**
SEI	**Scarperia**	**0.40**	**288**	Pg	**Pg**	**00 21 20.0**	**-0.1**
SEI				Sg	**Sb**	**00 21 26.8**	**-1.3**
IMOL	**Imola, Italy**	**0.44**	**347**	Pg	**Pb**	**00 21 22.1**	**-0.3**
IMOL				Sg	**Sb**	**00 21 29.4**	**+0.2**
	39nm,0.5s						
IMOL	**Imola, Italy**	**0.44**	**347**	Pg	**Pb**	**00 21 22.1**	**-0.3**
IMOL				Sg	**Sb**	**00 21 29.4**	**+0.2**
	39nm,0.5s						
FIR	**Firenze**	**0.48**	**251**	Pg	**Pg**	**00 21 21.8**	**+0.2**
	300nm,0.4s						
FIR	**Firenze**	**0.48**	**251**	Pg	**Pg**	**00 21 21.8**	**+0.2**
	300nm,0.4s						
BADI	**Badiali**	**0.50**	**148**	Pg	**Pg**	**00 21 22.0**	**0.0**
BADI				Sg	**Sb**	**00 21 30.1**	**-1.0**
	92nm,0.2s						
BADI	**Badiali**	**0.50**	**148**	Pg	**Pg**	**00 21 22.0**	**0.0**
BADI				Sg	**Sb**	**00 21 30.1**	**-1.0**
	92nm,0.2s						
MTRZ	**Monterenzio**	**0.53**	**326**	Pg	**Pg**	**00 21 23.5**	**+0.9**
	110nm,0.4s						
MTRZ	**Monterenzio**	**0.53**	**326**	Pg	**Pg**	**00 21 23.5**	**+0.9**
	110nm,0.4s						
ATMC	**Monte Cedrone**	**0.54**	**155**	Pg	**Pg**	**00 21 22.7**	**0.0**
ATMC				Sg	**Sb**	**00 21 31.6**	**-0.6**
	105nm,0.3s						
ATMC	**Monte Cedrone**	**0.54**	**155**	Pg	**Pg**	**00 21 22.7**	**0.0**
ATMC				Sg	**Sb**	**00 21 31.6**	**-0.6**
	105nm,0.3s						
PTF	**Prato**	**0.58**	**273**	Pg	**Pg**	**00 21 23.5**	**-0.1**
PTF				Sg	**Sb**	**00 21 32.7**	**-0.8**
PTF	**Prato**	**0.58**	**273**	Pg	**Pg**	**00 21 23.5**	**-0.1**
PTF				Sg	**Sb**	**00 21 32.7**	**-0.8**
FNVD	**Fontana Vidola**	**0.59**	**293**	Pg	**Pg**	**00 21 23.7**	**-0.1**
	98nm,0.5s						
FNVD	**Fontana Vidola**	**0.59**	**293**	Pg	**Pg**	**00 21 23.7**	**-0.1**
	98nm,0.5s						
CAFI	**Castiglion Fio**	**0.61**	**174**	Pg	**Pg**	**00 21 24.1**	**0.0**
CAFI				Sg	**Sb**	**00 21 33.8**	**-0.4**
	67nm,0.6s						
CAFI	**Castiglion Fio**	**0.61**	**174**	Pg	**Pg**	**00 21 24.1**	**0.0**
CAFI				Sg	**Sb**	**00 21 33.8**	**-0.4**
	67nm,0.6s						
ATPC	**Poggio Castell**	**0.62**	**137**	Pg	**Pg**	**00 21 24.3**	**0.0**
ATPC				Sg	**Sb**	**00 21 34.7**	**+0.2**
	90nm,0.5s						
ATPC	**Poggio Castell**	**0.62**	**137**	Pg	**Pg**	**00 21 24.3**	**0.0**
PIEI	**Pieia**	**0.62**	**130**	Pg	**Pg**	**00 21 24.0**	**-0.3**
	25nm,0.2s						
PIEI	**Pieia**	**0.62**	**130**	Pg	**Pg**	**00 21 24.0**	**-0.3**
	25nm,0.2s						
CSNT	**Castellina Chi**	**0.63**	**223**	Pg	**Pg**	**00 21 24.5**	**0.0**
	53nm,0.8s						
CSNT	**Castellina Chi**	**0.63**	**223**	Pg	**Pg**	**00 21 24.5**	**0.0**
	53nm,0.8s						
ATVO	**AVT- Monte Val**	**0.67**	**145**	Pg	**Pg**	**00 21 25.2**	**-0.1**
ATVO				Sg	**Sb**	**00 21 36.3**	**+0.3**
	111nm,0.7s						
ATVO	**AVT- Monte Val**	**0.67**	**145**	Pg	**Pg**	**00 21 25.2**	**-0.1**
ATVO				Sg	**Sb**	**00 21 36.3**	**+0.3**
	111nm,0.7s						
CRMI	**Carmignano**	**0.67**	**258**	Pg	**Pg**	**00 21 25.3**	**0.0**
CRMI				Sg	**Sb**	**00 21 35.2**	**-0.8**
	64nm,0.4s						
CRMI	**Carmignano**	**0.67**	**258**	Pg	**Pg**	**00 21 25.3**	**0.0**
CRMI				Sg	**Sb**	**00 21 35.2**	**-0.8**
	64nm,0.4s						
FSSB	**Fossombrone**	**0.69**	**110**	Pg	**Pg**	**00 21 25.6**	**-0.1**
FSSB				Sg	**Sb**	**00 21 36.9**	**+0.2**
FSSB	**Fossombrone**	**0.69**	**110**	Pg	**Pg**	**00 21 25.6**	**-0.1**
FSSB				Sg	**Sb**	**00 21 36.9**	**+0.2**
MPAG	**Monte Paganucc**	**0.71**	**115**	Pg	**Pg**	**00 21 26.1**	**+0.1**
MPAG				Sg	**Sb**	**00 21 37.4**	**+0.3**
	26nm,0.5s						
MPAG	**Monte Paganucc**	**0.71**	**115**	Pg	**Pg**	**00 21 26.1**	**+0.1**
MPAG				Sg	**Sb**	**00 21 37.4**	**+0.3**
	26nm,0.5s						
FRON	**Frontone**	**0.74**	**124**	Pg	**Pg**	**00 21 26.4**	**-0.2**
FRON				Sg	**Sb**	**00 21 38.4**	**+0.3**
	30nm,0.5s						
FRON	**Frontone**	**0.74**	**124**	Pg	**Pg**	**00 21 26.4**	**-0.2**
FRON				Sg	**Sb**	**00 21 38.4**	**+0.3**
	30nm,0.5s						
MURB	**Monte Urbino**	**0.82**	**145**	Pg	**Pg**	**00 21 28.0**	**-0.1**
	117nm,0.3s						
MURB	**Monte Urbino**	**0.82**	**145**	Pg	**Pg**	**00 21 28.0**	**-0.1**
	117nm,0.3s						
SSFR	**Montelago di S**	**0.82**	**127**	Pg	**Pg**	**00 21 27.9**	**-0.3**
	43nm,0.2s						
SSFR	**Montelago di S**	**0.82**	**127**	Pg	**Pg**	**00 21 27.9**	**-0.3**
	43nm,0.2s						
FROS	**Frosini**	**0.89**	**216**	Pg	**Pb**	**00 21 29.8**	**-0.5**
	44nm,0.7s						
FROS	**Frosini**	**0.89**	**216**	Pg	**Pb**	**00 21 29.8**	**-0.5**
	44nm,0.7s						

ATCC	**AVT- Casa Cast**	**0.93**	**143**	Pg	**Pb**	**00 21 31.0**	**+0.1**
	58nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.93**	**143**	Pg	**Pb**	**00 21 31.0**	**+0.1**
	58nm,0.6s						
MGAB	**Montegabbione**	**1.03**	**170**	Pg	**Pg**	**00 21 32.1**	**-0.1**
	44nm,0.4s						
MGAB	**Montegabbione**	**1.03**	**170**	Pg	**Pg**	**00 21 32.1**	**-0.1**
	44nm,0.4s						
TRIF	**Trifonti**	**1.08**	**221**	Pg	**Pg**	**00 21 33.0**	**-0.1**
	26nm,1.0s						
TRIF	**Trifonti**	**1.08**	**221**	Pg	**Pg**	**00 21 33.0**	**-0.1**
	26nm,1.0s						
SACS	**San Casciano d**	**1.08**	**179**	Pg	**Pg**	**00 21 33.0**	**-0.2**
	19nm,0.6s						
NVLJ	**Novalja**	**2.24**	**73**	*e*Pn	**Pn**	**00 21 50.9**	**+1.0**
NVLJ				Sn	**Sn**	**00 22 17.0**	**-0.9**
FETA	**Feichten**	**3.19**	**346**	*i* Pn	**Pb**	**00 22 07.2**	**-2.3**
	0.2nm,0.1s						
FETA	**Feichten**	**3.19**	**346**	Pn	**Pb**	**00 22 07.2**	**-2.3**
	0.2nm,0.1s						
OBKA	**Obir**	**3.19**	**35**	*i* Pn	**Pn**	**00 22 02.1**	**-1.0**
	2.4nm,0.7s						
OBKA	**Obir**	**3.19**	**35**	Pn	**Pn**	**00 22 02.1**	**-1.0**
	2.4nm,0.7s						
WATA	**Walderalm**	**3.41**	**357**	*i* Pn	**Pn**	**00 22 08.5**	**+2.4**
	0.7nm,0.2s						
WATA	**Walderalm**	**3.41**	**357**	Pn	**Pn**	**00 22 08.5**	**+2.4**
	0.7nm,0.2s						
MOTA	**Moosalm**	**3.45**	**351**	*i* Pn	**Pn**	**00 22 08.9**	**+2.1**
	0.8nm,0.3s						
MOTA	**Moosalm**	**3.45**	**351**	Pn	**Pn**	**00 22 08.9**	**+2.1**
	0.8nm,0.3s						
DAVA	**Damuels**	**3.63**	**338**	*i* Pn	**Pn**	**00 22 10.8**	**+1.5**
	0.4nm,0.2s						
DAVA	**Damuels**	**3.63**	**338**	Pn	**Pn**	**00 22 10.8**	**+1.5**
	0.4nm,0.2s						
RETA	**Reutte**	**3.64**	**348**	*i* Pn	**Pn**	**00 22 08.5**	**-0.7**
	0.3nm,0.2s						
RETA	**Reutte**	**3.64**	**348**	Pn	**Pn**	**00 22 08.5**	**-0.7**
	0.3nm,0.2s						

*ISCJB **19** 00:24:39.7±0.5, 32°.19N±0°.03×115°.33W±0°.03, h4km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=137.1*
*NEIC **19** 00:24:41.4±0.0, 32°.21N×115°.30W, h6km, ML2.4(ECX), ML2.5(PAS), After ECX.*
*ECX **19** 00:24:41.4±0.5, 32°.21N×115°.28W, h6km, MD2.2, ML2.4*
*MEX **19** 00:24:42.0±0.3, 32°.30N×115°.18W, h20km±20km, MD3.5*
ISC 19 00:24:40.0±1.0, 32°.19N±0°.03×115°.31W±0°.03, h14km±8km, n23, σ0°79/33, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.23**	**2**	⇓*e*P	**Pg**	**00 24 45.3**	**+0.2**
CPBX				⇑*e*		00 24 49.7	
CPBX				IAML		00 24 49.7	
	comp=E,3μm,0.2s						
MBIG	**Mexicali**	**0.24**	**25**	*e*P	**Pg**	**00 24 45.4**	**+0.2**
MBIG				*i* S	**Sg**	**00 24 48.0**	**-0.7**
MBIG	**Mexicali**	**0.24**	**25**	*e*P	**Pg**	**00 24 45.5**	**+0.3**
EMSC	**East Mesa**	**0.61**	**27**	*e*P	**Pg**	**00 24 51.7**	**-0.4**
DREC	**Desert Rsrch C**	**0.62**	**350**	*e*P	**Pg**	**00 24 52.1**	**-0.2**
WESC	**Westside Schoo**	**0.67**	**328**	⇑*e*P	**Pg**	**00 24 53.4**	**+0.3**
YUH	**Yuha Desert**	**0.69**	**312**	⇓*i*P	**Pg**	**00 24 53.4**	**-0.1**
COA	**Coachella**	**0.69**	**14**	*e*P	**Pg**	**00 24 52.7**	**-0.7**
COK	**Cook Ranch**	**0.74**	**332**	⇑*i*P	**Pb**	**00 24 54.3**	**-0.4**
ECBX	**El Chinero**	**0.75**	**163**	⇓*e*P	**Pb**	**00 24 55.0**	**+0.1**
ECBX				*e*S	**Sg**	**00 25 05.3**	**+0.7**
RMX	**La Rumorosa**	**0.77**	**303**	*e*P	**Pb**	**00 24 54.5**	**-0.7**
RMX				*e*S	**Sb**	**00 25 04.4**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.81**	**304**	*e*P	**Pb**	**00 24 55.8**	**-0.2**
ZAX	**El Zacaton**	**1.06**	**231**	⇓*e*P	**Pb**	**00 25 00.0**	**-0.1**
CBX	**Cerro Bola**	**1.15**	**276**	*e*P	**Pn**	**00 25 01.2**	**-0.6**
CBX				*e*S	**Sb**	**00 25 17.0**	**+0.4**
CBX	**Cerro Bola**	**1.15**	**276**	*e*P	**Pn**	**00 25 01.4**	**-0.4**
CBX				IAML		00 25 18.8	
	comp=E,82nm,0.3s						
SPIG	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pn**	**00 25 01.6**	**-0.4**
SPIG				*e*S	**Sb**	**00 25 17.2**	**+0.4**
SPIG	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pn**	**00 25 01.6**	**-0.4**
SPIG				*e*S	**Sn**	**00 25 17.6**	**0.0**
SPX	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pn**	**00 25 01.6**	**-0.4**
TJIG	**Tijuana**	**1.18**	**282**	*e*P	**Pn**	**00 25 01.5**	**-0.5**
TJIG				*e*S	**Sb**	**00 25 17.0**	**-0.3**
PFO	**Pinyon Flats O**	**1.71**	**326**	*e*Pn	**Pb**	**00 25 11.6**	**+0.2**
PFO				*e*Sn	**Sb**	**00 25 33.0**	**+0.3**
214A	**Organ Pipe Nat**	**2.14**	**96**	*e*Pn	**Pb**	**00 25 17.1**	**-1.4**
214A				*e*Pg	**Pg**	**00 25 21.3**	**+0.3**
214A				*e*Sn	**Sb**	**00 25 44.0**	**-0.9**
PASC	**Pasadena Art C**	**3.11**	**310**	Pn	**Pn**	**00 25 31.1**	**+2.4**
TUC	**Tucson**	**3.84**	**87**	*e*Pn	**Pn**	**00 25 40.6**	**+1.8**

NNC 19 00:29:06.8±1.8, 36°.72N×71°.08E, h188km±29km, mb2.6, mpv3.7, 4C-3D, Error ellipse: s-maj=27.1km s-min=11.4km az=135.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.74**	**320**	⇓P	Pn	00 29 53.2	+0.4
	11nm,0.2s						
DZET				⇑S	Sn	00 30 29.0	+0.2
	26nm,0.5s						
MNAS	**Manas**	**5.87**	**10**	⇓P	Pn	00 30 32.3	+0.1
	2.6nm,0.4s						
MNAS				⇑S	Sn	00 31 40.6	+1.0
	2.2nm,0.5s						
KK31	**Karatay Array**	**6.39**	**356**	P	Pn	00 30 38.8	-0.1
	1.4nm,0.3s,baz=180,slow=13,SNR=35						
KK31				⇑S	Sn	00 31 50.6	-1.2
	1.0nm,0.5s,baz=182,slow=21,SNR=4.8						
AAK	**Ala-Archa**	**6.47**	**23**	⇑P	Pn	00 30 39.6	-0.5
	1.6nm,0.3s						
AAK				S	Sn	00 31 54.9	+1.0
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**7.10**	**28**	⇓P	Pn	00 30 47.5	-1.0
	3.9nm,0.8s						
AB31	**Akbulak array**	**14.92**	**331**	P	P	00 32 30.1	+0.7
	0.7nm,0.7s,baz=149,slow=12,SNR=4.9						

*KRNET **19** 00:44:29.1±0.1, 41°.18N×71°.98E, h2km, mb2.5*
ISC 19 00:44:29.8±1.2, 41°.16N±0°.04×72°.00E±0°.05, h9km±19km, n8, σ1°66/15, 9C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.64**	**358**	⇓*i*P	**Pg**	**00 44 41.2**	**-1.0**
	baz=0.0						
ARK				⇓*i*S	**Sg**	**00 44 49.1**	**-1.5**
	baz=0.0						
ARSB	**Arslanbob**	**0.76**	**77**	⇑*i*P	**Pg**	**00 44 43.5**	**-1.0**
	baz=78						
ARSB				⇑*i*S	**Sb**	**00 44 55.4**	**-0.5**
	baz=78						
MNAS	**Manas**	**1.38**	**16**	⇑*e*P	**Pg**	**00 44 56.0**	**-0.3**
	baz=17						
MNAS				⇑*i*S	**Sg**	**00 45 15.3**	**+1.0**
	baz=17						
MNAS	**Manas**	**1.38**	**16**	⇑P	**Pg**	**00 44 57.0**	**+0.7**
	1.0nm,0.5s						
MNAS				⇑S	**Sg**	**00 45 18.8**	**+4.5**
	4.0nm,0.5s						
BTK	**Batken**	**1.42**	**220**	⇑*e*P	**Pg**	**00 44 56.8**	**-0.3**
	baz=218						
BTK				⇑*e*S	**Sg**	**00 45 16.9**	**+1.4**
	baz=218						
AML	**Almayashu**	**1.60**	**52**	⇓*i*P	**Pg**	**00 45 00.3**	**-0.3**
	baz=53						
AML				⇓*i*S	**Sg**	**00 45 22.1**	**+0.8**
	baz=53						
EKS2	**Erkin-Say**	**2.00**	**41**	⇓*e*P	**Pb**	**00 45 06.7**	**+0.1**
	baz=42						
EKS2				⇓*i*S	**Sg**	**00 45 34.3**	**0.0**
	baz=42						
KK31	**Karatay Array**	**2.24**	**331**	Pn	**Pb**	**00 45 09.7**	**-0.7**
	0.3nm,0.3s,baz=140,slow=14,SNR=4.8						
KK31				⇑Lg	Lg	00 45 39.7	
	0.5nm,0.3s,baz=144,slow=28,SNR=6.9						

PGC 19 00:44:32.0±1.0, 59°.12N×138°.03W, h7km, ML2.2/4, 85km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.89**	**309**	P	Pg	00 44 48.2	-0.9
PNL				S	Sg	00 45 00.4	-0.3
PLBC	**Pleasant Camp**	**0.92**	**67**	P	Pg	00 44 48.2	-1.4
PLBC				S	Sg	00 45 00.6	-0.9
YUK7	**Dusty Glacier**	**1.42**	**358**	Pn	Pn	00 44 56.0	-2.4
PCA	**Pinnacle**	**1.50**	**312**	Pn	Pn	00 44 55.7	-3.7
PCA				Sg	Sn	00 45 18.3	-0.9
BESE	**Bessie Mountai**	**1.74**	**107**	Pn	Pn	00 45 02.1	-0.5
BESE				Sg	Sn	00 45 25.4	+0.3
HYT	**Haines Junctio**	**1.74**	**9**	Pn	Pn	00 45 03.4	+0.7
HYT				Sg	Sb	00 45 25.8	-0.4
YUK6	**Outpost Mounta**	**1.84**	**355**	Pn	Pn	00 45 04.4	+0.2
YUK5	**Granite Creek**	**2.02**	**2**	Pn	Pn	00 45 07.1	+0.5
YUK5				Sg	Sb	00 45 33.6	-1.0
WHY	**Whitehorse**	**2.22**	**44**	Pn	Pn	00 45 09.5	+0.2
WHY				Sg	Sn	00 45 37.1	+0.1
BVCY	**Beaver Creek**	**3.59**	**338**	Pn	Pn	00 45 22.4	-5.6
BVCY				Sn	Sn	00 45 49.5	-21

*IDC **19** 00:50:40.5±0.4, 9°.44S×124°.77E, h0km, mb4.6/26, mb1 4.7/27, mb1mx4.5/51, mbtmp4.6/27, ML4.8/1, MS3.8/18, Ms1 3.9/18, ms1mx3.7/28, Error ellipse: s-maj=20.0km s-min=10.6km az=75.0*
*ISCJB **19** 00:50:43.3±0.2, 9°.45S±0°.03×124°.88E±0°.02, h33km, mb4.8/62, MS3.8/17, Error ellipse: s-maj=4.3km s-min=3.1km az=30.1*
*MOS **19** 00:50:44.6±1.5, 9°.33S×124°.73E, h38km, mb4.9/26, Error ellipse: s-maj=14.6km s-min=7.7km az=109.5*
*BJI **19** 00:50:44.2, 9°.50S×124°.80E, h36km, mb4.8/40, mB5.1/28, Ms4.8/14, Ms7 4.5/9*
*NEIC **19** 00:50:45.7±1.6, 9°.43S×124°.79E, h32km±10km, mb4.9/27, Error ellipse: s-maj=6.9km s-min=4.7km az=45.0*
NEIC Felt [III] at Kefamenanu.
*GCMT **19** 00:50:45.7±0.4, 9°.43S×124°.90E, h39km±1km, MW5.0/59, Moment Tensor Solution. s31,c35; s59,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.49±.26; $M_{\theta\theta}$1.30±.19; $M_{\phi\phi}$2.18±.20; $M_{r\theta}$1.20±.14; $M_{\phi\theta}$1.55±.10; $M_{\phi r}$1.13±.17; Best double couple: $M_0$3.79700×10^{16} NP1:ϕ_s221.00000°, δ58.00000°, λ-86.00000°. NP2: ϕ_s33.00000°, δ32.00000°, λ-97.00000°. Principal axes: T 3.7190, Plg13.0000°, Azm308.0000°; N 0.1460, Plg4.0000°, Azm39.0000°; P -3.8740, Plg77.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **19** 00:50:48.6±0.3, 10°.5S±2°.×12°.5E±°, h41km±4km, M5.0/33, mb5.1/33, mB5.5/18, MLv5.1/13, Mw(mB)4.9/18*
ISC 19 00:50:45.4±0.3, 9°.47S±0°.04×124°.77E±0°.04, h33km, n252, σ1°92/249, mb4.8/62, MS3.9/17, 2C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.57**	**240**	P	**Pb**	**00 50 59.6**	**+2.4**
SOEI	**Soe**	**0.57**	**240**	*e*Pn	**Pb**	**00 50 59.5**	**+2.3**
SOEI				*e*Sn	**Sn**	**00 51 07.6**	**+2.0**
MMRI	**Maumere**	**2.63**	**288**	P	**Pb**	**00 51 29.3**	**-2.6**
MMRI				S	**Sn**	**00 52 00.3**	**+3.9**
MMRI	**Maumere**	**2.63**	**288**	*e*Pn	**Pn**	**00 51 28.9**	**+3.3**
MMRI				*e*Sn	**Sn**	**00 51 55.3**	**-1.1**
EDFI	**Ende, Flores**	**3.12**	**283**	P	**Pn**	**00 51 35.7**	**+3.3**
EDFI				S	**Sn**	**00 52 11.8**	**+3.1**
BASI	**Baing, Sumba**	**4.20**	**259**	P	**Pn**	**00 51 48.9**	**+1.8**
WSI	**Waingapu**	**4.41**	**267**	P	Pn	00 51 42.5	-7.6
BBSI	**Bau Bau**	**4.51**	**331**	P	Pn	00 51 56.5	+5.0
BSSI	**Bau Bau, Buton**	**5.37**	**308**	P	**Pn**	**00 52 08.1**	**+4.8**
	496nm,0.8s,5μm1.7nm						
KDI	**Kendari**	**5.88**	**339**	P	**Pn**	**00 52 14.7**	**+4.5**
BKSI	**Bulukumba**	**6.18**	**311**	P	**Pn**	**00 52 18.2**	**+3.8**
	1.5nm,0.9s,0.0nm						
NLAI	**Namlea**	**6.61**	**21**	P	Pb	00 52 31.5	-8.1
	172nm,0.7s,2μm0.6nm						
SAUI	**Saumlaki**	**6.62**	**78**	*e*Pn	**Pn**	**00 52 20.8**	**+0.3**
SAUI				*e*Sn	**Sn**	**00 53 31.7**	**-3.3**
KAPI	**Kappang**	**6.66**	**311**	*e*Pn	**Pn**	**00 52 21.7**	**+0.7**
	54nm,0.8s						
AAI	**Ambon**	**6.68**	**31**	P	Pb	00 52 34.0	-6.8
	124nm,0.8s,0.4nm						
PLAI	**Plampang**	**6.93**	**275**	P	**Pn**	**00 52 26.8**	**+2.1**
	318nm,0.5s,6μm1.6nm						
MTN	**Manton Dam**	**7.09**	**119**	P	**Pn**	**00 52 26.3**	**-0.6**
	baz=7.1,SNR=702						
MTN	**Manton Dam**	**7.09**	**119**	*e*Pn	**Pn**	**00 52 26.3**	**-0.6**
KNRA	**Kununurra**	**7.30**	**148**	P	**Pn**	**00 52 28.2**	**-1.6**
	baz=7.3,SNR=123						
MSAI	**Masohi**	**7.36**	**34**	P	Pb	00 52 46.0	-6.4
SPSI	**Sidrap Palu**	**7.38**	**317**	P	Pn	00 52 37.2	+6.2
	68nm,0.9s,0.2nm						
SANI	**Sanana**	**7.47**	**9**	P	Pn	00 52 39.0	+6.9
	287nm,0.8s,3μm0.9nm						
TWSI	**Taliwang, Sumb**	**7

QIS **Mount Isa** 18.06 129 P Pn 00 54 50.8 -3.2
baz=18,SNR=41
DBJI **Dramaga** 18.07 278 P P 00 54 54.9 +0.6
154nm,0.9s,11μm
COEN **Coen** 18.57 106 P P 00 54 58.5 -1.2
baz=19,SNR=25
COEN **Coen** 18.57 106 eP P 00 54 58.7 -1.0
246nm,1.9s
CGJI **Cibinong** 19.10 277 P P 00 55 05.2 -0.4
122nm,0.4s,3μm
PALU **Palau** 19.30 30 P Pn 00 55 09.2 +0.2
baz=20,SNR=4.3
KLSI **20.44 282** P Pn 00 55 22.7 +0.2
25nm,0.8s
KASI **Kota Agung** 20.47 280 P P 00 55 20.8 +0.2
88nm,0.4s,2μm
MTSU **Mount Surprise** 20.83 117 P P 00 55 25.6 +1.1
baz=21,SNR=35
MORW **Morawa** 21.15 202 P P 00 55 26.6 -1.1
baz=21,SNR=14
FORT **Forrest** 21.42 172 P P 00 55 29.8 -0.9
baz=21,SNR=41
FORT **Forrest** 21.42 172 eP P 00 55 30.0 -0.7
561nm,0.8s
LHSI **Lahat** 21.82 283 P P 00 55 48.2 +13
KMBL **Kambalda** 21.95 187 P P 00 55 35.0 -1.3
baz=22,SNR=16
PMG **Port Moresby** 22.09 92 P P 00 55 41.9 +3.9
7.9nm,0.5s,baz=346,slow=3.5,SNR=3.1
PMG LR LR 01 06 00.2
comp=Z,640nm,20.0s,baz=235,slow=42
PMG **Port Moresby** 22.09 92 eP P 00 55 37.4 -0.6
PMG pmax pmax
comp=Z,70nm,1.0s
PMG **Port Moresby** 22.09 92 eP P 00 55 40.3 +2.3
BLDU **Ballidu** 22.34 199 P P 00 55 39.0 -1.6
baz=22,SNR=16
KLBR **Kellerberrin** 22.96 195 P P 00 55 45.5 -1.5
baz=23,SNR=27
CTA **Charters Tower** 23.27 119 P P 00 55 51.0 +0.6
comp=Z,8.0nm,0.5s,baz=305,slow=13,SNR=11
CTA LR LR 01 05 28.5
comp=Z,517nm,20.8s,baz=314,slow=38
CTA **Charters Tower** 23.27 119 P P 00 55 51.0 +0.6
CTAO **Charters Tower** 23.27 119 eP P 00 55 51.0 +0.6
CTAO pmax pmax
comp=Z,80nm,1.6s
CTAO **Charters Tower** 23.27 119 eP P 00 55 51.0 +0.6
comp=Z,80nm,1.6s
NWAO **Narrogin (SRO)** 24.36 196 P P 00 55 59.4 -1.1
comp=Z,20nm,0.5s,baz=244,slow=7.9,SNR=29
NWAO LR LR 01 06 52.5
comp=Z,143nm,19.1s,baz=273,slow=40
NWAO **Narrogin (SRO)** 24.36 196 P P 00 55 59.4 -1.1
baz=24,SNR=27
NWAO P P 00 55 59.4 -1.1
baz=24,SNR=27
NWAO **Narrogin (SRO)** 24.36 196 eP P 00 55 59.3 -1.1
NWAO pmax pmax
comp=Z,21nm,0.8s
NWAO **Narrogin (SRO)** 24.36 196 eP P 00 55 59.3 -1.1
comp=Z,21nm,0.8s
QLP **Quilpie** 25.08 135 P P 00 56 08.0 +0.8
baz=25
BBOO **Buckleboo** 25.46 157 P P 00 56 09.9 -0.6
baz=26,SNR=26
BBOO **Buckleboo** 25.46 157 eP P 00 56 09.9 -0.6
comp=Z,91nm,1.6s
RKGY **Rocky Gully** 26.02 195 P P 00 56 15.8 +0.3
baz=26,SNR=19
HTT **Hallett** 27.18 153 P P 00 56 26.4 +0.3
baz=27,SNR=7.8
STKA **Stephens Creek** 27.22 147 P P 00 56 25.7 -0.6
comp=Z,7.6nm,0.5s,baz=322,slow=10,SNR=17
STKA LR LR 01 08 40.0
comp=Z,488nm,18.3s,baz=329,slow=40
STKA **Stephens Creek** 27.22 147 P P 00 56 26.6 +0.2
baz=27,SNR=11
STKA **Stephens Creek** 27.22 147 eP P 00 56 26.6 +0.2
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA **Stephens Creek** 27.22 147 eP P 00 56 26.6 +0.2
comp=Z,4.1nm,0.8s
TSI **Tuntungan** 29.12 295 P P 00 56 44.2 +0.7
comp=Z,700nm,1.0s,comp=Z,9μm
CMSA **Cobar Meteorol** 29.32 141 P P 00 56 45.9 +0.7
baz=29,SNR=32
ARPS **Mount Arapiles** 31.27 153 P P 00 57 03.3 +1.0
baz=31,SNR=13
QIZ **Qiongzhong** 31.91 333 P P 00 57 10.5 +2.4
QIZ S S 01 02 22.3 +5.1
ARMA **Armidale** 32.59 134 P P 00 57 15.7 +1.7
baz=33,SNR=7.9
ARMA **Armidale** 32.59 134 eP P 00 57 15.8 +1.7
comp=Z,12nm,1.0s
MGCD **Mangrove Creek** 33.87 138 P P 00 57 27.2 +2.1
baz=34,SNR=4.7
CNB **Canberra Magne** 34.14 143 P P 00 57 29.1 +1.6
baz=34,SNR=8.4
RIV **Riverview** 34.29 139 P P 00 57 31.0 +2.3
baz=34
CM01 **Chiang Mai Arr** 37.64 317 eP P 00 57 58.1 +0.5
CMAR **Chiang Mai Arr** 37.68 317 P P 00 57 58.1 +0.2
comp=Z,5.5nm,0.7s,baz=142,slow=6.7,SNR=27
CMAR LR LR 01 18 23.6
comp=Z,122nm,18.4s,baz=156,slow=44
CHTO **Chiang Mai** 37.93 318 eP P 00 58 01.0 +1.0
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO **Chiang Mai** 37.93 318 eP P 00 58 01.0 +1.0
comp=Z,7.8nm,0.8s
GYA **Guiyang** 39.81 334 eP P 00 58 18.0 +2.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI **Kunming** 40.53 328 P P 00 58 24.8 +2.8
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,140nm,6.5s
NJ2 **Nanjing** 41.67 352 eP P 00 58 32.8 +1.9
NJ2 pmax pmax
comp=Z,8.0nm,1.0s
ENH **Enshi** 42.16 340 eP P 00 58 35.0 0.0
comp=Z,11nm,0.5s
CD2 **Chengdu** 44.93 334 eP P 00 58 59.0 +1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
XAN **Xi'an** 45.81 342 P P 00 59 03.3 -1.0
XAN pP pP 00 59 13.3 -0.8
XAN pmax pmax
comp=Z,12nm,0.6s
XAN pmax pmax
comp=Z,100nm,7.7s
KSAR **Wonju Array Be** 46.76 3 P P 00 59 11.9 +0.3
KSAR **Wonju Array Be** 46.76 3 P P 00 59 11.8 +0.3
KSRS **Korea Array** 46.77 3 P P 00 59 11.8 +0.2
comp=Z,2.3nm,0.6s,baz=182,slow=10.0,SNR=9.4
MJAR **Matsushiro Arr** 47.48 15 P P 00 59 16.7 -0.6
comp=Z,3.3nm,0.6s,baz=191,slow=8.8,SNR=7.5
MJAR LR LR 01 17 08.1
comp=Z,45nm,22.0s,baz=185,slow=34
MAJO **Matsushiro** 47.48 15 eP P 00 59 16.3 -1.0
MAJO pmax pmax
comp=Z,32nm,0.8s
LZH **Lanzhou** 49.41 338 eP P 00 59 36.0 +3.6
LZH pP sP 00 59 44.8 -1.4
LZH sP pP 00 59 47.3 +5.0
LZH pmax pmax
comp=Z,19nm,1.0s
BJI **Beijing** 49.90 351 P P 00 59 35.5 -0.2
BJI pmax pmax
comp=Z,13nm,0.7s
BJI pmax pmax
comp=Z,92nm,3.4s
LSA **Lhasa** 50.64 321 eP P 00 59 42.3 +0.2
LSA pmax pmax
comp=Z,12nm,0.7s
LSA **Lhasa** 50.64 321 eP P 00 59 42.3 +0.2
comp=Z,12nm,0.7s
ODAN **Odare** 51.18 316 eP P 00 59 45.8 -0.2
TAPN **Taplejung** 51.27 317 eP P 00 59 46.7 -0.1
HHC **Hu-ho-hao-te** 51.53 347 eP P 00 59 51.4 +3.2
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,88nm,6.2s
RAMN **Ramite** 51.78 315 eP P 00 59 50.5 0.0
comp=Z,54nm,0.5s
JIRN **Jiri** 52.51 316 eP P 00 59 55.8 -0.3
comp=Z,233nm,0.7s
RPZ **Rata Peaks** 52.63 139 P P 00 59 56.3 -0.1
GUN **Gumba** 52.88 316 eP P 00 59 58.6 -0.2
PKIN **Phulchoki** 53.01 315 eP P 00 59 58.5 -1.1
comp=Z,21nm,0.5s
KKN **Kakani** 53.22 315 eP P 01 00 00.2 -0.9
DMN **Daman** 53.23 315 eP P 01 00 00.9 -0.4
GKN **Gorkha** 53.80 315 eP P 01 00 04.3 -1.0
comp=Z,26nm,0.5s
USRK **Ussuriysk Ar.** 53.81 6 P P 01 00 04.0 -0.9
comp=Z,1.6nm,0.4s,baz=199,slow=7.1,SNR=5.6
GTA **Gaotai** 53.87 336 eP P 01 00 05.6 0.0
GTA pP pP 01 00 15.4 -0.2
GTA sP sP 01 00 19.5 0.0
GTA S S 01 07 38.0 -0.7
GTA sS sS 01 07 53.3 -1.9
GTA SS SKiKP 01 11 17.8 +0.8
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.9s
GTA LR LR
comp=Z,110nm,17.6s
GTA LR LR
comp=Z,92nm,18.5s
GTA LR LR
comp=Z,150nm,17.6s
MDJ **Mudanjiang** 54.01 4 P P 01 00 06.8 +0.5
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,48nm,4.5s
MDJ **Mudanjiang** 54.01 4 eP P 01 00 07.0 +0.7
comp=Z,40nm,0.9s
KOLN **Koldanda** 54.38 314 eP P 01 00 08.8 -0.9
comp=Z,37nm,0.8s
DANN **Dangsing** 54.62 315 eP P 01 00 10.8 -0.7
PYUN **Piuthan** 55.01 314 eP P 01 00 13.7 -0.5
comp=Z,35nm,0.5s
ULN **Ulaanbaatar** 59.20 346 iP P 01 00 42.5 -0.9
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN **Ulaanbaatar** 59.20 346 eP P 01 00 43.5 0.0
comp=Z,10nm,1.0s
SONM **Songino Array** 59.33 346 P P 01 00 44.1 -0.2
comp=Z,4.3nm,0.6s,baz=166,slow=8.3,SNR=22
SONA1 **Songino Array** 59.34 346 eP P 01 00 43.7 -0.6
ZAK **Zakamensk** 62.47 345 eP P 01 01 05.0 -0.5
ZAK pmax pmax
comp=Z,4.0nm,1.2s
WMQ **Urumqi** 62.81 331 P P 01 01 09.3 +1.4
WMQ pP pP 01 01 17.8 -0.2
WMQ sP sP 01 01 22.1 +0.2
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,220nm,4.9s
WMQ LR LR
comp=Z,100nm,20.9s
WMQ LR LR
comp=Z,87nm,23.1s
KSH **Kashi** 66.47 321 P P 01 01 31.6 -0.4
KSH pP pP 01 01 41.8 -0.4
KSH sP sP 01 01 45.8 -0.3
KSH PcP PcP 01 02 01.5 +0.1
KSH PP PP 01 04 00.5 +1.7
KSH S S 01 10 15.3 -5.2
KSH ScS SKSac 01 11 18.8 -7.5
KSH SS SS 01 14 34.5 -3.6
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH pmax pmax
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,77nm,7.1s
KSH LR LR
comp=Z,160nm,5.7s
PDGK **Podgornoye** 66.74 326 P P 01 01 33.1 -0.5
PDGK pmax pmax
comp=Z,10.0nm,0.7s
MK01 **Makanchi Array** 67.57 330 eP P 01 01 38.0 -0.7
MK31 **Makanchi Array** 67.59 330 iP P 01 01 38.2 -0.6
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 **Makanchi Array** 67.59 330 eP P 01 01 38.7 -0.1
MKAR **Makanchi Array** 67.59 330 P P 01 01 38.6 -0.2
comp=Z,8.7nm,0.7s,baz=134,slow=8.1,SNR=79
MKAR **Makanchi Array** 67.59 330 eP P 01 01 38.7 -0.1
comp=Z,50nm,0.6s
BOD **Bodaibo** 67.63 354 eP P 01 01 37.9 -0.8
BOD pmax pmax
comp=Z,21nm,1.1s
MAKZ **Makanchi** 67.76 330 P P 01 01 38.7 -1.2
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ **Makanchi** 67.76 330 eP P 01 01 39.6 -0.3
comp=Z,4.7nm,0.8s
PETK **Petropavlovsk-** 68.36 21 P P 01 01 43.6 +0.1
comp=Z,4.8nm,0.7s,baz=212,slow=1.9,SNR=6.6
PETK LR LR 01 29 50.0
comp=Z,22nm,21.9s,baz=162,slow=34
TKM2 **Tokmak 2** 68.72 323 P P 01 01 45.1 -1.1
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
AAK **Ala-Archa** 69.21 323 P P 01 01 49.3 +0.1
comp=Z,8.0nm,0.6s,baz=123,slow=5.0,SNR=30
AAK **Ala-Archa** 69.21 323 eP P 01 01 45.8 -3.4
AAK pmax pmax
comp=Z,12nm,0.8s
AAK **Ala-Archa** 69.21 323 eP P 01 01 49.3 +0.1
comp=Z,8.8nm,0.6s
VNDA **Vanda** 70.69 172 P P 01 01 57.5 0.0
comp=Z,3.7nm,0.5s,baz=318,slow=7.2,SNR=48
VNDA LR LR 01 32 52.2
comp=Z,171nm,18.0s,baz=326,slow=36
VNDA **Vanda** 70.69 172 eP P 01 01 57.8 +0.2
comp=Z,4.9nm,0.6s
MAW **Mawson** 70.79 201 P P 01 01 58.6 +0.4
comp=Z,3.6nm,0.5s,baz=76,slow=5.3,SNR=36
MAW LR LR 01 29 41.2
comp=Z,82nm,20.4s,baz=62,slow=33
MAW **Mawson** 70.79 201 P P 01 01 58.6 +0.4
baz=71,SNR=10
MAW **Mawson** 70.79 201 eP P 01 01 58.7 +0.4
MAW pmax pmax
comp=Z,1.0nm,0.6s
MAW **Mawson** 70.79 201 eP P 01 01 58.7 +0.4
comp=Z,1.1nm,0.6s
YAK **Yakutsk** 71.38 2 P P 01 02 01.5 -0.3
comp=Z,12nm,0.4s,baz=183,slow=2.8,SNR=5.1
ZAA0 **Zalesovo Array** 71.62 336 eP P 01 02 02.0 -1.4
ZALV **Zalesovo Beam** 71.62 336 P P 01 02 02.2 -1.2
comp=Z,1.4nm,0.3s,baz=139,slow=3.5,SNR=11
SBA **Scott Base** 71.64 171 eP P 01 02 04.5 +1.3
SBA pmax pmax
comp=Z,5.0nm,0.8s
SBA **Scott Base** 71.64 171 eP P 01 02 04.5 +1.3
comp=Z,4.5nm,0.8s
MA2 **Magadan** 71.91 14 P P 01 02 05.0 0.0
comp=Z,11nm,0.7s,baz=131,slow=12,SNR=3.8
KURBB **Kurchatov Arra** 72.02 331 P P 01 02 05.8 -0.1
comp=Z,1.3nm,0.3s,baz=143,slow=5.4,SNR=25
KURK **Kurchatov** 72.04 331 iP P 01 02 04.2 -1.8
KURK pmax pmax
comp=Z,15nm,0.6s
KURK **Kurchatov** 72.04 331 eP P 01 02 05.5 -0.5
comp=Z,72nm,0.8s
WSAR **Wadi Sarin** 72.36 298 P P 01 02 09.1 +0.5
comp=Z,8.1nm,0.6s,baz=98,slow=7.1,SNR=2.1
NVS **Novosibirsk** 72.91 336 eP P 01 02 12.9 +1.8
NVS eS S 01 11 27.6 -7.6
NVS pmax pmax
comp=Z,15nm,1.9s
NVS smax smax
comp=E,14nm,1.8s
SEY **Seymchan** 75.25 13 P P 01 02 24.1 -0.6
comp=E,8.8nm,0.6s,baz=204,slow=4.3,SNR=18
SEY **Seymchan** 75.25 13 eP P 01 02 23.9 -0.7
BVAR **Borovoye Array** 77.48 330 P P 01 02 37.1 -0.4
comp=E,1.2nm,0.6s,baz=108,slow=6.3,SNR=8.8
BRVK **Borovoye** 77.55 330 iP P 01 02 35.5 -2.4
BRVK pmax pmax
comp=Z,4.0nm,0.6s
GEYT **Alibeck** 77.93 312 P P 01 02 40.6 +0.3
comp=Z,4.3nm,0.7s,baz=134,slow=4.3,SNR=4.1
GEYT LR LR 01 44 00.2
comp=Z,44nm,18.1s,baz=60,slow=41
SYO **Syowa Base** 79.49 201⇑eP P 01 02 47.0 -1.4
QSPA **South Pole Qui** 80.53 180 eP P 01 02 54.1 -0.1
comp=Z,31nm,0.7s
TIXI **Tiksi** 80.99 1 P P 01 02 54.6 -1.6
comp=Z,4.8nm,0.5s,baz=157,slow=5.8,SNR=8.8
TIXI **Tiksi** 80.99 1 eP P 01 02 54.9 -1.4
comp=Z,13nm,1.2s
ABKAR **Akbulak array** 81.29 323 eP P 01 02 57.8 -0.5
comp=Z,47nm,0.9s
NRIK **Noril'sk** 82.76 348 P P 01 03 07.5 +1.9
comp=Z,1.9nm,0.5s,baz=120,slow=9.2,SNR=2.9
NRIK LR LR 01 43 18.9
comp=Z,42nm,19.3s,baz=200,slow=38
AKTO **Aktyubinsk** 82.91 324 P P 01 03 06.1 -0.7
comp=Z,2.8nm,0.6s,baz=111,slow=10,SNR=11
AKTO **Aktyubinsk** 82.91 324 P P 01 03 05.5 -1.3
AKTO pmax pmax
comp=Z,8.0nm,1.1s
PPT **Papeete** 83.09 107 LR LR 01 37 11.5
comp=Z,23nm,21.6s,baz=207,slow=34
ARU **Arti** 85.11 329 P P 01 03 17.4 -0.5
comp=Z,0.9nm,0.3s,baz=193,slow=6.5,SNR=3.1
ARU **Arti** 85.11 329c iP P 01 03 15.7 -2.2
ARU 01 06 35.5
ARU S S 01 13 37.6 -7.5
ARU SS SS 01 19 18.8 -0.6
ARU pmax pmax
comp=Z,11nm,1.7s
KMBO **Kilima Mbogo** 87.36 269 P P 01 03 31.2 +0.9
comp=Z,2.1nm,0.7s,baz=41,slow=6.3,SNR=6.3
KMBO LR LR 01 39 15.5
comp=Z,46nm,20.9s,baz=90,slow=33
KMBO **Kilima Mbogo** 87.36 269 eP P 01 03 31.0 +0.7
KMBO pmax pmax
comp=Z,5.0nm,1.2s
KMBO **Kilima Mbogo** 87.36 269 eP P 01 03 31.0 +0.7
comp=Z,4.8nm,1.2s
SNAA **Sanae** 92.03 195 P P 01 03 51.8 +1.0
SNAA **Sanae** 92.03 195 eP P 01 03 51.7 +0.9
SNAA pmax pmax
comp=Z,37nm,1.7s
SNAA **Sanae** 92.03 195 eP P 01 03 51.7 +0.9
comp=Z,37nm,1.7s
VNA2 **Neumayer--Watz** 93.63 194 P P 01 03 58.9 +0.8
baz=125,slow=4.1
VNA3 **Neumayer Olymp** 93.94 193 P P 01 03 60.0 +0.4
VNA1 **Neumayer--Stat** 94.03 194 P P 01 04 01.5 +1.6
BRTR **Keskin Array B** 96.83 309 LR LR 01 54 40.1
comp=Z,39nm,18.6s,baz=156,slow=40
ILAR **Eielson Array** 97.79 26 P P 01 04 15.0 -2.1
comp=Z,0.4nm,1.0s,baz=251,slow=5.4,SNR=3.1
ILAR LR LR 01 43 02.6
comp=Z,26nm,21.2s,baz=285,slow=32
ILAR **Eielson Array** 97.79 26 P P 01 04 15.0 -2.1
ARCES **ARCESS Array B** 102.05 339 PKiKP PKiKP 01 08 59.0 +0.7
comp=Z,2.2nm,0.8s,baz=44,slow=2.7,SNR=2.9
FINES **FINESS Array B** 102.41 331 PKiKP PKiKP 01 09 00.6 +1.5
comp=Z,10nm,1.1s,baz=116,slow=3.2,SNR=4.2
HLID **Hailey** 118.66 45 ePKPdf PKPdf 01 09 32.2 +1.7
EKA **Eskdalemuir Ar** 118.72 329 PKP PKPdf 01 09 30.4 +0.3
comp=Z,1.3nm,0.6s,baz=30,slow=4.1,SNR=5.6
DUG **Dugway, Tooele** 120.68 49 ePKIKP PKPdf 01 09 35.3 +0.8
DUG **Dugway, Tooele** 120.68 49 ePKPdf PKPdf 01 09 35.3 +0.8
TPAW **Teton Pass** 121.10 45 ePKPdf PKPdf 01 09 37.0 +1.6
REDW **Red Top Meadow** 121.21 45 ePKPdf PKPdf 01 09 36.7 +1.1
HWUT **Hardware Ranch** 121.22 47 ePKPdf PKPdf 01 09 35.7 +0.1
LOHW **Long Hollow** 121.30 44 ePKPdf PKPdf 01 09 37.3 +1.6
BW06 **Boulder Array** 122.29 45 ePKPdf PKPdf 01 09 38.3 +0.6
PDAR **Pinedale Array** 122.29 45 PKP PKPdf 01 09 38.4 +0.7
comp=Z,0.4nm,0.6s,baz=296,slow=0.8,SNR=3.9
O20A **White River Ci** 124.06 48 ePKPdf PKPdf 01 09 43.5 +2.4
TOA0 **Torodi Ar. Sit** 124.15 279 ePKPdf PKPdf 01 09 41.9 +0.3
TORD **Torodi Ar. Bea** 124.15 279 PKP PKPdf 01 09 42.0 +0.4
comp=Z,3.8nm,0.7s,baz=49,slow=2.1,SNR=27
RWWY **Rawlins** 124.30 46 ePKPdf PKPdf 01 09 42.9 +1.3
PV01 **Paradox Valley** 124.41 50 ePKPdf PKPdf 01 09 42.4 +0.5
SHEL **Horse Pasture** 124.88 243 ePKIKP PKPdf 01 09 43.5 +0.4
SHEL **Horse Pasture** 124.88 243 ePKPdf PKPdf 01 09 43.5 +0.4
ES19 **SONSECA Array** 125.42 312 ePKPdf PKPdf 01 09 44.5 +1.0
ESDC **Sonseca Array** 125.47 312 PKP PKPdf 01 09 44.6 +1.0
comp=Z,0.7nm,0.6s,baz=8.3,slow=2.4,SNR=7.2
RSSD **Black Hills** 125.55 42 ePKIKP PKPdf 01 09 44.5 +0.6
RSSD **Black Hills** 125.55 42 ePKPdf PKPdf 01 09 44.5 +0.6
ANMO **Albuquerque** 126.92 53 iPKIKP PKPdf 01 09 42.6 -4.1
ANMO **Albuquerque** 126.92 53 ePKPdf PKPdf 01 09 46.6 -0.2
MDT **Midelt** 127.97 304 PKP PKPdf 01 09 50.5 +1.8
comp=Z,3.4nm,1.1s,baz=128,slow=1.5,SNR=4.6
PLCA **Paso Flores** 128.09 165 PKP PKPdf 01 09 49.9 +1.2
comp=Z,1.4nm,0.9s,baz=308,slow=4.3,SNR=3.2
MNTX **Cornudas Mount** 128.63 57 ePKPdf PKPdf 01 09 50.9 +1.0
DBIC **Dimbokro** 130.08 271 PKP PKPdf 01 09 55.2 +2.2
comp=Z,3.7nm,1.0s,baz=25,slow=3.4,SNR=3.8
TXAR **Lajitas Array** 130.63 59 PKP PKPdf 01 09 55.6 +1.8
comp=Z,0.1nm,0.3s,baz=186,slow=1.8,SNR=3.0
TXAR SKPab SKPab 01 13 16.6 +1.2
comp=Z,2.0nm,1.0s,baz=263,slow=4.9,SNR=7.4
SCHQ **Schefferville** 133.82 9 PKP PKPdf 01 10 01.2 +2.2
comp=Z,2.0nm,0.3s,baz=14,slow=1.3,SNR=4.1
LRAL **Lakeview Retre** 142.49 47 ePKPdf PKPdf 01 10 11.5 -4.0
CPUP **Villa Florida** 144.36 177 PKP PKPbc 01 10 17.9 +0.6
comp=Z,11nm,0.6s,baz=193,slow=1.8,SNR=37
PSUB **Penn St. - Bra** 144.72 27 ePKPdf PKPbc 01 10 18.5 +0.4
GOGA **Godfrey** 144.75 43 ePKIKP PKPdf 01 10 19.5 +0.1
GOGA **Godfrey** 144.75 43 ePKPdf PKPdf 01 10 19.5 +0.1
IP06 **Yanceyville** 145.03 32 ePKPbc PKPdf 01 10 19.9 +0.1
KMSC **Kings Mountain** 145.06 39 ePKPbc PKPdf 01 10 20.2 +0.3
PB04 **IPOC Station P** 145.18 155 ePKPbc PKPdf 01 10 21.4 +0.6
IP05 **Hopewell Churc** 145.23 32 ePKPbc PKPab 01 10 20.2 +0.4
LVC **Limon Verde** 145.42 157 ePKPbc PKPab 01 10 22.5 +1.1
URVA **University of** 145.54 32 ePKPdf PKPab 01 10 21.6 +0.6
JSC **Jenkinsville** 145.66 40 ePKP2 PKPab 01 10 22.4 +0.8
JSC **Jenkinsville** 145.66 40 ePKPdf PKPab 01 10 22.4 +0.8
TIGA **Tifton** 145.78 46 ePKPbc PKPab 01 10 22.2 +0.1
LPAZ **La Paz** 151.40 153 PKPbc PKPbc 01 10 38.4 +0.7
comp=Z,4.6nm,0.8s,baz=205,slow=1.6,SNR=20
LPAZ **La Paz** 151.40 153 ePKIKP PKPbc 01 10 38.8 +1.1
LPAZ **La Paz** 151.40 153 ePKPbc PKPbc 01 10 38.8 +1.1
BDFB **Brasilia** 154.05 196 PKPbc PKPbc 01 10 43.1 +0.1
comp=Z,0.6nm,0.5s,baz=295,slow=2.8,SNR=3.3
SAML **Samuel** 160.06 156 ePKPab PKPab 01 11 22.2 +0.2

DHMR 19 00:56:58.5±1.4, 14°.13N×41°.97E, h9km±23km, ML3.5, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	1.94	95	iP	Pn	00 57 32.7	+0.9
UDYN				iS	Sg	00 58 00.8	-0.2
TRBA	**At Turbah**	2.27	113⇑	iP	Pn	00 57 38.0	+1.7
TRBA				iS	Sb	00 58 09.2	+1.2
TRBA				AML	AML	00 58 16.8	
comp=N,301nm,0.4s							
BDHA	**Al Bayda'**	3.49	92	iP	Pn	00 57 56.7	+3.4
BDHA				iS	Sb	00 58 40.1	-3.2
BDHA				AML	AML	00 58 49.8	
comp=N,240nm,0.5s							

IDC 19 00:57:23.2±1.5, 3°.51S×152°.30E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/40, mbtmp4.1/4, Error ellipse: s-maj=56.2km s-min=28.3km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	23.95	226	P	P	01 02 41.0	+1.6
7.7nm,0.4s,baz=48,slow=10,SNR=11							
ASAR	**Alice Springs**	26.78	220	P	P	01 03 06.3	+1.2
0.8nm,0.4s,baz=45,slow=9.2,SNR=2.2							
FITZ	**Fitzroy Crossi**	29.86	239	P	P	01 03 33.2	+0.6
2.7nm,0.9s,baz=55,slow=6.4,SNR=9.6							
MKAR	**Makanchi Array**	79.03	319	P	P	01 09 30.9	+1.5
0.3nm,0.5s,baz=98,slow=6.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	149.41	290	PKPbc	PKPdf	01 17 12.7	+1.7
0.5nm,0.3s,baz=74,slow=2.2,SNR=18							
BDFB	**Brasilia**	152.32	134	PKPbc	PKPbc	01 17 19.9	-2.5
1.0nm,0.4s,baz=304,slow=3.6,SNR=3.5							

*ISN **19** 00:57:59.5±0.9, 30°.63N×55°.92E, h15km±737km, ML4.6*
*DSN **19** 00:58:01.7±1.4, 26°.98N×53°.59E, h15km, ML4.0/9, Error*

ellipse: s-maj=22.0km s-min=9.3km az=13.0
ISCJB ***19*** *00:58:03.2±0.3,26°.95N±0°.03×53°.84E±0°.03,h19km, mb4.2/54,MS3.5/2,Error ellipse: s-maj=5.0km s-min=3.5km az=30.7*
NEIC ***19*** *00:58:03.6±0.0,26°.78N×53°.75E,h14km,mb4.4/12, MN3.9(TEH),After TEH.*
TEH ***19*** *00:58:03.6,26°.78N×53°.75E,h14km,ML3.9*
CSEM ***19*** *00:58:04.4±0.1,26°.95N×53°.88E,h15km,mb4.3/35,Error ellipse: s-maj=5.7km s-min=4.2km az=37.0*
MOS ***19*** *00:58:04.8±0.9,26°.98N×53°.96E,h33km,mb4.4/26,Error ellipse: s-maj=9.9km s-min=5.5km az=109.9*
IDC ***19*** *00:58:07.5±2.2,26°.97N×53°.91E,h40km±22km,mb3.8/30, mb1 3.9/36,mb1mx3.9/63,mbtmp4.1/36,ML3.8/6,MS3.3/2, Ms1 3.3/2,ms1mx2.7/44,Error ellipse: s-maj=14.3km s-min=9.4km az=22.0*
OMAN ***19*** *00:58:07.9±25.0,26°.86N×53°.91E,h39km,Error ellipse: s-maj=11.6km s-min=7.1km az=306.0*
ISC 19 00:58:04.5±0.4,26°.93N±0°.04×53°.87E±0°.04,h19km,n224,
σ1§19/240,mb4.2/54,6C-9D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.40**	**114**	*eP*	**Pn**	**00 58 43.0**	**+0.3**
	SNR=8.5						
BANOM				S	**Sb**	**00 59 17.7**	**+1.5**
BANOM	**Banah**	**2.40**	**114**	P	**Pn**	**00 58 43.0**	**+0.3**
	SNR=13						
BANOM	**Banah**	**2.40**	**114**	P	**Pn**	**00 58 43.0**	**+0.3**
	SNR=13						
NAZ	**Nazwa, Dubai**	**2.52**	**140**	*eP*	**Pn**	**00 58 45.1**	**+0.8**
	SNR=18						
NAZ	**Nazwa, Dubai**	**2.52**	**140**	P	**Pn**	**00 58 45.1**	**+0.8**
	SNR=18						
NAZ	**Nazwa, Dubai**	**2.52**	**140**	P	**Pb**	**00 58 47.4**	**-1.7**
	SNR=5.3						
ISRV	**Sarvestan**	**2.53**	**345**	*e*Pn	**Pn**	**00 58 46.8**	**+1.9**
ISRV				*e*Sg	**Sg**	**00 59 26.5**	**+0.4**
ISRV				*e*AMB	AMB	00 59 45.6	
	comp=Z,13μm,0.5s						
ISRV	**Sarvestan**	**2.53**	**345**	*e*Pn	**Pn**	**00 58 46.8**	**+1.9**
ISRV				Sg	**Sg**	**00 59 26.4**	**+0.4**
ISRV	**Sarvestan**	**2.53**	**345**	Pn	**Pn**	**00 58 46.8**	**+1.9**
ISRV				Sg	**Sg**	**00 59 26.4**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.67**	**144**	*eP*	**Pn**	**00 58 47.3**	**+0.8**
	SNR=6.4						
FAQ	**Al Faqa, Dubai**	**2.67**	**144**	P	**Pn**	**00 58 47.3**	**+0.8**
	SNR=6.4						
FAQ	**Al Faqa, Dubai**	**2.67**	**144**	P	**Pn**	**00 58 49.4**	**+2.9**
	SNR=8.6						
KHSK	**Kohestak**	**2.85**	**93**	*e*Pn	**Pn**	**00 58 49.5**	**+0.6**
KHSK	**Kohestak**	**2.85**	**93**	*e*Pn	**Pn**	**00 58 49.5**	**+0.6**
UOSS	**Minazif**	**2.88**	**133**	P	**Pn**	**00 58 50.5**	**+1.1**
	SNR=8.1						
UOSS	**Minazif**	**2.88**	**133**	*e*Pn	**Pn**	**00 58 51.3**	**+1.9**
UOSS	**Minazif**	**2.88**	**133**	*e*Pn	**Pn**	**00 58 51.3**	**+1.9**
UOSS	**Minazif**	**2.88**	**133**	P	**Pn**	**00 58 50.9**	**+1.5**
HATD	**Hatta, Dubai**	**2.92**	**135**	*i* P	**Pn**	**00 58 50.8**	**+0.9**
	SNR=11						
HATD	**Hatta, Dubai**	**2.92**	**135**	P	**Pn**	**00 58 50.8**	**+0.9**
	SNR=11						
HATD	**Hatta, Dubai**	**2.92**	**135**	P	**Pn**	**00 58 51.9**	**+1.9**
	SNR=9.8						
ASHO	**Ashiyiah**	**2.98**	**138**	*i* P	**Pn**	**00 58 51.9**	**+1.1**
	SNR=66						
ASHO	**Ashiyiah**	**2.98**	**138**	P	**Pn**	**00 58 51.9**	**+1.1**
	SNR=66						
ASHO	**Ashiyiah**	**2.98**	**138**	P	**Pn**	**00 58 52.6**	**+1.8**
	SNR=66						
NGRK	**Negar Kerman**	**3.70**	**42**	*e*Pn	**Pn**	**00 59 00.7**	**-0.2**
NGRK	**Negar Kerman**	**3.70**	**42**	*e*Pn	**Pn**	**00 59 00.7**	**-0.2**
TVBK	**TV Kerman**	**3.97**	**39**	*e*Pn	**Pn**	**00 59 06.5**	**+1.9**
TVBK	**TV Kerman**	**3.97**	**39**	*e*Pn	**Pn**	**00 59 06.5**	**+1.9**
KHGB	**Koh Gabri**	**4.12**	**33**	*e*Pn	**Pn**	**00 59 07.8**	**+1.1**
KHGB	**Koh Gabri**	**4.12**	**33**	*e*Pn	**Pn**	**00 59 07.8**	**+1.1**
CHMN	**Cheshme madani**	**4.35**	**47**	*e*Pn	**Pn**	**00 59 12.2**	**+2.3**
CHMN	**Cheshme madani**	**4.35**	**47**	*e*Pn	**Pn**	**00 59 12.2**	**+2.3**
IMEH	**Mehriz**	**4.49**	**8**	*e*Pn	**Pn**	**00 59 13.0**	**+1.2**
IMEH				*e*AMB	AMB	01 00 35.9	
	comp=Z,661nm,0.3s						
IMEH	**Mehriz**	**4.49**	**8**	Pn	**Pn**	**00 59 12.9**	**+1.2**
IMEH	**Mehriz**	**4.49**	**8**	Pn	**Pn**	**00 59 12.9**	**+1.2**
IBAF	**Bafgh**	**4.87**	**17**	*e*Pn	**Pn**	**00 59 17.9**	**+1.0**
IBAF				*e*AMB	AMB	00 59 50.5	
	comp=Z,539nm,0.4s						
IBAF	**Bafgh**	**4.87**	**17**	*e*Pn	**Pn**	**00 59 17.9**	**+1.0**
IBAF	**Bafgh**	**4.87**	**17**	Pn	**Pn**	**00 59 17.9**	**+1.0**
ISAD	**Sadrabad**	**4.97**	**358**	*e*Pn	**Pn**	**00 59 19.8**	**+1.4**
ISAD				*e*AMB	AMB	00 59 22.4	
	comp=Z,856nm,0.2s						
ISAD	**Sadrabad**	**4.97**	**358**	Pn	**Pn**	**00 59 19.7**	**+1.4**
ISAD	**Sadrabad**	**4.97**	**358**	Pn	**Pn**	**00 59 19.7**	**+1.4**
IRAM	**Ramesheh**	**5.03**	**345**	*e*Pn	**Pn**	**00 59 20.1**	**+0.9**
IRAM				*e*AMB	AMB	01 00 19.9	
	comp=Z,497nm,0.2s						
IRAM	**Ramesheh**	**5.03**	**345**	Pn	**Pn**	**00 59 20.0**	**+0.9**
IRAM	**Ramesheh**	**5.03**	**345**	Pn	**Pn**	**00 59 20.0**	**+0.9**
ICHK	**Chekchek**	**5.32**	**5**	*e*Pn	**Pn**	**00 59 24.1**	**+1.1**
ICHK				*e*AMB	AMB	01 01 02.7	
	comp=Z,594nm,0.3s						
ICHK	**Chekchek**	**5.32**	**5**	*e*Pn	**Pn**	**00 59 24.1**	**+1.1**
WSAR	**Wadi Sarin**	**5.67**	**129**	P	**Pn**	**00 59 28.6**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=310,slow=9.7,SNR=34						
WSAR				S	**Sn**	**01 00 33.1**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=130,slow=21,SNR=4.7						
WSAR	**Wadi Sarin**	**5.67**	**129**	P	**Pn**	**00 59 28.2**	**+0.5**
WSAR				S	**Sn**	**01 00 33.1**	**+0.8**
WSAR	**Wadi Sarin**	**5.67**	**129**	P	**Pn**	**00 59 28.2**	**+0.5**
WSAR				S	**Sn**	**01 00 31.6**	**-0.7**
IGAR	**Gharneh**	**5.68**	**344**	*e*Pn	**Pn**	**00 59 28.5**	**+0.4**
IGAR				*e*AMB	AMB	01 00 35.5	
	comp=Z,774nm,0.3s						
IZEF	**Zefreh**	**6.09**	**348**	*e*Pn	**Pn**	**00 59 33.3**	**-0.5**
IZEF				*e*AMB	AMB	00 59 38.1	
	comp=Z,296nm,0.2s						
IZEF	**Zefreh**	**6.09**	**348**	*e*Pn	**Pn**	**00 59 33.3**	**-0.5**
IZEF	**Zefreh**	**6.09**	**348**	Pn	**Pn**	**00 59 33.2**	**-0.5**
IPIR	**Pirpir**	**6.29**	**336**	*e*Pn	**Pn**	**00 59 37.0**	**+0.4**
IPIR				*e*AMB	AMB	01 00 51.0	
	comp=Z,609nm,0.2s						
IPIR	**Pirpir**	**6.29**	**336**	Pn	**Pn**	**00 59 36.9**	**+0.4**
IPIR	**Pirpir**	**6.29**	**336**	Pn	**Pn**	**00 59 36.9**	**+0.4**
IKLH	**Kolahrood**	**6.67**	**343**	*e*Pn	**Pn**	**00 59 41.8**	**+0.1**
IKLH				*e*AMB	AMB	01 01 09.8	
	comp=Z,317nm,0.3s						
IKLH	**Kolahrood**	**6.67**	**343**	Pn	**Pn**	**00 59 41.7**	**+0.1**
IKLH	**Kolahrood**	**6.67**	**343**	Pn	**Pn**	**00 59 41.7**	**+0.1**
IDAH	**Dahanechah**	**7.78**	**41**	*e*Pn	**Pn**	**00 59 58.5**	**+1.4**
IDAH	**Dahanechah**	**7.78**	**41**	Pn	**Pn**	**00 59 58.4**	**+1.4**
IDAH	**Dahanechah**	**7.78**	**41**	Pn	**Pn**	**00 59 58.4**	**+1.4**
RAYN	**Ar Rayn**	**8.30**	**248**	*e*Pn	**Pn**	**01 00 04.4**	**+0.5**
RAYN	**Ar Rayn**	**8.30**	**248**	*e*Pn	**Pn**	**01 00 04.5**	**+0.5**
RAYN				*e*Sn	**Sn**	**01 01 35.1**	**-2.2**
BHD	**Baghdad**	**10.36**	**310**	*e*Pn	Pn	01 00 27.1	-5.0
	SNR=52						
BHD				*e*Sn	Sn	01 02 14.6	-13
	SNR=52						
GEYT	**Alibeck**	**11.54**	**17**	LR	LR	01 06 15.4	
	comp=Z,88nm,18.6s,baz=230,slow=42						
RTB	**Rutbah**	**13.23**	**301**	*e*Pn	**Pn**	**01 01 13.4**	**+2.0**
	SNR=52						
RTB				*e*Sn	**Sn**	**01 03 35.2**	**-2.8**
	SNR=52						
KBL	**Kabul**	**15.08**	**56**	*e*P	**P**	**01 01 39.9**	**-2.0**
KBL				pmax	pmax		
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**15.08**	**56**	*e*P	**P**	**01 01 39.9**	**-2.0**
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**15.08**	**56**	*e*Pn	**P**	**01 01 39.9**	**-2.0**
	comp=Z,12nm,0.9s						
GNI	**Garni**	**15.21**	**332**	P	**P**	**01 01 44.9**	**+1.6**
	comp=Z,2.4nm,0.3s,baz=32,slow=2.1,SNR=17						
GNI	**Garni**	**15.21**	**332**	*e*P	**Pn**	**01 01 39.6**	**+1.2**
GNI	**Garni**	**15.21**	**332**	*e*Pn	**Pn**	**01 01 40.2**	**+1.9**
	comp=Z,15nm,0.6s						
GNI	**Garni**	**15.21**	**332**	*e*Pn	**Pn**	**01 01 40.2**	**+1.9**
	comp=Z,15nm,0.6s						
ASF	**Jabal al Asfar**	**15.66**	**294**	P	**P**	**01 01 46.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=87,slow=14,SNR=3.8						
ASF				S	**Sn**	**01 04 34.9**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=154,slow=22,SNR=2.9						
EIL	**Elat**	**16.89**	**284**	P	**P**	**01 02 02.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=273,slow=23,SNR=3.7						
MMAI	**Mount Meron Ar**	**17.11**	**295**	P	**Pn**	**01 02 03.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=2.8						
ZEI	**Tsey**	**17.79**	**335**	*e*P	**Pn**	**01 02 09.4**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NCK	**Nalchik**	**18.51**	**336**	*e*P	**Pn**	**01 02 20.8**	**+1.0**
NCK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NCK	**Nalchik**	**18.51**	**336**	*e*P	**Pn**	**01 02 20.8**	**+1.0**
	comp=Z,10.0nm,1.0s						
NEY	**Neytrino**	**18.63**	**334**	*e*P	**Pn**	**01 02 22.9**	**+1.4**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NEY	**Neytrino**	**18.63**	**334**	*e*P	**Pn**	**01 02 22.9**	**+1.4**
	comp=Z,2.0nm,1.0s						
KBZ	**Khabaz**	**18.97**	**335**	P	**Pn**	**01 02 26.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=8.4,SNR=7.1						
KVAR	**Kislovodsk Arr**	**19.24**	**335**	P	**Pn**	**01 02 29.7**	**+1.0**
	baz=131,slow=15,SNR=6.6						
KIV	**Kislovodsk**	**19.25**	**335**	*e*P	**Pn**	**01 02 29.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**19.25**	**335**	*e*P	**Pn**	**01 02 29.5**	**+0.8**
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**19.25**	**335**	*e*P	**Pn**	**01 02 29.6**	**+0.8**
	comp=Z,10nm,0.8s						
KKAR	**Karatay Array**	**21.06**	**36**	*e*P	**P**	**01 02 47.6**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,57nm,0.8s						
KKAR	**Karatay Array**	**21.06**	**36**	*e*P	**P**	**01 02 47.6**	**+0.2**
	comp=Z,57nm,0.8s						
KKAR	**Karatay Array**	**21.06**	**36**	*e*P	**P**	**01 02 47.6**	**+0.2**
	comp=Z,57nm,0.8s						
BR131	**Keskin Array S**	**21.12**	**312**	*e*P	**P**	**01 02 50.2**	**+2.0**
BR131	**Keskin Array S**	**21.12**	**312**	*e*P	**P**	**01 02 50.2**	**+2.0**
BRTR	**Keskin Array B**	**21.12**	**312**	P	**P**	**01 02 49.1**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=139,slow=12,SNR=10						
KSH	**Kashi**	**22.28**	**50**	P	P	01 02 53.3	-7.4
KSH				pP	pP	01 03 02.8	-3.3
KSH				sP	sP	01 03 06.5	-2.1
KSH				PP	**PnPn**	**01 03 18.8**	**-4.6**
KSH				S	S	01 06 43.4	-22
KSH				PcP	**PcP**	**01 06 53.6**	**-2.7**
KSH				sS	pS	01 06 58.1	-14
KSH				SS	Sn	01 07 20.3	+3.2
KSH				PcS	**PcS**	**01 10 30.0**	**-5.0**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,110nm,6.2s						
KSH				LR	LR		
	comp=N,110nm,6.3s						
KSH				LR	LR		
	comp=E,77nm,6.0s						
KSH				LR	LR		
	comp=Z,180nm,5.4s						
AB31	**Akbulak array**	**22.78**	**10**	*i* P	**P**	**01 03 04.9**	**-0.8**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AB31	**Akbulak array**	**22.78**	**10**	*i* P	**P**	**01 03 04.9**	**-0.8**
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**22.78**	**10**	*e*P	**P**	**01 03 04.9**	**-0.8**
	comp=Z,4.1nm,0.6s						
ABKAR	**Akbulak array**	**22.78**	**10**	*e*P	**P**	**01 03 04.9**	**-0.8**
	comp=Z,4.1nm,0.6s						
AAK	**Ala-Archa**	**22.98**	**42**	P	**P**	**01 03 08.6**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=186,slow=4.9,SNR=3.3						
AAK	**Ala-Archa**	**22.98**	**42**	*e*P	**P**	**01 03 05.8**	**-2.3**
AAK				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**22.98**	**42**	*e*P	**P**	**01 03 08.6**	**+0.5**
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**22.98**	**42**	*e*P	**P**	**01 03 08.6**	**+0.5**
	comp=Z,12nm,1.2s						
AKTK	**Aktyubinsk**	**23.68**	**7**	P	**P**	**01 03 14.7**	**-0.1**
	comp=Z,4.0nm,0.6s						
AKTO	**Aktyubinsk**	**23.68**	**7**	P	**P**	**01 03 14.7**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=174,slow=14,SNR=7.7						
IDI	**Anoyia**	**26.11**	**296**	P	**P**	**01 03 38.6**	**+1.3**
	comp=Z,9.0nm,0.7s,baz=95,slow=9.7,SNR=15						
IDI	**Anoyia**	**26.11**	**296**	*e*P	**P**	**01 03 37.5**	**+0.3**
	comp=Z,8.3nm,0.7s						
IDI	**Anoyia**	**26.11**	**296**	*e*P	**P**	**01 03 37.5**	**+0.3**
	comp=Z,8.3nm,0.7s						
BRVK	**Borovoye**	**28.82**	**21**	*e*P	**P**	**01 04 01.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**28.82**	**21**	*e*P	**P**	**01 04 02.0**	**+0.7**
	comp=Z,5.3nm,0.7s						
BRVK	**Borovoye**	**28.82**	**21**	*e*P	**P**	**01 04 02.0**	**+0.7**
	comp=Z,5.3nm,0.7s						
BVAR	**Borovoye Array**	**28.83**	**21**	P	**P**	**01 04 01.4**	**0.0**
	comp=Z,2.6nm,0.7s,baz=217,slow=7.2,SNR=7.9						
BVAR				PcP	**PcP**	**01 07 11.2**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=222,slow=2.0,SNR=3.6						
TESR	**Tescani**	**29.06**	**319**	‖*i*P	**P**	**01 04 04.2**	**+0.7**
TESR	**Tescani**	**29.06**	**319**	‖*i*P	**P**	**01 04 04.2**	**+0.7**
VOIR		**29.47**	**316**	⇑*i*P	**P**	**01 04 09.9**	**+2.7**
VOIR		**29.47**	**316**	⇑P	**P**	**01 04 09.9**	**+2.7**
VOIR		**29.47**	**316**	P	**P**	**01 04 09.9**	**+2.7**
ARU	**Arti**	**29.67**	**5**	P	**P**	**01 04 07.7**	**-1.1**
ARU						01 05 01.1	
ARU				S	**S**	**01 09 02.0**	**-1.4**
ARU				SS	**SnSn**	**01 10 31.9**	**-0.8**
ARU	**Arti**	**29.67**	**5**	*e*P	**P**	**01 04 09.0**	**+0.2**
	comp=Z,3.8nm,0.8s						
ARU				S	**S**	**01 09 02.0**	**-1.4**
ARU	**Arti**	**29.67**	**5**	*e*P	**P**	**01 04 09.0**	**+0.2**
	comp=Z,3.8nm,0.8s						
ARR	**Arges**	**29.69**	**316**	⇑*i*P	**P**	**01 04 10.1**	**+0.9**
ARR	**Arges**	**29.69**	**316**	⇑*i*P	**P**	**01 04 10.1**	**+0.9**
MK31	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.1**	**-1.0**
MK31	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.1**	**-1.0**
MK31	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.1**	**-1.0**
MKAR	**Makanchi Array**	**29.91**	**41**	P	**P**	**01 04 10.3**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=230,slow=9.3,SNR=3.4						
MKAR				PcP	**PcP**	**01 07 13.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=260,slow=1.8,SNR=3.1						
MKAR	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.2**	**-0.8**
MKAR						01 07 13.0	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.2**	**-0.8**
	comp=Z,8.3nm,0.7s						
MKAR	**Makanchi Array**	**29.91**	**41**	PcP	**PcP**	**01 07 13.0**	**-0.6**
MKAR	**Makanchi Array**	**29.91**	**41**	*e*P	**P**	**01 04 10.2**	**-0.8**
	comp=Z,8.3nm,0.7s						
MKAR				PcP	**PcP**	**01 07 13.0**	**-0.6**
KURBB	**Kurchatov Arra**	**30.22**	**32**	P	**P**	**01 04 14.5**	**+0.8**
	comp=Z,0.5nm,0.2s,baz=232,slow=9.1,SNR=4.1						
AKASG	**Malin Array Be**	**30.27**	**328**	P	**P**	**01 04 13.0**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=135,slow=8.3,SNR=5.7						
AKASG	**Malin Array Be**	**30.27**	**328**	*i* P	**P**	**01 04 13.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**30.27**	**328**	*i* P	**P**	**01 04 13.5**	**-0.6**
	comp=Z,1.0nm,0.5s						
KIEV	**Kiev**	**30.27**	**328**	*e*P	**P**	**01 04 14.0**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,25nm,1.8s						
KIEV	**Kiev**	**30.27**	**328**	*e*P	**P**	**01 04 14.0**	**-0.1**
	comp=Z,25nm,1.8s						
KIEV	**Kiev**	**30.27**	**328**	*e*P	**P**	**01 04 14.0**	**-0.1**
	comp=Z,25nm,1.8s						
KURK	**Kurchatov**	**30.32**	**32**	P	**P**	**01 04 14.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**30.32**	**32**	P	**P**	**01 04 14.5**	**-0.1**
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**30.32**	**32**	P	**P**	**01 04 14.5**	**-0.1**
BURAR	**Bucovina Array**	**30.48**	**320**	‖*i*P	**P**	**01 04 16.6**	**+0.4**
BURAR	**Bucovina Array**	**30.48**	**320**	‖P	**P**	**01 04 16.6**	**+0.4**
BURAR	**Bucovina Array**	**30.48**	**320**	‖*i*P	**P**	**01 04 16.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**30.51**	**320**	*e*P	**P**	**01 04 17.0**	**+0.5**
BUR08	**Bucovina Ar. S**	**30.51**	**320**	*e*P	**P**	**01 04 17.0**	**+0.5**
OBN	**Obninsk**	**30.86**	**341**	*e*P	**P**	**01 04 19.2**	**-0.1**
OBN				*i*		01 05 25.3	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
OBN	**Obninsk**	**30.86**	**341**	*e*P	**P**	**01 04 19.2**	**-0.1**
	comp=Z,8.0nm,1.3s						
DRGR		**31.55**	**317**	‖*i*P	**P**	**01 04 26.6**	**+1.0**
DRGR		**31.55**	**317**	‖P	**P**	**01 04 26.6**	**+1.0**
DRGR		**31.55**	**317**	P	**P**	**01 04 26.6**	**+1.0**
BZS	**Buzias**	**31.70**	**315**	‖*i*P	**P**	**01 04 28.7**	**+1.8**
BZS	**Buzias**	**31.70**	**315**	‖P	**P**	**01 04 28.7**	**+1.8**
BZS	**Buzias**	**31.70**	**315**	P	**P**	**01 04 28.7**	**+1.8**
WMQ	**Urumqi**	**32.04**	**49**	P	**P**	**01 04 31.5**	**+1.6**
WMQ				pP	sP	01 04 42.3	+4.2
WMQ				sP	pP	01 04 47.4	+12
WMQ				S	**S**	**01 09 39.4**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,240nm,6.1s						
WMQ				LR	LR		
	comp=N,88nm,17.1s						
WMQ				LR	LR		
	comp=E,100nm,21.9s						
WMQ				LR	LR		
	comp=Z,88nm,19.5s						
CRVS	**Cervenica-Dubn**	**33.30**	**320**	*e*P	**P**	**01 04 42.4**	**+1.6**
CRVS	**Cervenica-Dubn**	**33.30**	**320**	*e*P	**P**	**01 04 42.4**	**+1.6**
CRVS	**Cervenica-Dubn**	**33.30**	**320**	*e*P	**P**	**01 04 42.4**	**+1.6**
KECS	**Kecovo**	**33.67**	**319**	*e*P	**P**	**01 04 44.4**	**+0.4**
KECS	**Kecovo**	**33.67**	**319**	*e*P	**P**	**01 04 44.4**	**+0.4**
KECS	**Kecovo**	**33.67**	**319**	*e*P	**P**	**01 04 44.4**	**+0.4**
VAE	**Valguarnera**	**34.78**	**298**	LR	LR	01 23 13.0	
	comp=Z,80nm,18.1s,baz=156,slow=43						
ZAA0	**Zalesovo Array**	**35.32**	**32**	*e*P	**P**	**01 04 57.9**	**-0.3**
ZAA0	**Zalesovo Array**	**35.32**	**32**	*e*P	**P**	**01 04 57.9**	**-0.3**
ZALV	**Zalesovo Beam**	**35.32**	**32**	P	**P**	**01 04 57.2**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=238,slow=8.8,SNR=11						
MORC	**Moravsky Berou**	**35.97**	**319**	⇑*i*P	**P**	**01 05 05.0**	**+1.0**
MORC	**Moravsky Berou**	**35.97**	**319**	⇑P	**P**	**01 05 05.0**	**+1.0**
MORC	**Moravsky Berou**	**35.97**	**319**	*e*P	**P**	**01 05 04.7**	**+0.7**
	comp=Z,9.8nm,0.8s						
MORC	**Moravsky Berou**	**35.97**	**319**	*e*P	**P**	**01 05 04.7**	**+0.7**
	comp=Z,9.8nm,0.8s						
VSU	**Vasula**	**36.79**	**336**	*e*P	**P**	**01 05 10.5**	**-0.2**
VSU				pmax	pmax		
	comp=Z,64nm,1.2s						
VSU	**Vasula**	**36.79**	**336**	*e*P	**P**	**01 05 10.5**	**-0.2**
	comp=Z,64nm,1.2s						
GERES	**GERESS Array B**	**37.92**	**316**	P	**P**	**01 05 20.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=112,slow=9.1,SNR=5.0						
GERES	**GERESS Array B**	**37.92**	**316**	P	**P**	**01 05 20.0**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**37.92**	**316**	P	**P**	**01 05 20.0**	**-0.6**
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**38.10**	**316**	*e*P	**P**	**01 05 22.9**	**+0.9**
KHC	**Kasperske Hory**	**38.10**	**316**	*e*P	**P**	**01 05 22.9**	**+0.9**
KHC	**Kasperske Hory**	**38.10**	**316**	*e*P	**P**	**01 05 22.9**	**+0.9**
KEST	**Kesra**	**38.76**	**294**	P	**P**	**01 05 30.0**	**+2.2**
	comp=Z,3.0nm,0.9s,baz=42,slow=11,SNR=4.6						
MOTA	**Moosalm**	**39.11**	**313**	P	**P**	**01 05 30.0**	**-0.7**
	comp=Z,4.4nm,0.7s						
MOTA	**Moosalm**	**39.11**	**313**	P	**P**	**01 05 30.0**	**-0.7**
	comp=Z,4.4nm,0.7s						
FINES	**FINESS Array B**	**39.23**	**339**	P	**P**	**01 05 30.6**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=142,slow=9.5,SNR=16						
FINES	**FINESS Array B**	**39.23**	**339**	*i* P	**P**	**01 05 30.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FETA	**Feichten**	**39.26**	**312**	*i* P	**P**	**01 05 32.0**	**0.0**
	comp=Z,4.8nm,0.6s						
FETA	**Feichten**	**39.26**	**312**	P	**P**	**01 05 32.0**	**0.0**
	comp=Z,4.8nm,0.6s						
DAVOX	**Davos/Dischmat**	**39.77**	**312**	P	**P**	**01 05 36.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=316,slow=21,SNR=2.7						
DAVA	**Damuels**	**39.89**	**313**	*e*P	**P**	**01 05 36.7**	**-0.5**
	comp=Z,11nm,0.5s						
DAVA	**Damuels**	**39.89**	**313**	P	**P**	**01 05 36.7**	**-0.5**
	comp=Z,11nm,0.5s						
GTA	**Gaotai**	**40.02**	**60**	*e*P	**P**	**01 05 39.3**	**+0.9**
GTA				pP	sP	01 05 49.0	+2.3
GTA				sP	pP	01 05 53.3	+9.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**42.25**	**92**	P	**P**	**01 05 57.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=293,slow=7.4,SNR=4.4						
WLF	**Walferdange**	**42.89**	**315**	*e*P	**P**	**01 06 01.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**171**	*e*Pg	Pg	01 14 13.5	-0.6
KSP				*e*Sg	Sg	01 14 21.8	+0.5
UPC	**Upice**	**0.89**	**186**	*e*PG	Pg	01 14 20.5	0.0
UPC				*e*SG	Sg	01 14 32.2	+0.2
	comp=Z,14nm,0.7s						
UPC	**Upice**	**0.89**	**186**	Pg	Pg	01 14 20.5	0.0
UPC				Sg	Sg	01 14 32.2	+0.2
	14nm,0.7s						
DPC	**Dobruska-Polom**	**1.05**	**174**	*e*PG	Pg	01 14 22.5	-1.0
DPC				*e*SG	Sg	01 14 37.6	+0.5
DPC	**Dobruska-Polom**	**1.05**	**174**	Pg	Pg	01 14 22.5	-1.0
DPC				Sg	Sg	01 14 37.6	+0.5
PVCC	**Panska Ves**	**1.32**	**230**	*e*PG	Pg	01 14 28.2	-0.6
PVCC				*e*SG	Sg	01 14 45.7	-0.2
	comp=Z,11nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**230**	Pg	Pg	01 14 28.2	-0.6
PVCC				Sg	Sg	01 14 45.7	-0.2
	11nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**250**	PG	Pn	01 14 30.7	-0.7
BRG				SG	Sg	01 14 51.1	0.0
	7.5nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.71**	**211**	*e*SG	Sb	01 14 58.0	+0.1
GOPC	**GO Pecny, Ondr**	**1.71**	**211**	Sg	Sb	01 14 58.0	+0.1
PRU	**Pruhonice**	**1.74**	**217**	*e*SG	Sn	01 14 57.8	+0.1
PRU	**Pruhonice**	**1.74**	**217**	Sg	Sn	01 14 57.8	+0.1
CLL	**Collm**	**1.98**	**269**	*i* Pg	Pb	01 14 39.4	-0.9
CLL				*e*Sg	Sg	01 15 07.0	+0.1
NKC	**Novy Kostel**	**2.62**	**245**	*e*SG	Sg	01 15 27.6	0.0
	comp=Z,2.9nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**245**	Sg	Sg	01 15 27.6	0.0
	2.9nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**217**	*e*SG	Sg	01 15 32.7	-0.7
KHC	**Kasperske Hory**	**2.80**	**217**	Sg	Sg	01 15 32.7	-0.7
KHC	**Kasperske Hory**	**2.80**	**217**	*e*	Sg	01 15 32.7	-0.7

*ISCJB **19** 01:14:47.8±0.4, 42°.82N±0°.02×13°.58E±0°.04, h17km±9km, Error ellipse: s-maj=4.6km s-min=3.6km az=150.8*
*ROM **19** 01:14:47.9±0.1, 42°.80N×13°.50E, h8km±1km, Md2.4/19, Ml1.8/17, Error ellipse: s-maj=2.4km s-min=0.9km az=77.0*
*CSEM **19** 01:14:47.7±0.1, 42°.82N×13°.54E, h15km, ML2.6/12, Error ellipse: s-maj=2.8km s-min=2.1km az=68.0*
ISC 19 01:14:47.8±0.9, 42°.82N±0°.02×13°.54E±0°.02, h15km±7km, n42, σ0.9 61/72, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.20**	**166**	Pg	**Pb**	**01 14 52.9**	**-0.4**
TERO				Sg	**Sg**	**01 14 56.7**	**+1.0**
	335nm,0.3s						
TERO	**Teramo**	**0.20**	**166**	Pg	**Pb**	**01 14 52.9**	**-0.4**
TERO				Sg	**Sg**	**01 14 56.7**	**+1.0**
	335nm,0.3s						
CAMP	**Campotosto**	**0.30**	**198**	Pg	**Pg**	**01 14 54.1**	**-0.1**
CAMP				Sg	**Sb**	**01 14 58.8**	**-1.0**
	74nm,0.5s						
CAMP	**Campotosto**	**0.30**	**198**	Pg	**Pg**	**01 14 54.1**	**-0.1**
CAMP				Sg	**Sb**	**01 14 58.8**	**-1.0**
	74nm,0.5s						
GUMA	**Gualdo di Mace**	**0.38**	**50**	Pg	**Pg**	**01 14 54.4**	**-1.1**
GUMA				Sg	**Sg**	**01 14 59.7**	**-1.1**
	376nm,0.4s						
GUMA	**Gualdo di Mace**	**0.38**	**50**	Pg	**Pg**	**01 14 54.4**	**-1.1**
GUMA				Sg	**Sg**	**01 14 59.7**	**-1.1**
	376nm,0.4s						
FDMO	**Fiordimonte**	**0.39**	**303**	Pg	**Pg**	**01 14 55.8**	**0.0**
FDMO				Sg	**Sb**	**01 15 02.1**	**-0.3**
	149nm,0.3s						
FDMO	**Fiordimonte**	**0.39**	**303**	Pg	**Pg**	**01 14 55.8**	**0.0**
FDMO				Sg	**Sb**	**01 15 02.1**	**-0.3**
	149nm,0.3s						
LNSS	**Leonessa**	**0.43**	**239**	Pg	**Pg**	**01 14 56.2**	**-0.2**
LNSS				Sg	**Sb**	**01 15 03.1**	**-0.3**
	112nm,0.2s						
LNSS	**Leonessa**	**0.43**	**239**	Pg	**Pg**	**01 14 56.2**	**-0.2**
LNSS				Sg	**Sb**	**01 15 03.1**	**-0.3**
	112nm,0.2s						
AQU	**L'Aquila**	**0.48**	**192**	Pg	**Pg**	**01 14 56.9**	**-0.4**
	34nm,0.3s						
AQU	**L'Aquila**	**0.48**	**192**	Pg	**Pg**	**01 14 56.9**	**-0.4**
	34nm,0.3s						
VCEL	**Villa Celiera**	**0.48**	**152**	Pg	**Pg**	**01 14 57.7**	**+0.3**
	44nm,0.6s						
VCEL	**Villa Celiera**	**0.48**	**152**	Pg	**Pg**	**01 14 57.7**	**+0.3**
	44nm,0.6s						
T0104	**Madonna delle**	**0.48**	**198**	Pg	**Pg**	**01 14 57.1**	**-0.3**
T0104				Sg	**Sb**	**01 15 04.9**	**-0.1**
CESI	**CESI - Serrava**	**0.50**	**292**	Pg	**Pg**	**01 14 57.6**	**-0.2**
CESI				Sg	**Sb**	**01 15 05.5**	**0.0**
	86nm,0.2s						
CESI	**CESI - Serrava**	**0.50**	**292**	Pg	**Pg**	**01 14 57.6**	**-0.2**
CESI				Sg	**Sb**	**01 15 05.5**	**0.0**
	86nm,0.2s						
FAGN	**Fagnano**	**0.56**	**176**	Pg	**Pg**	**01 14 58.9**	**+0.1**
FAGN				Sg	**Sb**	**01 15 07.8**	**+0.7**
	89nm,0.5s						
FAGN	**Fagnano**	**0.56**	**176**	Pg	**Pg**	**01 14 58.9**	**+0.1**
FAGN				Sg	**Sb**	**01 15 07.8**	**+0.7**
	89nm,0.5s						
CING	**Cingoli**	**0.61**	**336**	Pg	**Pg**	**01 14 59.8**	**0.0**
CING				Sg	**Sb**	**01 15 09.8**	**+1.2**
	21nm,0.1s						
CING	**Cingoli**	**0.61**	**336**	Pg	**Pg**	**01 14 59.8**	**0.0**
CING				Sg	**Sb**	**01 15 09.8**	**+1.2**
	21nm,0.1s						
SNTG	**Esanatoglia**	**0.62**	**315**	Pg	**Pg**	**01 14 59.7**	**-0.2**
SNTG				Sg	**Sb**	**01 15 09.3**	**+0.5**
	25nm,0.5s						
SNTG	**Esanatoglia**	**0.62**	**315**	Pg	**Pg**	**01 14 59.7**	**-0.2**
SNTG				Sg	**Sb**	**01 15 09.3**	**+0.5**
	25nm,0.5s						
FIAM	**Fiamignano**	**0.63**	**209**	Pg	**Pg**	**01 14 59.6**	**-0.7**
	23nm,0.6s						
FIAM	**Fiamignano**	**0.63**	**209**	Pg	**Pg**	**01 14 59.6**	**-0.7**
	23nm,0.6s						
CESX	**Cesi**	**0.74**	**254**	Pg	**Pg**	**01 15 01.3**	**-0.9**
CESX				Sg	**Sg**	**01 15 11.0**	**-0.9**
	26nm,0.3s						
CESX	**Cesi**	**0.74**	**254**	Pg	**Pg**	**01 15 01.3**	**-0.9**
CESX				Sg	**Sg**	**01 15 11.0**	**-0.9**
	26nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.75**	**299**	Pg	**Pg**	**01 15 02.3**	**-0.2**
ATCC				Sg	**Sb**	**01 15 12.8**	**+0.1**
	39nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.75**	**299**	Pg	**Pg**	**01 15 02.3**	**-0.2**
ATCC				Sg	**Sb**	**01 15 12.8**	**+0.1**
	39nm,0.4s						
ARVD	**Arcevia**	**0.81**	**327**	Pg	**Pb**	**01 15 03.7**	**+0.2**
ARVD	**Arcevia**	**0.81**	**327**	Pg	**Pb**	**01 15 03.7**	**+0.2**
MURB	**Monte Urbino**	**0.86**	**301**	Pg	**Pb**	**01 15 04.6**	**0.0**
MURB				Sg	**Sb**	**01 15 16.8**	**+0.8**
	63nm,0.3s						
MURB	**Monte Urbino**	**0.86**	**301**	Pg	**Pb**	**01 15 04.6**	**0.0**
MURB				Sg	**Sb**	**01 15 16.8**	**+0.8**
	63nm,0.3s						
FRON	**Frontone**	**0.92**	**320**	Pg	**Pg**	**01 15 05.0**	**-0.6**
	24nm,0.8s						
FRON	**Frontone**	**0.92**	**320**	Pg	**Pg**	**01 15 05.0**	**-0.6**
	24nm,0.8s						
PIEI	**Pieia**	**1.02**	**315**	Pg	**Pb**	**01 15 06.6**	**-0.7**
	10.0nm,0.4s						
PIEI	**Pieia**	**1.02**	**315**	Pg	**Pb**	**01 15 06.6**	**-0.7**
	10.0nm,0.4s						
MGAB	**Montegabbione**	**1.05**	**275**	Pg	**Pg**	**01 15 07.9**	**-0.2**
MGAB				Sg	**Sb**	**01 15 22.0**	**+0.7**
MGAB	**Montegabbione**	**1.05**	**275**	Pg	**Pg**	**01 15 07.9**	**-0.2**
MGAB				Sg	**Sb**	**01 15 22.0**	**+0.7**
NVLJ	**Novalja**	**1.99**	**29**	*e*Pn	**Pn**	**01 15 21.1**	**+0.2**
NVLJ				Sn	**Sn**	**01 15 46.0**	**+0.4**
UDBI	**Udbina**	**2.35**	**43**	*e*Pn	**Pn**	**01 15 27.0**	**+1.0**
UDBI				Sn	**Sn**	**01 15 54.4**	**-0.2**
UDBI	**Udbina**	**2.35**	**43**	*e*Pn	**Pn**	**01 15 27.0**	**+1.0**
UDBI				Sn	**Sn**	**01 15 54.4**	**-0.2**

*NEIC **19** 01:31:23.9±0.6, 5°.94S×151°.24E, h35km, mb4.2/8, Error ellipse: s-maj=24.8km s-min=7.4km az=121.0*
*IDC **19** 01:31:25.9±5.1, 5°.87S×151°.21E, h53km±41km, mb3.8/8, mb1 4.0/9, mb1mx3.8/28, mbtmp4.1/9, ML1.8/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/27, Error ellipse: s-maj=45.1km s-min=20.8km az=110.0*
ISC 19 01:31:25.3±0.7, 5°.9S±0°.1×151°.2E±0°.2, h43km, n33, σ1.9 50/33, mb4.1/14, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.99**	**31**	*e*Pn	**Pn**	**01 31 57.3**	**+0.8**
RABL				*e*Sn	**Sn**	**01 32 24.2**	**+4.0**
PMG	**Port Moresby**	**5.26**	**229**	P	**Pn**	**01 32 43.6**	**+2.2**
	2.3nm,0.3s,baz=280,slow=1.5,SNR=2.8						
PMG				S	**Sn**	**01 33 44.6**	**+3.7**
	8.4nm,0.3s,baz=69,slow=20,SNR=3.9						
PMG				LR	LR	01 34 44.7	
	comp=Z,238nm,20.4s,baz=358,slow=37						
PMG	**Port Moresby**	**5.26**	**229**	*e*Pn	**Pn**	**01 32 41.7**	**+0.2**
PMG				*e*Sn	**Sn**	**01 33 40.7**	**-0.2**
HNR	**Honiara**	**9.39**	**112**	LR	LR	01 36 30.4	
	comp=Z,88nm,21.9s,baz=150,slow=32						
GUMO	**Guam**	**20.36**	**342**	LR	LR	01 42 35.0	
	comp=Z,51nm,20.8s,baz=138,slow=33						
WRAB	**Tennant Creek**	**21.47**	**228**	*e*P	**P**	**01 36 09.2**	**-1.1**
	22nm,1.4s						
WB2	**Warramunga Arr**	**21.47**	**228**	*e*P	**P**	**01 36 10.3**	**-0.1**
	8.9nm,0.8s						
WR1	**Warramunga Arr**	**21.48**	**228**	*e*P	**P**	**01 36 10.1**	**-0.4**
	9.8nm,0.6s						
WRA	**Warramunga Arr**	**21.48**	**228**	P	**P**	**01 36 10.1**	**-0.4**
	2.7nm,0.4s,baz=53,slow=10,SNR=28						
WRA				PcP	**PcP**	**01 40 12.8**	**+0.3**
	0.6nm,0.6s,baz=46,slow=1.9,SNR=4.0						
WRA				LR	LR	01 46 00.6	
	comp=Z,93nm,18.1s,baz=255,slow=41						
DZM	**Mont Dzumac**	**21.83**	**139**	LR	LR	01 43 59.1	
	comp=Z,216nm,18.7s,baz=37,slow=34						
AS01	**Alice Springs**	**24.20**	**221**	*e*P	**P**	**01 36 39.1**	**+1.0**
AS31	**Alice Springs**	**24.23**	**221**	*e*P	**P**	**01 36 39.0**	**+0.7**
	2.6nm,0.6s						
ASAR	**Alice Springs**	**24.23**	**221**	P	**P**	**01 36 38.6**	**+0.3**
	4.8nm,0.8s,baz=55,slow=9.4,SNR=38						
ASAR				LR	LR	01 45 07.7	
	comp=Z,91nm,20.4s,baz=136,slow=34						
STKA	**Stephens Creek**	**27.33**	**198**	P	**P**	**01 37 09.2**	**+2.9**
	1.9nm,0.7s,baz=2.7,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**27.33**	**198**	*e*P	**P**	**01 37 04.7**	**-1.6**
	5.0nm,1.8s						
FITZ	**Fitzroy Crossi**	**27.69**	**242**	P	**P**	**01 37 09.1**	**-0.5**
	2.3nm,0.6s,baz=49,slow=9.4,SNR=12						
FITZ	**Fitzroy Crossi**	**27.69**	**242**	*e*P	**P**	**01 37 09.1**	**-0.5**
	9.8nm,1.3s						
MJAR	**Matsushiro Arr**	**43.94**	**345**	LR	LR	01 58 29.5	
	comp=Z,17nm,18.3s,baz=120,slow=37						
PETK	**Petropavlovsk-**	**59.06**	**5**	P	**P**	**01 41 21.5**	**+0.6**
	10nm,0.9s,baz=112,slow=10.0,SNR=4.2						
PEA1	**Petropavlovsk-**	**59.06**	**5**	*e*P	**P**	**01 41 21.5**	**+0.6**
SONA0	**Songino Array**	**66.40**	**329**	*e*P	**P**	**01 42 10.1**	**0.0**
	13nm,1.9s						
SONM	**Songino Array**	**66.40**	**329**	P	**P**	**01 42 10.1**	**0.0**
	0.5nm,0.6s,baz=141,slow=6.2,SNR=4.5						
MK32	**Makanchi Array**	**80.09**	**319**	*e*P	**P**	**01 43 30.0**	**-0.8**
MKAR	**Makanchi Array**	**80.09**	**319**	P	**P**	**01 43 30.0**	**-0.8**
	0.2nm,0.4s,baz=109,slow=7.8,SNR=3.2						
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**01 43 47.4**	**-2.5**
	1.0nm,0.6s,baz=258,slow=5.1,SNR=19						
ILB	**Eielson Array**	**83.81**	**22**	*e*P	**P**	**01 43 47.4**	**-2.5**
MAW	**Mawson**	**83.92**	**203**	P	**P**	**01 43 50.3**	**-0.1**
	0.9nm,0.7s,baz=98,slow=7.1,SNR=6.0						
MAW	**Mawson**	**83.92**	**203**	*e*P	**P**	**01 43 50.3**	**-0.1**
	2.0nm,1.6s						
GEC2	**GERESS Array S**	**124.12**	**327**	*e*PKPdf	**PKPdf**	**01 50 18.4**	**-1.0**
GERES	**GERESS Array B**	**124.12**	**327**	PKP	**PKPdf**	**01 50 18.4**	**-1.0**
	0.3nm,0.4s,baz=42,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc	**PKPbc**	**01 51 09.2**	**-0.8**
	6.1nm,0.7s,baz=67,slow=2.7,SNR=56						
TOA1	**Torodi Ar. Sit**	**149.06**	**286**	*e*PKPbc	**PKPbc**	**01 51 09.2**	**-0.8**
BDFB	**Brasilia**	**151.38**	**139**	PKPbc	**PKPbc**	**01 51 15.4**	**-0.3**
	0.6nm,0.4s,baz=272,slow=15,SNR=3.2						

*NNC **19** 01:40:51.0±1.5, 44°.83N×81°.77E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=29.3km s-min=5.9km az=116.0*
*SOME **19** 01:40:52.5, 44°.70N×82°.18E, h35km*
*ISCJB **19** 01:40:53.6±3.7, 44°.85N±0°.10×82°.3E±0°.2, h24km±53km, Error ellipse: s-maj=30.2km s-min=11.6km az=23.8*
ISC 19 01:40:49.7±2.9, 44.71N±0.08×82°.1E±0°.1, h4km±16km, n10, σ1.9 14/17, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.69**	**258**	*e*P	**Pg**	**01 41 22.4**	**+0.3**
	6.4nm,0.4s						
DJR				*e*S	**Sg**	**01 41 43.7**	**-0.4**
	8.7nm,0.3s						
KAPS	**Kapalarasan**	**2.03**	**288**	*e*P	**Pg**	**01 41 27.9**	**-0.7**
	1.8nm,0.3s						
KAPS				*e*S	**Sg**	**01 41 53.6**	**-1.3**
	6.0nm,0.2s						
MK31	**Makanchi Array**	**2.09**	**4**	⇑Pn	**Pn**	**01 41 26.1**	**+0.5**
	3.5nm,0.3s,baz=187,slow=15,SNR=139						
MK31				Lg	Lg	01 41 53.4	
	1.8nm,0.3s,baz=187,slow=30,SNR=24						
MAKZ	**Makanchi**	**2.10**	**358**	⇑Pn	**Pn**	**01 41 25.7**	**0.0**
	2.1nm,0.4s						
MAKZ				⇑Lg	Lg	01 41 54.5	
	9.1nm,0.5s						
PDGK	**Podgornoye**	**2.33**	**235**	⇓Pn	**Pn**	**01 41 29.8**	**+0.8**
	1.4nm,0.6s						
PDGK				⇓Lg	Lg	01 42 00.8	
	5.0nm,0.4s						
SHLS	**Shalkode**	**2.46**	**232**	*e*P	**Pn**	**01 41 31.1**	**+0.4**
	3.6nm,0.2s						
SHLS				*e*S	**Sn**	**01 41 58.6**	**-2.6**
	18nm,0.4s						
MNBS	**Baschi**	**2.73**	**258**	*e*P	**Pb**	**01 41 39.9**	**+0.8**
	2.8nm,0.2s						
MNBS				*e*S	**Sb**	**01 42 13.9**	**+1.0**
	10nm,0.3s						
KPKS	**Kokpek**	**2.76**	**244**	*e*P	**Pb**	**01 41 39.8**	**+0.2**
	6.5nm,0.3s						
KPKS				*e*S	**Sb**	**01 42 14.1**	**+0.3**
	22nm,0.4s						
ARXS	**Arharly**	**3.10**	**262**	*e*P	**Pb**	**01 41 46.6**	**+1.1**
	2.4nm,0.3s						
ARXS				*e*S	**Sb**	**01 42 25.5**	**+1.9**
	12nm,0.4s						
SATY	**Saty**	**3.14**	**240**	*e*P	**Pb**	**01 41 46.1**	**0.0**
SATY				*e*S	**Sb**	**01 42 24.8**	**0.0**

*ISCJB **19** 02:02:29.6±0.6, 34°.22N±0°.03×23°.80E±0°.04, h42km±5km, mb4.0/22, MS3.0/1, Error ellipse: s-maj=6.2km s-min=4.2km az=40.2*
*CSEM **19** 02:02:30.0±0.6, 34°.16N×23°.72E, h30km, ML3.6, Error ellipse: s-maj=16.4km s-min=7.5km az=62.0*
*IDC **19** 02:02:32.8±1.8, 34°.37N×23°.73E, h47km±16km, mb3.9/21, mb1 4.0/28, mb1mx3.9/50, mbtmp4.1/28, ML3.8/6, MS3.3/2, Ms1 3.3/2, ms1mx2.6/52, Error ellipse: s-maj=19.4km s-min=11.4km az=160.0*
*HLW **19** 02:02:33.9, 34°.60N×24°.59E, h30km±10km, Md3.0, Ml3.3*
*ATH **19** 02:02:34.8, 34°.56N×23°.89E, h44km±2km, ML3.6/2, Error ellipse: s-maj=5.5km s-min=2.0km az=202.0*
*THE **19** 02:02:36.0, 34°.52N×23°.85E, h26km±1km, ML3.4/6, Error ellipse: s-maj=1.5km s-min=1.0km az=196.0*
*DDA **19** 02:03:16.1, 34°.92N×25°.02E, h10km, Md3.5*
ISC 19 02:02:29.1±0.8, 34°.25N±0°.04×23°.74E±0°.03, h26km±5km, n162, σ1.9 97/200, mb4.2/22, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.65**	**26**	P	**Pn**	**02 02 44.1**	**+1.4**
GVD				S	**Sb**	**02 02 50.4**	**-0.2**
GVD	**Gavdhos**	**0.65**	**26**	P	**Pn**	**02 02 44.2**	**+1.5**
GVD				S	**Sb**	**02 02 50.4**	**-0.2**
GVD				AML	AML	02 02 59.8	
	comp=E,14895μm,0.4s						
GVD				AML	AML	02 03 02.1	
	comp=N,17828μm,0.6s						
GVD	**Gavdhos**	**0.65**	**26**	P	**Pn**	**02 02 43.8**	**+1.1**
GVD				S	**Sn**	**02 02 53.4**	**+1.3**
GVD				AML	AML	02 03 00.2	
	comp=E,13050μm,0.4s						
GVD				AML	AML	02 03 02.1	
	comp=N,17828μm,0.6s						
GVD	**Gavdhos**	**0.65**	**26**	P	**Pn**	**02 02 44.2**	**+1.5**
GVD				S	**Sb**	**02 02 50.4**	**-0.2**
SIVA	**Sivas**	**1.17**	**49**	P	**Pb**	**02 02 52.2**	**+1.6**
SIVA				S	**Sb**	**02 03 05.3**	**0.0**
SIVA	**Sivas**	**1.17**	**49**	P	**Pb**	**02 02 52.3**	**+1.7**
SIVA				AML	AML	02 03 19.6	
	comp=E,7513μm,0.7s						
SIVA				AML	AML	02 03 20.4	
	comp=N,8019μm,0.8s						
SIVA	**Sivas**	**1.17**	**49**	P	**Pb**	**02 02 52.1**	**+1.6**
SIVA				S	**Sn**	**02 03 04.9**	**0.0**
SIVA				AML	AML	02 03 20.2	
	comp=E,12276μm,0.6s						
SIVA				AML	AML	02 03 21.4	
	comp=N,7634μm,0.7s						
SIVA	**Sivas**	**1.17**	**49**	P	**Pb**	**02 02 52.3**	**+1.6**
SIVA				S	**Sb**	**02 03 05.3**	**0.0**
VAM	**Vamos**	**1.21**	**18**	P	**Pb**	**02 02 52.0**	**+0.6**
VAM				S	**Sn**	**02 03 04.8**	**-1.2**
VAM	**Vamos**	**1.21**	**18**	P	**Pb**	**02 02 53.4**	**+2.0**
VAM				S	**Sn**	**02 03 05.3**	**-0.7**
VAM	**Vamos**	**1.21**	**18**	P	**Pb**	**02 02 53.2**	**+1.8**
VAM				S	**Sn**	**02 03 04.7**	**-1.3**
VAM				AML	AML	02 03 23.0	
	comp=E,3101μm,0.6s						
VAM				AML	AML	02 03 23.4	
	comp=N,2835μm,0.6s						
VAM	**Vamos**	**1.21**	**18**	P	**Pb**	**02 02 52.0**	**+0.6**
VAM				S	**Sn**	**02 03 05.3**	**-0.7**
IMMV	**Iera Moni Meta**	**1.22**	**9**	P	**Pb**	**02 02 52.5**	**+0.9**
IMMV				S	**Sn**	**02 03 05.0**	**-1.2**
IMMV	**Iera Moni Meta**	**1.22**	**9**	P	**Pb**	**02 02 53.6**	**+2.1**
IMMV	**Iera Moni Meta**	**1.22**	**9**	P	**Pb**	**02 02 51.5**	**-0.1**
IMMV				S	**Sn**	**02 03 04.1**	**-2.1**
IMMV				AML	AML	02 03 19.9	
	comp=N,6141μm,0.6s						
IMMV				AML	AML	02 03 23.0	
	comp=E,5928μm,0.6s						
IMMV	**Iera Moni Meta**	**1.22**	**9**	P	**Pb**	**02 02 52.5**	**+0.9**
IMMV				S	**Sn**	**02 03 05.0**	**-1.2**
IDI	**Anoyia**	**1.40**	**42**	P	**Pb**	**02 02 55.5**	**+0.8**
	comp=E,10nm,0.3s,baz=212,slow=13,SNR=139						
IDI				S	**Sn**	**02 03 09.0**	**-1.8**
	comp=E,24nm,0.3s,baz=209,slow=19,SNR=13						
IDI	**Anoyia**	**1.40**	**42**	P	**Pb**	**02 02 55.5**	**+0.8**
IDI				S	**Sn**	**02 03 10.8**	**0.0**
IDI	**Anoyia**	**1.40**	**42**	P	**Pb**	**02 02 56.1**	**+1.5**
IDI	**Anoyia**	**1.40**	**42**	P	**Pb**	**02 02 56.1**	**+1.5**
IDI				S	**Sn**	**02 03 07.8**	**-3.0**
IDI				AML	AML	02 03 32.4	
	comp=N,786μm,0.5s						
IDI				AML	AML	02 03 37.6	
	comp=E,980μm,0.6s						
IDI	**Anoyia**	**1.40**	**42**	P	**Pb**	**02 02 56.2**	**+1.5**
IDI				S	**Sn**	**02 03 10.8**	**0.0**
ANKY	**Antikythira Is**	**1.65**	**348**	P	**Pb**	**02 02 59.1**	**+0.2**
ANKY				S	**Sn**	**02 03 17.5**	**+0.7**
ANKY	**Antikythira Is**	**1.65**	**348**	P	**Pb**	**02 02 59.3**	**+0.4**
ANKY	**Antikythira Is**	**1.65**	**348**	P	**Pb**	**02 02 59.7**	**+0.8**
ANKY				S	**Sn**	**02 03 14.7**	**-2.1**
ANKY				AML	AML	02 03 33.6	
	comp=E,920μm,0.6s						
ANKY				AML	AML	02 03 36.6	
	comp=N,915μm,0.6s						
ANKY	**Antikythira Is**	**1.65**	**348**	P	**Pb**	**02 02 59.1**	**+0.2**
ANKY				S	**Sn**	**02 03 17.5**	**+0.7**
LAST	**Lasithi**	**1.69**	**57**	P	**Pb**	**02 02 59.9**	**+0.2**
LAST	**Lasithi**	**1.69**	**57**	P	**Pb**	**02 03 00.3**	**+0.6**
LAST	**Lasithi**	**1.69**	**57**	P	**Pb**	**02 02 60.0**	**+0.2**
LAST	**Lasithi**	**1.69**	**57**	P	**Pb**	**02 03 00.3**	**+0.6**
NPS	**Neapolis**	**1.84**	**56**	P	**Pb**	**02 03 02.7**	**+0.6**
NPS	**Neapolis**	**1.84**	**56**	P	**Pb**	**02 03 02.9**	**+0.8**
NPS	**Neapolis**	**1.84**	**56**	P	**Pb**	**02 03 02.7**	**+0.6**
KYTH	**Kithira**	**2.08**	**344**	P	**Pb**	**02 03 05.0**	**-1.3**
KYTH	**Kithira**	**2.08**	**344**	P	**Pb**	**02 03 05.2**	**-1.1**
ZKR	**Zakros**	**2.21**	**66**	P	**Pb**	**02 03 06.7**	**-1.8**
ZKR	**Zakros**	**2.21**	**66**	P	**Pb**	**02 03 06.7**	**-1.8**
MHLO	**Agia Marina, M**	**2.49**	**12**	P	**Pn**	**02 03 09.0**	**+1.0**
MHLO	**Agia Marina, M**	**2.49**	**12**	P	**Pn**	**02 03 09.6**	**+1.6**
MHLO	**Agia Marina, M**	**2.49**	**12**	P	**Pn**	**02 03 09.0**	**+1.0**
SAP1	**Santorini-Akro**	**2.50**	**32**	P	**Pn**	**02 03 09.5**	**+1.4**
SAP1	**Santorini-Akro**	**2.50**	**32**	P	**Pn**	**02 03 09.5**	**+1.4**
THR6	**Thira Island,**	**2.50**	**32**	P	**Pn**	**02 03 10.7**	**+2.6**
THR6	**Thira Island,**	**2.50**	**32**	P	**Pn**	**02 03 10.7**	**+2.6**
THR5	**Thira Island,**	**2.53**	**31**	P	**Pn**	**02 03 09.9**	**+1.4**
THR5	**Thira Island,**	**2.53**	**31**	P	**Pn**	**02 03 09.9**	**+1.4**
THT1	**Athinios (Pele**	**2.54**	**33**	P	**Pn**	**02 03 09.5**	**+0.9**
THT1	**Athinios (Pele**	**2.54**	**33**	P	**Pn**	**02 03 09.5**	**+0.9**
SANT	**Santorini**	**2.54**	**33**	P	**Pn**	**02 03 09.8**	**+1.1**
SANT	**Santorini**	**2.54**	**33**	P	**Pn**	**02 03 10.0**	**+1.3**
SANT	**Santorini**	**2.54**	**33**	P	**Pn**	**02 03 09.8**	**+1.1**
THR3	**Thira Island,**	**2.54**	**32**	P	**Pn**	**02 03 10.4**	**+1.7**
THR3	**Thira Island,**	**2.54**	**32**	P	**Pn**	**02 03 10.4**	**

comp=N,0.6nm,0.3s,baz=219,slow=14,SNR=2.2
VTS Vitosha 8.34 357⇑ *i*P Pn 02 04 30.3 +1.9
KERG Konya-Eregli 9.00 67 *i* P Pn 02 04 38.5 +0.9
RSH 9.04 109 P Pn 02 04 35.8 -2.1
baz=112
RSH 9.04 109 P Pn 02 04 35.8 -2.1
BRTR Keskin Array B 9.62 53 P Pn 02 04 47.7 +1.8
comp=N,0.2nm,0.3s,baz=225,slow=14,SNR=7.1
MMAI Mount Meron Ar 9.80 94 P Pn 02 04 46.6 -1.9
comp=N,1.6nm,0.3s,baz=263,slow=12,SNR=9.8
MMAI S Sn 02 06 33.1 -4.7
comp=N,3.3nm,0.3s,baz=256,slow=18,SNR=6.4
STON Ston 9.81 333 *i* Pn Pn 02 04 47.8 -0.8
STON Sn Sn 02 06 29.0 -8.8
EIL Elat 10.56 113 P Pn 02 04 57.5 -1.3
comp=N,1.0nm,0.3s,baz=273,slow=23,SNR=9.4
EIL S Sn 02 06 48.4 -7.8
comp=N,1.4nm,0.3s,baz=269,slow=22,SNR=5.2
ASF Jabal al Asfar 11.22 97 S Sn 02 07 06.6 -5.9
comp=N,0.3nm,0.3s,baz=90,slow=11,SNR=2.9
KEST Kesra 11.90 281 P Pn 02 05 17.4 +0.2
comp=N,0.1nm,0.3s,baz=319,slow=20,SNR=2.5
KEST S Sn 02 07 24.6 -4.6
comp=N,0.1nm,0.3s,baz=284,slow=19,SNR=3.4
UDBI Udbina 11.96 331 *e*Pn Pn 02 05 18.2 +0.2
OZLJ Ozalj 12.99 333 *e*Pn Pn 02 05 30.5 -1.5
BURAR Bucovina Array 13.39 4⇑ *i*P P 02 05 49.1 +2.3
SOKA Soboth 14.06 335 *e*Pn Pn 02 05 45.4 -1.2
comp=N,2.6nm,0.4s
OBKA Obir 14.09 333 *i* Pn Pn 02 05 46.9 -0.2
comp=N,0.1nm,0.1s
ARSA Arzberg 14.39 337 *e*Pn Pn 02 05 49.8 -1.2
comp=N,1.6nm,0.4s
CONA Conrad Observa 14.88 339 *i* P P 02 06 02.1 -1.2
comp=N,1.5nm,0.5s
KBA Koelnbreinsper 15.02 332 *i* Pn Pn 02 06 00.2 +0.4
comp=N,1.1nm,0.4s
ABTA Abfaltersbach 15.10 329 *e*Pn Pn 02 06 01.2 +0.4
comp=N,0.2nm,0.2s
MOA Molln 15.33 335 *e*Pn Pn 02 06 04.2 +0.5
comp=N,1.3nm,0.3s
VRAC Vranov 15.95 343 P Pn 02 06 12.9 +1.2
comp=N,0.4nm,0.3s,baz=152,slow=8.1,SNR=7.8
FETA Feichten 16.10 326 *i* Pn P 02 06 20.0 +3.1
comp=N,1.9nm,0.7s
OKC Ostrava-Krasne 16.11 347 *e*P P 02 06 18.5 +1.7
OKC *e*pP pP 02 06 22.5 -1.3
MORC Moravsky Berou 16.17 345⇓ *i*P P 02 06 19.1 +1.5
MOTA Moosalm 16.17 328 *i* Pn Pn 02 06 15.1 +0.4
comp=N,1.9nm,0.5s
TREC Trest 16.22 340 *e*P P 02 06 19.5 +1.4
GERES GERESS Array B 16.38 336 P Pn 02 06 16.8 -0.5
comp=N,0.2nm,0.3s,baz=155,slow=14,SNR=7.0
GERES LR LR 02 13 39.7
comp=N,117nm,18.2s,baz=128,slow=41
RETA Reutte 16.43 327 *i* Pn P 02 06 24.0 +3.5
comp=N,2.0nm,0.4s
KHC Kasperske Hory 16.66 336 *e*P P 02 06 21.9 -1.1
KHC *ex* x 02 06 25.9
KHC *e*pP sP 02 06 33.8 +0.4
DAVA Damuels 16.69 325 *i* P P 02 06 25.0 +1.6
comp=N,2.7nm,0.4s
AKASG Malin Array Be 16.92 12 P Pn 02 06 22.8 -1.1
comp=N,1.8nm,0.3s,baz=210,slow=11,SNR=5.3
DPC Dobruska-Polom 16.98 344 *e*P P 02 06 28.5 +2.0
GOPC GO Pecny, Ondr 16.98 340 *e*P P 02 06 28.3 +1.8
PRU Pruhonice 17.12 339 *e*P P 02 06 30.0 +2.0
KBZ Khabaz 17.61 52 P P 02 06 33.9 +0.5
comp=N,0.1nm,0.3s,baz=273,slow=7.8,SNR=4.9
ESDC Sonseca Array 22.74 292 P P 02 07 30.5 +1.2
comp=N,0.1nm,0.3s,baz=88,slow=9.7,SNR=3.1
MDT Midelt 23.65 275 P P 02 07 41.6 +3.0
comp=N,1.4nm,0.9s,baz=99,slow=13,SNR=2.8
HFS Hagfors 26.71 349 P P 02 08 06.1 0.0
comp=N,2.8nm,0.4s,baz=158,slow=12,SNR=15
FINES FINESS Array B 27.25 2 P P 02 08 10.1 -0.7
comp=N,4.8nm,0.9s,baz=167,slow=9.9,SNR=13
NOA NORSAR Array B 28.00 347 P P 02 08 17.7 +0.1
comp=N,0.5nm,0.5s,baz=148,slow=9.1,SNR=5.9
NOA LR LR 02 22 29.7
comp=N,38nm,18.3s,baz=225,slow=43
EKA Eskdalemuir Ar 28.13 327 P P 02 08 19.9 +1.0
comp=N,1.9nm,0.4s,baz=116,slow=8.3,SNR=20
TORD Torodi Ar. Bea 29.01 229 P P 02 08 28.3 +1.3
comp=N,0.4nm,0.5s,baz=38,slow=8.4,SNR=8.9
AKTO Aktyubinsk 29.72 47 P P 02 08 32.5 -0.5
comp=N,1.9nm,0.6s,baz=241,slow=7.6,SNR=8.2
ARCES ARCESS Array B 35.35 1 P P 02 09 21.2 -0.8
comp=N,1.6nm,0.5s,baz=172,slow=9.3,SNR=9.6
BVAR Borovoye Array 37.82 46 P P 02 09 43.6 +0.4
comp=N,1.5nm,0.9s,baz=268,slow=8.9,SNR=5.4
DBIC Dimbokro 38.09 230 P P 02 09 46.8 +0.9
comp=N,3.9nm,1.0s,baz=4.7,slow=5.5,SNR=4.2
AAK Ala-Archa 40.11 63 P P 02 10 03.7 +0.9
comp=N,1.9nm,0.7s,baz=210,slow=11,SNR=6.5
KURBB Kurchatov Arra 42.60 50 P P 02 10 23.6 +0.7
comp=N,2.1nm,0.4s,baz=272,slow=8.8,SNR=31
SPITS Spitsbergen Ar 44.14 358 P P 02 10 35.7 +0.7
comp=N,8.9nm,0.9s,baz=153,slow=13,SNR=6.6
MKAR Makanchi Array 45.25 56 P P 02 10 45.3 +1.0
comp=N,2.8nm,0.4s,baz=269,slow=7.9,SNR=60
ZALV Zalesovo Beam 46.47 46 P P 02 10 53.9 +0.1
comp=N,2.0nm,0.4s,baz=263,slow=8.4,SNR=5.0
SONM Songino Array 60.96 50 P P 02 12 41.1 +1.0
comp=N,0.8nm,0.5s,baz=281,slow=8.9,SNR=4.2
INK Inuvik 76.34 351 P P 02 14 16.6 +1.1
comp=N,3.5nm,1.1s,baz=0.0,slow=2.0,SNR=3.6
USRK Ussuriysk Ar. 78.31 44 P P 02 14 27.6 +0.7
comp=N,2.7nm,0.5s,baz=281,slow=4.5,SNR=4.4
KSRS Korea Array 79.76 52 P P 02 14 36.1 +1.1
comp=N,1.6nm,0.5s,baz=307,slow=4.7,SNR=5.1
ILAR Eielson Array 81.03 356 P P 02 14 41.8 +0.5
comp=N,0.4nm,0.7s,baz=349,slow=3.2,SNR=4.3
SDV Santo Domingo 88.65 280 P P 02 15 22.2 +1.4
comp=N,3.2nm,0.5s,baz=104,slow=4.2,SNR=2.2
WRA Warramunga Arr 117.65 96 PKP **PKPdf** 02 21 13.6 +0.3
comp=N,0.1nm,0.3s,baz=313,slow=1.8,SNR=3.0

NIED ***19*** *02:18:00,38.°30N×142.°20E,h38km,Mw4.4 Best double couple: M0=4.31000×10^15 NP1:φ=223.00000°,δ=27.00000°, λ=-92.00000°. NP2:φ=45.00000°,δ=63.00000°,λ=-89.00000°.*
BJI ***19*** *02:18:46.1,37.°97N×142.°23E,h30km,mb4.6/23,mB4.8/10, Ms4.2/6,Ms7 4.0/6*
JMA ***19*** *02:18:48.8±0.1,38.°27N×142.°21E,h39km±1km,M4.4*
JMA Felt II J1.
ISCJB ***19*** *02:18:49.5±0.5,38.°23N±0.°03×142.°12E±0.°04,h43km±4km, mb4.6/106,MS3.6/3,Error ellipse: s-maj=5.4km s-min=3.7km az=30.9*
MOS ***19*** *02:18:50.1±1.0,38.°52N×141.°98E,h36km,mb4.8/42,Error ellipse: s-maj=8.0km s-min=5.8km az=109.0*
NEIC ***19*** *02:18:51.3±0.6,38.°24N×142.°07E,h43km±5km,mb4.7/56, Error ellipse: s-maj=5.3km s-min=3.9km az=153.0*
NEIC Recorded [2 JMA] in Miyagi.
IDC ***19*** *02:18:51.0±1.9,38.°23N×142.°16E,h45km±17km,mb4.1/22, mb1 4.3/28,mb1mx4.2/45,mbtmp4.3/28,ML3.7/5,MS3.5/6, Ms1 3.5/6,ms1mx3.1/48,Error ellipse: s-maj=16.7km s-min=11.9km az=102.0*
ISC 19 02:18:48.6±0.6,38°23N±0.°04×142°25E±0.°04,h28km±3km, h28km;pP-P,n259,σ1≟48/288,mb4.7/107,MS3.5/3, 13C-12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.74**	**288**	P	P	**Pb**	**02 19 02.4**	**-0.5**
JIO				S	S	**Sb**	**02 19 11.6**	**-1.1**
OFUJ	**Ofunato**	**0.96**	**332**	P	P	**Pn**	**02 19 05.5**	**-0.8**
OFUJ				*e*S	S	**Sb**	**02 19 17.6**	**-1.4**
JMK	**Ichinoseki**	**1.08**	**312**	P	P	**Pn**	**02 19 07.4**	**-0.5**
JMK				*e*S	S	**Sn**	**02 19 21.0**	**-1.0**
JMM	**Marumori**	**1.20**	**253**	P	P	**Pn**	**02 19 09.0**	**-0.5**
JMM				S	S	**Sn**	**02 19 23.1**	**-1.8**
JOU	**Okura**	**1.25**	**277**	P	P	**Pn**	**02 19 10.3**	**0.0**
JOU				*e*S	S	**Sn**	**02 19 25.6**	**-0.6**
JFK	**Kawauchi**	**1.39**	**232**	P	P	**Pn**	**02 19 11.4**	**-0.7**
JFK				S	S	**Sn**	**02 19 27.2**	**-2.3**
JOM	**Ohasama**	**1.45**	**329**	P	P	**Pn**	**02 19 13.0**	**0.0**
JOM				*e*S	S	**Sn**	**02 19 30.4**	**-0.7**
JYK	**Kaneyama**	**1.63**	**296**	P	P	**Pn**	**02 19 15.6**	**+0.1**
JFT	**Otama**	**1.67**	**245**	P	P	**Pn**	**02 19 16.4**	**+0.4**
JFT				S	S	**Sn**	**02 19 36.7**	**+0.2**
JRG	**Rokugo**	**1.72**	**313**	P	P	**Pn**	**02 19 16.8**	**+0.2**
JYS	**Shirataka**	**1.72**	**270**	P	P	**Pn**	**02 19 17.0**	**+0.4**
JYS				*e*S	S	**Sn**	**02 19 37.3**	**-0.4**
MJAR	**Matsushiro Arr**	**3.63**	**244**	P	P	**Pn**	**02 19 45.2**	**+2.2**
	6.7nm,0.3s,baz=69,slow=57,SNR=57							
MJAR				S	S	**Sb**	**02 20 33.0**	**-2.6**
	9.3nm,0.3s,baz=357,slow=29,SNR=5.4							
MAJO	**Matsushiro**	**3.63**	**244**	*e*P	P	**Pn**	**02 19 46.5**	**+3.5**
MAJO	**Matsushiro**	**3.63**	**244**	*e*Pn	P	**Pn**	**02 19 44.1**	**+1.1**
MAJO				*e*Sn	S	**Sn**	**02 20 26.6**	**+1.7**
MAT	**Matsushiro**	**3.63**	**244**	P	P	**Pn**	**02 19 45.7**	**+2.7**
MAT				*e*S	S	**Sn**	**02 20 29.4**	**+4.5**
MJB9	**Matsu-Tunnel**	**3.63**	**244**	*e*Pn	P	**Pn**	**02 19 44.5**	**+1.5**
MJB9				*e*Sn	S	**Sn**	**02 20 26.0**	**+1.1**
INU	**Inuyama**	**5.08**	**237**	*e*Pn	P	**Pn**	**02 20 06.0**	**+3.0**
INU				*e*Sn	S	**Sn**	**02 20 56.6**	**-4.1**
JHJ2	**Mitsune**	**5.47**	**202**	*e*Pn	P	**Pn**	**02 20 08.2**	**-0.1**
JHJ2				*e*Sn	S	**Sn**	**02 21 09.9**	**-0.4**
JHJ	**Hachijo jima 2**	**5.48**	**202**	P	P	**Pn**	**02 20 08.2**	**-0.1**
	30nm,0.3s,baz=90,slow=20,SNR=2.6							
JHJ				S	S	**Sn**	**02 21 08.7**	**-1.7**
	69nm,0.3s,baz=233,slow=20,SNR=4.2							
ASAJ	**Asahikawa**	**5.89**	**2**	P	P	**Pn**	**02 20 15.4**	**+1.4**
	2.8nm,0.3s,baz=206,slow=18,SNR=7.9							
ASAJ				S	S	**Sn**	**02 21 23.2**	**+2.7**
	baz=210,slow=18,SNR=2.0							
ASAJ	**Asahikawa**	**5.89**	**2**	*e*Pn	P	**Pn**	**02 20 14.8**	**+0.8**
ASAJ				*e*Sn	S	**Sn**	**02 21 23.2**	**+2.7**
YUK	**Yuzh-Kuril'sk**	**6.41**	**24**	P	P	**Pn**	**02 20 19.8**	**-1.3**
YUK				*i* S	S	**Sn**	**02 21 28.2**	**-5.1**
YUK				pmax	pmax			
	comp=Z,115nm,0.4s							
YUK				smax	smax			
	comp=N,418nm,0.3s							
YUK				smax	smax			
	comp=E,295nm,0.4s							
SHO	**Shikotan**	**6.62**	**30**	*e*P	P	**Pn**	**02 20 21.6**	**-2.3**
SHO				*i* S	S	**Sn**	**02 21 31.9**	**-6.5**
SHO				smax	smax			
	comp=N,209nm,0.3s							
KUR	**Kuril'sk**	**8.16**	**29**	P	P	**Pn**	**02 20 43.1**	**-2.0**
KUR				*e*S	S	**Sn**	**02 22 11.6**	**-4.8**
USRK	**Ussuriysk Ar.**	**9.76**	**311**	P	P	**Pn**	**02 21 09.7**	**+2.6**
	comp=N,1.2nm,0.3s,baz=119,slow=12,SNR=16							
USRK				LR	LR		02 24 39.4	
	comp=N,331nm,18.5s,baz=154,slow=36							
JNU	**Nakatsue**	**10.55**	**245**	P	P	**Pn**	**02 21 17.3**	**-0.7**
	comp=N,0.4nm,0.3s,baz=132,slow=14,SNR=2.2							
CBIJ	**Chichi jima**	**11.10**	**180**	*e*Pn	P	**Pn**	**02 21 23.6**	**-1.9**
CBIJ				*e*Sn	S	Sn	02 23 18.5	-10
KSRS	**Korea Array**	**11.35**	**271**	P	P	**Pn**	**02 21 29.2**	**+0.3**
	baz=83,slow=13,SNR=2.0							
KSRS				LR	LR		02 25 38.5	
	comp=N,160nm,19.9s,baz=83,slow=36							
KS15	**Wonju Array Si**	**11.39**	**270**	*e*Pn	P	**Pn**	**02 21 29.2**	**-0.1**
KSAR	**Wonju Array Be**	**11.39**	**270**	P	P	**Pn**	**02 21 29.2**	**-0.1**
KSAR	**Wonju Array Be**	**11.39**	**270**	P	P	**Pn**	**02 21 29.2**	**-0.1**
JOW	**Kunigami**	**16.35**	**230**	*e*Pn	P	**Pn**	**02 22 35.4**	**-0.8**
	comp=N,169nm,1.6s							
PETK	**Petropavlovsk-**	**18.32**	**31**	LR	LR		02 30 51.6	
	comp=N,72nm,18.6s,baz=115,slow=39							
PET	**Petropavlovsk**	**18.66**	**32**	*e*P	P	**Pn**	**02 23 05.1**	**+0.6**
PET				pmax	pmax			
	comp=Z,73nm,1.4s							
BJT	**Baijiatuau**	**20.29**	**283**	*e*P	P	**P**	**02 23 20.4**	**-1.7**
BJT				pmax	pmax			
	comp=Z,13nm,0.5s							
BJT	**Baijiatuau**	**20.29**	**283**	*e*P	P	**P**	**02 23 20.4**	**-1.7**
	comp=Z,13nm,0.5s							
CLNS	**Chul'man**	**21.88**	**334**	*e*P	P	**P**	**02 23 37.2**	**-1.9**
CLNS				pmax	pmax			
	comp=N,9.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,11nm,0.8s							
MA2	**Magadan**	**22.05**	**12**	P	P	**P**	**02 23 41.4**	**+0.5**
	comp=Z,7.4nm,0.6s,baz=164,slow=20,SNR=3.3							
YULB	**Yu-li**	**23.21**	**236**	*e*P	P	**P**	**02 23 52.8**	**-0.6**
	comp=Z,94nm,1.8s							
YAK	**Yakutsk**	**25.06**	**346**	P	P	**P**	**02 24 09.6**	**-0.7**
	comp=Z,20nm,0.6s,baz=191,slow=1.4,SNR=6.7							
YAK	**Yakutsk**	**25.06**	**346**	*e*P	P		02 23 59.1	-11
YAK				pmax	pmax			
	comp=Z,17nm,0.7s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.0s							
YAK	**Yakutsk**	**25.06**	**346**	*e*P	P	**P**	**02 24 09.6**	**-0.7**
	comp=E,33nm,0.8s							
SEY	**Seymchan**	**25.50**	**11**	P	P	**P**	**02 24 15.9**	**+1.7**
	comp=E,2.4nm,0.5s,baz=133,slow=7.3,SNR=6.1							
SEY	**Seymchan**	**25.50**	**11**	*e*P	P	**P**	**02 24 16.3**	**+2.1**
BOD	**Bodaibo**	**26.89**	**326**	*e*P	P	**P**	**02 24 26.5**	**-0.4**
BOD				pmax	pmax			
	comp=Z,8.0nm,0.8s							
XAN	**Xi'an**	**27.15**	**271**	P	P	**P**	**02 24 28.8**	**-0.7**
XAN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,70nm,7.5s							
ULN	**Ulaanbaatar**	**27.26**	**302⇑**	*i*P	P	**P**	**02 24 30.4**	**-0.1**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SONA1	**Songino Array**	**27.69**	**302**	*e*P	P	**P**	**02 24 34.2**	**-0.1**
SONA0	**Songino Array**	**27.69**	**302**	*e*P	P	**P**	**02 24 34.1**	**-0.3**
	comp=Z,3.2nm,0.8s							
SONA0				*e*PcP	PcP	**PcP**	**02 27 49.9**	**-0.8**
SONM	**Songino Array**	**27.69**	**302**	P	P	**P**	**02 24 34.1**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=113,slow=9.2,SNR=10							
SONM				PcP	PcP	**PcP**	**02 27 49.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=104,slow=5.2,SNR=3.3							
SONM				LR	LR		02 36 04.4	
	comp=Z,129nm,18.3s,baz=102,slow=37							
ENH	**Enshi**	**28.11**	**264**	*e*P	P	**P**	**02 24 38.2**	**+0.1**
	comp=Z,32nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.23**	**124**	T	T		02 54 30.1	
	baz=316,slow=75,SNR=1049							
H11N1	**WAKE ISLAND Hy**	**28.23**	**124**	T	T		02 54 49.7	
	baz=316,slow=75,SNR=739							
H11N3	**WAKE ISLAND Hy**	**28.24**	**124**	T	T		02 54 30.6	
	baz=316,slow=75,SNR=1135							
H11S1	**WAKE ISLAND Hy**	**28.99**	**126**	T	T		02 55 51.9	
	baz=318,slow=76,SNR=528							
H11S3	**WAKE ISLAND Hy**	**28.99**	**126**	T	T		02 55 52.1	
	baz=318,slow=76,SNR=514							
H11S2	**WAKE ISLAND Hy**	**29.00**	**126**	T	T		02 55 22.0	
	baz=318,slow=76,SNR=448							
ZAK	**Zakamensk**	**30.07**	**307**	*e*P	P	**P**	**02 24 54.7**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BILL	**Bilibino**	**32.70**	**16**	*e*P	P	**P**	**02 25 17.4**	**-0.8**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA	**Gaotai**	**32.86**	**286**	*e*P	P	**P**	**02 25 19.8**	**-0.3**
GTA				pP	pP		02 25 29.3	+1.0
GTA				sP	sP		02 25 33.3	+1.6
GTA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
TIXI	**Tiksi**	**34.19**	**353**	P	P	**P**	**02 25 30.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=117,slow=3.3,SNR=3.8							
TIXI	**Tiksi**	**34.19**	**353**	*e*P	P	**P**	**02 25 32.9**	**+1.8**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DGZ	**Jazzator, Alta**	**40.24**	**305**	*e*P	P	**P**	**02 26 21.9**	**-1.0**
ZAA0	**Zalesovo Array**	**41.61**	**311**	*e*P	P	**P**	**02 26 34.2**	**+0.3**
ZAA1	**Zalesovo Array**	**41.61**	**311**	*e*P	P	**P**	**02 26 34.0**	**0.0**
ZAA1				*e*PcP	PcP	**PcP**	**02 28 30.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.61**	**311**	P	P	**P**	**02 26 34.0**	**0.0**
	comp=Z,4.3nm,0.5s,baz=87,slow=7.1,SNR=19							
ZALV				PcP	PcP	**PcP**	**02 28 30.5**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=88,slow=1.5,SNR=5.2							
ZALV				LR	LR		02 44 00.0	
	comp=Z,49nm,21.5s,baz=70,slow=36							
ZALV	**Zalesovo Beam**	**41.61**	**311**	*e*P	P	**P**	**02 26 33.1**	**-0.9**
ZALV				*e*PcP	PcP	**PcP**	**02 28 30.5**	**-0.1**
CM31	**Chiang Mai Arr**	**42.44**	**255**	*e*P	P	**P**	**02 26 41.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**42.44**	**255**	P	P	**P**	**02 26 41.8**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=42,slow=5.7,SNR=6.6							
CM01	**Chiang Mai Arr**	**42.45**	**255**	*e*P	P	**P**	**02 26 39.7**	**-1.6**
NRIK	**Noril'sk**	**42.47**	**335**	LR	LR		02 45 20.7	
	comp=Z,151nm,18.5s,baz=126,slow=38							
NVS	**Novosibirsk**	**42.50**	**313**	*e*P	P	**P**	**02 26 40.7**	**-0.5**
CHGN	**Chignik**	**42.65**	**45**	*e*P	P	**P**	**02 26 43.0**	**+0.7**
	comp=Z,102nm,2.0s							
MK01	**Makanchi Array**	**44.05**	**301**	*e*P	P	**P**	**02 26 53.8**	**-0.1**
MK31	**Makanchi Array**	**44.05**	**301**	*i* P	P	**P**	**02 26 53.3**	**-0.6**
MK31				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MK31	**Makanchi Array**	**44.05**	**301**	*e*P	P	**P**	**02 26 54.2**	**+0.3**
MK32	**Makanchi Array**	**44.05**	**301**	*e*P	P	**P**	**02 26 54.0**	**0.0**
MKAR	**Makanchi Array**	**44.05**	**301**	P	P	**P**	**02 26 54.0**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=86,slow=9.5,SNR=19							
MKAR	**Makanchi Array**	**44.05**	**301**	P	P	**P**	**02 26 54.0**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**44.05**	**301**	*e*P	P	**P**	**02 26 54.2**	**+0.3**
	comp=Z,45nm,0.9s							
TT01	**Tatalina**	**44.06**	**35**	*e*P	P	**P**	**02 26 55.3**	**+1.6**
MAKZ	**Makanchi**	**44.26**	**301**	*e*P	P	**P**	**02 26 55.7**	**+0.1**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MAKZ	**Makanchi**	**44.26**	**301**	*e*P	P	**P**	**02 26 55.7**	**+0.1**
	comp=Z,5.5nm,0.8s							
KURK	**Kurchatov**	**45.73**	**307**	*d i*P	P	**P**	**02 27 06.5**	**-0.6**
KURK				pmax	pmax			
	comp=Z,82nm,0.7s							
KURK	**Kurchatov**	**45.73**	**307**	*e*P	P	**P**	**02 27 07.0**	**-0.1**
	comp=Z,24nm,0.8s							
KDAK	**Kodiak Island**	**45.77**	**43**	*e*P	P	**P**	**02 27 08.2**	**+0.9**
KDAK				pmax	pmax			
	comp=Z,162nm,1.9s							
KDAK	**Kodiak Island**	**45.77**	**43**	*e*P	P	**P**	**02 27 08.2**	**+0.9**
	comp=Z,162nm,1.9s							
CAST	**Castle Rocks**	**45.87**	**35**	*e*P	P	**P**	**02 27 10.1**	**+2.0**
	comp=Z,8.1nm,0.4s							
BPAW	**Bear Paw Mtn.**	**46.37**	**34**	*e*P	P	**P**	**02 27 15.0**	**+3.0**
	comp=Z,18nm,1.8s							
TAPN	**Taplejung**	**46.52**	**273**	*e*P	P	**P**	**02 27 14.6**	**+0.5**
	comp=Z,16nm,0.8s							
COLD	**Coldfoot**	**46.79**	**30**	*e*P	P	**P**	**02 27 17.0**	**+1.7**
	comp=Z,5.2nm,1.1s							
PDGK	**Podgornoye**	**46.81**	**297**	P	P	**P**	**02 27 14.7**	**-1.2**
PDGK				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ODAN	**Odare**	**47.01**	**273**	*e*P	P	**P**	**02 27 18.1**	**+0.3**
MDM	**Murphy Dome**	**47.55**	**33**	*e*P	P	**P**	**02 27 23.1**	**+1.9**
	comp=Z,5.5nm,1.0s							
JIRN	**Jiri**	**47.57**	**275**	*e*P	P	**P**	**02 27 22.8**	**+0.5**
RAMN	**Ramite**	**47.58**	**273**	*e*P	P	**P**	**02 27 22.6**	**+0.3**
	comp=Z,78nm,0.9s							
SML	**Sawmill**	**47.64**	**37**	*e*P	P	**P**	**02 27 22.0**	**0.0**
SML				pmax	pmax			
	comp=Z,53nm,1.9s							
SML	**Sawmill**	**47.64**	**37**	*e*P	P	**P**	**02 27 22.0**	**0.0**
	comp=Z,53nm,1.9s							
GUN	**Gumba**	**47.70**	**275**	*e*P	P	**P**	**02 27 23.7**	**+0.4**
	comp=Z,62nm,0.8s							
DHY	**Denali Highway**	**48.01**	**35**	*e*P	P	**P**	**02 27 26.1**	**+1.1**
	comp=Z,26nm,1.8s							
SCM	**Sheep Creek Mo**	**48.12**	**37**	*e*P	P	**P**	**02 27 27.1**	**+1.4**
SCM				pmax	pmax			
	comp=Z,43nm,1.6s							
SCM	**Sheep Creek Mo**	**48.12**	**37**	*e*P	P	**P**	**02 27 27.1**	**+1.4**
	comp=Z,43nm,1.6s							
IL1	**Eielson Array**	**48.13**	**33**	*e*P	P	**P**	**02 27 26.1**	**+0.4**
ILAR	**Eielson Array**	**48.13**	**33**	P	P	**P**	**02 27 26.6**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=267,slow=6.4,SNR=38							
ILAR				PcP	PcP	**PcP**	**02 28 51.5**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=281,slow=5.6,SNR=3.0							
ILB	**Eielson Array**	**48.13**	**33**	*e*P	P	**P**	**02 27 26.6**	**+0.9**
ILB				*e*PcP	PcP	**PcP**	**02 28 51.5**	**-1.4**
KKN	**Kakani**	**48.23**	**275**	*e*P	P	**P**	**02 27 27.5**	**+0.3**
	comp=Z,59nm,0.8s							
PKIN	**Phulchoki**	**48.23**	**275**	*e*P	P	**P**	**02 27 27.2**	**-0.1**
	comp=Z,16nm,0.6s							
DMN	**Daman**	**48.45**	**275**	*e*P	P	**P**	**02 27 29.2**	**+0.2**
GKN	**Gorkha**	**48.63**	**276**	*e*P	P	**P**	**02 27 30.5**	**+0.2**
	comp=Z,72nm,0.9s							
DANN	**Dangsing**	**49.16**	**277**	*e*P	P	**P**	**02 27 35.4**	**+0.9**
	comp=Z,8.0nm,0.9s							
KOLN	**Koldanda**	**49.55**	**276**	*e*P	P	**P**	**02 27 37.7**	**+0.3**
	comp=Z,13nm,0.5s							
MENT	**Mentasta**	**49.68**	**35**	*e*P	P	**P**	**02 27 39.5**	**+1.8**
	comp=Z,5.5nm,1.1s							
PYUN	**Piuthan**	**49.88**	**277**	*e*P	P	**P**	**02 27 40.3**	**+0.4**
	comp=Z,98nm,1.0s							
BRVK	**Borovoye**	**50.32**	**312**	*i* P	P	**P**	**02 27 41.6**	**-1.0**
BRVK				pmax	pmax			
	comp=Z,15nm,0.8s							
BRVK	**Borovoye**	**50.32**	**312**	*e*P	P	**P**	**02 27 43.0**	**+0.4**
	comp=Z,6.5nm,0.9s							
AAK	**Ala-Archa**	**50.51**	**298**	*e*P	P	**P**	**02 27 42.9**	**-1.5**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	**50.51**	**298**	*e*P	P	**P**	**02 27 44.9**	**+0.4**
	comp=Z,3.0nm,0.9s							
KSH	**Kashi**	**50.53**	**293**	P	P	**P**	**02 27 48.8**	**+4.2**
KSH				pP	sP		02 27 55.3	-1.0
KSH				sP	pP		02 27 57.8	+4.8
KSH				PcP	PcP	**PcP**	**02 29 05.5**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
	comp=Z,24nm,0.9s						
AS31	**Alice Springs**	**62.06**	**189**	*e*P	**P**	**02 29 06.8**	**+0.2**
	comp=Z,9.9nm,2.0s						
ASAR	**Alice Springs**	**62.06**	**189**	P	**P**	**02 29 06.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=14,slow=6.4,SNR=9.0						
KLMR	**Klimovskoe**	**63.10**	**328**	*e*P	**P**	**02 29 11.3**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,12nm,1.0s						
ARA0	**ARCESS Array S**	**63.11**	**339**	*e*P	**P**	**02 29 13.6**	**+0.4**
ARCES	**ARCESS Array B**	**63.11**	**339**	P	**P**	**02 29 13.6**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=31,slow=7.7,SNR=4.6						
GEYT	**Alibeck**	**63.84**	**299**	P	**P**	**02 29 18.7**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=33,slow=3.5,SNR=9.3						
DAG	**Danmarks Havn**	**64.64**	**355**	*i* P	**P**	**02 29 22.4**	**-0.7**
	comp=Z,8.4nm,1.1s						
DAG				*i*		02 29 34.8	
DAG	**Danmarks Havn**	**64.64**	**355**	*i* P	**P**	**02 29 22.4**	**-0.7**
DAG				*i*		02 29 34.8	
DAG				pmax	pmax		
	comp=Z,11nm,1.1s						
LLLB	**Lilloet**	**64.94**	**44**	*e*P	**P**	**02 29 27.2**	**+1.7**
	comp=Z,7.2nm,1.1s						
OBN	**Obninsk**	**67.54**	**323**	*i* P	**P**	**02 29 41.9**	**-0.1**
OBN				*i*		02 30 05.7	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FIA0	**FINESS Array S**	**68.07**	**332**	*e*P	**P**	**02 29 45.2**	**0.0**
FIA0	**FINESS Array S**	**68.07**	**332**	*e*P	**P**	**02 29 45.2**	**0.0**
FINES	**FINESS Array B**	**68.07**	**332**	P	**P**	**02 29 45.2**	**0.0**
	comp=Z,12nm,0.7s,baz=34,slow=7.8,SNR=20						
C09A	**Chrisman Ranch**	**68.43**	**46**	*e*P	**P**	**02 29 49.5**	**+1.7**
	comp=Z,4.2nm,0.8s						
SUMG	**Summit**	**69.49**	**0**	*i* P	**P**	**02 29 54.6**	**+0.1**
	comp=Z,5.7nm,0.7s						
SUMG				*e*		02 30 07.0	
SUMG	**Summit**	**69.49**	**0**	*i* P	**P**	**02 29 54.6**	**+0.1**
SUMG				*e*		02 30 07.0	
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIV	**Kislovodsk**	**70.62**	**311**	*e*P	**P**	**02 30 00.6**	**-0.9**
KIV				pmax	pmax		
	comp=Z,31nm,1.1s						
KIV	**Kislovodsk**	**70.62**	**311**	*e*P	**P**	**02 30 01.8**	**+0.2**
	comp=Z,28nm,1.0s						
KBZ	**Khabaz**	**70.63**	**311**	P	**P**	**02 30 00.9**	**-0.5**
	comp=Z,7.3nm,0.9s,baz=38,slow=2.7,SNR=8.2						
BEKR	**Beckworth**	**71.61**	**54**	*e*P	**P**	**02 30 09.2**	**+1.4**
BEKR				*ep*P	**sP**	**02 30 21.0**	**+1.3**
NB2	**NORSAR Subarra**	**73.34**	**337**	P	**P**	**02 30 17.4**	**0.0**
	comp=Z,2.4nm,0.6s,baz=36,slow=6.2						
NB200	**NORSAR Array S**	**73.34**	**337**	*e*P	**P**	**02 30 17.7**	**+0.3**
NOA	**NORSAR Array B**	**73.34**	**337**	P	**P**	**02 30 17.7**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=38,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**73.76**	**322**	P	**P**	**02 30 19.8**	**-0.2**
	comp=Z,6.9nm,0.8s,baz=46,slow=6.1,SNR=15						
AKASG	**Malin Array Be**	**73.76**	**322**	*ce*P	**P**	**02 30 19.7**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**73.76**	**322**	*e*P	**P**	**02 30 19.8**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKBB	**Malin Array Si**	**73.76**	**322**	*e*P	**P**	**02 30 19.8**	**-0.2**
	comp=Z,10nm,0.9s						
KIEV	**Kiev**	**73.77**	**322**	*e*P	**P**	**02 30 18.9**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIEV	**Kiev**	**73.77**	**322**	*e*P	**P**	**02 30 19.0**	**-1.1**
	comp=Z,11nm,0.9s						
AK11	**Malin Array Si**	**73.80**	**322**	*e*P	**P**	**02 30 20.2**	**0.0**
H17A	**Grant Village**	**74.76**	**45**	*e*P	**P**	**02 30 29.8**	**+3.5**
	comp=Z,5.7nm,1.1s						
IMW	**Indian Meadow**	**74.87**	**46**	*e*P	**P**	**02 30 29.4**	**+2.4**
	comp=Z,3.6nm,0.9s						
FXWY	**Fox Creek**	**74.98**	**46**	*e*P	**P**	**02 30 29.7**	**+2.2**
	comp=Z,3.1nm,1.0s						
FXWY				*ep*P	**sP**	**02 30 40.3**	**+0.7**
HVU	**Hansel Valley**	**75.12**	**48**	*e*P	**P**	**02 30 30.4**	**+2.1**
HVU				*e**PP	**PcP**	**02 30 41.8**	**0.0**
HVU	**Hansel Valley**	**75.12**	**48**	*e*P	**P**	**02 30 30.4**	**+2.1**
HVU				*ep*P	**PcP**	**02 30 41.8**	**0.0**
LAO	**LASA Array**	**75.64**	**41**	*e*P	**P**	**02 30 32.8**	**+1.7**
	comp=Z,11nm,1.1s						
LAO				*ep*P	**PcP**	**02 30 43.7**	**-0.1**
SORM	**Soroca**	**75.89**	**321**	⇑*i*P	**P**	**02 30 31.1**	**-1.2**
SORM	**Soroca**	**75.89**	**321**	⇑P	**P**	**02 30 31.2**	**-1.1**
HWUT	**Hardware Ranch**	**75.94**	**48**	*e*P	**P**	**02 30 35.0**	**+1.9**
	comp=Z,6.5nm,1.3s						
HWUT				*e*PcP	**PcP**	**02 30 49.1**	**+3.7**
TPNV	**Topopah Spring**	**75.94**	**54**	*e*P	**P**	**02 30 34.7**	**+1.6**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TPNV	**Topopah Spring**	**75.94**	**54**	*e*P	**P**	**02 30 34.6**	**+1.6**
	comp=Z,2.8nm,0.8s						
DUG	**Dugway, Tooele**	**76.08**	**50**	*e*P	**P**	**02 30 35.4**	**+1.6**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway, Tooele**	**76.08**	**50**	*e*P	**P**	**02 30 35.4**	**+1.6**
	comp=Z,3.0nm,1.0s						
PD31	**Pinedale Array**	**76.36**	**46**	*e*P	**P**	**02 30 36.3**	**+0.8**
PD31				*ep*P	**sP**	**02 30 47.7**	**+0.2**
PDAR	**Pinedale Array**	**76.36**	**46**	P	**P**	**02 30 36.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=268,slow=2.8,SNR=15						
PDAR	**Pinedale Array**	**76.36**	**46**	*e*P	**P**	**02 30 35.8**	**+0.4**
SHPR	**Sheep Range**	**76.90**	**54**	*e*P	**P**	**02 30 40.8**	**+2.3**
	comp=Z,2.0nm,0.9s						
BUR08	**Bucovina Ar. S**	**77.77**	**322**	*e*P	**P**	**02 30 43.9**	**+0.7**
BURAR	**Bucovina Array**	**77.78**	**322**	⇑*i*P	**P**	**02 30 43.8**	**+0.6**
BURAR	**Bucovina Array**	**77.78**	**322**	⇑P	**P**	**02 30 43.9**	**+0.7**
LCMT	**Little Creek M**	**77.80**	**52**	*e*P	**P**	**02 30 45.5**	**+2.0**
	comp=Z,2.6nm,1.0s						
MTPU	**Mount Pierson**	**77.81**	**51**	*e*P	**P**	**02 30 44.5**	**+0.7**
	comp=Z,2.2nm,0.9s						
TESR	**Tescani**	**77.84**	**320**	⇓*i*P	**P**	**02 30 43.8**	**+0.4**
BR101	**Keskin Array S**	**78.55**	**312**	*e*P	**P**	**02 30 48.0**	**+0.4**
BRTR	**Keskin Array B**	**78.55**	**312**	P	**P**	**02 30 48.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=119,slow=3.5,SNR=6.7						
U15A	**North Rim**	**78.76**	**52**	*e*P	**P**	**02 30 51.1**	**+2.1**
	comp=Z,3.2nm,1.1s						
GLA	**Glamis**	**79.25**	**56**	*e*P	**P**	**02 30 53.7**	**+2.2**
GLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GLA	**Glamis**	**79.25**	**56**	*e*P	**P**	**02 30 53.7**	**+2.2**
	comp=Z,6.3nm,0.8s						
VOIR		**79.39**	**320**	⇓*i*P	**P**	**02 30 53.1**	**+1.0**
VOIR		**79.39**	**320**	⇓P	**P**	**02 30 53.1**	**+1.0**
ARR	**Arges**	**79.64**	**321**	⇑*i*P	**P**	**02 30 54.8**	**+1.4**
MORC	**Moravsky Berou**	**79.72**	**327**	⇓*i*P	**P**	**02 30 54.3**	**+0.6**
MORC	**Moravsky Berou**	**79.72**	**327**	⇓P	**P**	**02 30 54.4**	**+0.7**
MORC	**Moravsky Berou**	**79.72**	**327**	*e*P	**P**	**02 30 54.0**	**+0.3**
	comp=Z,28nm,1.1s						
DPC	**Dobruska-Polom**	**79.80**	**328**	*e*P	**P**	**02 30 55.3**	**+1.2**
DPC				*ep*P	**sP**	**02 31 06.8**	**+0.6**
DPC	**Dobruska-Polom**	**79.80**	**328**	*e*P	**P**	**02 30 55.3**	**+1.2**
DPC				*e*		02 31 06.8	
Y14A	**Wickenburg**	**79.88**	**55**	*e*P	**P**	**02 30 56.9**	**+2.0**
	comp=Z,12nm,0.7s						
PSZ	**Piszkesteto**	**80.07**	**325**	⇑*i*P	**P**	**02 30 56.8**	**+1.1**
PSZ	**Piszkesteto**	**80.07**	**325**	⇑P	**P**	**02 30 56.8**	**+1.1**
VYHS	**Vyhne**	**80.12**	**326**	*e*P	**P**	**02 30 56.8**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.4s						
VYHS	**Vyhne**	**80.12**	**326**	*e*P	**P**	**02 30 56.8**	**+0.9**
CLL	**Collm**	**80.39**	**330**	*i* P	**P**	**02 30 57.6**	**+0.4**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**80.39**	**330**	*i* P	**P**	**02 30 57.6**	**+0.4**
	comp=Z,10.0nm,1.2s						
GZR	**Gura Zlata**	**80.55**	**322**	⇓*i*P	**P**	02 30 48.8	-10
GZR	**Gura Zlata**	**80.55**	**322**	⇓P	P	02 30 48.8	-10
X16A	**Lo Mia Camp, P**	**80.57**	**54**	*e*P	**P**	**02 31 00.9**	**+2.1**
	comp=Z,2.6nm,0.9s						
RAYN	**Ar Rayn**	**80.81**	**293**	*e*P	**P**	**02 31 00.3**	**+0.2**
	comp=Z,8.2nm,1.4s						
BZS	**Buzias**	**80.95**	**322**	⇓*i*P	**P**	**02 31 00.3**	**-0.1**
BZS	**Buzias**	**80.95**	**322**	⇓P	**P**	**02 31 00.3**	**-0.1**
TREC	**Trest**	**80.95**	**328**	*e*P	**P**	**02 31 01.4**	**+1.0**
TREC				*ep*P	**sP**	**02 31 12.3**	**-0.2**
TREC	**Trest**	**80.95**	**328**	*e*P	**P**	**02 31 01.4**	**+1.0**
TREC				*e*		02 31 12.3	
MDVR	**Moldovita**	**81.51**	**322**	⇑*i*P	**P**	**02 31 03.7**	**+0.3**
CONA	**Conrad Observa**	**81.84**	**327**	*i* P	**P**	**02 31 02.2**	**-2.9**
	comp=Z,8.9nm,1.6s						
KHC	**Kasperske Hory**	**81.87**	**329**	*e*P	**P**	**02 31 05.9**	**+0.7**
KHC				*ep*P	**sP**	**02 31 17.2**	**-0.1**
KHC	**Kasperske Hory**	**81.87**	**329**	*e*P	**P**	**02 31 05.9**	**+0.7**
KHC				*e*		02 31 17.2	
KHC				*e*		02 31 20.0	
KHC	**Kasperske Hory**	**81.87**	**329**	*e*P	**P**	**02 31 06.0**	**+0.7**
	comp=Z,2.1nm,1.0s						
GEC2	**GERESS Array S**	**82.04**	**329**	*e*P	**P**	**02 31 06.2**	**0.0**
GEC2				pmax	pmax		
	comp=Z,20nm,1.9s						
GEC2	**GERESS Array S**	**82.04**	**329**	*e*P	**P**	**02 31 06.2**	**0.0**
	comp=Z,20nm,1.9s						
GERES	**GERESS Array B**	**82.04**	**329**	P	**P**	**02 31 06.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=45,slow=4.5,SNR=8.4						
VTS	**Vitosha**	**82.34**	**319**	⇑*i*P	**P**	**02 31 08.8**	**+0.8**
VTS	**Vitosha**	**82.34**	**319**	⇑P	**P**	**02 31 08.8**	**+0.8**
VTS	**Vitosha**	**82.34**	**319**	*e*P	**P**	**02 31 08.9**	**+0.9**
	comp=Z,4.6nm,0.8s						
MOA	**Molln**	**82.59**	**328**	*i* P	**P**	**02 31 08.8**	**-0.2**
	comp=Z,7.5nm,1.6s						
SOKA	**Soboth**	**83.17**	**326**	*i* P	**P**	**02 31 12.1**	**0.0**
	comp=Z,5.3nm,0.8s						
ANMO	**Albuquerque**	**83.32**	**50**	*i* P	**P**	**02 31 14.4**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ANMO	**Albuquerque**	**83.32**	**50**	*e*P	**P**	**02 31 15.7**	**+2.4**
	comp=Z,4.4nm,1.3s						
KBA	**Koelnbreinsper**	**83.58**	**328**	*i* PcP	**P**	**02 31 15.3**	**+1.0**
	comp=Z,4.5nm,0.8s						
MYKA	**Terra Mystica**	**83.81**	**327**	*i* P	**P**	**02 31 15.0**	**-0.3**
	comp=Z,2.8nm,0.6s						
WATA	**Walderalm**	**84.11**	**329**	*i* PcP	**PcP**	**02 31 19.2**	**-1.7**
	comp=Z,1.7nm,0.4s						
ABTA	**Abfaltersbach**	**84.19**	**328**	*i* P	**P**	**02 31 14.1**	**-3.3**
	comp=Z,6.0nm,1.6s						
MOTA	**Moosalm**	**84.29**	**329**	*i* P	**P**	**02 31 17.9**	**0.0**
	comp=Z,2.1nm,0.8s						
RETA	**Reutte**	**84.32**	**329**	*i* P	**P**	**02 31 18.2**	**+0.2**
	comp=Z,7.6nm,1.4s						
PDG	**Podgorica**	**84.45**	**321**	⇑*i*P	**P**	**02 31 18.9**	**+0.3**
BFO	**Black Forest**	**84.58**	**331**	*i* P	**P**	**02 31 20.7**	**+1.5**
FETA	**Feichten**	**84.71**	**329**	*i* P	**P**	**02 31 19.8**	**-0.3**
	comp=Z,4.7nm,1.0s						
DAVA	**Damuels**	**84.83**	**330**	*i* P	**P**	**02 31 20.8**	**+0.2**
	comp=Z,10nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**85.22**	**329**	*e*P	**P**	**02 31 23.4**	**+0.7**
	comp=Z,6.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**88.87**	**53**	*e*P	**P**	**02 31 41.6**	**+1.0**
LTX	**Lajitas**	**88.87**	**53**	*e*P	**P**	**02 31 41.0**	**+0.4**
LTX	**Lajitas**	**88.87**	**53**	*e*P	**P**	**02 31 41.0**	**+0.4**
TXAR	**Lajitas Array**	**88.87**	**53**	P	**P**	**02 31 41.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=286,slow=3.6,SNR=10						
TXAR	**Lajitas Array**	**88.87**	**53**	P	**P**	**02 31 41.0**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**142.08**	**197**	PKP	**PKPdf**	**02 38 12.0**	**-4.9**
VNA2	**Neumayer--Watz**	**143.65**	**196**	PKP	PKPab	02 38 16.6	+0.2
	baz=126,slow=2.3						
VNA3	**Neumayer Olymp**	**143.89**	**195**	PKP	PKPab	02 38 17.2	-0.1
VNA1	**Neumayer--Stat**	**144.04**	**196**	PKP	PKPbc	02 38 19.3	+1.0
LPAZ	**La Paz**	**145.52**	**59**	PKPbc	**PKPab**	**02 38 26.0**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=343,slow=3.5,SNR=18						

IDC ***19*** *02:26:44.6±0.8, 6°.78S×150°.55E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/34, mbtmp4.1/9, MS3.5/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=30.4km s-min=18.5km az=106.0*

ISCJB ***19*** *02:26:47.3±0.6, 6°.83S±0°.08×150°.5E±0°.1, h26km, mb4.2/12, MS3.4/5, Error ellipse: s-maj=17.2km s-min=7.6km az=34.0*

NEIC ***19*** *02:26:50.7±1.2, 6°.84S×150°.55E, h41km±11km, mb4.2/8, Error ellipse: s-maj=16.0km s-min=7.6km az=121.0*

ISC 19 02:26:48.7±0.7, 6°.8S±0°.1×150°.6E±0°.1, h26km, n34, σ1 9 06/36, mb4.1/12, MS3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.02**	**31**	*e*Pn	**Pn**	**02 27 35.9**	**+0.9**
PMG	**Port Moresby**	**4.28**	**233**	Pn	**Pn**	**02 27 54.4**	**+2.1**
	5.0nm,0.3s,baz=44,slow=9.0,SNR=13						
PMG				Sn	**Sn**	**02 28 41.5**	**+0.1**
	15nm,0.3s,baz=96,slow=17,SNR=12						
PMG	**Port Moresby**	**4.28**	**233**	*e*Pn	**Pn**	**02 27 54.7**	**+2.4**
PMG				*e*Sn	**Sn**	**02 28 39.9**	**-1.6**
MTN	**Manton Dam**	**20.10**	**251**	*e*P	**P**	**02 31 19.6**	**-1.0**
	19nm,1.0s						
WB2	**Warramunga Arr**	**20.48**	**229**	*e*P	**P**	**02 31 23.8**	**-1.1**
	15nm,0.9s						
WR1	**Warramunga Arr**	**20.49**	**229**	*e*P	**P**	**02 31 24.6**	**-0.3**
	16nm,0.9s						
WRA	**Warramunga Arr**	**20.49**	**229**	P	**P**	**02 31 24.6**	**-0.3**
	9.5nm,0.8s,baz=52,slow=10,SNR=20						
DZM	**Mont Dzumac**	**21.54**	**136**	LR	LR	02 38 01.6	
	comp=Z,158nm,18.1s,baz=50,slow=31						
AS01	**Alice Springs**	**23.18**	**222**	*e*P	**P**	**02 31 52.2**	**-1.4**
AS31	**Alice Springs**	**23.21**	**222**	*e*P	**P**	**02 31 54.7**	**+0.8**
	3.2nm,1.2s						
AS31				*e*S	**S**	**02 36 04.1**	**-0.3**
ASAR	**Alice Springs**	**23.21**	**222**	P	**P**	**02 31 53.0**	**-0.9**
	4.0nm,0.7s,baz=54,slow=8.8,SNR=19						
ASAR				S	**S**	**02 36 04.1**	**-0.4**
	1.0nm,0.9s,baz=41,slow=20,SNR=5.0						
ASAR				LR	LR	02 40 28.9	
	comp=Z,76nm,18.4s,baz=52,slow=36						
ARMA	**Armidale**	**23.51**	**178**	*e*P	**P**	**02 31 55.8**	**-1.1**
	12nm,0.9s						
STKA	**Stephens Creek**	**26.33**	**197**	P	**P**	**02 32 22.4**	**-0.2**
	3.7nm,0.8s,baz=345,slow=9.7,SNR=6.0						
STKA				LR	LR	02 41 38.2	
	comp=Z,96nm,20.4s,baz=25,slow=34						
STKA	**Stephens Creek**	**26.33**	**197**	*e*P	**P**	**02 32 22.4**	**-0.2**
	3.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**26.80**	**243**	P	**P**	**02 32 25.8**	**-1.2**
	4.9nm,0.5s,baz=65,slow=7.9,SNR=27						
FITZ				LR	LR	02 44 33.8	
	comp=Z,80nm,18.1s,baz=49,slow=40						
FITZ	**Fitzroy Crossi**	**26.80**	**243**	*e*P	**P**	**02 32 26.6**	**-0.4**
FORT	**Forrest**	**31.87**	**219**	*e*P	**P**	**02 33 11.3**	**-0.6**
	249nm,1.1s						
PETK	**Petropavlovsk-**	**59.99**	**5**	LR	LR	02 57 07.3	
	comp=Z,35nm,21.5s,baz=116,slow=30						
SONA0	**Songino Array**	**66.88**	**329**	*e*P	**P**	**02 37 38.6**	**-0.2**
	14nm,2.0s						
SONM	**Songino Array**	**66.88**	**329**	P	**P**	**02 37 38.6**	**-0.2**
	1.0nm,0.9s,baz=142,slow=4.9,SNR=3.8						
VNDA	**Vanda**	**70.93**	**177**	P	**P**	**02 38 03.8**	**+0.5**
	1.0nm,0.7s,baz=328,slow=6.9,SNR=6.3						
MK32	**Makanchi Array**	**80.41**	**320**	*e*P	**P**	**02 38 58.8**	**+0.6**
MKAR	**Makanchi Array**	**80.41**	**320**	P	**P**	**02 38 58.8**	**+0.6**
	0.1nm,0.3s,baz=116,slow=6.6,SNR=3.1						
MAW	**Mawson**	**82.89**	**203**	P	**P**	**02 39 11.1**	**+0.3**
	1.9nm,0.9s,baz=80,slow=7.9,SNR=3.6						
KURK	**Kurchatov**	**84.01**	**323**	*e*P	**P**	**02 39 16.8**	**0.0**
KURBB	**Kurchatov Arra**	**84.03**	**322**	P	**P**	**02 39 16.8**	**-0.1**
	baz=98,slow=3.2						
ILAR	**Eielson Array**	**84.83**	**22**	P	**P**	**02 39 20.3**	**-0.4**
	2.1nm,0.8s,baz=255,slow=5.2,SNR=18						
ILB	**Eielson Array**	**84.83**	**22**	*e*P	**P**	**02 39 23.4**	**+2.7**
PTGA	**Pitinga**	**148.59**	**103**	PKPbc	**PKPbc**	**02 46 34.0**	**-0.5**
	2.3nm,0.7s,baz=75,slow=6.1,SNR=5.3						
PTGA	**Pitinga**	**148.59**	**103**	*e*PKPbc	**PKPbc**	**02 46 35.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**148.76**	**284**	PKPbc	**PKPbc**	**02 46 34.5**	**-0.4**
	2.9nm,0.8s,baz=42,slow=2.4,SNR=18						
TOA1	**Torodi Ar. Sit**	**148.76**	**284**	*e*PKPbc	**PKPbc**	**02 46 34.5**	**-0.4**
BDFB	**Brasilia**	**151.06**	**141**	PKPbc	**PKPbc**	**02 46 40.8**	**+0.2**
	1.1nm,0.8s,baz=270,slow=1.0,SNR=3.5						
DBIC	**Dimbokro**	**155.63**	**271**	PKPab	**PKPab**	**02 47 05.4**	**-2.1**
	2.5nm,0.8s,baz=94,slow=8.9,SNR=3.3						

NIED ***19*** *02:36:00, 32°.70N×131°.30E, h83km, Mw4.3 Best double couple: M0=3.07000×10^15 NP1:φs=264.00000°, δ49.00000°, λ0.00000°. NP2:φs=354.00000°, δ90.00000°, λ-139.00000°.*

BJI ***19*** *02:36:43.3, 31°.70N×131°.10E, h30km, mb4.6/28, mB4.6/21, Ms4.6/10, Ms7 4.5/7*

ISCJB ***19*** *02:36:52.5±0.3, 32°.60N±0°.03×131°.33E±0°.03, h97km±2km, mb4.5/37, Error ellipse: s-maj=5.2km s-min=4.6km az=139.2*

IDC ***19*** *02:36:53.5±0.5, 32°.64N×131°.23E, h89km±3km, mb3.8/15, mb1 4.0/19, mb1mx3.8/46, mbtmp4.2/19, MS3.5/1, Ms1 3.5/1, ms1mx2.6/41, Error ellipse: s-maj=14.8km s-min=9.6km az=63.0*

NEIC ***19*** *02:36:53.5±0.4, 32°.56N×131°.22E, h89km±4km, mb4.9/15, Error ellipse: s-maj=5.0km s-min=4.3km az=114.0*

NEIC Recorded [2 JMA] in Miyazaki and Oita.

JMA ***19*** *02:36:54.4, 32°.69N×131°.29E, h89km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=161.00000°, δ83.00000°, λ146.00000°. NP2: φs=256.00000°, δ57.00000°, λ8.00000°. Principal axes: T Plg28.0000°, Azm113.0000°; N Plg56.0000°, Azm332.0000°; P Plg18.0000°, Azm213.0000°;*

JMA Felt II J1.

ISC 19 02:36:53.5±0.5, 32°.59N±0°.04×131°.38E±0°.03, h91km±3km, h91km: pP-P, n81, σ1 9 91/113, mb4.3/37, 3C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKIT	**Kitakata**	**0.07**	**62**	⇓P	**Pn**	**02 37 07.3**	**+1.1**
JKIT				S	**Sn**	**02 37 16.6**	**+0.9**
JIU2	**Izumi 2**	**0.48**	**265**	⇑P	**Pn**	**02 37 08.6**	**+0.5**
JIU2				S	**Sn**	**02 37 19.1**	**0.0**
JNU	**Nakatsue**	**0.68**	**321**	P	**Pn**	**02 37 09.8**	**-0.1**
	738nm,0.3s,baz=120,slow=0.4,SNR=2558						
JNU				S	**Sn**	**02 37 21.6**	**-0.5**
	744nm,0.3s,baz=237,slow=17,SNR=158						
JNU	**Nakatsue**	**0.68**	**321**	*e*Pn	**Pn**	**02 37 09.3**	**-0.6**
JNU				*e*Sn	**Sn**	**02 37 21.4**	**-0.7**
JTZ	**Takazaki**	**0.73**	**200**	⇓P	**Pn**	**02 37 11.8**	**+1.4**
JTZ				S	**Sn**	**02 37 25.1**	**+2.1**
JTO	**Tosashimizu**	**1.23**	**77**	⇓P	**Pn**	**02 37 15.9**	**0.0**
JTO				S	**Sn**	**02 37 32.5**	**-0.2**
JNA	**Nagahama**	**1.33**	**43**	⇓P	**Pn**	**02 37 17.1**	**-0.1**
JNA				S	**Sn**	**02 37 34.5**	**-0.5**
JSJ	**Shimokoshiki**	**1.68**	**238**	⇓P	**Pn**	**02 37 21.5**	**-0.1**
JSJ				S	**Sn**	**02 37 42.0**	**-0.9**
INU	**Inuyama**	**5.43**	**58**	*e*Pn	**Pn**	**02 38 13.1**	**+1.2**
INU				*e*Sn	**Sn**	**02 39 11.6**	**-1.5**
KSRS	**Korea Array**	**5.62**	**331**	P	**Pn**	**02 38 14.8**	**+0.4**
	1.7nm,0.3s,baz=150,slow=14,SNR=38						
KSRS				S	**Sn**	**02 39 16.4**	**-1.1**
	0.8nm,0.3s,baz=151,slow=18,SNR=3.3						
KS15	**Wonju Array Si**	**5.62**	**330**	*e*Pn	**Pn**	**02 38 14.9**	**+0.4**
KS15				*e*Sn	**Sn**	**02 39 16.4**	**-1.3**
KSAR	**Wonju Array Be**	**5.62**	**330**	P	**Pn**	**02 38 14.8**	**+0.3**
KS01	**Wonju Array Si**	**5.65**	**331**	*e*Pn	**Pn**	**02 38 14.8**	**-0.1**
JOW	**Kunigami**	**6.34**	**206**	*e*Pn	**Pn**	**02 38 23.1**	**-1.4**
JOW				*e*Sn	**Sn**	**02 39 29.8**	**-5.6**
MAJO	**Matsushiro**	**6.87**	**53**	*e*Pn	**Pn**	**02 38 33.2**	**+1.7**
MAJO				*e*Sn	Sn	02 39 39.5	-8.7
MAT	**Matsushiro**	**6.87**	**53**	P	**Pn**	**02 38 32.4**	**+0.8**
MAT				*e*S	**Sn**	**02 39 42.4**	**-5.8**
MJB9	**Matsu-Tunnel**	**6.87**	**53**	*e*Pn	**Pn**	**02 38 33.2**	**+1.7**
MJB9				*e*Sn	Sn	02 39 39.9	-8.4
MJAR	**Matsushiro Arr**	**6.87**	**53**	P	**Pn**	**02 38 33.5**	**+1.9**
	17nm,0.3s,baz=240,slow=14,SNR=62						
MJAR				S	**Sn**	**02 39 41.8**	**-6.4**
	baz=218,slow=16,SNR=3.1						
MJAR				LR	LR	02 41 45.1	
	comp=Z,58nm,20.5s,baz=175,slow=42						
JHJ	**Hachijo jima 2**	**7.09**	**83**	P	**Pn**	**02 38 36.9**	**+2.3**
	17nm,0.3s,baz=237,slow=22,SNR=7.8						
NJ2	**Nanjing**	**10.61**	**270**	*e*P	Pn	02 39 13.6	-9.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
USRK	**Ussuriysk Ar.**	**11.60**	**2**	P	**Pn**	**02 39 37.1**	**+1.3**
	0.4nm,0.3s,baz=183,slow=13,SNR=6.0	

KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,140nm,6.0s						
KSH				LR	LR		
	comp=N,1μm,11.5s						
KSH				LR	LR		
	comp=E,1μm,13.8s						
KSH				LR	LR		
	comp=Z,840nm,14.2s						
AAK	**Ala-Archa**	**45.40**	**300**	P	**P**	**02 45 02.6**	**-0.6**
	2.3nm,0.4s,baz=127,slow=8.0,SNR=7.7						
BVAR	**Borovoye Array**	**47.58**	**314**	P	**P**	**02 45 19.2**	**-0.7**
	1.6nm,0.5s,baz=99,slow=7.8,SNR=7.9						
BVAR				pP	**pP**	**02 45 41.9**	**+0.2**
	1.2nm,0.6s,baz=104,slow=11,SNR=2.8						
BRVK	**Borovoye**	**47.65**	**314**	*e*P	**P**	**02 45 20.1**	**-0.3**
BRVK				*e*PcP	**PcP**	**02 46 47.3**	**-1.2**
KKAR	**Karatay Array**	**48.24**	**301**	*e*P	**P**	**02 45 25.0**	**-0.2**
	70nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.71**	**187**	P	**P**	**02 45 44.2**	**+0.2**
	baz=2.8,slow=6.2						
WRAB	**Tennant Creek**	**52.31**	**176**	*e*P	**P**	**02 45 56.4**	**+0.5**
	17nm,1.5s						
WR1	**Warramunga Arr**	**52.31**	**176**	*e*P	**P**	**02 45 55.7**	**-0.3**
	8.8nm,1.0s						
WRA	**Warramunga Arr**	**52.31**	**176**	P	**P**	**02 45 55.7**	**-0.3**
	1.2nm,0.6s,baz=356,slow=7.9,SNR=16						
WRA				sP	**sP**	**02 46 29.1**	**+0.9**
	1.3nm,0.8s,baz=353,slow=8.7,SNR=3.2						
WB2	**Warramunga Arr**	**52.31**	**176**	*e*P	**P**	**02 45 55.9**	**-0.1**
TTA	**Tatalina**	**53.69**	**33**	*e*P	P	02 46 11.0	+5.3
ABKAR	**Akbulak array**	**54.48**	**310**	*e*P	**P**	**02 46 11.2**	**-0.4**
	32nm,0.3s						
IMAR	**Indian Mountai**	**54.60**	**29**	*e*P	**P**	**02 46 12.1**	**-0.1**
MBWA	**Marble Bar**	**54.60**	**193**	*e*P	**P**	**02 46 11.4**	**-1.2**
	42nm,1.6s						
COCO	**West Island**	**55.43**	**222**	*e*P	P	02 46 10.3	-8.4
	549nm,1.9s						
PPLA	**Purkeypile**	**55.44**	**33**	*e*P	**P**	**02 46 20.0**	**+1.6**
	22nm,1.5s						
KDAK	**Kodiak Island**	**55.82**	**39**	P	**P**	**02 46 21.9**	**+0.9**
	7.6nm,0.8s,baz=286,slow=4.4,SNR=7.3						
KDAK	**Kodiak Island**	**55.82**	**39**	*e*P	**P**	**02 46 22.3**	**+1.2**
	113nm,1.6s						
BPAW	**Bear Paw Mtn.**	**55.87**	**31**	*e*P	**P**	**02 46 23.0**	**+1.6**
	18nm,1.7s						
AS31	**Alice Springs**	**55.99**	**177**	*e*P	**P**	**02 46 22.9**	**+0.2**
	1.6nm,1.3s						
ASAR	**Alice Springs**	**55.99**	**177**	P	**P**	**02 46 22.9**	**+0.2**
	1.0nm,0.5s,baz=9.8,slow=14,SNR=16						
ASAR				LR	LR	03 12 44.3	
	comp=Z,35nm,18.4s,baz=94,slow=38						
ILAR	**Eielson Array**	**57.56**	**30**	P	**P**	**02 46 33.4**	**+0.1**
	0.6nm,0.8s,baz=284,slow=8.1,SNR=7.5						
ILAR				pP	**pP**	**02 46 55.8**	**+0.1**
	0.6nm,0.7s,baz=264,slow=6.1,SNR=4.4						
ILB	**Eielson Array**	**57.56**	**30**	*e*P	**P**	**02 46 33.4**	**+0.1**
STKA	**Stephens Creek**	**64.84**	**170**	P	**P**	**02 47 23.7**	**+1.0**
	1.5nm,0.4s,baz=8.4,slow=8.2,SNR=6.9						
STKA	**Stephens Creek**	**64.84**	**170**	*e*P	**P**	**02 47 23.7**	**+1.0**
	5.9nm,1.8s						
MSVF	**Nonsavu**	**67.06**	**131**	*e*P	**P**	**02 47 38.6**	**+1.3**
	158nm,0.6s						
KBZ	**Khabaz**	**67.33**	**308**	P	**P**	**02 47 38.3**	**-0.4**
	1.6nm,0.8s,baz=18,slow=3.2,SNR=3.1						
FIA0	**FINESS Array S**	**68.71**	**330**	*e*P	**P**	**02 47 44.9**	**-2.1**
FINES	**FINESS Array B**	**68.71**	**330**	P	**P**	**02 47 44.9**	**-2.1**
	4.3nm,0.9s,baz=83,slow=6.8,SNR=8.2						
AKASG	**Malin Array Be**	**72.50**	**319**	P	**P**	**02 48 09.1**	**-1.1**
	0.5nm,0.3s,baz=55,slow=6.8,SNR=3.2						
AKBB	**Malin Array Si**	**72.50**	**319**	*e*P	**P**	**02 48 09.2**	**-1.1**
	21nm,1.7s						
ILGA	**Ilgaz**	**74.60**	**309**	*e*P	**P**	**02 48 24.2**	**+1.1**
PD31	**Pinedale Array**	**86.52**	**40**	*e*P	**P**	**02 49 27.1**	**+0.4**
PDAR	**Pinedale Array**	**86.52**	**40**	P	**P**	**02 49 27.1**	**+0.4**
	0.3nm,0.7s,baz=51,slow=0.9,SNR=4.2						
P18A	**Preston Nutter**	**88.24**	**43**	*e*P	**P**	**02 49 36.8**	**+1.7**

ISN **19** *02:52:32.2±1.5, 27°.72N×54°.68E, h15km±630km, ML5.5*
IDC **19** *02:52:38.3±0.4, 28°.12N×54°.40E, h0km, mb5.2/33, mb1 5.3/41, mb1mx5.3/42, mbtmp5.2/41, ML4.5/7, MS4.5/33, Ms1 4.5/33, ms1mx4.4/48, Error ellipse: s-maj=10.4km s-min=8.8km az=137.0*
BJI **19** *02:52:39.1, 28°.24N×53°.82E, h39km, mb5.2/73, mB5.5/52, Ms5.2/67, Ms7 4.8/66*
TEH **19** *02:52:39.4, 28°.09N×54°.30E, h16km, ML5.3*
THR **19** *02:52:40.2±0.3, 28°.10N×54°.53E, h18km±3km, ML5.2*
CSEM **19** *02:52:40.4±0.1, 28°.15N×54°.37E, h12km, mb5.4/99, Mw5.3, Error ellipse: s-maj=3.3km s-min=2.1km az=23.0*
ISCJB **19** *02:52:41.5±0.6, 28°.15N±0°.02×54°.32E±0°.01, h32km±4km, mb5.4/287, MS4.6/64, Error ellipse: s-maj=3.2km s-min=1.8km az=21.7*
MOS **19** *02:52:41.7±0.9, 28°.15N×54°.33E, h33km, mb5.6/82, MS4.4/32, Error ellipse: s-maj=5.0km s-min=2.9km az=117.9*
DSN **19** *02:52:41.5±0.3, 28°.15N×54°.36E, h15km, mb5.4/4, ML5.3/9, Error ellipse: s-maj=10.5km s-min=3.1km az=60.0*
NEIC **19** *02:52:43.2±0.0, 28°.06N×54°.29E, h23km, mb5.5/145, ML5.1(THR), MN5.3(TEH), After TEH.*
NEIC Felt [III] at Bandar 'Abbas. Also felt at Bushehr, Jahrom, Lar and Shiraz. Felt [III] at Dubai and [II] at Abu Dhabi, United Arab Emirates. Felt at Hawalli, Kuwait.
GCMT **19** *02:52:43.2±0.2, 27°.92N×54°.31E, h16km, MW5.2/100, Moment Tensor Solution. s70,c92; s100,c187; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.60±.02; $M_{\theta\theta}$-0.74±.02; $M_{\phi\phi}$0.14±.01; $M_{r\theta}$-0.16±.04; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$0.02±.05; Best double couple: $M_0$0.72200×10^{17} NP1:ϕ_s282.00000°, δ51.00000°, λ87.00000°. NP2: ϕ_s107.00000°, δ39.00000°, λ94.00000°. Principal axes: T 0.6230, Plg83.0000°, Azm174.0000°; N 0.1990, Plg2.0000°, Azm284.0000°; P -0.8220, Plg6.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
OMAN **19** *02:52:43.2, 28°.06N×54°.29E, h23km*
ISC 19 02:52:41.9±0.5, 28°.13N±0°.03×54°.38E±0°.02, h24km±3km**, h24**km**:pP-P, n1592, σ1937/1718, mb5.5/314, MS4.6/66, 117C-76D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.81**	**298**	*e*Pg	**Pb**	**02 52 54.8**	**-2.6**
JHRM	**Jahrom**	**0.81**	**298**	*e*Pg	**Pb**	**02 52 54.8**	**-2.6**
GHIR	**Ghir-Karzin**	**1.24**	**278**	*e*Pg	**Pb**	**02 53 05.6**	**+0.8**
GHIR				*e*Sg	**Sn**	**02 53 24.2**	**+4.2**
GHIR				AML	AML	02 53 28.0	
	comp=E,68μm,0.5s						
GHIR	**Ghir-Karzin**	**1.24**	**278**	*e*Pg	**Pb**	**02 53 05.6**	**+0.8**
ISRV	**Sarvestan**	**1.68**	**319**	*e*Pn	**Pb**	**02 53 11.6**	**-0.7**
ISRV				*e*Sg	**Sb**	**02 53 37.3**	**+4.2**
ISRV				*e*AMB	AMB	02 53 47.8	
	comp=Z,79μm,0.5s						
ISRV	**Sarvestan**	**1.68**	**319**	*e*Pn	**Pb**	**02 53 11.6**	**-0.7**
ISRV				*e*Sg	**Sb**	**02 53 37.3**	**+4.2**
IPAR	**Pars**	**2.07**	**326**	*e*Pn	**Pb**	**02 53 17.6**	**-1.5**
IPAR				*e*Sg	**Sb**	**02 53 47.9**	**+3.4**
IPAR				*e*AMB	AMB	02 53 58.7	
	comp=Z,16μm,0.4s						
IPAR	**Pars**	**2.07**	**326**	*e*Pn	**Pb**	**02 53 17.6**	**-1.5**
IPAR				*e*Sg	**Sb**	**02 53 47.9**	**+3.4**
SHI	**Shiraz**	**2.23**	**313**	*e*Pn	**Pn**	**02 53 18.4**	**+0.8**
SHI				*e*AMB	AMB	02 54 13.1	
	comp=Z,64μm,0.3s						
NGRK	**Negar Kerman**	**2.56**	**53**	*e*Pn	**Pn**	**02 53 23.4**	**+1.2**
NGRK	**Negar Kerman**	**2.56**	**53**	*e*Pn	**Pn**	**02 53 23.4**	**+1.2**
KHSK	**Kohestak**	**2.74**	**119**	*e*Pn	**Pn**	**02 53 25.8**	**+1.4**
KHSK	**Kohestak**	**2.74**	**119**	*e*Pn	**Pn**	**02 53 25.8**	**+1.4**
BANOM	**Banah**	**2.78**	**142**	*e*P	**Pn**	**02 53 25.5**	**+0.5**
	SNR=144						
BANOM				S	**Sn**	**02 54 00.2**	**+2.3**
BANOM	**Banah**	**2.78**	**142**	Pn	**Pn**	**02 53 25.7**	**+0.7**
	SNR=83						
BANOM				S	**Sn**	**02 54 00.2**	**+2.3**
BANOM	**Banah**	**2.78**	**142**	P	**Pn**	**02 53 25.7**	**+0.7**
	SNR=83						
BANOM				P	**Pn**	**02 53 25.7**	**+0.7**
	SNR=83						
BANOM	**Banah**	**2.78**	**142**	Pn	**Pn**	**02 53 25.7**	**+0.7**
	SNR=83						
BANOM	**Banah**	**2.78**	**142**	Pn	**Pn**	**02 53 25.7**	**+0.7**
	SNR=83						
TVBK	**TV Kerman**	**2.79**	**48**	*e*Pn	**Pb**	**02 53 28.6**	**-2.7**
TVBK	**TV Kerman**	**2.79**	**48**	*e*Pn	**Pb**	**02 53 28.6**	**-2.7**
AHBU	**AHRAM**	**2.82**	**286**	*e*Pn	**Pb**	**02 53 28.1**	**-3.4**
KHGB	**Koh Gabri**	**2.90**	**39**	*e*Pn	**Pn**	**02 53 28.8**	**+2.0**
KHGB	**Koh Gabri**	**2.90**	**39**	*e*Pn	**Pn**	**02 53 28.8**	**+2.0**
CHMN	**Cheshme madani**	**3.26**	**57**	*e*Pn	**Pn**	**02 53 35.2**	**+3.3**
CHMN	**Cheshme madani**	**3.26**	**57**	*e*Pn	**Pn**	**02 53 35.2**	**+3.3**
NAZ	**Nazwa, Dubai**	**3.33**	**160**	*i* P	**Pn**	**02 53 34.6**	**+2.1**
	SNR=126						
NAZ	**Nazwa, Dubai**	**3.33**	**160**	P	**Pn**	**02 53 34.6**	**+2.1**
	SNR=126						
NAZ	**Nazwa, Dubai**	**3.33**	**160**	P	**Pn**	**02 53 34.7**	**+2.1**
	SNR=168						
NAZ				P	**Pn**	**02 53 34.7**	**+2.1**
	SNR=168						
NAZ	**Nazwa, Dubai**	**3.33**	**160**	Pn	**Pn**	**02 53 34.7**	**+2.1**
	SNR=168						
NAZ	**Nazwa, Dubai**	**3.33**	**160**	Pn	**Pn**	**02 53 34.7**	**+2.1**
	SNR=168						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	*i* P	**Pn**	**02 53 37.2**	**+1.8**
	SNR=148						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	P	**Pn**	**02 53 37.2**	**+1.8**
	SNR=148						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	Pn	**Pn**	**02 53 37.5**	**+2.1**
	SNR=88						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	P	**Pn**	**02 53 37.5**	**+2.1**
	SNR=88						
FAQ				P	**Pn**	**02 53 37.5**	**+2.1**
	SNR=88						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	Pn	**Pn**	**02 53 37.5**	**+2.1**
	SNR=88						
FAQ	**Al Faqa, Dubai**	**3.54**	**162**	Pn	**Pn**	**02 53 37.5**	**+2.1**
	SNR=88						
UOSS	**Minazif**	**3.56**	**152**	*e*Pn	**Pn**	**02 53 36.7**	**+0.9**
UOSS				*e*Sn	**Sn**	**02 54 16.9**	**-0.2**
UOSS	**Minazif**	**3.56**	**152**	*e*Pn	**Pn**	**02 53 36.7**	**+0.9**
UOSS				*e*Sn	**Sn**	**02 54 16.9**	**-0.2**
HATD	**Hatta, Dubai**	**3.64**	**154**	*i* P	**Pn**	**02 53 38.1**	**+1.3**
	SNR=178						
HATD	**Hatta, Dubai**	**3.64**	**154**	P	**Pn**	**02 53 38.1**	**+1.3**
	SNR=178						
HATD	**Hatta, Dubai**	**3.64**	**154**	P	**Pn**	**02 53 38.1**	**+1.3**
	SNR=176						
HATD				P	**Pn**	**02 53 38.1**	**+1.3**
	SNR=176						
HATD	**Hatta, Dubai**	**3.64**	**154**	Pn	**Pn**	**02 53 38.1**	**+1.3**
	SNR=176						
HATD	**Hatta, Dubai**	**3.64**	**154**	Pn	**Pn**	**02 53 38.1**	**+1.3**
	SNR=176						
ASHO	**Ashiyiah**	**3.74**	**156**	*i* P	**Pn**	**02 53 39.6**	**+1.4**
	SNR=493						
ASHO	**Ashiyiah**	**3.74**	**156**	P	**Pn**	**02 53 39.6**	**+1.4**
	SNR=493						
ASHO	**Ashiyiah**	**3.74**	**156**	P	**Pn**	**02 53 39.6**	**+1.4**
	SNR=871						
ASHO	**Ashiyiah**	**3.74**	**156**	Pn	**Pn**	**02 53 39.6**	**+1.4**
	SNR=871						
ASHO	**Ashiyiah**	**3.74**	**156**	Pn	**Pn**	**02 53 39.6**	**+1.4**
	SNR=871						
IRAM	**Ramesheh**	**4.06**	**335**	*e*Pn	**Pn**	**02 53 44.3**	**+1.5**
IRAM				*e*AMB	AMB	02 55 09.3	
	comp=Z,38μm,0.5s						
IRAM	**Ramesheh**	**4.06**	**335**	*e*Pn	**Pn**	**02 53 44.3**	**+1.5**
IGAR	**Gharneh**	**4.72**	**335**	*e*Pn	**Pn**	**02 53 53.3**	**+1.4**
IGAR				*e*AMB	AMB	02 54 11.0	
	comp=Z,16μm,0.4s						
NASN	**Na'in**	**4.85**	**344**	*e*Pn	**Pn**	**02 53 55.6**	**+1.8**
NASN	**Na'in**	**4.85**	**344**	*e*Pn	**Pn**	**02 53 55.6**	**+1.8**
IZEF	**Zefreh**	**5.08**	**340**	*e*Pn	**Pn**	**02 53 57.4**	**+0.6**
IZEF				*e*AMB	AMB	02 54 24.9	
	comp=Z,11μm,0.4s						
IZEF	**Zefreh**	**5.08**	**340**	*e*Pn	**Pn**	**02 53 57.4**	**+0.6**
IPIR	**Pirpir**	**5.45**	**327**	*e*Pn	**Pn**	**02 54 02.1**	**+0.1**
IPIR				*e*AMB	AMB	02 55 12.9	
	comp=Z,15μm,0.3s						
IPIR	**Pirpir**	**5.45**	**327**	*e*Pn	**Pn**	**02 54 02.1**	**+0.1**
BIDO	**Bidbid**	**5.69**	**143**	P	**Pn**	**02 54 04.3**	**-0.8**
	SNR=75						
BIDO	**Bidbid**	**5.69**	**143**	Pn	**Pn**	**02 54 04.3**	**-0.8**
	SNR=75						
BIDO	**Bidbid**	**5.69**	**143**	Pn	**Pn**	**02 54 04.3**	**-0.8**
	SNR=75						
IKLH	**Kolahrood**	**5.71**	**336**	*e*Pn	**Pn**	**02 54 06.6**	**+1.1**
IKLH				*e*AMB	AMB	02 56 12.6	
	comp=Z,24μm,0.7s						
IKLH	**Kolahrood**	**5.71**	**336**	*e*Pn	**Pn**	**02 54 06.6**	**+1.1**
TABS	**Tabas**	**5.99**	**22**	*e*Pn	**Pn**	**02 54 10.2**	**+1.0**
CHBR	**Chabahar**	**6.00**	**113**	*e*Pn	**Pn**	**02 54 08.6**	**-0.7**
CHBR				*e*Sg	**Sb**	**02 55 41.5**	**+4.3**
ITEG	**Tejag**	**6.07**	**37**	*e*Pn	**Pn**	**02 54 11.8**	**+1.5**
ITEG				*e*AMB	AMB	02 56 35.0	
	comp=Z,12μm,0.8s						
ITEG	**Tejag**	**6.07**	**37**	*e*Pn	**Pn**	**02 54 11.8**	**+1.5**
WSAR	**Wadi Sarin**	**6.19**	**141**	Pn	**Pn**	**02 54 12.2**	**+0.3**
	comp=Z,24nm,0.3s,baz=322,slow=6.1,SNR=208						
WSAR				Sn	**Sn**	**02 55 20.7**	**-1.3**
	comp=Z,17nm,0.3s,baz=4.0,slow=12,SNR=2.4						
WSAR				LR	LR	02 57 16.6	
	comp=Z,6μm,20.1s,baz=348,slow=45						
WSAR	**Wadi Sarin**	**6.19**	**141**	*e*Pn	**Pn**	**02 54 12.2**	**+0.3**
WSAR				*e*Sn	**Sn**	**02 55 20.7**	**-1.3**
WSAR	**Wadi Sarin**	**6.19**	**141**	P	**Pn**	**02 54 12.2**	**+0.3**
WSAR	**Wadi Sarin**	**6.19**	**141**	Pn	**Pn**	**02 54 12.2**	**+0.3**
WSAR	**Wadi Sarin**	**6.19**	**141**	Pn	**Pn**	**02 54 12.2**	**+0.3**
NSR	**Nassriya**	**7.73**	**294**	*e*Pn	**Pn**	**02 54 32.0**	**-1.0**
	SNR=5.0						
NSR				*e*Sn	**Sn**	**02 55 59.0**	**-0.8**
	SNR=52						
RAYN	**Ar Rayn**	**9.22**	**242**	*e*Pn	**Pn**	**02 54 51.6**	**-1.9**
RAYN				*e*Sn	**Sn**	**02 56 31.4**	**-5.1**
RAYN	**Ar Rayn**	**9.22**	**242**	*e*Pn	**Pn**	**02 54 51.6**	**-1.9**
RAYN				*e*Sn	**Sn**	**02 56 31.4**	**-5.1**
BJRD	**Bojnurd**	**9.88**	**14**	*e*Pn	**Pn**	**02 55 04.0**	**+1.4**
BHD	**Baghdad**	**10.02**	**303**	*e*Pn	**Pn**	**02 55 04.0**	**-0.4**
	SNR=5.0						
BHD				*i* Sn	**Sn**	**02 56 55.0**	**-1.0**
	SNR=5.0						
GEYT	**Alibeck**	**10.27**	**17**	Pn	**Pn**	**02 55 09.4**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=207,slow=8.3,SNR=28						
GEYT				Lg	Lg	02 57 56.0	
	comp=Z,0.3nm,0.3s,baz=197,slow=24,SNR=2.3						
GEYT				LR	LR	02 59 38.0	
	comp=Z,5μm,18.5s,baz=185,slow=41						
IKRK	**Kirkuk**	**11.20**	**313**	*e*Pn	**Pn**	**02 55 21.0**	**+0.4**
	SNR=5.0						
IKRK				*e*Sn	**Sn**	**02 57 25.3**	**+0.2**
	SNR=52						
LKRN	**Lenkeran, Azer**	**11.54**	**338**	P	**Pn**	**02 55 25.9**	**+0.7**
LKRN	**Lenkeran, Azer**	**11.54**	**338**	P	**Pn**	**02 55 25.9**	**+0.7**
RTB	**Rutbah**	**13.07**	**295**	*e*Pn	**Pn**	**02 55 46.0**	**-0.2**
	SNR=52						
RTB				*e*Sn	**Sn**	**02 58 07.9**	**-3.0**
	SNR=52						
NAX	**Nakhchivan**	**13.27**	**328**	P	**Pn**	**02 55 49.0**	**+0.2**
NAX	**Nakhchivan**	**13.27**	**328**	P	**Pn**	**02 55 49.0**	**+0.2**
MNGR	**Mingechevir, A**	**13.97**	**336**	P	**Pn**	**02 55 59.0**	**+0.6**
MNGR	**Mingechevir, A**	**13.97**	**336**	P	**Pn**	**02 55 59.0**	**+0.6**
KBL	**Kabul**	**14.06**	**59**	*e*P	**Pn**	**02 56 02.6**	**+2.7**
KBL	**Kabul**	**14.06**	**59**	*e*Pn	**Pn**	**02 56 02.5**	**+2.7**
KBL	**Kabul**	**14.06**	**59**	*e*Pn	**Pn**	**02 56 02.5**	**+2.7**
GANJ	**Ganja**	**14.14**	**334**	P	**Pn**	**02 56 01.2**	**+0.4**
GANJ	**Ganja**	**14.14**	**334**	P	**Pn**	**02 56 01.2**	**+0.4**
GNI	**Garni**	**14.39**	**329**	Pn	**Pn**	**02 56 05.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=299,slow=1.1,SNR=19						
GNI				Lg	Lg	03 00 23.5	
	baz=271,slow=18,SNR=1.5						
GNI	**Garni**	**14.39**	**329**	*i* P	**Pn**	**02 56 05.6**	**+1.2**
	SNR=24						
GNI	**Garni**	**14.39**	**329**	*e*Pn	**Pn**	**02 56 05.2**	**+0.9**
GNI	**Garni**	**14.39**	**329**	*e*Pn	**Pn**	**02 56 05.2**	**+0.9**
GNI	**Garni**	**14.39**	**329**	P	**Pn**	**02 56 06.5**	**+2.2**
	SNR=24						
GNI	**Garni**	**14.39**	**329**	Pn	**Pn**	**02 56 06.5**	**+2.2**
	SNR=24						
GNI	**Garni**	**14.39**	**329**	Pn	**Pn**	**02 56 06.5**	**+2.2**
	SNR=24						
MARD	**Mardin**	**14.65**	**312**	*e*Pn	Pn	02 56 03.0	-4.8
MARD				*e*Sn	Sn	02 58 38.8	-11
MARD	**Mardin**	**14.65**	**312**	*e*Pn	Pn	02 56 03.0	-4.8
MARD				*e*Sn	Sn	02 58 38.8	-11
KSRV	**Kasrt alli**	**15.15**	**304**	*e*P	**Pn**	**02 56 07.8**	**-6.5**
KSRV				*e*S	Sn	02 58 21.9	-40
KSRV				AML	AML	02 59 45.2	
	comp=Z,58nm,0.7s						
ASF	**Jabal al Asfar**	**15.65**	**289**	Pn	**Pn**	**02 56 18.4**	**-2.7**
	comp=Z,2.4nm,0.3s,baz=54,slow=7.7,SNR=11						
ASF				Sn	Sn	02 59 02.9	-11
	comp=Z,3.4nm,0.3s,baz=177,slow=12,SNR=3.7						
ASF				Lg	Lg	03 00 59.9	
	baz=223,slow=19,SNR=2.2						
ASF				LR	LR	03 04 02.6	
	comp=Z,2μm,18.2s,baz=40,slow=44						
ASF	**Jabal al Asfar**	**15.65**	**289**	*e*Pn	**Pn**	**02 56 18.4**	**-2.7**
ASF				*e*Sn	Sn	02 59 02.9	-11
THW	**Thamme Wali**	**15.67**	**68**	P	**Pn**	**02 56 20.9**	**-0.4**
MAK	**Makhachkala**	**15.82**	**341**	*e*P	**Pn**	**02 56 24.1**	**+1.1**
MAK				*e*S	**Sn**	**02 59 16.0**	**-1.5**
MAK				pmax	pmax		
	comp=Z,1μm,1.4s						
MAK				MLR	MLR		
	comp=Z,1μm,10.0s						
MAK	**Makhachkala**	**15.82**	**341**	*e*P	**Pn**	**02 56 24.1**	**+1.1**
	comp=Z,1μm,1.4s						
MAK				*e*S	**Sn**	**02 59 16.0**	**-1.5**
	comp=Z,1μm,10.0s						
HAJJ	**Hajjah**	**15.89**	**221**	*e*P	**Pn**	**02 56 19.6**	**-4.7**
HAJJ				*e*S	Sn	02 59 01.7	-18
HAJJ	**Hajjah**	**15.89**	**221**	*e*P	**Pn**	**02 56 19.6**	**-4.7**
HAJJ				*e*S	Sn	02 59 01.7	-18
SALA	**Sala**	**15.89**	**291**	*e*P	**Pn**	**02 56 18.9**	**-5.4**
SALA				*e*S	Sn	02 58 45.2	-35
SALA				AML	AML	03 00 01.4	
	comp=N,105nm,0.7s						
SURC	**SANLIURFA_SURC**	**15.90**	**307**	*i* P	**Pn**	**02 56 20.3**	**-3.8**
AKH	**Akhalkalaki**	**15.97**	**329**	P	**P**	**02 56 30.6**	**+2.0**
AKH	**Akhalkalaki**	**15.97**	**329**	P	**P**	**02 56 30.6**	**+2.0**
AKH	**Akhalkalaki**	**15.97**	**329**	P	**P**	**02 56 30.6**	**+2.0**
CEP	**Cherat**	**16.06**	**65**	P	**Pn**	**02 56 26.9**	**+0.5**
CEP	**Cherat**	**16.06**	**65**	P	**Pn**	**02 56 27.0**	**+0.5**
DZET	**Dzherino**	**16.06**	**45**	P	**P**	**02 56 28.5**	**-1.1**
DZET				pmax	pmax		
	comp=Z,68nm,1.0s						
DZET	**Dzherino**	**16.06**	**45**	P	**P**	**02 56 28.5**	**-1.1**
	comp=Z,68nm,1.0s						
SARP	**Sargodha**	**16.29**	**72**	P	**Pn**	**02 56 26.7**	**-2.4**
TOTH	**TOTAH**	**16.29**	**293**	*e*P	**Pn**	**02 56 25.2**	**-4.0**
TOTH				*e*S	Sn	02 58 52.9	-36
TOTH				AML	AML	02 59 35.2	
	comp=E,77nm,0.7s						
TOTH				AML	AML	03 00 00.7	
	comp=N,83nm,0.6s						
BDHA	**Al Bayda'**	**16.30**	**212**	*e*P	Pn	02 56 21.7	-7.8
BDHA				AMb	AMB	02 56 22.0	
	comp=E,108nm,2.4s						
BDHA				*e*S	Sn	02 59 01.6	-28
DAMY	**Dhamar**	**16.37**	**217**	*e*Pn	**Pn**	**02 56 25.9**	**-4.6**
	comp=E,282nm,0.9s						
ATAB	**Bozova**	**16.41**	**309**	*i* P	**Pn**	**02 56 28.5**	**-2.2**
QASN	**Qassioun**	**16.45**	**294**	*e*P	**Pn**	**02 56 28.9**	**-2.4**
QASN				*e*S	Sn	02 58 59.2	-34
QASN				AML	AML	02 59 50.6	
	comp=N,178nm,0.6s						
QASN				AML	AML	02 59 57.2	
	comp=E,263nm,0.6s						
TNCL	**Tunceli-Merkez**	**16.50**	**315**	*i* P	**Pn**	**02 56 31.2**	**-0.7**
KOPT	**Kop Dagi**	**16.50**	**320**	*e*Pn	**Pn**	**02 56 32.2**	**+0.1**
	comp=E,180nm,0.9s						
KOPT	**Kop Dagi**	**16.50**	**320**	*e*Pn	**Pn**	**02 56 32.2**	**+0.1**
	comp=E,180nm,0.9s						
TCHB	**Talchebab**	**16.52**	**290**	*e*P	**Pn**	**02 56 27.8**	**-4.3**
TCHB				*e*S	Sn	02 58 59.1	-36
TCHB				AML	AML	03 00 07.4	
	comp=N,178nm,0.6s						
TCHB				AML	AML	03 00 34.1	
	comp=E,111nm,0.7s						
ARTV	**Artvin**	**16.55**	**325**	*e*Pn	**Pn**	**02 56 33.3**	**+0.6**
	comp=E,142nm,0.9s						
ARTV	**Artvin**	**16.55**	**325**	*e*Pn	**Pn**	**02 56 33.3**	**+0.6**
	comp=E,142nm,0.9s						
GROC	**Groznyy**	**16.57**	**337**	*e*P	**P**	**02 56 36.9**	**+1.9**
GROC				pmax	pmax		
	comp=Z,465nm,1.4s						
GROC	**Groznyy**	**16.57**	**337**	*e*P	**P**	**02 56 36.9**	**+1.9**
	comp=Z,465nm,1.4s						
BRBR	**Barbar**	**16.69**	**293**	*

KVAR	Kislovodsk Arr	18.38	332	P	Pn	02 56 56.3 +1.1
KIV	Kislovodsk	18.38	332	*i* P	Pn	02 56 56.3 +1.1
	SNR=43					
KIV	Kislovodsk	18.38	332	*e*P	Pn	02 56 56.4 +1.1
KIV				*e*S	S	03 00 22.1 -1.7
KIV				pmax	pmax	
	comp=Z,339nm,0.9s					
KIV				MLR	MLR	
	comp=Z,729nm,14.0s					
KIV	Kislovodsk	18.38	332	*e*P	Pn	02 56 56.5 +1.1
	comp=Z,436nm,1.0s					
KIV	Kislovodsk	18.38	332	*e*P	Pn	02 56 56.5 +1.3
	comp=Z,436nm,1.0s					
KIV	Kislovodsk	18.38	332	P	Pn	02 56 56.3 +1.1
	SNR=40					
KIV	Kislovodsk	18.38	332	P	Pn	02 56 56.3 +1.1
	SNR=40					
KIV	Kislovodsk	18.38	332	Pn	Pn	02 56 56.3 +1.1
	SNR=40					
SCER	sogukcermik	18.45	314	*i* P	Pn	02 56 57.6 +1.4
SCER	sogukcermik	18.45	314	P	Pn	02 56 57.6 +1.4
PHNC	Paralimni	18.63	297	P	Pn	02 57 00.7 +2.4
CUSAR	Sarkisla-SIVAS	18.78	312	*i* P	Pn	02 57 01.2 +1.0
CUSAR	Sarkisla-SIVAS	18.78	312	P	Pn	02 57 01.2 +1.0
THN	Thein Dam	18.91	72	*ex*	P	02 56 57.1 -3.8
THN				*e*S	S	03 00 39.2 +4.9
IUG	Iuzhnay	18.92	38	*i* P	P	02 56 59.8 -1.2
	comp=Z,462nm,1.3s					
IUG				*i* S	Sn	03 00 32.4 -0.5
IUG				LRM	MLR	03 05 38.2
	comp=Z,2μm,13.2s					
TOKA	Tokat	19.12	314	*e*P	Pn	02 57 05.1 +0.9
	comp=Z,150nm,1.1s					
TOKA	Tokat	19.12	314	*e*P	Pn	02 57 05.1 +0.9
	comp=Z,150nm,1.1s					
GOF	Gofitskoye	19.16	335	‖ *i*P	Pn	02 57 04.9 +0.3
GOF				pmax	pmax	
	comp=Z,92nm,1.3s					
GOF	Gofitskoye	19.16	335	*i* P	Pn	02 57 04.9 +0.3
	comp=Z,92nm,1.3s					
CSS	Mathiatis	19.18	296	*e*P	P	02 57 03.7 -0.2
	comp=Z,42nm,0.9s					
CSS	Mathiatis	19.18	296	*e*P	P	02 57 03.7 -0.2
	comp=Z,42nm,0.9s					
CSS	Mathiatis	19.18	296	P	Pn	02 57 05.7 +0.8
MAMC	Mammari	19.32	297	P	Pn	02 57 09.5 +2.9
BHK	Bhakra	19.40	75	*e*P	Pn	02 57 07.6 0.0
BRLS	Borolday	19.42	36	*i* P	P	02 57 02.3 -4.2
	comp=Z,47nm,1.8s					
BRLS				*i* S	Sn	03 00 37.8 -7.2
BRLS				LRM	MLR	03 06 00.3
	comp=Z,140nm,11.6s					
SOC	Sochi	19.43	326	*e*P	Pn	02 57 07.1 -0.7
SOC				*e*		03 00 45.7
SOC				pmax	pmax	
	comp=Z,166nm,1.0s					
SOC				MLR	MLR	
	comp=Z,1μm,13.0s					
SOC	Sochi	19.43	326	*e*P	Pn	02 57 07.1 -0.7
	comp=Z,166nm,1.0s					
SZAC	Souni	19.48	295	P	Pn	02 57 09.8 +1.3
ATD	Arta Tunnel	19.73	215	P	Pn	02 57 11.0 -0.6
	comp=Z,0.9nm,0.3s,baz=17,slow=7.6,SNR=23					
ATD				S	Sn	03 00 56.0 +3.2
	comp=Z,0.7nm,0.3s,baz=336,slow=19,SNR=1.8					
ATD				LR	LR	03 04 40.2
	comp=Z,855nm,20.0s,baz=30,slow=37					
ATD	Arta Tunnel	19.73	215	*e*P	Pn	02 57 11.0 -0.6
ALFC	Alefka	19.81	296	P	P	02 57 10.7 -0.1
KK31	Karatay Array	19.83	37	*i* P	P	02 57 10.8 -0.1
KK31				pmax	pmax	
	comp=Z,160nm,1.4s					
KK31	Karatay Array	19.83	37	*i* P	P	02 57 10.8 -0.1
	comp=Z,160nm,1.4s					
KKAR	Karatay Array	19.83	37	*e*P	P	02 57 10.9 0.0
KKAR				pmax	pmax	
	comp=Z,990nm,1.3s					
KKAR	Karatay Array	19.83	37	*e*P	P	02 57 10.9 0.0
	comp=Z,990nm,1.3s					
KKAR	Karatay Array	19.83	37	*e*P	P	02 57 10.9 0.0
	comp=Z,988nm,1.4s					
SDNR	Sundarnagar	19.88	75	*e*P	P	02 57 12.0 +0.4
PPCY	Paphos	19.94	295	P	Pn	02 57 13.7 -0.2
NDI	New Delhi	20.09	83	*e*P	Pn	02 57 18.0 +2.2
MNAS	Manas	20.53	41	P	P	02 57 19.0 +0.3
MNAS				pmax	pmax	
	comp=Z,241nm,1.5s					
MNAS	Manas	20.53	41	P	P	02 57 19.0 +0.3
	comp=Z,241nm,1.5s					
BR101	Keskin Array S	20.69	309	*e*P	P	02 57 21.0 +0.6
BR101	Keskin Array S	20.69	309	*e*PcP	PcP	03 01 29.7 -0.2
BR101	Keskin Array S	20.69	309	*e*P	P	02 57 20.9 +0.6
BR101				*e*PcP	PcP	03 01 29.7 -0.2
BR101				*e*ScP	ScP	03 05 05.8 +0.8
BR131	Keskin Array S	20.69	309	*e*P	P	02 57 21.1 +0.7
BR131	Keskin Array S	20.69	309	*e*P	P	02 57 21.1 +0.7
BRTR	Keskin Array B	20.69	309	P	P	02 57 20.9 +0.5
	comp=Z,98nm,0.8s,baz=130,slow=12,SNR=140					
BRTR				PcP	PcP	03 01 29.7 -0.2
	comp=Z,3.1nm,0.8s,baz=152,slow=3.5,SNR=2.7					
BRTR				ScP	ScP	03 05 05.8 +0.8
	comp=Z,0.8nm,0.7s,baz=138,slow=5.7,SNR=2.9					
BRTR	Keskin Array B	20.69	309	P	P	02 57 21.0 +0.5
	comp=Z,98nm,0.8s					
BRTR	Keskin Array B	20.69	309	P	P	02 57 20.9 +0.5
KSH	Kashi	21.18	52	P	P	02 57 20.0 -5.7
KSH				PP	PnPn	02 57 41.8 -3.5
KSH				PcP	PcP	03 01 29.3 -1.5
KSH				pmax	pmax	
	comp=Z,71nm,0.9s					
KSH				pmax	pmax	
	comp=Z,370nm,5.6s					
KSH				LR	LR	
	comp=Z,2μm,9.4s					
KSH				LR	LR	
	comp=Z,3μm,10.7s					
KSH				LR	LR	
	comp=Z,3μm,11.7s					
ILGA	Ilgaz	21.28	313	*e*P	P	02 57 28.1 +1.2
	comp=Z,348nm,1.3s					
ILGA	Ilgaz	21.28	313	*e*P	P	02 57 28.1 +1.2
	comp=Z,348nm,1.3s					
BHPL	Bhopal	21.32	98	*e*P	P	02 57 29.3 +2.0
BHPL				AMB	AMB	02 57 34.2
	comp=Z,378nm,1.4s					
ANTO	Ankara	21.33	309	*e*P	P	02 57 27.9 +0.6
ANTO				pmax	pmax	
	comp=Z,350nm,0.9s					
ANTO	Ankara	21.33	309	*e*P	P	02 57 27.9 +0.6
	comp=Z,350nm,0.9s					
ANTO	Ankara	21.33	309	*e*P	P	02 57 27.9 +0.6
	comp=Z,355nm,0.9s					
ANTO	Ankara	21.33	309	P	P	02 57 28.9 +1.6
	SNR=27					
ANTO	Ankara	21.33	309	P	P	02 57 28.9 +1.6
	SNR=27					
ANTO	Ankara	21.33	309	P	P	02 57 28.9 +1.6
	SNR=27					
BR231	Keskin MP Arra	21.33	309	*e*P	P	02 57 28.2 +0.9
BR231	Keskin MP Arra	21.33	309	*e*P	P	02 57 28.2 +0.9
AB31	Akbulak array	21.53	10	*i* P	P	02 57 29.0 -0.2
AB31				pmax	pmax	
	comp=Z,59nm,0.8s					
AB31	Akbulak array	21.53	10	*i* P	P	02 57 29.0 -0.2
	comp=Z,59nm,0.8s					
ABKAR	Akbulak array	21.53	10	*e*P	P	02 57 29.1 -0.1
	comp=Z,500nm,0.8s					
ABKAR	Akbulak array	21.53	10	*e*P	P	02 57 29.1 -0.1
	comp=Z,500nm,0.8s					
AAK	Ala-Archa	21.80	43	P	P	02 57 33.5 +1.2
	comp=Z,33nm,0.9s,baz=223,slow=11,SNR=19					
AAK				S	S	03 01 34.6 +2.2
	comp=Z,6.6nm,0.9s,baz=170,slow=18,SNR=2.9					
AAK				LR	LR	03 06 52.9
	comp=Z,3μm,18.2s,baz=234,slow=39					
AAK	Ala-Archa	21.80	43	*c i* P	P	02 57 33.2 +0.8
AAK				pmax	pmax	
	comp=Z,357nm,1.4s					
AAK	Ala-Archa	21.80	43	*i* P	P	02 57 33.2 +0.8
	comp=Z,357nm,1.4s					
AAK	Ala-Archa	21.80	43	*e*P	P	02 57 33.6 +1.2
AAK	Ala-Archa	21.80	43	P	P	02 57 33.7 +1.3
	SNR=76					
AAK	Ala-Archa	21.80	43	P	P	02 57 33.7 +1.3
	SNR=76					
AAK	Ala-Archa	21.80	43	P	P	02 57 33.7 +1.3
	SNR=76					
FRU	Bishkek	21.99	43	*e*P	P	02 57 36.0 +1.8
FRU				*i*		02 58 12.0
FRU				pmax	pmax	
	comp=Z,230nm,2.0s					
FRU				MLR	MLR	
	comp=E,5μm,13.0s					
FRU	Bishkek	21.99	43	*e*P	P	02 57 36.0 +1.8
	comp=E,230nm,2.0s					
BOLV	Bolvadin	22.17	304	*e*P	P	02 57 36.8 +0.4
	comp=E,341nm,0.9s					
BOLV	Bolvadin	22.17	304	*e*P	P	02 57 36.8 +0.4
	comp=E,341nm,0.9s					
ISP	Isparta	22.18	302	P	P	02 57 36.6 +0.2
ISP	Isparta	22.18	302	*e*P	P	02 57 36.3 -0.1
ISP				pmax	pmax	
	comp=Z,200nm,1.1s					
ISP	Isparta	22.18	302	*e*P	P	02 57 36.3 -0.1
	comp=Z,200nm,1.1s					
ISP	Isparta	22.18	302	*e*P	P	02 57 36.3 -0.1
	comp=Z,201nm,1.1s					
KSL	Kastellorizon	22.43	297	P	P	02 57 37.9 -1.1
KSL	Kastellorizon	22.43	297	P	P	02 57 37.9 -1.1
KSL	Kastellorizon	22.43	297	P	P	02 57 37.9 -1.1
AKAS	Kas	22.43	297	*e*P	P	02 57 37.9 -1.3
	comp=Z,115nm,1.0s					
AKAS	Kas	22.43	297	*e*P	P	02 57 37.9 -1.3
	comp=Z,115nm,1.0s					
AKTK	Aktyubinsk	22.45	6	P	P	02 57 38.8 -0.3
	comp=Z,264nm,1.4s					
AKTO	Aktyubinsk	22.45	6	P	P	02 57 39.4 +0.3
	comp=Z,124nm,1.1s,baz=196,slow=10,SNR=84					
AKTO				S	S	03 01 47.2 +3.0
	comp=Z,14nm,1.1s,baz=115,slow=23,SNR=8.4					
AKTO	Aktyubinsk	22.45	6	P	P	02 57 38.8 -0.3
AKTO				pmax	pmax	
	comp=Z,264nm,1.4s					
AKTO	Aktyubinsk	22.45	6	P	P	02 57 39.4 +0.3
KLRI	Killari	22.72	111	*e*P	P	02 57 43.0 +0.7
KLRI				IAmb	IAmb	02 57 45.7
	comp=Z,311nm,1.3s					
FETY	Fethiye	22.94	298	P	P	02 57 43.3 -1.1
FETY	Fethiye	22.94	298	P	P	02 57 43.3 -1.1
FETY	Fethiye	22.94	298	P	P	02 57 43.3 -1.1
BTLS	Baital	23.02	38	*i* P	P	02 57 43.7 -1.4
	comp=Z,681nm,1.4s					
SIM	Simferopol'	23.29	322	*c e*P	P	02 57 48.4 +0.6
SIM				*e*S	S	03 02 01.0 +2.2
SIM				pmax	pmax	
	comp=N,124μm,0.9s					
SIM				MLR	MLR	
	comp=Z,800nm,15.0s					
SIM	Simferopol'	23.29	322	*e*P	P	02 57 48.4 +0.6
NGP	Nagpur	23.45	102	*e*P	P	02 57 52.3 +2.6
AAA	Alma-Ata	23.59	44	*i* P	P	02 57 52.4 +1.4
AAA				*i* S	S	03 01 50.6 -13
AAA				pmax	pmax	
	comp=Z,1μm,3.4s					
AAA				smax	smax	
	comp=E,2μm,9.3s					
AAA				MLR	MLR	
	comp=Z,4μm,10.0s					
AAA	Alma-Ata	23.59	44	*i* P	P	02 57 52.4 +1.4
	comp=Z,1μm,3.4s					
KUU	Kurty	23.62	42	*i* P	P	02 57 50.1 -1.1
	comp=Z,265nm,1.4s					
MDOK	Medeo	23.65	45	*i* P	P	02 57 50.4 -1.2
	comp=Z,191nm,0.9s					
MDOK				*i* S	S	03 02 04.0 -1.1
MDOK				LRM	MLR	03 08 16.7
	comp=Z,2μm,13.6s					
SRSP	Sriramsagar	23.76	107	*e*P	P	02 57 53.1 +0.4
SRSP				IAmb	IAmb	02 57 58.3
	comp=Z,179nm,1.8s					
KULA	Kula-Manisa	23.79	302	P	P	02 57 52.9 0.0
KULA	Kula-Manisa	23.79	302	P	P	02 57 52.9 0.0
KULA	Kula-Manisa	23.79	302	P	P	02 57 52.9 0.0
MANT	Manisa	23.86	302	*e*P	P	02 57 54.4 +0.7
	comp=Z,910nm,1.3s					
MANT	Manisa	23.86	302	*e*P	P	02 57 54.4 +0.7
	comp=Z,910nm,1.3s					
FURI	Furi	24.19	221	*e*P	P	02 57 58.2 +1.2
	comp=Z,95nm,1.0s					
FURI	Furi	24.19	221	*e*P	P	02 57 58.2 +1.2
	comp=Z,95nm,1.0s					
KARP	Karpathos	24.23	295	P	P	02 57 57.5 +0.5
KARP	Karpathos	24.23	295	P	P	02 57 57.5 +0.5
KARP	Karpathos	24.23	295	P	P	02 57 57.5 +0.5
ISK	Istanbul-Kandi	24.42	309	P	P	02 57 58.6 0.0
ISK	Istanbul-Kandi	24.42	309	P	P	02 57 58.6 0.0
ISK	Istanbul-Kandi	24.42	309	P	P	02 57 58.6 0.0
ISK	Istanbul-Kandi	24.42	309	P	P	02 57 58.6 0.0
SATY	Saty	24.45	46	*e*P	P	02 57 57.8 -1.3
	comp=Z,229nm,1.3s					
ZHN	Zhinishke	24.53	46	*e*P	P	02 57 58.5 -1.2
	comp=Z,180nm,1.9s					
RPR	Rampur	24.60	107	*e*P	P	02 58 01.5 +1.1
RPR				IAmb	IAmb	02 58 07.8
	comp=Z,83nm,1.5s					
HYBB	Hyderabad (bro	24.66	110	*e*P	P	02 58 02.0 +1.0
HYBB				IAmb	IAmb	02 58 08.2
	comp=Z,138nm,1.3s					
HYB	Hyderabad	24.66	110	*i* P	P	02 58 02.0 +1.0
KPKS	Kokpek	24.83	46	*i* P	P	02 58 00.8 -1.7
	comp=Z,954nm,0.6s					
KPKS				*e*S	S	03 02 22.5 -1.4
KPKS				LR	LR	03 07 49.8
	comp=Z,1μm,12.0s					
ZKR	Zakros	24.92	293	P	P	02 58 03.8 +0.5
ZKR	Zakros	24.92	293	P	P	02 58 03.8 +0.5
ZKR	Zakros	24.92	293	P	P	02 58 03.8 +0.5
URV	Uravakonda	24.94	117	*e*P	P	02 58 03.7 +0.2
URV				IAmb	IAmb	02 58 06.7
	comp=Z,75nm,1.4s					
SHLS	Shalkode	25.18	47	*i* P	P	02 58 06.9 +1.2
	comp=Z,420nm,1.0s					
SHLS				*e*S	S	03 02 32.5 +3.1
SHLS				LR	LR	03 08 14.3
	comp=Z,708nm,11.7s					
PYUN	Piuthan	25.21	83	*e*P	P	02 58 07.4 +1.2
	comp=Z,644nm,1.2s					
PDGK	Podgornoye	25.28	46	P	P	02 58 06.6 +0.1
PDGK				pmax	pmax	
	comp=Z,205nm,1.5s					
PDGK	Podgornoye	25.28	46	P	P	02 58 06.6 +0.1
	comp=Z,205nm,1.5s					
NPS	Neapolis	25.43	294	P	P	02 58 08.8 +0.9
NPS	Neapolis	25.43	294	P	P	02 58 08.8 +0.9
NPS	Neapolis	25.43	294	P	P	02 58 08.8 +0.9
NPS	Neapolis	25.43	294	P	P	02 58 08.8 +0.9
TDK	Taldyqorghan	25.47	42	*e*P	P	02 58 07.0 -1.2
	comp=Z,389nm,1.2s					
TDK				*e*S	S	03 02 32.8 -1.1
TDK				LR	LR	03 08 01.8
	comp=Z,1μm,13.4s					
LAST	Lasithi	25.53	293	P	P	02 58 09.8 +1.0
LAST	Lasithi	25.53	293	P	P	02 58 09.8 +1.0
LAST	Lasithi	25.53	293	P	P	02 58 09.8 +1.0
SRLM	Srisailam	25.61	113	*e*P	P	02 58 11.0 +1.3
SRLM				IAmb	IAmb	02 58 13.9
	comp=Z,109nm,1.1s					
NJS	Nagarjunasagar	25.71	111	*e*P	P	02 58 11.7 +1.1
NJS				IAmb	IAmb	02 58 16.4
	comp=Z,108nm,1.3s					
CHOS	Chios island	25.71	301	P	P	02 58 11.8 +1.3
CHOS	Chios island	25.71	301	P	P	02 58 11.8 +1.3
CHOS	Chios island	25.71	301	P	P	02 58 11.8 +1.3
SANT	Santorini	25.74	296	P	P	02 58 10.5 -0.1
SANT	Santorini	25.74	296	P	P	02 58 10.5 -0.1
SANT	Santorini	25.74	296	*e*P	P	02 58 10.6 -0.1
	comp=Z,318nm,1.0s					
THT1	Athinios (Pele	25.76	296	P	P	02 58 10.8 0.0
VSR	Storozhevoye	25.76	338	*e*P	P	02 58 10.3 -0.4
VSR				pmax	pmax	
	comp=Z,90nm,0.4s					
VSR	Storozhevoye	25.76	338	*e*P	P	02 58 10.3 -0.4
	comp=Z,90nm,0.4s					
THR2	Thira island,	25.77	296	P	P	02 58 11.7 +0.8
THR2	Thira island,	25.77	296	P	P	02 58 11.7 +0.8
THR2	Thira island,	25.77	296	P	P	02 58 11.7 +0.8
THR7	Fira-Santorini	25.77	296	P	P	02 58 11.1 +0.2
THR6	Thira Island,	25.78	296	P	P	02 58 11.2 +0.2
THR6	Thira Island,	25.78	296	P	P	02 58 11.2 +0.2
THR6	Thira Island,	25.78	296	P	P	02 58 11.2 +0.2
KOLN	Koldanda	25.79	84	*e*P	P	02 58 12.2 +0.8
	comp=Z,108nm,1.1s					
PRK	Paraskevi	25.79	303	P	P	02 58 11.9 +0.9
PRK	Paraskevi	25.79	303	P	P	02 58 11.9 +0.9
PRK	Paraskevi	25.79	303	P	P	02 58 11.9 +0.9
PRK	Paraskevi	25.79	303	P	P	02 58 11.9 +0.9
THR3	Thira Island,	25.79	296	P	P	02 58 13.9 +2.8
THR3	Thira Island,	25.79	296	P	P	02 58 13.9 +2.8
THR3	Thira Island,	25.79	296	P	P	02 58 13.9 +2.8
CMBO	Columbo, Santo	25.80	296	P	P	02 58 11.4 +0.3
APE	Apeiranthos	25.81	298	P	P	02 58 11.3 -0.1
APE	Apeiranthos	25.81	298	P	P	02 58 11.3 -0.1
APE	Apeiranthos	25.81	298	P	P	02 58 11.3 -0.1
APE	Apeiranthos	25.81	298	P	P	02 58 11.3 -0.1
THR5	Thira Island,	25.83	296	P	P	02 58 11.8 +0.3
DANN	Dangsing	25.86	82	*e*P	P	02 58 13.9 +1.8
BRZS	Berezniki	25.91	28	*e*P	P	02 58 10.7 -1.4
	comp=Z,32nm,0.9s					
EZN	Ezine	25.92	304	P	P	02 58 12.8 +0.6
EZN	Ezine	25.92	304	P	P	02 58 12.8 +0.6
EZN	Ezine	25.92	304	P	P	02 58 12.8 +0.6
EZN	Ezine	25.92	304	P	P	02 58 12.8 +0.6
IDI	Anoyia	26.02	293	P	P	02 58 13.9 +0.7
	comp=Z,151nm,0.8s,baz=89,slow=9.8,SNR=97					
IDI				S	S	03 02 49.5 +6.6
	comp=Z,6.1nm,0.8s,baz=357,slow=17,SNR=2.2					
IDI	Anoyia	26.02	293	P	P	02 58 13.6 +0.3
IDI	Anoyia	26.02	293	*e*P	P	02 58 14.0 +0.7
	comp=Z,196nm,0.9s					
IDI	Anoyia	26.02	293	*e*P	P	02 58 14.0 +0.7
	comp=Z,196nm,0.9s					
EFOR	EFORIE	26.05	315	⇑ *i*P	P	02 58 14.5 +1.2
VORR	Voronezh	26.14	338	⇑ *i*P	P	02 58 14.0 0.0
VORR				*e*S	S	03 02 47.0 +2.8
VORR				pmax	pmax	
	comp=Z,800nm,1.2s					
VORR	Voronezh	26.14	338	*i* P	P	02 58 14.0 0.0
	comp=Z,800nm,1.2s					
ENEZ	Enez	26.34	306	P	P	02 58 16.8 +0.8
TIRR	Tirgusor	26.37	315	*e*P	P	02 58 16.3 +0.1
TIRR				pmax	pmax	
	comp=Z,74nm,1.0s					
TIRR	Tirgusor	26.37	315	*e*P	P	02 58 16.3 +0.1
	comp=Z,74nm,1.0s					
TIRR	Tirgusor	26.37	315	*e*P	P	02 58 16.3 +0.1
	comp=Z,74nm,1.0s					
PRD	Provadia	26.44	312	*i* P	P	02 58 17.5 +0.7
ALN	Alexandroupoli	26.47	306	P	P	02 58 17.6 +0.4
ALN	Alexandroupoli	26.47	306	P	P	02 58 17.6 +0.4
ALN	Alexandroupoli	26.47	306	P	P	02 58 17.6 +0.4
ALN	Alexandroupoli	26.47	306	P	P	02 58 17.6 +0.4
TLCR		26.49	317	‖ *i*P	P	02 58 16.6 -0.7
TLCR		26.49	317	‖ P	P	02 58 16.6 -0.7
TLCR		26.49	317	‖ *i*P	P	02 58 16.6 -0.7
VAM	Vamos	26.60	293	P	P	02 58 18.6 +0.2
VAM	Vamos	26.60	293	P	P	02 58 18.6 +0.2
VAM	Vamos	26.60	293	P	P	02 58 18.6 +0.2
VAM	Vamos	26.60	293	P	P	02 58 18.6 +0.2
ADKI	Addanki	26.62	112	*e*P	P	02 58 20.3 +1.6
ADKI				IAmb	IAmb	02 58 23.8
	comp=Z,101nm,1.4s					
MHLO	Agia Marina, M	26.63	296	P	P	02 58 18.9 +0.2
GKN	Gorkha	26.67	83	*e*P	P	02 58 19.8 +0.5
IMMV	Iera Moni Meta	26.78	294	P	P	02 58 19.8 -0.3
LIA	Limnos Island	26.78	304	P	P	02 58 20.3 +0.3
LIA	Limnos Island	26.78	304	P	P	02 58 20.3 +0.3
LIA	Limnos Island	26.78	304	P	P	02 58 20.3 +0.3
HARR	Harsova	26.79	315	⇑ *i*P	P	02 58 20.5 +0.5
HARR	Harsova	26.79	315	⇑ P	P	02 58 20.5 +0.5
HARR	Harsova	26.79	315	⇑ *i*P	P	02 58 20.5 +0.5
CFR	Carcaliu	26.90	316	⇑ *i*P	P	02 58 20.7 -0.3
CFR	Carcaliu	26.90	316	⇑ P	P	02 58 20.7 -0.3
CFR	Carcaliu	26.90	316	⇑ *i*P	P	02 58 20.7 -0.3
RDO	Rodhopi	26.92	306	P	P	02 58 21.6 +0.4
RDO	Rodhopi	26.92	306	P	P	02 58 21.6 +0.4
RDO	Rodhopi	26.92	306	P	P	02 58 21.6 +0.4
DMN	Daman	27.13	84	*e*P	P	02 58 24.1 +0.5
	comp=Z,156nm,1.2s					
KDZ	Kurdzhali	27.18	307	*i* P	P	02 58 23.9 +0.3
KKN	Kakani	27.26	83	*e*P	P	02 58 25.2 +0.5
	comp=Z,106nm,1.0s					
PTL	Penteli	27.31	299	P	P	02 58 25.1 +0.2
PTL	Penteli	27.31	299	P	P	02 58 25.1 +0.2
PTL	Penteli	27.31	299	P	P	02 58 25.1 +0.2
VLY	Voula,Athens	27.33	299	P	P	02 58 24.7 -0.2
VLY	Voula,Athens	27.33	299	P	P	02 58 24.7 -0.2
VLY	Voula,Athens	27.33	299	P	P	02 58 24.7 -0.2
EREA	Eretria	27.34	300	P	P	02 58 26.1 +1.0
ATHU	Athens Univers	27.36	299	P	P	02 58 25.2 0.0
ATHU	Athens Univers	27.36	299	P	P	02 58 25.2 0.0
ATHU	Athens Univers	27.36	299	P	P	02 58 25.2 0.0
ANKY	Antikythira Is	27.38	294	P	P	02 58 25.3 -0.2
ANKY	Antikythira Is	27.38	294	P	P	02 58 25.3 -0.2
ANKY	Antikythira Is	27.38	294	P	P	02 58 25.3 -0.2
PKIN	Phulchoki	27.39	84	*e*P	P	02 58 26.2 +0.2
	comp=Z,172nm,1.4s					
PKI	Pulchoki	27.40	84	*e*P	P	02 58 26.5 +0.4
KIS	Kishinev	27.47	320	*e*P	P	02 58 24.0 -2.1
KIS				*e*ScP	S	03 03 20.0 +15
KIS				*e*LQ	LQ	03 06 22.0
KIS				*e*LR	LR	03 07 04.0
	comp=Z,800nm,18.0s					
KIS	Kishinev	27.47	320	*e*P	P	02 58 24.0 -2.1
KIS				*e*		02 59 12.0
KIS				*e*		02 59 20.0
KIS				MLR	MLR	
	comp=Z,700nm,17.0s					
KIS				MLR	MLR	
	comp=Z,800nm,18.0s					
KIS	Kishinev	27.47	320	*e*P	P	02 58 24.0 -2.1
LEOM	Leova	27.51	319	‖ *i*P	P	02 58 26.4 -0.1
LEOM	Leova	27.51	319	‖ P	P	02 58 26.4 -0.1
LEOM	Leova	27.51	319	‖ *i*P	P	02 58 26.4 -0.1
BRVK	Borovoye	27.55	21	*c i* P	P	02 58 27.1 +0.4
BRVK				pmax	pmax	
	comp=Z,198nm,1.7s					
BRVK	Borovoye	27.55	21	*i* P	P	02 58 27.1 +0.4
	comp=Z,198nm,1.7s					
BRVK	Borovoye	27.55	21	*e*P	P	02 58 27.4 +0.6
	comp=Z,84nm,1.4s					
BRVK	Borovoye	27.55	21	P	P	02 58 27.2 +0.4
	SNR=28					
BRVK	Borovoye	27.55	21	P	P	02 58 27.2 +0.4
	SNR=28					
BRVK	Borovoye	27.55	21	P	P	02 58 27.2 +0.4
	SNR=28					
BVA0	Borovoye Array	27.56	21	P	P	02

comp=Z,826nm,1.1s
NEO Neokhori 28.09 301 P P 02 58 32.1 +0.3
NEO Neokhori 28.09 301 P P 02 58 32.1 +0.3
NEO Neokhori 28.09 301 P P 02 58 32.1 +0.3
VRI Vrincioaia 28.10 316⇓iP P 02 58 32.6 +0.8
VRI Vrincioaia 28.10 316 ⇓P P 02 58 32.6 +0.8
VRI Vrincioaia 28.10 316⇓iP P 02 58 32.6 +0.8
SECR 28.12 314⇓iP P 02 58 33.7 +1.8
XOR Xorichti 28.12 302 P P 02 58 32.1 0.0
XOR Xorichti 28.12 302 P P 02 58 32.1 0.0
XOR Xorichti 28.12 302 P P 02 58 32.1 0.0
PLOR Plostina 28.14 316⇑iP P 02 58 33.2 +1.0
PLOR Plostina 28.14 316 ⇑P P 02 58 33.2 +1.0
PLOR Plostina 28.14 316⇑iP P 02 58 33.2 +1.0
NVR Nevrokopi 28.18 306 P P 02 58 33.2 +0.6
NVR Nevrokopi 28.18 306 P P 02 58 33.2 +0.6
NVR Nevrokopi 28.18 306 P P 02 58 33.2 +0.6
PLG Polygyros 28.20 304 P P 02 58 33.8 +1.1
PLG Polygyros 28.20 304 P P 02 58 33.8 +1.1
PLG Polygyros 28.20 304 P P 02 58 33.8 +1.1
PLG Polygyros 28.20 304 P P 02 58 33.8 +1.1
THAL Thalero 28.24 299 P P 02 58 34.0 +0.9
SRS Serrai 28.30 305 P P 02 58 34.3 +0.6
SRS Serrai 28.30 305 P P 02 58 34.3 +0.6
SRS Serrai 28.30 305 P P 02 58 34.3 +0.6
SRS Serrai 28.30 305 P P 02 58 34.3 +0.6
FYTO Fytoko, Volos 28.32 302 P P 02 58 34.2 +0.4
FYTO Fytoko, Volos 28.32 302 P P 02 58 34.2 +0.4
FYTO Fytoko, Volos 28.32 302 P P 02 58 34.2 +0.4
VLX Vlachokerasia 28.34 297 P P 02 58 33.5 -0.6
VLX Vlachokerasia 28.34 297 P P 02 58 33.5 -0.6
VLX Vlachokerasia 28.34 297 P P 02 58 33.5 -0.6
MMB Musomiste 28.35 306 *i* P P 02 58 35.0 +0.9
SORM Soroca 28.38 322⇑iP P 02 58 33.1 -1.1
SORM Soroca 28.38 322 ⇑P P 02 58 33.1 -1.1
SORM Soroca 28.38 322⇑iP P 02 58 33.1 -1.1
SOH Sokhos 28.39 305 P P 02 58 35.6 +1.1
SOH Sokhos 28.39 305 P P 02 58 35.6 +1.1
SOH Sokhos 28.39 305 P P 02 58 35.6 +1.1
SOH Sokhos 28.39 305 P P 02 58 35.6 +1.1
MLR Muntele Rosu 28.40 315 P P 02 58 36.3 +1.7
comp=Z,4.6nm,0.7s,baz=279,slow=11,SNR=17
MLR Muntele Rosu 28.40 315⇑iP P 02 58 36.5 +1.9
MLR Muntele Rosu 28.40 315 ⇑P P 02 58 36.5 +1.9
MLR Muntele Rosu 28.40 315 *e*P P 02 58 36.3 +1.7
comp=Z,59nm,1.0s
MLR Muntele Rosu 28.40 315 *e*P P 02 58 36.3 +1.7
comp=Z,59nm,1.0s
ARU Arti 28.44 5 P P 02 58 35.4 +0.7
comp=Z,8.5nm,0.2s,baz=189,slow=6.5,SNR=14
ARU PcP **PcP 03 01 45.8 -0.5**
comp=Z,7.9nm,0.2s,baz=162,slow=3.2,SNR=2.4
ARU Arti 28.44 5 *e*P P 02 58 35.3 +0.6
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 28.44 5 *e*P P 02 58 35.3 +0.6
comp=Z,27nm,1.0s
ARU Arti 28.44 5 *e*P P 02 58 35.4 +0.7
comp=Z,27nm,1.0s
ARU *e*PcP **PcP 03 01 45.8 -0.5**
GUR Goura 28.47 298 P P 02 58 31.7 -3.6
GUR Goura 28.47 298 P P 02 58 31.7 -3.6
GUR Goura 28.47 298 P P 02 58 31.7 -3.6
TESR Tescani 28.47 318⇓iP P 02 58 35.1 0.0
HORT Hortiatis 28.51 304 P P 02 58 36.3 +0.7
HORT Hortiatis 28.51 304 P P 02 58 36.3 +0.7
HORT Hortiatis 28.51 304 P P 02 58 36.3 +0.7
MAKZ Makanchi 28.54 42 *e*P P 02 58 36.2 +0.5
MAKZ pmax pmax
comp=Z,82nm,1.2s
MAKZ Makanchi 28.54 42 *e*P P 02 58 36.2 +0.5
comp=Z,82nm,1.2s
MAKZ Makanchi 28.54 42 *e*P P 02 58 36.2 +0.5
comp=Z,82nm,1.2s
RAMN Ramite 28.55 85 *e*P P 02 58 36.0 -0.3
comp=Z,77nm,0.9s
HUMR Humele 28.59 313⇓iP P 02 58 37.2 +1.1
KLV Kalavryta, Ach 28.64 299 P P 02 58 35.9 -0.8
KLV Kalavryta, Ach 28.64 299 P P 02 58 35.9 -0.8
KLV Kalavryta, Ach 28.64 299 P P 02 58 35.9 -0.8
AGG Agios Georgios 28.70 301 P P 02 58 36.0 -1.2
AGG Agios Georgios 28.70 301 *e*P P 02 58 36.1 -1.2
AGG pmax pmax
comp=Z,110nm,1.0s
AGG Agios Georgios 28.70 301 P P 02 58 36.0 -1.2
AGG Agios Georgios 28.70 301 *e*P P 02 58 36.1 -1.2
comp=Z,109nm,1.0s
KALE Kalithea 28.71 299 P P 02 58 36.4 -1.0
KALE Kalithea 28.71 299 P P 02 58 36.4 -1.0
KALE Kalithea 28.71 299 P P 02 58 36.4 -1.0
MK01 Makanchi Array 28.71 42 *e*P P 02 58 37.1 -0.2
MK01 Makanchi Array 28.71 42 *e*P P 02 58 37.1 -0.2
MK31 Makanchi Array 28.72 42 *i* P P 02 58 37.3 0.0
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 28.72 42 *i* P P 02 58 37.3 0.0
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 28.72 42 *e*P P 02 58 37.8 +0.5
MK32 Makanchi Array 28.72 42 *e*P P 02 58 37.8 +0.5
MK32 Makanchi Array 28.72 42 *e*PcP PcP 03 01 46.8 -0.5
MK32 Makanchi Array 28.72 42 *e*P P 02 58 37.9 +0.5
MK32 *e*PcP **PcP 03 01 46.8 -0.5**
MKAR Makanchi Array 28.72 42 P P 02 58 37.9 +0.5
comp=Z,5.5nm,0.5s,baz=230,slow=9.0,SNR=57
MKAR PcP **PcP 03 01 46.8 -0.5**
comp=Z,1.9nm,0.6s,baz=259,slow=2.4,SNR=2.8
MKAR LR LR 03 10 12.9
comp=Z,680nm,18.3s,baz=263,slow=37
MKAR P3KPbc 03 30 52.8
comp=Z,1.3nm,0.7s,baz=46,slow=4.2,SNR=7.5
MKAR Makanchi Array 28.72 42 *e*P P 02 58 37.8 +0.5
comp=Z,90nm,0.8s
SERG Sergoula 28.78 299 P P 02 58 37.0 -1.0
LAKA Lakka 28.81 299 P P 02 58 37.6 -0.6
LAKA Lakka 28.81 299 P P 02 58 37.6 -0.6
LAKA Lakka 28.81 299 P P 02 58 37.6 -0.6
KNT Kendrikon 28.82 305 P P 02 58 38.4 +0.2
KNT Kendrikon 28.82 305 P P 02 58 38.4 +0.2
KNT Kendrikon 28.82 305 P P 02 58 38.4 +0.2
KNT Kendrikon 28.82 305 P P 02 58 38.4 +0.2
CHLP Challavanipeta 28.82 103 *e*P P 02 58 39.6 +1.2
CHLP IAmb IAmb 02 58 40.9
comp=Z,29nm,1.1s
LIT Litokhoron 28.83 303 P P 02 58 38.1 -0.3
LIT Litokhoron 28.83 303 P P 02 58 38.1 -0.3
LIT Litokhoron 28.83 303 P P 02 58 38.1 -0.3
LIT Litokhoron 28.83 303 P P 02 58 38.1 -0.3
MTUR Matau 28.84 314⇑iP P 02 58 39.2 +0.8
MTUR Matau 28.84 314 ⇑P P 02 58 39.2 +0.8
MTUR Matau 28.84 314⇑iP P 02 58 39.2 +0.8
AMT Artemida-Makis 28.89 297 P P 02 58 38.4 -0.6
KKB Krupnik 28.90 307 *i* P P 02 58 38.4 -0.5
EFP Efpalio 28.90 299 P P 02 58 38.1 -0.9
ANX Ano Chora 28.92 300 P P 02 58 38.5 -0.8
VOIR 28.94 315⇑iP P 02 58 40.1 +0.8
VOIR 28.94 315 ⇑P P 02 58 40.1 +0.8
VOIR 28.94 315⇑iP P 02 58 40.1 +0.8
MPEP Malo Peshtene 28.95 310 *i* P P 02 58 38.8 -0.6
DRO Drossia 28.96 298 P P 02 58 39.4 -0.2
DOPR Dopca 28.97 316⇓iP P 02 58 40.2 +0.6
KURBB Kurchatov Arra 28.97 33 P P 02 58 40.0 +0.5
comp=Z,16nm,0.6s,baz=232,slow=9.0,SNR=127
KURBB ScP **PcP 03 01 47.6 -0.1**
comp=Z,3.4nm,1.0s,baz=227,slow=2.7,SNR=4.4
KURBB ScP **ScP 03 05 31.9 +4.2**
comp=Z,2.1nm,0.9s,baz=238,slow=3.5,SNR=3.0
SVE Sverdlovsk 29.03 7⇓*e*P P 02 58 40.5 +0.6
SVE pmax pmax
comp=Z,46nm,1.3s
SVE MLR MLR
comp=Z,1μm,12.0s
SVE Sverdlovsk 29.03 7 *e*P P 02 58 40.5 +0.6
comp=Z,1μm,12.0s
VTS Vitosha 29.04 308 P P 02 58 38.1 -2.3
VTS Vitosha 29.04 308⇓iP P 02 58 41.2 +0.8
VTS Vitosha 29.04 308 *e*P P 02 58 40.1 -0.3
VTS pmax pmax
comp=Z,28nm,0.9s
VTS Vitosha 29.04 308 *i* P P 02 58 41.0 +0.6
VTS Vitosha 29.04 308 *e*P P 02 58 40.1 -0.3
comp=Z,28nm,0.9s
VTS Vitosha 29.04 308 *e*P P 02 58 40.0 -0.3
comp=Z,28nm,0.9s

THL Klokotos Trika 29.05 302 P P 02 58 39.1 -1.2
EVR Evrytania 29.07 300 P P 02 58 39.8 -0.8
EVR Evrytania 29.07 300 P P 02 58 39.8 -0.8
EVR Evrytania 29.07 300 P P 02 58 39.8 -0.8
KURK Kurchatov 29.08 32*c* *i*P P 02 58 41.0 +0.6
KURK pmax pmax
comp=Z,198nm,1.7s
KURK Kurchatov 29.08 32 *i* P P 02 58 41.0 +0.6
comp=Z,198nm,1.7s
KURK Kurchatov 29.08 32 *e*PcP PcP 03 01 47.7 -0.3
KURK Kurchatov 29.08 32 *e*P P 02 58 40.9 +0.5
KURK *e*PcP **PcP 03 01 47.6 -0.3**
KURK *e*ScP **ScP 03 05 31.9 +3.9**
KURK Kurchatov 29.08 32 P P 02 58 41.4 +1.0
SNR=18
KURK Kurchatov 29.08 32 P P 02 58 41.4 +1.0
SNR=18
KURK Kurchatov 29.08 32 P P 02 58 41.4 +1.0
SNR=18
VAY Valandovo 29.10 305 *i* P P 02 58 41.2 +0.5
GRG Griva 29.12 304 P P 02 58 40.7 -0.2
GRG Griva 29.12 304 P P 02 58 40.7 -0.2
GRG Griva 29.12 304 P P 02 58 40.7 -0.2
GRG Griva 29.12 304 P P 02 58 40.7 -0.2
PRAR RASCA 29.16 319⇑iP P 02 58 40.6 -0.6
ARR Arges 29.17 314⇓iP P 02 58 41.7 +0.3
RLS Riolos of Patr 29.17 298 P P 02 58 41.2 -0.2
RLS Riolos of Patr 29.17 298 P P 02 58 41.2 -0.2
RLS Riolos of Patr 29.17 298 P P 02 58 41.2 -0.2
PVO Paravola 29.23 299 P P 02 58 37.7 -4.2
ODAN Odare 29.26 85 *e*P P 02 58 42.0 -0.6
comp=Z,39nm,0.9s
TAPN Taplejung 29.46 84 *e*P P 02 58 44.4 0.0
PDO Prodromos 29.49 299 P P 02 58 44.6 +0.4
AKASG Malin Array Be 29.51 327 P P 02 58 43.4 -0.8
comp=Z,9.0nm,0.4s,baz=130,slow=8.4,SNR=76
AKASG PcP **PcP 03 01 48.8 -0.3**
comp=Z,1.6nm,0.6s,baz=108,slow=1.6,SNR=5.5
AKASG S **S 03 03 35.5 -1.9**
comp=Z,2.3nm,0.9s,baz=130,slow=16,SNR=5.1
AKASG LR LR 03 11 04.9
comp=Z,697nm,19.4s,baz=95,slow=38
AKASG Malin Array Be 29.51 327 P P 02 58 43.4 -0.8
AKBB Malin Array Si 29.51 327 *e*P P 02 58 43.5 -0.7
AKBB pmax pmax
comp=Z,63nm,0.9s
AKBB Malin Array Si 29.51 327 *e*P P 02 58 43.5 -0.7
comp=Z,63nm,0.9s
AKBB Malin Array Si 29.51 327 *e*PcP PcP 03 01 48.8 -0.3
AKBB Malin Array Si 29.51 327 *e*P P 02 58 43.5 -0.7
comp=Z,63nm,0.9s
AKBB *e*PcP **PcP 03 01 48.8 -0.3**
KIEV Kiev 29.51 327*c* *i*P P 02 58 43.4 -0.8
KIEV pmax pmax
comp=Z,73nm,0.9s
KIEV Kiev 29.51 327 *i* P P 02 58 43.4 -0.8
comp=Z,73nm,0.9s
KIEV Kiev 29.51 327 *e*P P 02 58 42.4 -1.8
comp=Z,86nm,1.1s
AK11 Malin Array Si 29.52 327 *e*P P 02 58 43.0 -1.3
AK11 Malin Array Si 29.52 327 *e*P P 02 58 43.0 -1.3
KPRO Kipourio 29.63 302 P P 02 58 44.5 -1.1
DSL Palaion Diasel 29.66 300 P P 02 58 44.9 -0.8
DSL Palaion Diasel 29.66 300 P P 02 58 44.9 -0.8
DSL Palaion Diasel 29.66 300 P P 02 58 44.9 -0.8
SEM Semipalatinsk 29.67 34 *e*P P 02 58 44.6 -1.4
comp=Z,296nm,0.6s
SEM *e*S **S 03 03 39.0 -1.3**
SEM LRM MLR 03 11 56.3
comp=Z,754nm,14.5s
KFL Anninata 29.71 298 P P 02 58 45.4 -0.8
LOT Lotru 29.75 314⇑iP P 02 58 46.2 -0.4
SRE Strehaia 29.80 312⇓iP P 02 58 48.4 +1.5
SRE Strehaia 29.80 312 ⇓P P 02 58 48.4 +1.5
SRE Strehaia 29.80 312⇓iP P 02 58 48.4 +1.5
LJBD Adjabya 29.81 284 *i* P P 02 58 46.6 -0.5
SNR=41
FNA Florina 29.82 304 P P 02 58 47.4 +0.2
FNA Florina 29.82 304 P P 02 58 47.4 +0.2
FNA Florina 29.82 304 P P 02 58 47.4 +0.2
FNA Florina 29.82 304 P P 02 58 47.4 +0.2
PENT Pentalofos 29.86 302 P P 02 58 46.9 -0.7
VLS Valsamata 29.87 298 P P 02 58 46.8 -0.8
VLS Valsamata 29.87 298 P P 02 58 46.8 -0.8
VLS Valsamata 29.87 298 P P 02 58 46.8 -0.8
VLS Valsamata 29.87 298 P P 02 58 46.8 -0.8
BURAR Bucovina Array 29.87 319⇓iP P 02 58 47.6 0.0
BURAR Bucovina Array 29.87 319 ⇓P P 02 58 47.6 0.0
OBN Obninsk 29.90 339 P P 02 58 47.8 +0.3
comp=Z,128nm,0.4s,baz=122,slow=1.0,SNR=36
OBN S **S 03 03 42.5 -0.8**
comp=Z,12nm,0.4s,baz=49,slow=19,SNR=4.1
OBN LR LR 03 13 00.9
comp=Z,721nm,19.1s,baz=163,slow=41
OBN Obninsk 29.90 339 *i* P P 02 58 48.1 +0.5
OBN *i* 02 59 49.2
OBN *i* SS SS 03 05 39.5 -11
OBN pmax pmax
comp=Z,147nm,0.8s
OBN MLR MLR
comp=Z,652nm,18.0s
OBN Obninsk 29.90 339 *i* P P 02 58 48.1 +0.5
comp=Z,147nm,0.8s
OBN Obninsk 29.90 339 *e*P P 02 58 48.0 +0.4
comp=Z,178nm,0.6s
BUR08 Bucovina Ar. S 29.90 319 *e*P P 02 58 47.4 -0.4
BUR08 Bucovina Ar. S 29.90 319 *e*P P 02 58 47.4 -0.4
BIA Bitola 29.92 304 *i* P P 02 58 48.9 +0.8
LKD2 Lefkada island 29.93 300 P P 02 58 47.0 -1.1
LKD2 Lefkada island 29.93 300 P P 02 58 47.0 -1.1
LKD2 Lefkada island 29.93 300 P P 02 58 47.0 -1.1
KRUS Krusevo 30.07 305 *i* P P 02 58 50.0 +0.6
SKO Skopje 30.10 306 *i* P P 02 58 49.8 +0.2
MOS Moscow 30.11 341 *e*P P 02 58 49.5 0.0
MOS *e* 02 59 49.1
MOS *e*S **S 03 03 46.9 +0.2**
MOS pmax pmax
comp=Z,300nm,1.4s
MOS pmax pmax
comp=Z,188nm,1.3s
MOS Moscow 30.11 341 *e*P P 02 58 49.5 0.0
comp=Z,188nm,1.3s
ARCR ARCALIA 30.13 317⇓iP P 02 58 50.8 +1.0
OHR Ohrid 30.33 304 *i* P P 02 58 52.0 +0.3
GZR Gura Zlata 30.37 313⇓iP P 02 58 52.1 +0.1
GZR Gura Zlata 30.37 313 ⇓P P 02 58 52.1 +0.1
GZR Gura Zlata 30.37 313⇓iP P 02 58 52.1 +0.1
SGD Sagiada 30.41 301 P P 02 58 51.6 -0.7
MDVR Moldovita 30.83 311⇑iP P 02 58 56.6 +0.5
BMR Baia Mare 30.92 318⇓iP P 02 58 57.6 +0.9
BMR Baia Mare 30.92 318 ⇓P P 02 58 57.6 +0.9
BMR Baia Mare 30.92 318⇓iP P 02 58 57.6 +0.9
WMQ Urumqi 30.93 51 P P 02 58 58.0 +1.0
WMQ pP sP 02 59 11.0 +3.9
WMQ sP pP 02 59 16.5 +12
WMQ S **S 03 04 02.1 +2.2**
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,350nm,4.3s
WMQ LR LR
comp=Z,6μm,26.1s
WMQ LR LR
comp=Z,2μm,26.1s
WMQ LR LR
comp=Z,2μm,21.7s
DRGR 31.00 316⇓iP P 02 58 58.3 +0.8
DRGR 31.00 316 ⇓P P 02 58 58.3 +0.8
DRGR 31.00 316⇓iP P 02 58 58.3 +0.8
TIR Tirane 31.07 304⇓iP P 02 58 58.7 +0.6
TIR Tirane 31.07 304 ⇓P P 02 58 58.7 +0.6
TIR Tirane 31.07 304⇓iP P 02 58 58.7 +0.6
TIR Tirane 31.07 304 *e*P P 02 58 57.5 -0.6
comp=Z,166nm,0.8s
BZS Buzias 31.21 313⇓iP P 02 58 59.8 +0.5
BZS Buzias 31.21 313 ⇓P P 02 58 59.8 +0.5
BZS Buzias 31.21 313⇓iP P 02 58 59.8 +0.5
SIRR Siria 31.44 314⇑iP P 02 59 02.4 +1.1
BEO Beograd 31.67 311 *e*P P 02 59 04.6 +1.3
BEO Beograd 31.67 311 *e*P P 02 59 04.6 +1.3
LVV L'vov 31.68 321 *e*P P 02 59 04.8 +1.3
LVV *e*S **S 03 04 10.4 -1.1**
LVV *e*SS **SS 03 06 27.9 +0.4**

LVV MLR MLR
comp=E,400nm,15.0s
LVV MLR MLR
comp=Z,400nm,15.0s
LVV MLR MLR
comp=N,300nm,16.0s
LVV L'vov 31.68 321 *e*P P 02 59 04.8 +1.3
TRPA Tarpa 31.70 318⇓eS P 02 59 03.8 +0.2
DIVS Divibare 31.75 309⇑iP P 02 59 03.5 -0.8
DRME Dracevica, Mon 31.77 306⇑iP P 02 59 03.3 -1.0
PDG Podgorica 31.78 306⇓iP P 02 59 03.5 -0.9
PDG Podgorica 31.78 306 *e*P P 02 59 03.0 -1.4
UZH Uzhgorod 32.08 318⇓iP P 02 59 06.2 -0.7
UZH *e* 02 59 17.2
UZH *e* 02 59 23.8
UZH *e*S **S 03 04 15.7 -1.9**
UZH Uzhgorod 32.08 318 *i* P P 02 59 06.2 -0.7
BBLS Lazići 32.09 309⇑iP P 02 59 06.5 -0.6
LSA Lhasa 32.14 78 *e*P P 02 59 08.8 +0.5
LSA *e* 03 01 57.1
LSA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 32.14 78 *e*P P 02 59 08.8 +0.5
comp=Z,11nm,0.9s
LSA Lhasa 32.14 78 *e*PcP PcP 03 01 57.1 0.0
LSA Lhasa 32.14 78 *e*P P 02 59 08.8 +0.5
comp=Z,11nm,0.9s
LSA *e*PcP **PcP 03 01 57.1 0.0**
TEKS Tekeris 32.21 310 *e*P P 02 59 07.3 -0.9
FRGS Fruska Gora 32.23 311⇑iP P 02 59 08.3 0.0
UPM Unac-Piva 32.24 307 *e*P P 02 59 07.7 -1.0
KWP Kalwaria Pacla 32.33 320 *e*P P 02 59 09.3 +0.2
KWP Kalwaria Pacla 32.33 320 *e*P P 02 59 09.3 +0.2
KWP Kalwaria Pacla 32.33 320 *e*P P 02 59 09.3 +0.2
HCY Herceg Novi 32.33 306 *e*P P 02 59 07.7 -1.6
PALK Pallekele 32.40 125 *i* P P 02 59 11.5 +1.5
SNR=7.1
PALK Pallekele 32.40 125 *i* P P 02 59 12.4 +2.3
PALK Pallekele 32.40 125 *e*P P 02 59 11.8 +1.7
comp=Z,56nm,1.2s
PALK Pallekele 32.40 125 *e*P P 02 59 11.8 +1.7
comp=Z,56nm,1.2s
BRY Bratogost 32.42 307⇑iP P 02 59 09.0 -1.2
HAPS Han Pijesak,Bl 32.46 309 *e*P P 02 59 09.4 -1.1
TREB Trebinje 32.51 306 *e*P P 02 59 09.3 -1.4
MICGM Minsk 32.66 331 *e*P P 02 59 11.0 -0.9
MICGM *e*pP **pP 02 59 19.0 -0.1**
MICGM *e*PP **PP 03 00 25.0 -0.8**
MICGM *e*S **S 03 04 25.0 -1.4**
MNK Minsk 32.66 331 *e*P P 02 59 11.0 -0.9
MNK *e**PP **pP 02 59 19.0 -0.1**
MNK *e* 03 00 25.0
MNK *e*S **S 03 04 25.0 -1.4**
CRVS Cervenica-Dubn 32.69 318 *e*P P 02 59 12.5 +0.2
CRVS Cervenica-Dubn 32.69 318 *e*P P 02 59 12.5 +0.2
CRVS Cervenica-Dubn 32.69 318 *e*P P 02 59 12.5 +0.2
LSRT Sirt 32.83 284 *i* P P 02 59 14.4 +0.7
SNR=40
STON Ston 33.01 306 P P 02 59 13.8 -1.3
STHS Stebnicka Huta 33.06 319 *e*P P 02 59 16.8 +1.3
STHS pmax pmax
comp=Z,113nm,3.0s
STHS Stebnicka Huta 33.06 319 *e*P P 02 59 16.8 +1.3
comp=Z,113nm,3.0s
STHS Stebnicka Huta 33.06 319 *e*P P 02 59 16.8 +1.3
KECS Kecovo 33.09 317 *e*P P 02 59 16.0 +0.2
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 33.09 317 *e*P P 02 59 16.0 +0.2
comp=Z,31nm,1.0s
KECS Kecovo 33.09 317 *e*P P 02 59 15.9 +0.2
DGZ Jazzator, Alta 33.14 40 *i* P P 02 59 17.4 +1.0
DGZ pmax pmax
comp=Z,20nm,1.2s
DGZ Jazzator, Alta 33.14 40 *i* P P 02 59 17.4 +1.0
comp=Z,20nm,1.2s
PSZ Piszkesteto 33.21 316⇑iP P 02 59 16.8 -0.1
PSZ Piszkesteto 33.21 316 ⇑P P 02 59 16.8 -0.1
PSZ Piszkesteto 33.21 316 *e*P P 02 59 16.9 -0.1
comp=Z,42nm,1.1s
PSZ Piszkesteto 33.21 316⇑*e*S P 02 59 16.8 -0.1
PSZ Piszkesteto 33.21 316 *e*P P 02 59 16.9 -0.1
comp=Z,42nm,1.1s
NACGM Naroch 33.40 331 *e* P 02 59 18.0 -0.4
NACGM *e*LQ LQ 03 06 06.0
NACGM *e*LR LR 03 11 04.0
KMBO Kilima Mbogo 33.41 212 P P 02 59 20.5 +1.3
comp=Z,27nm,1.1s,baz=26,slow=11,SNR=31
KMBO PcP **PcP 03 02 01.0 +0.5**
comp=Z,4.3nm,0.9s,baz=65,slow=3.9,SNR=3.2
KMBO LR LR 03 12 28.5
comp=Z,502nm,18.7s,baz=16,slow=36
KMBO Kilima Mbogo 33.41 212 *e*P P 02 59 21.1 +1.9
comp=Z,36nm,1.1s
KMBO Kilima Mbogo 33.41 212 *e*PcP PcP 03 02 01.0 +0.5
KMBO Kilima Mbogo 33.41 212 *e*P P 02 59 21.1 +1.9
comp=Z,36nm,1.1s
KMBO *e*PcP **PcP 03 02 01.0 +0.5**
KMBO Kilima Mbogo 33.41 212 P P 02 59 21.5 +2.3
SNR=15
KMBO Kilima Mbogo 33.41 212 P P 02 59 21.5 +2.3
SNR=15
KMBO Kilima Mbogo 33.41 212 P P 02 59 21.5 +2.3
SNR=15
SHL Shillong 33.47 86 *e*P P 02 59 21.0 +1.4
SHL *e*x x 03 05 40.0
BUD Budapest 33.58 315⇑eS P 02 59 20.1 +0.1
NIE Niedzica 33.61 319 *e*P P 02 59 20.5 +0.2
NIE Niedzica 33.61 319 *e*P P 02 59 20.5 +0.2
NIE Niedzica 33.61 319 *e*P P 02 59 20.5 +0.2
IDID Didziasalis 33.69 331 *e*P P 02 59 21.1 +0.2
IDID IAmb IAmb 02 59 22.7
comp=Z,44nm,1.1s
LJFR Jufra 33.77 281 *i* P P 02 59 22.7 +0.7
SNR=39
CUC Castrocucco 33.83 301 *e*P P 02 59 23.3 +0.9
comp=Z,123nm,1.1s
CUC Castrocucco 33.83 301 *e*P P 02 59 23.3 +0.9
comp=Z,123nm,1.1s
BLY Banja Luka 33.87 309⇑iP P 02 59 22.3 -0.3
BLY Banja Luka 33.87 309 *e*P P 02 59 22.6 0.0
comp=Z,22nm,0.9s
NVS Novosibirsk 33.90 30⇑iP P 02 59 22.9 +0.2
NVS *e* 03 02 02.5
NVS *e*S **S 03 04 46.3 +0.5**
NVS pmax pmax
comp=Z,63nm,1.7s
NVS smax smax
comp=E,34nm,1.8s
NVS Novosibirsk 33.90 30 *i* P P 02 59 22.9 +0.2
comp=E,63nm,1.7s
IIGN Ignalina 33.94 331 *e*P P 02 59 23.3 +0.3
IIGN IAmb IAmb 02 59 24.9
comp=Z,46nm,0.8s
LANS Liptovska Anna 33.98 318 *e*P P 02 59 24.7 +1.1
LANS Liptovska Anna 33.98 318 *e*P P 02 59 24.7 +1.1
LANS Liptovska Anna 33.98 318 *e*P P 02 59 24.7 +1.1
CSKK Cs´‡kako 34.01 314⇑eS P 02 59 24.1 +0.3
ZAA0 Zalesovo Array 34.07 32 *e*P P 02 59 24.4 +0.2
ZAA0 Zalesovo Array 34.07 32 *e*P P 02 59 24.4 +0.2
ZALV Zalesovo Beam 34.07 32 P P 02 59 24.2 0.0
comp=Z,53nm,0.5s,baz=239,slow=9.6,SNR=107
ZALV S **S 03 04 48.3 -0.1**
comp=Z,4.3nm,0.9s,baz=227,slow=7.7,SNR=4.2
ZALV Zalesovo Beam 34.07 32 *e*P P 02 59 23.7 -0.5
ZAA1 Zalesovo Array 34.07 32 *e*P P 02 59 24.2 0.0
ZAA1 Zalesovo Array 34.07 32 *e*P P 02 59 24.2 0.0
VYHS Vyhne 34.09 316 *e*P P 02 59 24.4 -0.1
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 34.09 316 *e*P P 02 59 24.4 -0.1
comp=Z,19nm,0.9s
VYHS Vyhne 34.09 316 *e*P P 02 59 24.4 -0.1
ISAL Salakas 34.12 331 *e*P P 02 59 24.9 +0.2
ISAL IAmb IAmb 02 59 28.6
comp=Z,44nm,0.9s
KLMR Klimovskoe 34.23 347 *e*P P 02 59 23.1 -2.4
KLMR *e* 03 02 02.5
KLMR pmax pmax
comp=Z,251nm,1.2s
KLMR Klimovskoe 34.23 347 *e*P P 02 59 23.1 -2.4
comp=Z,251nm,1.2s
OJC Ojcow 34.26 320 *e*P P 02 59 25.8 -0.2
OJC Ojcow 34.26 320 *e*P P 02 59 25.7 -0.2

OJC pmax pmax
comp=Z,50nm,0.8s
OJC Ojcow 34.26 320 *e*P **P 02 59 25.7 -0.2**
comp=Z,50nm,0.8s
OJC Ojcow 34.26 320 *e*P **P 02 59 25.7 -0.2**
comp=Z,50nm,0.8s
SUW Suwalki 34.47 327 *e*P **P 02 59 27.1 -0.6**
SUW Suwalki 34.47 327 *e*P **P 02 59 27.1 -0.6**
SUW Suwalki 34.47 327 *e*P **P 02 59 27.1 -0.6**
BEHE Becsehely 34.66 312⇑*i*P **P 02 59 29.9 +0.5**
BEHE Becsehely 34.66 312⇑*e*SKKPbc **P 02 59 30.0 +0.5**
UDBI Udbina 34.78 309 P **P 02 59 29.5 -1.2**
SMOL Smolenice 34.96 316 *e*P **P 02 59 32.2 +0.2**
SMOL Smolenice 34.96 316 *e*P **P 02 59 32.2 +0.2**
SMOL Smolenice 34.96 316 *e*P **P 02 59 32.2 +0.2**
ZAG Zagreb 34.99 311⇑*i*P **P 02 59 32.5 +0.2**
KOGS Kog 35.00 312 *i*P **P 02 59 32.4 0.0**
OKC Ostrava-Krasne 35.05 318⇑*i*P **P 02 59 32.5 -0.3**
OKC *ex* x 02 59 35.1
OKC *ep*P **sP 02 59 42.8 -0.2**
OKC AMS AMS 03 16 30.0
OKC Ostrava-Krasne 35.05 318⇑*i*P **P 02 59 32.5 -0.3**
OKC *e* 02 59 42.8
OKC Ostrava-Krasne 35.05 318 P **P 02 59 32.5 -0.3**
SOP Sopron 35.20 314⇑*e*S **P 02 59 34.0 -0.1**
OZLJ Ozalj 35.28 310 P **P 02 59 34.7 -0.1**
CRES Cresnjev 35.34 311⇑*i*P **P 02 59 35.5 +0.1**
MORC Moravsky Berou 35.38 318⇑*i*P **P 02 59 35.5 -0.2**
MORC Moravsky Berou 35.38 318 ⇑P **P 02 59 35.5 -0.2**
MORC Moravsky Berou 35.38 318 P **P 02 59 35.5 -0.2**
MORC Moravsky Berou 35.38 318 *e*P **P 02 59 35.1 -0.6**
comp=Z,186nm,0.8s
BOJS Bojanci 35.39 310 *i*P **P 02 59 36.0 +0.2**
NVLJ Novalja 35.41 308 P **P 02 59 35.0 -0.9**
CLTB Caltabellotta 35.61 296 *e*P **P 02 59 39.3 +1.4**
comp=Z,122nm,1.3s
CLTB Caltabellotta 35.61 296 *e*P **P 02 59 39.3 +1.4**
comp=Z,122nm,1.3s
PUL Pulkovo 35.65 339⇑*e*P **P 02 59 38.6 +0.8**
PUL pmax pmax
comp=Z,168nm,0.5s
PUL Pulkovo 35.65 339 *e*P **P 02 59 38.6 +0.8**
comp=Z,168nm,0.5s
ARSA Arzberg 35.73 313 *i*P **P 02 59 38.8 +0.1**
comp=Z,17nm,1.0s,SNR=9.4
ARSA Arzberg 35.73 313 P **P 02 59 38.8 +0.1**
comp=Z,17nm,1.0s,SNR=9.4
CONA Conrad Observa 35.73 314 *i*P **P 02 59 38.5 -0.3**
comp=Z,42nm,1.5s,SNR=17
CONA Conrad Observa 35.73 314 P **P 02 59 38.5 -0.3**
comp=Z,42nm,1.5s,SNR=17
GHAR Gharyan 35.79 287 *i*P **P 02 59 39.7 +0.3**
SNR=39
SOKA Soboth 35.87 312 *i*P **P 02 59 39.9 -0.1**
comp=Z,14nm,0.9s,SNR=6.8
SOKA Soboth 35.87 312 P **P 02 59 39.9 -0.1**
comp=Z,14nm,0.9s,SNR=6.8
VSU Vasula 35.89 335*c i*P **P 02 59 40.0 +0.2**
VSU Vasula 35.89 335 *i*P **P 02 59 40.0 +0.2**
KRLC Kraliky 35.95 318⇑*e*P **P 02 59 40.1 -0.5**
KRLC *ex* x 02 59 42.7
KRLC Kraliky 35.95 318 *e*P **P 02 59 40.1 -0.5**
KRLC Kraliky 35.95 318 P **P 02 59 40.1 -0.5**
AQU L'Aquila 36.00 304 *e*P **P 02 59 41.9 +0.8**
AQU pmax pmax
comp=Z,160nm,1.0s
AQU L'Aquila 36.00 304 *e*P **P 02 59 41.9 +0.8**
comp=Z,160nm,1.0s
AQU L'Aquila 36.00 304 *e*P **P 02 59 41.9 +0.8**
comp=Z,157nm,1.0s
CEY Cerknica 36.01 310⇑*i*P **P 02 59 40.6 -0.6**
LJU Ljubljana 36.03 311 *e*P **P 02 59 41.6 +0.3**
LJU Ljubljana 36.03 311⇑*i*P **P 02 59 41.5 +0.3**
OBKA Obir 36.14 311 *i*P **P 02 59 42.1 -0.2**
comp=Z,21nm,1.1s
OBKA Obir 36.14 311 P **P 02 59 42.1 -0.2**
comp=Z,21nm,1.1s
DPC Dobruska-Polom 36.33 318 *e*P **P 02 59 43.4 -0.5**
DPC AMS AMS 03 17 10.0
comp=Z,700nm,16.9s
DPC Dobruska-Polom 36.33 318 *e*P **P 02 59 43.4 -0.5**
DPC MLR MLR
comp=Z,700nm,16.9s
DPC Dobruska-Polom 36.33 318 P **P 02 59 43.4 -0.5**
TREC Trest 36.44 316⇑*e*P **P 02 59 44.4 -0.3**
TREC *ep*P **sP 02 59 53.9 -1.0**
TREC AMS AMS 03 17 50.0
comp=Z,1μm,15.8s
TREC Trest 36.44 316 *e*P **P 02 59 44.4 -0.3**
TREC *e* 02 59 53.9
TREC MLR MLR
comp=Z,1μm,15.8s
TREC Trest 36.44 316 P **P 02 59 44.4 -0.3**
TRI Trieste 36.45 310 *e*P **P 02 59 44.6 -0.3**
TRI pmax pmax
comp=Z,53nm,1.0s
TRI Trieste 36.45 310 *e*P **P 02 59 44.6 -0.3**
comp=Z,53nm,1.0s
TRI Trieste 36.45 310 *e*P **P 02 59 44.6 -0.3**
comp=Z,53nm,1.0s
KSP Ksiaz 36.55 319 *e*P **P 02 59 45.2 -0.4**
KSP Ksiaz 36.55 319 *e*P **P 02 59 45.2 -0.4**
KSP Ksiaz 36.55 319 *e*P **P 02 59 45.2 -0.4**
UPC Upice 36.58 318⇑*e*P **P 02 59 45.7 -0.2**
UPC AMS AMS 03 17 30.0
comp=Z,800nm,17.4s
UPC Upice 36.58 318 *e*P **P 02 59 45.7 -0.2**
UPC MLR MLR
comp=Z,800nm,17.4s
UPC Upice 36.58 318 P **P 02 59 45.7 -0.2**
MOA Molln 36.72 313 *i*P **P 02 59 47.1 -0.1**
comp=Z,31nm,0.9s,SNR=16
MOA Molln 36.72 313 P **P 02 59 47.1 -0.1**
comp=Z,31nm,0.9s,SNR=16
MYKA Terra Mystica 36.78 311 *i*P **P 02 59 47.8 +0.1**
comp=Z,19nm,0.8s,SNR=7.5
MYKA Terra Mystica 36.78 311 P **P 02 59 47.8 +0.1**
comp=Z,19nm,0.8s,SNR=7.5
GOPC GO Pecny, Ondr 37.09 317 *e*P **P 02 59 49.6 -0.6**
GOPC AMS AMS 03 16 30.0
comp=Z,800nm,17.8s
KBA Koelnbreinsper 37.09 312 *i*P **P 02 59 50.4 -0.1**
comp=Z,44nm,0.8s,SNR=24
KBA Koelnbreinsper 37.09 312 P **P 02 59 50.4 -0.1**
comp=Z,44nm,0.8s,SNR=24
PRU Pruhonice 37.26 317⇑*e*P **P 02 59 51.0 -0.7**
PRU *ex* x 02 59 56.9
PRU AMS AMS 03 18 30.0
comp=Z,1μm,22.5s
PRU Pruhonice 37.26 317 *e*P **P 02 59 51.0 -0.7**
PRU *e* 02 59 56.9
PRU MLR MLR
comp=Z,1μm,22.5s
PRU Pruhonice 37.26 317 P **P 02 59 51.0 -0.7**
PRA Prague 37.35 317⇑*e*P **P 02 59 52.0 -0.5**
PRA AMS AMS 03 18 20.0
PRA Prague 37.35 317 *e*P **P 02 59 49.6 -2.9**
PRA MLR MLR
comp=Z,800nm,17.8s
PRA Prague 37.35 317 P **P 02 59 52.0 -0.5**
GEA0 GERESS Array S 37.39 315 *e*P **P 02 59 51.0 -1.9**
GEA0 GERESS Array S 37.39 315 *e*P **P 02 59 51.0 -1.9**
GEC2 GERESS Array S 37.39 315 *e*P **P 02 59 52.2 -0.8**
GEC2 pmax pmax
comp=Z,22nm,1.0s
GEC2 GERESS Array S 37.39 315 *e*P **P 02 59 52.2 -0.8**
comp=Z,22nm,1.0s
GEC2 GERESS Array S 37.39 315 *e*PcP **PcP 03 02 11.8 +0.3**
GEC2 GERESS Array S 37.39 315 *e*P **P 02 59 52.2 -0.8**
comp=Z,22nm,1.1s
GEC2 *e*PcP **PcP 03 02 11.8 +0.3**
GERES GERESS Array B 37.39 315 P **P 02 59 52.1 -0.8**
comp=Z,7.9nm,0.7s,baz=111,slow=8.4,SNR=50
GERES PcP **PcP 03 02 11.8 +0.3**
comp=Z,5.8nm,0.8s,baz=116,slow=3.1,SNR=5.8
GERES ScP **ScP 03 05 57.7 +0.4**
comp=Z,1.7nm,0.7s,baz=134,slow=3.9,SNR=5.9
GERES LR LR 03 17 19.4
comp=Z,267nm,19.9s,baz=103,slow=40
GERES GERESS Array B 37.39 315 P **P 02 59 52.1 -0.8**
PVCC Panska Ves 37.44 318⇑*e*P **P 02 59 52.6 -0.6**
PVCC *ex* x 02 59 55.3
PVCC *ex* x 03 00 00.2
PVCC AMS AMS 03 18 50.0
comp=Z,1μm,22.7s
PVCC Panska Ves 37.44 318 *e*P **P 02 59 52.6 -0.6**
PVCC *e* 03 00 00.2
PVCC MLR MLR
comp=Z,1μm,22.7s
PVCC Panska Ves 37.44 318 P **P 02 59 52.6 -0.6**
TMCR Tamitsa 37.55 348 *e*P **P 02 59 54.3 +0.5**
TMCR pmax pmax
comp=Z,162nm,0.5s
TMCR Tamitsa 37.55 348 *e*P **P 02 59 54.3 +0.5**
comp=Z,162nm,0.5s
ABTA Abfaltersbach 37.56 311 *i*P **P 02 59 54.1 -0.3**
comp=Z,45nm,1.0s,SNR=19
ABTA Abfaltersbach 37.56 311 P **P 02 59 54.1 -0.3**
comp=Z,45nm,1.0s,SNR=19
KHC Kasperske Hory 37.56 315⇑*i*P **P 02 59 53.7 -0.6**
KHC *ex* x 02 59 56.2
KHC *ep*P **sP 03 00 03.0 -1.5**
KHC *ex* x 03 05 58.3
KHC AMS AMS 03 16 40.0
comp=Z,800nm,19.3s
KHC Kasperske Hory 37.56 315⇑*i*P **P 02 59 53.7 -0.6**
KHC *e* 03 00 03.0
KHC MLR MLR
comp=Z,800nm,19.3s
KHC Kasperske Hory 37.56 315 P **P 02 59 53.7 -0.6**
KHC Kasperske Hory 37.56 315 *e*P **P 02 59 53.6 -0.7**
comp=Z,23nm,1.0s
BRG Berggiesshubel 37.94 318⇑*i*P **P 02 59 56.8 -0.6**
comp=Z,46nm,0.9s
BRG *i* 02 59 59.3
comp=Z,45nm,1.0s
BRG *i* 03 00 07.4
comp=Z,16nm,0.7s
BRG *e*PCP **PcP 03 02 13.0 0.0**
comp=Z,23nm,1.4s
BRG SCP **ScP 03 06 04.8 +5.7**
comp=Z,20nm,1.7s
BRG *e* 03 17 41.8
comp=Z,5.0nm,1.1s
comp=N,1μm,16.5s
comp=E,498nm,15.4s
comp=Z,975nm,22.4s
BRG Berggiesshubel 37.94 318⇑*i*P **P 02 59 56.8 -0.6**
BRG *i* 03 00 07.4
BRG *e* 03 02 13.0
BRG pmax pmax
comp=Z,47nm,0.9s
BRG MLR MLR
comp=N,1μm,16.5s
BRG MLR MLR
comp=E,498nm,15.4s
BRG MLR MLR
comp=Z,975nm,22.4s
BRG Berggiesshubel 37.94 318 *i*P **P 02 59 56.8 -0.6**
comp=Z,47nm,0.9s
WTTA Wattenberg 38.27 312 *i*P **P 02 59 59.5 -1.0**
comp=Z,83nm,1.2s,SNR=24
WTTA Wattenberg 38.27 312 P **P 02 59 59.5 -1.0**
comp=Z,83nm,1.2s,SNR=24
FIA0 FINESS Array S 38.29 338 *e*P **P 03 00 00.5 +0.3**
FIA0 FINESS Array S 38.29 338 *e*P **P 03 00 00.5 +0.3**
FIA0 FINESS Array S 38.29 338 *e*P **P 03 00 00.5 +0.3**
FIA1 FINESS Array S 38.29 338 *e*P **P 03 00 00.3 +0.1**
FIA1 FINESS Array S 38.29 338 *e*P **P 03 00 00.3 +0.1**
FINES FINESS Array B 38.29 338 P **P 03 00 00.5 +0.3**
comp=Z,47nm,0.4s,baz=141,slow=9.1,SNR=298
FINES S **S 03 05 52.4 -0.3**
comp=Z,6.8nm,0.9s,baz=153,slow=20,SNR=2.4
FINES FINESS Array B 38.29 338 *i*P **P 03 00 00.1 -0.1**
FINES pmax pmax
comp=Z,47nm,0.4s
FINES FINESS Array B 38.29 338 *i*P **P 03 00 00.1 -0.1**
comp=Z,47nm,0.4s
FINES FINESS Array B 38.29 338 P **P 03 00 00.5 +0.3**
WATA Walderalm 38.33 312 *i*P **P 03 00 00.2 -0.7**
comp=Z,90nm,1.2s,SNR=16
WATA Walderalm 38.33 312 P **P 03 00 00.2 -0.7**
comp=Z,90nm,1.2s,SNR=16
VLC Villacollemand 38.48 307 *e*P **P 03 00 03.2 +1.1**
comp=Z,53nm,0.9s
VLC Villacollemand 38.48 307 *e*P **P 03 00 03.1 +1.1**
comp=Z,53nm,0.9s
NKC Novy Kostel 38.61 317⇑*e*P **P 03 00 02.7 -0.4**
NKC AMS AMS 03 18 00.0
comp=Z,800nm,17.2s
NKC Novy Kostel 38.61 317 *e*P **P 03 00 02.7 -0.4**
NKC MLR MLR
comp=Z,800nm,17.2s
NKC Novy Kostel 38.61 317 P **P 03 00 02.7 -0.4**
MOTA Moosalm 38.64 312 *i*P **P 03 00 02.3 -1.3**
comp=Z,69nm,1.0s,SNR=27
MOTA Moosalm 38.64 312 P **P 03 00 02.3 -1.3**
comp=Z,69nm,1.0s,SNR=27
CLL Collm 38.65 318⇑*i*P **P 03 00 03.0 -0.4**
CLL pmax pmax
comp=Z,70nm,0.9s
CLL MLR MLR
comp=Z,700nm,20.8s
CLL Collm 38.65 318 *i*P **P 03 00 03.0 -0.4**
comp=Z,700nm,20.8s
CLL Collm 38.65 318⇑*i*P **P 03 00 03.0 -0.4**
comp=Z,70nm,0.9s
CLL *e*PP **PnPn 03 01 39.0 +5.0**
CLL *i* PcP **PcP 03 02 15.0 -0.1**
CLL L L 03 19 00.0
comp=Z,700nm,20.8s
CLL Collm 38.65 318 *e*P **P 03 00 02.9 -0.4**
comp=Z,64nm,0.9s
KEST Kesra 38.70 293 P **P 03 00 05.7 +1.5**
comp=Z,57nm,0.9s,baz=238,slow=0.3,SNR=42
KEST PcP **PcP 03 02 16.4 +0.6**
comp=Z,16nm,1.1s,baz=45,slow=2.9,SNR=4.0
KEST LR LR 03 19 43.7
comp=Z,732nm,18.1s,baz=16,slow=42
KEST Kesra 38.70 293 *e*P **P 03 00 05.3 +1.2**
comp=Z,62nm,0.8s
KEST Kesra 38.70 293 *e*P **P 03 00 05.3 +1.2**
comp=Z,62nm,0.8s
KEST *e*PcP **PcP 03 02 16.4 +0.6**
VSL Villasalto 38.72 299 *e*P **P 03 00 05.4 +1.3**
comp=Z,246nm,1.1s
VSL Villasalto 38.72 299 *e*P **P 03 00 05.4 +1.3**
comp=Z,246nm,1.1s
FETA Feichten 38.81 311 *i*P **P 03 00 04.4 -0.6**
comp=Z,86nm,1.1s,SNR=27
FETA Feichten 38.81 311 P **P 03 00 04.4 -0.6**
comp=Z,86nm,1.1s,SNR=27
RETA Reutte 38.90 312 *i*P **P 03 00 04.4 -1.2**
comp=Z,42nm,1.1s,SNR=9.5
RETA Reutte 38.90 312 P **P 03 00 04.4 -1.2**
comp=Z,42nm,1.1s,SNR=9.5
FUORN Ofenpass-Fuorn 39.03 310 *e*P **P 03 00 07.0 0.0**
comp=Z,52nm,1.1s
FUORN Ofenpass-Fuorn 39.03 310 *e*P **P 03 00 07.0 0.0**
comp=Z,52nm,1.1s
GTA Gaotai 39.04 61 ⇑P **P 03 00 08.1 +1.1**
GTA pP sP 03 00 20.5 +3.3
GTA sP pP 03 00 25.9 +12
GTA S **S 03 06 03.6 -1.4**
GTA sS sS 03 06 24.6 +7.7
GTA SS **SnSn 03 08 48.5 -8.7**
GTA pmax pmax
comp=Z,29nm,1.5s
GTA pmax pmax
comp=Z,540nm,4.3s
GTA LR LR
comp=Z,2μm,14.7s
GTA LR LR
comp=Z,1μm,13.8s
GTA LR LR
comp=Z,1μm,14.7s
BSD Bornholm Skovb 39.15 325⇑*i*P **P 03 00 05.7 -1.7**
comp=Z,116nm,0.9s
BSD Bornholm Skovb 39.15 325⇑*i*P **P 03 00 05.7 -1.7**
BSD pmax pmax
comp=Z,120nm,0.9s
BSD Bornholm Skovb 39.15 325⇑*i*P **P 03 00 05.7 -1.7**
comp=Z,116nm,0.9s
GRFO Grafenberg 39.20 315 *e*P **P 03 00 07.6 -0.4**
GRFO pmax pmax
comp=Z,64nm,0.9s
GRFO Grafenberg 39.20 315 *e*P **P 03 00 07.6 -0.4**
comp=Z,64nm,0.9s
GRFO Grafenberg 39.20 315 *e*P **P 03 00 07.6 -0.4**
comp=Z,64nm,0.9s
DAVA Damuels 39.44 311 *i*P **P 03 00 09.2 -1.0**
comp=Z,87nm,0.5s,SNR=36
DAVA Damuels 39.44 311 P **P 03 00 09.2 -1.0**
comp=Z,87nm,0.5s,SNR=36
TUE Stuetta 39.62 310 *e*P **P 03 00 10.6 -1.2**
comp=Z,31nm,0.9s
TUE Stuetta 39.62 310 *e*P **P 03 00 10.6 -1.2**
comp=Z,31nm,0.9s
CMAH Djebel Manchou 40.23 294 P **P 03 00 17.9 +1.0**
CMAH Djebel Manchou 40.23 294 P **P 03 00 17.9 +1.0**
STU Stuttgart 40.23 313 *e*P **P 03 00 14.4 -2.2**
STU pmax pmax
comp=Z,16nm,0.9s
STU Stuttgart 40.23 313 *e*P **P 03 00 14.4 -2.2**
comp=Z,16nm,0.9s
STU Stuttgart 40.23 313 *e*P **P 03 00 14.4 -2.2**
comp=Z,16nm,0.9s
SPAK Spaichingen-Ko 40.34 312⇑*e*P **P 03 00 16.3 -1.3**
COP Copenhagen 40.67 324 *i*P **P 03 00 19.5 -0.6**
comp=Z,94nm,0.9s
COP Copenhagen 40.67 324 *i*P **P 03 00 19.5 -0.6**
COP pmax pmax
comp=Z,94nm,0.9s
COP Copenhagen 40.67 324 *i*P **P 03 00 19.5 -0.6**
comp=Z,94nm,0.9s
CAEH 'Ain El Ouahch 40.68 295 P **P 03 00 21.3 +0.8**
CAEH 'Ain El Ouahch 40.68 295 P **P 03 00 21.3 +0.8**
TOD Tromm 40.69 315 *e*P **P 03 00 19.1 -1.3**
BFO Black Forest 40.69 313 *i*P **P 03 00 20.6 +0.2**
BFO Black Forest 40.69 313 *i*P **P 03 00 20.6 +0.2**
BFO Black Forest 40.69 313 *e*P **P 03 00 20.1 -0.3**
comp=Z,16nm,1.0s
CKFL Kef-Lekhel 40.80 294 P **P 03 00 22.8 +1.1**
CKFL Kef-Lekhel 40.80 294 P **P 03 00 22.8 +1.1**
FELD Feldberg im Sc 40.80 312⇑*e*P **P 03 00 20.2 -1.3**
CASM Ain Smara 40.99 294 P **P 03 00 24.1 +0.9**
CASM Ain Smara 40.99 294 P **P 03 00 24.1 +0.9**
SENIN Lac Senin/Sane 40.99 309 *e*P **P 03 00 21.8 -1.4**
comp=Z,37nm,1.0s
SENIN Lac Senin/Sane 40.99 309 *e*P **P 03 00 21.8 -1.4**
comp=Z,37nm,1.0s
CTEI Djebel Teioual 41.07 294 P **P 03 00 25.0 +1.1**
CTEI Djebel Teioual 41.07 294 P **P 03 00 25.0 +1.1**
KTD Kalmit 41.07 314⇑*e*P **P 03 00 22.4 -1.2**
LANF Langenberg 41.17 313 *e*P **P 03 00 22.6 -1.8**
LANF Langenberg 41.17 313 *e*P **P 03 00 22.6 -1.8**
BNI Bardonecchia 41.23 307 *e*P **P 03 00 24.0 -1.1**
BNI pmax pmax
comp=Z,140nm,1.6s
BNI Bardonecchia 41.23 307 *e*P **P 03 00 24.0 -1.1**
comp=Z,140nm,1.6s
BNI Bardonecchia 41.23 307 *e*P **P 03 00 24.0 -1.1**
comp=Z,145nm,1.6s
RSL Roselend 41.35 308⇑*e*P **P 03 00 24.8 -1.3**
RSL Roselend 41.35 308⇑*e*P **P 03 00 24.8 -1.3**
MOF Molkenrain 41.37 312⇑*e*P **P 03 00 25.0 -1.2**
MOF Molkenrain 41.37 312⇑*e*P **P 03 00 25.0 -1.2**
ECH Echery 41.43 312⇑*e*P **P 03 00 25.0 -1.5**
ECH Echery 41.43 312 *e*P **P 03 00 25.3 -1.2**
ECH pmax pmax
comp=Z,42nm,1.0s
ECH Echery 41.43 312 *e*P **P 03 00 25.3 -1.2**
comp=Z,42nm,1.0s
ECH Echery 41.43 312 *e*P **P 03 00 25.3 -1.2**
comp=Z,42nm,1.0s
LOMF Lomont 41.48 311⇑*e*P **P 03 00 26.0 -1.1**
LOMF Lomont 41.48 311⇑*e*P **P 03 00 26.0 -1.1**
LVZ Lovozero 41.52 349*ce*P **P 03 00 26.7 -0.3**
LVZ pmax pmax
comp=Z,35nm,0.8s
LVZ Lovozero 41.52 349 *e*P **P 03 00 26.7 -0.3**
comp=Z,35nm,0.8s
LVZ Lovozero 41.52 349 *e*P **P 03 00 26.8 -0.3**
comp=Z,64nm,0.9s
ABH Alteburg 41.54 315 *e*P **P 03 00 26.3 -1.2**
CHTO Chiang Mai 41.72 93 P **P 03 00 30.0 +0.8**
comp=Z,805nm,1.3s,comp=Z,8μm
CHTO Chiang Mai 41.72 93 *e*P **P 03 00 30.0 +0.8**
CHTO pmax pmax
comp=Z,240nm,1.2s
CHTO Chiang Mai 41.72 93 *e*P **P 03 00 30.0 +0.8**
comp=Z,240nm,1.2s
CHTO Chiang Mai 41.72 93 *e*P **P 03 00 30.0 +0.8**
comp=Z,239nm,1.2s
CHTO Chiang Mai 41.72 93 P **P 03 00 30.4 +1.2**
SNR=72
CHTO P **P 03 00 30.4 +1.2**
SNR=72
CHTO Chiang Mai 41.72 93 P **P 03 00 30.4 +1.2**
SNR=72
CHTO Chiang Mai 41.72 93 P **P 03 00 30.4 +1.2**
SNR=72
CKHR Kef el Ahmar 41.80 294 P **P 03 00 30.5 +0.7**
CKHR Kef el Ahmar 41.80 294 P **P 03 00 30.5 +0.7**
RUP Ruppelstein 41.81 314⇑*e*P **P 03 00 28.4 -1.3**
CM31 Chiang Mai Arr 41.85 93 *e*P **P 03 00 31.8 +1.5**
CM31 Chiang Mai Arr 41.85 93 *e*PcP **PcP 03 02 26.8 +0.8**
CM31 Chiang Mai Arr 41.85 93 *e*P **P 03 00 31.8 +1.5**
CM31 *e*PcP **PcP 03 02 26.8 +0.8**
CMAR Chiang Mai Arr 41.85 93 P **P 03 00 31.2 +0.9**
comp=Z,51nm,1.0s,baz=286,slow=8.4,SNR=66
CMAR PcP **PcP 03 02 26.8 +0.8**
comp=Z,7.0nm,0.7s,baz=284,slow=4.7,SNR=5.1
CMAR LR LR 03 22 33.2
comp=Z,402nm,18.3s,baz=296,slow=43
CMAR Chiang Mai Arr 41.85 93 P **P 03 00 31.2 +0.9**
MOY Mondy 41.86 43 *e*P **P 03 00 31.6 +1.5**
MOY pmax pmax
comp=Z,91nm,2.0s
MOY Mondy 41.86 43 *e*P **P 03 00 31.6 +1.5**
comp=Z,91nm,2.0s
CM01 Chiang Mai Arr 41.88 93 *e*P **P 03 00 30.9 +0.4**
CM01 Chiang Mai Arr 41.88 93 *e*PcP **PcP 03 02 26.8 +0.7**
CM01 Chiang Mai Arr 41.88 93 *e*P **P 03 00 30.9 +0.4**
CM01 *e*PcP **PcP 03 02 26.8 +0.7**
SET Setif 41.88 294 P **P 03 00 32.0 +1.5**
SET Setif 41.88 294 P **P 03 00 32.0 +1.5**
THEF They Montfort 42.20 312 *e*P **P 03 00 31.0 -1.8**
THEF They Montfort 42.20 312 *e*P **P 03 00 31.0 -1.8**
LZH Lanzhou 42.27 66 *e*P **P 03 00 34.8 +1.0**
LZH pP pP 03 00 40.3 -0.8
LZH S **S 03 06 48.3 -4.9**
LZH pmax pmax
comp=Z,78nm,1.2s
LZH pmax pmax
comp=Z,500nm,4.3s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,910nm,13.0s
LZH LR LR
comp=Z,1μm,14.2s
WLF Walferdange 42.38 314 P **P 03 00 33.6 -0.6**
comp=Z,27nm,1.3s
WLF Walferdange 42.38 314 *e*P **P 03 00 33.6 -0.6**
WLF pmax pmax
comp=Z,32nm,0.8s
WLF Walferdange 42.38 314 *e*P **P 03 00 33.6 -0.6**
comp=Z,32nm,0.8s
WLF Walferdange 42.38 314 *e*P **P 03 00 33.6 -0.6**
comp=Z,32nm,0.8s
LAMP Lampang 42.43 93 P **P 03 00 36.4 +1.3**
comp=Z,24nm,1.1s,comp=Z,234nm
WTSB Winterswijk 42.52 317 *e*P **P 03 00 35.7 +0.3**
comp=Z,121nm,0.8s
UMPA Umpang Tak 42.65 96 P **P 03 00 39.1 +2.3**
comp=Z,57nm,1.1s
MUD Monsted U'grnd 42.65 324 *i*P **P 03 00 36.7 +0.4**
comp=Z,64nm,0.8s
MUD Monsted U'grnd 42.65 324 *i*P **P 03 00 36.7 +0.4**
MUD pmax pmax
comp=Z,64nm,0.8s
MUD Monsted U'grnd 42.65 324 *i*P **P 03 00 36.7 +0.4**
comp=Z,64nm,0.8s
MEM Membach 42.67 315 P **P 03 00 37.1 +0.5**
comp=Z,20nm,1.4s
HGN Heimansgroeve 42.76 316 *e*P **P 03 00 37.3 0.0**
comp=Z,54nm,1.0s
CD2 Chengdu 42.78 74 P **P 03 00 37.3 -0.5**
CD2 S **S 03 06 59.1 -1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,890nm,6.5s
CD2 LR LR
comp=Z,1μm,16.4s

CD2				LR	LR		
	comp=Z,1μm,16.4s						
CD2				LR	LR		
	comp=Z,960nm,13.9s						
BEBN	**Eben Emael**	**42.92**	**316**	P	**P**	**03 00 38.3**	**-0.3**
	comp=Z,13nm,1.2s						
ZAK	**Zakamensk**	**42.95**	**45**	*e*P	**P**	**03 00 39.3**	**+0.3**
ZAK				*e*		03 02 28.9	
ZAK				pmax	pmax		
	comp=Z,17nm,1.5s						
ZAK	**Zakamensk**	**42.95**	**45**	*e*P	**P**	**03 00 39.3**	**+0.3**
	comp=Z,17nm,1.5s						
ZAK	**Zakamensk**	**42.95**	**45**	*e*PcP	**PcP**	**03 02 28.9**	**-0.4**
BCLA	**Clavier**	**43.07**	**315**	P	**P**	**03 00 40.1**	**+0.2**
	comp=Z,37nm,1.6s						
KMI	**Kunming**	**43.11**	**82**	P	**P**	**03 00 41.0**	**+0.2**
KMI				PP	**PP**	**03 02 25.0**	**+3.9**
KMI				S	**S**	**03 07 05.6**	**-0.4**
KMI				SS	**SS**	**03 10 14.3**	**-4.5**
KMI				pmax	pmax		
	comp=Z,43nm,1.2s						
KMI				pmax	pmax		
	comp=Z,310nm,5.8s						
KMI				LR	LR		
	comp=Z,830nm,16.6s						
KMI				LR	LR		
	comp=Z,610nm,14.9s						
KMI				LR	LR		
	comp=Z,510nm,17.8s						
NANT	**Nan**	**43.27**	**92**	P	**P**	**03 00 43.3**	**+1.4**
	comp=Z,31nm,1.3s,comp=Z,346nm						
OSL	**Oslo**	**43.38**	**330**	*e*P	**P**	**03 00 41.6**	**-0.5**
OSL				IAmb	IAmb	03 00 44.8	
	comp=Z,104nm,1.2s						
OSL	**Oslo**	**43.38**	**330**	*e*P	**P**	**03 00 41.6**	**-0.5**
	SNR=28						
NC602	**NORSAR Array S**	**43.40**	**331**	*e*P	**P**	**03 00 41.6**	**-0.6**
NC602				IAmb	IAmb	03 00 44.6	
	comp=Z,76nm,1.4s						
NC602	**NORSAR Array S**	**43.40**	**331**	*e*P	**P**	**03 00 41.7**	**-0.6**
	SNR=28						
UTHA	**Uthaitani**	**43.42**	**97**	P	**P**	**03 00 44.7**	**+1.6**
	comp=Z,17nm,1.3s,comp=Z,177nm						
DOU	**Dourbes**	**43.45**	**314**	P	**P**	**03 00 43.4**	**+0.5**
	comp=Z,23nm,1.1s						
TLY	**Talaya**	**43.46**	**43**	LR	LR	03 20 38.9	
	comp=Z,2μm,19.3s,baz=251,slow=39						
TLY	**Talaya**	**43.46**	**43**	*e*P	**P**	**03 00 44.4**	**+1.4**
TLY				pmax	pmax		
	comp=Z,45nm,2.0s						
TLY				MLR	MLR		
	comp=Z,2μm,18.0s						
TLY	**Talaya**	**43.46**	**43**	*e*P	**P**	**03 00 45.1**	**+2.1**
	comp=Z,31nm,1.4s						
TLY	**Talaya**	**43.46**	**43**	*e*P	**P**	**03 00 45.1**	**+2.1**
	comp=Z,31nm,1.4s						
TLY	**Talaya**	**43.46**	**43**	P	**P**	**03 00 44.0**	**+0.9**
	SNR=6.4						
TLY				P	**P**	**03 00 44.0**	**+0.9**
	SNR=6.4						
TLY	**Talaya**	**43.46**	**43**	P	**P**	**03 00 44.0**	**+0.9**
	SNR=6.4						
TLY	**Talaya**	**43.46**	**43**	P	**P**	**03 00 44.0**	**+0.9**
	SNR=6.4						
PLDF	**La Plantade**	**43.47**	**308**	*e*P	**P**	**03 00 42.2**	**-1.1**
PLDF	**La Plantade**	**43.47**	**308**	*e*P	**P**	**03 00 42.2**	**-1.1**
NC405	**NORSAR Array S**	**43.51**	**331**	*e*P	**P**	**03 00 42.8**	**-0.4**
NC405	**NORSAR Array S**	**43.51**	**331**	*e*P	**P**	**03 00 42.8**	**-0.4**
UTTA	**Uttaradit**	**43.53**	**93**	P	**P**	**03 00 45.4**	**+1.4**
	comp=Z,34nm,1.2s,comp=Z,284nm						
SRDT	**SRDT**	**43.65**	**99**	P	**P**	**03 00 47.1**	**+2.2**
	comp=Z,232nm,1.2s,comp=Z,5μm						
NB201	**NORSAR Array S**	**43.65**	**331**	*e*P	**P**	**03 00 43.9**	**-0.5**
NB201	**NORSAR Array S**	**43.65**	**331**	*e*P	**P**	**03 00 43.9**	**-0.5**
LBL	**Lubilhac**	**43.66**	**307**	*e*P	**P**	**03 00 44.0**	**-0.8**
LBL	**Lubilhac**	**43.66**	**307**	*e*P	**P**	**03 00 44.0**	**-0.8**
NB2	**NORSAR Subarra**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
	comp=Z,24nm,0.5s,baz=119,slow=7.9						
NB2	**NORSAR Subarra**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
	baz=119,slow=7.9						
NB200	**NORSAR Array S**	**43.68**	**331**	*e*P	**P**	**03 00 43.8**	**-0.9**
NB200	**NORSAR Array S**	**43.68**	**331**	*e*P	**P**	**03 00 43.8**	**-0.9**
NB200				*e*PP	**PP**	**03 02 19.8**	**-6.6**
NB200				*e*PcP	**PcP**	**03 02 31.4**	**-0.1**
NOA	**NORSAR Array B**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
	comp=Z,10nm,0.4s,baz=128,slow=7.9,SNR=68						
NOA				PP	**PP**	**03 02 19.8**	**-6.6**
	comp=Z,5.6nm,0.8s,baz=129,slow=11,SNR=4.6						
NOA				PcP	**PcP**	**03 02 31.4**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=104,slow=4.3,SNR=3.5						
NOA	**NORSAR Array B**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
NOA						03 02 31.4	
NOA				pmax	pmax		
	comp=Z,41nm,0.9s						
NOA	**NORSAR Array B**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
	comp=Z,41nm,0.9s						
NOA	**NORSAR Array B**	**43.68**	**331**	P	**P**	**03 00 43.8**	**-0.9**
NC303	**NORSAR Array S**	**43.71**	**331**	*e*P	**P**	**03 00 44.8**	**-0.1**
NC303	**NORSAR Array S**	**43.71**	**331**	*e*P	**P**	**03 00 44.8**	**-0.1**
SNF	**Seneffe**	**43.73**	**315**	P	**P**	**03 00 45.7**	**+0.6**
NAO01	**NORSAR Array S**	**43.73**	**331**	*e*P	**P**	**03 00 44.5**	**-0.5**
NAO01	**NORSAR Array S**	**43.73**	**331**	*e*P	**P**	**03 00 44.5**	**-0.5**
UCC	**Uccle**	**43.74**	**315**	P	**P**	**03 00 45.4**	**+0.2**
KONO	**Kongsberg**	**43.75**	**329**	*e*P	**P**	**03 00 44.5**	**-0.7**
KONO	**Kongsberg**	**43.75**	**329**	*e*P	**P**	**03 00 44.5**	**-0.7**
	SNR=28						
AGO	**Saint Agoulin**	**43.82**	**308**⇑	*e*P	**P**	**03 00 45.4**	**-0.6**
AGO	**Saint Agoulin**	**43.82**	**308**⇑	*e*P	**P**	**03 00 45.4**	**-0.6**
NBO02	**NORSAR Array S**	**43.84**	**331**	*e*P	**P**	**03 00 45.0**	**-0.9**
NBO02	**NORSAR Array S**	**43.84**	**331**	*e*P	**P**	**03 00 45.0**	**-0.9**
EMHD	**Djebel Mahouad**	**43.85**	**294**	P	**P**	**03 00 48.1**	**+1.6**
EMHD	**Djebel Mahouad**	**43.85**	**294**	P	**P**	**03 00 48.1**	**+1.6**
NBO00	**NORSAR Array S**	**43.87**	**331**	*e*P	**P**	**03 00 45.7**	**-0.4**
NBO00	**NORSAR Array S**	**43.87**	**331**	*e*P	**P**	**03 00 45.7**	**-0.4**
PYM	**Petit Puy Mans**	**43.88**	**308**⇑	*e*P	**P**	**03 00 45.8**	**-0.7**
PYM	**Petit Puy Mans**	**43.88**	**308**⇑	*e*P	**P**	**03 00 45.8**	**-0.7**
NC204	**NORSAR Array S**	**43.99**	**331**	*e*P	**P**	**03 00 45.9**	**-1.3**
NC204	**NORSAR Array S**	**43.99**	**331**	*e*P	**P**	**03 00 45.9**	**-1.3**
FILF	**Fillols**	**44.00**	**303**	*e*P	**P**	**03 00 47.7**	**+0.2**
FILF	**Fillols**	**44.00**	**303**	*e*P	**P**	**03 00 47.7**	**+0.2**
LRDF	**Laroque-de-Fa**	**44.03**	**304**⇑	*e*P	**P**	**03 00 47.4**	**-0.3**
LRDF	**Laroque-de-Fa**	**44.03**	**304**⇑	*e*P	**P**	**03 00 47.4**	**-0.3**
TAM	**Tamanrasset**	**44.20**	**275**	*e*P	**P**	**03 00 49.4**	**-0.1**
TAM				pmax	pmax		
	comp=Z,60nm,1.0s						
TAM	**Tamanrasset**	**44.20**	**275**	*e*P	**P**	**03 00 49.4**	**-0.1**
	comp=Z,60nm,1.0s						
TAM	**Tamanrasset**	**44.20**	**275**	*e*P	**P**	**03 00 49.4**	**-0.1**
	comp=Z,60nm,1.0s						
PBKT	**Sadao Pong**	**44.35**	**95**	P	**P**	**03 00 51.7**	**+1.1**
	comp=Z,93nm,1.3s,comp=Z,1μm						
VALF	**Valcebollere**	**44.40**	**303**⇑	*e*P	**P**	**03 00 51.1**	**+0.3**
VALF	**Valcebollere**	**44.40**	**303**⇑	*e*P	**P**	**03 00 51.1**	**+0.3**
SONA0	**Songino Array**	**44.54**	**49**	*e*P	**P**	**03 00 52.7**	**+0.9**
	comp=Z,65nm,1.4s						
SONA0	**Songino Array**	**44.54**	**49**	*e*P	**P**	**03 00 52.7**	**+0.9**
	comp=Z,65nm,1.4s						
SONM	**Songino Array**	**44.54**	**49**	P	**P**	**03 00 52.7**	**+0.9**
	comp=Z,15nm,0.9s,baz=254,slow=8.9,SNR=69						
SONM				LR	LR	03 20 14.0	
	comp=Z,1μm,19.9s,baz=262,slow=37						
SONM	**Songino Array**	**44.54**	**49**	P	**P**	**03 00 52.7**	**+0.9**
SONA1	**Songino Array**	**44.55**	**49**	*e*P	**P**	**03 00 52.0**	**+0.1**
SONA1	**Songino Array**	**44.55**	**49**	*e*P	**P**	**03 00 52.0**	**+0.1**
KEV	**Kevo**	**44.55**	**347**	*e*P	**P**	**03 00 52.1**	**+0.6**
KEV				pmax	pmax		
	comp=Z,110nm,0.7s						
KEV	**Kevo**	**44.55**	**347**	*e*P	**P**	**03 00 52.1**	**+0.6**
	comp=Z,110nm,0.7s						
KEV	**Kevo**	**44.55**	**347**	*e*P	**P**	**03 00 52.1**	**+0.6**
	comp=Z,107nm,0.7s						
ARA0	**ARCESS Array S**	**44.69**	**346**	*e*P	**P**	**03 00 52.8**	**+0.2**
ARA0	**ARCESS Array S**	**44.69**	**346**	*e*PcP	**PcP**	**03 02 34.4**	**-0.3**
ARA0	**ARCESS Array S**	**44.69**	**346**	*e*P	**P**	**03 00 52.8**	**+0.2**
ARA0				*e*PcP	**PcP**	**03 02 34.4**	**-0.3**
ARCES	**ARCESS Array B**	**44.69**	**346**	P	**P**	**03 00 52.8**	**+0.2**
	comp=Z,57nm,0.9s,baz=147,slow=8.1,SNR=157						
ARCES				PcP	**PcP**	**03 02 34.4**	**-0.3**
	comp=Z,15nm,1.0s,baz=150,slow=4.0,SNR=3.4						
ARCES				LR	LR	03 21 32.5	
	comp=Z,554nm,20.9s,baz=150,slow=39						
ARCES	**ARCESS Array B**	**44.69**	**346**	*e*P	**P**	**03 00 52.8**	**+0.2**
ARE0	**ARCESS Array S**	**44.69**	**346**	*e*P	**P**	**03 00 53.1**	**+0.6**
ARE0				IAmb	IAmb	03 00 53.4	
	comp=Z,86nm,1.1s						
ARE0				*e*SS	SS	03 10 49.1	+1.2
ARE0	**ARCESS Array S**	**44.69**	**346**	*e*P	**P**	**03 00 53.2**	**+0.6**
	SNR=28						
ARE0				*e*SS	SS	03 10 49.1	+1.3
	SNR=41						
ARE0	**ARCESS Array S**	**44.69**	**346**	*e*P	**P**	**03 00 53.4**	**+0.8**
	comp=Z,59nm,0.9s						
PHET	**Kaeng Krachan**	**44.73**	**100**	P	**P**	**03 00 57.0**	**+3.4**
	comp=Z,14nm,1.0s						
KTK1	**Kautokeino**	**44.78**	**345**	*e*P	**P**	**03 00 53.4**	**+0.1**
KTK1				IAmb	IAmb	03 00 54.5	
	comp=Z,89nm,0.6s						
KTK1	**Kautokeino**	**44.78**	**345**	*e*P	**P**	**03 00 53.4**	**+0.1**
	SNR=28						
ULN	**Ulaanbaatar**	**44.98**	**49***c*	*i*P	**P**	**03 00 56.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,54nm,1.7s						
ULN	**Ulaanbaatar**	**44.98**	**49**	*i*P	**P**	**03 00 56.0**	**+0.6**
	comp=Z,54nm,1.7s						
ULN	**Ulaanbaatar**	**44.98**	**49**	*e*P	**P**	**03 00 55.6**	**+0.2**
	comp=Z,21nm,0.8s						
ULN	**Ulaanbaatar**	**44.98**	**49**	P	**P**	**03 00 56.4**	**+1.0**
	SNR=19						
ULN				P	**P**	**03 00 56.4**	**+1.0**
	SNR=19						
ULN	**Ulaanbaatar**	**44.98**	**49**	P	**P**	**03 00 56.4**	**+1.0**
	SNR=19						
ULN	**Ulaanbaatar**	**44.98**	**49**	P	**P**	**03 00 56.4**	**+1.0**
	SNR=19						
EBNR	**Beni Rached**	**44.99**	**294**	P	**P**	**03 00 56.5**	**+1.0**
EBNR	**Beni Rached**	**44.99**	**294**	P	**P**	**03 00 56.5**	**+1.0**
ECHA	**Ech Chlef**	**45.13**	**294**	P	**P**	**03 00 58.0**	**+1.4**
ECHA	**Ech Chlef**	**45.13**	**294**	P	**P**	**03 00 58.0**	**+1.4**
ODD1	**Odda**	**45.23**	**328**	*e*P	**P**	**03 00 57.0**	**-0.1**
ODD1				IAmb	IAmb	03 01 00.7	
	comp=Z,275nm,1.9s						
ODD1	**Odda**	**45.23**	**328**	*e*P	**P**	**03 00 57.0**	**-0.1**
	SNR=28						
MOR8	**Moi Rana**	**45.28**	**338**	*e*P	**P**	**03 00 57.0**	**-0.4**
MOR8				IAmb	IAmb	03 00 57.1	
	comp=Z,61nm,1.0s						
MOR8	**Moi Rana**	**45.28**	**338**	*e*P	**P**	**03 00 57.0**	**-0.4**
	SNR=28						
NRIK	**Noril'sk**	**45.51**	**16**	P	**P**	**03 00 59.8**	**+0.7**
	comp=Z,35nm,1.0s,baz=219,slow=6.7,SNR=22						
NRIK				LR	LR	03 22 11.6	
	comp=Z,477nm,18.4s,baz=218,slow=39						
CHAI	**Chaiyaphum**	**45.52**	**95**	P	**P**	**03 01 01.0**	**+1.2**
	comp=Z,10.0nm,1.3s,comp=Z,380nm						
RESF	**Ens**	**45.64**	**304**⇑	*e*P	**P**	**03 01 00.6**	**-0.1**
RESF	**Ens**	**45.64**	**304**⇑	*e*P	**P**	**03 01 00.6**	**-0.1**
STOK	**Stokkvaagen**	**45.84**	**338**	*e*P	**P**	**03 01 02.1**	**+0.4**
STOK				IAmb	IAmb	03 01 02.8	
	comp=Z,188nm,0.9s						
STOK	**Stokkvaagen**	**45.84**	**338**	*e*P	**P**	**03 01 02.1**	**+0.4**
	SNR=28						
SURT	**Suratani**	**45.90**	**106**	P	**P**	**03 01 04.5**	**+1.6**
	comp=Z,9.0nm,1.4s						
KONS	**Konsvik**	**45.91**	**338**	*e*P	**P**	**03 01 02.2**	**0.0**
KONS				IAmb	IAmb	03 01 03.0	
	comp=Z,111nm,1.0s						
KONS	**Konsvik**	**45.91**	**338**	*e*P	**P**	**03 01 02.2**	**0.0**
	SNR=28						
HYA	**Hoyanger**	**45.93**	**330**	*e*P	**P**	**03 01 02.9**	**+0.4**
HYA				IAmb	IAmb	03 01 05.9	
	comp=Z,164nm,1.6s						
HYA	**Hoyanger**	**45.93**	**330**	*e*P	**P**	**03 01 02.9**	**+0.4**
	SNR=28						
MOL	**Molde**	**45.94**	**332**	*e*P	**P**	**03 01 02.8**	**+0.3**
MOL				IAmb	IAmb	03 01 05.8	
	comp=Z,85nm,1.2s						
MOL	**Molde**	**45.94**	**332**	*e*P	**P**	**03 01 02.8**	**+0.3**
	SNR=28						
HAMF	**Hammerfest**	**45.95**	**346**	*e*P	**P**	**03 01 03.2**	**+0.7**
HAMF				IAmb	IAmb	03 01 03.9	
	comp=Z,112nm,0.8s						
HAMF				*e*SS	SS	03 11 12.5	+2.4
HAMF	**Hammerfest**	**45.95**	**346**	*e*P	**P**	**03 01 03.2**	**+0.7**
	SNR=27						
HAMF	**Hammerfest**	**45.95**	**346**	*e*SS	SS	03 11 12.5	+2.4
	SNR=33						
AKN	**Aaknes**	**46.00**	**331**	*e*P	**P**	**03 01 03.4**	**+0.3**
AKN	**Aaknes**	**46.00**	**331**	*e*P	**P**	**03 01 03.4**	**+0.3**
	SNR=28						
BER	**Bergen**	**46.01**	**329**	*e*P	**P**	**03 01 03.1**	**0.0**
BER	**Bergen**	**46.01**	**329**	*e*P	**P**	**03 01 03.1**	**0.0**
	SNR=28						
KHON	**Khomkaen**	**46.08**	**94**	P	P	03 01 09.9	+5.6
	comp=Z,13nm,0.7s,comp=Z,1μm						
STEI	**Steigen**	**46.13**	**341**	*e*P	**P**	**03 01 03.7**	**-0.2**
STEI				IAmb	IAmb	03 01 07.2	
	comp=Z,44nm,0.8s						
STEI	**Steigen**	**46.13**	**341**	*e*P	**P**	**03 01 03.7**	**-0.2**
	SNR=27						
GYA	**Guiyang**	**46.20**	**79**⇓	*i*P	**P**	**03 01 04.9**	**-0.4**
GYA				PP	**PP**	**03 02 59.4**	**+5.6**
GYA				S	**S**	**03 07 56.0**	**+5.5**
GYA				SS	**SS**	**03 11 14.3**	**-1.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,580nm,17.8s						
GYA				LR	LR		
	comp=Z,520nm,18.0s						
GYA				LR	LR		
	comp=Z,550nm,18.4s						
TRO	**Tromso**	**46.28**	**344**	*e*P	**P**	**03 01 09.0**	**+3.9**
TRO				IAmb	IAmb	03 01 12.5	
	comp=Z,148nm,0.8s						
SRAK	**Srakaew**	**46.35**	**97**	P	P	03 01 11.8	+5.4
	comp=Z,240nm,1.2s,comp=Z,2μm						
ATE	**Arette**	**46.41**	**304**⇑	*e*P	**P**	**03 01 06.6**	**0.0**
ATE	**Arette**	**46.41**	**304**⇑	*e*P	**P**	**03 01 06.6**	**0.0**
ODJA	**Bouhanifia**	**46.45**	**293**	P	**P**	**03 01 08.0**	**+0.9**
LARF	**Larrau**	**46.62**	**304**⇑	*e*P	**P**	**03 01 08.4**	**+0.1**
LARF	**Larrau**	**46.62**	**304**⇑	*e*P	**P**	**03 01 08.4**	**+0.1**
XAN	**Xi'an**	**46.62**	**69**	P	**P**	**03 01 07.9**	**-0.6**
XAN				pP	sP	03 01 17.3	-1.5
XAN				S	**S**	**03 07 55.1**	**-1.2**
XAN				pmax	pmax		
	comp=Z,38nm,1.6s						
XAN				pmax	pmax		
	comp=Z,230nm,4.7s						
XAN				LR	LR		
	comp=Z,1μm,26.9s						
XAN				LR	LR		
	comp=Z,860nm,13.4s						
XAN				LR	LR		
	comp=Z,840nm,15.4s						
LOF	**Lofoten**	**46.76**	**340**	*e*P	**P**	**03 01 07.7**	**-1.2**
LOF	**Lofoten**	**46.76**	**340**	*e*P	**P**	**03 01 07.7**	**-1.2**
	SNR=27						
SKNT	**Sakolnakorn**	**46.85**	**93**	P	**P**	**03 01 11.5**	**+1.1**
	comp=Z,72nm,1.4s						
BTO	**Baotou**	**46.88**	**59**	*e*P	**P**	**03 01 10.6**	**+0.2**
OPO	**Ambohidratompo**	**46.94**	**189**	LR	LR	03 18 40.4	
	comp=Z,692nm,21.9s,baz=12,slow=33						
TRTT	**Trang**	**47.24**	**106**	P	**P**	**03 01 16.5**	**+3.1**
	comp=Z,18nm,1.7s,comp=Z,704nm						
WOL	**Wolverton**	**47.30**	**315**⇓	*e*P	**P**	**03 01 13.2**	**-0.1**
WOL				AMB	AMB	03 01 14.6	
	comp=Z,169nm,1.1s						
WOL	**Wolverton**	**47.30**	**315**⇓	*e*P	**P**	**03 01 13.2**	**-0.1**
PANO	**Nakornpanom**	**47.34**	**92**	P	**P**	**03 01 15.3**	**+1.1**
	comp=Z,144nm,1.1s						
ABPO	**Ambohimpanom**	**47.37**	**189**	*e*P	**P**	**03 01 16.2**	**+1.8**
ABPO				pmax	pmax		
	comp=Z,71nm,1.0s						
ABPO	**Ambohimpanom**	**47.37**	**189**	*e*P	**P**	**03 01 16.2**	**+1.8**
	comp=Z,71nm,1.0s						
ABPO	**Ambohimpanom**	**47.37**	**189**	*e*P	**P**	**03 01 16.2**	**+1.8**
	comp=Z,71nm,1.0s						
SNSI	**Sinabang, Aceh**	**47.47**	**115**	P	**P**	**03 01 16.5**	**+1.3**
CWF	**Charnwood Fore**	**47.55**	**317**⇓	*e*P	**P**	**03 01 14.5**	**-0.8**
CWF				AMB	AMB	03 01 15.5	
	comp=Z,57nm,1.2s						
CWF	**Charnwood Fore**	**47.55**	**317**⇓	*e*P	**P**	**03 01 14.5**	**-0.8**
CWF	**Charnwood Fore**	**47.55**	**317**	*e*P	**P**	**03 01 15.2**	**-0.1**
	comp=Z,38nm,0.9s						
TPTI		**47.66**	**113**	P	**P**	**03 01 18.6**	**+2.0**
ENH	**Enshi**	**47.75**	**73**	*e*P	**P**	**03 01 17.5**	**+0.2**
	comp=Z,56nm,0.9s						
ENH	**Enshi**	**47.75**	**73**	*e*P	**P**	**03 01 17.5**	**+0.2**
	comp=Z,56nm,0.9s						
HPK	**Haverah Park**	**47.92**	**319**⇓	*e*P	**P**	**03 01 17.5**	**-0.7**
HPK				AMB	AMB	03 01 21.2	
	comp=Z,142nm,2.1s						
HPK	**Haverah Park**	**47.92**	**319**⇓	*e*P	**P**	**03 01 17.5**	**-0.7**
STRD	**Stroud**	**47.94**	**316**⇓	*e*P	**P**	**03 01 17.8**	**-0.6**
STRD	**Stroud**	**47.94**	**316**⇓	*e*P	**P**	**03 01 17.8**	**-0.6**
KCSI	**Kotacane, Aceh**	**47.99**	**113**	P	P	03 01 25.5	+6.3
HHC	**Hu-ho-hao-te**	**48.03**	**59**	*e*P	**P**	**03 01 19.0**	**-0.4**
HHC				pP	sP	03 01 31.3	+1.6
HHC				sP	pP	03 01 36.3	+9.5
HHC				S	**S**	**03 08 12.3**	**-4.1**
HHC				sS	sS	03 08 32.1	+3.5
HHC				pmax	pmax		
	comp=Z,39nm,0.8s						
HHC				pmax	pmax		
	comp=Z,420nm,4.2s						
HHC				LR	LR		
	comp=Z,1μm,16.0s						
HHC				LR	LR		
	comp=Z,810nm,17.3s						
HHC				LR	LR		
	comp=Z,710nm,17.3s						
EDMD	**Edmundbyers**	**48.27**	**320**⇓	*e*P	**P**	**03 01 20.5**	**-0.4**
EDMD	**Edmundbyers**	**48.27**	**320**⇓	*e*P	**P**	**03 01 20.5**	**-0.4**
MONM	**Monmouth**	**48.34**	**316**⇓	*e*P	**P**	**03 01 20.6**	**-0.8**
MONM	**Monmouth**	**48.34**	**316**⇓	*e*P	**P**	**03 01 20.6**	**-0.8**
HLM1	**Long Mynd**	**48.47**	**317**⇓	*e*P	**P**	**03 01 21.8**	**-0.7**
HLM1				AMB	AMB	03 01 22.8	
	comp=Z,88nm,1.2s						
HLM1	**Long Mynd**	**48.47**	**317**⇓	*e*P	**P**	**03 01 21.8**	**-0.7**
MCH1	**Michaelchurch**	**48.48**	**316**⇓	*e*P	**P**	**03 01 21.8**	**-0.7**
MCH1	**Michaelchurch**	**48.48**	**316**⇓	*e*P	**P**	**03 01 21.8**	**-0.7**
FOEL	**Foel Wylfa**	**48.70**	**317**⇓	*e*P	**P**	**03 01 24.1**	**-0.2**
FOEL				AMB	AMB	03 01 25.1	
	comp=Z,110nm,2.3s						
FOEL	**Foel Wylfa**	**48.70**	**317**⇓	*e*P	**P**	**03 01 24.1**	**-0.2**
ESY	**Stoneypath**	**48.82**	**321**⇓	*e*P	**P**	**03 01 24.8**	**-0.3**
ESY	**Stoneypath**	**48.82**	**321**⇓	*e*P	**P**	**03 01 24.8**	**-0.3**
KESW	**Keswick, Cumbr**	**48.88**	**319**⇓	*e*P	**P**	**03 01 25.3**	**-0.3**
KESW	**Keswick, Cumbr**	**48.88**	**319**⇓	*e*P	**P**	**03 01 25.3**	**-0.3**
DYA	**Yadsworthy**	**48.91**	**314**	*e*P	**P**	**03 01 24.6**	**-1.3**
DYA				AMB	AMB	03 01 28.7	
	comp=Z,89nm,1.2s						
DYA	**Yadsworthy**	**48.91**	**314**	*e*P	**P**	**03 01 25.7**	**-0.2**
	comp=Z,82nm,1.0s						
DYA	**Yadsworthy**	**48.91**	**314**	*e*P	**P**	**03 01 25.7**	**-0.2**
	comp=Z,82nm,1.0s						
DRUM	**Mains of Drumt**	**48.94**	**322**⇓	*e*P	**P**	**03 01 25.5**	**-0.5**
DRUM				AMB	AMB	03 01 28.9	
	comp=Z,170nm,1.3s						
DRUM	**Mains of Drumt**	**48.94**	**322**⇓	*e*P	**P**	**03 01 25.5**	**-0.5**
ES19	**SONSECA Array**	**48.96**	**300**	*e*P	**P**	**03 01 25.8**	**-0.7**
ES19	**SONSECA Array**	**48.96**	**300**	*e*P	**P**	**03 01 25.8**	**-0.7**
LLW	**Llanuwychllyn**	**48.98**	**317**	*e*P	**P**	**03 01 25.9**	**-0.5**
LLW	**Llanuwychllyn**	**48.98**	**317**	*e*P	**P**	**03 01 25.9**	**-0.5**
TIY	**Taiyuan**	**48.98**	**63**	*e*P	**P**	**03 01 27.0**	**+0.3**
TIY				PP	**PP**	**03 03 22.3**	**+2.1**
TIY				S	**S**	**03 08 30.3**	**+0.6**
TIY				pmax	pmax		
	comp=Z,36nm,0.9s						
TIY				pmax	pmax		
	comp=Z,300nm,4.2s						
TIY				LR	LR		
	comp=Z,440nm,10.2s						
TIY				LR	LR		
	comp=Z,500nm,9.1s						
TIY				LR	LR		
	comp=Z,1μm,13.7s						
ESDC	**Sonseca Array**	**49.01**	**300**	P	**P**	**03 01 26.6**	**-0.3**
	comp=Z,20nm,0.9s,baz=75,slow=7.4,SNR=77						
ESDC				LR	LR	03 25 17.0	
	comp=Z,323nm,18.4s,baz=45,slow=40						
ESDC	**Sonseca Array**	**49.01**	**300**	*e*P	**P**	**03 01 26.6**	**-0.3**
ESLA	**Sonseca Array**	**49.01**	**300**	*e*P	**P**	**03 01 26.8**	**-0.1**
	comp=Z,54nm,1.3s						
ESLA	**Sonseca Array**	**49.01**	**300**	*e*P	**P**	**03 01 26.8**	**-0.1**
	comp=Z,54nm,1.3s						
ESK	**Eskdalemuir**	**49.05**	**320**	*e*P	**P**	**03 01 26.0**	**-0.8**
ESK				AMB	AMB	03 01 29.5	
	comp=Z,110nm,2.3s						
ESK	**Eskdalemuir**	**49.05**	**320**	*e*P	**P**	**03 01 26.2**	**-0.6**
ESK				pmax	pmax		
	comp=Z,120nm,1.3s						
ESK	**Eskdalemuir**	**49.05**	**320**	*e*P	**P**	**03 01 26.0**	**-0.8**
ESK	**Eskd

PBAR	Barrancos	51.57	298	*e*P	P	03 01 45.9	-0.3
	comp=Z,413nm,1.2s						
BJI	Beijing	51.61	60	P	P	03 01 45.1	-1.4
BJI				PP	PP	03 03 48.9	+5.0
BJI				S	S	03 09 13.3	+7.2
BJI				SS	SS	03 12 41.9	-0.3
BJI				pmax	pmax		
	comp=Z,21nm,1.1s						
BJI				pmax	pmax		
	comp=Z,150nm,3.1s						
BJI				LR	LR		
	comp=Z,2μm,20.3s						
BJI				LR	LR		
	comp=Z,630nm,21.0s						
BJI				LR	LR		
	comp=Z,360nm,29.4s						
MTE	Manteigas	51.67	301	*e*P	P	03 01 47.4	+0.4
	comp=Z,129nm,1.5s						
MTE	Manteigas	51.67	301	*e*P	P	03 01 47.4	+0.4
	comp=Z,129nm,1.5s						
MTE	Manteigas	51.67	301	*e*P	P	03 01 47.5	+0.4
	comp=Z,65nm,1.2s						
PMRV	Marv??o	51.67	300	*e*P	P	03 01 46.7	-0.3
	comp=Z,84nm,1.2s						
PCBR	Castelo Branco	51.69	300	*e*P	P	03 01 47.2	+0.1
	comp=Z,136nm,1.4s						
PVRL	Vila Real	51.71	302	*e*P	P	03 01 47.4	+0.2
	comp=Z,106nm,1.7s						
POLO	Lamas de Olo	51.75	302	*e*P	P	03 01 48.0	+0.3
	comp=Z,52nm,1.6s						
WHN	Wuhan	51.79	72	⇓P	P	03 01 48.5	+0.5
WHN				S	S	03 09 11.8	+3.0
WHN				pmax	pmax		
	comp=Z,130nm,1.2s						
WHN				LR	LR		
	comp=Z,870nm,11.6s						
WHN				LR	LR		
	comp=Z,1μm,11.6s						
WHN				LR	LR		
	comp=Z,2μm,15.6s						
PCAB	Cabril	51.89	303	*e*P	P	03 01 49.1	+0.5
	comp=Z,91nm,1.4s						
PESTR	Estremoz	51.90	299	*e*P	P	03 01 48.0	-0.7
	comp=Z,68nm,1.2s						
PESTR	Estremoz	51.90	299	*e*PcP	PcP	03 03 02.5	+1.3
PVIS	Viseu	51.90	301	*e*P	P	03 01 49.5	+0.8
	comp=Z,95nm,1.5s						
PGAV	Gavieira, Arco	52.05	303	*e*P	P	03 01 50.3	+0.4
	comp=Z,114nm,1.4s						
RTC	Rabat Centre	52.12	293	*e*P	P	03 01 51.1	+0.8
	comp=Z,1μm,1.2s						
RTC	Rabat Centre	52.12	293	*e*P	P	03 01 51.1	+0.8
	comp=Z,1μm,1.2s						
PVAQ	Vaqueiros	52.21	297	*e*P	P	03 01 50.4	-0.6
	comp=Z,98nm,1.2s						
PVAQ	Vaqueiros	52.21	297	*e*PcP	PcP	03 03 03.5	+1.1
HSPB	Hornsund (broa	52.23	350	*e*P	P	03 01 51.9	+1.4
HSPB				IAmb	IAmb	03 01 55.5	
	comp=Z,54nm,0.9s						
HSPB				*e*SS	SS	03 12 54.7	+3.9
HSPB	Hornsund (broa	52.23	350	*e*P	P	03 01 51.9	+1.4
	SNR=26						
HSPB	Hornsund (broa	52.23	350	*e*SS	SS	03 12 54.7	+3.9
	SNR=32						
PBEJ	Beja	52.23	298	*e*P	P	03 01 51.0	-0.2
	comp=Z,120nm,1.4s						
EVO	Evora	52.27	299	*e*P	P	03 01 50.7	-0.8
	comp=Z,119nm,1.3s						
PMTG	Montargil	52.36	299	*e*P	P	03 01 51.6	-0.5
	comp=Z,78nm,1.5s						
PMTG	Montargil	52.36	299	*e*PcP	PcP	03 03 03.2	+0.3
PTO	Porto	52.39	302	*e*P	P	03 01 53.4	+1.2
PBDV	Barranco-do-Ve	52.41	297	*e*P	P	03 01 51.7	-0.8
	comp=Z,91nm,1.2s						
PCVE	Castro Verde	52.43	297	*e*P	P	03 01 52.3	-0.3
	comp=Z,80nm,1.4s						
PTOM	Tomar	52.43	300	*e*P	P	03 01 52.9	+0.3
	comp=Z,183nm,1.5s						
PCAS	Casmilo, Conde	52.44	300	*e*P	P	03 01 53.0	+0.3
	comp=Z,79nm,1.5s						
BKNI	Bangkinang	52.49	114	*e*P	P	03 01 52.7	-0.7
	comp=Z,69nm,0.5s						
BKNI	Bangkinang	52.49	114	*e*P	P	03 01 52.7	-0.7
	comp=Z,69nm,0.5s						
PNCL	Nicolau / Gran	52.74	298	*e*P	P	03 01 55.0	+0.1
	comp=Z,119nm,1.3s						
PDSI	Padang	52.76	115	P	P	03 01 58.2	+2.9
	comp=Z,14nm,0.5s,comp=Z,9μm						
TIA	Tai'an	52.92	64	⇑P	P	03 01 56.8	+0.5
TIA				pmax	pmax		
	comp=Z,70nm,1.0s						
TIA				pmax	pmax		
	comp=Z,640nm,3.1s						
TIA				LR	LR		
	comp=Z,640nm,17.6s						
TIA				LR	LR		
	comp=Z,500nm,13.9s						
TIA				LR	LR		
	comp=Z,730nm,17.4s						
MORF	Marmelete	52.96	297	*e*P	P	03 01 53.2	-3.4
SPA0	Spitsbergen Ar	52.96	351	*e*P	P	03 01 56.8	+0.8
SPA0				IAmb	IAmb	03 02 00.1	
	comp=Z,70nm,0.9s						
SPA0	Spitsbergen Ar	52.96	351	*e*P	P	03 01 56.8	+0.8
	SNR=26						
SPA0	Spitsbergen Ar	52.96	351	*e*P	P	03 01 57.0	+1.1
LIS	Lisbon	53.13	299	*e*P	P	03 01 58.1	+0.4
PFVI	Vila Bisbo	53.13	297	*e*P	P	03 01 57.6	-0.2
	comp=Z,160nm,1.3s						
PFVI	Vila Bisbo	53.13	297	*e*P	P	03 01 57.6	-0.2
	comp=Z,160nm,1.3s						
PFVI	Vila Bisbo	53.13	297	*e*P	P	03 01 57.8	0.0
	comp=Z,89nm,0.8s						
PMST	Lisbon--Monsan	53.15	299	*e*P	P	03 01 57.3	-0.6
KGM	Kluang	53.40	110	⇑P	P	03 02 01.1	+1.1
HIA	Hailar	53.45	48	*e*P	P	03 02 01.0	+1.0
HIA				pmax	pmax		
	comp=Z,42nm,1.2s						
HIA	Hailar	53.45	48	*e*P	P	03 02 01.0	+1.0
	comp=Z,42nm,1.2s						
HIA	Hailar	53.45	48	*e*P	P	03 02 01.0	+1.0
	comp=Z,42nm,1.2s						
MYKOM	Kota Tinggi	53.97	110	*e*P	P	03 02 03.5	-0.7
	comp=Z,99nm,1.7s						
MYKOM	Kota Tinggi	53.97	110	*e*P	P	03 02 03.5	-0.7
	comp=Z,99nm,1.7s						
KBS	Kingsbay	54.12	351	*e*P	P	03 02 05.0	+0.6
KBS				IAmb	IAmb	03 02 08.7	
	comp=Z,51nm,0.7s						
KBS	Kingsbay	54.12	351	*e*P	P	03 02 05.2	+0.8
KBS				pmax	pmax		
	comp=Z,52nm,0.7s						
KBS	Kingsbay	54.12	351	*e*P	P	03 02 05.0	+0.6
	SNR=25						
KBS	Kingsbay	54.12	351	*e*P	P	03 02 05.2	+0.8
	comp=Z,52nm,0.7s						
NJ2	Nanjing	55.19	69	*e*P	P	03 02 13.3	+0.4
NJ2				pmax	pmax		
	comp=Z,74nm,1.0s						
DL2	Dalian	55.95	60	P	P	03 02 19.6	+1.3
DL2				S	S	03 10 03.3	-1.6
DL2				pmax	pmax		
	comp=Z,73nm,1.6s						
DL2				pmax	pmax		
	comp=Z,290nm,4.5s						
DL2				LR	LR		
	comp=Z,940nm,20.6s						
DL2				LR	LR		
	comp=Z,610nm,24.0s						
DL2				LR	LR		
	comp=Z,960nm,11.1s						
MDSI	Maura Dua	57.86	116	P	P	03 02 29.9	-2.2
CN2	Changchun	57.93	54	*e*P	P	03 02 32.3	+0.1
CN2				*e*pP	sP	03 02 45.0	+2.4
CN2				*e*S	S	03 10 26.5	-4.4
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
CN2				LR	LR		
	comp=Z,3μm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,17.0s						
TIXI	Tiksi	58.69	21	LR	LR	03 30 21.9	
	comp=Z,314nm,18.8s,baz=266,slow=39						
TIXI	Tiksi	58.69	21	⇑*i*P	P	03 02 36.9	-0.2
TIXI				pmax	pmax		
	comp=Z,55nm,1.7s						
TIXI	Tiksi	58.69	21	*i*P	P	03 02 36.9	-0.2
	comp=Z,55nm,1.7s						
TIXI	Tiksi	58.69	21	*e*P	P	03 02 37.0	0.0
	comp=Z,67nm,1.5s						
YAK	Yakutsk	58.72	32	LR	LR	03 31 46.4	
	comp=Z,849nm,18.5s,baz=0.0,slow=40						
YAK	Yakutsk	58.72	32	*e*P	P	03 02 36.4	-1.0
YAK				*e**PP	sP	03 02 48.5	+0.7
YAK				*e*		03 03 26.9	
YAK				*e*		03 04 49.2	
YAK				*e*S	S	03 10 38.4	-2.2
YAK				*e**SS	sS	03 11 01.1	+8.1
YAK				*e*		03 12 19.6	
YAK				*e*SS	SS	03 14 35.2	+1.9
YAK				*e*SSS	SSS	03 17 05.5	
YAK				pmax	pmax		
	comp=Z,49nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,15nm,1.4s						
YAK				pmax	pmax		
	comp=Z,45nm,1.3s						
YAK				pmax	pmax		
	comp=N,110nm,1.8s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				smax	smax		
	comp=N,241nm,5.6s						
YAK				MLR	MLR		
	comp=Z,738nm,10.0s						
YAK				MLR	MLR		
	comp=N,683nm,14.0s						
YAK	Yakutsk	58.72	32	*e*P	P	03 02 36.4	-1.0
	comp=N,15nm,1.4s						
YAK	Yakutsk	58.72	32	*e*PcP	PcP	03 03 26.9	-0.1
YAK	Yakutsk	58.72	32	*e*P	P	03 02 36.9	-0.4
	comp=N,112nm,1.1s						
DAG	Danmarks Havn	58.96	345	⇑*i*P	P	03 02 38.9	+0.1
	comp=N,38nm,0.9s						
DAG	Danmarks Havn	58.96	345	⇑*i*P	P	03 02 38.9	+0.1
DAG				pmax	pmax		
	comp=Z,32nm,0.9s						
TSUM	Tsumeb	59.00	221	*e*P	P	03 02 40.9	+0.9
	comp=Z,47nm,1.1s						
TSUM	Tsumeb	59.00	221	*e*P	P	03 02 40.9	+0.9
	comp=Z,47nm,1.1s						
SCO	Scoresbysund	59.22	338	*i*P	P	03 02 41.9	+1.2
SCO	Scoresbysund	59.22	338	*i*P	P	03 02 41.9	+1.2
SCO	Scoresbysund	59.22	338	*i*P	P	03 02 41.9	+1.2
TPUB	Ta-pu	59.23	78	*e*P	P	03 02 46.4	+4.8
	comp=Z,140nm,1.5s						
YHNB	Yeheng	59.42	77	*e*P	P	03 02 44.8	+1.8
	comp=Z,185nm,1.2s						
YHNB	Yeheng	59.42	77	*e*P	P	03 02 44.8	+1.8
	comp=Z,185nm,1.2s						
LBTB	Lobatse	59.66	210	*e*P	P	03 02 45.2	+0.7
LBTB				pmax	pmax		
	comp=Z,70nm,0.9s						
LBTB	Lobatse	59.66	210	*e*P	P	03 02 45.2	+0.7
	comp=Z,70nm,0.9s						
LBTB	Lobatse	59.66	210	*e*P	P	03 02 45.2	+0.7
	comp=Z,70nm,0.9s						
YULB	Yu-li	59.78	78	*e*P	P	03 02 50.1	+4.7
	comp=Z,80nm,1.5s						
DBIC	Dimbokro	59.81	261	P	P	03 02 44.8	-0.9
	comp=Z,71nm,0.8s,baz=42,slow=8.1,SNR=76						
DBIC				LR	LR	03 29 48.7	
	comp=Z,454nm,21.3s,baz=42,slow=37						
DBIC	Dimbokro	59.81	261	*e*P	P	03 02 45.1	-0.6
DBIC				pmax	pmax		
	comp=Z,86nm,0.9s						
DBIC	Dimbokro	59.81	261	*e*P	P	03 02 45.1	-0.6
	comp=Z,86nm,0.9s						
DBIC	Dimbokro	59.81	261	*e*P	P	03 02 45.0	-0.6
	comp=Z,86nm,0.8s						
KIC	Kosan Boka	59.86	261	*e*P	P	03 02 43.8	-2.2
	comp=Z,188nm,1.0s						
TIC	Toumodi	59.97	261	*e*P	P	03 02 45.9	-0.9
INCN	Inchon	60.11	61	*e*P	P	03 02 47.6	+0.1
	comp=Z,93nm,1.3s						
INCN	Inchon	60.11	61	*e*P	P	03 02 47.6	+0.1
	comp=Z,93nm,1.3s						
LIC	Lamto	60.17	261	*e*P	P	03 02 45.7	-2.5
	comp=Z,252nm,0.9s						
CGJI	Cibinong	60.34	117	P	P	03 02 51.1	+1.8
PMAR	Madeira	60.59	294	*e*P	P	03 02 51.5	+0.5
	comp=Z,275nm,1.2s						
FUL	Funchal	60.59	293	*e*P	P	03 02 51.1	+0.3
SBUM	Sibu	60.68	104	*e*P	P	03 02 51.7	+0.1
	comp=Z,24nm,1.2s						
SBUM	Sibu	60.68	104	*e*P	P	03 02 51.7	+0.1
	comp=Z,24nm,1.2s						
SBUM	Sibu	60.68	104	⇓P	P	03 02 52.5	+0.9
MDJ	Mudanjiang	60.71	52	P	P	03 02 50.8	-0.7
MDJ				PP	PP	03 05 02.3	-2.8
MDJ				S	S	03 11 01.5	-5.3
MDJ				ScS	SKKSac	03 12 40.1	-0.7
MDJ				pmax	pmax		
	comp=Z,13nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.0s						
MDJ				LR	LR		
	comp=Z,520nm,24.6s						
MDJ				LR	LR		
	comp=Z,370nm,23.6s						
MDJ				LR	LR		
	comp=Z,290nm,29.3s						
MDJ	Mudanjiang	60.71	52	*e*P	P	03 02 50.7	-0.7
	comp=Z,75nm,1.9s						
MDJ	Mudanjiang	60.71	52	*e*P	P	03 02 50.7	-0.7
	comp=Z,75nm,1.9s						
BTM	Bintulu	61.04	103	⇓P	P	03 02 55.0	+0.9
KS01	Wonju Array Si	61.08	61	*e*P	P	03 02 52.6	-1.5
KS01	Wonju Array Si	61.08	61	*e*P	P	03 02 52.6	-1.5
KS15	Wonju Array Si	61.08	61	*e*P	P	03 02 54.0	-0.1
KS15	Wonju Array Si	61.08	61	*e*P	P	03 02 54.0	-0.1
KSAR	Wonju Array Be	61.08	61	P	P	03 02 53.8	-0.3
KSAR	Wonju Array Be	61.08	61	P	P	03 02 53.8	-0.3
KSAR	Wonju Array Be	61.08	61	P	P	03 02 53.8	-0.3
KSRS	Korea Array	61.11	61	P	P	03 02 53.8	-0.5
	comp=Z,12nm,0.8s,baz=277,slow=7.2,SNR=33						
KSRS				LR	LR	03 31 37.1	
	comp=Z,350nm,19.1s,baz=292,slow=38						
KSRS	Korea Array	61.11	61	P	P	03 02 53.8	-0.5
KSRS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,350nm,19.1s						
MSHR	Mys Shultsa	62.27	54	*c*e*P	P	03 03 01.4	-0.5
MSHR	Mys Shultsa	62.27	54	*e*P	P	03 03 01.4	-0.5
KKM	Kota Kinabalu	62.37	98	*e*P	P	03 03 03.4	+0.2
	comp=Z,68nm,1.2s						
KKM	Kota Kinabalu	62.37	98	*e*P	P	03 03 03.4	+0.2
	comp=Z,68nm,1.2s						
USRK	Ussuriysk Ar.	62.48	52	P	P	03 03 02.7	-0.7
	comp=Z,6.4nm,0.8s,baz=276,slow=6.9,SNR=9.8						
USRK				LR	LR	03 32 07.4	
	comp=Z,846nm,18.2s,baz=275,slow=38						
KDM	Kudat	62.51	97	⇑P	P	03 03 04.7	+0.8
XMIS	Christmas Isla	62.69	120	*e*P	P	03 03 03.8	-1.4
	comp=Z,163nm,1.3s						
XMIS	Christmas Isla	62.69	120	*e*P	P	03 03 03.8	-1.4
	comp=Z,163nm,1.3s						
BOSA	Boshof	62.94	209	*e*P	P	03 03 07.1	+0.5
BOSA				pmax	pmax		
	comp=Z,52nm,0.9s						
BOSA	Boshof	62.94	209	*e*P	P	03 03 07.1	+0.5
	comp=Z,52nm,0.9s						
BOSA	Boshof	62.94	209	*e*P	P	03 03 07.1	+0.5
	comp=Z,52nm,0.9s						
HABR	Khabarovsk	63.56	47	*e*P	P	03 03 08.3	-2.1
HABR				*e*		03 03 44.3	
HABR				*e*		03 05 28.4	
HABR				*e*PPP	PPP	03 06 58.2	
HABR				*e*S	S	03 11 38.6	-3.9
HABR				*e*		03 12 57.1	
HABR				*e*SS	SS	03 15 47.4	-2.1
HABR				pmax	pmax		
	comp=N,23nm,1.8s						
HABR				pmax	pmax		
	comp=Z,95nm,1.8s						
HABR				pmax	pmax		
	comp=E,64nm,1.6s						
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
HABR	Khabarovsk	63.56	47	*e*P	P	03 03 08.3	-2.1
HABR	Khabarovsk	63.56	47	*e*PcP	PcP	03 03 44.3	-2.5
SUMG	Summit	64.28	340	⇑*i*P	P	03 03 16.1	+0.8
	comp=Z,116nm,1.0s						
SUMG	Summit	64.28	340	⇑*i*P	P	03 03 16.1	+0.8
SUMG				pmax	pmax		
	comp=Z,120nm,1.0s						
SUMG	Summit	64.28	340	⇑*i*P	P	03 03 16.1	+0.8
	comp=Z,116nm,1.0s						
SUMG	Summit	64.28	340	*e*P	P	03 03 15.7	+0.4
	comp=Z,115nm,0.9s						
JOW	Kunigami	64.56	72	*e*P	P	03 03 16.4	-1.1
	comp=Z,153nm,1.5s						
JOW	Kunigami	64.56	72	*e*P	P	03 03 16.4	-1.1
	comp=Z,153nm,1.5s						
MYLDM	Lahad Datu	64.78	98	*e*P	P	03 03 19.0	0.0
	comp=Z,221nm,1.8s						
MYLDM	Lahad Datu	64.78	98	*e*P	P	03 03 19.0	0.0
	comp=Z,221nm,1.8s						
TYV	Tymovskoe	67.69	43	*e*P	P	03 03 37.6	+0.5
TYV				*e*S	S	03 12 32.9	-0.1
TYV				pmax	pmax		
	comp=Z,500nm,4.2s						
TYV				pmax	pmax		
	comp=Z,57nm,1.5s						
TYV				smax	smax		
	comp=E,2μm,4.8s						
TYV	Tymovskoe	67.69	43	*e*P	P	03 03 37.6	+0.5
	comp=E,57nm,1.5s						
TYV				*e*S	S	03 12 32.9	-0.1
MPSI	Mapaga	68.36	102	P	P	03 03 42.4	+0.6
INU	Inuyama	68.74	60	*e*P	P	03 03 42.9	-1.1
	comp=E,66nm,1.2s						
INU	Inuyama	68.74	60	*e*P	P	03 03 42.9	-1.1
	comp=E,66nm,1.2s						
SEY	Seymchan	68.85	29	⇑*i*P	P	03 03 44.0	-0.2
SEY	Seymchan	68.85	29	*i*P	P	03 03 44.0	-0.2
YSS	Yuzh-Sakhalins	68.97	47	*e*P	P	03 03 43.9	-1.3
YSS				*e*		03 03 49.9	
YSS				*e*		03 04 05.9	
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
YSS	Yuzh-Sakhalins	68.97	47	*e*P	P	03 03 43.9	-1.3
	comp=Z,60nm,0.8s						
YSS	Yuzh-Sakhalins	68.97	47	*e*P	P	03 03 44.2	-1.0
	comp=Z,85nm,1.1s						
MJB9	Matsu-Tunnel	69.23	59	*e*P	P	03 03 47.2	+0.1
	comp=Z,6.5nm,1.1s						
MJB9	Matsu-Tunnel	69.23	59	*e*P	P	03 03 47.2	+0.1
	comp=Z,6.5nm,1.1s						
MAJO	Matsushiro	69.24	59	*e*P	P	03 03 46.6	-0.5
MAJO				pmax	pmax		
	comp=Z,25nm,1.1s						
MAJO	Matsushiro	69.24	59	*e*P	P	03 03 46.6	-0.5
	comp=Z,25nm,1.1s						
MAJO	Matsushiro	69.24	59	*e*P	P	03 03 46.6	-0.5
	comp=Z,25nm,1.1s						
MAT	Matsushiro	69.24	59	P	P	03 03 45.9	-1.2
MAT				S	S	03 12 51.4	-0.6
MJAR	Matsushiro Arr	69.24	59	P	P	03 03 46.6	-0.4
	comp=Z,17nm,1.2s,baz=297,slow=9.1,SNR=12						
MJAR				LR	LR	03 36 50.5	
	comp=Z,267nm,18.9s,baz=295,slow=38						
MJAR	Matsushiro Arr	69.24	59	P	P	03 03 46.6	-0.4
ILULI	Ilulissat	69.28	338	*i*P	P	03 03 47.0	+0.3
	comp=Z,59nm,1.1s						
ILULI	Ilulissat	69.28	338	*i*P	P	03 03 47.0	+0.3
ILULI				pmax	pmax		
	comp=Z,59nm,1.1s						
ILULI	Ilulissat	69.28	338	*i*P	P	03 03 47.0	+0.3
	SNR=19						
ILULI	Ilulissat	69.28	338	*e*P	P	03 03 47.0	+0.3
	comp=Z,56nm,1.1s						
MA2	Magadan	69.29	33	⇓*i*P	P	03 03 46.5	-0.4
MA2	Magadan	69.29	33	*i*P	P	03 03 46.5	-0.4
TULEG	Thule	69.97	348	*i*P	P	03 03 50.7	-0.1
	SNR=19						
TULEG	Thule	69.97	348	*e*P	P	03 03 50.6	-0.2
	comp=Z,140nm,1.2s						
TTSI	Tana Toraja	70.01	105	P	P	03 03 51.8	-0.3
	comp=Z,18nm,0.9s,comp=Z,707nm						
SFJD	Kangerlussuaq	70.04	336	*i*P	P	03 03 51.2	-0.2
SFJD	Kangerlussuaq	70.04	336	*e*P	P	03 03 51.2	-0.2
SFJD				pmax	pmax		
	comp=Z,39nm,1.1s						
SFJD	Kangerlussuaq	70.04	336	*i*P	P	03 03 51.2	-0.2
	SNR=19						
SFJD	Kangerlussuaq	70.04	336	*e*P	P	03 03 51.2	-0.2
	comp=Z,39nm,1.1s						
MRSI	Marisa	70.06	101	P	P	03 03 53.9	+1.5
	comp=Z,55nm,1.8s,comp=Z,2μm						
NRS	Narsarsuaq	70.29	330	*i*P	P	03 03 53.3	+0.3
	comp=Z,63nm,1.0s						
NRS	Narsarsuaq	70.29	330	*i*P	P	03 03 53.3	+0.3
NRS				pmax	pmax		
	comp=Z,63nm,1.0s						
NRS	Narsarsuaq	70.29	330	*i*P	P	03 03 53.3	+0.3
	comp=Z,63nm,1.0s						
APSI	Ampana	70.50	102	P	P	03 04 01.4	+6.3
KAPI	Kappang	70.97	107	*e*P	P	03 03 57.5	-0.4
	comp=Z,172nm,1.5s						
KAPI	Kappang	70.97	107	*e*P	P	03 03 57.5	-0.4
	comp=Z,172nm,1.5s						
KAPI	Kappang	70.97	107	P	P	03 03 58.4	+0.5
	SNR=7.6						
KAPI				P	P	03 03 58.4	+0.5
	SNR=7.6						
KAPI	Kappang	70.97	107	P	P	03 03 58.4	+0.5
	SNR=7.6						
KAPI	Kappang	70.97	107	P	P	03 03 58.4	+0.5
	SNR=7.6						
BILL	Bilibino	71.90	22	⇑*i*P	P	03 04 02.9	+0.2
BILL				*i*		03 04 19.5	
BILL				*i*		03 06 46.6	
BILL				pmax	pmax		
	comp=Z,29nm,1.1s						
BILL				MLR	MLR		
	comp=Z,373nm,18.0s						
BILL	Bilibino	71.90	22	*i*P	P	03 04 02.9	+0.2
	comp=Z,29nm,1.1s						
BILL	Bilibino	71.90	22	*i*PcP	PcP	03 04 19.5	-1.9
	comp=Z,373nm,18.0s						
YUK	Yuzh-Kuril'sk	72.04	49	*e*P	P	03 04 02.2	-1.7
YUK				*e*		03 04 20.5	
YUK				*i*PPP	PPP	03 08 24.0	
YUK				*e*S	S	03 13 19.5	-4.8
YUK				*i*		03 13 59.3	
YUK				*e*SS	SS	03 17 56.6	-4.2
YUK				MLR	MLR		
	comp=Z,448nm,15.0s						
YUK				MLR	MLR		
	comp=E,695nm,17.0s						
YUK	Yuzh-Kuril'sk	72.04	49	*e*P	P	03 04 02.2	-1.7
YUK	Yuzh-Kuril'sk	72.04	49	*e*PcP	PcP	03 04 20.5	-1.9
BSSI	Bau Bau, Buton	72.19	107	P	P	03 04 04.7	-0.6
PEA1	Petropavlovsk-	75.43	37	*e*P	P	03 04 20.0	-3.8
PETK	Petropavlovsk-	75.44	37	P	P	03 04 20.0	-3.8
	comp=E,20nm,1.0s,baz=294,slow=4.7,SNR=5.7						
PETK				LR	LR	03 41 39.4	
	comp=E,312nm,18.3s,baz=316,slow=39						
PETK	Petropavlovsk-	75.44	37	P	P	03 04 20.0	-3.8
PETK				pmax	pmax		
	comp=Z,20nm,1.0s						
PETK				MLR	MLR		
	comp=Z,312nm,18.3s						
PETK	Petropavlovsk-	75.44	37	P	P	03 04 20.0	-3.8
SOEI	Soe	77.26	108	*e*P	P	03 04 34.5	-0.3
	comp=Z,90nm,1.1s						
SOEI	Soe	77.26	108	*e*P	P	03 04 34.5	-0.3

comp=Z,68nm,0.9s
SCHQ Schefferville 83.24 330 *e*P **P 03 05 06.6 +0.3**
comp=Z,68nm,0.9s
IMAR Indian Mountai 83.74 11 *e*P **P 03 05 08.7 +0.1**
IMAR Indian Mountai 83.74 11 *e*P **P 03 05 08.7 +0.1**
FYU Fort Yukon 84.43 8 *e*P **P 03 05 13.6 +1.5**
comp=Z,109nm,1.4s
FYU Fort Yukon 84.43 8 *e*P **P 03 05 13.6 +1.5**
comp=Z,109nm,1.4s
MTN Manton Dam 84.61 108 *e*P **P 03 05 13.8 -0.1**
comp=Z,98nm,1.8s
MTN Manton Dam 84.61 108 *e*P **P 03 05 13.8 -0.1**
comp=Z,98nm,1.8s
NWAO Narrogin (SRO) 85.11 131 *e*P **P 03 05 15.4 -0.6**
NWAO Narrogin (SRO) 85.11 131 *e*P **P 03 05 15.4 -0.6**
NWAO Narrogin (SRO) 85.11 131 *e*P **P 03 05 15.4 -0.6**
comp=Z,45nm,1.1s
MLY Manley 85.11 10 *e*P **P 03 05 16.2 +0.5**
comp=Z,28nm,1.0s
MLY Manley 85.11 10 *e*P **P 03 05 16.2 +0.5**
comp=Z,28nm,1.0s
MDM Murphy Dome 85.56 9 *e*P **P 03 05 18.1 +0.2**
comp=Z,62nm,1.2s
MDM Murphy Dome 85.56 9 *e*P **P 03 05 18.1 +0.2**
comp=Z,62nm,1.2s
COLA College 85.70 9 *e*P **P 03 05 17.2 -1.3**
COLA College 85.70 9 *e*P **P 03 05 17.2 -1.3**
COLA College 85.70 9 *e*P **P 03 05 17.2 -1.3**
comp=Z,64nm,1.4s
CCB Clear Creek Bu 85.92 9 *e*P **P 03 05 19.4 -0.2**
comp=Z,13nm,1.2s
CCB Clear Creek Bu 85.92 9 *e*P **P 03 05 19.4 -0.2**
comp=Z,13nm,1.2s
IL1 Eielson Array 85.93 9 *e*P **P 03 05 18.8 -0.9**
IL1 Eielson Array 85.93 9 *e*P **P 03 05 18.8 -0.9**
ILAR Eielson Array 85.93 9 P **P 03 05 19.1 -0.6**
comp=Z,4.3nm,0.8s,baz=327,slow=4.1,SNR=47
ILAR PP **PP 03 08 36.7 -2.1**
comp=Z,1.4nm,1.0s,baz=331,slow=7.2,SNR=3.4
ILAR PKKPbc **PKKPbc 03 23 19.6 -1.4**
comp=Z,1.2nm,0.7s,baz=179,slow=2.6,SNR=13
ILAR LR LR 03 48 03.2
comp=Z,124nm,20.8s,baz=342,slow=39
ILAR Eielson Array 85.93 9 P **P 03 05 19.1 -0.6**
ILB Eielson Array 85.93 9 *e*P **P 03 05 19.4 -0.3**
ILB Eielson Array 85.93 9 *e*P **P 03 05 19.4 -0.3**
ILB *e*PP **PP 03 08 36.6 -2.1**
ILB *e*PKKPbc **PKKPbc 03 23 19.6 -1.4**
BPAW Bear Paw Mtn. 85.94 11 *e*P **P 03 05 19.9 +0.2**
comp=Z,123nm,1.2s
BPAW Bear Paw Mtn. 85.94 11 *e*P **P 03 05 19.9 +0.2**
comp=Z,123nm,1.2s
WRH Wood River Hil 86.05 10 *e*P **P 03 05 20.0 -0.2**
comp=Z,20nm,1.3s
WRH Wood River Hil 86.05 10 *e*P **P 03 05 20.0 -0.2**
comp=Z,20nm,1.3s
TT01 Tatalina 86.09 13 *e*P **P 03 05 21.0 +0.5**
TT01 Tatalina 86.09 13 *e*P **P 03 05 21.0 +0.5**
HDA Harding Lake 86.27 9 *e*P **P 03 05 20.7 -0.6**
comp=Z,29nm,1.2s
HDA Harding Lake 86.27 9 *e*P **P 03 05 20.7 -0.6**
comp=Z,29nm,1.2s
CAST Castle Rocks 86.38 12 *e*P **P 03 05 22.6 +0.7**
comp=Z,68nm,1.0s
CAST Castle Rocks 86.38 12 *e*P **P 03 05 22.6 +0.7**
comp=Z,68nm,1.0s
EGAK Eagle 86.61 7 *e*P **P 03 05 23.4 +0.4**
comp=Z,84nm,1.4s
EGAK Eagle 86.61 7 *e*P **P 03 05 23.4 +0.4**
comp=Z,84nm,1.4s
MCK McKinley 86.61 10 *e*P **P 03 05 23.3 +0.2**
MCK pmax pmax
comp=Z,87nm,1.2s
MCK McKinley 86.61 10 *e*P **P 03 05 23.3 +0.2**
comp=Z,87nm,1.2s
MCK McKinley 86.61 10 *e*P **P 03 05 23.2 +0.2**
comp=Z,87nm,1.2s
TRF Thorofare Moun 86.66 11 *e*P **P 03 05 23.3 -0.2**
comp=Z,22nm,1.0s
TRF Thorofare Moun 86.66 11 *e*P **P 03 05 23.3 -0.2**
comp=Z,22nm,1.0s
PPLA Purkeypile 86.84 12 *e*P **P 03 05 25.0 +0.6**
comp=Z,58nm,1.4s
PPLA Purkeypile 86.84 12 *e*P **P 03 05 25.0 +0.6**
comp=Z,58nm,1.4s
RND Reindeer 86.93 10 *e*P **P 03 05 24.3 -0.4**
RND pmax pmax
comp=Z,57nm,1.3s
RND Reindeer 86.93 10 *e*P **P 03 05 24.3 -0.4**
comp=Z,57nm,1.3s
RND Reindeer 86.93 10 *e*P **P 03 05 24.3 -0.4**
comp=Z,57nm,1.3s
DOT Dot Lake 87.38 8 *e*P **P 03 05 27.5 +0.7**
comp=Z,94nm,1.2s
DOT Dot Lake 87.38 8 *e*P **P 03 05 27.5 +0.7**
comp=Z,94nm,1.2s
DHY Denali Highway 87.47 10 *e*P **P 03 05 27.4 0.0**
comp=Z,60nm,1.6s
DHY Denali Highway 87.47 10 *e*P **P 03 05 27.4 0.0**
comp=Z,60nm,1.6s
DAWY Dawson 87.48 6 *e*P **P 03 05 27.6 +0.3**
comp=Z,105nm,1.4s
DAWY Dawson 87.48 6 *e*P **P 03 05 27.6 +0.3**
comp=Z,105nm,1.4s
SVW2 Sparrevohn 87.81 14 *e*P **P 03 05 30.0 +1.1**
comp=Z,35nm,1.4s
SVW2 Sparrevohn 87.81 14 *e*P **P 03 05 30.0 +1.1**
comp=Z,35nm,1.4s
PAX Paxson 87.85 9 *e*P **P 03 05 29.4 +0.2**
PAX pmax pmax
comp=Z,27nm,1.4s
PAX Paxson 87.85 9 *e*P **P 03 05 29.4 +0.2**
comp=Z,27nm,1.4s
PAX Paxson 87.85 9 *e*P **P 03 05 29.4 +0.2**
comp=Z,27nm,1.4s
MENT Mentasta 88.11 8 *e*P **P 03 05 30.7 +0.4**
comp=Z,20nm,1.0s
MENT Mentasta 88.11 8 *e*P **P 03 05 30.7 +0.4**
comp=Z,20nm,1.0s
SUA Susitna One 88.43 12 *e*P **P 03 05 32.0 0.0**
comp=Z,40nm,1.0s
SUA Susitna One 88.43 12 *e*P **P 03 05 32.0 0.0**
comp=Z,40nm,1.0s
SML Sawmill 88.52 11 *e*P **P 03 05 32.5 +0.2**
SML pmax pmax
comp=Z,46nm,1.2s
SML Sawmill 88.52 11 *e*P **P 03 05 32.5 +0.2**
comp=Z,46nm,1.2s
SML Sawmill 88.52 11 *e*P **P 03 05 32.5 +0.2**
comp=Z,46nm,1.2s
PMR Palmer 88.59 11 *e*P **P 03 05 32.5 0.0**
PMR Palmer 88.59 11 *e*P **P 03 05 32.5 0.0**
PMR Palmer 88.59 11 *e*P **P 03 05 32.5 0.0**
comp=Z,46nm,1.4s
RC01 Rabbit Creek A 88.96 11 *e*P **P 03 05 34.7 +0.4**
comp=Z,32nm,1.3s
RC01 Rabbit Creek A 88.96 11 *e*P **P 03 05 34.7 +0.4**
comp=Z,32nm,1.3s
RSO Redoubt South 88.98 13 *e*P **P 03 05 35.8 +1.1**
RSO Redoubt South 88.98 13 *e*P **P 03 05 35.8 +1.1**
KLU Klutina 89.20 10 *e*P **P 03 05 37.2 +1.7**
comp=Z,44nm,1.4s
KLU Klutina 89.20 10 *e*P **P 03 05 37.2 +1.7**
comp=Z,44nm,1.4s
YKA Yellowknife Ar 89.27 355 P **P 03 05 35.8 +0.1**
comp=Z,20nm,0.8s,baz=5.9,slow=4.9,SNR=15
YKA LR LR 03 53 37.1
comp=Z,20nm,18.7s,baz=0.0,slow=41
YKA Yellowknife Ar 89.27 355 P **P 03 05 35.8 +0.1**
YKA pmax pmax
comp=Z,21nm,0.8s
YKA Yellowknife Ar 89.27 355 P **P 03 05 35.8 +0.1**
comp=Z,21nm,0.8s
YKA Yellowknife Ar 89.27 355 P **P 03 05 35.9 +0.1**
YKB5 Yellowknife Ar 89.27 355 *e*P **P 03 05 35.8 +0.1**
YKB5 Yellowknife Ar 89.27 355 *e*P **P 03 05 35.9 +0.1**
BMRM Bremner River 89.89 9 *e*P **P 03 05 40.0 +1.3**
comp=Z,28nm,1.3s
BMRM Bremner River 89.89 9 *e*P **P 03 05 40.0 +1.3**
comp=Z,28nm,1.3s
WR1 Warramunga Arr 90.81 112 *e*P **P 03 05 43.1 -0.5**
comp=Z,21nm,1.0s
WR1 Warramunga Arr 90.81 112 *e*P **P 03 05 43.1 -0.5**
comp=Z,21nm,1.0s
WR1 *e*PKKPdf **PKKPbc 03 23 08.7 0.0**
WRA Warramunga Arr 90.81 112 P **P 03 05 43.1 -0.6**
comp=Z,8.1nm,0.9s,baz=320,slow=3.7,SNR=26
WRA PKKPbc **PKKPbc 03 23 08.7 0.0**
comp=Z,0.7nm,0.5s,baz=110,slow=2.9,SNR=6.0
WRA Warramunga Arr 90.81 112 P **P 03 05 43.1 -0.6**
WRAB Tennant Creek 90.81 112 *e*P **P 03 05 43.6 0.0**
WRAB Tennant Creek 90.81 112 *e*P **P 03 05 43.6 0.0**
WRAB Tennant Creek 90.81 112 *e*P **P 03 05 43.6 0.0**
comp=Z,22nm,1.0s
WB2 Warramunga Arr 90.82 112 *e*P **P 03 05 43.1 -0.6**
WB2 Warramunga Arr 90.82 112 *e*P **P 03 05 43.1 -0.6**
HYT Haines Junctio 90.84 6 *e*P **P 03 05 44.7 +1.4**
comp=Z,22nm,1.2s
HYT Haines Junctio 90.84 6 *e*P **P 03 05 44.6 +1.4**
comp=Z,22nm,1.2s
FORT Forrest 91.44 124 *e*P **P 03 05 46.6 +0.3**
comp=Z,484nm,1.1s
FORT Forrest 91.44 124 *e*P **P 03 05 46.6 +0.3**
comp=Z,484nm,1.1s
KDAK Kodiak Island 91.47 14 *i*P **P 03 05 47.1 +1.0**
KDAK Kodiak Island 91.47 14 *i*P **P 03 05 47.1 +1.0**
ASAR Alice Springs 92.29 116 P **P 03 05 50.0 -0.5**
comp=Z,8.3nm,1.0s,baz=302,slow=4.3,SNR=40
ASAR Alice Springs 92.29 116 P **P 03 05 50.0 -0.5**
ASAR pmax pmax
comp=Z,8.0nm,1.0s
ASAR Alice Springs 92.29 116 P **P 03 05 50.0 -0.5**
comp=Z,8.0nm,1.0s
ASAR Alice Springs 92.29 116 P **P 03 05 50.0 -0.5**
AS31 Alice Springs 92.29 116 *e*P **P 03 05 49.9 -0.6**
comp=Z,2.6nm,0.9s
AS31 Alice Springs 92.29 116 *e*P **P 03 05 49.9 -0.6**
comp=Z,2.6nm,0.9s
AS01 Alice Springs 92.32 116 *e*P **P 03 05 49.7 -0.9**
AS01 Alice Springs 92.32 116 *e*P **P 03 05 49.7 -0.9**
VLDQ Val d'Or 92.68 330 *e*P **P 03 05 52.8 +0.9**
comp=Z,55nm,1.5s
VLDQ Val d'Or 92.68 330 *e*P **P 03 05 52.8 +0.9**
comp=Z,55nm,1.5s
TRQ Mont Tremblant 92.75 327 *e*P **P 03 05 52.7 +0.4**
TRQ Mont Tremblant 92.75 327 *e*P **P 03 05 52.7 +0.4**
FRNY Flat Rock 93.28 326 *e*P **P 03 05 55.8 +1.1**
comp=Z,31nm,1.5s
FRNY Flat Rock 93.28 326 *e*P **P 03 05 55.8 +1.1**
comp=Z,31nm,1.5s
LONY Lake Ozonia 93.92 326 *e*P **P 03 05 57.2 -0.5**
comp=Z,24nm,1.0s
LONY Lake Ozonia 93.92 326 *e*P **P 03 05 57.2 -0.5**
comp=Z,24nm,1.0s
PLVO Plevna 94.81 328 *e*P **P 03 06 01.9 +0.1**
comp=Z,25nm,1.0s
PLVO Plevna 94.81 328 *e*P **P 03 06 01.9 +0.1**
comp=Z,25nm,1.0s
FFC Flin Flon 95.01 346 *e*P **P 03 06 02.6 +0.1**
FFC Flin Flon 95.01 346 *e*P **P 03 06 02.6 +0.1**
FFC Flin Flon 95.01 346 *e*P **P 03 06 02.6 +0.1**
MAW Mawson 95.65 177 P **P 03 06 04.9 +0.2**
comp=Z,7.3nm,0.9s,baz=324,slow=6.2,SNR=16
MAW LR LR 03 43 52.7
comp=Z,136nm,19.1s,baz=57,slow=32
MAW Mawson 95.65 177 *e*P **P 03 06 05.7 +1.0**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW Mawson 95.65 177 *e*P **P 03 06 05.7 +1.0**
comp=Z,2.0nm,0.9s
MAW Mawson 95.65 177 *e*P **P 03 06 05.7 +1.0**
comp=Z,1.6nm,0.9s
SYO Syowa Base 97.45 185 *e*P Pdif 03 06 15.2 +2.2
SYO Syowa Base 97.45 185 *e*pP pP 03 06 22.2 +1.4
ULM Lac du Bonnet 97.63 341 LR LR 03 52 56.6
comp=Z,174nm,18.4s,baz=30,slow=37
SSPA Standing Stone 98.51 325 *e*P Pdif 03 06 21.4 +2.8
comp=Z,20nm,1.3s
SSPA Standing Stone 98.51 325 *e*P Pdif 03 06 21.4 +2.8
comp=Z,20nm,1.3s
LLLB Lilloet 101.55 358 *e*Pdif **Pdif 03 06 32.8 +0.8**
NEW Newport 103.58 354 *e*P **Pdif 03 06 42.2 +1.1**
NEW Newport 103.58 354 *e*P **Pdif 03 06 42.2 +1.1**
NEW Newport 103.58 354 *e*Pdif **Pdif 03 06 42.2 +1.1**
VNA2 Neumayer--Watz 107.79 198 PKP **PKiKP 03 11 06.0 -0.3**
baz=20,slow=4.6
VNA1 Neumayer--Stat 107.87 198 PKP **PKiKP 03 11 06.9 +0.5**
PD31 Pinedale Array 107.92 348 *e*PP PP 03 11 29.9 +1.4
PD31 Pinedale Array 107.92 348 *e*PP PP 03 11 29.9 +1.3
PD31 *e*PKKPbc PKKPbc 03 22 20.4 -0.7
PD31 *e*PKKPdf **PKKPdf 03 22 35.4 +1.9**
PDAR Pinedale Array 107.92 348 PP PP 03 11 29.9 +1.3
comp=Z,0.7nm,0.8s,baz=18,slow=5.2,SNR=4.6
PDAR PKKPbc PKKPbc 03 22 20.4 -0.7
comp=Z,0.6nm,0.8s,baz=190,slow=2.7,SNR=3.6
PDAR PKKPab **PKKPdf 03 22 35.4 +1.9**
comp=Z,0.5nm,0.7s,baz=203,slow=3.9,SNR=3.7
BDFB Brasilia 107.96 262 PP PP 03 11 28.1 -2.5
comp=Z,1.9nm,0.8s,baz=227,slow=6.1,SNR=3.7
BDFB Brasilia 107.96 262 *e*PP PP 03 11 28.1 -2.5
VNA3 Neumayer Olymp 108.58 198 PKP **PKiKP 03 11 07.4 -0.4**
PTGA Pitinga 111.72 281 PP PP 03 11 53.5 -4.1
comp=Z,4.1nm,0.9s,baz=58,slow=6.8,SNR=4.4
SDV Santo Domingo 115.39 296 PP PP 03 12 24.9 +1.3
comp=Z,1.4nm,0.3s,baz=87,slow=10,SNR=3.3
Y14A Wickenburg 117.13 348 *e*PKIKP **PKPdf 03 11 25.5 +0.1**
Y14A Wickenburg 117.13 348 *e*PKPdf **PKPdf 03 11 25.5 +0.1**
MNTX Cornudas Mount 117.46 341 *e*PKIKP **PKPdf 03 11 26.0 -0.1**
MNTX Cornudas Mount 117.46 341 *e*PKPdf **PKPdf 03 11 26.0 -0.1**
QSPA South Pole Qui 117.97 180 *e*PKIKP **PKPdf 03 11 25.5 -0.4**
QSPA South Pole Qui 117.97 180 *e*PKPdf **PKPdf 03 11 25.5 -0.4**
SAML Samuel 118.44 275 *e*PKIKP **PKPdf 03 11 28.4 +0.1**
SAML Samuel 118.44 275 *e*PKPdf **PKPdf 03 11 28.4 +0.1**
LTX Lajitas 119.13 338 *e*PKIKP **PKPdf 03 11 29.1 -0.4**
LTX Lajitas 119.13 338 *e*PKIKP **PKPdf 03 11 29.0 -0.4**
LTX Lajitas 119.13 338 *e*PKPdf **PKPdf 03 11 29.1 -0.4**
TX31 Lajitas Ar. Si 119.13 338 *e*PKIKP **PKPdf 03 11 29.5 +0.1**
TX31 Lajitas Ar. Si 119.13 338 *e*PKPdf **PKPdf 03 11 29.0 -0.4**
TX31 *e*PKPdf **PKPdf 03 11 29.5 +0.1**
TXAR Lajitas Array 119.13 338 PKP **PKPdf 03 11 29.1 -0.4**
comp=Z,2.0nm,1.0s,baz=48,slow=1.9,SNR=7.5
TXAR PP **PP 03 12 50.7 +2.5**
comp=Z,1.2nm,0.8s,baz=22,slow=5.0,SNR=3.1
TXAR Lajitas Array 119.13 338 PKP **PKPdf 03 11 29.1 -0.4**
SIV San Ignacio 119.57 267 PKP **PKPdf 03 11 29.9 -0.4**
comp=Z,1.7nm,0.6s,baz=204,slow=3.3,SNR=4.0
SIV PP **PP 03 12 51.0 -2.0**
comp=Z,3.0nm,1.0s,baz=76,slow=8.3,SNR=3.1
SIV San Ignacio 119.57 267 *e*PKPdf **PKPdf 03 11 29.9 -0.4**
SIV *e*PP **PP 03 12 51.0 -2.0**
CPUP Villa Florida 120.01 254 PKP **PKPdf 03 11 29.8 -1.1**
comp=Z,3.2nm,0.8s,baz=54,slow=3.2,SNR=6.7
CPUP Villa Florida 120.01 254 *e*PKPdf **PKPdf 03 11 29.8 -1.1**
ROSC El Rosal 120.73 295 PKP **PKPdf 03 11 33.1 -0.1**
comp=Z,2.6nm,0.4s,baz=127,slow=3.0,SNR=3.5
ROSC El Rosal 120.73 295 *e*PKPdf **PKPdf 03 11 33.1 -0.1**
VNDA Vanda 121.02 166 PKP **PKPdf 03 11 30.0 -1.4**
comp=Z,1.8nm,1.0s,baz=275,slow=5.2,SNR=7.3
VNDA Vanda 121.02 166 *e*PKIKP **PKPdf 03 11 30.6 -0.8**
VNDA Vanda 121.02 166 *e*PKIKP **PKPdf 03 11 30.6 -0.8**
VNDA Vanda 121.02 166 *e*PKPdf **PKPdf 03 11 30.6 -0.8**
SBA Scott Base 121.97 167 *e*PKIKP **PKPdf 03 11 34.2 +1.0**
SBA Scott Base 121.97 167 *e*PKIKP **PKPdf 03 11 34.2 +1.0**
SBA Scott Base 121.97 167 *e*PKPdf **PKPdf 03 11 34.2 +1.0**
HPIG 122.00 339 *e*PKIKP **PKPdf 03 11 35.1 -0.1**
HPIG 122.00 339 *e*PKPdf **PKPdf 03 11 35.1 -0.1**
LPAZ La Paz 125.92 270 PKP **PKPdf 03 11 43.3 +0.1**
comp=Z,3.1nm,0.8s,baz=51,slow=4.7,SNR=13
LPAZ PP **PP 03 13 33.8 -2.9**
comp=Z,8.5nm,1.3s,baz=47,slow=11,SNR=6.2
LPAZ La Paz 125.92 270 *e*PKIKP **PKPdf 03 11 43.4 +0.1**
LPAZ La Paz 125.92 270 *e*PKIKP **PKPdf 03 11 43.4 +0.1**
LPAZ La Paz 125.92 270 *e*PP PP 03 13 34.0 -2.7
LPAZ La Paz 125.92 270 *e*PKPdf **PKPdf 03 11 43.4 +0.1**
LPAZ *e*PP **PP 03 13 34.0 -2.7**
CMIG Matias Romero 126.09 323 PKP **PKPdf 03 11 41.1 -1.8**
comp=Z,4.4nm,0.6s,baz=24,slow=4.5,SNR=8.7
CMIG Matias Romero 126.09 323 *e*PKPdf **PKPdf 03 11 41.1 -1.8**
TRQA Tornquist 126.69 242 *e*PKIKP **PKPdf 03 11 44.1 +0.7**
TRQA Tornquist 126.69 242 *e*PKPdf **PKPdf 03 11 44.1 +0.7**
OTAV Otavalo 126.77 294 *e*PKIKP **PKPdf 03 11 45.7 +0.8**
OTAV Otavalo 126.77 294 *e*PKPdf **PKPdf 03 11 45.7 +0.8**
MNMC Minye Minye 128.28 267 *e*PKIKP **PKPdf 03 11 48.1 +0.8**
MNMC Minye Minye 128.28 267 *e*PKPdf **PKPdf 03 11 48.1 +0.8**
LVC Limon Verde 128.85 263 PKP **PKPdf 03 11 48.3 -0.1**
comp=Z,37nm,0.9s,baz=163,slow=2.6,SNR=7.7
LVC PP **PP 03 13 52.2 -3.5**
comp=Z,11nm,0.8s,baz=83,slow=6.4,SNR=4.0
LVC Limon Verde 128.85 263 *e*PKIKP **PKPdf 03 11 49.6 +1.1**
LVC Limon Verde 128.85 263 *e*PKPdf **PKPdf 03 11 48.3 -0.1**
LVC *e*PKPdf **PKPdf 03 11 49.6 +1.1**
LVC *e*PP **PP 03 13 52.2 -3.5**
ATAH Atahualpa 130.78 286 PKP **PKPdf 03 11 53.4 +0.9**
comp=Z,5.7nm,1.1s,baz=151,slow=9.0,SNR=4.8
ATAH Atahualpa 130.78 286 *e*PKPdf **PKPdf 03 11 53.4 +0.9**
BKZ Black Stump Fm 131.29 119 *e*PKPpre PKPpre 03 11 46.9
LCO Las Campanas 132.14 255 *e*PKIKP **PKPdf 03 11 55.8 +1.4**
LCO Las Campanas 132.14 255 *e*PKPdf **PKPdf 03 11 55.8 +1.4**
PLCA Paso Flores 133.56 239 PKP **PKPdf 03 11 57.4 +0.9**
comp=Z,3.5nm,0.7s,baz=170,slow=3.0,SNR=6.8
PLCA Paso Flores 133.56 239 *e*PKIKP **PKPdf 03 11 57.7 +1.2**
PLCA Paso Flores 133.56 239 *e*PKIKP **PKPdf 03 11 57.7 +1.2**
PLCA Paso Flores 133.56 239 *e*PKPdf **PKPdf 03 11 57.6 +1.2**

ISCJB ***19*** *03:04:41.8±0.3,27°.92N±0°.03×54°.22E±0°.04,h17km, mb4.1/17, Error ellipse: s-maj=5.4km s-min=4.4km az=144.7*
IDC ***19*** *03:04:41.8±1.3,28°.14N×54°.28E,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.7/48,mbtmp3.9/12,ML3.6/1, Error ellipse: s-maj=27.6km s-min=20.5km az=161.0*
TEH ***19*** *03:04:43.5,28°.08N×54°.30E,h19km,ML3.4*
NEIC ***19*** *03:04:43.5±0.0,28°.08N×54°.30E,h19km,mb4.5/6, After TEH.*
DSN ***19*** *03:04:44.8±0.0,28°.15N×54°.30E,h15km,ML3.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM ***19*** *03:04:45.4±0.2,28°.10N×54°.27E,h20km,mb4.7/6, Error ellipse: s-maj=8.9km s-min=5.5km az=59.0*
OMAN ***19*** *03:04:49.2,28°.15N×54°.32E,h33km*
ISC 19 03:04:43.2±0.5,**27°.92N**±0°.04×**54°.34E**±0°.04,**h17**km,**n107,**
σ1**§60**/114,**mb4.3**/17,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.89**	**311**	*e*Pg	**Pb**	**03 04 59.1**	**-1.1**
JHRM	**Jahrom**	**0.89**	**311**	*e*Pg	**Pb**	**03 04 59.1**	**-1.1**
GHIR	**Ghir-Karzin**	**1.25**	**287**	*e*Pg	**Pg**	**03 05 09.0**	**+1.7**
GHIR				*e*Sg	**Sg**	**03 05 27.0**	**+3.4**
ISRV	**Sarvestan**	**1.81**	**324**	*e*Pn	**Pb**	**03 05 16.1**	**+0.1**
ISRV				*e*AMB	AMB	03 11 02.2	
	comp=Z,12μm,0.1s						
ISRV	**Sarvestan**	**1.81**	**324**	*e*Pn	**Pb**	**03 05 16.1**	**+0.1**
IPAR	**Pars**	**2.22**	**330**	*e*Pn	**Pn**	**03 05 20.9**	**+1.4**
IPAR				*e*Sg	**Sg**	**03 05 53.9**	**-0.8**
IPAR				*e*AMB	AMB	03 05 56.8	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.22**	**330**	*e*Pn	**Pn**	**03 05 20.9**	**+1.4**
IPAR				*e*Sg	**Sg**	**03 05 53.9**	**-0.8**
BANOM	**Banah**	**2.65**	**138**	*e*P	**Pb**	**03 05 29.4**	**-0.8**
	SNR=16						
BANOM	**Banah**	**2.65**	**138**	P	**Pb**	**03 05 29.4**	**-0.8**
	SNR=16						
BANOM	**Banah**	**2.65**	**138**	Pn	**Pb**	**03 05 29.7**	**-0.5**
	SNR=15						
BANOM	**Banah**	**2.65**	**138**	P	**Pb**	**03 05 29.7**	**-0.5**
	SNR=15						
BANOM	**Banah**	**2.65**	**138**	Pn	**Pb**	**03 05 29.7**	**-0.5**
	SNR=15						
NGRK	**Negar Kerman**	**2.71**	**50**	*e*Pn	**Pn**	**03 05 26.9**	**+0.6**
NGRK	**Negar Kerman**	**2.71**	**50**	*e*Pn	**Pn**	**03 05 26.9**	**+0.6**
AHBU	**AHRAM**	**2.84**	**290**	*e*Pn	**Pb**	**03 05 31.5**	**-1.9**
TVBK	**TV Kerman**	**2.95**	**45**	*e*Pn	**Pn**	**03 05 32.5**	**+2.9**
TVBK	**TV Kerman**	**2.95**	**45**	*e*Pn	**Pn**	**03 05 32.5**	**+2.9**
KHGB	**Koh Gabri**	**3.08**	**37**	*e*Pn	**Pn**	**03 05 32.5**	**+1.3**
KHGB	**Koh Gabri**	**3.08**	**37**	*e*Pn	**Pn**	**03 05 32.5**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.15**	**158**	P	**Pb**	**03 05 37.7**	**-1.1**
NAZ	**Nazwa, Dubai**	**3.15**	**158**	P	**Pb**	**03 05 37.7**	**-1.1**
FAQ	**Al Faqa, Dubai**	**3.36**	**160**	*i*P	**Pb**	**03 05 40.5**	**-1.8**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**3.36**	**160**	P	**Pb**	**03 05 40.5**	**-1.8**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**3.36**	**160**	Pn	**Pb**	**03 05 40.8**	**-1.5**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**3.36**	**160**	P	**Pb**	**03 05 40.8**	**-1.5**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**3.36**	**160**	Pn	**Pb**	**03 05 40.8**	**-1.5**
	SNR=9.0						
UOSS	**Minazif**	**3.41**	**150**	P	**Pb**	**03 05 39.7**	**-3.4**
UOSS				*e*Sn	**Sn**	**03 06 17.9**	**+2.4**
UOSS	**Minazif**	**3.41**	**150**	*e*Pn	**Pn**	**03 05 35.4**	**-0.1**
UOSS				*e*Sn	**Sn**	**03 06 17.9**	**+2.4**
CHMN	**Cheshme madani**	**3.41**	**55**	*e*Pn	**Pn**	**03 05 38.6**	**+2.7**
CHMN	**Cheshme madani**	**3.41**	**55**	*e*Pn	**Pn**	**03 05 38.6**	**+2.7**
IMEH	**Mehriz**	**3.46**	**4**	*e*Pn	**Pn**	**03 05 37.7**	**+1.2**
IMEH				*e*AMB	AMB	03 05 40.8	
	comp=Z,581nm,0.1s						
IMEH	**Mehriz**	**3.46**	**4**	*e*Pn	**Pn**	**03 05 37.7**	**+1.2**
HATD	**Hatta, Dubai**	**3.48**	**152**	P	**Pb**	**03 05 41.3**	**-3.0**
HATD	**Hatta, Dubai**	**3.48**	**152**	P	**Pb**	**03 05 41.3**	**-3.0**
ASHO	**Ashiyiah**	**3.58**	**154**	*i*P	**Pb**	**03 05 42.7**	**-3.3**
	SNR=38						
ASHO	**Ashiyiah**	**3.58**	**154**	P	**Pb**	**03 05 42.7**	**-3.3**
	SNR=38						
ASHO	**Ashiyiah**	**3.58**	**154**	Pn	**Pb**	**03 05 43.1**	**-2.9**
	SNR=37						
ASHO	**Ashiyiah**	**3.58**	**154**	P	**Pb**	**03 05 43.1**	**-2.9**
	SNR=37						
ASHO	**Ashiyiah**	**3.58**	**154**	Pn	**Pb**	**03 05 43.1**	**-2.9**
	SNR=37						
IBAF	**Bafgh**	**3.81**	**16**	*e*Pn	**Pn**	**03 05 41.6**	**+0.4**
IBAF				*e*AMB	AMB	03 06 00.2	
	comp=Z,616nm,0.3s						
IBAF	**Bafgh**	**3.81**	**16**	*e*Pn	**Pn**	**03 05 41.6**	**+0.4**
ISAD	**Sadrabad**	**4.02**	**352**	*e*Pn	**Pn**	**03 05 46.3**	**+2.1**
ISAD				*e*AMB	AMB	03 06 00.4	
	comp=Z,571nm,0.1s						
ISAD	**Sadrabad**	**4.02**	**352**	*e*Pn	**Pn**	**03 05 46.3**	**+2.1**
IRAM	**Ramesheh**	**4.23**	**337**	*e*Pn	**Pn**	**03 05 48.0**	**+0.9**
IRAM				*e*AMB	AMB	03 06 10.1	
	comp=Z,436nm,0.3s						
IRAM	**Ramesheh**	**4.23**	**337**	*e*Pn	**Pn**	**03 05 48.0**	**+0.9**
ICHK	**Chekchek**	**4.31**	**1**	*e*Pn	**Pn**	**03 05 48.6**	**+0.5**
ICHK				*e*AMB	AMB	03 06 02.7	
	comp=Z,657nm,0.3s						
ICHK	**Chekchek**	**4.31**	**1**	*e*Pn	**Pn**	**03 05 48.6**	**+0.5**
IGAR	**Gharneh**	**4.89**	**337**	*e*Pn	**Pn**	**03 05 57.0**	**+0.9**
IGAR				*e*AMB	AMB	03 06 01.6	
	comp=Z,350nm,0.2s						
NASN	**Na'in**	**5.04**	**345**	*e*P	**Pn**	**03 05 59.1**	**+0.9**
IZEF	**Zefreh**	**5.25**	**341**	*e*Pn	**Pn**	**03 06 00.8**	**-0.3**
IZEF				*e*AMB	AMB	03 06 27.9	
	comp=Z,208nm,0.3s						
IZEF	**Zefreh**	**5.25**	**341**	*e*Pn	**Pn**	**03 06 00.8**	**-0.3**
IPIR	**Pirpir**	**5.60**	**329**	*e*Pn	**Pn**	**03 06 06.3**	**+0.3**
IPIR				*e*AMB	AMB	03 07 18.0	
	comp=Z,309nm,0.2s						
IPIR	**Pirpir**	**5.60**	**329**	*e*Pn	**Pn**	**03 06 06.3**	**+0.3**
IKLH	**Kolahrood**	**5.88**	**337**	*e*Pn	**Pn**	**03 06 11.1**	**+1.3**
IKLH				*e*AMB	AMB	03 06 37.8	
	comp=Z,156nm,0.2s						
IKLH	**Kolahrood**	**5.88**	**337**	*e*Pn	**Pn**	**03 06 11.1**	**+1.3**
CHBR	**Chabahar**	**5.96**	**111**	*e*P	**Pn**	**03 06 13.2**	**+2.5**
WSAR	**Wadi Sarin**	**6.06**	**139**	Pn	**Pn**	**03 06 16.1**	**+4.0**
	comp=Z,1.5nm,0.3s,baz=359,slow=10,SNR=21	

BVAR	Borovoye Array	27.76	21	P		P	03 10 30.5	-0.4
	comp=Z,1.2nm,0.8s,baz=205,slow=3.0,SNR=3.5							
MK32	Makanchi Array	28.89	42	*e*P		P	03 10 41.0	-0.1
MK32	Makanchi Array	28.89	42	*e*P		P	03 10 41.0	-0.1
MKAR	Makanchi Array	28.89	42	P		P	03 10 41.0	-0.1
	comp=Z,0.2nm,0.2s,baz=240,slow=9.6,SNR=1.9							
KURBB	Kurchatov Arra	29.16	32	P		P	03 10 43.5	+0.2
	comp=Z,0.5nm,0.7s,baz=233,slow=8.6,SNR=4.1							
KURK	Kurchatov	29.27	32	*e*P		P	03 10 44.7	+0.5
	comp=Z,8.6nm,1.4s							
KURK	Kurchatov	29.27	32	*e*P		P	03 10 44.7	+0.5
	comp=Z,8.6nm,1.4s							
BUR08	Bucovina Ar. S	30.02	319	*e*P		P	03 10 50.7	-0.5
BUR08	Bucovina Ar. S	30.02	319	*e*P		P	03 10 50.7	-0.5
ZALV	Zalesovo Beam	34.26	32	P		P	03 11 27.3	-0.8
	comp=Z,2.1nm,0.6s,baz=251,slow=7.5,SNR=6.1							
ZAA1	Zalesovo Array	34.26	32	*e*P		P	03 11 27.3	-0.8
ZAA1	Zalesovo Array	34.26	32	*e*P		P	03 11 27.3	-0.8
FIA0	FINESS Array S	38.46	339	*e*P		P	03 12 03.3	-0.5
FIA0	FINESS Array S	38.46	339	*e*P		P	03 12 03.4	-0.5
FIA1	FINESS Array S	38.46	339	*e*P		P	03 12 03.4	-0.5
	comp=Z,124nm,1.9s							
FIA1	FINESS Array S	38.46	339	*e*P		P	03 12 03.4	-0.5
	comp=Z,124nm,1.9s							
FINES	FINESS Array B	38.46	339	P		P	03 12 03.4	-0.5
	comp=Z,4.9nm,1.0s,baz=140,slow=11,SNR=12							
RGN	Rugen	39.86	323	*e*P		P	03 12 14.2	-1.4
RGN	Rugen	39.86	323	*e*P		P	03 12 14.2	-1.4
NC602	NORSAR Array S	43.55	331	*e*P		P	03 12 44.8	-1.0
NC602	NORSAR Array S	43.55	331	*e*P		P	03 12 44.8	-1.0
NC405	NORSAR Array S	43.66	332	*e*P		P	03 12 45.5	-1.3
NC405	NORSAR Array S	43.66	332	*e*P		P	03 12 45.5	-1.3
NB200	NORSAR Array S	43.84	331	*e*P		P	03 12 46.8	-1.4
NB200	NORSAR Array S	43.84	331	*e*P		P	03 12 46.8	-1.4
NOA	NORSAR Array B	43.84	331	P		P	03 12 46.8	-1.4
	comp=Z,1.2nm,0.8s,baz=119,slow=6.9,SNR=2.9							
ARA0	ARCESS Array S	44.87	346	*e*P		P	03 12 56.3	0.0
ARA0	ARCESS Array S	44.87	346	*e*P		P	03 12 56.3	0.0
ARCES	ARCESS Array B	44.87	346	P		P	03 12 56.3	0.0
	comp=Z,2.6nm,1.0s,baz=146,slow=8.8,SNR=6.5							
TOA0	Torodi Ar. Sit	51.08	264	*e*P		P	03 13 45.5	+0.5
	comp=Z,10nm,1.5s							
TOA0	Torodi Ar. Sit	51.08	264	*e*P		P	03 13 45.5	+0.5
	comp=Z,10nm,1.5s							
TORD	Torodi Ar. Bea	51.08	264	P		P	03 13 45.6	+0.5
	comp=Z,2.2nm,0.6s,baz=58,slow=8.2,SNR=29							
TOA1	Torodi Ar. Sit	51.08	264	*e*P		P	03 13 45.6	+0.5
	comp=Z,11nm,1.6s							
TOA1	Torodi Ar. Sit	51.08	264	*e*P		P	03 13 45.6	+0.5
	comp=Z,11nm,1.6s							

OBM ***19*** *03:08:07.9±0.1, 45°.18N×99°.92E, h2km, Ml4.9/1, Error ellipse: s-maj=1.5km s-min=0.6km az=12.0*
IDC ***19*** *03:08:08.3±0.5, 45°.20N×100°.00E, h0km, mb4.3/17, mb1 4.4/23, mb1mx4.2/58, mbtmp4.2/23, ML2.9/4, MS4.1/2, Ms1 4.1/2, ms1mx3.3/46, Error ellipse: s-maj=13.9km s-min=11.1km az=15.0*
ISCJB ***19*** *03:08:08.8±0.2, 45°.24N±0°.02×99°.99E±0°.03, h10km, mb4.5/41, MS4.1/2, Error ellipse: s-maj=3.7km s-min=2.9km az=149.3*
BJI ***19*** *03:08:08.4, 45°.27N×99°.86E, h10km, mb4.3/5, mB4.8/8, ML4.8/8, Ms4.5/11, Ms7 4.2/10*
NEIC ***19*** *03:08:10.2±0.2, 45°.17N×99°.93E, h10km, mb4.7/23, Error ellipse: s-maj=5.7km s-min=3.9km az=187.0*
MOS ***19*** *03:08:10.5±1.4, 45°.19N×100°.02E, h22km, mb4.8/24, Error ellipse: s-maj=9.4km s-min=6.7km az=109.8*

ISC 19 03:08:10.0±0.4, 45°.28N±0°.03×99°.95E±0°.03, h10km, n167, σ2°.08/167, mb4.6/41, 14C-3D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTS	Tsetserleg	2.43	25	⇑*i*Pn		Pb	03 08 51.9	-2.0
TTS	Tsetserleg	2.43	25	*e*Pg		Pg	03 08 55.0	-1.5
TTS				*e*Sg		Sg	03 09 27.3	-0.8
	10μm,0.3s							
TSC	Tosontsengel	3.68	342	⇓*i*Pn		Pn	03 09 08.7	+1.7
TSC	Tosontsengel	3.68	342	*e*Pg		Pg	03 09 19.0	-1.5
TSC				*e*Sg		Sb	03 10 04.5	+4.6
	982nm,0.3s							
BLGM	Bulgan	4.28	34	⇑*i*Pn		Pn	03 09 16.7	+1.5
BLGM	Bulgan	4.28	34	*e*Pg		Pb	03 09 28.1	+2.8
BLGM				*e*Sg		Sg	03 10 24.3	-3.0
	3μm,0.3s							
SONB4	Songino Array	5.11	58	⇑*i*Pn		Pn	03 09 27.8	+1.2
SONB5	Songino Array	5.12	58	⇑*i*Pn		Pn	03 09 28.0	+1.2
SONA0	Songino Array	5.13	58	*e*Pn		Pn	03 09 28.1	+1.2
SONA0				*e*Pg		Pb	03 09 43.0	+3.2
SONA0				*e*Sn		Sn	03 10 26.1	-0.1
SONA0	Songino Array	5.13	58	⇑*i*Pn		Pn	03 09 28.1	+1.2
SONA0	Songino Array	5.13	58	*e*Pg		Pg	03 09 44.8	-3.3
SONA0				*e*Sg		Sg	03 10 50.0	-4.5
	4μm,0.6s							
SONM	Songino Array	5.13	58	Pn		Pn	03 09 28.1	+1.2
	55nm,0.3s,baz=241,slow=15,SNR=640							
SONM				Pg		Pb	03 09 43.0	+3.2
	37nm,0.3s,baz=242,slow=20,SNR=31							
SONM				Sn		Sn	03 10 26.1	-0.1
	51nm,0.3s,baz=238,slow=22,SNR=6.7							
SONM				Lg		Lg	03 10 51.0	
	160nm,0.3s,baz=240,slow=32,SNR=18							
SONM				LR		LR	03 11 36.6	
	comp=Z,1μm,18.7s,baz=230,slow=40							
SONA1	Songino Array	5.14	58	*e*Pn		Pn	03 09 27.8	+0.8
SONA1				*e*Sn		Sn	03 10 25.8	-0.6
SONA1	Songino Array	5.14	58	*e*Pn		Pn	03 09 28.2	+1.2
SONA1	Songino Array	5.14	58	*e*Pg		Pb	03 09 43.1	+3.1
SONA1				*e*Sg		Sg	03 10 50.8	-4.0
HTG	Hatgal	5.19	2	⇓*i*Pn		Pn	03 09 30.5	+2.8
HTG	Hatgal	5.19	2	*e*Pg		Pg	03 09 47.2	-2.0
HTG				*e*Sg		Sg	03 10 53.1	-3.3
	1μm,0.7s							
UB5M		5.35	59	⇑*i*Pn		Pn	03 09 31.2	+1.2
UB5M		5.35	59	*e*Pg		Pg	03 09 49.3	-3.1
SEMM		5.37	62	⇑*i*Pn		Pn	03 09 31.4	+1.2
SEMM		5.37	62	*e*Pg		Pb	03 09 46.1	+2.2
SEMM				*e*Sg		Sg	03 10 57.4	-4.9
SEMM				*e*Sg		Sg	03 10 59.3	-3.0
ALFM		5.43	58	⇑*i*Pn		Pn	03 09 32.2	+1.1
ALFM		5.43	58	*e*Pg		Pg	03 09 50.5	-3.4
ALFM				*e*Sg		Sg	03 10 58.9	-5.3
	6μm,0.7s							
ULN	Ulaanbaatar	5.54	60	*ce*P		Pn	03 09 33.4	+0.8
ULN				pmax		pmax		
	comp=Z,1μm,0.6s							
ULN	Ulaanbaatar	5.54	60	*e*Pn		Pn	03 09 33.2	+0.7
ULN				*e*Sn		Sn	03 10 33.8	-2.5
ZAK	Zakamensk	5.58	23	*e*P		Pn	03 09 34.5	+1.5
ZAK				pmax		pmax		
	comp=Z,237nm,0.8s							
UGDM		5.66	63	*e*Pn		Pn	03 09 35.3	+1.0
UGDM		5.66	63	*e*Pg		Pg	03 09 55.7	-2.7
UGDM				*e*Sg		Sg	03 11 08.8	-2.9
ARTM		5.70	60	⇑*i*Pn		Pn	03 09 35.9	+1.1
ARTM		5.70	60	*e*Pg		Pg	03 09 56.3	-2.7
ARTM				*e*Sg		Sg	03 11 10.5	-2.3
GTA	Gaotai	5.87	181	Pn		Pn	03 09 38.3	+1.2
GTA				Pg		Pg	03 09 55.5	-6.8
GTA				Sn		Sn	03 10 43.4	-1.0
GTA				Sg		Sg	03 11 10.3	-7.9
GTA				smax		smax		
	comp=Z,330nm,0.9s							
GTA				smax		smax		
	comp=Z,640nm,0.9s							
GTA				LR		LR		
	comp=Z,2μm,7.6s							
GTA				LR		LR		
	comp=Z,2μm,9.5s							
GTA				LR		LR		
	comp=Z,2μm,8.6s							
HBD	Hovd	6.33	299	⇓*i*Pg		Pb	03 10 00.3	0.0
HBD				*e*Sg		Sg	03 11 24.0	-9.2
MOY	Mondy	6.43	6	*e*P		Pn	03 09 47.1	+2.3
TLY	Talaya	6.86	20	Pn		Pn	03 09 52.7	+2.1
	comp=Z,0.0nm,0.3s,baz=190,slow=12,SNR=4.4							
TLY				Pg		Pb	03 10 14.7	+5.5
	comp=Z,0.1nm,0.3s,baz=200,slow=15,SNR=28							
TLY				Lg		Lg	03 11 46.8	
	comp=Z,0.5nm,0.3s,baz=202,slow=21,SNR=8.0							
TLY	Talaya	6.86	20	*e*P		Pn	03 09 53.8	+3.3
TLY				*e*			03 11 13.6	
TLY	Talaya	6.86	20	*e*Pn		Pn	03 09 53.8	+3.3
TLY				*e*Pg		Pb	03 10 14.7	+5.5
TLY				*e*Sn		Sn	03 11 13.6	+5.0
TLY				Lg		Lg	03 11 46.8	
ULG	Ulaangom	7.09	314	⇑*i*Pn		Pn	03 09 55.3	+1.5
ULG	Ulaangom	7.09	314	*e*Pg		Pb	03 10 18.2	+5.0
ULG				*e*Sg		Sg	03 11 49.9	-7.6
	comp=Z,1μm,0.9s							
IRK	Irkutsk	7.53	21	*e*P		Pn	03 10 04.2	+4.5
IRK				pmax		pmax		
	comp=Z,191nm,0.1s							
BYO	Bayan-Olgiy	7.75	302	⇑*i*Pn		Pn	03 10 06.9	+4.0
BYO	Bayan-Olgiy	7.75	302	*e*Pg		Pg	03 10 31.7	-6.5
BYO				*e*Sg		Sg	03 12 12.6	-5.8
	comp=Z,1μm,1.0s							
BTO	Baotou	8.74	119	*e*P		Pn	03 10 16.0	-0.4
BTO				S		Sn	03 11 57.9	+2.9
DGZ	Jazzator, Alta	9.56	302	*i*P		Pn	03 10 34.8	+7.1
LZH	Lanzhou	9.64	161	*e*Pg		Pn	03 11 17.6	+49
LZH				Sg		Sn	03 12 44.8	+27
LZH				smax		smax		
	comp=N,190nm,1.0s							
LZH				smax		smax		
	comp=E,340nm,1.3s							
LZH				LR		LR		
	comp=N,960nm,8.8s							
LZH				LR		LR		
	comp=E,1μm,9.6s							
LZH				LR		LR		
	comp=Z,1μm,9.9s							
MK01	Makanchi Array	12.36	283	*e*Pn		Pn	03 11 01.3	-4.6
MK01				*e*Sn		Sn	03 13 21.5	-2.2
MK31	Makanchi Array	12.37	283	*i*P		Pn	03 11 07.0	+1.0
MK31				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MK32	Makanchi Array	12.37	283	*e*Pn		Pn	03 11 06.1	+0.1
MKAR	Makanchi Array	12.37	283	Pn		Pn	03 11 06.1	+0.1
	comp=Z,0.1nm,0.3s,baz=95,slow=13,SNR=7.0							
MKAR				Lg		Lg	03 14 39.1	
	comp=Z,0.8nm,0.3s,baz=90,slow=28,SNR=7.2							
MKAR	Makanchi Array	12.37	283	*e*P		Pn	03 11 09.9	+3.9
ZALV	Zalesovo Beam	13.07	317	Pn		Pn	03 11 16.8	+1.3
	comp=Z,0.4nm,0.3s,baz=129,slow=11,SNR=3.6							
ZALV				Lg		Lg	03 14 57.6	
	comp=Z,0.3nm,0.3s,baz=133,slow=30,SNR=7.6							
ZALV	Zalesovo Beam	13.07	317	*e*P		P	03 11 20.8	-5.2
ZALV	Zalesovo Beam	13.07	317	*e*Pn		P	03 11 20.8	-5.2
ZALV				Lg		Lg	03 14 57.6	
ZAA1	Zalesovo Array	13.08	317	*e*Pn		Pn	03 11 16.8	+1.2
NVS	Novosibirsk	14.35	318	*e*P		Pn	03 11 33.8	+0.9
NVS				*e*			03 14 16.6	
BOD	Bodaibo	15.26	30	*e*P		Pn	03 11 39.1	-6.1
BOD				pmax		pmax		
	comp=Z,16nm,1.7s							
KURK	Kurchatov	15.26	299	*ce*P		Pn	03 11 45.6	+0.3
KURK				pmax		pmax		
	comp=Z,32nm,1.2s							
KURK	Kurchatov	15.26	299	*e*Pn		Pn	03 11 45.3	0.0
KURK				Lg		Lg	03 16 05.6	
KURBB	Kurchatov Arra	15.29	298	Pn		Pn	03 11 45.3	-0.4
	comp=Z,0.0nm,0.3s,baz=104,slow=12,SNR=5.2							
KURBB				Lg		Lg	03 16 05.6	
	comp=Z,0.1nm,0.3s,baz=102,slow=32,SNR=6.2							
AAK	Ala-Archa	18.49	271	P		Pn	03 12 26.9	+0.6
	comp=Z,0.8nm,0.3s,baz=58,slow=9.9,SNR=2.1							
TAPN	Taplejung	20.39	213	*e*P		Pn	03 12 48.9	-0.4
	comp=Z,211nm,1.1s							
GUN	Gumba	20.64	218	*e*P		Pn	03 12 51.0	-1.2
	comp=Z,58nm,0.7s							
BVA0	Borovoye Array	20.72	303	*i*P		Pn	03 12 53.5	+0.9
BVA0				pmax		pmax		
	comp=Z,20nm,0.7s							
BVAR	Borovoye Array	20.72	303	P		Pn	03 12 51.1	-1.5
	comp=Z,14nm,0.6s,baz=110,slow=10,SNR=33							
JIRN	Jiri	20.72	217	*e*P		Pn	03 12 52.4	-0.9
	comp=Z,2μm,1.3s							
BRVK	Borovoye	20.79	303	*ce*P		P	03 12 43.5	-7.5
BRVK				pmax		pmax		
	comp=Z,109nm,1.2s							
BRVK	Borovoye	20.79	303	*e*P		Pn	03 12 51.2	-2.2
	comp=Z,32nm,0.6s							
ODAN	Odare	20.95	213	*e*P		Pn	03 12 54.6	-1.2
	comp=Z,149nm,0.8s							
KKN	Kakani	21.00	219	*e*P		P	03 12 54.7	+0.9
	comp=Z,57nm,0.6s							
GKN	Gorkha	21.11	220	*e*P		P	03 12 55.1	+0.2
	comp=Z,66nm,0.9s							
PKIN	Phulchoki	21.14	218	*e*P		P	03 12 55.4	+0.1
	comp=Z,59nm,1.0s							
RAMN	Ramite	21.18	215	*e*P		P	03 12 56.5	+0.8
	comp=Z,75nm,0.6s							
PYUN	Piuthan	21.81	224	*e*P		P	03 13 02.4	0.0
	comp=Z,128nm,1.0s							
KS01	Wonju Array Si	22.29	101	*e*P		P	03 13 05.3	-2.0
KS15	Wonju Array Si	22.30	101	*e*P		P	03 13 06.9	-0.5
KSAR	Wonju Array Be	22.30	101	P		P	03 13 06.9	-0.5
KSAR	Wonju Array Be	22.30	101	P		P	03 13 06.9	-0.5
KSRS	Korea Array	22.32	101	P		P	03 13 06.9	-0.7
	comp=Z,4.2nm,0.6s,baz=294,slow=10,SNR=15							
USRK	Ussuriysk Ar.	22.71	81	P		P	03 13 11.4	-0.3
	comp=Z,7.6nm,1.0s,baz=283,slow=8.3,SNR=9.2							
HABR	Khabarovsk	24.08	70	*e*P		P	03 13 24.2	-1.1
HABR				*e**SP		sP	03 13 30.9	+1.3
HABR				*e*			03 13 52.6	
HABR				*e*S		S	03 17 41.6	-0.9
HABR				*e**SS		sS	03 17 49.4	+1.9
HABR				*e*SSS		SSS	03 18 36.8	
HABR				pmax		pmax		
	comp=E,56nm,1.8s							
HABR				pmax		pmax		
	comp=Z,44nm,1.9s							
HABR				pmax		pmax		
	comp=N,42nm,1.8s							
HABR				MLR		MLR		
	comp=Z,460nm,16.0s							
CHTO	Chiang Mai	26.40	182	*e*P		P	03 13 46.9	+0.3
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CHTO	Chiang Mai	26.40	182	*e*P		P	03 13 46.9	+0.3
	comp=Z,7.6nm,1.1s							
CM31	Chiang Mai Arr	26.76	182	*e*P		P	03 13 49.8	-0.1
CMAR	Chiang Mai Arr	26.76	182	P		P	03 13 49.8	-0.1
	comp=Z,3.9nm,0.6s,baz=355,slow=9.2,SNR=4.3							
CM01	Chiang Mai Arr	26.79	182	*e*P		P	03 13 53.5	+3.4
ABKAR	Akbulak array	27.21	293	*e*P		P	03 13 54.2	+0.5
	comp=Z,49nm,0.8s							
AKTO	Aktyubinsk	28.32	296	LR		LR	03 25 44.2	
	comp=Z,477nm,19.8s,baz=95,slow=37							
PETK	Petropavlovsk-	37.61	57	*e*P		P	03 15 25.7	+1.1
PETK	Petropavlovsk-	37.61	57	*e*P		P	03 15 25.6	+1.1
KLMR	Klimovskoe	37.99	316	*e*P		P	03 15 29.8	+2.1
KLMR				*e*			03 16 58.7	
KLMR				*e*PPP		PPP	03 17 15.4	
KLMR				pmax		pmax		
	comp=Z,22nm,1.3s							
VSR	Storozhevoye	39.89	301	*e*P		P	03 15 46.7	+3.1
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
OBN	Obninsk	40.41	308	*i*P		P	03 15 48.7	+0.8
OBN				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ARA0	ARCESS Array S	43.15	330	*e*P		P	03 16 11.3	+1.1
ARCES	ARCESS Array B	43.15	330	P		P	03 16 11.3	+1.1
	comp=Z,2.9nm,0.7s,baz=85,slow=10.0,SNR=5.3							
ARCES				PcP		PcP	03 17 59.0	-0.5
	comp=Z,2.1nm,0.8s,baz=66,slow=3.0,SNR=4.1							
FIA1	FINESS Array S	44.33	319	*e*P		P	03 16 19.0	-0.8
FIA0	FINESS Array S	44.33	319	*e*P		P	03 16 20.1	+0.3
FIA0	FINESS Array S	44.33	319	*e*P		P	03 16 20.1	+0.3
FINES	FINESS Array B	44.33	319	P		P	03 16 20.1	+0.3
	comp=Z,12nm,0.9s,baz=80,slow=8.6,SNR=8.6							
FINES	FINESS Array B	44.33	319	*i*P		P	03 16 19.7	-0.1
FINES				pmax		pmax		
	comp=Z,12nm,0.9s							
AKASG	Malin Array Be	45.99	303	P		P	03 16 33.1	0.0
	comp=Z,1.3nm,0.6s,baz=55,slow=8.3,SNR=6.8							
BR101	Keskin Array S	47.97	288	*e*P		P	03 16 49.2	+0.4
BR131	Keskin Array S	47.97	288	*e*P		P	03 16 49.7	+0.8
BRTR	Keskin Array B	47.97	288	P		P	03 16 49.2	+0.4
	comp=Z,9.3nm,0.8s,baz=82,slow=6.9,SNR=14							
BRTR	Keskin Array B	47.97	288	*e*P		P	03 16 53.0	+4.1
BRTR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BR231	Keskin MP Arra	48.49	289	*e*P		P	03 16 51.9	-1.0
NC405	NORSAR Array S	50.98	321	*e*P		P	03 17 12.6	+1.3
NB2	NORSAR Subarra	51.23	321	P		P	03 17 16.4	+3.1
	comp=Z,5.0nm,0.7s,baz=64,slow=7.9							
NB200	NORSAR Array S	51.23	321	*e*P		P	03 17 12.8	-0.5
NOA	NORSAR Array B	51.23	321	P		P	03 17 12.8	-0.5
	comp=Z,4.0nm,0.7s,baz=64,slow=7.4,SNR=10.0							
NOA	NORSAR Array B	51.23	321	*e*P		P	03 17 16.6	+3.3
NOA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
NC204	NORSAR Array S	51.33	322	*e*P		P	03 17 16.0	+2.0
NBO02	NORSAR Array S	51.38	321	*e*P		P	03 17 16.4	+2.0
PSZ	Piszkesteto	52.70	304	*e*P		P	03 17 25.3	+0.8
PSZ				pmax		pmax		
	comp=Z,21nm,1.7s							
PSZ	Piszkesteto	52.70	304	*e*P		P	03 17 25.3	+0.8
	comp=Z,21nm,1.7s							
VYHS	Vyhne	53.04	305	*e*P		P	03 17 31.4	+4.5
VYHS				pmax		pmax		
	comp=Z,36nm,2.7s							
VYHS	Vyhne	53.04	305	*e*P		P	03 17 31.4	+4.5
VTS	Vitosha	53.34	296	*e*P		P	03 17 29.6	+0.2
VTS				pmax		pmax		
	comp=Z,6.0nm,0.9s							
VTS	Vitosha	53.34	296	*e*P		P	03 17 29.6	+0.2
	comp=Z,5.5nm,0.9s							
PVCC	Panska Ves	54.45	309	*e*P		P	03 17 41.9	+4.7
CLL	Collm	54.91	310	*e*P		P	03 17 40.0	-0.5
IMAR	Indian Mountai	55.59	28	*e*P		P	03 17 45.9	+0.6
GEC2	GERESS Array S	55.79	307	*e*P		P	03 17 49.1	+2.0
GEC2				pmax		pmax		
	comp=Z,28nm,2.0s							
GEC2	GERESS Array S	55.79	307	*e*P		P	03 17 49.0	+2.0
	comp=Z,28nm,2.0s							
GERES	GERESS Array B	55.79	307	P		P	03 17 49.0	+2.0
	comp=Z,1.0nm,0.8s,baz=60,slow=7.9,SNR=4.3							
COLD	Coldfoot	56.01	26	*e*P		P	03 17 48.2	0.0
	comp=Z,5.4nm,0.9s							
IDI	Anoyia	56.21	288	*e*P		P	03 17 49.0	-1.2
	comp=Z,7.7nm,0.8s							
TT01	Tatalina	56.55	32	*e*P		P	03 17 52.1	0.0
CCB	Clear Creek Bu	58.39	28	*e*P		P	03 18 10.6	+5.6
	comp=Z,14nm,1.4s							
IL1	Eielson Array	58.61	27	*e*P		P	03 18 06.6	0.0
ILAR	Eielson Array	58.61	27	P		P	03 18 06.8	+0.2
	comp=Z,0.8nm,0.8s,baz=306,slow=6.6,SNR=6.0							
ILAR	Eielson Array	58.61	27	*e*P		P	03 18 06.6	0.0
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ILB	Eielson Array	58.61	27	*e*P		P	03 18 09.0	+2.4
BFO	Black Forest	59.06	309	*i*P		P	03 18 14.6	+4.6
SUA	Susitna One	59.40	32	*e*P		P	03 18 13.3	+1.1
	comp=Z,13nm,0.8s							
KDAK	Kodiak Island	61.02	36	*i*P		P	03 18 23.4	+0.2
BNI	Bardonecchia	61.90	307	*e*P		P	03 18 35.0	+5.4
BNI				pmax		pmax		
	comp=Z,14nm,1.2s							
BNI	Bardonecchia	61.90	307	*e*P		P	03 18 35.0	+5.4
	comp=Z,14nm,1.2s							
ESDC	Sonseca Array	71.38	308	P		P	03 19 30.4	+0.3
	comp=Z,1.6nm,0.8s,baz=48,slow=6.1,SNR=5.6							
WRA	Warramunga Arr	72.06	146	P		P	03 19 33.5	-0.7
	comp=Z,2.8nm,0.7s,baz=344,slow=6.9,SNR=9.3							
WRA	Warramunga Arr	72.06	146	*i*P		P	03 19 33.7	-0.5
WRA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
WR1	Warramunga Arr	72.06	146	*e*P		P	03 19 33.5	-0.7
	comp=Z,33nm,1.6s							
AS31	Alice Springs	75.27	148	*e*P		P	03 19 53.1	+0.1
	comp=Z,1.4nm,0.8s							
ASAR	Alice Springs	75.27	148	P		P	03 19 52.7	-0.3
	comp=Z,4.3nm,0.7s,baz=339,slow=5.9,SNR=30							
AS01	Alice Springs	75.28	148	*e*P		P	03 19 52.3	-0.8
B08A	Colville Reser	80.61	25	*e*P		P	03 20 24.1	+1.5
	comp=Z,14nm,1.6s							
BSMT	Bassoo Peak	82.38	23	*e*P		P	03 20 33.9	+1.7
YBMT	Yellow Bay	82.58	22	*e*P		P	03 20 34.2	+1.2
JTMT	Jette	82.61	23	*e*P		P	03 20 35.0	+1.7
SWMT	Swartz Lake	82.90	22	*e*P		P	03 20 36.1	+1.3
SLMT	Seeley Lake	83.28	22	*e*P		P	03 20 37.8	+1.0
STKA	Stephens Creek	85.60	145	P		P	03 20 47.0	-1.3
	comp=Z,4.3nm,0.7s,baz=340,slow=6.6,SNR=7.1							
STKA	Stephens Creek	85.60	145	*e*P		P	03 20 48.4	+0.1
STKA				pmax		pmax		

PKIN	Phulchoki	13.79	128	eP		Pn	03 12 02.7 -3.1
JIRN	Jiri	14.25	125	eP		Pn	03 12 08.4 -3.8
	125nm,0.4s						
KURBB	Kurchatov Arra	14.46	14	⇑Lg		Lg	03 16 18.3
	118nm,1.0s						
KURK	Kurchatov	14.57	14	⇓Lg		Lg	03 16 24.6
	37nm,1.0s						
RAMN	Ramite	15.00	127	eP		Pn	03 12 18.2 -4.1
	30nm,0.7s						
TAPN	Taplejung	15.46	123	eP		Pn	03 12 23.9 -4.6
	8.4nm,0.4s						
AKTO	Aktyubinsk	17.52	326	P		P	03 12 54.6 -0.8
	0.3nm,0.3s,baz=133,slow=13,SNR=4.1						
ZALV	Zalesovo Beam	19.07	22	P		Pn	03 13 11.2 -1.9
	0.5nm,0.3s,baz=207,slow=12,SNR=4.2						
FINES	FINESS Array B	38.29	325	P		P	03 16 09.8 -0.5
	7.3nm,1.0s,baz=126,slow=7.2,SNR=2.6						
WRA	Warramunga Arr	80.65	123	P		P	03 21 02.7 -0.5
	0.4nm,0.4s,baz=324,slow=4.4,SNR=4.2						
ASAR	Alice Springs	82.97	126	P		P	03 21 17.0 +1.6
	0.3nm,0.6s,baz=314,slow=4.9,SNR=2.9						

*IDC **19** 03:10:17.4±0.7,28°.08N×54°.35E, h0km, mb4.3/22, mb1 4.4/26, mb1mx4.3/49, mbtmp4.3/26, ML3.6/3, Error ellipse: s-maj=17.2km s-min=12.8km az=20.0*
*ISCJB **19** 03:10:18.2±0.2,28°.01N×0°.03×54°.29E±0°.04, h17km, mb4.6/51, Error ellipse: s-maj=5.1km s-min=3.7km az=140.7*
*THR **19** 03:10:20.0±0.3,28°.17N×54°.52E, h14km±5km, ML3.9*
*TEH **19** 03:10:20.5,28°.10N×54°.27E, h28km, ML4.0*
*NEIC **19** 03:10:20.0±0.0,28°.17N×54°.52E, h14km, mb4.7/23, ML3.9(THR), MN4.0(TEH), After THR.*
*DSN **19** 03:10:21.4±0.0,28°.15N×54°.30E, h15km, ML4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **19** 03:10:21.3±0.1,28°.14N×54°.29E, h20km, mb4.7/29, Error ellipse: s-maj=6.3km s-min=3.9km az=55.0*
*OMAN **19** 03:10:25.1,28°.13N×54°.29E, h34km*

ISC 19 03:10:19.7±0.4,27°.96N±0°.04×54°.38E±0°.04, h17km, n246, σ1§41/251, mb4.6/51, 7C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	Jahrom	0.89	308	ePg	Pb	03 10 36.1	-0.7
JHRM	Jahrom	0.89	308	ePg	Pb	03 10 36.1	-0.7
GHIR	Ghir-Karzin	1.27	285	ePg	Pg	03 10 45.0	+0.8
GHIR				eSg	Sg	03 11 03.4	+2.6
GHIR				AML	AML	03 11 10.1	
	comp=E,2μm,0.1s						
GHIR	Ghir-Karzin	1.27	285	ePg	Pg	03 10 45.0	+0.8
GHIR				eSg	Sg	03 11 03.4	+2.6
ISRV	Sarvestan	1.80	322	ePn	Pn	03 10 51.5	+1.2
ISRV				eSg	Sb	03 11 16.7	+1.8
ISRV				eAMB	AMB	03 11 32.3	
	comp=Z,32μm,0.3s						
ISRV	Sarvestan	1.80	322	ePn	Pn	03 10 51.5	+1.2
ISRV				eSg	Sb	03 11 16.7	+1.8
IPAR	Pars	2.21	329	ePn	Pn	03 10 56.8	+0.9
IPAR				eAMB	AMB	03 11 33.5	
	comp=Z,11μm,0.3s						
IPAR	Pars	2.21	329	ePn	Pn	03 10 56.8	+0.9
BANOM	Banah	2.66	139	eP	Pb	03 11 06.1	-0.7
	SNR=39						
BANOM	Banah	2.66	139	Pn	Pb	03 11 05.8	-1.0
	SNR=38						
BANOM	Banah	2.66	139	P	Pb	03 11 06.1	-0.7
	SNR=39						
BANOM	Banah	2.66	139	P	Pb	03 11 05.8	-1.0
	SNR=38						
BANOM	Banah	2.66	139	Pn	Pb	03 11 05.8	-1.0
	SNR=38						
NGRK	Negar Kerman	2.67	50	ePn	Pn	03 11 02.9	+0.7
NGRK	Negar Kerman	2.67	50	ePn	Pn	03 11 02.9	+0.7
AHBU	AHRAM	2.86	289	ePn	Pb	03 11 07.9	-2.4
TVBK	TV Kerman	2.91	45	ePn	Pn	03 11 08.0	+2.5
TVBK	TV Kerman	2.91	45	ePn	Pn	03 11 08.0	+2.5
KHGB	Koh Gabri	3.03	37	ePn	Pn	03 11 08.7	+1.6
KHGB	Koh Gabri	3.03	37	ePn	Pn	03 11 08.7	+1.6
NAZ	Nazwa, Dubai	3.17	158	i P	Pb	03 11 14.7	-0.9
	SNR=9.6						
NAZ	Nazwa, Dubai	3.17	158	P	Pb	03 11 14.7	-0.9
	SNR=9.6						
NAZ	Nazwa, Dubai	3.17	158	Pn	Pb	03 11 15.0	-0.6
	SNR=9.6						
NAZ	Nazwa, Dubai	3.17	158	P	Pb	03 11 15.0	-0.6
	SNR=9.6						
NAZ	Nazwa, Dubai	3.17	158	Pn	Pb	03 11 15.0	-0.6
	SNR=9.6						
UOSS	Minazif	3.42	151	P	Pb	03 11 16.2	-3.6
	SNR=14						
UOSS	Minazif	3.42	151	ePn	Pb	03 11 16.5	-3.3
UOSS				eSn	Sn	03 11 54.5	+2.1
UOSS	Minazif	3.42	151	ePn	Pb	03 11 16.5	-3.3
UOSS				eSn	Sn	03 11 54.5	+2.1
IMEH	Mehriz	3.43	3	ePn	Pn	03 11 13.8	+1.2
IMEH				eAMB	AMB	03 12 13.7	
	comp=Z,3μm,0.4s						
IMEH	Mehriz	3.43	3	ePn	Pn	03 11 13.8	+1.2
HATD	Hatta, Dubai	3.49	153	i P	Pb	03 11 18.3	-2.8
	SNR=19						
HATD	Hatta, Dubai	3.49	153	P	Pb	03 11 18.3	-2.8
	SNR=19						
HATD	Hatta, Dubai	3.49	153	Pn	Pb	03 11 19.0	-2.1
	SNR=7.7						
HATD	Hatta, Dubai	3.49	153	P	Pb	03 11 19.0	-2.1
	SNR=7.7						
HATD	Hatta, Dubai	3.49	153	Pn	Pb	03 11 19.0	-2.1
	SNR=7.7						
ASHO	Ashiyiah	3.59	155	i P	Pb	03 11 19.3	-3.5
	SNR=84						
ASHO	Ashiyiah	3.59	155	P	Pb	03 11 19.3	-3.5
	SNR=84						
IBAF	Bafgh	3.77	16	ePn	Pn	03 11 17.7	+0.5
IBAF				eAMB	AMB	03 11 31.5	
	comp=Z,2μm,0.3s						
IBAF	Bafgh	3.77	16	ePn	Pn	03 11 17.7	+0.5
ISAD	Sadrabad	3.99	352	ePn	Pn	03 11 21.4	+1.1
ISAD	Sadrabad	3.99	352	ePn	Pn	03 11 21.4	+1.1
IRAM	Ramesheh	4.21	336	ePn	Pn	03 11 23.9	+0.6
IRAM				eAMB	AMB	03 11 43.6	
	comp=Z,2μm,0.3s						
IRAM	Ramesheh	4.21	336	ePn	Pn	03 11 23.9	+0.6
ICHK	Chekchek	4.28	0	ePn	Pn	03 11 24.9	+0.7
ICHK				eAMB	AMB	03 11 39.3	
	comp=Z,2μm,0.4s						
ICHK	Chekchek	4.28	0	ePn	Pn	03 11 24.9	+0.7
IGAR	Gharneh	4.87	336	ePn	Pn	03 11 32.8	+0.4
IGAR				eAMB	AMB	03 11 53.3	
	comp=Z,1μm,0.2s						
NASN	Na'in	5.01	345	ePn	Pn	03 11 34.9	+0.4
NASN	Na'in	5.01	345	ePn	Pn	03 11 34.9	+0.4
IZEF	Zefreh	5.23	341	ePn	Pn	03 11 36.5	-0.9
IZEF				eAMB	AMB	03 11 59.1	
	comp=Z,734nm,0.4s						
IZEF	Zefreh	5.23	341	ePn	Pn	03 11 36.5	-0.9
IPIR	Pirpir	5.59	328	ePn	Pn	03 11 42.0	-0.4
IPIR				eAMB	AMB	03 12 51.9	
	comp=Z,2μm,0.2s						
IPIR	Pirpir	5.59	328	ePn	Pn	03 11 42.0	-0.4
IKLH	Kolahrood	5.86	336	ePn	Pn	03 11 45.8	-0.3
IKLH				eAMB	AMB	03 12 58.0	
	comp=Z,508nm,0.2s						
IKLH	Kolahrood	5.86	336	ePn	Pn	03 11 45.8	-0.3
CHBR	Chabahar	5.94	112	ePn	Pn	03 11 49.4	+2.5
CHBR	Chabahar	5.94	112	ePn	Pn	03 11 49.4	+2.5
WSAR	Wadi Sarin	6.07	140	Pn	Pn	03 11 51.3	+2.7
	comp=Z,2.3nm,0.3s,baz=339,slow=3.5,SNR=40						
WSAR				Sn	Sn	03 13 02.7	+5.0
	comp=Z,1.4nm,0.3s,baz=344,slow=18,SNR=3.1						
ITEG	Tejag	6.21	36	eAMB	AMB	03 13 55.1	
	comp=Z,248nm,0.4s						
RAYN	Ar Rayn	9.13	243	ePn	Pn	03 12 32.0	+1.2
RAYN	Ar Rayn	9.13	243	ePn	Pn	03 12 32.0	+1.2
RAYN				eSn	Sn	03 14 10.7	-2.6
IVIS	Veis	9.18	317	ePn	Pn	03 12 28.6	-2.9
IVIS	Veis	9.18	317	ePn	Pn	03 12 28.6	-2.9
IGHG	Ghaleghazi	9.22	315	ePn	Pn	03 12 29.6	-2.6
IGHG				eAMB	AMB	03 12 31.5	
	comp=Z,563nm,0.1s						
IGHG	Ghaleghazi	9.22	315	ePn	Pn	03 12 29.6	-2.6
GNI	Garni	14.54	329	Pn	Pn	03 13 46.0	+1.2
	comp=Z,0.6nm,0.3s,baz=132,slow=6.5,SNR=2.4						
GNI	Garni	14.54	329	ePn	Pn	03 13 46.0	+1.2
DAMY	Dhamar	16.23	217	ePn	Pn	03 14 05.9	-1.4
	comp=Z,20nm,0.9s						
KBZ	Khabaz	18.25	333	P	Pn	03 14 31.6	-0.5
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=3.1						
KVAR	Kislovodsk Arr	18.52	333	P	P	03 14 34.5	-0.9
	baz=289,slow=2.8,SNR=2.2						
KIV	Kislovodsk	18.53	333	eP	Pn	03 14 37.7	+2.1
	comp=Z,16nm,0.8s						
TOKA	Tokat	19.23	315	eP	P	03 14 42.0	-1.1
	comp=Z,48nm,1.6s						
TOKA	Tokat	19.23	315	eP	P	03 14 42.0	-1.1
	comp=Z,48nm,1.6s						
KKAR	Karatay Array	19.97	37	eP	P	03 14 50.8	-0.3
	comp=Z,54nm,0.6s						
KKAR	Karatay Array	19.97	37	eP	P	03 14 50.8	-0.3
	comp=Z,54nm,0.6s						
BR101	Keskin Array S	20.79	310	eP	P	03 15 00.3	+0.1
BR101	Keskin Array S	20.79	310	eP	P	03 15 00.3	+0.1
BR131	Keskin Array S	20.79	310	eP	P	03 15 01.0	+0.8
BR131	Keskin Array S	20.79	310	eP	P	03 15 01.0	+0.8
BRTR	Keskin Array B	20.79	310	P	P	03 15 00.3	+0.1
	comp=Z,3.6nm,0.6s,baz=139,slow=9.1,SNR=15						
BR231	Keskin MP Arra	21.43	309	eP	P	03 15 01.5	-5.6
ABKAR	Akbulak array	21.70	10	eP	P	03 15 09.4	-0.2
	comp=Z,68nm,0.8s						
ABKAR	Akbulak array	21.70	10	eP	P	03 15 09.4	-0.2
	comp=Z,68nm,0.8s						
AAK	Ala-Archa	21.93	43	P	P	03 15 11.5	-0.9
	comp=Z,0.7nm,0.3s,baz=252,slow=3.2,SNR=1.8						
AKTO	Aktyubinsk	22.62	6	P	P	03 15 19.0	-0.6
	comp=Z,4.7nm,0.6s,baz=167,slow=13,SNR=7.3						
AKTO	Aktyubinsk	22.62	6	P	P	03 15 19.0	-0.6
SANT	Santorini	25.80	296	eP	P	03 15 49.2	-0.8
	comp=Z,22nm,1.0s						
SANT	Santorini	25.80	296	eP	P	03 15 49.2	-0.8
	comp=Z,22nm,1.0s						
IDI	Anoyia	26.09	294	P	P	03 15 53.1	+0.6
	comp=Z,6.2nm,0.6s,baz=90,slow=9.1,SNR=10						
IDI	Anoyia	26.09	294	eP	P	03 15 53.2	+0.6
	comp=Z,19nm,1.3s						
IDI	Anoyia	26.09	294	eP	P	03 15 53.2	+0.6
	comp=Z,19nm,1.3s						
BVAR	Borovoye Array	27.72	21	P	P	03 16 06.7	-0.3
	comp=Z,4.9nm,0.6s,baz=218,slow=6.1,SNR=8.7						
VRI	Vrincioaia	28.22	317	⇓iP	P	03 16 15.8	+4.2
TESR	Tescani	28.59	318	⇓iP	P	03 16 14.9	0.0
TESR	Tescani	28.59	318	⇑iP	P	03 16 14.9	0.0
AGG	Agios Georgios	28.78	301	eP	P	03 16 16.6	-0.1
	comp=Z,16nm,1.1s						
AGG	Agios Georgios	28.78	301	eP	P	03 16 16.6	-0.1
	comp=Z,16nm,1.1s						
VOIR		29.05	315	⇑iP	P	03 16 19.9	+0.8
VOIR		29.05	315	⇑iP	P	03 16 19.9	+0.8
KURBB	Kurchatov Arra	29.12	32	P	P	03 16 19.4	-0.1
	comp=Z,9.8nm,1.1s,baz=232,slow=8.9,SNR=11						
KURK	Kurchatov	29.22	32	eP	P	03 16 19.4	-1.0
	comp=Z,3.8nm,1.1s						
KURK	Kurchatov	29.22	32	eP	P	03 16 19.4	-1.0
	comp=Z,3.8nm,1.1s						
AKASG	Malin Array Be	29.65	327	P	P	03 16 22.5	-1.6
	comp=Z,1.3nm,0.4s,baz=136,slow=8.5,SNR=8.7						
AKBB	Malin Array Si	29.65	327	eP	P	03 16 22.6	-1.5
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AKBB	Malin Array Si	29.65	327	eP	P	03 16 22.5	-1.6
	comp=Z,9.3nm,1.1s						
AKBB	Malin Array Si	29.65	327	eP	P	03 16 22.6	-1.6
	comp=Z,9.3nm,1.1s						
KIEV	Kiev	29.65	327	eP	P	03 16 23.0	-1.2
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIEV	Kiev	29.65	327	eP	P	03 16 23.0	-1.1
	comp=Z,8.6nm,1.1s						
KIEV	Kiev	29.65	327	eP	P	03 16 23.0	-1.1
	comp=Z,8.6nm,1.1s						
AK11	Malin Array Si	29.66	327	eP	P	03 16 23.4	-0.9
AK11	Malin Array Si	29.66	327	eP	P	03 16 23.4	-0.9
BURAR	Bucovina Array	30.00	319	⇑iP	P	03 16 27.2	-0.2
BURAR	Bucovina Array	30.00	319	⇑iP	P	03 16 27.2	-0.2
OBN	Obninsk	30.05	339	P	P	03 16 26.9	-0.7
	comp=Z,13nm,0.3s,baz=161,slow=19,SNR=4.4						
GZR	Gura Zlata	30.48	313	⇓iP	P	03 16 34.5	+2.8
MDVR	Moldovita	30.94	312	⇓iP	P	03 16 36.0	+0.3
MDVR	Moldovita	30.94	312	⇓iP	P	03 16 36.0	+0.3
DRGR		31.11	316	⇓iP	P	03 16 37.5	+0.2
DRGR		31.11	316	⇓iP	P	03 16 37.5	+0.2
ZAA0	Zalesovo Array	34.22	32	eP	P	03 17 03.6	-0.6
ZAA0	Zalesovo Array	34.22	32	eP	P	03 17 03.6	-0.6
ZALV	Zalesovo Beam	34.22	32	P	P	03 17 03.5	-0.7
	comp=Z,15nm,0.5s,baz=242,slow=9.7,SNR=12						
ZAA1	Zalesovo Array	34.22	32	eP	P	03 17 03.5	-0.7
ZAA1	Zalesovo Array	34.22	32	eP	P	03 17 03.5	-0.7
OJC	Ojcow	34.38	320	eP	P	03 17 04.8	-0.9
	comp=Z,12nm,0.9s						
OJC	Ojcow	34.38	320	eP	P	03 17 04.8	-0.9
	comp=Z,12nm,0.9s						
MORC	Moravsky Berou	35.50	318	⇑iP	P	03 17 14.8	-0.7
MORC	Moravsky Berou	35.50	318	eP	P	03 17 14.6	-0.9
	comp=Z,19nm,0.9s						
MORC	Moravsky Berou	35.50	318	eP	P	03 17 14.6	-0.9
	comp=Z,19nm,0.9s						
DPC	Dobruska-Polom	36.45	318	eP	P	03 17 23.0	-0.6
DPC				ex	x	03 17 35.1	
DPC	Dobruska-Polom	36.45	318	eP	P	03 17 23.0	-0.6
DPC				e		03 17 35.1	
DPC	Dobruska-Polom	36.45	318	P	P	03 17 23.0	-0.6
GEA0	GERESS Array S	37.50	315	eP	P	03 17 31.3	-1.3
GEA0	GERESS Array S	37.50	315	eP	P	03 17 31.3	-1.3
GEC2	GERESS Array S	37.51	315	eP	P	03 17 31.3	-1.3
	comp=Z,17nm,1.9s						
GEC2	GERESS Array S	37.51	315	eP	P	03 17 31.3	-1.3
	comp=Z,17nm,1.9s						
GERES	GERESS Array B	37.51	315	P	P	03 17 31.3	-1.3
	comp=Z,0.5nm,0.5s,baz=99,slow=8.2,SNR=6.3						
KHC	Kasperske Hory	37.67	315	eP	P	03 17 33.3	-0.8
KHC				ex	x	03 17 50.1	
KHC	Kasperske Hory	37.67	315	eP	P	03 17 33.2	-0.8
	comp=Z,1.3nm,0.8s						
KHC	Kasperske Hory	37.67	315	eP	P	03 17 33.2	-0.8
	comp=Z,1.3nm,0.8s						
FIA0	FINESS Array S	38.44	339	eP	P	03 17 39.7	-0.6
FIA0	FINESS Array S	38.44	339	eP	P	03 17 39.6	-0.6
FIA1	FINESS Array S	38.44	339	eP	P	03 17 39.3	-0.9
FIA1	FINESS Array S	38.44	339	eP	P	03 17 39.3	-0.9
FINES	FINESS Array B	38.44	339	P	P	03 17 39.7	-0.6
	comp=Z,4.8nm,0.4s,baz=142,slow=9.8,SNR=30						
MOTA	Moosalm	38.75	312	P	P	03 17 41.5	-1.7
	comp=Z,1.8nm,0.5s						
MOTA	Moosalm	38.75	312	P	P	03 17 41.5	-1.7
	comp=Z,1.8nm,0.5s						
CLL	Collm	38.77	319	eP	P	03 17 43.0	-0.1
CLL	Collm	38.77	319	eP	P	03 17 43.0	-0.1
	comp=Z,4.0nm,0.7s						
RETA	Reutte	39.01	312	i P	P	03 17 45.9	+0.6
	comp=Z,12nm,1.9s						
RETA	Reutte	39.01	312	P	P	03 17 45.9	+0.6
	comp=Z,12nm,1.9s						
DAVA	Damuels	39.54	311	eP	P	03 17 48.6	-1.2
	comp=Z,7.4nm,0.5s						
DAVA	Damuels	39.54	311	P	P	03 17 48.6	-1.2
	comp=Z,7.4nm,0.5s						
SENIN	Lac Senin/Sane	41.09	310	eP	P	03 18 01.7	-1.1
	comp=Z,37nm,1.9s						
SENIN	Lac Senin/Sane	41.09	310	eP	P	03 18 01.7	-1.1
	comp=Z,37nm,1.9s						
LVZ	Lovozero	41.69	349	eP	P	03 18 07.0	-0.1
	comp=Z,238nm,2.0s						
LVZ	Lovozero	41.69	349	eP	P	03 18 07.0	-0.1
	comp=Z,238nm,2.0s						
CHTO	Chiang Mai	41.72	93	eP	P	03 18 08.7	+0.7
	comp=Z,9.2nm,1.1s						
CHTO	Chiang Mai	41.72	93	eP	P	03 18 08.7	+0.7
	comp=Z,9.2nm,1.1s						
CM31	Chiang Mai Arr	41.85	93	eP	P	03 18 07.3	-1.7
CMAR	Chiang Mai Arr	41.85	93	P	P	03 18 10.0	+1.0
	comp=Z,1.1nm,0.3s,baz=290,slow=8.3,SNR=7.7						
HGN	Heimansgroeve	42.87	316	eL	L	03 18 29.5	
	comp=Z,323nm,19.1s						
NC602	NORSAR Array S	43.54	331	eP	P	03 18 21.4	-0.8
NC602	NORSAR Array S	43.54	331	eP	P	03 18 21.4	-0.8
NC405	NORSAR Array S	43.65	332	eP	P	03 18 21.6	-1.6
NC405	NORSAR Array S	43.65	332	eP	P	03 18 21.6	-1.6
NB201	NORSAR Array S	43.80	331	eP	P	03 18 23.2	-1.2
NB201	NORSAR Array S	43.80	331	eP	P	03 18 23.2	-1.2
NB2	NORSAR Subarra	43.83	331	P	P	03 18 23.1	-1.5
	comp=Z,1.7nm,0.5s,baz=121,slow=8.6						
NB2	NORSAR Subarra	43.83	331	P	P	03 18 23.1	-1.5
	baz=121,slow=8.6						
NB2	NORSAR Subarra	43.83	331	P	P	03 18 23.1	-1.5
	comp=Z,1.7nm,0.5s,SNR=4.5						
NB200	NORSAR Array S	43.83	331	eP	P	03 18 23.2	-1.4
NB200	NORSAR Array S	43.83	331	eP	P	03 18 23.2	-1.4
NOA	NORSAR Array B	43.83	331	P	P	03 18 23.2	-1.4
	comp=Z,0.8nm,0.4s,baz=125,slow=8.5,SNR=8.4						
NC303	NORSAR Array S	43.85	332	eP	P	03 18 24.2	-0.5
NC303	NORSAR Array S	43.85	332	eP	P	03 18 24.2	-0.5
NBO02	NORSAR Array S	43.98	331	eP	P	03 18 24.7	-1.2
NBO02	NORSAR Array S	43.98	331	eP	P	03 18 24.7	-1.2
NBO00	NORSAR Array S	44.01	331	eP	P	03 18 24.6	-1.4
NBO00	NORSAR Array S	44.01	331	eP	P	03 18 24.6	-1.4
NC204	NORSAR Array S	44.13	331	eP	P	03 18 25.5	-1.6
NC204	NORSAR Array S	44.13	331	eP	P	03 18 25.5	-1.6
HEF	Hetta	44.38	344	eP	P	03 18 28.7	-0.2
HEF	Hetta	44.38	344	eP	P	03 18 28.7	-0.2
	SNR=22						
KEV	Kevo	44.72	347	eP	P	03 18 31.6	+0.1
KEV	Kevo	44.72	347	eP	P	03 18 31.4	-0.1
	comp=Z,9.3nm,0.5s						
KEV	Kevo	44.72	347	eP	P	03 18 31.4	-0.1
	comp=Z,9.3nm,0.5s						
ARA0	ARCESS Array S	44.85	346	eP	P	03 18 32.5	-0.1
ARA0	ARCESS Array S	44.85	346	eP	P	03 18 32.5	-0.1
ARCES	ARCESS Array B	44.85	346	P	P	03 18 32.5	-0.1
	comp=Z,2.9nm,0.4s,baz=154,slow=9.1,SNR=29						
ARE0	ARCESS Array S	44.85	346	eP	P	03 18 32.4	-0.2
ARE0	ARCESS Array S	44.85	346	eP	P	03 18 31.0	-1.6
	comp=Z,149nm,2.0s						
ARE0	ARCESS Array S	44.85	346	eP	P	03 18 31.0	-1.6
	comp=Z,149nm,2.0s						
KTK1	Kautokeino	44.94	345	eP	P	03 18 33.2	-0.2
KTK1	Kautokeino	44.94	345	eP	P	03 18 33.2	-0.2
	SNR=22						
KIF	Kilpisjarvi	45.52	344	eP	P	03 18 37.8	-0.1
KIF	Kilpisjarvi	45.52	344	eP	P	03 18 37.8	-0.1
	SNR=22						
HAMF	Hammerfest	46.11	346	eP	P	03 18 42.5	0.0
HAMF	Hammerfest	46.11	346	eP	P	03 18 42.5	0.0
	SNR=22						
TRO	Tromso	46.44	344	eP	P	03 18 48.4	+3.3
ESDC	Sonseca Array	49.09	300	P	P	03 19 06.0	-0.2
	comp=Z,0.3nm,0.3s,baz=74,slow=7.4,SNR=5.5						
PAB	San Pablo	49.40	299	eP	P	03 19 08.1	-0.5
	comp=Z,25nm,1.8s						
PAB	San Pablo	49.40	299	eP	P	03 19 08.1	-0.5
	comp=Z,25nm,1.8s						
LSZ	Lusaka	49.91	214	eP	P	03 19 13.9	+1.2
	comp=Z,25nm,1.9s						
LSZ	Lusaka	49.91	214	eP	P	03 19 13.9	+1.2
	comp=Z,25nm,1.9s						
TOA0	Torodi Ar. Sit	51.11	264	eP	P	03 19 22.0	+0.2
TOA0	Torodi Ar. Sit	51.11	264	eP	P	03 19 22.0	+0.2
TOA1	Torodi Ar. Sit	51.11	264	eP	P	03 19 21.9	+0.1
	comp=Z,10nm,0.7s						
TOA1	Torodi Ar. Sit	51.11	264	eP	P	03 19 21.9	+0.1
	comp=Z,10nm,0.7s						
TORD	Torodi Ar. Bea	51.11	264	P	P	03 19 21.9	+0.1
	comp=Z,8.1nm,0.6s,baz=61,slow=7.8,SNR=42						
QIZ	Qiongzhong	51.28	87	eP	P	03 19 22.0	-1.1
	comp=Z,90nm,1.6s						
QIZ	Qiongzhong	51.28	87	eP	P	03 19 22.0	-1.1
	comp=Z,90nm,1.6s						
SPA0	Spitsbergen Ar	53.13	351	eP	P	03 19 36.1	+0.1
SPA0	Spitsbergen Ar	53.13	351	eP	P	03 19 36.1	+0.1
KBS	Kingsbay	54.28	351	eP	P	03 19 44.3	-0.1
	comp=Z,8.1nm,0.6s						
KBS	Kingsbay	54.28	351	eP	P	03 19 44.3	-0.1
	comp=Z,8.1nm,0.6s						
JMIC	Jan Mayen	55.06	339	eP	P	03 19 42.8	-7.3
DAG	Danmarks Havn	59.12	345	i P	P	03 20 17.7	-1.0
	comp=Z,2.5nm,0.9s						
LBTB	Lobatse	59.51	210	eP	P	03 20 22.5	+0.3
	comp=Z,38nm,1.6s						
LBTB	Lobatse	59.51	210	eP	P	03 20 22.5	+0.3
	comp=Z,38nm,1.6s						
DBIC	Dimbokro	59.78	261	P	P	03 20 24.8	+0.6
	comp=Z,5.6nm,0.8s,baz=64,slow=8.6,SNR=6.7						
KIC	Kosan Boka	59.83	261	ePKP2	P	03 20 26.8	+2.2
	comp=Z,82nm,1.7s						
TIC	Toumodi	59.93	261	ePKP2	P	03 20 28.4	+3.0
LIC	Lamto	60.14	261	ePKP2	P	03 20 27.1	+0.4
	comp=Z,72nm,1.6s						
KSAR	Wonju Array Be	61.17	61	P	P	03 20 33.2	-0.3

0.2nm,0.2s,baz=178,slow=9.8,SNR=3.6
WRA Warramunga Arr 51.66 126 P P 03 39 42.3 -0.2
0.4nm,0.6s,baz=305,slow=8.5,SNR=4.8
ASAR Alice Springs 53.34 130 P P 03 39 55.0 0.0
0.6nm,0.8s,baz=309,slow=7.1,SNR=7.9

MEX 19 03:56:46.8±0.4, 17°.09N×95°.45W, h139km±18km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.22**	**269**	*eP*	Pn	03 57 11.6	-1.3
VHO				*eS*	Sn	03 57 30.7	-1.9
HUIG	**Huatulco**	**1.46**	**206**	*eP*	Pn	03 57 13.4	-1.7
HUIG				*eS*	Sn	03 57 35.2	-1.4
TGIG		**2.25**	**98**	*eP*	Pn	03 57 22.8	-1.6
TGIG				*i S*	Sn	03 57 48.0	-5.3
PCIG		**2.55**	**122**	*eP*	Pn	03 57 27.2	-0.9
PCIG				*eS*	Sn	03 57 53.7	-6.0

WEL 19 04:06:07.0±0.4, 39°.71S×174°.03E, h235km±3km, ML3.7/14, 3C-1D, Error ellipse: s-maj=3.0km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.38**	**49**	PN	Pn	04 06 37.7	-0.1
NEZ	**North Egmont**	**0.44**	**6**	PN	Pn	04 06 37.9	-0.3
WAZ	**Wanganui**	**0.74**	**94**	⇓PN	Pn	04 06 39.5	+0.5
WAZ				SN	S	04 07 03.6	-0.6
DUWZ	**D'Urville Isla**	**1.09**	**184**	PN	Pn	04 06 41.1	+0.2
DUWZ				SN	S	04 07 06.0	-1.6
PKVZ	**Pokaka**	**1.10**	**68**	PN	Pn	04 06 40.5	-0.6
TRVZ	**Turoa**	**1.24**	**71**	PN	Pn	04 06 41.6	-0.6
FWVZ	**Far West T-bar**	**1.26**	**69**	PN	Pn	04 06 41.8	-0.6
WNVZ	**Wahianoa**	**1.27**	**73**	PN	Pn	04 06 41.9	-0.5
KIW	**Kapiti Island**	**1.33**	**150**	PN	Pn	04 06 42.9	+0.4
KIW				AML	AML	04 07 10.2	
TUVZ	**Tukino**	**1.33**	**71**	PN	Pn	04 06 41.9	-0.9
TCW	**Tory Channel**	**1.51**	**173**	PN	Pn	04 06 44.0	+0.2
TCW				SN	S	04 07 11.4	-1.4
TCW				AML	AML	04 07 14.1	
MRZ	**Mangatainoka R**	**1.52**	**129**	PN	Pn	04 06 46.6	+2.7
MRZ				AML	AML	04 07 43.4	
TSZ	**Takapari Road**	**1.52**	**104**	PN	Pn	04 06 44.1	0.0
NNZ	**Nelson**	**1.58**	**198**	⇑PN	Pn	04 06 44.5	0.0
BHHZ	**Black Hill Sta**	**1.58**	**83**	PN	Pn	04 06 43.8	-0.8
QRZ	**Quartz Range**	**1.60**	**225**	⇑PN	Pn	04 06 44.0	-0.6
CAW	**Cannon Point**	**1.60**	**151**	PN	Pn	04 06 44.8	+0.2
CAW				AML	AML	04 07 14.4	
CAW				AML	AML	04 07 14.7	
HOWZ	**Holdsworth Sta**	**1.64**	**137**	PN	Pn	04 06 45.0	0.0
PNHZ	**Pukenui**	**1.68**	**98**	PN	Pn	04 06 45.1	-0.2
TUWZ	**Tuamarina**	**1.72**	**182**	PN	Pn	04 06 45.8	+0.2
TUWZ				AML	AML	04 07 15.7	
TUWZ				AML	AML	04 07 15.9	
DVHZ	**Dannevirke**	**1.74**	**110**	PN	Pn	04 06 45.8	-0.1
DVHZ				AML	AML	04 07 17.7	
DVHZ				AML	AML	04 07 19.2	
KRHZ	**Kereru**	**1.81**	**89**	PN	Pn	04 06 46.3	-0.2
KRHZ				AML	AML	04 07 18.0	
KRHZ				AML	AML	04 07 18.7	
MTW	**Mount Morrison**	**1.83**	**143**	PN	Pn	04 06 46.3	-0.2
KWHZ	**Kaweka Forest**	**1.87**	**82**	PN	Pn	04 06 47.0	0.0
KWHZ				AML	AML	04 07 17.7	
KWHZ				AML	AML	04 07 18.0	
WPHZ	**Waipukurau**	**1.89**	**102**	PN	Pn	04 06 47.5	+0.4
WPHZ				AML	AML	04 07 15.2	
BKZ	**Black Stump Fm**	**1.98**	**75**	*e*Pn	Pn	04 06 47.0	-1.1
BKZ				AML	AML	04 07 16.4	
BKZ				AML	AML	04 07 16.5	
BSWZ	**Blackbirch Sta**	**2.00**	**183**	PN	Pn	04 06 48.5	+0.4
ANWZ	**Angora Road**	**2.02**	**113**	PN	Pn	04 06 48.7	+0.4
MCHZ	**McNeill Hill**	**2.08**	**83**	PN	Pn	04 06 49.2	+0.3
KAHZ	**Kahuranaki**	**2.19**	**93**	PN	Pn	04 06 50.4	+0.3
PXZ	**Pawanui**	**2.20**	**99**	PN	Pn	04 06 50.2	+0.1
THZ	**Tophouse**	**2.22**	**202**	PN	Pn	04 06 50.0	-0.3
ARHZ	**Aropaoanui**	**2.34**	**80**	PN	Pn	04 06 51.4	-0.1
ARHZ				AML	AML	04 07 25.2	
ARHZ				AML	AML	04 07 27.0	
KHZ	**Kahutara**	**2.73**	**188**	PN	Pn	04 06 55.2	-0.3
URZ	**Urewera**	**2.80**	**60**	PN	Pn	04 06 54.1	-2.3
URZ				AML	AML	04 07 29.2	
URZ				AML	AML	04 07 29.8	
KNZ	**Kokohu**	**2.91**	**77**	PN	Pn	04 06 56.6	-0.8
RIGZ	**Rimuhau**	**3.07**	**72**	PN	Pn	04 06 58.3	-1.0
RIGZ				AML	AML	04 07 38.8	
RIGZ				AML	AML	04 07 39.4	
PRGZ	**Paritu Road**	**3.09**	**76**	PN	Pn	04 06 58.8	-0.8
RUGZ	**Raukumara Rang**	**3.34**	**60**	PN	Pn	04 06 59.6	-2.9
LTZ	**Lake Taylor**	**3.34**	**203**	PN	Pn	04 07 01.4	-0.9
HAZ	**Te Kaha**	**3.52**	**58**	PN	Pn	04 07 01.6	-2.9
HAZ				AML	AML	04 07 43.5	
HAZ				AML	AML	04 07 49.6	
INZ	**Inchbonnie**	**3.59**	**212**	PN	Pn	04 07 03.8	-1.3
OXZ	**Oxford**	**3.91**	**202**	⇑PN	Pn	04 07 07.3	-1.7
MOZ	**McQueen's Vall**	**4.12**	**194**	PN	Pn	04 07 09.3	-2.1
WVZ	**Waitaha Valley**	**4.17**	**215**	PN	Pn	04 07 10.5	-1.6

*ISCJB **19** 04:20:09.9±0.5, 4°.79S±0°.04×134°.04E±0°.05, h25km, mb4.0/8, MS3.2/2, Error ellipse: s-maj=7.3km s-min=5.5km az=157.0*
*IDC **19** 04:20:10.0±1.1, 4°.96S×133°.63E, h0km, mb4.0/6, mb1 4.3/10, mb1mx4.1/31, mbtmp4.2/10, ML4.4/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=60.4km s-min=17.2km az=72.0*
*DJA **19** 04:20:13.4±0.4, 5°.S±4°.×13°.4E±°, h53km±21km, M4.7/10, mb4.9/7, mB5.4/5, MLv4.6/10, Mw(mB)4.8/5*
*NEIC **19** 04:20:14.9±0.8, 5°.00S×133°.65E, h35km, mb4.5/2, Error ellipse: s-maj=25.3km s-min=10.0km az=75.0*
ISC 19 04:20:11.9±0.7, 4°.72S±0°.05×134°.04E±0°.07, h25km, n26, σ1§76/28, mb4.2/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.10**	**342**	P	**Pn**	**04 20 31.2**	**-0.5**
KMPI				S	**Sb**	**04 20 45.8**	**-0.4**
FAKI	**Fak Fak**	**2.52**	**315**	P	**Pn**	**04 20 50.8**	**-0.6**
FAKI				S	**Sn**	**04 21 19.4**	**-2.0**
FAKI	**Fak Fak**	**2.52**	**315**	*e*Pn	**Pn**	**04 20 51.3**	**-0.1**
FAKI				*e*Sn	**Sn**	**04 21 21.3**	**-0.1**
RKPI	**Ransiki, Papua**	**3.19**	**2**	P	**Pn**	**04 20 59.8**	**-0.7**
BAKI	**Biak**	**4.06**	**31**	P	**Pn**	**04 21 12.3**	**-0.3**
BNDI	**Bandanaira**	**4.13**	**272**	P	**Pn**	**04 21 14.7**	**+1.3**
BNDI				S	**Sn**	**04 22 01.4**	**+0.5**
SAUI	**Saumlaki**	**4.24**	**220**	P	**Pn**	**04 21 17.1**	**+2.1**
MSAI	**Masohi**	**5.28**	**285**	P	**Pn**	**04 21 29.7**	**+0.4**
SMPI	**Sarmi**	**5.39**	**60**	P	**Pn**	**04 21 30.5**	**-0.3**
AAI	**Ambon**	**5.92**	**280**	P	**Pn**	**04 21 39.0**	**+0.9**
LBMI	**Labuha**	**7.69**	**302**	P	**Pn**	**04 22 02.3**	**-0.1**
WRAB	**Tennant Creek**	**15.13**	**179**	*e*Pn	**Pn**	**04 23 41.3**	**-2.9**
28nm,0.6s
WRA	**Warramunga Arr**	**15.14**	**179**	Pn	**Pn**	**04 23 40.0**	**-4.3**
1.0nm,0.3s,baz=3.8,slow=13,SNR=31
WRA				Sn	Sn	04 26 20.0	-11
0.7nm,0.3s,baz=359,slow=23,SNR=4.9
FITZ	**Fitzroy Crossi**	**15.64**	**211**	Pn	**Pn**	**04 23 46.7**	**-4.1**
3.4nm,0.3s,baz=41,slow=11,SNR=64
FITZ				Sn	Sn	04 26 30.0	-13
2.4nm,0.3s,baz=212,slow=18,SNR=7.2
ASAR	**Alice Springs**	**18.84**	**180**	P	**P**	**04 24 29.1**	**-1.1**
3.3nm,0.3s,baz=4.0,slow=11,SNR=109
ASAR				S	Sn	04 27 48.9	-12
0.2nm,0.3s,baz=358,slow=25,SNR=4.1
ASAR				LR	LR	04 32 39.8	
comp=Z,166nm,20.0s,baz=1.5,slow=40
CTA	**Charters Tower**	**19.36**	**143**	P	**Pn**	**04 24 38.2**	**+1.1**
0.4nm,0.3s,baz=336,slow=13,SNR=4.2
GUMO	**Guam**	**21.12**	**30**	LR	LR	04 34 19.9	
comp=Z,57nm,19.2s,baz=190,slow=39
MBWA	**Marble Bar**	**21.45**	**219**	*e*P	**P**	**04 24 57.1**	**-1.5**
48nm,0.8s
STKA	**Stephens Creek**	**27.93**	**166**	P	**P**	**04 26 01.1**	**+0.8**
1.7nm,0.8s,baz=340,slow=12,SNR=3.4
NWAO	**Narrogin (SRO)**	**32.16**	**207**	LR	LR	04 40 04.1	
comp=Z,101nm,20.2s,slow=38
MKAR	**Makanchi Array**	**68.62**	**325**	P	**P**	**04 31 14.4**	**+1.5**
1.4nm,0.6s,baz=114,slow=7.6,SNR=15

ZALV	**Zalesovo Beam**	**71.40**	**332**	P	**P**	**04 31 31.7**	**+1.8**
0.9nm,0.5s,baz=103,slow=6.4,SNR=2.7
VNDA	**Vanda**	**74.25**	**174**	P	**P**	**04 31 47.2**	**+0.8**
0.6nm,0.7s,baz=315,slow=10.0,SNR=3.9
BVAR	**Borovoye Array**	**78.34**	**326**	P	**P**	**04 32 13.1**	**+3.0**
0.4nm,0.5s,baz=98,slow=7.9,SNR=3.0
MAW	**Mawson**	**78.54**	**202**	P	**P**	**04 32 11.2**	**+0.3**
1.8nm,0.7s,baz=86,slow=5.6,SNR=4.6
ABKAR	**Akbulak array**	**83.27**	**321**	*e*P	**P**	**04 32 37.3**	**+0.9**
1.0nm,0.6s

*NEIC **19** 04:43:45.0±0.0, 19°.23N×66°.04W, h41km, MD3.5(RSPR), After RSPR.*
RSPR 19 04:43:45.0, 19°.23N×66°.04W, h41km±9km, MD3.5/15, 22C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.97**	**170**	⇑*e*P	Pn	04 44 00.7	-1.4
CBYP				*e*S	Sn	04 44 13.2	-1.5
CBYP	**Canovanas**	**0.97**	**170**	⇑*e*P	Pn	04 44 00.9	-1.3
CBYP	**Canovanas**	**0.97**	**170**	⇑*e*P	Pn	04 44 00.7	-1.4
CBYP				*e*S	Sn	04 44 13.7	-1.0
HUMP	**Col San Antoni**	**1.09**	**170**	⇓*i*P	Pn	04 44 02.4	-1.4
HUMP	**Col San Antoni**	**1.09**	**170**	⇓*i*P	Pn	04 44 02.9	-1.0
HUMP				*e*S	Sn	04 44 16.1	-1.7
HUMP	**Col San Antoni**	**1.09**	**170**	⇓*i*P	Pn	04 44 02.9	-1.0
HUMP				*e*S	Sn	04 44 16.7	-1.1
AOPR	**Arecibo Observ**	**1.11**	**218**	⇑*e*P	Pn	04 44 03.1	-1.0
AOPR				*e*S	Sn	04 44 17.1	-1.0
AOPR	**Arecibo Observ**	**1.11**	**218**	⇑*e*P	Pn	04 44 02.6	-1.4
AOPR	**Arecibo Observ**	**1.11**	**218**	⇑*e*P	Pn	04 44 03.1	-1.0
AOPR				*e*S	Sn	04 44 17.1	-1.0
SJG	**San Juan**	**1.11**	**185**	*e*S	Sn	04 44 17.5	-0.7
SJG	**San Juan**	**1.11**	**185**	⇓*e*P	Pn	04 44 02.8	-1.3
SJG	**San Juan**	**1.11**	**185**	⇓*e*P	Pn	04 44 02.8	-1.3
SJG				*e*S	Sn	04 44 17.5	-0.7
MTP	**Monte Pirata**	**1.22**	**158**	*e*S	Sn	04 44 19.1	-1.6
MTP	**Monte Pirata**	**1.22**	**158**	⇑*e*P	Pn	04 44 04.0	-1.6
MTP	**Monte Pirata**	**1.22**	**158**	⇑*e*P	Pn	04 44 04.0	-1.6
MTP				*e*S	Sn	04 44 19.1	-1.6
CELP	**Cerrillos**	**1.25**	**204**	⇑*e*P	Pn	04 44 05.4	-0.7
CELP				*e*S	Sn	04 44 20.6	-1.2
CELP	**Cerrillos**	**1.25**	**204**	⇑*e*P	Pn	04 44 05.4	-0.7
OBIP	**Obispado Ponce**	**1.29**	**205**	*e*S	Sn	04 44 21.5	-1.2
OBIP	**Obispado Ponce**	**1.29**	**205**	⇑*e*P	Pn	04 44 05.5	-1.1
OBIP	**Obispado Ponce**	**1.29**	**205**	⇑*e*P	Pn	04 44 05.5	-1.1
OBIP				*e*S	Sn	04 44 21.5	-1.2
STVI	**Saint Thomas**	**1.35**	**130**	*e*S	Sn	04 44 23.0	-1.0
STVI	**Saint Thomas**	**1.35**	**130**	⇑*e*P	Pn	04 44 06.3	-1.1
STVI	**Saint Thomas**	**1.35**	**130**	⇑*e*P	Pn	04 44 06.3	-1.1
STVI				*e*S	Sn	04 44 23.0	-1.0
LSP	**Las Mesas**	**1.44**	**224**	⇑*e*P	Pn	04 44 07.9	-0.8
LSP				*e*S	Sn	04 44 24.8	-1.6
LSP	**Las Mesas**	**1.44**	**224**	⇑*e*P	Pn	04 44 07.9	-0.8
TBVI	**Tortola**	**1.57**	**121**	⇑*e*P	Pn	04 44 09.7	-0.6
TBVI				*e*S	Sn	04 44 28.0	-1.5
TBVI	**Tortola**	**1.57**	**121**	⇑*e*P	Pn	04 44 09.7	-0.6
CRPR	**Cabo Rojo, PR**	**1.58**	**220**	⇑*e*P	Pn	04 44 09.4	-1.1
CRPR				*e*S	Sn	04 44 28.5	-1.3
CRPR	**Cabo Rojo, PR**	**1.58**	**220**	⇑*e*P	Pn	04 44 09.4	-1.1
CDVI	**St. Croix**	**1.90**	**140**	⇓*e*P	Pn	04 44 14.0	-0.9
CDVI	**St. Croix**	**1.90**	**140**	*e*S	Sn	04 44 36.8	-0.8
CDVI	**St. Croix**	**1.90**	**140**	⇓*e*P	Pn	04 44 14.0	-0.9
CDVI				*e*S	Sn	04 44 36.8	-0.8
DR12	**Loma Pena Alta**	**3.19**	**263**	⇑*e*P	Pn	04 44 32.3	-0.4
DR12				*e*S	Sn	04 45 08.5	-1.1
DR12	**Loma Pena Alta**	**3.19**	**263**	⇑*e*P	Pn	04 44 32.3	-0.4

*VIE **19** 04:46:00.1±0.8, 51°.37N×16°.14E, h0km, mb2.4/2, ML2.4/6, Error ellipse: s-maj=4.7km s-min=3.2km az=31.0, Suspected Mining induced.*
*ISCJB **19** 04:46:02.0±0.7, 51°.33N±0°.03×16°.18E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.7km az=12.4*
*WAR **19** 04:46:02.7, 51°.44N×16°.19E, h1km, Mw2.4*
*CSEM **19** 04:46:02.5±0.4, 51°.39N×16°.15E, h1km, ML2.9/13, Error ellipse: s-maj=6.6km s-min=3.7km az=176.0*
*PRU **19** 04:46:04.6, 51°.34N×16°.16E, h0km*
ISC 19 04:46:03.4±1.0, 51°.35N±0°.04×16°.17E±0°.02, h0km, n40, σ0§82/74, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.52**	**171**	*e*Pg	**Pg**	**04 46 14.0**	**+0.7**
KSP				*e*Sg	**Sg**	**04 46 21.8**	**+1.8**
KSP	**Ksiaz**	**0.52**	**171**	*e*Pg	**Pg**	**04 46 14.0**	**+0.7**
KSP				*e*Sg	**Sg**	**04 46 21.8**	**+1.8**
KSP	**Ksiaz**	**0.52**	**171**	*e*Pg	**Pg**	**04 46 14.0**	**+0.7**
KSP				*e*Sg	**Sg**	**04 46 21.8**	**+1.8**
UPC	**Upice**	**0.85**	**187**	*e*PG	**Pg**	**04 46 20.3**	**+0.6**
UPC				*e*SG	**Sb**	**04 46 32.7**	**-0.4**
comp=Z,53nm,0.5s
UPC	**Upice**	**0.85**	**187**	Pg	**Pg**	**04 46 20.3**	**+0.6**
UPC				Sg	**Sb**	**04 46 32.7**	**-0.4**
53nm,0.5s
DPC	**Dobruska-Polom**	**1.01**	**174**	*e*PG	**Pg**	**04 46 23.1**	**+0.4**
DPC				*e*SG	**Sb**	**04 46 37.0**	**-0.6**
comp=Z,23nm,0.6s
DPC	**Dobruska-Polom**	**1.01**	**174**	Pg	**Pg**	**04 46 23.1**	**+0.4**
DPC				Sg	**Sb**	**04 46 37.0**	**-0.6**
23nm,0.6s
PVCC	**Panska Ves**	**1.31**	**231**	*e*PG	**Pg**	**04 46 28.7**	**+0.3**
PVCC				*e*SG	**Sb**	**04 46 46.6**	**+0.5**
comp=Z,55nm,0.4s
PVCC	**Panska Ves**	**1.31**	**231**	Pg	**Pg**	**04 46 28.7**	**+0.3**
PVCC				Sg	**Sb**	**04 46 46.6**	**+0.5**
55nm,0.4s
KRLC	**Kraliky**	**1.34**	**163**	*e*PG	**Pg**	**04 46 29.0**	**0.0**
KRLC				*e*SG	**Sb**	**04 46 47.2**	**+0.1**
KRLC	**Kraliky**	**1.34**	**163**	Pg	**Pg**	**04 46 29.0**	**0.0**
KRLC				Sg	**Sb**	**04 46 47.2**	**+0.1**
BRG	**Berggiesshubel**	**1.48**	**252**	PG	**Pn**	**04 46 31.1**	**-0.2**
BRG				SG	**Sn**	**04 46 51.6**	**+0.2**
30nm,0.4s
GOPC	**GO Pecny, Ondr**	**1.69**	**212**	*e*PG	**Pb**	**04 46 35.4**	**0.0**
GOPC				*e*SG	**Sg**	**04 46 58.3**	**+0.7**
comp=Z,12nm,0.4s
GOPC	**GO Pecny, Ondr**	**1.69**	**212**	Pg	**Pb**	**04 46 35.4**	**0.0**
GOPC				Sg	**Sg**	**04 46 58.3**	**+0.7**
12nm,0.4s
PRA	**Prague**	**1.69**	**221**	*e*SG	**Sg**	**04 46 57.9**	**+0.1**
PRA	**Prague**	**1.69**	**221**	Sg	**Sg**	**04 46 57.9**	**+0.1**
PRU	**Pruhonice**	**1.71**	**218**	*e*PG	**Pb**	**04 46 35.3**	**-0.5**
PRU				*e*SG	**Sg**	**04 46 59.0**	**+0.5**
comp=Z,14nm,0.4s
PRU	**Pruhonice**	**1.71**	**218**	Pg	**Pb**	**04 46 35.3**	**-0.5**
PRU				Sg	**Sg**	**04 46 59.0**	**+0.5**
14nm,0.4s
MORC	**Moravsky Berou**	**1.81**	**150**	*e*Pn	**Pn**	**04 46 34.8**	**-1.0**
MORC				*e*Sg	**Sb**	**04 47 00.7**	**+0.2**
OKC	**Ostrava-Krasne**	**1.97**	**140**	*e*PG	**Pb**	**04 46 40.5**	**+0.3**
OKC				*e*SG	**Sb**	**04 47 05.6**	**+0.3**
comp=Z,11nm,0.4s
OKC	**Ostrava-Krasne**	**1.97**	**140**	Pg	**Pb**	**04 46 40.5**	**+0.3**
OKC				Sg	**Sb**	**04 47 05.6**	**+0.3**
11nm,0.4s
CLL	**Collm**	**1.99**	**270**	*i* Pn	**Pn**	**04 46 38.7**	**+0.4**
comp=Z,7.0nm,0.5s
CLL				*i* Pg	**Pg**	**04 46 42.4**	**+0.9**
CLL				*i* Sg	**Sg**	**04 47 07.5**	**+0.3**
comp=Z,9.0nm,0.6s
VRAC	**Vranov**	**2.07**	**172**	*e*Sg	**Sg**	**04 47 10.1**	**+0.3**
TREC	**Trest**	**2.11**	**192**	*e*PG	**Pb**	**04 46 43.1**	**+0.6**
TREC				*e*SG	**Sg**	**04 47 11.3**	**+0.2**
comp=Z,13nm,0.3s
TREC	**Trest**	**2.11**	**192**	Pg	**Pb**	**04 46 43.1**	**+0.6**
TREC				Sg	**Sg**	**04 47 11.3**	**+0.2**
comp=Z,13nm,0.3s
OJC	**Ojcow**	**2.57**	**115**	*e*Pg	**Pg**	**04 46 52.2**	**-0.4**
OJC				*e*Sg	**Sg**	**04 47 25.9**	**0.0**
OJC	**Ojcow**	**2.57**	**115**	*e*Pg	**Pg**	**04 46 52.2**	**-0.4**
OJC				*e*Sg	**Sg**	**04 47 25.9**	**0.0**
OJC	**Ojcow**	**2.57**	**115**	*e*Pg	**Pg**	**04 46 52.2**	**-0.4**
OJC				*e*Sg	**Sg**	**04 47 25.9**	**0.0**
NKC	**Novy Kostel**	**2.61**	**246**	*e*PG	**Pg**	**04 46 53.2**	**-0.3**
NKC				*e*SG	**Sg**	**04 47 27.9**	**+0.6**
comp=Z,15nm,0.4s
NKC	**Novy Kostel**	**2.61**	**246**	Pg	**Pg**	**04 46 53.2**	**-0.3**
NKC				Sg	**Sg**	**04 47 27.9**	**+0.6**
comp=Z,15nm,0.4s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHC	**Kasperske Hory**	**2.78**	**218**	*e*PN	**Pn**	**04 46 49.3**	**+0.1**
KHC				*e*PG	**Pb**	**04 46 54.3**	**+0.4**
KHC				*e*SN	**Sn**	**04 47 22.7**	**-0.7**
KHC				*e*SG	**Sg**	**04 47 31.7**	**-0.9**
comp=Z,4.7nm,0.3s
KHC	**Kasperske Hory**	**2.78**	**218**	Pn	**Pn**	**04 46 49.3**	**+0.1**
LANS	**Liptovska Anna**	**3.06**	**135**	*e*Sg	**Sg**	**04 47 42.0**	**+0.4**
LANS	**Liptovska Anna**	**3.06**	**135**	*e*SG	**Sg**	**04 47 42.0**	**+0.4**
CONA	**Conrad Observa**	**3.44**	**183**	Pn	**Pn**	**04 46 59.2**	**+0.9**
CONA				Sg	**Sg**	**04 47 54.3**	**+0.6**
comp=Z,2.3nm,0.3s
MOA	**Molln**	**3.72**	**200**	Pn	**Pn**	**04 46 59.7**	**-2.4**
comp=Z,0.4nm,0.1s
MOA				Sg	**Sg**	**04 48 03.4**	**+0.5**
comp=Z,3.5nm,0.4s
STHS	**Stebnicka Huta**	**3.78**	**119**	*e*Pg	**Pg**	**04 47 17.0**	**+1.1**
STHS	**Stebnicka Huta**	**3.78**	**119**	*e*PG	**Pg**	**04 47 16.9**	**+1.1**
ARSA	**Arzberg**	**4.13**	**186**	Sg	**Sg**	**04 48 15.9**	**-0.1**
comp=Z,1.2nm,0.3s
KBA	**Koelnbreinsper**	**4.66**	**204**	Pn	**Pn**	**04 47 11.3**	**-3.9**
KBA				Sg	**Sg**	**04 48 33.6**	**+0.5**
comp=Z,1.1nm,0.3s

*ISCJB **19** 04:54:22.6±0.2, 4°.85S±0°.03×134°.11E±0°.03, h10km, mb4.7/42, MS3.8/14, Error ellipse: s-maj=4.8km s-min=3.6km az=169.8*
*IDC **19** 04:54:23.7±0.6, 4°.74S×133°.98E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.3/27, mbtmp4.3/14, ML2.6/1, MS3.8/15, Ms1 3.8/15, ms1mx3.5/36, Error ellipse: s-maj=30.5km s-min=13.5km az=74.0*
*BJI **19** 04:54:23.5, 4°.80S×134°.20E, h10km, mb4.7/34, mB5.0/24, Ms4.8/11, MS7 4.6/10*
*MOS **19** 04:54:26.1±1.2, 4°.83S×134°.08E, h33km, mb5.1/9, Error ellipse: s-maj=18.3km s-min=8.7km az=108.2*
*DJA **19** 04:54:26.8±0.9, 5°.S±2°.×13°.4E±°, h23km±8km, M5.1/10, mb5.4/10, mB5.5/7, MLv5.1/10, Mw(mB)5.0/7*
*NEIC **19** 04:54:28.2±0.3, 4°.83S×134°.05E, h35km, mb5.0/21, Error ellipse: s-maj=10.1km s-min=5.5km az=77.0*
ISC 19 04:54:25.3±0.4, 4°.77S±0°.04×134°.07E±0°.05, h10km, n122, σ1§69/124, mb4.9/42, MS3.9/14, 3C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.16**	**342**	P	**Pg**	**04 54 45.6**	**-2.0**
KMPI				S	**Sg**	**04 55 01.5**	**-1.2**
FAKI	**Fak Fak**	**2.58**	**315**	P	**Pn**	**04 55 05.7**	**-1.6**
FAKI				S	**Sn**	**04 55 35.4**	**-3.4**
FAKI	**Fak Fak**	**2.58**	**315**	*e*Pn	**Pn**	**04 55 05.7**	**-1.6**
RKPI	**Ransiki, Papua**	**3.24**	**2**	P	**Pn**	**04 55 15.0**	**-1.3**
RKPI				S	**Sn**	**04 55 53.8**	**-1.1**
BAKI	**Biak**	**4.09**	**30**	P	**Pn**	**04 55 26.7**	**-1.3**
BNDI	**Bandanaira**	**4.16**	**273**	P	**Pn**	**04 55 29.5**	**+0.6**
BNDI				S	**Sn**	**04 56 18.1**	**+0.4**
SAUI	**Saumlaki**	**4.22**	**221**	P	**Pn**	**04 55 30.6**	**+0.9**
SAUI				S	**Sn**	**04 56 21.0**	**+1.9**
SAUI	**Saumlaki**	**4.22**	**221**	*e*Pn	**Pn**	**04 55 30.1**	**+0.4**
SAUI				*e*Sn	**Sn**	**04 56 14.8**	**-4.3**
MSAI	**Masohi**	**5.32**	**285**	P	**Pn**	**04 55 44.6**	**-0.3**
AAI	**Ambon**	**5.96**	**280**	P	**Pn**	**04 55 53.2**	**-0.5**
GENI	**Genyem**	**6.46**	**71**	P	**Pn**	**04 55 59.3**	**-1.2**
JAY	**Jayapura**	**6.99**	**72**	P	**Pn**	**04 56 08.0**	**+0.1**
NLAI	**Namlea**	**7.12**	**282**	P	**Pn**	**04 56 10.4**	**+0.8**
LBMI	**Labuha**	**7.74**	**302**	P	**Pn**	**04 56 19.0**	**+0.8**
LBMI				S	**Sn**	**04 57 43.0**	**-3.0**
SANI	**Sanana**	**8.51**	**288**	P	**Pn**	**04 56 26.1**	**-2.6**
MTN	**Manton Dam**	**8.53**	**200**	*e*Pn	**Pn**	**04 56 28.1**	**-0.9**
MTN				*e*Sn	Sn	04 57 58.3	-7.1
SOEI	**Soe**	**10.91**	**242**	P	**Pn**	**04 57 01.0**	**-0.8**
SOEI	**Soe**	**10.91**	**242**	*e*Pn	**Pn**	**04 57 00.7**	**-1.1**
SOEI				*e*Sn	Sn	04 58 53.4	-11
COEN	**Coen**	**12.80**	**136**	*e*Pn	**Pn**	**04 57 25.7**	**-1.8**
COEN				*e*Sn	Sn	04 59 32.2	-18
EDFI	**Ende, Flores**	**12.91**	**252**	P	**Pn**	**04 57 31.3**	**+2.1**
APSI	**Ampana**	**12.98**	**287**	P	**Pn**	**04 57 30.0**	**0.0**
MRSI	**Marisa**	**13.19**	**293**	P	**Pn**	**04 57 32.2**	**-0.7**
BSSI	**Bau Bau, Buton**	**13.59**	**264**	P	**Pn**	**04 57 38.5**	**+0.2**
PMG	**Port Moresby**	**13.78**	**110**	Pn	**Pn**	**04 57 41.4**	**+0.5**
1.1nm,0.3s,baz=290,slow=7.0,SNR=3.6
PMG			

KSAR	Wonju Array Be	42.39 353	P	P	05 02 19.2	-0.8
KSAR	Wonju Array Be	42.39 353	P	P	05 02 19.2	-0.8
KSRS	Korea Array	42.40 353	P	P	05 02 19.2	-0.8
	comp=Z,1.2nm,0.7s,baz=168,slow=9.8,SNR=5.3					
KSRS			LR	LR	05 20 05.2	
	comp=Z,87nm,19.5s,baz=70,slow=36					
KMI	Kunming	42.54 316	P	P	05 02 24.3	+2.6
KMI			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KMI			pmax	pmax		
	comp=Z,97nm,4.4s					
CD2	Chengdu	45.80 323	eP	P	05 02 47.8	+0.3
USRK	Ussuriysk Ar.	48.78 358	P	P	05 03 10.8	+0.3
	comp=Z,1.7nm,0.6s,baz=157,slow=7.4,SNR=4.1					
MDJ	Mudanjiang	49.33 356	P	P	05 03 15.4	+0.7
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,62nm,3.9s					
LZH	Lanzhou	49.53 328	eP	P	05 03 19.5	+2.9
LZH			pP	sP	05 03 23.8	+2.8
LZH			sP	pP	05 03 26.3	+6.5
LZH			pmax	pmax		
	comp=Z,13nm,1.0s					
HHC	Hu-ho-hao-te	49.86 338	eP	P	05 03 20.5	+1.5
HHC			pmax	pmax		
	comp=Z,21nm,0.7s					
HHC			pmax	pmax		
	comp=Z,89nm,5.3s					
BKZ	Black Stump Fm	51.40 138	eP	P	05 03 27.1	-3.5
	comp=Z,118nm,1.9s					
GTA	Gaotai	54.13 327	eP	P	05 03 52.3	+1.4
GTA			pP	sP	05 03 56.9	+1.6
GTA			sP	pP	05 03 59.4	+5.3
GTA			S	S	05 11 28.8	+0.9
GTA			sS	sS	05 11 36.3	+3.2
GTA			SS	SS	05 15 10.0	+0.2
GTA			pmax	pmax		
	comp=Z,5.0nm,1.3s					
GTA			pmax	pmax		
	comp=Z,55nm,5.0s					
GTA			LR	LR		
	comp=Z,100nm,15.2s					
GTA			LR	LR		
	comp=Z,82nm,17.3s					
GTA			LR	LR		
	comp=Z,82nm,15.7s					
ULN	Ulaanbaatar	57.54 339	⇓P	P	05 04 14.4	-0.8
ULN			pmax	pmax		
	comp=Z,3.0nm,1.0s					
SONA0	Songino Array	57.75 338	eP	P	05 04 16.5	-0.2
	comp=Z,2.6nm,0.7s					
SONM	Songino Array	57.75 338	P	P	05 04 16.5	-0.2
	comp=Z,0.6nm,0.5s,baz=158,slow=8.3,SNR=3.3					
SONA1	Songino Array	57.76 338	eP	P	05 04 15.5	-1.3
PET	Petropavlovsk	61.21 17	eP	P	05 04 37.7	-2.5
PET			pmax	pmax		
	comp=Z,55nm,1.1s					
TLY	Talaya	61.94 339	i P	P	05 04 45.8	+0.5
TLY			pmax	pmax		
	comp=Z,7.0nm,0.8s					
WMQ	Urumqi	63.85 324	P	P	05 04 59.1	+0.9
WMQ			pP	sP	05 05 03.9	+1.2
WMQ			sP	pP	05 05 06.4	+4.9
WMQ			pmax	pmax		
	comp=Z,9.0nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,230nm,5.3s					
WMQ			LR	LR		
	comp=Z,59nm,15.5s					
WMQ			LR	LR		
	comp=Z,39nm,19.5s					
MA2	Magadan	65.50 9	LR	LR	05 34 23.4	
	comp=Z,40nm,20.0s,baz=205,slow=37					
YAK	Yakutsk	66.69 358	LR	LR	05 34 43.4	
	comp=Z,35nm,20.2s,baz=206,slow=36					
YAK	Yakutsk	66.69 358	i P	P	05 05 17.5	+1.3
YAK			pmax	pmax		
	comp=Z,12nm,1.0s					
MK01	Makanchi Array	68.66 325	eP	P	05 05 28.5	-0.5
MK31	Makanchi Array	68.68 325	eP	P	05 05 28.8	-0.3
MK31	Makanchi Array	68.68 325	eP	P	05 05 28.8	-0.3
MK32	Makanchi Array	68.68 325	eP	P	05 05 28.8	-0.3
MKAR	Makanchi Array	68.68 325	P	P	05 05 28.8	-0.3
	comp=Z,3.4nm,0.5s,baz=115,slow=8.2,SNR=21					
MKAR	Makanchi Array	68.68 325	i P	P	05 05 28.7	-0.4
MKAR			pmax	pmax		
	comp=Z,3.0nm,0.4s					
MKAR	Makanchi Array	68.68 325	eP	P	05 05 28.8	-0.3
	comp=Z,50nm,0.8s					
MAKZ	Makanchi	68.87 324	eP	P	05 05 29.7	-0.5
MAKZ			pmax	pmax		
	comp=Z,13nm,1.0s					
MAKZ	Makanchi	68.87 324	eP	P	05 05 29.7	-0.5
	comp=Z,13nm,1.0s					
KSH	Kashi	69.20 315	P	P	05 05 33.3	+0.7
KSH			pP	pP	05 05 37.0	+1.1
KSH			sP	sP	05 05 40.1	+3.0
KSH			PcP	PcP	05 05 56.1	-0.3
KSH			PP	PP	05 08 09.4	+3.7
KSH			PcS		05 09 58.6	
KSH			S	S	05 14 36.8	-2.1
KSH			ScS	SKiKP	05 15 28.0	+4.5
KSH			SS	SS	05 19 08.1	+2.5
KSH			pmax	pmax		
	comp=Z,11nm,1.2s					
KSH			pmax	pmax		
	comp=Z,150nm,4.7s					
KSH			LR	LR		
	comp=Z,89nm,6.2s					
KSH			LR	LR		
	comp=Z,110nm,6.1s					
KSH			LR	LR		
	comp=Z,130nm,5.9s					
ZAA0	Zalesovo Array	71.46 332	eP	P	05 05 45.7	-0.3
ZALV	Zalesovo Beam	71.46 332	P	P	05 05 44.6	-1.3
	comp=Z,1.8nm,0.8s,baz=113,slow=7.0,SNR=4.2					
ZALV	Zalesovo Beam	71.46 332	eP	P	05 05 45.7	-0.3
ZALV	Zalesovo Beam	71.46 332	eP	P	05 05 45.7	-0.3
ZAA1	Zalesovo Array	71.47 332	eP	P	05 05 44.6	-1.4
AAK	Ala-Archa	71.54 318	⇓iP	P	05 05 47.5	+0.6
AAK			pmax	pmax		
	comp=Z,10.0nm,1.2s					
AAK	Ala-Archa	71.54 318	eP	P	05 05 47.2	+0.2
	comp=Z,8.6nm,1.3s					
KURK	Kurchatov	72.81 327	⇓iP	P	05 05 54.4	+0.3
KURK			i *PP	sP	05 06 02.7	+4.1
KURK			pmax	pmax		
	comp=Z,25nm,1.1s					
VNDA	Vanda	74.19 174	P	P	05 06 01.4	-0.5
	comp=Z,1.0nm,0.6s,baz=325,slow=6.7,SNR=12					
VNDA			LR	LR	05 37 42.2	
	comp=Z,162nm,19.7s,baz=350,slow=35					
KKAR	Karatay Array	74.41 317	eP	P	05 06 03.4	-0.3
KKAR			pmax	pmax		
	comp=Z,33nm,0.8s					
KKAR	Karatay Array	74.41 317	eP	P	05 06 03.4	-0.3
	comp=Z,33nm,0.8s					
PPT	Papeete	75.58 107	LR	LR	05 37 56.3	
	comp=Z,52nm,19.2s,baz=314,slow=34					
BVAR	Borovoye Array	78.40 326	LR	LR	05 44 06.4	
	comp=Z,70nm,18.9s,baz=255,slow=38					
BRVK	Borovoye	78.47 326	⇑iP	P	05 06 26.2	-0.3
BRVK			i *PP	PcP	05 06 34.9	-0.8
BRVK			pmax	pmax		
	comp=Z,12nm,1.1s					
BRVK	Borovoye	78.47 326	eP	P	05 06 25.7	-0.9
	comp=Z,12nm,0.8s					
MAW	Mawson	78.50 202	P	P	05 06 27.0	+0.6
	comp=Z,7.7nm,0.9s,baz=64,slow=6.0,SNR=19					
MAW			LR	LR	05 38 39.8	
	comp=Z,138nm,19.5s,baz=60,slow=34					
MAW	Mawson	78.50 202	eP	P	05 06 27.3	+0.9
MAW			pmax	pmax		
	comp=Z,2.0nm,0.8s					
MAW	Mawson	78.50 202	eP	P	05 06 27.3	+0.9
	comp=Z,1.5nm,0.8s					
NRIK	Noril'sk	80.43 345	LR	LR	05 45 05.3	
	comp=Z,105nm,18.7s,baz=104,slow=38					
GEYT	Alibeck	81.91 309	P	P	05 06 45.2	-0.3
	comp=Z,1.9nm,0.4s,baz=116,slow=6.8,SNR=5.6					
ABKAR	Akbulak array	83.33 321	eP	P	05 06 51.4	-1.1
	comp=Z,37nm,0.9s					
QSPA	South Pole Qui	85.19 180	eP	P	05 07 01.4	-0.5
MLY	Manley	88.09 24	eP	P	05 07 17.1	+1.2
	comp=Z,21nm,1.9s					
ILAR	Eielson Array	89.62 25	P	P	05 07 21.5	-1.6
	comp=Z,0.3nm,0.8s,baz=264,slow=4.9,SNR=3.1					
ILB	Eielson Array	89.62 25	eP	P	05 07 21.5	-1.6
RAYN	Ar Rayn	90.57 293	eP	P	05 07 28.3	-0.2
	comp=Z,5.7nm,1.3s					
KMBO	Kilima Mbogo	96.70 268	LR	LR	05 50 40.1	
	comp=Z,19nm,18.1s,baz=94,slow=35					
TORD	Torodi Ar. Bea	132.30 283	PKP	PKPdf	05 13 40.8	0.0
	comp=Z,0.4nm,0.7s,baz=29,slow=3.3,SNR=3.6					
TOA1	Torodi Ar. Sit	132.30 283	ePKPdf	PKPdf	05 13 40.8	0.0
CPUP	Villa Florida	147.17 161	PKPbc	PKPdf	05 14 09.4	+1.9
	comp=Z,2.6nm,0.7s,baz=90,slow=1.0,SNR=5.8					
LPAZ	La Paz	149.67 134	PKPbc	PKPbc	05 14 19.4	+2.3
	comp=Z,2.4nm,0.8s,baz=207,slow=2.3,SNR=9.2					
HELC	Santa Helena	150.50 86	eP	PKPdf	05 14 10.4	-3.3
GUYC	Guyana, Colomb	150.65 88	eP	PKPdf	05 14 17.5	+3.5

SOME ***19*** *04:57:25.7, 44°.13N×82°.57E, h5km*
NNC ***19*** *04:57:25.2±2.5, 44°.23N×82°.54E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=28.0km s-min=10.1km az=123.0
ISC 19 04:57:26.5±2.1**, 44°.13N**±0°.08×**82°.46E**±0°.10**, h10**km**, n17,**
σ1^{s}97/24, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.93	277	eP	Pg	04 58 03.3	-0.2
	11nm,0.1s						
DJR				eS	Sg	04 58 30.5	+1.9
	91nm,0.2s						
PDGK	Podgornoye	2.30	251	⇓Pn	Pn	04 58 04.1	-0.5
	4.0nm,0.3s						
PDGK				⇑Lg	Lg	04 58 40.5	
	22nm,0.4s						
SHLS	Shalkode	2.39	247	eP	Pn	04 58 06.0	+0.2
	32nm,0.2s						
SHLS				eS	Sn	04 58 35.4	+0.2
	127nm,0.3s						
KAPS	Kapalarasan	2.50	299	eP	Pb	04 58 11.7	+0.2
	3.8nm,0.3s						
KAPS				eS	Sb	04 58 44.3	+2.1
	26nm,0.4s						
MK31	Makanchi Array	2.66	357	⇑Pn	Pn	04 58 09.4	-0.1
	5.1nm,0.3s,baz=169,slow=17,SNR=58						
MK31				⇑Lg	Lg	04 58 44.6	
	9.1nm,0.3s,baz=175,slow=27,SNR=12						
MAKZ	Makanchi	2.69	353	⇑Pn	Pn	04 58 09.1	-0.9
	2.8nm,0.3s						
MAKZ				⇓Lg	Lg	04 58 46.3	
	6.5nm,0.4s						
MNBS	Baschi	2.92	270	eP	Pb	04 58 20.4	+1.6
	5.8nm,0.1s						
MNBS				eS	Sg	04 58 59.6	-0.8
	79nm,0.3s						
ARXS	Arharly	3.33	273	eP	Pb	04 58 27.6	+1.8
	3.8nm,0.2s						
ARXS				eS	Sg	04 59 11.9	-1.7
	22nm,0.4s						
KOTS	Kotyrbulak	3.98	259	eP	Pb	04 58 39.2	+2.4
KOTS				eS	Sg	04 59 32.1	-2.3
MDOK	Medeo	4.05	258	Pg	Pg	04 58 41.6	-2.4
MDOK				⇑Lg	Lg	04 59 40.4	
TNSS	Tian-Shan	4.15	257	eP	Pg	04 58 43.5	-2.6
	4.2nm,0.4s						
TNSS				eS	Sg	04 59 39.5	-0.4
	12nm,0.5s						
KTBS	Karatobe	4.20	266	eP	Pg	04 58 44.3	-2.5
KTBS				eS	Sg	04 59 41.1	-0.1
IZV	Izvestkoviy	4.39	258	eP	Pb	04 58 47.2	+3.4
	7.2nm,0.5s						
IZV				eS	Sg	04 59 45.7	-1.7
	12nm,0.4s						
DGS	Degeres	4.93	262	eP	Pb	04 58 56.5	+3.4
	1.3nm,0.4s						
DGS				eS	Sg	05 00 02.2	-2.7
	16nm,0.5s						
AAK	Ala-Archa	6.00	258	⇑Lg	Lg	05 00 37.7	
	3.9nm,0.7s						
KURBB	Kurchatov Arra	7.02	339	⇓Lg	Lg	05 01 08.1	
	7.8nm,0.5s						
KURK	Kurchatov	7.08	340	⇑Lg	Lg	05 01 07.8	
	3.0nm,0.6s						

CSEM ***19*** *05:08:50.8, 25°.55N×55°.99E, h0km*
OMAN 19 05:08:50.8±0.0**, 25°.55N×55°.99E, h0**km±3km**, Error ellipse: s-maj=4.3km s-min=0.6km az=268.0, Eastern Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	Banah	0.47	37	P	Pg	05 08 59.7	-0.1
	SNR=7.0						
BANOM				S	Sg	05 09 05.9	+0.1
	SNR=18						
BANOM	Banah	0.47	37	P	Pg	05 08 59.7	0.0
	SNR=7.0						
BANOM				S	Sg	05 09 05.9	+0.1
	SNR=18						
UOSS	Minazif	0.63	162	P	Pg	05 09 03.3	+0.4
UOSS				S	Sg	05 09 10.9	-0.2
UOSS	Minazif	0.63	162	P	Pg	05 09 03.3	+0.5
UOSS				S	Sg	05 09 10.9	-0.2
HATD	Hatta, Dubai	0.73	170	P	Pb	05 09 05.9	-0.5
HATD				S	Sg	05 09 15.1	+0.8
HATD	Hatta, Dubai	0.73	170	P	Pb	05 09 05.9	-0.5
HATD				S	Sg	05 09 15.1	+0.8
ASHO	Ashiyiah	0.86	176	P	Pb	05 09 08.4	-0.3
	SNR=5.7						
ASHO	Ashiyiah	0.86	176	P	Pb	05 09 08.4	-0.3
	SNR=5.7						

MEX 19 05:20:57.4±0.7**, 16°.92N×94°.43W, h140**km±8km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.47	291	i P	Pn	05 21 15.9	-1.6
CMIG				eS	Sn	05 21 30.5	-2.1
TGIG		1.26	96	i P	Pn	05 21 22.9	-0.9
TGIG				eS	Sn	05 21 42.2	-1.6
PCIG		1.68	136	eP	Pn	05 21 26.6	-1.6
PCIG				eS	Sn	05 21 55.0	+3.3
HUIG	Huatulco	1.98	235	i P	Pn	05 21 29.9	-1.7
HUIG				i S	Sn	05 21 56.9	-1.1
VHO	Vista Hermosa	2.21	274	eP	Pn	05 21 33.5	-1.1
VHO				eS	Sn	05 22 02.3	-0.9

NIED ***19*** *05:25:00, 39°.10N×142°.40E, h32km, Mw4.0 Best double couple: M0=1.26000×10^15 NP1:φs=290.00000°, δ30.00000°, λ=-153.00000°. NP2:φs=176.00000°, δ77.00000°, λ=-63.00000°.*
JMA ***19*** *05:25:50.8±0.1, 39°.13N×142°.41E, h34km±1km, M4.2*
JMA Felt I J1.
ISCJB ***19*** *05:25:51.4±1.1, 39°.07N±0°.04×142°.3E±0°.1, h46km±8km, mb3.7/9, MS3.5/3, Error ellipse: s-maj=14.7km s-min=6.2km az=17.4*
IDC ***19*** *05:25:55.0±2.7, 39°.03N×142°.35E, h67km±24km, mb3.5/9, mb1 3.6/12, mb1mx3.5/50, mbtmp3.8/12, MS3.4/6, Ms1 3.4/6, ms1mx3.0/36, Error ellipse: s-maj=25.5km s-min=17.2km az=84.0*
ISC 19 05:25:51.7±1.7**, 39°.05N**±0°.05×**142°.25E**±0°.08**, h29**km±11km**, n29, σ1^{s}88/29, mb3.8/9, MS3.5/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.45	273	P	Pn	05 26 02.5	+0.2
OFUJ				S	Sn	05 26 10.4	+1.0
MIYJ	Miyakonagasawa	0.62	328	P	Pb	05 26 03.2	-0.9
MIYJ				S	Sb	05 26 11.7	-0.7
JMK	Ichinoseki	0.81	263	P	Pn	05 26 07.8	+0.6
JMK				S	Sn	05 26 20.0	+1.8
JOM	Ohasama	0.85	300	P	Pb	05 26 08.0	+0.1
JOM				S	Sn	05 26 20.2	+0.9
JIO	Ouri	0.92	230	P	Pb	05 26 09.0	-0.1
JIO				S	Sn	05 26 21.7	+0.7
JTH	Tanohata	0.93	342	P	Pn	05 26 07.1	-1.8
JKZ	Kuzumaki	1.17	323	P	Pn	05 26 12.0	-0.2
JKZ				S	Sn	05 26 27.1	-0.1
MJAR	Matsushiro Arr	4.06	233	P	Pn	05 26 55.5	+3.5
	4.1nm,0.3s,baz=43,slow=11,SNR=27						
MJAR				S	Sn	05 27 36.7	-1.9
	0.9nm,0.3s,baz=37,slow=24,SNR=4.2						
MJAR				LR	LR	05 28 44.7	
	comp=Z,345nm,18.8s,baz=75,slow=41						
MAT	Matsushiro	4.07	233	P	Pn	05 26 56.0	+4.0
MAT				eS	Sn	05 27 41.4	+2.8
ASAJ	Asahikawa	5.07	3	P	Pn	05 27 08.5	+2.8
	3.3nm,0.3s,baz=217,slow=17,SNR=5.8						
ASAJ				S	Sn	05 28 06.8	+3.6
	3.1nm,0.3s,baz=155,slow=19,SNR=5.7						
USRK	Ussuriysk Ar.	9.24	307	P	Pn	05 28 06.3	+3.4
	baz=127,slow=13,SNR=5.7						
USRK				LR	LR	05 31 32.2	
	comp=Z,170nm,18.1s,baz=94,slow=36						
KSRS	Korea Array	11.38	266	P	Pn	05 28 39.4	+7.2
	0.4nm,0.3s,baz=84,slow=14,SNR=3.5						
KSRS				LR	LR	05 32 38.8	
	comp=Z,120nm,19.1s,baz=86,slow=35						
SONM	Songino Array	27.27	301	P	P	05 31 34.0	+0.5
	0.5nm,0.7s,baz=83,slow=8.0,SNR=2.9						
H11N2	WAKE ISLAND Hy	28.69	125	T	T	06 02 09.0	
	baz=318,slow=76,SNR=447						
H11N1	WAKE ISLAND Hy	28.70	125	T	T	06 02 17.7	
	baz=318,slow=76,SNR=397						
H11N3	WAKE ISLAND Hy	28.71	125	T	T	06 02 10.4	
	baz=318,slow=76,SNR=366						
H11S1	WAKE ISLAND Hy	29.48	127	T	T	06 03 08.4	
	baz=319,slow=76,SNR=63						
H11S3	WAKE ISLAND Hy	29.48	127	T	T	06 03 08.4	
	baz=319,slow=76,SNR=62						
H11S2	WAKE ISLAND Hy	29.49	127	T	T	06 03 09.5	
	baz=319,slow=76,SNR=26						
ZALV	Zalesovo Beam	41.07	311	P	P	05 33 32.3	-0.2
	0.8nm,0.4s,baz=86,slow=6.5,SNR=4.0						
CMAR	Chiang Mai Arr	42.67	254	LR	LR	05 53 36.2	
	comp=Z,39nm,18.3s,baz=260,slow=39						
MKAR	Makanchi Array	43.63	300	P	P	05 33 53.3	-0.2
	1.5nm,0.7s,baz=88,slow=10.0,SNR=10.0						
MKAR				LR	LR	05 51 51.6	
	comp=Z,54nm,20.1s,baz=68,slow=36						
KURBB	Kurchatov Arra	45.30	307	P	P	05 34 05.9	-0.8
	1.9nm,0.5s,baz=82,slow=8.4,SNR=10.0						
ILAR	Eielson Array	47.44	33	P	P	05 34 22.4	-1.0
	0.8nm,0.8s,baz=278,slow=6.1,SNR=9.2						
BVAR	Borovoye Array	49.72	311	P	P	05 34 40.8	-0.2
	0.5nm,0.5s,baz=82,slow=8.6,SNR=3.4						
WRA	Warramunga Arr	59.15	189	P	P	05 35 48.6	-1.2
	0.5nm,0.5s,baz=7.3,slow=7.0,SNR=6.0						
ASAR	Alice Springs	62.88	189	P	P	05 36 13.8	-1.3
	0.3nm,0.6s,baz=357,slow=4.8,SNR=3.1						
GEYT	Alibeck	63.44	298	LR	LR	06 07 28.8	
	comp=Z,50nm,18.3s,baz=110,slow=39						
AKASG	Malin Array Be	73.10	322	P	P	05 37 18.3	-0.8
	0.5nm,0.4s,baz=44,slow=6.4,SNR=6.6						

IDC ***19*** *05:26:09.8±1.3, 35°.43N×23°.56E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/49, mbtmp3.8/8, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/47, Error ellipse: s-maj=26.0km s-min=11.2km az=16.0*
ISCJB ***19*** *05:26:10.3±0.7, 35°.51N±0°.04×23°.52E±0°.04, h4km±4km, mb3.7/6, Error ellipse: s-maj=7.6km s-min=2.9km az=39.6*
ATH ***19*** *05:26:10.5, 35°.56N×23°.55E, h17km±1km, ML3.5/6, Error ellipse: s-maj=2.3km s-min=0.8km az=221.0*
THE ***19*** *05:26:11.5, 35°.55N×23°.59E, h0km±1km, ML3.5/10, Error ellipse: s-maj=2.3km s-min=0.7km az=226.0*
CSEM ***19*** *05:26:11.4±0.3, 35°.60N×23°.61E, h2km, ML3.5, Error ellipse: s-maj=7.9km s-min=3.0km az=41.0*
ISC 19 05:26:11.3±1.1**, 35°.55N**±0°.03×**23°.57E**±0°.03**, h7**km±8km**, n96, σ0^{s}98/123, mb3.8/6, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMMV	Iera Moni Meta	0.35	104	P	Pg	05 26 18.3	+0.2
IMMV				S	Sg	05 26 23.1	+0.3
IMMV	Iera Moni Meta	0.35	104	P	Pg	05 26 18.6	+0.5
IMMV				S	Sb	05 26 24.2	-1.5
IMMV				AML	AML	05 26 25.8	
	comp=E,31802μm,0.4s						
IMMV				AML	AML	05 26 26.1	
	comp=N,18820μm,0.4s						
IMMV	Iera Moni Meta	0.35	104	P	Pg	05 26 18.6	+0.5
IMMV				S	Sg	05 26 23.1	+0.3
ANKY	Antikythira Is	0.38	326	P	Pg	05 26 18.5	-0.3
ANKY				S	Sg	05 26 24.9	+1.1
ANKY	Antikythira Is	0.38	326	P	Pg	05 26 18.7	-0.1
ANKY				S	Sg	05 26 23.1	-0.7
ANKY				AML	AML	05 26 25.2	
	comp=N,23017μm,0.4s						
ANKY				AML	AML	05 26 27.0	
	comp=E,14207μm,0.4s						
ANKY	Antikythira Is	0.38	326	P	Pg	05 26 18.5	-0.3
ANKY				S	Sg	05 26 23.1	-0.7
VAM	Vamos	0.54	105	P	Pg	05 26 21.4	-0.3
VAM				S	Sg	05 26 29.7	+1.0
VAM	Vamos	0.54	105	P	Pg	05 26 21.7	0.0
VAM				S	Sb	05 26 29.9	-1.2
VAM				AML	AML	05 26 32.7	
	comp=N,14354μm,0.4s						
VAM				AML	AML	05 26 32.7	
	comp=E,12266μm,0.4s						
VAM	Vamos	0.54	105	P	Pg	05 26 21.7	0.0
VAM				S	Sg	05 26 29.7	+1.0
GVD	Gavdhos	0.83	149	P	Pg	05 26 26.0	-1.1
GVD				S	Sb	05 26 40.0	+0.6
GVD	Gavdhos	0.83	149	P	Pg	05 26 26.1	-1.1
GVD				S	Sg	05 26 38.4	+0.5
GVD				AML	AML	05 26 43.2	
	comp=E,9803μm,0.2s						
GVD				AML	AML	05 26 48.9	
	comp=N,8608μm,0.3s						
GVD	Gavdhos	0.83	149	P	Pg	05 26 26.1	-1.1
GVD				S	Sb	05 26 40.0	+0.6
KYTH	Kithira	0.83	330	P	Pg	05 26 26.4	-0.9
KYTH				S	Sb	05 26 39.9	+0.4
KYTH	Kithira	0.83	330	P	Pg	05 26 26.4	-0.9
KYTH				S	Sg	05 26 37.4	-0.7
KYTH				AML	AML	05 26 41.1	
	comp=N,2796μm,0.3s						
KYTH				AML	AML	05 26 42.3	
	comp=E,4852μm,0.4s						
IDI	Anoyia	1.11	103	Pg	Pg	05 26 31.5	-1.2
	comp=E,27nm,0.3s,baz=271,slow=11,SNR=116						
IDI				Lg	Lg	05 26 46.5	
	comp=E,87nm,0.3s,baz=226,slow=17,SNR=24						
IDI	Anoyia	1.11	103	P	Pg	05 26 31.6	-1.1
IDI				S	Sb	05 26 48.7	+1.0
IDI	Anoyia	1.11	103	P	Pg	05 26 31.4	-1.2
IDI	Anoyia	1.11	103	P	Pg	05 26 31.6	-1.1
IDI				S	Sb	05 26 48.7	+1.0
SIVA	Sivas	1.15	117	P	Pg	05 26 32.0	-1.3
SIVA				S	Sn	05 26 50.0	+0.2
SIVA	Sivas	1.15	117	P	Pg	05 26 31.5	-1.8
SIVA				S	Sg	05 26 46.8	-1.4
SIVA				AML	AML	05 26 53.8	
	comp=N,4901μm,0.4s						
SIVA				AML	AML	05 26 54.1	
	comp=E,5605μm,0.4s						
SIVA	Sivas	1.15	117	P	Pg	05 26 32.0	-1.3
SIVA				S	Sn	05 26 50.0	+0.2
VLI	Veliai	1.27	337	P	Pg	05 26 34.4	-1.3
VLI				S	Sb	05 26 53.1	+0.8
VLI	Veliai	1.27	337	P	Pg	05 26 34.8	-0.9
VLI	Veliai	1.27	337	P	Pg	05 26 34.8	-0.9
VLI				S	Sb	05 26 53.1	+0.8
MHLO	Agia Marina, M	1.33	31	P	Pg	05 26 35.2	-1.5
MHLO				S	Sn	05 26 55.4	+1.2
MHLO	Agia Marina, M	1.33	31	P	Pg	05 26 36.5	-0.3
MHLO	Agia Marina, M	1.33	31	P	Pg	05 26 35.2	-1.5
MHLA	Plaka, Milos I	1.38	30	P	Pn	05 26 36.9	-0.2
MHLA	Plaka, Milos I	1.38	30	P	Pn

THR6	Thira Island,	1.69	61	P		Pn	05 26 41.2	-0.1
THR6	Thira Island,	1.69	61	P		Pn	05 26 41.9	+0.6
THR6	Thira Island,	1.69	61	P		Pn	05 26 41.2	-0.1
NPS	Neapolis	1.70	99	P		Pn	05 26 41.9	+0.5
NPS	Neapolis	1.70	99	P		Pn	05 26 42.2	+0.8
NPS	Neapolis	1.70	99	P		Pn	05 26 41.9	+0.5
THR3	Thira Island,	1.72	59	P		Pn	05 26 41.5	-0.2
THR3	Thira Island,	1.72	59	P		Pn	05 26 41.2	-0.5
THR3	Thira Island,	1.72	59	P		Pn	05 26 41.5	-0.2
SANT	Santorini	1.74	61	P		Pn	05 26 42.2	+0.1
SANT	Santorini	1.74	61	P		Pn	05 26 41.8	-0.3
SANT	Santorini	1.74	61	P		Pn	05 26 41.8	-0.3
CMBO	Columbo, Santo	1.75	58	P		Pn	05 26 42.2	0.0
CMBO	Columbo, Santo	1.75	58	P		Pn	05 26 42.0	-0.2
CMBO	Columbo, Santo	1.75	58	P		Pn	05 26 42.0	-0.2
SERI	Serifos	1.77	25	P		Pn	05 26 40.1	-2.4
SERI	Serifos	1.77	25	P		Pn	05 26 40.1	-2.4
DID	Didima	1.97	352	P		Pn	05 26 44.6	-0.6
DID	Didima	1.97	352	P		Pn	05 26 44.4	-0.8
DID	Didima	1.97	352	P		Pn	05 26 44.6	-0.6
PYL	PYLOS	2.00	313	P		Pn	05 26 45.9	+0.4
PYL	PYLOS	2.00	313	P		Pn	05 26 45.6	+0.1
PYL	PYLOS	2.00	313	P		Pn	05 26 45.6	+0.1
VLX	Vlachokerasia	2.05	333	P		Pn	05 26 48.0	+1.6
VLX				S		Sb	05 27 14.5	-0.3
VLX	Vlachokerasia	2.05	333	P		Pn	05 26 48.0	+1.6
ITM	Ithomi	2.10	321	P		Pn	05 26 48.3	+1.4
ITM	Ithomi	2.10	321	P		Pb	05 26 49.6	-0.2
ITM	Ithomi	2.10	321	P		Pn	05 26 48.3	+1.4
APE	Apeiranthos	2.20	46	P		Pn	05 26 47.4	-0.9
APE	Apeiranthos	2.20	46	P		Pb	05 26 51.3	-0.1
APE	Apeiranthos	2.20	46	P		Pn	05 26 47.4	-0.9
ZKR	Zakros	2.21	101	P		Pb	05 26 50.8	-0.8
ZKR				S		Sn	05 27 17.1	+1.0
ZKR	Zakros	2.21	101	P		Pb	05 26 51.1	-0.6
ZKR	Zakros	2.21	101	P		Pb	05 26 50.8	-0.8
ZKR				S		Sn	05 27 17.1	+1.0
VLY	Voula,Athens	2.31	5	P		Pn	05 26 49.5	-0.3
VLY	Voula,Athens	2.31	5	P		Pn	05 26 49.5	-0.3
LTK	Loutraki	2.52	349	P		Pn	05 26 54.1	+1.4
LTK	Loutraki	2.52	349	P		Pn	05 26 54.1	+1.4
GUR	Goura	2.58	338	P		Pn	05 26 54.4	+0.8
GUR	Goura	2.58	338	P		Pn	05 26 55.4	+1.7
GUR	Goura	2.58	338	P		Pn	05 26 54.4	+0.8
VILL	Villia	2.62	356	P		Pn	05 26 53.6	-0.5
VILL	Villia	2.62	356	P		Pn	05 26 53.6	-0.5
KLV	Kalavryta, Ach	2.74	336	P		Pn	05 26 56.8	+1.0
KLV	Kalavryta, Ach	2.74	336	P		Pn	05 26 57.6	+1.9
KLV	Kalavryta, Ach	2.74	336	P		Pn	05 26 56.8	+1.0
KARP	Karpathos	2.93	89	P		Pn	05 26 58.1	-0.3
KARP	Karpathos	2.93	89	P		Pn	05 26 58.1	-0.3
ANX	Ano Chora	3.31	337	P		Pn	05 27 04.6	+0.9
ANX	Ano Chora	3.31	337	P		Pn	05 27 04.6	+0.9
BRTR	Keskin Array B	9.01	59	Pn		Pn	05 28 24.8	+2.8
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=6.5							
VRAC	Vranov	14.67	342	LR		LR	05 35 18.7	
	comp=E,47nm,19.1s,baz=100,slow=37							
GERES	GERESS Array B	15.15	334	Pn		Pn	05 29 47.1	+1.4
	comp=E,0.2nm,0.3s,baz=163,slow=11,SNR=3.1							
HFS	Hagfors	25.42	348	P		P	05 31 40.7	+1.4
	comp=E,1.4nm,0.6s,baz=156,slow=11,SNR=6.8							
NOA	NORSAR Array B	26.71	347	P		P	05 31 51.5	+0.5
	comp=E,1.4nm,1.0s,baz=154,slow=9.1,SNR=2.8							
EKA	Eskdalemuir Ar	26.98	325	P		P	05 31 55.6	+2.2
	comp=E,1.6nm,0.7s,baz=125,slow=8.9,SNR=3.8							
TORD	Torodi Ar. Bea	29.77	227	P		P	05 32 17.4	-1.3
	comp=E,0.6nm,0.7s,baz=40,slow=9.4,SNR=5.8							
MKAR	Makanchi Array	44.65	57	P		P	05 34 23.3	-1.2
	comp=E,0.7nm,0.5s,baz=279,slow=9.0,SNR=4.6							
ZALV	Zalesovo Beam	45.68	46	P		P	05 34 31.0	-1.6
	comp=E,0.7nm,0.3s,baz=274,slow=10.0,SNR=3.3							

*SJA **19** 05:33:27.6±1.7,23°.03S×66°.60W,h230km±21km,ML2.6, MW2.7*
*ISCJB **19** 05:33:28.5±0.5,23°.08S±0°.05×66°.74W±0°.04,h222km, Error ellipse: s-maj=7.4km s-min=5.0km az=19.8*
*GUC **19** 05:33:30.3±0.4,22°.93S×67°.18W,h248km±21km,ML3.7*
ISC 19 05:33:28.1±1.3,**23°.08S**±0°.06×**66°.69W**±0°.05,**h222**km,**n15,** σ1°**24**/27,**4C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.18	96	*i* P	Pn	05 34 02.3	+0.4
HJA				IAML		05 34 03.0	
	comp=Z,67nm,0.4s						
YJA	Yavi	1.41	51	*e*P	Pn	05 34 04.5	+0.9
	baz=238,slow=8.6						
YJA				IAML		05 34 05.3	
	comp=Z,38nm,0.2s						
YJA				*e*S	S	05 34 30.6	-0.5
AZAP	Zapla	1.87	128	*i* P	Pn	05 34 07.1	-0.3
AZAP				IAML		05 34 08.3	
	comp=Z,18nm,0.6s						
SLA	San Lorenzo	1.96	147	*i* P	Pn	05 34 08.8	+0.7
SLA				IAML		05 34 10.9	
	comp=Z,10nm,0.6s						
SLA				*e*S	S	05 34 39.2	-0.1
LVC	Limon Verde	2.10	282	*i* P	Pn	05 34 10.9	+1.1
LVC				*e*S	S	05 34 43.4	+1.4
PB06	IPOC Station P	2.69	277	⇑*i*P	Pn	05 34 16.5	+0.8
PB06				*e*S	S	05 34 51.8	-0.7
PB09	IPOC Station P	2.69	298	*e*P	Pn	05 34 17.2	+1.5
PB07	IPOC Station P	3.25	294	⇑*i*P	Pn	05 34 22.9	+0.8
PB07				*i* S	S	05 35 02.6	-1.6
PB07				IAML		05 35 03.6	
	comp=N,170nm,0.2s						
PB04	IPOC Station P	3.28	282	⇑*i*P	Pn	05 34 22.9	+0.5
PB04				*e*S	S	05 35 03.1	-1.6
PB04				IAML		05 35 06.6	
	comp=N,77nm,0.1s						
PB01	IPOC Station P	3.29	307	*e*P	Pn	05 34 23.4	+0.9
PB01				*e*S	S	05 35 04.2	-0.8
PB01				IAML		05 35 05.8	
	comp=E,83nm,0.2s						
ANCH	Antofagasta	3.47	259	⇑*i*P	Pn	05 34 27.0	+2.6
ANCH				*i* S	S	05 35 08.6	+0.1
PB10	IPOC Station P	3.58	262	*i* P	Pn	05 34 26.2	+0.5
PB10				*e*S	S	05 35 08.7	-2.2
PB14	IPOC Station P	3.73	245	*e*P	Pn	05 34 28.2	+0.3
PB14				*e*S	S	05 35 13.0	-1.6
HMBC	Humberstone	4.08	313	*e*P	Pn	05 34 32.4	+0.5
HMBC				*i* S	S	05 35 19.9	-2.0
MNMC	Minye Minye	4.78	325	*e*P	Pn	05 34 41.6	+1.0
MNMC				*i* S	S	05 35 36.8	-1.0

*ISN **19** 05:48:43.2±3.6,28°.35N×52°.14E,h0km,ML3.2*
*ISCJB **19** 05:48:58.7±1.1,28°.62N±0°.09×51°.11E±0°.05,h10km, Error ellipse: s-maj=12.9km s-min=4.9km az=17.5*
*CSEM **19** 05:48:59.4±0.5,28°.63N×51°.12E,h2km,ML3.2, Error ellipse: s-maj=11.8km s-min=5.2km az=21.0*
*TEH **19** 05:49:01.3,28°.67N×51°.10E,h12km,ML3.4*
ISC 19 05:49:00.6±1.6,**28°.7N**±0°.1×**51°.14E**±0°.06,**h10**km,**n25,** σ0°**86**/29,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	AHRAM	0.21	40	*e*Pg	Pg	05 49 03.7	-1.3
GHIR	Ghir-Karzin	1.68	104	*e*Pg	Pb	05 49 31.6	-0.1
GHIR				*e*Sg	Sg	05 49 54.7	+0.2
ISRV	Sarvestan	1.85	68	*e*Pn	Pn	05 49 33.2	+0.4
ISRV				*e*Sg	Sg	05 50 00.7	+0.4
ISRV				*e*AMB	AMB	05 50 18.2	
	comp=Z,3μm,0.2s						
ISRV	Sarvestan	1.85	68	*e*Pn	Pn	05 49 33.2	+0.4
ISRV				*e*Sg	Sg	05 50 00.7	+0.4
IPAR	Pars	2.02	55	*e*Pn	Pn	05 49 35.9	+0.9
IPAR				*e*AMB	AMB	05 50 11.8	
	comp=Z,3μm,0.3s						
IPAR	Pars	2.02	55	*e*Pn	Pn	05 49 35.9	+0.9
IGAR	Gharneh	3.77	12	*e*Pn	Pn	05 49 59.6	+0.5
IGAR				*e*AMB	AMB	05 50 17.9	
	comp=Z,373nm,0.1s						
ISAD	Sadrabad	3.88	34	*e*AMB	AMB	05 50 05.6	
	comp=Z,435nm,0.1s						
ISAD				*e*Pn	Pn	05 50 01.4	+0.7
IPIR	Pirpir	3.98	357	*e*Pn	Pn	05 50 02.3	+0.3
IPIR				*e*AMB	AMB	05 51 15.9	
	comp=Z,484nm,0.3s						
IPIR	Pirpir	3.98	357	*e*Pn	Pn	05 50 02.3	+0.3
IMEH	Mehriz	4.03	47	*e*AMB	AMB	05 50 05.6	
	comp=Z,679nm,0.1s						
IMEH				*e*Pn	Pn	05 50 03.6	+1.0
IZEF	Zefreh	4.30	13	*e*AMB	AMB	05 50 25.9	
	comp=Z,202nm,0.2s						
IZEF				*e*Pn	Pn	05 50 06.7	+0.3
NASN	Na'in	4.33	19	*e*Pn	Pn	05 50 07.5	+0.7
ICHK	Chekchek	4.52	38	*e*Pn	Pn	05 50 10.3	+1.0
ICHK				*e*AMB	AMB	05 50 11.0	
	comp=Z,442nm,0.1s						
ICHK	Chekchek	4.52	38	*e*Pn	Pn	05 50 10.3	+1.0
IKLH	Kolahrood	4.62	5	*e*Pn	Pn	05 50 10.6	-0.2
IKLH				*e*AMB	AMB	05 51 21.4	
	comp=Z,260nm,0.2s						
IKLH	Kolahrood	4.62	5	*e*Pn	Pn	05 50 10.6	-0.2
NSR	Nassriya	4.92	299	*e*Pn	Pn	05 50 14.0	-0.6
	baz=116,SNR=3.0						
NSR				*e*Sn	Sn	05 51 11.0	-0.5
	SNR=3.0						
NGRK	Negar Kerman	4.97	78	*e*Pn	Pn	05 50 15.7	-0.1
NGRK	Negar Kerman	4.97	78	*e*Pn	Pn	05 50 15.7	-0.1
TVBK	TV Kerman	5.07	74	*e*Pn	Pn	05 50 18.1	+1.1
TVBK	TV Kerman	5.07	74	*e*Pn	Pn	05 50 18.1	+1.1
KHMZ	Khomeyn	5.12	349	*e*Pn	Pn	05 50 19.8	+2.1
ASAO	Ashtian	5.91	351	*e*Pn	Pn	05 50 30.0	+1.6
TABS	Tabas	7.11	45	*e*Pn	Pn	05 50 45.7	+0.9

*NNC **19** 06:03:59.5±7.2,53°.92N×86°.97E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=54.1km s-min=43.3km az=13.0*
IDC 19 06:04:01.3±2.4,**54°.18N**×**86°.31E**,**h0**km,**mb1 3.3**/2, **mb1mx3.1**/42,**mbtmp3.3**/2,**ML3.1**/2,**4C-4D**,**Error ellipse: s-maj=18.3km s-min=11.0km az=62.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	256	*i*		06 10 20.0	
	baz=74,slow=335,SNR=2.2						
ZALV	Zalesovo Beam	0.91	256	Pg	Pg	06 04 17.2	-1.5
	7.4nm,0.3s,baz=75,slow=17,SNR=46						
ZALV				Lg	Lg	06 04 31.8	
	14nm,0.3s,baz=77,slow=30,SNR=30						
ZALV				Rg	Rg	06 04 36.7	
	12nm,0.4s,baz=73,slow=32,SNR=17						
KURK	Kurchatov	5.84	237	⇓Pn	Pn	06 05 30.2	+1.0
	2.0nm,1.1s						
KURK				⇑Sn	Sn	06 06 40.6	+3.9
	0.9nm,0.7s						
KURK				⇓Lg	Lg	06 07 09.7	
	2.4nm,0.6s						
KURBB	Kurchatov Arra	5.95	236	Pn	Pn	06 05 31.4	+0.9
	0.3nm,0.3s,baz=55,slow=14,SNR=14						
KURBB				Sn	Sn	06 06 39.1	-0.2
	baz=52,slow=24,SNR=1.8						
KURBB				Lg	Lg	06 07 09.3	
	0.1nm,0.3s,baz=45,slow=29,SNR=4.5						
KURBB	Kurchatov Arra	5.95	236	⇓Pn	Pn	06 05 30.5	0.0
	1.8nm,0.4s						
KURBB				⇑Sn	Sn	06 06 42.8	+3.5
	2.6nm,0.6s						
KURBB				⇑Lg	Lg	06 07 12.4	
	6.6nm,0.6s						
MK31	Makanchi Array	7.82	201	Pn	Pn	06 05 57.5	+1.2
	0.2nm,0.2s,baz=26,slow=16,SNR=7.8						
MK31				⇓Sn	Sn	06 07 23.8	-1.7
	0.5nm,0.6s,baz=33,slow=22						
MK31				⇑Lg	Lg	06 08 08.6	
	2.0nm,0.8s,baz=26,slow=28,SNR=4.0						
MKAR	Makanchi Array	7.82	201	Pn	Pn	06 05 57.2	+0.9
	0.4nm,0.3s,baz=24,slow=13,SNR=5.9						
MKAR				Sn	Sn	06 07 26.0	+0.4
	0.5nm,0.3s,baz=20,slow=26,SNR=3.9						
MKAR				Lg	Lg	06 08 08.8	
	baz=19,slow=33,SNR=8.5						

*ISCJB **19** 06:20:28.4±0.5,9°.44S±0°.06×120°.89E±0°.05,h100km, mb3.8/4, Error ellipse: s-maj=9.3km s-min=6.6km az=28.3*
*IDC **19** 06:20:28.5±3.0,9°.24S×120°.99E,h65km±26km,mb3.7/4, mb1 3.8/7,mb1mx3.5/45,mbtmp3.9/7,ML3.9/3,MS3.2/3, Ms1 3.2/3,ms1mx2.7/40,Error ellipse: s-maj=47.6km s-min=19.0km az=67.0*
*DJA **19** 06:20:30.7±0.6,9°.5±5°.×12°.1E±°,h48km±16km,M4.2/9, MLv4.2/9*
ISC 19 06:20:29.4±0.8,**9°.55S**±0°.06×**121°.00E**±0°.05,**h100**km,**n19,** σ3°**82**/19,**mb3.9**/4,**Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.70	260	P	Pn	06 20 44.3	-2.6
BASI	Baing, Sumba	0.78	212	P	Pn	06 20 47.4	-0.3
EDFI	Ende, Flores	1.05	41	P	Pn	06 20 48.8	-1.7
EDFI				S	Sn	06 21 02.2	-4.1
MMRI	Maumere	1.52	53	P	Pn	06 20 55.9	-0.1
SOEI	Soe	3.23	94	P	Pn	06 21 24.3	+6.0
PLAI	Plampang	3.27	282	P	Pn	06 21 16.6	-2.2
BSSI	Bau Bau, Buton	3.42	351	P	Pn	06 21 19.3	-1.6
TWSI	Taliwang, Sumb	4.15	281	P	Pn	06 21 30.5	-0.1
TWSI				S	Sn	06 22 13.7	-4.4
TTSI	Tana Toraja	6.57	350	P	Pn	06 22 11.2	+7.7
FITZ	Fitzroy Crossi	9.62	153	P	Pn	06 22 46.6	+1.6
	0.5nm,0.3s,baz=336,slow=9.8,SNR=24						
FITZ				S	Sn	06 24 27.4	-3.8
	1.8nm,0.3s,baz=297,slow=18,SNR=8.2						
FITZ				LR	LR	06 27 41.6	
	comp=Z,45nm,20.6s,baz=48,slow=44						
WRA	Warramunga Arr	16.51	130	P	P	06 24 18.1	+2.0
	0.5nm,0.3s,baz=298,slow=14,SNR=14						
WRA				S	Sn	06 27 09.3	-9.1
	0.6nm,0.3s,baz=305,slow=24,SNR=6.6						
ASAR	Alice Springs	18.68	140	P	Pn	06 24 45.3	+3.9
	0.6nm,0.3s,baz=318,slow=11,SNR=23						
ASAR				S	S	06 28 04.0	-3.7
	0.2nm,0.3s,baz=317,slow=23,SNR=6.9						
ASAR				ScP	ScP	06 32 37.1	+6.0
	0.0nm,0.3s,baz=330,slow=1.5,SNR=3.9						
NWAO	Narrogin (SRO)	23.52	188	LR	LR	06 36 35.5	
	comp=Z,50nm,18.7s,baz=152,slow=41						
STKA	Stephens Creek	29.29	142	P	P	06 26 27.5	+5.0
	2.7nm,0.6s,baz=310,slow=8.1,SNR=6.5						
SONM	Songino Array	58.59	349	P	P	06 30 16.7	+0.8
	0.4nm,0.5s,baz=151,slow=6.5,SNR=3.2						
MKAR	Makanchi Array	65.86	332	P	P	06 31 05.3	+0.9
	0.7nm,0.6s,baz=149,slow=6.6,SNR=6.4						
MAW	Mawson	69.40	200	P	P	06 31 31.2	+4.9
	1.3nm,0.7s,baz=78,slow=5.1,SNR=11						
GEYT	Alibeck	75.25	313	LR	LR	07 08 57.6	
	comp=Z,46nm,20.7s,baz=350,slow=39						
TORD	Torodi Ar. Bea	120.50	280	PKP	PKPdf	06 39 13.4	+3.1
	0.3nm,0.5s,baz=70,slow=1.9,SNR=4.1						

*IDC **19** 06:23:40.9±0.6,37°.98N×31°.41W,h0km,mb4.4/29, mb1 4.6/29,mb1mx4.4/51,mbtmp4.4/29,MS4.2/25, Ms1 4.2/25,ms1mx4.1/33,Error ellipse: s-maj=16.3km s-min=11.7km az=1.0*
*BJI **19** 06:23:40.4,38°.00N×31°.30W,h12km,mb4.9/16,mB5.4/12, Ms5.0/7,Ms7 4.7/6*
*PDA **19** 06:23:41.0±1.3,37°.83N×31°.53W,h10km,ML3.9,Error ellipse: s-maj=5.9km s-min=3.4km az=54.0*
*ISCJB **19** 06:23:42.0±0.2,37°.99N±0°.04×31°.38W±0°.02,h18km, mb4.8/204,MS4.2/28,Error ellipse: s-maj=5.8km s-min=2.1km az=176.9*
*NEIC **19** 06:23:43.0±0.1,38°.00N×31°.37W,h10km,mb4.9/157, Error ellipse: s-maj=4.2km s-min=1.9km az=178.0*
*GCMT **19** 06:23:43.0±0.2,38°.00N×31°.37W,h12km,MW5.0/111, Moment Tensor Solution. s29,c35; s111,c166; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.89±.10; $M_{\theta\theta}$-0.57±.11; $M_{\phi\phi}$2.46±.09; $M_{r\theta}$-0.06±.28; $M_{\theta\phi}$3.48±.08; $M_{\phi r}$-0.75±.26; Best double couple: M=3.89100×10^{16} NP1:ϕ_s350.00000°,δ81.00000°,λ-162.00000°. NP2: ϕ_s257.00000°,δ72.00000°,λ-10.00000°. Principal axes: T 4.8050, Plg6.0000°, Azm123.0000°; N -1.8310, Plg70.0000°, Azm17.0000°; P -2.9780, Plg19.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **19** 06:23:43.0±0.1,38°.03N×31°.38W,h10km,mb4.9/99 Error ellipse: s-maj=4.9km s-min=2.0km az=178.0*
*MOS **19** 06:23:45.3±0.7,38°.01N×31°.39W,h39km,mb5.0/48,Error ellipse: s-maj=7.9km s-min=6.2km az=48.5*
ISC 19 06:23:43.7±0.7,**37°.99N**±0°.05×**31°.29W**±0°.04,**h16**km±3km, **h16**km:**pP-P,n920,** σ1°**38**/946,**mb4.9**/208,**MS4.2**/30, **13C-5D**,**Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	FLORES T-PHASE	1.39	3	Pn	Pn	06 24 04.6	-3.9
H07S1				Sn	Sn	06 24 20.8	-5.6
H07S1	FLORES T-PHASE	1.39	3	⇓*i*P	Pn	06 24 04.6	-3.9
H07S1				*e*S	Sn	06 24 20.9	-5.6
H07N1	FLORES T-PHASE	1.70	5	Pn	Pn	06 24 09.5	-3.3
H07N1				Sn	Sn	06 24 29.7	-4.6
H07N1	FLORES T-PHASE	1.70	5	*e*P	Pn	06 24 09.3	-3.5
H07N1				*e*S	Sn	06 24 29.4	-4.9
CALA	Caldeira	2.12	73	*e*P	Pn	06 24 14.8	-3.8
CALA	Caldeira	2.12	73	*e*P	Pn	06 24 14.8	-3.8
PCED	Cedros	2.14	72	*e*P	Pn	06 24 15.5	-3.2
PCED				*e*S	Sn	06 24 40.8	-4.1
PCED				A	A	06 24 46.4	
	118nm,0.5s						
PCED	Cedros	2.14	72	*e*P	Pn	06 24 15.5	-3.2
PCED				*e*S	Sn	06 24 40.8	-4.1
HOR	Horta	2.16	75	*e*P	Pn	06 24 15.8	-3.3
HOR				*e*S	Sn	06 24 41.6	-3.9
HOR				A	A	06 24 44.3	
	161nm,0.3s						
HOR	Horta	2.16	75	*e*P	Pn	06 24 15.8	-3.3
HOR				*e*S	Sn	06 24 41.6	-3.9
PCAN	Candelaria	2.26	77	*e*P	Pn	06 24 16.8	-3.6
PCAN				*e*S	Sn	06 24 43.7	-4.3
PCAN				A	A	06 24 45.1	
	114nm,0.4s						
PCAN	Candelaria	2.26	77	*e*P	Pn	06 24 16.8	-3.6
PCAN				*e*S	Sn	06 24 43.7	-4.3
PICO	Pico	2.31	76	*e*P	Pn	06 24 18.2	-3.0
PICO				*e*S	Sn	06 24 45.7	-3.7
PICO				A	A	06 24 48.0	
	171nm,0.5s						
PICO	Pico	2.31	76	*e*P	Pn	06 24 18.2	-3.0
PICO				*e*S	Sn	06 24 45.7	-3.7
PPNO	Prainha do Nor	2.43	78	*e*P	Pn	06 24 19.6	-3.3
PPNO				*e*S	Sn	06 24 48.1	-4.2
PPNO				A	A	06 24 49.1	
	104nm,0.3s						
PPNO	Prainha do Nor	2.43	78	*e*P	Pn	06 24 19.6	-3.3
PPNO				*e*S	Sn	06 24 48.1	-4.2
ROSA	Rosais	2.51	72	*e*P	Pn	06 24 20.6	-3.2
ROSA				*e*S	Sn	06 24 50.3	-3.8
ROSA				A	A	06 24 51.1	
	64nm,0.3s						
ROSA	Rosais	2.51	72	*e*P	Pn	06 24 20.6	-3.2
ROSA	Rosais	2.51	72	*e*Pn	Pn	06 24 23.8	0.0
ROSA				*e*S	Sn	06 24 50.3	-3.8
ROSA	Rosais	2.51	72	*e*Pn	Pn	06 24 23.8	0.0
PMAN	Manadas	2.60	75	*e*P	Pn	06 24 22.0	-3.1
PMAN				*e*S	Sn	06 24 52.3	-4.1
PMAN				A	A	06 24 54.0	
	86nm,0.3s						
PMAN	Manadas	2.60	75	*e*P	Pn	06 24 22.0	-3.1
PMAN				*e*S	Sn	06 24 52.3	-4.1
PGRA	Graciosa	2.80	67	*e*P	Pn	06 24 25.2	-2.6
PGRA				*e*S	Sn	06 24 57.7	-3.5
PGRA				A	A	06 24 59.0	
	34nm,0.4s						
PGRA	Graciosa	2.80	67	*e*P	Pn	06 24 25.2	-2.6
PGRA				*e*S	Sn	06 24 57.7	-3.5
ADH	Angra Heroismo	3.26	77	*e*P	Pn	06 24 30.9	-3.2
ADH				*e*S	Sn	06 25 08.1	-4.5
ADH				A	A	06 25 11.3	
	53nm,0.3s						
ADH	Angra Heroismo	3.26	77	*e*P	Pn	06 24 30.9	-3.2
ADH				*e*S	Sn	06 25 08.1	-4.5
PSET	Sete Cidades	4.41	90	*e*P	Pn	06 24 46.1	-3.9
PSET				*e*S	Sn	06 25 35.1	-5.9
PSET				A	A	06 25 36.2	
	31nm,0.3s						
PSET	Sete Cidades	4.41	90	*e*P	Pn	06 24 46.1	-3.9
PSET				*e*S	Sn	06 25 35.1	-5.9
PDA	Ponta Delgada	4.46	91	*e*P	Pn	06 24 47.2	-3.4
PDA				*e*S	Sn	06 25 36.8	-5.4
PDA				A	A	06 25 40.1	
	56nm,0.3s						
PDA	Ponta Delgada	4.46	91	*e*P	Pn	06 24 47.2	-3.4
PDA				*e*S	Sn	06 25 36.8	-5.4
CMLA	Cha da Macela	4.57	91	*e*P	Pn	06 24 48.5	-3.7
CMLA				*e*S	Sn	06 25 39.2	-5.8
CMLA				A	A	06 25 42.2	
	55nm,0.4s						
CMLA	Cha da Macela	4.57	91	*e*P	Pn	06 24 48.5	-3.7
CMLA				*e*S	Sn	06 25 39.2	-5.8
BART	Pico Bartolome	4.85	91	*e*P	Pn	06 24 52.5	-3.6
BART	Pico Bartolome	4.85	91	*e*P	Pn	06 24 52.5	-3.6
PSMA	Santa Maria	5.00	100	*e*P	Pn	06 24 53.6	-4.5
PSMA				*e*S	Sn	06 25 49.0	-6.6
PSMA				A	A	06 25 52.4	
	38nm,0.2s						
PSMN	Pico do Norte,	5.05	99	*e*P	Pn	06 24 54.2	-4.6
PSMN				*e*S	Sn	06 25 50.2	-6.6
PSMN				A	A	06 25 54.1	
	48nm,0.5s						
PSMN	Pico do Norte,	5.05	99	*e*P	Pn	06 24 54.2	-4.6
PSMN				*e*S	Sn	06 25 50.2	-6.6
PMAR	Madeira	12.86	110	*e*P	Pn	06 26 45.5	-0.4
PMAR	Madeira	12.86	110	*e*P	Pn	06 26 45.5	-0.4
PMTG	Montargil	18.08	79

TUE	Stuetta	30.98	61	eP	P	06 30 01.6	+1.2
	comp=Z,16nm,1.0s						
TUE	Stuetta	30.98	61	eP	P	06 30 01.6	+1.2
	comp=Z,16nm,1.0s						
SFJD	Kangerlussuaq	31.06	345	P	P	06 30 00.6	+0.1
	comp=Z,15nm,1.0s,baz=160,slow=12,SNR=3.0						
DAVA	Damuels	31.36	59	i pP	P	06 30 05.0	+1.3
	comp=Z,12nm,0.9s						
FETA	Feichten	31.94	60	i pP	P	06 30 10.2	+1.4
	comp=Z,8.0nm,1.0s						
RETA	Reutte	31.97	59	i P	P	06 30 10.0	+1.1
	comp=Z,12nm,1.4s						
FRNY	Flat Rock	32.16	296	eP	P	06 30 09.6	-0.9
	comp=Z,21nm,1.4s						
FRNY	Flat Rock	32.16	296	eP	P	06 30 09.6	-0.9
	comp=Z,21nm,1.4s						
MOTA	Moosalm	32.20	59	P	P	06 30 11.9	+0.9
	comp=Z,3.6nm,0.5s						
ACCN	Adirondack Com	32.32	293	eP	P	06 30 11.8	-0.1
	comp=Z,36nm,1.4s						
ACCN	Adirondack Com	32.32	293	eP	P	06 30 11.8	-0.1
	comp=Z,36nm,1.4s						
WTTA	Wattenberg	32.56	60	i pP	P	06 30 15.6	+1.3
	comp=Z,19nm,1.5s						
TRQ	Mont Tremblant	32.79	299	eP	P	06 30 15.4	-0.8
TRQ	Mont Tremblant	32.79	299	eP	P	06 30 15.4	-0.8
ABTA	Abfaltersbach	33.16	60	i P	P	06 30 20.4	+1.0
	comp=Z,14nm,1.3s						
NKC	Novy Kostel	33.23	54	eP	P	06 30 21.3	+1.4
NKC				epP	sP	06 30 26.5	-0.3
NKC	Novy Kostel	33.23	54	eP	P	06 30 21.3	+1.4
NKC	Novy Kostel	33.23	54	eP	P	06 30 21.3	+1.4
ODNJ	Ogdensburg	33.29	289	eP	P	06 30 20.1	-0.4
	comp=Z,10nm,0.9s						
ODNJ	Ogdensburg	33.29	289	eP	P	06 30 20.1	-0.4
	comp=Z,10nm,0.9s						
CLL	Collm	33.68	52	i P	P	06 30 24.4	+0.7
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	Collm	33.68	52	i P	P	06 30 24.4	+0.7
	comp=Z,7.0nm,0.9s						
CLL	Collm	33.68	52	i P	P	06 30 24.4	+0.7
	comp=Z,7.0nm,0.9s						
CLL				i		06 30 31.1	
	comp=Z,17nm,1.3s						
CLL				L	L	06 41 00.0	
	comp=Z,300nm,20.8s						
KBA	Koelnbreinsper	33.73	60	i P	P	06 30 25.4	+1.0
	comp=Z,23nm,1.2s						
KHC	Kasperske Hory	33.90	56	eP	P	06 30 26.7	+0.9
KHC				epP	sP	06 30 31.6	-1.0
KHC	Kasperske Hory	33.90	56	eP	P	06 30 26.7	+0.9
KHC	Kasperske Hory	33.90	56	eP	P	06 30 26.3	+0.6
	comp=Z,5.0nm,1.2s						
KHC	Kasperske Hory	33.90	56	eP	P	06 30 26.3	+0.6
	comp=Z,5.0nm,1.2s						
MYKA	Terra Mystica	33.94	61	i pP	P	06 30 27.9	+1.8
	comp=Z,25nm,1.5s						
GEA0	GERESS Array S	33.98	57	eP	P	06 30 26.6	+0.2
GEA0	GERESS Array S	33.98	57	eP	P	06 30 26.6	+0.2
GEC2	GERESS Array S	33.98	57	eP	P	06 30 26.9	+0.4
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GEC2	GERESS Array S	33.98	57	eP	P	06 30 26.9	+0.4
	comp=Z,7.4nm,1.2s						
GEC2	GERESS Array S	33.98	57	eP	P	06 30 26.9	+0.4
	comp=Z,7.4nm,1.2s						
GERES	GERESS Array B	33.98	57	P	P	06 30 26.8	+0.4
	comp=Z,0.7nm,0.3s,baz=276,slow=6.6,SNR=12						
GERES				LR	LR	06 42 35.9	
	comp=Z,103nm,20.6s,baz=268,slow=33						
N59A	State Game Lan	34.19	289	P	P	06 30 27.9	-0.5
	baz=80						
MOA	Molln	34.34	58	i P	P	06 30 29.9	+0.3
	comp=Z,30nm,1.6s						
PRA	Prague	34.50	55	eP	P	06 30 32.2	+1.4
PRA				epP	sP	06 30 38.2	+0.5
PRA	Prague	34.50	55	eP	P	06 30 34.1	+3.3
PRU	Pruhonice	34.56	55	eP	P	06 30 32.9	+1.5
PRU				epP	sP	06 30 38.0	-0.3
PRU				AMS	AMS	06 46 20.0	
	comp=Z,500nm,13.1s						
PRU	Pruhonice	34.56	55	eP	P	06 30 32.9	+1.5
PRU				MLR	MLR		
	comp=Z,500nm,13.1s						
PRU	Pruhonice	34.56	55	eP	P	06 30 32.9	+1.5
	comp=Z,500nm,13.1s						
OBKA	Obir	34.57	61	i P	P	06 30 31.8	+0.2
	comp=Z,23nm,1.4s						
PLVO	Plevna	34.62	297	eP	P	06 30 32.0	0.0
	comp=Z,36nm,1.5s						
PLVO	Plevna	34.62	297	eP	P	06 30 31.9	0.0
	comp=Z,36nm,1.5s						
GOPC	GO Pecny, Ondr	34.72	55	eP	P	06 30 34.1	+1.3
SUMG	Summit	34.85	356	i P	P	06 30 33.8	-0.3
	comp=Z,29nm,1.1s						
SUMG	Summit	34.85	356	i P	P	06 30 33.8	-0.3
SUMG				pmax	pmax		
	comp=Z,29nm,1.1s						
SUMG	Summit	34.85	356	eP	P	06 30 34.2	+0.1
	comp=Z,36nm,1.2s						
SUMG	Summit	34.85	356	eP	P	06 30 34.2	+0.1
	comp=Z,36nm,1.2s						
SOKA	Soboth	34.90	61	i P	P	06 30 32.7	-1.8
	comp=Z,6.4nm,1.2s						
TAM	Tamanrasset	34.93	105	eP	P	06 30 36.5	+1.4
TAM				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TAM	Tamanrasset	34.93	105	eP	P	06 30 36.5	+1.4
	comp=Z,10nm,1.1s						
TAM	Tamanrasset	34.93	105	eP	P	06 30 36.5	+1.4
	comp=Z,10nm,1.1s						
NB2	NORSAR Subarra	35.02	35	P	P	06 30 36.3	+1.0
	comp=Z,8.3nm,0.9s,baz=250,slow=9.3						
NB2	NORSAR Subarra	35.02	35	P	P	06 30 36.3	+1.0
	comp=Z,8.3nm,0.9s,SNR=4.2						
NB200	NORSAR Array S	35.02	35	eP	P	06 30 35.7	+0.4
NB200	NORSAR Array S	35.02	35	eP	P	06 30 35.7	+0.4
NOA	NORSAR Array B	35.02	35	P	P	06 30 35.7	+0.4
	comp=Z,2.2nm,0.7s,baz=250,slow=8.9,SNR=3.9						
NOA				LR	LR	06 42 41.0	
	comp=Z,324nm,21.2s,baz=260,slow=32						
ARSA	Arzberg	35.21	59	i P	P	06 30 37.5	+0.4
	comp=Z,12nm,1.4s						
MMNY	Mt. Morris Dam	35.48	293	eP	P	06 30 39.4	0.0
MMNY	Mt. Morris Dam	35.48	293	eP	P	06 30 39.4	0.0
UPC	Upice	35.53	54	eP	P	06 30 41.0	+1.3
UPC	Upice	35.53	54	eP	P	06 30 41.0	+1.3
UPC	Upice	35.53	54	eP	P	06 30 41.0	+1.3
KSP	Ksiaz	35.72	53	eP	P	06 30 42.0	+0.6
KSP	Ksiaz	35.72	53	eP	P	06 30 42.0	+0.6
KSP	Ksiaz	35.72	53	eP	P	06 30 42.0	+0.6
DPC	Dobruska-Polom	35.72	54	eP	P	06 30 42.6	+1.2
DPC				AMS	AMS	06 44 00.0	
	comp=Z,500nm,12.5s						
DPC	Dobruska-Polom	35.72	54	eP	P	06 30 42.6	+1.2
DPC				MLR	MLR		
	comp=Z,500nm,12.5s						
DPC	Dobruska-Polom	35.72	54	eP	P	06 30 42.6	+1.2
	comp=Z,500nm,12.5s						
KRLC	Kraliky	36.01	55	eP	P	06 30 45.1	+1.2
KRLC	Kraliky	36.01	55	eP	P	06 30 45.1	+1.2
KRLC	Kraliky	36.01	55	eP	P	06 30 45.1	+1.2
CUC	Castrocucco	36.34	72	eP	P	06 30 47.9	+1.0
	comp=Z,42nm,1.7s						
CUC	Castrocucco	36.34	72	eP	P	06 30 47.9	+1.0
	comp=Z,42nm,1.7s						
O56A	Blue Knob Stat	36.41	289	P	P	06 30 47.0	-0.4
	baz=78						
N54A	Moraine State	37.32	290	P	P	06 30 54.4	-0.7
	baz=78						
VYHS	Vyhne	37.38	57	eP	P	06 30 55.9	+0.3
VYHS	Vyhne	37.38	57	eP	P	06 30 55.9	+0.3
VYHS	Vyhne	37.38	57	eP	P	06 30 55.9	+0.3
OJC	Ojcow	37.95	54	eP	P	06 31 01.4	+1.0
OJC	Ojcow	37.95	54	eP	P	06 31 01.4	+1.0
OJC				pmax	pmax		
	comp=Z,21nm,0.9s						
OJC	Ojcow	37.95	54	eP	P	06 31 01.4	+1.0
	comp=Z,20nm,0.9s						
OJC	Ojcow	37.95	54	eP	P	06 31 01.4	+1.0
	comp=Z,20nm,0.9s						
NIE	Niedzica	38.30	56	eP	P	06 31 05.3	+1.9
NIE	Niedzica	38.30	56	eP	P	06 31 05.3	+1.9
TOA1	Torodi Ar. Sit	38.35	121	eP	P	06 31 03.7	-0.4
	comp=Z,15nm,1.3s						
TOA1	Torodi Ar. Sit	38.35	121	eP	P	06 31 03.7	-0.4
	comp=Z,15nm,1.3s						
TOA0	Torodi Ar. Sit	38.36	121	eP	P	06 31 03.8	-0.3
TOA0	Torodi Ar. Sit	38.36	121	eP	P	06 31 03.8	-0.3
TORD	Torodi Ar. Bea	38.36	121	P	P	06 31 03.7	-0.4
	comp=Z,2.1nm,0.5s,baz=312,slow=8.8,SNR=26						
TORD				LR	LR	06 46 19.5	
	comp=Z,621nm,18.0s,baz=310,slow=35						
CRVS	Cervenica-Dubn	39.09	56	eP	P	06 31 11.3	+1.3
CRVS	Cervenica-Dubn	39.09	56	eP	P	06 31 11.3	+1.3
CRVS	Cervenica-Dubn	39.09	56	eP	P	06 31 11.3	+1.3
TIC	Toumodi	39.26	136	eP	P	06 31 11.3	-0.4
DAG	Danmarks Havn	39.28	5	i P	P	06 31 11.7	+0.5
	comp=Z,22nm,1.0s						
DAG	Danmarks Havn	39.28	5	i P	P	06 31 11.7	+0.5
DAG				pmax	pmax		
	comp=Z,22nm,1.0s						
DBIC	Dimbokro	39.33	136	P	P	06 31 12.1	-0.2
	comp=Z,6.4nm,0.6s,baz=315,slow=7.0,SNR=12						
DBIC				LR	LR	06 45 31.7	
	comp=Z,534nm,20.9s,baz=304,slow=33						
DBIC	Dimbokro	39.33	136	eP	P	06 31 12.2	0.0
DBIC				pmax	pmax		
	comp=Z,15nm,1.0s						
DBIC	Dimbokro	39.33	136	eP	P	06 31 12.2	0.0
	comp=Z,15nm,1.0s						
DBIC	Dimbokro	39.33	136	eP	P	06 31 12.2	0.0
	comp=Z,15nm,1.0s						
BZS	Buzias	39.55	62⇑	i P	P	06 31 14.9	+1.1
BZS	Buzias	39.55	62⇑	P	P	06 31 14.9	+1.1
BZS	Buzias	39.55	62	P	P	06 31 14.9	+1.1
LIC	Lamto	39.61	136	eP	P	06 31 14.0	-0.6
	comp=Z,52nm,1.5s						
KIC	Kosan Boka	39.65	136	eP	P	06 31 14.6	-0.3
	comp=Z,98nm,1.9s						
ACSO	Alum Creek Sta	39.71	290	eP	P	06 31 15.0	-0.2
	comp=Z,40nm,1.1s						
ACSO	Alum Creek Sta	39.71	290	eP	P	06 31 15.0	-0.2
	comp=Z,40nm,1.1s						
KMSC	Kings Mountain	39.90	282	P	P	06 31 16.4	-0.5
	baz=71						
GZR	Gura Zlata	40.39	62⇓	i P	P	06 31 22.3	+1.4
LOT	Lotru	41.07	61⇑	i P	P	06 31 27.5	+0.9
E43A	Lone Tree Farm	41.36	300	P	P	06 31 28.0	-0.8
	baz=81						
TKL	Tuckaleechee C	41.62	283	P	P	06 31 30.5	-0.5
	comp=Z,16nm,1.1s,baz=96,slow=9.8,SNR=5.5						
TKL	Tuckaleechee C	41.62	283	eP	P	06 31 30.5	-0.5
TKL				pmax	pmax		
	comp=Z,33nm,1.3s						
TKL	Tuckaleechee C	41.62	283	eP	P	06 31 30.5	-0.5
	comp=Z,33nm,1.3s						
TKL	Tuckaleechee C	41.62	283	eP	P	06 31 30.5	-0.5
	comp=Z,33nm,1.3s						
BUR08	Bucovina Ar. S	41.71	58	eP	P	06 31 33.3	+1.5
BUR08	Bucovina Ar. S	41.71	58	eP	P	06 31 33.3	+1.5
VOIR		41.96	61⇑	i P	P	06 31 34.2	+0.4
VOIR		41.96	61⇑	P	P	06 31 34.2	+0.4
VOIR		41.96	61	P	P	06 31 34.2	+0.4
FIA0	FINESS Array S	42.08	37	eP	P	06 31 34.9	+0.5
FIA0	FINESS Array S	42.08	37	eP	P	06 31 34.9	+0.5
FIA0	FINESS Array S	42.08	37	eP	P	06 31 34.9	+0.5
FINES	FINESS Array B	42.08	37	P	P	06 31 34.9	+0.5
	comp=Z,4.1nm,0.7s,baz=212,slow=6.8,SNR=8.2						
FINES				LR	LR	06 47 30.4	
	comp=Z,536nm,19.8s,baz=263,slow=34						
N46A	Monticello	42.31	292	P	P	06 31 36.3	-0.3
	baz=75						
C40A	Isle Royale Na	42.58	303	P	P	06 31 38.1	-0.6
	baz=81						
BLO	Bloomington	42.62	289	eP	P	06 31 39.1	-0.1
BLO				pmax	pmax		
	comp=Z,19nm,0.9s						
BLO	Bloomington	42.62	289	eP	P	06 31 39.0	-0.1
	comp=Z,19nm,0.9s						
BLO	Bloomington	42.62	289	eP	P	06 31 39.0	-0.1
	comp=Z,19nm,0.9s						
SFIN	Lafayette	42.71	291	P	P	06 31 39.3	-0.6
	baz=74						
WCI	Wyandotte Cave	42.72	288	eP	P	06 31 40.0	-0.1
WCI				pmax	pmax		
	comp=Z,30nm,1.3s						
WCI	Wyandotte Cave	42.72	288	eP	P	06 31 40.0	-0.1
	comp=Z,30nm,1.3s						
WCI	Wyandotte Cave	42.72	288	eP	P	06 31 40.0	-0.1
	comp=Z,30nm,1.3s						
H42A	Shiocton	42.77	298	P	P	06 31 39.8	-0.5
	baz=78						
N45A	Kentland	42.89	292	P	P	06 31 41.0	-0.4
	baz=75						
PLOR	Plostina	42.99	60⇓	i P	P	06 31 34.5	-7.6
PLOR	Plostina	42.99	60	⇓P	P	06 31 34.5	-7.6
I42A	Draeger Farm,	43.16	297	P	P	06 31 43.3	-0.3
	baz=77						
C39A	Grand Marais	43.25	303	P	P	06 31 43.8	-0.4
	baz=81						
E40A	Wakefield	43.33	301	P	P	06 31 44.2	-0.6
	baz=79						
N44A	Piper City	43.36	292	P	P	06 31 44.5	-0.7
	baz=74						
SWET	Sewanee	43.42	284	eP	P	06 31 45.7	-0.1
	comp=Z,38nm,1.4s						
SWET	Sewanee	43.42	284	eP	P	06 31 45.7	-0.1
	comp=Z,38nm,1.4s						
L43A	Garden Prairie	43.44	294	P	P	06 31 45.1	-0.7
	baz=76						
ARA0	ARCESS Array S	43.45	25	eP	P	06 31 44.7	-0.8
ARA0	ARCESS Array S	43.45	25	eP	P	06 31 44.7	-0.8
ARCES	ARCESS Array B	43.45	25	P	P	06 31 44.7	-0.8
	comp=Z,10nm,0.9s,baz=242,slow=9.2,SNR=9.1						
ARCES				LR	LR	06 46 31.3	
	comp=Z,207nm,19.1s,baz=255,slow=32						
F40A	Park Falls	43.58	300	P	P	06 31 46.3	-0.6
	baz=79						
K42A	Prairie Point,	43.73	295	P	P	06 31 47.6	-0.6
	baz=76						
G40A	Rib Lake	43.77	299	P	P	06 31 47.8	-0.6
	baz=78						
O44A	Mansfield	43.78	291	P	P	06 31 48.1	-0.5
	baz=74						
E39A	Mellen	43.79	301	P	P	06 31 47.5	-1.0
	baz=79						
KIEV	Kiev	43.91	53⇑	i P	P	06 31 49.6	+0.2
KIEV				i *PP	sP	06 31 56.2	-0.1
KIEV				i		06 33 32.5	
KIEV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIEV	Kiev	43.91	53	i P	P	06 31 49.6	+0.2
	comp=Z,11nm,1.1s						
KIEV	Kiev	43.91	53	eP	P	06 31 49.5	+0.1
	comp=Z,47nm,1.7s						
AKASG	Malin Array Be	43.92	53	P	P	06 31 48.9	-0.6
	comp=Z,6.3nm,0.8s,baz=277,slow=7.7,SNR=18						
AKASG				LR	LR	06 48 34.6	
	comp=Z,233nm,21.5s,baz=255,slow=34						
AKASG	Malin Array Be	43.92	53	cePP	P	06 31 49.4	-0.1
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	Malin Array Be	43.92	53	eP	P	06 31 49.4	-0.1
	comp=Z,6.0nm,0.8s						
AKBB	Malin Array Si	43.92	53	eP	P	06 31 49.5	0.0
AKBB				pmax	pmax		
	comp=Z,45nm,1.6s						
AKBB	Malin Array Si	43.92	53	eP	P	06 31 49.5	0.0
	comp=Z,45nm,1.6s						
AKBB	Malin Array Si	43.92	53	eP	P	06 31 49.5	0.0
	comp=Z,45nm,1.6s						
OLIL	Olney	43.92	289	eP	P	06 31 49.7	0.0
	comp=Z,67nm,1.4s						
OLIL	Olney	43.92	289	eP	P	06 31 49.7	0.0
	comp=Z,67nm,1.4s						
C38A	Sawbill Land.	44.02	303	P	P	06 31 49.5	-1.0
	baz=80						
H40A	Chili	44.04	298	P	P	06 31 50.6	0.0
	baz=77						
J41A	Loganville	44.06	296	P	P	06 31 50.4	-0.4
	baz=76						
P44A	Sand Creek, Wi	44.09	291	P	P	06 31 50.4	-0.6
	baz=73						
F39A	Loretta	44.13	300	P	P	06 31 50.7	-0.6
	baz=78						
EYMN	Ely	44.13	303	P	P	06 31 50.3	-1.0
	baz=80						
I40A	Norwalk	44.37	297	P	P	06 31 53.0	-0.2
	baz=76						
O43A	Sugar Creek Fa	44.37	292	P	P	06 31 52.7	-0.5
	baz=73						
M42A	Sheffield	44.37	294	P	P	06 31 52.9	-0.3
	baz=74						
E38A	The Farm, Brul	44.42	301	P	P	06 31 52.8	-0.8
	baz=79						
G39A	Holcombe	44.43	299	P	P	06 31 53.1	-0.6
	baz=78						
K41A	Shullsburg	44.46	295	P	P	06 31 53.3	-0.6
	baz=75						
Q44A	Meyer Farm, Va	44.55	290	P	P	06 31 54.0	-0.7
	baz=72						
WVT	Waverly	44.56	286	eP	P	06 31 54.6	-0.2
WVT				pmax	pmax		
	comp=Z,16nm,1.3s						
WVT	Waverly	44.56	286	eP	P	06 31 54.6	-0.2
	comp=Z,16nm,1.3s						
WVT	Waverly	44.56	286	eP	P	06 31 54.6	-0.2
	comp=Z,16nm,1.3s						
J40A	Soldiers Grove	44.57	297	P	P	06 31 54.1	-0.8
	baz=76						
S45A	Carrier Mills	44.61	288	P	P	06 31 54.6	-0.6
	baz=71						
P43A	Skaggs, Pawnee	44.71	291	P	P	06 31 55.3	-0.6
	baz=73						
L41A	Preston	44.73	295	P	P	06 31 55.4	-0.8
	baz=75						
N42A	Yates City	44.74	293	P	P	06 31 55.8	-0.4
	baz=74						
F38A	Pierce - Schro	44.77	300	P	P	06 31 55.5	-0.9
	baz=78						
R44A	Waltonville	44.81	289	P	P	06 31 56.2	-0.5
	baz=72,SNR=5.2						
D37A	Cotton	44.90	302	P	P	06 31 57.1	-0.4
	baz=79						
G38A	Ridgeland	44.93	299	P	P	06 31 56.9	-0.8
	baz=77						
O42A	Bath	44.95	292	P	P	06 31 57.9	0.0
	baz=73						
M41A	Milan	44.95	294	P	P	06 31 57.3	-0.6
	baz=74						
I39A	Houston	45.01	297	P	P	06 31 57.6	-0.7
	baz=76						
K40A	Colesburg	45.03	296	P	P	06 31 57.9	-0.6
	baz=75						
Q43A	New Douglas	45.05	290	P	P	06 31 58.2	-0.5
	baz=72						
C36A	Pine Crest Far	45.06	303	P	P	06 31 58.0	-0.7
	baz=79						
S44A	Carbondale	45.11	288	P	P	06 31 58.8	-0.4
	baz=71						
U45A	Rockin P Farm,	45.19	286	P	P	06 31 59.5	-0.4
	baz=70						
L40A	Anamosa	45.26	295	P	P	06 31 59.6	-0.7
	baz=74						
J39A	Decorah	45.27	297	P	P	06 31 59.7	-0.6
	baz=75						
P42A	Winchester	45.33	291	P	P	06 32 00.4	-0.5
	baz=72,SNR=5.7						
F37A	Hinrichs Farm,	45.34	300	P	P	06 32 00.5	-0.4
	baz=77						
H38A	Maiden Rock	45.34	299	P	P	06 32 00.2	-0.7
	baz=76						
Z48A	Northport	45.35	282	P	P	06 32 00.6	-0.5
	baz=67						
N41A	Harden Midland	45.37	293	P	P	06 32 00.7	-0.5
	baz=73						
Y47A	UCPARC, Winfie	45.37	283	P	P	06 32 01.0	-0.3
	baz=68						
D36A	Goodland	45.39	302	P	P	06 32 00.6	-0.7
	baz=78						
R43A	Red Bud	45.43	289	P	P	06 32 01.1	-0.7
	baz=71						
B35A	Bob, Littlefor	45.53	304	P	P	06 32 01.8	-0.5
	baz=79						
I38A	Scanlan Farm,	45.53	298	P	P	06 32 02.1	-0.4
	baz=76						
V45A	Humboldt	45.55	286	P	P	06 32 02.0	-0.7
	baz=69						
K39A	Oelwein	45.56	296	P	P	06 32 02.0	-0.7
	baz=75						
O41A	Passleys Farm,	45.56	292	P	P	06 32 02.2	-0.6
	baz=73,SNR=5.4						
T44A	Benton	45.57	288	P	P	06 32 02.3	-0.5
	baz=70						
SPMN	Marine on St.	45.57	300	P	P	06 32 01.9	-0.8
	baz=76						
E36A	McGregor	45.59	301	P	P	06 32 02.3	-0.6
	baz=78						
U44B	Burton Farm, H	45.64	287	P	P	06 32 02.7	-0.7
	baz=70						
M40A	Post Highland	45.65	294	P	P	06 32 02.6	-0.8
	baz=74						
Q42A	Golden Eagle	45.68	290	P	P	06 32 03.1	-0.5
	baz=72						
S43A	Fulton Ridge,	45.77	288	P	P	06 32 03.4	-1.0
	baz=70,SNR=5.9						
L39A	Vinton	45.80	295	P	P	06 32 04.0	-0.6
	baz=74						
H37A	Dierke Farm, C	45.80	299	P	P	06 32 04.0	-0.6
	baz=76						
Z47A	Carrollton	45.81	282	P	P	06 32 04.4	-0.4
	baz=67						
J38A	Wedel Dairy, R	45.81	297	P	P	06 32 03.9	-0.8
	baz=75						
C35A	Jirik Farms, M	45.82	303	P	P	06 32 04.0	-0.7
	baz=78						
P41A	Barry, Barry	45.83	292	P	P	06 32 04.2	-0.6
	baz=72						
U44A	Portageville	45.84	287	P	P	06 32 04.4	-0.6
	baz=70						
N40A	Mertquake, Sal	45.85	293	P	P	06 32 04.2	-0.8
	baz=73						
F36A	Milaca	45.92	301	P	P	06 32 05.0	-0.5
	baz=77						
W45A	Hickory Valley	45.94	285	P	P	06 32 05.3	-0.5
	baz=69,SNR=5.8						
D35A	Remer	46.00	302	P	P	06 32 05.4	-0.7
	baz=78						
R42A	Luebbering	46.07	290	P	P	06 32 06.1	-0.7
	baz=71,SNR=6.9						
T43A	Greenville	46.09	288	P	P	06 32 06.1	-0.9
	baz=70						
M39A	Webster	46.10	294	P	P	06 32 06.4	-0.6
	baz=73						
B34A	Aery, Baudette	46.10	304	P	P	06 32 06.2	-0.7
	baz=78						
Y46A	Houston	46.16	283	P	P	06 32 07.0	-0.6
	baz=68						
147A	Livingston	46.17	281	P	P	06 32 07.5	-0.1
	baz=67						
Q41A	Truxton	46.18	291	P	P	06 32 07.2	-0.5
	baz=71,SNR=7.7						
K38A	Parkersburg	46.20	296	P	P	06 32 07.1	-0.7
	baz=74						
G36A	St. Michael	46.22	300	P	P	06 32 07.3	-0.6
	baz=76						
S42A	Caledonia	46.24	289	P	P	06 32 06.9	-1.3
	baz=70,SNR=7.5						
I37A	Lemond, Waseca	46.28	298	P	P	06 32 07.7	-0.7
	baz=75						
O40A	La Belle	46.29	292	P	P	06 32 07.6	-0.9
	baz=72,SNR=7.5						
PBMO	Poplar Bluff	46.30	288	eP	P	06 32 07.9	-0.7
	comp=Z,34nm,1.3s						
PBMO	Poplar Bluff	46.30	288

baz=78
R41A **Rosebud** 46.50 290 P P 06 32 08.9 -1.3
baz=71,SNR=6.9
H36A **Jessenland, He** 46.50 299 P P 06 32 09.6 -0.6
baz=75
N39A **Derby Farms, D** 46.52 294 P P 06 32 09.4 -0.9
baz=73
ULM **Lac du Bonnet** 46.55 307 LR LR 06 50 54.0
comp=Z,759nm,19.8s,baz=101,slow=35
448A **Bay Minette** 46.56 279 P P 06 32 10.4 -0.4
baz=65
J37A **Redenius Farm,** 46.57 297 P P 06 32 09.8 -0.9
baz=74
P40A **Paris** 46.60 292 P P 06 32 10.2 -0.7
baz=72,SNR=8.7
F35A **Swanville** 46.63 301 P P 06 32 10.5 -0.6
baz=76
G35A **Watkins** 46.73 300 P P 06 32 11.4 -0.5
baz=76
PTGA **Pitinga** 46.73 221 eP P 06 32 11.7 -0.5
comp=Z,15nm,1.0s
PTGA **Pitinga** 46.73 221 eP P 06 32 11.7 -0.5
comp=Z,15nm,1.0s
O39A **Kirksville** 46.73 293 P P 06 32 11.2 -0.8
baz=72
D34A **Park Rapids** 46.76 303 P P 06 32 11.5 -0.7
baz=77
K37A **Belmond** 46.78 296 P P 06 32 11.6 -0.8
baz=74
Q40A **Laux Farm, Aux** 46.79 291 P P 06 32 11.8 -0.6
baz=71,SNR=8.4
M38A **Pleasantville** 46.86 295 P P 06 32 12.4 -0.5
baz=73,SNR=5.5
X44A **Crenshaw** 46.91 285 P P 06 32 12.6 -0.8
baz=68
AGMN **Agassiz Nation** 46.93 304 P P 06 32 13.0 -0.4
baz=78
AGMN **Agassiz Nation** 46.93 304 eP P 06 32 13.2 -0.2
comp=Z,10nm,0.9s
AGMN **Agassiz Nation** 46.93 304 eP P 06 32 13.2 -0.2
comp=Z,10nm,0.9s
C33A **Trail** 46.99 304 P P 06 32 13.3 -0.6
baz=77
S41A **Jillco Farms,** 47.01 289 P P 06 32 13.2 -1.1
baz=70,SNR=8.3
L37A **Phoenix Point,** 47.05 296 P P 06 32 13.4 -1.1
baz=73
U42A **Revenden** 47.06 287 P P 06 32 13.4 -1.2
baz=69
N38A **Joes South For** 47.07 294 P P 06 32 14.0 -0.7
baz=72
H35A **Sunnyside Ranc** 47.10 299 P P 06 32 14.4 -0.4
baz=75,SNR=6.0
F34A **Alexandria** 47.11 301 P P 06 32 14.3 -0.5
baz=76
J36A **Seneca 1, Swea** 47.12 297 P P 06 32 14.4 -0.6
baz=74
P39B **Salisbury** 47.13 292 P P 06 32 14.3 -0.8
baz=71,SNR=7.5
R40A **Maddies Statio** 47.16 290 P P 06 32 14.4 -1.0
baz=70,SNR=9.8
D33A **AnnSam, Waubun** 47.18 303 P P 06 32 14.9 -0.5
baz=77
A32A **Rocking H Ranc** 47.21 305 P P 06 32 14.9 -0.7
baz=78
T41A **Mountain View** 47.21 288 P P 06 32 14.7 -1.1
baz=70,SNR=5.7
B32A **Ashes, Strandq** 47.35 305 P P 06 32 16.0 -0.7
baz=77
V42A **Cord** 47.37 287 P P 06 32 16.1 -0.9
baz=68
K36A **Gilmore City** 47.40 297 P P 06 32 16.6 -0.5
baz=73,SNR=6.3
I35A **Creekview Farm** 47.43 298 P P 06 32 16.5 -0.9
baz=74
Q39A **Willow Grove F** 47.44 291 P P 06 32 16.6 -0.8
baz=71,SNR=5.3
E33A **Westby DABS, E** 47.44 302 P P 06 32 16.8 -0.7
baz=76
O38A **Galt** 47.45 293 P P 06 32 16.8 -0.8
baz=72
X43A **Marvell** 47.47 285 P P 06 32 17.0 -0.8
baz=68
M37A **Trindle Farm,** 47.48 295 P P 06 32 17.1 -0.7
baz=72
G34A **Benson** 47.51 300 P P 06 32 17.3 -0.7
baz=75
S40A **Lebanon** 47.57 289 P P 06 32 17.9 -0.7
baz=70,SNR=5.2
U41A **Viola** 47.58 288 P P 06 32 17.5 -1.1
baz=69
Z44A **Pea Ridge, Bel** 47.60 283 P P 06 32 17.6 -1.2
baz=67
P38A **Dawn** 47.66 292 P P 06 32 18.4 -0.8
baz=71,SNR=9.5
W42A **Bald Knob** 47.67 286 P P 06 32 18.5 -0.8
baz=68
245A **Little AP, Sta** 47.69 281 P P 06 32 19.0 -0.5
baz=66
L36A **Harm Buss Farm** 47.70 296 P P 06 32 18.6 -0.9
baz=73
R39A **Chumby, Stover** 47.73 291 P P 06 32 19.1 -0.7
baz=70,SNR=10.0
Y43A **Makayla and Ka** 47.74 284 P P 06 32 19.3 -0.6
baz=67
T40A **Mansfield** 47.74 289 P P 06 32 19.1 -0.8
baz=69,SNR=7.1
H34A **Spellman Lake,** 47.76 300 P P 06 32 19.5 -0.4
baz=74
N37A **Lee Faris, Mou** 47.79 294 P P 06 32 19.4 -0.8
baz=72
F33A **5 Mile Ranch,** 47.80 301 P P 06 32 19.5 -0.7
baz=75
K35A **Storm Lake** 47.92 297 P P 06 32 20.3 -1.0
baz=73,SNR=5.7
O37A **Wolven Farm, M** 47.93 293 P P 06 32 20.4 -0.9
baz=71
Q38A **Cooks Store, C** 47.94 292 P P 06 32 20.4 -0.9
baz=70,SNR=5.3
D32A **Dogwood Acres,** 47.96 303 P P 06 32 20.5 -0.9
baz=76
V41A **Mountainview** 47.96 287 P P 06 32 20.6 -1.1
baz=68
M36A **Felix, Anita** 48.00 295 P P 06 32 20.7 -1.2
baz=72
G33A **Ortonville** 48.07 300 P P 06 32 21.4 -0.9
baz=74
B31A **Greenbush Farm** 48.07 305 P P 06 32 21.5 -0.8
baz=77
S39A **Bolivar** 48.15 290 P P 06 32 22.0 -1.1
baz=70,SNR=11
H10N2 **ASCENSION HYDR** 48.20 157 T T 07 23 34.0
baz=342,slow=75,SNR=16
H10N3 **ASCENSION HYDR** 48.21 157 T T 07 23 34.6
baz=342,slow=75,SNR=18
H10N1 **ASCENSION HYDR** 48.22 157 T T 07 23 35.4
baz=342,slow=75,SNR=20
W41B **Gary Mavity, V** 48.26 286 P P 06 32 22.9 -1.0
baz=68
P37A **Lathrop** 48.26 293 P P 06 32 23.1 -0.8
baz=71
C31A **Landman Farms,** 48.27 304 P P 06 32 23.1 -0.8
baz=76
U40A **Yellville** 48.28 288 P P 06 32 23.0 -1.1
baz=68,SNR=11
N36A **Muff Farm, Cla** 48.31 294 P P 06 32 23.2 -1.0
baz=72
R38A **Fenwick Farm,** 48.41 291 P P 06 32 24.2 -0.9
baz=70,SNR=11
H33A **Prehn Over Nor** 48.41 300 P P 06 32 24.6 -0.4
baz=74,SNR=7.5
Y42A **Garnett, Star** 48.42 284 P P 06 32 24.2 -0.9
baz=67
T39A **Clever** 48.43 289 P P 06 32 24.3 -0.9
baz=69,SNR=8.8
V40A **Witts Springs** 48.46 287 P P 06 32 24.1 -1.4
baz=68
O36A **Bolckow** 48.53 294 P P 06 32 25.0 -0.9
baz=71
K34A **Le Mars** 48.54 297 P P 06 32 24.6 -1.4
baz=72
KLMR **Klimovskoe** 48.58 38 eP P 06 32 24.8 -1.2
KLMR e 06 34 18.4
KLMR pmax pmax
comp=Z,24nm,1.4s
Q37A **Longview Farm,** 48.58 292 P P 06 32 25.5 -0.9
baz=70
ECSD **EROS Data Cent** 48.59 299 P P 06 32 25.4 -1.0
baz=73,SNR=8.2
ECSD **EROS Data Cent** 48.59 299 eP P 06 32 25.0 -1.4
comp=Z,9.1nm,0.9s
ECSD **EROS Data Cent** 48.59 299 eP P 06 32 25.0 -1.4
comp=Z,9.1nm,0.9s
S38A **Stockton** 48.61 290 P P 06 32 25.2 -1.3
baz=69
X41A **Kaden, Bauxite** 48.72 286 P P 06 32 25.5 -2.0
baz=67,SNR=6.2
U39A **Green Forest** 48.74 288 P P 06 32 26.6 -1.0
baz=68
Z42A **Norrel Spur, H** 48.77 284 P P 06 32 26.9 -0.9
baz=66
G32A **Webster** 48.77 301 P P 06 32 27.0 -0.8
baz=74
P36A **Good Intent, A** 48.88 293 P P 06 32 27.7 -0.9
baz=70
H32A **Carlson Farm,** 48.94 300 P P 06 32 28.5 -0.6
baz=73,SNR=12
L34A **Svendsen Farm,** 48.96 296 P P 06 32 28.0 -1.2
baz=72
J33A **Davis** 48.96 298 P P 06 32 28.1 -1.2
baz=73,SNR=6.8
X40A **Basin Creek Fa** 48.97 286 P P 06 32 28.4 -0.9
baz=67
Y41A **Eaglette Beard** 49.03 285 P P 06 32 29.3 -0.6
baz=66
R37A **Teagarden Farm** 49.05 291 P P 06 32 28.8 -1.1
baz=69
V39A **Pettigrew** 49.06 288 P P 06 32 29.1 -1.1
baz=68,SNR=6.8
T38A **Diamond** 49.11 289 P P 06 32 28.9 -1.5
baz=69,SNR=6.1
HHAR **Hobbs** 49.12 288 eP P 06 32 29.7 -0.9
comp=Z,6.2nm,1.0s
HHAR **Hobbs** 49.12 288 eP P 06 32 29.7 -0.9
comp=Z,6.2nm,1.0s
O35A **Humboldt** 49.17 294 P P 06 32 29.8 -1.1
baz=71
H10S1 **ASCENSION HYDR** 49.21 158 T T 07 24 52.1
baz=344
H10S3 **ASCENSION HYDR** 49.22 158 T T 07 24 53.9
baz=344
H10S2 **ASCENSION HYDR** 49.23 158 T T 07 24 54.0
baz=344
S37A **Fort Scott** 49.24 291 P P 06 32 30.2 -1.3
baz=69,SNR=5.5
M34A **Aspy Farms, Fr** 49.25 296 P P 06 32 30.0 -1.4
baz=71
Q36A **Arnold C. Orve** 49.29 292 P P 06 32 30.3 -1.4
baz=70
U38A **Gravette** 49.40 289 P P 06 32 31.4 -1.3
baz=68
N34A **Lincoln** 49.41 295 P P 06 32 31.4 -1.2
baz=71
W39A **Magazine** 49.41 287 P P 06 32 31.8 -1.0
baz=67,SNR=6.0
242A **Grayson** 49.42 282 P P 06 32 32.2 -0.7
baz=65
Z41A **Richland Creek** 49.43 284 P P 06 32 32.1 -0.8
baz=66
MDND **Maddock** 49.48 305 P P 06 32 32.4 -0.8
baz=75
MDND **Maddock** 49.48 305 eP P 06 32 33.0 -0.1
comp=Z,24nm,1.0s
MDND **Maddock** 49.48 305 eP P 06 32 33.0 -0.1
comp=Z,24nm,1.0s
P35A **Duane Minner,** 49.50 293 P P 06 32 32.3 -1.1
baz=70,SNR=6.0
MIAR **Mount Ida** 49.51 286 P P 06 32 32.6 -0.9
baz=67,SNR=6.1
MIAR **Mount Ida** 49.51 286 eP P 06 32 32.9 -0.6
MIAR pmax pmax
comp=Z,16nm,1.0s
MIAR **Mount Ida** 49.51 286 eP P 06 32 32.9 -0.6
comp=Z,16nm,1.0s
MIAR **Mount Ida** 49.51 286 eP P 06 32 32.9 -0.6
comp=Z,16nm,1.0s
T37A **Cheneyville 18** 49.54 290 P P 06 32 32.6 -1.1
baz=68
R36A **Gordon, Harris** 49.54 291 P P 06 32 32.4 -1.4
baz=69
RUSC **La Rusia** 49.57 241 eP P 06 32 33.2 -1.5
comp=Z,4.3nm,1.2s
BR101 **Keskin Array S** 49.58 67 eP P 06 32 35.8 +1.6
BR101 **Keskin Array S** 49.58 67 eP P 06 32 35.8 +1.6
BRTR **Keskin Array B** 49.58 67 P P 06 32 35.8 +1.6
comp=Z,1.5nm,0.8s,baz=306,slow=4.9,SNR=4.3
BRTR LR LR 06 53 19.5
comp=Z,67nm,19.6s,baz=284,slow=36
V38A **Canehill** 49.63 288 P P 06 32 33.2 -1.3
baz=68
M33A **Taylor Creek F** 49.66 296 P P 06 32 33.7 -1.0
baz=71
Q35A **Mercer Eighty,** 49.74 292 P P 06 32 34.0 -1.3
baz=69,SNR=6.2
O34A **Beatrice** 49.77 294 P P 06 32 34.4 -1.0
baz=70
S36A **Lake Cedric, C** 49.82 291 P P 06 32 34.4 -1.5
baz=69
K32A **Verdigre** 49.87 298 P P 06 32 34.5 -1.6
baz=72
X39A **Fountain Ranch** 49.93 286 P P 06 32 36.2 -0.6
baz=67
U37A **Salina** 49.95 289 P P 06 32 35.1 -1.7
baz=68,SNR=6.4
SUSD **Miller** 50.00 300 P P 06 32 36.2 -0.9
baz=72
W38A **Poteau** 50.02 287 P P 06 32 36.3 -1.0
baz=67
KSU1 **Kansas State U** 50.08 293 P P 06 32 36.5 -1.3
baz=69
KSU1 **Kansas State U** 50.08 293 eP P 06 32 36.8 -1.0
comp=Z,17nm,0.7s
KSU1 **Kansas State U** 50.08 293 eP P 06 32 36.8 -1.0
comp=Z,17nm,0.7s
P34A **Walnut Farm, R** 50.08 293 P P 06 32 36.8 -1.0
baz=70
Y39A **Lockesburg** 50.14 286 P P 06 32 38.1 -0.2
baz=66
V37A **Hulbert** 50.17 288 P P 06 32 37.3 -1.3
baz=67
J31A **Geddes** 50.20 299 P P 06 32 37.2 -1.5
baz=72
140A **Cam and Jess,** 50.27 284 P P 06 32 38.8 -0.6
baz=65
T36A **Boggs Farm, Ca** 50.28 290 P P 06 32 38.2 -1.1
baz=68
S35A **Otter Creek Ra** 50.37 291 P P 06 32 38.3 -1.8
baz=68
Q34A **Chapman** 50.38 293 P P 06 32 38.8 -1.3
baz=69
BGNE **Belgrade** 50.40 296 P P 06 32 38.6 -1.6
baz=70
X38A **Whitesboro** 50.41 287 P P 06 32 39.4 -1.0
baz=66
K31A **O'Neill** 50.42 298 P P 06 32 39.1 -1.3
baz=71
O33A **Hebron** 50.44 294 P P 06 32 39.4 -1.2
baz=70
Y38A **Idabel** 50.63 286 P P 06 32 40.9 -1.1
baz=66
TUL1 **Leonard** 50.65 289 P P 06 32 40.8 -1.3
baz=67
W37B **Quinton** 50.68 288 P P 06 32 41.5 -0.9
baz=67
T35A **Sooner Cattle** 50.80 290 P P 06 32 41.9 -1.4
baz=68
V36A **Jenks** 50.81 289 P P 06 32 42.2 -1.1
baz=67
R34A **Isabella, Hill** 50.83 292 P P 06 32 42.1 -1.4
baz=68
X37A **Clayton** 50.85 287 P P 06 32 42.7 -1.0
baz=66
S34A **Willow Spring** 50.95 291 P P 06 32 43.2 -1.2
baz=68
HELC **Santa Helena** 51.06 243 eP P 06 32 45.5 -0.4
comp=Z,102nm,2.0s
U35A **Pawnee** 51.17 290 P P 06 32 44.8 -1.3
baz=67
ROSC **El Rosal** 51.17 241 LR LR 06 52 17.5
comp=Z,78nm,21.8s,baz=40,slow=34
ROSC **El Rosal** 51.17 241 eP P 06 32 46.3 -0.5
comp=Z,19nm,1.8s
ROSC **El Rosal** 51.17 241 eP P 06 32 46.3 -0.5
comp=Z,19nm,1.8s
T34A **McClaskey Farm** 51.26 291 P P 06 32 45.7 -1.1
baz=68
Y37A **Hugo** 51.29 286 P P 06 32 46.1 -0.8
baz=66
138A **Matatall Enter** 51.43 285 P P 06 32 47.2 -0.9
baz=65
339A **Huntington** 51.58 283 P P 06 32 48.2 -1.0
baz=64
X36A **Centrahoma** 51.60 287 P P 06 32 48.1 -1.2
baz=66
W35A **Tecumseh** 51.76 288 P P 06 32 49.3 -1.2
baz=66
X35A **Drake** 52.14 287 P P 06 32 52.5 -0.8
baz=66
DGMT **Dagmar** 52.26 306 P P 06 32 53.4 -0.7
baz=73
DGMT **Dagmar** 52.26 306 eP P 06 32 54.4 +0.3
comp=Z,80nm,2.0s
DGMT **Dagmar** 52.26 306 eP P 06 32 54.4 +0.3
comp=Z,80nm,2.0s
CBKS **Cedar Bluff** 52.45 294 P P 06 32 54.7 -0.9
baz=68
WMOK **Wichita Mounta** 53.36 289 P P 06 33 01.4 -1.0
baz=65
WMOK **Wichita Mounta** 53.36 289 eP P 06 33 01.4 -1.0
WMOK pmax pmax
comp=Z,13nm,1.4s
WMOK **Wichita Mounta** 53.36 289 eP P 06 33 01.4 -1.0
comp=Z,13nm,1.4s
WMOK **Wichita Mounta** 53.36 289 eP P 06 33 01.4 -1.0
comp=Z,13nm,1.4s
WHTX **Lake Whitney,** 53.52 285 P P 06 33 02.9 -0.7
baz=64
WHTX **Lake Whitney,** 53.52 285 eP P 06 33 03.5 -0.1
comp=Z,30nm,1.1s
WHTX **Lake Whitney,** 53.52 285 eP P 06 33 03.5 -0.1
comp=Z,30nm,1.1s
LAO **LASA Array** 54.12 305 P P 06 33 07.2 -0.7
baz=70
LAO **LASA Array** 54.12 305 eP P 06 33 08.2 +0.3
comp=Z,23nm,1.1s
LAO **LASA Array** 54.12 305 eP P 06 33 08.2 +0.3
comp=Z,23nm,1.1s
YKA **Yellowknife Ar** 54.15 325 P P 06 33 07.1 -0.6
comp=Z,3.7nm,0.8s,baz=66,slow=7.6,SNR=3.4
YKA LR LR 06 54 03.8
comp=Z,30nm,19.1s,baz=0.0,slow=34
YKB5 **Yellowknife Ar** 54.15 325 eP P 06 33 07.3 -0.5
YKB5 **Yellowknife Ar** 54.15 325 eP P 06 33 07.3 -0.5
636A **Smothers Creek** 54.34 282 P P 06 33 08.9 -0.7
baz=62
KSCO **Kaye Shedlock'** 54.46 295 P P 06 33 09.5 -1.0
baz=67
736A **Circle Diamond** 54.59 281 P P 06 33 10.8 -0.7
baz=62
KBZ **Khabaz** 54.67 59 P P 06 33 13.5 +1.7
comp=Z,4.4nm,0.9s,baz=298,slow=8.6,SNR=4.7
KBZ LR LR 06 56 12.5
comp=Z,73nm,20.2s,baz=298,slow=36
ABTX **Abilene, Hawle** 54.91 287 P P 06 33 12.5 -1.2
baz=64
SAML **Samuel** 55.38 219 eP P 06 33 16.2 -1.0
comp=Z,11nm,1.2s
SAML **Samuel** 55.38 219 eP P 06 33 16.2 -1.0
comp=Z,11nm,1.2s
AMTX **Amarillo** 55.46 290 P P 06 33 16.9 -0.8
baz=64
AMTX **Amarillo** 55.46 290 eP P 06 33 17.5 -0.3
comp=Z,13nm,0.9s
AMTX **Amarillo** 55.46 290 eP P 06 33 17.5 -0.3
comp=Z,13nm,0.9s
PHWY **Pilot Hill** 55.56 298 eP P 06 33 18.1 -0.6
comp=Z,6.0nm,1.0s
PHWY **Pilot Hill** 55.56 298 eP P 06 33 18.1 -0.6
comp=Z,6.0nm,1.0s
BDFB **Brasilia** 55.61 200 LR LR 06 53 06.4
comp=Z,180nm,20.7s,baz=233,slow=32
ZEI **Tsey** 55.70 59 eP P 06 33 18.4 -1.1
ZEI pmax pmax
comp=Z,9.0nm,1.3s
K22A **Casper** 55.78 300 P P 06 33 19.4 -0.7
baz=68
K22A **Casper** 55.78 300 eP P 06 33 19.2 -0.8
comp=Z,14nm,1.3s
K22A **Casper** 55.78 300 eP P 06 33 19.2 -0.8
comp=Z,14nm,1.3s
EGMT **Eagleton** 55.92 307 P P 06 33 20.2 -0.6
baz=69
EGMT **Eagleton** 55.92 307 eP P 06 33 20.8 -0.1
comp=Z,43nm,1.7s
EGMT **Eagleton** 55.92 307 eP P 06 33 20.8 -0.1
comp=Z,43nm,1.7s
JCT **Junction City** 56.00 284 P P 06 33 20.5 -1.1
baz=62
JCT **Junction City** 56.00 284 eP P 06 33 20.7 -0.9
JCT pmax pmax
comp=Z,8.0nm,1.0s
JCT **Junction City** 56.00 284 eP P 06 33 20.7 -0.9
comp=Z,8.3nm,1.0s
JCT **Junction City** 56.00 284 eP P 06 33 20.7 -0.9
comp=Z,8.3nm,1.0s
N23A **Red Feather La** 56.06 298 P P 06 33 21.9 -0.4
baz=67
N23A **Red Feather La** 56.06 298 eP P 06 33 22.4 +0.2
comp=Z,20nm,1.1s
N23A **Red Feather La** 56.06 298 eP P 06 33 22.4 +0.2
comp=Z,20nm,1.1s
ISCO **Idaho Springs** 56.27 297 P P 06 33 22.8 -1.0
baz=66
ISCO **Idaho Springs** 56.27 297 eP P 06 33 23.4 -0.4
ISCO pmax pmax
comp=Z,8.0nm,1.3s
ISCO **Idaho Springs** 56.27 297 eP P 06 33 23.4 -0.4
comp=Z,7.7nm,1.3s
ISCO **Idaho Springs** 56.27 297 eP P 06 33 23.4 -0.4
comp=Z,7.7nm,1.3s
Q24A **Divide** 56.28 296 P P 06 33 22.9 -1.0
baz=66
Q24A **Divide** 56.28 296 eP P 06 33 23.1 -0.7
comp=Z,23nm,1.5s
Q24A **Divide** 56.28 296 eP P 06 33 23.1 -0.7
comp=Z,23nm,1.5s
T25A **Trinidad** 56.51 294 P P 06 33 25.0 -0.3
baz=65
T25A **Trinidad** 56.51 294 eP P 06 33 25.8 +0.4
comp=Z,7.7nm,1.0s
T25A **Trinidad** 56.51 294 eP P 06 33 25.8 +0.4
comp=Z,7.7nm,1.0s
RWWY **Rawlins** 56.62 300 eP P 06 33 26.2 0.0
comp=Z,45nm,1.8s
RWWY **Rawlins** 56.62 300 eP P 06 33 26.2 0.0
comp=Z,45nm,1.8s
MSTX **Muleshoe** 56.67 289 P P 06 33 25.4 -1.0
baz=64
MSTX **Muleshoe** 56.67 289 eP P 06 33 25.6 -0.9
comp=Z,10nm,1.1s
MSTX **Muleshoe** 56.67 289 eP P 06 33 25.6 -0.9
comp=Z,10nm,1.1s
RLMT **Red Lodge** 56.67 304 P P 06 33 25.8 -0.6
baz=68
RLMT **Red Lodge** 56.67 304 eP P 06 33 26.6 +0.1
comp=Z,23nm,1.4s
RLMT **Red Lodge** 56.67 304 eP P 06 33 26.6 +0.1
comp=Z,23nm,1.4s
GCMT **Greycliff** 56.68 305 eP P 06 33 26.4 0.0
GCMT **Greycliff** 56.68 305 eP P 06 33 26.4 0.0
SDCO **Great Sand Dun** 57.04 295 P P 06 33 28.7 -0.6
baz=65
SDCO **Great Sand Dun** 57.04 295 eP P 06 33 29.3 +0.1
comp=Z,3.3nm,0.9s
SDCO **Great Sand Dun** 57.04 295 eP P 06 33 29.3 +0.1
comp=Z,3.3nm,0.9s
SOKR **Solikamsk** 57.24 37 eP P 06 33 28.6 -1.2
SOKR pmax pmax
comp=Z,27nm,1.1s
OTAV **Otavalo** 57.33 241 eP P 06 33 32.0 +0.3
comp=Z,14nm,1.4s
OTAV **Otavalo** 57.33 241 eP P 06 33 32.0 +0.3
comp=Z,14nm,1.4s
SMCO **Snowmass** 57.48 297 eP P 06 33 32.2 -0.3
comp=Z,4.6nm,1.0s
SMCO **Snowmass** 57.48 297 eP P 06 33 32.2 -0.3
comp=Z,4.6nm,1.0s
HRY **Holter Researc** 57.71 307 eP P 06 33 33.4 -0.3
HRY **Holter Researc** 57.71 307 eP P 06 33 33.4 -0.3
BW06 **Boulder Array** 57.79 302 P P 06 33 33.2 -1.1
baz=66
BW06 **Boulder Array** 57.79 302 eP P 06 33 33.5 -0.9
BW06 **Boulder Array** 57.79 302 eP P 06 33 33.3 -1.1
BW06 eP P 06 33 33.5 -0.9

PD31 **Pinedale Array** 57.79 302 *eP* P 06 33 33.5 -0.9
PD31 **Pinedale Array** 57.79 302 *eP* P 06 33 33.5 -0.9
PDAR **Pinedale Array** 57.79 302 P P 06 33 33.0 -1.4
comp=Z,4.7nm,0.9s,baz=69,slow=7.2,SNR=34
PDAR LR LR 06 57 08.7
comp=Z,1µm,21.3s,baz=90,slow=35
H17A **Grant Village** 57.81 304 *eP* P 06 33 35.3 +0.7
comp=Z,11nm,1.4s
H17A **Grant Village** 57.81 304 *eP* P 06 33 35.3 +0.7
comp=Z,11nm,1.4s
YHH **Holmes Hill** 57.84 304 *eP* P 06 33 35.7 +0.9
comp=Z,3.9nm,0.9s
YHH **Holmes Hill** 57.84 304 *eP* P 06 33 35.7 +0.9
comp=Z,3.9nm,0.9s
YMR **Madison River** 57.96 304 *eP* P 06 33 36.2 +0.7
comp=Z,23nm,1.1s
YMR **Madison River** 57.96 304 *eP* P 06 33 36.2 +0.7
comp=Z,23nm,1.1s
YFT **Old Faithful** 57.96 304 *eP* P 06 33 36.8 +1.2
comp=Z,18nm,1.3s
YFT **Old Faithful** 57.96 304 *eP* P 06 33 36.8 +1.2
comp=Z,18nm,1.3s
O20A **White River Ci** 57.97 298 P P 06 33 35.1 -0.6
baz=65
O20A **White River Ci** 57.97 298 *eP* P 06 33 36.0 +0.3
comp=Z,29nm,1.5s
O20A **White River Ci** 57.97 298 *eP* P 06 33 36.0 +0.3
comp=Z,29nm,1.5s
S22A **4UR Ranch, Cre** 57.99 295 P P 06 33 35.4 -0.5
baz=64
YPP **Pitchstone Pla** 58.01 304 *eP* P 06 33 36.9 +0.9
comp=Z,18nm,1.7s
YPP **Pitchstone Pla** 58.01 304 *eP* P 06 33 36.9 +0.9
comp=Z,18nm,1.7s
FLWY **Flagg Ranch** 58.02 303 *eP* P 06 33 36.2 +0.2
comp=Z,25nm,1.6s
FLWY **Flagg Ranch** 58.02 303 *eP* P 06 33 36.1 +0.2
comp=Z,25nm,1.6s
BOZ **Bozeman (W)** 58.02 305 P P 06 33 35.2 -0.7
baz=67
BOZ **Bozeman (W)** 58.02 305 *eP* P 06 33 35.6 -0.3
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ **Bozeman (W)** 58.02 305 *eP* P 06 33 35.6 -0.3
comp=Z,7.9nm,1.2s
BOZ **Bozeman (W)** 58.02 305 *eP* P 06 33 35.6 -0.3
comp=Z,7.9nm,1.2s
YHB **Horse Butte** 58.08 304 *eP* P 06 33 36.5 +0.1
comp=Z,8.3nm,1.0s
YHB **Horse Butte** 58.08 304 *eP* P 06 33 36.5 +0.1
comp=Z,8.3nm,1.0s
WALA **Waterton Lakes** 58.10 310 *eP* P 06 33 36.2 -0.1
comp=Z,20nm,1.0s
WALA **Waterton Lakes** 58.10 310 *eP* P 06 33 36.2 -0.1
comp=Z,20nm,1.0s
LOHW **Long Hollow** 58.15 303 *eP* P 06 33 36.6 -0.3
comp=Z,5.9nm,0.9s
LOHW **Long Hollow** 58.15 303 *eP* P 06 33 36.6 -0.3
comp=Z,5.9nm,0.9s
MOOW **Moose Ponds** 58.18 303 *eP* P 06 33 36.8 -0.3
comp=Z,9.3nm,1.2s
MOOW **Moose Ponds** 58.18 303 *eP* P 06 33 36.8 -0.3
comp=Z,9.3nm,1.2s
IMW **Indian Meadow** 58.25 303 *eP* P 06 33 37.3 -0.4
comp=Z,8.8nm,1.0s
IMW **Indian Meadow** 58.25 303 *eP* P 06 33 37.3 -0.4
comp=Z,8.8nm,1.0s
SNOW **Snow King Moun** 58.31 303 *eP* P 06 33 37.8 -0.2
comp=Z,11nm,0.9s
SNOW **Snow King Moun** 58.31 303 *eP* P 06 33 37.8 -0.2
comp=Z,11nm,0.9s
REDW **Red Top Meadow** 58.41 303 *eP* P 06 33 38.1 -0.6
comp=Z,23nm,1.3s
REDW **Red Top Meadow** 58.41 303 *eP* P 06 33 38.1 -0.6
comp=Z,23nm,1.3s
FXWY **Fox Creek** 58.42 303 *eP* P 06 33 38.5 -0.3
comp=Z,8.8nm,1.0s
FXWY **Fox Creek** 58.42 303 *eP* P 06 33 38.5 -0.3
comp=Z,8.8nm,1.0s
TPAW **Teton Pass** 58.43 303 *eP* P 06 33 38.8 -0.1
comp=Z,11nm,1.0s
TPAW **Teton Pass** 58.43 303 *eP* P 06 33 38.8 -0.1
comp=Z,11nm,1.0s
SLMT **Seeley Lake** 58.55 308 *eP* P 06 33 39.0 -0.6
SLMT **Seeley Lake** 58.55 308 *eP* P 06 33 39.0 -0.6
YBMT **Yellow Bay** 58.63 309 *eP* P 06 33 39.7 -0.4
YBMT **Yellow Bay** 58.63 309 *eP* P 06 33 39.7 -0.4
DLMT **Dillon** 58.74 305 *eP* P 06 33 41.1 +0.2
comp=Z,10nm,1.3s
DLMT **Dillon** 58.74 305 *eP* P 06 33 41.1 +0.2
comp=Z,10nm,1.3s
SWMT **Swartz Lake** 58.76 308 *eP* P 06 33 40.2 -0.8
SWMT **Swartz Lake** 58.76 308 *eP* P 06 33 40.2 -0.8
ANMO **Albuquerque** 58.95 292 P P 06 33 42.5 -0.1
baz=63
ANMO **Albuquerque** 58.95 292⇑ *iP* P 06 33 43.5 +0.9
ANMO pmax pmax
comp=Z,14nm,2.5s
ANMO **Albuquerque** 58.95 292 *eP* P 06 33 43.0 +0.4
comp=Z,3.3nm,0.9s
ANMO **Albuquerque** 58.95 292 *eP* P 06 33 43.0 +0.4
comp=Z,3.3nm,0.9s
MSO **Missoula** 59.00 307 P P 06 33 42.2 -0.3
baz=66
MSO **Missoula** 59.00 307 *eP* P 06 33 42.3 -0.3
comp=Z,13nm,1.4s
MSO **Missoula** 59.00 307 *eP* P 06 33 42.3 -0.3
comp=Z,13nm,1.4s
BSMT **Bassoo Peak** 59.11 309 *eP* P 06 33 43.1 -0.4
BSMT **Bassoo Peak** 59.11 309 *eP* P 06 33 43.1 -0.4
ARU **Arti** 59.28 40*d* *iP* P 06 33 45.4 +1.1
ARU 06 35 53.8
ARU S S 06 41 55.8 +4.2
ARU SS SS 06 45 47.4 +1.8
ARU pmax pmax
comp=Z,24nm,1.7s
ARU **Arti** 59.28 40 *eP* P 06 33 44.6 +0.3
comp=Z,13nm,1.0s
ARU **Arti** 59.28 40 *eP* P 06 33 44.6 +0.3
comp=Z,13nm,1.0s
PV09 **Paradox Valley** 59.30 297 *eP* P 06 33 45.4 +0.3
PV09 **Paradox Valley** 59.30 297 *eP* P 06 33 45.4 +0.3
MVCO **Mesa Verde** 59.42 295 P P 06 33 45.2 -0.6
baz=63
MVCO **Mesa Verde** 59.42 295 *eP* P 06 33 46.3 +0.5
comp=Z,18nm,1.3s
MVCO **Mesa Verde** 59.42 295 *eP* P 06 33 46.3 +0.5
comp=Z,18nm,1.3s
BNM **Barren Site** 59.44 291 *eP* P 06 33 46.3 +0.3
BNM **Barren Site** 59.44 291 *eP* P 06 33 46.3 +0.3
TX31 **Lajitas Ar. Si** 59.49 285 *eP* P 06 33 45.5 -0.8
TX31 **Lajitas Ar. Si** 59.49 285 *eP* P 06 33 45.5 -0.8
TXAR **Lajitas Array** 59.49 285 P P 06 33 45.2 -1.0
comp=Z,1.1nm,0.7s,baz=85,slow=6.6,SNR=12
TXAR LR LR 06 57 33.4
comp=Z,280nm,20.2s,baz=0.0,slow=34
INK **Inuvik** 59.55 335 P P 06 33 44.9 -1.0
comp=Z,8.9nm,1.1s,baz=52,slow=7.6,SNR=4.9
P18A **Preston Nutter** 59.58 298 *eP* P 06 33 46.1 -0.9
comp=Z,9.5nm,1.0s
P18A **Preston Nutter** 59.58 298 *eP* P 06 33 46.1 -0.9
comp=Z,9.5nm,1.0s
HWUT **Hardware Ranch** 59.63 301 *eP* P 06 33 46.6 -0.6
comp=Z,7.8nm,0.8s
HWUT **Hardware Ranch** 59.63 301 *eP* P 06 33 46.6 -0.6
comp=Z,7.8nm,0.8s
MNTX **Cornudas Mount** 59.66 288 P P 06 33 46.5 -0.8
baz=62
MNTX **Cornudas Mount** 59.66 288 *eP* P 06 33 46.5 -0.8
comp=Z,4.4nm,1.1s
MNTX **Cornudas Mount** 59.66 288 *eP* P 06 33 46.5 -0.8
comp=Z,4.4nm,1.1s
LAZ **Ladron** 59.70 292 *eP* P 06 33 47.8 0.0
LAZ **Ladron** 59.70 292 *eP* P 06 33 47.8 0.0
JLU **Jordanelle** 59.99 300 *eP* P 06 33 49.6 -0.1
comp=Z,6.9nm,1.0s
JLU **Jordanelle** 59.99 300 *eP* P 06 33 49.6 -0.1
comp=Z,6.9nm,1.0s
P17A **Butcher Ranch,** 59.99 299 *eP* P 06 33 49.0 -0.7
comp=Z,7.5nm,1.1s
P17A **Butcher Ranch,** 59.99 299 *eP* P 06 33 49.0 -0.7
comp=Z,7.5nm,1.1s
NEW **Newport** 60.37 310 P P 06 33 51.6 -0.4
baz=65
NEW **Newport** 60.37 310 *eP* P 06 33 51.8 -0.1
NEW pmax pmax
comp=Z,15nm,0.9s
NEW **Newport** 60.37 310 *eP* P 06 33 51.8 -0.1
comp=Z,16nm,0.9s
NEW **Newport** 60.37 310 *eP* P 06 33 51.8 -0.1
comp=Z,16nm,0.9s
HVU **Hansel Valley** 60.37 302 *eP* P 06 33 51.7 -0.5
HVU pmax pmax
comp=Z,12nm,1.2s
HVU **Hansel Valley** 60.37 302 *eP* P 06 33 51.7 -0.5
comp=Z,12nm,1.2s
HVU **Hansel Valley** 60.37 302 *eP* P 06 33 51.7 -0.5
comp=Z,12nm,1.2s
Q16A **Castle Valley** 60.54 298 *eP* P 06 33 53.6 +0.1
comp=Z,9.7nm,1.1s
Q16A **Castle Valley** 60.54 298 *eP* P 06 33 53.6 +0.1
comp=Z,9.7nm,1.1s
HLID **Hailey** 60.68 304 P P 06 33 53.8 -0.5
baz=64
HLID **Hailey** 60.68 304 *eP* P 06 33 54.8 +0.5
comp=Z,6.7nm,1.1s
HLID **Hailey** 60.68 304 *eP* P 06 33 54.8 +0.5
comp=Z,6.7nm,1.1s
NLU **North Lily Min** 60.70 300 *eP* P 06 33 54.9 +0.4
comp=Z,31nm,2.0s
NLU **North Lily Min** 60.70 300 *eP* P 06 33 54.9 +0.4
comp=Z,31nm,2.0s
BGU **Big Grassy Mou** 60.92 301 *eP* P 06 33 55.8 -0.2
comp=Z,9.9nm,1.2s
BGU **Big Grassy Mou** 60.92 301 *eP* P 06 33 55.8 -0.2
comp=Z,9.9nm,1.2s
121A **Cookes Peak, D** 61.06 290 P P 06 33 57.2 +0.2
baz=61
DUG **Dugway, Tooele** 61.10 300 P P 06 33 56.6 -0.5
baz=63
DUG **Dugway, Tooele** 61.10 300 *eP* P 06 33 57.2 0.0
DUG pmax pmax
comp=Z,7.0nm,0.8s
DUG **Dugway, Tooele** 61.10 300 *eP* P 06 33 57.2 0.0
comp=Z,7.3nm,0.8s
DUG **Dugway, Tooele** 61.10 300 *eP* P 06 33 57.2 0.0
comp=Z,7.3nm,0.8s
C09A **Chrisman Ranch** 61.27 310 *eP* P 06 33 56.8 -1.2
comp=Z,7.2nm,0.8s
C09A **Chrisman Ranch** 61.27 310 *eP* P 06 33 56.8 -1.2
comp=Z,7.2nm,0.8s
MSU **Marysvale** 61.42 298 *eP* P 06 34 00.0 +0.5
MSU **Marysvale** 61.42 298 *eP* P 06 34 00.0 +0.5
MSU **Marysvale** 61.42 298 *eP* P 06 33 60.0 +0.5
MTPU **Mount Pierson** 61.65 298 *eP* P 06 34 01.9 +0.7
comp=Z,7.7nm,1.2s
MTPU **Mount Pierson** 61.65 298 *eP* P 06 34 01.9 +0.7
comp=Z,7.7nm,1.2s
MFID **Camas Ranch** 61.67 305 *eP* P 06 34 01.0 +0.1
comp=Z,12nm,1.6s
MFID **Camas Ranch** 61.67 305 *eP* P 06 34 01.1 +0.1
comp=Z,12nm,1.6s
E09A **Wood Farm, Sta** 61.75 308 *eP* P 06 34 01.0 -0.3
comp=Z,11nm,1.0s
E09A **Wood Farm, Sta** 61.75 308 *eP* P 06 34 01.1 -0.3
comp=Z,11nm,1.0s
BMO **Blue Mountains** 61.97 306 *eP* P 06 34 02.0 -0.9
BMO pmax pmax
comp=Z,5.0nm,0.8s
BMO **Blue Mountains** 61.97 306 *eP* P 06 34 02.0 -0.9
comp=Z,5.1nm,0.8s
BMO **Blue Mountains** 61.97 306 *eP* P 06 34 02.0 -0.9
comp=Z,5.1nm,0.8s
PKCU **Pink Cliffs** 62.01 297 *eP* P 06 34 03.9 +0.3
comp=Z,30nm,1.5s
PKCU **Pink Cliffs** 62.01 297 *eP* P 06 34 03.9 +0.3
comp=Z,30nm,1.5s
LLLB **Lillooet** 62.14 314 *eP* P 06 34 03.5 -0.4
comp=Z,16nm,1.1s
LLLB **Lillooet** 62.14 314 *eP* P 06 34 03.5 -0.4
comp=Z,16nm,1.1s
WUAZ **Wupatki** 62.26 295 P P 06 34 05.6 +0.5
baz=62
WUAZ **Wupatki** 62.26 295 *eP* P 06 34 05.8 +0.7
comp=Z,10nm,1.0s
WUAZ **Wupatki** 62.26 295 *eP* P 06 34 05.8 +0.7
comp=Z,10nm,1.0s
U15A **North Rim** 62.48 296 *eP* P 06 34 07.0 +0.3
comp=Z,13nm,1.4s
U15A **North Rim** 62.48 296 *eP* P 06 34 07.0 +0.3
comp=Z,13nm,1.4s
SZCU **Shurtz Canyon** 62.49 298 *eP* P 06 34 06.8 +0.1
comp=Z,16nm,1.5s
SZCU **Shurtz Canyon** 62.49 298 *eP* P 06 34 06.8 +0.1
comp=Z,16nm,1.5s
KNB **Kanab** 62.57 297 *eP* P 06 34 07.0 -0.2
KNB pmax pmax
comp=Z,20nm,1.6s
KNB **Kanab** 62.57 297 *eP* P 06 34 06.9 -0.2
comp=Z,20nm,1.6s
KNB **Kanab** 62.57 297 *eP* P 06 34 07.0 -0.2
comp=Z,20nm,1.6s
HAWA **Hanford** 62.66 309 *eP* P 06 34 08.1 +0.7
comp=Z,4.2nm,0.9s
HAWA **Hanford** 62.66 309 *eP* P 06 34 08.1 +0.7
comp=Z,4.2nm,0.9s
CCUT **Cedar City** 62.70 298 *eP* P 06 34 08.5 +0.4
comp=Z,5.4nm,0.9s
CCUT **Cedar City** 62.70 298 *eP* P 06 34 08.5 +0.4
comp=Z,5.4nm,0.9s
X16A **Lo Mia Camp, P** 62.83 294 *eP* P 06 34 10.1 +1.1
comp=Z,7.1nm,1.0s
X16A **Lo Mia Camp, P** 62.83 294 *eP* P 06 34 10.1 +1.1
comp=Z,7.1nm,1.0s
LTY **Liberty** 62.96 310 *eP* P 06 34 08.0 -1.5
comp=Z,11nm,1.0s
LTY **Liberty** 62.96 310 *eP* P 06 34 08.0 -1.5
comp=Z,11nm,1.0s
ABKAR **Akbulak array** 63.13 47 *eP* P 06 34 11.4 +0.9
comp=Z,28nm,1.0s
ABKAR **Akbulak array** 63.13 47 *eP* P 06 34 11.4 +0.9
comp=Z,28nm,1.0s
TUC **Tucson** 63.38 291 P P 06 34 11.7 -0.9
baz=60
TUC **Tucson** 63.38 291 *eP* P 06 34 13.2 +0.7
TUC pmax pmax
comp=Z,15nm,1.8s
TUC **Tucson** 63.38 291 *eP* P 06 34 13.2 +0.7
comp=Z,15nm,1.8s
TUC **Tucson** 63.38 291 *eP* P 06 34 13.2 +0.7
comp=Z,15nm,1.8s
DAWY **Dawson** 63.73 332 *eP* P 06 34 14.7 +0.4
comp=Z,18nm,1.1s
DAWY **Dawson** 63.73 332 *eP* P 06 34 14.7 +0.4
comp=Z,18nm,1.1s
R11A **Troy Canyon, C** 63.86 299 P P 06 34 15.0 -0.7
baz=61
R11A **Troy Canyon, C** 63.86 299 *eP* P 06 34 15.2 -0.5
comp=Z,2.7nm,0.9s
R11A **Troy Canyon, C** 63.86 299 *eP* P 06 34 15.2 -0.5
comp=Z,2.7nm,0.9s
WVOR **Wild Horse Val** 63.95 305 *eP* P 06 34 16.5 +0.3
WVOR pmax pmax
comp=Z,15nm,1.3s
WVOR **Wild Horse Val** 63.95 305 *eP* P 06 34 16.5 +0.3
comp=Z,15nm,1.3s
WVOR **Wild Horse Val** 63.95 305 *eP* P 06 34 16.5 +0.3
comp=Z,15nm,1.3s
BMN **Battle Mountai** 63.97 302 *eP* P 06 34 16.4 0.0
BMN pmax pmax
comp=Z,3.0nm,0.7s
BMN **Battle Mountai** 63.97 302 *eP* P 06 34 16.4 0.0
comp=Z,3.1nm,0.7s
BMN **Battle Mountai** 63.97 302 *eP* P 06 34 16.4 0.0
comp=Z,3.1nm,0.7s
NRIK **Noril'sk** 64.04 20 P P 06 34 16.4 +0.3
comp=Z,4.2nm,0.8s,baz=20,slow=1.9,SNR=5.6
LPAZ **La Paz** 64.12 220 P P 06 34 17.4 -0.7
comp=Z,4.3nm,0.9s,baz=12,slow=5.6,SNR=15
LPAZ LR LR 06 58 46.0
comp=Z,215nm,21.1s,baz=19,slow=33
LPAZ **La Paz** 64.12 220 *eP* P 06 34 18.2 +0.1
LPAZ **La Paz** 64.12 220 *eP* P 06 34 18.1 +0.1
comp=Z,45nm,1.8s
LPAZ **La Paz** 64.12 220 *eP* P 06 34 18.1 +0.1
comp=Z,45nm,1.8s
Y14A **Wickenburg** 64.19 294 *eP* P 06 34 18.5 +0.7
comp=Z,30nm,1.0s
Y14A **Wickenburg** 64.19 294 *eP* P 06 34 18.5 +0.7
comp=Z,30nm,1.0s
W13A **Hualapai Mount** 64.25 295 *eP* P 06 34 19.0 +0.6
comp=Z,5.7nm,1.3s
W13A **Hualapai Mount** 64.25 295 *eP* P 06 34 19.0 +0.6
comp=Z,5.7nm,1.3s
FYU **Fort Yukon** 64.31 336 *eP* P 06 34 18.7 +0.8
comp=Z,81nm,1.6s
FYU **Fort Yukon** 64.31 336 *eP* P 06 34 18.7 +0.8
comp=Z,81nm,1.6s
G05D **Wamic, OR** 64.31 308 P P 06 34 17.9 -0.4
baz=61
TOLK **Toolik Lake Re** 64.33 339 P P 06 34 17.6 -0.5
baz=51
SHPR **Sheep Range** 64.46 297 *eP* P 06 34 20.1 +0.4
comp=Z,16nm,1.7s
SHPR **Sheep Range** 64.46 297 *eP* P 06 34 20.1 +0.4
comp=Z,16nm,1.7s
I05D **Terrebonne, OR** 64.76 308 P P 06 34 21.1 -0.2
baz=61
PDMCI **Parker Dam,Lak** 64.83 295 P P 06 34 22.0 +0.1
baz=60
TPNV **Topopah Spring** 65.01 298 P P 06 34 23.2 0.0
baz=60
TPNV **Topopah Spring** 65.01 298 *eP* P 06 34 23.7 +0.5
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV **Topopah Spring** 65.01 298 *eP* P 06 34 23.7 +0.5
comp=Z,4.2nm,0.8s
TPNV **Topopah Spring** 65.01 298 *eP* P 06 34 23.7 +0.5
comp=Z,4.2nm,0.8s
E03A **Lebam** 65.04 310 *eP* P 06 34 22.8 -0.2
comp=Z,20nm,0.9s
E03A **Lebam** 65.04 310 *eP* P 06 34 22.8 -0.2
comp=Z,20nm,0.9s
214A **Organ Pipe Nat** 65.05 292 P P 06 34 22.7 -0.6
baz=59
J05D **Fort Rock, OR** 65.21 306 P P 06 34 24.7 +0.3
baz=60
MOD **Modoc Plateau** 65.29 305 *eP* P 06 34 24.4 -0.5
comp=Z,9.8nm,0.9s
MOD **Modoc Plateau** 65.29 305 *eP* P 06 34 24.4 -0.5
comp=Z,9.8nm,0.9s
113A **Mohawk Valley,** 65.33 293 *eP* P 06 34 25.7 +0.5
comp=Z,12nm,1.4s
Y12C **Blythe** 65.38 294 P P 06 34 26.0 +0.5
baz=60
Y12C **Blythe** 65.38 294 *eP* P 06 34 26.0 +0.5
comp=Z,7.5nm,1.1s
Y12C **Blythe** 65.38 294 *eP* P 06 34 26.0 +0.5
comp=Z,7.5nm,1.1s
COLD **Coldfoot** 65.42 338 *eP* P 06 34 25.6 +0.4
comp=Z,9.1nm,1.0s
COLD **Coldfoot** 65.42 338 *eP* P 06 34 25.6 +0.4
comp=Z,9.1nm,1.0s
G03D **McMinnville, O** 65.52 309 P P 06 34 26.4 +0.2
baz=60
TUQ **Turquoise Moun** 65.53 297 P P 06 34 25.8 -0.8
baz=60
SHOC **Shoshone, Teco** 65.55 297 P P 06 34 26.6 +0.1
baz=60
IRM **Iron Mountain** 65.62 295 P P 06 34 27.4 +0.3
baz=60
GMRC **Granite Mounta** 65.67 296 P P 06 34 27.5 -0.1
baz=60
FURC **Furnace Creek,** 65.67 298 P P 06 34 27.4 +0.1
baz=60
GRAC **Grapevine Rang** 65.76 299 P P 06 34 27.5 -0.4
baz=60
PAHR **Pah Rah Range** 65.77 302 *eP* P 06 34 28.4 +0.3
comp=Z,5.4nm,1.0s
PAHR **Pah Rah Range** 65.77 302 *eP* P 06 34 28.4 +0.3
comp=Z,5.4nm,1.0s
J04D **Umpqua Nationa** 65.78 307 P P 06 34 27.6 -0.6
baz=60
K04D **Chiloquin, OR** 65.86 306 P P 06 34 28.2 -0.4
baz=60
IL1 **Eielson Array** 65.95 335 *eP* P 06 34 28.2 -0.4
IL1 **Eielson Array** 65.95 335 *eP* P 06 34 28.2 -0.4
ILAR **Eielson Array** 65.95 335 P P 06 34 28.2 -0.4
comp=Z,2.2nm,0.9s,baz=48,slow=5.8,SNR=22
ILAR LR LR 07 00 45.8
comp=Z,368nm,18.7s,baz=84,slow=34
ILB **Eielson Array** 65.95 335 *eP* P 06 34 28.5 -0.2
ILB **Eielson Array** 65.95 335 *eP* P 06 34 28.4 -0.2
GLA **Glamis** 65.95 294 P P 06 34 28.3 -1.0
baz=59
MENT **Mentasta** 65.97 332 *eP* P 06 34 28.6 -0.2
comp=Z,13nm,1.0s
MENT **Mentasta** 65.97 332 *eP* P 06 34 28.6 -0.2
comp=Z,13nm,1.0s
TVH2 **Borealis Mine** 66.02 301 *eP* P 06 34 29.9 +0.1
comp=Z,3.0nm,0.9s
TVH2 **Borealis Mine** 66.02 301 *eP* P 06 34 29.9 +0.1
comp=Z,3.0nm,0.9s
BC3 **Big Chuckawall** 66.10 295 P P 06 34 30.4 +0.1
baz=59
HEC **Hector,Ludlow** 66.13 296 P P 06 34 30.6 +0.2
baz=59
HDA **Harding Lake** 66.20 335 *eP* P 06 34 30.2 -0.1
comp=Z,9.0nm,0.8s
HDA **Harding Lake** 66.20 335 *eP* P 06 34 30.2 -0.1
comp=Z,9.0nm,0.8s
GSC **Goldstone, Bar** 66.22 297 P P 06 34 31.5 +0.5
baz=59
GSC **Goldstone, Bar** 66.22 297 *eP* P 06 34 31.4 +0.4
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC **Goldstone, Bar** 66.22 297 *eP* P 06 34 31.4 +0.4
comp=Z,7.8nm,1.1s
GSC **Goldstone, Bar** 66.22 297 *eP* P 06 34 31.4 +0.4
comp=Z,7.8nm,1.1s
PNTR **Pine Nut** 66.23 302 *eP* P 06 34 30.9 -0.3
comp=Z,21nm,1.8s
PNTR **Pine Nut** 66.23 302 *eP* P 06 34 30.9 -0.3
comp=Z,21nm,1.8s
MDM **Murphy Dome** 66.28 336 *eP* P 06 34 31.0 +0.3
comp=Z,14nm,1.2s
MDM **Murphy Dome** 66.28 336 *eP* P 06 34 31.0 +0.3
comp=Z,14nm,1.2s
BELC **Belle Mtn. Jos** 66.31 295 P P 06 34 31.7 +0.1
baz=59
MPMC **Manual Prospec** 66.32 298 P P 06 34 31.6 -0.1
baz=59
I03D **Drain, OR** 66.33 308 P P 06 34 31.6 +0.2
baz=60
CCB **Clear Creek Bu** 66.34 335 *eP* P 06 34 30.5 -0.6
comp=Z,12nm,1.0s
CCB **Clear Creek Bu** 66.34 335 *eP* P 06 34 30.5 -0.6
comp=Z,12nm,1.0s
BEKR **Beckworth** 66.34 303 *eP* P 06 34 31.4 -0.4
comp=Z,10nm,1.0s
BEKR **Beckworth** 66.34 303 *eP* P 06 34 31.4 -0.4
comp=Z,10nm,1.0s
M04C **Macdoel** 66.34 305 P P 06 34 31.7 -0.1
baz=60
MLAC **Mammoth, Mammo** 66.45 300 P P 06 34 32.5 -0.2
baz=59
CWC **Cottonwood Cre** 66.53 299 P P 06 34 33.1 0.0
baz=59
WRH **Wood River Hil** 66.54 335 *eP* P 06 34 32.4 0.0
comp=Z,20nm,1.0s
WRH **Wood River Hil** 66.54 335 *eP* P 06 34 32.4 0.0
comp=Z,20nm,1.0s
PAX **Paxson** 66.58 333 *eP* P 06 34 33.2 +0.3
PAX pmax pmax
comp=Z,13nm,1.1s
PAX **Paxson** 66.58 333 *eP* P 06 34 33.2 +0.3
comp=Z,13nm,1.1s
PAX **Paxson** 66.58 333 *eP* P 06 34 33.1 +0.3
comp=Z,13nm,1.1s
BALM **Baldy** 66.59 330 *eP* P 06 34 33.2 +0.2
BALM pmax pmax
comp=Z,23nm,1.0s
BALM **Baldy** 66.59 330 *eP* P 06 34 33.2 +0.2
comp=Z,23nm,1.0s
BALM **Baldy** 66.59 330 *eP* P 06 34 33.2 +0.2
comp=Z,23nm,1.0s
SWSC **Sam W. Stewart** 66.71 294 P P 06 34 33.8 -0.2
baz=59
LRMC **Laurel Mtn Rad** 66.75 298 P P 06 34 34.1 -0.3
baz=59
PFO **Pinyon Flats O** 66.84 295 P P 06 34 35.2 +0.2
comp=Z,2.8nm,0.9s,baz=80,slow=6.1,SNR=3.6
PFO **Pinyon Flats O** 66.84 295 P P 06 34 35.1 +0.1
baz=59
PFO **Pinyon Flats O** 66.84 295 *eP* P 06 34 35.3 +0.2
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO **Pinyon Flats O** 66.84 295 *eP* P 06 34 35.2 +0.2
comp=Z,10nm,1.3s
PFO **Pinyon Flats O** 66.84 295 *eP* P 06 34 35.2 +0.2
comp=Z,10nm,1.3s
BRVK **Borovoye** 66.86 40⇑ *iP* P 06 34 35.9 +1.3
BRVK pmax pmax

comp=Z,25nm,1.7s
BVAR Borovoye Array 66.93 40 P **P 06 34 35.5 +0.4**
comp=Z,1.2nm,0.7s,baz=278,slow=4.3,SNR=8.9
MLY Manley 67.04 336 *eP* **P 06 34 35.7 +0.1**
comp=Z,15nm,1.2s
MLY Manley 67.04 336 *eP* **P 06 34 35.7 +0.1**
comp=Z,15nm,1.2s
O03D Paynes Creek 67.08 304 P **P 06 34 36.0 -0.4**
baz=59
MONP2 Monument Peak 67.19 295 P **P 06 34 37.2 -0.1**
baz=59
M02C Callahan 67.20 305 P **P 06 34 36.3 -0.8**
baz=59
AFDM Forest Hills D 67.22 302 *eP* **P 06 34 36.9 -0.4**
comp=Z,3.7nm,1.0s
AFDM Forest Hills D 67.22 302 *eP* **P 06 34 36.9 -0.4**
comp=Z,3.7nm,1.0s
ORV Oroville 67.26 303 *eP* **P 06 34 37.3 -0.1**
ORV pmax pmax
comp=Z,5.0nm,0.9s
ORV Oroville 67.26 303 *eP* **P 06 34 37.3 -0.1**
comp=Z,5.0nm,0.9s
ORV Oroville 67.26 303 *eP* **P 06 34 37.3 -0.1**
comp=Z,5.0nm,0.9s
L02D Cave Junction, 67.28 306 P **P 06 34 36.6 -1.0**
baz=59
CMB Columbia Colle 67.30 301 *eP* **P 06 34 38.3 +0.5**
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 67.30 301 *eP* **P 06 34 38.3 +0.5**
comp=Z,6.0nm,0.8s
CMB Columbia Colle 67.30 301 *eP* **P 06 34 38.3 +0.5**
comp=Z,6.0nm,0.8s
MCK McKinley 67.31 335 *eP* **P 06 34 37.5 +0.2**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 67.31 335 *eP* **P 06 34 37.5 +0.2**
comp=Z,13nm,1.0s
MCK McKinley 67.31 335 *eP* **P 06 34 37.5 +0.2**
comp=Z,13nm,1.0s
N02D Trinity Center 67.32 305 P **P 06 34 36.6 -1.3**
baz=59
MURC Murrieta 67.37 296 P **P 06 34 36.9 -1.3**
baz=58
BMRM Bremner River 67.51 331 *eP* **P 06 34 38.8 +0.1**
comp=Z,25nm,1.0s
BMRM Bremner River 67.51 331 *eP* **P 06 34 38.9 +0.1**
comp=Z,25nm,1.0s
VES Vestal, Richgr 67.54 299 P **P 06 34 39.2 -0.1**
baz=59
GEYT Alibeck 67.56 59 P **P 06 34 40.2 +0.8**
comp=Z,4.2nm,0.7s,baz=270,slow=7.4,SNR=5.8
BPAW Bear Paw Mtn. 67.74 336 *eP* **P 06 34 39.8 -0.3**
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 67.74 336 *eP* **P 06 34 39.8 -0.3**
comp=Z,13nm,1.1s
TRF Thorofare Moun 67.95 335 *eP* **P 06 34 41.3 -0.3**
comp=Z,21nm,1.2s
TRF Thorofare Moun 67.95 335 *eP* **P 06 34 41.3 -0.3**
comp=Z,21nm,1.2s
CIS Catalina Islan 68.34 296 P **P 06 34 43.0 -1.4**
baz=58
KMRM Mail Ridge 68.36 305 *eP* **P 06 34 45.2 +0.8**
comp=Z,21nm,1.1s
KMRM Mail Ridge 68.36 305 *eP* **P 06 34 45.2 +0.8**
comp=Z,21nm,1.1s
BLG Laguna Peak, P 68.43 297 P **P 06 34 43.8 -1.1**
baz=58
CPUP Villa Florida 68.49 205 LR LR 07 00 46.1
comp=Z,79nm,21.8s,baz=27,slow=32
PMPB Monarch Peak 68.53 300 *eP* **P 06 34 46.2 +0.6**
comp=Z,18nm,0.9s
PMPB Monarch Peak 68.53 300 *eP* **P 06 34 46.1 +0.6**
comp=Z,18nm,0.9s
HOPS Hopland Field 68.59 303 *eP* **P 06 34 46.0 +0.2**
comp=Z,24nm,1.1s
HOPS Hopland Field 68.59 303 *eP* **P 06 34 46.0 +0.2**
comp=Z,24nm,1.1s
PMR Palmer 68.78 333 *eP* **P 06 34 46.7 +0.1**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 68.78 333 *eP* **P 06 34 46.7 +0.1**
comp=Z,17nm,1.0s
PMR Palmer 68.78 333 *eP* **P 06 34 46.7 +0.1**
comp=Z,17nm,1.0s
GATR Gnd/Air Tx Cnt 69.20 298 *eP* **P 06 34 50.5 +0.7**
GATR Gnd/Air Tx Cnt 69.20 298 *eP* **P 06 34 50.5 +0.7**
TIXI Tiksi 69.76 7 ⇑/*P* **P 06 34 53.6 +1.1**
TIXI pmax pmax
comp=Z,18nm,2.5s
TIXI Tiksi 69.76 7 *eP* **P 06 34 53.1 +0.6**
comp=Z,7.5nm,0.5s
TIXI Tiksi 69.76 7 *eP* **P 06 34 53.1 +0.6**
comp=Z,7.5nm,0.5s
SPU Mount Spurr 70.10 334 *eP* **P 06 34 54.5 -0.3**
SPU Mount Spurr 70.10 334 *eP* **P 06 34 54.5 -0.3**
SVW2 Sparrevohn 71.37 335 *eP* **P 06 35 02.6 +0.1**
comp=Z,19nm,1.2s
SVW2 Sparrevohn 71.37 335 *eP* **P 06 35 02.6 +0.1**
comp=Z,19nm,1.2s
NVS Novosibirsk 71.92 34 *eP* **P 06 35 05.7 -0.2**
KURK Kurchatov 72.42 39 *ceP* **P 06 35 09.2 +0.3**
KURK pmax pmax
comp=Z,36nm,1.7s
KURK Kurchatov 72.42 39 *eP* **P 06 35 09.5 +0.6**
KURK Kurchatov 72.42 39 *eP* **P 06 35 09.1 +0.1**
KURK *eP* **P 06 35 09.5 +0.6**
KURBB Kurchatov Arra 72.43 39 P **P 06 35 09.1 0.0**
comp=Z,3.4nm,0.9s,baz=313,slow=6.2,SNR=25
ZAA1 Zalesovo Array 73.21 34 *eP* **P 06 35 13.9 +0.3**
ZAA1 Zalesovo Array 73.21 34 *eP* **P 06 35 13.8 +0.3**
ZAA0 Zalesovo Array 73.21 34 *eP* **P 06 35 14.0 +0.4**
ZAA0 Zalesovo Array 73.21 34 *eP* **P 06 35 14.0 +0.4**
ZALV Zalesovo Beam 73.21 34 P **P 06 35 13.8 +0.3**
comp=Z,3.0nm,0.3s,baz=308,slow=7.1,SNR=8.2
MAKZ Makanchi 76.64 40 *eP* **P 06 35 34.2 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 76.64 40 *eP* **P 06 35 34.2 +0.6**
comp=Z,4.4nm,1.0s
MAKZ Makanchi 76.64 40 *eP* **P 06 35 34.2 +0.6**
comp=Z,4.4nm,1.0s
MK31 Makanchi Array 76.81 40 *eP* **P 06 35 34.8 +0.2**
MK31 Makanchi Array 76.81 40 *eP* **P 06 35 34.8 +0.2**
MK31 Makanchi Array 76.81 40 *eP* **P 06 35 34.8 +0.2**
MK32 Makanchi Array 76.81 40 *eP* **P 06 35 34.5 -0.1**
MK32 Makanchi Array 76.81 40 *eP* **P 06 35 34.5 -0.1**
MKAR Makanchi Array 76.81 40 P **P 06 35 34.5 -0.1**
comp=Z,7.2nm,0.8s,baz=313,slow=5.8,SNR=19
MKAR LR LR 07 09 18.9
comp=Z,227nm,18.9s,baz=305,slow=36
MKAR Makanchi Array 76.81 40 *eP* **P 06 35 34.8 +0.2**
comp=Z,16nm,0.8s
MKAR Makanchi Array 76.81 40 *eP* **P 06 35 34.8 +0.2**
comp=Z,16nm,0.8s
MK01 Makanchi Array 76.83 40 *eP* **P 06 35 34.7 0.0**
MK01 Makanchi Array 76.83 40 *eP* **P 06 35 34.7 0.0**
KSH Kashi 78.05 49 P **P 06 35 43.4 +1.6**
KSH pP sP 06 35 48.4 -0.5
KSH sP PcP 06 35 50.8 -0.6
KSH PcP pP 06 35 54.3 +7.3
KSH PP **PP 06 38 41.5 +4.0**
KSH S **S 06 45 35.3 +0.1**
KSH sS sS 06 45 42.9 -0.9
KSH SKS **SKSac 06 45 53.3 -2.2**
KSH ScS **ScS 06 46 00.3 -0.7**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,87nm,7.9s
KSH LR LR
comp=Z,110nm,6.2s
KSH LR LR
comp=Z,190nm,8.3s
SEY Seymchan 79.38 358 P **P 06 35 48.0 -0.4**
comp=Z,1.0nm,0.2s,baz=57,slow=10.0,SNR=4.2
WMQ Urumqi 81.62 40 P **P 06 36 02.5 +1.5**
WMQ pP sP 06 36 06.8 -1.3
WMQ sP PcP 06 36 09.4 +2.6
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.5s
WMQ LR LR
comp=Z,160nm,24.1s
WMQ LR LR
comp=Z,150nm,22.9s
WMQ LR LR
comp=Z,160nm,19.3s
PLCA Paso Flores 86.19 209 LR LR 07 12 14.7
comp=Z,89nm,21.0s,baz=44,slow=34
SONA1 Songino Array 86.59 27 *eP* **P 06 36 26.3 0.0**
SONA1 Songino Array 86.59 27 *eP* **P 06 36 26.3 0.0**
SONA0 Songino Array 86.60 27 *eP* **P 06 36 25.9 -0.4**
comp=Z,9.3nm,1.2s
SONA0 Songino Array 86.60 27 *eP* **P 06 36 25.9 -0.4**
comp=Z,9.3nm,1.2s
SONM Songino Array 86.60 27 P **P 06 36 25.9 -0.4**
comp=Z,3.1nm,0.9s,baz=315,slow=4.8,SNR=13
ULN Ulaanbaatar 86.81 27 ⇑/*P* **P 06 36 27.8 +0.4**
ULN pmax pmax
comp=Z,13nm,1.7s
ULN Ulaanbaatar 86.81 27 *eP* **P 06 36 28.0 +0.6**
comp=Z,8.7nm,1.1s
ULN Ulaanbaatar 86.81 27 *eP* **P 06 36 28.0 +0.6**
comp=Z,8.7nm,1.1s
PETK Petropavlovsk- 88.94 355 LR LR 07 18 01.0
comp=Z,96nm,18.1s,baz=73,slow=37
HHC Hu-ho-hao-te 94.50 27 *eP* **P 06 37 02.0 -1.4**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.4s
YSS Yuzh-Sakhalins 95.27 4 *eP* **P 06 37 09.4 +2.8**
YSS pmax pmax
comp=Z,28nm,1.2s
LZH Lanzhou 95.40 35 *eP* **P 06 37 07.3 -0.4**
LZH pP pP 06 37 12.4 -0.6
LZH sP sP 06 37 14.8 -0.1
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.3s
MDJ Mudanjiang 95.98 14 P **P 06 37 08.5 -1.4**
MDJ PP **PP 06 41 03.0 +1.8**
MDJ S **S 06 48 23.8 -4.0**
MDJ pmax pmax
comp=Z,6.0nm,0.5s
MDJ pmax pmax
comp=Z,48nm,4.5s
MDJ LR LR
comp=Z,63nm,22.5s
MDJ LR LR
comp=Z,71nm,30.5s
BJI Beijing 96.81 25 P **P 06 37 12.3 -1.5**
BJI pmax pmax
comp=Z,5.0nm,0.9s
QSPA South Pole Qui 127.88 180 *eP*KIKP **PKPdf 06 42 50.0 +2.4**
QSPA South Pole Qui 127.88 180 *eP*KPdf **PKPdf 06 42 50.0 +2.4**
VNDA Vanda 139.97 184 PKP **PKPdf 06 43 11.2 +1.3**
comp=Z,1.1nm,1.0s,baz=206,slow=2.6,SNR=3.7

*ISK **19** 06:24:15.8, 37°.17N×31°.76E, h5km, MD2.9*
*CSEM **19** 06:24:17.9±0.2, 37°.24N×31°.86E, h2km, MD2.9, Error ellipse: s-maj=6.6km s-min=5.3km az=45.0*
*DDA **19** 06:24:17.4, 37°.21N×31°.79E, h11km, Md3.0*
ISC 19 06:24:17.1±1.2, 37°.17N±0°.02×31°.75E±0°.02, h4km±11km, n41, σ1°01/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.67**	**297**	*e*PG	**Pg**	**06 24 30.0**	**0.0**
SUTC	**Sutluce-Ispart**	**0.67**	**297**	*e*Pg	**Pg**	**06 24 30.0**	**0.0**
KMER	**Konya-Meram**	**0.77**	**39**	*i* P	**Pg**	**06 24 30.8**	**-1.1**
KMER				*i* S	**Sg**	**06 24 41.0**	**-0.9**
KMER	**Konya-Meram**	**0.77**	**39**	P	**Pg**	**06 24 30.8**	**-1.1**
KMER				S	**Sg**	**06 24 41.0**	**-0.9**
KONT	**Konya--Tatoy**	**0.91**	**32**	*e*PG	**Pg**	**06 24 34.0**	**-0.6**
KONT				*e*SG	**Sb**	**06 24 47.9**	**-0.2**
KONT	**Konya--Tatoy**	**0.91**	**32**	*i* P	**Pg**	**06 24 34.0**	**-0.6**
KONT				*i* S	**Sb**	**06 24 47.4**	**-0.7**
KONT	**Konya--Tatoy**	**0.91**	**32**	*e*Pg	**Pg**	**06 24 34.1**	**-0.6**
KONT				*e*Sg	**Sb**	**06 24 47.9**	**-0.2**
DOGA	**KONYA_Doganhis**	**0.94**	**356**	*i* P	**Pg**	**06 24 34.4**	**-0.7**
DOGA				*i* S	**Sg**	**06 24 47.3**	**+0.1**
DOGA	**KONYA_Doganhis**	**0.94**	**356**	P	**Pg**	**06 24 34.4**	**-0.7**
ERMK	**Ermenek**	**1.07**	**119**	*i* P	**Pg**	**06 24 37.1**	**-0.5**
ERMK				*i* S	**Sn**	**06 24 53.6**	**-1.0**
ERMK	**Ermenek**	**1.07**	**119**	P	**Pg**	**06 24 37.1**	**-0.5**
ERMK				S	**Sn**	**06 24 53.6**	**-1.0**
BAGO	**Egridir - ISPA**	**1.12**	**317**	*i* P	**Pg**	**06 24 39.0**	**+0.4**
BAGO				*i* S	**Sb**	**06 24 54.5**	**+0.3**
KORT	**Korkueli**	**1.13**	**262**	*i* P	**Pg**	**06 24 35.0**	**-3.9**
KORT				*i* S	**Sb**	**06 24 56.1**	**+1.5**
KORT	**Korkueli**	**1.13**	**262**	P	**Pg**	**06 24 35.0**	**-3.9**
LADK	**Ladik-KONYA**	**1.14**	**25**	*e*PN	**Pg**	**06 24 38.6**	**-0.3**
LADK				*e*SN	**Sn**	**06 24 55.2**	**-0.8**
LADK	**Ladik-KONYA**	**1.14**	**25**	*e*Pn	**Pg**	**06 24 38.6**	**-0.3**
LADK				*e*Sn	**Sn**	**06 24 55.3**	**-0.8**
KDHN	**Kadinhani**	**1.38**	**12**	*i* P	**Pn**	**06 24 42.8**	**-0.5**
KDHN	**Kadinhani**	**1.38**	**12**	P	**Pn**	**06 24 42.8**	**-0.5**
BERE	**Bereket-Mersin**	**1.44**	**124**	*e*PN	**Pn**	**06 24 43.5**	**-0.6**
BERE	**Bereket-Mersin**	**1.44**	**124**	*e*Pn	**Pn**	**06 24 43.6**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.50**	**133**	*e*PN	**Pn**	**06 24 44.6**	**-0.3**
TEKE				*e*SN	**Sg**	**06 25 05.8**	**+0.5**
TEKE	**Tekeli-Mersin**	**1.50**	**133**	*e*Pn	**Pn**	**06 24 44.6**	**-0.3**
TEKE				*e*Sn	**Sg**	**06 25 05.8**	**+0.5**
BOLV	**Bolvadin**	**1.67**	**338**	*i* P	**Pg**	**06 24 49.4**	**+0.3**
BOLV				*i* S	**Sg**	**06 25 10.5**	**-0.3**
BOLV	**Bolvadin**	**1.67**	**338**	P	**Pg**	**06 24 49.4**	**+0.3**
BOLV				S	**Sg**	**06 25 10.5**	**-0.3**
CHBY	**Cihanbeyli**	**1.67**	**32**	*e*PN	**Pn**	**06 24 47.2**	**-0.2**
CHBY	**Cihanbeyli**	**1.67**	**32**	*e*Pn	**Pn**	**06 24 47.2**	**-0.2**
KEBE	**Keben-Mersin**	**1.73**	**114**	*e*PN	**Pn**	**06 24 48.5**	**+0.4**
KEBE	**Keben-Mersin**	**1.73**	**114**	*e*Pn	**Pn**	**06 24 48.5**	**+0.4**
GOLH	**Golhisar**	**1.75**	**273**	*i* P	**Pg**	**06 24 51.2**	**+0.5**
GOLH	**Golhisar**	**1.75**	**273**	P	**Pg**	**06 24 51.2**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.76**	**124**	*e*PN	**Pn**	**06 24 49.0**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.76**	**124**	*e*Pn	**Pn**	**06 24 49.1**	**+0.6**
IKL	**Isikli**	**1.81**	**120**	*e*PN	**Pn**	**06 24 49.5**	**+0.5**
IKL	**Isikli**	**1.81**	**120**	*e*Pn	**Pn**	**06 24 49.6**	**+0.5**
KERG	**Konya-Eregli**	**1.91**	**82**	*i* P	**Pn**	**06 24 50.7**	**+0.1**
KERG				*i* S	**Sg**	**06 25 19.8**	**+1.4**
KERG	**Konya-Eregli**	**1.91**	**82**	P	**Pn**	**06 24 50.7**	**+0.1**
KERG				S	**Sg**	**06 25 19.8**	**+1.4**
AKAS	**Kas**	**1.96**	**242**	*i* P	**Pb**	**06 24 54.5**	**+0.9**
AKAS	**Kas**	**1.96**	**242**	P	**Pb**	**06 24 54.5**	**+0.9**
KHAL	**Karahalli**	**2.15**	**304**	*i* P	**Pn**	**06 24 54.0**	**0.0**
KHAL	**Karahalli**	**2.15**	**304**	P	**Pn**	**06 24 54.0**	**0.0**
FETY	**Fethiye**	**2.21**	**257**	P	**Pb**	**06 24 59.3**	**+1.7**

IDC 19 06:25:38.6±2.6, 17°.19S×179°.06W, h520km±61km, mb3.1/4, mb1 3.4/5, mb1mx3.0/38, mbtmp4.1/5, Error ellipse: s-maj=141.6km s-min=23.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**66**	P	P	06 27 33.0	0.0
	2.5nm,0.3s,baz=267,slow=5.8,SNR=4.6						
STKA	**Stephens Creek**	**38.44**	**240**	P	P	06 32 15.6	0.0
	1.9nm,0.5s,baz=91,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**44.16**	**259**	P	P	06 33 00.6	-0.6
	0.6nm,0.6s,baz=95,slow=7.1,SNR=6.4						
ASAR	**Alice Springs**	**44.39**	**254**	P	P	06 33 03.0	0.0
	6.3nm,0.5s,baz=88,slow=8.2,SNR=78						
ILAR	**Eielson Array**	**85.33**	**13**	P	P	06 37 20.0	0.0
	0.3nm,0.8s,baz=221,slow=5.4,SNR=4.5						

*ATH **19** 06:29:32.8, 38°.17N×23°.58E, h14km±5km, ML1.2/2, Error ellipse: s-maj=5.9km s-min=1.1km az=353.0*
*CSEM **19** 06:29:32.7±0.1, 38°.14N×23°.59E, h12km, ML1.2, Error ellipse: s-maj=2.5km s-min=1.8km az=4.0*
THE 19 06:29:33.1, 38°.14N×23°.59E, h14km±1km, ML1.5/7, Error ellipse: s-maj=1.8km s-min=0.3km az=177.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILL	**Villia**	**0.22**	**277**	P	Pg	06 29 37.7	-0.3
VILL				S	Sg	06 29 41.9	+0.5
VILL	**Villia**	**0.22**	**277**	P	Pg	06 29 37.7	-0.3
VILL				S	Sg	06 29 41.9	+0.5
ATHU	**Athens Univers**	**0.23**	**138**	P	Pg	06 29 37.9	-0.1
ATHU				S	Sg	06 29 41.6	+0.2
ATHU	**Athens Univers**	**0.23**	**138**	P	Pg	06 29 37.9	-0.1
ATHU				S	Sg	06 29 41.6	+0.2
VIL2	**Platees**	**0.27**	**287**	P	Pg	06 29 37.7	-1.1
VIL2				S	Sg	06 29 40.9	-1.7
VLY	**Voula,Athens**	**0.32**	**151**	P	Pg	06 29 39.4	-0.4
VLY	**Voula,Athens**	**0.32**	**151**	P	Pg	06 29 39.4	-0.3
EREA	**Eretria**	**0.39**	**43**	P	Pg	06 29 41.0	+0.1
EREA				S	Sg	06 29 46.7	+0.5
EREA	**Eretria**	**0.39**	**43**	P	Pg	06 29 40.6	-0.3
EREA				S	Sg	06 29 46.1	-0.2
EREA				AML	AML	06 29 53.0	
	comp=N,89μm,0.2s						
EREA				AML	AML	06 29 53.1	
	comp=E,77μm,0.2s						
EREA	**Eretria**	**0.39**	**43**	P	Pg	06 29 40.6	-0.3
EREA				S	Sg	06 29 46.1	-0.1
LTK	**Loutraki**	**0.51**	**257**	P	Pg	06 29 43.1	0.0
LTK				S	Sb	06 29 50.6	-0.5
LTK	**Loutraki**	**0.51**	**257**	P	Pg	06 29 43.0	-0.1
LTK				S	Sg	06 29 49.6	-0.3
LTK	**Loutraki**	**0.51**	**257**	P	Pg	06 29 43.0	-0.1
LTK				S	Sg	06 29 49.6	-0.3
LOUT	**Loutraki**	**0.51**	**253**	P	Pg	06 29 42.8	-0.3
LOUT	**Loutraki**	**0.51**	**253**	P	Pg	06 29 42.8	-0.4
PROD	**Prodromos**	**0.56**	**283**	P	Pg	06 29 43.7	-0.4
PROD	**Prodromos**	**0.56**	**283**	P	Pg	06 29 43.7	-0.4
KARY	**Karystos**	**0.67**	**99**	P	Pg	06 29 46.0	-0.2
KARY				S	Sb	06 29 55.9	0.0
KARY	**Karystos**	**0.67**	**99**	P	Pg	06 29 46.0	-0.2
KARY	**Karystos**	**0.67**	**99**	P	Pg	06 29 46.0	-0.2
KARY				S	Sb	06 29 55.9	0.0
DID	**Didima**	**0.69**	**204**	P	Pg	06 29 46.5	0.0
DID				S	Sb	06 29 56.1	-0.3
DID	**Didima**	**0.69**	**204**	P	Pb	06 29 47.3	+0.3
DID				S	Sb	06 29 57.2	+0.8
DID				AML	AML	06 29 58.7	
	comp=N,36μm,0.5s						
DID				AML	AML	06 30 00.6	
	comp=E,52μm,0.4s						
DID	**Didima**	**0.69**	**204**	P	Pg	06 29 46.5	0.0
DID				S	Sb	06 29 56.1	-0.3
LKR	**Lokris**	**0.69**	**318**	P	Pg	06 29 46.1	-0.5
LKR				S	Sb	06 29 56.3	-0.2
LKR	**Lokris**	**0.69**	**318**	P	Pg	06 29 44.9	-1.7
LKR	**Lokris**	**0.69**	**318**	P	Pg	06 29 46.1	-0.5
LKR				S	Sb	06 29 56.3	-0.2
DSF	**Desfina**	**0.88**	**288**	P	Pg	06 29 49.6	-0.6
DSF	**Desfina**	**0.88**	**288**	P	Pg	06 29 49.6	-0.6
GUR	**Goura**	**1.01**	**259**	P	Pb	06 29 51.4	-1.0
GUR	**Goura**	**1.01**	**259**	P	Pb	06 29 51.4	-1.0

*IDC **19** 06:35:15.8±5.0, 6°.58S×130°.38E, h42km±44km, mb3.7/5, mb1 4.0/7, mb1mx3.7/32, mbtmp4.0/7, ML4.2/2, Error ellipse: s-maj=71.0km s-min=18.4km az=65.0*
ISC 19 06:35:20.8±1.4, 6°.8S±0°.3×130°.3E±0°.5, h90km, n9, σ1°33/9, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.68**	**164**	P	**Pn**	**06 38 28.9**	**-2.2**
	1.3nm,0.3s,baz=347,slow=13,SNR=21						
WRA				S	Sn	06 40 49.7	-12
	2.5nm,0.3s,baz=344,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.17**	**169**	P	**P**	**06 39 15.5**	**+0.1**
	0.9nm,0.3s,baz=346,slow=8.8,SNR=34						
ASAR				S	Sn	06 42 09.4	-17
	0.2nm,0.3s,baz=340,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**27.13**	**159**	P	**P**	**06 40 55.9**	**+0.4**
	1.5nm,0.3s,baz=132,slow=8.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**39.82**	**309**	P	**P**	**06 42 44.5**	**-1.0**
	0.8nm,0.3s,baz=132,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**06 46 11.3**	**-0.3**
	1.2nm,0.7s,baz=118,slow=7.7,SNR=9.9						
KURBB	**Kurchatov Arra**	**72.47**	**328**	P	**P**	**06 46 37.1**	**-0.4**
	baz=131,slow=5.1						
VNDA	**Vanda**	**72.66**	**173**	P	**P**	**06 46 39.5**	**+1.2**
	0.3nm,0.5s,baz=314,slow=4.6,SNR=4.0						
MAW	**Mawson**	**75.31**	**201**	P	**P**	**06 46 55.2**	**+1.5**
	0.8nm,0.6s,baz=68,slow=11,SNR=3.6						
LPAZ	**La Paz**	**150.72**	**142**	PKPbc	**PKPbc**	**06 55 05.3**	**+0.9**
	1.0nm,0.3s,baz=304,slow=2.9,SNR=21						

*CSEM **19** 06:37:04.5, 42°.54N×13°.17E, h11km, MD2.0/6*
ROM 19 06:37:04.5±0.1, 42°.54N×13°.17E, h11km±1km, Md2.0/6, Ml1.5/2, Error ellipse: s-maj=1.5km s-min=1.5km az=150.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**302**	Pg	Pg	06 37 07.8	+0.3
LNSS				Sg	Sg	06 37 10.1	+0.4
LNSS	**Leonessa**	**0.11**	**302**	Pg	Pg	06 37 07.8	+0.3
LNSS				Sg	Sg	06 37 10.1	+0.4
SMA1	**SAN MARTINO**	**0.15**	**54**	Pg	Pg	06 37 08.6	+0.6
SMA1				Sg	Sg	06 37 11.5	+0.9
SMA1	**SAN MARTINO**	**0.15**	**54**	Pg	Pg	06 37 08.6	+0.6
SMA1				Sg	Sg	06 37 11.5	+0.9
T0104	**Madonna delle**	**0.22**	**146**	Pg	Pb	06 37 10.4	-0.2
T0104				Sg	Sg	06 37 13.8	+1.5
FIAM	**Fiamignano**	**0.28**	**188**	Pg	Pg	06 37 10.7	+0.5
FIAM				Sg	Sg	06 37 14.9	+0.9
	72nm,0.3s						
FIAM	**Fiamignano**	**0.28**	**188**	Pg	Pg	06 37 10.7	+0.5
FIAM				Sg	Sg	06 37 14.9	+0.9
	72nm,0.3s						
TERO	**Teramo**	**0.33**	**76**	Pg	Pg	06 37 11.3	+0.1
TERO				Sg	Sg	06 37 16.2	+0.6
TERO	**Teramo**	**0.33**	**76**	Pg	Pg	06 37 11.3	+0.1
TERO				Sg	Sg	06 37 16.2	+0.6
FDMO	**Fiordimonte**	**0.50**	**353**	Pg	Pg	06 37 14.4	+0.1
FDMO				Sg	Sb	06 37 22.1	-0.5
	18nm,0.2s						
FDMO	**Fiordimonte**	**0.50**	**353**	Pg	Pg	06 37 14.4	+0.1
FDMO				Sg	Sb	06 37 22.1	-0.5
	18nm,0.2s						

*CSEM **19** 06:37:50.7, 42°.54N×13°.17E, h11km, MD1.9/9*
ROM 19 06:37:50.7±0.1, 42°.54N×13°.17E, h11km, Md1.9/9, Ml1.8/5, Error ellipse: s-maj=1.2km s-min=1.1km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**302**	Pg	Pg	06 37 54.1	+0.4
LNSS				Sg	Sg	06 37 56.3	+0.4
LNSS	**Leonessa**	**0.12**	**302**	Pg	Pg	06 37 54.1	+0.4
LNSS				Sg	Sg	06 37 56.3	+0.4
SMA1	**SAN MARTINO**	**0.15**	**53**	Pg	Pg	06 37 54.8	+0.6
SMA1				Sg	Sg	06 37 57.7	+1.0
SMA1	**SAN MARTINO**	**0.15**	**53**	Pg	Pg	06 37 54.8	+0.6
SMA1				Sg	Sg	06 37 57.7	+1.0
T0104	**Madonna delle**	**0.22**	**146**	Pg	Pb	06 37 56.2	-0.5
T0104				Sg	Sg	06 37 59.7	+1.3
FIAM	**Fiamignano**	**0.28**	**189**	Pg	Pg	06 37 56.8	+0.4
FIAM				Sg	Sg	06 38 01.2	+1.1
	78nm,0.4s						
FIAM	**Fiamignano**	**0.28**	**189**	Pg	Pg	06 37 56.8	+0.4
FIAM				Sg	Sg	06 38 01.2	+1.1
	78nm,0.4s						
TERO	**Teramo**	**0.33**	**75**	Pg	Pg	06 37 57.5	+0.2
TERO				Sg	Sg	06 38 02.5	+0.8
TERO	**Teramo**	**0.33**	**75**	Pg	Pg	06 37 57.5	+0.2
TERO				Sg	Sg	06 38 02.5	+0.8
CESX	**Cesi**	**0.44**	**279**	Pg	Pb	06 38 00.0	-0.6
CESX				Sg	Sg	06 38 06.2	+0.9
	41nm,0.4s						
CESX	**Cesi**	**0.44**	**279**	Pg	Pb	06 38 00.0	-0.6
CESX				Sg	Sg	06 38 06.2	+0.9
	41nm,0.4s						
FDMO	**Fiordimonte**	**0.50**	**353**	Pg	Pg	06 38 00.4	-0.1
FDMO				Sg	Sb	06 38 08.0	-0.9
FDMO	**Fiordimonte**	**0.50**	**353**	Pg	Pg	06 38 00.4	-0.1
FDMO				Sg	Sb	06 38 08.0	-0.9
CESI	**CESI - Serrava**	**0.50**	**337**	Pg	Pg	06 38 00.8	+0.2
CESI				Sg	Sb	06 38 08.6	-0.5
	36nm,0.2s	

59nm,0.4s
VCEL Villa Celiera 0.52 106 Pg Pb 06 38 01.7 -0.1
59nm,0.4s
GUMA Gualdo di Mace 0.77 47 Pg Pg 06 38 01.6 -3.9
144nm,0.3s
GUMA Gualdo di Mace 0.77 47 Pg Pg 06 38 01.6 -3.9
144nm,0.3s

WEL 19 06:37:55.6±0.2, 41°15S×172°92E, h132km±2km, ML4.0/35, 9C-6D, Error ellipse: s-maj=1.7km s-min=1.6km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.35**	**101**	PN	Pn	06 38 14.1	-0.1
NNZ				SN	Sn	06 38 27.3	-0.9
QRZ	**Quartz Range**	**0.44**	**318**	PN	Pn	06 38 14.6	0.0
QRZ				SN	Sn	06 38 27.5	-1.4
THZ	**Tophouse**	**0.61**	**181**	⇑PN	Pn	06 38 15.7	+0.1
THZ				SN	Sn	06 38 30.0	-0.8
TUWZ	**Tuamarina**	**0.82**	**110**	⇑PN	Pn	06 38 17.2	+0.2
TUWZ				AML	AML	06 38 33.3	
TUWZ				AML	AML	06 38 34.1	
DUWZ	**D'Urville Isla**	**0.83**	**65**	⇓PN	Pn	06 38 17.4	+0.2
BSWZ	**Blackbirch Sta**	**0.91**	**128**	PN	Pn	06 38 18.1	+0.2
BSWZ				AML	AML	06 38 35.2	
BSWZ				AML	AML	06 38 35.6	
TCW	**Tory Channel**	**1.02**	**94**	⇑PN	Pn	06 38 19.1	+0.3
TCW				SN	Sn	06 38 35.6	-1.0
TCW				AML	AML	06 38 37.3	
TCW				AML	AML	06 38 37.5	
DSZ	**Denniston Nort**	**1.03**	**234**	⇓PN	Pn	06 38 18.7	-0.3
KHZ	**Kahutara**	**1.34**	**160**	PN	Pn	06 38 21.9	-0.2
KHZ				AML	AML	06 38 40.5	
KHZ				AML	AML	06 38 40.5	
KHZ				AML	AML	06 38 41.4	
KHZ				AML	AML	06 38 41.5	
WEL	**Wellington**	**1.40**	**96**	PN	Pn	06 38 22.3	-0.4
WEL				AML	AML	06 38 43.0	
WEL				AML	AML	06 38 43.0	
WEL				AML	AML	06 38 44.0	
WEL				AML	AML	06 38 44.0	
KIW	**Kapiti Island**	**1.53**	**80**	PN	Pn	06 38 24.0	-0.2
KIW				AML	AML	06 38 46.2	
KIW				AML	AML	06 38 46.3	
CAW	**Cannon Point**	**1.62**	**89**	⇑PN	Pn	06 38 24.7	-0.5
CAW				AML	AML	06 38 47.4	
CAW				AML	AML	06 38 48.1	
LTZ	**Lake Taylor**	**1.70**	**196**	⇓PN	Pn	06 38 25.9	-0.2
OGWZ	**Otaki Gorge**	**1.73**	**80**	PN	Pn	06 38 26.2	-0.3
OGWZ				AML	AML	06 38 49.9	
OGWZ				AML	AML	06 38 50.6	
MSWZ	**Moikau Station**	**1.77**	**99**	⇑PN	Pn	06 38 26.8	-0.7
MSWZ				AML	AML	06 38 50.3	
MSWZ				AML	AML	06 38 50.8	
PLWZ	**Palliser**	**1.81**	**104**	⇑PN	Pn	06 38 26.8	-0.6
PLWZ				AML	AML	06 38 50.9	
PLWZ				AML	AML	06 38 51.4	
PAWZ	**Paruwai Farm**	**1.90**	**98**	⇑PN	Pn	06 38 27.7	-0.8
PAWZ				AML	AML	06 38 53.0	
PAWZ				AML	AML	06 38 53.6	
INZ	**Inchbonnie**	**1.92**	**215**	⇓PN	Pn	06 38 28.3	-0.3
MTW	**Mount Morrison**	**1.95**	**91**	PN	Pn	06 38 28.2	-0.9
MTW				AML	AML	06 38 54.3	
MTW				AML	AML	06 38 54.3	
HOWZ	**Holdsworth Sta**	**1.98**	**83**	⇑PN	Pn	06 38 28.7	-0.8
HOWZ				AML	AML	06 38 55.1	
HOWZ				AML	AML	06 38 55.4	
LREZ	**Lake Rotokare**	**2.04**	**34**	PN	Pn	06 38 31.6	+1.5
KHEZ	**Kahui Hut**	**2.04**	**25**	PN	Pn	06 38 31.6	+1.3
OHWZ	**Ohakea**	**2.05**	**63**	PN	Pn	06 38 30.5	+0.2
MRZ	**Mangatainoka R**	**2.07**	**77**	⇑PN	Pn	06 38 29.6	-0.9
MRZ				AML	AML	06 38 57.5	
MRZ				AML	AML	06 38 57.5	
NEZ	**North Egmont**	**2.08**	**26**	PN	Pn	06 38 32.4	+1.6
TRWZ	**Traveller**	**2.10**	**98**	PN	Pn	06 38 30.2	-0.7
TRWZ				AML	AML	06 38 57.7	
TRWZ				AML	AML	06 38 59.4	
WAZ	**Wanganui**	**2.10**	**49**	PN	Pn	06 38 31.9	+0.9
PKE	**Pukeiti**	**2.12**	**23**	PN	Pn	06 38 32.1	+0.9
DREZ	**Durham Road**	**2.19**	**27**	PN	Pn	06 38 32.8	+0.7
TMWZ	**Te Maipa**	**2.24**	**90**	PN	Pn	06 38 31.8	-0.9
TMWZ				AML	AML	06 39 00.7	
TMWZ				AML	AML	06 39 01.0	
OXZ	**Oxford**	**2.27**	**197**	PN	Pn	06 38 31.7	-1.3
TIWZ	**Tintock**	**2.28**	**81**	PN	Pn	06 38 32.1	-1.0
TIWZ				AML	AML	06 39 00.8	
TIWZ				AML	AML	06 39 01.6	
POWZ	**Post Office Ro**	**2.29**	**72**	PN	Pn	06 38 32.2	-1.0
POWZ				AML	AML	06 39 02.7	
POWZ				AML	AML	06 39 04.4	
MHEZ	**Mangahewa**	**2.34**	**28**	PN	Pn	06 38 34.9	+1.0
PRWZ	**Pori Road**	**2.39**	**77**	PN	Pn	06 38 33.6	-0.9
PRWZ				AML	AML	06 39 04.5	
PRWZ				AML	AML	06 39 05.0	
CRLZ	**Canterbury Las**	**2.43**	**185**	PN	Pn	06 38 33.9	-1.0
VRZ	**Vera Road**	**2.47**	**35**	PN	Pn	06 38 36.1	+0.6
CPWZ	**Castlepoint**	**2.49**	**85**	PN	Pn	06 38 35.5	-0.3
CPWZ				AML	AML	06 39 08.2	
CPWZ				AML	AML	06 39 08.7	
WVZ	**Waitaha Valley**	**2.52**	**220**	⇓PN	Pn	06 38 35.4	-0.6
MQZ	**McQueen's Vall**	**2.56**	**184**	PN	Pn	06 38 35.3	-1.3
TSZ	**Takapari Road**	**2.56**	**66**	PN	Pn	06 38 35.7	-1.0
TSZ				AML	AML	06 39 09.4	
TSZ				AML	AML	06 39 10.9	
BFZ	**Birch Farm**	**2.56**	**81**	PN	Pn	06 38 35.4	-1.2
BFZ				AML	AML	06 39 07.2	
BFZ				AML	AML	06 39 07.2	
BFZ				AML	AML	06 39 07.7	
BFZ				AML	AML	06 39 08.2	
DVHZ	**Dannevirke**	**2.61**	**72**	PN	Pn	06 38 35.8	-1.5
DVHZ				AML	AML	06 39 08.4	
DVHZ				AML	AML	06 39 08.7	
PKVZ	**Pokaka**	**2.63**	**46**	PN	Pn	06 38 38.2	+0.6
TRVZ	**Turoa**	**2.73**	**48**	PN	Pn	06 38 39.2	+0.1
WNVZ	**Wahianoa**	**2.74**	**49**	PN	Pn	06 38 39.0	-0.1
FWVZ	**Far West T-bar**	**2.77**	**48**	PN	Pn	06 38 40.0	+0.5
WHVZ	**Whangaehu Hut**	**2.77**	**48**	PN	Pn	06 38 39.4	-0.1
MOVZ	**Moawhango**	**2.78**	**52**	PN	Pn	06 38 38.9	-0.7
ANWZ	**Angora Road**	**2.79**	**77**	PN	Pn	06 38 38.2	-1.3
ANWZ				AML	AML	06 39 13.1	
ANWZ				AML	AML	06 39 13.4	
PNHZ	**Pukenui**	**2.79**	**65**	PN	Pn	06 38 38.3	-1.3
PNHZ				AML	AML	06 39 12.9	
PNHZ				AML	AML	06 39 13.8	
TWVZ	**Taurewa**	**2.84**	**44**	PN	Pn	06 38 40.2	-0.1
WTVZ	**West Tongariro**	**2.88**	**46**	PN	Pn	06 38 40.7	-0.2
WPHZ	**Waipukurau**	**2.89**	**69**	PN	Pn	06 38 39.7	-1.2
WPHZ				AML	AML	06 39 16.1	
WPHZ				AML	AML	06 39 25.4	
OTVZ	**Oturere**	**2.89**	**47**	PN	Pn	06 38 41.2	+0.1
RPZ	**Rata Peaks**	**2.91**	**208**	PN	Pn	06 38 40.0	-1.1
BHHZ	**Black Hill Sta**	**2.92**	**56**	PN	Pn	06 38 40.5	-0.8
KRVZ	**Karewarewa**	**2.93**	**46**	PN	Pn	06 38 41.1	-0.4
PRHZ	**Porangahau**	**2.96**	**74**	PN	Pn	06 38 40.5	-1.3
PRHZ				AML	AML	06 39 17.5	
PRHZ				AML	AML	06 39 17.6	
HIZ	**Hauiti**	**3.03**	**30**	PN	Pn	06 38 44.2	+1.5
KRHZ	**Kereru**	**3.03**	**61**	PN	Pn	06 38 41.3	-1.4
KRHZ				AML	AML	06 39 22.6	
KRHZ				AML	AML	06 39 22.8	
KATZ	**Kakaramea**	**3.04**	**45**	PN	Pn	06 38 43.5	+0.5
KWHZ	**Kaweka Forest**	**3.19**	**58**	PN	Pn	06 38 44.0	-0.8
KWHZ				AML	AML	06 39 24.7	
KWHZ				AML	AML	06 39 25.2	
KAHZ	**Kahuranaki**	**3.31**	**67**	PN	Pn	06 38 45.0	-1.4
KAHZ				AML	AML	06 39 07.7	
KAHZ				AML	AML	06 39 26.6	
FOZ	**Fox Glacier**	**3.31**	**223**	⇓PN	Pn	06 38 45.0	-1.2
BKZ	**Black Stump Fm**	**3.38**	**55**	PN	Pn	06 38 46.0	-1.3
TLZ	**Tolley Road**	**3.47**	**36**	PN	Pn	06 38 48.4	0.0
NMHZ	**Naumai**	**3.62**	**57**	PN	Pn	06 38 49.1	-1.4
NMHZ				AML	AML	06 39 34.0	
NMHZ				AML	AML	06 39 34.8	
ARHZ	**Aropaoanui**	**3.65**	**60**	PN	Pn	06 38 52.1	+1.3
ARHZ				AML	AML	06 39 32.4	
ARHZ				AML	AML	06 39 36.8	
LBZ	**Lake Benmore**	**3.81**	**211**	PN	Pn	06 38 51.1	-1.7
TOZ	**Tahuroa Road**	**3.96**	**31**	PN	Pn	06 38 54.8	-0.1
SNGZ	**Shannon Statio**	**4.14**	**57**	PN	Pn	06 38 56.6	-0.7
SNGZ				AML	AML	06 39 46.8	
SNGZ				AML	AML	06 39 47.4	
KNZ	**Kokohu**	**4.22**	**61**	PN	Pn	06 38 55.6	-2.7
JCZ	**Jackson Bay**	**4.22**	**225**	PN	Pn	06 38 57.1	-1.3
ODZ	**Otahua Downs**	**4.23**	**202**	PN	Pn	06 38 57.0	-1.4
AWAZ	**Awhitu Peninsu**	**4.30**	**19**	PN	Pn	06 39 00.5	+1.1
URZ	**Urewera**	**4.33**	**50**	PN	Pn	06 38 57.7	-2.1
MKAZ	**Moumakai**	**4.40**	**24**	PN	Pn	06 39 01.5	+0.8
RIGZ	**Rimuhau**	**4.45**	**58**	PN	Pn	06 39 00.5	-0.9
RIGZ				AML	AML	06 39 53.2	
RIGZ				AML	AML	06 39 58.2	
MWZ	**Matawai**	**4.53**	**53**	PN	Pn	06 39 01.4	-1.1
WKZ	**Wanaka**	**4.66**	**217**	PN	Pn	06 39 02.6	-1.5
EAZ	**Earnscleugh**	**4.86**	**212**	PN	Pn	06 39 04.7	-2.1
HAZ	**Te Kaha**	**5.07**	**50**	AML	AML	06 39 46.5	
HAZ				AML	AML	06 40 10.5	

IDC 19 06:39:52.0±2.9, 5°55S×146°91E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/29, mbtmp3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12, Error ellipse: s-maj=418.1km s-min=34.6km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**21.94**	**214**	P	P	06 44 47.5	+0.1
0.7nm,0.6s,baz=49,slow=9.0,SNR=2.5							
STKA	**Stephens Creek**	**26.66**	**190**	LR	LR	06 55 20.3	
comp=Z,37nm,20.9s,baz=25,slow=35							
ILAR	**Eielson Array**	**85.10**	**23**	P	P	06 52 29.7	+0.1
0.3nm,0.7s,baz=245,slow=5.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**144.89**	**285**	PKP	PKPbc	06 59 31.4	0.0
0.9nm,0.8s,baz=79,slow=3.2,SNR=6.5							

IDC 19 06:44:55.0±7.0, 5°84N×94°56E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/49, mbtmp3.5/2, Error ellipse: s-maj=353.2km s-min=108.9km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.76**	**124**	P	P	06 53 26.2	-0.4
0.3nm,0.4s,baz=303,slow=9.1,SNR=8.5							
ASAR	**Alice Springs**	**48.31**	**129**	P	P	06 53 38.8	+0.2
0.4nm,0.5s,baz=300,slow=7.4,SNR=7.2							
TXAR	**Lajitas Array**	**140.88**	**26**	PKP	PKPdf	07 04 27.1	-0.9
0.1nm,0.5s,baz=354,slow=2.7,SNR=3.5							

NIED ***19*** *06:52:00, 44°60N×149°40E, h41km, Mw3.7 Best double couple: M₀3.55000×10¹⁴ NP1:φ₁139.00000°, δ72.00000°, λ2.00000°. NP2:φ₂48.00000°, δ88.00000°, λ162.00000°.*
SKHL ***19*** *06:52:17.9±0.4, 44°46N×149°07E, h37km±6km, mb4.0/3*
ISC 19 06:52:15.1±4.2, 44°42N±0°09×149°2E±0°2, h42km, n15, σ1°97/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.27**	**310**	*i* P	**Pn**	**06 52 36.4**	**0.0**
KUR				AMB	AMB	06 52 37.9	
40nm,0.3s							
KUR				*i* S	**Sn**	**06 52 50.5**	**-1.7**
KUR				A	A	06 52 56.2	
390nm,0.3s							
KUR				A	A	06 52 56.2	
660nm,0.3s							
SHO	**Shikotan**	**1.82**	**253**	*e*P	**Pn**	**06 52 44.8**	**+0.9**
SHO				AMB	AMB	06 52 46.0	
41nm,0.3s							
SHO				*i* S	**Sn**	**06 53 05.1**	**-0.6**
SHO				A	A	06 53 12.1	
74nm,0.3s							
SHO				A	A	06 53 12.1	
354nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.46**	**262**	*i* P	**Pn**	**06 52 54.2**	**+1.5**
YUK				AMB	AMB	06 52 54.6	
48nm,0.4s							
YUK				*i* S	**Sn**	**06 53 21.1**	**-0.3**
YUK				A	A	06 53 24.7	
240nm,0.5s							
YUK				A	A	06 53 24.7	
210nm,0.5s							
NEM2	**Nemuro 2**	**2.74**	**249**	P	**Pn**	**06 52 56.6**	**+0.1**
NEM2				*e*S	**Sn**	**06 53 28.6**	**+0.3**
JRA	**Rausu**	**3.00**	**262**	P	**Pn**	**06 53 02.0**	**+1.9**
JNK	**Nakash**	**3.37**	**257**	P	**Pn**	**06 53 06.3**	**+1.1**
JAK	**Akkeshi**	**3.59**	**248**	P	**Pn**	**06 53 08.6**	**+0.4**
JAR	**Ashorobuto**	**4.11**	**256**	P	**Pn**	**06 53 17.7**	**+2.3**
JOB	**Onbets**	**4.20**	**251**	P	**Pn**	**06 53 18.7**	**+2.1**
MYR	**Moyori**	**4.83**	**246**	*e*P	**Pn**	**06 53 26.7**	**+1.4**
MYR				*e*S	**Sn**	**06 54 20.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**5.19**	**248**	P	**Pn**	**06 53 31.2**	**+1.0**
JBT2	**Biratori 2**	**5.25**	**254**	P	**Pn**	**06 53 32.4**	**+1.3**
JNB	**Noboribetsu**	**6.28**	**255**	P	**Pn**	**06 53 46.7**	**+1.6**
JKB	**Kayabe**	**6.51**	**250**	P	**Pn**	**06 53 49.0**	**+0.7**
JANG	**Nango**	**7.00**	**237**	*e*S	**Sn**	**06 55 07.3**	**-6.1**

ISCJB ***19*** *07:01:22.7±1.1, 32°57N±0°06×142°31E±0°07, h52km, mb3.7/2, Error ellipse: s-maj=9.1km s-min=7.9km az=155.5*
JMA ***19*** *07:01:23.9±0.3, 32°55N×142°11E, h103km, M3.6*
IDC ***19*** *07:01:24.7±4.2, 31°86N×140°86E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/58, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=154.4km s-min=24.6km az=71.0*
ISC 19 07:01:24.1±1.7, 32°56N±0°08×142°3E±0°1, h52km, n18, σ1°54/28, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.19**	**285**	S	**Sn**	**07 02 22.9**	**-0.9**
JHCJ	**Hachijojimakas**	**2.19**	**284**	*e*S	**Sn**	**07 02 22.7**	**-1.3**
JHJ	**Hachijo jima 2**	**2.21**	**285**	Pn	Pn	07 01 51.8	-6.6
13nm,0.3s,baz=308,slow=11,SNR=3.4							
JHJ				Sn	**Sn**	**07 02 24.1**	**-0.4**
75nm,0.3s,baz=73,slow=19,SNR=4.2							
BSO1	**Boso 1**	**2.37**	**332**	P	**Pn**	**07 02 00.9**	**+0.9**
BSO1				*e*S	**Sn**	**07 02 29.4**	**+1.8**
BSO2	**Boso 2**	**2.55**	**329**	*e*S	**Sn**	**07 02 34.3**	**+2.0**
BSO3	**Boso 3**	**2.70**	**326**	P	**Pn**	**07 02 05.8**	**+1.0**
BSO3				*e*S	**Sn**	**07 02 36.9**	**+0.8**
BSO4	**Boso 4**	**2.94**	**326**	*e*S	**Sn**	**07 02 42.9**	**+0.8**
JOD2	**Odawara 2**	**3.81**	**316**	P	**Pn**	**07 02 19.5**	**-0.8**
JOD2				*e*S	**Sn**	**07 03 02.1**	**-1.7**
JHU	**Hanno**	**4.14**	**323**	P	**Pn**	**07 02 24.8**	**0.0**
JHU				*e*S	**Sn**	**07 03 11.5**	**-0.4**
JRY	**Ryogami san**	**4.46**	**321**	P	**Pn**	**07 02 27.4**	**-1.8**
JRY				*e*S	**Sn**	**07 03 20.3**	**+0.4**
JAG	**Ashikaga**	**4.53**	**329**	P	**Pn**	**07 02 30.5**	**+0.5**
JAG				*e*S	**Sn**	**07 03 21.3**	**-0.1**
JFT	**Otama**	**5.21**	**342**	P	**Pn**	**07 02 40.9**	**+1.5**
JFT				*e*S	**Sn**	**07 03 37.0**	**-1.1**
MJAR	**Matsushiro Arr**	**5.23**	**321**	**Pn**	**Pn**	**07 02 41.3**	**+1.6**
1.5nm,0.3s,baz=162,slow=14,SNR=5.5							
MJAR				Sn	**Sn**	**07 03 38.0**	**-0.6**
1.4nm,0.3s,baz=237,slow=23,SNR=4.1							
MAT	**Matsushiro**	**5.23**	**321**	P	**Pn**	**07 02 40.8**	**+1.1**
MAT				*e*S	**Sn**	**07 03 35.6**	**-3.1**
MAT	**Matsushiro**	**5.23**	**321**	P	**Pn**	**07 02 40.8**	**+1.1**
MAT				*e*S	**Sn**	**07 03 39.3**	**+0.6**
JMK	**Ichinoseki**	**6.44**	**352**	P	**Pn**	**07 02 55.8**	**-0.4**
JMK				*e*S	**Sn**	**07 04 03.9**	**-4.5**
MKAR	**Makanchi Array**	**47.24**	**306**	P	P	07 09 56.5	+4.7
0.7nm,0.9s,baz=94,slow=9.3,SNR=2.1							
WRA	**Warramunga Arr**	**52.77**	**189**	P	**P**	**07 10 34.2**	**+0.3**
0.7nm,0.5s,baz=3.3,slow=7.6,SNR=6.0							

IDC 19 07:04:51.9±5.4, 5°64S×151°09E, h46km±47km, mb3.4/5, mb1 3.6/6, mb1mx3.4/35, mbtmp3.7/6, ML1.6/1, Error ellipse: s-maj=75.9km s-min=31.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**226**	P	Pn	07 06 10.9	+0.9
1.2nm,0.3s,baz=341,slow=21,SNR=2.2							
PMG				S	Sn	07 07 11.2	+0.3
2.5nm,0.3s,baz=115,slow=19,SNR=4.0							
WRA	**Warramunga Arr**	**21.62**	**227**	P	P	07 09 38.3	0.0
0.6nm,0.5s,baz=54,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**24.39**	**221**	P	P	07 10 06.2	+0.1
0.9nm,0.8s,baz=59,slow=9.1,SNR=9.2							
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	P	07 10 36.3	-0.3
1.1nm,0.6s,baz=63,slow=11,SNR=3.2							
ZALV	**Zalesovo Beam**	**80.91**	**327**	P	P	07 17 00.8	-0.3
0.9nm,0.7s,baz=104,slow=6.1,SNR=2.3							
ILAR	**Eielson Array**	**83.57**	**22**	P	P	07 17 14.7	-0.2
0.2nm,0.8s,baz=238,slow=5.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**148.92**	**286**	PKPbc	PKPbc	07 24 35.8	0.0
1.8nm,0.7s,baz=92,slow=2.0,SNR=7.6							

NIED ***19*** *07:05:00, 37°00N×140°70E, h8km, Mw3.8 Best double couple: M₀6.62000×10¹⁴ NP1:φ₁83.00000°, δ44.00000°, λ-89.00000°. NP2:φ₂261.00000°, δ46.00000°, λ-91.00000°.*
ISCJB ***19*** *07:05:01.5±0.5, 37°04N±0°03×140°74E±0°04, h20km±3km, mb4.0/15, MS3.9/3, Error ellipse: s-maj=6.1km s-min=4.4km az=26.9*
JMA ***19*** *07:05:02.1, 37°04N×140°64E, h8km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ₁257.00000°, δ46.00000°, λ-105.00000°. NP2: φ₂99.00000°, δ46.00000°, λ-75.00000°. Principal axes: T Plg0.0000°, Azm358.0000°; N Plg11.0000°, Azm268.0000°; P Plg79.0000°, Azm89.0000°;*
JMA Felt III J1.
IDC ***19*** *07:05:06.3±2.0, 37°03N×140°51E, h44km±19km, mb3.8/14, mb1 4.0/16, mb1mx3.8/60, mbtmp4.1/16, ML3.9/2, MS3.8/3, Ms1 3.8/3, ms1mx2.9/37 Error ellipse: s-maj=20.2km s-min=12.2km az=79.0*
NEIC ***19*** *07:05:07.1±0.9, 37°05N×140°47E, h52km±7km, mb4.4/1, Error ellipse: s-maj=10.4km s-min=7.7km az=128.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 19 07:05:01.5±1.0, 37°07N±0°03×140°52E±0°04, h8km±7km, n42, σ0°84/40, mb3.9/15, MS4.1/3, 7C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**81**	⇑P	**Pg**	**07 05 05.3**	**-0.7**
ONAJ				S	**Sg**	**07 05 07.3**	**-1.8**
JFK	**Kawauchi**	**0.41**	**43**	⇑P	**Pg**	**07 05 09.4**	**-0.1**
JFK				S	**Sg**	**07 05 14.6**	**-0.4**
JHO	**Hitachi**	**0.46**	**175**	⇑P	**Pg**	**07 05 10.4**	**+0.1**
JHO				S	**Sg**	**07 05 16.9**	**+0.6**
JFT	**Otama**	**0.47**	**342**	⇑P	**Pb**	**07 05 12.6**	**+0.5**
JFT				S	**Sb**	**07 05 19.9**	**+0.6**
JSB	**Shiboa**	**0.49**	**259**	⇑P	**Pn**	**07 05 14.0**	**-0.8**
JSB				S	**Sb**	**07 05 21.6**	**+1.8**
JFY	**Yanaizu**	**0.73**	**298**	⇑P	**Pn**	**07 05 17.9**	**-0.3**
JFY				S	**Sn**	**07 05 28.7**	**-0.9**
JMM	**Marumori**	**0.83**	**15**	⇑P	**Pg**	**07 05 17.4**	**0.0**
JMM				S	**Sg**	**07 05 28.6**	**+0.4**
MJAR	**Matsushiro Arr**	**1.93**	**255**	P	**Pb**	**07 05 36.7**	**-0.2**
51nm,0.3s,baz=80,slow=15,SNR=62							
MJAR				S	**Sg**	**07 06 03.5**	**+0.1**
104nm,0.3s,baz=50,slow=22,SNR=25							
MAJO	**Matsushiro**	**1.93**	**255**	*e*Pn	**Pb**	**07 05 37.2**	**+0.3**
MAT	**Matsushiro**	**1.93**	**255**	P	**Pb**	**07 05 37.1**	**+0.2**
MAT				S	**Sg**	**07 06 03.8**	**+0.3**
JHJ	**Hachijo jima 2**	**3.98**	**189**	P	**Pn**	**07 06 02.7**	**-0.1**
34nm,0.3s,baz=76,slow=22,SNR=2.6							
JHJ				S	**Sn**	**07 06 49.9**	**+0.2**
38nm,0.3s,baz=101,slow=3.3,SNR=2.6							
ASAJ	**Asahikawa**	**7.22**	**12**	P	**Pn**	**07 06 50.2**	**+3.0**
1.8nm,0.3s,baz=187,slow=14,SNR=4.2							
USRK	**Ussuriysk Ar.**	**9.63**	**320**	P	Pn	07 07 27.2	+6.9
0.3nm,0.3s,baz=133,slow=13,SNR=12							
KSRS	**Korea Array**	**10.05**	**276**	P	Pn	07 07 33.6	+7.5
0.4nm,0.3s,baz=92,slow=13,SNR=13							
KSAR	**Wonju Array Be**	**10.08**	**276**	P	Pn	07 07 33.6	+7.1
SONM	**Songino Array**	**27.18**	**304**	P	**P**	**07 10 46.3**	**+0.8**
1.5nm,0.7s,baz=111,slow=10,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**28.78**	**120**	T	T	07 40 48.7	
baz=313,slow=75,SNR=336							
H11N1	**WAKE ISLAND Hy**	**28.79**	**120**	T	T	07 40 44.6	
baz=313,slow=75,SNR=340							
H11N3	**WAKE ISLAND Hy**	**28.80**	**120**	T	T	07 40 45.5	
baz=313,slow=75,SNR=316							
H11S1	**WAKE ISLAND Hy**	**29.48**	**122**	T	T	07 41 41.8	
baz=314,slow=76,SNR=1112							
H11S3	**WAKE ISLAND Hy**	**29.48**	**122**	T	T	07 41 41.2	
baz=314,slow=76,SNR=535							
H11S2	**WAKE ISLAND Hy**	**29.50**	**122**	T	T	07 41 40.2	
baz=314,slow=76,SNR=513							
ZALV	**Zalesovo Beam**	**41.37**	**312**	P	**P**	**07 12 47.3**	**-0.5**
1.5nm,0.6s,baz=100,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**43.50**	**302**	P	**P**	**07 13 05.4**	**+0.2**
1.1nm,0.5s,baz=88,slow=9.7,SNR=15							
ILAR	**Eielson Array**	**49.85**	**32**	P	**P**	**07 13 54.6**	**-0.1**
0.9nm,0.8s,baz=273,slow=7.3,SNR=9.5							
BVAR	**Borovoye Array**	**50.02**	**312**	P	**P**	**07 13 56.3**	**+0.1**
0.8nm,0.5s,baz=75,slow=6.3,SNR=4.2							
WRA	**Warramunga Arr**	**57.00**	**187**	P	**P**	**07 14 47.0**	**-0.7**
4.0nm,0.7s,baz=4.2,slow=7.3,SNR=32							
CTA	**Charters Tower**	**57.10**	**174**	LR	LR	07 38 32.7	
comp=Z,222nm,20.2s,baz=188,slow=35							
ABKAR	**Akbulak array**	**57.37**	**310**	*e*P	**P**	**07 14 49.6**	**-0.5**
1.9nm,0.5s							
ASAR	**Alice Springs**	**60.73**	**187**	P	**P**	**07 15 13.2**	**-0.4**
1.3nm,0.8s,baz=7.4,slow=6.6,SN

1.8nm,0.3s,baz=78,slow=13,SNR=23
KIC Kosan Boka 16.74 66 *e*P **Pn 07 19 58.2 -0.7**
136nm,1.7s
DBIC Dimbokro 16.76 65 Pn **Pn 07 19 57.7 -1.4**
1.2nm,0.3s,baz=243,slow=14,SNR=17
DBIC Sn Sn 07 22 49.3 -16
0.2nm,0.3s,baz=135,slow=10.0,SNR=3.4
DBIC LR LR 07 25 00.8
comp=Z,89nm,21.3s,baz=226,slow=32
TORD Torodi Ar. Bea 25.47 57 P **P 07 21 31.6 -0.9**
8.4nm,0.6s,baz=237,slow=9.5,SNR=42
TORD LR LR 07 29 46.6
comp=Z,75nm,21.7s,baz=295,slow=32
BDFB Brasilia 31.43 240 LR LR 07 34 11.1
comp=Z,56nm,20.5s,baz=278,slow=35
MDT Midelt 36.17 22 P **P 07 23 08.8 +1.9**
1.5nm,0.8s,baz=221,slow=6.4,SNR=4.2
ESDC Sonseca Array 42.57 18 P **P 07 24 01.0 +0.8**
0.2nm,0.3s,baz=194,slow=8.0,SNR=3.2
CPUP Villa Florida 44.13 231 LR LR 07 41 31.7
comp=Z,53nm,18.7s,baz=62,slow=35
KEST Kesra 45.25 34 LR LR 07 44 44.3
comp=Z,130nm,18.3s,baz=282,slow=38
LPAZ La Paz 49.90 249 P **P 07 24 58.8 -0.1**
2.2nm,0.7s,baz=75,slow=6.1,SNR=7.8
GERES GERESS Array B 57.10 26 P **P 07 25 50.9 +0.3**
0.4nm,0.5s,baz=216,slow=8.1,SNR=3.2
GERES LR LR 07 50 39.1
comp=Z,32nm,18.3s,baz=318,slow=36
AKASG Malin Array Be 65.89 32 P **P 07 26 49.0 -0.8**
0.2nm,0.3s,baz=234,slow=6.6,SNR=2.8
ULM Lac du Bonnet 81.29 321 LR LR 07 59 11.1
comp=Z,27nm,20.2s,baz=36,slow=32
TXAR Lajitas Array 84.63 299 P **P 07 28 39.3 +1.0**
0.6nm,0.6s,baz=119,slow=6.5,SNR=8.5
ASAR Alice Springs 145.16 135 PKP **PKPbc 07 35 42.1 0.0**
7.5nm,0.9s,baz=228,slow=2.5,SNR=31
WRA Warramunga Arr 147.76 130 PKPbc **PKPdf 07 35 47.8 +0.7**
0.4nm,1.1s,baz=236,slow=2.7,SNR=2.8

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*CSEM **19** 07:25:23.6, 42°.54N×13°.16E, h14km, MD1.7/6*
ROM 19 07:25:23.6±0.2, 42°.54N×13°.16E, h14km±7km, Md1.7/6, Ml1.5/4, Error ellipse: s-maj=3.0km s-min=1.5km az=105.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**306**	Pg	Pg	07 25 27.2	+0.2
LNSS				Sg	Sg	07 25 29.5	+0.2
87nm,0.2s							
LNSS	**Leonessa**	**0.11**	**306**	Pg	Pg	07 25 27.2	+0.2
LNSS				Sg	Sg	07 25 29.5	+0.2
87nm,0.2s							
SMA1	**SAN MARTINO**	**0.16**	**55**	Pg	Pg	07 25 28.0	+0.4
SMA1				Sg	Sg	07 25 30.8	+0.4
200nm,0.2s							
SMA1	**SAN MARTINO**	**0.16**	**55**	Pg	Pg	07 25 28.0	+0.4
SMA1				Sg	Sg	07 25 30.8	+0.4
200nm,0.2s							
CAMP	**Campotosto**	**0.18**	**91**	Pg	Pg	07 25 28.3	+0.3
48nm,0.3s							
CAMP	**Campotosto**	**0.18**	**91**	Pg	Pg	07 25 28.3	+0.3
48nm,0.3s							
FIAM	**Fiamignano**	**0.27**	**187**	Pg	Pb	07 25 29.9	-0.4
FIAM				Sg	Sb	07 25 34.2	-0.6
37nm,0.3s							
FIAM	**Fiamignano**	**0.27**	**187**	Pg	Pb	07 25 29.9	-0.4
FIAM				Sg	Sb	07 25 34.2	-0.6
37nm,0.3s							
TERO	**Teramo**	**0.34**	**75**	Pg	Pg	07 25 30.6	+0.1
TERO				Sg	Sg	07 25 35.6	+0.3
TERO	**Teramo**	**0.34**	**75**	Pg	Pg	07 25 30.6	+0.1
TERO				Sg	Sg	07 25 35.6	+0.3
FDMO	**Fiordimonte**	**0.50**	**354**	Pg	Pg	07 25 33.6	+0.1
FDMO				Sg	Sb	07 25 41.3	-0.1
FDMO	**Fiordimonte**	**0.50**	**354**	Pg	Pg	07 25 33.6	+0.1
FDMO				Sg	Sb	07 25 41.3	-0.1

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*CSEM **19** 07:25:52.4, 42°.53N×13°.18E, h11km, MD2.1/9*
ROM 19 07:25:52.4±0.1, 42°.53N×13°.18E, h11km±1km, Md2.1/9, Ml2.0/4, Error ellipse: s-maj=1.5km s-min=1.3km az=74.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**305**	Pg	Pg	07 25 55.9	+0.4
LNSS				Sg	Sg	07 25 58.2	+0.5
LNSS	**Leonessa**	**0.12**	**305**	Pg	Pg	07 25 55.9	+0.4
LNSS				Sg	Sg	07 25 58.2	+0.5
SMA1	**SAN MARTINO**	**0.15**	**50**	Pg	Pg	07 25 56.6	+0.6
SMA1				Sg	Sg	07 25 59.5	+1.0
SMA1	**SAN MARTINO**	**0.15**	**50**	Pg	Pg	07 25 56.6	+0.6
SMA1				Sg	Sg	07 25 59.5	+1.0
T0104	**Madonna delle**	**0.21**	**145**	Pg	Pb	07 25 57.8	-0.5
AQU	**L'Aquila**	**0.24**	**137**	Pg	Pg	07 25 57.7	+0.2
AQU				Sg	Sg	07 26 02.3	+1.4
122nm,0.4s							
AQU	**L'Aquila**	**0.24**	**137**	Pg	Pg	07 25 57.7	+0.2
AQU				Sg	Sg	07 26 02.3	+1.4
122nm,0.4s							
FIAM	**Fiamignano**	**0.27**	**189**	Pg	Pg	07 25 58.6	+0.7
FIAM				Sg	Sg	07 26 02.3	+0.7
209nm,0.5s							
FIAM	**Fiamignano**	**0.27**	**189**	Pg	Pg	07 25 58.6	+0.7
FIAM				Sg	Sg	07 26 02.3	+0.7
209nm,0.5s							
TERO	**Teramo**	**0.33**	**74**	Pg	Pg	07 25 59.2	+0.2
TERO				Sg	Sg	07 26 04.2	+0.8
TERO	**Teramo**	**0.33**	**74**	Pg	Pg	07 25 59.2	+0.2
TERO				Sg	Sg	07 26 04.2	+0.8
FAGN	**Fagnano**	**0.40**	**131**	Pg	Pb	07 26 01.8	+0.2
FAGN				Sg	Sb	07 26 07.3	-0.5
FAGN	**Fagnano**	**0.40**	**131**	Pg	Pb	07 26 01.8	+0.2
FAGN				Sg	Sb	07 26 07.3	-0.5
CESX	**Cesi**	**0.45**	**280**	Pg	Pg	07 26 01.3	+0.1
88nm,0.2s							
CESX	**Cesi**	**0.45**	**280**	Pg	Pg	07 26 01.3	+0.1
88nm,0.2s							
FDMO	**Fiordimonte**	**0.51**	**353**	Pg	Pg	07 26 02.3	0.0
FDMO				Sg	Sg	07 26 09.8	+0.7
FDMO	**Fiordimonte**	**0.51**	**353**	Pg	Pg	07 26 02.3	0.0
FDMO				Sg	Sg	07 26 09.8	+0.7
CESI	**CESI - Serrava**	**0.51**	**337**	Pg	Pg	07 26 02.7	+0.3
CESI				Sg	Sb	07 26 10.2	-0.8
105nm,0.2s							
CESI	**CESI - Serrava**	**0.51**	**337**	Pg	Pg	07 26 02.7	+0.3
CESI				Sg	Sb	07 26 10.2	-0.8
105nm,0.2s							
CERT	**Cerreto**	**0.60**	**194**	Pg	Pb	07 26 04.6	-0.4
CERT	**Cerreto**	**0.60**	**194**	Pg	Pb	07 26 04.6	-0.4
GUMA	**Gualdo di Mace**	**0.77**	**46**	Pg	Pg	07 26 03.3	-4.0
GUMA				Sg	Sg	07 26 12.0	-5.4
GUMA	**Gualdo di Mace**	**0.77**	**46**	Pg	Pg	07 26 03.3	-4.0
GUMA				Sg	Sg	07 26 12.0	-5.4
MGAB	**Montegabbione**	**0.87**	**296**	Pg	Pb	07 26 09.8	+0.2
MGAB	**Montegabbione**	**0.87**	**296**	Pg	Pb	07 26 09.8	+0.2

MAN 19 07:26:49, 12°.26N×125°.16E, h9km, mb3.9, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.55**	**297**	*e*P	Pb	07 27 00.6	-0.2
CNP				*e*S	Sb	07 27 08.8	0.0
BESP	**Borongan**	**0.71**	**158**	*e*P	Pb	07 27 03.4	-0.1
BESP				*e*S	Sb	07 27 14.1	+0.8
PVCP	**Virac**	**1.65**	**324**	*e*P	Pn	07 27 17.2	-1.0
PVCP				*e*S	Sg	07 27 41.8	-0.4

PGC 19 07:36:58.1±0.0, 59°.04N×137°.77W, h11km, ML2.0/4, 102km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.83**	**59**	P	Pg	07 37 13.2	-1.0
PLBC				S	Sg	07 37 24.6	-0.5
PNL	**Peninsula**	**1.05**	**308**	P	Pg	07 37 16.7	-1.5
PNL				S	Sg	07 37 31.4	-0.5
YUK7	**Dusty Glacier**	**1.51**	**353**	Pn	Pn	07 37 24.9	-0.3
YUK7				Sg	Sn	07 37 44.6	-0.4
BESE	**Bessie Mountai**	**1.58**	**106**	Pn	Pn	07 37 25.2	-0.9
BESE				Sg	Sn	07 37 45.6	-1.0
PCA	**Pinnacle**	**1.65**	**311**	Pn	Pn	07 37 25.9	-1.2
PCA				Sg	Sn	07 37 48.0	-0.4
HYT	**Haines Junctio**	**1.80**	**4**	Pn	Pn	07 37 30.0	+0.9
HYT				Sg	Sb	07 37 53.5	-0.1
YUK6	**Outpost Mounta**	**1.94**	**351**	Pn	Pn	07 37 31.0	-0.1
YUK6				Sg	Sn	07 37 55.8	+0.2
YUK5	**Granite Creek**	**2.10**	**359**	Pn	Pn	07 37 33.9	+0.6
YUK5				Sn	Sn	07 37 59.6	+0.1
YUK5				Sg	Sb	07 38 02.7	+0.3
WHY	**Whitehorse**	**2.18**	**41**	Pn	Pn	07 37 34.5	+0.1
WHY				Pg	Pb	07 37 37.8	+0.1
WHY				Sg	Sb	07 38 06.2	+1.4

IDC 19 08:00:31.9±3.7, 52°.28N×35°.80E, h0km, mb1 4.2/2, mb1mx3.3/40, mbtmp4.1/2, ML3.1/3, Error ellipse: s-maj=41.3km s-min=14.0km az=116.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.88**	**9**	Lg	Lg	08 02 02.6	
7.2nm,0.3s,baz=197,slow=19,SNR=4.2							
AKASG	**Malin Array Be**	**4.40**	**252**	Pn	Pn	08 01 38.2	-1.7
1.0nm,0.3s,baz=61,slow=15,SNR=5.6							
AKASG				Pg	Pb	08 01 48.9	-1.1
1.9nm,0.3s,baz=57,slow=16,SNR=4.3							
AKASG				Sn	Sn	08 02 29.6	-2.2
2.3nm,0.3s,baz=41,slow=19,SNR=4.2							
I43RU	**DUBNA INFRASON 4.53**	**10**	*i*			08 26 30.0	
baz=190,slow=305,SNR=1.1							
FINES	**FINESS Array B**	**10.60**	**334**	Pn	Pn	08 03 00.7	-4.3
0.2nm,0.3s,baz=152,slow=14,SNR=5.2							
FINES				Sn	Sn	08 04 54.0	-10
0.2nm,0.3s,baz=171,slow=19,SNR=3.9							
ARCES	**ARCESS Array B**	**17.97**	**348**	P	Pn	08 04 42.4	-0.5
0.2nm,0.3s,baz=162,slow=9.3,SNR=6.8							

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*NEIC **19** 08:00:58.9±0.0, 18°.65N×67°.95W, h90km, MD3.5(RSPR), After RSPR.*
RSPR 19 08:00:58.9, 18°.65N×67°.95W, h90km±1km, MD3.5/15, 18C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	**Mona Island, P**	**0.57**	**178⇑**	*e*P	Pn	08 01 13.5	-0.7
IMPR	**Mona Island, P**	**0.57**	**178**	*e*S	Sn	08 01 24.9	-0.6
AGPR	**Aguadilla, PR**	**0.82**	**102⇓**	*e*P	Pn	08 01 16.6	+0.1
AGPR	**Aguadilla, PR**	**0.82**	**102**	*e*S	Sn	08 01 29.7	0.0
AGPR	**Aguadilla, PR**	**0.82**	**102⇓**	*e*P	Pn	08 01 16.6	+0.1
AGPR				*e*S	Sn	08 01 29.7	0.0
LSP	**Las Mesas**	**0.94**	**120⇓**	*e*P	Pn	08 01 17.6	-0.4
LSP	**Las Mesas**	**0.94**	**120**	*e*S	Sn	08 01 32.2	-0.1
LSP	**Las Mesas**	**0.94**	**120⇓**	*e*P	Pn	08 01 17.6	-0.4
LSP				*e*S	Sn	08 01 32.2	-0.1
CRPR	**Cabo Rojo, PR**	**1.02**	**128⇑**	*e*P	Pn	08 01 18.2	-0.6
CRPR	**Cabo Rojo, PR**	**1.02**	**128**	*e*S	Sn	08 01 33.8	0.0
CRPR	**Cabo Rojo, PR**	**1.02**	**128⇑**	*e*P	Pn	08 01 18.2	-0.6
CRPR				*e*S	Sn	08 01 33.8	0.0
AOPR	**Arecibo Observ**	**1.17**	**105⇑**	*e*P	Pn	08 01 20.4	-0.2
AOPR	**Arecibo Observ**	**1.17**	**105⇑**	*e*P	Pn	08 01 20.5	-0.1
AOPR				*e*S	Sn	08 01 36.8	-0.3
AOPR	**Arecibo Observ**	**1.17**	**105⇑**	*e*P	Pn	08 01 20.4	-0.2
GBPR	**Guanica, Bosqu**	**1.22**	**123⇓**	*e*P	Pn	08 01 21.1	-0.1
GBPR	**Guanica, Bosqu**	**1.22**	**123**	*e*S	Sn	08 01 37.8	-0.1
GBPR	**Guanica, Bosqu**	**1.22**	**123⇓**	*e*P	Pn	08 01 21.1	-0.1
GBPR				*e*S	Sn	08 01 37.8	-0.1
DR12	**Loma Pena Alta**	**1.36**	**276⇑**	*e*P	Pn	08 01 24.0	+1.0
DR12				*e*S	Sn	08 01 40.4	-0.8
DR12	**Loma Pena Alta**	**1.36**	**276⇑**	*e*P	Pn	08 01 24.0	+1.0
OBIP	**Obispado Ponce**	**1.41**	**115⇑**	*e*P	Pn	08 01 23.4	-0.1
OBIP	**Obispado Ponce**	**1.41**	**115**	*e*S	Sn	08 01 41.8	-0.4
OBIP	**Obispado Ponce**	**1.41**	**115⇑**	*e*P	Pn	08 01 23.4	-0.1
OBIP				*e*S	Sn	08 01 41.8	-0.4
CELP	**Cerrillos**	**1.42**	**113⇑**	*e*P	Pn	08 01 23.4	-0.2
CELP				*e*S	Sn	08 01 42.0	-0.3
CELP	**Cerrillos**	**1.42**	**113⇑**	*e*P	Pn	08 01 23.4	-0.2
SJG	**San Juan**	**1.79**	**107⇑**	*e*P	Pn	08 01 27.9	-0.5
SJG	**San Juan**	**1.79**	**107**	*e*S	Sn	08 01 49.9	-0.9
SJG	**San Juan**	**1.79**	**107⇑**	*e*P	Pn	08 01 27.9	-0.5
SJG				*e*S	Sn	08 01 49.9	-0.9
CBYP	**Canovanas**	**2.02**	**100⇑**	*e*P	Pn	08 01 30.9	-0.6
CBYP	**Canovanas**	**2.02**	**100**	*e*S	Sn	08 01 55.5	-0.8
CBYP	**Canovanas**	**2.02**	**100⇓**	*e*P	Pn	08 01 30.9	-0.6
CBYP				*e*S	Sn	08 01 55.5	-0.8
HUMP	**Col San Antoni**	**2.06**	**104⇓**	*e*P	Pn	08 01 31.3	-0.5
HUMP	**Col San Antoni**	**2.06**	**104**	*e*S	Sn	08 01 56.3	-0.7
HUMP	**Col San Antoni**	**2.06**	**104⇓**	*e*P	Pn	08 01 31.5	-0.4
HUMP	**Col San Antoni**	**2.06**	**104⇓**	*e*P	Pn	08 01 31.3	-0.5
HUMP				⇓*e*P	Pn	08 01 31.5	-0.4
HUMP				*e*S	Sn	08 01 56.3	-0.7
MTP	**Monte Pirata**	**2.34**	**103⇑**	*e*P	Pn	08 01 35.5	-0.2
MTP	**Monte Pirata**	**2.34**	**103**	*e*S	Sn	08 02 03.6	-0.2
MTP	**Monte Pirata**	**2.34**	**103⇑**	*e*P	Pn	08 01 35.5	-0.2
MTP				*e*S	Sn	08 02 03.6	-0.2
STVI	**Saint Thomas**	**2.86**	**95⇓**	*e*P	Pn	08 01 42.0	-0.5
STVI				*e*S	Sn	08 02 15.4	-0.7
STVI	**Saint Thomas**	**2.86**	**95⇓**	*e*P	Pn	08 01 42.0	-0.5
TBVI	**Tortola**	**3.17**	**94⇑**	*e*P	Pn	08 01 46.2	-0.5
TBVI	**Tortola**	**3.17**	**94⇑**	*e*P	Pn	08 01 46.2	-0.5
SDDR	**Presa de Saban**	**3.18**	**277**	*e*Pn	Pn	08 01 48.8	+1.8

IDC 19 08:06:40.4±2.4, 6°.51S×130°.12E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=152.7km s-min=31.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**163**	Pn	Pn	08 10 00.1	+0.3
0.5nm,0.3s,baz=346,slow=13,SNR=24							
WRA				Sn	Sn	08 12 22.1	-14
0.8nm,0.3s,baz=334,slow=21,SNR=9.3							
ASAR	**Alice Springs**	**17.44**	**168**	P	Pn	08 10 45.1	-0.2
0.2nm,0.3s,baz=349,slow=9.3,SNR=11							
ASAR				S	Sn	08 13 47.9	-12
0.2nm,0.3s,baz=74,slow=17,SNR=5.5							
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	08 17 40.8	0.0
0.4nm,0.4s,baz=112,slow=6.8,SNR=6.3							

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*NIED **19** 08:11:00, 26°.60N×143°.90E, h35km, Mw4.6 Best double couple: M0=9.02000×10^15 NP1:φs=91.00000°, δ=36.00000°, λ=-121.00000°. NP2:φs=309.00000°, δ=60.00000°, λ=-69.00000°.*
*BJI **19** 08:11:00.2, 25°.93N×143°.57E, h10km, mb4.6/18, mB4.8/10, Ms4.8/3, Ms7 4.4/2*
*IDC **19** 08:11:00.2±0.5, 26°.23N×143°.87E, h0km, mb4.4/29, mb1 4.5/32, mb1mx4.5/44, mbtmp4.4/32, ML4.2/3, MS3.3/10, Ms1 3.4/10, ms1mx3.0/44, Error ellipse: s-maj=16.3km s-min=12.6km az=79.0*
*MOS **19** 08:11:03.7±0.9, 26°.24N×143°.83E, h35km, mb4.8/36, Error ellipse: s-maj=13.9km s-min=6.3km az=114.5*
*NEIC **19** 08:11:05.6±0.3, 26°.23N×143°.82E, h35km, mb4.8/8, Error ellipse: s-maj=7.6km s-min=5.9km az=63.0*
*JMA **19** 08:11:05.9±0.1, 26°.61N×143°.92E, h43km, M4.7*
*ISCJB **19** 08:11:05.2±0.4, 26°.59N±0°.05×143°.93E±0°.04, h33km, mb4.5/52, MS3.4/8, Error ellipse: s-maj=6.8km s-min=5.3km az=16.3*
ISC 19 08:11:06.0±0.6, 26°.39N±0°.06×143°.86E±0°.06, h35km±2km, n104, σ1$42/122, mb4.5/52, MS3.4/8, 9C-2D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.52**	**279**	P	**Pn**	**08 11 31.9**	**+1.1**
JHHJ				S	**Sn**	**08 11 51.3**	**+1.9**
CBIJ	**Chichi jima**	**1.65**	**295**	P	**Pn**	**08 11 32.9**	**+0.4**
CBIJ				*e*S	**Sn**	**08 11 52.7**	**+0.2**
CBIJ	**Chichi jima**	**1.65**	**295**	*e*Pn	**Pn**	**08 11 33.0**	**+0.5**
CBIJ				*e*Sn	**Sn**	**08 11 52.7**	**+0.2**
BSO3	**Boso 3**	**8.86**	**342**	*e*S	**Sn**	**08 14 49.2**	**-0.7**
JOD2	**Odawara 2**	**9.74**	**336**	P	**Pn**	**08 13 24.4**	**+0.7**
JHU	**Hanno**	**10.21**	**339**	P	**Pn**	**08 13 30.1**	**0.0**
JHU				*e*S	**Sn**	**08 15 18.8**	**-4.5**
JRY	**Ryogami san**	**10.49**	**337**	P	**Pn**	**08 13 34.4**	**+0.5**
JRY				*e*S	**Sn**	**08 15 28.0**	**-2.2**
JHO	**Hitachi**	**10.56**	**345**	P	**Pn**	**08 13 31.8**	**-3.1**
JHO				*e*S	Sn	08 15 23.7	-8.3
JAG	**Ashikaga**	**10.68**	**340**	P	**Pn**	**08 13 36.8**	**+0.3**
JAG				*e*S	**Sn**	**08 15 30.4**	**-4.5**
MJAR	**Matsushiro Arr**	**11.20**	**336**	Pn	**Pn**	**08 13 44.4**	**+0.7**
4.0nm,0.3s,baz=153,slow=11,SNR=12							
MJAR				Sn	**Sn**	**08 15 47.3**	**-0.4**
2.7nm,0.3s,baz=128,slow=13,SNR=8.2							
MAJO	**Matsushiro**	**11.21**	**336⇑**	*i*P	**Pn**	**08 13 45.8**	**+2.1**
MAJO	**Matsushiro**	**11.21**	**336**	*e*Pn	**Pn**	**08 13 44.6**	**+0.9**
13nm,0.4s							
MAT	**Matsushiro**	**11.21**	**336**	P	**Pn**	**08 13 44.6**	**+0.9**
MAT				*e*S	**Sn**	**08 15 44.6**	**-3.1**
JFK	**Kawauchi**	**11.23**	**348**	P	**Pn**	**08 13 44.1**	**0.0**
GUMO	**Guam**	**12.77**	**176**	LR	LR	08 17 45.6	
comp=Z,59nm,21.6s,baz=14,slow=32							
KSRS	**Korea Array**	**17.43**	**313**	P	**Pn**	**08 15 07.2**	**+0.8**
0.4nm,0.3s,baz=122,slow=13,SNR=22							
KSRS				LR	LR	08 21 22.1	
comp=Z,86nm,20.0s,baz=128,slow=35							
KSAR	**Wonju Array Be**	**17.44**	**313**	P	**Pn**	**08 15 07.2**	**+0.6**
KSAR	**Wonju Array Be**	**17.44**	**313**	P	**Pn**	**08 15 07.2**	**+0.6**
SHO	**Shikotan**	**17.60**	**7**	*e*P	**Pn**	**08 15 06.3**	**-2.2**
SHO				pmax	pmax		
comp=Z,30nm,0.5s							
ASAJ	**Asahikawa**	**17.71**	**357**	P	**P**	**08 15 11.6**	**+1.2**
comp=Z,1.4nm,0.3s,baz=231,slow=14,SNR=5.3							
USRK	**Ussuriysk Ar.**	**20.20**	**335**	P	Pn	08 15 41.7	+2.0
comp=Z,12nm,0.7s,baz=164,slow=11,SNR=28							
H11N2	**WAKE ISLAND Hy**	**22.19**	**103**	T	T	08 38 45.5	
baz=291,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**22.20**	**103**	T	T	08 38 39.7	
baz=291,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**22.21**	**103**	T	T	08 38 40.2	
baz=291,slow=75,SNR=31							
H11S3	**WAKE ISLAND Hy**	**22.50**	**106**	T	T	08 39 00.4	
baz=294,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy**	**22.50**	**106**	T	T	08 39 02.7	
baz=294,slow=75,SNR=44							
H11S2	**WAKE ISLAND Hy**	**22.51**	**106**	T	T	08 39 03.5	
baz=294,slow=75,SNR=52							
PETK	**Petropavlovsk-**	**28.62**	**18**	LR	LR	08 26 25.4	
comp=Z,48nm,21.7s,baz=174,slow=32							
XAN	**Xi'an**	**31.02**	**293**	P	**P**	**08 17 19.5**	**-1.1**
XAN				pmax	pmax		
comp=Z,12nm,1.0s							
XAN				pmax	pmax		
comp=Z,60nm,13.5s							
ULN	**Ulaanbaatar**	**35.86**	**316⇑**	*i*P	**P**	**08 18 04.1**	**+1.5**
ULN				*i* *PP	**sP**	**08 18 15.3**	**-1.6**
ULN				pmax	pmax		
comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**36.25**	**316**	P	**P**	**08 18 07.0**	**+1.0**
comp=Z,2.3nm,0.5s,baz=126,slow=8.3,SNR=15							
SONM				PcP	**PcP**	**08 20 30.9**	**+0.4**
comp=Z,1.6nm,0.9s,baz=158,slow=2.8,SNR=4.7							
SONM				LR	LR	08 31 49.0	
comp=Z,58nm,19.4s,baz=76,slow=34							
SEY	**Seymchan**	**36.97**	**6**	P	**P**	**08 18 13.3**	**+1.6**
comp=Z,2.6nm,0.8s,baz=52,slow=17,SNR=3.9							
GTA	**Gaotai**	**38.83**	**301**	⇑P	**P**	**08 18 27.1**	**-0.8**
GTA				pP	pP	08 18 35.1	-2.9
GTA				sP	sP	08 18 39.1	-3.0
GTA				pmax	pmax		
comp=Z,9.0nm,1.0s							
ZAK	**Zakamensk**	**39.12**	**319**	*e*P	**P**	**08 18 30.8**	**+0.7**
ZAK				pmax	pmax		
comp=Z,10.0nm,1.2s							
TLY	**Talaya**	**39.43**	**321**	P	**P**	**08 18 34.5**	**+1.9**
comp=Z,6.8nm,0.7s,baz=203,slow=3.4,SNR=6.2							
CMAR	**Chiang Mai Arr**	**42.09**	**269**	P	**P**	**08 18 54.4**	**-0.6**
comp=Z,2.3nm,0.6s,baz=58,slow=8.3,SNR=14							
CMAR				LR	LR	08 36 16.0	
comp=Z,36nm,18.5s,baz=205,slow=36							
BILL	**Bilibino**	**43.82**	**12**	*i* P	**P**	**08 19 08.6**	**+0.4**
BILL				pmax	pmax		
comp=Z,6.0nm,1.1s							
TIXI	**Tiksi**	**46.07**	**353**	P	**P**	**08 19 27.3**	**+1.2**
comp=Z,0.8nm,0.5s,baz=108,slow=3.2,SNR=2.4							
TIXI				PcP	**PcP**	**08 21 01.9**	**0.0**
comp=Z,0.7nm,0.3s,baz=194,slow=4.2,SNR=2.2							
WRAB	**Tennant Creek**	**46.97**	**192⇑**	*i*P	**P**	**08 19 31.9**	**-1.8**
WRAB				*i* *PP	**sP**	**08 19 48.6**	**+0.5**
WRAB				pmax	pmax		
comp=Z,14nm,0.9s							
WRAB	**Tennant Creek**	**46.97**	**192**	*e*P	**P**	**08 19 31.7**	**-2.0**
comp=Z,5.8nm,0.4s							
WRA	**Warramunga Arr**	**46.98**	**192**	P	**P**	**08 19 31.6**	**-2.1**
comp=Z,3.9nm,0.6s,baz=12,slow=8.5,SNR=19							
WRA				PcP	**PcP**	**08 21 05.0**	**-0.9**
comp=Z,1.9nm,0.6s,baz=7.0,slow=3.7,SNR=5.0							
DGZ	**Jazzator, Alta**	**48.83**	**314**	*i* P	**P**	**08 19 49.6**	**+1.5**
DGZ				pmax	pmax		
comp=Z,13nm,1.0s							
ASAR	**Alice Springs**	**50.69**	**192**	P	**P**	**08 20 00.4**	**-1.9**
comp=Z,0.3nm,0.5s,baz=17,slow=11,SNR=6.7							
ASAR				PcP	**PcP**	**08 21 18.6**	**-0.7**
comp=Z,2.9nm,0.7s,baz=16,slow=3.7,SNR=18							
ASAR	**Alice Springs**	**50.69**	**192**	*e*P	**P**	**08 20 02.4**	**+0.1**
ZALV	**Zalesovo Beam**	**50.99**	**319**	P	**P**	**08 20 04.5**	**+0.3**
comp=Z,3.5nm,0.6s,baz=101,slow=7.8,SNR=11							
ZALV				PcP	**PcP**	**08 21 19

BRVK pmax pmax
comp=Z,45nm,2.5s
BRVK Borovoye 59.63 318 *e*P **P 08 21 07.1 +0.6**
comp=Z,14nm,0.9s
KK31 Karatay Array 60.70 306 *i* P **P 08 21 14.6 +0.6**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 60.70 306 *e*P **P 08 21 14.6 +0.6**
KKAR pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 60.70 306 *e*P **P 08 21 14.6 +0.6**
comp=Z,13nm,0.7s
INK Inuvik 63.05 24 P **P 08 21 30.1 +0.8**
comp=Z,4.8nm,0.6s,baz=292,slow=6.7,SNR=14
ARU Arti 65.89 323 P **P 08 21 47.0 -1.1**
comp=Z,4.4nm,0.2s,baz=119,slow=3.2,SNR=6.1
ARU Arti 65.89 323 *d i*P **P 08 21 46.8 -1.3**
ARU 08 24 09.3
ARU S **S 08 30 32.2 -0.5**
ARU SS **SS 08 34 47.1 -0.2**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 65.89 323 P **P 08 21 47.0 -1.1**
ARU *e*P **P 08 21 48.0 -0.1**
DLBC Dease Lake 65.92 35 LR LR 08 47 37.2
comp=Z,38nm,20.6s,baz=252,slow=33
ABKAR Akbulak array 66.65 315 *e*P **P 08 21 53.0 -0.1**
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 67.57 316 P **P 08 21 58.6 -0.4**
comp=Z,1.5nm,0.6s,baz=116,slow=12,SNR=5.0
YKA Yellowknife Ar 72.04 29 P **P 08 22 25.9 -0.2**
comp=Z,3.7nm,0.6s,baz=294,slow=5.8,SNR=6.0
YKA Yellowknife Ar 72.04 29 *e*P **P 08 22 26.4 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.6s
KLMR Klimovskoe 73.93 330 *e*P **P 08 22 36.4 -1.0**
KLMR pmax pmax
comp=Z,12nm,1.1s
ARCES ARCESS Array B 74.69 341 P **P 08 22 41.6 -0.1**
comp=Z,2.9nm,0.8s,baz=36,slow=11,SNR=2.4
OBN Obninsk 77.95 326 *i* P **P 08 22 59.1 -1.3**
OBN pmax pmax
comp=Z,9.0nm,1.1s
CMB Columbia Colle 78.45 53 *e*P **P 08 23 03.7 +0.1**
CMB pmax pmax
comp=Z,12nm,0.6s
CMB Columbia Colle 78.45 53 *e*P **P 08 23 03.7 +0.1**
comp=Z,12nm,0.6s
FINES FINESS Array B 79.23 334 P **P 08 23 07.5 +0.2**
comp=Z,3.1nm,0.3s,baz=79,slow=4.7,SNR=42
KBZ Khabaz 79.58 314 P **P 08 23 10.4 +0.9**
comp=Z,8.8nm,0.8s,baz=94,slow=4.9,SNR=8.7
IMW Indian Meadow 82.22 45 *e*P **P 08 23 25.3 +1.2**
comp=Z,2.2nm,0.8s
RLMT Red Lodge 82.65 43 *e*P **P 08 23 27.1 +0.9**
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 83.65 45 P **P 08 23 31.3 -0.2**
comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=6.9
PDAR LR LR 08 56 59.0
comp=Z,40nm,19.7s,baz=314,slow=33
AKASG Malin Array Be 84.06 324 P **P 08 23 32.4 -0.7**
comp=Z,2.4nm,0.4s,baz=52,slow=5.1,SNR=16
KIEV Kiev 84.07 324 ⇑ *i*P **P 08 23 32.6 -0.5**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 84.81 339 P **P 08 23 36.2 -0.5**
comp=Z,4.2nm,0.7s,baz=42,slow=5.1
NOA NORSAR Array B 84.81 339 P **P 08 23 36.3 -0.5**
comp=Z,7.3nm,0.8s,baz=43,slow=4.9,SNR=14
RAYN Ar Rayn 86.80 295 *e*P **P 08 23 47.1 -0.2**
comp=Z,5.7nm,0.6s
ULM Lac du Bonnet 87.21 34 LR LR 09 01 43.6
comp=Z,12nm,20.0s,baz=328,slow=35
BRTR Keskin Array B 87.57 314 P **P 08 23 49.9 -1.0**
comp=Z,1.4nm,0.8s,baz=87,slow=4.3,SNR=3.9
BRTR Keskin Array B 87.57 314 *e*P **P 08 23 50.3 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 89.78 51 ⇓ *i*P **P 08 24 01.8 +0.3**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
VYHS Vyhne 90.70 327 *e*P **P 08 24 04.7 -0.6**
VYHS Vyhne 90.70 327 *e*P **P 08 24 04.7 -0.6**
CLL Collm 91.38 332 *i* P **P 08 24 07.3 -1.0**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 91.38 332 *i* P **P 08 24 07.3 -1.0**
comp=Z,4.0nm,0.7s
GERES GERESS Array B 92.88 330 P **P 08 24 14.7 -0.8**
comp=Z,1.3nm,0.7s,baz=18,slow=4.8,SNR=6.4
TXAR Lajitas Array 94.81 54 P **P 08 24 25.3 +0.6**
comp=Z,1.1nm,0.8s,baz=314,slow=2.0,SNR=13
TORD Torodi Ar. Bea 126.16 312 PKP **PKPdf 08 30 05.1 -0.5**
comp=Z,1.3nm,0.5s,baz=46,slow=1.2,SNR=16
PLCA Paso Flores 148.19 125 PKPbc **PKPbc 08 30 48.5 +0.1**
comp=Z,5.7nm,0.6s,baz=261,slow=3.1,SNR=20
LPAZ La Paz 148.63 78 PKPbc **PKPbc 08 30 51.3 +0.3**
comp=Z,3.0nm,0.5s,baz=22,slow=3.6,SNR=17
SAML Samuel 149.05 61 *e*PKPdf **PKPdf 08 30 48.3 +1.1**
SAML *e*PKPbc **PKPbc 08 30 50.6 -0.7**

IDC 19 08:29:16.0±3.8, 53°.68N×90°.86E, h0km, mb1 3.0/3, mb1mx2.9/42, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=37.7km s-min=24.9km az=31.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**277**	*i*		08 55 50.0	
	baz=90,slow=334,SNR=1.6						
ZALV	**Zalesovo Beam**	**3.59**	**277**	Pn	Pn	08 30 15.0	+2.1
	0.6nm,0.3s,baz=97,slow=14,SNR=3.5						
ZALV				Pg	Pb	08 30 20.0	-0.3
	0.9nm,0.3s,baz=92,slow=15,SNR=4.7						
ZALV				Lg	Lg	08 31 09.1	
	1.3nm,0.3s,baz=89,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**8.18**	**253**	Pn	Pn	08 31 15.8	0.0
	0.1nm,0.3s,baz=66,slow=14,SNR=4.4						
KURBB				Sn	Sn	08 32 47.3	-1.6
	0.0nm,0.3s,baz=69,slow=26,SNR=3.8						
KURBB				Lg	Lg	08 33 35.0	
	0.0nm,0.3s,baz=70,slow=31,SNR=5.5						
MKAR	**Makanchi Array**	**8.81**	**222**	Pn	Pn	08 31 25.1	+0.5
	0.2nm,0.3s,baz=37,slow=13,SNR=5.0						
I34MN	**SONGINO INFRAS**	**11.47**	**115**	*i*		09 36 50.0	
	baz=310,slow=321,SNR=0.2						

CSEM ***19*** *08:52:51.7, 43°.10N×13°.49E, h22km, MD2.1/14*
ROM 19 08:52:51.7±0.2, 43°.10N×13°.49E, h22km±3km, Md2.1/14, Ml1.8/11, Error ellipse: s-maj=2.4km s-min=1.8km az=103.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.22**	**140**	Pg	Pb	08 52 58.4	+0.8
	110nm,0.2s						
OFFI	**Offida**	**0.22**	**140**	Pg	Pb	08 52 58.4	+0.8
	110nm,0.2s						
FDMO	**Fiordimonte**	**0.30**	**258**	Pg	Pb	08 52 58.3	-0.3
FDMO				Sg	Sb	08 53 03.7	+0.4
	325nm,0.2s						
FDMO	**Fiordimonte**	**0.30**	**258**	Pg	Pb	08 52 58.3	-0.3
FDMO				Sg	Sb	08 53 03.7	+0.4
	325nm,0.2s						
GUMA	**Gualdo di Mace**	**0.33**	**97**	Pg	Pb	08 52 56.1	-2.8
GUMA				Sg	Sb	08 52 59.5	-4.3
GUMA	**Gualdo di Mace**	**0.33**	**97**	Pg	Pb	08 52 56.1	-2.8
GUMA				Sg	Sb	08 52 59.5	-4.3
CING	**Cingoli**	**0.35**	**322**	Pg	Pb	08 52 59.1	-0.2
CING				Sg	Sb	08 53 05.0	+0.6
	65nm,0.2s						
CING	**Cingoli**	**0.35**	**322**	Pg	Pb	08 52 59.1	-0.2
CING				Sg	Sb	08 53 05.0	+0.6
	65nm,0.2s						
SNTG	**Esanatoglia**	**0.43**	**291**	Pg	Pb	08 53 00.4	-0.2
SNTG				Sg	Sb	08 53 07.5	+0.8
	68nm,0.1s						
SNTG	**Esanatoglia**	**0.43**	**291**	Pg	Pb	08 53 00.4	-0.2
SNTG				Sg	Sb	08 53 07.5	+0.8
	68nm,0.1s						
CESI	**CESI - Serrava**	**0.44**	**258**	Pg	Pb	08 53 00.8	0.0
CESI				Sg	Sb	08 53 08.0	+1.0
	75nm,0.3s						
CESI	**CESI - Serrava**	**0.44**	**258**	Pg	Pb	08 53 00.8	0.0
CESI				Sg	Sb	08 53 08.0	+1.0
	75nm,0.3s						
AOI	**Ancona**	**0.46**	**10**	Pg	Pb	08 53 01.1	+0.1
AOI				Sg	Sn	08 53 09.0	-1.5
AOI	**Ancona**	**0.46**	**10**	Pg	Pb	08 53 01.1	+0.1
AOI				Sg	Sn	08 53 09.0	-1.5
SMA1	**SAN MARTINO**	**0.48**	**194**	Pg	Pb	08 53 01.3	-0.3
SMA1				Sg	Sb	08 53 09.1	+0.8
	48nm,0.3s						
SMA1	**SAN MARTINO**	**0.48**	**194**	Pg	Pb	08 53 01.3	-0.3
SMA1				Sg	Sb	08 53 09.1	+0.8
	48nm,0.3s						
ARVD	**Arcevia**	**0.56**	**315**	Pg	Pb	08 53 02.9	-0.1
ARVD				Sg	Sb	08 53 11.8	+1.1
	18nm,0.6s						
ARVD	**Arcevia**	**0.56**	**315**	Pg	Pb	08 53 02.9	-0.1
ARVD				Sg	Sb	08 53 11.8	+1.1
	18nm,0.6s						
LNSS	**Leonessa**	**0.60**	**214**	Pg	Pb	08 53 03.5	-0.1
LNSS				Sg	Sn	08 53 13.1	-1.0
LNSS	**Leonessa**	**0.60**	**214**	Pg	Pb	08 53 03.5	-0.1
LNSS				Sg	Sn	08 53 13.1	-1.0
SSFR	**Montelago di S**	**0.62**	**303**	Pg	Pb	08 53 03.7	-0.2
	60nm,0.2s						
SSFR	**Montelago di S**	**0.62**	**303**	Pg	Pb	08 53 03.7	-0.2
	60nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.63**	**278**	Pg	Pb	08 53 03.9	-0.2
ATCC				Sg	Sn	08 53 13.7	-1.1
	47nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.63**	**278**	Pg	Pb	08 53 03.9	-0.2
ATCC				Sg	Sn	08 53 13.7	-1.1
	47nm,0.2s						
FRON	**Frontone**	**0.70**	**307**	Pg	Pb	08 53 05.2	0.0
	31nm,0.2s						
FRON	**Frontone**	**0.70**	**307**	Pg	Pb	08 53 05.2	0.0
	31nm,0.2s						
PIEI	**Pieia**	**0.82**	**302**	Pg	Pb	08 53 07.1	-0.2
	21nm,0.4s						
PIEI	**Pieia**	**0.82**	**302**	Pg	Pb	08 53 07.1	-0.2
	21nm,0.4s						

MEX 19 09:00:03.7±0.3, 17°.27N×101°.39W, h15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.34**	**348**	*e*P	Pg	09 00 10.0	-0.8
ZIIG				*e*S	Sg	09 00 14.8	-0.7
CAIG	**El Cayaco**	**1.10**	**102**	*e*P	Pg	09 00 25.5	+0.6
ARIG	**Puente Sto Nin**	**1.41**	**45**	*e*P	Pn	09 00 25.4	-3.5
ARIG				*e*S	Sn	09 00 42.2	-5.1
MEIG	**Mezcala**	**1.81**	**69**	*e*P	Pn	09 00 31.2	-3.2
MEIG				*i* S	Sn	09 00 52.4	-4.8
PLIG	**Platanillo**	**2.12**	**58**	*e*P	Pn	09 00 34.9	-3.7
PLIG				*e*S	Sn	09 01 00.3	-4.5
MMIG	**Aquila**	**2.12**	**299**	*e*P	Pn	09 00 35.7	-2.9
TLIG	**Tlapa**	**2.71**	**83**	*e*P	Pb	09 00 52.3	+0.3

CSEM 19 09:24:28.0±0.2, 42°.65N×18°.49E, h15km, ML1.3, 3C, Error ellipse: s-maj=4.9km s-min=3.2km az=50.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.12**	**305**	⇑ *i*Pg	Pg	09 24 31.7	+0.1
TREB				*e*Sg	Sb	09 24 34.6	-0.1
HCY	**Herceg Novi**	**0.20**	**178**	*e*Pg	Pg	09 24 32.8	+0.1
HCY				*e*Sg	Sb	09 24 36.4	-0.6
BRY	**Bratogost**	**0.26**	**9**	⇑ *i*Pg	Pg	09 24 33.4	-0.3
BRY				*e*Sg	Sb	09 24 38.3	-0.5
PDG	**Podgorica**	**0.61**	**111**	*e*Sg	Sb	09 24 48.6	-0.1
STON	**Ston**	**0.62**	**291**	*e*Pg	Pg	09 24 39.5	-0.6
STON				Sg	Sb	09 24 50.0	+1.0
STON	**Ston**	**0.62**	**291**	*e*Pg	Pg	09 24 39.5	-0.7
STON				Sg	Sb	09 24 50.0	+1.0
UPM	**Unac-Piva**	**0.64**	**29**	*e*Sg	Sb	09 24 49.8	+0.1
DRME	**Dracevica, Mon**	**0.69**	**131**	⇑ *i*Pg	Pg	09 24 41.2	-0.3
DRME				*e*Sg	Sb	09 24 51.3	+0.2

NIED ***19*** *09:25:00, 37°.80N×141°.80E, h35km, Mw3.6 Best double couple: M0=2.97000×10^14 NP1:φ=121.00000°, δ=34.00000°, λ=-57.00000°. NP2:φ=263.00000°, δ=63.00000°, λ=-110.00000°.*

JMA 19 09:25:46.4±0.1, 37°.79N×141°.78E, h33km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.74**	**333**	P	Pn	09 26 00.5	-0.1
JIO				S	Sn	09 26 09.7	-1.1
JMM	**Marumori**	**0.79**	**276**	P	Pn	09 26 01.2	+0.1
JMM				*e*S	Sn	09 26 11.3	-0.4
JFK	**Kawauchi**	**0.83**	**240**	P	Pn	09 26 01.7	-0.2
JFK				S	Sn	09 26 12.2	-0.8
ONAJ	**Iwakimizuishiy**	**1.04**	**229**	P	Pn	09 26 04.6	-0.1
ONAJ				S	Sn	09 26 18.0	-0.1
JOU	**Okura**	**1.05**	**303**	P	Pn	09 26 05.4	+0.6
JOU				S	Sn	09 26 18.5	+0.1
JFT	**Otama**	**1.18**	**257**	P	Pb	09 26 07.7	-0.5
JFT				S	Sb	09 26 22.4	-0.8
JMK	**Ichinoseki**	**1.24**	**339**	P	Pn	09 26 07.9	+0.5
JMK				S	Sn	09 26 23.1	+0.1
JYS	**Shirataka**	**1.42**	**288**	P	Pb	09 26 11.2	-1.1
JYS				S	Sb	09 26 29.6	-0.5
JYK	**Kaneyama**	**1.59**	**316**	P	Pn	09 26 13.0	+0.8
JFY	**Yanaizu**	**1.69**	**258**	P	Pn	09 26 15.0	+1.3
JFY				S	Sb	09 26 37.3	-0.6
JOM	**Ohasama**	**1.72**	**347**	P	Pn	09 26 15.0	+0.9
MAT	**Matsushiro**	**3.11**	**248**	P	Pn	09 26 35.3	+2.1
MAT				*e*S	Sn	09 27 10.9	+1.6

MEX 19 09:30:39.1±0.5, 16°.05N×97°.07W, h22km±69km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.97**	**107**	*e*P	Pb	09 30 54.3	-2.9
HUIG				*e*S	Sb	09 31 05.8	-3.7
VHO	**Vista Hermosa**	**1.07**	**18**	*i* P	Pn	09 30 55.8	-3.1
VHO				*e*S	Sb	09 31 08.9	-3.8
PNIG	**Pinotepa**	**1.07**	**289**	*e*P	Pn	09 30 55.8	-3.0
PNIG				*e*S	Sb	09 31 08.6	-3.9
CMIG	**Matias Romero**	**2.34**	**63**	*e*P	Pn	09 31 15.6	-0.6
PCIG		**3.72**	**95**	*e*P	Pn	09 31 32.5	-2.8

ISCJB ***19*** *09:58:16.9±0.6, 50°.21N±0°.04×19°.16E±0°.03, h0km, Error ellipse: s-maj=6.4km s-min=2.3km az=17.4*
CSEM ***19*** *09:58:18.5±0.4, 50°.18N×19°.23E, h2km, ML3.2/7, Error ellipse: s-maj=10.4km s-min=4.4km az=12.0*
PRU ***19*** *09:58:19.0, 50°.21N×19°.24E, h0km*
WAR ***19*** *09:58:19.5, 50°.18N×19°.36E, h1km, Mw2.6*

ISC 19 09:58:18.8±0.8, 50°.14N±0°.04×19°.26E±0°.02, h0km, n38, σ0=98/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**77**	*e*Pg	**Pg**	**09 58 24.9**	**-0.6**
OJC				*e*Sg	**Sg**	**09 58 29.3**	**-0.8**
OJC	**Ojcow**	**0.35**	**77**	*e*Pg	**Pg**	**09 58 24.9**	**-0.6**
OJC				*e*Sg	**Sg**	**09 58 29.3**	**-0.8**
OJC	**Ojcow**	**0.35**	**77**	*e*Pg	**Pg**	**09 58 24.9**	**-0.6**
OJC				*e*Sg	**Sg**	**09 58 29.3**	**-0.8**
OKC	**Ostrava-Krasne**	**0.78**	**247**	*e*PG	**Pb**	**09 58 35.5**	**+0.3**
OKC				*e*SG	**Sb**	**09 58 46.8**	**+0.5**
	comp=Z,33nm,0.4s						
OKC	**Ostrava-Krasne**	**0.78**	**247**	Pg	**Pb**	**09 58 35.5**	**+0.3**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**09 58 37.8**	**+0.1**
NIE				*e*Sg	**Sb**	**09 58 52.2**	**-0.2**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**09 58 37.8**	**+0.1**
NIE				*e*Sg	**Sb**	**09 58 52.2**	**-0.2**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**09 58 37.8**	**+0.1**
NIE				*e*Sg	**Sb**	**09 58 52.2**	**-0.2**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*Pg	**Pb**	**09 58 38.9**	**-0.1**
LANS				*e*Sn	**Sb**	**09 58 53.1**	**+0.4**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*PG	**Pb**	**09 58 38.9**	**-0.1**
LANS				*e*SN	**Sb**	**09 58 53.1**	**+0.4**
MORC	**Moravsky Berou**	**1.17**	**252**	*e*Pg	**Pg**	**09 58 41.4**	**+0.3**
MORC				*e*Sg	**Sb**	**09 58 58.0**	**+0.4**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*Pn	**Pb**	**09 58 47.4**	**+0.3**
STHS				*e*Sn	**Sn**	**09 59 07.9**	**+1.3**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*PN	**Pb**	**09 58 47.4**	**+0.3**
STHS				*e*SN	**Sn**	**09 59 07.9**	**+1.3**
STHS				*e*LG	Lg	09 59 09.3	
KRLC	**Kraliky**	**1.60**	**269**	*e*PG	**Pn**	**09 58 48.2**	**-0.1**
KRLC				*e*SG	**Sn**	**09 59 09.7**	**0.0**
KRLC	**Kraliky**	**1.60**	**269**	Pg	**Pn**	**09 58 48.2**	**-0.1**
KRLC				Sg	**Sn**	**09 59 09.7**	**0.0**
VYHS	**Vyhne**	**1.67**	**190**	*e*Pg	**Pn**	**09 58 49.1**	**-0.2**
VYHS				*e*Sn	**Sn**	**09 59 11.5**	**+0.1**
VYHS	**Vyhne**	**1.67**	**190**	*e*PG	**Pn**	**09 58 49.1**	**-0.2**
VYHS				*e*SN	**Sn**	**09 59 11.5**	**+0.1**
VYHS				*e*LG	Lg	09 59 14.8	
KECS	**Kecovo**	**1.84**	**154**	*e*Sn	**Sb**	**09 59 17.2**	**+0.3**
KECS	**Kecovo**	**1.84**	**154**	*e*SN	**Sb**	**09 59 17.2**	**+0.3**
KECS				*e*LG	Lg	09 59 20.9	
CRVS	**Cervenica-Dubn**	**1.90**	**130**	*e*Sn	**Sg**	**09 59 19.2**	**-0.4**
CRVS	**Cervenica-Dubn**	**1.90**	**130**	*e*SN	**Sg**	**09 59 19.2**	**-0.4**
DPC	**Dobruska-Polom**	**1.90**	**277**	*e*PG	**Pn**	**09 58 52.8**	**+0.4**
DPC				*e*SG	**Sb**	**09 59 18.1**	**-0.5**
	comp=Z,29nm,0.4s						
DPC	**Dobruska-Polom**	**1.90**	**277**	Pg	**Pn**	**09 58 52.8**	**+0.4**
DPC				Sg	**Sb**	**09 59 18.1**	**-0.5**
	29nm,0.4s						
VRAC	**Vranov**	**1.92**	**245**	*e*Pn	**Pb**	**09 58 54.4**	**-0.3**
VRAC				*e*Sg	**Sg**	**09 59 20.1**	**-0.4**
UPC	**Upice**	**2.12**	**281**	*e*SG	**Sg**	**09 59 27.0**	**+0.3**
	comp=Z,14nm,0.6s						
UPC	**Upice**	**2.12**	**281**	Sg	**Sg**	**09 59 27.0**	**+0.3**
	14nm,0.6s						
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	*e*SG	**Sb**	**09 59 49.4**	**+2.2**
	comp=Z,9.4nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	Sg	**Sb**	**09 59 49.4**	**+2.2**
	9.4nm,0.4s						
PVCC	**Panska Ves**	**3.03**	**279**	*e*SG	**Sg**	**09 59 54.1**	**-2.0**
	comp=Z,16nm,0.4s						
PVCC	**Panska Ves**	**3.03**	**279**	Sg	**Sg**	**09 59 54.1**	**-2.0**
	16nm,0.4s						
PRU	**Pruhonice**	**3.04**	**269**	*e*SG	**Sg**	**09 59 54.3**	**-2.2**
	comp=Z,9.7nm,0.4s						
PRU	**Pruhonice**	**3.04**	**269**	Sg	**Sg**	**09 59 54.3**	**-2.2**
	9.7nm,0.4s						
BRG	**Berggiesshubel**	**3.47**	**284**	SG	**Sg**	**10 00 09.6**	**-0.7**
	7.5nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	*e*PN	**Pn**	**09 59 19.7**	**+0.7**
KHC				*e*PG	**Pg**	**09 59 32.2**	**+0.1**
KHC				*e*SG	**Sg**	**10 00 19.0**	**-2.7**
	comp=Z,7.8nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	Pn	**Pn**	**09 59 19.7**	**+0.7**
KHC				Sg	**Sg**	**10 00 19.0**	**-2.7**
	7.8nm,0.4s						
CLL	**Collm**	**4.14**	**289**	*e*Sg	**Sg**	**10 00 32.0**	**+0.2**
NKC	**Novy Kostel**	**4.38**	**274**	*e*SG	**Sg**	**10 00 38.9**	**-0.5**
	comp=Z,5.6nm,0.4s						
NKC	**Novy Kostel**	**4.38**	**274**	Sg	**Sg**	**10 00 38.9**	**-0.5**
	5.6nm,0.4s						

IDC 19 10:20:55.5±3.4, 23°.58S×179°.87W, h458km±46km, mb3.5/5, mb1 3.6/7, mb1mx3.3/32, mbtmp4.4/7, Error ellipse: s-maj=44.9km s-min=21.1km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.30**	**40**	P	P	10 23 37.4	-0.3
	0.9nm,0.3s,baz=98,slow=19,SNR=4.2						
AFI				S	S	10 25 46.5	-5.0
	0.9nm,0.3s,baz=41,slow=19,SNR=4.4						
URZ	**Urewera**	**14.86**	**189**	P	P	10 24 04.4	-0.3
	1.2nm,0.3s,baz=289,slow=3.2,SNR=6.3						
URZ				S	S	10 26 33.0	-8.1
	0.3nm,0.3s,baz=143,slow=20,SNR=3.7						
CTA	**Charters Tower**	**31.59**	**270**	P	P	10 26 40.5	+1.1
	5.5nm,0.3s,baz=96,slow=13,SNR=18						
STKA	**Stephens Creek**	**34.95**	**248**	P	P	10 27 07.5	-0.2
	0.8nm,0.4s,baz=94,slow=9.4,SNR=6.7						
ASAR	**Alice Springs**	**42.20**	**260**	P	P	10 28 06.5	-0.6
	2.2nm,0.5s,baz=98,slow=7.1,SNR=33						
WRA	**Warramunga Arr**	**42.54**	**266**	P	P	10 28 09.1	-0.7
	4.6nm,0.5s,baz=96,slow=8.4,SNR=81						
TXAR	**Lajitas Array**	**90.16**	**58**	P	P	10 33 06.5	+0.2
	0.4nm,0.7s,baz=216,slow=6.2,SNR=4.7						

IDC 19 10:22:39.6±1.1, 16°.89N×46°.35W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/50, mbtmp3.8/6, MS3.3/5, Ms1 3.2/5, ms1mx3.0/35, Error ellipse: s-maj=32.3km s-min=25.4km az=108.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.92**	**277**	LR	LR	10 33 01.2	
	comp=Z,73nm,21.1s,baz=92,slow=33						
PTGA	**Pitinga**	**22.07**	**219**	P	P	10 27 38.1	+1.8
	1.7nm,0.9s,baz=44,slow=17,SNR=3.7						
PTGA				LR	LR	10 34 48.4	
	comp=Z,72nm,20.5s,baz=38,slow=33						
BBTS	**Babate**	**28.77**	**90**	LR	LR	10 36 22.6	
	comp=Z,107nm,21.0s,baz=337,slow=29						
ROSC	**El Rosal**	**29.91**	**250**	LR	LR	10 41 42.8	
	comp=Z,46nm,20.1s,baz=236,slow=38						
LPAZ	**La Paz**	**39.35**	**214**	P	P	10 30 09.9	-1.8
	1.7nm,0.8s,baz=20,slow=8.7,SNR=5.7						
H10N3	**ASCENSION HYDR**	**39.95**	**125**	T	T	11 12 30.1	
	baz=308,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**39.95**	**125**	T	T	11 12 30.7	
	baz=308,slow=75,SNR=33						
H10N1	**ASCENSION HYDR**	**39.97**	**125**	T	T	11 12 32.0	
	baz=308,slow=75,SNR=42						
H10S3	**ASCENSION HYDR**	**40.52**	**127**	T	T	11 13 13.7	
	baz=309,slow=75,SNR=27						
H10S1	**ASCENSION HYDR**	**40.52**	**127**	T	T	11 13 12.8	
	baz=309,slow=75,SNR=31						
H10S2	**ASCENSION HYDR**	**40.54**	**127**	T	T	11 13 14.9	
	baz=309,slow=75,SNR=26						
CPUP	**Villa Florida**	**44.27**	**194**	P	P	10 30 51.2	+0.2
	3.2nm,0.7s,baz=34,slow=7.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**46.47**	**88**	P	P	10 31 08.8	0.0
	0.6nm,0.8s,baz=290,slow=7.8,SNR=3.6						
TXAR	**Lajitas Array**	**53.69**	**294**	P	P	10 32 03.5	-0.1
	0.4nm,0.9s,baz=83,slow=7.6,SNR=3.1						
TXAR				LR	LR	10 56 30.3	
	comp=Z,16nm,18.5s,baz=0.0,slow=38						
ILAR	**Eielson Array**	**79.28**	**335**	P	P	10 34 46.9	+0.2
	1.4nm,0.8s,baz=71,slow=4.9,SNR=8.0						

MEX 19 10:36:40.7±0.8, 17°.08N×94°.67W, h145km±10km, MD3.9, Chiapas

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

CUALT			*i* S		**Sb**	**10 40 30.4**	**-0.4**
CUALT	**Altinyayla-SIV**	**0.43 208**	P		**Pg**	**10 40 22.9**	**-0.2**
CUALT			S		**Sb**	**10 40 30.5**	**-0.4**
CUKAN	**kangal_SIVAS**	**0.48 134**	*i* P		**Pg**	**10 40 23.3**	**-0.7**
CUKAN			*i* S		**Sb**	**10 40 32.9**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.48 134**	P		**Pg**	**10 40 23.3**	**-0.7**
CUKAN			S		**Sb**	**10 40 32.9**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.63 67**	*i* P		**Pg**	**10 40 25.7**	**-1.1**
CUZAR			*i* S		**Sb**	**10 40 37.0**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.63 67**	P		**Pg**	**10 40 25.7**	**-1.1**
CUZAR			S		**Sb**	**10 40 37.0**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.64 249**	*i* P		**Pg**	**10 40 25.3**	**-1.8**
CUSAR			*i* S		**Sb**	**10 40 37.2**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**0.64 249**	P		**Pg**	**10 40 25.3**	**-1.8**
SUSE	**Susehri**	**1.07 58**	*i* P		**Pg**	**10 40 34.1**	**-1.0**
SUSE			*i* S		**Sn**	**10 40 51.2**	**+0.4**
SUSE	**Susehri**	**1.07 58**	P		**Pg**	**10 40 34.2**	**-1.0**
SUSE			S		**Sn**	**10 40 51.2**	**+0.4**
DARE	**Darende-Malaty**	**1.14 161**	*e*PN		**Pb**	**10 40 36.0**	**-0.4**
DARE			*e*SN		**Sn**	**10 40 53.3**	**+0.9**
DARE	**Darende-Malaty**	**1.14 161**	*e*Pn		**Pb**	**10 40 36.0**	**-0.4**
DARE			*e*Sn		**Sn**	**10 40 53.3**	**+0.9**
KEMA	**Kemaliye**	**1.20 108**	*i* P		**Pg**	**10 40 35.2**	**-2.5**
KEMA			*i* S		**Sn**	**10 40 55.7**	**+1.7**
KEMA	**Kemaliye**	**1.20 108**	P		**Pg**	**10 40 35.2**	**-2.5**
KEMA			S		**Sn**	**10 40 55.7**	**+1.7**
BNN	**Bunyan**	**1.21 229**	*e*PN		**Pn**	**10 40 37.3**	**-0.4**
BNN			*e*SN		**Sn**	**10 40 55.3**	**+1.0**
BNN	**Bunyan**	**1.21 229**	*e*Pn		**Pn**	**10 40 37.3**	**-0.4**
BNN			*e*Sn		**Sn**	**10 40 55.3**	**+1.0**
SARI	**SarD1z-Kayseri**	**1.33 201**	*e*PN		**Pg**	**10 40 39.9**	**-0.2**

IDC ***19*** *10:40:38.2±0.5, 32.°15S×13.°35W, h0km, mb4.5/21, mb1 4.6/21, mb1mx4.5/29, mbtmp4.5/21, MS4.7/24, Ms1 4.7/24, ms1mx4.6/26, Error ellipse: s-maj=15.3km s-min=13.1km az=167.0*

ISCJB ***19*** *10:40:38.6±0.2, 32.°31S±0.°03×13.°35W±0.°06, h10km, mb5.0/79, MS4.9/32, Error ellipse: s-maj=6.9km s-min=5.0km az=6.4*

NEIC ***19*** *10:40:39.8±0.2, 32.°29S×13.°31W, h10km, mb5.2/45, Error ellipse: s-maj=6.9km s-min=6.0km az=148.0*

BJI ***19*** *10:40:39.9, 32.°30S×13.°30W, h10km, mB5.4/12, Ms5.6/10, Ms7 5.3/11*

MOS ***19*** *10:40:39.2±1.7, 32.°31S×13.°37W, h10km, mb5.3/23, MS4.8/5, Error ellipse: s-maj=15.6km s-min=7.9km az=69.3*

GCMT ***19*** *10:40:39.8±0.1, 32.°14S×13.°15W, h13km, MW5.4/128, Moment Tensor Solution. s88,c143; s128,c236; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr=0.23±.02; Mθθ=0.49±.02; Mφφ=0.71±.02; Mrθ=0.12±.04; Mθφ=1.30±.02; Mφr=0.01±.04; Best double couple: M0=1.43800×1017 NP1:φs=257.00000°, δ88.00000°, λ=-5.00000°. NP2:φs=348.00000°, δ85.00000°, λ=-178.00000°. Principal axes: T 1.5510, Plg2.0000°, Azm303.0000°; N -0.2250, Plg85.0000°, Azm58.0000°; P -1.3260, Plg5.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 10:40:40.2±0.3, 32.°26S±0.°05×13.°37W±0.°06, h10km, n254, σ1=89/219, mb5.1/82, MS4.8/34, 12C-18D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**4.87**	**170**		T	T	10 46 57.0	
	SNR=124							
TRIS	**Tristan da Cun**	**4.87**	**170**	*e*Pn		**Pn**	**10 41 51.2**	**-2.2**
TRIS				*e*Sn		**Sn**	**10 42 48.7**	**-1.2**
H09W1	**TRISTAN DA CUN**	**4.90**	**170**		T	T	10 47 01.3	
	SNR=114							
SHEL	**Horse Pasture**	**17.65**	**25**	*e*P		**Pn**	**10 44 45.3**	**-0.9**
SHEL	**Horse Pasture**	**17.65**	**25**	*e*Pn		**Pn**	**10 44 45.4**	**-0.9**
	415nm,1.6s							
H10S2	**ASCENSION HYDR**	**23.22**	**357**		T	T	11 09 47.6	
	baz=177,slow=75,SNR=907							
H10S3	**ASCENSION HYDR**	**23.23**	**357**		T	T	11 09 48.1	
	baz=177,slow=75,SNR=1097							
H10S1	**ASCENSION HYDR**	**23.24**	**357**		T	T	11 09 48.9	
	baz=177,slow=75,SNR=1130							
ASCN	**Ascension**	**24.23**	**358**	*e*P		**P**	**10 45 57.4**	**+0.2**
	230nm,1.3s							
H10N1	**ASCENSION HYDR**	**24.32**	**357**		T	T	11 11 07.7	
	baz=259							
H10N3	**ASCENSION HYDR**	**24.32**	**357**		T	T	11 11 07.5	
	baz=259,SNR=118							
H10N2	**ASCENSION HYDR**	**24.34**	**357**		T	T	11 11 07.3	
	baz=259							
HOPE	**Hope Point**	**27.48**	**210**	*e*P		**P**	**10 46 25.1**	**-1.1**
	120nm,1.8s							
SUR	**Sutherland**	**28.81**	**100**	P		P	10 47 24.3	+46
	3.3nm,0.7s,baz=259,slow=12,SNR=23							
SUR						LR	10 55 37.7	
	comp=Z,324nm,20.1s,baz=252,slow=31							
SUR	**Sutherland**	**28.81**	**100**	*e*P		**P**	**10 46 37.5**	**-1.2**
	45nm,0.7s							
RCBR	**Riachuelo**	**33.68**	**317**	P		**P**	**10 47 19.5**	**-2.1**
	15nm,0.9s,baz=122,slow=2.6,SNR=3.6							
RCBR	**Riachuelo**	**33.68**	**317**	*e*P		**P**	**10 47 19.7**	**-1.9**
	37nm,1.0s							
LBTB	**Lobatse**	**34.81**	**88**	P		**P**	**10 47 29.8**	**-1.6**
	37nm,1.1s,baz=258,slow=11,SNR=16							
LBTB	**Lobatse**	**34.81**	**88**	*e*P		**P**	**10 47 29.9**	**-1.5**
LBTB						pmax	pmax	
	comp=Z,51nm,1.1s							
LBTB	**Lobatse**	**34.81**	**88**	*e*P		**P**	**10 47 29.9**	**-1.5**
	comp=Z,51nm,1.1s							
BDFB	**Brasilia**	**35.53**	**290**	P		**P**	**10 47 35.7**	**-1.9**
	comp=Z,12nm,1.0s,baz=279,slow=4.3,SNR=13							
BDFB						LR	LR	10 59 37.0
	comp=Z,2μm,20.0s,baz=253,slow=32							
BDFB	**Brasilia**	**35.53**	**290**	*e*P		**P**	**10 47 36.4**	**-1.2**
BDFB						pmax	pmax	
	comp=Z,36nm,1.1s							
BDFB	**Brasilia**	**35.53**	**290**	*e*P		**P**	**10 47 36.4**	**-1.2**
	comp=Z,36nm,1.1s							
EFI	**East Falkland**	**37.75**	**226**	⇓*i*P		**P**	**10 47 57.4**	**+1.4**
EFI						pmax	pmax	
	comp=Z,198nm,1.6s							
VNA1	**Neumayer--Stat**	**38.54**	**177**	P		**P**	**10 48 06.9**	**+4.4**
CPUP	**Villa Florida**	**38.59**	**267**	P		**P**	**10 48 03.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=114,slow=12,SNR=2.0							
CPUP						LR	LR	11 01 53.2
	comp=Z,2μm,19.1s,baz=116,slow=33							
VNA2	**Neumayer--Watz**	**38.85**	**177**	P		**P**	**10 48 07.3**	**+2.1**
	baz=348,slow=10							
VNA3	**Neumayer Olymp**	**39.09**	**178**	P		**P**	**10 48 07.8**	**+0.7**
LIC	**Lamto**	**39.09**	**13**	*e*P		**P**	**10 48 05.8**	**-1.8**
	comp=Z,273nm,1.4s							
MATP	**Matopo**	**39.10**	**83**	P		**P**	**10 48 05.8**	**-2.1**
	comp=Z,26nm,0.9s,baz=242,slow=9.1,SNR=39							
KIC	**Kosan Boka**	**39.28**	**14**	*e*P		**P**	**10 48 07.2**	**-2.0**
	comp=Z,331nm,1.4s							
TIC	**Toumodi**	**39.50**	**13**	*e*P		**P**	**10 48 08.9**	**-2.2**
DBIC	**Dimbokro**	**39.56**	**13**	P		**P**	**10 48 09.2**	**-2.4**
	comp=Z,23nm,0.9s,baz=169,slow=8.9,SNR=12							
DBIC						LR	LR	11 00 21.7
	comp=Z,576nm,19.3s,baz=178,slow=30							
DBIC	**Dimbokro**	**39.56**	**13**	*e*P		**P**	**10 48 09.5**	**-2.0**
DBIC						pmax	pmax	
	comp=Z,74nm,1.1s							
DBIC	**Dimbokro**	**39.56**	**13**	*e*P		**P**	**10 48 09.5**	**-2.0**
	comp=Z,74nm,1.1s							
SNAA	**Sanae**	**39.87**	**175**	P		**P**	**10 48 14.8**	**+1.1**
SNAA	**Sanae**	**39.87**	**175**	P		**P**	**10 48 14.4**	**+0.7**
	comp=Z,5.9nm,1.1s,baz=307,slow=5.5,SNR=12							
SNAA	**Sanae**	**39.87**	**175**	⇓*i*P		**P**	**10 48 14.7**	**+1.1**
SNAA						pmax	pmax	
	comp=Z,1μm,1.4s							
SNAA	**Sanae**	**39.87**	**175**	*e*P		**P**	**10 48 14.3**	**+0.6**
	comp=Z,23nm,1.4s							
NVL	**N'lazarevskaya**	**40.95**	**168**	*e*P		**P**	**10 48 22.2**	**-0.3**
NVL				*e*S		**S**	**10 54 34.8**	**+0.8**
LSZ	**Lusaka**	**41.33**	**76**	P		**P**	**10 48 25.4**	**-1.0**
	comp=Z,11nm,0.9s,baz=228,slow=9.1,SNR=17							
LSZ	**Lusaka**	**41.33**	**76**	*e*P		**P**	**10 48 25.2**	**-1.2**
LSZ						pmax	pmax	
	comp=Z,40nm,1.1s							
LSZ	**Lusaka**	**41.33**	**76**	*e*P		**P**	**10 48 25.2**	**-1.2**
	comp=Z,40nm,1.1s							
PLCA	**Paso Flores**	**46.03**	**243**	P		**P**	**10 49 04.3**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=144,slow=4.6,SNR=6.8							
PLCA						LR	LR	11 06 44.3
	comp=Z,756nm,18.6s,baz=116,slow=34							
PLCA	**Paso Flores**	**46.03**	**243**	*e*P		**P**	**10 49 02.9**	**-1.1**
PLCA	**Paso Flores**	**46.03**	**243**	*e*P		**P**	**10 49 03.0**	**-1.1**
	comp=Z,12nm,1.1s							
SIV	**San Ignacio**	**46.07**	**279**	P		**P**	**10 49 05.2**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=129,slow=5.5,SNR=5.4							
SYO	**Syowa Base**	**47.20**	**157**	⇓*e*P		**P**	**10 49 10.9**	**-1.7**
SYO	**Syowa Base**	**47.20**	**157**	⇓*e*pP		**P**	**10 49 12.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**47.40**	**20**	*e*P		**P**	**10 49 13.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**47.40**	**20**	P		**P**	**10 49 12.8**	**-2.0**
	comp=Z,15nm,1.0s,baz=197,slow=5.2,SNR=41							
TORD						LR	LR	11 04 49.8
	comp=Z,2μm,21.5s,baz=195,slow=31							
LVC	**Limon Verde**	**49.76**	**267**	*e*P		**P**	**10 49 33.0**	**-0.4**
	comp=Z,9.0nm,1.1s							
PB01	**IPOC Station P**	**50.89**	**268**	*e*P		**P**	**10 49 42.4**	**+0.7**
	comp=Z,21nm,0.9s							
SAML	**Samuel**	**51.52**	**285**	*e*P		**P**	**10 49 46.2**	**-0.2**
	comp=Z,40nm,1.8s							
LPAZ	**La Paz**	**51.87**	**274**	P		**P**	**10 49 47.9**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=120,slow=5.6,SNR=4.2							
LPAZ						LR	LR	11 10 13.6
	comp=Z,2μm,21.1s,baz=115,slow=34							
LPAZ	**La Paz**	**51.87**	**274**	*e*P		**P**	**10 49 47.7**	**-2.0**
LPAZ	**La Paz**	**51.87**	**274**	*e*P		**P**	**10 49 47.8**	**-2.0**
	comp=Z,27nm,1.9s							
PTGA	**Pitinga**	**53.93**	**296**	*e*P		**P**	**10 50 04.0**	**-0.2**
	comp=Z,17nm,1.0s							
MAW	**Mawson**	**55.39**	**153**	P		**P**	**10 50 14.3**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=270,slow=10,SNR=15							
MAW						LR	LR	11 09 19.2
	comp=Z,1μm,19.8s,baz=270,slow=31							
MAW	**Mawson**	**55.39**	**153**	*e*P		**P**	**10 50 13.6**	**-0.5**
MAW						pmax	pmax	
	comp=Z,1.0nm,0.9s							
MAW	**Mawson**	**55.39**	**153**	*e*P		**P**	**10 50 13.6**	**-0.5**
	comp=Z,1.2nm,0.9s							
ABPO	**Ambohimpanom**	**55.55**	**92**	*e*P		**P**	**10 50 15.3**	**-0.9**
ABPO						pmax	pmax	
	comp=Z,18nm,1.1s							
ABPO	**Ambohimpanom**	**55.55**	**92**	*e*P		**P**	**10 50 15.3**	**-0.9**
	comp=Z,18nm,1.1s							
KMBO	**Kilima Mbogo**	**56.78**	**67**	P		**P**	**10 50 25.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=212,slow=6.1,SNR=5.2							
KMBO						LR	LR	11 13 19.6
	comp=Z,592nm,19.2s,baz=215,slow=35							
KMBO	**Kilima Mbogo**	**56.78**	**67**	*e*P		**P**	**10 50 24.9**	**-0.2**
KMBO						pmax	pmax	
	comp=Z,36nm,1.9s							
KMBO	**Kilima Mbogo**	**56.78**	**67**	*e*P		**P**	**10 50 24.9**	**-0.2**
	comp=Z,36nm,1.9s							
TAM	**Tamanrasset**	**57.65**	**21**	*e*P		**P**	**10 50 30.8**	**0.0**
TAM						pmax	pmax	
	comp=Z,90nm,2.0s							
TAM	**Tamanrasset**	**57.65**	**21**	*e*P		**P**	**10 50 30.8**	**0.0**
	comp=Z,90nm,2.0s							
PMOZ	**Porto Moniz, M**	**64.84**	**356**	*e*LR		LR	11 11 17.4	
GDHS	**Morne Mazeau,**	**66.90**	**309**	*e*P		**P**	**10 51 35.0**	**+2.1**
	comp=Z,93nm,0.9s							
FLOC	**Florencia**	**67.71**	**287**	*e*P		**P**	**10 51 33.7**	**-4.4**
SDV	**Santo Domingo**	**68.21**	**296**	*e*P		**P**	**10 51 41.2**	**-0.2**
	comp=Z,30nm,0.9s							
RUSC	**La Rusia**	**68.23**	**292**	*e*P		**P**	**10 51 42.1**	**+0.1**
RUSC	**La Rusia**	**68.23**	**292**	*e*P		**P**	**10 51 42.7**	**+0.7**
	comp=Z,15nm,1.4s							
ROSC	**El Rosal**	**68.57**	**291**	LR		LR	11 20 32.5	
	comp=Z,2μm,18.1s,baz=136,slow=35							
PAMC	**Pamplona, Colo**	**68.83**	**294**	*e*P		**P**	**10 51 45.7**	**+0.1**
PFVI	**Vila Bisbo**	**69.17**	**4**	*e*LR		LR	11 12 02.0	
	comp=Z,540nm,18.0s							
OTAV	**Otavalo**	**69.22**	**284**	*e*P		**P**	**10 51 52.2**	**+4.1**
OTAV	**Otavalo**	**69.22**	**284**	*e*P		**P**	**10 51 49.4**	**+1.2**
	comp=Z,11nm,1.0s							
PBDV	**Barranco-do-Ve**	**69.33**	**5**	*e*P		**P**	**10 51 48.6**	**+0.9**
	comp=Z,66nm,1.7s							
PBDV	**Barranco-do-Ve**	**69.33**	**5**	*e*LR		LR	11 11 54.1	
	comp=Z,429nm,20.0s							
MORF	**Marmelete**	**69.35**	**4**	*e*P		**P**	**10 51 49.5**	**+1.7**
MORF						AMb	AMB	10 51 55.6
	comp=Z,134nm,2.1s							
MORF	**Marmelete**	**69.35**	**4**	*e*P		**P**	**10 51 49.5**	**+1.7**
	comp=Z,134nm,1.7s							
MORF	**Marmelete**	**69.35**	**4**	*e*LR		LR	11 11 30.1	
	comp=Z,522nm,20.0s							
MORF	**Marmelete**	**69.35**	**4**	*e*P		**P**	**10 51 49.5**	**+1.7**
MORF						pmax	pmax	
	comp=Z,134nm,2.1s							
PVAQ	**Vaqueiros**	**69.51**	**5**	*e*P		**P**	**10 51 50.8**	**+2.1**
PVAQ	**Vaqueiros**	**69.51**	**5**	*e*LR		LR	11 10 17.3	
	comp=Z,346nm,22.0s							
PCVE	**Castro Verde**	**69.71**	**5**	*e*LR		LR	11 10 45.0	
	comp=Z,527nm,22.0s							
PBEJ	**Beja**	**70.12**	**5**	*e*P		**P**	**10 51 53.0**	**+0.5**
SBA	**Scott Base**	**70.14**	**180**	*e*P		**P**	**10 51 53.9**	**+1.7**
SBA						pmax	pmax	
	comp=Z,32nm,1.4s							
SBA	**Scott Base**	**70.14**	**180**	*e*P		**P**	**10 51 53.9**	**+1.7**
	comp=Z,32nm,1.4s							
PNCL	**Nicolau / Gran**	**70.16**	**4**	*e*P		**P**	**10 51 53.4**	**+0.7**
PNCL	**Nicolau / Gran**	**70.16**	**4**	*e*LR		LR	11 12 48.1	
	comp=Z,556nm,20.0s							
PBAR	**Barrancos**	**70.33**	**5**	*e*P		**P**	**10 51 53.8**	**+0.1**
	comp=Z,125nm,1.5s							
PBAR	**Barrancos**	**70.33**	**5**	*e*LR		LR	11 13 59.5	
HELC	**Santa Helena**	**70.34**	**291**	*e*P		**P**	**10 51 54.8**	**-0.1**
	comp=Z,39nm,1.3s							
VNDA	**Vanda**	**70.44**	**179**	P		**P**	**10 51 54.8**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=226,slow=5.6,SNR=6.6							
VNDA						LR	LR	11 18 41.9
	comp=Z,613nm,21.4s,baz=180,slow=32							
VNDA	**Vanda**	**70.44**	**179**	*e*P		**P**	**10 51 54.9**	**+0.8**
VNDA						pmax	pmax	
	comp=Z,32nm,1.8s							
VNDA	**Vanda**	**70.44**	**179**	*e*P		**P**	**10 51 54.9**	**+0.8**
	comp=Z,32nm,1.8s							
STVI	**Saint Thomas**	**70.51**	**308**	*e*P		**P**	**10 51 56.1**	**+0.9**
	comp=Z,40nm,1.1s							
ZARC	**Zaragoza, Cauc**	**70.60**	**293**	*e*P		**P**	**10 51 55.5**	**-0.5**
KEST	**Kesra**	**70.91**	**19**	P		**P**	**10 51 57.3**	**-0.2**
	comp=Z,14nm,0.9s,baz=224,slow=4.7,SNR=6.9							
KEST						LR	LR	11 20 57.1
	comp=Z,2μm,18.7s,baz=164,slow=34							
KEST	**Kesra**	**70.91**	**19**	*e*P		**P**	**10 51 58.2**	**+0.7**
	comp=Z,51nm,1.1s							
PMAFR	**Mafra**	**70.96**	**3**	*e*LR		LR	11 10 56.0	
HUMP	**Col San Antoni**	**70.96**	**307**	*e*P		**P**	**10 51 57.4**	**-0.7**
	comp=Z,31nm,1.1s							
PESTR	**Estremoz**	**70.97**	**5**	*e*P		**P**	**10 51 59.3**	**+1.6**
PESTR	**Estremoz**	**70.97**	**5**	*e*LR		LR	11 10 43.1	
	comp=Z,385nm,20.0s							
URIC	**Uribia, Colomb**	**71.04**	**298**	*e*P		**P**	**10 51 59.6**	**+1.0**
PMTG	**Montargil**	**71.13**	**4**	*e*P		**P**	**10 51 59.3**	**+0.7**
PMTG	**Montargil**	**71.13**	**4**	*e*LR		LR	11 10 57.5	
	comp=Z,582nm,20.0s							
PMRV	**Marv??o**	**71.54**	**5**	*e*P		**P**	**10 52 01.9**	**+0.7**
	comp=Z,82nm,1.5s							
PMRV	**Marv??o**	**71.54**	**5**	*e*LR		LR	11 11 09.4	
	comp=Z,360nm,20.0s							
PTOM	**Tomar**	**71.67**	**4**	*e*P		**P**	**10 52 02.3**	**+0.4**
PCBR	**Castelo Branco**	**71.95**	**5**	*e*P		**P**	**10 52 04.8**	**+1.3**
PCAS	**Casmilo, Conde**	**72.09**	**4**	*e*P		**P**	**10 52 04.5**	**+0.1**
PCAS	**Casmilo, Conde**	**72.09**	**4**	*e*LR		LR	11 11 26.1	
	comp=Z,405nm,22.0s							
ESDC	**Sonseca Array**	**72.10**	**8**	P		**P**	**10 52 04.4**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=185,slow=6.2,SNR=11							
ESDC						LR	LR	11 20 50.2
	comp=Z,243nm,18.6s,baz=340,slow=34							
ES19	**SONSECA Array**	**72.14**	**8**	*e*P		**P**	**10 52 04.3**	**-0.5**
MTE	**Manteigas**	**72.50**	**5**	*e*LR		LR	11 11 05.2	
	comp=Z,515nm,20.0s							
MVO	**Moncorvo**	**73.30**	**5**	*e*P		**P**	**10 52 13.5**	**+1.9**
	comp=Z,54nm,1.6s							
MVO	**Moncorvo**	**73.30**	**5**	*e*LR		LR	11 11 22.2	
	comp=Z,382nm,20.0s							
POLO	**Lamas de Olo**	**73.45**	**4**	*e*LR		LR	11 11 26.0	
	comp=Z,206nm,20.0s							
PBRG	**Braganca**	**73.95**	**5**	*e*LR		LR	11 11 17.1	
	comp=Z,361nm,18.0s							
PGAV	**Gavieira, Arco**	**74.01**	**4**	*e*LR		LR	11 11 26.0	
	comp=Z,520nm,20.0s							
CEL	**Celeste**	**75.27**	**23**	*e*P		**P**	**10 52 23.6**	**+0.3**
IDI	**Anoyia**	**76.19**	**31**	*e*P		**P**	**10 52 28.6**	**+0.1**
	comp=Z,25nm,1.1s							
APE	**Apeiranthos**	**77.96**	**31**	⇑*i*P		P	10 52 43.7	+5.2
APE	**Apeiranthos**	**77.96**	**31**	⇓*e*P		**P**	**10 52 37.9**	**-0.6**
APE						pmax	pmax	
	comp=Z,19nm,1.3s							
AGG	**Agios Georgios**	**78.30**	**28**	*e*P		**P**	**10 52 39.7**	**-0.6**
AGG						pmax	pmax	
	comp=Z,40nm,1.2s							
AGG	**Agios Georgios**	**78.30**	**28**	*e*P		**P**	**10 52 39.7**	**-0.6**
	comp=Z,40nm,1.2s							
SSB	**Saint Sauveur**	**78.87**	**13**	*e*P		**P**	**10 52 43.5**	**+0.2**
SSB						pmax	pmax	
	comp=Z,36nm,1.6s							
SSB	**Saint Sauveur**	**78.87**	**13**	*e*P		**P**	**10 52 43.5**	**+0.2**
	comp=Z,36nm,1.6s							
RAYN	**Ar Rayn**	**78.98**	**53**	*e*P		**P**	**10 52 44.5**	**+0.1**
	comp=Z,19nm,1.1s							
MANT	**Manisa**	**80.48**	**32**	*e*P		**P**	**10 52 53.0**	**+0.6**
	comp=Z,93nm,1.1s							
TUE	**Stuetta**	**81.01**	**16**	*e*P		**P**	**10 52 54.2**	**-0.8**
	comp=Z,43nm,1.8s							
FUORN	**Ofenpass-Fuorn**	**81.37**	**16**	*e*P		**P**	**10 52 56.6**	**-0.4**
VTS	**Vitosha**	**81.71**	**26**	*e*P		**P**	**10 52 59.0**	**+0.2**
VTS						pmax	pmax	
	comp=Z,38nm,1.7s							
VTS	**Vitosha**	**81.71**	**26**	*e*P		**P**	**10 52 59.0**	**+0.2**
	comp=Z,38nm,1.7s							
FETA	**Feichten**	**81.85**	**16**	*i* P		**P**	**10 53 02.4**	**+3.0**
	comp=Z,14nm,1.1s							
DAVA	**Damuels**	**81.90**	**16**	*i* P		**P**	**10 53 00.4**	**+0.7**
	comp=Z,41nm,1.1s							
ABTA	**Abfaltersbach**	**82.04**	**18**	*i* P		**P**	**10 53 01.3**	**+1.0**
	comp=Z,34nm,1.5s							
ECH	**Echery**	**82.20**	**14**	*e*P		**P**	**10 53 01.0**	**-0.1**
ECH						pmax	pmax	
	comp=Z,23nm,1.4s							
ECH	**Echery**	**82.20**	**14**	*e*P		**P**	**10 53 01.0**	**-0.1**
	comp=Z,23nm,1.4s							
MYKA	**Terra Mystica**	**82.23**	**18**	*e*P		**P**	**10 53 02.2**	**+0.9**
	comp=Z,12nm,1.0s							
MOTA	**Moosalm**	**82.25**	**17**	*i* pP		**P**	**10 53 05.7**	**+4.2**
	comp=Z,9.2nm,1.0s							
RETA	**Reutte**	**82.30**	**16**	*i* P		**P**	**10 53 02.1**	**+0.4**
	comp=Z,12nm,1.3s							
WTTA	**Wattenberg**	**82.30**	**17**	*i* P		**P**	**10 53 01.1**	**-0.7**
	comp=Z,24nm,1.4s							
WATA	**Walderalm**	**82.35**	**17**	*i* P		**P**	**10 53 02.6**	**+0.6**
	comp=Z,4.9nm,0.5s							
OBKA	**Obir**	**82.36**	**19**	*e*pP		P	10 53 06.9	+4.9
	comp=Z,11nm,1.0s							
BFO	**Black Forest**	**82.55**	**14**	*e*P		**P**	**10 53 03.1**	**+0.2**
BFO	**Black Forest**	**82.55**	**14**	*e*P		**P**	**10 53 03.1**	**+0.2**
	comp=Z,17nm,1.0s							
KBA	**Koelnbreinsper**	**82.56**	**18**	*i* PcP		P	10 53 09.0	+5.8
	comp=Z,8.5nm,1.0s							
SOKA	**Soboth**	**82.65**	**19**	*i* P		**P**	**10 53 05.1**	**+1.5**
	comp=Z,26nm,1.2s							
ARSA	**Arzberg**	**83.31**	**19**	*i* P		**P**	**10 53 07.1**	**+0.3**
	comp=Z,15nm,0.8s							
BR231	**Keskin MP Arra**	**83.51**	**34**	*e*P		**P**	**10 53 08.7**	**+0.5**
MOA	**Molln**	**83.52**	**18**	*i* P		**P**	**10 53 07.4**	**-0.5**
	comp=Z,20nm,1.4s							
BRTR	**Keskin Array B**	**83.83**	**35**	P		**P**	**10 53 09.5**	**-0.4**
	comp=Z,4.2nm,1.1s,baz=167,slow=7.6,SNR=4.9							
BRTR						LR	LR	11 29 42.7
	comp=Z,82nm,20.9s,baz=182,slow=35							
GZR	**Gura Zlata**	**83.97**	**25**	⇓*i*P		**P**	**10 53 11.8**	**+1.5**
GZR	**Gura Zlata**	**83.97**	**25**	⇓P		**P**	**10 53 11.8**	**+1.5**
CONA	**Conrad Observa**	**84.03**	**19**	*i* P		**P**	**10 53 11.1**	**+0.5**
	comp=Z,20nm,1.3s							
GEA0	**GERESS Array S**	**84.28**	**18**	*e*P		**P**	**10 53 11.5**	**-0.3**
GEC2	**GERESS Array S**	**84.29**	**18**	*e*P		**P**	**10 53 12.0**	**+0.1**
GEC2						pmax	pmax	
	comp=Z,17nm,1.4s							
GEC2	**GERESS Array S**	**84.29**	**18**	*e*P		**P

BUR08	Bucovina Ar. S	86.76	25	eP		P	10 53 24.7	+0.4
UOSS	Minazif	87.38	58	eP		P	10 53 26.4	-1.4
	comp=Z,44nm,1.6s							
WSAR	Wadi Sarin	88.14	61	LR		LR	11 30 06.3	
	comp=Z,356nm,20.6s,baz=234,slow=34							
SORM	Soroca	88.33	26	⇓i	P	P	10 53 33.2	+1.6
SORM	Soroca	88.33	26	⇓	P	P	10 53 33.2	+1.6
GNI	Garni	89.89	41	LR		LR	11 33 18.6	
	comp=Z,154nm,19.8s,baz=225,slow=35							
KIEV	Kiev	90.75	25	⇓eP		P	10 53 44.2	+1.3
KIEV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
AKASG	Malin Array Be	90.77	25	P		P	10 53 43.8	+0.8
	comp=Z,1.5nm,0.7s,baz=220,slow=4.2,SNR=5.8							
AKASG				LR		LR	11 33 35.3	
	comp=Z,178nm,20.7s,baz=225,slow=35							
ZEI	Tsey	91.28	38	eP		P	10 53 48.9	+3.0
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KBZ	Khabaz	91.42	37	P		P	10 53 45.3	-0.9
	comp=Z,2.8nm,0.9s,baz=167,slow=15,SNR=1.8							
KBZ				LR		LR	11 33 20.0	
	comp=Z,182nm,21.7s,baz=218,slow=35							
KVAR	Kislovodsk Arr	91.48	37	LR		LR	11 34 30.0	
	comp=Z,69nm,18.2s,slow=35							
NOA	NORSAR Array B	95.11	12	LR		LR	11 36 26.1	
	comp=Z,242nm,18.1s,baz=195,slow=35							
VSU	Vasula	96.39	20	eP		P	10 54 08.7	0.0
PALK	Pallekele	97.26	86	LR		LR	11 33 54.4	
	comp=Z,959nm,18.2s,baz=296,slow=33							
SCHQ	Schefferville	98.14	332	LR		LR	11 31 11.1	
	comp=Z,348nm,21.3s,baz=136,slow=31							
FINES	FINESS Array B	98.72	18	LR		LR	11 38 44.2	
	comp=Z,271nm,18.9s,baz=231,slow=35							
TXAR	Lajitas Array	105.24	295	PP		PP	10 59 07.6	-3.1
	comp=Z,0.8nm,1.1s,baz=128,slow=9.7,SNR=3.7							
TAOE	Nuku Hiva Isla	114.84	241	eLR		LR	11 33 47.0	
	comp=Z,426nm,25.4s							
PPT2	Papeete2	115.07	227	eSP		SP	11 09 58.8	-0.8
PPT2	comp=Z,112nm,29.5s							
				eSS		SS	11 16 22.0	+4.8
	comp=Z,222nm,26.8s							
PPT2	Papeete2	115.07	227	eLR		LR	11 33 56.2	
	comp=Z,865nm,30.5s							
ASAR	Alice Springs	116.19	146	PKP		PKPdf	10 59 22.4	-1.9
	comp=Z,0.4nm,0.9s,baz=202,slow=1.0,SNR=3.1							
WMQ	Urumqi	118.96	54	PKP		PKPdf	10 59 26.8	-2.1
WMQ				LR		LR		
	comp=Z,1μm,20.3s							
WMQ				LR		LR		
	comp=Z,400nm,20.3s							
WMQ				LR		LR		
	comp=Z,650nm,21.5s							
KMI	Kunming	124.21	80	PKP		PKPdf	10 59 39.0	-0.8
DZM	Mont Dzumac	125.97	180	eLR		LR	11 39 12.6	
	comp=Z,1μm,24.3s							
GTA	Gaotai	126.46	62	ePKP		PKPdf	10 59 50.4	+6.9
GTA				PP		PP	11 01 53.3	+14
GTA				SKS		SKSdf	11 07 00.9	+5.4
GTA				SKKS		SKKSac	11 08 45.3	+7.9
GTA	Gaotai	126.46	62	SS		SS	11 19 10.8	+26
GTA				AMB		AMB		
	comp=Z,53nm,7.4s							
GTA				LR		LR		
	comp=N,690nm,19.5s							
GTA				LR		LR		
	comp=E,940nm,18.1s							
GTA				LR		LR		
	comp=Z,1μm,17.6s							
CD2	Chengdu	127.12	74	PKP		PKPdf	10 59 43.5	-1.4
QIZ	Qiongzhong	127.67	90	PKP		PKPdf	10 59 47.3	+1.1
QIZ				PP		PP	11 01 48.4	+0.6
QIZ				SS		SS	11 19 02.3	+2.2
GYA	Guiyang	127.99	80	ePdif		Pdif	10 56 30.0	-0.4
GYA				PKP		PKPdf	10 59 45.6	-1.2
GYA				PP		PP	11 01 53.3	+3.3
GYA				AMB		AMB		
	comp=Z,130nm,7.9s							
LZH	Lanzhou	128.71	67	ePKP		PKPdf	10 59 45.8	-2.1
LZH				sPKP			10 59 54.3	
LZH				LR		LR		
	comp=Z,130nm,18.2s							
LZH				LR		LR		
	comp=Z,150nm,17.0s							
LZH				LR		LR		
	comp=Z,190nm,19.8s							
HHC	Hu-ho-hao-te	135.57	63	ePKP		PKPdf	11 00 01.4	+0.7
HHC				PP		PP	11 02 43.3	+4.7
HHC				SKS		SKSdf	11 07 04.8	-7.0
HHC				SS		SS	11 20 38.0	+1.8
HHC				AMB		AMB		
	comp=Z,86nm,8.2s							
HHC				LR		LR		
	comp=Z,490nm,14.6s							
HHC				LR		LR		
	comp=Z,440nm,14.8s							
HHC				LR		LR		
	comp=Z,540nm,17.3s							
ILAR	Eielson Array	136.89	333	PKP		PKPdf	11 00 02.8	+0.5
	comp=Z,0.7nm,0.8s,baz=336,slow=1.2,SNR=5.5							
BJI	Beijing	138.98	64	PKP		PKPdf	11 00 08.5	+1.7
BJI				SS		SS	11 21 18.8	+2.3
BJI				LR		LR		
	comp=Z,260nm,19.7s							
BJI				LR		LR		
	comp=Z,240nm,26.8s							
BJI				LR		LR		
	comp=Z,210nm,20.7s							
NJ2	Nanjing	139.82	77	ePKP		PKPdf	11 00 09.9	+1.3
CN2	Changchun	145.90	58	ePKPbc		PKPdf	11 00 18.4	-0.6
KSAR	Wonju Array Be	147.94	70	PKP2		PKPbc	11 00 24.8	-0.9
KSAR	Wonju Array Be	147.94	70	PKPbc		PKPbc	11 00 24.8	-0.9
KSRS	Korea Array	147.97	70	PKPbc		PKPbc	11 00 24.8	-0.9
	comp=Z,4.7nm,0.9s,baz=273,slow=3.5,SNR=12							
SEY	Seymchan	148.00	12	PKPbc		PKPbc	11 00 24.2	-0.8
	comp=Z,18nm,0.8s,baz=345,slow=3.1,SNR=9.3							
JNU	Nakatsue	149.98	79	PKPbc		PKPbc	11 00 30.4	-0.7
	comp=Z,7.6nm,0.8s,baz=253,slow=3.3,SNR=4.3							
USRK	Ussuriysk Ar.	150.50	56	PKPbc		PKPbc	11 00 30.6	-1.3
	comp=Z,5.1nm,1.0s,baz=17,slow=2.0,SNR=4.3							
MJAR	Matsushiro Arr	156.20	72	PKPab		PKPab	11 01 01.8	-1.2
	comp=Z,2.2nm,0.8s,baz=282,slow=5.7,SNR=4.7							

*IDC **19** 10:53:00.6±1.0, 31°.19N×141°.37E, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/48, mbtmp4.1/9, ML4.4/2, MS4.1/3, Ms1 4.1/3, ms1mx2.9/41, Error ellipse: s-maj=33.7km s-min=16.9km az=71.0*

*NIED **19** 10:53:00, 31°.80N×142°.20E, h41km, Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φs242.00000°, δ32.00000°, λ-176.00000°. NP2:φs148.00000°, δ88.00000°, λ-58.00000°.*

*JMA **19** 10:53:03.1±0.2, 31°.78N×142°.16E, h85km, M4.3*

*NEIC **19** 10:53:05.7±0.6, 31°.29N×141°.30E, h35km, mb4.2/2, Error ellipse: s-maj=18.7km s-min=8.4km az=70.0*

ISC 19 10:53:05.1±0.7, 31°.53N±0°.05×141°.81E±0°.09, h35km, n32, σ2s24/42, mb4.1/10, MS4.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.30	313	P	Pn	10 53 40.7	+0.2
JHCJ				S	Sn	10 54 09.2	+1.6
JHJ2	Mitsune	2.31	314	P	Pn	10 53 40.9	+0.2
JHJ2				eS	Sn	10 54 09.3	+1.4
JHJ2	Mitsune	2.31	314	ePn	Pn	10 53 41.1	+0.4
JHJ2				eSn	Sn	10 54 07.9	0.0
JHJ	Hachijo jima 2	2.34	313	Pn	Pn	10 53 41.1	0.0
	266nm,0.3s,baz=316,slow=24,SNR=18						
JHJ				Sn	Sn	10 54 09.3	+0.8
	261nm,0.3s,baz=154,slow=22,SNR=8.4						
BSO1	Boso 1	3.19	348	P	Pn	10 53 49.8	-2.5
BSO1				S	Sn	10 54 25.9	-3.0
BSO2	Boso 2	3.33	345	eS	Sn	10 54 31.0	-1.7
BSO3	Boso 3	3.44	342	P	Pn	10 53 53.8	-2.2
BSO3				eS	Sn	10 54 33.5	-1.9
JOD2	Odawara 2	4.36	329	P	Pn	10 54 07.9	-1.1
JOD2				eS	Sn	10 54 55.8	-2.8
CBIJ	Chichi jima	4.43	176	P	Pn	10 54 07.9	-2.0
CBIJ				eS	Sn	10 54 58.5	-1.8
CBIJ	Chichi jima	4.43	176	ePn	Pn	10 54 08.3	-1.6
CBIJ				eSn	Sn	10 54 57.6	-2.7
JRY	Ryogami san	5.09	332	P	Pn	10 54 17.9	-1.0
JRY				eS	Sn	10 55 13.4	-3.1
JIE	Ise	5.15	305	P	Pn	10 54 21.5	+1.7
MJAR	Matsushiro Arr	5.82	330	Pn	Pn	10 54 27.9	-1.1
	10nm,0.3s,baz=252,slow=3.4,SNR=65						
MJAR				Sn	Sn	10 55 32.7	-1.9
	5.1nm,0.3s,baz=200,slow=11,SNR=4.2						
MAJO	Matsushiro	5.83	330	ePn	Pn	10 54 28.7	-0.4
	36nm,0.6s						
MAJO				eSn	Sn	10 55 34.6	0.0
MAT	Matsushiro	5.83	330	P	Pn	10 54 28.6	-0.4
MAT				S	Sn	10 55 31.7	-2.9
JNU	Nakatsue	9.39	283	ePn	Pn	10 55 13.2	-4.7
KSRS	Korea Array	12.88	301	Pn	Pn	10 56 10.1	+4.4
	0.2nm,0.3s,baz=111,slow=13,SNR=13						
KSRS				LR	LR	11 00 42.9	
	comp=Z,40nm,18.5s,baz=81,slow=36						
KSAR	Wonju Array Be	12.91	301	Pn	Pn	10 56 10.1	+4.0
SONM	Songino Array	31.41	311	P	P	10 59 23.0	0.0
	1.1nm,0.5s,baz=91,slow=7.6,SNR=6.5						
MKAR	Makanchi Array	47.49	307	P	P	11 01 36.1	-0.5
	0.4nm,0.3s,baz=88,slow=11,SNR=4.5						
KURK	Kurchatov	49.72	312	P	P	11 01 54.9	+1.3
KURBB	Kurchatov Arra	49.78	312	P	P	11 01 54.9	+0.8
	2.7nm,0.2s,baz=88,slow=7.5,SNR=3.1						
WRAB	Tennant Creek	51.67	189	eP	P	11 02 06.3	-2.3
	1.4nm,0.5s						
WRA	Warramunga Arr	51.68	189	P	P	11 02 06.2	-2.6
	2.5nm,0.3s,baz=6.0,slow=7.6,SNR=46						
AAK	Ala-Archa	53.54	302	LR	LR	11 26 07.2	
	comp=Z,60nm,21.9s,baz=73,slow=37						
ILAR	Eielson Array	54.02	30	P	P	11 02 29.5	+4.0
	0.5nm,0.8s,baz=294,slow=6.5,SNR=4.2						
ASAR	Alice Springs	55.41	189	P	P	11 02 33.9	-2.2
	0.7nm,0.4s,baz=14,slow=7.7,SNR=22						
MBWA	Marble Bar	56.51	205	eP	P	11 02 42.5	-1.4
	23nm,0.6s						
ABKAR	Akbulak array	61.82	313	eP	P	11 03 18.7	-1.7
	0.7nm,0.4s						
ARCES	ARCESS Array B	69.26	340	LR	LR	11 39 49.2	
	comp=Z,270nm,20.8s,baz=244,slow=40						
ULM	Lac du Bonnet	83.92	33	LR	LR	11 45 23.2	
	comp=Z,125nm,19.6s,baz=130,slow=37						
TXAR	Lajitas Array	93.20	53	P	P	11 06 19.9	+3.5
	0.4nm,0.8s,baz=318,slow=1.7,SNR=4.9						

IDC 19 10:53:18.0±999.0, 48°.05N×49°.68E, h0km, Error ellipse: s-maj=6606.0km s-min=129.8km az=64.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.96	64	i		11 28 15.0	
	baz=248,slow=316,SNR=6.2						
I46RU	ZALESOVO INFRA	22.72	62	i		13 02 10.0	
	baz=274,slow=310,SNR=2.1						
I34MN	SONGINO INFRAS	37.27	69	i		14 43 30.0	
	baz=294,slow=326,SNR=0.4						

*WAR **19** 11:03:39.9, 51°.44N×16°.20E, h1km, Mw2.1*

*CSEM **19** 11:03:40.1±0.6, 51°.41N×16°.17E, h1km, ML2.1, Error ellipse: s-maj=9.0km s-min=5.3km az=8.0*

PRU 19 11:03:41.2, 51°.39N×16°.18E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.55	173	ePg	Pg	11 03 51.1	-0.6
KSP				eSg	Sg	11 03 58.9	0.0
KSP	Ksiaz	0.55	173	ePg	Pg	11 03 51.1	-0.7
KSP				eSg	Sg	11 03 58.9	0.0
KSP	Ksiaz	0.55	173	ePg	Pg	11 03 51.1	-0.7
KSP				eSg	Sg	11 03 58.9	0.0
UPC	Upice	0.89	187	ePG	Pg	11 03 58.3	+0.1
UPC				eSG	Sg	11 04 10.0	+0.3
	comp=Z,12nm,0.3s						
UPC	Upice	0.89	187	Pg	Pg	11 03 58.3	+0.1
UPC				Sg	Sg	11 04 10.0	+0.3
	12nm,0.3s						
DPC	Dobruska-Polom	1.04	175	ePG	Pg	11 04 00.4	-0.8
DPC				eSG	Sg	11 04 14.7	0.0
DPC	Dobruska-Polom	1.04	175	Pg	Pg	11 04 00.4	-0.8
DPC				Sg	Sg	11 04 14.7	0.0
PVCC	Panska Ves	1.33	230	ePG	Pg	11 04 05.9	-0.9
PVCC				eSG	Sg	11 04 24.2	+0.2
	comp=Z,25nm,0.3s						
PVCC	Panska Ves	1.33	230	Pg	Pg	11 04 05.9	-0.9
PVCC				Sg	Sg	11 04 24.2	+0.2
	25nm,0.3s						
KRLC	Kraliky	1.37	164	ePG	Pg	11 04 06.6	-0.8
KRLC				eSG	Sg	11 04 24.8	-0.4
KRLC	Kraliky	1.37	164	Pg	Pg	11 04 06.6	-0.8
KRLC				Sg	Sg	11 04 24.8	-0.4
BRG	Berggiesshubel	1.50	251	PG	Pn	11 04 08.4	-1.0
BRG				SG	Sg	11 04 28.6	-0.8
	7.8nm,0.5s						
GOPC	GO Pecny, Ondr	1.72	212	eSG	Sb	11 04 36.0	+0.1
GOPC	GO Pecny, Ondr	1.72	212	Sg	Sb	11 04 36.0	+0.1
PRU	Pruhonice	1.75	217	eSG	Sb	11 04 36.2	-0.4
	comp=Z,3.4nm,0.2s						
PRU	Pruhonice	1.75	217	Sg	Sb	11 04 36.2	-0.4
	3.4nm,0.2s						
CLL	Collm	1.99	269	ePg	Pn	11 04 16.0	-0.1
CLL				eSg	Sb	11 04 44.0	+0.3
KHC	Kasperske Hory	2.81	217	eSG	Sb	11 05 09.1	+1.9
KHC	Kasperske Hory	2.81	217	Sg	Sb	11 05 09.1	+1.9

*ISCJB **19** 11:20:04.1±0.3, 38°.19N±0°.03×74°.15E±0°.06, h152km, mb3.6/9, Error ellipse: s-maj=6.7km s-min=3.7km az=156.9*

*IDC **19** 11:20:04.6±3.2, 38°.13N×74°.13E, h143km±26km, mb3.5/9, mb1 3.6/15, mb1mx3.4/52, mbtmp3.9/15, Error ellipse: s-maj=24.8km s-min=18.1km az=21.0*

*NNC **19** 11:20:09.5±2.5, 38°.48N×73°.77E, h166km±28km, mb3.0, mpv4.0, Error ellipse: s-maj=24.6km s-min=10.9km az=138.0*

ISC 19 11:20:04.7±0.6, 38°.16N±0°.05×74°.12E±0°.06, h152km, n41, σ2s56/51, mb3.5/9, 5C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.98	46	⇑iPg	Pn	11 20 37.3	-2.5
KSH				Sg	Sn	11 20 59.1	-7.7
KSH				smax	smax		
	comp=N,2μm,0.2s						
KSH				smax	smax		
	comp=E,3μm,0.2s						
DZET	Dzherino	4.21	280	⇓P	Pn	11 21 07.9	+0.1
	comp=E,4.9nm,0.2s						
DZET				⇑S	Sn	11 21 55.0	-1.9
	comp=E,99nm,0.5s						
AAK	Ala-Archa	4.48	3	P	Pn	11 21 13.2	+1.8
	comp=E,6.0nm,0.3s,baz=159,slow=10,SNR=28						
AAK				S	Sn	11 22 02.8	-0.5
	comp=E,2.9nm,0.3s,baz=206,slow=13,SNR=4.1						
AAK	Ala-Archa	4.48	3	⇓P	Pn	11 21 12.9	+1.5
	comp=E,4.4nm,0.3s						
AAK				⇑S	Sn	11 22 02.3	-1.0
	comp=E,8.9nm,0.5s						
MNAS	Manas	4.49	345	⇓P	Pn	11 21 12.9	+1.4
	comp=E,50nm,0.4s						
MNAS				⇓S	Sn	11 22 01.7	-2.0
	comp=E,64nm,0.6s						
CHCP	Chirah Chowk	4.55	189	P	Pn	11 21 16.4	+4.1
CEP	Cherat	4.69	203	P	Pn	11 21 17.0	+2.8
TKM2	Tokmak 2	4.88	13	⇓P	Pn	11 21 18.2	+1.4
	comp=E,25nm,0.6s						
TKM2				⇓S	Sn	11 22 11.7	-1.3
	comp=E,28nm,0.7s						
KK31	Karatay Array	5.65	332	⇓P	Pn	11 21 27.6	+0.9
	comp=E,5.6nm,0.2s						
KK31				⇓S	Sn	11 22 27.1	-3.7
	comp=E,8.6nm,0.3s,baz=140,slow=25,SNR=4.3						
THW	Thamme Wali	5.70	201	P	Pn	11 21 31.2	+3.7
THN	Thein Dam	5.86	167	eP	Pn	11 21 26.0	-3.6
THN				eS	Sn	11 22 28.2	-7.8
SARP	Sargodha	6.34	191	P	Pn	11 21 37.4	+1.4
SDNR	Sundarnagar	7.05	160	eP	Pn	11 21 46.0	+0.5
SDNR				eS	Sn	11 23 01.0	-3.5
MKAR	Makanchi Array	10.52	32	P	Pn	11 22 32.3	+0.9
	comp=E,0.2nm,0.3s,baz=207,slow=14,SNR=14						
PYUN	Piuthan	12.48	141	eP	Pn	11 22 56.6	-0.8
KURBB	Kurchatov Arra	12.85	13	P	Pn	11 23 00.8	-0.9
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=4.6						
KOLN	Koldanda	13.05	140	eP	Pn	11 23 04.3	-0.5
	comp=E,24nm,0.3s						
GKN	Gorkha	13.42	136	eP	Pn	11 23 08.5	-0.9
	comp=E,20nm,0.3s						
KKN	Kakani	13.94	135	eP	Pn	11 23 14.9	-1.1
DMN	Daman	13.98	136	eP	Pn	11 23 16.3	-0.3
	comp=E,22nm,0.4s						
PKIN	Phulchoki	14.17	135	eP	Pn	11 23 19.2	+0.2
	comp=E,18nm,0.5s						
PKI	Pulchoki	14.18	135	eP	Pn	11 23 19.2	0.0
	comp=E,9.6nm,0.2s						
GUN	Gumba	14.19	133	eP	Pn	11 23 19.3	0.0
	comp=E,12nm,0.3s						
JIRN	Jiri	14.56	132	eP	Pn	11 23 23.9	0.0
	comp=E,134nm,0.3s						
AB31	Akbulak array	15.07	322	⇑P	Pn	11 23 29.7	-0.1
	comp=E,0.6nm,0.3s						
AB31				⇓S	Sn	11 26 05.9	-11
	comp=E,0.7nm,0.3s						
BVAR	Borovoye Array	15.09	351	P	Pn	11 23 30.0	+0.1
	comp=E,0.4nm,0.3s,baz=158,slow=11,SNR=4.1						
RAMN	Ramite	15.33	133	eP	Pn	11 23 32.9	-0.5
	comp=E,18nm,0.3s						
TAPN	Taplejung	15.69	129	eP	Pn	11 23 38.4	+0.5
	comp=E,10nm,0.4s						
ODAN	Odare	15.86	131	eP	Pn	11 23 40.5	+0.6
	comp=E,8.9nm,0.4s						
AKTO	Aktyubinsk	16.79	322	P	Pn	11 23 52.2	+1.5
	comp=E,0.4nm,0.3s,baz=109,slow=14,SNR=8.7						
AKTO				S	S	11 26 47.6	-10
	comp=E,0.1nm,0.3s,baz=108,slow=19,SNR=2.6						
AKTO	Aktyubinsk	16.79	322	⇑P	P	11 23 50.8	+0.4
	comp=E,2.6nm,0.6s						
AKTO				⇓S	S	11 26 51.1	-6.0
	comp=E,3.5nm,0.8s						
ZALV	Zalesovo Beam	17.41	22	P	P	11 23 58.9	+1.7
	comp=E,0.8nm,0.3s,baz=213,slow=12,SNR=12						
SONM	Songino Array	25.34	57	P	P	11 25 18.2	+0.6
	comp=E,0.6nm,0.6s,baz=256,slow=9.0,SNR=3.8						
ARCES	ARCESS Array B	40.60	336	P	P	11 27 30.8	+1.8
	comp=E,1.5nm,0.5s,baz=108,slow=7.8,SNR=6.5						
NOA	NORSAR Array B	44.58	322	P	P	11 28 02.5	+1.2
	comp=E,0.8nm,0.7s,baz=63,slow=15,SNR=2.9						
TORD	Torodi Ar. Bea	68.23	270	P	P	11 30 49.5	+0.2
	comp=E,0.8nm,0.3s,baz=49,slow=5.8,SNR=19						
INK	Inuvik	71.84	10	P	P	11 31 11.9	+1.5
	comp=E,5.1nm,1.0s,baz=349,slow=3.4,SNR=4.9						
ILAR	Eielson Array	72.48	17	P	P	11 31 14.7	+0.4
	comp=E,0.7nm,0.8s,baz=332,slow=5.4,SNR=5.9						
YKA	Yellowknife Ar	79.44	4	P	P	11 31 54.6	+0.9
	comp=E,1.9nm,0.8s,baz=346,slow=5.7,SNR=4.2						
WRA	Warramunga Arr	80.81	124	P	P	11 32 02.6	+1.0
	comp=E,0.5nm,0.7s,baz=329,slow=5.0,SNR=3.7						
ASAR	Alice Springs	83.21	127	P	P	11 32 14.9	+0.8
	comp=E,0.2nm,0.8s,baz=330,slow=5.6,SNR=3.1						

*MAN **19** 11:29:28, 13°.80N×119°.76E, h23km, mb5.5, ML4.5, MS4.8*

*MOS **19** 11:29:29.5±1.0, 13°.90N×120°.11E, h47km, mb5.2/14, Error ellipse: s-maj=14.3km s-min=7.1km az=113.0*

*ISCJB **19** 11:29:30.6±0.4, 13°.83N±0°.02×119°.88E±0°.03, h46km±4km, mb4.6/57, MS4.3/25, Error ellipse: s-maj=5.0km s-min=3.5km az=178.2*

*GCMT **19** 11:29:31.6±0.4, 13°.84N×119°.70E, h31km±1km, MW5.0/65, Moment Tensor Solution. s24,c27; s65,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.68±.32; Mθθ-0.20±.17; Mφφ-3.48±.20; Mrθ0.37±.23; Mrφ0.41±.08; Mθφ-2.66±.21; Best double couple: M0 4.49500×10^16 NP1:φs172.00000°, δ63.00000°, λ89.00000°. NP2: φs354.00000°, δ27.00000°, λ91.00000°. Principal axes: T 4.5710, Plg72.0000°, Azm81.0000°; N -0.1520, Plg0.0000°, Azm173.0000°; P -4.4200, Plg18.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 11:29:31.6±0.8, 13°.81N×120°.05E, h48km±7km, mb4.8/19 Error ellipse: s-maj=6.2km s-min=5.0km az=80.0*

*IDC **19** 11:29:32.8±1.6, 13°.88N×120°.12E, h58km±14km, mb4.0/22, mb1 4.1/22, mb1mx4.0/45, mbtmp4.3/22, MS4.2/15, Ms1 4.2/15, ms1mx3.9/40, Error ellipse: s-maj=20.4km s-min=10.5km az=75.0*

*BJI **19** 11:29:33.6, 13°.80N×120°.10E, h55km, mb4.6/38, mB4.8/32, Ms4.5/35, Ms7 4.4/33*

*DJA **19** 11:29:38.7±0.4, 14°N±2°.2×12°0E±°, h142km±7km, M5.2/35, mb4.8/35, mB6.0/6, Mw(mB)5.6/6*

ISC 19 11:29:31.0±0.5, 13°.78N±0°.03×119°.95E±0°.03, h35km±3km, n163, σ2s73/189, mb4.6/57, MS4.3/26, 9C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.29	98	eP	Pb	11 29 37.5	-1.3
LUBP				eS	Sn	11 29 44.0	+0.2
TGY	Tagaytay City	1.01	71	P	Pb	11 29 49.3	-0.9
	3μm,0.3s,baz=266,slow=5.0,SNR=240						
TGY	Tagaytay City	1.01	71	⇑iP	Pb	11 29 50.1	-0.1
TGY				i S	Sb	11 30 03.1	-0.2
PGP	Puerto Galera	1.02	105	⇑eP	Pb	11 29 49.6	-0.6
PGP				i S	Sb	11 30 06.5	+3.2
LQP	Lukban	1.58	78	⇑eP	Pb	11 29 58.4	-1.4
SJMP	San Jose	1.74	139	eP	Pn	11 29 59.6	+0.9
SJMP				eS	Sb	11 30 22.6	-1.2
BUSP	Coron	1.78	172	eP	Pn	11 29 59.1	-0.2
BUSP				eS	Sn	11 30 21.4	+0.7
BOAC	Boac	1.87	99	eP	Pn	11 30 02.1	+1.5
BOAC				eS	Sb	11 30 30.8	+3.1
SCZP	Santa Cruz	1.99	359	eP	Pn	11 30 01.2	-0.9
SCZP				eS	Sb	11 30 37.0	+6.0
PCPH	Palayan	2.10	32	⇑eP	Pn	11 30 03.0	-0.6
PCPH				i S	Sn	11 30 29.4	+1.0
GQP	Guinayangan	2.43	87	⇑eP	Pb	11 30 10.8	-3.3
GQP				eS	Sb	11 30 46.2	+2.5
QTRP	Odiongan	2.46	125	eP	Pn	11 30 09.5	+0.8
BALP	Baler	2.51	39	eP	Pn	11 30 09.7	+0.3
BALP				eS	Sb	11 30 41.6	-4.4
BOLP	Bolinao	2.59	359	eP	Pn	11 30 03.4	-7.1
BOLP				eS	Sb	11 30 52.9	+4.6
ENPP	El Nido	2.60	191

GYA pmax pmax
comp=Z,120nm,4.8s
KDI Kendari 17.82 171 P **P 11 33 41.8 +5.0**
BNSI Bone 18.06 179 P **P 11 33 45.0 +5.5**
NJ2 Nanjing 18.22 357 *e*P **P 11 33 45.5 +4.4**
NJ2 pmax pmax
comp=Z,15nm,0.8s
PBKI Pangkalan Bun 18.32 207 P **Pn 11 33 48.4 +5.9**
NLAI Namlea 18.34 157 P **Pn 11 33 46.5 +3.8**
KAPI Kappang 18.67 181 *e*P **P 11 33 44.3 -1.9**
comp=Z,12nm,0.8s
BKSI Bulukumba 18.98 179 P **Pn 11 33 54.5 +4.1**
AAI Ambon 19.18 154 P **Pn 11 33 54.8 +1.8**
MSAI Masohi 19.20 152 P **Pn 11 33 55.7 +2.5**
BBSI Bau Bau 19.32 172 P **Pn 11 33 57.8 +3.3**
KMI Kunming 19.74 307 P **Pn 11 34 01.9 +2.1**
KMI pP sP 11 34 14.3 +2.6
KMI sP pP 11 34 22.3 +15
KMI S **S 11 37 33.8 -5.2**
KMI sS sS 11 37 53.1 -0.5
KMI SS **SnSn 11 38 02.9 +7.6**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI pmax pmax
comp=Z,180nm,4.6s
KMI LR LR
comp=Z,460nm,14.5s
KMI LR LR
comp=Z,970nm,15.2s
KMI LR LR
comp=Z,1μm,16.1s
MYKOM **Kota Tinggi 19.88 235** *e*P **Pn 11 34 01.7 +0.4**
comp=Z,26nm,1.1s
TPRI Tanjung Pinang 19.90 231 P **Pn 11 34 04.8 +3.3**
FAKI Fak Fak 20.59 143 P Pn 11 34 10.0 +0.4
CM01 Chiang Mai Arr 20.68 286 *e*P **P 11 34 07.2 -1.0**
CM01 *e*Pn Pn 11 34 09.3 -1.3
CM01 *e*PcP **PcP 11 38 18.5 +0.9**
BNDI Bandanaira 20.69 151 P Pn 11 34 11.0 +0.2
CM31 Chiang Mai Arr 20.70 286 *e*P Pn 11 34 09.4 -1.5
CMAR Chiang Mai Arr 20.70 286 P Pn 11 34 09.7 -1.3
comp=Z,14nm,0.9s,baz=96,slow=9.0,SNR=97
CMAR PcP **PcP 11 38 18.1 +0.5**
comp=Z,2.3nm,0.8s,baz=44,slow=0.6,SNR=11
CMAR ScP **ScP 11 41 49.0 -2.8**
comp=Z,0.4nm,0.3s,baz=20,slow=1.1,SNR=2.4
CMAR LR LR 11 42 43.8
comp=Z,421nm,19.1s,baz=170,slow=38
RKPI Ransiki, Papua 20.73 136 P Pn 11 34 10.5 -0.7
CHTO Chiang Mai 20.77 287 *e*P **P 11 34 09.4 +0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 20.77 287 *e*P **P 11 34 09.4 +0.3**
comp=Z,8.8nm,0.8s
DSRI Dabo 20.79 228 P Pn 11 34 11.8 -0.2
KULM Kulim 20.80 248 *e*P Pn 11 34 11.0 -1.1
comp=Z,31nm,1.2s
IPM Ipoh 20.82 245 *e*P **P 11 34 10.5 +0.8**
comp=Z,19nm,0.8s
KMMI Kalianget 21.53 196 P **P 11 34 22.2 +5.0**
UWJI Ujung Watu 21.96 205 P **P 11 34 26.8 +4.9**
KMPI Kaimana, Papua 22.06 141 P **P 11 34 25.2 +2.2**
MMRI Maumere 22.38 174 *e*P **P 11 34 29.6 +3.2**
comp=Z,65nm,1.0s
RGRI Rengat 22.39 233 P **P 11 34 22.2 -4.4**
EDFI Ende, Flores 22.45 175 P **P 11 34 30.9 +3.7**
XAN Xi'an 22.52 336 P **P 11 34 33.9 +6.1**
XAN pP sP 11 34 44.0 +2.5
XAN S **S 11 38 33.9 +1.2**
XAN SS **SnSn 11 39 07.6 +4.4**
XAN pmax pmax
comp=Z,12nm,1.2s
XAN pmax pmax
comp=Z,73nm,5.7s
XAN LR LR
comp=Z,770nm,16.0s
XAN LR LR
comp=Z,360nm,14.2s
XAN LR LR
comp=Z,1μm,14.2s
PLAI Plampang 22.56 186 P **P 11 34 31.1 +2.8**
TWSI Taliwang, Sumb 22.57 188 P **P 11 34 31.7 +3.2**
CD2 Chengdu 22.64 322 *e*P **P 11 34 29.5 +0.3**
CD2 S **S 11 38 34.0 -1.0**
CD2 sS Sn 11 38 52.3 +2.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,4.6s
CD2 LR LR
comp=Z,1μm,15.5s
CD2 LR LR
comp=Z,1μm,18.3s
CD2 LR LR
comp=Z,1μm,15.9s
SMRI Semarang 22.74 205 P **P 11 34 35.3 +5.0**
BKNI Bangkinang 23.00 236 *e*P **P 11 34 34.3 +1.3**
comp=Z,39nm,0.5s
SOEI Soe 23.77 169 P P 11 34 51.3 +11
SOEI Soe 23.77 169 *e*P **P 11 34 40.7 +0.1**
comp=Z,62nm,0.8s
LWLI Liwa 24.44 221 P P 11 34 36.9 -10
KSAR Wonju Array Be 24.61 15 P **P 11 34 45.9 -2.1**
KSAR Wonju Array Be 24.61 15 P **P 11 34 45.9 -2.1**
KSRS Korea Array 24.63 15 P **P 11 34 45.9 -2.3**
comp=Z,5.5nm,0.8s,baz=199,slow=11,SNR=22
KSRS LR LR 11 46 26.8
comp=Z,615nm,18.4s,baz=199,slow=41
BJI Beijing 26.37 353 P P 11 35 10.8 +6.8
BJI S **S 11 39 37.3 +2.4**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,120nm,4.2s
BJI LR LR
comp=Z,490nm,20.0s
BJI LR LR
comp=Z,220nm,17.4s
BJI LR LR
comp=Z,500nm,21.4s
LZH Lanzhou 26.50 330 *e*P **P 11 35 09.9 +4.5**
LZH pP sP 11 35 24.0 +4.4
LZH sP pP 11 35 30.4 +15
LZH pmax pmax
comp=Z,17nm,1.0s
HHC Hu-ho-hao-te 27.95 346 *e*P **P 11 35 22.8 +4.5**
HHC pP sP 11 35 37.8 +5.3
HHC sP pP 11 35 45.1 +17
HHC S **S 11 40 02.6 +2.6**
HHC sS sS 11 40 26.0 +9.4
HHC SS **SnSn 11 41 27.8 +12**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.7s
HHC LR LR
comp=Z,450nm,16.0s
HHC LR LR
comp=Z,440nm,14.8s
HHC LR LR
comp=Z,540nm,15.9s
MAJO Matsushiro 27.95 33 ⇓P **P 11 35 17.8 -0.5**
MAJO pmax pmax
comp=Z,192nm,2.8s
GTA Gaotai 31.09 329 *e*P P 11 35 55.3 +9.1
GTA pP sP 11 36 09.8 +9.4
GTA sP pP 11 36 17.5 +21
GTA PcP **PcP 11 38 41.6 +0.4**
GTA S S 11 41 05.3 +16
GTA sS sS 11 41 31.3 +25
GTA SS **SS 11 43 06.8 +3.6**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=N,690nm,18.8s
GTA LR LR
comp=E,940nm,17.3s
GTA LR LR
comp=Z,1μm,18.1s
MDJ Mudanjiang 31.82 13 P **P 11 35 51.0 -1.3**
MDJ pP sP 11 36 03.9 -2.7
MDJ sP pP 11 36 10.1 +7.7
MDJ PP **PP 11 37 05.4 +0.8**
MDJ S **S 11 41 06.8 +6.4**
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ pmax pmax
comp=Z,46nm,4.0s
MDJ LR LR
comp=Z,570nm,17.7s
MDJ LR LR
comp=Z,230nm,22.3s
MDJ LR LR
comp=Z,630nm,19.1s
USRK Ussuriysk Ar. 32.02 16 P **P 11 35 52.5 -1.7**
comp=Z,4.0nm,0.8s,baz=200,slow=6.5,SNR=8.1
MBWA Marble Bar 34.72 180 *e*P **P 11 36 17.4 -0.4**
comp=Z,18nm,0.6s
ULN Ulaanbaatar 35.64 345⇑ *i*P **P 11 36 27.9 +2.2**
ULN pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 35.78 344 P **P 11 36 25.4 -1.5**
comp=Z,1.0nm,0.7s,baz=171,slow=9.0,SNR=4.7
SONM PcP **PcP 11 38 52.5 -1.8**
comp=Z,1.6nm,0.9s,baz=156,slow=3.0,SNR=4.6
WRAB Tennant Creek 36.37 157 *c i*P **P 11 36 31.3 -0.8**
WRAB *i* *PP **sP 11 36 42.9 -3.5**
WRAB pmax pmax
comp=Z,105nm,1.0s
WRAB Tennant Creek 36.37 157 *e*P **P 11 36 31.5 -0.6**
comp=Z,42nm,0.8s
WRA Warramunga Arr 36.38 157 P **P 11 36 31.2 -1.0**
comp=Z,33nm,0.7s,baz=336,slow=9.5,SNR=82
WB2 Warramunga Arr 36.38 157 *e*P **P 11 36 31.4 -0.7**
ASAR Alice Springs 39.64 160 P **P 11 36 59.5 -0.1**
comp=Z,19nm,0.7s,baz=337,slow=7.2,SNR=55
HYB Hyderabad 39.98 281 *i*P **P 11 37 03.0 +0.4**
WMQ Urumqi 40.71 324 P **P 11 37 10.0 +1.6**
WMQ pP sP 11 37 25.3 +2.5
WMQ sP pP 11 37 32.6 +14
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ LR LR
comp=Z,850nm,18.9s
WMQ LR LR
comp=Z,420nm,19.9s
WMQ LR LR
comp=Z,700nm,17.9s
MOY Mondy 40.76 342 *e*P **P 11 37 08.1 -0.6**
CTA Charters Tower 42.45 142 P **P 11 37 22.4 -0.4**
comp=Z,7.6nm,0.9s,baz=336,slow=8.9,SNR=5.3
BOD Bodaibo 44.19 355 *e*P **P 11 37 32.5 -3.8**
BOD pmax pmax
comp=Z,11nm,1.8s
FORT Forrest 44.98 170 *e*P **P 11 37 43.5 +0.5**
comp=Z,575nm,0.8s
PDGK Podgornoye 45.47 318 *e*P **P 11 37 46.1 -0.9**
MK01 Makanchi Array 45.52 324 *e*P **P 11 37 47.6 +0.5**
MK31 Makanchi Array 45.54 324 *e*P **P 11 37 48.0 +0.7**
MK31 Makanchi Array 45.54 324 *e*P **P 11 37 48.0 +0.7**
MKAR Makanchi Array 45.54 324 P **P 11 37 47.6 +0.3**
comp=Z,1.5nm,0.8s,baz=157,slow=6.6,SNR=8.1
MKAR PcP **PcP 11 39 25.4 -0.2**
comp=Z,2.1nm,0.8s,baz=137,slow=3.9,SNR=5.3
MKAR LR LR 11 58 01.7
comp=Z,608nm,18.0s,baz=106,slow=38
MKAR Makanchi Array 45.54 324 *e*P **P 11 37 48.0 +0.7**
MKAR 11 39 25.5
MKAR pmax pmax
comp=Z,29nm,1.0s
MKAR Makanchi Array 45.54 324 *e*P **P 11 37 48.0 +0.7**
comp=Z,29nm,1.0s
MKAR PcP **PcP 11 39 25.4 -0.2**
HNR Honiara 45.91 118 LR LR 11 56 35.8
comp=Z,236nm,19.3s,baz=257,slow=35
KSH Kashi 46.30 312 *e*P **P 11 37 54.5 +0.9**
KSH pP sP 11 38 09.8 +1.7
KSH sP pP 11 38 17.4 +13
KSH PcP **PcP 11 39 30.1 +1.5**
KSH PP **PP 11 39 43.8 +1.1**
KSH PcS **PcS 11 43 20.8 -2.5**
KSH S **S 11 44 33.0 -5.5**
KSH ScS **ScS 11 47 39.3 -7.3**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,190nm,5.7s
KSH LR LR
comp=Z,160nm,7.8s
KSH LR LR
comp=Z,230nm,11.1s
KSH LR LR
comp=Z,380nm,8.3s
NWAO Narrogin (SRO) 46.51 183 P **P 11 37 54.2 -0.8**
comp=Z,6.3nm,0.6s,baz=357,slow=9.5,SNR=7.1
AAK Ala-Archa 48.50 315 P **P 11 38 09.2 -1.5**
AAK *e*PP **pP 11 38 20.4 -0.7**
AAK pmax pmax
comp=Z,10.0nm,1.0s
ZAA0 Zalesovo Array 48.66 333 *e*P **P 11 38 12.0 +0.5**
ZALV Zalesovo Beam 48.66 333 P **P 11 38 10.0 -1.5**
comp=Z,2.2nm,0.6s,baz=125,slow=6.0,SNR=9.0
ZALV PcP **PcP 11 39 35.1 -1.4**
comp=Z,0.8nm,0.5s,baz=117,slow=5.0,SNR=2.4
YAK Yakutsk 48.69 6 *e*P **P 11 38 07.6 -4.0**
YAK pmax pmax
comp=Z,29nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 48.69 6 *e*P **P 11 38 09.7 -1.9**
comp=E,29nm,0.8s
BBOO Buckleboo 48.82 162 *e*P **P 11 38 12.5 -0.5**
comp=E,40nm,0.8s
PETK Petropavlovsk- 49.31 29 P **P 11 38 15.2 -1.3**
comp=E,4.5nm,0.8s,baz=177,slow=7.9,SNR=2.6
KURK Kurchatov 49.72 327⇑ *i*P **P 11 38 18.6 -1.1**
KURK *e*PP **pP 11 38 28.7 -1.4**
KURK pmax pmax
comp=Z,48nm,1.0s
KURK Kurchatov 49.72 327 *e*P **P 11 38 19.6 -0.1**
comp=Z,16nm,0.8s
MNAS Manas 49.81 315 *e*P **P 11 38 19.5 -1.2**
STKA Stephens Creek 49.91 156 P **P 11 38 20.6 -0.8**
comp=Z,7.7nm,0.7s,baz=327,slow=9.8,SNR=17
STKA Stephens Creek 49.91 156 *e*P **P 11 38 21.2 -0.1**
comp=Z,2.5nm,0.9s
NVS Novosibirsk 49.94 333 *e*P **P 11 38 19.5 -1.8**
MA2 Magadan 51.07 20 LR LR 12 00 06.1
comp=Z,208nm,21.1s,baz=273,slow=36
KKAR Karatay Array 51.40 315 *e*P **P 11 38 33.1 +0.6**
KKAR pmax pmax
comp=Z,34nm,0.8s
KKAR Karatay Array 51.40 315 *e*P **P 11 38 33.1 +0.6**
comp=Z,34nm,0.8s
SEY Seymchan 54.16 18 P **P 11 38 51.3 -1.2**
comp=Z,1.9nm,0.7s,baz=231,slow=19,SNR=3.0
BRVK Borovoye 55.37 326⇓ *i*P **P 11 39 01.3 -0.2**
BRVK *i* *PP **pP 11 39 11.2 -0.8**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 55.37 326 *e*P **P 11 39 00.6 -0.9**
comp=Z,18nm,1.3s
TIXI Tiksi 58.10 3 *d i*P **P 11 39 18.4 -2.1**
TIXI pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 58.10 3 *e*P **P 11 39 18.0 -2.5**
comp=Z,14nm,0.9s
GEYT Alibeck 59.50 306 P **P** 11 39 35.7 +4.7
comp=Z,0.7nm,0.3s,baz=242,slow=3.2,SNR=4.0
GEYT LR LR 12 08 33.3
comp=Z,133nm,19.6s,baz=140,slow=39
ABKAR Akbulak array 60.20 319 *e*P **P 11 39 35.0 -0.4**
comp=Z,3.5nm,0.8s
BILL Bilibino 61.86 18 *e*P **P 11 39 43.7 -2.7**
BILL *i* 11 39 58.2
BILL *i* 11 40 30.0
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,273nm,19.0s
SVE Sverdlovsk 61.95 328⇑ *e*P **P 11 39 46.8 -0.4**
SVE pmax pmax
comp=Z,25nm,1.4s
ARU Arti 62.92 327 *d i*P **P 11 39 52.6 -1.1**
ARU 11 40 30.4
ARU 11 42 09.7
ARU S **S 11 48 22.8 +1.7**
ARU SS **SS 11 52 22.3 -4.2**
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 62.92 327 *e*P **P 11 39 53.0 -0.7**
comp=Z,12nm,1.4s
RAYN Ar Rayn 70.54 290 *e*P **P 11 40 43.9 +0.9**
comp=Z,12nm,1.3s
ZEI Tsey 70.57 311 *e*P **P 11 40 43.1 +0.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 71.28 312 LR LR 12 15 42.4
comp=Z,88nm,18.4s,baz=50,slow=39
KIV Kislovodsk 71.43 312 *e*P **P 11 40 46.7 -1.4**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,132nm,18.0s
KLMR Klimovskoe 73.42 330 *e*P **P 11 41 02.7 +3.3**
KLMR pmax pmax
comp=Z,15nm,1.1s
OBN Obninsk 75.05 324 *i*P **P 11 41 11.5 +2.5**
OBN *i* 11 41 25.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,339nm,18.0s
CAST Castle Rocks 76.89 27 *e*P **P 11 41 18.9 -0.6**
BPAW Bear Paw Mtn. 77.32 27 *e*P **P 11 41 21.1 -0.7**
MLY Manley 77.34 26 *e*P **P 11 41 21.5 -0.5**
MDM Murphy Dome 78.41 26 *e*P **P 11 41 27.2 -0.7**
BRTR Keskin Array B 78.53 308 P **P 11 41 28.8 -0.5**
comp=Z,1.5nm,0.8s,baz=104,slow=10,SNR=3.7
BRTR LR LR 12 20 30.4
comp=Z,50nm,19.3s,baz=53,slow=39
ARCES ARCESS Array B 78.75 339 P **P 11 41 27.9 -1.7**
comp=Z,5.7nm,0.9s,baz=350,slow=20,SNR=3.1
ARCES LR LR 12 21 22.7
comp=Z,93nm,18.6s,baz=78,slow=40
ILAR Eielson Array 79.00 26 P **P 11 41 28.0 -3.1**
comp=Z,0.7nm,0.8s,baz=309,slow=5.0,SNR=6.8
ILAR Eielson Array 79.00 26 P **P 11 41 28.0 -3.1**
ILAR Eielson Array 79.00 26 P **P 11 41 28.0 -3.1**
FINES FINESS Array B 79.86 331 P **P 11 41 34.2 -1.7**
comp=Z,3.8nm,0.9s,baz=212,slow=39,SNR=2.8
FINES LR LR 12 17 31.0
comp=Z,139nm,19.8s,baz=67,slow=36
AKASG Malin Array Be 79.93 320 P **P 11 41 36.7 +0.3**
comp=Z,0.2nm,0.3s,baz=66,slow=5.6,SNR=2.3
AKASG LR LR 12 21 25.3
comp=Z,120nm,19.0s,baz=290,slow=39
KMBO Kilima Mbogo 83.17 267 LR LR 12 18 29.0
comp=Z,147nm,18.1s,baz=92,slow=35
NOA NORSAR Array B 86.86 333 P **P 11 42 10.1 -1.8**
comp=Z,1.1nm,0.6s,baz=65,slow=5.0,SNR=3.2
NOA LR LR 12 23 39.6
comp=Z,112nm,18.6s,baz=265,slow=37
GERES GERESS Array B 90.11 321 P **P 11 42 26.7 -1.0**
comp=Z,0.3nm,0.2s,baz=19,slow=6.4,SNR=3.2
GERES LR LR 12 24 29.2
comp=Z,135nm,20.4s,baz=56,slow=37
MAW Mawson 90.93 199 P **P 11 42 30.5 -0.2**
comp=Z,1.6nm,0.9s,baz=78,slow=6.5,SNR=4.3
YKA Yellowknife Ar 92.98 22 P **P 11 42 37.7 -2.8**
comp=Z,1.6nm,0.7s,baz=71,slow=14,SNR=2.5
DAVOX Davos/Dischmat 93.28 320 LR LR 12 28 22.4
comp=Z,109nm,18.7s,baz=82,slow=38
VNDA Vanda 94.22 172 P **P 11 42 44.4 -1.4**
comp=Z,1.4nm,0.8s,baz=310,slow=4.4,SNR=8.3
TORD Torodi Ar. Bea 113.23 291 PKiKP **PKiKP 11 48 04.2 -1.7**
comp=Z,0.7nm,0.7s,baz=61,slow=0.9,SNR=6.3
TXAR Lajitas Array 119.93 44 PKP **PKPdf 11 48 16.8 -1.9**
comp=Z,0.3nm,0.7s,baz=279,slow=0.6,SNR=4.4
DBIC Dimbokro 121.57 287 PKP **PKPdf 11 48 21.6 -0.4**
comp=Z,1.7nm,0.9s,baz=195,slow=2.8,SNR=3.7
SDDR Presa de Saban 145.62 19 *e*PKPbc **PKPdf 11 49 05.7 -1.0**
PLCA Paso Flores 151.62 163 PKPbc **PKPbc 11 49 21.8 -0.3**
comp=Z,2.2nm,0.7s,baz=191,slow=2.3,SNR=5.8

IDC 19 11:31:26.3±1.4, 2°.85S×136°.54E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.7/35, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=56.4km s-min=24.5km az=96.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.13**	**187**	P	Pn	11 35 26.9	-0.4
	0.5nm,0.3s,baz=8.5,slow=12,SNR=13						
WRA				S	Sn	11 38 27.1	-11
	0.1nm,0.3s,baz=14,slow=22,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.55**	**214**	P	P	11 35 42.6	-2.1
	0.2nm,0.3s,baz=35,slow=9.7,SNR=6.5						
FITZ				S	Sn	11 38 57.9	-15
	0.1nm,0.3s,baz=79,slow=16,SNR=2.6						
ASAR	**Alice Springs**	**20.86**	**187**	P	P	11 36 11.1	+1.1
	3.9nm,0.4s,baz=11,slow=11,SNR=51						
ASAR				S	S	11 39 57.1	-6.5
	0.6nm,0.8s,baz=14,slow=27,SNR=2.6						
MKAR	**Makanchi Array**	**68.58**	**323**	P	P	11 42 31.7	+0.6
	0.2nm,0.3s,baz=107,slow=7.7,SNR=3.3						
ILAR	**Eielson Array**	**86.86**	**25**	P	P	11 44 12.0	-0.6
	0.8nm,1.0s,baz=265,slow=4.5,SNR=3.6						

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*IDC **19** 11:38:04.7±1.8, 18°.28S×167°.68E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/33, mbtmp4.1/7, ML3.5/1, Error ellipse: s-maj=48.7km s-min=29.1km az=135.0*
*ISCJB **19** 11:38:07.1±1.6, 18°.55S±0°.09×167°.7E±0°.2, h29km, mb4.0/5, Error ellipse: s-maj=31.1km s-min=12.4km az=6.3*

ISC 19 11:38:08.7±1.7, 18°.6S±0°.1×167°.8E±0°.2, h29km, n8, σ1§21/9, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.72**	**200**	Pn	**Pn**	**11 39 05.0**	**+0.6**
	3.5nm,0.3s,baz=98,slow=12,SNR=31						
DZM				Sn	**Sn**	**11 39 46.2**	**-1.2**
	5.0nm,0.3s,baz=51,slow=18,SNR=4.0						
CTA	**Charters Tower**	**20.40**	**262**	P	**P**	**11 42 44.4**	**+0.8**
	11nm,0.9s,baz=90,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**27.09**	**236**	P	**P**	**11 43 50.4**	**+1.3**
	5.3nm,0.9s,baz=52,slow=8.1,SNR=9.3						
WRA	**Warramunga Arr**	**31.61**	**262**	P	**P**	**11 44 27.6**	**-1.7**
	1.6nm,1.1s,baz=88,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**31.99**	**255**	P	**P**	**11 44 31.9**	**-0.7**
	3.2nm,0.9s,baz=82,slow=8.7,SNR=24						
FITZ	**Fitzroy Crossi**	**39.97**	**264**	P	**P**	**11 45 40.4**	**-0.6**
	6.3nm,0.9s,baz=117,slow=8.3,SNR=16						
ILAR	**Eielson Array**	**89.99**	**18**	P	**P**	**11 51 04.5**	**-0.5**
	0.3nm,0.7s,baz=233,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.61**	**250**	PKPab	**PKPab**	**11 59 11.1**	**+0.8**
	0.4nm,0.8s,baz=103,slow=3.1,SNR=2.5						

NEIC 19 11:43:13.3±0.0, 53°.09N×166°.91W, h31km, ML3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.68**	**298**	P	Pb	11 43 26.4	-0.3
OKFG				S	Sn	11 43 36.3	+0.1
MGOD	**Makushin Gods**	**0.70**	**2**	P	Pn	11 43 26.9	-0.3
MSOM	**Makushin Julie**	**0.73**	**358**	P	Pn	11 43 27.3	-0.1
OKTU	**Okmok Mt. Tuli**	**0.74**	**294**	P	Pb	11 43 28.0	+0.3
UNV	**Unalaska Valle**	**0.80**	**18**	P	Pn	11 43 27.5	-0.8
UNV				S	Sb	11 43 38.4	-0.7
OKSO	**Okmok South**	**0.80**	**290**	P	Pn	11 43 27.9	-0.5
MNAT	**Makushin Natee**	**0.81**	**10**	P	Pn	11 43 28.5	0.0
OKNC	**Okmok New Cone**	**0.81**	**297**	P	Pn	11 43 28.5	-0.1
OKNC				S	Sn	11 43 39.5	-0.2
OKCE	**Okmok Cone E**	**0.82**	**295**	P	Pn	11 43 28.6	-0.1
MSW	**Makushin Switc**	**0.83**	**5**	P	Pn	11 43 28.5	-0.3
MSW				S	Sb	11 43 40.9	+0.9
MTBL	**Makushin Table**	**0.89**	**9**	P	Pn	11 43 29.8	+0.1
AKMO	**Akutan Morgan**	**1.14**	**28**	P	Pn	11 43 32.9	-0.1
AKMO				S	Sb	11 43 48.2	-0.6
AKRB	**Akutan Reef Bi**	**1.16**	**25**	P	Pb	11 43 34.0	-0.7
NIKH	**Nikolski High**	**1.18**	**265**	P	Pn	11 43 33.0	-0.6
NIKH				S	Sn	11 43 48.2	-0.3
AKGG	**Akutan Green G**	**1.24**	**26**	P	Pn	11 43 35.0	+0.6
AKUT	**Akutan**	**1.25**	**33**	P	Pn	11 43 34.3	-0.2
WESP	**Westdahl Peak**	**1.91**	**42**	P	Pn	11 43 44.9	+1.1

WESE	**West Dahl East**	**1.95**	**44**	P	Pn	11 43 45.0	+0.6
WESN	**West Dahl Nort**	**2.02**	**42**	P	Pn	11 43 46.2	+1.0
SSLS	**Shishaldin Sou**	**2.37**	**46**	P	Pn	11 43 50.7	+0.7
SSLN	**Shishaldin Nor**	**2.44**	**44**	P	Pn	11 43 51.5	+0.5
FALS	**False Pass**	**2.72**	**48**	P	Pn	11 43 56.2	+1.5
SDPT	**Sand Point**	**4.40**	**57**	P	Pn	11 44 19.4	+1.5
ATKA	**Atka Island**	**4.52**	**262**	P	Pn	11 44 20.4	+0.8

MAN 19 11:43:41,13.78N×119.61E,h3km,mb4.3,ML3.1,MS2.9, 1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.62**	**94**	*e*P	Pg	11 43 53.2	+0.4
LUBP				*e*S	Sg	11 43 59.2	-1.7
TGY	**Tagaytay City**	**1.32**	**76**	⇓*i*P	Pg	11 44 05.7	-0.7
TGY				*i* S	Sg	11 44 18.6	-5.1
PGP	**Puerto Galera**	**1.33**	**102**	⇑*e*P	Pn	11 44 06.2	-0.3
PGP				*e*S	Sn	11 44 25.6	+0.8
BUSP	**Coron**	**1.85**	**162**	*e*P	Pb	11 44 15.1	-0.4
BUSP				*e*S	Sn	11 44 37.4	-0.2
SJMP	**San Jose**	**1.96**	**132**	*e*P	Pg	11 44 19.7	+1.0
SJMP				*e*S	Sn	11 44 36.8	-3.6
PCPH	**Palayan**	**2.28**	**39**	⇓*e*P	Pn	11 44 19.5	-0.1
ENPP	**El Nido**	**2.56**	**184**	*e*P	Pn	11 44 25.4	+1.9
ENPP				*e*S	Sn	11 44 55.4	+0.3
BALP	**Baler**	**2.72**	**44**	*e*P	Pn	11 44 26.3	+0.7
BALP				*e*S	Sn	11 44 57.9	-1.3

*ISCJB **19** 11:46:28.7±0.3,17.58S±0.06×167.22E±0.06,h10km, mb4.6/26,MS4.0/13,Error ellipse: s-maj=8.8km s-min=7.1km az=149.2*
*IDC **19** 11:46:29.4±1.2,18.36S×167.32E,h0km,mb4.2/9, mb1 4.5/12,mb1mx4.2/35,mbtmp4.4/12,ML4.3/3,MS3.9/12, Ms1 3.9/12,ms1mx3.7/29,Error ellipse: s-maj=26.6km s-min=23.1km az=86.0*
*NEIC **19** 11:46:30.3±0.3,17.55S×167.19E,h10km,mb4.5/10,Error ellipse: s-maj=8.0km s-min=5.6km az=151.0*
*BJI **19** 11:46:30.0,17.50S×167.20E,h10km,mb4.6/24,mB5.2/12, Ms5.0/9,Ms7 4.7/9*

ISC 19 11:46:30.2±0.5,17.63S±0.08×167.23E±0.07,h10km,n62, σ1§87/53,mb4.7/26,MS4.0/13,1C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.48**	**189**	Pn	Pn	11 47 27.6	-11
	9.1nm,0.3s,baz=38,slow=10,SNR=77						
DZM				LR	LR	11 48 02.9	
	comp=Z,335nm,20.2s,baz=10.0,slow=25						
DZM				Sn	Sn	11 48 08.3	-22
	22nm,0.3s,baz=120,slow=21,SNR=6.2						
DZM	**Mont Dzumac**	**4.48**	**189**	*e*Pn	Pn	11 47 26.5	-12
	36nm,0.3s						
DZM				*e*Sn	Sn	11 48 11.1	-19
	108nm,0.2s						
MSVF	**Nonsavu**	**10.31**	**92**	*e*Pn	**Pn**	**11 48 58.6**	**+0.3**
HNR	**Honiara**	**10.80**	**318**	Pn	Pn	11 49 15.0	+10
	2.8nm,0.3s,baz=180,slow=14,SNR=2.8						
FUNA	**Funafuti**	**14.75**	**54**	*e*Pn	**Pn**	**11 49 57.9**	**-1.1**
LHI	**Lord Howe Isla**	**15.69**	**207**	*e*Pn	**Pn**	**11 50 12.1**	**+0.8**
	91nm,0.9s						
EIDS	**Eidsvold**	**16.88**	**240**	*e*Pn	**Pn**	**11 50 26.7**	**+0.1**
	54nm,1.7s						
RAO	**Raoul Island**	**17.85**	**133**	LR	LR	11 55 12.5	
	comp=Z,310nm,20.3s,baz=306,slow=30						
OUZ	**Omahuta**	**18.41**	**163**	*e*P	**Pn**	**11 50 47.6**	**+2.1**
	156nm,1.6s						
TARA	**Tarawa**	**19.68**	**17**	*e*P	**P**	**11 50 59.1**	**-0.6**
	2.7nm,1.4s						
CTA	**Charters Tower**	**20.00**	**260**	P	**Pn**	**11 51 05.0**	**+0.2**
	0.7nm,0.3s,baz=88,slow=11,SNR=13						
AFI	**Afiamalu**	**20.53**	**83**	LR	LR	11 58 07.8	
	comp=Z,59nm,21.6s,baz=260,slow=34						
AFI	**Afiamalu**	**20.53**	**83**	*e*P	**P**	**11 51 10.1**	**+1.1**
	62nm,1.3s						
PMG	**Port Moresby**	**21.15**	**290**	LR	LR	11 58 29.4	
	comp=Z,478nm,19.1s,baz=100,slow=34						
HIZ	**Hauiti**	**21.84**	**164**	*e*P	**P**	**11 51 24.9**	**+2.0**
	327nm,1.6s						
URZ	**Urewera**	**22.30**	**159**	P	**P**	**11 51 22.8**	**-4.9**
	6.8nm,0.8s,baz=322,slow=19,SNR=3.2						
URZ				LR	LR	11 58 27.1	
	comp=Z,468nm,18.4s,baz=344,slow=33						
URZ	**Urewera**	**22.30**	**159**	*e*P	**P**	**11 51 29.0**	**+1.3**
BKZ	**Black Stump Fm**	**22.92**	**161**	*e*P	**P**	**11 51 34.7**	**+0.3**
	80nm,1.4s						
CAN	**Canberra**	**23.94**	**219**	*e*P	**P**	**11 51 45.8**	**+1.2**
	73nm,1.6s						
OXZ	**Oxford**	**25.93**	**172**	*e*P	**P**	**11 52 04.3**	**+1.7**
	131nm,1.7s						
STKA	**Stephens Creek**	**27.17**	**234**	P	**P**	**11 52 10.5**	**-3.4**
	7.4nm,0.8s,baz=61,slow=8.1,SNR=20						
STKA				LR	LR	12 02 27.3	
	comp=Z,365nm,20.3s,baz=15,slow=36						
STKA	**Stephens Creek**	**27.17**	**234**	*e*P	**P**	**11 52 13.7**	**-0.3**
	4.5nm,1.0s						
WRAB	**Tennant Creek**	**31.19**	**261**	*e*P	**P**	**11 52 49.0**	**-0.8**
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**31.20**	**261**	P	**P**	**11 52 49.2**	**-0.7**
	1.4nm,0.5s,baz=82,slow=5.9,SNR=20						
WRA				LR	LR	12 04 08.4	
	comp=Z,354nm,19.6s,baz=80,slow=34						
RAR	**Rarotonga**	**31.29**	**102**	LR	LR	12 03 07.7	
	comp=Z,134nm,20.9s,baz=278,slow=32						
AS01	**Alice Springs**	**31.67**	**253**	*e*P	**P**	**11 52 54.0**	**0.0**
AS31	**Alice Springs**	**31.71**	**253**	*e*P	**P**	**11 52 53.9**	**-0.5**
	4.4nm,0.8s						
ASAR	**Alice Springs**	**31.71**	**253**	P	**P**	**11 52 53.9**	**-0.5**
	5.1nm,0.5s,baz=82,slow=8.5,SNR=69						
ASAR				LR	LR	12 04 50.8	
	comp=Z,506nm,20.8s,baz=82,slow=35						
BBOO	**Buckleboo**	**31.85**	**236**	*e*P	**P**	**11 52 54.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.53**	**263**	P	**P**	**11 54 02.3**	**+0.8**
	14nm,0.7s,baz=93,slow=8.6,SNR=50						
FITZ	**Fitzroy Crossi**	**39.53**	**263**	*e*P	**P**	**11 54 01.7**	**+0.2**
	17nm,0.8s						
PPT2	**Papeete2**	**41.10**	**97**	*e*LR	LR	12 05 34.8	
	329nm,26.5s						
PPT	**Papeete**	**41.10**	**97**	LR	LR	12 06 20.0	
	comp=Z,89nm,21.1s,baz=292,slow=29						
TAOE	**Nuku Hiva Isla**	**51.82**	**87**	*e*LR	LR	12 10 27.8	
	288nm,29.2s						
SBA	**Scott Base**	**60.25**	**180**	*e*P	**P**	**11 56 35.8**	**-2.4**
NJ2	**Nanjing**	**67.74**	**317**	*e*P	**P**	**11 57 28.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,1.2s						
GYA	**Guiyang**	**73.34**	**305**	*e*P	**P**	**11 58 03.8**	**+1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**75.81**	**302**	P	**P**	**11 58 18.1**	**+1.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,79nm,5.3s						
CMAR	**Chiang Mai Arr**	**76.11**	**295**	P	P	11 58 23.2	+4.6
	0.3nm,0.4s,baz=142,slow=4.1,SNR=4.7						
CD2	**Chengdu**	**77.75**	**308**	*e*P	**P**	**11 58 28.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**77.77**	**320**	*e*P	**P**	**11 58 28.4**	**+0.7**
HHC				sP	PcP	11 58 36.0	-1.7
HHC				S	**S**	**12 08 19.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,34nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,8.5s						
HHC				LR	LR		
	comp=N,280nm,17.3s						
HHC				LR	LR		
	comp=E,320nm,18.5s						
HHC				LR	LR		
	comp=Z,310nm,17.7s						
MAW	**Mawson**	**79.19**	**202**	P	**P**	**11 58 33.3**	**-1.8**
	1.0nm,0.8s,baz=73,slow=12,SNR=4.6						
MAW	**Mawson**	**79.19**	**202**	*e*P	**P**	**11 58 34.6**	**-0.4**
	2.2nm,1.0s						
LZH	**Lanzhou**	**80.25**	**313**	*e*P	**P**	**11 58 42.3**	**+0.8**
LZH				sP	PcP	11 58 49.9	+1.2
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**84.65**	**314**	*e*P	P	11 59 09.8	+5.4
GTA				pP	sP	11 59 14.5	+5.6
GTA				sP	PcP	11 59 16.8	+8.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,140nm,5.9s						
GTA				LR	LR		
	comp=N,150nm,18.1s						
GTA				LR	LR		
	comp=E,120nm,19.5s						
GTA				LR	LR		
	comp=Z,190nm,17.8s						
SONM	**Songino Array**	**84.80**	**324**	P	P	11 59 09.8	+4.9
	0.4nm,0.7s,baz=141,slow=4.8,SNR=2.4						
SYO	**Syowa Base**	**85.93**	**197**	⇓*e*X	**P**	**11 59 07.0**	**-3.1**
SYO	**Syowa Base**	**85.93**	**197**	⇑*e*PcP	**PcP**	**11 59 14.5**	**+1.7**
AFDM	**Forest Hills D**	**87.49**	**48**	*e*P	**P**	**11 59 18.2**	**-0.1**
	3.8nm,0.9s						
CMB	**Columbia Colle**	**87.53**	**49**	*e*P	**P**	**11 59 18.4**	**-0.1**
	3.6nm,0.8s						
BEKR	**Beckworth**	**88.31**	**47**	*e*P	**P**	**11 59 22.3**	**0.0**
	4.5nm,1.3s						
IL1	**Eielson Array**	**89.29**	**18**	*e*P	**P**	**11 59 26.1**	**0.0**
ILAR	**Eielson Array**	**89.29**	**18**	P	**P**	**11 59 28.4**	**+2.3**
	0.8nm,0.7s,baz=240,slow=5.2,SNR=11						
ILAR				LR	LR	12 37 16.0	
	comp=Z,84nm,18.7s,baz=286,slow=34						
SNAA	**Sanae**	**90.66**	**183**	P	**P**	**11 59 29.2**	**-3.5**
SNAA	**Sanae**	**90.66**	**183**	*e*P	**P**	**11 59 33.0**	**+0.2**
	25nm,1.6s						
VNA3	**Neumayer Olymp**	**91.33**	**181**	P	**P**	**11 59 33.0**	**-2.8**
VNA2	**Neumayer--Watz**	**91.59**	**182**	P	**P**	**11 59 40.0**	**+3.0**
	baz=147,slow=4.7						
VNA1	**Neumayer--Stat**	**91.89**	**182**	P	**P**	**11 59 41.4**	**+3.1**
WMQ	**Urumqi**	**94.73**	**314**	*e*P	**P**	**11 59 52.3**	**+0.3**
WMQ				pP	sP	11 59 56.6	+0.1
WMQ				sP	pP	11 59 59.3	+4.0
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,81nm,6.3s						
WMQ				LR	LR		
	comp=N,130nm,19.9s						
WMQ				LR	LR		
	comp=E,77nm,22.7s						
WMQ				LR	LR		
	comp=Z,79nm,19.9s						
TXAR	**Lajitas Array**	**97.68**	**62**	LR	LR	12 39 35.1	
	comp=Z,85nm,18.1s,baz=0.0,slow=32						
KSH	**Kashi**	**101.95**	**308**	P	**Pdif**	**12 00 24.8**	**+0.2**
KSH				pP	sPdif	12 00 29.8	+0.7
KSH				PP	**PP**	**12 04 39.6**	**+3.5**
KSH				SKS	**SKSac**	**12 11 01.3**	**-3.2**
KSH				S	**Sdif**	**12 12 02.1**	**-5.1**
KSH				SS	**SS**	**12 19 11.3**	**-0.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,190nm,8.1s						
KSH				LR	LR		
	comp=N,150nm,5.8s						
KSH				LR	LR		
	comp=E,170nm,5.8s						
KSH				LR	LR		
	comp=Z,110nm,6.4s						
TORD	**Torodi Ar. Bea**	**165.36**	**254**	PKPab	**PKPab**	**12 07 33.9**	**+0.1**
	0.5nm,0.8s,baz=151,slow=3.0,SNR=2.9						

MAN 19 11:47:50,13.41N×120.42E,h30km,mb3.9,ML2.7,MS2.5, 1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**333**	*e*P	Pn	11 48 01.2	+1.9
LUBP				*e*S	Sn	11 48 08.1	+2.7
PGP	**Puerto Galera**	**0.53**	**80**	⇓*i*P	Pn	11 48 01.8	+0.3
PGP				*i* S	Sn	11 48 09.4	-0.1
TGY	**Tagaytay City**	**0.85**	**36**	⇑*i*P	Pb	11 48 07.0	+0.7
TGY				*i* S	Sn	11 48 18.9	+1.3
SJMP	**San Jose**	**1.16**	**144**	*e*P	Pb	11 48 11.8	+0.3
SJMP				*e*S	Sb	11 48 27.2	+1.0
BOAC	**Boac**	**1.39**	**88**	*e*P	Pn	11 48 13.7	+0.4
BOAC				*e*S	Sn	11 48 31.6	+1.0
BUSP	**Coron**	**1.41**	**189**	*e*P	Pb	11 48 15.5	-0.3
BUSP				*e*S	Sb	11 48 33.3	-0.1
ENPP	**El Nido**	**2.40**	**204**	*e*P	Pn	11 48 28.3	+1.1
ENPP				*e*S	Sn	11 48 56.1	+0.6
BALP	**Baler**	**2.58**	**26**	*e*P	Pn	11 48 31.2	+1.5
BALP				*e*S	Sn	11 49 02.7	+2.7

IDC 19 11:49:10.3±20.0,20.50S×178.27W,h404km±169km, mb3.0/4,mb1 3.3/4,mb1mx3.0/32,mbtmp3.8/4,Error ellipse: s-maj=285.6km s-min=56.6km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.27**	**257**	P	P	11 56 41.9	-0.5
	1.3nm,0.7s,baz=98,slow=7.6,SNR=6.4						
WRA	**Warramunga Arr**	**44.35**	**262**	P	P	11 56 42.5	-0.5
	0.4nm,0.4s,baz=97,slow=7.7,SNR=7.0						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	P	11 57 47.0	+0.7
	1.5nm,0.9s,baz=112,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**88.37**	**13**	P	P	12 01 17.3	+0.2
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.6						
BRTR	**Keskin Array B**	**146.65**	**312**	PKPbc	PKPbc	12 08 04.7	-1.2
	0.8nm,0.9s,baz=83,slow=2.2,SNR=2.8						

IDC 19 11:51:32.5±6.0,35.79N×141.89E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.4/43,mbtmp3.3/3,ML2.8/1,MS3.6/1, Ms1 3.6/1,ms1mx2.8/43,Error ellipse: s-maj=142.3km s-min=38.6km az=43.0,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.07**	**285**	Pn	Pn	11 52 22.1	-0.2
	1.2nm,0.3s,baz=100,slow=14,SNR=8.3						
MAT	**Matsushiro**	**3.07**	**285**	P	Pn	11 52 21.6	-0.7
MAT				S	Sn	11 52 52.3	-7.4
H11N3	**WAKE ISLAND Hy**	**27.21**	**119**	T	T	12 26 28.6	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**27.88**	**122**	T	T	12 27 09.6	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.89**	**122**	T	T	12 27 11.2	
	baz=314						
WRA	**Warramunga Arr**	**55.89**	**189**	P	P	12 01 11.5	-0.6
	0.8nm,0.5s,baz=4.2,slow=7.9,SNR=11						
ARU	**Arti**	**57.55**	**319**	LR	LR	12 28 37.1	
	comp=Z,50nm,19.4s,baz=22,slow=39						
ASAR	**Alice Springs**	**59.61**	**188**	P	P	12 01 38.8	+0.5
	0.3nm,0.8s,baz=21,slow=9.9,SNR=3.5						

*ISCJB **19** 11:51:41.7±1.0,39.58N±0.04×27.51E±0.05,h2km±10km, Error ellipse: s-maj=7.3km s-min=5.9km az=173.6*
*DDA **19** 11:51:41.6,39.62N×27.56E,h7km,Ml2.7*
*ISK **19** 11:51:42.4,39.60N×27.56E,h13km,ML2.2*
*CSEM **19** 11:51:42.0±0.2,39.57N×27.53E,h5km,ML2.7,Error ellipse: s-maj=6.7km s-min=4.2km az=33.0*

ISC 19 11:51:42.2±0.9,39.59N±0.03×27.54E±0.03,h12km±7km, n21,σ0§85/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.16**	**22**	*i* P	**Pg**	**11 51 44.7**	**-1.3**
BALY				*i* S	**Sg**	**11 51 50.5**	**+1.9**
BALY	**Balya**	**0.16**	**22**	P	**Pg**	**11 51 44.7**	**-1.3**
BALY				S	**Sg**	**11 51 50.5**	**+1.9**
KNL	**Bal¨--kesir**	**0.68**	**359**	*i* P	**Pg**	**11 51 54.2**	**-1.2**
KNL				*i* S	**Sg**	**11 52 04.0**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.78**	**281**	*i* P	**Pg**	**11 51 56.8**	**-0.5**
BAYC				*i* S	**Sg**	**11 52 06.6**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**0.78**	**281**	P	**Pg**	**11 51 56.8**	**-0.5**
BAYC				S	**Sg**	**11 52 06.6**	**-1.0**
MRMT	**Marmara Adasi**	**1.01**	**2**	*e*PG	**Pb**	**11 52 02.2**	**+0.4**
MRMT				*e*SG	**Sn**	**11 52 17.0**	**+0.4**
MRMT	**Marmara Adasi**	**1.01**	**2**	*e*Pg	**Pb**	**11 52 02.2**	**+0.4**
MRMT				*e*Sg	**Sn**	**11 52 17.0**	**+0.4**
DEMI	**Demirci**	**1.06**	**121**	*i* P	**Pg**	**11 52 02.0**	**-0.7**
DEMI				*i* S	**Sn**	**11 52 17.9**	**+0.1**
DEMI	**Demirci**	**1.06**	**121**	P	**Pg**	**11 52 02.0**	**-0.7**
DEMI				S	**Sn**	**11 52 17.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.15**	**315**	*e*PN	**Pb**	**11 52 04.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.15**	**315**	*e*Pn	**Pb**	**11 52 04.4**	**+0.3**
MANT	**Manisa**	**1.35**	**144**	*i* P	**Pn**	**11 52 07.4**	**+0.2**
MANT				*i* S	**Sn**	**11 52 26.3**	**+1.2**
MANT	**Manisa**	**1.35**	**144**	P	**Pn**	**11 52 07.4**	**+0.2**
MANT				S	**Sn**	**11 52 26.3**	**+1.2**
SIGR	**SIGRI**	**1.36**	**254**	*e*PN	**Pb**	**11 52 08.1**	**+0.5**
SIGR	**SIGRI**	**1.36**	**254**	*e*Pn	**Pb**	**11 52 08.1**	**+0.5**
ARMT	**Armutlu**	**1.41**	**46**	*e*PN	**Pn**	**11 52 08.1**	**+0.4**
ARMT	**Armutlu**	**1.41**	**46**	*e*Pn	**Pn**	**11 52 08.1**	**+0.4**
TVSB	**Tavsanli**	**1.49**	**95**	*e*PN	**Pb**	**11 52 09.7**	**-0.2**
TVSB				*e*SN	**Sg**	**11 52 29.4**	**-0.8**
TVSB	**Tavsanli**	**1.49**	**95**	*e*Pn	**Pb**	**11 52 09.7**	**-0.2**
TVSB				*e*Sn	**Sg**	**11 52 29.4**	**-0.8**
ALN	**Alexandroupoli**	**1.74**	**319**	*e*PN	**Pb**	**11 52 13.7**	**-0.3**
ALN	**Alexandroupoli**	**1.74**	**319**	*e*Pn	**Pb**	**11 52 13.7**	**-0.3**

*ISCJB **19** 11:53:32.5±1.4,27.85S±0.04×71.0W±0.1,h45km±27km, Error ellipse: s-maj=17.0km s-min=6.9km az=7.2*
*SJA **19** 11:53:32.6±0.8,28.05S×71.17W,h65km±16km,ML3.4, MW3.5*
*GUC **19** 11:53:32.4±0.6,27.86S×70.89W,h32km±15km,ML3.2*

ISC 19 11:53:32.4±1.5,27.85S±0.04×71.0W±0.1,h27km±15km, n11,σ1§02/15,1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.76**	**163**	⇓*i*P	**Pb**	**11 53 46.9**	**-0.1**
VACH				*i* S	**Sb**	**11 53 57.6**	**+0.6**
CPCH	**Copiapo**	**0.76**	**50**	⇑*i*P	**Pb**	**11 53 46.3**	**-0.8**
CPCH				*i* S	**Sb**	**11 53 56.6**	**-0.6**
CDCH	**Caldera**	**0.80**	**12**	*i* P	**Pb**	**11 53 47.8**	**+0.1**
CDCH				*i* S	**Sb**	**11 53 58.9**	**+0.8**
LCO	**Las Campanas**	**1.19**	**167**	IAML		11 54 09.2	
	comp=N,928nm,0.1s						
LCO	**Las Campanas**	**1.19**	**167**	*e*P	**Pn**	**11 53 52.7**	**-0.9**
LCO				*e*S	**Sn**	**11 54 07.8**	**-1.2**
LCO				IAML		11 54 08.4	
	comp=E,800nm,0.2s						
VCA	**Vinchina**	**2.63**	**110**	*e*P	**Pn**	**11 54 13.7**	**+0.5**
VCA				*i* S	**Sn**	**11 54 45.2**	**+0.9**
AGUA	**GUANDACOL**	**2.75**	**127**	*e*P	**Pn**	**11 54 16.4**	**+1.5**
ACDV	**Cuesta del Vie**	**2.84**	**145**	*e*P	**Pn**	**11 54 17.7**	**+1.5**
AMOG	**MOGNA**	**3.78**	**145**	*e*P	**Pn**	**11 54 29.6**	**+0.5**
ACLC	**CERRO LA CRUZ**	**3.90**	**115**	*e*P	**Pn**	**11 54 30.3**	**-0.4**
APLL	**PUNTA DE LOS L**	**4.67**	**124**	*e*P	**Pn**	**11 54 40.1**	**-1.1**

MEX 19 11:57:39.1±0.2,17.59N×95.28W,h180km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.48**	**250**	*e*P	Pn	11 58 09.8	-1.3
VHO				*e*S	Sn	11 58 33.6	-2.2
HUIG	**Huatulco**	**1.97**	**204**	*e*P	Pn	11 58 14.6	-1.3
HUIG				*e*S	Sn	11 58 42.5	-1.9
PCIG		**2.72**	**133**	*e*P	Pn	11 58 23.2	-1.2
PCIG				*e*S	Sn	11 58 57.5	-2.1

GCMT 19 12:01:12.0±0.6,3.70S×103.36W,h21km±2km,MW4.8/70, Moment Tensor Solution. s19,c23; s70,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr0.32±.16; Mθθ-1.54±.14; Mφφ1.23±.14; Mrθ-0.77±.24; Mθφ1.26±.10; Mφr-0.85±.25; **Best double couple:** M0 2.20700×10^{16} **NP1:**φs249.00000°,δ78.00000°, λ29.00000°. **NP2:**φs152.00000°,δ62.00000°,λ166.00000°. **Principal axes:** T 2.3080, Plg29.0000°, Azm114.0000°; N -0.1950, Plg59.0000°, Azm269.0000°; P -2.1070, Plg11.0000°, Azm18.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Central East Pacific Rise**

MAN 19 12:01:38,13.79N×119.72E,h10km,mb3.8,ML2.5,MS2.1, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.52**	**96**	*e*P	Pb	12 01 49.2	0.0
LUBP				*e*S	Sg	12 01 55.3	+0.4
PGP	**Puerto Galera**	**1.23**	**103**	⇓*e*P	Pg	12 02 02.3	+0.5
PGP				*i* S	Sn	12 02 18.4	+0.3
BUSP	**Coron**	**1.83**	**165**	*e*P	Pn	12 02 10.3	+0.7
BUSP				*e*S	Sn	12 02 33.0	+0.2
SJMP	**San Jose**	**1.90**	**134**	*e*P	Pg	12 02 16.5	+2.1
BOAC	**Boac**	**2.09**	**99**	*e*P	Pn	12 02 14.3	+1.2
BALP	**Baler**	**2.65**	**43**	*e*P	Pn	12 02 21.3	+0.5
BALP				*e*S	Sn	12 02 55.0	+2.1

*IDC **19** 12:03:02.1±0.6,30.18N×142.17E,h0km,mb4.3/22, mb1 4.4/25,mb1mx4.3/43,mbtmp4.2/25,ML2.7/2,MS3.7/3, Ms1 3.7/3,ms1mx3.1/41,Error ellipse: s-maj=17.4km s-min=13.9km az=92.0*
*NEIC **19** 12:03:03.9±0.3,30.23N×142.23E,h10km,mb4.7/9,Error ellipse: s-maj=6.8km s-min=5.0km az=71.0*
*ISCJB **19** 12:03:04.2±0.3,30.26N±0.04×142.24E±0.06,h24km, mb4.6/58,MS3.9/6,Error ellipse: s-maj=7.4km s-min=5.4km az=160.5*
*BJI **19** 12:03:04.9,30.22N×141.97E,h20km,mb4.6/48,mB4.8/36, Ms4.4/25,Ms7 4.1/25*
*MOS **19** 12:03:06.0±1.0,30.31N×142.17E,h33km,mb4.7/27,Error ellipse: s-maj=13.1km s-min=5.9km az=120.5*

ISC 19 12:03:06.1±0.5,30.30N±0.06×142.33E±0.07,h24km,n119, σ1§44/131,mb4.7/58,MS3.9/6,6C-2D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.19**	**182**	*e*Pn	**Pn**	**12 03 54.6**	**-0.2**
CBIJ				*e*Sn	Sn	12 04 25.5	-6.6
JHJ2	**Mitsune**	**3.53**	**323**	*e*Pn	**Pn**	**12 03 58.3**	**-1.2**
INU	**Inuyama**	**6.73**	**320**	*e*Pn	**Pn**	**12 04 43.3**	**-0.2**
MJAR	**Matsushiro Arr**	**7.12**	**332**	Pn	**Pn**	**12 04 48.3**	**-0.5**
	6.2nm,0.3s,baz=162,slow=11,SNR=10						
MJAR				Sn	**Sn**	**12 06 06.8**	**-2.1**
	baz=165,slow=18,SNR=2.9						
MAJO	**Matsushiro**	**7.12**	**332**	*e*P	**Pn**	**12 04 47.8**	**-1.0**
MAJO	**Matsushiro**	**7.12**	**332**	*e*Pn	**Pn**	**12 04 47.8**	**-1.0**
ASAJ	**Asahikawa**

comp=Z,8.0nm,0.6s
TIA Tai'an 21.86 292 ⇓P **P 12 07 55.5 -1.5**
TIA pmax pmax
comp=Z,10.0nm,0.7s
BJT Baijiatuau 23.41 302 *e*P **P 12 08 12.8 -0.5**
BJT pmax pmax
comp=Z,155nm,0.8s
BJT Baijiatuau 23.41 302 *e*P **P 12 08 12.8 -0.5**
comp=Z,155nm,0.8s
BJI Beijing 23.41 302 P **P 12 08 11.5 -1.8**
BJI pmax pmax
comp=Z,12nm,1.5s
BJI pmax pmax
comp=Z,200nm,5.8s
BJI LR LR
comp=Z,210nm,16.1s
BJI LR LR
comp=Z,430nm,16.1s
BJI LR LR
comp=Z,200nm,23.3s
WHN Wuhan 24.11 278 ⇓P P 12 08 13.1 -6.9
WAKE Wake Island 24.60 111 *e*P **P 12 08 24.4 -0.2**
comp=Z,234nm,1.2s
PEA0 Petropavlovsk- 25.41 22 *e*P **P 12 08 33.0 +1.4**
HIA Hailar 25.53 324 *e*P **P 12 08 32.7 -0.1**
HIA Hailar 25.53 324 *e*P **P 12 08 33.3 +0.5**
comp=Z,26nm,1.3s
PET Petropavlovsk 25.66 23 P **P 12 08 34.1 +0.3**
PET Petropavlovsk 25.66 23 P **P 12 08 34.1 +0.3**
HHC Hu-ho-hao-te 27.02 301 *e*P **P 12 08 47.8 +1.3**
HHC sP sP 12 08 58.0 +1.4
HHC S **S 12 13 22.4 -0.4**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,110nm,10.0s
HHC LR LR
comp=Z,240nm,13.6s
HHC LR LR
comp=Z,290nm,14.8s
HHC LR LR
comp=Z,310nm,13.6s
ENH Enshi 28.31 278 *e*P **P 12 08 56.2 -1.8**
comp=Z,2.5nm,0.3s
XAN Xi'an 28.45 286 P **P 12 08 58.1 -1.2**
XAN pP sP 12 09 08.3 -1.1
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,110nm,7.7s
ULN Ulaanbaatar 32.16 313 *e*P **P 12 09 32.7 +0.7**
ULN Ulaanbaatar 32.16 313 *e*P **P 12 09 32.7 +0.7**
comp=Z,21nm,1.4s
SONA1 Songino Array 32.57 313 *e*P **P 12 09 35.3 -0.3**
SONM Songino Array 32.57 313 P **P 12 09 36.3 +0.7**
comp=Z,2.6nm,0.4s,baz=120,slow=8.3,SNR=15
LZH Lanzhou 32.57 291 *e*P **P 12 09 36.3 +0.6**
LZH pP pP 12 09 43.3 +0.4
LZH sP sP 12 09 45.8 -0.1
LZH pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 32.80 349 *e*P **P 12 09 37.4 +0.2**
YAK pmax pmax
comp=Z,4.0nm,0.9s
CD2 Chengdu 33.09 281 *e*P **P 12 09 38.6 -1.7**
SEY Seymchan 33.29 8 P **P 12 09 44.1 +2.6**
comp=Z,2.2nm,0.9s,baz=198,slow=20,SNR=3.7
BOD Bodaibo 33.75 333 *e*P **P 12 09 45.6 0.0**
BOD pmax pmax
comp=Z,6.0nm,1.0s
KMI Kunming 35.30 271 P **P 12 09 59.9 +0.3**
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI pmax pmax
comp=Z,180nm,8.3s
ZAK Zakamensk 35.35 316 *e*P **P 12 10 01.2 +1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
GTA Gaotai 35.78 296 P **P 12 10 02.6 -0.9**
GTA pP pP 12 10 10.3 -0.4
GTA sP sP 12 10 14.3 +0.6
GTA S **S 12 15 38.5 -1.0**
GTA sS sS 12 15 50.4 -1.0
GTA SS **SnSn 12 17 59.8 -2.7**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,93nm,5.5s
GTA LR LR
comp=Z,110nm,18.1s
GTA LR LR
comp=Z,190nm,18.1s
GTA LR LR
comp=Z,180nm,18.1s
CHTO Chiang Mai 40.86 264 *e*P **P 12 10 45.5 -0.8**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 40.86 264 *e*P **P 12 10 45.5 -0.8**
comp=Z,5.6nm,0.9s
CMAR Chiang Mai Arr 41.01 263 *e*P **P 12 10 45.5 -2.0**
comp=Z,1.0nm,0.7s,baz=59,slow=5.5,SNR=9.2
CM01 Chiang Mai Arr 41.01 263 *e*P **P 12 10 46.5 -1.1**
TIXI Tiksi 42.05 354 P **P 12 10 56.0 +0.6**
comp=Z,0.7nm,0.4s,baz=170,slow=4.8,SNR=3.9
TIXI Tiksi 42.05 354 *e*P **P 12 10 55.5 +0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.8s
WMQ Urumqi 44.87 303 P **P 12 11 19.9 +1.3**
WMQ pP pP 12 11 27.3 +1.3
WMQ sP sP 12 11 30.4 +1.5
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=Z,140nm,21.3s
WMQ LR LR
comp=Z,57nm,23.1s
WMQ LR LR
comp=Z,77nm,21.3s
ZAA0 Zalesovo Array 47.20 317 *e*P **P 12 11 32.9 -3.8**
ZALV Zalesovo Beam 47.20 317 P **P 12 11 34.9 -1.8**
comp=Z,10nm,0.3s,baz=90,slow=8.8,SNR=6.7
ZALV PcP **PcP 12 13 08.2 +0.3**
comp=Z,4.1nm,0.3s,baz=81,slow=4.5,SNR=2.4
MK01 Makanchi Array 48.58 307 *e*P **P 12 11 47.8 +0.2**
MK31 Makanchi Array 48.59 307 *e*P **P 12 11 47.9 +0.3**
MK31 Makanchi Array 48.59 307 *e*P **P 12 11 47.9 +0.3**
MKAR Makanchi Array 48.59 307 P **P 12 11 47.7 0.0**
comp=Z,10nm,0.8s,baz=90,slow=9.3,SNR=49
MKAR LR LR 12 33 20.4
comp=Z,120nm,18.5s,baz=69,slow=38
MKAR Makanchi Array 48.59 307 *e*P **P 12 11 47.9 +0.3**
MKAR Makanchi Array 48.59 307 *e*P **P 12 11 47.9 +0.3**
comp=Z,57nm,0.8s
MAKZ Makanchi 48.80 307 *e*P **P 12 11 49.7 +0.4**
MAKZ Makanchi 48.80 307 *e*P **P 12 11 49.7 +0.4**
comp=Z,25nm,1.5s
NRIK Noril'sk 49.73 338 P **P 12 11 55.7 -0.3**
comp=Z,6.0nm,0.7s,baz=130,slow=5.0,SNR=4.5
WRAB Tennant Creek 50.53 190 *i*P **P 12 12 04.4 +1.8**
WRAB pmax pmax
comp=Z,8.0nm,0.5s
WRAB Tennant Creek 50.53 190 *e*P **P 12 12 01.8 -0.8**
comp=Z,55nm,2.0s
WB2 Warramunga Arr 50.53 190 *e*P **P 12 12 02.1 -0.5**
WRA Warramunga Arr 50.54 190 P **P 12 12 01.7 -0.9**
comp=Z,6.2nm,0.8s,baz=7.9,slow=7.9,SNR=31
PDGK Podgornoye 50.85 303 P **P 12 12 04.5 -0.6**
PDGK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 50.88 313 *i*P **P 12 12 04.7 -0.2**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 50.88 313 *e*P **P 12 12 04.8 -0.2**
comp=Z,12nm,0.8s
KDAK Kodiak Island 51.76 38 P **P 12 12 12.0 +0.6**
comp=Z,2.5nm,0.5s,baz=202,slow=2.7,SNR=11
KDAK Kodiak Island 51.76 38 P **P 12 12 12.0 +0.6**
KDAK pmax pmax
comp=Z,3.0nm,0.5s
KSH Kashi 54.09 299 *e*P **P 12 12 32.4 +3.2**
KSH pP sP 12 12 40.8 +1.3
KSH sP pP 12 12 44.5 +7.8
KSH PcP **PcP 12 13 36.8 +3.0**
KSH PP **PP 12 14 35.8 +5.1**
KSH PcS **PcS 12 17 33.4 +0.1**
KSH S **S 12 20 06.3 +1.9**
KSH ScS **ScS 12 22 16.9 -0.4**
KSH SS **SS 12 23 50.3 +4.4**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,92nm,5.8s
KSH LR LR
comp=Z,240nm,6.1s
KSH LR LR
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,220nm,5.8s
AS01 Alice Springs 54.25 189 *e*P **P 12 12 29.6 -0.6**
ASAR Alice Springs 54.26 190 P **P 12 12 29.4 -0.9**
comp=Z,0.9nm,0.5s,baz=3.6,slow=5.6,SNR=18
SCM Sheep Creek Mo 54.56 33 *e*P **P 12 12 29.3 -2.8**
SCM pmax pmax
comp=Z,65nm,1.8s
SCM Sheep Creek Mo 54.56 33 *e*P **P 12 12 29.3 -2.8**
comp=Z,65nm,1.8s
AAK Ala-Archa 54.58 303 LR LR 12 36 38.3
comp=Z,79nm,18.4s,baz=56,slow=37
AAK Ala-Archa 54.58 303 *e*P **P 12 12 32.7 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 54.58 303 *e*P **P 12 12 32.9 +0.2**
comp=Z,4.1nm,0.9s
ILAR Eielson Array 54.87 30 P **P 12 12 34.9 +0.7**
comp=Z,1.3nm,0.9s,baz=263,slow=5.8,SNR=8.5
IL1 Eielson Array 54.87 30 *e*P **P 12 12 34.5 +0.3**
BVA0 Borovoye Array 55.81 316 *i*P **P 12 12 41.7 +0.5**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 55.87 316 *e*P **P 12 12 42.3 +0.7**
BRVK pmax pmax
comp=Z,15nm,1.1s
BRVK Borovoye 55.87 316 *e*P **P 12 12 42.0 +0.5**
comp=Z,6.8nm,0.6s
KK31 Karatay Array 57.35 304 *i*P **P 12 12 52.4 0.0**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 57.35 304 *e*P **P 12 12 52.3 -0.1**
KKAR pmax pmax
comp=Z,80nm,0.6s
KKAR Karatay Array 57.35 304 *e*P **P 12 12 52.3 -0.1**
comp=Z,80nm,0.6s
DZET Dzherino 59.66 300 P **P 12 13 09.1 +0.5**
DZET pmax pmax
comp=Z,36nm,0.6s
INK Inuvik 60.08 25 P **P 12 13 12.0 +1.1**
comp=Z,4.1nm,0.9s,baz=300,slow=4.7,SNR=7.2
INK Inuvik 60.08 25 P **P 12 13 12.0 +1.1**
INK pmax pmax
comp=Z,4.0nm,0.9s
SVE Sverdlovsk 60.79 321 *e*P **P 12 13 17.1 +1.2**
STKA Stephens Creek 61.84 181 P **P 12 13 21.4 -1.8**
comp=Z,1.8nm,0.8s,baz=358,slow=6.8,SNR=4.3
ARU Arti 62.00 321*c i*P **P 12 13 24.4 +0.3**
ARU 12 15 36.4
ARU S **S 12 21 50.4 +3.5**
ARU SS **SS 12 25 53.2 +4.3**
ARU pmax pmax
comp=Z,31nm,1.7s
ARU Arti 62.00 321 *e*P **P 12 13 24.6 +0.5**
comp=Z,13nm,0.9s
AB31 Akbulak array 62.98 313 *i*P **P 12 13 30.9 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 62.98 313 *e*P **P 12 13 30.9 +0.2**
comp=Z,3.5nm,0.4s
GEYT Alibeck 67.90 302 P **P 12 14 01.4 -1.5**
comp=Z,3.3nm,0.9s,baz=49,slow=10.0,SNR=5.3
YKA Yellowknife Ar 69.28 29 P **P 12 14 11.3 +0.4**
comp=Z,1.1nm,0.5s,baz=298,slow=6.2,SNR=3.9
KLMR Klimovskoe 69.89 329 *e*P **P 12 14 12.7 -2.0**
KLMR *e* 12 16 47.6
KLMR pmax pmax
comp=Z,14nm,1.3s
OBN Obninsk 73.99 325 *i*P **P 12 14 40.0 +0.6**
OBN pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 75.14 334 P **P 12 14 46.4 +0.4**
comp=Z,2.3nm,0.7s,baz=60,slow=4.7,SNR=7.4
KBZ Khabaz 75.94 313 P **P 12 14 52.1 +1.2**
comp=Z,4.2nm,0.7s,baz=83,slow=8.4,SNR=5.7
KIV Kislovodsk 75.96 313 *e*P **P 12 14 51.4 +0.2**
KIV pmax pmax
comp=Z,15nm,1.0s
AKASG Malin Array Be 80.12 324 P **P 12 15 14.3 +0.3**
comp=Z,1.8nm,0.6s,baz=49,slow=5.9,SNR=9.5
NOA NORSAR Array B 80.69 338 P **P 12 15 15.7 -1.3**
comp=Z,2.5nm,0.9s,baz=38,slow=5.3,SNR=2.7
PDAR Pinedale Array 81.86 45 P **P 12 15 22.6 -1.1**
comp=Z,0.2nm,0.6s,baz=319,slow=2.6,SNR=3.0
BRTR Keskin Array B 83.93 313 P **P 12 15 32.5 -1.9**
comp=Z,3.1nm,0.8s,baz=108,slow=4.0,SNR=8.4
RAYN Ar Rayn 83.98 294 *e*P **P 12 15 34.5 -0.3**
comp=Z,11nm,0.7s
BURAR Bucovina Array 84.09 323⇑*i*P **P 12 15 33.1 -1.9**
BR231 Keskin MP Arra 84.41 313 *e*P **P 12 15 36.0 -0.8**
MLR Muntele Rosu 85.04 321⇑*i*P P 12 15 49.5 +10
ARR Arges 85.83 321⇑*i*P **P 12 15 45.5 +1.7**
MDVR Moldovita 87.78 322⇑*i*P **P 12 15 51.9 -1.4**
TXAR Lajitas Array 93.59 53 P **P 12 16 22.9 +2.2**
comp=Z,0.7nm,0.7s,baz=311,slow=3.2,SNR=8.5
TORD Torodi Ar. Bea 122.54 313 PKP **PKPdf 12 22 00.2 -0.1**
comp=Z,0.2nm,0.6s,baz=180,slow=1.0,SNR=3.0
SAML Samuel 148.08 54 *e*PKPdf **PKPdf 12 22 46.4 -0.8**
SAML *e*PKPbc **PKPbc 12 22 50.0 -0.4**
SAML *e*PKPab **PKiKP 12 22 53.0 +0.8**
LPAZ La Paz 148.86 70 PKPbc **PKPbc 12 22 54.6 +1.5**
comp=Z,2.1nm,0.8s,baz=348,slow=3.0,SNR=4.7

*DDA **19** 12:06:00.7, 39.°08N×29.°03E, h7km, Md2.5*
*ISK **19** 12:06:00.7, 39.°08N×29.°07E, h5km, ML2.1*
*ISCJB **19** 12:06:01.1±0.6, 39.°08N±0.°04×29.°03E±0.°05, h7km±5km, Error ellipse: s-maj=7.5km s-min=5.4km az=149.7*
*CSEM **19** 12:06:01.1±0.1, 39.°10N×29.°02E, h5km, ML2.1, Error ellipse: s-maj=4.1km s-min=2.8km az=125.0*
ISC 19 12:06:00.9±1.0, 39.°09N±0.°03×29.°02E±0.°03, h10km±6km, n18, σ0s34/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.03**	**258**	*e*PG	**Pg**	**12 06 02.8**	**-0.1**
SIMA				*e*SG	**Sg**	**12 06 04.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.03**	**258**	*e*Pg	**Pg**	**12 06 02.8**	**-0.1**
SIMA				*e*Sg	**Sg**	**12 06 04.2**	**0.0**
DEMI	**Demirci**	**0.24**	**259**	*i*P	**Pg**	**12 06 06.0**	**+0.1**
DEMI				*i*S	**Sg**	**12 06 09.4**	**+0.1**
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**12 06 06.0**	**+0.1**
DEMI				S	**Sg**	**12 06 09.4**	**+0.1**
GDZ	**Gediz**	**0.36**	**90**	*i*P	**Pg**	**12 06 08.0**	**0.0**
GDZ				*i*S	**Sg**	**12 06 12.9**	**+0.2**
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	**12 06 08.0**	**0.0**
GDZ				S	**Sg**	**12 06 12.9**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**43**	*e*PG	**Pg**	**12 06 10.0**	**-0.6**
TVSB	**Tavsanli**	**0.49**	**43**	*e*Pg	**Pg**	**12 06 10.0**	**-0.6**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pb**	**12 06 13.8**	**-0.5**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pb**	**12 06 13.8**	**-0.5**
MANT	**Manisa**	**0.70**	**211**	*i*P	**Pg**	**12 06 14.7**	**+0.1**
MANT				*i*S	**Sg**	**12 06 23.8**	**+0.1**
MANT	**Manisa**	**0.70**	**211**	P	**Pg**	**12 06 14.6**	**+0.1**
MANT				S	**Sg**	**12 06 23.8**	**+0.1**
KHAL	**Karahalli**	**0.81**	**153**	*i*P	**Pb**	**12 06 17.6**	**+0.5**
KHAL				*i*S	**Sb**	**12 06 27.7**	**-0.4**
KHAL	**Karahalli**	**0.81**	**153**	P	**Pb**	**12 06 17.6**	**+0.5**
KHAL				S	**Sb**	**12 06 27.7**	**-0.4**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*PN	**Pb**	**12 06 25.5**	**+0.4**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*Pn	**Pb**	**12 06 25.5**	**+0.4**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pb**	**12 06 28.9**	**+0.4**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pb**	**12 06 28.9**	**+0.4**

*KRSC **19** 12:34:24.5±2.6, 49.°58N×156.°52E, h31km±30km, ML4.7*
*ISCJB **19** 12:34:27.3±0.5, 49.°66N±0.°05×156.°05E±0.°09, h54km, mb3.9/17, Error ellipse: s-maj=10.6km s-min=3.1km az=37.0*
*IDC **19** 12:34:28.9±0.6, 49.°82N×155.°95E, h52km±6km, mb3.7/17, mb1 3.9/21, mb1mx3.8/47, mbtmp4.0/21, MS3.0/1, Ms1 3.0/1, ms1mx2.6/46, Error ellipse: s-maj=17.7km s-min=11.3km az=136.0*
*MOS **19** 12:34:28.1±0.9, 49.°76N×155.°91E, h65km, mb4.2/13, Error ellipse: s-maj=16.5km s-min=4.5km az=74.6*
*SKHL **19** 12:34:29.9±0.8, 49.°75N×156.°21E, h53km±8km, mb5.7/3, msh5.3/4*
ISC 19 12:34:28.4±0.5, 49.°63N±0.°06×156.°21E±0.°07, h54km, n83, σ1s87/110, mb3.9/17, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.05**	**357**	⇓*i*PN	**Pn**	**12 34 45.5**	**-1.4**
SKR				*i*S	**Sn**	**12 34 57.8**	**-2.7**
SKR				pmax	pmax		
	comp=Z,678nm,0.6s						
SKR				smax	smax		
	comp=N,5μm,0.6s						
SKR				smax	smax		
	comp=E,6μm,0.8s						
SKR	**Severo-Kuril's**	**1.05**	**357**	*i*P	**Pn**	**12 34 45.5**	**-1.4**
SKR				AMB	AMB	12 34 45.7	
	comp=E,700nm,0.6s						
SKR				*i*S	**Sn**	**12 34 57.8**	**-2.7**
SKR				A	A	12 34 59.5	
	comp=E,5μm,0.6s						
SKR				A	A	12 34 59.5	
	comp=E,6μm,0.6s						
SKR	**Severo-Kuril's**	**1.05**	**357**	*e*P	**Pn**	**12 34 45.4**	**-1.4**
SKR				*e*S	**Sn**	**12 34 57.8**	**-2.7**
ASAK	**Asacha**	**2.95**	**21**	PN	**Pn**	**12 35 13.4**	**+0.6**
ASAK	**Asacha**	**2.95**	**21**	*e*P	**Pn**	**12 35 13.4**	**+0.6**
MTVR	**Mutnovka**	**3.11**	**23**	PN	**Pn**	**12 35 15.7**	**+0.6**
MTVR				S	**Sn**	**12 35 49.8**	**-1.3**
MTVR	**Mutnovka**	**3.11**	**23**	*e*P	**Pn**	**12 35 15.7**	**+0.6**
MTVR				*e*S	**Sn**	**12 35 49.8**	**-1.3**
RUS	**Russkaya**	**3.16**	**27**	PN	**Pn**	**12 35 14.8**	**-0.7**
RUS				S	**Sn**	**12 35 48.5**	**-3.4**
RUS	**Russkaya**	**3.16**	**27**	*e*P	**Pn**	**12 35 14.8**	**-0.7**
RUS				*e*S	**Sn**	**12 35 48.5**	**-3.4**
APC	**Apacha**	**3.35**	**10**	PN	**Pn**	**12 35 19.3**	**+1.2**
APC	**Apacha**	**3.35**	**10**	*e*P	**Pn**	**12 35 19.3**	**+1.2**
KRMR	**Karymshinskiy**	**3.42**	**20**	PN	**Pn**	**12 35 20.2**	**+1.1**
KRMR				S	**Sn**	**12 36 00.3**	**+1.9**
KRMR	**Karymshinskiy**	**3.42**	**20**	*e*P	**Pn**	**12 35 20.2**	**+1.1**
KRMR				*e*S	**Sn**	**12 36 00.3**	**+1.9**
PETK	**Petropavlovsk-**	**3.60**	**14**	P	**Pn**	**12 35 22.2**	**+0.6**
	comp=E,3.4nm,0.3s,baz=178,slow=12,SNR=43						
PETK				S	Sn	12 36 17.7	+15
	comp=E,5.8nm,0.3s,baz=144,slow=16,SNR=5.3						
PET	**Petropavlovsk**	**3.73**	**23**	*e*PN	**Pn**	**12 35 23.7**	**+0.5**
PET				*e*S	**Sn**	**12 36 03.8**	**-2.0**
PET				smax	smax		
	comp=E,464nm,0.6s						
PET	**Petropavlovsk**	**3.73**	**23**	*e*P	**Pn**	**12 35 23.7**	**+0.5**
PET				AMB	AMB	12 35 25.2	
	comp=E,31nm,0.5s						
PET				*e*S	**Sn**	**12 36 03.5**	**-2.3**
PET				A	A	12 36 12.7	
	comp=E,380nm,0.6s						
PET				A	A	12 36 14.4	
	comp=E,2μm,4.0s						
PET				A	A	12 36 14.4	
	comp=E,1μm,4.0s						
PET	**Petropavlovsk**	**3.73**	**23**	*e*P	**Pn**	**12 35 23.8**	**+0.5**
PET				*e*S	**Sn**	**12 36 05.1**	**-0.7**
DALK	**Dalny**	**3.76**	**24**	PN	**Pn**	**12 35 23.8**	**+0.1**
DALK				S	**Sn**	**12 36 06.6**	**0.0**
DALK	**Dalny**	**3.76**	**24**	*e*P	**Pn**	**12 35 23.8**	**+0.1**
DALK				*e*S	**Sn**	**12 36 06.6**	**0.0**
UGLR	**Uglovaya**	**3.94**	**24**	PN	**Pn**	**12 35 26.9**	**+0.6**
UGLR				S	**Sn**	**12 36 15.4**	**+4.2**
UGLR	**Uglovaya**	**3.94**	**24**	*e*P	**Pn**	**12 35 26.9**	**+0.6**
UGLR				*e*S	**Sn**	**12 36 15.4**	**+4.2**
AVH	**Avacha**	**3.97**	**23**	PN	**Pn**	**12 35 28.4**	**+1.7**
AVH				S	**Sn**	**12 36 15.6**	**+3.7**
AVH	**Avacha**	**3.97**	**23**	*e*P	**Pn**	**12 35 28.4**	**+1.7**
AVH				*e*S	**Sn**	**12 36 15.6**	**+3.7**
KOK	**Koryaka**	**3.97**	**22**	PN	**Pn**	**12 35 28.3**	**+1.6**
KOK	**Koryaka**	**3.97**	**22**	*e*P	**Pn**	**12 35 28.3**	**+1.6**
KRER	**Koryakskii**	**4.00**	**22**	PN	**Pn**	**12 35 28.7**	**+1.4**
KRER				S	**Sn**	**12 36 15.2**	**+2.2**
KRER	**Koryakskii**	**4.00**	**22**	*e*P	**Pn**	**12 35 28.7**	**+1.4**
KRER				*e*S	**Sn**	**12 36 15.2**	**+2.2**
SDLR	**Sedlovina**	**4.01**	**24**	PN	**Pn**	**12 35 28.4**	**+1.0**
SDLR				S	**Sn**	**12 36 15.5**	**+2.3**
SDLR	**Sedlovina**	**4.01**	**24**	*e*P	**Pn**	**12 35 28.4**	**+1.0**
SDLR				*e*S	**Sn**	**12 36 15.5**	**+2.3**
KRX	**Arik**	**4.03**	**21**	PN	**Pn**	**12 35 29.6**	**+2.0**
KRX				S	**Sn**	**12 36 17.1**	**+3.5**
KRX	**Arik**	**4.03**	**21**	*e*P	**Pn**	**12 35 29.6**	**+2.0**
KRX				*e*S	**Sn**	**12 36 17.1**	**+3.5**
NLC	**Nalytchevo**	**4.05**	**28**	*e*S	**Sn**	**12 36 11.1**	**-2.7**
GNL	**Ganaly**	**4.21**	**14**	PN	**Pn**	**12 35 31.5**	**+1.5**
GNL	**Ganaly**	**4.21**	**14**	*e*P	**Pn**	**12 35 31.5**	**+1.5**
SPN	**Mys Shipunski**	**4.21**	**33**	PN	**Pn**	**12 35 29.7**	**-0.3**
SPN				S	**Sn**	**12 36 15.9**	**-1.9**
SPN	**Mys Shipunski**	**4.21**	**33**	*e*P	**Pn**	**12 35 29.7**	**-0.3**
SPN				*e*S	**Sn**	**12 36 15.9**	**-1.9**
MKZ	**Mys Kozlova**	**5.99**	**32**	PN	**Pn**	**12 35 53.2**	**-1.1**
MKZ	**Mys Kozlova**	**5.99**	**32**	*e*P	**Pn**	**12 35 53.2**	**-1.1**
TUMR	**Tumrok**	**6.15**	**22**	PN	**Pn**	**12 35 59.0**	**+2.4**
TUMR	**Tumrok**	**6.15**	**22**	*e*P	**Pn**	**12 35 59.0**	**+2.4**
BZMR	**Bezymyannaya**	**6.82**	**21**	PN	**Pn**	**12 36 08.5**	**+2.6**
BZMR	**Bezymyannaya**	**6.82**	**21**	*e*P	**Pn**	**12 36 08.5**	**+2.6**
ZLN	**Zelenaya**	**6.97**	**22**	PN	**Pn**	**12 36 10.4**	**+2.5**
ZLN	**Zelenaya**	**6.97**	**22**	*e*P	**Pn**	**12 36 10.4**	**+2.5**
KUR	**Kuril'sk**	**7.17**	**235**	*e*PN	Pn	12 36 17.8	+7.4
KUR				*e*S	Sn	12 37 40.4	+10
KUR				pmax	pmax		
	comp=Z,59nm,0.6s						
KUR				pmax	pmax		
	comp=E,8.0nm,0.2s						
KUR				pmax	pmax		
	comp=N,21nm,0.5s						
KUR	**Kuril'sk**	**7.17**	**235**	*e*P	Pn	12 36 15.2	+4.8
KUR				AMB	AMB	12 36 23.4	
	comp=N,500nm,3.0s						
KUR				AMB	AMB	12 36 26.4	
	comp=N,59nm,0.6s						
KUR				*e*S	**Sn**	**12 37 33.5**	**+3.1**
KUR				A	A	12 37 37.4	
	comp=N,53nm,0.6s						
KUR				A	A	12 37 37.4	
	comp=N,103nm,0.6s						
KUR				A	A	12 37 39.3	
	comp=N,1μm,4.5s						
KUR				A	A	12 37 39.3	
	comp=N,2μm,4.5s						
SHO	**Shikotan**	**8.64**	**232**	*e*PN	**Pn**	**12 36 30.5**	**-0.1**
SHO				pmax	pmax		
	comp=Z,39nm,0.8s						
SHO				pmax	pmax		
	comp=N,50nm,0.5s						
SHO				pmax	pmax		
	comp=E,40nm,0.7s						
SHO	**Shikotan**	**8.64**	**232**	*e*P	**Pn**	**12 36 30.5**	**-0.1**
SHO				AMB	AMB	12 36 35.0	
	comp=E,520nm,3.0s						
SHO				AMB	AMB	12 36 41.6	
	comp=E,39nm,0.8s						
SHO				*e*S	**Sn**	**12 38 03.0**	**-3.5**
SHO				A	A	12 38 11.5	
	comp=E,540nm,3.0s						
SHO				A	A	12 38 11.5	
	comp=E,420nm,3.0s						
TYV	**Tymovskoe**	**8.77**	**283**	*e*P	**Pn**	**12 36 35.2**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**9.03**	**236**	*e*PN	**Pn**	**12 36 37.7**	**+1.7**
YUK				pmax	pmax		
	comp=Z,69nm,0.3s						
YUK				pmax	pmax		
	comp=N,49nm,0.4s						
YUK				pmax	pmax		
	comp=E,31nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**9.03**	**236**	*e*P	**Pn**	**12 36 38.3**	**+2.3**
YUK				AMB	AMB	12 36 47.1	
	comp=E,69nm,0.3s						
YUK				AMB	AMB	12 36 47.6	
	comp=E,670nm,2.0s						
YUK				*e*S	**Sn**	**12 38 15.9**	**-0.2**
YUK				A	A	12 38 25.0	
	comp=E,1μm,2.5s						
YUK				A	A	12 38 25.0	
	comp=E,2μm,2.5s						

MA2	Magadan	10.45	345	P	Pn	12 36 55.2	0.0
	comp=E,1.8nm,0.3s,baz=148,slow=9.0,SNR=11						
MA2				LR	LR	12 40 43.4	
	comp=E,92nm,21.8s,baz=188,slow=37						
ASAJ	Asahikawa	10.82	245	P	Pn	12 37 03.5	+3.0
	comp=E,0.9nm,0.3s,baz=84,slow=14,SNR=14						
USRK	Ussuriysk Ar.	17.38	261	P	P	12 38 27.7	+0.1
	comp=E,0.3nm,0.3s,baz=74,slow=15,SNR=3.2						
MJAR	Matsushiro Arr	18.48	232	P	Pn	12 38 40.1	-0.4
	comp=E,0.3nm,0.3s,baz=27,slow=11,SNR=7.6						
YAK	Yakutsk	19.21	320	P	P	12 38 46.3	-1.2
	comp=E,0.0nm,0.3s,baz=94,slow=2.2,SNR=6.0						
YAK	Yakutsk	19.21	320	*eP*	P	12 38 47.0	-0.5
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
KSRS	Korea Array	23.69	250	P	P	12 39 36.0	+1.1
	comp=N,2.3nm,0.7s,baz=47,slow=10.0,SNR=9.5						
TIXI	Tiksi	25.37	340	P	P	12 39 47.8	-2.1
	comp=N,6.0nm,0.6s,baz=129,slow=9.8,SNR=18						
H11N2	WAKE ISLAND Hy	31.04	160	T	T	13 13 37.7	
	baz=347,slow=76,SNR=138						
H11N1	WAKE ISLAND Hy	31.05	160	T	T	13 13 38.3	
	baz=347,slow=76,SNR=126						
H11N3	WAKE ISLAND Hy	31.05	160	T	T	13 13 37.7	
	baz=347,slow=76,SNR=154						
H11S1	WAKE ISLAND Hy	32.18	161	T	T	13 15 00.9	
	baz=347,slow=76,SNR=1064						
H11S3	WAKE ISLAND Hy	32.19	161	T	T	13 15 03.3	
	baz=347,slow=76,SNR=3498						
H11S2	WAKE ISLAND Hy	32.20	161	T	T	13 15 04.3	
	baz=347,slow=76,SNR=2060						
SONM	Songino Array	32.42	286	P	P	12 40 50.8	-2.3
	comp=N,0.2nm,0.3s,baz=353,slow=4.5,SNR=2.8						
ILAR	Eielson Array	33.01	41	P	P	12 40 58.1	+0.3
	comp=N,1.0nm,0.8s,baz=255,slow=6.6,SNR=16						
INK	Inuvik	38.10	35	P	P	12 41 41.8	+0.4
	comp=N,1.9nm,0.5s,baz=302,slow=6.0,SNR=7.4						
ZALV	Zalesovo Beam	42.65	304	P	P	12 42 17.6	-1.6
	comp=N,0.9nm,0.5s,baz=77,slow=6.4,SNR=3.0						
YKA	Yellowknife Ar	47.38	39	P	P	12 42 57.2	+0.7
	comp=N,2.0nm,0.7s,baz=294,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	47.48	296	P	P	12 42 56.5	-1.1
	comp=N,0.7nm,0.7s,baz=64,slow=8.2,SNR=7.5						
CMAR	Chiang Mai Arr	55.05	257	P	P	12 43 56.1	+1.6
	comp=N,1.1nm,0.6s,baz=26,slow=7.4,SNR=7.3						
PDAR	Pinedale Array	61.40	57	P	P	12 44 40.1	+1.1
	comp=N,1.0nm,0.8s,baz=337,slow=1.9,SNR=6.9						
PDAR				pP	pP	12 44 54.4	+0.6
	comp=N,1.8nm,0.9s,baz=318,slow=2.0,SNR=7.6						
FINES	FINESS Array B	62.29	335	P	P	12 44 42.1	-2.2
	comp=N,3.5nm,0.9s,baz=37,slow=7.1,SNR=3.2						
FINES	FINESS Array B	62.29	335	P	P	12 44 42.1	-2.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	70.27	327	P	P	12 45 33.8	-1.6
	comp=Z,0.2nm,0.3s,baz=31,slow=5.5,SNR=3.5						
WRA	Warramunga Arr	71.94	202	P	P	12 45 46.6	+0.7
	comp=Z,1.2nm,0.9s,baz=16,slow=6.4,SNR=4.1						
WRA				pP	pP	12 46 01.2	+0.3
	comp=Z,0.4nm,0.5s,baz=13,slow=6.1,SNR=6.7						
WRA	Warramunga Arr	71.94	202	P	P	12 45 46.6	+0.7
WRA				*PP	pP	12 46 01.2	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FITZ	Fitzroy Crossi	72.67	210	P	P	12 45 49.5	-0.7
	comp=Z,2.0nm,0.9s,baz=153,slow=9.5,SNR=3.8						
TXAR	Lajitas Array	74.31	63	P	P	12 46 01.5	+1.4
	comp=Z,1.1nm,0.7s,baz=303,slow=4.3,SNR=15						
TXAR				pP	pP	12 46 15.6	+0.4
	comp=Z,1.2nm,0.8s,baz=303,slow=4.3,SNR=7.8						
ASAR	Alice Springs	75.62	201	P	P	12 46 09.4	+2.0
	comp=Z,0.7nm,0.8s,baz=8.6,slow=5.5,SNR=9.9						
ASAR				pP	pP	12 46 24.2	+1.7
	comp=Z,0.7nm,0.6s,baz=17,slow=5.5,SNR=6.2						
ASAR	Alice Springs	75.62	201	P	P	12 46 09.4	+2.0
ASAR				*PP	pP	12 46 24.3	+1.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	77.66	318	P	P	12 46 18.2	-0.9
	comp=Z,1.3nm,0.9s,baz=7.6,slow=4.4,SNR=2.7						

IDC 19 12:45:27.0±2.6, 8°.05S×147°.95E, h437km±21km, mb2.7/3, mb1 2.8/4, mb1mx2.7/25, mbtmp3.5/4, Error ellipse: s-maj=84.9km s-min=30.7km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.56	210	P	P	12 46 24.1	0.0
	0.4nm,0.3s,baz=34,slow=18,SNR=1.7						
PMG				S	S	12 46 53.9	-16
	3.0nm,0.3s,baz=274,slow=21,SNR=8.3						
WRA	Warramunga Arr	17.71	227	P	P	12 49 06.9	-0.4
	0.1nm,0.3s,baz=52,slow=10,SNR=6.4						
ASAR	Alice Springs	20.55	219	P	P	12 49 34.0	-0.3
	0.3nm,0.4s,baz=50,slow=9.2,SNR=8.9						
FITZ	Fitzroy Crossi	23.89	243	P	P	12 50 04.9	+0.4
	1.4nm,0.9s,baz=66,slow=9.8,SNR=5.1						
MKAR	Makanchi Array	79.67	320	P	P	12 56 47.9	-0.1
	0.3nm,0.7s,baz=117,slow=5.0,SNR=4.0						

NIED ***19*** *12:48:00, 38°.00N×144°.30E, h5km, Mw3.5 Best double couple: M₀2.13000×10¹⁴ NP1:φ₀6.00000°, δ40.00000°, λ-89.00000°. NP2:φ₀186.00000°, δ50.00000°, λ-90.00000°.*

JMA 19 12:48:29.3±0.2, 37°.97N×144°.27E, h38km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.32	299	P	Pn	12 49 06.0	+1.1
OFUJ				*e*S	Sn	12 49 34.1	+1.9
JIO	Ouri	2.35	283	P	Pn	12 49 06.9	+1.6
JIO				S	Sn	12 49 34.5	+1.6
MIYJ	Miyakonagasawa	2.50	311	P	Pn	12 49 08.7	+1.3
MIYJ				S	Sn	12 49 38.4	+1.8
JMK	Ichinoseki	2.59	293	P	Pn	12 49 10.7	+2.1
JMK				*e*S	Sn	12 49 40.2	+1.4
JOM	Ohasama	2.77	304	P	Pn	12 49 13.3	+2.2
JOM				S	Sn	12 49 45.4	+2.1
JOU	Okura	2.87	279	P	Pn	12 49 14.7	+2.2
JOU				S	Sn	12 49 48.1	+2.3
JFT	Otama	3.15	263	P	Pn	12 49 18.3	+1.9
JRG	Rokugo	3.18	298	P	Pn	12 49 19.6	+2.8
JRG				S	Sn	12 49 57.3	+3.9
JYK	Kaneyama	3.21	288	P	Pn	12 49 19.4	+2.2
JYK				S	Sn	12 49 56.3	+2.1
JANG	Nango	3.22	319	P	Pn	12 49 18.8	+1.6
JANG				S	Sn	12 49 55.8	+1.5
JTM	Tenmabayashi	3.75	320	S	Sn	12 50 07.8	+0.4
JCH	Churui	4.69	352	P	Pn	12 49 38.2	+0.7
JCH				S	Sn	12 50 28.8	-1.8
JRY	Ryogami san	4.72	247	P	Pn	12 49 39.0	+1.1
JRY				S	Sn	12 50 30.1	-1.3
JTKR	Abashiri--Toko	6.00	358	P	Pn	12 49 55.7	+0.2
JTKR				S	Sn	12 50 59.6	-3.2

ISCJB ***19*** *12:54:10.3±0.6, 42°.81N±0°.03×13°.59E±0°.04, h21km±8km, Error ellipse: s-maj=5.9km s-min=5.2km az=138.8*
CSEM ***19*** *12:54:10.4±0.1, 42°.82N×13°.56E, h15km, ML2.7/9, Error ellipse: s-maj=3.0km s-min=2.4km az=115.0*
ROM ***19*** *12:54:10.1±0.1, 42°.80N×13°.54E, h24km±2km, Md2.3/11, Ml2.1/10, Error ellipse: s-maj=1.4km s-min=0.8km az=73.0*

ISC 19 12:54:10.2±1.0, 42°.81N±0°.02×13°.56E±0°.03, h13km±9km, n23, σ0°35/43, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	Teramo	0.19	170	Pg	Pb	12 54 15.7	+0.2
TERO				Sg	Sb	12 54 19.6	+0.5
	406nm,0.4s						
TERO	Teramo	0.19	170	Pg	Pb	12 54 15.7	+0.2
TERO				Sg	Sb	12 54 19.6	+0.5
	406nm,0.4s						
SMA1	SAN MARTINO	0.24	223	Pg	Pb	12 54 16.1	-0.4
SMA1				Sg	Sb	12 54 20.3	-0.4
	447nm,0.3s						
SMA1	SAN MARTINO	0.24	223	Pg	Pb	12 54 16.1	-0.4
SMA1				Sg	Sb	12 54 20.3	-0.4
	447nm,0.3s						
GUMA	Gualdo di Mace	0.38	47	Pg	Pg	12 54 17.3	-0.4
GUMA				Sg	Sg	12 54 22.7	-0.1
	610nm,0.4s						
GUMA	Gualdo di Mace	0.38	47	Pg	Pg	12 54 17.3	-0.4
GUMA				Sg	Sg	12 54 22.7	-0.1
	610nm,0.4s						
FDMO	Fiordimonte	0.41	303	Pg	Pg	12 54 18.7	+0.3
FDMO				Sg	Sb	12 54 25.0	-0.6
	226nm,0.3s						
FDMO	Fiordimonte	0.41	303	Pg	Pg	12 54 18.7	+0.3
FDMO				Sg	Sb	12 54 25.0	-0.6
	226nm,0.3s						
LNSS	Leonessa	0.43	242	Pg	Pg	12 54 19.1	+0.3
LNSS				Sg	Sb	12 54 25.7	-0.5
	161nm,0.2s						
LNSS	Leonessa	0.43	242	Pg	Pg	12 54 19.1	+0.3
LNSS				Sg	Sb	12 54 25.7	-0.5
	161nm,0.2s						
T0104	Madonna delle	0.48	200	Pg	Pb	12 54 19.9	-0.5
CESI	CESI - Serrava	0.52	292	Pg	Pg	12 54 20.5	+0.1
CESI				Sg	Sb	12 54 28.4	-0.2
	141nm,0.2s						
CESI	CESI - Serrava	0.52	292	Pg	Pg	12 54 20.5	+0.1
CESI				Sg	Sb	12 54 28.4	-0.2
	141nm,0.2s						
CING	Cingoli	0.62	335	Pg	Pg	12 54 22.6	+0.2
CING				Sg	Sb	12 54 32.2	+0.5
	35nm,0.5s						
CING	Cingoli	0.62	335	Pg	Pg	12 54 22.6	+0.2
CING				Sg	Sb	12 54 32.2	+0.5
	35nm,0.5s						
FIAM	Fiamignano	0.63	211	Pg	Pg	12 54 22.4	-0.1
	31nm,0.5s						
FIAM	Fiamignano	0.63	211	Pg	Pg	12 54 22.4	-0.1
	31nm,0.5s						
SNTG	Esanatoglia	0.64	315	Pg	Pg	12 54 22.5	-0.1
SNTG				Sg	Sb	12 54 31.9	0.0
	35nm,0.5s						
SNTG	Esanatoglia	0.64	315	Pg	Pg	12 54 22.5	-0.1
SNTG				Sg	Sb	12 54 31.9	0.0
	35nm,0.5s						
CESX	Cesi	0.75	255	Pg	Pb	12 54 24.9	-0.1
CESX				Sg	Sg	12 54 34.6	+0.1
	47nm,0.3s						
CESX	Cesi	0.75	255	Pg	Pb	12 54 24.9	-0.1
CESX				Sg	Sg	12 54 34.6	+0.1
	47nm,0.3s						
NVLJ	Novalja	2.00	28	*e*Pn	Pn	12 54 44.0	+0.5
NVLJ				Sn	Sn	12 55 08.0	-0.3
NVLJ	Novalja	2.00	28	*e*Pn	Pn	12 54 44.0	+0.5
NVLJ				Sn	Sn	12 55 08.0	-0.3

MEX 19 13:25:17.1±0.6, 17°.60N×95°.64W, h119km±8km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.88	125	*e*S	Sn	13 25 51.7	-1.8
VHO	Vista Hermosa	1.17	243	*e*P	Pn	13 25 39.7	-1.3
VHO				*i* S	Sn	13 25 57.5	-1.6
TUIG	Tuzandepetl	1.23	69	*e*P	Pn	13 25 40.4	-1.0
TUIG				*e*S	Sn	13 25 57.5	-2.4
TPIG	Tehuac#an	1.83	297	*e*P	Pn	13 25 47.6	-1.0
TPIG				*i* S	Sn	13 26 10.4	-2.2
HUIG	Huatulco	1.88	194	*e*P	Pn	13 25 47.6	-1.4
HUIG				*e*S	Sn	13 26 11.3	-2.1
LVIG	Laguna Verde	2.24	341	*e*P	Pn	13 25 49.4	-4.1
LVIG				*e*S	Sn	13 26 13.8	-7.5
TLIG	Tlapa	2.79	270	*e*P	Pn	13 25 59.2	-1.6
TLIG				*e*S	Sn	13 26 29.8	-4.6

IDC ***19*** *13:26:01.6±0.7, 22°.75S×113°.71W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/26, mbtmp4.3/9, MS4.5/17, Ms1 4.5/17, ms1mx4.4/20, Error ellipse: s-maj=26.9km s-min=20.1km az=53.0*
ISCJB ***19*** *13:26:01.8±0.4, 22°.77S±0°.06×113°.58W±0°.09, h10km, mb5.0/93, MS4.6/21, Error ellipse: s-maj=13.1km s-min=6.8km az=155.9*
GCMT ***19*** *13:26:03.2±0.2, 22°.79S×113°.39W, h13km±1km, MW5.2/110, Moment Tensor Solution. s56,c77; s110,c177; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.43±.14; Mθθ-6.74±.15; Mφφ5.31±.14; Mrθ-1.44±.31; Mθφ1.85±.12; Mφr1.07±.32; Best double couple: M₀6.53300×10¹⁶ NP1:φ₀323.00000°, δ89.00000°, λ164.00000°. NP2:φ₀53.00000°, δ74.00000°, λ1.00000°. Principal axes: T 5.7600, Plg12.0000°, Azm277.0000°; N 1.5460, Plg74.0000°, Azm140.0000°; P -7.3060, Plg10.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *13:26:03.2±0.3, 22°.76S×113°.47W, h10km, mb5.1/87 Error ellipse: s-maj=11.7km s-min=6.5km az=66.0*
MOS ***19*** *13:26:04.4±1.4, 22°.27S×113°.02W, h10km, mb5.1/20, Error ellipse: s-maj=24.1km s-min=9.5km az=91.8*
BJI ***19*** *13:26:05.8, 22°.70S×113°.40W, h20km, mB5.4/16, Ms5.2/11, MS7 5.0/12*

ISC 19 13:26:03.8±0.4, 22°.88S±0°.09×113°.49W±0°.09, h10km, n297, σ1°60/288, mb5.1/93, MS4.7/21, 2C-1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	19.78	265	*e*LQ	LQ	13 34 23.6	
RKT				*e*LR	LR	13 35 13.7	
	3μm,28.8s,baz=90						
RKT	Rikitea	19.78	265	*e*T	T	13 50 42.6	
	4μm,27.8s,baz=90						
TAOE	Nuku Hiva Isla	29.11	294	*e*LR	LR	13 39 25.7	
	2.2nm,0.2s						
PPT2	Papeete2	34.21	272	*e*S	S	13 38 10.7	-6.1
	2μm,25.8s,baz=129						
PPT2				*e*LQ	LQ	13 40 39.5	
	202nm,26.0s						
PPT2				*e*LR	LR	13 41 43.7	
	458nm,25.0s						
PPT	Papeete	34.22	272	LR	LR	13 42 25.4	
	2μm,27.0s,baz=101						
LCO	Las Campanas	38.80	108	*e*P	P	13 33 29.9	+0.6
	comp=Z,662nm,21.9s,baz=110,slow=29						
PLCA	Paso Flores	40.15	127	P	P	13 33 42.6	+2.4
	34nm,1.2s						
PLCA	Paso Flores	40.15	127	LR	LR	13 45 56.7	
	12nm,1.2s,baz=331,slow=11,SNR=4.6						
PLCA	Paso Flores	40.15	127	*e*P	P	13 33 42.8	+2.6
	comp=Z,639nm,20.8s,baz=314,slow=30						
LVC	Limon Verde	40.99	99	P	P	13 33 48.2	+0.5
	30nm,1.3s						
LVC	Limon Verde	40.99	99	*e*P	P	13 33 47.9	+0.2
	13nm,0.6s,baz=277,slow=7.8,SNR=7.1						
LPAZ	La Paz	43.10	90	P	P	13 34 05.8	+0.6
	27nm,1.4s						
LPAZ	La Paz	43.10	90	LR	LR	13 47 44.6	
	16nm,1.2s,baz=277,slow=5.0,SNR=22						
LPAZ	La Paz	43.10	90	*e*P	P	13 34 03.5	-1.7
	comp=Z,810nm,21.1s,baz=262,slow=30						
LPAZ	La Paz	43.10	90	*e*P	P	13 34 03.6	-1.7
	40nm,1.4s						
CMIG	Matias Romero	43.69	26	P	P	13 34 08.9	-0.3
	6.0nm,0.9s,baz=219,slow=10,SNR=3.2						
TUIG	Tuzandepetl	44.73	26	*e*P	P	13 34 15.0	-2.5
	122nm,0.6s						
TRQA	Tornquist	46.34	121	*e*P	P	13 34 30.1	-0.1
	37nm,1.3s						
ROSC	El Rosal	47.15	59	LR	LR	13 51 28.3	
	comp=Z,303nm,18.2s,baz=270,slow=32						
SAML	Samuel	50.08	82	*e*P	P	13 34 57.6	-1.7
	28nm,1.5s						
CPUP	Villa Florida	50.84	106	P	P	13 35 05.5	+0.6
	6.9nm,1.1s,baz=239,slow=8.1,SNR=4.3						
CPUP				LR	LR	13 52 27.8	
	comp=Z,336nm,21.5s,baz=258,slow=31						
CPUP	Villa Florida	50.84	106	*e*P	P	13 35 04.5	-0.5
CPUP	Villa Florida	50.84	106	*e*P	P	13 35 04.5	-0.5
SDV	Santo Domingo	52.50	58	P	P	13 35 16.3	-1.4
TX31	Lajitas Ar. Si	52.76	11	*e*P	P	13 35 17.4	-1.8
TXAR	Lajitas Array	52.76	11	P	P	13 35 18.4	-0.8
	1.5nm,0.9s,baz=193,slow=4.9,SNR=8.1						
TXAR				LR	LR	13 53 38.4	
	comp=Z,824nm,18.4s,baz=0.0,slow=32						
319A	Douglas	54.09	4	*e*P	P	13 35 27.6	-1.4
	22nm,1.1s						
214A	Organ Pipe Nat	54.53	1	P	P	13 35 34.1	+2.1
	baz=181						
JCT	Junction City	54.65	15	P	P	13 35 32.9	-0.1
	baz=196						
JCT	Junction City	54.65	15	*e*P	P	13 35 30.6	-2.4
JCT				pmax	pmax		
	comp=Z,27nm,1.2s						
JCT	Junction City	54.65	15	*e*P	P	13 35 30.6	-2.4
	comp=Z,27nm,1.2s						
MNTX	Cornudas Mount	54.82	8	P	P	13 35 33.1	-1.0
	baz=189						
MNTX	Cornudas Mount	54.82	8	*e*P	P	13 35 32.1	-2.0
	comp=Z,24nm,1.6s						
TUC	Tucson	54.94	3	P	P	13 35 35.0	0.0
	baz=183						
TUC	Tucson	54.94	3	*e*P	P	13 35 34.2	-0.9
TUC				pmax	pmax		
	comp=Z,13nm,1.3s						
TUC	Tucson	54.94	3	*e*P	P	13 35 34.1	-0.9
	comp=Z,13nm,1.3s						
BAR	Barrett	55.33	357	*e*P	P	13 35 37.5	-0.3
	comp=Z,31nm,1.4s						
121A	Cookes Peak, D	55.37	6	P	P	13 35 38.4	+0.2
	baz=186						
121A	Cookes Peak, D	55.37	6	*e*P	P	13 35 37.0	-1.3
	comp=Z,11nm,1.0s						
MONP2	Monument Peak	55.53	357	P	P	13 35 40.0	+0.5
	baz=177						
GLA	Glamis	55.63	359	P	P	13 35 40.7	+0.7
	baz=178						
AFI	Afiamalu	55.73	268	LR	LR	13 54 11.7	
	comp=Z,478nm,18.2s,baz=118,slow=30						
BC3	Big Chuckawall	56.25	358	P	P	13 35 44.8	+0.3
	baz=178						
Y12C	Blythe	56.32	359	P	P	13 35 45.5	+0.7
	baz=179						
Y12C	Blythe	56.32	359	*e*P	P	13 35 44.3	-0.6
	comp=Z,26nm,1.4s						
PTGA	Pitinga	56.42	75	*e*P	P	13 35 44.1	-1.9
	comp=Z,34nm,1.7s						
Y14A	Wickenburg	56.50	0	*e*P	P	13 35 45.8	-0.5
	comp=Z,208nm,1.8s						
BELC	Belle Mtn. Jos	56.61	358	P	P	13 35 47.6	+0.5
	baz=177						
IRM	Iron Mountain	56.74	358	P	P	13 35 48.3	+0.4
	baz=178						
PDMCI	Parker Dam,Lak	56.87	359	P	P	13 35 48.7	0.0
	baz=179						
BFSC	Mount Baldy Ra	56.94	356	P	P	13 35 49.9	+0.5
	baz=175						
MWC	Mount Wilson	56.95	355	*e*P	P	13 35 49.0	-0.6
MWC				pmax	pmax		
	comp=Z,23nm,1.3s						
MWC	Mount Wilson	56.95	355	*e*P	P	13 35 49.0	-0.6
	comp=Z,22nm,1.3s						
X16A	Lo Mia Camp, P	57.01	2	*e*P	P	13 35 49.8	-0.2
	comp=Z,11nm,1.3s						
BNM	Barren Site	57.09	7	*e*P	P	13 35 49.0	-1.5
X18A	Snowflake	57.19	3	*e*P	P	13 35 49.4	-1.8
	comp=Z,24nm,1.2s						
LAZ	Ladron	57.28	6	*e*P	P	13 35 51.0	-1.0
GMRC	Granite Mounta	57.38	358	P	P	13 35 53.0	+0.5
	baz=178						
MSTX	Muleshoe	57.44	11	P	P	13 35 52.7	-0.2
	baz=192						
MSTX	Muleshoe	57.44	11	*e*P	P	13 35 52.1	-0.9
	comp=Z,29nm,1.4s						
EDW2	Edwards Air Fo	57.60	356	P	P	13 35 54.6	+0.6
	baz=175						
LDFC	Landfair	57.66	358	*e*P	P	13 35 54.0	-0.5
	comp=Z,38nm,1.1s						
W13A	Hualapai Mount	57.66	360	*e*P	P	13 35 54.0	-0.6
	comp=Z,23nm,1.4s						
W18A	Petrified Fore	57.79	4	P	P	13 35 55.6	+0.2
	baz=184						
ANMO	Albuquerque	57.89	7⃖	*e*P	P	13 35 56.6	+0.4
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GSC	Goldstone, Bar	57.95	357	P	P	13 35 56.5	+0.1
	baz=176						
GSC	Goldstone, Bar	57.95	357	*e*P	P	13 35 55.8	-0.7
GSC				pmax	pmax		
	comp=Z,28nm,1.4s						
GSC	Goldstone, Bar	57.95	357	*e*P	P	13 35 55.8	-0.7
	comp=Z,28nm,1.4s						
TUQ	Turquoise Moun	58.04	358	P	P	13 35 57.8	+0.6
	baz=177						
WUAZ	Wupatki	58.11	2	P	P	13 35 57.0	-0.7
	baz=182						
WUAZ	Wupatki	58.11	2	*e*P	P	13 35 57.5	-0.2
	comp=Z,26nm,1.3s						
Z36A	Blue Ridge	58.15	17	P	P	13 35 57.5	-0.3
	baz=198						
LRMC	Laurel Mtn Rad	58.17	356	P	P	13 35 58.0	-0.1
	baz=175						
WWPM	Walker Pass	58.45	356	*e*P	P	13 36 00.4	+0.4
SHOC	Shoshone, Teco	58.52	357	P	P	13 36 01.3	+1.0
	baz=177						
AMTX	Amarillo	58.53	11	P	P	13 36 01.4	+0.8
	baz=193						
AMTX	Amarillo	58.53	11	*e*P	P	13 36 00.3	-0.2
	comp=Z,15nm,1.1s						
MPMC	Manual Prospec	58.74	356	P	P	13 36 01.7	-0.4
	baz=176						
DAC	Darwin (Calif)	58.96	356	*e*P	P	13 35 59.8	-3.9
DAC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DAC	Darwin (Calif)	58.96	356	*e*P	P	13 35 59.8	-3.9
	comp=Z,7.2nm,1.0s						
WMOK	Wichita Mounta	58.98	14	P	P	13 36 03.6	0.0
	baz=196						
WMOK	Wichita Mounta	58.98	14	*e*P	P	13 36 03.9	+0.3
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMOK	Wichita Mounta	58.98	14	*e*P	P	13 36 03.9	+0.3
	comp=Z,6.4nm,1.1s						
U15A	North Rim	58.99	1	*e*P	P	13 36 03.0	-1.0
	comp=Z,16nm,1.1s						
SHPR	Sheep Range	59.08	358	*e*P	P	13 36 04.2	-0.2
	comp=Z,20nm,1.0s						
X35A	Drake	59.08	16	P	P	13 36 03.5	-0.8
	baz=198						
CWC	Cottonwood Cre	59.15	356	P	P	13 36 05.3	+0.3
	baz=175						
TPNV	Topopah Spring	59.56	357	P	P	13 36 08.3	+0.5
	baz=177						
TPNV	Topopah Spring	59.56	357	*e*P	P	13 36 07.3	-0.5
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TPNV	Topopah Spring	59.56	357	*e*P	P	13 36 07.2	-0.5
	comp=Z,8.6nm,1.0s						
LCMT	Little Creek M	59.57	0	*e*P	P	13 36 07.3	-0.4

S22A	4UR Ranch, Cre	60.62	6	P		P	13 36 14.9	-0.3
	baz=187							
S22A	4UR Ranch, Cre	60.62	6	eP		P	13 36 13.4	-1.8
	comp=Z,15nm,1.4s							
W39A	Magazine	60.70	18	P		P	13 36 15.4	0.0
	baz=201							
SDCO	Great Sand Dun	60.77	7	P		P	13 36 15.8	-0.3
	baz=188							
SDCO	Great Sand Dun	60.77	7	eP		P	13 36 14.0	-2.2
	comp=Z,12nm,1.3s							
PV01	Paradox Valley	60.86	4	eP		P	13 36 15.5	-1.2
R11A	Troy Canyon, C	60.93	358	P		P	13 36 17.2	0.0
	baz=178							
R11A	Troy Canyon, C	60.93	358	eP		P	13 36 16.5	-0.6
	comp=Z,25nm,1.4s							
CMB	Columbia Colle	60.93	354	eP		P	13 36 16.8	-0.2
CMB					pmax	pmax		
	comp=Z,24nm,1.6s							
CMB	Columbia Colle	60.93	354	eP		P	13 36 16.8	-0.2
	comp=Z,24nm,1.6s							
PV04	Paradox Valley	61.10	4	eP		P	13 36 17.4	-0.8
TVH2	Borealis Mine	61.13	355	eP		P	13 36 17.5	-1.1
	comp=Z,17nm,1.4s							
W41B	Gary Mavity, V	61.15	20	P		P	13 36 18.4	0.0
	baz=202							
PV09	Paradox Valley	61.19	4	eP		P	13 36 17.2	-1.8
WAKR	Walker	61.31	355	eP		P	13 36 18.4	-1.3
	comp=Z,20nm,1.5s							
V39A	Pettigrew	61.34	18	P		P	13 36 21.3	+1.5
	baz=201							
V40A	Witts Springs	61.55	19	P		P	13 36 21.7	+0.5
	baz=202							
SRU	San Rafael Swe	61.72	3	eP		P	13 36 20.9	-1.6
SRU					pmax	pmax		
	comp=Z,17nm,1.1s							
SRU	San Rafael Swe	61.72	3	eP		P	13 36 20.9	-1.6
	comp=Z,17nm,1.1s							
V41A	Mountainview	61.74	20	P		P	13 36 24.0	+1.5
	baz=202							
YERR	Yerington	61.77	355	eP		P	13 36 22.3	-0.5
	comp=Z,34nm,1.2s							
BDFB	Brasilia	61.81	96	LR		LR	14 00 16.3	
	comp=Z,241nm,20.3s,baz=36,slow=33							
TMUT	Trail Mountain	61.88	2	eP		P	13 36 21.9	-1.8
	comp=Z,33nm,1.8s							
AFDM	Forest Hills D	61.90	353	eP		P	13 36 21.9	-1.6
	comp=Z,26nm,1.4s							
U39A	Green Forest	61.90	18	P		P	13 36 22.5	-1.0
	baz=201							
PNTR	Pine Nut	61.91	355	eP		P	13 36 22.1	-1.7
	comp=Z,34nm,1.2s							
V42A	Cord	62.00	20	P		P	13 36 24.4	+0.2
	baz=203							
U40A	Yellville	62.06	19	P		P	13 36 24.4	-0.1
	baz=202							
P17A	Butcher Ranch,	62.08	2	eP		P	13 36 22.5	-2.3
	comp=Z,16nm,0.9s							
T37A	Cheneyville 18	62.19	17	P		P	13 36 26.7	+1.3
	baz=199							
P18A	Preston Nutter	62.25	3	eP		P	13 36 23.3	-2.9
	comp=Z,14nm,1.1s							
NLU	North Lily Min	62.52	1	eP		P	13 36 25.6	-2.2
	comp=Z,19nm,1.3s							
T39A	Clever	62.52	18	P		P	13 36 26.6	-1.1
	baz=201							
U42A	Revenden	62.55	20	P		P	13 36 26.9	-1.0
	baz=203							
S36A	Lake Cedric, C	62.59	16	P		P	13 36 29.2	+1.1
	baz=199							
BEKR	Beckworth	62.74	354	eP		P	13 36 27.8	-1.6
	comp=Z,14nm,1.4s							
DUG	Dugway, Tooele	62.75	1	P		P	13 36 29.0	-0.2
	baz=181							
DUG	Dugway, Tooele	62.75	1	eP		P	13 36 27.2	-2.1
DUG					pmax	pmax		
	comp=Z,16nm,1.2s							
DUG	Dugway, Tooele	62.75	1	eP		P	13 36 27.2	-2.1
	comp=Z,16nm,1.2s							
ISCO	Idaho Springs	62.78	7	P		P	13 36 29.4	-0.3
	baz=188							
ISCO	Idaho Springs	62.78	7	eP		P	13 36 26.6	-3.1
ISCO					pmax	pmax		
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	62.78	7	eP		P	13 36 26.6	-3.1
	comp=Z,11nm,1.4s							
T40A	Mansfield	62.89	19	P		P	13 36 31.4	+1.2
	baz=202							
S38A	Stockton	62.94	17	P		P	13 36 29.2	-1.3
	baz=200							
T41A	Mountain View	63.02	19	P		P	13 36 31.7	+0.7
	baz=202							
S39A	Bolivar	63.16	18	P		P	13 36 32.7	+0.8
	baz=201							
JLU	Jordanelle	63.18	2	eP		P	13 36 29.6	-2.7
	comp=Z,9.1nm,0.9s							
O03D	Paynes Creek	63.32	353	P		P	13 36 32.0	-1.0
	baz=171							
BGU	Big Grassy Mou	63.48	0	eP		P	13 36 32.8	-1.3
	comp=Z,26nm,1.5s							
KMRM	Mail Ridge	63.49	351	eP		P	13 36 33.5	-0.6
	comp=Z,51nm,1.3s							
S41A	Jillco Farms,	63.53	19	P		P	13 36 34.1	-0.3
	baz=202							
WDC	Whiskeytown Da	63.69	352	eP		P	13 36 34.5	-0.8
WDC					pmax	pmax		
	comp=Z,42nm,1.6s							
WDC	Whiskeytown Da	63.69	352	eP		P	13 36 34.5	-0.8
	comp=Z,42nm,1.6s							
R39A	Chumby, Stover	63.82	18	P		P	13 36 35.4	-0.9
	baz=201							
N23A	Red Feather La	63.83	6	P		P	13 36 35.0	-1.6
	baz=188							
N23A	Red Feather La	63.83	6	eP		P	13 36 35.0	-1.6
	comp=Z,34nm,1.8s							
N02D	Trinity Center	64.10	352	P		P	13 36 38.0	-0.1
	baz=171							
CCM	Cathedral Cave	64.11	19	eP		P	13 36 36.4	-1.8
CCM					pmax	pmax		
	comp=Z,17nm,1.2s							
CCM	Cathedral Cave	64.11	19	eP		P	13 36 36.4	-1.8
	comp=Z,17nm,1.2s							
KHMM	Horse Mountain	64.14	351	eP		P	13 36 38.5	0.0
	comp=Z,45nm,1.3s							
HWUT	Hardware Ranch	64.18	2	P		P	13 36 37.1	-1.7
	comp=Z,5.9nm,0.9s							
R42A	Luebbering	64.46	20	P		P	13 36 40.5	+0.1
	baz=203							
M02C	Callahan	64.53	352	P		P	13 36 41.3	+0.4
	baz=170							
MOD	Modoc Plateau	64.76	354	eP		P	13 36 41.9	-0.6
	comp=Z,12nm,1.0s							
M04C	Macdoel	64.79	353	P		P	13 36 42.9	+0.1
	baz=172							
YBH	Yreka Blue Hor	64.85	352	eP		P	13 36 43.3	+0.3
YBH					pmax	pmax		
	comp=Z,11nm,1.3s							
YBH	Yreka Blue Hor	64.85	352	eP		P	13 36 43.3	+0.3
	comp=Z,11nm,1.3s							
Q41A	Truxton	64.94	19	P		P	13 36 44.7	+1.1
	baz=203							
WVOR	Wild Horse Val	65.16	356	eP		P	13 36 43.7	-1.4
WVOR					pmax	pmax		
	comp=Z,57nm,1.5s							
WVOR	Wild Horse Val	65.16	356	eP		P	13 36 43.7	-1.4
	comp=Z,57nm,1.5s							
BW06	Boulder Array	65.41	3	P		P	13 36 45.0	-1.9
	baz=184							
BW06	Boulder Array	65.41	3	eP		P	13 36 44.2	-2.7
	comp=Z,16nm,1.4s							
PD31	Pinedale Array	65.41	3	eP		P	13 36 43.5	-3.4
PDAR	Pinedale Array	65.41	3	P		P	13 36 44.5	-2.4
	comp=Z,1.8nm,0.8s,baz=186,slow=6.0,SNR=17							
PDAR					LR	LR	14 00 21.0	
	comp=Z,629nm,20.7s,baz=192,slow=32							
K22A	Casper	65.51	6	P		P	13 36 46.8	-0.6
	baz=187							
K22A	Casper	65.51	6	eP		P	13 36 45.2	-2.2
	comp=Z,49nm,1.5s							
Q44A	Meyer Farm, Va	65.59	21	P		P	13 36 47.2	-0.6
	baz=205							
HUMO	Hull Mountain	65.74	352	eP		P	13 36 48.0	-0.7
	comp=Z,39nm,1.4s							
REDW	Red Top Meadow	65.95	2	eP		P	13 36 48.9	-1.4
	comp=Z,18nm,1.4s							
MFID	Camas Ranch	66.00	358	eP		P	13 36 49.6	-0.9
	comp=Z,9.1nm,0.9s							
SNOW	Snow King Moun	66.06	2	eP		P	13 36 48.8	-2.2
	comp=Z,8.4nm,0.8s							
TPAW	Teton Pass	66.08	2	eP		P	13 36 49.4	-1.8
	comp=Z,12nm,0.9s							
HLID	Hailey	66.11	359	P		P	13 36 50.9	-0.4
	baz=179							
HLID	Hailey	66.11	359	eP		P	13 36 50.3	-1.0
	comp=Z,13nm,0.9s							
O41A	Passleys Farm,	66.12	19	P		P	13 36 52.3	+1.1
	baz=203							
LOHW	Long Hollow	66.21	2	eP		P	13 36 50.3	-1.7
	comp=Z,5.4nm,0.8s							
J05D	Fort Rock, OR	66.22	354	P		P	13 36 52.4	+0.5
	baz=172							
FXWY	Fox Creek	66.22	2	eP		P	13 36 50.5	-1.6
	comp=Z,12nm,1.3s							
MOOW	Moose Ponds	66.34	2	eP		P	13 36 50.7	-2.1
	comp=Z,8.8nm,1.1s							
IMW	Indian Meadow	66.48	2	eP		P	13 36 52.1	-1.7
	comp=Z,24nm,1.5s							
VNDA	Vanda	66.67	194	P		P	13 36 54.0	-0.4
	comp=Z,0.2nm,0.5s,baz=72,slow=3.5,SNR=3.8							
VNDA					LR	LR	13 59 59.2	
	comp=Z,566nm,18.8s,baz=104,slow=30							
VNDA	Vanda	66.67	194	eP		P	13 36 56.5	+2.2
VNDA					pmax	pmax		
	comp=Z,21nm,1.9s							
VNDA	Vanda	66.67	194	eP		P	13 36 56.5	+2.2
	comp=Z,21nm,1.9s							
RSSD	Black Hills	67.23	7	eP		P	13 36 56.1	-2.4
RSSD	Black Hills	67.23	7	eP		P	13 36 56.1	-2.4
I05D	Terrebonne, OR	67.27	354	P		P	13 37 00.5	+2.0
	baz=172							
YHB	Horse Butte	67.33	2	eP		P	13 36 57.3	-1.8
	comp=Z,13nm,1.3s							
MCMT	McKenzie Canyo	67.38	0	eP		P	13 36 58.1	-1.4
YHH	Holmes Hill	67.38	2	eP		P	13 36 58.3	-1.2
	comp=Z,24nm,1.7s							
BMO	Blue Mountains	67.49	357	eP		P	13 36 58.6	-1.4
BMO					pmax	pmax		
	comp=Z,39nm,1.7s							
BMO	Blue Mountains	67.49	357	eP		P	13 36 58.6	-1.4
	comp=Z,39nm,1.7s							
RLMT	Red Lodge	67.78	3	P		P	13 37 02.8	+0.9
	baz=184							
DLMT	Dillon	67.91	1	eP		P	13 37 00.8	-1.9
	comp=Z,14nm,1.3s							
ECSD	EROS Data Cent	68.07	13	P		P	13 37 05.4	+1.9
	baz=197							
BOZ	Bozeman (W)	68.16	1	P		P	13 37 05.9	+1.7
	baz=182							
BOZ	Bozeman (W)	68.16	1	eP		P	13 37 04.0	-0.2
BOZ					pmax	pmax		
	comp=Z,24nm,1.9s							
BOZ	Bozeman (W)	68.16	1	eP		P	13 37 04.0	-0.2
	comp=Z,24nm,1.9s							
G05D	Wamic, OR	68.16	354	P		P	13 37 07.0	+2.9
	baz=172							
J37A	Redenius Farm,	68.37	16	P		P	13 37 06.8	+1.4
	baz=200							
J39A	Decorah	68.86	17	P		P	13 37 10.2	+1.7
	baz=202							
I37A	Lemond, Waseca	69.07	15	P		P	13 37 11.1	+1.4
	baz=200							
HRY	Holter Researc	69.27	1	eP		P	13 37 10.1	-1.0
I38A	Scanlan Farm,	69.36	16	P		P	13 37 13.4	+1.9
	baz=201							
MSO	Missoula	69.38	360	P		P	13 37 13.1	+1.4
	baz=180							
MSO	Missoula	69.38	360	eP		P	13 37 11.5	-0.2
CHMT	Chamberlain Mo	69.46	0	eP		P	13 37 10.9	-1.5
BSMT	Bassoo Peak	70.41	359	eP		P	13 37 16.9	-1.3
C09A	Chrisman Ranch	70.48	357	eP		P	13 37 16.5	-1.9
	comp=Z,86nm,2.0s							
EGMT	Eagleton	70.65	3	P		P	13 37 21.6	+2.1
	baz=184							
EGMT	Eagleton	70.65	3	eP		P	13 37 15.3	-4.2
	comp=Z,25nm,1.3s							
O56A	Blue Knob Stat	70.75	28	P		P	13 37 21.6	+1.4
	baz=214							
F36A	Milaca	70.78	15	P		P	13 37 21.3	+1.1
	baz=199							
G39A	Holcombe	70.82	16	P		P	13 37 20.5	0.0
	baz=202							
NEW	Newport	70.89	357	P		P	13 37 22.7	+1.8
	baz=176							
F38A	Pierce - Schro	71.27	16	P		P	13 37 25.3	+2.1
	baz=201							
F39A	Loretta	71.47	16	P		P	13 37 26.1	+1.7
	baz=202							
DGMT	Dagmar	71.50	7	P		P	13 37 25.6	+1.0
	baz=189							
DGMT	Dagmar	71.50	7	eP		P	13 37 21.4	-3.2
	comp=Z,12nm,1.0s							
F40A	Park Falls	71.68	17	P		P	13 37 27.3	+1.5
	baz=203							
F41A	Three Lakes	71.80	18	P		P	13 37 27.1	+0.7
	baz=204							
E39A	Mellen	71.99	16	P		P	13 37 28.6	+1.0
	baz=202							
E40A	Wakefield	72.23	17	P		P	13 37 31.4	+2.4
	baz=203							
VNA3	Neumayer Olymp	72.87	161	P		P	13 37 32.9	+0.3
B34A	Aery, Baudette	73.01	13	P		P	13 37 35.2	+1.6
	baz=198							
DZM	Mont Dzumac	73.02	253	eLR		LR	13 59 47.0	
	comp=Z,818nm,26.7s							
VNA1	Neumayer--Stat	73.52	160	P		P	13 37 37.9	+1.5
VNA2	Neumayer--Watz	73.68	161	P		P	13 37 37.4	0.0
	baz=245,slow=7.4							
ULM	Lac du Bonnet	74.46	12	LR		LR	14 07 06.5	
	comp=Z,358nm,18.8s,baz=144,slow=33							
SNAA	Sanae	74.71	162	P		P	13 37 43.2	-0.3
SNAA	Sanae	74.71	162	eP		P	13 37 42.5	-0.9
SNAA	Sanae	74.71	162	eP		P	13 37 42.6	-0.9
	comp=Z,7.6nm,1.1s							
YKA	Yellowknife Ar	85.08	359	LR		LR	14 12 06.6	
	comp=Z,63nm,19.8s,baz=180,slow=32							
SYO	Syowa Base	86.32	171	eP		P	13 38 44.8	-0.8
SCHQ	Schefferville	87.08	25	LR		LR	14 15 58.9	
	comp=Z,358nm,19.5s,baz=262,slow=34							
H11S2	WAKE ISLAND Hy	88.11	291	T		T	15 16 25.0	
	baz=115,slow=75,SNR=67							
H11S1	WAKE ISLAND Hy	88.12	291	T		T	15 16 41.3	
	baz=115,slow=75,SNR=57							
H11S3	WAKE ISLAND Hy	88.12	291	T		T	15 16 34.9	
	baz=115,slow=75,SNR=51							
H11N3	WAKE ISLAND Hy	88.44	292	T		T	15 16 44.8	
	baz=116,slow=75,SNR=24							
H11N1	WAKE ISLAND Hy	88.46	292	T		T	15 16 57.7	
	baz=116,slow=75,SNR=11							
H11N2	WAKE ISLAND Hy	88.46	292	T		T	15 16 52.3	
	baz=116,slow=75,SNR=52							
MAW	Mawson	89.75	179	LR		LR	14 16 00.6	
	comp=Z,499nm,18.1s,baz=231,slow=33							
TRF	Thorofare Moun	90.77	344	eP		P	13 39 05.1	-1.8
	comp=Z,15nm,0.7s							
ILAR	Eielson Array	91.10	346	P		P	13 39 08.1	-0.1
	comp=Z,0.5nm,0.8s,baz=145,slow=5.9,SNR=4.5							
ILAR					LR	LR	14 12 33.3	
	comp=Z,148nm,18.4s,baz=146,slow=31							
COLA	College	91.40	346	eP		P	13 39 08.4	-1.1
COLA					pmax	pmax		
	comp=Z,3.0nm,1.2s							
ASAR	Alice Springs	99.83	239	LR		LR	14 19 37.6	
	comp=Z,262nm,20.4s,baz=126,slow=32							
CLL	Collm	130.18	41	ePKPdf		PKPdf	13 45 13.0	-0.9
NJ2	Nanjing	133.05	293	ePKP		PKPdf	13 45 18.5	-1.5
BJI	Beijing	134.91	304	PKP		PKPdf	13 45 13.3	-10
BJI				PP		PP	13 47 56.4	-1.5
BJI	Beijing	134.91	304	SS		SS	14 05 51.5	-0.1
BJI	Beijing	134.91	304	SS		SS	14 05 57.3	+5.7
BJI				LR		LR		
	comp=Z,150nm,23.1s							
HHC	Hu-ho-hao-te	138.25	306	ePKP		PKPdf	13 45 33.0	+3.4
QIZ	Qiongzhong	139.46	273	PKP		PKPdf	13 45 30.3	-2.0
QIZ				SS		SS	14 06 46.8	-0.1
SONM	Songino Array	139.68	318	PKP		PKPdf	13 45 30.5	-1.5
	comp=Z,0.5nm,0.4s,baz=46,slow=4.2,SNR=3.9							
GYA	Guiyang	143.44	284	ePKP		PKPbc	13 45 37.3	+0.7
GYA				PP		PP	13 48 52.8	+1.5
GYA				AMB		AMB		
	comp=Z,120nm,8.0s							
LZH	Lanzhou	145.15	301	ePKPbc		PKPbc	13 45 41.5	-0.2
LZH				pPKP		sPKPdf	13 45 51.5	+4.8
LZH				sPKP			13 45 55.1	
LZH				PP		PP	13 49 05.1	+3.9
LZH				SKKS			13 55 52.0	
LZH				SS		SS	14 07 48.8	-3.5
LZH				AMB		AMB		
	comp=Z,200nm,5.9s							
LZH				LR		LR		
	comp=Z,950nm,19.9s							
NVS	Novosibirsk	145.71	343	ePKP2		PKPdf	13 45 40.2	-2.0
NVS				pmax		pmax		
	comp=Z,58nm,2.0s							
CD2	Chengdu	145.95	292	PKPbc		PKPdf	13 45 42.0	-1.5
ARU	Arti	145.98	8	PKPbc		PKPdf	13 45 40.9	-1.7
	comp=Z,2.2nm,0.4s,baz=7.6,slow=4.2,SNR=5.4							
ARU	Arti	145.98	8	i PKIKP		PKPab	13 45 45.2	+1.3
ARU							13 49 05.0	
ARU				SS		SS	14 07 57.1	-1.5
ZAA0	Zalesovo Array	146.03	341	ePKPdf		PKPdf	13 45 41.4	-1.5
ZALV	Zalesovo Beam	146.03	341	PKPbc		PKPdf	13 45 41.7	-1.1
	comp=Z,1.2nm,0.3s,baz=33,slow=2.3,SNR=9.4							
KMI	Kunming	146.89	281	PKPbc		PKPdf	13 45 43.8	-1.7
GTA	Gaotai	147.31	308	⇓PKPbc		PKPdf	13 45 47.3	+1.6
GTA				PKPab		sPKPbc	13 45 53.3	+0.7
GTA				PP		PP	13 49 18.0	+4.4
GTA				SKS		SKSdf	13 52 55.0	+0.4
GTA				SKKS		SKKSac	13 56 06.8	+1.1
GTA				SS		SS	14 08 17.3	+1.0
GTA				AMB		AMB		
	comp=Z,88nm,5.7s							
GTA				LR		LR		
	comp=Z,87nm,17.1s							
GTA				LR		LR		
	comp=Z,140nm,18.3s							
GTA				LR		LR		
	comp=Z,150nm,19.5s							
BRTR	Keskin Array B	147.50	51	PKPbc		PKPbc	13 45 47.5	-1.1
	comp=Z,1.4nm,0.9s,baz=243,slow=9.6,SNR=4.9							
CM01	Chiang Mai Arr	149.35	268	ePKPdf		PKPdf	13 45 48.5	-0.9
CMAR	Chiang Mai Arr	149.38	268	PKPbc		PKPdf	13 45 52.2	+2.8
	comp=Z,2.0nm,0.7s,baz=72,slow=0.9,SNR=15							
CHTO	Chiang Mai	149.46	268	ePKHKP		PKPdf	13 45 53.9	+4.3
CHTO	Chiang Mai	149.46	268	ePKPbc		PKPdf	13 45 53.9	+4.3
BVAR	Borovoye Array	149.75	355	PKPbc		PKPbc	13 45 52.6	-1.1
	comp=Z,2.0nm,0.7s,baz=349,slow=6.0,SNR=8.1							
KURK	Kurchatov	150.65	344	ePKIKP		PKPbc	13 45 54.1	-1.8
KURK	Kurchatov	150.65	344	ePKPbc		PKPbc	13 45 54.1	-1.8
KBZ	Khabaz	151.50	37	PKPbc		PKPbc	13 45 58.0	-0.1
	comp=Z,6.8nm,1.0s,baz=180,slow=1.0,SNR=3.0							
AKTO	Aktyubinsk	151.70	11	PKPbc		PKPbc	13 45 57.5	-0.9
	comp=Z,1.3nm,0.6s,baz=28,slow=15,SNR=3.5							
WMQ	Urumqi	152.77	325	PKPbc		PKPdf	13 45 52.8	-1.2
WMQ				LR		LR		
	comp=Z,92nm,22.7s							
WMQ				LR		LR		
	comp=Z,95nm,25.1s							
WMQ				LR		LR		
	comp=Z,170nm,20.5s							
MK31	Makanchi Array	152.95	336	ePKIKP		PKPdf	13 45 52.7	-1.4
MK31	Makanchi Array	152.95	336	ePKPdf		PKPdf	13 45 52.8	-1.4
MKAR	Makanchi Array	152.95	336	PKPbc		PKPbc	13 46 00.5	-0.9
	comp=Z,1.9nm,0.8s,baz=43,slow=3.4,SNR=6.5							
MKAR	Makanchi Array	152.95	336	ePKIKP		PKPdf	13 45 52.4	-1.7
MKAR	Makanchi Array	152.95	336	ePKPdf		PKPdf	13 45 52.4	-1.7
MKAR				PKPbc		PKPbc	13 46 00.5	-0.9
MK01	Makanchi Array	152.97	336	ePKPdf		PKPdf	13 45 53.7	-0.5
MAKZ	Makanchi	153.06	336	ePKIKP		PKPbc	13 46 00.2	-1.4
MAKZ	Makanchi	153.06	336	ePKPbc		PKPbc	13 46 00.2	-1.4
KSH	Kashi	161.56	336	ePKP		PKPdf	13 46 06.4	+1.1
KSH				PKS		PKSdf	13 49 39.1	+0.4
KSH				PP		PP	13 50 38.0	+5.4
KSH				SKS		SKSdf	13 53 08.9	-1.7
KSH				SKKS		SKKSac	13 57 24.5	+2.5
KSH				SS		SS	14 10 55.6	+6.1
KSH				AMB		AMB		
	comp=Z,110nm,9.7s							
KSH				LR		LR		
	comp=Z,81nm,6.8s							
KSH				LR		LR		
	comp=Z,63nm,6.5s							
KSH				LR		LR		
	comp=Z,200nm,6.5s							

ISK ***19*** *13:27:31.7, 36°.89N×29°.41E, h24km, MD2.4*
DDA ***19*** *13:27:32.7, 36°.84N×29°.39E, h7km, Md2.6, Suspected Mining explosion.*
ISCJB ***19*** *13:27:33.1±0.5, 36°.85N±0°.03×29°.40E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=3.6km az=165.4*
CSEM ***19*** *13:27:33.0±0.2, 36°.86N×29°.42E, h1km, MD2.4, Error ellipse: s-maj=4.0km s-min=3.5km az=151.0, Suspected Mining explosion.*

ISC 19 13:27:31.2±0.8, 36°.88N±0°.02×29°.44E±0°.03, h0km, n25, σ0°76/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	Glhisar (BURDU	0.28	10	ePG	Pb	13 27 38.8	-0.3
GLHS				eSG	Sb	13 27 43.9	-0.6
GLHS	Glhisar (BURDU	0.28	10	ePg	Pb	13 27 38.8	-0.3
GLHS				eSg	Sb	13 27 43.9	-0.6
GOLH	Golhisar	0.37	16	i P	Pb	13 27 40.4	-0.3
GOLH				i S	Sb	13 27 48.6	+1.5
GOLH	Golhisar	0.37	16	P	Pb	13 27 40.4	-0.3
GOLH				S	Sb	13 27 48.6	+1.5
FETY	Fethiye	0.37	229	ePG	Pb	13 27 40.7	0.0
FETY				eSG	Sb	13 27 46.0	-1.1
FETY	Fethiye	0.37	229	P	Pg	13 27 38.6	+0.3
FETY	Fethiye	0.37	229	ePg	Pb	13 27 40.7	0.0
FETY				S	Sg	13 27 45.0	+1.8
FETY				eSg	Sb	13 27 46.0	-1.1
ELL	Elmali	0.40	109	ePG	Pb	13 27 40.8	-0.4
ELL				eSG	Sb	13 27 47.9	-0.1
ELL	Elmali	0.40	109	ePg	Pb	13 27 40.8	-0.4
ELL				eSg	Sb	13 27 47.9	-0.1
DALY	Dalyan (Mu¨la	0.63	264	ePG	Pg	13 27 44.1	+0.9
DALY				eSG	Sb	13 27 53.6	-0.8
DALY	Dalyan (Mu¨la	0.63	264	i P	Pg	13 27 43.6	+0.4
DALY				i S	Sb	13 27 53.5	-0.9
DALY	Dalyan (Mu¨la	0.63	264	P	Pg	13 27 43.6	+0.4
DALY	Dalyan (Mu¨la	0.63	264	ePg	Pg	13 27 44.1	+0.9
DALY				S	Sb	13 27 53.5	-0.9
AKAS	Kas	0.66	168	ePG	Pb	13 27 45.7	+0.1
AKAS	Kas	0.66	168	i P	Pb	13 27 45.8	+0.1
A

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**0.56**	**270**	*eP*	**Pn**	**13 31 58.8**	**-1.5**
KBL				*e*		13 32 07.4	
KBL	**Kabul**	**0.56**	**270**	*e*Pn	**Pn**	**13 31 58.8**	**-1.5**
KBL				*e*Sn	**Sn**	**13 32 07.4**	**-1.6**
CEP	**Cherat**	**1.95**	**111**	P	**Pb**	**13 32 21.8**	**-0.6**
CEP				S	**Sb**	**13 32 48.0**	**+1.6**
THW	**Thamme Wali**	**2.42**	**135**	P	**Pb**	**13 32 30.0**	**-0.5**
CHCP	**Chirah Chowk**	**3.07**	**106**	P	**Pn**	**13 32 36.6**	**+2.0**
SARP	**Sargodha**	**3.59**	**136**	P	Pb	13 32 44.5	-5.9
DZET	**Dzherino**	**4.32**	**351**	⇓Pn	**Pn**	**13 32 54.4**	**+2.5**
	82nm,0.4s						
DZET				⇑Sn	**Sn**	**13 33 45.5**	**+4.0**
	517nm,0.5s						
DZET	**Dzherino**	**4.32**	**351**	P	**Pn**	**13 32 54.3**	**+2.5**
DZET						13 33 45.4	
DZET				pmax	pmax		
	comp=Z,107nm,0.5s						
DZET				smax	smax		
	comp=N,517nm,0.5s						
PONG	**Pong**	**5.82**	**115**	*e*P	**Pn**	**13 33 14.0**	**+1.7**
PONG				*e*S	**Sn**	**13 34 20.0**	**+1.7**
DHRM	**DHARAMSHALA**	**5.96**	**111**	*e*P	**Pn**	**13 33 15.2**	**+0.7**
DHRM				*e*S	**Sn**	**13 34 22.4**	**+0.3**
JWA	**Jwalamukhi**	**6.15**	**114**	*e*P	**Pn**	**13 33 20.0**	**+3.1**
JWA				*e*S	**Sn**	**13 34 25.0**	**-1.4**
BHK	**Bhakra**	**6.43**	**117**	*e*P	**Pn**	**13 33 22.2**	**+1.4**
BHK				*e*S	**Sn**	**13 34 31.4**	**-2.0**
SDNR	**Sundarnagar**	**6.80**	**114**	*e*P	**Pn**	**13 33 28.0**	**+2.1**
SDNR				*e*S	**Sn**	**13 34 40.0**	**-2.5**
KSH	**Kashi**	**7.05**	**43**	P	**Pn**	**13 33 26.8**	**-2.5**
KSH				S	Sn	13 34 38.8	-10
KSH				smax	smax		
	comp=N,630nm,0.8s						
KSH				smax	smax		
	comp=N,450nm,0.7s						
SMLA	**Simla**	**7.13**	**116**	*e*P	**Pn**	**13 33 30.6**	**+0.3**
SMLA				*e*S	**Sn**	**13 34 50.4**	**-0.1**
DDI	**Dehra Dun**	**8.20**	**119**	*e*P	**Pn**	**13 33 44.7**	**-0.4**
MNAS	**Manas**	**8.23**	**15**	⇑Pn	**Pn**	**13 33 47.5**	**+1.9**
	comp=N,32nm,0.5s						
MNAS				⇑Sn	**Sn**	**13 35 19.2**	**+1.3**
	comp=N,62nm,0.6s						
MNAS	**Manas**	**8.23**	**15**	P	**Pn**	**13 33 47.4**	**+1.9**
MNAS				S	**Sn**	**13 35 16.4**	**-1.4**
MNAS				pmax	pmax		
	comp=Z,33nm,0.5s						
MNAS				smax	smax		
	comp=N,173nm,1.4s						
KK31	**Karatay Array**	**8.57**	**4**	Pn	**Pn**	**13 33 51.2**	**+1.0**
	comp=N,21nm,0.5s,baz=189,slow=13,SNR=391						
KK31				⇓Sn	**Sn**	**13 35 25.5**	**-0.6**
	comp=N,32nm,0.6s,baz=191,slow=21,SNR=4.4						
KK31	**Karatay Array**	**8.57**	**4**	*i* P	**Pn**	**13 33 51.1**	**+1.0**
KK31						13 35 25.4	
KK31				pmax	pmax		
	comp=Z,21nm,0.5s						
KK31				smax	smax		
	comp=N,25nm,0.5s						
KKAR	**Karatay Array**	**8.57**	**4**	*e*P	**Pn**	**13 33 50.8**	**+0.6**
KKAR	**Karatay Array**	**8.57**	**4**	*e*Pn	**Pn**	**13 33 50.8**	**+0.6**
NDI	**New Delhi**	**8.65**	**130**	*e*P	**Pn**	**13 33 50.0**	**-1.3**
NDI				*ex*	x	13 35 20.0	
AAK	**Ala-Archa**	**8.90**	**23**	Pn	**Pn**	**13 33 56.7**	**+1.8**
	comp=N,5.7nm,0.3s,baz=184,slow=6.6,SNR=57						
AAK				Sn	**Sn**	**13 35 34.6**	**+0.2**
	comp=N,5.0nm,0.3s,baz=350,slow=15,SNR=4.3						
AAK				LR	LR	13 37 17.8	
	comp=N,149nm,18.4s,baz=200,slow=38						
AAK	**Ala-Archa**	**8.90**	**23**	⇑Pn	**Pn**	**13 33 56.8**	**+2.0**
	comp=N,32nm,0.5s						
AAK				⇑Sn	**Sn**	**13 35 34.7**	**+0.2**
	comp=N,60nm,0.7s						
AAK	**Ala-Archa**	**8.90**	**23**	⇓*i*P	**Pn**	**13 33 56.5**	**+1.7**
AAK	**Ala-Archa**	**8.90**	**23**	*e*Pn	**Pn**	**13 33 56.1**	**+1.3**
AAK				Sn	**Sn**	**13 35 34.6**	**+0.2**
FRU	**Bishkek**	**9.12**	**23**	*e*P	**Pn**	**13 34 00.0**	**+2.3**
FRU				*i* S	**Sn**	**13 35 41.0**	**+1.4**
FRU				pmax	pmax		
	comp=Z,65nm,1.3s						
FRU				smax	smax		
	comp=E,360nm,1.8s						
TKM2	**Tokmak 2**	**9.54**	**27**	⇓Pn	**Pn**	**13 34 05.3**	**+1.7**
	comp=E,32nm,0.8s						
TKM2				⇑Sn	**Sn**	**13 35 53.3**	**+3.2**
	comp=E,29nm,0.7s						
TKM2	**Tokmak 2**	**9.54**	**27**	P	**Pn**	**13 34 05.3**	**+1.7**
TKM2				pmax	pmax		
	comp=Z,32nm,0.8s						
GEYT	**Alibeck**	**9.97**	**293**	Pn	**Pn**	**13 34 10.4**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=116,slow=13,SNR=9.9						
MDOK	**Medeo**	**10.33**	**31**	⇓P	**Pn**	**13 34 16.6**	**+2.2**
PDGK	**Podgornoye**	**11.61**	**38**	⇑P	**Pn**	**13 34 32.5**	**+0.7**
	comp=Z,6.4nm,0.7s						
PDGK	**Podgornoye**	**11.61**	**38**	P	**Pn**	**13 34 32.5**	**+0.7**
PDGK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PYUN	**Piuthan**	**13.03**	**116**	*e*P	**Pn**	**13 34 49.0**	**-2.4**
	comp=Z,80nm,0.4s						
BHPL	**Bhopal**	**13.12**	**147**	*e*P	**Pn**	**13 34 51.5**	**-1.0**
BHPL				*ex*	x	13 37 09.8	
BHPL				IAML		13 37 14.4	
	comp=N,44nm,0.7s						
BHPL				IAML		13 37 17.2	
	comp=E,49nm,0.5s						
DANN	**Dangsing**	**13.47**	**113**	*e*P	**Pn**	**13 34 55.2**	**-2.3**
KOLN	**Koldanda**	**13.66**	**116**	*e*P	**Pn**	**13 34 57.7**	**-2.3**
	comp=E,37nm,0.4s						
GKN	**Gorkha**	**14.31**	**113**	*e*P	**Pn**	**13 35 05.4**	**-3.5**
	comp=E,95nm,0.5s						
DMN	**Daman**	**14.87**	**113**	*e*P	**Pn**	**13 35 12.4**	**-4.2**
	comp=E,67nm,0.6s						
KKN	**Kakani**	**14.91**	**113**	*e*P	**Pn**	**13 35 12.6**	**-4.5**
	comp=E,72nm,0.5s						
PKIN	**Phulchoki**	**15.11**	**113**	*e*P	**Pn**	**13 35 15.5**	**-4.3**
	comp=E,50nm,0.4s						
PKI	**Pulchoki**	**15.12**	**113**	*e*P	**Pn**	**13 35 15.7**	**-4.3**
GUN	**Gumba**	**15.31**	**111**	*e*P	**Pn**	**13 35 18.1**	**-4.4**
	comp=E,56nm,0.5s						
MAKZ	**Makanchi**	**15.36**	**33**	*e*P	**P**	**13 35 24.8**	**-2.4**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.8s						
MAKZ	**Makanchi**	**15.36**	**33**	*e*Pn	**P**	**13 35 24.8**	**-2.4**
	comp=Z,13nm,0.8s						
MK01	**Makanchi Array**	**15.48**	**34**	*e*Pn	**P**	**13 35 26.6**	**-1.9**
MK31	**Makanchi Array**	**15.49**	**34**	⇑P	**P**	**13 35 26.7**	**-2.0**
	comp=Z,1.8nm,0.4s,baz=50,slow=38,SNR=37						
MK31	**Makanchi Array**	**15.49**	**34**	P	**P**	**13 35 26.7**	**-2.0**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	**Makanchi Array**	**15.49**	**34**	*e*Pn	**P**	**13 35 26.5**	**-2.2**
MKAR	**Makanchi Array**	**15.49**	**34**	Pn	**Pn**	**13 35 23.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=208,slow=10,SNR=35						
MKAR	**Makanchi Array**	**15.49**	**34**	*e*P	**P**	**13 35 26.5**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,55nm,0.6s						
MKAR	**Makanchi Array**	**15.49**	**34**	*e*Pn	**P**	**13 35 26.5**	**-2.2**
	comp=Z,55nm,0.6s						
JIRN	**Jiri**	**15.67**	**111**	*e*P	**Pn**	**13 35 22.7**	**-4.5**
	comp=Z,674nm,0.4s						
RAMN	**Ramite**	**16.35**	**113**	*e*P	**Pn**	**13 35 30.7**	**-5.1**
	comp=Z,70nm,0.5s						
AB31	**Akbulak array**	**16.39**	**337**	⇓P	**Pn**	**13 35 35.3**	**-0.5**
	comp=Z,6.6nm,0.5s,baz=152,slow=13,SNR=17						
AB31				⇑S	**Sn**	**13 38 31.7**	**-5.2**
	comp=Z,3.9nm,0.6s,baz=157,slow=23,SNR=7.6						
AB31	**Akbulak array**	**16.39**	**337**	P	**Pn**	**13 35 35.1**	**-0.8**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ	**Urumqi**	**16.71**	**51**	P	**P**	**13 35 41.3**	**-0.9**
WMQ				pP	sP	13 35 50.0	-1.9
WMQ				sP	pP	13 35 55.3	+6.5
WMQ				S	**Sn**	**13 38 43.4**	**-1.5**
WMQ				SS	**SnSn**	**13 39 04.4**	**+6.4**
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.3s						
WMQ				LR	LR		
	comp=Z,440nm,20.1s						
WMQ				LR	LR		
	comp=Z,190nm,20.1s						
ODAN	**Odare**	**17.00**	**112**	*e*P	**Pn**	**13 35 40.4**	**-3.6**
	comp=Z,50nm,0.6s						
TAPN	**Taplejung**	**17.00**	**110**	*e*P	**Pn**	**13 35 39.3**	**-4.8**
	comp=Z,44nm,0.5s						
KURBB	**Kurchatov Arra**	**17.31**	**19**	P	**Pn**	**13 35 47.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=25						
KURBB	**Kurchatov Arra**	**17.31**	**19**	⇑P	**Pn**	**13 35 47.2**	**-0.3**
	comp=Z,11nm,0.7s						
KURK	**Kurchatov**	**17.42**	**19**	⇑P	**Pn**	**13 35 47.6**	**-1.2**
	comp=Z,7.6nm,0.7s						
KURK	**Kurchatov**	**17.42**	**19**	⇑*i*P	**P**	**13 35 50.1**	**+0.2**
KURK	**Kurchatov**	**17.42**	**19**	*e*Pn	**P**	**13 35 49.1**	**-0.8**
	comp=Z,9.9nm,0.8s						
BOK	**Bokaro**	**17.69**	**123**	*e*P	**P**	**13 35 51.7**	**-1.5**
AKTO	**Aktyubinsk**	**18.04**	**335**	P	**P**	**13 35 56.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=129,slow=15,SNR=15						
AKTO				LR	LR	13 43 06.0	
	comp=Z,58nm,20.5s,baz=2.7,slow=38						
AKTO	**Aktyubinsk**	**18.04**	**335**	⇓P	**P**	**13 35 57.1**	**+0.2**
	comp=Z,17nm,0.8s						
AKTO				⇓S	**Sn**	**13 39 12.7**	**-4.3**
	comp=Z,11nm,0.9s						
AKTO	**Aktyubinsk**	**18.04**	**335**	P	**P**	**13 35 57.0**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,17nm,0.9s						
BVA0	**Borovoye Array**	**18.49**	**1**	P	**Pn**	**13 36 01.2**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,15nm,1.0s						
BVAR	**Borovoye Array**	**18.49**	**1**	P	**P**	**13 36 00.8**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=169,slow=9.7,SNR=15						
BRVK	**Borovoye**	**18.52**	**1**	⇑*i*P	**Pn**	**13 36 01.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,36nm,0.9s						
BRVK	**Borovoye**	**18.52**	**1**	*e*P	**P**	**13 36 00.2**	**-1.8**
	comp=Z,16nm,0.9s						
LSA	**Lhasa**	**18.77**	**99**	*e*P	**Pn**	**13 36 06.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**18.77**	**99**	*e*P	**Pn**	**13 36 06.3**	**+0.3**
	comp=Z,8.6nm,0.6s						
HYB	**Hyderabad**	**18.79**	**153**	*i* P	**Pn**	**13 36 09.5**	**+3.6**
HYB				*e*S	**S**	**13 39 36.0**	**-1.7**
DGZ	**Jazzator, Alta**	**19.98**	**35**	*i* P	**P**	**13 36 17.6**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SHL	**Shillong**	**21.13**	**109**	*e*P	**P**	**13 36 30.0**	**-0.9**
SHL				IAmb	IAmb	13 36 31.2	
	comp=Z,11nm,0.8s						
ZEI	**Tsey**	**21.72**	**300**	*e*P	**P**	**13 36 39.9**	**+2.7**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAA0	**Zalesovo Array**	**22.13**	**24**	*e*P	**P**	**13 36 39.9**	**-1.3**
ZALV	**Zalesovo Beam**	**22.13**	**24**	P	**P**	**13 36 39.4**	**-1.7**
	comp=Z,6.3nm,0.3s,baz=219,slow=9.8,SNR=18						
ZALV				LR	LR	13 45 13.2	
	comp=Z,40nm,19.9s,baz=76,slow=37						
NVS	**Novosibirsk**	**22.38**	**21**	*e*P	**P**	**13 36 44.6**	**+0.7**
NVS				pmax	pmax		
	comp=N,21nm,1.1s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,22nm,1.1s						
KBZ	**Khabaz**	**22.66**	**302**	LR	LR	13 49 11.6	
	comp=Z,50nm,18.6s,baz=137,slow=46						
KVAR	**Kislovodsk Arr**	**22.86**	**302**	LR	LR	13 46 23.6	
	comp=Z,64nm,20.5s,baz=94,slow=38						
KIV	**Kislovodsk**	**22.87**	**302**	*e*P	**P**	**13 36 48.3**	**-1.0**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s						
KIV				MLR	MLR		
	comp=Z,34nm,15.0s						
SVE	**Sverdlovsk**	**23.14**	**347**	*e*P	**P**	**13 36 54.1**	**+2.3**
SVE				pmax	pmax		
	comp=Z,20nm,1.3s						
ARU	**Arti**	**23.19**	**344**	P	**P**	**13 36 53.9**	**+1.6**
	comp=Z,2.2nm,0.4s,baz=252,slow=3.2,SNR=4.1						
ARU	**Arti**	**23.19**	**344**	*d i* P	**P**	**13 36 52.8**	**+0.5**
ARU						13 37 16.2	
ARU				S	**S**	**13 41 03.8**	**+1.3**
ARU				SS	**SnSn**	**13 41 39.0**	**+2.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**23.19**	**344**	*e*P	**P**	**13 36 52.8**	**+0.5**
	comp=Z,11nm,0.9s						
RAYN	**Ar Rayn**	**23.79**	**249**	*e*P	**P**	**13 37 00.3**	**+1.7**
	comp=Z,5.5nm,0.8s						
GTA	**Gaotai**	**24.46**	**70**	⇑P	**P**	**13 37 05.5**	**+0.7**
GTA				pP	sP	13 37 13.3	-1.6
GTA				sP	pP	13 37 16.3	+4.4
GTA				S	**S**	**13 41 23.3**	**-0.4**
GTA				sS	sS	13 41 35.1	-0.3
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				pmax	pmax		
	comp=Z,94nm,5.2s						
GTA				LR	LR		
	comp=Z,160nm,16.2s						
GTA				LR	LR		
	comp=Z,120nm,16.4s						
TLY	**Talaya**	**29.75**	**44**	LR	LR	13 51 20.1	
	comp=Z,46nm,19.1s,baz=190,slow=40						
KMI	**Kunming**	**30.03**	**99**	P	**P**	**13 37 57.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,89nm,5.5s						
SONM	**Songino Array**	**30.33**	**53**	P	**P**	**13 37 54.7**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=244,slow=9.7,SNR=6.1						
SONM				LR	LR	13 51 16.3	
	comp=Z,85nm,18.3s,baz=256,slow=39						
CMAR	**Chiang Mai Arr**	**30.52**	**114**	P	**P**	**13 37 58.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=296,slow=9.7,SNR=5.4						
AKASG	**Malin Array Be**	**33.41**	**311**	P	**P**	**13 38 24.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=88,slow=7.4,SNR=7.6						
HHC	**Hu-ho-hao-te**	**33.46**	**67**	*e*P	**P**	**13 38 25.6**	**+0.8**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.8s						
ENH	**Enshi**	**33.69**	**86**	P	**P**	**13 38 26.6**	**-0.3**
	comp=Z,7.9nm,0.9s						
LHMI	**Lhok Sumawe**	**38.54**	**133**	*e*P	**P**	**13 39 09.0**	**+0.6**
	comp=Z,53nm,0.5s						
FINES	**FINESS Array B**	**38.56**	**328**	P	**P**	**13 39 08.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=108,slow=12,SNR=5.8						
ARCES	**ARCESS Array B**	**42.57**	**339**	P	**P**	**13 39 41.8**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=120,slow=9.2,SNR=8.7						
GERES	**GERESS Array B**	**43.24**	**307**	P	**P**	**13 39 48.6**	**+1.7**
	comp=Z,0.4nm,0.2s,baz=68,slow=7.8,SNR=3.0						
HFS	**Hagfors**	**43.99**	**323**	P	**P**	**13 39 52.8**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=99,slow=9.3,SNR=6.5						
NB2	**NORSAR Subarra**	**45.34**	**324**	P	**P**	**13 40 03.4**	**-0.1**
	comp=Z,5.8nm,1.1s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**45.34**	**324**	P	**P**	**13 40 03.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=98,slow=7.9,SNR=5.4						
NOA				LR	LR	14 01 20.3	
	comp=Z,73nm,19.0s,baz=275,slow=39						
YAK	**Yakutsk**	**46.17**	**34**	*i* P	**P**	**13 40 11.7**	**+1.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSAR	**Wonju Array Be**	**46.51**	**69**	P	**P**	**13 40 12.4**	**-0.6**
KSAR	**Wonju Array Be**	**46.51**	**69**	P	**P**	**13 40 12.3**	**-0.6**
KSRS	**Korea Array**	**46.53**	**69**	P	**P**	**13 40 12.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=269,slow=6.8,SNR=4.1						
KSRS				LR	LR	14 00 23.5	
	comp=Z,30nm,19.2s,baz=65,slow=37						
TIXI	**Tiksi**	**47.98**	**21**	⇓*i*P	**P**	**13 40 23.5**	**-0.4**
TIXI				*i* *PP	**pP**	**13 40 30.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**47.98**	**21**	*e*P	**P**	**13 40 22.3**	**-1.6**
	comp=Z,50nm,2.0s						
KEST	**Kesra**	**48.69**	**290**	P	**P**	**13 40 30.9**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=355,slow=10.0,SNR=5.5						
ES19	**SONSECA Array**	**57.41**	**299**	*e*P	**P**	**13 41 34.6**	**+0.4**
ESDC	**Sonseca Array**	**57.46**	**299**	P	**P**	**13 41 36.0**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=65,slow=7.7,SNR=15						
TOA0	**Torodi Ar. Sit**	**64.63**	**269**	*e*P	**P**	**13 42 23.5**	**0.0**
TORD	**Torodi Ar. Bea**	**64.63**	**269**	P	**P**	**13 42 23.4**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=52,slow=5.9,SNR=12						
FITZ	**Fitzroy Crossi**	**74.59**	**125**	P	**P**	**13 43 25.0**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=255,slow=12						
INK	**Inuvik**	**76.00**	**9**	P	**P**	**13 43 31.9**	**-0.3**
	comp=Z,6.3nm,1.2s,baz=30,slow=14,SNR=3.6						
ILAR	**Eielson Array**	**76.94**	**15**	P	**P**	**13 43 36.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=307,slow=5.0,SNR=3.3						
WRA	**Warramunga Arr**	**81.86**	**121**	P	**P**	**13 44 05.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=325,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**83.24**	**2**	P	**P**	**13 44 11.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=349,slow=5.2,SNR=2.3						
ASAR	**Alice Springs**	**84.01**	**124**	P	**P**	**13 44 15.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=313,slow=5.0,SNR=10						

*CSEM **19** 13:34:19.9±0.2, 39°.67N×38°.70E, h2km, ML3.4, Error ellipse: s-maj=4.5km s-min=4.0km az=6.0*
*DDA **19** 13:34:19.1, 39°.66N×38°.71E, h4km, Ml3.9*
*ISK **19** 13:34:19.7, 39°.65N×38°.72E, h8km, ML3.4*

ISC 19 13:34:19.3±1.1, 39°.66N±0°.02×38°.71E±0°.02, h18km±6km, n61, σ0°.58/70, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.23**	**208**	*e*PG	**Pg**	**13 34 24.4**	**-0.5**
ILIC				*e*SG	**Sb**	**13 34 28.9**	**0.0**
ILIC	**ilic-Erzincan**	**0.23**	**208**	*e*Pg	**Pg**	**13 34 24.4**	**-0.5**
ILIC				*e*Sg	**Sb**	**13 34 28.9**	**0.0**
KEMA	**Kemaliye**	**0.42**	**203**	*i* P	**Pg**	**13 34 27.8**	**-0.3**
KEMA				*i* S	**Sb**	**13 34 34.8**	**+0.3**
KEMA	**Kemaliye**	**0.42**	**203**	P	**Pg**	**13 34 27.8**	**-0.3**
KEMA				S	**Sb**	**13 34 34.8**	**+0.3**
KELT	**Kelkit**	**0.65**	**41**	*i* P	**Pg**	**13 34 31.6**	**-0.6**
KELT	**Kelkit**	**0.65**	**41**	P	**Pg**	**13 34 31.6**	**-0.6**
SUSE	**Susehri**	**0.67**	**325**	*i* P	**Pg**	**13 34 32.7**	**0.0**
SUSE	**Susehri**	**0.67**	**325**	P	**Pg**	**13 34 32.7**	**0.0**
CUZAR	**Zara_SIVAS**	**0.76**	**288**	*i* P	**Pb**	**13 34 33.9**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.76**	**288**	P	**Pb**	**13 34 33.9**	**-0.2**
EUZM	**Uzumlu**	**0.77**	**86**	*i* P	**Pg**	**13 34 34.5**	**+0.2**
EUZM	**Uzumlu**	**0.77**	**86**	P	**Pg**	**13 34 34.5**	**+0.2**
ERZN	**Erzincan**	**0.79**	**95**	*e*PG	**Pn**	**13 34 34.9**	**-0.8**
ERZN				*e*SG	**Sn**	**13 34 46.2**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.84**	**130**	*i* P	**Pb**	**13 34 35.3**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.84**	**130**	P	**Pb**	**13 34 35.3**	**-0.3**
PTK	**Pertek**	**0.93**	**145**	*e*PG	**Pn**	**13 34 38.3**	**+0.5**
PTK				*e*SG	**Sn**	**13 34 51.1**	**+0.3**
PTK	**Pertek**	**0.93**	**145**	*e*Pg	**Pn**	**13 34 38.3**	**+0.5**
PTK				*e*Sg	**Sn**	**13 34 51.1**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	*i* P	**Pb**	**13 34 38.3**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	P	**Pb**	**13 34 38.3**	**-0.3**
ELZG	**Elazig**	**1.18**	**169**	*i* P	**Pg**	**13 34 41.8**	**-0.4**
ELZG	**Elazig**	**1.18**	**169**	P	**Pg**	**13 34 41.8**	**-0.4**
SCER	**sogukcermik**	**1.23**	**280**	*i* P	**Pg**	**13 34 42.8**	**-0.5**
SCER				*i* S	**Sg**	**13 35 00.2**	**+0.8**
SCER	**sogukcermik**	**1.23**	**280**	P	**Pg**	**13 34 42.8**	**-0.5**
SCER				S	**Sg**	**13 35 00.2**	**+0.8**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*PN	**Pg**	**13 34 44.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*Pn	**Pg**	**13 34 44.2**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.31**	**345**	*i* P	**Pg**	**13 34 43.9**	**-0.7**
GRSN	**GIRESUNGRSN**	**1.31**	**345**	P	**Pg**	**13 34 43.9**	**-0.7**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN	**Pg**	**13 34 46.1**	**+0.9**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn	**Pg**	**13 34 46.1**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*PN	**Pb**	**13 34 44.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*Pn	**Pb**	**13 34 44.6**	**+0.2**
KOPT	**Kop Dagi**	**1.42**	**75**	*i* P	**Pg**	**13 34 47.2**	**+0.4**
KOPT	**Kop Dagi**	**1.42**	**75**	P	**Pg**	**13 34 47.2**	**+0.4**
YEDI	**Yedisu-Bingol**	**1.44**	**98**	*e*PN	**Pg**	**13 34 46.6**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.44**	**98**	*e*Pn	**Pg**	**13 34 46.6**	**-0.4**
DARE	**Darende-Malaty**	**1.45**	**222**	*e*PN	**Pg**	**13 34 46.9**	**-0.3**
DARE	**Darende-Malaty**	**1.45**	**222**	*e*Pn	**Pg**	**13 34 46.9**	**-0.3**
CUGUR	**Gurin_S¨VAS**	**1.46**	**231**	*i* P	**Pg**	**13 34 47.7**	**+0.3**
CUGUR	**Gurin_S¨VAS**	**1.46**	**231**	P	**Pg**	**13 34 47.7**	**+0.3**
ORDU	**Ordu-Boztepe**	**1.48**	**334**	*i* P	**Pg**	**13 34 47.3**	**-0.6**
ORDU	**Ordu-Boztepe**	**1.48**	**334**	P	**Pg**	**13 34 47.3**	**-0.6**
MACK	**Trabzon**	**1.52**	**32**	*i* P	**Pg**	**13 34 47.9**	**-0.7**
MACK	**Trabzon**	**1.52**	**32**	P	**Pg**	**13 34 47.9**	**-0.7**
KTUT	**Trabzon**	**1.55**	**31**	*e*PN	**Pg**	**13 34 48.4**	**-0.9**
KTUT	**Trabzon**	**1.55**	**31**	*e*Pn	**Pg**	**13 34 48.4**	**-0.9**
CUALT	**Altinyayla-SIV**	**1.56**	**256**	*i* P	**Pg**	**13 34 48.6**	**-0.8**
CUALT	**Altinyayla-SIV

baz=227
JIRB Irabujima 2.05 96 eS Sn 13 42 43.2 -1.1
TWQ1 Liyutan 2.08 251 eP Pn 13 42 16.0 -0.4
baz=236
TWQ1 eS Sn 13 42 43.6 -1.5
baz=236
JIKM Ikemajima 2.11 93 S Sn 13 42 44.8 -0.7
EHY Hungye 2.13 224 eP Pn 13 42 18.3 +1.4
baz=224
SMLT Sun Moon Lake 2.19 238 P Pn 13 42 18.3 +0.6
baz=231
SMLT eS Sn 13 42 47.6 +0.2
baz=231
TYC Yuchr 2.21 239 eP Pn 13 42 18.2 +0.4
baz=239
TYC eS Sn 13 42 47.5 -0.1
baz=239
TWF1 Yuli 2.26 222 eP Pn 13 42 18.2 -0.2
baz=222
TWF1 eS Sn 13 42 47.0 -1.7
baz=222
JOGS Gusukube 2.27 97 eS Sn 13 42 48.2 -0.6
YUS Yu-Shan 2.38 230 eP Pn 13 42 21.0 +0.6
baz=217
CHN5 Tsauling 2.52 235 eP Pn 13 42 21.6 +0.1
baz=237
CHN5 eS Sn 13 42 54.5 +0.3
baz=237
ELDTW Lidau 2.55 224 eP Pn 13 42 22.2 +0.2
baz=218
ELDTW eS Sn 13 42 54.2 -0.9
baz=218
CHN4 Tsaushan 2.73 232 eP Pn 13 42 24.6 +0.6
baz=226
CHN4 eS Sn 13 42 58.7 0.0
baz=226
CHN1 Nanshi 2.88 230 eP Pn 13 42 26.3 +0.4
baz=232

IDC 19 13:43:16.4±6.1, 5°09S×151°97E, h97km±44km, mb3.7/4, mb1 3.8/5, mb1mx3.4/34, mbtmp4.0/5, Error ellipse: s-maj=55.0km s-min=39.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.42	228	P	Pn	13 44 50.0	+1.6
	3.5nm,0.3s,baz=45,slow=6.6,SNR=11						
PMG				S	Sn	13 46 01.9	+1.6
	6.8nm,0.3s,baz=229,slow=22,SNR=12						
WRA	Warramunga Arr	22.64	228	P	P	13 48 09.3	-0.4
	2.7nm,0.5s,baz=53,slow=10.0,SNR=25						
ASAR	Alice Springs	25.38	222	P	P	13 48 35.1	+0.2
	1.1nm,0.3s,baz=56,slow=9.2,SNR=37						
STKA	Stephens Creek	28.37	199	P	P	13 49 01.1	-0.5
	1.1nm,0.7s,baz=18,slow=1.16,SNR=2.7						
FITZ	Fitzroy Crossi	28.80	241	P	P	13 49 04.8	-0.8
	1.7nm,0.8s,baz=64,slow=6.9,SNR=6.4						
TORD	Torodi Ar. Bea	149.60	287	PKPbc	PKPbc	14 02 55.7	-0.1
	0.9nm,0.4s,baz=81,slow=2.9,SNR=13						

*NIED **19** 13:46:00, 36°80N×141°10E, h47km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs=348.00000°, δ13.00000°, λ-129.00000°. NP2:φs=207.00000°, δ80.00000°, λ-82.00000°.*
*ISCJB **19** 13:46:20.3±0.7, 36°75N±0°04×141°16E±0°07, h49km±5km, mb4.2/14, MS3.3/4, Error ellipse: s-maj=9.5km s-min=5.2km az=23.0*
*JMA **19** 13:46:22.1±0.1, 36°78N×141°01E, h50km±1km, M4.0*
JMA Felt II J1.
*NEIC **19** 13:46:23.1±1.3, 36°81N×141°06E, h56km±11km, mb4.5/1, Error ellipse: s-maj=15.1km s-min=9.3km az=113.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki.
*IDC **19** 13:46:23.5±0.8, 36°81N×141°08E, h58km±6km, mb3.8/12, mb1 4.0/17, mb1mx3.8/41, mbtmp4.1/17, MS3.1/7, Ms1 3.1/7, ms1mx2.8/35, Error ellipse: s-maj=14.4km s-min=9.0km az=163.0*

ISC 19 13:46:22.6±0.7, 36°78N±0°05×141°07E±0°07, h50km±5km, n42, σ1°30/47, mb4.1/14, MS3.2/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.39	326	P	Pn	13 46 31.6	-1.2
ONAJ				S	Sn	13 46 38.2	-1.8
JHO	Hitachi	0.44	248	P	Pn	13 46 32.0	-1.2
JHO				S	Sn	13 46 38.9	-1.8
JFK	Kawauchi	0.61	345	P	Pn	13 46 34.2	-1.1
JFK				S	Sn	13 46 42.6	-1.8
JYT	Yasato	0.90	232	P	Pn	13 46 37.7	-1.3
JYT				S	Sn	13 46 48.5	-2.4
JFT	Otama	0.94	322	P	Pn	13 46 39.3	-0.3
JFT				S	Sn	13 46 51.4	-0.7
JMM	Marumori	1.11	348	P	Pn	13 46 40.9	-0.9
JMM				S	Sn	13 46 54.6	-1.4
JFY	Yanaizu	1.26	300	P	Pn	13 46 43.0	-0.9
JAG	Ashikaga	1.35	255	P	Pn	13 46 44.1	-1.0
JAG				S	Sn	13 46 59.7	-2.2
JKT	Katashina	1.47	270	P	Pn	13 46 46.1	-0.7
JKT				S	Sn	13 47 03.8	-1.1
MJAR	Matsushiro Arr	2.32	265	P	Pn	13 46 58.1	-0.2
	36nm,0.3s,baz=88,slow=14,SNR=111						
MJAR				S	Sn	13 47 27.4	+1.8
	51nm,0.3s,baz=228,slow=38,SNR=14						
MJAR				LR	LR	13 47 54.6	
	comp=Z,160nm,18.6s,baz=85,slow=40						
MAJO	Matsushiro	2.32	265	ePn	Pn	13 46 57.9	-0.4
MAT	Matsushiro	2.32	265	P	Pn	13 46 58.5	+0.2
MAT				S	Sn	13 47 27.5	+1.9
JHJ	Hachijo jima 2	3.80	197	P	Pn	13 47 11.9	-6.8
	66nm,0.3s,baz=76,slow=19,SNR=5.1						
JHJ				S	Sn	13 48 01.9	-0.2
	48nm,0.3s,baz=74,slow=20,SNR=3.3						
JHJ2	Mitsune	3.80	196	ePn	Pn	13 47 11.6	-7.0
ASAJ	Asahikawa	7.42	9	P	Pn	13 48 07.1	-1.1
	2.0nm,0.3s,baz=230,slow=8.9,SNR=18						
JNU	Nakatsue	9.13	249	P	Pn	13 48 34.0	+2.2
	0.3nm,0.3s,baz=302,slow=15,SNR=2.5						
USRK	Ussuriysk Ar.	10.13	320	P	Pn	13 48 47.3	+1.9
	0.5nm,0.3s,baz=134,slow=13,SNR=24						
USRK				LR	LR	13 52 29.2	
	comp=Z,101nm,19.8s,baz=100,slow=36						
KSRS	Korea Array	10.53	278	P	Pn	13 48 53.0	+2.3
	0.2nm,0.3s,baz=90,slow=14,SNR=20						
KSRS				LR	LR	13 51 50.8	
	comp=Z,39nm,20.9s,baz=90,slow=31						
KSAR	Wonju Array Be	10.56	278	P	Pn	13 48 53.0	+1.8
MA2	Magadan	23.66	12	LR	LR	14 03 09.5	
	comp=Z,24nm,18.4s,baz=208,slow=43						
SONM	Songino Array	27.70	304	P	P	13 52 04.3	-1.8
	2.9nm,0.7s,baz=106,slow=11,SNR=11						
SONM				LR	LR	14 02 44.3	
	comp=Z,39nm,18.1s,baz=72,slow=35						
H11N2	WAKE ISLAND Hy	28.25	120	T	T	14 21 47.0	
	baz=313,slow=75,SNR=105						
H11N1	WAKE ISLAND Hy	28.26	120	T	T	14 22 16.1	
	baz=313,slow=75,SNR=120						
H11N3	WAKE ISLAND Hy	28.27	120	T	T	14 22 16.9	
	baz=313,slow=75,SNR=148						
H11S1	WAKE ISLAND Hy	28.95	122	T	T	14 23 05.0	
	baz=314,slow=75,SNR=113						
H11S3	WAKE ISLAND Hy	28.95	122	T	T	14 23 04.8	
	baz=314,slow=75,SNR=107						
H11S2	WAKE ISLAND Hy	28.97	122	T	T	14 23 05.0	
	baz=314,slow=75,SNR=57						
ZALV	Zalesovo Beam	41.89	313	P	P	13 54 07.5	-0.3
	1.2nm,0.4s,baz=96,slow=6.9,SNR=5.4						
ZALV				PcP	PcP	13 56 02.0	-0.6
	0.5nm,0.3s,baz=66,slow=1.8,SNR=4.0						
MKAR	Makanchi Array	44.02	302	P	P	13 54 25.2	-0.1
	0.5nm,0.4s,baz=88,slow=9.2,SNR=8.6						
MKAR				LR	LR	14 11 43.4	
	comp=Z,46nm,18.3s,baz=90,slow=34						
ILAR	Eielson Array	49.85	32	P	P	13 55 10.9	+0.5
	0.6nm,0.6s,baz=261,slow=5.0,SNR=11						
ILAR				pP	pP	13 55 24.9	+0.9
	1.0nm,0.9s,baz=265,slow=5.9,SNR=5.0						
FITZ	Fitzroy Crossi	56.50	198	P	P	13 55 59.6	0.0
	1.2nm,0.6s,baz=359,slow=7.4,SNR=6.8						
WRAB	Tennant Creek	56.76	188	eP	P	13 56 01.0	-0.5
	2.5nm,0.5s						
WRA	Warramunga Arr	56.77	188	P	P	13 56 01.1	-0.6
	3.1nm,0.5s,baz=4.4,slow=7.2,SNR=38						
ASAR	Alice Springs	60.50	188	P	P	13 56 27.7	+0.2
	1.1nm,0.7s,baz=2.5,slow=7.7,SNR=22						
MBWA	Marble Bar	61.05	203	eP	P	13 56 30.2	-1.0
	8.9nm,0.5s						
ARCES	ARCESS Array B	64.14	339	P	P	13 56 51.2	-0.1
	9.0nm,1.2s,baz=46,slow=5.2,SNR=5.7						
FINES	FINESS Array B	68.91	332	P	P	13 57 21.1	-0.7
	2.5nm,0.9s,baz=93,slow=9.5,SNR=3.5						
AKASG	Malin Array Be	74.33	322	P	P	13 57 54.0	-0.7
	1.2nm,0.3s,baz=46,slow=5.9,SNR=10						
PDAR	Pinedale Array	78.04	45	P	P	13 58 16.3	+0.1
	0.6nm,0.6s,baz=278,slow=2.2,SNR=5.4						
PDAR				pP	pP	13 58 32.6	+2.0
	0.4nm,0.5s,baz=267,slow=5.4,SNR=2.5						
GERES	GERESS Array B	82.78	328	LR	LR	14 38 56.3	
	comp=Z,73nm,18.1s,baz=280,slow=38						
TXAR	Lajitas Array	90.49	52	P	P	13 59 20.4	+1.0
	0.5nm,0.8s,baz=266,slow=3.3,SNR=4.7						
TXAR				pP	pP	13 59 35.1	+1.1
	0.3nm,0.6s,baz=291,slow=3.9,SNR=3.4						
LPAZ	La Paz	147.06	60	PKPbc	PKPbc	14 06 01.7	+0.5
	2.2nm,0.6s,baz=352,slow=3.6,SNR=8.5						

*DDA **19** 14:19:17.3, 40°07N×44°46E, h7km, Ml3.5*
*AZER **19** 14:19:18.7±2.1, 40°03N×44°72E, h15km, Error ellipse: s-maj=3.2km s-min=1.3km az=287.0*
*CSEM **19** 14:19:18.7±0.1, 40°03N×44°46E, h8km, ML3.4, Error ellipse: s-maj=3.8km s-min=2.9km az=175.0*
*TIF **19** 14:19:18.4, 40°13N×44°45E, h8km±1km*
*ISK **19** 14:19:18.9, 40°10N×44°37E, h6km, ML3.4*
*NSSP **19** 14:19:18.8, 40°02N×44°48E, h10km, Ms3.4*
*ISCJB **19** 14:19:19.4±0.6, 40°01N±0°02×44°52E±0°02, h14km±3km, Error ellipse: s-maj=3.2km s-min=2.4km az=174.5*

ISC 19 14:19:19.0±0.9, 40°06N±0°02×44°47E±0°01, h13km±7km, n97, σ1°43/174, 31C-25D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	Garni	0.23	66	⇓iP	Pg	14 19 24.6	+0.5
GNI				⇑iS	Sg	14 19 29.1	+1.6
GNI	Garni	0.23	66	⇓P	Pg	14 19 24.6	+0.5
GNI				S	Sg	14 19 29.1	+1.6
HARI	Harich	0.66	327	⇓iP	Pn	14 19 34.6	+0.3
HARI				⇓iS	Sn	14 19 45.6	+1.0
HARI	Harich	0.66	327	⇓P	Pn	14 19 34.6	+0.3
SPIZ	Spitak	0.78	349	⇑iP	Pg	14 19 33.2	-1.0
SPIZ				⇓iS	Sg	14 19 44.0	-0.5
SPIZ	Spitak	0.78	349	⇑P	Pg	14 19 33.2	-1.0
SPIZ				S	Sg	14 19 44.0	-0.5
DYDN	Diyadin	0.79	230	iP	Pg	14 19 31.8	-2.6
DYDN				iS	Sg	14 19 44.3	-0.5
DYDN	Diyadin	0.79	230	P	Pg	14 19 31.8	-2.6
DYDN				S	Sg	14 19 44.3	-0.5
KAMZ	Kamo	0.86	333	⇓iP	Pn	14 19 39.0	+1.9
KAMZ				⇓iS	Sn	14 19 53.1	+3.5
CKLZ	Chkalov	0.89	9	⇑iP	Pg	14 19 35.4	-0.8
CKLZ				⇑iS	Sg	14 19 45.5	-2.3
CKLZ	Chkalov	0.89	9	⇑P	Pg	14 19 35.4	-0.8
GMRZ	Gyumri	0.90	327	eP	Pn	14 19 39.0	+1.5
GMRZ				eS	Sn	14 19 54.0	+3.6
GYMZ	Gyumri	0.90	327	⇑iP	Pn	14 19 39.5	+2.0
GYMZ				⇓iS	Sn	14 19 54.4	+4.0
EAK	Akyaka	0.91	314	iP	Pg	14 19 35.0	-1.7
EAK				iS	Sg	14 19 47.4	-1.2
EAK	Akyaka	0.91	314	P	Pg	14 19 35.0	-1.7
EAK				S	Sg	14 19 47.4	-1.2
DIGO	Kars	0.91	293	iP	Pg	14 19 33.8	-2.9
DIGO				iS	Sg	14 19 47.8	-0.9
DIGO	Kars	0.91	293	P	Pg	14 19 33.8	-2.9
DIGO				S	Sg	14 19 47.8	-0.9
STEZ	Stepenevan	0.94	357	⇑iP	Pg	14 19 34.4	-2.9
STEZ				⇑iS	Sg	14 19 47.0	-2.6
VADZ	Vardenis	0.98	83	⇑iP	Pn	14 19 40.0	+1.2
VADZ				⇓iS	Sn	14 19 54.0	+1.3
VADZ	Vardenis	0.98	83	⇑P	Pn	14 19 40.0	+1.2
VADZ				S	Sn	14 19 54.0	+1.3
TSOZ	Tsokhamarg	1.00	333	⇑iP	Pn	14 19 42.1	+3.0
TSOZ				⇑iS	Sn	14 19 57.0	+3.8
GDB	GEDABAY	1.18	56	⇓P	Pg	14 19 40.7	-1.2
	SNR=10.0						
GDB				⇓S	Sb	14 19 57.3	+0.5
GDB	GEDABAY	1.18	56	P	Pg	14 19 40.7	-1.2
	SNR=10.0						
GDB				S	Sb	14 19 57.3	+0.5
NAX	Nakhchivan	1.19	138	⇓P	Pg	14 19 40.5	-1.4
	SNR=18						
NAX				⇑S	Sn	14 19 57.6	+0.2
NAX	Nakhchivan	1.19	138	P	Pg	14 19 40.5	-1.4
	SNR=18						
NAX				S	Sn	14 19 57.6	+0.2
QZX	Qazax, Azerbai	1.21	34	⇓P	Pg	14 19 41.4	-1.0
QZX				⇑S	Sb	14 19 57.9	+0.4
QZX	Qazax, Azerbai	1.21	34	P	Pg	14 19 41.4	-1.0
QZX				S	Sb	14 19 57.9	+0.4
AGRB	Hanur-Agry	1.24	248	ePN	Pg	14 19 42.1	-0.8
AGRB				eSN	Sb	14 19 58.8	+0.5
AGRB	Hanur-Agry	1.24	248	ePn	Pg	14 19 42.1	-0.8
AGRB				eSn	Sb	14 19 58.8	+0.5
VMUR	Van-Muradiye	1.27	213	iP	Pn	14 19 42.3	-0.4
VMUR				iS	Sn	14 20 00.4	+0.7
VMUR	Van-Muradiye	1.27	213	P	Pn	14 19 42.3	-0.4
VMUR				S	Sn	14 20 00.4	+0.7
KZR	Kazreti	1.32	358	P	Pn	14 19 42.8	-0.5
KZR				S	Sb	14 20 00.3	-0.4
KZR	Kazreti	1.32	358	P	Pb	14 19 43.7	-0.1
KZR				S	Sn	14 20 05.1	+4.3
TUTA	Tutak	1.44	243	iP	Pn	14 19 44.7	-0.3
TUTA				iS	Sb	14 20 04.3	+0.3
TUTA	Tutak	1.44	243	P	Pn	14 19 44.7	-0.3
TUTA				S	Sb	14 20 04.3	+0.3
EATA	Eleskirt	1.53	263	iP	Pb	14 19 47.2	-0.3
EATA				iS	Sg	14 20 11.1	+2.7
EATA	Eleskirt	1.53	263	P	Pb	14 19 47.2	-0.3
GANJ	Ganja	1.53	67	⇑P	Pb	14 19 46.9	-0.4
	SNR=31						
GANJ				⇓S	Sb	14 20 07.0	+0.3
GANJ	Ganja	1.53	67	P	Pb	14 19 46.9	-0.4
	SNR=31						
GANJ				S	Sb	14 20 07.0	+0.3
AKH	Akhalkalaki	1.54	332	ePN	Pn	14 19 46.2	-0.2
AKH				eSN	Sn	14 20 07.0	+0.6
AKH	Akhalkalaki	1.54	332	P	Pn	14 19 46.1	-0.2
AKH				S	Sn	14 20 06.5	+0.1
AKH	Akhalkalaki	1.54	332	ePn	Pn	14 19 46.2	-0.2
AKH				S	Sn	14 20 06.5	+0.1
AKH				eSn	Sn	14 20 07.0	+0.6
TBLG	Delisi	1.68	7	ePN	Pb	14 19 49.2	-0.7
TBLG	Delisi	1.68	7	P	Pn	14 19 49.0	+0.8
TBLG				S	Sb	14 20 11.6	+0.5
TBLG	Delisi	1.68	7	P	Pn	14 19 48.9	+0.7
TBLG	Delisi	1.68	7	ePn	Pb	14 19 49.2	-0.7
TBLG				S	Sb	14 20 11.5	+0.5
VANB	Van	1.68	210	ePN	Pg	14 19 51.7	+0.3
VANB	Van	1.68	210	ePn	Pg	14 19 51.7	+0.3
SENK	Senkaya-Erzuru	1.70	288	ePN	Pn	14 19 49.1	+0.5
SENK	Senkaya-Erzuru	1.70	288	ePn	Pn	14 19 49.1	+0.5
SEAG	Tbilisi Sea	1.72	8	P	Pb	14 19 49.9	-0.7
SEAG				S	Sb	14 20 13.1	+0.9
SEAG	Tbilisi Sea	1.72	8	P	Pb	14 19 49.9	-0.7
SEAG				S	Sg	14 20 13.2	-1.3
TVAN	Van	1.74	209	iP	Pg	14 19 53.2	+0.8
TVAN				iS	Sg	14 20 20.0	+5.1
TVAN	Van	1.74	209	P	Pg	14 19 53.2	+0.8
EPOS	Posof	1.96	318	iP	Pn	14 19 52.8	+0.7
EPOS				iS	Sb	14 20 19.0	-0.1
EPOS	Posof	1.96	318	P	Pn	14 19 52.8	+0.7
EPOS				S	Sb	14 20 19.0	-0.1
BRDA	Brd	2.09	83	⇓P	Pn	14 19 54.1	+0.4
BRDA				⇓S	Sn	14 20 19.3	-0.2
BRDA	Brd	2.09	83	P	Pn	14 19 54.1	+0.4
BRDA				S	Sn	14 20 19.3	-0.2
MNGR	Mingechevir, A	2.12	69	⇓P	Pn	14 19 54.0	-0.2
MNGR				⇑S	Sn	14 20 22.2	+1.8
MNGR	Mingechevir, A	2.12	69	P	Pn	14 19 54.0	-0.2
MNGR				S	Sn	14 20 22.2	+1.8
DAGI	Agillar	2.20	298	iP	Pb	14 19 57.5	-1.2
DAGI				iS	Sb	14 20 27.2	+1.3
DDEM	Demirkent	2.23	293	iP	Pb	14 19 57.7	-1.6
DDEM				iS	Sb	14 20 27.8	+0.8
DDEM	Demirkent	2.23	293	P	Pb	14 19 57.7	-1.6
DDEM				S	Sb	14 20 27.8	+0.8
ARTV	Artvin	2.24	301	iP	Pb	14 19 58.1	-1.4
ARTV				iS	Sb	14 20 26.8	-0.4
ARTV	Artvin	2.24	301	P	Pb	14 19 58.1	-1.4
ARTV				S	Sb	14 20 26.8	-0.4
ZKTA	Zakatala	2.27	45	⇑P	Pn	14 19 57.8	+1.5
	SNR=8.7						
ZKTA				⇑S	Sb	14 20 27.1	-0.8
SEKA	Sheki	2.37	60	⇓P	Pn	14 19 59.0	+1.2
SEKA				⇓S	Sn	14 20 28.5	+1.7
SEKA	Sheki	2.37	60	P	Pn	14 19 59.0	+1.2
SEKA				S	Sn	14 20 28.5	+1.7
GUDG	Gudauri	2.41	0	P	Pb	14 20 02.6	+0.2
GUDG				S	Sb	14 20 33.3	+1.4
GUDG	Gudauri	2.41	0	P	Pn	14 20 00.3	+2.0
ONI	Oni	2.64	343	P	Pn	14 20 03.0	+1.5
ONI				S	Sb	14 20 40.8	+2.1
QBL	Gabala	2.72	70	⇓S	Sn	14 20 35.9	+0.7
QBL	Gabala	2.72	70	S	Sn	14 20 35.9	+0.7
CUKT	Cukurca	2.89	194	ePN	Pn	14 20 06.7	+1.9
CUKT	Cukurca	2.89	194	ePn	Pn	14 20 06.7	+1.9
IML	Ismayilli	2.93	74	⇑S	Sn	14 20 37.1	-3.3
IML	Ismayilli	2.93	74	S	Sn	14 20 37.1	-3.3
XNQ	Khinaliq	3.01	67	P	Pn	14 20 07.6	+1.0
	SNR=6.0						
XNQ				⇑S	Sn	14 20 41.4	-1.2
XNQ	Khinaliq	3.01	67	P	Pn	14 20 07.6	+1.0
	SNR=6.0						
XNQ				S	Sn	14 20 41.4	-1.2
YEDI	Yedisu-Bingol	3.09	260	ePN	Pn	14 20 08.0	+0.3
YEDI	Yedisu-Bingol	3.09	260	ePn	Pn	14 20 08.0	+0.3
GLBA	Clilabad	3.14	104	⇑P	Pn	14 20 07.4	-0.8
GLBA				⇑S	Sn	14 20 43.7	-1.8
GLBA	Clilabad	3.14	104	P	Pn	14 20 07.4	-0.8
GLBA				S	Sn	14 20 43.7	-1.8
SVAN	Silvan-Diyarba	3.18	234	ePN	Pn	14 20 10.0	+1.2
SVAN	Silvan-Diyarba	3.18	234	ePn	Pn	14 20 10.0	+1.2
QSAR	Qusar	3.23	62	⇓P	Pn	14 20 10.1	+0.7
QSAR				⇑S	Sn	14 20 50.2	+2.4
QSAR	Qusar	3.23	62	P	Pn	14 20 10.1	+0.7
QSAR				S	Sn	14 20 50.2	+2.4
PQL	Pirkuli	3.23	76	⇓P	Pn	14 20 08.9	-0.7
PQL				⇑S	Sn	14 20 48.8	+0.8
PQL	Pirkuli	3.23	76	P	Pn	14 20 08.9	-0.7
PQL				S	Sn	14 20 48.8	+0.8
LRK	Lerik	3.32	114	⇓P	Pn	14 20 10.3	-0.5
LRK				⇓S	Sn	14 20 51.8	+1.6
LRK	Lerik	3.32	114	P	Pn	14 20 10.3	-0.5
LRK				S	Sn	14 20 51.8	+1.6
QUBA	Quba, Azerbaij	3.32	66	⇑P	Pn	14 20 11.6	+0.8
QUBA				⇑S	Sn	14 20 50.6	+0.5
QUBA	Quba, Azerbaij	3.32	66	P	Pn	14 20 11.6	+0.8
QUBA				S	Sn	14 20 50.6	+0.5
LKRN	Lenkeran, Azer	3.60	111	⇑P	Pn	14 20 14.0	-0.5
LKRN				⇑S	Sn	14 20 56.0	-0.9
LKRN	Lenkeran, Azer	3.60	111	P	Pn	14 20 14.0	-0.5
LKRN				S	Sn	14 20 56.0	-0.9
ASTR	Astara	3.67	113	⇑P	Pn	14 20 14.3	-1.2
ASTR				⇑S	Sn	14 20 57.4	-1.2
ASTR	Astara	3.67	113	P	Pn	14 20 14.3	-1.2
ASTR				S	Sn	14 20 57.4	-1.2

IDC 19 14:22:04.7±10.0, 30°70S×179°35W, h371km±113km, mb2.6/2, mb1 2.9/3, mb1mx2.8/33, mbtmp3.5/3, Error ellipse: s-maj=111.7km s-min=42.6km az=3.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.08	200	P	Pn	14 24 00.3	+0.3
	0.4nm,0.3s,baz=280,slow=6.3,SNR=6.4						
URZ				S	S	14 25 34.7	+0.3
	1.0nm,0.3s,baz=73,slow=15,SNR=7.7						
ASAR	Alice Springs	41.94	268	P	P	14 29 21.1	+0.2
	0.1nm,0.4s,baz=104,slow=7.1,SNR=5.9						
WRA	Warramunga Arr	42.95	273	P	P	14 29 28.4	-0.5
	0.3nm,0.5s,baz=112,slow=7.7,SNR=4.8						
FINES	FINESS Array B	145.02	339	PKPbc	PKPdf	14 40 57.0	-0.6
	8.4nm,1.1s,baz=50,slow=4.3,SNR=10						

MAN 19 14:23:38, 13°77N×119°77E, h19km, mb4.6, ML3.5, MS3.4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.46	95	eP	Pg	14 23 46.9	-0.5
LUBP				eS	Sg	14 23 53.1	-0.7
TGY	Tagaytay City	1.18	74	⇑iP	Pn	14 23 59.5	0.0
TGY				iS	Sb	14 24 12.2	-2.4
PGP	Puerto Galera	1.18	103	⇓eP	Pb	14 24 00.1	+0.4
PGP				iS	Sn	14 24 15.7	+0.6
BUSP	Coron	1.81	167	eP	Pn	14 24 08.9	+0.8
BUSP				eS	Sb	14 24 31.9	-0.9
SJMP	San Jose	1.85	135	eP	Pn	14 24 09.2	+0.5
SJMP				eS	Sn	14 24 31.5	-0.1
BOAC	Boac	2.04	99	eP	Pn	14 24 12.0	+0.7
BOAC				eS	Sg	14 24 42.6	-1.1
ENPP	El Nido	2.58	188	eP	Pn	14 24 19.6	+0.9
ENPP				eS	Sn	14 24 50.4	+0.8
BALP	Baler	2.62	41	eP	Pn	14 24 19.5	+0.2
BALP				eS	Sn	14 24 52.1	+1.4

*ISK **19** 14:32:37.9, 39°61N×33°27E, h7km, MD2.8*
*CSEM **19** 14:32:38.0±0.3, 39°59N×33°28E, h0km±2km, MD2.8, Error ellipse: s-maj=5.4km s-min=3.9km az=99.0*
*DDA **19** 14:32:38.1, 39°57N×33°33E, h7km, Md2.8*

ISC 19 14:32:38.2±1.1, 39°57N±0°02×33°28E±0°02, h2km±11km, n36, σ1°20/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	Bala	0.12	256	iP	Pg	14 32 39.9	-0.8
BBAL				iS	Sg	14 32 42.0	-0.2
BBAL	Bala	0.12	256	P	Pg	14 32 39.8	-0.8
BBAL				S	Sg	14 32 42.0	-0.2
AFSR	Af¯ar-Bala (A	0.20	232	ePG	Pg	14 32 43.0	+0.9
AFSR	Af¯ar-Bala (A	0.20	232	ePg	Pg	14 32 43.0	+0.9
KKUL	Konya-Kulu	0.49	215	iP	Pg	14 32 47.7	+0.2
KKUL				iS	Sb	14 32 56.4	-0.7
KKUL	Konya-Kulu	0.49	215	P	Pg

KONT	Konya--Tatoy	1.77	204	*e*Pn	Pb	14 33 10.1	-1.3
MDUB	Mudurnu	1.83	300	*e*PN	Pn	14 33 10.2	-0.5
MDUB	Mudurnu	1.83	300	*e*Pn	Pn	14 33 10.2	-0.5
BOYT	Boyabat	2.23	33	*i* P	Pb	14 33 18.9	-0.2
CUSAR	Sarkisla-SIVAS	2.30	93	*i* P	Pb	14 33 20.0	-0.5
CUSAR				*i* S	Sg	14 33 53.6	+1.5

*ISK **19** 14:32:47.4, 39°.68N×39°.40E, h5km, MD2.5*
*CSEM **19** 14:32:49.6±0.3, 39°.60N×39°.53E, h10km, MD2.5, Error ellipse: s-maj=8.2km s-min=4.9km az=80.0*
*ISCJB **19** 14:32:50.1±0.5, 39°.58N±0°.03×39°.52E±0°.06, h6km±8km, Error ellipse: s-maj=7.2km s-min=4.9km az=180.0*
*DDA **19** 14:32:50.0, 39°.56N×39°.54E, h7km, Md2.5*
ISC 19 14:32:49.8±1.1, 39°.58N±0°.02×39°.43E±0°.03, h6km±11km, n16, σ0°83/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	Erzincan	0.18	342	*e*Pg	Pg	14 32 53.1	-0.3
ERZN	Erzincan	0.23	89	*e*PG	Pg	14 32 53.1	-1.2
EUZM	Uzumlu	0.24	59	*i* P	Pg	14 32 54.1	-0.5
EUZM				*i* S	Sg	14 32 57.6	-0.2
EUZM	Uzumlu	0.24	59	P	Pg	14 32 54.1	-0.5
EUZM				S	Sg	14 32 57.6	-0.2
TNCL	Tunceli-Merkez	0.48	169	*i* P	Pg	14 32 58.9	-0.1
TNCL				*i* S	Sg	14 33 06.5	+1.3
TNCL	Tunceli-Merkez	0.48	169	P	Pg	14 32 58.9	-0.1
TNCL				S	Sg	14 33 06.5	+1.3
KELT	Kelkit	0.58	347	*i* P	Pg	14 33 01.5	+0.5
KELT				*i* S	Sb	14 33 11.4	+0.3
KELT	Kelkit	0.58	347	P	Pg	14 33 01.5	+0.5
KELT				S	Sb	14 33 11.4	+0.3
ILIC	ilic-Erzincan	0.68	259	*e*PG	Pg	14 33 01.0	-1.8
ILIC	ilic-Erzincan	0.68	259	*e*Pg	Pg	14 33 01.0	-1.8
PTK	Pertek	0.69	182	*e*PG	Pg	14 33 02.9	-0.2
PTK				*e*SG	Sb	14 33 14.3	+0.1
PTK	Pertek	0.69	182	*e*Pg	Pg	14 33 02.9	-0.2
PTK				*e*Sg	Sb	14 33 14.3	+0.1
KEMA	Kemaliye	0.79	247	*i* P	Pb	14 33 06.7	+0.7
KEMA				*i* S	Sn	14 33 19.1	-0.6
KEMA	Kemaliye	0.79	247	P	Pb	14 33 06.7	+0.7
KEMA				S	Sn	14 33 19.1	-0.6
BINT	Bingol	1.09	130	*e*Pn	Pb	14 33 11.0	-0.1
BNGB	Bing^¶l	1.14	121	*e*PN	Pg	14 33 11.0	-0.6

*ISCJB **19** 14:44:09.2±0.5, 40°.58N±0°.05×30°.29E±0°.05, h7km±7km, Error ellipse: s-maj=8.0km s-min=6.3km az=163.5*
*CSEM **19** 14:44:09.3±0.1, 40°.57N×30°.29E, h8km, MD2.6, Error ellipse: s-maj=2.9km s-min=2.2km az=171.0*
*DDA **19** 14:44:09.2, 40°.60N×30°.31E, h7km, Md2.2*
*ISK **19** 14:44:09.1, 40°.56N×30°.29E, h9km, MD2.6*
ISC 19 14:44:09.4±1.0, 40°.59N±0°.03×30°.28E±0°.03, h13km±7km, n22, σ0°32/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	Sapanca-Adapaz	0.10	10	*e*PG	Pg	14 44 12.4	0.0
SPNC	Sapanca-Adapaz	0.10	10	*e*Pg	Pg	14 44 12.4	0.0
GEYV	SAKARYA_Geyve	0.10	175	*i* P	Pg	14 44 12.1	-0.3
GEYV	SAKARYA_Geyve	0.10	175	P	Pg	14 44 12.1	-0.3
GULT	Gulveren	0.23	131	*e*PG	Pg	14 44 14.1	-0.4
GULT	Gulveren	0.23	131	*e*Pg	Pg	14 44 14.1	-0.4
SAHE	Sakarya_HENDEK	0.51	58	*i* P	Pg	14 44 19.0	-0.5
SAHE				*i* S	Sg	14 44 26.1	-0.1
SAHE	Sakarya_HENDEK	0.51	58	P	Pg	14 44 19.0	-0.5
SAHE				S	Sg	14 44 26.1	-0.1
CAVI	Cavuskoy	0.51	221	*e*PG	Pg	14 44 19.1	-0.4
CAVI	Cavuskoy	0.51	221	*e*Pg	Pg	14 44 19.1	-0.4
KAND	Kocaeli-Kandir	0.51	352	*i* P	Pg	14 44 19.2	-0.3
KAND	Kocaeli-Kandir	0.51	352	P	Pg	14 44 19.2	-0.3
YLV	Yalova	0.69	269	*e*PG	Pg	14 44 22.8	-0.1
YLV	Yalova	0.69	269	*e*Pg	Pg	14 44 22.8	-0.1
MDUB	Mudurnu	0.71	99	*e*PG	Pg	14 44 23.0	-0.2
MDUB				*e*SG	Sg	14 44 32.9	+0.4
MDUB	Mudurnu	0.71	99	*e*Pg	Pg	14 44 23.0	-0.2
MDUB				*e*Sg	Sg	14 44 32.9	+0.4
ARMT	Armutlu	1.08	269	*e*PN	Pb	14 44 30.5	+0.4
ARMT	Armutlu	1.08	269	*e*Pn	Pb	14 44 30.5	+0.4
TVSB	Tavsanli	1.30	209	*e*PN	Pn	14 44 33.5	+0.1
TVSB	Tavsanli	1.30	209	*e*Pn	Pn	14 44 33.5	+0.1
CTKS	Kestanelik-??a	1.50	296	*e*PN	Pb	14 44 37.1	0.0
CTKS				*e*SN	Sg	14 44 57.4	-0.2
CTKS	Kestanelik-??a	1.50	296	*e*Pn	Pb	14 44 37.1	0.0
CTKS				*e*Sn	Sg	14 44 57.4	-0.2

*ISK **19** 14:50:43.2, 37°.39N×28°.17E, h5km, MD2.4*
*DDA **19** 14:50:44.1, 37°.22N×28°.16E, h7km, Md2.5, Suspected Mining explosion.*
*ISCJB **19** 14:50:45.0±0.5, 37°.24N±0°.04×28°.19E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=3.9km az=25.2*
*CSEM **19** 14:50:45.2±0.3, 37°.26N×28°.18E, h2km, MD2.4, Error ellipse: s-maj=8.4km s-min=5.4km az=22.0, Suspected Mining explosion.*
ISC 19 14:50:44.8±0.9, 37°.21N±0°.04×28°.19E±0°.02, h0km, n18, σ0°62/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.34	285	*e*PG	Pg	14 50 50.8	-0.5
MLSB				*e*SG	Sg	14 50 56.7	+1.0
MLSB	Milas	0.34	285	*e*Pg	Pg	14 50 50.8	-0.5
MLSB				*e*Sg	Sg	14 50 56.7	+1.0
TURN	Turunc	0.47	135	*i* P	Pg	14 50 53.0	-0.8
TURN				*i* S	Sg	14 51 00.5	+0.6
TURN	Turunc	0.47	135	P	Pg	14 50 53.0	-0.8
TURN				S	Sg	14 51 00.5	+0.6
AYDN	Tasoluk	0.52	332	*i* P	Pg	14 50 54.1	-0.6
AYDN				*i* S	Sg	14 51 01.7	+0.3
AYDN	Tasoluk	0.52	332	P	Pg	14 50 54.1	-0.6
AYDN				S	Sg	14 51 01.7	+0.3
DALY	Dalyan (Mu¯la	0.54	136	*e*PG	Pb	14 50 57.4	+0.3
DALY	Dalyan (Mu¯la	0.54	136	*e*Pg	Pb	14 50 57.4	+0.3
TAVA	DENIZLI_Tavas	0.63	66	*i* P	Pg	14 50 56.9	-0.1
TAVA				*i* S	Sg	14 51 05.9	+0.7
TAVA	DENIZLI_Tavas	0.63	66	P	Pg	14 50 56.9	-0.1
TAVA				S	Sg	14 51 05.9	+0.7
DAT	Datca	0.68	226	*e*PG	Pb	14 50 59.5	-0.1
DAT				*e*SG	Sn	14 51 12.4	-0.8
DAT	Datca	0.68	226	*e*Pg	Pb	14 50 59.6	-0.1
BODT	Bodrum	0.71	259	*e*PG	Pg	14 50 59.0	+0.5
BODT	Bodrum	0.71	259	*e*Pg	Pg	14 50 59.0	+0.5
FETY	Fethiye	0.92	128	*e*PG	Pn	14 51 04.6	-0.4
FETY	Fethiye	0.92	128	*e*Pg	Pn	14 51 04.6	-0.4
AKAS	Kas	1.50	130	*e*PN	Pb	14 51 14.4	+0.8
AKAS	Kas	1.50	130	*e*Pn	Pb	14 51 14.4	+0.8

*IDC **19** 15:04:08.4±5.3, 39°.08N×69°.46E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/38, mbtmp3.7/3, ML3.3/2, Error ellipse: s-maj=224.5km s-min=22.9km az=148.0*
*ISCJB **19** 15:04:19.0±1.6, 37°.7N±0°.1×72°.12E±0°.10, h176km, mb3.5/1, Error ellipse: s-maj=15.9km s-min=10.0km az=157.7*
*NNC **19** 15:04:20.5±4.6, 37°.96N×72°.22E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=41.8km s-min=16.1km az=151.0*
ISC 19 15:04:16.7±1.9, 37°.6N±0°.1×72°.3E±0°.1, h176km, n8, σ2°34/13, 5C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.98	296	⇓P	Pn	15 05 06.4	+1.5
DZET	4.3nm,0.3s						
				⇑S	Sn	15 05 41.4	-1.0
	70nm,0.5s						
MNAS	Manas	4.94	2	⇓P	Pn	15 05 32.2	+2.4
MNAS	6.3nm,0.4s						
				⇓S	Sn	15 06 26.0	-1.2
	16nm,0.5s						
AAK	Ala-Archa	5.37	18	⇑P	Pn	15 05 38.3	+2.9
AAK	2.5nm,0.4s						
				⇑S	Sn	15 06 38.2	+1.0
	11nm,0.6s						
KK31	Karatay Array	5.71	347	P	Pn	15 05 41.5	+1.9
KK31	1.9nm,0.4s,baz=162,slow=11,SNR=12						
				⇑S	Sn	15 06 43.5	-1.5
	6.2nm,0.3s,baz=162,slow=23,SNR=26						
TKM2	Tokmak 2	5.95	24	⇓P	Pn	15 05 44.6	+1.6
TKM2	0.6nm,0.3s						
				⇑S	Sn	15 06 46.2	-4.7
	1.8nm,0.5s						
MKAR	Makanchi Array	11.86	36	Pn	Pn	15 07 01.6	+1.4
	0.1nm,0.3s,baz=229,slow=13,SNR=2.7						
ZALV	Zalesovo Beam	18.55	24	P	Pn	15 08 21.6	-0.5
	1.2nm,0.3s,baz=222,slow=10,SNR=18						
TORD	Torodi Ar. Bea	66.74	269	P	P	15 14 47.9	-1.3
	0.3nm,0.4s,baz=48,slow=5.6,SNR=5.9						

*IDC **19** 15:26:13.7±0.9, 21°.09S×67°.50W, h158km±12km, mb4.1/1, mb1 3.9/4, mb1mx3.3/24, mbtmp4.3/4, Error ellipse: s-maj=41.0km s-min=13.2km az=127.0*
*GUC **19** 15:26:14.1±0.7, 20°.96S×68°.17W, h192km±8km, ML4.2*
ISC 19 15:26:12.8±0.9, 20°.99S±0°.06×67°.76W±0°.09, h167km±11km, n23, σ1°78/34, 2C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.60	240	⇑*i* P	Pn	15 26 46.6	+1.8
PB09				*i* S	Sn	15 27 10.9	+1.3
PB09				IAML		15 27 13.2	
	comp=E,2μm,0.9s						
PB01	IPOC Station P	1.61	268	*e*P	Pn	15 26 45.6	+0.7
PB01				*i* S	Sn	15 27 09.6	-0.1
LVC	Limon Verde	1.93	213	P	Pn	15 26 50.6	+1.9
	comp=E,196nm,0.3s,baz=37,slow=8.0,SNR=56						
LVC				S	Sn	15 27 17.5	+1.1
	comp=E,963nm,0.3s,baz=236,slow=19,SNR=62						
PB02	IPOC Station P	2.02	260	*e*P	Pn	15 26 49.7	+0.4
PB02				*i* S	Sn	15 27 16.8	-0.7
PB02				IAML		15 27 17.9	
	comp=N,2μm,0.4s						
PB07	IPOC Station P	2.11	249	*i* P	Pn	15 26 51.2	+0.8
PB07				*i* S	Sn	15 27 18.8	-0.7
PB07				IAML		15 27 19.4	
	comp=N,2μm,0.3s						
HMBC	Humberstone	2.11	289	⇑*i* P	Pn	15 26 50.8	+0.3
HMBC				*i* S	Sn	15 27 18.2	-1.3
HMBC				IAML		15 27 21.5	
	comp=N,804nm,0.2s						
PB06	IPOC Station P	2.40	224	*e*P	Pn	15 26 55.2	+1.4
PB06				*i* S	Sn	15 27 25.9	+0.4
PB06				IAML		15 27 26.1	
	comp=E,1μm,0.3s						
MNMC	Minye Minye	2.53	317	*e*P	Pn	15 26 55.8	+0.3
MNMC				*i* S	Sn	15 27 28.9	+0.5
PSGC	Pisagua	2.62	302	*e*P	Pn	15 26 56.2	-0.1
PSGC				*i* S	Sn	15 27 28.3	-1.7
PB13	IPOC Station P	3.11	328	*e*P	Pn	15 27 05.0	+2.2
PB13				*i* S	Sn	15 27 43.1	+1.5
LPAZ	La Paz	4.69	356	P	Pn	15 27 25.4	+2.2
	comp=E,3.9nm,0.3s,baz=154,slow=10,SNR=62						
FSA	Cafayete	5.35	163	*e*P	Pn	15 27 33.6	+2.3
FSA				*e*S	Sn	15 28 51.5	+19
FSA				IAML		15 28 55.2	
	comp=Z,8.4nm,0.8s						
VCA	Vinchina	7.72	183	*e*P	Pn	15 28 00.5	-2.1
VCA				IAML		15 28 07.9	
	comp=Z,13nm,0.2s						
SIV	San Ignacio	8.06	53	P	Pn	15 28 05.9	-1.2
	comp=Z,3.3nm,0.3s,baz=245,slow=13,SNR=50						
SIV				S	Sn	15 29 36.0	-1.3
	comp=Z,0.2nm,0.3s,baz=323,slow=22,SNR=2.2						
ACLC	CERRO LA CRUZ	8.43	175	*e*P	Pn	15 28 10.9	-1.1
AGUA	GUANDACOL	8.49	184	*e*P	Pn	15 28 09.8	-2.9
APLL	PUNTA DE LOS L	9.43	173	*e*P	Pn	15 28 23.5	-1.6
AMOG	MOGNA	9.93	184	*e*P	Pn	15 28 27.9	-3.8
ACHE	Chepes	10.18	175	*e*P	Pn	15 28 33.2	-1.8
RTCV	Cerro Valdivia	10.85	184	*e*P	Pn	15 28 39.8	-3.9
TORD	Torodi Ar. Bea	76.17	70	P	P	15 37 43.7	+0.7
	comp=Z,2.1nm,0.4s,baz=257,slow=5.3,SNR=25						
ASAR	Alice Springs	130.85	207	PKP	PKPdf	15 45 07.2	+2.1
	comp=Z,0.3nm,0.8s,baz=144,slow=1.9,SNR=4.8						
MKAR	Makanchi Array	144.59	36	PKP	PKPdf	15 45 30.7	+1.3
	comp=Z,1.5nm,0.6s,baz=319,slow=3.3,SNR=13						

*ISK **19** 15:37:59.5, 39°.05N×29°.12E, h6km, MD2.8*
*ISCJB **19** 15:38:00.5±0.5, 39°.07N±0°.04×29°.05E±0°.05, h9km±5km, Error ellipse: s-maj=8.2km s-min=4.8km az=143.5*
*CSEM **19** 15:38:00.5±0.1, 39°.10N×29°.05E, h5km, MD2.8, Error ellipse: s-maj=5.3km s-min=2.8km az=130.0*
*DDA **19** 15:38:00.7, 39°.06N×29°.04E, h7km, Md2.6*
ISC 19 15:38:00.5±1.0, 39°.10N±0°.05×29°.04E±0°.03, h8km±8km, n22, σ0°74/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.05	250	*e*PG	Pg	15 38 02.2	-0.1
SIMA	Simav-Kutahya	0.05	250	*e*Pg	Pg	15 38 02.2	-0.1
DEMI	Demirci	0.26	257	*i* P	Pg	15 38 06.2	+0.5
DEMI				*i* S	Sg	15 38 09.7	+0.5
DEMI	Demirci	0.26	257	P	Pg	15 38 06.2	+0.5
DEMI				S	Sg	15 38 09.7	+0.5
GDZ	Gediz	0.34	92	*i* P	Pg	15 38 08.1	+0.8
GDZ				*i* S	Sg	15 38 12.8	+1.1
GDZ	Gediz	0.34	92	P	Pg	15 38 08.1	+0.8
GDZ				S	Sg	15 38 12.9	+1.1
TVSB	Tavsanli	0.48	43	*e*PG	Pg	15 38 09.0	-0.8
TVSB	Tavsanli	0.48	43	*e*Pg	Pg	15 38 09.0	-0.8
KULA	Kula-Manisa	0.66	207	*e*PG	Pb	15 38 13.2	-1.0
KULA				*e*SG	Sg	15 38 21.4	-0.3
KULA	Kula-Manisa	0.66	207	*e*Pg	Pb	15 38 13.2	-1.0
KULA				*e*Sg	Sg	15 38 21.4	-0.3
MANT	Manisa	0.72	212	*i* P	Pb	15 38 14.3	-1.0
MANT				*i* S	Sg	15 38 23.6	-0.1
MANT	Manisa	0.72	212	P	Pb	15 38 14.3	-1.0
MANT				S	Sg	15 38 23.6	-0.1
BALB	Balikesir	1.05	301	*e*PN	Pn	15 38 22.4	+1.0
BALB	Balikesir	1.05	301	*e*Pn	Pn	15 38 22.4	+1.0
CAVI	Cavuskoy	1.26	29	*e*PN	Pn	15 38 24.2	-0.2
CAVI	Cavuskoy	1.26	29	*e*Pn	Pn	15 38 24.2	-0.2
ARMT	Armutlu	1.47	355	*e*PN	Pn	15 38 27.8	+0.5
ARMT	Armutlu	1.47	355	*e*Pn	Pn	15 38 27.8	+0.5
YLV	Yalova	1.49	10	*e*PN	Pn	15 38 28.4	+0.9
YLV	Yalova	1.49	10	*e*Pn	Pn	15 38 28.4	+0.9
GULT	Gulveren	1.75	40	*e*PN	Pn	15 38 31.1	-0.1
GULT	Gulveren	1.75	40	*e*Pn	Pn	15 38 31.1	-0.1

JMA 19 15:44:33.8±0.3, 36°.65N×143°.61E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	2.30	282	P	Pn	15 45 10.6	+1.3
ONAJ				S	Sn	15 45 36.9	+0.4
JFK	Kawauchi	2.30	289	S	Sn	15 45 36.9	+0.3
JHO	Hitachi	2.45	270	P	Pn	15 45 12.5	+1.2
JFT	Otama	2.76	289	P	Pn	15 45 17.4	+1.8
JFT				S	Sn	15 45 49.9	+2.2
BSO1	Boso 1	2.93	228	P	Pn	15 45 17.8	+0.4
BSO1				*e*S	Sn	15 45 52.4	+1.4
JMK	Ichinoseki	2.98	321	P	Pn	15 45 19.3	+0.8
JMK				S	Sn	15 45 52.9	-0.1
JAG	Ashikaga	3.35	267	P	Pn	15 45 25.3	+1.6
JAG				S	Sn	15 46 02.9	+0.6
JOM	Ohasama	3.36	328	P	Pn	15 45 24.9	+1.1
JOM				S	Sn	15 46 01.9	-0.5
JRY	Ryogami san	3.85	262	P	Pn	15 45 31.7	+1.1
JRY				*e*S	Sn	15 46 14.3	-0.3
JOD2	Odawara 2	3.92	251	P	Pn	15 45 33.1	+1.6
JOD2				*e*S	Sn	15 46 16.7	+0.4
JOSM	Okushiri--Mats	6.30	331	S	Sn	15 47 12.5	-2.1

*CSEM **19** 15:54:53.9±0.4, 39°.16N×41°.30E, h19km±3km, MD2.7, Error ellipse: s-maj=9.6km s-min=6.5km az=1.0*
*ISK **19** 15:54:54.8, 39°.27N×41°.39E, h15km, MD2.4*
*ISCJB **19** 15:54:55.6±0.7, 39°.25N±0°.04×41°.39E±0°.05, h17km±9km, Error ellipse: s-maj=7.4km s-min=6.3km az=32.6*
*DDA **19** 15:54:55.6, 39°.26N×41°.36E, h7km, Md2.7*
ISC 19 15:54:54.6±1.0, 39°.25N±0°.03×41°.25E±0°.03, h10km±9km, n17, σ1°06/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.18	119	*e*PG	Pg	15 54 58.6	-0.1
VRTB	Varto-Mus	0.18	119	*i* P	Pg	15 54 58.3	-0.3
VRTB				*i* S	Sg	15 55 01.5	+0.1
VRTB	Varto-Mus	0.18	119	P	Pg	15 54 58.3	-0.3
VRTB	Varto-Mus	0.18	119	*e*Pg	Pg	15 54 58.6	-0.1
VRTB				S	Sg	15 55 01.5	+0.1
BNGL	BINGOL	0.31	194	*i* P	Pb	15 55 02.9	+0.5
BNGL				*i* S	Sb	15 55 09.4	+1.8
ECAT	Cat-ERZURUM	0.41	329	*i* P	Pb	15 55 04.5	+0.2
ECAT				*i* S	Sb	15 55 12.0	+1.4
ECAT	Cat-ERZURUM	0.41	329	P	Pb	15 55 04.4	+0.2
ECAT				S	Sb	15 55 12.0	+1.4
BNGB	Bing^¶l	0.51	240	*e*PG	Pb	15 55 07.2	+1.4
BNGB				*e*SG	Sn	15 55 16.5	-0.6
YEDI	Yedisu-Bingol	0.58	289	*e*PG	Pb	15 55 08.5	+1.5
YEDI	Yedisu-Bingol	0.58	289	*e*Pg	Pb	15 55 08.5	+1.5
EKAR	Karacoban	0.63	89	*i* P	Pg	15 55 06.9	0.0
EKAR				*i* S	Sb	15 55 19.0	+2.0
EKAR	Karacoban	0.63	89	P	Pg	15 55 06.9	0.0
ERZM	Erzurum	0.66	8	*i* P	Pg	15 55 07.6	+0.1
ERZM				*i* S	Sb	15 55 18.0	+0.2
ERZM	Erzurum	0.66	8	P	Pg	15 55 07.6	+0.1
ERZM				S	Sb	15 55 18.0	+0.2
BINT	Bingol	0.70	238	*e*Pg	Pg	15 55 07.2	-1.0
BINT				*e*Sg	Sg	15 55 16.5	-0.9
AGRB	Hanur-Agry	1.39	76	*e*PN	Pn	15 55 18.6	-1.7
AGRB	Hanur-Agry	1.39	76	*e*Pn	Pn	15 55 18.6	-1.7

*ISCJB **19** 16:27:35.9±0.6, 13°.25N±0°.09×144°.04E±0°.09, h100km, mb3.8/10, Error ellipse: s-maj=13.3km s-min=10.8km az=140.9*
*IDC **19** 16:27:37.2±0.9, 13°.27N×144°.17E, h100km±13km, mb3.6/10, mb1 3.7/10, mb1mx3.5/45, mbtmp3.9/10, MS3.2/4, Ms1 3.2/4, ms1mx2.8/29, Error ellipse: s-maj=30.0km s-min=13.5km az=85.0*
ISC 19 16:27:37.6±0.8, 13°.3N±0°.1×144°.1E±0°.1, h100km, n21, σ1°14/15, mb3.9/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.81	67	P	Pn	16 27 56.0	-0.1
GUMO	188nm,0.3s,baz=118,slow=6.0,SNR=732						
				S	Sn	16 28 09.6	-0.4
	273nm,0.3s,baz=1.5,slow=23,SNR=11						
H11S3	WAKE ISLAND Hy	22.33	74	T	T	16 55 03.0	
	baz=253,slow=75						
H11S1	WAKE ISLAND Hy	22.35	74	T	T	16 55 04.8	
	baz=253,slow=75						
H11S2	WAKE ISLAND Hy	22.35	74	T	T	16 55 04.2	
	baz=253,slow=75						
H11N1	WAKE ISLAND Hy	22.76	71	T	T	16 55 35.7	
	baz=254,slow=75						
H11N2	WAKE ISLAND Hy	22.77	71	T	T	16 55 36.4	
	baz=254						
H11N3	WAKE ISLAND Hy	22.78	71	T	T	16 55 37.0	
	baz=254,slow=75						
JNU	Nakatsue	23.15	331	P	P	16 32 35.8	+0.4
	9.6nm,1.0s,baz=113,slow=8.2,SNR=4.3						
MJAR	Matsushiro Arr	23.77	348	P	P	16 32 39.9	-1.1
	2.1nm,0.9s,baz=160,slow=6.6,SNR=4.3						
KSRS	Korea Array	28.08	332	P	P	16 33 19.4	-0.4
	0.8nm,0.7s,baz=142,slow=9.5,SNR=5.3						
KSRS				LR	LR	16 43 25.7	
	comp=Z,26nm,19.1s,baz=210,slow=34						
ASAJ	Asahikawa	30.77	358	P	P	16 33 43.3	-0.2
	1.3nm,0.6s,baz=167,slow=18,SNR=2.8						
WRA	Warramunga Arr	34.37	196	P	P	16 34 14.8	-0.4
	1.4nm,0.8s,baz=19,slow=9.6,SNR=11						
WRA				PcP	PcP	16 36 48.1	-0.9
	0.9nm,0.7s,baz=11,slow=3.2,SNR=7.0						
FITZ	Fitzroy Crossi	36.10	211	P	P	16 34 29.5	-0.5
	0.8nm,0.5s,baz=25,slow=22,SNR=5.4						
ASAR	Alice Springs	38.04	195	P	P	16 34 46.2	-0.3
	0.5nm,0.5s,baz=19,slow=13,SNR=9.7						
ASAR				PcP	PcP	16 36 59.2	-0.8
	0.5nm,0.9s,baz=28,slow=2.9,SNR=4.3						
PETK	Petropavlovsk-	41.19	12	LR	LR	16 52 41.9	
	comp=Z,26nm,18.8s,baz=117,slow=36						
CMAR	Chiang Mai Arr	43.65	283	P	P	16 35 33.4	+0.7
	1.0nm,0.5s,baz=85,slow=6.1,SNR=9.3						
SONM	Songino Array	46.56	325	P	P	16 35 55.1	-0.3
	0.7nm,0.5s,baz=148,slow=9.2,SNR=5.1						
AFI	Afiamalu	51.38	120	LR	LR	16 55 29.9	
	comp=Z,37nm,19.4s,baz=225,slow=33						
MKAR	Makanchi Array	61.20	316	P	P	16 37 41.5	-0.4
	1.0nm,0.5s,baz=92,slow=8.5,SNR=11						
PPT	Papeete	72.27	113	LR	LR	17 06 44.7	
	comp=Z,26nm,19.7s,baz=215,slow=32						
LPAZ	La Paz	148.71	100	PKPbc	PKPdf	16 47 14.5	+3.4
	0.9nm,0.5s,baz=333,slow=2.6,SNR=5.2						

*IDC **19** 16:43:04.4±1.4, 5°.70S×151°.38E, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.8/39, mbtmp4.1/6, ML1.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=73.4km s-min=21.6km az=126.0*
*ISCJB **19** 16:43:07.8±1.2, 5°.7S±0°.3×151°.4E±0°.3, h35km, mb3.9/6, MS3.2/3, Error ellipse: s-maj=51.8km s-min=13.2km az=135.3*
*NEIC **19** 16:43:09.6±1.0, 5°.72S×151°.38E, h35km, mb4.1/1, Error ellipse: s-maj=48.3km s-min=14.5km az=127.0*
ISC 19 16:43:09.6±1.3, 5°.7S±0°.3×151°.5E±0°.3, h35km, n12, σ0°85/12, mb3.9/6, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.61	229	Pn	Pn	16 44 30.7	+0.1
PMG	1.6nm,0.3s,baz=57,slow=15,S

ACHE	Chepes	6.96	26	eP	Pn	17 04 42.0	+2.2
AVFE	Valle Fertil	7.18	19	eP	Pn	17 04 43.8	+0.9
AVFE				IAML		17 04 47.4	
	comp=Z,14nm,0.2s						
AVFE				eS	Sn	17 06 02.6	-0.7
APLL	PUNTA DE LOS L	7.70	24	eP	Pn	17 04 50.8	+0.8
AGUA	GUANDACOL	8.11	10	eP	Pn	17 04 56.4	+0.7
AGUA				eS	Sn	17 06 21.1	-5.1
ACLC	CERRO LA CRUZ	8.49	19	eP	Pn	17 05 00.5	-0.4
ACLC				eS	Sn	17 06 31.2	-4.3
VCA	Vinchina	8.89	11	eP	Pn	17 05 06.2	-0.2
VCA				IAML		17 05 07.5	
	comp=Z,18nm,0.3s						

IDC 19 17:11:16.7±2.4, 36°.02S×80°.56E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/37, mbtmp3.8/5, MS3.8/8, Ms1 3.8/8, ms1mx3.4/28, Error ellipse: s-maj=57.6km s-min=34.0km az=88.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	29.19	343	T	T	17 48 28.1	
	baz=171,slow=76,SNR=289						
H08S1	Diego Carcia H	29.19	343	T	T	17 48 28.1	
	baz=171,slow=76,SNR=289						
H08S3	Diego Garcia H	29.21	343	T	T	17 48 34.3	
	baz=171,slow=76,SNR=319						
NWAO	Narrogin (SRO)	30.28	95	LR	LR	17 27 21.2	
	comp=Z,208nm,20.3s,baz=56,slow=32						
ASAR	Alice Springs	47.35	90	P	P	17 19 52.9	+0.2
	1.7nm,0.9s,baz=232,slow=7.3,SNR=9.8						
ASAR				LR	LR	17 38 04.1	
	comp=Z,106nm,19.1s,baz=234,slow=34						
WRA	Warramunga Arr	49.52	86	P	P	17 20 09.2	-0.2
	1.2nm,0.8s,baz=242,slow=6.5,SNR=3.3						
STKA	Stephens Creek	50.08	104	P	P	17 20 13.0	-0.5
	3.0nm,0.8s,baz=205,slow=6.8,SNR=5.8						
STKA				LR	LR	17 38 57.6	
	comp=Z,73nm,18.2s,baz=211,slow=33						
VNDA	Vanda	53.27	164	P	P	17 20 36.7	0.0
	0.3nm,0.4s,baz=280,slow=5.9,SNR=4.5						
VNDA				LR	LR	17 39 36.7	
	comp=Z,80nm,18.7s,baz=267,slow=32						
CMAR	Chiang Mai Arr	56.91	21	P	P	17 21 03.5	-0.1
	0.2nm,0.6s,baz=198,slow=5.7,SNR=3.2						
CMAR				LR	LR	17 41 50.7	
	comp=Z,52nm,19.0s,baz=238,slow=32						
PMG	Port Moresby	65.62	84	LR	LR	17 49 39.6	
	comp=Z,66nm,18.1s,baz=243,slow=35						
AAK	Ala-Archa	78.47	355	LR	LR	17 54 23.5	
	comp=Z,58nm,18.9s,baz=130,slow=33						
DBIC	Dimbokro	90.18	278	LR	LR	17 57 05.0	
	comp=Z,30nm,21.5s,baz=135,slow=30						

*VIE **19** 17:12:34.5±0.2, 47°.22N×14°.48E, h8km, mb1.6/5, ML2.3/13, Error ellipse: s-maj=1.8km s-min=1.3km az=179.0*
*CSEM **19** 17:12:34.5±0.1, 47°.25N×14°.49E, h2km, ML2.8/15, Error ellipse: s-maj=2.4km s-min=2.1km az=110.0*
*BGR **19** 17:12:35.5±0.3, 47°.23N×14°.54E, h10km, ML1.9/7, Error ellipse: s-maj=5.6km s-min=4.4km az=44.0*
*PRU **19** 17:12:35.7, 47°.25N×14°.49E, h0km*
*ROM **19** 17:12:37.6±0.6, 47°.07N×14°.47E, h10km, Md2.4/4, Ml2.1/3, Error ellipse: s-maj=6.8km s-min=4.8km az=118.0*

ISC 19 17:12:35.0±1.1, 47°.18N±0°.02×14°.49E±0°.02, h2km±10km, n47, σ1§14/85, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	Soboth	0.62	143	Pg	Pg	17 12 47.7	+0.8
	2.5nm,0.1s						
SOKA				Sg	Sb	17 12 56.7	-1.1
	8.2nm,0.1s						
OBKA	Obir	0.67	177	ePg	Pb	17 12 49.2	-0.3
OBKA				eSg	Sb	17 12 58.5	-0.7
OBKA	Obir	0.67	177	Pg	Pb	17 12 49.1	-0.3
	5.2nm,0.1s						
OBKA				Sg	Sb	17 12 58.5	-0.7
MOA	Molln	0.69	347	ePg	Pg	17 12 47.1	-1.1
MOA				eSg	Sg	17 12 56.8	-0.3
MOA	Molln	0.69	347	Pg	Pg	17 12 47.0	-1.2
	2.7nm,0.1s						
MOA				Sg	Sg	17 12 55.9	-1.2
	6.4nm,0.1s						
PERS	Pernice	0.69	142	i Pg	Pg	17 12 48.9	+0.7
PERS				i Sg	Sg	17 12 58.1	+1.0
	comp=Z,24nm,0.2s						
PERS	Pernice	0.69	142	i Pg	Pg	17 12 48.9	+0.7
PERS				i Sg	Sg	17 12 58.1	+1.0
	comp=Z,24nm,0.2s						
ARSA	Arzberg	0.70	84	ePg	Pg	17 12 48.4	-0.1
ARSA				eSg	Sg	17 12 57.6	0.0
ARSA	Arzberg	0.70	84	Pg	Pg	17 12 48.4	-0.1
	comp=Z,1.1nm,0.1s						
ARSA				Sg	Sg	17 12 57.7	+0.1
	comp=Z,3.3nm,0.1s						
KBA	Koelnbreinsper	0.79	263	ePg	Pg	17 12 49.8	-0.3
KBA				eSg	Sg	17 12 59.9	-0.5
KBA	Koelnbreinsper	0.79	263	Pg	Pg	17 12 49.8	-0.3
KBA				Sg	Sg	17 12 59.9	-0.5
MYKA	Terra Mystica	0.80	227	Pg	Pg	17 12 50.7	+0.4
	comp=Z,0.2nm,0.0s						
MYKA				Sg	Sg	17 13 01.3	+0.6
	comp=Z,12nm,0.1s						
MOZS	Mozjanca	0.89	182	i Pg	Pb	17 12 52.9	-0.2
MOZS				i Sg	Sb	17 13 05.2	-0.2
	comp=Z,3.0nm,0.1s						
MOZS	Mozjanca	0.89	182	i Pg	Pb	17 12 52.9	-0.2
MOZS				i Sg	Sb	17 13 05.2	-0.2
	comp=Z,3.0nm,0.1s						
ACOM	Acomizza, Ital	0.92	227	Pg	Pn	17 12 54.0	-1.1
ACOM				Sg	Sg	17 13 04.9	+0.3
	comp=Z,47nm,0.3s						
ACOM	Acomizza, Ital	0.92	227	Pg	Pn	17 12 54.0	-1.1
ACOM				Sg	Sg	17 13 04.9	+0.3
	comp=Z,47nm,0.3s						
PTCC	Patocco-Chiusa	1.10	226	Pg	Pb	17 12 56.3	-0.5
PTCC				Sg	Sb	17 13 10.7	-0.9
	comp=Z,20nm,0.3s						
PTCC	Patocco-Chiusa	1.10	226	Pg	Pb	17 12 56.3	-0.5
PTCC				Sg	Sb	17 13 10.7	-0.9
	comp=Z,20nm,0.3s						
CONA	Conrad Observa	1.19	51	Pg	Pb	17 12 57.7	-0.6
	comp=Z,2.0nm,0.2s						
CONA				Sg	Sg	17 13 14.1	+0.8
	comp=Z,5.9nm,0.2s						
RJOB	Jochberg	1.28	296	ePn	Pg	17 12 59.9	+0.4
RJOB				ePg	Pg	17 13 02.0	+2.5
RJOB				eSg	Sn	17 13 19.0	+1.3
RJOB	Jochberg	1.28	296	Pn	Pg	17 12 59.9	+0.4
RJOB	Jochberg	1.28	296	Pg	Pg	17 13 02.0	+2.5
RJOB				Sg	Sn	17 13 19.0	+1.3
FVI	Forni Avoltri	1.31	244	Pg	Pb	17 12 59.9	-0.5
FVI				Sg	Sg	17 13 17.2	+0.1
FVI	Forni Avoltri	1.31	244	Pg	Pb	17 12 59.9	-0.5
FVI				Sg	Sg	17 13 17.2	+0.1
ABTA	Abfaltersbach	1.43	253	Pg	Pg	17 13 02.0	-0.3
	comp=Z,0.3nm,0.1s						
ABTA				Sg	Sg	17 13 21.3	+0.6
	comp=Z,4.0nm,0.2s						
RISI	Rein	1.67	263	Pg	Pg	17 13 06.9	0.0
RISI				Sg	Sg	17 13 28.8	+0.3
	comp=Z,43nm,0.5s						
RISI	Rein	1.67	263	Pg	Pg	17 13 06.9	0.0
RISI				Sg	Sg	17 13 28.8	+0.3
	comp=Z,43nm,0.5s						
GEC2	GERESS Array S	1.75	343	ePg	Pn	17 13 06.4	0.0
GEC2				eSg	Sn	17 13 28.7	-0.6
GEC2	GERESS Array S	1.75	343	Pg	Pn	17 13 06.4	0.0
GEC2				Sg	Sn	17 13 28.7	-0.6
WTTA	Wattenberg	1.95	274	ePG	Pg	17 13 12.2	-0.1
WTTA	Wattenberg	1.95	274	ePg	Pg	17 13 12.2	-0.1
WTTA				eSg	Sg	17 13 39.4	+1.8
WTTA	Wattenberg	1.95	274	Pg	Pg	17 13 12.2	-0.1
WTTA				Sg	Sg	17 13 39.4	+1.8
	comp=Z,8.3nm,0.4s						
WATA	Walderalm	1.99	276	Pg	Pg	17 13 13.4	+0.2
	comp=Z,1.3nm,0.2s						
KHC	Kasperske Hory	2.05	343	ePG	Pn	17 13 10.4	-0.1
KHC				eSG	Sb	17 13 36.8	-2.0
	comp=Z,7.9nm,0.3s						
KHC	Kasperske Hory	2.05	343	Pg	Pn	17 13 10.4	-0.1
KHC				Sg	Sb	17 13 36.8	-2.0
	comp=Z,7.9nm,0.3s						
SQTA	Sankt Quirin	2.24	272	Pg	Pg	17 13 17.4	-0.5
WET	Wettzell	2.24	332	eSg	Sb	17 13 45.2	+0.8
WET	Wettzell	2.24	332	Sg	Sb	17 13 45.2	+0.8
MOTA	Moosalm	2.31	275	Pg	Pg	17 13 19.5	+0.2
	comp=Z,0.5nm,0.1s						
MOTA				Sg	Sg	17 13 50.5	+1.2
	comp=Z,2.5nm,0.3s						
PRU	Pruhonice	2.81	1	ePG	Pb	17 13 27.0	+1.1
PRU				eSG	Sb	17 14 02.7	+2.0
PRU	Pruhonice	2.81	1	Pg	Pb	17 13 27.0	+1.1
PRU				Sg	Sb	17 14 02.7	+2.0
NKC	Novy Kostel	3.34	337	eSG	Sg	17 14 20.1	-2.2
	comp=Z,5.4nm,0.3s						
NKC	Novy Kostel	3.34	337	Sg	Sg	17 14 20.1	-2.2
	comp=Z,5.4nm,0.3s						
DPC	Dobruska-Polom	3.40	20	ePG	Pb	17 13 37.4	+1.5
DPC				eSG	Sg	17 14 20.9	-3.1
DPC	Dobruska-Polom	3.40	20	Pg	Pb	17 13 37.4	+1.5
DPC				Sg	Sg	17 14 20.9	-3.1
UPC	Upice	3.48	16	eSG	Sb	17 14 22.1	+2.2
UPC	Upice	3.48	16	Sg	Sb	17 14 22.1	+2.2

*NIED **19** 17:13:00, 39°.60N×143°.70E, h14km, Mw4.3 Best double couple: M0=2.69000×10^15 NP1:φ=354.00000°, δ=39.00000°, λ=-109.00000°. NP2:φ=198.00000°, δ=53.00000°, λ=-75.00000°.*
*JMA **19** 17:13:31.0±0.2, 39°.59N×143°.68E, h27km, M4.4*
*ISCJB **19** 17:13:32.1±1.2, 39°.66N±0°.03×143°.50E±0°.03, h15km±7km, mb4.5/79, MS3.6/12, Error ellipse: s-maj=5.4km s-min=3.8km az=148.1*
*BJI **19** 17:13:33.5, 39°.61N×143°.59E, h35km, mb4.4/29, mB4.8/17, Ms4.4/9, Ms7 4.2/8*
*MOS **19** 17:13:34.6±1.1, 39°.75N×143°.50E, h33km, mb4.6/40, Error ellipse: s-maj=8.6km s-min=6.2km az=84.0*
*IDC **19** 17:13:34.8±0.6, 39°.55N×143°.56E, h28km±3km, mb4.1/29, mb1 4.2/32, mb1mx4.2/50, mbtmp4.3/32, ML4.2/3, MS3.4/11, Ms1 3.4/11, ms1mx3.1/54, Error ellipse: s-maj=13.7km s-min=11.3km az=131.0*
*NEIC **19** 17:13:37.9±0.6, 39°.56N×143°.46E, h51km±5km, mb4.5/38, Error ellipse: s-maj=5.9km s-min=4.1km az=144.0*

ISC 19 17:13:34.5±0.5, 39°.62N±0°.05×143°.68E±0°.05, h26km±3km, h26km:pP-P, n197, σ1§61/211, mb4.5/79, MS3.6/12, 7C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.43	284	P	Pn	17 13 55.7	-3.1
MIYJ	Miyakonagasawa	1.44	269	P	Pn	17 13 55.9	-2.9
OFUJ	Ofunato	1.65	252	P	Pn	17 13 58.8	-2.9
JANG	Nango	1.82	295	P	Pn	17 14 01.1	-3.1
JOM	Ohasama	1.85	266	P	Pn	17 14 02.2	-2.3
JOM				eS	Sn	17 14 24.5	-2.6
JMK	Ichinoseki	2.02	252	P	Pn	17 14 04.4	-2.5
JIO	Ouri	2.15	238	P	Pn	17 14 05.9	-2.8
JTM	Tenmabayashi	2.31	301	P	Pn	17 14 09.0	-1.9
JYK	Kaneyama	2.67	256	P	Pn	17 14 14.3	-1.5
JOT	Ohata	2.67	312	P	Pn	17 14 13.8	-2.0
JNBK	Urakawa-nobuka	2.75	346	P	Pn	17 14 16.1	-0.9
JNBK				eS	Sn	17 14 48.3	-1.1
JCH	Churui	3.01	356	P	Pn	17 14 18.4	-2.0
JCH				eS	Sn	17 14 52.4	-3.2
JKB	Kayabe	3.03	319	P	Pn	17 14 19.8	-1.0
JFT	Otama	3.35	232	P	Pn	17 14 22.9	-2.3
ASAJ	Asahikawa	4.57	350	Pn	Pn	17 14 41.8	-0.1
	7.7nm,0.3s,baz=198,slow=15,SNR=50						
ASAJ				Sn	Sn	17 15 39.6	+5.4
	3.6nm,0.3s,baz=112,slow=28,SNR=4.2						
ASAJ	Asahikawa	4.57	350	ePn	Pn	17 14 43.2	+1.3
ASAJ				Sn	Sn	17 15 39.6	+5.4
YUK	Yuzh-Kuril'sk	4.71	20	‖ i P	Pn	17 14 42.2	-1.6
YUK				i S	Sn	17 15 33.7	-3.9
YUK				pmax	pmax		
	comp=Z,379nm,0.3s						
YUK				pmax	pmax		
	comp=Z,226nm,0.4s						
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				smax	smax		
	comp=N,351nm,0.3s						
YUK				smax	smax		
	comp=E,865nm,0.5s						
SHO	Shikotan	4.86	28	i P	Pn	17 14 43.6	-2.3
SHO				i S	Sn	17 15 36.1	-5.3
SHO				pmax	pmax		
	comp=Z,84nm,0.6s						
SHO				pmax	pmax		
	comp=E,54nm,0.5s						
SHO				pmax	pmax		
	comp=N,47nm,0.6s						
SHO				smax	smax		
	comp=E,488nm,0.6s						
SHO				smax	smax		
	comp=N,444nm,0.3s						
MJA0	Matsu Arr-Jizo	5.27	236	eP	Pn	17 14 51.4	-0.2
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	Matsushiro Arr	5.29	236	Pn	Pn	17 14 51.4	-0.5
	comp=Z,3.6nm,0.3s,baz=41,slow=12,SNR=127						
MJAR				Sn	Sn	17 15 58.1	+6.0
	baz=125,slow=11,SNR=2.7						
MJAR				LR	LR	17 16 40.8	
	comp=Z,112nm,19.6s,baz=50,slow=36						
MAJO	Matsushiro	5.29	236	c i P	Pn	17 14 51.7	-0.2
MAJO	Matsushiro	5.29	236	ePn	Pn	17 14 51.5	-0.5
MAT	Matsushiro	5.29	236	P	Pn	17 14 51.5	-0.4
MAT				eS	Sn	17 15 52.4	+0.3
MJB9	Matsu-Tunnel	5.29	236	ePn	Pn	17 14 51.8	-0.1
KUR	Kuril'sk	6.41	28	eP	Pn	17 15 06.8	-0.4
KUR				eS	Sn	17 16 15.3	-4.2
KUR				pmax	pmax		
	comp=Z,62nm,0.4s						
KUR				pmax	pmax		
	comp=N,62nm,0.3s						
KUR				pmax	pmax		
	comp=E,27nm,0.2s						
KUR				smax	smax		
	comp=N,173nm,0.5s						
KUR				smax	smax		
	comp=E,129nm,0.5s						
INU	Inuyama	6.79	233	ePn	Pn	17 15 11.3	-1.2
JHJ	Hachijo jima 2	7.20	207	Pn	Pn	17 15 18.5	+0.4
	comp=E,44nm,0.3s,baz=237,slow=20,SNR=2.3						
USRK	Ussuriysk Ar.	9.84	302	Pn	Pn	17 15 56.1	+1.8
	comp=E,0.4nm,0.3s,baz=104,slow=13,SNR=9.8						
USRK				LR	LR	17 19 42.1	
	comp=E,238nm,18.5s,baz=174,slow=38						
HABR	Khabarovsk	10.81	328	eP	Pn	17 16 06.9	-0.5
HABR				eS	Sn	17 18 08.4	+0.9
HABR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HABR				pmax	pmax		
	comp=E,5.0nm,0.5s						
HABR				pmax	pmax		
	comp=N,6.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HABR				pmax	pmax		
	comp=N,11nm,0.9s						
HABR				MLR	MLR		
	comp=Z,387nm,16.0s						
MDJ	Mudanjiang	11.59	300	P	Pn	17 16 23.0	+4.8
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,83nm,5.5s						
MDJ	Mudanjiang	11.59	300	P	Pn	17 16 22.9	+4.7
MDJ				S	Sn	17 18 25.0	-1.7
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,83nm,5.4s						
MDJ				LR	LR		
	comp=Z,350nm,12.2s						
MDJ				LR	LR		
	comp=Z,420nm,14.7s						
MDJ				LR	LR		
	comp=Z,500nm,14.1s						
MDJ	Mudanjiang	11.59	300	ePn	Pn	17 16 19.8	+1.6
JNU	Nakatsue	12.18	242	Pn	Pn	17 16 28.2	+1.9
	comp=Z,0.2nm,0.3s,baz=189,slow=21,SNR=2.8						
KSRS	Korea Array	12.52	265	Pn	Pn	17 16 33.1	+2.2
	comp=Z,0.1nm,0.3s,baz=86,slow=13,SNR=9.6						
KSRS				LR	LR	17 20 53.3	
	comp=Z,154nm,18.7s,baz=44,slow=35						
KS15	Wonju Array Si	12.56	265	ePn	Pn	17 16 33.1	+1.7
KSAR	Wonju Array Be	12.56	265	P	Pn	17 16 33.2	+1.7
KSAR	Wonju Array Be	12.56	265	Pn	Pn	17 16 33.1	+1.7
PETK	Petropavlovsk-	16.56	31	Pn	P	17 17 28.7	+1.5
	comp=Z,0.3nm,0.3s,baz=357,slow=8.9,SNR=4.0						
PEA1	Petropavlovsk-	16.57	31	ePn	P	17 17 28.7	+1.4
MA2	Magadan	20.48	10	P	P	17 18 10.7	+0.6
	comp=Z,22nm,0.8s,baz=188,slow=9.3,SNR=7.9						
MA2	Magadan	20.48	10	⇑ i P	Pn	17 18 11.1	-1.3
MA2				i *PP	sP	17 18 19.2	-1.2
TIA	Tai'an	21.20	269	eP	P	17 18 16.8	-1.3
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY	Seymchan	23.93	10	P	P	17 18 46.6	+0.4
	comp=Z,12nm,1.0s,baz=196,slow=8.2,SNR=7.4						
SEY	Seymchan	23.93	10	⇑ i P	P	17 18 48.2	+2.1
SEY				i *PP	sP	17 18 56.6	-0.2
YAK	Yakutsk	24.02	344	P	P	17 18 45.6	-1.3
	comp=Z,8.3nm,0.5s,baz=10,slow=1.6,SNR=4.1						
YAK	Yakutsk	24.02	344	eP	P	17 18 45.7	-1.2
YAK				pmax	pmax		
	comp=Z,20nm,1.1s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.6s						
GUMO	Guam	25.95	177	LR	LR	17 27 50.2	
	comp=N,24nm,21.8s,baz=40,slow=33						
BOD	Bodaibo	26.41	323	eP	P	17 19 07.2	-1.5
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	Ulaanbaatar	27.50	300	⇑ i P	P	17 19 18.8	-0.1
ULN				i *PP	pP	17 19 27.0	+0.6
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONA1	Songino Array	27.94	299	eP	P	17 19 22.2	-0.5
SONA0	Songino Array	27.95	299	eP	P	17 19 22.1	-0.7
SONM	Songino Array	27.95	299	P	P	17 19 22.1	-0.7
	comp=Z,2.0nm,0.7s,baz=91,slow=8.7,SNR=10						
SONM				LR	LR	17 30 45.2	
	comp=Z,150nm,18.4s,baz=76,slow=37						
SONM	Songino Array	27.95	299	eP	P	17 19 21.6	-1.2
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
H11N2	WAKE ISLAND Hy	28.14	128	T	T	17 50 27.7	
	baz=318,slow=75,SNR=84						
H11N1	WAKE ISLAND Hy	28.14	128	T	T	17 50 27.2	
	baz=318,slow=75,SNR=55						
H11N3	WAKE ISLAND Hy	28.15	128	T	T	17 50 27.9	
	baz=318,slow=75,SNR=60						
XAN	Xi'an	28.25	270	P	P	17 19 25.1	-0.5
XAN				pP	sP	17 19 36.4	+0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.9s						
XAN				pmax	pmax		
	comp=Z,72nm,3.9s						
XAN				LR	LR		
	comp=Z,340nm,10.3s						
XAN				LR	LR		
	comp=Z,210nm,11.9s						
XAN				LR	LR		
	comp=Z,340nm,10.3s						
ENH	Enshi	29.39	262	eP	P	17 19 34.2	-1.5
	comp=Z,8.8nm,0.8s						
TLY	Talaya	30.09	307	P	P	17 19 42.8	+1.1
	comp=Z,1.0nm,0.4s,baz=42,slow=13,SNR=2.8						
BILL	Bilibino	31.05	16	eP	P	17 19 47.2	-2.7
BILL				i		17 19 57.3	
BILL				i		17 20 51.5	
BILL				i		17 22 50.6	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,79nm,16.0s						
LZH	Lanzhou	31.47	276	eP	P	17 19 56.3	+2.1
LZH				pP	sP	17 20 08.1	+3.2
LZH				sP	pP	17 20 13.0	+11
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
TIXI	Tiksi	32.97	351	P	P	17 20 05.7	-1.0
	comp=Z,1.3nm,0.4s,baz=109,slow=2.2,SNR=4.0						
TIXI	Tiksi	32.97	351	‖ i P	P	17 20 06.8	+0.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
GTA	Gaotai	33.59	284	eP	P	17 20 11.4	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,82nm,4.0s						
GTA				LR	LR		
	comp=Z,110nm,16.9s						
GTA				LR	LR		
	comp=Z,310nm,15.7s						
GTA				LR	LR		
	comp=Z,310nm,15.9s						
ZAA0	Zalesovo Array	41.55	310	eP	P	17 21 19.2	-0.4
ZAA1	Zalesovo Array	41.55	310	eP	P	17 21 19.1	-0.5
ZAA1				ePcP	PcP	17 23 16.6	+0.1
ZALV	Zalesovo Beam	41.55	310	P	P	17 21 19.1	-0.5
	comp=Z,2.7nm,0.5s,baz=96,slow=8.0,SNR=12						
ZALV				PcP	PcP	17 23 16.6	+0.1
	comp=Z,2.4nm,0.6s,baz=95,slow=2.8,SNR=5.6						
ZALV				LR	LR	17 38 06.2	
	comp=Z,21nm,19.2s,baz=68,slow=35						
ZALV	Zalesovo Beam	41.55	310	eP	P	17 21 18.7	-0.9
ZALV				ePcP	PcP	17 23 16.6	+0.1
IMAR	Indian Mountai	43.53	32	eP	P	17 21 36.4	+0.9
CM31	Chiang Mai Arr	43.89	255	eP	P	17 21 38.6	-0.4
CMAR	Chiang Mai Arr	43.89	255	P	P	17 21 38.6	-0.4
	comp=Z,1.2nm,0.5s,baz=44,slow=7.1,SNR=16						
CM01	Chiang Mai Arr	43.90	254	eP	P	17 21 38.3	-0.8
KDAK	Kodiak Island	44.00	44	P	P	17 21 39.0	-0.4
	comp=Z,10nm,1.1s,baz=9.4,slow=12,SNR=3.3						
KDAK	Kodiak Island	44.00	44	P	P	17 21 39.0	-0.4
KDAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MK01	Makanchi Array	44.30	300	eP	P	17 21 41.6	-0.5
MK31	Makanchi Array	44.31	300	eP	P	17 21 41.7	-0.4
MK31	Makanchi Array	44.31	300	eP	P	17 21 41.7	-0.4
MK32	Makanchi Array	44.31	300	eP	P	17 21 41.6	-0.5
MKAR	Makanchi Array	44.31	300	P	P	17 21 41.6	-0.4
	comp=Z,2.9nm,0.7s,baz=83,slow=9.2,SNR=23						
MKAR	Makanchi Array	44.31	300	eP	P	17 21 41.7	-0.4
MKAR				pmax	pmax		
	comp=Z,36nm,0.6s						
MKAR	Makanchi Array	44.31	300	eP	P	17 21 41.7	-0.4
	comp=Z,36nm,0.6s						
MAKZ	Makanchi	44.51	300	eP	P	17 21 43.4	-0.3
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	Makanchi	44.51	300	eP	P	17 21 43.4	-0.3
	comp=Z,6.0nm,0.9s						
MLY	Manley	44.72	33	eP	P	17 21 47.0	+1.8
	comp=Z,9.2nm,1.3s						
KURK	Kurchatov	45.79	306	⇑ i P	P	17 21 53.1	-0.6
KURK				pmax	pmax		
	comp=Z,39nm,1.2s						
KURK	Kurchatov	45.79	306	eP	P	17 21 53.3	-0.5
	comp=Z,11nm,0.8s						
COLA	College	45.95	34	eP	P

BRVK	Borovoye	50.24	311	⇑ *i* P	P	17 22 28.1	0.0
BRVK				pmax	pmax		
comp=Z,7.0nm,0.6s							
BRVK	Borovoye	50.24	311	*e*P	P	17 22 28.2	0.0
KOLN	Koldanda	50.52	276	*e*P	P	17 22 30.7	-0.2
PYUN	Piuthan	50.83	276	*e*P	P	17 22 33.2	0.0
AAK	Ala-Archa	50.86	297	⇓ *i* P	P	17 22 30.2	-3.0
AAK				pmax	pmax		
comp=Z,7.0nm,1.2s							
HYT	Haines Junctio	51.17	38	*e*P	P	17 22 37.8	+2.6
comp=Z,15nm,1.0s							
INK	Inuvik	51.28	28	P	P	17 22 37.1	+1.3
comp=Z,2.1nm,0.5s,baz=282,slow=6.2,SNR=5.3							
KKAR	Karatay Array	53.40	299	*e*P	P	17 22 51.1	-0.8
KKAR				pmax	pmax		
comp=Z,19nm,0.7s							
KKAR	Karatay Array	53.40	299	*e*P	P	17 22 51.1	-0.8
comp=Z,19nm,0.7s							
SVE	Sverdlovsk	54.41	318	*e*P	P	17 22 59.6	+0.6
DLBC	Dease Lake	55.50	40	P	P	17 23 08.5	+1.5
comp=Z,0.9nm,0.2s,baz=328,slow=10,SNR=3.4							
ARU	Arti	55.62	318	LR	LR	17 49 41.4	
comp=Z,191nm,18.0s,baz=68,slow=39							
ARU	Arti	55.62	318	*d i* P	P	17 23 07.6	-0.2
ARU						17 25 10.6	
ARU				S	S	17 30 53.4	+1.4
ARU				SS	SS	17 34 37.7	+1.1
ARU				pmax	pmax		
comp=Z,12nm,1.2s							
ARU	Arti	55.62	318	*e*P	P	17 23 07.7	-0.2
comp=Z,7.7nm,0.9s							
ABKAR	Akbulak array	57.65	310	*e*P	P	17 23 22.1	-0.2
comp=Z,41nm,0.6s							
SPITS	Spitsbergen Ar	58.34	349	LR	LR	17 49 46.1	
comp=Z,38nm,18.5s,baz=335,slow=37							
FITZ	Fitzroy Crossi	59.84	200	LR	LR	17 49 40.6	
comp=Z,42nm,18.2s,slow=36							
WR1	Warramunga Arr	59.88	190	*e*P	P	17 23 36.3	-1.8
comp=Z,29nm,1.8s							
WRA	Warramunga Arr	59.88	190	P	P	17 23 36.3	-1.8
comp=Z,2.5nm,0.9s,baz=7.5,slow=7.0,SNR=12							
YKA	Yellowknife Ar	60.68	31	P	P	17 23 43.6	+0.5
comp=Z,0.9nm,0.7s,baz=294,slow=7.4,SNR=3.7							
ARA0	ARCESS Array S	62.21	339	*e*P	P	17 23 54.4	+1.1
ARCES	ARCESS Array B	62.21	339	P	P	17 23 54.4	+1.1
comp=Z,2.8nm,0.9s,baz=64,slow=4.2,SNR=3.0							
KLMR	Klimovskoe	62.53	328	*e*P	P	17 23 53.4	-2.2
KLMR				*e*		17 24 32.8	
KLMR				pmax	pmax		
comp=Z,19nm,1.5s							
AS01	Alice Springs	63.60	190	*e*P	P	17 24 01.8	-1.3
AS31	Alice Springs	63.61	190	*e*P	P	17 24 01.9	-1.2
comp=Z,5.2nm,1.9s							
ASAR	Alice Springs	63.61	190	P	P	17 24 01.9	-1.3
comp=Z,1.6nm,0.8s,baz=10,slow=6.1,SNR=11							
ASAR	Alice Springs	63.61	190	*e*P	P	17 24 00.8	-2.4
ASAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
GEYT	Alibeck	64.15	299	P	P	17 24 06.1	-0.7
comp=Z,1.6nm,0.7s,baz=16,slow=7.7,SNR=4.6							
C09A	Chrisman Ranch	66.66	47	*e*P	P	17 24 24.4	+1.5
comp=Z,7.6nm,0.8s							
NEW	Newport	67.05	46	P	P	17 24 26.4	+1.1
comp=Z,1.5nm,0.4s,baz=270,slow=10,SNR=3.7							
NEW	Newport	67.05	46	P	P	17 24 26.4	+1.1
NEW				pmax	pmax		
comp=Z,3.0nm,0.6s							
OBN	Obninsk	67.09	323	*e*P	P	17 24 30.5	+5.2
OBN				*i*		17 24 54.4	
OBN				pmax	pmax		
comp=Z,5.0nm,0.8s							
FIA0	FINESS Array S	67.36	333	*e*P	P	17 24 26.7	-0.2
FIA0	FINESS Array S	67.36	333	*e*P	P	17 24 26.7	-0.2
FINES	FINESS Array B	67.36	333	P	P	17 24 26.7	-0.2
comp=Z,5.0nm,0.7s,baz=57,slow=7.0,SNR=14							
FINES				LR	LR	17 57 27.6	
comp=Z,56nm,18.9s,baz=240,slow=39							
E09A	Wood Farm, Sta	67.45	48	*e*P	P	17 24 29.2	+1.3
comp=Z,11nm,1.0s							
WDC	Whiskeytown Da	68.12	55	*e*P	P	17 24 33.7	+1.6
WDC				pmax	pmax		
comp=Z,7.0nm,1.3s							
WDC	Whiskeytown Da	68.12	55	*e*P	P	17 24 33.7	+1.6
comp=Z,7.3nm,1.3s							
BMO	Blue Mountains	68.88	49	*e*P	P	17 24 38.6	+1.6
BMO				pmax	pmax		
comp=Z,3.0nm,0.8s							
BMO	Blue Mountains	68.88	49	*e*P	P	17 24 38.5	+1.6
comp=Z,2.7nm,0.8s							
JTMT	Jette	68.91	45	*e*P	P	17 24 38.9	+1.7
SWMT	Swartz Lake	69.20	45	*e*P	P	17 24 40.5	+1.6
BEKR	Beckworth	69.90	55	*e*P	P	17 24 44.9	+1.5
comp=Z,6.5nm,1.0s							
KIV	Kislovodsk	70.55	311	*e*P	P	17 24 48.9	+1.6
KIV				pmax	pmax		
comp=Z,13nm,1.0s							
KIV				MLR	MLR		
comp=Z,79nm,18.0s							
KBZ	Khabaz	70.56	311	P	P	17 24 48.1	+0.9
comp=Z,3.5nm,0.9s,baz=45,slow=5.5,SNR=4.4							
CMB	Columbia Colle	70.94	56	*e*P	P	17 24 51.4	+1.7
CMB				pmax	pmax		
comp=Z,4.0nm,1.0s							
CMB	Columbia Colle	70.94	56	*e*P	P	17 24 51.4	+1.7
comp=Z,4.1nm,1.0s							
LRM	Limekiln Ridge	71.07	46	*e*P	P	17 24 51.9	+1.4
YERR	Yerington	71.11	55	*e*P	P	17 24 53.2	+2.3
comp=Z,7.2nm,0.9s							
STKA	Stephens Creek	71.16	182	P	P	17 24 50.0	-0.7
comp=Z,0.7nm,0.4s,baz=342,slow=3.7,SNR=3.8							
DLMT	Dillon	71.27	46	*e*P	P	17 24 53.7	+2.1
comp=Z,8.9nm,1.2s							
HLID	Hailey	71.32	49	*e*P	P	17 24 53.8	+1.8
comp=Z,3.2nm,1.0s							
BOZ	Bozeman (W)	71.66	46	*e*P	P	17 24 55.6	+1.5
BOZ				pmax	pmax		
comp=Z,6.0nm,0.7s							
BOZ	Bozeman (W)	71.66	46	*e*P	P	17 24 55.6	+1.5
comp=Z,5.7nm,0.7s							
NB2	NORSAR Subarra	72.48	338	P	P	17 24 57.4	-1.1
comp=Z,7.1nm,0.9s,baz=36,slow=6.2							
NB200	NORSAR Array S	72.48	338	*e*P	P	17 24 57.8	-0.7
NB200				epP	pP	17 25 07.2	+0.5
NOA	NORSAR Array B	72.48	338	P	P	17 24 57.8	-0.7
comp=Z,1.0nm,0.9s,baz=39,slow=5.9,SNR=4.1							
NOA				pP	pP	17 25 07.2	+0.5
comp=Z,2.7nm,0.7s,baz=37,slow=6.1,SNR=4.8							
NOA	NORSAR Array B	72.48	338	P	P	17 24 57.8	-0.7
NOA				*PP	pP	17 25 07.2	+0.5
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
NOA				pmax	pmax		
comp=Z,3.0nm,0.7s							
YHH	Holmes Hill	72.59	46	*e*P	P	17 25 01.9	+2.0
comp=Z,5.4nm,1.2s							
H17A	Grant Village	72.99	46	*e*P	P	17 25 05.4	+3.3
comp=Z,8.1nm,1.1s							
IMW	Indian Meadow	73.10	47	*e*P	P	17 25 05.1	+2.3
comp=Z,5.1nm,1.0s							
FXWY	Fox Creek	73.22	47	*e*P	P	17 25 05.5	+2.0
comp=Z,3.0nm,0.8s							
MOOW	Moose Ponds	73.31	47	*e*P	P	17 25 06.0	+2.1
comp=Z,3.1nm,1.0s							
AKASG	Malin Array Be	73.33	323	P	P	17 25 03.3	-0.4
comp=Z,1.9nm,0.5s,baz=45,slow=6.1,SNR=8.4							
AKASG				pP	pP	17 25 12.1	+0.3
comp=Z,0.7nm,0.3s,baz=43,slow=5.9,SNR=4.4							
AKBB	Malin Array Si	73.33	323	*e*P	P	17 25 03.3	-0.4
AKBB				pmax	pmax		
comp=Z,34nm,1.9s							
AKBB	Malin Array Si	73.33	323	*e*P	P	17 25 03.3	-0.4
comp=Z,34nm,1.9s							
HVU	Hansel Valley	73.37	49	*e*P	P	17 25 06.5	+2.2
HVU				pmax	pmax		
comp=Z,3.0nm,0.8s							
HVU	Hansel Valley	73.37	49	*e*P	P	17 25 06.5	+2.2
comp=Z,2.9nm,0.8s							
R11A	Troy Canyon, C	73.78	54	*e*P	P	17 25 08.4	+1.6
comp=Z,5.2nm,1.1s							
TPNV	Topopah Spring	74.22	55	*e*P	P	17 25 11.0	+1.6
TPNV				pmax	pmax		
comp=Z,7.0nm,1.0s							
TPNV	Topopah Spring	74.22	55	*e*P	P	17 25 11.0	+1.6
comp=Z,6.8nm,1.0s							
DUG	Dugway, Tooele	74.33	51	*e*P	P	17 25 10.8	+0.8
DUG				pmax	pmax		
comp=Z,6.0nm,1.0s							
DUG	Dugway, Tooele	74.33	51	*e*P	P	17 25 10.8	+0.8
comp=Z,6.3nm,1.0s							
PD31	Pinedale Array	74.60	47	*e*P	P	17 25 12.7	+1.2
PDAR	Pinedale Array	74.60	47	P	P	17 25 12.6	+1.0
comp=Z,1.4nm,0.8s,baz=268,slow=3.0,SNR=9.2							
PDAR				pP	pP	17 25 20.9	+1.1
comp=Z,1.7nm,0.6s,baz=264,slow=1.7,SNR=9.3							
SHPR	Sheep Range	75.19	55	*e*P	P	17 25 17.4	+2.4
comp=Z,5.1nm,1.1s							
ULM	Lac du Bonnet	76.37	35	P	P	17 25 21.3	0.0
comp=Z,3.3nm,0.8s,baz=223,slow=11,SNR=3.0							
ULM				pP	pP	17 25 30.2	+0.7
comp=Z,2.5nm,0.7s,baz=333,slow=12,SNR=2.1							
SRU	San Rafael Swe	76.39	50	*e*P	P	17 25 23.4	+1.6
SRU				pmax	pmax		
comp=Z,5.0nm,0.6s							
SRU	San Rafael Swe	76.39	50	*e*P	P	17 25 23.4	+1.6
comp=Z,5.3nm,0.6s							
RSSD	Black Hills	76.73	43	*e*P	P	17 25 24.8	+1.1
RSSD				pmax	pmax		
comp=Z,4.0nm,0.6s							
RSSD	Black Hills	76.73	43	*e*P	P	17 25 24.8	+1.1
comp=Z,3.8nm,0.6s							
U15A	North Rim	77.03	53	*e*P	P	17 25 27.6	+2.0
comp=Z,6.0nm,1.0s							
WUAZ	Wupatki	78.19	54	*e*P	P	17 25 34.2	+2.3
comp=Z,8.7nm,1.1s							
BR101	Keskin Array S	78.45	312	*e*P	P	17 25 33.1	-0.2
BRTR	Keskin Array B	78.45	312	P	P	17 25 33.1	-0.2
comp=Z,0.5nm,0.6s,baz=333,slow=1.4,SNR=3.7							
CLL	Collm	79.72	331	*i* P	P	17 25 39.9	+0.1
CLL				pmax	pmax		
comp=Z,3.0nm,0.6s							
CLL	Collm	79.72	331	*i* P	P	17 25 39.9	+0.1
comp=Z,3.0nm,0.6s							
ANMO	Albuquerque	81.58	51	P	P	17 25 52.0	+1.6
comp=Z,0.9nm,0.6s,baz=143,slow=14,SNR=4.4							
ANMO				pP	sP	17 26 00.9	-0.7
comp=Z,0.9nm,0.4s,baz=133,slow=8.3,SNR=3.3							
ANMO	Albuquerque	81.58	51	⇑ *i* P	P	17 25 52.1	+1.8
ANMO				pmax	pmax		
comp=Z,3.0nm,1.2s							
ANMO	Albuquerque	81.58	51	*e*P	P	17 25 52.0	+1.6
comp=Z,5.7nm,1.3s							
ANMO				pP	sP	17 26 00.9	-0.7
VTS	Vitosha	82.01	320	*e*P	P	17 25 52.7	+0.3
VTS				pmax	pmax		
comp=Z,3.0nm,0.8s							
VTS	Vitosha	82.01	320	*e*P	P	17 25 52.6	+0.3
comp=Z,2.9nm,0.8s							
TXAR	Lajitas Array	87.15	54	P	P	17 26 19.3	+0.7
comp=Z,0.4nm,0.5s,baz=301,slow=4.0,SNR=9.6							
TXAR				pP	sP	17 26 28.3	-1.6
comp=Z,0.7nm,0.6s,baz=288,slow=3.8,SNR=6.8							
SNAA	Sanae	143.73	197	PKP	PKPab	17 33 03.0	0.0
LPAZ	La Paz	143.85	59	PKP	PKPdf	17 33 08.4	-0.2
comp=Z,1.2nm,0.6s,baz=306,slow=4.5,SNR=3.3							
VNA2	Neumayer--Watz	145.29	196	PKP	PKPbc	17 33 07.9	-0.6
baz=119,slow=2.8							
VNA3	Neumayer Olymp	145.51	195	PKP	PKPdf	17 33 08.5	-0.6
VNA1	Neumayer--Stat	145.69	196	PKP	PKPbc	17 33 09.9	+0.2

TAP 19 17:22:25.3, 23.87N×121.68E, h5km, ML2.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.13	329	*e*P	Pg	17 22 28.5	+0.6
baz=332							
HWA				*e*S	Sg	17 22 31.1	+1.4
baz=332							
ESF	Shoufeng Towns	0.16	271	*e*P	Pg	17 22 29.9	+1.4
baz=279							
ESF				*e*S	Sg	17 22 32.6	+2.1
baz=279							
TEGC	Jichi Village	0.20	218	*e*P	Pg	17 22 31.9	+2.6
baz=211							
TWD	Chiawan	0.22	341	*i* P	Pg	17 22 30.6	+0.9
baz=342							
TWD				*i* S	Sg	17 22 34.5	+1.8
baz=342							
ESL	Shilin	0.23	257	P	Pg	17 22 30.5	+0.7
baz=262							
ESL				*e*S	Sg	17 22 33.8	+1.0
baz=262							
WHF	Hehuan Shan	0.47	306	*e*P	Pg	17 22 35.1	+0.7
baz=306							
EHY	Hungye	0.49	222	*e*P	Pb	17 22 35.8	-0.5
baz=231							
ENA	Nanau	0.56	6	*e*P	Pb	17 22 37.0	-0.6
baz=352							
TWT	Tachien	0.60	310	*e*P	Pb	17 22 38.1	-0.3
baz=308							
TWF1	Yuli	0.62	214	*e*P	Pg	17 22 37.7	+0.5
baz=228							
SMLT	Sun Moon Lake	0.71	271	*e*P	Pb	17 22 40.0	-0.3
baz=278							
TYC	Yuchr	0.75	273	*e*P	Pb	17 22 40.5	-0.3
baz=283							
TWC	Suao	0.75	12	*e*P	Pb	17 22 41.2	+0.3
baz=359							
ENTT	Nioudou	0.78	353	P	Pb	17 22 41.1	-0.2
baz=352							
NSK	Sanguang	0.85	340	*e*P	Pb	17 22 42.7	0.0
baz=352							
ELDTW	Lidau	0.91	222	*e*P	Pb	17 22 43.2	-0.3
baz=222							
NSTT	Nanjuang	0.98	321	*e*P	Pn	17 22 45.5	-0.2
baz=320							

*JMA **19** 17:22:30.0±0.2, 23.89N×121.71E, h0km, M3.1*
*TAP **19** 17:22:30.9, 23.88N×121.67E, h6km, ML4.0, C*
*IDC **19** 17:22:45.5±7.7, 25.15N×120.17E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/40, mbtmp3.5/5, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=143.8km s-min=37.1km az=131.0*

ISC 19 17:22:31.3±1.1, 23.89N±0.02×121.73E±0.02, h6km±8km, n70, σ0°80/116, mb3.4/4, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.14	309	*e*P	Pg	17 22 33.8	-0.4
baz=330							
ESF	Shoufeng Towns	0.20	265	*e*P	Pg	17 22 35.0	-0.2
baz=275							
ESF				*e*S	Sg	17 22 38.2	+0.2
baz=275							
TWD	Chiawan	0.23	328	*e*P	Pg	17 22 35.8	+0.1
baz=343							
TWD				S	Sg	17 22 39.6	+0.9
baz=343							
TEGC	Jichi Village	0.25	224	*e*P	Pg	17 22 37.8	+1.7
baz=206							
ESL	Shilin	0.28	255	*e*P	Pg	17 22 36.0	-0.8
baz=258							
ESL				*e*S	Sg	17 22 39.6	-0.8
baz=258							
EHP	Heping Village	0.42	2	*e*P	Pb	17 22 41.1	-0.1
baz=356							
WHF	Hehuan Shan	0.49	301	*e*P	Pg	17 22 40.8	-0.1
baz=307							
WHF				*e*S	Sg	17 22 46.9	-0.5
baz=307							
EHY	Hungye	0.53	224	*e*P	Pg	17 22 41.3	-0.2
baz=230							
ENA	Nanau	0.54	1	*e*P	Pb	17 22 42.4	-0.8
baz=354							
ENA				S	Sb	17 22 50.7	-0.5
baz=354							
TWT	Tachien	0.62	306	*e*P	Pb	17 22 44.2	-0.5
baz=309							
TWT				*e*S	Sb	17 22 52.4	-1.4
baz=309							
NNS	Nan Shan	0.64	330	*e*P	Pg	17 22 44.0	+0.4
baz=335							
NNS				*e*S	Sg	17 22 52.1	+0.2
baz=335							
TWF1	Yuli	0.66	217	*e*P	Pg	17 22 44.0	0.0
baz=234							
TWC	Suao	0.73	9	P	Pb	17 22 46.0	-0.4
baz=1.0							
TWC				S	Sb	17 22 57.2	+0.6
baz=1.0							
SMLT	Sun Moon Lake	0.76	270	*e*P	Pg	17 22 45.6	-0.3
baz=271							
SMLT				*e*S	Sg	17 22 55.4	-0.3
baz=271							
ENTT	Nioudou	0.76	349	*e*P	Pg	17 22 46.3	+0.3
baz=353							
ENTT				*e*S	Sb	17 22 57.3	-0.4
baz=353							
TYC	Yuchr	0.80	271	P	Pg	17 22 45.8	-0.8
baz=283							
TYC				S	Sg	17 22 56.0	-1.0
baz=283							
YUS	Yu-Shan	0.81	241	*e*P	Pg	17 22 46.5	-0.4
baz=250							
YUS				*e*S	Sg	17 22 57.2	-0.3
baz=250							
CHKT	Chengkung	0.85	203	*e*P	Pb	17 22 48.0	-0.5
baz=179							
NSK	Sanguang	0.85	337	P	Pb	17 22 48.0	-0.6
baz=340							
NSK				S	Sb	17 22 59.7	-0.7
baz=340							
ILA	Ilan	0.88	1	*e*P	Pb	17 22 48.7	-0.2
baz=354							
ILA				*e*S	Sn	17 23 02.3	-1.0
baz=354							
ALS	Alishan	0.93	246	*e*P	Pg	17 22 48.7	-0.3
baz=255							
WNT	Mingjian	0.95	270	⇓ P	Pb	17 22 49.9	-0.4
baz=270							
WNT				*e*S	Sb	17 23 03.3	+0.1
baz=270							
EGS		0.97	11	*e*P	Pg	17 22 50.1	+0.2
baz=2.0							
TWQ1	Liyutan	0.98	298	*e*P	Pb	17 22 50.8	0.0
baz=301							
TWQ1				*e*S	Sb	17 23 03.9	-0.1
baz=301							
NSTT	Nanjuang	0.99	318	*e*P	Pb	17 22 50.6	-0.3
baz=322							
NSTT				*e*S	Sb	17 23 03.7	-0.6
baz=322							
TCU	Taichung	1.00	285	*i* P	Pn	17 22 51.1	-0.7
baz=280							
TCU				*e*S	Sn	17 23 05.4	-0.8
baz=280							
CHN5	Tsauling	1.00	253	*e*P	Pb	17 22 50.5	-0.6
baz=254							
CHN5				*e*S	Sn	17 23 05.5	-1.1
baz=254							
NSY	Sanyi	1.03	301	*e*P	Pn	17 22 52.1	-0.2
baz=317							
NSY				*e*S	Sn	17 23 06.0	-1.1
baz=317							
WGK	Gukeng	1.09	260	*e*P	Pn	17 22 52.5	-0.6
baz=261							
WGK				S	Sn	17 23 08.3	-0.2
baz=261							
TWA	Mucha	1.10	353	*e*P	Pn	17 22 53.0	-0.2
baz=355							
TWB1	Santiao Chiao	1.14	12	*e*P	Pg	17 22 53.0	-0.2
baz=14							
HSN	Hsinchu	1.14	323	⇑ P	Pn	17 22 54.6	+0.8
baz=328							
HSN				*e*S	Sn	17 23 10.8	+0.9
baz=328							
STYT	Tauyuan	1.15	231	*e*P	Pn	17 22 53.5	-0.5
baz=224							
STYT				*e*S	Sb	17 23 08.2	-0.6
baz=224							
TAP1	Taipei	1.16	351	*e*P	Pn	17 22 54.7	+0.6
baz=354							
TAP1				*e*S	Sn	17 23 10.4	+0.1
baz=354							
TAP	Taipei	1.17	350	*e*P	Pn	17 22 54.9	+0.7
baz=354							
TAP				*e*S	Sn	17 23 10.3	0.0
baz=354							
CHN4	Tsaushan	1.17	243	*e*P	Pb	17 22 53.6	-0.3
baz=243							
CHN4				*e*S	Sb	17 23 09.2	-0.1
baz=243							
NWF	Wu-fen Shan	1.18	2	*e*P	Pn	17 22 54.9	+0.4
baz=7.0							
NCU	National Centr	1.19	336	*e*P	Pn	17 22 54.9	+0.5
baz=344							
NCU				*e*S	Sn	17 23 12.7	+1.7
baz=344							
CHN2	Minshiung	1.20	253	*e*P	Pn	17 22 55.2	+0.6
baz=254							
CHN2				*e*S	Sn	17 23 11.5	+0.2
baz=254							
WTP	Ta-pu	1.21	238	*e*P	Pn	17 22 54.5	-0.3
baz=247							
WTP				*e*S	Sn	17 23 11.9	+0.5
baz=247							
TWS1	Kuangyinshan	1.24	347	*e*P	Pg	17 22 56.1	+1.0
baz=351							
TWS1				*e*S	Sn	17 23 14.2	+1.9
baz=351							
JYNG	Yonaguni jima	1.25	63	P	Pn	17 22 54.4	-0.9
JYNG				S	Sb	17 23 11.0	-0.5
CHY	Chiayi	1.26	252	*e*P	Pg	17 22 55.5	+0.1
baz=253							
CHY				*e*S	Sn	17 23 12.7	+0.1
baz=253							
TWK	Hsinying	1.29	242	*e*P	Pg	17 22 55.8	-0.3
baz=241							
TWK				S	Sn	17 23 14.0	+0.3
baz=241							
CHN1	Nanshi	1.30	238	*e*P	Pb	17 22 55.9	-0.4
baz=237							
CHN1				*e*S	Sn	17 23 15.2	+1.4
baz=237							
YOJ	Yonaguni jima	1.30	64	*e*P	Pn	17 22 55.2	-0.9
baz=66							
YOJ	Yonaguni jima	1.30	64	P	Pn	17 22 55.6	-0.5
YOJ				*e*S	Sn	17 23 13.7	-0.1
SGST	Jiashian	1.32	233	*e*P	Pg	17 22 57.0	+0.4
baz=214							
SGST				*e*S	Sn	17 23 15.2	+0.9
baz=214							
WTCT	Ta-ch'eng	1.32	269	*e*P	Pn	17 22 55.4	-1.0
baz=271							
WTCT				*e*S	Sn	17 23 14.4	+0.1
baz=271							
TWY	Chenhua	1.39	355	*e*P	Pg	17 22 58.9	+1.0
baz=2.0							
WSF	Szhu	1.40	260	*e*P	Pg	17 22 57.8	-0.3
baz=261							
WSF				*e*S	Sg	17 23 17.5	+1.2
baz=261							
CHN3	Shinhua	1.49	237	*e*P	Pg	17 23 00.8	+0.9
baz=235							
CHN3				*e*S	Sg	17 23 22.1	+2.9
baz=235							
CHN8	Yiju	1.49	249	*e*P	Pg	17 22 59.4	-0.5
baz=249							
CHN8				*e*S	Sg	17 23 19.9	+0.6
baz=249							
TWM1	Shoushan	1.60	229	*e*P	Pg	17 23 02.2	+0.2
baz=226							
SGLT	Jiouru	1.62	225	*e*P	Pg	17 23 03.4	+1.1
baz=221							
SCZT	Fangliau	1.82	214	*e*P	Pb	17 23 04.0	-1.0
baz=194							
SCZT				*e*S	Sb	17 23 28.3	+0.2
baz=194							
IRIF	Iriomote-Funau	1.88	76	P	Pn	17 23 03.5	-0.5
IRIF				*e*S	Sn	17 23 28.7	+0.6
HATJ	Hateruma jima	1.91	85	S	Sn	17 23 29.2	+0.5
WDGT	Dungji	2.00	252	*e*P	Pn	17 23 06.1	+0.5
baz=252							
PNG	Penghu	2.02	261	*e*P	Pn	17 23 05.3	-0.6
baz=263							
PNG				*e*S	Sn	17 23 31.4	0.0
baz=263							
JKRS	Kuro-shima	2.12	80	P	Pn	17 23 07.1

1.2nm,1.0s,baz=146,slow=11,SNR=4.1
MKAR Makanchi Array 38.90 316 P **P 17 29 56.3 -1.4**
0.6nm,0.8s,baz=108,slow=9.3,SNR=3.2
PETK Petropavlovsk- 39.84 34 LR LR 17 46 28.2
comp=Z,25nm,21.1s,baz=95,slow=36
ZALV Zalesovo Beam 40.76 327 P **P 17 30 12.0 -1.0**
0.5nm,0.5s,baz=100,slow=6.0,SNR=1.9

IDC 19 17:25:07.4±469.0, 41°.15N×119°.76W, h0km, Error ellipse: s-maj=165.1km s-min=123.3km az=3.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**7.36**	**14**	*i*		18 11 30.0	
baz=197,slow=324,SNR=1.1							
I57US	**PINON FLAT INF**	**7.98**	**160**	*i*		18 13 40.0	
baz=344,slow=323,SNR=1.1							
I10CA	**LAC DU BONNET**	**18.83**	**53**	*i*		19 26 40.0	
baz=251,slow=330,SNR=0.8							

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*ISCJB **19** 17:34:39.3±0.4, 14°.29N±0°.07×90°.17W±0°.07, h10km, mb4.2/11, MS3.4/6, Error ellipse: s-maj=12.8km s-min=3.3km az=44.0*
*NEIC **19** 17:34:40.8±3.9, 14°.27N×90°.15W, h10km±26km, mb4.3/6, Error ellipse: s-maj=23.6km s-min=7.8km az=218.0*
NEIC Felt [II] at Ahuachapan, El Salvador.
*CASC **19** 17:34:40.2±0.9, 14°.17N×90°.24W, h15km, ML3.8, mb4.3(NEIC)*
*IDC **19** 17:34:40.1±1.3, 14°.38N×90°.21W, h0km, mb4.0/7, mb1 4.3/10, mb1mx4.0/49, mbtmp4.1/10, ML3.7/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/40, Error ellipse: s-maj=49.9km s-min=17.1km az=42.0*
ISC 19 17:34:40.7±0.6, 14°.21N±0°.08×90°.14W±0°.06, h10km, n49, σ1§30/44, mb4.2/11, MS3.4/6, 4C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**0.35**	**147**	⇑*iP*	**Pg**	**17 34 47.5**	**-0.3**
CUS1				*eS*	**Sb**	**17 34 54.0**	**-0.7**
RBDL	**Robledal**	**0.45**	**102**	⇑*iP*	**Pg**	**17 34 50.0**	**+0.3**
RTR	**El Retiro**	**0.57**	**123**	⇑*iP*	**Pg**	**17 34 52.2**	**+0.3**
MONT	**Ecomontaæa**	**0.59**	**126**	*iP*	**Pg**	**17 34 52.6**	**+0.3**
UNIC	**Santa Ana**	**0.61**	**111**	*iP*	**Pg**	**17 34 52.5**	**0.0**
UNIC				*eS*	**Sg**	**17 35 02.4**	**+1.9**
UNIC				AML	AML	17 35 05.9	
comp=Z,3μm,0.5s							
SNJE	**San Jose**	**0.62**	**123**	⇑*iP*	**Pg**	**17 34 53.0**	**+0.1**
SBLS	**San Blas**	**0.62**	**126**	*iP*	**Pg**	**17 34 53.2**	**+0.3**
BOQS	**Boqueron**	**0.96**	**119**	*eP*	**Pg**	**17 34 59.3**	**0.0**
SNET	**Serv Nac Est T**	**1.03**	**120**	*ePg*	**Pg**	**17 35 00.0**	**-0.4**
SNET	**Serv Nac Est T**	**1.03**	**120**	*eP*	**Pg**	**17 35 00.1**	**-0.4**
SNET				AML	AML	17 35 26.8	
comp=Z,2μm,0.3s							
OPAM	**San Salvador**	**1.04**	**118**	AML	AML	17 35 22.9	
comp=Z,3μm,0.4s							
CUSC	**San Salvador**	**1.04**	**117**	AML	AML	17 35 22.8	
comp=Z,3μm,0.7s							
LFU	**La Fuente**	**1.10**	**114**	*eP*	**Pb**	**17 35 01.2**	**-0.7**
LBRS	**Las Brisas**	**1.17**	**113**	*eP*	**Pn**	**17 35 02.3**	**-0.9**
LFRS	**El Faro**	**1.20**	**119**	*iP*	**Pn**	**17 35 02.9**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.79**	**93**	*ePn*	**Pn**	**17 35 25.1**	**-0.3**
CCIG	**Comitan**	**2.82**	**317**	*ePn*	**Pn**	**17 35 25.8**	**-0.3**
CMIG	**Matias Romero**	**5.39**	**303**	Pn	**Pn**	**17 35 60.0**	**-1.3**
comp=Z,3.2nm,0.3s,baz=112,slow=9.0,SNR=16							
CMIG				Sn	**Sn**	**17 37 08.1**	**+4.6**
comp=Z,3.4nm,0.3s,baz=303,slow=24,SNR=2.9							
CMIG				Lg	Lg	17 37 25.4	
comp=Z,8.9nm,0.3s,baz=192,slow=16,SNR=4.9							
CMIG				LR	LR	17 38 10.1	
comp=Z,862nm,19.2s,baz=154,slow=40							
TLIG	**Tlapa**	**8.76**	**293**	*ePn*	Pn	17 36 51.4	+3.7
APOP	**Alto Boquete**	**9.24**	**125**	AML	AML	17 35 20.3	
comp=Z,4μm,0.6s							
ROSC	**El Rosal**	**18.16**	**119**	LR	LR	17 45 55.3	
comp=Z,80nm,20.0s,baz=50,slow=37							
LTX	**Lajitas**	**19.57**	**322**	*eP*	**Pn**	**17 39 09.9**	**-0.5**
TX31	**Lajitas Ar. Si**	**19.57**	**322**	*eP*	**Pn**	**17 39 09.8**	**-0.6**
TXAR	**Lajitas Array**	**19.57**	**322**	P	**Pn**	**17 39 09.9**	**-0.5**
comp=Z,0.1nm,0.3s,baz=144,slow=11,SNR=17							
TXAR				LR	LR	17 46 58.2	
comp=Z,63nm,18.1s,baz=0.0,slow=38							
SDV	**Santo Domingo**	**19.83**	**103**	P	**Pn**	**17 39 13.6**	**0.0**
comp=Z,0.8nm,0.3s,baz=283,slow=4.9,SNR=8.5							
SDV				LR	LR	17 48 31.9	
comp=Z,91nm,19.0s,baz=318,slow=42							
SDV	**Santo Domingo**	**19.83**	**103**	*eP*	**Pn**	**17 39 14.1**	**+0.5**
comp=Z,13nm,0.8s							
ABTX	**Abilene, Hawle**	**20.28**	**336**	*eP*	**P**	**17 39 16.2**	**-0.4**
comp=Z,14nm,1.0s							
LPIG	**La Paz**	**21.41**	**300**	LR	LR	17 47 40.6	
comp=Z,191nm,19.4s,baz=190,slow=37							
WMOK	**Wichita Mounta**	**21.88**	**341**	*eP*	**P**	**17 39 31.7**	**-2.2**
comp=Z,27nm,1.5s							
TKL	**Tuckaleechee C**	**22.11**	**14**	LR	LR	17 48 46.3	
comp=Z,86nm,18.5s,baz=161,slow=38							
HHAR	**Hobbs**	**22.24**	**352**	*eP*	**P**	**17 39 38.8**	**+1.0**
comp=Z,20nm,1.3s							
MNTX	**Cornudas Mount**	**22.31**	**324**	*eP*	**P**	**17 39 37.4**	**-1.2**
comp=Z,5.5nm,1.2s							
SJG	**San Juan**	**23.36**	**77**	LR	LR	17 48 49.8	
comp=Z,138nm,18.1s,baz=252,slow=36							
CCM	**Cathedral Cave**	**23.77**	**358**	*eP*	**P**	**17 39 53.2**	**-0.3**
comp=Z,32nm,1.5s							
PCRV	**Puerto La Cruz**	**25.25**	**96**	LR	LR	17 50 39.7	
comp=Z,92nm,21.2s,baz=271,slow=38							
DANC	**Danby, Needles**	**30.54**	**316**	*ePcP*	**PcP**	**17 43 53.2**	**-0.2**
LDFC	**Landfair**	**30.61**	**317**	*eP*	**P**	**17 40 58.5**	**+3.2**
CLC	**China Lake**	**32.70**	**316**	*eP*	**P**	**17 41 12.5**	**-1.0**
CLC				*epP*	**pP**	**17 41 15.8**	**-0.8**
CLC				*eS*	**S**	**17 46 30.0**	**0.0**
PDAR	**Pinedale Array**	**33.01**	**333**	P	**P**	**17 41 15.2**	**-1.1**
comp=Z,0.6nm,1.0s,baz=153,slow=6.1,SNR=3.0							
PDAR				LR	LR	17 58 23.9	
comp=Z,45nm,18.9s,baz=162,slow=43							
ULM	**Lac du Bonnet**	**36.25**	**354**	P	**P**	**17 41 44.0**	**0.0**
comp=Z,4.0nm,0.9s,baz=229,slow=6.3,SNR=3.5							
LPAZ	**La Paz**	**37.30**	**144**	P	**P**	**17 41 56.5**	**+2.5**
comp=Z,1.1nm,0.6s,baz=328,slow=8.0,SNR=4.5							
NEW	**Newport**	**40.63**	**332**	LR	LR	18 02 52.1	
comp=Z,58nm,18.2s,baz=136,slow=42							
YKA	**Yellowknife Ar**	**51.25**	**346**	P	**P**	**17 43 44.1**	**-0.3**
comp=Z,2.4nm,0.9s,baz=140,slow=8.8,SNR=5.1							
DLBC	**Dease Lake**	**53.21**	**335**	P	**P**	**17 43 59.6**	**+0.4**
comp=Z,2.7nm,0.8s,baz=154,slow=9.1,SNR=4.7							
INK	**Inuvik**	**60.76**	**343**	P	**P**	**17 44 50.9**	**-1.5**
comp=Z,4.3nm,1.0s,baz=166,slow=6.9,SNR=3.3							
IL1	**Eielson Array**	**63.37**	**336**	*eP*	**P**	**17 45 08.2**	**-1.8**
ILAR	**Eielson Array**	**63.37**	**336**	P	**P**	**17 45 08.6**	**-1.4**
comp=Z,1.5nm,1.0s,baz=120,slow=3.6,SNR=8.2							
ILB	**Eielson Array**	**63.37**	**336**	*eP*	**P**	**17 45 08.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**146.33**	**344**	PKPbc	**PKPab**	**17 54 22.8**	**-0.7**
comp=Z,0.4nm,0.5s,baz=340,slow=3.5,SNR=5.6							

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*TIR **19** 17:41:30.8, 40°.03N×19°.92E, h3km, ML2.9*
*ATH **19** 17:41:35.9, 40°.15N×19°.82E, h17km±2km, ML1.6/2, Error ellipse: s-maj=4.4km s-min=2.1km az=133.0*
*ISCJB **19** 17:41:36.4±1.6, 40°.16N±0°.06×19°.8E±0°.1, h7km, Error ellipse: s-maj=14.5km s-min=7.3km az=21.0*
*CSEM **19** 17:41:36.5±1.0, 40°.16N×19°.87E, h2km, ML1.6, Error ellipse: s-maj=21.0km s-min=9.1km az=115.0*
ISC 19 17:41:36.4±1.8, 40°.17N±0°.08×19°.87E±0°.07, h7km, n16, σ1§03/24, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.30**	**161**	*i*PG	**Pg**	**17 41 41.8**	**-0.5**
SRN				*i*SN	**Sg**	**17 41 44.4**	**-1.9**
SRN	**Sarande**	**0.30**	**161**	*i*Pg	**Pg**	**17 41 41.8**	**-0.5**
SRN				*i*Sn	**Sg**	**17 41 44.4**	**-1.9**
KEK	**Kerkira**	**0.46**	**187**	P	**Pg**	**17 41 45.0**	**-0.2**
KEK				S	**Sg**	**17 41 52.0**	**+0.9**
KEK				AML	AML	17 41 53.4	
comp=N,142μm,0.4s							
KEK				AML	AML	17 41 53.5	
comp=E,224μm,0.2s							
KEK	**Kerkira**	**0.46**	**187**	P	**Pg**	**17 41 45.0**	**-0.2**
KEK				S	**Sg**	**17 41 52.0**	**+0.9**
SGD	**Sagiada**	**0.62**	**153**	P	**Pg**	**17 41 46.6**	**-1.7**
SGD				S	**Sg**	**17 41 55.8**	**-0.5**
SGD	**Sagiada**	**0.62**	**153**	P	**Pg**	**17 41 46.6**	**-1.7**
SGD				S	**Sg**	**17 41 55.8**	**-0.5**
KPRO	**Kipourio**	**1.16**	**100**	P	**Pn**	**17 41 59.4**	**+0.3**
KPRO	**Kipourio**	**1.16**	**100**	P	**Pn**	**17 41 59.4**	**+0.3**
FNA	**Florina**	**1.30**	**61**	P	**Pn**	**17 42 00.9**	**-0.2**
FNA	**Florina**	**1.30**	**61**	P	**Pn**	**17 42 00.9**	**-0.2**
DSL	**Palaion Diasel**	**1.40**	**137**	P	**Pg**	**17 42 03.3**	**+0.1**
DSL				S	**Sg**	**17 42 23.0**	**+1.7**
DSL				AML	AML	17 42 25.3	
comp=N,32μm,0.6s							
DSL				AML	AML	17 42 26.4	
comp=E,43μm,0.5s							
DSL	**Palaion Diasel**	**1.40**	**137**	P	**Pg**	**17 42 03.3**	**+0.1**
DSL				S	**Sg**	**17 42 23.0**	**+1.7**
LKD2	**Lefkada island**	**1.50**	**156**	P	**Pg**	**17 42 05.8**	**+0.6**
LKD2	**Lefkada island**	**1.50**	**156**	P	**Pg**	**17 42 05.8**	**+0.6**
AGG	**Agios Georgios**	**2.21**	**120**	P	**Pn**	**17 42 14.0**	**+0.5**
AGG	**Agios Georgios**	**2.21**	**120**	P	**Pn**	**17 42 14.0**	**+0.5**

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*CSEM **19** 17:41:37.4, 37°.18N×22°.06E, h4km, ML1.9/7*
ATH 19 17:41:37.4, 37°.18N×22°.06E, h4km±1km, ML1.9/7, Error ellipse: s-maj=1.5km s-min=0.7km az=213.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.11**	**271**	P	Pg	17 41 38.8	-0.8
ITM				S	Sg	17 41 40.8	-0.3
ITM				AML	AML	17 41 43.3	
comp=E,2762μm,0.6s							
ITM				AML	AML	17 41 43.7	
comp=N,2059μm,0.3s							
ITM	**Ithomi**	**0.11**	**271**	P	Pg	17 41 38.8	-0.8
ITM				S	Sg	17 41 40.8	-0.3
VLX	**Vlachokerasia**	**0.32**	**53**	P	Pg	17 41 44.2	+0.7
VLX				S	Sg	17 41 48.5	+0.7
VLX				AML	AML	17 41 49.6	
comp=E,385μm,0.3s							
VLX				AML	AML	17 41 50.1	
comp=N,224μm,0.3s							
VLX	**Vlachokerasia**	**0.32**	**53**	P	Pg	17 41 44.2	+0.6
VLX				S	Sg	17 41 48.5	+0.7
MES3	**Kyparissia**	**0.32**	**283**	P	Pg	17 41 43.9	+0.3
MES3				S	Sg	17 41 48.7	+1.0
MES3				AML	AML	17 41 49.2	
comp=N,7523μm,0.2s							
MES3				AML	AML	17 41 49.6	
comp=E,5975μm,0.2s							
MES3	**Kyparissia**	**0.32**	**283**	P	Pg	17 41 43.9	+0.3
MES3				S	Sg	17 41 48.7	+1.0
PYL	**PYLOS**	**0.38**	**222**	P	Pg	17 41 44.6	-0.1
PYL				S	Sg	17 41 51.3	+1.6
PYL	**PYLOS**	**0.38**	**222**	P	Pg	17 41 44.6	-0.1
PYL				S	Sg	17 41 51.3	+1.6
TRIP	**Tripoli**	**0.39**	**25**	P	Pg	17 41 45.0	+0.1
TRIP				S	Sg	17 41 50.5	+0.5
TRIP				AML	AML	17 41 52.2	
comp=E,135μm,0.5s							
TRIP				AML	AML	17 41 52.9	
comp=N,105μm,0.3s							
TRIP	**Tripoli**	**0.39**	**25**	P	Pg	17 41 45.0	+0.1
TRIP				S	Sg	17 41 50.5	+0.5
AMT	**Artemida-Makis**	**0.45**	**322**	P	Pg	17 41 45.6	-0.5
AMT	**Artemida-Makis**	**0.45**	**322**	P	Pg	17 41 45.6	-0.5
MES2	**Methoni**	**0.45**	**219**	P	Pg	17 41 46.3	+0.1
MES2				S	Sg	17 41 53.4	+1.4
MES2				AML	AML	17 41 55.5	
comp=N,261μm,0.4s							
MES2				AML	AML	17 41 57.1	
comp=E,263μm,0.5s							
MES2	**Methoni**	**0.45**	**219**	P	Pg	17 41 46.3	+0.2
MES2				S	Sg	17 41 53.4	+1.4
GUR	**Goura**	**0.79**	**16**	P	Pg	17 41 52.1	-0.5
GUR	**Goura**	**0.79**	**16**	P	Pg	17 41 52.1	-0.5
DRO	**Drossia**	**0.82**	**340**	P	Pg	17 41 53.0	-0.2
DRO	**Drossia**	**0.82**	**340**	P	Pg	17 41 53.0	-0.2
VLI	**Veliai**	**0.84**	**123**	P	Pg	17 41 53.6	+0.1
VLI				S	Sg	17 42 04.8	+0.5
VLI	**Veliai**	**0.84**	**123**	P	Pg	17 41 53.6	+0.1
VLI				S	Sg	17 42 04.8	+0.5
KLV	**Kalavryta, Ach**	**0.87**	**5**	P	Pg	17 41 53.2	-0.9
KLV				S	Sg	17 42 06.2	+0.9
KLV				AML	AML	17 42 10.5	
comp=E,42μm,0.3s							
KLV				AML	AML	17 42 13.1	
comp=N,35μm,0.5s							
KLV	**Kalavryta, Ach**	**0.87**	**5**	P	Pg	17 41 53.2	-0.9
KLV				S	Sg	17 42 06.2	+0.9
DID	**Didima**	**0.99**	**70**	P	Pb	17 41 56.3	-0.3
DID	**Didima**	**0.99**	**70**	P	Pb	17 41 56.9	-0.3
RLS	**Riolos of Patr**	**1.00**	**332**	P	Pb	17 41 57.0	-0.3
RLS	**Riolos of Patr**	**1.00**	**332**	P	Pb	17 41 57.0	-0.3
LTK	**Loutraki**	**1.11**	**40**	P	Pb	17 41 59.0	-0.1
LTK	**Loutraki**	**1.11**	**40**	P	Pb	17 41 59.0	-0.2
EFP	**Efpalio**	**1.25**	**354**	P	Pg	17 42 00.8	-0.6
EFP	**Efpalio**	**1.25**	**354**	P	Pg	17 42 00.8	-0.6

BUC 19 17:42:27.1±0.0, 44°.98N×23°.22E, h2km, MD2.3/2, 4C-2D, Error ellipse: s-maj=0.2km s-min=0.1km az=70.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.52**	**323**	⇑*iP*	Pg	17 42 37.7	+0.7
GZR				*i*S	Sg	17 42 45.2	+1.5
GZR	**Gura Zlata**	**0.52**	**323**	⇑*iP*	Pg	17 42 37.7	+0.7
GZR				S	Sg	17 42 45.2	+1.5
MDVR	**Moldovita**	**1.09**	**260**	⇑*iP*	Pn	17 42 49.1	-0.4
MDVR				*i*S	Sn	17 43 04.7	-0.4
MDVR	**Moldovita**	**1.09**	**260**	⇑*iP*	Pn	17 42 49.1	-0.4
BZS	**Buzias**	**1.30**	**300**	⇓*iP*	Pn	17 42 52.4	+0.1
BZS				*i*S	Sn	17 43 09.8	-0.4
BZS	**Buzias**	**1.30**	**300**	⇓*iP*	Pn	17 42 52.4	+0.1

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*NIED **19** 17:57:00, 39°.30N×143°.60E, h14km, Mw3.6 Best double couple: M0=2.60000×10^14 NP1:φ=213.00000°, δ=32.00000°, λ=106.00000°. NP2:φ=15.00000°, δ=59.00000°, λ=80.00000°.*
*IDC **19** 17:57:02.3±6.8, 39°.28N×143°.95E, h0km, mb3.6/3, mb1 3.5/6, mb1mx3.3/55, mbtmp3.5/6, ML3.0/3, Error ellipse: s-maj=115.1km s-min=33.9km az=109.0*
*ISCJB **19** 17:57:04.2±0.9, 39°.39N±0°.05×143°.63E±0°.08, h11km, mb3.4/3, Error ellipse: s-maj=10.1km s-min=4.7km az=33.6*
*JMA **19** 17:57:05.7±0.2, 39°.31N×143°.63E, h41km, M3.5*
ISC 19 17:57:06.6±1.6, 39°.43N±0°.07×143°.51E±0°.08, h11km, n20, σ1§31/24, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.32**	**277**	P	**Pn**	**17 57 29.9**	**-1.0**
MIYJ				*eS*	**Sb**	**17 57 46.7**	**-1.4**
JTH	**Tanohata**	**1.37**	**292**	P	**Pn**	**17 57 30.9**	**-0.7**
JTH				*eS*	**Sg**	**17 57 50.0**	**-0.6**
OFUJ	**Ofunato**	**1.47**	**257**	P	**Pn**	**17 57 31.4**	**-1.6**
JOM	**Ohasama**	**1.72**	**272**	P	**Pn**	**17 57 35.8**	**-0.6**
JANG	**Nango**	**1.80**	**302**	P	**Pn**	**17 57 36.6**	**-1.0**
JMK	**Ichinoseki**	**1.84**	**256**	P	**Pn**	**17 57 36.8**	**-1.3**
JYK	**Kaneyama**	**2.50**	**259**	P	**Pn**	**17 57 46.6**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.91**	**349**	P	**Pn**	**17 57 53.4**	**+0.7**
JNBK				*eS*	**Sn**	**17 58 28.6**	**+0.9**
JCH	**Churui**	**3.19**	**358**	P	**Pn**	**17 57 56.0**	**-0.6**
JCH				*eS*	**Sn**	**17 58 33.1**	**-1.4**
JAK	**Akkeshi**	**3.68**	**14**	P	**Pn**	**17 58 02.3**	**-1.0**
JAK				*eS*	**Sn**	**17 58 44.6**	**-2.0**
ASAJ	**Asahikawa**	**4.74**	**352**	Pn	**Pn**	**17 58 18.6**	**+0.8**
1.0nm,0.3s,baz=191,slow=16,SNR=19							
ASAJ				Sn	**Sn**	**17 59 14.5**	**+1.7**
0.7nm,0.3s,baz=200,slow=30,SNR=3.7							
MAT	**Matsushiro**	**5.08**	**237**	P	**Pn**	**17 58 22.8**	**+0.1**
MAT				S	**Sn**	**17 59 23.2**	**+1.8**
MJAR	**Matsushiro Arr**	**5.08**	**237**	Pn	**Pn**	**17 58 22.3**	**-0.4**
1.2nm,0.3s,baz=48,slow=11,SNR=12							
USRK	**Ussuriysk Ar.**	**9.83**	**303**	Pn	**Pn**	**17 59 30.9**	**+3.1**
0.2nm,0.3s,baz=42,slow=10.0,SNR=4.2							
SONM	**Songino Array**	**27.93**	**300**	P	**P**	**18 02 57.3**	**+0.5**
0.3nm,0.4s,baz=94,slow=9.4,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**28.12**	**128**	T	T	18 30 49.0	
baz=318							
H11N1	**WAKE ISLAND Hy**	**28.13**	**128**	T	T	18 30 54.9	
baz=318							
H11N3	**WAKE ISLAND Hy**	**28.14**	**128**	T	T	18 30 55.1	
baz=318							
ZALV	**Zalesovo Beam**	**41.57**	**310**	P	**P**	**18 04 54.1**	**+0.1**
0.7nm,0.5s,baz=89,slow=6.9,SNR=3.1							
MKAR	**Makanchi Array**	**44.29**	**300**	P	**P**	**18 05 16.8**	**+0.5**
0.4nm,0.7s,baz=79,slow=11,SNR=3.5							

IDC 19 17:57:13.4±52.0, 22°.14S×176°.75W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=953.2km s-min=156.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.16**	**246**	P	P	18 04 32.9	-1.8
0.7nm,0.4s,baz=83,slow=9.7,SNR=5.8							
ASAR	**Alice Springs**	**45.30**	**258**	P	P	18 05 33.4	0.0
0.6nm,0.5s,baz=86,slow=6.5,SNR=15							
WRA	**Warramunga Arr**	**45.55**	**263**	P	P	18 05 36.4	+1.0
2.8nm,0.6s,baz=98,slow=8.4,SNR=30							

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*ISCJB **19** 17:59:40.6±0.4, 37°.14S±0°.09×78°.24E±0°.09, h9km, mb4.5/18, MS4.2/13, Error ellipse: s-maj=13.4km s-min=10.3km az=162.2*
*IDC **19** 17:59:41.0±0.7, 37°.08S×78°.22E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/34, mbtmp4.1/11, MS4.1/13, Ms1 4.1/13, ms1mx3.8/32, Error ellipse: s-maj=23.5km s-min=18.0km az=1.0*
*NEIC **19** 17:59:42.4±0.4, 37°.15S×78°.19E, h10km, mb4.8/5, Error ellipse: s-maj=16.8km s-min=10.5km az=182.0*
ISC 19 17:59:42.7±0.6, 37°.25±0°.1×78°.1E±0°.1, h9km, n35, σ1§48/26, mb4.6/18, MS4.2/13, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.81**	**349**	T	T	18 37 07.2	
baz=171,slow=76,SNR=157							
H08S1	**Diego Garcia H**	**29.82**	**349**	T	T	18 37 07.4	
baz=171,slow=76,SNR=210							
H08S3	**Diego Garcia H**	**29.83**	**349**	T	T	18 37 08.6	
baz=171,slow=76,SNR=252							
MAW	**Mawson**	**31.70**	**191**	LR	LR	18 16 22.1	
comp=Z,358nm,18.7s,baz=52,slow=32							
SYO	**Syowa Base**	**38.17**	**201**	⇑*eP*	**P**	**18 07 03.8**	**+1.7**
MYKOM	**Kota Tinggi**	**45.51**	**37**	*eP*	**P**	**18 08 05.5**	**+2.8**
95nm,1.7s							
FITZ	**Fitzroy Crossi**	**45.66**	**79**	LR	LR	18 24 08.4	
comp=Z,211nm,19.4s,slow=32							
LBTB	**Lobatse**	**46.06**	**270**	P	**P**	**18 08 05.4**	**-1.7**
3.3nm,0.7s,baz=230,slow=19,SNR=2.7							
SUR	**Sutherland**	**46.71**	**258**	P	**P**	**18 08 11.4**	**-0.9**
0.7nm,0.9s,baz=73,slow=12,SNR=2.4							
LSZ	**Lusaka**	**49.17**	**283**	*eP*	**P**	**18 08 30.6**	**-0.8**
7.6nm,1.0s							
ASAR	**Alice Springs**	**49.31**	**91**	P	**P**	**18 08 30.9**	**-1.4**
6.7nm,1.0s,baz=236,slow=6.8,SNR=36							
ASAR				LR	LR	18 27 03.8	
comp=Z,297nm,19.3s,baz=252,slow=33							
AS31	**Alice Springs**	**49.31**	**91**	*eP*	**P**	**18 08 30.9**	**-1.4**
2.5nm,1.0s							
WRA	**Warramunga Arr**	**51.55**	**87**	P	**P**	**18 08 47.7**	**-1.6**
11nm,0.9s,baz=238,slow=7.4,SNR=32							
WR1	**Warramunga Arr**	**51.55**	**87**	*eP*	**P**	**18 08 47.7**	**-1.6**
22nm,1.5s							
WRAB	**Tennant Creek**	**51.56**	**87**	*eP*	**P**	**18 08 47.5**	**-1.8**
11nm,1.0s							
STKA	**Stephens Creek**	**51.71**	**104**	P	**P**	**18 08 48.3**	**-2.1**
8.5nm,0.9s,baz=266,slow=6.0,SNR=14							
STKA				LR	LR	18 26 41.9	
comp=Z,241nm,20.6s,baz=211,slow=31							
KMBO	**Kilima Mbogo**	**51.99**	**304**	P	**P**	**18 08 53.2**	**+0.4**
0.5nm,0.3s,baz=212,slow=22,SNR=1.7							
KMBO				LR	LR	18 25 45.5	
comp=Z,100nm,21.5s,baz=111,slow=30							
SNAA	**Sanae**	**52.40**	**203**	P	**P**	**18 08 53.0**	**-2.0**
SNAA	**Sanae**	**52.40**	**203**	P	**P**	**18 08 55.9**	**+1.0**
2.4nm,1.0s,baz=102,slow=7.1,SNR=7.8							
VNDA	**Vanda**	**52.71**	**164**	P	**P**	**18 08 58.5**	**+1.4**
1.9nm,0.8s,baz=291,slow=8.7,SNR=7.8							
VNDA				LR	LR	18 28 56.6	
comp=Z,188nm,18.8s,baz=268,slow=33							
VNA2	**Neumayer--Watz**	**53.95**	**204**	P	**P**	**18 09 04.6**	**-1.7**
baz=96,slow=7.1							
VNA1	**Neumayer--Stat**	**54.29**	**204**	P	**P**	**18 09 10.5**	**+1.7**
VNA3	**Neumayer Olymp**	**54.62**	**203**	P	**P**	**18 09 12.8**	**+1.6**
MYLDM	**Lahad Datu**	**56.48**	**51**	*eP*	**P**	**18 09 26.0**	**+0.8**
34nm,1.3s							
CMAR	**Chiang Mai Arr**	**58.69**	**23**	P	**P**	**18 09 40.0**	**-0.7**
0.5nm,0.8s,baz=219,slow=7.0,SNR=3.5							
CMAR				LR	LR	18 30 33.0	
comp=Z,86nm,20.6s,baz=194,slow=32							
RPZ	**Rata Peaks**	**67.39**	**128**	LR	LR	18 33 19.1	
comp=Z,243nm,18.3s,baz=246,slow=30							
GEYT	**Alibeck**	**76.96**	**344**	LR	LR	18 41 15.7	
comp=Z,36nm,19.9s,baz=95,slow=32							
KKAR	**Karatay Array**	**80.18**	**354**	*eP*	**P**	**18 11 53.5**	**+0.4**
30nm,0.8s							
MK32	**Makanchi Array**	**83.65

*DDA **19** 18:19:32.8, 39.°15N×29.°07E, h7km, Md2.6*
ISC 19 18:19:30.8±1.1, 38.°79N±0.°04×29.°10E±0.°04, h7km±13km, n18, σ0§32/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.31**	**343**	*e*PG	**Pg**	**18 19 37.0**	**+0.1**
SIMA				*e*SG	**Sg**	**18 19 41.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.31**	**343**	*e*Pg	**Pg**	**18 19 37.0**	**+0.1**
SIMA				*e*Sg	**Sg**	**18 19 41.1**	**0.0**
DEMI	**Demirci**	**0.39**	**311**	*i* P	**Pg**	**18 19 38.7**	**+0.2**
DEMI				*i* S	**Sg**	**18 19 43.7**	**0.0**
DEMI	**Demirci**	**0.39**	**311**	P	**Pg**	**18 19 38.7**	**+0.2**
DEMI				S	**Sg**	**18 19 43.7**	**0.0**
GDZ	**Gediz**	**0.42**	**45**	*i* P	**Pg**	**18 19 39.2**	**+0.1**
GDZ				*i* S	**Sg**	**18 19 45.0**	**+0.3**
GDZ	**Gediz**	**0.42**	**45**	P	**Pg**	**18 19 39.2**	**+0.1**
GDZ				S	**Sg**	**18 19 45.0**	**+0.3**
KULA	**Kula-Manisa**	**0.44**	**232**	*e*PG	**Pg**	**18 19 39.6**	**+0.2**
KULA				*e*SG	**Sg**	**18 19 45.0**	**-0.1**
KULA	**Kula-Manisa**	**0.44**	**232**	*e*Pg	**Pg**	**18 19 39.6**	**+0.2**
KULA				*e*Sg	**Sg**	**18 19 45.0**	**-0.1**
MANT	**Manisa**	**0.52**	**235**	*i* P	**Pg**	**18 19 40.9**	**+0.1**
MANT				*i* S	**Sg**	**18 19 47.5**	**-0.1**
MANT	**Manisa**	**0.52**	**235**	P	**Pg**	**18 19 40.9**	**+0.1**
MANT				S	**Sg**	**18 19 47.5**	**-0.1**
TVSB	**Tavsanli**	**0.72**	**23**	*e*PG	**Pg**	**18 19 44.7**	**0.0**
TVSB	**Tavsanli**	**0.72**	**23**	*e*Pg	**Pg**	**18 19 44.7**	**0.0**
CAVI	**Cavuskoy**	**1.52**	**22**	*e*PN	**Pn**	**18 19 59.0**	**+0.4**
CAVI	**Cavuskoy**	**1.52**	**22**	*e*Pn	**Pn**	**18 19 59.0**	**+0.4**
ARMT	**Armutlu**	**1.79**	**354**	*e*PN	**Pn**	**18 20 02.7**	**+0.5**
ARMT	**Armutlu**	**1.79**	**354**	*e*Pn	**Pn**	**18 20 02.7**	**+0.5**
YLV	**Yalova**	**1.79**	**7**	*e*PN	**Pb**	**18 20 03.2**	**-0.8**
YLV	**Yalova**	**1.79**	**7**	*e*Pn	**Pb**	**18 20 03.3**	**-0.8**

IDC 19 18:19:58.5±7.3, 23.°70S×176.°02W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/30, mbtmp4.1/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/34, Error ellipse: s-maj=234.0km s-min=92.0km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.12**	**268**	P	P	18 26 55.0	+1.0
	6.3nm,0.8s,baz=104,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**45.66**	**259**	P	P	18 28 20.7	-0.6
	2.1nm,1.0s,baz=94,slow=7.7,SNR=8.6						
WRA	**Warramunga Arr**	**46.06**	**265**	P	P	18 28 23.4	-1.1
	1.9nm,0.8s,baz=103,slow=8.1,SNR=8.4						
FITZ	**Fitzroy Crossi**	**54.48**	**264**	P	P	18 29 28.8	+0.5
	2.1nm,0.8s,baz=115,slow=4.1,SNR=4.8						
NWAO	**Narrogin (SRO)**	**58.63**	**245**	LR	LR	18 52 23.9	
	comp=Z,51nm,18.9s,baz=155,slow=33						
CMAR	**Chiang Mai Arr**	**92.90**	**289**	P	P	18 33 14.0	0.0
	0.2nm,0.4s,baz=116,slow=2.1,SNR=2.7						

*ISK **19** 18:31:08.6, 39.°23N×42.°04E, h4km, MD2.8*
*CSEM **19** 18:31:09.6±0.3, 39.°17N×42.°10E, h8km, MD3.0, Error ellipse: s-maj=8.5km s-min=6.1km az=147.0*
*DDA **19** 18:31:09.9, 39.°15N×42.°12E, h7km, Md3.0*
ISC 19 18:31:10.0±1.0, 39.°17N±0.°04×42.°07E±0.°03, h13km±7km, n24, σ1§21/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.09**	**355**	*i* P	**Pg**	**18 31 12.6**	**-0.6**
EKAR	**Karacoban**	**0.09**	**355**	P	**Pg**	**18 31 12.6**	**-0.6**
VRTB	**Varto-Mus**	**0.48**	**270**	*e*PG	**Pg**	**18 31 18.0**	**-1.5**
VRTB	**Varto-Mus**	**0.48**	**270**	*e*Pg	**Pg**	**18 31 18.0**	**-1.5**
TUTA	**Tutak**	**0.62**	**67**	*i* P	**Pg**	**18 31 21.0**	**-1.2**
TUTA				*i* S	**Sb**	**18 31 30.8**	**-0.8**
TUTA	**Tutak**	**0.62**	**67**	P	**Pg**	**18 31 21.0**	**-1.2**
TUTA				S	**Sb**	**18 31 30.8**	**-0.8**
EATA	**Eleskirt**	**0.77**	**25**	*i* P	**Pg**	**18 31 24.3**	**-0.7**
EATA				*i* S	**Sb**	**18 31 36.7**	**+0.8**
EATA	**Eleskirt**	**0.77**	**25**	P	**Pg**	**18 31 24.3**	**-0.7**
EATA				S	**Sb**	**18 31 36.7**	**+0.8**
AGRB	**Hanur-Agry**	**0.82**	**60**	*e*PG	**Pg**	**18 31 25.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.82**	**60**	*e*Pg	**Pg**	**18 31 25.0**	**-1.0**
ERZM	**Erzurum**	**0.92**	**324**	*i* P	**Pn**	**18 31 28.9**	**0.0**
ERZM				*i* S	**Sb**	**18 31 41.5**	**+1.3**
ERZM	**Erzurum**	**0.92**	**324**	P	**Pn**	**18 31 28.9**	**0.0**
ERZM				S	**Sb**	**18 31 41.5**	**+1.3**
ECAT	**Cat-ERZURUM**	**0.96**	**298**	*i* P	**Pg**	**18 31 28.3**	**-0.3**
ECAT				*i* S	**Sn**	**18 31 43.5**	**+0.5**
ECAT	**Cat-ERZURUM**	**0.96**	**298**	P	**Pg**	**18 31 28.3**	**-0.3**
ECAT				S	**Sn**	**18 31 43.5**	**+0.5**
BNGB	**Bingˆ¶l**	**1.10**	**261**	*e*PN	**Pg**	**18 31 30.1**	**-1.1**
BNGB				*e*SN	**Sg**	**18 31 45.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.22**	**283**	*e*PN	**Pg**	**18 31 31.8**	**-1.7**
YEDI	**Yedisu-Bingol**	**1.22**	**283**	*e*Pn	**Pg**	**18 31 31.8**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.22**	**214**	*e*PN	**Pb**	**18 31 33.2**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.22**	**214**	*e*Pn	**Pb**	**18 31 33.2**	**+0.2**
BINT	**Bingol**	**1.27**	**257**	*e*Pn	**Pn**	**18 31 30.1**	**-3.5**
BTMN	**Batman**	**1.42**	**207**	*i* P	**Pb**	**18 31 36.7**	**+0.3**
BTMN				*i* S	**Sg**	**18 31 57.4**	**+1.6**
BTMN	**Batman**	**1.42**	**207**	P	**Pb**	**18 31 36.7**	**+0.3**
BTMN				S	**Sg**	**18 31 57.3**	**+1.6**
MAZI	**Mazidag**	**2.13**	**217**	*e*PN	**Pn**	**18 31 46.8**	**+1.4**
MAZI	**Mazidag**	**2.13**	**217**	*e*Pn	**Pn**	**18 31 46.8**	**+1.4**

*DDA **19** 18:32:40.0, 39.°63N×38.°80E, h7km, Md2.6*
*ISK **19** 18:32:40.5, 39.°70N×38.°76E, h3km, MD2.5*
*CSEM **19** 18:32:42.7±0.3, 39.°49N×38.°55E, h2km, MD2.6, Error ellipse: s-maj=12.1km s-min=6.6km az=24.0*
ISC 19 18:32:41.1±1.2, 39.°64N±0.°03×38.°73E±0.°03, h3km±12km, n13, σ1§76/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ~**	**0.25**	**174**	*i* P	**Pg**	**18 32 45.5**	**-0.4**
REFA				*i* S	**Sg**	**18 32 49.9**	**+0.8**
REFA	**Refahiye_ERZ~**	**0.25**	**174**	P	**Pg**	**18 32 45.5**	**-0.4**
REFA				S	**Sg**	**18 32 49.9**	**+0.8**
KEMA	**Kemaliye**	**0.42**	**207**	*i* P	**Pg**	**18 32 48.4**	**-0.7**
KEMA				*i* S	**Sg**	**18 32 55.4**	**+0.8**
KEMA	**Kemaliye**	**0.42**	**207**	P	**Pg**	**18 32 48.4**	**-0.7**
EZC	**Erzincan**	**0.49**	**77**	*e*Pg	**Pn**	**18 32 55.7**	**+0.5**
EZC				*e*Sg	**Sb**	**18 33 06.8**	**+6.6**
KELT	**Kelkit**	**0.65**	**38**	*i* P	**Pg**	**18 32 52.6**	**-0.9**
KELT				*i* S	**Sg**	**18 33 01.6**	**-0.3**
ERZN	**Erzincan**	**0.77**	**94**	*e*PG	**Pb**	**18 32 55.7**	**-1.5**
ERZN				*e*SG	**Sb**	**18 33 06.8**	**-1.3**
CUZAR	**Zara_SIVAS**	**0.78**	**289**	*i* P	**Pb**	**18 32 56.7**	**-0.8**
CUZAR				*i* S	**Sg**	**18 33 06.3**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.78**	**289**	P	**Pb**	**18 32 56.7**	**-0.8**
CUZAR				S	**Sg**	**18 33 06.3**	**+0.1**
PTK	**Pertek**	**0.91**	**145**	*e*PG	**Pb**	**18 32 59.3**	**-0.3**
PTK				*e*SG	**Sn**	**18 33 13.1**	**-1.6**
PTK	**Pertek**	**0.91**	**145**	*e*Pg	**Pb**	**18 32 59.3**	**-0.3**
PTK				*e*Sg	**Sn**	**18 33 13.1**	**-1.6**
SVSK	**Karacayir**	**1.36**	**282**	*e*PN	**Pg**	**18 33 07.4**	**+0.1**
SVSK	**Karacayir**	**1.36**	**282**	*e*Pn	**Pg**	**18 33 07.4**	**+0.1**

*ISCJB **19** 18:37:51.5±0.4, 22.°69S±0.°06×113.°28W±0.°10, h10km, mb4.7/77, MS4.6/19, Error ellipse: s-maj=13.9km s-min=6.7km az=156.0*
*IDC **19** 18:37:51.4±0.7, 22.°60S×113.°40W, h0km, mb4.4/11, mb1 4.6/11, mb1mx4.5/24, mbtmp4.4/11, MS4.5/19, Ms1 4.5/19, ms1mx4.3/34, Error ellipse: s-maj=25.0km s-min=18.1km az=55.0*
*NEIC **19** 18:37:53.9±0.6, 22.°76S×113.°22W, h15km±3km, mb4.9/67, Error ellipse: s-maj=12.0km s-min=6.8km az=62.0*
*GCMT **19** 18:37:53.8±0.2, 22.°82S×113.°40W, h13km±1km, MW5.2/116, Moment Tensor Solution. s63,c95; s116,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.07±.12; M_{tt}-6.29±.15; M_{pp}6.22±.14; M_{rt}-0.63±.31; M_{rp}2.79±.12; M_{tr}-1.28±.33; Best double couple: $M_0$6.99400×10^{16} NP1:φs238.00000°, δ84.00000°, λ10.00000°. NP2:φs146.00000°, δ80.00000°, λ174.00000°. Principal axes: T 7.0870, Plg11.0000°, Azm102.0000°; N -0.1810, Plg78.0000°, Azm267.0000°; P -6.9020, Plg3.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 18:37:52.3±0.5, 22.°7S±0.°1×113.°5W±0.°1, h10km, n136, σ1§52/112, mb4.9/77, MS4.6/19, 1C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**19.81**	**265**	*e*LQ	LQ	18 46 11.2	
	5μm,29.5s						
RKT				*e*LR	LR	18 47 01.9	
	4μm,28.5s,baz=87						
RKT	**Rikitea**	**19.81**	**265**	*e*T	T	19 02 30.5	
	5.2nm,0.3s						
TAOE	**Nuku Hiva Isla**	**29.07**	**294**	*e*S	S	18 48 38.0	-7.1
	237nm,27.6s						
TAOE				*e*LQ	LQ	18 50 00.6	
	1μm,27.3s						
TAOE				*e*LR	LR	18 51 17.0	
	3μm,25.9s						
PPT2	**Papeete2**	**34.22**	**272**	*e*S	**S**	**18 50 00.1**	**-5.4**
	297nm,27.5s						
PPT2				*e*LQ	LQ	18 52 27.4	
	678nm,24.8s						
PPT2				*e*LR	LR	18 53 32.0	
	2μm,27.8s,baz=94						
PPT	**Papeete**	**34.22**	**272**	LR	LR	18 55 21.9	
	comp=Z,317nm,18.7s,baz=112,slow=31						
PLCA	**Paso Flores**	**40.23**	**127**	P	**P**	**18 45 30.5**	**+1.2**
	20nm,1.3s,baz=297,slow=11,SNR=6.5						
PLCA				LR	LR	18 57 47.5	
	comp=Z,854nm,20.8s,baz=314,slow=30						
PLCA	**Paso Flores**	**40.23**	**127**	*e*P	**P**	**18 45 30.7**	**+1.4**
	60nm,1.5s						
PB01	**IPOC Station P**	**40.74**	**96**	*e*P	**P**	**18 45 34.9**	**+1.1**
	24nm,1.2s						
PB11	**IPOC Station P**	**40.84**	**94**	*e*P	**P**	**18 45 34.1**	**-0.6**
	32nm,1.2s						
LVC	**Limon Verde**	**41.00**	**99**	P	**P**	**18 45 36.4**	**+0.2**
	55nm,1.1s,baz=263,slow=8.6,SNR=10						
LVC	**Limon Verde**	**41.00**	**99**	*e*P	**P**	**18 45 32.1**	**-4.1**
	72nm,1.6s						
OTAV	**Otavalo**	**41.02**	**61**	*e*P	**P**	**18 45 34.6**	**-1.9**
	18nm,1.5s						
MNMC	**Minye Minye**	**41.03**	**93**	*e*P	**P**	**18 45 32.4**	**-4.0**
	66nm,1.8s						
LPAZ	**La Paz**	**43.09**	**90**	P	**P**	**18 45 54.5**	**+0.8**
	33nm,1.3s,baz=248,slow=7.0,SNR=41						
LPAZ				LR	LR	18 59 35.4	
	comp=Z,765nm,21.1s,baz=259,slow=30						
CMIG	**Matias Romero**	**43.56**	**26**	P	**P**	**18 45 57.1**	**+0.5**
	5.1nm,0.8s,baz=193,slow=9.3,SNR=4.2						
TRQA	**Tornquist**	**46.40**	**121**	*e*P	**P**	**18 46 19.7**	**+0.5**
	70nm,1.9s						
RUSC	**La Rusia**	**48.67**	**59**	*e*P	**P**	**18 46 36.6**	**-1.0**
	7.6nm,1.3s						
SAML	**Samuel**	**50.05**	**83**	*e*P	**P**	**18 46 47.2**	**-0.4**
	25nm,1.4s						
CPUP	**Villa Florida**	**50.87**	**106**	P	**P**	**18 46 52.9**	**-0.8**
	5.5nm,0.8s,baz=271,slow=10,SNR=6.8						
CPUP				LR	LR	19 04 18.5	
	comp=Z,306nm,21.6s,baz=254,slow=31						
LTX	**Lajitas**	**52.62**	**11**	*e*P	**P**	**18 47 05.8**	**-0.8**
TXAR	**Lajitas Array**	**52.62**	**11**	P	**P**	**18 47 05.8**	**-0.8**
	1.0nm,0.7s,baz=190,slow=9.8,SNR=9.8						
TXAR				LR	LR	19 05 28.3	
	comp=Z,611nm,18.6s,baz=0.0,slow=32						
JCT	**Junction City**	**54.51**	**15**	*e*P	**P**	**18 47 20.9**	**+0.4**
	9.5nm,0.8s						
MNTX	**Cornudas Mount**	**54.67**	**8**	*e*P	**P**	**18 47 22.2**	**+0.6**
	7.0nm,1.1s						
TUC	**Tucson**	**54.79**	**3**	*e*P	**P**	**18 47 24.6**	**+2.1**
	6.1nm,1.1s						
113A	**Mohawk Valley,**	**55.19**	**360**	*e*P	**P**	**18 47 26.9**	**+1.6**
	6.2nm,1.0s						
AFI	**Afiamalu**	**55.75**	**268**	LR	LR	19 06 01.0	
	comp=Z,430nm,18.1s,baz=130,slow=30						
CIAC	**Catalina I. Ai**	**56.02**	**355**	*e*P	**P**	**18 47 30.2**	**-1.0**
PFO	**Pinyon Flats O**	**56.10**	**357**	LR	LR	19 05 42.0	
	comp=Z,490nm,21.5s,baz=144,slow=30						
Y12C	**Blythe**	**56.18**	**359**	*e*P	**P**	**18 47 33.2**	**+0.9**
	7.8nm,1.0s						
Y14A	**Wickenburg**	**56.36**	**0**	*e*P	**P**	**18 47 35.2**	**+1.6**
	114nm,1.9s						
PTGA	**Pitinga**	**56.37**	**75**	*e*P	**P**	**18 47 33.3**	**-0.9**
	23nm,1.4s						
X16A	**Lo Mia Camp, P**	**56.87**	**2**	*e*P	**P**	**18 47 39.1**	**+1.6**
	12nm,0.4s						
X18A	**Snowflake**	**57.04**	**3**	*e*P	**P**	**18 47 40.8**	**+2.1**
	10nm,0.9s						
MSTX	**Muleshoe**	**57.30**	**11**	*e*P	**P**	**18 47 40.8**	**+0.4**
	11nm,1.0s						
W13A	**Hualapai Mount**	**57.52**	**360**	*e*P	**P**	**18 47 44.2**	**+2.1**
	9.9nm,1.3s						
ANMO	**Albuquerque**	**57.75**	**7**	LR	LR	19 08 15.1	
	comp=Z,752nm,18.6s,baz=15,slow=32						
GSC	**Goldstone, Bar**	**57.80**	**357**	*e*P	**P**	**18 47 45.5**	**+1.6**
	4.1nm,0.8s						
WUAZ	**Wupatki**	**57.97**	**2**	*e*P	**P**	**18 47 46.4**	**+1.2**
	5.6nm,0.8s						
AMTX	**Amarillo**	**58.38**	**11**	*e*P	**P**	**18 47 49.8**	**+1.8**
	7.6nm,0.8s						
DAC	**Darwin (Calif)**	**58.82**	**356**	*e*P	**P**	**18 47 53.0**	**+1.8**
	5.0nm,1.0s						
U15A	**North Rim**	**58.85**	**1**	*e*P	**P**	**18 47 52.8**	**+1.3**
	11nm,1.1s						
SHPR	**Sheep Range**	**58.94**	**358**	*e*P	**P**	**18 47 53.8**	**+1.9**
	20nm,1.2s						
TPNV	**Topopah Spring**	**59.42**	**357**	*e*P	**P**	**18 47 57.5**	**+2.2**
	6.8nm,0.9s						
LCMT	**Little Creek M**	**59.42**	**0**	*e*P	**P**	**18 47 56.8**	**+1.6**
	6.8nm,1.3s						
KNB	**Kanab**	**59.43**	**1**	*e*P	**P**	**18 47 57.6**	**+2.2**
	14nm,1.4s						
MVCO	**Mesa Verde**	**59.81**	**5**	*e*P	**P**	**18 47 59.3**	**+1.2**
	17nm,1.3s						
CCUT	**Cedar City**	**59.96**	**0**	*e*P	**P**	**18 48 01.1**	**+2.0**
	8.4nm,0.9s						
JLAB	**Laurel Hill**	**60.07**	**352**	*e*P	**P**	**18 48 04.3**	**+4.8**
MHTCO	**State Highway**	**60.11**	**8**	*e*P	**P**	**18 48 01.2**	**+1.1**
	25nm,1.6s						
MTPU	**Mount Pierson**	**60.46**	**1**	*e*P	**P**	**18 48 04.3**	**+1.6**
	3.8nm,0.7s						
S22A	**4UR Ranch, Cre**	**60.48**	**6**	*e*P	**P**	**18 48 04.4**	**+1.6**
	25nm,1.8s						
SDCO	**Great Sand Dun**	**60.62**	**7**	*e*P	**P**	**18 48 05.3**	**+1.7**
	6.9nm,1.2s						
R11A	**Troy Canyon, C**	**60.79**	**358**	*e*P	**P**	**18 48 06.4**	**+1.7**
	6.3nm,1.1s						
SRU	**San Rafael Swe**	**61.58**	**3**	*e*P	**P**	**18 48 10.8**	**+0.8**
	11nm,1.2s						
YERR	**Yerington**	**61.63**	**355**	*e*P	**P**	**18 48 12.2**	**+1.8**
	19nm,1.3s						
AFDM	**Forest Hills D**	**61.76**	**353**	*e*P	**P**	**18 48 12.4**	**+1.3**
	14nm,1.4s						
PNTR	**Pine Nut**	**61.76**	**355**	*e*P	**P**	**18 48 12.6**	**+1.3**
	10.0nm,1.0s						
BDFB	**Brasilia**	**61.81**	**96**	P	**P**	**18 48 11.9**	**-0.1**
	1.8nm,0.6s,baz=65,slow=8.5,SNR=3.9						
BDFB				LR	LR	19 12 06.9	
	comp=Z,201nm,20.4s,baz=40,slow=33						
P17A	**Butcher Ranch,**	**61.93**	**2**	*e*P	**P**	**18 48 13.7**	**+1.3**
	18nm,1.2s						
P18A	**Preston Nutter**	**62.11**	**3**	*e*P	**P**	**18 48 15.2**	**+1.5**
	16nm,1.5s						
NLU	**North Lily Min**	**62.38**	**1**	*e*P	**P**	**18 48 16.0**	**+0.6**
	12nm,1.3s						
MPU	**Maple Canyon**	**62.45**	**2**	*e*P	**P**	**18 48 17.0**	**+1.2**
	13nm,1.3s						
BEKR	**Beckworth**	**62.60**	**354**	*e*P	**P**	**18 48 18.0**	**+1.1**
	3.3nm,0.6s						
DUG	**Dugway, Tooele**	**62.60**	**1**	*e*P	**P**	**18 48 18.0**	**+1.1**
	7.7nm,1.0s						
JLU	**Jordanelle**	**63.04**	**2**	*e*P	**P**	**18 48 19.3**	**-0.5**
	20nm,1.5s						
ELK	**Elko**	**63.17**	**358**	LR	LR	19 10 48.3	
	comp=Z,248nm,18.1s,baz=237,slow=31						
BGU	**Big Grassy Mou**	**63.33**	**0**	*e*P	**P**	**18 48 22.5**	**+0.9**
	13nm,1.5s						
WDC	**Whiskeytown Da**	**63.55**	**352**	*e*P	**P**	**18 48 24.3**	**+1.4**
	15nm,1.3s						
KHMM	**Horse Mountain**	**64.00**	**351**	*e*P	**P**	**18 48 28.2**	**+2.1**
	20nm,1.1s						
WVOR	**Wild Horse Val**	**65.01**	**356**	*e*P	**P**	**18 48 34.2**	**+1.6**
	13nm,1.2s						
BW06	**Boulder Array**	**65.27**	**3**	*e*P	**P**	**18 48 34.2**	**-0.2**
	17nm,1.7s						
PD31	**Pinedale Array**	**65.27**	**3**	*e*P	**P**	**18 48 32.0**	**-2.5**
PDAR	**Pinedale Array**	**65.27**	**3**	P	**P**	**18 48 34.3**	**-0.2**
	1.5nm,0.6s,baz=184,slow=6.3,SNR=12						
HUMO	**Hull Mountain**	**65.60**	**352**	*e*P	**P**	**18 48 37.3**	**+1.0**
	13nm,1.3s						
SBA	**Scott Base**	**65.78**	**193**	*e*P	**P**	**18 48 39.3**	**+2.2**
	15nm,1.5s						
MFID	**Camas Ranch**	**65.86**	**358**	*e*P	**P**	**18 48 39.9**	**+1.9**
	14nm,1.5s						
TPAW	**Teton Pass**	**65.94**	**2**	*e*P	**P**	**18 48 38.6**	**-0.2**
	6.6nm,0.8s						
HLID	**Hailey**	**65.97**	**359**	*e*P	**P**	**18 48 40.0**	**+1.1**
	9.3nm,1.0s						
LOHW	**Long Hollow**	**66.07**	**2**	*e*P	**P**	**18 48 40.4**	**+0.8**
	4.6nm,0.9s						
FXWY	**Fox Creek**	**66.08**	**2**	*e*P	**P**	**18 48 39.6**	**-0.1**
	3.4nm,0.8s						
MOOW	**Moose Ponds**	**66.20**	**2**	*e*P	**P**	**18 48 41.0**	**+0.6**
	20nm,1.9s						
IMW	**Indian Meadow**	**66.34**	**2**	*e*P	**P**	**18 48 41.4**	**0.0**
	7.7nm,1.1s						
VNDA	**Vanda**	**66.82**	**194**	P	**P**	**18 48 45.7**	**+1.9**
	0.1nm,0.3s,baz=98,slow=18,SNR=1.8						
VNDA				LR	LR	19 11 39.3	
	comp=Z,433nm,18.6s,baz=104,slow=30						
RSSD	**Black Hills**	**67.09**	**7**	*e*P	**P**	**18 48 44.9**	**-1.2**
	6.3nm,0.9s						
MCMT	**McKenzie Canyo**	**67.23**	**0**	*e*P	**P**	**18 48 48.0**	**+1.0**
YHH	**Holmes Hill**	**67.23**	**2**	*e*P	**P**	**18 48 48.1**	**+1.0**
	6.9nm,1.3s						
BMO	**Blue Mountains**	**67.35**	**357**	*e*P	**P**	**18 48 48.8**	**+1.2**
	20nm,1.9s						
HRY	**Holter Researc**	**69.13**	**1**	*e*P	**P**	**18 49 00.1**	**+1.4**
CHMT	**Chamberlain Mo**	**69.32**	**0**	*e*P	**P**	**18 49 00.8**	**+0.7**
C09A	**Chrisman Ranch**	**70.34**	**357**	*e*P	**P**	**18 49 07.9**	**+1.9**
	14nm,0.3s						
EGMT	**Eagleton**	**70.51**	**3**	*e*P	**P**	**18 49 08.1**	**+1.0**
	17nm,1.4s						
NEW	**Newport**	**70.75**	**357**	LR	LR	19 15 07.5	
	comp=Z,478nm,19.2s,baz=177,slow=32						
VNA3	**Neumayer Olymp**	**73.00**	**161**	P	**P**	**18 49 22.3**	**+0.4**
DZM	**Mont Dzumac**	**73.08**	**253**	LR	LR	19 13 20.0	
	comp=Z,534nm,21.0s,baz=56,slow=29						
DZM	**Mont Dzumac**	**73.08**	**253**	*e*LR	LR	19 11 39.7	
	825nm,23.7s						
VNA1	**Neumayer--Stat**	**73.65**	**160**	P	**P**	**18 49 27.1**	**+1.4**
VNA2	**Neumayer--Watz**	**73.81**	**161**	P	**P**	**18 49 26.9**	**+0.2**
	baz=244,slow=6.8						
ULM	**Lac du Bonnet**	**74.31**	**12**	P	**P**	**18 49 28.5**	**-1.2**
	2.4nm,0.8s,baz=180,slow=6.1,SNR=2.9						
SNAA	**Sanae**	**74.84**	**162**	P	**P**	**18 49 32.5**	**-0.3**
SNAA	**Sanae**	**74.84**	**162**	*e*P	**P**	**18 49 32.4**	**-0.3**
	4.3nm,0.9s						
BBB	**Bella Bella**	**75.69**	**351**	LR	LR	19 16 31.3	
	comp=Z,57nm,18.4s,baz=200,slow=31						
HNR	**Honiara**	**83.29**	**263**	LR	LR	19 19 26.8	
	comp=Z,343nm,21.0s,baz=118,slow=30						
YKA	**Yellowknife Ar**	**84.94**	**359**	P	**P**	**18 50 27.2**	**+0.1**
	5.2nm,1.1s,baz=176,slow=4.2,SNR=6.1						
YKB5	**Yellowknife Ar**	**84.94**	**359**	*e*P	**P**	**18 50 27.2**	**+0.1**
SYO	**Syowa Base**	**86.45**	**171‖**	*e*P	**P**	**18 50 34.0**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**88.07**	**291**	T	T	20 28 08.8	
	baz=115,slow=75,SNR=324						
H11S1	**WAKE ISLAND Hy**	**88.08**	**291**	T	T	20 28 09.6	
	baz=115,slow=75,SNR=155						
H11S3	**WAKE ISLAND Hy**	**88.08**	**291**	T	T	20 28 11.6	
	baz=115,slow=75,SNR=141						
H11N3	**WAKE ISLAND Hy**	**88.40**	**292**	T	T	20 28 47.0	
	baz=116,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**88.42**	**292**	T	T	20 28 37.4	
	baz=116,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**88.42**	**292**	T	T	20 28 49.5	
	baz=116,slow=75,SNR=161						
MAW	**Mawson**	**89.89**	**179**	LR	LR	19 27 50.9	
	comp=Z,392nm,18.3s,baz=227,slow=33						
ILAR	**Eielson Array**	**90.97**	**346**	P	**P**	**18 50 58.0**	**+2.0**
	0.4nm,0.9s,baz=174,slow=3.6,SNR=4.1						
ILAR				LR	LR	19 23 46.2	
	comp=Z,82nm,18.3s,baz=135,slow=30						
ILB	**Eielson Array**	**90.97**	**346**	*e*P	**P**	**18 50 58.0**	**+2.0**
FRB	**Frobisher Bay**	**93.06**	**18**	LR	LR	19 30 00.8	
	comp=Z,425nm,20.5s,baz=218,slow=34						
RES	**Resolute Bay**	**97.92**	**5**	LR	LR	19 32 20.3	
	comp=Z,451nm,20.8s,baz=202,slow=33						
TOA1	**Torodi Ar. Sit**	**117.99**	**87**	*e*PKPdf	**PKPdf**	**18 56 39.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**117.99**	**87**	PKP	**PKPdf**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NJS	**Nagarjunasagar**	**0.14**	**92⇑**	*eP*		**Pg**		**18 53 47.8**	**-0.3**
NJS				*e*				18 53 47.8	
	baz=255,slow=18								
NJS				IAML				18 53 50.0	
	comp=Z,5μm,0.1s								
SRLM	**Srisailam**	**0.53**	**210⇓**	*eP*		**Pg**		**18 53 53.8**	**-0.8**
SRLM				*eS*		**Sg**		**18 54 00.0**	**-1.7**
SRLM				IAML				18 54 00.6	
	comp=Z,837nm,0.3s								
HYB	**Hyderabad**	**1.03**	**326**	*i* Pg		**Pn**		**18 54 04.0**	**+0.2**
HYB				*eS*g		**Sb**		**18 54 17.0**	**+0.2**
HYB	**Hyderabad**	**1.03**	**326**	*eP*		**Pn**		**18 54 04.0**	**+0.2**
HYB				*eS*		**Sg**		**18 54 17.9**	**+0.1**
HYB				AML		AML		18 54 18.2	
	comp=N,3μm,0.1s								
HYB				AML		AML		18 54 18.2	
	comp=E,5μm,0.1s								
HYBB	**Hyderabad (bro**	**1.04**	**326⇑**	*eP*		**Pn**		**18 54 04.0**	**+0.1**
HYBB				*eS*		**Sg**		**18 54 18.0**	**+0.2**
HYBB				IAML				18 54 21.8	
	comp=Z,3μm,0.2s								
ADKI	**Addanki**	**1.05**	**132⇑**	*eP*		**Pb**		**18 54 03.7**	**0.0**
ADKI				*eS*		**Sb**		**18 54 17.3**	**+0.1**
ADKI				IAML				18 54 21.8	
	comp=Z,690nm,0.5s								
RPR	**Rampur**	**2.29**	**3⇓**	*eP*		**Pb**		**18 54 23.4**	**-1.5**
RPR				IAML				18 54 57.2	
	comp=Z,703nm,0.2s								
URV	**Uravakonda**	**2.44**	**229⇑**	*eP*		**Pn**		**18 54 24.0**	**+0.9**
URV				IAML				18 55 07.1	
	comp=Z,391nm,0.3s								
PVM	**Polavaram**	**2.45**	**73⇓**	*eP*		**Pb**		**18 54 27.0**	**-0.7**
PVM				*eS*		**Sb**		**18 54 57.3**	**-0.3**
PVM				IAML				18 55 08.2	
	comp=Z,226nm,0.3s								
SRSP	**Sriramsagar**	**2.48**	**342⇓**	*eP*		**Pn**		**18 54 25.5**	**+1.8**
SRSP				IAML				18 55 02.8	
	comp=Z,637nm,0.3s								
SKHT	**Srikalahasti**	**2.85**	**169⇑**	*eP*		**Pn**		**18 54 30.2**	**+1.4**
SKHT				IAML				18 55 12.7	
	comp=Z,198nm,0.5s								
KLRI	**Killari**	**2.88**	**302⇑**	*eP*		**Pn**		**18 54 29.6**	**+0.5**
KLRI				IAML				18 55 18.7	
	comp=Z,401nm,0.4s								
LATR	**Latur**	**3.10**	**307**	*eP*		**Pb**		**18 54 40.5**	**+1.8**
LATR				*eS*		**Sb**		**18 55 17.0**	**+0.8**
MDRS	**Chennai**	**3.63**	**163**	*eP*		**Pn**		**18 54 41.8**	**+2.3**
MDRS				*eS*		**Sn**		**18 55 24.2**	**+2.4**
MDRS				AML		AML		18 55 43.4	
	comp=N,124nm,0.3s								
MDRS				AML		AML		18 55 43.8	
	comp=E,163nm,0.2s								
VIS	**Vishakhapatnam**	**4.15**	**73**	*eP*		**Pn**		**18 54 50.6**	**+4.0**
VIS				*ex*		x		18 55 44.8	
VIS				AML		AML		18 55 51.1	
	comp=E,93nm,0.2s								
VIS				AML		AML		18 55 51.1	
	comp=N,170nm,0.4s								
NGP	**Nagpur**	**4.57**	**359**	*eP*		**Pn**		**18 54 55.6**	**+3.2**
NGP				*eS*		**Sn**		**18 55 45.6**	**+0.5**
NGP				IAML				18 56 05.5	
	comp=N,104nm,1.5s								
NGP				IAML				18 56 05.8	
	comp=E,145nm,0.8s								
KAD	**Karad**	**4.83**	**280**	*eP*		**Pb**		**18 55 09.4**	**+1.2**
KAD				*eS*		**Sb**		**18 56 11.3**	**+5.3**
CHLP	**Challavanipeta**	**5.05**	**67⇓**	*eP*		**Pn**		**18 55 00.2**	**+1.1**
CHLP				IAML				18 56 19.7	
	comp=Z,76nm,0.4s								
GOA	**Goa**	**5.24**	**259**	*eP*		**Pn**		**18 55 02.8**	**+1.1**
GOA				*eS*		**Sn**		**18 55 59.3**	**-2.4**
POO	**Poona**	**5.44**	**292**	*eP*		**Pn**		**18 55 04.4**	**+0.1**
POO				*eS*		**Sn**		**18 56 04.1**	**-2.4**
BOM	**Bombay**	**6.48**	**292**	*ex*		Pg		18 55 60.0	+12
BOM				*ex*		**Sb**		**18 56 53.2**	**-0.4**
BHPL	**Bhopal**	**6.84**	**346**	*eS*		**Sn**		**18 56 39.5**	**-1.8**
BHPL				AML		AML		18 57 16.4	
	comp=N,83nm,0.5s								
BHPL				AML		AML		18 57 16.9	
	comp=E,101nm,0.4s								
TRD	**Trivandrum**	**8.29**	**195**	*eS*		**Sn**		**18 57 11.1**	**-5.7**
KOLN	**Koldanda**	**11.89**	**19**	*eP*		**Pn**		**18 56 33.2**	**+0.2**
	comp=E,7.2nm,0.2s								
PYUN	**Piuthan**	**12.02**	**16**	*eP*		**Pn**		**18 56 34.8**	**0.0**
	comp=E,5.6nm,0.2s								
PKIN	**Phulchoki**	**12.39**	**27**	*eP*		**Pn**		**18 56 40.1**	**+0.2**
	comp=E,6.9nm,0.4s								
RAMN	**Ramite**	**12.43**	**32**	*eP*		**Pn**		**18 56 41.3**	**+0.8**
	comp=E,7.2nm,0.4s								
GKN	**Gorkha**	**12.46**	**23**	*eP*		**Pn**		**18 56 40.8**	**0.0**
	comp=E,16nm,0.3s								
KKN	**Kakani**	**12.53**	**26**	*eP*		**Pn**		**18 56 41.8**	**0.0**
ODAN	**Odare**	**12.78**	**35**	*eP*		**Pn**		**18 56 45.8**	**+0.5**
	comp=E,6.4nm,0.5s								
JIRN	**Jiri**	**12.82**	**29**	*eP*		**Pn**		**18 56 46.7**	**+0.8**
	comp=E,83nm,0.3s								
GUN	**Gumba**	**12.89**	**28**	*eP*		**Pn**		**18 56 46.9**	**+0.1**

MOS ***19*** *19:03:15.0±1.3, 15°.30N×92°.59W, h72km, mb5.2/31, Error ellipse: s-maj=11.3km s-min=4.6km az=108.1*
CASC ***19*** *19:03:16.2±1.1, 15°.21N×92°.92W, h188km±12km, ML3.9, mb5.0(NEIC)*
ISCJB ***19*** *19:03:17.2±0.1, 15°.35N±0°.02×92°.80W±0°.02, h90km, mb4.9/206, Error ellipse: s-maj=3.4km s-min=1.8km az=136.5*
NEIC ***19*** *19:03:18.4±0.2, 15°.27N×92°.75W, mb5.0/204, MW5.0, Error ellipse: s-maj=4.5km s-min=2.7km az=220.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74; $M_{\theta\theta}$2.42; $M_{\phi\phi}$0.32; $M_{r\theta}$2.96; $M_{\theta\phi}$-1.70; $M_{\phi r}$-1.55; Best double couple: $M_0$4.60000×10^{16} NP1: ϕ_s298.00000°, δ69.00000°, λ-91.00000°. NP2: ϕ_s121.00000°, δ21.00000°, λ-87.00000°. Principal axes: T 4.8400, Plg24.0000°, Azm29.0000°; N -0.6300, Plg1.0000°, Azm298.0000°; P -4.2100, Plg66.0000°, Azm206.0000°;*
NEIC Felt [II] at Belize City, Belize.
BJI ***19*** *19:03:18.3, 15°.20N×92°.90W, h85km, mB5.1/11, Ms5.1/12, Ms7 4.8/13*
GCMT ***19*** *19:03:18.3±0.3, 15°.26N×92°.91W, h70km±2km, MW5.1/92, Moment Tensor Solution. s43,c48; s92,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.20; $M_{\theta\theta}$1.30±.24; $M_{\phi\phi}$1.75±.24; $M_{r\theta}$3.28±.11; $M_{\theta\phi}$-2.99±.25; $M_{\phi r}$-2.19±.12; Best double couple: $M_0$5.50400×10^{16} NP1:ϕ_s304.00000°, δ69.00000°, λ-103.00000°. NP2: ϕ_s157.00000°, δ25.00000°, λ-60.00000°. Principal axes: T 6.1440, Plg23.0000°, Azm44.0000°; N -1.2790, Plg12.0000°, Azm309.0000°; P -4.8650, Plg64.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MEX ***19*** *19:03:18.8±1.2, 15°.18N×93°.07W, h88km±12km, MD4.7*
IDC ***19*** *19:03:18.2±0.6, 15°.53N×92°.36W, h87km±4km, mb4.4/29, mb1 4.6/31, mb1mx4.5/47, mbtmp4.8/31, MS3.8/17, Ms1 3.8/17, ms1mx3.6/42, Error ellipse: s-maj=18.3km s-min=7.8km az=56.0*

ISC 19 19:03:17.7±0.3, 15°.24N±0°.04×92°.91W±0°.04, h89km±2km, h89km:pP-P, n833, σ1%62/904, mb5.0/207, 4C-4D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**0.55**	**327**	*eP*		**Pn**		**19 03 32.1**	**-0.7**
PCIG				*eS*		**Sn**		**19 03 43.1**	**-0.9**
CCIG	**Comitan**	**1.27**	**36**	*i* P		**Pn**		**19 03 43.0**	**+2.2**
CCIG				*i* S		**Sn**		**19 04 00.7**	**+2.5**
CCIG	**Comitan**	**1.27**	**36**	*e*Pn		**Pn**		**19 03 43.2**	**+2.3**
CMIG	**Matias Romero**	**2.65**	**314**	P		**Pn**		**19 03 58.1**	**-0.4**
	68nm,0.3s,baz=141,slow=13,SNR=436								
CMIG				S		**Sn**		**19 04 28.8**	**-1.0**
	508nm,0.3s,baz=93,slow=16,SNR=21								
CMIG				LR		LR		19 05 13.1	
	comp=Z,1μm,21.6s,baz=35,slow=40								
HUIG	**Huatulco**	**3.13**	**280**	*eP*		**Pn**		**19 04 01.9**	**-3.1**
TUIG	**Tuzandepetl**	**3.13**	**333**	*eP*		**Pn**		**19 04 04.2**	**-0.8**
TUIG				*i* S		**Sn**		**19 04 41.0**	**-0.5**
TUIG	**Tuzandepetl**	**3.13**	**333**	*e*Pn		**Pn**		**19 04 04.1**	**-0.9**
CUS1	**Cusmapa**	**3.16**	**114**	*eP*		**Pn**		**19 04 08.2**	**+2.8**
RBDL	**Robledal**	**3.31**	**109**	*eP*		**Pn**		**19 04 08.9**	**+1.3**
RTR	**El Retiro**	**3.43**	**113**	*eP*		**Pn**		**19 04 12.4**	**+3.2**
MONT	**Ecomontaæa**	**3.44**	**113**	*eP*		**Pn**		**19 04 12.3**	**+2.9**
SBLS	**San Blas**	**3.47**	**113**	*eP*		**Pn**		**19 04 12.9**	**+3.0**
SNJE	**San Jose**	**3.48**	**113**	*eP*		**Pn**		**19 04 12.9**	**+3.1**
BOQS	**Boqueron**	**3.82**	**113**	*eP*		**Pn**		**19 04 17.2**	**+2.7**
UEES	**San Salvador**	**3.85**	**113**	*eP*		**Pn**		**19 04 17.9**	**+3.0**
UEES				AML		AML		19 05 15.8	
	comp=Z,3μm,0.4s								
SNET	**Serv Nac Est T**	**3.88**	**113**	*e*Pn		**Pn**		**19 04 17.7**	**+2.4**
SNET	**Serv Nac Est T**	**3.88**	**113**	*eP*		**Pn**		**19 04 18.1**	**+2.9**
SNET				*eS*		**Sn**		**19 05 05.3**	**+5.5**
SNET				AML		AML		19 05 13.5	
	comp=Z,2μm,0.4s								
OPAM	**San Salvador**	**3.90**	**112**	*eP*		**Pn**		**19 04 18.7**	**+3.2**
CUSC	**San Salvador**	**3.90**	**112**	*eP*		**Pn**		**19 04 18.7**	**+3.2**
CUSC				AML		AML		19 05 18.2	
	comp=Z,3μm,0.3s								
LFU	**La Fuente**	**3.96**	**112**	*eP*		**Pn**		**19 04 18.5**	**+2.1**
SCIG	**Sabancuy**	**4.05**	**24**	*eP*		**Pn**		**19 04 18.3**	**+0.7**
SCIG				*eS*		**Sn**		**19 05 04.7**	**+0.8**
SCIG	**Sabancuy**	**4.05**	**24**	*e*Pn		**Pn**		**19 04 18.1**	**+0.6**
LFRS	**El Faro**	**4.06**	**113**	*eP*		**Pn**		**19 04 19.9**	**+2.3**
VHO	**Vista Hermosa**	**4.10**	**297**	*eP*		**Pn**		**19 04 18.5**	**+0.1**
PNIG	**Pinotepa**	**5.15**	**284**	*eP*		**Pn**		**19 04 30.4**	**-2.1**
PNIG				*eP*		**Pn**		**19 04 30.7**	**-1.8**
PNIG				*eS*		**Sn**		**19 05 27.5**	**-3.2**
LVIG	**Laguna Verde**	**5.58**	**324**	*i* P		**Pn**		**19 04 35.9**	**-2.4**
LVIG				*i* S		**Sn**		**19 05 40.1**	**-0.8**
LVIG	**Laguna Verde**	**5.58**	**324**	*e*Pn		**Pn**		**19 04 35.8**	**-2.4**
TGUH	**Tegucigalpa,Un**	**5.58**	**101**	*e*Pn		**Pn**		**19 04 39.4**	**+1.1**
TGUH	**Tegucigalpa,Un**	**5.58**	**101⇑**	*i*P		**Pn**		**19 04 40.1**	**+1.9**
TLIG	**Tlapa**	**5.90**	**294**	*e*Pn		**Pn**		**19 04 42.9**	**+0.1**
MYIG	**MÖrida**	**6.43**	**27**	*e*Pn		**Pn**		**19 04 50.1**	**+0.3**
ESTN	**Estel**	**6.69**	**108**	*eP*		**Pn**		**19 04 55.6**	**+2.1**
COPN	**Copaltepe**	**6.85**	**116**	*eP*		**Pn**		**19 04 56.2**	**+0.6**
APYN	**Apoyeque**	**7.04**	**114**	*eP*		**Pn**		**19 04 59.3**	**+1.2**
TISN	**Laguna Tiscapa**	**7.15**	**115**	*eP*		**Pn**		**19 05 01.0**	**+1.4**
CAIG	**El Cayaco**	**7.30**	**285**	*eP*		**Pn**		**19 05 01.0**	**-0.7**
CAIG				*eS*		**Sn**		**19 06 19.1**	**-4.0**
BOAB	**BOACO BROADBAN**	**7.56**	**111**	*eP*		**Pn**		**19 05 06.9**	**+1.6**
BOAB				AML		AML		19 06 02.1	
	comp=N,15nm,0.5s								
MESS	**Mesas**	**8.75**	**120**	*eP*		**Pn**		**19 05 22.6**	**+1.1**
COLC	**Colonia**	**8.78**	**120**	*eP*		**Pn**		**19 05 23.6**	**+1.7**
CUI	**Cuipilapa**	**8.81**	**120**	*eP*		**Pn**		**19 05 23.8**	**+1.3**
ESPN	**Las Esperanzas**	**8.89**	**109**	*eP*		**Pn**		**19 05 24.5**	**+1.0**
JRQG	**Juriquilla Cam**	**9.00**	**308**	*e*Pn		**Pn**		**19 05 27.3**	**+2.2**
MOIG	**Morelia**	**9.05**	**300**	*e*Pn		**Pn**		**19 05 29.0**	**+3.2**
CHPA	**Chiripa**	**9.14**	**121**	*eP*		Pn		19 05 21.0	-6.0
JTS	**JuntasAbangare**	**9.19**	**121**	P		Pn		19 06 27.1	+60
	comp=N,13nm,0.3s,baz=13,slow=14,SNR=32								
JTS				S				19 08 10.2	
	comp=N,2.5nm,0.3s,baz=37,slow=20,SNR=1.9								
ARE1	**Arenal 1**	**9.29**	**120**	*eP*		**Pn**		**19 05 31.5**	**+2.6**
CGA2	**Cerro Gallo 2**	**9.74**	**121**	*eP*		**Pn**		**19 05 36.4**	**+1.3**
HDC	**Heredia**	**10.04**	**120**	*e*Pn		**Pn**		**19 05 41.0**	**+1.8**
LCR2	**La Lucha 2**	**10.27**	**121**	*eP*		**Pn**		**19 05 43.6**	**+1.1**
QCR1	**Quepos**	**10.31**	**123**	*eP*		**Pn**		**19 05 44.0**	**+1.2**
URSC	**Urasca**	**10.40**	**120**	*eP*		**Pn**		**19 05 45.6**	**+1.3**
BUS	**Buena Vista**	**10.57**	**121**	*eP*		**Pn**		**19 05 47.6**	**+0.8**
ICCO	**Coco Island**	**11.22**	**149**	*eP*		Pn		19 06 00.6	+5.4
LNIG	**Linares**	**11.41**	**328**	*e*Pn		**Pn**		**19 05 58.9**	**+1.1**
PTJ1	**Puerto Jim˜ne**	**11.52**	**124**	*eP*		**Pn**		**19 06 03.9**	**+4.7**
ZAIG	**Zacatecas**	**11.81**	**311**	*e*Pn		**Pn**		**19 06 05.6**	**+2.2**
TBS2		**11.89**	**121**	*eP*		**Pn**		**19 06 06.0**	**+1.6**
034A	**Hebbronville**	**12.94**	**336**	P		**Pn**		**19 06 19.0**	**+0.9**
	baz=154,SNR=5.8								
934A	**Benavides**	**13.36**	**338**	P		**Pn**		**19 06 24.5**	**+0.7**
	baz=155,SNR=9.9								
933A	**Laredo**	**13.66**	**335**	P		**Pn**		**19 06 28.6**	**+0.9**
	baz=152,SNR=19								
835A	**Beeville**	**13.76**	**341**	P		**Pn**		**19 06 29.9**	**+0.9**
	baz=159,SNR=7.3								
737A	**Port Lavaca**	**13.85**	**347**	P		**Pn**		**19 06 30.7**	**+0.6**
	baz=165								
736A	**Circle Diamond**	**14.18**	**345**	P		**Pn**		**19 06 35.3**	**+0.9**
	baz=163								
735A	**Kenedy**	**14.29**	**342**	P		**Pn**		**19 06 36.4**	**+0.6**
	baz=160								
638A	**Rosharon**	**14.30**	**351**	P		**Pn**		**19 06 37.0**	**+1.0**
	baz=169								
833A	**Chaparral WMA,**	**14.34**	**336**	P		**Pn**		**19 06 36.3**	**-0.2**
	baz=153,SNR=37								
637A	**Eagle Lake**	**14.48**	**348**	P		**Pn**		**19 06 38.8**	**+0.5**
	baz=166								
636A	**Smothers Creek**	**14.68**	**346**	P		**Pn**		**19 06 41.2**	**+0.4**
	baz=164,SNR=18								
541A	**Lake Charles**	**14.75**	**359**	P		**Pn**		**19 06 42.2**	**+0.4**
	baz=178								
HKT	**Hockley**	**14.89**	**350**	*eP*		**Pn**		**19 06 44.2**	**+0.8**
HKT	**Hockley**	**14.89**	**350**	*e*Pn		**Pn**		**19 06 44.2**	**+0.8**
539A	**Cross D Ranch,**	**14.89**	**354**	P		**Pn**		**19 06 44.1**	**+0.6**
	baz=173								
545A	**Edgard**	**14.90**	**8**	P		**Pn**		**19 06 44.3**	**+0.6**
	baz=188								
MTDJ	**Mount Denham**	**15.02**	**76**	*e*Pn		**Pn**		**19 06 45.0**	**-0.4**
537A	**Green Hill Far**	**15.10**	**349**	P		**Pn**		**19 06 47.1**	**+0.9**
	baz=167								
538A	**Harpers Horsep**	**15.10**	**351**	P		**Pn**		**19 06 47.0**	**+0.8**
	baz=170								
536A	**Bastrop**	**15.25**	**346**	P		**Pn**		**19 06 48.7**	**+0.5**
	baz=164								
442A	**Mamou**	**15.41**	**2**	P		**P**		**19 06 51.6**	**-1.1**
	baz=181								
441A	**DeRidder**	**15.44**	**359**	P		**Pn**		**19 06 50.6**	**+0.1**
	baz=178								
440A	**Kirbyville**	**15.46**	**357**	P		**Pn**		**19 06 51.1**	**+0.3**
	baz=176								
443A	**Delano Plantat**	**15.49**	**4**	P		**Pn**		**19 06 51.8**	**+0.7**
	baz=184								
444A	**Pine Grove**	**15.53**	**7**	P		**Pn**		**19 06 51.7**	**0.0**
	baz=187								
439A	**Center Grove,**	**15.57**	**354**	P		**Pn**		**19 06 52.0**	**-0.3**
	baz=173,SNR=7.1								
445A	**Amite**	**15.60**	**8**	P		**Pn**		**19 06 52.1**	**-0.3**
	baz=189								
438A	**Sam Houston St**	**15.62**	**352**	P		**Pn**		**19 06 53.0**	**+0.2**
	baz=170,SNR=7.5								
437A	**Phantom Ranch,**	**15.80**	**350**	P		**Pn**		**19 06 55.2**	**+0.2**
	baz=168								
446A	**Poplarville**	**15.82**	**11**	P		**Pn**		**19 06 55.9**	**+0.7**
	baz=192,SNR=11								
436A	**Wall Ranch, Ga**	**15.86**	**348**	P		**Pn**		**19 06 55.8**	**-0.1**
	baz=166								
447A	**Lucedale**	**15.97**	**13**	P		**Pn**		**19 06 56.8**	**-0.3**
	baz=194								
343A	**Vidalia**	**16.01**	**4**	P		**Pn**		**19 06 57.4**	**-0.3**
	baz=184								
341A	**Kurthwood**	**16.02**	**359**	P		**Pn**		**19 06 57.5**	**-0.3**
	baz=178								
435B	**Jarrell**	**16.05**	**345**	P		**Pn**		**19 06 58.0**	**-0.2**
	baz=163								
342A	**Flagon Creek P**	**16.07**	**2**	P		**Pn**		**19 06 58.1**	**-0.3**
	baz=182								
339A	**Huntington**	**16.09**	**355**	P		**Pn**		**19 06 58.9**	**+0.3**
	baz=174,SNR=11								
340A	**Bronson**	**16.13**	**357**	P		**Pn**		**19 06 58.6**	**-0.5**
	baz=176,SNR=6.6								
338A	**Crockett**	**16.19**	**353**	P		**Pn**		**19 07 00.3**	**+0.4**
	baz=171,SNR=11								
345A	**Thompson Farm,**	**16.21**	**9**	P		**Pn**		**19 07 00.4**	**+0.3**
	baz=189								
337A	**Centerville**	**16.23**	**351**	P		**Pn**		**19 07 00.7**	**+0.3**
	baz=169,SNR=11								
344A	**Westbrook Farm**	**16.26**	**7**	P		**P**		**19 07 01.9**	**-0.3**
	baz=187,SNR=11								
448A	**Bay Minette**	**16.29**	**16**	P		**P**		**19 07 02.1**	**-0.5**
	baz=197,SNR=5.4								
346A	**Big Creek Wild**	**16.38**	**10**	P		**Pn**		**19 07 02.8**	**+0.5**
	baz=191								
JCT	**Junction City**	**16.44**	**339**	P		**Pn**		**19 07 03.1**	**+0.1**
	baz=155,SNR=14								
JCT	**Junction City**	**16.44**	**339**	*eP*		**Pn**		**19 07 03.4**	**+0.4**
JCT				pmax		pmax			
	comp=Z,53nm,0.8s								
JCT	**Junction City**	**16.44**	**339**	*e*Pn		**Pn**		**19 07 03.4**	**+0.4**
	comp=Z,53nm,0.8s								
336A	**Riesel**	**16.47**	**348**	P		**P**		**19 07 04.0**	**-0.5**
	baz=166,SNR=6.6								
NATX	**Nacogdoches**	**16.52**	**355**	P		**Pn**		**19 07 04.1**	**+0.1**
	baz=174								
NATX	**Nacogdoches**	**16.52**	**355**	*e*Pn		**Pn**		**19 07 04.0**	**0.0**
	comp=Z,360nm,1.5s								
NATX				*e*Sn		Sn		19 09 54.0	-13
347A	**Saraland**	**16.57**	**13**	P		**P**		**19 07 05.6**	**0.0**
	baz=194,SNR=7.6								
243A	**Waterproof**	**16.61**	**4**	P		**Pn**		**19 07 05.4**	**+0.2**
	baz=184								
HPIG		**16.63**	**316**	*e*Pn		**P**		**19 07 08.3**	**+1.7**
	comp=Z,90nm,1.0s								
DWPF	**Disney Wildern**	**16.65**	**38**	*eP*		**P**		**19 07 06.5**	**0.0**
	comp=Z,179nm,0.6s								
241A	**Mo Tay, Goldon**	**16.71**	**360**	P		**Pn**		**19 07 06.5**	**+0.2**
	baz=179								
348A	**Jackson**	**16.74**	**15**	P		**P**		**19 07 07.7**	**+0.2**
	baz=196,SNR=5.2								
BRAL	**Brewton**	**16.74**	**18**	*e*Pn		**P**		**19 07 08.1**	**+0.6**
	comp=Z,193nm,0.7s								
240A	**Hunter Patters**	**16.74**	**357**	P		**Pn**		**19 07 07.1**	**+0.4**
	baz=177,SNR=5.8								
242A	**Grayson**	**16.76**	**2**	P		**P**		**19 07 07.5**	**-0.2**
	baz=182,SNR=7.6								
239A	**Gary**	**16.76**	**355**	P		**Pn**		**19 07 07.2**	**+0.2**
	baz=174								
238A	**Jacksonville**	**16.81**	**353**	P		**P**		**19 07 08.5**	**+0.3**
	baz=172,SNR=5.9								
244A	**Avery, Jackson**	**16.85**	**7**	P		**Pn**		**19 07 07.9**	**-0.1**
	baz=187,SNR=10								
237A	**Washetta, Mont**	**16.89**	**351**	P		**Pn**		**19 07 08.0**	**-0.6**
	baz=170								
245A	**Little AP, Sta**	**16.94**	**9**	P		**P**		**19 07 09.6**	**-0.1**
	baz=190								
236A	**Katherine and**	**17.01**	**349**	P		**Pn**		**19 07 10.0**	**0.0**
	baz=168								
VBMS	**Vicksburg**	**17.04**	**7**	P		**P**		**19 07 11.0**	**+0.2**
	baz=187								
VBMS	**Vicksburg**	**17.04**	**7**	*e*Pn		**Pn**		**19 07 10.4**	**+0.1**
	comp=Z,122nm,0.8s								
LTX	**Lajitas**	**17.18**	**327**	*eP*		**P**		**19 07 14.3**	**+1.7**
LTX	**Lajitas**	**17.18**	**327**	*e*Pn		**P**		**19 07 14.3**	**+1.7**
TXAR	**Lajitas Array**	**17.18**	**327**	P		**P**		**19 07 14.3**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=148,slow=12,SNR=151								
WHTX	**Lake Whitney,**	**17.18**	**347**	P		**P**		**19 07 12.5**	**+0.1**
	baz=164								
WHTX	**Lake Whitney,**	**17.18**	**347**	*e*Pn		**Pn**		**19 07 11.0**	**-1.1**
	comp=Z,169nm,1.3s								
247A	**Quitman**	**17.19**	**12**	P		**P**		**19 07 12.6**	**+0.2**
	baz=194								
142A	**Monroe**	**17.25**	**3**	P		**P**		**19 07 13.4**	**+0.2**
	baz=183								
141A	**Papa Simpson,**	**17.29**	**0**	P		**Pn**		**19 07 13.1**	**-0.3**
	baz=180,SNR=6.3								
140A	**Cam and Jess,**	**17.33**	**358**	P		**P**		**19 07 14.9**	**+0.8**
	baz=177,SNR=8.4								
139A	**Bunkhouse Ranc**	**17.41**	**356**	P		**Pn**		**19 07 15.0**	**+0.1**
	baz=175								
248A	**Dixon Mills**	**17.43**	**15**	P		**Pn**		**19 07 15.8**	**+0.7**
	baz=196,SNR=6.6								
143A	**Socs Landing,**	**17.44**	**4**	P		**P**		**19 07 15.2**	**-0.1**
	baz=184								
138A	**Matatall Enter**	**17.45**	**354**	P		**Pn**		**19 07 16.2**	**+0.8**
	baz=172								
144A	**Alexander Plac**	**17.46**	**7**	P		**Pn**		**19 07 15.6**	**+0.1**
	baz=188								
136A	**Ennis**	**17.47**	**350**	P		**P**		**19 07 15.6**	**0.0**
	baz=168,SNR=5.1								
137A	**Heron Place, G**	**17.47**	**352**	P		**Pn**		**19 07 16.4**	**+0.7**
	baz=170								
145A	**Houston Renfro**	**17.50**	**8**	P		**P**		**19 07 15.9**	**0.0**
	baz=189								
GTBY	**Guantanamo Bay**	**17.59**	**72**	*eP*		**P**		**19 07 16.5**	**-0.5**
	comp=Z,146nm,1.1s								
146A	**Union**	**17.67**	**11**	P		**Pn**		**19 07 18.3**	**+0.2**
	baz=192								
147A	**Livingston**	**17.86**	**13**	P		**Pn**		**19 07 20.7**	**+0.4**
	baz=194,SNR=25								
Z41A	**Richland Creek**	**17.94**	**0**	P		**Pn**		**19 07 21.1**	**-0.2**
	baz=180,SNR=16								
Z40A	**Long Farm, Mag

baz=190,SNR=11
X37A Clayton 19.39 354 P P 19 07 37.2 +0.6
baz=172,SNR=20
X38A Whitesboro 19.42 355 P P 19 07 37.4 +0.5
baz=174,SNR=28
X35A Drake 19.43 350 P P 19 07 37.4 +0.4
baz=168,SNR=6.3
OXF Oxford 19.45 9 eP P 19 07 36.8 -0.4
OXF pmax pmax
comp=Z,174nm,0.8s
OXF Oxford 19.45 9 eP P 19 07 36.8 -0.4
comp=Z,174nm,0.8s
UALR University of 19.46 1 eP P 19 07 36.5 -0.8
comp=Z,204nm,1.1s
X36A Centrahoma 19.50 351 P P 19 07 38.0 +0.3
baz=170,SNR=8.3
CLNB Carlsbad 19.67 331 eP Pn 19 07 41.8 -0.3
LGNH LOogne 19.70 78 eP P 19 07 41.0 +0.9
W38A Poteau 19.80 356 P P 19 07 41.0 0.0
baz=175,SNR=8.3
W41B Gary Mavity, V 19.86 2 P P 19 07 41.1 -0.6
baz=181,SNR=16
W40A Ferguson Farm, 19.87 360 P P 19 07 42.2 +0.4
baz=179
W40A Ferguson Farm, 19.87 360 eP P 19 07 40.6 -1.1
comp=Z,192nm,1.3s
GUYC Guyana, Colomb 19.89 118 eP P 19 07 42.3 -0.3
W39A Magazine 19.89 358 P P 19 07 42.5 +0.5
baz=177
W37B Quinton 19.94 354 P P 19 07 42.3 -0.3
baz=172,SNR=16
MNTX Cornudas Mount 19.95 327 P P 19 07 43.6 +0.8
baz=142,SNR=68
MNTX Cornudas Mount 19.95 327 eP P 19 07 43.8 +1.0
comp=Z,34nm,0.8s
WHAR Wooly Hollow 19.97 1 eP P 19 07 43.2 +0.2
W42A Bald Knob 19.99 3 P P 19 07 43.4 +0.4
baz=183
GOGA Godfrey 20.01 24 eP P 19 07 43.4 +0.1
GOGA pmax pmax
comp=Z,88nm,0.9s
GOGA Godfrey 20.01 24 eP P 19 07 43.4 +0.1
comp=Z,88nm,0.9s
W36A Wetumka 20.04 352 P P 19 07 43.0 -0.6
baz=170,SNR=16
W45A Hickory Valley 20.11 9 P P 19 07 44.9 +0.5
baz=190,SNR=13
WMOK Wichita Mounta 20.12 346 P P 19 07 44.2 -0.4
baz=163,SNR=13
WMOK Wichita Mounta 20.12 346 eP P 19 07 43.6 -1.0
WMOK pmax pmax
comp=Z,29nm,0.8s
WMOK Wichita Mounta 20.12 346 eP P 19 07 43.6 -1.0
comp=Z,29nm,0.8s
W35A Tecumseh 20.15 351 P P 19 07 43.8 -1.0
baz=168,SNR=16
NORC Norcasia 20.16 117 eP P 19 07 43.6 -1.6
TOLC Tolima 20.28 120 eP Pn 19 07 50.8 +1.3
HBAR Harrisburg 20.33 5 eP P 19 07 46.8 0.0
comp=Z,345nm,1.3s
V41A Mountainview 20.47 2 P P 19 07 47.8 -0.5
baz=182,SNR=8.5
V40A Witts Springs 20.48 0 P P 19 07 47.8 -0.7
baz=180
V39A Pettigrew 20.52 358 P P 19 07 47.5 -1.5
baz=178,SNR=20
V42A Cord 20.52 4 P P 19 07 47.7 -1.2
baz=184,SNR=8.1
V38A Canehill 20.58 357 P P 19 07 47.3 -2.2
baz=175,SNR=22
CMBC Cumbal 20.58 132 eP Pn 19 07 53.4 +0.2
EPT El Paso 20.61 325 eP P 19 07 50.0 0.0
comp=Z,67nm,1.0s
URIC Uribia, Colomb 20.64 97 eP P 19 07 50.8 +0.5
V36A Jenks 20.64 353 P P 19 07 49.3 -0.8
baz=171,SNR=11
OTAV Otavalo 20.64 135 eP P 19 07 51.4 +0.5
OTAV Otavalo 20.64 135 eP Pn 19 07 52.8 -1.1
comp=Z,16nm,0.9s
V37A Hulbert 20.65 355 P P 19 07 48.7 -1.6
baz=174,SNR=21
MSTX Muleshoe 20.67 336 P P 19 07 48.1 -2.5
baz=152,SNR=30
MSTX Muleshoe 20.67 336 eP P 19 07 50.8 +0.3
comp=Z,59nm,0.8s
V45A Humboldt 20.72 9 P P 19 07 50.9 0.0
baz=190
V35A Meyer Ranch, C 20.74 351 P P 19 07 49.8 -1.4
baz=169,SNR=15
TUL1 Leonard 20.75 353 P P 19 07 50.4 -0.9
baz=172,SNR=12
TUL1 Leonard 20.75 353 eP P 19 07 51.1 -0.2
comp=Z,87nm,0.8s
CRUC La Cruz 20.80 129 eP Pn 19 07 55.5 -0.1
SWET Sewanee 20.85 16 eP P 19 07 52.1 -0.4
comp=Z,75nm,0.9s
HHAR Hobbs 20.98 358 eP P 19 07 53.8 0.0
comp=Z,108nm,1.2s
SDDR Presa de Saban 20.99 77 eP P 19 07 54.4 +0.3
comp=Z,103nm,0.9s
ROSC El Rosal 21.00 118 P P 19 07 53.6 -0.9
comp=Z,5.8nm,0.4s,baz=319,slow=20,SNR=2.7
ROSC El Rosal 21.00 118 eP P 19 07 53.4 -1.1
U40A Yellville 21.03 0 P P 19 07 53.4 -0.9
baz=180,SNR=9.2
U41A Viola 21.04 2 P P 19 07 53.2 -1.2
baz=182,SNR=6.2
RGRS Roger Stewart 21.04 31 eP P 19 08 01.2 +6.9
comp=Z,2µm,1.0s
U39A Green Forest 21.06 359 P P 19 07 53.5 -1.2
baz=178,SNR=17
U42A Revenden 21.08 4 P P 19 07 53.4 -1.4
baz=184,SNR=11
AMTX Amarillo 21.09 340 P P 19 07 54.5 -0.6
baz=156
AMTX Amarillo 21.09 340 eP P 19 07 55.3 +0.3
comp=Z,135nm,0.8s
PRAC Prado 21.12 121 eP P 19 07 54.2 -1.3
PRAC Prado 21.12 121 eP P 19 07 56.2 +0.7
comp=Z,38nm,0.8s
U38A Gravette 21.15 357 P P 19 07 55.0 -0.6
baz=176,SNR=15
U43A Rector 21.16 6 P P 19 07 55.4 -0.2
baz=186
U37A Salina 21.17 355 P P 19 07 54.6 -1.2
baz=174,SNR=41
BARC Barichara 21.17 112 eP P 19 07 56.7 +0.4
NHSC New Hope 21.21 31 eP P 19 07 57.9 +1.7
comp=Z,1µm,1.3s
HODGE Hodges 21.21 25 eP P 19 07 57.5 +1.3
comp=Z,83nm,1.0s
U36A Oologah 21.22 354 P P 19 07 55.4 -0.9
baz=172,SNR=9.9
U44B Burton Farm, H 21.25 8 P P 19 07 55.9 -0.7
baz=189
WVT Waverly 21.29 11 eP P 19 07 58.0 +0.9
WVT pmax pmax
comp=Z,56nm,0.8s
WVT Waverly 21.29 11 eP P 19 07 58.0 +0.9
comp=Z,56nm,0.8s
PAMC Pamplona, Colo 21.30 109 eP P 19 07 53.4 -4.5
U35A Pawnee 21.32 351 P P 19 07 56.5 -0.9
baz=169,SNR=16
U45A Rockin P Farm, 21.34 9 P P 19 07 58.6 +1.0
baz=191
CPCT Cooper Cave 21.48 19 eP P 19 08 00.0 +0.9
comp=Z,59nm,1.0s
PBMO Poplar Bluff 21.56 5 eP P 19 07 58.8 -1.2
comp=Z,80nm,0.8s
RUSC La Rusia 21.57 113 eP P 19 08 00.0 -0.8
RUSC La Rusia 21.57 113 eP P 19 07 59.2 -1.6
comp=Z,16nm,1.0s
HSIG 21.58 312 eP P 19 08 02.8 +2.6
comp=Z,49nm,1.2s
BG3 Lake Jocassee 21.62 23 eP P 19 08 01.4 +0.8
comp=Z,181nm,1.0s
SRIG Santa Rosalia 21.62 307 eP P 19 08 03.4 +2.7
comp=Z,33nm,0.9s
JSC Jenkinsville 21.68 27 eP P 19 08 02.2 +1.0
JSC pmax pmax
comp=Z,166nm,1.3s
JSC Jenkinsville 21.68 27 eP P 19 08 02.2 +1.0
comp=Z,166nm,1.3s
T39A Clever 21.70 359 P P 19 08 00.2 -1.3
baz=178,SNR=22
T41A Mountain View 21.74 2 P P 19 08 00.6 -1.3
baz=183,SNR=14

T38A Diamond 21.74 357 P P 19 08 00.3 -1.6
baz=176,SNR=20
U32A Winter Ranch, 21.74 347 P P 19 08 01.8 -0.2
baz=164
FLOC Florencia 21.77 127 eP P 19 08 03.7 +1.2
T40A Mansfield 21.82 1 P P 19 08 00.3 -2.5
baz=181,SNR=16
T35A Sooner Cattle 21.82 352 P P 19 07 59.9 -2.9
baz=170,SNR=8.4
T37A Cheneyville 18 21.87 356 P P 19 08 01.2 -2.1
baz=174,SNR=42
T43A Greenville 21.88 6 P P 19 08 01.5 -1.8
baz=186
T36A Boggs Farm, Ca 21.89 354 P P 19 08 00.8 -2.7
baz=172,SNR=13
121A Cookes Peak, D 21.89 324 P P 19 08 03.1 -0.7
baz=138,SNR=40
121A Cookes Peak, D 21.89 324 eP P 19 08 06.1 +2.3
comp=Z,88nm,1.0s
TKL Tuckaleechee C 21.92 20 P P 19 08 01.2 -2.6
comp=Z,8.7nm,0.6s,baz=186,slow=9.2,SNR=3.4
TKL S S 19 11 57.2 -3.5
comp=Z,7.0nm,0.7s,baz=190,slow=12,SNR=2.6
TKL LR LR 19 18 25.1
comp=Z,315nm,18.1s,baz=214,slow=42
TKL Tuckaleechee C 21.92 20 eP P 19 08 04.5 +0.7
TKL eS S 19 11 57.2 -3.5
TKL pmax pmax
comp=Z,103nm,1.0s
TKL Tuckaleechee C 21.92 20 eP P 19 08 04.5 +0.7
comp=Z,103nm,1.0s
TKL eS S 19 11 57.2 -3.5
TKL eSn Sn 19 12 13.1 -3.4
TKL e 19 18 25.1
319A Douglas 21.95 320 eP P 19 08 07.4 +3.0
comp=Z,49nm,0.8s
T34A McClaskey Farm 22.02 351 P P 19 08 02.5 -2.4
baz=169,SNR=11
S40A Lebanon 22.27 1 P P 19 08 05.6 -1.9
baz=181,SNR=12
S41A Jillco Farms, 22.28 2 P P 19 08 05.8 -1.8
baz=182,SNR=9.5
S38A Stockton 22.32 358 P P 19 08 06.2 -1.8
baz=177,SNR=32
S39A Bolivar 22.36 359 P P 19 08 06.7 -1.8
baz=178,SNR=29
KMSC Kings Mountain 22.38 26 P P 19 08 06.4 -2.2
baz=210,SNR=5.9
KMSC Kings Mountain 22.38 26 eP P 19 08 09.7 +1.0
comp=Z,93nm,0.9s
S37A Fort Scott 22.49 356 P P 19 08 07.7 -2.2
baz=175,SNR=13
S42A Caledonia 22.52 4 P P 19 08 07.8 -2.4
baz=185
S36A Lake Cedric, C 22.52 354 P P 19 08 08.0 -2.2
baz=173,SNR=11
BNM Barren Site 22.54 329 eP P 19 08 12.3 +1.7
S35A Otter Creek Ra 22.56 353 P P 19 08 07.9 -2.6
baz=171,SNR=25
S44A Carbondale 22.60 8 P P 19 08 08.8 -2.1
baz=189
LPM Los Pinos Moun 22.67 329 eP P 19 08 13.5 +1.5
SDV Santo Domingo 22.67 104 P P 19 08 08.9 -3.2
comp=Z,16nm,0.7s,baz=296,slow=3.8,SNR=9.1
SDV PcP PcP 19 12 02.2 +0.3
comp=Z,3.8nm,0.4s,baz=315,slow=2.9,SNR=3.6
SDV ScP ScP 19 15 32.7 +1.1
comp=Z,20nm,1.0s,baz=307,slow=4.2,SNR=9.1
SDV LR LR 19 17 18.5
comp=Z,180nm,19.6s,baz=278,slow=38
SDV Santo Domingo 22.67 104 eP P 19 08 09.1 -3.0
comp=Z,43nm,0.8s
SDV PcP PcP 19 12 02.2 +0.3
SDV ScP ScP 19 15 32.7 +1.1
S45A Carrier Mills 22.67 9 P P 19 08 10.0 -1.7
baz=190
S34A Willow Spring 22.68 351 P P 19 08 09.3 -2.5
baz=169
CCM Cathedral Cave 22.77 3 eP P 19 08 10.7 -2.0
CCM pmax pmax
comp=Z,61nm,1.1s
CCM Cathedral Cave 22.77 3 eP P 19 08 10.7 -2.0
comp=Z,61nm,1.1s
R38A Fenwick Farm, 22.87 358 P P 19 08 11.6 -2.2
baz=177,SNR=14
R40A Maddies Statio 22.97 1 P P 19 08 12.1 -2.6
baz=181,SNR=17
R39A Chumby, Stover 22.98 360 P P 19 08 12.7 -2.2
baz=179,SNR=12
LAZ Ladron 22.99 329 eP P 19 08 17.0 +1.8
R41A Rosebud 23.01 3 P P 19 08 12.6 -2.5
baz=183,SNR=20
R42A Luebbering 23.02 4 P P 19 08 12.5 -2.7
baz=185
R37A Teagarden Farm 23.05 356 P P 19 08 13.1 -2.3
baz=175
ANMO Albuquerque 23.09 331 P P 19 08 17.2 +1.0
comp=Z,31nm,0.9s,baz=327,slow=12,SNR=49
ANMO PcP PcP 19 12 03.3 +0.9
comp=Z,3.1nm,0.8s,baz=3.5,slow=19,SNR=3.1
ANMO Albuquerque 23.09 331 P P 19 08 16.4 +0.2
baz=144
ANMO Albuquerque 23.09 331 c iP P 19 08 17.2 +1.0
ANMO pmax pmax
comp=Z,29nm,0.9s
R43A Red Bud 23.09 6 P P 19 08 13.4 -2.5
baz=187,SNR=6.0
USIN University of 23.11 11 eP P 19 08 14.4 -1.6
comp=Z,80nm,0.9s
R36A Gordon, Harris 23.11 355 P P 19 08 13.9 -2.1
baz=173,SNR=8.7
R44A Waltonville 23.16 8 P P 19 08 14.1 -2.5
baz=189,SNR=8.7
R35A Emporia Munici 23.18 353 P P 19 08 14.8 -1.9
baz=172,SNR=9.5
R34A Isabella, Hill 23.29 351 P P 19 08 15.3 -2.5
baz=169,SNR=8.4
TUC Tucson 23.53 319 P P 19 08 21.9 +1.8
baz=132
TUC Tucson 23.53 319 eP P 19 08 22.4 +2.3
TUC pmax pmax
comp=Z,29nm,0.9s
TUC Tucson 23.53 319 eP P 19 08 22.4 +2.3
comp=Z,29nm,0.9s
Q37A Longview Farm, 23.58 357 P P 19 08 18.4 -2.0
baz=176
WCI Wyandotte Cave 23.63 13 eP P 19 08 19.1 -1.8
WCI pmax pmax
comp=Z,80nm,0.9s
WCI Wyandotte Cave 23.63 13 eP P 19 08 19.1 -1.8
comp=Z,80nm,0.9s
Q38A Cooks Stone, C 23.64 359 P P 19 08 18.9 -2.0
baz=178,SNR=20
Q41A Truxton 23.67 3 P P 19 08 17.8 -3.3
baz=184,SNR=11
Q40A Laux Farm, Aux 23.67 2 P P 19 08 18.7 -2.5
baz=182,SNR=8.6
Q35A Mercer Eighty, 23.69 354 P P 19 08 18.7 -2.6
baz=172,SNR=14
Q36A Arnold C. Orve 23.74 355 P P 19 08 19.7 -2.1
baz=174
Q43A New Douglas 23.78 6 P P 19 08 20.8 -1.4
baz=187
Q44A Meyer Farm, Va 23.82 8 P P 19 08 22.3 -0.2
baz=189
Q34A Chapman 23.86 352 P P 19 08 20.4 -2.5
baz=170
KSU1 Kansas State U 23.99 353 P P 19 08 22.2 -1.9
baz=171,SNR=6.9
KSU1 Kansas State U 23.99 353 eP P 19 08 23.0 -1.0
comp=Z,71nm,0.6s
CNNC Cliffs of the 24.05 31 eP P 19 08 24.1 -0.4
comp=Z,160nm,1.2s
T25A Trinidad 24.09 337 P P 19 08 26.7 +1.5
baz=152,SNR=60
T25A Trinidad 24.09 337 eP P 19 08 26.9 +1.7
comp=Z,94nm,0.8s
P39B Salisbury 24.16 0 P P 19 08 23.7 -1.8
baz=180,SNR=9.7
MHTCO State Highway 24.18 337 eP P 19 08 27.8 +1.7
comp=Z,33nm,0.7s
P40A Paris 24.21 2 P P 19 08 23.6 -2.4
baz=182,SNR=5.7
CBKS Cedar Bluff 24.24 347 P P 19 08 25.0 -1.4
baz=163
CBKS Cedar Bluff 24.24 347 eP P 19 08 25.9 -0.5
CBKS pmax pmax
comp=Z,140nm,1.1s

CBKS Cedar Bluff 24.24 347 eP P 19 08 25.9 -0.5
comp=Z,140nm,1.1s
P37A Lathrop 24.29 357 P P 19 08 23.4 -3.3
baz=176,SNR=19
P38A Dawn 24.30 359 P P 19 08 24.5 -2.3
baz=178,SNR=15
P35A Duane Minner, 24.35 354 P P 19 08 24.0 -3.3
baz=172,SNR=26
P42A Winchester 24.36 5 P P 19 08 25.6 -1.8
baz=186
P36A Good Intent, A 24.37 356 P P 19 08 25.1 -2.4
baz=174,SNR=9.9
P41A Barry, Barry 24.40 3 P P 19 08 25.8 -1.9
baz=184
P34A Walnut Farm, R 24.46 353 P P 19 08 26.0 -2.2
baz=170,SNR=12
P43A Skaggs, Pawnee 24.49 6 P P 19 08 27.3 -1.3
baz=188
BLO Bloomington 24.49 12 eP P 19 08 26.5 -2.1
BLO pmax pmax
comp=Z,44nm,0.8s
BLO Bloomington 24.49 12 eP P 19 08 26.4 -2.1
comp=Z,44nm,0.8s
BLA Blacksburg 24.53 25 eP P 19 08 29.4 +0.4
BLA pmax pmax
comp=Z,107nm,1.0s
BLA Blacksburg 24.53 25 eP P 19 08 29.4 +0.4
comp=Z,107nm,1.0s
IDE Isla Desecheo 24.54 79 eP P 19 08 29.9 +0.7
X18A Snowflake 24.59 324 eP P 19 08 32.0 +2.3
comp=Z,37nm,1.1s
214A Organ Pipe Nat 24.62 316 P P 19 08 29.4 -0.4
baz=128
214A Organ Pipe Nat 24.62 316 eP P 19 08 31.3 +1.4
comp=Z,170nm,1.3s
VWCC Virginia Weste 24.74 25 eP P 19 08 31.6 +0.6
VWCC epP pP 19 08 53.5 +2.5
O38A Galt 24.79 359 P P 19 08 29.9 -1.4
baz=178
O40A La Belle 24.80 2 P P 19 08 30.0 -1.4
baz=182
O41A Passleys Farm, 24.84 4 P P 19 08 29.5 -2.3
baz=184
MPR Mayaguez 24.85 80 eP P 19 08 31.9 -0.1
comp=Z,34nm,1.1s
O37A Wolven Farm, M 24.86 358 P P 19 08 30.3 -1.6
baz=177,SNR=12
O36A Bolckow 24.86 356 P P 19 08 30.3 -1.6
baz=175
O39A Kirksville 24.92 1 P P 19 08 31.6 -0.9
baz=180
O42A Bath 24.98 5 P P 19 08 33.6 +0.6
baz=186
SDCO Great Sand Dun 25.04 336 P P 19 08 33.3 -0.7
baz=150,SNR=28
SDCO Great Sand Dun 25.04 336 eP P 19 08 35.4 +1.5
comp=Z,51nm,1.4s
O34A Beatrice 25.07 353 P P 19 08 32.4 -1.5
baz=171,SNR=15
O35A Humboldt 25.07 355 P P 19 08 32.7 -1.2
baz=173
O33A Hebron 25.08 352 P P 19 08 32.4 -1.6
baz=169
KSCO Kaye Shedlock' 25.18 342 P P 19 08 34.4 -0.5
baz=157
KSCO Kaye Shedlock' 25.18 342 eP P 19 08 35.1 +0.2
comp=Z,35nm,0.8s
X16A Lo Mia Camp, P 25.37 322 eP P 19 08 37.9 +1.1
comp=Z,17nm,0.8s
N37A Lee Faris, Mou 25.45 358 P P 19 08 35.6 -1.7
baz=177,SNR=7.2
N38A Joes South For 25.46 359 P P 19 08 36.6 -0.8
baz=179,SNR=6.7
N36A Muff Farm, Cla 25.54 356 P P 19 08 36.5 -1.6
baz=175
N39A Derby Farms, D 25.55 1 P P 19 08 36.6 -1.5
baz=180
SFIN Lafayette 25.55 10 eP P 19 08 36.0 -2.2
comp=Z,79nm,1.1s
N40A Mertquake, Sal 25.58 2 P P 19 08 36.4 -2.0
baz=183
S22A 4UR Ranch, Cre 25.58 334 P P 19 08 39.5 +0.6
baz=147,SNR=71
S22A 4UR Ranch, Cre 25.58 334 eP P 19 08 40.5 +1.6
comp=Z,53nm,0.9s
N34A Lincoln 25.70 354 P P 19 08 38.4 -1.2
baz=172
N33A J Bar K, Exete 25.71 352 P P 19 08 38.5 -1.2
baz=170
113A Mohawk Valley, 25.75 316 eP P 19 08 41.6 +1.5
comp=Z,22nm,1.3s
113A epP pP 19 09 05.4 +5.1
SJG San Juan 25.78 80 P P 19 08 37.6 -2.9
comp=Z,12nm,0.6s,baz=262,slow=9.8,SNR=5.6
SJG PcP PcP 19 12 08.0 -0.3
comp=Z,14nm,0.6s,baz=259,slow=4.1,SNR=5.3
SJG LR LR 19 19 51.3
comp=Z,159nm,18.7s,baz=255,slow=39
SJG San Juan 25.78 80 eP P 19 08 37.6 -2.9
SJG e*PP pP 19 09 00.7 +0.1
SJG e 19 12 08.0
SJG San Juan 25.78 80 eP P 19 08 37.6 -2.9
SJG epP pP 19 09 00.7 +0.1
SJG ePcP PcP 19 12 08.0 -0.3
SJG e 19 19 51.3
N44A Piper City 25.80 8 P P 19 08 38.5 -1.9
baz=190
MVCO Mesa Verde 25.89 331 P P 19 08 42.5 +0.9
baz=143,SNR=38
MVCO Mesa Verde 25.89 331 eP P 19 08 43.6 +2.0
comp=Z,144nm,0.8s
Q24A Divide 25.97 338 P P 19 08 42.6 +0.2
baz=152
Y14A Wickenburg 26.00 319 eP P 19 08 44.1 +1.7
Y14A epP pP 19 09 03.8 +1.3
JSRW J. Sargeant Re 26.03 28 eP P 19 08 42.8 +0.3
JSRW epP pP 19 09 02.8 +0.2
CBYP Canovanas 26.07 80 eP P 19 08 41.4 -1.8
comp=Z,66nm,0.8s
CBYP epP pP 19 09 02.8 -0.5
HUMP Col San Antoni 26.07 80 eP P 19 08 41.5 -1.7
comp=Z,34nm,0.9s
HUMP epP pP 19 09 03.1 -0.1
HUMP ePcP PcP 19 12 08.8 -0.1
URVA University of 26.08 29 epP pP 19 09 04.9 +1.8
M38A Pleasantville 26.08 360 P P 19 08 40.5 -2.5
baz=179,SNR=14
M37A Trindle Farm, 26.09 358 P P 19 08 41.9 -1.1
baz=177
M40A Post Highland 26.10 2 P P 19 08 40.9 -2.2
baz=183
WUAZ Wupatki 26.10 324 P P 19 08 43.9 +0.4
baz=136,SNR=9.6
WUAZ Wupatki 26.10 324 eP P 19 08 44.8 +1.3
comp=Z,36nm,0.9s
M41A Milan 26.12 4 P P 19 08 41.6 -1.8
baz=185
IP07 Quail 26.14 27 epP pP 19 09 04.5 +0.8
M39A Webster 26.15 1 P P 19 08 42.1 -1.5
baz=181
M36A Felix, Anita 26.17 357 P P 19 08 42.2 -1.6
baz=176
IP06 Yanceyville 26.18 27 eP P 19 08 44.5 +0.7
IP06 epP pP 19 09 04.3 +0.3
IP05 Hopewell Churc 26.19 28 eP P 19 08 44.1 0.0
IP05 epP pP 19 09 04.8 +0.7
IP01 Cuckoo 26.23 28 eP P 19 08 44.8 +0.4
IP01 epP pP 19 09 05.0 +0.5
IP03 Louisa 26.23 27 eP P 19 08 43.9 -0.5
IP03 epP pP 19 09 04.9 +0.4
M35A Neola 26.24 355 P P 19 08 43.3 -1.1
baz=174
MTP Monte Pirata 26.35 80 eP P 19 08 42.6 -3.1
MTP epP pP 19 09 05.2 -0.6
ACSO Alum Creek Sta 26.36 17 eP P 19 08 45.6 0.0
ACSO epP pP 19 09 04.9 -0.8
ATAH Atahualpa 26.48 146 P P 19 08 49.5 +2.2
comp=Z,26nm,0.8s,baz=328,slow=7.5,SNR=20
ATAH PcP PcP 19 12 12.1 +1.6
comp=Z,5.9nm,0.8s,baz=18,slow=3.2,SNR=4.6
PV01 Paradox Valley 26.68 332 eP P 19 08 51.0 +2.3
L40A Anamosa 26.77 3 P P 19 08 47.1 -2.0
baz=183
L34A Svendsen Farm, 26.80 354 P P 19 08 49.1 -0.4
baz=172
L39A Vinton 26.80 1 P P 19 08 49.7 +0.2

baz=182
L36A Harm Buss Farm 26.81 357 P P 19 08 48.0 -1.5
baz=176
OGNE Ogallala 26.81 345 P P 19 08 49.6 -0.1
baz=160
SMCO Snowmass 26.86 335 *eP* **P 19 08 51.2 +0.7**
comp=Z,47nm,1.4s
PV05 Paradox Valley 26.88 331 *eP* **P 19 08 52.3 +1.9**
ISCO Idaho Springs 26.88 338 P P 19 08 48.6 -2.0
baz=152,SNR=8.9
ISCO Idaho Springs 26.88 338 *eP* **P 19 08 51.7 +1.2**
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO Idaho Springs 26.88 338 *eP* **P 19 08 51.7 +1.2**
comp=Z,8.2nm,0.8s
STVI Saint Thomas 26.93 79 *eP* **P 19 08 49.4 -1.4**
comp=Z,91nm,1.3s
STVI *epP* **pP 19 09 10.8 -0.2**
PDMCI Parker Dam,Lak 26.95 319 P P 19 08 51.6 +0.7
baz=129
PV04 Paradox Valley 27.04 332 *eP* **P 19 08 53.5 +1.7**
PV10 Paradox Valley 27.09 331 *eP* **P 19 08 53.8 +1.4**
PV09 Paradox Valley 27.23 331 *eP* **P 19 08 55.6 +1.9**
U15A North Rim 27.27 324 *eP* **P 19 08 56.7 +2.6**
comp=Z,11nm,0.8s
W13A Hualapai Mount 27.31 320 *eP* **P 19 08 56.5 +2.1**
comp=Z,19nm,1.0s
K40A Colesburg 27.41 3 P P 19 08 52.7 -2.1
baz=183
BC3 Big Chuckawall 27.41 316 P P 19 08 56.4 +1.2
baz=126,SNR=13
IRM Iron Mountain 27.51 317 P P 19 08 57.6 +1.6
baz=128,SNR=7.2
MONP2 Monument Peak 27.64 314 P P 19 08 57.4 0.0
baz=124
K32A Verdigre 27.67 352 P P 19 08 59.2 +1.9
baz=169
JFWS Jewell Farm 27.67 4 *eP* **P 19 08 57.6 +0.3**
JFWS *e*PP* **pP 19 09 17.9 +0.4**
JFWS pmax pmax
comp=Z,58nm,0.7s
JFWS Jewell Farm 27.67 4 *eP* **P 19 08 57.6 +0.3**
comp=Z,58nm,0.7s
JFWS *epP* **pP 19 09 17.9 +0.4**
BAR Barrett 27.70 313 *ePcP* **PcP 19 12 12.4 -0.2**
BAR *eS* **S 19 13 33.8 +0.3**
DANC Danby, Needles 27.96 318 *epP* pP 19 09 24.9 +4.6
N23A Red Feather La 27.96 339 P P 19 09 00.4 +0.3
baz=152
N23A Red Feather La 27.96 339 *eP* **P 19 09 01.0 +0.8**
comp=Z,16nm,1.1s
J38A Wedel Dairy, R 27.99 1 P P 19 09 01.5 +1.5
baz=181
KNB Kanab 27.99 324 *eP* **P 19 09 02.6 +2.2**
KNB pmax pmax
comp=Z,10.0nm,0.9s
KNB Kanab 27.99 324 *eP* **P 19 09 02.6 +2.2**
comp=Z,9.9nm,0.9s
PCRV Puerto La Cruz 28.02 97 LR LR 19 20 31.7
comp=Z,290nm,21.3s,baz=294,slow=38
PFO Pinyon Flats O 28.07 315 LR LR 19 22 08.1
comp=Z,124nm,19.1s,baz=130,slow=40
PFO Pinyon Flats O 28.07 315 P P 19 09 00.4 -0.7
baz=125
PHWY Pilot Hill 28.16 340 *eP* **P 19 09 02.3 +0.4**
comp=Z,35nm,1.7s
O20A White River Ci 28.19 335 P P 19 09 02.8 +0.7
baz=147,SNR=8.9
O20A White River Ci 28.19 335 *eP* **P 19 09 03.1 +1.0**
comp=Z,19nm,0.9s
LCMT Little Creek M 28.23 324 *eP* **P 19 09 04.3 +1.9**
comp=Z,5.0nm,1.0s
GMRC Granite Mounta 28.23 318 P P 19 09 04.2 +1.7
baz=128
SRU San Rafael Swe 28.37 330 *eP* **P 19 09 05.5 +1.8**
SRU pmax pmax
comp=Z,57nm,0.7s
SRU San Rafael Swe 28.37 330 *eP* **P 19 09 05.5 +1.8**
comp=Z,57nm,0.7s
MTPU Mount Pierson 28.39 327 *eP* **P 19 09 06.3 +2.1**
comp=Z,8.2nm,0.8s
I39A Houston 28.54 2 P P 19 09 04.1 -0.9
baz=182
SZCU Shurtz Canyon 28.55 325 *eP* **P 19 09 07.1 +1.7**
comp=Z,9.8nm,0.9s
SZCU *epP* **pP 19 09 27.0 +1.2**
ECSD EROS Data Cent 28.57 354 P P 19 09 03.6 -1.6
baz=172
ECSD EROS Data Cent 28.57 354 *eP* **P 19 09 04.0 -1.3**
ECSD *epP* **pP 19 09 26.6 +1.0**
P18A Preston Nutter 28.65 331 *eP* **P 19 09 07.9 +1.5**
comp=Z,46nm,0.8s
CCUT Cedar City 28.68 325 *eP* **P 19 09 09.0 +2.5**
comp=Z,17nm,1.3s
CCUT *epP* **pP 19 09 28.8 +2.0**
MSU Marysvale 28.74 327 *eP* **P 19 09 09.6 +2.6**
MSU Marysvale 28.74 327 *eP* **P 19 09 09.6 +2.6**
P17A Butcher Ranch, 28.76 330 *eP* **P 19 09 03.3 -3.9**
comp=Z,163nm,0.8s
TUQ Turquoise Moun 28.80 318 P P 19 09 09.7 +2.1
baz=128
SHPR Sheep Range 29.01 321 *eP* **P 19 09 11.7 +2.3**
comp=Z,7.1nm,1.0s
RWWY Rawlins 29.11 338 *eP* **P 19 09 11.9 +1.5**
comp=Z,29nm,1.0s
PSRC Puddingstone R 29.27 314 *eP* **P 19 09 11.9 +0.4**
H38A Maiden Rock 29.34 1 P P 19 09 11.0 -1.1
baz=181
H39A Augusta 29.38 2 P P 19 09 11.4 -1.0
baz=183
H32A Carlson Farm, 29.42 353 P P 19 09 12.3 -0.5
baz=171
RPV Rancho Palos V 29.49 313 *ePcP* **PcP 19 12 16.3 -0.7**
MPU Maple Canyon 29.61 330 *eP* **P 19 09 16.6 +1.8**
comp=Z,36nm,0.9s
K22A Casper 29.72 339 P P 19 09 15.6 0.0
baz=152
K22A Casper 29.72 339 *eP* **P 19 09 16.1 +0.4**
comp=Z,19nm,1.1s
NLU North Lily Min 29.78 329 *eP* **P 19 09 13.9 -2.4**
comp=Z,12nm,0.8s
EDW2 Edwards Air Fo 29.84 316 P P 19 09 17.6 +1.0
baz=124
G38A Ridgeland 29.85 1 P P 19 09 15.3 -1.2
baz=182
SPMN Marine on St. 29.89 0 P P 19 09 16.3 -0.6
baz=180
TPNV Topopah Spring 29.96 321 P P 19 09 20.1 +2.3
baz=130
TPNV Topopah Spring 29.96 321 *eP* **P 19 09 20.2 +2.3**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 29.96 321 *eP* **P 19 09 20.2 +2.3**
comp=Z,6.6nm,0.9s
LRMC Laurel Mtn Rad 29.97 317 P P 19 09 20.0 +2.0
baz=126
JLU Jordanelle 29.98 331 *eP* **P 19 09 19.7 +1.6**
comp=Z,18nm,0.7s
G39A Holcombe 29.99 2 P P 19 09 15.6 -2.1
baz=183
MPMC Manual Prospec 30.19 318 P P 19 09 20.9 +1.0
baz=127,SNR=11
RSSD Black Hills 30.30 344 P P 19 09 20.6 -0.2
baz=158
RSSD Black Hills 30.30 344 *eP* **P 19 09 20.2 -0.7**
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 30.30 344 *eP* **P 19 09 20.2 -0.7**
comp=Z,11nm,1.1s
DUG Dugway, Tooele 30.33 329 P P 19 09 21.2 +0.2
baz=139,SNR=8.2
DUG Dugway, Tooele 30.33 329 *eP* **P 19 09 23.0 +2.0**
DUG pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 30.33 329 *eP* **P 19 09 23.0 +2.0**
comp=Z,12nm,0.8s
TCUT Toone Canyon 30.37 332 *eP* **P 19 09 23.6 +2.1**
comp=Z,93nm,0.9s
DAC Darwin (Calif) 30.39 318 *eP* **P 19 09 24.0 +2.3**
DAC pmax pmax
comp=Z,5.0nm,1.0s
DAC Darwin (Calif) 30.39 318 *eP* **P 19 09 23.9 +2.3**
comp=Z,5.1nm,1.0s
R11A Troy Canyon, C 30.49 323 P P 19 09 23.2 +0.7
baz=133,SNR=8.1
R11A Troy Canyon, C 30.49 323 *eP* **P 19 09 25.2 +2.7**
comp=Z,4.5nm,1.0s

F38A Pierce - Schro 30.64 1 P P 19 09 22.2 -1.2
baz=182
GRAC Grapevine Rang 30.68 319 P P 19 09 25.1 +1.0
baz=128
CWC Cottonwood Cre 30.80 318 P P 19 09 25.8 +0.5
baz=127
HWUT Hardware Ranch 30.83 332 *eP* **P 19 09 26.9 +1.3**
comp=Z,28nm,0.9s
HWUT *ePcP* **PcP 19 12 22.2 +1.6**
BW06 Boulder Array 30.93 336 P P 19 09 26.0 -0.4
baz=147,SNR=8.7
BW06 Boulder Array 30.93 336 *eP* **P 19 09 26.7 +0.3**
comp=Z,7.7nm,0.9s
PD31 Pinedale Array 30.93 336 *eP* **P 19 09 26.4 -0.1**
PDAR Pinedale Array 30.93 336 P P 19 09 27.0 +0.6
comp=Z,8.9nm,1.0s,baz=133,slow=8.7,SNR=23
PDAR *pP* **pP 19 09 46.0 -0.8**
PDAR comp=Z,1.9nm,0.8s,baz=316,slow=4.1,SNR=3.5
PDAR *PcP* **PcP 19 12 21.4 +0.4**
PDAR Pinedale Array 30.93 336 *eP* **P 19 09 26.5 +0.1**
PDAR *pP* **pP 19 09 46.0 -0.8**
PDAR *PcP* **PcP 19 12 21.4 +0.4**
BGU Big Grassy Mou 30.99 330 *eP* **P 19 09 29.1 +2.2**
comp=Z,22nm,1.0s
SPUT South Promonto 31.01 331 *eP* **P 19 09 29.3 +2.2**
comp=Z,29nm,1.1s
VES Vestal, Richgr 31.11 316 P P 19 09 29.4 +1.6
baz=124
E36A McGregor 31.18 360 P P 19 09 26.2 -2.1
baz=179
E35A Pequot Lakes 31.25 358 P P 19 09 27.4 -1.5
baz=177
TIN Tinemaha, Big 31.27 319 *epP* pP 19 09 47.2 -2.6
GATR Gnd/Air Tx Cnt 31.40 313 *epP* pP 19 09 52.7 +1.9
HVU Hansel Valley 31.53 331 *eP* **P 19 09 33.5 +1.9**
HVU pmax pmax
comp=Z,43nm,0.9s
HVU Hansel Valley 31.53 331 *eP* **P 19 09 33.5 +1.9**
comp=Z,43nm,0.9s
D35A Remer 31.76 359 P P 19 09 31.3 -2.0
baz=178
D34A Park Rapids 31.81 357 P P 19 09 32.4 -1.4
baz=176
D37A Cotton 31.82 1 P P 19 09 31.8 -2.1
baz=181,SNR=5.2
D33A AnnSam, Waubun 31.90 356 P P 19 09 32.8 -1.8
baz=174
REDW Red Top Meadow 31.95 335 *eP* **P 19 09 36.8 +1.4**
comp=Z,96nm,0.8s
ELK Elko 31.98 327 P P 19 09 38.1 +2.5
comp=Z,3.6nm,0.8s,baz=173,slow=8.9,SNR=27
ELK *PcP* **PcP 19 12 24.2 +0.4**
comp=Z,1.2nm,0.8s,baz=180,slow=5.1,SNR=3.9
ELK *ScP* **ScP 19 16 03.7 +4.3**
comp=Z,1.0nm,0.8s,baz=186,slow=7.6,SNR=4.0
TRY Troy 31.99 27 *eP* **P 19 09 36.5 +1.1**
comp=Z,48nm,1.0s
TRY *epP* **pP 19 09 57.3 +1.4**
SNOW Snow King Moun 32.00 335 *eP* **P 19 09 37.3 +1.5**
comp=Z,149nm,0.8s
LOHW Long Hollow 32.06 335 *eP* **P 19 09 37.4 +1.1**
comp=Z,38nm,0.9s
TPAW Teton Pass 32.10 335 *eP* **P 19 09 38.0 +1.2**
comp=Z,57nm,1.0s
MDPB Devils Postpil 32.15 319 *eP* **P 19 09 39.4 +2.1**
comp=Z,11nm,1.1s
MOOW Moose Ponds 32.23 335 *eP* **P 19 09 38.6 +0.9**
comp=Z,26nm,0.8s
FXWY Fox Creek 32.25 335 *eP* **P 19 09 39.1 +1.1**
comp=Z,22nm,0.8s
FXWY *ePcP* **PcP 19 12 26.2 +1.7**
C35A Jirik Farms, M 32.38 359 P P 19 09 36.4 -2.3
baz=178
C36A Pine Crest Far 32.42 0 P P 19 09 36.8 -2.4
baz=180
IMW Indian Meadow 32.43 335 *eP* **P 19 09 40.3 +0.7**
comp=Z,22nm,0.9s
IMW *ePcP* **PcP 19 12 26.9 +1.9**
ACCN Adirondack Com 32.52 27 *epP* pP 19 10 01.5 +1.0
YPP Pitchstone Pla 32.69 336 *eP* **P 19 09 42.9 +1.0**
comp=Z,8.0nm,0.8s
H17A Grant Village 32.70 336 P P 19 09 42.4 +0.4
baz=147,SNR=13
H17A Grant Village 32.70 336 *eP* **P 19 09 43.7 +1.7**
comp=Z,19nm,1.0s
NCB Newcomb 32.76 25 *eP* **P 19 09 41.9 -0.3**
NCB *epP* **pP 19 10 03.4 +0.7**
LKWY Lake 32.78 337 *eP* **P 19 09 44.8 +2.1**
LKWY pmax pmax
comp=Z,17nm,0.9s
LKWY Lake 32.78 337 *eP* **P 19 09 44.8 +2.1**
comp=Z,17nm,0.9s
BMN Battle Mountai 32.84 325 *eP* **P 19 09 45.0 +1.9**
BMN *e*PP* **pP 19 10 05.4 +1.8**
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 32.84 325 *eP* **P 19 09 45.0 +1.9**
comp=Z,8.0nm,1.0s
BMN *epP* **pP 19 10 05.3 +1.8**
RLMT Red Lodge 32.84 338 P P 19 09 42.8 -0.3
baz=150,SNR=8.7
RLMT Red Lodge 32.84 338 *eP* **P 19 09 43.8 +0.8**
comp=Z,15nm,1.1s
YFT Old Faithful 32.85 336 *eP* **P 19 09 46.0 +2.8**
comp=Z,26nm,1.0s
WAKR Walker 32.91 320 *eP* **P 19 09 46.3 +2.6**
comp=Z,24nm,1.6s
MDND Maddock 32.98 352 P P 19 09 43.5 -0.6
baz=168
MDND Maddock 32.98 352 *eP* **P 19 09 43.3 -0.8**
comp=Z,44nm,0.7s
YNR Norris Junctio 33.01 336 *eP* **P 19 09 46.1 +1.5**
comp=Z,8.6nm,0.8s
AGMN Agassiz Nation 33.05 356 P P 19 09 43.1 -1.5
baz=174
AGMN Agassiz Nation 33.05 356 *eP* **P 19 09 42.4 -2.2**
comp=Z,19nm,0.9s
YERR Yengton 33.08 321 *eP* **P 19 09 45.7 +0.4**
comp=Z,6.0nm,0.7s
YMR Madison River 33.09 336 *eP* **P 19 09 47.0 +1.7**
YHH Holmes Hill 33.14 336 *eP* **P 19 09 47.5 +1.6**
comp=Z,22nm,1.2s
LONY Lake Ozonia 33.15 24 *eP* **P 19 09 42.2 -3.3**
LONY *epP* **pP 19 10 06.8 +0.8**
B34A Aery, Baudette 33.18 358 P P 19 09 43.7 -2.0
baz=177
B32A Ashes, Strandq 33.20 356 P P 19 09 44.2 -1.7
baz=173
MDV Middlebury 33.22 26 *eP* **P 19 09 46.4 +0.3**
MDV *epP* **pP 19 10 06.9 +0.3**
CMB Columbia Colle 33.23 318 *eP* **P 19 09 47.5 +1.1**
CMB pmax pmax
comp=Z,10.0nm,1.4s
CMB Columbia Colle 33.23 318 *eP* **P 19 09 47.5 +1.1**
comp=Z,9.8nm,1.4s
YHB Horse Butte 33.24 336 *eP* **P 19 09 48.4 +1.7**
comp=Z,11nm,0.8s
B31A Greenbush Farm 33.32 354 P P 19 09 45.7 -1.3
baz=171
PNTR Pine Nut 33.36 321 *eP* **P 19 09 50.5 +2.7**
comp=Z,10nm,0.8s
QLMT Earthquake Lak 33.40 336 *eP* **P 19 09 49.6 +1.6**
GCMT Greycliff 33.56 339 *eP* **P 19 09 49.9 +0.6**
PAHR Pah Rah Range 33.62 322 *eP* **P 19 09 51.4 +1.5**
comp=Z,11nm,1.1s
JLAB Laurel Hill 33.62 316 *eP* **P 19 09 51.1 +1.4**
JLAB *epP* **pP 19 10 09.7 -0.5**
A33A Warroad 33.66 357 P P 19 09 47.5 -2.4
baz=175
HLID Hailey 33.67 331 P P 19 09 50.6 +0.3
baz=140,SNR=44
HLID Hailey 33.67 331 *eP* **P 19 09 51.9 +1.6**
comp=Z,22nm,0.9s
FRNY Flat Rock 33.73 25 *epP* pP 19 10 11.9 +0.8
MCMT McKenzie Canyo 33.98 334 *eP* **P 19 09 55.2 +2.2**
BOZ Bozeman (W) 34.12 336 P P 19 09 54.5 +0.4
baz=146,SNR=13
BOZ Bozeman (W) 34.12 336 *eP* **P 19 09 55.2 +1.1**
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 34.12 336 *eP* **P 19 09 55.2 +1.1**
comp=Z,9.1nm,0.9s
CRPB Russellman Par 34.15 317 *ePcP* **PcP 19 12 31.7 +2.1**
MFID Camas Ranch 34.23 330 *eP* **P 19 09 56.3 +1.2**
comp=Z,17nm,0.7s
BEKR Beckworth 34.30 321 *eP* **P 19 09 57.9 +2.1**

comp=Z,9.9nm,1.1s
BEKR *epP* **pP 19 10 18.4 +2.0**
DLMT Dillon 34.31 335 *eP* **P 19 09 57.4 +1.6**
comp=Z,44nm,1.0s
LRM Limekiln Ridge 34.63 336 *eP* **P 19 09 59.8 +1.1**
ORV Oroville 34.82 320 *eP* **P 19 10 03.0 +2.9**
ORV pmax pmax
comp=Z,8.0nm,1.2s
ORV Oroville 34.82 320 *eP* **P 19 10 03.0 +2.9**
comp=Z,8.2nm,1.2s
WVOR Wild Horse Val 34.98 326 *eP* **P 19 10 03.0 +1.4**
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR Wild Horse Val 34.98 326 *eP* **P 19 10 03.0 +1.4**
comp=Z,11nm,0.9s
ULM Lac du Bonnet 35.00 357 P P 19 09 58.6 -2.9
comp=Z,9.0nm,0.9s,baz=172,slow=11,SNR=11
ULM *pP* **pP 19 10 19.9 -2.1**
comp=Z,9.7nm,0.8s,baz=184,slow=6.8,SNR=5.2
ULM *PcP* **PcP 19 12 31.2 -0.6**
comp=Z,16nm,0.8s,baz=183,slow=2.9,SNR=8.0
ULM *LR* LR 19 25 55.3
comp=Z,81nm,20.8s,baz=156,slow=39
HRY Holter Researc 35.13 337 *eP* **P 19 10 03.9 +1.1**
O03D Paynes Creek 35.44 320 P P 19 10 08.0 +2.4
baz=126
EGMT Eagleton 35.53 340 P P 19 10 05.8 -0.3
baz=151,SNR=9.1
EGMT Eagleton 35.53 340 *eP* **P 19 10 06.9 +0.7**
comp=Z,21nm,0.9s
MOD Modoc Plateau 35.55 324 *eP* **P 19 10 08.3 +1.8**
comp=Z,14nm,1.3s
CHMT Chamberlain Mo 35.84 336 *eP* **P 19 10 09.5 +0.5**
BMO Blue Mountains 36.01 330 *eP* **P 19 10 11.2 +0.8**
BMO pmax pmax
comp=Z,17nm,0.9s
BMO Blue Mountains 36.01 330 *eP* **P 19 10 11.2 +0.8**
comp=Z,17nm,0.9s
MSO Missoula 36.05 335 P P 19 10 10.4 -0.2
baz=144,SNR=12
MSO Missoula 36.05 335 *eP* **P 19 10 11.2 +0.6**
comp=Z,28nm,1.1s
SLMT Seeley Lake 36.20 336 *eP* **P 19 10 12.5 +0.4**
PTGA Pitinga 36.22 113 LR LR 19 26 55.6
comp=Z,54nm,21.1s,baz=338,slow=40
PTGA Pitinga 36.22 113 *eP* **P 19 10 11.8 -0.6**
comp=Z,13nm,0.8s
M04C Macdoel 36.37 322 P P 19 10 14.7 +1.3
baz=128,SNR=6.9
SWMT Swartz Lake 36.62 336 *eP* **P 19 10 16.2 +0.7**
YBMT Yellow Bay 36.91 336 *eP* **P 19 10 18.5 +0.5**
JTMT Jette 36.93 336 *eP* **P 19 10 19.0 +0.9**
JTMT *ePcP* **PcP 19 12 39.0 +1.2**
KHMM Horse Mountain 36.98 320 *eP* **P 19 10 21.4 +2.7**
comp=Z,13nm,0.9s
KHMM *epP* **pP 19 10 41.6 +2.2**
BSMT Bassoo Peak 37.21 335 *eP* **P 19 10 21.4 +0.8**
J04D Umpqua Nationa 37.43 324 P P 19 10 23.2 +0.6
baz=129,SNR=5.8
E09A Wood Farm, Sta 37.63 331 *eP* **P 19 10 24.2 +0.3**
comp=Z,20nm,0.8s
I05D Terrebonne, OR 37.72 326 P P 19 10 25.6 +0.8
baz=131
WALA Waterton Lakes 37.86 337 *eP* **P 19 10 27.0 +1.0**
comp=Z,46nm,1.9s
SAML Samuel 38.02 127 *eP* **P 19 10 26.4 -1.1**
comp=Z,27nm,0.9s
E08A Dider Farm, El 38.05 330 *eP* **P 19 10 27.3 -0.1**
comp=Z,12nm,0.8s
HSO Harness Mounta 38.17 324 *ePcP* **PcP 19 12 41.3 -0.3**
HAWA Hanford 38.20 330 *eP* **P 19 10 29.4 +0.6**
comp=Z,10nm,0.8s
G05D Wamic, OR 38.31 327 P P 19 10 31.4 +1.7
baz=132
D08A Wollman Farm, 38.40 331 *eP* **P 19 10 31.0 +0.7**
comp=Z,22nm,1.0s
I03D Drain, OR 38.42 324 P P 19 10 31.7 +1.1
baz=128
E07A Sunnyside 38.48 330 *eP* **P 19 10 31.9 +0.8**
comp=Z,16nm,0.8s
KEBM Edson Butte 38.50 322 *eP* **P 19 10 34.9 +3.6**
comp=Z,84nm,1.1s
NEW Newport 38.50 334 P P 19 10 31.2 -0.1
comp=Z,4.5nm,0.7s,baz=140,slow=11,SNR=7.2
NEW *PcP* **PcP 19 12 42.0 -0.5**
comp=Z,5.1nm,1.0s,baz=201,slow=2.5,SNR=3.1
NEW Newport 38.50 334 P P 19 10 31.4 +0.1
baz=140
NEW Newport 38.50 334 *eP* **P 19 10 31.6 +0.3**
NEW 19 12 42.0
NEW pmax pmax
comp=Z,39nm,1.8s
NEW Newport 38.50 334 *eP* **P 19 10 31.6 +0.3**
comp=Z,39nm,1.8s
NEW *PcP* **PcP 19 12 42.0 -0.5**
LMN Caledonia Moun 38.56 32 *eP* **P 19 10 31.9 +0.2**
LMN *epP* **pP 19 10 52.6 -0.1**
C09A Chrisman Ranch 38.65 332 *eP* **P 19 10 33.5 +1.0**
comp=Z,42nm,0.8s
LTY Liberty 39.37 330 *eP* **P 19 10 39.6 +1.0**
comp=Z,56nm,1.4s
B08A Colville Reser 39.54 332 *eP* **P 19 10 40.4 +0.4**
comp=Z,12nm,1.0s
LON Longmire 39.58 329 *eP* **P 19 10 41.9 +1.6**
LON pmax pmax
comp=Z,27nm,0.8s
LON Longmire 39.58 329 *eP* **P 19 10 41.9 +1.6**
comp=Z,27nm,0.8s
LPAZ La Paz 39.75 141 P P 19 10 42.5 -0.2
comp=Z,8.0nm,0.7s,baz=336,slow=6.6,SNR=32
LPAZ *PcP* **PcP 19 12 48.1 +0.5**
comp=Z,4.3nm,0.9s,baz=354,slow=2.6,SNR=4.7
LPAZ *ScP* **ScP 19 16 29.1 +0.5**
comp=Z,1.8nm,0.9s,baz=331,slow=5.7,SNR=2.6
WRW Wenatchee Ridg 39.89 330 P P 19 10 44.6 +1.6
C06D Leavenworth 39.95 331 P P 19 10 43.5 +0.2
baz=135,SNR=5.1
D05A Enumclaw 39.97 329 *eP* **P 19 10 45.1 +1.6**
D05A *epP* **pP 19 11 00.8 -3.7**
B06A Marblemount 40.65 331 *eP* **P 19 10 49.7 +0.7**
comp=Z,46nm,1.0s
B05A Bryant 40.76 330 P P 19 10 49.8 -0.1
baz=134,SNR=5.8
MNMC Minye Minye 41.15 145 *eP* **P 19 10 54.5 +0.7**
comp=Z,41nm,0.9s
A04D Lummi Island 41.37 330 P P 19 10 55.7 +0.7
baz=133
MCW Mount Constitu 41.40 330 P P 19 10 56.1 +0.8
MCW Mount Constitu 41.40 330 P P 19 10 56.1 +0.8
PB11 IPOC Station P 41.63 146 *eP* **P 19 10 57.8 +0.3**
comp=Z,31nm,0.8s
PB11 *epP* **pP 19 11 19.6 +0.9**
PGC Sidney 41.68 330 *eP* **P 19 10 58.8 +1.3**
comp=Z,53nm,0.9s
LLLB Lillooet 42.32 333 *eP* **P 19 11 03.9 +1.1**
comp=Z,26nm,0.9s
PB01 IPOC Station P 42.77 147 *eP* **P 19 11 06.8 +0.1**
comp=Z,36nm,1.8s
LVC Limon Verde 44.36 147 *eP* **P 19 11 21.1 +1.3**
comp=Z,12nm,0.9s
LVC *epP* **pP 19 11 41.5 +0.4**
LVC *eS* **S 19 17 51.2 +3.2**
SCHQ Schefferville 44.38 21 PcP PcP 19 13 01.6 0.0
comp=Z,7.9nm,0.6s,baz=167,slow=3.4,SNR=2.9
SCHQ *LR* LR 19 30 54.5
comp=Z,324nm,20.0s,baz=258,slow=38
SCHQ Schefferville 44.38 21 *epP* **pP 19 11 39.5 -1.0**
SCHQ *ePcP* **PcP 19 13 01.6 0.0**
SCHQ *e* 19 30 54.5
RPN Rapa Nui 45.03 201 LR LR 19 26 34.2
comp=Z,77nm,20.0s,baz=23,slow=31
BBB Bella Bella 46.26 331 P P 19 11 35.6 +1.6
comp=Z,10nm,1.0s,baz=108,slow=11,SNR=4.3
LCO Las Campanas 48.95 154 *eP* **P 19 11 55.8 +0.3**
comp=Z,30nm,1.0s
YKA Yellowknife Ar 49.62 347 P P 19 11 59.1 -0.7
comp=Z,4.6nm,0.6s,baz=149,slow=7.6,SNR=17
YKB5 Yellowknife Ar 49.62 347 *eP* **P 19 11 59.1 -0.7**
DLBC Dease Lake 51.17 336 P P 19 12 13.4 +1.8
comp=Z,69nm,0.9s,baz=140,slow=4.3,SNR=101
ROC1 El Roble 52.31 157 *eP* **P 19 12 20.4 -0.3**
comp=Z,19nm,0.8s
GO05 HualaæØ 53.80 159 *eP* **P 19 12 31.5 +0.2**
comp=Z,35nm,0.8s
CPUP Villa Florida 53.89 140 P P 19 12 30.9 -1.2
comp=Z,12nm,0.8s,baz=317,slow=8.2,SNR=22
BDFB Brasilia 53.93 123 P P 19 12 31.4 -1.3

comp=Z,3.5nm,0.6s,baz=64,slow=5.6,SNR=8.5
WHY Whitehorse 54.49 336 *e*P **P 19 12 37.1 +0.9**
comp=Z,22nm,0.9s
HYT Haines Junctio 55.63 335 *e*P **P 19 12 46.2 +1.8**
comp=Z,25nm,1.2s
BALM Baldy 57.74 334 *e*P **P 19 13 01.1 +1.8**
BALM pmax pmax
comp=Z,28nm,1.0s
BALM Baldy 57.74 334 *e*P **P 19 13 01.1 +1.8**
comp=Z,28nm,1.0s
TGL Tana Glacier 57.81 334 *e*P **P 19 13 01.5 +1.8**
comp=Z,29nm,1.0s
CRQM Cirque 57.94 334 *e*P **P 19 13 02.5 +1.7**
comp=Z,33nm,1.1s
DAWY Dawson 58.20 338 *e*P **P 19 13 02.8 +0.4**
comp=Z,10nm,0.8s
BMRM Bremner River 58.67 333 *e*P **P 19 13 07.1 +1.4**
comp=Z,34nm,1.0s
INK Inuvik 59.01 344 P **P 19 13 08.2 +0.5**
comp=Z,50nm,0.9s,baz=130,slow=6.7,SNR=53
EGAK Eagle 59.24 338 *e*P **P 19 13 09.4 -0.1**
comp=Z,26nm,1.0s
MENT Mentasta 59.25 336 *e*P **P 19 13 10.5 +0.9**
comp=Z,47nm,1.7s
DIV Divide 59.26 333 *e*P **P 19 13 11.7 +1.9**
comp=Z,32nm,1.1s
FID Port Fidalgo 59.40 333 *e*P **P 19 13 13.1 +2.5**
comp=Z,42nm,1.1s
PLCA Paso Flores 59.43 160 P **P 19 13 11.6 +0.4**
comp=Z,18nm,1.0s,baz=356,slow=7.2,SNR=14
PLCA pP **pP 19 13 34.2 +0.7**
comp=Z,13nm,0.9s,baz=355,slow=8.6,SNR=6.8
PLCA Paso Flores 59.43 160 *e*P **P 19 13 11.6 +0.4**
comp=Z,34nm,1.0s
PLCA *e*pP **pP 19 13 34.7 +1.2**
RES Resolute Bay 59.45 359 P **P 19 13 09.8 -1.0**
comp=Z,5.2nm,0.7s,baz=189,slow=7.8,SNR=4.4
KLU Klutina 59.48 334 *e*P **P 19 13 12.8 +1.5**
comp=Z,38nm,0.9s
KLU *e*pP **pP 19 13 33.9 +0.3**
HARP HAARP 59.58 335 *e*P **P 19 13 13.7 +1.8**
comp=Z,58nm,1.0s
DOT Dot Lake 59.74 336 *e*P **P 19 13 13.9 +0.9**
comp=Z,100nm,0.9s
PAX Paxson 59.97 335 *e*P **P 19 13 15.4 +0.7**
PAX pmax pmax
comp=Z,39nm,0.8s
PAX Paxson 59.97 335 *e*P **P 19 13 15.4 +0.7**
comp=Z,39nm,0.8s
SCM Sheep Creek Mo 60.23 334 *e*P **P 19 13 17.5 +1.0**
SCM pmax pmax
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 60.23 334 *e*P **P 19 13 17.5 +1.0**
comp=Z,30nm,0.9s
TRQA Tornquist 60.44 152 *e*P **P 19 13 17.7 -0.4**
comp=Z,31nm,1.5s
SML Sawmill 60.66 333 *e*P **P 19 13 20.5 +1.2**
SML pmax pmax
comp=Z,41nm,1.2s
SML Sawmill 60.66 333 *e*P **P 19 13 20.5 +1.2**
comp=Z,41nm,1.2s
DHY Denali Highway 60.79 335 *e*P **P 19 13 20.9 +0.6**
comp=Z,9.1nm,0.9s
RC01 Rabbit Creek A 60.99 332 *e*P **P 19 13 22.8 +1.3**
comp=Z,20nm,0.8s
BRLK Bradley Lake 61.03 331 *e*P **P 19 13 23.1 +1.2**
comp=Z,42nm,1.0s
KDAK Kodiak Island 61.21 328 P **P 19 13 23.5 +0.5**
comp=Z,5.5nm,0.9s,baz=146,slow=4.7,SNR=4.4
KDAK Kodiak Island 61.21 328 *i* P **P 19 13 25.9 +2.9**
HDA Harding Lake 61.22 336 *e*P **P 19 13 23.3 +0.3**
comp=Z,84nm,1.6s
ILAR Eielson Array 61.36 337 P **P 19 13 24.2 +0.3**
comp=Z,28nm,0.9s,baz=125,slow=5.1,SNR=177
ILAR pP **pP 19 13 46.1 -0.3**
comp=Z,3.3nm,0.8s,baz=142,slow=8.1,SNR=2.4
ILB Eielson Array 61.36 337 *e*P **P 19 13 24.2 +0.3**
ILB *e*pP **pP 19 13 46.1 -0.3**
RND Reindeer 61.54 335 *e*P **P 19 13 26.3 +1.0**
RND pmax pmax
comp=Z,84nm,0.8s
RND Reindeer 61.54 335 *e*P **P 19 13 26.3 +1.0**
comp=Z,84nm,0.8s
SUA Susitna One 61.58 332 *e*P **P 19 13 26.7 +1.1**
comp=Z,39nm,1.0s
FYU Fort Yukon 61.62 339 *e*P **P 19 13 26.2 +0.6**
comp=Z,21nm,1.0s
CCB Clear Creek Bu 61.66 336 *e*P **P 19 13 25.8 -0.2**
comp=Z,20nm,1.0s
WRH Wood River Hil 61.69 336 *e*P **P 19 13 26.0 -0.1**
comp=Z,11nm,0.9s
MCK McKinley 61.71 335 *e*P **P 19 13 27.0 +0.7**
MCK pmax pmax
comp=Z,39nm,1.0s
MCK McKinley 61.71 335 *e*P **P 19 13 27.0 +0.7**
comp=Z,39nm,1.0s
KIP Kipapa 61.74 286⇑ *e*P **P 19 13 30.2 +2.9**
KIP pmax pmax
comp=Z,199nm,1.2s
COLA College 61.77 337 *e*P **P 19 13 27.2 +0.5**
COLA pmax pmax
comp=Z,39nm,0.8s
COLA College 61.77 337 *e*P **P 19 13 27.2 +0.5**
comp=Z,39nm,0.8s
MDM Murphy Dome 61.96 337 *e*P **P 19 13 28.0 0.0**
comp=Z,64nm,1.6s
SPU Mount Spurr 62.07 332 *e*P **P 19 13 29.9 +1.1**
TRF Thorofare Moun 62.15 335 *e*P **P 19 13 30.1 +0.7**
comp=Z,58nm,0.8s
RSO Redoubt South 62.15 331 *e*P **P 19 13 30.6 +1.0**
BPAW Bear Paw Mtn. 62.69 335 *e*P **P 19 13 33.2 +0.3**
comp=Z,34nm,1.0s
PPLA Purkeypile 62.74 334 *e*P **P 19 13 34.1 +0.7**
comp=Z,45nm,1.3s
CAST Castle Rocks 62.88 334 *e*P **P 19 13 34.0 -0.1**
comp=Z,30nm,0.8s
MLY Manley 62.96 336 *e*P **P 19 13 35.2 +0.5**
comp=Z,42nm,0.8s
COLD Coldfoot 63.66 339 *e*P **P 19 13 40.6 +1.3**
comp=Z,34nm,1.2s
SVW2 Sparrevohn 63.67 331 *e*P **P 19 13 39.4 +0.1**
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 64.06 340 P **P 19 13 41.7 -0.2**
baz=116,SNR=14
TTA Tatalina 64.40 333 *e*P **P 19 13 44.2 -0.1**
TTA Tatalina 64.40 333 *e*P **P 19 13 44.2 -0.1**
PPT Papeete 64.69 242 LR LR 19 34 39.9
comp=Z,43nm,20.8s,baz=17,slow=29
SUMG Summit 65.28 16 *i* P **P 19 13 50.1 -0.1**
comp=Z,6.5nm,0.9s
SUMG Summit 65.28 16 *e*P **P 19 13 50.1 -0.1**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 71.67 14 *i* P **P 19 14 28.6 -0.8**
comp=Z,3.6nm,0.7s
DAG Danmarks Havn 71.67 14 *e*P **P 19 14 28.6 -0.8**
DAG pmax pmax
comp=Z,3.0nm,0.7s
EFI East Falkland 73.21 158 P **P 19 14 39.6 +0.8**
ESDC Sonseca Array 79.64 52 P **P 19 15 12.1 -3.6**
comp=Z,0.3nm,0.4s,baz=289,slow=6.5,SNR=4.7
ESDC pP **pP 19 15 37.0 -2.1**
comp=Z,1.3nm,0.7s,baz=289,slow=5.7,SNR=4.0
NB2 NORSAR Subarra 83.48 28 P **P 19 15 34.3 -1.2**
comp=Z,1.4nm,0.6s,baz=290,slow=5.1
NB200 NORSAR Array S 83.48 28 *e*P **P 19 15 34.3 -1.2**
NB200 *e*pP **pP 19 15 57.6 -1.4**
NB200 *e* 19 51 16.6
NOA NORSAR Array B 83.48 28 P **P 19 15 34.3 -1.2**
comp=Z,3.6nm,0.9s,baz=293,slow=5.0,SNR=5.7
NOA pP **pP 19 15 57.6 -1.4**
comp=Z,2.5nm,0.8s,baz=290,slow=5.2,SNR=3.0
NOA LR LR 19 51 16.6
comp=Z,92nm,20.9s,baz=280,slow=35
HFS Hagfors 84.94 29 LR LR 19 52 09.7
comp=Z,194nm,18.2s,baz=270,slow=35
ARA0 ARCESS Array S 85.24 18 *e*P **P 19 15 41.5 -2.7**
ARCES ARCESS Array B 85.24 18 P **P 19 15 41.5 -2.7**
comp=Z,3.0nm,0.6s,baz=324,slow=6.0,SNR=11
BFO Black Forest 86.04 41 *i* P **P 19 15 48.3 -0.3**
TIC Toumodi 86.25 84 *e*PKP1 **P 19 15 49.3 -1.0**
LIC Lamto 86.35 85 *e*PKP1 **P 19 15 48.3 -2.4**
comp=Z,55nm,1.6s
DBIC Dimbokro 86.40 84 P **P 19 15 47.6 -3.4**
comp=Z,3.6nm,0.8s,baz=248,slow=4.3,SNR=3.8
DBIC Dimbokro 86.40 84 *e*P **P 19 15 48.7 -2.3**
DBIC Dimbokro 86.40 84 *e*P **P 19 15 48.7 -2.3**

KIC Kosan Boka 86.59 84 *e*PKP1 **P 19 15 48.6 -3.3**
comp=Z,166nm,2.2s
SEY Seymchan 87.27 335 P **P 19 15 54.7 +0.5**
comp=Z,8.6nm,0.8s,baz=78,slow=5.4,SNR=26
SEY Seymchan 87.27 335 ⇓ *i* P **P 19 15 55.4 +1.2**
SEY *i* *SP **sP 19 16 25.6 -1.9**
TIXI Tiksi 88.87 348 P **P 19 16 01.1 -0.5**
comp=Z,29nm,0.7s,baz=27,slow=4.8,SNR=107
TIXI Tiksi 88.87 348 *d i* P **P 19 16 01.2 -0.4**
TIXI pmax pmax
comp=Z,28nm,0.9s
GERES GERESS Array B 89.21 39 P **P 19 16 01.1 -2.7**
comp=Z,0.6nm,0.7s,baz=338,slow=2.9,SNR=5.1
FIA0 FINESS Array S 89.75 25 *e*P **P 19 16 03.2 -2.8**
FIA0 FINESS Array S 89.75 25 *e*P **P 19 16 03.1 -2.8**
FIA0 *e* 19 54 29.9
FINES FINESS Array B 89.75 25 P **P 19 16 03.1 -2.8**
comp=Z,15nm,1.2s,baz=245,slow=4.0,SNR=9.2
FINES LR LR 19 54 30.0
comp=Z,90nm,21.7s,baz=264,slow=34
TOA1 Torodi Ar. Sit 90.94 76 *e*P **P 19 16 08.6 -3.9**
comp=Z,15nm,1.8s
TORD Torodi Ar. Bea 90.94 76 P **P 19 16 08.6 -3.9**
comp=Z,0.4nm,0.6s,baz=293,slow=4.1,SNR=4.1
NRIK Noril'sk 95.64 360 LR LR 20 01 32.2
comp=Z,108nm,21.9s,baz=349,slow=37
YAK Yakutsk 96.01 341 *i* P **P 19 16 35.5 +0.8**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK Yakutsk 96.01 341 *e*P **P 19 16 35.0 +0.2**
comp=Z,14nm,1.0s
AKASG Malin Array Be 97.17 33 LR LR 20 02 27.0
comp=Z,89nm,18.3s,baz=280,slow=37
ZAA1 Zalesovo Array 111.06 1 *e*PKiKP **PKiKP 19 21 40.2 -0.5**
ZALV Zalesovo Beam 111.06 1 PKiKP **PKiKP 19 21 40.2 -0.5**
comp=Z,0.6nm,0.4s,baz=292,slow=2.5,SNR=4.0
KURK Kurchatov 113.91 6 ⇓ *i*PKIKP **PKiKP 19 21 46.4 +0.1**
KURK Kurchatov 113.91 6 *e*PKKPbc PKKPbc 19 32 26.9 -3.2
KURBB Kurchatov Arra 113.99 6 PKKPbc PKKPbc 19 32 26.9 -2.9
comp=Z,0.7nm,0.8s,baz=186,slow=2.8,SNR=7.9
KURBB PKKPab **PKKPab 19 32 34.0 -3.5**
comp=Z,1.2nm,0.8s,baz=191,slow=4.2,SNR=10
ULN Ulaanbaatar 114.69 345 ⇓ *i*PKIKP PKPdf 19 21 48.8 +0.7
SONA0 Songino Array 114.88 346 *e*PKiKP PKPdf 19 21 49.0 +0.5
SONA0 *e*PP **PP 19 22 46.8 -0.2**
SONA0 *e*PKKPbc **PKKPbc 19 32 24.1 -2.8**
SONA0 *e*PKKPdf **PKKPdf 19 32 48.9 -0.4**
SONM Songino Array 114.88 346 PKP PKPdf 19 21 49.0 +0.5
comp=Z,2.0nm,0.8s,baz=340,slow=0.1,SNR=11
SONM PP **PP 19 22 46.8 -0.2**
comp=Z,0.6nm,0.8s,baz=20,slow=4.6,SNR=3.7
SONM PKKPbc **PKKPbc 19 32 24.1 -2.8**
comp=Z,0.4nm,0.6s,baz=197,slow=4.6,SNR=4.0
SONM PKKP **PKKPdf 19 32 48.9 -0.4**
comp=Z,0.5nm,0.8s,baz=188,slow=5.8,SNR=2.8
KSRS Korea Array 115.03 325 PKP **PKPdf 19 21 49.7 +0.8**
comp=Z,1.6nm,0.8s,baz=354,slow=1.4,SNR=7.2
KS15 Wonju Array Si 115.06 325 *e*PKiKP **PKPdf 19 21 49.7 +0.8**
KSAR Wonju Array Be 115.06 325 PKiKP **PKPdf 19 21 49.7 +0.8**
KSAR Wonju Array Be 115.06 325 PKP **PKPdf 19 21 49.7 +0.8**
MK32 Makanchi Array 118.10 4 *e*PKPdf **PKPdf 19 21 53.8 -0.7**
MK32 *e*PKKPbc **PKKPbc 19 32 12.2 -3.2**
MKAR Makanchi Array 118.10 4 PKP **PKPdf 19 21 53.8 -0.7**
comp=Z,1.2nm,0.6s,baz=357,slow=1.4,SNR=11
MKAR PKKPbc **PKKPbc 19 32 12.2 -3.2**
comp=Z,0.6nm,0.9s,baz=178,slow=5.2,SNR=3.9
MK01 Makanchi Array 118.13 4 *e*PKPdf **PKPdf 19 21 54.2 -0.4**
BJI Beijing 118.70 335 PKP **PKPdf 19 21 53.9 -1.9**
HHC Hu-ho-hao-te 119.75 339 *e*PKP **PKPdf 19 21 55.8 -2.2**
HHC PP **PP 19 23 23.4 +2.4**
HHC LR LR
comp=Z,250nm,14.7s
HHC LR LR
comp=Z,260nm,14.8s
HHC LR LR
comp=Z,180nm,16.0s
GEYT Alibeck 120.52 26 PKP **PKPdf 19 21 59.4 -0.1**
comp=Z,4.8nm,0.6s,baz=299,slow=3.1,SNR=9.9
GEYT PKKPbc **PKKPbc 19 32 06.1 -0.3**
comp=Z,1.8nm,0.8s,baz=73,slow=5.0,SNR=3.6
WMQ Urumqi 121.22 359 PKP **PKPdf 19 22 01.3 +0.6**
WMQ LR LR
comp=Z,110nm,23.7s
WMQ LR LR
comp=Z,90nm,21.3s
WMQ LR LR
comp=Z,140nm,24.7s
LSZ Lusaka 123.33 98 *e*PKIKP **PKPdf 19 22 07.0 +1.5**
LSZ Lusaka 123.33 98 *e*PKPdf **PKPdf 19 22 07.0 +1.5**
NJ2 Nanjing 123.98 327 *e*PKP **PKPdf 19 22 08.3 +2.1**
RAYN Ar Rayn 123.98 47 *e*PKPdf **PKPdf 19 22 05.9 -0.6**
GTA Gaotai 124.35 348 *e*PKP **PKPdf 19 22 07.3 +0.4**
GTA sPKP 19 22 38.6
GTA PP **PP 19 23 57.8 +5.8**
GTA SKS **SKSdf 19 29 08.3 -2.9**
GTA SKKS **SKKSac 19 30 38.9 -4.8**
GTA SS **SS 19 40 38.3 +1.9**
GTA AMB AMB
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,79nm,17.1s
GTA LR LR
comp=Z,100nm,17.1s
GTA LR LR
comp=Z,130nm,18.1s
KSH Kashi 124.55 10 *e*PKP **PKPdf 19 22 08.8 +1.5**
KSH sPKP 19 22 46.3
KSH PP **PP 19 24 00.5 +7.2**
KSH PKS **PKSdf 19 25 43.5 -0.6**
KSH SKS **SKSdf 19 29 07.8 -3.7**
KSH SKKS **SKKSac 19 30 42.6 -2.4**
KSH SS **SS 19 40 43.8 +5.0**
KSH AMB AMB
comp=Z,140nm,7.2s
KSH LR LR
comp=Z,140nm,7.8s
KSH LR LR
comp=Z,140nm,7.2s
KSH LR LR
comp=Z,150nm,7.0s
MAW Mawson 125.35 169 PKP **PKPdf 19 22 07.4 -0.3**
comp=Z,3.0nm,0.7s,baz=264,slow=3.4,SNR=6.4
MAW pPKP **pPKPdf 19 22 32.3 -0.2**
comp=Z,2.3nm,0.6s,baz=222,slow=4.3,SNR=3.9
LZH Lanzhou 126.55 343 *e*PKP **PKPdf 19 22 13.1 +1.8**
LZH sPKP 19 22 46.3
LZH LR LR
comp=Z,130nm,17.0s
LZH LR LR
comp=Z,140nm,15.4s
LZH LR LR
comp=Z,160nm,19.0s
XAN Xi'an 126.76 337 PKP **PKPdf 19 22 12.6 +1.0**
STKA Stephens Creek 127.89 241 PKhKP PKPpre 19 22 12.5
comp=Z,6.4nm,0.9s,baz=46,slow=3.1,SNR=10.0
ENH Enshi 129.87 335 *e*PKPdf **PKPdf 19 22 18.8 +1.2**
UOSS Minazif 129.97 37 *e*PKPdf **PKPdf 19 22 17.1 -0.8**
CD2 Chengdu 131.40 341 PKP **PKPdf 19 22 20.0 -0.5**
GYA Guiyang 134.39 335 *e*Pdif **Pdif 19 19 24.6 -2.0**
GYA PKP **PKPdf 19 22 25.0 -1.3**
GYA sPKP 19 22 58.9
GYA PP **PP 19 25 01.3 +3.5**
GYA AMB AMB
comp=Z,120nm,7.9s
WRAB Tennant Creek 134.82 257 ⇑ *i*PKIKP **PKPdf 19 22 27.2 +0.1**
WR1 Warramunga Arr 134.83 257 *e*PKPpre PKPpre 19 22 16.1
WR1 *e*PKPdf **PKPdf 19 22 27.4 +0.3**
WR1 *e*pPKPdf pPKPdf 19 22 52.0 0.0
WRA Warramunga Arr 134.83 257 PKhKP PKPpre 19 22 16.1
comp=Z,0.9nm,0.8s,baz=94,slow=2.9,SNR=4.4
WRA PKP **PKPdf 19 22 27.4 +0.3**
comp=Z,3.3nm,0.9s,baz=80,slow=1.9,SNR=10
WRA pPKP pPKPdf 19 22 52.0 0.0
comp=Z,1.2nm,0.8s,baz=85,slow=2.4,SNR=2.1
LSA Lhasa 135.15 355 *e*PKIKP **PKPdf 19 22 29.7 +1.6**
LSA Lhasa 135.15 355 *e*PKPdf **PKPdf 19 22 29.7 +1.6**
ASAR Alice Springs 135.24 252 PKhKP PKPpre 19 22 17.1
comp=Z,0.6nm,0.6s,baz=104,slow=3.5,SNR=10
ASAR SKPab **SKiKP 19 25 57.9 +0.4**
comp=Z,0.9nm,0.8s,baz=94,slow=2.8,SNR=4.9
DANN Dangsing 136.55 4 *e*P **SKPbc 19 25 58.9 +3.7**
comp=Z,2.7nm,0.9s
PYUN Piuthan 136.73 5 *e*P PKPpre 19 22 23.9
PYUN Piuthan 136.73 5 *e*P **SKPbc 19 25 57.1 +1.5**
GKN Gorkha 136.95 3 *e*P PKPpre 19 22 25.6

GKN Gorkha 136.95 3 *e*P **SKPbc 19 25 59.0 +2.8**
KMI Kunming 137.08 339 PKP **PKPdf 19 22 30.4 -1.1**
GUN Gumba 137.09 2 *e*P **SKPbc 19 26 00.0 +3.1**
comp=Z,40nm,0.8s
KOLN Koldanda 137.11 5 *e*P PKPpre 19 22 23.9
KKN Kakani 137.19 2 *e*P PKPpre 19 22 25.7
KKN Kakani 137.19 2 *e*P **SKPbc 19 26 00.1 +3.1**
comp=Z,9.0nm,0.7s
JIRN Jiri 137.34 1 *e*P **SKPbc 19 26 00.5 +2.9**
comp=Z,83nm,0.8s
PKIN Phulchoki 137.41 2 *e*P PKPpre 19 22 25.4
PKIN Phulchoki 137.41 2 *e*P **SKPbc 19 26 00.4 +2.7**
comp=Z,6.6nm,0.8s
TAPN Taplejung 137.66 359 *e*P **SKPbc 19 26 00.7 +2.2**
comp=Z,27nm,1.1s
RAMN Ramite 138.06 1 *e*P PKPpre 19 22 24.5
RAMN Ramite 138.06 1 *e*P **SKPbc 19 26 02.2 +2.6**
comp=Z,13nm,0.8s
ODAN Odare 138.15 360 *e*P PKPpre 19 22 26.4
ODAN Odare 138.15 360 *e*P **SKPbc 19 26 02.5 +2.7**
QIZ Qiongzhong 139.24 326 PKP **PKPdf 19 22 34.4 -0.9**
QIZ PP **PP 19 25 30.8 +2.5**
QIZ LR LR
comp=Z,64nm,17.7s
FITZ Fitzroy Crossi 143.01 260 *e*PKPpre PKPpre 19 22 38.7
CHTO Chiang Mai 144.20 341 *e*PKIKP **PKPab 19 22 42.0 0.0**
CHTO Chiang Mai 144.20 341 *e*PKPdf **PKPab 19 22 42.0 0.0**
CM31 Chiang Mai Arr 144.54 340 *e*PKPdf PKPbc 19 22 43.5 0.0
CM31 *e*SKPbc **SKiKP 19 26 17.7 +0.9**
CMAR Chiang Mai Arr 144.54 340 PKP PKPbc 19 22 43.5 0.0
comp=Z,7.5nm,0.7s,baz=337,slow=3.4,SNR=50
CMAR SKPbc **SKiKP 19 26 17.7 +0.9**
comp=Z,1.4nm,1.0s,baz=15,slow=3.7,SNR=4.7
HYB Hyderabad 146.47 15 *i* PKP **PKPdf 19 22 48.0 -0.1**
HYB *e* 19 23 31.5
NWAO Narrogin (SRO) 147.50 232 *e*PKP2 **PKPab 19 22 54.3 0.0**
NWAO Narrogin (SRO) 147.50 232 *e*PKPbc **PKPab 19 22 54.3 0.0**
MBWA Marble Bar 148.48 254 *e*PKPdf **PKPbc 19 22 53.6 -1.4**
RER Riviere de l'E 149.68 106 *e*PKPbc **PKPbc 19 22 59.1 +1.1**
MRIV Mauritius Mete 151.39 104 *e*PKPbc **PKPbc 19 23 03.1 +1.1**
KSM Kuching 151.66 304 *e*PKPbc **PKPbc 19 23 03.3 +0.4**
PSI Prapat 158.59 326 *e*PKIKP **PKPdf 19 23 07.7 +1.6**
PSI Prapat 158.59 326 *e*PKPdf **PKPdf 19 23 07.7 +1.6**

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*IDC **19** 19:19:37.4±1.0, 45°.64S×77°.84W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, ML3.5/1, MS3.9/6, Ms1 3.9/6, ms1mx3.6/19, Error ellipse: s-maj=37.7km s-min=25.9km az=91.0*
*ISCJB **19** 19:19:40.5±0.9, 45°.6S±0°.1×77°.4W±0°.3, h33km, mb3.8/6, MS4.0/5, Error ellipse: s-maj=26.1km s-min=14.6km az=5.4*
ISC 19 19:19:43.1±0.9, 45°.6S±0°.1×77°.5W±0°.2, h35km, n19, σ1♯42/14, mb3.9/6, MS4.0/5, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	Time	Res
				Op ISC	h m s	ISC
PLCA	**Paso Flores**	**7.06**	**49**	Pn **Pn**	**19 21 22.6**	**-1.4**
	0.2nm,0.3s,baz=218,slow=18,SNR=3.0					
PLCA				LR LR	19 24 04.0	
	comp=Z,793nm,19.9s,baz=220,slow=37					
PMSA	**Palmer Station**	**20.60**	**163**	LR LR	19 29 50.3	
	comp=Z,499nm,20.3s,baz=338,slow=30					
CPUP	**Villa Florida**	**25.13**	**47**	P **P**	**19 25 05.5**	**+0.8**
	3.6nm,1.0s,baz=227,slow=4.6,SNR=4.0					
BDFB	**Brasília**	**38.81**	**49**	LR LR	19 44 35.1	
	comp=Z,114nm,18.2s,baz=356,slow=38					
VNA3	**Neumayer Olymp**	**40.58**	**153**	P **P**	**19 27 17.4**	**-1.4**
VNA2	**Neumayer--Watz**	**41.32**	**152**	P **P**	**19 27 23.9**	**-0.9**
	baz=273,slow=9.3					
SNAA	**Sanae**	**42.76**	**153**	P **P**	**19 27 35.1**	**-1.5**
SNAA	**Sanae**	**42.76**	**153**	P **P**	**19 27 35.3**	**-1.3**
	1.4nm,1.1s,baz=285,slow=6.7,SNR=3.3					
PTGA	**Pitinga**	**47.30**	**24**	P **P**	**19 28 12.8**	**-0.4**
	1.7nm,0.9s,baz=171,slow=13,SNR=4.1					
ROSC	**El Rosal**	**50.31**	**4**	LR LR	19 47 07.3	
	comp=Z,148nm,20.4s,baz=224,slow=33					
MAW	**Mawson**	**63.22**	**164**	LR LR	19 56 11.2	
	comp=Z,126nm,18.9s,baz=239,slow=35					
TXAR	**Lajitas Array**	**78.28**	**337**	P **P**	**19 31 38.3**	**-0.9**
	0.6nm,0.8s,baz=155,slow=9.6,SNR=5.2					
TORD	**Torodi Ar. Bea**	**91.91**	**73**	P **P**	**19 32 50.6**	**+2.7**
	0.5nm,1.0s,baz=233,slow=1.4,SNR=2.4					
PDAR	**Pinedale Array**	**92.50**	**337**	P **P**	**19 32 49.6**	**-0.7**
	0.7nm,1.1s,baz=124,slow=6.8,SNR=2.9					
STKA	**Stephens Creek**	**95.10**	**213**	LR LR	20 08 15.4	
	comp=Z,62nm,19.5s,baz=216,slow=31					
GEYT	**Alibeck**	**146.41**	**87**	PKPbc **PKPdf**	**19 39 19.2**	**+0.6**
	1.5nm,0.8s,baz=306,slow=5.0,SNR=2.8					
AKTO	**Aktyubinsk**	**150.24**	**64**	PKPbc **PKPbc**	**19 39 31.4**	**+1.8**
	baz=293,slow=4.3					
ARU	**Arti**	**150.84**	**52**	PKPbc **PKPdf**	**19 39 26.0**	**+0.9**
	3.7nm,0.9s,baz=306,slow=14,SNR=3.0					
CMAR	**Chiang Mai Arr**	**152.77**	**173**	PKPbc **PKPbc**	**19 39 36.3**	**0.0**
	0.6nm,1.0s,baz=224,slow=3.8,SNR=3.9					

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*ROM **19** 19:22:36.6±0.2, 42°.53N×15°.52E, h27km±1km, Md2.8/26, Ml2.6/18, Error ellipse: s-maj=2.2km s-min=1.9km az=72.0*
*CSEM **19** 19:22:37.8±0.1, 42°.49N×15°.50E, h30km, ML3.6/10, Error ellipse: s-maj=3.1km s-min=2.2km az=41.0*
ISC 19 19:22:35.6±1.3, 42°.51N±0°.02×15°.51E±0°.02, h13km±10km, n66, σ0♯57/102, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	Time	Res
				Op ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.78**	**167**	Pg **Pn**	**19 22 52.3**	**0.0**
SGRT				Sg **Sb**	**19 23 02.5**	**+1.1**
	839nm,0.2s					
SGRT	**San Giovanni R**	**0.78**	**167**	Pg **Pn**	**19 22 52.3**	**0.0**
SGRT				Sg **Sb**	**19 23 02.5**	**+1.1**
	839nm,0.2s					
FRES	**Fresagrandinar**	**0.82**	**229**	Pg **Pn**	**19 22 52.6**	**-0.3**
FRES				Sg **Sb**	**19 23 03.8**	**+1.1**
	579nm,1.2s					
FRES	**Fresagrandinar**	**0.82**	**229**	Pg **Pn**	**19 22 52.6**	**-0.3**
FRES				Sg **Sb**	**19 23 03.8**	**+1.1**
	579nm,1.2s					
MSAG	**Monte S. Angel**	**0.85**	**159**	Pg **Pn**	**19 22 53.5**	**+0.2**
MSAG				Sg **Sn**	**19 23 05.4**	**-0.3**
	535nm,0.3s					
MSAG	**Monte S. Angel**	**0.85**	**159**	Pg **Pn**	**19 22 53.5**	**+0.2**
MSAG				Sg **Sn**	**19 23 05.4**	**-0.3**
	535nm,0.3s					
MS1	**Monte Sant'Ang**	**0.87**	**158**	*e*Pg **Pn**	**19 22 53.9**	**+0.4**
MS1				Sg **Sn**	**19 23 06.4**	**+0.3**
CAFR	**Castel Frentan**	**0.91**	**252**	Pg **Pn**	**19 22 54.2**	**+0.2**
CAFR				Sg **Sn**	**19 23 07.7**	**+0.8**
CAFR	**Castel Frentan**	**0.91**	**252**	Pg **Pn**	**19 22 54.2**	**+0.2**
CAFR				Sg **Sn**	**19 23 07.7**	**+0.8**
CIGN	**Sant'Elia a Pi**	**0.97**	**208**	Pg **Pn**	**19 22 54.9**	**0.0**
CIGN				Sg **Sn**	**19 23 08.1**	**-0.4**
	72nm,0.6s					
CIGN	**Sant'Elia a Pi**	**0.97**	**208**	Pg **Pn**	**19 22 54.9**	**0.0**
CIGN				Sg **Sn**	**19 23 08.1**	**-0.4**
	72nm,0.6s					
TRIV	**Trivento**	**1.03**	**224**	Pg **Pn**	**19 22 56.0**	**+0.2**
TRIV				Sg **Sn**	**19 23 10.3**	**+0.2**
TRIV	**Trivento**	**1.03**	**224**	Pg **Pn**	**19 22 56.0**	**+0.2**
TRIV				Sg **Sn**	**19 23 10.3**	**+0.2**
BSSO	**Busso**	**1.18**	**216**	Pg **Pn**	**19 22 58.2**	**+0.3**
BSSO				Sg **Sn**	**19 23 14.1**	**+0.2**
	59nm,0.3s					
BSSO	**Busso**	**1.18**	**216**	Pg **Pn**	**19 22 58.2**	**+0.3**
BSSO				Sg **Sn**	**19 23 14.1**	**+0.2**
	59nm,0.3s					
VCEL	**Villa Celiera**	**1.24**	**265**	Pg **Pn**	**19 22 59.0**	**+0.3**
	120nm,0.4s					
VCEL	**Villa Celiera**	**1.24**	**265**	Pg **Pn**	**19 22 59.0**	**+0.3**
	120nm,0.4s					
SACR	**S. Croce Del S**	**1.27**	**209**	Pg **Pg**	**19 23 00.3**	**+0.4**
SACR	**S. Croce Del S**	**1.27**	**209**	Pg **Pg**	**19 23 00.3**	**+0.4**
MIDA	**Miranda**	**1.28**	**227**	Pg **Pn**	**19 22 58.8**	**-0.4**
MIDA				Sg **Sn**	**19 23 16.9**	**+0.7**
	75nm,0.2s					
MIDA	**Miranda**	**1.28**	**227**	Pg **Pn**	**19 22 58.8**	**-0.4**
MIDA				Sg **Sn**	**19 23 16.9**	**+0.7**
	75nm,0.2s					
INTR	**Introdacqua**	**1.29**	**248**	Pg **Pn**	**19 22 59.2**	**-0.2**
INTR				Sg **Sn**	**19 23 16.7**	**+0.1**
	125nm,0.5s					
INTR	**Introdacqua**	**1.29**	**248**	Pg **Pn**	**19 22 59.2**	**-0.2**
INTR				Sg **Sn**	**19 23 16.7**	**+0.1**
	125nm,0.5s					

SGTA	Sant Agata di	1.38	185	Pg	Pb	19 23 00.9	-0.4
SGTA				Sg	Sg	19 23 19.6	-0.5
	120nm,0.9s						
SGTA	Sant Agata di	1.38	185	Pg	Pb	19 23 00.9	-0.4
SGTA				Sg	Sg	19 23 19.6	-0.5
	120nm,0.9s						
TERO	Teramo	1.41	275	Pg	Pn	19 23 01.0	0.0
TERO				Sg	Sb	19 23 19.2	-0.5
	55nm,0.4s						
TERO	Teramo	1.41	275	Pg	Pn	19 23 01.0	0.0
TERO				Sg	Sb	19 23 19.2	-0.5
	55nm,0.4s						
VAGA	Valle Agricola	1.45	221	Pg	Pn	19 23 01.6	0.0
	66nm,0.5s						
VAGA	Valle Agricola	1.45	221	Pg	Pn	19 23 01.6	0.0
	66nm,0.5s						
CDT	Castel del Mon	1.54	158	*e*Pg	Pn	19 23 02.3	-0.4
VVLD	Villa Vallelon	1.54	246	Pg	Pb	19 23 03.3	-0.7
VVLD				Sg	Sb	19 23 23.8	+0.3
	70nm,0.7s						
VVLD	Villa Vallelon	1.54	246	Pg	Pb	19 23 03.3	-0.7
VVLD				Sg	Sb	19 23 23.8	+0.3
	70nm,0.7s						
SMA1	SAN MARTINO	1.61	275	Pg	Pn	19 23 03.7	-0.1
SMA1				Sg	Sn	19 23 23.4	-1.1
SMA1	SAN MARTINO	1.61	275	Pg	Pn	19 23 03.7	-0.1
SMA1				Sg	Sn	19 23 23.4	-1.1
T0104	Madonna delle	1.61	265	Pg	Pb	19 23 04.6	-0.7
PTQR	Pietraquaria	1.64	253	Pg	Pb	19 23 05.5	-0.2
PTQR	Pietraquaria	1.64	253	Pg	Pb	19 23 05.5	-0.2
STON	Ston	1.66	77	*e*Pn	Pb	19 23 05.2	-0.7
STON				Sn	Sn	19 23 25.5	+0.2
STON	Ston	1.66	77	*e*Pn	Pb	19 23 05.2	-0.7
STON				Sn	Sn	19 23 25.5	+0.2
BAI	Bari	1.74	143	*e*Pg	Pn	19 23 05.3	-0.1
LNSS	Leonessa	1.83	274	Pg	Pn	19 23 07.4	+0.6
	60nm,0.5s						
LNSS	Leonessa	1.83	274	Pg	Pn	19 23 07.4	+0.6
	60nm,0.5s						
FDMO	Fiordimonte	1.86	287	Pg	Pn	19 23 07.6	+0.5
	29nm,0.4s						
FDMO	Fiordimonte	1.86	287	Pg	Pn	19 23 07.6	+0.5
	29nm,0.4s						
SG1	Sgolgore (BA)	1.89	152	*e*Pg	Pn	19 23 07.8	+0.3
CING	Cingoli	1.91	298	Pg	Pn	19 23 08.2	+0.4
	24nm,0.5s						
CING	Cingoli	1.91	298	Pg	Pn	19 23 08.2	+0.4
	24nm,0.5s						
CESI	CESI - Serrava	1.98	285	Pg	Pn	19 23 09.6	+0.8
	18nm,0.5s						
CESI	CESI - Serrava	1.98	285	Pg	Pn	19 23 09.6	+0.8
	18nm,0.5s						
UDBI	Udbina	2.02	5	*i* Pn	Pb	19 23 12.1	-0.1
UDBI				Sn	Sb	19 23 37.6	+0.3
UDBI	Udbina	2.02	5	*i* Pn	Pb	19 23 12.1	-0.1
UDBI				Sn	Sb	19 23 37.6	+0.3
SNTG	Esanatoglia	2.03	292	Pg	Pn	19 23 09.7	+0.2
	26nm,0.6s						
SNTG	Esanatoglia	2.03	292	Pg	Pn	19 23 09.7	+0.2
	26nm,0.6s						
MATE	Matera	2.07	154	Pg	Pn	19 23 10.1	+0.2
MATE	Matera	2.07	154	Pg	Pn	19 23 10.1	+0.2
NVLJ	Novalja	2.10	347	*e*Pn	Pn	19 23 11.2	+0.8
NVLJ				Sn	Sn	19 23 36.5	+0.1
NVLJ	Novalja	2.10	347	*e*Pn	Pn	19 23 11.2	+0.8
NVLJ				Sn	Sn	19 23 36.5	+0.1
FASA	Fasano	2.19	140	*e*Pn	Pn	19 23 11.7	+0.1
FASA				Sn	Sn	19 23 36.5	-2.0
SSFR	Montelago di S	2.20	296	Pg	Pn	19 23 12.0	+0.1
SSFR	Montelago di S	2.20	296	Pg	Pn	19 23 12.0	+0.1
MASS	Massafra	2.24	146	*e*Pn	Pn	19 23 12.2	-0.2
CGL1	Ceglie Messapi	2.37	141	*e*Pg	Pn	19 23 14.3	+0.2
PIEI	Pieia	2.41	296	Pg	Pn	19 23 14.9	+0.2
PIEI				Sg	Sn	19 23 42.4	-1.7
PIEI	Pieia	2.41	296	Pg	Pn	19 23 14.9	+0.2
PIEI				Sg	Sn	19 23 42.4	-1.7
ATPC	Poggio Castell	2.44	294	Pg	Pn	19 23 16.1	+1.0
	113nm,1.7s						
ATPC	Poggio Castell	2.44	294	Pg	Pn	19 23 16.1	+1.0
	113nm,1.7s						

*IDC **19** 19:37:49.8±1.4, 2°.84N×95°.85E, h0km, mb4.3/7, mb1 4.4/9, mb1mx3.9/49, mbtmp4.3/9, ML4.1/2, MS3.5/3, Ms1 3.6/3, ms1mx3.1/43, Error ellipse: s-maj=46.6km s-min=17.6km az=60.0*

*ISCJB **19** 19:37:51.3±0.5, 2°.65N±0°.06×95°.54E±0°.05, h31km, mb4.5/17, MS3.6/2, Error ellipse: s-maj=9.6km s-min=5.5km az=34.6*

*DJA **19** 19:37:52.5±3.1, 3°N±12°×9°6E±2°5, h10km, M4.7/3, mB4.8/2, mb4.9/2, MLv4.5/3, Mw(mB)4.1/2*

*KLM **19** 19:37:55.5, 2°.87N×95°.81E, h8km, mb4.5*

*NEIC **19** 19:37:56.9±0.8, 2°.83N×95°.79E, h58km±6km, mb4.5/11, Error ellipse: s-maj=8.6km s-min=4.8km az=224.0*

ISC 19 19:37:53.1±0.8, 2°.65N±0°.08×95°.59E±0°.10, h31km, n76, σ0997/70, mb4.5/17, 6C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.78	108	P	Pn	19 38 07.4	-0.5
TPTI		1.70	69	P	Pn	19 38 19.8	-0.9
MLSI	Meulaboh, Aceh	1.80	27	P	Pn	19 38 20.8	-1.3
KCSI	Kotacane, Aceh	2.35	68	P	Pn	19 38 30.1	+0.5
LHMI	Lhok Sumawe	2.90	28	P	Pn	19 38 37.1	-0.1
LHMI	Lhok Sumawe	2.90	28	*e*Pn	Pn	19 38 37.5	+0.3
PSI	Prapat	3.34	87	*e*Pn	Pn	19 38 43.3	0.0
KULM	Kulim	5.69	62	*e*Pn	Pn	19 39 15.9	+0.3
KULM	Kulim	5.69	62	⇑P	Pn	19 39 16.3	+0.7
IPM	Ipoh	5.72	71	*e*Pn	Pn	19 39 16.3	+0.3
IPM	Ipoh	5.72	71	⇓P	Pn	19 39 16.8	+0.7
FRIM	Kepong	6.06	84	⇑P	Pn	19 39 21.3	+0.7
TRTT	Trang	6.58	38	P	Pn	19 39 28.4	+0.7
KRAB	Krabi	6.60	33	P	Pn	19 39 28.2	+0.2
SURT	Suratani	7.03	27	P	Pn	19 39 38.4	+4.4
MYKOM	Kota Tinggi	8.30	96	⇑P	Pn	19 39 52.4	+1.0
UTHA	Uthaitani	13.38	16	P	P	19 41 19.0	+8.9
CHAI	Chaiyaphum	14.60	25	P	P	19 41 25.7	+2.0
KSM	Kuching	14.76	94	⇑P	P	19 41 24.4	-1.0
PBKT	Sadao Pong	14.81	21	P	P	19 41 26.3	+0.3
	11nm,1.1s						
KHON	Khomkaen	15.35	27	P	P	19 41 31.7	-0.4
	28nm,0.8s						
PALK	Pallekele	15.52	288	Pn	P	19 41 34.8	+0.8
	0.4nm,0.3s,baz=47,slow=21,SNR=5.1						
UTTA	Uttaradit	15.77	18	P	P	19 41 35.5	-1.2
	6.2nm,0.8s						
CMAR	Chiang Mai Arr	16.05	12	Pn	Pn	19 41 35.6	-1.0
	0.5nm,0.3s,baz=201,slow=11,SNR=78						
CMAR				LR	LR	19 48 27.9	
	comp=Z,137nm,19.8s,baz=198,slow=40						
LAMP	Lampang	16.27	14	P	P	19 41 41.9	-0.3
	4.0nm,1.1s						
CHTO	Chiang Mai	16.40	11	P	Pn	19 41 41.8	+0.7
CHTO	Chiang Mai	16.40	11	*e*Pn	Pn	19 41 39.7	-1.4
	8.6nm,0.8s						
SBUM	Sibu	16.62	90	⇓P	P	19 41 47.2	+1.0
NONG	Nongkai	17.02	25	P	Pn	19 41 49.4	+0.5
KKM	Kota Kinabalu	20.84	80	⇓P	Pn	19 42 34.6	-0.6
KDM	Kudat	21.59	78	⇑P	P	19 42 43.3	+2.8
MYLDM	Lahad Datu	23.00	83	*e*P	P	19 42 55.6	+0.1
	62nm,1.7s						
MYLDM	Lahad Datu	23.00	83	⇑P	P	19 42 57.6	+2.1
H08S2	Diego Garcia H	25.21	246	T	T	20 09 19.3	
	baz=66,slow=75,SNR=2703						
H08S3	Diego Garcia H	25.21	246	T	T	20 09 25.2	
	baz=66,slow=75,SNR=3418						
H08S1	Diego Carcia H	25.23	246	T	T	20 09 20.3	
	baz=66,slow=75,SNR=2899						
ODAN	Odare	25.32	343	*e*P	P	19 43 17.9	+0.4
	34nm,0.9s						
RAMN	Ramite	25.65	341	*e*P	P	19 43 21.1	+0.6
	21nm,0.7s						
TAPN	Taplejung	25.69	344	*e*P	P	19 43 21.5	+0.6
	37nm,0.9s						
JIRN	Jiri	26.44	341	*e*P	P	19 43 28.1	+0.3
	133nm,0.6s						
PKIN	Phulchoki	26.64	339	*e*P	P	19 43 29.8	+0.4
KKN	Kakani	26.87	339	*e*P	P	19 43 31.9	+0.4
	17nm,0.8s						
LSA	Lhasa	27.23	352	*e*P	P	19 43 35.3	+0.3
	7.6nm,0.6s						
GKN	Gorkha	27.30	339	*e*P	P	19 43 35.6	+0.4
	38nm,1.0s						
KOLN	Koldanda	27.48	336	*e*P	P	19 43 38.1	+1.1
	15nm,0.6s						
DANN	Dangsing	27.94	337	*e*P	P	19 43 42.0	+0.9
ENH	Enshi	30.47	24	*e*P	P	19 44 02.0	-1.3
	7.1nm,0.8s						
WRA	Warramunga Arr	44.17	122	P	P	19 45 59.4	0.0
	3.2nm,0.9s,baz=298,slow=9.4,SNR=17						
WR1	Warramunga Arr	44.17	122	*e*P	P	19 45 59.4	0.0
	11nm,1.4s						
MK01	Makanchi Array	45.44	347	*e*P	P	19 46 09.0	-0.2
MK31	Makanchi Array	45.47	347	*e*P	P	19 46 09.3	-0.1
MK32	Makanchi Array	45.47	347	*e*P	P	19 46 09.4	0.0
MKAR	Makanchi Array	45.47	347	P	P	19 46 09.4	0.0
	11nm,0.7s,baz=165,slow=7.7,SNR=81						
MKAR	Makanchi Array	45.47	347	*e*P	P	19 46 09.2	-0.2
	59nm,0.6s						
AS31	Alice Springs	45.55	127	*e*P	P	19 46 10.8	+0.4
	1.0nm,1.0s						
ASAR	Alice Springs	45.55	127	P	P	19 46 10.8	+0.4
	1.3nm,0.7s,baz=299,slow=8.0,SNR=30						
MAKZ	Makanchi	45.55	347	*e*P	P	19 46 09.8	-0.2
	9.2nm,0.6s						
KS15	Wonju Array Si	45.58	37	*e*P	P	19 46 09.8	-0.6
KSAR	Wonju Array Be	45.58	37	P	P	19 46 09.8	-0.6
KSRS	Korea Array	45.61	37	P	P	19 46 09.8	-0.8
	1.5nm,0.6s,baz=219,slow=8.9,SNR=8.1						
SONA0	Songino Array	45.97	10	*e*P	P	19 46 12.9	-0.6
SONA0				*e*PcP	PcP	19 47 50.3	+0.4
SONM	Songino Array	45.97	10	P	P	19 46 12.9	-0.6
	2.1nm,0.7s,baz=186,slow=9.2,SNR=13						
SONM				PcP	PcP	19 47 50.3	+0.4
	1.6nm,0.6s,baz=192,slow=3.7,SNR=6.4						
SONA1	Songino Array	45.98	10	*e*P	P	19 46 12.9	-0.6
KKAR	Karatay Array	46.06	334	*e*P	P	19 46 13.7	-0.4
	1.4nm,0.4s						
GUMO	Guam	49.88	75	LR	LR	20 05 27.2	
	comp=Z,31nm,21.9s,baz=200,slow=33						
KURK	Kurchatov	49.99	346	*e*P	P	19 46 44.5	+0.1
ZAA0	Zalesovo Array	51.89	352	*e*P	P	19 46 58.4	-0.2
ZALV	Zalesovo Beam	51.89	352	P	P	19 46 58.4	-0.2
	11nm,0.7s,baz=182,slow=7.0,SNR=49						
ZALV	Zalesovo Beam	51.89	352	*e*P	P	19 46 58.2	-0.4
ZAA1	Zalesovo Array	51.90	352	*e*P	P	19 46 58.4	-0.2
ABKAR	Akbulak array	55.49	332	*e*P	P	19 47 24.7	-0.3
	22nm,0.7s						
STKA	Stephens Creek	55.52	132	P	P	19 47 27.1	+1.5
	2.3nm,0.9s,baz=316,slow=4.8,SNR=3.6						
KMBO	Kilima Mbogo	58.44	267	LR	LR	20 10 46.9	
	comp=Z,89nm,18.2s,baz=90,slow=34						
YAK	Yakutsk	64.50	17	*e*P	P	19 48 25.9	-0.7
	19nm,0.9s						
TIXI	Tiksi	72.06	11	*e*P	P	19 49 12.3	-1.4
	6.7nm,1.1s						
SYO	Syowa Base	80.88	198	⇓*e*pP	pP	19 50 21.2	+7.6

*ATH **19** 19:39:10.5, 39°.26N×20°.83E, h9km±2km, ML3.7/8, Error ellipse: s-maj=2.5km s-min=0.8km az=291.0*

*CSEM **19** 19:39:11.8±0.1, 39°.26N×20°.80E, h2km, ML3.7, Error ellipse: s-maj=2.3km s-min=1.5km az=41.0*

*ROM **19** 19:39:11.5±1.7, 39°.18N×20°.85E, h10km, MI3.7/25, Error ellipse: s-maj=27.0km s-min=7.5km az=120.0*

*PDG **19** 19:39:11.4±0.7, 39°.24N×20°.82E, h5km±1km, ML3.8/9, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

*THE **19** 19:39:11.4, 39°.28N×20°.81E, h0km±1km, ML3.9/66, Error ellipse: s-maj=1.4km s-min=0.5km az=269.0*

*NEIC **19** 19:39:12.4±0.5, 39°.30N×20°.93E, h10km, mb4.3/1, Error ellipse: s-maj=8.2km s-min=6.9km az=189.0*

*IDC **19** 19:39:15.0±1.4, 39°.22N×20°.86E, h40km±19km, mb3.9/9, mb1 3.9/19, mb1mx3.7/46, mbtmp3.8/19, ML3.6/9, MS3.3/3, Ms1 3.4/3, ms1mx2.8/52, Error ellipse: s-maj=11.3km s-min=10.4km az=173.0*

ISC 19 19:39:10.9±1.1, 39°.27N±0°.01×20°.83E±0°.01, h2km±8km, n469, σ1964/673, mb4.2/10, 32C-23D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	Palaion Diasel	0.25	123	P	Pg	19 39 14.8	-0.8
DSL				S	Sg	19 39 19.7	+0.9
DSL	Palaion Diasel	0.25	123	P	Pg	19 39 14.2	-1.4
DSL				S	Sg	19 39 19.2	+0.4
DSL				AML	AML	19 39 21.3	
	comp=N,80588μm,0.4s						
DSL				AML	AML	19 39 24.1	
	comp=E,66831μm,0.6s						
DSL	Palaion Diasel	0.25	123	P	Pg	19 39 14.8	-0.8
DSL				S	Sg	19 39 19.7	+0.9
JAN	Janina	0.39	3	P	Pg	19 39 18.0	-0.4
JAN				S	Sb	19 39 25.5	-1.5
JAN	Janina	0.39	3	P	Pg	19 39 17.7	-0.7
JAN				S	Sb	19 39 25.8	-1.2
JAN				AML	AML	19 39 34.5	
	comp=E,34172μm,0.8s						
JAN				AML	AML	19 39 35.7	
	comp=N,36116μm,1.3s						
JAN	Janina	0.39	3	P	Pg	19 39 18.0	-0.4
JAN				S	Sb	19 39 25.5	-1.5
LKD2	Lefkada island	0.50	196	P	Pg	19 39 20.1	-0.3
LKD2				S	Sg	19 39 28.4	+1.6
LKD2	Lefkada island	0.50	196	P	Pg	19 39 20.2	-0.2
LKD2				S	Sg	19 39 27.6	+0.8
LKD2				AML	AML	19 39 32.3	
	comp=E,14027μm,0.6s						
LKD2				AML	AML	19 39 34.9	
	comp=N,14306μm,0.7s						
LKD2	Lefkada island	0.50	196	P	Pg	19 39 20.2	-0.2
LKD2				S	Sg	19 39 27.6	+0.8
SGD	Sagiada	0.57	307	P	Pg	19 39 22.1	+0.2
SGD				S	Sb	19 39 31.5	-0.8
SGD	Sagiada	0.57	307	P	Pg	19 39 21.2	-0.7
SGD				S	Sg	19 39 30.8	+1.5
SGD	Sagiada	0.57	307	P	Pg	19 39 22.1	+0.2
SGD				S	Sg	19 39 30.8	+1.5
PDO	Prodromos	0.72	157	P	Pg	19 39 24.6	-0.1
PDO				S	Sb	19 39 37.4	+0.9
PDO	Prodromos	0.72	157	P	Pg	19 39 25.0	+0.3
PDO				S	Sg	19 39 33.9	-0.2
PDO	Prodromos	0.72	157	P	Pg	19 39 25.0	+0.3
PDO				S	Sb	19 39 37.4	+0.9
KPRO	Kipourio	0.80	31	P	Pg	19 39 25.7	-0.5
KPRO				S	Sb	19 39 39.3	+0.4
KPRO	Kipourio	0.80	31	P	Pg	19 39 25.6	-0.7
KPRO				S	Sg	19 39 36.7	0.0
KPRO				AML	AML	19 39 48.3	
	comp=E,17480μm,1.0s						
KPRO				AML	AML	19 39 49.0	
	comp=N,15713μm,1.3s						
KPRO	Kipourio	0.80	31	P	Pg	19 39 25.7	-0.5
KPRO				S	Sb	19 39 39.3	+0.4
EVR	Evrytania	0.84	114	P	Pg	19 39 26.4	-0.6
EVR				S	Sb	19 39 40.7	+0.7
EVR	Evrytania	0.84	114	P	Pg	19 39 25.1	-1.8
EVR				S	Sg	19 39 37.4	-0.5
EVR	Evrytania	0.84	114	P	Pg	19 39 26.4	-0.6
EVR				S	Sb	19 39 40.7	+0.7
PVO	Paravola	0.85	140	P	Pg	19 39 26.9	-0.2
PVO				S	Sn	19 39 41.6	-1.2
PVO	Paravola	0.85	140	P	Pg	19 39 27.5	+0.4
PVO				S	Sg	19 39 36.6	-1.4
PVO				AML	AML	19 39 44.9	
	comp=E,22563μm,0.5s						
PVO				AML	AML	19 39 47.1	
	comp=N,20268μm,0.5s						
PVO	Paravola	0.85	140	P	Pg	19 39 27.5	+0.4
PVO				S	Sn	19 39 41.6	-1.2
KEK	Kerkira	0.91	300	P	Pg	19 39 28.0	-0.4
KEK				S	Sb	19 39 42.7	+0.7
KEK	Kerkira	0.91	300	P	Pg	19 39 27.6	-0.7
KEK				S	Sg	19 39 40.3	+0.1
KEK				AML	AML	19 39 51.3	
	comp=N,5019μm,1.1s						
KEK				AML	AML	19 39 55.1	
	comp=E,6711μm,0.9s						
KEK	Kerkira	0.91	300	P	Pg	19 39 28.0	-0.4
KEK				S	Sg	19 39 40.3	+0.1
PENT	Pentalofos	0.96	14	P	Pg	19 39 29.0	-0.2
PENT				S	Sb	19 39 43.7	+0.3
PENT	Pentalofos	0.96	14	P	Pg	19 39 30.0	+0.8
PENT				S	Sb	19 39 43.5	+0.1
PENT				AML	AML	19 39 45.3	
	comp=E,6340μm,0.9s						
PENT				AML	AML	19 39 55.8	
	comp=N,4056μm,0.7s						
PENT	Pentalofos	0.96	14	P	Pg	19 39 30.0	+0.8
PENT				S	Sb	19 39 43.5	+0.1
THL	Klokotos Trika	0.97	72	P	Pg	19 39 28.4	-1.0
THL				S	Sb	19 39 43.5	0.0
THL	Klokotos Trika	0.97	72	P	Pg	19 39 28.2	-1.2
THL	Klokotos Trika	0.97	72	P	Pg	19 39 28.4	-1.0
THL				S	Sb	19 39 43.5	0.0
ANX	Ano Chora	1.09	128	P	Pg	19 39 31.3	-0.4
ANX				S	Sn	19 39 48.8	-0.1
ANX	Ano Chora	1.09	128	P	Pg	19 39 31.3	-0.4
ANX				S	Sn	19 39 48.8	-0.1
VLS	Valsamata	1.10	190	P	Pg	19 39 30.2	-1.8
VLS				S	Sb	19 39 48.4	+0.9
VLS	Valsamata	1.10	190	P	Pg	19 39 30.2	-1.8
VLS				S	Sb	19 39 48.4	+0.9
AXS	Araxos	1.15	158	P	Pg	19 39 31.8	-1.1
AXS				S	Sn	19 39 50.1	-0.2
AXS	Araxos	1.15	158	P	Pg	19 39 31.9	-1.0
AXS				S	Sb	19 39 48.7	-0.2
AXS	Araxos	1.15	158	P	Pg	19 39 31.8	-1.1
AXS				S	Sn	19 39 50.1	-0.2
EFP	Efpalio	1.19	135	P	Pg	19 39 33.0	-0.6
EFP				S	Sn	19 39 51.1	-0.1
EFP	Efpalio	1.19	135	P	Pg	19 39 33.3	-0.4
EFP	Efpalio	1.19	135	P	Pg	19 39 33.3	-0.4
EFP				S	Sn	19 39 51.1	-0.1
AGG	Agios Georgios	1.19	101	*e*PG	Pg	19 39 33.9	+0.2
AGG	Agios Georgios	1.19	101	P	Pg	19 39 32.8	-0.9
AGG				S	Sn	19 39 52.2	+0.8
AGG	Agios Georgios	1.19	101	P	Pg	19 39 32.6	-1.2
AGG	Agios Georgios	1.19	101	P	Pg	19 39 32.8	-0.9
AGG	Agios Georgios	1.19	101	*e*Pg	Pg	19 39 33.9	+0.2
AGG				S	Sn	19 39 52.2	+0.8
UPR	University Cam	1.24	142	P	Pg	19 39 34.5	0.0
UPR				S	Sn	19 39 53.2	+0.8
UPR	University Cam	1.24	142	P	Pg	19 39 34.5	0.0
UPR				S	Sn	19 39 53.2	+0.8
KZN	Kozani	1.27	35	P	Pg	19 39 34.2	-0.9
KZN				S	Sb	19 39 52.7	+0.4
KZN	Kozani	1.27	35	P	Pg	19 39 34.2	-0.9
KZN				S	Sn	19 39 53.6	+0.4
KZN				AML	AML	19 40 00.3	
	comp=E,4198μm,0.6s						
KZN				AML	AML	19 40 02.2	
	comp=N,3607μm,0.8s						
KZN	Kozani	1.27	35	P	Pg	19 39 34.2	-0.9
KZN				S	Sn	19 39 53.7	+0.4
LRSO	Larissa Observ	1.28	71	P	Pg	19 39 34.5	-0.8
LRSO				S	Sn	19 39 55.1	+1.7
LRSO	Larissa Observ	1.28	71	P	Pg	19 39 34.5	-0.8
LRSO				S	Sn	19 39 55.1	+1.7
SERG	Sergoula	1.28	131	P	Pg	19 39 35.1	-0.4
SERG				S	Sn	19 39 55.7	+2.1
SERG	Sergoula	1.28	131	P	Pb	19 39 36.0	+0.2
SERG	Sergoula	1.28	131	P	Pb	19 39 36.0	+0.2
SERG				S	Sn	19 39 55.7	+2.1
RLS	Riolos of Patr	1.31	157	P	Pg	19 39 34.5	-1.4
RLS				S	Sn	19 39 56.1	+2.0
RLS	Riolos of Patr	1.31	157	P	Pg	19 39 34.1	-1.8
RLS	Riolos of Patr	1.31	157	P	Pg	19 39 34.5	-1.4
RLS				S	Sn	19 39 56.1	+2.0
KALE	Kalithea	1.35	130	P	Pn	19 39 36.4	-0.4
KALE				S	Sn	19 39 56.9	+1.6
KALE	Kalithea	1.35	130	P	Pb	19 39 37.8	+1.0
KALE	Kalithea	1.35	130	P	Pb	19 39 37.8	+1.0
KALE				S	Sn	19 39 56.9	+1.6
LAKA	Lakka	1.36	138	P	Pn	19 39 36.1	-0.9
LAKA				S	Sn	19 39 56.6	+1.0
LAKA	Lakka	1.36	138	P	Pb	19 39 37.8	+0.7
LAKA	Lakka	1.36	138	P	Pb	19 39 37.8	+0.7
LAKA				S	Sn	19 39 56.6	+1.0
DRO	Drossia	1.48	152	P	Pn	19 39 37.4	-1.2
DRO				S	Sg	19 40 00.5	+2.0
DRO	Drossia	1.48	152	P	Pn	19 39 36.6	-2.0
DRO	Drossia	1.48	152	P	Pn	19 39 37.4	-1.2
DRO				S	Sg	19 40 00.5	+2.0
KTI	Kastanea	1.50	41	P	Pn	19 39 39.3	+0.4
KTI	Kastanea	1.50	41	P	Pn	19 39 39.3	+0.4
AXAR	Agios Charalam	1.51	109	P	Pb	19 39 39.7	0.0
AXAR	Agios Charalam	1.51	109	P	Pb	19 39 39.7	0.0
LIT	Litokhoron	1.53	57	P	Pn	19 39 39.2	0.0
LIT				S	Sg	19 40 00.2	+0.2
LIT	Litokhoron	1.53	57	P	Pn	19 39 39.2	0.0
LIT				S	Sg	19 40 00.2	+0.2
FNA	Florina	1.57	15	*e*PN	Pg	19 39 41.3	+0.3
FNA	Florina	1.57	15	P	Pn	19 39 39.7	-0.1
FNA				S	Sg	19 40 03.1	+1.7
FNA	Florina	1.57	15	P	Pn	19 39 39.1	-0.8
FNA	Florina	1.57	15	P	Pn	19 39 39.7	-0.1
FNA	Florina	1.57	15	*e*Pn	Pg	19 39 41.3	+0.3
FNA				S	Sg	19 40 03.1	+1.7
DSF	Desfina	1.58	122	P	Pn	19 39 39.4	-0.5
DSF				S	Sg	19 40 03.3	+1.7
DSF	Desfina	1.58	122	P	Pn	19 39 39.4	-0.5
DSF				S	Sg	19 40 03.3	+1.7
KLV	Kalavryta, Ach	1.60	139	P	Pn	19 39 39.8	-0.5
KLV				S	Sg	19 40 03.8	+1.5
KLV	Kalavryta, Ach	1.60	139	P	Pn	19 39 39.4	-0.9
KLV				S	Sg	19 40 02.4	0.0
KLV	Kalavryta, Ach	1.60	139	P	Pn	19 39 39.8	-0.5
KLV				S	Sg	19 40 03.8	+1.5
FYTO	Fytoko, Volos	1.64	84	P	Pn	19 39 40.7	-0.1
FYTO				S	Sg

LTK S Sb 19 40 15.0 -0.8
LTK Loutraki 2.09 126 P Pb 19 39 49.8 +0.4
LTK Loutraki 2.09 126 P Pb 19 39 48.8 -0.6
LTK S Sb 19 40 15.0 -0.8
LOUT Loutraki 2.11 127 P Pb 19 39 49.1 -0.8
LOUT S Sb 19 40 15.5 -1.0
LOUT Loutraki 2.11 127 P Pb 19 39 49.1 -0.8
LOUT S Sb 19 40 15.5 -1.0
THE Thessaloniki 2.13 50 P Pn 19 39 48.7 +1.2
THE S Sn 19 40 15.3 +0.7
THE Thessaloniki 2.13 50 P Pn 19 39 48.7 +1.2
THE S Sn 19 40 15.3 +0.7
HORT Hortiatis 2.19 52 *e*PN Pn 19 39 49.0 +0.6
HORT Hortiatis 2.19 52 P Pn 19 39 48.4 0.0
HORT S Sb 19 40 17.9 -1.1
HORT Hortiatis 2.19 52 P Pn 19 39 48.4 0.0
HORT Hortiatis 2.19 52 *e*Pn Pn 19 39 49.0 +0.6
HORT S Sb 19 40 17.9 -1.1
TIR Tirane 2.20 341 Pn Pb 19 39 50.6 -0.8
comp=N,2µm,1.1s
TIR Tirane 2.20 341 ⇑*i*P Pb 19 39 50.4 -1.0
TIR Tirane 2.20 341 ⇑*i*P Pb 19 39 50.4 -1.0
TIR Tirane 2.20 341 *e*Pn Pb 19 39 50.5 -1.0
VLX Vlachokerasia 2.25 147 P Pb 19 39 51.1 -1.2
VLX S Sb 19 40 20.2 -0.5
VLX Vlachokerasia 2.25 147 P Pb 19 39 51.1 -1.2
VLX S Sb 19 40 20.2 -0.5
ITM Ithomi 2.26 157 P Pn 19 39 50.9 +1.7
ITM S Sn 19 40 19.0 +1.4
ITM Ithomi 2.26 157 P Pn 19 39 50.9 +1.7
ITM S Sn 19 40 19.0 +1.4
PLG Polygyros 2.30 60 P Pn 19 39 49.9 +0.1
PLG S Sb 19 40 21.5 -0.5
PLG Polygyros 2.30 60 P Pn 19 39 49.9 +0.1
PLG S Sb 19 40 21.5 -0.5
PAIG Paliouri 2.30 72 P Pn 19 39 48.7 -1.1
PAIG S Sb 19 40 21.7 -0.2
PAIG Paliouri 2.30 72 P Pn 19 39 48.7 -1.1
PAIG S Sb 19 40 21.7 -0.2
KNT Kendrikon 2.47 39 *e*PN Pn 19 39 52.9 +0.7
KNT Kendrikon 2.47 39 P Pn 19 39 52.8 +0.7
KNT S Sb 19 40 25.1 -1.7
KNT Kendrikon 2.47 39 *e*Pn Pn 19 39 52.9 +0.7
KNT S Sb 19 40 25.1 -1.7
PYL PYLOS 2.48 163 P Pn 19 39 53.1 +0.9
PYL S Sn 19 40 23.0 0.0
PYL PYLOS 2.48 163 P Pn 19 39 53.1 +0.9
PYL S Sn 19 40 23.0 0.0
SOH Sokhos 2.48 51 P Pn 19 39 52.9 +0.5
SOH S Sn 19 40 24.8 +1.5
SOH Sokhos 2.48 51 P Pn 19 39 52.9 +0.5
SOH S Sn 19 40 24.8 +1.5
EREA Eretria 2.57 108 P Pn 19 39 55.1 +1.6
EREA S Sn 19 40 27.4 +2.1
EREA Eretria 2.57 108 P Pn 19 39 55.1 +1.6
EREA S Sn 19 40 27.4 +2.1
DID Didima 2.58 132 P Pn 19 39 55.3 +1.6
DID S Sb 19 40 29.3 -0.8
DID Didima 2.58 132 P Pn 19 39 55.3 +1.6
DID S Sb 19 40 29.3 -0.8
ATH Athens Observa 2.61 119 P Pn 19 39 55.9 +1.9
ATH S Sn 19 40 28.0 +1.8
ATH Athens Observa 2.61 119 P Pn 19 39 55.9 +1.9
ATH S Sn 19 40 28.0 +1.8
MESG Mesagne 2.64 301 Pn Pn 19 39 53.9 -0.6
comp=N,659nm,0.9s
MESG Mesagne 2.64 301 Pn Pn 19 39 53.9 -0.6
comp=N,659nm,0.9s
OUR Ouranopolis 2.65 65 *e*PN Pn 19 39 55.2 +0.6
OUR Ouranopolis 2.65 65 P Pn 19 39 55.0 +0.4
OUR S Sn 19 40 29.1 +1.8
OUR Ouranopolis 2.65 65 *e*Pn Pn 19 39 55.2 +0.6
OUR S Sn 19 40 29.1 +1.8
ATHU Athens Univers 2.66 118 P Pn 19 39 56.4 +1.7
ATHU S Sb 19 40 29.9 -2.3
ATHU Athens Univers 2.66 118 P Pn 19 39 56.4 +1.7
ATHU S Sb 19 40 29.9 -2.3
PTL Penteli 2.67 116 P Pn 19 39 56.4 +1.5
PTL S Sn 19 40 29.2 +1.3
PTL Penteli 2.67 116 P Pn 19 39 56.4 +1.5
PTL S Sn 19 40 29.2 +1.3
VLY Voula,Athens 2.72 120 P Pn 19 39 57.1 +1.5
VLY S Sn 19 40 31.2 +2.1
VLY Voula,Athens 2.72 120 P Pn 19 39 57.1 +1.5
VLY S Sn 19 40 31.2 +2.1
SRS Serrai 2.81 48 P Pn 19 39 57.2 +0.4
SRS S Sn 19 40 32.9 +1.6
SRS Serrai 2.81 48 P Pn 19 39 57.2 +0.4
SRS S Sn 19 40 32.9 +1.6
ULC Ulcinj 2.95 336 ⇓*i*Pn Pn 19 40 00.6 +1.8
ULC Ulcinj 2.95 336 ⇓*i*Pn Pn 19 40 00.6 +1.8
TAR1 Taranto 3.00 296 *e*Pn Pn 19 40 00.3 +0.9
VLI Veliai 3.04 146 P Pn 19 40 01.7 +1.7
VLI S Sn 19 40 37.5 +0.5
VLI Veliai 3.04 146 P Pn 19 40 01.7 +1.7
VLI S Sn 19 40 37.5 +0.5
FASA Fasano 3.08 301 *e*Pn Pn 19 40 02.3 +1.8
KARY Karystos 3.08 112 P Pn 19 40 01.9 +1.3
KARY S Sn 19 40 39.7 +1.7
KARY Karystos 3.08 112 P Pn 19 40 01.9 +1.3
KARY S Sn 19 40 39.7 +1.7
NVR Nevrokopi 3.12 47 P Pn 19 40 02.3 +1.2
NVR S Sn 19 40 40.9 +2.0
NVR Nevrokopi 3.12 47 P Pn 19 40 02.3 +1.2
NVR S Sn 19 40 40.9 +2.0
PIPA Pietrapaola 3.12 275 Pn Pn 19 40 01.2 +0.1
comp=N,193nm,1.0s
PIPA Pietrapaola 3.12 275 Pn Pn 19 40 01.2 +0.1
comp=N,193nm,1.0s
MASS Massafra 3.14 297 *e*Pn Pn 19 40 01.7 +0.3
DRME Dracevica, Mon 3.17 337 ⇑*i*Pn Pn 19 40 03.1 +1.3
DRME *e*Sn Sb 19 40 44.4 -2.6
DRME Dracevica, Mon 3.17 337 ⇑*i*Pn Pn 19 40 03.1 +1.3
DRME *e*Sn Sb 19 40 44.4 -2.6
SERS Sersale 3.23 267 Pn Pn 19 40 02.3 -0.3
comp=N,142nm,1.3s
SERS Sersale 3.23 267 Pn Pn 19 40 02.3 -0.3
comp=N,142nm,1.3s
NOCI Noci 3.26 299 Pn Pn 19 40 03.9 +0.8
comp=N,243nm,0.9s
NOCI Noci 3.26 299 Pn Pn 19 40 03.9 +0.8
comp=N,243nm,0.9s
KAVA Kavala 3.31 57 P Pn 19 40 03.8 +0.1
KAVA S Sn 19 40 45.5 +1.9
KAVA Kavala 3.31 57 P Pn 19 40 03.8 +0.1
KAVA S Sn 19 40 45.5 +1.9
BUM Brajici-Budva 3.37 335 ⇑*i*Pn Pn 19 40 05.1 +0.6
BUM *e*Sn Sn 19 40 48.8 +3.7
BUM Brajici-Budva 3.37 335 ⇑*i*Pn Pn 19 40 05.1 +0.6
BUM *e*Sn Sn 19 40 48.8 +3.7
PDG Podgorica 3.38 340 Pn Pn 19 40 05.7 +1.1
comp=N,1µm,2.1s
PDG Podgorica 3.38 340 ⇓*i*P Pn 19 40 06.1 +1.5
PDG Podgorica 3.38 340 Pn Pn 19 40 05.7 +1.1
comp=N,1µm,2.1s
PDG Podgorica 3.38 340 ⇓*i*P Pn 19 40 06.1 +1.5
PDG *e*Sn Sn 19 40 48.9 +3.7
TTG Podgorica 3.38 340 ⇑*i*Pn Pn 19 40 06.1 +1.5
TTG *e*Sn Sn 19 40 48.9 +3.7
PVY Plav 3.39 349 ⇓*i*Pn Pn 19 40 06.6 +1.7
PVY *e*Sn Sn 19 40 48.8 +3.1
PVY Plav 3.39 349 ⇓*i*Pn Pn 19 40 06.6 +1.7
PVY *e*Sn Sn 19 40 48.8 +3.1
LIA Limnos Island 3.42 78 P Pn 19 40 05.3 +0.1
LIA S Sn 19 40 46.9 +0.5
LIA Limnos Island 3.42 78 P Pn 19 40 05.3 +0.1
LIA S Sn 19 40 46.9 +0.5
MATE Matera 3.46 295 Pn Pn 19 40 06.5 +0.8
comp=N,229nm,0.9s
MATE Matera 3.46 295 Pn Pn 19 40 06.5 +0.8
comp=N,229nm,0.9s
KYTH Kithira 3.48 149 P Pn 19 40 08.6 +2.6
KYTH S Sn 19 40 51.1 +3.4
SALB San Lorenzo Be 3.52 281 Pn Pn 19 40 06.8 +0.2
comp=N,93nm,0.7s
SALB San Lorenzo Be 3.52 281 Pn Pn 19 40 06.8 +0.2
comp=N,93nm,0.7s
PLAC Placanica 3.52 258 Pn Pn 19 40 06.2 -0.4
comp=N,135nm,1.1s
PLAC Placanica 3.52 258 Pn Pn 19 40 06.2 -0.4
comp=N,135nm,1.1s

SG1 Sgolgore (BA) 3.55 298 *e*Pn Pn 19 40 07.4 +0.4
CEME Cevo 3.58 337 ⇑*i*Pn Pn 19 40 07.7 +0.2
CEME *e*Sn Sn 19 40 54.2 +3.8
CEME Cevo 3.58 337 ⇑*i*Pn Pn 19 40 07.7 +0.2
CEME *e*Sn Sn 19 40 54.2 +3.8
CAR1 CAROLEI 3.58 271 Pn Pn 19 40 09.6 +2.1
comp=N,202nm,0.8s
CAR1 CAROLEI 3.58 271 Pn Pn 19 40 09.6 +2.1
comp=N,202nm,0.8s
BARS Barje 3.62 12 ⇑*i*Pn Pn 19 40 09.3 +1.3
AMUR Altamura 3.63 298 Pn Pn 19 40 08.7 +0.6
comp=N,185nm,1.0s
AMUR Altamura 3.63 298 Pn Pn 19 40 08.7 +0.6
comp=N,185nm,1.0s
HCY Herceg Novi 3.64 332 ⇓*i*Pn Pn 19 40 08.1 -0.1
HCY *e*Sn Sn 19 40 54.9 +3.3
HCY Herceg Novi 3.64 332 ⇓*i*Pn Pn 19 40 08.1 -0.1
HCY *e*Sn Sn 19 40 54.9 +3.3
BEY Berane 3.67 349 *e*Pn Pn 19 40 11.0 +2.3
BEY *e*Sn Sn 19 40 55.6 +3.0
IVA Berane 3.67 349 *e*Pn Pn 19 40 11.0 +2.3
IVA *e*Sn Sn 19 40 55.6 +3.0
KOME Kolasin 3.71 345 *e*Pn Pn 19 40 11.5 +2.2
KOME *e*Sn Sn 19 40 57.2 +3.5
KOME Kolasin 3.71 345 *e*Pn Pn 19 40 11.5 +2.2
KOME *e*Sn Sn 19 40 57.2 +3.5
NKME Niksic 3.77 339 ⇑*i*Pn Pn 19 40 11.3 +1.2
NKME *e*Sn Sn 19 40 57.9 +2.8
NKME Niksic 3.77 339 ⇑*i*Pn Pn 19 40 11.3 +1.2
NKME *e*Sn Sn 19 40 57.9 +2.8
VTS Vitosha 3.78 28 P Pn 19 40 12.0 +1.7
VTS S Sn 19 40 56.5 +1.1
VTS Vitosha 3.78 28 ⇑*i*P Pn 19 40 14.1 +3.8
VTS Vitosha 3.78 28 S Sb 19 41 03.8 -0.8
VTS Vitosha 3.78 28 P Pn 19 40 12.0 +1.7
VTS S Sn 19 40 56.5 +1.1
SCHR S. Chirico Rap 3.78 286 Pn Pn 19 40 12.4 +2.2
comp=N,174nm,1.2s
NKY Niksic 3.80 339 ⇓*i*Pn Pn 19 40 11.5 +0.9
NKY *e*Sn Sn 19 40 59.1 +3.2
NKY Niksic 3.80 339 ⇓*i*Pn Pn 19 40 11.5 +0.9
NKY *e*Sn Sn 19 40 59.1 +3.2
SMTH Samothraki Isl 3.81 70 P Pn 19 40 10.6 0.0
SMTH S Sn 19 40 59.8 +3.8
SMTH Samothraki Isl 3.81 70 P Pn 19 40 10.6 0.0
SMTH S Sn 19 40 59.8 +3.8
MHLO Agia Marina, M 3.82 131 P Pn 19 40 12.0 +1.3
MHLO S Sn 19 40 57.1 +0.9
MHLO Agia Marina, M 3.82 131 P Pn 19 40 12.0 +1.3
MHLO S Sn 19 40 57.1 +0.9
SIGR SIGRI 3.90 89 *e*PN Pn 19 40 12.7 +0.9
SIGR SIGRI 3.90 89 P Pn 19 40 13.6 +1.8
SIGR S Sn 19 40 59.8 +1.6
SIGR SIGRI 3.90 89 *e*Pn Pn 19 40 12.7 +0.9
SIGR SIGRI 3.90 89 P Pn 19 40 13.6 +1.8
SIGR S Sn 19 40 59.8 +1.6
JOPP Joppolo 3.91 262 Pn Pn 19 40 11.9 -0.1
comp=N,130nm,0.9s
JOPP Joppolo 3.91 262 Pn Pn 19 40 11.9 -0.1
comp=N,130nm,0.9s
ANKY Antikythira Is 3.92 149 P Pn 19 40 14.2 +2.1
ANKY S Sn 19 41 00.7 +2.0
ANKY Antikythira Is 3.92 149 P Pn 19 40 14.2 +2.1
ANKY S Sn 19 41 00.7 +2.0
TREB Trebinje 3.92 332 *e*Pn Pn 19 40 11.2 -0.9
CDT Castel del Mon 3.93 299 *e*Pn Pn 19 40 13.0 +0.8
SIRI Monte Sirino - 3.93 285 Pn Pn 19 40 13.9 +1.6
comp=N,155nm,1.0s
SIRI Monte Sirino - 3.93 285 Pn Pn 19 40 13.9 +1.6
comp=N,155nm,1.0s
CUC Castrocucco 3.94 282 Pn Pn 19 40 14.8 +2.4
comp=N,139nm,1.1s
CUC Castrocucco 3.94 282 *e*Pn Pn 19 40 14.4 +2.0
CUC Castrocucco 3.94 282 *e*Pn Pn 19 40 14.4 +2.0
CEL Celeste 3.99 257 *e*Pn Pn 19 40 14.5 +1.5
CEL Celeste 3.99 257 *e*Pn Pn 19 40 14.5 +1.5
GADA Gvkgeada 4.02 75 *e*PN Pn 19 40 13.6 +0.2
GADA Gvkgeada 4.02 75 *e*Pn Pn 19 40 13.6 +0.2
BRY Bratogost 4.02 335 ⇓*i*Pn Pn 19 40 14.4 +0.8
BRY *e*Sn Sn 19 41 04.0 +2.7
BRY Bratogost 4.02 335 ⇓*i*Pn Pn 19 40 14.4 +0.8
BRY *e*Sn Sn 19 41 04.0 +2.7
MTSN Montesano sull 4.04 286 Pn Pn 19 40 15.1 +1.3
comp=N,133nm,1.0s
MTSN Montesano sull 4.04 286 Pn Pn 19 40 15.1 +1.3
comp=N,133nm,1.0s
SJES Sjenica 4.04 351 ⇓*i*Pn Pn 19 40 15.7 +1.9
ACER Acerenza 4.05 294 Pn Pn 19 40 14.6 +0.8
comp=N,762nm,1.1s
ACER Acerenza 4.05 294 Pn Pn 19 40 14.6 +0.8
comp=N,762nm,1.1s
RDO Rodhopi 4.07 61 P Pn 19 40 14.2 +0.2
RDO S Sn 19 41 05.0 +2.8
RDO Rodhopi 4.07 61 P Pn 19 40 14.2 +0.2
RDO S Sn 19 41 05.0 +2.8
MSCL Scilla 4.07 257 Pn Pn 19 40 14.5 +0.3
comp=N,230nm,0.7s
MSCL Scilla 4.07 257 Pn Pn 19 40 14.5 +0.3
comp=N,230nm,0.7s
BOZC Bozcaada 4.08 80 *e*PN Pn 19 40 14.7 +0.4
BOZC Bozcaada 4.08 80 *i*P Pn 19 40 17.3 +3.0
BOZC Bozcaada 4.08 80 *e*Pn Pn 19 40 14.7 +0.4
SLCN Sala Consilina 4.15 287 Pn Pn 19 40 17.1 +1.7
comp=N,169nm,0.7s
SLCN Sala Consilina 4.15 287 Pn Pn 19 40 17.1 +1.7
comp=N,169nm,0.7s
MGR Morigerati 4.16 284 Pn Pn 19 40 16.7 +1.3
comp=N,100nm,0.9s
MGR Morigerati 4.16 284 Pn Pn 19 40 16.7 +1.3
comp=N,100nm,0.9s
CHOS Chios island 4.18 101 *e*PN Pn 19 40 17.2 +1.6
CHOS Chios island 4.18 101 P Pn 19 40 17.1 +1.4
CHOS S Sn 19 41 06.6 +1.5
CHOS Chios island 4.18 101 P Pn 19 40 17.1 +1.4
CHOS S Sn 19 41 06.6 +1.5
UPM Unac-Piva 4.19 340 ⇓*i*Pn Pn 19 40 17.6 +1.6
UPM *e*Sn Sn 19 41 08.4 +2.8
UPM Unac-Piva 4.19 340 ⇓*i*Pn Pn 19 40 17.6 +1.6
UPM *e*Sn Sn 19 41 08.4 +2.8
PLE Pljevlja 4.20 346 ⇑*i*Pn Pn 19 40 18.1 +2.1
PLE *e*Sn Sn 19 41 08.5 +2.8
PLE Pljevlja 4.20 346 ⇑*i*Pn Pn 19 40 18.1 +2.1
PLE *e*Sn Sn 19 41 08.5 +2.8
PRK Paraskevi 4.23 89 P Pn 19 40 17.8 +1.5
PRK S Sn 19 41 07.7 +1.5
PRK Paraskevi 4.23 89 P Pn 19 40 17.8 +1.5
PRK S Sn 19 41 07.7 +1.5
BULG Bulgheria - Ca 4.28 283 Pn Pn 19 40 18.3 +1.2
comp=N,60nm,0.7s
BULG Bulgheria - Ca 4.28 283 Pn Pn 19 40 18.3 +1.2
comp=N,60nm,0.7s
EZN Ezine 4.29 81 *e*PN Pn 19 40 18.4 +1.3
EZN Ezine 4.29 81 *e*Pn Pn 19 40 18.4 +1.3
APE Apeiranthos 4.31 119 *e*PN Pn 19 40 19.7 +2.3
APE Apeiranthos 4.31 119 P Pn 19 40 19.2 +1.8
APE S Sn 19 41 11.7 +3.4
APE Apeiranthos 4.31 119 ⇑*i*P Pn 19 40 19.9 +2.5
APE Apeiranthos 4.31 119 P Pn 19 40 19.2 +1.8
APE Apeiranthos 4.31 119 *e*Pn Pn 19 40 19.7 +2.3
APE S Sn 19 41 11.7 +3.4
STON Ston 4.31 328 *e*PN Pn 19 40 16.6 -0.8
STON Sn Sn 19 41 06.5 -1.6
STON Ston 4.31 328 *e*Pn Pn 19 40 16.5 -0.8
STON Sn Sn 19 41 06.5 -1.6
ALN Alexandroupoli 4.32 66 *e*PN Pn 19 40 18.9 +1.3
ALN Alexandroupoli 4.32 66 P Pn 19 40 18.0 +0.4
ALN S Sn 19 41 11.4 +2.9
ALN Alexandroupoli 4.32 66 P Pn 19 40 18.0 +0.4
ALN Alexandroupoli 4.32 66 *e*Pn Pn 19 40 18.9 +1.3
ALN S Sn 19 41 11.4 +2.9
IVAS Ivanjica 4.33 353 *e*Pn Pn 19 40 20.0 +2.2
ENEZ Enez 4.34 69 *e*PN Pn 19 40 19.4 +1.5
ENEZ Enez 4.34 69 *e*Pn Pn 19 40 19.4 +1.5
CMPR Campora 4.38 286 Pn Pn 19 40 19.9 +1.4
comp=N,167nm,1.4s
CMPR Campora 4.38 286 Pn Pn 19 40 19.9 +1.4
comp=N,167nm,1.4s
BOVS Bovan 4.41 8 *e*Pn Pn 19 40 20.3 +1.5
CDRU Civita di Ruta 4.42 288 Pn Pn 19 40 20.5 +1.5
comp=N,46nm,0.9s
CDRU Civita di Ruta 4.42 288 Pn Pn 19 40 20.5 +1.5
comp=N,46nm,0.9s

BAYC CANAKKALE_Bayr 4.45 82 *i*P Pn 19 40 20.2 +0.8
BAYC CANAKKALE_Bayr 4.45 82 P Pn 19 40 20.2 +0.8
GELI Tayfur-Gelibol 4.49 74 *e*PN Pn 19 40 21.5 +1.6
GELI Tayfur-Gelibol 4.49 74 *e*Pn Pn 19 40 21.5 +1.6
AYVA Ayvalik 4.55 88 *i*P Pn 19 40 22.2 +1.5
AYVA Ayvalik 4.55 88 P Pn 19 40 22.2 +1.5
IMMV Iera Moni Meta 4.55 146 P Pn 19 40 21.8 +1.0
IMMV S Sn 19 41 18.0 +3.7
IMMV Iera Moni Meta 4.55 146 P Pn 19 40 21.8 +1.0
IMMV S Sn 19 41 18.0 +3.7
THR5 Thira Island, 4.57 127 P Pn 19 40 23.5 +2.5
THR5 Thira Island, 4.57 127 P Pn 19 40 23.5 +2.5
ERIK Erikli-Kesan 4.59 70 *e*PN Pn 19 40 22.0 +0.8
ERIK Erikli-Kesan 4.59 70 *e*Pn Pn 19 40 22.0 +0.8
URLA Izmir 4.59 100 *e*PN Pn 19 40 23.4 +2.0
URLA Izmir 4.59 100 *i*P Pn 19 40 23.6 +2.2
URLA Izmir 4.59 100 *e*Pn Pn 19 40 23.4 +2.0
MCRV Calabrutti - M 4.60 291 Pn Pn 19 40 22.7 +1.2
comp=N,60nm,0.8s
MCRV Calabrutti - M 4.60 291 Pn Pn 19 40 22.7 +1.2
comp=N,60nm,0.8s
THR3 Thira Island, 4.61 127 P Pn 19 40 23.2 +1.7
THR3 Thira Island, 4.61 127 P Pn 19 40 23.2 +1.7
GRUS Gruza 4.62 359 ⇓*i*Pn Pn 19 40 22.8 +1.2
BOLS Boljevac 4.63 10 *e*Pn Pn 19 40 22.4 +0.5
THR6 Thira Island, 4.64 127 P Pn 19 40 24.9 +2.9
THR6 Thira Island, 4.64 127 P Pn 19 40 24.9 +2.9
ZAGS Zajecar 4.66 13 ⇓*i*Pn Pn 19 40 23.5 +1.3
SANT Santorini 4.67 127 *e*Pn Pn 19 40 24.5 +2.1
SANT Santorini 4.67 127 *e*Pn Pn 19 40 24.5 +2.1
VAM Vamos 4.70 144 P Pn 19 40 23.7 +0.9
VAM S Sn 19 41 20.1 +2.3
VAM Vamos 4.70 144 P Pn 19 40 23.7 +0.9
VAM S Sn 19 41 20.1 +2.3
LPK Lapseki 4.70 75 *e*PN Pn 19 40 23.9 +1.1
LPK Lapseki 4.70 75 *e*Pn Pn 19 40 23.9 +1.1
BBLS Lazići 4.72 347 *e*Pn Pn 19 40 24.8 +1.7
DIVS Divibare 4.87 353 P Pn 19 40 26.8 +1.6
DIVS S Sn 19 41 18.9 -3.2
DIVS Divibare 4.87 353 ⇓*i*Pn Pn 19 40 25.8 +0.6
DIVS Divibare 4.87 353 P Pn 19 40 26.8 +1.6
DIVS S Sn 19 41 18.9 -3.2
TRUS Trudelj 4.96 356 ⇑*i*Pn Pn 19 40 27.6 +1.2
HAPS Han Pijesak,BI 5.01 344 *e*Pn Pn 19 40 26.2 -1.0
KRBG Karabiga-Canak 5.11 75 *e*PN Pn 19 40 30.4 +2.0
KRBG Karabiga-Canak 5.11 75 *e*Pn Pn 19 40 30.4 +2.0
IDI Anoyia 5.12 140 P Pn 19 40 28.1 -0.6
comp=N,2.0nm,0.3s,baz=251,slow=19,SNR=14
IDI S Sn 19 41 25.6 -2.9
comp=N,3.0nm,0.3s,baz=294,slow=20,SNR=3.1
IDI Anoyia 5.12 140 P Pn 19 40 28.0 -0.7
IDI S Sn 19 41 31.8 +3.3
IDI Anoyia 5.12 140 P Pn 19 40 28.0 -0.7
IDI S Sn 19 41 31.8 +3.3
IDI Anoyia 5.12 140 *e*Pn Pn 19 40 27.9 -0.7
comp=N,26nm,0.9s
IDI S Sn 19 41 25.6 -2.9
KUBS Kucevo 5.18 7 *e*Pn Pn 19 40 29.7 +0.3
EDRB Edirne 5.19 58 *e*PN Pn 19 40 31.3 +1.8
EDRB Edirne 5.19 58 P Pn 19 40 30.3 +0.8
EDRB S Sn 19 41 32.9 +3.0
EDRB Edirne 5.19 58 P Pn 19 40 30.3 +0.8
EDRB Edirne 5.19 58 *e*Pn Pn 19 40 31.3 +1.8
EDRB S Sn 19 41 32.9 +3.0
BSSO Busso 5.28 298 Pn Pn 19 40 31.9 +1.1
BSSO Busso 5.28 298 Pn Pn 19 40 31.9 +1.1
SIVA Sivas 5.30 142 P Pn 19 40 32.6 +1.6
SIVA Sivas 5.30 142 P Pn 19 40 32.6 +1.6
VAE Valguarnera 5.35 252 P Pn 19 40 35.0 +3.3
comp=N,0.4nm,0.3s,baz=195,slow=12,SNR=2.9
VAE S Sn 19 41 32.9 -1.1
comp=N,1.1nm,0.3s,baz=309,slow=18,SNR=2.9
TEKS Tekeris 5.37 350 *e*Pn Pn 19 40 31.7 -0.2
MRMT Marmara Adasi 5.37 73 *e*PN Pn 19 40 33.0 +1.0
MRMT Marmara Adasi 5.37 73 *e*Pn Pn 19 40 33.0 +1.0
AKHS Akhisar 5.45 92 *i*P Pn 19 40 37.0 +3.9
AKHS Akhisar 5.45 92 P Pn 19 40 37.0 +3.9
BALB Balikesir 5.47 84 *e*PN Pn 19 40 35.0 +1.6
BALB Balikesir 5.47 84 *e*Pn Pn 19 40 35.0 +1.6
EDC Edincik 5.52 77 *e*PN Pn 19 40 35.5 +1.4
EDC Edincik 5.52 77 *e*Pn Pn 19 40 35.5 +1.4
LAST Lasithi 5.53 136 P Pn 19 40 34.7 +0.4
LAST S Sn 19 41 39.9 +1.5
LAST Lasithi 5.53 136 P Pn 19 40 34.7 +0.4
LAST S Sn 19 41 39.9 +1.5
MIDA Miranda 5.55 297 Pn Pn 19 40 36.7 +2.2
comp=N,202nm,1.5s
MIDA Miranda 5.55 297 Pn Pn 19 40 36.7 +2.2
comp=N,202nm,1.5s
MDVR Moldovita 5.55 7 ⇓*i*P Pn 19 40 37.3 +2.8
MDVR Moldovita 5.55 7 ⇓*i*P Pn 19 40 37.3 +2.8
BODT Bodrum 5.56 111 *e*PN Pn 19 40 37.4 +2.7
BODT Bodrum 5.56 111 *e*Pn Pn 19 40 37.4 +2.7
BDRM Kayabasi 5.66 111 *i*P Pn 19 40 40.6 +4.7
DAT Datca 5.90 113 *e*PN Pn 19 40 42.4 +3.0
DAT Datca 5.90 113 *i*P Pn 19 40 42.7 +3.3
DAT Datca 5.90 113 *e*Pn Pn 19 40 42.4 +3.0
DAT Datca 5.90 113 P Pn 19 40 42.7 +3.3
FGSL Fruska Gora 5.93 353 ⇑*i*Pn Pn 19 40 40.4 +0.7
INTR Introdacqua 5.94 300 Pn Pn 19 40 41.1 +1.3
comp=N,118nm,1.0s
INTR Introdacqua 5.94 300 Pn Pn 19 40 41.1 +1.3
comp=N,118nm,1.0s
VVLD Villa Vallelon 6.07 298 Pn Pn 19 40 43.4 +1.7
comp=N,51nm,1.0s
VVLD Villa Vallelon 6.07 298 Pn Pn 19 40 43.4 +1.7
comp=N,51nm,1.0s
MANT Manisa 6.08 95 *i*P Pn 19 40 45.9 +3.9
MANT Manisa 6.08 95 P Pn 19 40 45.9 +3.9
BLY Banja Luka 6.11 335 *e*Pn Pn 19 40 42.9 +0.7
DEMI Demirci 6.13 90 *i*P Pn 19 40 46.3 +3.7
DEMI Demirci 6.13 90 P Pn 19 40 46.3 +3.7
KULA Kula-Manisa 6.16 95 *e*PN Pn 19 40 45.6 +2.7
KULA Kula-Manisa 6.16 95 *e*Pn Pn 19 40 45.6 +2.7
CTKS Kestanelik-??a 6.20 69 *e*PN Pn 19 40 45.1 +1.8
CTKS Kestanelik-??a 6.20 69 *e*Pn Pn 19 40 45.1 +1.8
GZR Gura Zlata 6.29 13 ⇑*i*P Pn 19 40 46.8 +2.1
GZR Gura Zlata 6.29 13 ⇑*i*P Pn 19 40 46.8 +2.1
BZS Buzias 6.37 5 ⇑*i*P Pn 19 40 47.9 +2.2
BZS Buzias 6.37 5 ⇑*i*P Pn 19 40 47.9 +2.2
AQU L'Aquila 6.42 301 *e*Pn Pn 19 40 49.3 +2.8
comp=N,31nm,0.9s
AQU L'Aquila 6.42 301 *e*Pn Pn 19 40 49.3 +2.8
comp=N,31nm,0.9s
UDBI Udbina 6.47 326 *e*Pn Pn 19 40 48.0 +0.8
UDBI Sn Sn 19 42 01.0 -0.6
UDBI Udbina 6.47 326 *e*Pn Pn 19 40 48.0 +0.8
UDBI Sn Sn 19 42 01.0 -0.6
TURN Turunc 6.58 109 *i*P Pn 19 40 48.3 -0.3
TURN Turunc 6.58 109 P Pn 19 40 48.3 -0.3
TAVA DENIZLI_Tavas 6.60 103 *i*P Pn 19 40 52.3 +3.3
TAVA DENIZLI_Tavas 6.60 103 P Pn 19 40 52.3 +3.3
DALY Dalyan (Mu¨la 6.64 109 *e*PN Pn 19 40 52.8 +3.3
DALY Dalyan (Mu¨la 6.64 109 *e*Pn Pn 19 40 52.8 +3.3
TVSB Tavsanlì 6.69 86 *e*PN Pn 19 40 52.8 +2.5
TVSB Tavsanli 6.69 86 *e*Pn Pn 19 40 52.8 +2.5
ARR Arges 6.72 24 ⇑*i*P Pn 19 40 52.9 +2.4
ARR Arges 6.72 24 ⇑*i*P Pn 19 40 52.9 +2.4
GDZ Gediz 6.73 89 *i*P Pn 19 40 55.6 +4.8
NVLJ Novalja 6.91 322 *e*Pn Pn 19 40 53.3 +0.2
NVLJ Sn Sn 19 42 09.0 -3.2
NVLJ Novalja 6.91 322 *e*Pn Pn 19 40 53.2 +0.2
VOIR 6.91 26 ⇑*i*P Pn 19 40 55.9 +2.7
VOIR 6.91 26 ⇑*i*P Pn 19 40 55.9 +2.7
FETY Fethiye 7.03 109 *e*PN Pn 19 40 57.3 +2.4
FETY Fethiye 7.03 109 *e*Pn Pn 19 40 57.3 +2.4
ISR Istrita 7.22 34 ⇓*i*P Pn 19 41 02.8 +5.3
MLR Muntele Rosu 7.28 30 P Pn 19 40 59.9 +1.6
comp=N,0.2nm,0.3s,baz=244,slow=9.0,SNR=10
MLR S Sn 19 42 23.7 +2.1
baz=347,slow=19,SNR=1.7
MLR Muntele Rosu 7.28 30 ⇑*i*P Pn 19 41 02.3 +4.0
BRDR BURDUR-Merkez 7.41 99 *i*P Pn 19 41 04.7 +4.6
GULT Gulveren 7.54 78 *e*PN Pn 19 41 04.2 +2.3
GULT Gulveren 7.54 78 *e*Pn Pn 19 41 04.2 +2.3
AKAS Kas 7.58 111 *i*P Pn 19 41 08.9 +6.4
CRES Cresnjev 7.66 331 *e*Pn Pn 19 41 02.7 -0.7
PLOR Plostina 7.86 31 ⇑*i*P Pn 19 41 09.6 +3.5
PLOR Plostina 7.86 31 ⇑*i*P Pn 19 41 09.6 +3.5
VRI Vrincioaia 7.90 32 ⇑*i*P Pn 19 41 10.7 +4.0
VRI Vrincioaia 7.90 32 ⇑*i*P Pn 19 41 10.8 +4.0

VRI	Vrincioaia	7.90	32⇑	*i*P	Pn	19 41 10.7	+4.0
CEY	Cerknica	8.01	326	*e*Pn	Pn	19 41 07.9	-0.3
SOKA	Soboth	8.54	332	*e*Pn	Pn	19 41 15.0	-0.5
	comp=N,1.0nm,0.2s						
SOKA	Soboth	8.54	332	Pn	Pn	19 41 15.0	-0.5
	comp=N,1.0nm,0.2s						
OBKA	Obir	8.58	330	*e*Pn	Pn	19 41 15.0	-1.1
	comp=N,0.1nm,0.1s						
OBKA				*i* Sn	Sn	19 42 51.4	-2.1
	comp=N,4.6nm,0.3s						
OBKA	Obir	8.58	330	Pn	Pn	19 41 15.0	-1.1
	comp=N,0.1nm,0.1s						
PSZ	Piszkesteto	8.67	356⇓	*e*P	Pn	19 41 18.7	+1.3
PSZ	Piszkesteto	8.67	356⇓	*e*Pn	Pn	19 41 18.7	+1.3
PSZ	Piszkesteto	8.67	356	*e*Pn	Pn	19 41 18.8	+1.4
	comp=N,12nm,0.9s						
ARSA	Arzberg	8.87	336	*e*Pn	Pn	19 41 20.4	+0.4
	comp=N,1.0nm,0.2s						
ARSA	Arzberg	8.87	336	Pn	Pn	19 41 20.4	+0.4
	comp=N,1.0nm,0.2s						
KECS	Kecovo	9.22	359	*e*Pn	Pn	19 41 26.3	+1.6
KECS	Kecovo	9.22	359	*e*PN	Pn	19 41 26.3	+1.6
VYHS	Vyhne	9.33	352	*e*Pn	Pn	19 41 29.5	+3.1
VYHS	Vyhne	9.33	352	*e*PN	Pn	19 41 29.5	+3.1
ABTA	Abfaltersbach	9.64	324	*e*Pn	Pn	19 41 31.1	+0.5
	comp=N,1.1nm,0.3s						
ABTA				*i* Sn	Sn	19 43 16.3	-3.2
	comp=N,7.2nm,0.8s						
ABTA	Abfaltersbach	9.64	324	Pn	Pn	19 41 31.1	+0.5
	comp=N,1.1nm,0.3s						
KEST	Kesra	9.78	252	P	Pn	19 41 35.0	+2.4
	comp=N,0.1nm,0.3s,baz=230,slow=9.3,SNR=3.9						
MOA	Molln	9.81	333	*e*Pn	Pn	19 41 34.8	+1.9
	comp=N,2.4nm,0.2s						
MOA	Molln	9.81	333	Pn	Pn	19 41 34.8	+1.9
	comp=N,2.4nm,0.2s						
BRTR	Keskin Array B	9.91	83	P	Pn	19 41 36.2	+1.7
	comp=N,0.4nm,0.3s,baz=262,slow=11,SNR=14						
BRTR				LR	LR	19 45 20.2	
	comp=N,71nm,18.4s,baz=281,slow=37						
MOTA	Moosalm	10.73	322	*e*Pn	Pn	19 41 45.5	-0.2
	comp=N,2.5nm,0.5s						
MOTA	Moosalm	10.73	322	Pn	Pn	19 41 45.5	-0.2
	comp=N,2.5nm,0.5s						
GERES	GERESS Array B	10.86	334	P	Pn	19 41 47.0	-0.2
	comp=N,0.2nm,0.3s,baz=162,slow=14,SNR=7.6						
DAVOX	Davos/Dischmat	10.97	317	P	Pn	19 41 49.5	+0.5
	comp=N,0.2nm,0.3s,baz=234,slow=19,SNR=2.4						
DAVOX				S	Sn	19 43 52.0	-0.4
	comp=N,0.2nm,0.3s,baz=343,slow=19,SNR=2.7						
KHC	Kasperske Hory	11.14	335	*e*P	Pn	19 41 53.1	+1.9
KHC				*ex*	x	19 42 10.5	
AKASG	Malin Array Be	12.87	25	P	Pn	19 42 13.8	-0.9
	comp=N,0.3nm,0.3s,baz=216,slow=14,SNR=3.2						
MMAI	Mount Meron Ar	13.32	113	P	Pn	19 42 20.0	-1.0
	comp=N,0.4nm,0.3s,baz=300,slow=13,SNR=3.1						
ESDC	Sonseca Array	19.13	279	P	Pn	19 43 36.1	+0.1
	comp=N,0.1nm,0.3s,baz=76,slow=11,SNR=5.9						
ESDC				LR	LR	19 49 48.5	
	comp=N,120nm,18.6s,baz=260,slow=33						
HFS	Hagfors	21.37	350	P	P	19 43 58.2	-1.0
	comp=N,3.5nm,0.7s,baz=166,slow=13,SNR=5.2						
MDT	Midelt	21.52	260	P	P	19 44 01.9	+0.6
	comp=N,0.9nm,0.6s,baz=70,slow=12,SNR=2.3						
FINES	FINESS Array B	22.44	7	P	P	19 44 10.5	-0.2
	comp=N,5.8nm,0.9s,baz=178,slow=11,SNR=5.8						
NB2	NORSAR Subarra	22.60	348	P	P	19 44 12.4	-0.2
	comp=Z,9.0nm,1.0s,baz=161,slow=11						
NB2	NORSAR Subarra	22.60	348	P	P	19 44 12.4	-0.2
	comp=Z,9.0nm,1.0s,SNR=7.1						
NOA	NORSAR Array B	22.60	348	P	P	19 44 12.4	-0.2
	comp=Z,5.6nm,0.8s,baz=162,slow=11,SNR=7.1						
EKA	Eskdalemuir Ar	22.69	323	P	P	19 44 13.2	-0.4
	comp=Z,11nm,0.8s,baz=121,slow=10,SNR=13						
ARCES	ARCESS Array B	30.43	3	P	P	19 45 22.4	-1.9
	comp=Z,2.8nm,0.8s,baz=191,slow=8.8,SNR=4.5						
TORD	Torodi Ar. Bea	31.03	218	P	P	19 45 29.2	-0.8
	comp=Z,1.3nm,0.6s,baz=32,slow=9.1,SNR=13						
WSAR	Wadi Sarin	35.76	105	LR	LR	20 02 49.4	
	comp=Z,71nm,18.9s,baz=128,slow=40						
MKAR	Makanchi Array	44.53	59	P	P	19 47 22.3	-1.6
	comp=Z,1.9nm,0.6s,baz=277,slow=5.9,SNR=6.6						
ZALV	Zalesovo Beam	44.79	49	P	P	19 47 24.4	-1.4
	comp=Z,3.1nm,0.5s,baz=275,slow=8.1,SNR=5.3						
ENH	Enshi	70.61	66	*e*P	P	19 50 27.0	-0.9
	comp=Z,2.5nm,0.9s						
ENH	Enshi	70.61	66	*e*P	P	19 50 27.0	-0.9
	comp=Z,2.5nm,0.9s						

*ISCJB **19** 19:51:07.9±0.3, 45°.93N±0°.02×122°.45W±0°.03, h11km±3km, Error ellipse: s-maj=3.8km s-min=3.2km az=8.1*
*NEIC **19** 19:51:08.5±0.0, 45°.93N×122°.42W, h12km, MD2.7(SEA), After SEA.*
NEIC Felt [III] at Amboy and Ariel and [II] at La Center. Also felt at Battle Ground, Brush Prairie, Vancouver, Washougal, Woodland and Yacolt.
*PNSN **19** 19:51:08.6, 45°.93N×122°.41W, h11km, MD2.6, Fault plane solution: NP1:φs173.00000°, δ71.00000°, NP2: φs270.00000°, δ70.00000°, Principal axes: T Plg28.0000°, Azm131.0000°; P Plg1.0000°, Azm222.0000°; Fault plane solution: NP1:φs0.00000°, δ0.00000°, NP2: φs0.00000°, δ90.00000°, Principal axes: T Plg45.0000°, Azm270.0000°; P Plg45.0000°, Azm90.0000°;*

ISC 19 19:51:07.8±0.9, 45°.96N±0°.02×122°.45W±0°.02, h17km±7km, n64, σ0°66/72, 16C-24D, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F04A	Amboy	0.03	139	P	Pg	19 51 10.4	-0.4
LVP	Lakeview Peak	0.12	14	⇓P	Pb	19 51 11.9	+0.3
MTMW	Mount Mitchell	0.18	67	P	Pg	19 51 12.1	-0.3
B203	Quarry, Mount	0.23	20	⇓P	Pb	19 51 13.5	0.0
FL2	Flat Top 2	0.25	16	⇑P	Pb	19 51 14.1	+0.2
SHW	Mount Saint He	0.28	32	⇓P	Pb	19 51 14.5	+0.1
JLK	June Lake	0.28	47	⇓P	Pg	19 51 14.1	+0.1
HSR	South Ridge	0.28	40	⇓P	Pb	19 51 14.6	+0.1
SWFL	Southwest Flan	0.29	36	⇓P	Pb	19 51 14.7	+0.1
SEPW	September Lobe	0.30	36	⇓P	Pb	19 51 15.0	+0.1
VALT	Mount Saint He	0.32	35	⇓P	Pb	19 51 15.1	0.0
ESD	East Dome	0.32	40	⇓P	Pb	19 51 15.1	0.0
STD	Studebaker Rid	0.32	29	⇓P	Pb	19 51 15.3	+0.2
ERK	Elk Rock	0.36	12	⇓P	Pb	19 51 15.7	-0.1
SOSW	Source of Smit	0.36	37	⇑P	Pb	19 51 15.6	-0.2
B201	Coldwater, Mou	0.37	20	⇓P	Pb	19 51 15.7	-0.2
F04D	Rainier, OR	0.41	288	P	Pb	19 51 16.9	+0.3
	baz=110						
F04D				S	Sb	19 51 23.8	+1.2
	baz=110						
TDL	Tradedollar La	0.43	22	⇓P	Pb	19 51 16.8	-0.1
B023	Clatskanie	0.47	290	⇑P	Pb	19 51 17.8	+0.3
PGO	Gresham	0.49	180	⇓P	Pg	19 51 17.4	-0.1
GULW	Guler Mountain	0.59	93	⇓P	Pg	19 51 18.9	-0.6
ASR	Mount Adams--S	0.63	72	⇓P	Pg	19 51 19.7	-0.5
F03A	Seaside	0.78	269	P	Pb	19 51 23.0	+0.2
KMOR	Kings Mountain	0.80	247	⇓P	Pg	19 51 22.8	-0.5
TDH	Tom, Dick, Har	0.81	145	⇓P	Pg	19 51 22.4	-1.1
LON	Longmire	0.91	29	*e*Sn	Sg	19 51 37.6	+0.2
LON	Longmire	0.91	29	⇑P	Pb	19 51 25.2	0.0
G03D	McMinnville, O	0.94	218	P	Pb	19 51 24.9	-0.7
	baz=40,SNR=29						
G03D				S	Sb	19 51 38.0	+0.2
	baz=40						
E03A	Lebam	0.97	308	*e*Pg	Pb	19 51 26.2	+0.1
E03A				*e*Sg	Sb	19 51 37.8	-1.0
RCM	Mount Rainier-	1.01	29	⇑P	Pb	19 51 27.1	+0.1
OBSR	Observation Ro	1.04	25	P	Pb	19 51 27.5	0.0
RVC	Mount Rainier-	1.04	18	⇑P	Pb	19 51 27.4	0.0
RCS	Mount Rainier-	1.04	28	⇑P	Pb	19 51 27.4	-0.1
B941	Kapowsin	1.04	9	⇓P	Pb	19 51 27.1	-0.2
G05D	Wamic, OR	1.07	132	P	Pb	19 51 27.2	-0.6
	baz=312,SNR=21						
G05D				S	Sb	19 51 41.1	-0.4
	baz=312						
VBEM	Beaver Butte	1.08	146	⇑P	Pb	19 51 27.6	-0.5
GHW	Garrison Hill	1.09	6	⇓P	Pb	19 51 27.9	-0.3
FMW	Mount Fremont	1.11	28	⇑P	Pn	19 51 29.0	+0.2
GL2	New Goldendale	1.13	89	P	Pn	19 51 29.3	+0.4
D05A	Enumclaw	1.27	14	*e*Pn	Pb	19 51 31.6	+0.3
D05A				*e*Sg	Sb	19 51 46.6	-0.7
GSM	Grass Mountain	1.33	20	⇑P	Pb	19 51 32.4	+0.1
TRW	Toppenish Ridg	1.37	75	P	Pb	19 51 33.6	+0.7
BPO	Bald Peter	1.41	157	P	Pn	19 51 33.1	+0.3
G06A	Carlson Farm,	1.46	119	*e*Sn	Sn	19 51 50.6	-1.5
G06A	Carlson Farm,	1.46	119	P	Pb	19 51 35.1	+0.6
SMW	South Mountain	1.50	336	⇓P	Pb	19 51 35.5	+0.4
EBG	Ellensburg	1.61	53	⇑P	Pb	19 51 37.8	+0.7
GNW	Green Mountain	1.63	351	P	Pb	19 51 36.7	-0.7
NLWA	Neilton Lookou	1.74	326	*e*Pn	Pb	19 51 38.8	-0.4
HDW	Hoodsport	1.74	346	⇓P	Pb	19 51 38.5	-0.8
PRLK	Prince Lake	1.78	169	⇑P	Pb	19 51 39.3	-0.7
LTY	Liberty	1.79	43	*e*Pn	Pb	19 51 40.3	+0.2
LTY				*e*Sn	Sb	19 52 02.9	+0.7
I05D	Terrebonne, OR	1.80	154	Pb	Pn	19 51 39.3	+1.3
	baz=335,SNR=6.6						
I05D				Sb	Sb	19 52 03.1	+0.6
	baz=335						
C04A	Brinnon	1.80	349	⇑P	Pb	19 51 39.4	-0.8
HTW	Haystack Looko	1.91	14	*e*Sn	Sb	19 52 06.5	+0.8
HTW	Haystack Looko	1.91	14	⇓P	Pb	19 51 41.8	-0.4
IRO	Indian Ridge	1.96	176	⇑P	Pn	19 51 41.6	+1.3
HAWA	Hanford	2.07	77	*e*Pn	Pn	19 51 42.9	+1.2
HAWA				*e*Sn	Sb	19 52 10.8	+0.4
BLN	Blyn Mountain	2.08	350	*e*Pn	Pb	19 51 44.2	-0.9
JCW	Jim Creek	2.27	9	⇓P	Pb	19 51 47.3	-0.9
B05A	Bryant	2.32	6	Pb	Pb	19 51 48.2	-1.0
	baz=185,SNR=9.0						
I03D	Drain, OR	2.35	196	Pb	Pn	19 51 47.4	+1.9
	baz=16,SNR=5.5						
RPW	Rockport	2.57	14	⇑P	Pb	19 51 52.8	-0.7
MCW	Mount Constitu	2.74	355	⇑P	Pb	19 51 54.8	-1.5

*IDC **19** 19:51:48.5±2.1, 2°.73N×95°.67E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.8/39, mbtmp4.1/7, ML4.2/1, MS3.6/2, Ms1 3.7/2, ms1mx3.0/40, Error ellipse: s-maj=71.5km s-min=20.2km az=62.0*
*ISCJB **19** 19:51:50.0±0.8, 2°.64N±0°.09×95°.56E±0°.08, h25km, mb4.4/11, MS3.6/2, Error ellipse: s-maj=15.1km s-min=8.5km az=34.7*
*NEIC **19** 19:51:55.4±2.4, 2°.76N×95°.71E, h51km±17km, mb4.6/7, Error ellipse: s-maj=27.3km s-min=6.7km az=57.0*

ISC 19 19:51:52.0±1.2, 2°.7N±0°.1×95°.6E±0°.1, h25km, n38, σ0°54/35, mb4.5/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.86	28	*e*Pn	Pn	19 52 36.9	+0.8
PSI	Prapat	3.34	88	*e*Pn	Pn	19 52 43.6	+0.8
KULM	Kulim	5.67	63	*e*Pn	Pn	19 53 15.3	+0.6
IPM	Ipoh	5.71	72	*e*Pn	Pn	19 53 16.1	+0.7
CMAR	Chiang Mai Arr	16.00	12	Pn	Pn	19 55 34.8	-0.8
	0.4nm,0.3s,baz=200,slow=12,SNR=59						
CHTO	Chiang Mai	16.35	11	*e*Pn	P	19 55 42.2	-0.6
	12nm,1.3s						
H08S2	Diego Garcia H	25.23	246	T	T	20 23 19.4	
	baz=66,slow=76,SNR=246						
H08S3	Diego Garcia H	25.23	246	T	T	20 23 23.9	
	baz=66,slow=76,SNR=467						
H08S1	Diego Carcia H	25.24	246	T	T	20 23 25.1	
	baz=66,slow=76,SNR=283						
ODAN	Odare	25.27	343	*e*P	P	19 57 17.5	+0.7
	29nm,0.9s						
RAMN	Ramite	25.60	341	*e*P	P	19 57 20.8	+1.0
	15nm,0.7s						
TAPN	Taplejung	25.64	344	*e*P	P	19 57 21.2	+1.0
	24nm,0.8s						
JIRN	Jiri	26.39	341	*e*P	P	19 57 27.6	+0.5
PKIN	Phulchoki	26.59	339	*e*P	P	19 57 28.8	+0.1
KKN	Kakani	26.82	339	*e*P	P	19 57 31.0	+0.2
	12nm,0.8s						
LSA	Lhasa	27.18	352	*e*P	P	19 57 34.8	+0.6
	5.8nm,0.6s						
GKN	Gorkha	27.25	338	*e*P	P	19 57 35.0	+0.5
KOLN	Koldanda	27.43	336	*e*P	P	19 57 37.0	+0.7
	14nm,0.7s						
TGY	Tagaytay City	27.48	64	LR	LR	20 08 08.8	
	comp=Z,50nm,18.4s,baz=22,slow=36						
WRA	Warramunga Arr	44.20	122	P	P	19 59 59.1	-0.3
	1.2nm,0.7s,baz=300,slow=9.5,SNR=7.6						
WR1	Warramunga Arr	44.20	122	*e*P	P	19 59 59.1	-0.3
	30nm,2.0s						
MK32	Makanchi Array	45.42	347	*e*P	P	20 00 09.2	+0.4
MKAR	Makanchi Array	45.42	347	P	P	20 00 09.2	+0.4
	6.9nm,0.7s,baz=164,slow=7.7,SNR=54						
MKAR	Makanchi Array	45.42	347	*e*P	P	20 00 08.9	+0.2
	41nm,0.6s						
MAKZ	Makanchi	45.50	347	*e*P	P	20 00 09.4	0.0
	6.2nm,0.6s						
KSAR	Wonju Array Be	45.54	37	P	P	20 00 09.5	-0.4
KSRS	Korea Array	45.57	37	P	P	20 00 09.5	-0.6
	1.2nm,0.6s,baz=219,slow=8.5,SNR=5.1						
ASAR	Alice Springs	45.58	127	P	P	20 00 10.4	0.0
	0.5nm,0.5s,baz=300,slow=7.7,SNR=14						
SONA0	Songino Array	45.92	10	*e*P	P	20 00 12.5	-0.3
SONA0				*e*PcP	PcP	20 01 49.3	-0.3
SONM	Songino Array	45.92	10	P	P	20 00 12.5	-0.3
	1.7nm,0.8s,baz=190,slow=9.3,SNR=10						
SONM				PcP	PcP	20 01 49.3	-0.3
	0.8nm,0.6s,baz=190,slow=4.4,SNR=4.4						
SONA1	Songino Array	45.93	10	*e*P	P	20 00 12.5	-0.5
KURK	Kurchatov	49.95	346	*e*P	P	20 00 44.1	+0.3
	3.6nm,0.8s						
ZAA0	Zalesovo Array	51.84	352	*e*P	P	20 00 57.9	-0.1
ZALV	Zalesovo Beam	51.84	352	P	P	20 00 58.1	+0.1
	7.3nm,0.7s,baz=185,slow=7.1,SNR=33						
ZALV	Zalesovo Beam	51.84	352	*e*P	P	20 00 57.5	-0.4
ZAA1	Zalesovo Array	51.85	352	*e*P	P	20 00 58.1	0.0
ABKAR	Akbulak array	55.44	332	*e*P	P	20 01 24.7	+0.2
	19nm,0.9s						
ARCES	ARCESS Array B	80.59	340	LR	LR	20 42 34.8	
	comp=Z,77nm,18.5s,baz=242,slow=38						

*JMA **19** 19:57:25.5±0.1, 24°.29N×121°.98E, h62km±2km, M2.3*
*ISCJB **19** 19:57:26.6±0.4, 24°.30N±0°.03×122°.06E±0°.02, h51km±7km, Error ellipse: s-maj=5.5km s-min=3.0km az=152.3*
*TAP **19** 19:57:26.2, 24°.33N×121°.98E, h60km, MLZ.7, C*

ISC 19 19:57:27.0±1.3, 24°.31N±0°.04×122°.05E±0°.03, h50km±11km, n33, σ0°83/61, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.30	293	P	Pn	19 57 36.3	+0.2
	baz=299						
ENA				*e*S	Sn	19 57 43.4	+0.7
	baz=299						
TWC	Suao	0.35	329	P	Pn	19 57 36.8	+0.2
	baz=338						
TWC				S	Sn	19 57 44.1	+0.7
	baz=338						
TWD	Chiawan	0.47	241	P	Pn	19 57 37.8	-0.1
	baz=227						
TWD				*i* S	Sn	19 57 46.3	+0.6
	baz=227						
TWE	Neicheng	0.54	320	⇓*i*P	Pn	19 57 38.7	0.0
	baz=325						
TWE				S	Sn	19 57 47.2	+0.2
	baz=325						
ENTT	Nioudou	0.55	307	P	Pn	19 57 38.6	-0.2
	baz=303						
ENTT				S	Sn	19 57 47.6	+0.3
	baz=303						
NNS	Nan Shan	0.63	282	P	Pn	19 57 39.5	-0.5
	baz=281						
NNS				*e*S	Sn	19 57 48.5	-0.8
	baz=281						
TWB1	Santiao Chiao	0.70	356	*e*P	Pn	19 57 40.0	-0.7
	baz=10.0						
TWB1				S	Sn	19 57 49.8	-0.9
	baz=10.0						
NSK	Sanguang	0.72	300	P	Pn	19 57 40.7	-0.4
	baz=293						
NSK				*e*S	Sn	19 57 50.5	-0.9
	baz=293						
WHF	Hehuan Shan	0.73	257	*e*P	Pn	19 57 41.2	-0.3
	baz=253						
WHF				S	Sn	19 57 51.8	-0.3
	baz=253						
ESL	Shilin	0.75	229	*e*P	Pn	19 57 40.5	-0.9
	baz=233						
ESL				*e*S	Sn	19 57 51.0	-0.8
	baz=233						
NWF	Wu-fen Shan	0.80	342	*e*P	Pn	19 57 41.7	-0.4
	baz=346						
NWF				*e*S	Sn	19 57 52.0	-1.0
	baz=346						
TWT	Tachien	0.80	266	P	Pn	19 57 42.3	+0.1
	baz=258						
TWT				S	Sn	19 57 53.2	0.0
	baz=258						
JYNG	Yonagunijimaku	0.83	80	P	Pn	19 57 42.6	+0.1
JYNG				S	Sn	19 57 54.8	+1.0
YOJ	Yonaguni jima	0.89	80	P	Pn	19 57 43.3	0.0
NSTT	Nanjuang	1.00	289	*e*P	Pn	19 57 44.5	-0.3
	baz=288						
NSTT				S	Sn	19 57 57.9	0.0
	baz=288						
EHY	Hungye	1.04	220	*e*P	Pn	19 57 44.3	-1.0
	baz=224						
EHY				*e*S	Sn	19 57 57.2	-1.5
	baz=224						
SMLT	Sun Moon Lake	1.13	248	*e*P	Pn	19 57 46.7	+0.1
	baz=240						
SMLT				*e*S	Sn	19 58 01.7	+0.6
	baz=240						
TYC	Yuchr	1.16	250	*e*P	Pn	19 57 47.5	+0.6
	baz=242						
TYC				*e*S	Sn	19 58 02.4	+0.8
	baz=242						
TWQ1	Liyutan	1.16	272	*e*P	Pn	19 57 46.7	-0.2
	baz=270						
TWF1	Yuli	1.17	216	*e*P	Pn	19 57 46.0	-1.1
	baz=221						
TWF1				*e*S	Sn	19 58 00.4	-1.6
	baz=221						
YUS	Yu-Shan	1.29	231	*e*P	Pn	19 57 49.0	-0.2
	baz=222						
YUS				S	Sn	19 58 04.7	-0.9
	baz=222						
CHKT	Chengkung	1.36	208	*e*P	Pn	19 57 48.8	-0.7
	baz=195						
CHKT				*e*S	Sn	19 58 04.8	-1.6
	baz=195						
ALS	Alishan	1.39	235	*e*P	Pn	19 57 50.8	+0.6
	baz=225						
ALS				*e*S	Sn	19 58 07.5	-0.1
	baz=225						
CHN5	Tsauling	1.44	241	*e*P	Pn	19 57 51.7	+0.9
	baz=229						
CHN5				*e*S	Sn	19 58 09.8	+1.2
	baz=229						
ELDTW	Lidau	1.46	220	*e*P	Pn	19 57 50.3	-0.8
	baz=222						
ELDTW				*e*S	Sn	19 58 08.8	-0.3
	baz=222						
IRIF	Iriomote-Funau	1.54	89	P	Pn	19 57 51.6	-0.4
IRIF				S	Sn	19 58 10.7	-0.1
CHN4	Tsaushan	1.64	235	*e*P	Pn	19 57 55.0	+1.6
	baz=232						
CHN4				*e*S	Sn	19 58 14.9	+1.5
	baz=232						
WTP	Ta-pu	1.69	231	*e*P	Pn	19 57 55.3	+1.2
	baz=228						
WTP				*e*S	Sn	19 58 15.9	+1.4
	baz=228						
CHN1	Nanshi	1.79	231	*e*P	Pn	19 57 57.6	+2.2
	baz=228						
JKRS	Kuro-shima	1.79	92	P	Pn	19 57 55.9	+0.4
JKRS				*e*S	Sn	19 58 18.1	+1.0
JIJ	Ishigaki jima	1.91	88	P	Pn	19 57 56.8	-0.4
JIJ				S	Sn	19 58 19.9	-0.2
JISG	Ishigakijimahi	2.08	82	P	Pn	19 57 59.0	-0.5
JTJ	Tarama	2.44	82	P	Pn	19 58 04.6	+0.2

MEX 19 20:00:00.2±0.4, 15°.99N×97°.75W, h12km±17km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.55	318	*e*P	Pg	20 00 09.7	-1.2
PNIG				*e*S	Sg	20 00 17.2	-1.0
VHO	Vista Hermosa	1.45	42	*e*P	Pn	20 00 22.7	-3.7
VHO				*e*S	Sn	20 00 40.3	-5.2
HUIG	Huatulco	1.59	98	*e*P	Pn	20 00 24.9	-3.2
TLIG	Tlapa	1.75	333	*e*P	Pn	20 00 27.7	-2.8
TLIG				*i* S	Sn	20 00 49.1	-3.7

*IPEC **19** 20:05:46.4±0.1, 48°.52N×17°.27E, h6km±1km, ML1.6/4, Error ellipse: s-maj=0.9km s-min=0.7km az=178.0*
*CSEM **19** 20:05:46.6±0.1, 48°.57N×17°.27E, h2km, ML2.5/11, Error ellipse: s-maj=2.5km s-min=2.3km az=27.0*
*VIE **19** 20:05:48.2±0.6, 48°.59N×17°.22E, h6km±9km, mb1.8/4, ML2.0/5, Error ellipse: s-maj=6.1km s-min=3.3km az=112.0*
*PRU **19** 20:05:48.8, 48°.61N×17°.24E, h5km, Slovakia*

ISC 19 20:05:47.0±1.0, 48°.57N±0°.02×17°.25E±0°.02, h4km±10km, n37, σ0°84/53, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMOL	Smolenice	0.13	114	*e*Pg	Pg	20 05 48.9	-0.6
SMOL				*e*Sg	Sg	20 05 51.3	+0.1
SMOL	Smolenice	0.13	114	*e*PG	Pg	20 05 48.9	-0.6
SMOL				*e*SG	Sg	20 05 51.3	+0.1
JAVC	Velka Javorina	0.40	43	*e*Pg	Pg	20 05 54.9	+0.2
	baz=218						
JAVC				*e*Sg	Sg	20 06 00.5	+0.5
	36nm,0.4s,baz=218						
KRUC	Moravsky	0.75	311	*e*Pg	Pg	20 06 01.7	+0.3
	baz=133						
KRUC				*e*Sg	Sg	20 06 11.2	0.0
	12nm,0.4s,baz=133						
VRAC	Vranov	0.86	330	*e*Pg	Pg	20 06 04.0	+0.5
	baz=150						
VRAC				*e*Sg	Sg	20 06 15.2	+0.6
	12nm,0.3s,baz=150						
SOP	Sopron	1.00	208	*e*Pn	Pb	20 06 07.1	+0.3
SOP				*e*Sn	Sn	20 06 22.0	-0.3
SOP	Sopron	1.00	208	*ex*	Pb	20 06 07.1	+0.3
SOP				*ex*	Sn	20 06 22.0	-0.3
VYHS	Vyhne	1.05	93	*e*PG	Pg	20 06 06.7	-0.5

KHC	**Kasperske Hory**	**2.49 284**	*e*PG	**Pg**	**20 06 34.1**	**-0.6**
KHC			*e*SG	**Sg**	**20 07 06.2**	**-0.8**
comp=Z,2.9nm,0.4s						
KHC	**Kasperske Hory**	**2.49 284**	Pg	**Pg**	**20 06 34.1**	**-0.6**
PVCC	**Panska Ves**	**2.63 319**	*e*SG	**Sg**	**20 07 12.2**	**+0.8**
comp=Z,6.2nm,0.3s						
PVCC	**Panska Ves**	**2.63 319**	Sg	**Sg**	**20 07 12.2**	**+0.8**
6.2nm,0.3s						
NKC	**Novy Kostel**	**3.55 300**	*e*SG	**Sg**	**20 07 41.2**	**+0.1**

ISCJB ***19*** *20:17:22.4±0.8, 62°.69S±0°.07×164°.4E±0°.5, h10km, mb4.3/6, MS3.9/4, Error ellipse: s-maj=33.6km s-min=8.9km az=169.7*
IDC ***19*** *20:17:23.1±2.2, 62°.77S×164°.04E, h0km, mb4.2/3, mb1 4.5/5, mb1mx4.2/17, mbtmp4.3/5, ML4.3/2, MS4.0/6, Ms1 4.0/6, ms1mx3.7/18, Error ellipse: s-maj=60.5km s-min=36.3km az=86.0*
NEIC ***19*** *20:17:24.5±0.6, 62°.72S×164°.21E, h10km, mb4.8/4, Error ellipse: s-maj=25.4km s-min=7.4km az=80.0*
ISC 19 20:17:24.4±1.0, 62°.73S±0°.10×164°.2E±0°.3, h10km, n24, σ0s57/17, mb4.4/6, MS3.9/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.88 182**		Pn	**Pn**	**20 20 54.2**	**-0.3**
0.8nm,0.3s,baz=356,slow=15,SNR=33							
VNDA				LR	LR	20 25 40.9	
comp=Z,803nm,20.8s,baz=14,slow=34							
VNDA	**Vanda**	**14.88 182**		*e*Pn	**Pn**	**20 20 54.5**	**0.0**
SBA	**Scott Base**	**15.22 178**		*e*Pn	**Pn**	**20 20 59.5**	**+0.6**
159nm,1.8s							
RPZ	**Rata Peaks**	**19.46 15**		P	**P**	**20 21 51.0**	**0.0**
1.8nm,0.3s,baz=248,slow=4.9,SNR=9.4							
RPZ				LR	LR	20 28 14.1	
comp=Z,483nm,20.6s,baz=215,slow=33							
RPZ	**Rata Peaks**	**19.46 15**		*e*P	**P**	**20 21 51.0**	**0.0**
URZ	**Urewera**	**25.73 24**		LR	LR	20 31 06.3	
comp=Z,438nm,21.3s,baz=188,slow=32							
QSPA	**South Pole Qui**	**27.36 180**		*e*P	**P**	**20 23 09.7**	**+0.3**
22nm,1.4s							
STKA	**Stephens Creek**	**34.09 324**		P	**P**	**20 24 08.8**	**0.0**
3.4nm,0.8s,baz=178,slow=9.3,SNR=6.3							
MAW	**Mawson**	**38.27 217**		LR	LR	20 40 50.6	
comp=Z,331nm,18.6s,baz=72,slow=37							
ASAR	**Alice Springs**	**44.04 318**		P	**P**	**20 25 32.6**	**+0.5**
5.0nm,0.8s,baz=161,slow=8.0,SNR=51							
AS31	**Alice Springs**	**44.04 318**		*e*P	**P**	**20 25 32.6**	**+0.5**
2.2nm,0.8s							
SNAA	**Sanae**	**45.57 186**		P	**P**	**20 25 43.4**	**-0.5**
VNA3	**Neumayer Olymp**	**46.23 183**		P	**P**	**20 25 48.2**	**-0.8**
VNA2	**Neumayer--Watz**	**46.49 184**		P	**P**	**20 25 50.3**	**-0.7**
baz=176,slow=6.5							
VNA1	**Neumayer--Stat**	**46.79 183**		P	**P**	**20 25 54.5**	**+1.2**
WR1	**Warramunga Arr**	**47.42 320**		*e*P	**P**	**20 25 58.3**	**-0.5**
22nm,1.6s							
WRA	**Warramunga Arr**	**47.42 320**		P	**P**	**20 25 58.3**	**-0.5**
1.0nm,0.9s,baz=163,slow=6.9,SNR=5.7							
PMG	**Port Moresby**	**54.65 339**		LR	LR	20 47 05.2	
comp=Z,75nm,18.6s,baz=102,slow=33							
H08S2	**Diego Garcia H**	**84.06 265**		T	T	22 03 47.8	
baz=154							
H08S1	**Diego Carcia H**	**84.07 265**		T	T	22 03 48.5	
baz=154							
H08S3	**Diego Garcia H**	**84.08 265**		T	T	22 03 49.9	
baz=154							
CMAR	**Chiang Mai Arr**	**95.54 300**		LR	LR	21 11 57.8	
comp=Z,34nm,20.6s,baz=185,slow=34							
KURBB	**Kurchatov Arra**	**131.47 302**		PKP	**PKPdf**	**20 36 35.9**	**+0.2**
0.1nm,0.3s,baz=131,slow=2.8,SNR=2.7							
KURK	**Kurchatov**	**131.51 302**		*e*PKPdf	**PKPdf**	**20 36 35.9**	**+0.1**

IDC ***19*** *20:45:08.4±0.6, 45°.78S×77°.61W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.5/27, mbtmp4.5/17, ML4.3/2, MS4.5/10, Ms1 4.5/10, ms1mx4.2/19, Error ellipse: s-maj=25.7km s-min=13.3km az=90.0*
NEIC ***19*** *20:45:10.4±4.5, 45°.75S×77°.46W, h11km±27km, mb5.0/29, Error ellipse: s-maj=15.6km s-min=6.7km az=86.0*
GCMT ***19*** *20:45:10.4±0.3, 45°.74S×77°.80W, h26km±1km, MW5.2/98, Moment Tensor Solution. s31,c36; s98,c129; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.22±.26; $M_{\theta\theta}$5.32±.25; $M_{\phi\phi}$-4.10±.23; $M_{r\theta}$-1.09±.33; $M_{\theta\phi}$-3.91±.15; $M_{\phi r}$-3.19±.39; Best double couple: $M_0$7.04700×10^16 NP1:ϕ_s331.00000°, δ70.00000°, λ-22.00000°. NP2: ϕ_s69.00000°, δ70.00000°, λ-159.00000°. Principal axes: T 6.7320, Plg0.0000°, Azm20.0000°; N 0.6290, Plg61.0000°, Azm111.0000°; P -7.3610, Plg29.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***19*** *20:45:11.9, 45°.70S×77°.30W, h15km, mB5.2/8, Ms5.2/9, Ms7 5.1/9*
ISCJB ***19*** *20:45:12.3±0.3, 45°.77S±0°.04×77°.20W±0°.10, h33km, mb4.8/37, MS4.5/8, Error ellipse: s-maj=10.0km s-min=6.3km az=171.1*
ISC 19 20:45:14.6±0.4, 45°.68S±0°.06×77°.3W±0°.1, h35km, n88, σ1s75/94, mb4.9/37, MS4.5/8, 2D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**3.64 117**		*e*Pn	**Pn**	**20 46 06.7**	**-1.7**
PLCA	**Paso Flores**	**7.00 47**		Pn	**Pn**	**20 46 54.2**	**-0.5**
0.4nm,0.3s,baz=254,slow=13,SNR=9.9							
PLCA				LR	LR	20 49 34.8	
comp=Z,6μm,18.4s,baz=235,slow=37							
PLCA	**Paso Flores**	**7.00 47**		*e*Pn	**Pn**	**20 46 53.9**	**-0.8**
USHA	**Ushuaia**	**10.78 151**		Pn	**Pn**	**20 47 43.6**	**-2.7**
19nm,0.3s,baz=298,slow=10,SNR=7.6							
USHA				LR	LR	20 50 54.4	
comp=Z,4μm,21.3s,baz=293,slow=32							
GO05	**HualaaØ**	**11.43 23**		*e*Pn	**Pn**	**20 47 53.2**	**-2.1**
ROC1	**El Roble**	**13.59 23**		*e*Pn	**Pn**	**20 48 23.6**	**-1.5**
TRQA	**Tornquist**	**13.74 62**		*e*Pn	**Pn**	**20 48 27.5**	**+0.7**
LCO	**Las Campanas**	**17.45 20**		*e*Pn	**P**	**20 49 15.2**	**-1.1**
96nm,1.6s							
PMSA	**Palmer Station**	**20.50 164**		P	**P**	**20 49 47.5**	**-1.7**
28nm,1.1s,baz=158,slow=19,SNR=1.9							
PMSA				LR	LR	20 55 46.7	
comp=Z,596nm,21.5s,baz=323,slow=31							
LVC	**Limon Verde**	**24.02 19**		P	**P**	**20 50 26.6**	**+0.1**
36nm,0.9s,baz=192,slow=10,SNR=11							
CPUP	**Villa Florida**	**25.08 46**		P	**P**	**20 50 36.4**	**+0.6**
20nm,0.9s,baz=222,slow=8.8,SNR=20							
PB01	**IPOC Station P**	**25.41 17**		*e*P	**P**	**20 50 39.2**	**+0.3**
135nm,1.9s							
PB11	**IPOC Station P**	**26.62 16**		*e*P	**P**	**20 50 50.2**	**+0.3**
20nm,0.9s							
LPAZ	**La Paz**	**30.30 18**		P	**P**	**20 51 22.5**	**-0.8**
1.7nm,0.9s,baz=168,slow=8.9,SNR=5.6							
ATAH	**Atahualpa**	**36.41 358**		P	**P**	**20 52 33.5**	**+0.4**
5.2nm,1.0s,baz=150,slow=1.8,SNR=4.8							
SAML	**Samuel**	**38.58 23**		*e*P	**P**	**20 52 33.7**	**-0.4**
15nm,1.0s							
BDFB	**Brasilia**	**38.75 49**		P	**P**	**20 52 35.8**	**+0.1**
3.7nm,0.9s,baz=18,slow=14,SNR=5.3							
BDFB	**Brasilia**	**38.75 49**		*e*P	**P**	**20 52 35.7**	**+0.1**
17nm,1.3s							
VNA3	**Neumayer Olymp**	**40.46 153**		P	**P**	**20 52 48.1**	**-1.1**
VNA1	**Neumayer--Stat**	**40.91 152**		P	**P**	**20 52 52.9**	**0.0**
VNA2	**Neumayer--Watz**	**41.20 152**		P	**P**	**20 52 54.5**	**-0.7**
baz=270,slow=8.4							
SNAA	**Sanae**	**42.63 153**		P	**P**	**20 53 05.9**	**-1.2**
SNAA	**Sanae**	**42.63 153**		P	**P**	**20 53 05.7**	**-1.4**
18nm,1.0s,baz=268,slow=6.8,SNR=50							
SNAA	**Sanae**	**42.63 153**		*e*P	**P**	**20 53 05.7**	**-1.4**
49nm,1.4s							
QSPA	**South Pole Qui**	**44.57 180**		*e*P	**P**	**20 53 21.1**	**-1.7**
43nm,1.8s							
OTAV	**Otavalo**	**45.73 358**		*e*P	**P**	**20 53 32.8**	**-0.2**
18nm,1.4s							
PTGA	**Pitinga**	**47.31 24**		*e*P	**P**	**20 53 43.8**	**-0.9**
15nm,0.9s							
ROSC	**El Rosal**	**50.37 4**		P	**P**	**20 54 09.3**	**+0.7**
5.1nm,0.4s,baz=90,slow=5.1,SNR=3.0							
ROSC				LR	LR	21 13 19.0	
comp=Z,512nm,19.6s,baz=224,slow=34							
RUSC	**La Rusia**	**51.48 5**		*e*P	**P**	**20 54 15.1**	**-2.0**
23nm,1.7s							
HELC	**Santa Helena**	**51.66 2**		*e*P	**P**	**20 54 17.0**	**-1.4**
40nm,1.1s							
VNDA	**Vanda**	**51.84 194**		P	**P**	**20 54 17.1**	**-1.4**
2.1nm,0.9s,baz=137,slow=7.9,SNR=8.5							
VNDA	**Vanda**	**51.84 194**		*e*P	**P**	**20 54 18.6**	**0.0**
7.5nm,1.2s							
SYO	**Syowa Base**	**56.58 157**	‖	*e*P	**P**	**20 54 50.0**	**-3.1**
SYO	**Syowa Base**	**56.58 157**	‖	*e*pP	**P**	**20 54 53.0**	**-0.1**
MAW	**Mawson**	**63.11 164**		P	**P**	**20 55 36.8**	**-1.2**
5.2nm,0.9s,baz=248,slow=6.6,SNR=10.0							
MAW				LR	LR	21 21 44.0	
comp=Z,588nm,20.9s,baz=226,slow=35							
RAR	**Rarotonga**	**69.96 260**		LR	LR	21 18 20.0	
comp=Z,172nm,18.6s,baz=122,slow=28							
RPZ	**Rata Peaks**	**72.31 225**		LR	LR	21 19 46.6	
comp=Z,672nm,21.7s,baz=166,slow=29							
URZ	**Urewera**	**73.03 232**		LR	LR	21 23 20.9	
comp=Z,236nm,19.3s,baz=172,slow=32							
LTX	**Lajitas**	**78.40 337**		*e*P	**P**	**20 57 10.9**	**-0.5**
TXAR	**Lajitas Array**	**78.40 337**		P	**P**	**20 57 10.9**	**-0.5**
2.4nm,1.0s,baz=141,slow=8.1,SNR=12							
TXAR				LR	LR	21 26 11.3	
comp=Z,119nm,20.1s,baz=0.0,slow=31							
JCT	**Junction City**	**78.50 340**		*e*P	**P**	**20 57 11.6**	**-0.3**
17nm,0.7s							
SWET	**Sewanee**	**80.90 353**		*e*P	**P**	**20 57 24.1**	**-0.7**
32nm,1.2s							
MNTX	**Cornudas Mount**	**81.11 336**		*e*P	**P**	**20 57 24.6**	**-1.4**
4.0nm,0.8s							
BLA	**Blacksburg**	**82.56 358**		*e*P	P	20 57 37.3	+3.8
76nm,0.9s							
DBIC	**Dimbokro**	**82.69 73**		P	**P**	**20 57 35.0**	**+0.3**
3.9nm,0.7s,baz=218,slow=3.3,SNR=5.3							
DBIC	**Dimbokro**	**82.69 73**		*e*P	**P**	**20 57 35.0**	**+0.3**
31nm,1.7s							
AMTX	**Amarillo**	**83.16 340**		*e*P	**P**	**20 57 35.6**	**-1.1**
13nm,0.6s							
CCM	**Cathedral Cave**	**84.29 349**		*e*P	**P**	**20 57 41.5**	**-0.8**
15nm,0.9s							
ANMO	**Albuquerque**	**84.46 336**		P	**P**	**20 57 43.1**	**-0.4**
3.1nm,0.9s,baz=117,slow=6.8,SNR=3.4							
ANMO	**Albuquerque**	**84.46 336**		*e*P	**P**	**20 57 43.7**	**+0.2**
6.1nm,1.0s							
X16A	**Lo Mia Camp, P**	**85.48 332**		*e*P	**P**	**20 57 47.9**	**-0.7**
8.6nm,1.3s							
T25A	**Trinidad**	**85.98 339**		*e*P	**P**	**20 57 51.4**	**+0.3**
15nm,1.0s							
WUAZ	**Wupatki**	**86.47 333**		*e*P	**P**	**20 57 53.5**	**0.0**
8.7nm,1.1s							
DGR	**Domenigoni Val**	**86.74 328**		*e*P	**P**	**20 57 54.1**	**-0.6**
U15A	**North Rim**	**87.60 332**		*e*P	**P**	**20 57 59.9**	**+0.8**
6.9nm,1.1s							
CHFC	**Chilao Flat St**	**87.73 327**		*e*P	**P**	**20 58 02.0**	**+2.4**
PV05	**Paradox Valley**	**88.14 335**		*e*P	**P**	**20 58 00.8**	**-0.7**
KNB	**Kanab**	**88.31 332**		*e*P	**P**	**20 58 03.2**	**+0.9**
19nm,1.1s							
SHPR	**Sheep Range**	**88.63 330**		*e*P	**P**	**20 58 04.8**	**+1.0**
15nm,1.5s							
SZCU	**Shurtz Canyon**	**88.92 332**		*e*P	**P**	**20 58 06.3**	**+1.0**
19nm,1.1s							
CCUT	**Cedar City**	**88.97 332**		*e*P	**P**	**20 58 06.7**	**+1.2**
8.4nm,1.1s							
MTPU	**Mount Pierson**	**89.04 333**		*e*P	**P**	**20 58 06.2**	**+0.3**
MSU	**Marysvale**	**89.47 333**		*e*P	**P**	**20 58 08.6**	**+0.8**
R11A	**Troy Canyon, C**	**90.44 331**		*e*P	**P**	**20 58 13.7**	**+1.4**
7.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**91.80 73**		P	**P**	**20 58 21.1**	**+2.2**
0.5nm,0.9s,baz=212,slow=5.1,SNR=2.4							
TOA1	**Torodi Ar. Sit**	**91.80 73**		*e*P	**P**	**20 58 21.1**	**+2.2**
PD31	**Pinedale Array**	**92.62 337**		*e*P	**P**	**20 58 21.4**	**-0.9**
PDAR	**Pinedale Array**	**92.62 337**		P	**P**	**20 58 21.4**	**-0.9**
0.4nm,0.7s,baz=126,slow=4.6,SNR=3.2							
STKA	**Stephens Creek**	**95.11 212**		LR	LR	21 33 36.5	
comp=Z,221nm,19.1s,baz=178,slow=31							
ILAR	**Eielson Array**	**122.63 332**		PKP	**PKPdf**	**21 04 04.2**	**-1.0**
0.4nm,0.8s,baz=164,slow=3.7,SNR=2.6							
ILB	**Eielson Array**	**122.63 332**		*e*PKPdf	**PKPdf**	**21 04 05.1**	**-0.1**
GEC2	**GERESS Array S**	**122.94 52**		*e*PKPdf	**PKPdf**	**21 04 05.8**	**-0.6**
GERES	**GERESS Array B**	**122.94 52**		PKP	**PKPdf**	**21 04 05.8**	**-0.6**
0.6nm,0.6s,baz=243,slow=0.2,SNR=7.0							
VYHS	**Vyhne**	**125.64 54**		*e*PKP	**PKPdf**	**21 04 11.1**	**-0.4**
HYB	**Hyderabad**	**145.40 137**		*i* PKP	**PKPab**	**21 04 49.0**	**-0.1**
GEYT	**Alibeck**	**146.27 87**		PKPbc	**PKPab**	**21 04 51.0**	**-0.9**
6.5nm,1.0s,baz=270,slow=4.4,SNR=9.9							
CMAR	**Chiang Mai Arr**	**152.68 172**		PKPbc	**PKPbc**	**21 05 05.5**	**-2.2**
2.3nm,1.0s,baz=220,slow=3.3,SNR=13							
KSH	**Kashi**	**159.47 98**		PKP	**PKPdf**	**21 05 10.4**	**+1.3**
KSH				PKS	**PKSdf**	**21 08 44.5**	**+1.9**
KSH				PP	**PP**	**21 09 30.8**	**+1.6**
KSH				SKS	**SKSdf**	**21 12 14.1**	**+2.4**
KSH				SKKS	**SKKSac**	**21 16 19.4**	**+4.6**
KSH				AMB	AMB		
comp=Z,140nm,5.6s							
KSH				LR	LR		
comp=N,140nm,8.7s							
KSH				LR	LR		
comp=E,150nm,5.9s							
KSH				LR	LR		
comp=Z,100nm,7.4s							
KMI	**Kunming**	**159.49 180**		PKP	**PKPdf**	**21 05 09.0**	**-0.7**
GYA	**Guiyang**	**160.55 191**		*e*PKP	**PKPdf**	**21 05 10.3**	**-0.4**
GYA				PKPab	**PKPab**	**21 05 54.8**	**+2.7**
GYA				PKS	**PKSdf**	**21 08 42.0**	**-2.3**
GYA				PP	**PP**	**21 09 37.6**	**+3.8**
GYA				AMB	AMB		
comp=Z,120nm,8.3s							
NJ2	**Nanjing**	**161.49 228**		*e*PKP	**PKPdf**	**21 05 13.1**	**+1.8**
ZAA1	**Zalesovo Array**	**165.85 48**		*e*PKPdf	**PKPdf**	**21 05 12.4**	**-2.3**
ZALV	**Zalesovo Beam**	**165.85 48**		PKP	**PKPdf**	**21 05 12.4**	**-2.3**
1.4nm,0.8s,baz=253,slow=1.5,SNR=7.8							
BJI	**Beijing**	**168.59 245**		PKP	PKPdf	21 05 09.0	-8.1
WMQ	**Urumqi**	**169.20 95**		PKP	**PKPdf**	**21 05 17.3**	**-0.2**
WMQ				LR	LR		
comp=N,100nm,17.5s							
WMQ				LR	LR		
comp=E,140nm,18.9s							
WMQ				LR	LR		
comp=Z,74nm,19.5s							
LZH	**Lanzhou**	**170.37 186**		*e*PKP	**PKPdf**	**21 05 20.3**	**+1.7**
LZH				pPKP	pPKPdf	21 05 28.1	-2.0
LZH				LR	LR		
comp=N,150nm,18.0s							
LZH				LR	LR		
comp=E,160nm,16.8s							
LZH				LR	LR		
comp=Z,200nm,20.1s							
HHC	**Hu-ho-hao-te**	**171.91 237**		*e*PKP	**PKPdf**	**21 05 21.4**	**+2.2**
GTA	**Gaotai**	**173.39 161**		*e*PKP	**PKPdf**	**21 05 20.4**	**+0.5**
GTA				PKPab	**pPKPab**	**21 06 53.3**	**-6.3**
GTA				PP	**PP**	**21 10 44.1**	**+4.2**
GTA				SKS	**SKSdf**	**21 12 22.6**	**+2.4**
GTA				SKKS	**SKKSac**	**21 17 28.8**	**+4.9**
GTA				SS	**SS**	**21 31 56.3**	**+3.7**
GTA				AMB	AMB		
comp=Z,77nm,5.7s							
GTA				LR	LR		
comp=N,100nm,17.1s							
GTA				LR	LR		
comp=E,120nm,18.5s							
GTA				LR	LR		
comp=Z,120nm,20.4s							

IDC 19 21:09:09.1±9.2, 62°.95S×162°.36E, h0km, mb3.9/2, mb1 4.3/3, mb1mx4.0/22, mbtmp4.1/3, ML4.5/1, Error ellipse: s-maj=386.0km s-min=42.5km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.65 180**		Pn	Pn	21 12 37.6	+0.5
1.9nm,0.3s,baz=14,slow=17,SNR=101							
ASAR	**Alice Springs**	**43.65 321**		P	P	21 17 15.8	+0.6
2.7nm,0.8s,baz=161,slow=8.0,SNR=24							
WRA	**Warramunga Arr**	**47.06 323**		P	P	21 17 41.0	-1.2
0.7nm,0.9s,baz=157,slow=6.6,SNR=4.4							

JMA 19 21:11:45.8, 36°.99N×140°.60E, h8km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.19 55**		P	Pg	21 11 50.1	+0.3
ONAJ				S	Sg	21 11 53.1	+0.6
JHO	**Hitachi**	**0.38 184**		P	Pg	21 11 53.1	-0.1
JHO				S	Sg	21 11 58.6	+0.4
JFK	**Kawauchi**	**0.43 30**		P	Pg	21 11 54.3	0.0
JFK				S	Sg	21 12 00.3	+0.3
JFT	**Otama**	**0.57 338**		P	Pg	21 11 57.0	+0.2
JFT				S	Sg	21 12 04.6	+0.4
MAT	**Matsushiro**	**1.97 258**		P	Pn	21 12 20.1	+0.6
MAT				S	Sb	21 12 46.3	-0.4

IDC 19 21:13:07.3±2.3, 18°.66S×177°.83W, h558km±27km, mb3.3/4, mb1 3.6/5, mb1mx3.1/35, mbtmp4.4/5, Error ellipse: s-maj=106.0km s-min=18.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48 52**		P	P	21 15 00.7	+0.3
8.5nm,0.3s,baz=47,slow=1.4,SNR=8.1							
AFI				S	S	21 16 32.4	-0.5
2.5nm,0.3s,baz=47,slow=19,SNR=2.5							
STKA	**Stephens Creek**	**38.76 242**		P	P	21 19 44.4	-0.1
2.1nm,0.4s,baz=78,slow=9.9,SNR=9.8							
WRA	**Warramunga Arr**	**45.05 260**		P	P	21 20 34.1	0.0
2.2nm,0.4s,baz=98,slow=7.4,SNR=45							
ASAR	**Alice Springs**	**45.13 255**		P	P	21 20 34.7	-0.1
5.0nm,0.7s,baz=86,slow=8.4,SNR=50							
ASAR				PcP	PcP	21 22 02.0	-1.4
0.4nm,0.5s,baz=103,slow=4.2,SNR=3.2							
TXAR	**Lajitas Array**	**85.93 57**		P	P	21 24 49.7	+0.5
0.6nm,0.7s,baz=218,slow=6.9,SNR=7.9							

NIED ***19*** *21:13:00, 37°.00N×140°.70E, h8km, Mw3.9 Best double couple: $M_0$8.59000×10^14 NP1:ϕ_s117.00000°, δ43.00000°, λ-68.00000°. NP2:ϕ_s267.00000°, δ51.00000°, λ-110.00000°.*
IDC ***19*** *21:13:51.4±0.6, 37°.03N×140°.62E, h0km, mb4.1/16, mb1 4.2/19, mb1mx4.1/41, mbtmp4.1/19, ML3.5/3, MS3.9/2, Ms1 3.9/2, ms1mx2.7/43, Error ellipse: s-maj=15.9km s-min=11.4km az=140.0*
ISCJB ***19*** *21:13:52.8±0.4, 37°.04N±0°.02×140°.74E±0°.04, h21km±3km, mb4.1/19, MS4.0/2, Error ellipse: s-maj=5.9km s-min=3.7km az=23.3*
JMA ***19*** *21:13:53.4, 37°.04N×140°.64E, h8km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s112.00000°, δ53.00000°, λ-74.00000°. NP2: ϕ_s265.00000°, δ40.00000°, λ-111.00000°. Principal axes: T Plg7.0000°, Azm190.0000°; N Plg13.0000°, Azm282.0000°; P Plg75.0000°, Azm72.0000°;*
JMA Felt III J1.
NEIC ***19*** *21:13:57.3±1.1, 37°.02N×140°.58E, h43km±10km, mb4.3/3 Error ellipse: s-maj=12.5km s-min=8.2km az=124.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 19 21:13:53.1±0.9, 37°.03N±0°.04×140°.66E±0°.04, h11km±6km, n45, σ1s04/49, mb4.2/19, 8C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.14 56**		⇑P	**Pg**	**21 13 56.6**	**+0.2**
ONAJ				*e*S	**Sg**	**21 13 58.9**	**+0.1**
JFK	**Kawauchi**	**0.38 27**		⇑P	**Pg**	**21 14 00.7**	**0.0**
JFK				S	**Sg**	**21 14 06.1**	**+0.3**
JHO	**Hitachi**	**0.42 190**		⇑P	**Pb**	**21 14 01.7**	**-0.8**
JHO				S	**Sb**	**21 14 08.3**	**-0.5**
JFT	**Otama**	**0.55 333**		⇑P	**Pg**	**21 14 04.0**	**+0.1**
JFT				S	**Sg**	**21 14 11.2**	**0.0**
JSB	**Shiboa**	**0.59 265**		⇑P	**Pb**	**21 14 05.3**	**-0.1**
JSB				S	**Sb**	**21 14 13.3**	**-0.5**
JMM	**Marumori**	**0.85 7**		⇑P	**Pg**	**21 14 08.7**	**-0.7**
JMM				S	**Sg**	**21 14 20.1**	**-0.4**
JFY	**Yanaizu**	**0.85 297**		⇑P	**Pg**	**21 14 09.3**	**-0.2**
JFY				S	**Sg**	**21 14 20.0**	**-0.6**
JYT	**Yasato**	**0.88 205**		⇑P	**Pb**	**21 14 09.8**	**-0.5**
JYT				S	**Sb**	**21 14 21.1**	**-0.9**
MJAR	**Matsushiro Arr**	**2.02 257**		Pn	**Pn**	**21 14 27.9**	**+0.8**
60nm,0.3s,baz=83,slow=19,SNR=156							
MJAR				Lg	Lg	21 14 54.6	
134nm,0.3s,baz=93,slow=26,SNR=25							
MAJO	**Matsushiro**	**2.02 257**		*e*Pn	**Pb**	**21 14 28.6**	**-1.2**
MAJO				*e*S	**Sb**	**21 14 55.0**	**0.0**
MAT	**Matsushiro**	**2.02 257**		P	**Pb**	**21 14 28.7**	**-1.1**
MAT				S	**Sb**	**21 14 55.6**	**+0.6**
JHJ	**Hachijo jima 2**	**3.96 191**		Pn	**Pn**	**21 14 53.8**	**+0.1**
23nm,0.3s,baz=102,slow=20,SNR=1.8							
JHJ				Sn	**Sn**	**21 15 42.4**	**+2.3**
47nm,0.3s,baz=66,slow=19,SNR=3.1							
ASAJ	**Asahikawa**	**7.24 11**		Pn	**Pn**	**21 15 40.2**	**+1.6**
1.6nm,0.3s,baz=235,slow=13,SNR=6.8							
ASAJ				Sn	**Sn**	**21 17 00.6**	**-0.1**
0.2nm,0.3s,baz=270,slow=20,SNR=2.2							
JNU	**Nakatsue**	**8.91 247**		Pn	**Pn**	**21 16 00.6**	**-1.1**
0.2nm,0.3s,baz=149,slow=18,SNR=1.8							
USRK	**Ussuriysk Ar.**	**9.73 320**		Pn	Pn	21 16 19.0	+6.1
0.2nm,0.3s,baz=133,slow=12,SNR=9.9							
KSRS	**Korea Array**	**10.16 276**		Pn	**Pn**	**21 16 22.5**	**+3.7**
0.1nm,0.3s,baz=90,slow=14,SNR=6.3							
KSAR	**Wonju Array Be**	**10.19 276**		Pn	**Pn**	**21 16 22.5**	**+3.3**
SEY	**Seymchan**	**26.92 12**		P	**P**	**21 19 35.1**	**+1.3**
1.6nm,0.2s,baz=66,slow=20,SNR=2.4							
SONM	**Songino Array**	**27.29 304**		P	**P**	**21 19 37.6**	**+0.1**
2.4nm,0.8s,baz=101,slow=8.8,SNR=9.7							
H11N2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.05	229	ePG	Pg	21 16 20.8	0.0
SIMA				eSG	Sg	21 16 21.8	-0.2
SIMA	Simav-Kutahya	0.05	229	ePg	Pg	21 16 20.8	0.0
SIMA				eSg	Sg	21 16 21.8	-0.2
DEMI	Demirci	0.26	253	i P	Pg	21 16 24.1	-0.1
DEMI				i S	Sg	21 16 27.5	-0.2
DEMI	Demirci	0.26	253	P	Pg	21 16 24.1	-0.1
DEMI				S	Sg	21 16 27.5	-0.2
GDZ	Gediz	0.35	94	i P	Pg	21 16 26.0	-0.1
GDZ				i S	Sg	21 16 31.1	+0.3
GDZ	Gediz	0.35	94	P	Pg	21 16 26.0	-0.1
GDZ				S	Sg	21 16 31.1	+0.3
TVSB	Tavsanli	0.47	45	ePG	Pg	21 16 27.8	-0.5
TVSB	Tavsanli	0.47	45	ePg	Pg	21 16 27.8	-0.5
KULA	Kula-Manisa	0.67	206	ePG	Pg	21 16 31.5	-0.5
KULA	Kula-Manisa	0.67	206	ePg	Pg	21 16 31.5	-0.5
MANT	Manisa	0.73	211	i P	Pg	21 16 32.6	-0.6
MANT				i S	Sg	21 16 42.3	-0.4
ORLT	Orhaneli	0.93	354	ePG	Pg	21 16 36.6	-0.5
ORLT	Orhaneli	0.93	354	ePg	Pg	21 16 36.6	-0.5
AKHS	Akhisar	0.98	256	i P	Pg	21 16 37.8	-0.2
AKHS				i S	Sg	21 16 50.9	+0.2
BALB	Balikesir	1.03	301	ePG	Pn	21 16 40.1	0.0
BALB	Balikesir	1.03	301	ePg	Pn	21 16 40.1	0.0
MDNY	Mudanya-Bursa	1.26	355	ePN	Pb	21 16 43.3	+0.1
MDNY	Mudanya-Bursa	1.26	355	ePn	Pb	21 16 43.3	+0.1
KCTX	Karacabey (Bur	1.26	336	ePN	Pg	21 16 43.0	-0.4
KCTX	Karacabey (Bur	1.26	336	ePn	Pg	21 16 43.0	-0.4
GONE	Gonen-Balikesi	1.39	312	ePN	Pn	21 16 45.3	+0.2
GONE	Gonen-Balikesi	1.39	312	ePn	Pn	21 16 45.3	+0.2
ARMT	Armutlu	1.45	355	ePN	Pb	21 16 46.6	0.0
ARMT	Armutlu	1.45	355	ePn	Pb	21 16 46.6	0.0
YLV	Yalova	1.47	10	ePN	Pg	21 16 47.1	-0.3
YLV	Yalova	1.47	10	ePn	Pg	21 16 47.1	-0.3
GULT	Gulveren	1.74	41	ePN	Pn	21 16 50.0	0.0
GULT	Gulveren	1.74	41	ePn	Pn	21 16 50.0	0.0
MRMT	Marmara Adasi	1.85	324	ePN	Pn	21 16 52.2	+0.7
MRMT	Marmara Adasi	1.85	324	ePn	Pn	21 16 52.2	+0.7
BAYC	CANAKKALE_Bayr	2.02	289	i P	Pb	21 16 56.5	+0.2
BAYC				i S	Sg	21 17 24.4	+0.2
BAYC	CANAKKALE_Bayr	2.02	289	P	Pb	21 16 56.5	+0.2
BAYC				S	Sg	21 17 24.4	+0.2
CTKS	Kestanelik-??a	2.15	349	ePN	Pn	21 16 55.7	+0.2
CTKS	Kestanelik-??a	2.15	349	ePn	Pn	21 16 55.7	+0.2

NIED ***19*** *21:21:00, 37°.00N×140°.70E, h8km, Mw4.2 Best double couple: M0=2.38000×10^15 NP1:φ=256.00000°, δ=40.00000°, λ=-103.00000°. NP2:φ=92.00000°, δ=51.00000°, λ=-80.00000°.*

IDC ***19*** *21:21:37.7±0.5, 37°.11N×140°.62E, h0km, mb4.3/22, mb1 4.4/26, mb1mx4.4/37, mbtmp4.3/26, ML3.6/4, MS3.3/3, Ms1 3.3/3, ms1mx2.7/45, Error ellipse: s-maj=14.1km s-min=10.5km az=131.0*

ISCJB ***19*** *21:21:39.3±0.4, 37°.06N±0°.02×140°.65E±0°.03, h20km±2km, mb4.4/54, MS3.3/2, Error ellipse: s-maj=4.7km s-min=3.4km az=24.9*

JMA ***19*** *21:21:39.6, 37°.04N×140°.64E, h9km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φ=112.00000°, δ=54.00000°, λ=-71.00000°. NP2: φ=261.00000°, δ=40.00000°, λ=-114.00000°. Principal axes: T Plg7.0000°, Azm188.0000°; N Plg15.0000°, Azm280.0000°; P Plg73.0000°, Azm74.0000°;*

JMA Felt III J1.

NEIC ***19*** *21:21:43.5±1.9, 37°.11N×140°.48E, h34km±13km, mb4.6/33 Error ellipse: s-maj=6.9km s-min=5.1km az=121.0*

NEIC Felt at Narita. Recorded [3 JMA] in Fukushima.

ISC 19 21:21:40.3±0.5, 37°.04N±0°.03×140°.64E±0°.03, h16km±2km, n115, σ1§48/126, mb4.5/54, 8C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.14	64	⇑P	Pg	21 21 42.7	-1.5
ONAJ				S	Sg	21 21 45.1	-1.7
JFK	Kawauchi	0.38	30	⇑P	Pg	21 21 46.7	-1.3
JFK				S	Sg	21 21 52.0	-1.3
JHO	Hitachi	0.43	187	⇑P	Pg	21 21 47.9	-1.0
JHO				S	Sg	21 21 54.2	-0.6
JFT	Otama	0.53	333	⇑P	Pg	21 21 50.1	-0.8
JFT				S	Sg	21 21 57.5	-0.5
JSB	Shiboa	0.58	263	⇑P	Pb	21 21 51.6	-0.5
JSB				S	Sb	21 21 59.8	-0.3
JFY	Yanaizu	0.83	296	⇑P	Pg	21 21 55.5	-0.9
JFY				S	Sg	21 22 06.3	-1.0
JMM	Marumori	0.83	8	⇑P	Pg	21 21 54.8	-1.7
JMM				S	Sg	21 22 05.9	-1.6
JYT	Yasato	0.89	204	⇑P	Pb	21 21 56.0	-1.3
JYT				S	Sg	21 22 07.6	-1.5
MJAR	Matsushiro Arr	2.01	256	Pn	Pn	21 22 14.6	+1.0
	98nm,0.3s,baz=82,slow=9.2,SNR=282						
MJAR				LR	LR	21 22 38.7	
	comp=Z,126nm,20.1s,baz=65,slow=31						
MJAR				Lg	Lg	21 22 41.4	
	159nm,0.3s,baz=91,slow=27,SNR=32						
MAJO	Matsushiro	2.01	256	ePn	Pn	21 22 14.7	+1.0
MAJO				eSn	Sn	21 22 32.8	-5.7
MAT	Matsushiro	2.01	256	P	Pb	21 22 14.9	-1.6
MAT				S	Sb	21 22 41.9	+0.5
INU	Inuyama	3.38	241	ePn	Pn	21 22 34.5	+2.0
JHJ	Hachijo jima 2	3.97	190	Pn	Pn	21 22 40.8	+0.2
	28nm,0.3s,baz=58,slow=13,SNR=4.8						
JHJ				Sn	Sn	21 23 28.7	+1.9
	84nm,0.3s,baz=239,slow=22,SNR=6.1						
JHJ2	Mitsune	3.98	190	ePn	Pn	21 22 40.5	-0.1
ASAJ	Asahikawa	7.22	11	Pn	Pn	21 23 25.4	+0.2
	3.0nm,0.3s,baz=232,slow=12,SNR=9.1						
ASAJ				Sn	Sn	21 24 46.5	-0.4
	2.0nm,0.3s,baz=288,slow=20,SNR=2.1						
ASAJ	Asahikawa	7.22	11	ePn	Pn	21 23 26.4	+1.2
ASAJ				eSn	Sn	21 24 47.9	+1.0
JNU	Nakatsue	8.90	247	Pn	Pn	21 23 49.6	+1.3
	0.3nm,0.3s,baz=0.0,slow=2.0,SNR=3.4						
USRK	Ussuriysk Ar.	9.71	320	Pn	Pn	21 24 04.9	+5.6
	0.5nm,0.3s,baz=135,slow=13,SNR=35						
USRK				LR	LR	21 27 14.4	
	comp=Z,144nm,21.1s,baz=146,slow=35						
CBIJ	Chichi jima	10.00	172	ePn	Pn	21 24 00.4	-2.9
YSS	Yuzh-Sakhalins	10.03	8	ePn	Pn	21 24 03.6	0.0
KSRS	Korea Array	10.15	276	Pn	Pn	21 24 11.8	+6.5
	0.3nm,0.3s,baz=92,slow=13,SNR=19						
KSAR	Wonju Array Be	10.18	276	Pn	Pn	21 24 11.8	+6.0
MDJ	Mudanjiang	11.28	316	P	Pn	21 24 24.4	+3.7
MDJ	Mudanjiang	11.28	316	ePn	Pn	21 24 25.4	+4.6
	17nm,1.0s						
NJ2	Nanjing	18.61	261	eP	Pn	21 25 57.0	-0.3
BJI	Beijing	19.35	286	P	Pn	21 26 06.8	+0.6
PETK	Petropavlovsk-	20.00	31	P	P	21 26 11.6	-0.4
	0.1nm,0.3s,baz=334,slow=19,SNR=2.5						
HHC	Hu-ho-hao-te	22.88	289	eP	P	21 26 41.3	-2.0
GUMO	Guam	23.66	170	LR	LR	21 36 26.1	
	comp=Z,21nm,19.5s,baz=42,slow=37						
ENH	Enshi	26.71	265	eP	P	21 27 18.4	-0.6
	6.7nm,0.8s						
ULN	Ulaanbaatar	26.84	304	eP	P	21 27 20.2	+0.1
	3.1nm,0.9s						
SEY	Seymchan	26.91	12	P	P	21 27 18.9	-1.5
	5.2nm,0.9s,baz=68,slow=18,SNR=3.1						
SONA1	Songino Array	27.26	304	eP	P	21 27 22.4	-1.6
SONM	Songino Array	27.27	304	P	P	21 27 22.6	-1.3
	2.7nm,0.6s,baz=113,slow=7.5,SNR=14						
H11N2	WAKE ISLAND Hy	28.69	120	T	T	21 57 24.9	
	baz=312,slow=75,SNR=954						
H11N1	WAKE ISLAND Hy	28.70	120	T	T	21 57 25.6	
	baz=312,slow=75,SNR=981						
H11N3	WAKE ISLAND Hy	28.70	120	T	T	21 57 26.4	
	baz=312,slow=75,SNR=846						
H11S1	WAKE ISLAND Hy	29.39	122	T	T	21 58 13.6	
	baz=314,slow=76,SNR=1125						
H11S3	WAKE ISLAND Hy	29.39	122	T	T	21 58 14.1	
	baz=314,slow=76,SNR=826						
H11S2	WAKE ISLAND Hy	29.40	122	T	T	21 58 17.3	
	baz=314,slow=76,SNR=572						
LZH	Lanzhou	29.45	279	eP	P	21 27 45.1	+1.5
LZH				pP	sP	21 27 50.3	0.0
LZH				sP	pP	21 27 53.3	+5.0
LZH				PP	PnPn	21 28 40.3	+2.7
CD2	Chengdu	31.05	270	eP	P	21 27 56.0	-1.6
GTA	Gaotai	31.97	287	eP	P	21 28 05.4	-0.3
GTA				pP	pP	21 28 09.9	-0.5
GTA				sP	sP	21 28 12.5	+0.1
GTA				PcP	PcP	21 31 02.3	+6.7
GTA				S	S	21 33 15.3	-1.3
GTA				sS	pS	21 33 22.1	+0.2
GTA				SS	SnSn	21 35 06.4	+1.0
KMI	Kunming	34.35	261	P	P	21 28 26.8	+0.1
TIXI	Tiksi	35.21	354	P	P	21 28 31.4	-1.9
	1.0nm,0.3s,baz=177,slow=8.9,SNR=6.2						
WMQ	Urumqi	40.28	297	P	P	21 29 16.8	+0.1
WMQ				pP	pP	21 29 21.8	+0.3
WMQ				sP	sP	21 29 23.5	+0.1
FAKI	Fak Fak	40.52	193	eP	P	21 29 19.3	+0.6
	26nm,1.1s						
CMAR	Chiang Mai Arr	40.90	255	P	P	21 29 22.2	+0.3
	0.3nm,0.4s,baz=64,slow=5.1,SNR=3.3						
ZALV	Zalesovo Beam	41.45	312	P	P	21 29 24.9	-1.1
	2.8nm,0.6s,baz=102,slow=7.2,SNR=8.5						
ZALV				PcP	PcP	21 31 22.6	-1.0
	1.2nm,0.5s,baz=95,slow=3.6,SNR=3.9						
MK01	Makanchi Array	43.59	302	eP	P	21 29 43.3	-0.3
MK31	Makanchi Array	43.59	302	eP	P	21 29 43.4	-0.2
MKAR	Makanchi Array	43.59	302	P	P	21 29 43.3	-0.3
	1.8nm,0.6s,baz=67,slow=9.8,SNR=19						
MKAR	Makanchi Array	43.59	302	eP	P	21 29 43.4	-0.3
	15nm,0.7s						
MAKZ	Makanchi	43.80	302	eP	P	21 29 44.1	-1.2
	10nm,1.7s						
TAPN	Taplejung	45.32	274	eP	P	21 29 57.5	-0.5
KURK	Kurchatov	45.44	308	eP	P	21 29 57.6	-0.7
	13nm,0.9s						
SVW2	Sparrevohn	45.89	37	eP	P	21 30 07.2	+5.5
	12nm,1.1s						
RAMN	Ramite	46.38	274	eP	P	21 30 05.6	-0.7
JIRN	Jiri	46.40	275	eP	P	21 30 06.3	-0.3
GUN	Gumba	46.54	275	eP	P	21 30 07.2	-0.5
KKN	Kakani	47.07	275	eP	P	21 30 10.9	-0.8
RSO	Redoubt South	47.28	38	eP	P	21 30 18.2	+5.3
GKN	Gorkha	47.49	276	eP	P	21 30 14.3	-0.6
DANN	Dangsing	48.03	277	eP	P	21 30 19.3	0.0
KOLN	Koldanda	48.41	276	eP	P	21 30 21.6	-0.5
PYUN	Piuthan	48.75	277	eP	P	21 30 24.2	-0.5
	44nm,1.0s						
MDM	Murphy Dome	49.24	32	eP	P	21 30 29.0	+1.3
	12nm,1.2s						
HDA	Harding Lake	49.81	33	eP	P	21 30 32.3	+0.3
	9.2nm,1.1s						
ILAR	Eielson Array	49.82	32	P	P	21 30 32.0	-0.1
	2.6nm,0.9s,baz=274,slow=6.2,SNR=14						
BRVK	Borovoye	50.16	312	eP	P	21 30 34.4	-0.5
	7.1nm,1.0s						
KKAR	Karatay Array	52.58	300	eP	P	21 30 52.3	-0.9
	22nm,1.0s						
INK	Inuvik	54.66	27	P	P	21 31 08.3	+0.3
	6.0nm,1.1s,baz=265,slow=14,SNR=5.2						
ARU	Arti	55.94	318	eP	P	21 31 16.6	-0.8
	9.1nm,1.0s						
FITZ	Fitzroy Crossi	56.64	197	eP	P	21 31 23.7	+1.0
	23nm,1.9s						
WRAB	Tennant Creek	56.98	187	eP	P	21 31 24.8	-0.3
	10nm,0.8s						
WB2	Warramunga Arr	56.98	187	eP	P	21 31 24.8	-0.4
WRA	Warramunga Arr	56.98	187	P	P	21 31 24.5	-0.6
	9.4nm,0.8s,baz=3.0,slow=7.3,SNR=47						
ABKAR	Akbulak array	57.46	310	eP	P	21 31 27.3	-1.0
	34nm,0.6s						
AS01	Alice Springs	60.71	187	eP	P	21 31 52.8	+1.8
AS31	Alice Springs	60.71	187	eP	P	21 31 52.6	+1.6
	1.6nm,0.7s						
ASAR	Alice Springs	60.71	187	P	P	21 31 50.9	-0.1
	3.8nm,0.8s,baz=6.3,slow=6.1,SNR=28						
RES	Resolute Bay	62.75	14	LR	LR	22 01 06.5	
	comp=Z,88nm,19.4s,baz=138,slow=38						
GEYT	Alibeck	63.29	299	P	P	21 32 08.3	-0.1
	3.1nm,0.7s,baz=27,slow=5.0,SNR=9.5						
ARCES	ARCESS Array B	63.77	339	P	P	21 32 10.4	-0.6
	3.8nm,0.8s,baz=47,slow=7.7,SNR=10						
FINES	FINESS Array B	68.52	332	P	P	21 32 40.9	-0.7
	5.2nm,0.8s,baz=43,slow=8.0,SNR=12						
STKA	Stephens Creek	68.56	179	P	P	21 32 43.0	+0.9
	2.1nm,0.7s,baz=312,slow=7.6,SNR=5.2						
KBZ	Khabaz	70.43	310	P	P	21 32 53.6	-0.1
	4.9nm,1.0s,baz=90,slow=19,SNR=3.0						
BMO	Blue Mountains	72.38	47	eP	P	21 33 06.0	+0.4
	3.6nm,1.0s						
AKASG	Malin Array Be	73.91	322	P	P	21 33 13.2	-1.2
	0.6nm,0.3s,baz=47,slow=6.3,SNR=7.6						
NOA	NORSAR Array B	73.94	337	P	P	21 33 13.7	-0.8
	3.1nm,0.9s,baz=38,slow=5.9,SNR=3.9						
LRM	Limekiln Ridge	74.57	44	eP	P	21 33 19.9	+1.2
EGMT	Eagleton	74.67	41	eP	P	21 33 19.5	+0.4
	5.5nm,0.9s						
DLMT	Dillon	74.77	44	eP	P	21 33 20.6	+0.8
	4.8nm,0.8s						
BOZ	Bozeman (W)	75.17	44	eP	P	21 33 23.1	+1.1
	3.2nm,0.8s						
H17A	Grant Village	76.50	44	eP	P	21 33 32.9	+3.1
	4.1nm,0.9s						
IMW	Indian Meadow	76.61	45	eP	P	21 33 32.5	+2.0
	3.2nm,0.9s						
FXWY	Fox Creek	76.72	45	eP	P	21 33 32.9	+1.8
	5.0nm,1.2s						
HVU	Hansel Valley	76.86	47	eP	P	21 33 33.3	+1.5
	2.8nm,0.9s						
R11A	Troy Canyon, C	77.25	52	eP	P	21 33 35.1	+1.1
	3.9nm,0.6s						
TPNV	Topopah Spring	77.67	53	eP	P	21 33 37.6	+1.2
	24nm,0.9s						
DUG	Dugway, Tooele	77.82	49	eP	P	21 33 37.7	+0.5
	3.8nm,0.8s						
PDAR	Pinedale Array	78.10	45	P	P	21 33 39.0	+0.2
	1.1nm,0.7s,baz=256,slow=3.2,SNR=9.8						
BRTR	Keskin Array B	78.38	311	P	P	21 33 40.7	+0.4
	1.1nm,0.9s,baz=91,slow=5.8,SNR=3.7						
SHPR	Sheep Range	78.63	53	eP	P	21 33 43.4	+1.6
	4.7nm,0.9s						
P18A	Preston Nutter	79.71	48	eP	P	21 33 51.1	+3.3
	4.2nm,0.7s						
ULM	Lac du Bonnet	79.84	33	P	P	21 33 47.7	-0.1
	4.2nm,0.9s,baz=315,slow=10.0,SNR=3.4						
RAYN	Ar Rayn	80.08	292	eP	P	21 33 49.4	-0.3
	11nm,1.6s						
U15A	North Rim	80.49	51	eP	P	21 33 53.7	+1.7
	6.2nm,0.4s						
WUAZ	Wupatki	81.64	52	eP	P	21 34 00.0	+2.0
	5.8nm,1.1s						
KHC	Kasperske Hory	82.21	328	eP	P	21 34 00.6	0.0
GERES	GERESS Array B	82.38	328	P	P	21 34 01.0	-0.6
	0.5nm,0.4s,baz=37,slow=5.2,SNR=9.5						
IDI	Anoyia	86.53	312	eP	P	21 34 22.5	-0.3
	9.9nm,0.9s						
TXAR	Lajitas Array	90.61	52	P	P	21 34 42.9	+0.6
	1.1nm,0.8s,baz=298,slow=3.3,SNR=8.9						
TORD	Torodi Ar. Bea	116.88	314	PKP	PKPdf	21 40 23.6	-1.1
	0.2nm,0.5s,baz=52,slow=3.2,SNR=7.0						
LPAZ	La Paz	147.22	59	PKPbc	PKPbc	21 41 24.2	+0.1
	4.1nm,0.8s,baz=299,slow=1.0,SNR=13						

SJA 19 21:24:33.1±0.3, 29°.00S×67°.38W, h123km±2km, ML4.9, MW4.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	CERRO LA CRUZ	0.57	139	eP	Pn	21 24 52.7	+0.7
ACLC				eS	Sn	21 25 07.1	+0.8
ACLC				IAML		21 25 09.0	
	comp=Z,23μm,0.5s						
AGUA	GUANDACOL	1.08	243	eP	Pn	21 24 57.1	+0.8
AGUA				eS	Sn	21 25 14.8	+1.0
APLL	PUNTA DE LOS L	1.58	152	eP	Pn	21 25 02.6	+0.9
APLL				eS	Sn	21 25 24.4	+0.9
ACHE	Chepes	2.24	164	eP	Pn	21 25 11.1	+1.2

ISCJB ***19*** *21:26:19.6±0.5, 39°.54N±0°.02×28°.78E±0°.04, h1km±5km, Error ellipse: s-maj=5.5km s-min=3.6km az=2.1*

ISK ***19*** *21:26:19.4, 39°.52N×28°.76E, h6km, MD2.8*

CSEM ***19*** *21:26:20.0±0.1, 39°.53N×28°.78E, h5km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.0km az=85.0*

DDA ***19*** *21:26:21.5, 39°.45N×28°.80E, h7km, Md2.8*

ISC 19 21:26:20.3±1.0, 39°.52N±0°.02×28°.76E±0°.02, h9km±8km, n48, σ0§55/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.14	309	ePG	Pg	21 26 23.1	-0.3
DST	Dursunbey	0.14	309	ePg	Pg	21 26 23.1	-0.3
SIMA	Simav-Kutahya	0.47	158	ePG	Pg	21 26 29.4	0.0
SIMA				eSG	Sg	21 26 36.0	+0.5
SIMA	Simav-Kutahya	0.47	158	ePg	Pg	21 26 29.4	0.0
SIMA				eSg	Sg	21 26 36.0	+0.5
DEMI	Demirci	0.47	184	i P	Pg	21 26 29.7	+0.2
DEMI				i S	Sg	21 26 36.5	+0.7
DEMI	Demirci	0.47	184	P	Pg	21 26 29.7	+0.2
DEMI				S	Sg	21 26 36.5	+0.7
TVSB	Tavsanli	0.55	97	ePG	Pg	21 26 30.3	-0.6
TVSB	Tavsanli	0.55	97	ePg	Pg	21 26 30.3	-0.6
BALB	Balikesir	0.69	281	ePG	Pg	21 26 33.0	-0.6
BALB	Balikesir	0.69	281	ePg	Pg	21 26 33.0	-0.6
GDZ	Gediz	0.70	127	i P	Pb	21 26 34.2	-0.6
GDZ				i S	Sn	21 26 49.2	+1.5
GDZ	Gediz	0.70	127	P	Pb	21 26 34.2	-0.6
KCTX	Karacabey (Bur	0.81	338	ePG	Pg	21 26 35.6	-0.3
KCTX	Karacabey (Bur	0.81	338	ePg	Pg	21 26 35.6	-0.3
MDNY	Mudanya-Bursa	0.86	6	ePG	Pb	21 26 37.0	-0.4
MDNY	Mudanya-Bursa	0.86	6	ePg	Pb	21 26 37.0	-0.4
AKHS	Akhisar	0.97	229	i P	Pn	21 26 39.9	-0.3
AKHS				i S	Sn	21 26 53.7	-0.4
AKHS	Akhisar	0.97	229	P	Pn	21 26 39.9	-0.3
AKHS				S	Sn	21 26 53.7	-0.4
GONE	Gonen-Balikesi	0.98	303	ePG	Pg	21 26 38.4	-0.7
GONE	Gonen-Balikesi	0.98	303	ePg	Pg	21 26 38.4	-0.7
KULA	Kula-Manisa	1.00	184	ePG	Pg	21 26 38.8	-0.8
KULA				eSG	Sb	21 26 53.3	0.0
KULA	Kula-Manisa	1.00	184	ePg	Pg	21 26 38.8	-0.8
KULA				eSg	Sb	21 26 53.3	0.0
MANT	Manisa	1.04	189	i P	Pb	21 26 40.3	-0.2
MANT				i S	Sb	21 26 54.1	-0.2
MANT	Manisa	1.04	189	P	Pb	21 26 40.3	-0.2
MANT				S	Sb	21 26 54.1	-0.2
ARMT	Armutlu	1.05	4	ePG	Pg	21 26 40.0	-0.5
ARMT	Armutlu	1.05	4	ePg	Pg	21 26 40.0	-0.5
EDC	Edincik	1.08	321	ePG	Pg	21 26 40.7	-0.3
EDC	Edincik	1.08	321	ePg	Pg	21 26 40.7	-0.3
CAVI	Cavuskoy	1.08	50	ePG	Pg	21 26 40.0	-1.0
CAVI	Cavuskoy	1.08	50	ePg	Pg	21 26 40.0	-1.0
YLV	Yalova	1.15	24	ePN	Pg	21 26 41.6	-0.8
YLV	Yalova	1.15	24	ePn	Pg	21 26 41.6	-0.8
KRBG	Karabiga-Canak	1.42	308	ePN	Pn	21 26 46.4	+0.1
KRBG	Karabiga-Canak	1.42	308	ePn	Pn	21 26 46.4	+0.1
SBT3	Marmara-Eregli	1.49	337	ePN	Pn	21 26 47.2	+0.1
SBT3	Marmara-Eregli	1.49	337	ePn	Pn	21 26 47.3	+0.1
KAVV	Kandilli-Istan	1.56	8	ePN	Pn	21 26 48.3	+0.1
KAVV	Kandilli-Istan	1.56	8	ePn	Pn	21 26 48.3	+0.1
ISK	Istanbul-Kandi	1.56	8	ePN	Pn	21 26 48.3	0.0
ISK	Istanbul-Kandi	1.56	8	ePn	Pn	21 26 48.3	0.0
GULT	Gulveren	1.63	55	ePN	Pn	21 26 49.4	+0.1
GULT	Gulveren	1.63	55	ePn	Pn	21 26 49.4	+0.1
BAYC	CANAKKALE_Bayr	1.72	278	i P	Pn	21 26 49.9	-0.6
BAYC				i S	Sb	21 27 14.7	+0.8
BAYC	CANAKKALE_Bayr	1.72	278	P	Pn	21 26 49.9	-0.6
BAYC				S	Sb	21 27 14.7	+0.8
CTKS	Kestanelik-??a	1.73	354	ePN	Pn	21 26 50.7	+0.2
CTKS				eSN	Sn	21 27 13.5	+0.8
CTKS	Kestanelik-??a	1.73	354	ePn	Pn	21 26 50.7	+0.2
CTKS				eSn	Sn	21 27 13.5	+0.8
KLYT	Kilyos	1.75	7	ePN	Pn	21 26 51.5	+0.7
KLYT	Kilyos	1.75	7	ePn	Pn	21 26 51.5	+0.7

NNC 19 21:35:23.5±3.5, 37°.06N×70°.51E, h226km±43km, mb2.4, mpv3.6, 5C-5D, Error ellipse: s-maj=47.7km s-min=22.3km az=132.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.20	323	⇑P	Pn	21 36 06.1	+0.1
	4.1nm,0.2s						
DZET				⇑S	S	21 36 39.8	+0.5
	42nm,0.5s						
MNAS	Manas	5.64	15	⇓P	Pn	21 36 46.9	+0.3
	3.5nm,0.5s						
MNAS				⇓S	S	21 37 53.0	+0.4
	10.0nm,0.7s						
KK31	Karatay Array	6.04	360	⇓P	Pn	21 36 53.1	+1.6
	0.7nm,0.3s,baz=178,slow=12,SNR=29						
KK31				⇑S	S	21 38 03.1	+1.4
	3.5nm,0.5s,baz=185,slow=23,SNR=14						
AAK	Ala-Archa	6.36	28	⇓P	Pn	21 36 55.4	-0.4
	1.6nm,0.3s						
AAK				⇑S	S	21 38 10.1	+0.8
	2.1nm,0.5s						
TKM2	Tokmak 2	7.04	32	⇓P	Pn	21 37 03.3	-1.1
	9.3nm,0.6s						
TKM2				⇑S	S	21 38 24.4	-0.7
	2.1nm,1.0s						

**IDC 19 21:46:47.0±2.2, 7°.28S×130°.10E, h0km, mb3.2/1, m

PB02					IAML		22 02 54.0
	comp=N,6μm,0.3s						
HMBC	**Humberstone**	**0.69**	**33**	⇓	*i*P	Pn	22 02 45.7 +0.6
HMBC				*i*	S	Sn	22 02 56.6 +1.0
PB01	**IPOC Station P**	**0.77**	**103**	*e*P		Pn	22 02 46.4 +0.4
PB01				*i*	S	Sn	22 02 58.2 +1.1
PB01					IAML		22 02 58.9
	comp=E,7μm,0.2s						
PB07	**IPOC Station P**	**0.93**	**157**	*e*P		Pn	22 02 48.4 +0.2
PB07				*i*	S	Sn	22 03 00.9 -0.1
PB07					IAML		22 03 01.8
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**1.34**	**134**	*e*P		Pn	22 02 54.6 +1.1
PB09				*i*	S	Sn	22 03 11.9 +1.4
PB09					IAML		22 03 13.1
	comp=E,2μm,0.6s						
MNMC	**Minye Minye**	**1.84**	**21**	*e*P		Pn	22 03 01.3 +0.9
MNMC				*i*	S	Sn	22 03 23.9 +1.0
PB12	**IPOC Station P**	**2.24**	**359**	*i*	S	Sn	22 03 31.3 -0.9

MEX 19 22:19:42.7±0.8, 32°.39N×115°.38W, h9km±999km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.15**	**85**	*e*P	Pg	22 19 44.6	-1.3
SPIG	**San Pedro Mart**	**1.35**	**183**	*e*P	Pn	22 20 04.2	-3.8
SPIG				*i* S	Sb	22 20 20.8	-5.0

*ISCJB **19** 22:22:40.0±0.5, 21°.70N±0°.08×143°.2E±0°.1, h311km, mb3.7/18, Error ellipse: s-maj=18.7km s-min=10.9km az=173.5*
*IDC **19** 22:22:42.5±2.3, 21°.69N×143°.08E, h320km±23km, mb3.5/19, mb1 3.6/21, mb1mx3.5/54, mbtmp4.2/21, Error ellipse: s-maj=15.6km s-min=10.2km az=79.0*
ISC 19 22:22:41.6±0.6, 21°.72N±0°.09×143°.1E±0°.2, h311km, n24, σ0°82/26, mb3.6/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.26**	**168**	P		**Pn**	**22 24 39.9**	**+1.4**
	5.9nm,0.3s,baz=339,slow=8.6,SNR=3.7						
MJAR	**Matsushiro Arr**	**15.37**	**345**	P		**P**	**22 26 02.9**	**+0.9**
	1.1nm,0.3s,baz=171,slow=11,SNR=6.8						
KSRS	**Korea Array**	**20.44**	**323**	P		**P**	**22 26 57.1**	**+1.0**
	3.0nm,0.6s,baz=147,slow=8.9,SNR=14						
SONM	**Songino Array**	**39.26**	**321**	P		**P**	**22 29 40.7**	**-0.1**
	0.5nm,0.4s,baz=140,slow=7.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**41.48**	**274**	P		**P**	**22 29 59.3**	**+0.1**
	1.1nm,0.4s,baz=81,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**42.28**	**192**	P		**P**	**22 30 04.4**	**-1.0**
	1.0nm,0.4s,baz=17,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**45.98**	**192**	P		**P**	**22 30 34.0**	**-0.7**
	0.6nm,0.7s,baz=15,slow=9.9,SNR=6.3						
STKA	**Stephens Creek**	**53.31**	**192**	P		**P**	**22 31 29.0**	**-0.3**
	1.6nm,0.7s,baz=323,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam**	**54.13**	**322**	P		**P**	**22 31 35.0**	**0.0**
	2.0nm,0.7s,baz=107,slow=5.9,SNR=6.6						
ZALV				PcP		**PcP**	**22 32 35.1**	**-0.2**
	1.5nm,0.5s,baz=115,slow=3.3,SNR=6.1						
MKAR	**Makanchi Array**	**54.61**	**313**	P		**P**	**22 31 39.2**	**+0.6**
	1.4nm,0.6s,baz=88,slow=9.3,SNR=15						
MKAR				PcP		**PcP**	**22 32 37.6**	**+0.3**
	0.7nm,0.4s,baz=77,slow=5.2,SNR=6.9						
KDAK	**Kodiak Island**	**58.24**	**35**	P		**P**	**22 32 04.3**	**+0.5**
	1.4nm,0.5s,baz=330,slow=20,SNR=3.7						
ILAR	**Eielson Array**	**62.07**	**27**	P		**P**	**22 32 28.9**	**-0.5**
	0.8nm,0.6s,baz=258,slow=5.6,SNR=10						
INK	**Inuvik**	**67.59**	**24**	P		**P**	**22 33 04.1**	**-0.7**
	3.6nm,1.0s,baz=323,slow=5.1,SNR=3.5						
GEYT	**Alibeck**	**73.16**	**305**	P		**P**	**22 33 39.9**	**+1.0**
	1.4nm,0.8s,baz=147,slow=3.4,SNR=3.1						
YKA	**Yellowknife Ar**	**76.48**	**28**	P		**P**	**22 33 57.6**	**+0.4**
	1.5nm,0.6s,baz=291,slow=5.9,SNR=7.4						
ARCES	**ARCESS Array B**	**78.87**	**341**	P		**P**	**22 34 11.1**	**+0.8**
	4.0nm,0.6s,baz=70,slow=8.6,SNR=19						
KBZ	**Khabaz**	**82.28**	**314**	P		**P**	**22 34 29.6**	**+0.8**
	4.9nm,0.8s,baz=132,slow=2.7,SNR=6.2						
FINES	**FINESS Array B**	**83.12**	**334**	P		**P**	**22 34 32.2**	**-0.5**
	3.1nm,0.5s,baz=66,slow=4.7,SNR=33						
AKASG	**Malin Array Be**	**87.43**	**324**	P		**P**	**22 34 52.8**	**-1.3**
	0.2nm,0.3s,baz=58,slow=4.5,SNR=4.0						
HFS	**Hagfors**	**88.67**	**327**	P		**P**	**22 34 58.4**	**-1.3**
	1.6nm,0.4s,baz=93,slow=2.9,SNR=12						
BRTR	**Keskin Array B**	**90.26**	**313**	P		**P**	**22 35 06.8**	**-0.9**
	0.5nm,0.7s,baz=64,slow=3.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**128.65**	**309**	PKP		**PKPdf**	**22 41 11.9**	**-0.9**
	0.3nm,0.5s,baz=23,slow=1.5,SNR=7.4						
PLCA	**Paso Flores**	**145.84**	**131**	PKPbc		**PKPab**	**22 41 45.5**	**-0.3**
	2.0nm,0.6s,baz=303,slow=4.7,SNR=5.1						
LPAZ	**La Paz**	**150.04**	**85**	PKPbc		**PKPbc**	**22 41 57.9**	**+0.8**
	1.6nm,0.6s,baz=58,slow=1.1,SNR=5.9						

*IDC **19** 22:35:06.3±0.6, 75°.15N×8°.63E, h0km, mb3.8/18, mb1 4.0/22, mb1mx3.9/42, mbtmp3.8/22, ML3.4/3, MS3.6/39, Ms1 3.6/39, ms1mx3.5/61, Error ellipse: s-maj=13.9km s-min=9.6km az=70.0*
*MOS **19** 22:35:07.4±1.9, 75°.17N×9°.57E, h10km, mb4.2/20, Error ellipse: s-maj=35.0km s-min=7.7km az=93.3*
*ISCJB **19** 22:35:07.1±0.3, 75°.25N±0°.03×9°.6E±0°.1, h10km, mb4.0/30, MS3.6/35, Error ellipse: s-maj=5.4km s-min=4.2km az=169.1*
*CSEM **19** 22:35:07.1±0.3, 75°.19N×8°.96E, h10km, mb4.2/14, Error ellipse: s-maj=11.2km s-min=6.8km az=69.0*
*BER **19** 22:35:07.9±4.8, 75°.21N×8°.23E, h21km±37km, ML2.8, ML3.9(NAO)*
*NEIC **19** 22:35:08.6±0.5, 75°.22N×8°.98E, h10km, mb4.5/7, Error ellipse: s-maj=13.0km s-min=8.7km az=57.0*
*NAO **19** 22:35:09.9±4.4, 75°.20N×9°.69E, h19km±41km, ML3.9*
ISC 19 22:35:09.1±0.4, 75°.26N±0°.04×9°.40E±0°.06, h10km, n152, σ2°78/125, mb4.1/30, MS3.6/35, 17C-4D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.29**	**37**	⇑ *i*P		**Pn**	**22 35 46.0**	**-0.9**
HSPB				*e*S		**Sn**	**22 36 12.1**	**-2.9**
HSPB	**Hornsund (broa**	**2.29**	**37**	*e*P		**Pn**	**22 35 46.0**	**-0.9**
HSPB				*e*			22 36 12.3	
HSPB	**Hornsund (broa**	**2.29**	**37**	Pn		**Pn**	**22 35 45.9**	**-0.9**
HSPB				*e*S		**Sn**	**22 36 12.3**	**-2.7**
HSP	**Hornsund**	**2.30**	**37**	Pn		**Pn**	**22 35 45.9**	**-1.0**
HSP				Sn		**Sn**	**22 36 12.2**	**-3.0**
BJO1	**Bjornoya**	**2.63**	**102**	Pn		**Pn**	**22 35 50.0**	**-1.4**
BJO1				Sn		**Sn**	**22 36 22.6**	**-0.7**
BJO	**Bjornoya**	**2.67**	**102**	Pn		**Pn**	**22 35 50.0**	**-2.1**
BJO				*e*P		Pb	22 35 53.0	-3.9
BJO				Sn		**Sn**	**22 36 22.6**	**-1.8**
BJO					IAML		22 36 27.1	
	comp=Z,112nm,0.2s						
BJO	**Bjornoya**	**2.67**	**102**	Pn		**Pn**	**22 35 50.0**	**-2.1**
BRBA	**Barentsburg A**	**3.03**	**19**	Pn		**Pn**	**22 35 55.2**	**-1.7**
SPA0	**Spitsbergen Ar**	**3.34**	**25**	Pn		**Pn**	**22 36 00.7**	**-0.6**
	baz=207,slow=14						
SPA0				Sn		**Sn**	**22 36 40.0**	**-1.0**
	baz=202,slow=22						
SPA0	**Spitsbergen Ar**	**3.34**	**25**	Pn		**Pn**	**22 36 00.7**	**-0.6**
	baz=207,slow=14						
SPA0				Sn		**Sn**	**22 36 40.0**	**-1.0**
	baz=202,slow=22						
SPA0	**Spitsbergen Ar**	**3.34**	**25**	Pn		**Pn**	**22 36 00.7**	**-0.6**
	SNR=323						
SPA0				Sn		**Sn**	**22 36 40.0**	**-1.0**
	SNR=4.5						
SPITS	**Spitsbergen Ar**	**3.34**	**25**	Pn		**Pn**	**22 36 00.6**	**-0.6**
	baz=211,slow=14,SNR=2639						
SPITS				Sn		**Sn**	**22 36 41.6**	**+0.6**
	baz=207,slow=24,SNR=6.3						
SPITS				LR		LR	22 37 24.4	
	comp=Z,490nm,19.0s,baz=255,slow=39						
KBS	**Kingsbay**	**3.73**	**8**	Pn		**Pn**	**22 36 03.4**	**-3.3**
KBS				Sn		**Sn**	**22 36 45.7**	**-4.8**
KBS	**Kingsbay**	**3.73**	**8**	⇑ *i*P		**Pn**	**22 36 03.4**	**-3.3**
KBS				*e*S		**Sn**	**22 36 45.7**	**-4.8**
KBS	**Kingsbay**	**3.73**	**8**	*e*P		**Pn**	**22 36 03.3**	**-3.3**
KBS				*e*S		**Sn**	**22 36 43.0**	**-7.5**
KBS	**Kingsbay**	**3.73**	**8**	⇑ *i*P		**Pn**	**22 36 03.4**	**-3.3**
	SNR=93						
KBS				*e*S		**Sn**	**22 36 45.7**	**-4.8**
	SNR=53						
KBS	**Kingsbay**	**3.73**	**8**	*e*Pn		**Pn**	**22 36 03.3**	**-3.3**
KBS				*e*S		**Sn**	**22 36 43.0**	**-7.5**
HAMF	**Hammerfest**	**6.24**	**131**	*e*Pn		**Pn**	**22 36 38.4**	**-2.6**
HAMF				*e*Sn		**Sn**	**22 37 46.0**	**-6.1**
HAMF					IAML		22 37 48.3	
	comp=Z,11nm,0.5s						
HAMF	**Hammerfest**	**6.24**	**131**	*e*Pn		**Pn**	**22 36 38.4**	**-2.6**
	SNR=55						
TRO	**Tromso**	**6.33**	**148**	*e*Pn		**Pn**	**22 36 45.5**	**+3.2**
JNE	**Jan Mayen East**	**6.67**	**239**	*e*P		Pn	22 36 37.1	-10
JNW	**Jan Mayen West**	**6.67**	**240**	*e*P		Pn	22 36 36.9	-10
JMIC	**Jan Mayen**	**6.72**	**239**		LR	LR	22 38 29.9	
	comp=Z,499nm,18.8s,baz=56,slow=31						
DAG	**Danmarks Havn**	**6.92**	**296**	*i* P		Pn	22 36 38.7	-12
DAG				*i* S		Sn	22 37 45.7	-23
DAG	**Danmarks Havn**	**6.92**	**296**	*i* P		Pn	22 36 38.7	-12
DAG	**Danmarks Havn**	**6.92**	**296**	*i* P		Pn	22 36 38.7	-12
KIF	**Kilpisjarvi**	**7.18**	**145**	*e*P		**Pn**	**22 36 52.6**	**-1.2**
KIF	**Kilpisjarvi**	**7.18**	**145**	*e*P		**Pn**	**22 36 52.6**	**-1.2**
	SNR=51						
LOF	**Lofoten**	**7.28**	**168**	*e*Pn		**Pn**	**22 36 51.8**	**-3.4**
LOF	**Lofoten**	**7.28**	**168**	*e*Pn		**Pn**	**22 36 51.8**	**-3.4**
	SNR=55						
ARA0	**ARCESS Array S**	**7.51**	**132**	Pn		**Pn**	**22 36 55.5**	**-2.9**
	baz=332,slow=12						
ARA0				Sn		Sn	22 38 16.1	-7.4
	baz=340,slow=22						
ARA0	**ARCESS Array S**	**7.51**	**132**	Pn		**Pn**	**22 36 55.5**	**-2.9**
	baz=332,slow=12						
ARA0				Sn		Sn	22 38 16.1	-7.4
	baz=340,slow=22						
ARA0	**ARCESS Array S**	**7.51**	**132**	Pn		**Pn**	**22 36 55.5**	**-2.9**
	SNR=154						
ARCES	**ARCESS Array B**	**7.51**	**132**	Pn		**Pn**	**22 36 55.3**	**-3.1**
	comp=Z,4.2nm,0.3s,baz=324,slow=10,SNR=43						
ARCES				Sn		Sn	22 38 16.2	-7.3
	comp=Z,2.2nm,0.3s,baz=342,slow=20,SNR=5.4						
ARCES				LR		LR	22 40 07.1	
	comp=Z,372nm,20.9s,baz=309,slow=40						
ARE0	**ARCESS Array S**	**7.51**	**132**	*e*P		**Pn**	**22 36 56.2**	**-2.2**
ARE0				*e*S		**Sn**	**22 38 18.1**	**-5.3**
ARE0	**ARCESS Array S**	**7.51**	**132**	*e*P		**Pn**	**22 36 56.2**	**-2.2**
	SNR=51						
KTK1	**Kautokeino**	**7.55**	**139**	*e*Pn		**Pn**	**22 37 00.2**	**+1.2**
KEV	**Kevo**	**7.62**	**127**	*e*P		**Pn**	**22 36 58.0**	**-1.9**
KEV				*e*S		**Sn**	**22 38 20.5**	**-5.7**
KEV	**Kevo**	**7.62**	**127**	*e*P		**Pn**	**22 36 59.3**	**-0.6**
KEV				*e*S		Sn	22 38 17.7	-8.5
KEV	**Kevo**	**7.62**	**127**	*e*P		**Pn**	**22 36 58.0**	**-1.9**
	SNR=51						
KEV	**Kevo**	**7.62**	**127**	*e*Pn		**Pn**	**22 36 59.3**	**-0.6**
KEV	**Kevo**	**7.62**	**127**	*e*Pn		**Pn**	**22 36 59.3**	**-0.6**
KEV				*e*S		Sn	22 38 17.7	-8.5
HEF	**Hetta**	**8.16**	**140**	*e*P		**Pn**	**22 37 07.0**	**-0.4**
HEF	**Hetta**	**8.16**	**140**	*e*P		**Pn**	**22 37 07.0**	**-0.4**
	SNR=51						
SCO	**Scoresbysund**	**10.29**	**258**	*i* P		Pn	22 37 25.1	-11
SCO				*i* S		Sn	22 39 01.4	-30
SCO	**Scoresbysund**	**10.29**	**258**	*i* P		Pn	22 37 25.1	-11
LVZ	**Lovozero**	**10.76**	**120**	*e*P		**Pn**	**22 37 43.7**	**+0.7**
LVZ	**Lovozero**	**10.76**	**120**	*e*P		**Pn**	**22 37 43.7**	**+0.7**
LVZ	**Lovozero**	**10.76**	**120**	*e*Pn		**Pn**	**22 37 43.7**	**+0.7**
LVZ				*e*S		Sn	22 39 34.0	-9.2
SUMG	**Summit**	**13.22**	**282**	*i* P		Pn	22 38 06.2	-11
SUMG	**Summit**	**13.22**	**282**	*i* P		Pn	22 38 06.2	-11
SUMG	**Summit**	**13.22**	**282**	*e*Pn		Pn	22 38 06.6	-10
SUMG				*e*S		Sn	22 40 17.8	-26
NOA	**NORSAR Array B**	**14.30**	**176**	Pn		**Pn**	**22 38 32.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=352,slow=13,SNR=2.8						
NOA				LR		LR	22 43 25.8	
	comp=Z,122nm,19.9s,baz=355,slow=35						
FIA0	**FINESS Array S**	**15.07**	**148**	Pn		**Pn**	**22 38 38.2**	**-3.4**
	baz=347,slow=16						
FIA0	**FINESS Array S**	**15.07**	**148**	Pn		**Pn**	**22 38 38.2**	**-3.4**
	baz=347,slow=16						
FIA0	**FINESS Array S**	**15.07**	**148**	Pn		**Pn**	**22 38 38.2**	**-3.4**
	SNR=7.1						
FINES	**FINESS Array B**	**15.07**	**148**	Pn		**Pn**	**22 38 38.8**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=332,slow=7.6,SNR=8.6						
FINES				LR		LR	22 44 42.0	
	comp=Z,272nm,19.6s,baz=9.0,slow=38						
FINES	**FINESS Array B**	**15.07**	**148**	*e*P		**Pn**	**22 38 37.6**	**-4.0**
HFS	**Hagfors**	**15.27**	**172**	Pn		**Pn**	**22 38 43.2**	**-1.2**
	baz=346,slow=8.6						
HFS	**Hagfors**	**15.27**	**172**	Pn		**Pn**	**22 38 42.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=355,slow=9.0,SNR=2.7						
HFS				LR		LR	22 43 59.0	
	comp=Z,154nm,18.8s,baz=348,slow=35						
HFS	**Hagfors**	**15.27**	**172**	Pn		**Pn**	**22 38 43.2**	**-1.2**
	baz=346,slow=8.6						
SFJD	**Kangerlussuaq**	**20.09**	**278**	LR		LR	22 46 19.4	
	comp=Z,230nm,18.8s,baz=44,slow=34						
NRIK	**Noril'sk**	**22.72**	**64**	P		**P**	**22 40 12.1**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=352,slow=7.2,SNR=4.7						
NRIK				LR		LR	22 51 07.2	
	comp=Z,77nm,19.9s,baz=333,slow=42						
OBN	**Obninsk**	**22.77**	**137**	LR		LR	22 49 19.9	
	comp=Z,186nm,18.4s,baz=298,slow=37						
OBN	**Obninsk**	**22.77**	**137**	⇑ *i*P		P	22 40 21.0	+10
OBN					pmax	pmax		
	comp=Z,17nm,1.7s						
OBN					MLR	MLR		
	comp=Z,216nm,18.0s						
SOKR	**Solikamsk**	**23.01**	**107**	*e*P		**P**	**22 40 16.0**	**+2.5**
SOKR					pmax	pmax		
	comp=Z,22nm,1.4s						
SOKR					MLR	MLR		
	comp=Z,238nm,19.0s						
RES	**Resolute Bay**	**23.78**	**320**	P		**P**	**22 40 19.9**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=120,slow=21,SNR=7.5						
CLL	**Collm**	**24.09**	**174**	*e*P		P	22 40 37.0	+13
CLL	**Collm**	**24.09**	**174**	*e*P		**P**	**22 40 21.0**	**-3.2**
CLL				*e*			22 40 29.0	
NKC	**Novy Kostel**	**25.15**	**175**	*e*P		**P**	**22 40 35.2**	**+1.3**
NKC				*e*pP		**sP**	**22 40 38.7**	**+0.5**
NKC	**Novy Kostel**	**25.15**	**175**	*e*P		**P**	**22 40 35.2**	**+1.3**
NKC				*e*			22 40 38.7	
AKASG	**Malin Array Be**	**25.94**	**150**	P		**P**	**22 40 40.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=347,slow=9.6,SNR=7.0						
AKASG				LR		LR	22 51 26.4	
	comp=Z,104nm,18.1s,baz=310,slow=38						
AKASG	**Malin Array Be**	**25.94**	**150**	P		**P**	**22 40 40.8**	**-0.3**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG					MLR	MLR		
	comp=Z,104nm,18.1s						
VRAC	**Vranov**	**26.22**	**169**	P		**P**	**22 40 41.9**	**-1.7**
	comp=Z,2.6nm,0.8s,baz=339,slow=8.0,SNR=3.6						
ARU	**Arti**	**26.26**	**108**	P		**P**	**22 40 44.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=105,slow=20,SNR=2.7						
ARU				LR		LR	22 51 39.9	
	comp=Z,140nm,20.7s,baz=320,slow=38						
ARU	**Arti**	**26.26**	**108**	*d i*P		P	22 40 52.1	+8.2
ARU							22 41 30.3	
ARU							22 44 16.7	
ARU					SS		22 46 27.1	
ARU					pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**26.26**	**108**	*e*P		**P**	**22 40 46.2**	**+2.3**
	comp=Z,21nm,0.9s						
LANS	**Liptovska Anna**	**26.54**	**165**	*e*P		**P**	**22 40 53.0**	**+6.5**
LANS	**Liptovska Anna**	**26.54**	**165**	*e*		**P**	**22 40 53.0**	**+6.5**
GERES	**GERESS Array B**	**26.57**	**174**	P		**P**	**22 40 45.4**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=8.3,slow=28,SNR=3.2						
GERES				LR		LR	22 51 02.8	
	comp=Z,114nm,18.6s,baz=10.0,slow=36						
GERES	**GERESS Array B**	**26.57**	**174**	*e*P		**P**	**22 40 52.2**	**+5.3**
	comp=Z,225nm,20.2s,baz=12,slow=35						
BURAR	**Bucovina Array**	**28.54**	**157**	⇑ *i*P		P	22 41 10.4	+5.9
DAVOX	**Davos/Dischmat**	**28.57**	**179**	LR		LR	22 53 24.9	
	comp=Z,79nm,19.9s,baz=86,slow=39						
TIXI	**Tiksi**	**28.72**	**35**	LR		LR	22 52 32.5	
	comp=Z,42nm,18.9s,baz=328,slow=36						
TIXI	**Tiksi**	**28.72**	**35**	⇑ *i*P		**P**	**22 41 07.5**	**+1.7**
TIXI				*i* *PP		**sP**	**22 41 14.3**	**+4.2**
TIXI					pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**28.72**	**35**	*i* P		**P**	**22 41 07.5**	**+1.7**
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**28.72**	**35**	*e*P		**P**	**22 41 07.3**	**+1.5**
	comp=Z,1.4nm,0.5s						
GZR	**Gura Zlata**	**30.52**	**161**	⇑ *i*P		P	22 41 27.7	+5.7
VOIR		**30.68**	**158**	⇑ *i*P		**P**	**22 41 25.1**	**+1.6**
ARR	**Arges**	**30.71**	**159**	⇓ *i*P		P	22 41 29.4	+5.7
MDVR	**Moldovita**	**31.04**	**163**	⇑ *i*P		**P**	**22 41 30.3**	**+3.6**
CFR	**Carcaliu**	**31.25**	**154**	⇓ *i*P		P	22 41 33.9	+5.5
AKTO	**Aktyubinsk**	**31.63**	**114**	LR		LR	22 54 53.3	
	comp=Z,210nm,18.7s,slow=37						
TLB	**Topalu**	**31.83**	**154**	⇑ *i*P		P	22 41 38.4	+4.9
TIRR	**Tirgusor**	**32.00**	**154**	⇑ *i*P		P	22 41 40.3	+5.4
BRVK	**Borovoye**	**32.23**	**99**	⇑ *i*P		P	22 41 46.1	+9.2
BRVK				*i* *PP		sP	22 41 50.7	+9.5
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.9s						
BVAR	**Borovoye Array**	**32.28**	**99**	P		**P**	**22 41 38.5**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=342,slow=9.1,SNR=3.4						
ABKAR	**Akbulak array**	**33.19**	**112**	*e*P		**P**	**22 41 47.5**	**+2.2**
	comp=Z,1.7nm,0.7s						
VTS	**Vitosha**	**33.34**	**161**	⇑ *i*P		P	22 41 51.8	+4.9
SCHQ	**Schefferville**	**34.54**	**278**	LR		LR	22 54 52.6	
	comp=Z,174nm,19.1s,baz=28,slow=34						
KVAR	**Kislovodsk Arr**	**34.59**	**136**	LR		LR	22 56 32.7	
	comp=Z,136nm,21.1s,baz=336,slow=37						
KBZ	**Khabaz**	**34.85**	**136**	LR		LR	22 56 40.6	
	comp=Z,148nm,20.4s,baz=340,slow=37						
ZALV	**Zalesovo Beam**	**35.13**	**84**	P		**P**	**22 42 03.6**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=332,slow=12,SNR=6.1						
ZALV				PcP		**PcP**	**22 44 31.3**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=329,slow=5.3,SNR=3.6						
ZALV				LR		LR	23 00 00.1	
	comp=Z,149nm,18.6s,baz=252,slow=42						
BILL	**Bilibino**	**36.19**	**14**	*e*P		**P**	**22 42 09.3**	**-1.8**
BILL				*i*			22 43 30.3	
BILL					pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL	**Bilibino**	**36.19**	**14**	*e*P		**P**	**22 42 09.3**	**-1.8**
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**36.49**	**92**	*ce*P		P	22 42 22.9	+9.1
KURK					pmax	pmax		
	comp=Z,28nm,2.5s						
BRTR	**Keskin Array B**	**37.30**	**149**	LR		LR	22 58 56.7	
	comp=Z,106nm,18.5s,baz=3.0,slow=38						
YAK	**Yakutsk**	**37.66**	**42**	LR		LR	22 58 26.2	
	comp=Z,46nm,21.6s,baz=272,slow=37						
YKA	**Yellowknife Ar**	**37.85**	**321**	P		**P**	**22 42 25.2**	**0.0**
	comp=Z,2.1nm,0.9s,baz=9.8,slow=9.3,SNR=5.9						
YKA				LR		LR	22 57 49.2	
	comp=Z,7.4nm,19.0s,baz=0.0,slow=36						
GNI	**Garni**	**38.65**	**135**	LR		LR	22 59 31.6	
	comp=Z,102nm,19.8s,baz=333,slow=38						
ILAR	**Eielson Array**	**39.38**	**344**	P		**P**	**22 42 37.4**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=357,slow=6.4,SNR=10						
ILAR	**Eielson Array**	**39.38**	**344**	*e*P		P	22 42 43.1	+5.0
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.7s						
IDI	**Anoyia**	**40.73**	**160**	LR		LR	22 59 28.5	
	comp=Z,46nm,20.3s,baz=339,slow=36						
MKAR	**Makanchi Array**	**41.05**	**91**	P		**P**	**22 42 52.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=347,slow=10,SNR=4.1						
MKAR				LR		LR	23 03 21.8	
	comp=Z,135nm,19.9s,baz=334,slow=41						
MKAR	**Makanchi Array**	**41.05**	**91**	*e*P		**P**	**22 42 54.5**	**+2.4**
MKAR	**Makanchi Array**	**41.05**	**91**	*e*P		**P**	**22 42 54.5**	**+2.4**
GEYT	**Alibeck**	**43.50**	**120**	P		**P**	**22 43 13.7**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=303,slow=8.0,SNR=2.4						
GEYT				LR		LR	23 02 28.6	
	comp=Z,143nm,21.9s,baz=265,slow=38						
DLBC	**Dease Lake**	**43.96**	**330**	LR		LR	23 04 59.3	
	comp=Z,56nm,18.4s,baz=357,slow=41						
MMAI	**Mount Meron Ar**	**44.14**	**148**	LR		LR	23 03 30.5	
	comp=Z,58nm,18.2s,baz=0.0,slow=39						
ULM	**Lac du Bonnet**	**45.75**	**300**	LR		LR	23 02 51.4	
	comp=Z,158nm,18.2s,baz=350,slow=36						
ULM	**Lac du Bonnet**	**45.75**	**300**	*e*P		**P**	**22 43 31.7**	**+1.8**
ULM					pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**46.11**	**68**	P		**P**	**22 43 33.7**	**+0.7**

DPC	Dobruska-Polom	1.10 173	⇓iPG	Pb	22 45 47.9	-0.3
DPC			eSG	Sb	22 46 02.7	-0.4
comp=Z,17nm,0.4s						
DPC	Dobruska-Polom	1.10 173	Pg	Pb	22 45 47.9	-0.3
DPC			Sg	Sb	22 46 02.7	-0.4
17nm,0.4s						
PVCC	Panska Ves	1.34 228	⇓ePG	Pn	22 45 52.3	+0.1
PVCC			eSG	Sn	22 46 11.2	+0.5
comp=Z,81nm,0.3s						
PVCC	Panska Ves	1.34 228	Pg	Pn	22 45 52.3	+0.1
PVCC			Sg	Sn	22 46 11.2	+0.5
81nm,0.3s						
KRLC	Kraliky	1.43 163	⇓ePG	Pn	22 45 53.5	0.0
KRLC			eSG	Sb	22 46 12.6	0.0
KRLC	Kraliky	1.43 163	Pg	Pn	22 45 53.5	0.0
KRLC			Sg	Sb	22 46 12.6	0.0
BRG	Berggiesshubel	1.48 248	PN	Pn	22 45 54.0	-0.2
BRG			PG	Pb	22 45 55.2	+0.5
BRG			SG	Sn	22 46 15.0	+0.8
49nm,0.3s						
PRA	Prague	1.74 219	⇓ePN	Pn	22 45 57.8	+0.1
PRA			eSG	Sg	22 46 23.4	+1.3
comp=Z,10nm,0.5s						
PRA	Prague	1.74 219	Pn	Pn	22 45 57.8	+0.1
PRA			Sg	Sg	22 46 23.4	+1.3
10nm,0.5s						
GOPC	GO Pecny, Ondr	1.75 210	⇓ePG	Pb	22 45 59.4	+0.2
GOPC			eSG	Sg	22 46 22.9	+0.6
comp=Z,12nm,0.3s						
GOPC	GO Pecny, Ondr	1.75 210	Pg	Pb	22 45 59.4	+0.2
GOPC			Sg	Sg	22 46 22.9	+0.6
12nm,0.3s						
PRU	Pruhonice	1.76 215	⇓ePN	Pn	22 45 58.3	+0.2
PRU			ePG	Pb	22 45 59.6	+0.1
PRU			eSG	Sg	22 46 23.3	+0.4
comp=Z,10nm,0.2s						
PRU	Pruhonice	1.76 215	Pn	Pn	22 45 58.3	+0.2
MORC	Moravsky Berou	1.90 151	ePn	Pn	22 45 59.9	-0.1
MORC			eSg	Sn	22 46 24.8	+0.2
CLL	Collm	1.96 267	i Pn	Pn	22 46 00.0	-0.7
CLL			i Pg	Pb	22 46 02.5	-0.3
CLL			i		22 46 07.1	
CLL			eSg	Sg	22 46 29.0	-0.1
comp=Z,16nm,0.4s						
OKC	Ostrava-Krasne	2.06 140	⇓ePG	Pg	22 46 05.4	-0.4
OKC			eSG	Sb	22 46 30.9	+0.2
comp=Z,23nm,0.7s						
OKC	Ostrava-Krasne	2.06 140	Pg	Pg	22 46 05.4	-0.4
OKC			Sg	Sb	22 46 30.9	+0.2
comp=Z,23nm,0.7s						
VRAC	Vranov	2.15 172	ePn	Pn	22 46 04.6	+1.1
VRAC			eSg	Sg	22 46 36.7	+1.2
TREC	Trest	2.18 191	⇓eSG	Sg	22 46 36.5	+0.1
comp=Z,14nm,0.5s						
TREC	Trest	2.18 191	Sg	Sg	22 46 36.5	+0.1
comp=Z,14nm,0.5s						
NKC	Novy Kostel	2.62 244	⇓ePN	Pn	22 46 10.2	+0.3
NKC			ePG	Pg	22 46 16.2	-0.3
NKC			eSG	Sg	22 46 50.8	+0.4
comp=Z,20nm,0.4s						
NKC	Novy Kostel	2.62 244	Pn	Pn	22 46 10.2	+0.3
KHC	Kasperske Hory	2.83 216	⇓ePN	Pn	22 46 13.2	+0.5
KHC			ePG	Pb	22 46 18.9	+1.2
KHC			eSN	Sn	22 46 47.0	-0.5
KHC			eSG	Sg	22 46 56.8	-0.3
comp=Z,7.9nm,0.5s						
KHC	Kasperske Hory	2.83 216	Pn	Pn	22 46 13.2	+0.5
KHC	Kasperske Hory	2.83 216	Pg	Pb	22 46 18.9	+1.2
KHC			Sn	Sn	22 46 47.0	-0.5
KHC			Sg	Sg	22 46 56.8	-0.3
comp=Z,7.9nm,0.5s						
LANS	Liptovska Anna	3.14 136	ePg	Pg	22 46 25.0	-1.5
LANS			eSg	Sg	22 47 06.4	-0.8
LANS	Liptovska Anna	3.14 136	ePG	Pg	22 46 25.0	-1.5
LANS			eSG	Sg	22 47 06.4	-0.8
VYHS	Vyhne	3.43 148	ePg	Pg	22 46 31.7	-0.3
VYHS	Vyhne	3.43 148	ePG	Pg	22 46 31.7	-0.3
VYHS			eSG	Sg	22 47 17.6	+1.1
CONA	Conrad Observa	3.52 183	ePn	Pg	22 46 32.7	-1.1
CONA			Sg	Sg	22 47 20.9	+1.6
comp=Z,4.9nm,0.4s						
MOA	Molln	3.79 199	ePn	Pn	22 46 26.8	+0.8
comp=Z,0.6nm,0.2s						
MOA			Sg	Sg	22 47 28.6	+0.7
comp=Z,4.4nm,0.3s						
MOA	Molln	3.79 199	Pn	Pn	22 46 26.8	+0.8
comp=Z,0.6nm,0.2s						
MOA			Sg	Sg	22 47 28.6	+0.7
comp=Z,4.4nm,0.3s						
STHS	Stebnicka Huta	3.85 120	ePg	Pg	22 46 39.3	-0.8
STHS	Stebnicka Huta	3.85 120	ePG	Pg	22 46 39.3	-0.8
STHS			eSG	Sg	22 47 34.4	+4.4
STHS			eLG	Lg	22 47 36.0	
ARSA	Arzberg	4.21 186	Sg	Sg	22 47 41.4	-0.1
comp=Z,4.7nm,0.6s						
ARSA	Arzberg	4.21 186	Sg	Sg	22 47 41.4	-0.1
comp=Z,4.7nm,0.6s						

MEX 19 22:46:20.3±0.4, 16°.04N×97°.71W, h5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.53	311	eP	Pg	22 46 30.0	-0.5
PNIG				eS	Sg	22 46 38.1	+0.7
VHO	Vista Hermosa	1.39	42	eP	Pn	22 46 42.8	-3.8
VHO				eS	Sg	22 47 00.2	-4.8
HUIG	Huatulco	1.56	100	eP	Pn	22 46 45.9	-2.9
TLIG	Tlapa	1.72	332	eP	Pb	22 46 52.0	-0.5
TLIG				i S	Sb	22 47 14.0	-0.5

*IDC **19** 22:55:18.7±0.9, 52°.77N×168°.98E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/56, mbtmp4.0/13, ML3.6/1, MS2.9/4, Ms1 3.0/4, ms1mx2.7/54, Error ellipse: s-maj=32.5km s-min=16.0km az=159.0*

*NEIC **19** 22:55:20.1±0.6, 52°.75N×169°.07E, h10km, mb4.3/7, Error ellipse: s-maj=17.4km s-min=7.5km az=166.0*

*ISCJB **19** 22:55:21.6±0.5, 52°.79N±0°.08×168°.96E±0°.05, h33km, mb4.0/19, MS3.0/2, Error ellipse: s-maj=11.9km s-min=4.3km az=1.2*

*MOS **19** 22:55:21.8±1.0, 52°.71N×168°.96E, h41km, mb4.2/8, Error ellipse: s-maj=13.8km s-min=8.3km az=27.5*

*KRSC **19** 22:55:25.6±3.1, 52°.81N×168°.32E, h62km±57km, ML4.4*

ISC 19 22:55:23.7±0.7, 52°.9N±0°.1×168°.92E±0°.05, h35km, n61, σ2°.09/65, mb4.1/19, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	3.15	90	eP	Pn	22 56 08.2	-2.5
SMY				eS	Sn	22 56 41.6	-5.4
SMY	Shemya	3.15	90	ePn	Pn	22 56 08.2	-2.5
SMY				eS	Sn	22 56 41.6	-5.4
MKZ	Mys Kozlova	4.60	295	P	Pn	22 56 31.9	+1.3
MKZ				S	Sn	22 57 22.0	-0.8
MKZ	Mys Kozlova	4.60	295	eP	Pn	22 56 31.9	+1.3
MKZ				eS	Sn	22 57 22.0	-0.8
KBTR	Krutoberegovo	4.89	316	P	Pn	22 56 34.3	-0.4
KBTR				S	Sn	22 57 26.2	-3.8
KBTR	Krutoberegovo	4.89	316	eP	Pn	22 56 34.3	-0.4
KBTR				eS	Sn	22 57 26.2	-3.8
SPN	Mys Shipunski	5.38	276	P	Pn	22 56 41.6	+0.2
SPN	Mys Shipunski	5.38	276	eP	Pn	22 56 41.6	+0.2
ZLN	Zelenaya	5.70	307	P	Pn	22 56 48.9	+3.0
ZLN	Zelenaya	5.70	307	eP	Pn	22 56 48.9	+3.0
TUMR	Tumrok	5.71	299	P	Pn	22 56 48.9	+2.9
TUMR	Tumrok	5.71	299	eP	Pn	22 56 48.9	+2.9
LGNR	Loginova	5.79	307	eS	Sn	22 57 52.8	+0.3
BZMR	Bezymyannaya	5.81	305	P	Pn	22 56 50.3	+2.9
BZMR	Bezymyannaya	5.81	305	eP	Pn	22 56 50.3	+2.9
KPT	Kopyto	5.96	305	P	Pn	22 56 51.3	+1.9
KPT	Kopyto	5.96	305	eP	Pn	22 56 51.3	+1.9
SDLR	Sedlovina	6.07	278	P	Pn	22 56 50.7	-0.2
SDLR	Sedlovina	6.07	278	eP	Pn	22 56 50.7	-0.2
KRER	Koryakskii	6.15	278	P	Pn	22 56 53.1	+1.0
KRER	Koryakskii	6.15	278	eP	Pn	22 56 53.1	+1.0
AVH	Avacha	6.16	278	P	Pn	22 56 52.7	+0.6
AVH	Avacha	6.16	278	eP	Pn	22 56 52.7	+0.6
KRX	Arik	6.21	279	P	Pn	22 56 54.0	+1.1
KRX	Arik	6.21	279	eP	Pn	22 56 54.0	+1.1
RUS	Russkaya	6.35	270	P	Pn	22 56 54.8	+0.1
RUS				S	Sn	22 58 01.6	-4.3
RUS	Russkaya	6.35	270	eP	Pn	22 56 54.8	+0.1
RUS				eS	Sn	22 58 01.6	-4.3
KRMR	Karymshinskiy	6.54	274	P	Pn	22 56 57.6	+0.3
KRMR				S	Sn	22 58 06.3	-4.2
KRMR	Karymshinskiy	6.54	274	eP	Pn	22 56 57.6	+0.3
KRMR				eS	Sn	22 58 06.3	-4.2
GNL	Ganaly	6.64	282	P	Pn	22 56 59.9	+1.1
GNL	Ganaly	6.64	282	eP	Pn	22 56 59.9	+1.1
ASAK	Asacha	6.73	270	P	Pn	22 57 01.4	+1.4
ASAK	Asacha	6.73	270	eP	Pn	22 57 01.4	+1.4
PETK	Petropavlovsk-	6.78	277	Pn	Pn	22 57 01.8	+1.1
5.9nm,0.3s,baz=84,slow=18,SNR=36							
PETK				Sn	Sn	22 58 13.9	-2.7
baz=231,slow=11,SNR=2.9							
PETK				LR	LR	23 00 27.4	
comp=Z,45nm,18.1s,baz=84,slow=45							
MA2	Magadan	12.12	311	LR	LR	23 02 47.3	
comp=Z,48nm,19.4s,baz=73,slow=37							
OHAK	Old Harbor	21.89	63	eP	P	23 00 11.1	-2.2
8.3nm,0.7s							
KDAK	Kodiak Island	22.23	62	P	P	23 00 15.3	-1.6
6.4nm,0.3s,baz=238,slow=5.5,SNR=41							
KDAK				LR	LR	23 09 39.3	
comp=Z,41nm,18.4s,baz=291,slow=39							
PPLA	Purkeypile	22.63	48	eP	P	23 00 22.8	+1.5
56nm,1.7s							
BPAW	Bear Paw Mtn.	23.35	46	eP	P	23 00 28.2	-0.4
1.4nm,0.9s							
TRF	Thorofare Moun	23.56	47	eP	P	23 00 30.4	-0.4
12nm,0.8s							
MCK	McKinley	24.20	47	eP	P	23 00 36.5	0.0
MCK				pmax	pmax		
comp=Z,6.0nm,0.8s							
MCK	McKinley	24.20	47	eP	P	23 00 36.5	0.0
comp=Z,6.2nm,0.8s							
ILAR	Eielson Array	25.21	45	P	P	23 00 45.1	-0.6
comp=Z,4.4nm,0.8s,baz=250,slow=7.6,SNR=35							
ILAR				LR	LR	23 10 26.1	
comp=Z,51nm,20.5s,baz=250,slow=36							
EGAK	Eagle	27.66	45	eP	P	23 01 07.1	-0.7
comp=Z,6.3nm,0.8s							
INK	Inuvik	30.79	38	P	P	23 01 35.9	+0.5
comp=Z,3.4nm,1.0s,baz=273,slow=3.2,SNR=4.7							
H11N2	WAKE ISLAND Hy	33.09	183	T	T	23 38 05.7	
baz=352							
H11N3	WAKE ISLAND Hy	33.11	183	T	T	23 38 02.2	
baz=352							
H11N1	WAKE ISLAND Hy	33.11	184	T	T	23 37 59.3	
baz=352							
DLBC	Dease Lake	33.84	56	P	P	23 02 02.9	+0.5
comp=Z,2.2nm,0.8s,baz=268,slow=9.6,SNR=4.6							
H11S1	WAKE ISLAND Hy	34.32	184	T	T	23 39 16.6	
baz=11							
H11S3	WAKE ISLAND Hy	34.33	184	T	T	23 39 18.5	
baz=11							
H11S2	WAKE ISLAND Hy	34.34	184	T	T	23 39 16.7	
baz=11							
SONM	Songino Array	39.10	289	P	P	23 02 47.6	+0.2
comp=Z,0.7nm,0.6s,baz=60,slow=8.7,SNR=3.9							
YKA	Yellowknife Ar	39.64	45	P	P	23 02 52.1	+0.6
comp=Z,0.5nm,0.5s,baz=292,slow=8.2,SNR=3.9							
PDAR	Pinedale Array	52.86	66	P	P	23 04 36.8	+0.9
comp=Z,1.5nm,0.9s,baz=309,slow=4.3,SNR=4.9							
ABKAR	Akbulak array	61.87	315	eP	P	23 05 39.9	+0.9
comp=Z,1.1nm,0.6s							
TXAR	Lajitas Array	65.70	73	P	P	23 06 05.9	+1.2
comp=Z,1.1nm,0.8s,baz=307,slow=4.9,SNR=6.0							
AKASG	Malin Array Be	71.36	334	P	P	23 06 40.3	+0.7
comp=Z,0.2nm,0.3s,baz=29,slow=6.5,SNR=3.7							
GEYT	Alibeck	71.56	309	P	P	23 06 42.0	+1.0
comp=Z,1.7nm,0.7s,baz=0.0,slow=4.9,SNR=4.3							
FITZ	Fitzroy Crossi	79.96	221	P	P	23 07 28.8	-0.2
comp=Z,1.8nm,0.8s,baz=12,slow=8.1,SNR=4.0							
ASAR	Alice Springs	82.07	212	P	P	23 07 40.1	-0.1
comp=Z,0.9nm,0.8s,baz=29,slow=3.6,SNR=6.3							

IDC 19 22:56:05.5±11.0, 2°.84N×128°.65E, h200km±97km, mb3.4/6, mb1 3.6/6, mb1mx3.2/45, mbtmp3.9/6, Error ellipse: s-maj=97.0km s-min=19.2km az=55.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.02	188	P	P	23 00 33.1	-0.8
0.9nm,0.8s,baz=14,slow=8.3,SNR=3.0							
WRA	Warramunga Arr	23.32	166	P	P	23 00 56.0	+0.1
0.7nm,0.3s,baz=346,slow=10,SNR=13							
ASAR	Alice Springs	26.84	169	P	P	23 01 27.8	+0.1
0.5nm,0.3s,baz=351,slow=8.3,SNR=11							
ASAR				PcP	PcP	23 04 45.0	-0.1
0.4nm,0.4s,baz=349,slow=2.1,SNR=5.9							
CMAR	Chiang Mai Arr	32.97	300	P	P	23 02 22.2	+0.4
1.2nm,0.4s,baz=116,slow=7.3,SNR=5.4							
STKA	Stephens Creek	36.66	161	P	P	23 02 53.2	+0.2
1.1nm,0.3s,baz=328,slow=12,SNR=6.8							
ARCES	ARCESS Array B	91.93	340	P	P	23 08 50.3	-0.6
3.5nm,0.8s,baz=94,slow=4.7,SNR=2.8							
TORD	Torodi Ar. Bea	125.02	288	PKP	PKPdf	23 14 42.5	-0.4
0.4nm,0.8s,baz=60,slow=1.9,SNR=4.2							

*ISCJB **19** 22:59:35.4±0.4, 15°.87S±0°.06×69°.54W±0°.07, h213km, mb3.6/12, Error ellipse: s-maj=10.3km s-min=6.6km az=141.9*

*IDC **19** 22:59:38.0±0.6, 15°.80S×69°.58W, h230km±4km, mb3.4/13, mb1 3.5/18, mb1mx3.4/47, mbtmp4.0/18, Error ellipse: s-maj=13.9km s-min=9.8km az=42.0*

ISC 19 22:59:36.2±0.5, 15°.88S±0°.07×69°.66W±0°.07, h213km, n26, σ1°.65/28, mb3.8/12, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.52	106	P	Pn	23 00 16.4	+4.4
42nm,0.3s,baz=330,slow=6.7,SNR=2289							
LPAZ				S	S	23 00 44.1	+4.6
35nm,0.3s,baz=328,slow=24,SNR=18							
LVC	Limon Verde	6.73	174	P	Pn	23 01 14.5	+1.0
670nm,0.3s,baz=31,slow=10.0,SNR=232							
LVC				S	S	23 02 27.3	-3.3
253nm,0.3s,baz=148,slow=19,SNR=4.8							
NNA	Nana	7.98	298	P	Pn	23 01 32.7	+3.4
2.1nm,0.3s,baz=201,slow=14,SNR=2.6							
NNA				S	S	23 03 00.3	+0.7
3.4nm,0.3s,baz=357,slow=8.3,SNR=4.5							
SIV	San Ignacio	8.26	92	P	Pn	23 01 34.0	+1.1
0.1nm,0.3s,baz=297,slow=14,SNR=1.8							
ATAH	Atahualpa	12.20	314	P	P	23 02 25.8	-1.9
0.1nm,0.3s,baz=3.6,slow=16,SNR=2.5							
CPUP	Villa Florida	15.49	134	P	Pn	23 03 04.2	+0.3
0.2nm,0.3s,baz=318,slow=13,SNR=3.9							
PTGA	Pitinga	17.83	33	P	Pn	23 03 30.2	-1.5
1.6nm,0.3s,baz=209,slow=12,SNR=22							
BDFB	Brasilia	20.83	92	P	P	23 04 01.0	-0.8
0.6nm,0.4s,baz=72,slow=9.5,SNR=3.7							
PLCA	Paso Flores	24.78	182	P	P	23 04 38.8	+0.2
1.9nm,0.9s,baz=26,slow=12,SNR=5.2							
CMIG	Matias Romero	41.14	322	P	P	23 07 00.3	+0.5
1.7nm,0.6s,baz=108,slow=9.6,SNR=3.5							
TXAR	Lajitas Array	55.67	324	P	P	23 08 49.6	-1.1
0.1nm,0.3s,baz=155,slow=11,SNR=3.9							
SNAA	Sanae	67.80	162	P	P	23 10 11.5	+0.6
1.4nm,0.6s,baz=300,slow=6.1,SNR=7.1							
DBIC	Dimbokro	67.94	76	P	P	23 10 11.3	-1.3
2.6nm,1.0s,baz=242,slow=5.7,SNR=6.6							
ULM	Lac du Bonnet	69.77	342	P	P	23 10 21.7	-1.5
0.9nm,0.3s,baz=144,slow=19,SNR=4.1							
TORD	Torodi Ar. Bea	76.21	72	P	P	23 11 00.1	-1.6
2.5nm,0.5s,baz=272,slow=4.9,SNR=44							
VNDA	Vanda	82.24	190	P	P	23 11 34.6	+1.5
0.4nm,0.5s,baz=123,slow=4.5,SNR=7.1							
ESDC	Sonseca Array	82.37	45	P	P	23 11 33.9	-0.6
0.4nm,0.6s,baz=246,slow=6.4,SNR=3.7							
TSUM	Tsumeb	82.37	108	P	P	23 11 35.4	+0.2
1.8nm,0.6s,baz=275,slow=8.0,SNR=5.2							
YKA	Yellowknife Ar	85.67	341	P	P	23 11 50.8	+0.2
0.3nm,0.4s,baz=131,slow=4.9,SNR=11							
MAW	Mawson	89.89	164	P	P	23 12 11.2	+0.5
0.9nm,0.3s,baz=251,slow=3.8,SNR=4.8							
ASAR	Alice Springs	134.45	211	PKP	PKPdf	23 18 28.0	-1.8
0.7nm,0.6s,baz=132,slow=1.9,SNR=5.7							
KURBB	Kurchatov Arra	136.93	29	PKP	PKPdf	23 18 34.1	+0.7
0.2nm,0.5s,baz=306,slow=2.8,SNR=2.9							
KURBB				SKP		23 21 45.3	
0.3nm,0.8s,baz=315,slow=3.2,SNR=4.2							
ZALV	Zalesovo Beam	137.11	22	PKP	PKPdf	23 18 33.8	+0.1
1.3nm,0.6s,baz=312,slow=1.3,SNR=7.0							
ZALV				SKP		23 21 45.9	
1.2nm,0.8s,baz=328,slow=5.1,SNR=4.3							
WRA	Warramunga Arr	137.30	214	PKP	PKPdf	23 18 35.2	0.0
0.6nm,0.3s,baz=135,slow=1.5,SNR=22							
MKAR	Makanchi Array	141.36	31	PKP	PKPdf	23 18 41.9	+0.1
0.2nm,0.2s,baz=310,slow=1.1,SNR=2.3							
SONM	Songino Array	147.97	5	PKPbc	PKPbc	23 18 56.1	-0.4
1.1nm,0.5s,baz=344,slow=1.8,SNR=3.1							

IDC 19 22:59:44.8±1.9, 29°.76N×142°.92E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/52, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=87.7km s-min=19.9km az=62.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	7.83	331	Pn	Pn	23 01 40.3	+0.3
1.3nm,0.3s,baz=144,slow=16,SNR=6.0							
KSRS	Korea Array	14.66	306	Pn	Pn	23 03 13.8	+0.4
0.2nm,0.3s,baz=114,slow=14,SNR=2.8							
SONM	Songino Array	33.31	313	P	P	23 06 23.7	-0.6
0.4nm,0.3s,baz=126,slow=9.1,SNR=2.8							
HNR	Honiara	42.27	155	P	P	23 07 39.7	-0.5
140nm,0.4s,baz=330,slow=23,SNR=6.9							
MKAR	Makanchi Array	49.32	308	P	P	23 08 35.2	-0.5
0.3nm,0.3s,baz=98,slow=8.3,SNR=4.9							
WRA	Warramunga Arr	50.10	191	P	P	23 08 41.9	+0.1
1.0nm,0.5s,baz=8.2,slow=7.8,SNR=14							
BRTR	Keskin Array B	84.67	313	P	P	23 12 21.5	+0.6
0.7nm,0.7s,baz=111,slow=3.2,SNR=3.5							

*IDC **19** 23:04:16.6±4.6, 31°.72S×69°.48W, h83km±36km, mb3.7/4, mb1 3.8/6, mb1mx3.5/30, mbtmp4.1/6, Error ellipse: s-maj=42.0km s-min=28.4km az=73.0*

*ISCJB **19** 23:04:18.6±0.5, 31°.70S±0°.04×69°.62W±0°.07, h125km±5km, mb3.8/4, Error ellipse: s-maj=10.1km s-min=6.5km az=22.1*

*SJA **19** 23:04:18.1±0.5, 31°.72S×69°.63W, h124km±4km, ML3.6, MW3.6*

ISC 19 23:04:19.7±0.8, 31°.69S±0°.05×69°.63W±0°.06, h115km±7km, n24, σ0°.70/32, mb3.8/4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.57	159	eP	Pn	23 04 38.3	+0.4
RTCV	Cerro Valdivia	0.94	101	eP	Pn	23 04 40.7	-0.1
RTLL	Cerro Villicun	1.05	70	eP	Pn	23 04 41.6	-0.3
ASAL	Salagasta	1.12	143	eP	Pn	23 04 42.4	-0.2
ASAL				eS	Sn	23 05 00.3	+0.3
AMOG	MOGNA	1.23	53	eP	Pn	23 04 44.0	+0.1
AMOG				eS	Sn	23 05 02.8	+0.6
ARCO	CERRO ARCO	1.29	153	eP	Pn	23 04 44.0	-0.6
ARCO				eS	Sn	23 05 03.5	+0.1
AAGR	Agrelo	1.54	154	eP	Pn	23 04 47.5	+0.1
ACDV	Cuesta del Vie	1.58	16	eP	Pn	23 04 48.1	+0.1
ROC1	El Roble	1.73	222	eP	Pn	23 04 49.3	-0.6
ROC1				eS	Sn	23 05 12.7	-0.3
AVFE	Valle Fertil	2.13	62	eP	Pn	23 04 54.6	0.0
AVFE				IAML		23 05 24.2	
comp=Z,302nm,0.3s							
ACAN	Cantantal	2.15	106	eP	Pn	23 04 54.5	-0.4
ACAN				eS	Sn	23 05 21.4	-0.5
AGUA	GUANDACOL	2.41	24	eP	Pn	23 04 58.5	+0.2
AGUA				eS	Sn	23 05 28.4	+0.5
ACHE	Chepes	2.59	79	eP	Pn	23 05 00.7	+0.1
APLL	PUNTA DE LOS L	2.96	65	eP	Pn	23 05 05.6	+0.2
LVC	Limon Verde	9.07	4	P	Pn	23 06 25.3	-2.7
comp=Z,9.4nm,0.3s,baz=180,slow=14,SNR=3.6							
SIV	San Ignacio	17.47	28	P	P	23 08 14.7	-1.0
comp=Z,0.4nm,0.3s,baz=189,slow=13,SNR=6.6							
SNAA	Sanae	52.97	159	P	P	23 13 23.7	-0.2
comp=Z,0.6nm,0.7s,baz=274,slow=5.6,SNR=6.1							
TXAR	Lajitas Array	68.78	328	P	P	23 15 12.2	+0.8
comp=Z,0.2nm,0.6s,baz=143,slow=7.6,SNR=3.8							
DBIC	Dimbokro	72.51	70	P	P	23 15 34.2	-0.1
comp=Z,2.6nm,0.5s,baz=209,slow=7.5,SNR=5.9							
TORD	Torodi Ar. Bea	81.50	69	P	P	23 16 24.2	-0.4
comp=Z,1.2nm,0.7s,baz=236,slow=4.7,SNR=16							
AAK	Ala-Archa	149.60	59	PKPbc	PKPbc	23 23 56.7	+1.0
comp=Z,1.9nm,0.5s,baz=202,slow=6.3,SNR=3.7							
AAK				PKPab	PKPab	23 24 01.5	+0.3
comp=Z,1.9nm,0.5s,baz=252,slow=3.2,SNR=5.8							
KURBB	Kurchatov Arra	149.80	42	PKPbc	PKPbc	23 23 55.9	+0.2
comp=Z,1.6nm,0.7s,baz=300,slow=2.9,SNR=12							
ZALV	Zalesovo Beam	151.20	32	PKPbc	PKPbc	23 23 59.6	+0.7
comp=Z,4.9nm,0.4s,baz=310,slow=3.1,SNR=25							
MKAR	Makanchi Array	153.72	47	PKPbc	PKPbc	23 24 05.2	+0.3
comp=Z,0.2nm,0.3s,baz=308,slow=1.6,SNR=3.6							
MKAR				PKPab	PKPab	23 24 18.6	+0.4
comp=Z,0.6nm,0.7s,baz=270,slow=4.7,SNR=3.5							

*ISK **19** 23:10:00.4, 34°.70N×29°.18E, h18km, MD3.4*

*ISCJB **19** 23:10:02.1±3.0, 34°.7N±0°.1×29°.13E±0°.06, h29km±49km, Error ellipse: s-maj=24.6km s-min=8.6km az=2.8*

*CSEM **19** 23:10:02.3±0.5, 34°.72N×29°.12E, h20km, MD3.4*

*DDA **19** 23:10:12.7, 35°.65N×28°.79E, h29km, Md3.2*

**ISC 19 23:10:02.7±5.2, 34°.8N±0°.1×29°.12E±0°.05, h19km±19km, n49, σ0°.93/58, East

*ISCJB **19** 23:14:52.8±0.5, 33°.93N±0°.08×136°.96E±0°.08, h375km±3km, mb3.3/10, Error ellipse: s-maj=14.3km s-min=8.3km az=149.8*
*IDC **19** 23:14:52.8±1.1, 33°.91N×137°.03E, h363km±8km, mb3.1/10, mb1 3.4/13, mb1mx3.1/55, mbtmp3.8/13, Error ellipse: s-maj=19.5km s-min=13.3km az=150.0*
*JMA **19** 23:14:52.8±0.2, 33°.91N×136°.96E, h377km±2km, M3.3*
ISC 19 23:14:53.4±0.8, 33°.94N±0°.09×136°.94E±0°.07, h370km±6km, n35, σ0s83/43, mb3.3/10, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.22**	**161**	P	**Pn**	**23 15 40.5**	**+1.3**
JIE	**Ise**	**0.49**	**337**	P	**Pn**	**23 15 40.7**	**+0.9**
JIE				eS	**S**	**23 16 17.0**	**-0.2**
TK01	**Tokai 1**	**0.57**	**108**	eS	**S**	**23 16 16.8**	**0.0**
JKN2	**Miekihoku**	**0.63**	**298**	P	**Pn**	**23 15 40.7**	**+0.6**
JKN2				eS	**S**	**23 16 16.9**	**-0.8**
JWZ	**Kozaga**	**1.10**	**249**	P	**Pn**	**23 15 41.7**	**-0.1**
JHMK	**Hamakita**	**1.10**	**37**	P	**Pn**	**23 15 42.2**	**+0.7**
HMMJ	**Hamamatsu 2**	**1.12**	**35**	P	**Pn**	**23 15 42.3**	**+0.6**
JWY	**Kouya**	**1.15**	**284**	P	**Pn**	**23 15 42.7**	**+0.7**
JAO	**Obara**	**1.35**	**11**	P	**Pn**	**23 15 43.8**	**+1.0**
JAO				S	**S**	**23 16 23.1**	**+0.5**
JNY	**Yasuok**	**1.60**	**28**	P	**Pn**	**23 15 44.6**	**+0.4**
JNY				eS	**S**	**23 16 25.2**	**+0.2**
JWT	**Wachi**	**1.85**	**317**	P	**Pn**	**23 15 45.7**	**+0.2**
JWT				eS	**S**	**23 16 26.2**	**-1.3**
JAI	**Aioi**	**2.08**	**267**	P	**Pn**	**23 15 47.1**	**0.0**
JOD2	**Odawara 2**	**2.21**	**53**	P	**Pn**	**23 15 48.6**	**+0.6**
JMN	**Monobe**	**2.56**	**266**	P	**Pn**	**23 15 50.7**	**0.0**
JRY	**Ryogami san**	**2.62**	**37**	P	**Pn**	**23 15 51.7**	**+0.6**
JHU	**Hanno**	**2.71**	**45**	P	**Pn**	**23 15 51.9**	**+0.1**
JHU				eS	**S**	**23 16 37.7**	**-1.1**
MAT	**Matsushiro**	**2.79**	**21**	P	**Pn**	**23 15 53.1**	**+0.6**
MAT				S	**S**	**23 16 39.3**	**-0.9**
MAT	**Matsushiro**	**2.79**	**21**	P	**Pn**	**23 15 52.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.79**	**21**	P	**Pn**	**23 15 52.7**	**+0.2**
	6.4nm,0.3s,baz=196,slow=9.2,SNR=134						
MJAR				S	**S**	**23 16 38.4**	**-1.8**
	baz=192,slow=15,SNR=3.1						
BSO3	**Boso 3**	**3.07**	**73**	P	**Pn**	**23 15 53.7**	**-0.9**
JHS	**Saijyo**	**3.33**	**290**	P	**Pn**	**23 15 57.7**	**+0.4**
JSZ	**Suzu**	**3.52**	**5**	P	**Pn**	**23 15 59.3**	**+0.5**
JTO	**Tosashimizu**	**3.63**	**254**	P	**Pn**	**23 16 00.1**	**+0.1**
JNU	**Nakatsue**	**5.13**	**263**	P	**Pn**	**23 16 15.7**	**+0.3**
	2.7nm,0.3s,baz=92,slow=7.6,SNR=16						
KSRS	**Korea Array**	**8.13**	**298**	P	**P**	**23 16 50.2**	**-0.9**
	0.4nm,0.3s,baz=120,slow=10,SNR=8.7						
SONM	**Songino Array**	**26.74**	**310**	P	**P**	**23 20 02.3**	**+1.6**
	1.5nm,0.8s,baz=129,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**37.18**	**255**	P	**P**	**23 21 31.0**	**+0.2**
	1.0nm,0.5s,baz=56,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**42.76**	**304**	P	**P**	**23 22 16.2**	**+0.4**
	0.3nm,0.3s,baz=97,slow=9.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**45.11**	**310**	P	**P**	**23 22 34.0**	**-0.2**
	0.7nm,0.5s,baz=89,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**53.64**	**183**	P	**P**	**23 23 37.2**	**-1.0**
	0.3nm,0.3s,baz=358,slow=7.8,SNR=5.6						
ILAR	**Eielson Array**	**54.03**	**31**	P	**P**	**23 23 40.8**	**+0.2**
	0.8nm,0.9s,baz=294,slow=8.2,SNR=7.5						
YKA	**Yellowknife Ar**	**68.28**	**28**	P	**P**	**23 25 13.4**	**-1.7**
	0.4nm,0.6s,baz=300,slow=6.0,SNR=3.4						
FINES	**FINESS Array B**	**69.81**	**331**	P	**P**	**23 25 24.3**	**-0.1**
	5.7nm,1.1s,baz=35,slow=4.7,SNR=6.5						
PDAR	**Pinedale Array**	**82.42**	**43**	P	**P**	**23 26 36.9**	**+1.3**
	1.1nm,0.8s,baz=270,slow=1.5,SNR=6.3						
TXAR	**Lajitas Array**	**94.90**	**50**	P	**P**	**23 27 35.8**	**+1.1**
	0.3nm,0.8s,baz=284,slow=3.6,SNR=3.4						

*NEIC **19** 23:36:12.2±0.0, 37°.54N×118°.87W, h9km, ML2.7(REN), ML3.2(NCEDC), After NCEDC.*
NEIC Felt [III] at Mammoth Lakes. Also felt at Clovis and Sanger.
ISC 19 23:36:12.1±0.9, 37°.55N±0°.04×118°.87W±0°.04, h10km±8km, n23, σ0s91/36, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth, Mammo**	**0.08**	**19**	P	**Pg**	**23 36 14.8**	**0.0**
	baz=110						
MLAC				S	**Sg**	**23 36 16.9**	**+0.2**
	baz=110						
TIN	**Tinemaha, Big**	**0.71**	**134**	P	**Pg**	**23 36 25.7**	**-0.3**
	baz=328,SNR=20						
CWC	**Cottonwood Cre**	**1.28**	**150**	P	**Pn**	**23 36 35.5**	**-0.7**
	baz=338						
CWC				S	**Sb**	**23 36 51.8**	**-1.1**
	baz=338						
RCTC	**Rector, Farmer**	**1.28**	**194**	P	**Pn**	**23 36 35.3**	**-0.7**
	baz=20,SNR=12						
CMB	**Columbia Colle**	**1.29**	**292**	ePn	**Pn**	**23 36 35.7**	**-0.6**
CMB				eS	**Sb**	**23 36 53.3**	**0.0**
GRAC	**Grapevine Rang**	**1.32**	**114**	P	**Pb**	**23 36 37.0**	**-0.1**
	baz=300,SNR=94						
GRAC				S	**Sg**	**23 36 55.4**	**+0.7**
	baz=300						
DAC	**Darwin (Calif)**	**1.63**	**141**	ePn	**Pn**	**23 36 41.6**	**+0.4**
DAC				eS	**Sb**	**23 37 02.9**	**-0.3**
VES	**Vestal, Richgr**	**1.72**	**186**	P	**Pn**	**23 36 42.8**	**+0.7**
	baz=11,SNR=6.2						
VES				S	**Sb**	**23 37 04.9**	**-0.5**
	baz=11						
MPMC	**Manual Prospec**	**1.86**	**143**	P	**Pn**	**23 36 44.5**	**+0.3**
	baz=329,SNR=41						
MPMC				Sb	**Sg**	**23 37 10.8**	**-1.1**
	baz=329						
ISA	**Isabella, Lake**	**1.91**	**170**	Pb	**Pb**	**23 36 46.8**	**-0.3**
	baz=356,SNR=11						
ISA				Sb	**Sb**	**23 37 11.7**	**+0.6**
	baz=356						
FURC	**Furnace Creek,**	**1.94**	**123**	Pb	**Pb**	**23 36 48.0**	**+0.5**
	baz=308,SNR=32						
TPNV	**Topopah Spring**	**2.18**	**105**	P	**Pn**	**23 36 48.8**	**+0.3**
	baz=289,SNR=44						
TPNV				Sg	**Sg**	**23 37 23.0**	**+0.9**
	baz=289						
SAO	**San Andreas Ge**	**2.20**	**250**	ePn	**Pn**	**23 36 50.2**	**+1.4**
LRMC	**Laurel Mtn Rad**	**2.28**	**155**	Pb	**Pb**	**23 36 53.6**	**+0.2**
	baz=340,SNR=16						
LRMC				Sb	**Sg**	**23 37 23.2**	**-2.2**
	baz=340						
ARVC	**Arvin**	**2.42**	**179**	Pb	**Pb**	**23 36 55.4**	**-0.4**
	baz=3.5,SNR=5.7						
ARVC				Sb	**Sb**	**23 37 26.2**	**+0.5**
	baz=3.5						
SHOC	**Shoshone, Teco**	**2.66**	**128**	Pb	**Pb**	**23 36 60.0**	**+0.1**
	baz=312,SNR=8.7						
R11A	**Troy Canyon, C**	**2.71**	**72**	P	**Pn**	**23 36 56.7**	**+0.7**
	baz=253,SNR=32						
R11A				Sb	**Sg**	**23 37 38.0**	**-1.4**
	baz=253						
R11A	**Troy Canyon, C**	**2.71**	**72**	ePn	**Pb**	**23 37 00.6**	**-0.3**
R11A				eS	**Sg**	**23 37 37.8**	**-1.6**
EDW2	**Edwards Air Fo**	**2.76**	**165**	Sb	**Sb**	**23 37 37.1**	**+1.6**
	baz=349						
GSC	**Goldstone, Bar**	**2.80**	**143**	P	**Pn**	**23 36 57.7**	**+0.7**
	baz=328,SNR=12						
OSI	**Osito Audit: C**	**2.94**	**178**	Sb	**Sb**	**23 37 42.4**	**+1.9**
	baz=1.2						
TUQ	**Turquoise Moun**	**3.18**	**131**	P	**Pn**	**23 37 02.8**	**+0.5**
	baz=315,SNR=10.0						
BELC	**Belle Mtn. Jos**	**4.24**	**146**	P	**Pn**	**23 37 17.8**	**+0.8**
	baz=330						

*IGIL **19** 23:39:18.6, 37°.17N×13°.85W, h0km, ML2.6*
*MDD **19** 23:39:18.7±1.8, 37°.13N×13°.79W, h0km, mb4.3/4, Error ellipse: s-maj=16.2km s-min=14.3km az=52.0, PRXIMO*
*INMG **19** 23:39:19.8±0.8, 36°.90N×14°.18W, h10km, ML2.6, Error ellipse: s-maj=4.3km s-min=2.4km az=127.0*
*CSEM **19** 23:39:22.0±0.3, 37°.23N×13°.51W, h10km, ML3.2/10, Error ellipse: s-maj=5.8km s-min=5.0km az=38.0*
ISC 19 23:39:18.7±3.5, 37°.15N±0°.09×13°.8W±0°.2, h22km, n95, σ1s51/174, 2C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.99**	**89⇑**	ePn	**Pn**	**23 40 19.1**	**+0.6**
PFVI				eSn	**Sn**	**23 41 03.4**	**-1.2**
PFVI				A	A	23 41 06.6	
	8.6nm,0.7s						
PFVI	**Vila Bisbo**	**3.99**	**89**	⇑P	**Pn**	**23 40 19.1**	**+0.6**
	5.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**23 41 03.6**	**-1.1**
	3.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.99**	**89**	P	**Pn**	**23 40 19.1**	**+0.6**
	5.4nm,0.1s,SNR=18						
PFVI				S	**Sn**	**23 41 03.6**	**-1.1**
	3.8nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.99**	**65**	eSn	**Sn**	**23 41 05.5**	**+0.8**
PMST				A	A	23 41 10.1	
	11nm,0.2s						
PMST	**Lisbon--Monsan**	**3.99**	**65**	eSn	**Sn**	**23 41 05.5**	**+0.8**
	11nm,0.2s						
PMAFR	**Mafra**	**4.01**	**62**	ePn	**Pn**	**23 40 20.7**	**+1.9**
PMAFR				eSn	**Sn**	**23 41 05.9**	**+0.8**
PMAFR				A	A	23 41 09.4	
	11nm,0.2s						
PMAFR	**Mafra**	**4.01**	**62**	P	**Pn**	**23 40 20.8**	**+2.0**
	6.2nm,0.1s,SNR=8.6						
PMAFR				S	**Sn**	**23 41 06.8**	**+1.7**
	4.1nm,0.1s,SNR=5.5						
PMAFR	**Mafra**	**4.01**	**62**	ePn	**Pn**	**23 40 20.7**	**+1.9**
PMAFR				eSn	**Sn**	**23 41 05.9**	**+0.8**
	11nm,0.2s						
PMAFR				S	**Sn**	**23 41 06.8**	**+1.7**
	4.1nm,0.1s,SNR=5.5						
MORF	**Marmelete**	**4.13**	**86**	eP	**Pn**	**23 40 21.1**	**+0.7**
MORF				eS	**Sn**	**23 41 07.3**	**-0.8**
MORF				AML	AML	23 41 09.1	
	comp=N,13nm,0.4s						
MORF	**Marmelete**	**4.13**	**86**	ePn	**Pn**	**23 40 21.2**	**+0.7**
MORF				eSn	**Sn**	**23 41 07.5**	**-0.6**
MORF				A	A	23 41 11.6	
	comp=N,7.0nm,0.2s						
MORF	**Marmelete**	**4.13**	**86**	P	**Pn**	**23 40 21.1**	**+0.7**
MORF				S	**Sn**	**23 41 07.3**	**-0.8**
	comp=N,13nm,0.4s						
MORF	**Marmelete**	**4.13**	**86**	ePn	**Pn**	**23 40 21.2**	**+0.7**
MORF				S	**Sn**	**23 41 07.3**	**-0.8**
	comp=N,13nm,0.4s						
PNCL	**Nicolau / Gran**	**4.31**	**76**	ePn	**Pn**	**23 40 23.7**	**+0.8**
PNCL				eSn	**Sn**	**23 41 11.9**	**-0.6**
PNCL				A	A	23 41 18.8	
	comp=N,3.4nm,0.1s						
PNCL	**Nicolau / Gran**	**4.31**	**76**	ePn	**Pn**	**23 40 23.7**	**+0.8**
PNCL				eSn	**Sn**	**23 41 11.9**	**-0.6**
	comp=N,3.4nm,0.1s						
PMPS	**Porto Santo**	**4.58**	**207**	eSn	Sn	23 41 01.5	-18
PMPS				A	A	23 41 04.5	
	comp=N,12nm,0.3s						
PMPS	**Porto Santo**	**4.58**	**207**	S	Sn	23 41 01.5	-18
	comp=N,6.0nm,0.3s						
PCVE	**Castro Verde**	**4.63**	**82**	ePn	**Pn**	**23 40 28.2**	**+0.9**
PCVE				eSn	**Sn**	**23 41 18.7**	**-1.7**
PCVE				A	A	23 41 25.7	
	comp=N,4.4nm,0.5s						
PCVE	**Castro Verde**	**4.63**	**82**	P	**Pn**	**23 40 28.2**	**+0.9**
PCVE				S	**Sn**	**23 41 18.7**	**-1.7**
	comp=N,4.4nm,0.5s						
PCVE	**Castro Verde**	**4.63**	**82**	P	**Pn**	**23 40 28.2**	**+0.9**
PCVE				S	**Sn**	**23 41 18.7**	**-1.7**
	comp=N,4.4nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.70**	**87**	ePn	**Pn**	**23 40 29.4**	**+1.0**
PBDV				eSn	**Sn**	**23 41 20.8**	**-1.5**
PBDV				A	A	23 41 26.3	
	comp=N,4.6nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.70**	**87**	P	**Pn**	**23 40 29.4**	**+1.0**
PBDV				S	**Sn**	**23 41 20.8**	**-1.5**
	comp=N,4.6nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.70**	**87**	P	**Pn**	**23 40 29.4**	**+1.0**
PBDV				S	**Sn**	**23 41 20.8**	**-1.5**
	comp=N,4.6nm,0.7s						
EVO	**Evora**	**4.80**	**72**	ePn	**Pn**	**23 40 31.3**	**+1.7**
EVO				eSn	**Sn**	**23 41 24.5**	**-0.1**
EVO				A	A	23 41 30.6	
	comp=N,8.0nm,0.1s						
EVO	**Evora**	**4.80**	**72**	P	**Pn**	**23 40 31.3**	**+1.7**
EVO				S	**Sn**	**23 41 24.5**	**-0.1**
	comp=N,8.0nm,0.1s						
EVO	**Evora**	**4.80**	**72**	P	**Pn**	**23 40 31.3**	**+1.7**
EVO				S	**Sn**	**23 41 24.5**	**-0.1**
	comp=N,8.0nm,0.1s						
PBEJ	**Beja**	**4.81**	**78**	ePn	**Pn**	**23 40 30.9**	**+1.1**
PBEJ				eSn	**Sn**	**23 41 22.9**	**-1.9**
PBEJ				A	A	23 41 27.9	
	comp=N,2.9nm,0.4s						
PBEJ	**Beja**	**4.81**	**78**	P	**Pn**	**23 40 30.9**	**+1.1**
PBEJ				S	**Sn**	**23 41 22.9**	**-1.9**
	comp=N,1.4nm,0.4s						
PBEJ	**Beja**	**4.81**	**78**	P	**Pn**	**23 40 30.9**	**+1.1**
PBEJ				S	**Sn**	**23 41 22.9**	**-1.9**
	comp=N,1.4nm,0.4s						
PMTG	**Montargil**	**4.81**	**65**	ePn	**Pn**	**23 40 31.0**	**+1.2**
PMTG				eSn	**Sn**	**23 41 24.6**	**-0.2**
PMTG				A	A	23 41 33.1	
	comp=N,4.2nm,0.5s						
PMTG	**Montargil**	**4.81**	**65**	ePn	**Pn**	**23 40 31.0**	**+1.2**
PMTG				eSn	**Sn**	**23 41 24.6**	**-0.2**
	comp=N,4.2nm,0.5s						
PVAQ	**Vaqueiros**	**4.88**	**85**	ePn	**Pn**	**23 40 31.9**	**+1.2**
PVAQ				eSn	**Sn**	**23 41 24.8**	**-1.6**
PVAQ				A	A	23 41 30.3	
	comp=N,5.9nm,0.1s						
PVAQ	**Vaqueiros**	**4.88**	**85**	P	**Pn**	**23 40 31.9**	**+1.2**
PVAQ				S	**Sn**	**23 41 24.8**	**-1.6**
	comp=N,5.9nm,0.1s						
PVAQ	**Vaqueiros**	**4.88**	**85**	P	**Pn**	**23 40 31.9**	**+1.2**
PVAQ				S	**Sn**	**23 41 24.8**	**-1.6**
	comp=N,5.9nm,0.1s						
PTOM	**Tomar**	**4.91**	**58**	ePn	**Pn**	**23 40 33.1**	**+1.9**
PTOM				eSn	**Sn**	**23 41 27.6**	**+0.3**
PTOM				A	A	23 41 33.8	
	comp=N,8.1nm,0.4s						
PTOM	**Tomar**	**4.91**	**58**	P	**Pn**	**23 40 33.1**	**+1.9**
PTOM				S	**Sn**	**23 41 27.6**	**+0.3**
	comp=N,4.1nm,0.4s						
PTOM	**Tomar**	**4.91**	**58**	P	**Pn**	**23 40 33.1**	**+1.9**
PTOM				S	**Sn**	**23 41 27.6**	**+0.3**
	comp=N,4.1nm,0.4s						
EGRO	**El Granado**	**5.07**	**84**	P	**Pn**	**23 40 34.1**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 41 30.6**	**-0.5**
	comp=N,1.2nm,0.1s,SNR=4.9						
EGRO	**El Granado**	**5.07**	**84**	P	**Pn**	**23 40 34.1**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 41 30.6**	**-0.5**
	comp=N,1.2nm,0.1s,SNR=4.9						
PCAS	**Casmilo, Conde**	**5.08**	**54**	ePn	**Pn**	**23 40 35.1**	**+1.7**
PCAS				eSn	**Sn**	**23 41 32.5**	**+1.1**
PCAS				A	A	23 41 41.3	
	comp=N,3.9nm,0.9s						
PCAS	**Casmilo, Conde**	**5.08**	**54**	ePn	**Pn**	**23 40 35.1**	**+1.7**
PCAS				eSn	**Sn**	**23 41 32.5**	**+1.1**
	comp=N,3.9nm,0.9s						
PMAR	**Madeira**	**5.10**	**211**	eSn	Sn	23 41 14.0	-18
PMAR				A	A	23 41 18.9	
	comp=N,14nm,0.2s						
PMAR	**Madeira**	**5.10**	**211**	S	Sn	23 41 14.0	-18
	comp=N,7.1nm,0.2s						
PESTR	**Estremoz**	**5.21**	**69**	ePn	**Pn**	**23 40 36.6**	**+1.3**
PESTR				eSn	**Sn**	**23 41 34.3**	**-0.4**
PESTR				A	A	23 41 42.3	
	comp=N,3.1nm,0.4s						
PESTR	**Estremoz**	**5.21**	**69**	ePn	**Pn**	**23 40 36.6**	**+1.3**
PESTR				eSn	**Sn**	**23 41 34.3**	**-0.4**
	comp=N,3.1nm,0.4s						
PBAR	**Barrancos**	**5.48**	**77**	ePn	**Pn**	**23 40 40.3**	**+1.3**
PBAR				eSn	**Sn**	**23 41 39.4**	**-1.9**
PBAR				A	A	23 41 46.8	
	comp=N,5.4nm,0.3s						
PBAR	**Barrancos**	**5.48**	**77**	P	**Pn**	**23 40 40.3**	**+1.3**
PBAR				S	**Sn**	**23 41 39.4**	**-1.9**
	comp=N,5.4nm,0.3s						
PBAR	**Barrancos**	**5.48**	**77**	P	**Pn**	**23 40 40.3**	**+1.3**
PBAR				S	**Sn**	**23 41 39.4**	**-1.9**
	comp=N,5.4nm,0.3s						
PMRV	**Marv??o**	**5.54**	**64**	ePn	**Pn**	**23 40 41.4**	**+1.5**
PMRV				eSn	**Sn**	**23 41 41.9**	**-1.0**
PMRV				A	A	23 41 47.2	
	comp=N,4.2nm,0.3s						
PMRV	**Marv??o**	**5.54**	**64**	P	**Pn**	**23 40 41.4**	**+1.5**
PMRV				S	**Sn**	**23 41 41.9**	**-1.0**
	comp=N,4.2nm,0.3s						
PMRV	**Marv??o**	**5.54**	**64**	P	**Pn**	**23 40 41.4**	**+1.5**
PMRV				S	**Sn**	**23 41 41.9**	**-1.0**
	comp=N,4.2nm,0.3s						
EBAD	**Badajoz**	**5.61**	**71**	P	**Pn**	**23 40 41.0**	**+0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 41 44.0**	**-0.6**
	comp=N,1.0nm,0.1s,SNR=5.8						
EBAD	**Badajoz**	**5.61**	**71**	P	**Pn**	**23 40 41.0**	**+0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 41 44.0**	**-0.6**
	comp=N,1.0nm,0.1s,SNR=5.8						
PCBR	**Castelo Branco**	**5.65**	**60**	ePn	**Pn**	**23 40 43.1**	**+1.7**
PCBR				eSn	**Sn**	**23 41 45.0**	**-0.6**
PCBR				A	A	23 41 51.4	
	comp=N,2.1nm,0.3s						
PCBR	**Castelo Branco**	**5.65**	**60**	P	**Pn**	**23 40 43.1**	**+1.7**
PCBR				S	**Sn**	**23 41 45.0**	**-0.6**
	comp=N,1.1nm,0.3s						
PCBR	**Castelo Branco**	**5.65**	**60**	P	**Pn**	**23 40 43.1**	**+1.7**
PCBR				S	**Sn**	**23 41 45.0**	**-0.6**
	comp=N,1.1nm,0.3s						
EMIN	**Mina Concepcio**	**5.72**	**82**	P	**Pn**	**23 40 43.5**	**+1.2**
	comp=N,0.4nm,0.1s,SNR=8.1						
EMIN				S	**Sn**	**23 41 45.5**	**-1.8**
	comp=N,0.2nm,0.1s						
EMIN	**Mina Concepcio**	**5.72**	**82**	P	**Pn**	**23 40 43.5**	**+1.2**
	comp=N,0.4nm,0.1s,SNR=8.1						
EMIN				S	**Sn**	**23 41 45.5**	**-1.8**
	comp=N,0.2nm,0.1s						
PVIS	**Viseu**	**5.83**	**51**	ePn	**Pn**	**23 40 45.9**	**+2.0**
PVIS				eSn	**Sn**	**23 41 49.5**	**-0.5**
PVIS				A	A	23 41 54.2	
	comp=N,3.4nm,0.3s						
PVIS	**Viseu**	**5.83**	**51**	P	**Pn**	**23 40 45.9**	**+2.0**
PVIS				S	**Sn**	**23 41 49.5**	**-0.5**
	comp=N,1.7nm,0.3s						
PVIS	**Viseu**	**5.83**	**51**	P	**Pn**	**23 40 45.9**	**+2.0**
PVIS				S	**Sn**	**23 41 49.5**	**-0.5**
	comp=N,1.7nm,0.3s						
MTE	**Manteigas**	**5.88**	**55**	ePn	**Pn**	**23 40 45.9**	**+1.4**
MTE				eSn	**Sn**	**23 41 50.8**	**-0.4**
MTE				A	A	23 41 58.1	
	comp=N,2.5nm,0.3s						
MTE	**Manteigas**	**5.88**	**55**	P	**Pn**	**23 40 45.9**	**+1.4**
MTE				S	**Sn**	**23 41 50.8**	**-0.4**
	comp=N,1.2nm,0.3s						
MTE	**Manteigas**	**5.88**	**55**	P	**Pn**	**23 40 45.9**	**+1.4**
MTE				S	**Sn**	**23 41 50.8**	**-0.4**
	comp=N,1.2nm,0.3s						
POLO	**Lamas de Olo**	**6.29**	**46**	ePn	**Pn**	**23 40 52.2**	**+1.9**
POLO				eSn	**Sn**	**23 41 59.4**	**-2.1**
POLO				A	A	23 42 02.7	
	comp=N,1.6nm,0.8s						
POLO	**Lamas de Olo**	**6.29**	**46**	ePn	**Pn**	**23 40 52.2**	**+1.9**
POLO				eSn	**Sn**	**23 41 59.4**	**-2.1**
	comp=N,1.6nm,0.8s						
ESPR	**Espera**	**6.38**	**90**	P	**Pn**	**23 40 53.0**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=5.6						
ESPR				S	**Sn**	**23 42 02.7**	**-0.8**
	comp=N,1.4nm,0.2s						
ESPR	**Espera**	**6.38**	**90**	P	**Pn**	**23 40 53.0**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=5.6						
ESPR				S	**Sn**	**23 42 02.7**	**-0.8**
	comp=N,1.4nm,0.2s						
PCAB	**Cabril**	**6.39**	**43**	ePn	**Pn**	**23 40 54.1**	**+2.6**
PCAB				eSn	**Sn**	**23 42 01.2**	**-2.5**
PCAB				A	A	23 42 04.7	
	comp=N,3.3nm,0.5s						
PCAB	**Cabril**	**6.39**	**43**	P	**Pn**	**23 40 54.1**	**+2.6**
PCAB				S	**Sn**	**23 42 01.2**	**-2.5**
	comp=N,1.7nm,0.5s						
PCAB	**Cabril**	**6.39**	**43**	P	**Pn**	**23 40 54.1**	**+2.6**
PGAV	**Gavieira, Arco**	**6.44**	**40**	ePn	**Pn**	**23 40 54.4**	**+2.1**
PGAV				eSn	**Sn**	**23 42 03.6**	**-1.5**
PGAV				A	A	23 42 06.0	
	comp=N,3.3nm,0.8s						
PGAV	**Gavieira, Arco**	**6.44**	**40**	ePn	**Pn**	**23 40 54.4**	**+2.1**
PGAV				eSn	**Sn**	**23 42 03.6**	**-1.5**
	comp=N,3.3nm,0.8s						
ELOB	**Lobios**	**6.48**	**42**	P	**Pn**	**23 40 54.3**	**+1.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**23 42 03.2**	**-2.9**
	comp=N,1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.48**	**42**	P	**Pn**	**23 40 54.3**	**+1.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.62**	**51**	ePn	**Pn**	**23 40 56.1**	**+1.3**
MVO				eSn	**Sn**	**23 42 07.8**	**-1.8**
MVO				A	A	23 42 16.9	
	comp=N,2.4nm,0.5s						
MVO	**Moncorvo**	**6.62**	**51**	P	**Pn**	**23 40 55.8**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**23 42 06.5**	**-3.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.62**	**51**	P	**Pn**	**23 40 55.8**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.62**	**51**	ePn	**Pn**	**23 40 56.1**	**+1.3**
MVO				eSn	**Sn**	**23 42 07.8**	**-1.8**
	comp=N,2.4nm,0.5s						
EPLA	**Plasencia**	**6.72**	**62**	P	**Pn**	**23 40 57.8**	**+1.7**
	comp=N,0.6nm,0.1s,SNR=5.9						
EPLA				S	**Sn**	**23 42 10.3**	**-1.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.72**	**62**	P	**Pn**	**23 40 57.8**	**+1.7**
	comp=N,0.6nm,0.1s,SNR=5.9						

ITM			AML	AML	23 57 33.8	
	comp=E,204μm,0.2s					
ITM			AML	AML	23 57 34.4	
	comp=N,149μm,0.1s					
ITM	**Ithomi**	**0.07 258**	P	Pg	23 57 32.2	+0.3
MES3	**Kyparissia**	**0.28 282**	P	Pb	23 57 37.0	+0.1
MES3			S	Sb	23 57 40.8	-0.9
MES3	**Kyparissia**	**0.28 282**	P	Pb	23 57 37.0	+0.1
MES3			S	Sb	23 57 40.8	-0.9
VLX	**Vlachokerasia**	**0.34 59**	P	Pg	23 57 37.2	+0.6
VLX			S	Sg	23 57 41.6	+0.4
VLX	**Vlachokerasia**	**0.34 59**	P	Pg	23 57 37.2	+0.5
VLX			S	Sg	23 57 41.6	+0.4
PYL	**PYLOS**	**0.37 216**	P	Pg	23 57 37.5	+0.5
PYL			S	Sg	23 57 42.5	+0.7
PYL	**PYLOS**	**0.37 216**	P	Pg	23 57 37.5	+0.5
PYL			S	Sg	23 57 42.5	+0.6
AMT	**Artemida-Makis**	**0.41 325**	P	Pg	23 57 38.4	+0.4
AMT			S	Sb	23 57 44.7	-1.1
AMT	**Artemida-Makis**	**0.41 325**	P	Pg	23 57 38.3	+0.3
AMT			S	Sb	23 57 44.7	-1.1

*IDC **20** 00:04:53.5±2.2, 13°.44N×91°.13W, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/45, mbtmp4.0/9, ML4.1/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/35, Error ellipse: s-maj=59.1km s-min=39.4km az=44.0*

*CASC **20** 00:04:59.7±1.9, 13°.88N×91°.36W, h16km±15km, ML3.8, mb4.3(NEIC)*

*NEIC **20** 00:05:08.3±1.1, 14°.12N×90°.71W, h88km±8km, mb4.3/35, Error ellipse: s-maj=20.9km s-min=9.5km az=206.0*

ISC 20 00:05:06.6±1.3, 14°.1N±0°.1×91°.03W±0°.09, h74km±11km, n82, σ2°38/83, mb4.3/41, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUS1	**Cusmapa**	**1.07 100**		*i* P	**Pn**	**00 05 23.0**	**-3.2**
CUS1				*e*S	**Sn**	**00 05 43.1**	**+2.2**
RBDL	**Robledal**	**1.31 90**		*e*P	**Pn**	**00 05 28.6**	**-0.8**
RTR	**El Retiro**	**1.36 99**		*e*P	**Pn**	**00 05 28.2**	**-1.9**
MONT	**Ecomontaæa**	**1.37 100**		*e*P	**Pn**	**00 05 27.9**	**-2.4**
SBLS	**San Blas**	**1.40 101**		*e*P	**Pn**	**00 05 28.1**	**-2.5**
SBLS				*e*S	**Sn**	**00 05 51.6**	**+3.0**
SNJE	**San Jose**	**1.41 100**		*e*P	**Pn**	**00 05 28.7**	**-1.9**
BOQS	**Boqueron**	**1.74 102**		*e*P	**Pn**	**00 05 33.3**	**-1.9**
UEES	**San Salvador**	**1.78 102**		*e*P	**Pn**	**00 05 34.2**	**-1.3**
UEES				*e*S	**Sn**	**00 06 00.4**	**+3.0**
UEES				AML	AML	00 06 07.4	
	comp=Z,1μm,0.6s						
SNET	**Serv Nac Est T**	**1.80 103**		*e*Pn	**Pn**	**00 05 33.4**	**-2.4**
SNET				*e*Sn	**Sn**	**00 05 50.9**	**-7.0**
SNET	**Serv Nac Est T**	**1.80 103**		*e*P	**Pn**	**00 05 33.8**	**-2.0**
SNET				*e*S	**Sn**	**00 05 58.8**	**+0.9**
SNET				AML	AML	00 06 06.3	
	comp=Z,1μm,0.3s						
OPAM	**San Salvador**	**1.82 102**		*e*P	**Pn**	**00 05 35.1**	**-0.9**
OPAM				*e*S	**Sn**	**00 06 02.6**	**+4.3**
OPAM				AML	AML	00 06 17.8	
	comp=Z,666nm,0.2s						
LFU	**La Fuente**	**1.90 101**		*e*P	**Pn**	**00 05 35.6**	**-1.4**
LBRS	**Las Brisas**	**1.97 101**		*e*P	**Pn**	**00 05 36.4**	**-1.6**
LFRS	**El Faro**	**1.98 104**		*i* P	**Pn**	**00 05 35.8**	**-2.3**
LFRS				*e*S	**Sn**	**00 06 05.6**	**+3.5**
CCIG	**Comitan**	**2.41 334**		*e*Pn	**Pn**	**00 05 44.9**	**+0.9**
CCIG				*e*Sn	Sn	00 06 03.7	-9.0
PACA	**Pacayal**	**2.71 103**		*e*P	**Pn**	**00 05 48.2**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.65 90**		*e*Pn	**Pn**	**00 05 59.6**	**-1.1**
CMIG	**Matias Romero**	**4.75 309**		Pn	Pn	00 06 11.4	-4.3
	comp=Z,2.4nm,0.3s,baz=124,slow=11,SNR=18						
CMIG				Sn	**Sn**	**00 07 05.0**	**-4.5**
	comp=Z,6.8nm,0.3s,baz=68,slow=18,SNR=6.0						
CMIG				LR	LR	00 08 18.8	
	comp=Z,380nm,20.7s,baz=108,slow=40						
JTS	**JuntasAbangare**	**7.05 122**		Pn	Pn	00 07 45.9	+59
	comp=Z,2.0nm,0.3s,baz=9.3,slow=16,SNR=4.1						
JTS				Sn	Sn	00 09 02.4	+56
	baz=156,slow=20,SNR=2.1						
TLIG	**Tlapa**	**8.02 296**		*e*Pn	Pn	00 07 08.0	+7.5
TLIG				*e*Sn	**Sn**	**00 08 31.9**	**+2.1**
HKT	**Hockley**	**16.38 345**		*e*Pn	**P**	**00 08 54.0**	**+0.6**
DWPF	**Disney Wildern**	**16.55 31**		*e*Pn	**Pn**	**00 08 49.6**	**-4.4**
	comp=Z,755nm,1.8s						
HPIG		**18.70 315**		*e*P	**P**	**00 09 16.8**	**-2.5**
	comp=Z,9.1nm,1.2s						
TXAR	**Lajitas Array**	**19.14 324**		P	**Pn**	**00 09 25.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=155,slow=10,SNR=47						
TX31	**Lajitas Ar. Si**	**19.14 324**		*e*P	**Pn**	**00 09 26.4**	**+0.8**
ABTX	**Abilene, Hawle**	**20.04 338**		*e*P	**P**	**00 09 35.3**	**+1.6**
	comp=Z,13nm,0.8s						
RGRS	**Roger Stewart**	**21.16 26**		*e*P	**P**	**00 09 45.8**	**+0.1**
	comp=Z,431nm,1.0s						
WMOK	**Wichita Mounta**	**21.70 343**		*e*P	**P**	**00 09 54.3**	**+2.7**
	comp=Z,15nm,1.6s						
MNTX	**Cornudas Mount**	**21.89 325**		*e*P	**P**	**00 09 55.0**	**+1.3**
	comp=Z,13nm,0.8s						
TKL	**Tuckaleechee C**	**22.43 16**		P	**P**	**00 10 02.3**	**+2.9**
	comp=Z,3.0nm,0.5s,baz=183,slow=12,SNR=6.1						
TKL				LR	LR	00 19 37.8	
	comp=Z,135nm,21.3s,baz=170,slow=38						
TKL	**Tuckaleechee C**	**22.43 16**		P	**P**	**00 10 02.3**	**+2.9**
	comp=Z,108nm,2.0s						
PBMO	**Poplar Bluff**	**22.58 1**		*e*P	**P**	**00 10 02.3**	**+1.3**
	comp=Z,14nm,1.1s						
AMTX	**Amarillo**	**22.81 337**		*e*P	**P**	**00 10 04.0**	**+0.5**
	comp=Z,9.3nm,0.7s						
CCM	**Cathedral Cave**	**23.85 360**		*e*P	**P**	**00 10 14.5**	**+1.4**
	comp=Z,9.9nm,0.9s						
121A	**Cookes Peak, D**	**23.88 323**		*e*P	**P**	**00 10 16.1**	**+2.5**
	comp=Z,39nm,1.5s						
319A	**Douglas**	**23.99 319**		*e*P	**P**	**00 10 16.4**	**+1.8**
	comp=Z,14nm,1.3s						
BNM	**Barren Site**	**24.45 327**		*e*P	**P**	**00 10 21.2**	**+2.4**
ATAH	**Atahualpa**	**24.55 148**		LR	LR	00 18 30.8	
	comp=Z,132nm,18.1s,baz=270,slow=34						
LAZ	**Ladron**	**24.91 327**		*e*P	**P**	**00 10 23.5**	**+0.5**
ANMO	**Albuquerque**	**24.98 329**		P	**P**	**00 10 24.9**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=335,slow=13,SNR=5.8						
ANMO				LR	LR	00 21 51.8	
	comp=Z,28nm,19.8s,baz=272,slow=40						
ANMO	**Albuquerque**	**24.98 329**		*e*P	**P**	**00 10 26.7**	**+3.0**
TUC	**Tucson**	**25.57 318**		*e*P	**P**	**00 10 31.4**	**+2.5**
	comp=Z,4.7nm,0.9s						
X18A	**Snowflake**	**26.56 323**		*e*P	**P**	**00 10 41.9**	**+3.9**
	comp=Z,3.0nm,0.8s						
X16A	**Lo Mia Camp, P**	**27.37 321**		*e*P	**P**	**00 10 47.4**	**+2.2**
	comp=Z,2.9nm,1.0s						
WUAZ	**Wupatki**	**28.09 323**		*e*P	**P**	**00 10 54.4**	**+2.9**
	comp=Z,3.3nm,0.8s						
PV10	**Paradox Valley**	**28.96 330**		*e*P	**P**	**00 11 00.8**	**+1.4**
NNA	**Nana**	**29.50 151**		LR	LR	00 20 27.5	
	comp=Z,62nm,22.0s,baz=304,slow=32						
KNB	**Kanab**	**29.97 324**		*e*P	**P**	**00 11 10.3**	**+2.1**
	comp=Z,4.6nm,0.9s						
LCMT	**Little Creek M**	**30.21 323**		*e*P	**P**	**00 11 13.4**	**+3.1**
	comp=Z,4.9nm,1.0s						
MTPU	**Mount Pierson**	**30.33 326**		*e*P	**P**	**00 11 14.3**	**+2.7**
	comp=Z,13nm,1.4s						
SZCU	**Shurtz Canyon**	**30.52 324**		*e*P	**P**	**00 11 15.6**	**+2.4**
	comp=Z,6.9nm,1.1s						
CCUT	**Cedar City**	**30.65 324**		*e*P	**P**	**00 11 18.4**	**+4.1**
	comp=Z,6.0nm,1.0s						
MSU	**Marysvale**	**30.67 326**		*e*P	**P**	**00 11 15.8**	**+1.3**
TPNV	**Topopah Spring**	**31.99 320**		*e*P	**P**	**00 11 28.1**	**+2.0**
	comp=Z,6.5nm,1.4s						
R11A	**Troy Canyon, C**	**32.48 323**		*e*P	**P**	**00 11 34.5**	**+4.1**
	comp=Z,4.3nm,1.4s						
HWUT	**Hardware Ranch**	**32.69 331**		*e*P	**P**	**00 11 33.2**	**+1.0**
	comp=Z,2.9nm,0.9s						
PDAR	**Pinedale Array**	**32.72 334**		P	**P**	**00 11 34.8**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=137,slow=6.8,SNR=3.0						
SPUT	**South Promonto**	**32.89 330**		*e*P	**P**	**00 11 35.9**	**+2.0**
	comp=Z,7.1nm,1.4s						
BGU	**Big Grassy Mou**	**32.89 328**		*e*P	**P**	**00 11 35.6**	**+1.8**
	comp=Z,3.1nm,1.1s						
HVU	**Hansel Valley**	**33.40 330**		*e*P	**P**	**00 11 41.1**	**+2.8**
	comp=Z,15nm,1.7s						
REDW	**Red Top Meadow**	**33.75 334**		*e*P	**P**	**00 11 43.1**	**+1.6**
	comp=Z,18nm,1.5s						
HLID	**Hailey**	**35.54 330**		*e*P	**P**	**00 11 58.8**	**+2.0**
	comp=Z,10.0nm,1.6s						
MCMT	**McKenzie Canyo**	**35.79 333**		*e*P	**P**	**00 11 59.7**	**+0.7**
MFID	**Camas Ranch**	**36.13 329**		*e*P	**P**	**00 12 02.6**	**+0.9**
	comp=Z,3.7nm,1.0s						
ULM	**Lac du Bonnet**	**36.26 355**		LR	LR	00 29 31.7	
	comp=Z,68nm,18.6s,baz=320,slow=40						
WVOR	**Wild Horse Val**	**36.93 325**		*e*P	**P**	**00 12 10.2**	**+1.5**
	comp=Z,9.3nm,1.1s						
LPAZ	**La Paz**	**37.74 142**		LR	LR	00 27 20.0	
	comp=Z,60nm,20.2s,baz=313,slow=36						
BMO	**Blue Mountains**	**37.90 329**		*e*P	**P**	**00 12 17.6**	**+0.9**
	comp=Z,13nm,2.0s						
KEBM	**Edson Butte**	**40.51 322**		*e*P	**P**	**00 12 41.9**	**+3.5**
	comp=Z,97nm,1.5s						
FFC	**Flin Flon**	**41.42 350**		*e*P	**P**	**00 12 41.8**	**-3.9**
	comp=Z,42nm,1.9s						
SCHQ	**Schefferville**	**44.80 20**		LR	LR	00 33 21.2	
	comp=Z,122nm,18.1s,baz=350,slow=38						
YKA	**Yellowknife Ar**	**51.14 346**		P	**P**	**00 14 01.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=139,slow=9.2,SNR=5.1						
DLBC	**Dease Lake**	**52.94 335**		P	**P**	**00 14 16.2**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=124,slow=9.5,SNR=6.4						
INK	**Inuvik**	**60.60 343**		P	**P**	**00 15 07.9**	**-1.3**
	comp=Z,3.5nm,1.1s,baz=78,slow=9.3,SNR=3.4						
CNPM	**China Poot**	**62.99 330**		*e*P	**P**	**00 15 27.6**	**+2.1**
	comp=Z,25nm,1.4s						
ILAR	**Eielson Array**	**63.11 337**		P	**P**	**00 15 24.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=122,slow=4.8,SNR=7.4						
PPLA	**Purkeypile**	**64.55 334**		*e*P	**P**	**00 15 36.0**	**+0.1**
	comp=Z,60nm,2.0s						
MLY	**Manley**	**64.72 336**		*e*P	**P**	**00 15 37.6**	**+0.8**
	comp=Z,7.2nm,1.2s						
SVW2	**Sparrevohn**	**65.53 331**		*e*P	**P**	**00 15 42.4**	**+0.3**
	comp=Z,22nm,1.6s						
TT01	**Tatalina**	**66.22 333**		*e*P	**P**	**00 15 46.4**	**-0.1**
MKAR	**Makanchi Array**	**119.08 5**		PKP	**PKPdf**	**00 23 46.0**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=340,slow=2.2,SNR=2.5						
CMAR	**Chiang Mai Arr**	**146.18 343**		PKPbc	**PKPab**	**00 24 39.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=341,slow=3.9,SNR=14						

*ISCJB **20** 00:10:01.9±0.6, 19°.87N±0°.05×155°.69W±0°.06, h27km±5km, mb4.2/8, MS3.7/5, Error ellipse: s-maj=12.4km s-min=5.4km az=138.2*

*IDC **20** 00:10:01.2±1.1, 19°.70N×155°.31W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/44, mbtmp3.8/6, MS3.5/4, Ms1 3.5/4, ms1mx3.0/38, Error ellipse: s-maj=54.0km s-min=25.3km az=142.0*

*NEIC **20** 00:10:04.3±0.0, 19°.88N×155°.53W, h19km, ML4.5(HVO), After HVO.*

NEIC Felt [IV] at Hakalau, Honoka'a, Pa'auilo and Waimea; [III] at Captain Cook, Hawi, Holualoa, Kailua Kona, Kapaau, Kea'au, Kealakekua, Ninole, Papa'ikou, Pepeekeo and Waikoloa; [II] at Hilo and Volcano. Also felt at Hawaii National Park, Honaunau, Honomu, Laupahoehoe, Na'alehu, 'O'okala and Pahoa. Felt at Honolulu and Kane'ohe, O'ahu.

ISC 20 00:10:03.4±0.9, 19°.87N±0°.05×155°.62W±0°.06, h17km±6km, n41, σ2°08/32, mb4.1/8, MS3.9/5, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POHA	**Pohakuloa**	**0.13 144**		*e*Pg	**Pg**	**00 10 08.3**	**+0.7**
POHA				*e*Sg	**Sg**	**00 10 10.6**	**+0.4**
HPAH	**Hawaii Prepara**	**0.18 335**		*e*Pn	**Pb**	**00 10 09.2**	**+0.7**
MLOA	**Mauna Loa Obse**	**0.33 174**		*e*Pn	**Pg**	**00 10 11.7**	**+1.1**
I59US	**HAWAII INFRASO**	**0.38 224**		Pg	**Pg**	**00 10 12.0**	**+0.7**
	baz=29,slow=19,SNR=1.7						
I59US				Lg	Lg	00 10 17.0	
	baz=33,slow=25						
MWH	**Moku'aweowe**	**0.38 177**		*e*Pn	**Pg**	**00 10 12.1**	**+0.6**
MLH	**Mauna Loa**	**0.43 150**		*e*Pn	**Pg**	**00 10 11.9**	**-0.3**
AIN	**Ainahou**	**0.51 163**		*e*Pn	**Pg**	**00 10 13.4**	**-0.3**
UWE	**Uwekahuna**	**0.54 145**		*e*Pn	**Pg**	**00 10 13.3**	**-0.9**
NPH	**North Pit**	**0.55 145**		*e*Pn	**Pg**	**00 10 13.2**	**-1.2**
RIM	**Rim**	**0.57 145**		*e*Pn	**Pb**	**00 10 13.5**	**-1.5**
HLP	**Hilina Pali**	**0.64 153**		*e*Pn	**Pb**	**00 10 14.8**	**-1.5**
HPO	**Honuapo**	**0.78 176**		*e*Pn	**Pb**	**00 10 17.0**	**-1.6**
HLK	**Haleakala**	**1.07 326**		*e*Pn	**Pb**	**00 10 21.3**	**-2.4**
HON	**Honolulu**	**2.67 303**		*e*Pn	**Pn**	**00 10 43.5**	**-2.1**
HON				*e*S	**Sn**	**00 11 12.9**	**-4.7**
KIP	**Kipapa**	**2.73 305**		*e*Pn	**Pn**	**00 10 44.0**	**-2.6**
KIP				*e*S	**Sn**	**00 11 14.2**	**-5.8**
OPA	**Opana**	**2.88 309**		*e*Pn	**Pn**	**00 10 46.3**	**-2.4**
KEKH	**Kekaha**	**4.37 300**		*e*Pn	**Pn**	**00 11 06.3**	**-2.8**
JOHN	**Johnston Islan**	**13.58 259**		*e*Pn	Pn	00 13 11.6	-3.8
H11N3	**WAKE ISLAND Hy**	**35.21 276**		T	T	00 54 00.3	
	baz=84,slow=75,SNR=60						
H11N2	**WAKE ISLAND Hy**	**35.23 276**		T	T	00 53 57.5	
	baz=84,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**35.23 276**		T	T	00 53 54.6	
	baz=84,slow=75,SNR=58						
PMOR	**Pomariorio Ree**	**35.47 167**		*e*T	T	00 53 45.7	
	18nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**35.57 274**		T	T	00 54 19.5	
	baz=82,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**35.57 274**		T	T	00 54 19.3	
	baz=82,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**35.58 274**		T	T	00 54 23.2	
	baz=82,slow=75,SNR=22						
PPT2	**Papeete2**	**37.69 171**		*e*LR	LR	00 27 23.0	
	108nm,25.2s						
H02S1	**DAWSON INLET T**	**37.77 23**		T	T	00 57 04.9	
	SNR=65						
PDAR	**Pinedale Array**	**44.80 49**		P	**P**	**00 18 15.3**	**-1.5**
	0.2nm,0.3s,baz=227,slow=6.0,SNR=1.9						
ILAR	**Eielson Array**	**45.26 5**		P	**P**	**00 18 20.9**	**+1.1**
	0.4nm,0.8s,baz=205,slow=7.5,SNR=3.2						
ILAR				PcP	**PcP**	**00 20 00.4**	**+0.9**
	0.4nm,0.8s,baz=190,slow=3.6,SNR=3.4						
RKT	**Rikitea**	**47.23 154**		*e*T	T	01 08 25.8	
	1.7nm,0.3s						
TXAR	**Lajitas Array**	**47.84 68**		P	**P**	**00 18 39.8**	**-0.9**
	2.4nm,0.8s,baz=249,slow=6.6,SNR=7.6						
TXAR				LR	LR	00 36 15.0	
	comp=Z,33nm,18.1s,baz=0.0,slow=33						
PETK	**Petropavlovsk-**	**48.79 324**		LR	LR	00 39 34.2	
	comp=Z,15nm,18.5s,baz=98,slow=36						
NJ2	**Nanjing**	**76.07 299**		*e*P	**P**	**00 21 51.8**	**+1.3**
STKA	**Stephens Creek**	**79.13 230**		P	**P**	**00 22 08.6**	**+1.1**
	2.3nm,0.8s,baz=48,slow=0.5,SNR=3.6						
STKA				LR	LR	00 53 31.1	
	comp=Z,48nm,18.2s,baz=28,slow=33						
WRA	**Warramunga Arr**	**79.19 244**		LR	LR	00 57 23.6	
	comp=Z,46nm,18.1s,baz=295,slow=36						
ASAR	**Alice Springs**	**81.17 241**		P	**P**	**00 22 19.9**	**+1.2**
	1.4nm,0.9s,baz=69,slow=5.1,SNR=8.4						
LZH	**Lanzhou**	**86.64 307**		*e*P	**P**	**00 22 48.8**	**+2.1**
LZH				pP	pP	00 22 54.6	+2.4
LZH				sP	sP	00 22 57.5	+3.3
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
ZALV	**Zalesovo Beam**	**90.12 329**		P	**P**	**00 23 05.1**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=4.2						
WMQ	**Urumqi**	**94.18 320**		P	**P**	**00 23 23.3**	**+1.5**
WMQ				pP	pP	00 23 28.8	+1.5
WMQ				sP	sP	00 23 31.3	+2.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
WMQ				LR	LR		
	comp=N,51nm,18.1s						
WMQ				LR	LR		
	comp=E,92nm,16.7s						
WMQ				LR	LR		
	comp=Z,50nm,15.5s						
KSH	**Kashi**	**103.78 321**		P	**Pdif**	**00 24 07.9**	**+2.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,120nm,4.4s						
TORD	**Torodi Ar. Bea**	**140.31 36**		PKP	**PKPdf**	**00 29 32.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=331,slow=3.7,SNR=4.0						

NEIC 20 00:12:34.6±0.0, 19°.88N×155°.53W, h18km, MD3.6(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POHA	**Pohakuloa**	**0.12 182**		*e*Pg	Pg	00 12 38.5	-0.3
POHA				*e*Sg	Sg	00 12 41.2	-0.5
HPAH	**Hawaii Prepara**	**0.22 313**		*e*Pg	Pb	00 12 39.5	-0.3
HPAH				*e*Sg	Sb	00 12 42.9	-0.2
MLOA	**Mauna Loa Obse**	**0.34 188**		*e*Pg	Pg	00 12 41.9	-0.3
MWH	**Moku'aweowe**	**0.40 189**		*e*Pg	Pg	00 12 42.3	-0.9
MLH	**Mauna Loa**	**0.41 161**		*e*Pg	Pg	00 12 42.2	-0.9
MLH				*e*Sg	Sg	00 12 44.9	-4.0
UWE	**Uwekahuna**	**0.51 154**		*e*Pg	Pg	00 12 43.5	-1.4
UWE				*e*Pn	Pn	00 12 48.4	+1.3
AIN	**Ainahou**	**0.51 173**		*e*Pg	Pg	00 12 43.8	-1.2
UWB	**Uwekahuna B**	**0.51 152**		*e*Pg	Pg	00 12 43.3	-1.6
SBLHI	**Steaming Bluff**	**0.51 151**		*e*Pg	Pg	00 12 43.4	-1.6
OBL	**Observatory Le**	**0.51 153**		*e*Pg	Pg	00 12 43.5	-1.6
WRMHI	**West Rim**	**0.52 155**		*e*Pg	Pg	00 12 43.5	-1.6
WRMHI				*e*Pn	Pn	00 12 48.5	+1.4
HATHI	**Halema'uma'u T**	**0.52 151**		*e*Pg	Pg	00 12 43.5	-1.6
NPH	**North Pit**	**0.52 153**		*e*Pg	Pg	00 12 43.4	-1.7
NPH				*e*Pn	Pn	00 12 49.3	+2.1
BYL	**Byron's Ledge**	**0.53 151**		*e*Pg	Pg	00 12 43.4	-1.9
BYL				*e*Pn	Pn	00 12 49.0	+1.7
SDHHI	**Sand Hill**	**0.54 156**		*e*Pg	Pg	00 12 43.7	-1.7
RIM	**Rim**	**0.54 154**		*e*Pg	Pg	00 12 43.8	-1.7
KKO	**Keanakako'i**	**0.54 153**		*e*Pg	Pg	00 12 43.7	-1.8
PUH	**Pauahi**	**0.58 150**		*e*Pg	Pb	00 12 44.2	-2.0
HLP	**Hilina Pali**	**0.62 160**		*e*Pg	Pb	00 12 44.9	-1.9
STCH	**Steam Cracks**	**0.62 142**		*e*Pg	Pb	00 12 44.9	-2.0
NPOC	**North of Pu'u**	**0.62 141**		*e*Pg	Pb	00 12 44.9	-2.0
NPOC				*e*Sn	Sb	00 12 51.2	-4.2
JCUZ	**Jacuzzi**	**0.64 141**		*e*Pg	Pb	00 12 45.0	-2.2
JCUZ				*e*Sn	Sb	00 12 51.2	-4.4
HPO	**Honuapo**	**0.79 182**		*e*Pn	Pb	00 12 47.2	-2.5
HPO				*e*Sn	Sb	00 12 56.6	-3.4
HLK	**Haleakala**	**1.10 322**		*e*Pn	Pb	00 12 51.6	-3.7
HLK				*e*Sn	Sb	00 13 04.7	-4.8
HON	**Honolulu**	**2.73 302**		*e*Pn	Pn	00 13 13.8	-3.6
HON				*e*S	Sn	00 13 44.5	-5.4
KIP	**Kipapa**	**2.79 304**		*e*Pn	Pn	00 13 15.2	-3.1
KIP				*e*S	Sn	00 13 40.3	-11
OPA	**Opana**	**2.94 308**		*e*Pn	Pn	00 13 16.9	-3.5
OPA				*e*S	Sn	00 13 47.8	-7.4

IDC 20 00:24:08.1±2.7, 52°.46N×156°.43E, h196km±6km, mb2.9/4, mb1 3.4/4, mb1mx3.0/40, mbtmp3.5/4, Error ellipse: s-maj=94.1km s-min=43.5km az=132.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**1.01 50**		P	Pn	00 24 37.9	+0.4
	8.3nm,0.3s,baz=199,slow=3.3,SNR=17						
PETK				S	Sn	00 25 00.6	+0.2
	0.8nm,0.3s,baz=260,slow=23,SNR=3.4						
ILAR	**Eielson Array**	**30.83 44**		P	P	00 30 04.7	-0.5
	0.8nm,0.8s,baz=256,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**45.12 41**		P	P	00 32 04.1	-0.2
	0.2nm,0.3s,baz=303,slow=6.7,SNR=3.7						
PDAR	**Pinedale Array**	**59.76 58**		P	P	00 33 52.7	+0.3
	0.3nm,0.6s,baz=236,slow=1.1,SNR=3.5						
TXAR	**Lajitas Array**	**72.92 64**		P	P	00 35 16.0	+0.1
	0.1nm,0.5s,baz=286,slow=3.9,SNR=4.2						

*NIED **20** 00:35:00, 39°.30N×143°.10E, h20km, Mw3.5 Best double couple: M0 1.81000×10^14 NP1:φ0=348.00000°, δ30.00000°, λ-137.00000°. NP2:φ0=219.00000°, δ70.00000°, λ-67.00000°.*

*IDC **20** 00:35:48.0±2.8, 39°.29N×143°.55E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=68.7km s-min=36.7km az=73.0*

*ISCJB **20** 00:35:50.0±1.6, 39°.34N±0°.05×143°.04E±0°.09, h6km±13km, mb3.7/2, Error ellipse: s-maj=11.3km s-min=7.6km az=174.8*

*JMA **20** 00:35:50.3±0.2, 39°.34N×143°.06E, h17km±2km, M3.8*

ISC 20 00:35:49.5±2.6, 39°.37N±0°.05×143°.07E±0°.10, h1km±12km, n23, σ1°39/28, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.99 283**		P	**Pg**	**00 36 08.7**	**+0.2**
MIYJ				S	**Sg**	**00 36 22.0**	**+0.7**
JTH	**Tanohata**	**1.09 302**		P	**Pg**	**00 36 10.4**	**-0.1**
JTH				S	**Sg**	**00 36 24.5**	**-0.1**
OFUJ	**Ofunato**	**1.12 256**		P	**Pg**	**00 36 10.6**	**-0.5**
OFUJ				*e*S	**Sg**	**00 36 25.2**	**-0.4**
JOM	**Ohasama**	**1.38 275**		P	**Pn**	**00 36 15.0**	**-0.9**
JOM				S	**

*RSNC **20** 01:11:53.7±0.7, 6°.80N×73°.10W, h150km±4km, ML4.2*
ISC 20 01:11:52.3±0.6, 6°.82N±0°.04×73°.07W±0°.04, h155km±5km, n95, σ1°.03/120, mb4.3/44, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**207**	*i* P	**Pn**	**01 12 13.7**	**0.0**
BARC				*eS*	**Sn**	**01 12 28.9**	**-1.0**
BARC				*i*		01 12 29.8	
	comp=Z,4μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**35**	*i* P	**Pn**	**01 12 16.6**	**+1.0**
PAMC				*eS*	**Sn**	**01 12 33.6**	**+0.3**
BRRC	**Barranca, Sant**	**0.70**	**294**	⇑*i* P	**Pn**	**01 12 15.5**	**+0.1**
BRRC				*i*		01 12 15.8	
	comp=Z,4μm,0.2s						
BRRC				*eS*	**Sn**	**01 12 32.8**	**-0.3**
RUSC	**La Rusia**	**0.92**	**181**	⇓*i* P	**Pn**	**01 12 17.6**	**+0.1**
RUSC				*eS*	**Sn**	**01 12 36.3**	**-0.5**
RUSC				*i*		01 12 37.6	
	comp=Z,1μm,0.4s						
RUSC	**La Rusia**	**0.92**	**181**	*e*Pn	**Pn**	**01 12 17.5**	**-0.1**
RUSC				*e*Sn	**Sn**	**01 12 35.6**	**-1.2**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**01 12 22.1**	**+0.3**
OCAC				*eS*	**Sn**	**01 12 45.1**	**+0.6**
OCAC				*i*		01 12 52.5	
	comp=Z,2μm,0.4s						
YOPC	**Yopal, Colombi**	**1.59**	**156**	*i* P	**Pn**	**01 12 24.6**	**+1.2**
YOPC				*i*		01 12 24.8	
	comp=Z,552nm,0.5s						
YOPC				*eS*	**Sn**	**01 12 47.1**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	**Pn**	**01 12 26.5**	**-0.1**
ZARC				*eS*	**Sn**	**01 12 52.8**	**-0.3**
ZARC				*i*		01 12 57.0	
	comp=Z,1μm,0.6s						
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**01 12 29.7**	**-0.3**
NORC				*eS*	**Sn**	**01 12 58.3**	**-0.7**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**01 12 33.8**	**+1.7**
	comp=Z,86nm,0.3s,baz=235,slow=22,SNR=317						
ROSC				S	**Sn**	**01 13 04.1**	**+1.4**
	comp=Z,320nm,0.3s,baz=130,slow=21,SNR=23						
ROSC	**El Rosal**	**2.33**	**212**	*eS*	**Sn**	**01 13 01.6**	**-1.0**
ROSC				*i*		01 13 08.4	
	comp=Z,1μm,0.5s						
ROSC	**El Rosal**	**2.33**	**212**	*e*Pn	**Pn**	**01 12 33.7**	**+1.7**
ROSC				*e*Sn	**Sn**	**01 13 01.8**	**-0.8**
HELC	**Santa Helena**	**2.53**	**256**	*e*P	**Pn**	**01 12 34.8**	**+0.4**
HELC				*eS*	**Sn**	**01 13 07.1**	**+0.3**
HELC				*i*		01 13 12.2	
	comp=Z,866nm,0.4s						
HELC	**Santa Helena**	**2.53**	**256**	*e*Pn	**Pn**	**01 12 33.5**	**-0.9**
HELC				*e*Sn	**Sn**	**01 13 02.5**	**-4.3**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**01 12 37.1**	**0.0**
VILC				*eS*	**Sn**	**01 13 11.7**	**-0.1**
VILC				*i*		01 13 20.4	
	comp=Z,529nm,0.4s						
GUYC	**Guyana, Colomb**	**2.80**	**236**	*e*P	**Pn**	**01 12 38.4**	**+0.4**
GUYC				*eS*	**Sn**	**01 13 13.2**	**+0.1**
GUYC				*i*		01 13 21.4	
	comp=Z,983nm,0.7s						
DBBC	**Dabeiba**	**3.13**	**274**	*e*P	**Pn**	**01 12 42.2**	**+0.6**
DBBC				*eS*	**Sn**	**01 13 19.7**	**0.0**
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**01 12 42.6**	**+0.4**
TOLC				*eS*	**Sn**	**01 13 20.8**	**0.0**
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**01 12 43.2**	**+1.0**
	comp=Z,66nm,0.3s,baz=186,slow=3.0,SNR=130						
SDV				S	**Sn**	**01 13 19.8**	**-1.0**
	comp=Z,80nm,0.3s,baz=66,slow=22,SNR=24						
SDV	**Santo Domingo**	**3.17**	**49**	⇑*i* P	**Pn**	**01 12 43.1**	**+1.0**
SDV				*eS*	**Sn**	**01 13 22.0**	**+1.2**
SDV				*i*		01 13 23.9	
	comp=Z,195nm,0.4s						
SDV	**Santo Domingo**	**3.17**	**49**	*e*Sn	**Sn**	**01 13 19.4**	**-1.4**
PRAC	**Prado**	**3.58**	**211**	*e*P	**Pn**	**01 12 47.2**	**-0.1**
PRAC				*eS*	**Sn**	**01 13 29.6**	**-0.5**
PRAC	**Prado**	**3.58**	**211**	*e*Pn	**Pn**	**01 12 46.4**	**-0.9**
PRAC				*e*Sn	**Sn**	**01 13 30.1**	**0.0**
BCIP	**Isla Barro Col**	**7.10**	**290**	*e*Pn	**Pn**	**01 13 31.3**	**-2.4**
BCIP				*e*Sn	**Sn**	**01 14 52.7**	**-0.7**
OTAV	**Otavalo**	**8.46**	**220**	*e*Pn	**Pn**	**01 13 52.9**	**+0.5**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**01 13 59.6**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=252,slow=0.8,SNR=5.7						
PCRV				S	**Sn**	**01 15 37.1**	**-1.6**
	baz=272,slow=21,SNR=2.4						
HDC	**Heredia**	**11.38**	**287**	*e*Pn	**Pn**	**01 14 30.5**	**-0.1**
MTDJ	**Mount Denham**	**12.15**	**339**	*e*Pn	**Pn**	**01 14 41.5**	**+1.0**
MTDJ				*e*Sn	Sn	01 16 44.5	-11
JTS	**JuntasAbangare**	**12.25**	**287**	P	P	01 15 47.3	+60
	comp=Z,0.7nm,0.3s,baz=118,slow=15,SNR=4.2						
ATAH	**Atahualpa**	**14.85**	**201**	P	**P**	**01 15 19.2**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=2.8						
PTGA	**Pitinga**	**15.07**	**119**	P	**P**	**01 15 20.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=302,slow=16,SNR=9.4						
PTGA	**Pitinga**	**15.07**	**119**	*e*Pn	**Pn**	**01 15 15.8**	**-1.7**
	comp=Z,4.4nm,0.8s						
SAML	**Samuel**	**18.50**	**148**	*e*P	**P**	**01 15 56.6**	**-0.3**
	comp=Z,2.7nm,0.8s						
LPAZ	**La Paz**	**23.47**	**168**	*e*P	**P**	**01 16 47.0**	**-1.8**
	comp=Z,3.3nm,1.2s						
TUIG	**Tuzandepetl**	**23.62**	**300**	*e*P	**P**	**01 16 50.3**	**+0.9**
	comp=Z,182nm,0.7s						
PB11	**IPOC Station P**	**26.63**	**173**	*e*P	**P**	**01 17 13.5**	**-3.3**
	comp=Z,16nm,1.2s						
HODGE	**Hodges**	**28.57**	**344**	*e*P	**P**	**01 17 33.3**	**-0.5**
	comp=Z,86nm,1.8s						
PLAL	**Pickwick Lake**	**31.25**	**336**	*e*P	**P**	**01 17 58.8**	**+1.4**
	comp=Z,40nm,1.8s						
WVT	**Waverly**	**32.16**	**337**	*e*P	**P**	**01 18 06.5**	**+1.3**
	comp=Z,34nm,1.9s						
BDFB	**Brasilia**	**33.37**	**132**	P	**P**	**01 18 15.9**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=68,slow=9.1,SNR=4.7						
WHAR	**Wooly Hollow**	**33.40**	**331**	*e*P	**P**	**01 18 16.5**	**+0.4**
	comp=Z,51nm,1.9s						
W40A	**Ferguson Farm,**	**33.70**	**330**	*e*P	**P**	**01 18 19.9**	**+1.1**
	comp=Z,48nm,1.5s						
CCM	**Cathedral Cave**	**35.20**	**335**	*e*P	**P**	**01 18 32.4**	**+0.8**
	comp=Z,12nm,0.9s						
SFIN	**Lafayette**	**35.70**	**341**	*e*P	**P**	**01 18 36.8**	**+0.9**
	comp=Z,91nm,1.6s						
LTX	**Lajitas**	**36.50**	**312**	*e*P	**P**	**01 18 43.7**	**+0.7**
LTX				*e*PcP	**PcP**	**01 21 05.0**	**+1.5**
TXAR	**Lajitas Array**	**36.50**	**312**	P	**P**	**01 18 43.7**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=127,slow=8.7,SNR=19						
TXAR				PcP	**PcP**	**01 21 05.0**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=134,slow=5.1,SNR=2.4						
TX31	**Lajitas Ar. Si**	**36.51**	**312**	*e*P	**P**	**01 18 43.8**	**+0.8**
WMOK	**Wichita Mounta**	**36.51**	**323**	*e*P	**P**	**01 18 42.3**	**-0.6**
	comp=Z,6.6nm,1.3s						
MNTX	**Cornudas Mount**	**39.01**	**314**	*e*P	**P**	**01 19 04.8**	**+0.9**
	comp=Z,3.2nm,0.8s						
JFWS	**Jewell Farm**	**39.01**	**340**	*e*P	**P**	**01 19 03.5**	**-0.3**
	comp=Z,58nm,1.5s						
LMN	**Caledonia Moun**	**39.54**	**9**	*e*P	**P**	**01 19 08.9**	**+0.9**
	comp=Z,63nm,2.0s						
LPIG	**La Paz**	**39.62**	**300**	LR	LR	01 36 55.0	
	comp=Z,833nm,19.8s,baz=304,slow=38						
ECSD	**EROS Data Cent**	**42.17**	**334**	*e*P	**P**	**01 19 29.2**	**-0.4**
	comp=Z,21nm,1.8s						
SDCO	**Great Sand Dun**	**42.58**	**321**	*e*P	**P**	**01 19 33.7**	**+0.3**
	comp=Z,8.8nm,1.6s						
S22A	**4UR Ranch, Cre**	**43.42**	**320**	*e*P	**P**	**01 19 40.4**	**+0.3**
	comp=Z,4.3nm,1.2s						
EYMN	**Ely**	**43.89**	**342**	*e*P	**P**	**01 19 43.4**	**0.0**
	comp=Z,36nm,1.6s						
MVCO	**Mesa Verde**	**44.19**	**318**	*e*P	**P**	**01 19 45.8**	**-0.5**
	comp=Z,16nm,1.8s						
SMCO	**Snowmass**	**44.37**	**322**	*e*P	**P**	**01 19 48.7**	**+0.9**
	comp=Z,3.4nm,1.0s						
AGMN	**Agassiz Nation**	**45.65**	**339**	*e*P	**P**	**01 19 57.2**	**0.0**
	comp=Z,23nm,1.8s						
U15A	**North Rim**	**46.36**	**315**	*e*P	**P**	**01 20 04.2**	**+0.8**
	comp=Z,9.4nm,1.7s						
KNB	**Kanab**	**47.02**	**316**	*e*P	**P**	**01 20 07.8**	**-0.6**
	comp=Z,3.0nm,0.9s						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**01 20 09.8**	**-0.3**
	comp=Z,3.8nm,0.5s,baz=145,slow=6.7,SNR=14						
ULM	**Lac du Bonnet**	**47.31**	**340**	*e*P	**P**	**01 20 09.7**	**-0.4**
	comp=Z,11nm,1.2s						
LCMT	**Little Creek M**	**47.31**	**315**	*e*P	**P**	**01 20 12.3**	**+1.7**
	comp=Z,3.3nm,1.0s						
MSU	**Marysvale**	**47.34**	**318**	*e*P	**P**	**01 20 09.1**	**-1.8**
BW06	**Boulder Array**	**48.11**	**324**	*e*P	**P**	**01 20 16.3**	**-0.5**
	comp=Z,11nm,1.9s						
PD31	**Pinedale Array**	**48.11**	**324**	*e*P	**P**	**01 20 17.2**	**+0.5**
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**01 20 17.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=122,slow=9.7,SNR=7.8						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**01 20 15.7**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=170,slow=6.2,SNR=4.8						
HWUT	**Hardware Ranch**	**48.64**	**322**	*e*P	**P**	**01 20 19.4**	**-1.3**
	comp=Z,13nm,1.8s						
LAO	**LASA Array**	**48.86**	**330**	*e*P	**P**	**01 20 21.0**	**-1.3**
	comp=Z,30nm,1.9s						
BGU	**Big Grassy Mou**	**49.18**	**320**	*e*P	**P**	**01 20 25.5**	**+0.7**
	comp=Z,3.0nm,0.7s						
BOZ	**Bozeman (W)**	**51.01**	**326**	*e*P	**P**	**01 20 38.8**	**+0.2**
	comp=Z,14nm,1.9s						
MCMT	**McKenzie Canyo**	**51.25**	**324**	*e*P	**P**	**01 20 40.0**	**-0.5**
HRY	**Holter Researc**	**51.80**	**327**	*e*P	**P**	**01 20 43.3**	**-1.1**
YBH	**Yreka Blue Hor**	**55.98**	**317**	*e*P	**P**	**01 21 14.0**	**-0.7**
	comp=Z,13nm,1.8s						
KBO	**Bosley Butte**	**57.21**	**316**	*e*P	**P**	**01 21 23.5**	**+0.1**
	comp=Z,71nm,1.5s						
KEBM	**Edson Butte**	**57.54**	**317**	*e*P	**P**	**01 21 27.0**	**+1.2**
	comp=Z,75nm,1.5s						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**01 22 04.2**	**0.0**
	comp=Z,2.5nm,0.5s,baz=132,slow=6.6,SNR=24						
YKB5	**Yellowknife Ar**	**63.28**	**340**	*e*P	**P**	**01 22 04.2**	**0.0**
YKW3	**Yellowknife Ar**	**63.33**	**340**	*e*P	**P**	**01 22 04.2**	**-0.4**
	comp=Z,25nm,1.7s						
DBIC	**Dimbokro**	**67.68**	**86**	P	**P**	**01 22 32.2**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=264,slow=9.2,SNR=4.4						
DBIC	**Dimbokro**	**67.68**	**86**	*e*P	**P**	**01 22 32.2**	**-1.2**
	comp=Z,19nm,1.5s						
TOA1	**Torodi Ar. Sit**	**73.68**	**78**	*e*P	**P**	**01 23 08.2**	**-1.5**
	comp=Z,10nm,1.7s						
TORD	**Torodi Ar. Bea**	**73.68**	**78**	P	**P**	**01 23 08.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=284,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**76.99**	**335**	P	**P**	**01 23 27.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=116,slow=4.8,SNR=5.2						
ILB	**Eielson Array**	**76.99**	**335**	*e*P	**P**	**01 23 27.7**	**+0.1**
ARA0	**ARCESS Array S**	**86.65**	**20**	*e*P	**P**	**01 24 18.4**	**+0.3**
ARCES	**ARCESS Array B**	**86.65**	**20**	P	**P**	**01 24 18.4**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=289,slow=2.8,SNR=2.4						
MK32	**Makanchi Array**	**122.30**	**20**	*e*PKPdf	**PKPdf**	**01 30 29.0**	**-0.2**
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	**PKPdf**	**01 30 29.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=317,slow=1.9,SNR=3.7						
AS31	**Alice Springs**	**149.15**	**234**	*e*PKPbc	**PKPbc**	**01 31 22.5**	**-0.8**
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**01 31 22.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=117,slow=3.5,SNR=9.3						
WR1	**Warramunga Arr**	**150.38**	**241**	*e*PKPdf	**PKPdf**	**01 31 21.8**	**+0.9**
WR1				*e*PKPbc	**PKPbc**	**01 31 25.6**	**-0.7**
WRA	**Warramunga Arr**	**150.38**	**241**	PKP	**PKPdf**	**01 31 21.8**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=107,slow=2.6,SNR=10						
WRA				PKPbc	**PKPbc**	**01 31 25.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=107,slow=2.7,SNR=19						

*IDC **20** 01:18:31.4±0.8, 15°.11S×168°.37E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/35, mbtmp4.2/18, ML3.9/1, MS3.4/10, Ms1 3.5/10, ms1mx3.2/24, Error ellipse: s-maj=22.1km s-min=16.2km az=102.0*
*ISCJB **20** 01:18:35.6±0.3, 15°.16S±0°.05×168°.09E±0°.06, h33km, mb4.7/53, MS3.5/8, Error ellipse: s-maj=8.9km s-min=6.4km az=37.3*
*NEIC **20** 01:18:37.2±0.3, 15°.17S×168°.17E, h35km, mb4.8/32, Error ellipse: s-maj=10.2km s-min=6.6km az=152.0*
ISC 20 01:18:35.2±0.5, 15°.08S±0°.07×168°.34E±0°.08, h27km, n70, σ1°.72/65, mb4.7/52, MS3.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.18**	**194**	Pn	**Pn**	**01 20 17.7**	**-0.9**
	2.0nm,0.3s,baz=105,slow=12,SNR=20						
DZM				Sn	**Sn**	**01 21 41.4**	**+2.1**
	baz=131,slow=19,SNR=2.9						
DZM	**Mont Dzumac**	**7.18**	**194**	*e*Pn	**Pn**	**01 20 16.4**	**-2.1**
DZM				*e*Sn	**Sn**	**01 21 41.4**	**+2.1**
MSVF	**Nonsavu**	**9.69**	**107**	*e*Pn	**Pn**	**01 20 51.1**	**-1.8**
	41nm,1.2s						
HNR	**Honiara**	**9.93**	**303**	LR	LR	01 24 44.1	
	comp=Z,202nm,18.7s,baz=142,slow=37						
AFI	**Afiamalu**	**19.29**	**89**	LR	LR	01 29 29.1	
	comp=Z,46nm,18.3s,baz=314,slow=34						
PMG	**Port Moresby**	**21.44**	**283**	P	**P**	**01 23 23.1**	**+1.6**
	8.1nm,0.6s,baz=49,slow=19,SNR=1.8						
PMG				LR	LR	01 29 15.2	
	comp=Z,88nm,20.3s,baz=42,slow=30						
CTA	**Charters Tower**	**21.62**	**253**	P	**P**	**01 23 24.7**	**+1.2**
	2.4nm,0.7s,baz=71,slow=18,SNR=1.6						
URZ	**Urewera**	**24.36**	**163**	P	**P**	**01 23 51.5**	**+0.5**
	5.2nm,0.8s,baz=324,slow=19,SNR=2.0						
BKZ	**Black Stump Fm**	**25.04**	**165**	*e*P	**P**	**01 23 57.2**	**0.0**
	128nm,2.0s						
STKA	**Stephens Creek**	**29.56**	**231**	P	**P**	**01 24 38.2**	**+0.4**
	3.4nm,0.7s,baz=40,slow=7.9,SNR=6.1						
STKA				LR	LR	01 36 16.2	
	comp=Z,86nm,20.3s,baz=37,slow=36						
STKA	**Stephens Creek**	**29.56**	**231**	*e*P	**P**	**01 24 36.1**	**-1.7**
	1.0nm,0.8s						
WB2	**Warramunga Arr**	**32.73**	**257**	*e*P	**P**	**01 25 03.5**	**-2.5**
	6.7nm,0.9s						
WRAB	**Tennant Creek**	**32.73**	**257**	*e*P	**P**	**01 25 05.6**	**-0.3**
	7.7nm,0.8s						
WR1	**Warramunga Arr**	**32.74**	**257**	*e*P	**P**	**01 25 04.8**	**-1.3**
	8.7nm,0.9s						
WRA	**Warramunga Arr**	**32.74**	**257**	P	**P**	**01 25 04.8**	**-1.3**
	1.4nm,0.7s,baz=84,slow=8.5,SNR=7.9						
WRA				LR	LR	01 37 35.5	
	comp=Z,183nm,19.5s,baz=130,slow=35						
AS31	**Alice Springs**	**33.52**	**250**	*e*P	**P**	**01 25 12.3**	**-0.4**
	7.2nm,1.1s						
ASAR	**Alice Springs**	**33.52**	**250**	P	**P**	**01 25 11.8**	**-0.9**
	2.9nm,0.9s,baz=82,slow=9.1,SNR=15						
ASAR				LR	LR	01 38 25.7	
	comp=Z,118nm,18.9s,baz=93,slow=36						
BBOO	**Buckleboo**	**34.19**	**233**	*e*P	**P**	**01 25 18.0**	**-0.4**
	77nm,1.8s						
FAKI	**Fak Fak**	**37.56**	**285**	*e*P	**P**	**01 25 43.6**	**-4.0**
	20nm,0.9s						
FORT	**Forrest**	**40.01**	**240**	*e*P	**P**	**01 26 06.9**	**-1.0**
	359nm,0.8s						
PPT	**Papeete**	**40.41**	**99**	LR	LR	01 41 54.9	
	comp=Z,16nm,18.4s,baz=185,slow=35						
FITZ	**Fitzroy Crossi**	**40.97**	**260**	P	**P**	**01 26 15.5**	**-0.5**
	5.8nm,0.6s,baz=86,slow=8.6,SNR=6.2						
WRMHI	**West Rim**	**49.55**	**47**	*e*P	**P**	**01 27 23.2**	**-1.0**
	1μm,1.4s						
NPOC	**North of Pu'u**	**49.67**	**48**	*e*P	**P**	**01 27 22.8**	**-2.3**
	257nm,1.3s						
UGM	**Wanagama**	**56.97**	**270**	*e*P	**P**	**01 28 17.2**	**-1.7**
	497nm,1.7s						
MJAR	**Matsushiro Arr**	**58.69**	**332**	P	**P**	**01 28 29.6**	**-0.9**
	0.8nm,0.3s,baz=166,slow=8.7,SNR=5.4						
VNDA	**Vanda**	**62.54**	**182**	P	**P**	**01 28 56.4**	**+0.3**
	1.0nm,1.0s,baz=341,slow=3.8,SNR=3.6						
SBA	**Scott Base**	**62.79**	**180**	*e*P	**P**	**01 28 59.3**	**+1.5**
	38nm,1.9s						
KSRS	**Korea Array**	**64.61**	**325**	P	**P**	**01 29 11.6**	**+1.3**
	0.8nm,0.4s,baz=145,slow=4.5,SNR=3.3						
KS15	**Wonju Array Si**	**64.62**	**325**	*e*P	**P**	**01 29 11.6**	**+1.2**
KSAR	**Wonju Array Be**	**64.62**	**325**	P	**P**	**01 29 11.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**67.67**	**333**	P	**P**	**01 29 31.8**	**+2.0**
	0.7nm,0.5s,baz=119,slow=8.4,SNR=3.1						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**01 30 13.9**	**+0.1**
	8.1nm,0.9s						
CM31	**Chiang Mai Arr**	**76.03**	**294**	*e*P	**P**	**01 30 23.0**	**+2.4**
CMAR	**Chiang Mai Arr**	**76.03**	**294**	P	**P**	**01 30 23.0**	**+2.4**
	0.5nm,0.4s,baz=134,slow=5.5,SNR=2.5						
CMAR				LR	LR	02 03 46.2	
	comp=Z,16nm,18.7s,baz=209,slow=36						
ULN	**Ulaanbaatar**	**83.03**	**323**	*e*P	**P**	**01 30 59.7**	**+1.4**
	12nm,1.0s						
SONA0	**Songino Array**	**83.39**	**323**	*e*P	**P**	**01 31 01.3**	**+1.2**
	8.0nm,1.0s						
SONM	**Songino Array**	**83.39**	**323**	P	**P**	**01 31 01.3**	**+1.2**
	4.5nm,1.0s,baz=113,slow=3.4,SNR=6.0						
EMT	**Emmet**	**83.99**	**50**	*e*P	**P**	**01 31 03.0**	**-0.3**
CAST	**Castle Rocks**	**84.03**	**17**	*e*P	**P**	**01 31 03.2**	**+0.3**
	13nm,1.4s						
ORV	**Oroville**	**84.87**	**47**	*e*P	**P**	**01 31 09.4**	**+1.8**
	5.9nm,1.2s						
AFDM	**Forest Hills D**	**85.00**	**48**	*e*P	**P**	**01 31 10.1**	**+1.7**
	5.9nm,1.0s						
CMB	**Columbia Colle**	**85.05**	**49**	*e*P	**P**	**01 31 10.5**	**+1.8**
	3.8nm,1.0s						
BEKR	**Beckworth**	**85.80**	**47**	*e*P	**P**	**01 31 14.4**	**+1.8**
	3.4nm,0.9s						
WAKR	**Walker**	**85.92**	**49**	*e*P	**P**	**01 31 15.6**	**+2.3**
	7.4nm,1.1s						
PAHR	**Pah Rah Range**	**86.43**	**47**	*e*P	**P**	**01 31 17.7**	**+2.1**
	5.5nm,1.1s						
DAC	**Darwin (Calif)**	**86.45**	**51**	*e*P	**P**	**01 31 17.9**	**+2.0**
	7.4nm,1.4s						
ILAR	**Eielson Array**	**86.54**	**18**	P	**P**	**01 31 15.0**	**-0.4**
	1.2nm,0.8s,baz=232,slow=5.9,SNR=9.6						
ILAR				LR	LR	02 05 25.7	
	comp=Z,23nm,19.2s,baz=219,slow=32						
ILB	**Eielson Array**	**86.54**	**18**	*e*P	**P**	**01 31 15.0**	**-0.4**
TPNV	**Topopah Spring**	**87.70**	**51**	*e*P	**P**	**01 31 23.9**	**+2.0**
	4.4nm,0.9s						
LDFC	**Landfair**	**87.92**	**53**	*e*P	**P**	**01 31 25.2**	**+2.3**
	14nm,1.0s						
SHPR	**Sheep Range**	**88.37**	**52**	*e*P	**P**	**01 31 27.4**	**+2.3**
	8.9nm,1.2s						
R11A	**Troy Canyon, C**	**88.68**	**50**	*e*P	**P**	**01 31 28.2**	**+1.7**
	5.2nm,1.4s						
W13A	**Hualapai Mount**	**88.87**	**53**	*e*P	**P**	**01 31 29.8**	**+2.3**
	3.4nm,1.0s						
LCMT	**Little Creek M**	**89.98**	**52**	*e*P	**P**	**01 31 34.8**	**+2.2**
	7.7nm,1.0s						
CCUT	**Cedar City**	**90.07**	**51**	*e*P	**P**	**01 31 35.7**	**+2.6**
	5.1nm,1.1s						
SZCU	**Shurtz Canyon**	**90.29**	**51**	*e*P	**P**	**01 31 37.0**	**+2.8**
	13nm,1.5s						
KNB	**Kanab**	**90.31**	**52**	*e*P	**P**	**01 31 36.6**	**+2.4**
	6.8nm,1.1s						
TUC	**Tucson**	**90.45**	**57**	*e*P	**P**	**01 31 37.3**	**+2.5**
	7.4nm,1.5s						
U15A	**North Rim**	**90.53**	**52**	*e*P	**P**	**01 31 37.8**	**+2.4**
	6.6nm,0.9s						
X16A	**Lo Mia Camp, P**	**90.56**	**55**	*e*P	**P**	**01 31 37.9**	**+2.4**
	4.4nm,0.9s						
SNOW	**Snow King Moun**	**93.79**	**46**	*e*P	P	01 31 55.8	+5.5
	6.8nm,0.6s						
PD31	**Pinedale Array**	**94.43**	**47**	*e*P	**P**	**01 31 53.4**	**+0.2**
PDAR	**Pinedale Array**	**94.43**	**47**	P	**P**	**01 31 53.4**	**+0.2**
	0.4nm,0.8s,baz=224,slow=3.8,SNR=3.2						
TXAR	**Lajitas Array**	**95.54**	**61**	LR	LR	02 08 37.2	
	comp=Z,34nm,19.2s,baz=0.0,slow=32						
MK32	**Makanchi Array**	**98.17**	**316**	*e*P	Pdif	01 32 10.0	+0.2
MKAR	**Makanchi Array**	**98.17**	**316**	P	Pdif	01 32 10.0	+0.2
	0.9nm,0.8s,baz=101,slow=6.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**98.28**	**324**	P	**P**	**01 32 09.7**	**-0.3**
	0.6nm,0.4s,baz=117,slow=5.0,SNR=3.2						
ZAA1	**Zalesovo Array**	**98.28**	**324**	*e*P	**P**	**01 32 09.7**	**-0.4**
BNI	**Bardonecchia**	**146.34**	**336**	*e*PKPdf	**PKPab**	**01 38 14.2**	**-0.4**

*IDC **20** 01:30:21.2±1.4, 31°.45S×177°.84W, h0km, mb4.2/2, mb1 4.5/3, mb1mx3.9/31, mbtmp4.3/3, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=41.9km s-min=26.8km az=104.0*
*ISCJB **20** 01:30:22.8±5.4, 31°.6S±0°.2×177°.6W±0°.8, h35km, mb4.1/2, Error ellipse: s-maj=102.2km s-min=13.5km az=13.9*
ISC 20 01:30:25.8±1.6, 31°.5S±0°.1×177°.8W±0°.3, h35km, n8, σ1°.50/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**356**	Pn	**Pn**	**01 30 59.2**	**-0.8**
	72nm,0.3s,baz=233,slow=20,SNR=4.4						
RAO				Sn	**Sn**	**01 31 26.7**	**+0.5**
	comp=Z,270nm,18.1s,baz=249,slow=34						
DZM	**Mont Dzumac**	**16.91**	**300**	LR	LR	01 39 55.9	
	comp=

comp=Z,920nm,0.6s
POGA Pongola 3.65 108 *e*P **Pn 01 44 29.3 +1.2**
POGA *e*S **Sn 01 45 13.7 +1.9**
POGA AML AML 01 45 30.2
comp=Z,423nm,0.5s
MSNA Messina 4.47 29 *e*P **Pn 01 44 38.3 -1.1**
MSNA *e*S **Sn 01 45 28.2 -3.6**
MSNA AML AML 01 46 00.4
comp=Z,101nm,0.6s
PKA Prieska 5.51 231 *e*P **Pn 01 44 53.2 -0.7**
PKA *e*S **Sn 01 45 56.6 -1.2**
PKA AML AML 01 46 33.8
comp=Z,2μm,0.5s
MATP Matopo 5.89 7 *i* P **Pn 01 44 59.4 +0.3**
MATP *i* 01 44 59.6
baz=185,slow=16
MATP *i* S **Sb 01 46 30.2 +5.1**
UPI Upington 6.09 249 *e*P **Pn 01 45 02.5 +0.7**
UPI *e*S **Sn 01 46 08.2 -3.8**
UPI AML AML 01 46 43.2
comp=Z,86nm,0.6s
BLWY Bulawayo 6.18 8 *i* P **Pn 01 45 02.7 -0.4**
BLWY *i* 01 45 02.8
baz=217,slow=12
BLWY *i* S **Sb 01 46 39.0 +5.3**

TRN 20 01:46:23.8, 11°.70N×61°.90W, h132km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.52**	**26**	*e*P	Pn	01 46 44.0	+0.7
GRW				*e*S	Sn	01 46 59.8	+1.7
GRSS	**Sisters**	**0.66**	**25**	*e*P	Pn	01 46 44.9	+0.7
GRSS				*e*S	Sn	01 47 00.3	+0.8
TRN	**Trinidad (W)**	**1.15**	**155**	*e*P	Pn	01 46 50.0	+1.6
TRN				*e*S	Sn	01 47 07.3	+0.3
BOT	**Bacolet**	**1.27**	**114**	*e*P	Pn	01 46 51.1	+1.5
BOT				*e*S	Sn	01 47 10.8	+1.7
TOSP	**Speyside**	**1.39**	**106**	*e*P	Pn	01 46 51.4	+0.6
TOSP				*e*S	Sn	01 47 12.1	+0.7
SVB	**Belmont**	**1.69**	**22**	*e*P	Pn	01 46 56.5	+2.2
SVB				*e*S	Sn	01 47 17.7	+0.2
MCLT	**Moule a Chique**	**2.21**	**25**	*e*P	Pn	01 47 02.5	+2.0
MCLT				*e*S	Sn	01 47 30.0	+1.3
SLB	**Belfond**	**2.28**	**21**	*e*P	Pn	01 47 04.1	+2.8
SLB				*e*S	Sn	01 47 32.0	+1.7

DHMR 20 01:48:44.7±1.1, 11°.78N×43°.11E, h5km±25km, ML3.8, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.75**	**34**	⇑*i*P	Pb	01 49 16.9	-0.5
TRBA				*i* S	Sg	01 49 40.9	0.0
TRBA				AML	AML	01 49 41.7
comp=N,1μm,0.3s							
UDYN	**Al 'Udayn**	**2.33**	**21**	*i* P	Pb	01 49 25.9	-1.4
UDYN				*i* S	Sb	01 49 57.7	+1.2
BDHA	**Al Bayda'**	**3.24**	**47**	*i* P	Pn	01 49 38.5	+2.1
BDHA				*i* S	Sb	01 50 22.0	-0.9
BDHA				AML	AML	01 50 36.0
comp=N,340nm,0.5s							

IDC ***20*** *02:18:03.4±6.4, 27°.58N×55°.40E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/37, mbtmp3.9/3, Error ellipse: s-maj=127.7km s-min=48.0km az=112.0*
CSEM ***20*** *02:18:15.5, 28°.37N×54°.28E, h19km, ML2.9*
TEH ***20*** *02:18:15.5, 28°.37N×54°.28E, h19km, ML2.9*
ISC 20 02:18:12.7±2.2, 28°.0N±0°.2×54°.3E±0°.1, h17km, n19, σ0°65/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.74**	**323**	*e*Pg	**Pb**	**02 18 44.1**	**-0.4**
ISRV				*e*AMB	AMB	02 19 12.9
comp=Z,2μm,0.2s							
ISRV	**Sarvestan**	**1.74**	**323**	*e*Pg	**Pb**	**02 18 44.1**	**-0.4**
IMEH	**Mehriz**	**3.40**	**4**	*e*Pn	**Pn**	**02 19 05.8**	**+0.6**
IMEH				*e*AMB	AMB	02 19 56.5
comp=Z,239nm,0.3s							
IMEH	**Mehriz**	**3.40**	**4**	*e*Pn	**Pn**	**02 19 05.8**	**+0.6**
IBAF	**Bafgh**	**3.75**	**17**	*e*Pn	**Pn**	**02 19 10.5**	**+0.6**
IBAF				*e*AMB	AMB	02 19 14.1
comp=Z,239nm,0.1s							
IBAF	**Bafgh**	**3.75**	**17**	*e*Pn	**Pn**	**02 19 10.5**	**+0.6**
IRAM	**Ramesheh**	**4.16**	**337**	*e*Pn	**Pn**	**02 19 16.3**	**+0.6**
IRAM				*e*AMB	AMB	02 19 39.3
comp=Z,208nm,0.3s							
IRAM	**Ramesheh**	**4.16**	**337**	*e*Pn	**Pn**	**02 19 16.3**	**+0.6**
ICHK	**Chekchek**	**4.24**	**1**	*e*AMB	AMB	02 19 34.0
comp=Z,225nm,0.3s							
IGAR	**Gharneh**	**4.82**	**336**	*e*Pn	**Pn**	**02 19 25.3**	**+0.6**
IGAR				*e*AMB	AMB	02 20 24.2
comp=Z,132nm,0.1s							
IZEF	**Zefreh**	**5.18**	**341**	*e*Pn	**Pn**	**02 19 29.9**	**+0.2**
IZEF				*e*AMB	AMB	02 19 33.8
comp=Z,47nm,0.1s							
IZEF	**Zefreh**	**5.18**	**341**	*e*Pn	**Pn**	**02 19 29.9**	**+0.2**
IPIR	**Pirpir**	**5.54**	**328**	*e*Pn	**Pn**	**02 19 35.6**	**+1.0**
IPIR				*e*AMB	AMB	02 20 40.5
comp=Z,162nm,0.2s							
IPIR	**Pirpir**	**5.54**	**328**	*e*Pn	**Pn**	**02 19 35.6**	**+1.0**
IKLH	**Kolahrood**	**5.81**	**337**	*e*Pn	**Pn**	**02 19 38.9**	**+0.5**
IKLH				*e*AMB	AMB	02 20 02.7
comp=Z,52nm,0.2s							
IKLH	**Kolahrood**	**5.81**	**337**	*e*Pn	**Pn**	**02 19 38.9**	**+0.5**
BRTR	**Keskin Array B**	**20.73**	**310**	P	Pn	02 22 56.4	+1.4
comp=Z,0.8nm,0.5s,baz=124,slow=12,SNR=4.9							
FINES	**FINESS Array B**	**38.39**	**339**	P	**P**	**02 25 32.1**	**-0.7**
comp=Z,12nm,1.2s,baz=134,slow=8.0,SNR=6.3							
TORD	**Torodi Ar. Bea**	**51.06**	**264**	P	**P**	**02 27 14.6**	**+0.1**
comp=Z,0.7nm,0.5s,baz=60,slow=8.1,SNR=15							

IDC ***20*** *02:21:14.7±1.0, 38°.97S×178°.03E, h0km, mb4.4/2, mb1 4.6/3, mb1mx4.0/27, mbtmp4.3/3, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/24, Error ellipse: s-maj=37.3km s-min=20.0km az=48.0*
ISCJB ***20*** *02:21:16.8±0.6, 39°.08S±0°.02×178°.29E±0°.06, h33km, mb4.2/2, MS3.5/3, Error ellipse: s-maj=6.7km s-min=3.0km az=7.7*
WEL ***20*** *02:21:20.2±0.1, 38°.95S×178°.07E, h43km±1km, ML4.5/56, Mw4.3, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0*
WEL Felt from Gisborne to Hawke''s Bay, maximum reported intensity MM 5.
NEIC ***20*** *02:21:20.3±0.0, 38°.94S×178°.06E, h43km, ML4.4(WEL), After WEL.*
NEIC Felt [IV] at Gisborne, Kaiti, Mahia, Mangapapa, Te Hapara, Wairoa and Whataupoko. Also felt at Flaxmere, Hexton, Mahia Beach, Napier, Rere and Tiniroto.
ISC 20 02:21:18.1±0.7, 39°.05S±0°.03×178°.28E±0°.05, h33km, n254, σ1§47/258, MS3.6/3, 29C-13D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.31**	**251**	Pn	**Pn**	**02 21 28.5**	**+2.3**
MHGZ				Sn	**Sn**	**02 21 34.5**	**+3.2**
MHGZ	**Mahia Peninsul**	**0.31**	**251**	⇓PN	**Pn**	**02 21 28.5**	**+2.3**
MHGZ				SN	**Sn**	**02 21 34.5**	**+3.2**
MHGZ				AML	AML	02 21 36.5
PRGZ	**Paritu Road**	**0.34**	**293**	Pn	**Pn**	**02 21 26.5**	**-0.2**
PRGZ				Sn	**Sn**	**02 21 32.2**	**0.0**
PRGZ	**Paritu Road**	**0.34**	**293**	⇓PN	**Pn**	**02 21 26.5**	**-0.2**
PRGZ				SN	**Sn**	**02 21 32.2**	**0.0**
PRGZ				AML	AML	02 21 32.5
KNZ	**Kokohu**	**0.47**	**274**	Pn	**Pn**	**02 21 28.4**	**-0.2**
KNZ				Sn	**Sn**	**02 21 34.7**	**-1.0**
KNZ	**Kokohu**	**0.47**	**274**	PN	**Pn**	**02 21 28.4**	**-0.2**
KNZ				SN	**Sn**	**02 21 34.7**	**-1.0**
KNZ				AML	AML	02 21 34.9
RIGZ	**Rimuhau**	**0.53**	**311**	⇑PN	**Pn**	**02 21 28.5**	**-0.9**
RIGZ				AML	AML	02 21 36.9
RIGZ				AML	AML	02 21 41.0
CNGZ	**Carnagh Statio**	**0.57**	**354**	Pn	**Pn**	**02 21 31.1**	**+1.2**
CNGZ	**Carnagh Statio**	**0.57**	**354**	⇓PN	**Pn**	**02 21 31.1**	**+1.2**
CNGZ				AML	AML	02 21 40.9
CNGZ				AML	AML	02 21 48.2
TKGZ	**Te Karaka**	**0.70**	**331**	Pn	**Pb**	**02 21 31.1**	**-0.8**
TKGZ	**Te Karaka**	**0.70**	**331**	⇑PN	**Pb**	**02 21 31.1**	**-0.8**
TKGZ				AML	AML	02 21 39.3
TKGZ				AML	AML	02 21 39.7
SNGZ	**Shannon Statio**	**0.78**	**290**	Pn	**Pn**	**02 21 31.7**	**-1.1**
SNGZ	**Shannon Statio**	**0.78**	**290**	⇑PN	**Pn**	**02 21 31.7**	**-1.1**
SNGZ				AML	AML	02 21 42.1
SNGZ				AML	AML	02 21 46.3
WHHZ	**Waihua**	**0.81**	**268**	⇑PN	**Pb**	**02 21 33.1**	**-0.7**
WHHZ				AML	AML	02 21 44.4
WHHZ				AML	AML	02 21 56.6
RAGZ	**Rawiri**	**0.88**	**309**	Pn	**Pn**	**02 21 33.0**	**-1.2**
RAGZ	**Rawiri**	**0.88**	**309**	⇑PN	**Pn**	**02 21 33.0**	**-1.2**
RAGZ				AML	AML	02 21 43.2
RAGZ				AML	AML	02 21 43.3
TWGZ	**Tauwhareparae**	**0.91**	**345**	Pn	**Pb**	**02 21 34.8**	**-0.6**
TWGZ	**Tauwhareparae**	**0.91**	**345**	⇑PN	**Pb**	**02 21 34.8**	**-0.6**
TWGZ				AML	AML	02 21 46.9
TWGZ				AML	AML	02 21 48.8
MWZ	**Matawai**	**0.93**	**320**	Pn	**Pn**	**02 21 33.8**	**-1.1**
MWZ	**Matawai**	**0.93**	**320**	PN	**Pn**	**02 21 33.8**	**-1.1**
MWZ				AML	AML	02 21 43.6
MWZ				AML	AML	02 21 43.6
PUZ	**Puketiti**	**0.98**	**359**	Pn	**Pb**	**02 21 35.9**	**-0.8**
PUZ	**Puketiti**	**0.98**	**359**	⇓PN	**Pb**	**02 21 35.9**	**-0.8**
PUZ				AML	AML	02 21 48.1
PUZ				AML	AML	02 21 49.5
ARHZ	**Aropaoanui**	**1.02**	**258**	Pn	**Pb**	**02 21 36.4**	**-0.9**
ARHZ	**Aropaoanui**	**1.02**	**258**	⇑PN	**Pb**	**02 21 36.4**	**-0.9**
ARHZ				AML	AML	02 21 50.7
ARHZ				AML	AML	02 21 51.6
RTZ	**Ruatahuna**	**1.10**	**293**	⇓PN	**Pn**	**02 21 36.2**	**-1.1**
CKHZ	**Cape Kidnapper**	**1.11**	**237**	Pn	**Pb**	**02 21 38.5**	**-0.3**
CKHZ	**Cape Kidnapper**	**1.11**	**237**	PN	**Pb**	**02 21 38.5**	**-0.3**
CKHZ				AML	AML	02 22 13.2
CKHZ				AML	AML	02 22 26.4
MTHZ	**Maungataniwha**	**1.14**	**280**	PN	**Pn**	**02 21 37.0**	**-0.8**
NMHZ	**Naumai**	**1.15**	**267**	Pn	**Pb**	**02 21 37.7**	**-1.8**
NMHZ	**Naumai**	**1.15**	**267**	⇑PN	**Pb**	**02 21 37.7**	**-1.8**
NMHZ				AML	AML	02 21 52.1
NMHZ				AML	AML	02 21 52.9
PKGZ	**Pakihiroa**	**1.18**	**352**	⇓PN	**Pb**	**02 21 38.6**	**-1.3**
PKGZ				AML	AML	02 21 52.3
PKGZ				AML	AML	02 21 52.6
RUGZ	**Raukumara Rang**	**1.19**	**336**	⇑PN	**Pn**	**02 21 37.6**	**-0.8**
URZ	**Urewera**	**1.21**	**311**	Pn	**Pn**	**02 21 37.3**	**-1.4**
991nm,0.3s,baz=252,slow=4.2,SNR=5321							
URZ				Sn	**Sn**	**02 21 50.7**	**-3.2**
492nm,0.3s,baz=6.1,slow=4.9,SNR=26							
URZ				LR	LR	02 21 54.1
comp=Z,440nm,19.2s,baz=198,slow=39							
URZ	**Urewera**	**1.21**	**311**	⇓PN	**Pn**	**02 21 37.6**	**-1.1**
URZ				AML	AML	02 21 51.3
URZ				AML	AML	02 21 52.3
WMGZ	**Waiomatatini S**	**1.24**	**5**	Pn	**Pb**	**02 21 39.8**	**-1.1**
WMGZ	**Waiomatatini S**	**1.24**	**5**	⇓PN	**Pb**	**02 21 39.8**	**-1.1**
WMGZ				AML	AML	02 21 56.3
WMGZ				AML	AML	02 21 56.6
MCHZ	**McNeill Hill**	**1.29**	**252**	Pn	**Pb**	**02 21 40.3**	**-1.5**
MCHZ	**McNeill Hill**	**1.29**	**252**	PN	**Pb**	**02 21 40.3**	**-1.5**
MCHZ				AML	AML	02 22 05.5
MCHZ				AML	AML	02 22 25.9
MUGZ	**Murupara**	**1.31**	**296**	⇑PN	**Pn**	**02 21 39.2**	**-0.9**
KAHZ	**Kahuranaki**	**1.31**	**235**	Pn	**Pb**	**02 21 41.3**	**-0.9**
KAHZ	**Kahuranaki**	**1.31**	**235**	PN	**Pb**	**02 21 41.3**	**-0.9**
KAHZ				AML	AML	02 22 18.2
KAHZ				AML	AML	02 22 23.7
HAZ	**Te Kaha**	**1.35**	**343**	PN	**Pn**	**02 21 40.1**	**-0.6**
HAZ				AML	AML	02 21 56.3
HAZ				AML	AML	02 21 56.3
HAZ				AML	AML	02 21 57.1
HAZ				AML	AML	02 21 57.2
BKZ	**Black Stump Fm**	**1.40**	**265**	Pn	**Pn**	**02 21 40.7**	**-0.6**
BKZ	**Black Stump Fm**	**1.40**	**265**	PN	**Pn**	**02 21 40.7**	**-0.6**
BKZ				AML	AML	02 21 58.0
BKZ				AML	AML	02 21 58.2
PXZ	**Pawanui**	**1.47**	**228**	Pn	**Pb**	**02 21 43.0**	**-1.8**
PXZ	**Pawanui**	**1.47**	**228**	PN	**Pb**	**02 21 43.0**	**-1.8**
PXZ				AML	AML	02 22 27.7
PXZ				AML	AML	02 22 27.8
PXZ				AML	AML	02 22 34.1
PXZ				AML	AML	02 22 34.1
MRHZ	**Matea Rd**	**1.47**	**278**	⇑PN	**Pn**	**02 21 41.9**	**-0.4**
MRHZ				AML	AML	02 21 58.5
MRHZ				AML	AML	02 21 58.8
KWHZ	**Kaweka Forest**	**1.49**	**255**	⇑PN	**Pn**	**02 21 42.7**	**+0.1**
KWHZ				AML	AML	02 22 00.6
KWHZ				AML	AML	02 22 02.1
MXZ	**Matakaoa Point**	**1.49**	**1**	Pn	**Pb**	**02 21 43.0**	**-2.1**
MXZ	**Matakaoa Point**	**1.49**	**1**	PN	**Pb**	**02 21 43.0**	**-2.1**
MXZ				AML	AML	02 22 01.2
MXZ				AML	AML	02 22 01.6
EDRZ	**Edgecumbe**	**1.53**	**308**	Pn	**Pn**	**02 21 42.1**	**-1.1**
EDRZ	**Edgecumbe**	**1.53**	**308**	PN	**Pn**	**02 21 42.1**	**-1.1**
RRRZ	**Republican Roa**	**1.56**	**297**	Pn	**Pn**	**02 21 42.5**	**-1.0**
RRRZ	**Republican Roa**	**1.56**	**297**	⇑PN	**Pn**	**02 21 42.5**	**-1.0**
PRRZ	**Plateau Road**	**1.57**	**290**	Pn	**Pn**	**02 21 42.8**	**-1.0**
PRRZ	**Plateau Road**	**1.57**	**290**	⇑PN	**Pn**	**02 21 42.8**	**-1.0**
WHRZ	**Whale Island**	**1.57**	**319**	⇑PN	**Pn**	**02 21 43.2**	**-0.5**
ALRZ	**Allen Road**	**1.59**	**287**	Pn	**Pn**	**02 21 43.1**	**-0.9**
ALRZ	**Allen Road**	**1.59**	**287**	⇑PN	**Pn**	**02 21 43.1**	**-0.9**
KRHZ	**Kereru**	**1.59**	**248**	⇑PN	**Pn**	**02 21 44.0**	**+0.1**
KRHZ				AML	AML	02 22 27.7
KRHZ				AML	AML	02 22 33.4
TARZ	**Mount Tarawera**	**1.61**	**300**	Pn	**Pn**	**02 21 43.5**	**-0.8**
TARZ	**Mount Tarawera**	**1.61**	**300**	⇑PN	**Pn**	**02 21 43.5**	**-0.8**
MARZ	**Manawahe**	**1.65**	**310**	Pn	**Pn**	**02 21 43.8**	**-0.9**
MARZ	**Manawahe**	**1.65**	**310**	PN	**Pn**	**02 21 43.8**	**-0.9**
HRRZ	**Handcock Road**	**1.70**	**292**	Pn	**Pn**	**02 21 44.3**	**-1.2**
HRRZ	**Handcock Road**	**1.70**	**292**	⇑PN	**Pn**	**02 21 44.3**	**-1.2**
HLRZ	**Highlands Stat**	**1.71**	**297**	PN	**Pn**	**02 21 44.5**	**-1.0**
HATZ	**Hinemaiaia**	**1.71**	**275**	Pn	**Pn**	**02 21 45.0**	**-0.6**
HATZ	**Hinemaiaia**	**1.71**	**275**	PN	**Pn**	**02 21 45.0**	**-0.6**
WPRZ	**Whakapapatarin**	**1.74**	**287**	Pn	**Pn**	**02 21 45.4**	**-0.6**
WPRZ	**Whakapapatarin**	**1.74**	**287**	PN	**Pn**	**02 21 45.4**	**-0.6**
WPHZ	**Waipukurau**	**1.74**	**234**	Pn	**Pb**	**02 21 46.8**	**-2.7**
WPHZ	**Waipukurau**	**1.74**	**234**	PN	**Pb**	**02 21 46.7**	**-2.7**
WPHZ				AML	AML	02 22 11.8
WPHZ				AML	AML	02 22 45.3
WIZ	**White Island**	**1.75**	**330**	Pn	**Pn**	**02 21 45.0**	**-1.1**
WIZ	**White Island**	**1.75**	**330**	PN	**Pn**	**02 21 45.0**	**-1.1**
PRHZ	**Porangahau**	**1.75**	**226**	Pn	**Pb**	**02 21 46.6**	**-3.0**
PRHZ	**Porangahau**	**1.75**	**226**	⇓PN	**Pb**	**02 21 46.6**	**-3.0**
PRHZ				AML	AML	02 22 09.7
PRHZ				AML	AML	02 22 13.8
HSRZ	**Hossack Road**	**1.76**	**294**	⇑PN	**Pn**	**02 21 45.2**	**-1.0**
OMRZ	**Omania**	**1.77**	**302**	Pn	**Pn**	**02 21 45.1**	**-1.3**
OMRZ	**Omania**	**1.77**	**302**	⇑PN	**Pn**	**02 21 45.1**	**-1.3**
BHHZ	**Black Hill Sta**	**1.77**	**255**	Pn	**Pn**	**02 21 46.5**	**0.0**
BHHZ	**Black Hill Sta**	**1.77**	**255**	⇑PN	**Pn**	**02 21 46.5**	**0.0**
BHHZ				AML	AML	02 22 06.1
BHHZ				AML	AML	02 22 07.4
OPRZ	**Ohinepanea**	**1.81**	**311**	Pn	**Pn**	**02 21 45.5**	**-1.5**
OPRZ	**Ohinepanea**	**1.81**	**311**	PN	**Pn**	**02 21 45.5**	**-1.5**
LIRZ	**Lichensteins R**	**1.82**	**305**	Pn	**Pn**	**02 21 46.0**	**-1.0**
LIRZ	**Lichensteins R**	**1.82**	**305**	⇓PN	**Pn**	**02 21 46.0**	**-1.0**
PNHZ	**Pukenui**	**1.82**	**241**	Pn	**Pn**	**02 21 47.3**	**+0.1**
PNHZ	**Pukenui**	**1.82**	**241**	PN	**Pn**	**02 21 47.3**	**+0.1**
PNHZ				AML	AML	02 22 09.2
PNHZ				AML	AML	02 22 11.1
WHTZ	**Whakaora**	**1.85**	**281**	Pn	**Pb**	**02 21 48.4**	**-3.0**
WHTZ	**Whakaora**	**1.85**	**281**	PN	**Pn**	**02 21 48.1**	**+0.5**
RITZ	**Rihia Road**	**1.89**	**272**	Pn	**Pn**	**02 21 47.8**	**-0.2**
RITZ	**Rihia Road**	**1.89**	**272**	PN	**Pn**	**02 21 47.8**	**-0.2**
KARZ	**Kaharoa**	**1.90**	**302**	Pn	**Pn**	**02 21 46.8**	**-1.5**
KARZ	**Kaharoa**	**1.90**	**302**	⇑PN	**Pn**	**02 21 46.8**	**-1.5**
RATZ	**Rangitukua**	**1.96**	**275**	PN	**Pn**	**02 21 48.7**	**-0.4**
ANWZ	**Angora Road**	**1.98**	**224**	PN	**Pn**	**02 21 49.4**	**+0.2**
ANWZ				AML	AML	02 22 24.2
ANWZ				AML	AML	02 22 25.7
MOVZ	**Moawhango**	**1.99**	**259**	Pn	**Pn**	**02 21 50.0**	**+0.4**
MOVZ	**Moawhango**	**1.99**	**259**	⇓PN	**Pn**	**02 21 50.0**	**+0.4**
KUTZ	**Kaahu Road**	**2.00**	**286**	Pn	**Pn**	**02 21 48.6**	**-1.0**
KUTZ	**Kaahu Road**	**2.00**	**286**	⇑PN	**Pn**	**02 21 48.6**	**-1.0**
KATZ	**Kakaramea**	**2.02**	**271**	Pn	**Pn**	**02 21 49.7**	**-0.2**
KATZ	**Kakaramea**	**2.02**	**271**	PN	**Pn**	**02 21 49.7**	**-0.2**
WATZ	**Wairara**	**2.02**	**279**	PN	**Pn**	**02 21 48.9**	**-0.9**
OTVZ	**Oturere**	**2.04**	**266**	Pn	**Pn**	**02 21 50.1**	**-0.1**
OTVZ	**Oturere**	**2.04**	**266**	PN	**Pn**	**02 21 50.1**	**-0.1**
DVHZ	**Dannevirke**	**2.05**	**232**	Pn	**Pn**	**02 21 50.5**	**+0.2**
DVHZ	**Dannevirke**	**2.05**	**232**	⇑PN	**Pn**	**02 21 50.5**	**+0.2**
DVHZ				AML	AML	02 22 15.4
DVHZ				AML	AML	02 22 15.6
TUVZ	**Tukino**	**2.05**	**263**	Pn	**Pn**	**02 21 50.8**	**+0.4**
TUVZ	**Tukino**	**2.05**	**263**	PN	**Pn**	**02 21 50.8**	**+0.4**
KRVZ	**Karewarewa**	**2.05**	**268**	Pn	**Pn**	**02 21 50.1**	**-0.3**
KRVZ	**Karewarewa**	**2.05**	**268**	PN	**Pn**	**02 21 50.1**	**-0.3**
TSZ	**Takapari Road**	**2.05**	**240**	Pn	**Pn**	**02 21 50.3**	**-0.1**
TSZ	**Takapari Road**	**2.05**	**240**	PN	**Pn**	**02 21 50.3**	**-0.1**
TSZ				AML	AML	02 22 12.8
TSZ				AML	AML	02 22 19.8
TGRZ	**Tauranga**	**2.07**	**309**	PN	**Pn**	**02 21 48.6**	**-1.8**
NGZ	**Ngauruhoe**	**2.09**	**266**	Pn	**Pn**	**02 21 50.9**	**0.0**
NGZ	**Ngauruhoe**	**2.09**	**266**	PN	**Pn**	**02 21 50.9**	**0.0**
WTVZ	**West Tongariro**	**2.09**	**267**	Pn	**Pn**	**02 21 51.0**	**0.0**
WTVZ	**West Tongariro**	**2.09**	**267**	PN	**Pn**	**02 21 51.0**	**0.0**
WNVZ	**Wahianoa**	**2.10**	**262**	Pn	**Pn**	**02 21 51.2**	**+0.1**
WNVZ	**Wahianoa**	**2.10**	**262**	⇓PN	**Pn**	**02 21 51.2**	**+0.1**
WHVZ	**Whangaehu Hut**	**2.10**	**263**	Pn	**Pn**	**02 21 51.1**	**-0.1**
WHVZ	**Whangaehu Hut**	**2.10**	**263**	PN	**Pn**	**02 21 51.1**	**-0.1**
DRZ	**Dome Shelter**	**2.12**	**263**	Pn	**Pn**	**02 21 52.0**	**+0.5**
DRZ	**Dome Shelter**	**2.12**	**263**	PN	**Pn**	**02 21 51.6**	**+0.1**
FWVZ	**Far West T-bar**	**2.13**	**264**	Pn	**Pn**	**02 21 51.4**	**-0.1**
FWVZ	**Far West T-bar**	**2.13**	**264**	PN	**Pn**	**02 21 51.4**	**-0.1**
TRVZ	**Turoa**	**2.14**	**263**	Pn	**Pn**	**02 21 50.9**	**-0.8**
MTVZ	**Mangateitei**	**2.21**	**261**	Pn	**Pn**	**02 21 52.9**	**+0.4**
MTVZ	**Mangateitei**	**2.21**	**261**	PN	**Pn**	**02 21 52.9**	**+0.4**
TWVZ	**Taurewa**	**2.21**	**269**	Pn	**Pn**	**02 21 52.5**	**-0.1**
TWVZ	**Taurewa**	**2.21**	**269**	PN	**Pn**	**02 21 52.5**	**-0.1**
BFZ	**Birch Farm**	**2.26**	**223**	Pn	**Pn**	**02 21 53.0**	**-0.1**
BFZ	**Birch Farm**	**2.26**	**223**	PN	**Pn**	**02 21 53.0**	**-0.1**
BFZ				AML	AML	02 22 20.6
BFZ				AML	AML	02 22 25.3
BFZ				AML	AML	02 22 25.3
BFZ				AML	AML	02 22 25.5
TLZ	**Tolley Road**	**2.26**	**288**	Pn	**Pn**	**02 21 51.8**	**-1.4**
TLZ	**Tolley Road**	**2.26**	**288**	PN	**Pn**	**02 21 51.8**	**-1.4**
PKVZ	**Pokaka**	**2.29**	**263**	Pn	**Pn**	**02 21 53.8**	**+0.1**
PKVZ	**Pokaka**	**2.29**	**263**	PN	**Pn**	**02 21 53.8**	**+0.1**
PRWZ	**Pori Road**	**2.33**	**229**	PN	**Pn**	**02 21 54.6**	**+0.6**
PRWZ				AML	AML	02 22 23.0
PRWZ				AML	AML	02 22 23.2
POWZ	**Post Office Ro**	**2.35**	**235**	Pn	**Pn**	**02 21 54.9**	**+0.5**
POWZ	**Post Office Ro**	**2.35**	**235**	PN	**Pn**	**02 21 54.9**	**+0.5**
POWZ				AML	AML	02 22 22.5
POWZ				AML	AML	02 22 28.2
CPWZ	**Castlepoint**	**2.45**	**220**	Pn	**Pn**	**02 21 55.0**	**-0.6**
CPWZ	**Castlepoint**	**2.45**	**220**	PN	**Pn**	**02 21 55.7**	**0.0**
CPWZ				AML	AML	02 22 26.2
CPWZ				AML	AML	02 22 26.5
TIWZ	**Tintock**	**2.52**	**226**	Pn	**Pn**	**02 21 56.7**	**0.0**
TIWZ	**Tintock**	**2.52**	**226**	PN	**Pn**	**02 21 56.7**	**0.0**
TIWZ				AML	AML	02 22 29.4
TIWZ				AML	AML	02 22 37.5
TOZ	**Tahuroa Road**	**2.55**	**300**	Pn	**Pn**	**02 21 55.5**	**-1.6**
TOZ	**Tahuroa Road**	**2.55**	**300**	⇑PN	**Pn**	**02 21 55.5**	**-1.6**
OHWZ	**Ohakea**	**2.56**	**242**	PN	**Pn**	**02 21 58.4**	**+1.1**
MRZ	**Mangatainoka R**	**2.63**	**231**	Pn	**Pn**	**02 21 57.9**	**-0.3**
MRZ	**Mangatainoka R**	**2.63**	**231**	PN	**Pn**	**02 21 57.9**	**-0.3**
MRZ				AML	AML	02 22 29.2
MRZ				AML	AML	02 22 29.2
WAZ	**Wanganui**	**2.65**	**254**	Pn	**Pn**	**02 21 59.8**	**+1.3**
WAZ	**Wanganui**	**2.65**	**254**	PN	**Pn**	**02 21 59.8**	**+1.3**
VRZ	**Vera Road**	**2.74**	**267**	Pn	**Pn**	**02 21 57.7**	**-2.0**
VRZ	**Vera Road**	**2.74**	**267**	PN	**Pn**	**02 22 00.0**	**+0.3**
TMWZ	**Te Maipa**	**2.75**	**221**	Pn	**Pn**	**02 21 59.2**	**-0.7**
TMWZ	**Te Maipa**	**2.75**	**221**	PN	**Pn**	**02 21 59.2**	**-0.7**
TMWZ				AML	AML	02 22 32.3
TMWZ				AML	AML	02 22 35.4
HOWZ	**Holdsworth Sta**	**2.81**	**228**	Pn	**Pn**	**02 22 00.5**	**-0.3

THZ	**Tophouse**	**4.91 235**	Pn	**Pn**	**02 22 27.5**	**-2.2**
THZ	**Tophouse**	**4.91 235**	⇓PN	**Pn**	**02 22 27.5**	**-2.2**
KHZ	**Kahutara**	**4.92 225**	Pn	**Pn**	**02 22 28.0**	**-1.7**
KHZ	**Kahutara**	**4.92 225**	⇑PN	**Pn**	**02 22 28.0**	**-1.7**
KHZ			AML	AML	02 23 24.3	
KHZ			AML	AML	02 23 24.4	
KHZ			AML	AML	02 23 24.4	
KHZ			AML	AML	02 23 25.4	
DSZ	**Denniston Nort**	**5.63 239**	Pn	Pn	02 22 28.4	-11
LTZ	**Lake Taylor**	**5.88 229**	Pn	**Pn**	**02 22 39.9**	**-3.0**
LTZ	**Lake Taylor**	**5.88 229**	PN	**Pn**	**02 22 39.9**	**-3.0**
CTZ	**Chatham Island**	**6.05 142**	Pn	Pn	02 22 50.4	+5.3
CTZ	**Chatham Island**	**6.05 142**	PN	Pn	02 22 50.4	+5.3
MQZ	**McQueen's Vall**	**6.28 221**	Pn	**Pn**	**02 22 46.4**	**-2.0**
MQZ	**McQueen's Vall**	**6.28 221**	PN	**Pn**	**02 22 46.3**	**-2.0**
INZ	**Inchbonnie**	**6.34 233**	PN	**Pn**	**02 22 46.2**	**-3.0**
OXZ	**Oxford**	**6.35 226**	Pn	**Pn**	**02 22 47.0**	**-2.4**
OXZ	**Oxford**	**6.35 226**	PN	**Pn**	**02 22 47.0**	**-2.4**
WVZ	**Waitaha Valley**	**6.97 232**	Pn	**Pn**	**02 22 57.2**	**-0.7**
WVZ	**Waitaha Valley**	**6.97 232**	PN	**Pn**	**02 22 55.6**	**-2.2**
RPZ	**Rata Peaks**	**7.15 227**	Pn	**Pn**	**02 22 58.4**	**-1.9**
	2.3nm,0.3s,baz=211,slow=1.9,SNR=6.3					
RPZ			Sn	**Sn**	**02 24 12.0**	**-8.5**
	7.8nm,0.3s,baz=338,slow=20,SNR=16					
RPZ	**Rata Peaks**	**7.15 227**	PN	**Pn**	**02 22 57.5**	**-2.9**
FOZ	**Fox Glacier**	**7.78 232**	Pn	**Pn**	**02 23 06.1**	**-2.8**
FOZ	**Fox Glacier**	**7.78 232**	PN	**Pn**	**02 23 05.9**	**-3.1**
LBZ	**Lake Benmore**	**8.06 226**	Pn	**Pn**	**02 23 10.2**	**-2.7**
LBZ	**Lake Benmore**	**8.06 226**	PN	**Pn**	**02 23 10.1**	**-2.7**
ODZ	**Otahua Downs**	**8.25 221**	Pn	**Pn**	**02 23 13.3**	**-2.1**
ODZ	**Otahua Downs**	**8.25 221**	PN	**Pn**	**02 23 13.3**	**-2.1**
JCZ	**Jackson Bay**	**8.70 232**	Pn	**Pn**	**02 23 18.2**	**-3.5**
JCZ	**Jackson Bay**	**8.70 232**	PN	**Pn**	**02 23 18.2**	**-3.5**
HHSZ	**Highcliff Hill**	**8.87 217**	PN	**Pn**	**02 23 22.8**	**-1.2**
TUZ	**Tuapeka**	**9.39 220**	Pn	**Pn**	**02 23 29.4**	**-1.6**
TUZ	**Tuapeka**	**9.39 220**	PN	**Pn**	**02 23 29.4**	**-1.6**
PPT	**Papeete**	**35.20 62**	LR	LR	02 39 51.0	
	comp=Z,67nm,20.9s,baz=221,slow=32					
ASAR	**Alice Springs**	**40.47 279**	P	**P**	**02 28 53.4**	**-0.4**
	6.5nm,0.7s,baz=117,slow=7.4,SNR=47					
ASAR			LR	LR	02 46 35.5	
	comp=Z,75nm,18.5s,baz=110,slow=38					
WRA	**Warramunga Arr**	**42.25 284**	P	**P**	**02 29 07.9**	**-0.5**
	2.3nm,0.5s,baz=125,slow=7.2,SNR=35					
WRA			LR	LR	02 46 25.6	
	comp=Z,77nm,21.1s,baz=185,slow=36					
SNAA	**Sanae**	**69.58 180**	P	P	02 32 32.9	+10
VNA3	**Neumayer Olymp**	**69.86 177**	P	P	02 32 32.5	+7.5
VNA2	**Neumayer--Watz**	**70.25 178**	P	**P**	**02 32 30.2**	**+2.8**
	baz=179,slow=4.7					
MKAR	**Makanchi Array**	**120.78 307**	PKP	**PKPdf**	**02 40 06.6**	**+0.3**
	0.2nm,0.3s,baz=90,slow=1.4,SNR=2.7					
KURK	**Kurchatov**	**124.57 310**	PKP	**PKPdf**	**02 40 13.8**	**+0.5**
KURBB	**Kurchatov Arra**	**124.59 310**	PKP	**PKPdf**	**02 40 13.8**	**+0.4**
	0.2nm,0.4s,baz=116,slow=2.7,SNR=6.0					
ARCES	**ARCESS Array B**	**146.19 343**	PKPbc	**PKPab**	**02 40 55.0**	**+0.5**
	8.2nm,0.8s,baz=38,slow=6.1,SNR=16					
FINES	**FINESS Array B**	**151.80 332**	PKPbc	**PKPbc**	**02 41 09.4**	**+1.0**
	4.8nm,0.9s,baz=64,slow=4.4,SNR=4.1					
BRTR	**Keskin Array B**	**152.77 283**	PKPbc	**PKPbc**	**02 41 12.5**	**+1.0**
	1.4nm,0.8s,baz=141,slow=6.1,SNR=6.6					
TORD	**Torodi Ar. Bea**	**154.02 188**	PKPbc	**PKPbc**	**02 41 17.2**	**+2.5**
	0.3nm,0.5s,baz=145,slow=1.1,SNR=5.0					
TORD			PKPab	**PKPab**	**02 41 31.1**	**+3.2**
	1.3nm,0.6s,baz=156,slow=4.2,SNR=13					

CSEM ***20*** *02:30:43.4, 39.°97N×20.°69E, h15km, ML1.6/3*
ATH 20 02:30:43.4, 39.°97N×20.°69E, h15km±3km, ML1.6/3, Error ellipse: s-maj=3.6km s-min=1.0km az=145.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.34 159**		P	Pg	02 30 49.3	-1.0
JAN				S	Sg	02 30 55.4	+0.3
JAN				AML	AML	02 30 56.5	
	comp=N,582μm,0.2s						
JAN				AML	AML	02 30 56.6	
	comp=E,1030μm,0.4s						
JAN	**Janina**	**0.34 159**		P	Pg	02 30 49.3	-1.1
JAN				S	Sg	02 30 55.4	+0.3
PENT	**Pentalofos**	**0.41**	**56**	P	Pg	02 30 50.8	-0.9
PENT				S	Sb	02 30 58.0	-0.5
PENT				AML	AML	02 30 59.7	
	comp=N,97μm,0.4s						
PENT				AML	AML	02 31 00.1	
	comp=E,83μm,0.2s						
PENT	**Pentalofos**	**0.41**	**56**	P	Pg	02 30 50.8	-0.9
PENT				S	Sb	02 30 58.0	-0.5
SGD	**Sagiada**	**0.50 225**		P	Pg	02 30 53.2	-0.2
SGD				S	Sb	02 31 01.2	+0.2
SGD	**Sagiada**	**0.50 225**		P	Pg	02 30 53.2	-0.2
SGD				S	Sb	02 31 01.2	+0.2
KPRO	**Kipourio**	**0.52**	**91**	P	Pg	02 30 52.4	-1.3
KPRO				S	Sb	02 31 02.2	+0.7
KPRO				AML	AML	02 31 03.9	
	comp=E,156μm,0.3s						
KPRO				AML	AML	02 31 06.9	
	comp=N,131μm,0.3s						
KPRO	**Kipourio**	**0.52**	**91**	P	Pg	02 30 52.4	-1.2
KPRO				S	Sb	02 31 02.2	+0.7
KEK	**Kerkira**	**0.73 250**		P	Pg	02 30 57.5	-0.3
KEK	**Kerkira**	**0.73 250**		P	Pg	02 30 57.5	-0.2
DSL	**Palaion Diasel**	**0.89 159**		P	Pb	02 30 59.8	-0.8
DSL				S	Sn	02 31 13.8	-0.2
DSL	**Palaion Diasel**	**0.89 159**		P	Pb	02 30 59.8	-0.7
DSL				S	Sn	02 31 13.8	-0.2
KZN	**Kozani**	**0.89**	**67**	P	Pb	02 31 00.6	0.0
KZN	**Kozani**	**0.89**	**67**	P	Pb	02 31 00.6	0.0
FNA	**Florina**	**0.97**	**32**	P	Pn	02 31 02.9	+0.4
FNA	**Florina**	**0.97**	**32**	P	Pn	02 31 02.9	+0.5
EVR	**Evrytania**	**1.36 140**		P	Pb	02 31 08.9	+0.3
EVR	**Evrytania**	**1.36 140**		P	Pb	02 31 08.9	+0.3
PDO	**Prodromos**	**1.42 164**		P	Pg	02 31 10.9	+0.2
PDO	**Prodromos**	**1.42 164**		P	Pg	02 31 10.9	+0.2
AGG	**Agios Georgios**	**1.58 126**		P	Pg	02 31 13.1	-0.7
AGG	**Agios Georgios**	**1.58 126**		P	Pg	02 31 13.1	-0.7
GRG	**Griva**	**1.63**	**52**	P	Pb	02 31 13.2	0.0
GRG	**Griva**	**1.63**	**52**	P	Pb	02 31 13.2	0.0

IDC ***20*** *02:40:12.7±3.4, 40.°31S×176.°60E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/24, mbtmp3.7/4, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx2.9/20, Error ellipse: s-maj=74.6km s-min=27.0km az=130.0*
ISCJB ***20*** *02:40:14.4±0.7, 40.°48S±0.°03×176.°81E±0.°07, h29km±3km, mb3.6/3, MS4.0/1, Error ellipse: s-maj=9.5km s-min=3.4km az=31.2*
WEL ***20*** *02:40:14.6±0.2, 40.°47S×176.°78E, h12km, ML3.7/53, Error ellipse: s-maj=3.0km s-min=1.2km az=90.0*
WEL Felt from Hawke"s Bay to Wairarapa, maximum reported intensity MM 4.
ISC 20 02:40:15.4±1.0, 40.°39S±0.°04×176.°71E±0.°05, h24km±6km, n69, σ0°48/72, mb3.9/3, 10C-4D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.14 336**		⇑PG	**Pb**	**02 40 20.3**	**-0.1**
PRHZ				SG	**Sb**	**02 40 23.0**	**-0.6**
PRHZ				AML	AML	02 40 24.1	
ANWZ	**Angora Road**	**0.19 249**		⇑PG	**Pb**	**02 40 21.8**	**+0.9**
ANWZ				SG	**Sb**	**02 40 24.5**	**-0.1**
ANWZ				AML	AML	02 40 36.2	
PXZ	**Pawanui**	**0.38**	**18**	PG	**Pn**	**02 40 25.1**	**-0.2**
PXZ				SG	**Sn**	**02 40 32.1**	**+0.2**
PXZ				AML	AML	02 40 32.9	
PXZ				AML	AML	02 40 34.5	
PXZ				AML	AML	02 40 34.5	
WPHZ	**Waipukurau**	**0.39 328**		⇓PG	**Pb**	**02 40 23.6**	**-0.1**
WPHZ				AML	AML	02 40 29.5	
WPHZ				AML	AML	02 40 30.1	
DVHZ	**Dannevirke**	**0.42 282**		⇓PG	**Pb**	**02 40 24.2**	**-0.2**
DVHZ				AML	AML	02 40 30.3	
DVHZ				AML	AML	02 40 30.6	
BFZ	**Birch Farm**	**0.46 230**		⇑PG	**Pn**	**02 40 26.6**	**+0.1**
BFZ				*e*SG	**Sn**	**02 40 34.1**	**+0.2**
BFZ				AML	AML	02 40 35.5	
BFZ				AML	AML	02 40 36.2	
BFZ				AML	AML	02 40 36.9	
PRWZ	**Pori Road**	**0.59 254**		⇑P*	**Pn**	**02 40 28.4**	**+0.1**
PRWZ				AML	AML	02 40 38.3	
PRWZ				AML	AML	02 40 40.2	
KAHZ	**Kahuranaki**	**0.61**	**12**	⇑P*	**Pn**	**02 40 29.1**	**+0.4**
KAHZ				AML	AML	02 40 41.0	
KAHZ				AML	AML	02 40 41.6	
PNHZ	**Pukenui**	**0.62 321**		⇓P*	**Pb**	**02 40 27.4**	**-0.2**
PNHZ				AML	AML	02 40 37.4	
PNHZ				AML	AML	02 40 38.4	
CPWZ	**Castlepoint**	**0.65 217**		P*	**Pn**	**02 40 30.2**	**+1.2**
CPWZ				AML	AML	02 40 44.6	
CPWZ				AML	AML	02 40 48.2	
TSZ	**Takapari Road**	**0.66 300**		P*	**Pb**	**02 40 28.1**	**-0.3**
TSZ				AML	AML	02 40 37.3	
TSZ				AML	AML	02 40 39.0	
POWZ	**Post Office Ro**	**0.72 270**		P*	**Pb**	**02 40 29.9**	**+0.6**
POWZ				AML	AML	02 40 43.1	
POWZ				AML	AML	02 40 43.4	
TIWZ	**Tintock**	**0.73 238**		P*	**Pn**	**02 40 30.7**	**+0.4**
TIWZ				AML	AML	02 40 42.6	
TIWZ				AML	AML	02 40 44.9	
CKHZ	**Cape Kidnapper**	**0.79**	**21**	P*	**Pn**	**02 40 31.4**	**+0.4**
CKHZ				AML	AML	02 40 49.6	
CKHZ				AML	AML	02 40 55.1	
KRHZ	**Kereru**	**0.79 341**		⇑P*	**Pb**	**02 40 30.9**	**+0.3**
KRHZ				AML	AML	02 40 45.1	
KRHZ				AML	AML	02 40 48.9	
MRZ	**Mangatainoka R**	**0.90 252**		P*	**Pb**	**02 40 32.6**	**+0.2**
MRZ				*e*SG	**Sn**	**02 40 45.0**	**+0.2**
MRZ				AML	AML	02 40 47.2	
TMWZ	**Te Maipa**	**0.95 221**		P*	**Pn**	**02 40 33.5**	**+0.2**
TMWZ				AML	AML	02 40 56.1	
TMWZ				AML	AML	02 40 58.4	
KWHZ	**Kaweka Forest**	**0.99 347**		P*	**Pb**	**02 40 33.8**	**-0.2**
KWHZ				AML	AML	02 40 50.9	
KWHZ				AML	AML	02 40 56.6	
BHHZ	**Black Hill Sta**	**1.03 331**		⇑P*	**Pn**	**02 40 34.4**	**0.0**
BHHZ				AML	AML	02 40 48.4	
BHHZ				AML	AML	02 40 49.7	
HOWZ	**Holdsworth Sta**	**1.04 241**		⇑P*	**Pn**	**02 40 34.6**	**0.0**
HOWZ				AML	AML	02 40 58.6	
HOWZ				AML	AML	02 40 60.0	
OHWZ	**Ohakea**	**1.08 279**		P*	**Pb**	**02 40 36.4**	**+0.9**
ARHZ	**Aropaoanui**	**1.15**	**11**	P*	**Pb**	**02 40 36.8**	**+0.2**
ARHZ				AML	AML	02 40 59.8	
ARHZ				AML	AML	02 41 05.2	
MTW	**Mount Morrison**	**1.19 230**		P*	**Pn**	**02 40 36.4**	**-0.2**
MTW				AML	AML	02 41 03.7	
MTW				AML	AML	02 41 04.0	
MOVZ	**Moawhango**	**1.23 323**		⇑PN	**Pn**	**02 40 37.7**	**+0.6**
MOVZ				AML	AML	02 40 55.7	
MOVZ				AML	AML	02 40 55.9	
BKZ	**Black Stump Fm**	**1.24 352**		PN	**Pn**	**02 40 37.5**	**+0.2**
BKZ				AML	AML	02 40 59.9	
BKZ				AML	AML	02 41 05.0	
OGWZ	**Otaki Gorge**	**1.25 250**		P*	**Pn**	**02 40 37.4**	**+0.1**
OGWZ				AML	AML	02 40 59.4	
OGWZ				AML	AML	02 41 00.1	
TRWZ	**Traveller**	**1.27 217**		P*	**Pn**	**02 40 37.5**	**-0.1**
TRWZ				AML	AML	02 41 10.6	
TRWZ				AML	AML	02 41 11.5	
NMHZ	**Naumai**	**1.30**	**3**	PN	**Pn**	**02 40 38.8**	**+0.7**
NMHZ				AML	AML	02 41 06.9	
NMHZ				AML	AML	02 41 16.9	
WNVZ	**Wahianoa**	**1.36 321**		PN	**Pb**	**02 40 40.2**	**-0.2**
WHHZ	**Waihua**	**1.38**	**17**	AML	AML	02 41 21.0	
WHHZ				AML	AML	02 41 21.8	
MTVZ	**Mangateitei**	**1.39 316**		PN	**Pb**	**02 40 40.4**	**-0.3**
MTVZ				AML	AML	02 41 04.0	
MTVZ				AML	AML	02 41 06.6	
PAWZ	**Paruwai Farm**	**1.39 224**		P*	**Pn**	**02 40 39.0**	**-0.2**
PAWZ				AML	AML	02 41 14.1	
PAWZ				AML	AML	02 41 14.1	
TUVZ	**Tukino**	**1.39 324**		PN	**Pb**	**02 40 41.0**	**+0.2**
TUVZ				AML	AML	02 41 04.2	
TUVZ				AML	AML	02 41 11.1	
WHVZ	**Whangaehu Hut**	**1.40 322**		PN	**Pn**	**02 40 40.6**	**+0.9**
WHVZ				AML	AML	02 41 03.3	
WHVZ				AML	AML	02 41 10.2	
DRZ	**Dome Shelter**	**1.42 321**		PN	**Pb**	**02 40 41.2**	**-0.2**
DRZ				AML	AML	02 41 05.6	
DRZ				AML	AML	02 41 12.1	
CAW	**Cannon Point**	**1.44 240**		⇓P*	**Pn**	**02 40 39.9**	**-0.1**
CAW				AML	AML	02 41 06.8	
CAW				AML	AML	02 41 12.8	
FWVZ	**Far West T-bar**	**1.44 322**		PN	**Pn**	**02 40 41.1**	**+0.8**
FWVZ				AML	AML	02 41 02.5	
FWVZ				AML	AML	02 41 07.5	
KIW	**Kapiti Island**	**1.45 251**		P*	**Pn**	**02 40 40.2**	**+0.1**
KIW				AML	AML	02 41 02.5	
KIW				AML	AML	02 41 05.2	
OTVZ	**Oturere**	**1.47 326**		PN	**Pb**	**02 40 42.2**	**+0.1**
OTVZ				AML	AML	02 41 04.3	
OTVZ				AML	AML	02 41 09.4	
WAZ	**Wanganui**	**1.47 295**		PN	**Pb**	**02 40 41.8**	**-0.2**
WAZ				AML	AML	02 41 14.5	
WAZ				AML	AML	02 41 18.5	
NGZ	**Ngauruhoe**	**1.48 325**		PN	**Pn**	**02 40 41.6**	**+0.9**
NGZ				AML	AML	02 41 09.6	
NGZ				AML	AML	02 41 10.5	
MSWZ	**Moikau Station**	**1.51 227**		P*	**Pn**	**02 40 40.3**	**-0.6**
MSWZ				AML	AML	02 41 11.6	
MSWZ				AML	AML	02 41 13.7	
PKVZ	**Pokaka**	**1.52 316**		PN	**Pb**	**02 40 42.6**	**-0.3**
PKVZ				AML	AML	02 41 09.4	
PKVZ				AML	AML	02 41 10.5	
KRVZ	**Karewarewa**	**1.54 327**		PN	**Pb**	**02 40 43.3**	**0.0**
WTVZ	**West Tongariro**	**1.54 326**		PN	**Pb**	**02 40 43.1**	**-0.2**
WTVZ				AML	AML	02 41 08.4	
WTVZ				AML	AML	02 41 16.2	
PLWZ	**Palliser**	**1.61 223**		PN	**Pn**	**02 40 41.8**	**-0.6**
PLWZ				AML	AML	02 41 22.3	
PLWZ				AML	AML	02 41 27.7	
KATZ	**Kakaramea**	**1.62 331**		PN	**Pb**	**02 40 44.4**	**-0.3**
KATZ				AML	AML	02 41 17.5	
KATZ				AML	AML	02 41 18.1	
SNGZ	**Shannon Statio**	**1.68**	**17**	PN	**Pn**	**02 40 43.8**	**+0.5**
SNGZ				AML	AML	02 41 34.3	
SNGZ				AML	AML	02 41 37.2	
RATZ	**Rangitukua**	**1.69 334**		AML	AML	02 40 56.9	
RATZ				AML	AML	02 41 13.5	
BHW	**Baring Head**	**1.72 233**		PN	**Pn**	**02 40 43.5**	**-0.6**
BHW				AML	AML	02 41 16.6	
BHW				AML	AML	02 41 21.0	
TCW	**Tory Channel**	**2.02 245**		PN	**Pn**	**02 40 47.5**	**-0.5**
TCW				AML	AML	02 41 20.5	
TCW				AML	AML	02 41 21.4	
MWZ	**Matawai**	**2.15**	**17**	PN	**Pn**	**02 40 49.5**	**-0.3**
MWZ				AML	AML	02 41 31.1	
MWZ				AML	AML	02 41 49.0	
URZ	**Urewera**	**2.15**	**8**	PN	**Pn**	**02 40 49.6**	**-0.2**
	9.2nm,0.3s,baz=233,slow=5.4,SNR=26						
URZ				Sn	**Sn**	**02 41 15.5**	**-0.2**
	8.3nm,0.3s,baz=253,slow=4.0,SNR=9.0						
URZ	**Urewera**	**2.15**	**8**	⇑PN	**Pn**	**02 40 49.5**	**-0.2**
URZ				AML	AML	02 41 39.2	
DUWZ	**D'Urville Isla**	**2.16 258**		PN	**Pn**	**02 40 50.2**	**+0.3**
DUWZ				AML	AML	02 41 29.5	
DUWZ				AML	AML	02 41 29.9	
BSWZ	**Blackbirch Sta**	**2.52 237**		PN	**Pn**	**02 40 53.8**	**-1.0**
RUGZ	**Raukumara Rang**	**2.54**	**18**	PN	**Pn**	**02 40 55.0**	**-0.2**
NNZ	**Nelson**	**2.66 251**		PN	**Pn**	**02 40 55.5**	**-1.2**
HAZ	**Te Kaha**	**2.76**	**18**	PN	**Pn**	**02 40 58.3**	**+0.2**
WMGZ	**Waiomatatini S**	**2.89**	**28**	PN	**Pn**	**02 40 59.6**	**-0.3**
WMGZ				AML	AML	02 41 35.4	
MXZ	**Matakaoa Point**	**3.09**	**24**	PN	**Pn**	**02 41 02.9**	**+0.3**
THZ	**Tophouse**	**3.19 243**		PN	**Pn**	**02 41 02.7**	**-1.3**
THZ				AML	AML	02 42 01.4	
THZ				AML	AML	02 42 08.8	
QRZ	**Quartz Range**	**3.21 261**		PN	**Pn**	**02 41 04.2**	**-0.1**
LTZ	**Lake Taylor**	**4.10 233**		PN	**Pn**	**02 41 15.8**	**-0.7**
CTA	**Charters Tower**	**32.94 299**		LR	LR	03 00 04.0	
	comp=Z,289nm,19.0s,baz=142,slow=36						
ASAR	**Alice Springs**	**39.52 282**		P	**P**	**02 47 44.5**	**+0.2**
	0.2nm,0.4s,baz=131,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**41.43 287**		P	**P**	**02 48 00.3**	**+0.1**
	1.0nm,0.4s,baz=125,slow=8.2,SNR=18						
FITZ	**Fitzroy Crossi**	**49.02 281**		P	**P**	**02 49 00.4**	**0.0**
	0.8nm,0.6s,baz=129,slow=6.5,SNR=4.6						
ARCES	**ARCESS Array B**	**147.10 342**		PKPbc	**PKPbc**	**02 59 55.2**	**+0.1**
	4.2nm,0.9s,baz=29,slow=2.1,SNR=2.9						

ISCJB ***20*** *02:46:43.6±0.4, 50.°25N±0.°04×18.°75E±0.°03, h0km, Error ellipse: s-maj=5.4km s-min=2.1km az=17.7*
CSEM ***20*** *02:46:45.1±0.2, 50.°26N×18.°77E, h2km, ML3.1/6, Error ellipse: s-maj=6.4km s-min=2.6km az=14.0*
PRU ***20*** *02:46:45.4, 50.°27N×18.°76E, h0km*
WAR ***20*** *02:46:46.1, 50.°25N×18.°84E, h1km, Mw2.8*
VIE ***20*** *02:46:49.0±1.8, 50.°26N×18.°31E, h0km, mb2.1/3, ML2.7/4, Error ellipse: s-maj=15.7km s-min=11.5km az=123.0, Suspected Mining induced.*
ISC 20 02:46:45.5±0.8, 50.°19N±0.°03×18.°76E±0.°02, h0km, n50, σ0°65/84, 5C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.38 254**		*e*Sg	**Sb**	**02 47 01.7**	**+0.2**
OKC	**Ostrava-Krasne**	**0.53 228**		*e*PG	**Pb**	**02 46 57.7**	**0.0**
OKC				*e*SG	**Sb**	**02 47 05.4**	**-0.5**
	comp=Z,72nm,0.5s						
OKC	**Ostrava-Krasne**	**0.53 228**		Pg	**Pb**	**02 46 57.7**	**0.0**
OKC				Sg	**Sb**	**02 47 05.4**	**-0.5**
	72nm,0.5s						
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**02 46 57.8**	**-0.6**
OJC				*i* Sg	**Sg**	**02 47 06.5**	**-0.6**
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**02 46 57.8**	**-0.6**
OJC				*i* Sg	**Sg**	**02 47 06.5**	**-0.6**
OJC	**Ojcow**	**0.67**	**87**	*e*Pg	**Pg**	**02 46 57.8**	**-0.6**
OJC				*i* Sg	**Sg**	**02 47 06.5**	**-0.6**
MORC	**Moravsky Berou**	**0.89 243**		⇓*i*P	**Pb**	**02 47 03.8**	**0.0**
MORC				S	**Sb**	**02 47 16.4**	**+0.2**
MORC	**Moravsky Berou**	**0.89 243**		*e*Pg	**Pb**	**02 47 03.6**	**-0.2**
MORC				*e*Sg	**Sb**	**02 47 16.3**	**+0.1**
LANS	**Liptovska Anna**	**1.14 156**		*e*Pg	**Pb**	**02 47 08.4**	**+0.3**
LANS	**Liptovska Anna**	**1.14 156**		*e*PG	**Pb**	**02 47 08.4**	**+0.3**
NIE	**Niedzica**	**1.27 127**		*e*Pg	**Pg**	**02 47 09.7**	**0.0**
NIE				*e*Sg	**Sb**	**02 47 27.5**	**+0.4**
NIE	**Niedzica**	**1.27 127**		*e*Pg	**Pg**	**02 47 09.7**	**0.0**
NIE				*e*Sg	**Sb**	**02 47 27.5**	**+0.4**
NIE	**Niedzica**	**1.27 127**		*e*Pg	**Pg**	**02 47 09.7**	**0.0**
NIE				*e*Sg	**Sb**	**02 47 27.5**	**+0.4**
KRLC	**Kraliky**	**1.28 266**		*e*PG	**Pg**	**02 47 09.7**	**-0.3**
KRLC				*e*SG	**Sg**	**02 47 26.4**	**-0.1**
KRLC	**Kraliky**	**1.28 266**		Pg	**Pg**	**02 47 09.7**	**-0.3**
KRLC				Sg	**Sg**	**02 47 26.4**	**-0.1**
DPC	**Dobruska-Polom**	**1.57 277**		*e*PG	**Pn**	**02 47 14.6**	**-0.1**
DPC				*e*SG	**Sn**	**02 47 35.4**	**-0.4**
	comp=Z,40nm,0.4s						
DPC	**Dobruska-Polom**	**1.57 277**		Pg	**Pn**	**02 47 14.6**	**-0.1**
DPC				Sg	**Sn**	**02 47 35.4**	**-0.4**
	40nm,0.4s						
VRAC	**Vranov**	**1.66 239**		*e*Pn	**Pn**	**02 47 16.3**	**+0.4**
VRAC				*e*Sg	**Sg**	**02 47 38.7**	**-0.1**
VYHS	**Vyhne**	**1.70 178**		*e*Sn	**Sb**	**02 47 39.2**	**-0.4**
VYHS	**Vyhne**	**1.70 178**		*e*PG	**Pn**	**02 47 16.6**	**+0.1**
VYHS				*e*SN	**Sn**	**02 47 39.1**	**+0.2**
VYHS				*e*LG	Lg	02 47 49.9	
KSP	**Ksiaz**	**1.70 293**		*e*Pb	**Pn**	**02 47 16.5**	**0.0**
KSP				*i* Pg	**Pg**	**02 47 18.0**	**-0.2**
KSP				*e*Sg	**Sg**	**02 47 40.2**	**0.0**
KSP	**Ksiaz**	**1.70 293**		*e*Pb	**Pn**	**02 47 16.5**	**0.0**
KSP	**Ksiaz**	**1.70 293**		*e*Pb	**Pn**	**02 47 16.5**	**0.0**
KSP				*i* Pg	**Pg**	**02 47 18.0**	**-0.2**
KSP				*e*Sg	**Sg**	**02 47 40.2**	**0.0**
UPC	**Upice**	**1.79 281**		*e*SG	**Sn**	**02 47 41.4**	**+0.4**
	comp=Z,24nm,0.6s						
UPC	**Upice**	**1.79 281**		Sg	**Sn**	**02 47 41.4**	**+0.4**
	24nm,0.6s						
STHS	**Stebnicka Huta**	**1.79 115**		*e*Pn	**Pb**	**02 47 19.0**	**-0.2**
STHS				*e*Sg	**Sg**	**02 47 44.4**	**+1.4**
STHS	**Stebnicka Huta**	**1.79 115**		*e*PN	**Pb**	**02 47 19.0**	**-0.2**
STHS				*e*SG	**Sg**	**02 47 44.4**	**+1.4**
STHS				*e*LG	Lg	02 47 52.6	
KECS	**Kecovo**	**2.05 146**		*e*Pn	**Pn**	**02 47 20.8**	**-0.5**
KECS	**Kecovo**	**2.05 146**		*e*PN	**Pn**	**02 47 20.8**	**-0.5**
KECS				*e*PG	**Pg**	**02 47 24.9**	**+0.1**
KECS				*e*SN	**Sn**	**02 47 46.2**	**-1.3**
KECS				*e*LG	Lg	02 47 57.4	
CRVS	**Cervenica-Dubn**	**2.18 125**		*e*Pg	**Pb**	**02 47 26.5**	**+0.6**
CRVS				*e*Sg	**Sg**	**02 47 55.3**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.18 125**		*e*PG	**Pb**	**02 47 26.5**	**+0.6**
CRVS				*e*SG	**Sg**	**02 47 55.3**	**-0.4**
TREC	**Trest**	**2.30 248**	

CHOS	Chios island	1.57 251	*e*Pn	Pn	02 57 09.2 +0.2
SIGR	SIGRI	1.66 281	*e*PN	Pn	02 57 09.8 -0.2
SIGR	SIGRI	1.66 281	*e*Pn	Pn	02 57 09.8 -0.2

ISCJB ***20*** *03:09:21.5±0.4, 13°.05N±0°.05×144°.68E±0°.09, h54km, mb4.4/28, MS3.4/7, Error ellipse: s-maj=12.5km s-min=6.4km az=13.3*
NEIC ***20*** *03:09:22.7±1.7, 13°.02N×144°.71E, h50km±10km, mb4.7/12, Error ellipse: s-maj=13.8km s-min=8.2km az=100.0*
IDC ***20*** *03:09:22.9±1.0, 13°.15N×144°.74E, h47km±7km, mb3.9/15, mb1 4.1/15, mb1mx3.9/41, mbtmp4.2/15, MS3.4/7, Ms1 3.5/7, ms1mx3.1/45, Error ellipse: s-maj=22.2km s-min=14.3km az=99.0*

ISC 20 03:09:23.0±0.5, 13°.07N±0°.07×144°.7E±0°.1, h54km, n55, σ1°.35/50, mb4.3/28, MS3.3/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.55**	**21**	P	**Pn**	**03 09 34.6**	**-0.5**
	1μm,0.3s,baz=133,slow=15,SNR=376						
GUMO				S	**Sn**	**03 09 43.5**	**-0.3**
	3μm,0.3s,baz=343,slow=19,SNR=129						
GUMO	**Guam**	**0.55**	**21**	*e*Pn	**Pn**	**03 09 34.5**	**-0.5**
GUMO				*e*Sn	**Sn**	**03 09 43.0**	**-0.8**
SARN	**Sarigan**	**3.76**	**16**	*e*Pn	**Pn**	**03 10 20.1**	**+1.5**
SARN				*e*Sn	**Sn**	**03 11 00.0**	**-1.7**
PATS	**Pohnpei**	**14.79**	**113**	*e*Pn	Pn	03 12 43.4	-5.7
PATS				*e*Sn	Sn	03 15 14.3	-18
H11S3	**WAKE ISLAND Hy**	**21.86**	**73**	T	T	03 36 45.6	
	baz=259,slow=75,SNR=143						
H11S1	**WAKE ISLAND Hy**	**21.87**	**73**	T	T	03 36 45.7	
	baz=259,slow=75,SNR=71						
H11S2	**WAKE ISLAND Hy**	**21.87**	**73**	T	T	03 36 45.7	
	baz=259,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**22.30**	**70**	T	T	03 37 17.6	
	baz=256,slow=75,SNR=95						
H11N2	**WAKE ISLAND Hy**	**22.31**	**70**	T	T	03 37 17.6	
	baz=256,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**22.32**	**70**	T	T	03 37 17.6	
	baz=256,slow=75,SNR=100						
JNU	**Nakatsue**	**23.60**	**330**	P	**P**	**03 14 29.5**	**+0.4**
	3.1nm,0.4s,baz=123,slow=4.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**24.08**	**347**	P	**P**	**03 14 32.1**	**-1.3**
	2.6nm,0.7s,baz=171,slow=7.2,SNR=8.4						
MJAR				LR	LR	03 23 54.0	
	comp=Z,46nm,18.4s,baz=125,slow=36						
YULB	**Yu-li**	**24.42**	**298**	*e*P	**P**	**03 14 34.4**	**-2.3**
	50nm,1.6s						
HNR	**Honiara**	**27.02**	**145**	LR	LR	03 24 16.7	
	comp=Z,122nm,19.0s,baz=340,slow=33						
KSRS	**Korea Array**	**28.52**	**331**	P	**P**	**03 15 13.8**	**+0.4**
	1.2nm,0.6s,baz=138,slow=8.4,SNR=4.5						
KSRS				LR	LR	03 26 15.4	
	comp=Z,56nm,19.0s,baz=125,slow=36						
KSAR	**Wonju Array Be**	**28.53**	**331**	P	**P**	**03 15 13.8**	**+0.3**
WRAB	**Tennant Creek**	**34.34**	**197**	*e*P	**P**	**03 16 01.4**	**-3.3**
	5.2nm,0.8s						
WR1	**Warramunga Arr**	**34.35**	**197**	*e*P	**P**	**03 16 05.1**	**+0.3**
	6.5nm,1.0s						
WR1				*e*PcP	**PcP**	**03 18 41.8**	**+1.8**
WRA	**Warramunga Arr**	**34.35**	**197**	P	**P**	**03 16 05.1**	**+0.3**
	1.7nm,0.7s,baz=21,slow=9.8,SNR=12						
WRA				PcP	**PcP**	**03 18 41.8**	**+1.8**
	0.6nm,0.8s,baz=14,slow=3.5,SNR=3.6						
AS31	**Alice Springs**	**38.00**	**196**	*e*P	**P**	**03 16 36.6**	**+0.6**
	1.2nm,0.5s						
AS31				*e*PcP	**PcP**	**03 18 52.2**	**+1.3**
ASAR	**Alice Springs**	**38.00**	**196**	P	**P**	**03 16 36.6**	**+0.6**
	1.4nm,0.6s,baz=19,slow=12,SNR=24						
ASAR				PcP	**PcP**	**03 18 52.2**	**+1.3**
	0.7nm,0.7s,baz=22,slow=3.5,SNR=5.2						
FUNA	**Funafuti**	**40.45**	**120**	*e*P	**P**	**03 16 55.8**	**-0.9**
	162nm,1.6s						
MBWA	**Marble Bar**	**41.92**	**216**	*e*P	**P**	**03 17 08.7**	**+0.2**
	14nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.24**	**283**	P	**P**	**03 17 28.6**	**+1.1**
	0.9nm,0.3s,baz=81,slow=5.8,SNR=5.5						
CMAR				LR	LR	03 35 48.7	
	comp=Z,26nm,19.6s,baz=107,slow=36						
MA2	**Magadan**	**46.64**	**4**	LR	LR	03 35 37.6	
	comp=Z,34nm,21.3s,baz=136,slow=34						
SONA0	**Songino Array**	**47.04**	**325**	*e*P	**P**	**03 17 50.8**	**+1.5**
	14nm,1.8s						
SONM	**Songino Array**	**47.04**	**325**	P	**P**	**03 17 50.8**	**+1.5**
	0.9nm,0.8s,baz=134,slow=8.2,SNR=3.0						
CAN	**Canberra**	**48.30**	**175**	*e*P	**P**	**03 17 57.2**	**-1.8**
	58nm,1.9s						
MK32	**Makanchi Array**	**61.73**	**316**	*e*P	**P**	**03 19 36.3**	**+0.4**
MKAR	**Makanchi Array**	**61.73**	**316**	P	**P**	**03 19 36.3**	**+0.4**
	0.8nm,0.5s,baz=89,slow=8.5,SNR=6.2						
KDAK	**Kodiak Island**	**64.61**	**32**	LR	LR	03 45 15.1	
	comp=Z,98nm,20.3s,baz=180,slow=33						
RSO	**Redoubt South**	**65.32**	**29**	*e*P	**P**	**03 20 01.6**	**+2.1**
PMR	**Palmer**	**67.33**	**28**	*e*P	**P**	**03 20 11.9**	**-0.2**
	5.2nm,0.7s						
SML	**Sawmill**	**67.75**	**28**	*e*P	**P**	**03 20 15.1**	**+0.2**
	12nm,0.9s						
ILAR	**Eielson Array**	**69.11**	**25**	P	**P**	**03 20 21.9**	**-1.4**
	1.8nm,0.6s,baz=249,slow=6.2,SNR=50						
ILB	**Eielson Array**	**69.11**	**25**	*e*P	**P**	**03 20 22.1**	**-1.2**
DOT	**Dot Lake**	**70.08**	**27**	*e*P	**P**	**03 20 29.1**	**-0.1**
	12nm,0.7s						
HYT	**Haines Junctio**	**72.75**	**30**	*e*P	**P**	**03 20 47.1**	**+1.6**
	6.3nm,1.0s						
INK	**Inuvik**	**74.92**	**22**	P	**P**	**03 20 58.9**	**+1.0**
	3.4nm,1.1s,baz=282,slow=3.4,SNR=3.2						
GEYT	**Alibeck**	**79.40**	**307**	P	**P**	**03 21 20.0**	**-3.7**
	1.1nm,0.4s,baz=90,slow=10,SNR=2.1						
YKA	**Yellowknife Ar**	**83.40**	**27**	P	**P**	**03 21 43.9**	**-0.4**
	1.7nm,0.6s,baz=287,slow=5.1,SNR=8.4						
YKB5	**Yellowknife Ar**	**83.40**	**27**	*e*P	**P**	**03 21 43.9**	**-0.4**
NEW	**Newport**	**85.74**	**42**	P	**P**	**03 21 56.5**	**-0.1**
	2.1nm,0.7s,baz=262,slow=5.7,SNR=5.9						
ARA0	**ARCESS Array S**	**87.51**	**342**	*e*P	**P**	**03 22 04.9**	**+0.2**
ARCES	**ARCESS Array B**	**87.51**	**342**	P	**P**	**03 22 04.9**	**+0.2**
	7.3nm,1.0s,baz=51,slow=7.1,SNR=3.2						
ELK	**Elko**	**89.06**	**48**	LR	LR	03 52 11.7	
	comp=Z,31nm,22.0s,baz=244,slow=29						
FIA0	**FINESS Array S**	**91.54**	**335**	*e*P	**P**	**03 22 22.9**	**-0.8**
FINES	**FINESS Array B**	**91.54**	**335**	P	**P**	**03 22 22.9**	**-0.8**
	2.2nm,0.7s,baz=44,slow=5.8,SNR=4.6						
PD31	**Pinedale Array**	**92.46**	**45**	*e*P	**P**	**03 22 29.4**	**+0.7**
PDAR	**Pinedale Array**	**92.46**	**45**	P	**P**	**03 22 29.4**	**+0.7**
	0.2nm,0.5s,baz=300,slow=3.8,SNR=3.0						
TOA1	**Torodi Ar. Sit**	**134.99**	**304**	*e*PKPdf	**PKPdf**	**03 28 39.2**	**+2.0**
TORD	**Torodi Ar. Bea**	**134.99**	**304**	PKP	**PKPdf**	**03 28 39.2**	**+2.0**
	0.7nm,0.7s,baz=59,slow=1.9,SNR=6.3						
DBIC	**Dimbokro**	**143.93**	**301**	PKP	PKPbc	03 28 52.1	+0.8
	2.7nm,0.8s,baz=50,slow=4.6,SNR=5.2						
LPAZ	**La Paz**	**148.13**	**100**	PKPbc	**PKPbc**	**03 29 05.8**	**+1.3**
	4.4nm,0.7s,baz=291,slow=3.2,SNR=14						
LPAZ	**La Paz**	**148.13**	**100**	*e*PKPbc	**PKPbc**	**03 29 06.3**	**+1.8**

JMA 20 03:27:15.7±0.1, 35°.21N×141°.23E, h40km±2km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.58**	**328**	P	Pn	03 27 27.4	-0.1
CHOJ				*e*S	Sn	03 27 36.2	+0.4
BSO1	**Boso 1**	**0.59**	**201**	P	Pn	03 27 27.6	+0.4
BSO3	**Boso 3**	**0.72**	**236**	P	Pn	03 27 29.6	+0.5
MAT	**Matsushiro**	**2.79**	**299**	P	Pn	03 28 01.9	+4.0
MAT				*e*S	Sn	03 28 37.1	+6.7

MEX 20 03:31:05.9±0.8, 17°.00N×100°.09W, h3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**286**	*e*P	Pg	03 31 09.1	-0.3
CAIG				*e*S	Sg	03 31 11.7	0.0
ACX	**Acapulco**	**0.25**	**120**	*e*P	Pn	03 31 15.4	-1.2
ACX				*e*S	Sb	03 31 18.7	+0.7
MEIG	**Mezcala**	**1.02**	**26**	*e*P	Pg	03 31 22.9	-2.7
MEIG				*e*S	Sg	03 31 36.6	-2.3
ARIG	**Puente Sto Nin**	**1.30**	**349**	*e*P	Pg	03 31 27.7	-3.1
ARIG				*e*S	Sg	03 31 43.4	-4.2
ZIIG	**Zihuatanejo**	**1.45**	**295**	*e*P	Pn	03 31 30.1	-2.9
ZIIG				*e*S	Sb	03 31 48.0	-4.3
PLIG	**Platanillo**	**1.49**	**22**	*e*P	Pn	03 31 30.1	-3.6
PLIG				*i* S	Sb	03 31 48.8	-5.0

IDC ***20*** *03:38:53.8±0.5, 29°.70S×176°.19W, h0km, mb4.9/18, mb1 5.0/18, mb1mx4.9/25, mbtmp4.8/18, MS4.3/19, Ms1 4.4/19, ms1mx4.2/26, Error ellipse: s-maj=19.7km s-min=15.1km az=177.0*
ISCJB ***20*** *03:38:55.5±0.1, 30°.11S±0°.02×176°.23W±0°.03, h24km, mb5.4/155, MS4.8/173, Error ellipse: s-maj=4.9km s-min=2.1km az=35.8*
BJI ***20*** *03:38:58.1, 29°.46S×175°.60W, h39km, mb5.2/21, mB5.6/13, Ms5.1/8, Ms7 4.8/9*
MOS ***20*** *03:38:58.3±0.9, 29°.64S×176°.25W, h33km, mb5.5/43, MS4.8/16, Error ellipse: s-maj=10.9km s-min=9.1km az=81.3*
GCMT ***20*** *03:39:00.2±0.2, 29°.63S×175°.93W, h17km, MW5.1/84, Moment Tensor Solution. s67,c101; s84,c141; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-5.42±.19; $M_{\theta\theta}$-0.94±.15; $M_{\phi\phi}$6.36±.13; $M_{r\theta}$0.58±.42; $M_{\theta\phi}$0.92±.10; $M_{\phi r}$-0.06±.28; Best double couple: $M_0$5.98500×10^16 NP1:ϕ_s194.00000°, δ46.00000°, λ-80.00000°. NP2: ϕ_s360.00000°, δ45.00000°, λ-100.00000°. Principal axes: T 6.4750, Plg0.0000°, Azm277.0000°; N -0.9800, Plg7.0000°, Azm7.0000°; P -5.4960, Plg83.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *03:39:00.2±1.0, 29.80S×176°.32W, h44km±8km, mb5.5/126, MS4.9/154 Error ellipse: s-maj=6.9km s-min=4.1km az=156.0*

ISC 20 03:38:57.6±0.3, 29°.94S±0°.04×176°.31W±0°.04, h24km, n680, σ1°.65/605, mb5.5/155, MS4.9/173, 21C-19D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.56**	**296**	Pn	**Pn**	**03 39 24.7**	**+0.8**
	624nm,0.3s,baz=189,slow=19,SNR=57						
RAO				Sn	**Sb**	**03 39 45.6**	**+0.5**
	2μm,0.3s,baz=107,slow=19,SNR=17						
RAO	**Raoul Island**	**1.56**	**296**	*e*P	**Pb**	**03 39 25.2**	**-0.6**
RAO				*e*		03 39 44.4	
RAO	**Raoul Island**	**1.56**	**296**	*e*Pn	**Pb**	**03 39 25.2**	**-0.6**
RAO				*e*Sn	**Sn**	**03 39 44.4**	**+1.0**
MXZ	**Matakaoa Point**	**8.83**	**209**	*e*Pn	**Pn**	**03 41 00.1**	**-3.5**
MXZ				*e*Sn	**Sn**	**03 42 44.3**	**+2.0**
MXZ	**Matakaoa Point**	**8.83**	**209**	PN	**Pn**	**03 41 02.2**	**-1.5**
MXZ				SN	**Sn**	**03 42 39.4**	**-2.9**
PKGZ	**Pakihiroa**	**9.20**	**209**	PN	**Pn**	**03 41 07.7**	**-1.1**
PKGZ				SN	**Sn**	**03 42 46.3**	**-5.3**
HAZ	**Te Kaha**	**9.21**	**211**	PN	**Pn**	**03 41 08.1**	**-0.9**
RUGZ	**Raukumara Rang**	**9.44**	**210**	PN	**Pn**	**03 41 12.0**	**-0.2**
RUGZ				SN	**Sn**	**03 42 56.7**	**-0.8**
TWGZ	**Tauwhareparae**	**9.48**	**208**	PN	**Pn**	**03 41 12.1**	**-0.6**
TWGZ				SN	**Sn**	**03 42 58.5**	**0.0**
CNGZ	**Carnagh Statio**	**9.66**	**207**	PN	**Pn**	**03 41 13.3**	**-1.7**
TKGZ	**Te Karaka**	**9.76**	**208**	PN	**Pn**	**03 41 15.1**	**-1.4**
TKGZ				SN	**Sn**	**03 43 06.1**	**+0.8**
MWZ	**Matawai**	**9.81**	**210**	PN	**Pn**	**03 41 17.5**	**+0.3**
MWZ				SN	**Sn**	**03 43 06.6**	**0.0**
URZ	**Urewera**	**9.93**	**212**	Pn	**Pn**	**03 41 16.4**	**-2.4**
	2.0nm,0.3s,baz=268,slow=5.8,SNR=14						
URZ				Sn	**Sn**	**03 43 08.3**	**-1.2**
	68nm,0.3s,baz=172,slow=23,SNR=17						
URZ	**Urewera**	**9.93**	**212**	*e*Pn	**Pn**	**03 41 17.6**	**-1.2**
URZ				*e*Sn	**Sn**	**03 43 10.2**	**+0.8**
URZ	**Urewera**	**9.93**	**212**	PN	**Pn**	**03 41 16.3**	**-2.5**
OUZ	**Omahuta**	**10.01**	**236**	*e*Pn	Pn	03 41 25.4	+5.5
RIGZ	**Rimuhau**	**10.02**	**208**	PN	**Pn**	**03 41 18.5**	**-1.6**
PRGZ	**Paritu Road**	**10.16**	**207**	PN	**Pn**	**03 41 23.5**	**+1.5**
SNGZ	**Shannon Statio**	**10.26**	**209**	PN	**Pn**	**03 41 22.0**	**-1.3**
MUGZ	**Murupara**	**10.26**	**212**	PN	**Pn**	**03 41 22.0**	**-1.3**
NMHZ	**Naumai**	**10.75**	**210**	PN	**Pn**	**03 41 28.7**	**-1.5**
ARHZ	**Aropaoanui**	**10.81**	**209**	PN	**Pn**	**03 41 30.9**	**0.0**
BKZ	**Black Stump Fm**	**10.95**	**211**	*e*Pn	**Pn**	**03 41 30.2**	**-2.6**
CKHZ	**Cape Kidnapper**	**11.11**	**207**	PN	**Pn**	**03 41 37.8**	**+2.8**
KWHZ	**Kaweka Forest**	**11.19**	**210**	PN	**Pn**	**03 41 35.2**	**-0.9**
HIZ	**Hauiti**	**11.25**	**218**	*e*Pn	Pn	03 41 41.6	+4.7
KAHZ	**Kahuranaki**	**11.31**	**208**	PN	**Pn**	**03 41 33.9**	**-3.9**
KRHZ	**Kereru**	**11.39**	**210**	PN	**Pn**	**03 41 38.8**	**0.0**
BHHZ	**Black Hill Sta**	**11.40**	**211**	PN	**Pn**	**03 41 39.5**	**+0.4**
WNVZ	**Wahianoa**	**11.49**	**213**	PN	**Pn**	**03 41 40.4**	**0.0**
PXZ	**Pawanui**	**11.52**	**207**	PN	**Pn**	**03 41 37.7**	**-2.8**
PNHZ	**Pukenui**	**11.69**	**210**	PN	**Pn**	**03 41 42.1**	**-0.8**
PRHZ	**Porangahau**	**11.81**	**207**	PN	**Pn**	**03 41 42.1**	**-2.4**
DVHZ	**Dannevirke**	**12.03**	**209**	PN	**Pn**	**03 41 47.3**	**-0.2**
ANWZ	**Angora Road**	**12.04**	**207**	PN	**Pn**	**03 41 47.1**	**-0.5**
BFZ	**Birch Farm**	**12.32**	**208**	*e*Pn	**Pn**	**03 41 47.8**	**-3.6**
BFZ				*e*Sn	**Sn**	**03 44 02.4**	**-5.5**
BFZ	**Birch Farm**	**12.32**	**208**	PN	**Pn**	**03 41 47.7**	**-3.7**
MRZ	**Mangatainoka R**	**12.58**	**210**	PN	**Pn**	**03 41 51.1**	**-3.9**
HOWZ	**Holdsworth Sta**	**12.80**	**209**	PN	**Pn**	**03 41 56.4**	**-1.7**
OGWZ	**Otaki Gorge**	**12.88**	**210**	PN	**Pn**	**03 41 55.9**	**-3.3**
MSVF	**Nonsavu**	**13.20**	**336**	*e*P	**Pn**	**03 42 02.4**	**-1.2**
MSVF	**Nonsavu**	**13.20**	**336**	*e*Pn	**Pn**	**03 42 02.4**	**-1.2**
DUWZ	**D'Urville Isla**	**13.44**	**214**	PN	**Pn**	**03 42 04.0**	**-2.8**
SNZO	**South Karori**	**13.49**	**210**	*e*Pn	**Pn**	**03 42 05.9**	**-1.5**
SNZO				*e*Sn	**Sn**	**03 44 30.4**	**-6.1**
TCW	**Tory Channel**	**13.60**	**212**	PN	**Pn**	**03 42 06.3**	**-2.6**
CTZ	**Chatham Island**	**13.77**	**181**	PN	**Pn**	**03 42 10.9**	**-0.4**
NNZ	**Nelson**	**14.03**	**214**	PN	**Pn**	**03 42 12.7**	**-2.1**
BSWZ	**Blackbirch Sta**	**14.18**	**211**	PN	**Pn**	**03 42 19.3**	**+2.4**
THZ	**Tophouse**	**14.67**	**214**	*e*Pn	**Pn**	**03 42 20.2**	**-3.4**
THZ	**Tophouse**	**14.67**	**214**	PN	**Pn**	**03 42 21.8**	**-1.9**
KHZ	**Kahutara**	**14.89**	**211**	*e*Pn	**Pn**	**03 42 22.8**	**-3.8**
	118nm,0.6s						
KHZ	**Kahutara**	**14.89**	**211**	PN	Pn	03 42 21.7	-4.9
DSZ	**Denniston Nort**	**15.20**	**216**	PN	**Pn**	**03 42 29.5**	**-1.3**
LTZ	**Lake Taylor**	**15.76**	**212**	*e*Pn	**Pn**	**03 42 36.8**	**-1.2**
	57nm,1.3s						
LTZ				*e*Sn	**Sn**	**03 45 22.1**	**-10**
LTZ	**Lake Taylor**	**15.76**	**212**	PN	**Pn**	**03 42 38.1**	**+0.1**
INZ	**Inchbonnie**	**16.11**	**214**	PN	**Pn**	**03 42 39.9**	**-2.5**
OXZ	**Oxford**	**16.29**	**212**	*e*Pn	**Pn**	**03 42 42.8**	**-1.9**
	66nm,0.6s						
OXZ				*e*Sn	Sn	03 45 29.9	-15
OXZ	**Oxford**	**16.29**	**212**	PN	**Pn**	**03 42 41.6**	**-3.1**
MQZ	**McQueen's Vall**	**16.32**	**210**	*e*Pn	**Pn**	**03 42 40.7**	**-4.3**
	31nm,0.9s						
MQZ				*e*Sn	Sn	03 45 33.1	-12
MQZ	**McQueen's Vall**	**16.32**	**210**	PN	**Pn**	**03 42 43.2**	**-1.8**
AFI	**Afiamalu**	**16.49**	**16**	Pn	Pn	03 42 39.7	-7.8
	4.0nm,0.3s,baz=203,slow=7.7,SNR=3.8						
AFI				Sn	Sn	03 45 25.4	-25
	8.1nm,0.3s,baz=17,slow=22,SNR=4.4						
AFI				LR	LR	03 48 51.4	
	comp=Z,259nm,20.7s,baz=176,slow=37						
AFI	**Afiamalu**	**16.49**	**16**	*e*Pn	Pn	03 42 39.7	-7.8
	54nm,0.9s						
AFI				*e*Sn	Sn	03 45 25.4	-25
RPZ	**Rata Peaks**	**17.04**	**213**	P	**P**	**03 42 58.8**	**+2.9**
	6.0nm,0.3s,baz=21,slow=4.6,SNR=12						
RPZ				S	Sn	03 45 50.0	-13
	7.1nm,0.3s,baz=207,slow=22,SNR=10						
RPZ	**Rata Peaks**	**17.04**	**213**	*e*Pn	**P**	**03 42 56.0**	**+0.1**
	41nm,0.6s						
RPZ				*e*Sn	**Sn**	**03 45 54.5**	**-8.5**
RAR	**Rarotonga**	**17.25**	**64**	Pn	Pn	03 42 48.9	-8.0
	2.0nm,0.3s,baz=284,slow=4.2,SNR=3.2						
RAR				Sn	Sn	03 45 39.4	-29
	2.4nm,0.3s,baz=72,slow=14,SNR=4.2						
RAR				LR	LR	03 48 38.1	
	comp=Z,1μm,19.7s,baz=254,slow=34						
RAR	**Rarotonga**	**17.25**	**64**	*e*Pn	Pn	03 42 48.9	-8.0
	81nm,1.0s						
RAR				*e*Sn	Sn	03 45 40.2	-28
DZM	**Mont Dzumac**	**17.36**	**293**	P	**P**	**03 43 00.3**	**+0.6**
	0.4nm,0.3s,baz=120,slow=20,SNR=3.0						
DZM				S	**S**	**03 46 22.7**	**+3.5**
	0.4nm,0.3s,baz=270,slow=19,SNR=2.2						
DZM				LR	LR	03 49 05.0	
	comp=Z,2μm,18.9s,baz=134,slow=35						
DZM	**Mont Dzumac**	**17.36**	**293**	*e*P	**P**	**03 43 03.0**	**+3.3**
	193nm,1.5s						
DZM				*e*LQ	LQ	03 46 22.2	
	4μm,30.4s						
DZM				*e*LR	LR	03 47 10.6	
	2μm,23.9s						
FOZ	**Fox Glacier**	**17.51**	**215**	*e*Pn	Pn	03 42 52.0	-8.1
LBZ	**Lake Benmore**	**17.96**	**213**	*e*Pn	**Pn**	**03 43 02.0**	**-3.6**
	24nm,1.0s						
ODZ	**Otahua Downs**	**18.25**	**211**	*e*P	**Pn**	**03 43 02.8**	**-6.5**
ODZ				*e*Pn	**pP**	**03 43 13.4**	**-2.5**
JCZ	**Jackson Bay**	**18.42**	**216**	PN	**P**	**03 43 08.8**	**-2.4**
WKZ	**Wanaka**	**18.85**	**214**	*e*P	**P**	**03 43 09.9**	**-5.9**
	40nm,0.9s						
MLZ	**Mavora Lakes**	**19.68**	**214**	*e*P	**Pn**	**03 43 26.3**	**-0.1**
	74nm,1.5s						
PAE	**Paea**	**27.26**	**69**	*e*T	T	04 12 43.9	
	3.1nm,0.3s						
PPT2	**Papeete2**	**27.30**	**69**	*e*LQ	LQ	03 49 52.4	
	2μm,25.5s						
PPT2				*e*LR	LR	03 51 09.8	
	704nm,22.2s,baz=230						
PPT	**Papeete**	**27.31**	**69**	LR	LR	03 53 10.1	
	comp=Z,668nm,18.8s,baz=245,slow=32						
ARMA	**Armidale**	**27.68**	**261**	PFAKE		03 45 00.0	+16
ARMA				LR	LR		
	comp=Z,2μm,18.0s						
EIDS	**Eidsvold**	**29.19**	**271**	P	**P**	**03 44 59.2**	**+1.9**
	baz=29						
EIDS	**Eidsvold**	**29.19**	**271**	*e*P	**P**	**03 44 55.3**	**-2.0**
	comp=Z,48nm,1.5s						
EIDS				LR	LR		
	comp=Z,1μm,18.0s						
CAN	**Canberra**	**29.61**	**250**	PFAKE		03 45 10.0	+9.0
CAN				LR	LR		
	comp=Z,700nm,19.0s						
VAH	**Vaihoa**	**30.14**	**67**	*e*T	T	04 16 19.6	
	comp=Z,9.1nm,0.2s						
CMSA	**Cobar Meteorol**	**32.60**	**257**	P	**P**	**03 45 30.0**	**+2.7**
	baz=33,SNR=7.4						
CTAO	**Charters Tower**	**35.18**	**277**	*e*P	**P**	**03 45 51.0**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,67nm,1.5s						
CTAO				MLR	MLR		
	comp=Z,2μm,18.0s						
CTAO	**Charters Tower**	**35.18**	**277**	*e*P	**P**	**03 45 51.0**	**+1.1**
	comp=Z,67nm,1.5s						
CTAO				LR	LR		
	comp=Z,2μm,18.0s						
STKA	**Stephens Creek**	**36.01**	**256**	P	**P**	**03 45 57.8**	**+0.9**
	comp=Z,9.3nm,0.7s,baz=101,slow=11,SNR=24						
STKA				LR	LR	04 00 36.1	
	comp=Z,982nm,18.1s,baz=94,slow=36						
STKA	**Stephens Creek**	**36.01**	**256**	P	**P**	**03 45 58.8**	**+1.9**
	baz=36,SNR=16						
STKA	**Stephens Creek**	**36.01**	**256**	*e*P	**P**	**03 45 58.8**	**+1.9**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STKA				MLR	MLR		
	comp=Z,300nm,18.0s						
STKA	**Stephens Creek**	**36.01**	**256**	*e*P	**P**	**03 45 58.8**	**+1.9**
	comp=Z,3.9nm,1.0s						
STKA				LR	LR		
	comp=Z,300nm,18.0s						
RKT	**Rikitea**	**37.45**	**90**	*e*S	**S**	**03 51 53.9**	**-2.6**
	comp=Z,299nm,29.5s						
RKT				*e*LR	LR	03 55 53.4	
	comp=Z,776nm,23.0s						
MTSU	**Mount Surprise**	**37.66**	**279**	P	**P**	**03 46 13.1**	**+2.0**
	baz=38,SNR=4.7						
HTT	**Hallett**	**38.04**	**253**	P	**P**	**03 46 15.8**	**+1.6**
	baz=38,SNR=7.3						
RABL	**Rabaul**	**39.29**	**305**	PFAKE		03 46 40.0	+15
RABL				LR	LR		
	comp=Z,400nm,18.0s						
PMG	**Port Moresby**	**39.75**	**293**	LR	LR	04 02 19.5	
	comp=Z,394nm,18.1s,baz=133,slow=35						
TAOE	**Nuku Hiva Isla**	**39.78**	**66**	*e*S	**S**	**03 52 30.7**	**-1.3**
	comp=Z,250nm,26.2s						
TAOE				*e*LR	LR	03 56 41.6	
	comp=Z,588nm,22.8s						
BBOO	**Buckleboo**	**40.51**	**253**	P	**P**	**03 46 36.6**	**+1.8**
	baz=41,SNR=9.4						
BBOO	**Buckleboo**	**40.51**	**253**	*e*P	**P**	**03 46 35.2**	**+0.5**
	comp=Z,26nm,1.2s						
BBOO				LR	LR		
	comp=Z,900nm,18.0s						
COEN	**Coen**	**40.57**	**284**	P	**P**	**03 46 37.4**	**+2.0**
	baz=41,SNR=5.9						
COEN	**Coen**	**40.57**	**284**	PFAKE		03 46 50.0	+15
COEN				LR	LR		
	comp=Z,2μm,18.0s						
**Q

comp=Z,700nm,18.0s
FORT Forrest 47.58 254 P P 03 47 32.7 +1.2
baz=48
FORT Forrest 47.58 254 *eP* **P 03 47 30.3 -1.3**
comp=Z,183nm,0.6s
FORT LR LR
comp=Z,6µm,20.0s
SBA Scott Base 48.61 185 *eP* **P 03 47 43.3 +4.5**
SBA pmax pmax
comp=Z,52nm,1.3s
SBA Scott Base 48.61 185 *eP* **P 03 47 43.3 +4.5**
comp=Z,52nm,1.3s
VNDA Vanda 48.71 186 P **P 03 47 43.8 +4.2**
comp=Z,7.6nm,1.0s,baz=3.2,slow=8.2,SNR=31
VNDA PcP **PcP 03 49 05.7 +1.3**
comp=Z,7.8nm,0.9s,baz=335,slow=4.2,SNR=6.8
VNDA LR LR 04 05 13.6
comp=Z,169nm,20.0s,baz=22,slow=32
VNDA Vanda 48.71 186 *eP* **P 03 47 44.1 +4.5**
VNDA *e* 03 49 05.7
VNDA pmax pmax
comp=Z,18nm,1.2s
VNDA Vanda 48.71 186 *eP* **P 03 47 44.1 +4.5**
comp=Z,18nm,1.2s
VNDA *e*PcP **PcP 03 49 05.7 +1.3**
MTN Manton Dam 51.37 278 PFAKE 03 48 10.0 +9.4
MTN LR LR
comp=Z,2µm,18.0s
WAKE Wake Island 51.62 339 PFAKE 03 48 10.0 +7.8
WAKE LR LR
comp=Z,2µm,21.0s
UWE Uwekahuna 53.09 25 *eP* **P 03 48 10.9 -2.4**
comp=Z,2µm,1.9s
FITZ Fitzroy Crossi 53.83 269 P **P 03 48 20.3 +1.5**
baz=54
KIP Kipapa 54.02 21⇑ *iP* **P 03 48 18.5 -1.4**
KIP pmax pmax
comp=Z,373nm,1.2s
KIP Kipapa 54.02 21 *eP* **P 03 48 18.9 -1.0**
comp=Z,83nm,1.1s
FAKI Fak Fak 55.57 289 *eP* **P 03 48 29.2 -2.3**
comp=Z,36nm,1.2s
GUMO Guam 57.21 314 *eP* **P 03 48 41.0 -2.0**
GUMO pmax pmax
comp=Z,163nm,1.1s
GUMO Guam 57.21 314 *eP* **P 03 48 41.0 -2.0**
comp=Z,163nm,1.1s
MBWA Marble Bar 57.73 263 *eP* **P 03 48 46.3 -0.5**
comp=Z,15nm,1.0s
MBWA LR LR
comp=Z,1µm,19.0s
QSPA South Pole Qui 60.17 180 *eP* **P 03 49 05.6 +2.4**
MMRI Maumere 61.04 277 PFAKE 03 49 20.0 +10
MMRI LR LR
comp=Z,600nm,18.0s
UGM Wanagama 71.53 271 *eP* **P 03 50 16.3 -0.7**
comp=Z,492nm,1.7s
MAW Mawson 73.25 200 P **P 03 50 29.5 +3.1**
comp=Z,17nm,0.8s,baz=128,slow=7.1,SNR=35
MAW LR LR 04 24 42.8
comp=Z,202nm,19.1s,baz=70,slow=37
MAW Mawson 73.25 200 *eP* **P 03 50 29.4 +3.1**
MAW pmax pmax
comp=Z,11nm,1.3s
MAW Mawson 73.25 200 *eP* **P 03 50 29.4 +3.1**
comp=Z,11nm,1.3s
JOW Kunigami 77.45 311 *eP* **P 03 50 51.3 +0.2**
comp=Z,74nm,0.9s
SYO Syowa Base 77.89 192⇑ *eP* **P 03 50 54.2 +1.3**
SYO Syowa Base 77.89 192⇓ *e*PP **PcP 03 51 02.3 -0.4**
SNAA Sanae 78.57 178 P **P 03 50 58.5 +1.7**
SNAA Sanae 78.57 178⇓ *iP* **P 03 50 58.2 +1.4**
SNAA pmax pmax
comp=Z,3µm,1.1s
SNAA Sanae 78.57 178 *eP* **P 03 50 58.1 +1.4**
comp=Z,58nm,1.1s
VNA3 Neumayer Olymp 78.66 176 P **P 03 50 58.6 +1.4**
MJAR Matsushiro Arr 78.71 324 P **P 03 50 56.5 -1.3**
comp=Z,5.0nm,0.7s,baz=157,slow=5.6,SNR=13
MAJO Matsushiro 78.72 324⇑ *iP* **P 03 50 57.7 -0.2**
MAJO pmax pmax
comp=Z,59nm,0.9s
MAJO Matsushiro 78.72 324 *eP* **P 03 50 57.3 -0.5**
comp=Z,12nm,0.9s
MAT Matsushiro 78.72 324 P **P 03 50 56.8 -1.1**
MAT S S 04 00 40.2 -14
MJB9 Matsu-Tunnel 78.72 324 *eP* **P 03 50 57.4 -0.5**
comp=Z,3.0nm,1.0s
VNA2 Neumayer--Watz 79.11 176 P **P 03 51 01.4 +1.8**
baz=168,slow=4.7
VNA1 Neumayer--Stat 79.33 176 P **P 03 51 02.6 +1.8**
NVL N'lazarevskaya 79.41 183 *eP* **P 03 51 02.2 +0.9**
SSLB Suanglung 80.50 304 *eP* **P 03 51 06.8 -1.2**
comp=Z,27nm,1.0s
YHNB Yeheng 80.75 305 *eP* **P 03 51 09.6 +0.3**
comp=Z,223nm,1.6s
ADK Adak 81.47 360 *eP* **P 03 51 11.5 -0.8**
ADK pmax pmax
comp=Z,136nm,1.2s
ADK Adak 81.47 360 *eP* **P 03 51 11.5 -0.8**
comp=Z,136nm,1.2s
PLCA Paso Flores 81.74 132 P **P 03 51 14.9 +0.4**
comp=Z,5.2nm,1.0s,baz=255,slow=6.6,SNR=5.3
PLCA LR LR 04 19 46.6
comp=Z,224nm,20.3s,baz=322,slow=30
EFI East Falkland 82.37 146⇑ *eP* **P 03 51 17.7 +0.3**
EFI pmax pmax
comp=Z,24nm,0.8s
SNCC San Nicolas Is 82.67 45 P **P 03 51 18.6 -0.5**
baz=227
SLBS Sierra La Lagu 83.07 58 *eP* **P 03 51 21.3 -0.2**
comp=Z,97nm,1.8s
SCZ2 Santa Cruz Isl 83.11 44 P **P 03 51 20.9 -0.6**
baz=227
SBC Santa Barbara 83.37 44 P **P 03 51 22.4 -0.3**
baz=227
CIS Catalina Islan 83.46 45 P **P 03 51 22.3 -1.0**
baz=228,SNR=5.2
BLG Laguna Peak, P 83.54 45 P **P 03 51 22.7 -0.9**
baz=227
PKM Mcpherson Peak 83.62 44 P **P 03 51 24.1 -0.1**
baz=227
SRIG Santa Rosalia 83.62 54 *eP* **P 03 51 23.6 -0.5**
comp=Z,59nm,1.0s
FMP Fort Macarthur 83.75 45 P **P 03 51 24.1 -0.6**
baz=228
SMMC Simmler 83.80 43 P **P 03 51 24.8 -0.1**
baz=227
PAGB Antelope Grade 83.94 43 *eP* **P 03 51 25.9 +0.3**
comp=Z,56nm,1.3s
PAGB LR LR
comp=Z,600nm,18.0s
109C Camp Elliot, M 83.94 47 P **P 03 51 24.7 -0.9**
baz=228
PMPB Monarch Peak 83.95 42 PFAKE 03 51 40.0 +14
PMPB LR LR
comp=Z,700nm,18.0s
SAO San Andreas Ge 83.96 41 PFAKE 03 51 40.0 +14
SAO LR LR
comp=Z,900nm,18.0s
DECC Green Verdugo 84.08 45 P **P 03 51 25.4 -1.0**
baz=228
OSI Osito Audit: C 84.09 44 P **P 03 51 25.8 -0.6**
baz=227
PASC Pasadena Art C 84.12 45 *eP* **P 03 51 26.2 -0.4**
comp=Z,28nm,0.9s
MCCM Marconi Confer 84.12 40 PFAKE 03 51 40.0 +14
MCCM LR LR
comp=Z,700nm,20.0s
MWC Mount Wilson 84.23 45 *eP* **P 03 51 26.9 -0.5**
MWC pmax pmax
comp=Z,43nm,1.1s
MWC Mount Wilson 84.23 45 *eP* **P 03 51 26.9 -0.5**
comp=Z,43nm,1.1s
MURC Murrieta 84.35 46 P **P 03 51 27.2 -0.6**
baz=228,SNR=17
ARVC Arvin 84.37 44 P **P 03 51 27.1 -0.7**
baz=227
MONP2 Monument Peak 84.37 47 P **P 03 51 27.6 -0.5**
baz=229,SNR=11
IKP In-Ko-Pah, Jac 84.41 47 P **P 03 51 27.8 -0.4**
baz=229,SNR=6.6
BFSC Mount Baldy Ra 84.49 45 P **P 03 51 27.8 -0.8**
baz=228,SNR=14
HOPS Hopland Field 84.62 39 *eP* **P 03 51 29.1 +0.1**
comp=Z,69nm,1.3s
HOPS LR LR
comp=Z,700nm,20.0s
GDXM Geysers 84.64 39 *eP* **P 03 51 29.6 +0.4**
comp=Z,39nm,1.2s
GDXM LR LR
comp=Z,800nm,18.0s
VES Vestal, Richgr 84.70 43 P **P 03 51 28.7 -0.7**
baz=227,SNR=12
EDW2 Edwards Air Fo 84.71 45 P **P 03 51 29.1 -0.6**
baz=228,SNR=14
PFO Pinyon Flats O 84.82 46 P **P 03 51 29.8 -0.5**
baz=229,SNR=11
PFO Pinyon Flats O 84.82 46 *eP* **P 03 51 30.3 0.0**
PFO pmax pmax
comp=Z,43nm,1.1s
PFO Pinyon Flats O 84.82 46 *eP* **P 03 51 30.3 0.0**
comp=Z,43nm,1.1s
XPFO Piæon Flat 84.82 46 *eP* **P 03 51 30.3 0.0**
comp=Z,46nm,1.1s
KCPM Cahto Peak 84.84 38 PFAKE 03 51 40.0 +10
KCPM LR LR
comp=Z,800nm,20.0s
ISA Isabella, Lake 84.94 44 P **P 03 51 30.5 -0.3**
baz=228
ISA Isabella, Lake 84.94 44 *eP* **P 03 51 31.0 +0.2**
ISA pmax pmax
comp=Z,50nm,1.2s
ISA MLR MLR
comp=Z,700nm,20.0s
ISA Isabella, Lake 84.94 44 *eP* **P 03 51 31.0 +0.2**
comp=Z,50nm,1.2s
ISA LR LR
comp=Z,700nm,20.0s
KSRS Korea Array 84.96 319 P **P 03 51 30.2 -0.5**
comp=Z,1.5nm,0.7s,baz=120,slow=4.4,SNR=5.4
KSRS LR LR 04 27 30.6
comp=Z,56nm,18.9s,baz=137,slow=34
BBRC Big Bear Solar 84.96 46 P **P 03 51 30.7 -0.4**
baz=229
KS15 Wonju Array Si 84.97 319 *eP* **P 03 51 30.2 -0.6**
KSAR Wonju Array Be 84.97 319 P **P 03 51 30.2 -0.6**
KSAR Wonju Array Be 84.97 319 P **P 03 51 30.2 -0.6**
YSS Yuzh-Sakhalins 84.98 333⇓ *eP* **P 03 51 31.3 +0.7**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,200nm,22.0s
KMRM Mail Ridge 85.16 38 *eP* **P 03 51 32.2 +0.4**
comp=Z,51nm,0.9s
LRMC Laurel Mtn Rad 85.30 44 P **P 03 51 32.2 -0.5**
baz=228,SNR=12
RRX Edison Barstow 85.32 45 P **P 03 51 31.9 -0.7**
baz=228
BELC Belle Mtn. Jos 85.36 46 P **P 03 51 32.7 -0.3**
baz=229,SNR=16
CMB Columbia Colle 85.44 41 *eP* **P 03 51 30.4 -2.8**
CMB pmax pmax
comp=Z,36nm,0.9s
CMB MLR MLR
comp=Z,600nm,18.0s
CMB Columbia Colle 85.44 41 *eP* **P 03 51 30.4 -2.8**
comp=Z,36nm,0.9s
CMB LR LR
comp=Z,600nm,18.0s
BC3 Big Chuckawall 85.48 47 P **P 03 51 33.6 0.0**
baz=230,SNR=10
GLA Glamis 85.50 48 P **P 03 51 33.6 0.0**
baz=230,SNR=5.9
GLA Glamis 85.50 48 PFAKE 03 51 40.0 +6.4
GLA LR LR
comp=Z,300nm,20.0s
HSIG 85.56 53 *eP* **P 03 51 33.1 -0.8**
comp=Z,37nm,1.0s
HSIG LR LR
comp=Z,300nm,21.0s
KHMM Horse Mountain 85.62 37 *eP* **P 03 51 34.6 +0.4**
comp=Z,43nm,1.0s
KHMM LR LR
comp=Z,500nm,20.0s
HEC Hector,Ludlow 85.70 46 P **P 03 51 34.2 -0.4**
baz=229,SNR=15
CWC Cottonwood Cre 85.70 43 P **P 03 51 34.2 -0.6**
baz=228
GSC Goldstone, Bar 85.72 45 P **P 03 51 34.3 -0.4**
baz=229,SNR=14
GSC Goldstone, Bar 85.72 45 *eP* **P 03 51 34.3 -0.4**
GSC pmax pmax
comp=Z,50nm,1.1s
GSC MLR MLR
comp=Z,400nm,20.0s
GSC Goldstone, Bar 85.72 45 *eP* **P 03 51 34.3 -0.4**
comp=Z,50nm,1.1s
GSC LR LR
comp=Z,400nm,20.0s
PETK Petropavlovsk- 85.74 345 P **P 03 51 33.1 -1.2**
comp=Z,4.1nm,0.6s,baz=111,slow=5.8,SNR=3.8
PETK LR LR 04 28 33.6
comp=Z,103nm,18.0s,baz=149,slow=35
AFDM Forest Hills D 85.75 40 *eP* **P 03 51 33.8 -0.9**
comp=Z,37nm,1.1s
AFDM LR LR
comp=Z,700nm,19.0s
PEA1 Petropavlovsk- 85.75 345 *eP* **P 03 51 33.1 -1.2**
MPMC Manual Prospec 85.80 44 P **P 03 51 34.9 -0.4**
baz=228,SNR=16
ORV Oroville 85.88 39 *eP* **P 03 51 34.4 -0.9**
ORV pmax pmax
comp=Z,25nm,1.0s
ORV MLR MLR
comp=Z,400nm,19.0s
ORV Oroville 85.88 39 *eP* **P 03 51 34.4 -0.9**
comp=Z,25nm,1.0s
ORV LR LR
comp=Z,400nm,19.0s
DAC Darwin (Calif) 85.89 44 PFAKE 03 51 50.0 +14
DAC LR LR
comp=Z,400nm,21.0s
KRMB Red Mountain 86.00 37 *eP* **P 03 51 36.4 +0.4**
comp=Z,68nm,1.3s
113A Mohawk Valley, 86.00 49 PFAKE 03 51 50.0 +14
113A LR LR
comp=Z,400nm,18.0s
IRM Iron Mountain 86.00 47 P **P 03 51 36.2 +0.1**
baz=230,SNR=8.1
TIN Tinemaha, Big 86.03 43 P **P 03 51 36.0 -0.2**
baz=228
WDC Whiskeytown Da 86.04 38 *eP* **P 03 51 35.6 -0.5**
WDC pmax pmax
comp=Z,60nm,1.0s
WDC MLR MLR
comp=Z,500nm,20.0s
WDC Whiskeytown Da 86.04 38 *eP* **P 03 51 35.6 -0.5**
comp=Z,60nm,1.0s
WDC LR LR
comp=Z,500nm,20.0s
MLAC Mammoth, Mammo 86.06 42 P **P 03 51 36.3 -0.2**
baz=227
GMRC Granite Mounta 86.09 46 P **P 03 51 36.3 -0.3**
baz=229,SNR=7.5
214A Organ Pipe Nat 86.11 50 P **P 03 51 36.5 -0.2**
baz=231
Y12C Blythe 86.14 47 P **P 03 51 36.4 -0.3**
baz=230
N02D Trinity Center 86.23 38 P **P 03 51 37.1 0.0**
baz=224,SNR=24
O03D Paynes Creek 86.24 39 P **P 03 51 36.2 -1.0**
baz=225,SNR=22
O03D Paynes Creek 86.24 39 *eP* **P 03 51 36.0 -1.1**
WAKR Walker 86.31 41 *eP* **P 03 51 37.5 -0.2**
comp=Z,66nm,1.2s
WAKR LR LR
comp=Z,500nm,19.0s
TUQ Turquoise Moun 86.35 45 P **P 03 51 37.6 -0.3**
baz=229,SNR=6.7
SHOC Shoshone, Teco 86.44 45 P **P 03 51 37.8 -0.4**
baz=229,SNR=6.8
FURC Furnace Creek, 86.45 44 P **P 03 51 37.6 -0.6**
baz=228
M02C Callahan 86.45 37 P **P 03 51 38.2 0.0**
baz=224,SNR=16
GRAC Grapevine Rang 86.50 43 P **P 03 51 38.4 -0.1**
baz=228,SNR=11
KULM Kulim 86.61 278 PFAKE 03 51 50.0 +11
KULM LR LR
comp=Z,202nm,20.0s
L02D Cave Junction, 86.61 36 P **P 03 51 38.8 -0.1**
baz=224,SNR=6.2
PNTR Pine Nut 86.62 41 PFAKE 03 51 50.0 +11
PNTR LR LR
comp=Z,700nm,20.0s
LDFC Landfair 86.62 46 *eP* **P 03 51 39.9 +0.7**
comp=Z,99nm,1.0s
LDFC LR LR
comp=Z,400nm,18.0s
BEKR Beckworth 86.73 40 *eP* **P 03 51 38.8 -0.9**
comp=Z,27nm,1.2s
BEKR LR LR
comp=Z,500nm,18.0s
NEE2 Needles Airpor 86.73 47 P **P 03 51 39.4 -0.2**
baz=230
PDMCI Parker Dam,Lak 86.73 47 P **P 03 51 39.5 -0.1**
baz=230,SNR=7.6
YERR Yerington 86.75 41 *eP* **P 03 51 39.2 -0.6**
comp=Z,32nm,1.0s
YERR LR LR
comp=Z,600nm,18.0s
KEBM Edson Butte 86.76 35 *eP* **P 03 51 40.0 +0.3**
comp=Z,86nm,1.0s
YBH Yreka Blue Hor 86.77 37 *eP* **P 03 51 39.4 -0.4**
YBH pmax pmax
comp=Z,35nm,1.4s
YBH MLR MLR
comp=Z,300nm,20.0s
YBH Yreka Blue Hor 86.77 37 *eP* **P 03 51 39.4 -0.4**
comp=Z,35nm,1.4s
YBH LR LR
comp=Z,300nm,20.0s
PSI Prapat 86.85 275 *eP* **P 03 51 40.6 -0.3**
PSI pmax pmax
comp=Z,25nm,1.0s
PSI Prapat 86.85 275 *eP* **P 03 51 40.6 -0.3**
comp=Z,25nm,1.0s
LBCM Butte Creek Ri 86.86 38 *eP* **P 03 51 39.5 -0.8**
NJ2 Nanjing 87.07 310 *eP* **P 03 51 41.3 0.0**
TPNV Topopah Spring 87.14 44 P **P 03 51 41.5 -0.2**
baz=229,SNR=9.2
TPNV Topopah Spring 87.14 44 *eP* **P 03 51 41.9 +0.1**
TPNV pmax pmax
comp=Z,31nm,0.9s
TPNV MLR MLR
comp=Z,400nm,19.0s
TPNV Topopah Spring 87.14 44 *eP* **P 03 51 41.9 +0.1**
comp=Z,31nm,0.9s
TPNV LR LR
comp=Z,400nm,19.0s
PAHR Pah Rah Range 87.16 40 *eP* **P 03 51 40.9 -0.9**
comp=Z,32nm,1.1s
PAHR LR LR
comp=Z,700nm,20.0s
Y14A Wickenburg 87.23 48 PFAKE 03 51 50.0 +7.9
Y14A LR LR
comp=Z,1µm,20.0s
M04C Macdoel 87.27 38 P **P 03 51 41.5 -0.7**
baz=225,SNR=5.7
HUMO Hull Mountain 87.27 36 *eP* **P 03 51 41.9 -0.2**
comp=Z,61nm,1.5s
GSI Gunungsitoli 87.28 273 PFAKE 03 51 50.0 +7.2
GSI LR LR
comp=Z,700nm,20.0s
W13A Hualapai Mount 87.40 47 PFAKE 03 51 50.0 +6.9
W13A LR LR
comp=Z,300nm,19.0s
SHPR Sheep Range 87.51 45 PFAKE 03 51 50.0 +6.4
SHPR LR LR
comp=Z,300nm,19.0s
USRK Ussuriysk Ar. 87.60 326 P **P 03 51 43.6 +0.1**
comp=Z,9.3nm,0.8s,baz=149,slow=2.6,SNR=15
USRK LR LR 04 29 15.8
comp=Z,95nm,18.2s,baz=144,slow=35
TUC Tucson 87.68 50 P **P 03 51 44.5 +0.1**
baz=232
TUC Tucson 87.68 50 *eP* **P 03 51 44.9 +0.5**
TUC pmax pmax
comp=Z,40nm,1.1s
TUC Tucson 87.68 50 *eP* **P 03 51 44.9 +0.5**
comp=Z,40nm,1.1s
I03D Drain, OR 87.86 35 P **P 03 51 44.4 -0.3**
baz=224,SNR=6.3
K04D Chiloquin, OR 87.91 37 P **P 03 51 44.7 -0.6**
baz=225
ZAIG Zacatecas 88.09 62 *eP* **P 03 51 46.3 -0.5**
comp=Z,22nm,1.4s
HPIG 88.10 57 PFAKE 03 52 00.0 +13
HPIG LR LR
comp=Z,700nm,20.0s
J04D Umpqua Nationa 88.16 36 P **P 03 51 46.0 -0.5**
baz=225,SNR=11
MOD Modoc Plateau 88.17 38 *eP* **P 03 51 45.7 -0.9**
comp=Z,20nm,0.9s
MOD LR LR
comp=Z,500nm,20.0s
R11A Troy Canyon, C 88.45 43 P **P 03 51 47.3 -0.7**
baz=229
R11A Troy Canyon, C 88.45 43 PFAKE 03 52 00.0 +12
R11A LR LR
comp=Z,400nm,18.0s
X16A Lo Mia Camp, P 88.54 48 PFAKE 03 52 00.0 +11
X16A LR LR
comp=Z,400nm,18.0s
J05D Fort Rock, OR 88.64 37 P **P 03 51 48.2 -0.6**
baz=225,SNR=15
TRTT Trang 88.70 280 P **P 03 51 52.1 +2.6**
comp=Z,33nm,1.0s
BMN Battle Mountai 88.88 41 *eP* **P 03 51 49.2 -0.7**
BMN pmax pmax
comp=Z,30nm,1.1s
BMN MLR MLR
comp=Z,500nm,19.0s
BMN Battle Mountai 88.88 41 *eP* **P 03 51 49.2 -0.7**
comp=Z,30nm,1.1s
BMN LR LR
comp=Z,500nm,19.0s
OHAK Old Harbor 88.97 12 *eP* **P 03 51 49.6 -0.1**
comp=Z,37nm,1.1s
G03D McMinnville, O 88.99 34 P **P 03 51 50.0 -0.1**
baz=224
LCMT Little Creek M 89.02 46 PFAKE 03 52 00.0 +9.3
LCMT LR LR
comp=Z,300nm,19.0s
MDJ Mudanjiang 89.09 325 *eP* **P 03 51 51.6 +1.0**
comp=Z,22nm,1.2s
WHN Wuhan 89.25 306 P **P 03 51 53.3 +1.6**
WHN S **S 04 02 46.8 +7.0**
WHN LR LR
comp=Z,350nm,19.7s
WUAZ Wupatki 89.27 48 P **P 03 51 51.9 0.0**
baz=232
WUAZ Wupatki 89.27 48 PFAKE 03 52 00.0 +8.1
WUAZ LR LR
comp=Z,300nm,19.0s
KNB Kanab 89.28 46 PFAKE 03 52 00.0 +8.0
KNB LR LR
comp=Z,300nm,20.0s
CCUT Cedar City 89.29 45 PFAKE 03 52 00.0 +8.0
CCUT LR LR
comp=Z,400nm,18.0s
I05D Terrebonne, OR 89.33 36 P **P 03 51 51.2 -0.6**
baz=225,SNR=12
PANO Nakornpanom 89.33 290 P **P 03 51 55.8 +3.4**
comp=Z,27nm,1.0s
WVOR Wild Horse Val 89.44 39 *eP* **P 03 51 51.7 -0.8**
WVOR pmax pmax
comp=Z,31nm,1.3s
WVOR MLR MLR
comp=Z,700nm,20.0s
WVOR Wild Horse Val 89.44 39 *eP* **P 03 51 51.7 -0.8**
comp=Z,31nm,1.3s
WVOR LR LR
comp=Z,700nm,20.0s
SZCU Shurtz Canyon 89.48 45 *eP* **P 03 51 53.5 +0.5**
comp=Z,25nm,1.1s
SZCU LR LR
comp=Z,300nm,20.0s
X18A Snowflake 89.59 49 PFAKE 03 52 00.0 +6.6
X18A LR LR
comp=Z,300nm,19.0s
KDAK Kodiak Island 89.63 12 P **P 03 51 52.8 0.0**
comp=Z,17nm,1.1s,baz=191,slow=3.5,SNR=4.9
KDAK Kodiak Island 89.63 12 *eP* **P 03 51 52.9 +0.1**
KDAK pmax pmax
comp=Z,40nm,1.3s
KDAK Kodiak Island 89.63 12 *eP* **P 03 51 52.9 +0.1**
comp=Z,40nm,1.3s
F04D Rainier, OR 89.74 34 P **P 03 51 53.7 +0.1**
baz=224

E03A	Lebam	89.81	33	eP	P	03 51 54.2	+0.3	
	comp=Z,79nm,1.0s							
SRAK	Srakaew	89.84	286	P	P	03 51 55.1	+0.3	
	comp=Z,68nm,1.4s,comp=Z,790nm							
121A	Cookes Peak, D	89.84	52	P	P	03 51 54.5	-0.2	
	baz=234							
F04A	Amboy	89.92	34	eP	P	03 51 54.2	-0.3	
	comp=Z,67nm,1.0s							
G05D	Wamic, OR	89.98	35	P	P	03 51 54.4	-0.4	
	baz=225							
LVP	Lakeview Peak	90.02	34	eP	P	03 51 54.5	-0.6	
W18A	Petrified Fore	90.08	49	P	P	03 51 55.6	-0.2	
	baz=233							
W18A	Petrified Fore	90.08	49	PFAKE		03 52 10.0	+14	
W18A				LR	LR			
	comp=Z,300nm,18.0s							
ELK	Elko	90.22	42	P	P	03 51 56.4	+0.1	
	comp=Z,4.0nm,0.9s,baz=285,slow=6.1,SNR=12							
NLWA	Neilton Lookou	90.28	33	eP	P	03 51 56.5	+0.4	
	comp=Z,33nm,1.0s							
NLWA				LR	LR			
	comp=Z,400nm,20.0s							
EPT	El Paso	90.28	53	PFAKE		03 52 10.0	+13	
EPT				LR	LR			
	comp=Z,400nm,18.0s							
G06A	Carlson Farm,	90.31	36	eP	P	03 51 55.7	-0.7	
	comp=Z,49nm,1.1s							
TDL	Tradedollar La	90.31	34	eP	P	03 51 56.0	-0.4	
VTHM	Trough	90.31	36	P	P	03 51 55.8	-0.6	
MTPU	Mount Pierson	90.32	45	PFAKE		03 52 10.0	+13	
MTPU				LR	LR			
	comp=Z,400nm,19.0s							
KHON	Khomkaen	90.38	289	P	P	03 52 00.1	+2.8	
	comp=Z,19nm,1.1s							
TCRU	Three Creeks R	90.51	45	PFAKE		03 52 10.0	+12	
TCRU				LR	LR			
	comp=Z,300nm,18.0s							
NAYO	Nakonayok	90.59	286	P	P	03 52 00.7	+2.4	
	comp=Z,35nm,1.1s							
CN2	Changchun	90.67	322	eP	P	03 51 58.1	+0.1	
CN2				pmax	pmax			
	comp=Z,20nm,1.2s							
TIA	Tai'an	90.74	312	⇓P	P	03 51 59.5	+0.9	
TIA				pmax	pmax			
	comp=Z,20nm,1.2s							
LON	Longmire	90.80	34	eP	P	03 51 57.7	-0.9	
LON				pmax	pmax			
	comp=Z,21nm,1.1s							
LON	Longmire	90.80	34	eP	P	03 51 57.7	-0.9	
	comp=Z,21nm,1.1s							
HDW	Hoodsport	90.84	33	P	P	03 51 58.7	-0.1	
CHAI	Chaiyaphum	90.84	288	P	P	03 52 01.2	+1.7	
	comp=Z,9.6nm,0.9s							
LTX	Lajitas	90.91	56	eP	P	03 51 58.5	-1.1	
LTX	Lajitas	90.91	56	eP	P	03 51 58.5	-1.1	
TXAR	Lajitas Array	90.91	56	P	P	03 51 58.5	-1.1	
	comp=Z,5.5nm,1.0s,baz=223,slow=5.1,SNR=4.7							
TXAR				LR	LR	04 25 48.5		
	comp=Z,328nm,18.8s,baz=0.0,slow=31							
TXAR	Lajitas Array	90.91	56	P	P	03 51 58.5	-1.1	
TXAR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
D05A	Enumclaw	91.02	34	eP	P	03 51 59.9	+0.4	
	comp=Z,110nm,1.1s							
MNTX	Cornudas Mount	91.02	54	P	P	03 51 59.1	-0.9	
	baz=235							
MNTX	Cornudas Mount	91.02	54	PFAKE		03 52 10.0	+10	
MNTX				LR	LR			
	comp=Z,200nm,18.0s							
DUG	Dugway, Tooele	91.29	43	P	P	03 52 00.4	-0.8	
	baz=231							
DUG	Dugway, Tooele	91.29	43	PFAKE		03 52 10.0	+8.8	
DUG				LR	LR			
	comp=Z,400nm,19.0s							
PHET	Kaeng Krachan	91.30	284	P	P	03 52 04.5	+2.9	
	comp=Z,11nm,1.0s							
PGC	Sidney	91.38	32	eP	P	03 52 01.1	0.0	
	comp=Z,30nm,1.0s							
Q16A	Castle Valley	91.49	45	PFAKE		03 52 10.0	+7.8	
Q16A				LR	LR			
	comp=Z,300nm,19.0s							
CNPM	China Poot	91.52	12	eP	P	03 52 01.5	-0.1	
	comp=Z,47nm,1.2s							
HOM	Homer	91.57	12	PFAKE		03 52 10.0	+8.3	
HOM				LR	LR			
	comp=Z,300nm,20.0s							
NLU	North Lily Min	91.58	44	PFAKE		03 52 10.0	+7.4	
NLU				LR	LR			
	comp=Z,600nm,19.0s							
BGU	Big Grassy Mou	91.62	43	eP	P	03 52 02.1	-0.6	
	comp=Z,26nm,1.8s							
BGU				LR	LR			
	comp=Z,500nm,18.0s							
E07A	Sunnyside	91.63	35	eP	P	03 52 02.2	-0.3	
	comp=Z,60nm,1.0s							
MFID	Camas Ranch	91.63	39	eP	P	03 52 01.8	-0.9	
	comp=Z,26nm,1.0s							
MFID				LR	LR			
	comp=Z,300nm,19.0s							
LNIG	Linares	91.63	62	eP	P	03 52 01.5	-1.5	
	comp=Z,25nm,1.2s							
LNIG				LR	LR			
	comp=Z,400nm,19.0s							
LPM	Los Pinos Moun	91.66	51	eP	P	03 52 03.1	-0.1	
HAWA	Hanford	91.67	35	eP	P	03 52 02.1	-0.5	
	comp=Z,44nm,1.1s							
HAWA				LR	LR			
	comp=Z,500nm,19.0s							
TMUT	Trail Mountain	91.70	45	PFAKE		03 52 10.0	+6.7	
TMUT				LR	LR			
	comp=Z,300nm,20.0s							
LTY	Liberty	91.71	34	eP	P	03 52 02.0	-0.9	
	comp=Z,31nm,1.2s							
MDW	Midway	91.71	35	eP	P	03 52 02.8	0.0	
MDW	Midway	91.71	35	eP	P	03 52 02.8	0.0	
B05A	Bryant	91.73	33	P	P	03 52 02.4	-0.4	
	baz=225,SNR=9.9							
A04D	Lummi Island	91.77	32	P	P	03 52 02.2	-0.7	
	baz=224							
BMO	Blue Mountains	91.78	38	eP	P	03 52 02.1	-1.2	
BMO				pmax	pmax			
	comp=Z,33nm,1.5s							
BMO				MLR	MLR			
	comp=Z,400nm,20.0s							
BMO	Blue Mountains	91.78	38	eP	P	03 52 02.1	-1.2	
	comp=Z,33nm,1.5s							
BMO				LR	LR			
	comp=Z,400nm,20.0s							
BRLK	Bradley Lake	91.81	13	eP	P	03 52 02.7	-0.3	
	comp=Z,51nm,1.3s							
SRU	San Rafael Swe	92.00	45	PFAKE		03 52 20.0	+15	
SRU				LR	LR			
	comp=Z,300nm,19.0s							
BBB	Bella Bella	92.01	27	P	P	03 52 04.2	+0.3	
	comp=Z,14nm,0.9s,baz=252,slow=9.6,SNR=4.3							
PBKT	Sadao Pong	92.02	288	P	P	03 52 07.4	+2.5	
	comp=Z,15nm,1.6s							
P17A	Butcher Ranch,	92.09	45	PFAKE		03 52 20.0	+15	
P17A				LR	LR			
	comp=Z,400nm,20.0s							
MVCO	Mesa Verde	92.14	48	P	P	03 52 04.5	-0.8	
	baz=234							
MVCO	Mesa Verde	92.14	48	PFAKE		03 52 20.0	+15	
MVCO				LR	LR			
	comp=Z,300nm,18.0s							
ANMO	Albuquerque	92.15	51	P	P	03 52 03.7	-1.6	
	baz=235							
ANMO	Albuquerque	92.15	51	⇓iP	P	03 52 04.4	-1.0	
ANMO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ANMO	Albuquerque	92.15	51	PFAKE		03 52 20.0	+15	
ANMO				LR	LR			
	comp=Z,300nm,19.0s							
SPUT	South Promonto	92.20	43	eP	P	03 52 05.1	-0.3	
	comp=Z,26nm,1.1s							
SPUT				LR	LR			
	comp=Z,500nm,20.0s							
CTU	Camp Tracy	92.23	43	PFAKE		03 52 20.0	+14	
CTU				LR	LR			
	comp=Z,400nm,20.0s							
HVU	Hansel Valley	92.31	42	eP	P	03 52 05.2	-0.7	
HVU				pmax	pmax			
	comp=Z,26nm,1.1s							
HVU				MLR	MLR			
	comp=Z,500nm,19.0s							
HVU	Hansel Valley	92.31	42	eP	P	03 52 05.2	-0.7	
	comp=Z,26nm,1.1s							
HVU				LR	LR			
	comp=Z,500nm,19.0s							
JLU	Jordanelle	92.36	44	PFAKE		03 52 20.0	+14	
JLU				LR	LR			
	comp=Z,400nm,20.0s							
D08A	Wollman Farm,	92.44	35	eP	P	03 52 05.5	-0.6	
	comp=Z,47nm,1.0s							
D08A				LR	LR			
	comp=Z,500nm,20.0s							
P18A	Preston Nutter	92.49	45	PFAKE		03 52 20.0	+13	
P18A				LR	LR			
	comp=Z,300nm,20.0s							
HLID	Hailey	92.50	40	P	P	03 52 06.2	-0.6	
	baz=230							
HLID	Hailey	92.50	40	eP	P	03 52 06.0	-0.7	
	comp=Z,18nm,1.0s							
HLID				LR	LR			
	comp=Z,300nm,18.0s							
ENH	Enshi	92.56	304	eP	P	03 52 08.6	+1.4	
	comp=Z,64nm,1.0s							
GYA	Guiyang	92.60	299	eP	P	03 52 08.9	+1.3	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TCUT	Toone Canyon	92.70	43	eP	P	03 52 07.5	-0.3	
	comp=Z,23nm,1.0s							
UTHA	Uthaitani	92.78	286	P	P	03 52 11.1	+2.7	
	comp=Z,5.3nm,1.0s							
LVC	Limon Verde	92.87	118	eP	P	03 52 10.4	+1.1	
	comp=Z,10nm,0.9s							
HWUT	Hardware Ranch	92.91	43	eP	P	03 52 07.8	-0.9	
	comp=Z,32nm,1.9s							
HWUT				LR	LR			
	comp=Z,600nm,19.0s							
SPU	Mount Spurr	92.92	11	eP	P	03 52 06.8	-1.2	
B08A	Colville Reser	93.12	34	eP	P	03 52 08.0	-1.4	
	comp=Z,9.2nm,1.3s							
933A	Laredo	93.22	60	P	P	03 52 09.3	-0.9	
	baz=238							
RC01	Rabbit Creek A	93.25	13	eP	P	03 52 09.2	-0.4	
	comp=Z,28nm,1.3s							
RC01				LR	LR			
	comp=Z,200nm,21.0s							
C09A	Chrisman Ranch	93.26	35	eP	P	03 52 09.3	-0.6	
	comp=Z,24nm,1.3s							
C09A				LR	LR			
	comp=Z,500nm,20.0s							
034A	Hebbronville	93.37	61	P	P	03 52 10.2	-0.7	
	baz=238							
LLLB	Lillooet	93.50	31	eP	P	03 52 10.5	-0.5	
	comp=Z,7.6nm,0.9s							
833A	Chaparral WMA,	93.50	59	P	P	03 52 10.1	-1.4	
	baz=238							
S22A	4UR Ranch, Cre	93.52	48	P	P	03 52 11.0	-0.8	
	baz=234							
S22A	4UR Ranch, Cre	93.52	48	PFAKE		03 52 20.0	+8.2	
S22A				LR	LR			
	comp=Z,300nm,19.0s							
UMPA	Umpang Tak	93.59	287	P	P	03 52 14.5	+2.3	
	comp=Z,5.1nm,1.0s,comp=Z,944nm							
934A	Benavides	93.78	60	P	P	03 52 12.8	0.0	
	baz=238							
TT01	Tatalina	93.94	9	eP	P	03 52 12.1	-0.5	
DIV	Divide	94.09	14	PFAKE		03 52 20.0	+6.5	
DIV				LR	LR			
	comp=Z,200nm,19.0s							
LAMP	Lampang	94.11	289	P	P	03 52 17.3	+2.8	
NEW	Newport	94.15	35	PFAKE		03 52 20.0	+6.0	
NEW				LR	LR			
	comp=Z,500nm,20.0s							
MCMT	McKenzie Canyo	94.18	40	eP	P	03 52 13.8	-0.7	
MNMC	Minye Minye	94.26	115	eP	P	03 52 16.2	+0.5	
	comp=Z,13nm,0.9s							
SMCO	Snowmass	94.26	47	PFAKE		03 52 30.0	+15	
SMCO				LR	LR			
	comp=Z,300nm,18.0s							
JCT	Junction City	94.34	57	P	P	03 52 13.8	-1.6	
	baz=238							
JCT	Junction City	94.34	57	PFAKE		03 52 30.0	+15	
JCT				LR	LR			
	comp=Z,500nm,18.0s							
REDW	Red Top Meadow	94.40	42	eP	P	03 52 14.5	-1.1	
	comp=Z,24nm,1.1s							
REDW				LR	LR			
	comp=Z,500nm,18.0s							
TPAW	Teton Pass	94.42	42	eP	P	03 52 15.3	-0.4	
	comp=Z,15nm,1.1s							
FXWY	Fox Creek	94.47	41	eP	P	03 52 15.4	-0.5	
	comp=Z,9.4nm,0.9s							
FXWY				LR	LR			
	comp=Z,400nm,20.0s							
SNOW	Snow King Moun	94.52	42	eP	P	03 52 15.8	-0.3	
	comp=Z,25nm,0.9s							
SNOW				LR	LR			
	comp=Z,900nm,20.0s							
CM31	Chiang Mai Arr	94.64	289	eP	P	03 52 17.9	+0.9	
CMAR	Chiang Mai Arr	94.64	289	P	P	03 52 17.9	+0.9	
	comp=Z,1.5nm,0.5s,baz=129,slow=3.0,SNR=15							
DLMT	Dillon	94.65	39	eP	P	03 52 16.2	-0.3	
	comp=Z,23nm,1.1s							
IMW	Indian Meadow	94.68	41	eP	P	03 52 16.2	-0.7	
	comp=Z,15nm,1.0s							
IMW				LR	LR			
	comp=Z,500nm,19.0s							
LOHW	Long Hollow	94.70	42	eP	P	03 52 16.0	-0.9	
	comp=Z,13nm,1.2s							
LOHW				LR	LR			
	comp=Z,400nm,19.0s							
MOOW	Moose Ponds	94.70	41	eP	P	03 52 16.2	-0.7	
	comp=Z,18nm,1.6s							
MOOW				LR	LR			
	comp=Z,400nm,20.0s							
BW06	Boulder Array	94.80	43	P	P	03 52 15.7	-1.7	
	baz=233							
BW06	Boulder Array	94.80	43	eP	P	03 52 16.1	-1.3	
	comp=Z,40nm,1.9s							
BW06				LR	LR			
	comp=Z,500nm,20.0s							
PD31	Pinedale Array	94.80	43	eP	P	03 52 16.1	-1.3	
PD31				ePKKPdf	PKKPdf	04 09 15.4	-0.1	
PDAR	Pinedale Array	94.80	43	P	P	03 52 15.7	-1.7	
	comp=Z,4.2nm,0.9s,baz=199,slow=3.8,SNR=18							
PDAR				PKKP	PKKPdf	04 09 15.4	-0.1	
	comp=Z,1.2nm,0.8s,baz=84,slow=4.6,SNR=9.3							
PDAR				LR	LR	04 29 24.4		
	comp=Z,442nm,18.9s,baz=245,slow=32							
MSO	Missoula	94.85	38	P	P	03 52 16.7	-0.7	
	baz=230							
MSO	Missoula	94.85	38	PFAKE		03 52 30.0	+13	
MSO				LR	LR			
	comp=Z,600nm,19.0s							
QLMT	Earthquake Lak	94.97	40	eP	P	03 52 18.3	+0.2	
YPP	Pitchstone Pla	94.98	41	eP	P	03 52 18.3	0.0	
	comp=Z,10.0nm,1.2s							
YPP				LR	LR			
	comp=Z,500nm,20.0s							
LRM	Limekiln Ridge	95.02	39	eP	P	03 52 17.7	-0.7	
YHB	Horse Butte	95.05	40	eP	P	03 52 18.7	+0.2	
	comp=Z,15nm,1.1s							
YHB				LR	LR			
	comp=Z,400nm,19.0s							
YFT	Old Faithful	95.07	41	eP	P	03 52 19.6	+0.9	
	comp=Z,13nm,1.0s							
YFT				LR	LR			
	comp=Z,600nm,20.0s							
YMR	Madison River	95.13	41	eP	P	03 52 18.9	0.0	
	comp=Z,27nm,1.1s							
YMR				LR	LR			
	comp=Z,400nm,19.0s							
H17A	Grant Village	95.19	41	P	P	03 52 19.5	+0.3	
	baz=233							
H17A	Grant Village	95.19	41	eP	P	03 52 20.0	+0.8	
	comp=Z,14nm,1.1s							
H17A				LR	LR			
	comp=Z,500nm,20.0s							
CHMT	Chamberlain Mo	95.27	38	eP	P	03 52 18.2	-1.3	
YHH	Holmes Hill	95.27	41	eP	P	03 52 19.6	0.0	
	comp=Z,25nm,1.3s							
YHH				LR	LR			
	comp=Z,400nm,20.0s							
Q24A	Divide	95.30	48	PFAKE		03 52 30.0	+10	
Q24A				LR	LR			
	comp=Z,400nm,18.0s							
YNR	Norris Junctio	95.32	41	eP	P	03 52 22.4	+2.6	
	comp=Z,13nm,1.2s							
YNR				LR	LR			
	comp=Z,300nm,20.0s							
BOZ	Bozeman (W)	95.33	40	P	P	03 52 18.7	-1.0	
	baz=232							
BOZ	Bozeman (W)	95.33	40	eP	P	03 52 18.9	-0.8	
BOZ				pmax	pmax			
	comp=Z,24nm,1.0s							
BOZ				MLR	MLR			
	comp=Z,400nm,20.0s							
BOZ	Bozeman (W)	95.33	40	eP	P	03 52 18.9	-0.8	
	comp=Z,24nm,1.0s							
BOZ				LR	LR			
	comp=Z,400nm,20.0s							
TRF	Thorofare Moun	95.34	11	eP	P	03 52 18.1	-1.2	
	comp=Z,33nm,1.6s							
TRF				LR	LR			
	comp=Z,401nm,20.0s							
LKWY	Lake	95.39	41	PFAKE		03 52 30.0	+10	
LKWY				LR	LR			
	comp=Z,800nm,18.0s							
ISCO	Idaho Springs	95.48	47	PFAKE		03 52 30.0	+9.3	
ISCO				LR	LR			
	comp=Z,300nm,19.0s							
RND	Reindeer	95.55	12	eP	P	03 52 19.4	-0.8	
RND				pmax	pmax			
	comp=Z,13nm,1.0s							
RND	Reindeer	95.55	12	eP	P	03 52 19.4	-0.8	
	comp=Z,13nm,1.0s							
RWWY	Rawlins	95.57	45	PFAKE		03 52 30.0	+9.0	
RWWY				LR	LR			
	comp=Z,300nm,19.0s							
ABTX	Abilene, Hawle	95.59	56	P	P	03 52 19.1	-2.0	
	baz=238							
ABTX	Abilene, Hawle	95.59	56	eP	P	03 52 20.4	-0.7	
	comp=Z,14nm,1.0s							
ABTX				LR	LR			
	comp=Z,500nm,18.0s							
PAX	Paxson	95.81	14	eP	P	03 52 20.3	-1.0	
PAX				pmax	pmax			
	comp=Z,22nm,1.8s							
PAX	Paxson	95.81	14	eP	P	03 52 20.3	-1.0	
	comp=Z,22nm,1.8s							
BPAW	Bear Paw Mtn.	95.83	11	PFAKE		03 52 30.0	+8.7	
BPAW				LR	LR			
	comp=Z,300nm,20.0s							
MCK	McKinley	95.84	12	eP	P	03 52 20.5	-0.9	
MCK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MCK	McKinley	95.84	12	eP	P	03 52 20.5	-0.9	
	comp=Z,8.9nm,0.9s							
SEY	Seymchan	95.87	346	P	P	03 52 20.8	-0.7	
	comp=Z,3.7nm,0.7s,baz=156,slow=5.2,SNR=6.1							
SEY				LR	LR	04 29 54.3		
	comp=Z,136nm,21.1s,baz=148,slow=32							
SEY	Seymchan	95.87	346	eP	P	03 52 21.8	+0.3	
HRY	Holter Researc	95.91	39	eP	P	03 52 21.7	-0.5	
RLMT	Red Lodge	96.37	41	P	P	03 52 23.9	-0.7	
	baz=234							
RLMT	Red Lodge	96.37	41	eP	P	03 52 24.1	-0.4	
	comp=Z,9.5nm,1.1s							
K22A	Casper	96.54	44	P	P	03 52 23.8	-1.5	
	baz=235							
K22A	Casper	96.54	44	eP	P	03 52 23.4	-1.9	
	comp=Z,15nm,1.0s							
K22A				LR	LR			
	comp=Z,400nm,20.0s							
WRH	Wood River Hil	96.67	12	eP	P	03 52 23.7	-1.3	
	comp=Z,9.6nm,0.9s							
HDA	Harding Lake	96.82	12	eP	P	03 52 22.5	-3.3	
	comp=Z,32nm,1.0s							
WHTX	Lake Whitney,	96.84	57	PFAKE		03 52 40.0	+13	
WHTX				LR	LR			
	comp=Z,500nm,18.0s							
CCB	Clear Creek Bu	96.88	12	eP	P	03 52 24.9	-1.2	
	comp=Z,4.4nm,0.8s							
LPAZ	La Paz	96.99	113	P	P	03 52 27.9	-0.6	
	comp=Z,2.4nm,0.8s,baz=256,slow=8.9,SNR=14							
LPAZ				LR	LR	04 28 46.6		
	comp=Z,120nm,18.8s,baz=251,slow=31							
LPAZ	La Paz	96.99	113	eP	P	03 52 29.3	+0.7	
LPAZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LPAZ	La Paz	96.99	113	eP	P	03 52 29.2	+0.7	
	comp=Z,3.0nm,0.8s							
MDM	Murphy Dome	97.09	12	eP	P	03 52 25.7	-1.3	
	comp=Z,9.1nm,1.1s							
CD2	Chengdu	97.09	301	eP	P	03 52 27.5	-0.4	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ILAR	Eielson Array	97.16	12	P	P	03 52 25.8	-1.5	
	comp=Z,3.8nm,0.9s,baz=222,slow=5.4,SNR=21							
ILAR				LR	LR	04 31 47.0		
	comp=Z,77nm,19.9s,baz=181,slow=33							
ILB	Eielson Array	97.16	12	eP	P	03 52 25.4	-1.9	
WMOK	Wichita Mounta	97.31	54	PFAKE		03 52 40.0	+11	
WMOK				LR	LR			
	comp=Z,300nm,20.0s							
EGMT	Eagleton	97.83	38	P	P	03 52 29.7	-1.2	
	baz=234							
EGMT	Eagleton	97.83	38	PFAKE		03 52 40.0	+9.1	
EGMT				LR	LR			
	comp=Z,600nm,20.0s							
OGNE	Ogallala	98.39	47	PFAKE		03 52 40.0	+6.4	
OGNE				LR	LR			
	comp=Z,400nm,18.0s							
BILL	Bilibino	98.54	353	eP	P	03 52 32.7	-0.8	
BILL				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,72nm,18.0s							
NATX	Nacogdoches	98.78	59	PFAKE		03 52 50.0	+15	
NATX				LR	LR			
	comp=Z,400nm,19.0s							
RSSD	Black Hills	98.86	44	Pdiff	P	03 52 34.2	-1.6	
	baz=237							
RSSD	Black Hills	98.86	44	eP	P	03 52 34.8	-1.0	
RSSD				pmax	pmax			
	comp=Z,17nm,1.0s							
RSSD				MLR	MLR			
	comp=Z,400nm,20.0s							
RSSD	Black Hills	98.86	44	eP	P	03 52 34.8	-1.0	
	comp=Z,17nm,1.0s							
RSSD				LR	LR			
	comp=Z,400nm,20.0s							
CPUP	Villa Florida	99.11	127	LR	LR	04 31 52.2		
	comp=Z,205nm,19.2s,baz=234,slow=32							
LZH	Lanzhou	99.63	306	eP	Pdif	03 52 41.3	+2.0	
LZH				pP	sP	03 52 49.6	-0.5	
LZH				sP	pP	03 52 54.3	+7.0	
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
TUL1	Leonard	100.01	54	PFAKE		03 52 50.0	+9.2	
TUL1				LR	LR			
	comp=Z,400nm,19.0s							
WLAR	White Oak Lake	100.86	57	PFAKE		03 53 00.0	+15	
WLAR				LR	LR			
	comp=Z,700nm,18.0s							
ROSC	El Rosal	102.78	92	PFAKE		03 53 10.0	+16	
ROSC				LR	LR			
	comp=Z,200nm,19.0s							
V42A	Cord	103.10	56	Pdiff	Pdif	03 52 53.5	-1.1	
	baz=243							
M36A	Felix, Anita	103.36	50	Pdiff	Pdif	03 52 55.0	-0.6	
	baz=242							
YKA	Yellowknife Ar	104.40	25	PKKPbc	PKKPbc	04 08 47.2	-0.7	
	comp=Z,0.8nm,0.7s,baz=40,slow=2.7,SNR=4.6							
YKB5	Yellowknife Ar	104.40	25	ePKKPbc	PKKPbc	04 08 47.2	-0.7	
AGMN	Agassiz Nation	105.87	43	PFAKE		03 57 30.0		
AGMN				LR	LR			
	comp=Z,500nm,19.0s							
G42A	Mountain	109.19	48	PKiKP	PKiKP	03 57 24.6	-0.7	
	baz=247							
M54A	Oil Creek Stat	113.78	55	PKiKP	PKiKP	03 57 34.3	+0.2	
	baz=250							
WMQ	Urumqi	114.10	308	PKP	PKPdf	03 57 33.8	-0.9	
WMQ				LR	LR			
	comp=Z,70nm,16.5s							
WMQ				LR	LR			
	comp=Z,70nm,18.1s							
WMQ				LR	LR			
	comp=Z,72nm,23.1s							
MVL	Millersville	115.67	57	PFAKE		03 57 50.0	+12	
MVL				LR	LR			
	comp=Z,1μm,19.0s							
SVB	Belmont	118.11	90	PFAKE		03 57 50.0	+6.8	
SVB				LR	LR			
	comp=Z,500nm,22.0s							
BOSA	Boshof	118.24	202	PKP	PKPdf	03 57 44.2	+0.8	

SABA				LR	LR		
	comp=Z,200nm,20.0s						
TRY	**Troy**	**118.40**	**55**	PFAKE		03 57 50.0	+7.1
TRY				LR	LR		
	comp=Z,1μm,18.0s						
YLE	**Yale**	**118.54**	**57**	PFAKE		03 57 50.0	+6.8
YLE				LR	LR		
	comp=Z,1μm,22.0s						
MK31	**Makanchi Array**	**118.60 310**		*e*PKIKP	**PKPdf**	**03 57 42.6**	**-0.6**
MK31	**Makanchi Array**	**118.60 310**		*e*PKIKP	**PKPdf**	**03 57 42.6**	**-0.6**
MK32	**Makanchi Array**	**118.60 310**		*e*PKPdf	**PKPdf**	**03 57 42.5**	**-0.7**
MKAR	**Makanchi Array**	**118.60 310**		PKP	**PKPdf**	**03 57 42.5**	**-0.7**
	comp=Z,6.0nm,0.9s,baz=65,slow=3.2,SNR=19						
ZAA0	**Zalesovo Array**	**118.66 318**		*e*PKPdf	**PKPdf**	**03 57 42.1**	**-1.0**
ZALV	**Zalesovo Beam**	**118.66 318**		PKP	**PKPdf**	**03 57 41.8**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=132,slow=2.1,SNR=9.7						
ZAA1	**Zalesovo Array**	**118.67 318**		*e*PKPdf	**PKPdf**	**03 57 41.8**	**-1.3**
MAKZ	**Makanchi**	**118.81 310**		*e*PKIKP	**PKPdf**	**03 57 42.9**	**-0.7**
MAKZ	**Makanchi**	**118.81 310**		*e*PKPdf	**PKPdf**	**03 57 42.9**	**-0.7**
HNH	**Hanover**	**119.63**	**54**	PFAKE		03 58 00.0	+15
HNH				LR	LR		
	comp=Z,800nm,18.0s						
BRYW	**Bryant College**	**119.71**	**56**	PFAKE		03 58 00.0	+14
BRYW				LR	LR		
	comp=Z,900nm,18.0s						
NVS	**Novosibirsk**	**119.75 319**		*e*PKIKP	**PKPdf**	**03 57 43.9**	**-1.2**
NVS				pmax	pmax		
	comp=Z,13nm,1.2s						
KSH	**Kashi**	**121.27 300**		PKP	**PKPdf**	**03 57 49.3**	**+0.6**
KSH				sPKP		03 58 03.3	
KSH				PP	**PP**	**03 59 26.3**	**+6.3**
KSH				PKS	**PKSdf**	**04 01 24.4**	**-1.1**
KSH				SKS	**SKSdf**	**04 04 56.5**	**-2.8**
KSH				SKKS	**SKKSac**	**04 06 15.1**	**-2.6**
KSH				SS	**SS**	**04 15 57.5**	**+4.6**
KSH				AMB	AMB		
	comp=Z,160nm,6.1s						
KSH				LR	LR		
	comp=Z,210nm,6.7s						
KSH				LR	LR		
	comp=Z,200nm,6.9s						
KSH				LR	LR		
	comp=Z,200nm,7.0s						
KURK	**Kurchatov**	**121.79 314**	⇑	*i*PKIKP	**PKPdf**	**03 57 48.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,97nm,1.7s						
KURK	**Kurchatov**	**121.79 314**	⇑	*e*PKPdf	**PKPdf**	**03 57 48.2**	**-1.0**
AAK	**Ala-Archa**	**123.08 304**	⇑	*i*PKIKP	**PKPdf**	**03 57 52.5**	**+0.3**
AAK	**Ala-Archa**	**123.08 304**		*e*PKPdf	**PKPdf**	**03 57 52.3**	**+0.1**
GGN	**Saint George**	**123.74**	**53**	PFAKE		03 58 00.0	+6.9
GGN				LR	LR		
	comp=Z,400nm,19.0s						
LMN	**Caledonia Moun**	**125.27**	**53**	PFAKE		03 58 10.0	+14
LMN				LR	LR		
	comp=Z,400nm,21.0s						
KBL	**Kabul**	**125.39 293**		*e*PKIKP	**PKPdf**	**03 57 57.8**	**+0.9**
KBL	**Kabul**	**125.39 293**		*e*PKPdf	**PKPdf**	**03 57 57.8**	**+0.9**
KKAR	**Karatay Array**	**126.04 304**		*e*PKIKP	**PKPdf**	**03 57 57.6**	**-0.1**
KKAR	**Karatay Array**	**126.04 304**		*e*PKPdf	**PKPdf**	**03 57 57.6**	**-0.1**
BRVK	**Borovoye**	**127.16 316**	⇑	*i*PKIKP	**PKPdf**	**03 57 59.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,67nm,1.7s						
BRVK	**Borovoye**	**127.16 316**		*e*PKPdf	**PKPdf**	**03 57 58.8**	**-0.6**
LSZ	**Lusaka**	**129.22 211**		*e*PKIKP	**PKPdf**	**03 58 06.3**	**+1.6**
LSZ	**Lusaka**	**129.22 211**		*e*PKPdf	**PKPdf**	**03 58 06.3**	**+1.6**
ARU	**Arti**	**133.66 321**		*i* PKIKP	**PKPdf**	**03 58 10.5**	**-1.1**
ABKAR	**Akbulak array**	**133.72 311**		*e*PKPdf	**PKPdf**	**03 58 12.6**	**+0.6**
GEYT	**Alibeck**	**134.69 295**		PKP	**PKPdf**	**03 58 14.2**	**0.0**
	comp=Z,7.6nm,0.9s,baz=207,slow=0.3,SNR=8.2						
KMBO	**Kilima Mbogo**	**135.52 232**		PKP	**PKPdf**	**03 58 17.2**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=35,slow=1.8,SNR=9.3						
KMBO	**Kilima Mbogo**	**135.52 232**		PKIKP	**PKPdf**	**03 58 17.3**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARA0	**ARCESS Array S**	**138.44 349**		*e*PKPdf	**PKPdf**	**03 58 18.1**	**-2.1**
ARCES	**ARCESS Array B**	**138.44 349**		PKP	**PKPdf**	**03 58 18.1**	**-2.1**
	comp=Z,4.9nm,0.8s,baz=350,slow=4.8,SNR=7.3						
KLMR	**Klimovskoe**	**141.03 333**		*e*PKHKP	PKPpre	03 58 19.7	
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s						
RAYN	**Ar Rayn**	**142.27 270**		*e*PKPdf	**PKPdf**	**03 58 26.7**	**-1.9**
DGRG	**David-gareji**	**144.57 300**		P	**PKPdf**	**03 58 32.7**	**+0.7**
DGRG	**David-gareji**	**144.57 300**		PKIKP	**PKPdf**	**03 58 32.7**	**+0.7**
MOS	**Moscow**	**144.77 327**		*e*PKHKP	PKPpre	03 58 28.0	
MOS				pmax	pmax		
	comp=Z,78nm,1.4s						
SEAG	**Tbilisi Sea**	**144.96 301**		P	**PKPdf**	**03 58 33.2**	**+0.5**
TBLG	**Delisi**	**145.01 301**		P	**PKPdf**	**03 58 33.6**	**+0.8**
TBLG	**Delisi**	**145.01 301**		PKIKP	**PKPdf**	**03 58 33.6**	**+0.8**
GUDG	**Gudauri**	**145.12 302**		P	**PKPdf**	**03 58 34.4**	**+1.1**
GNI	**Garni**	**145.15 298**	⇓	*i*PKIKP	**PKPdf**	**03 58 33.3**	**0.0**
GNI				pmax	pmax		
	comp=Z,279nm,1.7s						
GNI	**Garni**	**145.15 298**		*e*PKPbc	**PKPdf**	**03 58 34.0**	**+0.8**
FIA1	**FINESS Array S**	**145.20 341**		*e*PKPbc	**PKPbc**	**03 58 31.3**	**-0.7**
FIA0	**FINESS Array S**	**145.20 341**		*e*PKIKP	**PKPbc**	**03 58 31.0**	**-1.1**
FIA0	**FINESS Array S**	**145.20 341**		*e*PKPbc	**PKPbc**	**03 58 31.0**	**-1.1**
FINES	**FINESS Array B**	**145.20 341**		PKPbc	**PKPbc**	**03 58 31.0**	**-1.1**
	comp=Z,37nm,0.9s,baz=63,slow=3.2,SNR=67						
FINES	**FINESS Array B**	**145.20 341**		PKIKP	**PKPbc**	**03 58 31.0**	**-1.1**
FINES				pmax	pmax		
	comp=Z,37nm,0.9s						
KZR	**Kazreti**	**145.29 300**		P	**PKPdf**	**03 58 36.6**	**+3.3**
ZEI	**Tsey**	**145.49 303**		*i* PKP2	**PKPdf**	**03 58 31.9**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,29nm,0.8s						
OBN	**Obninsk**	**145.61 326**		*d* /PKIKP	**PKPdf**	**03 58 33.1**	**-0.2**
OBN				*i*		03 58 37.7	
OBN				pmax	pmax		
	comp=Z,273nm,1.8s						
OBN				pmax	pmax		
	comp=Z,113nm,1.3s						
OBN	**Obninsk**	**145.61 326**		*e*PKPdf	**PKPdf**	**03 58 32.7**	**-0.6**
GOF	**Gofitskoye**	**145.69 307**	⇓	*i*PKP2	**PKPab**	**03 58 34.7**	**+0.1**
GOF				pmax	pmax		
	comp=Z,91nm,0.9s						
ONI	**Oni**	**145.85 303**		P	**PKPbc**	**03 58 34.7**	**-0.2**
ONI	**Oni**	**145.85 303**		PKP2	**PKPbc**	**03 58 34.7**	**-0.2**
AKH	**Akhalkalaki**	**145.98 301**		P	**PKPab**	**03 58 37.3**	**+1.3**
AKH	**Akhalkalaki**	**145.98 301**	⇑	*i*P	**PKPab**	**03 58 36.9**	**+0.9**
AKH	**Akhalkalaki**	**145.98 301**		PKP2	**PKPab**	**03 58 37.3**	**+1.3**
KBZ	**Khabaz**	**146.06 305**		PKPbc	**PKPbc**	**03 58 35.5**	**+0.2**
	comp=Z,12nm,0.8s,baz=118,slow=2.4,SNR=12						
KIV	**Kislovodsk**	**146.17 305**		*i* PKP2	**PKPbc**	**03 58 36.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV	**Kislovodsk**	**146.17 305**		*e*PKPdf	**PKPbc**	**03 58 35.8**	**-0.1**
ARTV	**Artvin**	**147.18 300**		*e*PKPbc	**PKPab**	**03 58 40.1**	**-0.6**
VSU	**Vasula**	**147.38 338**		*d* PKP2	**PKPbc**	**03 58 38.5**	**-0.2**
VSU				pmax	pmax		
	comp=Z,324nm,1.7s						
NC303	**NORSAR Array S**	**148.30 353**		*e*PKPbc	**PKPbc**	**03 58 40.6**	**-0.5**
NC405	**NORSAR Array S**	**148.37 353**		*e*PKPbc	**PKPbc**	**03 58 40.6**	**-0.6**
MARD	**Mardin**	**148.41 293**		*e*PKPbc	**PKPbc**	**03 58 43.2**	**+0.9**
NB2	**NORSAR Subarra**	**148.50 353**		PKP	**PKPbc**	**03 58 40.3**	**-1.4**
	comp=Z,24nm,0.8s,baz=8.2,slow=2.8						
NB2	**NORSAR Subarra**	**148.50 353**		PKP	**PKPbc**	**03 58 40.3**	**-1.4**
	baz=8.2,slow=2.8						
NB200	**NORSAR Array S**	**148.50 353**		*e*PKPbc	**PKPbc**	**03 58 40.5**	**-1.1**
NOA	**NORSAR Array B**	**148.50 353**		PKPbc	**PKPbc**	**03 58 40.5**	**-1.1**
	comp=Z,16nm,0.8s,baz=13,slow=4.4,SNR=21						
NBO00	**NORSAR Array S**	**148.55 353**		*e*PKPbc	**PKPbc**	**03 58 41.3**	**-0.5**
NAO01	**NORSAR Array S**	**148.72 353**		*e*PKPbc	**PKPbc**	**03 58 41.7**	**-0.5**
KSRV	**Kasrt alli**	**149.88 291**		*e*P	**PKPbc**	**03 58 46.5**	**+0.6**
MICGM	**Minsk**	**149.90 332**		*e*	**PKPbc**	**03 58 44.0**	**-1.3**
MNK	**Minsk**	**149.90 332**		*e*PKHKP	PKPpre	03 58 44.0	
KONO	**Kongsberg**	**150.02 354**		*d* /PKHKP	PKPpre	03 58 42.6	
ROOS	**tl_alroos**	**151.29 287**		*e*P	**PKPbc**	**03 58 50.2**	**+0.8**
RABH	**Abou Rabah**	**151.36 288**		*e*P	**PKPbc**	**03 58 53.4**	**+3.8**
TOKA	**Tokat**	**151.40 300**		PFAKE		03 58 50.0	+0.6
TOKA				LR	LR		
	comp=Z,100nm,20.0s						
KFRA	**Kufra**	**151.69 289**		*e*P	**PKPdf**	**03 58 46.4**	**+2.4**
DRWC	**Darouich**	**151.73 292**		*e*P	**PKPbc**	**03 58 51.0**	**+0.7**
SIM	**Simferopol'**	**151.78 310**		*i* PKIKP	**PKPbc**	**03 58 50.5**	**+0.4**
SIM				pmax	pmax		
	comp=Z,26nm,0.8s						
AKASG	**Malin Array Be**	**151.80 325**		PKPbc	**PKPbc**	**03 58 48.6**	**-1.3**
	comp=Z,23nm,0.9s,baz=45,slow=2.8,SNR=43						
AKBB	**Malin Array Si**	**151.80 325**		*e*PKIKP	**PKPbc**	**03 58 49.3**	**-0.6**
AKBB	**Malin Array Si**	**151.80 325**		*e*PKPbc	**PKPbc**	**03 58 49.3**	**-0.6**
KIEV	**Kiev**	**151.81 325**		*e*PKIKP	**PKPbc**	**03 58 48.6**	**-1.3**
KIEV	**Kiev**	**151.81 325**		*e*PKPbc	**PKPbc**	**03 58 48.6**	**-1.3**
BTCH	**Batrach**	**151.94 291**		*e*P	**PKPbc**	**03 58 50.7**	**-0.1**
MARH	**Ras Al Marh**	**151.96 287**		*e*P	**PKPbc**	**03 58 52.2**	**+1.0**
TOTH	**TOTAH**	**151.99 286**		*e*P	**PKPbc**	**03 58 51.4**	**+0.4**
HAWK	**Haweek**	**152.03 288**		*e*P	**PKPbc**	**03 58 52.1**	**+1.0**
BIDA	**Albida**	**152.09 289**		*e*P	**PKPbc**	**03 58 50.9**	**-0.3**
ARNB	**Al Arnab**	**152.34 291**		*e*P	**PKPbc**	**03 58 52.0**	**+0.3**
BRBR	**Barbar**	**152.39 286**		*e*P	**PKPbc**	**03 58 50.5**	**-1.6**
BR101	**Keskin Array S**	**153.66 300**		*e*PKPbc	**PKPbc**	**03 58 54.6**	**0.0**
BR131	**Keskin Array S**	**153.66 300**		*e*PKPbc	**PKPbc**	**03 58 54.6**	**0.0**
BRTR	**Keskin Array B**	**153.66 300**		PKPbc	**PKPbc**	**03 58 54.6**	**0.0**
	comp=Z,5.1nm,1.0s,baz=116,slow=2.9,SNR=15						
SORM	**Soroca**	**153.78 321**	⇓	*i*P	**PKPbc**	**03 58 54.0**	**-0.3**
SORM	**Soroca**	**153.78 321**	⇓	PKIKP	**PKPbc**	**03 58 54.0**	**-0.3**
ANTO	**Ankara**	**154.26 300**		*e*PKIKP	**PKPbc**	**03 58 56.4**	**+0.6**
ANTO	**Ankara**	**154.26 300**		*e*PKPbc	**PKPbc**	**03 58 56.4**	**+0.6**
CSS	**Mathiatis**	**154.54 289**		*e*PKPab	**PKPab**	**03 59 12.7**	**+1.6**
LVV	**L'vov**	**154.89 328**		*e*PKP2	**PKPab**	**03 59 12.3**	**+0.3**
LIC	**Lamto**	**155.02 159**		*e*PKP1	**PKPdf**	**03 58 48.8**	**-0.5**
	comp=Z,49nm,1.3s						
LIC	**Lamto**	**155.02 159**		*e*PKP2	**PKPab**	**03 59 14.1**	**+0.7**
	comp=Z,62nm,1.1s						
KIC	**Kosan Boka**	**155.24 160**		*e*PKP1	**PKPdf**	**03 58 48.1**	**-1.5**
	comp=Z,34nm,1.3s						
KIC	**Kosan Boka**	**155.24 160**		*e*PKP2	**PKPab**	**03 59 15.2**	**+0.8**
	comp=Z,125nm,1.6s						
TIC	**Toumodi**	**155.42 159**		*e*PKP1	**PKPdf**	**03 58 48.6**	**-1.3**
TIC	**Toumodi**	**155.42 159**		*e*PKP2	**PKPab**	**03 59 15.8**	**+0.6**
DBIC	**Dimbokro**	**155.50 159**		PKPbc	PKPbc	03 58 59.5	
	comp=Z,5.7nm,1.0s,baz=180,slow=6.6,SNR=3.3						
BUR08	**Bucovina Ar. S**	**155.77 323**		*e*PKPab	**PKPab**	**03 59 16.1**	**+0.1**
BURAR	**Bucovina Array**	**155.78 323**	⇑	*i*P	**PKPab**	**03 59 16.3**	**+0.3**
BURAR	**Bucovina Array**	**155.78 323**	⇑	PKP2	**PKPab**	**03 59 16.3**	**+0.3**
BOLV	**Bolvadin**	**155.91 299**		PFAKE		03 59 00.0	+10
BOLV				LR	LR		
	comp=Z,200nm,19.0s						
VRI	**Vrincioaia**	**155.98 318**	⇓	*i*P	**PKPab**	**03 59 13.6**	**-3.2**
VRI	**Vrincioaia**	**155.98 318**	⇓	PKP2	**PKPab**	**03 59 13.6**	**-3.2**
PLOR	**Plostina**	**156.03 318**	⇓	*i*P	**PKPab**	**03 59 17.6**	**+0.5**
PLOR	**Plostina**	**156.03 318**	⇓	PKP2	**PKPab**	**03 59 17.6**	**+0.5**
UZH	**Uzhgorod**	**156.54 328**		*e*PKP2	**PKPab**	**03 59 16.9**	**-2.2**
DOPR	**Dopca**	**156.69 319**	⇑	*i*P	**PKPab**	**03 59 20.6**	**+0.7**
CRVS	**Cervenica-Dubn**	**156.71 329**		*e*PKP2	**PKPab**	**03 59 19.4**	**-0.5**
CRVS	**Cervenica-Dubn**	**156.71 329**		*e*PKP	**PKPab**	**03 59 19.4**	**-0.5**
VOIR		**157.19 319**	⇑	*i*P	**PKPab**	**03 59 20.3**	**-1.9**
VOIR		**157.19 319**	⇑	PKP2	**PKPab**	**03 59 20.3**	**-1.9**
OKC	**Ostrava-Krasne**	**157.32 335**		*e*PKPAB	**PKPab**	**03 59 22.3**	**-0.1**
OKC	**Ostrava-Krasne**	**157.32 335**		*e*PKP2	**PKPab**	**03 59 22.3**	**-0.1**
KECS	**Kecovo**	**157.46 330**		*e*PKP2	**PKPab**	**03 59 22.7**	**-0.4**
KECS	**Kecovo**	**157.46 330**		*e*PKP	**PKPab**	**03 59 22.7**	**-0.4**
ARR	**Arges**	**157.47 319**	⇑	*i*P	**PKPab**	**03 59 24.0**	**+0.7**
DPC	**Dobruska-Polom**	**157.50 339**		*e*PKPAB	**PKPab**	**03 59 23.1**	**-0.1**
DPC	**Dobruska-Polom**	**157.50 339**		*e*PKP2	**PKPab**	**03 59 23.1**	**-0.1**
CLL	**Collm**	**157.55 345**		*i* PKP2	**PKPab**	**03 59 23.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,14nm,1.0s						
CLL	**Collm**	**157.55 345**		*i* PKPab	**PKPab**	**03 59 23.0**	**-0.3**
	comp=Z,14nm,1.0s						
CLL				*i*		03 59 25.4	
CLL	**Collm**	**157.55 345**		*e*PKPab	**PKPab**	**03 59 21.7**	**-1.6**
DRGR		**157.61 324**	⇓	*i*P	**PKPab**	**03 59 23.9**	**0.0**
DRGR		**157.61 324**	⇓	PKP2	**PKPab**	**03 59 23.9**	**0.0**
BRG	**Berggiesshubel**	**157.72 343**		*e*PKP	**PKPab**	**03 59 23.3**	**-0.8**
	comp=Z,14nm,1.3s						
BRG	**Berggiesshubel**	**157.72 343**		*e*PKP2	**PKPab**	**03 59 23.3**	**-0.8**
BRG				pmax	pmax		
	comp=Z,14nm,1.3s						
PVCC	**Panska Ves**	**157.87 341**		*e*PKPAB	**PKPab**	**03 59 24.4**	**-0.3**
PVCC	**Panska Ves**	**157.87 341**		*e*PKP2	**PKPab**	**03 59 24.4**	**-0.3**
LOT	**Lotru**	**157.91 320**	⇑	*i*P	**PKPab**	**03 59 24.8**	**-0.5**
VYHS	**Vyhne**	**158.14 332**		*e*PKP2	**PKPab**	**03 59 25.7**	**-0.3**
VYHS	**Vyhne**	**158.14 332**		*e*PKP	**PKPab**	**03 59 25.6**	**-0.4**
PSZ	**Piszkesteto**	**158.14 330**	⇑	*i*P	**PKPab**	**03 59 25.9**	**-0.2**
PSZ	**Piszkesteto**	**158.14 330**	⇑	PKP2	**PKPab**	**03 59 25.9**	**-0.2**
PSZ	**Piszkesteto**	**158.14 330**		*e*PKPab	**PKPab**	**03 59 25.8**	**-0.4**
GOPC	**GO Pecny, Ondr**	**158.36 340**		*e*PKPAB	**PKPab**	**03 59 26.3**	**-0.6**
GOPC	**GO Pecny, Ondr**	**158.36 340**		*e*PKP2	**PKPab**	**03 59 26.3**	**-0.6**
PRU	**Pruhonice**	**158.36 341**		*e*PKPAB	**PKPab**	**03 59 26.2**	**-0.7**
PRU	**Pruhonice**	**158.36 341**		*e*PKP2	**PKPab**	**03 59 26.2**	**-0.7**
NKC	**Novy Kostel**	**158.68 344**		*e*PKPAB	**PKPab**	**03 59 27.7**	**-0.6**
NKC	**Novy Kostel**	**158.68 344**		*e*PKP2	**PKPab**	**03 59 27.7**	**-0.6**
KHC	**Kasperske Hory**	**159.41 341**		*e*PKPAB	**PKPab**	**03 59 30.9**	**-0.6**
KHC	**Kasperske Hory**	**159.41 341**		*e*PKP2	**PKPab**	**03 59 31.3**	**-0.2**
KHC	**Kasperske Hory**	**159.41 341**		*e*PKPab	**PKPab**	**03 59 31.3**	**-0.2**
MDVR	**Moldovita**	**159.46 321**	⇑	*i*P	**PKPab**	**03 59 31.7**	**-0.3**
GEC2	**GERESS Array S**	**159.63 341**		*e*PKIKP	**PKPdf**	**03 58 52.9**	**-1.2**
GEC2				*e*		03 59 31.3	
GEC2	**GERESS Array S**	**159.63 341**		*e*PKPdf	**PKPdf**	**03 58 52.9**	**-1.2**
GEC2				*e*PKPab	**PKPab**	**03 59 31.3**	**-1.3**
GERES	**GERESS Array B**	**159.63 341**		PKP	**PKPdf**	**03 58 52.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=338,slow=0.7,SNR=4.0						
GERES				PKPab	**PKPab**	**03 59 31.3**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=24,slow=4.5,SNR=8.4						
VTS	**Vitosha**	**159.88 314**	⇑	*i*P	**PKPab**	**03 59 35.0**	**+1.0**
VTS	**Vitosha**	**159.88 314**	⇑	PKP2	**PKPab**	**03 59 35.0**	**+1.0**
VTS	**Vitosha**	**159.88 314**		*e*PKPab	**PKPab**	**03 59 34.7**	**0.7**
MOA	**Molln**	**160.35 338**		*i* PKPab	**PKPab**	**03 59 36.0**	**+0.4**
	comp=Z,8.6nm,1.2s						
IDI	**Anoyia**	**161.38 292**		*e*PKPab	**PKPab**	**03 59 42.1**	**+1.4**
ABTA	**Abfaltersbach**	**161.87 340**		PKPab	**PKPab**	**03 59 41.7**	**-0.6**
	comp=Z,8.2nm,1.0s						
DAVA	**Damuels**	**162.03 346**		*e*PKPab	**PKPab**	**03 59 40.0**	**-3.2**
	comp=Z,11nm,1.6s						
FUORN	**Ofenpass-Fuorn**	**162.58 345**		*e*PKPab	**PKPab**	**03 59 45.5**	**-0.2**
TOA0	**Torodi Ar. Sit**	**163.19 173**		*e*PKPdf	**PKPdf**	**03 58 59.0**	**+0.3**
TOA0				*e*PKPab	**PKPab**	**03 59 50.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**163.19 173**		PKP	**PKPdf**	**03 58 58.5**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=309,slow=0.5,SNR=13						
TORD				PKPab	**PKPab**	**03 59 49.9**	**+1.2**
	comp=Z,39nm,0.8s,baz=185,slow=4.2,SNR=95						
TORD				PP	PP	04 03 44.0	+12
	comp=Z,2.1nm,1.1s,baz=165,slow=5.1,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**163.19 173**		*e*PKPdf	**PKPdf**	**03 58 58.5**	**-0.2**
TOA1				*e*PKPab	**PKPab**	**03 59 49.9**	**+1.2**
TOA1				*e*PP	PP	04 03 44.0	+12
SENIN	**Lac Senin/Sane**	**163.36 351**		*e*PKPab	**PKPab**	**03 59 48.7**	**-0.3**
ESDC	**Sonseca Array**	**168.43 31**		PKPab	**PKPab**	**04 00 09.6**	**-1.8**
	comp=Z,3.1nm,0.9s,baz=316,slow=4.6,SNR=12						
TAM	**Tamanrasset**	**172.70 193**		*e*PKP2	**PKPab**	**04 00 33.4**	**+2.6**
TAM	**Tamanrasset**	**172.70 193**		*e*PKPdf	**PKPdf**	**03 59 05.8**	**+0.5**
TAM				*e*PKPab	**PKPab**	**04 00 33.4**	**+2.6**
IKP	**In-Ko-Pah, Jac**	**2.85 317**		*e*P	**Pb**	**03 46 34.5**	**-0.8**
HSIG		**2.92 121**		*e*P	**Pb**	**03 46 36.6**	**+0.1**
HSIG				*e*S	**Sb**	**03 47 11.7**	**-0.5**
CBX	**Cerro Bola**	**3.00 306**		*e*P	**Pg**	**03 46 43.7**	**+2.0**
CBX	**Cerro Bola**	**3.00 306**		*e*P	**Pb**	**03 46 37.1**	**-0.8**
CBX				IAML		03 47 44.8	
	comp=N,432nm,1.1s						
BAR	**Barrett**	**3.22 311**		*e*P	**Pb**	**03 46 40.0**	**-1.6**
GUYB	**Guaymas**	**3.70 136**		*e*P	**Pb**	**03 46 48.6**	**-1.0**

ROM 20 03:43:03.3±0.1, 42°.53N×13°.17E, h10km, Md1.8/3, Ml1.4/3, Error ellipse: s-maj=0.8km s-min=0.4km az=92.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**308**	Pg	Pg	03 43 06.8	+0.5
LNSS				Sg	Sg	03 43 09.1	+0.7
	117nm,0.2s						
SMA1	**SAN MARTINO**	**0.16**	**51**	Pg	Pg	03 43 07.6	+0.7
SMA1				Sg	Sg	03 43 10.4	+1.0
	112nm,0.2s						
FIAM	**Fiamignano**	**0.26**	**188**	Pg	Pg	03 43 09.4	+0.7
FIAM				Sg	Sb	03 43 13.9	-0.9
	29nm,0.2s						

ECX ***20*** *03:45:49.2±0.4, 30°.62N×114°.04W, h8km, MD3.6, ML3.7, Fault plane solution: NP1,φs30.00000°, δ90.00000°, λ0.00000°.*
MEX ***20*** *03:45:50.7±0.6, 30°.24N×114°.17W, h10km, MD4.0*

ISC 20 03:45:44.3±1.0, 30°.6N±0°.1×113°.80W±0°.09, h10km, n12, σ1s09/13, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**1.40**	**310**	⇓ *e*P	**Pn**	**03 46 10.0**	**+0.2**
SPX	**San Pedro Mart**	**1.51**	**288**	⇑ *e*P	**Pb**	**03 46 12.1**	**-0.5**
SPX				IAML		03 46 43.4	
	comp=N,669nm,1.2s						
SPX				⇑ *e*		03 46 43.4	
SPIG	**San Pedro Mart**	**1.51**	**288**	*e*P	**Pn**	**03 46 12.0**	**+0.3**
SPIG				*e*S	**Sn**	**03 46 30.3**	**-1.3**
SPIG	**San Pedro Mart**	**1.51**	**288**	⇑ *e*P	**Pn**	**03 46 12.0**	**+0.3**
MBIG	**Mexicali**	**2.18**	**327**	*e*P	**Pg**	**03 46 26.9**	**+0.9**
CPBX	**Cerro Prieto**	**2.24**	**325**	IAML		03 47 38.1	
	comp=N,1μm,0.7s						
CPBX				⇓ *e*		03 47 38.1	
CPBX				⇓ *e*		03 48 14.4	
CPBX				IAML		03 48 14.4	
	comp=E,1μm,1.2s						

NEIC 20 04:17:33.4±0.0, 19°.30N×155°.22W, h10km, ML3.7(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**4**	*e*Pg	Pg	04 17 35.5	-0.2
PUH				*e*Sg	Sg	04 17 36.8	-0.6
HLP	**Hilina Pali**	**0.08**	**264**	*e*Pg	Pg	04 17 36.2	+0.4
HLP				*e*Sg	Sg	04 17 37.9	+0.3
KKO	**Keanakako'i**	**0.10**	**336**	*e*Pg	Pg	04 17 36.3	+0.1
KKO				*e*Sg	Sg	04 17 38.0	-0.1
RIM	**Rim**	**0.10**	**331**	*e*Pg	Pg	04 17 36.3	+0.1
RIM				*e*Sg	Sg	04 17 38.1	-0.1
SDHHI	**Sand Hill**	**0.11**	**321**	*e*Pg	Pg	04 17 36.3	+0.1
SDHHI				*e*Sg	Sg	04 17 38.1	-0.2
BYL	**Byron's Ledge**	**0.11**	**341**	*e*Pg	Pg	04 17 36.4	+0.1
BYL				*e*Sg	Sg	04 17 38.0	-0.3
NPH	**North Pit**	**0.12**	**332**	*e*Pg	Pg	04 17 36.5	0.0
NPH				*e*Sg	Sg	04 17 37.8	-0.8
STCH	**Steam Cracks**	**0.12**	**48**	*e*Pg	Pg	04 17 36.3	-0.1
HATHI	**Halema'uma'u T**	**0.12**	**342**	*e*

LAY				S		Sb	04 42 03.5 +3.6
	baz=86						
TSEB	**Hengchuen, Pin**	**0.40**	**235**	⇓*i*P		**Pg**	**04 41 56.7 +0.4**
TSEB	baz=241			*i* S		**Sg**	**04 42 02.0 +0.3**
	baz=241						
TAW	**Tawu**	**0.40**	**304**	⇑*i*P		**Pg**	**04 41 56.9 +0.6**
TAW	baz=322			*i* S		**Sg**	**04 42 02.2 +0.5**
	baz=322						
EAST	**Anshuo**	**0.45**	**304**	⇑*i*P		**Pg**	**04 41 57.6 +0.4**
EAST	baz=326			S		**Sg**	**04 42 03.3 0.0**
	baz=326						
TWK1	**Hengchun**	**0.46**	**246**	⇓*i*P		**Pg**	**04 41 56.8 -0.5**
TWK1	baz=251			*i* S		**Sg**	**04 42 02.0 -1.4**
	baz=251						
HEN	**Hengchun**	**0.49**	**256**	P		**Pg**	**04 41 57.6 -0.4**
HEN	baz=256			*i* S		**Sg**	**04 42 03.5 -1.1**
	baz=256						
ECL	**Taimali**	**0.54**	**329**	⇑P		**Pg**	**04 41 59.2 +0.3**
ECL	baz=344			*e*S		**Sg**	**04 42 05.9 -0.2**
	baz=344						
TTN	**Taitung**	**0.63**	**351**	*e*P		**Pn**	**04 42 02.2 -0.5**
TTN	baz=349			*e*S		**Sn**	**04 42 12.3 -0.3**
	baz=349						
SCZT	**Fangliau**	**0.64**	**292**	⇑*i*P		**Pg**	**04 42 00.3 -0.3**
SCZT	baz=301			S		**Sg**	**04 42 07.5 -1.6**
	baz=301						
TWG	**Pinlang**	**0.71**	**346**	*e*P		**Pg**	**04 42 01.9 -0.1**
TWG	baz=357			*e*S		**Sg**	**04 42 10.7 -0.7**
	baz=357						
SSD	**Sandimen**	**0.84**	**317**	*e*P		**Pg**	**04 42 04.0 -0.6**
TWP	**Hsiaoliuchiu**	**0.85**	**285**	⇑P		**Pb**	**04 42 06.0 +1.2**
	baz=303						
SGLT	**Jiouru**	**0.92**	**310**	*e*P		**Pg**	**04 42 06.3 +0.3**
	baz=325						
CHKT	**Chengkung**	**0.97**	**6**	*e*P		**Pg**	**04 42 06.5 -0.5**
CHKT	baz=3.0			*e*S		**Sn**	**04 42 20.2 -0.8**
	baz=3.0						
KAU	**Kaohsiung**	**0.98**	**297**	*e*P		**Pn**	**04 42 08.5 +1.0**
	baz=302						
ELDTW	**Lidau**	**1.08**	**348**	*e*P		**Pn**	**04 42 10.1 +1.2**
	baz=5.0						
STYT	**Tauyuan**	**1.13**	**336**	*e*P		**Pg**	**04 42 10.4 +0.5**
	baz=346						
SGST	**Jiashian**	**1.13**	**327**	*e*P		**Pg**	**04 42 10.7 +0.7**
SGST	baz=333			*e*S		**Sn**	**04 42 26.6 +1.6**
	baz=333						
TWF1	**Yuli**	**1.22**	**2**	*e*P		**Pn**	**04 42 09.5 -1.4**
	baz=359						
CHN3	**Shinhua**	**1.25**	**319**	*e*P		**Pg**	**04 42 12.6 +0.3**
	baz=324						
WTP	**Ta-pu**	**1.26**	**332**	P		**Pg**	**04 42 12.5 +0.1**
WTP	baz=338			*e*S		**Sg**	**04 42 29.7 +0.8**
	baz=338						
TWK	**Hsinying**	**1.33**	**328**	P		**Pn**	**04 42 13.3 +0.9**
TWK	baz=333			*e*S		**Sn**	**04 42 31.1 +1.1**
	baz=333						
CHN4	**Tsaushan**	**1.36**	**333**	P		**Pb**	**04 42 14.0 +0.6**
CHN4	baz=323			S		**Sg**	**04 42 32.7 +0.6**
	baz=323						
EHY	**Hungye**	**1.37**	**3**	*e*P		**Pg**	**04 42 15.0 +0.4**
	baz=8.0						
YUS	**Yu-Shan**	**1.38**	**348**	*e*P		**Pg**	**04 42 15.2 +0.3**
	baz=2.0						
ALS	**Alishan**	**1.44**	**343**	*e*P		**Pg**	**04 42 15.7 -0.1**
	baz=355						
ALS				*e*S		**Sg**	**04 42 34.5 -0.1**
	baz=355						
CHN5	**Tsauling**	**1.55**	**340**	*e*P		**Pb**	**04 42 17.0 +0.2**
	baz=354						
CHN5				*e*S		**Sg**	**04 42 37.7 -0.6**
	baz=354						
CHY	**Chiayi**	**1.56**	**331**	*e*P		**Pn**	**04 42 16.8 +1.2**
	baz=334						
CHY				*e*S		**Sb**	**04 42 37.0 +0.5**
	baz=334						
WDT	**Danda**	**1.62**	**356**	*e*P		**Pn**	**04 42 16.8 +0.1**
	baz=8.0						
WGK	**Gukeng**	**1.68**	**338**	*e*P		**Pb**	**04 42 19.1 +0.3**
	baz=342						
WGK				*e*S		**Sb**	**04 42 40.6 +0.8**
	baz=342						
SMLT	**Sun Moon Lake**	**1.77**	**349**	P		**Pb**	**04 42 20.7 +0.1**
	baz=1.0						
SMLT				*e*S		**Sb**	**04 42 43.5 +0.8**
	baz=1.0						
WSF	**Szhu**	**1.78**	**328**	*e*P		**Pn**	**04 42 18.3 -0.2**
	baz=331						
WSF				*e*S		**Sn**	**04 42 41.2 +0.3**
	baz=331						
TYC	**Yuchr**	**1.80**	**348**	*e*P		**Pb**	**04 42 21.1 +0.2**
	baz=352						
TYC				*e*S		**Sb**	**04 42 44.4 +1.0**
	baz=352						
WNT	**Mingjian**	**1.82**	**343**	*e*P		**Pb**	**04 42 21.7 +0.5**
	baz=347						
WNT				*e*S		**Sb**	**04 42 44.6 +0.7**
	baz=347						
WDGT	**Dungji**	**1.85**	**308**	*e*P		**Pn**	**04 42 17.6 -1.9**
	baz=311						
WDGT				*e*S		**Sn**	**04 42 38.7 -4.1**
	baz=311						
WTCT	**Ta-ch'eng**	**1.94**	**333**	*e*P		**Pn**	**04 42 21.5 +0.7**
	baz=335						
WTCT				*e*S		**Sn**	**04 42 46.0 +0.9**
	baz=335						
TWD	**Chiawan**	**1.97**	**9**	*e*P		**Pn**	**04 42 20.1 -1.0**
	baz=15						
WHF	**Hehuan Shan**	**2.00**	**0**	*e*P		**Pn**	**04 42 22.7 +0.6**
	baz=14						
TWT	**Tachien**	**2.11**	**358**	*e*P		**Pb**	**04 42 25.2 -1.2**
	baz=1.0						
PNG	**Penghu**	**2.12**	**313**	*e*P		**Pn**	**04 42 21.9 -1.4**
	baz=315						
TWQ1	**Liyutan**	**2.25**	**349**	*e*P		**Pb**	**04 42 27.5 -1.2**
	baz=336						
TWQ1				*e*S		**Sb**	**04 42 55.9 -0.5**
	baz=336						
NNS	**Nan Shan**	**2.30**	**3**	*e*P		**Pb**	**04 42 29.3 -0.3**
	baz=19						
NSY	**Sanyi**	**2.32**	**349**	*e*P		**Pn**	**04 42 28.1 +2.1**
	baz=337						
NSY				*e*S		**Sb**	**04 42 57.6 -0.7**
	baz=337						
ENA	**Nanau**	**2.33**	**11**	*e*P		**Pb**	**04 42 28.5 -1.5**
	baz=360						
ENA				*e*S		**Sn**	**04 42 55.1 +0.5**
	baz=360						
NSTT	**Nanjuang**	**2.50**	**355**	*e*P		**Pn**	**04 42 30.3 +1.9**
	baz=357						
NSTT				*e*S		**Sb**	**04 43 01.6 -2.0**
	baz=357						
ENTT	**Nioudou**	**2.51**	**6**	*e*P		**Pn**	**04 42 29.4 +0.7**
	baz=23						
TWC	**Suao**	**2.53**	**12**	*e*P		**Pn**	**04 42 31.1 +2.2**
	baz=6.0						
NSK	**Sanguang**	**2.54**	**2**	*e*P		**Pn**	**04 42 30.0 +1.0**
	baz=21						
TWE	**Neicheng**	**2.61**	**8**	*e*P		**Pn**	**04 42 28.8 -1.1**
	baz=13						
YOJ	**Yonaguni jima**	**2.83**	**34**	P		**Pn**	**04 42 34.3 +1.4**
HATJ	**Hateruma jima**	**3.03**	**50**	P		**Pn**	**04 42 35.8 0.0**
HATJ				*e*S		**Sn**	**04 43 11.0 -0.9**
IRIF	**Iriomote-Funau**	**3.16**	**46**	P		**Pn**	**04 42 37.1 -0.5**
IRIF				S		**Sn**	**04 43 15.0 -0.1**
JKRS	**Kuro-shima**	**3.29**	**50**	P		**Pn**	**04 42 40.0 +0.7**
JKRS				S		**Sn**	**04 43 17.5 -0.7**
JIJ	**Ishigaki jima**	**3.46**	**50**	P		**Pn**	**04 42 42.3 +0.6**
JIJ				S		**Sn**	**04 43 20.7 -1.9**
JISG	**Ishigakijimahi**	**3.72**	**48**	P		**Pn**	**04 42 45.8 +0.5**
JISG				S		**Sn**	**04 43 27.7 -1.3**
JTJ	**Tarama**	**4.03**	**51**	P		**Pn**	**04 42 50.3 +0.8**
JTJ				*e*S		**Sn**	**04 43 35.4 -1.2**

*WAR **20** 04:51:33.6, 51°.44N×16°.19E, h1km, Mw2.2*
*CSEM **20** 04:51:33.0±0.6, 51°.42N×16°.15E, h2km, ML3.0/6, Error ellipse: s-maj=8.7km s-min=6.1km az=20.0*

PRU 20 04:51:34.4, 51°.39N×16°.16E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.55**	**171**	*e*Pg	Pg	04 51 44.8	-0.2
KSP				*e*Sg	Sg	04 51 52.8	+0.7
KSP	**Ksiaz**	**0.55**	**171**	*e*Pg	Pg	04 51 44.8	-0.2
KSP				*e*Sg	Sg	04 51 52.8	+0.6
KSP	**Ksiaz**	**0.55**	**171**	*e*Pg	Pg	04 51 44.8	-0.2
KSP				*e*Sg	Sg	04 51 52.8	+0.6
UPC	**Upice**	**0.89**	**186**	*e*PG	Pg	04 51 50.9	-0.5
UPC				*e*SG	Sg	04 52 03.4	+0.5
	comp=Z,20nm,0.3s						
UPC	**Upice**	**0.89**	**186**	Pg	Pg	04 51 50.9	-0.5
UPC				Sg	Sg	04 52 03.4	+0.5
	20nm,0.3s						
DPC	**Dobruska-Polom**	**1.05**	**174**	*e*PG	Pg	04 51 53.7	-0.7
DPC				*e*SG	Sg	04 52 07.6	-0.4
	comp=Z,5.4nm,0.2s						
DPC	**Dobruska-Polom**	**1.05**	**174**	Pg	Pg	04 51 53.7	-0.7
DPC				Sg	Sg	04 52 07.6	-0.4
	5.4nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**230**	*e*PG	Pg	04 51 59.2	-0.6
PVCC				*e*SG	Sb	04 52 17.8	+0.2
	comp=Z,54nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**230**	Pg	Pg	04 51 59.2	-0.6
PVCC				Sg	Sb	04 52 17.8	+0.2
	54nm,0.2s						
KRLC	**Kraliky**	**1.37**	**163**	*e*SG	Sg	04 52 18.1	-0.4
KRLC	**Kraliky**	**1.37**	**163**	Sg	Sg	04 52 18.1	-0.4
BRG	**Berggiesshubel**	**1.49**	**251**	PG	Pn	04 52 02.1	-0.3
BRG				SG	Sg	04 52 22.2	0.0
	12nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.72**	**211**	*e*PG	Pb	04 52 06.2	-0.6
GOPC				*e*SG	Sg	04 52 29.3	-0.2
GOPC	**GO Pecny, Ondr**	**1.72**	**211**	Pg	Pb	04 52 06.2	-0.6
GOPC				Sg	Sg	04 52 29.3	-0.2
PRU	**Pruhonice**	**1.74**	**217**	*e*PG	Pn	04 52 06.2	+0.3
PRU				*e*SG	Sb	04 52 29.6	0.0
	comp=Z,5.4nm,0.2s						
PRU	**Pruhonice**	**1.74**	**217**	Pg	Pn	04 52 06.2	+0.3
PRU				Sg	Sb	04 52 29.6	0.0
	5.4nm,0.2s						
MORC	**Moravsky Berou**	**1.84**	**151**	*e*Pn	Pn	04 52 05.6	-1.7
MORC				*e*Sg	Sn	04 52 30.1	-1.2
CLL	**Collm**	**1.98**	**269**	*i* Pn	Pn	04 52 09.4	+0.2
CLL				*i* Pg	Pb	04 52 10.6	-0.7
CLL				*i*		04 52 11.8	
CLL				*i* Sg	Sg	04 52 38.0	0.0
	comp=Z,5.0nm,0.3s						
TREC	**Trest**	**2.14**	**192**	*e*SG	Sb	04 52 42.1	+0.9
	comp=Z,4.5nm,0.2s						
TREC	**Trest**	**2.14**	**192**	Sg	Sb	04 52 42.1	+0.9
	comp=Z,4.5nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**245**	*e*PN	Pn	04 52 16.9	-1.1
NKC				*e*SG	Sg	04 52 57.9	-0.7
	comp=Z,6.6nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**245**	Pn	Pn	04 52 16.9	-1.1
NKC				Sg	Sg	04 52 57.9	-0.7
	comp=Z,6.6nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**217**	*e*PN	Pn	04 52 20.0	-0.5
KHC				*e*PG	Pb	04 52 25.3	0.0
KHC				*e*SG	Sg	04 53 02.4	-2.0
KHC	**Kasperske Hory**	**2.80**	**217**	Pn	Pn	04 52 20.0	-0.5

IDC 20 05:15:05.2±3.6, 30°.01S×138°.83E, h0km, mb1 2.9/3, mb1mx2.9/22, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=146.9km s-min=16.7km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.02**	**129**	Pn	Pn	05 15 53.1	-1.2
	0.1nm,0.3s,baz=308,slow=17,SNR=4.0						
STKA				Pg	Pb	05 16 00.4	+0.5
	0.6nm,0.3s,baz=293,slow=15,SNR=7.8						
STKA				Sn	Sn	05 16 31.9	+0.7
	1.3nm,0.3s,baz=16,slow=23,SNR=6.4						
STKA				Lg	Lg	05 16 42.3	
	1.2nm,0.3s,baz=6.5,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**7.70**	**324**	Pn	Pn	05 17 00.1	+1.4
	0.1nm,0.3s,baz=146,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**10.82**	**337**	Pn	Pn	05 17 40.5	-0.9
	0.1nm,0.3s,baz=160,slow=12,SNR=2.3						

MEX 20 05:27:23.3±0.4, 27°.86N×112°.04W, h16km±8km, MD3.7, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.57**	**198**	*e*P	Pg	05 27 32.6	-1.9
SRIG				*e*S	Sg	05 27 39.5	-2.6
HSIG		**1.50**	**40**	*e*P	Pn	05 27 45.9	-3.7
HSIG				*e*S	Sn	05 28 03.6	-5.3

*SOME **20** 05:32:59.5, 41°.38N×72°.35E, h5km*
*KRNET **20** 05:32:59.6±0.1, 41°.36N×72°.30E, h18km, mb2.3*
*NNC **20** 05:33:01.1±2.1, 41°.45N×72°.30E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=13.9km s-min=10.9km az=8.0*

ISC 20 05:32:59.7±1.4, 41°.41N±0°.06×72°.31E±0°.03, h7km±12km, n17, σ0°77/33, 23C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.47**	**327**	⇑*e*P	Pg	05 33 09.2	+0.4
	baz=330						
ARK				⇑*i*S	Sb	05 33 16.7	-0.9
	baz=330						
ARSB	**Arslanbob**	**0.52**	**99**	⇑*e*P	Pg	05 33 09.4	-0.3
	baz=94						
ARSB				⇑*i*S	Sg	05 33 17.1	+0.7
	baz=94						
TOKL	**Toktogul**	**0.68**	**38**	⇑*i*P	Pg	05 33 13.4	+0.6
	baz=36						
TOKL				⇑*i*S	Sb	05 33 23.8	+0.2
	baz=36						
MNAS	**Manas**	**1.09**	**8**	⇑*i*P	Pg	05 33 20.6	0.0
	baz=8.0						
MNAS				⇑*i*S	Sn	05 33 36.5	-0.5
	baz=8.0						
MNAS	**Manas**	**1.09**	**8**	⇑P	Pg	05 33 20.4	-0.2
	1.7nm,0.3s						
MNAS				⇓S	Sb	05 33 35.9	+0.4
	3.3nm,0.5s						
AML	**Almayashu**	**1.26**	**55**	⇑*i*P	Pn	05 33 23.4	-0.8
	baz=53						
AML				⇑*i*S	Sb	05 33 40.6	-0.2
	baz=53						
MRKS	**Merke**	**1.50**	**27**	*e*P	Pb	05 33 28.0	0.0
	6.5nm,0.2s						
MRKS				*e*S	Sg	05 33 48.8	+0.9
	20nm,0.3s						
ARLS	**Aral**	**1.58**	**73**	⇑*i*P	Pb	05 33 29.2	-0.1
	baz=71						
ARLS				⇑*i*S	Sg	05 33 50.1	-0.3
	baz=71						
EKS2	**Erkin-Say**	**1.66**	**41**	⇑*i*P	Pb	05 33 31.2	+0.4
	baz=40						
EKS2				⇑*i*S	Sg	05 33 53.2	0.0
	baz=40						
UCH	**Uchtor**	**1.84**	**63**	⇑*i*P	Pb	05 33 33.9	-0.1
	baz=62						
UCH				⇑*i*S	Sg	05 33 58.7	-0.2
	baz=62						
IUG	**Iuzhnay**	**1.85**	**294**	*e*P	Pb	05 33 34.0	0.0
	11nm,0.2s						
IUG				*e*S	Sg	05 33 58.7	-0.7
	61nm,0.4s						
AAK	**Ala-Archa**	**2.04**	**52**	⇑*i*P	Pb	05 33 37.2	0.0
	baz=51						
AAK				⇑*i*S	Sg	05 34 04.3	-1.0
	baz=51						
AAK	**Ala-Archa**	**2.04**	**52**	Pn	Pb	05 33 36.8	-0.4
	0.9nm,0.5s						
AAK				Sn	Sg	05 34 04.2	-1.0
	2.8nm,0.6s						
KK31	**Karatay Array**	**2.15**	**322**	⇑Pn	Pb	05 33 39.0	-0.1
	0.8nm,0.3s,baz=141,slow=14,SNR=13						
KK31				⇓Sn	Sb	05 34 06.3	+0.3
	1.8nm,0.3s,baz=146,slow=28,SNR=11						
KBK	**Karagaybulak**	**2.33**	**57**	⇑*i*P	Pb	05 33 41.5	-0.7
	baz=56						
KBK				⇑*i*S	Sg	05 34 13.2	-1.4
	baz=56						
TKM2	**Tokmak 2**	**2.88**	**57**	⇑Pn	Pn	05 33 48.1	+1.9
	1.9nm,0.9s						
TKM2				⇓Lg	Lg	05 34 28.6	
	2.0nm,0.6s						
KST	**Kastek**	**3.17**	**58**	*e*P	Pb	05 33 57.8	+1.3
	1.2nm,0.4s						
KST				*e*S	Sg	05 34 39.9	-1.6
	1.9nm,0.5s						

*IDC **20** 05:34:03.6±1.2, 60°.43S×45°.78W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.7/14, mbtmp4.0/2, Error ellipse: s-maj=70.1km s-min=56.8km az=127.0*

ISC 20 05:34:05.2±1.2, 60°.6S±0°.2×45°.2W±0°.4, h10km, n9, σ1s65/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.62**	**142**	P	Pn	05 38 09.3	-1.1
VNA2	**Neumayer--Watz**	**18.23**	**140**	P	Pn	05 38 16.1	-1.9
	baz=291,slow=13						
SNAA	**Sanae**	**19.84**	**141**	P	Pn	05 38 39.0	+1.6
TORD	**Torodi Ar. Bea**	**82.44**	**46**	P	P	05 46 28.7	+1.2
	0.6nm,0.8s,baz=194,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**96.00**	**179**	P	P	05 47 34.2	+1.7
	0.4nm,0.6s,baz=178,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**133.65**	**323**	PKP	PKPdf	05 53 18.6	-1.7
	0.4nm,0.5s,baz=147,slow=1.8,SNR=4.2						
BVAR	**Borovoye Array**	**145.27**	**73**	PKPbc	PKPdf	05 53 41.6	-0.2
	3.8nm,0.7s,baz=232,slow=3.6,SNR=15						
ILAR	**Eielson Array**	**146.00**	**311**	PKPbc	PKPdf	05 53 41.7	-0.9
	0.7nm,0.7s,baz=160,slow=4.0,SNR=7.9						
MKAR	**Makanchi Array**	**146.95**	**91**	PKPbc	PKPbc	05 53 45.8	-1.0
	0.6nm,0.6s,baz=239,slow=3.5,SNR=6.2						

MEX 20 05:35:43.5±0.5, 27°.72N×111°.80W, h5km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.56**	**225**	*e*P	Pg	05 35 53.4	-0.8
SRIG				*e*S	Sg	05 36 02.3	+0.8
GUYB	**Guaymas**	**0.84**	**77**	*e*P	Pg	05 35 57.8	-1.8
GUYB				*e*S	Sg	05 36 09.6	-0.9
HSIG		**1.50**	**30**	*e*P	Pn	05 36 07.6	-3.5

*IDC **20** 05:47:02.6±6.2, 27°.70N×55°.05E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.9/3, Error ellipse: s-maj=123.8km s-min=47.2km az=113.0*
*TEH **20** 05:47:11.9, 28°.11N×54°.43E, h10km, ML3.1*
*CSEM **20** 05:47:11.9, 28°.11N×54°.43E, h10km, ML3.1*

ISC 20 05:47:08.5±2.0, 27°.9N±0°.2×54°.5E±0°.1, h17km, n12, σ0s70/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.96**	**321**	*e*Pn	**Pn**	**05 47 41.9**	**+0.6**
ISRV				*e*Sg	**Sn**	**05 48 05.6**	**-0.1**
ISRV				*e*AMB	AMB	05 48 07.9	
	comp=Z,3μm,0.2s						
ISRV	**Sarvestan**	**1.96**	**321**	*e*Pn	**Pn**	**05 47 41.9**	**+0.6**
ISRV				*e*Sg	**Sn**	**05 48 05.6**	**-0.1**
IPAR	**Pars**	**2.36**	**327**	*e*Pn	**Pn**	**05 47 47.8**	**+1.0**
IPAR				*e*AMB	AMB	05 48 22.5	
	comp=Z,1μm,0.3s						
IPAR	**Pars**	**2.36**	**327**	*e*Pn	**Pn**	**05 47 47.8**	**+1.0**
IMEH	**Mehriz**	**3.52**	**1**	*e*AMB	AMB	05 48 48.5	
	comp=N,287nm,0.3s						
IBAF	**Bafgh**	**3.83**	**13**	*e*AMB	AMB	05 48 17.6	
	comp=Z,230nm,0.3s						
IBAF				*e*Pn	**Pn**	**05 48 07.6**	**+0.7**
IRAM	**Ramesheh**	**4.36**	**335**	*e*Pn	**Pn**	**05 48 13.9**	**-0.3**
IRAM				*e*AMB	AMB	05 48 36.3	
	comp=Z,208nm,0.3s						
IRAM	**Ramesheh**	**4.36**	**335**	*e*Pn	**Pn**	**05 48 13.9**	**-0.3**
IPIR	**Pirpir**	**5.75**	**328**	*e*AMB	AMB	05 49 37.4	
	comp=Z,204nm,0.3s						
BRTR	**Keskin Array B**	**20.95**	**310**	P	Pn	05 51 52.3	-1.1
	comp=Z,1.0nm,0.7s,baz=133,slow=14,SNR=4.1						
FINES	**FINESS Array B**	**38.58**	**338**	P	**P**	**05 54 29.4**	**-0.8**
	comp=Z,7.5nm,1.0s,baz=134,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**51.23**	**265**	P	**P**	**05 56 11.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=62,slow=8.4,SNR=13						

WEL 20 05:57:49.3±0.5, 38°.53S×175°.40E, h251km±4km, ML3.6/15, 12C-4D, Error ellipse: s-maj=4.3km s-min=3.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.54**	**177**	⇑PN	Pn	05 58 22.6	0.0
KRVZ	**Karewarewa**	**0.59**	**161**	PN	Pn	05 58 22.9	+0.1
NGZ	**Ngauruhoe**	**0.66**	**166**	PN	Pn	05 58 23.1	+0.1
FWVZ	**Far West T-bar**	**0.73**	**171**	⇑PN	Pn	05 58 23.4	-0.1
PKVZ	**Pokaka**	**0.76**	**183**	⇑PN	Pn	05 58 23.2	-0.1
WHVZ	**Whangaehu Hut**	**0.77**	**169**	⇑PN	Pn	05 58 23.6	0.0
WHVZ				SN	S	05 58 49.7	-0.9
WNVZ	**Wahianoa**	**0.81**	**169**	PN	Pn	05 58 23.6	-0.1
MRHZ	**Matea Rd**	**0.85**	**111**	⇑PN	Pn	05 58 23.6	-0.2
MRHZ				SN	S	05 58 49.1	-1.7
MRHZ				AML	AML	05 58 51.1	
MOVZ	**Moawhango**	**0.92**	**163**	⇑PN	Pn	05 58 23.7	-0.4
BKZ	**Black Stump Fm**	**1.06**	**127**	⇑PN	Pn	05 58 24.9	0.0
BKZ				AML	AML	05 58 53.0	
BKZ				AML	AML	05 58 54.0	
MUGZ	**Murupara**	**1.08**	**88**	PN	Pn	05 58 24.9	0.0
MTHZ	**Maungataniwha**	**1.17**	**106**	*e*PN	Pn	05 58 25.7	+0.2
KWHZ	**Kaweka Forest**	**1.20**	**138**	PN	Pn	05 58 25.9	+0.2
KWHZ				SN	S	05 58 54.6	+0.3
KWHZ				AML	AML	05 58 55.3	
NMHZ	**Naumai**	**1.24**	**118**	PN	Pn	05 58 26.8	+0.8
NMHZ				AML	AML	05 58 56.1	
NMHZ				AML	AML	05 58 57.5	
RTZ	**Ruatahuna**	**1.24**	**94**	PN	Pn	05 58 26.0	0.0
NEZ	**North Egmont**	**1.26**	**234**	PN	Pn	05 58 25.9	-0.2
PREZ	**Palmer Road**	**1.26**	**230**	*e*PN	Pn	05 58 25.9	-0.2
WAZ	**Wanganui**	**1.26**	**195**	⇑PN	Pn	05 58 25.8	-0.3
KRHZ	**Kereru**	**1.34**	**146**	PN	Pn	05 58 26.4	-0.2
KRHZ				AML	AML	05 58 56.3	
KRHZ				AML	AML	05 58 56.9	
MCHZ	**McNeill Hill**	**1.36**	**132**	PN	Pn	05 58 27.2	+0.5
MCHZ				AML	AML	05 58 59.3	
URZ	**Urewera**	**1.37**	**79**	PN	Pn	05 58 26.2	-0.6
ARHZ	**Aropaoanui**	**1.45**	**121**	PN	Pn	05 58 27.9	+0.6
ARHZ				SN	S	05 58 56.0	-1.2
ARHZ				AML	AML	05 58 59.4	
PNHZ	**Pukenui**	**1.51**	**156**	PN	Pn	05 58 27.3	-0.6
PNHZ				AML	AML	05 58 58.5	
PNHZ				AML	AML	05 59 00.2	
TSZ	**Takapari Road**	**1.59**	**164**	PN	Pn	05 58 27.8	-0.6
TSZ				AML	AML	05 58 59.1	

PUZ	**Puketiti**	**2.29 79**	PN	Pn	05 58 34.3	-0.4
KIW	**Kapiti Island**	**2.36 189**	PN	Pn	05 58 33.2	-2.0
HOWZ	**Holdsworth Sta**	**2.37 178**	PN	Pn	05 58 33.3	-2.0
MXZ	**Matakaoa Point**	**2.49 68**	PN	Pn	05 58 36.5	-0.1
CAW	**Cannon Point**	**2.59 186**	⇑PN	Pn	05 58 35.3	-2.1
CAW			AML	AML	05 59 13.2	
CAW			AML	AML	05 59 14.4	
TMWZ	**Te Maipa**	**2.60 172**	PN	Pn	05 58 35.7	-1.9
MTW	**Mount Morrison**	**2.62 178**	⇓PN	Pn	05 58 35.6	-2.3
TCW	**Tory Channel**	**2.81 198**	PN	Pn	05 58 37.6	-2.2
TCW			AML	AML	05 59 16.2	
TCW			AML	AML	05 59 16.3	
PAWZ	**Paruwai Farm**	**2.85 180**	PN	Pn	05 58 37.8	-2.4
MSWZ	**Moikau Station**	**2.88 182**	PN	Pn	05 58 38.1	-2.5
BHW	**Baring Head**	**2.90 188**	PN	Pn	05 58 38.1	-2.6
PLWZ	**Palliser**	**3.04 182**	PN	Pn	05 58 39.7	-2.6
NNZ	**Nelson**	**3.10 209**	⇑PN	Pn	05 58 40.2	-2.6
TUWZ	**Tuamarina**	**3.10 201**	PN	Pn	05 58 40.7	-2.2
QRZ	**Quartz Range**	**3.19 223**	PN	Pn	05 58 40.6	-3.2
BSWZ	**Blackbirch Sta**	**3.39 200**	PN	Pn	05 58 43.8	-2.2
THZ	**Tophouse**	**3.75 210**	⇑PN	Pn	05 58 47.2	-3.1
KHZ	**Kahutara**	**4.13 199**	⇓PN	Pn	05 58 51.7	-2.9
DSZ	**Denniston Nort**	**4.23 219**	PN	Pn	05 58 51.8	-4.1
LTZ	**Lake Taylor**	**4.87 208**	PN	Pn	05 58 59.7	-3.8
INZ	**Inchbonnie**	**5.16 214**	PN	Pn	05 59 02.8	-4.1
OXZ	**Oxford**	**5.42 207**	PN	Pn	05 59 05.9	-4.3
MQZ	**McQueen's Vall**	**5.57 201**	PN	Pn	05 59 07.3	-4.7

*ISCJB **20** 06:09:21.6±0.3, 44°.50N±0°.02×9°.37E±0°.02, h8km±2km, Error ellipse: s-maj=2.8km s-min=2.0km az=172.9*
*CSEM **20** 06:09:22.1±0.1, 44°.49N×9°.40E, h2km, ML3.5/25, Error ellipse: s-maj=3.2km s-min=2.5km az=166.0*
*ROM **20** 06:09:22.2±0.1, 44°.53N×9°.41E, h9km±1km, Ml3.1/23, Error ellipse: s-maj=1.6km s-min=1.4km az=17.0*
*LDG **20** 06:09:24.5±0.1, 44°.41N×9°.42E, h10km, Ml3.4/16, Error ellipse: s-maj=3.1km s-min=2.2km az=40.0*
*PRU **20** 06:09:24.1, 44°.50N×9°.49E, h10km*
*STR **20** 06:09:27.7±0.3, 44°.88N×9°.54E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 20 06:09:22.3±0.8,**44°.50N**±0°.01×**9°.41E**±0°.01,**h16**km±5km,
n156,σ1§**54**/244,**4C**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.13**	**138**	⇑*i*Pg	**Pg**	**06 09 26.3**	**+0.1**
SC2M				Sg	**Sg**	**06 09 29.3**	**+0.6**
	10μm,0.3s						
SC2M	**Scurtabo**	**0.13**	**138**	⇑*i*Pg	**Pg**	**06 09 26.3**	**+0.1**
MSSA	**Maissana**	**0.20**	**158**	Pg	**Pg**	**06 09 27.6**	**+0.4**
MSSA				Sg	**Sg**	**06 09 31.5**	**+1.1**
	3μm,0.5s						
MSSA	**Maissana**	**0.20**	**158**	Pg	**Pg**	**06 09 27.6**	**+0.4**
BOB	**Bobbio (Coli)**	**0.27**	**6**	⇑*i*Pg	**Pg**	**06 09 27.3**	**-1.0**
BOB				Sg	**Sg**	**06 09 30.9**	**-1.4**
BOB	**Bobbio (Coli)**	**0.27**	**6**	⇑*i*Pg	**Pg**	**06 09 27.3**	**-1.0**
BOB				Sg	**Sg**	**06 09 30.9**	**-1.4**
PLMA	**Palmaria, Port**	**0.55**	**145**	Pg	**Pb**	**06 09 33.5**	**-0.1**
PLMA				Sg	**Sb**	**06 09 41.5**	**+0.3**
	783nm,0.6s						
PLMA	**Palmaria, Port**	**0.55**	**145**	Pg	**Pb**	**06 09 33.5**	**-0.1**
PCP	**Piancastagn**	**0.62**	**274**	Pg	**Pb**	**06 09 34.8**	**0.0**
PCP				Sg	**Sb**	**06 09 42.8**	**-0.5**
	390nm,0.3s						
PCP	**Piancastagn**	**0.62**	**274**	Pg	**Pb**	**06 09 34.8**	**0.0**
PCP				Sg	**Sb**	**06 09 42.8**	**-0.5**
	390nm,0.3s						
PRMA	**PARMA**	**0.70**	**67**	Pg	**Pn**	**06 09 36.8**	**-0.7**
	2μm,0.5s						
PRMA	**PARMA**	**0.70**	**67**	Pg	**Pn**	**06 09 36.8**	**-0.7**
	2μm,0.5s						
VLC	**Villacollemand**	**0.78**	**116**	Pg	**Pb**	**06 09 37.6**	**+0.1**
VLC				Sg	**Sb**	**06 09 48.6**	**+0.8**
	376nm,0.8s						
VLC	**Villacollemand**	**0.78**	**116**	Pg	**Pb**	**06 09 37.6**	**+0.1**
QLNO	**Quiliano**	**0.78**	**257**	Pg	**Pb**	**06 09 37.9**	**+0.3**
QLNO				Sg	**Sb**	**06 09 48.3**	**+0.3**
	300nm,0.4s						
QLNO	**Quiliano**	**0.78**	**257**	Pg	**Pb**	**06 09 37.9**	**+0.3**
QLNO				Sg	**Sb**	**06 09 48.3**	**+0.3**
	300nm,0.4s						
FINB	**Finale Ligure**	**0.84**	**248**	Pg	**Pg**	**06 09 37.8**	**-0.9**
FINB				Sg	**Sn**	**06 09 51.3**	**-0.2**
	2μm,0.4s						
FINB	**Finale Ligure**	**0.84**	**248**	Pg	**Pg**	**06 09 37.8**	**-0.9**
FINB				Sg	**Sn**	**06 09 51.3**	**-0.2**
	2μm,0.4s						
BDI	**Bagni Di Lucca**	**0.96**	**117**	Pg	**Pb**	**06 09 39.9**	**-0.7**
	418nm,0.6s						
BDI	**Bagni Di Lucca**	**0.96**	**117**	Pg	**Pb**	**06 09 39.9**	**-0.7**
	418nm,0.6s						
MAIM	**Mastiano**	**0.97**	**127**	Pg	**Pb**	**06 09 40.2**	**-0.6**
MAIM				Sg	**Sb**	**06 09 53.8**	**+0.4**
	297nm,0.5s						
MAIM	**Mastiano**	**0.97**	**127**	Pg	**Pb**	**06 09 40.2**	**-0.6**
MAIM				Sg	**Sb**	**06 09 53.8**	**+0.4**
	297nm,0.5s						
RORO	**Rocca Rossa**	**1.04**	**249**	Pg	**Pb**	**06 09 41.9**	**0.0**
RORO				Sg	**Sb**	**06 09 56.1**	**+0.8**
	248nm,0.3s						
RORO	**Rocca Rossa**	**1.04**	**249**	Pg	**Pb**	**06 09 41.9**	**0.0**
RORO				Sg	**Sb**	**06 09 56.1**	**+0.8**
	248nm,0.3s						
IMI	**Imperia**	**1.24**	**242**	Pg	**Pg**	**06 09 44.9**	**-1.4**
IMI				Sg	**Sn**	**06 10 02.0**	**+0.5**
	460nm,0.4s						
IMI	**Imperia**	**1.24**	**242**	Pg	**Pg**	**06 09 44.9**	**-1.4**
IMI				Sg	**Sn**	**06 10 02.0**	**+0.5**
	460nm,0.4s						
CRMI	**Carmignano**	**1.33**	**122**	Pg	**Pg**	**06 09 46.7**	**-1.2**
	91nm,0.6s						
CRMI	**Carmignano**	**1.33**	**122**	Pg	**Pg**	**06 09 46.7**	**-1.2**
	91nm,0.6s						
SALO	**Salr**	**1.37**	**35**	Pg	**Pg**	**06 09 48.3**	**-0.4**
	619nm,0.7s						
SALO	**Salr**	**1.37**	**35**	Pg	**Pg**	**06 09 48.3**	**-0.4**
	619nm,0.7s						
NEGI	**Seborga**	**1.39**	**243**	Pg	**Pn**	**06 09 47.0**	**-0.1**
	166nm,0.4s						
NEGI	**Seborga**	**1.39**	**243**	Pg	**Pn**	**06 09 47.0**	**-0.1**
	166nm,0.4s						
MUGIO	**Muggio**	**1.45**	**350**	Pg	**Pg**	**06 09 48.8**	**-1.4**
	288nm,0.7s						
MUGIO	**Muggio**	**1.45**	**350**	Pg	**Pg**	**06 09 48.8**	**-1.4**
	288nm,0.7s						
ENR	**Entracque**	**1.45**	**260**	Pg	**Pb**	**06 09 48.6**	**-0.4**
	153nm,0.5s						
ENR	**Entracque**	**1.45**	**260**	Pg	**Pb**	**06 09 48.6**	**-0.4**
	153nm,0.5s						
MAGA	**Magasa**	**1.54**	**34**	Pg	**Pb**	**06 09 50.2**	**-0.3**
	1μm,0.4s						
MAGA	**Magasa**	**1.54**	**34**	Pg	**Pb**	**06 09 50.2**	**-0.3**
	1μm,0.4s						
BALD	**Monte Baldo**	**1.55**	**40**	*e*Pn	**Pg**	**06 09 50.8**	**-1.3**
BALD	**Monte Baldo**	**1.55**	**40**	*e*Pn	**Pg**	**06 09 50.8**	**-1.3**
SASS	**Sassa´´´´´**	**1.55**	**143**	Pg	**Pg**	**06 09 51.2**	**-0.9**
	266nm,1.6s						
SASS	**Sassa´´´´´**	**1.55**	**143**	Pg	**Pg**	**06 09 51.2**	**-0.9**
	266nm,1.6s						
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pg**	**06 09 50.9**	**-1.4**
	113nm,0.3s						
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pg**	**06 09 50.9**	**-1.4**
	113nm,0.3s						
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	**06 09 49.9**	**+0.5**
SBF	**Sospel**	**1.56**	**247**	*e*Pg	**Pg**	**06 09 52.2**	**-0.1**
SBF				*e*Sn	**Sg**	**06 10 11.5**	**-1.1**
	176nm,0.3s						
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	**06 09 49.9**	**+0.5**
SBF	**Sospel**	**1.56**	**247**	*e*Pg	**Pg**	**06 09 52.2**	**-0.1**
SBF				*e*Sn	**Sg**	**06 10 11.5**	**-1.1**
	88nm,0.3s						
BHB	**Bricherasio**	**1.57**	**283**	Pg	**Pg**	**06 09 51.3**	**-1.2**
	218nm,0.6s						
BHB	**Bricherasio**	**1.57**	**283**	Pg	**Pg**	**06 09 51.3**	**-1.2**
	218nm,0.6s						
PZZ	**Stroppo**	**1.64**	**271**	Pg	**Pb**	**06 09 52.0**	**-0.3**
	296nm,0.6s						
MARN	**Marana (Italy)**	**1.71**	**48**	*e*Pn	**Pb**	**06 09 52.5**	**-0.9**
MARN	**Marana (Italy)**	**1.71**	**48**	*e*Pn	**Pb**	**06 09 52.5**	**-0.9**
RNI	**Roncone**	**1.71**	**30**	*e*Pn	**Pb**	**06 09 52.8**	**-0.7**
RNI	**Roncone**	**1.71**	**30**	*e*Pn	**Pb**	**06 09 52.8**	**-0.7**
MABI	**Malga Bissina**	**1.74**	**26**	Pg	**Pb**	**06 09 53.1**	**-0.9**
	148nm,0.5s						
TEOL	**Teolo**	**1.82**	**61**	*e*Pn	**Pn**	**06 09 52.7**	**-0.3**
TEOL	**Teolo**	**1.82**	**61**	*e*Pn	**Pn**	**06 09 52.7**	**-0.3**
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**06 09 55.2**	**+1.0**
MBDF	**Montbardon**	**1.90**	**278**	*e*P	**Pg**	**06 09 58.1**	**-0.7**
MBDF				*e*Sn	**Sn**	**06 10 18.8**	**+1.0**
	158nm,0.7s						
MBDF				*e*Sg	**Sg**	**06 10 24.5**	**+1.0**
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**06 09 55.2**	**+1.0**
MBDF	**Montbardon**	**1.90**	**278**	*e*P	**Pg**	**06 09 58.1**	**-0.7**
MBDF				*e*Sn	**Sn**	**06 10 18.8**	**+1.0**
	79nm,0.7s						
MBDF				*e*Sg	**Sg**	**06 10 24.5**	**+1.0**
PGF	**Pioggiola**	**1.98**	**189**	*e*Pn	**Pn**	**06 09 55.4**	**+0.2**
PGF				*e*Sn	**Sn**	**06 10 18.6**	**-1.0**
	23nm,0.3s						
PGF	**Pioggiola**	**1.98**	**189**	*e*Pn	**Pn**	**06 09 55.4**	**+0.2**
PGF				*e*Sn	**Sn**	**06 10 18.6**	**-1.0**
	11nm,0.3s						
PANI	**Panarotta**	**2.06**	**41**	*e*Pn	**Pb**	**06 09 57.7**	**-1.8**
CARE	**Lago del Cares**	**2.13**	**25**	*e*Pn	**Pb**	**06 09 59.0**	**-1.7**
CARE	**Lago del Cares**	**2.13**	**25**	*e*Pn	**Pb**	**06 09 59.0**	**-1.7**
LPG	**La Plagne**	**2.13**	**299**	*e*Pn	**Pb**	**06 10 00.9**	**+0.1**
LPG				*e*Sg	**Sg**	**06 10 32.2**	**+1.2**
LPG	**La Plagne**	**2.13**	**299**	*e*Pn	**Pb**	**06 10 00.9**	**+0.1**
LPG				*e*Sg	**Sg**	**06 10 32.2**	**+1.2**
LPL	**La Plagne**	**2.15**	**299**	*e*Pn	**Pb**	**06 10 00.3**	**-0.8**
LPL	**La Plagne**	**2.15**	**299**	*e*Pg	**Pg**	**06 10 03.5**	**-0.2**
LPL				*e*Sn	**Sn**	**06 10 25.2**	**+1.0**
LPL				*e*Sg	**Sg**	**06 10 32.1**	**+0.4**
LPL	**La Plagne**	**2.15**	**299**	*e*Pn	**Pb**	**06 10 00.3**	**-0.8**
LPL	**La Plagne**	**2.15**	**299**	*e*Pg	**Pg**	**06 10 03.5**	**-0.2**
LPL				*e*Sn	**Sn**	**06 10 25.2**	**+1.0**
LPL				*e*Sg	**Sg**	**06 10 32.1**	**+0.4**
CGRP	**Cima Grappa**	**2.18**	**50**	*e*Pn	**Pn**	**06 09 58.7**	**+0.6**
CGRP	**Cima Grappa**	**2.18**	**50**	*e*Pn	**Pn**	**06 09 58.7**	**+0.6**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**06 09 58.8**	**+0.6**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pg	**Pg**	**06 10 04.3**	**-0.3**
FRF				*e*Sn	**Sn**	**06 10 24.2**	**-0.9**
	110nm,0.5s						
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**06 09 58.8**	**+0.6**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pg	**Pg**	**06 10 04.3**	**-0.3**
FRF				*e*Sn	**Sn**	**06 10 24.2**	**-0.9**
	55nm,0.5s						
RSL	**Roselend**	**2.30**	**302**	P	**Pb**	**06 10 04.4**	**+0.8**
RSL				S	**Sg**	**06 10 33.9**	**-2.5**
RSL	**Roselend**	**2.30**	**302**	P	**Pb**	**06 10 04.4**	**+0.8**
RSL				S	**Sg**	**06 10 33.9**	**-2.5**
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**06 10 01.2**	**+0.3**
LMR	**La Mourre**	**2.40**	**242**	*e*P	**Pb**	**06 10 03.8**	**-1.3**
LMR	**La Mourre**	**2.40**	**242**	*e*Pg	**Pg**	**06 10 07.7**	**-0.6**
LMR				*e*Sn	**Sn**	**06 10 29.5**	**-0.4**
	43nm,0.4s						
LMR				*e*S	**Sb**	**06 10 34.6**	**+0.2**
LMR				*e*Sg	**Sg**	**06 10 38.9**	**-0.6**
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**06 10 01.2**	**+0.3**
LMR	**La Mourre**	**2.40**	**242**	*e*P	**Pb**	**06 10 03.8**	**-1.3**
LMR	**La Mourre**	**2.40**	**242**	*e*Pg	**Pg**	**06 10 07.7**	**-0.6**
LMR				*e*Sn	**Sn**	**06 10 29.5**	**-0.4**
	22nm,0.4s						
LMR				*e*S	**Sb**	**06 10 34.6**	**+0.2**
LMR				*e*Sg	**Sg**	**06 10 38.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pn	**Pb**	**06 10 06.7**	**-1.1**
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pg	**Pg**	**06 10 10.7**	**-0.6**
ORIF				*e*Sn	**Sn**	**06 10 33.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pn	**Pb**	**06 10 06.7**	**-1.1**
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pg	**Pg**	**06 10 10.7**	**-0.6**
ORIF				*e*Sn	**Sn**	**06 10 33.7**	**-0.2**
FETA	**Feichten**	**2.68**	**20**	Pn	**Pb**	**06 10 09.6**	**-0.4**
	1.6nm,0.2s						
FETA				Sn	**Sb**	**06 10 43.8**	**+1.0**
	36nm,0.8s						
FETA	**Feichten**	**2.68**	**20**	Pn	**Pb**	**06 10 09.6**	**-0.4**
	1.6nm,0.2s						
FETA				Sn	**Sb**	**06 10 43.8**	**+1.0**
	36nm,0.8s						
DAVA	**Damuels**	**2.81**	**7**	Pn	**Pb**	**06 10 10.6**	**-1.5**
	5.0nm,0.3s						
DAVA				Sn	**Sb**	**06 10 45.3**	**-1.0**
	43nm,0.5s						
DAVA	**Damuels**	**2.81**	**7**	Pn	**Pb**	**06 10 10.6**	**-1.5**
	5.0nm,0.3s						
DAVA				Sn	**Sb**	**06 10 45.3**	**-1.0**
	43nm,0.5s						
SMRF	**Simiane la Rot**	**2.81**	**261**	*e*Pn	**Pn**	**06 10 08.4**	**+1.8**
SMRF				*e*Sn	**Sn**	**06 10 41.3**	**+1.2**
	36nm,0.4s						
SMRF	**Simiane la Rot**	**2.81**	**261**	*e*Pn	**Pn**	**06 10 08.4**	**+1.8**
SMRF				*e*Sn	**Sn**	**06 10 41.3**	**+1.2**
	18nm,0.4s						
MOTA	**Moosalm**	**3.08**	**22**	*i* Pn	**Pb**	**06 10 14.1**	**-2.7**
	4.8nm,0.4s						
MOTA				*e*Sn	**Sb**	**06 10 52.3**	**-1.9**
	19nm,0.4s						
MOTA	**Moosalm**	**3.08**	**22**	Pn	**Pb**	**06 10 14.1**	**-2.7**
	4.8nm,0.4s						
MOTA				Sn	**Sb**	**06 10 52.3**	**-1.9**
	19nm,0.4s						
RETA	**Reutte**	**3.13**	**17**	*i* Pn	**Pn**	**06 10 13.9**	**+2.9**
	6.4nm,0.3s						
RETA				*e*Sn	**Sn**	**06 10 51.9**	**+3.8**
	34nm,0.6s						
RETA	**Reutte**	**3.13**	**17**	Pn	**Pn**	**06 10 13.9**	**+2.9**
	6.4nm,0.3s						
RETA				Sn	**Sn**	**06 10 51.9**	**+3.8**
	34nm,0.6s						
CABF	**La Chapelle**	**3.15**	**313**	*e*Pn	**Pn**	**06 10 13.8**	**+2.5**
CABF	**La Chapelle**	**3.15**	**313**	*e*Pn	**Pn**	**06 10 13.8**	**+2.5**
WTTA	**Wattenberg**	**3.17**	**29**	*i* Pn	**Pb**	**06 10 15.6**	**-2.8**
	1.0nm,0.2s						
WTTA				Sn	**Sn**	**06 10 50.7**	**+1.5**
	27nm,0.8s						
WTTA	**Wattenberg**	**3.17**	**29**	Pn	**Pb**	**06 10 15.6**	**-2.8**
	1.0nm,0.2s						
WTTA				Sn	**Sn**	**06 10 50.7**	**+1.5**
	27nm,0.8s						
WATA	**Walderalm**	**3.21**	**27**	*e*Pn	**Pn**	**06 10 12.2**	**0.0**
	0.8nm,0.1s						
WATA				*i* Sn	**Sn**	**06 10 50.6**	**+0.4**
	2.5nm,0.2s						
WATA	**Walderalm**	**3.21**	**27**	Pn	**Pn**	**06 10 12.2**	**0.0**
	0.8nm,0.1s						
WATA				Sn	**Sn**	**06 10 50.6**	**+0.4**
	2.5nm,0.2s						
LOMF	**Lomont**	**3.37**	**329**	P	**Pn**	**06 10 16.7**	**+2.3**
LOMF				S	**Sn**	**06 10 57.1**	**+3.0**
LOMF	**Lomont**	**3.37**	**329**	P	**Pn**	**06 10 16.7**	**+2.3**
LOMF				S	**Sn**	**06 10 57.1**	**+3.0**
VIVF	**Saint-Julien-l**	**3.40**	**278**	*e*Pn	**Pn**	**06 10 16.2**	**+1.3**
VIVF	**Saint-Julien-l**	**3.40**	**278**	*e*P	**Pb**	**06 10 19.2**	**-3.0**
VIVF	**Saint-Julien-l**	**3.40**	**278**	*e*Pn	**Pn**	**06 10 16.0**	**+1.3**
VIVF	**Saint-Julien-l**	**3.40**	**278**	*e*P	**Pb**	**06 10 19.2**	**-3.0**
SKDS	**Skadanscina**	**3.43**	**71**	*i* Pn	**Pn**	**06 10 15.6**	**+0.5**
SKDS				*e*Sn	**Sn**	**06 10 54.7**	**-0.6**
SKDS	**Skadanscina**	**3.43**	**71**	*i* Pn	**Pn**	**06 10 15.6**	**+0.5**
SKDS				*e*Sn	**Sn**	**06 10 54.7**	**-0.6**
FELD	**Feldberg im Sc**	**3.52**	**344**	P	**Pn**	**06 10 17.4**	**+1.0**
MYKA	**Terra Mystica**	**3.66**	**53**	*i* Sn	**Sn**	**06 11 04.5**	**+3.5**
	5.7nm,0.5s						
MYKA				*i* Sg	**Sg**	**06 11 21.7**	**+2.0**
	8.6nm,0.4s						
MYKA	**Terra Mystica**	**3.66**	**53**	Sn	**Sn**	**06 11 04.5**	**+3.5**
	5.7nm,0.5s						
MYKA				Sg	**Sg**	**06 11 21.7**	**+2.0**
	8.6nm,0.4s						
MOF	**Molkenrain**	**3.71**	**336**	P	**Pn**	**06 10 20.9**	**+1.9**
MOF				S	**Sn**	**06 11 04.8**	**+2.5**
MOF	**Molkenrain**	**3.71**	**336**	P	**Pn**	**06 10 20.9**	**+1.9**
MOF				S	**Sn**	**06 11 04.8**	**+2.5**
HINF	**Hinteralfeld**	**3.76**	**333**	*e*Pn	**Pn**	**06 10 21.5**	**+1.8**
HINF				*e*Sn	**Sn**	**06 11 07.0**	**+3.4**
	29nm,0.6s						
HINF	**Hinteralfeld**	**3.76**	**333**	*e*Pn	**Pn**	**06 10 21.5**	**+1.8**
HINF				*e*Sn	**Sn**	**06 11 07.0**	**+3.4**
	14nm,0.6s						
NVLJ	**Novalja**	**3.91**	**87**	*e*Pn	**Pn**	**06 10 23.4**	**+1.8**
NVLJ				Sn	**Sn**	**06 11 07.0**	**0.0**
LASF	**Ste Croix**	**4.01**	**266**	*e*Pn	**Pn**	**06 10 24.4**	**+1.3**
LASF	**Ste Croix**	**4.01**	**266**	*e*Pn	**Pn**	**06 10 24.4**	**+1.3**
ECH	**Echery**	**4.03**	**338**	P	**Pn**	**06 10 25.4**	**+2.1**
ECH				S	**Sn**	**06 11 12.2**	**+2.0**
ECH	**Echery**	**4.03**	**338**	P	**Pn**	**06 10 25.4**	**+2.1**
ECH				S	**Sn**	**06 11 12.2**	**+2.0**
HAU	**Haudompre**	**4.10**	**330**	*e*Pn	**Pn**	**06 10 26.5**	**+2.2**
HAU	**Haudompre**	**4.10**	**330**	*e*P	**Pb**	**06 10 29.3**	**-4.8**
HAU				*e*Sn	**Sn**	**06 11 13.0**	**+1.1**
	82nm,0.5s						
HAU	**Haudompre**	**4.10**	**330**	*e*Pn	**Pn**	**06 10 26.5**	**+2.2**
HAU	**Haudompre**	**4.10**	**330**	*e*P	**Pb**	**06 10 29.3**	**-4.8**
HAU				*e*Sn	**Sn**	**06 11 13.0**	**+1.1**
	41nm,0.5s						
CDF	**Champ du Feu**	**4.18**	**340**	*e*Pn	**Pn**	**06 10 27.0**	**+1.5**
CDF				*e*Sn	**Sn**	**06 11 13.8**	**-0.2**
	14nm,0.5s						
CDF	**Champ du Feu**	**4.18**	**340**	*e*Pn	**Pn**	**06 10 27.0**	**+1.5**
CDF				*e*Sn	**Sn**	**06 11 13.8**	**-0.2**
	7.1nm,0.5s						
THEF	**They Montfort**	**4.42**	**329**	P	**Pn**	**06 10 30.4**	**+1.8**
THEF				S	**Sn**	**06 11 22.6**	**+2.9**
THEF	**They Montfort**	**4.42**	**329**	P	**Pn**	**06 10 30.4**	**+1.8**
THEF				S	**Sn**	**06 11 22.6**	**+2.9**
SMF	**Signal de Mont**	**4.46**	**301**	*e*Pn	**Pn**	**06 10 31.4**	**+2.2**
SMF				*e*Sn	**Sn**	**06 11 21.2**	**+0.4**
SMF	**Signal de Mont**	**4.46**	**301**	*e*Pn	**Pn**	**06 10 31.4**	**+2.2**
SMF				*e*Sn	**Sn**	**06 11 21.2**	**+0.4**
LOR	**Lormes**	**4.76**	**307**	*e*Pn	**Pn**	**06 10 35.8**	**+2.4**
	baz=123						
LOR				*e*Sn	**Sn**	**06 11 29.6**	**+1.3**
	28nm,0.4s						
LOR	**Lormes**	**4.76**	**307**	*e*Pn	**Pn**	**06 10 35.8**	**+2.4**
LOR				*e*Sn	**Sn**	**06 11 29.6**	**+1.3**
	14nm,0.4s						
SFTF	**Sexfontaines**	**4.78**	**322**	*e*Pn	**Pn**	**06 10 35.4**	**+1.7**
	baz=141						
SFTF	**Sexfontaines**	**4.78**	**322**	*e*Pn	**Pn**	**06 10 35.4**	**+1.7**
PAGF	**Fort de Pagny**	**4.79**	**329**	*e*Pn	**Pn**	**06 10 35.7**	**+2.0**
	baz=145						
PAGF				*e*Sn	**Sn**	**06 11 29.4**	**+0.6**
	6.4nm,0.6s						
PAGF	**Fort de Pagny**	**4.79**	**329**	*e*Pn	**Pn**	**06 10 35.7**	**+2.0**
PAGF				*e*Sn	**Sn**	**06 11 29.4**	**+0.6**
	3.2nm,0.6s						
AVF	**Avril sur Loir**	**4.83**	**300**	*e*Pn	**Pn**	**06 10 36.1**	**+1.9**
AVF	**Avril sur Loir**	**4.83**	**300**	*e*P	Pn	06 10 40.0	+5.8
AVF				*e*Sn	**Sn**	**06 11 33.1**	**+3.3**
	12nm,0.6s						
AVF	**Avril sur Loir**	**4.83**	**300**	*e*Pn	**Pn**	**06 10 36.1**	**+1.9**
AVF	**Avril sur Loir**	**4.83**	**300**	*e*P	Pn	06 10 40.0	+5.8
AVF				*e*Sn	**Sn**	**06 11 33.1**	**+3.3**
	6.0nm,0.6s						
SSF	**Saint Saulge**	**4.86**	**304**	*e*Pn	**Pn**	**06 10 36.7**	**+2.0**
SSF				*e*Sn	**Sn**	**06 11 30.8**	**+0.2**
	16nm,0.6s						
SSF	**Saint Saulge**	**4.86**	**304**	*e*Pn	**Pn**	**06 10 36.7**	**+2.0**
SSF				*e*Sn	**Sn**	**06 11 30.8**	**+0.2**
	7.9nm,0.6s						
BGF	**Bois d'Agland**	**5.05**	**296**	*e*Pn	**Pn**	**06 10 39.1**	**+1.8**
BGF				*e*Sn	**Sn**	**06 11 36.6**	**+1.3**
	30nm,0.5s						
BGF	**Bois d'Agland**	**5.05**	**296**	*e*Pn	**Pn**	**06 10 39.1**	**+1.8**
BGF				*e*Sn	**Sn**	**06 11 36.6**	**+1.3**
	15nm,0.5s						
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Pn	**Pn**	**06 10 45.3**	**+3.4**
TCF				*e*Sn	**Sn**	**06 11 43.0**	**-0.4**
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Pn	**Pn**	**06 10 45.3**	**+3.4**
KHC	**Kasperske Hory**	**5.44**	**30**	*e*SN	**Sn**	**06 11 43.5**	**-1.5**
EPF	**Esparros**	**6.73**	**261**	*e*Pn	**Pn**	**06 11 01.4**	**+0.9**
EPF	**Esparros**	**6.73**	**261**	*e*Pn	**Pn**	**06 11 01.4**	**+0.9**

*ISCJB **20** 06:10:51.1±0.3, 44°.52N±0°.02×9°.41E±0°.02, h8km±2km, mb3.

MUGIO	Muggio	1.43 349	Pg	Pn	06 11 18.4	-0.2
ENR	Entracque	1.47 259	Pg	Pn	06 11 18.1	-1.1
	4µm,1.0s					
ENR	Entracque	1.47 259	Pg	Pn	06 11 18.1	-1.1
	4µm,1.0s					
MAGA	Magasa	1.52 33	Pg	Pn	06 11 19.6	-0.2
MAGA	Magasa	1.52 33	Pg	Pn	06 11 19.6	-0.2
BALD	Monte Baldo	1.52 40	ePn	Pn	06 11 19.6	-0.4
BALD	Monte Baldo	1.52 40	ePn	Pn	06 11 19.6	-0.4
SASS	Sassa	1.55 144	Pg	Pn	06 11 19.4	-0.8
	1µm,0.9s					
SASS	Sassa	1.55 144	Pg	Pn	06 11 19.4	-0.8
	1µm,0.9s					
TRAV	Traversella	1.56 310	Pg	Pn	06 11 20.5	+0.1
TRAV	Traversella	1.56 310	Pg	Pn	06 11 20.5	+0.1
SBF	Sospel	1.58 246	ePn	Pn	06 11 19.5	-1.1
SBF			eSn	Sn	06 11 39.9	-1.2
	471nm,0.4s					
SBF	Sospel	1.58 246	ePn	Pn	06 11 19.5	-1.1
SBF			eSn	Sn	06 11 39.9	-1.2
	236nm,0.4s					
SBF	Sospel	1.58 246	ePn	Pn	06 11 19.5	-1.1
SBF			eSn	Sn	06 11 39.9	-1.2
BHB	Bricherasio	1.58 283	Pg	Pn	06 11 21.1	+0.4
	3µm,0.4s					
BHB	Bricherasio	1.58 283	Pg	Pn	06 11 21.1	+0.4
	3µm,0.4s					
ROVR	Rover¨¤ Verone	1.62 45	Pg	Pn	06 11 21.1	-0.2
ROVR	Rover¨¤ Verone	1.62 45	Pg	Pn	06 11 21.1	-0.2
RSP	Reno Superiore	1.67 293	Pg	Pn	06 11 22.1	+0.2
	2µm,0.6s					
RSP	Reno Superiore	1.67 293	Pg	Pn	06 11 22.1	+0.2
	2µm,0.6s					
MARN	Marana (Italy)	1.69 48	ePn	Pn	06 11 21.4	-0.7
MARN	Marana (Italy)	1.69 48	ePn	Pn	06 11 21.4	-0.7
RNI	Roncone	1.69 29	ePn	Pn	06 11 22.2	-0.1
RNI	Roncone	1.69 29	ePn	Pn	06 11 22.2	-0.1
MABI	Malga Bissina	1.72 26	Pg	Pn	06 11 22.5	-0.2
MABI	Malga Bissina	1.72 26	Pg	Pn	06 11 22.5	-0.2
TEOL	Teolo	1.80 61	ePn	Pn	06 11 23.2	-0.4
TEOL	Teolo	1.80 61	ePn	Pn	06 11 23.2	-0.4
MBDF	Montbardon	1.91 277	ePn	Pn	06 11 25.1	-0.2
MBDF	Montbardon	1.91 277	ePn	Pn	06 11 25.1	-0.2
MBDF	Montbardon	1.91 277	ePn	Pn	06 11 25.1	-0.2
PGF	Pioggiola	1.99 189	ePn	Pn	06 11 24.8	-1.5
PGF	Pioggiola	1.99 189	ePn	Pn	06 11 24.8	-1.5
PGF	Pioggiola	1.99 189	ePn	Pn	06 11 24.8	-1.5
CASP	Castiglione de	2.01 148	Pg	Pn	06 11 25.8	-0.7
PANI	Panarotta	2.04 40	ePn	Pn	06 11 26.9	-0.2
CARE	Lago del Cares	2.10 24	ePn	Pn	06 11 28.3	+0.2
CARE	Lago del Cares	2.10 24	ePn	Pn	06 11 28.3	+0.2
LPG	La Plagne	2.14 298	ePn	Pn	06 11 29.8	+1.2
LPG	La Plagne	2.14 298	ePn	Pn	06 11 29.8	+1.2
LPG	La Plagne	2.14 298	ePn	Pn	06 11 29.8	+1.2
CGRP	Cima Grappa	2.16 50	ePn	Pn	06 11 28.6	-0.1
CGRP	Cima Grappa	2.16 50	ePn	Pn	06 11 28.6	-0.1
LPL	La Plagne	2.16 299	ePn	Pn	06 11 29.9	+1.1
LPL	La Plagne	2.16 299	ePg	Pg	06 11 33.3	-0.8
LPL			eSn	Sn	06 11 55.5	-0.2
LPL	La Plagne	2.16 299	ePn	Pn	06 11 29.9	+1.1
LPL	La Plagne	2.16 299	ePg	Pg	06 11 33.3	-0.8
LPL			eSn	Sn	06 11 55.5	-0.2
LPL	La Plagne	2.16 299	ePn	Pn	06 11 29.9	+1.1
LPL			eSn	Sn	06 11 55.5	-0.2
OZOL	Ozolo	2.21 30	ePn	Pn	06 11 29.0	-0.3
OZOL	Ozolo	2.21 30	ePn	Pn	06 11 29.0	-0.3
FRF	La Foret Royal	2.23 246	ePn	Pn	06 11 28.1	-1.4
FRF	La Foret Royal	2.23 246	ePn	Pn	06 11 28.1	-1.4
FRF	La Foret Royal	2.23 246	ePn	Pn	06 11 28.1	-1.4
DAVOX	Davos/Dischmat	2.29 8	Pn	Pb	06 11 32.3	-1.8
	13nm,0.3s,baz=180,slow=11,SNR=8.5					
DAVOX			LR	LR	06 12 07.9	
	comp=Z,125nm,19.4s,baz=252,slow=33					
DAVOX	Davos/Dischmat	2.29 8	Pn	Pb	06 11 32.3	-1.8
LMR	La Mourre	2.42 242	ePn	Pn	06 11 30.5	-1.6
LMR	La Mourre	2.42 242	ePg	Pb	06 11 37.0	+0.8
LMR	La Mourre	2.42 242	ePn	Pn	06 11 30.5	-1.6
LMR	La Mourre	2.42 242	ePg	Pb	06 11 37.0	+0.8
LMR	La Mourre	2.42 242	ePg	Pb	06 11 37.0	+0.8
ORIF	Oris-en-Rattie	2.57 280	ePn	Pn	06 11 36.3	+2.1
ORIF	Oris-en-Rattie	2.57 280	ePn	Pn	06 11 36.3	+2.1
ORIF	Oris-en-Rattie	2.57 280	ePn	Pn	06 11 36.3	+2.1
FETA	Feichten	2.67 19	ePn	Pb	06 11 39.1	-1.3
	4.0nm,0.2s					
FETA	Feichten	2.67 19	Pn	Pb	06 11 39.1	-1.3
	4.0nm,0.2s					
SMRF	Simiane la Rot	2.83 260	ePn	Pn	06 11 38.0	+0.3
SMRF			eSn	Sn	06 12 11.0	-0.8
	267nm,0.5s					
SMRF	Simiane la Rot	2.83 260	ePn	Pn	06 11 38.0	+0.3
SMRF			eSn	Sn	06 12 11.0	-0.8
	133nm,0.5s					
SMRF	Simiane la Rot	2.83 260	ePn	Pn	06 11 38.0	+0.3
SMRF			eSn	Sn	06 12 11.0	-0.8
ABTA	Abfaltersbach	3.10 43	i Pn	Pn	06 11 43.7	+2.1
	26nm,0.6s					
ABTA	Abfaltersbach	3.10 43	Pn	Pn	06 11 43.7	+2.1
	26nm,0.6s					
RETA	Reutte	3.11 17	i Pn	Pn	06 11 43.5	+1.8
	14nm,0.3s					
RETA	Reutte	3.11 17	Pn	Pn	06 11 43.5	+1.8
	14nm,0.3s					
CABF	La Chapelle	3.15 313	ePn	Pn	06 11 43.6	+1.4
CABF	La Chapelle	3.15 313	ePn	Pn	06 11 43.6	+1.4
CABF	La Chapelle	3.15 313	ePn	Pn	06 11 43.6	+1.4
WATA	Walderalm	3.19 27	ePn	Pn	06 11 44.9	+2.0
	6.7nm,0.3s					
WATA	Walderalm	3.19 27	Pn	Pn	06 11 44.9	+2.0
	6.7nm,0.3s					
SKDS	Skadanscina	3.41 71	i Pn	Pn	06 11 45.0	-0.7
SKDS	Skadanscina	3.41 71	i Pn	Pn	06 11 45.0	-0.7
VIVF	Saint-Julien-l	3.41 277	ePn	Pn	06 11 46.2	+0.4
VIVF	Saint-Julien-l	3.41 277	ePn	Pn	06 11 46.2	+0.4
VIVF	Saint-Julien-l	3.41 277	ePn	Pn	06 11 46.2	+0.4
HINF	Hinteralfeld	3.76 332	ePn	Pn	06 11 51.2	+0.6
HINF			eSn	Sn	06 12 35.9	+1.1
	116nm,0.4s					
HINF	Hinteralfeld	3.76 332	ePn	Pn	06 11 51.2	+0.6
HINF			eSn	Sn	06 12 35.9	+1.1
	58nm,0.4s					
HINF	Hinteralfeld	3.76 332	ePn	Pn	06 11 51.2	+0.6
HINF			eSn	Sn	06 12 35.9	+1.1
NVLJ	Novalja	3.89 87	ePn	Pn	06 11 52.4	+0.1
NVLJ			Sn	Sn	06 12 19.5	-18
NVLJ	Novalja	3.89 87	ePn	Pn	06 11 52.4	+0.1
LASF	Ste Croix	4.03 266	ePn	Pn	06 11 53.6	-0.7
LASF	Ste Croix	4.03 266	ePn	Pn	06 11 53.6	-0.7
LASF	Ste Croix	4.03 266	ePn	Pn	06 11 53.6	-0.7
HAU	Haudompre	4.09 330	ePn	Pn	06 11 55.9	+0.7
HAU			eSn	Sn	06 12 41.9	-1.2
	169nm,0.3s					
HAU	Haudompre	4.09 330	ePn	Pn	06 11 55.9	+0.7
HAU			eSn	Sn	06 12 41.9	-1.2
	84nm,0.3s					
HAU	Haudompre	4.09 330	ePn	Pn	06 11 55.9	+0.7
HAU			eSn	Sn	06 12 41.9	-1.2
CDF	Champ du Feu	4.17 340	ePn	Pn	06 11 56.5	+0.2
CDF	Champ du Feu	4.17 340	ePn	Pn	06 11 56.5	+0.2
CDF	Champ du Feu	4.17 340	ePn	Pn	06 11 56.5	+0.2
SMF	Signal de Mont	4.47 300	ePn	Pn	06 12 01.1	+0.8
SMF	Signal de Mont	4.47 300	ePn	Pn	06 12 01.1	+0.8
SMF	Signal de Mont	4.47 300	ePn	Pn	06 12 01.1	+0.8
LOR	Lormes	4.77 307	ePn	Pn	06 12 04.3	-0.1
LOR			eSn	Sn	06 12 59.0	-0.6
	118nm,0.4s					
LOR	Lormes	4.77 307	ePn	Pn	06 12 04.3	-0.1
LOR			eSn	Sn	06 12 59.0	-0.6
	59nm,0.4s					
LOR	Lormes	4.77 307	ePn	Pn	06 12 04.3	-0.1
LOR			eSn	Sn	06 12 59.0	-0.6
PAGF	Fort de Pagny	4.78 329	ePn	Pn	06 12 05.2	+0.6
PAGF	Fort de Pagny	4.78 329	ePn	Pn	06 12 05.2	+0.6
PAGF	Fort de Pagny	4.78 329	ePn	Pn	06 12 05.2	+0.6
SFTF	Sexfontaines	4.78 322	ePn	Pn	06 12 05.7	+1.1
SFTF	Sexfontaines	4.78 322	ePn	Pn	06 12 05.7	+1.1
SFTF	Sexfontaines	4.78 322	ePn	Pn	06 12 05.7	+1.1
AVF	Avril sur Loir	4.83 300	ePn	Pn	06 12 06.1	+0.8
AVF	Avril sur Loir	4.83 300	ePn	Pn	06 12 06.1	+0.8
AVF	Avril sur Loir	4.83 300	ePn	Pn	06 12 06.1	+0.8
MEZF	Maizieres J'vi	5.00 324	ePn	Pn	06 12 08.7	+1.1
MEZF	Maizieres J'vi	5.00 324	ePn	Pn	06 12 08.7	+1.1
MEZF	Maizieres J'vi	5.00 324	ePn	Pn	06 12 08.7	+1.1
BGF	Bois d'Agland	5.06 296	ePn	Pn	06 12 09.1	+0.7
BGF	Bois d'Agland	5.06 296	ePn	Pn	06 12 09.1	+0.7
BGF	Bois d'Agland	5.06 296	ePn	Pn	06 12 09.1	+0.7
GERES	GERESS Array B	5.23 33	Pn	Pn	06 12 10.2	-0.6
	2.7nm,0.3s,baz=213,slow=15,SNR=14					
GERES	GERESS Array B	5.23 33	Pn	Pn	06 12 10.2	-0.6
CAF	Calviac	5.27 277	ePn	Pn	06 12 11.2	-0.1
CAF	Calviac	5.27 277	ePn	Pn	06 12 11.2	-0.1
CAF	Calviac	5.27 277	ePn	Pn	06 12 11.2	-0.1
MTLF	Montolieu	5.34 260	ePn	Pn	06 12 10.8	-1.5
MTLF	Montolieu	5.34 260	ePn	Pn	06 12 10.8	-1.5
MTLF	Montolieu	5.34 260	ePn	Pn	06 12 10.8	-1.5
HYF	Humbligny	5.48 303	ePn	Pn	06 12 14.3	+0.1
HYF	Humbligny	5.48 303	ePn	Pn	06 12 14.3	+0.1
HYF	Humbligny	5.48 303	ePn	Pn	06 12 14.3	+0.1
CONA	Conrad Observa	5.62 50	i Sn	Pn	06 12 18.6	+2.5
	2.7nm,0.2s					
SMOL	Smolenice	6.81 51	ePg	Pg	06 12 59.5	-3.5
SMOL	Smolenice	6.81 51	ePG	Pg	06 12 59.5	-3.5
VRAC	Vranov	6.86 43	LR	LR	06 15 07.2	
	comp=Z,126nm,18.3s,baz=258,slow=37					
VRAC	Vranov	6.86 43	ePn	Pn	06 12 33.0	-0.1
BRG	Berggiesshubel	7.05 24	PG	Pg	06 13 02.2	-5.3
BRG			SN	Sb	06 14 18.5	-0.6
CLL	Collm	7.21 18	e(Pn)	Pn	06 12 36.0	-1.8
CLL			eSn	Sn	06 13 41.0	-19
CLL			e		06 13 57.0	
CLL			i Sb	Sb	06 14 23.9	+0.3
CLL			eSg	Sg	06 14 45.0	+1.3
TEKS	Tekeris	7.21 86	ePn	Pn	06 12 38.4	+0.4
DIVS	Divibare	7.59 89	ePn	Pn	06 12 45.2	+2.0
IVAS	Ivanjica	7.78 93	ePn	Pn	06 12 45.1	-0.7
GRUS	Gruza	8.13 90	ePn	Pn	06 12 53.0	+2.4
SELS	Selova	8.54 95	ePn	Pn	06 12 56.2	0.0
KECS	Kecovo	8.59 59	e	Pn	06 12 59.3	+2.4
ZAGS	Zajecar	9.23 90	ePn	Pn	06 13 05.0	-0.6
QUIF	Quistinic	9.37 296	ePn	Pn	06 13 06.8	-0.8
QUIF	Quistinic	9.37 296	ePn	Pn	06 13 06.8	-0.8
QUIF	Quistinic	9.37 296	ePn	Pn	06 13 06.8	-0.8
EKA	Eskdalemuir Ar	13.50 328	Pn	Pn	06 14 05.0	+1.0
	baz=141,slow=15,SNR=2.9					
EKA	Eskdalemuir Ar	13.50 328	Pn	Pn	06 14 05.0	+1.0
TORD	Torodi Ar. Bea	31.95 194	P	P	06 17 21.0	+2.4
	0.5nm,0.6s,baz=11,slow=9.8,SNR=4.4					
TORD			LR	LR	06 29 32.5	
	comp=Z,47nm,20.8s,baz=285,slow=35					
TORD	Torodi Ar. Bea	31.95 194	P	P	06 17 21.0	+2.4
MKAR	Makanchi Array	49.26 60	P	P	06 19 41.9	+0.7
	0.5nm,0.6s,baz=328,slow=4.1,SNR=2.5					
MKAR	Makanchi Array	49.26 60	P	P	06 19 41.9	+0.7
TLY	Talaya	59.06 46	LR	LR	06 51 12.8	
	comp=Z,25nm,19.4s,baz=354,slow=41					
PDAR	Pinedale Array	77.45 319	P	P	06 22 47.5	-0.7
	0.2nm,0.7s,baz=32,slow=7.4,SNR=2.7					
PDAR	Pinedale Array	77.45 319	P	P	06 22 47.5	-0.7
TXAR	Lajitas Array	84.52 306	P	P	06 23 26.5	+0.6
	0.5nm,0.8s,baz=65,slow=1.7,SNR=4.4					
TXAR	Lajitas Array	84.52 306	P	P	06 23 26.5	+0.6

DDA ***20*** *06:10:58.4, 40°.81N×33°.58E, h7km, Ml2.6*
CSEM ***20*** *06:10:59.0±0.3, 40°.85N×33°.59E, h2km, ML2.4, Error ellipse: s-maj=6.2km s-min=4.9km az=157.0*
ISK ***20*** *06:11:00.3, 40°.81N×33°.63E, h6km, ML2.4*
ISC 20 06:10:59.5±0.9, 40°.83N±0°.02×33°.60E±0°.02, h9km±7km, n31, σ1s31/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	Cankiri	0.22	175	ePG	Pg	06 11 04.7	+0.6
CANT				eSG	Sg	06 11 08.9	+1.8
ILGA	Ilgaz	0.24	22	i P	Pg	06 11 04.0	-0.6
ILGA				i S	Sg	06 11 07.8	-0.2
ILGA	Ilgaz	0.24	22	P	Pg	06 11 04.0	-0.6
ILGA				S	Sg	06 11 07.8	-0.2
CMDR	Camlidere-ANKA	0.92	249	i P	Pg	06 11 15.6	-1.6
CMDR				i S	Sb	06 11 30.1	+0.2
CMDR	Camlidere-ANKA	0.92	249	P	Pg	06 11 15.6	-1.6
CMDR				S	Sb	06 11 30.1	+0.2
CTAK	Corum_Osmancik	0.93	101	i P	Pb	06 11 17.2	-0.6
CTAK				i S	Sb	06 11 31.0	+0.7
CTAK	Corum_Osmancik	0.93	101	P	Pb	06 11 17.2	-0.6
CTAK				S	Sb	06 11 31.0	+0.7
CORM	Corum	1.02	129	ePG	Pn	06 11 19.5	-0.6
CORM				eSG	Sn	06 11 33.8	-0.7
CORM	Corum	1.02	129	ePg	Pn	06 11 19.5	-0.6
CORM				eSg	Sn	06 11 33.8	-0.7
LOD	Lodumlu	1.13	214	ePN	Pn	06 11 22.5	+0.9
LOD				eSN	Sn	06 11 38.6	+1.4
LOD	Lodumlu	1.13	214	ePn	Pn	06 11 22.5	+0.9
LOD				eSn	Sn	06 11 38.7	+1.4
BOYT	Boyabat	1.15	59	i P	Pg	06 11 20.0	-1.6
BOYT				i S	Sb	06 11 37.1	+0.4
BOYT	Boyabat	1.15	59	P	Pg	06 11 20.0	-1.6
BOYT				S	Sb	06 11 37.1	+0.4
BCAM	Yenicaga	1.16	270	i P	Pg	06 11 19.1	-2.7
BCAM				i S	Sn	06 11 37.8	-0.3
BCAM	Yenicaga	1.16	270	P	Pg	06 11 19.1	-2.7
BCAM				S	Sn	06 11 37.8	-0.3
BZK	Bozkurt	1.17	15	ePN	Pn	06 11 22.9	+0.8
BZK				eSN	Sn	06 11 40.5	+2.3
BZK	Bozkurt	1.17	15	ePn	Pn	06 11 22.9	+0.8
BZK				eSn	Sn	06 11 40.5	+2.3
COAL	Corum-Alaca	1.20	118	i P	Pg	06 11 20.2	-2.4
COAL				i S	Sb	06 11 38.3	+0.1
COAL	Corum-Alaca	1.20	118	P	Pg	06 11 20.2	-2.4
COAL				S	Sb	06 11 38.3	+0.1
BBAL	Bala	1.33	196	i P	Pn	06 11 22.7	-1.7
BBAL				i S	Sn	06 11 44.4	+2.2
BBAL	Bala	1.33	196	P	Pn	06 11 22.7	-1.7
BBAL				S	Sn	06 11 44.4	+2.2
CDAG	Cicekdag	1.34	153	i P	Pn	06 11 23.3	-1.2
CDAG				i S	Sn	06 11 43.0	+0.6
CDAG	Cicekdag	1.34	153	P	Pn	06 11 23.3	-1.2
CDAG				S	Sn	06 11 43.0	+0.6
AFSR	Af¯ar-Bala (A	1.44	196	ePN	Pg	06 11 27.4	+0.4
AFSR				eSN	Sg	06 11 47.4	+1.7
AFSR	Af¯ar-Bala (A	1.44	196	ePn	Pg	06 11 27.4	+0.4
AFSR				eSn	Sg	06 11 47.4	+1.7
HAVZ	Havza	1.63	81	i P	Pn	06 11 28.6	+0.3
HAVZ				i S	Sg	06 11 53.6	+1.8
HAVZ	Havza	1.63	81	P	Pn	06 11 28.6	+0.3
HAVZ				S	Sg	06 11 53.6	+1.8
KKUL	Konya-Kulu	1.73	198	i P	Pb	06 11 30.8	-0.7
KKUL				i S	Sg	06 11 54.8	-0.4
KKUL	Konya-Kulu	1.73	198	P	Pb	06 11 30.8	-0.7
KKUL				S	Sg	06 11 54.8	-0.4
MDUB	Mudurnu	1.86	260	ePN	Pb	06 11 33.9	+0.2
MDUB	Mudurnu	1.86	260	ePn	Pb	06 11 33.9	+0.2

ROM ***20*** *06:11:18.8±0.2, 44°.52N×9°.39E, h5km±2km, Ml4.0/8, Error ellipse: s-maj=1.9km s-min=1.6km az=20.0*
GEN ***20*** *06:11:18.9, 44°.57N×9°.48E, h9km, ML4.0*
CSEM ***20*** *06:11:19.6±0.1, 44°.46N×9°.44E, h12km, ML4.6/41, Error ellipse: s-maj=3.1km s-min=2.2km az=169.0*
IDC ***20*** *06:11:20.4±4.0, 44°.59N×9°.32E, h14km±26km, mb4.1/12, mb1 4.2/19, mb1mx4.0/55, mbtmp4.1/19, ML4.0/7, MS3.4/6, Ms1 3.4/6, ms1mx3.0/41, Error ellipse: s-maj=15.6km s-min=10.3km az=136.0*
STR ***20*** *06:11:21.5±0.2, 44°.48N×9°.44E, h10km, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***20*** *06:11:21.8±0.1, 44°.48N×9°.45E, h10km, Ml4.5/41, Error ellipse: s-maj=3.3km s-min=2.4km az=178.0*
NEIC ***20*** *06:11:22.1±1.1, 44°.58N×9°.45E, h25km±11km, mb4.2/1, ML4.0(ROM), Error ellipse: s-maj=4.9km s-min=3.8km az=178.0*
NEIC Felt [IV] at Rapallo, [III] at Genoa and [II] at La Spezia, Milan and Parma. Felt in much of Emilia-Romagna, Liguria and Lombardy and in parts of Piemonte and Tuscany.
PRU ***20*** *06:11:22.6, 44°.67N×9°.56E, h10km, M4.2*
ISC 20 06:11:19.3±0.8, 44°.54N±0°.02×9°.40E±0°.01, h9km±5km, n345, σ1s72/522, mb4.3/13, MS3.6/6, 17C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	Scurtabo	0.17	146	ePg	Pg	06 11 22.3	-0.5
SC2M				Sg	Sg	06 11 25.6	+0.4
SC2M	Scurtabo	0.17	146	ePg	Pg	06 11 22.3	-0.5
SC2M				S	Sg	06 11 25.4	+0.2
BOB	Bobbio (Coli)	0.23	8	i PG	Pg	06 11 23.7	-0.3
BOB	Bobbio (Coli)	0.23	8	i PG	Pg	06 11 23.7	-0.3
MSSA	Maissana	0.24	160	ePg	Pg	06 11 23.5	-0.6
MSSA				Sg	Sg	06 11 27.7	+0.3
	18µm,0.4s						
MSSA	Maissana	0.24	160	ePg	Pg	06 11 23.5	-0.6
MSSA				Sg	Sg	06 11 27.7	+0.3
	18µm,0.4s						
PLMA	Palmaria, Port	0.59	147	Pg	Pg	06 11 29.9	-0.7
PLMA				Sg	Sg	06 11 39.0	+0.7
	4µm,0.4s						
PLMA	Palmaria, Port	0.59	147	Pg	Pg	06 11 29.9	-0.7
PLMA				Sg	Sg	06 11 39.0	+0.7
	4µm,0.4s						
PCP	Piancastagn	0.61	270	Pg	Pg	06 11 31.8	+0.6
PCP				Sg	Sg	06 11 40.1	+0.9
	2µm,0.8s						
PCP	Piancastagn	0.61	270	Pg	Pg	06 11 31.8	+0.6
PCP	Piancastagn	0.61	270	P	Pb	06 11 32.1	-0.2
PCP				Sg	Sg	06 11 40.1	+0.9
	2µm,0.8s						
PRMA	PARMA	0.69	71	Pg	Pb	06 11 33.3	-0.1
PRMA	PARMA	0.69	71	Pg	Pb	06 11 33.3	-0.1
QLNO	Quiliano	0.79	254	Pg	Pg	06 11 34.5	0.0
QLNO				Sg	Sg	06 11 45.6	+0.9
	1µm,0.6s						
QLNO	Quiliano	0.79	254	Pg	Pg	06 11 34.5	0.0
QLNO				Sg	Sg	06 11 45.6	+0.9
	1µm,0.6s						
VLC	Villacollemand	0.80	118	Pg	Pg	06 11 35.0	+0.3
	2µm,0.6s						
VLC	Villacollemand	0.80	118	Pg	Pg	06 11 35.0	+0.3
	2µm,0.6s						
VLC	Villacollemand	0.80	118	ePg	Pn	06 11 37.3	+0.5
FINB	Finale Ligure	0.85	245	Pg	Pg	06 11 35.5	-0.2
FINB				Sg	Sg	06 11 47.6	+0.8
	4µm,0.4s						
FINB	Finale Ligure	0.85	245	Pg	Pg	06 11 35.5	-0.2
FINB				Sg	Sg	06 11 47.6	+0.8
	4µm,0.4s						
MAIM	Mastiano	1.00	128	Pg	Pb	06 11 38.7	-0.1
MAIM				Sg	Sg	06 11 51.5	0.0
	3µm,0.6s						
MAIM	Mastiano	1.00	128	Pg	Pb	06 11 38.7	-0.1
MAIM				Sg	Sg	06 11 51.5	0.0
	3µm,0.6s						
RORO	Rocca Rossa	1.05	246	Pg	Pg	06 11 39.3	-0.2
RORO				Sg	Sg	06 11 52.9	-0.2
	4µm,0.6s						
RORO	Rocca Rossa	1.05	246	Pg	Pg	06 11 39.3	-0.2
RORO				Sg	Sg	06 11 52.9	-0.2
	4µm,0.6s						
GROG	Isola di Gorgo	1.17	162	Pg	Pb	06 11 41.4	-0.2
	2µm,0.6s						
GROG	Isola di Gorgo	1.17	162	Pg	Pb	06 11 41.4	-0.2
	2µm,0.6s						
IMI	Imperia	1.26	240	Pg	Pn	06 11 42.8	-0.3
IMI				Sg	Sb	06 11 58.6	-0.9
	4µm,0.6s						
IMI	Imperia	1.26	240	Pg	Pn	06 11 42.8	-0.3
IMI				Sg	Sb	06 11 58.6	-0.9
	4µm,0.6s						
SALO	Salr	1.34 36	Pg	Pg	06 11 44.9	-0.1
SALO			Sg	Sn	06 12 03.1	+0.9
SALO	Salr	1.34 36	Pg	Pg	06 11 44.9	-0.1
SALO			Sg	Sn	06 12 03.1	+0.9
CRMI	Carmignano	1.35 123	Pg	Pn	06 11 44.4	0.0
CRMI	Carmignano	1.35 123	Pg	Pn	06 11 44.4	0.0
NEGI	Seborga	1.41 241	Pg	Pn	06 11 44.7	-0.4
	191nm,0.4s						
NEGI	Seborga	1.41 241	Pg	Pn	06 11 44.7	-0.4
	191nm,0.4s						
ENR	Entracque	1.46 258	Pg	Pn	06 11 46.0	+0.1
	4µm,1.0s						
ENR	Entracque	1.46 258	Pg	Pn	06 11 46.0	+0.1
	4µm,1.0s						
SBF	Sospel	1.57 245	ePn	Pn	06 11 46.9	-0.5
	SNR=1.0						
SBF	Sospel	1.57 245	ePg	Pg	06 11 50.2	+0.8
SBF			eSn	Sn	06 12 06.6	-1.3
	6µm,0.8s,SNR=1.0						
SBF	Sospel	1.57 245	ePn	Pn	06 11 46.9	-0.5
	SNR=1.0						
SBF	Sospel	1.57 245	ePg	Pg	06 11 50.2	+0.8
SBF			eSn	Sn	06 12 06.6	-1.3
	3µm,0.8s,SNR=1.0						
SBF	Sospel	1.57 245	ePg	Pg	06 11 50.2	+0.8
SBF			eSn	Sn	06 12 06.6	-1.3
MBDF	Montbardon	1.89 277	ePn	Pb	06 11 53.5	-0.5
	SNR=1.0						
MBDF			eSn	Sn	06 12 16.4	+0.5
	4µm,0.8s,SNR=1.0						
MBDF			eS	Sg	06 12 20.8	+0.8
MBDF			eSg	Sg	06 12 22.6	+2.6
MBDF	Montbardon	1.89 277	ePn	Pb	06 11 53.5	-0.5
	SNR=1.0						
MBDF			eSn	Sn	06 12 16.4	+0.5
MBDF			eS	Sg	06 12 20.8	+0.8
MBDF			eSg	Sg

FRF La Foret Royal 2.22 245 *e*Pn **Pn 06 11 55.2 -1.1**
FRF *e*Sn **Sn 06 12 22.7 -1.1**
FRF *e*Sg **Sg 06 12 29.3 -1.2**
DAVOX Davos/Dischmat 2.27 8 Pn **Pb 06 11 59.0 -1.5**
77nm,0.3s,baz=158,slow=15,SNR=15
DAVOX Sn **Sn 06 12 26.6 +1.4**
146nm,0.3s,baz=188,slow=20,SNR=8.1
RSL Roselend 2.28 301 P **Pb 06 12 00.8 +0.1**
RSL Roselend 2.28 301 P **Pb 06 12 00.8 +0.1**
SENIN Lac Senin/Sane 2.35 322 *e*Pn **Pb 06 12 01.1 -0.8**
SENIN Lac Senin/Sane 2.35 322 *e*Pn **Pb 06 12 01.1 -0.8**
LMR La Mourre 2.41 241 *e*Pn **Pn 06 11 57.9 -1.1**
SNR=1.0
LMR La Mourre 2.41 241 *e*P **Pn 06 12 00.2 +1.2**
LMR La Mourre 2.41 241 *e*Pg **Pb 06 12 03.7 +0.8**
LMR *e*Sn **Sn 06 12 25.9 -2.7**
658nm,0.6s,SNR=1.0
LMR *e*S **Sb 06 12 30.9 -1.9**
LMR *e*Sg **Sg 06 12 35.4 -1.4**
LMR La Mourre 2.41 241 *e*Pn **Pn 06 11 57.9 -1.1**
SNR=1.0
LMR La Mourre 2.41 241 *e*P **Pn 06 12 00.2 +1.2**
LMR La Mourre 2.41 241 *e*Pg **Pb 06 12 03.7 +0.8**
LMR *e*Sn **Sn 06 12 25.9 -2.7**
329nm,0.6s,SNR=1.0
LMR *e*S **Sb 06 12 30.9 -1.9**
LMR *e*Sg **Sg 06 12 35.4 -1.4**
LMR La Mourre 2.41 241 *e*P **Pn 06 12 00.2 +1.2**
LMR *e*Sn **Sn 06 12 25.9 -2.7**
LMR *e*S **Sb 06 12 30.9 -1.9**
LMR *e*Sg **Sg 06 12 35.4 -1.4**
GDM Grand'Maison 2.43 287 P **Pb 06 12 02.4 -0.9**
GDM S **Sb 06 12 34.4 +1.0**
GDM Grand'Maison 2.43 287 P **Pb 06 12 02.4 -0.9**
ORIF Oris-en-Rattie 2.54 280 *e*Pn **Pb 06 12 03.3 -1.8**
SNR=1.0
ORIF *e*Sn **Sn 06 12 31.6 -0.3**
1µm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 2.54 280 *e*Pn **Pb 06 12 03.3 -1.8**
SNR=1.0
ORIF *e*Sn **Sn 06 12 31.6 -0.3**
698nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 2.54 280 *e*Pn **Pb 06 12 03.3 -1.8**
ORIF *e*Sn **Sn 06 12 31.6 -0.3**
GRN Grenoble 2.69 286 P **Pb 06 12 06.2 -1.5**
GRN S **Sb 06 12 41.1 +0.2**
GRN Grenoble 2.69 286 P **Pb 06 12 06.2 -1.5**
DAVA Damuels 2.77 7 Pn **Pb 06 12 07.2 -1.8**
83nm,0.3s
DAVA Sn **Sb 06 12 41.7 -1.4**
757nm,0.3s
DAVA Damuels 2.77 7 Pn **Pb 06 12 07.2 -1.8**
83nm,0.3s
DAVA Sn **Sb 06 12 41.7 -1.4**
757nm,0.3s
SMRF Simiane la Rot 2.81 260 *e*Pn **Pn 06 12 04.8 +0.4**
SNR=1.0
SMRF *e*Sn **Sn 06 12 36.5 -2.0**
2µm,1.0s
SMRF Simiane la Rot 2.81 260 *e*Pn **Pn 06 12 04.8 +0.4**
SNR=1.0
SMRF *e*Sn **Sn 06 12 36.5 -2.0**
1µm,1.0s
SMRF Simiane la Rot 2.81 260 *e*Pn **Pn 06 12 04.8 +0.4**
SMRF *e*Sn **Sn 06 12 36.5 -2.0**
SQTA Sankt Quirin 2.96 25 *i* Pn **Pn 06 12 09.2 +2.6**
SQTA Sankt Quirin 2.96 25 Pn **Pn 06 12 09.2 +2.6**
MOTA Moosalm 3.04 22 *i* Pn **Pb 06 12 13.1 -0.6**
MOTA Sn **Sb 06 12 48.5 -2.6**
406nm,0.4s
RETA Reutte 3.10 17 *e*Pn **Pn 06 12 10.3 +1.9**
67nm,0.3s
RETA *i* Sn **Sn 06 12 48.4 +2.8**
685nm,0.6s
RETA Reutte 3.10 17 Pn **Pn 06 12 10.3 +1.9**
67nm,0.3s
RETA Sn **Sn 06 12 48.4 +2.8**
685nm,0.6s
ABTA Abfaltersbach 3.10 44 Pn **Pn 06 12 10.4 +1.9**
106nm,0.6s
ABTA Sn **Sn 06 12 46.4 +0.6**
293nm,0.6s
ABTA Abfaltersbach 3.10 44 Pn **Pn 06 12 10.4 +1.9**
106nm,0.6s
ABTA Sn **Sn 06 12 46.4 +0.6**
293nm,0.6s
CABF La Chapelle 3.12 313 *e*Pn **Pn 06 12 10.5 +1.8**
SNR=1.0
CABF *e*Sn **Sn 06 12 47.6 +1.5**
1µm,0.8s
CABF La Chapelle 3.12 313 *e*Pn **Pn 06 12 10.5 +1.8**
SNR=1.0
CABF *e*Sn **Sn 06 12 47.6 +1.5**
587nm,0.8s
CABF La Chapelle 3.12 313 *e*Pn **Pn 06 12 10.5 +1.8**
CABF *e*Sn **Sn 06 12 47.6 +1.5**
WTTA Wattenberg 3.14 29 *i* Pn **Pn 06 12 12.0 +2.9**
WTTA Sn **Sn 06 12 49.7 +2.9**
370nm,0.5s
WTTA Wattenberg 3.14 29 Pn **Pn 06 12 12.0 +2.9**
WTTA Sn **Sn 06 12 49.7 +2.9**
370nm,0.5s
WATA Walderalm 3.18 28 *e*Pn **Pn 06 12 11.7 +2.0**
17nm,0.2s
WATA *e*Sn **Sb 06 12 51.9 -3.1**
132nm,0.3s
WATA Walderalm 3.18 28 Pn **Pn 06 12 11.7 +2.0**
17nm,0.2s
WATA Sn **Sb 06 12 51.9 -3.1**
132nm,0.3s
TRI Trieste 3.30 68 *e*Pn **Pn 06 12 10.4 -0.7**
TRI Trieste 3.30 68 *e*Pn **Pn 06 12 10.4 -0.7**
LOMF Lomont 3.34 328 P **Pn 06 12 14.2 +2.5**
LOMF S **Sb 06 12 58.5 -0.9**
LOMF Lomont 3.34 328 P **Pn 06 12 14.2 +2.5**
VIVF Saint-Julien-I 3.39 277 *e*Pn **Pn 06 12 14.1 +1.7**
SNR=1.0
VIVF Saint-Julien-I 3.39 277 *e*P **Pn 06 12 16.0 +3.6**
VIVF *e*Sn **Sn 06 12 52.8 0.0**
280nm,0.5s,SNR=1.0
VIVF Saint-Julien-I 3.39 277 *e*Pn **Pn 06 12 14.1 +1.7**
SNR=1.0
VIVF Saint-Julien-I 3.39 277 *e*P **Pn 06 12 16.0 +3.6**
VIVF *e*Sn **Sn 06 12 52.8 0.0**
140nm,0.5s,SNR=1.0
VIVF Saint-Julien-I 3.39 277 *e*Pn **Pn 06 12 14.1 +1.7**
VIVF *e*Sn **Sn 06 12 52.8 0.0**
FELD Feldberg im Sc 3.48 344 P **Pn 06 12 16.4 +2.7**
SSB Saint Sauveur 3.53 284 P **Pn 06 12 16.8 +2.4**
SSB Saint Sauveur 3.53 284 P **Pn 06 12 16.8 +2.4**
SSB Saint Sauveur 3.53 284 *e*Pn **Pn 06 12 16.8 +2.4**
MYKA Terra Mystica 3.63 53 Sg **Sg 06 13 16.8 +0.8**
134nm,0.4s
MYKA Terra Mystica 3.63 53 Sg **Sg 06 13 16.8 +0.8**
134nm,0.4s
AQU L'Aquila 3.64 126 *e*Pn **Pn 06 12 17.2 +1.3**
AQU L'Aquila 3.64 126 *e*Pg **Pg 06 12 28.3 -0.7**
AQU L'Aquila 3.64 126 *e*Pn **Pn 06 12 17.2 +1.3**
AQU *e*Pg **Pg 06 12 28.3 -0.7**
MOF Molkenrain 3.67 335 P **Pn 06 12 19.1 +2.8**
MOF S **Sb 06 13 06.5 -2.4**
MOF Molkenrain 3.67 335 P **Pn 06 12 19.1 +2.8**
HINF Hinteralfeld 3.73 333 *e*Pn **Pn 06 12 18.1 +1.1**
SNR=1.0
HINF *e*Sn **Sn 06 13 01.5 +0.4**
504nm,0.4s
HINF Hinteralfeld 3.73 333 *e*Pn **Pn 06 12 18.1 +1.1**
SNR=1.0
HINF *e*Sn **Sn 06 13 01.5 +0.4**
252nm,0.4s
HINF Hinteralfeld 3.73 333 *e*Pn **Pn 06 12 18.1 +1.1**
HINF *e*Sn **Sn 06 13 01.5 +0.4**
KBA Koelnbreinsper 3.75 46 *e*Pn **Pb 06 12 23.5 -2.2**
45nm,0.4s
KBA *e*Sn **Sn 06 13 02.3 +0.5**
92nm,0.4s
BFO Black Forest 3.86 349 *e*Pn **Pn 06 12 19.0 +0.1**
BFO Black Forest 3.86 349 *e*Pn **Pn 06 12 18.9 +0.1**
ECH Echery 3.99 338 P **Pn 06 12 23.8 +3.1**
ECH S **Sb 06 13 14.9 -3.3**
ECH Echery 3.99 338 *e*Pn **Pn 06 12 21.4 +0.7**
ECH Echery 3.99 338 P **Pn 06 12 23.8 +3.1**
ECH Echery 3.99 338 *e*Pn **Pn 06 12 21.4 +0.7**
LASF Ste Croix 4.01 265 *e*Pn **Pn 06 12 20.4 -0.5**
SNR=1.0

LASF *e*Sn **Sn 06 13 05.1 -2.9**
96nm,0.5s
LASF Ste Croix 4.01 265 *e*Pn **Pn 06 12 20.4 -0.5**
SNR=1.0
LASF *e*Sn **Sn 06 13 05.1 -2.9**
48nm,0.5s
LASF Ste Croix 4.01 265 *e*Pn **Pn 06 12 20.4 -0.5**
LASF *e*Sn **Sn 06 13 05.1 -2.9**
HAU Haudompre 4.06 330 *e*Pn **Pn 06 12 22.9 +1.2**
SNR=1.0
HAU Haudompre 4.06 330 *e*P **Pb 06 12 26.8 -4.2**
HAU *e*Sn **Sn 06 13 10.9 +1.6**
2µm,0.5s,SNR=1.0
HAU Haudompre 4.06 330 *e*Pn **Pn 06 12 22.9 +1.2**
SNR=1.0
HAU *e*Sn **Sn 06 13 10.9 +1.6**
960nm,0.5s,SNR=1.0
HAU Haudompre 4.06 330 *e*Pn **Pn 06 12 22.9 +1.2**
HAU *e*Sn **Sn 06 13 10.9 +1.6**
CDF Champ du Feu 4.14 340 *e*Pn **Pn 06 12 23.5 +0.7**
SNR=1.0
CDF Champ du Feu 4.14 340 *e*P **Pn 06 12 27.4 +4.6**
CDF *e*Sn **Sn 06 13 10.8 -0.6**
353nm,0.5s,SNR=1.0
CDF Champ du Feu 4.14 340 *e*Pn **Pn 06 12 23.5 +0.7**
SNR=1.0
CDF Champ du Feu 4.14 340 *e*P **Pn 06 12 27.4 +4.6**
CDF *e*Sn **Sn 06 13 10.8 -0.6**
177nm,0.5s,SNR=1.0
CDF Champ du Feu 4.14 340 *e*Pn **Pn 06 12 23.5 +0.7**
CDF *e*Sn **Sn 06 13 10.8 -0.6**
COLF Collangettes 4.16 286 P **Pn 06 12 25.4 +2.3**
COLF Collangettes 4.16 286 P **Pn 06 12 25.4 +2.3**
STU Stuttgart 4.24 358 *e*Pn **Pn 06 12 24.0 0.0**
STU Stuttgart 4.24 358 *e*Pn **Pn 06 12 24.0 0.0**
STU *e*Pg **Pb 06 12 33.5 -0.5**
THEF They Montfort 4.38 329 P **Pn 06 12 28.5 +2.5**
THEF S **Sb 06 13 24.8 -4.5**
THEF They Montfort 4.38 329 P **Pn 06 12 28.5 +2.5**
SMF Signal de Mont 4.44 300 *e*Pn **Pn 06 12 28.4 +1.6**
SNR=1.0
SMF *e*Sn **Sn 06 13 19.0 +0.5**
482nm,0.3s
SMF Signal de Mont 4.44 300 *e*Pn **Pn 06 12 28.4 +1.6**
SNR=1.0
SMF *e*Sn **Sn 06 13 19.0 +0.5**
241nm,0.3s
SMF Signal de Mont 4.44 300 *e*Pn **Pn 06 12 28.4 +1.6**
SMF *e*Sn **Sn 06 13 19.0 +0.5**
SOKA Soboth 4.49 60 *e*Sg **Sg 06 13 44.6 +1.2**
100nm,0.6s
SOKA Soboth 4.49 60 Sg **Sg 06 13 44.6 +1.2**
100nm,0.6s
LANF Langenberg 4.58 347 P **Pn 06 12 31.2 +2.5**
LANF S **Sb 06 13 29.9 -5.1**
LANF Langenberg 4.58 347 P **Pn 06 12 31.2 +2.5**
MOA Molln 4.73 44 *i* Pn **Pn 06 12 28.6 -2.2**
2.5nm,0.1s
MOA *e*Sn **Sn 06 13 27.8 +2.1**
70nm,0.5s
MOA Molln 4.73 44 Pn **Pn 06 12 28.6 -2.2**
2.5nm,0.1s
MOA Sn **Sn 06 13 27.8 +2.1**
70nm,0.5s
LOR Lormes 4.74 307 *e*Pn **Pn 06 12 32.2 +1.3**
baz=127,SNR=1.0
LOR *e*Sn **Sn 06 13 25.4 -0.5**
652nm,0.4s,baz=124,SNR=1.0
LOR Lormes 4.74 307 *e*Pn **Pn 06 12 32.2 +1.3**
SNR=1.0
LOR *e*Sn **Sn 06 13 25.4 -0.5**
326nm,0.4s,SNR=1.0
LOR Lormes 4.74 307 *e*Pn **Pn 06 12 32.2 +1.3**
LOR *e*Sn **Sn 06 13 25.4 -0.5**
PAGF Fort de Pagny 4.75 329 *e*Pn **Pn 06 12 32.5 +1.4**
baz=147
PAGF Fort de Pagny 4.75 329 *e*P **Pn 06 12 35.3 +4.2**
PAGF *e*Sn **Sn 06 13 25.8 -0.5**
63nm,0.3s
PAGF Fort de Pagny 4.75 329 *e*Pn **Pn 06 12 32.5 +1.4**
PAGF Fort de Pagny 4.75 329 *e*P **Pn 06 12 35.3 +4.2**
PAGF *e*Sn **Sn 06 13 25.8 -0.5**
31nm,0.3s
PAGF Fort de Pagny 4.75 329 *e*Pn **Pn 06 12 32.5 +1.4**
PAGF *e*Sn **Sn 06 13 25.8 -0.5**
SFTF Sexfontaines 4.75 322 *e*Pn **Pn 06 12 32.7 +1.6**
baz=131
SFTF Sexfontaines 4.75 322 *e*P **Pn 06 12 35.4 +4.3**
SFTF *e*Sn **Sn 06 13 25.6 -0.7**
249nm,0.5s,baz=140
SFTF Sexfontaines 4.75 322 *e*Pn **Pn 06 12 32.7 +1.6**
SFTF Sexfontaines 4.75 322 *e*P **Pn 06 12 35.4 +4.3**
SFTF *e*Sn **Sn 06 13 25.6 -0.7**
125nm,0.5s
SFTF Sexfontaines 4.75 322 *e*Pn **Pn 06 12 32.7 +1.6**
SFTF *e*Sn **Sn 06 13 25.6 -0.7**
AVF Avril sur Loir 4.80 300 *e*Pn **Pn 06 12 33.1 +1.3**
SNR=1.0
AVF *e*Sn **Sn 06 13 26.4 -1.1**
179nm,0.5s
AVF Avril sur Loir 4.80 300 *e*Pn **Pn 06 12 33.1 +1.3**
SNR=1.0
AVF *e*Sn **Sn 06 13 26.4 -1.1**
90nm,0.5s
AVF Avril sur Loir 4.80 300 *e*Pn **Pn 06 12 33.1 +1.3**
AVF *e*Sn **Sn 06 13 26.4 -1.1**
SSF Saint Saulge 4.83 304 *e*Pn **Pn 06 12 33.3 +1.1**
SNR=1.0
SSF *e*Sn **Sn 06 13 26.5 -1.8**
288nm,0.5s
SSF Saint Saulge 4.83 304 *e*Pn **Pn 06 12 33.3 +1.1**
SNR=1.0
SSF *e*Sn **Sn 06 13 26.5 -1.8**
144nm,0.5s
SSF Saint Saulge 4.83 304 *e*Pn **Pn 06 12 33.3 +1.1**
SSF *e*Sn **Sn 06 13 26.5 -1.8**
KTD Kalmit 4.87 350 P **Pn 06 12 35.3 +2.6**
MEZF Maizieres J'vi 4.97 324 *e*Pn **Pn 06 12 35.3 +1.2**
baz=142
MEZF *e*Sn **Sn 06 13 30.6 -1.1**
362nm,0.7s,baz=145
MEZF Maizieres J'vi 4.97 324 *e*Pn **Pn 06 12 35.3 +1.2**
MEZF *e*Sn **Sn 06 13 30.6 -1.1**
181nm,0.7s
MEZF Maizieres J'vi 4.97 324 *e*Pn **Pn 06 12 35.3 +1.2**
MEZF *e*Sn **Sn 06 13 30.6 -1.1**
BGF Bois d'Agland 5.03 296 *e*Pn **Pn 06 12 36.5 +1.6**
SNR=1.0
BGF Bois d'Agland 5.03 296 *e*P Pn 06 12 40.7 +5.8
BGF *e*Sn **Sn 06 13 33.2 +0.1**
545nm,0.5s
BGF Bois d'Agland 5.03 296 *e*Pn **Pn 06 12 36.5 +1.6**
SNR=1.0
BGF *e*Sn **Sn 06 13 33.2 +0.1**
273nm,0.5s
BGF Bois d'Agland 5.03 296 *e*Pn **Pn 06 12 36.5 +1.6**
BGF *e*Sn **Sn 06 13 33.2 +0.1**
ARSA Arzberg 5.06 55 *e*Pn **Pn 06 12 35.3 -0.1**
8.3nm,0.3s
ARSA Arzberg 5.06 55 Pn **Pn 06 12 35.3 -0.1**
8.3nm,0.3s
TOD Tromm 5.08 356 P **Pn 06 12 38.8 +3.1**
GEC2 GERESS Array S 5.22 33 *e*Pn **Pn 06 12 37.1 -0.5**
GEC2 GERESS Array S 5.22 33 *e*Pn **Pn 06 12 37.1 -0.5**
GERES GERESS Array B 5.22 33 Pn **Pn 06 12 37.2 -0.5**
4.1nm,0.3s,baz=213,slow=13,SNR=11
GERES Sn **Sn 06 13 35.9 -2.1**
50nm,0.3s,baz=213,slow=22,SNR=26
CAF Calviac 5.24 277 *e*Pn **Pn 06 12 39.3 +1.4**
SNR=1.0
CAF *e*Sn **Sn 06 13 37.5 -1.0**
90nm,0.6s
CAF Calviac 5.24 277 *e*Pn **Pn 06 12 39.3 +1.4**
SNR=1.0
CAF *e*Sn **Sn 06 13 37.5 -1.0**
45nm,0.6s
CAF Calviac 5.24 277 *e*Pn **Pn 06 12 39.3 +1.4**
CAF *e*Sn **Sn 06 13 37.5 -1.0**
GRFO Grafenberg 5.30 13 *e*Pn **Pn 06 12 37.3 -1.3**
GRFO Grafenberg 5.30 13 *e*Pn **Pn 06 12 37.4 -1.3**
MTLF Montolieu 5.33 259 *e*Pn **Pn 06 12 38.8 -0.2**
SNR=1.0
MTLF *e*Sn **Sn 06 13 36.8 -3.7**
55nm,0.5s,SNR=1.0
MTLF Montolieu 5.33 259 *e*Pn **Pn 06 12 38.8 -0.2**

SNR=1.0
MTLF *e*Sn **Sn 06 13 36.8 -3.7**
27nm,0.5s,SNR=1.0
MTLF Montolieu 5.33 259 *e*Pn **Pn 06 12 38.8 -0.2**
MTLF *e*Sn **Sn 06 13 36.8 -3.7**
TCF Toulx Ste Croi 5.36 292 *e*Pn **Pn 06 12 41.6 +2.1**
TCF *e*Sn **Sn 06 13 40.0 -1.3**
109nm,0.4s
TCF Toulx Ste Croi 5.36 292 *e*Pn **Pn 06 12 41.6 +2.1**
TCF *e*Sn **Sn 06 13 40.0 -1.3**
54nm,0.4s
TCF Toulx Ste Croi 5.36 292 *e*Pn **Pn 06 12 41.6 +2.1**
TCF *e*Sn **Sn 06 13 40.0 -1.3**
KHC Kasperske Hory 5.41 30 *e*PN **Pn 06 12 39.8 -0.4**
KHC *e*SN **Sn 06 13 39.8 -2.8**
KHC AMS AMS 06 15 20.0
comp=Z,1µm,7.0s
KHC Kasperske Hory 5.41 30 Pn **Pn 06 12 39.8 -0.4**
KHC Kasperske Hory 5.41 30 *e*Pn **Pn 06 12 40.2 0.0**
HYF Humbligny 5.45 302 *e*Pn **Pn 06 12 42.3 +1.6**
HYF *e*Sn **Sn 06 13 43.1 -0.5**
HYF Humbligny 5.45 302 *e*Pn **Pn 06 12 42.3 +1.6**
HYF *e*Sn **Sn 06 13 43.1 -0.5**
HYF Humbligny 5.45 302 *e*Pn **Pn 06 12 42.3 +1.6**
HYF *e*Sn **Sn 06 13 43.1 -0.5**
BLY Banja Luka 5.55 85 *e*Pn **Pn 06 12 42.7 +0.6**
BLY Banja Luka 5.55 85 *e*Pn **Pn 06 12 42.7 +0.6**
WLF Walferdange 5.59 338 PN **Pn 06 12 42.0 -0.6**
WLF SN **Sn 06 13 49.3 +2.5**
comp=E,76nm,0.0s
WLF Walferdange 5.59 338 *e*Pn **Pn 06 12 42.8 +0.3**
WLF Walferdange 5.59 338 *e*Pn **Pn 06 12 42.8 +0.3**
CONA Conrad Observa 5.62 51 *e*Pn **Pn 06 12 43.7 +0.7**
comp=E,16nm,0.5s
CONA *e*Sn **Sn 06 13 44.1 -3.6**
comp=E,68nm,0.8s
CONA Conrad Observa 5.62 51 Pn **Pn 06 12 43.7 +0.7**
comp=E,16nm,0.5s
RJF Les Rejaudoux 5.65 281 *e*Pn **Pn 06 12 44.2 +0.7**
RJF Les Rejaudoux 5.65 281 *e*P **Pn 06 12 47.0 +3.5**
RJF *e*Sn **Sn 06 13 47.1 -1.4**
comp=E,91nm,0.6s
RJF Les Rejaudoux 5.65 281 *e*Pn **Pn 06 12 44.2 +0.7**
RJF *e*Sn **Sn 06 13 47.1 -1.4**
comp=E,46nm,0.6s
RJF Les Rejaudoux 5.65 281 *e*Pn **Pn 06 12 44.2 +0.7**
RJF *e*Sn **Sn 06 13 47.1 -1.4**
SOP Sopron 5.88 55⇑ *e*Pn **Pn 06 12 47.3 +0.7**
NKC Novy Kostel 6.06 19 *e*SN **Sn 06 13 53.5 -5.0**
NKC AMS AMS 06 15 30.0
comp=E,2µm,7.2s
GIVF Givet 6.38 332 *e*Pn **Pn 06 12 54.7 +1.3**
GIVF *e*Sn **Sn 06 14 04.2 -2.1**
comp=E,266nm,0.9s
GIVF Givet 6.38 332 *e*Pn **Pn 06 12 54.7 +1.3**
GIVF *e*Sn **Sn 06 14 04.2 -2.1**
comp=E,133nm,0.9s
GIVF Givet 6.38 332 *e*Pn **Pn 06 12 54.7 +1.3**
GIVF *e*Sn **Sn 06 14 04.2 -2.1**
DOU Dourbes 6.45 331 PN **Pn 06 12 56.8 +2.4**
DOU SN **Sn 06 14 07.5 -0.5**
comp=E,66nm,0.0s
PRU Pruhonice 6.47 31 *e*PN **Pn 06 12 54.1 -0.6**
PRU *e*SN **Sn 06 14 04.4 -4.3**
PRU AMS AMS 06 15 40.0
comp=E,1µm,9.8s
PRU Pruhonice 6.47 31 Pn **Pn 06 12 54.1 -0.6**
MEM Membach 6.49 340 PN **Pn 06 12 57.1 +2.1**
MEM Membach 6.49 340 Pn **Pn 06 12 57.1 +2.1**
BCLA Clavier 6.50 336 PN **Pn 06 12 57.2 +2.1**
BCLA SN **Sn 06 14 08.6 -0.8**
comp=E,44nm,0.0s
BCLA Clavier 6.50 336 Pn **Pn 06 12 57.2 +2.1**
BCLA Sn **Sn 06 14 08.6 -0.8**
GOPC GO Pecny, Ondr 6.50 32 *e*SN **Sn 06 14 05.9 -3.6**
GOPC AMS AMS 06 16 10.0
comp=E,1µm,6.8s
BAIF Baives 6.55 329 *e*Pn **Pn 06 12 57.6 +1.8**
BAIF *e*Sn **Sn 06 14 08.9 -1.7**
comp=E,233nm,0.9s
BAIF Baives 6.55 329 *e*Pn **Pn 06 12 57.6 +1.8**
BAIF *e*Sn **Sn 06 14 08.9 -1.7**
comp=E,117nm,0.9s
BAIF Baives 6.55 329 *e*Pn **Pn 06 12 57.6 +1.8**
BAIF *e*Sn **Sn 06 14 08.9 -1.7**
EPF Esparros 6.73 260 *e*Pn **Pn 06 12 58.4 0.0**
EPF Esparros 6.73 260 *e*Pn **Pn 06 12 58.4 0.0**
EPF Esparros 6.73 260 *e*Pn **Pn 06 12 58.4 0.0**
VRAC Vranov 6.85 43 Pn **Pn 06 12 59.1 -0.8**
comp=E,0.7nm,0.3s,baz=240,slow=16,SNR=2.9
VRAC Sn **Sn 06 14 16.6 -1.5**
comp=E,2.7nm,0.3s,baz=280,slow=12,SNR=5.0
MFF Saint Martin d 7.01 290 *e*Pn **Pn 06 13 03.9 +1.8**
MFF *e*Sn **Sn 06 14 19.6 -2.4**
comp=E,67nm,0.6s
MFF Saint Martin d 7.01 290 *e*Pn **Pn 06 13 03.9 +1.8**
MFF *e*Sn **Sn 06 14 19.6 -2.4**
comp=E,34nm,0.6s
MFF Saint Martin d 7.01 290 *e*Pn **Pn 06 13 03.9 +1.8**
MFF *e*Sn **Sn 06 14 19.6 -2.4**
BRG Berggiesshubel 7.04 24 SG **Sg 06 15 07.5 +2.5**
comp=E,205nm,1.5s
CLL Collm 7.19 18 *e*Pn **Pn 06 13 04.7 +0.2**
CLL Collm 7.19 18 *e*Pn **Pn 06 13 04.7 +0.2**
CLL Collm 7.19 18 *e*Pg **Pn 06 13 05.0 +0.5**
ETSF Etsaut 7.40 261 *e*Pn **Pn 06 13 08.2 +0.6**
ETSF *e*Sn **Sn 06 14 27.7 -4.0**
comp=E,68nm,0.8s
ETSF Etsaut 7.40 261 *e*Pn **Pn 06 13 08.2 +0.6**
ETSF Etsaut 7.40 261 *e*Pn **Pn 06 13 08.2 +0.6**
ETSF *e*Sn **Sn 06 14 27.7 -4.0**
DPC Dobruska-Polom 7.47 36 *e*PN **Pn 06 13 07.3 -1.1**
DPC *e*SN **Sn 06 14 28.4 -4.8**
DPC AMS AMS 06 16 50.0
comp=E,1µm,5.9s
DPC Dobruska-Polom 7.47 36 Pn **Pn 06 13 07.3 -1.1**
VYHS Vyhne 7.61 55 *e*Pg **Pn 06 13 09.5 -0.9**
VYHS Vyhne 7.61 55 *e*PG **Pn 06 13 09.4 -0.9**
VYHS *e* 06 14 33.1
MORC Moravsky Berou 7.63 44 *e*Pn **Pn 06 13 10.6 0.0**
MORC *e*Sb **Sn 06 14 38.9 +1.8**
MORC Moravsky Berou 7.63 44 *e*Pn **Pn 06 13 10.6 0.0**
LDF La Druitiere 7.71 305 *e*Pn **Pn 06 13 12.2 +0.5**
LDF *e*Sn **Sn 06 14 36.7 -2.5**
comp=E,80nm,0.7s
LDF La Druitiere 7.71 305 *e*Pn **Pn 06 13 12.2 +0.5**
LDF *e*Sn **Sn 06 14 36.7 -2.5**
comp=E,40nm,0.7s
LDF La Druitiere 7.71 305 *e*Pn **Pn 06 13 12.2 +0.5**
LDF *e*Sn **Sn 06 14 36.7 -2.5**
SJPF Ste Jean 7.82 263 *e*Pn **Pn 06 13 12.2 -1.0**
SJPF Ste Jean 7.82 263 *e*Pn **Pn 06 13 12.2 -1.0**
SJPF Ste Jean 7.82 263 *e*Pn **Pn 06 13 12.2 -1.0**
TRUS Trudelj 7.89 88 *e*Pn **Pn 06 13 11.4 -2.8**
CEL Celeste 7.95 140 *e*Pn **Pn 06 13 18.0 +3.0**
FLN La Foliniere 8.00 305 *e*Pn **Pn 06 13 15.7 0.0**
baz=125
FLN *e*Sn **Sn 06 14 42.8 -3.5**
comp=E,115nm,0.6s,baz=135
FLN La Foliniere 8.00 305 *e*Pn **Pn 06 13 15.7 0.0**
FLN La Foliniere 8.00 305 *e*Pn **Pn 06 13 15.7 0.0**
FLN *e*Sn **Sn 06 14 42.8 -3.5**
PSZ Piszkesteto 8.02 61⇑ *i*P **Pn 06 13 17.0 +1.0**
PSZ Piszkesteto 8.02 61 *e*Pn **Pn 06 13 16.0 0.0**
PSZ Piszkesteto 8.02 61⇑ *i*P **Pn 06 13 17.0 +1.0**
PSZ Piszkesteto 8.02 61 *e*Pn **Pn 06 13 16.0 0.0**
GRR Gorron 8.06 302 *e*Pn **Pn 06 13 17.8 +1.3**
GRR Gorron 8.06 302 *e*P Pn 06 13 23.2 +6.7
GRR *e*Sn **Sn 06 14 44.2 -3.5**
GRR Gorron 8.06 302 *e*Pn **Pn 06 13 17.8 +1.3**
GRR Gorron 8.06 302 *e*Pn **Pn 06 13 17.8 +1.3**
GRR *e*Sn **Sn 06 14 44.2 -3.5**
KECS Kecovo 8.60 59 *e*Pg **Pn 06 13 23.6 -0.3**
KECS Kecovo 8.60 59 *e*PG **Pn 06 13 23.6 -0.3**
KUBS Kucevo 8.78 87 *e*Pn **Pn 06 13 24.7 -1.7**
MDVR Moldovita 8.78 84⇑ *i*P **Pn 06 13 26.1 -0.3**
MDVR Moldovita 8.78 84⇑ *i*P **Pn 06 13 26.1 -0.3**
KEST Kesra 8.80 180 *e*Pn **Pn 06 13 31.2 +4.5**
BOLS Boljevac 9.05 90 *e*Pn **Pn 06 13 28.4 -1.6**
OJC Ojcow 9.05 47 *e*Pn **Pn 06 13 30.1 0.0**
OJC Ojcow 9.05 47 *e*Pn **Pn 06 13 30.1 0.0**
SGMF Saint Gilles 9.06 298 *e*Pn **Pn 06 13 30.8 +0.6**
SGMF *e*Sn **Sn 06 15 08.2 -4.1**

comp=E,47nm,0.8s
SGMF **Saint Gilles** 9.06 298 *e*Pn Pn 06 13 30.8 +0.6
SGMF **Saint Gilles** 9.06 298 *e*Pn Pn 06 13 30.8 +0.6
SGMF *e*Sn Sn 06 15 08.2 -4.1
QUIF **Quistinic** 9.34 296 *e*Pn Pn 06 13 34.1 0.0
QUIF *e*Sn Sn 06 15 16.7 -2.5
comp=E,20nm,0.5s
QUIF **Quistinic** 9.34 296 *e*Pn Pn 06 13 34.1 0.0
QUIF *e*Sn Sn 06 15 16.7 -2.5
comp=E,10.0nm,0.5s
QUIF **Quistinic** 9.34 296 *e*Pn Pn 06 13 34.1 0.0
QUIF *e*Sn Sn 06 15 16.7 -2.5
CRVS **Cervenica-Dubn** 9.36 58 *e*Pg Pn 06 13 34.8 +0.5
CRVS **Cervenica-Dubn** 9.36 58 *e*PG Pn 06 13 34.8 +0.5
STHS **Stebnicka Huta** 9.45 55 *e*Pg Pn 06 13 36.2 +0.7
STHS **Stebnicka Huta** 9.45 55 *e*PG Pn 06 13 36.2 +0.7
GZR **Gura Zlata** 9.52 80 ⇑*i*P Pn 06 13 39.8 +3.2
ROSF **Rostrenen** 9.54 298 *e*Pn Pn 06 13 36.7 -0.1
ROSF *e*Sn Sn 06 15 19.5 -4.5
comp=E,37nm,0.6s
ROSF **Rostrenen** 9.54 298 *e*Pn Pn 06 13 36.7 -0.1
ROSF **Rostrenen** 9.54 298 *e*Pn Pn 06 13 36.7 -0.1
ROSF *e*Sn Sn 06 15 19.5 -4.5
VTS **Vitosha** 10.21 96 ⇓*i*P Pn 06 13 45.2 -0.9
VTS **Vitosha** 10.21 96 ⇓*i*P Pn 06 13 45.2 -0.9
VTS **Vitosha** 10.21 96 *e*Pn Pn 06 13 45.8 -0.3
VTS **Vitosha** 10.21 96 *e*Pn Pn 06 13 45.9 -0.3
ARR **Arges** 10.83 80 ⇑*i*P Pn 06 14 02.8 +8.3
ESDC **Sonseca Array** 11.05 249 Pn Pn 06 13 57.3 -0.3
comp=E,0.7nm,0.3s,baz=58,slow=14,SNR=5.4
VOIR 11.12 80 ⇑*i*P Pn 06 14 06.9 +8.4
PAB **San Pablo** 11.38 249 *e*Pn Pn 06 14 05.5 +3.4
BURAR **Bucovina Array** 11.41 69 ⇑*i*P Pn 06 14 09.7 +7.3
MLR **Muntele Rosu** 11.75 80 ⇑*i*P Pn 06 14 13.7 +6.5
PLOR **Plostina** 12.24 78 ⇑*i*P Pn 06 14 25.5 +12
EKA **Eskdalemuir Ar** 13.47 328 Pn Pn 06 14 29.9 -0.6
baz=139,slow=15,SNR=5.5
BR131 **Keskin Array S** 18.58 97 *e*P Pn 06 15 40.0 +3.1
BRTR **Keskin Array B** 18.58 97 P Pn 06 15 39.4 +2.5
comp=E,0.1nm,0.3s,baz=292,slow=6.5,SNR=7.9
FINES **FINESS Array B** 19.58 24 P Pn 06 15 48.0 -0.6
comp=E,0.5nm,0.3s,baz=215,slow=8.7,SNR=9.4
TAM **Tamanrasset** 21.93 190 *e*P P 06 16 18.8 +5.6
comp=E,15nm,1.4s
ASF **Jabal al Asfar** 24.72 111 P P 06 16 42.1 +1.1
comp=E,5.0nm,0.7s,baz=276,slow=5.3,SNR=8.1
ARCES **ARCESS Array B** 26.36 13 P P 06 16 55.3 -0.1
comp=E,6.6nm,0.9s,baz=198,slow=8.4,SNR=5.3
JMIC **Jan Mayen** 27.94 348 LR LR 06 28 05.1
comp=E,19nm,20.7s,baz=62,slow=36
TORD **Torodi Ar. Bea** 31.97 194 P P 06 17 47.1 +1.4
comp=E,1.2nm,0.6s,baz=8.7,slow=9.2,SNR=7.7
GEYT **Alibeck** 36.77 83 P P 06 18 28.2 +1.0
comp=E,5.1nm,0.9s,baz=287,slow=12,SNR=4.6
SCHQ **Schefferville** 48.04 311 P P 06 19 58.1 -0.6
comp=E,2.1nm,0.4s,baz=73,slow=11,SNR=3.6
MKAR **Makanchi Array** 49.27 60 P P 06 20 08.2 0.0
comp=E,1.5nm,0.7s,baz=286,slow=6.2,SNR=7.5
MKAR PcP PcP 06 21 30.3 -0.7
comp=E,0.5nm,0.6s,baz=296,slow=3.7,SNR=2.6
PYUN **Piuthan** 59.60 79 *e*P P 06 21 23.2 -0.6
comp=E,42nm,0.9s
DANN **Dangsing** 59.99 79 *e*P P 06 21 26.5 -0.1
comp=E,0.8nm,0.4s
KOLN **Koldanda** 60.23 79 *e*P P 06 21 27.2 -0.9
comp=E,7.8nm,0.7s
GKN **Gorkha** 60.81 78 *e*P P 06 21 31.4 -0.7
comp=E,46nm,1.2s
DMN **Daman** 61.38 78 *e*P P 06 21 35.6 -0.5
comp=E,41nm,1.2s
KKN **Kakani** 61.39 78 *e*P P 06 21 35.0 -1.1
comp=E,8.6nm,0.4s
PKIN **Phulchoki** 61.60 78 *e*P P 06 21 36.2 -1.4
comp=E,14nm,0.8s
PKI **Pulchoki** 61.62 78 *e*P P 06 21 36.7 -1.0
GUN **Gumba** 61.74 78 *e*P P 06 21 38.0 -0.6
comp=E,41nm,0.9s
JIRN **Jiri** 62.11 78 *e*P P 06 21 40.6 -0.5
comp=E,226nm,0.9s
RAMN **Ramite** 62.83 78 *e*P P 06 21 44.9 -0.9
comp=E,38nm,0.9s
TAPN **Taplejung** 63.36 77 *e*P P 06 21 49.0 -0.4
comp=E,56nm,1.2s
ODAN **Odare** 63.44 78 *e*P P 06 21 49.4 -0.4
comp=E,31nm,1.1s
YAK **Yakutsk** 63.48 27 LR LR 06 52 05.3
comp=E,46nm,18.3s,baz=284,slow=38
YKA **Yellowknife Ar** 64.32 335 P P 06 21 54.1 -0.6
comp=E,1.9nm,0.8s,baz=42,slow=5.9,SNR=7.0
ULM **Lac du Bonnet** 65.48 317 P P 06 22 01.9 -0.7
comp=E,6.3nm,0.8s,baz=43,slow=8.0,SNR=7.9
ULM LR LR 06 49 35.1
comp=E,50nm,18.4s,baz=290,slow=35
ILAR **Eielson Array** 69.45 349 P P 06 22 28.1 +0.6
comp=E,0.7nm,0.8s,baz=356,slow=4.1,SNR=7.2
CMAR **Chiang Mai Arr** 76.97 77 P P 06 23 11.9 -0.6
comp=E,1.0nm,0.3s,baz=305,slow=7.9,SNR=7.0
PDAR **Pinedale Array** 77.41 319 P P 06 23 14.0 -0.9
comp=E,0.3nm,0.6s,baz=57,slow=5.5,SNR=3.5
PDAR LR LR 06 56 37.4
comp=E,29nm,18.4s,baz=49,slow=35
PETK **Petropavlovsk-** 78.99 19 LR LR 07 02 47.4
comp=E,22nm,18.9s,baz=55,slow=39
TXAR **Lajitas Array** 84.49 306 P P 06 23 53.0 +0.2
comp=E,2.0nm,0.8s,baz=62,slow=2.4,SNR=17
MJAR **Matsushiro Arr** 86.93 39 LR LR 07 05 12.6
comp=E,24nm,18.1s,baz=290,slow=37

*ISCJB **20** 06:14:05.8±0.5, 44°.51N±0°.03×9°.45E±0°.06, h22km±4km, Error ellipse: s-maj=7.8km s-min=4.4km az=164.9*
*ROM **20** 06:14:05.7±0.1, 44°.55N×9°.50E, h11km, Ml2.7/3, Error ellipse: s-maj=2.0km s-min=1.0km az=67.0*
*CSEM **20** 06:14:06.4±0.3, 44°.49N×9°.42E, h12km, ML3.2/11, Error ellipse: s-maj=5.7km s-min=4.3km az=48.0*
*LDG **20** 06:14:08.2±0.2, 44°.39N×9°.39E, h10km, Ml3.2/12, Error ellipse: s-maj=4.5km s-min=2.7km az=37.0*
ISC 20 06:14:06.3±0.8, 44°.49N±0°.02×9°.41E±0°.03, h15km±6km, n41, σ1.28/67, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.12**	**136**	Pg	**Pg**	06 14 09.6	-0.4
SC2M				Sg	**Sg**	06 14 12.8	+0.4
SC2M	**Scurtabo**	**0.12**	**136**	Pg	**Pg**	06 14 09.6	-0.4
SC2M				Sg	**Sg**	06 14 12.8	+0.4
MSSA	**Maissana**	**0.19**	**157**	Pg	**Pg**	06 14 10.9	-0.1
MSSA				Sg	**Sg**	06 14 14.9	+0.9
2μm,0.4s							
MSSA	**Maissana**	**0.19**	**157**	Pg	**Pg**	06 14 10.9	-0.1
MSSA				Sg	**Sg**	06 14 14.9	+0.9
2μm,0.4s							
BOB	**Bobbio (Coli)**	**0.27**	**5**	Pg	**Pg**	06 14 10.9	-1.4
BOB				Sg	**Sg**	06 14 14.5	-1.9
1μm,0.3s							
BOB	**Bobbio (Coli)**	**0.27**	**5**	Pg	**Pg**	06 14 10.9	-1.4
BOB				Sg	**Sg**	06 14 14.5	-1.9
1μm,0.3s							
PLMA	**Palmaria, Port**	**0.54**	**145**	Pg	**Pg**	06 14 17.0	-0.1
PLMA				Sg	**Sb**	06 14 25.3	+0.2
PLMA	**Palmaria, Port**	**0.54**	**145**	Pg	**Pg**	06 14 17.0	-0.1
PLMA				Sg	**Sb**	06 14 25.3	+0.2
PCP	**Piancastagn**	**0.62**	**275**	Pg	**Pb**	06 14 19.2	+0.3
PCP				Sg	**Sb**	06 14 28.0	+0.5
PCP	**Piancastagn**	**0.62**	**275**	Pg	**Pb**	06 14 19.2	+0.3
PCP				Sg	**Sb**	06 14 28.0	+0.5
QLNO	**Quiliano**	**0.78**	**258**	Pg	**Pg**	06 14 21.6	0.0
162nm,0.3s							
QLNO	**Quiliano**	**0.78**	**258**	Pg	**Pg**	06 14 21.6	0.0
162nm,0.3s							
FINB	**Finale Ligure**	**0.84**	**248**	Pg	**Pb**	06 14 22.9	+0.3
876nm,0.3s							
FINB	**Finale Ligure**	**0.84**	**248**	Pg	**Pb**	06 14 22.9	+0.3
876nm,0.3s							
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	06 14 33.4	-0.1
SBF	**Sospel**	**1.56**	**247**	*e*P	**Pb**	06 14 35.4	+0.5
SBF				*e*Sn	**Sn**	06 14 52.5	-0.9
66nm,0.3s							
SBF				*e*Sg	**Sg**	06 14 56.4	-0.1
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	06 14 33.4	-0.1
SBF	**Sospel**	**1.56**	**247**	*e*P	**Pb**	06 14 35.4	+0.5
SBF				*e*Sn	**Sn**	06 14 52.5	-0.9
33nm,0.3s							
SBF				*e*Sg	**Sg**	06 14 56.4	-0.1
PGF	**Pioggiola**	**1.97**	**189**	*e*Pn	**Pn**	06 14 38.5	-0.7
PGF				*e*Sn	**Sn**	06 15 01.9	-1.7
14nm,0.3s							
PGF	**Pioggiola**	**1.97**	**189**	*e*Pn	**Pn**	06 14 38.5	-0.7
PGF				*e*Sn	**Sn**	06 15 01.9	-1.7
6.8nm,0.3s							
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	06 14 42.4	+0.1
FRF				*e*Sn	**Sn**	06 15 08.0	-1.3
14nm,0.2s							
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	06 14 42.4	+0.1
FRF				*e*Sn	**Sn**	06 15 08.0	-1.3
6.9nm,0.2s							
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	06 14 44.9	-0.1
LMR	**La Mourre**	**2.40**	**242**	*e*P	**Pn**	06 14 47.3	+2.3
LMR	**La Mourre**	**2.40**	**242**	*e*Pg	**Pg**	06 14 51.4	-0.9
LMR				*e*Sn	**Sn**	06 15 12.8	-1.3
20nm,0.3s							
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	06 14 44.9	-0.1
LMR	**La Mourre**	**2.40**	**242**	*e*P	**Pn**	06 14 47.3	+2.3
LMR	**La Mourre**	**2.40**	**242**	*e*Pg	**Pg**	06 14 51.4	-0.9
LMR				*e*Sn	**Sn**	06 15 12.8	-1.3
9.9nm,0.3s							
HINF	**Hinteralfeld**	**3.77**	**333**	*e*Sn	**Sn**	06 15 47.6	-0.4
38nm,0.8s							
HINF	**Hinteralfeld**	**3.77**	**333**	*e*Sn	**Sn**	06 15 47.6	-0.4
19nm,0.8s							
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	06 15 09.5	+1.0
HAU				*e*Sn	**Sn**	06 15 57.9	+1.6
25nm,0.4s							
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	06 15 09.5	+1.0
HAU				*e*Sn	**Sn**	06 15 57.9	+1.6
12nm,0.4s							
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	06 15 15.2	+1.8
SMF				*e*Sn	**Sn**	06 16 05.5	+0.4
16nm,0.4s							
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	06 15 15.2	+1.8
SMF				*e*Sn	**Sn**	06 16 05.5	+0.4
7.8nm,0.4s							
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	06 15 19.8	+2.2
LOR				*e*Sn	**Sn**	06 16 14.3	+1.7
20nm,0.5s							
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	06 15 19.8	+2.2
LOR				*e*Sn	**Sn**	06 16 14.3	+1.7
9.9nm,0.5s							
SSF	**Saint Saulge**	**4.87**	**304**	*e*Sn	**Sn**	06 16 15.2	+0.3
6.9nm,0.4s							
SSF	**Saint Saulge**	**4.87**	**304**	*e*Sn	**Sn**	06 16 15.2	+0.3
3.5nm,0.4s							
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Sn	**Sn**	06 16 24.6	-3.1
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Sn	**Sn**	06 16 24.6	-3.1
HYF	**Humbligny**	**5.48**	**303**	*e*Sn	**Sn**	06 16 26.7	-3.5

*ISCJB **20** 06:16:26.8±0.8, 6°.78N±0°.03×73°.10W±0°.04, h156km±7km, Error ellipse: s-maj=6.4km s-min=5.2km az=29.7*
*IDC **20** 06:16:27.2±3.3, 6°.82N×73°.01W, h167km±44km, mb1 3.5/2, mb1mx2.9/32, mbtmp3.9/2, Error ellipse: s-maj=382.2km s-min=8.1km az=132.0*
*RSNC **20** 06:16:28.0±0.5, 6°.77N×73°.11W, h153km±3km, ML3.5*
ISC 20 06:16:28.1±1.1, 6°.78N±0°.04×73°.10W±0°.04, h150km±7km, n20, σ0.96/37, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**204**	*i*P	**Pn**	06 16 48.5	-0.2
BARC				*e*S	**Sn**	06 17 04.0	-0.4
BARC				*i*		06 17 06.2	
comp=Z,731nm,0.2s							
PAMC	**Pamplona, Colo**	**0.68**	**36**	*i*P	**Pn**	06 16 51.3	+0.3
PAMC				*e*S	**Sn**	06 17 08.6	+0.1
BRRC	**Barranca, Sant**	**0.69**	**298**	⇑*i*P	**Pn**	06 16 50.4	-0.1
BRRC				*i*		06 16 50.7	
comp=Z,2μm,0.2s							
BRRC				*e*S	**Sn**	06 17 07.9	+0.3
RUSC	**La Rusia**	**0.89**	**179**	*e*P	**Pn**	06 16 52.3	-0.2
RUSC				*e*S	**Sn**	06 17 10.8	-0.3
RUSC				*i*		06 17 12.4	
comp=Z,281nm,0.3s							
OCAC	**Ocana**	**1.46**	**351**	*i*P	**Pn**	06 16 56.9	-0.5
OCAC				*e*S	**Sn**	06 17 19.9	-0.1
OCAC				*i*		06 17 29.0	
comp=Z,385nm,0.2s							
YOPC	**Yopal, Colombi**	**1.57**	**155**	*e*P	**Pn**	06 16 58.1	-0.5
YOPC				*e*S	**Sn**	06 17 21.6	-0.3
YOPC				*i*		06 17 24.9	
comp=Z,80nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	*e*P	**Pn**	06 17 00.8	-1.1
ZARC				*e*S	**Sn**	06 17 27.3	-0.5
ZARC				*i*		06 17 33.2	
comp=Z,574nm,0.4s							
NORC	**Norcasia**	**2.14**	**236**	*e*P	**Pn**	06 17 04.3	-0.6
NORC				*e*S	**Sn**	06 17 32.2	-1.0
ROSC	**El Rosal**	**2.28**	**212**	P	**Pn**	06 17 08.3	+1.3
comp=Z,25nm,0.3s,baz=329,slow=7.9,SNR=60							
ROSC				S	**Sn**	06 17 39.6	+2.7
comp=Z,28nm,0.3s,baz=202,slow=21,SNR=6.9							
ROSC	**El Rosal**	**2.28**	**212**	*e*S	**Sn**	06 17 36.1	-0.8
ROSC				*i*		06 17 46.3	
comp=Z,158nm,0.4s							
HELC	**Santa Helena**	**2.49**	**256**	*e*P	**Pn**	06 17 08.5	-0.9
HELC				*e*S	**Sn**	06 17 40.7	-0.5
HELC				*i*		06 17 46.9	
comp=Z,208nm,0.4s							
VILC	**Villavicencio,**	**2.72**	**193**	*e*P	**Pn**	06 17 11.4	-0.7
VILC				*e*S	**Sn**	06 17 45.0	-1.1
VILC				*i*		06 17 57.4	
comp=Z,77nm,0.3s							
GUYC	**Guyana, Colomb**	**2.76**	**236**	*e*P	**Pn**	06 17 12.4	-0.5
GUYC				*e*S	**Sn**	06 17 46.9	-0.5
GUYC				*i*		06 17 55.2	
comp=Z,222nm,0.4s							
DBBC	**Dabeiba**	**3.10**	**274**	*e*P	**Pn**	06 17 16.5	-0.3
DBBC				*e*S	**Sn**	06 17 53.9	-0.6
TOLC	**Tolima**	**3.11**	**225**	*e*P	**Pn**	06 17 16.9	-0.3
TOLC				*e*S	**Sn**	06 17 54.2	-0.9
SDV	**Santo Domingo**	**3.21**	**49**	P	**Pn**	06 17 17.9	-0.5
comp=Z,12nm,0.3s,baz=243,slow=11,SNR=24							
SDV				S	**Sn**	06 17 55.6	-1.7
comp=Z,27nm,0.3s,baz=65,slow=22,SNR=38							
PRAC	**Prado**	**3.53**	**210**	*e*P	**Pn**	06 17 21.9	-0.4
PRAC				*e*S	**Sn**	06 18 03.5	-1.0
GUVC	**San Jose del G**	**4.24**	**174**	*e*P	**Pn**	06 17 30.5	-1.0
GUVC				*e*S	**Sn**	06 18 19.9	-0.9
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPdf**	06 35 56.5	+1.1
comp=Z,0.6nm,0.7s,baz=126,slow=3.0,SNR=8.2							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPdf**	06 35 59.5	+2.2
comp=Z,0.5nm,0.5s,baz=108,slow=2.6,SNR=14							

*ISCJB **20** 06:16:43.7±0.3, 44°.49N±0°.02×9°.37E±0°.02, h6km±2km, mb3.4/3, Error ellipse: s-maj=2.9km s-min=1.9km az=175.9*
*ROM **20** 06:16:44.6±0.1, 44°.50N×9°.41E, h10km±1km, Ml3.4/28, Error ellipse: s-maj=1.6km s-min=1.4km az=43.0*
*IDC **20** 06:16:44.9±1.2, 44°.58N×9°.53E, h0km, mb3.5/3, mb1 3.7/8, mb1mx3.5/48, mbtmp3.5/8, ML3.7/5, Error ellipse: s-maj=33.6km s-min=13.4km az=122.0*
*GEN **20** 06:16:44.7, 44°.55N×9°.44E, h9km, ML3.5*
*CSEM **20** 06:16:44.9±0.1, 44°.42N×9°.43E, h10km, ML3.4, Error ellipse: s-maj=3.5km s-min=2.3km az=171.0*
*STR **20** 06:16:46.2±0.2, 44°.45N×9°.49E, h10km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **20** 06:16:46.2±0.1, 44°.42N×9°.46E, h10km, Ml3.8/24, Error ellipse: s-maj=2.9km s-min=2.2km az=27.0*
*PRU **20** 06:16:46.8, 44°.61N×9°.50E, h10km*
ISC 20 06:16:45.3±0.8, 44°.51N±0°.02×9°.43E±0°.01, h12km±5km, n202, σ1.88/317, mb3.4/3, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.13**	**144**	Pg	**Pg**	06 16 48.0	-0.6
SC2M				Sg	**Sg**	06 16 51.0	+0.1
SC2M	**Scurtabo**	**0.13**	**144**	P	**Pg**	06 16 48.0	-0.6
SC2M				S	**Sg**	06 16 51.0	+0.1
MSSA	**Maissana**	**0.20**	**162**	Pg	**Pg**	06 16 49.3	-0.4
MSSA				Sg	**Sg**	06 16 53.3	+0.5
MSSA	**Maissana**	**0.20**	**162**	Pg	**Pg**	06 16 49.3	-0.4
MSSA				Sg	**Sg**	06 16 53.3	+0.5
GRAM	**Graiana**	**0.46**	**92**	P	**Pg**	06 16 53.1	-1.2
GRAM				S	**Sg**	06 16 59.9	-0.5
PLMA	**Palmaria, Port**	**0.55**	**146**	Pg	**Pg**	06 16 55.2	-0.8
PLMA				Sg	**Sg**	06 17 03.1	-0.2
2μm,0.4s							
PLMA	**Palmaria, Port**	**0.55**	**146**	Pg	**Pg**	06 16 55.2	-0.8
PLMA				Sg	**Sg**	06 17 03.1	-0.2
2μm,0.4s							
PCP	**Piancastagn**	**0.63**	**273**	Pg	**Pg**	06 16 56.8	-0.8
PCP				Sg	**Sg**	06 17 05.6	-0.4
1μm,0.2s							
PCP	**Piancastagn**	**0.63**	**273**	P	**Pg**	06 16 56.8	-0.8
PCP				Sg	**Sg**	06 17 05.6	-0.4
1μm,0.2s							
PRMA	**PARMA**	**0.68**	**68**	Pg	**Pb**	06 16 58.3	-0.7
9μm,0.5s							
PRMA	**PARMA**	**0.68**	**68**	Pg	**Pb**	06 16 58.3	-0.7
9μm,0.5s							
SARO	**Sassorosso**	**0.77**	**115**	P	**Pg**	06 16 59.0	-1.2
VLC	**Villacollemand**	**0.77**	**117**	Pg	**Pb**	06 17 00.4	-0.2
1μm,0.8s							
VLC	**Villacollemand**	**0.77**	**117**	Pg	**Pb**	06 17 00.4	-0.2
1μm,0.8s							
QLNO	**Quiliano**	**0.80**	**257**	Pg	**Pg**	06 16 59.7	-1.0
QLNO				Sg	**Sg**	06 17 11.1	0.0
798nm,0.3s							
QLNO	**Quiliano**	**0.80**	**257**	Pg	**Pg**	06 16 59.7	-1.0
QLNO				Sg	**Sg**	06 17 11.1	0.0
798nm,0.3s							
CTL8	**Castelleone**	**0.80**	**17**	Pg	**Pb**	06 17 01.2	+0.1
2μm,0.9s							
CTL8	**Castelleone**	**0.80**	**17**	Pg	**Pb**	06 17 01.2	+0.1
2μm,0.9s							
FINB	**Finale Ligure**	**0.86**	**248**	Pg	**Pg**	06 17 01.2	-0.6
FINB				Sg	**Sg**	06 17 13.2	+0.2
4μm,0.3s							
FINB	**Finale Ligure**	**0.86**	**248**	Pg	**Pg**	06 17 01.2	-0.6
FINB				Sg	**Sg**	06 17 13.2	+0.2
4μm,0.3s							
MAIM	**Mastiano**	**0.97**	**127**	Pg	**Pg**	06 17 02.7	-1.2
MAIM				Sg	**Sn**	06 17 17.1	-1.1
818nm,0.4s							
MAIM	**Mastiano**	**0.97**	**127**	P	**Pg**	06 17 02.7	-1.2
MAIM				S	**Sb**	06 17 16.8	+0.2
MAIM				Sg	**Sn**	06 17 17.1	-1.1
818nm,0.4s							
RORO	**Rocca Rossa**	**1.05**	**248**	Pg	**Pg**	06 17 03.9	-1.7
546nm,0.2s							
RORO	**Rocca Rossa**	**1.05**	**248**	Pg	**Pg**	06 17 03.9	-1.7
546nm,0.2s							
IMI	**Imperia**	**1.25**	**242**	Pg	**Pn**	06 17 06.9	-1.7
IMI				Sg	**Sb**	06 17 23.7	-1.3
697nm,0.3s							
IMI	**Imperia**	**1.25**	**242**	Pg	**Pn**	06 17 06.9	-1.7
IMI				Sg	**Sb**	06 17 23.7	-1.3
697nm,0.3s							
CRMI	**Carmignano**	**1.32**	**122**	Pg	**Pn**	06 17 09.1	-0.4
CRMI	**Carmignano**	**1.32**	**122**	Pg	**Pn**	06 17 09.1	-0.4
NEGI	**Seborga**	**1.41**	**243**	Pg	**Pn**	06 17 09.2	-1.5
448nm,0.4s							
NEGI	**Seborga**	**1.41**	**243**	Pg	**Pn**	06 17 09.2	-1.5
448nm,0.4s							
MUGIO	**Muggio**	**1.44**	**349**	Pg	**Pn**	06 17 10.8	-0.4
MUGIO				Sg	**Sn**	06 17 30.0	0.0
634nm,0.5s							
MUGIO	**Muggio**	**1.44**	**349**	Pg	**Pn**	06 17 10.8	-0.4
MUGIO				Sg	**Sn**	06 17 30.0	0.0
634nm,0.5s							
ENR	**Entracque**	**1.47**	**260**	Pg	**Pn**	06 17 10.1	-1.5
415nm,0.4s							
MAGA	**Magasa**	**1.52**	**33**	Pg	**Pn**	06 17 11.6	-0.8
4μm,0.4s							
BALD	**Monte Baldo**	**1.53**	**39**	*e*Pn	**Pn**	06 17 12.0	-0.6
BALD	**Monte Baldo**	**1.53**	**39**	*e*Pn	**Pn**	06 17 12.0	-0.6
SASS	**Sassa**	**1.55**	**143**	Pg	**Pn**	06 17 12.1	-0.5
164nm,0.3s							
SASS	**Sassa**	**1.55**	**143**	Pg	**Pn**	06 17 12.1	-0.5
164nm,0.3s							
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pn**	06 17 12.8	0.0
TRAV				Sg	**Sn**	06 17 33.6	+0.6
362nm,0.3s							
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pn**	06 17 12.8	0.0
TRAV				Sg	**Sn**	06 17 33.6	+0.6
362nm,0.3s							
SBF	**Sospel**	**1.57**	**246**	*e*Pn	**Pn**	06 17 11.8	-1.2
SBF				*e*Sn	**Sn**	06 17 31.3	-2.0
690nm,0.5s							
SBF				*e*Sg	**Sb**	06 17 35.0	+0.9
SBF	**Sospel**	**1.57**	**246**	*e*Pn	**Pn**	06 17 11.8	-1.2
SBF				*e*Sn	**Sn**	06 17 31.3	-2.0
345nm,0.5s							
SBF				*e*Sg	**Sb**	06 17 35.0	+0.9
BHB	**Bricherasio**	**1.58**	**283**	Pg	**Pn**	06 17 13.6	+0.5
515nm,0.5s							
BHB	**Bricherasio**	**1.58**	**283**	Pg	**Pn**	06 17 13.6	+0.5
515nm,0.5s							
PZZ	**Stroppo**	**1.66**	**271**	Pg	**Pn**	06 17 15.0	+0.8
990nm,0.6s							
PZZ	**Stroppo**	**1.66**	**271**	Pg	**Pn**	06 17 15.0	+0.8
990nm,0.6s							
MARN	**Marana (Italy)**	**1.69**	**48**	*e*Pn	**Pn**	06 17 14.0	-0.6
MARN	**Marana (Italy)**	**1.69**	**48**	*e*Pn	**Pn**	06 17 14.0	-0.6
CSNT	**Castellina Chi**	**1.70**	**127**	Pg	**Pn**	06 17 14.2	-0.5
137nm,0.5s							
CIRO	**Champorcher**	**1.71**	**310**	Pg	**Pn**	06 17 14.1	-1.0
179nm,0.4s							
SATI	**Passo del Sala**	**1.76**	**322**	Pg	**Pn**	06 17 16.1	+0.3
221nm,0.6s							
TEOL	**Teolo**	**1.81**	**61**	*e*Pn	**Pn**	06 17 15.7	-0.4
TEOL	**Teolo**	**1.81**	**61**	*e*Pn	**Pn**	06 17 15.7	-0.4
DDS	**Dosso del Somm**	**1.85**	**42**	*e*Pn	**Pn**	06 17 16.2	-0.7
DDS	**Dosso del Somm**	**1.85**	**42**	*e*Pn	**Pn**	06 17 16.2	-0.7
MBDF	**Montbardon**	**1.91**	**278**	*e*Pn	**Pn**	06 17 18.5	+0.8
MBDF				*e*Sn	**Sn**	06 17 39.8	-1.9
429nm,0.7s							
MBDF	**Montbardon**	**1.91**	**278**	*e*Pn	**Pn**

RSL Roselend 2.31 302 P **Pn 06 17 24.9 +1.7**
LMR La Mourre 2.41 242 *e*Pn **Pn 06 17 23.0 -1.5**
LMR *e*Sn **Sn 06 17 50.9 -3.0**
110nm,0.3s
LMR *e*Sg **Sb 06 18 00.4 +2.1**
LMR La Mourre 2.41 242 *e*Pn **Pn 06 17 23.0 -1.5**
LMR *e*Sn **Sn 06 17 50.9 -3.0**
55nm,0.3s
LMR *e*Sg **Sb 06 18 00.4 +2.1**
ATVO AVT- Monte Val 2.43 117 Pg **Pn 06 17 25.7 +1.0**
GDM Grand'Maison 2.46 288 P **Pn 06 17 27.1 +1.9**
GDM Grand'Maison 2.46 288 P **Pn 06 17 27.1 +1.9**
ORIF Oris-en-Rattie 2.56 280 *e*Pn **Pn 06 17 28.6 +2.0**
ORIF Oris-en-Rattie 2.56 280 *e*Pn **Pn 06 17 28.6 +2.0**
FETA Feichten 2.67 19 Pn **Pn 06 17 29.9 +1.7**
17nm,0.4s
FETA Sg **Sb 06 18 05.4 -0.5**
77nm,0.6s
FETA Feichten 2.67 19 Pn **Pn 06 17 29.9 +1.7**
17nm,0.4s
FETA Sn **Sb 06 18 05.4 -0.5**
77nm,0.6s
GRN Grenoble 2.72 287 P **Pn 06 17 31.3 +2.5**
GRN Grenoble 2.72 287 P **Pn 06 17 31.3 +2.5**
DAVA Damuels 2.80 6 *e*Pn **Pn 06 17 31.4 +1.5**
13nm,0.2s
DAVA Sn **Sb 06 18 06.7 -2.7**
90nm,0.3s
DAVA Damuels 2.80 6 Pn **Pn 06 17 31.4 +1.5**
13nm,0.2s
DAVA Sn **Sb 06 18 06.7 -2.7**
90nm,0.3s
SMRF Simiane la Rot 2.82 260 *e*Pn **Pn 06 17 30.4 +0.3**
SMRF Simiane la Rot 2.82 260 *e*Pn **Pn 06 17 30.4 +0.3**
SQTA Sankt Quirin 2.98 24 *e*Pn **Pn 06 17 34.9 +2.4**
9.2nm,0.1s
SQTA *i* Sn **Sb 06 18 12.1 -2.7**
38nm,0.3s
SQTA Sankt Quirin 2.98 24 Pn **Pn 06 17 34.9 +2.4**
9.2nm,0.1s
SQTA Sn **Sb 06 18 12.1 -2.7**
38nm,0.3s
MOTA Moosalm 3.07 22 *e*Pn **Pn 06 17 35.4 +1.7**
26nm,0.4s
MOTA *i* Sn **Sb 06 18 14.2 -3.0**
64nm,0.4s
MOTA Moosalm 3.07 22 Pn **Pn 06 17 35.4 +1.7**
26nm,0.4s
MOTA Sn **Sb 06 18 14.2 -3.0**
64nm,0.4s
ABTA Abfaltersbach 3.11 43 *e*Pn **Pn 06 17 35.3 +1.1**
32nm,0.5s
ABTA Sn **Sn 06 18 12.7 +1.3**
38nm,0.3s
ABTA Abfaltersbach 3.11 43 Pn **Pn 06 17 35.3 +1.1**
32nm,0.5s
ABTA Sn **Sn 06 18 12.7 +1.3**
38nm,0.3s
RETA Reutte 3.12 17 *e*Pn **Pn 06 17 35.7 +1.4**
15nm,0.2s
RETA *e*Sn **Sn 06 18 13.2 +1.7**
81nm,0.5s
RETA Reutte 3.12 17 Pn **Pn 06 17 35.7 +1.4**
15nm,0.2s
RETA Sn **Sn 06 18 13.2 +1.7**
81nm,0.5s
CABF La Chapelle 3.15 313 *e*Pn **Pn 06 17 36.1 +1.4**
CABF *e*Sn **Sn 06 18 13.1 +0.8**
44nm,0.4s
CABF La Chapelle 3.15 313 *e*Pn **Pn 06 17 36.1 +1.4**
CABF *e*Sn **Sn 06 18 13.1 +0.8**
22nm,0.4s
WTTA Wattenberg 3.16 28 Pn **Pn 06 17 36.6 +1.7**
7.6nm,0.2s
WTTA *e*Sn **Sn 06 18 15.8 +3.2**
35nm,0.4s
WTTA Wattenberg 3.16 28 Pn **Pn 06 17 36.6 +1.7**
7.6nm,0.2s
WTTA Sn **Sn 06 18 15.8 +3.2**
35nm,0.4s
WATA Walderalm 3.20 27 *e*Pn **Pn 06 17 37.1 +1.6**
12nm,0.2s
WATA *i* Sn **Sb 06 18 17.4 -3.6**
73nm,0.6s
WATA Walderalm 3.20 27 Pn **Pn 06 17 37.1 +1.6**
12nm,0.2s
WATA Sn **Sb 06 18 17.4 -3.6**
73nm,0.6s
LOMF Lomont 3.37 328 P **Pn 06 17 39.8 +2.0**
LOMF S **Sb 06 18 24.0 -1.9**
LOMF Lomont 3.37 328 P **Pn 06 17 39.8 +2.0**
LOMF S **Sb 06 18 24.0 -1.9**
VIVF Saint-Julien-l 3.41 278 *e*Pn **Pn 06 17 38.6 +0.4**
VIVF Saint-Julien-l 3.41 278 *e*P **Pn 06 17 40.6 +2.4**
VIVF *e*Sn **Sn 06 18 18.4 -0.2**
79nm,0.8s
VIVF Saint-Julien-l 3.41 278 *e*Pn **Pn 06 17 38.6 +0.4**
VIVF Saint-Julien-l 3.41 278 *e*P **Pn 06 17 40.6 +2.4**
VIVF *e*Sn **Sn 06 18 18.4 -0.2**
40nm,0.8s
FELD Feldberg im Sc 3.51 344 P **Pn 06 17 41.7 +2.0**
MYKA Terra Mystica 3.64 53 *e*Pn **Pn 06 17 42.0 +0.6**
2.7nm,0.4s
MYKA Sg **Sg 06 18 42.0 -0.1**
33nm,0.4s
MYKA Terra Mystica 3.64 53 Pn **Pn 06 17 42.0 +0.6**
2.7nm,0.4s
MYKA Sg **Sg 06 18 42.0 -0.1**
33nm,0.4s
MOF Molkenrain 3.71 335 P **Pn 06 17 44.7 +2.4**
MOF S **Sb 06 18 32.9 -2.6**
MOF Molkenrain 3.71 335 P **Pn 06 17 44.7 +2.4**
KBA Koelnbreinsper 3.76 45 *e*Pn **Pn 06 17 44.3 +1.2**
13nm,0.5s
KBA *e*Sn **Sn 06 18 28.0 +0.7**
21nm,0.4s
KBA Koelnbreinsper 3.76 45 Pn **Pn 06 17 44.3 +1.2**
13nm,0.5s
KBA Sn **Sn 06 18 28.0 +0.7**
21nm,0.4s
HINF Hinteralfeld 3.76 333 *e*Pn **Pn 06 17 43.1 0.0**
HINF *e*Sn **Sn 06 18 26.4 -0.9**
41nm,0.4s
HINF Hinteralfeld 3.76 333 *e*Pn **Pn 06 17 43.1 0.0**
HINF *e*Sn **Sn 06 18 26.4 -0.9**
20nm,0.4s
NVLJ Novalja 3.89 87 *e*Pn **Pn 06 17 45.2 +0.4**
NVLJ Sn **Sn 06 18 28.6 -1.8**
NVLJ Novalja 3.89 87 *e*Pn **Pn 06 17 45.1 +0.4**
NVLJ Sn **Sn 06 18 28.5 -1.8**
LASF Ste Croix 4.02 266 *e*Pn **Pn 06 17 45.7 -0.9**
LASF Ste Croix 4.02 266 *e*P **Pn 06 17 49.2 +2.6**
LASF Ste Croix 4.02 266 *e*Pn **Pn 06 17 45.7 -0.9**
LASF Ste Croix 4.02 266 *e*P **Pn 06 17 49.2 +2.6**
ECH Echery 4.03 338 P **Pn 06 17 48.9 +2.2**
ECH S **Sb 06 18 40.6 -4.1**
ECH Echery 4.03 338 P **Pn 06 17 48.9 +2.2**
ECH S **Sb 06 18 40.6 -4.1**
HAU Haudompre 4.10 330 *e*Pn **Pn 06 17 47.9 +0.2**
HAU Haudompre 4.10 330 *e*P **Pn 06 17 51.1 +3.4**
HAU *e*Sn **Sn 06 18 36.1 +0.6**
149nm,0.4s
HAU Haudompre 4.10 330 *e*Pn **Pn 06 17 47.9 +0.2**
HAU Haudompre 4.10 330 *e*P **Pn 06 17 51.1 +3.4**
HAU *e*Sn **Sn 06 18 36.1 +0.6**
75nm,0.4s
OBKA Obir 4.12 59 *e*Pn **Pn 06 17 48.6 +0.6**
1.7nm,0.3s
OBKA Sg **Sg 06 18 58.1 +0.7**
116nm,0.8s
OBKA Obir 4.12 59 Pn **Pn 06 17 48.6 +0.6**
1.7nm,0.3s
OBKA Sg **Sg 06 18 58.1 +0.7**
116nm,0.8s
CDF Champ du Feu 4.18 340 *e*Pn **Pn 06 17 48.5 -0.3**
CDF *e*Sn **Sn 06 18 35.7 -1.9**
33nm,0.5s
CDF Champ du Feu 4.18 340 *e*Pn **Pn 06 17 48.5 -0.3**
CDF *e*Sn **Sn 06 18 35.7 -1.9**
16nm,0.5s
THEF They Montfort 4.42 329 P **Pn 06 17 53.9 +1.9**
THEF S **Sb 06 18 50.3 -5.6**
THEF They Montfort 4.42 329 P **Pn 06 17 53.9 +1.9**
OZLJ Ozalj 4.42 73 *i* Pn **Pn 06 17 52.0 0.0**
OZLJ Sn **Sn 06 18 39.5 -3.8**
OZLJ Ozalj 4.42 73 *i* Pn **Pn 06 17 52.0 0.0**
SMF Signal de Mont 4.47 301 *e*Pn **Pn 06 17 53.9 +1.2**
SMF *e*Sn **Sn 06 18 42.8 -1.8**
49nm,0.3s
SMF Signal de Mont 4.47 301 *e*Pn **Pn 06 17 53.9 +1.2**
SMF *e*Sn **Sn 06 18 42.8 -1.8**
24nm,0.3s
SOKA Soboth 4.49 59 *i* Pn **Pn 06 17 54.0 +0.9**
1.4nm,0.4s
SOKA *i* Sn **Sn 06 18 45.2 -0.1**
8.4nm,0.5s
SOKA Soboth 4.49 59 Pn **Pn 06 17 54.0 +0.9**
1.4nm,0.4s
SOKA Sn **Sn 06 18 45.2 -0.1**
8.4nm,0.5s
LANF Langenberg 4.61 347 P **Pn 06 17 57.1 +2.4**
LANF S **Sn 06 18 55.1 +7.0**
LANF Langenberg 4.61 347 P **Pn 06 17 57.1 +2.4**
LANF S **Sn 06 18 55.1 +7.0**
LOR Lormes 4.77 307 *e*Pn **Pn 06 17 57.6 +0.7**
baz=130
LOR *e*Sn **Sn 06 18 49.3 -2.7**
56nm,0.3s
LOR Lormes 4.77 307 *e*Pn **Pn 06 17 57.6 +0.7**
LOR *e*Sn **Sn 06 18 49.3 -2.7**
28nm,0.3s
SFTF Sexfontaines 4.79 322 *e*Pn **Pn 06 17 57.4 +0.3**
baz=136
SFTF Sexfontaines 4.79 322 *e*Pn **Pn 06 17 57.4 +0.3**
PAGF Fort de Pagny 4.79 329 *e*Pn **Pn 06 17 57.8 +0.7**
baz=154
PAGF *e*Sn **Sn 06 18 49.8 -2.6**
17nm,0.7s
PAGF Fort de Pagny 4.79 329 *e*Pn **Pn 06 17 57.8 +0.7**
PAGF *e*Sn **Sn 06 18 49.8 -2.6**
8.4nm,0.7s
AVF Avril sur Loir 4.83 300 *e*Pn **Pn 06 17 58.4 +0.7**
AVF *e*Sn **Sn 06 18 50.8 -2.8**
13nm,0.3s
AVF Avril sur Loir 4.83 300 *e*Pn **Pn 06 17 58.4 +0.7**
AVF *e*Sn **Sn 06 18 50.8 -2.8**
6.5nm,0.3s
SSF Saint Saulge 4.87 304 *e*Pn **Pn 06 17 59.0 +0.8**
SSF *e*Sn **Sn 06 18 51.9 -2.5**
20nm,0.4s
SSF Saint Saulge 4.87 304 *e*Pn **Pn 06 17 59.0 +0.8**
SSF *e*Sn **Sn 06 18 51.9 -2.5**
10nm,0.4s
BGF Bois d'Agland 5.06 296 *e*Pn **Pn 06 18 02.1 +1.3**
BGF *e*Sn **Sn 06 18 55.6 -3.5**
42nm,0.3s
BGF Bois d'Agland 5.06 296 *e*Pn **Pn 06 18 02.1 +1.3**
BGF *e*Sn **Sn 06 18 55.6 -3.5**
21nm,0.3s
ARSA Arzberg 5.06 55 *e*Pn **Pn 06 18 01.2 +0.3**
3.6nm,0.3s
ARSA *i* Sn **Sn 06 18 55.1 -4.2**
2.2nm,0.4s
ARSA Arzberg 5.06 55 Pn **Pn 06 18 01.2 +0.3**
3.6nm,0.3s
GERES GERESS Array B 5.24 33 Pn **Pn 06 18 02.4 -1.0**
2.4nm,0.3s,baz=206,slow=14,SNR=12
GERES Sn **Sn 06 19 01.6 -2.2**
8.8nm,0.3s,baz=229,slow=24,SNR=19
CAF Calviac 5.26 277 *e*Pn **Pn 06 18 03.7 0.0**
CAF Calviac 5.26 277 *e*P **Pn 06 18 06.5 +2.8**
CAF Calviac 5.26 277 *e*Pn **Pn 06 18 03.7 0.0**
CAF Calviac 5.26 277 *e*P **Pn 06 18 06.5 +2.8**
MTLF Montolieu 5.34 260 *e*Pn **Pn 06 18 04.0 -0.7**
MTLF *e*Sn **Sn 06 19 02.2 -3.8**
8.1nm,0.4s
MTLF Montolieu 5.34 260 *e*Pn **Pn 06 18 04.0 -0.7**
MTLF *e*Sn **Sn 06 19 02.2 -3.8**
4.1nm,0.4s
TCF Toulx Ste Croi 5.39 292 *e*Pn **Pn 06 18 06.5 +1.1**
TCF *e*Sn **Sn 06 19 04.0 -3.3**
20nm,0.3s
TCF Toulx Ste Croi 5.39 292 *e*Pn **Pn 06 18 06.5 +1.1**
TCF *e*Sn **Sn 06 19 04.0 -3.3**
10nm,0.3s
KHC Kasperske Hory 5.43 30 *e*PN **Pn 06 18 04.6 -1.4**
KHC *e*SN **Sn 06 19 04.8 -3.6**
KHC Kasperske Hory 5.43 30 Pn **Pn 06 18 04.6 -1.4**
KHC Sn **Sn 06 19 04.8 -3.6**
RUP Ruppelstein 5.44 344 P **Pn 06 18 07.9 +1.8**
HYF Humbligny 5.48 303 *e*Pn **Pn 06 18 07.9 +1.2**
HYF *e*Sn **Sn 06 19 06.9 -2.7**
HYF Humbligny 5.48 303 *e*Pn **Pn 06 18 07.9 +1.2**
ABH Alteburg 5.53 347 P **Pn 06 18 09.2 +1.9**
CONA Conrad Observa 5.62 50 *e*Pn **Pn 06 18 08.7 0.0**
4.4nm,0.4s
CONA *e*Sn **Sn 06 19 13.9 +0.7**
6.4nm,0.5s
CONA Conrad Observa 5.62 50 Pn **Pn 06 18 08.7 0.0**
4.4nm,0.4s
CONA Sn **Sn 06 19 13.9 +0.7**
6.4nm,0.5s
LFF La Frestale 6.21 277 *e*Pn **Pn 06 18 14.2 -2.4**
STON Ston 6.22 102 *i* Pn **Pn 06 18 18.4 +1.6**
STON Sn **Sn 06 19 25.1 -2.5**
STON Ston 6.22 102 *i* Pn **Pn 06 18 18.3 +1.6**
PRU Pruhonice 6.49 31 *e*SN **Sn 06 19 29.5 -4.9**
PRU Pruhonice 6.49 31 Sn **Sn 06 19 29.5 -4.9**
GOPC GO Pecny, Ondr 6.52 32 *e*SN **Sn 06 19 31.2 -4.0**
GOPC GO Pecny, Ondr 6.52 32 Sn **Sn 06 19 31.2 -4.0**
MFF Saint Martin d 7.04 291 *e*Pn **Pn 06 18 29.4 +1.4**
MFF Saint Martin d 7.04 291 *e*Pn **Pn 06 18 29.4 +1.4**
BRG Berggiesshubel 7.06 24 *i* (SN) **Sn 06 19 45.0 -3.4**
BRG SG **Sg 06 20 30.2 -1.4**
30nm,1.6s
CLL Collm 7.21 18 *e*(Sn) **Sn 06 19 49.0 -3.2**
CLL *e*Sg **Sg 06 20 40.0 +3.4**
comp=Z,23nm,1.3s
DPC Dobruska-Polom 7.48 36 *e*SN **Sn 06 19 53.7 -5.1**
DPC Dobruska-Polom 7.48 36 Sn **Sn 06 19 53.7 -5.1**
GRR Gorron 8.09 302 *e*Pn **Pn 06 18 42.9 +0.4**
GRR Gorron 8.09 302 *e*Pn **Pn 06 18 42.9 +0.4**
ESDC Sonseca Array 11.06 249 Pn **Pn 06 19 24.5 +1.3**
comp=Z,0.4nm,0.3s,baz=60,slow=14,SNR=2.9
EKA Eskdalemuir Ar 13.51 328 Pn **Pn 06 19 57.7 +1.2**
baz=140,slow=15,SNR=2.4
FINES FINESS Array B 19.60 24 P **Pn 06 21 15.0 +0.7**
comp=Z,0.1nm,0.3s,baz=246,slow=8.1,SNR=3.7
TORD Torodi Ar. Bea 31.95 194 P **P 06 23 13.9 +3.0**
comp=Z,0.3nm,0.6s,baz=11,slow=8.2,SNR=2.7
MKAR Makanchi Array 49.27 60 P **P 06 25 33.7 +0.1**
comp=Z,0.5nm,0.6s,baz=294,slow=6.4,SNR=3.6
TXAR Lajitas Array 84.52 306 P **P 06 29 19.4 +1.1**
comp=Z,0.2nm,0.8s,baz=101,slow=3.9,SNR=3.8

*ISCJB **20** 06:18:24.6±0.4, 44°.50N±0°.03×9°.38E±0°.02, h10km±4km,*
Error ellipse: s-maj=5.1km s-min=2.8km az=2.3
*ROM **20** 06:18:24.1±0.2, 44°.54N×9°.41E, h8km±1km, Ml2.9/4, Error*
ellipse: s-maj=2.6km s-min=1.2km az=13.0
*LDG **20** 06:18:24.8±0.6, 44°.39N×9°.55E, h2km, Ml3.6/5, Error*
ellipse: s-maj=12.3km s-min=5.7km az=98.0
*GEN **20** 06:18:24.7, 44°.56N×9°.42E, h4km, ML3.1*
*CSEM **20** 06:18:25.1±0.1, 44°.47N×9°.38E, h5km, ML3.5/16, Error*
ellipse: s-maj=4.2km s-min=2.9km az=11.0
ISC 20 06:18:25.0±0.8, **44°.50N**±0°.03×**9°.40E**±0°.02, **h13**km±6km,
n66, σ1§**32**/99, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.14**	**136**	Pg	**Pg**	**06 18 28.2**	**-0.2**
SC2M				Sg	**Sg**	**06 18 31.3**	**+0.3**
16μm,0.3s							
SC2M	**Scurtabo**	**0.14**	**136**	P	**Pg**	**06 18 28.3**	**-0.2**
SC2M				S	**Sg**	**06 18 31.2**	**+0.3**
MSSA	**Maissana**	**0.20**	**156**	Pg	**Pg**	**06 18 29.5**	**-0.1**
MSSA				Sg	**Sg**	**06 18 33.6**	**+0.9**
4μm,0.4s							
MSSA	**Maissana**	**0.20**	**156**	Pg	**Pg**	**06 18 29.5**	**-0.1**
MSSA				Sg	**Sg**	**06 18 33.6**	**+0.9**
4μm,0.4s							
GRAM	**Graiana**	**0.47**	**91**	P	**Pg**	**06 18 33.4**	**-1.0**
GRAM				S	**Sg**	**06 18 40.1**	**-0.6**
PLMA	**Palmaria, Port**	**0.56**	**144**	Pg	**Pg**	**06 18 35.5**	**-0.4**
PLMA				Sg	**Sg**	**06 18 44.1**	**+0.9**
572nm,0.3s							
PLMA	**Palmaria, Port**	**0.56**	**144**	Pg	**Pg**	**06 18 35.5**	**-0.4**
PLMA				Sg	**Sg**	**06 18 44.1**	**+0.9**
572nm,0.3s							
PCP	**Piancastagn**	**0.61**	**274**	Pg	**Pg**	**06 18 36.5**	**-0.5**
PCP				Sg	**Sg**	**06 18 45.1**	**0.0**
PCP	**Piancastagn**	**0.61**	**274**	P	**Pg**	**06 18 36.5**	**-0.5**
PCP				Sg	**Sg**	**06 18 45.1**	**0.0**
QLNO	**Quiliano**	**0.78**	**257**	Pg	**Pg**	**06 18 39.7**	**-0.4**
QLNO				Sg	**Sg**	**06 18 51.2**	**+0.9**
QLNO	**Quiliano**	**0.78**	**257**	Pg	**Pg**	**06 18 39.7**	**-0.4**
QLNO				Sg	**Sg**	**06 18 51.2**	**+0.9**
VLC	**Villacollemand**	**0.79**	**116**	Pg	**Pg**	**06 18 39.5**	**-0.7**
VLC				Sg	**Sb**	**06 18 51.6**	**+0.5**
163nm,0.8s							
VLC	**Villacollemand**	**0.79**	**116**	Pg	**Pg**	**06 18 39.5**	**-0.7**
VLC				Sg	**Sb**	**06 18 51.6**	**+0.5**
163nm,0.8s							
FINB	**Finale Ligure**	**0.84**	**247**	Pg	**Pg**	**06 18 41.0**	**-0.2**
FINB				Sg	**Sg**	**06 18 53.1**	**+0.9**
2μm,0.3s							
FINB	**Finale Ligure**	**0.84**	**247**	Pg	**Pg**	**06 18 41.0**	**-0.2**
FINB				Sg	**Sg**	**06 18 53.1**	**+0.9**
2μm,0.3s							
MAIM	**Mastiano**	**0.98**	**127**	Pg	**Pg**	**06 18 43.1**	**-0.8**
MAIM				Sg	**Sg**	**06 18 57.0**	**+0.3**
284nm,0.6s							
MAIM	**Mastiano**	**0.98**	**127**	P	**Pg**	**06 18 43.1**	**-0.8**
MAIM				S	**Sg**	**06 18 56.8**	**+0.1**
MAGA	**Magasa**	**1.54**	**34**	Pg	**Pn**	**06 18 51.5**	**-0.8**
2μm,0.4s							
SBF	**Sospel**	**1.55**	**246**	*e*Pn	**Pn**	**06 18 52.0**	**-0.4**
SBF	**Sospel**	**1.55**	**246**	*e*Pn	**Pn**	**06 18 52.0**	**-0.4**
PZZ	**Stroppo**	**1.64**	**271**	Pg	**Pn**	**06 18 54.5**	**+0.9**
382nm,0.5s							
PZZ	**Stroppo**	**1.64**	**271**	Pg	**Pn**	**06 18 54.5**	**+0.9**
382nm,0.5s							
MBDF	**Montbardon**	**1.89**	**278**	*e*Pn	**Pb**	**06 18 59.4**	**-0.1**
MBDF	**Montbardon**	**1.89**	**278**	*e*Pn	**Pb**	**06 18 59.4**	**-0.1**
LPG	**La Plagne**	**2.13**	**299**	*e*Pn	**Pn**	**06 19 01.8**	**+1.3**
LPG	**La Plagne**	**2.13**	**299**	*e*Pn	**Pn**	**06 19 01.8**	**+1.3**
LPL	**La Plagne**	**2.15**	**299**	*e*Pn	**Pn**	**06 19 01.8**	**+1.1**
LPL	**La Plagne**	**2.15**	**299**	*e*Pn	**Pn**	**06 19 01.8**	**+1.1**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**06 19 00.5**	**-0.7**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**06 19 00.5**	**-0.7**
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**06 19 04.2**	**+0.3**
LMR				*e*Sn	**Sn**	**06 19 32.0**	**-1.1**
49nm,0.4s							
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**06 19 04.2**	**+0.3**
LMR				*e*Sn	**Sn**	**06 19 32.0**	**-1.1**
25nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.54**	**281**	*e*Pn	**Pn**	**06 19 08.5**	**+2.4**
ORIF	**Oris-en-Rattie**	**2.54**	**281**	*e*Pn	**Pn**	**06 19 08.5**	**+2.4**
FETA	**Feichten**	**2.68**	**20**	Sn	**Sb**	**06 19 44.8**	**-1.0**
20nm,0.5s							
FETA	**Feichten**	**2.68**	**20**	Sn	**Sb**	**06 19 44.8**	**-1.0**
20nm,0.5s							
DAVA	**Damuels**	**2.80**	**7**	Pn	**Pb**	**06 19 12.4**	**-2.6**
6.0nm,0.2s							
DAVA				Sn	**Sn**	**06 19 45.6**	**+2.2**
32nm,0.3s							
DAVA	**Damuels**	**2.80**	**7**	Pn	**Pb**	**06 19 12.4**	**-2.6**
6.0nm,0.2s							
DAVA				Sn	**Sn**	**06 19 45.6**	**+2.2**
32nm,0.3s							
MOTA	**Moosalm**	**3.08**	**22**	*i* Sn	**Sb**	**06 19 54.2**	**-3.0**
17nm,0.3s							
MOTA	**Moosalm**	**3.08**	**22**	Sn	**Sb**	**06 19 54.2**	**-3.0**
17nm,0.3s							
RETA	**Reutte**	**3.13**	**17**	Pn	**Pn**	**06 19 15.8**	**+1.7**
4.5nm,0.2s							
RETA				*e*Sn	**Sn**	**06 19 53.6**	**+2.2**
22nm,0.4s							
RETA	**Reutte**	**3.13**	**17**	Pn	**Pn**	**06 19 15.8**	**+1.7**
4.5nm,0.2s							
RETA				Sn	**Sn**	**06 19 53.6**	**+2.2**
22nm,0.4s							
WTTA	**Wattenberg**	**3.17**	**29**	*i* Sn	**Sn**	**06 19 52.9**	**+0.4**
33nm,0.5s							
WTTA	**Wattenberg**	**3.17**	**29**	Sn	**Sn**	**06 19 52.9**	**+0.4**
33nm,0.5s							
WATA	**Walderalm**	**3.21**	**27**	*e*Pn	**Pn**	**06 19 18.0**	**+2.7**
5.7nm,0.2s							
WATA				*i* Sn	**Sn**	**06 19 55.7**	**+2.2**
10nm,0.5s							
WATA	**Walderalm**	**3.21**	**27**	Pn	**Pn**	**06 19 18.0**	**+2.7**
5.7nm,0.2s							
WATA				Sn	**Sn**	**06 19 55.7**	**+2.2**
10nm,0.5s							
VIVF	**Saint-Julien-l**	**3.39**	**278**	*e*Pn	**Pn**	**06 19 20.4**	**+2.8**
VIVF	**Saint-Julien-l**	**3.39**	**278**	*e*Pn	**Pn**	**06 19 20.4**	**+2.8**
MYKA	**Terra Mystica**	**3.66**	**53**	Sg	**Sg**	**06 20 22.3**	**-0.1**
11nm,0.6s							
MYKA	**Terra Mystica**	**3.66**	**53**	Sg	**Sg**	**06 20 22.3**	**-0.1**
11nm,0.6s							
HAU	**Haudompre**	**4.09**	**330**	*e*Pn	**Pn**	**06 19 28.1**	**+0.8**
HAU				*e*Sn	**Sn**	**06 20 15.7**	**+0.7**
68nm,0.4s							
HAU	**Haudompre**	**4.09**	**330**	*e*Pn	**Pn**	**06 19 28.1**	**+0.8**
HAU				*e*Sn	**Sn**	**06 20 15.7**	**+0.7**
34nm,0.4s							
OBKA	**Obir**	**4.14**	**59**	Sg	**Sg**	**06 20 39.4**	**+1.7**
18nm,0.7s							
OBKA	**Obir**	**4.14**	**59**	Sg	**Sg**	**06 20 39.4**	**+1.7**
18nm,0.7s							
SMF	**Signal de Mont**	**4.45**	**301**	*e*Pn	**Pn**	**06 19 33.4**	**+1.2**
SMF				*e*Sn	**Sn**	**06 20 23.0**	**-0.9**
20nm,0.3s							
SMF	**Signal de Mont**	**4.45**	**301**	*e*Pn	**Pn**	**06 19 33.4**	**+1.2**
SMF				*e*Sn	**Sn**	**06 20 23.0**	**-0.9**
9.9nm,0.3s							
LOR	**Lormes**	**4.76**	**307**	*e*Pn	**Pn**	**06 19 37.4**	**+1.0**
LOR				*e*Sn	**Sn**	**06 20 31.9**	**+0.6**
32nm,0.4s							
LOR	**Lormes**	**4.76**	**307**	*e*Pn	**Pn**	**06 19 37.4**	**+1.0**
LOR				*e*Sn	**Sn**	**06 20 31.9**	**+0.6**
16nm,0.4s							
AVF	**Avril sur Loir**	**4.82**	**300**	*e*Pn	**Pn**	**06 19 38.5**	**+1.3**
AVF	**Avril sur Loir**	**4.82**	**300**	*e*Pn	**Pn**	**06 19 38.5**	**+1.3**
SSF	**Saint Saulge**	**4.85**	**304**	*e*Pn	**Pn**	**06 19 38.3**	**+0.6**
SSF	**Saint Saulge**	**4.85**	**304**	*e*Pn	**Pn**	**06 19 38.3**	**+0.6**
BGF	**Bois d'Agland**	**5.04**	**296**	*e*Pn	**Pn**	**06 19 41.8**	**+1.5**
BGF				*e*Sn	**Sn**	**06 20 38.6**	**+0.2**
24nm,0.4s							
BGF	**Bois d'Agland**	**5.04**	**296**	*e*Pn	**Pn**	**06 19 41.8**	**+1.5**
BGF				*e*Sn	**Sn**	**06 20 38.6**	**+0.2**
12nm,0.4s							
HYF	**Humbligny**	**5.47**	**303**	*e*Pn	**Pn**	**06 19 47.9**	**+1.7**
HYF	**Humbligny**	**5.47**	**303**	*e*Pn	**Pn**	**06 19 47.9**	**+1.7**

*ISCJB **20** 06:31:24.3±0.5, 44°.64N±0°.03×9°.39E±0°.03, h14km±3km,*
Error ellipse: s-maj=4.7km s-min=3.8km az=18.8
*LDG **20** 06:31:24.4±0.1, 44°.68N×9°.54E, h10km, Ml2.6/8, Error*
ellipse: s-maj=2.4km s-min=1.6km az=22.0
*CSEM **20** 06:31:24.5±0.3, 44°.65N×9°.46E, h15km, ML2.7/11, Error*
ellipse: s-maj=6.0km s-min=3.7km az=32.0
*GEN **20** 06:31:25.3, 44°.62N×9°.49E, h7km, ML2.4*
*ROM **20** 06:31:26.1±0.3, 44°.53N×9°.42E, h9km±2km, Ml2.6/4, Error*
ellipse: s-maj=2.8km s-min=2.3km az=153.0
ISC 20 06:31:26.1±0.8, **44°.54N**±0°.03×**9°.43E**±0°.02, **h16**km±6km,
n44, σ1§**43**/73, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.16**	**151**	Pg	**Pg**	**06 31 29.8**	**-0.5**
SC2M				Sg	**Sg**	**06 31 32.9**	**-0.1**
SC2M	**Scurtabo**	**0.16**	**151**	P	**Pg**	**06 31 29.8**	**-0.5**
SC2M				Sg	**Sg**	**06 31 32.9**	**-0.1**
PLMA	**Palmaria, Port**	**0.58**	**148**	Pg	**Pg**	**06 31 37.0**	**-0.5**
PLMA				Sg	**Sb**	**06 31 46.1**	**+0.3**
147nm,0.2s							
PLMA	**Palmaria, Port**	**0.58**	**148**	Pg	**Pg**	**06 31 37.0**	**-0.5**
PLMA				Sg	**Sb**	**06 31 46.1**	**+0.3**
147nm,0.2s							
PCP	**Piancastagn**	**0.63**	**270**	Pg	**Pg**	**06 31 38.1**	**-0.5**
PCP				Sg	**Sg**	**06 31 46.8**	**-0.1**
PCP	**Piancastagn**	**0.63**	**270**	P	**Pg**	**06 31 38.0**	**-0.5**
PCP				S	**Sg**	**06 31 46.8**	**-0.1**
SARO	**Sassorosso**	**0.79**	**117**	P	**Pg**	**06 31 41.4**	**0.0**
QLNO	**Quiliano**	**0.81**	**255**	Pg	**Pb**	**06 31 41.7**	**0.0**
QLNO				Sg	**Sb**	**06 31 52.7**	**+0.3**
57nm,0.2s							
QLNO	**Quiliano**	**0.81**	**255**	Pg	**Pb**	**06 31 41.7**	**0.0**
QLNO				Sg	**Sb**	**06 31 52.7**	**+0.3**
57nm,0.2s							
FINB	**Finale Ligure**	**0.87**	**246**	Pg	**Pb**	**06 31 43.3**	**+0.5**
FINB				Sg	**Sb**	**06 31 54.9**	**+0.7**

312nm,0.2s
FINB Finale Ligure 0.87 246 Pg Pb 06 31 43.3 +0.5
FINB Sg Sb 06 31 54.9 +0.7
312nm,0.2s
MAGA Magasa 1.50 34 Pg Pb 06 31 53.4 -0.2
MAGA Sg Sg 06 32 14.4 0.0
198nm,0.4s
SBF Sospel 1.58 245 *e*Pn **Pn 06 31 53.7 +0.1**
SBF *e*Sn **Sn 06 32 14.0 +0.2**
24nm,0.3s
SBF Sospel 1.58 245 *e*Pn **Pn 06 31 53.7 +0.1**
SBF *e*Sn **Sn 06 32 14.0 +0.2**
12nm,0.3s
MBDF Montbardon 1.91 276 *e*Pg **Pb 06 32 01.4 +0.9**
MBDF *e*Sn **Sn 06 32 19.8 -2.0**
16nm,0.4s
MBDF Montbardon 1.91 276 *e*Pg **Pb 06 32 01.4 +0.9**
MBDF *e*Sn **Sn 06 32 19.8 -2.0**
7.8nm,0.4s
PGF Pioggiola 2.02 189 *e*Pn **Pn 06 31 59.3 -0.2**
PGF Pioggiola 2.02 189 *e*Pn **Pn 06 31 59.3 -0.2**
LPG La Plagne 2.12 298 *e*Pn **Pn 06 31 58.7 -2.5**
LPG La Plagne 2.12 298 *e*Pg **Pb 06 32 04.7 +0.3**
LPG *e*Sg **Sb 06 32 32.0 +1.4**
6.8nm,0.5s
LPG La Plagne 2.12 298 *e*Pn **Pn 06 31 58.7 -2.5**
LPG La Plagne 2.12 298 *e*Pg **Pb 06 32 04.7 +0.3**
LPG *e*Sg **Sb 06 32 32.0 +1.4**
3.4nm,0.5s
LPL La Plagne 2.15 298 *e*Pn **Pn 06 31 58.9 -2.5**
LPL La Plagne 2.15 298 *e*Pg **Pb 06 32 04.9 +0.2**
LPL *e*Sg **Sb 06 32 32.9 +1.8**
6.4nm,0.4s
LPL La Plagne 2.15 298 *e*Pn **Pn 06 31 58.9 -2.5**
LPL La Plagne 2.15 298 *e*Pg **Pb 06 32 04.9 +0.2**
LPL *e*Sg **Sb 06 32 32.9 +1.8**
3.2nm,0.4s
FRF La Foret Royal 2.23 245 *e*Pn **Pn 06 32 01.6 -0.8**
FRF La Foret Royal 2.23 245 *e*Pg **Pg 06 32 08.7 -0.2**
FRF *e*Sn **Sn 06 32 28.6 -1.0**
11nm,0.3s
FRF La Foret Royal 2.23 245 *e*Pn **Pn 06 32 01.6 -0.8**
FRF La Foret Royal 2.23 245 *e*Pg **Pg 06 32 08.7 -0.2**
FRF *e*Sn **Sn 06 32 28.6 -1.0**
5.4nm,0.3s
LMR La Mourre 2.43 241 *e*Pn **Pn 06 32 05.4 +0.3**
LMR *e*Sn **Sn 06 32 33.2 -1.3**
7.8nm,0.3s
LMR La Mourre 2.43 241 *e*Pn **Pn 06 32 05.4 +0.3**
LMR *e*Sn **Sn 06 32 33.2 -1.3**
3.9nm,0.3s
ORIF Oris-en-Rattie 2.56 280 *e*Pn **Pn 06 32 04.9 -2.0**
ORIF Oris-en-Rattie 2.56 280 *e*Pg **Pb 06 32 13.3 +1.7**
ORIF *e*Sg **Sb 06 32 47.0 +4.2**
5.0nm,0.4s
ORIF Oris-en-Rattie 2.56 280 *e*Pn **Pn 06 32 04.9 -2.0**
ORIF Oris-en-Rattie 2.56 280 *e*Pg **Pb 06 32 13.3 +1.7**
ORIF *e*Sg **Sb 06 32 47.0 +4.2**
2.5nm,0.4s
FETA Feichten 2.64 20 Pn Pb 06 32 13.5 +0.4
0.5nm,0.3s
FETA Sg **Sb 06 32 46.7 +1.3**
0.9nm,0.2s
SMRF Simiane la Rot 2.83 260 *e*P **Pn 06 32 11.7 +1.1**
SMRF Simiane la Rot 2.83 260 *e*Pg **Pg 06 32 19.5 -0.7**
SMRF Simiane la Rot 2.83 260 *e*P **Pn 06 32 11.7 +1.1**
SMRF Simiane la Rot 2.83 260 *e*Pg **Pg 06 32 19.5 -0.7**
MOTA Moosalm 3.04 22 Pn **Pn 06 32 16.7 +3.1**
1.6nm,0.3s
MOTA Sn **Sb 06 32 55.9 -0.8**
4.2nm,0.3s
VIVF Saint-Julien-l 3.41 277 *e*P **Pn 06 32 19.7 +1.1**
VIVF *e*Sn **Sn 06 32 55.6 -3.0**
1.7nm,0.3s
VIVF Saint-Julien-l 3.41 277 *e*P **Pn 06 32 19.7 +1.1**
VIVF *e*Sn **Sn 06 32 55.6 -3.0**
0.9nm,0.3s

IDC 20 06:53:15.3±2.8, 54°.14N×86°.42E, h0km, mb1 2.7/2, mb1mx2.7/55, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=20.7km s-min=12.9km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**259**	*i*		06 58 40.0	
	baz=80,slow=334,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.97**	**259**	Pg	Pg	06 53 31.9	-1.9
	0.9nm,0.3s,baz=75,slow=16,SNR=7.6						
ZALV				Lg	Lg	06 53 47.6	
	1.1nm,0.3s,baz=77,slow=28,SNR=14						
ZALV				Rg	Rg	06 53 52.5	
	53nm,1.2s,baz=74,slow=32,SNR=43						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	06 54 46.8	+1.8
	0.1nm,0.3s,baz=55,slow=14,SNR=4.2						
KURBB				Lg	Lg	06 56 26.5	
	baz=49,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 55 11.0	+0.8
	0.1nm,0.3s,baz=26,slow=15,SNR=4.4						
MKAR				Lg	Lg	06 57 23.6	
	0.1nm,0.3s,baz=24,slow=25,SNR=8.8						

ISN ***20*** *06:57:16.3±1.1, 26°.68N×56°.54E, h10km±33km, ML4.6*
IDC ***20*** *06:57:23.7±0.7, 27°.46N×56°.28E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.2/47, mbtmp4.2/23, ML4.4/3, MS3.1/5, Ms1 3.2/5, ms1mx2.8/46, Error ellipse: s-maj=17.0km s-min=13.8km az=153.0*
ISCJB ***20*** *06:57:25.7±0.2, 27°.54N±0°.02×56°.32E±0°.04, h18km, mb4.4/44, MS3.3/5, Error ellipse: s-maj=5.0km s-min=3.3km az=163.8*
NEIC ***20*** *06:57:25.5±0.3, 27°.48N×56°.22E, h10km, mb4.4/14, MN4.1(TEH), Error ellipse: s-maj=6.9km s-min=5.8km az=152.0*
THR ***20*** *06:57:26.0±1.7, 27°.44N×56°.42E, h15km, ML4.3*
DSN ***20*** *06:57:26.9±1.1, 27°.45N×56°.89E, h15km, ML4.6/9, Error ellipse: s-maj=26.6km s-min=7.8km az=121.0*
MOS ***20*** *06:57:27.0±1.1, 27°.52N×56°.28E, h33km, mb4.4/20, Error ellipse: s-maj=9.4km s-min=6.4km az=103.3*
CSEM ***20*** *06:57:27.0±0.2, 27°.50N×56°.33E, h15km, mb4.5/20, Error ellipse: s-maj=7.2km s-min=4.7km az=81.0*
OMAN ***20*** *06:57:32.0, 27°.70N×56°.29E, h20km*
TEH ***20*** *06:57:32.0, 27°.70N×56°.29E, h20km, ML4.1*
ISC 20 06:57:26.5±0.4, 27°.48N±0°.03×56°.26E±0°.04, h18km, n216, σ1§65/228, mb4.4/44, MS3.3/5, 11C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.43**	**184**	P	**Pg**	**06 57 53.6**	**-0.5**
	SNR=203						
BANOM	**Banah**	**1.55**	**179**	*e*P	**Pb**	**06 57 54.8**	**+0.1**
	SNR=325						
BANOM				S	**Sg**	**06 58 16.8**	**+0.2**
BANOM	**Banah**	**1.55**	**179**	Pb	**Pb**	**06 57 54.8**	**+0.1**
	SNR=476						
BANOM				S	**Sg**	**06 58 16.8**	**+0.2**
BANOM				Sb	**Sg**	**06 58 17.4**	**+0.8**
	SNR=7.7						
BANOM	**Banah**	**1.55**	**179**	Pb	**Pb**	**06 57 54.9**	**+0.1**
	SNR=476						
BANOM				Sb	**Sg**	**06 58 17.4**	**+0.8**
BANOM	**Banah**	**1.55**	**179**	Pn	**Pb**	**06 57 54.9**	**+0.1**
	SNR=476						
BANOM				sPg	**Sg**	**06 58 17.4**	**+0.8**
	SNR=7.7						
BANOM	**Banah**	**1.55**	**179**	P	**Pb**	**06 57 54.9**	**+0.1**
	SNR=476						
BANOM				S	**Sg**	**06 58 17.4**	**+0.8**
	SNR=7.7						
MSFE	**Esma-Masafi**	**2.12**	**183**	Pn	**Pb**	**06 58 03.5**	**-0.8**
	SNR=52						
NGRK	**Negar Kerman**	**2.19**	**11**	*e*Pn	**Pn**	**06 58 04.0**	**+1.6**
NGRK	**Negar Kerman**	**2.19**	**11**	*e*Pn	**Pn**	**06 58 04.0**	**+1.6**
UOSS	**Minazif**	**2.53**	**181**	P	**Pn**	**06 58 08.4**	**+1.8**
	SNR=31						
UOSS	**Minazif**	**2.53**	**181**	Pn	**Pb**	**06 58 08.7**	**-2.6**
UOSS	**Minazif**	**2.53**	**181**	*e*Pn	**Pn**	**06 58 08.3**	**+1.6**
UOSS	**Minazif**	**2.53**	**181**	pPn	**Pb**	**06 58 08.7**	**-2.6**
UOSS	**Minazif**	**2.53**	**181**	Pn	**Pb**	**06 58 08.7**	**-2.6**
UOSS	**Minazif**	**2.53**	**181**	P	**Pb**	**06 58 08.7**	**-2.6**
KRBR	**Kerman**	**2.53**	**10**	*e*Pn	**Pb**	**06 58 09.9**	**-1.7**
KRBR				AML	AML	06 58 45.5	
	comp=E,1μm,0.3s						
KRBR				AML	AML	06 58 46.2	
	comp=N,2μm,0.4s						
TVBK	**TV Kerman**	**2.53**	**10**	*e*Pn	**Pn**	**06 58 09.3**	**+2.2**
TVBK	**TV Kerman**	**2.53**	**10**	*e*Pn	**Pn**	**06 58 09.3**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.54**	**192**	*e*P	**Pb**	**06 58 09.8**	**-1.7**
	SNR=15						
NAZ	**Nazwa, Dubai**	**2.54**	**192**	P	**Pb**	**06 58 09.8**	**-1.7**
	SNR=15						
NAZ	**Nazwa, Dubai**	**2.54**	**192**	pPn	**Pb**	**06 58 10.4**	**-1.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.54**	**192**	Pn	**Pb**	**06 58 10.4**	**-1.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.54**	**192**	P	**Pb**	**06 58 10.4**	**-1.2**
	SNR=14						
HATD	**Hatta, Dubai**	**2.65**	**183**	*e*P	**Pn**	**06 58 10.5**	**+2.2**
	SNR=23						
HATD	**Hatta, Dubai**	**2.65**	**183**	P	**Pn**	**06 58 10.5**	**+2.2**
	SNR=23						
HATD	**Hatta, Dubai**	**2.65**	**183**	pPn	**Pb**	**06 58 10.7**	**-2.7**
	SNR=23						
HATD	**Hatta, Dubai**	**2.65**	**183**	Pn	**Pb**	**06 58 10.7**	**-2.7**
	SNR=23						
HATD	**Hatta, Dubai**	**2.65**	**183**	P	**Pb**	**06 58 10.7**	**-2.7**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**2.79**	**193**	*e*P	**Pb**	**06 58 13.3**	**-2.5**
	SNR=76						
FAQ	**Al Faqa, Dubai**	**2.79**	**193**	P	**Pb**	**06 58 13.3**	**-2.5**
	SNR=76						
FAQ	**Al Faqa, Dubai**	**2.79**	**193**	pPn	**Pb**	**06 58 13.4**	**-2.5**
	SNR=76						
FAQ	**Al Faqa, Dubai**	**2.79**	**193**	Pn	**Pb**	**06 58 13.4**	**-2.5**
	SNR=76						
FAQ	**Al Faqa, Dubai**	**2.79**	**193**	P	**Pb**	**06 58 13.4**	**-2.5**
	SNR=76						
ASHO	**Ashiyiah**	**2.79**	**184**	*e*P	**Pb**	**06 58 13.0**	**-2.8**
	SNR=88						
ASHO	**Ashiyiah**	**2.79**	**184**	P	**Pb**	**06 58 13.0**	**-2.8**
	SNR=88						
ASHO	**Ashiyiah**	**2.79**	**184**	pPn	**Pb**	**06 58 13.1**	**-2.8**
	SNR=88						
ASHO	**Ashiyiah**	**2.79**	**184**	Pn	**Pb**	**06 58 13.1**	**-2.8**
	SNR=88						
ASHO	**Ashiyiah**	**2.79**	**184**	P	**Pb**	**06 58 13.1**	**-2.8**
	SNR=88						
KHGB	**Koh Gabri**	**2.89**	**4**	*e*Pn	**Pn**	**06 58 14.7**	**+2.8**
KHGB	**Koh Gabri**	**2.89**	**4**	*e*Pn	**Pn**	**06 58 14.7**	**+2.8**
GHIR	**Ghir-Karzin**	**3.01**	**286**	*e*Pn	**Pb**	**06 58 17.8**	**-1.8**
GHIR				AML	AML	06 59 24.6	
	comp=E,372nm,0.4s						
GHIR	**Ghir-Karzin**	**3.01**	**286**	*e*Pn	**Pb**	**06 58 17.8**	**-1.8**
ISRV	**Sarvestan**	**3.36**	**305**	*e*Pn	**Pn**	**06 58 21.6**	**+3.2**
ISRV				*e*AMB	AMB	06 59 35.0	
	comp=Z,5μm,0.4s						
ISRV	**Sarvestan**	**3.36**	**305**	*e*Pn	**Pn**	**06 58 21.6**	**+3.2**
IPAR	**Pars**	**3.67**	**311**	*e*Pn	**Pn**	**06 58 26.2**	**+3.5**
IPAR				*e*Sg	**Sg**	**06 59 22.7**	**-1.9**
IPAR				*e*AMB	AMB	06 59 40.6	
	comp=Z,2μm,0.3s						
IPAR	**Pars**	**3.67**	**311**	*e*Pn	**Pn**	**06 58 26.2**	**+3.5**
IPAR				*e*Sg	**Sg**	**06 59 22.7**	**-1.9**
IBAF	**Bafgh**	**4.14**	**352**	*e*Pn	**Pn**	**06 58 30.6**	**+1.6**
IBAF				*e*AMB	AMB	06 59 25.4	
	comp=Z,2μm,0.2s						
IBAF	**Bafgh**	**4.14**	**352**	*e*Pn	**Pn**	**06 58 30.6**	**+1.6**
IMEH	**Mehriz**	**4.15**	**340**	*e*Pn	**Pn**	**06 58 32.6**	**+3.4**
IMEH				*e*AMB	AMB	06 58 36.9	
	comp=Z,2μm,0.1s						
IMEH	**Mehriz**	**4.15**	**340**	*e*Pn	**Pn**	**06 58 32.6**	**+3.4**
CHBR	**Chabahar**	**4.22**	**115**	*e*Pn	**Pn**	**06 58 29.7**	**-0.2**
CHBR	**Chabahar**	**4.22**	**115**	*e*Pn	**Pn**	**06 58 29.7**	**-0.2**
BIDO	**Bidbid**	**4.29**	**156**	P	**Pn**	**06 58 30.9**	**0.0**
	SNR=14						
BIDO	**Bidbid**	**4.29**	**156**	Pn	**Pn**	**06 58 30.9**	**0.0**
	SNR=14						
BIDO	**Bidbid**	**4.29**	**156**	Pn	**Pn**	**06 58 30.9**	**0.0**
	SNR=14						
BIDO	**Bidbid**	**4.29**	**156**	P	**Pn**	**06 58 30.9**	**0.0**
	SNR=14						
WSAR	**Wadi Sarin**	**4.74**	**153**	Pn	**Pn**	**06 58 37.6**	**+0.5**
	comp=Z,18nm,0.3s,baz=340,slow=6.2,SNR=126						
WSAR				Sn	**Sn**	**06 59 30.2**	**-1.4**
	comp=Z,24nm,0.3s,baz=188,slow=22,SNR=16						
WSAR	**Wadi Sarin**	**4.74**	**153**	Pn	**Pn**	**06 58 37.6**	**+0.5**
WSAR				Sn	**Sn**	**06 59 31.6**	**+0.1**
WSAR	**Wadi Sarin**	**4.74**	**153**	Pn	**Pn**	**06 58 37.5**	**+0.4**
	SNR=28						
WSAR				Sn	**Sn**	**06 59 31.6**	**+0.1**
WSAR	**Wadi Sarin**	**4.74**	**153**	Pn	**Pn**	**06 58 37.5**	**+0.4**
	SNR=28						
WSAR				Sn	**Sn**	**06 59 31.6**	**+0.1**
WSAR	**Wadi Sarin**	**4.74**	**153**	P	**Pn**	**06 58 37.5**	**+0.4**
	SNR=28						
WSAR				S	**Sn**	**06 59 31.6**	**+0.1**
ISAD	**Sadrabad**	**4.95**	**334**	*e*Pn	**Pn**	**06 58 43.3**	**+3.0**
ISAD				*e*AMB	AMB	06 58 49.7	
	comp=Z,1μm,0.1s						
ISAD	**Sadrabad**	**4.95**	**334**	*e*Pn	**Pn**	**06 58 43.3**	**+3.0**
ICHK	**Chekchek**	**5.01**	**342**	*e*Pn	**Pn**	**06 58 42.4**	**+1.4**
ICHK	**Chekchek**	**5.01**	**342**	*e*Pn	**Pn**	**06 58 42.4**	**+1.4**
IRAM	**Ramesheh**	**5.48**	**323**	*e*Pn	**Pn**	**06 58 50.1**	**+2.7**
IRAM				*e*AMB	AMB	06 59 55.9	
	comp=Z,2μm,0.2s						
IRAM	**Ramesheh**	**5.48**	**323**	*e*Pn	**Pn**	**06 58 50.1**	**+2.7**
NASN	**Na'in**	**6.08**	**331**	*e*Pn	**Pn**	**06 58 58.4**	**+2.6**
NASN	**Na'in**	**6.08**	**331**	*e*Pn	**Pn**	**06 58 58.3**	**+2.4**
IGAR	**Gharneh**	**6.12**	**324**	*e*Pn	**Pn**	**06 58 58.7**	**+2.4**
IGAR				*e*AMB	AMB	06 58 59.6	
	comp=Z,2μm,0.1s						
TABS	**Tabas**	**6.19**	**7**	*e*Pn	**Pn**	**06 58 59.0**	**+1.9**
TABS	**Tabas**	**6.19**	**7**	*e*Pn	**Pn**	**06 58 59.0**	**+1.9**
IZEF	**Zefreh**	**6.38**	**329**	*e*Pn	**Pn**	**06 59 01.4**	**+1.6**
IZEF				*e*AMB	AMB	07 00 15.7	
	comp=Z,434nm,0.2s						
IZEF	**Zefreh**	**6.38**	**329**	*e*Pn	**Pn**	**06 59 01.4**	**+1.6**
IPIR	**Pirpir**	**6.97**	**319**	*e*Pn	**Pn**	**06 59 10.3**	**+2.4**
IPIR				*e*AMB	AMB	07 00 28.6	
	comp=Z,2μm,0.2s						
IPIR	**Pirpir**	**6.97**	**319**	*e*Pn	**Pn**	**06 59 10.3**	**+2.4**
IKLH	**Kolahrood**	**7.08**	**326**	*e*Pn	**Pn**	**06 59 10.7**	**+1.2**
IKLH				*e*AMB	AMB	07 00 37.6	
	comp=Z,512nm,0.2s						
IKLH	**Kolahrood**	**7.08**	**326**	*e*Pn	**Pn**	**06 59 10.7**	**+1.2**
KHMZ	**Khomeyn**	**8.27**	**320**	*e*Pn	**Pn**	**06 59 28.0**	**+2.3**
KHMZ				AML	AML	07 01 05.3	
	comp=N,33nm,0.7s						
KHMZ				AML	AML	07 01 09.5	
	comp=E,33nm,0.4s						
ASAO	**Ashtian**	**8.84**	**324**	*e*Pn	**Pn**	**06 59 36.8**	**+3.2**
RAYN	**Ar Rayn**	**10.49**	**250**	*e*Pn	**Pn**	**06 59 55.2**	**-0.8**
RAYN	**Ar Rayn**	**10.49**	**250**	*e*Pn	**Pn**	**06 59 55.2**	**-0.8**
GEYT	**Alibeck**	**10.54**	**8**	LR	LR	07 05 08.2	
	comp=E,77nm,18.1s,baz=175,slow=44						
KBL	**Kabul**	**13.02**	**54**	*e*P	**Pn**	**07 00 30.7**	**-0.1**
KBL	**Kabul**	**13.02**	**54**	*e*P	**Pn**	**07 00 30.7**	**-0.1**
KBL	**Kabul**	**13.02**	**54**	*e*Pn	**Pn**	**07 00 30.7**	**-0.1**
GNI	**Garni**	**15.83**	**326**	⇑*e*P	**Pn**	**07 01 08.2**	**-0.4**
GNI	**Garni**	**15.83**	**326**	*e*Pn	**Pn**	**07 01 08.4**	**-0.2**
	comp=E,15nm,0.8s						
GNI	**Garni**	**15.83**	**326**	*e*Pn	**Pn**	**07 01 08.4**	**-0.2**
	comp=E,15nm,0.8s						
MARD	**Mardin**	**16.32**	**311**	*e*Pn	**Pn**	**07 01 12.4**	**-2.5**
	comp=E,42nm,0.6s						
MARD	**Mardin**	**16.32**	**311**	*e*Pn	**Pn**	**07 01 12.4**	**-2.5**
	comp=E,42nm,0.6s						
DAMY	**Dhamar**	**16.95**	**223**	*e*Pn	**Pn**	**07 01 20.5**	**-2.6**
	comp=E,18nm,0.8s						
ASF	**Jabal al Asfar**	**17.44**	**290**	P	**Pn**	**07 01 27.5**	**-1.5**
	comp=E,1.3nm,0.3s,baz=42,slow=9.5,SNR=7.0						
ZEI	**Tsey**	**18.28**	**330**	*e*P	**P**	**07 01 43.9**	**+4.4**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MMAI	**Mount Meron Ar**	**18.84**	**292**	P	**Pn**	**07 01 46.6**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=104,slow=16,SNR=7.1						
EIL	**Elat**	**18.84**	**282**	LR	LR	07 10 41.9	
	comp=Z,46nm,18.4s,baz=46,slow=42						
NCK	**Nalchik**	**18.98**	**331**	*de*P	**P**	**07 01 46.1**	**-0.8**
NCK				pmax	pmax		
	comp=Z,14nm,0.3s						
NCK	**Nalchik**	**18.98**	**331**	*e*P	**P**	**07 01 46.1**	**-0.8**
	comp=Z,14nm,0.3s						
NEY	**Neytrino**	**19.18**	**329**	⇑*e*P	**Pn**	**07 01 50.8**	**+0.6**
NEY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEY	**Neytrino**	**19.18**	**329**	*e*P	**Pn**	**07 01 50.8**	**+0.6**
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**19.40**	**33**	*e*P	**P**	**07 01 51.4**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
KKAR	**Karatay Array**	**19.40**	**33**	*e*P	**P**	**07 01 51.4**	**-0.2**
	comp=Z,22nm,0.8s						
KKAR	**Karatay Array**	**19.40**	**33**	*e*P	**P**	**07 01 51.4**	**-0.2**
	comp=Z,22nm,0.8s						
KBZ	**Khabaz**	**19.47**	**330**	P	**Pn**	**07 01 56.0**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=137,slow=5.8,SNR=4.2						
KBZ	**Khabaz**	**19.47**	**330**	P	**Pn**	**07 01 56.0**	**+2.5**
KBZ	**Khabaz**	**19.47**	**330**	P	**Pn**	**07 01 56.0**	**+2.5**
KIV	**Kislovodsk**	**19.75**	**330**	*e*P	**P**	**07 01 53.9**	**-1.5**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KIV				MLR	MLR		
	comp=Z,30nm,14.0s						
KIV	**Kislovodsk**	**19.75**	**330**	*e*P	**P**	**07 01 53.9**	**-1.5**
	comp=Z,30nm,14.0s						
MNAS	**Manas**	**19.98**	**37**	P	**P**	**07 01 57.8**	**-0.2**
MNAS	**Manas**	**19.98**	**37**	P	**P**	**07 01 57.8**	**-0.2**
KSH	**Kashi**	**20.30**	**49**	P	**P**	**07 01 57.3**	**-4.2**
KSH				pP	Pn	07 02 01.8	-1.8
KSH				sP	pP	07 02 04.4	-2.3
KSH				S	S	07 05 31.9	-17
KSH				sS	Sn	07 05 37.6	-14
KSH				SS	**SnSn**	**07 05 58.8**	**-7.7**
KSH				PcP	**PcP**	**07 06 13.6**	**-1.1**
KSH				pmax	pmax		
	comp=Z,13nm,1.1s						
KSH				pmax	pmax		
	comp=Z,170nm,6.0s						
KSH				LR	LR		
	comp=N,210nm,8.9s						
KSH				LR	LR		
	comp=E,160nm,8.9s						
KSH				LR	LR		
	comp=Z,190nm,8.3s						
CSS	**Mathiatis**	**20.95**	**297**	*e*P	**P**	**07 02 07.2**	**-1.3**
	comp=Z,16nm,1.7s						
CSS	**Mathiatis**	**20.95**	**297**	*e*P	**P**	**07 02 07.2**	**-1.3**
	comp=Z,16nm,1.7s						
AAK	**Ala-Archa**	**21.18**	**40**	P	**P**	**07 02 11.2**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=222,slow=5.6,SNR=4.9						
AAK	**Ala-Archa**	**21.18**	**40**	⇓*e*P	**P**	**07 02 11.7**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**21.18**	**40**	*e*P	**P**	**07 02 11.7**	**+0.7**
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**21.18**	**40**	*e*P	**P**	**07 02 10.9**	**-0.1**
	comp=Z,4.6nm,0.8s						
ABKAR	**Akbulak array**	**21.93**	**6**	*e*P	**P**	**07 02 19.3**	**+0.5**
	comp=Z,72nm,0.5s						
ABKAR	**Akbulak array**	**21.93**	**6**	*e*P	**P**	**07 02 19.3**	**+0.5**
	comp=Z,72nm,0.5s						
BR131	**Keskin Array S**	**22.38**	**309**	*e*P	**P**	**07 02 24.5**	**+0.5**
BR131	**Keskin Array S**	**22.38**	**309**	*e*P	**P**	**07 02 24.5**	**+0.5**
BRTR	**Keskin Array B**	**22.38**	**309**	P	**P**	**07 02 24.9**	**+0.9**
	comp=Z,10nm,0.7s,baz=131,slow=13,SNR=28						
BRTR				LR	LR	07 12 50.5	
	comp=Z,66nm,19.1s,baz=131,slow=41						
AKTK	**Aktyubinsk**	**22.96**	**3**	P	**P**	**07 02 30.9**	**+1.1**
	comp=Z,6.0nm,0.5s						
AKTO	**Aktyubinsk**	**22.96**	**3**	P	**P**	**07 02 30.9**	**+1.2**
	comp=Z,5.6nm,0.5s,baz=172,slow=9.1,SNR=12						
ANTO	**Ankara**	**23.03**	**308**	*e*P	**P**	**07 02 31.8**	**+1.1**
ANTO				pmax	pmax		
	comp=Z,12nm,0.8s						
ANTO	**Ankara**	**23.03**	**308**	*e*P	**P**	**07 02 31.8**	**+1.1**
	comp=Z,12nm,0.8s						
ANTO	**Ankara**	**23.03**	**308**	*e*P	**P**	**07 02 31.8**	**+1.1**
	comp=Z,12nm,0.8s						
BOLV	**Bolvadin**	**23.91**	**304**	*e*P	**P**	**07 02 41.0**	**+1.6**
	comp=Z,33nm,0.8s						
BOLV	**Bolvadin**	**23.91**	**304**	*e*P	**P**	**07 02 41.0**	**+1.6**
	comp=Z,33nm,0.8s						
PDGK	**Podgornoye**	**24.55**	**44**	P	**P**	**07 02 45.2**	**-0.1**
PDGK	**Podgornoye**	**24.55**	**44**	P	**P**	**07 02 45.2**	**-0.1**
KARP	**Karpathos**	**26.01**	**295**	*e*P	**P**	**07 02 59.5**	**+1.0**
	comp=Z,20nm,1.1s						
KARP	**Karpathos**	**26.01**	**295**	*e*P	**P**	**07 02 59.5**	**+1.0**
	comp=Z,20nm,1.1s						
BRVK	**Borovoye**	**27.59**	**18**	⇑*e*P	**P**	**07 03 12.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**27.59**	**18**	*e*P	**P**	**07 03 12.8**	**+0.3**
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**27.60**	**19**	P	**P**	**07 03 12.8**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=197,slow=4.6,SNR=5.5						
IDI	**Anoyia**	**27.81**	**294**	P	**P**	**07 03 16.3**	**+1.5**
	comp=Z,4.8nm,0.5s,baz=76,slow=9.6,SNR=7.7						
MAKZ	**Makanchi**	**27.94**	**39**	*e*P	**P**	**07 03 17.5**	**+1.7**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MAKZ	**Makanchi**	**27.94**	**39**	*e*P	**P**	**07 03 17.5**	**+1.7**
	comp=Z,8.0nm,1.5s						
MAKZ	**Makanchi**	**27.94**	**39**	*e*P	**P**	**07 03 17.5**	**+1.7**
	comp=Z,8.1nm,1.5s						
MK31	**Makanchi Array**	**28.11**	**40**	*e*P	**P**	**07 03 17.3**	**0.0**
MK31	**Makanchi Array**	**28.11**	**40**	*e*P	**P**	**07 03 17.3**	**0.0**
MK31	**Makanchi Array**	**28.11**	**40**	*e*P	**P**	**07 03 17.3**	**0.0**
MKAR	**Makanchi Array**	**28.11**	**40**	P	**P**	**07 03 17.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=227,slow=8.1,SNR=6.8						
MKAR	**Makanchi Array**	**28.11**	**40**	*e*P	**P**	**07 03 20.6**	**+3.3**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	**Makanchi Array

ZAA0	**Zalesovo Array**	33.75	31	*e*P	P	07 04 07.2	+0.4
ZALV	**Zalesovo Beam**	33.75	31	P	P	07 04 06.6	-0.2
	comp=Z,2.9nm,0.3s,baz=242,slow=10,SNR=9.9						
BLY	**Banja Luka**	35.56	309	*e*P	P	07 04 23.9	+1.3
	comp=Z,10nm,0.5s						
BLY	**Banja Luka**	35.56	309	*e*P	P	07 04 23.9	+1.3
	comp=Z,10nm,0.5s						
GTA	**Gaotai**	37.90	60	*e*P	P	07 04 49.1	+6.3
GTA				pP	sP	07 04 54.0	+3.4
GTA				sP	pP	07 04 56.3	+7.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MOA	**Molln**	38.37	313	*i* P	P	07 04 47.0	+0.4
	comp=Z,4.1nm,0.5s						
GERES	**GERESS Array B**	39.02	315	P	P	07 04 51.9	-0.2
	comp=Z,2.2nm,0.5s,baz=112,slow=7.2,SNR=13						
KHC	**Kasperske Hory**	39.19	315	*e*P	P	07 04 53.4	0.0
KHC				*e*pP	pP	07 04 58.2	-0.8
KHC	**Kasperske Hory**	39.19	315	*e*P	P	07 04 53.4	0.0
KHC	**Kasperske Hory**	39.19	315	*e*P	P	07 04 53.4	0.0
KHC	**Kasperske Hory**	39.19	315	*e*P	P	07 04 53.1	-0.2
	comp=Z,4.1nm,0.8s						
ABTA	**Abaltersbach**	39.23	311	*e*P	P	07 04 52.4	-1.5
	comp=Z,6.6nm,1.0s						
FINES	**FINESS Array B**	39.51	338	P	P	07 04 55.9	+0.1
	comp=Z,2.2nm,0.6s,baz=147,slow=9.9,SNR=7.4						
WTTA	**Wattenberg**	39.94	312	*i* P	P	07 04 59.6	-0.2
	comp=Z,4.7nm,0.4s						
WATA	**Walderalm**	39.99	312	*i* P	P	07 05 00.0	-0.2
	comp=Z,3.9nm,0.5s						
CMAR	**Chiang Mai Arr**	40.15	94	LR	LR	07 24 10.8	
	comp=Z,22nm,19.4s,baz=265,slow=40						
SQTA	**Sankt Quirin**	40.21	312	*e*P	P	07 05 01.8	-0.2
MOTA	**Moosalm**	40.31	312	*i* P	P	07 05 02.2	-0.6
	comp=Z,3.7nm,0.3s						
FETA	**Feichten**	40.49	311	*i* P	P	07 05 04.1	-0.3
	comp=Z,5.0nm,0.4s						
LZH	**Lanzhou**	41.01	66	*e*P	P	07 05 10.3	+1.5
LZH				pP	pP	07 05 14.3	-0.1
LZH				sP	sP	07 05 17.1	+0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
DAVA	**Damuels**	41.11	311	*i* P	P	07 05 09.1	-0.3
	comp=Z,20nm,0.4s						
TLY	**Talaya**	42.80	42	LR	LR	07 24 38.8	
	comp=Z,42nm,21.1s,baz=226,slow=38						
SONM	**Songino Array**	43.71	48	P	P	07 05 30.8	+0.2
	comp=Z,1.5nm,0.8s,baz=258,slow=7.3,SNR=6.8						
ULN	**Ulaanbaatar**	44.15	49	⇑*i*P	P	07 05 34.2	0.0
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	44.15	49	*i* P	P	07 05 34.2	0.0
	comp=Z,2.0nm,1.0s						
NB2	**NORSAR Subarra**	45.05	331	P	P	07 05 39.8	-1.2
	comp=Z,3.0nm,0.8s,baz=118,slow=8.6						
NB2	**NORSAR Subarra**	45.05	331	P	P	07 05 39.8	-1.2
	comp=Z,3.0nm,0.8s,SNR=6.5						
NOA	**NORSAR Array B**	45.05	331	P	P	07 05 40.5	-0.6
	comp=Z,3.2nm,0.8s,baz=117,slow=7.9,SNR=6.5						
ARCES	**ARCESS Array B**	45.72	345	P	P	07 05 46.8	+0.6
	comp=Z,2.5nm,0.7s,baz=150,slow=9.7,SNR=6.7						
TAM	**Tamanrasset**	45.92	276	*e*P	P	07 05 49.2	+0.6
TAM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TAM	**Tamanrasset**	45.92	276	*e*P	P	07 05 49.2	+0.6
	comp=Z,3.7nm,0.8s						
TAM	**Tamanrasset**	45.92	276	*e*P	P	07 05 49.1	+0.6
	comp=Z,3.7nm,0.8s						
ESDC	**Sonseca Array**	50.77	300	P	P	07 06 25.7	0.0
	comp=Z,1.2nm,0.4s,baz=73,slow=6.9,SNR=7.1						
TOA0	**Torodi Ar. Sit**	52.74	266	*e*P	P	07 06 40.7	+0.1
TOA0	**Torodi Ar. Sit**	52.74	266	*e*P	P	07 06 40.7	+0.1
TORD	**Torodi Ar. Bea**	52.74	266	P	P	07 06 40.3	-0.3
	comp=Z,4.7nm,0.7s,baz=62,slow=7.1,SNR=42						
NJ2	**Nanjing**	53.87	69	*e*P	P	07 06 49.1	+0.4
DBIC	**Dimbokro**	61.37	262	P	P	07 07 41.5	-0.2
	comp=Z,1.8nm,0.8s,baz=59,slow=12,SNR=3.1						
BOSA	**Boshof**	63.20	210	P	P	07 07 54.3	+0.5
	comp=Z,1.9nm,0.4s,baz=18,slow=5.8,SNR=7.3						
ILAR	**Eielson Array**	86.30	10	P	P	07 10 05.9	-1.0
	comp=Z,0.6nm,0.8s,baz=318,slow=3.0,SNR=7.1						
CAST	**Castle Rocks**	86.66	12	*e*P	P	07 10 09.2	+0.4
CAST	**Castle Rocks**	86.66	12	*e*P	P	07 10 09.2	+0.4
ASAR	**Alice Springs**	90.51	116	P	P	07 10 27.4	-0.3
	comp=Z,0.5nm,0.6s,baz=303,slow=4.3,SNR=2.4						
TXAR	**Lajitas Array**	120.33	340	PKP	PKPdf	07 16 17.1	-0.1
	comp=Z,0.2nm,0.7s,baz=169,slow=2.6,SNR=3.7						

*NNC **20** 06:57:38.7±3.6, 40.97N×71.11E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=25.6km s-min=14.7km az=7.0*
*SOME **20** 06:57:40.1, 41.13N×70.93E, h0km*
*KRNET **20** 06:57:42.4±0.1, 41.33N×71.01E, h14km, mb2.4*
ISC 20 06:57:40.4±2.3, 41.15N±0.10×70.96E±0.06, h9km±13km, n13, σ1°10/22, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	0.99	49	⇑*e*P	Pg	06 57 59.0	-0.5
ARK	baz=58			⇑*e*S	Sg	06 58 12.2	-0.2
BTK	**Batken**	1.10	186	⇑*e*P	Pn	06 58 07.1	+5.0
BTK	baz=187			⇑*i*S	Sn	06 58 26.1	+8.7
IUG	**Iuzhnay**	1.22	325	*e*P	Pg	06 58 03.9	+0.1
IUG	16nm,0.2s			*e*S	Sn	06 58 20.3	0.0
ARSB	**Arslanbob**	1.53	83	⇓*e*P	Pg	06 58 10.5	+0.6
ARSB	baz=89			⇓*i*S	Sg	06 58 31.2	+1.4
MNAS	**Manas**	1.76	40	⇑*e*P	Pb	06 58 12.8	-0.2
MNAS	baz=43			⇑*i*S	Sb	06 58 35.1	-0.2
MNAS	**Manas**	1.76	40	⇑P	Pb	06 58 12.9	-0.1
MNAS	1.2nm,0.3s			⇓S	Sg	06 58 36.9	-0.2
KK31	**Karatay Array**	1.98	350	⇑Pn	Pb	06 58 16.4	-0.3
KK31	3.1nm,0.3s,baz=168,slow=18,SNR=59			⇑Sn	Sg	06 58 44.4	+0.4
AML	**Almayashu**	2.27	64	⇓*i*P	Pb	06 58 21.7	-0.1
AML	baz=67			⇓*i*S	Sb	06 58 51.5	+1.3
MRKS	**Merke**	2.32	46	*e*P	Pb	06 58 23.3	+0.8
MRKS	7.1nm,0.3s			*e*S	Sb	06 58 53.1	+1.8
EKS2	**Erkin-Say**	2.59	53	⇑*i*P	Pb	06 58 26.8	-0.3
EKS2	baz=56			⇑*i*S	Sb	06 58 59.3	+0.3
ARLS	**Aral**	2.62	73	⇑*e*P	Pb	06 58 27.4	-0.3
ARLS	baz=77			⇑*e*S	Sb	06 58 59.8	-0.3
AAK	**Ala-Archa**	3.03	59	Pg	Pb	06 58 32.9	-1.7
AAK	0.8nm,0.3s			Lg	Lg	06 59 12.6	
TKM2	**Tokmak 2**	3.88	61	⇑Pg	Pb	06 58 46.0	-3.1
TKM2	0.5nm,0.3s			⇓Lg	Lg	06 59 39.1	
	0.1nm,0.2s						

*ISCJB **20** 07:01:46.0±0.9, 17.7S±0.3×178.7W±0.2, h547km, mb3.9/8, Error ellipse: s-maj=45.5km s-min=18.0km az=148.1*
*IDC **20** 07:01:49.8±5.4, 17.72S×178.72W, h582km±59km, mb3.3/7, mb1 3.6/7, mb1mx3.2/22, mbtmp4.2/7, Error ellipse: s-maj=42.0km s-min=24.9km az=141.0*
ISC 20 07:01:46.6±0.9, 17.7S±0.3×178.7W±0.2, h547km, n11, σ0°84/13, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.53	241	P	P	07 08 23.6	+1.0
	7.7nm,0.5s,baz=90,slow=10,SNR=15						
WRA	**Warramunga Arr**	44.45	259	P	P	07 09 09.1	-0.5
	4.0nm,0.5s,baz=94,slow=6.9,SNR=88						

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WRA				PcP	PcP	07 10 40.6	-0.6
	0.7nm,0.4s,baz=91,slow=3.7,SNR=3.8						
ASAR	**Alice Springs**	44.63	254	P	P	07 09 11.2	+0.2
	35nm,0.6s,baz=88,slow=8.3,SNR=541						
ASAR				PcP	PcP	07 10 41.4	-0.6
	1.1nm,0.4s,baz=100,slow=3.6,SNR=4.6						
MAW	**Mawson**	83.98	200	P	P	07 13 18.3	-0.7
	1.5nm,0.5s,baz=138,slow=5.2,SNR=15						
ILAR	**Eielson Array**	85.73	13	P	P	07 13 26.8	-0.7
	0.2nm,0.4s,baz=220,slow=5.3,SNR=6.9						
TXAR	**Lajitas Array**	86.07	58	P	P	07 13 31.3	+1.2
	0.4nm,0.7s,baz=230,slow=6.0,SNR=6.3						
PDAR	**Pinedale Array**	87.35	44	P	P	07 13 36.2	+0.3
	0.4nm,0.5s,baz=215,slow=3.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	88.60	290	P	P	07 13 43.0	+1.0
	0.7nm,0.4s,baz=87,slow=2.7,SNR=4.9						
BVAR	**Borovoye Array**	116.54	321	PKP	PKPdf	07 19 27.3	-1.1
	0.6nm,0.4s,baz=91,slow=2.4,SNR=4.3						
BRTR	**Keskin Array B**	144.47	315	PKP	PKPdf	07 20 21.1	-0.2
	1.2nm,0.6s,baz=207,slow=1.6,SNR=4.6						
GERES	**GERESS Array B**	147.35	345	PKPbc	PKPbc	07 20 28.5	-0.6
	1.0nm,0.6s,baz=81,slow=3.4,SNR=5.2						

*NEIC **20** 07:21:35.4±0.0, 52.56N×176.46E, h20km, mb4.1/2, ML3.6(AEIC), After AEIC.*
*IDC **20** 07:21:36.5±4.3, 52.11N×176.27E, h66km±37km, mb3.9/14, mb1 4.0/16, mb1mx3.7/50, mbtmp4.2/16, ML3.4/2, Error ellipse: s-maj=52.3km s-min=15.8km az=175.0*
ISC 20 07:21:34.1±1.4, 52.2N±0.3×176.20E±0.07, h35km, n34, σ1°77/30, mb4.3/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	1.40	294	P	Pn	07 22 00.2	+3.1
SMY				S	Sn	07 22 19.1	+4.9
GAEA	**Gareloi East**	3.15	95	P	Pn	07 22 23.3	+2.1
TASE	**Tanaga Southea**	3.58	93	P	Pn	07 22 29.4	+2.3
TAFP	**Tanaga Falls P**	3.60	92	P	Pn	07 22 29.5	+2.1
TAFP				S	Sn	07 23 09.2	+0.4
ADK	**Adak**	4.40	91	P	Pn	07 22 41.2	+2.8
ADK				S	Sn	07 23 30.5	+2.1
ETKA	**Kagalaska Isla**	4.58	91	P	Pn	07 22 42.8	+2.0
GSCK	**Great Sitkin C**	4.71	89	P	Pn	07 22 44.7	+2.0
KOKL	**Mount Kliuchef**	5.90	85	P	Pn	07 23 01.5	+2.5
ATKA	**Atka Island**	5.91	86	P	Pn	07 23 01.7	+2.6
ATKA				S	Sn	07 24 06.4	+1.0
PETK	**Petropavlovsk-**	11.28	282	P	Pn	07 24 16.1	+3.4
	0.3nm,0.3s,baz=95,slow=19,SNR=4.9						
KDAK	**Kodiak Island**	18.66	60	P	P	07 25 48.5	-0.2
	0.5nm,0.3s,baz=245,slow=2.8,SNR=22						
ILAR	**Eielson Array**	22.64	42	P	P	07 26 31.2	-0.5
	0.9nm,0.5s,baz=254,slow=5.9,SNR=16						
H11N2	**WAKE ISLAND Hy**	33.20	196	T	T	08 03 17.0	
	baz=11,slow=76,SNR=440						
H11N3	**WAKE ISLAND Hy**	33.21	196	T	T	08 03 17.8	
	baz=11,slow=76,SNR=436						
H11N1	**WAKE ISLAND Hy**	33.21	196	T	T	08 03 30.6	
	baz=11,slow=76,SNR=466						
H11S1	**WAKE ISLAND Hy**	34.42	196	T	T	08 05 02.9	
	baz=11,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy**	34.44	196	T	T	08 04 49.8	
	baz=11,slow=76,SNR=97						
H11S2	**WAKE ISLAND Hy**	34.44	196	T	T	08 05 02.2	
	baz=11,slow=76,SNR=41						
YKA	**Yellowknife Ar**	36.92	46	P	P	07 28 39.4	+0.3
	0.6nm,0.3s,baz=286,slow=7.3,SNR=14						
SONM	**Songino Array**	43.49	293	P	P	07 29 33.7	-0.2
	1.7nm,0.5s,baz=63,slow=7.6,SNR=8.0						
ARCES	**ARCESS Array B**	56.72	348	P	P	07 31 13.0	-0.6
	5.0nm,0.9s,baz=34,slow=8.8,SNR=7.1						
MKAR	**Makanchi Array**	57.06	305	P	P	07 31 14.9	-1.6
	1.5nm,0.4s,baz=54,slow=5.6,SNR=13						
BVAR	**Borovoye Array**	58.22	317	P	P	07 31 23.9	-0.6
	2.2nm,0.4s,baz=57,slow=6.9,SNR=13						
ARU	**Arti**	60.23	325	P	P	07 31 38.8	+0.5
	4.8nm,0.2s,baz=273,slow=5.7,SNR=3.8						
TXAR	**Lajitas Array**	61.56	78	P	P	07 31 46.3	-1.5
	0.2nm,0.5s,baz=299,slow=4.6,SNR=4.6						
AAK	**Ala-Archa**	63.92	306	P	P	07 32 02.3	-1.1
	1.1nm,0.5s,baz=68,slow=4.1,SNR=4.3						
FINES	**FINESS Array B**	64.25	345	P	P	07 32 04.1	-0.9
	1.3nm,0.4s,baz=19,slow=7.4,SNR=11						
AKTO	**Aktyubinsk**	65.18	322	P	P	07 32 11.3	0.0
	3.7nm,0.8s,baz=40,slow=6.5,SNR=8.4						
ABKAR	**Akbulak array**	65.37	320	*e*P	P	07 32 12.2	-0.3
	0.4nm,0.4s						
KKAR	**Karatay Array**	65.51	309	*e*P	P	07 32 12.8	-0.8
	0.5nm,0.2s						
NB2	**NORSAR Subarra**	66.49	352	P	P	07 32 18.9	-0.7
	comp=Z,1.7nm,0.6s,baz=9.2,slow=6.5						
NOA	**NORSAR Array B**	66.49	352	P	P	07 32 19.2	-0.4
	comp=Z,1.2nm,0.5s,baz=356,slow=5.3,SNR=6.6						
AKASG	**Malin Array Be**	73.75	339	P	P	07 33 02.7	-1.5
	comp=Z,1.6nm,0.4s,baz=24,slow=6.3,SNR=4.7						
GEYT	**Alibeck**	75.34	314	P	P	07 33 13.9	+0.3
	comp=Z,2.0nm,0.3s,baz=38,slow=7.3,SNR=3.3						

*ISCJB **20** 07:23:58.4±0.8, 23.92N±0.03×122.53E±0.02, h7km±5km, Error ellipse: s-maj=4.4km s-min=2.7km az=167.9*
*JMA **20** 07:23:58.7±0.2, 23.95N×122.50E, h16km±3km, M2.3*
*TAP **20** 07:24:01.1, 24.00N×122.46E, h29km±1km, ML3.0, C*
ISC 20 07:23:57.4±1.2, 23.91N±0.03×122.52E±0.02, h7km±10km, n33, σ0°69/60, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jimaku**	0.67	36	P	Pb	07 24 11.2	-0.3
JYNG				S	Sg	07 24 19.2	+0.1
YOJ	**Yonaguni jima**	0.71	39	P	Pb	07 24 12.1	-0.2
YOJ				S	Sg	07 24 20.6	+0.1
TWD	**Chiawan**	0.86	282	*e*P	Pn	07 24 15.4	-0.6
	baz=276						
ENA	**Nanau**	0.88	306	*e*P	Pn	07 24 16.2	-0.1
	baz=311						
ENA				*e*S	Sb	07 24 27.2	+0.2
	baz=311						
TWC	**Suao**	0.93	319	P	Pn	07 24 16.4	-0.6
	baz=318						
TWC				*e*S	Sb	07 24 27.9	-0.5
	baz=318						
EGS		1.08	330	P	Pn	07 24 19.2	+0.2
	baz=318						
EGS				S	Sb	07 24 32.9	+0.1
	baz=318						
TWE	**Neicheng**	1.12	317	P	Pn	07 24 20.4	+0.8
	baz=315						
TWE				S	Sn	07 24 34.6	-0.7
	baz=315						
ENTT	**Nioudou**	1.14	310	P	Pn	07 24 20.5	+0.7
	baz=294						
ENTT				*e*S	Sn	07 24 35.0	-0.7
	baz=294						
EHY	**Hungye**	1.16	250	*e*P	Pn	07 24 21.3	+1.1
	baz=245						
EHY				*e*S	Sn	07 24 36.1	-0.3
	baz=245						
WHF	**Hehuan Shan**	1.17	282	⇑*i*P	Pn	07 24 21.0	+0.3
	baz=278						
WHF				*e*S	Sb	07 24 35.1	-0.7
	baz=278						
NNS	**Nan Shan**	1.17	297	*e*P	Pn	07 24 20.6	+0.2
	baz=294						
NNS				*e*S	Sb	07 24 35.8	+0.1
	baz=294						
HATJ	**Hateruma jima**	1.19	82	P	Pb	07 24 20.4	+0.1
HATJ				S	Sb	07 24 36.6	+0.7
IRIF	**Iriomote-Funau**	1.19	69	P	Pn	07 24 20.8	+0.3
IRIF				*e*S	Sb	07 24 36.2	+0.3
TWB1	**Santiao Chiao**	1.20	336	*e*P	Pn	07 24 21.2	+0.5
	baz=337						
TWF1	**Yuli**	1.25	244	*e*P	Pn	07 24 22.2	+0.8
	baz=239						
TWF1				*e*S	Sg	07 24 37.1	-0.4
	baz=239						
WDT	**Danda**	1.27	264	P	Pn	07 24 22.4	+0.4
	baz=259						
WDT				S	Sg	07 24 37.8	-0.7
	baz=259						
NSK	**Sanguang**	1.31	306	*e*P	Pn	07 24 22.8	+0.5
	baz=292						
NSK				*e*S	Sb	07 24 39.0	-0.4
	baz=292						
CHKT	**Chengkung**	1.33	233	*e*P	Pb	07 24 24.3	+1.6
	baz=217						

CHKT				*e*S	Sg	07 24 38.5	-1.6
	baz=217						
NWF	**Wu-fen Shan**	1.34	330	P	Pb	07 24 23.8	+0.8
	baz=330						
NWF				*e*S	Sn	07 24 41.3	+0.5
	baz=330						
JKRS	**Kuro-shima**	1.40	76	P	Pb	07 24 24.0	0.0
JKRS				*e*S	Sn	07 24 43.0	+0.7
SMLT	**Sun Moon Lake**	1.48	269	*e*P	Pg	07 24 27.9	+2.0
	baz=255						
YUS	**Yu-Shan**	1.49	254	*e*P	Pg	07 24 26.5	+0.4
	baz=250						
YUS				*e*S	Sg	07 24 44.5	-1.0
	baz=250						
TYC	**Yuchr**	1.52	270	*e*P	Pg	07 24 27.8	+1.2
	baz=266						
JIJ	**Ishigaki jima**	1.56	73	P	Pn	07 24 24.4	-1.2
JIJ				S	Sn	07 24 44.7	-1.3
NSTT	**Nanjuang**	1.56	298	*e*P	Pg	07 24 27.4	0.0
	baz=295						
NSTT				*e*S	Sb	07 24 46.4	-0.3
	baz=295						
ALS	**Alishan**	1.62	256	*e*P	Pg	07 24 28.0	-0.5
	baz=252						
ALS				*e*S	Sn	07 24 48.3	+0.3
	baz=252						
TWQ1	**Liyutan**	1.65	286	*e*P	Pb	07 24 27.9	-0.4
	baz=283						
CHN5	**Tsauling**	1.71	260	*e*P	Pb	07 24 28.8	-0.5
	baz=246						
CHN5				*e*S	Sb	07 24 51.4	+0.3
	baz=246						
JISG	**Ishigakijimahi**	1.77	67	P	Pn	07 24 29.1	+0.5
JISG				S	Sb	07 24 52.5	-0.3
STYT	**Tauyuan**	1.78	246	*e*P	Pg	07 24 30.9	-0.6
	baz=232						
CHN4	**Tsaushan**	1.85	253	*e*P	Pb	07 24 31.6	0.0
	baz=249						
CHN4				*e*S	Sb	07 24 54.5	-0.4
	baz=249						
WTP	**Ta-pu**	1.86	250	*e*P	Pg	07 24 32.7	-0.5
	baz=236						
WTP				*e*S	Sb	07 24 55.4	-0.1
	baz=236						
CHN1	**Nanshi**	1.96	249	*e*P	Pb	07 24 33.5	0.0
	baz=237						
CHN1				*e*S	Sb	07 24 58.6	+0.4
	baz=237						

IDC 20 07:35:56.5±2.7, 16.05S×170.71W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/32, mbtmp4.0/4, Error ellipse: s-maj=201.7km s-min=30.6km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	45.98	241	P	P	07 44 23.2	+1.6
	1.1nm,0.5s,baz=80,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	52.22	257	P	P	07 45 08.7	-1.1
	0.4nm,0.3s,baz=103,slow=7.4,SNR=12						
ASAR	**Alice Springs**	52.38	252	P	P	07 45 10.5	-0.4
	3.6nm,0.4s,baz=89,slow=8.1,SNR=82						
PDAR	**Pinedale Array**	81.04	41	P	P	07 48 13.7	0.0
	0.4nm,0.6s,baz=213,slow=6.5,SNR=5.1						

NNC 20 07:41:29.8±9.4, 54.00N×90.67E, h0km, mb3.6, mpv3.3, 9C-5D, Error ellipse: s-maj=71.0km s-min=51.1km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	3.46	272	⇓Pg	Pb	07 42 32.8	+0.9
	1.0nm,0.6s						
ZAA0				⇑Lg	Lg	07 43 22.7	
	7.1nm,1.1s						
KURK	**Kurchatov**	8.07	251	⇑Pn	Pn	07 43 29.0	+0.8
	1.7nm,0.8s						
KURK				⇑Sn	Sn	07 45 02.0	+1.9
	9.5nm,1.3s						
KURK				⇓Lg	Lg	07 45 48.2	
	15nm,1.0s						
KURBB	**Kurchatov Arra**	8.17	250	⇑Pn	Pn	07 43 30.3	+0.8
	3.3nm,0.4s						
KURBB				⇑Sn	Sn	07 45 05.3	+2.8
	5.8nm,0.7s						
KURBB				⇓Lg	Lg	07 45 50.3	
	36nm,1.2s						
MK31	**Makanchi Array**	8.97	220	⇑Pn	Pn	07 43 38.7	-1.9
	0.3nm,0.4s,baz=32,slow=13,SNR=9.5						
MK31				⇑Sn	Sn	07 45 20.3	-2.0
	0.4nm,0.3s,baz=39,slow=26,SNR=10						
MK31				⇓Lg	Lg	07 46 13.0	
	11nm,1.1s,baz=22,slow=33,SNR=6.5						
MAKZ	**Makanchi**	9.08	221	⇑Pn	Pn	07 43 40.7	-1.4
	0.6nm,0.3s						
MAKZ				⇓Sn	Sn	07 45 26.5	+1.6
	0.9nm,0.3s						
MAKZ				⇑Lg	Lg	07 46 21.0	
	5.8nm,1.2s						

NNC 20 07:50:04.6±2.7, 36.55N×70.56E, h125km±86km, mb2.8, mpv3.5, 5C-3D, Error ellipse: s-maj=42.9km s-min=19.6km az=117.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	2.64	329	⇓P	Pn	07 50 46.9	+0.5
	14nm,0.5s						
DZET				⇑S	Sn	07 51 19.2	+0.5
	32nm,0.6s						
MNAS	**Manas**	6.12	14	⇓P	Pn	07 51 32.6	-0.1
	1.3nm,0.4s						
MNAS				⇓S	Sn	07 52 40.4	-1.2
	3.5nm,0.7s						
KK31	**Karatay Array**	6.55	360	⇑P	Pn	07 51 38.2	-0.2
	1.4nm,0.4s,baz=183,slow=13,SNR=24						
KK31				⇑S	Sn	07 52 53.4	+1.7
	1.2nm,0.6s,baz=192,slow=23,SNR=5.4						
AAK	**Ala-Archa**	6.80	25	P	Pn	07 51 41.6	-0.3
	3.4nm,0.5s						
AAK				S	Sn	07 52 58.5	+0.6
	2.3nm,0.7s						
TKM2	**Tokmak 2**	7.45	30	⇑P	Pn	07 51 49.7	-1.1
	2.2nm,0.8s						
TKM2				⇑S	Sn	07 53 16.8	+2.9
	0.4nm,0.5s						

**IDC 20 07:53:14.6±3.8, 37.27N×86.30E, h0km, mb3.6/1, mb1 3.6/6, mb1mx3.4/69, mbtmp3.6/6, ML3.4/5, MS3.3/5, Ms1 3.3/5, ms1mx2.8/58, Error ellipse: s-maj=57.9km s-min=37.9km az=147.0, Southern Xinji

ellipse: s-maj=4.5km s-min=2.3km az=7.0
*SOF **20** 07:53:16.3, 41.°18N×24.°99E, h2km, MD2.6*
*DDA **20** 07:54:02.7, 40.°78N×25.°36E, h9km, Ml2.5*
ISC 20 07:53:15.5±1.0, **41.°08N**±0.°02×**24.°97E**±0.°01, **h6**km±9km,
n49, σ0°76/79, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.36**	**256**	P	**Pg**	**07 53 22.8**	**+0.3**
KAVA				S	**Sg**	**07 53 28.0**	**+0.8**
KAVA	**Kavala**	**0.36**	**256**	P	**Pg**	**07 53 22.8**	**+0.3**
KAVA				S	**Sg**	**07 53 27.4**	**+0.2**
KAVA	comp=N,1105μm,0.2s			AML	AML	07 53 28.2	
KAVA	comp=E,929μm,0.2s			AML	AML	07 53 28.2	
KAVA	**Kavala**	**0.36**	**256**	P	**Pg**	**07 53 22.8**	**+0.3**
KAVA				S	**Sg**	**07 53 27.4**	**+0.2**
RDO	**Rodhopi**	**0.43**	**81**	P	**Pg**	**07 53 23.4**	**-0.5**
RDO				S	**Sg**	**07 53 29.4**	**-0.1**
RDO	**Rodhopi**	**0.43**	**81**	P	**Pg**	**07 53 23.4**	**-0.5**
RDO				S	**Sg**	**07 53 28.9**	**-0.7**
RDO	comp=N,348μm,0.1s			AML	AML	07 53 30.5	
RDO	comp=E,456μm,0.1s			AML	AML	07 53 31.3	
RDO	**Rodhopi**	**0.43**	**81**	P	**Pg**	**07 53 23.4**	**-0.5**
RDO				S	**Sg**	**07 53 28.9**	**-0.7**
RZN	**Rozhen**	**0.64**	**342**	P	**Pg**	**07 53 27.1**	**-0.7**
KDZ	**Kurdzhali**	**0.66**	**30**	P	**Pg**	**07 53 26.2**	**-2.0**
SMTH	**Samothraki Isl**	**0.74**	**145**	P	**Pg**	**07 53 29.8**	**0.0**
SMTH	**Samothraki Isl**	**0.74**	**145**	P	**Pg**	**07 53 30.2**	**+0.4**
SMTH	**Samothraki Isl**	**0.74**	**145**	P	**Pg**	**07 53 30.2**	**+0.4**
ALN	**Alexandroupoli**	**0.83**	**102**	P	**Pg**	**07 53 31.5**	**0.0**
ALN				S	**Sg**	**07 53 42.6**	**+0.3**
ALN	**Alexandroupoli**	**0.83**	**102**	P	**Pg**	**07 53 31.9**	**+0.4**
ALN	**Alexandroupoli**	**0.83**	**102**	P	**Pg**	**07 53 31.5**	**0.0**
ALN				S	**Sg**	**07 53 42.6**	**+0.3**
NVR	**Nevrokopi**	**0.88**	**288**	P	**Pg**	**07 53 31.9**	**-0.5**
NVR				S	**Sb**	**07 53 44.8**	**-0.5**
NVR	**Nevrokopi**	**0.88**	**288**	P	**Pg**	**07 53 32.4**	**0.0**
NVR	**Nevrokopi**	**0.88**	**288**	P	**Pg**	**07 53 31.9**	**-0.5**
NVR				S	**Sb**	**07 53 44.8**	**-0.5**
ENEZ	**Enez**	**0.96**	**111**	P	**Pb**	**07 53 35.2**	**+0.6**
ENEZ				S	**Sb**	**07 53 47.8**	**+0.3**
ENEZ	**Enez**	**0.96**	**111**	P	**Pb**	**07 53 35.2**	**+0.6**
ENEZ				S	**Sb**	**07 53 47.8**	**+0.3**
SRS	**Serrai**	**1.04**	**272**	P	**Pg**	**07 53 34.8**	**-0.8**
SRS				S	**Sg**	**07 53 49.2**	**+0.1**
SRS	**Serrai**	**1.04**	**272**	P	**Pg**	**07 53 35.5**	**0.0**
SRS	**Serrai**	**1.04**	**272**	P	**Pg**	**07 53 35.5**	**0.0**
SRS				S	**Sg**	**07 53 49.2**	**+0.1**
DIM	**Dimitrovgrad**	**1.05**	**23**	P	**Pg**	**07 53 35.9**	**+0.1**
OUR	**Ouranopolis**	**1.06**	**226**	P	**Pg**	**07 53 35.7**	**-0.1**
OUR				S	**Sb**	**07 53 50.8**	**+0.4**
OUR	**Ouranopolis**	**1.06**	**226**	P	**Pg**	**07 53 35.8**	**-0.1**
OUR				S	**Sb**	**07 53 51.0**	**+0.6**
OUR	comp=E,242μm,0.2s			AML	AML	07 53 52.6	
OUR	comp=N,226μm,0.4s			AML	AML	07 53 52.6	
OUR	**Ouranopolis**	**1.06**	**226**	P	**Pg**	**07 53 35.8**	**-0.1**
OUR				S	**Sb**	**07 53 50.8**	**+0.4**
MMB	**Musomiste**	**1.06**	**299**	P	**Pg**	**07 53 36.0**	**0.0**
LIA	**Limnos Island**	**1.19**	**172**	P	**Pg**	**07 53 37.8**	**-0.6**
LIA				S	**Sn**	**07 53 55.5**	**+0.2**
LIA	**Limnos Island**	**1.19**	**172**	P	**Pg**	**07 53 37.5**	**-0.9**
LIA	**Limnos Island**	**1.19**	**172**	P	**Pg**	**07 53 37.8**	**-0.6**
LIA				S	**Sn**	**07 53 55.5**	**+0.2**
SOH	**Sokhos**	**1.25**	**259**	P	**Pg**	**07 53 39.0**	**-0.6**
SOH	**Sokhos**	**1.25**	**259**	P	**Pg**	**07 53 39.0**	**-0.6**
KESN	**Edirne-Kesan**	**1.32**	**101**	*i* P	**Pg**	**07 53 40.4**	**-0.5**
KESN				*i* S	**Sg**	**07 53 58.2**	**+0.2**
KESN	**Edirne-Kesan**	**1.32**	**101**	P	**Pg**	**07 53 40.4**	**-0.5**
KESN				S	**Sg**	**07 53 58.2**	**+0.2**
BOZC	**Bozcaada**	**1.49**	**146**	*i* P	**Pn**	**07 53 41.0**	**-1.8**
BOZC				*i* S	**Sg**	**07 54 04.0**	**+0.7**
PAIG	**Paliouri**	**1.52**	**221**	P	**Pn**	**07 53 40.3**	**-2.9**
PAIG	**Paliouri**	**1.52**	**221**	P	**Pn**	**07 53 40.3**	**-2.9**
EDRB	**Edirne**	**1.54**	**60**	P	**Pn**	**07 53 43.1**	**-0.4**
EDRB				S	**Sn**	**07 54 03.5**	**-0.3**
EDRB	**Edirne**	**1.54**	**60**	P	**Pn**	**07 53 43.1**	**-0.4**
EDRB				S	**Sn**	**07 54 03.5**	**-0.3**
KNT	**Kendrikon**	**1.57**	**274**	P	**Pn**	**07 53 43.3**	**-0.7**
KNT				S	**Sn**	**07 54 04.6**	**0.0**
KNT	**Kendrikon**	**1.57**	**274**	P	**Pn**	**07 53 43.3**	**-0.7**
KNT				S	**Sn**	**07 54 04.6**	**0.0**
SART	**Tekirdag**	**1.72**	**102**	*i* P	**Pn**	**07 53 46.6**	**+0.5**
SART				*i* S	**Sb**	**07 54 09.6**	**+0.1**
SART	**Tekirdag**	**1.72**	**102**	P	**Pn**	**07 53 46.6**	**+0.5**
SART				S	**Sb**	**07 54 09.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.80**	**138**	*i* P	**Pn**	**07 53 47.2**	**+0.1**
BAYC				*i* S	**Sb**	**07 54 11.9**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.80**	**138**	P	**Pn**	**07 53 47.2**	**+0.1**
BAYC				S	**Sb**	**07 54 11.9**	**+0.2**
VTS	**Vitosha**	**2.00**	**319**	P	**Pb**	**07 53 52.5**	**0.0**
PVL	**Pavlikeni**	**2.15**	**7**	P	**Pn**	**07 53 52.2**	**+0.3**
BARS	**Barje**	**2.92**	**307**	*e*Pn	**Pn**	**07 54 04.8**	**+2.2**
BOVS	**Bovan**	**3.52**	**318**	*e*Pn	**Pn**	**07 54 11.7**	**+1.0**

*NNC **20** 07:59:33.2±1.1, 40.°92N×72.°43E, h0km, mb4.5, mpv4.4,*
Error ellipse: s-maj=9.1km s-min=7.3km az=143.0
*SOME **20** 07:59:35.7, 41.°12N×72.°60E, h10km, MS3.5*
*KRNET **20** 07:59:36.2±0.1, 41.°12N×72.°55E, h19km, mb4.5*
*IDC **20** 07:59:36.2±4.3, 40.°93N×72.°61E, h24km±27km, mb3.9/12,*
mb1 4.0/19, mb1mx3.8/67, mbtmp4.0/19, ML3.8/7, Error
ellipse: s-maj=21.2km s-min=10.6km az=156.0
*NEIC **20** 07:59:38.0±0.5, 40.°99N×72.°50E, h35km, mb4.7/5, Error*
ellipse: s-maj=9.1km s-min=7.7km az=168.0
ISC 20 07:59:36.0±1.1, **41.°09N**±0.°03×**72.°40E**±0.°02, **h12**km±7km,
n86, σ2°03/137, **mb4.3**/18, **28C-30D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.50**	**62**	⇓*iP*	**Pg**	**07 59 43.7**	**-2.2**
ARSB	baz=57			⇓*iS*	**Sg**	**07 59 49.4**	**-3.2**
ARK	**Arkit**	**0.78**	**335**	⇓*iP*	**Pb**	**07 59 51.5**	**-0.1**
ARK	baz=327			⇓*iS*	**Sn**	**08 00 03.1**	**-1.5**
TOKL	**Toktogul**	**0.92**	**22**	⇓*iP*	**Pb**	**07 59 52.5**	**-1.5**
TOKL	baz=17			⇓*iS*	**Sb**	**08 00 05.4**	**-0.8**
MNAS	**Manas**	**1.40**	**3**	⇑*iP*	**Pn**	**08 00 01.6**	**+0.1**
MNAS	baz=359			⇑*iS*	**Sg**	**08 00 21.5**	**+0.3**
MNAS	**Manas**	**1.40**	**3**	⇓Pn	**Pn**	**08 00 01.3**	**-0.2**
MNAS	312nm,0.4s			⇓Sn	**Sg**	**08 00 24.9**	**+3.7**
AML	**Almayashu**	**1.43**	**43**	⇓*iP*	**Pn**	**08 00 00.6**	**-1.5**
AML	baz=40			⇓*iS*	**Sn**	**08 00 18.7**	**-2.2**
BTK	**Batken**	**1.58**	**230**	⇑*iP*	**Pg**	**08 00 06.8**	**+0.4**
BTK	baz=232			⇑*iS*	**Sg**	**08 00 30.8**	**+3.9**
ARLS	**Aral**	**1.64**	**61**	⇓*iP*	**Pn**	**08 00 05.5**	**+0.7**
ARLS	baz=60			⇓*eS*	**Sb**	**08 00 27.5**	**+0.6**
MRKS	**Merke**	**1.77**	**20**	*eP*	**Pn**	**08 00 07.2**	**+0.7**
MRKS	683nm,0.4s			*eS*	**Sb**	**08 00 30.2**	**-0.3**
EKS2	**Erkin-Say**	**1.88**	**33**	⇓*iP*	**Pn**	**08 00 09.0**	**+0.9**
EKS2	baz=31			⇓*iS*	**Sn**	**08 00 32.4**	**+0.6**
UCH	**Uchtor**	**1.95**	**54**	⇑*iP*	**Pn**	**08 00 10.1**	**+0.8**
UCH	baz=53			⇑*iS*	**Sn**	**08 00 33.9**	**-0.1**
IUG	**Iuzhnay**	**2.07**	**302**	*eP*	**Pg**	**08 00 15.8**	**+0.1**
IUG	1μm,0.3s			*eS*	**Sg**	**08 00 44.4**	**+1.9**
AAK	**Ala-Archa**	**2.20**	**45**	Pn	**Pn**	**08 00 14.3**	**+1.7**
AAK	126nm,0.3s,baz=188,slow=4.0,SNR=579			Sn	**Sb**	**08 00 43.1**	**0.0**
AAK	**Ala-Archa**	**2.20**	**45**	⇓*iP*	**Pn**	**08 00 14.1**	**+1.6**
AAK	219nm,0.3s,baz=5.0,slow=18,SNR=41 baz=43			⇓*iS*	**Sn**	**08 00 41.2**	**+1.5**
AAK	**Ala-Archa**	**2.20**	**45**	Pn	**Pn**	**08 00 14.5**	**+2.0**
AAK	117nm,0.3s			⇑Sn	**Sb**	**08 00 43.3**	**+0.2**
AAK	**Ala-Archa**	**2.20**	**45**	*e*Pn	**Pn**	**08 00 14.2**	**+1.7**
AAK	539nm,0.6s			*e*Sn	**Sn**	**08 00 40.5**	**+0.8**
FRU1	**Bishkek**	**2.40**	**43**	⇑*iP*	**Pn**	**08 00 16.7**	**+1.6**
FRU1	baz=42			⇑*iS*	**Sn**	**08 00 45.8**	**+1.4**
CHM	**Chimkent**	**2.43**	**301**	*e*P	**Pg**	**08 00 22.3**	**-0.3**
CHM	388nm,0.2s			*e*S	**Sg**	**08 00 55.9**	**+1.9**
KK31	**Karatay Array**	**2.46**	**326**	Pn	**Pb**	**08 00 18.8**	**-1.3**
KK31	14nm,0.3s,baz=132,slow=12,SNR=1526 66nm,0.3s,baz=141,slow=16,SNR=7.6			⇓Pg	**Pg**	**08 00 22.0**	**-1.1**
KK31	243nm,0.4s,baz=139,slow=28,SNR=9.8			Lg	Lg	08 00 54.3	
KKAR	**Karatay Array**	**2.46**	**326**	*e*Pn	**Pb**	**08 00 18.8**	**-1.2**
KKAR				*e*Sn	**Sb**	**08 00 50.8**	**+0.5**
KBK	**Karagaybulak**	**2.47**	**50**	⇓*iP*	**Pn**	**08 00 18.2**	**+2.0**
KBK	baz=49			⇓*iS*	**Sn**	**08 00 47.9**	**+1.6**
CHMS	**Chumysh**	**2.59**	**42**	⇑*iP*	**Pn**	**08 00 19.6**	**+1.8**
CHMS	baz=40			⇑*iS*	**Sn**	**08 00 50.9**	**+1.7**
USP	**Ospenovka**	**2.68**	**35**	⇓*iP*	**Pn**	**08 00 20.7**	**+1.7**
USP	baz=33			⇓*iS*	**Sn**	**08 00 53.1**	**+1.7**
TKM2	**Tokmak 2**	**3.01**	**51**	⇑*iP*	**Pn**	**08 00 25.0**	**+1.4**
TKM2	baz=51			⇑*iS*	**Sn**	**08 01 00.7**	**+1.1**
TKM2	**Tokmak 2**	**3.01**	**51**	Pn	**Pn**	**08 00 25.5**	**+1.8**
TKM2	40nm,0.3s			Lg	Lg	08 01 07.0	
ULHL	**Ulahol**	**3.10**	**67**	⇓*iP*	**Pn**	**08 00 26.1**	**+1.2**
ULHL	baz=67			⇓*iS*	**Sn**	**08 01 01.9**	**-0.1**
KSH	**Kashi**	**3.15**	**119**	Pn	**Pn**	**08 00 26.3**	**+0.8**
KSH				Sn	**Sn**	**08 01 06.3**	**+3.2**
KSH	comp=N,1μm,1.1s			smax	smax		
KSH	comp=E,690nm,0.8s			smax	smax		
KST	**Kastek**	**3.30**	**52**	*e*P	**Pb**	**08 00 33.6**	**-0.8**
KST	comp=E,52nm,0.4s			*e*S	**Sb**	**08 01 14.8**	**+0.2**
DGS	**Degeres**	**3.31**	**48**	*e*P	**Pb**	**08 00 34.4**	**-0.2**
DGS	comp=E,188nm,0.5s			*e*S	**Sb**	**08 01 16.4**	**+1.6**
DZET	**Dzherino**	**3.57**	**231**	⇑Pg	**Pb**	**08 00 35.3**	**-3.8**
DZET	comp=E,89nm,0.4s			⇑Lg	Lg	08 01 22.3	
IZV	**Izvestkoviy**	**3.69**	**57**	*e*P	**Pb**	**08 00 40.8**	**-0.4**
IZV	comp=E,136nm,0.5s			*e*S	**Sb**	**08 01 27.2**	**+1.1**
KDJ	**Kajisay**	**3.73**	**72**	⇑*e*P	**Pn**	**08 00 33.9**	**+0.3**
KDJ	baz=72			⇑*iS*	**Sn**	**08 01 19.0**	**+1.5**
TNSS	**Tian-Shan**	**3.91**	**59**	*e*P	**Pb**	**08 00 45.0**	**0.0**
TNSS	comp=E,54nm,0.8s			*e*S	**Sb**	**08 01 34.8**	**+2.4**
MDOK	**Medeo**	**4.03**	**58**	*e*P	**Pb**	**08 00 46.0**	**-1.0**
MDOK	comp=E,101nm,0.5s			*e*S	**Sb**	**08 01 36.4**	**+0.6**
KUU	**Kurty**	**4.04**	**45**	*e*P	**Pb**	**08 00 46.5**	**-0.7**
KUU	comp=E,45nm,0.4s			*e*S	**Sb**	**08 01 37.0**	**+1.0**
KOTS	**Kotyrbulak**	**4.11**	**57**	*e*P	**Pb**	**08 00 48.4**	**0.0**
KOTS				*e*S	**Sb**	**08 01 40.3**	**+2.3**
KTBS	**Karatobe**	**4.12**	**49**	*e*P	**Pb**	**08 00 48.9**	**+0.5**
KTBS				*e*S	**Sb**	**08 01 41.4**	**+3.3**
CHKK	**Chushkaly**	**4.38**	**49**	*e*P	**Pb**	**08 00 53.3**	**+0.4**
CHKK	comp=E,56nm,0.4s			*e*S	**Sb**	**08 01 49.3**	**+3.7**
SATY	**Saty**	**4.89**	**64**	*e*P	**Pb**	**08 01 01.5**	**0.0**
SATY	comp=E,46nm,0.5s			*e*S	**Sb**	**08 02 03.5**	**+3.2**
KURS	**Kuram**	**4.91**	**59**	*e*P	**Pb**	**08 01 03.4**	**+1.5**
KURS				*e*S	**Sb**	**08 02 06.2**	**+5.3**
ZHN	**Zhinishke**	**4.95**	**63**	*e*P	**Pb**	**08 01 03.2**	**+0.7**
ZHN	comp=E,24nm,0.4s			*e*S	**Sb**	**08 02 05.9**	**+3.8**
ARXS	**Arharly**	**5.08**	**50**	*e*P	**Pb**	**08 01 06.1**	**+1.3**
ARXS	comp=E,64nm,0.5s			*e*S	**Sb**	**08 02 10.7**	**+4.9**
KPKS	**Kokpek**	**5.23**	**61**	*e*P	**Pb**	**08 01 08.5**	**+1.1**
KPKS	comp=E,40nm,0.7s			*e*S	**Sb**	**08 02 15.2**	**+4.9**
UZB	**Uzynbulak**	**5.34**	**65**	*e*P	**Pb**	**08 01 09.6**	**+0.3**
UZB	comp=E,33nm,0.8s			*e*S	**Sb**	**08 02 16.6**	**+3.2**
MNBS	**Baschi**	**5.35**	**54**	*e*P	**Pb**	**08 01 10.9**	**+1.6**
MNBS	comp=E,28nm,0.4s			*e*S	**Sb**	**08 02 19.2**	**+5.8**
PDGK	**Podgornoye**	**5.72**	**65**	Pg	**Pb**	**08 01 17.8**	**+2.0**
PDGK	comp=E,24nm,0.7s			Lg	Lg	08 02 34.9	
CEP	**Cherat**	**7.26**	**183**	P	**Pn**	**08 01 26.4**	**+4.4**
CHCP	**Chirah Chowk**	**7.45**	**174**	P	**Pn**	**08 01 28.1**	**+3.6**
CHCP				S	**Sn**	**08 02 48.0**	**-0.8**
THW	**Thamme Wali**	**8.29**	**184**	P	**Pn**	**08 01 38.1**	**+2.0**
MAKZ	**Makanchi**	**8.97**	**47**	Pn	**Pn**	**08 01 45.3**	**+0.1**
MAKZ	comp=E,2.4nm,0.5s			⇓Lg	Lg	08 04 24.8	
MK31	**Makanchi Array**	**9.13**	**48**	⇓Pn	**Pn**	**08 01 47.5**	**0.0**
MK31	comp=E,2.7nm,0.6s,baz=228,slow=14,SNR=31 comp=E,11nm,0.8s,baz=232,slow=25,SNR=3.8			Lg	Lg	08 04 23.3	
MKAR	**Makanchi Array**	**9.13**	**48**	Pn	**Pn**	**08 01 47.9**	**+0.4**
MKAR	comp=E,1.0nm,0.3s,baz=232,slow=14,SNR=22 comp=E,1.0nm,0.3s,baz=230,slow=28,SNR=5.3			Lg	Lg	08 04 18.1	
KURBB	**Kurchatov Arra**	**10.45**	**22**	Pn	**Pn**	**08 02 04.4**	**-1.0**
KURBB	**Kurchatov Arra**	**10.45**	**22**	Pn	**Pn**	**08 02 04.9**	**-0.6**
KURBB	comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=7.8 comp=E,6.2nm,0.5s			⇓Sn	**Sn**	**08 04 06.4**	**+4.1**
KURBB	comp=E,15nm,0.8s			⇑Lg	Lg	08 05 11.1	
KURK	**Kurchatov**	**10.56**	**22**	⇓Pn	**Pn**	**08 02 04.3**	**-2.7**
KURK	comp=E,6.7nm,1.2s			⇑Sn	**Sn**	**08 04 06.4**	**+1.4**
KURK	comp=E,12nm,0.9s			⇑Lg	Lg	08 05 10.0	
KURK	**Kurchatov**	**10.56**	**22**	*e*Pn	**Pn**	**08 02 07.6**	**+0.6**
GEYT	**Alibeck**	**11.47**	**259**	Pn	**Pn**	**08 02 19.0**	**-0.7**
AB31	**Akbulak array**	**11.99**	**317**	⇑Pn	**Pn**	**08 02 25.6**	**-0.9**
AB31	comp=E,0.7nm,0.3s,baz=79,slow=10,SNR=3.5 comp=E,2.4nm,0.5s			⇓Sn	**Sn**	**08 04 46.1**	**+6.1**
AB31	comp=E,1.3nm,0.4s			⇑Lg	Lg	08 05 59.2	
ABKAR	**Akbulak array**	**11.99**	**317**	*e*Pn	**Pn**	**08 02 26.1**	**-0.4**
ABKAR	comp=E,0.5nm,0.3s			*e*Sn	**Sn**	**08 04 44.3**	**+4.3**
BVA0	**Borovoye Array**	**12.02**	**354**	⇑Pn	**Pn**	**08 02 26.9**	**-0.1**
BVA0	comp=E,3.9nm,0.6s,baz=156,slow=12,SNR=7.3 comp=E,7.1nm,0.7s			⇑Sn	**Sn**	**08 04 45.2**	**+4.3**
BVA0	comp=E,36nm,1.0s,baz=160,slow=27,SNR=3.7			⇑Lg	Lg	08 06 02.8	
BVAR	**Borovoye Array**	**12.02**	**354**	Pn	**Pn**	**08 02 27.3**	**+0.3**
BRVK	**Borovoye**	**12.06**	**354**	Pn	**Pn**	**08 02 27.0**	**-0.6**
BRVK	comp=E,2.8nm,0.5s			⇑Sn	**Sn**	**08 04 45.5**	**+3.7**
BRVK	comp=E,4.7nm,0.5s			⇑Lg	Lg	08 06 02.0	
BRVK	**Borovoye**	**12.06**	**354**	*e*Pn	**Pn**	**08 02 27.7**	**+0.1**
BRVK	comp=E,12nm,0.6s			*e*Sn	**Sn**	**08 04 44.8**	**+2.9**
AKTO	**Aktyubinsk**	**13.70**	**318**	Pn	**Pn**	**08 02 49.9**	**+0.1**
AKTO	**Aktyubinsk**	**13.70**	**318**	⇓Pn	**Pn**	**08 02 49.1**	**-0.7**
AKTO	comp=E,3.2nm,0.6s			⇑Sn	**Sn**	**08 05 23.1**	**+1.3**
AKTO	comp=E,4.0nm,1.0s			⇓Lg	Lg	08 06 53.1	
ZALV	**Zalesovo Beam**	**15.33**	**29**	Pn	**Pn**	**08 03 10.4**	**-1.5**
GTA	**Gaotai**	**20.96**	**86**	*e*P	Pn	08 04 24.4	+2.9
GTA				pP	sP	08 04 28.3	+4.2
GTA				sP	pP	08 04 30.5	+8.0
GTA				pmax	pmax		
BRTR	**Keskin Array B**	**29.39**	**280**	P	**P**	**08 05 40.2**	**+1.1**
CSS	**Mathiatis**	**31.18**	**272**	*e*P	**P**	**08 05 54.4**	**-0.5**
FINES	**FINESS Array B**	**34.41**	**322**	P	**P**	**08 06 23.3**	**+0.5**
ARCES	**ARCESS Array B**	**37.39**	**335**	P	**P**	**08 06 48.4**	**+0.2**
MORC	**Moravsky Berou**	**38.69**	**302**	*e*P	**P**	**08 06 59.1**	**-0.4**
HFS	**Hagfors**	**40.24**	**319**	P	**P**	**08 07 12.3**	**+0.1**
TIXI	**Tiksi**	**41.13**	**24**	P	**P**	**08 07 18.4**	**-0.9**
NB2	**NORSAR Subarra**	**41.48**	**320**	P	**P**	**08 07 22.3**	**-0.1**
NOA	**NORSAR Array B**	**41.48**	**320**	P	**P**	**08 07 22.4**	**0.0**
VSL	**Villasalto**	**47.15**	**290**	*e*P	**P**	**08 08 07.9**	**-0.2**
EKA	**Eskdalemuir Ar**	**49.83**	**314**	P	**P**	**08 08 28.4**	**-0.1**
COCO	**West Island**	**57.62**	**151**	*e*P	**P**	**08 09 22.6**	**-3.3**
TORD	**Torodi Ar. Bea**	**66.96**	**268**	P	**P**	**08 10 28.0**	**-0.7**
INK	**Inuvik**	**69.21**	**10**	P	**P**	**08 10 41.2**	**-0.7**
COLA	**College**	**69.78**	**17**	*e*P	**P**	**08 10 45.4**	**-0.1**
ILAR	**Eielson Array**	**70.08**	**17**	P	**P**	**08 10 45.7**	**-1.7**
YKA	**Yellowknife Ar**	**76.61**	**3**	P	**P**	**08 11 24.9**	**-1.0**
PMG	**Port Moresby**	**84.85**	**107**	*e*P	**P**	**08 12 08.0**	**-2.7**
ASAR	**Alice Springs**	**86.03**	**126**	P	**P**	**08 12 14.0**	**-2.4**

*IDC **20** 08:04:48.6±1.2, 41.°10N×72.°49E, h0km, mb4.0/9,*
mb1 4.1/11, mb1mx3.8/53, mbtmp4.0/11, ML3.7/2, Error
ellipse: s-maj=26.6km s-min=11.9km az=155.0
*SOME **20** 08:04:49.4, 41.°03N×72.°60E, h10km*
*KRNET **20** 08:04:51.0±0.1, 41.°14N×72.°55E, h19km, mb4.1*
*NNC **20** 08:04:52.5±1.0, 41.°19N×72.°43E, h0km, mb4.3, mpv4.0,*
Error ellipse: s-maj=7.6km s-min=6.8km az=112.0
*NEIC **20** 08:04:54.2±1.0, 41.°15N×72.°39E, h35km, mb4.6/1, Error*
ellipse: s-maj=19.3km s-min=12.2km az=182.0
ISC 20 08:04:50.3±1.1, **41.°09N**±0.°03×**72.°43E**±0.°02, **h8**km±7km,
n58, σ1°90/98, **mb4.0**/10, **33C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.48**	**60**	⇓*iP*	**Pg**	**08 04 58.3**	**-1.3**
ARSB	baz=59			⇓*iS*	**Sg**	**08 05 03.9**	**-2.0**
ARK	**Arkit**	**0.79**	**334**	⇓*iP*	**Pg**	**08 05 06.2**	**+0.6**
ARK	baz=326			⇓*iS*	**Sg**	**08 05 17.7**	**+1.7**
TOKL	**Toktogul**	**0.91**	**21**	⇓*iP*	**Pb**	**08 05 07.2**	**-1.3**
TOKL	baz=17			⇓*iS*	**Sg**	**08 05 19.6**	**-0.2**
MNAS	**Manas**	**1.40**	**2**	⇓*iP*	**Pn**	**08 05 16.1**	**-0.2**
MNAS	baz=359			⇓*iS*	**Sn**	**08 05 35.1**	**+0.1**
MNAS	**Manas**	**1.40**	**2**	⇑Pn	**Pn**	**08 05 16.0**	**-0.3**
MNAS	75nm,0.3s			⇑S	**Sn**	**08 05 34.7**	**-0.3**
AML	**Almayashu**	**1.41**	**42**	⇑*iP*	**Pn**	**08 05 15.4**	**-1.2**
AML	baz=40			⇑*iS*	**Sn**	**08 05 33.9**	**-1.7**
BTK	**Batken**	**1.60**	**231**	⇑*iP*	**Pg**	**08 05 22.3**	**+1.2**
BTK	baz=231			⇑*iS*	**Sg**	**08 05 45.7**	**+3.8**
ARLS	**Aral**	**1.62**	**61**	⇑*iP*	**Pb**	**08 05 19.8**	**-0.7**
ARLS	baz=61			⇑*iS*	**Sn**	**08 05 40.6**	**+0.2**
MRKS	**Merke**	**1.76**	**19**	*e*P	**Pn**	**08 05 22.0**	**+0.8**
MRKS	374nm,0.4s			*e*S	**Sn**	**08 05 45.0**	**+1.2**
EKS2	**Erkin-Say**	**1.86**	**32**	⇑*iP*	**Pn**	**08 05 23.5**	**+0.8**
EKS2	baz=31			⇑*iS*	**Sn**	**08 05 47.7**	**+1.2**
UCH	**Uchtor**	**1.93**	**53**	⇑*iP*	**Pn**	**08 05 24.8**	**+0.9**
UCH	baz=53			⇑*iS*	**Sn**	**08 05 48.9**	**+0.3**
IUG	**Iuzhnay**	**2.09**	**301**	*e*P	**Pg**	**08 05 30.6**	**+0.2**
IUG	376nm,0.2s			*e*S	**Sg**	**08 05 59.5**	**+2.0**
AAK	**Ala-Archa**	**2.18**	**44**	Pn	**Pb**	**08 05 29.1**	**-1.0**
AAK	48nm,0.3s,baz=188,slow=4.0,SNR=83 94nm,0.3s,baz=360,slow=18,SNR=33			Lg	Lg	08 05 57.2	
AAK	**Ala-Archa**	**2.18**	**44**	⇑*iP*	**Pb**	**08 05 28.9**	**-1.3**
AAK	baz=44			⇑*iS*	**Sn**	**08 05 54.7**	**+0.3**
AAK	**Ala-Archa**	**2.18**	**44**	⇑Pn	**Pb**	**08 05 29.0**	**-1.2**
AAK	137nm,0.7s			⇓Sn	**Sb**	**08 05 58.2**	**+0.7**
AAK	**Ala-Archa**	**2.18**	**44**	*e*Pn	**Pb**	**08 05 28.9**	**-1.3**
AAK				*e*Sn	**Sn**	**08 05 55.1**	**+0.7**
KBK	**Karagaybulak**	**2.45**	**49**	⇑*iP*	**Pn**	**08 05 31.8**	**+1.1**
KBK	baz=49			⇑*iS*	**Sn**	**08 06 00.9**	**0.0**
CHM	**Chimkent**	**2.45**	**301**	*e*P	**Pg**	**08 05 37.0**	**-0.3**
CHM	114nm,0.2s			*e*S	**Sg**	**08 06 11.0**	**+1.9**
KK31	**Karatay Array**	**2.47**	**325**	Pn	**Pb**	**08 05 33.8**	**-1.2**
KK31	6.8nm,0.3s,baz=146,slow=13,SNR=115 31nm,0.3s,baz=134,slow=16,SNR=15			⇑Pg	**Pg**	**08 05 36.9**	**-0.7**
KK31	121nm,0.5s,baz=139,slow=29,SNR=8.2			⇑Lg	Lg	08 06 09.4	

KKAR	Karatay Array	2.47	325	ePn		Pb	08 05 33.0	-2.0
KKAR				eSn		Sn	08 06 02.0	+0.8
CHMS	Chumysh	2.57	41	⇑iP		Pn	08 05 34.3	+2.0
CHMS	baz=41			⇑iS		Sn	08 06 05.8	+2.0
USP	Ospenovka	2.66	35	⇑eP		Pn	08 05 34.0	+0.4
USP	baz=34			⇑iS		Sn	08 06 07.4	+1.3
TKM2	Tokmak 2	2.98	51	⇑iP		Pn	08 05 39.5	+1.3
TKM2	baz=51			⇑iS		Sn	08 06 15.4	+1.2
TKM2	Tokmak 2	2.98	51	⇓Pn		Pn	08 05 40.4	+2.2
TKM2	60nm,0.7s			⇑Lg		Lg	08 06 21.9	
ULHL	Ulahol	3.08	67	⇑iP		Pn	08 05 41.6	+2.2
ULHL	baz=67			⇑iS		Sn	08 06 17.9	+1.4
KST	Kastek	3.27	52	eP		Pb	08 05 48.0	-0.8
KST	184nm,0.5s			eS		Sb	08 06 30.3	+1.5
DGS	Degeres	3.29	48	eP		Pb	08 05 48.6	-0.4
DGS	260nm,0.6s			eS		Sb	08 06 31.0	+1.9
DZET	Dzherino	3.59	232	⇑Pn		Pb	08 05 50.1	-4.0
DZET	185nm,0.5s			⇓Lg		Lg	08 06 45.8	
MTBS	Maitube	3.60	54	eP		Pb	08 05 53.9	-0.5
MTBS	150nm,0.4s			eS		Sb	08 06 40.4	+2.1
IZV	Izvestkoviy	3.67	57	eP		Pb	08 05 54.5	-1.1
IZV	127nm,0.7s			eS		Sb	08 06 41.9	+1.7
KDJ	Kajisay	3.71	72	⇑iP		Pn	08 05 48.3	+0.2
KDJ	baz=73			⇑iS		Sn	08 06 34.0	+2.0
TNSS	Tian-Shan	3.88	58	eP		Pb	08 05 59.3	0.0
TNSS	177nm,0.7s			eS		Sb	08 06 49.9	+3.3
MDOK	Medeo	4.01	57	eP		Pb	08 06 00.1	-1.2
MDOK	76nm,0.7s			eS		Sb	08 06 51.2	+1.3
KUU	Kurty	4.02	45	eP		Pb	08 06 00.8	-0.6
KUU	110nm,0.6s			eS		Sb	08 06 52.0	+1.7
KOTS	Kotyrbulak	4.09	57	eP		Pb	08 06 01.5	-1.1
KOTS				eS		Sb	08 06 54.2	+2.0
KTBS	Karatobe	4.09	49	eP		Pb	08 06 02.8	+0.1
KTBS				eS		Sb	08 06 55.5	+3.2
CHKK	Chushkaly	4.36	49	eP		Pb	08 06 07.9	+0.8
CHKK	33nm,0.4s			eS		Sb	08 07 03.9	+4.1
SATY	Saty	4.86	64	eP		Pb	08 06 16.3	+0.5
SATY	231nm,0.7s			eS		Sb	08 07 18.4	+3.9
KURS	Kuram	4.88	59	eP		Pb	08 06 17.0	+0.9
KURS	30nm,0.7s			eS		Sb	08 07 19.9	+4.9
ARXS	Arharly	5.06	50	eP		Pb	08 06 19.7	+0.6
ARXS	46nm,0.7s			eS		Sb	08 07 24.7	+4.6
KPKS	Kokpek	5.21	61	eP		Pb	08 06 23.1	+1.4
KPKS	19nm,0.5s			eS		Sb	08 07 30.0	+5.5
UZB	Uzynbulak	5.31	65	eP		Pb	08 06 23.3	-0.2
UZB	103nm,0.5s			eS		Sb	08 07 30.5	+3.0
MNBS	Baschi	5.32	54	eP		Pb	08 06 25.1	+1.4
MNBS	29nm,0.5s			eS		Sb	08 07 33.6	+5.9
PDGK	Podgornoye	5.70	65	⇑Pg		Pg	08 06 35.5	-3.9
PDGK	14nm,0.7s			⇑Lg		Lg	08 07 50.9	
CEP	Cherat	7.26	183	P		Pn	08 06 41.6	+4.7
MKAR	Makanchi Array	9.11	48	Pn		Pn	08 07 02.3	+0.2
	0.5nm,0.3s,baz=233,slow=15,SNR=3.4							
ABKAR	Akbulak array	12.00	317	ePn		Pn	08 07 41.2	-0.4
ARU	Arti	17.81	334	ePn		Pn	08 08 55.4	-3.0
ARU				eSn		Sn	08 12 17.6	+0.8
FINES	FINESS Array B	34.43	322	P		P	08 11 38.1	+0.3
	3.7nm,0.9s,baz=115,slow=12,SNR=9.0							
ARCES	ARCESS Array B	37.40	335	P		P	08 12 02.9	-0.3
	3.9nm,0.9s,baz=105,slow=9.2,SNR=8.7							
MORC	Moravsky Berou	38.71	302	eP		P	08 12 13.6	-1.1
	6.2nm,0.6s							
HFS	Hagfors	40.26	319	P		P	08 12 27.5	+0.1
	1.7nm,0.5s,baz=106,slow=11,SNR=8.7							
GERES	GERESS Array B	41.35	301	P		P	08 12 37.0	+0.4
	0.6nm,0.2s,baz=79,slow=6.1,SNR=2.8							
NOA	NORSAR Array B	41.49	320	P		P	08 12 37.0	-0.5
	0.8nm,0.5s,baz=115,slow=6.4,SNR=2.9							
TORD	Torodi Ar. Bea	66.99	268	P		P	08 15 42.6	-1.3
	0.5nm,0.6s,baz=46,slow=5.3,SNR=5.1							
INK	Inuvik	69.20	10	P		P	08 15 56.0	-0.9
	2.0nm,1.0s,baz=358,slow=15,SNR=4.5							
YKA	Yellowknife Ar	76.61	3	P		P	08 16 39.7	-1.3
	0.9nm,0.6s,baz=351,slow=5.7,SNR=6.5							
ASAR	Alice Springs	86.00	126	P		P	08 17 31.6	+0.3
	0.4nm,0.7s,baz=306,slow=5.4,SNR=3.7							

*SOME **20** 08:09:25.4, 41°.13N×72°.50E, h5km*
*NNC **20** 08:09:26.5±4.3, 41°.10N×72°.47E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=28.7km s-min=21.6km az=28.0*
*KRNET **20** 08:09:26.6±0.1, 41°.16N×72°.55E, h15km, mb2.5*
ISC 20 08:09:26.5±1.9, 41°.15N±0°.09×72°.52E±0°.03, h8km±13km, n14, σ0s96/26, 17C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.39	63	⇑iP		Pg	08 09 34.0	-0.2
ARSB	baz=61			⇑iS		Sg	08 09 39.2	-0.1
ARK	Arkit	0.77	327	⇑iP		Pg	08 09 41.4	0.0
ARK	baz=326			⇑iS		Sb	08 09 52.5	-0.5
AML	Almayashu	1.32	41	⇑iP		Pn	08 09 50.9	-0.6
AML	baz=41			⇑iS		Sb	08 10 08.8	-0.1
MNAS	Manas	1.34	359	⇓iP		Pn	08 09 51.3	-0.3
MNAS	baz=359			⇓iS		Sg	08 10 10.8	+1.3
MNAS	Manas	1.34	359	⇓P		Pn	08 09 51.3	-0.3
MNAS	1.4nm,0.3s			⇓S		Sg	08 10 12.2	+2.7
ARLS	Aral	1.53	62	⇓iP		Pb	08 09 55.1	-0.1
ARLS	baz=61			⇓iS		Sg	08 10 16.7	+1.0
MRKS	Merke	1.68	18	eP		Pg	08 09 58.3	-0.5
MRKS	7.7nm,0.3s			eS		Sg	08 10 21.1	+0.6
EKS2	Erkin-Say	1.78	31	⇑iP		Pb	08 09 59.2	-0.2
EKS2	baz=31			⇑iS		Sg	08 10 23.1	-0.6
UCH	Uchtor	1.84	54	⇑iP		Pb	08 10 00.3	-0.4
UCH	baz=53			⇑iS		Sb	08 10 25.0	+1.0
AAK	Ala-Archa	2.09	44	⇑iP		Pb	08 10 03.8	-1.0
AAK	baz=44			⇑iS		Sg	08 10 32.7	-1.1
AAK	Ala-Archa	2.09	44	⇓Pn		Pb	08 10 04.4	-0.4
AAK	2.7nm,0.6s			⇑Sn		Sg	08 10 33.1	-0.7
IUG	Iuzhnay	2.12	299	eP		Pb	08 10 04.9	-0.2
IUG	8.1nm,0.3s			eS		Sb	08 10 32.2	+0.6
KK31	Karatay Array	2.46	323	⇑Pg		Pb	08 10 09.6	-1.3
	1.9nm,0.6s,baz=133,slow=15,SNR=4.1							
KK31				⇑Lg		Lg	08 10 44.1	
	2.0nm,0.3s,baz=136,slow=29,SNR=7.0							
TKM2	Tokmak 2	2.89	51	⇑Pn		Pn	08 10 14.8	+1.7
TKM2	3.2nm,0.7s			⇑Lg		Lg	08 10 56.5	
	3.8nm,0.6s							

MEX 20 08:12:03.0±0.3, 15°.56N×92°.04W, h219km±17km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.73	353	iP		Pn	08 12 32.1	-1.4
CCIG				iS		Sg	08 12 54.6	-2.8
PCIG		1.14	277	iP		Pn	08 12 34.3	-1.4
PCIG				eS		Sg	08 12 58.8	-2.2
HUIG	Huatulco	3.92	274	iP		Pn	08 13 03.5	-1.0
HUIG				eP		Pn	08 13 03.7	-0.8

*ATH **20** 08:23:26.7, 39°.24N×26°.22E, h13km±2km, ML2.0/2, Error ellipse: s-maj=3.1km s-min=1.3km az=84.0*
*ISCJB **20** 08:23:27.2±0.5, 39°.20N±0°.03×26°.23E±0°.04, h8km±5km, Error ellipse: s-maj=5.8km s-min=5.0km az=171.4*
*CSEM **20** 08:23:27.0±0.1, 39°.22N×26°.21E, h8km, ML2.0, Error ellipse: s-maj=3.5km s-min=2.5km az=96.0*
*DDA **20** 08:23:28.1, 39°.21N×26°.69E, h7km, Md2.6*
ISC 20 08:23:27.2±0.9, 39°.22N±0°.03×26°.23E±0°.03, h10km±5km, n15, σ0s42/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.04	47	P	Pg	08 23 29.1	-0.1
PRK				S	Sg	08 23 30.6	0.0
PRK				AML	AML	08 23 31.0	
	comp=N,3320μm,0.2s						
PRK				AML	AML	08 23 31.3	
	comp=E,3863μm,0.2s						
PRK	Paraskevi	0.04	47	P	Pg	08 23 29.1	-0.1
PRK				S	Sg	08 23 30.6	0.0
SIGR	SIGRI	0.29	269	P	Pg	08 23 32.4	-0.7
SIGR				S	Sg	08 23 37.4	+0.4
SIGR	SIGRI	0.29	269	P	Pg	08 23 32.4	-0.7
SIGR				S	Sg	08 23 37.4	+0.4
AYVA	Ayvalik	0.37	75	iP	Pg	08 23 34.1	-0.4
AYVA				iS	Sg	08 23 39.6	+0.2
AYVA	Ayvalik	0.37	75	P	Pg	08 23 34.1	-0.4
AYVA				S	Sg	08 23 39.6	+0.2
BAYC	CANAKKALE_Bayr	0.58	25	iP	Pg	08 23 38.3	-0.1
BAYC				iS	Sb	08 23 47.4	-0.4
BAYC	CANAKKALE_Bayr	0.58	25	P	Pg	08 23 38.3	-0.1
BAYC				S	Sb	08 23 47.3	-0.4
BOZC	Bozcaada	0.64	348	iP	Pg	08 23 39.5	-0.1
BOZC				iS	Sb	08 23 50.7	+1.3
CHOS	Chios island	0.84	189	P	Pg	08 23 43.1	-0.3
CHOS				S	Sg	08 23 54.8	+0.5
CHOS				AML	AML	08 23 58.4	
	comp=N,96μm,0.2s						
CHOS				AML	AML	08 23 58.8	
	comp=E,157μm,0.2s						
CHOS	Chios island	0.84	189	P	Pg	08 23 43.1	-0.3
CHOS				S	Sg	08 23 54.8	+0.5
URLA	Izmir	0.90	161	iP	Pb	08 23 45.1	+0.2
URLA				iS	Sg	08 23 56.4	+0.1
URLA	Izmir	0.90	161	P	Pb	08 23 45.1	+0.2
URLA				S	Sg	08 23 56.4	+0.1
SMTH	Samothraki Isl	1.36	337	P	Pn	08 23 52.0	-0.2
SMTH				S	Sb	08 24 10.3	0.0
SMTH	Samothraki Isl	1.36	337	P	Pn	08 23 52.0	-0.2
SMTH				S	Sb	08 24 10.3	0.0

MEX 20 08:23:39.2±0.8, 17°.38N×101°.37W, h13km±15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.25	339	iP	Pg	08 23 44.1	-0.4
ZIIG				eS	Sg	08 23 47.7	-0.2
CAIG	El Cayaco	1.11	107	eP	Pb	08 23 56.5	-3.8
CAIG				eS	Sb	08 24 10.4	-4.2
ARIG	Puente Sto Nin	1.33	47	eP	Pn	08 23 59.5	-4.0
ARIG				eS	Sb	08 24 13.9	-7.1
ACX	Acapulco	1.53	109	eP	Pg	08 24 08.4	-0.2
ACX				eS	Sb	08 24 26.7	-0.2
MEIG	Mezcala	1.76	72	eP	Pn	08 24 06.5	-3.0
MEIG				eS	Sn	08 24 28.1	-3.8
MMIG	Aquila	2.09	296	eP	Pn	08 24 11.0	-3.0
TLIG	Tlapa	2.69	86	eP	Pn	08 24 20.1	-2.2
TLIG				iS	Sn	08 24 51.4	-3.5

*IDC **20** 08:29:26.2±1.2, 25°.74S×177°.02W, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.9/29, mbtmp4.2/6, Error ellipse: s-maj=42.4km s-min=30.5km az=14.0*
*ISCJB **20** 08:29:31.4±1.0, 25°.86S±0°.08×177°.3W±0°.2, h35km, mb4.3/9, Error ellipse: s-maj=24.0km s-min=10.7km az=166.9*
*NEIC **20** 08:29:31.6±0.8, 25°.84S×177°.05W, h35km, mb4.4/2, Error ellipse: s-maj=22.6km s-min=18.3km az=75.0*
ISC 20 08:29:31.9±1.0, 25°.8S±0°.1×177°.1W±0°.2, h35km, n19, σ1s08/19, mb4.3/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.49	193	ePn		Pn	08 30 22.8	-0.9
RAO				eSn		Sn	08 31 04.3	+0.5
CTA	Charters Tower	34.19	272	P		P	08 36 15.3	+1.0
	7.6nm,1.0s,baz=96,slow=10,SNR=3.2							
ASAR	Alice Springs	44.39	262	P		P	08 37 37.7	-1.7
	0.4nm,0.4s,baz=92,slow=7.9,SNR=10							
WRAB	Tennant Creek	44.96	267	eP		P	08 37 43.5	-0.4
	1.6nm,0.4s							
WRA	Warramunga Arr	44.97	267	P		P	08 37 42.2	-1.8
	1.5nm,0.5s,baz=104,slow=7.9,SNR=9.1							
FITZ	Fitzroy Crossi	53.36	266	P		P	08 38 48.8	+0.6
	1.5nm,0.5s,baz=74,slow=8.5							
KAPI	Kappang	63.74	277	eP		P	08 40 00.9	+0.3
	2.5nm,0.6s							
MAW	Mawson	76.86	200	P		P	08 41 20.6	+0.6
	1.1nm,0.6s,baz=141,slow=7.1,SNR=10							
SNAA	Sanae	82.68	178	eP		P	08 41 52.5	+0.9
	52nm,0.7s							
VNA3	Neumayer Olymp	82.78	176	P		P	08 41 52.3	+0.3
VNA2	Neumayer--Watz	83.23	177	P		P	08 41 54.5	+0.1
	baz=168,slow=2.8							
VNA1	Neumayer--Stat	83.46	176	P		P	08 41 56.8	+1.3
CMAR	Chiang Mai Arr	92.70	289	P		P	08 42 41.6	+0.8
	0.9nm,0.3s,baz=131,slow=3.7,SNR=4.4							
ARCES	ARCESS Array B	134.30	349	PKP		PKPdf	08 48 46.4	+1.1
	4.7nm,0.9s,baz=320,slow=2.4,SNR=3.6							
NB2	NORSAR Subarra	144.36	353	PKP		PKPbc	08 49 02.2	-0.1
	comp=Z,1.4nm,0.6s,baz=12,slow=3.8							
NOA	NORSAR Array B	144.36	353	PKP		PKPbc	08 49 02.4	+0.2
	comp=Z,2.8nm,0.9s,baz=5.8,slow=2.3,SNR=4.4							
AKASG	Malin Array Be	148.03	328	PKPbc		PKPbc	08 49 12.7	-0.8
	comp=Z,0.6nm,0.4s,baz=45,slow=4.2,SNR=4.2							
BRTR	Keskin Array B	150.88	306	PKPbc		PKPbc	08 49 19.6	-1.5
	comp=Z,0.6nm,0.7s,baz=54,slow=2.5,SNR=2.4							
TORD	Torodi Ar. Bea	167.32	174	PKP		PKPdf	08 49 33.5	-1.5
	comp=Z,0.3nm,0.7s,baz=169,slow=0.8,SNR=2.3							
TORD				PKPab		PKPab	08 50 39.7	0.0
	comp=Z,0.3nm,0.6s,baz=185,slow=4.3,SNR=2.5							

*ISCJB **20** 08:31:06.4±0.7, 50°.21N±0°.04×19°.14E±0°.04, h0km, Error ellipse: s-maj=6.3km s-min=2.8km az=19.2*
*WAR **20** 08:31:07.7, 50°.18N×19°.34E, h1km, Mw2.6*
*CSEM **20** 08:31:07.9±0.5, 50°.20N×19°.24E, h2km, ML2.6, Error ellipse: s-maj=9.6km s-min=5.1km az=14.0*
*PRU **20** 08:31:08.4, 50°.23N×19°.24E, h0km*
ISC 20 08:31:08.0±0.9, 50°.16N±0°.05×19°.25E±0°.02, h0km, n29, σ0s78/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.36	80	ePg		Pg	08 31 14.5	-0.3
OJC				eSg		Sg	08 31 19.0	-0.4
OJC	Ojcow	0.36	80	ePg		Pg	08 31 14.5	-0.3
OJC				eSg		Sg	08 31 19.0	-0.4
OJC	Ojcow	0.36	80	ePg		Pg	08 31 14.5	-0.3
OJC				eSg		Sg	08 31 19.0	-0.4
OKC	Ostrava-Krasne	0.78	246	ePG		Pb	08 31 25.1	+0.7
OKC				eSG		Sb	08 31 36.0	+0.5
	comp=Z,18nm,0.3s							
OKC	Ostrava-Krasne	0.78	246	Pg		Pb	08 31 25.1	+0.7
OKC				Sg		Sb	08 31 36.0	+0.5
	18nm,0.3s							
NIE	Niedzica	1.01	137	ePg		Pb	08 31 28.2	-0.1
NIE				eSg		Sb	08 31 43.0	+0.9
NIE	Niedzica	1.01	137	ePg		Pb	08 31 28.2	-0.1
NIE				eSg		Sb	08 31 43.0	+0.9
NIE	Niedzica	1.01	137	ePg		Pb	08 31 28.2	-0.1
NIE				eSg		Sb	08 31 43.0	+0.9
LANS	Liptovska Anna	1.02	172	ePg		Pb	08 31 28.6	+0.1
LANS				eSg		Sb	08 31 43.4	+0.9
LANS	Liptovska Anna	1.02	172	ePG		Pb	08 31 28.6	+0.1
LANS				eSG		Sb	08 31 43.4	+0.9
KRLC	Kraliky	1.59	268	ePG		Pb	08 31 37.7	-0.5
KRLC				eSG		Sg	08 31 58.9	-0.1
KRLC	Kraliky	1.59	268	Pg		Pb	08 31 37.7	-0.5
KRLC				Sg		Sg	08 31 58.9	-0.1
VYHS	Vyhne	1.69	189	ePg		Pn	08 31 38.8	+0.1
VYHS				eSn		Sn	08 32 01.0	-0.1
VYHS	Vyhne	1.69	189	ePG		Pn	08 31 38.8	+0.1
VYHS				eSN		Sn	08 32 01.0	-0.1
VYHS				eLG		Lg	08 32 03.1	
KECS	Kecovo	1.86	154	eSn		Sb	08 32 06.9	+0.2
KECS	Kecovo	1.86	154	eSN		Sb	08 32 06.9	+0.2
KECS				eLG		Lg	08 32 13.8	
KSP	Ksiaz	2.01	291	ePg		Pg	08 31 46.8	+0.5
KSP				eSg		Sg	08 32 13.1	+0.7
KSP	Ksiaz	2.01	291	ePg		Pg	08 31 46.9	+0.5
KSP				eSg		Sg	08 32 13.1	+0.7
KSP	Ksiaz	2.01	291	ePg		Pg	08 31 46.9	+0.5
KSP				eSg		Sg	08 32 13.1	+0.7
UPC	Upice	2.10	281	eSG		Sb	08 32 13.5	-0.1
	comp=Z,14nm,0.5s							
TREC	Trest	2.59	252	eSG		Sg	08 32 30.5	-0.6
	comp=Z,9.4nm,0.4s							
TREC	Trest	2.59	252	Sg		Sg	08 32 30.5	-0.6
	9.4nm,0.4s							
GOPC	GO Pecny, Ondr	2.89	267	eSG		Sg	08 32 38.9	-1.8
	comp=Z,7.3nm,0.5s							
GOPC	GO Pecny, Ondr	2.89	267	Sg		Sg	08 32 38.9	-1.8
	7.3nm,0.5s							
PRU	Pruhonice	3.04	269	eSG		Sg	08 32 43.6	-1.9
PRU	Pruhonice	3.04	269	Sg		Sg	08 32 43.6	-1.9
BRG	Berggiesshubel	3.46	284	SG		Sg	08 32 58.7	-0.4
	4.4nm,0.6s							
KHC	Kasperske Hory	3.83	257	eSG		Sg	08 33 09.8	-1.0
KHC	Kasperske Hory	3.83	257	Sg		Sg	08 33 09.8	-1.0

*IDC **20** 09:00:57.0±3.5, 64°.65N×31°.79E, h0km, mb1 3.4/4, mb1mx3.2/36, mbtmp3.3/4, ML2.4/4, Error ellipse: s-maj=48.7km s-min=12.3km az=99.0*
*ISCJB **20** 09:00:57.6±0.5, 64°.73N±0°.03×30°.77E±0°.09, h0km, Error ellipse: s-maj=6.0km s-min=3.4km az=19.0*
*CSEM **20** 09:00:58.4±0.5, 64°.75N×30°.88E, h2km, ML1.6, Error ellipse: s-maj=11.1km s-min=5.7km az=86.0, Mining explosion.*
*HEL **20** 09:00:58.8±0.2, 64°.73N×30°.88E, h0km, ML1.7, Explosion*
*KOLA **20** 09:01:00.2, 64°.81N×30°.22E, h0km*
*UPP **20** 09:01:17.4±3.4, 64°.63N×27°.53E, h0km, ML1.6*
ISC 20 09:00:58.3±1.1, 64°.73N±0°.03×30°.71E±0°.05, h0km, n38, σ1s24/59, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.34	346	eP	Pg	09 01 23.4	-0.6
KU6				eS	Sg	09 01 40.9	-0.4
KU6	Riekki	1.34	346	P	Pg	09 01 23.3	-0.6
KU6				S	Sg	09 01 40.9	-0.4
MSF	Maaselka	1.38	330	eP	Pg	09 01 23.9	-0.7
MSF				eS	Sb	09 01 42.4	-0.6
MSF	Maaselka	1.38	330	P	Pg	09 01 23.9	-0.7
MSF				S	Sb	09 01 42.3	-0.6
KJN	Kajaani	1.46	245	eP	Pn	09 01 25.4	-0.4
KJN				eS	Sg	09 01 45.3	+0.4
KJN	Kajaani	1.46	245	P	Pn	09 01 25.4	-0.4
KJN				S	Sg	09 01 45.3	+0.4
JOF	Joensuu	1.84	171	eP	Pn	09 01 30.8	-0.3
JOF				eS	Sn	09 01 54.7	-0.4
JOF				MSG		09 01 59.9	
	comp=Z,5.2nm,0.1s						
JOF	Joensuu	1.84	171	P	Pn	09 01 30.8	-0.3
JOF				S	Sn	09 01 54.6	-0.4
OUL	Oulu	2.08	282	eP	Pn	09 01 35.4	+1.0
OUL				eS	Sb	09 02 02.4	-0.9
OUL	Oulu	2.08	282	P	Pn	09 01 35.4	+1.0
OUL				S	Sb	09 02 02.3	-0.9
OUFX	Oulainen	2.62	265	eP	Pn	09 01 43.8	+2.0
OUFX				eS	Sb	09 02 16.8	-1.9
OUFX	Oulainen	2.62	265	P	Pn	09 01 43.7	+2.0
OUFX				S	Sb	09 02 16.7	-1.9
SUF	Sumiainen	2.86	227	eP	Pn	09 01 47.1	+2.0
SUF				eS	Sn	09 02 21.5	+1.3
SUF	Sumiainen	2.86	227	P	Pn	09 01 47.1	+2.0
SUF				S	Sn	09 02 21.5	+1.3
APA0	Apatity Array	3.03	17	P	Pn	09 01 48.6	+1.2
APA0				S	Sn	09 02 24.9	+0.5
APA	Apatity	3.05	20	P	Pn	09 01 49.2	+1.5
APA				S	Sn	09 02 25.7	+0.8
KAF	Kangasniemi	3.29	219	eP	Pn	09 01 52.5	+1.4
KAF				eS	Sn	09 02 32.1	+1.4
KAF				MSG		09 02 48.2	
	comp=Z,1.4nm,0.1s						
KAF	Kangasniemi	3.29	219	P	Pn	09 01 52.4	+1.4
KAF				S	Sn	09 02 32.1	+1.4
KEF	Keuruu	3.67	228	eP	Pn	09 01 57.6	+1.4
KEF				eS	Sn	09 02 40.8	+0.5
KEF	Keuruu	3.67	228	P	Pn	09 01 57.6	+1.4
KEF				S	Sn	09 02 40.7	+0.5
FINES	FINESS Array B	3.92	215	Pn	Pn	09 01 59.6	+0.1
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=4.0						
FINES				Lg	Lg	09 02 57.8	
	comp=Z,1.1nm,0.3s,baz=33,slow=28,SNR=13						
SJUU	Sjulsmark	3.92	286	P	Pn	09 02 01.8	+2.1
SJUU	Sjulsmark	3.92	286	P	Pn	09 02 01.8	+2.1
BURU	Burvik	4.01	272	P	Pn	09 02 01.1	+0.2
BURU	Burvik	4.01	272	P	Pn	09 02 01.1	+0.2
HARU	Harads	4.31	294	P	Pn	09 02 08.0	+3.1
HARU	Harads	4.31	294	P	Pn	09 02 08.0	+3.1
LILU	Lilltraesk	4.64	282	P	Pn	09 02 10.4	+0.9
LILU	Lilltraesk	4.64	282	P	Pn	09 02 10.4	+0.9
SVAU	Svanoeiden	4.80	272	P	Pn	09 02 12.4	+0.7
SVAU	Svanoeiden	4.80	272	P	Pn	09 02 12.4	+0.7
ARCES	ARCESS Array B	5.23	340	Pn	Pn	09 02 18.2	+0.6
	comp=Z,0.2nm,0.3s,baz=153,slow=14,SNR=8.2						
ARCES				Sn	Sn	09 03 16.7	-1.9
	comp=Z,0.2nm,0.3s,baz=158,slow=22,SNR=3.0						
ARCES				Lg	Lg	09 03 43.6	
	comp=Z,0.4nm,0.3s,baz=142,slow=38,SNR=6.5						
HUSU	Husum	5.24	260	P	Pn	09 02 17.8	+0.1
HUSU	Husum	5.24	260	P	Pn	09 02 17.8	+0.1
BREU	Bredtraesk	5.35	266	P	Pn	09 02 19.5	+0.3
BREU	Bredtraesk	5.35	266	P	Pn	09 02 19.5	+0.3
HFS	Hagfors	9.12	247	Pn	Pn	09 03 11.0	0.0
	comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=4.0						
NOA	NORSAR Array B	9.62	256	Pn	Pn	09 03 18.4	+0.6
	comp=Z,0.1nm,0.3s,baz=54,slow=21,SNR=2.3						

*NIED **20**

mb1 3.8/6, mb1mx3.6/41, mbtmp3.6/6, ML3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/45, Error ellipse: s-maj=40.8km s-min=22.8km az=111.0
*ISCJB **20** 09:28:09.4±0.7, 36°.81N±0°.04×143°.63E±0°.05, h33km, mb3.7/4, Error ellipse: s-maj=6.2km s-min=5.2km az=37.1*
*JMA **20** 09:28:11.5±0.2, 36°.83N×143°.49E, h39km, M3.7*
ISC 20 09:28:10.5±1.0, 36°.78N±0°.06×143°.69E±0°.07, h35km, n23, σ1§63/38, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.33**	**285**	P	**Pn**	**09 28 46.1**	**-0.2**
JFK				S	**Sn**	**09 29 12.5**	**-1.2**
ONAJ	**Iwakimizuishiy**	**2.34**	**279**	P	**Pn**	**09 28 46.8**	**+0.3**
ONAJ				S	**Sn**	**09 29 12.1**	**-1.9**
JIO	**Ouri**	**2.50**	**313**	P	**Pn**	**09 28 49.0**	**+0.4**
JIO				S	**Sn**	**09 29 17.3**	**-0.5**
JHO	**Hitachi**	**2.52**	**267**	P	**Pn**	**09 28 48.8**	**0.0**
JHO				S	**Sn**	**09 29 16.9**	**-1.4**
JFT	**Otama**	**2.78**	**286**	P	**Pn**	**09 28 53.5**	**+1.0**
JFT				*e*S	**Sn**	**09 29 24.3**	**-0.5**
JMK	**Ichinoseki**	**2.92**	**319**	P	**Pn**	**09 28 55.1**	**+0.7**
JMK				S	**Sn**	**09 29 28.7**	**+0.5**
JOM	**Ohasama**	**3.29**	**326**	P	**Pn**	**09 29 00.6**	**+1.2**
JOM				S	**Sn**	**09 29 37.2**	**-0.1**
JYK	**Kaneyama**	**3.39**	**310**	P	**Pn**	**09 29 02.0**	**+1.1**
JYK				*e*S	**Sn**	**09 29 39.1**	**-0.8**
JAG	**Ashikaga**	**3.43**	**265**	P	**Pn**	**09 29 01.7**	**+0.3**
JAG				S	**Sn**	**09 29 39.8**	**-1.0**
JRY	**Ryogami san**	**3.94**	**260**	P	**Pn**	**09 29 08.2**	**-0.2**
JRY				*e*S	**Sn**	**09 29 49.8**	**-3.6**
JANG	**Nango**	**3.97**	**335**	*e*S	**Sn**	**09 29 52.2**	**-2.0**
JOD2	**Odawara 2**	**4.03**	**249**	P	**Pn**	**09 29 10.0**	**+0.4**
JOD2				S	**Sn**	**09 29 53.4**	**-2.2**
MJAR	**Matsushiro Arr**	**4.41**	**269**	Pn	**Pn**	**09 29 16.1**	**+1.1**
	1.8nm,0.3s,baz=77,slow=9.0,SNR=14						
MAT	**Matsushiro**	**4.42**	**269**	P	**Pn**	**09 29 16.5**	**+1.5**
MAT				S	**Sn**	**09 30 03.5**	**-1.7**
JOT	**Ohata**	**5.03**	**337**	P	**Pn**	**09 29 24.9**	**+1.5**
JOT				*e*S	**Sn**	**09 30 18.0**	**-2.3**
JKB	**Kayabe**	**5.50**	**339**	P	**Pn**	**09 29 30.8**	**+1.0**
JKB				*e*S	**Sn**	**09 30 30.8**	**-1.0**
JCH	**Churui**	**5.83**	**358**	P	**Pn**	**09 29 33.4**	**-1.0**
JCH				S	**Sn**	**09 30 35.1**	**-4.8**
ASAJ	**Asahikawa**	**7.37**	**354**	Pn	**Pn**	**09 29 56.1**	**+0.6**
	1.0nm,0.3s,baz=212,slow=4.2,SNR=4.8						
ASAJ				Sn	**Sn**	**09 31 14.4**	**-3.5**
	0.5nm,0.3s,baz=276,slow=19,SNR=4.1						
KSRS	**Korea Array**	**12.61**	**278**	LR	LR	09 36 05.5	
	comp=Z,27nm,18.4s,baz=64,slow=38						
ILAR	**Eielson Array**	**48.73**	**32**	P	**P**	**09 36 52.2**	**+1.0**
	0.6nm,0.7s,baz=257,slow=6.4,SNR=8.6						
WRA	**Warramunga Arr**	**57.10**	**190**	P	**P**	**09 37 53.0**	**-0.5**
	0.6nm,0.7s,baz=11,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**60.83**	**190**	P	**P**	**09 38 18.7**	**-0.5**
	0.4nm,0.8s,baz=8.1,slow=8.2,SNR=3.8						
TXAR	**Lajitas Array**	**88.81**	**54**	P	**P**	**09 41 02.9**	**+1.7**
	0.2nm,0.7s,baz=298,slow=2.6,SNR=4.0						

*ISCJB **20** 09:40:03.5±0.8, 36°.45N±0°.05×71°.25E±0°.08, h100km, Error ellipse: s-maj=10.1km s-min=6.3km az=148.4*
*NNC **20** 09:40:10.1±2.2, 36°.78N×70°.98E, h135km±24km, mb3.3, mpv4.0, Error ellipse: s-maj=19.6km s-min=12.0km az=157.0*
ISC 20 09:40:03.9±1.4, 36°.45N±0°.09×71°.11E±0°.08, h100km, n10, σ3§03/17, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.97**	**323**	⇓P	**Pn**	**09 40 52.3**	**+2.9**
	11nm,0.4s						
DZET				⇑S	**Sn**	**09 41 25.5**	**+1.1**
	189nm,0.4s						
MNAS	**Manas**	**6.13**	**10**	⇑P	**Pn**	**09 41 34.7**	**+2.6**
	12nm,0.7s						
MNAS				⇑S	**Sn**	**09 42 40.6**	**-0.1**
	41nm,0.5s						
KK31	**Karatay Array**	**6.66**	**356**	⇓P	**Pn**	**09 41 41.4**	**+2.2**
	10nm,0.3s,baz=179,slow=12,SNR=168						
KK31				⇑S	**Sn**	**09 42 53.9**	**+0.3**
	8.2nm,0.3s,baz=178,slow=15,SNR=14						
AAK	**Ala-Archa**	**6.71**	**22**	P	**Pn**	**09 41 42.8**	**+2.8**
	5.1nm,0.4s						
AAK				S	**Sn**	**09 42 56.3**	**+1.4**
	59nm,1.1s						
TKM2	**Tokmak 2**	**7.33**	**27**	⇓P	**Pn**	**09 41 50.4**	**+1.9**
	6.1nm,0.6s						
TKM2				⇑S	**Sn**	**09 43 09.1**	**-1.0**
	11nm,0.8s						
GUN	**Gumba**	**15.11**	**120**	*e*P	**Pn**	**09 43 30.8**	**-1.6**
	7.6nm,0.4s						
AB31	**Akbulak array**	**15.17**	**331**	⇓P	**Pn**	**09 43 33.1**	**+0.4**
	1.4nm,0.3s,baz=141,slow=12,SNR=63						
AB31				S	**Sn**	**09 46 11.8**	**-8.2**
	2.6nm,0.6s,baz=151,slow=23,SNR=11						
JIRN	**Jiri**	**15.48**	**120**	*e*P	**Pn**	**09 43 35.5**	**-1.6**
	109nm,0.4s						
RAMN	**Ramite**	**16.21**	**121**	*e*P	**Pn**	**09 43 44.3**	**-1.8**
	13nm,0.6s						
RAMN				*e*S	Sn	09 46 31.3	-15
AKTO	**Aktyubinsk**	**16.87**	**330**	⇓P	**P**	**09 43 55.8**	**+1.6**
	9.5nm,1.1s						
AKTO				⇑S	**Sn**	**09 46 57.3**	**-3.7**
	3.1nm,0.7s						

WEL 20 09:49:46.0±0.3, 37°.66S×177°.06E, h142km±2km, ML3.9/48, 5C-20D, Error ellipse: s-maj=1.5km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.21**	**200**	PN	Pn	09 50 05.5	+0.1
OPRZ	**Ohinepanea**	**0.44**	**245**	PN	Pn	09 50 06.1	-0.1
MARZ	**Manawahe**	**0.45**	**223**	⇓PN	Pn	09 50 06.5	+0.2
RUGZ	**Raukumara Rang**	**0.57**	**122**	⇓PN	Pn	09 50 06.2	-0.8
HAZ	**Te Kaha**	**0.58**	**100**	⇓PN	Pn	09 50 06.5	-0.4
HAZ				SN	Sn	09 50 22.3	-0.4
HAZ				AML	AML	09 50 23.3	
HAZ				AML	AML	09 50 23.3	
URZ	**Urewera**	**0.60**	**176**	PN	Pn	09 50 06.7	-0.4
URZ				SN	Sn	09 50 22.7	-0.4
URZ				AML	AML	09 50 23.4	
TARZ	**Mount Tarawera**	**0.72**	**217**	⇓PN	Pn	09 50 08.4	+0.4
MWZ	**Matawai**	**0.77**	**152**	⇓PN	Pn	09 50 08.0	-0.2
MWZ				SN	Sn	09 50 25.0	-0.1
MWZ				AML	AML	09 50 26.6	
RRRZ	**Republican Roa**	**0.81**	**212**	⇓PN	Pn	09 50 08.6	+0.1
PKGZ	**Pakihiroa**	**0.83**	**106**	⇓PN	Pn	09 50 08.8	+0.1
PKGZ				AML	AML	09 50 28.3	
PKGZ				AML	AML	09 50 28.6	
MUGZ	**Murupara**	**0.85**	**196**	⇓PN	Pn	09 50 08.6	-0.2
RAGZ	**Rawiri**	**0.88**	**162**	PN	Pn	09 50 09.0	-0.1
RAGZ				AML	AML	09 50 28.6	
RAGZ				AML	AML	09 50 29.2	
TWGZ	**Tauwhareparae**	**0.89**	**126**	PN	Pn	09 50 09.4	+0.2
TWGZ				AML	AML	09 50 31.4	
TWGZ				AML	AML	09 50 32.1	
RTZ	**Ruatahuna**	**0.96**	**184**	⇓PN	Pn	09 50 09.5	-0.3
PRRZ	**Plateau Road**	**0.99**	**212**	⇓PN	Pn	09 50 10.0	0.0
MXZ	**Matakaoa Point**	**0.99**	**85**	⇓PN	Pn	09 50 09.9	-0.1
MXZ				AML	AML	09 50 28.5	
MXZ				AML	AML	09 50 31.7	
TKGZ	**Te Karaka**	**0.99**	**142**	⇓PN	Pn	09 50 10.0	0.0
TKGZ				AML	AML	09 50 30.4	
TKGZ				AML	AML	09 50 30.6	
PUZ	**Puketiti**	**1.03**	**114**	⇓PN	Pn	09 50 10.2	-0.2
PUZ				AML	AML	09 50 30.2	
PUZ				AML	AML	09 50 30.7	
ALRZ	**Allen Road**	**1.06**	**212**	PN	Pn	09 50 10.8	+0.1
WMGZ	**Waiomatatini S**	**1.08**	**99**	⇓PN	Pn	09 50 10.8	0.0
WMGZ				AML	AML	09 50 30.9	
WMGZ				AML	AML	09 50 31.4	
SNGZ	**Shannon Statio**	**1.14**	**169**	⇓PN	Pn	09 50 11.5	+0.1
SNGZ				AML	AML	09 50 32.5	
SNGZ				AML	AML	09 50 34.1	
RIGZ	**Rimuhau**	**1.18**	**152**	PN	Pn	09 50 12.2	+0.4
RIGZ				AML	AML	09 50 34.8	
RIGZ				AML	AML	09 50 39.8	
MTHZ	**Maungataniwha**	**1.20**	**188**	PN	Pn	09 50 12.3	+0.3
CNGZ	**Carnagh Statio**	**1.22**	**133**	PN	Pn	09 50 12.6	+0.5
CNGZ				AML	AML	09 50 35.8	
CNGZ				AML	AML	09 50 35.9	
TOZ	**Tahuroa Road**	**1.24**	**266**	PN	Pn	09 50 12.7	+0.4
MRHZ	**Matea Rd**	**1.28**	**203**	PN	Pn	09 50 12.4	-0.3
MRHZ				AML	AML	09 50 33.1	
MRHZ				AML	AML	09 50 34.0	
TLZ	**Tolley Road**	**1.38**	**241**	PN	Pn	09 50 14.1	+0.3
KUZ	**Kuaotunu**	**1.41**	**310**	⇓PN	Pn	09 50 13.8	-0.2
PRGZ	**Paritu Road**	**1.42**	**153**	PN	Pn	09 50 14.0	-0.2
PRGZ				AML	AML	09 50 42.0	
PRGZ				AML	AML	09 50 42.5	
WHHZ	**Waihua**	**1.42**	**175**	PN	Pn	09 50 14.3	+0.1
WHHZ				AML	AML	09 50 36.8	
WHHZ				AML	AML	09 50 38.2	
KNZ	**Kokohu**	**1.44**	**161**	PN	Pn	09 50 14.2	-0.2
KNZ				AML	AML	09 50 37.3	
KNZ				AML	AML	09 50 37.4	
NMHZ	**Naumai**	**1.45**	**188**	PN	Pn	09 50 14.7	+0.2
NMHZ				AML	AML	09 50 39.2	
NMHZ				AML	AML	09 50 39.8	
BKZ	**Black Stump Fm**	**1.57**	**196**	⇑PN	Pn	09 50 15.1	-0.8
BKZ				AML	AML	09 50 38.7	
BKZ				AML	AML	09 50 40.7	
ARHZ	**Aropaoanui**	**1.60**	**182**	PN	Pn	09 50 16.0	-0.1
ARHZ				AML	AML	09 50 41.5	
ARHZ				AML	AML	09 50 41.5	
MHGZ	**Mahia Peninsul**	**1.63**	**156**	PN	Pn	09 50 16.4	-0.1
MHGZ				AML	AML	09 50 41.8	
MHGZ				AML	AML	09 50 42.0	
MCHZ	**McNeill Hill**	**1.81**	**189**	PN	Pn	09 50 18.1	-0.3
MCHZ				AML	AML	09 50 47.5	
MCHZ				AML	AML	09 50 48.2	
KRVZ	**Karewarewa**	**1.82**	**218**	PN	Pn	09 50 18.3	-0.4
KWHZ	**Kaweka Forest**	**1.83**	**196**	PN	Pn	09 50 18.1	-0.7
KWHZ				AML	AML	09 50 45.4	
KWHZ				AML	AML	09 50 45.5	
NGZ	**Ngauruhoe**	**1.90**	**217**	PN	Pn	09 50 19.3	-0.4
TUVZ	**Tukino**	**1.95**	**214**	PN	Pn	09 50 19.5	-0.7
FWVZ	**Far West T-bar**	**1.99**	**216**	⇓PN	Pn	09 50 20.0	-0.8
BHHZ	**Black Hill Sta**	**1.99**	**203**	PN	Pn	09 50 19.4	-1.2
BHHZ				AML	AML	09 50 46.9	
BHHZ				AML	AML	09 50 47.2	
WHVZ	**Whangaehu Hut**	**1.99**	**215**	⇑PN	Pn	09 50 20.0	-0.8
CKHZ	**Cape Kidnapper**	**2.00**	**180**	PN	Pn	09 50 20.0	-0.6
CKHZ				AML	AML	09 50 49.3	
CKHZ				AML	AML	09 50 49.5	
WNVZ	**Wahianoa**	**2.02**	**214**	⇑PN	Pn	09 50 20.2	-0.9
MOVZ	**Moawhango**	**2.02**	**210**	PN	Pn	09 50 19.7	-1.4
KRHZ	**Kereru**	**2.05**	**195**	PN	Pn	09 50 20.1	-1.2
KRHZ				AML	AML	09 50 48.1	
KRHZ				AML	AML	09 50 49.7	
PKVZ	**Pokaka**	**2.11**	**219**	PN	Pn	09 50 21.3	-0.8
MTVZ	**Mangateitei**	**2.13**	**215**	PN	Pn	09 50 21.4	-0.9
KAHZ	**Kahuranaki**	**2.14**	**184**	⇑PN	Pn	09 50 21.6	-0.7
KAHZ				AML	AML	09 50 53.3	
KAHZ				AML	AML	09 50 54.0	
PNHZ	**Pukenui**	**2.35**	**196**	PN	Pn	09 50 23.3	-1.6
PNHZ				AML	AML	09 50 55.5	
PNHZ				AML	AML	09 50 55.7	
PXZ	**Pawanui**	**2.37**	**184**	PN	Pn	09 50 23.7	-1.5
PXZ				AML	AML	09 50 55.9	
PXZ				AML	AML	09 50 55.9	
PXZ				AML	AML	09 50 55.9	
PXZ				AML	AML	09 50 55.9	
WPHZ	**Waipukurau**	**2.45**	**191**	PN	Pn	09 50 24.5	-1.6
WPHZ				AML	AML	09 50 57.0	
WPHZ				AML	AML	09 50 57.1	
TSZ	**Takapari Road**	**2.54**	**199**	PN	Pn	09 50 25.4	-1.9
TSZ				AML	AML	09 50 58.1	
TSZ				AML	AML	09 50 58.8	
PRHZ	**Porangahau**	**2.62**	**187**	PN	Pn	09 50 26.7	-1.6
PRHZ				AML	AML	09 51 01.0	
PRHZ				AML	AML	09 51 01.8	
WAZ	**Wanganui**	**2.65**	**217**	PN	Pn	09 50 27.4	-1.2
DVHZ	**Dannevirke**	**2.73**	**195**	PN	Pn	09 50 27.5	-2.1
DVHZ				AML	AML	09 51 01.9	
DVHZ				AML	AML	09 51 04.4	
ANWZ	**Angora Road**	**2.83**	**189**	⇓PN	Pn	09 50 29.1	-1.8
ANWZ				AML	AML	09 51 06.0	
ANWZ				AML	AML	09 51 07.6	
OHWZ	**Ohakea**	**2.88**	**208**	PN	Pn	09 50 30.1	-1.5
POWZ	**Post Office Ro**	**2.91**	**200**	PN	Pn	09 50 29.8	-2.1
POWZ				AML	AML	09 51 11.4	
POWZ				AML	AML	09 51 11.7	
PRWZ	**Pori Road**	**3.01**	**196**	PN	Pn	09 50 31.1	-2.1
PRWZ				AML	AML	09 51 08.8	
PRWZ				AML	AML	09 51 08.9	
BFZ	**Birch Farm**	**3.08**	**192**	PN	Pn	09 50 31.6	-2.5
BFZ				AML	AML	09 51 10.2	
BFZ				AML	AML	09 51 10.4	
MRZ	**Mangatainoka R**	**3.21**	**201**	⇑PN	Pn	09 50 33.0	-2.8
MRZ				AML	AML	09 51 12.3	
MRZ				AML	AML	09 51 12.4	
TIWZ	**Tintock**	**3.24**	**196**	PN	Pn	09 50 33.6	-2.6
TIWZ				AML	AML	09 51 13.5	
TIWZ				AML	AML	09 51 13.5	
CPWZ	**Castlepoint**	**3.31**	**191**	PN	Pn	09 50 35.2	-1.8
CPWZ				AML	AML	09 51 17.5	
CPWZ				AML	AML	09 51 18.7	
HOWZ	**Holdsworth Sta**	**3.45**	**200**	PN	Pn	09 50 35.6	-3.2
HOWZ				AML	AML	09 51 16.9	
OGWZ	**Otaki Gorge**	**3.48**	**204**	PN	Pn	09 50 36.3	-2.9
OGWZ				AML	AML	09 51 18.1	
OGWZ				AML	AML	09 51 18.1	
TMWZ	**Te Maipa**	**3.56**	**194**	PN	Pn	09 50 37.3	-3.0
TMWZ				AML	AML	09 51 20.4	
TMWZ				AML	AML	09 51 20.8	
KIW	**Kapiti Island**	**3.61**	**207**	PN	Pn	09 50 37.5	-3.4
MTW	**Mount Morrison**	**3.70**	**199**	PN	Pn	09 50 38.5	-3.6
CAW	**Cannon Point**	**3.77**	**204**	PN	Pn	09 50 39.5	-3.6
CAW				AML	AML	09 51 24.3	
CAW				AML	AML	09 51 24.5	
PAWZ	**Paruwai Farm**	**3.93**	**198**	⇓PN	Pn	09 50 41.3	-3.8
PAWZ				AML	AML	09 51 28.6	
DUWZ	**D'Urville Isla**	**3.97**	**217**	PN	Pn	09 50 41.8	-3.9
MSWZ	**Moikau Station**	**4.00**	**200**	PN	Pn	09 50 42.1	-4.0
WEL	**Wellington**	**4.03**	**205**	PN	Pn	09 50 42.7	-3.8
WEL				AML	AML	09 51 29.6	
PLWZ	**Palliser**	**4.15**	**199**	PN	Pn	09 50 43.9	-4.1
TCW	**Tory Channel**	**4.15**	**210**	PN	Pn	09 50 44.0	-4.0
TCW				AML	AML	09 51 33.2	
TCW				AML	AML	09 51 33.4	
TUWZ	**Tuamarina**	**4.47**	**212**	PN	Pn	09 50 48.0	-4.3
TUWZ				AML	AML	09 51 40.2	
TUWZ				AML	AML	09 51 40.5	
NNZ	**Nelson**	**4.56**	**218**	PN	Pn	09 50 49.1	-4.2
QRZ	**Quartz Range**	**4.73**	**227**	PN	Pn	09 50 51.4	-4.3
BSWZ	**Blackbirch Sta**	**4.74**	**210**	PN	Pn	09 50 51.6	-4.2
THZ	**Tophouse**	**5.20**	**217**	PN	Pn	09 50 57.5	-4.5
KHZ	**Kahutara**	**5.47**	**209**	⇓PN	Pn	09 51 00.7	-4.7
DSZ	**Dennistón Nort**	**5.75**	**223**	PN	Pn	09 51 04.0	-5.4
INZ	**Inchbonnie**	**6.64**	**219**	PN	Pn	09 51 15.2	-5.9
OXZ	**Oxford**	**6.83**	**212**	PN	Pn	09 51 17.8	-6.0
MQZ	**McQueen's Vall**	**6.91**	**208**	PN	Pn	09 51 18.0	-6.7

IDC 20 09:51:46.4±1.5, 49°.47S×121°.74E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/32, mbtmp3.6/5, MS3.4/7, Ms1 3.5/7, ms1mx3.2/17, Error ellipse: s-maj=72.8km s-min=20.0km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.86**	**347**	LR	LR	10 00 19.3	
	comp=Z,126nm,21.9s,baz=209,slow=30						
STKA	**Stephens Creek**	**23.02**	**48**	P	P	09 56 53.6	+0.8
	1.7nm,1.0s,baz=198,slow=9.6,SNR=3.0						
STKA				LR	LR	10 04 04.9	
	comp=Z,92nm,21.1s,baz=206,slow=32						
ASAR	**Alice Springs**	**27.47**	**25**	P	P	09 57 33.5	-0.6
	0.5nm,0.7s,baz=193,slow=9.8,SNR=8.1						
ASAR				LR	LR	10 07 12.8	
	comp=Z,66nm,20.7s,baz=156,slow=34						
WRA	**Warramunga Arr**	**31.13**	**23**	P	P	09 58 06.2	-0.5
	0.6nm,0.7s,baz=195,slow=8.2,SNR=4.0						
VNDA	**Vanda**	**31.98**	**165**	P	P	09 58 13.1	-0.5
	0.6nm,0.9s,baz=310,slow=8.7,SNR=3.7						
VNDA				LR	LR	10 10 00.1	
	comp=Z,100nm,18.7s,baz=318,slow=34						
RPZ	**Rata Peaks**	**33.87**	**99**	LR	LR	10 08 15.4	
	comp=Z,78nm,18.8s,baz=280,slow=29						
DZM	**Mont Dzumac**	**44.50**	**69**	LR	LR	10 16 32.5	
	comp=Z,178nm,20.6s,baz=93,slow=33						
SNAA	**Sanae**	**53.00**	**199**	P	P	10 01 04.4	0.0
	1.7nm,1.0s,baz=146,slow=14,SNR=6.9						
CMAR	**Chiang Mai Arr**	**70.58**	**337**	LR	LR	10 33 53.4	
	comp=Z,8.5nm,18.7s,baz=190,slow=36						
YKA	**Yellowknife Ar**	**147.04**	**45**	PKPbc	PKPbc	10 11 29.9	+0.1
	0.3nm,0.6s,baz=273,slow=3.0,SNR=4.8						

*IDC **20** 09:54:12.2±1.6, 2°.00N×96°.26E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.7/65, mbtmp4.0/9, ML3.7/2, MS3.1/3, Ms1 3.2/3, ms1mx2.8/40, Error ellipse: s-maj=49.9km s-min=17.5km az=55.0*
*ISCJB **20** 09:54:14.5±0.9, 2°.01N±0°.06×96°.3E±0°.1, h28km, mb4.0/7, Error ellipse: s-maj=17.1km s-min=8.4km az=167.2*
*DJA **20** 09:54:17.0±1.0, 2°N±6°×9°6E±1°0, h27km±5km, M4.1/7, mB4.7/1, mb4.6/2, MLv3.9/7, Mw(mB)3.9/1*
ISC 20 09:54:17.5±1.0, 2°.17N±0°.08×96°.4E±0°.1, h28km, n15, σ0§94/15, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.26**	**341**	P	**Pb**	**09 54 24.1**	**0.0**
SNSI				S	**Sb**	**09 54 30.1**	**+1.4**
TPTI		**1.33**	**35**	P	**Pn**	**09 54 39.6**	**-0.6**
KCSI	**Kotacane, Aceh**	**1.91**	**45**	P	**Pn**	**09 54 48.6**	**+0.3**
MLSI	**Meulaboh, Aceh**	**2.09**	**360**	P	**Pn**	**09 54 50.0**	**-0.6**
PSI	**Prapat**	**2.59**	**76**	Pn	**Pn**	**09 54 57.8**	**+0.1**
	6.1nm,0.3s,baz=268,slow=11,SNR=12						
PSI				LR	LR	09 56 24.5	
	comp=Z,276nm,18.0s,baz=324,slow=48						
PBSI	**Pulau Batu**	**2.89**	**140**	P	**Pn**	**09 55 02.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.38**	**9**	Pn	**Pn**	**09 58 07.6**	**+2.0**
	0.2nm,0.3s,baz=197,slow=12,SNR=14						
CMAR				LR	LR	10 05 11.6	
	comp=Z,86nm,20.6s,baz=200,slow=40						
PALK	**Pallekele**	**16.45**	**288**	LR	LR	10 03 35.2	
	comp=Z,53nm,18.6s,baz=116,slow=34						
FITZ	**Fitzroy Crossi**	**35.13**	**126**	P	**P**	**10 01 07.9**	**-1.0**
	2.4nm,0.9s,baz=185,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**43.22**	**122**	P	**P**	**10 02 15.4**	**-1.1**
	1.0nm,0.9s,baz=302,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**44.60**	**127**	P	**P**	**10 02 26.9**	**-0.7**
	0.6nm,0.8s,baz=299,slow=7.8,SNR=9.1						
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**10 02 39.4**	**+0.1**
	4.0nm,0.8s,baz=164,slow=8.2,SNR=20						
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**10 02 40.5**	**-0.3**
	1.2nm,0.7s,baz=198,slow=14,SNR=3.3						
ZALV	**Zalesovo Beam**	**52.49**	**351**	P	**P**	**10 03 27.7**	**-0.1**
	4.5nm,0.5s,baz=183,slow=6.4,SNR=17						
BVAR	**Borovoye Array**	**55.09**	**341**	P	**P**	**10 03 46.6**	**-0.3**
	2.0nm,0.9s,baz=151,slow=3.3,SNR=4.8						

*ISCJB **20** 09:58:09.7±0.6, 0°.16S±0°.09×122°.96E±0°.05, h162km, mb3.6/5, Error ellipse: s-maj=13.0km s-min=5.8km az=13.4*
*DJA **20** 09:58:12.1±0.8, 0°S±5°×12°3E±°, h123km±11km, M4.0/5, MLv4.0/5*
*IDC **20** 09:58:12.1±3.6, 0°.20S×122°.80E, h165km±29km, mb3.3/5, mb1 3.5/6, mb1mx3.2/46, mbtmp3.8/6, Error ellipse: s-maj=98.9km s-min=20.8km az=63.0*
ISC 20 09:58:10.9±0.8, 0°.10S±0°.09×122°.96E±0°.05, h162km, n12, σ1§70/18, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.17**	**299**	P	**Pn**	**09 58 36.6**	**-1.6**
MRSI				S	**Sn**	**09 58 55.0**	**-4.1**
KMSI	**Cibinong**	**1.23**	**57**	P	**Pn**	**09 58 38.4**	**-0.3**
APSI	**Ampana**	**1.54**	**238**	P	**Pn**	**09 58 41.0**	**-0.7**
APSI				S	**Sn**	**09 59 02.7**	**-2.7**
MPSI	**Mapaga**	**3.09**	**278**	P	**Pn**	**09 58 59.7**	**-0.1**
MPSI				S	**Sn**	**09 59 38.4**	**+0.6**
SANI	**Sanana**	**3.60**	**123**	P	**Pn**	**09 59 05.1**	**-1.2**
SANI				S	**Sn**	**09 59 46.4**	**-3.0**
LBMI	**Labuha**	**4.58**	**97**	S	**Sn**	**10 00 11.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.08**	**172**	P	**P**	**10 02 11.4**	**+1.1**
	0.6nm,0.3s,baz=358,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**22.65**	**151**	P	**P**	**10 02 59.2**	**+0.6**
	1.5nm,0.5s,baz=327,slow=11,SNR=18						
WRA				ScP	**ScP**	**10 10 08.6**	**+0.2**
	0.3nm,0.4s,baz=323,slow=2.5,SNR=7.5						
ASAR	**Alice Springs**	**25.73**	**156**	P	**P**	**10 03 26.6**	**+0.2**
	0.6nm,0.5s,baz=342,slow=15,SNR=9.4						
ASAR				PcP	**PcP**	**10 06 52.9**	**+0.5**
	0.4nm,0.3s,baz=349,slow=2.3,SNR=8.0						
STKA	**Stephens Creek**	**36.19**	**153**	P	**P**	**10 04 59.4**	**+1.3**
	3.3nm,0.8s,baz=317,slow=6.9,SNR=5.6						
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**10 07 52.1**	**+

PEL	**Peldehue**	**2.50**	**30**	*e*P	**Pn**	**10 12 33.0**	**+0.4**
PEL				*i* S	**Sn**	**10 13 03.9**	**+0.3**
PEL				IAML		10 13 14.5	
	comp=N,649nm,0.4s						
FCH	**Farellones**	**2.53**	**39**	*e*P	**Pn**	**10 12 32.9**	**-0.4**
FCH				*e*S	**Sn**	**10 13 04.6**	**-0.1**
ROC1	**El Roble**	**2.53**	**23**	*e*P	**Pn**	**10 12 34.2**	**+1.0**
ROCH	**El Roble**	**2.54**	**23**	*e*P	**Pn**	**10 12 31.9**	**-1.3**
AAGR	**Agrelo**	**3.56**	**52**	*e*P	**Pn**	**10 12 45.4**	**-1.8**
ARCO	**CERRO ARCO**	**3.66**	**48**	*e*P	**Pn**	**10 12 47.7**	**-0.9**
ARCO				IAML		10 13 00.1	
	comp=Z,43nm,0.5s						
AUSP	**Uspallata**	**3.87**	**38**	*e*P	**Pn**	**10 12 52.3**	**+0.7**
ASAL	**Salagasta**	**3.89**	**47**	*e*P	**Pn**	**10 12 50.9**	**-0.9**
RTLS	**Leoncito**	**4.26**	**35**	*e*P	**Pn**	**10 12 57.8**	**+0.8**
RTCV	**Cerro Valdivia**	**4.60**	**42**	*e*P	**Pn**	**10 13 00.8**	**-0.7**
AMOG	**MOGNA**	**5.35**	**36**	*e*P	**Pn**	**10 13 11.5**	**-0.3**
ACDV	**Cuesta del Vie**	**5.75**	**27**	*e*P	**Pn**	**10 13 18.4**	**+1.0**
AVFE	**Valle Fertil**	**6.11**	**42**	*e*P	**Pn**	**10 13 21.1**	**-1.1**
AVFE				IAML		10 14 42.4	
	comp=Z,14nm,0.6s						
ACHE	**Chepes**	**6.21**	**50**	*e*P	**Pn**	**10 13 21.4**	**-2.3**
ACHE				*e*S	**Sn**	**10 14 34.4**	**-0.8**
AGUA	**GUANDACOL**	**6.60**	**29**	*e*P	**Pn**	**10 13 29.1**	**+0.1**
AGUA				*e*S	**Sn**	**10 14 47.0**	**+2.2**
ACLC	**CERRO LA CRUZ**	**7.36**	**38**	*e*P	**Pn**	**10 13 38.8**	**-0.7**
ACLC				*e*S	**Sn**	**10 15 03.9**	**+0.5**

*IDC **20** 10:11:48.1±2.8, 53°.56N×87°.94E, h0km, mb1 3.4/2, mb1mx3.2/34, mbtmp3.4/2, ML3.4/2, Error ellipse: s-maj=26.4km s-min=13.6km az=60.0*
*NNC **20** 10:11:51.6±4.9, 53°.39N×87°.59E, h14km±26km, mb3.5, mpv3.2, Error ellipse: s-maj=33.3km s-min=26.5km az=47.0*
ISC 20 10:11:52.4±3.8, 53°.6N±0°.1×87°.7E±0°.2, h35km, n7, σ2§00/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**284**	*i*		10 24 10.0	
	baz=100,slow=339,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.77**	**284**	Pn	**Pn**	**10 12 19.9**	**-0.6**
	4.6nm,0.3s,baz=101,slow=16,SNR=14						
ZALV				Lg	Lg	10 12 47.0	
	13nm,0.3s,baz=112,slow=26,SNR=12						
KURK	**Kurchatov**	**6.29**	**247**	⇑Pn	**Pn**	**10 13 22.1**	**-0.4**
	3.6nm,0.8s						
KURK				⇑Sn	**Sn**	**10 14 32.4**	**-0.6**
	3.8nm,0.7s						
KURK				⇓Lg	Lg	10 15 06.7	
	28nm,1.3s						
MK31	**Makanchi Array**	**7.62**	**209**	⇑Pn	**Pn**	**10 13 40.9**	**+0.1**
	0.2nm,0.3s,baz=26,slow=14,SNR=14						
MK31				⇓Sn	**Sn**	**10 15 06.6**	**+0.8**
	2.7nm,0.8s,baz=33,slow=25,SNR=4.3						
MK31				⇓Lg	Lg	10 15 48.0	
	12nm,0.8s,baz=28,slow=30,SNR=7.5						
MKAR	**Makanchi Array**	**7.62**	**209**	Pn	**Pn**	**10 13 42.0**	**+1.1**
	0.7nm,0.3s,baz=29,slow=14,SNR=16						
MKAR				Sn	**Sn**	**10 15 09.2**	**+3.4**
	0.3nm,0.3s,baz=29,slow=24,SNR=7.5						
MKAR				Lg	Lg	10 15 50.5	
	0.4nm,0.3s,baz=46,slow=30,SNR=12						
MAKZ	**Makanchi**	**7.70**	**211**	⇑Pn	**Pn**	**10 13 39.0**	**-2.9**
	2.0nm,1.0s						
MAKZ				⇑Sn	**Sn**	**10 15 04.9**	**-2.9**
	2.0nm,0.7s						
MAKZ				⇓Lg	Lg	10 15 49.7	
	8.8nm,0.8s						
BVAR	**Borovoye Array**	**10.40**	**274**	Pn	**Pn**	**10 14 19.9**	**+1.0**
	0.2nm,0.3s,baz=66,slow=14,SNR=2.8						
BVAR				Sn	**Sn**	**10 16 14.2**	**+0.3**
	0.5nm,0.3s,baz=81,slow=24,SNR=4.2						

*JMA **20** 10:19:32.3±0.2, 24°.74N×121°.80E, h95km±2km, M2.4*
*ISCJB **20** 10:19:33.4±0.6, 24°.77N±0°.03×121°.88E±0°.02, h98km±4km, Error ellipse: s-maj=5.0km s-min=2.9km az=156.1*
*TAP **20** 10:19:34.1, 24°.76N×121°.82E, h94km, ML3.5, B*
ISC 20 10:19:33.4±1.5, 24°.78N±0°.05×121°.88E±0°.03, h99km±8km, n50, σ0§68/98, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.08**	**38**	P	**Pn**	**10 19 47.8**	**+0.5**
	baz=66						
EGS				S	**Sn**	**10 19 57.4**	**-0.2**
	baz=66						
ILA	**Ilan**	**0.12**	**263**	*e*P	**Pn**	**10 19 47.6**	**+0.3**
	baz=273						
ILA				*e*S	**Sn**	**10 19 58.3**	**+0.6**
	baz=273						
TWC	**Suao**	**0.17**	**188**	P	**Pn**	**10 19 48.1**	**+0.7**
	baz=157						
TWC				S	**Sn**	**10 19 58.3**	**+0.4**
	baz=157						
TWE	**Neicheng**	**0.20**	**253**	⇓*i*P	**Pn**	**10 19 48.1**	**+0.6**
	baz=269						
TWE				S	**Sn**	**10 19 58.2**	**+0.2**
	baz=269						
TWB1	**Santiao Chiao**	**0.25**	**24**	⇑*i*P	**Pn**	**10 19 48.3**	**+0.5**
	baz=42						
TWB1				*i* S	**Sn**	**10 19 58.2**	**-0.2**
	baz=42						
NWF	**Wu-fen Shan**	**0.30**	**343**	*i* P	**Pn**	**10 19 48.3**	**+0.2**
	baz=4.0						
NWF				S	**Sn**	**10 19 58.7**	**-0.3**
	baz=4.0						
ENTT	**Nioudou**	**0.32**	**244**	⇓*i*P	**Pn**	**10 19 48.4**	**+0.3**
	baz=254						
ENTT				*i* S	**Sn**	**10 19 58.8**	**-0.2**
	baz=254						
TWA	**Mucha**	**0.33**	**307**	⇓*i*P	**Pn**	**10 19 48.5**	**+0.4**
	baz=310						
TWA				*i* S	**Sn**	**10 19 59.0**	**-0.1**
	baz=310						
ENA	**Nanau**	**0.37**	**199**	*e*P	**Pn**	**10 19 48.7**	**+0.3**
	baz=197						
ENA				*e*S	**Sn**	**10 20 00.3**	**+0.9**
	baz=197						
NSK	**Sanguang**	**0.48**	**258**	⇓*i*P	**Pn**	**10 19 48.8**	**-0.3**
	baz=258						
NSK				*e*S	**Sn**	**10 19 58.8**	**-2.1**
	baz=258						
TWS1	**Kuangyinshan**	**0.52**	**308**	P	**Pn**	**10 19 49.6**	**+0.3**
	baz=304						
TWS1				S	**Sn**	**10 20 00.8**	**-0.5**
	baz=304						
TWY	**Chenhua**	**0.55**	**333**	⇓*i*P	**Pn**	**10 19 50.0**	**+0.4**
	baz=334						
TWY				S	**Sn**	**10 20 01.9**	**+0.3**
	baz=334						
NNS	**Nan Shan**	**0.57**	**234**	P	**Pn**	**10 19 50.1**	**+0.3**
	baz=231						
NNS				*e*S	**Sn**	**10 20 01.3**	**-0.8**
	baz=231						
NCU	**National Centr**	**0.65**	**287**	*e*P	**Pn**	**10 19 50.3**	**-0.1**
	baz=290						
NCU				S	**Sn**	**10 20 02.5**	**-0.6**
	baz=290						
TWD	**Chiawan**	**0.74**	**200**	*e*P	**Pn**	**10 19 50.8**	**-0.4**
	baz=202						
TWD				*e*S	**Sn**	**10 20 03.5**	**-1.0**
	baz=202						
NSTT	**Nanjuang**	**0.81**	**260**	⇓*i*P	**Pn**	**10 19 51.8**	**-0.1**
	baz=259						
NSTT				*i* S	**Sn**	**10 20 04.5**	**-1.2**
	baz=259						
HSN	**Hsinchu**	**0.82**	**272**	*e*P	**Pn**	**10 19 51.6**	**-0.3**
	baz=268						
TWT	**Tachien**	**0.83**	**231**	P	**Pn**	**10 19 52.8**	**+0.6**
	baz=222						
TWT				S	**Sn**	**10 20 06.3**	**0.0**
	baz=222						
HWA	**Hwalien**	**0.84**	**197**	*e*P	**Pn**	**10 19 53.1**	**+1.0**
	baz=200						
HWA				*e*S	**Sn**	**10 20 07.0**	**+0.9**
	baz=200						
WHF	**Hehuan Shan**	**0.84**	**221**	⇓*i*P	**Pn**	**10 19 52.9**	**+0.3**
	baz=211						
WHF				S	**Sn**	**10 20 06.3**	**-0.7**
	baz=211						
JYNG	**Yonagunijimaku**	**1.03**	**108**	P	**Pn**	**10 19 53.5**	**-0.6**
JYNG				S	**Sn**	**10 20 08.8**	**-0.8**
ESL	**Shilin**	**1.04**	**203**	*e*P	**Pn**	**10 19 53.1**	**-1.2**
	baz=193						
ESL				*e*S	**Sn**	**10 20 08.2**	**-1.8**
	baz=193						
NSY	**Sanyi**	**1.08**	**251**	P	**Pn**	**10 19 55.2**	**+0.6**
	baz=249						
NSY				*e*S	**Sn**	**10 20 10.2**	**-0.5**
	baz=249						
YOJ	**Yonaguni jima**	**1.08**	**107**	P	**Pn**	**10 19 54.1**	**-0.6**
YOJ				S	**Sn**	**10 20 10.5**	**-0.2**
TWQ1	**Liyutan**	**1.09**	**247**	⇓*i*P	**Pn**	**10 19 55.0**	**+0.2**
	baz=245						
TWQ1				*i* S	**Sn**	**10 20 10.3**	**-0.7**
	baz=245						
WDT	**Danda**	**1.23**	**214**	*e*P	**Pn**	**10 19 56.8**	**+0.1**
	baz=217						
WDT				*e*S	**Sn**	**10 20 14.1**	**-0.1**
	baz=217						
SMLT	**Sun Moon Lake**	**1.26**	**225**	⇓*e*P	**Pn**	**10 19 57.1**	**+0.2**
	baz=228						
SMLT				S	**Sn**	**10 20 15.1**	**+0.5**
	baz=228						
TCU	**Taichung**	**1.26**	**240**	*e*P	**Pn**	**10 19 56.6**	**-0.2**
	baz=237						
TCU				*e*S	**Sn**	**10 20 13.7**	**-0.8**
	baz=237						
TYC	**Yuchr**	**1.27**	**227**	P	**Pn**	**10 19 57.5**	**+0.5**
	baz=232						
TYC				S	**Sn**	**10 20 14.7**	**0.0**
	baz=232						
EHY	**Hungye**	**1.37**	**202**	*e*P	**Pn**	**10 19 58.7**	**+0.7**
	baz=190						
EHY				*e*S	**Sn**	**10 20 15.2**	**-1.5**
	baz=190						
WNT	**Mingjian**	**1.41**	**231**	*e*P	**Pn**	**10 19 58.7**	**+0.1**
	baz=236						
WNT				*e*S	**Sn**	**10 20 17.4**	**-0.1**
	baz=236						
TWF1	**Yuli**	**1.52**	**201**	*e*P	**Pn**	**10 20 00.2**	**+0.3**
	baz=196						
TWF1				*e*S	**Sn**	**10 20 20.1**	**+0.1**
	baz=196						
YUS	**Yu-Shan**	**1.54**	**213**	*e*P	**Pn**	**10 20 01.4**	**+0.7**
	baz=220						
YUS				*e*S	**Sn**	**10 20 21.7**	**+0.5**
	baz=220						
ALS	**Alishan**	**1.60**	**218**	*e*P	**Pn**	**10 20 01.8**	**+0.6**
	baz=222						
ALS				*e*S	**Sn**	**10 20 22.4**	**+0.2**
	baz=222						
CHN5	**Tsauling**	**1.61**	**223**	*e*P	**Pn**	**10 20 01.9**	**+0.9**
	baz=219						
CHN5				*e*S	**Sn**	**10 20 22.6**	**+0.5**
	baz=219						
CHKT	**Chengkung**	**1.74**	**196**	*e*P	**Pn**	**10 20 03.4**	**+0.8**
	baz=182						
CHKT				*e*S	**Sn**	**10 20 25.0**	**+0.2**
	baz=182						
IRIF	**Iriomote-Funau**	**1.75**	**104**	P	**Pn**	**10 20 02.4**	**-0.3**
IRIF				*e*S	**Sn**	**10 20 24.5**	**-0.5**
ELDTW	**Lidau**	**1.77**	**207**	*e*P	**Pn**	**10 20 03.9**	**+0.8**
	baz=193						
ELDTW				*e*S	**Sn**	**10 20 26.2**	**+0.5**
	baz=193						
CHN4	**Tsaushan**	**1.84**	**220**	*e*P	**Pn**	**10 20 04.5**	**+0.5**
	baz=216						
CHN4				*e*S	**Sn**	**10 20 27.5**	**+0.2**
	baz=216						
HATJ	**Hateruma jima**	**1.90**	**112**	P	**Pn**	**10 20 03.9**	**-0.8**
HATJ				*e*S	**Sn**	**10 20 28.0**	**-0.5**
WTP	**Ta-pu**	**1.91**	**217**	*e*P	**Pn**	**10 20 05.3**	**+0.3**
	baz=214						
WTP				*e*S	**Sn**	**10 20 29.1**	**+0.1**
	baz=214						
TWK	**Hsinying**	**1.97**	**220**	*e*P	**Pn**	**10 20 06.1**	**+0.5**
	baz=216						
TWK				*e*S	**Sn**	**10 20 30.1**	**-0.2**
	baz=216						
CHN1	**Nanshi**	**2.01**	**218**	*e*P	**Pn**	**10 20 07.1**	**+0.9**
	baz=214						
CHN1				*e*S	**Sn**	**10 20 31.0**	**-0.1**
	baz=214						
JKRS	**Kuro-shima**	**2.02**	**105**	P	**Pn**	**10 20 06.5**	**+0.3**
JKRS				S	**Sn**	**10 20 31.2**	**0.0**
SGST	**Jiashian**	**2.06**	**215**	*e*P	**Pn**	**10 20 05.2**	**-1.7**
	baz=219						
SGST				*e*S	**Sn**	**10 20 31.6**	**-0.8**
	baz=219						
TWG	**Pinlang**	**2.08**	**201**	*e*P	**Pn**	**10 20 07.0**	**-0.1**
	baz=187						
TWG				*e*S	**Sn**	**10 20 31.0**	**-1.8**
	baz=187						
JIJ	**Ishigaki jima**	**2.10**	**101**	P	**Pn**	**10 20 07.0**	**-0.3**
JIJ				S	**Sn**	**10 20 33.1**	**-0.2**
JISG	**Ishigakijimahi**	**2.22**	**94**	P	**Pn**	**10 20 08.8**	**-0.1**
JISG				*e*S	**Sn**	**10 20 37.4**	**+1.4**
EAST	**Anshuo**	**2.57**	**202**	*e*P	**Pn**	**10 20 14.6**	**+1.1**
	baz=188						
EAST				*e*S	**Sn**	**10 20 44.8**	**+0.6**
	baz=188						
JTJ	**Tarama**	**2.57**	**93**	S	**Sn**	**10 20 45.1**	**+0.8**

IDC 20 10:26:31.0±2.3, 54°.25N×86°.03E, h0km, mb1 3.4/2, mb1mx3.1/33, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=17.6km s-min=11.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**248**	*i*		10 31 24.2	
	baz=70,slow=334,SNR=7.4						
ZALV	**Zalesovo Beam**	**0.78**	**248**	Pg	Pg	10 26 44.1	-1.7
	3.3nm,0.3s,baz=65,slow=18,SNR=14						
ZALV				Lg	Lg	10 26 56.6	
	5.7nm,0.3s,baz=66,slow=31,SNR=16						
KURBB	**Kurchatov Arra**	**5.85**	**235**	Pn	Pn	10 28 00.6	+1.7
	0.3nm,0.3s,baz=51,slow=14,SNR=9.8						
KURBB				Lg	Lg	10 29 38.6	
	0.1nm,0.3s,baz=52,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**7.83**	**199**	Pn	Pn	10 28 26.3	+0.1
	0.5nm,0.3s,baz=17,slow=11,SNR=13						
MKAR				Sn	Sn	10 29 56.9	+1.4
	0.1nm,0.3s,baz=8.5,slow=20,SNR=5.3						
MKAR				Lg	Lg	10 30 40.4	
	0.1nm,0.3s,baz=26,slow=28,SNR=5.2						

*CSEM **20** 10:26:54.2, 44°.15N×19°.22E, h0km, ML1.5, Mining explosion.*
BEO 20 10:26:54.2±0.5, 44°.15N×19°.22E, h0km, M1.5/5, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Lazići**	**0.31**	**155**	*e*Pg	Pg	10 26 58.8	-1.4
BBLS				*e*Sg	Sg	10 27 03.9	-0.3
BBLS	**Lazići**	**0.31**	**155**	*e*Pg	Pg	10 26 58.8	-1.4
BBLS				*e*Sg	Sg	10 27 03.9	-0.3
TEKS	**Tekeris**	**0.46**	**29**	*e*Pg	Pg	10 27 03.5	+0.5
TEKS				*e*Sg	Sg	10 27 07.0	-1.9
TEKS	**Tekeris**	**0.46**	**29**	*e*Pg	Pg	10 27 03.5	+0.5
TEKS				*e*Sg	Sg	10 27 07.0	-1.9
DIVS	**Divibare**	**0.56**	**95**	*e*Pg	Pg	10 27 04.0	-0.9
DIVS				*e*Sg	Sg	10 27 11.4	-0.7
DIVS	**Divibare**	**0.56**	**95**	*e*Pg	Pg	10 27 04.0	-0.9
DIVS				*e*Sg	Sg	10 27 11.4	-0.7
TRUS	**Trudelj**	**0.86**	**85**	*e*Pg	Pg	10 27 09.7	-0.9
TRUS	**Trudelj**	**0.86**	**85**	*e*Pg	Pg	10 27 09.7	-0.9
IVAS	**Ivanjica**	**0.89**	**130**	*e*Pg	Pg	10 27 10.8	-0.3
IVAS				*e*Sg	Sg	10 27 22.4	-0.2
IVAS	**Ivanjica**	**0.89**	**130**	*e*Pg	Pg	10 27 10.8	-0.3
IVAS				*e*Sg	Sg	10 27 22.4	-0.2
SJES	**Sjenica**	**1.04**	**148**	*e*Pg	Pg	10 27 13.9	-0.3
SJES				*e*Sg	Sg	10 27 26.2	-1.5
GRUS	**Gruza**	**1.11**	**103**	*e*Pg	Pb	10 27 16.1	-0.2
GRUS	**Gruza**	**1.11**	**103**	*e*Pg	Pb	10 27 16.1	-0.2
TREB	**Trebinje**	**1.57**	**204**	*e*Sg	Sn	10 27 43.4	-0.9
TREB	**Trebinje**	**1.57**	**204**	*e*Sg	Sn	10 27 43.4	-0.9

GUC 20 10:26:57.3±0.4, 23°.72S×67°.25W, h244km±8km, ML3.9, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.88**	**306**	*i* S	S	10 28 12.6	+1.5
PB06	**IPOC Station P**	**2.36**	**295**	⇑*i*P	Pn	10 27 44.9	+2.0
PB06				*i* S	S	10 28 21.0	+2.2
PB06				IAML		10 28 23.0	
	comp=N,182nm,0.2s						
PB09	**IPOC Station P**	**2.65**	**316**	⇑*i*P	Pn	10 27 48.2	+2.2
PB09				*i* S	S	10 28 26.5	+2.2
PB04	**IPOC Station P**	**3.00**	**297**	⇓*i*P	Pn	10 27 52.1	+2.4
PB04				*i* S	S	10 28 33.6	+2.6
PB04				IAML		10 28 39.6	
	comp=N,138nm,0.4s						
PB14	**IPOC Station P**	**3.01**	**252**	⇑*i*P	Pn	10 27 50.8	+0.9
PB14				*i* S	S	10 28 32.9	+1.5
PB14				IAML		10 28 34.4	
	comp=E,160nm,0.4s						
PB10	**IPOC Station P**	**3.03**	**273**	⇑*i*P	Pn	10 27 51.8	+2.0
PB10				*i* S	S	10 28 33.2	+2.0
PB10				IAML		10 28 35.5	
	comp=E,197nm,0.5s						
PB07	**IPOC Station P**	**3.14**	**309**	⇑*i*P	Pn	10 27 53.2	+2.1
PB07				*i* S	S	10 28 35.9	+2.2
PB07				IAML		10 28 37.2	
	comp=E,91nm,0.8s						
PB01	**IPOC Station P**	**3.37**	**322**	⇓*i*P	Pn	10 27 55.5	+1.8
PB01				*i* S	S	10 28 40.5	+2.2
PB01				IAML		10 28 42.9	
	comp=E,54nm,0.3s						

WEL 20 10:27:09.8±0.7, 36°.27S×177°.36E, h190km±6km, ML3.5/22, 2D, Error ellipse: s-maj=7.8km s-min=7.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.50**	**150**	PN	Pn	10 27 42.7	+0.2
HAZ	**Te Kaha**	**1.53**	**167**	PN	Pn	10 27 42.9	+0.2
HAZ				SN	Sn	10 28 08.2	-0.3
RUGZ	**Raukumara Rang**	**1.72**	**172**	PN	Pn	10 27 44.6	-0.2
PKGZ	**Pakihiroa**	**1.72**	**161**	PN	Pn	10 27 45.0	+0.4
WMGZ	**Waiomatatini S**	**1.77**	**152**	PN	Pn	10 27 44.9	-0.1
WMGZ				SN	Sn	10 28 12.4	-0.2
WMGZ				AML	AML	10 28 13.1	
PUZ	**Puketiti**	**1.94**	**159**	PN	Pn	10 27 46.6	-0.3
TWGZ	**Tauwhareparae**	**1.97**	**166**	PN	Pn	10 27 47.9	+0.6
TWGZ				AML	AML	10 28 19.8	
TWGZ				AML	AML	10 28 21.0	
URZ	**Urewera**	**2.00**	**186**	PN	Pn	10 27 48.2	+0.7
MWZ	**Matawai**	**2.07**	**176**	PN	Pn	10 27 48.6	+0.4
TKGZ	**Te Karaka**	**2.21**	**170**	PN	Pn	10 27 49.7	+0.1
TKGZ				AML	AML	10 28 24.3	
RAGZ	**Rawiri**	**2.23**	**179**	PN	Pn	10 27 50.7	+0.6
CNGZ	**Carnagh Statio**	**2.32**	**163**	PN	Pn	10 27 50.9	0.0
RTZ	**Ruatahuna**	**2.37**	**187**	⇓PN	Pn	10 27 51.7	+0.2
RIGZ	**Rimuhau**	**2.46**	**173**	PN	Pn	10 27 52.4	-0.2
SNGZ	**Shannon Statio**	**2.51**	**180**	PN	Pn	10 27 53.2	+0.1
MRHZ	**Matea Rd**	**2.67**	**196**	PN	Pn	10 27 55.4	+0.4
KNZ	**Kokohu**	**2.76**	**175**	PN	Pn	10 27 55.2	-0.8
BKZ	**Black Stump Fm**	**2.98**	**193**	⇓PN	Pn	10 27 58.4	-0.2
ARHZ	**Aropaoanui**	**3.01**	**185**	PN	Pn	10 27 58.8	-0.1
KRHZ	**Kereru**	**3.46**	**193**	PN	Pn	10 28 03.6	-0.9
KAHZ	**Kahuranaki**	**3.54**	**186**	PN	Pn	10 28 04.7	-0.8
PXZ	**Pawanui**	**3.78**	**186**	PN	Pn	10 28 06.7	-1.7
TSZ	**Takapari Road**	**3.94**	**196**	PN	Pn	10 28 08.9	-1.5
BFZ	**Birch Farm**	**4.50**	**191**	PN	Pn	10 28 15.1	-2.3
MRZ	**Mangatainoka R**	**4.61**	**197**	PN	Pn	10 28 16.4	-2.4
OGWZ	**Otaki Gorge**	**4.86**	**200**	PN	Pn	10 28 19.5	-2.5
KIW	**Kapiti Island**	**4.97**	**202**	PN	Pn	10 28 21.0	-2.5
CAW	**Cannon Point**	**5.16**	**200**	PN	Pn	10 28 22.7	-3.2

*DDA **20** 10:47:09.7, 38°.94N×31°.09E, h7km, Md2.7*
*ISCJB **20** 10:47:10.3±0.6, 38°.91N±0°.02×31°.13E±0°.03, h1km±5km, Error ellipse: s-maj=4.9km s-min=3.1km az=135.9*
*CSEM **20** 10:47:10.4±0.2, 38°.88N×31°.12E, h2km, MD2.7, Error ellipse: s-maj=5.5km s-min=3.4km az=42.0*
*ISK **20** 10:47:10.2, 38°.84N×31°.13E, h8km, ML2.3*
ISC 20 10:47:10.6±0.9, 38°.90N±0°.02×31°.11E±0°.02, h11km±8km, n38, σ0§74/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.22**	**215**	*i* P	**Pg**	**10 47 15.6**	**+0.3**
BOLV				*i* S	**Sg**	**10 47 18.8**	**+0.3**
BOLV	**Bolvadin**	**0.22**	**215**	P	**Pg**	**10 47 15.6**	**+0.3**
BOLV				S	**Sg**	**10 47 18.8**	**+0.3**
SHUT	**Suhut-Afyon**	**0.56**	**232**	*e*PG	**Pg**	**10 47 21.1**	**-0.4**
SHUT				*e*SG	**Sg**	**10 47 29.2**	**+0.3**
SHUT	**Suhut-Afyon**	**0.56**	**232**	*e*Pg	**Pg**	**10 47 21.1**	**-0.4**
SHUT				*e*Sg	**Sg**	**10 47 29.2**	**+0.3**
ESKT	**Eskisehir**	**0.65**	**342**	*i* P	**Pg**	**10 47 22.1**	**-1.1**
ESKT				*i* S	**Sg**	**10 47 31.2**	**-0.7**
SEYT	**Eskypehyr**	**0.65**	**342**	P	**Pg**	**10 47 22.1**	**-1.1**
SEYT				S	**Sg**	**10 47 31.2**	**-0.7**
KDHN	**Kadinhani**	**0.87**	**115**	*i* P	**Pg**	**10 47 27.0**	**-0.4**
KDHN				*i* S	**Sb**	**10 47 39.8**	**+0.3**
KDHN	**Kadinhani**	**0.87**	**115**	P	**Pg**	**10 47 27.0**	**-0.4**
KDHN				S	**Sb**	**10 47 39.8**	**+0.3**
DOGA	**KONYA_Doganhis**	**0.91**	**151**	*i* P	**Pg**	**10 47 27.4**	**-0.6**
DOGA				*i* S	**Sn**	**10 47 41.9**	**-0.6**
DOGA	**KONYA_Doganhis**	**0.91**	**151**	P	**Pg**	**10 47 27.4**	**-0.6**
BAGO	**Egridir - ISPA**	**0.94**	**196**	*i* P	**Pn**	**10 47 29.6**	**-0.2**
BAGO				*i* S	**Sn**	**10 47 42.6**	**-0.8**
LADK	**Ladik-KONYA**	**1.21**	**125**	*e*PN	**Pg**	**10 47 32.9**	**-0.8**
LADK				*e*SN	**Sn**	**10 47 49.5**	**-0.4**
LADK	**Ladik-KONYA**	**1.21**	**125**	*e*Pn	**Pg**	**10 47 32.9**	**-0.8**
LADK				*e*Sn	**Sn**	**10 47 49.5**	**-0.4**
GDZ	**Gediz**	**1.28**	**279**	*i* P	**Pn**	**10 47 33.5**	**-1.1**
GDZ				*i* S	**Sg**	**10 47 51.4**	**-0.6**
GDZ	**Gediz**	**1.28**	**279**	P	**Pn**	**10 47 33.5**	**-1.1**
GDZ				S	**Sg**	**10 47 51.4**	**-0.6**
KONT	**Konya--Tatoy**	**1.37**	**134**	*e*PN	**Pg**	**10 47 36.3**	**-0.5**
KONT				*e*SN	**Sg**	**10 47 53.7**	**-0.9**
KONT	**Konya--Tatoy**	**1.37**	**134**	*i* P	**Pg**	**10 47 36.2**	**-0.7**
KONT				*i* S	**Sn**	**10 47 56.1**	**+2.3**
KONT	**Konya--Tatoy**	**1.37**	**134**	*e*Pn	**Pg**	**10 47 36.3**	**-0.5**
KONT

PB09	IPOC Station P	1.62	293	⇑*i*P	Pn	11 05 06.7	+1.4
PB09				*i*S	Sn	11 05 31.4	0.0
PB09				IAML		11 05 35.6	
	comp=E,942nm,0.2s						
PB06	IPOC Station P	1.81	261	*e*P	Pn	11 05 08.0	+0.9
PB06				*i*S	Sn	11 05 34.7	-0.1
PB06				IAML		11 05 36.0	
	comp=E,157nm,0.3s						
YJA	Yavi	1.98	83	*e*P	Pn	11 05 10.0	+0.8
YJA				*e*P	Pn	11 05 10.6	+1.4
YJA				*e*S	Sn	11 05 36.4	-2.0
YJA				*e*S	Sn	11 05 36.8	-1.7
HJA	Humahuaca	2.20	111	*e*P	Pn	11 05 12.4	+0.9
HJA				IAML		11 05 13.7	
	comp=Z,136nm,0.4s						
PB07	IPOC Station P	2.20	288	⇑*i*P	Pn	11 05 12.3	+1.0
PB07				*i*S	Sn	11 05 41.1	-1.1
PB07				IAML		11 05 41.9	
	comp=N,435nm,0.3s						
PB01	IPOC Station P	2.20	308	⇑*i*P	Pn	11 05 12.2	+0.9
PB01				*i*S	Sn	11 05 41.6	-0.6
PB01				IAML		11 05 43.6	
	comp=E,538nm,0.3s						
PB04	IPOC Station P	2.33	272	⇑*i*P	Pn	11 05 13.5	+0.8
PB04				*i*S	Sn	11 05 43.4	-1.4
PB04				IAML		11 05 49.2	
	comp=E,170nm,0.2s						
PB08	IPOC Station P	2.68	328	⇑*i*P	Pn	11 05 19.1	+2.0
PB08				*i*S	Sn	11 05 53.3	+0.8
PB08				IAML		11 05 54.6	
	comp=E,168nm,0.2s						
PB10	IPOC Station P	2.90	248	⇑*i*P	Pn	11 05 19.7	+0.5
PB10				*i*S	Sn	11 05 55.5	-0.9
HMBC	Humberstone	3.00	315	*e*P	Pn	11 05 20.6	+0.1
HMBC				*i*S	Sn	11 05 57.4	-1.3
HMBC				IAML		11 06 02.7	
	comp=E,312nm,0.4s						
SLA	San Lorenzo	3.01	140	*e*P	Pn	11 05 21.8	+1.1
SLA				IAML		11 05 22.4	
	comp=Z,22nm,0.4s						
PSGC	Pisagua	3.65	320	*e*P	Pn	11 05 28.1	-0.5
PSGC				*e*S	Sn	11 06 10.4	-2.7
MNMC	Minye Minye	3.76	330	*e*P	Pn	11 05 31.1	+1.0
MNMC				*e*S	Sn	11 06 15.6	-0.2
MNMC				IAML		11 06 18.9	
	comp=N,288nm,0.5s						

*IDC **20** 11:12:52.0±1.2, 52°.09N×171°.47W, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.8/48, mbtmp4.0/13, ML3.5/3, Error ellipse: s-maj=33.1km s-min=17.6km az=172.0*
*ISCJB **20** 11:12:57.0±0.7, 51°.79N±0°.10×171°.46W±0°.06, h44km, mb4.0/11, Error ellipse: s-maj=14.5km s-min=3.7km az=166.7*
*NEIC **20** 11:12:58.3±0.0, 52°.00N×171°.49W, h49km, ML3.7(AEIC), After AEIC.*
ISC 20 11:12:58.1±0.8, 51°.9N±0°.1×171°.53W±0°.05, h44km, n36, σ1°.56/35, mb4.0/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.61	286	P	Pn	11 13 25.8	+1.6
KOFP	Korovin Flat P	1.63	284	P	Pn	11 13 25.6	+1.3
KONE	Korovin Northe	1.67	287	P	Pn	11 13 26.3	+1.4
ATKA	Atka Island	1.67	281	P	Pn	11 13 25.0	+0.2
ATKA				S	Sn	11 13 45.7	+0.6
KOKL	Mount Kliuchef	1.70	285	P	Pn	11 13 26.9	+1.6
OKSO	Okmok South	2.50	54	P	Pn	11 13 37.6	+1.3
OKSO				S	Sn	11 14 08.2	+2.5
OKCE	Okmok Cone E	2.54	52	P	Pn	11 13 39.2	+2.3
OKCE				S	Sn	11 14 08.5	+1.9
OKTU	Okmok Mt. Tuli	2.58	54	P	Pn	11 13 38.8	+1.4
GSTD	Great Sitkin T	2.86	275	P	Pn	11 13 42.4	+1.1
GSTD				S	Sn	11 14 17.0	+2.6
ETKA	Kagalaska Isla	3.02	271	P	Pn	11 13 44.7	+1.2
ADAG	Mount Adagdak	3.14	273	P	Pn	11 13 47.2	+2.2
ADK	Adak	3.20	271	P	Pn	11 13 46.5	+0.7
ADK				S	Sn	11 14 24.1	+1.5
MSW	Makushin Switc	3.50	53	P	Pn	11 13 52.2	+2.2
UNV	Unalaska Valle	3.60	56	P	Pn	11 13 51.9	+0.6
TAFP	Tanaga Falls P	4.00	272	P	Pn	11 13 58.2	+1.4
SPIA	Saint Paul Isl	5.32	8	P	Pn	11 14 16.2	+1.4
KDAK	Kodiak Island	12.37	54	Pn	Pn	11 15 49.3	-2.0
	0.2nm,0.3s,baz=252,slow=9.6,SNR=3.7						
ILAR	Eielson Array	18.08	35	P	Pn	11 17 02.9	-2.7
	0.2nm,0.3s,baz=229,slow=9.3,SNR=14						
PETK	Petropavlovsk-	18.70	286	P	P	11 17 13.1	+0.6
	0.2nm,0.3s,baz=81,slow=14,SNR=6.2						
DLBC	Dease Lake	24.25	58	P	P	11 18 12.5	+1.8
	2.8nm,0.5s,baz=262,slow=8.8,SNR=15						
INK	Inuvik	24.45	34	P	P	11 18 10.9	-1.4
	2.4nm,0.5s,baz=238,slow=6.0,SNR=15						
YKA	Yellowknife Ar	31.53	48	P	P	11 19 15.0	-0.6
	0.6nm,0.4s,baz=274,slow=9.1,SNR=7.6						
H11N2	WAKE ISLAND Hy	36.29	216	T	T	11 58 29.5	
	baz=21,slow=76,SNR=30						
H11N3	WAKE ISLAND Hy	36.30	216	T	T	11 58 30.2	
	baz=21,slow=76,SNR=25						
H11N1	WAKE ISLAND Hy	36.31	216	T	T	11 58 32.6	
	baz=21,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	37.49	215	T	T	12 00 02.2	
	baz=21,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	37.50	215	T	T	12 00 03.9	
	baz=21,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	37.51	215	T	T	11 59 59.6	
	baz=21,slow=76,SNR=12						
PDAR	Pinedale Array	41.80	77	P	P	11 20 43.2	-0.2
	0.4nm,0.6s,baz=328,slow=3.2,SNR=4.1						
SPITS	Spitsbergen Ar	50.07	358	P	P	11 21 47.2	-0.6
	19nm,1.1s,baz=355,slow=8.6,SNR=5.1						
TXAR	Lajitas Array	54.09	87	P	P	11 22 18.2	-0.2
	0.6nm,1.0s,baz=298,slow=5.1,SNR=5.9						
MKAR	Makanchi Array	63.13	312	P	P	11 23 19.8	-1.3
	0.3nm,0.3s,baz=35,slow=5.3,SNR=2.7						
BVAR	Borovoye Array	63.28	323	P	P	11 23 20.8	-1.1
	1.6nm,0.5s,baz=73,slow=4.5,SNR=9.1						
AKTO	Aktyubinsk	69.72	329	P	P	11 24 02.1	-0.9
	1.9nm,0.6s,baz=59,slow=7.8,SNR=7.2						
CMAR	Chiang Mai Arr	75.41	281	P	P	11 24 38.8	+1.5
	0.7nm,0.3s,baz=24,slow=6.9,SNR=3.1						
ASAR	Alice Springs	89.10	228	P	P	11 25 48.6	+0.1
	0.3nm,0.7s,baz=28,slow=4.4,SNR=3.2						

*ISK **20** 11:27:55.6, 36°.31N×33°.54E, h17km, MD2.2*
*ISCJB **20** 11:27:56.4±0.5, 36°.30N±0°.04×33°.53E±0°.03, h13km±5km, Error ellipse: s-maj=6.8km s-min=3.6km az=165.3*
*DDA **20** 11:27:56.9, 36°.35N×33°.53E, h7km, Md2.7*
*CSEM **20** 11:27:56.2±0.1, 36°.31N×33°.53E, h15km, MD2.2, Error ellipse: s-maj=2.6km s-min=1.9km az=161.0*
ISC 20 11:27:56.1±0.8, 36°.31N±0°.03×33°.52E±0°.02, h15km±5km, n37, σ0°.34/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPE	Tepekoy-Mersin	0.10	161	*e*PG	Pg	11 27 59.0	-0.4
TEPE	Tepekoy-Mersin	0.10	161	*e*Pg	Pg	11 27 59.0	-0.4
OREN	Orenkoy-Mersin	0.12	206	*e*PG	Pg	11 27 59.6	0.0
OREN	Orenkoy-Mersin	0.12	206	*e*Pg	Pg	11 27 59.6	0.0
TEVE	Tevekalti-Mers	0.14	333	*e*PG	Pg	11 27 59.3	-0.7
TEVE	Tevekalti-Mers	0.14	333	*e*Pg	Pg	11 27 59.3	-0.7
IKL	Isikli	0.15	119	*e*PG	Pg	11 28 00.2	+0.1
IKL				*e*SG	Sg	11 28 02.9	+0.3
IKL	Isikli	0.15	119	*e*Pg	Pg	11 28 00.2	+0.1
IKL				*e*Sg	Sg	11 28 02.9	+0.3
YESI	Yesilovacik-Me	0.15	140	*e*PG	Pb	11 28 00.4	-0.3
YESI				*e*SG	Sg	11 28 02.9	+0.3
YESI	Yesilovacik-Me	0.15	140	*e*Pg	Pb	11 28 00.4	-0.3
YESI				*e*Sg	Sg	11 28 02.9	+0.3
AKKU	Akkuyu-Mersin	0.15	171	*e*PG	Pb	11 28 00.6	-0.2
AKKU	Akkuyu-Mersin	0.15	171	*e*Pg	Pb	11 28 00.6	-0.2
AKK1	Akkuyu-Mersin	0.17	175	*e*PG	Pg	11 28 00.2	-0.1
AKK1	Akkuyu-Mersin	0.17	175	*e*Pg	Pg	11 28 00.2	-0.1
AKK2	Akkuyu-Mersin	0.18	173	*e*PG	Pg	11 28 00.1	-0.3
AKK2	Akkuyu-Mersin	0.18	173	*e*Pg	Pg	11 28 00.1	-0.3
KEBE	Keben-Mersin	0.20	49	*e*PG	Pg	11 28 00.9	0.0
KEBE	Keben-Mersin	0.20	49	*e*Pg	Pg	11 28 00.9	0.0
BERE	Bereket-Mersin	0.24	278	*e*PG	Pb	11 28 02.2	-0.2
BERE				*e*SG	Sg	11 28 06.1	+0.8
BERE	Bereket-Mersin	0.24	278	*e*Pg	Pb	11 28 02.2	-0.2
BERE				*e*Sg	Sg	11 28 06.1	+0.8
SILI	Silifke-Mersin	0.33	80	*e*PG	Pg	11 28 02.7	-0.3
SILI				*e*SG	Sg	11 28 07.8	+0.2
SILI	Silifke-Mersin	0.33	80	*e*Pg	Pg	11 28 02.7	-0.3
SILI				*e*Sg	Sg	11 28 07.8	+0.2
SLFK	Silifke-Mersin	0.35	77	*e*PG	Pg	11 28 02.9	-0.5
SLFK				*e*SG	Sg	11 28 08.4	+0.1
SLFK	Silifke-Mersin	0.35	77	*e*Pg	Pg	11 28 02.9	-0.5
SLFK				*e*Sg	Sg	11 28 08.4	+0.1
TEKE	Tekeli-Mersin	0.37	243	*e*PG	Pb	11 28 04.3	-0.1
TEKE				*e*SG	Sb	11 28 09.9	0.0
TEKE	Tekeli-Mersin	0.37	243	*e*Pg	Pb	11 28 04.3	-0.1
TEKE				*e*Sg	Sb	11 28 10.0	0.0
BOZY	Bozyazi-Mersin	0.49	245	*e*PG	Pg	11 28 05.5	-0.3
BOZY	Bozyazi-Mersin	0.49	245	*e*Pg	Pg	11 28 05.5	-0.3
KIZK	Mersin	0.53	71	*e*PG	Pg	11 28 06.6	0.0
KIZK	Mersin	0.53	71	*i*P	Pg	11 28 06.8	+0.2
KIZK				*i*S	Sb	11 28 14.9	+0.3
KIZK	Mersin	0.53	71	P	Pg	11 28 06.8	+0.2
KIZK				S	Sb	11 28 14.9	+0.3
ERMK	Ermenek	0.59	304	*i*P	Pb	11 28 08.3	0.0
ERMK	Ermenek	0.59	304	P	Pb	11 28 08.3	0.0
KERG	Konya-Eregli	1.20	24	*i*P	Pn	11 28 18.4	-0.2
KERG				*i*S	Sg	11 28 35.7	+0.6
KERG	Konya-Eregli	1.20	24	P	Pn	11 28 18.4	-0.2
KERG				S	Sg	11 28 35.7	+0.6
LEF	Lefka	1.30	204	*e*PN	Pn	11 28 19.7	0.0
LEF	Lefka	1.30	204	*e*Pn	Pn	11 28 19.7	0.0

*ISCJB **20** 11:33:06.3±0.7, 39°.46N±0°.03×30°.09E±0°.04, h0km±5km, Error ellipse: s-maj=6.1km s-min=4.6km az=44.2*
*CSEM **20** 11:33:06.4±0.2, 39°.43N×30°.06E, h4km±2km, ML2.2, Error ellipse: s-maj=4.8km s-min=3.8km az=143.0*
*DDA **20** 11:33:06.0, 39°.54N×30°.08E, h7km, Md2.7*
*ISK **20** 11:33:06.6, 39°.45N×30°.03E, h8km, ML2.2*
ISC 20 11:33:06.1±1.2, 39°.44N±0°.03×30°.07E±0°.03, h3km±11km, n40, σ0°.64/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.47	271	*e*PG	Pg	11 33 15.3	+0.1
TVSB				*e*SG	Sg	11 33 22.4	+1.1
TVSB	Tavsanli	0.47	271	*e*Pg	Pg	11 33 15.3	+0.1
TVSB				*e*Sg	Sg	11 33 22.5	+1.1
GDZ	Gediz	0.58	233	*i*P	Pg	11 33 15.2	-2.0
GDZ				*i*S	Sb	11 33 27.3	-0.2
GDZ	Gediz	0.58	233	P	Pg	11 33 15.2	-2.0
GDZ				S	Sb	11 33 27.3	-0.2
ESKT	Eskisehir	0.61	82	*i*P	Pg	11 33 17.3	-0.4
SEYT	Eskypehyr	0.61	82	P	Pg	11 33 17.3	-0.4
CAVI	Cavuskoy	0.78	347	*e*PG	Pb	11 33 21.9	-0.5
CAVI				*e*SG	Sb	11 33 32.7	-0.7
CAVI	Cavuskoy	0.78	347	*e*Pg	Pb	11 33 21.9	-0.5
CAVI				*e*Sg	Sb	11 33 32.7	-0.7
GPA	Golpazari	0.87	12	*e*PG	Pb	11 33 23.4	-0.4
GPA	Golpazari	0.87	12	*e*Pg	Pb	11 33 23.4	-0.4
SIMA	Simav-Kutahya	0.92	248	*e*PG	Pg	11 33 24.2	+0.5
SIMA	Simav-Kutahya	0.92	248	*e*Pg	Pg	11 33 24.2	+0.5
BOLV	Bolvadin	0.99	136	*i*P	Pn	11 33 27.2	+0.2
BOLV	Bolvadin	0.99	136	P	Pn	11 33 27.2	+0.2
ADVT	Abdulvahap	1.03	346	*e*PG	Pb	11 33 26.1	-0.4
ADVT	Abdulvahap	1.03	346	*e*Pg	Pb	11 33 26.1	-0.4
GULT	Gulveren	1.05	19	*e*PG	Pb	11 33 27.1	+0.2
GULT	Gulveren	1.05	19	*e*Pg	Pb	11 33 27.1	+0.2
SVRH	Sivrihisar-ESK	1.12	89	*e*PN	Pn	11 33 29.0	+0.2
SVRH	Sivrihisar-ESK	1.12	89	*e*Pn	Pn	11 33 29.0	+0.2
DEMI	Demirci	1.13	250	*i*P	Pb	11 33 28.2	0.0
DEMI				*i*S	Sn	11 33 45.6	+0.9
DEMI	Demirci	1.13	250	P	Pb	11 33 28.2	0.0
DEMI				S	Sn	11 33 45.7	+0.9
GEMT	Gemlik	1.21	326	*e*PN	Pn	11 33 30.1	+0.3
GEMT	Gemlik	1.21	326	*e*Pn	Pn	11 33 30.1	+0.3
YLV	Yalova	1.25	335	*e*PN	Pn	11 33 30.9	+0.4
YLV				*e*SN	Sn	11 33 47.6	-0.2
YLV	Yalova	1.25	335	*e*Pn	Pn	11 33 30.9	+0.4
YLV				*e*Sn	Sn	11 33 47.6	-0.2
MDUB	Mudurnu	1.34	40	*e*PN	Pg	11 33 32.4	+0.5
MDUB	Mudurnu	1.34	40	*e*Pn	Pg	11 33 32.4	+0.5
KULA	Kula-Manisa	1.44	230	*e*PN	Pb	11 33 33.5	0.0
KULA	Kula-Manisa	1.44	230	*e*Pn	Pb	11 33 33.5	0.0
ARMT	Armutlu	1.46	321	*e*PN	Pn	11 33 33.1	-0.3
ARMT				*e*SN	Sg	11 33 53.2	+0.2
ARMT	Armutlu	1.46	321	*e*Pn	Pn	11 33 33.1	-0.3
ARMT				*e*Sn	Sg	11 33 53.2	+0.2
KCTX	Karacabey (Bur	1.56	303	*e*PN	Pb	11 33 35.1	-0.5
KCTX	Karacabey (Bur	1.56	303	*e*Pn	Pb	11 33 35.1	-0.5
BUY	Buyukada	1.59	333	*e*PN	Pb	11 33 35.4	-0.7
BUY	Buyukada	1.59	333	*e*Pn	Pb	11 33 35.4	-0.7
SILT	Sile	1.74	349	*e*PN	Pb	11 33 37.8	-0.9
SILT	Sile	1.74	349	*e*Pn	Pb	11 33 37.8	-0.9
GONE	Gonen-Balikesi	1.94	289	*e*PN	Pn	11 33 40.1	+0.2
GONE	Gonen-Balikesi	1.94	289	*e*Pn	Pn	11 33 40.1	+0.2

*NIED **20** 11:53:00, 37°.10N×140°.70E, h8km, Mw3.6 Best double couple: M0=2.73000×10^14 NP1:φs70.00000°, δ40.00000°, λ-89.00000°. NP2:φs249.00000°, δ50.00000°, λ-91.00000°.*
*IDC **20** 11:53:48.2±1.0, 36°.94N×140°.70E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.6/49, mbtmp3.6/9, ML3.3/3, Error ellipse: s-maj=22.3km s-min=18.8km az=122.0*
*JMA **20** 11:53:49.6, 37°.04N×140°.64E, h9km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs253.00000°, δ60.00000°, λ-103.00000°. NP2: φs98.00000°, δ33.00000°, λ-69.00000°. Principal axes: T Plg14.0000°, Azm353.0000°; N Plg11.0000°, Azm260.0000°; P Plg72.0000°, Azm132.0000°;*
JMA Felt II J1.
ISC 20 11:53:48.6±1.2, 36°.99N±0°.04×140°.61E±0°.03, h1km±9km, n24, σ0°.74/29, mb3.6/5, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.19	52	⇑P	Pg	11 53 52.9	+0.6
ONAJ				S	Sg	11 53 55.1	+0.4
JHO	Hitachi	0.38	185	⇑P	Pb	11 53 57.8	-0.3
JHO				S	Sb	11 54 03.7	-0.7
JFK	Kawauchi	0.43	29	⇑P	Pg	11 53 56.9	-0.1
JFK				S	Sg	11 54 02.2	-0.4
JSB	Shiboa	0.56	268	⇑P	Pb	11 54 01.5	+0.3
JSB				S	Sb	11 54 09.7	+0.1
JFT	Otama	0.57	337	⇑P	Pg	11 54 00.1	+0.4
JFT				S	Sg	11 54 07.4	+0.2
JYT	Yasato	0.83	204	⇑P	Pb	11 54 06.0	+0.2
JYT				S	Sb	11 54 17.2	-0.2
JFY	Yanaizu	0.84	300	⇑P	Pb	11 54 05.4	-0.6
JFY				S	Sg	11 54 16.1	+0.5
JMM	Marumori	0.89	9	⇑P	Pg	11 54 04.9	-0.8
JMM				S	Sg	11 54 15.6	-1.7
MJAR	Matsushiro Arr	1.98	258	Pn	Pb	11 54 24.4	-1.1
	17nm,0.3s,baz=82,slow=16,SNR=82						
MJAR				Sn	Sg	11 54 51.8	-0.5
	28nm,0.3s,baz=93,slow=25,SNR=23						
MAT	Matsushiro	1.98	258	P	Pb	11 54 24.7	-0.8
MAT				S	Sg	11 54 52.2	-0.1
ASAJ	Asahikawa	7.28	11	Pn	Pn	11 55 36.9	+0.9
	0.8nm,0.3s,baz=214,slow=12,SNR=4.7						
ASAJ				Sn	Sn	11 57 00.0	+0.7
	0.3nm,0.3s,baz=111,slow=17,SNR=2.5						
USRK	Ussuriysk Ar.	9.74	320	Pn	Pn	11 56 10.6	+0.8
	0.2nm,0.3s,baz=123,slow=10,SNR=2.6						
KSRS	Korea Array	10.13	276	Pn	Pn	11 56 16.6	+1.4
	0.1nm,0.3s,baz=93,slow=14,SNR=2.7						
H11N2	WAKE ISLAND Hy	28.68	120	T	T	12 29 33.2	
	baz=312,slow=75,SNR=53						
H11N1	WAKE ISLAND Hy	28.68	120	T	T	12 29 33.8	
	baz=312,slow=75,SNR=56						
H11N3	WAKE ISLAND Hy	28.70	120	T	T	12 29 36.3	
	baz=312,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy	29.38	122	T	T	12 30 25.0	
	baz=314,slow=76,SNR=83						
H11S3	WAKE ISLAND Hy	29.38	122	T	T	12 30 24.2	
	baz=314,slow=76,SNR=57						
H11S2	WAKE ISLAND Hy	29.39	122	T	T	12 30 29.6	
	baz=314,slow=76,SNR=56						
MKAR	Makanchi Array	43.60	302	P	P	12 01 53.6	-0.7
	0.4nm,0.4s,baz=90,slow=9.5,SNR=5.3						
ILAR	Eielson Array	49.88	32	P	P	12 02 42.8	-0.4
	0.6nm,1.0s,baz=260,slow=6.3,SNR=4.3						
WRA	Warramunga Arr	56.93	187	P	P	12 03 34.4	-1.0
	0.9nm,0.5s,baz=3.5,slow=7.4,SNR=15						
ASAR	Alice Springs	60.66	187	P	P	12 04 01.0	-0.3
	0.5nm,0.8s,baz=3.0,slow=5.9,SNR=6.2						
TXAR	Lajitas Array	90.66	52	P	P	12 06 53.7	+0.5
	0.3nm,0.8s,baz=306,slow=3.0,SNR=2.7						

*SJA **20** 12:05:29.7±0.9, 32°.55S×69°.77W, h113km±5km, ML2.7, MW3.2*
*ISCJB **20** 12:05:30.1±1.0, 32°.58S±0°.05×69°.74W±0°.05, h119km±8km, Error ellipse: s-maj=9.8km s-min=4.9km az=146.3*
*GUC **20** 12:05:30.2±0.4, 32°.28S×69°.73W, h78km±44km, ML2.7*
ISC 20 12:05:29.8±2.1, 32°.58S±0°.06×69°.75W±0°.05, h122km±15km, n17, σ0°.61/27, 2C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.47	41	*e*P	Pn	12 05 48.2	0.0
AUSP				*e*S	Sn	12 06 01.1	-0.8
ARCO	CERRO ARCO	0.74	111	*e*P	Pn	12 05 50.1	+0.2
ARCO				IAML		12 05 50.4	
	comp=Z,459nm,0.5s						
ARCO				*e*S	Sn	12 06 05.0	0.0
ASAL	Salagasta	0.77	91	*e*P	Pn	12 05 50.1	+0.1
ASAL				*e*S	Sn	12 06 05.2	-0.1
RTLS	Leoncito	0.86	26	*e*P	Pn	12 05 51.7	+0.6
RTLS				*e*S	Sn	12 06 07.5	+0.4
RTLS				IAML		12 06 09.5	
	comp=Z,216nm,0.5s						
FCH	Farellones	0.88	211	⇓*i*P	Pn	12 05 51.7	+0.5
FCH				IAML		12 06 08.6	
	comp=E,210nm,0.2s						
AAGR	Agrelo	0.93	123	*i*P	Pn	12 05 51.8	+0.4
AAGR				*e*S	Sn	12 06 08.1	+0.3
PEL	Peldehue	0.97	234	⇑*i*P	Pn	12 05 51.6	-0.1
PEL				*i*S	Sn	12 06 07.9	-0.5
PEL				IAML		12 06 09.5	
	comp=E,130nm,0.4s						
CLCH	Cerro Calan	1.05	219	*e*P	Pn	12 05 53.4	+0.8
CLCH				*i*S	Sn	12 06 10.6	+0.7
CLCH				IAML		12 06 11.5	
	comp=N,229nm,0.5s						
ROCH	El Roble	1.14	249	⇑*i*P	Pn	12 05 53.5	-0.1
ROCH				*i*S	Sn	12 06 11.1	-0.6
ROCH				IAML		12 06 13.2	
	comp=N,394nm,0.3s						
ROC1	El Roble	1.14	249	*e*P	Pn	12 05 53.5	-0.2
ROC1				*i*S	Sn	12 06 11.1	-0.6
RTCV	Cerro Valdivia	1.25	55	*e*P	Pn	12 05 54.6	0.0
RTCV				*e*S	Sn	12 06 12.8	-0.6
RTLL	Cerro Villicun	1.65	41	*e*P	Pn	12 05 59.7	+0.6
RTLL				*i*S	Sn	12 06 21.7	+0.2
RTLL				IAML		12 06 22.2	
	comp=Z,45nm,0.3s						
AMOG	MOGNA	1.95	34	*e*P	Pn	12 06 03.6	+0.8
AMOG				*e*S	Sn	12 06 27.6	-0.5
ACAN	Cantantal	2.19	83	*e*P	Pn	12 06 05.8	+0.1
ACAN				*e*S	Sn	12 06 31.5	-1.7
ACDV	Cuesta del Vie	2.46	13	*e*P	Pn	12 06 11.2	+1.9
AVFE	Valle Fertil	2.73	46	IAML		12 06 48.3	
	comp=Z,9.2nm,0.2s						
TCA	Tanti	4.55	76	IAML		12 07 43.5	
	comp=Z,5.8nm,0.5s						

*NNC **20** 12:09:46.4±1.6, 44°.66N×81°.98E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=24.1km s-min=4.8km az=116.0*
*SOME **20** 12:09:46.2, 44°.68N×82°.22E, h15km*
*ISCJB **20** 12:09:49.2±1.5, 44°.73N±0°.07×82°.3E±0°.1, h10km, Error ellipse: s-maj=15.8km s-min=5.3km az=33.9*
ISC 20 12:09:44.7±2.3, 44°.64N±0°.08×82°.3E±0°.1, h10km, n9, σ0°.92/17, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.85	261	*e*P	Pb	12 10 19.0	+0.3
DJR	12nm,0.2s						
				*e*S	Sb	12 10 42.2	+0.3
	15nm,0.3s						
MK31	Makanchi Array	2.16	359	Pn	Pb	12 10 23.6	-0.2
	6.0nm,0.3s,baz=182,slow=13,SNR=73						
MK31				⇓Sn	Sb	12 10 51.8	+1.2
	5.7nm,0.5s,baz=188,slow=30,SNR=15						
MAKZ	Makanchi	2.19	353	⇑Pn	Pb	12 10 23.8	-0.5
	3.5nm,0.5s						
MAKZ				⇓Sn	Sb	12 10 51.7	+0.2
	8.0nm,0.6s						
KAPS	Kapalarasan	2.22	288	*e*P	Pb	12 10 23.9	-1.0
	3.4nm,0.2s						
KAPS				*e*S	Sb	12 10 50.9	-1.5
	9.2nm,0.4s						
PDGK	Podgornoye	2.44	239	⇓Pg	Pb	12 10 26.7	-2.0
	1.0nm,0.3s						
PDGK				⇑Lg	Lg	12 10 59.2	
	6.5nm,0.5s						
UZB	Uzynbulak	2.83	239	*e*P	Pb	12 10 35.1	-0.2
	3

FETY	**Fethiye**	**0.90**	**75**	*e*PG	**Pg**	**12 15 08.5**	**-0.8**
FETY				*e*SG	**Sb**	**12 15 21.9**	**+0.2**
FETY	**Fethiye**	**0.90**	**75**	P	**Pg**	**12 15 07.0**	**-2.3**
FETY				S	**Sg**	**12 15 19.0**	**-2.1**
FETY	**Fethiye**	**0.90**	**75**	P	**Pg**	**12 15 07.7**	**-1.6**
FETY	**Fethiye**	**0.90**	**75**	*e*Pg	**Pg**	**12 15 08.5**	**-0.8**
FETY				S	**Sg**	**12 15 19.0**	**-2.1**
FETY				*e*Sg	**Sb**	**12 15 21.9**	**+0.2**
KARP	**Karpathos**	**1.10**	**218**	P	**Pg**	**12 15 12.8**	**-0.2**
KARP				S	**Sn**	**12 15 29.1**	**+0.7**
KARP	**Karpathos**	**1.10**	**218**	P	**Pg**	**12 15 12.8**	**-0.2**
KARP				S	**Sn**	**12 15 29.1**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.28**	**35**	*i* P	**Pg**	**12 15 16.9**	**+0.4**
TAVA				*i* S	**Sn**	**12 15 35.7**	**+2.6**
TAVA	**DENIZLI_Tavas**	**1.28**	**35**	P	**Pg**	**12 15 16.9**	**+0.4**
TAVA				S	**Sn**	**12 15 35.7**	**+2.6**
AKAS	**Kas**	**1.31**	**97**	*i* P	**Pg**	**12 15 17.5**	**+0.4**
AKAS	**Kas**	**1.31**	**97**	P	**Pg**	**12 15 17.5**	**+0.4**
GLHS	**Glhisar (BURDU**	**1.42**	**58**	*e*PN	**Pb**	**12 15 18.3**	**-0.1**
GLHS				*e*SN	**Sg**	**12 15 38.3**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.42**	**58**	*e*Pn	**Pb**	**12 15 18.3**	**-0.1**
GLHS				*e*Sn	**Sg**	**12 15 38.3**	**+0.8**
GOLH	**Golhisar**	**1.50**	**56**	*i* P	**Pg**	**12 15 21.3**	**+0.6**
GOLH				*i* S	**Sg**	**12 15 42.8**	**+2.6**
GOLH	**Golhisar**	**1.50**	**56**	P	**Pg**	**12 15 21.3**	**+0.6**
GOLH				S	**Sg**	**12 15 42.8**	**+2.6**
ELL	**Elmali**	**1.57**	**77**	*e*PN	**Pb**	**12 15 20.9**	**-0.2**
ELL	**Elmali**	**1.57**	**77**	*e*Pn	**Pb**	**12 15 20.9**	**-0.2**
URLA	**Izmir**	**2.24**	**331**	*i* P	**Pn**	**12 15 27.2**	**-1.8**
URLA	**Izmir**	**2.24**	**331**	P	**Pn**	**12 15 27.2**	**-1.8**

IDC 20 12:16:32.5±999.0, 47°.95N×50°.25E, h0km, Error ellipse: s-maj=4977.0km s-min=121.7km az=62.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.67**	**61**	*i*		12 47 40.0	
	baz=247,slow=321,SNR=31						
I46RU	**ZALESOVO INFRA**	**22.43**	**62**	*i*		14 34 42.1	
	baz=268,slow=325,SNR=10						
I34MN	**SONGINO INFRAS**	**36.95**	**69**	*i*		16 05 40.0	
	baz=290,slow=329,SNR=0.6						

NNC ***20*** *12:18:35.4±2.1, 44°.64N×81°.99E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=33.4km s-min=6.1km az=116.0*
SOME ***20*** *12:18:35.3, 44°.70N×82°.15E, h5km*
ISC 20 12:18:39.3±2.7, 44°.6N±0°.1×82°.4E±0°.1, h35km, n6, σ1°78/11, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.88**	**263**	*e*P	**Pn**	**12 19 07.7**	**-1.3**
	6.0nm,0.2s						
DJR				*e*S	**Sn**	**12 19 30.6**	**-0.9**
	5.0nm,0.4s						
MK31	**Makanchi Array**	**2.21**	**358**	⇑Pn	**Pn**	**12 19 13.2**	**-0.4**
	3.1nm,0.3s,baz=180,slow=15,SNR=48						
MK31				⇓Sn	**Sn**	**12 19 40.8**	**+1.0**
	1.4nm,0.3s,baz=184,slow=28,SNR=12						
MAKZ	**Makanchi**	**2.25**	**353**	⇑Pn	**Pn**	**12 19 13.2**	**-0.8**
	1.7nm,0.5s						
MAKZ				⇑Sn	**Sn**	**12 19 41.5**	**+1.0**
	3.4nm,0.4s						
KAPS	**Kapalarasan**	**2.27**	**289**	*e*P	**Pn**	**12 19 13.1**	**-1.2**
	1.1nm,0.2s						
KAPS				*e*S	**Sn**	**12 19 39.9**	**-1.1**
	3.2nm,0.3s						
PDGK	**Podgornoye**	**2.44**	**240**	⇓Pg	**Pn**	**12 19 15.4**	**-1.3**
	0.6nm,0.4s						
PDGK				⇑Lg	Lg	12 19 47.8	
	2.7nm,0.5s						
MNBS	**Baschi**	**2.91**	**261**	*e*P	**Pn**	**12 19 24.8**	**+1.7**
	1.9nm,0.2s						
MNBS				*e*S	**Sn**	**12 20 00.5**	**+3.6**
	6.7nm,0.2s						

ATH 20 12:22:14.1, 35°.04N×26°.61E, h32km±2km, ML1.8/1, Error ellipse: s-maj=10.1km s-min=1.5km az=339.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.33**	**282**	P	Pn	12 22 22.6	-0.1
ZKR				S	Sn	12 22 28.2	-0.2
ZKR				AML	AML	12 22 28.9	
	comp=E,624μm,0.2s						
ZKR				AML	AML	12 22 29.1	
	comp=N,189μm,0.4s						
KARP	**Karpathos**	**0.67**	**42**	P	Pb	12 22 28.2	+0.7
KARP				S	Sn	12 22 37.1	+0.3
LAST	**Lasithi**	**0.94**	**278**	P	Pb	12 22 31.7	-0.3
LAST				S	Sb	12 22 46.5	+2.3

DDA ***20*** *12:22:56.7, 38°.04N×31°.81E, h7km, Md2.8*
ISK ***20*** *12:22:56.1, 38°.15N×31°.79E, h6km, ML2.2*
ISCJB ***20*** *12:22:57.2±0.5, 38°.08N±0°.03×31°.83E±0°.03, h3km±5km, Error ellipse: s-maj=5.7km s-min=3.8km az=11.4*
CSEM ***20*** *12:22:57.2±0.3, 38°.09N×31°.82E, h2km, MD2.8, Error ellipse: s-maj=6.3km s-min=4.6km az=35.0*
ISC 20 12:22:56.7±0.8, 38°.08N±0°.03×31°.81E±0°.02, h13km±6km, n23, σ0°46/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOGA	**KONYA_Doganhis**	**0.12**	**285**	*i* P	**Pg**	**12 23 00.2**	**+0.2**
DOGA				*i* S	**Sg**	**12 23 02.2**	**-0.2**
DOGA	**KONYA_Doganhis**	**0.12**	**285**	P	**Pg**	**12 23 00.2**	**+0.2**
DOGA				S	**Sg**	**12 23 02.2**	**-0.2**
KONT	**Konya--Tatoy**	**0.45**	**107**	*e*PG	**Pg**	**12 23 06.0**	**+0.3**
KONT				*e*SG	**Sb**	**12 23 13.1**	**-0.2**
KONT	**Konya--Tatoy**	**0.45**	**107**	*i* P	**Pg**	**12 23 06.0**	**+0.3**
KONT				*i* S	**Sg**	**12 23 12.5**	**+0.7**
KONT	**Konya--Tatoy**	**0.45**	**107**	*e*Pg	**Pg**	**12 23 06.0**	**+0.3**
KONT				*e*Sg	**Sb**	**12 23 13.1**	**-0.2**
LADK	**Ladik-KONYA**	**0.45**	**74**	*e*PG	**Pg**	**12 23 05.5**	**-0.2**
LADK				*e*SG	**Sg**	**12 23 12.3**	**+0.5**
LADK	**Ladik-KONYA**	**0.45**	**74**	*e*Pg	**Pg**	**12 23 05.5**	**-0.2**
LADK				*e*Sg	**Sg**	**12 23 12.3**	**+0.5**
KDHN	**Kadinhani**	**0.51**	**28**	*i* P	**Pb**	**12 23 07.5**	**-0.1**
KDHN				*i* S	**Sb**	**12 23 15.4**	**+0.5**
KDHN	**Kadinhani**	**0.51**	**28**	P	**Pb**	**12 23 07.5**	**-0.1**
KDHN				S	**Sb**	**12 23 15.4**	**+0.5**
KMER	**Konya-Meram**	**0.54**	**125**	*i* P	**Pg**	**12 23 07.1**	**-0.2**
KMER				*i* S	**Sg**	**12 23 14.3**	**-0.1**
KMER	**Konya-Meram**	**0.54**	**125**	P	**Pg**	**12 23 07.1**	**-0.2**
KMER				S	**Sg**	**12 23 14.3**	**-0.1**
BAGO	**Egridir - ISPA**	**0.81**	**264**	*i* P	**Pg**	**12 23 12.4**	**-0.1**
BAGO				*i* S	**Sn**	**12 23 26.8**	**+0.8**
SUTC	**Sutluce-Ispart**	**0.88**	**227**	*e*PG	**Pb**	**12 23 14.1**	**+0.2**
BOLV	**Bolvadin**	**0.93**	**314**	*i* P	**Pg**	**12 23 14.6**	**-0.2**
BOLV				*i* S	**Sn**	**12 23 28.4**	**-0.6**
BOLV	**Bolvadin**	**0.93**	**314**	P	**Pg**	**12 23 14.6**	**-0.2**
BOLV				S	**Sn**	**12 23 28.4**	**-0.6**
CHBY	**Cihanbeyli**	**0.99**	**59**	*e*PG	**Pb**	**12 23 15.3**	**-0.5**
CHBY				*e*SG	**Sb**	**12 23 28.8**	**+0.1**
CHBY	**Cihanbeyli**	**0.99**	**59**	*e*Pg	**Pb**	**12 23 15.3**	**-0.5**
CHBY				*e*Sg	**Sb**	**12 23 28.8**	**+0.1**
SERE	**Sereflikochisa**	**1.63**	**57**	*e*PN	**Pn**	**12 23 25.4**	**+0.2**
SERE	**Sereflikochisa**	**1.63**	**57**	*e*Pn	**Pn**	**12 23 25.4**	**+0.2**
BERE	**Bereket-Mersin**	**2.06**	**146**	*e*PN	**Pb**	**12 23 33.1**	**-1.0**
BERE				*e*SN	**Sb**	**12 24 00.5**	**+0.8**
BERE	**Bereket-Mersin**	**2.06**	**146**	*e*Sn	**Sb**	**12 24 00.5**	**+0.8**
TEKE	**Tekeli-Mersin**	**2.19**	**151**	*e*PN	**Pb**	**12 23 35.5**	**-0.8**
TEKE	**Tekeli-Mersin**	**2.19**	**151**	*e*Pn	**Pb**	**12 23 35.5**	**-0.8**

IDC ***20*** *12:24:40.1±0.4, 28°.76N×98°.16W, h0km, mb4.7/37, mb1 4.7/43, mb1mx4.6/54, mbtmp4.6/43, ML4.5/5, MS4.1/36, Ms1 4.1/36, ms1mx4.0/57, Error ellipse: s-maj=11.8km s-min=8.7km az=12.0*
ISCJB ***20*** *12:24:41.0±0.2, 29°.07N±0°.02×98°.02W±0°.01, h10km, mb4.8/103, MS4.1/32, Error ellipse: s-maj=2.4km s-min=1.8km az=171.2*
MOS ***20*** *12:24:41.4±1.2, 28°.97N×98°.01W, h10km, mb4.9/20, MS4.2/4, Error ellipse: s-maj=6.2km s-min=4.5km az=103.1*
GCMT ***20*** *12:24:41.5±0.3, 29°.05N×98°.01W, h12km, MW4.8/84, Moment Tensor Solution. s19,c21; s84,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.61±.05; Mθθ1.05±.05; Mφφ0.56±.05; Mrθ0.58±.19; Mφφ0.61±.04; Mφr-0.45±.24; Best double couple: M0 1.67300×10^16 NP1:φs=255.00000°, δ52.00000°, λ-66.00000°. NP2: φs=39.00000°, δ44.00000°, λ-118.00000°. Principal axes: T 1.4810, Plg5.0000°, Azm328.0000°; N 0.3870, Plg19.0000°, Azm60.0000°; P -1.8660, Plg71.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *12:24:41.6±0.2, 28°.87N×98°.08W, h5km, mb4.7/96, MW4.8 Error ellipse: s-maj=3.7km s-min=2.7km az=193.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^16Nm; Mrr-1.05; Mθθ0.73; Mφφ0.32; Mrθ-1.14; Mφφ0.46; Mφr-0.91; Best double couple: M0 1.80000×10^16 NP1: φs=241.00000°, δ18.00000°, λ-82.00000°. NP2:φs=53.00000°, δ72.00000°, λ-93.00000°. Principal axes: T 1.7800, Plg27.0000°, Azm145.0000°; N 0.0300, Plg3.0000°, Azm53.0000°; P -1.8000, Plg63.0000°, Azm318.0000°;*
NEIC Felt [V] at Campbellton; [IV] at Falls City and Poth; [III] at Adkins, Beeville, Charlotte, Converse, Corpus Christi, Elmendorf, Floresville, Jourdanton, Karnes City, Kenedy, Marion, Mathis, Pleasanton, Poteet, San Antonio, Schertz, Stockdale, Three Rivers and Von Ormy. Felt widely in central and southern Texas, including Austin and Houston and as far as Irving, Kingsville and Menard.
ISC 20 12:24:42.5±0.9, 28°.85N±0°.03×98°.15W±0°.02, h14km±5km, n739, σ2°16/752, mb4.8/103, MS4.1/32, 7C-3D, Southern Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
735A	**Kenedy**	**0.30**	**89**	P	**Pg**	**12 24 48.8**	**+0.1**
	baz=272,SNR=636						
735A	**Kenedy**	**0.30**	**89**	*i* P	**Pg**	**12 24 49.1**	**+0.4**
735A				*i* S	**Sg**	**12 24 55.8**	**+2.9**
835A	**Beeville**	**0.62**	**153**	P	**Pb**	**12 24 55.3**	**+0.2**
	baz=339,SNR=1000						
835A	**Beeville**	**0.62**	**153**	*i* P	**Pb**	**12 24 55.3**	**+0.2**
736A	**Circle Diamond**	**0.95**	**83**	P	**Pn**	**12 25 02.1**	**+0.8**
	baz=264,SNR=799						
736A	**Circle Diamond**	**0.95**	**83**	*i* P	**Pn**	**12 25 02.2**	**+0.8**
736A				*i* S	**Sn**	**12 25 18.0**	**+3.2**
636A	**Smothers Creek**	**1.14**	**56**	P	**Pn**	**12 25 04.3**	**+0.2**
	baz=236,SNR=189						
833A	**Chaparral WMA,**	**1.21**	**245**	P	**Pg**	**12 25 03.4**	**-2.5**
	baz=65						
833A				S	**Sg**	**12 25 20.1**	**-1.6**
	baz=65						
833A	**Chaparral WMA,**	**1.21**	**245**	*i* P	**Pg**	**12 25 03.4**	**-2.5**
833A				*i* S	**Sg**	**12 25 20.1**	**-1.6**
934A	**Benavides**	**1.28**	**195**	P	**Pn**	**12 25 05.4**	**-0.6**
	baz=17,SNR=1000						
934A				S	**Sg**	**12 25 23.6**	**-0.4**
	baz=17						
934A	**Benavides**	**1.28**	**195**	*i* P	**Pn**	**12 25 06.2**	**+0.2**
934A				*i* S	**Sn**	**12 25 25.2**	**+2.2**
KVTX	**Kingsville**	**1.32**	**170**	*i* Pn	**Pn**	**12 25 06.1**	**-0.3**
737A	**Port Lavaca**	**1.50**	**93**	P	**Pb**	**12 25 08.8**	**-1.3**
	baz=274,SNR=22						
536A	**Bastrop**	**1.55**	**37**	P	**Pn**	**12 25 09.1**	**-0.5**
	baz=216,SNR=166						
536A	**Bastrop**	**1.55**	**37**	*i* P	**Pg**	**12 25 10.8**	**-1.4**
536A				*i* S	**Sg**	**12 25 33.7**	**+1.4**
933A	**Laredo**	**1.58**	**219**	P	**Pn**	**12 25 08.7**	**-1.4**
	baz=40						
936A	**North Padre Is**	**1.60**	**152**	P	**Pn**	**12 25 10.2**	**-0.1**
	baz=335,SNR=124						
637A	**Eagle Lake**	**1.69**	**69**	P	**Pb**	**12 25 12.1**	**-1.3**
	baz=250,SNR=10						
034A	**Hebbronville**	**1.84**	**195**	P	**Pn**	**12 25 13.0**	**-0.6**
	baz=16						
034A				S	**Sn**	**12 25 37.6**	**+1.0**
	baz=16						
035A	**Encino**	**1.90**	**179**	P	**Pn**	**12 25 13.7**	**-0.8**
	baz=0.6,SNR=24						
435B	**Jarrell**	**1.99**	**14**	P	**Pb**	**12 25 17.0**	**-1.4**
	baz=193,SNR=120						
537A	**Green Hill Far**	**2.02**	**52**	P	**Pn**	**12 25 16.4**	**+0.4**
	baz=232,SNR=35						
JCT	**Junction City**	**2.17**	**319**	P	**Pn**	**12 25 18.2**	**0.0**
	baz=137,SNR=1000						
JCT				S	**Sn**	**12 25 46.3**	**+1.3**
	baz=137						
JCT	**Junction City**	**2.17**	**319**	*i* P	**Pn**	**12 25 18.0**	**-0.2**
JCT	**Junction City**	**2.17**	**319**	*i* Pn	**Pn**	**12 25 18.0**	**-0.2**
738A	**Farr-Stevens R**	**2.19**	**90**	P	**Pn**	**12 25 18.5**	**0.0**
	baz=271						
436A	**Wall Ranch, Ga**	**2.25**	**31**	P	**Pn**	**12 25 19.9**	**+0.6**
	baz=211,SNR=39						
HKT	**Hockley**	**2.30**	**61**	*e*P	**Pn**	**12 25 19.4**	**-0.5**
HKT	**Hockley**	**2.30**	**61**	*e*Pn	**Pn**	**12 25 19.4**	**-0.5**
035Z	**Hargill**	**2.38**	**178**	P	**Pn**	**12 25 20.0**	**-1.0**
	baz=360						
638A	**Rosharon**	**2.43**	**76**	P	**Pn**	**12 25 21.1**	**-0.6**
	baz=257						
437A	**Phantom Ranch,**	**2.64**	**41**	P	**Pn**	**12 25 24.6**	**+0.1**
	baz=221,SNR=7.8						
538A	**Harpers Horsep**	**2.69**	**59**	P	**Pn**	**12 25 25.2**	**-0.1**
	baz=240,SNR=7.8						
336A	**Riesel**	**2.77**	**24**	P	**Pn**	**12 25 27.2**	**+0.8**
	baz=203,SNR=23						
438A	**Sam Houston St**	**3.00**	**50**	P	**Pn**	**12 25 29.2**	**-0.4**
	baz=231						
337A	**Centerville**	**3.15**	**38**	P	**Pn**	**12 25 32.0**	**+0.4**
	baz=218,SNR=39						
WHTX	**Lake Whitney,**	**3.19**	**11**	P	**Pn**	**12 25 32.8**	**+0.6**
	baz=190,SNR=283						
WHTX	**Lake Whitney,**	**3.19**	**11**	*e*Pn	**Pn**	**12 25 33.1**	**+0.9**
539A	**Cross D Ranch,**	**3.24**	**66**	P	**Pn**	**12 25 31.7**	**-1.2**
	baz=248						
539A				S	**Sn**	**12 26 12.9**	**+1.7**
	baz=248						
236A	**Katherine and**	**3.44**	**24**	P	**Pn**	**12 25 36.1**	**+0.5**
	baz=204,SNR=25						
338A	**Crockett**	**3.51**	**44**	P	**Pn**	**12 25 35.7**	**-0.9**
	baz=225						
439A	**Center Grove,**	**3.52**	**56**	P	**Pn**	**12 25 35.6**	**-1.1**
	baz=237						
439A				S	**Sn**	**12 26 18.9**	**+0.7**
	baz=237						
237A	**Washetta, Mont**	**3.74**	**32**	P	**Pn**	**12 25 39.5**	**-0.2**
	baz=213,SNR=49						
136A	**Ennis**	**3.87**	**21**	P	**Pn**	**12 25 42.7**	**+1.1**
	baz=201,SNR=35						
540A	**Vidor**	**3.88**	**69**	S	**Sn**	**12 26 28.9**	**+2.0**
	baz=250						
ABTX	**Abilene, Hawle**	**3.98**	**341**	P	**Pn**	**12 25 43.6**	**+0.6**
	baz=160,SNR=140						
ABTX				S	**Sn**	**12 26 31.0**	**+1.4**
	baz=160						
ABTX	**Abilene, Hawle**	**3.98**	**341**	*e*Pn	**Pn**	**12 25 43.7**	**+0.6**
339A	**Huntington**	**3.98**	**51**	P	**Pn**	**12 25 41.7**	**-1.3**
	baz=232						
339A				S	**Sn**	**12 26 30.3**	**+0.8**
	baz=232						
238A	**Jacksonville**	**4.09**	**39**	P	**Pn**	**12 25 44.3**	**-0.3**
	baz=220						
440A	**Kirbyville**	**4.10**	**62**	P	**Pn**	**12 25 43.1**	**-1.7**
	baz=243						
440A				S	**Sn**	**12 26 33.0**	**+0.5**
	baz=243						
LNIG	**Linares**	**4.11**	**197**	*e*Pn	**Pn**	**12 25 42.1**	**-2.7**
NATX	**Nacogdoches**	**4.18**	**45**	P	**Pn**	**12 25 44.9**	**-1.0**
	baz=226						
NATX	**Nacogdoches**	**4.18**	**45**	*e*Pn	**Pn**	**12 25 45.2**	**-0.6**
137A	**Heron Place, G**	**4.27**	**28**	P	**Pn**	**12 25 47.6**	**+0.6**
	baz=209,SNR=31						
137A				S	**Sn**	**12 26 38.7**	**+2.1**
	baz=209						
239A	**Gary**	**4.48**	**44**	P	**Pn**	**12 25 48.9**	**-1.0**
	baz=226,SNR=16						
340A	**Bronson**	**4.49**	**54**	P	**Pn**	**12 25 48.6**	**-1.4**
	baz=236						
340A				S	**Sn**	**12 26 41.7**	**-0.4**
	baz=236						
541A	**Lake Charles**	**4.49**	**73**	P	**Pn**	**12 25 49.4**	**-0.6**
	baz=256						
138A	**Matatall Enter**	**4.62**	**34**	P	**Pn**	**12 25 51.5**	**-0.4**
	baz=215,SNR=22						
Z36A	**Blue Ridge**	**4.65**	**18**	P	**Pn**	**12 25 53.0**	**+0.8**
	baz=198,SNR=6.6						
Z37A	**Pogue Cattle C**	**4.85**	**26**	P	**Pn**	**12 25 55.6**	**+0.6**
	baz=207,SNR=82						
TX31	**Lajitas Ar. Si**	**4.85**	**277**	*e*Pn	**Pn**	**12 25 53.6**	**-1.6**
TXAR	**Lajitas Array**	**4.85**	**277**	Pn	**Pn**	**12 25 53.9**	**-1.3**
	18nm,0.3s,baz=101,slow=13,SNR=379						
TXAR				Sn	**Sn**	**12 26 53.3**	**+2.1**
	31nm,0.3s,baz=90,slow=27,SNR=2.6						
TXAR				Lg	Lg	12 27 16.8	
	83nm,0.3s,baz=116,slow=30,SNR=7.5						
341A	**Kurthwood**	**4.98**	**59**	P	**Pn**	**12 25 54.5**	**-2.2**
	baz=241						
139A	**Bunkhouse Ranc**	**5.00**	**39**	P	**Pn**	**12 25 56.4**	**-0.7**
	baz=221,SNR=5.7						
542A	**Morse**	**5.04**	**74**	P	**Pn**	**12 25 57.4**	**-0.2**
	baz=257						
Y35A	**Marietta**	**5.13**	**10**	P	**Pn**	**12 25 59.6**	**+0.8**
	baz=190,SNR=270						
Z38A	**Mt. Pleasant**	**5.16**	**31**	P	**Pn**	**12 25 59.3**	**0.0**
	baz=212,SNR=37						
Y36A	**Durant**	**5.28**	**17**	P	**Pn**	**12 26 01.7**	**+0.8**
	baz=197,SNR=20						
140A	**Cam and Jess,**	**5.46**	**45**	P	**Pn**	**12 26 03.2**	**-0.2**
	baz=227,SNR=18						
241A	**Mo Tay, Goldon**	**5.51**	**54**	P	**Pn**	**12 26 02.4**	**-1.7**
	baz=236						
Z39A	**Irene McRaven,**	**5.55**	**37**	P	**Pn**	**12 26 03.8**	**-0.8**
	baz=218						
Y37A	**Hugo**	**5.55**	**22**	P	**Pn**	**12 26 05.1**	**+0.4**
	baz=203,SNR=48						
X35A	**Drake**	**5.62**	**10**	P	**Pn**	**12 26 06.4**	**+0.7**
	baz=190,SNR=52						
342A	**Flagon Creek P**	**5.64**	**62**	P	**Pn**	**12 26 02.8**	**-3.0**
	baz=245						
Y38A	**Idabel**	**5.85**	**29**	P	**Pn**	**12 26 08.7**	**0.0**
	baz=210,SNR=57						
141A	**Papa Simpson,**	**5.86**	**49**	P	**Pn**	**12 26 08.2**	**-0.7**
	baz=231						
WMOK	**Wichita Mounta**	**5.90**	**355**	P	**Pn**	**12 26 09.2**	**-0.2**
	baz=174,SNR=299						
WMOK	**Wichita Mounta**	**5.90**	**355**	*e*P	**Pn**	**12 26 09.2**	**-0.2**
WMOK	**Wichita Mounta**	**5.90**	**355**	*e*Pn	**Pn**	**12 26 09.2**	**-0.2**
X36A	**Centrahoma**	**5.91**	**15**	P	**Pn**	**12 26 10.0**	**+0.5**
	baz=195,SNR=26						
Z40A	**Long Farm, Mag**	**5.99**	**42**	P	**Pn**	**12 26 10.4**	**-0.3**
	baz=224,SNR=6.9						
CLNB	**Carlsbad**	**6.00**	**306**	*e*Pn	**Pn**	**12 26 11.2**	**+0.2**
242A	**Grayson**	**6.09**	**57**	P	**Pn**	**12 26 10.3**	**-1.7**
	baz=240						
Y39A	**Lockesburg**	**6.14**	**33**	P	**Pn**	**12 26 12.8**	**0.0**
	baz=215,SNR=12						
X37A	**Clayton**	**6.19**	**22**	P	**Pn**	**12 26 14.1**	**+0.7**
	baz=203,SNR=70						
Z41A	**Richland Creek**	**6.35**	**45**	P	**Pn**	**12 26 15.2**	**-0.4**
	baz=227,SNR=17						
W35A	**Tecumseh**	**6.38**	**9**	P	**Pn**	**12 26 16.6**	**+0.6**
	baz=190,SNR=35						
X38A	**Whitesboro**	**6.46**	**25**	P	**Pn**	**12 26 17.9**	**+0.8**
	baz=206,SNR=225						
MSTX	**Muleshoe**	**6.46**	**323**	P	**Pn**	**12 26 16.5**	**-0.7**
	baz=141,SNR=38						
MSTX	**Muleshoe**	**6.46**	**323**	*e*Pn	**Pn**	**12 26 16.8**	**-0.4**
WLAR	**White Oak Lake**	**6.47**	**41**	*e*Pn	**Pn**	**12 26 17.4**	**+0.1**
W36A	**Wetumka**	**6.48**	**14**	P	**Pn**	**12 26 17.5**	**0.0**
	baz=195,SNR=17						
142A	**Monroe**	**6.49**	**54**	P	**Pn**	**12 26 16.2**	**-1.4**
	baz=237						
X39A	**Fountain Ranch**	**6.61**	**30**	P	**Pn**	**12 26 19.0**	**-0.2**
	baz=212,SNR=211						
Y40A	**Okolona**	**6.62**	**38**	P	**Pn**	**12 26 18.8**	**-0.5**
	baz=220,SNR=34						
W37B	**Quinton**	**6.68**	**20**	P	**Pn**	**12 26 20.5**	**+0.3**
	baz=200,SNR=32						
AMTX	**Amarillo**	**6.72**	**334**	P	**Pn**	**12 26 20.4**	**-0.5**
	baz=152						
AMTX	**Amarillo**	**6.72**	**334**	*e*Pn	**Pn**	**12 26 20.6**	**-0.3**
MNTX	**Cornudas Mount**	**6.87**	**296**	P	**Pn**	**12 26 21.9**	**-0.9**
	baz=112						
MNTX	**Cornudas Mount**	**6.87**	**296**	*e*Pn	**Pn**	**12 26 21.9**	**-0.9**
MIAR	**Mount Ida**	**6.89**	**33**	P	**Pn**	**12 26 22.1**	**-0.9**
	baz=215,SNR=40						
MIAR	**Mount Ida**	**6.89**	**33**	*e*P	**Pn**	**12 26 22.6**	**-0.4**
MIAR	**Mount Ida**	**6.89**	**33**	*e*Pn	**Pn**	**12 26 22.6**	**-0.4**
Y41A	**Eaglette Beard**	**6.90**	**42**	P	**Pn**	**12 26 21.6**	**-1.6**
	baz=224						
Z42A	**Norrel Spur, H**	**6.91**	**49**	P	**Pn**	**12 26 22.3**	**-1.0**
	baz=232,SNR=6.6						
HPIG		**6.92**	**256**	*e*Pn	**Pn**	**12 26 22.7**	**-1.0**
344A	**Westbrook Farm**	**6.93**	**66**	P	**Pn**	**12 26 20.6**	**-2.9**
	baz=250						
W38A	**Poteau**	**6.93**	**26**	P	**Pn**	**12 26 23.7**	**+0.1**
	baz=207,SNR=116						
143A	**Socs Landing,**	**6.96**	**55**	P	**Pn**	**12 26 21.4**	**-2.5**
	baz=238						
V35A	**Meyer Ranch, C**	**6.98**	**9**	P	**Pn**	**12 26 24.2**	**-0.2**
	baz=189						
V36A	**Jenks**	**7.17**	**15**	P	**Pn**	**12 26 25.4**	**-1.4**
	baz=195,SNR=18						
X40A	**Basin Creek Fa**	**7.22**	**38**	P	**Pn**	**12 26 26.4**	**-1.1**
	baz=220,SNR=12						
ZAIG	**Zacatecas**	**7.25**	**214**	*e*Pn	**Pn**	**12 26 28.1**	**-0.1**
TUL1	**Leonard**	**7.32**	**15**	P	**Pn**	**12 26 28.3**	**-0.6**
	baz=196,SNR=9.7						
TUL1	**Leonard**	**7.32**	**15**	*e*Pn	**Pn**	**12 26 28.5**	**-0.4**
W39A	**Magazine**	**7.33**	**29**	P	**Pn**	**12 26 29.3**	**+0.2**
	baz=211,SNR=26						
Z43A	**Armstrong Fami**	**7.35**	**52**	P	**Pn**	**12 26 27.4**	**-1.9**
	baz=235						
Y42A	**Garnett, Star**	**7.37**	**46**	P	**Pn**	**12

W43A	Forest City	8.87	44	P	Pn	12 26 48.7	-1.4
	baz=227						
S34A	Willow Spring	8.87	5	P	Pn	12 26 49.1	-1.2
	baz=186						
Y45A	Yeager Farm, C	8.89	54	P	Pn	12 26 49.2	-1.4
	baz=238						
S35A	Otter Creek Ra	8.94	9	P	Pn	12 26 50.0	-1.2
	baz=190						
BNM	Barren Site	8.96	308	ePn	Pn	12 26 52.6	+0.9
V42A	Cord	8.99	38	P	Pn	12 26 49.7	-2.2
	baz=221						
LPM	Los Pinos Moun	9.05	309	ePn	Pn	12 26 55.0	+2.1
121A	Cookes Peak, D	9.07	296	ePn	Pn	12 26 54.0	+0.9
T39A	Clever	9.08	25	P	Pn	12 26 52.5	-0.6
	baz=207,SNR=9.0						
S36A	Lake Cedric, C	9.11	13	P	Pn	12 26 52.5	-0.9
	baz=194						
Y22D	IRIS PASSCAL I	9.12	307	ePn	Pn	12 26 54.4	+0.6
U41A	Viola	9.13	33	P	Pn	12 26 52.3	-1.5
	baz=216						
448A	Bay Minette	9.17	74	P	Pn	12 26 51.2	-3.1
	baz=260						
X45A	UM Field Stati	9.30	51	P	Pn	12 26 54.2	-2.0
	baz=235						
S37A	Fort Scott	9.31	16	P	Pn	12 26 55.5	-0.7
	baz=198,SNR=16						
147A	Livingston	9.31	63	P	Pn	12 26 52.6	-3.7
	baz=248						
ANMO	Albuquerque	9.32	313	Pn	Pn	12 26 57.0	+0.5
	0.3nm,0.3s,baz=306,slow=13,SNR=5.7						
ANMO				Lg	Lg	12 29 33.7	
	34nm,0.3s,baz=204,slow=20,SNR=9.6						
ANMO				LR	LR	12 30 49.5	
	comp=Z,4μm,18.1s,baz=318,slow=39						
ANMO	Albuquerque	9.32	313	‖ ePn	Pn	12 26 59.2	+2.7
ANMO	Albuquerque	9.32	313	ePn	Pn	12 26 57.8	+1.3
ANMO				Lg	Lg	12 29 33.7	
OXF	Oxford	9.34	51	eP	Pn	12 26 54.9	-1.8
OXF				pmax	pmax		
	comp=Z,529nm,0.5s						
OXF	Oxford	9.34	51	ePn	Pn	12 26 54.9	-1.8
	comp=Z,529nm,0.5s						
Y46A	Houston	9.39	55	P	Pn	12 26 53.4	-4.0
	baz=240						
S38A	Stockton	9.45	21	P	Pn	12 26 57.2	-1.0
	baz=203						
LAZ	Ladron	9.45	308	ePn	Pn	12 26 57.9	-0.6
R34A	Isabella, Hill	9.46	4	P	Pn	12 26 56.6	-1.7
	baz=184						
U42A	Revenden	9.48	36	P	Pn	12 26 56.6	-2.0
	baz=220,SNR=23						
T40A	Mansfield	9.53	28	P	Pn	12 26 58.1	-1.1
	baz=211						
R35A	Emporia Munici	9.59	9	P	Pn	12 26 58.7	-1.4
	baz=190						
S39A	Bolivar	9.70	23	P	Pn	12 27 01.1	-0.4
	baz=206,SNR=21						
R36A	Gordon, Harris	9.70	12	P	Pn	12 27 00.4	-1.3
	baz=194						
T41A	Mountain View	9.77	32	P	Pn	12 27 01.1	-1.5
	baz=215,SNR=19						
T25A	Trinidad	9.79	329	P	Pn	12 27 01.9	-1.2
	baz=146						
T25A	Trinidad	9.79	329	ePn	Pn	12 27 02.4	-0.7
R37A	Teagarden Farm	9.84	15	P	Pn	12 27 02.2	-1.2
	baz=197						
W45A	Hickory Valley	9.87	48	P	Pn	12 27 02.7	-1.2
	baz=233						
GNAR	Gosnell	9.88	42	ePn	Pn	12 27 04.5	+0.5
S40A	Lebanon	9.92	27	P	Pn	12 27 03.4	-1.2
	baz=210						
U43A	Rector	9.94	39	P	Pn	12 27 02.6	-2.3
	baz=223						
R38A	Fenwick Farm,	9.96	20	P	Pn	12 27 03.8	-1.3
	baz=202						
CBKS	Cedar Bluff	10.03	353	P	Pn	12 27 04.6	-1.5
	baz=172						
CBKS	Cedar Bluff	10.03	353	eP	Pn	12 27 05.1	-1.0
CBKS	Cedar Bluff	10.03	353	ePn	Pn	12 27 05.1	-1.0
Q34A	Chapman	10.10	5	P	Pn	12 27 05.9	-1.1
	baz=186						
Q35A	Mercer Eighty,	10.14	9	P	Pn	12 27 05.9	-1.7
	baz=190						
Z48A	Northport	10.14	61	P	Pn	12 27 04.6	-3.0
	baz=246						
Y47A	UCPARC, Winfie	10.14	58	P	Pn	12 27 05.9	-1.7
	baz=243						
PBMO	Poplar Bluff	10.23	37	ePn	Pn	12 27 08.1	-0.7
S41A	Jillco Farms,	10.23	30	P	Pn	12 27 07.4	-1.5
	baz=213						
HALT	Halls	10.24	44	ePn	Pn	12 27 07.8	-1.2
KSU1	Kansas State U	10.31	7	P	Pn	12 27 08.4	-1.5
	baz=187						
KSU1	Kansas State U	10.31	7	ePn	Pn	12 27 08.1	-1.8
Q36A	Arnold C. Orve	10.33	12	P	Pn	12 27 09.2	-1.0
	baz=193						
R39A	Chumby, Stover	10.36	23	P	Pn	12 27 09.5	-1.1
	baz=205						
V45A	Humboldt	10.37	46	P	Pn	12 27 10.1	-0.7
	baz=231						
LRAL	Lakeview Retre	10.44	64	ePn	Pn	12 27 07.3	-4.5
Q37A	Longview Farm,	10.46	16	P	Pn	12 27 10.1	-1.9
	baz=198						
PARMO	Parma	10.52	40	ePn	Pn	12 27 12.0	-0.7
T43A	Greenville	10.53	37	P	Pn	12 27 10.7	-2.3
	baz=221,SNR=12						
R40A	Maddies Stadio	10.62	26	P	Pn	12 27 12.5	-1.6
	baz=209						
P34A	Walnut Farm, R	10.73	5	P	Pn	12 27 14.4	-1.3
	baz=186						
Q38A	Cooks Store, C	10.76	19	P	Pn	12 27 15.0	-1.2
	baz=201						
SDCO	Great Sand Dun	10.79	327	P	Pn	12 27 16.1	-0.8
	baz=143						
SDCO	Great Sand Dun	10.79	327	ePn	Pn	12 27 19.0	+2.1
KSCO	Kaye Shedlock'	10.80	341	P	Pn	12 27 15.6	-1.1
	baz=158						
KSCO	Kaye Shedlock'	10.80	341	ePn	Pn	12 27 15.9	-0.8
P35A	Duane Minner,	10.80	9	P	Pn	12 27 14.8	-1.9
	baz=190						
S42A	Caledonia	10.81	33	P	Pn	12 27 15.0	-1.9
	baz=216						
CCM	Cathedral Cave	10.84	30	eP	Pn	12 27 15.8	-1.4
CCM	Cathedral Cave	10.84	30	ePn	Pn	12 27 15.8	-1.4
R41A	Rosebud	10.98	29	P	Pn	12 27 17.0	-2.1
	baz=212						
S43A	Fulton Ridge,	11.01	36	P	Pn	12 27 17.6	-2.0
	baz=220,SNR=6.2						
P36A	Good Intent, A	11.02	12	P	Pn	12 27 18.0	-1.6
	baz=193						
Q39A	Willow Grove F	11.04	22	P	Pn	12 27 18.4	-1.5
	baz=204						
P37A	Lathrop	11.16	15	P	Pn	12 27 19.8	-1.8
	baz=197						
O33A	Hebron	11.21	2	P	Pn	12 27 20.1	-2.2
	baz=182						
R42A	Luebbering	11.22	31	P	Pn	12 27 20.5	-2.0
	baz=215						
TLIG	Tiapa	11.24	182	ePn	Pn	12 27 26.7	+3.9
WVT	Waverly	11.34	48	eP	Pn	12 27 21.2	-2.8
WVT	Waverly	11.34	48	ePn	Pn	12 27 21.2	-2.8
O34A	Beatrice	11.37	6	P	Pn	12 27 22.5	-2.0
	baz=186						
P38A	Dawn	11.41	18	P	Pn	12 27 23.0	-1.9
	baz=201						
TUC	Tucson	11.42	291	eP	Pn	12 27 26.7	+1.4
TUC	Tucson	11.42	291	ePn	Pn	12 27 26.7	+1.4
S22A	4UR Ranch, Cre	11.46	323	ePn	Pn	12 27 28.9	+2.9
P39B	Salisbury	11.51	21	P	Pn	12 27 24.6	-1.8
	baz=204						
X18A	Snowflake	11.53	302	ePn	Pn	12 27 27.6	+0.7
O35A	Humboldt	11.54	9	P	Pn	12 27 24.2	-2.6
	baz=190						
O36A	Bolckow	11.56	12	P	Pn	12 27 24.9	-2.2
	baz=194						
Q41A	Truxton	11.60	28	P	Pn	12 27 25.4	-2.1
	baz=211,SNR=9.2						
Q24A	Divide	11.64	332	ePn	Pn	12 27 28.4	-0.1
W18A	Petrified Fore	11.65	305	ePn	Pn	12 27 27.6	-0.9
O37A	Wolven Farm, M	11.76	15	P	Pn	12 27 27.2	-2.6
	baz=197						
SLM	Saint Louis	11.77	32	eP	Pn	12 27 31.2	+1.3
SLM	Saint Louis	11.77	32	ePn	Pn	12 27 31.2	+1.3
P40A	Paris	11.79	24	P	Pn	12 27 28.3	-1.8
	baz=207						
Q42A	Golden Eagle	11.86	30	P	Pn	12 27 29.3	-1.8
	baz=214						
LPIG	La Paz	11.87	249	Pn	Pn	12 27 32.3	+1.0
	baz=45,slow=4.3,SNR=2.5						
N33A	J Bar K, Exete	11.88	3	P	Pn	12 27 29.0	-2.4
	baz=183						
O38A	Galt	11.89	18	P	Pn	12 27 29.5	-2.0
	baz=200						
S45A	Carrier Mills	11.89	40	P	Pn	12 27 28.8	-2.8
	baz=225						
MVCO	Mesa Verde	12.03	317	P	Pn	12 27 30.6	-3.1
	baz=131						
MVCO	Mesa Verde	12.03	317	ePn	Pn	12 27 36.1	+2.3
R44A	Waltonville	12.04	37	P	Pn	12 27 31.1	-2.4
	baz=221						
N34A	Lincoln	12.04	6	P	Pn	12 27 30.8	-2.8
	baz=187						
CMIG	Matias Romero	12.08	165	Pn	Pn	12 27 33.8	-0.5
	comp=Z,2.8nm,0.3s,baz=349,slow=12,SNR=48						
CMIG				Sn	Sn	12 29 40.4	-8.4
	comp=Z,0.6nm,0.3s,baz=221,slow=20,SNR=3.7						
CMIG				LR	LR	12 33 55.8	
	comp=Z,308nm,20.9s,baz=339,slow=46						
SWET	Sewanee	12.15	55	ePn	Pn	12 27 32.6	-2.6
N35A	Tabor	12.16	9	P	Pn	12 27 32.1	-3.1
	baz=190						
N36A	Muff Farm, Cla	12.22	12	P	Pn	12 27 33.1	-3.0
	baz=193						
Q43A	New Douglas	12.26	33	P	Pn	12 27 34.3	-2.4
	baz=217,SNR=5.1						
O39A	Kirksville	12.28	21	P	Pn	12 27 34.6	-2.3
	baz=203						
P41A	Barry, Barry	12.28	27	P	Pn	12 27 34.2	-2.7
	baz=210						
N37A	Lee Faris, Mou	12.31	14	P	Pn	12 27 34.7	-2.6
	baz=196						
O40A	La Belle	12.37	23	P	Pn	12 27 36.0	-2.2
	baz=206,SNR=14						
OGNE	Ogallala	12.48	346	P	Pn	12 27 38.0	-1.7
	baz=164						
OGNE	Ogallala	12.48	346	ePn	Pn	12 27 38.1	-1.6
P42A	Winchester	12.50	29	P	Pn	12 27 37.5	-2.4
	baz=213						
BGNE	Belgrade	12.53	360	P	Pn	12 27 37.7	-2.6
	baz=180						
BGNE	Belgrade	12.53	360	ePn	Pn	12 27 38.1	-2.2
ISCO	Idaho Springs	12.54	333	eP	Pn	12 27 39.5	-1.2
ISCO	Idaho Springs	12.54	333	ePn	Pn	12 27 39.5	-1.2
N38A	Joes South For	12.58	17	P	Pn	12 27 38.2	-2.7
	baz=200						
USIN	University of	12.62	41	ePn	Pn	12 27 48.7	+7.2
SMCO	Snowmass	12.63	327	ePn	Pn	12 27 40.6	-1.4
M34A	Aspy Farms, Fr	12.69	5	P	Pn	12 27 39.7	-2.8
	baz=186						
PV01	Paradox Valley	12.70	320	ePn	Pn	12 27 42.5	-0.3
M33A	Taylor Creek F	12.72	3	P	Pn	12 27 39.9	-3.0
	baz=184						
O41A	Passleys Farm,	12.73	26	P	Pn	12 27 40.4	-2.7
	baz=210						
M35A	Neola	12.75	8	P	Pn	12 27 40.2	-3.1
	baz=190						
N39A	Derby Farms, D	12.86	20	P	Pn	12 27 41.8	-3.0
	baz=202						
M36A	Felix, Anita	12.87	11	P	Pn	12 27 41.6	-3.4
	baz=193						
P43A	Skaggs, Pawnee	12.91	31	P	Pn	12 27 42.4	-3.0
	baz=216						
OLIL	Olney	12.91	38	ePn	Pn	12 27 48.5	+3.0
M37A	Trindle Farm,	12.96	14	P	Pn	12 27 43.2	-3.0
	baz=196						
WUAZ	Wupatki	13.02	304	ePn	Pn	12 27 50.0	+2.8
214A	Organ Pipe Nat	13.03	287	ePn	Pn	12 27 46.8	-0.4
	comp=Z,66nm,0.6s						
PV04	Paradox Valley	13.06	320	ePn	Pn	12 27 49.0	+1.2
N40A	Mertquake, Sal	13.15	22	P	Pn	12 27 46.0	-2.8
	baz=206						
L34A	Svendsen Farm,	13.17	6	P	Pn	12 27 46.1	-2.9
	baz=187						
M38A	Pleasantville	13.18	17	P	Pn	12 27 45.9	-3.2
	baz=199						
P44A	Sand Creek, Wi	13.20	34	P	Pn	12 27 46.7	-2.7
	baz=219						
N41A	Harden Midland	13.26	25	P	Pn	12 27 46.1	-4.1
	baz=209,SNR=8.0						
PV09	Paradox Valley	13.27	319	ePn	P	12 27 59.1	-1.4
CPCT	Cooper Cave	13.28	57	ePn	Pn	12 27 48.3	-2.4
L33A	Hoskins	13.31	3	P	Pn	12 27 47.6	-3.4
	baz=183						
GOGA	Godfrey	13.37	66	eSn	Sn	12 30 12.1	-8.2
L35A	Bielow Farm, R	13.40	8	P	Pn	12 27 48.3	-3.9
	baz=190						
M39A	Webster	13.51	20	P	Pn	12 27 49.9	-3.8
	baz=203						
L36A	Harm Buss Farm	13.52	11	P	Pn	12 27 49.6	-4.2
	baz=193						
WCI	Wyandotte Cave	13.60	43	eP	Pn	12 27 54.3	-0.6
WCI	Wyandotte Cave	13.60	43	ePn	Pn	12 27 54.3	-0.6
N23A	Red Feather La	13.61	334	ePn	Pn	12 27 55.0	-0.3
SCIA	State Center	13.63	16	ePn	Pn	12 27 52.8	-2.5
M40A	Post Highland	13.65	22	P	Pn	12 27 52.6	-2.9
	baz=205						
Y14A	Wickenburg	13.66	296	ePn	Pn	12 27 58.3	+2.4
N42A	Yates City	13.68	27	P	Pn	12 27 53.2	-2.8
	baz=211						
CCIG	Comitan	13.68	155	ePn	Pn	12 27 58.9	+2.7
L37A	Phoenix Point,	13.72	14	P	Pn	12 27 53.2	-3.3
	baz=196						
HDIL	Hopedale	13.75	30	P	Pn	12 27 53.8	-3.2
	baz=214						
HDIL	Hopedale	13.75	30	ePn	Pn	12 27 56.3	-0.7
K31A	O'Neill	13.75	358	P	Pn	12 27 53.6	-3.4
	baz=178						
K33A	Hardington	13.76	4	P	Pn	12 27 53.7	-3.4
	baz=184						
K32A	Verdigre	13.78	1	P	Pn	12 27 53.7	-3.7
	baz=180						
PHWY	Pilot Hill	13.78	336	ePn	Pn	12 27 59.0	+1.3
O44A	Mansfield	13.80	33	P	Pn	12 27 54.3	-3.4
	baz=218						
K34A	Le Mars	13.91	6	P	Pn	12 27 55.2	-3.9
	baz=187						
L38A	Oak Wood Farm,	13.92	16	P	Pn	12 27 55.8	-3.4
	baz=199						
TKL	Tuckaleechee C	13.92	57	Pn	Pn	12 27 55.3	-4.0
	comp=Z,0.9nm,0.3s,baz=217,slow=13,SNR=17						
TKL				Sn	Sn	12 30 27.2	-6.5
	comp=Z,1.1nm,0.3s,baz=85,slow=4.1,SNR=5.0						
TKL				LR	LR	12 34 18.3	
	comp=Z,241nm,18.4s,baz=247,slow=41						
TKL	Tuckaleechee C	13.92	57	eP	Pn	12 27 56.8	-2.6
TKL				e		12 30 27.4	
TKL	Tuckaleechee C	13.92	57	ePn	Pn	12 27 56.8	-2.6
TKL				eSn	Sn	12 30 27.4	-6.3
M41A	Milan	13.95	24	P	Pn	12 27 56.2	-3.5
	baz=208						
113A	Mohawk Valley,	13.98	290	ePn	Pn	12 28 02.5	+2.3
O20A	White River Ci	13.99	326	P	Pn	12 27 56.6	-3.8
	baz=140						
O20A	White River Ci	13.99	326	ePn	Pn	12 28 02.8	+2.4
K35A	Storm Lake	14.04	9	P	Pn	12 27 57.1	-3.9
	baz=190						
K36A	Gilmore City	14.08	11	P	Pn	12 27 57.8	-3.7
	baz=193						
BLO	Bloomington	14.09	40	eP	P	12 28 07.7	-1.7
BLO	Bloomington	14.09	40	eP	P	12 28 07.7	-1.7
L39A	Vinton	14.15	19	P	Pn	12 27 58.6	-3.8
	baz=202						
O45A	Potomac	14.24	34	P	Pn	12 27 59.9	-3.7
	baz=220						
M42A	Sheffield	14.32	26	P	Pn	12 28 00.8	-4.0
	baz=211						
L40A	Anamosa	14.33	21	P	Pn	12 28 01.4	-3.6
	baz=205						
K37A	Belmond	14.36	14	P	Pn	12 28 01.1	-4.2
	baz=196						
MMU	Miners Mountai	14.38	314	ePn	Pn	12 28 06.6	+0.7
J31A	Geddes	14.42	358	P	Pn	12 28 02.4	-3.8
	baz=178						
K38A	Parkersburg	14.44	16	P	Pn	12 28 02.4	-4.0
	baz=199						
N44A	Piper City	14.47	32	P	Pn	12 28 01.8	-5.0
	baz=217						
J33A	Davis	14.47	3	P	Pn	12 28 03.5	-3.4
	baz=184						
J32A	Parkston	14.50	1	P	Pn	12 28 03.6	-3.6
	baz=181						
J34A	George	14.51	6	P	Pn	12 28 03.7	-3.8
	baz=187						
L41A	Preston	14.59	23	P	Pn	12 28 04.9	-3.5
	baz=207						
SFIN	Lafayette	14.65	35	P	Pn	12 28 05.2	-4.1
	baz=221						
SFIN	Lafayette	14.65	35	ePn	Pn	12 28 06.5	-2.8
J35A	Milford	14.68	8	P	Pn	12 28 05.9	-3.7
	baz=190						
K39A	Oelwein	14.72	18	P	Pn	12 28 06.3	-4.0
	baz=202						
J36A	Seneca 1, Swea	14.77	11	P	Pn	12 28 05.9	-5.1
	baz=193						
RWWY	Rawlins	14.78	332	ePn	Pn	12 28 12.7	+1.3
N45A	Kentland	14.80	33	P	Pn	12 28 06.9	-4.4
	baz=219						
Y12C	Blythe	14.82	293	ePn	Pn	12 28 13.5	+1.8
J37A	Redenius Farm,	14.90	13	P	Pn	12 28 08.1	-4.5
	baz=196						
ECSD	EROS Data Cent	14.91	4	P	Pn	12 28 08.4	-4.3
	baz=185						
ECSD	EROS Data Cent	14.91	4	ePn	Pn	12 28 09.0	-3.8
GLA	Glamis	14.91	290	eP	P	12 28 17.1	-1.4
GLA	Glamis	14.91	290	ePn	P	12 28 17.1	-1.4
K40A	Colesburg	14.94	20	P	Pn	12 28 08.7	-4.4
	baz=204						
K41A	Shullsburg	15.12	23	P	Pn	12 28 11.1	-4.5
	baz=207						
I31A	Royce, Wessing	15.15	359	P	Pn	12 28 11.9	-4.2
	baz=178						
I32A	Karley and Nic	15.16	2	P	Pn	12 28 12.4	-3.7
	baz=182						
I35A	Creekview Farm	15.19	9	P	Pn	12 28 12.5	-4.1
	baz=190						
I33A	Coleman	15.21	4	P	Pn	12 28 13.1	-3.7
	baz=184						
I34A	Hadley	15.27	6	P	Pn	12 28 13.9	-3.7
	baz=187						
K22A	Casper	15.35	336	P	Pn	12 28 15.1	-3.7
	baz=151						
K22A	Casper	15.35	336	ePn	Pn	12 28 18.1	-0.7
	comp=Z,43nm,0.9s						
J39A	Decorah	15.36	18	P	Pn	12 28 13.7	-5.1
	baz=202						
JSC	Jenkinsville	15.38	65	eP	P	12 28 24.0	+0.4
JSC				e		12 31 03.8	
JSC				pmax	pmax		
	comp=Z,55nm,1.0s						
JSC	Jenkinsville	15.38	65	ePn	P	12 28 24.0	+0.4
	comp=Z,55nm,1.0s						
JSC				eSn	Sn	12 31 03.8	-5.3
JFWS	Jewell Farm	15.42	22	eP	Pn	12 28 16.2	-3.3
JFWS				pmax	pmax		
	comp=Z,187nm,0.6s						
JFWS	Jewell Farm	15.42	22	ePn	Pn	12 28 16.2	-3.3
	comp=Z,186nm,0.6s						
BC3	Big Chuckawall	15.55	292	P	Pn	12 28 18.6	-2.9
	baz=103						
KMSC	Kings Mountain	15.58	62	P	Pn	12 28 17.9	-3.8
	baz=251						
KMSC	Kings Mountain	15.58	62	ePn	Pn	12 28 19.5	-2.2
KMSC				eP	P	12 28 26.2	+0.4
SUSD	Miller	15.58	358	P	Pn	12 28 17.0	-4.6
	baz=177						
H31A	Wolsey	15.60	359	P	Pn	12 28 17.0	-5.0
	baz=179						
I37A	Lemond, Waseca	15.61	13	P	Pn	12 28 16.6	-5.4
	baz=195						
H32A	Carlson Farm,	15.64	2	P	Pn	12 28 18.9	-3.5
	baz=182						
LDFC	Landfair	15.67	298	ePn	P	12 28 30.9	+3.8
	comp=Z,33nm,0.9s						
J40A	Soldiers Grove	15.69	20	P	Pn	12 28 18.9	-4.2
	baz=204						
H33A	Prehn Over Nor	15.84	4	P	Pn	12 28 21.0	-4.1
	baz=184						
I38A	Scanlan Farm,	15.86	16	P	Pn	12 28 20.2	-5.0
	baz=199						
I39A	Houston	15.89	18	P	Pn	12 28 20.4	-5.2
	baz=201						
J41A	Loganville	15.89	22	P	Pn	12 28 21.5	-4.2
	baz=207						
H34A	Spellman Lake,	15.90	6	P	Pn	12 28 20.8	-4.9
	baz=187						
RSSD	Black Hills	15.95	344	P	Pn	12 28 24.3	-2.3
	baz=161						
RSSD	Black Hills	15.95	344	eP	Pn	12 28 25.5	-1.2
RSSD				pmax	pmax		
	comp=Z,56nm,0.8s						
RSSD	Black Hills	15.95	344	ePn	Pn	12 28 25.5	-1.2
	comp=Z,56nm,0.8s						
GMRC	Granite Mounta	16.01	296	P	Pn	12 28 23.9	-3.5
	baz=107						
H35A	Sunnyside Ranc	16.04	9	P	Pn	12 28 23.5	-4.1
	baz=190						
H36A	Jessenland, He	16.05	11	P	Pn	12 28 23.9	-3.9
	baz=193						
BELC	Belle Mtn. Jos	16.07	293	P	Pn	12 28 24.3	-4.0
	baz=104						
J42A	Columbus	16.16	24	P	Pn	12 28 25.6	-3.5
	baz=209						
I40A	Norwalk	16.18	20	P	Pn	12 28 25.6	-3.8
	baz=204						
SHPR	Sheep Range	16.22	302	ePn	P	12 28 33.9	+0.7
	comp=Z,27nm,1.0s						
H37A	Dierke Farm, C	16.25	13	P	Pn	12 28 26.7	-3.5
	baz=196						
G31A	Conde	16.35	360	P	Pn	12 28 26.8	-4.7
	baz=180						
PFO	Pinyon Flats O	16.36	291	Pn	Pn	12 28 33.6	+1.7
	comp=Z,0.1nm,0.3s,baz=90,slow=9.0,SNR=6.3						
PFO				LR	LR	12 34 50.7	
	comp=Z,747nm,19.7s,baz=110,slow=37						
PFO	Pinyon Flats O	16.36	291	ePn	P	12 28 37.3	+2.5
	comp=Z,27nm,1.2s						
BAR	Barrett	16.37	288	ePn	P	12 28 42.0	+7.2
	comp=Z,25nm,1.3s						
G33A	Ortonville	16.37	4	P	Pn	12 28 27.4	-4.4
	baz=185						
G32A	Webster	16.39	2	P	Pn	12 28 27.2	-4.8
	baz=182						
TUQ	Turquoise Moun	16.42	298	P	Pn	12 28 27.5	-5.1
	baz=108						
H38A	Maiden Rock	16.47	15	P	Pn	12 28 28.3	-4.8
	baz=198						
G34A	Benson	16.48	6	P	Pn	12 28 29.3	-4.0
	baz=188						
DUG	Dugway, Tooele	16.53	317	eP	P	12 28 36.6	0.0
DUG				pmax	pmax		
	comp=Z,30nm,1.1s						
DUG	Dugway, Tooele	16.53	317	ePn	P	12 28 36.6	0.0
	comp=Z,30nm,1.1s						
I41A	Arkdale	16.56	21	P	Pn	12 28 30.6	-3.6
	baz=206						
G35A	Watkins	16.60	9	P	Pn	12 28 30.6	-4.1
	baz=191						
PD31	Pinedale Array	16.66	329	ePn	Pn	12 28 37.2	+1.4
PDAR	Pinedale Array	16.66	329	Pn	Pn	12 28 35.1	-0.7
	comp=Z,0.5nm,0.3s,baz=124,slow=12,SNR=14						
PDAR				Lg	Lg	12 33 07.8	
	comp=Z,0.6nm,0.3s,baz=102,slow=29,SNR=4.6						
PDAR				LR	LR	12 35 33.7	
	comp=Z,1μm,20.0s,baz=156,slow=39						
BW06	Boulder Array	16.67	329	ePn	Pn	12 28

BLA Blacksburg 17.03 56 *e*Pn **Pn 12 28 38.3 -1.9**
comp=Z,95nm,1.0s
BLA *e*Sn **Sn 12 31 44.8 -4.5**
G38A Ridgeland 17.04 15 P **Pn 12 28 35.8 -4.5**
baz=199
GSC Goldstone, Bar 17.06 297 P **Pn 12 28 36.1 -4.6**
baz=107
GSC Goldstone, Bar 17.06 297 *e*P **P 12 28 43.0 +0.6**
GSC pmax pmax
comp=Z,24nm,1.3s
GSC Goldstone, Bar 17.06 297 *e*Pn **P 12 28 43.0 +0.6**
comp=Z,24nm,1.3s
F34A Alexandria 17.07 7 P **Pn 12 28 37.4 -3.3**
baz=188
H41A Junction City 17.13 21 P **Pn 12 28 37.2 -4.2**
baz=206
TPNV Topopah Spring 17.20 303 P **Pn 12 28 38.3 -4.2**
baz=113
TPNV Topopah Spring 17.20 303 *e*P **P 12 28 46.5 +2.5**
TPNV Topopah Spring 17.20 303 *e*Pn **P 12 28 46.5 +2.5**
F35A Swanville 17.21 8 P **Pn 12 28 36.7 -5.7**
baz=190
G39A Holcombe 17.32 17 P **Pn 12 28 38.7 -5.0**
baz=201
R11A Troy Canyon, C 17.32 308 *e*Pn **P 12 28 47.2 +1.8**
comp=Z,24nm,1.1s
F36A Milaca 17.37 11 P **Pn 12 28 40.1 -4.3**
baz=194
F37A Hinrichs Farm, 17.40 13 P **Pn 12 28 40.7 -4.0**
baz=196
H42A Shiocton 17.41 24 P **Pn 12 28 41.7 -3.1**
baz=209
FURC Furnace Creek, 17.48 301 P **Pn 12 28 43.2 -2.6**
baz=110
G40A Rib Lake 17.56 19 P **Pn 12 28 43.3 -3.5**
baz=204
E31A Nome 17.68 1 P **Pn 12 28 44.8 -3.4**
baz=181
E33A Westby DABS, E 17.71 5 P **Pn 12 28 44.1 -4.4**
baz=186
REDW Red Top Meadow 17.72 328 *e*Pn **Pn 12 28 48.5 -0.4**
comp=Z,43nm,1.1s
E32A Braaten, Kindr 17.73 2 P **Pn 12 28 46.7 -2.2**
baz=183
SNOW Snow King Moun 17.75 329 *e*Pn **Pn 12 28 49.7 +0.3**
comp=Z,29nm,0.8s
F38A Pierce - Schro 17.78 14 P **Pn 12 28 46.1 -3.4**
baz=198
E34A Wadena 17.79 7 P **Pn 12 28 46.1 -3.5**
baz=188
MWC Mount Wilson 17.79 293 *e*P **P 12 28 56.6 +6.0**
MWC pmax pmax
comp=Z,15nm,0.9s
MWC Mount Wilson 17.79 293 *e*Pn **P 12 28 56.6 +6.0**
comp=Z,15nm,0.9s
LOHW Long Hollow 17.80 329 *e*Pn **Pn 12 28 49.5 -0.5**
comp=Z,16nm,0.8s
G41A Antigo 17.81 21 P **Pn 12 28 45.3 -4.6**
baz=206
TPAW Teton Pass 17.86 328 *e*Pn **Pn 12 28 50.5 -0.3**
comp=Z,56nm,1.0s
RCWM Renegade Canyo 17.91 298 *e*Pn **Pn 12 28 50.6 -0.6**
E35A Pequot Lakes 17.92 8 P **Pn 12 28 48.8 -2.4**
baz=190
F39A Loretta 17.96 17 P **Pn 12 28 49.7 -2.1**
baz=201
DAC Darwin (Calif) 17.97 299 *e*P **P 12 28 54.6 +2.0**
DAC pmax pmax
comp=Z,23nm,1.4s
DAC Darwin (Calif) 17.97 299 *e*Pn **P 12 28 54.5 +2.0**
comp=Z,23nm,1.4s
MOOW Moose Ponds 17.97 329 *e*Pn **Pn 12 28 52.0 -0.1**
comp=Z,19nm,0.9s
FXWY Fox Creek 18.01 328 *e*Pn **Pn 12 28 52.1 -0.5**
comp=Z,18nm,0.9s
DECC Green Verdugo 18.02 292 P **Pn 12 28 49.2 -3.3**
baz=102
E36A McGregor 18.05 11 P **Pn 12 28 49.7 -3.2**
baz=194
D31A Mcclaflin, Tow 18.17 1 P **Pn 12 28 53.2 -1.1**
baz=181
IMW Indian Meadow 18.18 329 *e*Pn **Pn 12 28 54.0 -0.6**
comp=Z,25nm,1.0s
F40A Park Falls 18.18 18 P **Pn 12 28 52.7 -1.6**
baz=203
D32A Dogwood Acres, 18.28 2 P **Pn 12 28 54.1 -1.5**
baz=183
F41A Three Lakes 18.31 21 P **Pn 12 28 54.0 -2.0**
baz=206
D33A AnnSam, Waubun 18.35 5 P **Pn 12 28 52.6 -3.8**
baz=186
D34A Park Rapids 18.35 6 P **Pn 12 28 52.9 -3.6**
baz=188
G43A Wallace 18.36 24 P **Pn 12 28 54.1 -2.4**
baz=210
H17A Grant Village 18.41 331 P **Pn 12 28 55.6 -1.9**
baz=143
H17A Grant Village 18.41 331 *e*P **Pn 12 28 57.9 +0.4**
comp=Z,35nm,1.4s
E38A The Farm, Brul 18.47 14 P **P 12 28 55.6 -2.1**
baz=198
LKWY Lake 18.47 331 *e*P **Pn 12 29 00.0 +1.7**
LKWY pmax pmax
comp=Z,36nm,1.0s
LKWY Lake 18.47 331 *e*P **Pn 12 28 60.0 +1.7**
comp=Z,36nm,1.0s
D35A Remer 18.48 9 P **P 12 28 55.3 -2.7**
baz=191
RLMT Red Lodge 18.48 334 *e*P **Pn 12 29 00.1 +1.8**
comp=Z,52nm,1.4s
F42A Maple Grove Fa 18.64 22 P **P 12 28 56.2 -3.5**
baz=208
D36A Goodland 18.71 11 P **P 12 28 57.4 -3.0**
baz=194
E40A Wakefield 18.72 18 P **P 12 28 58.4 -2.2**
baz=203
D37A Cotton 18.82 12 P **P 12 28 59.2 -2.5**
baz=196
LAO LASA Array 18.90 343 P **P 12 29 01.3 -1.3**
baz=158
LAO LASA Array 18.90 343 *e*P **P 12 29 02.6 +0.1**
comp=Z,93nm,1.3s
C31A Landman Farms, 18.92 1 P **P 12 29 00.7 -2.0**
baz=181
C34A RKJ Ranch, Bem 18.94 7 P **P 12 29 00.4 -2.6**
baz=189
C33A Trail 18.97 5 P **P 12 29 01.4 -1.9**
baz=186
VES Vestal, Richgr 19.00 297 P **P 12 29 01.4 -2.2**
baz=106
MDND Maddock 19.00 357 *e*P **P 12 29 01.9 -1.8**
comp=Z,101nm,1.3s
E41A Kenton 19.00 20 P **P 12 29 03.3 -0.4**
baz=205
IP07 Quail 19.05 56 *e*P **Pn 12 29 04.5 -0.5**
comp=Z,38nm,1.1s
IP04 Greensprings 19.07 56 *e*P **Pn 12 29 06.0 +0.8**
comp=Z,20nm,0.9s
JSRW J. Sargeant Re 19.08 57 *e*P **P 12 29 04.3 -0.2**
IP06 Yanceyville 19.09 56 *e*P **Pn 12 29 05.3 -0.2**
comp=Z,31nm,1.0s
C35A Jirik Farms, M 19.10 9 P **P 12 29 03.1 -1.6**
baz=191
IP03 Louisa 19.10 56 *e*P **Pn 12 29 06.2 +0.5**
comp=Z,22nm,1.0s
QLMT Earthquake Lak 19.13 330 *e*P **Pn 12 29 07.7 +1.5**
N54A Moraine State 19.14 46 P **P 12 29 03.6 -1.6**
baz=236
GCMT Greycliff 19.20 335 *e*P **Pn 12 29 10.3 +3.4**
IP05 Hopewell Churc 19.22 57 *e*P **P 12 29 06.1 +0.1**
comp=Z,41nm,1.1s
URVA University of 19.29 58 *e*P **Pn 12 29 07.7 -0.2**
MLAC Mammoth, Mammo 19.36 302 P **P 12 29 03.9 -4.0**
baz=111
C37A Embarrass 19.41 12 P **P 12 29 06.5 -1.7**
baz=196
BMN Battle Mountai 19.44 311 *e*P **Pn 12 29 12.8 +2.9**
BMN pmax pmax
comp=Z,14nm,1.0s
BMN Battle Mountai 19.44 311 *e*P **Pn 12 29 12.8 +2.9**
comp=Z,14nm,1.0s
B33A Robert and Kas 19.50 5 P **P 12 29 07.6 -1.5**
baz=187
AGMN Agassiz Nation 19.50 5 P **P 12 29 07.9 -1.2**
baz=186
AGMN Agassiz Nation 19.50 5 *e*P **P 12 29 07.5 -1.5**
comp=Z,48nm,0.9s
B31A Greenbush Farm 19.55 1 P **P 12 29 09.2 -0.4**
baz=181
B32A Ashes, Strandq 19.56 3 P **P 12 29 09.0 -0.7**
baz=184
E43A Lone Tree Farm 19.57 24 P **P 12 29 09.2 -0.6**
baz=210
SMMC Simmler 19.59 295 P **P 12 29 08.7 -1.4**
baz=103
HLID Hailey 19.64 323 *e*P **Pn 12 29 12.9 +0.6**
comp=Z,14nm,0.9s
O56A Blue Knob Stat 19.70 50 P **P 12 29 11.0 -0.4**
baz=240
EYMN Ely 19.75 13 P **P 12 29 10.3 -1.6**
baz=197
EYMN Ely 19.75 13 *e*P **P 12 29 12.2 +0.3**
comp=Z,32nm,0.8s
MCMT McKenzie Canyo 19.77 328 *e*P **Pn 12 29 15.4 +1.6**
B35A Bob, Littlefor 19.78 9 P **P 12 29 11.7 -0.5**
baz=191
B34A Aery, Baudette 19.79 7 P **P 12 29 12.2 0.0**
baz=189
BOZ Bozeman (W) 19.82 331 P **P 12 29 10.9 -1.9**
baz=143
BOZ Bozeman (W) 19.82 331 *e*P **Pn 12 29 15.0 +0.6**
BOZ pmax pmax
comp=Z,22nm,1.2s
BOZ Bozeman (W) 19.82 331 *e*P **Pn 12 29 15.0 +0.6**
comp=Z,22nm,1.2s
DLMT Dillon 20.06 329 *e*P **P 12 29 14.9 -0.5**
comp=Z,26nm,1.1s
A31A Linda, St. Vin 20.07 2 P **P 12 29 15.5 +0.2**
baz=182
A32A Rocking H Ranc 20.08 3 P **P 12 29 15.5 +0.1**
baz=184
WAKR Walker 20.13 304 *e*P Pn 12 29 19.3 +1.3
comp=Z,22nm,1.1s
DGMT Dagmar 20.14 348 P **P 12 29 16.2 0.0**
baz=164
DGMT Dagmar 20.14 348 *e*P **P 12 29 15.5 -0.6**
comp=Z,58nm,0.8s
A33A Warroad 20.17 5 P **P 12 29 16.9 +0.5**
baz=187
YERR Yerington 20.17 306 *e*P Pn 12 29 21.6 +3.0
comp=Z,18nm,1.0s
MFID Camas Ranch 20.32 320 *e*P **P 12 29 18.3 +0.1**
comp=Z,16nm,1.1s
SSPA Standing Stone 20.33 49 *e*P **P 12 29 17.6 -0.6**
comp=Z,22nm,0.9s
LRM Limekiln Ridge 20.35 330 *e*P Pn 12 29 22.8 +2.0
PMPB Monarch Peak 20.44 297 *e*P **P 12 29 21.5 +2.0**
comp=Z,38nm,1.0s
PNTR Pine Nut 20.47 306 *e*P Pn 12 29 22.6 +0.4
comp=Z,20nm,0.8s
PAHR Pah Rah Range 20.57 307 *e*P Pn 12 29 26.7 +3.5
comp=Z,15nm,1.1s
CMB Columbia Colle 20.66 302 *e*P **P 12 29 23.4 +1.6**
CMB pmax pmax
comp=Z,14nm,0.9s
CMB Columbia Colle 20.66 302 *e*P **P 12 29 23.4 +1.6**
comp=Z,14nm,0.9s
HRY Holter Researc 20.80 333 *e*P **P 12 29 24.6 +1.2**
BUF Buffalo 20.95 43 *e*P Pn 12 29 28.5 +1.1
MVL Millersville 21.09 52 *e*P **P 12 29 26.5 +0.2**
comp=Z,190nm,2.0s
EGMT Eagleton 21.15 338 P **P 12 29 28.0 +1.0**
baz=151
EGMT Eagleton 21.15 338 *e*P **P 12 29 28.5 +1.4**
comp=Z,47nm,1.0s
WVOR Wild Horse Val 21.40 315 *e*P **P 12 29 30.6 +0.7**
WVOR pmax pmax
comp=Z,21nm,1.1s
WVOR Wild Horse Val 21.40 315 *e*P **P 12 29 30.6 +0.7**
comp=Z,21nm,1.1s
AFDM Forest Hills D 21.41 304 *e*P **P 12 29 33.5 +3.6**
comp=Z,14nm,1.0s
PEV Pleasant Valle 21.43 298 *e*P **P 12 29 29.8 -0.4**
ULM Lac du Bonnet 21.44 4 P **P 12 29 29.7 -0.4**
comp=Z,34nm,0.8s,baz=186,slow=11,SNR=24
ULM Lg Lg 12 35 53.7
comp=Z,19nm,0.7s,baz=279,slow=10,SNR=3.5
ULM LR LR 12 38 29.2
comp=Z,509nm,19.5s,baz=188,slow=38
ULM Lac du Bonnet 21.44 4 *e*P **P 12 29 29.8 -0.4**
ULM pmax pmax
comp=Z,37nm,0.8s
ULM Lac du Bonnet 21.44 4 *e*P **P 12 29 29.8 -0.3**
comp=Z,37nm,0.8s
ULM Lg Lg 12 35 53.7
CHMT Chamberlain Mo 21.55 331 *e*P **P 12 29 33.5 +1.9**
SEC Stevens Creek 21.74 299 *e*P **P 12 29 36.2 +2.7**
MSO Missoula 21.79 330 P **P 12 29 34.9 +1.0**
baz=140
MSO Missoula 21.79 330 *e*P **P 12 29 35.1 +1.2**
comp=Z,17nm,1.0s
SLMT Seeley Lake 21.91 331 *e*P **P 12 29 36.5 +1.2**
SADO Sadowa 21.92 38 P **P 12 29 31.9 -3.3**
comp=Z,22nm,0.8s,baz=232,slow=12,SNR=13
SADO LR LR 12 37 29.8
comp=Z,127nm,22.0s,baz=238,slow=35
ORV Oroville 22.01 305 *e*P **P 12 29 38.5 +2.2**
ORV pmax pmax
comp=Z,12nm,1.0s
ORV Oroville 22.01 305 *e*P **P 12 29 38.5 +2.2**
comp=Z,12nm,1.0s
BMO Blue Mountains 22.05 322 *e*P **P 12 29 37.1 +0.2**
BMO pmax pmax
comp=Z,24nm,1.0s
BMO Blue Mountains 22.05 322 *e*P **P 12 29 37.1 +0.2**
comp=Z,24nm,1.0s
MOD Modoc Plateau 22.19 312 *e*P **P 12 29 39.2 +0.8**
comp=Z,36nm,0.8s
JTS JuntasAbangare 22.22 144 LR LR 12 40 46.4
comp=Z,307nm,21.8s,baz=20,slow=44
SWMT Swartz Lake 22.34 331 *e*P **P 12 29 41.1 +1.3**
BINY Binghamton 22.34 48 *e*P **P 12 29 42.0 +2.1**
comp=Z,120nm,1.0s
O03D Paynes Creek 22.51 307 P **P 12 29 41.3 -0.4**
baz=113
YBMT Yellow Bay 22.62 331 *e*P **P 12 29 45.2 +2.3**
JTMT Jette 22.64 331 *e*P **P 12 29 45.2 +2.1**
BSMT Bassoo Peak 22.94 330 *e*P **P 12 29 52.6 +6.2**
M04C Macdoel 23.16 310 P **P 12 29 48.5 0.0**
baz=116
N02D Trinity Center 23.41 308 P **P 12 29 49.2 -1.9**
baz=113
J05D Fort Rock, OR 23.47 314 P **P 12 29 49.8 -2.0**
baz=120
K04D Chiloquin, OR 23.48 312 P **P 12 29 51.7 -0.1**
baz=119
WALA Waterton Lakes 23.52 333 *e*P **P 12 29 55.1 +2.9**
comp=Z,16nm,1.0s
E09A Wood Farm, Sta 23.58 324 *e*P **P 12 29 52.5 -0.1**
comp=Z,67nm,1.6s
J04D Umpqua Nationa 24.01 313 P **P 12 29 55.9 -1.1**
baz=119
I05D Terrebonne, OR 24.08 316 P **P 12 29 55.3 -2.2**
baz=122
TRY Troy 24.11 48 *e*P **P 12 29 57.7 +0.1**
comp=Z,60nm,0.9s
G06A Carlson Farm, 24.16 319 *e*P **P 12 29 59.9 +1.6**
comp=Z,100nm,1.8s
HAWA Hanford 24.24 322 *e*P **P 12 29 59.1 +0.3**
comp=Z,19nm,1.3s
NEW Newport 24.29 328 P **P 12 29 59.8 +0.4**
comp=Z,3.0nm,0.6s,baz=140,slow=10,SNR=2.5
NEW LR LR 12 40 20.8
comp=Z,2μm,18.6s,baz=137,slow=39
NEW Newport 24.29 328 P **P 12 29 58.0 -1.4**
baz=136
NEW Newport 24.29 328 P **P 12 29 59.8 +0.4**
NEW *e* 12 30 01.8
NEW Newport 24.29 328 P **P 12 29 59.8 +0.4**
NEW *e*P **P 12 30 01.8 +2.4**
LONY Lake Ozonia 24.46 44 *e*P **P 12 30 00.8 -0.1**
comp=Z,23nm,0.8s
IRO Indian Ridge 24.48 315 P **P 12 30 00.8 -0.5**
C09A Chrisman Ranch 24.52 326 *e*P **P 12 30 01.9 +0.5**
comp=Z,21nm,0.9s
E07A Sunnyside 24.52 322 *e*P **P 12 30 02.2 +0.8**
comp=Z,16nm,0.8s
G05D Wamic, OR 24.56 318 P **P 12 30 01.0 -0.9**
baz=124
VLDQ Val d'Or 25.01 34 *e*P **P 12 30 05.8 0.0**
comp=Z,41nm,1.2s
FRNY Flat Rock 25.18 44 *e*P **P 12 30 09.3 +1.9**
comp=Z,99nm,1.8s
TRQ Mont Tremblant 25.36 40 *e*P **P 12 30 10.0 +0.9**
LTY Liberty 25.39 323 *e*P **P 12 30 11.8 +2.5**
comp=Z,20nm,1.1s
B08A Colville Reser 25.42 326 *e*P **P 12 30 11.7 +2.2**
comp=Z,14nm,1.3s
F04A Amboy 25.59 318 *e*P **P 12 30 14.4 +3.3**
comp=Z,78nm,1.7s
LON Longmire 25.71 320 *e*P **P 12 30 13.6 +1.4**
LON pmax pmax
comp=Z,47nm,1.6s
LON Longmire 25.71 320 *e*P **P 12 30 13.6 +1.4**
comp=Z,47nm,1.6s
C06D Leavenworth 25.93 323 P **P 12 30 14.5 +0.4**
baz=129
FFC Flin Flon 26.01 355 *e*P **P 12 30 14.8 0.0**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 26.01 355 *e*P **P 12 30 14.8 0.0**
comp=Z,20nm,1.1s
D05A Enumclaw 26.06 321 *e*P **P 12 30 12.7 -2.7**
comp=Z,446nm,1.4s
LLLB Lillooet 28.16 327 *e*P **P 12 30 35.6 +1.4**
comp=Z,9.7nm,0.9s
SJG San Juan 31.14 103 *e*P **P 12 31 01.5 +0.6**
SJG pmax pmax
comp=Z,68nm,1.3s
SJG San Juan 31.14 103 *e*P **P 12 31 01.5 +0.6**
comp=Z,68nm,1.3s
CBYP Canovanas 31.32 102 *e*P **P 12 31 02.5 -0.1**
comp=Z,29nm,1.1s
BBB Bella Bella 32.20 325 P **P 12 31 11.5 +1.6**
comp=Z,13nm,1.1s,baz=100,slow=11,SNR=2.3
SDV Santo Domingo 32.60 122 *e*P **P 12 31 14.5 +0.5**
comp=Z,28nm,0.9s
ROSC El Rosal 32.87 132 P **P 12 31 15.8 -0.7**
comp=Z,4.9nm,0.4s,baz=44,slow=15,SNR=3.7
ROSC LR LR 12 45 52.2
comp=Z,186nm,21.9s,baz=9.0,slow=39
SMRT St. Maarten 33.81 101 *e*P **P 12 31 26.1 +1.7**
OTAV Otavalo 34.12 143 *e*P **P 12 31 28.3 +0.8**
comp=Z,14nm,1.4s
SCHQ Schefferville 34.40 32 P **P 12 31 29.2 +0.2**
comp=Z,16nm,0.9s,baz=228,slow=7.2,SNR=5.5
SCHQ LR LR 12 46 39.8
comp=Z,292nm,20.1s,baz=242,slow=38
YKA Yellowknife Ar 35.34 347 P **P 12 31 37.1 +0.1**
comp=Z,10.0nm,0.9s,baz=151,slow=7.9,SNR=18
YKA PcP **PcP 12 34 07.7 +0.7**
comp=Z,2.0nm,0.8s,baz=144,slow=2.2,SNR=6.9
YKA LR LR 12 47 07.7
comp=Z,50nm,18.8s,baz=180,slow=38
DLBC Dease Lake 36.86 332 P **P 12 31 52.0 +1.7**
comp=Z,12nm,0.8s,baz=129,slow=5.9,SNR=13
DLBC PcP **PcP 12 34 12.7 +0.9**
comp=Z,3.5nm,0.9s,baz=124,slow=3.6,SNR=3.4
BMRM Bremner River 44.45 330 *e*P **P 12 32 55.2 +2.4**
comp=Z,20nm,0.8s
INK Inuvik 44.64 342 P **P 12 32 54.7 +0.6**
comp=Z,7.4nm,0.9s,baz=107,slow=7.5,SNR=5.9
INK PcP **PcP 12 34 36.9 +0.3**
comp=Z,2.5nm,0.8s,baz=72,slow=1.7,SNR=4.2
EGAK Eagle 44.88 336 *e*P **P 12 32 56.5 +0.3**
comp=Z,8.2nm,0.9s
DIV Divide 45.04 330 *e*P **P 12 32 59.4 +1.8**
comp=Z,17nm,1.0s
DOT Dot Lake 45.42 333 *e*P **P 12 33 01.8 +1.3**
comp=Z,10nm,0.6s
RES Resolute Bay 45.93 1 P **P 12 33 04.4 +0.1**
comp=Z,3.5nm,1.0s,baz=163,slow=12,SNR=2.4
SEW Seward 46.35 327 *e*P **P 12 33 07.8 0.0**
comp=Z,32nm,1.1s
SML Sawmill 46.43 330 *e*P **P 12 33 10.4 +1.9**
SML pmax pmax
comp=Z,8.0nm,0.9s
SML Sawmill 46.43 330 *e*P **P 12 33 10.4 +1.9**
comp=Z,7.7nm,0.9s
PMR Palmer 46.71 329 *e*P **P 12 33 11.8 +1.2**
PMR pmax pmax
comp=Z,7.0nm,0.7s
PMR Palmer 46.71 329 *e*P **P 12 33 11.8 +1.2**
comp=Z,7.4nm,0.7s
ILAR Eielson Array 47.03 334 P **P 12 33 14.5 +1.4**
comp=Z,7.0nm,0.8s,baz=140,slow=6.1,SNR=82
ILAR PcP **PcP 12 34 46.4 +1.3**
comp=Z,2.3nm,0.9s,baz=104,slow=1.5,SNR=3.7
ILAR LR LR 12 54 39.7
comp=Z,295nm,21.1s,baz=133,slow=38
KDAK Kodiak Island 47.26 324 P **P 12 33 16.8 +1.8**
comp=Z,11nm,0.8s,baz=135,slow=8.6,SNR=3.5
MCK McKinley 47.42 332 *e*P **P 12 33 17.9 +1.7**
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 47.42 332 *e*P **P 12 33 17.9 +1.7**
comp=Z,11nm,0.8s
COLA College 47.45 334 *e*P **P 12 33 17.5 +1.2**
COLA pmax pmax
comp=Z,48nm,0.8s
COLA College 47.45 334 *e*P **P 12 33 17.5 +1.2**
comp=Z,48nm,0.8s
SFJD Kangerlussuaq 47.61 23 P **P 12 33 18.2 +0.7**
comp=Z,8.3nm,1.0s,baz=229,slow=7.5,SNR=3.5
TRF Thorofare Moun 47.87 331 *e*P **P 12 33 21.6 +1.7**
comp=Z,34nm,0.7s
BPAW Bear Paw Mtn. 48.40 332 *e*P **P 12 33 25.0 +1.3**
comp=Z,8.6nm,0.9s
PPLA Purkeypile 48.50 330 *e*P **P 12 33 25.9 +1.2**
comp=Z,17nm,0.8s
COLD Coldfoot 49.30 336 *e*P **P 12 33 32.0 +1.4**
comp=Z,8.5nm,0.9s
SAML Samuel 50.50 133 *e*P **P 12 33 37.7 -2.6**
comp=Z,17nm,1.0s
LPAZ La Paz 53.44 143 P **P 12 34 02.4 -0.5**
comp=Z,1.3nm,0.5s,baz=315,slow=6.7,SNR=5.6
LPAZ LR LR 12 59 27.3
comp=Z,105nm,21.5s,baz=328,slow=39
SUMG Summit 53.77 19 *i* P **P 12 34 05.2 +0.8**
comp=Z,7.0nm,0.8s
SUMG Summit 53.77 19 *i* P **P 12 34 05.2 +0.8**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SIV San Ignacio 57.20 136 LR LR 13 01 11.9
comp=Z,90nm,21.2s,baz=330,slow=38
LVC Limon Verde 58.41 148 LR LR 13 00 51.6
comp=Z,356nm,19.2s,baz=328,slow=37
DAG Danmarks Havn 59.74 15‖ *i*P **P 12 34 46.0 -0.3**
comp=Z,22nm,0.9s
DAG Danmarks Havn 59.74 15‖ *i*P **P 12 34 46.0 -0.3**
DAG pmax pmax
comp=Z,18nm,0.9s
LCO Las Campanas 63.24 153 *e*P **P 12 35 10.9 +0.1**
comp=Z,14nm,0.9s
BDFB Brasilia 65.60 126 P **P 12 35 26.3 0.0**
comp=Z,2.5nm,0.8s,baz=340,slow=10,SNR=4.2
CPUP Villa Florida 67.42 141 P **P 12 35 35.9 -1.7**
comp=Z,6.6nm,0.9s,baz=342,slow=9.2,SNR=6.6
CPUP LR LR 13 09 54.6
comp=Z,39nm,19.4s,baz=318,slow=40
PVRL Vila Real 71.91 52 *e*P **P 12 36 05.3 -0.1**
comp=Z,14nm,1.0s
PVIS Viseu 72.00 53 *e*P **P 12 36 05.9 -0.1**
PTOM Tomar 72.06 54 *e*P **P 12 36 06.5 +0.2**
PBRG Braganca 72.38 52 *e*P **P 12 36 06.9 -1.3**
MVO Moncorvo 72.43 52 *e*P **P 12 36 08.9 +0.4**
comp=Z,58nm,1.9s
PCBR Castelo Branco 72.64 54 *e*P **P 12 36 09.6 -0.1**
comp=Z,20nm,1.4s
PESTR Estremoz 72.94 55 *e*P **P 12 36 12.1 +0.6**
SEY Seymchan 72.96 333 P **P 12 36 11.3 +0.2**
comp=Z,2.8nm,0.2s,baz=16,slow=22,SNR=4.0
PBEJ Beja 73.08 56 *e*P **P 12 36 12.3 0.0**
PCVE Castro Verde 73.11 56 *e*P **P 12 36 12.8 +0.3**
PBAR Barrancos 73.62 55 *e*P **P 12 36 15.4 -0.1**
comp=Z,32nm,1.3s
PLCA Paso Flores 73.81 158 P **P 12 36 16.2 -0.2**
comp=Z,4.8nm,0.7s,baz=9.1,slow=8.4,SNR=9.0
ARCES ARCESS Array B 73.84 18 P **P 12 36 16.7 +0.4**
comp=Z,15nm,0.8s,baz=330,slow=4.6,SNR=14
ARCES LR LR 13 08 33.4
comp=Z,151nm,18.5s,baz=269,slow=36
NB2 NORSAR Subarra 73.87 29 P **P 12 36 17.0 +0.4**
comp=Z,2.3nm,0.7s,baz=300,slow=6.2
NOA NORSAR Array B 73.87 29 P **P 12 36 17.3 +0.7**
comp=Z,4.2nm,0.8s,baz=300,slow=6.2,SNR=4.3
NOA LR LR 13 08 18.5
comp=Z,72nm,20.5s,baz=340,slow=35
TIXI Tiksi 74.58 346 P **P 12 36 19.8 -0.7**
comp=Z,2.7nm,0.6s,baz=43,slow=5.2,SNR=7.9
TIXI LR LR 13 10 47.2
comp=Z,171nm,21.7s,baz=76,slow=37
TIXI Tiksi 74.58 346‖ *e*P **P 12 36 19.9 -0.7**

TIXI pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 75.18 53 P **P 12 36 24.6 0.0**
comp=Z,0.3nm,0.2s,baz=305,slow=6.7,SNR=7.2
ESDC LR LR 13 08 53.3
comp=Z,70nm,18.5s,baz=350,slow=35
PETK Petropavlovsk- 75.31 323 P **P 12 36 25.2 +0.2**
comp=Z,11nm,1.0s,baz=62,slow=9.9,SNR=3.6
PETK LR LR 13 09 08.2
comp=Z,61nm,19.7s,baz=66,slow=35
MA2 Magadan 75.37 331 LR LR 13 12 13.9
comp=Z,166nm,18.8s,baz=62,slow=38
HFS Hagfors 75.39 29 P **P 12 36 26.4 +1.0**
comp=Z,5.9nm,0.6s,baz=298,slow=3.1,SNR=5.6
MEM Membach 76.51 39 P **P 12 36 32.8 +0.8**
FINES FINESS Array B 79.41 24 P **P 12 36 48.6 +0.8**
comp=Z,10nm,0.8s,baz=318,slow=2.6,SNR=13
FINES LR LR 13 10 13.8
comp=Z,184nm,20.0s,baz=284,slow=34
CLL Collm 79.92 36 *i* P **P 12 36 51.7 +0.9**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 79.92 36 *i* P **P 12 36 51.7 +0.9**
comp=Z,9.0nm,1.1s
CLL *i* PcP **PcP 12 36 58.0 -0.4**
NKC Novy Kostel 80.23 38 *eP* **P 12 36 54.0 +1.4**
NKC *ex* x 12 37 00.8
NKC Novy Kostel 80.23 38 *eP* **P 12 36 54.0 +1.4**
NKC *e* 12 37 00.8
BRG Berggiesshubel 80.66 37 *eP* **P 12 36 55.9 +1.1**
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 80.66 37 *eP* **P 12 36 55.9 +1.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s
DAVOX Davos/Dischmat 80.67 41 P **P 12 36 56.6 +1.4**
comp=Z,8.6nm,0.8s,baz=323,slow=13,SNR=6.7
FETA Feichten 81.03 41 *i* P **P 12 36 58.7 +1.6**
comp=Z,13nm,1.0s
KHC Kasperske Hory 81.45 38 *eP* **P 12 37 00.5 +1.3**
KHC Kasperske Hory 81.45 38 *eP* **P 12 37 00.5 +1.3**
PRU Pruhonice 81.48 37 *eP* **P 12 37 00.3 +1.1**
PRU Pruhonice 81.48 37 *eP* **P 12 37 00.3 +1.1**
YAK Yakutsk 81.62 339 LR LR 13 17 50.7
comp=Z,208nm,18.4s,baz=44,slow=39
YAK Yakutsk 81.62 339 *eP* **P 12 36 59.9 +0.2**
YAK pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 81.68 38 P **P 12 37 00.8 +0.4**
comp=Z,2.2nm,0.9s,baz=335,slow=4.3,SNR=9.9
GERES LR LR 13 12 40.6
comp=Z,80nm,19.8s,baz=302,slow=35
UPC Upice 81.94 36 *eP* **P 12 37 02.8 +1.1**
UPC Upice 81.94 36 *eP* **P 12 37 02.8 +1.1**
NRIK Noril'sk 82.01 358 P **P 12 37 02.3 +0.6**
comp=Z,5.7nm,0.7s,baz=312,slow=2.2,SNR=3.8
NRIK LR LR 13 15 15.1
comp=Z,208nm,18.6s,baz=358,slow=37
DPC Dobruska-Polom 82.20 36 *eP* **P 12 37 04.4 +1.3**
DPC *ex* x 12 37 13.5
DPC Dobruska-Polom 82.20 36 *eP* **P 12 37 04.4 +1.3**
DPC *e* 12 37 13.5
MOA Molln 82.56 39 *eP* **P 12 37 06.6 +1.6**
comp=Z,7.6nm,0.9s
VRAC Vranov 82.96 37 P **P 12 37 07.5 +0.5**
comp=Z,4.9nm,0.7s,baz=342,slow=7.5,SNR=3.4
SOKA Soboth 83.67 40 *i* P **P 12 37 09.4 -1.4**
comp=Z,14nm,0.9s
KLMR Klimovskoe 84.20 19 *eP* **P 12 37 12.6 -0.5**
KLMR pmax pmax
comp=Z,52nm,1.4s
LANS Liptovska Anna 84.55 36 *eP* **P 12 37 17.2 +2.0**
LANS Liptovska Anna 84.55 36 *eP* **P 12 37 17.2 +2.0**
VYHS Vyhne 84.63 37 *eP* **P 12 37 17.2 +1.6**
VYHS pmax pmax
comp=Z,107nm,3.4s
VYHS Vyhne 84.63 37 *eP* **P 12 37 17.2 +1.6**
NIE Niedzica 84.80 35 *eP* **P 12 37 18.3 +1.8**
NIE Niedzica 84.80 35 *eP* **P 12 37 18.3 +1.8**
STHS Stebnicka Huta 85.28 35 *eP* **P 12 37 21.0 +2.2**
STHS Stebnicka Huta 85.28 35 *eP* **P 12 37 21.0 +2.2**
KECS Kecovo 85.49 36 *eP* **P 12 37 21.7 +1.8**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 85.49 36 *eP* **P 12 37 21.7 +1.8**
PSZ Piszkesteto 85.54 37 *eP* **P 12 37 21.9 +1.6**
PSZ pmax pmax
comp=Z,71nm,1.8s
PSZ Piszkesteto 85.54 37 *eP* **P 12 37 21.9 +1.6**
comp=Z,71nm,1.8s
KEST Kesra 86.30 51 P **P 12 37 25.3 +1.0**
comp=Z,11nm,0.8s,baz=330,slow=2.3,SNR=9.3
YSS Yuzh-Sakhalins 86.71 323⇑ *eP* **P 12 37 26.6 +0.7**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,20.0s
OBN Obninsk 87.81 24 LR LR 13 16 10.8
comp=Z,181nm,19.4s,baz=274,slow=35
OBN Obninsk 87.81 24⇑ *eP* **P 12 37 30.8 -0.2**
OBN pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 88.17 30⇑ *eP* **P 12 37 32.5 -0.4**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 88.18 30 P **P 12 37 32.0 -0.8**
comp=Z,1.5nm,0.7s,baz=302,slow=3.9,SNR=5.3
AKASG LR LR 13 16 11.9
comp=Z,74nm,18.4s,baz=345,slow=35
BOD Bodaibo 89.54 343 *eP* **P 12 37 37.8 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.2s
DBIC Dimbokro 89.69 83 P **P 12 37 40.4 -0.3**
comp=Z,3.5nm,0.8s,baz=282,slow=4.4,SNR=4.4
TAM Tamanrasset 90.37 64 *eP* **P 12 37 44.9 +1.0**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 90.37 64 *eP* **P 12 37 44.9 +1.0**
comp=Z,5.5nm,0.9s
TORD Torodi Ar. Bea 92.16 74 P **P 12 37 51.0 -1.1**
comp=Z,2.3nm,0.8s,baz=279,slow=4.7,SNR=13
TORD Torodi Ar. Bea 92.16 74 P **P 12 37 51.0 -1.1**
ARU Arti 92.78 13 P **P 12 37 54.3 0.0**
comp=Z,1.8nm,0.4s,baz=296,slow=2.7,SNR=5.2
ARU LR LR 13 23 41.4
comp=Z,146nm,18.2s,baz=336,slow=38
ARU Arti 92.78 13 *c i* P **P 12 37 54.6 +0.3**
ARU 12 41 36.4
ARU S **SKSac 12 48 28.0 +0.5**
ARU SP **SP 12 50 10.1 +0.9**
ARU SS **SS 12 55 11.5 +1.3**
ARU pmax pmax
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 94.07 326 LR LR 13 23 51.3
comp=Z,42nm,19.6s,baz=20,slow=38
MJAR Matsushiro Ar 96.13 318 P **P 12 38 09.8 -0.3**
comp=Z,2.2nm,1.0s,baz=28,slow=1.8,SNR=3.8
MJAR LR LR 13 18 55.4
comp=Z,26nm,21.3s,baz=35,slow=34
ZALV Zalesovo Beam 97.51 358 P **P 12 38 16.4 +0.5**
comp=Z,1.5nm,0.7s,baz=1.2,slow=5.7,SNR=7.0
ZALV LR LR 13 25 25.9
comp=Z,103nm,19.7s,baz=70,slow=37
TLY Talaya 97.56 347 LR LR 13 25 58.9
comp=Z,128nm,19.5s,baz=16,slow=38
BRVK Borovoye 97.82 7 *c i* P Pdif 12 38 18.2 +0.8
BRVK pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 97.86 7 P Pdif 12 38 18.4 +0.9
comp=Z,1.2nm,0.7s,baz=0.0,slow=1.5,SNR=6.5
AKTO Aktyubinsk 98.29 15 P Pdif 12 38 20.1 +0.6
comp=Z,2.0nm,0.7s,baz=0.0,slow=4.0,SNR=4.3
AKTO LR LR 13 23 27.2
comp=Z,75nm,19.7s,slow=36
KIV Kislovodsk 99.16 28 *eP* **Pdif 12 38 26.4 +2.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KVAR Kislovodsk Arr 99.17 28 LR LR 13 26 00.6
comp=Z,58nm,18.9s,baz=12,slow=37
ULN Ulaanbaatar 100.35 343⇑ *eP* **Pdif 12 38 30.3 +1.4**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 100.54 343 P **Pdif 12 38 31.7 +1.9**
comp=Z,0.4nm,0.3s,baz=24,slow=7.9,SNR=2.5
KURK Kurchatov 100.74 2 P **Pdif 12 38 31.7 +1.3**
KURK Kurchatov 100.74 2 P **Pdif 12 38 31.7 +1.3**
KURBB Kurchatov Arra 100.83 2 P **Pdif 12 38 31.7 +0.9**
comp=Z,1.4nm,1.1s,baz=354,slow=5.5,SNR=5.0
MKAR Makanchi Array 104.71 360 Pdiff **Pdif 12 38 48.8 +0.6**
comp=Z,0.5nm,0.7s,baz=341,slow=3.7,SNR=4.2
KSH Kashi 111.77 5 *e*PKP **PKiKP 12 43 17.8 +0.6**
KSH PP **PP 12 44 04.5 +6.3**
KSH PKS **PKSdf 12 46 52.9 -1.1**
KSH SKS **SKSdf 12 50 28.8 -0.4**
KSH SKKS **SKKSac 12 50 59.8 -2.2**
KSH Kashi 111.77 5 SS SS 12 59 38.6 +5.6
KSH AMB AMB
comp=Z,190nm,5.5s
KSH LR LR
comp=N,260nm,9.5s
KSH LR LR
comp=E,250nm,7.1s
KSH LR LR
comp=Z,130nm,8.8s
WHN Wuhan 113.30 330 PKPbc PKPbc 12 43 28.6
GYA Guiyang 120.07 334 *e*Pdif **Pdif 12 39 56.0 -1.1**
GYA PKP **PKPdf 12 43 32.3 -1.2**
GYA PP **PP 12 45 00.5 +3.7**
GYA AMB AMB
comp=Z,110nm,7.8s
VNDA Vanda 120.11 194 PKP **PKPdf 12 43 31.4 -0.3**
comp=Z,1.0nm,0.9s,baz=298,slow=1.7,SNR=5.6
STKA Stephens Creek 128.93 251 PKP **PKPdf 12 43 49.7 -0.3**
comp=Z,2.0nm,0.8s,baz=88,slow=5.0,SNR=4.1
CMAR Chiang Mai Arr 130.16 339 PKP **PKPdf 12 43 52.6 -0.2**
comp=Z,0.5nm,0.6s,baz=313,slow=2.9,SNR=5.3
WRA Warramunga Arr 131.71 268 PKP **PKPdf 12 43 55.3 -0.3**
comp=Z,2.1nm,0.7s,baz=68,slow=2.5,SNR=12
ASAR Alice Springs 133.33 264 PKhKP PKPpre 12 43 43.9
comp=Z,0.3nm,0.8s,baz=83,slow=4.4,SNR=4.9
ASAR PKP **PKPdf 12 43 58.3 -0.3**
comp=Z,1.3nm,0.8s,baz=68,slow=1.5,SNR=12
MAW Mawson 139.57 169 PKhKP PKPpre 12 43 58.6
comp=Z,2.1nm,0.8s,baz=240,slow=2.2,SNR=5.8
MAW PKP **PKPdf 12 44 09.2 +0.4**
comp=Z,1.3nm,0.7s,baz=196,slow=4.2,SNR=4.2

NIED ***20*** *12:51:00,36°.70N×142°.10E,h23km,Mw4.3 Best double couple: M0=3.04000×10^15 NP1:φ=195.00000°,δ=20.00000°, λ=80.00000°. NP2:φ=26.00000°,δ=70.00000°,λ=94.00000°.*
JMA ***20*** *12:51:52.0±0.3,36°.74N×142°.13E,h36km,M4.4*
NEIC ***20*** *12:51:54.6±1.0,36°.67N×142°.17E,h37km±8km,mb4.6/7, Error ellipse: s-maj=10.0km s-min=7.0km az=124.0*
IDC ***20*** *12:51:55.0±2.9,36°.69N×142°.11E,h36km±23km,mb3.9/22, mb1 4.0/28,mb1mx3.9/62,mbtmp4.1/28,ML3.9/5,MS3.5/6, Ms1 3.6/6,ms1mx3.1/58,Error ellipse: s-maj=16.9km s-min=12.6km az=105.0*

ISC 20 12:51:50.8±2.0,36°.72N±0°.04×142°.09E±0°.06,h8km±12km, n66,σ1°23/74,mb4.2/29,MS3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**291**	P	**Pg**	**12 52 11.7**	**-0.3**
JFK	**Kawauchi**	**1.17**	**304**	P	**Pg**	**12 52 12.3**	**-0.9**
JHO	**Hitachi**	**1.23**	**265**	P	**Pb**	**12 52 13.4**	**-0.8**
JHO				*eS*	**Sb**	**12 52 30.3**	**0.0**
JMM	**Marumori**	**1.54**	**318**	P	**Pn**	**12 52 18.0**	**-0.6**
JMM				*eS*	**Sn**	**12 52 37.6**	**-1.2**
JFT	**Otama**	**1.61**	**300**	P	**Pn**	**12 52 20.0**	**+0.4**
JIO	**Ouri**	**1.83**	**341**	P	**Pn**	**12 52 22.0**	**-0.5**
JIO				*eS*	**Sn**	**12 52 44.3**	**-1.6**
JOU	**Okura**	**2.00**	**326**	P	**Pn**	**12 52 25.1**	**+0.3**
JFY	**Yanaizu**	**2.03**	**291**	P	**Pn**	**12 52 25.9**	**+0.6**
JFY				*eS*	**Sn**	**12 52 51.3**	**+0.5**
JAG	**Ashikaga**	**2.15**	**263**	P	**Pn**	**12 52 27.1**	**+0.3**
JAG				*eS*	**Sn**	**12 52 53.3**	**-0.3**
BSO1	**Boso 1**	**2.25**	**204**	P	**Pn**	**12 52 28.4**	**+0.6**
BSO1				*eS*	**Sn**	**12 52 57.0**	**+1.6**
JMK	**Ichinoseki**	**2.33**	**343**	P	**Pn**	**12 52 29.7**	**+0.3**
JMK				*eS*	**Sn**	**12 52 57.2**	**-1.1**
JNS	**Sasagawa**	**2.47**	**297**	P	**Pn**	**12 52 31.8**	**+0.5**
JYK	**Kaneyama**	**2.59**	**329**	P	**Pn**	**12 52 33.5**	**+0.6**
MJAR	**Matsushiro Arr**	**3.13**	**268**	Pn	**Pn**	**12 52 42.1**	**+1.7**
MJAR	37nm,0.3s,baz=98,slow=11,SNR=249			Sn	**Sb**	**12 53 22.7**	**-2.2**
MJAR	18nm,0.3s,baz=89,slow=11,SNR=5.6			LR	LR	12 54 09.1	
MAJO	**Matsushiro**	**3.13**	**268**	*e*Pn	**Pn**	**12 52 42.2**	**+1.8**
MAT	**Matsushiro**	**3.13**	**268**	P	**Pn**	**12 52 42.2**	**+1.8**
MAT				S	**Sb**	**12 53 22.6**	**-2.4**
JHJ	**Hachijo jima 2**	**4.06**	**209**	Pn	**Pn**	**12 52 53.7**	**+0.6**
JHJ	55nm,0.3s,baz=59,slow=18,SNR=3.7			Sn	**Sn**	**12 53 37.8**	**-3.1**
ASAJ	**Asahikawa**	**7.40**	**3**	Pn	**Pn**	**12 53 38.7**	**-0.3**
ASAJ	2.7nm,0.3s,baz=213,slow=10,SNR=24			Sn	**Sn**	**12 55 01.8**	**-1.3**
ASAJ	**Asahikawa**	**7.40**	**3**	Pn	**Pn**	**12 53 38.7**	**-0.3**
ASAJ				*e*Pn	**Pn**	**12 53 39.0**	**0.0**
ASAJ				Sn	**Sn**	**12 55 01.8**	**-1.3**
JNU	**Nakatsue**	**9.88**	**252**	Pn	**Pn**	**12 54 15.9**	**+2.8**
YSS	**Yuzh-Sakhalins**	**10.24**	**3**	*e*Pn	**Pn**	**12 54 20.4**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.72**	**317**	Pn	**Pn**	**12 54 26.9**	**+2.4**
USRK	0.4nm,0.3s,baz=142,slow=42,SNR=4.3			LR	LR	12 58 15.7	
KSRS	**Korea Array**	**11.35**	**278**	Pn	**Pn**	**12 54 36.4**	**+3.4**
KSRS	0.2nm,0.3s,baz=84,slow=13,SNR=9.1			LR	LR	12 58 49.0	
KSAR	**Wonju Array Be**	**11.38**	**278**	Pn	**Pn**	**12 54 36.4**	**+2.9**
GUMO	**Guam**	**23.17**	**173**	LR	LR	13 04 52.1	
YAK	**Yakutsk**	**26.50**	**347**	P	**P**	**12 57 28.0**	**-0.3**
YAK	**Yakutsk**	**26.50**	**347**	*eP*	**P**	**12 57 28.0**	**-0.3**
YAK				P	**P**	**12 57 28.0**	**-0.3**
SEY	**Seymchan**	**27.00**	**10**	P	**P**	**12 57 33.5**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**27.52**	**121**	T	T	13 26 52.5	
H11N1	**WAKE ISLAND Hy**	**27.53**	**121**	T	T	13 27 00.3	
H11N3	**WAKE ISLAND Hy**	**27.54**	**121**	T	T	13 26 58.9	
ENH	**Enshi**	**27.85**	**266**	*eP*	**P**	**12 57 40.4**	**-0.5**
ULN	**Ulaanbaatar**	**27.98**	**305**	*eP*	**P**	**12 57 42.3**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**28.23**	**123**	T	T	13 28 00.8	
H11S3	**WAKE ISLAND Hy**	**28.23**	**123**	T	T	13 28 01.9	
H11S2	**WAKE ISLAND Hy**	**28.25**	**123**	T	T	13 27 55.3	
SONM	**Songino Array**	**28.41**	**304**	P	**P**	**12 57 46.2**	**+0.4**
TLY	**Talaya**	**30.95**	**311**	P	**P**	**12 58 09.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**41.95**	**256**	P	**P**	**12 59 42.6**	**+0.4**
ZALV	**Zalesovo Beam**	**42.53**	**313**	P	**P**	**12 59 46.9**	**+0.4**
MKAR	**Makanchi Array**	**44.75**	**302**	P	**P**	**13 00 04.8**	**+0.3**
KURK	**Kurchatov**	**46.55**	**308**	*eP*	**P**	**13 00 18.1**	**-0.6**
KURK				P	**P**	**13 00 19.0**	**+0.3**
KURBB	**Kurchatov Arra**	**46.62**	**308**	P	**P**	**13 00 19.0**	**-0.2**
HNR	**Honiara**	**48.88**	**156**	*eP*	**P**	**13 00 34.1**	**-3.0**
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**13 00 40.8**	**-0.3**
AAK	**Ala-Archa**	**51.12**	**299**	P	**P**	**13 00 54.7**	**+0.6**
BVAR	**Borovoye Array**	**51.19**	**313**	PcP	**PcP**	**13 02 10.0**	**+0.4**
KKAR	**Karatay Array**	**53.75**	**300**	*eP*	**P**	**13 01 11.6**	**-1.9**
INK	**Inuvik**	**54.42**	**27**	P	**P**	**13 01 18.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**56.70**	**199**	P	**P**	**13 01 34.9**	**+0.1**
WRA	**Warramunga Arr**	**56.83**	**189**	P	**P**	**13 01 35.0**	**-0.7**
ARU	**Arti**	**56.96**	**319**	*eP*	**P**	**13 01 36.2**	**-0.1**
ABKAR	**Akbulak array**	**58.56**	**310**	*eP*	**P**	**13 01 47.4**	**-0.3**
ASAR	**Alice Springs**	**60.55**	**189**	P	**P**	**13 02 01.1**	**-0.5**
YKA	**Yellowknife Ar**	**63.81**	**30**	P	**P**	**13 02 24.5**	**+1.5**
GEYT	**Alibeck**	**64.46**	**299**	P	**P**	**13 02 28.5**	**+0.6**
FINES	**FINESS Array B**	**69.35**	**333**	P	**P**	**13 02 58.5**	**0.0**
KBZ	**Khabaz**	**71.52**	**311**	P	**P**	**13 03 12.9**	**+0.9**
NB2	**NORSAR Subarra**	**74.69**	**338**	P	**P**	**13 03 30.4**	**-0.1**
NOA	**NORSAR Array B**	**74.69**	**338**	P	**P**	**13 03 30.7**	**+0.1**
NOA				LR	LR	13 39 58.1	
AKASG	**Malin Array Be**	**74.88**	**323**	P	**P**	**13 03 31.5**	**-0.2**
AKASG				LR	LR	13 37 23.2	
PDAR	**Pinedale Array**	**77.50**	**46**	P	**P**	**13 03 47.9**	**+0.7**
BRTR	**Keskin Array B**	**79.47**	**312**	P	**P**	**13 03 57.8**	**-0.2**
GERES	**GERESS Array B**	**83.27**	**329**	P	**P**	**13 04 17.8**	**0.0**
TORD	**Torodi Ar. Bea**	**117.94**	**315**	PKP	**PKPdf**	**13 10 38.2**	**-0.3**
LPAZ	**La Paz**	**146.38**	**61**	PKPbc	**PKPdf**	**13 11 32.1**	**-0.1**

ISCJB ***20*** *12:51:54.5±2.0,1°.99S±0°.03×120°.46E±0°.05,h10km±13km, mb3.9/10,MS3.8/1,Error ellipse: s-maj=7.7km s-min=4.7km az=10.5*
IDC ***20*** *12:51:54.8±0.8,1°.82S×120°.87E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/52,mbtmp3.9/11,ML2.9/1,MS3.3/2, Ms1 3.3/2,ms1mx2.7/46,Error ellipse: s-maj=76.4km s-min=14.8km az=60.0*
DJA ***20*** *12:51:56.5±1.1,2°.S±2°×12°.0E±°,h21km±9km,M4.2/7, MLv4.2/7*

ISC 20 12:51:55.3±1.9,1°.93S±0°.03×120°.50E±0°.06,h6km±13km, n21,σ2°.926/27,mb4.0/10,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.21**	**327**	P	**Pn**	**12 52 18.0**	**-0.7**
PCI				S	**Sb**	**12 52 33.8**	**-0.7**
TTSI	**Tana Toraja**	**1.30**	**211**	P	Pn	12 52 16.2	-3.8
TTSI				S	**Sn**	**12 52 32.6**	**-5.1**
APSI	**Ampana**	**1.53**	**49**	P	**Pg**	**12 52 23.3**	**-1.4**
APSI				S	**Sg**	**12 52 44.7**	**+0.2**
SPSI	**Sidrap Palu**	**2.15**	**200**	P	**Pn**	**12 52 30.8**	**-0.9**
SPSI				S	**Sn**	**12 52 56.9**	**-1.8**
MPSI	**Mapaga**	**2.33**	**345**	P	**Pn**	**12 52 34.2**	**+0.1**
MPSI				S	**Sn**	**12 53 02.8**	**-0.3**
MRSI	**Marisa**	**2.79**	**31**	P	**Pn**	**12 52 40.7**	**+0.2**
MRSI				S	**Sb**	**12 53 14.6**	**-5.4**
KDI	**Kendari**	**2.93**	**134**	P	**Pn**	**12 52 42.4**	**0.0**
KDI				S	**Sg**	**12 53 34.5**	**+5.1**
BSSI	**Bau Bau, Buton**	**4.19**	**180**	P	**Pn**	**12 52 59.2**	**-0.6**
MTKI	**Muara Teweh, K**	**5.68**	**280**	P	**Pn**	**12 53 19.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**16.85**	**163**	Pn	**Pn**	**12 55 50.3**	**-1.6**
FITZ	0.0nm,0.3s,baz=322,slow=12,SNR=2.5			LR	LR	13 03 41.4	
WRA	**Warramunga Arr**	**22.45**	**144**	P	**P**	**12 56 52.2**	**-3.0**
ASAR	**Alice Springs**	**25.21**	**150**	P	**P**	**12 57 22.4**	**+0.3**
ASAR				PcP	**PcP**	**13 00 56.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**29.33**	**315**	P	**P**	**12 58 00.7**	**+1.6**
STKA	**Stephens Creek**	**35.82**	**148**	P	**P**	**12 58 55.8**	**0.0**
SONM	**Songino Array**	**51.07**	**348**	P	**P**	**13 00 59.2**	**+0.6**
MKAR	**Makanchi Array**	**58.98**	**330**	P	**P**	**13 01 55.1**	**-0.7**
ZALV	**Zalesovo Beam**	**63.07**	**337**	P	**P**	**13 02 24.2**	**+0.8**
KURBB	**Kurchatov Arra**	**63.41**	**332**	P	**P**	**13 02 27.2**	**+1.6**
GEYT	**Alibeck**	**69.76**	**312**	P	**P**	**13 03 09.4**	**+2.8**
VNDA	**Vanda**	**78.71**	**172**	P	**P**	**13 03 59.1**	**+1.0**

JMA 20 12:53:24.6±0.2,38°.22N×144°.42E,h29km,M4.3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.32**	**293**	P	Pn	12 54 02.2	+1.4
OFUJ				S	Sn	12 54 30.5	+2.2
JIO	**Ouri**	**2.43**	**276**	*eS*	Sn	12 54 32.6	+1.6
MIYJ	**Miyakonagasawa**	**2.44**	**305**	P	Pn	12 54 03.5	+1.0
MIYJ				*eS*	Sn	12 54 33.1	+1.8
JMK	**Ichinoseki**	**2.61**	**287**	P	Pn	12 54 06.6	+1.8
JMK				*eS*	Sn	12 54 38.1	+2.5
JOM	**Ohasama**	**2.74**	**298**	P	Pn	12 54 08.9	+2.2
JOM				*eS*	Sn	12 54 41.4	+2.6
JANG	**Nango**	**3.12**	**315**	*eS*	Sn	12 54 48.7	+0.7
JFT	**Otama**	**3.31**	**259**	*eS*	Sn	12 54 54.7	+2.0

ISCJB ***20*** *12:54:31.3±0.3,24°.03S±0°.04×66°.96W±0°.05,h199km±4km, mb3.6/6,Error ellipse: s-maj=8.2km s-min=4.2km az=145.7*
SJA ***20*** *12:54:32.8±0.3,24°.15S×67°.25W,h172km±4km,ML3.3, MW3.1*
IDC ***20*** *12:54:32.9±1.2,23°.88S×66°.81W,h191km±11km,mb3.5/6, mb1 3.6/9,mb1mx3.5/37,mbtmp3.9/9,Error ellipse: s-maj=18.9km s-min=16.0km az=66.0*
GUC ***20*** *12:54:34.4±0.3,23°.69S×67°.57W,h251km±11km,ML4.4*

ISC 20 12:54:31.8±0.8,24°.09S±0°.05×66°.98W±0°.06,h190km±7km, n35,σ2°.913/48,mb3.8/6,6C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**115**	*eP*	**Pn**	**12 55 07.1**	**+2.5**
SLA				*eS*	**S**	**12 55 32.3**	**+2.3**
FSA	**Cafayete**	**2.20**	**156**	*eP*	**Pn**	**12 55 13.5**	**+1.5**
FSA				IAML		12 55 14.7	
FSA	comp=Z,40nm,0.4s			*eS*	**S**	**12 55 43.6**	**+0.4**
LVC	**Limon Verde**	**2.31**	**309**	P	**Pn**	**12 55 14.7**	**+1.4**
LVC	comp=Z,3μm,0.3s,baz=118,slow=7.7,SNR=714			S	**S**	**12 55 46.9**	**+1.5**
PB06	**IPOC Station P**	**2.75**	**300⇑**	*iP*	**Pn**	**12 55 19.5**	**+1.3**
PB06				*i* S	**S**	**12 55 54.0**	**-0.2**
PB06				IAML		12 55 55.4	
AHML	**Horco Molle**	**3.06**	**151**	*eP*	**Pn**	**12 55 23.6**	**+1.8**
AHML				*eS*	**S**	**12 56 01.4**	**+0.6**
PB09	**IPOC Station P**	**3.09**	**317⇑**	*iP*	**Pn**	**12 55 23.4**	**+1.1**
PB09				IAML		12 56 03.5	
ANCH	**Antofagasta**	**3.17**	**277**	*i* P	**Pn**	**12 55 26.4**	**+3.5**
ANCH				*i* S	**S**	**12 56 04.5**	**+1.8**
PB14	**IPOC Station P**	**3.17**	**260**	IAML		12 56 07.0	
PB10	**IPOC Station P**	**3.32**	**279⇑**	*iP*	**Pn**	**12 55 26.3**	**+1.5**
PB10				*eS*	**S**	**12 56 05.3**	**-0.9**
PB10				IAML		12 56 08.6	
PB10	**IPOC Station P**	**3.32**	**279**	*eP*	**Pn**	**12 55 26.3**	**+1.5**
PB04	**IPOC Station P**	**3.40**	**300⇑**	*iP*	**Pn**	**12 55 26.6**	**+0.6**
PB04				IAML		12 56 12.4	
PB07	**IPOC Station P**	**3.57**	**311⇑**	*iP*	**Pn**	**12 55 28.3**	**+0.3**
PB07				*eS*	**S**	**12 56 09.4**	**-2.6**
PB01	**IPOC Station P**	**3.82**	**322**	*eP*	**Pn**	**12 55 30.8**	**-0.3**

PB01 *e*S **S** **12 56 14.4 -3.1**
HMBC Humberstone 4.66 324 ⇑*i*P **Pn** **12 55 40.0 -1.7**
HMBC *i* S **S** **12 56 31.4 -5.2**
VCA Vinchina 4.75 193 *e*P **Pn** **12 55 43.2 +0.3**
VCA IAML 12 55 47.3
comp=Z,28nm,0.3s
ACLC CERRO LA CRUZ 5.31 180 *e*P **Pn** **12 55 51.1 +1.0**
ACLC *e*S **S** **12 56 49.0 -2.8**
AGUA GUANDACOL 5.54 194 *e*P **Pn** **12 55 53.3 +0.3**
APLL PUNTA DE LOS L 6.29 176 *e*P **Pn** **12 56 04.0 +1.3**
APLL *e*S **S** **12 57 11.3 -3.2**
ACDV Cuesta del Vie 6.35 197 *e*P **Pn** **12 56 03.9 +0.3**
AVFE Valle Fertil 6.55 184 *e*P **Pn** **12 56 07.1 +0.9**
AVFE *e*S **S** **12 57 16.8 -4.1**
AVFE IAML 12 57 21.3
comp=Z,15nm,0.5s
AMOG MOGNA 6.95 191 *e*P **Pn** **12 56 12.1 +0.7**
AMOG *e*S **S** **12 57 25.1 -5.1**
ACHE Chepes 7.05 178 *e*P **Pn** **12 56 14.0 +1.3**
ACHE *e*S **S** **12 57 28.8 -3.8**
LPAZ La Paz 7.84 352 P **Pn** **12 56 23.1 -0.5**
comp=Z,0.6nm,0.3s,baz=153,slow=7.7,SNR=11
LPAZ S **S** **12 57 48.1 -4.2**
comp=Z,0.4nm,0.3s,baz=284,slow=18,SNR=7.9
CPUP Villa Florida 9.02 106 P **Pn** **12 56 38.8 +0.4**
comp=Z,0.0nm,0.3s,baz=299,slow=19,SNR=2.3
SIV San Ignacio 9.79 36 P Pn 12 56 45.8 -2.7
comp=Z,0.7nm,0.3s,baz=224,slow=13,SNR=10
PTGA Pitinga 24.20 17 P **P** **12 59 29.4 -1.7**
comp=Z,1.2nm,0.3s,baz=204,slow=18,SNR=6.3
SNAA Sanae 59.26 161 P **P** **13 04 14.5 +1.5**
comp=Z,0.7nm,0.7s,baz=265,slow=8.7,SNR=8.1
TORD Torodi Ar. Bea 76.58 69 P **P** **13 06 01.4 -0.4**
comp=Z,0.5nm,0.6s,baz=255,slow=5.7,SNR=5.4
PDAR Pinedale Array 77.24 329 P **P** **13 06 05.8 +0.6**
comp=Z,0.3nm,0.6s,baz=124,slow=7.9,SNR=3.8
ULM Lac du Bonnet 78.32 342 P **P** **13 06 10.4 -0.2**
comp=Z,3.0nm,0.6s,baz=187,slow=4.0,SNR=5.5
YKA Yellowknife Ar 94.22 340 P **P** **13 07 28.8 +0.2**
comp=Z,0.8nm,0.6s,baz=140,slow=4.7,SNR=4.0
ASAR Alice Springs 128.38 205 PKP **PKPdf** **13 13 16.4 -0.1**
comp=Z,0.2nm,0.6s,baz=123,slow=1.6,SNR=3.0
WRA Warramunga Arr 131.55 207 PKP **PKPdf** **13 13 24.2 +1.6**
comp=Z,0.1nm,0.3s,baz=151,slow=1.8,SNR=3.4
ZALV Zalesovo Beam 143.47 28 PKP PKPbc 13 13 42.0 +0.8
comp=Z,4.2nm,0.3s,baz=298,slow=3.1,SNR=3.1
MKAR Makanchi Array 146.59 40 PKPbc **PKPbc** **13 13 51.4 +0.5**
comp=Z,1.0nm,0.6s,baz=293,slow=3.6,SNR=11

NNC 20 12:59:31.3±3.4, 36°.94N×69°.54E, h0km, mb3.9, mpv3.5, 5C-3D, Error ellipse: s-maj=25.4km s-min=18.6km az=16.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.95**	**343**	⇑Pg	Pn	13 00 06.1	+0.3
	31nm,0.5s						
DZET				⇑Lg	Lg	13 00 34.3	
	199nm,0.5s						
MNAS	**Manas**	**6.00**	**21**	⇑Pn	Pn	13 01 03.2	+1.8
	5.5nm,1.0s						
MNAS				⇓Sn	Sn	13 02 12.4	+1.6
	2.7nm,0.5s						
MNAS				⇓Lg	Lg	13 02 42.8	
	4.0nm,0.6s						
KK31	**Karatay Array**	**6.21**	**7**	⇑Pn	Pn	13 01 05.3	+1.2
	0.4nm,0.3s,baz=189,slow=14,SNR=18						
KK31				⇑Lg	Lg	13 02 51.5	
	3.5nm,0.6s,baz=195,slow=25,SNR=4.5						
AAK	**Ala-Archa**	**6.85**	**32**	⇓Pn	Pn	13 01 13.8	+0.6
	2.6nm,0.6s						
AAK				Sn	Sn	13 02 30.4	-1.5
	2.4nm,0.8s						
AAK				Lg	Lg	13 03 10.5	
	3.6nm,0.8s						

IDC 20 13:04:08.7±4.1, 23°.96S×177°.22W, h126km±40km, mb3.7/5, mb1 3.8/7, mb1mx3.5/36, mbtmp4.2/7, MS4.4/1, Ms1 4.4/1, ms1mx2.8/26, Error ellipse: s-maj=60.5km s-min=22.8km az=136.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.25**	**28**	P	Pn	13 06 45.4	-0.6
	2.4nm,0.3s,baz=239,slow=4.6,SNR=11						
AFI				S	Sn	13 08 41.2	-8.8
	3.3nm,0.3s,baz=236,slow=4.8,SNR=5.2						
URZ	**Urewera**	**15.05**	**197**	P	Pn	13 07 35.5	+0.8
	0.2nm,0.3s,baz=276,slow=4.2,SNR=4.7						
URZ				S	Sn	13 10 10.8	-11
	0.4nm,0.3s,baz=88,slow=22,SNR=6.8						
CTA	**Charters Tower**	**34.02**	**269**	P	P	13 10 42.5	+1.7
	5.9nm,0.7s,baz=108,slow=9.1,SNR=8.5						
PMG	**Port Moresby**	**36.93**	**287**	LR	LR	13 23 24.9	
	comp=Z,623nm,21.7s,baz=171,slow=31						
ASAR	**Alice Springs**	**44.53**	**260**	P	P	13 12 08.0	-0.1
	0.5nm,0.5s,baz=96,slow=7.1,SNR=15						
ASAR				pP	pP	13 12 31.2	-5.6
	0.2nm,0.4s,baz=97,slow=6.8,SNR=1.9						
WRA	**Warramunga Arr**	**44.94**	**265**	P	P	13 12 10.5	-0.9
	0.9nm,0.5s,baz=102,slow=8.3,SNR=16						
WRA				pP	pP	13 12 34.5	-5.7
	0.3nm,0.3s,baz=97,slow=8.5,SNR=2.9						
FITZ	**Fitzroy Crossi**	**53.36**	**265**	P	P	13 13 13.8	-1.6
	1.4nm,0.9s,baz=108,slow=9.6,SNR=3.6						
SEY	**Seymchan**	**89.90**	**347**	P	P	13 16 53.8	+0.9
	1.9nm,0.6s,baz=156,slow=8.6,SNR=7.6						
AKASG	**Malin Array Be**	**146.36**	**329**	PKPbc	PKPdf	13 23 33.3	+0.2
	1.1nm,0.4s,baz=44,slow=4.4,SNR=6.8						

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*IDC **20** 13:11:07.9±0.8, 36°.67N×69°.47E, h0km, mb3.9/16, mb1 4.0/22, mb1mx3.9/58, mbtmp3.9/22, ML3.6/6, MS3.2/2, Ms1 3.2/2, ms1mx2.7/53, Error ellipse: s-maj=15.0km s-min=13.3km az=178.0*
*ISCJB **20** 13:11:08.2±0.4, 36°.85N±0°.03×69°.47E±0°.05, h10km, mb3.8/15, MS3.4/1, Error ellipse: s-maj=6.4km s-min=4.5km az=159.6*
*NEIC **20** 13:11:09.6±0.7, 36°.73N×69°.44E, h10km, mb4.0/1, Error ellipse: s-maj=13.5km s-min=11.1km az=14.0*
*NNC **20** 13:11:14.3±8.0, 36°.98N×69°.56E, h9km±51km, mb4.4, mpv4.1, Error ellipse: s-maj=61.2km s-min=35.7km az=2.0*
ISC 20 13:11:10.5±0.6, 36°.82N±0°.05×69°.40E±0°.06, h10km, n49, σ1§86/49, mb3.8/15, 8C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.03**	**347**	⇑Pn	**Pn**	**13 11 47.3**	**+2.4**
	154nm,0.5s						
DZET				⇓Sn	**Sn**	**13 12 15.2**	**+4.8**
	1μm,0.5s						
CEP	**Cherat**	**3.63**	**145**	P	**Pb**	**13 12 17.2**	**+2.3**
CEP				S	**Sg**	**13 13 09.0**	**+1.9**
THW	**Thamme Wali**	**4.46**	**154**	P	**Pb**	**13 12 27.3**	**-1.6**
CHCP	**Chirah Chowk**	**4.47**	**134**	P	**Pb**	**13 12 31.4**	**+2.2**
MNAS	**Manas**	**6.14**	**22**	⇓Pn	**Pn**	**13 12 43.0**	**+1.6**
	4.4nm,0.3s						
MNAS				⇓Sn	**Sn**	**13 13 50.0**	**-1.8**
	11nm,0.4s						
MNAS				⇓Lg	Lg	13 14 24.0	
	44nm,1.2s						
KK31	**Karatay Array**	**6.33**	**7**	**Pn**	**Pn**	**13 12 45.5**	**+1.5**
	4.8nm,0.5s,baz=196,slow=14,SNR=74						
KK31				⇓Sn	**Sn**	**13 13 55.1**	**-1.2**
	8.7nm,0.5s,baz=206,slow=21,SNR=4.3						
KK31				⇑Lg	Lg	13 14 30.5	
	17nm,0.6s,baz=193,slow=28,SNR=4.0						
KKAR	**Karatay Array**	**6.33**	**7**	*e*Pn	**Pn**	**13 12 44.0**	**+0.1**
AAK	**Ala-Archa**	**7.01**	**33**	Pn	**Pn**	**13 12 55.6**	**+2.2**
	3.1nm,0.3s,baz=201,slow=9.1,SNR=74						
AAK				Sn	**Sn**	**13 14 12.3**	**-0.9**
	1.0nm,0.3s,baz=195,slow=20,SNR=3.7						
AAK				Lg	Lg	13 14 53.3	
	1.9nm,0.3s,baz=289,slow=3.6,SNR=6.6						
AAK				LR	LR	13 15 46.2	
	comp=Z,92nm,22.0s,baz=206,slow=39						
AAK	**Ala-Archa**	**7.01**	**33**	⇓Pn	**Pn**	**13 12 55.0**	**+1.7**
	14nm,0.6s						
AAK				Sn	**Sn**	**13 14 11.9**	**-1.3**
	15nm,0.7s						
AAK				Lg	Lg	13 14 48.1	
	27nm,1.1s						
TKM2	**Tokmak 2**	**7.73**	**36**	⇑Pn	**Pn**	**13 13 05.0**	**+1.6**
	6.0nm,0.5s						
TKM2				⇓Sn	**Sn**	**13 14 28.2**	**-2.9**
	13nm,0.8s						
TKM2				⇑Lg	Lg	13 15 15.2	
	24nm,1.1s						
GEYT	**Alibeck**	**9.05**	**280**	Pn	Pn	13 13 19.6	-1.6
	3.9nm,0.3s,baz=102,slow=12,SNR=18						
GEYT				Sn	**Sn**	**13 14 59.6**	**-3.5**
	4.1nm,0.3s,baz=96,slow=11,SNR=6.7						
PDGK	**Podgornoye**	**10.10**	**47**	⇑Pn	**Pn**	**13 13 36.7**	**+1.0**
	1.8nm,0.6s						
PDGK				⇑Lg	Lg	13 16 28.3	
	12nm,1.3s						
MKAR	**Makanchi Array**	**13.83**	**40**	Pn	**Pn**	**13 14 26.7**	**+0.2**
	0.1nm,0.3s,baz=228,slow=13,SNR=13						
PYUN	**Piuthan**	**14.39**	**123**	*e*P	Pn	13 14 31.7	-2.8
	28nm,0.7s						
DANN	**Dangsing**	**14.75**	**121**	*e*P	**Pn**	**13 14 38.0**	**-1.5**
	3.6nm,0.9s						
KOLN	**Koldanda**	**15.01**	**123**	*e*P	Pn	13 14 39.9	-3.0
	27nm,0.9s						
KURBB	**Kurchatov Arra**	**15.28**	**23**	Pn	Pn	13 14 42.5	-3.6
	0.0nm,0.3s,baz=211,slow=11,SNR=5.0						
KURBB				Lg	Lg	13 19 17.2	
	0.0nm,0.3s,baz=212,slow=28,SNR=4.8						
KURK	**Kurchatov**	**15.38**	**23**	Pn	Pn	13 14 42.5	-5.0
GKN	**Gorkha**	**15.57**	**120**	*e*P	**Pn**	**13 14 48.1**	**-2.2**
	23nm,0.5s						
AKTO	**Aktyubinsk**	**15.88**	**333**	Pn	**Pn**	**13 14 52.3**	**-1.7**
	0.4nm,0.3s,baz=146,slow=15,SNR=12						
AKTO				Sn	Sn	13 17 41.8	-8.1
	0.3nm,0.3s,baz=127,slow=20,SNR=3.4						
AKTO	**Aktyubinsk**	**15.88**	**333**	⇑Pn	**Pn**	**13 14 52.2**	**-1.8**
	7.6nm,0.8s						
AKTO				⇑Sn	**Sn**	**13 17 53.3**	**+3.4**
	8.8nm,0.8s						
DMN	**Daman**	**16.14**	**120**	*e*P	**Pn**	**13 14 55.8**	**-2.0**
KKN	**Kakani**	**16.15**	**119**	*e*P	**Pn**	**13 14 55.7**	**-2.2**
	31nm,0.6s						
BVAR	**Borovoye Array**	**16.22**	**2**	Pn	**Pn**	**13 14 55.9**	**-2.4**
	0.1nm,0.3s,baz=171,slow=13,SNR=5.5						
PKIN	**Phulchoki**	**16.36**	**120**	*e*P	**Pn**	**13 14 58.4**	**-2.2**
	21nm,0.5s						
GUN	**Gumba**	**16.50**	**118**	*e*P	**Pn**	**13 15 02.1**	**-0.4**
	28nm,0.7s						
JIRN	**Jiri**	**16.87**	**118**	*e*P	**Pn**	**13 15 07.2**	**0.0**
	125nm,0.5s						
RAMN	**Ramite**	**17.59**	**119**	*e*P	**Pn**	**13 15 14.5**	**-1.6**
	27nm,0.8s						
TAPN	**Taplejung**	**18.14**	**116**	*e*P	**Pn**	**13 15 23.2**	**+0.3**
	26nm,0.7s						
ODAN	**Odare**	**18.20**	**118**	*e*P	**Pn**	**13 15 23.8**	**+0.2**
	15nm,0.6s						
ZALV	**Zalesovo Beam**	**20.19**	**27**	P	**P**	**13 15 44.3**	**-0.8**
	2.8nm,0.6s,baz=220,slow=12,SNR=6.2						
ARU	**Arti**	**20.93**	**343**	P	**P**	**13 15 52.1**	**-1.0**
	5.0nm,0.2s,baz=104,slow=12,SNR=4.0						
HYB	**Hyderabad**	**20.96**	**155**	*i* P	**P**	**13 15 57.0**	**+3.3**
KBZ	**Khabaz**	**21.30**	**297**	P	**P**	**13 15 57.4**	**+0.1**
	2.5nm,0.9s,baz=90,slow=10,SNR=2.8						
KVAR	**Kislovodsk Arr**	**21.49**	**298**	P	**P**	**13 15 59.5**	**+0.1**
	3.8nm,0.5s,baz=90,slow=8.1,SNR=2.4						
BRTR	**Keskin Array B**	**28.11**	**287**	P	**P**	**13 17 03.2**	**+0.6**
	1.3nm,0.8s,baz=72,slow=7.9,SNR=6.9						
SONM	**Songino Array**	**29.22**	**56**	P	**P**	**13 17 13.2**	**+0.7**
	1.9nm,0.9s,baz=243,slow=9.8,SNR=5.6						
PALK	**Pallekele**	**31.17**	**158**	LR	LR	13 31 00.1	
	comp=Z,78nm,18.9s,baz=296,slow=38						
AKASG	**Malin Array Be**	**31.74**	**309**	P	**P**	**13 17 36.0**	**+1.6**
	0.2nm,0.3s,baz=85,slow=6.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**31.75**	**117**	P	**P**	**13 17 33.2**	**-1.7**
	0.8nm,0.8s,baz=302,slow=8.9,SNR=6.4						
ARCES	**ARCESS Array B**	**40.36**	**338**	P	**P**	**13 18 48.1**	**+0.1**
	0.2nm,0.9s,baz=100,slow=10,SNR=2.9						
NOA	**NORSAR Array B**	**43.35**	**323**	P	**P**	**13 19 13.7**	**+1.2**
	1.5nm,0.8s,baz=96,slow=8.1,SNR=2.9						
TIXI	**Tiksi**	**45.96**	**22**	P	**P**	**13 19 33.4**	**+0.2**
	2.9nm,0.9s,baz=278,slow=1.5,SNR=5.9						
USRK	**Ussuriysk Ar.**	**47.14**	**61**	P	**P**	**13 19 41.3**	**-1.5**
	1.3nm,0.5s,baz=260,slow=6.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**64.44**	**268**	P	**P**	**13 21 46.4**	**-1.0**
	0.3nm,0.5s,baz=45,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**74.81**	**15**	P	**P**	**13 22 50.5**	**-0.1**
	0.3nm,0.6s,baz=309,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**83.26**	**121**	P	P	13 23 35.0	-2.5
	0.7nm,0.8s,baz=332,slow=5.3,SNR=4.7						
WRAB	**Tennant Creek**	**83.26**	**121**	P	P	13 23 35.1	-2.4
	0.7nm,0.6s						
ASAR	**Alice Springs**	**85.50**	**124**	P	P	13 23 46.6	-2.2
	0.6nm,0.9s,baz=329,slow=5.0,SNR=6.0						

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*ISCJB **20** 13:48:13.6±0.8, 47°.8S±0°.1×78°.9E±0°.2, h10km, mb3.9/8, MS3.5/9, Error ellipse: s-maj=23.3km s-min=13.5km az=138.6*
*IDC **20** 13:48:13.8±0.9, 47°.86S×78°.91E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/31, mbtmp3.9/8, MS3.5/9, Ms1 3.5/9, ms1mx3.3/22, Error ellipse: s-maj=29.0km s-min=19.9km az=130.0*
ISC 20 13:48:15.2±0.8, 47°.9S±0°.2×78°.9E±0°.2, h10km, n20, σ1§49/16, mb4.0/8, MS3.5/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**21.44**	**197**	P	**P**	**13 53 03.0**	**-0.2**
	7.0nm,0.7s,baz=16,slow=9.6,SNR=19						
MAW				LR	LR	13 59 36.2	
	comp=Z,80nm,20.8s,baz=60,slow=32						
VNDA	**Vanda**	**42.31**	**161**	P	**P**	**13 56 08.2**	**-0.3**
	1.4nm,0.6s,baz=297,slow=8.2,SNR=6.6						
VNDA				LR	LR	14 12 46.3	
	comp=Z,71nm,18.5s,baz=210,slow=35						
SNAA	**Sanae**	**42.97**	**207**	P	**P**	**13 56 14.2**	**+0.2**
SNAA	**Sanae**	**42.97**	**207**	P	**P**	**13 56 13.6**	**-0.4**
	1.4nm,0.9s,baz=131,slow=19,SNR=5.2						
VNA2	**Neumayer--Watz**	**44.57**	**208**	P	**P**	**13 56 27.1**	**+0.2**
	baz=96,slow=7.8						
VNA1	**Neumayer--Stat**	**44.93**	**208**	P	**P**	**13 56 29.9**	**+0.2**
VNA3	**Neumayer Olymp**	**45.19**	**207**	P	**P**	**13 56 32.1**	**+0.4**
BOSA	**Boshof**	**45.33**	**275**	P	**P**	**13 56 34.1**	**+0.5**
	2.3nm,0.7s,baz=148,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**48.13**	**68**	LR	LR	14 13 33.1	
	comp=Z,41nm,18.1s,baz=185,slow=32						
STKA	**Stephens Creek**	**49.34**	**95**	P	**P**	**13 57 06.6**	**+2.0**
	1.8nm,0.8s,baz=212,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**49.50**	**81**	P	**P**	**13 57 05.0**	**-1.0**
	0.3nm,0.4s,baz=220,slow=7.0,SNR=14						
ASAR				PcP	**PcP**	**13 58 26.5**	**-1.4**
	0.5nm,0.9s,baz=198,slow=2.7,SNR=2.7						
WRA	**Warramunga Arr**	**52.39**	**78**	P	**P**	**13 57 28.7**	**+1.0**
	1.6nm,1.3s,baz=222,slow=6.3,SNR=3.5						
WRA				PcP	**PcP**	**13 58 34.7**	**-3.9**
	0.5nm,0.6s,baz=224,slow=3.2,SNR=2.3						
PSI	**Prapat**	**53.40**	**25**	LR	LR	14 14 32.2	
	comp=Z,81nm,18.9s,baz=238,slow=30						
KMBO	**Kilima Mbogo**	**58.84**	**309**	LR	LR	14 18 26.2	
	comp=Z,37nm,20.2s,baz=70,slow=31						
CMAR	**Chiang Mai Arr**	**68.41**	**20**	P	**P**	**13 59 16.4**	**-0.6**
	1.5nm,0.8s,baz=216,slow=6.3,SNR=9.6						
CMAR				LR	LR	14 23 34.0	
	comp=Z,21nm,21.4s,baz=212,slow=31						
KSRS	**Korea Array**	**95.51**	**37**	LR	LR	14 39 53.3	
	comp=Z,9.5nm,20.2s,baz=334,slow=32						
KBZ	**Khabaz**	**96.56**	**335**	LR	LR	14 43 32.8	
	comp=Z,25nm,18.9s,baz=243,slow=34						
SONM	**Songino Array**	**98.26**	**18**	LR	LR	14 44 31.6	
	comp=Z,21nm,19.1s,baz=266,slow=34						
ILAR	**Eielson Array**	**150.35**	**38**	PKPbc	**PKPbc**	**14 08 07.5**	**+2.0**
	0.3nm,0.6s,baz=296,slow=2.9,SNR=3.0						
TXAR	**Lajitas Array**	**161.40**	**173**	PKPab	**PKPab**	**14 08 59.6**	**-0.5**
	0.2nm,0.7s,baz=169,slow=7.4,SNR=3.7						

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*IDC **20** 14:02:43.4±1.3, 37°.01N×143°.64E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/43, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=33.8km s-min=23.8km az=88.0*
*ISCJB **20** 14:02:46.6±0.8, 37°.07N±0°.04×143°.36E±0°.06, h33km, mb3.4/5, Error ellipse: s-maj=7.1km s-min=6.2km az=12.5*
*JMA **20** 14:02:47.1±0.3, 37°.03N×143°.29E, h43km, M3.4*
ISC 20 14:02:48.5±1.2, 37°.07N±0°.06×143°.34E±0°.08, h35km, n26, σ1§00/28, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.99**	**279**	P	**Pn**	**14 03 18.8**	**-0.9**
JFK				S	**Sn**	**14 03 41.3**	**-2.1**
ONAJ	**Iwakimizuishiy**	**2.03**	**272**	P	**Pn**	**14 03 19.5**	**-0.8**
ONAJ				S	**Sn**	**14 03 43.3**	**-1.2**
JIO	**Ouri**	**2.10**	**312**	P	**Pn**	**14 03 20.8**	**-0.3**
JIO				S	**Sn**	**14 03 45.1**	**-0.8**
JMM	**Marumori**	**2.17**	**292**	P	**Pn**	**14 03 21.7**	**-0.5**
JFT	**Otama**	**2.43**	**281**	P	**Pn**	**14 03 26.0**	**+0.2**
JFT				S	**Sn**	**14 03 54.4**	**0.0**
JMK	**Ichinoseki**	**2.51**	**319**	P	**Pn**	**14 03 26.8**	**-0.1**
JMK				*e*S	**Sn**	**14 03 56.4**	**+0.1**
JOM	**Ohasama**	**2.89**	**327**	P	**Pn**	**14 03 33.3**	**+1.3**
JOM				S	**Sn**	**14 04 05.7**	**+0.2**
JYK	**Kaneyama**	**2.99**	**309**	P	**Pn**	**14 03 33.9**	**+0.5**
JAG	**Ashikaga**	**3.19**	**259**	P	**Pn**	**14 03 35.6**	**-0.5**
JANG	**Nango**	**3.59**	**337**	S	**Sn**	**14 04 21.8**	**-1.1**
JRY	**Ryogami san**	**3.72**	**255**	P	**Pn**	**14 03 42.8**	**-0.8**
JOD2	**Odawara 2**	**3.88**	**244**	P	**Pn**	**14 03 44.7**	**-1.0**
MJAR	**Matsushiro Arr**	**4.15**	**264**	Pn	**Pn**	**14 03 49.9**	**+0.5**
	1.7nm,0.3s,baz=87,slow=9.8,SNR=8.2						
MJAR				Sn	**Sn**	**14 04 37.7**	**+1.0**
	0.6nm,0.3s,baz=86,slow=32,SNR=2.7						
MAT	**Matsushiro**	**4.15**	**264**	P	**Pn**	**14 03 49.9**	**+0.5**
MAT				*e*S	**Sn**	**14 04 37.6**	**+0.9**
ASAJ	**Asahikawa**	**7.06**	**356**	Pn	**Pn**	**14 04 26.9**	**-2.4**
	1.0nm,0.3s,baz=218,slow=18,SNR=11						
ASAJ				Sn	**Sn**	**14 05 47.3**	**-1.0**
	0.2nm,0.3s,baz=209,slow=10,SNR=3.5						
H11N2	**WAKE ISLAND Hy 26.86**	**124**		T	T	14 36 05.2	
	baz=311,slow=75,SNR=8.1						
H11N1	**WAKE ISLAND Hy 26.87**	**124**		T	T	14 36 05.7	
	baz=311,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy 26.88**	**124**		T	T	14 36 06.5	
	baz=311,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy 27.61**	**126**		T	T	14 36 56.2	
	baz=312,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy 27.61**	**126**		T	T	14 36 56.2	
	baz=312,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy 27.62**	**126**		T	T	14 36 56.4	
	baz=312,slow=75,SNR=30						
SONM	**Songino Array**	**29.04**	**303**	P	P	14 08 48.7	+3.3
	0.4nm,0.6s,baz=94,slow=8.6,SNR=2.0						
MKAR	**Makanchi Array**	**45.40**	**302**	P	**P**	**14 11 05.3**	**+1.7**
	0.3nm,0.6s,baz=93,slow=8.7,SNR=2.6						
ILAR	**Eielson Array**	**48.64**	**32**	P	**P**	**14 11 28.2**	**-0.3**
	0.3nm,0.6s,baz=274,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**57.34**	**190**	P	**P**	**14 12 32.9**	**-0.2**
	0.5nm,0.7s,baz=12,slow=7.3,SNR=4.5						
ASAR	**Alice Springs**	**61.06**	**190**	P	**P**	**14 12 58.8**	**-0.1**
	0.2nm,0.7s,baz=17,slow=7.7,SNR=4.5						

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*ISCJB **20** 14:06:43.4±0.5, 33°.88N±0°.03×35°.82E±0°.05, h7km±8km, Error ellipse: s-maj=7.4km s-min=5.0km az=18.6*
*CSEM **20** 14:06:44.0, 33°.88N×35°.84E, h0km, ML2.8*
*GRAL **20** 14:06:44.0±0.3, 33°.88N×35°.84E, h0km±58km, MD2.8*
*NSSC **20** 14:06:44.0±1.3, 33°.86N×35°.84E, h20km±16km, ML1.8*
ISC 20 14:06:43.3±2.0, 33°.89N±0°.03×35°.79E±0°.07, h14km±20km, n11, σ0§43/20, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.12**	**280**	*e*P	**Pg**	**14 06 46.8**	**+0.1**
BHL	**Bhannes**	**0.12**	**280**	*e*P	**Pg**	**14 06 46.8**	**+0.1**
DQRL	**Deir Qamar**	**0.26**	**226**	*e*P	**Pg**	**14 06 49.0**	**+0.2**
DQRL				*e*S	**Sg**	**14 06 52.9**	**+0.3**
DQRL	**Deir Qamar**	**0.26**	**226**	*e*P	**Pg**	**14 06 49.0**	**+0.2**
DQRL				*e*S	**Sg**	**14 06 52.8**	**+0.3**
RCY	**Rachaya**	**0.39**	**175**	*e*P	**Pg**	**14 06 50.7**	**-0.4**
RCY				*e*S	**Sg**	**14 06 55.8**	**-0.6**
HWQ	**Hawqa**	**0.41**	**18**	*e*P	**Pg**	**14 06 51.4**	**-0.2**
HWQ				*e*S	**Sg**	**14 06 56.8**	**-0.4**
HWQ	**Hawqa**	**0.41**	**18**	*e*P	**Pg**	**14 06 51.4**	**-0.2**
HWQ				*e*S	**Sg**	**14 06 56.8**	**-0.4**
BRBR	**Barbar**	**0.49**	**164**	*e*P	**Pg**	**14 06 53.0**	**0.0**
BRBR				*e*S	**Sg**	**14 06 59.5**	**-0.1**
BRBR				AML	AML	14 07 03.3	
	comp=N,35nm,0.5s						
BRBR				AML	AML	14 07 05.2	
	comp=E,74nm,0.7s						
MARH	**Ras Al Marh**	**0.59**	**76**	*e*P	**Pg**	**14 06 55.6**	**+0.6**
MARH				*e*S	**Sg**	**14 07 03.1**	**+0.2**
MARH				AML	AML	14 07 09.0	
	comp=N,61nm,0.8s						
MARH				AML	AML	14 07 11.9	
	comp=E,91nm,0.3s						
HAWK	**Haweek**	**0.81**	**39**	*e*P	**Pg**	**14 06 59.8**	**+0.7**
HAWK				*e*S	**Sg**	**14 07 08.9**	**-0.8**
HAWK				AML	AML	14 07 14.7	
	comp=N,30nm,0.6s						
HAWK				AML	AML	14 07 18.9	
	comp=E,20nm,0.3s						
BIDA	**Albida**	**1.21**	**21**	*e*P	**Pg**	**14 07 06.8**	**+0.3**
BIDA				*e*S	**Sg**	**14 07 22.3**	**0.0**
BIDA				AML

FETY				*e*Sg	**Sg**	**14 21 02.1**	**+0.1**		
KORT	**Korkueli**	**1.19**	**19**	*i* P	**Pb**	**14 20 50.6**	**-2.1**		
KORT				*i* S	**Sn**	**14 21 09.8**	**+0.6**		
KORT	**Korkueli**	**1.19**	**19**	P	**Pb**	**14 20 50.6**	**-2.1**		
KORT				S	**Sn**	**14 21 09.8**	**+0.6**		
ANTB	**Antalya**	**1.21**	**31**	*e*PN	**Pb**	**14 20 52.8**	**0.0**		
ANTB	**Antalya**	**1.21**	**31**	*e*Pn	**Pb**	**14 20 52.8**	**0.0**		
GLHS	**Gihisar (BURDU**	**1.32**	**347**	*e*PN	**Pn**	**14 20 53.9**	**-0.6**		
GLHS	**Gihisar (BURDU**	**1.32**	**347**	*e*Pn	**Pn**	**14 20 53.9**	**-0.6**		
DALY	**Dalyan (Mu¨la**	**1.36**	**314**	*e*PN	**Pb**	**14 20 55.4**	**-0.2**		
DALY				*e*SN	**Sb**	**14 21 12.8**	**-0.2**		
DALY	**Dalyan (Mu¨la**	**1.36**	**314**	*i* P	**Pn**	**14 20 55.0**	**0.0**		
DALY				*i* S	**Sb**	**14 21 12.9**	**-0.2**		
DALY	**Dalyan (Mu¨la**	**1.36**	**314**	P	**Pn**	**14 20 55.0**	**0.0**		
DALY	**Dalyan (Mu¨la**	**1.36**	**314**	*e*Pn	**Pb**	**14 20 55.4**	**-0.2**		
DALY				*e*Sn	**Sb**	**14 21 12.8**	**-0.2**		
GOLH	**Golhisar**	**1.39**	**350**	*i* P	**Pn**	**14 20 55.2**	**-0.3**		
GOLH				*i* S	**Sb**	**14 21 14.1**	**+0.2**		
GOLH	**Golhisar**	**1.39**	**350**	P	**Pn**	**14 20 55.2**	**-0.3**		
GOLH				S	**Sb**	**14 21 14.1**	**+0.2**		
TURN	**Turunc**	**1.43**	**315**	*i* P	**Pg**	**14 20 59.8**	**+2.4**		
TURN				*i* S	**Sg**	**14 21 19.9**	**+3.9**		
ARG	**Arkhangelos**	**1.46**	**284**	P	**Pn**	**14 20 56.7**	**+0.3**		
ARG				S	**Sn**	**14 21 14.0**	**-1.5**		
ARG				AML	AML	14 21 22.1			
	comp=N,262μm,0.2s								
ARG				AML	AML	14 21 24.7			
	comp=E,697μm,0.3s								
ARG	**Arkhangelos**	**1.46**	**284**	P	**Pn**	**14 20 56.7**	**+0.3**		
ARG				S	**Sn**	**14 21 14.0**	**-1.5**		
BCK	**Bucak**	**1.69**	**20**	*e*PN	**Pn**	**14 20 59.5**	**-0.1**		
BCK	**Bucak**	**1.69**	**20**	*e*Pn	**Pn**	**14 20 59.5**	**-0.1**		
TAVA	**DENIZLI_Tavas**	**1.77**	**334**	*i* P	**Pn**	**14 21 01.5**	**+0.8**		
TAVA				*i* S	**Sn**	**14 21 23.4**	**0.0**		
TAVA	**DENIZLI_Tavas**	**1.77**	**334**	P	**Pn**	**14 21 01.5**	**+0.8**		
TAVA				S	**Sn**	**14 21 23.4**	**0.0**		
SUTC	**Sutluce-Ispart**	**1.84**	**29**	*e*PN	**Pn**	**14 21 02.2**	**+0.5**		
SUTC				*e*SN	**Sn**	**14 21 24.9**	**-0.3**		
SUTC	**Sutluce-Ispart**	**1.84**	**29**	*e*Pn	**Pn**	**14 21 02.2**	**+0.5**		
SUTC				*e*Sn	**Sn**	**14 21 24.9**	**-0.3**		
DNZL	**Cakiroluk**	**1.93**	**340**	*i* P	**Pb**	**14 21 04.8**	**-0.6**		
DNZL				*i* S	**Sb**	**14 21 29.2**	**-0.4**		
DNZL	**Cakiroluk**	**1.93**	**340**	P	**Pb**	**14 21 04.8**	**-0.6**		
DNZL				S	**Sb**	**14 21 29.2**	**-0.4**		
DENT	**Denizli**	**2.00**	**340**	*e*PN	**Pn**	**14 21 03.7**	**-0.1**		
DENT	**Denizli**	**2.00**	**340**	*e*Pn	**Pn**	**14 21 03.7**	**-0.1**		
DAT	**Datca**	**2.04**	**295**	*e*PN	**Pn**	**14 21 04.7**	**+0.2**		
DAT	**Datca**	**2.04**	**295**	*e*Pn	**Pn**	**14 21 04.7**	**+0.2**		
MLSB	**Milas**	**2.21**	**311**	*e*PN	**Pn**	**14 21 06.7**	**0.0**		
MLSB	**Milas**	**2.21**	**311**	*e*Pn	**Pn**	**14 21 06.7**	**0.0**		
KARP	**Karpathos**	**2.23**	**262**	P	**Pb**	**14 21 09.0**	**-1.4**		
KARP				S	**Sn**	**14 21 35.1**	**+0.4**		
KARP				AML	AML	14 21 40.6			
	comp=E,185μm,0.6s								
KARP				AML	AML	14 21 41.0			
	comp=N,150μm,0.4s								
KARP	**Karpathos**	**2.23**	**262**	P	**Pb**	**14 21 09.0**	**-1.4**		
KARP				S	**Sn**	**14 21 35.1**	**+0.4**		
BODT	**Bodrum**	**2.38**	**301**	*e*PN	**Pn**	**14 21 09.1**	**0.0**		
BODT	**Bodrum**	**2.38**	**301**	*e*Pn	**Pn**	**14 21 09.1**	**0.0**		
SHUT	**Suhut-Afyon**	**2.73**	**11**	*e*PN	**Pn**	**14 21 14.3**	**+0.3**		
SHUT	**Suhut-Afyon**	**2.73**	**11**	*e*Pn	**Pn**	**14 21 14.3**	**+0.3**		
KONT	**Konya--Tatoy**	**2.87**	**43**	*e*PN	**Pn**	**14 21 16.9**	**+1.0**		
KONT	**Konya--Tatoy**	**2.87**	**43**	*e*Pn	**Pn**	**14 21 16.9**	**+1.0**		
LADK	**Ladik-KONYA**	**3.06**	**40**	*e*PN	**Pn**	**14 21 19.5**	**+1.0**		
LADK	**Ladik-KONYA**	**3.06**	**40**	*e*Pn	**Pn**	**14 21 19.5**	**+1.0**		
SIMA	**Simav-Kutahya**	**3.29**	**348**	*e*PN	**Pn**	**14 21 22.1**	**+0.6**		
SIMA	**Simav-Kutahya**	**3.29**	**348**	*e*Pn	**Pn**	**14 21 22.2**	**+0.6**		
TVSB	**Tavsanli**	**3.59**	**355**	*e*PN	**Pn**	**14 21 26.7**	**+1.0**		
TVSB	**Tavsanli**	**3.59**	**355**	*e*Pn	**Pn**	**14 21 26.7**	**+1.0**		

WEL 20 14:37:40.0±0.4, 39°.62S×174°.19E, h236km±3km, ML3.9/43, 17C-5D, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.23**	**46**	PN	Pn	14 38 10.8	0.0
LREZ				SN	S	14 38 33.3	-1.5
KHEZ	**Kahui Hut**	**0.35**	**338**	PN	Pn	14 38 11.0	-0.2
KHEZ				SN	S	14 38 34.6	-0.9
WAZ	**Wanganui**	**0.63**	**102**	⇑PN	Pn	14 38 12.3	+0.4
WAZ				SN	S	14 38 35.2	-1.6
VRZ	**Vera Road**	**0.67**	**42**	⇓PN	Pn	14 38 11.1	-0.9
PKVZ	**Pokaka**	**0.96**	**70**	PN	Pn	14 38 13.2	-0.3
OHWZ	**Ohakea**	**1.04**	**124**	PN	Pn	14 38 14.4	+0.6
OHWZ				SN	S	14 38 38.7	-1.7
TWVZ	**Taurewa**	**1.12**	**61**	PN	Pn	14 38 13.8	-0.7
FWVZ	**Far West T-bar**	**1.12**	**71**	PN	Pn	14 38 14.4	-0.3
WNVZ	**Wahianoa**	**1.13**	**75**	PN	Pn	14 38 14.5	-0.2
DUWZ	**D'Urville Isla**	**1.19**	**190**	⇑PN	Pn	14 38 14.9	+0.1
MOVZ	**Moawhango**	**1.23**	**80**	PN	Pn	14 38 14.7	-0.5
KIW	**Kapiti Island**	**1.35**	**156**	PN	Pn	14 38 15.9	0.0
KIW				AML	AML	14 38 42.9	
KIW				AML	AML	14 38 43.0	
OGWZ	**Otaki Gorge**	**1.41**	**148**	⇑PN	Pn	14 38 16.5	+0.2
OGWZ				AML	AML	14 38 43.8	
OGWZ				AML	AML	14 38 44.1	
TSZ	**Takapari Road**	**1.43**	**108**	⇑PN	Pn	14 38 16.6	+0.1
TSZ				AML	AML	14 38 44.4	
BHHZ	**Black Hill Sta**	**1.46**	**85**	PN	Pn	14 38 16.4	-0.4
MRZ	**Mangatainoka R**	**1.49**	**135**	⇑PN	Pn	14 38 16.8	-0.1
MRZ				AML	AML	14 38 44.1	
MRZ				AML	AML	14 38 44.6	
PNHZ	**Pukenui**	**1.58**	**101**	PN	Pn	14 38 18.0	+0.3
PNHZ				AML	AML	14 38 47.3	
PNHZ				AML	AML	14 38 48.2	
TCW	**Tory Channel**	**1.59**	**178**	PN	Pn	14 38 17.8	+0.1
TCW				AML	AML	14 38 47.5	
TCW				AML	AML	14 38 47.5	
CAW	**Cannon Point**	**1.63**	**156**	⇑PN	Pn	14 38 18.0	0.0
CAW				AML	AML	14 38 46.3	
CAW				AML	AML	14 38 47.0	
HOWZ	**Holdsworth Sta**	**1.63**	**142**	PN	Pn	14 38 17.9	-0.1
HOWZ				AML	AML	14 38 46.8	
HOWZ				AML	AML	14 38 46.8	
PRWZ	**Pori Road**	**1.66**	**125**	PN	Pn	14 38 18.6	+0.3
PRWZ				AML	AML	14 38 48.2	
PRWZ				AML	AML	14 38 49.2	
DVHZ	**Dannevirke**	**1.67**	**115**	PN	Pn	14 38 18.5	+0.1
DVHZ				AML	AML	14 38 48.5	
DVHZ				AML	AML	14 38 49.2	
KRHZ	**Kereru**	**1.69**	**91**	PN	Pn	14 38 18.7	+0.1
KRHZ				AML	AML	14 38 49.1	
KRHZ				AML	AML	14 38 49.6	
NNZ	**Nelson**	**1.71**	**201**	PN	Pn	14 38 18.7	+0.1
WEL	**Wellington**	**1.72**	**165**	PN	Pn	14 38 18.7	-0.1
WEL				AML	AML	14 38 48.9	
WEL				AML	AML	14 38 48.9	
WEL				AML	AML	14 38 49.1	
TIWZ	**Tintock**	**1.74**	**132**	⇑PN	Pn	14 38 19.1	+0.1
TIWZ				AML	AML	14 38 49.0	
TIWZ				AML	AML	14 38 49.6	
QRZ	**Quartz Range**	**1.75**	**226**	PN	Pn	14 38 18.5	-0.5
WPHZ	**Waipukurau**	**1.79**	**105**	PN	Pn	14 38 19.3	-0.1
WPHZ				AML	AML	14 38 49.8	
WPHZ				AML	AML	14 38 53.7	
TUWZ	**Tuamarina**	**1.81**	**186**	PN	Pn	14 38 19.6	0.0
TUWZ				AML	AML	14 38 48.9	
TUWZ				AML	AML	14 38 49.8	
MTW	**Mount Morrison**	**1.83**	**147**	⇑PN	Pn	14 38 19.7	-0.1
MTW				AML	AML	14 38 49.7	
MTW				AML	AML	14 38 50.0	
BKZ	**Black Stump Fm**	**1.84**	**76**	PN	Pn	14 38 19.6	-0.4
BKZ				AML	AML	14 38 48.8	
BKZ				AML	AML	14 38 48.8	
BHW	**Baring Head**	**1.86**	**164**	PN	Pn	14 38 19.7	-0.3
BHW				AML	AML	14 38 50.6	
BHW				AML	AML	14 38 52.3	
BFZ	**Birch Farm**	**1.90**	**124**	PN	Pn	14 38 20.5	+0.1
BFZ				AML	AML	14 38 50.7	
BFZ				AML	AML	14 38 50.7	
BFZ				AML	AML	14 38 50.9	
MRHZ	**Matea Rd**	**1.90**	**66**	PN	Pn	14 38 19.6	-1.0
MRHZ				AML	AML	14 38 49.0	
MRHZ				AML	AML	14 38 49.3	
MCHZ	**McNeill Hill**	**1.95**	**86**	PN	Pn	14 38 21.6	+0.7
MCHZ				AML	AML	14 38 54.7	
MSWZ	**Moikau Station**	**1.96**	**156**	⇑PN	Pn	14 38 20.8	-0.2
MSWZ				AML	AML	14 38 52.0	
MSWZ				AML	AML	14 38 52.6	
TMWZ	**Te Maipa**	**1.97**	**139**	PN	Pn	14 38 21.1	0.0
TMWZ				AML	AML	14 38 53.0	
TMWZ				AML	AML	14 38 54.1	
PRHZ	**Porangahau**	**1.99**	**110**	⇓PN	Pn	14 38 21.7	+0.4
PRHZ				AML	AML	14 38 54.7	
PRHZ				AML	AML	14 38 54.9	
PAWZ	**Paruwai Farm**	**1.99**	**152**	⇑PN	Pn	14 38 21.2	-0.1
PAWZ				AML	AML	14 38 52.4	
PAWZ				AML	AML	14 38 54.6	
KAHZ	**Kahuranaki**	**2.08**	**96**	PN	Pn	14 38 22.7	+0.5
KAHZ				AML	AML	14 38 54.9	
KAHZ				AML	AML	14 38 56.5	
PXZ	**Pawanui**	**2.10**	**102**	⇓PN	Pn	14 38 22.6	+0.4
PXZ				AML	AML	14 38 55.9	
PXZ				AML	AML	14 38 55.9	
PXZ				AML	AML	14 38 56.1	
PXZ				AML	AML	14 38 56.1	
BSWZ	**Blackbirch Sta**	**2.10**	**186**	PN	Pn	14 38 22.3	0.0
BSWZ				AML	AML	14 38 55.4	
BSWZ				AML	AML	14 38 55.5	
PLWZ	**Palliser**	**2.11**	**158**	PN	Pn	14 38 22.1	-0.3
PLWZ				AML	AML	14 38 55.7	
TRWZ	**Traveller**	**2.11**	**148**	PN	Pn	14 38 22.4	0.0
TRWZ				AML	AML	14 38 54.9	
TRWZ				AML	AML	14 38 55.1	
ARHZ	**Aropaoanui**	**2.21**	**81**	⇑PN	Pn	14 38 23.7	+0.4
ARHZ				AML	AML	14 38 56.1	
ARHZ				AML	AML	14 38 57.1	
CKHZ	**Cape Kidnapper**	**2.23**	**92**	PN	Pn	14 38 24.2	+0.6
MUGZ	**Murupara**	**2.32**	**61**	PN	Pn	14 38 23.3	-1.2
THZ	**Tophouse**	**2.35**	**204**	⇑PN	Pn	14 38 24.7	-0.1
RTZ	**Ruatahuna**	**2.40**	**66**	⇑PN	Pn	14 38 24.5	-0.8
WHHZ	**Waihua**	**2.43**	**78**	PN	Pn	14 38 25.8	+0.2
WHHZ				AML	AML	14 39 05.1	
WHHZ				AML	AML	14 39 08.3	
SNGZ	**Shannon Statio**	**2.59**	**72**	PN	Pn	14 38 27.0	-0.3
SNGZ				AML	AML	14 39 07.3	
SNGZ				AML	AML	14 39 07.6	
URZ	**Urewera**	**2.66**	**60**	⇑PN	Pn	14 38 26.5	-1.4
URZ				AML	AML	14 39 01.9	
URZ				AML	AML	14 39 02.5	
KNZ	**Kokohu**	**2.77**	**79**	PN	Pn	14 38 29.0	-0.2
DSZ	**Denniston Nort**	**2.79**	**220**	⇑PN	Pn	14 38 29.0	-0.3
KHZ	**Kahutara**	**2.83**	**190**	PN	Pn	14 38 29.4	-0.3
KHZ				AML	AML	14 39 06.7	
MWZ	**Matawai**	**2.91**	**65**	⇓PN	Pn	14 38 29.7	-1.0
MHGZ	**Mahia Peninsul**	**2.92**	**82**	PN	Pn	14 38 31.1	+0.3
RIGZ	**Rimuhau**	**2.93**	**73**	PN	Pn	14 38 30.7	-0.2
RIGZ				AML	AML	14 39 08.4	
RIGZ				AML	AML	14 39 09.3	
PRGZ	**Paritu Road**	**2.95**	**77**	PN	Pn	14 38 31.2	0.0
PRGZ				AML	AML	14 39 10.5	
PRGZ				AML	AML	14 39 11.8	
TKGZ	**Te Karaka**	**3.09**	**69**	PN	Pn	14 38 32.4	-0.2
TKGZ				AML	AML	14 39 13.1	
TKGZ				AML	AML	14 39 15.0	
RUGZ	**Raukumara Rang**	**3.19**	**60**	PN	Pn	14 38 32.0	-2.0
TWGZ	**Tauwhareparae**	**3.29**	**65**	PN	Pn	14 38 34.5	-0.6
TWGZ				AML	AML	14 39 16.5	
TWGZ				AML	AML	14 39 18.7	
CNGZ	**Carnagh Statio**	**3.33**	**71**	PN	Pn	14 38 35.5	+0.1
HAZ	**Te Kaha**	**3.38**	**58**	⇑PN	Pn	14 38 34.0	-2.0
HAZ				AML	AML	14 39 16.1	
HAZ				AML	AML	14 39 16.5	
LTZ	**Lake Taylor**	**3.47**	**204**	PN	Pn	14 38 36.6	-0.4
PKGZ	**Pakihiroa**	**3.50**	**62**	PN	Pn	14 38 36.3	-1.1
PKGZ				AML	AML	14 39 20.8	
PKGZ				AML	AML	14 39 21.6	
PUZ	**Puketiti**	**3.54**	**65**	⇑PN	Pn	14 38 36.7	-1.1
PUZ				AML	AML	14 39 20.3	
PUZ				AML	AML	14 39 22.4	
INZ	**Inchbonnie**	**3.73**	**213**	PN	Pn	14 38 39.3	-0.6
WMGZ	**Waiomatatini S**	**3.77**	**63**	PN	Pn	14 38 39.2	-1.3
WMGZ				AML	AML	14 39 26.5	
WMGZ				AML	AML	14 39 27.6	
MXZ	**Matakaoa Point**	**3.83**	**59**	PN	Pn	14 38 40.0	-1.2
OXZ	**Oxford**	**4.04**	**203**	PN	Pn	14 38 42.5	-1.0
CRLZ	**Canterbury Las**	**4.12**	**196**	PN	Pn	14 38 43.2	-1.3
MQZ	**McQueen's Vall**	**4.24**	**195**	PN	Pn	14 38 44.4	-1.5
WVZ	**Waitaha Valley**	**4.32**	**216**	PN	Pn	14 38 45.7	-1.2
RPZ	**Rata Peaks**	**4.71**	**209**	PN	Pn	14 38 51.0	-0.8
FOZ	**Fox Glacier**	**5.10**	**219**	PN	Pn	14 38 55.4	-1.0
LBZ	**Lake Benmore**	**5.61**	**211**	PN	Pn	14 39 01.8	-1.2
JCZ	**Jackson Bay**	**6.00**	**220**	PN	Pn	14 39 06.7	-1.2
ODZ	**Otahua Downs**	**6.02**	**205**	⇓PN	Pn	14 39 07.9	-0.1
EAZ	**Earnscleugh**	**6.66**	**211**	PN	Pn	14 39 15.3	-0.9

NEIC 20 14:56:41.0±0.0, 13°.65S×75°.65W, h75km, MG4.1(ARE), After ARE., Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.02**	**325**	*e*Pn	Pn	14 57 13.2	0.0
NNA				*e*Sn	Sn	14 57 34.8	-2.8
LVC	**Limon Verde**	**10.97**	**145**	Pn	Pn	14 59 16.0	+0.6
SAML	**Samuel**	**13.09**	**70**	*e*Pn	Pn	14 59 43.9	-0.1
LCO	**Las Campanas**	**15.96**	**164**	Pn	Pn	15 00 20.9	-0.5
	2.1nm,0.8s						
PAYG	**Puerto Ayora**	**19.40**	**310**	*e*P	P	15 01 00.8	-0.4
BCIP	**Isla Barro Col**	**23.05**	**349**	*e*P	P	15 01 37.8	-2.4
	5.4nm,0.6s						

IDC 20 15:29:07.3±34.0, 30°.61S×175°.28W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/20, mbtmp4.0/3, Error ellipse: s-maj=646.7km s-min=176.8km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.71**	**257**	P	P	15 36 16.2	-0.1
	1.0nm,0.4s,baz=115,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**45.44**	**266**	P	P	15 37 27.9	-0.3
	0.9nm,0.4s,baz=105,slow=7.2,SNR=42						
WRA	**Warramunga Arr**	**46.45**	**271**	P	P	15 37 36.2	0.0
	1.0nm,0.3s,baz=111,slow=8.1,SNR=23						

*SJA **20** 15:38:39.3±0.4, 30°.59S×72°.81W, h48km±4km, ML4.0, MW4.0*

*GUC **20** 15:38:50.7±0.5, 30°.91S×71°.43W, h68km±15km, ML3.8*

ISC 20 15:38:40.8±2.4, 30°.68S±0°.06×72°.7W±0°.1, h12km, n22, σ2°03/29, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.69**	**73**	*e*P	**Pn**	**15 39 10.9**	**+0.6**
TLL				*i* S	**Sn**	**15 39 24.0**	**-8.0**
TLL				IAML		15 39 28.1	
	comp=N,5μm,0.7s						
LCO	**Las Campanas**	**2.38**	**46**	*e*P	**Pb**	**15 39 24.4**	**+0.6**
LCO				*i* S	**Sn**	**15 39 49.6**	**+0.4**
ROCH	**El Roble**	**2.69**	**149**	*e*P	**Pn**	**15 39 25.5**	**+1.5**
ROCH				*i* S	**Sn**	**15 39 51.5**	**-5.1**
ROCH				IAML		15 40 07.0	
	comp=E,766nm,0.4s						
ROC1	**El Roble**	**2.69**	**149**	*e*P	**Pn**	**15 39 24.9**	**+0.8**
AROD	**Rodeo**	**2.81**	**80**	*e*P	**Pn**	**15 39 26.2**	**+0.5**
PEL	**Peldehue**	**2.98**	**146**	*e*P	**Pn**	**15 39 28.3**	**+0.4**
PEL				*i* S	Sn	15 39 56.4	-7.2
PEL				IAML		15 40 11.3	
	comp=E,506nm,0.4s						
RTLS	**Leoncito**	**3.10**	**112**	*e*P	**Pn**	**15 39 30.8**	**+1.0**
ACCO	**Cerro Coronel**	**3.11**	**89**	*e*P	**Pn**	**15 39 30.9**	**+1.0**
ACDV	**Cuesta del Vie**	**3.11**	**82**	*e*P	**Pn**	**15 39 30.2**	**+0.4**
AUSP	**Uspallata**	**3.20**	**120**	*e*P	**Pn**	**15 39 32.3**	**+1.1**
CLCH	**Cerro Calan**	**3.26**	**147**	*e*P	**Pn**	**15 39 31.8**	**+0.1**
CLCH				*i* S	Sn	15 40 03.2	-7.3
CLCH				IAML		15 40 19.9	
	comp=E,628nm,0.6s						
AMOG	**MOGNA**	**3.60**	**95**	*e*P	**Pn**	**15 39 37.1**	**+0.7**
AMOG				*e*S	**Sn**	**15 40 20.0**	**+1.0**
RTCV	**Cerro Valdivia**	**3.73**	**110**	*e*P	**Pn**	**15 39 39.1**	**+0.9**
ASAL	**Salagasta**	**3.79**	**121**	*e*P	**Pn**	**15 39 39.9**	**+0.9**
ASAL				*e*S	**Sn**	**15 40 25.0**	**+1.5**
AGUA	**GUANDACOL**	**3.81**	**73**	*e*P	**Pn**	**15 39 39.6**	**+0.2**
AGUA				*e*S	**Sn**	**15 40 24.4**	**+0.2**
ARCO	**CERRO ARCO**	**3.84**	**125**	IAML		15 39 51.7	
	comp=Z,140nm,0.5s						
AAGR	**Agrelo**	**4.05**	**127**	*e*P	**Pn**	**15 39 44.0**	**+1.3**
AVFE	**Valle Fertil**	**4.49**	**91**	*e*P	**Pn**	**15 39 49.4**	**+0.6**
AVFE				IAML		15 40 53.6	
	comp=Z,177nm,0.7s						
ACAN	**Cantantal**	**4.94**	**110**	*e*P	**Pn**	**15 39 56.0**	**+1.1**
ACAN				*e*S	**Sn**	**15 40 52.6**	**+0.5**
ACLC	**CERRO LA CRUZ**	**5.11**	**77**	*e*P	**Pn**	**15 39 57.8**	**+0.5**
ACLC				*e*S	**Sn**	**15 40 55.9**	**-0.5**
ACHE	**Chepes**	**5.18**	**97**	*e*P	**Pn**	**15 39 59.2**	**+0.9**
APLL	**PUNTA DE LOS L**	**5.30**	**88**	*e*P	**Pn**	**15 39 60.0**	**+0.1**

*BJI **20** 16:07:21.7, 52°.50S×140°.20E, h6km, mb5.0/26, mB5.2/21, Ms5.1/14, Ms7 4.8/13*

*IDC **20** 16:07:22.4±0.5, 52°.47S×140°.39E, h0km, mb4.6/13, mb1 4.8/13, mb1mx4.7/17, mbtmp4.7/13, MS4.3/15, Ms1 4.3/15, ms1mx4.3/17, Error ellipse: s-maj=19.5km s-min=15.3km az=88.0*

*NEIC **20** 16:07:22.8±3.1, 52°.50S×140°.23E, h4km±18km, mb5.2/42, Error ellipse: s-maj=7.7km s-min=5.3km az=225.0*

*GCMT **20** 16:07:22.8±0.2, 52°.51S×140°.27E, h12km, MW5.1/100, Moment Tensor Solution. s53,c70; s100,c163; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.57±.12; $M_{\theta\theta}$0.82±.12; $M_{\phi\phi}$-0.25±.12; $M_{r\theta}$-0.88±.34; $M_{\theta\phi}$-5.71±.09; $M_{\phi r}$0.24±.30; Best double couple: $M_0$5.80200×10^16 NP1:φs267.00000°, δ89.00000°, λ172.00000°. NP2: φs357.00000°, δ82.00000°, λ1.00000°. Principal axes: T 6.1210, Plg7.0000°, Azm222.0000°; N -0.6370, Plg82.0000°, Azm77.0000°; P -5.4830, Plg5.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **20** 16:07:22.4±0.2, 52°.48S±0°.03×140°.35E±0°.06, h10km, mb5.1/59, MS4.4/20 Error ellipse: s-maj=5.5km s-min=5.0km az=16.1*

*MOS **20** 16:07:23.3±1.3, 52°.42S×140°.24E, h10km, mb5.1/21, MS4.2/5, Error ellipse: s-maj=24.2km s-min=8.0km az=88.1*

ISC 20 16:07:24.4±0.3, 52°.55S±0°.05×140°.51E±0°.06, h10km, n302, σ1°83/315, mb5.2/59, MS4.4/20, 10C-3D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**10.68**	**28**	*e*P	**Pn**	**16 09 58.8**	**+1.5**
TAU	**Tasmania Unive**	**10.68**	**28**	*e*Pn	**Pn**	**16 09 58.8**	**+1.5**
MOO	**Moorlands**	**11.07**	**27**	P	**Pn**	**16 10 04.5**	**+1.8**
	baz=11,SNR=5.3						
MCQ	**Macquarie Isla**	**11.15**	**107**	*e*P	**Pn**	**16 10 02.8**	**-0.9**
MCQ	**Macquarie Isla**	**11.15**	**107**	*e*Pn	**Pn**	**16 10 02.8**	**-0.9**
TOO	**Toolangi**	**15.38**	**15**	P	**Pn**	**16 11 00.8**	**-0.7**
	baz=15,SNR=26						
CAN	**Canberra**	**18.25**	**23**	*e*P	**P**	**16 11 38.5**	**+0.5**
CAN				pmax	pmax		
	comp=Z,48nm,1.0s						
CAN	**Canberra**	**18.25**	**23**	*e*Pn	**P**	**16 11 38.5**	**+0.5**
	comp=Z,48nm,1.0s						
CNB	**Canberra Magne**	**18.35**	**24**	P	**Pn**	**16 11 37.9**	**-1.0**
	baz=18,SNR=8.9						
WHZ	**Wether Hill Ro**	**19.04**	**80**	*e*P	**Pn**	**16 11 47.3**	**0.0**
	comp=Z,235nm,1.6s						
HTT	**Hallett**	**19.15**	**356**	P	**P**	**16 11 46.3**	**-1.5**
	baz=19,SNR=9.2						
MLZ	**Mavora Lakes**	**19.42**	**79**	*e*P	**Pn**	**16 11 52.3**	**+0.6**
	comp=Z,143nm,1.4s						
BBOO	**Buckleboo**	**19.99**	**349**	P	**P**	**16 11 56.4**	**-0.6**
	baz=20,SNR=7.4						
BBOO	**Buckleboo**	**19.99**	**349**	*e*P	**P**	**16 11 57.0**	**+0.1**
	comp=Z,69nm,1.3s						
WKZ	**Wanaka**	**20.24**	**79**	*e*P	Pn	16 12 01.1	-0.5
	comp=Z,162nm,1.2s						
STKA	**Stephens Creek**	**20.68**	**3**	P	**P**	**16 12 04.2**	**-0.1**
	comp=Z,18nm,0.9s,baz=170,slow=13,SNR=25						
STKA				LR	LR	16 18 55.1	
	comp=Z,578nm,18.9s,baz=183,slow=34						
STKA	**Stephens Creek**	**20.68**	**3**	P	**P**	**16 12 04.3**	**-0.1**
	baz=21,SNR=13						
STKA	**Stephens Creek**	**20.68**	**3**	*e*P	**P**	**16 12 04.0**	**-0.4**
STKA				pmax	pmax		
	comp=Z,26nm,1.7s						
STKA	**Stephens Creek**	**20.68**	**3**	*e*P	**P**	**16 12 04.0**	**-0.4**
	comp=Z,26nm,1.7s						
LBZ	**Lake Benmore**	**21.18**

AS31 Alice Springs 29.28 348 *eP* **P 16 13 25.0 -1.8**
comp=Z,4.0nm,0.7s
MORW Morawa 29.62 313 P **P 16 13 28.5 -1.3**
baz=30,SNR=5.3
QIS Mount Isa 31.94 358 P **P 16 13 49.4 -0.9**
baz=32,SNR=36
CTAO Charters Tower 32.71 10 *eP* **P 16 13 55.5 -1.5**
CTAO pmax pmax
comp=Z,115nm,2.0s
CTAO Charters Tower 32.71 10 *eP* **P 16 13 55.5 -1.5**
comp=Z,115nm,2.0s
WB2 Warramunga Arr 32.90 349 *eP* **P 16 13 56.4 -2.3**
comp=Z,39nm,1.0s
WR1 Warramunga Arr 32.90 349 *eP* **P 16 13 56.6 -2.1**
comp=Z,34nm,1.0s
WR1 *e*PcP **PcP 16 16 41.4 -1.6**
WRA Warramunga Arr 32.90 349 P **P 16 13 56.6 -2.1**
comp=Z,10nm,0.9s,baz=171,slow=7.6,SNR=56
WRA PcP **PcP 16 16 41.4 -1.6**
comp=Z,3.3nm,1.0s,baz=179,slow=2.4,SNR=4.8
WRAB Tennant Creek 32.91 349 *c iP* **P 16 13 56.6 -2.1**
WRAB pmax pmax
comp=Z,79nm,1.3s
WRAB Tennant Creek 32.91 349 *eP* **P 16 13 56.7 -2.0**
comp=Z,39nm,1.0s
MBWA Marble Bar 35.21 325 *eP* **P 16 14 16.1 -2.6**
comp=Z,54nm,1.1s
FITZ Fitzroy Crossi 36.31 336 *eP* **P 16 14 26.9 -1.2**
DZM Mont Dzumac 36.37 43 *eS* **S 16 20 07.5 -2.4**
comp=Z,296nm,25.1s
DZM *e*LR LR 16 24 07.6
comp=Z,3μm,25.4s,baz=209
DZM Mont Dzumac 36.37 43 *eP* **P 16 14 26.4 -2.3**
comp=Z,86nm,1.7s
QSPA South Pole Qui 37.56 180 *eP* **P 16 14 38.5 -0.1**
QSPA *e*PP **PP 16 16 00.9 -3.0**
MAW Mawson 38.60 217 P **P 16 14 47.1 0.0**
comp=Z,9.4nm,1.0s,baz=98,slow=8.9,SNR=17
MAW PcP **PcP 16 16 59.1 0.0**
comp=Z,4.0nm,0.9s,baz=96,slow=5.2,SNR=4.5
MAW LR LR 16 28 52.6
comp=Z,2μm,20.2s,baz=74,slow=33
MAW Mawson 38.60 217 *eP* **P 16 14 46.2 -0.8**
MAW pmax pmax
comp=Z,7.0nm,1.3s
MAW Mawson 38.60 217 *eP* **P 16 14 46.2 -0.8**
comp=Z,7.3nm,1.3s
MTN Manton Dam 40.32 346 P **P 16 15 00.9 -1.0**
baz=40,SNR=6.2
MTN Manton Dam 40.32 346 *eP* **P 16 15 00.2 -1.7**
comp=Z,44nm,1.1s
PMG Port Moresby 43.36 10 *ceP* **P 16 15 26.7 -0.1**
PMG pmax pmax
comp=Z,178nm,1.0s
PMG Port Moresby 43.36 10 *eP* **P 16 15 25.7 -1.1**
comp=Z,42nm,0.9s
MMPI Merauke 43.96 360 P **P 16 15 31.4 -0.2**
SOEI Soe 44.67 337 P **P 16 15 41.1 +3.7**
SOEI Soe 44.67 337 *eP* **P 16 15 35.1 -2.4**
comp=Z,78nm,1.4s
SYO Syowa Base 45.81 210⇑ *eP* **P 16 15 43.8 -2.0**
SYO Syowa Base 45.81 210⇓ *ep*P **P 16 15 45.5 -0.3**
TWSI Taliwang, Sumb 47.74 328 P **P 16 16 03.4 +1.9**
comp=Z,29nm,1.0s,comp=Z,1μm
FAKI Fak Fak 49.94 349 P **P 16 16 21.2 +2.8**
KAPI Kappang 50.39 333 *eP* **P 16 16 18.6 -3.1**
comp=Z,335nm,0.9s
SMPI Sarmi 50.41 358 P **P 16 16 25.8 +3.9**
NVL N'lazarevskaya 51.63 199 *eP* **P 16 16 29.9 -0.6**
NVL *e* 16 18 34.4
NVL *e*SS **S 16 23 49.4 -1.6**
NVL *e*SSS SSS 16 29 10.4
NVL MLR MLR
comp=Z,874nm,16.0s
SNAA Sanae 53.40 194 P **P 16 16 43.8 +0.1**
SNAA Sanae 53.40 194 *c iP* **P 16 16 43.6 -0.1**
SNAA Sanae 53.40 194 *eP* **P 16 16 43.1 -0.6**
comp=Z,31nm,1.2s
VNA3 Neumayer Olymp 54.69 191 P **P 16 16 52.7 -0.3**
VNA2 Neumayer--Watz 54.70 192 P **P 16 16 53.0 -0.1**
baz=157,slow=6.6
VNA1 Neumayer--Stat 55.07 192 P **P 16 16 56.0 +0.3**
KSM Kuching 59.52 324 *eP* **P 16 17 26.4 -1.4**
comp=Z,22nm,1.1s
SBUM Sibu 59.77 327 *eP* **P 16 17 27.4 -2.1**
comp=Z,6.5nm,0.8s
MYKOM Kota Tinggi 62.29 318 *eP* **P 16 17 44.2 -2.5**
comp=Z,35nm,1.1s
PPT2 Papeete2 64.03 85 *eS* S 16 26 44.0 +9.3
PPT2 comp=Z,58nm,24.2s *e*LQ LQ 16 34 07.4
comp=Z,1μm,30.0s
PPT2 *e*LR LR 16 37 05.3
comp=Z,398nm,29.5s
PPT Papeete 64.05 85 LR LR 16 40 22.0
comp=Z,88nm,20.7s,baz=246,slow=31
PSI Prapat 65.31 313 *eP* **P 16 18 04.7 -2.0**
PSI pmax pmax
comp=Z,32nm,1.0s
PSI Prapat 65.31 313 *eP* **P 16 18 04.7 -2.0**
comp=Z,32nm,1.0s
IPM Ipoh 65.90 316 *eP* **P 16 18 08.7 -1.7**
comp=Z,43nm,0.9s
GUMO Guam 65.98 5 *eP* **P 16 18 10.3 -0.5**
GUMO pmax pmax
comp=Z,428nm,1.8s
GUMO Guam 65.98 5 *eP* **P 16 18 10.3 -0.5**
comp=Z,428nm,1.8s
KULM Kulim 66.78 316 *eP* **P 16 18 13.4 -2.6**
comp=Z,66nm,1.0s
SKLT Songkhla 68.49 317 P **P 16 18 27.6 +0.8**
comp=Z,33nm,0.9s
RKT Rikitea 68.72 100 *e*LQ LQ 16 36 09.2
comp=Z,592nm,29.8s
TRTT Trang 69.48 316 P **P 16 18 33.9 +1.0**
comp=Z,27nm,1.1s
H08S2 Diego Garcia H 70.66 283 T T 17 35 27.0
baz=143,slow=76,SNR=51
H08S1 Diego Garcia H 70.67 283 T T 17 35 37.9
baz=143,slow=76,SNR=30
H08S3 Diego Garcia H 70.68 283 T T 17 35 30.6
baz=143,slow=76,SNR=56
SURT Suratani 70.87 316 P **P 16 18 43.6 +2.2**
comp=Z,8.4nm,1.1s,comp=Z,165nm
H08N1 Diego Garcia H 72.58 283 T T 17 38 34.9
baz=138,slow=76,SNR=22
H08N3 Diego Garcia H 72.58 283 T T 17 38 38.6
baz=138,slow=76,SNR=16
H08N2 Diego Garcia H 72.60 283 T T 17 38 33.1
baz=138,slow=76,SNR=32
PATY Pattaya 73.60 320 P P 16 19 04.7 +7.0
comp=Z,10nm,1.0s,comp=Z,2μm
QIZ Qiongzhong 76.10 330 P **P 16 19 13.0 +0.9**
QIZ S **S 16 28 59.4 +3.8**
QIZ LR LR
comp=Z,240nm,22.1s
TAOE Nuku Hiva Isla 76.54 87 *e*LR LR 16 42 56.4
comp=Z,270nm,27.1s
ABPO Ambohimpanom 77.09 256 *eP* **P 16 19 18.7 +0.5**
ABPO pmax pmax
comp=Z,20nm,1.4s
ABPO Ambohimpanom 77.09 256 *eP* **P 16 19 18.7 +0.5**
comp=Z,20nm,1.4s
PALK Pallekele 78.17 299 *i* P **P 16 19 21.2 -2.8**
CM31 Chiang Mai Arr 79.37 320 *eP* **P 16 19 28.5 -1.9**
CMAR Chiang Mai Arr 79.37 320 P **P 16 19 30.2 -0.1**
comp=Z,5.9nm,1.1s,baz=174,slow=4.7,SNR=26
CMAR LR LR 16 53 44.3
comp=Z,175nm,20.2s,baz=171,slow=35
CHTO Chiang Mai 79.70 320 P **P 16 19 33.2 +1.1**
comp=Z,63nm,1.2s
CHTO Chiang Mai 79.70 320 *eP* **P 16 19 32.0 -0.1**
CHTO pmax pmax
comp=Z,43nm,1.6s
CHTO Chiang Mai 79.70 320 *eP* **P 16 19 32.0 -0.1**
comp=Z,44nm,1.6s
RPN Rapa Nui 80.11 122 LR LR 16 45 12.6
comp=Z,202nm,21.6s,baz=224,slow=28
SUR Sutherland 80.44 228 *eP* **P 16 19 34.5 -2.0**
comp=Z,53nm,1.4s
BOSA Boshof 81.47 234 P **P 16 19 41.5 -0.5**
comp=Z,5.6nm,1.0s,baz=123,slow=2.3,SNR=3.9
BOSA LR LR 16 48 12.0
comp=Z,364nm,21.5s,baz=174,slow=30
PLCA Paso Flores 83.26 157 P **P 16 19 50.5 -0.5**
comp=Z,2.9nm,0.8s,baz=245,slow=5.9,SNR=5.9
PLCA LR LR 16 49 48.1
comp=Z,112nm,20.8s,baz=190,slow=30
PLCA Paso Flores 83.26 157 *eP* **P 16 19 50.3 -0.8**
PLCA pmax pmax
comp=Z,33nm,1.7s
PLCA Paso Flores 83.26 157 *eP* **P 16 19 50.3 -0.8**
comp=Z,33nm,1.7s
GYA Guiyang 84.05 330⇑ *iP* **P 16 19 56.8 +1.8**
GYA PP **PP 16 23 13.4 +4.0**
GYA SKS **S 16 30 17.0 -2.3**
GYA S **SKKSac 16 30 21.8 -1.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.9s
GYA LR LR
comp=Z,520nm,19.8s
GYA LR LR
comp=Z,480nm,20.0s
GYA LR LR
comp=Z,460nm,20.4s
KMI Kunming 84.08 326 P **P 16 19 57.3 +1.9**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,56nm,4.9s
NJ2 Nanjing 86.35 342 *eP* **P 16 20 06.3 +0.1**
HYB Hyderabad 87.80 303 *i* P **P 16 20 16.0 +2.3**
MJAR Matsushiro Arr 88.75 358 P **P 16 20 17.2 -0.5**
comp=Z,4.1nm,1.1s,baz=179,slow=4.7,SNR=5.5
MJAR LR LR 16 59 30.6
comp=Z,59nm,19.4s,baz=150,slow=35
MAJO Matsushiro 88.75 358⇑ *eP* **P 16 20 16.7 -1.0**
MAJO pmax pmax
comp=Z,49nm,1.4s
MAT Matsushiro 88.75 358 P **P 16 20 17.7 0.0**
CD2 Chengdu 89.10 329 *eP* **P 16 20 19.6 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KSAR Wonju Array Be 90.30 350 P **P 16 20 24.2 -0.7**
KSAR Wonju Array Be 90.30 350 P **P 16 20 24.1 -0.7**
KSRS Korea Array 90.31 350 P **P 16 20 24.1 -0.7**
comp=Z,2.1nm,0.9s,baz=183,slow=5.5,SNR=6.6
KSRS LR LR 17 00 04.9
comp=Z,74nm,21.9s,baz=139,slow=35
KSRS Korea Array 90.31 350 P **P 16 20 24.2 -0.7**
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS MLR MLR
comp=Z,74nm,21.9s
ODAN Odare 91.64 314 *eP* **P 16 20 31.1 -0.6**
comp=Z,11nm,0.6s
TAPN Taplejung 91.92 315 *eP* **P 16 20 32.5 -0.6**
comp=Z,49nm,1.1s
RAMN Ramite 92.06 314 *eP* **P 16 20 31.7 -2.0**
comp=Z,26nm,0.8s
LSA Lhasa 92.54 319 *eP* **P 16 20 33.9 -2.2**
LSA pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 92.54 319 *eP* **P 16 20 33.9 -2.2**
comp=Z,7.6nm,1.0s
JIRN Jiri 92.86 314 *eP* **P 16 20 36.2 -1.3**
comp=Z,338nm,1.0s
PKIN Phulchoki 93.14 313 *eP* **P 16 20 37.3 -1.4**
comp=Z,18nm,0.8s
GUN Gumba 93.21 314 *eP* **P 16 20 38.2 -0.9**
comp=Z,37nm,0.8s
DMN Daman 93.29 313 *eP* **P 16 20 38.7 -0.7**
comp=Z,29nm,0.8s
KKN Kakani 93.37 313 *eP* **P 16 20 39.4 -0.3**
comp=Z,46nm,0.9s
GKN Gorkha 93.84 313 *eP* **P 16 20 41.3 -0.5**
comp=Z,33nm,0.9s
LZH Lanzhou 93.88 331 *eP* **P 16 20 42.8 +1.0**
LZH pP sP 16 20 47.3 +1.0
LZH sP pP 16 20 49.8 +4.7
LZH PP **PP 16 24 32.1 +4.1**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.5s
LZH LR LR
comp=Z,370nm,14.8s
LZH LR LR
comp=Z,530nm,15.5s
LZH LR LR
comp=Z,690nm,16.7s
KOLN Koldanda 94.11 312 *eP* **P 16 20 42.1 -1.0**
comp=Z,28nm,0.9s
DANN Dangsing 94.53 312 *eP* **P 16 20 44.6 -0.5**
comp=Z,6.1nm,1.0s
PYUN Piuthan 94.67 312 *eP* **P 16 20 44.9 -0.8**
comp=Z,59nm,0.9s
USRK Ussuriysk Ar. 96.65 354 LR LR 17 04 02.5
comp=Z,62nm,18.7s,baz=134,slow=35
GTA Gaotai 98.17 329 *eP* Pdif 16 21 09.1 +7.9
GTA pP sP 16 21 14.5 +8.8
GTA sP pP 16 21 17.8 +13
GTA pmax pmax
comp=Z,2.0nm,1.2s
YSS Yuzh-Sakhalins 99.15 2 *eP* **Pdif 16 21 01.1 -4.0**
WMQ Urumqi 106.22 323 Pdif **Pdif 16 21 36.8 0.0**
WMQ PP **PP 16 26 03.3 +1.7**
WMQ S **Sdif 16 33 31.5 -3.7**
WMQ AMB AMB
comp=Z,160nm,7.9s
WMQ LR LR
comp=Z,130nm,24.9s
WMQ LR LR
comp=Z,53nm,21.3s
MK32 Makanchi Array 110.76 321 *e*PKiKP **PKiKP 16 25 56.8 +0.2**
MK32 *e*PP **PP 16 26 35.4 +0.8**
MKAR Makanchi Array 110.76 321 PKiKP **PKiKP 16 25 56.8 +0.2**
comp=Z,0.1nm,0.4s,baz=142,slow=4.9,SNR=2.1
MKAR PP **PP 16 26 35.4 +0.8**
comp=Z,1.3nm,0.9s,baz=162,slow=8.8,SNR=4.3
ZALV Zalesovo Beam 115.81 327 PP PP 16 27 15.2 +4.9
comp=Z,0.8nm,0.6s,baz=163,slow=7.3,SNR=3.7
ZALV PKKPab **PKKPab 16 36 42.4 +2.7**
comp=Z,0.7nm,0.6s,baz=320,slow=3.9,SNR=3.6
ZAA1 Zalesovo Array 115.81 327 *e*PP PP 16 27 15.2 +4.9
ZAA1 *e*PKKPbc **PKKPab 16 36 42.4 +2.7**
BRVK Borovoye 120.45 319⇑ *i*PKIKP **PKPdf 16 26 15.2 +0.3**
BRVK Borovoye 120.45 319 *e*PKPdf **PKPdf 16 26 13.6 -1.4**
GNI Garni 123.76 293⇑ *i*PKIKP **PKPdf 16 26 19.9 -2.0**
WORM Onyx Ranch 123.84 74 *e*PKPdf **PKPdf 16 26 21.5 -0.7**
TIXI Tiksi 124.18 356⇑ *i*PKIKP **PKPdf 16 26 21.7 +0.2**
HEC Hector,Ludlow 124.37 76 *e*PKPdf **PKPdf 16 26 23.0 -0.2**
CWC Cottonwood Cre 124.45 73 P **PKPdf 16 26 24.8 +1.4**
baz=226
AFDM Forest Hills D 124.49 69 *e*PKPdf **PKPdf 16 26 24.0 +0.8**
MPMC Manual Prospec 124.54 74 P **PKPdf 16 26 24.8 +1.2**
baz=226
N02D Trinity Center 124.88 66 P **PKPdf 16 26 25.0 +1.1**
baz=228
O03D Paynes Creek 124.93 68 P **PKPdf 16 26 25.6 +1.5**
baz=228
M02C Callahan 125.08 66 P **PKPdf 16 26 25.7 +1.4**
baz=228
GRAC Grapevine Rang 125.25 73 P **PKPdf 16 26 26.0 +1.3**
baz=227
HUMO Hull Mountain 125.83 65 *e*PKPdf **PKPdf 16 26 26.4 +0.8**
TPNV Topopah Spring 125.87 74 P **PKPdf 16 26 27.1 +0.9**
baz=227
W13A Hualapai Mount 126.01 78 *e*PKPdf **PKPdf 16 26 28.9 +2.4**
R11A Troy Canyon, C 127.20 73 P **PKPdf 16 26 29.9 +1.3**
baz=228
R11A Troy Canyon, C 127.20 73 *e*PKPdf **PKPdf 16 26 29.5 +0.8**
J05D Fort Rock, OR 127.23 65 P **PKPdf 16 26 30.6 +2.1**
baz=229
KIV Kislovodsk 127.43 296 *e*PKIKP **PKPdf 16 26 28.0 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
TRF Thorofare Moun 127.59 32 *e*PKPdf **PKPdf 16 26 29.9 +1.3**
ARU Arti 127.66 316 *i* PKIKP **PKPdf 16 26 28.7 +0.1**
ARU 16 28 28.1
ARU 16 33 39.1
ARU SS SS 16 45 35.7 -6.6
LTX Lajitas 128.19 90 *e*PKIKP **PKPdf 16 26 31.0 +0.3**
LTX Lajitas 128.19 90 *e*PKPdf **PKPdf 16 26 30.9 +0.3**
TX31 Lajitas Ar. Si 128.19 90 *e*PKPdf **PKPdf 16 26 31.1 +0.4**
TXAR Lajitas Array 128.19 90 PKP **PKPdf 16 26 30.9 +0.3**
comp=Z,1.6nm,0.9s,baz=196,slow=3.5,SNR=11
TXAR Lajitas Array 128.19 90 PKIKP **PKPdf 16 26 31.0 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 128.80 235 PKP **PKPdf 16 26 31.3 -0.9**
comp=Z,1.7nm,1.0s,baz=106,slow=0.9,SNR=3.5
MNTX Cornudas Mount 128.81 87 P **PKPdf 16 26 32.2 +0.6**
baz=226
MNTX Cornudas Mount 128.81 87 *e*PKPdf **PKPdf 16 26 32.5 +0.8**
TOA1 Torodi Ar. Sit 128.81 235 *e*PKPdf **PKPdf 16 26 31.3 -0.9**
MSU Marysvale 129.32 75 *e*PKIKP **PKPdf 16 26 32.7 0.0**
MSU Marysvale 129.32 75 *e*PKPdf **PKPdf 16 26 32.7 0.0**
ILAR Eielson Array 129.59 32 PKP **PKPdf 16 26 31.4 -0.7**
comp=Z,1.0nm,0.8s,baz=277,slow=3.6,SNR=6.5
ILB Eielson Array 129.59 32 *e*PKPdf **PKPdf 16 26 31.0 -1.1**
BR101 Keskin Array S 129.85 286 *e*PKPdf **PKPdf 16 26 33.1 -0.5**
BRTR Keskin Array B 129.85 286 PKP **PKPdf 16 26 33.1 -0.5**
comp=Z,0.6nm,0.6s,baz=133,slow=2.9,SNR=3.8
DUG Dugway, Tooele 130.04 73 P **PKPdf 16 26 35.7 +1.8**
baz=230
ANMO Albuquerque 130.38 83⇑ *i*PKIKP **PKPdf 16 26 34.8 0.0**
MVCO Mesa Verde 130.65 79 P **PKPdf 16 26 37.0 +1.7**
baz=229
MVCO Mesa Verde 130.65 79 *e*PKPdf **PKPdf 16 26 34.9 -0.4**
MSTX Muleshoe 131.96 87 *e*PKPdf **PKPdf 16 26 37.7 0.0**
FXWY Fox Creek 133.23 71 *e*PKPdf **PKPdf 16 26 42.4 +2.4**
PDAR Pinedale Array 133.56 73 PKP **PKPdf 16 26 41.2 +0.6**
comp=Z,0.3nm,0.6s,baz=200,slow=2.7,SNR=2.8
W36A Wetumka 136.74 91 P **PKPdf 16 26 47.9 +1.5**
baz=228
X37A Clayton 136.89 92 P **PKPdf 16 26 48.1 +1.3**
baz=228
OBN Obninsk 137.12 305⇓ *i*PKIKP **PKPdf 16 26 46.4 0.0**
OBN pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 138.38 314 *e*PKIKP **PKPdf 16 26 54.9 +6.3**
KLMR pmax pmax
comp=Z,17nm,1.5s
KIEV Kiev 138.78 296⇓ *i*PKIKP **PKPdf 16 26 50.4 +0.7**
YKA Yellowknife Ar 140.73 45 PKP **PKPdf 16 26 53.2 +0.3**
comp=Z,2.2nm,0.7s,baz=252,slow=2.7,SNR=5.3
YKB5 Yellowknife Ar 140.73 45 *e*PKPdf **PKPdf 16 26 53.2 +0.3**
ECSD EROS Data Cent 141.79 80 *e*PKPdf **PKPdf 16 26 53.9 -1.6**
VYHS Vyhne 143.57 288 *e*PKIKP **PKPdf 16 27 05.0 +6.6**
VYHS Vyhne 143.57 288 *e*PKP **PKPdf 16 27 05.0 +6.6**
OLIL Olney 144.02 93 *e*PKPdf PKPbc 16 26 57.8 +0.3
AGMN Agassiz Nation 144.62 74 *e*PKPdf **PKPab 16 26 57.4 -1.5**
TKL Tuckaleechee C 144.64 101 *e*PKIKP **PKPab 16 26 58.6 -0.8**
TKL Tuckaleechee C 144.64 101 *e*PKPdf **PKPab 16 26 58.6 -0.8**
FIA1 FINESS Array S 144.68 311 *e*PKPdf **PKPab 16 26 58.3 -0.4**
FIA0 FINESS Array S 144.68 311 *e*PKIKP **PKPab 16 26 58.1 -0.6**
FIA0 FINESS Array S 144.68 311 *e*PKPdf **PKPab 16 26 58.0 -0.6**
FINES FINESS Array B 144.68 311 PKP **PKPab 16 26 58.0 -0.6**
comp=Z,5.2nm,0.5s,baz=99,slow=2.2,SNR=20
BG3 Lake Jocassee 144.69 102 *e*PKPdf **PKPab 16 26 58.5 -1.1**
WCI Wyandotte Cave 144.80 95 *e*PKIKP **PKPab 16 26 58.5 -1.4**
WCI Wyandotte Cave 144.80 95 *e*PKPdf **PKPab 16 26 58.5 -1.4**
ARSA Arzberg 144.91 284 *i* PKPab **PKPab 16 26 59.7 -0.3**
comp=Z,19nm,1.1s
ARSA *i* pPKiKP **PKPdf 16 27 05.8 +4.9**
comp=Z,23nm,0.7s
SOKA Soboth 144.92 283 *i* PKPdf PKPbc 16 27 00.3 +0.1
comp=Z,15nm,1.0s
SOKA *i* pPKiKP **PKPdf 16 27 06.1 +5.1**
comp=Z,25nm,1.1s
MORC Moravsky Berou 144.93 289 *e*PKIKP **PKPab 16 26 58.4 -1.7**
MORC Moravsky Berou 144.93 289 *e*PKPdf **PKPab 16 26 58.4 -1.7**
CONA Conrad Observa 145.04 285 *i* pPKPab **PKPab 16 27 01.2 +0.6**
comp=Z,11nm,1.1s
CONA *i* PKiKP **PKPdf 16 27 05.4 +4.3**
comp=Z,21nm,1.2s
JSC Jenkinsville 145.19 105 *e*PKIKP **PKPbc 16 27 01.2 -0.2**
JSC Jenkinsville 145.19 105 *e*PKPbc **PKPbc 16 27 01.1 -0.2**
KRLC Kraliky 145.50 289 *e*PKP **PKPbc 16 27 01.9 0.0**
KRLC Kraliky 145.50 289 *e*PKIKP **PKPbc 16 27 01.9 0.0**
ULM Lac du Bonnet 145.51 71 PKPbc **PKPdf 16 27 00.9 -0.7**
comp=Z,2.1nm,0.5s,baz=235,slow=6.3,SNR=3.2
ULM Lac du Bonnet 145.51 71 PKIKP **PKPdf 16 27 01.0 -0.7**
ULM pmax pmax
comp=Z,2.0nm,0.5s
SFIN Lafayette 145.64 91 *e*PKPbc **PKPdf 16 27 02.0 -0.2**
MYKA Terra Mystica 145.72 282 *i* PKPab **PKPdf 16 27 02.6 +0.3**
comp=Z,4.7nm,0.6s
MYKA *i* sPKiKP **PKPab 16 27 08.5 +5.3**
comp=Z,34nm,0.8s
DPC Dobruska-Polom 145.88 289 *e*PKP **PKPbc 16 27 03.3 +0.2**
DPC *ep*PKP **PKPab 16 27 04.9 +1.3**
DPC *ex* x 16 27 08.8
DPC Dobruska-Polom 145.88 289 *e*PKIKP **PKPbc 16 27 03.3 +0.2**
DPC *e* 16 27 04.9
DPC *e* 16 27 08.8
TREC Trest 145.90 287 *e*PKP **PKPab 16 27 04.7 +1.0**
TREC *ex* x 16 27 08.9
TREC Trest 145.90 287 *e*PKP2 **PKPab 16 27 04.7 +1.0**
MOA Molln 145.95 284 sPKPbc **PKPdf 16 27 04.2 +1.6**
comp=Z,17nm,1.1s
MOA *i* pPKiKP **PKPab 16 27 08.1 +4.2**
comp=Z,24nm,1.3s
KBA Koelnbreinsper 146.12 282 *i* sPKiKP **PKPab 16 27 09.5 +4.8**
comp=Z,30nm,1.5s
UPC Upice 146.13 289 *e*PKP **PKPab 16 27 05.4 +0.9**
UPC *ex* x 16 27 09.8
UPC Upice 146.13 289 *e*PKP2 **PKPab 16 27 05.4 +0.9**
ARA0 ARCESS Array S 146.32 325 *e*PKPdf **PKPdf 16 27 02.7 +0.2**
ARCES ARCESS Array B 146.32 325 PKPbc **PKPdf 16 27 02.7 +0.2**
comp=Z,13nm,0.9s,baz=108,slow=3.7,SNR=26
ABTA Abfaltersbach 146.46 281 *i* PKPab **PKPdf 16 27 05.3 +1.7**
comp=Z,4.9nm,0.6s
ABTA *i* sPKiKP **PKPab 16 27 10.7 +4.7**
comp=Z,13nm,0.7s
GOPC GO Pecny, Ondr 146.58 288 *e*PKP **PKPab 16 27 06.7 +0.4**
GOPC *ex* x 16 27 10.4
GOPC GO Pecny, Ondr 146.58 288 *e*PKP2 **PKPab 16 27 06.7 +0.4**
GEC2 GERESS Array S 146.74 285 *e*PKP2 **PKPdf 16 27 03.8 -0.2**
GEC2 GERESS Array S 146.74 285 *e*PKPdf **PKPdf 16 27 03.8 -0.2**
GERES GERESS Array B 146.74 285 PKPbc **PKPdf 16 27 04.5 +0.5**
comp=Z,9.7nm,0.9s,baz=126,slow=2.3,SNR=30
PRU Pruhonice 146.76 288 *e*PKP **PKPab 16 27 06.9 0.0**
PRU Pruhonice 146.76 288 *e*PKP2 **PKPab 16 27 06.9 0.0**
KHC Kasperske Hory 146.94 286 *e*PKP **PKPdf 16 27 05.2 +0.9**
KHC *ep*PKP **PKPab 16 27 07.9 +0.2**
KHC Kasperske Hory 146.94 286 *e*PKP2 **PKPdf 16 27 05.2 +0.9**
KHC Kasperske Hory 146.94 286 *e*PKPdf **PKPdf 16 27 04.4 +0.1**
KHC *e*PKPbc **PKPab 16 27 07.9 +0.2**
WTTA Wattenberg 147.23 282 *i* pPKPab **PKPab 16 27 09.5 +0.4**
comp=Z,23nm,1.1s
WATA Walderalm 147.30 282 *i* sPKPbc **PKPdf 16 27 08.2 +3.1**
comp=Z,4.1nm,0.5s
WATA *i* sPKiKP **PKPab 16 27 14.1 +4.7**
comp=Z,25nm,0.8s
BRG Berggiesshubel 147.48 289 *e*PKP **PKPbc 16 27 07.9 +0.3**
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 147.48 289 *e*PKP2 **PKPbc 16 27 07.9 +0.3**
BRG pmax pmax
comp=Z,8.0nm,1.1s
MOTA Moosalm 147.59 281 *i* PKPbc **PKPdf 16 27 07.5 +1.9**
comp=Z,9.3nm,0.9s
MOTA *i* sPKiKP **PKPab 16 27 14.9 +4.4**
comp=Z,12nm,0.6s
FETA Feichten 147.66 281 *e*PKiKP **PKiKP 16 27 10.5 0.0**
comp=Z,15nm,1.0s
FUORN Ofenpass-Fuorn 147.75 280 *e*PKPbc **PKPbc 16 27 07.8 -1.0**
RETA Reutte 147.86 281 *i* PKPbc **PKPbc 16 27 08.4 -0.5**
comp=Z,16nm,1.2s
NKC Novy Kostel 148.08 287 *e*PKP **PKPab 16 27 10.8 -1.4**
NKC Novy Kostel 148.08 287 *e*PKP2 **PKPab 16 27 10.8 -1.4**
CLL Collm 148.20 289 *i* PKP2 **PKPbc 16 27 09.9 +0.4**
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 148.20 289 *i* PKPbc **PKPbc 16 27 09.9 +0.4**
comp=Z,15nm,1.3s
CLL *i* 16 27 17.6
comp=Z,12nm,0.8s
CLL Collm 148.20 289 *e*PKPbc **PKPbc 16 27 09.2 -0.3**
DAVA Damuels 148.30 281 *i* PKPbc **PKPbc 16 27 09.6 -0.5**
comp=Z,16nm,1.1s
DAVA *i* sPKPab **PKPab 16 27 19.2 +5.9**
comp=Z,27nm,1.1s
GRFO Grafenberg 148.58 285 *e*PKP2 **PKPdf 16 27 08.3 +1.4**
GRFO Grafenberg 148.58 285 *e*PKPbc **PKPdf 16 27 08.3 +1.4**
BNI Bardonecchia 149.13 275 *e*PKP2 **PKPbc 16 27 11.1 -1.2**
BNI Bardonecchia 149.13 275 *e*PKPbc **PKPbc 16 27 11.1 -1.2**
SENIN Lac Senin/Sane 149.41 277 *e*PKPbc **PKPbc 16 27 12.3 -0.8**
BFO Black Forest 149.70 281 *i* PKP2 **PKPbc 16 27 14.5 +1.0**
BFO Black Forest 149.70 281 *e*PKPbc **PKPbc 16 27 12.8 -0.6**
ECH Echery 150.35 281 *e*PKIKP **PKPbc 16 27 13.3 -1.7**
ECH Echery 150.35 281 *e*PKPbc **PKPbc 16 27 13.3 -1.7**
SSB Saint Sauveur 150.55 274 *e*PKIKP **PKPbc 16 27 14.4 -1.2**
SSB Saint Sauveur 150.55 274 *e*PKPbc **PKPbc 16 27 14.4 -1.2**

WLF	**Walferdange**	**151.57**	**283**	PKPbc	**PKPbc**	**16 27 17.4**	**-0.3**
NB2	**NORSAR Subarra**	**151.65**	**308**	PKP	**PKPbc**	**16 27 16.3**	**-1.4**
	comp=Z,19nm,0.8s,baz=78,slow=3.8						
NB200	**NORSAR Array S**	**151.65**	**308**	*e*PKPbc	**PKPbc**	**16 27 16.5**	**-1.2**
NB200				*e*PKPab	**PKPab**	**16 27 24.6**	**-1.9**
NOA	**NORSAR Array B**	**151.65**	**308**	PKPbc	**PKPbc**	**16 27 16.5**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=90,slow=3.3,SNR=7.2						
NOA				PKPab	**PKPab**	**16 27 24.6**	**-1.9**
	comp=Z,18nm,0.9s,baz=83,slow=3.6,SNR=9.0						
NAO01	**NORSAR Array S**	**151.79**	**307**	*e*PKPbc	**PKPbc**	**16 27 16.6**	**-1.4**
NC204	**NORSAR Array S**	**151.89**	**308**	*e*PKPab	**PKPab**	**16 27 27.5**	**0.0**
MEM	**Membach**	**152.02**	**284**	PKPbc	**PKPbc**	**16 27 20.3**	**+1.5**
BCLA	**Clavier**	**152.36**	**284**	PKPbc	**PKPbc**	**16 27 21.3**	**+1.7**
ESDC	**Sonseca Array**	**152.51**	**256**	PKPbc	**PKPbc**	**16 27 19.6**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=84,slow=1.6,SNR=13						
ESDC				PKPab	**PKPab**	**16 27 29.2**	**-1.6**
	comp=Z,4.6nm,0.6s,baz=99,slow=1.5,SNR=12						
DOU	**Dourbes**	**152.66**	**283**	PKPbc	**PKPbc**	**16 27 20.1**	**-0.1**
DAG	**Danmarks Havn**	**154.43**	**349**	*i* P	**PKPbc**	**16 27 27.5**	**+4.2**
DAG	**Danmarks Havn**	**154.43**	**349**	*i* PKIKP	**PKPbc**	**16 27 27.5**	**+4.2**
SUMG	**Summit**	**159.90**	**359**	*i* P	**PKPab**	**16 28 07.8**	**+5.8**
SUMG	**Summit**	**159.90**	**359**	*e*PKP2	**PKPab**	**16 28 07.8**	**+5.8**

CSEM ***20*** *16:43:26.9, 37.°18N×22.°14E, h4km, ML2.0/3*
ATH 20 16:43:26.9, 37.°18N×22.°14E, h4km±1km, ML2.0/3, Error ellipse: s-maj=2.7km s-min=1.3km az=158.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.17**	**270**	P	Pg	16 43 31.0	+0.8
ITM				AML	AML	16 43 33.7	
	comp=E,300μm,0.3s						
ITM				S	Sg	16 43 34.2	+1.8
ITM				AML	AML	16 43 34.5	
	comp=N,436μm,0.3s						
ITM	**Ithomi**	**0.17**	**270**	P	Pg	16 43 30.9	+0.7
ITM				S	Sg	16 43 32.6	+0.1
ITM				AML	AML	16 43 33.9	
	comp=E,300μm,0.3s						
ITM				AML	AML	16 43 34.5	
	comp=N,436μm,0.3s						
ITM	**Ithomi**	**0.17**	**270**	P	Pg	16 43 31.0	+0.8
ITM				S	Sg	16 43 34.2	+1.7
VLX	**Vlachokerasia**	**0.27**	**45**	P	Pb	16 43 33.7	-0.7
VLX	**Vlachokerasia**	**0.27**	**45**	P	Pb	16 43 33.7	-0.7
TRIP	**Tripoli**	**0.36**	**17**	P	Pn	16 43 37.6	-1.5
TRIP				S	Sb	16 43 43.3	+1.2
PYL	**PYLOS**	**0.43**	**228**	P	Pg	16 43 35.3	+0.2
PYL				S	Sg	16 43 39.6	-1.0
PYL	**PYLOS**	**0.43**	**228**	P	Pg	16 43 35.9	+0.8
PYL	**PYLOS**	**0.43**	**228**	P	Pg	16 43 35.3	+0.2
PYL				S	Sg	16 43 39.6	-1.0
AMT	**Artemida-Makis**	**0.49**	**316**	P	Pg	16 43 35.4	-0.9
AMT				S	Sg	16 43 42.8	0.0
AMT				AML	AML	16 43 48.8	
	comp=E,127μm,0.5s						
AMT				AML	AML	16 43 49.3	
	comp=N,200μm,0.4s						
AMT	**Artemida-Makis**	**0.49**	**316**	P	Pb	16 43 38.3	+0.2
AMT				S	Sb	16 43 45.3	-0.5
AMT				AML	AML	16 43 49.1	
	comp=E,127μm,0.5s						
AMT				AML	AML	16 43 49.5	
	comp=N,200μm,0.4s						
AMT	**Artemida-Makis**	**0.49**	**316**	P	Pg	16 43 35.4	-0.9
AMT				S	Sg	16 43 42.8	+0.1
KLV	**Kalavryta, Ach**	**0.86**	**1**	P	Pg	16 43 41.9	-1.5
KLV	**Kalavryta, Ach**	**0.86**	**1**	P	Pg	16 43 41.9	-1.5
DID	**Didima**	**0.93**	**69**	P	Pg	16 43 44.0	-0.8
DID	**Didima**	**0.93**	**69**	P	Pg	16 43 44.0	-0.8

ISCJB ***20*** *16:45:17.7±0.6, 24.°76N±0.°04×122.°38E±0.°02, h11km±5km, Error ellipse: s-maj=6.1km s-min=2.8km az=8.7*
JMA ***20*** *16:45:17.5±0.1, 24.°70N×122.°33E, h40km±5km, M2.1*
TAP ***20*** *16:45:19.5, 24.°76N×122.°25E, h12km, ML3.0, C*
ISC 20 16:45:17.2±1.2, 24.°70N±0.°04×122.°35E±0.°02, h13km±9km, n36, σ0°82/54, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.41**	**291**	P	**Pb**	**16 45 26.0**	**-0.3**
	baz=286						
TWB1	**Santiao Chiao**	**0.45**	**313**	⇑*i* P	**Pb**	**16 45 26.7**	**-0.2**
	baz=316						
TWB1				*i* S	**Sg**	**16 45 31.8**	**-0.4**
	baz=316						
TWC	**Suao**	**0.47**	**259**	*i* P	**Pb**	**16 45 27.5**	**+0.3**
	baz=255						
TWC				*i* S	**Sb**	**16 45 32.9**	**-1.1**
	baz=255						
JYNG	**Yonaunijimaku**	**0.59**	**115**	P	**Pb**	**16 45 29.6**	**+0.2**
JYNG				S	**Sb**	**16 45 38.8**	**+1.2**
ENA	**Nanau**	**0.62**	**244**	*e*P	**Pn**	**16 45 30.4**	**-1.2**
	baz=237						
ENA				*e*S	**Sb**	**16 45 38.3**	**-0.1**
	baz=237						
TWE	**Neicheng**	**0.62**	**272**	⇑P	**Pb**	**16 45 30.0**	**+0.1**
	baz=261						
TWE				*e*S	**Sb**	**16 45 38.1**	**-0.4**
	baz=261						
NWF	**Wu-fen Shan**	**0.64**	**306**	⇑*i*P	**Pn**	**16 45 31.4**	**-0.6**
	baz=303						
YOJ	**Yonaguni jima**	**0.64**	**111**	P	**Pb**	**16 45 30.4**	**+0.2**
YOJ				*e*S	**Sb**	**16 45 40.1**	**+1.0**
ENTT	**Nioudou**	**0.72**	**265**	*e*P	**Pn**	**16 45 32.0**	**-1.0**
	baz=260						
ENTT				*e*S	**Sb**	**16 45 41.0**	**-0.2**
	baz=260						
TWA	**Mucha**	**0.75**	**292**	*e*P	**Pn**	**16 45 32.8**	**-0.6**
	baz=280						
TWY	**Chenhua**	**0.89**	**310**	P	**Pn**	**16 45 35.1**	**-0.3**
	baz=310						
TWY				S	**Sb**	**16 45 46.7**	**+0.4**
	baz=310						
NSK	**Sanguang**	**0.91**	**269**	P	**Pn**	**16 45 35.4**	**-0.2**
	baz=259						
NSK				*e*S	**Sg**	**16 45 45.9**	**-0.7**
	baz=259						
TWD	**Chiawan**	**0.93**	**228**	P	**Pn**	**16 45 36.7**	**+0.9**
	baz=232						
TWD				*e*S	**Sn**	**16 45 48.5**	**-0.4**
	baz=232						
NNS	**Nan Shan**	**0.93**	**254**	*e*P	**Pn**	**16 45 36.3**	**+0.3**
	baz=241						
NNS				*e*S	**Sn**	**16 45 48.2**	**-1.0**
	baz=241						
TWS1	**Kuangyinshan**	**0.94**	**295**	*e*P	**Pn**	**16 45 36.3**	**+0.3**
	baz=292						
WHF	**Hehuan Shan**	**1.14**	**241**	*e*P	**Pn**	**16 45 40.2**	**+1.1**
	baz=239						
WHF				*e*S	**Sb**	**16 45 53.9**	**+0.2**
	baz=239						
TWT	**Tachien**	**1.16**	**248**	*e*P	**Pg**	**16 45 40.7**	**+1.1**
	baz=239						
TWT				*e*S	**Sn**	**16 45 55.8**	**+0.8**
	baz=239						
ESL	**Shilin**	**1.22**	**224**	*e*P	**Pg**	**16 45 41.4**	**+0.7**
	baz=228						
ESL				*e*S	**Sn**	**16 45 58.8**	**+2.6**
	baz=228						
NSTT	**Nanjuang**	**1.23**	**267**	*e*P	**Pg**	**16 45 42.8**	**+1.9**
	baz=255						
NSTT				*e*S	**Sn**	**16 45 57.2**	**+0.7**
	baz=255						
IRIF	**Iriomote-Funau**	**1.31**	**106**	P	**Pn**	**16 45 39.8**	**-1.2**
HATJ	**Hateruma jima**	**1.47**	**116**	S	**Sn**	**16 46 01.6**	**-0.8**
TWQ1	**Liyutan**	**1.48**	**257**	*e*P	**Pg**	**16 45 46.1**	**+0.5**
	baz=256						
TWQ1				*e*S	**Sg**	**16 46 04.1**	**-0.8**
	baz=256						
EHY	**Hungye**	**1.52**	**219**	*e*P	**Pg**	**16 45 45.6**	**-0.7**
	baz=219						
SMLT	**Sun Moon Lake**	**1.56**	**239**	*e*P	**Pg**	**16 45 47.3**	**+0.2**
	baz=245						
JKRS	**Kuro-shima**	**1.58**	**107**	P	**Pn**	**16 45 44.6**	**-0.2**
JKRS				S	**Sn**	**16 46 05.2**	**+0.2**
TYC	**Yuchr**	**1.58**	**240**	*e*P	**Pg**	**16 45 48.9**	**+1.4**
	baz=240						
TYC				*e*S	**Sg**	**16 46 07.6**	**-0.4**
	baz=240						
TWF1	**Yuli**	**1.65**	**216**	*e*P	**Pb**	**16 45 47.1**	**-0.4**
	baz=218						

JIJ	**Ishigaki jima**	**1.66**	**101**	P	**Pn**	**16 45 45.2**	**-0.8**
YUS	**Yu-Shan**	**1.76**	**227**	*e*P	**Pg**	**16 45 50.8**	**-0.2**
	baz=228						
JISG	**Ishigakijimahi**	**1.79**	**93**	P	**Pn**	**16 45 47.3**	**-0.3**
CHKT	**Chengkung**	**1.83**	**210**	*e*P	**Pb**	**16 45 50.8**	**+0.3**
	baz=189						
ALS	**Alishan**	**1.84**	**230**	*e*P	**Pg**	**16 45 52.7**	**+0.1**
	baz=215						
CHN5	**Tsauling**	**1.88**	**235**	*e*P	**Pg**	**16 45 53.1**	**-0.2**
	baz=236						
CHN4	**Tsaushan**	**2.10**	**231**	*e*P	**Pb**	**16 45 55.1**	**+0.1**
	baz=216						
WTP	**Ta-pu**	**2.15**	**228**	*e*P	**Pg**	**16 45 57.2**	**-1.3**
	baz=215						
CHN1	**Nanshi**	**2.25**	**228**	*e*P	**Pb**	**16 45 57.1**	**-0.5**
	baz=230						

IDC ***20*** *17:10:33.8±1.7, 0.°60S×131.°42E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/38, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=78.1km s-min=18.9km az=75.0*
ISCJB ***20*** *17:10:37.9±0.7, 0.°61S±0.°06×131.°20E±0.°05, h33km, mb3.7/5, Error ellipse: s-maj=8.8km s-min=6.9km az=32.2*
DJA ***20*** *17:10:39.8±1.2, 1.°S±5.°×13.°1E±.°, h26km±13km, M3.9/8, MLv3.9/8*
ISC 20 17:10:40.0±1.0, 0.°66S±0.°08×131.°20E±0.°06, h35km, n14, σ0°91/17, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.48**	**155**	P	**Pn**	**17 11 17.7**	**-0.1**
FAKI				S	**Sn**	**17 11 48.1**	**+1.2**
RKPI	**Ransiki, Papua**	**3.10**	**106**	P	**Pn**	**17 11 27.4**	**+1.0**
MSAI	**Masohi**	**3.50**	**220**	P	**Pn**	**17 11 32.3**	**+0.4**
LBMI	**Labuha**	**3.70**	**270**	P	**Pn**	**17 11 34.5**	**-0.1**
LBMI				S	**Sn**	**17 12 18.4**	**+1.4**
BNDI	**Bandanaira**	**4.05**	**199**	P	**Pn**	**17 11 39.7**	**+0.3**
AAI	**Ambon**	**4.25**	**225**	P	**Pn**	**17 11 42.7**	**+0.5**
AAI				S	**Sn**	**17 12 31.9**	**+1.3**
NLAI	**Namlea**	**4.83**	**238**	P	**Pn**	**17 11 50.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.17**	**197**	P	**Pn**	**17 14 48.2**	**-1.4**
	0.1nm,0.3s,baz=34,slow=12,SNR=2.7						
FITZ				S	Sn	17 17 59.0	-12
	0.0nm,0.3s,baz=116,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**19.41**	**171**	P	**P**	**17 15 02.3**	**-1.0**
	0.1nm,0.3s,baz=353,slow=13,SNR=4.0						
WRA				S	S	17 18 24.8	-16
	0.1nm,0.3s,baz=348,slow=24,SNR=3.2						
ASAR	**Alice Springs**	**23.02**	**174**	P	**P**	**17 15 41.4**	**-0.7**
	0.6nm,0.7s,baz=353,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**36.96**	**303**	P	**P**	**17 17 46.6**	**+0.4**
	0.7nm,0.8s,baz=127,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**63.69**	**325**	P	**P**	**17 21 08.0**	**0.0**
	0.6nm,0.5s,baz=116,slow=8.1,SNR=8.2						
ZALV	**Zalesovo Beam**	**66.52**	**332**	P	**P**	**17 21 25.3**	**-0.8**
	0.4nm,0.4s,baz=132,slow=5.2,SNR=2.8						
KURBB	**Kurchatov Arra**	**67.83**	**327**	P	**P**	**17 21 34.1**	**-0.3**
	1.4nm,0.7s,baz=124,slow=5.9,SNR=16						

ISCJB ***20*** *17:17:03.8±0.4, 42.°84N±0.°03×13.°56E±0.°04, h13km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=146.1*
CSEM ***20*** *17:17:04.1±0.1, 42.°84N×13.°55E, h10km, ML3.2/6, Error ellipse: s-maj=2.8km s-min=2.8km az=68.0*
ROM ***20*** *17:17:04.1±0.2, 42.°81N×13.°52E, h20km±4km, MI2.6/8, Error ellipse: s-maj=1.9km s-min=0.9km az=59.0*
ISC 20 17:17:04.0±0.9, 42.°84N±0.°02×13.°55E±0.°03, h13km±7km, n27, σ0°63/50, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.22**	**169**	Pg	**Pg**	**17 17 09.2**	**+0.4**
TERO				Sg	**Sb**	**17 17 13.0**	**-0.7**
	1μm,0.3s						
TERO	**Teramo**	**0.22**	**169**	Pg	**Pg**	**17 17 09.2**	**+0.4**
TERO				Sg	**Sb**	**17 17 13.0**	**-0.7**
	1μm,0.3s						
SMA1	**SAN MARTINO**	**0.26**	**217**	Pg	**Pg**	**17 17 09.7**	**+0.2**
SMA1				Sg	**Sg**	**17 17 13.5**	**+0.2**
	1μm,0.3s						
SMA1	**SAN MARTINO**	**0.26**	**217**	Pg	**Pg**	**17 17 09.7**	**+0.2**
SMA1				Sg	**Sg**	**17 17 13.5**	**+0.2**
	1μm,0.3s						
GUMA	**Gualdo di Mace**	**0.36**	**51**	Pg	**Pg**	**17 17 10.8**	**-0.6**
GUMA				Sg	**Sg**	**17 17 15.9**	**-0.5**
	1μm,0.4s						
GUMA	**Gualdo di Mace**	**0.36**	**51**	Pg	**Pg**	**17 17 10.8**	**-0.6**
GUMA				Sg	**Sg**	**17 17 15.9**	**-0.5**
	1μm,0.4s						
FDMO	**Fiordimonte**	**0.39**	**301**	Pg	**Pg**	**17 17 12.1**	**+0.2**
FDMO				Sg	**Sb**	**17 17 18.2**	**-0.6**
	471nm,0.3s						
FDMO	**Fiordimonte**	**0.39**	**301**	Pg	**Pg**	**17 17 12.1**	**+0.2**
FDMO				Sg	**Sb**	**17 17 18.2**	**-0.6**
	471nm,0.3s						
LNSS	**Leonessa**	**0.44**	**238**	Pg	**Pg**	**17 17 12.5**	**-0.3**
LNSS				Sg	**Sb**	**17 17 19.3**	**-0.9**
	383nm,0.2s						
LNSS	**Leonessa**	**0.44**	**238**	Pg	**Pg**	**17 17 12.5**	**-0.3**
LNSS				Sg	**Sb**	**17 17 19.3**	**-0.9**
	383nm,0.2s						
VCEL	**Villa Celiera**	**0.49**	**154**	Pg	**Pg**	**17 17 13.8**	**+0.1**
VCEL				Sg	**Sb**	**17 17 21.6**	**-0.1**
VCEL	**Villa Celiera**	**0.49**	**154**	Pg	**Pg**	**17 17 13.8**	**+0.1**
VCEL				Sg	**Sb**	**17 17 21.6**	**-0.1**
AQU	**L'Aquila**	**0.49**	**193**	Pg	**Pg**	**17 17 13.2**	**-0.6**
	243nm,0.9s						
AQU	**L'Aquila**	**0.49**	**193**	Pg	**Pg**	**17 17 13.2**	**-0.6**
	243nm,0.9s						
T0104	**Madonna delle**	**0.50**	**198**	Pg	**Pg**	**17 17 13.4**	**-0.5**
T0104				Sg	**Sb**	**17 17 21.3**	**-0.6**
CESI	**CESI - Serrava**	**0.50**	**290**	Pg	**Pg**	**17 17 13.9**	**0.0**
CESI				Sg	**Sb**	**17 17 21.7**	**-0.3**
	297nm,0.3s						
CESI	**CESI - Serrava**	**0.50**	**290**	Pg	**Pg**	**17 17 13.9**	**0.0**
CESI				Sg	**Sb**	**17 17 21.7**	**-0.3**
	297nm,0.3s						
SNTG	**Esanatoglia**	**0.61**	**314**	Pg	**Pg**	**17 17 15.9**	**-0.1**
SNTG				Sg	**Sb**	**17 17 25.6**	**+0.5**
SNTG	**Esanatoglia**	**0.61**	**314**	Pg	**Pg**	**17 17 15.9**	**-0.1**
SNTG				Sg	**Sb**	**17 17 25.6**	**+0.5**
PIEI	**Pieia**	**1.02**	**314**	Pg	**Pb**	**17 17 22.7**	**-0.8**
	203nm,1.6s						
PIEI	**Pieia**	**1.02**	**314**	Pg	**Pb**	**17 17 22.7**	**-0.8**
	203nm,1.6s						
NVLJ	**Novalja**	**1.98**	**29**	*e*Pn	**Pn**	**17 17 37.5**	**+0.4**
NVLJ				Sn	**Sn**	**17 18 02.6**	**+0.9**
NVLJ	**Novalja**	**1.98**	**29**	*e*Pn	**Pn**	**17 17 37.5**	**+0.4**
NVLJ				Sn	**Sn**	**17 18 02.6**	**+0.9**
UDBI	**Udbina**	**2.33**	**43**	*e*Pn	**Pn**	**17 17 43.8**	**+1.6**
UDBI				Sn	**Sn**	**17 18 10.4**	**-0.3**
UDBI	**Udbina**	**2.33**	**43**	*e*Pn	**Pn**	**17 17 43.8**	**+1.6**
UDBI				Sn	**Sn**	**17 18 10.4**	**-0.3**
STON	**Ston**	**3.06**	**88**	*e*Pn	**Pn**	**17 17 52.9**	**+0.9**
STON				Sn	**Sn**	**17 18 28.8**	**+0.4**
STON	**Ston**	**3.06**	**88**	*e*Pn	**Pn**	**17 17 52.8**	**+0.9**
STON				Sn	**Sn**	**17 18 28.7**	**+0.4**

ISCJB ***20*** *17:18:31.9±0.2, 21.°19N±0.°02×70.°67E±0.°02, h10km, mb4.8/127, MS4.5/66, Error ellipse: s-maj=3.5km s-min=2.5km az=25.4*
BJI ***20*** *17:18:32.5±0.5, 21.°31N×70.°61E, h6km, mb4.7/57, mB4.9/48, Ms5.1/61, Ms7 4.8/58*
IDC ***20*** *17:18:32.5±0.5, 21.°21N×70.°56E, h0km, mb4.4/34, mb1 4.5/35, mb1mx4.5/45, mbtmp4.5/35, ML3.8/1, MS4.3/44, Ms1 4.3/44, ms1mx4.3/54, Error ellipse: s-maj=12.2km s-min=11.2km az=153.0*
NDI ***20*** *17:18:33.5±2.8, 21.°17N×70.°55E, h10km, ML5.2, mb5.0(NEIC)*
NEIC ***20*** *17:18:34.2±0.2, 21.°21N×70.°53E, h10km, mb5.0/46, Error ellipse: s-maj=4.8km s-min=4.0km az=10.0*
NEIC At least 34 people injured and more than 3,000 buildings damaged in the Talala-Maliya area. Felt [IV] at Bhavnagar; [III] at Junagarh and Rajkot; [II] at Ahmadabad, Bombay, Surat and Vadodara. Felt at Diu, in much of Gujarat and in parts of western Maharashtra.
MOS ***20*** *17:18:35.8±1.1, 21.°18N×70.°60E, h33km, mb5.1/39, MS4.8/13, Error ellipse: s-maj=7.9km s-min=4.8km az=108.0*

GCMT ***20*** *17:18:37.8±0.2, 20.°98N×70.°44E, h12km, MW5.1/107, Moment Tensor Solution. s41,c52; s107,c186; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.02±.10; Mθθ-4.45±.09; Mφφ4.42±.09; Mrθ2.98±.28; Mrφ1.98±.09; Mθφ0.54±.26; Best double couple: M0:5.65500×1016 NP1:φs236.00000°, δ83.00000°, λ-29.00000°. NP2: φs330.00000°, δ62.00000°, λ-172.00000°. Principal axes: T 5.1440, Plg15.0000°, Azm286.0000°; N 1.0150, Plg61.0000°, Azm44.0000°; P -6.1660, Plg25.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 17:18:34.1±0.3, 21.°18N±0.°03×70.°62E±0.°03, h10km, n343, σ1°86/321, mb4.8/127, MS4.5/67, 9C-9D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**1.53**	**68**	*e*P	**Pn**	**17 19 01.0**	**-0.5**
BHJ	**Bhuj**	**2.25**	**337**	*e*P	Pn	17 19 10.3	-1.3
BHJ				*e*S	**Sn**	**17 19 38.7**	**-0.7**
BHJ				AML	AML	17 19 55.3	
	comp=N,32μm,0.6s						
BHJ				AML	AML	17 19 55.9	
	comp=E,42μm,0.4s						
BOM	**Bombay**	**3.06**	**137**	*e*P	Pn	17 19 12.1	-11
BOM				*e*S	Sn	17 19 50.0	-9.3
BOM				AML	AML	17 20 12.3	
	comp=N,39μm,1.1s						
BOM				AML	AML	17 20 12.4	
	comp=E,42μm,1.1s						
POO	**Poona**	**4.02**	**130**	*e*P	**Pn**	**17 19 36.2**	**+0.4**
POO				*e*S	**Sn**	**17 20 23.0**	**0.0**
POO				AML	AML	17 20 44.1	
	comp=E,3μm,0.6s						
POO				AML	AML	17 20 44.2	
	comp=N,4μm,0.5s						
KAD	**Karad**	**5.11**	**138**	*e*P	**Pn**	**17 19 49.7**	**-1.2**
KAD				*ex*	**Sb**	**17 21 05.2**	**-0.1**
LATR	**Latur**	**6.23**	**115**	*e*P	**Pn**	**17 20 05.0**	**-1.2**
GOA	**Goa**	**6.42**	**151**	*e*P	**Pn**	**17 20 07.6**	**-1.2**
GOA				*e*S	**Sn**	**17 21 17.4**	**-4.8**
GOA				IAML		17 21 52.3	
	comp=N,2μm,0.4s						
GOA				IAML		17 21 52.5	
	comp=E,3μm,0.4s						
KLRI	**Killari**	**6.42**	**118**	*e*Pn	**Pn**	**17 20 06.9**	**-2.0**
KLRI				IAmb	IAmb	17 20 11.2	
	comp=Z,115nm,1.0s						
KLRI				*e*		17 21 19.6	
KLRI				IVMsBB		17 23 02.8	
	comp=Z,7μm,3.5s						
BHPL	**Bhopal**	**6.63**	**71**	*e*P	**Pn**	**17 20 12.4**	**+0.6**
BHPL				*e*S	**Sn**	**17 21 22.7**	**-4.8**
BHPL				IAML		17 22 15.5	
	comp=E,1μm,1.0s						
BHPL				IAML		17 22 16.1	
	comp=N,3μm,1.8s						
SRSP	**Sriramsagar**	**7.59**	**106**	*e*P	**Pn**	**17 20 23.7**	**-1.2**
SRSP				IAmb	IAmb	17 20 29.7	
	comp=Z,69nm,0.5s						
SRSP				*e*		17 21 42.8	
SRSP				IVMs_BB	IVMs_BB	17 23 15.8	
	comp=Z,9μm,5.0s						
NGP	**Nagpur**	**7.87**	**89**	*e*P	**Pn**	**17 20 28.1**	**-0.6**
NGP				*e*S	**Sn**	**17 21 52.5**	**-5.4**
NGP				IAML		17 22 55.3	
	comp=N,2μm,1.0s						
NGP				IAML		17 22 56.7	
	comp=E,1μm,0.2s						
KHET	**Khetri**	**8.33**	**33**	*e*P	**Pn**	**17 20 35.7**	**+0.7**
KHET				*e*S	**Sn**	**17 22 03.8**	**-5.4**
KHET				AML	AML	17 23 02.1	
	comp=N,566nm,0.9s						
KHET				AML	AML	17 23 05.4	
	comp=E,878nm,0.7s						
HYBB	**Hyderabad (bro**	**8.37**	**115**	*e*Pn	**Pn**	**17 20 33.4**	**-2.2**
HYBB				IAmb	IAmb	17 20 34.7	
	comp=Z,185nm,1.4s						
HYBB				*e*		17 22 04.0	
HYBB				IVMs_BB	IVMs_BB	17 23 53.6	
	comp=Z,5μm,9.0s						
HYB	**Hyderabad**	**8.37**	**115**	⇓*i*P	**Pn**	**17 20 33.5**	**-2.1**
	comp=Z,100nm,1.0s						
HYB				*e*S	**Sn**	**17 22 10.0**	**-0.3**
HYB	**Hyderabad**	**8.37**	**115**	*ex*	Pn	17 20 33.1	-2.6
HYB				*e*S	**Sn**	**17 22 04.2**	**-6.1**
HYB				IAML		17 23 01.3	
	comp=E,1μm,1.1s						
HYB				IAML		17 23 05.6	
	comp=N,2μm,0.8s						
RPR	**Rampur**	**8.47**	**104**	*e*Pn	**Pn**	**17 20 37.4**	**+0.4**
RPR				IAmb	IAmb	17 20 39.2	
	comp=Z,77nm,0.6s						
RPR				*e*		17 22 13.1	
RPR				IVMs_BB	IVMs_BB	17 24 02.1	
	comp=Z,10μm,3.9s						
KUDL	**Kundal**	**8.75**	**36**	*e*P	**Pn**	**17 20 40.1**	**-0.7**
KUDL				*e*S	Sn	17 22 13.2	-6.3
KUDL				AML	AML	17 23 11.5	
	comp=E,504nm,0.9s						
KUDL				AML	AML	17 23 11.8	
	comp=N,626nm,0.5s						
URV	**Uravakonda**	**8.84**	**133**	*e*P	**Pn**	**17 20 40.0**	**-2.1**
URV				IAmb	IAmb	17 20 45.2	
	comp=Z,78nm,0.8s						
URV				*e*		17 22 16.7	
URV				IVMs_BB	IVMs_BB	17 24 36.1	
	comp=Z,4μm,5.0s						
JBP	**Jabalpur**	**8.90**	**75**	⇓*e*P	**Pn**	**17 20 42.2**	**-0.6**
JBP				*ex*	Sn	17 22 12.1	-11
JBP				IAML		17 23 27.9	
	comp=N,14μm,1.6s						
JBP				IAML		17 23 29.2	
	comp=E,7μm,2.1s						
MNGI	**Mangalore**	**9.12**	**153**	*ex*	Sn	17 22 13.2	-15
SRLM	**Srisailam**	**9.32**	**121**	*e*Pn	**Pn**	**17 20 47.2**	**-1.5**
SRLM				IAmb	IAmb	17 20 49.1	
	comp=Z,121nm,1.0s						
SRLM				*e*		17 22 29.9	
SRLM				IVMs_BB	IVMs_BB	17 24 24.6	
	comp=Z,6μm,8.8s						
NJS	**Nagarjunasagar**	**9.42**	**118**	*e*Pn	Pn	17 20 46.9	-3.1
NJS				IAmb	IAmb	17 20 50.1	
	comp=Z,104nm,0.9s						
NJS				*e*		17 22 29.3	
NJS				IVMs_BB	IVMs_BB	17 24 44.8	
	comp=Z,

SMLA	**Simla**	**11.52**	**29**	*eP*	**Pn**	**17 21 18.0**	**-0.7**
SMLA				*ex*	x	17 23 20.1	
SMLA				IAML		17 24 59.9	
	comp=N,1μm,2.8s						
SMLA				IAML		17 25 10.6	
	comp=E,1μm,1.0s						
THW	**Thamme Wali**	**11.62**	**5**	P	Pn	17 21 17.9	-2.2
BIDO	**Bidbid**	**11.80**	**284**	Pn	Pn	17 21 19.4	-3.2
	SNR=16						
BIDO	**Bidbid**	**11.80**	**284**	P	Pn	17 21 19.4	-3.2
	SNR=16						
JWA	**Jwalamukhi**	**11.81**	**24**	*eP*	**Pn**	**17 21 23.0**	**+0.4**
JWA				*ex*	x	17 23 43.0	
PTH	**Pithoragarh**	**12.03**	**44**	*eP*	**Pn**	**17 21 25.4**	**-0.5**
PTH				*e*S	Sn	17 23 31.0	-9.2
DHRM	**DHARAMSHALA**	**12.14**	**23**	*eP*	**Pn**	**17 21 26.4**	**-1.0**
DHRM				*e*S	Sn	17 23 30.8	-12
DHRM				IAML		17 25 10.1	
	comp=N,3μm,1.1s						
DHRM				IAML		17 25 11.8	
	comp=E,2μm,0.7s						
MDRS	**Chennai**	**12.23**	**130**	*eP*	Pn	17 21 25.4	-3.0
JOSI	**Joshimath**	**12.32**	**39**	*eP*	**Pn**	**17 21 29.0**	**-0.9**
JOSI				*e*S	Sn	17 23 35.5	-12
JOSI				AML	AML	17 24 25.7	
	comp=N,1μm,1.2s						
JOSI				AML	AML	17 24 27.3	
	comp=E,2μm,0.8s						
VIS	**Vishakhapatnam**	**12.47**	**104**	*i* P	**Pn**	**17 21 31.5**	**-0.2**
VIS				*i* x	x	17 25 00.4	
CEP	**Cherat**	**12.65**	**5**	⇓P	Pn	17 21 32.0	-2.3
CHCP	**Chirah Chowk**	**12.65**	**10**	P	Pn	17 21 31.9	-2.4
CHLP	**Challavanipeta**	**12.92**	**100**	*e*Pn	**Pn**	**17 21 36.6**	**-1.3**
CHLP				IAmb	IAmb	17 21 41.5	
	comp=Z,81nm,1.1s						
CHLP				*e*		17 23 52.5	
CHLP				IVMs_BB	IVMs_BB	17 27 37.0	
	comp=Z,4μm,4.0s						
MNCY	**Minicoy**	**13.04**	**169**	*eP*	**Pn**	**17 21 37.5**	**-2.1**
PYUN	**Piuthan**	**13.19**	**56**	*eP*	Pn	17 21 38.0	-3.7
	comp=Z,137nm,0.5s						
PYUN				*e*S	**Sn**	**17 24 05.3**	**-3.3**
KBL	**Kabul**	**13.39**	**354**	*eP*	Pn	17 21 42.9	-1.6
KBL	**Kabul**	**13.39**	**354**	*e*Pn	Pn	17 21 42.9	-1.5
KOLN	**Koldanda**	**13.51**	**58**	*eP*	Pn	17 21 43.3	-2.9
UOSS	**Minazif**	**13.79**	**289**	*e*Pn	Pn	17 21 46.3	-3.5
HATD	**Hatta, Dubai**	**13.83**	**288**	P	Pn	17 21 47.0	-3.4
HATD	**Hatta, Dubai**	**13.83**	**288**	Pn	**Pn**	**17 21 50.7**	**+0.4**
	SNR=5.5						
HATD	**Hatta, Dubai**	**13.83**	**288**	P	**Pn**	**17 21 50.7**	**+0.4**
	SNR=5.5						
ASHO	**Ashiyiah**	**13.87**	**287**	*i* P	Pn	17 21 48.6	-2.2
	SNR=10						
ASHO	**Ashiyiah**	**13.87**	**287**	Pn	Pn	17 21 49.8	-1.1
	SNR=14						
ASHO	**Ashiyiah**	**13.87**	**287**	P	Pn	17 21 49.8	-1.1
	SNR=14						
BANOM	**Banah**	**13.96**	**293**	P	Pn	17 21 47.7	-4.4
NAZ	**Nazwa, Dubai**	**14.28**	**288**	*i* P	Pn	17 21 53.2	-3.3
	SNR=5.2						
NAZ	**Nazwa, Dubai**	**14.28**	**288**	Pn	Pn	17 21 55.5	-1.0
	SNR=7.4						
NAZ	**Nazwa, Dubai**	**14.28**	**288**	P	Pn	17 21 55.5	-1.0
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**14.29**	**287**	*i* P	Pn	17 21 54.7	-1.9
	SNR=5.8						
FAQ	**Al Faqa, Dubai**	**14.29**	**287**	Pn	**Pn**	**17 21 56.2**	**-0.4**
	SNR=5.7						
FAQ	**Al Faqa, Dubai**	**14.29**	**287**	P	**Pn**	**17 21 56.2**	**-0.4**
	SNR=5.7						
BOK	**Bokaro**	**14.35**	**77**	*eP*	**Pn**	**17 21 56.4**	**-1.1**
BOK				*ex*	x	17 24 34.8	
BOK				AML	AML	17 26 20.1	
	comp=E,361nm,0.7s						
BOK				AML	AML	17 26 20.3	
	comp=N,164nm,0.5s						
GKN	**Gorkha**	**14.44**	**59**	*eP*	Pn	17 21 54.0	-4.9
DMN	**Daman**	**14.66**	**61**	*eP*	Pn	17 21 58.2	-3.8
KKN	**Kakani**	**14.87**	**61**	*eP*	Pn	17 22 00.3	-4.5
	comp=N,85nm,0.6s						
PKIN	**Phulchoki**	**14.89**	**62**	*eP*	Pn	17 22 01.0	-4.0
	comp=N,104nm,0.5s						
GUN	**Gumba**	**15.41**	**61**	*eP*	**Pn**	**17 22 08.3**	**-3.8**
	comp=N,97nm,0.4s						
JIRN	**Jiri**	**15.57**	**62**	*eP*	Pn	17 22 09.5	-4.7
	comp=N,546nm,0.4s						
RAMN	**Ramite**	**15.68**	**65**	*eP*	**Pn**	**17 22 11.5**	**-4.0**
	comp=N,408nm,0.7s						
ODAN	**Odare**	**16.33**	**66**	*eP*	Pn	17 22 18.8	-5.0
	comp=N,396nm,0.8s						
TAPN	**Taplejung**	**16.74**	**65**	*eP*	Pn	17 22 24.2	-5.0
	comp=N,250nm,0.8s						
PALK	**Pallekele**	**16.91**	**143**	Pn	**Pn**	**17 22 28.0**	**-3.1**
	comp=N,0.9nm,0.3s,baz=296,slow=14,SNR=7.6						
PALK				Sn	Sn	17 25 28.5	-11
	comp=N,1.5nm,0.3s,baz=293,slow=18,SNR=4.9						
PALK				Lg	Lg	17 27 23.0	
	comp=N,1.2nm,0.3s,baz=90,slow=16,SNR=5.6						
PALK				LR	LR	17 29 07.6	
	comp=N,2μm,18.8s,baz=296,slow=37						
PALK	**Pallekele**	**16.91**	**143**	*eP*	**Pn**	**17 22 29.4**	**-1.8**
PALK						17 25 28.5	
PALK				pmax	pmax		
	comp=Z,38nm,0.9s						
PALK	**Pallekele**	**16.91**	**143**	*e*Pn	**Pn**	**17 22 29.4**	**-1.8**
	comp=Z,38nm,0.9s						
PALK				Sn	Sn	17 25 28.5	-11
PALK				Lg	Lg	17 27 23.0	
GTK	**Tadong**	**17.49**	**66**	*eP*	**Pn**	**17 22 37.0**	**-1.5**
DZET	**Dzherino**	**17.64**	**355**	P	**Pn**	**17 22 37.1**	**-3.0**
DZET				pmax	pmax		
	comp=Z,107nm,1.1s						
KSH	**Kashi**	**18.85**	**13**	P	P	17 22 48.6	-5.8
KSH				*e*pP	Pn	17 22 52.4	-2.6
KSH				sP	pP	17 22 56.4	-0.9
KSH				PP	sP	17 23 05.3	+6.7
KSH				S	Sn	17 26 07.8	-18
KSH				sS	S	17 26 14.8	-14
KSH				SS	**SnSn**	**17 26 32.5**	**-7.7**
KSH				pmax	pmax		
	comp=Z,39nm,1.0s						
KSH				pmax	pmax		
	comp=Z,410nm,6.0s						
KSH				LR	LR		
	comp=Z,6μm,12.9s						
KSH				LR	LR		
	comp=Z,5μm,12.9s						
KSH				LR	LR		
	comp=Z,9μm,14.2s						
GEYT	**Alibeck**	**19.89**	**330**	P	**P**	**17 23 04.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=22						
GEYT				LR	LR	17 31 06.3	
	comp=Z,1μm,18.2s,baz=105,slow=38						
SHL	**Shillong**	**20.00**	**73**	*eP*	**P**	**17 23 08.8**	**+1.6**
SHL	**Shillong**	**20.00**	**73**	*eP*	**P**	**17 23 08.0**	**+0.8**
SHL				*e*S	**S**	**17 26 46.0**	**-6.3**
LSA	**Lhasa**	**20.37**	**61**	*eP*	**P**	**17 23 14.0**	**+2.5**
LSA				pmax	pmax		
	comp=Z,69nm,1.3s						
LSA	**Lhasa**	**20.37**	**61**	*eP*	**P**	**17 23 14.0**	**+2.5**
	comp=Z,69nm,1.3s						
IUG	**Iuzhnay**	**20.91**	**359**	*i* P	**P**	**17 23 15.6**	**-1.4**
	comp=Z,597nm,1.0s						
IUG				*e*S	**S**	**17 27 07.7**	**-2.4**
IUG				*i* LR	LR	17 31 21.5	
	comp=Z,945nm,16.4s						
TEZP	**TEZPUR**	**20.98**	**71**	*eP*	**P**	**17 23 19.2**	**+1.6**
AAK	**Ala-Archa**	**21.64**	**8**	P	**P**	**17 23 25.4**	**+0.6**
	comp=Z,21nm,1.0s,baz=192,slow=10,SNR=30						
AAK				LR	LR	17 32 45.9	
	comp=Z,746nm,18.8s,baz=204,slow=40						
AAK	**Ala-Archa**	**21.64**	**8**	P	**P**	**17 23 25.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,55nm,1.3s						
AAK	**Ala-Archa**	**21.64**	**8**	P	**P**	**17 23 26.0**	**+1.1**
	SNR=44						
AAK	**Ala-Archa**	**21.64**	**8**	P	**P**	**17 23 26.0**	**+1.1**
	SNR=44						
BRLS	**Borolday**	**21.80**	**358**	*eP*	P	17 23 22.3	-4.1
	comp=Z,21nm,0.8s						
BRLS				*e*S	S	17 27 20.4	-7.1
BRLS				LR	LR	17 32 05.3	
	comp=Z,86nm,12.8s						
FRU	**Bishkek**	**21.85**	**8**	*eP*	**P**	**17 23 28.0**	**+1.1**
FRU				*e*		17 23 51.5	
FRU				pmax	pmax		
	comp=Z,220nm,1.8s						
KK31	**Karatay Array**	**21.86**	**360**	P	**P**	**17 23 26.1**	**-0.9**
KK31				pmax	pmax		
	comp=Z,66nm,1.1s						
KKAR	**Karatay Array**	**21.86**	**360**	*eP*	**P**	**17 23 26.5**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,274nm,0.7s						
KKAR	**Karatay Array**	**21.86**	**360**	*eP*	**P**	**17 23 26.5**	**-0.5**
	comp=Z,274nm,0.7s						
ITAN	**ITANAGAR**	**21.88**	**70**	*ex*	**P**	**17 23 31.0**	**+3.7**
ZIRO	**ZIRO**	**22.07**	**69**	*eP*	**P**	**17 23 31.4**	**+1.9**
MOKO	**MOKOCHONG**	**22.45**	**72**	*eP*	**P**	**17 23 35.4**	**+1.7**
MDOK	**Medeo**	**22.57**	**12**	*eP*	**P**	**17 23 33.2**	**-1.6**
	comp=Z,445nm,1.6s						
MDOK				*i* S	**S**	**17 27 39.5**	**-2.9**
MDOK				LRM	MLR	17 33 38.7	
	comp=Z,841nm,13.9s						
AAA	**Alma-Ata**	**22.59**	**12**	*eP*	**P**	**17 23 36.1**	**+1.2**
AAA				pmax	pmax		
	comp=Z,400nm,1.6s						
AAA				MLR	MLR		
	comp=Z,6μm,14.0s						
AAA	**Alma-Ata**	**22.59**	**12**	*eP*	**P**	**17 23 33.5**	**-1.4**
	comp=Z,577nm,1.7s						
DGPR	**DIGLIPUR**	**22.73**	**107**	*ex*	**P**	**17 23 40.4**	**+3.9**
SATY	**Saty**	**22.77**	**15**	*eP*	**P**	**17 23 35.7**	**-1.2**
	comp=Z,858nm,1.1s						
ZHN	**Zhinishke**	**22.88**	**15**	*i* P	**P**	**17 23 36.6**	**-1.4**
	comp=Z,508nm,1.1s						
ZHN				*e*S	**S**	**17 27 45.2**	**-2.6**
ZHN				LRM	MLR	17 33 33.0	
	comp=Z,1μm,12.5s						
UZB	**Uzynbulak**	**23.01**	**16**	*i* P	**P**	**17 23 37.8**	**-1.5**
	comp=Z,330nm,1.4s						
UZB				LRM	MLR	17 33 39.5	
	comp=Z,285nm,10.2s						
SHLS	**Shalkode**	**23.13**	**17**	*i* P	**P**	**17 23 40.2**	**-0.4**
	comp=Z,275nm,1.3s						
SHLS				*e*S	**S**	**17 27 51.0**	**-1.2**
SHLS				LRM	MLR	17 34 02.3	
	comp=Z,724nm,10.8s						
KUU	**Kurty**	**23.15**	**11**	*eP*	**P**	**17 23 38.9**	**-1.7**
	comp=Z,288nm,1.3s						
KPKS	**Kokpek**	**23.22**	**15**	*i* P	**P**	**17 23 39.8**	**-1.8**
	comp=Z,663nm,1.3s						
KPKS				LRM	MLR	17 33 44.0	
	comp=Z,2μm,13.3s						
RAYN	**Ar Rayn**	**23.34**	**280**	*eP*	**P**	**17 23 41.7**	**-1.2**
	comp=Z,183nm,1.1s						
LKP	**Lekhapani**	**23.78**	**70**	*ex*	P	17 23 55.5	+8.4
DAMY	**Dhamar**	**25.79**	**260**	*eP*	**P**	**17 24 06.4**	**+0.5**
	comp=Z,48nm,1.2s						
WMQ	**Urumqi**	**26.68**	**28**	P	**P**	**17 24 15.3**	**+1.9**
WMQ				pP	pP	17 24 19.1	+2.7
WMQ				sP	sP	17 24 22.8	+5.1
WMQ				S	**S**	**17 28 48.6**	**-0.1**
WMQ				SS	**SnSn**	**17 29 54.9**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,33nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.6s						
WMQ				LR	LR		
	comp=Z,3μm,19.9s						
WMQ				LR	LR		
	comp=Z,3μm,17.1s						
WMQ				LR	LR		
	comp=Z,940nm,18.5s						
CHTO	**Chiang Mai**	**26.70**	**90**	P	**P**	**17 24 15.7**	**+1.8**
	comp=Z,150nm,1.2s,comp=Z,2μm						
CHTO	**Chiang Mai**	**26.70**	**90**	*eP*	**P**	**17 24 15.6**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,45nm,1.2s						
CHTO	**Chiang Mai**	**26.70**	**90**	*eP*	**P**	**17 24 15.6**	**+1.8**
	comp=Z,45nm,1.2s						
CM31	**Chiang Mai Arr**	**26.77**	**91**	*eP*	**P**	**17 24 15.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**26.77**	**91**	P	**P**	**17 24 15.5**	**+1.1**
	comp=Z,15nm,0.9s,baz=279,slow=9.9,SNR=63						
CMAR				LR	LR	17 36 27.0	
	comp=Z,466nm,18.4s,baz=308,slow=40						
MAKZ	**Makanchi**	**27.19**	**17**	*eP*	**P**	**17 24 17.9**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,45nm,1.2s						
MAKZ	**Makanchi**	**27.19**	**17**	*eP*	**P**	**17 24 17.9**	**0.0**
	comp=Z,45nm,1.2s						
MK31	**Makanchi Array**	**27.26**	**18**	*eP*	**P**	**17 24 17.9**	**-0.7**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**27.26**	**18**	*eP*	**P**	**17 24 18.3**	**-0.3**
MK32	**Makanchi Array**	**27.26**	**18**	*eP*	**P**	**17 24 17.5**	**-1.1**
MKAR	**Makanchi Array**	**27.26**	**18**	P	**P**	**17 24 17.5**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=214,slow=10,SNR=19						
MKAR				LR	LR	17 35 24.4	
	comp=Z,387nm,21.7s,baz=217,slow=37						
MKAR	**Makanchi Array**	**27.26**	**18**	*eP*	**P**	**17 24 18.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,74nm,0.9s						
MKAR	**Makanchi Array**	**27.26**	**18**	*eP*	**P**	**17 24 18.3**	**-0.3**
	comp=Z,74nm,0.9s						
UTHA	**Uthaitani**	**27.89**	**97**	P	**P**	**17 24 29.0**	**+4.5**
	comp=Z,4.7nm,1.0s						
SRDT	**SRDT**	**27.95**	**99**	P	**P**	**17 24 28.8**	**+3.8**
	comp=Z,56nm,1.1s						
ATD	**Arta Tunnel**	**28.28**	**255**	P	**P**	**17 24 27.9**	**-0.2**
	comp=Z,12nm,0.8s,baz=75,slow=15,SNR=5.5						
ATD				LR	LR	17 33 16.3	
	comp=Z,151nm,20.2s,baz=62,slow=31						
NANT	**Nan**	**28.35**	**89**	P	P	17 24 33.8	+5.3
	comp=Z,3.4nm,1.1s						
UTTA	**Uttaradit**	**28.41**	**92**	P	**P**	**17 24 32.6**	**+3.5**
	comp=Z,3.3nm,1.0s,comp=Z,36nm						
ZSN	**Zaisan**	**28.63**	**20**	*eP*	P	17 24 28.7	-2.1
	comp=Z,25nm,1.5s						
ZSN				*i* S	**S**	**17 29 15.0**	**-4.4**
ZSN				LRM	MLR	17 37 01.9	
	comp=Z,206nm,13.3s						
GNI	**Garni**	**29.04**	**316**	P	**P**	**17 24 36.8**	**+2.1**
	comp=Z,3.8nm,0.5s,baz=103,slow=7.9,SNR=3.9						
GNI				LR	LR	17 37 50.5	
	comp=Z,576nm,21.1s,baz=118,slow=40						
GNI	**Garni**	**29.04**	**316**	*c i* P	**P**	**17 24 35.2**	**+0.5**
GNI				pmax	pmax		
	comp=Z,111nm,2.5s						
GNI	**Garni**	**29.04**	**316**	*eP*	**P**	**17 24 34.8**	**+0.1**
	comp=Z,22nm,0.9s						
PBKT	**Sadao Pong**	**29.05**	**94**	P	**P**	**17 24 37.5**	**+2.7**
	comp=Z,14nm,1.0s						
AB31	**Akbulak array**	**29.28**	**346**	P	**P**	**17 24 36.9**	**+0.4**
AB31				pmax	pmax		
	comp=Z,15nm,0.9s						
ABKAR	**Akbulak array**	**29.28**	**346**	*eP*	**P**	**17 24 37.1**	**+0.6**
	comp=Z,92nm,0.8s						
KMI	**Kunming**	**29.75**	**76**	P	**P**	**17 24 43.6**	**+2.3**
KMI				pP	sP	17 24 48.1	+2.5
KMI				sP	pP	17 24 49.8	+5.5
KMI				PP	**PnPn**	**17 25 37.0**	**+0.4**
KMI				S	**S**	**17 29 38.9**	**+1.1**
KMI				sS	sS	17 29 45.0	+2.1
KMI				SS	**SnSn**	**17 31 06.3**	**-1.0**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,130nm,6.1s						
KMI				LR	LR		
	comp=Z,2μm,18.7s						
KMI				LR	LR		
	comp=Z,910nm,16.3s						
KMI				LR	LR		
	comp=Z,1μm,17.0s						
KURBB	**Kurchatov Arra**	**30.04**	**10**	P	**P**	**17 24 42.2**	**-1.0**
	comp=Z,6.0nm,0.9s,baz=206,slow=9.0,SNR=31						
KURK	**Kurchatov**	**30.14**	**10**	*eP*	**P**	**17 24 43.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,73nm,1.2s						
KURK	**Kurchatov**	**30.14**	**10**	*eP*	**P**	**17 24 43.9**	**-0.2**
KURK	**Kurchatov**	**30.14**	**10**	P	**P**	**17 24 44.2**	**0.0**
	SNR=7.3						
KURK	**Kurchatov**	**30.14**	**10**	P	**P**	**17 24 44.2**	**0.0**
	SNR=7.3						
SEM	**Semipalatinsk**	**30.15**	**12**	*eP*	P	17 24 42.8	-1.7
	comp=Z,52nm,1.7s						
SEM				*e*S	**S**	**17 29 40.4**	**-3.1**
SEM				LR	LR	17 36 27.4	
	comp=Z,1μm,16.0s						
MARD	**Mardin**	**30.44**	**308**	*eP*	**P**	**17 24 46.5**	**-0.5**
	comp=Z,16nm,1.0s						
NONG	**Nongkai**	**30.76**	**90**	P	**P**	**17 24 49.4**	**-0.6**
	comp=Z,92nm,1.1s						
AKTO	**Aktyubinsk**	**30.85**	**344**	P	**P**	**17 24 50.0**	**-0.3**
	comp=Z,10nm,1.1s,baz=155,slow=7.8,SNR=10						
AKTO				LR	LR	17 39 13.4	
	comp=Z,565nm,20.9s,baz=159,slow=40						
AKTO	**Aktyubinsk**	**30.85**	**344**	P	P	17 24 49.0	-1.4
AKTO				pmax	pmax		
	comp=Z,23nm,1.3s						
GTA	**Gaotai**	**30.88**	**47**	⇓P	**P**	**17 24 51.8**	**+0.9**
GTA				pP	pP	17 24 56.4	+2.4
GTA				sP	sP	17 24 58.9	+3.6
GTA				S	**S**	**17 29 56.8**	**+1.8**
GTA				sS	sS	17 30 02.9	+2.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,4.8s						
GTA				LR	LR		
	comp=Z,1μm,15.9s						
GTA				LR	LR		
	comp=Z,1μm,15.2s						
GTA				LR	LR		
	comp=Z,2μm,14.3s						
TRTT	**Trang**	**31.04**	**111**	P	**P**	**17 24 55.5**	**+3.1**
	comp=Z,15nm,1.7s						
ZEI	**Tsey**	**31.05**	**320**	*eP*	P	17 24 45.9	-6.6
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CD2	**Chengdu**	**31.21**	**65**	*eP*	**P**	**17 24 54.3**	**+0.4**
CD2				S	**S**	**17 30 01.1**	**+0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.0s						
CD2				LR	LR		
	comp=Z,4μm,16.4s						
CD2				LR	LR		
	comp=Z,1μm,15.4s						
CD2				LR	LR		
	comp=Z,2μm,12.4s						
SKNT	**Sakolnakorn**	**31.77**	**92**	P	**P**	**17 25 02.2**	**+3.3**
	comp=Z,17nm,1.3s						
BVAR	**Borovoye Array**	**31.79**	**360**	P	**P**	**17 24 58.6**	**0.0**
	comp=Z,2.6nm,0.8s,baz=163,slow=11,SNR=17						
BVAR				LR	LR	17 38 55.2	
	comp=Z,2μm,19.1s,baz=192,slow=38						
KOPT	**Kop Dagi**	**31.79**	**313**	*eP*	P	17 24 56.6	-2.6
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**31.83**	**360**	*c i* P	**P**	**17 25 00.2**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,41nm,1.2s						
BRVK	**Borovoye**	**31.83**	**360**	*eP*	**P**	**17 24 59.4**	**+0.4**
	comp=Z,13nm,1.1s						
BRVK	**Borovoye**	**31.83**	**360**	P	**P**	**17 25 00.7**	**+1.8**
	SNR=7.5						
BRVK	**Borovoye**	**31.83**	**360**	P	**P**	**17 25 00.7**	**+1.8**
	SNR=7.5						
KBZ	**Khabaz**	**32.19**	**321**	P	**P**	**17 25 03.6**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=114,slow=12,SNR=4.7						
KBZ				LR	LR	17 41 52.9	
	comp=Z,392nm,18.2s,baz=124,slow=44						
PANO	**Nakornpanom**	**32.32**	**91**	P	**P**	**17 25 08.1**	**+4.4**
	comp=Z,183nm,1.5s,comp=Z,8μm						
KIV	**Kislovodsk**	**32.45**	**321**	*eP*	**P**	**17 25 06.2**	**+1.6**
KIV				*e*		17 26 12.4	
KIV				*e*S	**S**	**17 30 21.1**	**+1.7**
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIV	**Kislovodsk**	**32.45**	**321**	*eP*	**P**	**17 25 04.2**	**-0.5**
	comp=Z,32nm,1.1s						
LZH	**Lanzhou**	**32.54**	**56**	*eP*	**P**	**17 25 07.3**	**+1.6**
LZH				pP	sP	17 25 12.9	+2.9
LZH				sP	pP	17 25 15.8	+7.1
LZH				PP	**PP**	**17 26 19.4**	**+0.2**
LZH				S	**S**	**17 30 28.3**	**+7.1**
LZH				SS	**SnSn**	**17 32 18.0**	**+3.2**
LZH				pmax	pmax		
	comp=Z,45nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,4.3s						
LZH				LR	LR		
	comp=Z,1μm,9.9s						
LZH				LR	LR		
	comp=Z,2μm,9.8s						
LZH				LR	LR		
	comp=Z,2μm,10.1s						
PSI	**Prapat**	**33.05**	**120**	P	**P**	**17 25 11.3**	**+1.0**
	comp=Z,5.9nm,0.4s,baz=305,slow=8.4,SNR=9.3						
PSI	**Prapat**	**33.05**	**120**	*eP*	**P**	**17 25 11.4**	**+1.2**
PSI				pmax	pmax		
	comp=Z,15nm,0.7s						
PSI	**Prapat**	**33.05**	**120**	*eP*	**P**	**17 25 11.4**	**+1.2**
	comp=Z,15nm,0.7s						
KULM	**Kulim**	**33.12**	**114**	*eP*	**P**	**17 25 13.1**	**+2.3**
	comp=Z,27nm,1.3s						
GYA	**Guiyang**	**33.32**	**74**	P	**P**	**17 25 12.8**	**+0.3**
GYA				PP	**PnPn**	**17 26 26.3**	**+3.4**
GYA				S	**S**	**17 30 33.8**	**+0.5**
GYA				SS	**SnSn**	**17 32 36.5**	**+2.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,530nm,16.8s						
GYA				LR	LR		
	comp=Z,490nm,17.4s						
GYA				LR	LR		
	comp=Z,440nm,17.5s						
UBPT	**Khong Chiam**	**33.57**	**94**	P	**P**	**17 25 18.2**	**+3.6**
	comp=Z,31nm,1.4s						
IPM	**Ipoh**	**33.86**	**115**	*eP*	**P**	**17 25 17.4**	**+0.2**
	comp=Z,60nm,2.0s						
SOC	**Sochi**	**34.04**	**318**	*eP*	P	17 25 16.5	-2.0
SOC				*e*		17 26 31.8	
SOC				*e*S	**S**	**17 30 43.1**	**-0.8**
SOC				*e*SSS	SSS	17 33 18.5	
SOC				pmax	pmax		
	comp=Z,29nm,0.8s						
SOC				MLR	MLR		
	comp=Z,700nm,17.0s						
ZAA0	**Zalesovo Array**	**34.46**	**15**	*eP*	**P**	**17 25 21.1**	**-0.8**
ZALV	**Zalesovo Beam**	**34.46**	**15**	P	**P**	**17 25 20.8**	**-1.1**
	comp=Z,4.6nm,0.7s,baz=210,slow=8.6,SNR=28						
ZALV				LR	LR	17 40 58.2	
	comp=Z,623nm,18.6s,baz=248,slow=39						
ZAA1	**Zalesovo Array**	**34.47**	**15**	*eP*	**P**	**17 25 20.8**	**-1.1**
NVS	**Novosibirsk**	**34.94**	**13**	*eP*	**P**	**17 25 24.8**	**-1.2**
ANN	**Anapa**	**36.08**	**319**	*eP*	P	17 25 33.9	-2.0
ANN				pmax	pmax		
	comp=Z,65nm,1.5s						
ARU	**Arti**	**36.33**	**349**	P	**P**	**17 25 38.2**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=175,slow=6.5,SNR=12						
**ARU

comp=Z,780nm,20.1s
QIZ LR LR
comp=Z,590nm,21.7s
ANTO Ankara 37.19 309 *e*P **P 17 25 46.2 +0.6**
ANTO pmax pmax
comp=Z,26nm,1.1s
ANTO Ankara 37.19 309 *e*P **P 17 25 46.2 +0.6**
comp=Z,26nm,1.1s
ANTO Ankara 37.19 309 pP **P 17 25 47.5 +1.8**
SNR=6.0
ANTO Ankara 37.19 309 P **P 17 25 47.5 +1.8**
SNR=6.0
BOLV Bolvadin 38.22 306 *e*P **P 17 25 54.1 -0.4**
comp=Z,33nm,1.0s
SIM Simferopol' 38.23 317 P **P 17 25 54.8 +0.5**
SIM pmax pmax
comp=Z,16nm,1.2s
SIM MLR MLR
comp=Z,280nm,16.9s
BTO Baotou 38.56 51 *e*P **P 17 25 57.8 +0.5**
AKAS Kas 38.68 302 *e*P **P 17 25 57.6 -0.7**
comp=Z,9.7nm,0.8s
ZAK Zakamensk 38.84 33 *e*P **P 17 25 59.7 +0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
SONA0 Songino Array 39.15 39 *e*P **P 17 26 02.9 +0.8**
SONM Songino Array 39.15 39 P **P 17 26 02.9 +0.8**
comp=Z,8.5nm,1.0s,baz=234,slow=8.5,SNR=49
SONM LR LR 17 41 36.5
comp=Z,769nm,20.1s,baz=236,slow=35
KMBO Kilima Mbogo 39.44 240 P **P 17 26 04.2 -0.9**
comp=Z,10nm,0.9s,baz=40,slow=12,SNR=26
KMBO LR LR 17 41 16.1
comp=Z,237nm,19.3s,baz=66,slow=35
KMBO Kilima Mbogo 39.44 240 *e*P **P 17 26 04.2 -0.9**
KMBO *e*pP **P 17 26 05.6 +0.5**
ULN Ulaanbaatar 39.54 39 *d i*P **P 17 26 06.5 +1.0**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 39.54 39 *e*P **P 17 26 06.2 +0.7**
comp=Z,12nm,1.2s
SOKR Solikamsk 39.63 349 *e*P **P 17 26 04.7 -1.1**
SOKR pmax pmax
comp=Z,36nm,1.0s
SOKR MLR MLR
comp=Z,867nm,17.0s
TLY Talaya 39.80 32 P **P 17 26 08.4 +1.0**
comp=Z,5.2nm,0.8s,baz=246,slow=9.9,SNR=4.7
TLY LR LR 17 44 09.7
comp=Z,1μm,20.6s,baz=256,slow=39
TLY Talaya 39.80 32 *e*P **P 17 26 09.6 +2.2**
TLY *e*S **S 17 32 10.7 -0.9**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,717nm,20.0s
WHN Wuhan 40.23 67 *e*P P 17 26 19.8 +8.6
WHN S **S 17 32 17.4 -1.0**
WHN LR LR
comp=N,1μm,11.1s
WHN LR LR
comp=E,1μm,9.1s
WHN LR LR
comp=Z,2μm,14.9s
TIRR Tirgusor 41.78 314 *e*P **P 17 26 24.1 +0.3**
TIRR pmax pmax
comp=Z,21nm,1.3s
TIRR Tirgusor 41.78 314 *e*P **P 17 26 24.1 +0.3**
comp=Z,21nm,1.3s
SANT Santorini 42.00 301 *e*P **P 17 26 24.7 -1.1**
comp=Z,25nm,0.8s
IDI Anoyia 42.31 300 P **P 17 26 28.4 0.0**
comp=Z,14nm,0.8s,baz=104,slow=6.7,SNR=13
IDI PP **PP 17 28 04.5 -1.9**
comp=Z,8.0nm,0.7s,baz=111,slow=11,SNR=6.6
IDI Anoyia 42.31 300 *e*P **P 17 26 28.7 +0.4**
comp=Z,16nm,0.9s
IDI *e*PP **PP 17 28 06.5 +0.2**
MOS Moscow 42.37 333 *e*P **P 17 26 28.1 -0.3**
MOS pmax pmax
comp=Z,47nm,1.2s
OBN Obninsk 42.42 332⇓ *e*P **P 17 26 29.2 +0.4**
OBN *e* 17 26 37.4
OBN *e* 17 28 06.8
OBN *e*S **S 17 32 55.9 +5.6**
OBN pmax pmax
comp=Z,20nm,1.1s
OBN MLR MLR
comp=Z,969nm,16.0s
BJI Beijing 42.96 54 P **P 17 26 33.9 +0.5**
BJI S **S 17 32 58.6 0.0**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI pmax pmax
comp=Z,110nm,5.5s
BJI LR LR
comp=Z,3μm,23.4s
BJI LR LR
comp=Z,2μm,24.2s
BJI LR LR
comp=Z,1μm,22.8s
AKASG Malin Array Be 43.75 323 P **P 17 26 38.4 -1.2**
comp=Z,2.1nm,0.6s,baz=116,slow=6.6,SNR=15
AKASG LR LR 17 49 05.1
comp=Z,378nm,21.1s,baz=80,slow=42
AKBB Malin Array Si 43.75 323 *e*P **P 17 26 39.2 -0.5**
AKBB pmax pmax
comp=Z,41nm,1.5s
AKBB Malin Array Si 43.75 323 *e*P **P 17 26 39.2 -0.5**
comp=Z,41nm,1.5s
KIEV Kiev 43.76 323⇑ *e*P **P 17 26 39.7 0.0**
KIEV pmax pmax
comp=Z,16nm,1.4s
KIEV Kiev 43.76 323 *e*P **P 17 26 38.9 -0.8**
comp=Z,41nm,1.5s
MLR Muntele Rosu 43.77 314 *e*P **P 17 26 39.7 -0.4**
MLR pmax pmax
comp=Z,39nm,1.6s
MLR Muntele Rosu 43.77 314 *e*P **P 17 26 39.7 -0.4**
comp=Z,39nm,1.6s
NJ2 Nanjing 44.15 65 *e*P **P 17 26 43.6 +0.5**
SBUM Sibu 44.56 109 *e*P **P 17 26 47.6 +1.0**
comp=Z,22nm,1.6s
BUR08 Bucovina Ar. S 44.97 317 *e*P **P 17 26 50.1 +0.5**
KLMR Klimovskoe 45.22 339 *e*P P 17 26 49.3 -2.0
KLMR pmax pmax
comp=Z,17nm,1.0s
OPO Ambohidratompo 45.69 212 P **P 17 26 56.3 +0.7**
comp=Z,21nm,1.0s,baz=358,slow=0.9,SNR=16
ABPO Ambohimpanom 46.05 211 *e*P **P 17 26 58.6 +0.1**
ABPO pmax pmax
comp=Z,26nm,1.3s
ABPO Ambohimpanom 46.05 211 *e*P **P 17 26 58.6 +0.1**
comp=Z,26nm,1.3s
SSE Sheshan 46.12 67 *e*P **P 17 26 59.8 +0.9**
SSE S **S 17 33 46.4 +1.5**
SSE sS **sS 17 33 54.0 +4.0**
SSE pmax pmax
comp=Z,21nm,0.7s
SSE pmax pmax
comp=Z,34nm,4.2s
SSE LR LR
comp=Z,2μm,19.8s
SSE LR LR
comp=Z,200nm,19.8s
SSE LR LR
comp=Z,610nm,20.0s
UZH Uzhgorod 47.13 317 *e*P **P 17 27 07.8 +1.3**
UZH *e* 17 27 15.7
UZH *i* 17 28 43.8
UZH *i* 17 28 58.5
KWP Kalwaria Pacla 47.19 319 *e*P **P 17 27 07.8 +0.8**
KWP Kalwaria Pacla 47.19 319 *e*P **P 17 27 07.8 +0.8**
BEO Beograd 47.32 312 *e*P **P 17 27 08.0 0.0**
BEO Beograd 47.32 312 *e*P **P 17 27 08.0 0.0**
CRVS Cervenica-Dubn 47.73 318 *e*P **P 17 27 13.9 +2.7**
CRVS Cervenica-Dubn 47.73 318 *e*P **P 17 27 13.9 +2.7**
HIA Hailar 47.82 42 *de*P **P 17 27 12.7 +0.8**
HIA pmax pmax
comp=Z,6.0nm,1.1s
BOD Bodaibo 48.21 30 *e*P P 17 27 12.0 -2.7
BOD pmax pmax
comp=Z,7.0nm,1.5s
KECS Kecovo 48.23 317 *e*P **P 17 27 16.4 +1.3**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 48.23 317 *e*P **P 17 27 16.4 +1.3**
OJC Ojcow 49.16 319 *e*P **P 17 27 22.2 0.0**
OJC pmax pmax
comp=Z,21nm,1.2s
OJC Ojcow 49.16 319 *e*P **P 17 27 22.2 0.0**
comp=Z,20nm,1.2s
NRIK Noril'sk 49.26 8 P **P 17 27 22.4 -0.2**
comp=Z,3.7nm,0.5s,baz=219,slow=4.5,SNR=3.8
NRIK LR LR 17 50 36.8
comp=Z,1μm,18.3s,baz=202,slow=39
VYHS Vyhne 49.29 316 *e*P **P 17 27 23.2 -0.1**
VYHS pmax pmax
comp=Z,90nm,3.4s
VYHS Vyhne 49.29 316 *e*P **P 17 27 23.2 -0.1**
OKC Ostrava-Krasne 50.08 318 *e*P **P 17 27 31.3 +2.1**
OKC Ostrava-Krasne 50.08 318 *e*P **P 17 27 31.3 +2.1**
CN2 Changchun 50.43 50 *e*P **P 17 27 32.3 +0.3**
MORC Moravsky Berou 50.44 318 *e*P **P 17 27 31.9 -0.1**
MORC pmax pmax
comp=Z,167nm,1.9s
MORC Moravsky Berou 50.44 318 *e*P **P 17 27 31.9 -0.1**
comp=Z,167nm,1.9s
FIA0 FINESS Array S 50.61 334 *e*P **P 17 27 32.2 -0.8**
FIA0 FINESS Array S 50.61 334 *e*P **P 17 27 32.2 -0.8**
FINES FINESS Array B 50.61 334 P **P 17 27 32.2 -0.8**
comp=Z,5.4nm,0.8s,baz=132,slow=8.2,SNR=6.0
FINES LR LR 17 52 13.6
comp=Z,859nm,19.8s,baz=120,slow=40
DPC Dobruska-Polom 51.34 318 *e*P **P 17 27 39.1 +0.3**
DPC *ex* x 17 27 48.7
DPC Dobruska-Polom 51.34 318 *e*P **P 17 27 39.1 +0.3**
DPC *e* 17 27 48.7
KSP Ksiaz 51.48 319 *e*P **P 17 27 41.5 +1.7**
KSP Ksiaz 51.48 319 *e*P **P 17 27 41.5 +1.7**
UPC Upice 51.57 318 *e*P **P 17 27 42.2 +1.7**
UPC *ex* x 17 27 50.8
UPC Upice 51.57 318 *e*P **P 17 27 42.2 +1.7**
UPC *e* 17 27 50.8
KS15 Wonju Array Si 51.75 58 *e*P **P 17 27 42.7 +0.8**
KSAR Wonju Array Be 51.75 58 P **P 17 27 41.7 -0.2**
KSAR Wonju Array Be 51.75 58 P P **17 27 41.7 -0.2**
KSRS Korea Array 51.78 58 P **P 17 27 41.7 -0.5**
comp=Z,4.2nm,1.1s,baz=250,slow=7.6,SNR=6.8
PRU Pruhonice 52.38 317 AMS AMS 17 56 00.0
comp=Z,400nm,11.4s
GEC2 GERESS Array S 52.69 316 *e*P **P 17 27 49.4 +0.5**
GEC2 pmax pmax
comp=Z,14nm,1.4s
GEC2 GERESS Array S 52.69 316 *e*P **P 17 27 49.4 +0.5**
comp=Z,14nm,1.4s
GERES GERESS Array B 52.69 316 P **P 17 27 48.1 -0.8**
comp=Z,1.9nm,0.8s,baz=108,slow=8.6,SNR=12
GERES LR LR 17 54 24.7
comp=Z,199nm,20.3s,baz=106,slow=41
KHC Kasperske Hory 52.82 316 *e*P **P 17 27 49.9 +0.1**
KHC Kasperske Hory 52.82 316 *e*P **P 17 27 49.9 +0.1**
BRG Berggiesshubel 52.94 318 *e*P **P 17 27 51.9 +1.3**
comp=Z,9.8nm,0.9s
comp=N,874nm,20.1s
comp=E,384nm,18.0s
comp=Z,629nm,17.5s
BRG Berggiesshubel 52.94 318 *e*P **P 17 27 51.9 +1.3**
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,874nm,20.1s
BRG MLR MLR
comp=E,384nm,18.0s
BRG MLR MLR
comp=Z,629nm,17.5s
MDJ Mudanjiang 53.49 50 P **P 17 27 54.5 -0.2**
MDJ ScS ScS 17 37 39.3 -5.2
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,35nm,3.9s
MDJ LR LR
comp=Z,1μm,27.3s
MDJ LR LR
comp=Z,210nm,28.6s
MDJ LR LR
comp=Z,520nm,20.8s
CLL Collm 53.61 319 *i*P **P 17 27 56.7 +1.2**
CLL *e*S **S 17 35 36.0 +7.1**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 53.61 319 *i*P **P 17 27 56.7 +1.2**
comp=Z,9.0nm,1.0s
CLL *i* 17 28 30.8
CLL *e*S **S 17 35 36.0 +7.1**
CLL L L 17 53 00.0
comp=Z,300nm,19.4s
CLL Collm 53.61 319 *e*P **P 17 27 56.2 +0.7**
comp=Z,22nm,1.4s
NKC Novy Kostel 53.75 317 *e*P **P 17 27 57.7 +1.1**
NKC Novy Kostel 53.75 317 *e*P **P 17 27 57.7 +1.1**
FUORN Ofenpass-Fuorn 54.67 313 *e*P P 17 28 02.0 -1.6
comp=Z,8.8nm,1.0s
KEST Kesra 54.99 299 P **P 17 28 06.1 +0.2**
comp=Z,5.1nm,1.1s,baz=116,slow=12,SNR=2.2
KEST LR LR 17 57 43.1
comp=Z,161nm,18.8s,baz=135,slow=43
KEST Kesra 54.99 299 *e*P **P 17 28 05.5 -0.4**
comp=Z,66nm,1.9s
USRK Ussuriysk Ar. 55.17 50 P **P 17 28 06.7 -0.3**
comp=Z,3.9nm,1.0s,baz=242,slow=6.1,SNR=5.7
LSZ Lusaka 55.20 232 *e*P **P 17 28 08.3 +0.7**
LSZ pmax pmax
comp=Z,29nm,1.5s
LSZ Lusaka 55.20 232 *e*P **P 17 28 08.3 +0.7**
comp=Z,29nm,1.5s
ARA0 ARCESS Array S 55.40 342 *e*P **P 17 28 07.5 -0.8**
ARCES ARCESS Array B 55.40 342 P **P 17 28 07.5 -0.8**
comp=Z,3.0nm,0.8s,baz=134,slow=8.7,SNR=6.5
ARCES LR LR 17 55 19.5
comp=Z,574nm,18.6s,baz=132,slow=40
NB200 NORSAR Array S 56.98 330 *e*P **P 17 28 18.4 -1.3**
NOA NORSAR Array B 56.98 330 P **P 17 28 18.4 -1.3**
comp=Z,2.2nm,0.9s,baz=106,slow=7.1,SNR=2.8
YAK Yakutsk 57.12 29 LR LR 17 54 49.9
comp=Z,637nm,21.7s,baz=267,slow=38
YAK Yakutsk 57.12 29 *e*P **P 17 28 19.8 -0.8**
YAK pmax pmax
comp=Z,15nm,1.9s
YAK Yakutsk 57.12 29 *e*P **P 17 28 19.3 -1.3**
comp=Z,9.5nm,1.0s
HABR Khabarovsk 57.58 45 *e*P P 17 28 21.3 -2.8
HABR *e**SP pP 17 28 28.0 +0.7
HABR *e* 17 29 14.8
HABR *e* 17 30 29.2
HABR *e*S **S 17 36 18.5 -3.5**
HABR *e**SS pS 17 36 26.8 +0.9
HABR *e* 17 38 10.3
HABR *e*SS **SS 17 40 07.3 -4.5**
HABR pmax pmax
comp=Z,30nm,2.2s
HABR pmax pmax
comp=N,6.0nm,1.1s
HABR pmax pmax
comp=E,15nm,2.2s
HABR MLR MLR
comp=Z,1μm,20.0s
MEM Membach 57.88 317 P **P 17 28 26.9 +0.8**
TAM Tamanrasset 59.94 285 *e*P **P 17 28 40.3 -0.8**
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 59.94 285 *e*P **P 17 28 40.2 -0.8**
comp=Z,5.6nm,1.1s
MJAR Matsushiro Arr 60.03 59 P **P 17 28 40.5 -1.0**
comp=Z,1.4nm,0.8s,baz=272,slow=6.8,SNR=4.1
MJAR LR LR 17 55 24.7
comp=Z,315nm,19.9s,baz=285,slow=37
TIXI Tiksi 60.25 18⇓ *e*P **P 17 28 43.1 +0.9**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI MLR MLR
comp=Z,831nm,18.0s
TIXI Tiksi 60.25 18 *e*P **P 17 28 42.9 +0.6**
comp=Z,11nm,1.5s
YSS Yuzh-Sakhalins 62.76 47⇑ *e*P **P 17 29 00.9 +1.3**
YSS *e*S **S 17 37 29.8 +1.3**
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS pmax pmax
comp=Z,200nm,3.8s
YSS MLR MLR
comp=Z,700nm,19.0s
ESDC Sonseca Array 65.18 305 P **P 17 29 15.1 -0.7**
comp=Z,0.2nm,0.3s,baz=63,slow=5.3,SNR=5.5
ESDC LR LR 18 03 28.1
comp=Z,90nm,18.3s,baz=170,slow=41
TSUM Tsumeb 65.61 236 *e*P **P 17 29 18.2 -0.7**
comp=Z,12nm,1.0s
TOA0 Torodi Ar. Sit 65.92 275 *e*P **P 17 29 19.9 -0.9**
comp=Z,9.5nm,0.9s
TORD Torodi Ar. Bea 65.92 275 P P 17 29 18.9 -1.9
comp=Z,6.3nm,0.8s,baz=79,slow=5.4,SNR=34
TORD LR LR 17 59 00.2
comp=Z,221nm,20.6s,baz=90,slow=37
TOA1 Torodi Ar. Sit 65.92 275 *e*P P 17 29 18.9 -1.9
BOSA Boshof 66.08 223 P **P 17 29 21.2 -0.6**
comp=Z,8.2nm,1.0s,baz=30,slow=7.3,SNR=4.6
BOSA LR LR 17 53 58.6
comp=Z,294nm,21.6s,baz=44,slow=32
MDT Midelt 66.80 298 LR LR 18 05 17.9
comp=Z,120nm,18.5s,baz=90,slow=42
MA2 Magadan 67.02 33 LR LR 17 58 52.1
comp=Z,504nm,21.0s,baz=270,slow=36
SEY Seymchan 67.63 29⇑ *e*P **P 17 29 30.3 -0.7**
MTE Manteigas 67.79 306 *e*P **P 17 29 31.8 -0.7**
comp=Z,14nm,1.0s
DAG Danmarks Havn 69.38 346 *i*P **P 17 29 40.3 -1.4**
comp=Z,4.5nm,1.1s
DAG Danmarks Havn 69.38 346 *i*P **P 17 29 40.3 -1.4**
DAG pmax pmax
comp=Z,6.0nm,1.1s
NWAO Narrogin (SRO) 69.82 139 P **P 17 29 46.0 +0.9**
comp=Z,11nm,0.9s,baz=284,slow=3.5,SNR=3.8
NWAO LR LR 17 58 53.6
comp=Z,127nm,19.8s,baz=121,slow=35
NWAO Narrogin (SRO) 69.82 139 *e*P **P 17 29 46.0 +0.9**
GUMO Guam 70.72 83 LR LR 18 01 20.7
comp=Z,148nm,20.0s,baz=304,slow=36
SKR Severo-Kuril's 71.11 42 *e*P P 17 30 06.9 +14
SKR pmax pmax
comp=Z,1μm,3.5s
SKR MLR MLR
comp=Z,700nm,21.0s
SKR MLR MLR
comp=Z,1μm,20.0s
SUR Sutherland 71.45 223 LR LR 17 56 53.7
comp=Z,21nm,18.3s,baz=58,slow=32
PETK Petropavlovsk- 71.63 39 LR LR 18 05 56.7
comp=Z,332nm,18.7s,baz=277,slow=40
BILL Bilibino 72.65 23 *e*P **P 17 30 02.5 +0.8**
BILL pmax pmax
comp=Z,13nm,2.3s
BILL MLR MLR
comp=Z,310nm,15.0s
KIC Kosan Boka 74.10 271 *e*P **P 17 30 11.2 0.0**
comp=Z,73nm,1.4s
DBIC Dimbokro 74.10 271 P **P 17 30 10.3 -0.8**
comp=Z,8.3nm,0.9s,baz=32,slow=6.5,SNR=5.3
DBIC LR LR 18 02 47.3
comp=Z,157nm,20.3s,baz=44,slow=36
DBIC Dimbokro 74.10 271 *e*P **P 17 30 10.5 -0.7**
DBIC pmax pmax
comp=Z,15nm,1.1s
DBIC Dimbokro 74.10 271 *e*P **P 17 30 10.5 -0.7**
comp=Z,15nm,1.1s
TIC Toumodi 74.27 271 *e*P P 17 30 09.6 -2.6
LIC Lamto 74.42 271 *e*P **P 17 30 12.2 -0.8**
comp=Z,72nm,1.8s
WR1 Warramunga Arr 74.51 119 *e*P **P 17 30 13.6 +0.1**
comp=Z,27nm,1.3s
WRA Warramunga Arr 74.51 119 P **P 17 30 13.6 +0.1**
comp=Z,4.5nm,0.8s,baz=306,slow=5.3,SNR=4.5
WRAB Tennant Creek 74.52 119⇑ *e*P **P 17 30 14.0 +0.6**
WRAB pmax pmax
comp=Z,26nm,0.9s
AS31 Alice Springs 76.03 122 *e*P **P 17 30 21.5 -0.7**
comp=Z,3.4nm,0.6s
ASAR Alice Springs 76.03 122 LR LR 18 05 34.9
comp=Z,167nm,20.1s,baz=300,slow=37
CTA Charters Tower 84.55 114 LR LR 18 10 15.4
comp=Z,192nm,22.0s,baz=272,slow=37
STKA Stephens Creek 85.98 126 LR LR 18 08 26.0
comp=Z,418nm,21.9s,baz=278,slow=35
MAW Mawson 88.70 183 LR LR 18 05 48.3
comp=Z,215nm,18.3s,baz=55,slow=32
INK Inuvik 89.04 9 LR LR 18 15 04.2
comp=Z,154nm,21.9s,baz=346,slow=38
ILAR Eielson Array 89.59 15 P **P 17 31 30.8 -1.0**
comp=Z,0.5nm,0.9s,baz=328,slow=6.4,SNR=4.3
ILAR PP **PP 17 35 02.7 +0.1**
comp=Z,1.8nm,1.1s,baz=332,slow=6.9,SNR=7.7
ILAR LR LR 18 16 55.8
comp=Z,399nm,18.7s,baz=324,slow=39
SYO Syowa Base 92.69 191⇑ *e*P **P 17 31 46.4 +0.7**
HNR Honiara 92.73 99 LR LR 18 11 40.9
comp=Z,88nm,21.2s,baz=288,slow=34
SCHQ Schefferville 96.02 337 LR LR 18 17 10.7
comp=Z,164nm,19.8s,baz=56,slow=37
YKA Yellowknife Ar 96.51 2 LR LR 18 21 32.0
comp=Z,33nm,19.4s,baz=0.0,slow=39
DLBC Dease Lake 98.85 11 LR LR 18 21 30.2
comp=Z,275nm,21.5s,baz=325,slow=38
JSC Jenkinsville 118.70 334 *e*PKIKP **PKPdf 17 37 21.4 -1.6**
JSC Jenkinsville 118.70 334 *e*PKPdf **PKPdf 17 37 21.4 -1.6**
LTX Lajitas 129.48 354 *e*PKIKP **PKPdf 17 37 43.6 -0.4**
LTX Lajitas 129.48 354 *e*PKPdf **PKPdf 17 37 43.5 -0.4**
TXAR Lajitas Array 129.48 354 PKP **PKPdf 17 37 43.5 -0.4**
comp=Z,0.5nm,0.9s,baz=29,slow=1.8,SNR=3.6
CPUP Villa Florida 132.34 253 PKP **PKPdf 17 37 50.0 +0.8**
comp=Z,0.7nm,0.4s,baz=359,slow=5.3,SNR=2.9

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*IDC **20** 17:23:43.1±0.9, 10°.17S×124°.68E, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.7/33, mbtmp3.8/8, ML4.1/3, Error ellipse: s-maj=86.8km s-min=18.0km az=60.0*
*ISCJB **20** 17:23:46.5±0.5, 10°.64S±0°.04×124°.26E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=9.0km s-min=4.9km az=146.6*
*DJA **20** 17:23:51.7±0.8, 10°S±6°×12°4E±1°2, h23km±15km, M4.3/7, mB4.9/1, mb4.5/3, MLv4.3/7, Mw(mB)4.2/1*
ISC 20 17:23:47.5±0.7, 10°.61S±0°.06×124°.37E±0°.07, h35km, n19, σ2°29/23, mb3.7/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.85**	**353**	P	**Pn**	**17 24 04.0**	**+0.9**
SOEI				S	**Sn**	**17 24 14.8**	**+0.3**
MMRI	**Maumere**	**2.87**	**313**	P	**Pn**	**17 24 31.2**	**+0.4**
MMRI				S	**Sn**	**17 25 01.9**	**-2.3**
EDFI	**Ende, Flores**	**3.22**	**305**	P	**Pn**	**17 24 36.0**	**+0.3**
EDFI				S	**Sn**	**17 25 10.1**	**-2.8**
BASI	**Baing, Sumba**	**3.75**	**276**	P	**Pn**	**17 24 44.4**	**+1.6**
WSI	**Waingapu**	**4.11**	**283**	P	**Pn**	**17 24 49.0**	**+1.1**
WSI				S	**Sn**	**17 25 33.1**	**-1.7**
BBSI	**Bau Bau**	**5.39**	**341**	P	**Pn**	**17 25 06.3**	**+0.9**
	6.4nm,0.6s,0.0nm						
PLAI	**Plampang**	**6.73**	**285**	P	**Pn**	**17 25 25.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**7.55**	**171**	Pn	**Pn**	**17 25 39.2**	**+4.0**
	2.8nm,0.3s,baz=356,slow=10,SNR=213						
FITZ				Sn	**Sn**	**17 27 00.9**	**+1.4**
	12nm,0.3s,baz=130,slow=18,SNR=14						
WRA	**Warramunga Arr**	**13.36**	**135**	Pn	**Pn**	**17 26 55.5**	**+0.7**
	0.6nm,0.3s,baz=312,slow=15,SNR=22						
WRA				Sn	**Sn**	**17 29 17.2**	**-4.9**
	1.0nm,0.3s,baz=270,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**15.85**	**146**	Pn	**P**	**17 27 30.4**	**-1.2**
	0.8nm,0.3s,baz=326,slow=14,SNR=93						
ASAR				Sn	**Sn**	**17 30 17.9**	**-5.0**
	0.6nm,0.3s,baz=316,slow=22,SNR=11						
STKA	**Stephens Creek**	**26.49**	**146**	P	**P**	**17 29 24.1**	**+2.4**
	1.5nm,0.7s,baz=319,slow=8.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**38.26**	**319**	P	**P**	**17 31 04.0**	**-0.6**
	0.7nm,0.8s,baz=150,slow=6.2,SNR=3.9						
H08S2	**Diego Garcia H**	**51.26**	**269**	T	T	18 28 16.8	
	baz=97,slow=76						
H08S3	**Diego Garcia H**	**51.27**	**269**	T	T	18 28 17.7	
	baz=97,slow=76						
H08S1	**Diego Carcia H**	**51.27**	**269**	T	T	18 28 18.2	
	baz=97,slow=76						
MKAR	**Makanchi Array**	**68.38**	**330**	P	**P**	**17 34 45.5**	**-0.1**
	0.8nm,0.7s,baz=125,slow=7.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**72.51**	**337**	P	**P**	**17 35 10.1**	**-0.4**
	0.5nm,0.4s,baz=123,slow=5.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**72.83**	**331**	P	**P**	**17 35 11.7**	**-0.8**
	0.4nm,0.9s,baz=142,slow=5.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.94**	**279**	PKP	**PKPdf**	**17 42 45.5**	**+2.5**
	0.2nm,0.6s,baz=66,slow=2.4,SNR=2.3						

*ISCJB **20** 17:24:07.6±0.4,39°.78N±0°.01×20°.40E±0°.02,h2km±3km, Error ellipse: s-maj=2.9km s-min=1.9km az=147.4*
*THE **20** 17:24:08.7,39°.78N×20°.45E,h2km±1km,ML3.3/12,Error ellipse: s-maj=1.6km s-min=0.6km az=297.0*
*ATH **20** 17:24:08.4,39°.80N×20°.45E,h20km,ML3.1/48,Error ellipse: s-maj=1.0km s-min=0.6km az=303.0*
*CSEM **20** 17:24:08.4±0.1,39°.78N×20°.41E,h2km,ML3.3,Error ellipse: s-maj=3.1km s-min=1.9km az=63.0*
*PDG **20** 17:24:09.1±0.6,39°.80N×20°.40E,h13km±1km,ML3.3/10, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
ISC 20 17:24:09.0±0.8,39°.79N±0°.01×20°.45E±0°.02,h12km±6km, n234,σ1§42/349,19C-24D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.24**	**223**	P		**Pg**	**17 24 13.4**	**-0.7**
SGD	**Sagiada**	**0.24**	**223**	P		**Pg**	**17 24 12.7**	**-1.4**
SGD				S		**Sb**	**17 24 20.4**	**+2.9**
SGD				AML		AML	17 24 20.4	
	comp=E,56060μm,1.0s							
SGD				AML		AML	17 24 20.4	
	comp=N,24906μm,0.5s							
SGD	**Sagiada**	**0.24**	**223**	P		**Pg**	**17 24 12.7**	**-1.4**
JAN	**Janina**	**0.34**	**112**	P		**Pg**	**17 24 14.9**	**-1.0**
JAN				S		**Sg**	**17 24 20.4**	**0.0**
JAN	**Janina**	**0.34**	**112**	P		**Pg**	**17 24 14.3**	**-1.6**
JAN				S		**Sg**	**17 24 20.1**	**-0.3**
JAN				AML		AML	17 24 20.8	
	comp=E,22935μm,0.4s							
JAN				AML		AML	17 24 20.9	
	comp=N,20287μm,0.2s							
JAN	**Janina**	**0.34**	**112**	P		**Pg**	**17 24 14.9**	**-1.0**
JAN				S		**Sg**	**17 24 20.1**	**-0.3**
KEK	**Kerkira**	**0.51**	**262**	P		**Pg**	**17 24 18.3**	**-0.6**
KEK				S		**Sg**	**17 24 26.2**	**+0.5**
KEK	**Kerkira**	**0.51**	**262**	P		**Pg**	**17 24 17.8**	**-1.1**
KEK				S		**Sb**	**17 24 27.2**	**+0.1**
KEK				AML		AML	17 24 32.6	
	comp=N,3805μm,0.5s							
KEK				AML		AML	17 24 33.3	
	comp=E,7086μm,0.5s							
KEK	**Kerkira**	**0.51**	**262**	P		**Pg**	**17 24 17.8**	**-1.1**
KEK				S		**Sb**	**17 24 27.2**	**+0.1**
PENT	**Pentalofos**	**0.67**	**52**	P		**Pg**	**17 24 21.5**	**-0.6**
PENT				S		**Sb**	**17 24 31.6**	**-0.4**
PENT	**Pentalofos**	**0.67**	**52**	P		**Pg**	**17 24 21.0**	**-1.1**
PENT				S		**Sb**	**17 24 32.7**	**+0.7**
PENT				AML		AML	17 24 34.3	
	comp=E,4019μm,0.7s							
PENT				AML		AML	17 24 34.5	
	comp=N,5014μm,0.8s							
PENT	**Pentalofos**	**0.67**	**52**	P		**Pg**	**17 24 21.5**	**-0.6**
PENT				S		**Sb**	**17 24 31.6**	**-0.4**
KPRO	**Kipourio**	**0.72**	**76**	P		**Pg**	**17 24 21.7**	**-1.4**
KPRO				S		**Sb**	**17 24 33.3**	**-0.2**
KPRO	**Kipourio**	**0.72**	**76**	P		**Pg**	**17 24 21.2**	**-1.9**
KPRO				AML		AML	17 24 34.5	
	comp=E,5168μm,0.5s							
KPRO				S		**Sb**	**17 24 34.6**	**+1.1**
KPRO				AML		AML	17 24 36.3	
	comp=N,5713μm,0.7s							
KPRO	**Kipourio**	**0.72**	**76**	P		**Pg**	**17 24 21.7**	**-1.4**
KPRO				S		**Sb**	**17 24 33.3**	**-0.2**
DSL	**Palaion Diasel**	**0.82**	**142**	P		**Pg**	**17 24 22.9**	**-2.0**
DSL				S		**Sg**	**17 24 35.2**	**-0.5**
DSL	**Palaion Diasel**	**0.82**	**142**	P		**Pg**	**17 24 22.3**	**-2.6**
DSL				S		**Sb**	**17 24 37.1**	**+0.8**
DSL				AML		AML	17 24 45.4	
	comp=E,2521μm,0.5s							
DSL				AML		AML	17 24 46.9	
	comp=N,2421μm,0.9s							
DSL	**Palaion Diasel**	**0.82**	**142**	P		**Pg**	**17 24 22.9**	**-2.0**
DSL				S		**Sg**	**17 24 35.2**	**-0.5**
LKD2	**Lefkada island**	**1.01**	**171**	P		**Pg**	**17 24 27.5**	**-1.0**
LKD2				S		**Sb**	**17 24 42.5**	**+0.9**
LKD2	**Lefkada island**	**1.01**	**171**	P		**Pg**	**17 24 28.3**	**-0.1**
LKD2				S		**Sn**	**17 24 43.5**	**+0.4**
LKD2				AML		AML	17 24 47.6	
	comp=N,5092μm,0.8s							
LKD2				AML		AML	17 24 48.3	
	comp=E,3755μm,0.4s							
LKD2	**Lefkada island**	**1.01**	**171**	P		**Pg**	**17 24 27.5**	**-1.0**
LKD2				S		**Sb**	**17 24 42.5**	**+0.9**
KZN	**Kozani**	**1.14**	**62**	P		**Pg**	**17 24 30.1**	**-0.9**
KZN				S		**Sn**	**17 24 46.9**	**+0.5**
KZN	**Kozani**	**1.14**	**62**	P		**Pg**	**17 24 28.4**	**-2.6**
KZN				AML		AML	17 24 53.1	
	comp=N,1839μm,0.7s							
KZN				AML		AML	17 24 57.5	
	comp=E,1486μm,0.6s							
KZN	**Kozani**	**1.14**	**62**	P		**Pg**	**17 24 30.1**	**-0.9**
KZN				S		**Sn**	**17 24 46.9**	**+0.5**
FNA	**Florina**	**1.22**	**35**	P		**Pg**	**17 24 31.4**	**-1.2**
FNA				S		**Sn**	**17 24 49.5**	**+1.1**
FNA	**Florina**	**1.22**	**35**	P		**Pg**	**17 24 30.3**	**-2.3**
FNA				S		**Sn**	**17 24 50.3**	**+1.8**
FNA				AML		AML	17 24 53.2	
	comp=E,2303μm,0.6s							
FNA				AML		AML	17 24 55.4	
	comp=N,1348μm,0.6s							
FNA	**Florina**	**1.22**	**35**	P		**Pg**	**17 24 31.4**	**-1.2**
FNA				S		**Sn**	**17 24 49.5**	**+1.1**
THL	**Klokotos Trika**	**1.23**	**100**	P		**Pg**	**17 24 31.2**	**-1.5**
THL				S		**Sb**	**17 24 48.6**	**+0.7**
THL	**Klokotos Trika**	**1.23**	**100**	P		**Pg**	**17 24 31.1**	**-1.6**
THL				S		**Sb**	**17 24 48.6**	**+0.7**
THL				AML		AML	17 24 53.2	
	comp=N,2582μm,0.7s							
THL				AML		AML	17 24 53.4	
	comp=E,1302μm,0.7s							
THL	**Klokotos Trika**	**1.23**	**100**	P		**Pg**	**17 24 31.2**	**-1.5**
THL				S		**Sb**	**17 24 48.6**	**+0.7**
PDO	**Prodromos**	**1.32**	**154**	P		**Pn**	**17 24 31.4**	**-1.8**
PDO	**Prodromos**	**1.32**	**154**	P		**Pn**	**17 24 31.4**	**-1.8**
OHR	**Ohrid**	**1.35**	**11**	*i* Pn		**Pn**	**17 24 33.9**	**+0.2**
OHR				*i* Sn		**Sn**	**17 24 54.6**	**+3.0**
OHR	**Ohrid**	**1.35**	**11**	*i* Pn		**Pn**	**17 24 33.9**	**+0.2**
OHR				*i* Sn		**Sn**	**17 24 54.6**	**+3.0**
EVR	**Evrytania**	**1.37**	**129**	P		**Pn**	**17 24 33.6**	**-0.4**
EVR				S		**Sn**	**17 24 54.2**	**+2.2**
EVR	**Evrytania**	**1.37**	**129**	P		**Pn**	**17 24 34.4**	**+0.4**
EVR				S		**Sn**	**17 24 54.3**	**+2.3**
EVR				AML		AML	17 24 58.6	
	comp=E,1581μm,0.9s							
EVR				AML		AML	17 25 05.3	
	comp=N,1421μm,0.7s							
EVR	**Evrytania**	**1.37**	**129**	P		**Pn**	**17 24 34.4**	**+0.4**
EVR				S		**Sn**	**17 24 54.2**	**+2.2**
BIA	**Bitola**	**1.40**	**28**	*i* Pn		**Pg**	**17 24 35.4**	**-0.6**
BIA				*i* Sn		**Sn**	**17 24 57.5**	**+4.6**
BIA	**Bitola**	**1.40**	**28**	*i* Pn		**Pg**	**17 24 35.3**	**-0.6**
BIA				*i* Sn		**Sn**	**17 24 57.4**	**+4.6**
PVO	**Paravola**	**1.44**	**144**	P		**Pg**	**17 24 36.2**	**-0.4**
PVO				AML		AML	17 25 10.1	
	comp=E,1366μm,0.6s							
PVO				AML		AML	17 25 10.2	
	comp=N,978μm,0.8s							
PVO	**Paravola**	**1.44**	**144**	P		**Pg**	**17 24 36.2**	**-0.4**
LIT	**Litokhoron**	**1.60**	**78**	P		**Pn**	**17 24 36.9**	**-0.2**
LIT				S		**Sg**	**17 25 00.0**	**-0.6**
LIT	**Litokhoron**	**1.60**	**78**	P		**Pn**	**17 24 35.9**	**-1.2**
LIT				AML		AML	17 25 04.5	
	comp=N,1305μm,1.2s							
LIT				AML		AML	17 25 08.5	
	comp=E,1327μm,0.8s							
LIT	**Litokhoron**	**1.60**	**78**	P		**Pn**	**17 24 36.9**	**-0.2**
LIT				S		**Sg**	**17 25 00.0**	**-0.6**
VLS	**Valsamata**	**1.61**	**176**	P		**Pn**	**17 24 36.4**	**-0.8**
VLS				S		**Sn**	**17 24 58.6**	**+0.7**
VLS	**Valsamata**	**1.61**	**176**	P		**Pn**	**17 24 37.5**	**+0.2**
VLS				AML		AML	17 25 00.7	
	comp=E,2160μm,0.5s							
VLS				S		**Sg**	**17 25 00.8**	**-0.1**
VLS				AML		AML	17 25 01.9	
	comp=N,1587μm,0.5s							
VLS	**Valsamata**	**1.61**	**176**	P		**Pn**	**17 24 37.5**	**+0.2**
VLS				S		**Sn**	**17 24 58.6**	**+0.7**
TIR	**Tirane**	**1.62**	**344**	⇑*i* P		**Pg**	**17 24 39.3**	**-0.9**
TIR	**Tirane**	**1.62**	**344**	⇑*i* P		**Pg**	**17 24 39.3**	**-0.9**
AGG	**Agios Georgios**	**1.65**	**117**	P		**Pn**	**17 24 38.1**	**+0.4**
AGG				S		**Sb**	**17 25 00.8**	**+0.8**
AGG	**Agios Georgios**	**1.65**	**117**	P		**Pn**	**17 24 38.0**	**+0.2**
AGG				S		**Sg**	**17 25 01.2**	**-0.8**
AGG				AML		AML	17 25 11.6	
	comp=N,3654μm,1.0s							
AGG				AML		AML	17 25 14.1	
	comp=E,3246μm,0.9s							
AGG	**Agios Georgios**	**1.65**	**117**	P		**Pn**	**17 24 38.1**	**+0.4**
AGG				S		**Sb**	**17 25 00.8**	**+0.8**
ANX	**Ano Chora**	**1.65**	**136**	P		**Pn**	**17 24 38.6**	**+0.7**
ANX	**Ano Chora**	**1.65**	**136**	P		**Pn**	**17 24 38.6**	**+0.7**
KRUS	**Krusevo**	**1.69**	**21**	*i* Pn		**Pb**	**17 24 39.9**	**-0.2**
KRUS				*i* Sn		**Sg**	**17 25 03.1**	**-0.5**
KRUS	**Krusevo**	**1.69**	**21**	*i* Pn		**Pb**	**17 24 39.9**	**-0.2**
KRUS				*i* Sn		**Sg**	**17 25 03.1**	**-0.5**
AXS	**Araxos**	**1.75**	**155**	P		**Pn**	**17 24 39.5**	**+0.4**
AXS				S		**Sn**	**17 25 01.2**	**0.0**
AXS	**Araxos**	**1.75**	**155**	P		**Pn**	**17 24 39.5**	**+0.4**
AXS				S		**Sn**	**17 25 01.2**	**0.0**
EFP	**Efpalio**	**1.77**	**140**	P		**Pb**	**17 24 41.3**	**-0.1**
EFP				AML		AML	17 25 17.6	
	comp=E,952μm,1.1s							
EFP				AML		AML	17 25 21.6	
	comp=N,876μm,0.7s							
EFP	**Efpalio**	**1.77**	**140**	P		**Pb**	**17 24 41.3**	**-0.1**
SERG	**Sergoula**	**1.86**	**137**	P		**Pb**	**17 24 43.2**	**+0.3**
SERG				S		**Sb**	**17 25 05.9**	**-0.1**
SERG	**Sergoula**	**1.86**	**137**	P		**Pb**	**17 24 43.2**	**+0.3**
SERG				S		**Sb**	**17 25 05.9**	**-0.1**
SERG				AML		AML	17 25 18.9	
	comp=N,748μm,0.6s							
SERG				AML		AML	17 25 18.9	
	comp=E,769μm,0.8s							
SERG	**Sergoula**	**1.86**	**137**	P		**Pb**	**17 24 43.2**	**+0.3**
SERG				S		**Sb**	**17 25 05.9**	**-0.1**
GRG	**Griva**	**1.90**	**51**	P		**Pn**	**17 24 42.2**	**+1.0**
GRG				S		**Sb**	**17 25 06.6**	**-0.6**
GRG				AML		AML	17 25 16.9	
	comp=E,1624μm,1.4s							
GRG				AML		AML	17 25 19.7	
	comp=N,2843μm,0.8s							
GRG	**Griva**	**1.90**	**51**	P		**Pn**	**17 24 42.2**	**+1.0**
GRG				S		**Sb**	**17 25 06.6**	**-0.6**
RLS	**Riolos of Patr**	**1.90**	**155**	P		**Pn**	**17 24 41.3**	**+0.1**
RLS				AML		AML	17 25 19.9	
	comp=E,345μm,0.9s							
RLS				AML		AML	17 25 21.8	
	comp=N,412μm,0.8s							
RLS	**Riolos of Patr**	**1.90**	**155**	P		**Pn**	**17 24 41.3**	**+0.1**
TRIZ	**Trizonia**	**1.90**	**138**	P		**Pb**	**17 24 43.6**	**0.0**
TRIZ				S		**Sb**	**17 25 07.3**	**0.0**
TRIZ	**Trizonia**	**1.90**	**138**	P		**Pb**	**17 24 43.6**	**0.0**
TRIZ				S		**Sb**	**17 25 07.3**	**0.0**
KALE	**Kalithea**	**1.92**	**136**	P		**Pb**	**17 24 44.4**	**+0.5**
KALE				AML		AML	17 25 18.9	
	comp=E,651μm,0.8s							
KALE				AML		AML	17 25 23.4	
	comp=N,850μm,1.0s							
KALE	**Kalithea**	**1.92**	**136**	P		**Pb**	**17 24 44.4**	**+0.5**
LAKA	**Lakka**	**1.95**	**142**	P		**Pn**	**17 24 43.5**	**+1.6**
LAKA				AML		AML	17 25 30.0	
	comp=N,369μm,1.0s							
LAKA				AML		AML	17 25 36.8	
	comp=E,327μm,0.8s							
LAKA	**Lakka**	**1.95**	**142**	P		**Pn**	**17 24 43.5**	**+1.6**
VTN	**Vitineika**	**1.95**	**163**	P		**Pn**	**17 24 42.2**	**+0.3**
VTN	**Vitineika**	**1.95**	**163**	P		**Pn**	**17 24 42.2**	**+0.3**
DRO	**Drossia**	**2.08**	**151**	P		**Pn**	**17 24 43.9**	**+0.2**
DRO				AML		AML	17 25 34.6	
	comp=E,990μm,0.6s							
DRO				AML		AML	17 25 38.4	
	comp=N,539μm,0.8s							
DRO	**Drossia**	**2.08**	**151**	P		**Pn**	**17 24 43.9**	**+0.2**
THE	**Thessaloniki**	**2.10**	**66**	P		**Pb**	**17 24 46.0**	**-1.0**
THE				S		**Sn**	**17 25 11.8**	**+1.7**
THE				AML		AML	17 25 24.9	
	comp=N,200μm,0.7s							
THE				AML		AML	17 25 30.5	
	comp=E,143μm,1.5s							
THE	**Thessaloniki**	**2.10**	**66**	P		**Pb**	**17 24 46.0**	**-1.0**
THE				S		**Sn**	**17 25 11.8**	**+1.7**
DSF	**Desfina**	**2.12**	**130**	P		**Pb**	**17 24 47.0**	**-0.4**
DSF				AML		AML	17 25 23.4	
	comp=N,352μm,0.8s							
DSF				AML		AML	17 25 27.6	
	comp=E,319μm,0.7s							
DSF	**Desfina**	**2.12**	**130**	P		**Pb**	**17 24 47.0**	**-0.4**
XOR	**Xorichti**	**2.16**	**100**	P		**Pn**	**17 24 45.7**	**+0.9**
XOR				S		**Sn**	**17 25 13.2**	**+1.6**
XOR	**Xorichti**	**2.16**	**100**	P		**Pn**	**17 24 46.1**	**+1.3**
XOR				S		**Sn**	**17 25 11.6**	**+0.1**
XOR				AML		AML	17 25 24.5	
	comp=N,565μm,0.7s							
XOR				AML		AML	17 25 26.4	
	comp=E,430μm,1.2s							
XOR	**Xorichti**	**2.16**	**100**	P		**Pn**	**17 24 45.7**	**+0.9**
XOR				S		**Sn**	**17 25 13.2**	**+1.6**
HORT	**Hortiatis**	**2.19**	**67**	P		**Pn**	**17 24 45.9**	**+0.7**
HORT				S		**Sn**	**17 25 12.8**	**+0.5**
HORT				AML		AML	17 25 20.5	
	comp=E,147μm,0.4s							
HORT				AML		AML	17 25 29.6	
	comp=N,199μm,1.6s							
HORT	**Hortiatis**	**2.19**	**67**	P		**Pn**	**17 24 45.9**	**+0.7**
HORT				S		**Sn**	**17 25 12.8**	**+0.5**
KLV	**Kalavryta, Ach**	**2.19**	**142**	P		**Pn**	**17 24 46.5**	**+1.3**
KLV				AML		AML	17 25 29.6	
	comp=N,269μm,0.8s							
KLV				AML		AML	17 25 39.1	
	comp=E,311μm,1.3s							
KLV	**Kalavryta, Ach**	**2.19**	**142**	P		**Pn**	**17 24 46.5**	**+1.3**
NEO	**Neokhori**	**2.20**	**102**	P		**Pb**	**17 24 47.7**	**-1.0**
NEO				AML		AML	17 25 24.2	
	comp=E,442μm,0.8s							
NEO				AML		AML	17 25 26.2	
	comp=N,715μm,0.9s							
NEO	**Neokhori**	**2.20**	**102**	P		**Pb**	**17 24 47.7**	**-1.0**
VAY	**Valandovo**	**2.23**	**46**	P		**Pn**	**17 24 46.1**	**+0.4**
VAY				S		**Sn**	**17 25 14.5**	**+1.4**
VAY	**Valandovo**	**2.23**	**46**	*i* Pg		**Pn**	**17 24 46.2**	**+0.5**
VAY				*i* Sn		**Sb**	**17 25 18.2**	**+1.5**
VAY	**Valandovo**	**2.23**	**46**	P		**Pn**	**17 24 46.1**	**+0.4**
VAY				S		**Sn**	**17 25 14.5**	**+1.4**
VAY				*i* Sn		**Sb**	**17 25 18.2**	**+1.5**
LKR	**Lokris**	**2.28**	**119**	P		**Pb**	**17 24 49.4**	**-0.7**
LKR	**Lokris**	**2.28**	**119**	P		**Pb**	**17 24 49.4**	**-0.7**
SKO	**Skopje**	**2.31**	**19**	P		**Pn**	**17 24 48.6**	**+1.8**
SKO				S		**Sb**	**17 25 19.4**	**+0.3**
SKO	**Skopje**	**2.31**	**19**	*i* Pn		**Pn**	**17 24 48.6**	**+1.8**
SKO				*i* Sn		**Sg**	**17 25 22.5**	**-0.7**
SKO	**Skopje**	**2.31**	**19**	P		**Pn**	**17 24 48.6**	**+1.8**
SKO				S		**Sb**	**17 25 19.4**	**+0.3**
KNT	**Kendrikon**	**2.32**	**53**	P		**Pn**	**17 24 47.8**	**+0.8**
KNT				S		**Sb**	**17 25 18.1**	**-1.3**
KNT				AML		AML	17 25 29.1	
	comp=E,143μm,0.8s							
KNT				AML		AML	17 25 30.2	
	comp=N,156μm,1.0s							
KNT	**Kendrikon**	**2.32**	**53**	P		**Pn**	**17 24 47.8**	**+0.8**
KNT				S		**Sb**	**17 25 18.1**	**-1.3**
ULC	**Ulcinj**	**2.36**	**338**	⇓*i* Pn		**Pn**	**17 24 47.6**	**+0.1**
ULC				*e*Sn		**Sn**	**17 25 18.6**	**+2.2**
ULC	**Ulcinj**	**2.36**	**338**	⇓*i* Pn		**Pn**	**17 24 47.6**	**+0.1**
ULC				*e*Sn		**Sn**	**17 25 18.6**	**+2.2**
GUR	**Goura**	**2.37**	**141**	P		**Pn**	**17 24 48.8**	**+1.1**
GUR				AML		AML	17 25 44.2	
	comp=E,514μm,0.7s							
GUR				AML		AML	17 25 44.6	
	comp=N,454μm,0.7s							
GUR	**Goura**	**2.37**	**141**	P		**Pn**	**17 24 48.8**	**+1.1**
PLG	**Polygyros**	**2.37**	**75**	P		**Pn**	**17 24 48.6**	**+0.8**
PLG				S		**Sn**	**17 25 17.9**	**+1.1**
PLG				AML		AML	17 25 19.6	
	comp=N,199μm,0.3s							
PLG				AML		AML	17 25 19.9	
	comp=E,202μm,0.4s							
PLG	**Polygyros**	**2.37**	**75**	P		**Pn**	**17 24 48.6**	**+0.8**
PLG				S		**Sn**	**17 25 17.9**	**+1.1**
SKIA	**Skiathos**	**2.42**	**104**	P		**Pn**	**17 24 49.6**	**+1.3**
SKIA				S		**Sn**	**17 25 19.2**	**+1.4**
SKIA				AML		AML	17 25 29.3	
	comp=N,393μm,1.2s							
SKIA				AML		AML	17 25 31.9	
	comp=E,295μm,0.8s							
SKIA	**Skiathos**	**2.42**	**104**	P		**Pn**	**17 24 49.6**	**+1.3**
SKIA				S		**Sn**	**17 25 19.2**	**+1.4**
PROD	**Prodromos**	**2.44**	**128**	P		**Pn**	**17 24 49.9**	**+1.2**
PROD				AML		AML	17 25 34.5	
	comp=E,345μm,0.8s							
PROD				AML		AML	17 25 41.1	
	comp=N,265μm,0.8s							
PROD	**Prodromos**	**2.44**	**128**	P		**Pn**	**17 24 49.9**	**+1.2**
SOH	**Sokhos**	**2.45**	**64**	P		**Pn**	**17 24 49.3**	**+0.5**
SOH				AML		AML	17 25 35.5	
	comp=N,310μm,0.7s							
SOH				AML		AML	17 25 38.0	
	comp=E,387μm,0.7s							
SOH	**Sokhos**	**2.45**	**64**	P		**Pn**	**17 24 49.3**	**+0.5**
THAL	**Thalero**	**2.46**	**135**	P		**Pb**	**17 24 51.4**	**-1.7**
THAL				AML		AML	17 25 33.6	
	comp=E,702μm,0.9s							
THAL				AML		AML	17 25 37.4	
	comp=N,552μm,0.7s							
THAL	**Thalero**	**2.46**	**135**	P		**Pb**	**17 24 51.4**	**-1.7**
AMT	**Artemida-Makis**	**2.46**	**156**	P		**Pn**	**17 24 49.2**	**+0.3**
AMT				AML		AML	17 25 40.0	
	comp=N,524μm,0.7s							
AMT				AML		AML	17 25 46.4	
	comp=E,434μm,0.8s							
AMT	**Artemida-Makis**	**2.46**	**156**	P		**Pn**	**17 24 49.2**	**+0.3**
PAIG	**Paliouri**	**2.49**	**86**	P		**Pn**	**17 24 48.4**	**-0.9**
PAIG				S		**Sn**	**17 25 19.4**	**-0.2**
PAIG				AML		AML	17 25 22.1	
	comp=N,231μm,0.5s							
PAIG				AML		AML	17 25 23.0	
	comp=E,348μm,0.6s							
PAIG	**Paliouri**	**2.49**	**86**	P		**Pn**	**17 24 48.4**	**-0.9**
PAIG				S		**Sn**	**17 25 19.4**	**-0.2**
FASA	**Fasano**	**2.58**	**294**	*e*Pn		**Pn**	**17 24 50.9**	**+0.4**
DRME	**Dracevica, Mon**	**2.58**	**339**	⇑*i* Pn		**Pn**	**17 24 51.1**	**+0.5**
DRME				*e*Sn		**Sn**	**17 25 24.2**	**+2.3**
DRME	**Dracevica, Mon**	**2.58**	**339**	⇑*i* Pn		**Pn**	**17 24 51.1**	**+0.5**
DRME				*e*Sn		**Sn**	**17 25 24.2**	**+2.3**
LTK	**Loutraki**	**2.64**	**131**	P		**Pn**	**17 24 52.6**	**+1.2**
LTK				AML		AML	17 25 46.5	
	comp=N,302μm,0.8s							
LTK				AML		AML	17 25 46.9	
	comp=E,184μm,0.7s							
LTK	**Loutraki**	**2.64**	**131**	P		**Pn**	**17 24 52.6**	**+1.2**
MASS	**Massafra**	**2.67**	**290**	*e*Pn		**Pn**	**17 24 51.1**	**-0.6**
SRS	**Serrai**	**2.74**	**60**	P		**Pn**	**17 24 55.3**	**+2.5**
SRS				AML		AML	17 25 49.4	
	comp=E,125μm,1.5s							
SRS				AML		AML	17 25 55.5	
	comp=N,150μm,1.1s							
SRS	**Serrai**	**2.74**	**60**	P		**Pn**	**17 24 55.3**	**+2.5**
OUR	**Ouranopolis**	**2.77**	**77**	P		**Pn**	**17 24 54.1**	**+1.0**
OUR				S		**Sn**	**17 25 25.8**	**-0.6**
OUR				AML		AML	17 25 33.6	
	comp=E,302μm,0.7s							
OUR				AML		AML	17 25 34.5	
	comp=N,304μm,0.8s							
OUR	**Ouranopolis**	**2.77**	**77**	P		**Pn**	**17 24 54.1**	**+1.0**
OUR				S		**Sn**	**17 25 25.8**	**-0.6**
BUM	**Brajici-Budva**	**2.77**	**335**	⇑*i* Pn		**Pn**	**17 24 53.6**	**+0.3**
BUM				*e*Sn		**Sn**	**17 25 28.2**	**+1.5**
BUM	**Brajici-Budva**	**2.77**	**335**	⇑*i* Pn		**Pn**	**17 24 53.6**	**+0.3**
BUM				*e*Sn		**Sn**	**17 25 28.2**	**+1.5**
PDG	**Podgorica**	**2.79**	**342**	⇓*i* P		**Pb**	**17 24 57.7**	**-1.1**
PDG	**Podgorica**	**2.79**	**342**	⇑*i* Pn		**Pn**	**17 24 54.0**	**+0.6**
PDG	**Podgorica**	**2.79**	**342**	⇓*i* P		**Pb**	**17 24 57.7**	**-1.1**
PDG				*e*Sn		**Sn**	**17 25 29.4**	**+2.4**
TTG	**Podgorica**	**2.79**	**342**	⇑*i* Pn		**Pn**	**17 24 54.0**	**+0.6**
TTG				*e*Sn		**Sn**	**17 25 29.4**	**+2.4**
PVY	**Plav**	**2.83**	**353**	⇑*i* Pn		**Pn**	**17 24 55.2**	**+1.1**
PVY				*e*Sn		**Sn**	**17 25 30.8**	**+2.6**
PVY	**Plav**	**2.83**	**353**	⇑*i* Pn		**Pn**	**17 24 55.2**	**+1.1**
PVY				*e*Sn		**Sn**	**17 25 30.8**	**+2.6**
VLX	**Vlachokerasia**	**2.85**	**147**	P		**Pn**	**17 24 56.6**	**+2.3**
VLX				AML		AML	17 25 48.2	
	comp=N,320μm,1.0s							
VLX				AML		AML	17 25 51.6	
	comp=E,280μm,0.7s							
VLX	**Vlachokerasia**	**2.85**	**147**	P		**Pn**	**17 24 56.6**	**+2.3**
CEME	**Cevo**	**2.99**	**338**	⇓*i* Pn		**Pn**	**17 24 56.6**	**+0.4**
CEME				*e*Sn		**Sn**	**17 25 33.5**	**+1.5**
CEME	**Cevo**	**2.99**	**338**	⇓*i* Pn		**Pn**	**17 24 56.6**	**+0.4**
CEME				*e*Sn		**Sn**	**17 25 33.5**	**+1.5**
NVR	**Nevrokopi**	**3.03**	**58**	P		**Pn**	**17 24 59.1**	**+2.3**
NVR				S		**Sn**	**17 25 35.9**	**+2.8**
NVR				AML		AML	17 25 53.2	
	comp=E,104μm,1.0s							
NVR				AML		AML	17 25 53.7	
	comp=N,116μm,1.1s							
NVR	**Nevrokopi**	**3.03**	**58**	P		**Pn**	**17 24 59.1**	**+2.3**
NVR				S		**Sn**	**17 25 35.9**	**+2.8**
EREA	**Eretria**	**3.04**	**116**	P		**Pn**	**17 24 58.9**	**+2.1**
EREA	**Eretria**	**3.04**	**116**	P		**Pn**	**17 24 58.9**	**+2.1**
HCY	**Herceg Novi**	**3.04**	**332**	⇓*i* Pn		**Pn**	**17 24 56.9**	**0.0**
HCY				*e*Sn		**Sn**	**17

LIA	**Limnos Island**	**3.65**	**87**	P	**Pn**	**17 25 06.3**	**+1.1**
LIA				S	**Sn**	**17 25 47.0**	**-1.1**
STON	**Ston**	**3.71**	**327**	*e*Pn	**Pn**	**17 25 05.3**	**-0.8**
STON				Sn	**Sn**	**17 25 46.7**	**-3.0**
STON	**Ston**	**3.71**	**327**	*e*Pn	**Pn**	**17 25 05.3**	**-0.8**
STON				Sn	**Sn**	**17 25 46.6**	**-3.0**
IVAS	**Ivanjica**	**3.79**	**357**	*e*Pn	**Pn**	**17 25 09.2**	**+1.9**
SMTH	**Samothraki Isl**	**3.96**	**78**	P	**Pn**	**17 25 08.3**	**-1.2**
SMTH	**Samothraki Isl**	**3.96**	**78**	P	**Pn**	**17 25 08.3**	**-1.2**
BOVS	**Bovan**	**3.96**	**13**	*e*Pn	**Pn**	**17 25 10.1**	**+0.6**
KYTH	**Kithira**	**4.07**	**149**	P	**Pn**	**17 25 11.9**	**+0.9**
KYTH				S	**Sn**	**17 25 57.8**	**-0.8**
KYTH				AML	AML	17 26 02.6	
	comp=N,109μm,0.5s						
KYTH				AML	AML	17 26 02.9	
	comp=E,113μm,0.5s						
GRUS	**Gruza**	**4.10**	**3**	*e*Pn	**Pn**	**17 25 12.1**	**+0.6**
SERI	**Serifos**	**4.11**	**128**	P	**Pn**	**17 25 11.9**	**+0.3**
SERI	**Serifos**	**4.11**	**128**	P	**Pn**	**17 25 11.9**	**+0.3**
RDO	**Rodhopi**	**4.11**	**69**	P	**Pn**	**17 25 11.4**	**-0.2**
RDO	**Rodhopi**	**4.11**	**69**	P	**Pn**	**17 25 11.4**	**-0.2**
BOLS	**Boljevac**	**4.19**	**15**	*e*Pn	**Pn**	**17 25 12.0**	**-0.7**
SIGR	**SIGRI**	**4.22**	**96**	P	**Pn**	**17 25 14.3**	**+1.2**
SIGR	**SIGRI**	**4.22**	**96**	P	**Pn**	**17 25 14.3**	**+1.2**
ZAGS	**Zajecar**	**4.24**	**18⇓**	*i*Pn	**Pn**	**17 25 14.7**	**+1.4**
DIVS	**Divibare**	**4.32**	**356**	*e*Pn	**Pn**	**17 25 14.7**	**+0.1**
ALN	**Alexandroupoli**	**4.42**	**74**	P	**Pn**	**17 25 15.9**	**+0.1**
ALN	**Alexandroupoli**	**4.42**	**74**	P	**Pn**	**17 25 15.9**	**+0.1**
TRUS	**Trudelj**	**4.43**	**360**	*e*Pn	**Pn**	**17 25 16.0**	**0.0**
ANKY	**Antikythira Is**	**4.52**	**149**	P	**Pn**	**17 25 17.0**	**-0.2**
ANKY	**Antikythira Is**	**4.52**	**149**	P	**Pn**	**17 25 17.0**	**-0.2**
CHOS	**Chios island**	**4.58**	**106**	P	**Pn**	**17 25 20.6**	**+2.5**
CHOS	**Chios island**	**4.58**	**106**	P	**Pn**	**17 25 20.6**	**+2.5**
KUBS	**Kucevo**	**4.71**	**11**	*e*Pn	**Pn**	**17 25 19.6**	**-0.3**
TEKS	**Tekeris**	**4.81**	**352**	*i*Pn	**Pn**	**17 25 21.2**	**0.0**
MDVR	**Moldovita**	**5.08**	**10⇓**	*i*P	**Pn**	**17 25 25.8**	**+0.9**
MDVR	**Moldovita**	**5.08**	**10⇓**	*i*P	**Pn**	**17 25 25.8**	**+0.9**
IMMV	**Iera Moni Meta**	**5.15**	**146**	P	**Pn**	**17 25 25.2**	**-0.7**
IMMV	**Iera Moni Meta**	**5.15**	**146**	P	**Pn**	**17 25 25.2**	**-0.7**
VAM	**Vamos**	**5.29**	**145**	P	**Pn**	**17 25 31.0**	**+3.2**
VAM	**Vamos**	**5.29**	**145**	P	**Pn**	**17 25 31.0**	**+3.2**
IDI	**Anoyia**	**5.71**	**140**	P	**Pn**	**17 25 36.5**	**+2.8**
IDI	**Anoyia**	**5.71**	**140**	P	**Pn**	**17 25 36.5**	**+2.8**
GZR	**Gura Zlata**	**5.86**	**16⇓**	*i*P	**Pn**	**17 25 37.3**	**+1.6**
GZR	**Gura Zlata**	**5.86**	**16⇓**	*i*P	**Pn**	**17 25 37.3**	**+1.6**
UDBI	**Udbina**	**5.88**	**325**	*e*Pn	**Pn**	**17 25 36.8**	**+0.8**
UDBI				Sn	**Sn**	**17 26 42.0**	**-1.2**
UDBI	**Udbina**	**5.88**	**325**	*e*Pn	**Pn**	**17 25 36.7**	**+0.8**
LAST	**Lasithi**	**6.11**	**138**	P	**Pn**	**17 25 41.7**	**+2.6**
LAST	**Lasithi**	**6.11**	**138**	P	**Pn**	**17 25 41.7**	**+2.6**
NVLJ	**Novalja**	**6.32**	**321**	*e*Pn	**Pn**	**17 25 42.5**	**+0.6**
NVLJ				Sn	**Sn**	**17 26 50.0**	**-3.9**
NVLJ	**Novalja**	**6.32**	**321**	*e*Pn	**Pn**	**17 25 42.4**	**+0.6**
BOJS	**Bojanci**	**6.88**	**328**	*i*Pn	**Pn**	**17 25 49.3**	**-0.3**
BOJS				*e*Sn	**Sn**	**17 27 03.9**	**-3.9**
BOJS	**Bojanci**	**6.88**	**328**	*i*Pn	**Pn**	**17 25 49.3**	**-0.3**
BOJS				*e*Sn	**Sn**	**17 27 03.8**	**-3.9**
OZLJ	**Ozalj**	**6.88**	**329**	*e*Pn	**Pn**	**17 25 49.1**	**-0.6**
OZLJ	**Ozalj**	**6.88**	**329**	*e*Pn	**Pn**	**17 25 49.0**	**-0.6**
MLR	**Muntele Rosu**	**6.99**	**34⇓**	*i*P	**Pn**	**17 25 54.4**	**+3.1**
MLR	**Muntele Rosu**	**6.99**	**34⇓**	*i*P	**Pn**	**17 25 54.4**	**+3.1**
PLOR	**Plostina**	**7.58**	**35⇑**	*i*P	**Pn**	**17 26 01.5**	**+2.2**
PLOR	**Plostina**	**7.58**	**35⇑**	*i*P	**Pn**	**17 26 01.5**	**+2.2**
VRI	**Vrincioaia**	**7.63**	**35⇑**	*i*P	**Pn**	**17 26 02.4**	**+2.5**
VRI	**Vrincioaia**	**7.63**	**35⇑**	*i*P	**Pn**	**17 26 02.4**	**+2.5**
CFR	**Carcaliu**	**7.83**	**44⇓**	*i*P	Pn	17 26 08.6	+6.0
SOKA	**Soboth**	**7.94**	**332**	*i*Pn	**Pn**	**17 26 03.7**	**-0.6**
	comp=E,0.5nm,0.2s						
SOKA				Sn	**Sn**	**17 27 28.2**	**-5.7**
	comp=E,2.6nm,0.7s						
SOKA	**Soboth**	**7.94**	**332**	Pn	**Pn**	**17 26 03.7**	**-0.6**
	comp=E,0.5nm,0.2s						
SORM	**Soroca**	**10.10**	**32⇓**	*i*P	**Pn**	**17 26 35.7**	**+2.0**
SORM	**Soroca**	**10.10**	**32⇓**	*i*P	**Pn**	**17 26 35.7**	**+2.0**

CSEM ***20*** *17:35:42.8, 45°.94N×14°.47E, h0km, ML0.6*

LJU 20 17:35:42.8, 45°.94N×14°.47E, h12km, ML0.6, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBAS	**Gorenja Brezov**	**0.02**	**266⇑**	*i*Pg	Pg	17 35 45.3	+0.3
GBAS	**Gorenja Brezov**	**0.02**	**266⇑**	*i*Pg	Pg	17 35 45.3	+0.3
LJU	**Ljubljana**	**0.12**	**21**	*i*Sg	Sg	17 35 48.2	+0.1
	comp=Z,2.0nm,0.0s						
LJU	**Ljubljana**	**0.12**	**21**	*i*Sg	Sg	17 35 48.2	+0.1
	comp=Z,2.0nm,0.0s						
CEY	**Cerknica**	**0.20**	**188**	*i*Pg	Pg	17 35 47.5	+0.4
CEY				*i*Sg	Sg	17 35 50.7	+0.5
	comp=Z,1.0nm,0.0s						
CEY	**Cerknica**	**0.20**	**188**	*i*Pg	Pg	17 35 47.5	+0.3
CEY				*i*Sg	Sg	17 35 50.7	+0.5
	comp=Z,1.0nm,0.0s						
CRNS	**Crni Vrh**	**0.20**	**315**	*i*Pg	Pg	17 35 47.5	+0.2
CRNS				*i*Sg	Sg	17 35 50.5	+0.2
	comp=Z,3.0nm,0.1s						
CRNS	**Crni Vrh**	**0.20**	**315**	*i*Pg	Pg	17 35 47.5	+0.2
CRNS				*i*Sg	Sg	17 35 50.5	+0.2
	comp=Z,3.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.23**	**45⇑**	*i*Pg	Pg	17 35 47.9	+0.2
VNDS				*i*Sg	Sg	17 35 51.0	-0.1
	comp=Z,6.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.23**	**45⇑**	*i*Pg	Pg	17 35 47.9	+0.1
VNDS				*i*Sg	Sg	17 35 51.0	-0.1
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**0.29**	**117**	*i*Pg	Pg	17 35 49.1	+0.3
VISS				*i*Sg	Sg	17 35 53.0	+0.2
	comp=Z,1.0nm,0.0s						
VISS	**Visnje**	**0.29**	**117**	*i*Pg	Pg	17 35 49.1	+0.3
VISS				*i*Sg	Sg	17 35 53.0	+0.2
	comp=Z,1.0nm,0.0s						
MOZS	**Mozjanca**	**0.36**	**357**	*i*Pg	Pg	17 35 50.4	+0.3
MOZS	**Mozjanca**	**0.36**	**357**	*i*Pg	Pg	17 35 50.4	+0.4
PDKS	**Podkum**	**0.39**	**71**	*i*Pg	Pg	17 35 50.8	+0.2
PDKS				*i*Sg	Sg	17 35 56.6	+0.7
PDKS	**Podkum**	**0.39**	**71**	*i*Pg	Pg	17 35 50.8	+0.2
PDKS				*i*Sg	Sg	17 35 56.6	+0.8
VOJS	**Vojsko**	**0.42**	**283**	*i*Pg	Pg	17 35 50.9	-0.2
VOJS				*e*Sg	Sg	17 35 57.6	+0.8
VOJS	**Vojsko**	**0.42**	**283**	*i*Pg	Pg	17 35 50.9	-0.2
VOJS				*e*Sg	Sg	17 35 57.6	+0.9
SKDS	**Skadanscina**	**0.50**	**219**	*i*Pg	Pg	17 35 52.4	-0.2
SKDS				*i*Sg	Sg	17 35 59.9	+0.6
	comp=Z,1.0nm,0.1s						
SKDS	**Skadanscina**	**0.50**	**219**	*i*Pg	Pg	17 35 52.4	-0.2
SKDS				*i*Sg	Sg	17 35 59.9	+0.6
	comp=Z,1.0nm,0.1s						
GORS	**Gorjuse**	**0.50**	**319**	*i*Pg	Pb	17 35 53.2	-0.4
GORS				*i*Sg	Sg	17 35 59.8	+0.4
	comp=Z,1.0nm,0.1s						
GORS	**Gorjuse**	**0.50**	**319**	*i*Pg	Pb	17 35 53.2	-0.5
GORS				*i*Sg	Sg	17 35 59.8	+0.4
	comp=Z,1.0nm,0.1s						

IDC 20 17:38:52.6±33.0, 15°.14N×106°.54W, h0km, mb3.3/2, mb1 3.9/3, mb1mx3.7/36, mbtmp3.4/3, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/19, Error ellipse: s-maj=815.3km s-min=96.5km az=126.0, Off coast of Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**5.54**	**311**	T	T	17 47 02.4	
	SNR=7.1						
H06E1	**SOCORRO T-PHAS**	**5.55**	**311**	T	T	17 47 02.4	
	SNR=46						
LPIG	**La Paz**	**9.60**	**339**	LR	LR	17 44 11.7	
	comp=Z,180nm,19.6s,baz=180,slow=33						
TXAR	**Lajitas Array**	**14.38**	**10**	Pn	Pn	17 42 18.1	+0.4
	0.0nm,0.3s,baz=190,slow=10.0,SNR=8.9						
PFO	**Pinyon Flats O**	**20.47**	**336**	LR	LR	17 50 30.8	
	comp=Z,100nm,20.9s,baz=148,slow=34						
JTS	**JuntasAbangare**	**21.59**	**100**	LR	LR	17 50 33.8	
	comp=Z,68nm,18.1s,baz=186,slow=32						
PDAR	**Pinedale Array**	**27.66**	**355**	P	P	17 44 43.4	+1.0
	0.3nm,0.6s,baz=152,slow=9.7,SNR=2.5						
ILAR	**Eielson Array**	**56.64**	**341**	P	P	17 48 36.7	-0.6
	0.2nm,0.7s,baz=147,slow=6.1,SNR=2.6						

IDC ***20*** *17:43:55.2±1.1, 5°.67S×151°.23E, h0km, mb3.9/9,*

mb1 4.0/10, mb1mx3.9/39, mbtmp3.9/10, ML2.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=41.7km s-min=18.2km az=117.0

NEIC ***20*** *17:44:00.4±0.7, 5°.74S×151°.22E, h35km, mb4.0/5, Error ellipse: s-maj=25.3km s-min=7.2km az=118.0*

ISCJB ***20*** *17:44:03.2±0.8, 5°.7S±0°.1×150°.8E±0°.2, h65km, mb3.8/13, Error ellipse: s-maj=27.8km s-min=7.4km az=34.4*

ISC 20 17:44:04.4±0.9, 5°.7S±0°.2×151°.0E±0°.2, h65km, n25, σ0.88/26, mb3.9/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.96**	**38**	*e*Pn	**Pn**	**17 44 35.5**	**+0.1**
MANU	**Manus Island**	**5.13**	**316**	*e*Pn	Pn	17 45 26.5	+7.8
PMG	**Port Moresby**	**5.23**	**226**	Pn	**Pn**	**17 45 20.3**	**+0.2**
	4.2nm,0.3s,baz=46,slow=12,SNR=15						
PMG				Sn	**Sn**	**17 46 17.5**	**-1.6**
	12nm,0.3s,baz=134,slow=17,SNR=4.7						
PMG	**Port Moresby**	**5.23**	**226**	*e*Pn	**Pn**	**17 45 20.6**	**+0.5**
PMG				Sn	**Sn**	**17 46 17.5**	**-1.6**
WRAB	**Tennant Creek**	**21.44**	**227**	*e*P	**P**	**17 48 47.0**	**-0.4**
	6.1nm,0.7s						
WB2	**Warramunga Arr**	**21.44**	**227**	*e*P	**P**	**17 48 47.8**	**+0.3**
	5.7nm,0.9s						
WR1	**Warramunga Arr**	**21.45**	**227**	*e*P	**P**	**17 48 47.3**	**-0.2**
	23nm,1.6s						
WR1				*e*S	Sn	17 52 49.7	-3.9
WRA	**Warramunga Arr**	**21.45**	**227**	P	**P**	**17 48 47.3**	**-0.2**
	1.9nm,0.5s,baz=52,slow=11,SNR=33						
WRA				PcP	**PcP**	**17 52 49.7**	**+0.9**
	0.8nm,0.7s,baz=48,slow=2.3,SNR=4.9						
DZM	**Mont Dzumac**	**22.09**	**139**	LR	LR	17 55 42.3	
	comp=Z,144nm,18.4s,baz=92,slow=32						
AS31	**Alice Springs**	**24.23**	**221**	*e*P	**P**	**17 49 15.4**	**+0.1**
	1.9nm,0.6s						
ASAR	**Alice Springs**	**24.23**	**221**	P	**P**	**17 49 16.4**	**+1.1**
	1.9nm,0.6s,baz=56,slow=9.3,SNR=39						
FITZ	**Fitzroy Crossi**	**27.60**	**241**	P	**P**	**17 49 46.3**	**+0.5**
	3.6nm,0.7s,baz=86,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**56.63**	**296**	P	**P**	**17 53 41.4**	**+0.1**
	0.2nm,0.5s,baz=127,slow=5.4,SNR=3.1						
PETK	**Petropavlovsk-**	**58.91**	**5**	P	**P**	**17 53 55.5**	**-1.1**
	8.3nm,1.1s,baz=166,slow=8.9,SNR=4.3						
PEA1	**Petropavlovsk-**	**58.91**	**5**	*e*P	**P**	**17 53 55.5**	**-1.1**
SONA0	**Songino Array**	**66.16**	**329**	*e*P	**P**	**17 54 45.5**	**+0.2**
SONM	**Songino Array**	**66.16**	**329**	P	**P**	**17 54 45.5**	**+0.2**
	0.4nm,0.6s,baz=140,slow=7.4,SNR=3.4						
MK32	**Makanchi Array**	**79.83**	**319**	*e*P	**P**	**17 56 07.0**	**+1.1**
MKAR	**Makanchi Array**	**79.83**	**319**	P	**P**	**17 56 07.0**	**+1.1**
	0.3nm,0.6s,baz=108,slow=4.7,SNR=2.7						
ILAR	**Eielson Array**	**83.72**	**22**	P	**P**	**17 56 24.4**	**-1.6**
	0.9nm,0.6s,baz=250,slow=5.3,SNR=9.7						
MAW	**Mawson**	**84.00**	**203**	P	**P**	**17 56 27.9**	**+0.6**
	0.6nm,0.6s,baz=98,slow=7.1,SNR=5.7						
MAW	**Mawson**	**84.00**	**203**	*e*P	**P**	**17 56 27.9**	**+0.6**
	2.2nm,1.8s						
GERES	**GERESS Array B**	**123.87**	**327**	PKP	**PKPdf**	**18 02 54.8**	**-0.6**
	0.5nm,0.8s,baz=72,slow=1.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	**PKPbc**	**18 03 46.5**	**+0.7**
	5.8nm,0.7s,baz=41,slow=2.6,SNR=35						
TOA1	**Torodi Ar. Sit**	**148.82**	**286**	*e*PKPbc	**PKPbc**	**18 03 46.5**	**+0.7**

IDC 20 17:44:20.0±1.5, 53°.66S×140°.89E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/35, mbtmp3.9/5, MS3.7/2, Ms1 3.7/2, ms1mx3.1/22, Error ellipse: s-maj=121.3km s-min=23.5km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.77**	**2**	P	P	17 49 14.4	+1.2
	4.9nm,1.0s,baz=187,slow=11,SNR=4.1						
RPZ	**Rata Peaks**	**22.10**	**76**	LR	LR	17 56 14.1	
	comp=Z,169nm,19.0s,baz=244,slow=32						
VNDA	**Vanda**	**25.14**	**169**	P	P	17 49 46.4	+0.1
	0.7nm,0.7s,baz=327,slow=9.7,SNR=5.4						
ASAR	**Alice Springs**	**30.41**	**347**	P	P	17 50 33.6	-0.3
	1.6nm,0.6s,baz=166,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**34.03**	**349**	P	P	17 51 05.0	-0.6
	1.4nm,0.7s,baz=171,slow=7.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**37.41**	**336**	P	P	17 51 34.6	0.0
	1.9nm,0.7s,baz=171,slow=9.3,SNR=2.7						
PMG	**Port Moresby**	**44.42**	**9**	LR	LR	18 11 09.9	
	comp=Z,108nm,22.0s,baz=172,slow=36						
H08S2	**Diego Garcia H**	**71.13**	**283**	T	T	19 13 15.6	
	baz=147						
H08S1	**Diego Carcia H**	**71.14**	**283**	T	T	19 13 17.0	
	baz=147						
H08S3	**Diego Garcia H**	**71.15**	**283**	T	T	19 13 20.7	
	baz=147						

IDC ***20*** *17:44:35.6±1.1, 36°.93N×143°.54E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/51, mbtmp3.7/9, ML3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/49, Error ellipse: s-maj=26.2km s-min=22.6km az=87.0*

ISCJB ***20*** *17:44:38.5±0.7, 37°.03N±0°.04×143°.33E±0°.06, h33km, mb3.7/6, MS3.6/1, Error ellipse: s-maj=6.8km s-min=6.0km az=19.6*

JMA ***20*** *17:44:38.3±0.3, 37°.02N×143°.33E, h47km, M3.4*

ISC 20 17:44:40.7±1.0, 37°.06N±0°.06×143°.37E±0°.08, h35km, n29, σ1.53/33, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.01**	**280**	P	**Pn**	**17 45 10.4**	**-1.8**
JFK				*e*S	**Sn**	**17 45 33.9**	**-2.2**
ONAJ	**Iwakimizuishiy**	**2.05**	**272**	P	**Pn**	**17 45 10.9**	**-1.8**
JIO	**Ouri**	**2.12**	**312**	P	**Pn**	**17 45 12.4**	**-1.2**
JIO				*e*S	**Sn**	**17 45 36.9**	**-1.8**
JMM	**Marumori**	**2.20**	**292**	P	**Pn**	**17 45 13.4**	**-1.3**
JFT	**Otama**	**2.46**	**282**	P	**Pn**	**17 45 17.6**	**-0.7**
JMK	**Ichinoseki**	**2.54**	**319**	P	**Pn**	**17 45 18.4**	**-0.9**
JMK				*e*S	**Sn**	**17 45 47.8**	**-1.2**
JOM	**Ohasama**	**2.91**	**327**	P	**Pn**	**17 45 23.8**	**-0.7**
JOM				*e*S	**Sn**	**17 45 57.7**	**-0.5**
JYK	**Kaneyama**	**3.02**	**309**	P	**Pn**	**17 45 25.3**	**-0.6**
BSO1	**Boso 1**	**3.09**	**220**	P	**Pn**	**17 45 24.8**	**-1.6**
JAG	**Ashikaga**	**3.21**	**260**	P	**Pn**	**17 45 27.0**	**-1.5**
JRY	**Ryogami san**	**3.74**	**255**	P	**Pn**	**17 45 34.2**	**-1.8**
JOD2	**Odawara 2**	**3.90**	**244**	P	**Pn**	**17 45 36.2**	**-1.9**
MJAR	**Matsushiro Arr**	**4.17**	**264**	Pn	**Pn**	**17 45 41.5**	**-0.4**
	2.9nm,0.3s,baz=90,slow=15,SNR=28						
MJAR				Sn	**Sn**	**17 46 30.0**	**+0.6**
	0.6nm,0.3s,baz=192,slow=33,SNR=2.2						
MAT	**Matsushiro**	**4.17**	**264**	P	**Pn**	**17 45 41.9**	**+0.1**
MAT				*e*S	**Sn**	**17 46 29.5**	**+0.1**
MAT	**Matsushiro**	**4.17**	**264**	P	**Pn**	**17 45 41.8**	**0.0**
JSD	**Sado**	**4.17**	**285**	P	**Pn**	**17 45 41.2**	**-0.6**
JYN	**Shimob**	**4.20**	**250**	P	**Pn**	**17 45 41.3**	**-0.9**
JYN				*e*S	**Sn**	**17 46 28.7**	**-1.3**
ASAJ	**Asahikawa**	**7.07**	**355**	Pn	**Pn**	**17 46 21.4**	**-0.2**
	0.9nm,0.3s,baz=225,slow=8.9,SNR=4.0						
ASAJ				Sn	**Sn**	**17 47 36.3**	**-4.5**
	0.2nm,0.3s,baz=281,slow=19,SNR=3.2						
KSRS	**Korea Array**	**12.31**	**276**	Pn	**Pn**	**17 47 35.2**	**+1.8**
	0.2nm,0.3s,baz=87,slow=15,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**26.84**	**124**	T	T	18 18 19.8	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**26.85**	**124**	T	T	18 18 25.4	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**26.86**	**124**	T	T	18 18 24.4	
	baz=315						
SONM	**Songino Array**	**29.07**	**303**	P	**P**	**17 50 40.4**	**+2.7**
	0.9nm,0.8s,baz=99,slow=9.3,SNR=5.4						
KURBB	**Kurchatov Arra**	**47.22**	**308**	P	**P**	**17 53 10.7**	**+0.8**
	2.5nm,0.6s,baz=81,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**48.64**	**32**	P	**P**	**17 53 21.9**	**+1.2**
	0.3nm,0.5s,baz=263,slow=4.9,SNR=4.2						
PSI	**Prapat**	**53.16**	**241**	LR	LR	18 19 26.8	
	comp=Z,48nm,18.1s,slow=39						
WRA	**Warramunga Arr**	**57.33**	**190**	P	**P**	**17 54 24.1**	**-1.1**
	0.6nm,0.5s,baz=11,slow=7.3,SNR=5.2						
ASAR	**Alice Springs**	**61.05**	**190**	P	**P**	**17 54 51.0**	**0.0**
	0.2nm,0.5s,baz=12,slow=15,SNR=4.9						
TXAR	**Lajitas Array**	**88.86**	**54**	P	**P**	**17 57 31.2**	**-0.3**
	0.2nm,0.6s,baz=254,slow=2.2,SNR=3.7						

IDC 20 17:49:13.5±2.1, 26°.72S×177°.85W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.8/3, Error ellipse: s-maj=77.1km s-min=50.0km az=13.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.56**	**263**	P	P	17 57 19.2	-0.2
	1.8nm,1.1s,baz=109,slow=8.2,SNR=7.0						
WRA	**Warramunga Arr**	**44.21**	**268**	P	P	17 57 24.0	-0.7
	1.5nm,0.8s,baz=108,slow=8.1,SNR=5.6						
CMAR	**Chiang Mai Arr**	**92.31**	**289**	P	P	18 02 27.7	+1.5
	0.3nm,0.6s,baz=101,slow=4.7,SNR=4.8						
AKASG	**Malin Array Be**	**148.38**	**326**	PKPbc	PKPdf	18 08 59.7	+1.5
	0.2nm,0.2s,baz=36,slow=4.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**166.49**	**178**	PKPab	PKPab	18 10 23.0	-0.1
	0.9nm,1.1s,baz=197,slow=4.4,SNR=3.8						

ISCJB ***20*** *17:54:19.8±0.6, 23°.85S±0°.04×179°.87E±0°.05, h527km±7km, mb4.5/85, Error ellipse: s-maj=7.9km s-min=5.5km az=36.4*

IDC ***20*** *17:54:19.9±1.1, 23°.71S×179°.99W, h525km±10km, mb3.9/16, mb1 4.0/18, mb1mx3.8/33, mbtmp4.8/18, Error ellipse: s-maj=13.4km s-min=12.1km az=158.0*

NEIC ***20*** *17:54:21.3±0.5, 23°.91S×179°.87E, h539km±5km, mb4.7/77, Error ellipse: s-maj=6.8km s-min=4.5km az=139.0*

ISC 20 17:54:20.4±0.5, 23°.91S±0°.06×179°.96E±0°.07, h533km±5km, h534km; pP-P, n259, σ1.03/289, mb4.6/85, 15C-10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.65**	**161**	P	**P**	**17 55 55.9**	**+1.0**
	242nm,0.3s,baz=62,slow=12,SNR=10						
RAO				S	**S**	**17 57 10.1**	**-2.2**
	73nm,0.3s,baz=60,slow=20,SNR=1.8						
MSVF	**Nonsavu**	**6.40**	**343**	*e*P	**P**	**17 56 02.5**	**+0.3**
DZM	**Mont Dzumac**	**12.59**	**276**	P	**P**	**17 57 06.0**	**+0.8**
	2.4nm,0.3s,baz=70,slow=24,SNR=12						
AFI	**Afiamalu**	**12.64**	**40**	P	P	17 57 01.7	-4.1
	3.1nm,0.3s,baz=257,slow=19,SNR=2.7						
AFI				S	S	17 59 10.4	-12
	5.6nm,0.3s,baz=240,slow=17,SNR=3.8						
AFI	**Afiamalu**	**12.64**	**40**	*e*P	**P**	**17 57 06.1**	**+0.2**
AFI				S	S	17 59 10.4	-12
URZ	**Urewera**	**14.51**	**189**	P	**P**	**17 57 23.5**	**-1.3**
	4.7nm,0.3s,baz=357,slow=1.5,SNR=16						
URZ				S	**S**	**17 59 54.1**	**-2.9**
	3.9nm,0.3s,baz=18,slow=23,SNR=11						
URZ	**Urewera**	**14.51**	**189**	*e*P	**P**	**17 57 23.5**	**-1.3**
URZ				*e*S	**S**	**17 59 54.1**	**-2.9**
URZ				*e*S	S	17 59 58.1	+1.1
BKZ	**Black Stump Fm**	**15.49**	**190**	*e*P	**P**	**17 57 33.8**	**-1.4**
	30nm,1.2s						
BFZ	**Birch Farm**	**17.02**	**190**	*e*P	**P**	**17 57 49.8**	**-0.1**
	40nm,1.1s						
BFZ				*e*S	**S**	**18 00 41.4**	**+0.5**
SNZO	**South Karori**	**17.90**	**193**	*e*P	**P**	**17 57 58.5**	**+0.6**
	42nm,0.8s						
SNZO				*e*S	**S**	**18 00 55.7**	**+0.5**
THZ	**Tophouse**	**18.75**	**197**	*e*P	**P**	**17 58 07.1**	**+1.3**
	22nm,0.6s						
KHZ	**Kahutara**	**19.21**	**195**	*e*P	**P**	**17 58 10.2**	**+0.3**
	43nm,1.1s						
LTZ	**Lake Taylor**	**19.87**	**197**	*e*P	**P**	**17 58 16.5**	**+0.5**
	52nm,0.5s						
OXZ	**Oxford**	**20.44**	**197**	*e*P	**P**	**17 58 21.5**	**+0.4**
	53nm,0.4s						
RPZ	**Rata Peaks**	**21.07**	**198**	P	**P**	**17 58 27.6**	**+0.8**
	21nm,0.5s,baz=342,slow=3.0,SNR=14						
EIDS	**Eidsvold**	**26.27**	**261**	*e*P	**P**	**17 59 14.3**	**+1

LRMC	Laurel Mtn Rad	83.47	47	P	P	18 05 53.0	+0.8
	baz=235,SNR=5.4						
ORV	Oroville	83.47	42	eP	P	18 05 52.7	+0.7
	12nm,0.9s						
WDC	Whiskeytown Da	83.49	40	eP	P	18 05 53.0	+0.9
	13nm,1.2s						
N02D	Trinity Center	83.64	40	P	P	18 05 53.6	+0.7
	baz=231						
O03D	Paynes Creek	83.75	41	P	P	18 05 53.7	+0.3
	baz=232,SNR=5.5						
CWC	Cottonwood Cre	83.76	46	P	P	18 05 54.3	+0.6
	baz=234						
BELC	Belle Mtn. Jos	83.77	49	P	P	18 05 54.9	+1.0
	baz=236,SNR=9.7						
M02C	Callahan	83.81	39	P	P	18 05 55.0	+1.2
	baz=231,SNR=7.5						
L02D	Cave Junction,	83.87	39	P	P	18 05 54.8	+0.9
	baz=230						
MPMC	Manual Prospec	83.93	46	P	P	18 05 55.2	+0.6
	baz=235,SNR=9.1						
BC3	Big Chuckawall	83.95	49	P	P	18 05 56.0	+1.3
	baz=236,SNR=7.2						
GSC	Goldstone, Bar	83.95	47	P	P	18 05 55.2	+0.6
	baz=235						
GSC	Goldstone, Bar	83.95	47	eP	P	18 05 55.4	+0.8
	10nm,0.8s						
DAC	Darwin (Calif)	83.99	46	eP	P	18 05 55.4	+0.5
	12nm,1.4s						
HEC	Hector,Ludlow	84.01	48	P	P	18 05 55.5	+0.6
	baz=236						
GLA	Glamis	84.06	50	P	P	18 05 56.6	+1.5
	baz=237,SNR=8.0						
GLA	Glamis	84.06	50	eP	P	18 05 56.8	+1.7
	18nm,0.9s						
WAKR	Walker	84.11	43	eP	P	18 05 56.4	+0.9
	9.9nm,0.9s						
YBH	Yreka Blue Hor	84.11	39	eP	P	18 05 56.4	+1.2
	8.9nm,1.1s						
LBCM	Butte Creek Ri	84.35	41	eP	P	18 05 57.3	+0.7
PNTR	Pine Nut	84.36	43	eP	P	18 05 57.5	+0.8
	16nm,1.0s						
BEKR	Beckworth	84.36	42	eP	P	18 05 57.3	+0.7
	22nm,1.6s						
GMRC	Granite Mounta	84.44	48	P	P	18 05 57.4	+0.3
	baz=236,SNR=5.1						
IRM	Iron Mountain	84.44	49	P	P	18 05 58.2	+1.2
	baz=236,SNR=12						
YERR	Yerington	84.52	43	eP	P	18 05 57.8	+0.4
	9.6nm,1.1s						
HUMO	Hull Mountain	84.53	39	eP	P	18 05 58.6	+1.4
	19nm,1.3s						
GRAC	Grapevine Rang	84.55	46	P	P	18 05 58.4	+0.9
	baz=235						
FURC	Furnace Creek,	84.58	46	P	P	18 05 58.2	+0.7
	baz=235						
TUQ	Turquoise Moun	84.62	48	P	P	18 05 58.6	+0.7
	baz=236,SNR=6.3						
SHOC	Shoshone, Teco	84.65	47	P	P	18 05 59.0	+1.1
	baz=236						
113A	Mohawk Valley,	84.65	51	eP	P	18 05 59.3	+1.3
	11nm,1.1s						
M04C	Macdoel	84.65	40	P	P	18 05 58.8	+0.8
	baz=231						
Y12C	Blythe	84.65	50	P	P	18 05 58.9	+0.9
	baz=237						
SNAA	Sanae	84.66	179	P	P	18 05 57.9	+0.4
SNAA	Sanae	84.66	179	eP	P	18 05 57.9	+0.4
	2.5nm,0.6s						
PAHR	Pah Rah Range	84.86	42	eP	P	18 05 59.7	+0.7
	5.3nm,0.8s						
VNA3	Neumayer Olymp	84.87	177	P	P	18 05 58.9	+0.4
214A	Organ Pipe Nat	84.90	52	P	P	18 06 00.6	+1.4
	baz=238						
LDFC	Landfair	84.98	48	eP	P	18 06 01.0	+1.3
	45nm,0.6s						
I03D	Drain, OR	85.00	37	P	P	18 06 00.2	+0.8
	baz=230						
NEE2	Needles Airpor	85.14	49	P	P	18 06 01.3	+1.0
	baz=237						
PDMCI	Parker Dam,Lak	85.22	49	P	P	18 06 01.7	+1.0
	baz=237						
TPNV	Topopah Spring	85.26	46	P	P	18 06 01.7	+0.7
	baz=235,SNR=10						
TPNV	Topopah Spring	85.26	46	eP	P	18 06 01.8	+0.7
	6.3nm,0.8s						
VNA2	Neumayer--Watz	85.29	178	P	P	18 06 01.1	+0.6
	baz=186,slow=3.8						
J04D	Umpqua Nationa	85.41	38	P	P	18 06 02.5	+0.9
	baz=231						
VNA1	Neumayer--Stat	85.53	177	P	P	18 06 01.9	+0.3
MOD	Modoc Plateau	85.63	40	eP	P	18 06 03.5	+0.8
	6.6nm,0.8s						
Y14A	Wickenburg	85.82	50	eP	P	18 06 05.0	+1.3
	24nm,0.5s						
W13A	Hualapai Mount	85.83	49	eP	P	18 06 05.0	+1.1
	16nm,1.4s						
J05D	Fort Rock, OR	85.94	39	P	P	18 06 05.1	+1.0
	baz=232						
R11A	Troy Canyon, C	86.48	45	P	P	18 06 06.7	-0.2
	baz=236						
R11A	Troy Canyon, C	86.48	45	eP	P	18 06 06.7	-0.2
	2.2nm,1.1s						
I05D	Terrebonne, OR	86.53	38	P	P	18 06 07.5	+0.7
	baz=232						
TUC	Tucson	86.55	52	P	P	18 06 08.9	+1.6
	baz=239						
TUC	Tucson	86.55	52	eP	P	18 06 08.9	+1.6
	12nm,0.9s						
BMN	Battle Mountai	86.63	43	eP	P	18 06 08.2	+0.7
	8.1nm,0.9s						
F04A	Amboy	86.94	36	eP	P	18 06 09.3	+0.7
	22nm,1.1s						
WVOR	Wild Horse Val	86.94	41	eP	P	18 06 09.7	+0.8
	17nm,1.3s						
G05D	Wamic, OR	87.11	37	P	P	18 06 10.0	+0.6
	baz=232						
319A	Douglas	87.18	54	eP	P	18 06 12.3	+2.0
	31nm,1.2s						
G06A	Carlson Farm,	87.48	38	eP	P	18 06 11.8	+0.6
	11nm,0.9s						
CCUT	Cedar City	87.51	47	eP	P	18 06 12.9	+1.1
	6.0nm,0.9s						
KNB	Kanab	87.59	48	eP	P	18 06 13.4	+1.2
	7.4nm,0.9s						
U15A	North Rim	87.64	48	eP	P	18 06 13.8	+1.4
	14nm,0.9s						
SZCU	Shurtz Canyon	87.72	47	eP	P	18 06 13.9	+1.1
	8.7nm,0.3s						
LON	Longmire	87.78	36	eP	P	18 06 13.0	+0.4
	5.2nm,0.8s						
WUAZ	Wupatki	87.79	50	P	P	18 06 13.6	+0.5
	baz=238						
HPIG		87.79	59	eP	P	18 06 14.3	+0.9
	12nm,1.0s						
BLN	Blyn Mountain	87.97	34	eP	P	18 06 14.9	+1.5
PKCU	Pink Cliffs	88.16	47	eP	P	18 06 16.7	+1.7
	54nm,2.0s						
TRW	Toppenish Ridg	88.18	37	P	P	18 06 15.4	+0.9
X18A	Snowflake	88.28	51	eP	P	18 06 17.0	+1.6
	7.8nm,0.6s						
PLCA	Paso Flores	88.28	134	P	P	18 06 17.3	+1.9
	1.9nm,0.9s,baz=284,slow=4.2,SNR=3.1						
MTPU	Mount Pierson	88.56	47	eP	P	18 06 18.4	+1.6
	8.2nm,0.7s						
B05A	Bryant	88.58	35	P	P	18 06 17.1	+0.9
	baz=231						
E07A	Sunnyside	88.72	37	eP	P	18 06 17.8	+0.8
	12nm,0.8s						
HAWA	Hanford	88.80	37	eP	P	18 06 18.0	+0.7
	12nm,1.0s						
MSU	Marysvale	88.81	47	eP	P	18 06 19.1	+1.2
121A	Cookes Peak, D	88.86	54	P	P	18 06 19.3	+1.2
	baz=241						
C06D	Leavenworth	89.00	35	P	P	18 06 18.8	+0.6
	baz=232						
ETW	Entiat	89.10	36	eP	P	18 06 19.4	+0.6
BMO	Blue Mountains	89.14	39	eP	P	18 06 19.4	+0.3
	24nm,1.9s						
MFID	Camas Ranch	89.19	41	eP	P	18 06 19.9	+0.5
	9.9nm,0.8s						
SEY	Seymchan	89.27	348	P	P	18 06 18.6	-0.5
	4.9nm,0.3s,baz=156,slow=10.0,SNR=29						
DUG	Dugway, Tooele	89.29	45	P	P	18 06 19.8	-0.1
	baz=238						
DUG	Dugway, Tooele	89.29	45	eP	P	18 06 20.0	0.0
	4.0nm,1.0s						
CMAR	Chiang Mai Arr	89.50	290	P	P	18 06 22.6	+1.5
	0.4nm,0.8s,baz=143,slow=3.7,SNR=4.9						
CMAR				pP	pP	18 08 18.6	-0.2
	0.3nm,0.8s,baz=123,slow=4.5,SNR=3.1						
D08A	Wollman Farm,	89.53	37	eP	P	18 06 21.6	+0.9
	8.1nm,0.9s						
NLU	North Lily Min	89.65	45	eP	P	18 06 22.3	+0.6
	6.1nm,1.2s						
TMUT	Trail Mountain	89.87	46	eP	P	18 06 23.9	+1.0
	21nm,0.7s						
MPU	Maple Canyon	89.97	46	eP	P	18 06 24.3	+1.2
	8.7nm,0.9s						
SPUT	South Promonto	90.12	44	eP	P	18 06 24.9	+1.1
	11nm,0.9s						
HLID	Hailey	90.12	41	P	P	18 06 24.6	+0.9
	baz=236						
HLID	Hailey	90.12	41	eP	P	18 06 24.7	+0.9
	6.1nm,1.1s						
HVU	Hansel Valley	90.17	44	eP	P	18 06 24.4	+0.4
	11nm,0.7s						
SRU	San Rafael Swe	90.23	47	eP	P	18 06 24.9	+0.5
	16nm,0.8s						
MNTX	Cornudas Mount	90.25	55	P	P	18 06 25.6	+1.2
	baz=242						
MNTX	Cornudas Mount	90.25	55	eP	P	18 06 25.4	+1.0
	5.5nm,0.8s						
P17A	Butcher Ranch,	90.27	46	eP	P	18 06 25.6	+1.0
	19nm,0.4s						
JLU	Jordanelle	90.39	45	eP	P	18 06 26.2	+1.0
	29nm,1.9s						
TX31	Lajitas Ar. Si	90.46	58	eP	P	18 06 26.7	+1.2
LTX	Lajitas	90.47	58	eP	P	18 06 26.9	+1.3
TXAR	Lajitas Array	90.47	58	P	P	18 06 26.9	+1.3
	5.5nm,0.7s,baz=215,slow=6.5,SNR=59						
P18A	Preston Nutter	90.68	46	eP	P	18 06 27.4	+0.8
	4.9nm,0.8s						
TCUT	Toone Canyon	90.69	45	eP	P	18 06 27.2	+0.7
	21nm,0.9s						
HWUT	Hardware Ranch	90.84	44	eP	P	18 06 27.4	+0.2
	6.7nm,0.6s						
ANMO	Albuquerque	90.99	52	P	P	18 06 28.6	+0.6
	baz=241						
ILAR	Eielson Array	92.05	14	P	P	18 06 30.4	-1.4
	0.7nm,0.6s,baz=218,slow=4.9,SNR=7.8						
ILB	Eielson Array	92.05	14	eP	P	18 06 30.4	-1.4
S22A	4UR Ranch, Cre	92.07	49	P	P	18 06 34.0	+1.0
	baz=241						
O20A	White River Ci	92.27	47	P	P	18 06 33.9	+0.2
	baz=240						
SMCO	Snowmass	92.66	48	eP	P	18 06 36.5	+0.7
	3.7nm,0.8s						
BW06	Boulder Array	92.72	44	P	P	18 06 35.9	+0.1
	baz=240						
BW06	Boulder Array	92.72	44	eP	P	18 06 35.9	+0.1
	28nm,1.0s						
PD31	Pinedale Array	92.72	44	eP	P	18 06 35.9	+0.1
PDAR	Pinedale Array	92.72	44	P	P	18 06 35.5	-0.3
	2.3nm,0.7s,baz=213,slow=3.7,SNR=19						
BOZ	Bozeman (W)	92.89	41	P	P	18 06 36.5	+0.1
	baz=238						
SDCO	Great Sand Dun	92.99	50	P	P	18 06 37.4	+0.1
	baz=242						
SDCO	Great Sand Dun	92.99	50	eP	P	18 06 37.9	+0.6
	4.2nm,0.8s						
T25A	Trinidad	93.48	51	P	P	18 06 39.1	-0.3
	baz=243						
Q24A	Divide	93.81	49	P	P	18 06 40.9	-0.1
	baz=242						
JCT	Junction City	93.98	59	P	P	18 06 42.0	+0.4
	baz=245						
RLMT	Red Lodge	94.08	42	P	P	18 06 42.0	+0.1
	baz=240						
K22A	Casper	94.61	45	P	P	18 06 44.0	-0.4
	baz=242						
SONA0	Songino Array	97.08	319	ePKKPbc	PKKPbc	18 23 34.0	-0.1
SONM	Songino Array	97.08	319	PKKPbc	PKKPbc	18 23 34.0	-0.1
	0.5nm,0.6s,baz=284,slow=3.6,SNR=3.8						
ZALV	Zalesovo Beam	111.93	321	PKiKP	PKiKP	18 11 52.9	-1.7
	0.7nm,0.5s,baz=124,slow=1.5,SNR=4.2						
ZAA1	Zalesovo Array	111.94	321	ePKiKP	PKiKP	18 11 52.9	-1.7
MK32	Makanchi Array	112.13	313	ePKiKP	PKiKP	18 11 54.0	-1.2
MK32				ePKKPab	PKKPab	18 22 57.1	-0.3
MKAR	Makanchi Array	112.13	313	PKiKP	PKiKP	18 11 54.0	-1.2
	0.8nm,0.5s,baz=117,slow=0.9,SNR=13						
MKAR				PKKPab	PKKPab	18 22 57.1	-0.3
	0.7nm,0.7s,baz=264,slow=4.9,SNR=4.7						
KKAR	Karatay Array	119.84	307	ePKPdf	PKPdf	18 12 09.5	-0.6
BRVK	Borovoye	120.48	319	ePKPdf	PKPdf	18 12 10.2	-0.8
FRB	Frobisher Bay	120.67	29	PKP	PKPdf	18 12 08.7	-2.3
	5.4nm,0.5s,baz=339,slow=3.6,SNR=3.7						
BOSA	Boshof	122.38	206	PKP	PKPdf	18 12 15.7	0.0
	4.5nm,0.9s,baz=72,slow=3.1,SNR=3.8						
SFJD	Kangerlussuaq	126.80	22	PKP	PKPdf	18 12 21.3	-1.3
	3.8nm,0.4s,baz=259,slow=6.3,SNR=5.2						
ARU	Arti	126.87	324	ePKPdf	PKPdf	18 12 23.0	-0.1
GEYT	Alibeck	128.94	300	PKP	PKPdf	18 12 27.3	-0.4
	2.4nm,0.8s,baz=4.1,slow=2.1,SNR=5.3						
ARA0	ARCESS Array S	131.89	348	ePKPpre	PKPpre	18 12 22.6	
ARA0				ePKPdf	PKPdf	18 12 31.5	-0.9
ARA0				eSKPbc	SKPbc	18 15 07.9	-0.7
ARCES	ARCESS Array B	131.89	348	PKhKP	PKPpre	18 12 22.6	
	2.1nm,0.9s,baz=64,slow=4.1,SNR=4.3						
ARCES				PKP	PKPdf	18 12 31.5	-0.9
	6.3nm,0.8s,baz=48,slow=1.8,SNR=17						
ARCES				SKPbc	SKPbc	18 15 07.9	-0.7
	4.4nm,1.0s,baz=42,slow=3.8,SNR=4.3						
KMBO	Kilima Mbogo	136.06	241	PKP	PKPdf	18 12 44.5	+2.3
	0.4nm,0.3s,baz=145,slow=3.4,SNR=4.1						
KMBO	Kilima Mbogo	136.06	241	ePKPdf	PKPdf	18 12 41.4	-0.8
FIA0	FINESS Array S	138.44	341	ePKPpre	PKPpre	18 12 34.3	
FIA0				ePKPdf	PKPdf	18 12 45.0	+0.3
FIA0				eSKPbc	SKPbc	18 15 28.2	-0.8
FINES	FINESS Array B	138.44	341	PKhKP	PKPpre	18 12 34.3	
	3.9nm,1.0s,baz=57,slow=7.0,SNR=8.1						
FINES				PKP	PKPdf	18 12 45.0	+0.3
	2.6nm,0.6s,baz=40,slow=3.0,SNR=12						
FINES				SKPbc	SKPbc	18 15 28.2	-0.8
	5.8nm,0.9s,baz=25,slow=5.0,SNR=6.3						
NB2	NORSAR Subarra	142.08	351	PKP	PKPdf	18 12 46.6	-4.8
	comp=Z,2.2nm,0.6s,baz=12,slow=3.1						
NB200	NORSAR Array S	142.08	351	ePKPpre	PKPpre	18 12 47.0	
NOA	NORSAR Array B	142.08	351	PKhKP	PKPpre	18 12 47.0	
	comp=Z,0.9nm,0.6s,baz=18,slow=4.3,SNR=9.0						
AKASG	Malin Array Be	144.96	327	PKP	PKPdf	18 12 56.0	-0.6
	comp=Z,11nm,0.7s,baz=42,slow=4.1,SNR=32						
AKASG				SKPbc	SKPbc	18 15 45.3	-0.4
	comp=Z,2.3nm,0.6s,baz=42,slow=2.8,SNR=6.6						
AKBB	Malin Array Si	144.96	327	ePKPdf	PKPdf	18 12 56.4	-0.2
AKBB				eSKPbc	SKPbc	18 15 45.3	-0.4
KIEV	Kiev	144.97	327	ePKPdf	PKPdf	18 12 56.0	-0.6
SUW	Suwalki	145.26	336	ePKP	PKPdf	18 12 57.5	+0.6
SORM	Soroca	146.99	324	‖ ePKP	PKPbc	18 13 02.8	-0.2
BR101	Keskin Array S	147.55	307	ePKPdf	PKPdf	18 13 00.3	-1.2
BR101				ePKPbc	PKPbc	18 13 04.5	-0.6
BR101				epPKPdf	pPKPbc	18 15 08.0	-0.8
BR131	Keskin Array S	147.55	307	ePKPbc	PKPbc	18 13 04.4	-0.6
BRTR	Keskin Array B	147.55	307	PKP	PKPdf	18 13 00.3	-1.2
	comp=Z,2.0nm,0.7s,baz=77,slow=5.6,SNR=4.2						
BRTR				PKPbc	PKPbc	18 13 04.5	-0.6
	comp=Z,2.1nm,0.6s,baz=95,slow=2.4,SNR=16						
BRTR				pPKPbc	pPKPbc	18 15 08.0	-0.8
	comp=Z,0.3nm,0.5s,baz=108,slow=3.2,SNR=2.3						
BEL	Belsk	147.87	335	ePKP	PKPbc	18 13 05.5	+0.3
TLCR		148.41	319	‖ ePKP	PKPbc	18 13 07.1	+0.3
KWP	Kalwaria Pacla	148.76	331	ePKP	PKPbc	18 13 07.9	+0.3
CFR	Carcaliu	148.81	320	‖ ePKP	PKPbc	18 13 08.0	+0.2
BUR08	Bucovina Ar. S	148.94	326	ePKPbc	PKPbc	18 13 08.8	+0.6
BURAR	Bucovina Array	148.96	326	‖ ePKP	PKPbc	18 13 09.5	+1.3
TLB	Topalu	149.19	319	‖ ePKP	PKPbc	18 13 09.0	+0.3
VRI	Vrincioaia	149.23	322	‖ ePKP	PKPbc	18 13 08.0	-0.8
PLOR	Plostina	149.29	322	‖ ePKP	PKPbc	18 13 08.8	-0.2
OJC	Ojcow	149.53	335	ePKP	PKPbc	18 13 09.5	+0.1
OJC	Ojcow	149.53	335	ePKPbc	PKPbc	18 13 09.3	-0.1
STHS	Stebnicka Huta	149.56	332	ePKP	PKPbc	18 13 10.0	+0.5
CRVS	Cervenica-Dubn	149.85	331	ePKP	PKPbc	18 13 10.5	+0.3
MLR	Muntele Rosu	149.90	322	‖ ePKP	PKPbc	18 13 09.2	-1.4
NIE	Niedzica	149.95	333	ePKP	PKPbc	18 13 11.2	+0.7
SECR		150.10	321	‖ ePKP	PKPbc	18 13 11.0	+0.1
KSP	Ksiaz	150.28	339	ePKP	PKPbc	18 13 11.7	+0.5
VOIR		150.43	323	‖ ePKP	PKPbc	18 13 11.9	+0.1
OKC	Ostrava-Krasne	150.47	336	‖ ePKP	PKPbc	18 13 11.8	+0.2
LANS	Liptovska Anna	150.50	334	ePKP	PKPbc	18 13 12.7	+1.0
UPC	Upice	150.66	339	‖ ePKP	PKPbc	18 13 12.4	+0.4
DPC	Dobruska-Polom	150.69	338	‖ ePKP	PKPbc	18 13 12.6	+0.5
DPC				ePKPAB	PKPab	18 13 22.4	+0.9
ARR	Arges	150.70	323	‖ ePKP	PKPbc	18 13 13.1	+0.7
MORC	Moravsky Berou	150.74	336	‖ ePKP	PKPbc	18 13 12.6	+0.3
MORC	Moravsky Berou	150.74	336	ePKPbc	PKPbc	18 13 12.5	+0.2
KRLC	Kraliky	150.77	338	‖ ePKP	PKPbc	18 13 12.6	+0.3
DRGR		150.78	327	‖ ‖ iP	PKPbc	18 13 12.5	0.0
CLL	Collm	150.85	343	i PKPbc	PKPbc	18 13 12.3	-0.1
	comp=Z,25nm,0.9s						
CLL				ePKPab	PKPab	18 13 22.0	-0.1
CLL				i pPKPab	pPKPab	18 15 22.8	+1.0
	comp=Z,9.0nm,0.9s						
CLL	Collm	150.85	343	ePKPbc	PKPbc	18 13 12.3	-0.1
BRG	Berggiesshubel	150.98	342	i PKP	PKPbc	18 13 12.8	+0.1
	comp=Z,20nm,0.5s						
BRG				e		18 15 23.3	
	comp=Z,5.2nm,0.9s						
BRG				e		18 17 51.0	
	comp=Z,13nm,1.4s						
PVCC	Panska Ves	151.10	341	‖ ePKP	PKPbc	18 13 13.5	+0.5
VYHS	Vyhne	151.28	333	ePKP	PKPbc	18 13 13.4	-0.1
GOPC	GO Pecny, Ondr	151.57	340	‖ ePKP	PKPbc	18 13 14.2	+0.1
PRU	Pruhonice	151.58	340	‖ ePKP	PKPbc	18 13 14.0	-0.1
AKAS	Kas	151.67	303	ePKPbc	PKPbc	18 13 14.5	-0.4
NKC	Novy Kostel	151.98	343	‖ ePKP	PKPbc	18 13 15.1	+0.1
NKC				ePKPAB	PKPab	18 13 26.2	-0.7
KHC	Kasperske Hory	152.64	340	‖ ePKP	PKPbc	18 13 16.4	-0.1
KHC				ePKPAB	PKPab	18 13 30.1	+0.3
GEC2	GERESS Array S	152.85	340	ePKPbc	PKPbc	18 13 16.8	-0.3
GERES	GERESS Array B	152.85	340	PKPbc	PKPbc	18 13 16.8	-0.3
	comp=Z,2.1nm,0.7s,baz=43,slow=2.7,SNR=11						
GERES				pPKPbc	pPKPbc	18 15 21.5	-0.4
	comp=Z,0.2nm,0.4s,baz=2.9,slow=3.9,SNR=1.6						
CONA	Conrad Observa	152.90	336	ePKPbc	PKPbc	18 13 17.2	0.0
	comp=Z,3.7nm,0.7s						
CONA				i PKPab	PKPab	18 13 31.8	+0.8
	comp=Z,1.0nm,0.3s						
VTS	Vitosha	153.22	320	‖ iP	PKPbc	18 13 18.2	+0.1
ESDC	Sonseca Array	163.93	11	PKPab	PKPab	18 14 18.0	-1.1
	comp=Z,1.3nm,0.7s,baz=352,slow=4.7,SNR=7.5						
TORD	Torodi Ar. Bea	169.17	189	PKP	PKPdf	18 13 26.1	-1.1
	comp=Z,2.7nm,1.1s,baz=124,slow=0.7,SNR=9.2						
TORD				PKPab	PKPab	18 14 43.4	+0.7
	comp=Z,2.2nm,0.8s,baz=168,slow=3.7,SNR=12						
TOA1	Torodi Ar. Sit	169.18	189	ePKPdf	PKPdf	18 13 26.1	-1.1
TOA1				ePKPab	PKPab	18 14 43.4	+0.7

NIED ***20*** *17:56:00, 37.00N×143.30E, h5km, Mw4.0 Best double couple: M0=1.20000×10^15 NP1:φ0=26.00000°, δ29.00000°, λ-71.00000°. NP2:φ0=184.00000°, δ63.00000°, λ-100.00000°.*

IDC ***20*** *17:56:16.7±0.8, 36.93N×143.43E, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.8/51, mbtmp3.8/12, ML3.6/3, Error ellipse: s-maj=22.0km s-min=19.7km az=91.0*

NEIC ***20*** *17:56:17.5±4.9, 36.94N×143.44E, h5km±30km, mb4.8/2, Error ellipse: s-maj=13.6km s-min=9.2km az=112.0*

ISCJB ***20*** *17:56:19.8±0.5, 37.02N±0.04×143.28E±0.05, h33km, mb4.0/11, Error ellipse: s-maj=6.5km s-min=5.2km az=142.9*

JMA ***20*** *17:56:19.0±0.3, 37.01N×143.33E, h52km, M3.5*

ISC 20 17:56:22.2±0.8, 37.06N±0.06×143.29E±0.07, h35km, n45, σ1§47/48, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.95	280	P	Pn	17 56 51.0	-1.9
ONAJ	Iwakimizuishiy	1.99	272	P	Pn	17 56 51.6	-1.8
JIO	Ouri	2.08	313	P	Pn	17 56 53.0	-1.5
JIO				eS	Sn	17 57 17.6	-1.5
JMM	Marumori	2.14	293	P	Pn	17 56 53.9	-1.5
JFT	Otama	2.40	282	P	Pn	17 56 58.2	-0.8
JMK	Ichinoseki	2.50	320	P	Pn	17 56 59.0	-1.3
JOM	Ohasama	2.88	328	P	Pn	17 57 04.2	-1.4
JOM				eS	Sn	17 57 37.6	-1.4
JYK	Kaneyama	2.97	310	P	Pn	17 57 05.9	-0.9
JAG	Ashikaga	3.14	260	P	Pn	17 57 07.8	-1.4
JAG				eS	Sn	17 57 43.8	-1.7
JANG	Nango	3.59	338	P	Pn	17 57 14.5	-0.9
JRY	Ryogami san	3.68	255	P	Pn	17 57 14.9	-1.8
JRY				eS	Sn	17 57 56.0	-2.8
JOD2	Odawara 2	3.84	243	P	Pn	17 57 16.9	-1.9
JOD2				eS	Sn	17 57 59.9	-2.9
MJAR	Matsushiro Arr	4.11	264	Pn	Pn	17 57 22.2	-0.3
	4.6nm,0.3s,baz=89,slow=15,SNR=41						
MJAR				Sn	Sn	17 58 10.3	+1.0
	1.9nm,0.3s,baz=92,slow=25,SNR=5.1						
MAJO	Matsushiro	4.11	264	ePn	Pn	17 57 22.7	+0.2
MAT	Matsushiro	4.11	264	P	Pn	17 57 22.6	+0.1
MAT				eS	Sn	17 58 11.0	+1.6
MJB9	Matsu-Tunnel	4.11	264	ePn	Pn	17 57 22.5	0.0
JSD	Sado	4.11	285	P	Pn	17 57 21.8	-0.7
JKB	Kayabe	5.13	341	P	Pn	17 57 35.3	-1.2
ASAJ	Asahikawa	7.07	356	Pn	Pn	17 58 01.9	-1.3
	1.6nm,0.3s,baz=231,slow=7.9,SNR=16

GUIM	**Jordan**	**1.89**	**174**	*e*P	Pn	18 04 11.3 +0.5
GUIM				*e*S	Sb	18 04 37.3 +0.6
BUSP	**Coron**	**2.21**	**257**	*e*P	Pn	18 04 14.7 -0.4
BUSP				*e*S	Sn	18 04 44.1 +1.3
CNP	**Catarman**	**2.21**	**90**	*e*P	Pn	18 04 14.7 -0.6
CNP				*e*S	Sb	18 04 45.0 -1.2
OCLP	**Ormoc**	**2.61**	**124**	*e*P	Pn	18 04 23.0 +2.2
OCLP				*e*S	Sb	18 04 57.7 +0.1
BESP	**Borongan**	**3.11**	**107**	*e*P	Pn	18 04 30.4 +2.7
ENPP	**El Nido**	**3.19**	**246**	*e*P	Pn	18 04 28.3 -0.4
ENPP				*e*S	Sn	18 05 05.8 -1.2
MSLP	**Maasin**	**3.38**	**134**	*e*P	Pn	18 04 33.5 +2.1

*ISCJB **20** 18:09:00.1±0.8, 1°.87N±0°.07×127°.55E±0°.08, h112km, mb3.9/7, Error ellipse: s-maj=12.5km s-min=7.9km az=144.5*
*DJA **20** 18:09:00.8±1.0, 2°.N±8°×12°.8E±°, h114km±9km, M4.1/11, mb4.3/8, mB4.8/6, MLv4.2/11, Mw(mB)4.0/6*
*IDC **20** 18:09:03.1±7.9, 1°.75N×127°.43E, h122km±73km, mb3.6/7, mb1 3.7/8, mb1mx3.4/41, mbtmp3.9/8, Error ellipse: s-maj=69.7km s-min=14.7km az=64.0*
ISC 20 18:09:01.8±0.9, **1°.84N**±0°.10×**127°.5E**±0°.1, **h112**km, **n20,** σ0s**47**/21, **mb4.0**/7, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.46**	**181**	P	**Pn**	**18 09 40.9**	**+0.1**
SGSI	**Sangihe**	**2.72**	**312**	P	**Pn**	**18 09 43.0**	**-1.1**
KMSI	**Cibinong**	**3.77**	**251**	P	**Pn**	**18 09 58.6**	**+0.5**
SANI	**Sanana**	**4.16**	**202**	P	**Pn**	**18 10 03.0**	**-0.4**
NLAI	**Namlea**	**5.07**	**185**	P	**Pn**	**18 10 15.4**	**-0.2**
MSAI	**Masohi**	**5.34**	**165**	P	**Pn**	**18 10 19.2**	**0.0**
AAI	**Ambon**	**5.53**	**173**	P	**Pn**	**18 10 21.8**	**-0.1**
MRSI	**Marisa**	**5.76**	**256**	P	**Pn**	**18 10 24.7**	**-0.2**
APSI	**Ampana**	**6.49**	**245**	P	**Pn**	**18 10 34.8**	**0.0**
MPSI	**Mapaga**	**7.78**	**259**	P	**Pn**	**18 10 52.2**	**-0.1**
TTSI	**Tana Toraja**	**9.12**	**238**	P	**Pn**	**18 11 09.8**	**-0.6**
SPSI	**Sidrap Palu**	**9.67**	**233**	P	**Pn**	**18 11 18.0**	**0.0**
FITZ	**Fitzroy Crossi**	**19.91**	**185**	P	**P**	**18 13 24.6**	**-0.1**
	0.2nm,0.3s,baz=8.5,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**22.66**	**163**	P	**P**	**18 13 53.1**	**-0.7**
	7.0nm,0.6s,baz=344,slow=11,SNR=52						
ASAR	**Alice Springs**	**26.10**	**167**	P	**P**	**18 14 24.9**	**-0.5**
	2.5nm,0.5s,baz=345,slow=7.5,SNR=78						
ASAR				PcP	**PcP**	**18 17 49.8**	**-0.5**
	0.2nm,0.5s,baz=352,slow=2.1,SNR=6.0						
CMAR	**Chiang Mai Arr**	**32.54**	**302**	P	**P**	**18 15 22.3**	**-0.1**
	0.6nm,0.8s,baz=110,slow=6.5,SNR=5.0						
STKA	**Stephens Creek**	**36.09**	**159**	P	**P**	**18 15 53.4**	**+0.5**
	4.1nm,0.8s,baz=338,slow=9.1,SNR=6.3						
SONM	**Songino Array**	**49.33**	**341**	P	**P**	**18 17 40.4**	**+0.7**
	0.2nm,0.5s,baz=133,slow=8.3,SNR=2.2						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**18 18 54.0**	**+0.3**
	0.6nm,0.3s,baz=115,slow=7.7,SNR=15						
VNDA	**Vanda**	**81.47**	**173**	P	**P**	**18 21 05.8**	**-0.3**
	0.7nm,0.7s,baz=304,slow=4.1,SNR=4.0						

*CSEM **20** 18:21:38.6, 37°.86N×21°.15E, h18km, ML1.2/2*
ATH 20 18:21:38.6, 37°.86N×21°.15E, h18km±1km, **ML1.2**/2, **Error ellipse: s-maj=1.6km s-min=0.9km az=267.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.07**	**28**	P	Pg	18 21 42.3	+0.3
VTN				S	Sg	18 21 45.1	+0.8
VTN	**Vitineika**	**0.07**	**28**	P	Pg	18 21 42.3	+0.3
VTN				S	Sg	18 21 45.1	+0.7
RLS	**Riolos of Patr**	**0.32**	**52**	P	Pg	18 21 45.2	-0.3
RLS				S	Sb	18 21 50.6	-0.2
RLS				AML	AML	18 21 50.9	
	comp=N,113μm,0.2s						
RLS				AML	AML	18 21 52.5	
	comp=E,64μm,0.2s						
RLS	**Riolos of Patr**	**0.32**	**52**	P	Pg	18 21 45.2	-0.4
RLS				S	Sb	18 21 50.6	-0.2
AXS	**Araxos**	**0.39**	**28**	P	Pg	18 21 46.4	-0.2
AXS				S	Sb	18 21 53.6	+1.1
AXS	**Araxos**	**0.39**	**28**	P	Pg	18 21 46.4	-0.2
AXS				S	Sb	18 21 53.7	+1.1
DRO	**Drossia**	**0.46**	**78**	P	Pg	18 21 46.5	-1.4
DRO				S	Sb	18 21 55.4	+0.8
DRO				AML	AML	18 21 55.4	
	comp=N,129μm,0.2s						
DRO				AML	AML	18 21 55.7	
	comp=E,130μm,0.3s						
DRO	**Drossia**	**0.46**	**78**	P	Pg	18 21 46.5	-1.4
DRO				S	Sb	18 21 55.4	+0.8
AMT	**Artemida-Makis**	**0.55**	**126**	P	Pg	18 21 49.3	-0.3
AMT				S	Sb	18 21 58.7	+1.5
AMT	**Artemida-Makis**	**0.55**	**126**	P	Pg	18 21 49.3	-0.4
AMT				S	Sb	18 21 58.7	+1.5
PDO	**Prodromos**	**0.74**	**2**	P	Pg	18 21 53.2	+0.1
PDO	**Prodromos**	**0.74**	**2**	P	Pg	18 21 53.2	0.0
LAKA	**Lakka**	**0.76**	**60**	P	Pb	18 21 53.1	-0.2
LAKA	**Lakka**	**0.76**	**60**	P	Pb	18 21 53.1	-0.2
KLV	**Kalavryta, Ach**	**0.82**	**76**	P	Pb	18 21 54.2	-0.1
KLV	**Kalavryta, Ach**	**0.82**	**76**	P	Pb	18 21 54.2	-0.1
GUR	**Goura**	**0.95**	**85**	P	Pb	18 21 54.4	-2.2
GUR	**Goura**	**0.95**	**85**	P	Pb	18 21 54.4	-2.2

*ISCJB **20** 18:23:30.8±0.6, 39°.12N±0°.03×29°.43E±0°.05, h9km±4km, Error ellipse: s-maj=6.6km s-min=5.5km az=28.2*
*CSEM **20** 18:23:30.8±0.1, 39°.12N×29°.44E, h6km±1km, MD2.1, Error ellipse: s-maj=3.9km s-min=3.0km az=117.0*
*ISK **20** 18:23:30.7, 39°.15N×29°.42E, h8km, MD2.3*
*DDA **20** 18:23:31.2, 39°.08N×29°.41E, h7km, Md2.1*
ISC 20 18:23:30.9±0.9, **39°.12N**±0°.03×**29°.44E**±0°.04, **h9**km±6km, **n19,** σ0s**42**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.05**	**131**	*i* P	**Pg**	**18 23 32.8**	**0.0**
GDZ				*i* S	**Sg**	**18 23 34.4**	**+0.2**
GDZ	**Gediz**	**0.05**	**131**	P	**Pg**	**18 23 32.8**	**0.0**
GDZ				S	**Sg**	**18 23 34.4**	**+0.2**
TVSB	**Tavsanli**	**0.33**	**4**	*e*PG	**Pg**	**18 23 37.2**	**-0.3**
TVSB				*e*SG	**Sg**	**18 23 41.4**	**-0.4**
SIMA	**Simav-Kutahya**	**0.35**	**264**	*e*PG	**Pb**	**18 23 38.4**	**-1.0**
SIMA				*e*SG	**Sg**	**18 23 43.4**	**+0.8**
SIMA	**Simav-Kutahya**	**0.35**	**264**	*e*Sg	**Sg**	**18 23 43.4**	**+0.8**
DEMI	**Demirci**	**0.56**	**262**	*i* P	**Pg**	**18 23 42.1**	**+0.3**
DEMI				*i* S	**Sg**	**18 23 49.4**	**+0.2**
DEMI	**Demirci**	**0.56**	**262**	P	**Pg**	**18 23 42.1**	**+0.3**
DEMI				S	**Sg**	**18 23 49.4**	**+0.2**
KHAL	**Karahalli**	**0.75**	**177**	*i* P	**Pg**	**18 23 45.7**	**+0.4**
KHAL				*i* S	**Sg**	**18 23 54.8**	**-0.3**
KHAL	**Karahalli**	**0.75**	**177**	P	**Pg**	**18 23 45.7**	**+0.4**
KHAL				S	**Sg**	**18 23 54.8**	**-0.3**
KULA	**Kula-Manisa**	**0.85**	**225**	*e*PG	**Pg**	**18 23 47.2**	**-0.1**
KULA	**Kula-Manisa**	**0.85**	**225**	*e*Pg	**Pg**	**18 23 47.2**	**-0.1**
CAVI	**Cavuskoy**	**1.13**	**16**	*e*PN	**Pn**	**18 23 53.0**	**+0.1**
CAVI	**Cavuskoy**	**1.13**	**16**	*e*Pn	**Pn**	**18 23 53.0**	**+0.1**
YLV	**Yalova**	**1.45**	**358**	*e*PN	**Pb**	**18 23 58.2**	**+0.2**
YLV	**Yalova**	**1.45**	**358**	*e*Pn	**Pb**	**18 23 58.2**	**+0.2**
ARMT	**Armutlu**	**1.51**	**343**	*e*PN	**Pn**	**18 23 57.8**	**-0.3**
ARMT	**Armutlu**	**1.51**	**343**	*e*Pn	**Pn**	**18 23 57.8**	**-0.3**
GULT	**Gulveren**	**1.55**	**32**	*e*PN	**Pn**	**18 23 59.2**	**+0.4**
GULT	**Gulveren**	**1.55**	**32**	*e*Pn	**Pn**	**18 23 59.2**	**+0.4**

*ISCJB **20** 18:33:05.1±0.8, 35°.81N±0°.03×29°.81E±0°.03, h6km±5km, mb3.4/2, Error ellipse: s-maj=4.6km s-min=3.4km az=8.3*
*DDA **20** 18:33:05.6, 35°.83N×29°.70E, h16km, Md3.2*
*ISK **20** 18:33:05.8, 35°.91N×29°.81E, h3km, ML3.0*
*THE **20** 18:33:06.8, 35°.99N×29°.87E, h6km, ML3.2/4, Error ellipse: s-maj=2.5km s-min=0.7km az=218.0*
*CSEM **20** 18:33:07.6±0.3, 35°.93N×29°.77E, h10km, ML3.1, Error ellipse: s-maj=8.1km s-min=4.0km az=140.0*
*ATH **20** 18:33:08.2, 36°.04N×29°.86E, h7km±2km, ML3.1/3, Error ellipse: s-maj=5.3km s-min=1.4km az=31.0*
*IDC **20** 18:33:09.5±3.6, 35°.98N×29°.86E, h35km±38km, mb3.2/2, mb1 3.4/7, mb1mx3.2/38, mbtmp3.4/7, ML3.3/5, Error ellipse: s-maj=24.2km s-min=18.3km az=174.0*
ISC 20 18:33:07.1±1.2, **35°.92N**±0°.04×**29°.80E**±0°.03, **h12**km±7km, **n98,** σ1s**20**/136, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.29**	**323**	P	**Pg**	**18 33 12.7**	**-0.3**
KSL				S	**Sg**	**18 33 17.4**	**+0.5**
KSL	**Kastellorizon**	**0.29**	**323**	P	**Pg**	**18 33 11.9**	**-1.0**
KSL				S	**Sb**	**18 33 19.8**	**+0.8**
KSL				AML	AML	18 33 20.5	
	comp=N,20992μm,0.4s						
KSL				AML	AML	18 33 20.6	
	comp=E,18342μm,0.6s						
AKAS	**Kas**	**0.35**	**334**	*e*PG	**Pg**	**18 33 14.1**	**-0.1**
AKAS				*e*SG	**Sb**	**18 33 19.9**	**-0.9**
AKAS	**Kas**	**0.35**	**334**	*i* P	**Pg**	**18 33 13.6**	**-0.6**
AKAS				*i* S	**Sg**	**18 33 19.5**	**+0.6**
AKAS	**Kas**	**0.35**	**334**	P	**Pg**	**18 33 13.6**	**-0.6**
AKAS	**Kas**	**0.35**	**334**	*e*Pg	**Pg**	**18 33 14.1**	**-0.1**
AKAS				S	**Sg**	**18 33 19.5**	**+0.6**
ELL	**Elmali**	**0.83**	**6**	*e*PG	**Pg**	**18 33 22.4**	**-0.8**
ELL				*e*SG	**Sb**	**18 33 34.9**	**+0.1**
ELL	**Elmali**	**0.83**	**6**	*e*Pg	**Pg**	**18 33 22.4**	**-0.8**
FETY	**Fethiye**	**0.92**	**321**	*e*PG	**Pg**	**18 33 24.3**	**-0.5**
FETY				*e*SG	**Sb**	**18 33 37.9**	**+0.8**
FETY	**Fethiye**	**0.92**	**321**	P	**Pg**	**18 33 24.1**	**-0.7**
FETY				S	**Sb**	**18 33 37.6**	**+0.5**
FETY	**Fethiye**	**0.92**	**321**	P	**Pg**	**18 33 24.3**	**-0.5**
FETY				S	**Sb**	**18 33 37.6**	**+0.5**
KORT	**Korkueli**	**1.17**	**22**	*e*PN	**Pn**	**18 33 29.1**	**-0.3**
KORT	**Korkueli**	**1.17**	**22**	*i* P	**Pn**	**18 33 29.3**	**-0.1**
KORT				*i* S	**Sn**	**18 33 47.8**	**+2.5**
KORT	**Korkueli**	**1.17**	**22**	P	**Pn**	**18 33 29.3**	**-0.1**
KORT				S	**Sn**	**18 33 47.8**	**+2.5**
ANTB	**Antalya**	**1.20**	**35**	*e*PN	**Pn**	**18 33 29.5**	**-0.1**
ANTB	**Antalya**	**1.20**	**35**	*e*Pn	**Pn**	**18 33 29.5**	**-0.1**
GLHS	**Glhisar (BURDU**	**1.26**	**349**	*e*PN	**Pg**	**18 33 31.2**	**-0.1**
GLHS	**Glhisar (BURDU**	**1.26**	**349**	*e*Pn	**Pg**	**18 33 31.2**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.28**	**315**	*e*PN	**Pn**	**18 33 30.9**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.28**	**315**	*i* P	**Pn**	**18 33 30.8**	**0.0**
DALY				*i* S	**Sb**	**18 33 47.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.28**	**315**	*e*Pn	**Pn**	**18 33 31.0**	**+0.1**
DALY				S	**Sb**	**18 33 47.5**	**-0.1**
GOLH	**Golhisar**	**1.33**	**352**	*i* P	**Pg**	**18 33 32.3**	**-0.3**
GOLH				*i* S	**Sn**	**18 33 53.0**	**+3.7**
GOLH	**Golhisar**	**1.33**	**352**	P	**Pg**	**18 33 32.3**	**-0.3**
GOLH				S	**Sn**	**18 33 53.0**	**+3.7**
TURN	**Turunc**	**1.35**	**315**	*i* P	**Pg**	**18 33 34.6**	**+1.6**
TURN				*i* S	**Sg**	**18 33 54.3**	**+3.6**
TURN	**Turunc**	**1.35**	**315**	P	**Pg**	**18 33 34.6**	**+1.6**
ARG	**Arkhangelos**	**1.39**	**283**	P	**Pn**	**18 33 31.8**	**-0.4**
ARG				S	**Sn**	**18 33 50.5**	**0.0**
ARG	**Arkhangelos**	**1.39**	**283**	P	**Pn**	**18 33 32.1**	**-0.1**
ARG				S	**Sn**	**18 33 50.0**	**-0.5**
ARG	**Arkhangelos**	**1.39**	**283**	P	**Pn**	**18 33 32.1**	**-0.1**
ARG				S	**Sn**	**18 33 50.0**	**-0.5**
BCK	**Bucak**	**1.67**	**22**	*e*PN	**Pb**	**18 33 36.7**	**-1.0**
BCK	**Bucak**	**1.67**	**22**	*e*Pn	**Pb**	**18 33 36.7**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.70**	**336**	*i* P	**Pn**	**18 33 37.2**	**+0.6**
TAVA				*i* S	**Sn**	**18 33 54.0**	**-4.4**
TAVA	**DENIZLI_Tavas**	**1.70**	**336**	P	**Pn**	**18 33 37.2**	**+0.6**
TAVA				S	**Sn**	**18 33 54.0**	**-4.4**
BRDR	**BURDUR-Merkez**	**1.79**	**7**	*i* P	**Pb**	**18 33 39.0**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.79**	**7**	P	**Pb**	**18 33 39.0**	**-0.8**
SUTC	**Sutluce-Ispart**	**1.83**	**32**	*e*PN	**Pb**	**18 33 39.4**	**-1.2**
SUTC	**Sutluce-Ispart**	**1.83**	**32**	*e*Pn	**Pb**	**18 33 39.4**	**-1.2**
DNZL	**Cakiroluk**	**1.87**	**341**	*i* P	**Pb**	**18 33 41.4**	**+0.2**
DNZL	**Cakiroluk**	**1.87**	**341**	P	**Pb**	**18 33 41.4**	**+0.2**
DENT	**Denizli**	**1.93**	**342**	*e*PN	**Pn**	**18 33 40.9**	**+1.1**
DENT	**Denizli**	**1.93**	**342**	*e*Pn	**Pn**	**18 33 40.9**	**+1.1**
DAT	**Datca**	**1.96**	**295**	*e*PN	**Pn**	**18 33 40.7**	**+0.4**
DAT	**Datca**	**1.96**	**295**	*i* P	**Pn**	**18 33 40.9**	**+0.6**
DAT	**Datca**	**1.96**	**295**	P	**Pn**	**18 33 40.9**	**+0.6**
ISP	**Isparta**	**1.99**	**17**	*e*PN	**Pn**	**18 33 41.5**	**+0.9**
ISP	**Isparta**	**1.99**	**17**	P	**Pb**	**18 33 42.0**	**-1.2**
ISP				S	**Sg**	**18 34 12.0**	**+1.0**
ISP	**Isparta**	**1.99**	**17**	*e*Pn	**Pn**	**18 33 41.5**	**+0.9**
ISP	**Isparta**	**1.99**	**17**	P	**Pb**	**18 33 42.0**	**-1.2**
MLSB	**Milas**	**2.13**	**311**	*e*PN	**Pn**	**18 33 44.0**	**+1.5**
MLSB	**Milas**	**2.13**	**311**	*e*Pn	**Pn**	**18 33 44.0**	**+1.5**
KARP	**Karpathos**	**2.17**	**261**	*e*PN	**Pn**	**18 33 44.2**	**+1.1**
KARP	**Karpathos**	**2.17**	**261**	P	**Pn**	**18 33 43.2**	**+0.1**
KARP				S	**Sn**	**18 34 10.3**	**+0.3**
KARP	**Karpathos**	**2.17**	**261**	P	**Pn**	**18 33 44.2**	**+1.1**
KARP				S	**Sn**	**18 34 09.9**	**-0.1**
KARP				AML	AML	18 34 13.1	
	comp=E,267μm,0.2s						
KARP				AML	AML	18 34 13.9	
	comp=N,207μm,0.4s						
KARP	**Karpathos**	**2.17**	**261**	P	**Pn**	**18 33 44.2**	**+1.1**
KARP				S	**Sn**	**18 34 10.3**	**+0.3**
BDRM	**Kayabasi**	**2.21**	**302**	*i* P	**Pn**	**18 33 44.6**	**+1.0**
BDRM	**Kayabasi**	**2.21**	**302**	P	**Pn**	**18 33 44.6**	**+1.0**
NIS1	**Nisyros Isl.**	**2.22**	**289**	*e*PN	**Pn**	**18 33 45.2**	**+1.4**
NIS1	**Nisyros Isl.**	**2.22**	**289**	P	**Pn**	**18 33 43.1**	**-0.7**
NIS1				S	**Sn**	**18 34 10.6**	**-0.6**
NIS1	**Nisyros Isl.**	**2.22**	**289**	P	**Pn**	**18 33 44.9**	**+1.1**
NIS1	**Nisyros Isl.**	**2.22**	**289**	P	**Pn**	**18 33 44.9**	**+1.1**
NIS1	**Nisyros Isl.**	**2.22**	**289**	*e*Pn	**Pn**	**18 33 45.2**	**+1.4**
NIS1				S	**Sn**	**18 34 10.6**	**-0.6**
BODT	**Bodrum**	**2.30**	**300**	*e*PN	**Pn**	**18 33 44.9**	**0.0**
BODT	**Bodrum**	**2.30**	**300**	P	**Pn**	**18 33 44.1**	**-0.8**
BODT				S	**Sn**	**18 34 11.8**	**-1.4**
BODT	**Bodrum**	**2.30**	**300**	P	**Pn**	**18 33 44.1**	**-0.8**
BODT	**Bodrum**	**2.30**	**300**	*e*Pn	**Pn**	**18 33 44.9**	**0.0**
BODT				S	**Sn**	**18 34 11.8**	**-1.4**
KULA	**Kula-Manisa**	**2.74**	**341**	P	**Pn**	**18 33 50.1**	**-0.9**
KULA	**Kula-Manisa**	**2.74**	**341**	P	**Pn**	**18 33 50.1**	**-0.9**
ZKR	**Zakros**	**3.03**	**256**	P	**Pn**	**18 33 56.3**	**+1.5**
ZKR				S	**Sn**	**18 34 31.2**	**+0.2**
ZKR				AML	AML	18 34 33.9	
	comp=E,126μm,0.3s						
ZKR				AML	AML	18 34 35.7	
	comp=N,48μm,0.3s						
ZKR	**Zakros**	**3.03**	**256**	P	**Pn**	**18 33 56.3**	**+1.5**
ZKR				S	**Sn**	**18 34 31.2**	**+0.2**
NPS	**Neapolis**	**3.47**	**260**	P	**Pn**	**18 34 01.4**	**+0.5**
NPS				S	**Sn**	**18 34 40.7**	**-1.3**
NPS	**Neapolis**	**3.47**	**260**	P	**Pn**	**18 34 02.4**	**+1.5**
NPS	**Neapolis**	**3.47**	**260**	P	**Pn**	**18 34 01.4**	**+0.5**
NPS				S	**Sn**	**18 34 40.7**	**-1.3**
SANT	**Santorini**	**3.54**	**279**	P	**Pn**	**18 34 02.9**	**+0.9**
SANT	**Santorini**	**3.54**	**279**	P	**Pn**	**18 34 02.8**	**+0.9**
THT1	**Athinios (Pele**	**3.56**	**279**	P	**Pn**	**18 34 00.9**	**-1.3**
THT1	**Athinios (Pele**	**3.56**	**279**	P	**Pn**	**18 34 00.9**	**-1.3**
THR3	**Thira Island,**	**3.59**	**279**	P	**Pn**	**18 34 03.4**	**+0.9**
THR3	**Thira Island,**	**3.59**	**279**	P	**Pn**	**18 34 03.4**	**+0.9**
LAST	**Lasithi**	**3.60**	**259**	P	**Pn**	**18 34 03.6**	**+0.8**
LAST	**Lasithi**	**3.60**	**259**	P	**Pn**	**18 34 04.4**	**+1.6**
LAST	**Lasithi**	**3.60**	**259**	P	**Pn**	**18 34 03.6**	**+0.8**
APE	**Apeiranthos**	**3.62**	**290**	P	**Pn**	**18 34 04.4**	**+1.3**
APE	**Apeiranthos**	**3.62**	**290**	P	**Pn**	**18 34 04.4**	**+1.3**
CHOS	**Chios island**	**3.87**	**311**	P	**Pn**	**18 34 06.5**	**-0.1**
CHOS	**Chios island**	**3.87**	**311**	P	**Pn**	**18 34 06.4**	**-0.1**
IDI	**Anoyia**	**4.05**	**262**	Pn	**Pn**	**18 34 09.6**	**+0.7**
	comp=N,1.9nm,0.3s,baz=91,slow=16,SNR=24						
IDI				Sn	**Sn**	**18 34 56.1**	**-0.1**
	comp=N,2.9nm,0.3s,baz=147,slow=20,SNR=7.0						
IDI	**Anoyia**	**4.05**	**262**	P	**Pn**	**18 34 08.4**	**-0.5**
IDI	**Anoyia**	**4.05**	**262**	P	**Pn**	**18 34 08.7**	**-0.2**
IDI	**Anoyia**	**4.05**	**262**	P	**Pn**	**18 34 08.7**	**-0.2**
SIGR	**SIGRI**	**4.54**	**318**	P	**Pn**	**18 34 14.3**	**-1.3**
SIGR	**SIGRI**	**4.54**	**318**	P	**Pn**	**18 34 14.3**	**-1.3**
GVD	**Gavdhos**	**4.79**	**259**	P	**Pn**	**18 34 19.8**	**+0.8**
GVD	**Gavdhos**	**4.79**	**259**	P	**Pn**	**18 34 19.8**	**+0.8**
BRTR	**Keskin Array B**	**4.87**	**38**	Pn	**Pn**	**18 34 21.4**	**+1.2**
	comp=N,1.3nm,0.3s,baz=228,slow=12,SNR=37						
BRTR				Sn	**Sn**	**18 35 18.9**	**+2.3**
	comp=N,0.8nm,0.3s,baz=211,slow=24,SNR=8.1						
MMAI	**Mount Meron Ar**	**5.46**	**120**	Pn	**Pn**	**18 34 28.2**	**-0.2**
	comp=N,3.5nm,0.3s,baz=300,slow=12,SNR=17						
MMAI				Sn	**Sn**	**18 35 29.8**	**-1.4**
	comp=N,4.7nm,0.3s,baz=85,slow=36,SNR=3.6						
ASF	**Jabal al Asfar**	**6.98**	**120**	Pn	**Pn**	**18 34 49.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=260,slow=8.4,SNR=2.1						
ASF				Sn	**Sn**	**18 36 10.3**	**+1.7**
	comp=N,0.2nm,0.3s,baz=306,slow=6.3,SNR=1.6						
EIL	**Elat**	**7.59**	**144**	Pn	**Pn**	**18 34 57.7**	**+0.1**
	comp=N,0.3nm,0.3s,baz=91,slow=23,SNR=7.5						
EIL				Sn	**Sn**	**18 36 22.8**	**-0.8**
	comp=N,0.5nm,0.3s,baz=248,slow=23,SNR=2.2						
TORD	**Torodi Ar. Bea**	**33.95**	**235**	P	**P**	**18 39 50.7**	**+0.3**
	comp=N,0.5nm,0.8s,baz=36,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**40.19**	**58**	P	**P**	**18 40 41.4**	**-1.8**
	comp=N,0.2nm,0.4s,baz=269,slow=8.8,SNR=5.6						

*SJA **20** 18:46:58.9±0.3, 27°.92S×66°.69W, h176km±1km, ML3.5, MW3.7*
*IDC **20** 18:46:58.5±4.5, 28°.12S×66°.71W, h153km±35km, mb3.4/1, mb1 3.4/3, mb1mx3.1/33, mbtmp3.8/3, Error ellipse: s-maj=60.3km s-min=32.8km az=15.0*
*ISCJB **20** 18:46:59.5±0.6, 27°.96S±0°.04×66°.65W±0°.07, h170km±7km, mb3.4/1, Error ellipse: s-maj=10.4km s-min=4.7km az=28.1*
ISC 20 18:47:00.2±0.9, **27°.95S**±0°.05×**66°.66W**±0°.07, **h166**km±7km, **n24,** σ0s**62**/35, **Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**1.49**	**190**	*e*P	**Pn**	**18 47 31.6**	**+0.4**
ACLC				*e*S	**Sn**	**18 47 55.6**	**+0.5**
VCA	**Vinchina**	**1.57**	**240**	*e*P	**Pn**	**18 47 31.9**	**0.0**
VCA				*e*S	**Sn**	**18 47 56.3**	**0.0**
VCA				IAML		18 47 58.6	
	comp=Z,514nm,0.3s						
AHML	**Horco Molle**	**1.66**	**46**	*e*P	**Pn**	**18 47 32.7**	**0.0**
AHML				*e*S	**Sn**	**18 47 57.6**	**-0.1**
FSA	**Cafayete**	**1.93**	**19**	*e*P	**Pn**	**18 47 35.8**	**0.0**
FSA				*e*S	**Sn**	**18 48 03.0**	**-0.2**
AGUA	**GUANDACOL**	**2.22**	**226**	*e*P	**Pn**	**18 47 39.0**	**0.0**
AGUA				*e*S	**Sn**	**18 48 08.5**	**-0.5**
APLL	**PUNTA DE LOS L**	**2.44**	**177**	*e*P	**Pn**	**18 47 41.7**	**+0.3**
APLL				*e*S	**Sn**	**18 48 13.3**	**-0.2**
AVFE	**Valle Fertil**	**2.79**	**194**	*e*P	**Pn**	**18 47 46.0**	**+0.3**
AVFE				*e*S	**Sn**	**18 48 20.8**	**-0.3**
AVFE				IAML		18 48 23.8	
	comp=Z,58nm,0.4s						
AROD	**Rodeo**	**3.31**	**227**	*e*P	**Pn**	**18 47 52.8**	**+0.5**
AROD				*e*S	**Sn**	**18 48 32.8**	**-0.2**
ACCO	**Cerro Coronel**	**3.36**	**218**	*e*P	**Pn**	**18 47 53.3**	**+0.2**
ACCO				*e*S	**Sn**	**18 48 34.2**	**-0.1**
AMOG	**MOGNA**	**3.38**	**208**	*e*P	**Pn**	**18 47 53.1**	**+0.1**
AMOG				*e*S	**Sn**	**18 48 33.2**	**-1.0**
TCA	**Tanti**	**3.83**	**152**	*e*P	**Pn**	**18 47 59.1**	**+0.4**
AZAP	**Zapla**	**3.98**	**21**	*e*P	**Pn**	**18 48 00.8**	**-0.1**
RTCV	**Cerro Valdivia**	**4.23**	**202**	*e*P	**Pn**	**18 48 03.9**	**0.0**
ACAN	**Cantantal**	**4.33**	**186**	*e*P	**Pn**	**18 48 05.2**	**0.0**
ACAN				*e*S	**Sn**	**18 48 54.6**	**-1.5**
RTLS	**Leoncito**	**4.47**	**210**	*e*P	**Pn**	**18 48 07.7**	**+0.5**
AUSP	**Uspallata**	**4.87**	**208**	*e*P	**Pn**	**18 48 12.8**	**+0.4**
ASAL	**Salagasta**	**4.99**	**202**	*e*P	**Pn**	**18 48 14.0**	**+0.2**
LVC	**Limon Verde**	**5.69**	**339**	P	**Pn**	**18 48 23.1**	**-0.3**
	comp=Z,24nm,0.3s,baz=156,slow=15,SNR=13						
CPUP	**Villa Florida**	**8.47**	**81**	P	**Pn**	**18 48 59.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=249,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.73**	**68**	P	**P**	**18 58 38.8**	**-0.3**
	comp

SPITS				Sn		**Sn**	**19 15 50.3 -1.5**
	baz=47,slow=40,SNR=4.0						
KBS	**Kingsbay**	**7.32**	**17**	Pn		**Pn**	**19 14 30.6 -1.3**
KBS	**Kingsbay**	**7.32**	**17**	*e*P		**Pn**	**19 14 31.0 -0.8**
KBS				*e*			19 15 25.0
KBS	**Kingsbay**	**7.32**	**17**	Pn		**Pn**	**19 14 30.6 -1.3**
KBS	**Kingsbay**	**7.32**	**17**	*i* P		**Pn**	**19 14 32.0 +0.2**
	SNR=71						
KIF	**Kilpisjarvi**	**7.33**	**106**	*e*P		**Pn**	**19 14 33.0 +1.0**
KIF	**Kilpisjarvi**	**7.33**	**106**	*e*P		**Pn**	**19 14 33.0 +1.0**
	SNR=47						
HAMF	**Hammerfest**	**7.42**	**91**	*e*P		**Pn**	**19 14 33.4 +0.2**
HAMF	**Hammerfest**	**7.42**	**91**	*e*P		**Pn**	**19 14 33.4 +0.2**
	SNR=47						
SCO	**Scoresbysund**	**7.50**	**268**	*i* P		**Pn**	**19 14 30.4 -4.0**
SCO				*i*			19 14 33.4
KTK1	**Kautokeino**	**8.05**	**102**	*e*P		**Pn**	**19 14 42.3 +0.4**
KTK1	**Kautokeino**	**8.05**	**102**	*e*P		**Pn**	**19 14 42.3 +0.4**
	SNR=47						
ARA0	**ARCESS Array S**	**8.47**	**96**	Pn		**Pn**	**19 14 48.0 +0.3**
	baz=299,slow=11						
ARA0				Sn		**Sn**	**19 16 19.7 -3.4**
	baz=301,slow=22						
ARA0	**ARCESS Array S**	**8.47**	**96**	Pn		**Pn**	**19 14 48.0 +0.3**
	baz=299,slow=11						
ARA0				Sn		**Sn**	**19 16 19.7 -3.4**
	baz=301,slow=22						
ARA0	**ARCESS Array S**	**8.47**	**96**	*e*Pn		**Pn**	**19 14 48.0 +0.3**
ARA0	**ARCESS Array S**	**8.47**	**96**	*e*Pn		**Pn**	**19 14 48.0 +0.3**
ARA0				*e*Sn		**Sn**	**19 16 20.5 -2.6**
ARCES	**ARCESS Array B**	**8.47**	**96**	Pn		**Pn**	**19 14 48.0 +0.3**
	0.7nm,0.3s,baz=301,slow=12,SNR=18						
ARCES				Sn		**Sn**	**19 16 20.5 -2.6**
	0.2nm,0.3s,baz=329,slow=21,SNR=2.2						
ARCES				LR		LR	19 17 43.7
	comp=Z,146nm,21.2s,baz=266,slow=35						
ARE0	**ARCESS Array S**	**8.47**	**96**	*e*P		**Pn**	**19 14 48.6 +0.9**
ARE0	**ARCESS Array S**	**8.47**	**96**	*e*P		**Pn**	**19 14 48.6 +0.9**
	SNR=47						
HEF	**Hetta**	**8.53**	**105**	*e*P		**Pn**	**19 14 49.2 +0.8**
HEF	**Hetta**	**8.53**	**105**	*e*P		**Pn**	**19 14 49.2 +0.8**
	SNR=47						
KEV	**Kevo**	**8.82**	**93**	*e*P		**Pn**	**19 14 51.6 -0.9**
KEV	**Kevo**	**8.82**	**93**	*e*P		**Pn**	**19 14 51.6 -0.9**
	SNR=47						
SUMG	**Summit**	**11.79**	**291**	*i* P		**Pn**	**19 15 30.7 -2.6**
NB2	**NORSAR Subarra**	**11.87**	**155**	Pn		**Pn**	**19 15 35.3 +1.1**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.87**	**155**	Pn		**Pn**	**19 15 35.3 +1.1**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.87**	**155**	Pn		**Pn**	**19 15 35.3 +1.1**
	baz=336,slow=13,SNR=50						
NB200	**NORSAR Array S**	**11.87**	**155**	*e*Pn		**Pn**	**19 15 35.8 +1.6**
NB200	**NORSAR Array S**	**11.87**	**155**	*e*Pn		**Pn**	**19 15 35.8 +1.6**
NB200				*e*Sn		**Sn**	**19 17 42.1 -4.3**
NOA	**NORSAR Array B**	**11.87**	**155**	Pn		**Pn**	**19 15 35.8 +1.6**
	0.3nm,0.3s,baz=335,slow=13,SNR=3.1						
NOA				Sn		**Sn**	**19 17 42.1 -4.3**
	0.2nm,0.3s,baz=326,slow=22,SNR=2.4						
NOA				LR		LR	19 19 33.0
	comp=Z,189nm,18.6s,baz=340,slow=34						
HFS	**Hagfors**	**13.09**	**151**	Pn		**Pn**	**19 15 50.8 0.0**
	baz=350,slow=12						
HFS	**Hagfors**	**13.09**	**151**	Pn		**Pn**	**19 15 50.9 +0.1**
	0.3nm,0.3s,baz=341,slow=13,SNR=7.3						
HFS				Sn		**Sn**	**19 18 09.4 -6.8**
	0.3nm,0.3s,baz=50,slow=44,SNR=6.2						
HFS				LR		LR	19 20 35.9
	comp=Z,231nm,21.3s,baz=304,slow=36						
HFS	**Hagfors**	**13.09**	**151**	Pn		**Pn**	**19 15 50.8 0.0**
	baz=350,slow=12						
FIA0	**FINESS Array S**	**14.46**	**125**	Pn		**Pn**	**19 16 08.9 -0.5**
	baz=330,slow=12						
FIA0	**FINESS Array S**	**14.46**	**125**	Pn		**Pn**	**19 16 08.9 -0.5**
	baz=330,slow=12						
FIA0	**FINESS Array S**	**14.46**	**125**	*e*Pn		**Pn**	**19 16 10.1 +0.6**
FIA0	**FINESS Array S**	**14.46**	**125**	*e*Pn		**Pn**	**19 16 10.1 +0.6**
FIA0				*e*Sn		**Sn**	**19 18 42.6 -6.9**
FINES	**FINESS Array B**	**14.46**	**125**	Pn		**Pn**	**19 16 10.1 +0.6**
	0.2nm,0.3s,baz=330,slow=11,SNR=6.1						
FINES				Sn		**Sn**	**19 18 42.6 -6.9**
	0.2nm,0.3s,baz=338,slow=15,SNR=3.2						
FINES				LR		LR	19 21 17.9
	comp=Z,133nm,20.2s,baz=356,slow=35						
EKA	**Eskdalemuir Ar**	**16.98**	**188**	Pn		**Pn**	**19 16 44.3 +1.9**
	baz=8.7,slow=11,SNR=3.6						
SFJD	**Kangerlussuaq**	**18.17**	**279**	P		**Pn**	**19 16 57.1 +0.1**
	0.2nm,0.3s,baz=49,slow=20,SNR=2.3						
CLL	**Collm**	**21.61**	**159**	*e*(P)		**P**	**19 17 39.0 +4.2**
	comp=Z,18nm,1.4s						
NKC	**Novy Kostel**	**22.61**	**160**	*e*P		**P**	**19 17 49.5 +3.9**
NKC				*ex*		x	19 18 05.2
OBN	**Obninsk**	**22.71**	**120**	P		**P**	**19 17 49.5 +3.0**
	comp=Z,5.6nm,0.4s,baz=328,slow=19,SNR=2.6						
OBN	**Obninsk**	**22.71**	**120**	*e*P		**P**	**19 17 49.5 +3.0**
	comp=Z,16nm,0.9s						
OBN	**Obninsk**	**22.71**	**120**	*e*P		**P**	**19 17 49.5 +3.0**
	comp=Z,16nm,0.9s						
DPC	**Dobruska-Polom**	**22.95**	**154**	*e*P		**P**	**19 17 54.5 +5.3**
VRAC	**Vranov**	**24.01**	**154**	P		**P**	**19 18 02.3 +2.7**
	comp=Z,3.7nm,0.6s,baz=331,slow=10,SNR=3.1						
GEC2	**GERESS Array S**	**24.11**	**159**	*e*P		**P**	**19 18 02.9 +2.2**
	comp=Z,5.0nm,0.9s						
GEC2	**GERESS Array S**	**24.11**	**159**	*e*P		**P**	**19 18 02.9 +2.2**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**24.11**	**159**	P		**P**	**19 18 02.9 +2.2**
	comp=Z,2.9nm,0.7s,baz=355,slow=8.4,SNR=13						
GERES				LR		LR	19 27 11.2
	comp=Z,89nm,19.5s,baz=345,slow=36						
AKASG	**Malin Array Be**	**24.94**	**134**	P		**P**	**19 18 10.6 +2.5**
	comp=Z,1.5nm,0.6s,baz=343,slow=9.9,SNR=6.4						
AKASG				LR		LR	19 27 35.3
	comp=Z,124nm,19.7s,baz=335,slow=36						
AKBB	**Malin Array Si**	**24.94**	**134**	*e*P		**P**	**19 18 11.6 +3.5**
	comp=Z,21nm,1.6s						
BRTR	**Keskin Array B**	**36.34**	**135**	LR		LR	19 33 15.0
	comp=Z,38nm,19.2s,baz=344,slow=34						
YKA	**Yellowknife Ar**	**38.65**	**318**	LR		LR	19 35 01.5
	comp=Z,6.7nm,18.1s,baz=0.0,slow=35						
ILAR	**Eielson Array**	**41.60**	**340**	P		**P**	**19 20 33.1 +0.6**
	comp=Z,1.2nm,0.8s,baz=5.9,slow=6.2,SNR=12						
ULM	**Lac du Bonnet**	**45.09**	**296**	LR		LR	19 41 00.7
	comp=Z,32nm,19.9s,baz=110,slow=38						
SONM	**Songino Array**	**49.65**	**58**	LR		LR	19 46 15.7
	comp=Z,30nm,18.2s,baz=18,slow=40						
PDAR	**Pinedale Array**	**55.65**	**303**	LR		LR	19 44 53.2
	comp=Z,40nm,18.2s,baz=42,slow=35						
TOA1	**Torodi Ar. Sit**	**58.98**	**179**	*e*P		**P**	**19 22 44.7 +0.2**
	comp=Z,4.4nm,1.3s						
TOA1	**Torodi Ar. Sit**	**58.98**	**179**	*e*P		**P**	**19 22 44.7 +0.2**
	comp=Z,4.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**58.99**	**179**	P		**P**	**19 22 44.7 +0.2**
	comp=Z,1.8nm,0.7s,baz=356,slow=6.7,SNR=16						
KSRS	**Korea Array**	**64.64**	**45**	LR		LR	19 55 34.7
	comp=Z,9.1nm,18.2s,baz=355,slow=40						
TXAR	**Lajitas Array**	**66.67**	**293**	LR		LR	19 54 58.7
	comp=Z,32nm,18.4s,baz=0.0,slow=38						
CMAR	**Chiang Mai Arr**	**75.02**	**77**	P		**P**	**19 24 28.1 +1.5**
	comp=Z,0.6nm,0.7s,baz=320,slow=6.3,SNR=6.7						
ASAR	**Alice Springs**	**124.92**	**55**	PKP		**PKPdf**	**19 31 43.9 -0.8**
	comp=Z,0.3nm,0.8s,baz=326,slow=1.4,SNR=4.5						
MAW	**Mawson**	**145.41**	**143**	PKPbc		**PKPab**	**19 32 22.5 +1.2**
	comp=Z,3.2nm,0.8s,baz=310,slow=6.0,SNR=9.7						
MAW	**Mawson**	**145.41**	**143**	*e*PKIKP		**PKPab**	**19 32 22.7 +1.4**
MAW	**Mawson**	**145.41**	**143**	*e*PKPdf		**PKPab**	**19 32 22.7 +1.4**

RSPR 20 19:35:22.5,19°.48N×68°.82W,h140km±4km,MD4.1/12, 7C-5D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.67**	**130⇑**	*e*P	Pn	19 35 51.2	-2.1
IDE				*e*S	Sn	19 36 16.6	-0.1
AGPR	**Aguadilla, PR**	**1.90**	**122⇑**	*e*P	Pn	19 35 55.7	-0.2
AGPR				*e*S	Sn	19 36 22.1	+0.6
CRPR	**Cabo Rojo, PR**	**2.18**	**132⇓**	*e*P	Pn	19 35 57.7	-1.5
CRPR				*e*S	Sn	19 36 27.4	0.0
AOPR	**Arecibo Observ**	**2.25**	**120⇓**	*e*P	Pn	19 35 59.9	-0.2
AOPR				*e*S	Sn	19 36 29.5	+0.4
GBPR	**Guanica, Bosqu**	**2.37**	**129⇑**	*e*P	Pn	19 36 01.4	-0.1
GBPR				*e*S	Sn	19 36 32.4	+0.9
OBIP	**Obispado Ponce**	**2.53**	**124⇓**	*e*P	Pn	19 36 03.3	-0.3
OBIP				*e*S	Sn	19 36 36.0	+0.8
CELP	**Cerrillos**	**2.54**	**123⇓**	*e*P	Pn	19 36 03.8	+0.1
SJG	**San Juan**	**2.87**	**118⇑**	*e*P	Pn	19 36 08.2	+0.4
SJG				*e*S	Sn	19 36 43.1	+0.4
CBYP	**Canovanas**	**3.05**	**113⇑**	*e*P	Pn	19 36 10.3	+0.1
CBYP				*e*S	Sn	19 36 47.8	+0.8
HUMP	**Col San Antoni**	**3.11**	**115⇑**	*e*P	Pn	19 36 11.3	+0.4
HUMP				*e*S	Sn	19 36 49.1	+0.9
MTP	**Monte Pirata**	**3.38**	**113⇓**	*e*P	Pn	19 36 14.9	+0.5
MTP				*e*S	Sn	19 36 55.3	+0.7
STVI	**Saint Thomas**	**3.82**	**106⇑**	*e*P	Pn	19 36 21.9	+1.7
STVI				*e*S	Sn	19 37 05.9	+1.0

*CSEM **20** 19:50:14.6±0.3,39°.20N×40°.98E,h2km,MD2.5,Error ellipse: s-maj=7.8km s-min=5.0km az=175.0*
*ISK **20** 19:50:14.8,39°.30N×41°.02E,h9km,MD2.6*
*ISCJB **20** 19:50:15.4±0.5,39°.29N±0°.03×41°.02E±0°.03,h5km±5km, Error ellipse: s-maj=4.9km s-min=4.2km az=0.5*
*DDA **20** 19:50:15.3,39°.30N×41°.00E,h7km,Md2.5*
ISC 20 19:50:14.3±1.1,39°.27N±0°.03×40°.98E±0°.02,h4km±10km, n23,σ1°.01/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.33**	**359**	*i* P		**Pg**	**19 50 21.5 +0.7**
ECAT				*i* S		**Sb**	**19 50 27.4 -1.3**
ECAT	**Cat-ERZURUM**	**0.33**	**359**	P		**Pg**	**19 50 21.5 +0.7**
ECAT				S		**Sb**	**19 50 27.4 -1.3**
BNGL	**BINGOL**	**0.35**	**158**	*i* P		**Pg**	**19 50 22.6 +1.5**
BNGL				*i* S		**Sb**	**19 50 28.8 -0.3**
BNGB	**Bing¯¶l**	**0.37**	**220**	*e*PG		**Pg**	**19 50 22.5 +1.1**
BNGB				*e*SG		**Sb**	**19 50 29.7 +0.1**
YEDI	**Yedisu-Bingol**	**0.38**	**296**	*e*PG		**Pg**	**19 50 23.0 +1.4**
YEDI				*e*SG		**Sb**	**19 50 29.2 -0.8**
YEDI	**Yedisu-Bingol**	**0.38**	**296**	*e*Pg		**Pg**	**19 50 23.0 +1.4**
YEDI				*e*Sg		**Sb**	**19 50 29.2 -0.8**
VRTB	**Varto-Mus**	**0.39**	**107**	*e*PG		**Pg**	**19 50 22.5 +0.7**
VRTB	**Varto-Mus**	**0.39**	**107**	*i* P		**Pg**	**19 50 22.4 +0.6**
VRTB				*i* S		**Sg**	**19 50 25.4 -1.5**
VRTB	**Varto-Mus**	**0.39**	**107**	*e*Pg		**Pg**	**19 50 22.5 +0.7**
VRTB				S		**Sg**	**19 50 25.4 -1.5**
BINT	**Bingol**	**0.55**	**224**	*e*Pg		**Pg**	**19 50 22.5 -2.4**
BINT				*e*Sg		**Sg**	**19 50 29.7 -2.4**
EKAR	**Karacoban**	**0.84**	**91**	*i* P		**Pb**	**19 50 32.1 +0.5**
EKAR				*i* S		**Sn**	**19 50 46.1 +0.1**
EKAR	**Karacoban**	**0.84**	**91**	P		**Pb**	**19 50 32.2 +0.5**
HOMI	**Horasan**	**1.05**	**43**	*i* P		**Pg**	**19 50 33.7 -0.7**
HOMI				*i* S		**Sb**	**19 50 49.3 -0.2**
TNCL	**Tunceli-Merkez**	**1.13**	**262**	*i* P		**Pg**	**19 50 36.9 +0.9**
TNCL				*i* S		**Sn**	**19 50 53.5 +0.4**
TNCL	**Tunceli-Merkez**	**1.13**	**262**	P		**Pg**	**19 50 36.9 +0.9**
TNCL				S		**Sn**	**19 50 53.5 +0.4**
SVAN	**Silvan-Diyarba**	**1.13**	**171**	*e*PN		**Pn**	**19 50 37.5 +0.5**
SVAN	**Silvan-Diyarba**	**1.13**	**171**	*e*Pn		**Pn**	**19 50 37.5 +0.5**
PTK	**Pertek**	**1.29**	**253**	*e*PN		**Pn**	**19 50 39.8 +0.4**
PTK	**Pertek**	**1.29**	**253**	*e*Pn		**Pn**	**19 50 39.8 +0.4**
TUTA	**Tutak**	**1.43**	**84**	*i* P		**Pb**	**19 50 41.7 +0.1**
TUTA				*i* S		**Sg**	**19 51 00.3 +0.1**
TUTA	**Tutak**	**1.43**	**84**	P		**Pb**	**19 50 41.7 +0.1**
TUTA				S		**Sg**	**19 51 00.3 +0.1**
AGRB	**Hanur-Agry**	**1.59**	**78**	*e*PN		**Pn**	**19 50 43.5 +0.1**
AGRB	**Hanur-Agry**	**1.59**	**78**	*e*Pn		**Pn**	**19 50 43.5 +0.1**

*IDC **20** 19:51:34.3±1.8,17°.84S×174°.80W,h165km±16km, mb3.6/13,mb1 3.9/14,mb1mx3.7/31,mbtmp4.1/14,Error ellipse: s-maj=22.4km s-min=11.2km az=135.0*
*ISCJB **20** 19:51:40.0±0.7,17°.9S±0°.1×175°.0W±0°.1,h228km, mb3.8/14,Error ellipse: s-maj=22.1km s-min=14.8km az=37.2*
ISC 20 19:51:41.1±0.7,17°.9S±0°.2×174°.9W±0°.2,h228km,n20, σ0°.94/19,mb3.9/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.97**	**37**	P	Pn	19 52 48.3	-7.7
	25nm,0.3s,baz=89,slow=1.7,SNR=24						
AFI				S	S	19 53 41.7	-14
	27nm,0.3s,baz=110,slow=23,SNR=11						
URZ	**Urewera**	**21.44**	**197**	P	**P**	**19 56 11.3**	**-0.2**
	3.6nm,0.4s,baz=298,slow=3.9,SNR=6.0						
CTA	**Charters Tower**	**36.77**	**260**	P	**P**	**19 58 26.7**	**-0.6**
	2.8nm,0.5s,baz=92,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**41.59**	**242**	P	**P**	**19 59 06.5**	**-0.4**
	5.0nm,1.0s,baz=78,slow=7.6,SNR=6.7						
WRA	**Warramunga Arr**	**47.95**	**259**	P	**P**	**19 59 56.5**	**-0.7**
	5.5nm,0.6s,baz=96,slow=7.5,SNR=60						
ASAR	**Alice Springs**	**48.03**	**254**	P	**P**	**19 59 57.5**	**-0.4**
	34nm,0.6s,baz=89,slow=8.8,SNR=425						
FITZ	**Fitzroy Crossi**	**56.35**	**260**	P	**P**	**20 00 58.7**	**-0.3**
	1.4nm,0.5s,baz=79,slow=5.1,SNR=22						
VNDA	**Vanda**	**60.74**	**186**	P	**P**	**20 01 29.2**	**+1.0**
	0.5nm,0.8s,baz=326,slow=8.8,SNR=2.0						
MJAR	**Matsushiro Arr**	**69.98**	**321**	P	**P**	**20 02 27.6**	**-0.4**
	0.9nm,0.5s,baz=117,slow=7.4,SNR=3.1						
PETK	**Petropavlovsk-**	**74.61**	**343**	P	**P**	**20 02 55.2**	**+0.2**
	2.3nm,0.6s,baz=122,slow=11,SNR=3.2						
KSRS	**Korea Array**	**76.99**	**317**	P	**P**	**20 03 10.4**	**+1.7**
	2.6nm,0.9s,baz=136,slow=6.1,SNR=7.8						
TXAR	**Lajitas Array**	**83.17**	**56**	P	**P**	**20 03 42.8**	**+0.7**
	0.5nm,0.9s,baz=243,slow=6.0,SNR=2.9						
PDAR	**Pinedale Array**	**85.07**	**42**	P	**P**	**20 03 50.7**	**-0.8**
	0.2nm,0.5s,baz=230,slow=5.6,SNR=3.2						
ILAR	**Eielson Array**	**85.18**	**12**	P	**P**	**20 03 50.5**	**-0.7**
	0.6nm,0.6s,baz=229,slow=6.0,SNR=13						
CMAR	**Chiang Mai Arr**	**92.08**	**289**	P	**P**	**20 04 27.1**	**+2.1**
	0.8nm,0.9s,baz=104,slow=3.4,SNR=6.3						
MKAR	**Makanchi Array**	**111.57**	**314**	PKiKP	**PKiKP**	**20 09 47.6**	**-0.7**
	0.3nm,0.4s,baz=77,slow=2.5,SNR=2.8						
BVAR	**Borovoye Array**	**118.98**	**321**	PKP	**PKPdf**	**20 10 01.7**	**-0.6**
	0.8nm,0.6s,baz=57,slow=5.5,SNR=5.5						
ARCES	**ARCESS Array B**	**126.89**	**351**	PKP	**PKPdf**	**20 10 17.2**	**+0.1**
	5.7nm,1.1s,baz=309,slow=5.8,SNR=3.7						
BRTR	**Keskin Array B**	**147.14**	**317**	PKPbc	**PKPbc**	**20 10 58.1**	**+0.4**
	1.4nm,0.7s,baz=94,slow=3.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**174.21**	**145**	PKP	**PKPdf**	**20 11 22.9**	**-1.3**
	0.9nm,1.0s,baz=229,slow=4.8,SNR=3.1						

*ISCJB **20** 20:09:20.3±0.6,24°.76N±0°.05×122°.37E±0°.02,h6km±5km, Error ellipse: s-maj=8.4km s-min=3.3km az=7.9*
*JMA **20** 20:09:20.3±0.1,24°.69N×122°.32E,h40km,M1.6*
*TAP **20** 20:09:22.5,24°.77N×122°.24E,h13km±1km,ML2.6,C*
ISC 20 20:09:20.0±1.2,24°.78N±0°.06×122°.39E±0°.03,h18km±5km, n22,σ0°.81/35,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.43**	**280**	*e*P	**Pg**	**20 09 28.6**	**-0.1**
	baz=285						
TWB1	**Santiao Chiao**	**0.44**	**302**	P	**Pg**	**20 09 29.4**	**+0.5**
	baz=315						
TWB1				*i* S	**Sg**	**20 09 34.6**	**-0.3**
	baz=315						
TWC	**Suao**	**0.52**	**252**	P	**Pg**	**20 09 30.6**	**+0.1**
	baz=254						
TWC				S	**Sg**	**20 09 35.8**	**-1.7**
	baz=254						
JYNG	**Yonagunijimaku**	**0.60**	**123**	P	**Pb**	**20 09 32.4**	**+0.6**
JYNG				*e*S	**Sn**	**20 09 41.6**	**-1.2**
YOJ	**Yonaguni jima**	**0.64**	**119**	P	**Pg**	**20 09 33.1**	**+0.4**
YOJ				S	**Sn**	**20 09 43.4**	**-0.5**
TWE	**Neicheng**	**0.66**	**266**	P	**Pb**	**20 09 33.0**	**0.0**
	baz=261						
TWE				*e*S	**Sb**	**20 09 41.8**	**-0.1**
	baz=261						
ENA	**Nanau**	**0.69**	**240**	P	**Pb**	**20 09 33.6**	**+0.1**
	baz=236						
ENA				*e*S	**Sb**	**20 09 41.6**	**-1.0**
	baz=236						
ENTT	**Nioudou**	**0.77**	**260**	*e*P	**Pb**	**20 09 34.9**	**+0.1**
	baz=259						
ENTT				*e*S	**Sb**	**20 09 44.1**	**-0.7**
	baz=259						
NSK	**Sanguang**	**0.95**	**264**	P	**Pb**	**20 09 38.3**	**+0.4**
	baz=265						
NSK				*e*S	**Sb**	**20 09 48.6**	**-1.5**
	baz=265						
NNS	**Nan Shan**	**0.99**	**250**	*e*P	**Pb**	**20 09 39.4**	**+0.8**
	baz=241						
NNS				*e*S	**Sb**	**20 09 51.5**	**+0.1**
	baz=241						
TWD	**Chiawan**	**1.00**	**227**	*e*P	**Pb**	**20 09 39.3**	**+0.5**
	baz=232						
TWD				*e*S	**Sb**	**20 09 51.3**	**-0.4**
	baz=232						
WHF	**Hehuan Shan**	**1.21**	**239**	*e*P	**Pb**	**20 09 43.3**	**+0.8**
	baz=239						
WHF				*e*S	**Sb**	**20 09 57.3**	**-0.6**
	baz=239						
TWT	**Tachien**	**1.23**	**245**	*e*P	**Pg**	**20 09 44.2**	**+0.5**
	baz=246						
TWT				S	**Sb**	**20 09 59.1**	**+0.9**
	baz=246						
NSTT	**Nanjuang**	**1.27**	**264**	*e*P	**Pg**	**20 09 46.3**	**+1.7**
	baz=266						
NSTT				*e*S	**Sb**	**20 10 00.8**	**+1.2**
	baz=266						
IRIF	**Iriomote-Funau**	**1.29**	**110**	P	**Pn**	**20 09 43.1**	**0.0**
JKRS	**Kuro-shima**	**1.56**	**110**	P	**Pn**	**20 09 47.0**	**+0.1**
SMLT	**Sun Moon Lake**	**1.63**	**237**	*e*P	**Pb**	**20 09 50.5**	**+1.0**
	baz=238						
JIJ	**Ishigaki jima**	**1.64**	**104**	P	**Pn**	**20 09 47.9**	**-0.1**
TYC	**Yuchr**	**1.65**	**239**	*e*P	**Pb**	**20 09 50.7**	**+0.9**
	baz=239						
ALS	**Alishan**	**1.92**	**229**	*e*P	**Pg**	**20 09 57.9**	**+1.0**
	baz=215						
CHN5	**Tsauling**	**1.96**	**234**	*e*P	**Pb**	**20 09 54.6**	**-0.5**
	baz=235						
CHN4	**Tsaushan**	**2.17**	**230**	*e*P	**Pb**	**20 09 59.7**	**+0.9**
	baz=232						

*ISCJB **20** 20:09:34.8±0.4,50°.06N±0°.03×18°.38E±0°.03,h0km,Error ellipse: s-maj=4.3km s-min=2.3km az=18.2*
*CSEM **20** 20:09:35.8±0.3,50°.04N×18°.42E,h2km,ML2.9/11,Error ellipse: s-maj=6.1km s-min=3.5km az=17.0*
*IPEC **20** 20:09:36.0±0.2,50°.04N×18°.49E,h0km,ML2.1/3,Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*WAR **20** 20:09:36.0,50°.04N×18°.46E,h1km,Mw2.5*
*PRU **20** 20:09:37.3,50°.03N×18°.39E,h0km*
ISC 20 20:09:35.8±0.7,50°.02N±0°.03×18°.44E±0°.02,h0km,n41, σ0°.90/79,4C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**293**	*e*Pg	**Pg**	**20 09 40.5**	**+1.4**
RAC				*e*Sg	**Sg**	**20 09 43.8**	**+2.5**
OKC	**Ostrava-Krasne**	**0.26**	**227⇑**	*i*PG	**Pb**	**20 09 42.4**	**-1.0**
OKC				*e*SG	**Sb**	**20 09 47.1**	**-1.3**
	comp=Z,114nm,0.5s						
OKC	**Ostrava-Krasne**	**0.26**	**227**	Pg	**Pb**	**20 09 42.4**	**-1.0**
OKC				Sg	**Sb**	**20 09 47.1**	**-1.3**
	114nm,0.5s						
MORC	**Moravsky Berou**	**0.63**	**248**	*e*Pg	**Pg**	**20 09 48.5**	**+0.7**
MORC				*e*Sg	**Sg**	**20 09 56.9**	**+1.0**
	37nm,0.4s						
OJC	**Ojcow**	**0.90**	**76**	*e*Pg	**Pg**	**20 09 52.7**	**-0.3**
OJC				*e*Sg	**Sb**	**20 10 05.7**	**-1.1**
OJC	**Ojcow**	**0.90**	**76**	*e*Pg	**Pg**	**20 09 52.7**	**-0.3**
OJC				*e*Sg	**Sb**	**20 10 05.7**	**-1.1**
OJC	**Ojcow**	**0.90**	**76**	*e*Pg	**Pg**	**20 09 52.7**	**-0.3**
OJC				*e*Sg	**Sb**	**20 10 05.7**	**-1.1**
KRLC	**Kraliky**	**1.07**	**274**	*e*PG	**Pg**	**20 09 55.9**	**-0.4**
KRLC				*e*SG	**Sg**	**20 10 10.2**	**0.0**
KRLC	**Kraliky**	**1.07**	**274**	Pg	**Pg**	**20 09 55.9**	**-0.4**
KRLC				Sg	**Sg**	**20 10 10.2**	**0.0**
LANS	**Liptovska Anna**	**1.10**	**142**	*e*Pg	**Pb**	**20 09 57.7**	**0.0**
LANS				*e*Sg	**Sn**	**20 10 14.3**	**0.0**
LANS	**Liptovska Anna**	**1.10**	**142**	*e*PG	**Pb**	**20 09 57.7**	**0.0**
LANS				*e*SG	**Sn**	**20 10 14.3**	**0.0**
NIE	**Niedzica**	**1.35**	**116**	*e*Pg	**Pb**	**20 10 01.6**	**-0.3**
NIE				*e*Sg	**Sn**	**20 10 21.2**	**+0.6**
NIE	**Niedzica**	**1.35**	**116**	*e*Pg	**Pb**	**20 10 01.6**	**-0.3**
NIE				*e*Sg	**Sn**	**20 10 21.2**	**+0.6**
NIE	**Niedzica**	**1.35**	**116**	*e*Pg	**Pb**	**20 10 01.6**	**-0.3**
NIE				*e*Sg	**Sn**	**20 10 21.2**	**+0.6**
VRAC	**Vran

2.1nm,0.3s
AAK ⇑Sn **Sb** **20 11 44.5 +0.2**
14nm,0.7s
KK31 Karatay Array 2.56 327 ⇓Pg **Pg** **20 11 22.4 -2.1**
1.7nm,0.4s,baz=130,slow=14,SNR=38
KK31 ⇑Lg Lg 20 11 55.2
5.3nm,0.4s,baz=139,slow=28,SNR=8.2
TKM2 Tokmak 2 3.05 49 ⇑Pg **Pb** **20 11 29.5 -0.3**
2.2nm,0.7s
TKM2 ⇓Lg Lg 20 12 08.9
10nm,0.7s
KST Kastek 3.34 51 *e*P **Pb** **20 11 35.3 +0.7**
1.0nm,0.2s
KST *e*S **Sb** **20 12 17.1 +1.7**
5.7nm,0.5s
DGS Degeres 3.35 47 *e*P **Pb** **20 11 36.1 +1.2**
2.1nm,0.6s
DGS *e*S **Sb** **20 12 19.4 +3.6**
7.8nm,0.5s
DZET Dzherino 3.53 233 ⇓Pg **Pb** **20 11 36.8 -1.1**
2.3nm,0.6s
DZET ⇓Lg Lg 20 12 23.5
8.1nm,0.4s
IZV Izvestkoviy 3.73 55 *e*P **Pb** **20 11 43.9 +2.6**
5.3nm,0.6s
IZV *e*S **Sg** **20 12 32.4 -2.5**
4.4nm,0.7s
TNSS Tian-Shan 3.94 57 *e*P **Pb** **20 11 48.0 +3.0**
1.6nm,0.8s
TNSS *e*S **Sg** **20 12 39.1 -2.6**
4.7nm,0.9s
KUU Kurty 4.10 43 *e*P **Pb** **20 11 47.7 +0.2**
0.9nm,0.3s
KUU *e*S **Sb** **20 12 38.5 +1.4**
4.1nm,0.5s
ARXS Arharly 5.12 49 *e*P **Pb** **20 12 08.5 +3.5**
2.3nm,0.7s
ARXS *e*S **Sg** **20 13 14.5 -5.2**
4.9nm,0.5s

*IDC **20** 20:19:37.0±4.6, 36°.42S×178°.19E, h148km±34km, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.9/4, Error ellipse: s-maj=57.5km s-min=32.2km az=37.0*
*ISCJB **20** 20:19:39.9±0.8, 36°.86S±0°.08×178°.0E±0°.1, h192km±6km, mb3.5/3, Error ellipse: s-maj=20.6km s-min=10.6km az=28.1*
*WEL **20** 20:19:41.2±0.8, 36°.57S×177°.87E, h154km±6km, ML4.1/37, Error ellipse: s-maj=8.1km s-min=6.8km az=0.0*
*NEIC **20** 20:19:41.2±0.0, 36°.60S×177°.87E, h157km, MG4.1(WEL), After WEL.*

ISC 20 20:19:40.6±1.1, **36°.72S**±0°.10×**177°.9E**±0°.1, **h179**km±8km, **n62**, σ1§**35/70**, **mb3.6**/3, **9C-5D**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**160**	*e*Pn	**Pn**	**20 20 06.8**	**-0.7**
MXZ				*e*Sn	**Sn**	**20 20 26.6**	**-1.8**
MXZ				*e*		20 20 32.0	
MXZ	**Matakaoa Point**	**0.90**	**160**	PN	**Pn**	**20 20 06.8**	**-0.7**
MXZ				SN	**Sn**	**20 20 26.6**	**-1.8**
MXZ				AML	AML	20 20 32.0	
HAZ	**Te Kaha**	**1.04**	**186**	⇑PN	**Pn**	**20 20 07.8**	**-0.6**
HAZ				SN	**Sn**	**20 20 28.8**	**-1.4**
HAZ				AML	AML	20 20 30.6	
HAZ				AML	AML	20 20 30.8	
HAZ				AML	AML	20 20 30.9	
WMGZ	**Waiomatatini S**	**1.17**	**161**	⇑PN	**Pn**	**20 20 09.3**	**-0.1**
WMGZ				AML	AML	20 20 32.6	
WMGZ				AML	AML	20 20 33.1	
PKGZ	**Pakihiroa**	**1.18**	**174**	PN	**Pn**	**20 20 09.3**	**-0.3**
PKGZ				AML	AML	20 20 33.9	
PKGZ				AML	AML	20 20 34.0	
RUGZ	**Raukumara Rang**	**1.26**	**189**	PN	**Pn**	**20 20 09.5**	**-0.9**
PUZ	**Puketiti**	**1.38**	**169**	⇓PN	**Pn**	**20 20 11.1**	**-0.2**
PUZ				SN	**Sn**	**20 20 33.9**	**-1.4**
PUZ				AML	AML	20 20 37.6	
TWGZ	**Tauwhareparae**	**1.46**	**178**	⇓PN	**Pn**	**20 20 12.9**	**+0.8**
TWGZ				AML	AML	20 20 39.3	
TWGZ				AML	AML	20 20 39.6	
OPRZ	**Ohinepanea**	**1.57**	**224**	PN	**Pn**	**20 20 13.6**	**+0.6**
MWZ	**Matawai**	**1.64**	**191**	*e*Sn	**Sn**	**20 20 40.3**	**+0.4**
MWZ	**Matawai**	**1.64**	**191**	⇑PN	**Pn**	**20 20 13.8**	**-0.1**
MWZ				AML	AML	20 20 40.3	
MWZ				AML	AML	20 20 41.4	
URZ	**Urewera**	**1.67**	**203**	P	**Pn**	**20 20 13.8**	**-0.3**
44nm,0.3s,baz=271,slow=4.3,SNR=289							
URZ				S	**Sn**	**20 20 39.5**	**-0.7**
18nm,0.3s,baz=270,slow=3.7,SNR=5.7							
URZ	**Urewera**	**1.67**	**203**	*e*Sn	**Sn**	**20 20 40.5**	**+0.3**
URZ	**Urewera**	**1.67**	**203**	⇑PN	**Pn**	**20 20 13.9**	**-0.1**
URZ				AML	AML	20 20 40.5	
URZ				AML	AML	20 20 40.5	
TKGZ	**Te Karaka**	**1.72**	**182**	⇑PN	**Pn**	**20 20 15.0**	**+0.4**
TKGZ				AML	AML	20 20 42.7	
TKGZ				AML	AML	20 20 43.2	
CNGZ	**Carnagh Statio**	**1.78**	**173**	⇑PN	**Pn**	**20 20 16.0**	**+0.8**
CNGZ				AML	AML	20 20 45.5	
CNGZ				AML	AML	20 20 45.6	
RAGZ	**Rawiri**	**1.82**	**193**	⇑PN	**Pn**	**20 20 16.3**	**+0.6**
RAGZ				AML	AML	20 20 44.8	
RAGZ				AML	AML	20 20 45.6	
MUGZ	**Murupara**	**1.98**	**207**	PN	**Pn**	**20 20 17.6**	**+0.2**
RIGZ	**Rimuhau**	**1.99**	**184**	⇑PN	**Pn**	**20 20 17.7**	**+0.2**
RIGZ				AML	AML	20 20 46.9	
RIGZ				AML	AML	20 20 50.4	
RTZ	**Ruatahuna**	**2.04**	**201**	⇓PN	**Pn**	**20 20 17.9**	**-0.1**
ALRZ	**Allen Road**	**2.23**	**214**	PN	**Pn**	**20 20 20.6**	**+0.5**
KNZ	**Kokohu**	**2.31**	**185**	*e*Sn	**Sn**	**20 20 56.5**	**+4.0**
KNZ	**Kokohu**	**2.31**	**185**	⇑PN	**Pn**	**20 20 20.8**	**-0.1**
KNZ				AML	AML	20 20 56.5	
KNZ				AML	AML	20 20 57.9	
WHHZ	**Waihua**	**2.42**	**193**	PN	**Pn**	**20 20 22.5**	**+0.3**
WHHZ				AML	AML	20 20 57.6	
WHHZ				AML	AML	20 20 57.9	
MRHZ	**Matea Rd**	**2.43**	**209**	PN	**Pn**	**20 20 22.2**	**-0.2**
MRHZ				AML	AML	20 20 56.3	
MRHZ				AML	AML	20 20 59.5	
MHGZ	**Mahia Peninsul**	**2.43**	**180**	⇓PN	**Pn**	**20 20 22.7**	**+0.3**
MHGZ				AML	AML	20 21 01.5	
MHGZ				AML	AML	20 21 01.8	
NMHZ	**Naumai**	**2.54**	**200**	PN	**Pn**	**20 20 24.2**	**+0.5**
NMHZ				AML	AML	20 20 59.9	
NMHZ				AML	AML	20 21 01.2	
ARHZ	**Aropaoanui**	**2.65**	**196**	⇓PN	**Pn**	**20 20 25.1**	**+0.2**
ARHZ				AML	AML	20 21 01.2	
ARHZ				AML	AML	20 21 03.5	
BKZ	**Black Stump Fm**	**2.69**	**204**	*e*Pn	**Pn**	**20 20 25.6**	**+0.1**
BKZ				*e*Sn	**Sn**	**20 21 02.2**	**+1.6**
BKZ	**Black Stump Fm**	**2.69**	**204**	PN	**Pn**	**20 20 25.9**	**+0.4**
BKZ				AML	AML	20 21 02.2	
BKZ				AML	AML	20 21 02.6	
CKHZ	**Cape Kidnapper**	**3.01**	**193**	PN	**Pn**	**20 20 28.9**	**-0.4**
CKHZ				AML	AML	20 21 09.4	
CKHZ				AML	AML	20 21 10.5	
BHHZ	**Black Hill Sta**	**3.13**	**207**	PN	**Pn**	**20 20 30.2**	**-0.6**
BHHZ				AML	AML	20 21 19.0	
KRHZ	**Kereru**	**3.17**	**202**	PN	**Pn**	**20 20 31.0**	**-0.3**
KRHZ				AML	AML	20 21 11.8	
KRHZ				AML	AML	20 21 12.9	
KAHZ	**Kahuranaki**	**3.18**	**195**	PN	**Pn**	**20 20 31.1**	**-0.3**
KAHZ				AML	AML	20 21 13.0	
KAHZ				AML	AML	20 21 15.3	
PXZ	**Pawanui**	**3.41**	**194**	*e*Pn	**Pn**	**20 20 33.3**	**-0.9**
PXZ				*e*Sn	**Sn**	**20 21 18.1**	**+1.9**
PXZ	**Pawanui**	**3.41**	**194**	PN	**Pn**	**20 20 33.3**	**-0.9**
PXZ				AML	AML	20 21 18.1	
PXZ				AML	AML	20 21 18.1	
PXZ				AML	AML	20 21 18.1	
PXZ				AML	AML	20 21 18.1	
PNHZ	**Pukenui**	**3.47**	**203**	PN	**Pn**	**20 20 34.1**	**-0.8**
PNHZ				AML	AML	20 21 18.1	
PNHZ				AML	AML	20 21 18.7	
WPHZ	**Waipukurau**	**3.54**	**199**	PN	**Pn**	**20 20 34.1**	**-1.7**
TSZ	**Takapari Road**	**3.67**	**204**	PN	**Pn**	**20 20 35.9**	**-1.6**
PRHZ	**Porangahau**	**3.69**	**196**	PN	**Pn**	**20 20 36.8**	**-0.8**
PRHZ				AML	AML	20 21 23.0	
PRHZ				AML	AML	20 21 24.7	
DVHZ	**Dannevirke**	**3.83**	**201**	PN	**Pn**	**20 20 38.0**	**-1.5**
DVHZ				AML	AML	20 21 25.2	
DVHZ				AML	AML	20 21 27.7	
ANWZ	**Angora Road**	**3.91**	**196**	PN	**Pn**	**20 20 39.1**	**-1.3**
ANWZ				AML	AML	20 21 28.9	
ANWZ				AML	AML	20 21 29.7	
PRWZ	**Pori Road**	**4.12**	**201**	PN	**Pn**	**20 20 42.8**	**-0.4**
PRWZ				AML	AML	20 21 34.4	
PRWZ				AML	AML	20 21 34.6	
BFZ	**Birch Farm**	**4.17**	**198**	*e*Pn	**Pn**	**20 20 42.3**	**-1.5**
BFZ				*e*Sn	**Sn**	**20 21 32.4**	**-1.0**
BFZ				*e*Sn	Sn	20 21 34.7	+1.3
BFZ	**Birch Farm**	**4.17**	**198**	PN	**Pn**	**20 20 42.4**	**-1.4**
BFZ				AML	AML	20 21 34.7	
MRZ	**Mangatainoka R**	**4.34**	**204**	PN	**Pn**	**20 20 43.7**	**-2.3**
MRZ				AML	AML	20 21 35.2	
MRZ				AML	AML	20 21 36.0	
TIWZ	**Tintock**	**4.35**	**201**	PN	**Pn**	**20 20 45.0**	**-1.2**
TIWZ				AML	AML	20 21 38.2	
TIWZ				AML	AML	20 21 38.4	
HOWZ	**Holdsworth Sta**	**4.58**	**204**	PN	**Pn**	**20 20 46.7**	**-2.3**
HOWZ				AML	AML	20 21 41.4	
HOWZ				AML	AML	20 21 42.0	
OGWZ	**Otaki Gorge**	**4.62**	**207**	PN	**Pn**	**20 20 47.7**	**-1.9**
OGWZ				AML	AML	20 21 42.6	
OGWZ				AML	AML	20 21 42.8	
TMWZ	**Te Maipa**	**4.66**	**199**	PN	**Pn**	**20 20 48.1**	**-2.0**
TMWZ				AML	AML	20 21 44.2	
TMWZ				AML	AML	20 21 44.7	
KIW	**Kapiti Island**	**4.76**	**209**	PN	**Pn**	**20 20 49.6**	**-1.7**
MTW	**Mount Morrison**	**4.82**	**202**	PN	**Pn**	**20 20 49.6**	**-2.5**
TRWZ	**Traveller**	**4.99**	**200**	PN	**Pn**	**20 20 51.9**	**-2.4**
MSWZ	**Moikau Station**	**5.13**	**203**	PN	**Pn**	**20 20 53.8**	**-2.4**
PLWZ	**Palliser**	**5.27**	**202**	PN	**Pn**	**20 20 55.1**	**-3.0**
PLWZ				AML	AML	20 21 57.0	
TCW	**Tory Channel**	**5.31**	**211**	*e*Sn	**Sn**	**20 21 59.1**	**-0.7**
TCW	**Tory Channel**	**5.31**	**211**	PN	**Pn**	**20 20 55.7**	**-2.8**
TCW				AML	AML	20 21 59.1	
ASAR	**Alice Springs**	**39.88**	**276**	P	**P**	**20 26 58.1**	**+1.1**
0.9nm,0.5s,baz=119,slow=8.0,SNR=19							
WRA	**Warramunga Arr**	**41.46**	**282**	P	**P**	**20 27 10.5**	**+0.5**
0.8nm,0.4s,baz=123,slow=7.5,SNR=18							
CMAR	**Chiang Mai Arr**	**92.38**	**291**	P	**P**	**20 32 31.5**	**+0.5**
0.3nm,0.7s,baz=132,slow=5.2,SNR=2.9							
FINES	**FINESS Array B**	**149.60**	**333**	PKPbc	**PKPbc**	**20 39 06.7**	**-1.2**
4.7nm,1.0s,baz=66,slow=1.7,SNR=8.1							
TORD	**Torodi Ar. Bea**	**156.29**	**189**	PKPab	**PKPab**	**20 39 44.4**	**+1.4**
0.3nm,0.6s,baz=157,slow=3.2,SNR=3.7							

*IDC **20** 20:21:43.1±1.9, 23°.55N×124°.08E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/44, mbtmp3.8/6, MS2.5/1, Ms1 2.7/1, ms1mx2.3/44, Error ellipse: s-maj=152.7km s-min=19.7km az=65.0*
*ISCJB **20** 20:21:45.4±1.0, 23°.46N±0°.04×124°.15E±0°.04, h29km±6km, mb3.9/8, MS2.4/1, Error ellipse: s-maj=7.4km s-min=4.8km az=140.6*
*JMA **20** 20:21:45.6±0.3, 23°.47N×124°.17E, h25km±4km, M3.1*
*NEIC **20** 20:21:48.6±2.5, 23°.48N×124°.01E, h40km±21km, mb4.5/2, Error ellipse: s-maj=30.1km s-min=11.5km az=77.0*

ISC 20 20:21:45.0±2.1, **23°.51N**±0°.06×**124°.16E**±0°.04, **h15**km±13km, **n33**, σ0§**60**/43, **mb3.8**/8, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.63**	**329**	P	**Pb**	**20 21 58.3**	**+0.6**
HATJ				S	**Sb**	**20 22 07.0**	**+0.6**
JKRS	**Kuro-shima**	**0.73**	**349**	P	**Pn**	**20 22 00.6**	**-0.3**
JKRS				S	**Sn**	**20 22 11.5**	**-0.3**
JIJ	**Ishigaki jima**	**0.85**	**359**	P	**Pn**	**20 22 02.2**	**-0.2**
JIJ				S	**Sg**	**20 22 13.0**	**+0.4**
IRIF	**Iriomote-Funau**	**0.91**	**335**	P	**Pn**	**20 22 03.4**	**+0.2**
IRIF				S	**Sn**	**20 22 15.9**	**-0.2**
JISG	**Ishigakijimahi**	**1.08**	**7**	P	**Pb**	**20 22 05.4**	**0.0**
JISG				S	**Sn**	**20 22 20.4**	**+0.1**
JTJ	**Tarama**	**1.23**	**24**	P	**Pn**	**20 22 07.7**	**0.0**
JTJ				*e*S	**Sg**	**20 22 24.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.41**	**312**	P	**Pb**	**20 22 10.9**	**-0.2**
YOJ				*e*S	**Sb**	**20 22 28.6**	**-0.3**
YOJ	**Yonaguni jima**	**1.41**	**312**	*e*Pn	**Pb**	**20 22 10.8**	**-0.2**
JYNG	**Yonaguni jimaku**	**1.45**	**310**	P	**Pb**	**20 22 11.4**	**-0.3**
JYNG				S	**Sn**	**20 22 28.8**	**-0.7**
JIRB	**Irabujima**	**1.60**	**35**	P	**Pn**	**20 22 12.7**	**-0.1**
JIRB				S	**Sn**	**20 22 32.8**	**-0.5**
JMJ	**Miyako jima 2**	**1.66**	**38**	S	**Sn**	**20 22 35.1**	**+0.4**
JOGS	**Gusukube**	**1.69**	**42**	P	**Pn**	**20 22 13.8**	**-0.2**
JOGS				S	**Sb**	**20 22 36.3**	**-0.5**
JIKM	**Ikemajima**	**1.72**	**35**	P	**Pn**	**20 22 14.3**	**-0.1**
JIKM				S	**Sn**	**20 22 36.0**	**-0.2**
NACB	**Ninganchiao**	**2.44**	**286**	*e*Pn	**Pn**	**20 22 23.8**	**-0.5**
YULB	**Yu-li**	**2.63**	**268**	*e*Pn	**Pn**	**20 22 26.2**	**-0.7**
YHNB	**Yeheng**	**2.79**	**295**	*e*Pn	**Pn**	**20 22 30.4**	**+1.1**
TWG	**Pinlang**	**2.92**	**257**	*e*Pn	**Pn**	**20 22 30.2**	**-0.7**
SSLB	**Suanglung**	**2.95**	**276**	*e*Pn	**Pn**	**20 22 30.9**	**-0.5**
TPUB	**Ta-pu**	**3.25**	**267**	*e*Pn	**Pn**	**20 22 36.2**	**+0.7**
JKE	**Kume jima 2**	**3.68**	**40**	P	**Pn**	**20 22 40.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**24.06**	**263**	LR	LR	20 37 24.1	
comp=Z,11nm,18.6s,baz=160,slow=39							
SONA0	**Songino Array**	**28.10**	**334**	*e*P	**P**	**20 27 35.2**	**-1.1**
SONM	**Songino Array**	**28.10**	**334**	P	**P**	**20 27 35.2**	**-1.1**
0.3nm,0.5s,baz=144,slow=10.0,SNR=3.6							
MK32	**Makanchi Array**	**40.72**	**315**	*e*P	**P**	**20 29 24.6**	**-0.6**
MKAR	**Makanchi Array**	**40.72**	**315**	P	**P**	**20 29 24.6**	**-0.6**
0.4nm,0.3s,baz=96,slow=9.0,SNR=7.0							
WRAB	**Tennant Creek**	**44.31**	**166**	*e*P	**P**	**20 29 55.2**	**+0.6**
3.5nm,1.1s							
WR1	**Warramunga Arr**	**44.32**	**166**	*e*P	**P**	**20 29 54.6**	**0.0**
49nm,2.0s							
WRA	**Warramunga Arr**	**44.32**	**166**	P	**P**	**20 29 54.6**	**0.0**
0.3nm,0.6s,baz=347,slow=8.8,SNR=3.5							
KURK	**Kurchatov**	**44.36**	**320**	*e*P	**P**	**20 29 54.6**	**0.0**
KURBB	**Kurchatov Arra**	**44.38**	**319**	P	**P**	**20 29 54.6**	**-0.2**
1.6nm,0.2s,baz=98,slow=6.6,SNR=3.8							
ASAR	**Alice Springs**	**47.84**	**168**	P	**P**	**20 30 23.7**	**+1.4**
0.3nm,0.7s,baz=357,slow=8.4,SNR=6.1							
FIA0	**FINESS Array S**	**73.39**	**330**	*e*P	**P**	**20 33 17.3**	**+1.1**
FINES	**FINESS Array B**	**73.39**	**330**	P	**P**	**20 33 17.3**	**+1.1**
4.2nm,1.0s,baz=64,slow=3.2,SNR=3.4							

*ISN **20** 20:26:54.6±1.2, 27°.84N×54°.75E, h10km±194km, ML3.7*
*IDC **20** 20:26:57.8±0.8, 28°.07N×54°.31E, h0km, mb3.7/16, mb1 3.9/19, mb1mx3.7/42, mbtmp3.7/19, ML3.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/49, Error ellipse: s-maj=20.7km s-min=14.1km az=20.0*
*ISCJB **20** 20:26:60.0±0.3, 28°.13N±0°.04×54°.50E±0°.04, h17km, mb3.6/15, Error ellipse: s-maj=6.4km s-min=3.5km az=136.3*
*THR **20** 20:26:59.2±0.3, 28°.13N×54°.59E, h15km, ML3.9*
*OMAN **20** 20:27:01.2, 27°.94N×54°.37E, h14km*
*TEH **20** 20:27:01.2, 27°.94N×54°.37E, h14km, ML3.7*
*CSEM **20** 20:27:02.2±0.3, 28°.15N×54°.39E, h10km, ML3.8, Error ellipse: s-maj=9.1km s-min=5.5km az=54.0*

ISC 20 20:27:00.9±0.5, **28°.11N**±0°.04×**54°.48E**±0°.04, **h17**km, **n67**, σ1§**95**/78, **mb3.6**/15, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.33**	**278**	*e*Pg	**Pb**	**20 27 25.6**	**0.0**
GHIR				*e*Sg	**Sg**	**20 27 44.7**	**+0.7**
GHIR				AML	AML	20 27 49.0	
comp=E,2μm,0.5s							
GHIR	**Ghir-Karzin**	**1.33**	**278**	*e*Pn	**Pb**	**20 27 25.5**	**0.0**
GHIR				*e*Sg	**Sg**	**20 27 44.2**	**+0.2**
ISRV	**Sarvestan**	**1.75**	**317**	*e*Pn	**Pb**	**20 27 32.3**	**-0.4**
ISRV				*e*Sg	**Sg**	**20 27 57.7**	**+0.3**
ISRV				*e*AMB	AMB	20 28 06.4	
comp=Z,20μm,0.3s							
ISRV	**Sarvestan**	**1.75**	**317**	*e*Pn	**Pb**	**20 27 32.3**	**-0.4**
ISRV				*e*Sg	**Sg**	**20 27 57.7**	**+0.3**
SHME	**Shamm**	**2.53**	**144**	Pb	**Pb**	**20 27 45.2**	**-0.6**
BANOM	**Banah**	**2.71**	**143**	Pb	**Pb**	**20 27 47.7**	**-1.3**
SNR=7.2							
BANOM	**Banah**	**2.71**	**143**	Pb	**Pb**	**20 27 47.7**	**-1.3**
SNR=7.2							
BANOM	**Banah**	**2.71**	**143**	P	**Pb**	**20 27 47.7**	**-1.3**
SNR=7.2							
AHBU	**AHRAM**	**2.91**	**286**	*e*Sg	**Sg**	**20 28 32.3**	**-2.0**
MSFE	**Esma-Masafi**	**3.12**	**151**	P	**Pn**	**20 27 53.1**	**+3.7**
SNR=8.6							
IMEH	**Mehriz**	**3.27**	**2**	*e*Pn	**Pn**	**20 27 54.4**	**+2.7**
IMEH				*e*AMB	AMB	20 28 49.7	
comp=Z,892nm,0.3s							
IMEH	**Mehriz**	**3.27**	**2**	*e*Pn	**Pn**	**20 27 54.4**	**+2.7**
FAQ	**Al Faqa, Dubai**	**3.49**	**163**	P	**Pn**	**20 27 57.7**	**+3.3**
SNR=12							
FAQ	**Al Faqa, Dubai**	**3.49**	**163**	pPn	**Pn**	**20 27 57.7**	**+3.3**
SNR=12							
FAQ	**Al Faqa, Dubai**	**3.49**	**163**	P	**Pn**	**20 27 57.7**	**+3.3**
SNR=12							
UOSS	**Minazif**	**3.51**	**154**	P	**Pn**	**20 27 57.7**	**+3.1**
SNR=18							
UOSS	**Minazif**	**3.51**	**154**	pPn	**Pn**	**20 27 57.7**	**+3.1**
SNR=18							
UOSS	**Minazif**	**3.51**	**154**	P	**Pn**	**20 27 57.7**	**+3.1**
SNR=18							
IBAF	**Bafgh**	**3.60**	**15**	*e*Pn	**Pn**	**20 27 58.6**	**+2.6**
IBAF				*e*AMB	AMB	20 29 11.6	
comp=Z,565nm,0.3s							
IBAF	**Bafgh**	**3.60**	**15**	*e*Pn	**Pn**	**20 27 58.6**	**+2.6**
ASHO	**Ashiyiah**	**3.69**	**157**	P	**Pn**	**20 28 00.3**	**+3.1**
SNR=14							
ASHO	**Ashiyiah**	**3.69**	**157**	pPn	**Pn**	**20 28 00.3**	**+3.1**
SNR=14							
ASHO	**Ashiyiah**	**3.69**	**157**	P	**Pn**	**20 28 00.3**	**+3.1**
SNR=14							
ISAD	**Sadrabad**	**3.86**	**350**	*e*Pn	**Pn**	**20 28 02.4**	**+2.7**
ISAD	**Sadrabad**	**3.86**	**350**	*e*Pn	**Pn**	**20 28 02.4**	**+2.7**
IRAM	**Ramesheh**	**4.12**	**334**	*e*Pn	**Pn**	**20 28 04.8**	**+1.6**
IRAM				*e*Sn	**Sn**	**20 28 51.2**	**+0.1**
IRAM				*e*AMB	AMB	20 29 28.0	
comp=Z,1μm,0.5s							
IRAM	**Ramesheh**	**4.12**	**334**	*e*Pn	**Pn**	**20 28 04.8**	**+1.6**
IRAM				*e*Sn	**Sn**	**20 28 51.2**	**+0.1**
SLWS		**4.76**	**227**	P	**Pn**	**20 28 13.5**	**+1.6**
IGAR	**Gharneh**	**4.78**	**334**	*e*AMB	AMB	20 29 11.5	
comp=Z,640nm,0.3s							
NASN	**Na'in**	**4.89**	**343**	*e*Pn	**Pn**	**20 28 15.0**	**+1.0**
NASN	**Na'in**	**4.89**	**343**	*e*Pn	**Pn**	**20 28 15.0**	**+1.0**
IZEF	**Zefreh**	**5.12**	**339**	*e*Pn	**Pn**	**20 28 17.4**	**+0.3**
IZEF				*e*AMB	AMB	20 29 18.3	
comp=Z,237nm,0.1s							
IZEF	**Zefreh**	**5.12**	**339**	*e*Pn	**Pn**	**20 28 17.4**	**+0.3**
BTHS		**5.20**	**220**	S	**Sn**	**20 29 16.5**	**-1.0**
BTHS				P	**Pn**	**20 28 19.0**	**+1.1**
IPIR	**Pirpir**	**5.52**	**327**	*e*Pn	**Pn**	**20 28 23.4**	**+0.9**
IPIR				*e*AMB	AMB	20 29 28.4	
comp=Z,744nm,0.3s							
IPIR	**Pirpir**	**5.52**	**327**	*e*Pn	**Pn**	**20 28 23.4**	**+0.9**
IKLH	**Kolahrood**	**5.77**	**335**	*e*Pn	**Pn**	**20 28 27.8**	**+1.9**
IKLH				*e*AMB	AMB	20 30 31.6	
comp=Z,272nm,0.5s							
IKLH	**Kolahrood**	**5.77**	**335**	*e*Pn	**Pn**	**20 28 27.8**	**+1.9**
TABS	**Tabas**	**5.97**	**22**	*e*Pn	**Pn**	**20 28 28.5**	**-0.1**
TABS	**Tabas**	**5.97**	**22**	*e*Pn	**Pn**	**20 28 28.5**	**-0.1**
WSAR	**Wadi Sarin**	**6.12**	**141**	Pn	**Pn**	**20 28 32.4**	**+1.8**
comp=Z,0.8nm,0.3s,baz=335,slow=17,SNR=33							
WSAR				Sn	**Sn**	**20 29 40.5**	**+0.1**
comp=Z,0.5nm,0.3s,baz=29,slow=19,SNR=2.4							
KHMZ	**Khomeyn**	**6.83**	**326**	*e*Pn	**Pn**	**20 28 41.7**	**+1.2**
KHMZ				AML	AML	20 29 58.5	
comp=N,16nm,0.6s							
KHMZ				AML	AML	20 30 00.5	
comp=E,21nm,0.6s							
KHMZ	**Khomeyn**	**6.83**	**326**	*e*Pn	**Pn**	**20 28 41.7**	**+1.2**
NSR	**Nassriya**	**7.82**	**294**	*e*Pn	**Pn**	**20 28 51.5**	**-2.4**
SNR=46							
NSR				*e*Sn	**Sn**	**20 30 24.6**	**+2.6**
SNR=48							
BHD	**Baghdad**	**10.10**	**303**	*e*Pn	**Pn**	**20 29 25.0**	**-0.2**
SNR=4.0							
BHD				*e*Sn	**Sn**	**20 31 23.1**	**+5.0**
SNR=48							
GEYT	**Alibeck**	**10.26**	**16**	LR	LR	20 34 12.3	
comp=E,73nm,18.1s,baz=205,slow=42							
IKRK	**Kirkuk**	**11.28**	**313**	*e*Pn	**Pn**	**20 29 43.0**	**+1.7**
SNR=4.0							
IKRK				*e*Sn	**Sn**	**20 31 51.9**	**+4.9**
SNR=48							
RTB	**Rutbah**	**13.16**	**295**	*e*Pn	**Pn**	**20 30 05.8**	**-1.3**
SNR=45							
RTB				*e*Sn	**Sn**	**20 32 36.9**	**+3.8**
SNR=47							
ASF	**Jabal al Asfar**	**15.74**	**289**	Pn	**Pn**	**20 30 40.7**	**-1.2**
comp=E,0.2nm,0.3s,baz=122,slow=9.5,SNR=2.1							
MMAI	**Mount Meron Ar**	**17.14**	**291**	P	**Pn**	**20 30 59.4**	**-0.3**
comp=E,0.1nm,0.3s,baz=113,slow=15,SNR=3.8							
MMAI				LR	LR	20 38 52.8	
comp=E,19nm,19.5s,baz=105,slow=42							
KVAR	**Kislovodsk Arr**	**18.43**	**332**	P	**P**	**20 31 14.9**	**-0.7**
baz=174,slow=9.2,SNR=2.5							
BRTR	**Keskin Array B**	**20.77**	**309**	P	**P**	**20 31 40.2**	**-0.9**
comp=E,2.0nm,0.7s,baz=130,slow=13,SNR=3.6							
AKTO	**Aktyubinsk**	**22.46**	**6**	P	**P**	**20 31 59.6**	**+0.6**
comp=E,1.1nm,0.8s,baz=139,slow=9.1,SNR=3.7							
IDI	**Anoyia**	**26.11**	**293**	P	**P**	**20 32 32.9**	**-1.1**
comp=E,2.9nm,0.6s,baz=82,slow=7.1,SNR=6.6							
BVAR	**Borovoye Array**	**27.54**	**21**	P	**P

SGD				S	Sb	20 39 04.7	+1.1
KPRO	Kipourio	0.71	116	P	Pg	20 38 52.9	-1.4
KPRO				S	Sg	20 39 03.5	-0.2
KPRO				AML	AML	20 39 13.5	
	comp=E,68μm,0.6s						
KPRO				AML	AML	20 39 14.7	
	comp=N,60μm,0.4s						
KPRO	Kipourio	0.71	116	P	Pg	20 38 52.9	-1.4
KPRO				S	Sg	20 39 03.5	-0.2
KEK	Kerkira	0.79	226	P	Pg	20 38 54.7	-1.0
KEK				S	Sb	20 39 08.6	+2.2
KEK	Kerkira	0.79	226	P	Pg	20 38 54.7	-1.0
KEK				S	Sb	20 39 08.6	+2.2
FNA	Florina	0.83	51	P	Pg	20 38 56.8	+0.4
FNA				S	Sb	20 39 09.4	+1.9
FNA				AML	AML	20 39 14.2	
	comp=E,71μm,0.3s						
FNA				AML	AML	20 39 15.4	
	comp=N,70μm,0.5s						
FNA	Florina	0.83	51	P	Pg	20 38 56.8	+0.4
FNA				S	Sb	20 39 09.4	+1.9
DSL	Palaion Diasel	1.22	159	P	Pg	20 39 04.8	+1.0
DSL	Palaion Diasel	1.22	159	P	Pg	20 39 04.8	+1.0
THL	Klokotos Trika	1.34	121	P	Pg	20 39 07.3	+1.1
THL				S	Sb	20 39 22.6	+0.4
THL				AML	AML	20 39 27.7	
	comp=N,20μm,0.4s						
THL				AML	AML	20 39 33.5	
	comp=E,15μm,0.4s						
THL	Klokotos Trika	1.34	121	P	Pg	20 39 07.3	+1.1
THL				S	Sb	20 39 22.6	+0.4
LIT	Litokhoron	1.51	96	P	Pb	20 39 08.9	+0.7
LIT	Litokhoron	1.51	96	P	Pb	20 39 08.9	+0.7
PUK	Puka	1.84	345	*i* PN	Pn	20 39 08.5	-3.0
AGG	Agios Georgios	1.87	131	P	Pb	20 39 14.6	+0.4
AGG	Agios Georgios	1.87	131	P	Pb	20 39 14.6	+0.4

IDC ***20*** *20:52:33.8±0.4, 35°.42N×81°.67E, h0km, mb4.3/32, mb1 4.4/38, mb1mx4.4/56, mbtmp4.3/38, ML4.0/6, MS4.2/36, Ms1 4.2/36, ms1mx4.1/45, Error ellipse: s-maj=11.3km s-min=9.3km az=39.0*

NEIC ***20*** *20:52:34.8±2.7, 35°.44N×81°.61E, h2km±17km, mb4.8/41, Error ellipse: s-maj=6.3km s-min=5.0km az=199.0*

GCMT ***20*** *20:52:34.8±0.3, 35°.63N×81°.57E, h24km, MW5.0/76, Moment Tensor Solution. s24,c28; s76,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.17±.16; Mθθ-2.89±.13; Mφφ3.06±.10; Mrθ1.75±.20; Mθφ0.65±.09; Mφr-0.21±.17; Best double couple: M0 3.47200×10^16 NP1:φs324.00000°, δ72.00000°, λ-161.00000°. NP2: φs228.00000°, δ72.00000°, λ-19.00000°. Principal axes: T 3.1300, Plg1.0000°, Azm96.0000°; N 0.6810, Plg64.0000°, Azm5.0000°; P -3.8130, Plg26.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***20*** *20:52:35.7±0.1, 35°.42N±0°.02×81°.49E±0°.03, h15km, mb4.5/99, MS4.3/55 Error ellipse: s-maj=3.4km s-min=2.5km az=144.0*

BJI ***20*** *20:52:37.2, 35°.62N×81°.53E, h6km, mb4.4/33, mB4.6/25, ML5.1/7, Ms4.6/34, Ms7 4.3/33*

MOS ***20*** *20:52:38.3±1.6, 35°.51N×81°.51E, h33km, mb4.7/45, MS4.3/27, Error ellipse: s-maj=7.4km s-min=4.1km az=119.9*

NNC ***20*** *20:52:46.5±8.1, 35°.79N×81°.16E, h147km±100km, mb4.3, mpv4.9, Error ellipse: s-maj=68.2km s-min=31.9km az=138.0*

ISC 20 20:52:37.4±0.3, 35°.39N±0°.03×81°.38E±0°.03, h15km, n331, σ2S28/347, mb4.7/105, MS4.3/55, 46C-33D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHRM	DHARAMSHALA	5.26	235	*e*P			Pn	20 53 60.0	+4.2
DHRM					AMB		AMB	20 54 22.6	
	comp=Z,159nm,0.7s								
DHRM				*ex*			Sn	20 54 54.1	-2.1
SDNR	Sundarnagar	5.35	225	*e*P			Pn	20 54 01.0	+4.2
JWA	Jwalamukhi	5.48	232	*e*P			Pn	20 54 03.0	+4.5
SMLA	Simla	5.52	221	*e*P			Pn	20 54 03.2	+4.1
SMLA					AMB		AMB	20 54 03.7	
	comp=Z,229nm,1.9s								
SMLA				*ex*			Sn	20 55 08.7	+6.4
THN	Thein Dam	5.55	240	*e*P			Pn	20 54 03.0	+3.5
BHK	Bhakra	5.74	228	*e*P			Pn	20 54 04.5	+2.4
DDI	Dehra Dun	5.77	210	*e*P			Pn	20 54 02.9	+0.3
DDI					AMB		AMB	20 54 27.6	
	comp=Z,141nm,1.1s								
KSH	Kashi	5.96	315	Pn			Pn	20 54 06.8	+1.6
KSH				Sn			Sn	20 55 13.0	-0.3
KSH				smax			smax		
	comp=Z,10μm,0.8s								
KSH				smax			smax		
	comp=Z,10μm,0.9s								
CHCP	Chirah Chowk	6.92	258	P			Pn	20 54 22.3	+4.0
DANN	Dangsing	7.30	163	*e*P			Pn	20 54 25.1	+1.3
PYUN	Piuthan	7.39	169	*e*P			Pn	20 54 25.5	+0.5
	comp=Z,407nm,0.9s								
KOLN	Koldanda	7.82	165	*e*P			Pn	20 54 31.0	0.0
	comp=Z,221nm,0.5s								
GKN	Gorkha	7.86	158	*e*P			Pn	20 54 32.0	+0.5
	comp=Z,241nm,0.7s								
CEP	Cherat	7.96	261	P			Pn	20 54 35.6	+2.8
PDGK	Podgornoye	8.07	350	⇓Pn			Pn	20 54 34.2	0.0
	comp=Z,73nm,0.9s								
PDGK				⇓Sn			Sn	20 56 00.1	-5.0
	comp=Z,507nm,0.9s								
PDGK				⇑Lg			Lg	20 56 51.9	
	comp=Z,1μm,0.8s								
PDGK	Podgornoye	8.07	350	*i* P			Pn	20 54 34.9	+0.7
PDGK				pmax			pmax		
	comp=Z,159nm,0.8s								
KKN	Kakani	8.27	155	*e*P			Pn	20 54 38.6	+1.5
	comp=Z,261nm,0.5s								
DMN	Daman	8.38	157	*e*P			Pn	20 54 39.7	+1.1
	comp=Z,217nm,0.7s								
GUN	Gumba	8.38	152	*e*P			Pn	20 54 40.3	+1.6
	comp=Z,426nm,0.6s								
THW	Thamme Wali	8.40	255	P			Pn	20 54 41.3	+2.6
PKIN	Phulchoki	8.50	155	*e*P			Pn	20 54 41.8	+1.5
	comp=Z,306nm,0.5s								
AAA	Alma-Ata	8.54	337	*e*P			Pn	20 54 48.0	+7.3
AAA				pmax			pmax		
	comp=Z,100nm,0.5s								
AAA				MLR			MLR		
	comp=Z,5μm,12.0s								
JIRN	Jiri	8.72	151	*e*P			Pn	20 54 45.0	+1.5
	comp=Z,844nm,0.4s								
TKM2	Tokmak 2	8.76	331	⇓Pn			Pn	20 54 44.6	+0.8
	comp=Z,15nm,0.7s								
TKM2				⇓Pg				20 55 19.5	
	comp=Z,135nm,1.1s								
TKM2				⇑Lg			Lg	20 57 12.0	
	comp=Z,528nm,1.3s								
AAK	Ala-Archa	9.01	326	Pn			Pn	20 54 48.7	+1.6
	comp=Z,1.3nm,0.3s,baz=139,slow=11,SNR=27								
AAK				Pg				20 55 18.6	
	comp=Z,3.2nm,0.3s,baz=189,slow=18,SNR=7.3								
AAK				Lg			Lg	20 57 16.2	
	comp=Z,11nm,0.3s,baz=328,slow=18,SNR=3.7								
AAK				LR			LR	20 58 41.1	
	comp=Z,3μm,19.1s,baz=124,slow=40								
AAK	Ala-Archa	9.01	326	⇑Pn			Pn	20 54 47.7	+0.6
	comp=Z,27nm,0.7s								
AAK				⇑Pg				20 55 21.7	
	comp=Z,105nm,0.8s								
AAK				⇑Lg			Lg	20 57 19.4	
	comp=Z,510nm,1.1s								
AAK	Ala-Archa	9.01	326	*de*P			Pn	20 54 47.5	+0.4
AAK	Ala-Archa	9.01	326	P			Pn	20 54 48.3	+1.2
	SNR=14								
FRU	Bishkek	9.10	327	*e*P			Pn	20 54 49.0	+0.7
FRU				pmax			pmax		
	comp=Z,120nm,1.8s								
FRU				MLR			MLR		
	comp=E,6μm,14.0s								
RAMN	Ramite	9.52	151	*e*P			Pn	20 54 54.0	-0.3
	comp=E,222nm,0.5s								
TAPN	Taplejung	9.66	144	*e*P			Pn	20 54 56.1	-0.2
	comp=E,235nm,1.1s								
WMQ	Urumqi	9.73	28	P			Pn	20 54 55.5	-1.4
WMQ				smax			smax		
	comp=E,4μm,0.8s								
WMQ				smax			smax		
	comp=E,2μm,1.0s								
MNAS	Manas	9.90	318	⇑Pn			Pn	20 55 01.7	+2.3
	comp=E,14nm,0.9s								
MNAS				⇓Pg				20 55 38.6	
	comp=E,124nm,1.4s								
MNAS				⇑Lg			Lg	20 57 52.4	
	comp=E,234nm,0.9s								
MNAS	Manas	9.90	318	*i* P			Pn	20 55 01.6	+2.3
MNAS				pmax			pmax		
	comp=Z,132nm,1.4s								
ODAN	Odare	9.93	147	*e*P			Pn	20 55 00.4	+0.5
	comp=Z,165nm,0.6s								
LSA	Lhasa	10.00	122	P			Pn	20 55 05.9	+4.9
LSA				S			Sn	20 56 59.0	+5.7
LSA				LR			LR		
	comp=Z,500nm,8.8s								
LSA				LR			LR		
	comp=Z,2μm,10.1s								
LSA				LR			LR		
	comp=Z,2μm,9.3s								
LSA	Lhasa	10.00	122	*e*P			Pn	20 55 05.7	+4.6
LSA	Lhasa	10.00	122	*e*Pn			Pn	20 55 05.7	+4.6
KBL	Kabul	10.16	269	*e*P			Pn	20 55 03.6	+0.6
KBL	Kabul	10.16	269	*e*Pn			Pn	20 55 03.6	+0.6
DZET	Dzherino	10.59	292	⇑Pn			Pn	20 55 08.9	+0.1
	comp=Z,27nm,0.6s								
DZET				⇑Sn			Sn	20 57 08.3	+1.1
	comp=Z,74nm,0.8s								
DZET				⇑Lg			Lg	20 58 16.8	
	comp=Z,101nm,1.0s								
KK31	Karatay Array	11.41	316	⇑Pn			Pn	20 55 18.9	-1.0
	comp=Z,13nm,0.7s								
KK31				Lg			Lg	20 58 39.3	
	comp=Z,75nm,1.0s,baz=125,slow=29,SNR=3.9								
KK31	Karatay Array	11.41	316	*i* P			Pn	20 55 18.9	-1.0
KK31				pmax			pmax		
	comp=Z,13nm,0.6s								
KKAR	Karatay Array	11.41	316	*e*P			Pn	20 55 19.3	-0.6
KKAR	Karatay Array	11.41	316	*e*Pn			Pn	20 55 19.3	-0.6
MK31	Makanchi Array	11.42	3	Pn			Pn	20 55 17.7	-2.3
	comp=Z,92nm,1.0s,baz=181,slow=12,SNR=118								
MK31				⇑Sn			Sn	20 57 25.0	-2.2
	comp=Z,69nm,0.8s,baz=192,slow=23,SNR=4.5								
MK31				⇑Lg			Lg	20 58 33.5	
	comp=Z,53nm,0.8s,baz=192,slow=26								
MK31	Makanchi Array	11.42	3	*i* P			Pn	20 55 17.7	-2.3
MK31				pmax			pmax		
	comp=Z,49nm,0.8s								
MK31	Makanchi Array	11.42	3	*e*Pn			Pn	20 55 17.4	-2.6
MK32	Makanchi Array	11.42	3	*e*Pn			Pn	20 55 18.1	-1.8
MK32				*e*Sn			Sn	20 57 22.6	-4.6
MK32				*e*				20 58 36.0	
MKAR	Makanchi Array	11.42	3	Pn			Pn	20 55 18.1	-1.8
	comp=Z,6.2nm,0.3s,baz=180,slow=12,SNR=55								
MKAR				Sn			Sn	20 57 22.6	-4.6
	comp=Z,3.7nm,0.3s,baz=191,slow=24,SNR=5.4								
MKAR				Lg			Lg	20 58 36.0	
	baz=190,slow=23,SNR=2.1								
MKAR				LR			LR	21 00 28.0	
	comp=Z,1μm,18.3s,baz=176,slow=42								
MKAR	Makanchi Array	11.42	3	*e*Pn			Pn	20 55 17.4	-2.6
MKAR				Sn			Sn	20 57 22.6	-4.6
MKAR				Lg			Lg	20 58 36.0	
MAKZ	Makanchi	11.42	2	⇓Pn			Pn	20 55 17.6	-2.5
	comp=Z,94nm,1.2s								
MAKZ				⇑Sn			Sn	20 57 21.2	-6.1
	comp=Z,130nm,1.2s								
MAKZ				⇓Lg			Lg	20 58 37.5	
	comp=Z,39nm,0.9s								
MAKZ	Makanchi	11.42	2	*i* P			Pn	20 55 17.5	-2.5
MAKZ				pmax			pmax		
	comp=Z,47nm,0.6s								
MAKZ	Makanchi	11.42	2	*e*Pn			Pn	20 55 17.7	-2.3
BOK	Bokaro	12.20	160	*e*P			Pn	20 55 28.8	-1.9
BOK				AMB			AMB	20 55 29.6	
	comp=Z,100nm,1.3s								
BHPL	Bhopal	12.58	197	*e*P			Pn	20 55 34.0	-2.0
BHPL				AMB			AMB	20 55 35.4	
	comp=Z,32nm,0.3s								
SHL	Shillong	13.32	134	*e*P			Pn	20 55 42.6	-3.6
SHL				AMB			AMB	20 55 43.9	
	comp=Z,16nm,0.0s								
GTA	Gaotai	15.19	69	*e*P			Pn	20 56 12.5	+1.0
GTA				pP			P	20 56 16.5	0.0
GTA				sP			pP	20 56 19.5	-1.2
GTA				S			Sn	20 59 01.4	+1.9
GTA				sS			S	20 59 10.4	-6.0
GTA				SS			SnSn	20 59 19.0	+6.9
GTA				pmax			pmax		
	comp=Z,4.0nm,1.4s								
GTA				pmax			pmax		
	comp=Z,52nm,3.8s								
GTA				LR			LR		
	comp=Z,2μm,13.8s								
GTA				LR			LR		
	comp=Z,1μm,10.9s								
GTA				LR			LR		
	comp=Z,2μm,11.4s								
KURBB	Kurchatov Arra	15.37	353	Pn			Pn	20 56 09.2	-4.4
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=23								
KURBB				Lg			Lg	21 00 43.3	
	comp=Z,0.1nm,0.3s,baz=181,slow=28,SNR=3.2								
KURBB	Kurchatov Arra	15.37	353	⇓Pn			Pn	20 56 08.2	-5.4
	comp=Z,32nm,1.1s								
KURBB				⇑Sn			Sn	20 58 57.2	-6.3
	comp=Z,16nm,0.8s								
KURBB				⇑Lg			Lg	21 00 43.3	
	comp=Z,97nm,1.4s								
KURK	Kurchatov	15.45	353	⇓Pn			Pn	20 56 10.1	-4.6
	comp=Z,49nm,1.1s								
KURK				⇑Sn			Sn	20 59 01.3	-4.2
	comp=Z,62nm,1.1s								
KURK				⇑Lg			Lg	21 00 44.2	
	comp=Z,180nm,1.3s								
KURK	Kurchatov	15.45	353	⇓*e*P			Pn	20 56 09.2	-5.6
KURK	Kurchatov	15.45	353	*e*Pn			Pn	20 56 09.7	-5.1
	comp=Z,38nm,0.9s								
BHJ	Bhuj	15.82	223	*e*P			Pn	20 56 20.3	+0.6
BHJ				AMB			AMB	20 56 24.1	
	comp=Z,20nm,0.6s								
RPR	Rampur	16.57	187	*e*Pn			Pn	20 56 24.7	-4.5
RPR				IAmb			IAmb	20 56 32.6	
	comp=Z,29nm,0.9s								
RPR				*e*				20 59 31.9	
RPR				IVMs_BB			IVMs_BB	21 03 11.5	
	comp=Z,1μm,10.7s								
SRSP	Sriramsagar	16.61	190	*e*Pn			Pn	20 56 24.4	-5.5
SRSP				IAmb			IAmb	20 56 33.1	
	comp=Z,42nm,0.7s								
SRSP				IVMs_BB			IVMs_BB	21 03 04.5	
	comp=Z,989nm,11.6s								
CHLP	Challavanipeta	16.98	171	*e*Pn			Pn	20 56 31.0	-3.5
CHLP				IAmb			IAmb	20 56 38.0	
	comp=Z,63nm,1.1s								
CHLP				*e*				20 59 38.2	
CHLP				IVMs_BB			IVMs_BB	21 03 08.0	
	comp=Z,509nm,13.8s								
VIS	Vishakhapatnam	17.68	174	*e*P			Pn	20 56 41.5	-1.7
VIS				AMB			AMB	20 56 46.2	
	comp=Z,41nm,0.7s								
KLRI	Killari	17.76	195	*e*Pn			Pn	20 56 42.0	-2.3
KLRI				IAmb			IAmb	20 56 47.4	
	comp=Z,67nm,1.0s								
KLRI				*e*				20 59 57.4	
KLRI				IVMs_BB			IVMs_BB	21 04 01.6	
	comp=Z,1μm,7.4s								
PVM	Polavaram	18.07	179	*e*Pn			Pn	20 56 46.2	-1.7
PVM				IAmb			IAmb	20 56 50.6	
	comp=Z,29nm,0.7s								
PVM				*e*				20 59 57.2	
PVM				IVMs_BB			IVMs_BB	21 04 22.6	
	comp=Z,811nm,8.6s								
POO	Poona	18.07	204	*e*P			P	20 56 49.8	+1.3
HYBB	Hyderabad (bro	18.07	189	*e*Pn			Pn	20 56 43.4	-4.7
HYBB				IAmb			IAmb	20 56 48.9	
	comp=Z,21nm,0.7s								
HYBB				*e*				21 00 07.2	
HYBB				IVMs_BB			IVMs_BB	21 03 59.0	
	comp=Z,1μm,13.3s								
HYB	Hyderabad	18.07	189	*i* P			Pn	20 56 43.0	-5.1
HYB	Hyderabad	18.07	189	*ex*			Pn	20 56 45.0	-3.1
HYB				AMB			AMB	20 56 48.9	
	comp=Z,20nm,1.0s								
ZAA0	Zalesovo Array	18.72	6	*e*P			P	20 56 51.8	-3.4
ZALV	Zalesovo Beam	18.72	6	P			P	20 56 51.8	-3.5
	comp=Z,0.7nm,0.3s,baz=192,slow=12,SNR=20								
ZAA1	Zalesovo Array	18.72	6	*e*P			P	20 56 51.8	-3.5
GEYT	Alibeck	18.83	285	P			P	20 56 55.7	-1.0
	comp=Z,0.7nm,0.3s,baz=108,slow=9.5,SNR=21								
GEYT				LR			LR	21 06 18.1	
	comp=Z,550nm,18.9s,baz=90,slow=43								
NJS	Nagarjunasagar	18.85	186	*e*P			P	20 56 54.7	-2.2
NJS				IAmb			IAmb	20 56 58.5	
	comp=Z,34nm,0.9s								
NJS				*e*Sn			S	21 00 29.6	-1.3
NJS				IVMs_BB			IVMs_BB	21 04 29.6	
	comp=Z,1μm,12.0s								
CD2	Chengdu	19.25	97	P			P	20 56 59.8	-1.6
CD2				S			Sn	21 00 34.3	-3.6
CD2				sS			sS	21 00 42.8	-3.0
CD2				pmax			pmax		
	comp=Z,20nm,0.6s								
CD2				pmax			pmax		
	comp=Z,310nm,5.8s								
CD2				LR			LR		
	comp=Z,2μm,12.7s								
CD2				LR			LR		
	comp=Z,1μm,7.4s								
CD2				LR			LR		
	comp=Z,1μm,7.1s								
BVA0	Borovoye Array	19.27	340	⇑Pn			P	20 56 58.8	-2.6
	comp=Z,26nm,0.9s,baz=144,slow=11,SNR=72								
BVA0				⇑Lg			Lg	21 02 46.8	
	comp=Z,36nm,1.2s,baz=144,slow=24,SNR=4.5								
BVAR	Borovoye Array	19.27	340	P			P	20 57 00.3	-1.1
	comp=Z,1.2nm,0.3s,baz=139,slow=9.8,SNR=27								
BVAR				Lg			Lg	21 02 46.7	
	comp=Z,0.2nm,0.3s,baz=132,slow=22,SNR=4.7								
BRVK	Borovoye	19.34	339	⇑*e*P			P	20 57 01.9	-0.1
BRVK				pmax			pmax		
	comp=Z,112nm,1.2s								
BRVK	Borovoye	19.34	339	*e*P			P	20 57 02.1	+0.1
	comp=Z,42nm,1.0s								
BRVK	Borovoye	19.34	339	P			Pn	20 57 04.8	+1.6
	SNR=20								
SRLM	Srisailam	19.34	187	*e*P			P	20 57 02.4	0.0
SRLM				IAmb			IAmb	20 57 04.9	
	comp=Z,81nm,0.9s								
SRLM				*e*				21 00 38.1	
SRLM				IVMs_BB			IVMs_BB	21 04 45.3	
	comp=Z,1μm,11.8s								
NVS	Novosibirsk	19.50	3	*e*P			P	20 57 02.1	-1.7
NVS				*e*S			Sn	21 00 41.4	-2.0
ADKI	Addanki	19.50	184	*e*P			P	20 57 03.5	-0.5
ADKI				IAmb			IAmb	20 57 06.4	
	comp=Z,31nm,0.7s								
ADKI				*e*				21 00 41.3	
ADKI				IVMs_BB			IVMs_BB	21 04 51.1	
	comp=Z,1μm,12.1s								
URV	Uravakonda	20.69	191	*e*P			P	20 57 16.6	-0.5
URV				IAmb			IAmb	20 57 21.7	
	comp=Z,53nm,0.8s								
URV				IVMs_BB			IVMs_BB	21 05 27.2	
	comp=Z,816nm,8.7s								
GOA	Goa	20.94	201	*e*P			P	20 57 20.6	+0.9
GOA				AMB			AMB	20 57 21.4	
	comp=Z,44nm,0.4s								
AB31	Akbulak array	20.96	318	*i* P			P	20 57 19.1	-0.6
AB31				pmax			pmax		
	comp=Z,14nm,0.6s								
ABKAR	Akbulak array	20.96	318	*e*P			P	20 57 19.2	-0.5
	comp=Z,177nm,0.6s								
MOY	Mondy	21.50	35	*e*P			P	20 57 26.6	+0.9
MOY				pmax			pmax		
	comp=Z,56nm,1.8s								
SKHT	Srikalahasti	21.60	184	*e*P			P	20 57 26.8	0.0
SKHT				IAmb			IAmb	20 57 28.5	
	comp=Z,33nm,0.9s								
SKHT				IVMs_BB			IVMs_BB	21 06 06.5	
	comp=Z,949nm,10.2s								
ZAK	Zakamensk	21.84	40	*e*P			P	20 57 28.8	-0.5
ZAK				pmax			pmax		
	comp=Z,22nm,0.9s								
MDRS	Chennai	22.24	183	*e*P			P	20 57 35.0	+1.3
MDRS				AMB			AMB	20 57 40.3	
	comp=Z,28nm,4.0s								
SONA0	Songino Array	22.35	49	*e*P			P	20 57 33.1	-1.8
SONM	Songino Array	22.35	49	P			P	20 57 33.1	-1.8
	comp=Z,2.2nm,0.7s,baz=244,slow=9.7,SNR=11								
SONM				LR			LR	21 06 43.6	
	comp=Z,804nm,18.2s,baz=243,slow=38								
AKTO	Aktyubinsk	22.65	319	P			P	20 57 36.8	-1.1
	comp=Z,7.6nm,0.7s,baz=116,slow=8.7,SNR=29								
AKTO				LR			LR	21 07 20.6	
	comp=Z,2μm,18.9s,baz=128,slow=39								
AKTO	Aktyubinsk	22.65	319	*i* P			P	20 57 37.0	-0.9
CHTO	Chiang Mai	22.68	132	P			P	20 57 35.8	-2.6
	comp=Z,83nm,1.0s								
CHTO	Chiang Mai	22.68	132	P			P	20 57 37.4	-1.0
CHTO	Chiang Mai	22.68	132	*e*P			P	20 57 36.0	-2.4
CHTO				pmax			pmax		
	comp=Z,14nm,0.8s								
CHTO	Chiang Mai	22.68	132	*e*P			P	20 57 36.0	-2.4
	comp=Z,14nm,0.8s								
CHTO	Chiang Mai	22.68	132	P			P	20 57 36.7	-1.6
	SNR=5.5								
ULN	Ulaanbaatar	22.77	49	*de*P			P	20 57 39.6	+0.2
ULN				pmax			pmax		
	comp=Z,22nm,1.2s								
ULN	Ulaanbaatar	22.77	49	*e*P			P	20 57 38.9	-0.4
	comp=Z,89nm,1.8s								
ULN	Ulaanbaatar	22.77	49	P			P	20 57 39.5	+0.2
	SNR=24								
ULN				P			P	20 57 39.5	+0.2
	SNR=24								
TLY	Talaya	22.79	38	P			P	20 57 36.8	-2.5
	comp=Z,0.7nm,0.3s,baz=253,slow=12,SNR=1.8								
TLY				LR			LR	21 07 20.0	
	comp=Z,874nm,20.3s,baz=230,slow=39								
CM31	Chiang Mai Arr	22.95	133	*e*P			P	20 57 41.5	+0.2
CMAR	Chiang Mai Arr	22.95	133	P			P	20 57 39.0	-2.2
	comp=Z,6.8nm,0.9s,baz=307,slow=10,SNR=25								
CMAR				PcP			PcP	21 01 30.6	-0.7
	comp=Z,2.4nm,0.7s,baz=303,slow=3.8,SNR=10								
CMAR				LR			LR	21 06 59.7	
	comp=Z,315nm,19.5s,baz=326,slow=38								
CMAR	Chiang Mai Arr	22.95	133	P			P	20 57 39.1	-2.2
CMAR								21 01 30.7	
CMAR				pmax			pmax		
	comp=Z,8.0nm,1.0s								
CMAR

TIY S **S** **21 02 21.3 -2.9**
TIY pmax pmax
comp=Z,35nm,0.6s
TIY pmax pmax
comp=Z,130nm,11.0s
TIY LR LR
comp=Z,380nm,9.0s
TIY LR LR
comp=Z,600nm,10.7s
TIY LR LR
comp=Z,700nm,13.6s
UTHA Uthaitani 25.53 136 P **P** **20 58 04.5 -1.0**
comp=Z,5.8nm,0.7s,comp=Z,61nm
UTHA Uthaitani 25.53 136 P **P** **20 58 06.0 +0.5**
PBKT Sadao Pong 25.62 132 P **P** **20 58 06.1 -0.3**
comp=Z,20nm,1.2s,comp=Z,1µm
PBKT Sadao Pong 25.62 132 P **P** **20 58 07.0 +0.6**
SVE Sverdlovsk 25.63 333⇑*i*P **P** **20 58 05.9 -0.2**
SVE *e*S **S** **21 02 37.3 +3.7**
SVE pmax pmax
comp=Z,34nm,1.0s
SVE MLR MLR
comp=Z,1µm,14.0s
PBA Port Blair 25.77 154 *e*P P 20 58 06.3 -1.5
PBA AMB AMB 20 58 08.7
comp=Z,36nm,1.3s
ARU Arti 26.14 331 P **P** **20 58 10.5 -0.2**
comp=Z,10.0nm,0.7s,baz=132,slow=5.8,SNR=11
ARU LR LR 21 08 52.3
comp=Z,558nm,18.6s,baz=128,slow=37
ARU Arti 26.14 331*c i*P **P** **20 58 10.0 -0.7**
ARU 20 58 47.9
ARU S **S** **21 02 40.3 -1.3**
ARU SS **SnSn** **21 03 41.0 +0.9**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU MLR MLR
comp=Z,725nm,17.0s
ARU Arti 26.14 331 *e*P **P** **20 58 10.5 -0.2**
comp=Z,29nm,1.1s
SRDT SRDT 26.33 138 P **P** **20 58 11.8 -1.0**
comp=Z,42nm,1.0s
SRDT SRDT 26.33 138 P **P** **20 58 15.5 +2.7**
comp=Z,42nm,1.0s,comp=Z,0.2nm
CHAI Chaiyaphum 26.76 131 P **P** **20 58 15.7 -1.0**
comp=Z,5.9nm,0.8s
CHAI Chaiyaphum 26.76 131 P **P** **20 58 18.7 +2.0**
comp=Z,5.9nm,0.8s,comp=Z,0.0nm
KHON Khomkaen 26.95 129 P **P** **20 58 17.7 -0.7**
KHON Khomkaen 26.95 129 P **P** **20 58 24.4 +6.0**
comp=Z,7.3nm,1.0s,comp=Z,879nmcomp=Z,0.1nm
PALK Pallekele 27.99 181 P **P** **20 58 27.4 -0.4**
comp=Z,9.7nm,0.7s,baz=330,slow=6.5,SNR=8.2
PALK LR LR 21 11 01.9
comp=Z,373nm,18.4s,baz=296,slow=40
PALK Pallekele 27.99 181 *i* P **P** **20 58 29.5 +1.8**
PALK Pallekele 27.99 181 *e*P **P** **20 58 28.0 +0.2**
comp=Z,14nm,0.8s
SOKR Solikamsk 29.04 334 *e*P **P** **20 58 39.8 +3.1**
SOKR pmax pmax
comp=Z,14nm,0.8s
SOKR MLR MLR
comp=Z,928nm,14.0s
GNI Garni 29.21 290 P **P** **20 58 40.1 +1.4**
comp=Z,6.0nm,0.7s,baz=73,slow=14,SNR=3.0
GNI LR LR 21 12 18.4
comp=Z,115nm,21.6s,baz=94,slow=40
GNI Garni 29.21 290*de*P **P** **20 58 38.2 -0.5**
GNI pmax pmax
comp=Z,12nm,1.0s
ZEI Tsey 29.83 296 *e*P **P** **20 58 46.3 +2.1**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
NCK Nalchik 30.08 297⇑*e*P **P** **20 58 46.4 +0.3**
NCK pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 30.60 298 LR LR 21 12 39.0
comp=Z,373nm,21.9s,baz=84,slow=39
KVAR Kislovodsk Arr 30.75 298 LR LR 21 13 05.0
comp=Z,340nm,21.2s,baz=70,slow=40
KIV Kislovodsk 30.76 298 *e*P **P** **20 58 51.3 -0.9**
KIV *e*S **S** **21 03 56.7 +1.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,306nm,15.0s
BOD Bodaibo 31.21 34 *e*P **P** **20 58 54.5 -1.4**
BOD pmax pmax
comp=Z,9.0nm,1.6s
HIA Hailar 31.21 52⇑*i*P **P** **20 58 58.0 +1.9**
HIA pmax pmax
comp=Z,5.0nm,1.0s
NJ2 Nanjing 31.23 85 *e*P **P** **20 59 00.8 +4.5**
RAYN Ar Rayn 33.23 259 *e*P **P** **20 59 15.3 +1.2**
comp=Z,12nm,1.0s
NRIK Noril'sk 34.18 4 P **P** **20 59 22.7 +0.9**
comp=Z,17nm,0.8s,baz=161,slow=6.3,SNR=9.0
NRIK LR LR 21 15 50.9
comp=Z,272nm,19.5s,baz=192,slow=41
ANN Anapa 34.55 299 *e*P **P** **20 59 27.6 +2.4**
ANN pmax pmax
comp=Z,50nm,1.3s
ANN MLR MLR
comp=Z,454nm,14.0s
MOS Moscow 35.98 318 *e*P **P** **20 59 36.3 -1.1**
MOS pmax pmax
comp=Z,52nm,1.0s
MOS MLR MLR
comp=E,800nm,17.0s
MOS MLR MLR
comp=Z,1µm,17.0s
PSI Prapat 36.28 149 LR LR 21 16 46.1
comp=Z,238nm,18.8s,baz=54,slow=40
OBN Obninsk 36.40 317⇓*i*P **P** **20 59 41.0 0.0**
OBN *e* 21 01 03.4
OBN pmax pmax
comp=Z,48nm,2.5s
OBN MLR MLR
comp=Z,783nm,19.0s
KLMR Klimovskoe 36.81 327 *e*P **P** **20 59 41.6 -2.9**
KLMR *e* 21 01 04.8
KLMR *e* 21 02 05.4
KLMR pmax pmax
comp=Z,28nm,1.5s
SIM Simferopol' **36.90 300** *e*P **P** **20 59 45.5 0.0**
SIM *e*SS SS 21 08 04.0 -7.1
SIM pmax pmax
comp=Z,12nm,0.8s
SIM MLR MLR
comp=Z,380nm,16.7s
KSAR Wonju Array Be 37.19 73 P **P** **20 59 44.6 -3.4**
KSAR Wonju Array Be 37.19 73 P **P** **20 59 44.6 -3.4**
KSRS Korea Array 37.22 73 P **P** **20 59 44.6 -3.6**
comp=Z,0.3nm,0.3s,baz=274,slow=7.8,SNR=2.4
KSRS LR LR 21 16 34.9
comp=Z,257nm,20.3s,baz=280,slow=39
ILGA Ilgaz 37.50 293 *e*P **P** **20 59 52.6 +1.7**
BR101 Keskin Array S 37.74 291 *e*P **P** **20 59 53.6 +0.8**
BR101 *e*PP **PnPn** **21 01 20.9 +0.9**
BR131 Keskin Array S 37.74 291 *e*P **P** **20 59 54.0 +1.1**
BRTR Keskin Array B 37.74 291 P **P** **20 59 53.6 +0.8**
comp=Z,4.1nm,0.8s,baz=93,slow=7.9,SNR=26
BRTR PP **PnPn** **21 01 20.9 +0.9**
comp=Z,3.0nm,0.9s,baz=92,slow=6.2,SNR=5.0
BRTR LR LR 21 17 25.8
comp=Z,90nm,20.1s,baz=54,slow=39
MMAI Mount Meron Ar 37.84 280 P **P** **20 59 54.9 +1.3**
comp=Z,2.0nm,0.9s,baz=89,slow=12,SNR=3.5
USRK Ussuriysk Ar. 39.33 61 P **P** **21 00 03.4 -2.6**
comp=Z,0.8nm,0.6s,baz=275,slow=8.4,SNR=3.1
USRK LR LR 21 17 32.4
comp=Z,510nm,18.7s,baz=268,slow=38
VLA Vladivostok 39.36 63⇑*e*P **P** **21 00 05.3 -0.9**
VLA *e* 21 01 36.0
VLA pmax pmax
comp=Z,15nm,0.8s
YAK Yakutsk 40.12 33 *e*P **P** **21 00 14.7 +2.4**
YAK *e**PP **sP** **21 00 25.4 +6.6**
YAK *e* 21 01 51.2
YAK *e* 21 02 20.0
YAK *e*S **S** **21 06 20.4 +2.6**
YAK *e* 21 10 20.8
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,123nm,3.2s
YAK pmax pmax
comp=N,51nm,3.3s
YAK smax smax
comp=N,78nm,2.8s
YAK smax smax
comp=E,64nm,2.8s
YAK MLR MLR
comp=Z,559nm,17.0s
YAK Yakutsk 40.12 33 *e*P **P** **21 00 10.9 -1.4**
comp=Z,15nm,0.8s
AKASG Malin Array Be 40.21 309 P **P** **21 00 12.7 -0.5**
comp=Z,2.1nm,0.7s,baz=85,slow=6.8,SNR=15
AKASG PP **PnPn** **21 01 49.6 +0.4**
comp=Z,0.7nm,0.4s,baz=85,slow=12,SNR=4.2
AKASG LR LR 21 19 06.3
comp=Z,1µm,19.0s,baz=70,slow=39
AKBB Malin Array Si 40.21 309 *e*P **P** **21 00 13.1 -0.1**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 40.21 309 *e*P **P** **21 00 13.1 -0.1**
comp=Z,8.7nm,0.9s
KIEV Kiev 40.22 309⇓*i*P **P** **21 00 13.1 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 40.22 309 *e*P **P** **21 00 13.0 -0.2**
comp=Z,12nm,1.1s
PDSI Padang 40.27 150 P **P** **21 00 14.0 0.0**
KIS Kishinev 40.51 303 *e*P P 21 00 22.0 +6.3
KIS LRM MLR 21 19 58.0
comp=Z,500nm,14.0s
KIS Kishinev 40.51 303 *e*P P 21 00 22.0 +6.3
KIS MLR MLR
comp=Z,500nm,14.0s
KIS MLR MLR
comp=Z,600nm,16.0s
SORM Soroca 40.78 305⇓*i*P **P** **21 00 17.8 -0.1**
SORM Soroca 40.78 305 ⇓P **P** **21 00 17.8 -0.1**
CFR Carcaliu 41.12 300⇑*i*P **P** **21 00 21.4 +0.7**
CFR Carcaliu 41.12 300 ⇑P **P** **21 00 21.4 +0.7**
TLB Topalu 41.24 300⇓*i*P **P** **21 00 22.7 +0.9**
TLB Topalu 41.24 300 ⇓P **P** **21 00 22.7 +0.9**
TGY Tagaytay City 41.34 111 LR LR 21 19 06.0
comp=Z,112nm,19.8s,baz=344,slow=39
LVZ Lovozero 41.79 336⇑*e*P **P** **21 00 27.3 +1.3**
LVZ pmax pmax
comp=Z,27nm,1.4s
TESR Tescani 42.03 303⇓*i*P **P** **21 00 29.0 +0.8**
VRI Vrincioaia 42.04 302⇑*i*P **P** **21 00 30.2 +1.9**
VRI Vrincioaia 42.04 302 ⇑P **P** **21 00 30.2 +1.9**
PLOR Plostina 42.09 302⇓*i*P **P** **21 00 30.4 +1.6**
PLOR Plostina 42.09 302 ⇓P **P** **21 00 30.4 +1.6**
VSU Vasula 42.36 320⇓*e*P **P** **21 00 31.7 +1.0**
MLR Muntele Rosu 42.62 301⇑*i*P **P** **21 00 35.4 +2.2**
MLR Muntele Rosu 42.62 301 ⇑P **P** **21 00 35.4 +2.2**
MLR Muntele Rosu 42.62 301 *e*P **P** **21 00 35.0 +1.8**
comp=Z,16nm,0.8s
BURAR Bucovina Array 42.92 304⇓*i*P **P** **21 00 36.1 +0.6**
BURAR Bucovina Array 42.92 304 ⇓P **P** **21 00 36.1 +0.6**
BUR08 Bucovina Ar. S 42.93 304 *e*P **P** **21 00 35.9 +0.3**
DOPR Dopca 42.96 302⇑*i*P **P** **21 00 37.5 +1.7**
FIA0 FINESS Array S 43.19 325 *e*P **P** **21 00 37.1 -0.3**
FIA0 FINESS Array S 43.19 325 *e*P **P** **21 00 37.1 -0.3**
FINES FINESS Array B 43.19 325 P **P** **21 00 37.1 -0.3**
comp=Z,5.3nm,0.7s,baz=112,slow=6.8,SNR=11
FINES LR LR 21 19 26.2
comp=Z,827nm,19.1s,baz=100,slow=37
FINES FINESS Array B 43.19 325 P **P** **21 00 37.1 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,827nm,19.1s
VOIR 43.25 301⇓*i*P **P** **21 00 39.1 +0.8**
VOIR 43.25 301 ⇓P **P** **21 00 39.1 +0.8**
LVV L'vov 43.55 308 *e*P **P** **21 00 43.0 +2.5**
LVV MLR MLR
comp=E,300nm,14.0s
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=Z,300nm,14.0s
ARR Arges 43.55 301⇑*i*P **P** **21 00 41.4 +0.7**
KARP Karpathos 43.68 287 *e*P **P** **21 00 42.5 +0.7**
comp=Z,13nm,0.9s
TIXI Tiksi 43.80 20 P **P** **21 00 40.9 -1.3**
comp=Z,1.1nm,0.3s,baz=255,slow=8.4,SNR=3.8
TIXI Tiksi 43.80 20⇓*e*P **P** **21 00 45.5 +3.3**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 43.80 20 *e*P **P** **21 00 43.7 +1.5**
comp=Z,4.1nm,0.9s
LOT Lotru 44.15 301⇑*i*P **P** **21 00 46.6 +1.1**
DRGR 44.70 303⇓*i*P **P** **21 00 50.4 +0.5**
DRGR 44.70 303 ⇓P **P** **21 00 50.4 +0.5**
UZH Uzhgorod 44.78 306 *e*P **P** **21 00 52.0 +1.7**
UZH *e* 21 01 01.2
GZR Gura Zlata 44.85 301⇑*i*P **P** **21 00 52.0 +1.0**
VTS Vitosha 45.01 297⇑*i*P **P** **21 00 53.2 +0.7**
VTS Vitosha 45.01 297 ⇑P **P** **21 00 53.2 +0.7**
VTS Vitosha 45.01 297 *e*P **P** **21 00 53.6 +1.1**
comp=Z,8.3nm,1.3s
CRVS Cervenica-Dubn 45.30 307 *e*P **P** **21 00 57.1 +2.6**
CRVS Cervenica-Dubn 45.30 307 *e*P **P** **21 00 57.1 +2.6**
STHS Stebnicka Huta 45.39 307 *e*P **P** **21 00 55.6 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 45.39 307 *e*P **P** **21 00 55.6 +0.4**
MAJO Matsushiro 45.43 71⇑*e*P **P** **21 00 57.4 +1.7**
MAJO pmax pmax
comp=Z,52nm,1.1s
MJAR Matsushiro Arr 45.43 71 P **P** **21 00 51.1 -4.6**
comp=Z,0.7nm,0.6s,baz=283,slow=9.3,SNR=2.9
ARA0 ARCESS Array S 45.50 336 *e*P **P** **21 00 54.8 -1.0**
ARCES ARCESS Array B 45.50 336 P **P** **21 00 54.8 -1.0**
comp=Z,4.4nm,0.7s,baz=104,slow=7.6,SNR=8.0
ARCES LR LR 21 21 09.7
comp=Z,367nm,19.6s,baz=108,slow=38
BZS Buzias 45.62 302⇑*i*P **P** **21 00 58.2 +1.1**
BZS Buzias 45.62 302 ⇑P **P** **21 00 58.2 +1.1**
MDVR Moldovita 45.69 301⇑*i*P **P** **21 00 58.8 +1.1**
KECS Kecovo 45.99 306 *e*P **P** **21 01 01.3 +1.3**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 45.99 306 *e*P **P** **21 01 01.2 +1.3**
LANS Liptovska Anna 46.58 307 *e*P **P** **21 01 05.4 +0.8**
LANS Liptovska Anna 46.58 307 *e*P **P** **21 01 05.4 +0.8**
VYHS Vyhne 47.08 306 *e*P **P** **21 01 09.7 +1.2**
VYHS Vyhne 47.08 306 *e*P **P** **21 01 09.7 +1.2**
MORC Moravsky Berou 47.74 308⇓*i*P **P** **21 01 15.6 +1.9**
MORC Moravsky Berou 47.74 308 ⇓P **P** **21 01 15.6 +1.9**
MORC Moravsky Berou 47.74 308 *e*P **P** **21 01 14.4 +0.7**
comp=Z,38nm,1.2s
DPC Dobruska-Polom 48.44 309 *e*P **P** **21 01 20.2 +1.1**
DPC *ex* x 21 01 23.9
DPC AMS AMS 21 23 40.0
comp=Z,1µm,13.4s
DPC Dobruska-Polom 48.44 309 *e*P **P** **21 01 20.2 +1.1**
DPC MLR MLR
comp=Z,1µm,13.4s
UPC Upice 48.62 309 *e*P **P** **21 01 21.4 +1.0**
UPC *ex* x 21 01 25.1
UPC AMS AMS 21 23 40.0
comp=Z,1µm,16.9s
UPC Upice 48.62 309 *e*P **P** **21 01 21.4 +1.0**
UPC MLR MLR
comp=Z,1µm,16.9s
CONA Conrad Observa 49.13 306 *i* pP **P** **21 01 25.4 +0.9**
comp=Z,3.4nm,0.9s
CONA *i* pP **P** **21 01 28.7 +4.3**
comp=Z,12nm,1.1s
TREC Trest 49.14 308 AMS AMS 21 24 10.0
comp=Z,600nm,17.7s
ARSA Arzberg 49.48 305 *i* pP **P** **21 01 30.3 +3.2**
comp=Z,5.6nm,1.2s
GOPC GO Pecny, Ondr 49.48 309 AMS AMS 21 24 20.0
comp=Z,1µm,16.0s
PVCC Panska Ves 49.52 310 AMS AMS 21 24 20.0
comp=Z,1µm,19.1s
PRU Pruhonice 49.63 309 *e*P **P** **21 01 29.8 +1.7**
PRU *ex* x 21 01 33.5
PRU AMS AMS 21 24 30.0
comp=Z,1µm,17.0s
PRU Pruhonice 49.63 309 *e*P **P** **21 01 29.8 +1.7**
PRU MLR MLR
comp=Z,1µm,17.0s
PRA Prague 49.68 309 AMS AMS 21 24 30.0
BRG Berggiesshubel 49.86 310 *e*P **P** **21 01 30.3 +0.4**
comp=Z,6.6nm,0.8s
comp=N,728nm,18.5s
comp=E,820nm,18.6s
comp=Z,1µm,19.5s
BRG Berggiesshubel 49.86 310 *e*P **P** **21 01 30.3 +0.4**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,728nm,18.5s
BRG MLR MLR
comp=E,820nm,18.6s
BRG MLR MLR
comp=Z,1µm,19.5s
SOKA Soboth 49.93 304 *i* pP **P** **21 01 34.0 +3.4**
comp=Z,14nm,1.1s
NB2 NORSAR Subarra 50.32 323 P **P** **21 01 32.6 -0.7**
comp=Z,3.5nm,0.8s,baz=88,slow=7.9
NB200 NORSAR Array S 50.32 323 *e*P **P** **21 01 33.2 -0.1**
NOA NORSAR Array B 50.32 323 P **P** **21 01 33.2 -0.1**
comp=Z,4.2nm,0.8s,baz=87,slow=7.5,SNR=5.3
NOA LR LR 21 23 57.3
comp=Z,514nm,18.6s,baz=85,slow=37
GEC2 GERESS Array S 50.37 307 *e*P **P** **21 01 35.2 +1.2**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 50.37 307 *e*P **P** **21 01 35.1 +1.2**
comp=Z,7.8nm,0.9s
GERES GERESS Array B 50.37 307 P **P** **21 01 34.4 +0.5**
comp=Z,2.8nm,0.8s,baz=69,slow=7.3,SNR=16
GERES LR LR 21 27 00.8
comp=Z,439nm,18.1s,baz=74,slow=41
KHC Kasperske Hory 50.40 308 *e*P **P** **21 01 34.4 +0.4**
KHC *ex* x 21 01 38.4
KHC AMS AMS 21 24 50.0
KHC Kasperske Hory 50.40 308 *e*P **P** **21 01 34.4 +0.4**
KHC Kasperske Hory 50.40 308 *e*P **P** **21 01 34.5 +0.4**
comp=Z,3.0nm,0.9s
SEY Seymchan 50.63 34⇓*e*P **P** **21 01 36.9 +1.4**
NKC Novy Kostel 50.91 309 AMS AMS 21 25 10.0
comp=Z,2µm,20.3s
MOTA Moosalm 52.40 306 *i* pP **P** **21 01 48.8 -0.4**
comp=Z,8.1nm,0.8s
RETA Reutte 52.59 306 *i* pP **P** **21 01 54.6 +4.1**
comp=Z,8.1nm,1.0s
DAVA Damuels 53.22 306 *i* pP **P** **21 01 59.3 +4.0**
comp=Z,8.3nm,0.9s
BFO Black Forest 53.96 308 *i* P **P** **21 01 59.5 -1.1**
PETK Petropavlovsk- 54.80 46 LR LR 21 26 35.0
comp=Z,123nm,19.8s,baz=257,slow=37
KMBO Kilima Mbogo 54.89 238 P **P** **21 02 09.1 +1.2**
comp=Z,0.8nm,0.2s,baz=9.9,slow=6.4,SNR=4.1
KMBO LR LR 21 25 46.0
comp=Z,93nm,18.7s,baz=69,slow=36
KMBO Kilima Mbogo 54.89 238 *e*P **P** **21 02 09.1 +1.2**
comp=Z,3.0nm,0.9s
WLF Walferdange 55.00 310 *e*P **P** **21 02 09.3 +1.3**
WLF pmax pmax
comp=Z,12nm,0.9s
WLF Walferdange 55.00 310 *e*P **P** **21 02 09.3 +1.3**
comp=Z,12nm,0.9s
SENIN Lac Senin/Sane 55.17 306 *e*P **P** **21 02 09.9 +0.2**
comp=Z,28nm,1.5s
BILL Bilibino 55.84 27 *e*P **P** **21 02 15.8 +2.0**
BILL *e* 21 04 22.5
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,317nm,16.0s
KEST Kesra 57.30 293 LR LR 21 33 07.2
comp=Z,110nm,18.7s,baz=328,slow=42
DAG Danmarks Havn 58.12 345 *i* P **P** **21 02 32.5 +2.7**
comp=Z,3.6nm,1.1s
DAG Danmarks Havn 58.12 345 *e*P **P** **21 02 32.5 +2.7**
DAG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 64.71 343 *i* P **P** **21 03 18.1 +3.2**
SUMG Summit 64.71 343 *e*P **P** **21 03 18.1 +3.2**
ESDC Sonseca Array 65.31 302 P **P** **21 03 18.5 -0.4**
comp=Z,0.4nm,0.7s,baz=59,slow=6.7,SNR=3.3
ESDC LR LR 21 37 16.3
comp=Z,154nm,18.4s,baz=75,slow=41
MBWA Marble Bar 66.97 141 *e*P **P** **21 03 28.3 -1.3**
comp=Z,14nm,1.1s
MLY Manley 72.00 21 *e*P **P** **21 04 00.7 +0.5**
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 72.61 21 *e*P **P** **21 04 05.7 +1.8**
comp=Z,28nm,1.6s
MDM Murphy Dome 72.76 20 *e*P **P** **21 04 06.2 +1.4**
comp=Z,13nm,1.3s
CAST Castle Rocks 72.78 22 *e*P **P** **21 04 04.7 -0.2**
comp=Z,18nm,1.2s
CCB Clear Creek Bu 73.12 20 *e*P **P** **21 04 07.5 +0.7**
comp=Z,7.0nm,1.1s
ILAR Eielson Array 73.28 20 P **P** **21 04 06.2 -1.6**
comp=Z,6.0nm,0.9s,baz=312,slow=5.2,SNR=40
ILAR LR LR 21 41 07.7
comp=Z,248nm,19.4s,baz=319,slow=40
ILB Eielson Array 73.28 20 *e*P **P** **21 04 07.0 -0.8**
INK Inuvik 73.38 13 P **P** **21 04 06.5 -1.7**
comp=Z,8.8nm,1.0s,baz=329,slow=4.1,SNR=5.9
TOA0 Torodi Ar. Sit 74.17 275 *e*P **P** **21 04 13.6 -0.2**
comp=Z,7.7nm,0.9s
TOA1 Torodi Ar. Sit 74.17 275 *e*P **P** **21 04 13.7 -0.1**
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 74.17 275 P **P** **21 04 13.7 -0.1**
comp=Z,3.0nm,0.6s,baz=48,slow=5.0,SNR=24
TORD LR LR 21 40 18.9
comp=Z,97nm,18.3s,baz=65,slow=38
WR1 Warramunga Arr 74.48 129 *e*P **P** **21 04 13.7 -1.7**
comp=Z,9.7nm,0.9s
WRA Warramunga Arr 74.48 129 P **P** **21 04 13.7 -1.7**
comp=Z,3.9nm,1.0s,baz=326,slow=5.4,SNR=15
WRA LR LR 21 41 35.1
comp=Z,68nm,18.9s,baz=100,slow=40
WRAB Tennant Creek 74.48 129*ce*P **P** **21 04 14.4 -1.0**
WRAB pmax pmax
comp=Z,62nm,1.7s
WRAB Tennant Creek 74.48 129 *e*P **P** **21 04 14.4 -1.0**
comp=Z,44nm,1.7s
WB2 Warramunga Arr 74.49 129 *e*P **P** **21 04 14.4 -1.1**
comp=Z,11nm,1.0s
EGAK Eagle 74.76 17 *e*P **P** **21 04 16.6 +0.2**
comp=Z,12nm,1.1s
DOT Dot Lake 74.93 19 *e*P **P** **21 04 18.3 +0.8**
comp=Z,31nm,1.1s
HARP HAARP 75.61 20 *e*P **P** **21 04 22.3 +0.8**
comp=Z,38nm,1.1s
DAWY Dawson 75.78 17 *e*P **P** **21 04 24.1 +1.7**
comp=Z,13nm,1.2s
PMG Port Moresby 76.28 112 P **P** **21 04 22.8 -3.1**
comp=Z,11nm,0.6s,baz=307,slow=6.1,SNR=3.7
PMG Port Moresby 76.28 112⇑*e*P **P** **21 04 25.1 -0.8**
AS31 Alice Springs 76.95 132 *e*P **P** **21 04 28.1 -1.4**
comp=Z,1.2nm,0.8s
ASAR Alice Springs 76.95 132 P **P** **21 04 27.9 -1.7**
comp=Z,1.6nm,0.8s,baz=318,slow=6.3,SNR=15
BALM Baldy 77.52 20 *e*P **P** **21 04 32.5 +0.2**
BALM pmax pmax
comp=Z,23nm,1.3s
BALM Baldy 77.52 20 *e*P **P** **21 04 32.5 +0.2**
comp=Z,23nm,1.3s
HYT Haines Junctio 79.00 18 *e*P **P** **21 04 39.5 -1.1**
comp=Z,10nm,1.1s
YKA Yellowknife Ar 81.61 7 P **P** **21 04 51.8 -2.6**
comp=Z,1.5nm,0.7s,baz=342,slow=4.5,SNR=3.6
YKA LR LR 21 46 05.2
comp=Z,9.9nm,18.5s,baz=0.0,slow=39
YKB5 Yellowknife Ar 81.61 7 *e*P **P** **21 04 51.9 -2.5**
CTA Charters Tower 82.57 121 P **P** **21 04 57.1 -3.0**
comp=Z,11nm,0.7s,baz=304,slow=2.9,SNR=13
BOSA Boshof 82.78 227 P **P** **21 05 00.2 -0.9**
comp=Z,10nm,1.0s,baz=33,slow=6.1,SNR=8.1
BOSA LR LR 21 38 43.7
comp=Z,56nm,20.9s,baz=43,slow=33
DBIC Dimbokro 83.12 273 P **P** **21 05 02.2 -0.9**
comp=Z,4.3nm,0.9s,baz=56,slow=3.6,SNR=3.6
DBIC LR LR 21 45 40.8
comp=Z,127nm,18.4s,baz=40,slow=38
DBIC Dimbokro 83.12 273 *e*P **P** **21 05 01.2 -1.9**
DBIC pmax pmax
comp=Z,29nm,1.4s
DBIC Dimbokro 83.12 273 *e*P **P** **21 05 01.2 -1.9**

comp=Z,29nm,1.4s
SCHQ Schefferville 86.08 342 LR LR 21 48 50.6
comp=Z,90nm,18.9s,baz=36,slow=39
STKA Stephens Creek 87.57 132 P **P** **21 05 22.2 -2.7**
comp=Z,1.9nm,0.8s,baz=307,slow=8.6,SNR=4.6
STKA LR LR 21 50 59.9
comp=Z,43nm,21.0s,baz=338,slow=40
ULM Lac du Bonnet 94.70 358 LR LR 21 53 05.4
comp=Z,100nm,18.5s,baz=4.5,slow=38
YMV Mammoth Vault 99.27 9 *eP* **Pdif** **21 06 17.9 -1.1**
SNAA Sanae 121.39 202 P **PKPdf** **21 11 27.1 -1.9**
VNA2 Neumayer--Watz 122.59 203 P **PKPdf** **21 11 26.0 -5.3**
baz=36,slow=5.3
VNA1 Neumayer--Stat 122.81 203 P **PKPdf** **21 11 29.8 -1.9**
VNA3 Neumayer Olymp 123.39 203 P **PKPdf** **21 11 31.2 -1.6**
CPUP Villa Florida 143.64 273 PKIKP **PKPdf** **21 12 10.9 -1.0**
comp=Z,6.0nm,1.0s,baz=70,slow=3.7,SNR=5.0
CPUP Villa Florida 143.64 273 PKIKP **PKPdf** **21 12 11.0 -1.0**
CPUP pmax pmax
comp=Z,5.0nm,0.9s

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*ISCJB **20** 20:56:33.4±1.6, 13°.41S±0°.09×166°.9E±0°.3, h150km, mb3.8/6, Error ellipse: s-maj=35.7km s-min=11.1km az=170.8*
*IDC **20** 20:56:33.8±6.4, 13°.40S×167°.09E, h149km±61km, mb3.7/7, mb1 3.8/8, mb1mx3.5/43, mbtmp4.1/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/40, Error ellipse: s-maj=45.5km s-min=30.4km az=169.0*
ISC 20 20:56:33.9±1.4, **13°.40S**±0°.10×**167°.1E**±0°.2, **h150**km, **n11**, σ1§**01**/**11**, **mb3.9**/**7**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.65**	**184**	**P**	**Pn**	**20 58 36.5**	**+0.4**
	0.4nm,0.3s,baz=5.5,slow=15,SNR=2.9						
DZM				S	**Sn**	**21 00 11.9**	**-0.4**
	0.4nm,0.3s,baz=102,slow=20,SNR=2.3						
CTA	**Charters Tower**	**21.04**	**249**	P	**P**	**21 01 06.8**	**+0.6**
	4.6nm,0.8s,baz=63,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**29.75**	**228**	P	**P**	**21 02 26.7**	**+0.3**
	2.6nm,0.6s,baz=50,slow=12,SNR=7.9						
WRA	**Warramunga Arr**	**32.02**	**254**	P	**P**	**21 02 45.3**	**-1.2**
	1.0nm,0.5s,baz=86,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**33.02**	**247**	P	**P**	**21 02 54.3**	**-0.9**
	1.3nm,0.6s,baz=74,slow=9.3,SNR=31						
GUMO	**Guam**	**34.70**	**320**	LR	LR	21 18 19.0	
	comp=Z,38nm,19.1s,baz=269,slow=38						
CMAR	**Chiang Mai Arr**	**74.27**	**294**	P	**P**	**21 07 56.2**	**+1.1**
	0.8nm,0.8s,baz=121,slow=4.7,SNR=4.9						
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**21 08 32.9**	**-0.9**
	1.1nm,0.9s,baz=93,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**96.14**	**317**	P	**P**	**21 09 45.5**	**+0.8**
	0.5nm,0.4s,baz=90,slow=7.2,SNR=2.7						
ARCES	**ARCESS Array B**	**118.93**	**346**	PKP	**PKPdf**	**21 15 04.7**	**+0.6**
	1.7nm,0.9s,baz=48,slow=1.3,SNR=9.2						
FINES	**FINESS Array B**	**124.43**	**339**	PKP	**PKPdf**	**21 15 13.3**	**-1.5**
	4.4nm,0.9s,baz=64,slow=3.2,SNR=3.1						

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*IDC **20** 20:57:52.8±0.7, 12°.01N×143°.77E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.2/59, mbtmp4.3/19, MS3.8/5, Ms1 3.8/5, ms1mx3.2/45, Error ellipse: s-maj=21.0km s-min=15.8km az=112.0*
*ISCJB **20** 20:57:55.4±0.4, 12°.01N±0°.07×143°.59E±0°.07, h25km, mb4.6/37, MS3.8/5, Error ellipse: s-maj=10.9km s-min=7.9km az=136.2*
*NEIC **20** 20:57:55.3±5.0, 11°.99N×143°.69E, h15km±30km, mb4.9/20, Error ellipse: s-maj=10.3km s-min=9.2km az=132.0*
ISC 20 20:57:56.9±0.7, **12°.0N**±0°.1×**143°.8E**±0°.1, **h25**km, **n65**, σ0§**98**/**62**, **mb4.7**/**37**, **MS3.8**/**5**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.94**	**34**	Pn	**Pn**	**20 58 27.9**	**-0.3**
	203nm,0.3s,baz=300,slow=1.0,SNR=87						
GUMO				Sn	**Sn**	**20 58 51.9**	**+0.2**
	177nm,0.3s,baz=341,slow=23,SNR=16						
GUMO				LR	LR	20 59 25.3	
	comp=Z,1μm,20.8s,baz=128,slow=48						
H11S3	**WAKE ISLAND Hy 23.05**	**71**		T	T	21 27 00.8	
	baz=251,slow=74						
H11S1	**WAKE ISLAND Hy 23.06**	**71**		T	T	21 27 00.4	
	baz=251						
H11S2	**WAKE ISLAND Hy 23.06**	**71**		T	T	21 27 07.6	
	baz=251,slow=74						
H11N1	**WAKE ISLAND Hy 23.53**	**68**		T	T	21 27 39.5	
	baz=255,slow=75,SNR=4.2						
H11N2	**WAKE ISLAND Hy 23.54**	**68**		T	T	21 27 47.3	
	baz=255,slow=75,SNR=2.9						
H11N3	**WAKE ISLAND Hy 23.55**	**68**		T	T	21 27 41.0	
	baz=255,slow=75,SNR=3.4						
MJAR	**Matsushiro Arr**	**24.96**	**349**	P	**P**	**21 03 19.4**	**+1.0**
	2.2nm,0.9s,baz=165,slow=9.4,SNR=5.4						
MJAR				LR	LR	21 12 18.2	
	comp=Z,228nm,18.4s,baz=195,slow=35						
KSRS	**Korea Array**	**29.07**	**333**	P	**P**	**21 03 54.6**	**-0.6**
	0.9nm,0.5s,baz=133,slow=11,SNR=4.8						
KS15	**Wonju Array Si**	**29.07**	**333**	*eP*	**P**	**21 03 55.2**	**-0.2**
KSAR	**Wonju Array Be**	**29.07**	**333**	P	**P**	**21 03 54.6**	**-0.7**
WR1	**Warramunga Arr**	**33.05**	**196**	*eP*	**P**	**21 04 30.1**	**-0.5**
	5.9nm,0.9s						
WRA	**Warramunga Arr**	**33.05**	**196**	P	**P**	**21 04 30.1**	**-0.5**
	2.8nm,0.8s,baz=19,slow=9.9,SNR=17						
WRA				LR	LR	21 18 34.5	
	comp=Z,177nm,18.0s,baz=25,slow=38						
ASAR	**Alice Springs**	**36.71**	**195**	P	**P**	**21 05 02.0**	**-0.1**
	1.1nm,0.7s,baz=11,slow=10,SNR=5.6						
ASAR				LR	LR	21 20 29.3	
	comp=Z,135nm,19.1s,baz=18,slow=37						
CMAR	**Chiang Mai Arr**	**43.62**	**284**	P	**P**	**21 06 00.2**	**+0.6**
	0.9nm,0.7s,baz=85,slow=6.7,SNR=7.4						
SONA0	**Songino Array**	**47.43**	**326**	*eP*	**P**	**21 06 29.9**	**+0.4**
SONA0				ePcP	**PcP**	**21 08 01.2**	**+1.4**
SONM	**Songino Array**	**47.43**	**326**	P	**P**	**21 06 29.9**	**+0.4**
	0.9nm,0.6s,baz=144,slow=7.9,SNR=5.8						
SONM				PcP	**PcP**	**21 08 01.2**	**+1.4**
	0.6nm,0.7s,baz=143,slow=0.9,SNR=3.1						
MK32	**Makanchi Array**	**61.90**	**317**	*eP*	**P**	**21 08 13.7**	**-0.6**
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**21 08 13.7**	**-0.6**
	0.6nm,0.5s,baz=93,slow=6.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**21 08 16.2**	**-0.6**
	0.9nm,0.6s,baz=93,slow=6.0,SNR=3.7						
ZALV				LR	LR	21 35 54.2	
	comp=Z,70nm,19.2s,baz=152,slow=37						
ZAA1	**Zalesovo Array**	**62.30**	**325**	*eP*	**P**	**21 08 16.2**	**-0.6**
KURK	**Kurchatov**	**65.11**	**321**	*eP*	**P**	**21 08 35.3**	**-0.1**
KURBB	**Kurchatov Arra**	**65.15**	**320**	P	**P**	**21 08 35.3**	**-0.4**
	1.0nm,0.2s,baz=105,slow=6.6,SNR=5.5						
COLD	**Coldfoot**	**69.84**	**22**	*eP*	**P**	**21 09 05.5**	**+0.4**
	7.9nm,1.0s						
CCB	**Clear Creek Bu**	**70.07**	**25**	*eP*	**P**	**21 09 06.1**	**-0.4**
	38nm,2.0s						
ILAR	**Eielson Array**	**70.48**	**25**	P	**P**	**21 09 07.5**	**-1.6**
	2.5nm,0.9s,baz=252,slow=4.9,SNR=12						
ILB	**Eielson Array**	**70.48**	**25**	*eP*	**P**	**21 09 07.1**	**-2.0**
BVAR	**Borovoye Array**	**70.51**	**322**	P	**P**	**21 09 08.7**	**-0.8**
	2.1nm,0.3s,baz=100,slow=7.9,SNR=23						
DOT	**Dot Lake**	**71.45**	**27**	*eP*	**P**	**21 09 13.9**	**-1.1**
	29nm,1.1s						
DAWY	**Dawson**	**73.56**	**27**	*eP*	**P**	**21 09 27.7**	**+0.1**
	16nm,1.4s						
INK	**Inuvik**	**76.26**	**22**	P	**P**	**21 09 42.4**	**-0.6**
	10nm,1.0s,baz=259,slow=5.0,SNR=7.4						
ABKAR	**Akbulak array**	**77.00**	**318**	*eP*	**P**	**21 09 47.8**	**+0.2**
	17nm,0.5s						
ARU	**Arti**	**77.46**	**325**	P	**P**	**21 09 48.9**	**-1.1**
	1.2nm,0.4s,baz=56,slow=7.3,SNR=3.2						
ARU	**Arti**	**77.46**	**325**	*eP*	**P**	**21 09 48.9**	**-1.1**
	21nm,1.7s						
DLBC	**Dease Lake**	**77.92**	**32**	P	**P**	**21 09 53.0**	**+0.3**
	2.7nm,0.8s,baz=231,slow=6.5,SNR=3.9						
GEYT	**Alibeck**	**79.33**	**307**	P	**P**	**21 10 01.6**	**+0.8**
	2.4nm,0.9s,baz=58,slow=5.8,SNR=4.5						
YBH	**Yreka Blue Hor**	**84.75**	**49**	*eP*	**P**	**21 10 30.6**	**+1.4**
	3.8nm,0.8s						
YKA	**Yellowknife Ar**	**84.78**	**27**	P	**P**	**21 10 28.6**	**-0.2**
	1.2nm,0.5s,baz=286,slow=5.2,SNR=4.6						
YKB5	**Yellowknife Ar**	**84.78**	**27**	*eP*	**P**	**21 10 28.6**	**-0.3**
B08A	**Colville Reser**	**85.69**	**42**	*eP*	**P**	**21 10 34.3**	**+0.5**
	14nm,1.4s						
ORV	**Oroville**	**86.09**	**51**	*eP*	**P**	**21 10 38.1**	**+2.2**
	4.3nm,0.6s						
CBC	**Chamberlain**	**86.52**	**53**	*eP*	**P**	**21 10 40.1**	**+2.1**
E09A	**Wood Farm, Sta**	**86.91**	**43**	*eP*	**P**	**21 10 41.6**	**+1.8**
	5.9nm,0.9s						
NEW	**Newport**	**87.15**	**41**	P	**P**	**21 10 41.1**	**+0.1**
	7.9nm,0.9s,baz=275,slow=4.4,SNR=9.0						
NEW	**Newport**	**87.15**	**41**	*eP*	**P**	**21 10 41.4**	**+0.5**
	11nm,1.0s						
BMO	**Blue Mountains**	**87.89**	**45**	*eP*	**P**	**21 10 43.9**	**-0.8**
	13nm,1.1s						
ARA0	**ARCESS Array S**	**88.27**	**342**	*eP*	**P**	**21 10 46.2**	**+0.3**
ARCES	**ARCESS Array B**	**88.27**	**342**	P	**P**	**21 10 46.2**	**+0.3**
	4.5nm,0.9s,baz=64,slow=8.2,SNR=6.5						
BSMT	**Bassoo Peak**	**88.77**	**41**	*eP*	**P**	**21 10 50.2**	**+1.3**
MFID	**Camas Ranch**	**89.30**	**46**	*eP*	**P**	**21 10 52.3**	**+0.9**
	8.1nm,1.0s						
HLID	**Hailey**	**90.25**	**45**	*eP*	**P**	**21 10 57.6**	**+1.7**
	2.8nm,1.0s						
TPNV	**Topopah Spring**	**90.73**	**52**	*eP*	**P**	**21 10 59.0**	**+0.8**
	4.0nm,0.9s						
TPC	**Twentynine Pal**	**91.64**	**55**	*eP*	**P**	**21 11 03.8**	**+1.3**
FIA0	**FINESS Array S**	**92.15**	**335**	*eP*	**P**	**21 11 02.9**	**-1.1**
FINES	**FINESS Array B**	**92.15**	**335**	P	**P**	**21 11 02.9**	**-1.1**
	1.9nm,0.6s,baz=68,slow=5.5,SNR=7.7						
YNR	**Norris Junctio**	**92.44**	**43**	*eP*	**P**	**21 11 06.4**	**+0.3**
	17nm,1.3s						
IMW	**Indian Meadow**	**92.54**	**44**	*eP*	**P**	**21 11 07.4**	**+0.7**
	7.1nm,1.1s						
FLU	**Fool Peak**	**93.11**	**49**	*eP*	**P**	**21 11 07.7**	**-1.6**
TMUT	**Trail Mountain**	**93.84**	**49**	*eP*	**P**	**21 11 13.2**	**+0.5**
	14nm,0.4s						
X16A	**Lo Mia Camp, P**	**95.20**	**53**	*eP*	**P**	**21 11 17.3**	**-1.7**
	4.1nm,0.9s						
ANMO	**Albuquerque**	**98.89**	**51**	LR	LR	21 49 28.4	
	comp=Z,53nm,19.8s,baz=152,slow=31						
TOA1	**Torodi Ar. Sit**	**134.83**	**302**	ePKPdf	**PKPdf**	**21 17 15.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**134.84**	**302**	PKP	**PKPdf**	**21 17 15.3**	**+0.7**
	0.3nm,0.8s,baz=90,slow=1.4,SNR=2.9						
LPAZ	**La Paz**	**148.81**	**102**	PKPbc	**PKPbc**	**21 17 44.4**	**+0.4**
	1.3nm,0.9s,baz=34,slow=3.6,SNR=3.0						
LPAZ	**La Paz**	**148.81**	**102**	ePKPdf	**PKPdf**	**21 17 38.7**	**-1.5**
LPAZ				PKPbc	**PKPbc**	**21 17 44.4**	**+0.4**

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*ISCJB **20** 20:59:03.0±0.7, 35°.44N±0°.10×81°.5E±0°.1, h15km, mb3.5/10, Error ellipse: s-maj=15.5km s-min=12.4km az=43.7*
*IDC **20** 20:59:02.2±0.8, 35°.35N×81°.53E, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.7/54, mbtmp3.7/13, ML3.6/3, Error ellipse: s-maj=24.7km s-min=15.7km az=42.0*
*BJI **20** 20:59:04.6, 35°.59N×81°.53E, h10km, ML4.2/4*
ISC 20 20:59:04.8±0.8, **35°.50N**±0°.10×**81°.6E**±0°.1, **h15**km, **n15**, σ1§**29**/**15**, **mb3.4**/**10**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.99**	**314**	Pg	**Pb**	**21 00 49.8**	**+0.8**
AAK	**Ala-Archa**	**9.00**	**324**	Pg	Pn	21 01 46.6	+32
	1.1nm,0.3s,baz=146,slow=18,SNR=3.6						
AAK				Lg	Lg	21 03 45.8	
	3.6nm,0.3s,baz=14,slow=20,SNR=4.8						
MKAR	**Makanchi Array**	**11.29**	**2**	Pn	**Pn**	**21 01 46.2**	**+0.6**
	1.1nm,0.3s,baz=183,slow=12,SNR=4.8						
MKAR				Sn	**Sn**	**21 03 48.3**	**-3.2**
	0.6nm,0.3s,baz=183,slow=22,SNR=4.1						
ZALV	**Zalesovo Beam**	**18.58**	**6**	P	**Pn**	**21 03 21.5**	**+0.1**
	0.2nm,0.3s,baz=187,slow=10,SNR=2.3						
GEYT	**Alibeck**	**18.96**	**284**	P	**Pn**	**21 03 25.2**	**-1.0**
	0.4nm,0.3s,baz=98,slow=10,SNR=3.5						
SONM	**Songino Array**	**22.15**	**49**	P	**P**	**21 04 01.8**	**+1.8**
	0.9nm,0.9s,baz=240,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**22.91**	**133**	P	**P**	**21 04 07.4**	**-0.8**
	0.4nm,0.4s,baz=325,slow=7.7,SNR=3.9						
BRTR	**Keskin Array B**	**37.86**	**291**	P	**P**	**21 06 20.4**	**-0.7**
	0.3nm,0.6s,baz=96,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**43.19**	**325**	P	**P**	**21 07 05.6**	**+0.8**
	2.8nm,0.8s,baz=106,slow=7.8,SNR=2.8						
ARCES	**ARCESS Array B**	**45.46**	**336**	P	**P**	**21 07 23.2**	**+0.3**
	2.6nm,0.9s,baz=83,slow=7.4,SNR=3.3						
GERES	**GERESS Array B**	**50.43**	**307**	P	**P**	**21 08 02.4**	**+0.6**
	0.2nm,0.6s,baz=76,slow=5.2,SNR=2.6						
ILAR	**Eielson Array**	**73.11**	**20**	P	**P**	**21 10 35.0**	**+0.9**
	1.0nm,0.9s,baz=309,slow=5.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**74.32**	**275**	P	**P**	**21 10 41.7**	**-0.3**
	0.6nm,0.5s,baz=51,slow=4.9,SNR=3.7						
WRA	**Warramunga Arr**	**74.42**	**129**	P	**P**	**21 10 42.0**	**-0.4**
	0.2nm,0.5s,baz=327,slow=5.7,SNR=3.8						
ASAR	**Alice Springs**	**76.91**	**132**	P	**P**	**21 10 55.7**	**-1.0**
	0.3nm,0.8s,baz=317,slow=5.7,SNR=3.2						

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*ISCJB **20** 21:16:29.3±0.6, 31°.47N±0°.07×137°.79E±0°.10, h392km, mb3.1/8, Error ellipse: s-maj=12.9km s-min=7.2km az=32.7*
*JMA **20** 21:16:30.9±0.4, 31°.54N×138°.23E, h418km, M3.3*
*IDC **20** 21:16:32.4±3.9, 31°.41N×137°.83E, h423km±42km, mb2.9/8, mb1 3.1/9, mb1mx2.9/46, mbtmp3.7/9, Error ellipse: s-maj=25.6km s-min=18.8km az=98.0*
ISC 20 21:16:30.3±0.8, **31°.52N**±0°.09×**137°.9E**±0°.1, **h392**km, **n21**, σ1§**90**/**26**, **mb3.1**/**8**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**3.83**	**359**	P	**Pn**	**21 17 44.2**	**+4.0**
JOD2	**Odawara 2**	**3.86**	**14**	P	**Pn**	**21 17 43.1**	**+2.6**
BSO3	**Boso 3**	**3.93**	**33**	*eS*	**S**	**21 18 38.2**	**+0.2**
BSO4	**Boso 4**	**4.01**	**30**	P	**Pn**	**21 17 43.8**	**+2.1**
BSO4				*eS*	**S**	**21 18 41.4**	**+1.7**
BSO1	**Boso 1**	**4.04**	**39**	P	**Pn**	**21 17 43.2**	**+1.6**
BSO1				S	**S**	**21 18 40.1**	**+0.6**
JHU	**Hanno**	**4.47**	**14**	P	**Pn**	**21 17 47.3**	**+0.9**
JHU				*eS*	**S**	**21 18 47.8**	**-0.3**
JRY	**Ryogami san**	**4.56**	**10**	P	**Pn**	**21 17 49.9**	**+2.6**
JAG	**Ashikaga**	**5.05**	**14**	P	**Pn**	**21 17 53.5**	**+1.1**
JAG				*eS*	**S**	**21 18 56.7**	**-2.4**
JYT	**Yasato**	**5.06**	**21**	P	**Pn**	**21 17 53.4**	**+1.0**
JHO	**Hitachi**	**5.53**	**23**	P	**Pn**	**21 17 57.8**	**+0.4**
JHO				S	**S**	**21 19 05.7**	**-2.7**
CBIJ	**Chichi jima**	**5.77**	**139**	P	**Pn**	**21 18 00.8**	**+0.6**
JFK	**Kawauchi**	**6.32**	**22**	*eS*	**S**	**21 19 20.3**	**-3.9**
KSRS	**Korea Array**	**10.15**	**308**	P	**Pn**	**21 18 52.5**	**+2.5**
	0.3nm,0.3s,baz=123,slow=9.8,SNR=6.3						
SONM	**Songino Array**	**28.97**	**313**	P	**P**	**21 21 55.6**	**+0.1**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**37.45**	**259**	P	**P**	**21 23 06.2**	**-2.0**
	0.4nm,0.4s,baz=50,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**44.83**	**306**	P	**P**	**21 24 06.7**	**-0.4**
	0.1nm,0.3s,baz=95,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**51.28**	**184**	P	**P**	**21 24 55.2**	**-0.9**
	0.2nm,0.4s,baz=0.5,slow=7.5,SNR=5.2						
ILAR	**Eielson Array**	**55.70**	**30**	P	**P**	**21 25 27.1**	**-0.1**
	0.2nm,0.5s,baz=268,slow=5.3,SNR=2.9						
ARCES	**ARCESS Array B**	**68.13**	**339**	P	**P**	**21 26 48.8**	**-0.1**
	2.3nm,0.9s,baz=64,slow=8.4,SNR=3.7						
FINES	**FINESS Array B**	**72.33**	**332**	P	**P**	**21 27 13.8**	**-0.4**
	4.9nm,1.1s,baz=72,slow=6.2,SNR=8.6						
BRTR	**Keskin Array B**	**80.29**	**311**	P	**P**	**21 27 58.9**	**-0.1**
	0.4nm,0.7s,baz=98,slow=4.4,SNR=2.5						

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*ISCJB **20** 21:23:32.9±0.6, 16°.02N±0°.10×92°.71W±0°.05, h219km±4km, mb3.8/7, Error ellipse: s-maj=16.3km s-min=6.5km az=14.5*
*IDC **20** 21:23:33.2±1.0, 15°.68N×93°.13W, h228km±12km, mb3.4/7, mb1 3.7/8, mb1mx3.3/37, mbtmp4.0/8, Error ellipse: s-maj=38.5km s-min=14.0km az=56.0*
*MEX **20** 21:23:34.8±1.0, 16°.04N×92°.71W, h218km±13km, MD4.4*
ISC 20 21:23:33.4±0.9, **15°.9N**±0°.1×**92°.76W**±0°.06, **h217**km±6km, **n21**, σ1§**14**/**26**, **mb3.8**/**7**, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.49**	**243**	*eP*	**Pn**	**21 24 02.6**	**+0.2**
PCIG				*eS*	**S**	**21 24 25.2**	**+0.3**
CCIG	**Comitan**	**0.69**	**60**	*i P*	**Pn**	**21 24 02.9**	**-0.5**
CCIG				*i S*	**S**	**21 24 25.9**	**-0.9**
CMIG	**Matias Romero**	**2.34**	**300**	P	**Pn**	**21 24 16.8**	**+0.2**
	47nm,0.3s,baz=133,slow=8.7,SNR=197						
CMIG				S	**S**	**21 24 49.3**	**-0.8**
	59nm,0.3s,baz=297,slow=19,SNR=21						
CMIG	**Matias Romero**	**2.34**	**300**	*eP*	**Pn**	**21 24 16.8**	**+0.2**
CMIG				*i S*	**S**	**21 24 49.3**	**-0.8**
HUIG	**Huatulco**	**3.22**	**268**	*eP*	**Pn**	**21 24 26.8**	**+0.3**
HUIG				*i S*	**S**	**21 25 08.3**	**+0.4**
VHO	**Vista Hermosa**	**3.98**	**287**	*eP*	Pn	21 24 37.8	+2.2
VHO				*i S*	**S**	**21 25 24.5**	**+0.1**
TPIG	**Tehuac#an**	**5.04**	**300**	*eP*	**Pn**	**21 24 49.2**	**+0.2**
TPIG				*i S*	**S**	**21 25 48.2**	**-0.3**
PNIG	**Pinotepa**	**5.18**	**276**	*eP*	Pn	21 24 52.2	+1.8
PNIG				*i S*	**S**	**21 25 52.1**	**+0.8**
TLIG	**Tlapa**	**5.79**	**287**	*i P*	Pn	21 25 01.3	+2.9
TLIG				*i S*	**S**	**21 26 06.0**	**+0.3**
PPM	**Popocatepetl**	**6.41**	**300**	*eP*	Pn	21 25 10.4	+3.8
PPM				*i S*	**S**	**21 26 18.4**	**-2.0**
MEIG	**Mezcala**	**6.86**	**288**	*eP*	Pn	21 25 15.7	+3.7
MEIG				*i S*	S	21 26 34.2	+3.8
PLIG	**Platanillo**	**6.89**	**292**	*i P*	Pn	21 25 16.2	+3.7
PLIG				*i S*	**S**	**21 26 30.8**	**-0.4**
CAIG	**El Cayaco**	**7.29**	**280**	*i P*	Pn	21 25 19.6	+2.1
CAIG				*eS*	**S**	**21 26 38.3**	**-2.0**
TXAR	**Lajitas Array**	**16.69**	**325**	P	**Pn**	**21 27 16.3**	**+0.9**
	0.4nm,0.3s,baz=153,slow=13,SNR=31						
TKL	**Tuckaleechee C**	**21.23**	**21**	P	**P**	**21 28 05.9**	**+3.4**
	2.3nm,0.3s,baz=104,slow=12,SNR=4.6						
ANMO	**Albuquerque**	**22.57**	**330**	P	**P**	**21 28 15.5**	**-0.2**
	0.8nm,0.5s,baz=228,slow=12,SNR=2.9						
SDV	**Santo Domingo**	**22.70**	**105**	P	**P**	**21 28 18.0**	**+0.9**
	3.2nm,0.5s,baz=251,slow=5.1,SNR=4.5						
LPAZ	**La Paz**	**40.20**	**142**	P	**P**	**21 30 48.6**	**-1.1**
	4.4nm,0.6s,baz=313,slow=6.0,SNR=19						
YKA	**Yellowknife Ar**	**48.99**	**347**	P	**P**	**21 31 56.9**	**-0.9**
	1.9nm,0.5s,baz=135,slow=8.8,SNR=7.1						
INK	**Inuvik**	**58.39**	**343**	P	**P**	**21 33 04.6**	**-1.1**
	1.3nm,0.6s,baz=127,slow=5.1,SNR=4.3						
ILAR	**Eielson Array**	**60.78**	**337**	P	**P**	**21 33 21.9**	**-0.3**
	0.3nm,0.7s,baz=105,slow=6.8,SNR=4.1						

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*ISCJB **20** 21:30:22.8±0.3, 32°.55N±0°.02×115°.62W±0°.03, h18km±6km, Error ellipse: s-maj=3.9km s-min=3.4km az=29.5*
*MEX **20** 21:30:22.5±1.1, 32°.66N×115°.46W, h4km, MD3.8*
*ECX **20** 21:30:24.0±0.6, 32°.52N×115°.64W, h4km, MD2.4, ML2.6*
ISC 20 21:30:22.4±0.9, **32°.54N**±0°.02×**115°.62W**±0°.02, **h17**km±7km, **n29**, σ0§**54**/**46**, **3C-6D**, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.14**	**321**	⇓*i P*	**Pg**	**21 30 26.6**	**+0.1**
ERPC	**Ernies Place**	**0.21**	**350**	⇑*i P*	**Pg**	**21 30 28.4**	**+1.0**
WESC	**Westside Schoo**	**0.24**	**337**	*eP*	**Pg**	**21 30 28.5**	**+0.6**
YUH	**Yuha Desert**	**0.28**	**293**	⇓*i P*	**Pg**	**21 30 28.7**	**+0.2**
CPBX	**Cerro Prieto**	**0.29**	**114**	*eP*	**Pb**	**21 30 29.5**	**+0.4**
CPBX				*eS*	**Sb**	**21 30 34.4**	**+0.7**
CPBX				IAML		21 30 35.9	
	comp=E,3μm,0.1s						
DREC	**Desert Rsrch C**	**0.30**	**28**	*eP*	**Pb**	**21 30 30.3**	**+0.9**
COK	**Cook Ranch**	**0.32**	**344**	⇑*i P*	**Pb**	**21 30 30.4**	**+0.8**
MBIG	**Mexicali**	**0.38**	**110**	*eP*	**Pg**	**21 30 29.8**	**-0.4**
MBIG				*eS*	**Sg**	**21 30 33.7**	**-1.9**
RMX	**La Rumorosa**	**0.39**	**279**	⇓*eP*	**Pg**	**21 30 30.3**	**-0.4**
RMX				*eS*	**Sg**	**21 30 35.7**	**-0.5**
RMX				⇓*e*		21 30 36.0	
RMX				IAML		21 30 36.0	
	comp=N,625nm,0.1s						
IKP	**In-Ko-Pah, Jac**	**0.43**	**285**	P	**Pg**	**21 30 31.5**	**+0.3**
	baz=110,SNR=46						
IKP				S	**Sg**	**21 30 37.3**	**+0.1**
	baz=110						
IKP	**In-Ko-Pah, Jac**	**0.43**	**285**	⇓*i P*	**Pg**	**21 30 31.5**	**+0.3**
IKP				*eS*	**Sg**	**21 30 37.2**	**+0.1**
SWSC	**Sam W. Stewart**	**0.43**	**339**	P	**Pb**	**21 30 31.8**	**+0.2**
	baz=164,SNR=26						
SWSC				S	**Sb**	**21 30 37.7**	**-0.1**
	baz=164						
MONP2	**Monument Peak**	**0.77**	**298**	P	**Pg**	**21 30 37.6**	**+0.2**
	baz=120,SNR=33						
MONP2				S	**Sb**	**21 30 47.4**	**-0.

CMPM	Mikes Peak	0.94	117	*e*Pg	Pg	21 41 20.9	-0.5
HLPM	Lions Peak	0.95	142	*e*Pn	Pg	21 41 21.7	0.0
HSPM	Sheep	0.95	135	*e*Pn	Pb	21 41 22.1	0.0
JELB	Ellicott, Sant	0.96	153	*e*Pn	Pb	21 41 22.2	0.0
NMTM	Middletown	1.02	356	*e*Pg	Pg	21 41 21.6	-1.5
CDC	Canada Road	1.03	137	*e*Pn	Pb	21 41 23.4	-0.1
CSR	Chase Ranch	1.04	143	*e*Pn	Pg	21 41 22.8	-0.5
SKG	Skaggs Springs	1.05	331	*e*Pg	Pg	21 41 22.8	-0.7
ANZ	Anzar Road	1.09	145	*e*Pn	Pg	21 41 24.0	-0.4
GSGM	Seigler Mounta	1.11	346	*e*Sn	Sn	21 41 43.4	+2.8
HTUM	Tustin Road	1.12	149	*e*Pg	Pg	21 41 23.8	-1.1
HPCM	Pacheco Lake	1.13	130	*e*Pg	Pg	21 41 24.5	-0.7
HBTM	San Juan Bauti	1.14	145	*e*Pn	Pg	21 41 24.9	-0.5
SLD	San Luis Dam	1.16	128	*e*Pg	Pg	21 41 24.9	-0.7
GARM	Arbuckle	1.17	4	*e*Pg	Pb	21 41 24.6	-1.2
GRTM	Round Top Moun	1.17	348	*e*Pn	Pb	21 41 26.1	+0.2
SCKWR	San Luis Creek	1.19	120	*e*Pg	Pb	21 41 25.8	-0.4
HSFM	Saint Francis	1.19	144	*e*Pn	Pb	21 41 25.7	-0.6
SFJWR	San Luis Fatjo	1.20	128	*e*Pg	Pb	21 41 25.5	-0.9
HSLM	San Luis Dam	1.23	125	*e*Pn	Pn	21 41 26.9	0.0
FRP	Fremont Peak	1.25	146	*e*Pg	Pn	21 41 25.6	-1.5
SAO	San Andreas Ge	1.26	144	*e*Pn	Pn	21 41 25.9	-1.3
BVYM	Vineyard	1.28	144	*e*Pn	Pn	21 41 26.4	-1.2
BSRM	Salinas Radio	1.31	149	*e*Pn	Pn	21 41 26.5	-1.4
HOPS	Hopland Field	1.33	335	*e*Pn	Pn	21 41 26.7	-1.5
BPCNC	Pine Canyon	1.35	154	*e*Pn	Pn	21 41 27.7	-0.7
BCGM	Cienega Road	1.35	143	*e*Pn	Pn	21 41 27.5	-1.0
JHC	Johnson Canyon	1.46	148	*e*Pn	Pn	21 41 28.7	-1.3
BPRM	Ponciano Ridge	1.47	160	*e*Pn	Pn	21 41 29.2	-0.9
EKH	Elkhorn Ranch	1.47	139	*e*Pn	Pn	21 41 29.4	-0.7
EMT	Emmet	1.51	138	*e*Pn	Pn	21 41 29.9	-0.9
BRMM	Rolling Bench	1.55	127	*e*Pn	Pn	21 41 30.6	-0.7
CMB	Columbia Colle	1.58	80	*e*Pn	Pn	21 41 29.7	-2.0
BSMM	Soledad Missio	1.59	152	*e*Pn	Pn	21 41 30.8	-1.1
AFDM	Forest Hills D	1.59	43	*e*Pn	Pn	21 41 29.0	-2.9
SHG	Shirttail Gulc	1.63	147	*e*Pn	Pn	21 41 31.3	-1.1
OHCM	Honcut	1.69	24	*e*Pn	Pn	21 41 30.3	-2.9
LRC	Lone Oak Road	1.87	145	*e*Pn	Pn	21 41 35.2	-0.4
ORV	Oroville	1.89	21	*e*Pn	Pn	21 41 32.7	-3.2
PCCM	Crazy Canyon	1.95	150	*e*Pn	Pn	21 41 35.9	-0.9
PMPB	Monarch Peak	2.01	141	*e*Pn	Pn	21 41 37.8	+0.2
PAPM	Alder Peak	2.04	156	*e*Pn	Pn	21 41 37.2	-0.8
KCPM	Cahto Peak	2.12	334	*e*Pn	Pn	21 41 40.3	+1.1
PTV	Peach Tree Val	2.13	141	*e*Pn	Pn	21 41 39.4	+0.1
EMB	Emerald Bay	2.13	56	*e*Pn	Pn	21 41 39.0	-0.6
PSMM	Smith Mountain	2.23	140	*e*Pn	Pn	21 41 41.4	+0.8
DONR	Donner Summit	2.24	45	*e*Pn	Pn	21 41 39.8	-1.1
WAKR	Walker	2.42	72	*e*Pn	Pn	21 41 43.7	+0.3
PNTR	Pine Nut	2.53	58	*e*Pn	Pn	21 41 45.1	+0.2
O03D	Paynes Creek baz=188,SNR=35	2.54	10	P	Pn	21 41 43.0	-1.9
KMRM	Mail Ridge	2.65	337	*e*Pn	Pn	21 41 47.2	+0.8
PAGB	Antelope Grade	2.66	140	*e*Pn	Pn	21 41 46.6	0.0
YERR	Yerington	2.73	63	*e*Pn	Pn	21 41 47.5	-0.1
WDC	Whiskeytown Da	2.79	357	*e*Pn	Pn	21 41 45.9	-2.4
MLAC	Mammoth, Mammo baz=276,SNR=54	2.80	92	P	Pn	21 41 49.0	+0.3
MLAC	Mammoth, Mammo	2.80	92	*e*Pn	Pn	21 41 49.3	+0.6
RCTC	Rector, Farmer baz=304	2.90	120	P	Pn	21 41 48.8	-1.1
TVH2	Borealis Mine	2.91	77	*e*Pn	Pn	21 41 50.8	+0.6
PAHR	Pah Rah Range	3.02	54	*e*Pn	Pn	21 41 50.5	-1.1
MTUM	Tungsten Hills	3.05	97	*e*Pn	Pn	21 41 52.8	+0.7
SMMC	Simmler baz=325	3.12	142	P	Pn	21 41 51.5	-1.4
SMMC				S	Sn	21 42 29.1	-1.2
LBCM	Butte Creek Ri baz=325	3.14	14	*e*Pn	Pn	21 41 53.2	-0.1
N02D	Trinity Center baz=174,SNR=7.9	3.19	355	P	Pn	21 41 54.3	+0.4
KHMM	Horse Mountain	3.26	341	*e*Pn	Pn	21 41 58.3	+3.4
VES	Vestal, Richgr baz=309,SNR=17	3.27	125	P	Pn	21 41 53.7	-1.2
VES				S	Sn	21 42 32.2	-1.7
TIN	Tinemaha, Big baz=309	3.37	101	P	Pn	21 41 56.1	-0.3
PKM	Mcpherson Peak baz=285	3.55	144	P	Pn	21 41 58.1	-0.9
PKM				S	Sn	21 42 39.1	-2.1
M02C	Callahan baz=327	3.62	354	P	Pn	21 41 59.9	+0.2
CWC	Cottonwood Cre baz=172	3.68	110	P	Pn	21 42 00.9	+0.2
ISA	Isabella, Lake baz=294	3.78	123	P	Pn	21 42 01.1	-0.8
ISA				S	Sn	21 42 46.4	-0.2
ISA	Isabella, Lake baz=307	3.78	123	*e*Pn	Pn	21 42 02.8	+0.9
ARVC	Arvin baz=316	3.89	132	P	Pn	21 42 02.1	-1.4
ARVC				S	Sn	21 42 48.7	-0.6
KRMB	Red Mountain baz=316	3.92	343	*e*Pn	Pn	21 42 06.1	+2.3
YBH	Yreka Blue Hor	3.95	356	*e*Pn	Pn	21 42 06.4	+2.1
M04C	Macdoel baz=185	4.01	6	P	Pn	21 42 04.8	-0.4
GRAC	Grapevine Rang baz=284	4.06	100	Pb	Pb	21 42 14.5	-0.6
DAC	Darwin (Calif)	4.10	110	*e*Pn	Pn	21 42 00.1	-6.5
DAC				*e*Pb	Pb	21 42 09.1	-6.9
DAC				*e*Sg	Sg	21 43 14.8	-0.4
MPMC	Manual Prospec baz=297	4.27	112	P	Pn	21 42 07.2	-1.6
OSI	Osito Audit: C baz=320	4.32	136	S	Sn	21 42 59.8	-0.3
SCZ2	Santa Cruz Isl baz=332	4.39	149	S	Sn	21 42 59.1	-2.5
MOD	Modoc Plateau	4.40	20	*e*Pn	Pn	21 42 09.5	-1.1
MOD				*e*Pb	Pb	21 42 18.5	-2.6
LRMC	Laurel Mtn Rad baz=304,SNR=19	4.41	120	P	Pn	21 42 09.9	-0.8
L02D	Cave Junction, baz=166	4.47	348	P	Pn	21 42 10.6	-0.8
BLG	Laguna Peak, P baz=326	4.54	143	S	Sn	21 43 03.9	-1.5
EDW2	Edwards Air Fo baz=312,SNR=18	4.57	128	P	Pn	21 42 11.8	-1.0
EDW2				S	Sn	21 43 05.1	-0.9
KBO	Bosley Butte	4.64	343	*e*Pn	Pn	21 42 17.4	+3.5
BMN	Battle Mountai	4.79	55	*e*Pg	Pg	21 42 38.1	+2.9
HUMO	Hull Mountain	4.83	355	*e*Pn	Pn	21 42 19.5	+3.1
HOLC	Holcomb Ridge	4.94	131	*e*Pn	Pn	21 42 17.7	-0.3
TPNV	Topopah Spring	4.94	98	*e*Pn	Pn	21 42 20.2	+2.2
PASC	Pasadena Art C	4.95	136	*e*Pn	Pn	21 42 18.3	+0.3
MWC	Mount Wilson	4.98	134	*e*Pn	Pn	21 42 18.6	0.0
GSC	Goldstone, Bar baz=302,SNR=14	5.12	117	P	Pn	21 42 19.6	-0.7
GSC	Goldstone, Bar	5.12	117	*e*Pn	Pn	21 42 20.3	-0.1
BFSC	Mount Baldy Ra baz=316,SNR=12	5.20	131	P	Pn	21 42 21.2	-0.5
RRX	Edison Barstow baz=307	5.22	122	S	Sn	21 43 21.1	-0.8
SHOC	Shoshone, Teco baz=294	5.23	109	P	Pn	21 42 21.3	-0.6
R11A	Troy Canyon, C baz=326	5.38	82	*e*Pn	Pn	21 42 26.1	+2.0
CIS	Catalina Islan baz=188	5.43	143	S	Sn	21 43 23.6	-3.7
J05D	Fort Rock, OR	5.56	9	P	Pn	21 42 26.8	+0.3
TUQ	Turquoise Moun baz=297	5.69	112	P	Pn	21 42 27.6	-0.6
HEC	Hector, Ludlow baz=304,SNR=20	5.69	119	P	Pn	21 42 27.9	-0.4
HEC				S	Sn	21 43 33.4	-0.4
SCI2	San Clemente I baz=329	5.72	146	P	Pn	21 42 26.7	-1.8
SCI2				S	Sn	21 43 33.9	-0.5
SHPR	Sheep Range	5.89	100	*e*Pn	Pn	21 42 33.0	+1.8
MURC	Murrieta baz=318	5.93	133	P	Pn	21 42 29.7	-1.8
GMRC	Granite Mounta baz=302	6.19	117	P	Pn	21 42 33.9	-1.3
TPC	Twentynine Pal	6.30	124	*e*Pn	Pn	21 42 36.2	-0.4
PFO	Pinyon Flats O 2.4nm,0.3s,baz=317,slow=15,SNR=18	6.36	129	Pn	Pn	21 42 37.2	-0.3
PFO				Sn	Sn	21 43 47.1	-3.2
	1.4nm,0.3s,baz=129,slow=16,SNR=3.6						
PFO				LR	LR	21 45 26.4	
	comp=Z,265nm,18.0s,baz=332,slow=42						
PFO	Pinyon Flats O baz=314	6.36	129	P	Pn	21 42 35.9	-1.6
PFO				S	Sn	21 43 48.5	-1.8
BELC	Belle Mtn. Jos baz=309,SNR=15	6.40	124	P	Pn	21 42 37.3	-0.8
BELC				S	Sn	21 43 49.6	-1.7
IRM	Iron Mountain baz=305	6.88	120	P	Pn	21 42 43.4	-1.2
IRM				S	Sn	21 44 00.7	-2.4
BC3	Big Chuckawall baz=309,SNR=14	6.97	124	P	Pn	21 42 44.5	-1.3
CCUT	Cedar City	7.14	89	*e*Pn	Pn	21 42 51.7	+3.4
LCMT	Little Creek M	7.30	93	*e*Pn	Pn	21 42 52.8	+2.4
Y12C	Blythe	7.54	120	*e*Sn	Sn	21 44 20.4	+1.3
G06A	Carlson Farm,	7.55	9	*e*Pn	Pn	21 42 57.5	+3.8
GLA	Glamis baz=311,SNR=9.6	7.76	125	P	Pn	21 42 55.0	-1.6
GLA	Glamis	7.76	125	*e*Pn	Pn	21 42 55.5	-1.1
MSU	Marysvale	8.06	82	*e*Pn	Pn	21 43 04.6	+3.7
U15A	North Rim	8.16	97	*e*Pn	Pn	21 43 05.0	+2.6
Y14A	Wickenburg	8.51	114	*e*Pn	Pn	21 43 11.2	+4.2
SRU	San Rafael Swe	9.38	78	*e*Pn	Pn	21 43 23.8	+4.8
PDAR	Pinedale Array 0.1nm,0.3s,baz=241,slow=12,SNR=2.4	10.97	59	Pn	Pn	21 43 43.8	+3.0
NEW	Newport comp=Z,132nm,21.8s,baz=291,slow=36	11.15	18	LR	LR	21 47 51.1	
S22A	4UR Ranch, Cre	12.30	85	*e*Pn	Pn	21 43 55.2	-3.8
TX31	Lajitas Ar. Si	17.70	113	*e*Pn	P	21 45 13.7	+2.6
TXAR	Lajitas Array 0.0nm,0.3s,baz=303,slow=12,SNR=11	17.70	113	Pn	P	21 45 13.4	+2.3
ILAR	Eielson Array 0.3nm,0.5s,baz=154,slow=9.3,SNR=3.5	30.66	340	P	P	21 47 17.7	-0.3
H11N3	WAKE ISLAND Hy baz=56,slow=75,SNR=57	63.19	275	T	T	22 59 53.5	
H11N2	WAKE ISLAND Hy baz=56,slow=75,SNR=58	63.20	275	T	T	22 59 55.1	
H11N1	WAKE ISLAND Hy baz=56,slow=75,SNR=61	63.21	275	T	T	22 59 55.9	
H11S1	WAKE ISLAND Hy baz=55,slow=75,SNR=75	64.02	274	T	T	23 00 45.7	
H11S2	WAKE ISLAND Hy baz=55,slow=75,SNR=54	64.03	274	T	T	23 00 43.9	
H11S3	WAKE ISLAND Hy baz=55,slow=75,SNR=38	64.04	274	T	T	23 00 46.1	

NIED ***20*** *21:43:00, 38.°50N×142.°30E, h26km, Mw3.4 Best double couple: M0 1.43000×10^14 NP1:φs 192.00000°, δ37.00000°, λ-86.00000°. NP2:φs 7.00000°, δ53.00000°, λ-93.00000°.*

JMA 20 21:43:23.3±0.1, 38.°47N×142.°32E, h36km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.76	269	P	Pn	21 43 37.7	+0.2
JIO				S	Sn	21 43 47.7	0.0
OFUJ	Ofunato	0.79	320	P	Pn	21 43 38.3	+0.3
OFUJ				S	Sn	21 43 48.7	+0.1
JMK	Ichinoseki	0.99	300	P	Pn	21 43 41.2	+0.6
JOM	Ohasama	1.28	322	P	Pn	21 43 45.7	+1.0
JOM				*e*S	Sn	21 44 02.0	+1.4
JOU	Okura	1.30	266	P	Pn	21 43 45.8	+0.8
JOU				*e*S	Sn	21 44 02.2	+1.0
JMM	Marumori	1.35	244	P	Pn	21 43 45.6	+0.1
JMM				*e*S	Sn	21 44 02.1	0.0
JFK	Kawauchi	1.59	227	P	Pn	21 43 48.6	-0.3
JFK				*e*S	Sn	21 44 07.4	-0.8
JYK	Kaneyama	1.60	287	P	Pn	21 43 50.3	+1.3
JRG	Rokugo	1.61	306	P	Pn	21 43 50.4	+1.3

PRU 20 21:51:40.3, 50.°12N×19.°17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	0.99	169	*e*PG	Pg	21 51 58.9	-0.3
LANS				*e*SG	Sg	21 52 12.6	+0.6
KRLC	Kraliky	1.54	269	*e*SG	Sg	21 52 28.6	-1.1
VYHS	Vyhne	1.64	188	*e*PG	Pn	21 52 08.8	-1.6
DPC	Dobruska-Polom	1.84	278	*e*PG	Pb	21 52 14.1	-0.8
DPC				*e*SG	Sg	21 52 39.0	-0.5

CSEM ***20*** *21:52:11.6±0.4, 50.°14N×19.°14E, h1km, Error ellipse: s-maj=9.6km s-min=5.0km az=7.0*

PRU 20 21:52:12.4, 50.°14N×19.°16E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.42	79	*e*Pg	Pg	21 52 20.1	-0.3
OJC				*e*Sg	Sg	21 52 26.3	+0.5
OJC	Ojcow	0.42	79	*e*Pg	Pg	21 52 20.1	-0.3
OJC				*e*Sg	Sg	21 52 26.3	+0.5
OKC	Ostrava-Krasne	0.72	246	*e*PG	Pg	21 52 26.4	+0.2
OKC				*e*SG	Sb	21 52 37.0	-1.2
OKC	Ostrava-Krasne	0.72	246	Pg	Pg	21 52 26.4	+0.2
OKC				Sg	Sb	21 52 37.0	-1.2
LANS	Liptovska Anna	1.01	168	*e*Pg	Pg	21 52 31.1	-0.6
LANS				*e*Sg	Sg	21 52 45.3	+0.5
LANS	Liptovska Anna	1.01	168	*e*PG	Pg	21 52 31.1	-0.6
LANS				*e*SG	Sg	21 52 45.3	+0.5
NIE	Niedzica	1.03	134	*e*Pg	Pg	21 52 31.4	-0.8
NIE				*e*Sg	Sg	21 52 46.3	+0.8
NIE	Niedzica	1.03	134	*e*Pg	Pg	21 52 31.4	-0.8
NIE				*e*Sg	Sg	21 52 46.3	+0.7
MORC	Moravsky Berou	1.11	251	*e*Pg	Pg	21 52 33.5	-0.1
MORC				*e*Sg	Sg	21 52 48.2	+0.3
KRLC	Kraliky	1.53	268	*e*PG	Pn	21 52 39.7	-1.4
KRLC				*e*SG	Sg	21 53 00.9	-0.7
KRLC	Kraliky	1.53	268	Pg	Pn	21 52 39.7	-1.4
KRLC				Sg	Sg	21 53 00.9	-0.7
STHS	Stebnicka Huta	1.53	117	*e*Pn	Pn	21 52 41.2	+0.2
STHS	Stebnicka Huta	1.53	117	*e*PN	Pn	21 52 41.2	+0.2
STHS				*e*LG	Lg	21 53 14.4	
VYHS	Vyhne	1.66	187	*e*Pg	Pn	21 52 41.3	-1.5
VYHS				*e*Sn	Sn	21 53 03.2	-1.6
VYHS	Vyhne	1.66	187	*e*PG	Pn	21 52 41.3	-1.5
VYHS				*e*SN	Sn	21 53 03.2	-1.6
VYHS				*e*LG	Lg	21 53 04.8	
DPC	Dobruska-Polom	1.83	278	*e*PG	Pn	21 52 45.6	+0.4
DPC				*e*SG	Sb	21 53 10.1	-0.2
	comp=Z,2.9nm,0.4s						
DPC	Dobruska-Polom	1.83	278	Pg	Pn	21 52 45.6	+0.4
DPC				Sg	Sb	21 53 10.1	-0.2
	2.9nm,0.4s						

ECX ***20*** *21:58:42.8±0.5, 32.°40N×115.°08W, h8km, ML2.6*

ISC 20 21:58:41.7±1.0, 32.°40N±0.°03×115.°11W±0.°03, h18km±5km, n21, σ1.9±11/27, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.07	275	⇑*e*P	Pg	21 58 45.1	0.0
CPBX	Cerro Prieto	0.17	276	⇑*e*P	Pg	21 58 46.5	+0.4
CPBX				*e*S	Sg	21 58 49.9	+0.7
CPBX				IAML		21 58 51.9	
	comp=E,5μm,0.2s						
CPBX				⇑*e*		21 58 51.9	
CPBX				IAML		21 58 53.2	
	comp=N,3μm,0.2s						
EMSC	East Mesa	0.35	17	⇓*iP*	Pg	21 58 49.0	-0.1
COA	Coachella	0.46	359	*e*P	Pg	21 58 50.9	-0.2
DREC	Desert Rsrch C	0.49	325	*e*P	Pg	21 58 52.1	+0.5
YMD	Yuma Desert	0.50	72	*e*P	Pg	21 58 51.7	-0.1
WESC	Westside Schoo	0.64	304	⇑*e*P	Pg	21 58 54.1	-0.2
GLA	Glamis baz=201,SNR=29	0.69	20	P	Pg	21 58 54.3	-1.1
GLA				S	Sg	21 59 03.1	-1.5
SWSC	Sam W. Stewart baz=132	0.80	313	P	Pg	21 58 55.7	-1.6
SWSC				S	Sg	21 59 06.7	-1.2
IKP	In-Ko-Pah, Jac baz=105,SNR=11	0.88	287	P	Pg	21 58 57.9	-1.0
IKP				S	Sg	21 59 09.9	-0.6
IKP	In-Ko-Pah, Jac	0.88	287	*e*P	Pg	21 58 57.9	-1.0
ECBX	El Chinero	0.93	177	*e*P	Pg	21 58 59.0	-0.8
ECBX				*e*S	Sg	21 59 11.6	-0.4
ECBX				IAML		21 59 14.0	
	comp=E,178nm,0.2s						
ECBX				⇓*e*		21 59 14.0	
MONP2	Monument Peak baz=113	1.21	294	P	Pb	21 59 03.7	-0.5
MONP2				S	Sg	21 59 19.6	-1.4
BC3	Big Chuckawall baz=167,SNR=12	1.28	347	P	Pn	21 59 04.5	-0.4
BC3				S	Sb	21 59 21.5	-0.2
CBX	Cerro Bola comp=N,77nm,0.3s	1.32	267	IAML		21 59 24.9	
BAR	Barrett	1.35	282	*e*P	Pn	21 59 06.2	+0.5
SPIG	San Pedro Mart	1.39	193	⇓*e*P	Pn	21 59 06.8	+0.3
Y12C	Blythe baz=201,SNR=7.4	1.43	20	P	Pn	21 59 07.8	+1.0
109C	Camp Elliot, M baz=105	1.75	287	S	Sn	21 59 35.7	+2.6
IRM	Iron Mountain baz=179,SNR=12	1.75	359	Pb	Pn	21 59 13.6	+2.3
214A	Organ Pipe Nat baz=284	2.00	102	S	Sg	21 59 45.2	-1.0

MEX 20 22:32:40.6±0.8, 15.°97N×97.°67W, h20km±37km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	314	*e*P	Pb	22 32 50.5	-2.0
PNIG				*e*S	Sb	22 32 58.2	-2.5
VHO	Vista Hermosa	1.42	39	*e*P	Pn	22 33 02.2	-3.3
VHO				*e*S	Sn	22 33 18.9	-4.7
HUIG	Huatulco	1.52	97	*e*P	Pn	22 33 03.4	-3.3
HUIG				*e*S	Sn	22 33 21.6	-4.3
TLIG	Tlapa	1.80	332	*e*P	Pn	22 33 09.1	-1.5
TLIG				*i* S	Sn	22 33 32.6	-0.4

OTT ***20*** *22:41:09.6±0.3, 41.°13N×80.°68W, h1km, MN2.6/9, Ohio, U.S. 173km southeast from Blenheim, Ontario Eastern Background Seismic Zone.*

NEIC ***20*** *22:41:10.8±0.0, 41.°13N×80.°70W, h6km, ML2.2(LDO), After LDO.*

NEIC Felt [III] at Youngstown. Also felt at Girard, Lisbon, Mentor and Richfield. Felt at Coraopolis, Pennsylvania.

ISC 20 22:41:08.6±0.9, 41.°09N±0.°02×80.°68W±0.°03, h8km±5km, n36, σ1.9±72/63, 1C, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSUO	Youngstown Sta	0.03	60	PG	Pg	22 41 10.1	0.0
YSUO				SG	Sg	22 41 10.9	-0.3
ALLY	Alegheny Colle	0.69	36	SG	Sb	22 41 31.9	-0.8
UPAO	U. Pittsburgh	0.79	140	P	Pb	22 41 24.9	+0.4
ERPA	Erie	1.15	27	⇑PG	Pg	22 41 30.3	-0.4
ERPA				SG	Sg	22 41 44.6	-1.0
ERPA	Erie	1.15	27	P	Pg	22 41 30.3	-0.4
ERPA				S	Sg	22 41 44.5	-1.1
MCWV	Mont Chateau	1.57	156	P	Pb	22 41 37.8	-0.1
MCWV				S	Sb	22 41 58.8	+1.0
PLIO	Pelee Island,	1.61	295	PG	Pn	22 41 38.1	+0.8
PLIO				SG	Sb	22 41 59.0	0.0
PLIO				Trac		22 42 02.7	
	comp=Z,14nm,0.2s						
PLIO	Pelee Island,	1.61	295	P	Pn	22 41 38.1	+0.8
PLIO				S	Sn	22 41 57.5	-0.7
ACSO	Alum Creek Sta	1.95	245	*e*Pn	Pn	22 41 40.8	-1.2
ACSO				*e*Sn	Sn	22 42 08.1	+1.3
WVNY	West Valley, N	2.04	49	P	Pn	22 41 44.1	+0.8
WVNY				S	Sn	22 42 08.7	-0.3
TYNO	Tyneside	2.09	16	SG	Sb	22 42 11.9	-1.0
TYNO				Trac		22 42 16.4	
	comp=Z,21nm,0.1s						
SSPA	Standing Stone	2.17	101	P	Pn	22 41 46.2	+1.2
SSPA				S	Sn	22 42 13.2	+1.1
STCO	Saint Catharin	2.40	27	SN	Sb	22 42 20.1	-1.7
STCO				SG	Sg	22 42 22.7	-3.0
STCO				Trac		22 42 24.7	
	comp=Z,28nm,0.2s						
ACTO	Acton	2.56	10	PN	Pn	22 41 51.3	+0.8
ACTO				SN	Sb	22 42 24.4	-2.0
ACTO				SG	Sn	22 42 26.2	+4.4
ACTO				Trac		22 42 27.0	
	comp=Z,22nm,0.2s						
MMNY	Mt. Morris Dam	2.64	51	P	Pn	22 41 53.3	+1.8
MMNY				S	Sn	22 42 25.2	+1.4
MEDO	Medina	2.65	38	SN	Sn	22 42 25.1	+1.0
MEDO				SG	Sb	22 42 30.5	+1.3
MEDO				Trac		22 42 32.4	
	comp=Z,2.8nm,0.1s						
BASO	Ashfield	3.01	346	SN	Sn	22 42 31.1	-1.8
BASO				SG	Sb	22 42 39.1	-0.3
BASO				Trac		22 42 42.5	
	comp=Z,9.9nm,0.2s						
BWLO	Walkerton	3.04	354	PG	Pb	22 42 04.4	+1.3
BWLO				SN	Sn	22 42 33.9	+0.1
BWLO				SG	Sb	22 42 40.5	+0.1
BWLO				Trac		22 42 44.0	
	comp=Z,8.6nm,0.1s						
PKRO	Pickering	3.11	22	SG	Sb	22 42 43.4	+1.2
BRCO	Bruce Peninsul	3.20	350	SN	Sn	22 42 38.5	+0.9
BRCO				SG	Sb	22 42 45.2	+0.3
WLVO	Wesleyville	3.30	30	PG	Pb	22 42 07.3	0.0
WLVO				SN	Sn	22 42 41.0	+1.1
WLVO				LG	Lg	22 42 51.5	
WLVO				Trac		22 42 54.9	
	comp=Z,3.4nm,0.1s						
CLWO	Collingwood	3.37	5	PG	Pb	22 42 08.7	+0.1
CLWO				SN	Sn	22 42 42.8	+1.0
CLWO				SG	Sb	22 42 50.1	+0.4
CLWO				Trac		22 42 55.3	
	comp=Z,4.5nm,0.1s						
SDMD	Soldier's Deli	3.38	118	*e*Pn	Pn	22 41 58.5	-3.3
BMRO	Meriville Lake	3.53	354	PG	Pb	22 42 12.6	+1.3
BMRO				SN	Sn	22 42 45.1	-0.5
BMRO				SG	Sb	22 42 54.4	+0.1
BMRO				Trac		22 42 54.5	
	comp=Z,2.7nm,0.2s						
BINY	Binghamton	3.69	71	SN	Sn	22 42 52.4	+2.8
BINY				LG	Lg	22 43 04.8	
IP06	Yanceyville	3.78	146	*e*P

SAHE	**Sakarya_HENDEK**	**0.08 297**	*i* P	**Pg**	**23 11 18.5**	**-0.2**
SAHE			*i* S	**Sg**	**23 11 20.7**	**-0.1**
SAHE	**Sakarya_HENDEK**	**0.08 297**	P	**Pg**	**23 11 18.5**	**-0.2**
SAHE			S	**Sg**	**23 11 20.7**	**-0.1**
MDUB	**Mudurnu**	**0.39 151**	*e*PG	**Pg**	**23 11 22.6**	**-0.7**
MDUB			*e*SG	**Sg**	**23 11 28.2**	**-0.7**
MDUB	**Mudurnu**	**0.39 151**	*e*Pg	**Pg**	**23 11 22.7**	**-0.7**
MDUB			*e*Sg	**Sg**	**23 11 28.2**	**-0.7**
GULT	**Gulveren**	**0.51 221**	*e*PG	**Pg**	**23 11 25.2**	**-0.3**
GULT	**Gulveren**	**0.51 221**	*e*Pg	**Pg**	**23 11 25.2**	**-0.3**
GEYV	**SAKARYA_Geyve**	**0.60 237**	*i* P	**Pg**	**23 11 26.9**	**-0.3**
GEYV			*i* S	**Sg**	**23 11 34.6**	**-0.5**
GEYV	**SAKARYA_Geyve**	**0.60 237**	P	**Pg**	**23 11 26.9**	**-0.3**
GEYV			S	**Sg**	**23 11 34.7**	**-0.5**
KAND	**Kocaeli-Kandir**	**0.64 296**	*i* P	**Pb**	**23 11 28.4**	**+0.2**
KAND			*i* S	**Sg**	**23 11 36.7**	**+0.2**
KAND	**Kocaeli-Kandir**	**0.64 296**	P	**Pb**	**23 11 28.4**	**+0.2**
KAND			S	**Sg**	**23 11 36.7**	**+0.2**
BCAM	**Yenicaga**	**0.84 90**	*i* P	**Pg**	**23 11 31.1**	**-0.8**
BCAM			*i* S	**Sb**	**23 11 43.8**	**+0.9**
BCAM	**Yenicaga**	**0.84 90**	P	**Pg**	**23 11 31.1**	**-0.8**
BCAM			S	**Sb**	**23 11 43.8**	**+0.9**
HRT	**Hereke**	**0.97 271**	*e*PG	**Pg**	**23 11 33.4**	**-0.9**
HRT	**Hereke**	**0.97 271**	*e*Pg	**Pg**	**23 11 33.4**	**-0.9**
SILT	**Sile**	**1.05 289**	*e*PG	**Pg**	**23 11 34.1**	**-1.5**
SILT	**Sile**	**1.05 289**	*e*Pg	**Pg**	**23 11 34.1**	**-1.5**
YLV	**Yalova**	**1.23 259**	*e*PN	**Pn**	**23 11 38.7**	**+0.7**
YLV	**Yalova**	**1.23 259**	*e*Pn	**Pn**	**23 11 38.7**	**+0.7**
BUY	**Buyukada**	**1.39 272**	*e*PN	**Pn**	**23 11 40.6**	**+0.4**
BUY	**Buyukada**	**1.39 272**	*e*Pn	**Pn**	**23 11 40.6**	**+0.4**
KAVV	**Kandilli-Istan**	**1.46 280**	*e*PN	**Pn**	**23 11 41.2**	**+0.1**
KAVV	**Kandilli-Istan**	**1.46 280**	*e*Pn	**Pn**	**23 11 41.2**	**+0.1**
ISK	**Istanbul-Kandi**	**1.46 281**	*e*PN	**Pn**	**23 11 41.4**	**+0.3**
ISK	**Istanbul-Kandi**	**1.46 281**	*e*Pn	**Pn**	**23 11 41.4**	**+0.3**
KLYT	**Kilyos**	**1.51 287**	*e*PN	**Pn**	**23 11 41.9**	**+0.1**
KLYT	**Kilyos**	**1.51 287**	*e*Pn	**Pn**	**23 11 41.9**	**+0.1**
ARMT	**Armutlu**	**1.61 262**	*e*PN	**Pn**	**23 11 43.6**	**+0.5**
ARMT	**Armutlu**	**1.61 262**	*e*Pn	**Pn**	**23 11 43.7**	**+0.5**
CTKS	**Kestanelik-??a**	**1.90 284**	*e*PN	**Pn**	**23 11 47.7**	**+0.6**
CTKS	**Kestanelik-??a**	**1.90 284**	*e*Pn	**Pn**	**23 11 47.7**	**+0.6**

ISCJB ***20*** *23:22:40.3±0.8, 51°.41N±0°.04×16°.20E±0°.04, h0km, Error ellipse: s-maj=5.3km s-min=3.0km az=18.3*
CSEM ***20*** *23:22:41.6±0.3, 51°.43N×16°.18E, h2km, ML2.8/9, Error ellipse: s-maj=5.3km s-min=2.9km az=5.0*
WAR ***20*** *23:22:42.3, 51°.44N×16°.20E, h1km, Mw2.3*
PRU ***20*** *23:22:43.1, 51°.39N×16°.18E, h0km*
ISC 20 23:22:41.7±1.2, 51°.44N±0°.05×16°.20E±0°.03, h0km, n34, σ0s57/66, 6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	**Pg**	**23 22 53.5**	**+0.3**
KSP				*e*Sg	**Sg**	**23 23 01.4**	**+0.5**
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	**Pg**	**23 22 53.5**	**+0.3**
KSP				*e*Sg	**Sg**	**23 23 01.4**	**+0.5**
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	**Pg**	**23 22 53.5**	**+0.3**
KSP				*e*Sg	**Sg**	**23 23 01.4**	**+0.5**
UPC	**Upice**	**0.94**	**187**	||*e*PG	**Pg**	**23 22 59.8**	**+0.1**
UPC				*e*SG	**Sg**	**23 23 12.5**	**+0.7**
	comp=Z,26nm,0.5s						
UPC	**Upice**	**0.94**	**187**	Pg	**Pg**	**23 22 59.8**	**+0.1**
UPC				Sg	**Sg**	**23 23 12.5**	**+0.7**
	26nm,0.5s						
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	**Pg**	**23 23 02.6**	**0.0**
DPC				*e*SG	**Sg**	**23 23 17.0**	**+0.3**
	comp=Z,12nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**176**	Pg	**Pg**	**23 23 02.6**	**0.0**
DPC				Sg	**Sg**	**23 23 17.0**	**+0.3**
	12nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**229**	||*e*PG	**Pb**	**23 23 08.3**	**0.0**
PVCC				*e*SG	**Sn**	**23 23 27.2**	**+0.2**
	comp=Z,38nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**229**	Pg	**Pb**	**23 23 08.3**	**0.0**
PVCC				Sg	**Sn**	**23 23 27.2**	**+0.2**
	38nm,0.3s						
KRLC	**Kraliky**	**1.41**	**165**	*e*PG	**Pn**	**23 23 08.5**	**-0.2**
KRLC				*e*SG	**Sg**	**23 23 26.9**	**-0.2**
KRLC	**Kraliky**	**1.41**	**165**	Pg	**Pn**	**23 23 08.5**	**-0.2**
KRLC				Sg	**Sg**	**23 23 26.9**	**-0.2**
BRG	**Berggiesshubel**	**1.53**	**249**	PG	**Pb**	**23 23 10.6**	**-0.3**
BRG				SG	**Sn**	**23 23 31.2**	**+0.4**
	9.4nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	*e*PG	**Pb**	**23 23 15.0**	**0.0**
GOPC				*e*SG	**Sb**	**23 23 38.1**	**+0.3**
	comp=Z,5.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	Pg	**Pb**	**23 23 15.0**	**0.0**
GOPC				Sg	**Sb**	**23 23 38.1**	**+0.3**
	5.7nm,0.3s						
PRA	**Prague**	**1.77**	**220**	||*e*PG	**Pb**	**23 23 14.9**	**-0.1**
PRA				*e*SG	**Sg**	**23 23 38.3**	**-0.2**
	comp=Z,4.6nm,0.3s						
PRA	**Prague**	**1.77**	**220**	Pg	**Pb**	**23 23 14.9**	**-0.1**
PRA				Sg	**Sg**	**23 23 38.3**	**-0.2**
	4.6nm,0.3s						
PRU	**Pruhonice**	**1.79**	**217**	||*e*PG	**Pb**	**23 23 15.2**	**-0.2**
PRU				*ex*	x	23 23 32.2	
PRU				*e*SG	**Sb**	**23 23 38.6**	**+0.2**
	comp=Z,4.8nm,0.3s						
PRU	**Pruhonice**	**1.79**	**217**	Pg	**Pb**	**23 23 15.2**	**-0.2**
PRU				Sg	**Sb**	**23 23 38.6**	**+0.2**
	4.8nm,0.3s						
MORC	**Moravsky Berou**	**1.87**	**152**	*e*Pn	**Pn**	**23 23 14.3**	**-0.7**
MORC				*e*Sg	**Sb**	**23 23 41.0**	**+0.3**
CLL	**Collm**	**2.01**	**268**	*i* Pg	**Pg**	**23 23 20.2**	**0.0**
CLL				*i* Sg	**Sg**	**23 23 46.5**	**+0.3**
	comp=Z,4.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.03**	**141**	||*e*PG	**Pg**	**23 23 20.4**	**-0.1**
OKC				*e*SG	**Sg**	**23 23 46.1**	**-0.7**
OKC	**Ostrava-Krasne**	**2.03**	**141**	Pg	**Pg**	**23 23 20.4**	**-0.1**
OKC				Sg	**Sg**	**23 23 46.1**	**-0.7**
VRAC	**Vranov**	**2.15**	**173**	*e*Sg	**Sb**	**23 23 49.5**	**+0.9**
NKC	**Novy Kostel**	**2.67**	**245**	||*e*PN	**Pn**	**23 23 25.6**	**-0.3**
NKC				*e*PG	**Pg**	**23 23 31.9**	**-0.9**
NKC				*e*SG	**Sg**	**23 24 08.3**	**+1.0**
	comp=Z,6.2nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**245**	Pn	**Pn**	**23 23 25.6**	**-0.3**
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**23 23 28.7**	**+0.1**
KHC				*e*PG	**Pb**	**23 23 34.5**	**+0.9**
KHC				*e*SN	**Sn**	**23 24 02.9**	**-0.7**
KHC				*e*SG	**Sg**	**23 24 12.0**	**-1.4**
	comp=Z,3.3nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	Pn	**Pn**	**23 23 28.7**	**+0.1**
LANS	**Liptovska Anna**	**3.10**	**136**	*e*Pg	**Pg**	**23 23 41.0**	**-0.2**
LANS				*e*Sg	**Sg**	**23 24 20.9**	**-0.5**
LANS	**Liptovska Anna**	**3.10**	**136**	*e*PG	**Pg**	**23 23 41.0**	**-0.2**
LANS				*e*SG	**Sg**	**23 24 20.9**	**-0.5**
CONA	**Conrad Observa**	**3.52**	**184**	*i* Pn	**Pg**	**23 23 47.1**	**-2.1**
	comp=Z,0.5nm,0.3s						
CONA				*i* Sg	**Sg**	**23 24 33.9**	**-0.8**
	comp=Z,2.6nm,0.3s						
MOA	**Molln**	**3.80**	**200**	*i* Pn	**Pn**	**23 23 41.7**	**+0.1**
MOA				Sg	**Sg**	**23 24 45.1**	**+1.2**
MOA	**Molln**	**3.80**	**200**	Pn	**Pn**	**23 23 41.7**	**+0.1**
MOA				Sg	**Sg**	**23 24 45.1**	**+1.2**
STHS	**Stebnicka Huta**	**3.81**	**120**	*e*Pg	**Pg**	**23 23 55.4**	**+0.7**
STHS	**Stebnicka Huta**	**3.81**	**120**	*e*PG	**Pg**	**23 23 55.4**	**+0.7**

SJA ***20*** *23:26:41.6±0.7, 22°.88S×66°.40W, h274km±5km, ML4.3, MW5.0*
SCB ***20*** *23:26:42.6±0.6, 22°.46S×66°.06W, h290km, Ml5.0/2, Error ellipse: s-maj=17.0km s-min=8.2km az=29.0*
ISCJB ***20*** *23:26:43.4±0.3, 22°.72S±0°.03×66°.28W±0°.03, h226km±2km, mb5.0/247, Error ellipse: s-maj=5.5km s-min=3.9km az=44.1*
NEIC ***20*** *23:26:43.7±0.4, 22°.91S×66°.29W, h217km±3km, mb5.1/229, Error ellipse: s-maj=4.8km s-min=3.5km az=67.0*
NEIC Felt [II] at Copiapo, Tierra Amarilla and Tocopilla, Chile.
GCMT ***20*** *23:26:43.7±0.3, 22°.97S×66°.51W, h245km±1km, MW5.2/85, Moment Tensor Solution. s40,c46; s85,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.95±.17; Mθθ-1.75±.19; Mφφ2.70±.21; Mrθ0.00±.14; Mrφ-1.76±.19; Mθφ-6.15±.15; Best double couple: M0 6.66500×10^16 NP1:φs4.00000°, δ83.00000°, λ-73.00000°. NP2: φs116.00000°, δ19.00000°, λ-157.00000°. Principal axes: T 7.5070, Plg36.0000°, Azm79.0000°; N -1.6860, Plg17.0000°, Azm182.0000°; P -5.8220, Plg49.0000°,*

Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI ***20*** *23:26:44.9, 22°.90S×66°.30W, h225km, mB5.0/12*
GUC ***20*** *23:26:45.3±0.5, 23°.01S×66°.67W, h216km±6km, ML4.9*
IDC ***20*** *23:26:45.2±0.9, 22°.88S×66°.25W, h232km±8km, mb4.4/20, mb1 4.5/27, mb1mx4.5/35, mbtmp5.0/27, Error ellipse: s-maj=10.7km s-min=8.6km az=50.0*
ISC 20 23:26:45.2±0.5, 22°.87S±0°.03×66°.43W±0°.04, h235km±4km, n848, σ1$30/885, mb5.1/247, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.00**	**110**	*i* P	**Pn**	**23 27 19.8**	**+0.7**
HJA				*i* S	**S**	**23 27 48.5**	**+2.9**
YJA	**Yavi**	**1.09**	**51**	*i* P	**Pn**	**23 27 20.8**	**+1.0**
YJA				IAML		23 27 22.0	
	comp=Z,2μm,0.5s						
YJA				*i* S	**S**	**23 27 49.9**	**+3.2**
MOCB	**Mochara**	**1.77**	**25**	*e*Pn	**Pn**	**23 27 26.2**	**+1.2**
MOCB				*e*Sn	**S**	**23 27 57.3**	**+1.3**
	comp=Z,8μm,0.8s						
AZAP	**Zapla**	**1.84**	**137**	*i* P	**Pn**	**23 27 24.8**	**-0.4**
AZAP				IAML		23 27 25.9	
	comp=Z,2μm,0.3s						
SLA	**San Lorenzo**	**2.03**	**155**	*i* P	**Pn**	**23 27 27.0**	**+0.1**
SLA				*i* S	**S**	**23 27 58.2**	**-1.3**
SLA				IAML		23 27 59.7	
	comp=E,755nm,1.3s						
SLA	**San Lorenzo**	**2.03**	**155**	*i* P	**Pn**	**23 27 26.7**	**-0.2**
SLA				IAML		23 27 30.8	
	comp=Z,749nm,0.5s						
SLA				*i* S	**S**	**23 27 59.9**	**+0.3**
LVC	**Limon Verde**	**2.30**	**276**	P	**Pn**	**23 27 29.7**	**-0.2**
	comp=Z,60μm,0.3s,baz=97,slow=5.8						
LVC				S	**S**	**23 28 03.1**	**-1.6**
	comp=Z,18μm,0.3s,baz=217,slow=20,SNR=11						
LVC	**Limon Verde**	**2.30**	**276**	*i* P	**Pn**	**23 27 29.9**	**0.0**
LVC				*i* S	**S**	**23 28 02.7**	**-2.0**
LVC	**Limon Verde**	**2.30**	**276**	*i* P	**Pn**	**23 27 29.9**	**0.0**
ALOL	**LOMAS DE OLMED**	**2.44**	**113**	*i* P	**Pn**	**23 27 30.4**	**-0.4**
PB06	**IPOC Station P**	**2.90**	**273**	||*i* P	**Pn**	**23 27 35.5**	**-0.5**
PB06				*i* S	**S**	**23 28 13.1**	**-2.6**
PB06				IAML		23 28 16.6	
	comp=N,12μm,0.4s						
FSA	**Cafayete**	**3.25**	**173**	*i* P	**Pn**	**23 27 38.9**	**-0.9**
FSA				IAML		23 27 40.1	
	comp=Z,387nm,0.6s						
FSA				*i* S	**S**	**23 28 21.4**	**-1.4**
PB01	**IPOC Station P**	**3.37**	**302**	||*i* P	**Pn**	**23 27 41.0**	**-0.1**
PB01				*i* S	**S**	**23 28 23.2**	**-1.9**
PB01	**IPOC Station P**	**3.37**	**302**	*e*Pn	**Pn**	**23 27 41.0**	**-0.1**
PB07	**IPOC Station P**	**3.40**	**289**	||*i* P	**Pn**	**23 27 41.2**	**-0.3**
PB07				*i* S	**S**	**23 28 23.0**	**-2.8**
PB04	**IPOC Station P**	**3.48**	**278**	||*i* P	**Pn**	**23 27 41.8**	**-0.6**
PB04				*i* S	**S**	**23 28 24.3**	**-3.2**
PB04	**IPOC Station P**	**3.48**	**278**	*e*Pn	**Pn**	**23 27 41.9**	**-0.5**
PB10	**IPOC Station P**	**3.85**	**260**	||*i* P	**Pn**	**23 27 45.3**	**-1.3**
PB10				*i* S	**S**	**23 28 30.5**	**-4.4**
PB10	**IPOC Station P**	**3.85**	**260**	*e*Pn	**Pn**	**23 27 45.3**	**-1.3**
AHML	**Horco Molle**	**4.02**	**166**	*i* P	**Pn**	**23 27 47.0**	**-1.6**
AHML				IAML		23 27 50.6	
	comp=Z,101nm,0.6s						
AHML				*i* S	**S**	**23 28 36.0**	**-2.9**
PB14	**IPOC Station P**	**4.04**	**244**	||*i* P	**Pn**	**23 27 47.6**	**-1.5**
PB14				*i* S	**S**	**23 28 34.7**	**-4.9**
BBOJ	**La Paz, Jacaqu**	**6.10**	**344**	*e*Pn	**Pn**	**23 28 16.6**	**+1.7**
BBOE	**La Paz, Chanca**	**6.20**	**346**	*e*Pn	**Pn**	**23 28 17.7**	**+1.4**
BBOD	**La Paz, Gloria**	**6.53**	**341**	*e*Pn	**Pn**	**23 28 21.9**	**+1.5**
LPAZ	**La Paz**	**6.74**	**346**	P	**Pn**	**23 28 24.1**	**+0.9**
	comp=Z,32nm,0.3s,baz=163,slow=7.8,SNR=439						
LPAZ				S	**S**	**23 29 40.2**	**-1.1**
	comp=Z,8.3nm,0.3s,baz=288,slow=17,SNR=11						
LPAZ	**La Paz**	**6.74**	**346**	*e*Pn	**Pn**	**23 28 24.0**	**+0.9**
LPAZ				*e*Sn	**S**	**23 29 39.0**	**-2.3**
BBOB	**La Paz, Bander**	**6.89**	**346**	*e*Pn	**Pn**	**23 28 25.7**	**+0.8**
BBOB				*e*Sn	**S**	**23 29 40.5**	**-3.9**
	comp=Z,1μm,1.0s						
LCO	**Las Campanas**	**7.22**	**211**	*e*Pn	**Pn**	**23 28 25.0**	**-3.8**
SIV	**San Ignacio**	**8.51**	**37**	P	**Pn**	**23 28 44.2**	**-1.0**
	comp=Z,22nm,0.3s,baz=230,slow=13,SNR=333						
SIV				S	**S**	**23 30 14.7**	**-6.8**
	comp=Z,3.0nm,0.3s,baz=244,slow=18,SNR=2.3						
SIV	**San Ignacio**	**8.51**	**37**	*e*Pn	**Pn**	**23 28 44.1**	**-1.0**
CPUP	**Villa Florida**	**8.97**	**114**	P	**Pn**	**23 28 49.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=16						
ROC1	**El Roble**	**10.85**	**201**	*e*Pn	**Pn**	**23 29 11.9**	**-3.1**
GO05	**HualaæØ**	**13.01**	**200**	*e*Pn	**Pn**	**23 29 39.8**	**-1.9**
GO05				*e*S	**S**	**23 32 11.6**	**+5.7**
SAML	**Samuel**	**14.19**	**13**	*e*Pn	**Pn**	**23 29 56.7**	**+0.3**
NNA	**Nana**	**14.68**	**316**	P	**P**	**23 30 03.4**	**+0.8**
	comp=Z,15nm,0.3s,baz=162,slow=12,SNR=96						
NNA				S	**S**	**23 32 42.9**	**-2.0**
	comp=Z,3.7nm,0.3s,baz=227,slow=8.6,SNR=3.7						
NNA	**Nana**	**14.68**	**316**	*e*Pn	**P**	**23 30 02.9**	**+0.2**
NNA				S	**S**	**23 32 43.0**	**-2.0**
TRQA	**Tornquist**	**15.61**	**167**	*e*P	**P**	**23 30 10.1**	**-2.5**
	comp=Z,21nm,0.7s						
SPB	**Sao Paulo**	**17.48**	**96**	*e*P	**P**	**23 30 32.9**	**-0.3**
	comp=Z,157nm,0.9s						
PLCA	**Paso Flores**	**18.14**	**190**	P	**P**	**23 30 39.1**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=33,slow=12,SNR=53						
PLCA	**Paso Flores**	**18.14**	**190**	*e*P	**P**	**23 30 39.2**	**-1.2**
	comp=Z,34nm,0.8s						
BDFB	**Brasilia**	**18.80**	**71**	P	**P**	**23 30 47.3**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=38,slow=10,SNR=185						
BDFB	**Brasilia**	**18.80**	**71**	*e*P	**P**	**23 30 47.5**	**-0.3**
	comp=Z,339nm,1.1s						
ATAH	**Atahualpa**	**19.43**	**322**	P	**Pn**	**23 30 57.3**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=156,slow=8.6,SNR=44						
PTGA	**Pitinga**	**22.89**	**17**	P	**P**	**23 31 28.2**	**-0.6**
	comp=Z,12nm,0.8s,baz=203,slow=11,SNR=23						
PTGA	**Pitinga**	**22.89**	**17**	*e*P	**P**	**23 31 27.8**	**-1.0**
	comp=Z,20nm,1.0s						
CHRN	**Cochrane**	**24.82**	**190**	*e*P	**P**	**23 31 43.9**	**-2.1**
	comp=Z,10.0nm,0.7s						
OTAV	**Otavalo**	**25.78**	**331**	*e*P	**P**	**23 31 57.6**	**+2.2**
OTAV	**Otavalo**	**25.78**	**331**	*e*P	**P**	**23 31 56.1**	**+0.7**
	comp=Z,34nm,0.9s						
FLOC	**Florencia**	**25.92**	**338**	*e*P	**P**	**23 31 56.0**	**-0.2**
CMBC	**Cumbal**	**26.14**	**333**	*e*P	**P**	**23 32 01.3**	**+2.6**
PRAC	**Prado**	**27.68**	**342**	*e*P	**P**	**23 32 09.2**	**-2.7**
PRAC	**Prado**	**27.68**	**342**	*e*P	**P**	**23 32 09.8**	**-2.1**
	comp=Z,23nm,0.7s						
VILC	**Villavicencio,**	**27.74**	**344**	*e*P	**P**	**23 32 12.7**	**+0.2**
ROSC	**El Rosal**	**28.60**	**343**	P	**P**	**23 32 21.3**	**+0.8**
	comp=Z,9.6nm,0.6s,baz=17,slow=22,SNR=5.5						
ROSC	**El Rosal**	**28.60**	**343**	*e*P	**P**	**23 32 22.4**	**+2.0**
RUSC	**La Rusia**	**29.32**	**346**	*e*P	**P**	**23 32 26.3**	**-0.6**
RUSC	**La Rusia**	**29.32**	**346**	*e*P	**P**	**23 32 26.6**	**-0.3**
	comp=Z,16nm,0.7s						
NORC	**Norcasia**	**29.44**	**343**	*e*P	**P**	**23 32 24.6**	**-2.9**
BARC	**Barichara**	**30.02**	**346**	*e*P	**P**	**23 32 31.3**	**-1.4**
HELC	**Santa Helena**	**30.23**	**342**	*e*P	**P**	**23 32 32.6**	**-2.1**
	comp=Z,63nm,0.7s						
GIRC	**Giron, Santand**	**30.49**	**347**	*e*P	**P**	**23 32 34.0**	**-2.8**
BRRC	**Barranca, Sant**	**30.64**	**346**	*e*P	P	23 32 31.8	-6.1
PAMC	**Pamplona, Colo**	**30.65**	**348**	*e*P	**P**	**23 32 37.1**	**-1.4**
ZARC	**Zaragoza, Cauc**	**31.29**	**344**	*e*P	**P**	**23 32 40.9**	**-2.7**
SDV	**Santo Domingo**	**31.83**	**352**	*e*P	**P**	**23 32 47.4**	**-1.2**
	comp=Z,52nm,1.0s						
USHA	**Ushuaia**	**31.95**	**182**	P	**P**	**23 32 50.2**	**+1.2**
	comp=Z,36nm,0.6s,baz=341,slow=3.8,SNR=5.4						
MOTC	**Monteria, Cord**	**32.73**	**343**	*e*P	**P**	**23 32 53.8**	**-2.4**
RCBR	**Riachuelo**	**33.97**	**65**	P	**P**	**23 33 06.3**	**-0.6**
	comp=Z,22nm,0.6s,baz=252,slow=8.1,SNR=27						
RCBR	**Riachuelo**	**33.97**	**65**	*e*P	**P**	**23 33 06.5**	**-0.5**
	comp=Z,70nm,1.2s						
BCIP	**Isla Barro Col**	**34.44**	**336**	*e*P	**P**	**23 33 12.8**	**+1.8**
	comp=Z,77nm,0.8s						
URIC	**Uribia, Colomb**	**34.79**	**350**	*e*P	**P**	**23 33 10.1**	**-3.7**
FDF	**Fort de France**	**37.73**	**8**	*e*P	**P**	**23 33 38.3**	**-0.4**
	comp=Z,117nm,0.7s						
SJG	**San Juan**	**40.73**	**0**	*e*P	**P**	**23 34 01.8**	**-1.6**
	comp=Z,30nm,0.9s						
MPR	**Mayaguez**	**40.84**	**359**	*e*P	**P**	**23 34 02.8**	**-1.5**
	comp=Z,18nm,0.8s						
SDDR	**Presa de Saban**	**41.87**	**353**	*e*P	**P**	**23 34 11.4**	**-1.3**
	comp=Z,14nm,0.6s						
TGUH	**Tegucigalpa,Un**	**42.00**	**329**	*e*P	**P**	**23 34 15.0**	**+1.2**
	comp=Z,127nm,0.8s						
GRTK	**Grand Turk**	**44.35**	**354**	*e*P	**P**	**23 34 32.0**	**-0.5**
	comp=Z,110nm,0.8s						
CCIG	**Comitan**	**46.34**	**325**	*e*P	**P**	**23 34 48.8**	**+0.5**
	comp=Z,82nm,0.9s						
TLIG	**Tlapa**	**51.01**	**319**	*e*P	**P**	**23 35 25.5**	**+1.7**
	comp=Z,43nm,1.1s						
TIGA	**Tifton**	**56.45**	**342**	P	**P**	**23 36 02.6**	**-0.1**
	baz=161						
RGRS	**Roger Stewart**	**57.00**	**346**	*e*P	**P**	**23 36 07.3**	**+0.7**
	comp=Z,933nm,0.7s						
NHSC	**New Hope**	**57.19**	**346**	*e*P	**P**	**23 36 09.0**	**+1.2**
	comp=Z,196nm,1.1s						
BRAL	**Brewton**	**57.26**	**339**	*e*P	**P**	**23 36 08.8**	**+0.5**
	comp=Z,144nm,0.7s						
LNIG	**Linares**	**57.29**	**324**	*e*P	**P**	**23 36 08.6**	**-0.1**
	comp=Z,60nm,1.2s						
448A	**Bay Minette**	**57.31**	**338**	P	**P**	**23 36 08.9**	**+0.2**
	baz=156						
546A	**Slidell**	**57.35**	**336**	P	**P**	**23 36 09.0**	**0.0**
	baz=154						
ZAIG	**Zacatecas**	**57.40**	**320**	*e*P	**P**	**23 36 11.7**	**+1.8**
	comp=Z,47nm,0.9s						
447A	**Lucedale**	**57.47**	**337**	P	**P**	**23 36 10.1**	**+0.3**
	baz=156						
446A	**Poplarville**	**57.72**	**337**	P	**P**	**23 36 12.0**	**+0.4**
	baz=155						
348A	**Jackson**	**57.77**	**338**	P	**P**	**23 36 11.9**	**0.0**
	baz=156						
035Z	**Hargill**	**57.82**	**326**	P	**P**	**23 36 12.7**	**+0.3**
	baz=145						
347A	**Saraland**	**57.98**	**338**	P	**P**	**23 36 13.4**	**0.0**
	baz=156,SNR=8.7						
445A	**Amite**	**58.03**	**336**	P	**P**	**23 36 14.1**	**+0.4**
	baz=154						
543A	**St. Martinvill**	**58.05**	**334**	P	**P**	**23 36 15.5**	**+1.6**
	baz=152						
444A	**Pine Grove**	**58.17**	**335**	P	**P**	**23 36 15.4**	**+0.7**
	baz=153						
035A	**Encino**	**58.23**	**327**	P	**P**	**23 36 15.9**	**+0.8**
	baz=145						
GOGA	**Godfrey**	**58.28**	**343**	*e*P	**P**	**23 36 15.4**	**0.0**
	comp=Z,37nm,0.9s						
346A	**Big Creek Wild**	**58.29**	**337**	P	**P**	**23 36 15.6**	**0.0**
	baz=155						
248A	**Dixon Mills**	**58.33**	**339**	P	**P**	**23 36 15.7**	**-0.1**
	baz=157,SNR=6.2						
345A	**Thompson Farm,**	**58.43**	**336**	P	**P**	**23 36 16.6**	**+0.1**
	baz=154						
JSC	**Jenkinsville**	**58.56**	**346**	*e*P	**P**	**23 36 17.9**	**+0.5**
	comp=Z,83nm,0.8s						
247A	**Quitman**	**58.59**	**338**	P	**P**	**23 36 17.5**	**-0.1**
	baz=156,SNR=6.5						
443A	**Delano Plantat**	**58.62**	**334**	P	**P**	**23 36 18.7**	**+0.9**
	baz=152						
738A	**Farr-Stevens R**	**58.62**	**330**	P	**P**	**23 36 19.5**	**+1.6**
	baz=148						
034A	**Hebbronville**	**58.62**	**326**	P	**P**	**23 36 18.7**	**+0.8**
	baz=145,SNR=9.3						
344A	**Westbrook Farm**	**58.82**	**336**	P	**P**	**23 36 19.5**	**+0.3**
	baz=154						
442A	**Mamou**	**58.83**	**334**	P	**P**	**23 36 20.5**	**+1.2**
	baz=152						
737A	**Port Lavaca**	**58.92**	**329**	P	**P**	**23 36 21.4**	**+1.5**
	baz=147						
LRAL	**Lakeview Retre**	**58.96**	**340**	*e*P	**P**	**23 36 19.8**	**-0.3**
	comp=Z,54nm,1.1s						
934A	**Benavides**	**58.98**	**327**	P	**P**	**23 36 21.3**	**+0.9**
	baz=145						
245A	**Little AP, Sta**	**59.03**	**337**	P	**P**	**23 36 20.3**	**-0.3**
	baz=155,SNR=9.7						
147A	**Livingston**	**59.04**	**339**	P	**

baz=150,SNR=8.6
NATX Nacogdoches 60.67 332 eP P 23 36 33.0 +1.1
comp=Z,84nm,0.8s
141A Papa Simpson, 60.69 334 P P 23 36 32.8 +1.0
baz=152,SNR=6.7
436A Wall Ranch, Ga 60.78 330 P P 23 36 33.2 +0.7
baz=148,SNR=5.5
239A Gary 60.82 333 P P 23 36 33.7 +0.9
baz=150,SNR=7.1
337A Centerville 60.83 331 P P 23 36 34.0 +1.1
baz=149,SNR=5.1
Y44A Strider, Charl 60.88 337 P P 23 36 33.8 +0.6
baz=155
Z42A Norrel Spur, H 60.91 336 P P 23 36 33.2 -0.1
baz=153
140A Cam and Jess, 60.99 334 P P 23 36 35.0 +1.2
baz=151,SNR=5.3
X45A UM Field Stati 61.02 338 P P 23 36 33.1 -0.9
baz=156,SNR=9.3
238A Jacksonville 61.08 332 P P 23 36 35.6 +1.1
baz=150
PLAL Pickwick Lake 61.09 340 eP P 23 36 33.9 -0.7
comp=Z,74nm,1.2s
Y43A Makayla and Ka 61.10 337 P P 23 36 34.6 0.0
baz=154
OXF Oxford 61.10 338 eP P 23 36 34.0 -0.6
comp=Z,140nm,1.1s
VWCC Virginia Weste 61.14 348 eP P 23 36 35.9 +1.0
435B Jarrell 61.15 329 P P 23 36 35.4 +0.3
baz=147
BLA Blacksburg 61.20 347 eP P 23 36 36.3 +1.1
comp=Z,154nm,1.6s
Z41A Richland Creek 61.22 335 P P 23 36 35.8 +0.4
baz=152
IP05 Hopewell Churc 61.31 350 eP P 23 36 37.1 +1.1
comp=Z,30nm,1.1s
336A Riesel 61.32 330 P P 23 36 36.7 +0.6
baz=148,SNR=6.2
Y42A Garnett, Star 61.34 336 P P 23 36 36.5 +0.3
baz=153
X44A Crenshaw 61.35 338 P P 23 36 35.7 -0.6
baz=155
139A Bunkhouse Ranc 61.36 333 P P 23 36 37.0 +0.6
baz=150
237A Washetta, Mont 61.38 332 P P 23 36 37.4 +0.9
baz=149,SNR=8.3
CCAR Cane Creek 61.41 336 eP P 23 36 38.0 +1.3
comp=Z,53nm,0.8s
IP07 Quail 61.44 350 eP P 23 36 37.7 +0.9
comp=Z,45nm,0.9s
IP06 Yanceyville 61.45 350 eP P 23 36 37.7 +0.9
comp=Z,42nm,0.9s
Z40A Long Farm, Mag 61.46 334 P P 23 36 38.1 +1.1
baz=152,SNR=17
IP03 Louisa 61.54 350 eP P 23 36 38.4 +0.9
comp=Z,40nm,0.8s
CVRD Centerville Ro 61.55 350 eP P 23 36 38.3 +0.8
comp=Z,21nm,0.9s
W45A Hickory Valley 61.62 339 P P 23 36 37.4 -0.7
baz=156,SNR=7.6
IP04 Greensprings 61.62 350 eP P 23 36 38.9 +0.9
comp=Z,48nm,1.2s
X43A Marvell 61.62 337 P P 23 36 38.1 0.0
baz=154
138A Matatall Enter 61.63 333 P P 23 36 39.3 +1.1
baz=150,SNR=7.7
236A Katherine and 61.70 331 P P 23 36 39.3 +0.6
baz=148,SNR=5.0
Y41A Eaglette Beard 61.70 335 P P 23 36 39.1 +0.5
baz=152
WLAR White Oak Lake 61.72 335 eP P 23 36 39.9 +1.2
comp=Z,138nm,0.8s
Z39A Irene McRaven, 61.76 334 P P 23 36 39.9 +0.9
baz=151
W44A Shelby Farms P 61.81 338 P P 23 36 40.1 +0.8
baz=155
137A Heron Place, G 61.87 332 P P 23 36 40.9 +1.1
baz=149,SNR=9.1
X42A Stuttgart 61.92 337 P P 23 36 40.3 +0.2
baz=154
JCT Junction City 61.97 327 P P 23 36 40.9 +0.3
baz=145,SNR=30
JCT Junction City 61.97 327 eP P 23 36 41.0 +0.3
comp=Z,67nm,0.8s
Y40A Okolona 62.07 335 P P 23 36 41.4 +0.3
baz=152,SNR=8.2
W43A Forest City 62.07 338 P P 23 36 41.5 +0.4
baz=155
V45A Humboldt 62.08 339 P P 23 36 40.3 -0.8
baz=156
WVT Waverly 62.08 340 eP P 23 36 40.2 -0.8
comp=Z,76nm,0.8s
136A Ennis 62.10 331 P P 23 36 41.7 +0.4
baz=148
Z38A Mt. Pleasant 62.10 333 P P 23 36 42.0 +0.8
baz=150
WHTX Lake Whitney, 62.11 330 P P 23 36 41.7 +0.3
baz=148,SNR=12
WHTX Lake Whitney, 62.11 330 eP P 23 36 41.8 +0.3
comp=Z,42nm,0.9s
X41A Kaden, Bauxite 62.20 336 P P 23 36 42.7 +0.8
baz=153
X40A Basin Creek Fa 62.32 335 P P 23 36 42.6 -0.1
baz=152
Z37A Pogue Cattle C 62.32 332 P P 23 36 43.4 +0.6
baz=150
Y39A Lockesburg 62.33 334 P P 23 36 43.3 +0.5
baz=151,SNR=8.2
HPIG 62.38 320 eP P 23 36 44.7 +1.1
comp=Z,33nm,0.7s
UALR University of 62.39 336 eP P 23 36 43.4 +0.2
comp=Z,59nm,1.4s
V44A Blytheville 62.47 339 P P 23 36 43.4 -0.3
baz=156
W42A Bald Knob 62.53 337 P P 23 36 43.7 -0.4
baz=154
U45A Rockin P Farm, 62.57 340 P P 23 36 43.9 -0.5
baz=157,SNR=9.5
Y38A Idabel 62.58 334 P P 23 36 44.6 +0.2
baz=150,SNR=5.4
UTMT University of 62.59 340 eP P 23 36 45.1 +0.6
comp=Z,186nm,0.9s
V43A Jonesboro 62.65 338 P P 23 36 44.5 -0.4
baz=155
MIAR Mount Ida 62.66 335 P P 23 36 45.0 0.0
baz=152,SNR=15
MIAR Mount Ida 62.66 335 eP P 23 36 45.0 0.0
comp=Z,38nm,1.0s
GLAT Glass 62.66 339 eP P 23 36 45.8 +0.9
comp=Z,174nm,1.1s
SLBS Sierra La Lagu 62.69 315 eP P 23 36 47.5 +1.9
comp=Z,56nm,1.1s
W41B Gary Mavity, V 62.71 336 P P 23 36 44.9 -0.4
baz=153,SNR=6.6
Z36A Blue Ridge 62.73 332 P P 23 36 46.1 +0.6
baz=149,SNR=15
U44B Burton Farm, H 62.75 339 P P 23 36 45.2 -0.3
baz=156
WHAR Wooly Hollow 62.83 336 eP P 23 36 46.1 0.0
comp=Z,16nm,0.9s
X39A Fountain Ranch 62.84 334 P P 23 36 46.6 +0.4
baz=151,SNR=20
Y37A Hugo 62.99 333 P P 23 36 48.2 +1.0
baz=150,SNR=17
U44A Portageville 63.01 339 P P 23 36 47.2 -0.1
baz=155
W40A Ferguson Farm, 63.03 336 P P 23 36 47.7 +0.3
baz=152,SNR=7.3
TXAR Lajitas Array 63.08 324 P P 23 36 48.4 +0.4
comp=Z,8.6nm,0.6s,baz=151,slow=8.6,SNR=96
TX31 Lajitas Ar. Si 63.08 324 eP P 23 36 48.4 +0.4
U43A Rector 63.13 338 P P 23 36 47.9 -0.1
baz=155
PARMO Parma 63.18 339 eP P 23 36 49.3 +1.0
comp=Z,267nm,0.7s
Y36A Durant 63.21 332 P P 23 36 48.8 +0.2
baz=149
V41A Mountainview 63.22 337 P P 23 36 48.0 -0.7
baz=153,SNR=15
X38A Whitesboro 63.26 334 P P 23 36 49.7 +0.7
baz=151,SNR=18
W39A Magazine 63.31 335 P P 23 36 49.6 +0.4
baz=152,SNR=20
U42A Revenden 63.40 338 P P 23 36 49.3 -0.5
baz=154,SNR=9.6
X37A Clayton 63.42 333 P P 23 36 50.5 +0.5
baz=150,SNR=16
MCWV Mont Chateau 63.45 348 eP P 23 36 51.2 +1.1
comp=Z,25nm,0.8s
V40A Witts Springs 63.48 336 P P 23 36 50.0 -0.4
baz=153,SNR=10
W38A Poteau 63.49 334 P P 23 36 51.1 +0.7
baz=151,SNR=22
PBMO Poplar Bluff 63.51 339 eP P 23 36 50.1 -0.4
comp=Z,71nm,0.8s
T44A Benton 63.51 339 P P 23 36 49.7 -0.8
baz=156,SNR=10.0
Y35A Marietta 63.54 332 P P 23 36 51.3 +0.6
baz=148,SNR=14
WCI Wyandotte Cave 63.58 343 eP P 23 36 50.2 -0.8
comp=Z,50nm,0.6s
U41A Viola 63.63 337 P P 23 36 50.6 -0.7
baz=154,SNR=6.7
ABTX Abilene, Hawle 63.65 329 P P 23 36 51.6 0.0
baz=146,SNR=14
ABTX Abilene, Hawle 63.65 329 eP P 23 36 51.7 +0.1
comp=Z,81nm,1.4s
USIN University of 63.72 341 eP P 23 36 51.0 -0.8
comp=Z,28nm,0.7s
S45A Carrier Mills 63.73 341 P P 23 36 51.2 -0.8
baz=157,SNR=7.5
T43A Greenville 63.74 339 P P 23 36 51.6 -0.4
baz=155,SNR=41
X36A Centrahoma 63.81 333 P P 23 36 52.4 -0.1
baz=149,SNR=16
V39A Pettigrew 63.82 336 P P 23 36 52.6 0.0
baz=152,SNR=33
O56A Blue Knob Stat 63.83 350 P P 23 36 53.2 +0.7
baz=167
W37B Quinton 63.92 334 P P 23 36 53.7 +0.5
baz=150,SNR=14
X35A Drake 63.93 332 P P 23 36 53.1 -0.2
baz=149,SNR=30
S44A Carbondale 63.96 340 P P 23 36 52.6 -0.8
baz=156,SNR=5.1
U40A Yellville 63.98 336 P P 23 36 53.2 -0.4
baz=153,SNR=13
N59A State Game Lan 64.05 352 P P 23 36 54.3 +0.3
baz=170
SSPA Standing Stone 64.08 350 eP P 23 36 54.8 +0.6
comp=Z,40nm,1.3s
S43A Fulton Ridge, 64.11 339 P P 23 36 53.7 -0.7
baz=156,SNR=10
V38A Canehill 64.14 335 P P 23 36 54.6 -0.1
baz=151,SNR=19
U39A Green Forest 64.24 336 P P 23 36 55.0 -0.3
baz=152,SNR=20
W36A Wetumka 64.25 333 P P 23 36 55.0 -0.3
baz=149,SNR=20
HHAR Hobbs 64.32 336 eP P 23 36 56.0 +0.2
comp=Z,40nm,0.8s
R44A Waltonville 64.41 340 P P 23 36 55.2 -1.1
baz=157
V37A Hulbert 64.44 334 P P 23 36 56.8 +0.1
baz=151,SNR=18
BLO Bloomington 64.52 343 eP P 23 36 56.4 -0.6
comp=Z,44nm,0.6s
S42A Caledonia 64.53 339 P P 23 36 56.3 -0.8
baz=155,SNR=25
W35A Tecumseh 64.53 333 P P 23 36 56.6 -0.5
baz=149,SNR=7.2
T40A Mansfield 64.57 337 P P 23 36 57.0 -0.4
baz=153,SNR=10
U38A Gravette 64.63 335 P P 23 36 57.7 -0.2
baz=151,SNR=8.9
ACSO Alum Creek Sta 64.65 346 eP P 23 36 57.6 -0.2
comp=Z,64nm,0.7s
V36A Jenks 64.69 334 P P 23 36 58.3 +0.2
baz=150,SNR=24
S41A Jillco Farms, 64.69 338 P P 23 36 57.9 -0.2
baz=154,SNR=38
R43A Red Bud 64.70 340 P P 23 36 57.2 -1.0
baz=156
TUL1 Leonard 64.73 334 P P 23 36 58.5 0.0
baz=150,SNR=11
TUL1 Leonard 64.73 334 eP P 23 36 58.5 0.0
comp=Z,78nm,1.4s
N54A Moraine State 64.75 349 P P 23 36 59.2 +0.7
baz=166,SNR=7.4
T39A Clever 64.77 336 P P 23 36 58.4 -0.3
baz=152,SNR=7.8
U37A Salina 64.89 335 P P 23 36 59.6 +0.1
baz=151,SNR=11
CCM Cathedral Cave 64.94 339 eP P 23 36 59.4 -0.3
comp=Z,69nm,0.6s
S40A Lebanon 64.96 337 P P 23 36 59.7 -0.2
baz=153,SNR=20
R42A Luebbering 64.99 339 P P 23 36 59.7 -0.4
baz=155,SNR=18
Q44A Meyer Farm, Va 64.99 341 P P 23 36 58.6 -1.4
baz=157
WMOK Wichita Mounta 65.01 331 P P 23 36 59.8 -0.5
baz=147,SNR=9.2
WMOK Wichita Mounta 65.01 331 eP P 23 37 00.2 -0.1
comp=Z,10nm,0.9s
V35A Meyer Ranch, C 65.03 333 P P 23 37 00.3 -0.1
baz=149,SNR=11
T38A Diamond 65.12 336 P P 23 37 01.1 +0.1
baz=152,SNR=32
U36A Oologah 65.12 334 P P 23 37 01.0 0.0
baz=150,SNR=6.5
R41A Rosebud 65.20 339 P P 23 37 01.1 -0.4
baz=155,SNR=22
M54A Oil Creek Stat 65.22 349 P P 23 37 01.8 +0.3
baz=166,SNR=5.0
Q43A New Douglas 65.24 340 P P 23 37 00.7 -0.9
baz=156
S39A Bolivar 65.34 337 P P 23 37 02.3 -0.1
baz=153,SNR=39
BINY Binghamton 65.34 352 eP P 23 37 03.1 +0.8
comp=Z,96nm,1.0s
T37A Cheneyville 18 65.44 335 P P 23 37 03.3 +0.3
baz=151,SNR=68
ALLY Alegheny Colle 65.44 349 eP P 23 37 03.3 +0.3
comp=Z,80nm,0.8s
Q42A Golden Eagle 65.48 340 P P 23 37 02.6 -0.6
baz=156,SNR=9.7
R40A Maddies Statio 65.50 338 P P 23 37 02.9 -0.4
baz=154,SNR=17
S38A Stockton 65.50 336 P P 23 37 03.2 -0.2
baz=152,SNR=20
U35A Pawnee 65.51 333 P P 23 37 03.8 +0.3
baz=149,SNR=22
Q41A Truxton 65.74 339 P P 23 37 04.4 -0.5
baz=155,SNR=8.5
T36A Boggs Farm, Ca 65.76 334 P P 23 37 05.2 +0.1
baz=150,SNR=19
R39A Chumby, Stover 65.79 337 P P 23 37 05.0 -0.2
baz=153,SNR=13
SFIN Lafayette 65.81 343 P P 23 37 05.2 0.0
baz=159
P43A Skaggs, Pawnee 65.82 341 P P 23 37 04.4 -1.0
baz=157,SNR=5.9
MNTX Cornudas Mount 65.84 324 P P 23 37 05.5 -0.2
baz=141,SNR=62
MNTX Cornudas Mount 65.84 324 eP P 23 37 05.5 -0.2
comp=Z,36nm,0.9s
O45A Potomac 65.86 342 P P 23 37 04.3 -1.3
baz=158,SNR=7.3
ERPA Erie 65.87 349 eP P 23 37 06.0 +0.4
comp=Z,107nm,0.7s
T35A Sooner Cattle 65.89 334 P P 23 37 06.1 +0.2
baz=150,SNR=12
S37A Fort Scott 65.96 336 P P 23 37 06.3 0.0
baz=151,SNR=30
O44A Mansfield 65.98 342 P P 23 37 05.1 -1.3
baz=158
R38A Fenwick Farm, 65.99 337 P P 23 37 06.4 -0.1
baz=152,SNR=22
P42A Winchester 66.03 340 P P 23 37 05.8 -0.9
baz=156,SNR=6.9
Q40A Laux Farm, Aux 66.06 338 P P 23 37 06.3 -0.6
baz=154,SNR=6.4
MMNY Mt. Morris Dam 66.13 351 eP P 23 37 08.1 +0.8
N46A Monticello 66.19 343 P P 23 37 06.6 -1.0
baz=160
S36A Lake Cedric, C 66.22 335 P P 23 37 08.2 +0.2
baz=151,SNR=28
T34A McClaskey Farm 66.26 333 P P 23 37 08.5 +0.3
baz=149,SNR=11
MSTX Muleshoe 66.27 327 P P 23 37 08.6 +0.1
baz=143,SNR=52
MSTX Muleshoe 66.27 327 eP P 23 37 08.7 +0.1
comp=Z,125nm,0.9s
P41A Barry, Barry 66.34 339 P P 23 37 07.7 -0.9
baz=155,SNR=7.9
O43A Sugar Creek Fa 66.35 341 P P 23 37 07.5 -1.2
baz=157
N45A Kentland 66.36 343 P P 23 37 07.4 -1.4
baz=159
Q39A Willow Grove F 66.42 338 P P 23 37 08.9 -0.3
baz=153,SNR=19
R37A Teagarden Farm 66.45 336 P P 23 37 09.2 -0.2
baz=151,SNR=20
AMTX Amarillo 66.47 329 P P 23 37 09.8 0.0
baz=144
AMTX Amarillo 66.47 329 eP P 23 37 09.8 0.0
comp=Z,50nm,1.2s
S35A Otter Creek Ra 66.47 334 P P 23 37 09.7 +0.1
baz=150,SNR=17
U32A Winter Ranch, 66.48 332 P P 23 37 10.0 +0.3
baz=147
O42A Bath 66.50 340 P P 23 37 09.1 -0.6
baz=156
P40A Paris 66.53 339 P P 23 37 09.4 -0.5
baz=154,SNR=7.4
Q38A Cooks Store, C 66.57 337 P P 23 37 10.2 +0.1
baz=153,SNR=18
LIC Lamto 66.59 72 eP P 23 37 09.1 -1.7
comp=Z,26nm,0.6s
HDIL Hopedale 66.60 341 P P 23 37 09.3 -1.0
baz=157
HDIL Hopedale 66.60 341 eP P 23 37 09.7 -0.6
comp=Z,42nm,0.6s
O41A Passleys Farm, 66.68 340 P P 23 37 09.8 -1.0
baz=155
R36A Gordon, Harris 66.71 335 P P 23 37 11.0 -0.1
baz=151,SNR=14
P39B Salisbury 66.74 338 P P 23 37 10.8 -0.4
baz=154,SNR=11
TIC Toumodi 66.80 72 eP P 23 37 10.4 -1.8
Q37A Longview Farm, 66.80 336 P P 23 37 11.4 -0.2
baz=152,SNR=14
S34A Willow Spring 66.81 334 P P 23 37 11.6 -0.1
baz=149
KIC Kosan Boka 66.91 72 eP P 23 37 11.4 -1.4
comp=Z,31nm,0.7s
DBIC Dimbokro 66.95 72 P P 23 37 11.8 -1.3
comp=Z,20nm,0.9s,baz=217,slow=6.6,SNR=15
DBIC Dimbokro 66.95 72 eP P 23 37 11.7 -1.4
comp=Z,22nm,0.9s
R35A Emporia Munici 66.98 335 P P 23 37 12.8 0.0
baz=150
O40A La Belle 67.01 339 P P 23 37 12.1 -0.7
baz=154,SNR=8.3
N42A Yates City 67.07 341 P P 23 37 12.6 -0.6
baz=156
HSIG 67.08 318 eP P 23 37 15.0 +1.4
comp=Z,68nm,1.2s
P38A Dawn 67.13 338 P P 23 37 13.4 -0.3
baz=153,SNR=16
N41A Harden Midland 67.21 340 P P 23 37 13.2 -1.0
baz=156
Q36A Arnold C. Orve 67.25 336 P P 23 37 14.0 -0.5
baz=151,SNR=5.2
QSPA South Pole Qui 67.33 180 eP P 23 37 15.1 +0.3
comp=Z,17nm,1.1s
O39A Kirksville 67.35 339 P P 23 37 14.4 -0.6
baz=154
R34A Isabella, Hill 67.38 334 P P 23 37 15.5 +0.2
baz=149,SNR=8.6
Q35A Mercer Eighty, 67.38 335 P P 23 37 15.1 -0.1
baz=150,SNR=8.3
P37A Lathrop 67.39 337 P P 23 37 14.9 -0.4
baz=152,SNR=22
O38A Galt 67.55 338 P P 23 37 15.9 -0.3
baz=153,SNR=5.4
M42A Sheffield 67.56 341 P P 23 37 14.9 -1.4
baz=157
LONY Lake Ozonia 67.58 354 eP P 23 37 17.3 +1.0
comp=Z,35nm,1.0s
N40A Mertquake, Sal 67.60 340 P P 23 37 16.0 -0.6
baz=155,SNR=11
L44A Lake County Fo 67.70 343 P P 23 37 15.7 -1.5
baz=158
M41A Milan 67.72 341 P P 23 37 16.4 -0.9
baz=156,SNR=6.8
P36A Good Intent, A 67.73 336 P P 23 37 16.9 -0.5
baz=151
319A Douglas 67.78 321 eP P 23 37 19.7 +1.6
comp=Z,66nm,0.8s
Q34A Chapman 67.79 335 P P 23 37 17.8 0.0
baz=150,SNR=12
121A Cookes Peak, D 67.79 323 P P 23 37 19.9 +1.7
baz=139,SNR=40
121A Cookes Peak, D 67.79 323 eP P 23 37 19.6 +1.4
comp=Z,61nm,0.9s
KSU1 Kansas State U 67.81 335 P P 23 37 17.7 -0.3
baz=150,SNR=6.9
KSU1 Kansas State U 67.81 335 eP P 23 37 17.9 0.0
comp=Z,43nm,0.9s
O37A Wolven Farm, M 67.83 337 P P 23 37 17.8 -0.2
baz=152,SNR=5.1
PKME Peaks-Kenny Pk 67.86 358 eP P 23 37 18.1 +0.1
comp=Z,17nm,0.6s
N39A Derby Farms, D 67.90 339 P P 23 37 17.8 -0.7
baz=154,SNR=7.5
L43A Garden Prairie 67.94 342 P P 23 37 18.1 -0.6
baz=158,SNR=5.7
P35A Duane Minner, 67.96 336 P P 23 37 18.5 -0.4
baz=151
M40A Post Highland 68.05 340 P P 23 37 18.7 -0.7
baz=155,SNR=9.6
N38A Joes South For 68.07 338 P P 23 37 18.9 -0.6
baz=153
O36A Bolckow 68.09 337 P P 23 37 19.1 -0.6
baz=152
PLVO Plevna 68.28 352 eP P 23 37 21.0 +0.3
comp=Z,29nm,0.9s
P34A Walnut Farm, R 68.28 335 P P 23 37 21.1 +0.2
baz=150,SNR=20
K43A Burlington 68.31 343 P P 23 37 20.5 -0.5
baz=158
M39A Webster 68.33 339 P P 23 37 20.4 -0.7
baz=154
L41A Preston 68.35 341 P P 23 37 20.3 -0.9
baz=156
N37A Lee Faris, Mou 68.38 338 P P 23 37 21.1 -0.3
baz=152,SNR=7.9
BNM Barren Site 68.39 325 eP P 23 37 23.2 +1.3
LPM Los Pinos Moun 68.52 325 eP P 23 37 24.0 +1.4
L40A Anamosa 68.56 340 P P 23 37 22.0 -0.5
baz=155,SNR=6.3
O35A Humboldt 68.56 336 P P 23 37 21.5 -1.1
baz=151
M38A Pleasantville 68.61 339 P P 23 37 22.2 -0.6
baz=154,SNR=10.0
K42A Prairie Point, 68.66 342 P P 23 37 22.6 -0.5
baz=157
N36A Muff Farm, Cla 68.69 337 P P 23 37 23.2 -0.1
baz=152
K41A Shullsburg 68.78 341 P P 23 37 23.4 -0.5
baz=156,SNR=7.3
O34A Beatrice 68.78 336 P P 23 37 23.6 -0.3
baz=150
CBKS Cedar Bluff 68.84 333 P P 23 37 25.2 +0.8
baz=147,SNR=14
CBKS Cedar Bluff 68.84 333 eP P 23 37 24.8 +0.4
comp=Z,91nm,0.8s
LAZ Ladron 68.86 325 eP P 23 37 26.3 +1.5
L39A Vinton 68.86 340 P P 23 37 23.7 -0.6
baz=155,SNR=6.0
M37A Trindle Farm, 68.89 338 P P 23 37 24.6 0.0
baz=153,SNR=7.5
ANMO Albuquerque 68.91 326 P P 23 37 26.4 +1.3
baz=141
ANMO Albuquerque 68.91 326 eP P 23 37 26.4 +1.3
comp=Z,43nm,0.9s
J43A Natural Harves 68.96 343 P P 23 37 24.4 -0.6
baz=158
N35A Tabor 68.98 337 P P 23 37 24.5 -0.7
baz=151
O33A Hebron 69.03 335 P P 23 37 25.6 +0.1
baz=149,SNR=5.6
JFWS Jewell Farm 69.04 341 eP P 23 37 25.1 -0.3
comp=Z,47nm,0.7s
SCIA State Center 69.06 339 eP P 23 37 25.8 +0.2
comp=Z,67nm,1.1s
J42A Columbus 69.09 342 P P 23 37 25.5 -0.3
baz=158
K40A Colesburg 69.11 341 P P 23 37 25.4 -0.5
baz=156,SNR=7.7
TRQ Mont Tremblant 69.16 354 eP P 23 37 26.6 +0.4
L38A Oak Wood Farm, 69.18 339 P P 23 37 25.8 -0.5

	baz=154					
N34A	Lincoln baz=150,SNR=6.1	69.28 336	P	P	23 37 26.6	-0.4
TUC	Tucson baz=136	69.34 321	P	P	23 37 29.0	+1.4
TUC	Tucson comp=Z,38nm,1.1s	69.34 321	eP	P	23 37 29.0	+1.4
K39A	Oelwein baz=155,SNR=9.2	69.35 340	P	P	23 37 26.7	-0.6
L37A	Phoenix Point, baz=153	69.43 339	P	P	23 37 27.2	-0.7
M35A	Neola baz=151	69.53 337	P	P	23 37 27.9	-0.6
N33A	J Bar K, Exete baz=150	69.55 335	P	P	23 37 28.4	-0.3
I42A	Draeger Farm, baz=158	69.57 343	P	P	23 37 28.5	-0.1
K38A	Parkersburg baz=154	69.58 340	P	P	23 37 28.3	-0.5
T25A	Trinidad baz=143,SNR=22	69.60 328	P	P	23 37 30.6	+1.3
T25A	Trinidad comp=Z,33nm,0.8s	69.60 328	eP	P	23 37 30.6	+1.3
J40A	Soldiers Grove baz=156,SNR=7.2	69.63 341	P	P	23 37 28.6	-0.5
L36A	Harm Buss Farm baz=152	69.72 338	P	P	23 37 29.3	-0.4
H43A	Windswept, Lux baz=159	69.80 344	P	P	23 37 29.6	-0.4
J39A	Decorah baz=155,SNR=6.8	69.86 341	P	P	23 37 29.9	-0.6
M34A	Aspy Farms, Fr baz=150	69.89 336	P	P	23 37 30.5	-0.1
I41A	Arkdale baz=157	69.99 342	P	P	23 37 30.8	-0.4
H42A	Shiocton baz=158	70.04 343	P	P	23 37 31.2	-0.3
L35A	Bielow Farm, R baz=152,SNR=5.0	70.04 337	P	P	23 37 31.2	-0.3
I40A	Norwalk baz=156	70.05 342	P	P	23 37 31.2	-0.4
J38A	Wedel Dairy, R baz=154	70.09 340	P	P	23 37 31.3	-0.6
K36A	Gilmore City baz=152	70.12 338	P	P	23 37 31.7	-0.4
M33A	Taylor Creek F baz=150	70.17 336	P	P	23 37 32.0	-0.5
L34A	Svendsen Farm, baz=151	70.21 337	P	P	23 37 32.2	-0.4
KSCO	Kaye Shedlock' baz=145	70.27 331	P	P	23 37 34.2	+1.0
KSCO	Kaye Shedlock' comp=Z,107nm,1.4s	70.27 331	eP	P	23 37 34.8	+1.6
I39A	Houston baz=155	70.28 341	P	P	23 37 32.4	-0.6
214A	Organ Pipe Nat baz=135,SNR=21	70.29 319	P	P	23 37 35.0	+1.6
214A	Organ Pipe Nat comp=Z,185nm,1.0s	70.29 319	eP	P	23 37 34.7	+1.3
F46A	Macinaw City C baz=162	70.32 346	P	P	23 37 33.2	0.0
BGNE	Belgrade baz=149,SNR=7.8	70.40 335	P	P	23 37 34.0	+0.2
BGNE	Belgrade comp=Z,179nm,0.9s	70.40 335	eP	P	23 37 34.2	+0.4
F45A	CMU Biological baz=161	70.40 346	P	P	23 37 33.4	-0.3
J37A	Redenius Farm, baz=154	70.42 339	P	P	23 37 33.4	-0.5
H41A	Junction City baz=157	70.44 343	P	P	23 37 33.6	-0.3
K35A	Storm Lake baz=152	70.47 338	P	P	23 37 33.9	-0.2
X18A	Snowflake comp=Z,26nm,0.9s	70.48 323	eP	P	23 37 36.4	+1.7
G43A	Wallace baz=159	70.52 344	P	P	23 37 34.0	-0.4
SDCO	Great Sand Dun baz=142,SNR=69	70.61 328	P	P	23 37 36.9	+1.4
SDCO	Great Sand Dun comp=Z,44nm,0.9s	70.61 328	eP	P	23 37 36.8	+1.3
H40A	Chili baz=157,SNR=5.7	70.65 342	P	P	23 37 34.9	-0.3
G42A	Mountain baz=158	70.69 344	P	P	23 37 35.1	-0.4
I38A	Scanlan Farm, baz=155,SNR=5.6	70.69 341	P	P	23 37 35.1	-0.4
J36A	Seneca 1, Swea baz=153	70.70 339	P	P	23 37 35.4	-0.1
W18A	Petrified Fore baz=138,SNR=20	70.80 323	P	P	23 37 38.0	+1.4
W18A	Petrified Fore comp=Z,65nm,1.1s	70.80 323	eP	P	23 37 38.1	+1.6
G41A	Antigo baz=158	70.86 343	P	P	23 37 36.2	-0.3
F44A	Big Bay de Noc baz=160	70.88 345	P	P	23 37 36.0	-0.6
F43A	Flat Rock, Esc baz=160	70.93 345	P	P	23 37 36.2	-0.7
H39A	Augusta baz=156	70.96 342	P	P	23 37 36.5	-0.6
E45A	Wooded Hills, baz=162,SNR=5.3	70.97 346	P	P	23 37 37.0	0.0
K33A	Hardington baz=150	71.00 337	P	P	23 37 37.3	-0.1
I37A	Lemond, Waseca baz=154	71.01 340	P	P	23 37 37.0	-0.3
J35A	Milford baz=152	71.03 338	P	P	23 37 37.0	-0.6
J34A	George baz=151	71.22 338	P	P	23 37 38.5	-0.1
X16A	Lo Mia Camp, P comp=Z,40nm,1.0s	71.24 322	eP	P	23 37 41.1	+1.8
H38A	Maiden Rock baz=155	71.25 341	P	P	23 37 38.6	-0.2
S22A	4UR Ranch, Cre baz=141,SNR=27	71.26 327	P	P	23 37 40.6	+1.2
S22A	4UR Ranch, Cre comp=Z,18nm,0.9s	71.26 327	eP	P	23 37 40.7	+1.3
F41A	Three Lakes baz=158	71.33 343	P	P	23 37 39.4	+0.1
H37A	Dierke Farm, C baz=154	71.36 340	P	P	23 37 39.5	0.0
E44A	Grand Marais A baz=161	71.38 346	P	P	23 37 39.9	+0.4
I35A	Creekview Farm baz=152	71.38 339	P	P	23 37 39.4	-0.2
E43A	Lone Tree Farm baz=160	71.40 345	P	P	23 37 39.3	-0.4
Q24A	Divide baz=142,SNR=12	71.40 329	P	P	23 37 41.4	+1.2
Q24A	Divide comp=Z,52nm,0.8s	71.40 329	eP	P	23 37 41.6	+1.4
K32A	Verdigre baz=149	71.40 336	P	P	23 37 39.7	-0.1
113A	Mohawk Valley, comp=Z,14nm,0.8s	71.43 319	eP	P	23 37 41.6	+1.4
G39A	Holcombe baz=156	71.48 342	P	P	23 37 39.4	-0.8
G38A	Ridgeland baz=155	71.57 341	P	P	23 37 40.0	-0.7
OGNE	Ogallala baz=146	71.59 332	P	P	23 37 41.9	+0.9
OGNE	Ogallala comp=Z,48nm,0.8s	71.59 332	eP	P	23 37 42.5	+1.4
K31A	O'Neill baz=149	71.67 335	P	P	23 37 41.7	+0.3
E42A	Champion baz=159	71.67 345	P	P	23 37 41.2	-0.1
H36A	Jessenland, He baz=153	71.68 340	P	P	23 37 41.5	+0.2
MVCO	Mesa Verde baz=139,SNR=41	71.70 326	P	P	23 37 43.3	+1.3
MVCO	Mesa Verde comp=Z,53nm,1.0s	71.70 326	eP	P	23 37 43.3	+1.3
F40A	Park Falls baz=157,SNR=9.7	71.77 343	P	P	23 37 41.9	+0.1
Y14A	Wickenburg comp=Z,75nm,0.8s	71.80 321	eP	P	23 37 43.9	+1.4
ECSD	EROS Data Cent baz=151,SNR=9.7	71.84 337	P	P	23 37 42.1	-0.2
ECSD	EROS Data Cent comp=Z,19nm,1.0s	71.84 337	eP	P	23 37 42.3	-0.1
SPMN	Marine on St. baz=154,SNR=5.2	71.91 341	P	P	23 37 42.2	-0.5
SPMN	Marine on St. comp=Z,58nm,1.4s	71.91 341	eP	P	23 37 42.5	-0.2
E41A	Kenton baz=158	71.97 344	P	P	23 37 42.3	-0.7
J32A	Parkston baz=150	71.97 336	P	P	23 37 42.9	-0.3
F39A	Loretta baz=156	71.98 342	P	P	23 37 43.0	-0.2
WUAZ	Wupatki baz=137,SNR=36	72.00 323	P	P	23 37 45.5	+1.8
WUAZ	Wupatki comp=Z,64nm,0.9s	72.00 323	eP	P	23 37 45.6	+1.9
H35A	Sunnyside Ranc baz=152	72.08 339	P	P	23 37 43.5	-0.2
I33A	Coleman baz=151	72.18 337	P	P	23 37 43.9	-0.5
E40A	Wakefield baz=157,SNR=5.9	72.19 343	P	P	23 37 44.5	+0.1
G36A	St. Michael baz=154	72.21 340	P	P	23 37 44.8	+0.3
J31A	Geddes baz=149	72.23 336	P	P	23 37 44.6	-0.1
GLA	Glamis baz=134,SNR=5.3	72.27 319	P	P	23 37 46.7	+1.5
GLA	Glamis comp=Z,19nm,0.9s	72.27 319	eP	P	23 37 47.1	+1.9
GLA			ePcP	PcP	23 37 56.2	-5.7
ISCO	Idaho Springs baz=142,SNR=27	72.28 329	P	P	23 37 46.7	+1.3
ISCO	Idaho Springs comp=Z,26nm,0.9s	72.28 329	eP	P	23 37 46.7	+1.3
F38A	Pierce - Schro baz=155,SNR=5.2	72.30 342	P	P	23 37 44.9	0.0
F37A	Hinrichs Farm, baz=155	72.31 341	P	P	23 37 45.0	-0.1
E39A	Mellen baz=157	72.31 343	P	P	23 37 45.2	+0.1
I32A	Karley and Nic baz=150	72.40 337	P	P	23 37 45.4	-0.2
D41A	Chassel baz=159	72.42 344	P	P	23 37 46.2	+0.5
PV01	Paradox Valley	72.44 326	eP	P	23 37 48.0	+1.6
SMCO	Snowmass comp=Z,33nm,0.8s	72.45 328	eP	P	23 37 48.1	+1.5
Y12C	Blythe baz=134,SNR=12	72.57 319	P	P	23 37 48.4	+1.5
Y12C	Blythe comp=Z,38nm,1.0s	72.57 319	eP	P	23 37 48.6	+1.7
PV05	Paradox Valley	72.67 326	eP	P	23 37 49.2	+1.5
F36A	Milaca baz=154,SNR=9.6	72.70 341	P	P	23 37 46.9	-0.5
H33A	Prehn Over Nor baz=151	72.71 338	P	P	23 37 47.3	-0.2
PDMCI	Parker Dam,Lak baz=134,SNR=9.3	72.73 320	P	P	23 37 49.1	+1.3
IKP	In-Ko-Pah, Jac baz=133,SNR=11	72.78 318	P	P	23 37 49.9	+1.6
SWSC	Sam W. Stewart baz=133	72.79 318	P	P	23 37 49.8	+1.6
E38A	The Farm, Brul baz=156	72.80 342	P	P	23 37 47.7	-0.2
H32A	Carlson Farm, baz=150	72.80 337	P	P	23 37 48.0	0.0
PV04	Paradox Valley	72.81 326	eP	P	23 37 49.8	+1.3
PV09	Paradox Valley	73.01 326	eP	P	23 37 51.3	+1.5
BC3	Big Chuckawall baz=133,SNR=25	73.06 319	P	P	23 37 51.3	+1.3
W13A	Hualapai Mount comp=Z,16nm,0.8s	73.13 321	eP	P	23 37 52.3	+1.9
MONP2	Monument Peak baz=132,SNR=12	73.14 318	P	P	23 37 52.0	+1.5
BAR	Barrett comp=Z,39nm,1.1s	73.16 317	eP	P	23 37 51.9	+1.5
U15A	North Rim comp=Z,52nm,0.9s	73.17 323	eP	P	23 37 52.7	+2.0
E36A	McGregor baz=154,SNR=6.3	73.21 341	P	P	23 37 50.1	-0.3
IRM	Iron Mountain baz=134,SNR=24	73.22 319	P	P	23 37 52.4	+1.6
N23A	Red Feather La baz=142,SNR=21	73.30 330	P	P	23 37 52.7	+1.4
N23A	Red Feather La comp=Z,34nm,0.8s	73.30 330	eP	P	23 37 52.8	+1.4
SUSD	Miller baz=149	73.30 336	P	P	23 37 51.9	+1.0
PHWY	Pilot Hill	73.40 330	eP	P	23 37 53.1	+1.2
G32A	Webster baz=150	73.48 338	P	P	23 37 51.3	-0.7
C39A	Grand Marais baz=157	73.52 344	P	P	23 37 51.6	-0.5
D37A	Cotton baz=155	73.55 342	P	P	23 37 52.0	-0.3
109C	Camp Elliot, M baz=132	73.57 317	P	P	23 37 53.3	+0.6
F33A	5 Mile Ranch, baz=151	73.57 339	P	P	23 37 52.1	-0.4
E35A	Pequot Lakes baz=153	73.60 340	P	P	23 37 52.5	-0.1
BELC	Belle Mtn. Jos baz=133,SNR=13	73.63 319	P	P	23 37 54.8	+1.5
PFO	Pinyon Flats O baz=133,SNR=14	73.65 318	P	P	23 37 54.9	+1.5
PFO	Pinyon Flats O comp=Z,34nm,1.2s	73.65 318	eP	P	23 37 55.0	+1.6
G31A	Conde baz=150	73.70 337	P	P	23 37 53.1	-0.1
C38A	Sawbill Land. baz=156	73.73 343	P	P	23 37 52.6	-0.8
E34A	Wadena baz=152	73.80 340	P	P	23 37 54.6	+0.9
O20A	White River Ci baz=140,SNR=38	73.81 328	P	P	23 37 55.7	+1.5
O20A	White River Ci comp=Z,65nm,0.9s	73.81 328	eP	P	23 37 55.7	+1.5
LDFC	Landfair comp=Z,53nm,1.0s	73.84 320	eP	P	23 37 56.5	+2.1
F32A	Veblen baz=151	73.88 338	P	P	23 37 55.1	+0.8
KNB	Kanab comp=Z,120nm,1.0s	73.89 323	eP	P	23 37 57.0	+2.3
PKCU	Pink Cliffs comp=Z,20nm,1.1s	73.92 324	eP	P	23 37 57.1	+2.1
D35A	Remer baz=154	73.96 341	P	P	23 37 55.3	+0.6
GMRC	Granite Mounta baz=133,SNR=44	73.96 320	P	P	23 37 56.9	+1.7
C37A	Embarrass baz=155	74.00 342	P	P	23 37 55.0	+0.1
EYMN	Ely baz=156	74.00 343	P	P	23 37 54.7	-0.3
MURC	Murrieta baz=132,SNR=6.2	74.10 318	P	P	23 37 57.4	+1.5
LCMT	Little Creek M comp=Z,31nm,0.9s	74.12 323	eP	P	23 37 57.7	+1.7
SRU	San Rafael Swe comp=Z,64nm,0.8s	74.18 326	eP	P	23 37 57.8	+1.4
C36A	Pine Crest Far baz=155,SNR=5.4	74.21 342	P	P	23 37 55.9	-0.2
MTPU	Mount Pierson comp=Z,27nm,0.8s	74.28 324	eP	P	23 37 58.9	+1.7
BBRC	Big Bear Solar baz=132	74.37 318	P	P	23 37 59.0	+1.3
Q16A	Castle Valley comp=Z,123nm,1.8s	74.38 325	eP	P	23 37 59.2	+1.6
HEC	Hector,Ludlow baz=133,SNR=16	74.40 319	P	P	23 37 59.3	+1.6
SYO	Syowa Base	74.41 159	eP	P	23 37 54.3	-2.7
SYO	Syowa Base	74.41 159	ePcP	PcP	23 38 08.0	-2.5
P18A	Preston Nutter comp=Z,62nm,0.8s	74.43 326	eP	P	23 37 59.6	+1.7
SZCU	Shurtz Canyon comp=Z,84nm,1.7s	74.45 323	eP	P	23 37 59.9	+1.9
C35A	Jirik Farms, M baz=154,SNR=6.6	74.49 341	P	P	23 37 57.4	-0.4
RWWY	Rawlins comp=Z,46nm,0.9s	74.51 329	eP	P	23 37 59.7	+1.3
SCI2	San Clemente I baz=131	74.53 317	P	P	23 37 59.7	+1.4
P17A	Butcher Ranch, comp=Z,69nm,0.9s	74.57 326	eP	P	23 38 00.1	+1.5
TUQ	Turquoise Moun baz=133,SNR=16	74.57 320	P	P	23 38 00.2	+1.6
CCUT	Cedar City comp=Z,64nm,0.9s	74.57 323	eP	P	23 38 01.1	+2.4
MSU	Marysvale	74.62 324	eP	P	23 38 00.8	+1.8
TMUT	Trail Mountain comp=Z,16nm,0.7s	74.68 325	eP	P	23 38 00.9	+1.5
CIS	Catalina Islan baz=131	74.73 317	P	P	23 38 00.9	+1.5
C34A	RKJ Ranch, Bem baz=153	74.73 340	P	P	23 37 58.8	-0.4
E31A	Nome baz=150	74.74 338	P	P	23 37 59.3	+0.1
BFSC	Mount Baldy Ra baz=132,SNR=12	74.81 318	P	P	23 38 01.4	+1.4
RRX	Edison Barstow baz=132	74.83 319	P	P	23 38 01.9	+1.9
SHPR	Sheep Range comp=Z,31nm,1.0s	74.86 321	eP	P	23 38 02.2	+1.9
SBA	Scott Base comp=Z,12nm,1.4s	74.89 190	eP	P	23 38 01.1	+1.4
K22A	Casper baz=142,SNR=6.0	74.95 331	P	P	23 38 01.9	+1.2
K22A	Casper comp=Z,31nm,0.9s	74.95 331	eP	P	23 38 02.4	+1.7
GSC	Goldstone, Bar baz=133,SNR=14	75.00 319	P	P	23 38 02.7	+1.6
GSC	Goldstone, Bar comp=Z,59nm,1.4s	75.00 319	eP	P	23 38 02.8	+1.7
B35A	Bob, Littlefor baz=154,SNR=10	75.01 342	P	P	23 38 00.5	-0.2
RSSD	Black Hills baz=144	75.04 333	P	P	23 38 02.1	+0.9
RSSD	Black Hills comp=Z,18nm,0.9s	75.04 333	eP	P	23 38 02.2	+0.9
MWC	Mount Wilson comp=Z,21nm,0.8s	75.05 318	eP	P	23 38 03.0	+1.5
PASC	Pasadena Art C comp=Z,38nm,1.2s	75.09 318	eP	P	23 38 03.5	+2.0
SHOC	Shoshone, Teco baz=133	75.09 320	P	P	23 38 02.8	+1.3
D31A	Mcclaflin, Tow baz=150	75.11 338	P	P	23 38 01.5	+0.3
DECC	Green Verdugo baz=131	75.24 318	P	P	23 38 04.1	+1.8
B34A	Aery, Baudette baz=153	75.39 341	P	P	23 38 02.8	-0.1
EDW2	Edwards Air Fo baz=132,SNR=15	75.44 318	P	P	23 38 04.6	+1.0
B33A	Robert and Kas baz=152	75.49 340	P	P	23 38 03.5	+0.1
PSUT	Pine Spring comp=Z,27nm,0.8s	75.55 323	eP	P	23 38 06.5	+2.2
AGMN	Agassiz Nation baz=152	75.60 340	P	P	23 38 04.1	+0.1
AGMN	Agassiz Nation comp=Z,16nm,0.8s	75.60 340	eP	P	23 38 04.4	+0.3
BLG	Laguna Peak, P baz=131	75.60 317	P	P	23 38 05.6	+1.2
NLU	North Lily Min comp=Z,29nm,1.1s	75.62 325	eP	P	23 38 06.3	+1.6
LRMC	Laurel Mtn Rad baz=132,SNR=23	75.65 319	P	P	23 38 06.2	+1.3
TOA0	Torodi Ar. Sit comp=Z,36nm,0.7s	75.68 69	eP	P	23 38 04.0	-1.2
TORD	Torodi Ar. Bea comp=Z,19nm,0.4s,baz=254,slow=5.3,SNR=163	75.68 69	P	P	23 38 03.9	-1.3
OSI	Osito Audit: C baz=131	75.72 318	P	P	23 38 06.0	+0.9
JLU	Jordanelle comp=Z,40nm,0.8s	75.77 326	eP	P	23 38 07.2	+1.7
TPNV	Topopah Spring baz=133,SNR=61	75.79 321	P	P	23 38 07.6	+2.0
TPNV	Topopah Spring comp=Z,54nm,1.0s	75.79 321	eP	P	23 38 07.7	+2.0
FURC	Furnace Creek, baz=133,SNR=17	75.83 320	P	P	23 38 07.5	+1.9
SCZ2	Santa Cruz Isl baz=130	75.88 317	P	P	23 38 07.0	+1.0
VNDA	Vanda comp=Z,2.1nm,0.8s,baz=128,slow=3.8,SNR=12	75.89 190	P	P	23 38 06.5	+1.1
VNDA	Vanda comp=Z,3.3nm,0.9s	75.89 190	eP	P	23 38 07.0	+1.6
B32A	Ashes, Strandq baz=152	75.90 340	P	P	23 38 05.8	0.0
MPMC	Manual Prospec baz=132,SNR=21	75.92 319	P	P	23 38 07.7	+1.3
CTU	Camp Tracy comp=Z,14nm,0.9s	75.99 326	eP	P	23 38 08.2	+1.6
A33A	Warroad baz=153,SNR=7.5	76.02 341	P	P	23 38 06.5	+0.1
ARVC	Arvin baz=131	76.12 318	P	P	23 38 08.7	+1.4
TCUT	Toone Canyon comp=Z,37nm,0.8s	76.13 327	eP	P	23 38 09.0	+1.5
DAC	Darwin (Calif) comp=Z,36nm,0.9s	76.13 320	eP	P	23 38 08.7	+1.1
DUG	Dugway, Tooele baz=137,SNR=35	76.18 325	P	P	23 38 09.2	+1.5
DUG	Dugway, Tooele comp=Z,40nm,1.0s	76.18 325	eP	P	23 38 09.2	+1.5
SBC	Santa Barbara baz=130	76.22 317	P	P	23 38 09.3	+1.5
ISA	Isabella, Lake baz=132,SNR=8.0	76.25 319	P	P	23 38 09.9	+1.7
ISA	Isabella, Lake comp=Z,43nm,0.9s	76.25 319	eP	P	23 38 10.0	+1.8
B31A	Greenbush Farm baz=150	76.28 339	P	P	23 38 10.0	+2.1
R11A	Troy Canyon, C baz=134,SNR=68	76.38 322	P	P	23 38 10.8	+1.8
R11A	Troy Canyon, C comp=Z,54nm,1.3s	76.38 322	eP	P	23 38 10.7	+1.8
MDND	Maddock baz=149	76.45 338	P	P	23 38 09.6	+0.8
BW06	Boulder Array baz=140,SNR=13	76.45 329	P	P	23 38 10.0	+0.7
BW06	Boulder Array comp=Z,10nm,0.8s	76.45 329	eP	P	23 38 10.0	+0.7
PD31	Pinedale Array	76.45 329	eP	P	23 38 10.0	+0.7
PDAR	Pinedale Array comp=Z,6.8nm,0.7s,baz=131,slow=6.8,SNR=54	76.45 329	P	P	23 38 09.9	+0.7
GRAC	Grapevine Rang baz=133,SNR=6.2	76.48 320	P	P	23 38 11.1	+1.8
CWC	Cottonwood Cre baz=132	76.53 319	P	P	23 38 11.3	+1.5
HWUT	Hardware Ranch comp=Z,34nm,0.8s	76.57 327	eP	P	23 38 11.0	+1.1
PKM	Mcpherson Peak baz=130,SNR=16	76.58 317	P	P	23 38 11.8	+1.7
VES	Vestal, Richgr baz=131,SNR=10	76.74 318	P	P	23 38 12.2	+1.4
SPUT	South Promonto comp=Z,49nm,0.8s	76.80 326	eP	P	23 38 12.6	+1.4
BGU	Big Grassy Mou comp=Z,37nm,1.0s	76.82 326	eP	P	23 38 12.5	+1.2
SMMC	Simmler baz=130	76.96 318	P	P	23 38 14.0	+2.0
TIN	Tinemaha, Big baz=132	77.03 320	P	P	23 38 14.4	+1.9
RCTC	Rector, Farmer baz=131	77.15 319	P	P	23 38 13.9	+0.9
PPT	Papeete comp=Z,29nm,0.6s,baz=213,slow=11,SNR=3.6	77.24 256	P	P	23 38 15.8	+1.8
HVU	Hansel Valley comp=Z,36nm,0.9s	77.31 326	eP	P	23 38 15.0	+1.0
ULM	Lac du Bonnet comp=Z,16nm,0.8s,baz=146,slow=6.8,SNR=24	77.33 341	P	P	23 38 13.4	-0.3
ULM	Lac du Bonnet comp=Z,18nm,0.8s	77.33 341	eP	P	23 38 13.4	-0.3
SCHQ	Schefferville comp=Z,13nm,0.8s,baz=188,slow=4.4,SNR=8.3	77.39 360	P	P	23 38 14.0	+0.1
SCHQ	Schefferville comp=Z,13nm,0.8s	77.39 360	eP	P	23 38 14.2	+0.2
PAGB	Antelope Grade comp=Z,54nm,1.0s	77.39 318	eP	P	23 38 16.2	+1.8
TSUM	Tsumeb comp=Z,15nm,1.1s,baz=243,slow=7.5	77.45 106	P	P	23 38 14.0	-1.4
TSUM	Tsumeb comp=Z,12nm,0.9s	77.45 106	eP	P	23 38 13.9	-1.4
REDW	Red Top Meadow	77.53 328	eP	P	23 38 16.5	+1.2
SNOW	Snow King Moun comp=Z,37nm,1.0s	77.55 329	eP	P	23 38 16.8	+1.3
LOHW	Long Hollow comp=Z,23nm,0.8s	77.59 329	eP	P	23 38 16.9	+1.3
TPAW	Teton Pass comp=Z,32nm,0.9s	77.67 329	eP	P	23 38 17.3	+1.2
MOOW	Moose Ponds comp=Z,13nm,0.8s	77.76 329	eP	P	23 38 17.6	+1.1
MLAC	Mammoth, Mammo baz=132	77.78 320	P	P	23 38 18.4	+1.7
FXWY	Fox Creek comp=Z,12nm,0.8s	77.82 329	eP	P	23 38 18.0	+1.1
IMW	Indian Meadow comp=Z,42nm,0.9s	77.97 329	eP	P	23 38 19.0	+1.2
LAO	LASA Array baz=143,SNR=7.5	78.02 333	P	P	23 38 18.4	+0.7
LAO	LASA Array comp=Z,43nm,1.3s	78.02 333	eP	P	23 38 18.5	+0.9

PMPB	Monarch Peak	78.05	318	eP	P	23 38 20.7 +2.7
	comp=Z,37nm,0.9s					
RLMT	Red Lodge	78.12	331	P	P	23 38 19.6 +1.1
	baz=140,SNR=19					
RLMT	Red Lodge	78.12	331	eP	P	23 38 19.6 +1.1
	comp=Z,36nm,1.1s					
H17A	Grant Village	78.17	329	P	P	23 38 20.2 +1.4
	baz=139					
H17A	Grant Village	78.17	329	eP	P	23 38 19.8 +0.9
	comp=Z,9.3nm,0.8s					
YPP	Pitchstone Pla	78.19	329	eP	P	23 38 21.1 +2.1
	comp=Z,6.7nm,0.8s					
LKWY	Lake	78.22	330	eP	P	23 38 20.2 +1.2
	comp=Z,16nm,0.8s					
TVH2	Borealis Mine	78.22	321	eP	P	23 38 21.3 +2.1
	comp=Z,29nm,0.2s					
YFT	Old Faithful	78.33	329	eP	P	23 38 22.6 +2.9
	comp=Z,19nm,0.9s					
YNR	Norris Junctio	78.46	329	eP	P	23 38 22.7 +2.3
	comp=Z,9.1nm,1.0s					
YMR	Madison River	78.56	329	eP	P	23 38 22.9 +2.0
	comp=Z,36nm,0.9s					
YHH	Holmes Hill	78.60	329	eP	P	23 38 22.9 +1.7
	comp=Z,46nm,1.0s					
DGMT	Dagmar	78.65	335	P	P	23 38 22.4 +1.4
	baz=145					
DGMT	Dagmar	78.65	335	eP	P	23 38 21.9 +0.9
	comp=Z,7.2nm,0.5s					
WAKR	Walker	78.71	320	eP	P	23 38 23.8 +1.9
	comp=Z,28nm,0.9s					
YHB	Horse Butte	78.73	329	eP	P	23 38 23.9 +2.1
	comp=Z,30nm,0.9s					
BMN	Battle Mountai	78.73	323	eP	P	23 38 22.3 +0.5
	comp=Z,18nm,1.3s					
GCMT	Greycliff	78.81	331	eP	P	23 38 23.1 +1.0
QLMT	Earthquake Lak	78.90	329	eP	P	23 38 24.5 +1.8
YERR	Yerington	78.91	321	eP	P	23 38 24.7 +1.8
	comp=Z,35nm,0.7s					
CMB	Columbia Colle	78.97	319	eP	P	23 38 24.1 +1.1
	comp=Z,8.2nm,0.8s					
PNTR	Pine Nut	79.19	321	eP	P	23 38 26.4 +1.9
	comp=Z,89nm,0.8s					
HLID	Hailey	79.43	327	P	P	23 38 27.4 +1.8
	baz=136,SNR=145					
HLID	Hailey	79.43	327	eP	P	23 38 27.4 +1.8
	comp=Z,69nm,0.8s					
PAHR	Pah Rah Range	79.47	321	eP	P	23 38 27.5 +1.7
	comp=Z,99nm,0.9s					
BOZ	Bozeman (W)	79.57	330	P	P	23 38 27.1 +0.8
	baz=138,SNR=9.8					
BOZ	Bozeman (W)	79.57	330	eP	P	23 38 27.0 +0.8
	comp=Z,19nm,1.4s					
MCMT	McKenzie Canyo	79.58	328	eP	P	23 38 28.1 +1.7
DLMT	Dillon	79.85	329	eP	P	23 38 29.1 +1.4
	comp=Z,41nm,1.3s					
AFDM	Forest Hills D	79.91	320	eP	P	23 38 29.0 +1.0
	comp=Z,30nm,1.0s					
MFID	Camas Ranch	80.05	326	eP	P	23 38 30.4 +1.5
	comp=Z,22nm,0.9s					
LRM	Limekiln Ridge	80.12	329	eP	P	23 38 30.5 +1.2
BEKR	Beckworth	80.14	321	eP	P	23 38 29.4 -0.1
	comp=Z,33nm,0.9s					
HRY	Holter Researc	80.49	330	eP	P	23 38 29.8 -1.3
EGMT	Eagleton	80.56	332	P	P	23 38 31.7 +0.3
	baz=140,SNR=10.0					
EGMT	Eagleton	80.56	332	eP	P	23 38 31.9 +0.5
	comp=Z,47nm,1.3s					
ORV	Oroville	80.61	320	eP	P	23 38 32.9 +1.2
	comp=Z,58nm,1.0s					
BOSA	Boshof	80.78	117	P	P	23 38 32.0 -1.2
	comp=Z,4.2nm,0.6s,baz=254,slow=3.8,SNR=16					
BOSA	Boshof	80.78	117	eP	P	23 38 32.3 -0.9
	comp=Z,9.9nm,0.8s					
MORF	Marmelete	80.86	43	eP	P	23 38 34.1 +0.9
WVOR	Wild Horse Val	80.87	324	eP	P	23 38 34.1 +0.9
	comp=Z,22nm,1.4s					
GDXM	Geysers	80.91	319	eP	P	23 38 35.1 +1.6
	comp=Z,19nm,1.2s					
O03D	Paynes Creek	81.26	320	P	P	23 38 35.2 -0.1
	baz=130,SNR=18					
PBDV	Barranco-do-Ve	81.28	44	eP	P	23 38 36.3 +1.0
	comp=Z,30nm,1.4s					
CHMT	Chamberlain Mo	81.30	330	eP	P	23 38 36.3 +0.8
PNCL	Nicolau / Gran	81.43	43	eP	P	23 38 36.9 +0.8
	comp=Z,23nm,1.3s					
MOD	Modoc Plateau	81.44	322	eP	P	23 38 37.5 +1.3
	comp=Z,34nm,0.9s					
PVAQ	Vaqueiros	81.51	43	eP	P	23 38 37.4 +0.9
MSO	Missoula	81.56	329	P	P	23 38 37.7 +1.0
	baz=137,SNR=6.9					
MSO	Missoula	81.56	329	eP	P	23 38 37.9 +1.2
	comp=Z,25nm,1.4s					
SLMT	Seeley Lake	81.65	330	eP	P	23 38 38.2 +0.9
PBEJ	Beja	81.79	43	eP	P	23 38 38.7 +0.7
	comp=Z,17nm,1.9s					
BMO	Blue Mountains	81.82	326	eP	P	23 38 39.0 +0.9
	comp=Z,89nm,1.5s					
WDC	Whiskeytown Da	81.88	320	eP	P	23 38 38.0 -0.3
	comp=Z,24nm,0.8s					
KCPM	Cahto Peak	81.94	319	eP	P	23 38 40.9 +2.0
	comp=Z,31nm,0.9s					
SWMT	Swartz Lake	82.08	330	eP	P	23 38 40.4 +1.0
PMTG	Montargil	82.20	42	eP	P	23 38 40.8 +0.7
N02D	Trinity Center	82.22	321	P	P	23 38 40.3 0.0
	baz=129,SNR=11					
M04C	Macdoel	82.24	322	P	P	23 38 41.2 +0.9
	baz=130,SNR=18					
YBMT	Yellow Bay	82.34	330	eP	P	23 38 42.0 +1.2
KMRM	Mail Ridge	82.35	319	eP	P	23 38 42.9 +1.9
	comp=Z,42nm,1.0s					
MAW	Mawson	82.35	163	P	P	23 38 40.8 +0.3
	comp=Z,4.4nm,0.7s,baz=272,slow=6.0,SNR=9.9					
MAW	Mawson	82.35	163	eP	P	23 38 40.7 +0.3
	comp=Z,1.5nm,1.0s					
LBTB	Lobatse	82.36	114	P	P	23 38 40.6 -0.9
	comp=Z,3.4nm,0.5s,baz=257,slow=8.7,SNR=4.9					
LBTB	Lobatse	82.36	114	eP	P	23 38 40.9 -0.6
	comp=Z,30nm,1.5s					
JTMT	Jette	82.39	330	eP	P	23 38 41.9 +0.9
PBAR	Barrancos	82.40	43	eP	P	23 38 41.5 +0.4
	comp=Z,43nm,1.3s					
PTOM	Tomar	82.42	41	eP	P	23 38 41.7 +0.5
	comp=Z,54nm,1.5s					
PESTR	Estremoz	82.47	42	eP	P	23 38 42.2 +0.7
	comp=Z,19nm,1.6s					
M02C	Callahan	82.58	321	P	P	23 38 42.5 +0.4
	baz=129,SNR=7.9					
BLMT	Blacktail Moun	82.61	330	eP	P	23 38 43.5 +1.3
PCAS	Casmilo, Conde	82.64	41	eP	P	23 38 43.2 +0.9
BSMT	Bassoo Peak	82.70	330	eP	P	23 38 43.5 +0.8
YBH	Yreka Blue Hor	82.71	321	eP	P	23 38 42.6 -0.1
	comp=Z,11nm,0.8s					
K04D	Chiloquin, OR	82.73	322	P	P	23 38 43.9 +1.0
	baz=130					
KHMM	Horse Mountain	82.77	320	eP	P	23 38 44.9 +1.7
	comp=Z,23nm,0.9s					
J05D	Fort Rock, OR	82.87	323	P	P	23 38 44.8 +1.1
	baz=131,SNR=35					
JCC	Jacoby Creek,	82.91	320	eP	P	23 38 45.4 +1.7
	comp=Z,38nm,0.9s					
PMRV	Marv??o	82.93	42	eP	P	23 38 43.9 0.0
PCBR	Castelo Branco	83.13	42	eP	P	23 38 45.0 +0.2
WALA	Waterton Lakes	83.17	331	eP	P	23 38 45.8 +0.8
	comp=Z,11nm,1.0s					
J04D	Umpqua Nationa	83.33	323	P	P	23 38 47.0 +0.9
	baz=130,SNR=18					
HUMO	Hull Mountain	83.40	322	eP	P	23 38 46.4 +0.2
	comp=Z,11nm,0.8s					
TAM	Tamanrasset	83.41	62	eP	P	23 38 46.8 -0.1
	comp=Z,28nm,1.3s					
TAM				epP	pP	23 39 45.7 +2.4
L02D	Cave Junction,	83.49	321	P	P	23 38 47.8 +1.1
	baz=129,SNR=12					
I05D	Terrebonne, OR	83.61	324	P	P	23 38 48.5 +1.3
	baz=131,SNR=5.1					
G06A	Carlson Farm,	83.82	325	eP	P	23 38 49.6 +1.4
	comp=Z,18nm,1.1s					
PVRL	Vila Real	83.86	40	eP	P	23 38 48.2 -0.4
KBO	Bosley Butte	83.89	321	eP	P	23 38 50.6 +1.9
	comp=Z,74nm,1.3s					
HAWA	Hanford	84.01	326	eP	P	23 38 50.2 +1.1
	comp=Z,36nm,0.9s					
NEW	Newport	84.10	329	eP	P	23 38 49.9 +0.3
	comp=Z,20nm,1.6s					
D08A	Wollman Farm,	84.15	327	eP	P	23 38 50.9 +1.0
	comp=Z,41nm,1.1s					
G05D	Wamic, OR	84.19	324	P	P	23 38 51.5 +1.4
	baz=131,SNR=9.2					
MVO	Moncorvo	84.20	41	eP	P	23 38 51.1 +0.8
	comp=Z,31nm,1.7s					
E07A	Sunnyside	84.29	326	eP	P	23 38 51.8 +1.2
	comp=Z,21nm,1.0s					
I03D	Drain, OR	84.31	322	P	P	23 38 51.6 +0.9
	baz=129,SNR=17					
C09A	Chrisman Ranch	84.33	328	eP	P	23 38 51.8 +1.0
	comp=Z,37nm,0.8s					
KEBM	Edson Butte	84.36	321	eP	P	23 38 52.8 +1.7
	comp=Z,94nm,1.1s					
SAW	Saint Andrews	84.83	327	P	P	23 38 53.8 +0.5
COR	Corvallis	84.85	323	eP	P	23 38 55.1 +1.8
	comp=Z,47nm,1.0s					
PAB	San Pablo	84.90	43	eP	P	23 38 54.7 +0.8
	comp=Z,14nm,0.8s					
WTV	Waterville	85.10	327	P	P	23 38 55.2 +0.5
ESLA	Sonseca Array	85.22	43	eP	P	23 38 56.0 +0.6
	comp=Z,41nm,1.5s					
ESDC	Sonseca Array	85.22	43	P	P	23 38 55.5 0.0
	comp=Z,3.5nm,0.7s,baz=237,slow=4.9,SNR=22					
F04A	Amboy	85.22	325	eP	P	23 38 55.8 +0.6
	comp=Z,27nm,0.8s					
ETW	Entiat	85.23	327	P	P	23 38 56.1 +0.8
B08A	Colville Reser	85.23	328	eP	P	23 38 55.4 +0.1
	comp=Z,20nm,1.3s					
LON	Longmire	85.43	325	eP	P	23 38 56.4 +0.1
	comp=Z,9.8nm,0.9s					
F04D	Rainier, OR	85.64	324	P	P	23 38 58.4 +1.2
	baz=130					
C06D	Leavenworth	85.72	327	P	P	23 38 57.7 0.0
	baz=131					
D05A	Enumclaw	85.81	326	eP	P	23 38 58.9 +0.9
	comp=Z,36nm,0.8s					
F03A	Seaside	85.84	324	eP	P	23 38 59.3 +1.1
	comp=Z,22nm,0.9s					
E03A	Lebam	86.23	324	eP	P	23 39 01.3 +1.2
	comp=Z,45nm,1.0s					
RPW	Rockport	86.38	327	P	P	23 39 00.7 -0.2
B06A	Marblemount	86.41	327	eP	P	23 39 00.9 0.0
	comp=Z,34nm,0.8s					
JCW	Jim Creek	86.43	326	P	P	23 39 00.9 -0.2
B05A	Bryant	86.56	326	P	P	23 39 01.6 -0.1
	baz=130,SNR=14					
MATP	Matopo	86.58	111	P	P	23 39 02.5 -0.3
	comp=Z,9.8nm,0.7s,baz=258,slow=5.0,SNR=22					
MBW	Mount Baker	86.79	327	P	P	23 39 02.9 -0.2
NLWA	Neilton Lookou	86.92	325	eP	P	23 39 04.8 +1.2
	comp=Z,22nm,1.0s					
A04D	Lummi Island	87.16	327	P	P	23 39 05.4 +0.9
	baz=130					
PGC	Sidney	87.50	326	eP	P	23 39 07.3 +1.2
	comp=Z,35nm,0.9s					
LLLB	Lillooet	87.97	328	eP	P	23 39 08.8 +0.4
	comp=Z,27nm,1.1s					
LSZ	Lusaka	88.31	106	P	P	23 39 11.3 +0.3
	comp=Z,16nm,1.2s,baz=228,slow=5.4,SNR=11					
LSZ	Lusaka	88.31	106	eP	P	23 39 11.3 +0.3
	comp=Z,40nm,1.5s					
YKA	Yellowknife Ar	93.25	340	P	P	23 39 32.8 +0.3
	comp=Z,7.4nm,0.7s,baz=128,slow=4.3,SNR=15					
ILAR	Eielson Array	106.48	334	PP	PP	23 44 58.7 -1.2
	comp=Z,1.0nm,0.7s,baz=112,slow=5.5,SNR=5.6					
AKASG	Malin Array Be	110.86	43	Pdiff	Pdif	23 40 51.0 -0.6
	comp=Z,0.2nm,0.3s,baz=58,slow=2.4,SNR=4.1					
BRTR	Keskin Array B	111.74	55	PP	PP	23 45 40.8 +2.1
	comp=Z,0.8nm,0.9s,baz=232,slow=7.0,SNR=4.3					
ASAR	Alice Springs	129.69	204	PKP	PKPdf	23 45 26.7 -0.4
	comp=Z,4.0nm,0.8s,baz=148,slow=2.2,SNR=34					
ASAR				SKPbc	SKPab	23 48 26.4 -0.4
	comp=Z,5.2nm,0.8s,baz=146,slow=4.5,SNR=22					
AS31	Alice Springs	129.69	204	ePKPdf	PKPdf	23 45 27.0 -0.2
TIXI	Tiksi	130.42	354	ePKPdf	PKPdf	23 45 26.8 -0.1
GEYT	Alibeck	130.55	59	SKPbc	SKPab	23 48 31.1 +1.1
	comp=Z,6.1nm,0.9s,baz=282,slow=7.0,SNR=13					
ABKAR	Akbulak array	130.57	44	ePKPdf	PKPdf	23 45 29.7 +1.8
NRIK	Noril'sk	130.96	12	SKPbc	SKPab	23 48 30.8 +0.3
	comp=Z,1.7nm,0.3s,baz=330,slow=1.4,SNR=4.2					
WRA	Warramunga Arr	132.86	207	PKP	PKPdf	23 45 33.2 0.0
	comp=Z,2.4nm,0.6s,baz=164,slow=1.7,SNR=32					
WRA				SKPbc	SKPbc	23 48 38.1 -0.4
	comp=Z,19nm,0.9s,baz=150,slow=3.2,SNR=53					
PETK	Petropavlovsk-	135.03	324	PKP	PKPdf	23 45 37.0 +0.8
	comp=Z,2.8nm,0.7s,baz=77,slow=6.4,SNR=3.8					
PETK				SKPbc	SKPbc	23 48 44.6 +0.2
	comp=Z,9.2nm,0.8s,baz=92,slow=5.0,SNR=8.0					
FITZ	Fitzroy Crossi	137.60	197	PKhKP	PKPpre	23 45 30.0
	comp=Z,1.6nm,0.9s,baz=342,slow=11,SNR=2.5					
FITZ				PKP	PKPdf	23 45 42.3 +0.3
	comp=Z,3.4nm,0.7s,baz=157,slow=11,SNR=7.8					
AAK	Ala-Archa	142.11	49	ePKPdf	PKPdf	23 45 52.5 +2.9
ZALV	Zalesovo Beam	142.16	28	PKhKP	PKPpre	23 45 45.1
	comp=Z,2.6nm,0.6s,baz=307,slow=4.5,SNR=13					
ZALV				SKP		23 49 00.1
	comp=Z,2.0nm,0.8s,baz=300,slow=4.3,SNR=3.2					
KSH	Kashi	144.12	54	PKP	PKPab	23 45 51.4 -0.1
KSH				pPKP	pPKPdf	23 46 50.3 -3.1
KSH				sPKP		23 47 14.4
KSH				PP	PP	23 49 10.8 +0.4
KSH				PKS	PKSdf	23 49 25.1 -3.8
KSH				SKS	SKSdf	23 52 37.4 -2.9
KSH				SKKS	SKKSac	23 55 36.4 -2.9
KSH				SS	SS	00 07 31.9 -4.2
KSH				AMB	AMB	
	comp=Z,100nm,5.6s					
KSH				LR	LR	
	comp=Z,94nm,6.9s					
KSH				LR	LR	
	comp=Z,60nm,9.6s					
KSH				LR	LR	
	comp=Z,150nm,7.2s					
MAKZ	Makanchi	145.13	39	ePKPbc	PKPab	23 45 55.6 +0.6
MK31	Makanchi Array	145.32	39	ePKPdf	PKPab	23 45 55.9 +0.2
MKAR	Makanchi Array	145.32	39	PKPbc	PKPab	23 45 55.9 +0.1
	comp=Z,9.2nm,0.7s,baz=310,slow=3.1,SNR=52					
MKAR				SKPbc	SKPbc	23 49 10.7 -1.5
	comp=Z,4.0nm,0.9s,baz=323,slow=2.2,SNR=5.9					
SOEI	Soe	145.92	199	ePKPdf	PKPab	23 45 59.3 +0.3
YSS	Yuzh-Sakhalins	146.42	323	ePKPdf	PKPbc	23 45 58.2 -0.3
HYB	Hyderabad	146.73	93	i PKP	PKPbc	23 46 00.0 -0.3
HYB				e		23 47 02.0
ASAJ	Asahikawa	148.10	319	ePKPbc	PKPbc	23 46 03.8 +0.6
FAKI	Fak Fak	148.55	218	ePKPbc	PKPbc	23 46 05.9 +0.7
WMQ	Urumqi	150.15	39	PKPbc	PKPdf	23 46 02.3 -0.7
WMQ				LR	LR	
	comp=Z,34nm,14.7s					
WMQ				LR	LR	
	comp=Z,22nm,16.7s					
WMQ				LR	LR	
	comp=Z,26nm,15.7s					
PYUN	Piuthan	151.95	73	eP	PKPab	23 46 19.6 -3.8
	comp=Z,30nm,0.6s					
KOLN	Koldanda	152.51	74	eP	PKPab	23 46 20.9 -4.9
	comp=Z,24nm,0.6s					
DANN	Dangsing	152.61	72	eP	PKPab	23 46 21.8 -4.5
	comp=Z,5.5nm,1.0s					
GKN	Gorkha	153.41	73	eP	PKPbc	23 46 22.6 +6.3
	comp=Z,12nm,0.4s					
DMN	Daman	153.85	74	eP	PKPbc	23 46 22.6 +5.2
	comp=Z,41nm,1.0s					
USRK	Usuriysk Ar.	153.88	329	PKPbc	PKPbc	23 46 16.6 0.0
	comp=Z,3.6nm,0.7s,baz=348,slow=1.7,SNR=5.8					
KKN	Kakani	154.00	73	eP	PKPbc	23 46 23.2 +5.5
	comp=Z,34nm,1.1s					
PKIN	Phulchoki	154.11	74	eP	PKPbc	23 46 24.0 +6.0
SONM	Songino Array	154.44	11	PKP	PKPdf	23 46 10.4 +1.1
	comp=Z,2.2nm,0.8s,baz=72,slow=0.2,SNR=13					
SONM				PKPbc	PKiKP	23 46 18.3 +0.5
	comp=Z,3.6nm,0.8s,baz=343,slow=0.3,SNR=14					
SONM				PKPab	PKPab	23 46 34.2 +1.1
	comp=Z,2.1nm,0.6s,baz=319,slow=4.1,SNR=6.4					
GUN	Gumba	154.51	73	eP	PKPbc	23 46 23.7 +4.8
	comp=Z,19nm,0.8s					
MJAR	Matsushiro Ar	154.72	308	PKPbc	PKPbc	23 46 18.5 -0.2
	comp=Z,2.7nm,0.7s,baz=120,slow=1.1,SNR=5.1					
MJAR				PKPab	PKPab	23 46 35.1 +0.4
	comp=Z,8.7nm,0.9s,baz=71,slow=2.0,SNR=12					
MAJO	Matsushiro	154.72	308	ePKPab	PKPab	23 46 35.0 +0.3
MAT	Matsushiro	154.72	308	ePKP	PKPdf	23 46 10.3 +0.4
MJB9	Matsu-Tunnel	154.72	308	ePKPab	PKPab	23 46 35.5 +0.8
RAMN	Ramite	155.22	75	eP	PKPab	23 46 24.6 -13
	comp=Z,37nm,1.0s					
KSRS	Korea Array	160.93	323	PKP	PKPdf	23 46 18.4 +1.0
	comp=Z,1.6nm,0.8s,baz=321,slow=1.7,SNR=8.6					
KSRS				PKPab	PKPab	23 47 02.5 +1.1
	comp=Z,4.6nm,1.0s,baz=46,slow=4.7,SNR=8.9					
KSAR	Wonju Array Be	160.96	323	PKP	PKPdf	23 46 18.4 +0.9
KSAR				PKPab	PKPab	23 47 02.5 +1.0
LZH	Lanzhou	164.36	30	ePKP	PKPdf	23 46 19.4 -1.7
LZH				pPKP	PKPab	23 47 16.6 -0.1
LZH				sPKP		23 47 42.4
CMAR	Chiang Mai Arr	165.62	105	PKP	PKPdf	23 46 23.5 +1.0
	comp=Z,0.8nm,0.4s,baz=289,slow=2.8,SNR=3.6					
CMAR				PKPab	PKPab	23 47 22.2 -0.4
	comp=Z,5.0nm,0.8s,baz=253,slow=4.9,SNR=22					
CD2	Chengdu	168.14	45	PKP	PKPdf	23 46 23.0 -1.0
NJ2	Nanjing	169.72	334	ePKP	PKPdf	23 46 25.8 +0.9
KMI	Kunming	169.85	75	PKP	PKPdf	23 46 24.9 -0.6
WHN	Wuhan	172.33	355	PKP	PKPdf	23 46 26.9 +0.6
GYA	Guiyang	172.78	59	ePKP	PKPdf	23 46 26.3 -0.5
GYA				pPKP	pPKPdf	23 47 25.0 -2.4
GYA				sPKP		23 47 47.8
GYA				PKPab	PKPab	23 47 55.9 +1.6
GYA				PKS	PKSdf	23 49 57.4 -1.9
GYA				PP	PP	23 51 47.3 +1.1
GYA				AMB	AMB	
	comp=Z,130nm,8.6s					

IDC 20 23:37:06.9±2.5, 21°.87S×67°.45W, h91km±26km, mb3.0/2, mb1 3.2/3, mb1mx3.1/21, mbtmp3.3/3, Error ellipse: s-maj=39.6km s-min=25.7km az=126.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.54	241	P	Pn	23 37 34.4	+0.8
	434nm,0.3s,baz=48,slow=12,SNR=43						
LVC				S	Sn	23 37 53.6	-0.2
	782nm,0.3s,baz=251,slow=19,SNR=48						
LPAZ	La Paz	5.59	353	P	Pn	23 38 27.8	-0.3
	0.7nm,0.3s,baz=187,slow=7.8,SNR=7.2						
TXAR	Lajitas Array	61.71	324	P	P	23 47 16.0	+0.2
	0.1nm,0.4s,baz=149,slow=8.0,SNR=2.7						
TORD	Torodi Ar. Bea	76.20	70	P	P	23 48 45.3	-0.4
	0.5nm,0.7s,baz=247,slow=5.6,SNR=4.3						

*TAP **20** 23:41:42.8, 25°.64N×122°.88E, h237km±1km, ML3.9, D*
*JMA **20** 23:41:44.0±0.3, 25°.37N×122°.51E, h238km±4km, M3.5*
*ISCJB **20** 23:41:45.4±0.9, 25°.41N±0°.08×122°.69E±0°.04, h235km±6km, Error ellipse: s-maj=13.3km s-min=5.0km az=169.6*

ISC 20 23:41:46.2±2.8, 25°.4N±0°.1×122°.68E±0°.04, h230km±16km, n30, σ0°.74/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	Pengchaiyu	0.59	293	eP	Pn	23 42 15.8	-1.2
	baz=277						
TWB1	Santiao Chiao	0.74	238	eP	Pn	23 42 16.9	-0.8
	baz=236						
TWB1				eS	S	23 42 41.3	-1.0
	baz=236						
NWF	Wu-fen Shan	0.88	248	eP	Pn	23 42 18.4	-0.1
	baz=245						
JYNG	Yonagunijimaku	0.98	166	P	Pn	23 42 17.9	-1.1
JYNG				S	S	23 42 43.8	-0.8
TWY	Chenhua	0.98	263	eP	Pn	23 42 18.4	-0.5
	baz=251						
TWC	Suao	1.09	224	eP	Pn	23 42 19.2	-0.5
	baz=221						
TWC				eS	S	23 42 46.0	+0.3
	baz=221						
TWE	Neicheng	1.14	234	eP	Pn	23 42 20.8	+0.9
	baz=221						
TWE				eS	S	23 42 48.1	+1.8
	baz=221						
ENTT	Nioudou	1.26	233	eP	Pn	23 42 21.3	+0.4
	baz=222						
ENTT				eS	S	23 42 49.0	+1.2
	baz=222						
NSK	Sanguang	1.40	239	eP	Pn	23 42 22.3	+0.4
	baz=234						
NSK				eS	S	23 42 49.6	-0.1
	baz=234						
IRIF	Iriomote-Funau	1.43	138	P	Pn	23 42 21.5	-0.6
IRIF				eS	S	23 42 51.0	+1.0
NNS	Nan Shan	1.52	231	eP	Pn	23 42 23.5	+0.5
	baz=228						
NNS				eS	S	23 42 53.1	+1.4
	baz=228						
TWD	Chiawan	1.64	217	eP	Pn	23 42 23.7	-0.1
	baz=215						
TWD				eS	S	23 42 53.2	0.0
	baz=215						
JKRS	Kuro-shima	1.68	133	P	Pn	23 42 24.0	-0.1
JKRS				S	S	23 42 54.2	+0.6
JIJ	Ishigaki jima	1.69	128	P	Pn	23 42 23.6	-0.6
JIJ				S	S	23 42 53.3	-0.5
HATJ	Hateruma jima	1.69	142	P	Pn	23 42 24.1	-0.1
HATJ				eS	S	23 42 55.0	+1.2
JISG	Ishigakijimahi	1.69	118	P	Pn	23 42 23.8	-0.4
JISG				S	S	23 42 53.6	-0.2
NSTT	Nanjuang	1.70	244	eP	Pn	23 42 23.8	-0.5
	baz=239						
TWT	Tachien	1.78	230	eP	Pn	23 42 26.8	+1.5
	baz=228						
TWT				eS	S	23 42 56.9	+1.2
	baz=228						
WHF	Hehuan Shan	1.79	226	eP	Pn	23 42 25.6	0.0
	baz=224						
WHF				eS	S	23 42 56.5	+0.2
	baz=224						
JTJ	Tarama	1.99	112	P	Pn	23 42 27.2	+0.3
JTJ				S	S	23 42 59.5	+0.9
SMLT	Sun Moon Lake	2.21	227	eP	Pn	23 42 29.2	0.0
	baz=225						
SMLT				eS	S	23 43 03.4	+0.5
	baz=225						
TYC	Yuchr	2.23	228	eP	Pn	23 42 29.6	+0.4
	baz=219						
TYC				eS	S	23 43 02.8	-0.1
	baz=219						
JIRB	Irabujima	2.33	104	P	Pn	23 42 30.2	-0.1
JIRB				S	S	23 43 05.2	+0.5
TWF1	Yuli	2.40	212	eP	Pn	23 42 29.8	-1.2
	baz=217						
TWF1				eS	S	23 43 04.8	-1.3
	baz=217						
YUS	Yu-Shan	2.47	220	eP	Pn	23 42 32.7	+0.4

SAIM				S	Sg	23 52 04.7	+1.2
KOZT	**Kozan**	**0.31**	**220**	*e*PG	Pg	23 52 00.9	-0.2
KOZT				*e*SG	Sg	23 52 05.2	0.0
KOZT	**Kozan**	**0.31**	**220**	*e*Pg	Pg	23 52 00.9	-0.2
KOZT				*e*Sg	Sg	23 52 05.2	0.0
AKO	**Adana**	**0.57**	**243**	*i* P	Pg	23 52 05.2	-0.7
AKO				*i* S	Sg	23 52 12.8	-0.5
YAHY	**KAYSERI_Yahyal**	**0.68**	**304**	*i* P	Pg	23 52 07.7	-0.4
YAHY				*i* S	Sg	23 52 17.0	+0.1
YAHY	**KAYSERI_Yahyal**	**0.68**	**304**	P	Pg	23 52 07.7	-0.4
YAHY				S	Sg	23 52 17.0	+0.1
KMRS	**Kahramanmaras**	**0.69**	**108**	*e*PG	Pg	23 52 08.0	-0.2
KMRS	**Kahramanmaras**	**0.69**	**108**	*e*Pg	Pg	23 52 08.0	-0.2
SARI	**SarD1z-Kayseri**	**0.74**	**21**	*e*PG	Pb	23 52 09.8	-0.7
SARI				*e*SG	Sg	23 52 19.2	+0.5
CEYT	**Ceyhan**	**0.76**	**201**	*e*PG	Pg	23 52 09.2	-0.4
CEYT	**Ceyhan**	**0.76**	**201**	*e*Pg	Pg	23 52 09.2	-0.4
HCB	**Kahramanmara¯**	**0.76**	**119**	*i* P	Pg	23 52 09.5	-0.1
HCB				*i* S	Sb	23 52 20.3	-1.1
GAZ	**Gaziantep**	**1.05**	**121**	*e*PG	Pn	23 52 15.8	-0.7
GAZ	**Gaziantep**	**1.05**	**121**	*e*Pg	Pn	23 52 15.8	-0.7
GULE	**Gulek**	**1.12**	**248**	*i* P	Pn	23 52 20.8	+3.2
GULE				*i* S	Sn	23 52 37.6	+4.1
BNN	**Bunyan**	**1.15**	**351**	*e*PN	Pn	23 52 16.8	-1.0
BNN	**Bunyan**	**1.15**	**351**	*e*Pn	Pn	23 52 16.8	-1.0
GZT	**Gaziantep**	**1.23**	**107**	*i* P	Pg	23 52 19.1	+0.4
GZT				*i* S	Sn	23 52 35.9	-0.3
MERS	**Mersin**	**1.51**	**236**	*e*PN	Pn	23 52 21.0	-1.7
MERS	**Mersin**	**1.51**	**236**	*e*Pn	Pn	23 52 21.0	-1.7
SVSK	**Karacayir**	**2.31**	**18**	*e*PN	Pn	23 52 33.4	-0.3
SVSK	**Karacayir**	**2.31**	**18**	*e*Pn	Pn	23 52 33.4	-0.3

IDC 20 23:58:52.1±2.7, 6°58S×128°22E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=306.8km s-min=30.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.55**	**156**	Pn	Pn	00 02 18.9	-0.6
0.1nm,0.3s,baz=334,slow=14,SNR=5.7							
WRA				Sn	Sn	00 04 48.0	-14
0.2nm,0.3s,baz=29,slow=24,SNR=5.9							
ASAR	**Alice Springs**	**17.84**	**163**	P	Pn	00 03 02.4	+0.4
0.2nm,0.3s,baz=340,slow=10,SNR=9.2							
MKAR	**Makanchi Array**	**66.92**	**328**	P	P	00 09 46.5	0.0
0.2nm,0.3s,baz=110,slow=7.8,SNR=3.4							

MAN 21 00:06:33, 12°51N×120°53E, h26km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.58**	**94**	*e*P	Pn	00 06 45.4	-0.1
SJMP				*e*S	Sn	00 06 55.2	+1.1
PGP	**Puerto Galera**	**1.07**	**23⇑**	*e*P	Pn	00 06 52.5	+0.1
PGP				*e*S	Sb	00 07 07.6	+1.1
LUBP	**Lubang**	**1.25**	**347**	*e*P	Pn	00 06 54.6	-0.2
LUBP				*e*S	Sn	00 07 10.1	-0.8
OTRP	**Odiongan**	**1.46**	**95**	*e*P	Pn	00 06 58.1	+0.4
ENPP	**El Nido**	**1.69**	**220**	*e*P	Pn	00 07 01.2	+0.4
ENPP				*e*S	Sn	00 07 22.5	+0.9

*SOME **21** 00:34:35.5, 40°63N×76°93E, h10km*
*NNC **21** 00:34:40.0±8.8, 40°89N×76°87E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=61.3km s-min=54.6km az=120.0*
*KRNET **21** 00:34:42.8±0.1, 41°02N×76°77E, h18km, mb2.4*
ISC 21 00:34:40.1±2.8, 40°9N±0°1×76°84E±0°06, h4km±16km, n20, σ1°23/36, 19C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.43**	**342⇑**	*i*P	Pg	00 35 07.6	0.0
baz=341							
ULHL			⇑	*i*S	Sn	00 35 25.7	-0.7
baz=341							
BOOM	**Boomskoye usch**	**1.74**	**338⇑**	*i*P	Pg	00 35 13.7	+0.2
baz=337							
BOOM			⇑	*i*S	Sg	00 35 36.1	0.0
baz=337							
ANVS	**Anan'yevo**	**2.00**	**18⇑**	*i*P	Pb	00 35 17.2	+0.1
baz=20							
ANVS			⇑	*i*S	Sg	00 35 44.2	-0.1
baz=20							
ARLS	**Aral**	**2.13**	**298⇑**	*i*P	Pb	00 35 19.0	-0.3
baz=296							
ARLS			⇑	*i*S	Sg	00 35 46.9	-1.6
baz=296							
TNSS	**Tian-Shan**	**2.15**	**2**	*e*P	Pb	00 35 19.8	-0.1
3.7nm,0.3s							
TNSS				*e*S	Sg	00 35 50.6	+1.3
4.7nm,0.4s							
IZV	**Izvestkoviy**	**2.16**	**356**	*e*P	Pb	00 35 20.3	+0.5
4.3nm,0.6s							
IZV				*e*S	Sg	00 35 51.6	+2.1
7.6nm,0.2s							
TKM2	**Tokmak 2**	**2.24**	**336⇑**	*i*P	Pb	00 35 21.5	+0.3
baz=336							
TKM2			⇑	*i*S	Sg	00 35 49.7	-2.3
baz=336							
TKM2	**Tokmak 2**	**2.24**	**336**	⇑Pg	Pb	00 35 21.2	0.0
1.2nm,0.6s							
TKM2				⇑Lg	Lg	00 35 52.7	
4.9nm,0.6s							
KST	**Kastek**	**2.26**	**344**	*e*P	Pb	00 35 22.0	+0.5
1.1nm,0.1s							
KST				*e*S	Sg	00 35 54.0	+1.4
4.3nm,0.6s							
KBK	**Karagaybulak**	**2.27**	**322⇑**	*i*P	Pb	00 35 22.6	+0.9
baz=321							
KBK			⇑	*i*S	Sg	00 35 52.0	-1.0
baz=321							
MTBS	**Maitube**	**2.27**	**352**	*e*P	Pb	00 35 21.4	-0.2
3.4nm,0.1s							
MTBS				*e*S	Sg	00 35 52.5	-0.4
7.2nm,0.5s							
MDOK	**Medeo**	**2.29**	**4**	*e*P	Pb	00 35 21.4	-0.6
1.1nm,0.2s							
MDOK				*e*S	Sg	00 35 53.1	-0.5
4.9nm,0.9s							
SATY	**Saty**	**2.47**	**28**	*e*P	Pb	00 35 24.8	-0.3
4.9nm,0.7s							
SATY				*e*S	Sg	00 35 58.7	-0.8
8.5nm,0.4s							
AAK	**Ala-Archa**	**2.48**	**316⇑**	*i*P	Pb	00 35 25.5	+0.2
baz=314							
AAK			⇑	*i*S	Sg	00 35 57.8	-2.0
baz=314							
AAK	**Ala-Archa**	**2.48**	**316**	⇓Pg	Pb	00 35 25.3	0.0
1.1nm,0.3s							
AAK				⇑Lg	Lg	00 36 00.8	
5.8nm,0.8s							
DGS	**Degeres**	**2.49**	**342**	*e*P	Pb	00 35 26.3	+0.9
2.1nm,0.5s							
DGS				*e*S	Sg	00 36 01.4	+1.3
12nm,0.2s							
AML	**Almayashu**	**2.67**	**299⇑**	*i*P	Pb	00 35 28.0	-0.7
baz=297							
AML			⇑	*i*S	Sg	00 36 04.3	-1.6
baz=297							
CHKK	**Chushkaly**	**2.97**	**2**	*e*P	Pb	00 35 33.6	0.0
1.3nm,0.3s							
CHKK				*e*S	Sg	00 36 14.2	-1.3
8.3nm,0.3s							
MNAS	**Manas**	**3.62**	**298**	⇓Pg	Pb	00 35 45.3	+0.6
3.0nm,1.3s							
MNAS				⇓Lg	Lg	00 36 33.4	
1.9nm,0.7s							
KK31	**Karatay Array**	**5.21**	**297**	⇓Pg	Pb	00 36 15.7	+4.0
0.5nm,0.7s,baz=97,slow=15,SNR=3.9							
KK31				⇓Lg	Lg	00 37 23.8	
0.8nm,0.8s,baz=108,slow=27,SNR=4.2							

*SJA **21** 00:40:44.9±0.7, 33°92S×72°26W, h4km±15km, ML3.3, MW3.5*
*GUC **21** 00:40:45.2±0.6, 33°85S×72°40W, h21km±10km, ML3.3*
ISC 21 00:40:45.2±2.1, 33°89S±0°04×72°3W±0°1, h13km±13km, n20, σ2°19/31, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.56**	**153**	*e*P	Pn	00 40 58.0	-0.8
CHPI				*i* S	Sn	00 41 07.5	-0.5
GO05	**HualaæØ**	**1.16**	**164**	*e*P	Pb	00 41 07.1	0.0
GO05				*e*S	Sg	00 41 23.0	+0.4
RCDM	**Rinconada Maip**	**1.32**	**73**	*e*P	Pn	00 41 08.6	-0.8
RCDM				*i* S	Sg	00 41 27.6	-0.2
ROC1	**El Roble**	**1.42**	**50**	*e*P	Pg	00 41 12.0	-0.5
ROC1				*e*S	Sg	00 41 32.6	+1.6
NICH	**Los Niches**	**1.42**	**141**	*e*P	Pg	00 41 12.3	-0.3
NICH				*i* S	Sg	00 41 33.0	+1.9
ROCH	**El Roble**	**1.43**	**50⇑**	*i*P	Pg	00 41 12.0	-0.6
ROCH				*i* S	Sg	00 41 32.7	+1.5
ROCH				IAML		00 41 40.8	
comp=N,775nm,0.5s							
ANTU	**Antumapu**	**1.44**	**77**	*e*P	Pg	00 41 12.4	-0.4
ANTU				IAML		00 41 38.1	
comp=E,825nm,0.4s							
PEL	**Peldehue**	**1.55**	**62⇑**	*i*P	Pg	00 41 14.5	-0.5
PEL				*i* S	Sg	00 41 36.1	+0.9
PEL				IAML		00 41 46.2	
comp=N,590nm,0.6s							
CLCH	**Cerro Calan**	**1.56**	**72⇑**	*i*P	Pg	00 41 14.6	-0.6
CLCH				*i* S	Sg	00 41 36.8	+1.2
CLCH				IAML		00 41 44.4	
comp=E,492nm,0.4s							
FCH	**Farellones**	**1.78**	**72**	*i* P	Pg	00 41 18.1	-1.3
FCH				IAML		00 41 53.8	
comp=N,471nm,0.8s							
AUSP	**Uspallata**	**2.97**	**57**	*e*P	Pb	00 41 36.5	-1.6
AUSP				*e*S	Sg	00 42 23.1	+2.5
ARCO	**CERRO ARCO**	**3.02**	**71**	*e*P	Pn	00 41 34.3	+1.4
ARCO				IAML		00 41 45.9	
comp=Z,137nm,0.4s							
ARCO				*e*S	Sg	00 42 27.2	+5.0
ASAL	**Salagasta**	**3.19**	**67**	*e*P	Pb	00 41 38.5	-3.3
ASAL				*e*S	Sg	00 42 28.2	+0.5
RTLS	**Leoncito**	**3.29**	**51**	*e*P	Pb	00 41 40.5	-3.0
RTLS				IAML		00 41 50.0	
comp=Z,76nm,0.4s							
RTLL	**Cerro Villicun**	**4.13**	**53**	*e*P	Pn	00 41 51.6	+3.6
RTLL				IAML		00 43 05.3	
comp=Z,28nm,0.6s							
ACCO	**Cerro Coronel**	**4.29**	**41**	*e*P	Pn	00 41 53.8	+3.3
ACCO				*e*S	Sg	00 43 04.6	+1.5
AMOG	**MOGNA**	**4.37**	**49**	*e*P	Pn	00 41 54.2	+2.8
AVFE	**Valle Fertil**	**5.23**	**53**	IAML		00 42 24.7	
comp=Z,12nm,0.7s							
AGUA	**GUANDACOL**	**5.47**	**38**	*e*P	Pn	00 42 09.2	+2.7
AGUA				*e*S	Sg	00 43 36.7	-4.1
VCA	**Vinchina**	**6.23**	**35**	IAML		00 44 05.7	
comp=Z,14nm,0.5s							

*SJA **21** 00:47:32.4±0.9, 33°93S×72°32W, h11km, ML2.8, MW3.2*
*GUC **21** 00:47:33.6±0.7, 33°90S×72°46W, h34km±4km, ML2.8*
ISC 21 00:47:25.8±2.9, 33°78S±0°06×72°8W±0°1, h9km±11km, n12, σ1°12/22, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.90**	**133**	*e*P	Pn	00 47 45.0	+0.3
CHPI				*e*S	Sg	00 47 53.9	-0.9
GO05	**HualaæØ**	**1.42**	**150**	*e*P	Pg	00 47 53.8	+0.7
GO05				*e*S	Sb	00 48 09.6	-1.2
ROC1	**El Roble**	**1.69**	**62**	*e*P	Pg	00 47 58.9	+0.6
ROC1				*e*S	Sg	00 48 20.2	-0.1
ROCH	**El Roble**	**1.70**	**62⇑**	*i*P	Pg	00 47 58.9	+0.5
ROCH				*e*S	Sb	00 48 19.0	+0.1
ROCH				IAML		00 48 27.1	
comp=N,222nm,0.3s							
PEL	**Peldehue**	**1.88**	**71⇑**	*i*P	Pg	00 48 01.4	-0.4
PEL				*e*S	Sn	00 48 22.8	+0.8
PEL				IAML		00 48 33.1	
comp=N,217nm,0.4s							
CLCH	**Cerro Calan**	**1.93**	**79⇑**	*i*P	Pb	00 48 01.7	+0.5
CLCH				*i* S	Sn	00 48 22.7	-0.6
CLCH				IAML		00 48 36.6	
comp=N,140nm,1.6s							
FCH	**Farellones**	**2.14**	**79**	*e*P	Pb	00 48 04.9	-0.1
FCH				*e*S	Sn	00 48 28.9	-0.1
AUSP	**Uspallata**	**3.26**	**63**	*e*P	Pb	00 48 23.5	-0.5
AUSP				*e*S	Sg	00 49 09.6	-1.0
ARCO	**CERRO ARCO**	**3.37**	**75**	*e*P	Pg	00 48 29.0	-1.4
ARCO				IAML		00 48 32.8	
comp=Z,42nm,0.4s							
ARCO				*e*S	Sg	00 49 13.9	-0.1
ASAL	**Salagasta**	**3.53**	**71**	*e*P	Pb	00 48 29.9	+1.4
ASAL				*i* S	Sg	00 49 22.4	+3.3
RTLS	**Leoncito**	**3.55**	**57**	*e*P	Pb	00 48 28.2	-0.8
RTLS				IAML		00 48 36.8	
comp=Z,20nm,0.4s							
RTLS				*e*S	Sg	00 49 18.9	-1.0
RTLL	**Cerro Villicun**	**4.39**	**57**	IAML		00 49 52.1	
comp=Z,8.2nm,0.6s							

*CSEM **21** 00:55:48.7±0.5, 50°26N×19°23E, h2km, Error ellipse: s-maj=10.0km s-min=4.5km az=9.0*
PRU 21 00:55:49.7, 50°23N×19°23E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**91**	*e*Pg	Pg	00 55 56.0	-0.7
OJC				*i* Sg	Sg	00 56 00.4	-1.0
OJC	**Ojcow**	**0.36**	**91**	*e*Pg	Pg	00 55 56.0	-0.7
OJC				*i* Sg	Sg	00 56 00.4	-1.0
OKC	**Ostrava-Krasne**	**0.80**	**241**	*e*SG	Sb	00 56 16.8	-1.1
OKC	**Ostrava-Krasne**	**0.80**	**241**	Sg	Sb	00 56 16.8	-1.1
NIE	**Niedzica**	**1.07**	**139**	*e*Pg	Pg	00 56 10.1	0.0
NIE				*e*Sg	Sg	00 56 24.6	+0.7
NIE	**Niedzica**	**1.07**	**139**	*e*Pg	Pg	00 56 10.1	0.0
NIE				*e*Sg	Sg	00 56 24.6	+0.6
LANS	**Liptovska Anna**	**1.09**	**172**	*e*Pg	Pg	00 56 09.7	-0.9
LANS				*e*Sg	Sg	00 56 23.8	-0.9
LANS	**Liptovska Anna**	**1.09**	**172**	*e*PG	Pg	00 56 09.7	-0.9
LANS				*e*SG	Sg	00 56 23.8	-0.9
MORC	**Moravsky Berou**	**1.18**	**248**	*e*Pg	Pg	00 56 12.5	+0.2
MORC				*e*Sg	Sb	00 56 28.4	-0.4
STHS	**Stebnicka Huta**	**1.54**	**121**	*e*Sn	Sb	00 56 40.0	+0.9
STHS	**Stebnicka Huta**	**1.54**	**121**	*e*SN	Sb	00 56 40.0	+0.9
STHS				*e*LG	Lg	00 56 40.3	
KRLC	**Kraliky**	**1.58**	**265**	*e*SG	Sg	00 56 40.5	0.0
KRLC	**Kraliky**	**1.58**	**265**	Sg	Sg	00 56 40.5	0.0
VYHS	**Vyhne**	**1.76**	**189**	*e*Pg	Pn	00 56 20.1	-1.3
VYHS				*e*Sn	Sn	00 56 42.0	-2.5
VYHS	**Vyhne**	**1.76**	**189**	*e*PG	Pn	00 56 20.1	-1.3
VYHS				*e*SN	Sn	00 56 42.0	-2.5
DPC	**Dobruska-Polom**	**1.87**	**275**	*e*PG	Pn	00 56 23.3	+0.3
DPC				*e*SG	Sb	00 56 48.5	-0.2
comp=Z,3.1nm,0.6s							
DPC	**Dobruska-Polom**	**1.87**	**275**	Pg	Pn	00 56 23.3	+0.3
DPC				Sg	Sb	00 56 48.5	-0.2
3.1nm,0.6s							

*ISCJB **21** 00:57:11.7±0.6, 50°28N±0°04×18°72E±0°03, h0km, Error ellipse: s-maj=5.7km s-min=2.8km az=12.5*
*CSEM **21** 00:57:12.5±0.3, 50°29N×18°75E, h2km, ML2.3, Error ellipse: s-maj=7.0km s-min=3.3km az=10.0*
*VIE **21** 00:57:13.6±1.8, 50°22N×18°73E, h0km, mb1.9/1, ML2.1/3, Error ellipse: s-maj=19.4km s-min=10.7km az=155.0, Suspected Mining induced.*
*WAR **21** 00:57:13.2, 50°28N×18°83E, h1km, Mw2.3*
*PRU **21** 00:57:13.2, 50°27N×18°73E, h0km*
ISC 21 00:57:12.8±0.8, 50°27N±0°04×18°75E±0°02, h0km, n30, σ1°02/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.58**	**222**	*e*PG	Pg	00 57 25.0	+1.1
OKC				*e*SG	Sb	00 57 33.6	-1.0
comp=Z,11nm,0.4s							
OKC	**Ostrava-Krasne**	**0.58**	**222**	Pg	Pg	00 57 25.0	+1.1
OKC				Sg	Sb	00 57 33.6	-1.0
11nm,0.4s							
OJC	**Ojcow**	**0.67**	**94**	*e*Pg	Pg	00 57 25.0	-0.7
OJC				*e*Sg	Sg	00 57 35.1	+0.7
OJC	**Ojcow**	**0.67**	**94**	*e*Pg	Pg	00 57 25.0	-0.7
OJC				*e*Sg	Sg	00 57 35.1	+0.7
OJC	**Ojcow**	**0.67**	**94**	*e*Pg	Pg	00 57 25.0	-0.7
OJC				*e*Sg	Sg	00 57 35.1	+0.7
MORC	**Moravsky Berou**	**0.92**	**238**	*e*Pg	Pg	00 57 30.9	+0.4
MORC				*e*Sg	Sg	00 57 43.7	+1.3
LANS	**Liptovska Anna**	**1.21**	**157**	*e*Pg	Pg	00 57 36.0	0.0
LANS				*e*Sg	Sg	00 57 52.5	+0.9
LANS	**Liptovska Anna**	**1.21**	**157**	*e*PG	Pg	00 57 36.0	0.0
LANS				*e*SG	Sg	00 57 52.5	+0.9
KRLC	**Kraliky**	**1.28**	**262**	*e*PG	Pg	00 57 36.7	-0.6
KRLC				*e*SG	Sg	00 57 54.0	0.0
KRLC	**Kraliky**	**1.28**	**262**	Pg	Pg	00 57 36.7	-0.6
KRLC				Sg	Sg	00 57 54.0	0.0
NIE	**Niedzica**	**1.31**	**130**	*e*Pg	Pg	00 57 37.5	-0.4
NIE				*e*Sg	Sb	00 57 56.2	+0.5
NIE	**Niedzica**	**1.31**	**130**	*e*Pg	Pg	00 57 37.5	-0.4
NIE				*e*Sg	Sb	00 57 56.2	+0.5
NIE	**Niedzica**	**1.31**	**130**	*e*Pg	Pg	00 57 37.5	-0.4
NIE				*e*Sg	Sb	00 57 56.2	+0.5
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	Pn	00 57 41.7	-0.1
DPC				*e*SG	Sn	00 58 01.6	-1.2
comp=Z,8.8nm,0.6s							
DPC	**Dobruska-Polom**	**1.56**	**274**	Pg	Pn	00 57 41.7	-0.1
DPC				Sg	Sn	00 58 01.6	-1.2
8.8nm,0.6s							
KSP	**Ksiaz**	**1.67**	**291**	*e*Pg	Pb	00 57 44.8	+0.4
KSP				*e*Sg	Sg	00 58 07.4	+0.9
KSP	**Ksiaz**	**1.67**	**291**	*e*Pg	Pb	00 57 44.8	+0.4
KSP				*e*Sg	Sg	00 58 07.4	+0.9
VRAC	**Vranov**	**1.70**	**236**	*e*Pn	Pn	00 57 44.4	+0.7
VRAC				*e*Sg	Sb	00 58 07.1	+0.3
UPC	**Upice**	**1.77**	**279**	*e*SG	Sb	00 58 09.1	+0.2
UPC	**Upice**	**1.77**	**279**	Sg	Sb	00 58 09.1	+0.2
VYHS	**Vyhne**	**1.78**	**178**	*e*Sn	Sn	00 58 05.8	-2.2
VYHS	**Vyhne**	**1.78**	**178**	*e*SN	Sn	00 58 05.8	-2.2
VYHS				*e*LG	Lg	00 58 14.3	
STHS	**Stebnicka Huta**	**1.82**	**117**	*e*Pn	Pn	00 57 46.4	+1.0
STHS	**Stebnicka Huta**	**1.82**	**117**	*e*PN	Pn	00 57 46.4	+1.0
STHS				*e*LG	Lg	00 58 20.8	
TREC	**Trest**	**2.33**	**247**	*e*SG	Sb	00 58 26.2	+1.2
TREC	**Trest**	**2.33**	**247**	Sg	Sb	00 58 26.2	+1.2
PRU	**Pruhonice**	**2.73**	**266**	*e*SG	Sb	00 58 37.8	+1.5
PRU	**Pruhonice**	**2.73**	**266**	Sg	Sb	00 58 37.8	+1.5
CONA	**Conrad Observa**	**3.02**	**220**	Pn	Pn	00 58 00.6	-1.3
0.3nm,0.2s							
CONA				Sn	Sn	00 58 38.8	+0.1
0.9nm,0.4s							
KHC	**Kasperske Hory**	**3.55**	**253**	*e*SG	Sg	00 59 03.8	-2.9

*ISCJB **21** 01:06:19.8±0.5, 38°55N±0°03×26°71E±0°05, h9km±6km, Error ellipse: s-maj=7.1km s-min=4.3km az=4.5*
*DDA **21** 01:06:19.7, 38°57N×26°64E, h7km, Md2.5*
*CSEM **21** 01:06:20.1±0.2, 38°55N×26°68E, h10km, MD2.0, Error ellipse: s-maj=5.8km s-min=3.3km az=117.0*
*ISK **21** 01:06:20.0, 38°57N×26°65E, h5km, MD2.0*
ISC 21 01:06:19.6±0.9, 38°55N±0°02×26°69E±0°04, h14km±6km, n20, σ0°41/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.11**	**292**	*e*PG	Pg	01 06 22.2	-0.7
KRBN	**Karaburun**	**0.11**	**292**	*e*Pg	Pg	01 06 22.2	-0.7
FOCM	**Fo¯§a**	**0.16**	**12**	*e*PG	Pg	01 06 23.8	+0.2
FOCM				*e*SG	Sg	01 06 26.6	+0.4
FOCM	**Fo¯§a**	**0.16**	**12**	*e*Pg	Pg	01 06 23.8	+0.2
FOCM				*e*Sg	Sg	01 06 26.7	+0.4
URLA	**Izmir**	**0.20**	**201**	*e*PG	Pg	01 06 24.7	+0.5
URLA	**Izmir**	**0.20**	**201**	*i* P	Pg	01 06 24.5	+0.3
URLA				*i* S	Sg	01 06 27.1	-0.2
URLA	**Izmir**	**0.20**	**201**	P	Pg	01 06 24.5	+0.3
URLA	**Izmir**	**0.20**	**201**	*e*Pg	Pg	01 06 24.7	+0.5
URLA				S	Sg	01 06 27.1	-0.2
ZEY	**¯zmir**	**0.34**	**205**	*i* P	Pg	01 06 26.9	+0.3
ZEY				*i* S	Sb	01 06 32.6	-0.1
DGB	**¯zmir**	**0.52**	**163**	*i* P	Pg	01 06 29.8	-0.1
DGB				*i* S	Sg	01 06 36.0	-0.9
CHOS	**Chios island**	**0.52**	**252**	*e*PG	Pb	01 06 31.0	+0.4
CHOS				*e*SG	Sb	01 06 37.9	-0.2
CHOS	**Chios island**	**0.52**	**252**	*e*Pg	Pb	01 06 31.0	+0.4
CHOS				*e*Sg	Sb	01 06 37.9	-0.2
DKL	**Dikili**	**0.55**	**18**	*e*PG	Pb	01 06 31.0	+0.1
DKL	**Dikili**	**0.55**	**18**	*e*Pg	Pb	01 06 31.0	+0.1
SIGR	**SIGRI**	**0.93**	**316**	*e*PG	Pb	01 06 37.4	0.0
SIGR				*e*SG	Sb	01 06 50.3	+0.7
SIGR	**SIGRI**	**0.93**	**316**	*e*Pg	Pb	01 06 37.4	0.0
SIGR				*e*Sg	Sb	01 06 50.3	+0.7
BAYC	**CANAKKALE_Bayr**	**1.19**	**355**	*i* P	Pg	01 06 42.4	-0.2
BAYC				*i* S	Sg	01 06 58.2	+0.1
BAYC	**CANAKKALE_Bayr**	**1.19**	**355**	P	Pg	01 06 42.4	-0.2
BAYC				S	Sg	01 06 58.2	+0.1
BALY	**Balya**	**1.39**	**31**	*i* P	Pg	01 06 46.3	0.0
BALY				*i* S	Sn	01 07 02.3	-0.5
BALY	**Balya**	**1.39**	**31**	P	Pg	01 06 46.3	0.0
BALY				S	Sn	01 07 02.3	-0.5

CASC 21 01:07:39.2±1.5, 10°04N×79°50W, h62km±22km, MD4.2, 3C-2D, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRIJ	**El Hiral**	**0.84**	**195⇓**	*i*P	Pn	01 07 54.7	-0.5
FRIJ				*e*S	Sn	01 08 07.2	+0.1
BCIP	**Isla Barro Col**	**0.93**	**201**	*i* P	Pn	01 07 56.2	-0.1
BCIP				*e*S	Sn	01 08 09.9	+0.9
UPA	**Univ. de Panam**	**1.05**	**182⇓**	*i*P	Pn	01 07 57.9	-0.1
UPA				*e*S	Sn	01 08 12.7	+0.8
FLAM	**Flamenco Islan**	**1.11**	**182⇑**	*i*P	Pn	01 07 59.3	+0.4
FLAM				*e*S	Sn	01 08 15.0	+1.5
ZANG	**Zanguenga, Cho**

PB01				*i* S	**S**	01 12 42.0	-2.3
PB01				IAML		01 12 44.5	
	comp=N,478nm,0.4s						
PB07	**IPOC Station P**	**3.44**	**282** ⇑	*i* P	**Pn**	01 12 02.1	+1.0
PB07				*i* S	**S**	01 12 45.4	-1.5
PB07				IAML		01 12 45.7	
	comp=N,391nm,0.4s						
PB02	**IPOC Station P**	**3.57**	**288** ⇑	*i* P	**Pn**	01 12 03.3	+0.9
PB02				*i* S	**S**	01 12 47.8	-1.5
PB04	**IPOC Station P**	**3.60**	**272** ⇑	*i* P	**Pn**	01 12 03.6	+0.8
PB04				*i* S	**S**	01 12 48.4	-1.7
PB04				IAML		01 12 53.7	
	comp=N,268nm,0.2s						
FSA	**Cafayete**	**3.62**	**176**	*i* P	**Pn**	01 12 04.0	+1.0
BBOJ	**La Paz, Jacaqu**	**5.77**	**341**	*e*Pn	**Pn**	01 12 32.2	+2.9
BBOE	**La Paz, Chanca**	**5.87**	**344**	*e*Pn	**Pn**	01 12 33.0	+2.5
LPAZ	**La Paz**	**6.41**	**344**	P	**Pn**	01 12 38.7	+1.4
	comp=N,0.8nm,0.3s,baz=174,slow=8.8,SNR=21						
LPAZ				S	**S**	01 13 52.1	-0.4
	comp=N,0.2nm,0.3s,baz=304,slow=16,SNR=4.1						
LPAZ	**La Paz**	**6.41**	**344**	*e*Pn	**Pn**	01 12 38.6	+1.3
LPAZ				*e*Sn	**S**	01 13 50.8	-1.8
BBOB	**La Paz, Bander**	**6.55**	**344**	*e*Pn	**Pn**	01 12 39.9	+0.9
TORD	**Torodi Ar. Bea**	**75.39**	**69**	P	**P**	01 22 19.2	-0.4
	comp=N,0.8nm,0.4s,baz=258,slow=5.7,SNR=23						
MKAR	**Makanchi Array**	**144.93**	**39**	PKP	PKPbc	01 30 11.4	+1.5
	comp=N,0.9nm,0.7s,baz=328,slow=4.3,SNR=5.2						

MEX 21 01:13:20.0±0.3, 16°.82N×96°.64W, h56km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.27**	**341**	*e*P	Pn	01 13 28.4	-1.3
VHO				*e*S	Sn	01 13 34.8	-1.8
PNIG	**Pinotepa**	**1.49**	**254**	*e*P	Pn	01 13 43.0	-1.5
PNIG				*e*S	Sn	01 14 01.1	-1.8
TLIG	**Tlapa**	**1.98**	**292**	*e*P	Pn	01 13 50.0	-1.3
TLIG				*e*S	Sn	01 14 12.4	-2.8

*ISCJB **21** 01:16:25.1±0.4, 51°.50N±0°.02×6°.45E±0°.03, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=141.3*
*CSEM **21** 01:16:25.8±0.3, 51°.52N×6°.51E, h1km, ML2.9/13, Error ellipse: s-maj=5.0km s-min=3.6km az=157.0*
*BUG **21** 01:16:26.2, 51°.51N×6°.57E, h1km, ML2.2*
BUG Felt IV EMS.
*BGR **21** 01:16:27.7±0.7, 51°.51N×6°.56E, h1km, ML2.2/4, Error ellipse: s-maj=12.2km s-min=6.7km az=120.0*
*LDG **21** 01:16:27.3±0.2, 51°.50N×6°.60E, h1km, Md2.9/2, Ml2.7/13, Error ellipse: s-maj=4.0km s-min=3.3km az=8.0, Suspected Mining induced.*
*BNS **21** 01:16:28.0±1.2, 51°.47N×6°.62E, h1km, ML2.1*

ISC 21 01:16:25.8±0.8, 51°.46N±0°.02×6°.54E±0°.02, h0km, n80, σ0s97/129, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.06**	**20**	Pg	**Pg**	01 16 27.2	+0.2
BRHE				Sg	**Sg**	01 16 28.1	+0.3
BRHE	**Rheinberg**	**0.06**	**20**	Pg	**Pg**	01 16 27.2	+0.2
BRHE				Sg	**Sg**	01 16 28.1	+0.3
LAUG	**Laupendahl**	**0.28**	**113**	*e*Pg	**Pg**	01 16 32.3	+1.2
LAUG	**Laupendahl**	**0.28**	**113**	Pg	**Pg**	01 16 32.3	+1.2
HES	**Velbert-Hesper**	**0.33**	**106**	*e*Pg	**Pg**	01 16 32.3	+0.2
HES				*e*Sg	**Sg**	01 16 37.0	+0.6
HES	**Velbert-Hesper**	**0.33**	**106**	Pg	**Pg**	01 16 32.3	+0.2
HES				Sg	**Sg**	01 16 37.0	+0.6
RWB	**Wassenberg**	**0.43**	**214**	*e*Sg	**Sb**	01 16 43.2	-0.1
	83nm,0.3s						
RWB	**Wassenberg**	**0.43**	**214**	Sg	**Sb**	01 16 43.2	-0.1
	83nm,0.3s						
BUG	**Bochum--Univer**	**0.46**	**92**	*e*Pg	**Pg**	01 16 35.5	+0.9
BUG				Sg	**Sg**	01 16 42.2	+1.7
PLH	**Pulheim**	**0.49**	**159**	*e*Pg	**Pb**	01 16 36.9	-0.4
PLH				*e*Sg	**Sb**	01 16 43.8	-1.1
	192nm,0.2s						
PLH	**Pulheim**	**0.49**	**159**	Pg	**Pb**	01 16 36.9	-0.4
PLH				Sg	**Sb**	01 16 43.8	-1.1
	192nm,0.2s						
WTSB	**Winterswijk**	**0.53**	**18**	*e*Pg	**Pg**	01 16 36.6	+0.5
	53nm,0.4s						
WTSB				*e*Sg	**Sg**	01 16 44.6	+1.6
ENTS	**Ennepetalsperr**	**0.59**	**111**	*e*Pg	**Pg**	01 16 37.5	+0.4
ENTS				*e*Sg	**Sg**	01 16 45.8	+1.1
ENTS	**Ennepetalsperr**	**0.59**	**111**	Pg	**Pg**	01 16 37.5	+0.4
ENTS				Sg	**Sg**	01 16 45.8	+1.1
HOBG	**Hohbusch**	**0.69**	**133**	*e*Pg	**Pb**	01 16 40.9	+0.2
HOBG	**Hohbusch**	**0.69**	**133**	Pg	**Pb**	01 16 40.9	+0.2
GSH	**Grosshau**	**0.73**	**188**	*e*Pg	**Pb**	01 16 41.7	+0.3
GSH				*e*Sg	**Sb**	01 16 52.4	+0.4
	24nm,0.1s						
GSH	**Grosshau**	**0.73**	**188**	Pg	**Pb**	01 16 41.7	+0.3
GSH				Sg	**Sb**	01 16 52.3	+0.4
	24nm,0.1s						
HGN	**Heimansgroeve**	**0.79**	**209**	*e*Pg	**Pn**	01 16 44.5	+0.2
	38nm,0.2s						
HGN				*e*Sg	**Sb**	01 16 55.4	+1.7
HGN	**Heimansgroeve**	**0.79**	**209**	*e*Pg	**Pn**	01 16 44.5	+0.2
	38nm,0.2s						
HGN				*e*Sg	**Sb**	01 16 55.4	+1.7
WBS	**Wahnbachtalspe**	**0.81**	**144**	*e*Pg	**Pg**	01 16 42.3	+1.1
WBS				*e*Sg	**Sb**	01 16 53.6	-0.5
	37nm,0.2s						
WBS	**Wahnbachtalspe**	**0.81**	**144**	Pg	**Pg**	01 16 42.3	+1.1
WBS				Sg	**Sb**	01 16 53.6	-0.5
	37nm,0.2s						
DREG	**Dreilaegerbach**	**0.82**	**194**	*e*Pg	**Pb**	01 16 43.5	+0.6
DREG	**Dreilaegerbach**	**0.82**	**194**	Pg	**Pb**	01 16 43.5	+0.6
KLL	**Kalltalsperre**	**0.83**	**190**	*e*Pg	**Pb**	01 16 44.0	+1.0
KLL	**Kalltalsperre**	**0.83**	**190**	Pg	**Pb**	01 16 44.0	+1.0
STB	**Steinbach**	**0.89**	**167**	*e*Pg	**Pn**	01 16 45.5	0.0
STB				*e*Sg	**Sb**	01 16 56.9	+0.5
	61nm,0.3s						
STB	**Steinbach**	**0.89**	**167**	Pg	**Pn**	01 16 45.5	0.0
STB				Sg	**Sb**	01 16 56.9	+0.5
	61nm,0.3s						
TDN	**Todenfeld**	**0.92**	**164**	*e*Pg	**Pb**	01 16 45.0	+0.3
TDN				*e*Sg	**Sb**	01 16 57.5	+0.1
	42nm,0.2s						
TDN	**Todenfeld**	**0.92**	**164**	Pg	**Pb**	01 16 45.0	+0.3
TDN				Sg	**Sb**	01 16 57.5	+0.1
	42nm,0.2s						
OLFT	**Oleftalsperre**	**0.97**	**184**	*e*Pg	**Pb**	01 16 46.2	+0.7
OLFT				*e*Sg	**Sb**	01 16 59.8	+1.0
OLFT	**Oleftalsperre**	**0.97**	**184**	Pg	**Pb**	01 16 46.2	+0.7
OLFT				Sg	**Sb**	01 16 59.8	+1.0
AHRW	**Bad Neuenahr-A**	**0.98**	**159**	*e*Pg	**Pn**	01 16 47.8	+1.0
	SNR=9.0						
AHRW				*e*Sg	**Sn**	01 17 01.1	-0.2
	SNR=5.6						
AHRW	**Bad Neuenahr-A**	**0.98**	**159**	Pg	**Pn**	01 16 47.8	+1.0
	SNR=9.0						
AHRW				Sg	**Sn**	01 17 01.1	-0.2
	SNR=5.6						
IBBN	**Ibbenburen**	**1.14**	**41**	*e*Pg	**Pg**	01 16 48.1	+0.5
	SNR=4.2						
IBBN	**Ibbenburen**	**1.14**	**41**	Pg	**Pg**	01 16 48.1	+0.5
	SNR=4.2						
HILG	**Hillesheim**	**1.17**	**176**	*e*Pg	**Pn**	01 16 50.3	+0.8
HILG	**Hillesheim**	**1.17**	**176**	Pg	**Pn**	01 16 50.3	+0.8
TNS	**Taunus Mts**	**1.73**	**135**	*e*Pg	**Pb**	01 16 58.8	+0.3
	SNR=1.7						
TNS				*e*Sg	**Sn**	01 17 20.5	+0.5
TNS	**Taunus Mts**	**1.73**	**135**	Pg	**Pb**	01 16 58.8	+0.3
	SNR=1.7						
TNS				Sg	**Sn**	01 17 20.5	+0.5
GIVF	**Givet**	**1.74**	**219**	*e*Pn	**Pn**	01 16 57.6	+0.3
GIVF	**Givet**	**1.74**	**219**	*e*Pg	**Pg**	01 17 00.0	+0.8
GIVF				*e*Sn	**Sn**	01 17 19.8	-0.4
GIVF				*e*Sg	**Sg**	01 17 23.6	+1.9
	17nm,0.2s						
GIVF	**Givet**	**1.74**	**219**	*e*Pn	**Pn**	01 16 57.6	+0.3
GIVF	**Givet**	**1.74**	**219**	*e*Pg	**Pg**	01 17 00.0	+0.8
GIVF				*e*Sn	**Sn**	01 17 19.8	-0.4
GIVF				*e*Sg	**Sg**	01 17 23.6	+1.9
	8.6nm,0.2s						
WLF	**Walferdange**	**1.81**	**188**	*e*Pg	**Pg**	01 17 01.7	+1.2
	SNR=3.1						
WLF				*e*Sg	**Sg**	01 17 24.7	+0.7
	SNR=6.8						
WLF	**Walferdange**	**1.81**	**188**	Pg	**Pg**	01 17 01.7	+1.2
	SNR=3.1						
WLF				Sg	**Sg**	01 17 24.7	+0.7
	SNR=6.8						
BAIF	**Baives**	**2.04**	**227**	*e*Pn	**Pn**	01 17 01.9	+0.5
BAIF	**Baives**	**2.04**	**227**	*e*Pg	**Pg**	01 17 06.2	+1.3
BAIF				*e*Sg	**Sg**	01 17 32.7	+1.5
	13nm,0.5s						
BAIF	**Baives**	**2.04**	**227**	*e*Pn	**Pn**	01 17 01.9	+0.5
BAIF	**Baives**	**2.04**	**227**	*e*Pg	**Pg**	01 17 06.2	+1.3
BAIF				*e*Sg	**Sg**	01 17 32.7	+1.5
	6.5nm,0.5s						
CLZ	**Clausthal**	**2.42**	**79**	*e*Pg	**Pg**	01 17 12.0	-0.2
	SNR=3.1						
CLZ	**Clausthal**	**2.42**	**79**	Pg	**Pg**	01 17 12.0	-0.2
	SNR=3.1						
PAGF	**Fort de Pagny**	**2.95**	**191**	*e*Pg	**Pg**	01 17 23.2	+0.8
PAGF				*e*Sg	**Sg**	01 18 01.6	+0.9
	1.2nm,0.3s						
PAGF	**Fort de Pagny**	**2.95**	**191**	*e*Pg	**Pg**	01 17 23.2	+0.8
PAGF				*e*Sg	**Sg**	01 18 01.6	+0.9
	0.6nm,0.3s						
CDF	**Champ du Feu**	**3.09**	**171**	*e*Pn	**Pn**	01 17 14.8	-1.1
CDF				*e*Sg	**Sg**	01 18 03.6	-1.3
	5.0nm,0.5s						
CDF	**Champ du Feu**	**3.09**	**171**	*e*Pn	**Pn**	01 17 14.8	-1.1
CDF				*e*Sg	**Sg**	01 18 03.6	-1.3
	2.5nm,0.5s						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Sg	**Sg**	01 18 15.2	+0.3
	4.8nm,0.3s						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Sg	**Sg**	01 18 15.2	+0.3
	2.4nm,0.3s						
HAU	**Haudompre**	**3.46**	**182**	*e*Sg	**Sg**	01 18 16.6	-0.3
	4.8nm,0.4s						
HAU	**Haudompre**	**3.46**	**182**	*e*Sg	**Sg**	01 18 16.6	-0.3
	2.4nm,0.4s						
HINF	**Hinteralfeld**	**3.65**	**177**	*e*Sg	**Sg**	01 18 23.4	+0.3
LOR	**Lormes**	**4.54**	**204**	*e*Pn	**Pn**	01 17 35.7	-0.1
	baz=37						
LOR				*e*Sn	**Sn**	01 18 26.3	-3.1
	1.4nm,0.3s						
LOR				*e*Sg	**Sg**	01 18 51.2	-0.5
	3.3nm,0.3s						
LOR	**Lormes**	**4.54**	**204**	*e*Pn	**Pn**	01 17 35.7	-0.1
LOR				*e*Sn	**Sn**	01 18 26.3	-3.1
	0.7nm,0.3s						
LOR				*e*Sg	**Sg**	01 18 51.2	-0.5
	1.6nm,0.3s						
SSF	**Saint Saulge**	**4.83**	**205**	*e*Pn	**Pn**	01 17 39.9	+0.2
SSF				*e*Sn	**Sn**	01 18 33.7	-2.6
	1.2nm,0.2s						
SSF				*e*Sg	**Sg**	01 19 00.1	-0.7
	4.7nm,0.4s						
SSF	**Saint Saulge**	**4.83**	**205**	*e*Pn	**Pn**	01 17 39.9	+0.2
SSF				*e*Sn	**Sn**	01 18 33.7	-2.6
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**5.12**	**205**	*e*Pn	**Pn**	01 17 44.0	+0.3
AVF	**Avril sur Loir**	**5.12**	**205**	*e*Pn	**Pn**	01 17 44.0	+0.3
SMF	**Signal de Mont**	**5.13**	**201**	*e*Pn	**Pn**	01 17 44.0	+0.1
SMF				*e*Sg	**Sg**	01 19 10.2	-0.4
	2.4nm,0.3s						
SMF	**Signal de Mont**	**5.13**	**201**	*e*Pn	**Pn**	01 17 44.0	+0.1
SMF				*e*Sg	**Sg**	01 19 10.2	-0.4
	1.2nm,0.3s						
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn	**Pn**	01 17 44.3	0.0
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn	**Pn**	01 17 44.3	0.0
FLN	**La Foliniere**	**5.26**	**242**	*e*Pn	**Pn**	01 17 45.5	-0.1
	baz=57						
FLN	**La Foliniere**	**5.26**	**242**	*e*Pn	**Pn**	01 17 45.5	-0.1
BGF	**Bois d'Agland**	**5.47**	**208**	*e*Pn	**Pn**	01 17 47.7	-0.9
BGF	**Bois d'Agland**	**5.47**	**208**	*e*Pg	**Pg**	01 18 08.7	-1.9
BGF				*e*Sg	**Sg**	01 19 20.8	-0.7
	7.0nm,0.5s						
BGF	**Bois d'Agland**	**5.47**	**208**	*e*Pn	**Pn**	01 17 47.7	-0.9
GRR	**Gorron**	**5.68**	**240**	*e*Pn	**Pn**	01 17 51.5	+0.1
GRR				*e*Sn	**Sn**	01 18 53.6	-3.6
GRR	**Gorron**	**5.68**	**240**	*e*Pn	**Pn**	01 17 51.5	+0.1
TCF	**Toulx Ste Croi**	**5.91**	**211**	*e*Pn	**Pn**	01 17 54.4	-0.2
TCF	**Toulx Ste Croi**	**5.91**	**211**	*e*Pn	**Pn**	01 17 54.4	-0.2

*NIED **21** 01:25:00, 37°.60N×142°.00E, h23km, Mw4.3 Best double couple: M:3.34000×10^15 NP1:φ:314.00000°, δ:22.00000°, λ:-73.00000°. NP2:φ:117.00000°, δ:69.00000°, λ:-97.00000°.*
*BJI **21** 01:25:07.9, 37°.55N×142°.35E, h20km, mb4.6/42, mB4.8/30, Ms4.2/23, Ms7 4.1/20*
*IDC **21** 01:25:09.6±0.5, 37°.57N×141°.92E, h0km, mb4.5/26, mb1 4.7/30, mb1mx4.6/44, mbtmp4.5/30, ML4.7/3, MS3.4/11, Ms1 3.5/11, ms1mx3.1/38, Error ellipse: s-maj=15.3km s-min=12.2km az=108.0*
*ISCJB **21** 01:25:11.2±0.6, 37°.58N±0°.03×141°.96E±0°.02, h17km±4km, mb4.6/161, MS3.7/12, Error ellipse: s-maj=4.5km s-min=3.1km az=158.1*
*JMA **21** 01:25:12.3±0.1, 37°.59N×141°.94E, h28km±3km, M4.4*
JMA Felt II J1.
*NEIC **21** 01:25:13.9±1.2, 37°.58N×141°.83E, h24km±8km, mb4.7/110, Error ellipse: s-maj=4.3km s-min=2.8km az=133.0*
NEIC Recorded [2 JMA] in Fukushima.
*MOS **21** 01:25:13.1±0.8, 37°.84N×141°.86E, h23km, mb4.8/62, Error ellipse: s-maj=7.6km s-min=5.3km az=90.0*

ISC 21 01:25:12.1±0.8, 37°.59N±0°.04×142°.02E±0°.04, h16km±4km, n555, σ1s20/578, mb4.7/163, MS3.6/13, 16C-17D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.93**	**257**	P	**Pb**	01 25 28.4	-1.5
JFK				*e*S	**Sg**	01 25 39.2	-3.3
JMM	**Marumori**	**1.01**	**286**	P	**Pb**	01 25 29.6	-1.6
JMM				S	**Sb**	01 25 41.6	-2.6
JIO	**Ouri**	**1.01**	**329**	P	**Pb**	01 25 29.9	-1.4
ONAJ	**Iwakimizuishiy**	**1.08**	**244**	P	**Pb**	01 25 30.5	-2.0
ONAJ				*e*S	**Sb**	01 25 43.9	-2.5
JOU	**Okura**	**1.32**	**306**	P	**Pn**	01 25 34.9	-1.0
JOU				*e*S	**Sn**	01 25 51.1	-2.1
JFT	**Otama**	**1.33**	**268**	P	**Pn**	01 25 35.2	-0.9
JFT				*e*S	**Sn**	01 25 51.3	-2.2
JMK	**Ichinoseki**	**1.50**	**336**	P	**Pn**	01 25 37.4	-0.9
JYS	**Shiratake**	**1.67**	**293**	P	**Pn**	01 25 40.5	-0.2
JYS				*e*S	**Sn**	01 26 00.9	-0.8
JFY	**Yanaizu**	**1.85**	**265**	P	**Pn**	01 25 42.5	-0.6
JFY				S	**Sn**	01 26 04.9	-1.2
JYK	**Kaneyama**	**1.86**	**316**	P	**Pn**	01 25 42.6	-0.7
JOM	**Ohasama**	**1.97**	**343**	P	**Pn**	01 25 44.2	-0.6
JOM				*e*S	**Sn**	01 26 07.3	-1.8
MJAR	**Matsushiro Arr**	**3.22**	**252**	Pn	**Pn**	01 26 02.0	0.0
	39nm,0.3s,baz=85,slow=16,SNR=98						
MJAR				LR	LR	01 27 24.1	
	comp=Z,638nm,19.1s,baz=80,slow=43						
MJAR	**Matsushiro Arr**	**3.22**	**252**	P	**Pn**	01 26 02.0	0.0
MJAR				pmax	pmax		
	comp=Z,39nm,0.3s						
MAJO	**Matsushiro**	**3.22**	**252**	*c* iP	**Pn**	01 26 02.3	+0.3
MAJO	**Matsushiro**	**3.22**	**252**	*e*Pn	**Pn**	01 26 02.4	+0.4
MAT	**Matsushiro**	**3.22**	**252**	P	**Pn**	01 26 02.4	+0.4
MAT				*e*S	**Sn**	01 26 40.5	+0.5
MJB9	**Matsu-Tunnel**	**3.22**	**252**	*e*Pn	**Pn**	01 26 02.5	+0.5
INU	**Inuyama**	**4.61**	**242**	*e*Pn	**Pn**	01 26 21.8	+0.7
JHJ2	**Mitsune**	**4.81**	**203**	*e*Pn	**Pn**	01 26 23.1	-0.8
JHJ	**Hachijo jima 2**	**4.82**	**203**	Pn	**Pn**	01 26 23.3	-0.6
	comp=Z,339nm,0.3s,baz=232,slow=3.1,SNR=34						
JHJ				Sn	**Sn**	01 27 16.7	-2.7
	comp=Z,75nm,0.3s,baz=63,slow=23,SNR=2.7						
ASAJ	**Asahikawa**	**6.54**	**4**	Pn	**Pn**	01 26 47.4	-0.2
	comp=Z,14nm,0.3s,baz=237,slow=9.0,SNR=21						
YUK	**Yuzh-Kuril'sk**	**7.07**	**23**	*e*P	**Pn**	01 26 53.9	-1.0
YUK				*e*S	**Sn**	01 28 10.2	-4.6
YUK				pmax	pmax		
	comp=N,83nm,0.3s						
YUK				pmax	pmax		
	comp=Z,207nm,0.3s						
YUK				pmax	pmax		
	comp=E,66nm,0.2s						
YUK				MLR	MLR		
	comp=N,1μm,14.0s						
YUK				MLR	MLR		
	comp=Z,700nm,14.0s						
YUK				MLR	MLR		
	comp=E,597nm,11.0s						
SHO	**Shikotan**	**7.26**	**29**	*e*P	**Pn**	01 26 55.0	-2.5
SHO				*e*S	**Sn**	01 28 11.8	-7.8
SHO				pmax	pmax		
	comp=E,34nm,0.5s						
SHO				pmax	pmax		
	comp=Z,61nm,0.5s						
SHO				pmax	pmax		
	comp=N,25nm,0.4s						
KUR	**Kuril'sk**	**8.81**	**28** ⇓	*i* P	**Pn**	01 27 18.3	-0.4
KUR				*e*S	**Sn**	01 28 51.6	-6.0
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,60nm,0.4s						
KUR				pmax	pmax		
	comp=N,20nm,0.2s						
KUR				pmax	pmax		
	comp=Z,263nm,3.2s						
KUR				smax	smax		
	comp=N,123nm,0.3s						
KUR				smax	smax		
	comp=E,65nm,0.2s						
KUR				smax	smax		
	comp=N,424nm,4.2s						
KUR				smax	smax		
	comp=E,304nm,2.1s						
YSS	**Yuzh-Sakhalins**	**9.38**	**3**	*e*P	**Pn**	01 27 27.2	+0.7
YSS				*e*S	**Sn**	01 29 10.7	-0.8
YSS				pmax	pmax		
	comp=Z,40nm,0.3s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=N,400nm,17.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.38**	**3**	*e*Pn	**Pn**	01 27 26.5	0.0
VLA	**Vladivostok**	**9.50**	**309** ⇑	*i* P	**Pn**	01 27 32.4	+4.2
VLA				pmax	pmax		
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.06**	**314**	Pn	**Pn**	01 27 38.0	+2.2
	comp=Z,0.7nm,0.3s,baz=108,slow=12,SNR=18						
USRK				LR	LR	01 31 13.4	
	comp=Z,208nm,19.5s,baz=143,slow=36						
JNU	**Nakatsue**	**10.12**	**247**	Pn	**Pn**	01 27 39.1	+2.2
	comp=Z,1.3nm,0.3s,baz=66,slow=10,SNR=5.8						
JNU	**Nakatsue**	**10.12**	**247**	*e*Pn	**Pn**	01 27 35.6	-1.2
CBIJ	**Chichi jima**	**10.46**	**179**	*e*Pn	**Pn**	01 27 38.5	-2.9
KSRS	**Korea Array**	**11.20**	**274**	Pn	**Pn**	01 27 54.7	+3.3
	comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=6.4						
KSRS				LR	LR	01 32 10.1	
	comp=Z,122nm,18.2s,baz=77,slow=38						
KSAR	**Wonju Array Be**	**11.23**	**274**	P	**Pn**	01 27 54.7	+2.9
KSAR	**Wonju Array Be**	**11.23**	**274**	Pn	**Pn**	01 27 54.7	+2.9
MDJ	**Mudanjiang**	**11.70**	**311**	P	**Pn**	01 27 56.6	-1.8
MDJ				S	**Sn**	01 30 07.8	-0.8
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,37nm,5.0s						
MDJ				LR	LR		
	comp=Z,190nm,14.3s						
MDJ				LR	LR		
	comp=Z,150nm,15.0s						
CN2	**Changchun**	**14.01**	**301**	*e*P	**Pn**	01 28 31.8	+1.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SKR	**Severo-Kuril's**	**16.51**	**33** ⇓	*e*P	**Pn**	01 29 03.4	+0.6
PETK	**Petropavlovsk-**	**18.97**	**30**	P	**Pn**	01 29 33.3	0.0
	comp=Z,0.4nm,0.3s,baz=199,slow=7.8,SNR=5.3						
PETK				LR	LR	01 36 26.9	
	comp=Z,132nm,21.8s,baz=204,slow=36						
NJ2	**Nanjing**	**19.78**	**261**	*e*P	**P**	01 29 42.3	+0.7
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
TIA	**Tai'an**	**19.94**	**274** ⇓	P	**Pn**	01 29 47.3	+2.3
TIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**20.26**	**285**	P	**P**	01 29 46.0	-0.8
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YHNB	**Yeheng**	**21.80**	**240**	*e*P	**P**	01 30 03.4	-0.1
	comp=Z,14nm,0.6s						
SSLB	**Suanglung**	**22.67**	**239**	*e*P	**P**	01 30 11.7	-1.2
	comp=Z,10.0nm,0.6s						
YULB	**Yu-li**	**22.71**	**237**	*e*P	**P**	01 30 12.2	-1.1
	comp=Z,6.8nm,0.6s						
MA2	**Magadan**	**22.72**	**12**	P	**P**	01 30 14.3	+1.4
	comp=Z,6.6nm,0.3s,baz=192,slow=14,SNR=3.8						
TPUB	**Ta-pu**	**23.22**	**238**	*e*P	**P**	01 30 15.7	-2.9
	comp=Z,16nm,0.6s						
HHC	**Hu-ho-hao-te**	**23.76**	**287**	*e*P	**P**	01 30 22.3	-1.5
HHC				S	**S**	01 34 36.0	-2.6
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,72nm,7.6s						
WHN	**Wuhan**	**23.92**	**261** ⇓	P	**P**	01 30 30.3	+5.1
WHN				S	Sn	01 35 00.1	-4.1
WHN				LR	LR		
	comp=Z,660nm,12.8s						
YAK	**Yakutsk**	**25.64**	**347**	P	**P**	01 30 39.7	-1.0
	comp=Z,37nm,0.6s,baz=20,slow=0.9,SNR=7.0						
YAK	**Yakutsk**	**25.64**	**347**	*e*P	**P**	01 30 39.2	-1.4
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s	

GYA Guiyang 31.79 260 *eP* **P 01 31 36.0 0.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 32.15 270 *eP* **P 01 31 37.0 -2.1**
GTA Gaotai 32.86 286 *eP* **P 01 31 46.3 +1.0**
GTA pP sP 01 31 53.0 +0.7
GTA sP pP 01 31 56.3 +6.0
GTA pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 33.36 16 *eP* **P 01 31 48.0 -1.2**
BILL *e* 01 31 56.0
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,69nm,22.0s
QIZ Qiongzhong 33.59 246 P **P 01 31 53.4 +1.7**
QIZ S **S 01 37 12.9 -0.7**
TIXI Tiksi 34.80 353 P **P 01 32 00.9 -0.7**
comp=Z,2.8nm,0.5s,baz=138,slow=3.7,SNR=5.2
TIXI Tiksi 34.80 353⇑ *eP* **P 01 32 00.9 -0.7**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 35.52 261 P **P 01 32 11.6 +3.0**
KMI pP sP 01 32 15.1 -0.5
KMI sP pP 01 32 18.5 +4.9
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,90nm,16.4s
KMI LR LR
comp=Z,130nm,15.4s
KMI LR LR
comp=Z,100nm,14.5s
WMQ Urumqi 41.02 296 P **P 01 32 54.8 +0.3**
WMQ pP pP 01 32 59.3 -0.3
WMQ sP sP 01 33 01.8 +0.2
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.5s
WMQ LR LR
comp=Z,39nm,14.5s
WMQ LR LR
comp=Z,34nm,19.7s
CHTO Chiang Mai 41.89 256 *eP* **P 01 33 00.9 -1.0**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 41.89 256 *eP* **P 01 33 00.9 -1.0**
comp=Z,3.4nm,0.7s
ZAA0 Zalesovo Array 41.90 312 *eP* **P 01 33 01.5 0.0**
ZALV Zalesovo Beam 41.90 312 P **P 01 33 01.3 -0.2**
comp=Z,5.1nm,0.6s,baz=91,slow=6.8,SNR=16
ZALV PcP **PcP 01 34 56.5 -0.3**
comp=Z,3.4nm,0.8s,baz=111,slow=3.5,SNR=4.2
CMAR Chiang Mai Arr 42.10 255 LR LR 01 52 52.5
comp=Z,43nm,18.5s,baz=63,slow=40
NVS Novosibirsk 42.81 313 *eP* **P 01 33 08.8 -0.1**
NRIK Noril'sk 42.97 335 P **P 01 33 09.5 -0.5**
comp=Z,2.3nm,0.4s,baz=142,slow=8.3,SNR=3.6
NRIK LR LR 01 52 20.2
comp=Z,91nm,18.6s,baz=56,slow=38
MK31 Makanchi Array 44.23 302 *eP* **P 01 33 20.5 0.0**
MK31 Makanchi Array 44.23 302 *eP* **P 01 33 20.5 0.0**
MKAR Makanchi Array 44.23 302 P **P 01 33 20.3 -0.2**
comp=Z,2.4nm,0.6s,baz=84,slow=9.6,SNR=15
MKAR Makanchi Array 44.23 302 *eP* **P 01 33 20.5 0.0**
MKAR pmax pmax
comp=Z,56nm,0.9s
MKAR Makanchi Array 44.23 302 *eP* **P 01 33 20.5 0.0**
comp=Z,56nm,0.9s
KURK Kurchatov 45.97 308 *d iP* **P 01 33 33.4 -0.8**
KURK pmax pmax
comp=Z,34nm,0.8s
KURK Kurchatov 45.97 308 *eP* **P 01 33 33.8 -0.4**
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 46.04 308 P **P 01 33 34.3 -0.5**
comp=Z,4.8nm,0.4s,baz=84,slow=8.1,SNR=51
KDAK Kodiak Island 46.37 42 P **P 01 33 37.8 +0.6**
comp=Z,15nm,0.6s,baz=289,slow=2.9,SNR=12
KDAK LR LR 01 56 55.1
comp=Z,21nm,18.4s,baz=289,slow=41
PDGK Podgornoye 46.94 298 P **P 01 33 42.8 +0.7**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
BPAW Bear Paw Mtn. 47.00 34 *eP* **P 01 33 43.5 +1.3**
comp=Z,0.6nm,0.6s
MLY Manley 47.13 32 *eP* **P 01 33 45.1 +1.9**
comp=Z,5.9nm,1.0s
RAMN Ramite 47.44 274 *eP* **P 01 33 46.3 -0.1**
comp=Z,37nm,0.7s
GUN Gumba 47.58 275 *eP* **P 01 33 48.0 +0.5**
comp=Z,16nm,0.4s
TOLK Toolik Lake Re 47.76 27 P **P 01 33 49.2 +1.1**
baz=266
MCK McKinley 47.91 34 *eP* **P 01 33 49.7 +0.5**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 47.91 34 *eP* **P 01 33 49.7 +0.5**
comp=Z,8.0nm,1.0s
KKN Kakani 48.11 276 *eP* **P 01 33 51.7 +0.2**
comp=Z,26nm,0.8s
MDM Murphy Dome 48.19 32 *eP* **P 01 33 52.9 +1.5**
comp=Z,11nm,1.0s
SML Sawmill 48.26 37 *eP* **P 01 33 52.8 +0.8**
SML pmax pmax
comp=Z,4.0nm,0.5s
SML Sawmill 48.26 37 *eP* **P 01 33 52.8 +0.8**
comp=Z,3.5nm,0.5s
GKN Gorkha 48.52 276 *eP* **P 01 33 54.7 +0.1**
comp=Z,34nm,0.7s
ILAR Eielson Array 48.77 33 P **P 01 33 56.1 +0.2**
comp=Z,4.3nm,0.7s,baz=268,slow=6.5,SNR=42
ILB Eielson Array 48.77 33 *eP* **P 01 33 56.4 +0.5**
DANN Dangsing 49.06 277 *eP* **P 01 34 00.1 +1.2**
KOLN Koldanda 49.44 277 *eP* **P 01 34 01.6 -0.1**
comp=Z,12nm,0.6s
KULM Kulim 49.51 240 *eP* **P 01 34 01.9 -0.2**
comp=Z,4.8nm,0.6s
DIV Divide 49.55 37 *eP* **P 01 34 03.2 +1.3**
comp=Z,13nm,0.9s
HNR Honiara 49.70 157 LR LR 01 52 14.5
comp=Z,57nm,20.7s,baz=203,slow=33
PYUN Piuthan 49.77 277 *eP* **P 01 34 05.1 +0.8**
DOT Dot Lake 50.08 34 *eP* **P 01 34 06.3 +0.4**
comp=Z,7.8nm,0.7s
BRVK Borovoye 50.61 312⇓ *eP* **P 01 34 09.2 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 50.61 312 *eP* **P 01 34 09.3 -0.7**
comp=Z,4.8nm,1.0s
KSH Kashi 50.62 294 *eP* **P 01 34 13.8 +3.4**
KSH pP sP 01 34 21.4 +3.8
KSH sP pP 01 34 24.8 +9.2
KSH PcP **PcP 01 35 31.1 +3.2**
KSH PP **PP 01 36 10.9 +4.7**
KSH PcS **PcS 01 39 26.0 +0.7**
KSH S **S 01 41 25.8 +1.2**
KSH sS sS 01 41 40.8 +7.7
KSH ScS **ScS 01 43 58.4 -2.5**
KSH SS **SS 01 44 58.8 +0.3**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH pmax pmax
comp=Z,82nm,5.0s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,110nm,5.6s
KSH LR LR
comp=Z,97nm,8.3s
AAK Ala-Archa 50.65 298⇑ *iP* **P 01 34 10.8 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 50.65 298 *eP* **P 01 34 10.4 -0.2**
comp=Z,4.3nm,0.8s
EGAK Eagle 51.22 32 *eP* **P 01 34 14.9 +0.5**
comp=Z,3.7nm,0.9s
MNAS Manas 52.09 299 P **P 01 34 21.9 +0.5**
MNAS pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 53.26 300 *eP* **P 01 34 29.8 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 53.26 300 *eP* **P 01 34 29.8 -0.2**
comp=Z,2.6nm,0.5s
HYT Haines Junctio 53.57 37 *eP* **P 01 34 34.6 +2.5**
comp=Z,14nm,1.1s
INK Inuvik 53.68 27 P **P 01 34 33.5 +0.9**
comp=Z,4.4nm,0.8s,baz=296,slow=6.6,SNR=11
SVE Sverdlovsk 55.05 318⇓ *iP* **P 01 34 43.3 +0.6**
SVE pmax pmax
comp=Z,25nm,0.8s
DZET Dzherino 56.04 296 P **P 01 34 50.8 +0.5**
DZET pmax pmax
comp=Z,12nm,0.7s
ARU Arti 56.27 318 *d iP* **P 01 34 51.0 -0.5**
ARU 01 35 45.7
ARU 01 36 54.7
ARU S **S 01 42 40.6 +0.2**
ARU SS **SS 01 46 24.0 -2.6**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU Arti 56.27 318 *eP* **P 01 34 51.2 -0.2**
comp=Z,15nm,0.8s
FITZ Fitzroy Crossi 57.50 199 LR LR 01 59 06.4
comp=Z,30nm,21.4s,baz=72,slow=35
FITZ Fitzroy Crossi 57.50 199 *eP* **P 01 35 00.6 +0.1**
comp=Z,3.2nm,0.6s
WRAB Tennant Creek 57.66 189⇓ *iP* **P 01 35 01.2 -0.5**
WRAB pmax pmax
comp=Z,31nm,1.2s
WRAB Tennant Creek 57.66 189 *eP* **P 01 35 00.8 -0.9**
comp=Z,54nm,1.9s
WB2 Warramunga Arr 57.67 189 *eP* **P 01 35 01.4 -0.3**
comp=Z,6.9nm,0.7s
WRA Warramunga Arr 57.67 189 P **P 01 35 01.1 -0.7**
comp=Z,6.2nm,0.6s,baz=5.3,slow=7.4,SNR=58
ABKAR Akbulak array 57.95 310 *eP* **P 01 35 02.5 -1.0**
comp=Z,58nm,0.6s
AS31 Alice Springs 61.40 188 *eP* **P 01 35 27.6 +0.1**
comp=Z,1.6nm,0.8s
ASAR Alice Springs 61.40 188 P **P 01 35 27.2 -0.3**
comp=Z,4.7nm,0.7s,baz=9.2,slow=5.9,SNR=39
MBWA Marble Bar 62.09 204 *eP* **P 01 35 31.6 -0.4**
comp=Z,28nm,0.6s
YKA Yellowknife Ar 63.09 30 P **P 01 35 38.6 +0.3**
comp=Z,2.4nm,0.6s,baz=304,slow=6.7,SNR=6.0
EIDS Eidsvold 63.20 171 *eP* **P 01 35 39.7 +0.3**
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 63.55 328 *eP* **P 01 35 38.4 -3.0**
KLMR *e* 01 36 14.7
KLMR pmax pmax
comp=Z,23nm,1.5s
ARCES ARCESS Array B 63.65 339 P **P 01 35 42.8 +0.9**
comp=Z,2.0nm,0.7s,baz=52,slow=7.9,SNR=8.0
ARCES LR LR 02 05 39.3
comp=Z,45nm,20.9s,baz=64,slow=38
DAG Danmarks Havn 65.27 355 P **P 01 35 52.3 -0.1**
DAG pmax pmax
comp=Z,9.0nm,0.8s
A04D Lummi Island 66.00 46 P **P 01 35 58.2 +0.6**
baz=300
B05A Bryant 66.58 46 P **P 01 36 02.4 +1.0**
baz=301
G03D McMinnville, O 67.45 50 P **P 01 36 07.4 +0.5**
baz=301
OBN Obninsk 67.94 323 *eP* **P 01 36 08.9 -0.9**
OBN *e* 01 38 37.1
OBN pmax pmax
comp=Z,3.0nm,1.0s
I03D Drain, OR 68.19 51 P **P 01 36 13.2 +1.6**
baz=302
ARMA Armidale 68.25 171 *eP* **P 01 36 12.5 +0.4**
comp=Z,4.7nm,0.9s
FINES FINESS Array B 68.55 332 P **P 01 36 13.1 -0.4**
comp=Z,6.0nm,0.7s,baz=27,slow=9.0,SNR=12
L02D Cave Junction, 68.84 53 P **P 01 36 16.6 +0.9**
baz=302
I05D Terrebonne, OR 69.08 50 P **P 01 36 18.5 +1.2**
baz=303
STKA Stephens Creek 69.11 180 P **P 01 36 17.8 +0.6**
comp=Z,2.9nm,0.9s,baz=324,slow=10.0,SNR=4.2
J04D Umpqua Nationa 69.20 51 P **P 01 36 19.3 +1.1**
baz=302
FORT Forrest 69.25 193 *eP* **P 01 36 18.7 +0.6**
comp=Z,171nm,0.6s
NEW Newport 69.40 45 P **P 01 36 19.9 +0.8**
baz=304
J05D Fort Rock, OR 69.71 51 P **P 01 36 22.9 +1.6**
baz=303
M02C Callahan 69.72 53 P **P 01 36 22.6 +1.3**
baz=303
E09A Wood Farm, Sta 69.79 46 *eP* **P 01 36 23.1 +1.6**
comp=Z,16nm,1.5s
N02D Trinity Center 70.04 53 P **P 01 36 24.3 +1.1**
baz=303
SUMG Summit 70.13 0 *eP* **P 01 36 23.9 +0.3**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 70.13 0 *eP* **P 01 36 23.9 +0.3**
comp=Z,7.6nm,0.8s
M04C Macdoel 70.15 52 P **P 01 36 25.2 +1.2**
baz=303
BBOO Buckeboo 70.26 185 *eP* **P 01 36 24.8 +0.5**
comp=Z,45nm,1.6s
KBZ Khabaz 70.91 311 P **P 01 36 28.8 +0.5**
comp=Z,3.7nm,0.7s,baz=81,slow=1.9,SNR=7.4
KIV Kislovodsk 70.91 311 *c iP* **P 01 36 29.3 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 70.91 311 *eP* **P 01 36 28.7 +0.2**
comp=Z,9.2nm,0.6s
O03D Paynes Creek 70.98 54 P **P 01 36 29.5 +0.5**
baz=304
MOD Modoc Plateau 71.04 51 *eP* **P 01 36 30.4 +0.9**
comp=Z,4.0nm,0.8s
BMO Blue Mountains 71.20 48 *eP* **P 01 36 31.2 +0.9**
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO Blue Mountains 71.20 48 *eP* **P 01 36 31.1 +0.9**
comp=Z,4.6nm,0.9s
JTMT Jette 71.26 44 *eP* **P 01 36 31.0 +0.3**
SWMT Swartz Lake 71.56 44 *eP* **P 01 36 33.0 +0.5**
ORV Oroville 71.59 54 *eP* **P 01 36 33.2 +0.6**
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 71.59 54 *eP* **P 01 36 33.2 +0.6**
comp=Z,3.5nm,0.8s
GNI Garni 71.76 307 *eP* **P 01 36 33.7 -0.1**
GNI pmax pmax
comp=Z,93nm,1.3s
GNI Garni 71.76 307 *eP* **P 01 36 33.7 -0.1**
comp=Z,92nm,1.3s
WVOR Wild Horse Val 71.77 50 *eP* **P 01 36 34.9 +1.1**
WVOR pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 71.77 50 *eP* **P 01 36 34.9 +1.1**
comp=Z,2.7nm,0.8s
MSO Missoula 71.99 44 P **P 01 36 35.2 +0.2**
baz=306
SLMT Seeley Lake 71.99 44 *eP* **P 01 36 35.7 +0.6**
BEKR Beckworth 72.14 53 *eP* **P 01 36 36.8 +0.6**
comp=Z,5.4nm,0.8s
PAHR Pah Rah Range 72.85 53 *eP* **P 01 36 41.8 +1.4**
comp=Z,4.1nm,0.9s
MFID Camas Ranch 72.90 48 *eP* **P 01 36 41.2 +0.7**
comp=Z,5.6nm,0.8s
FFC Flin Flon 72.98 33 *eP* **P 01 36 40.9 +0.3**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 72.98 33 *eP* **P 01 36 40.9 +0.3**
comp=Z,11nm,0.9s
PNTR Pine Nut 73.07 54 *eP* **P 01 36 42.4 +0.7**
comp=Z,4.5nm,0.8s
CMB Columbia Colle 73.16 55 *eP* **P 01 36 42.6 +0.5**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 73.16 55 *eP* **P 01 36 42.6 +0.5**
comp=Z,4.1nm,0.8s
HRY Holter Researc 73.22 44 *eP* **P 01 36 43.7 +1.3**
YERR Yerington 73.36 54 *eP* **P 01 36 44.0 +0.6**
comp=Z,6.5nm,0.9s
LRM Limekiln Ridge 73.42 45 *eP* **P 01 36 44.7 +1.0**
WAKR Walker 73.50 54 *eP* **P 01 36 46.1 +1.8**
comp=Z,8.6nm,1.4s
EGMT Eagleton 73.54 42 *eP* **P 01 36 44.4 +0.2**
comp=Z,8.3nm,0.8s
DLMT Dillon 73.61 45 *eP* **P 01 36 45.6 +0.9**
comp=Z,7.7nm,0.8s
HLID Hailey 73.64 47 P **P 01 36 45.9 +0.9**
baz=307,SNR=6.7
HLID Hailey 73.64 47 *eP* **P 01 36 46.0 +1.0**
comp=Z,4.8nm,1.0s
BMN Battle Mountai 73.79 51 *eP* **P 01 36 47.0 +1.1**
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN Battle Mountai 73.79 51 *eP* **P 01 36 47.0 +1.1**
comp=Z,4.7nm,0.8s
NC204 NORSAR Array S 73.81 338 *eP* **P 01 36 44.8 -0.7**
NB2 NORSAR Subarra 73.86 337 P **P 01 36 45.2 -0.6**
comp=Z,3.0nm,0.7s,baz=36,slow=5.9
NB2 NORSAR Subarra 73.86 337 P **P 01 36 45.4 -0.4**
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 73.86 337 P **P 01 36 45.5 -0.2**
comp=Z,4.1nm,0.7s,baz=38,slow=5.9,SNR=17
NOA LR LR 02 13 47.3
comp=Z,37nm,20.9s,baz=350,slow=40
BOZ Bozeman (W) 74.01 44 P **P 01 36 48.0 +1.0**
baz=308,SNR=9.2
BOZ Bozeman (W) 74.01 44 *eP* **P 01 36 48.1 +1.0**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 74.01 44 *eP* **P 01 36 48.1 +1.0**
comp=Z,6.4nm,0.9s
AKASG Malin Array Be 74.15 322 P **P 01 36 47.1 -0.5**
comp=Z,3.1nm,0.4s,baz=46,slow=6.1,SNR=25
KIEV Kiev 74.17 322⇑ *eP* **P 01 36 47.2 -0.4**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 74.17 322 *eP* **P 01 36 46.9 -0.7**
comp=Z,7.3nm,0.7s
SUW Suwalki 74.68 328 P **P 01 36 50.9 +0.3**
SUW pmax pmax
comp=Z,101nm,1.9s
YHB Horse Butte 74.77 45 *eP* **P 01 36 52.6 +1.0**
comp=Z,8.0nm,0.7s
YHH Holmes Hill 74.94 45 *eP* **P 01 36 54.2 +1.6**
comp=Z,2.9nm,0.8s
YMR Madison River 74.95 45 *eP* **P 01 36 55.0 +2.3**
GCMT Greycliff 74.97 43 *eP* **P 01 36 53.5 +0.8**
YFT Old Faithful 75.16 45 *eP* **P 01 36 57.4 +3.6**
comp=Z,7.4nm,0.7s
YPP Pitchstone Pla 75.29 45 *eP* **P 01 36 57.4 +2.7**
comp=Z,3.4nm,0.7s
H17A Grant Village 75.34 45 P **P 01 36 57.8 +2.8**
baz=309,SNR=9.1
H17A Grant Village 75.34 45 *eP* **P 01 36 58.0 +3.0**
comp=Z,12nm,0.8s
IMW Indian Meadow 75.44 46 *eP* **P 01 36 57.6 +2.0**
comp=Z,8.8nm,0.8s
KONO Kongsberg 75.46 337⇑ *eP* **P 01 36 57.3 +2.4**
FXWY Fox Creek 75.56 46 *eP* **P 01 36 58.0 +1.8**
comp=Z,5.2nm,0.9s
CWC Cottonwood Cre 75.58 55 P **P 01 36 56.8 +0.5**
baz=306
RLMT Red Lodge 75.61 44 P **P 01 36 56.4 0.0**
baz=309
RLMT Red Lodge 75.61 44 *eP* **P 01 36 58.1 +1.6**
comp=Z,25nm,1.6s
MOOW Moose Ponds 75.65 46 *eP* **P 01 36 58.7 +2.0**
comp=Z,5.9nm,1.0s
HVU Hansel Valley 75.68 48 *eP* **P 01 36 58.7 +1.9**
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 75.68 48 *eP* **P 01 36 58.7 +1.9**
comp=Z,7.0nm,1.0s
TPAW Teton Pass 75.69 46 *eP* **P 01 36 58.9 +1.9**
comp=Z,6.1nm,0.7s
GRAC Grapevine Rang 75.72 54 P **P 01 36 58.4 +1.4**
baz=306,SNR=5.8
ISA Isabella, Lake 75.78 56 P **P 01 36 57.6 +0.2**
baz=306
LOHW Long Hollow 75.81 46 *eP* **P 01 36 59.5 +1.9**
comp=Z,2.7nm,0.8s
REDW Red Top Meadow 75.83 46 *eP* **P 01 36 59.2 +1.5**
comp=Z,4.4nm,0.8s
R11A Troy Canyon, C 76.05 52 P **P 01 36 59.8 +0.8**
baz=307,SNR=11
R11A Troy Canyon, C 76.05 52 *eP* **P 01 37 00.2 +1.2**
comp=Z,6.3nm,1.0s
BGU Big Grassy Mou 76.05 49 *eP* **P 01 37 00.7 +1.7**
comp=Z,2.6nm,0.8s
DGMT Dagmar 76.11 39 P **P 01 36 59.4 +0.4**
baz=312
MPMC Manual Prospec 76.19 55 P **P 01 37 00.6 +0.7**
baz=307,SNR=7.4
LAO LASA Array 76.24 41 P **P 01 37 00.6 +0.8**
baz=311
FURC Furnace Creek, 76.36 54 P **P 01 37 01.7 +1.2**
baz=307,SNR=7.0
LRMC Laurel Mtn Rad 76.41 56 P **P 01 37 01.7 +0.7**
baz=307
TPNV Topopah Spring 76.46 54 P **P 01 37 02.5 +1.2**
baz=307,SNR=15
TPNV Topopah Spring 76.46 54 *eP* **P 01 37 02.6 +1.2**
TPNV pmax pmax
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 76.46 54 *eP* **P 01 37 02.5 +1.2**
comp=Z,8.1nm,0.8s
SNCC San Nicolas Is 76.50 58 P **P 01 37 02.5 +1.0**
baz=306
HWUT Hardware Ranch 76.50 48 *eP* **P 01 37 02.6 +1.0**
comp=Z,7.1nm,1.1s
EDW2 Edwards Air Fo 76.56 56 P **P 01 37 02.8 +1.0**
baz=307,SNR=5.3
DUG Dugway, Tooele 76.63 49 P **P 01 37 03.4 +1.2**
baz=308,SNR=11
DUG Dugway, Tooele 76.63 49 *eP* **P 01 37 03.8 +1.5**
DUG pmax pmax
comp=Z,7.0nm,0.7s
DUG Dugway, Tooele 76.63 49 *eP* **P 01 37 03.8 +1.5**
comp=Z,7.4nm,0.7s
TCUT Toone Canyon 76.90 48 *eP* **P 01 37 05.6 +1.8**
comp=Z,11nm,0.8s
BW06 Boulder Array 76.94 46 P **P 01 37 04.3 +0.3**
baz=310,SNR=8.4
BW06 Boulder Array 76.94 46 *eP* **P 01 37 04.8 +0.7**
comp=Z,5.4nm,0.6s
PD31 Pinedale Array 76.94 46 *eP* **P 01 37 04.8 +0.7**
PDAR Pinedale Array 76.94 46 P **P 01 37 04.7 +0.7**
comp=Z,4.9nm,0.6s,baz=264,slow=1.8,SNR=64
SHOC Shoshone, Teco 77.08 55 P **P 01 37 05.5 +0.9**
baz=307
GSC Goldstone, Bar 77.09 55 P **P 01 37 05.0 +0.2**
baz=307
GSC Goldstone, Bar 77.09 55 *eP* **P 01 37 06.1 +1.3**
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 77.09 55 *eP* **P 01 37 06.1 +1.3**
comp=Z,4.7nm,0.8s
CIS Catalina Islan 77.16 58 P **P 01 37 05.6 +0.5**
baz=307
BFSC Mount Baldy Ra 77.16 57 P **P 01 37 06.2 +0.9**
baz=307
NLU North Lily Min 77.22 49 *eP* **P 01 37 07.3 +1.7**
comp=Z,4.7nm,0.8s
SCI2 San Clemente I 77.32 58 P **P 01 37 06.5 +0.5**
baz=307
SHPR Sheep Range 77.43 54 *eP* **P 01 37 08.6 +1.8**
comp=Z,5.8nm,0.8s
TUQ Turquoise Moun 77.58 55 P **P 01 37 08.6 +1.0**
baz=308,SNR=7.4
HEC Hector,Ludlow 77.68 56 P **P 01 37 09.1 +1.0**
baz=307
CCUT Cedar City 77.92 52 *eP* **P 01 37 11.5 +1.8**
comp=Z,4.6nm,0.8s
ILGA Ilgaz 77.95 313 *eP* **P 01 37 10.8 +1.1**
comp=Z,7.5nm,0.7s
MSU Marysvale 78.06 50 *eP* **P 01 37 12.5 +2.1**
MSU Marysvale 78.06 50 *eP* **P 01 37 12.5 +2.1**
GMRC Granite Mounta 78.15 55 P **P 01 37 11.8 +1.0**
baz=308,SNR=6.0
TMUT Trail Mountain 78.16 49 *eP* **P 01 37 12.6 +1.6**
comp=Z,3.0nm,0.8s
BUR08 Bucovina Ar. S 78.16 322 *eP* **P 01 37 11.1 +0.4**
BURAR Bucovina Array 78.17 322⇑ *iP* **P 01 37 11.1 +0.4**
BURAR Bucovina Array 78.17 322⇑ *P* **P 01 37 11.1 +0.4**
TESR Tescani 78.22 320⇑ *iP* **P 01 37 11.0 +0.2**
P17A Butcher Ranch, 78.33 49 *eP* **P 01 37 13.3 +1.6**
comp=Z,11nm,0.6s
LCMT Little Creek M 78.33 52 *eP* **P 01 37 13.5 +1.7**
comp=Z,6.9nm,0.9s
PFO Pinyon Flats O 78.33 57 P **P 01 37 12.5 +0.7**
baz=308
MTPU Mount Pierson 78.35 51 *eP* **P 01 37 14.1 +2.0**
comp=Z,7.6nm,0.8s
BELC Belle Mtn. Jos 78.40 56 P **P 01 37 12.9 +0.6**
baz=308
Q16A Castle Valley 78.42 50 *eP* **P 01 37 14.1 +1.8**

comp=Z,3.3nm,0.8s
P18A **Preston Nutter** 78.53 49 *e*P P 01 37 14.7 +1.6
comp=Z,16nm,1.6s
KNB **Kanab** 78.59 52 *e*P P 01 37 15.4 +2.1
KNB pmax pmax
comp=Z,20nm,1.5s
KNB **Kanab** 78.59 52 *e*P P 01 37 15.4 +2.1
comp=Z,20nm,1.5s
VRI **Vrincioaia** 78.61 320⇑*i*P P 01 37 14.4 +1.4
VRI **Vrincioaia** 78.61 320 ⇑P P 01 37 14.4 +1.4
SRU **San Rafael Swe** 78.69 49 *e*P P 01 37 15.3 +1.5
SRU pmax pmax
comp=Z,12nm,0.7s
SRU **San Rafael Swe** 78.69 49 *e*P P 01 37 15.3 +1.5
comp=Z,12nm,0.7s
K22A **Casper** 78.72 44 P P 01 37 14.1 +0.2
baz=311
K22A **Casper** 78.72 44 *e*P P 01 37 15.2 +1.3
comp=Z,19nm,1.4s
BAR **Barrett** 78.76 57 *e*P P 01 37 15.2 +1.2
comp=Z,7.1nm,1.0s
ULM **Lac du Bonnet** 78.78 34 P P 01 37 13.9 +0.1
comp=Z,5.1nm,0.8s,baz=311,slow=7.3,SNR=5.8
STHS **Stebnicka Huta** 78.78 325 *e*P P 01 37 14.6 +0.7
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS **Stebnicka Huta** 78.78 325 *e*P P 01 37 14.6 +0.7
MONP2 **Monument Peak** 78.80 57 P P 01 37 14.8 +0.3
baz=308
BRTR **Keskin Array B** 78.84 312 P P 01 37 14.5 -0.1
comp=Z,0.5nm,0.6s,baz=66,slow=4.5,SNR=5.3
IRM **Iron Mountain** 78.87 55 P P 01 37 15.8 +1.1
baz=308,SNR=5.3
BC3 **Big Chuckawall** 78.97 56 P P 01 37 16.0 +0.7
baz=308
RSSD **Black Hills** 79.10 42 P P 01 37 15.9 0.0
baz=312
RSSD **Black Hills** 79.10 42 *e*P P 01 37 16.6 +0.6
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD **Black Hills** 79.10 42 *e*P P 01 37 16.6 +0.6
comp=Z,4.1nm,0.6s
IKP **In-Ko-Pah, Jac** 79.15 57 P P 01 37 17.1 +0.8
baz=308
SWSC **Sam W. Stewart** 79.18 57 P P 01 37 17.0 +0.7
baz=308
U15A **North Rim** 79.29 52 *e*P P 01 37 18.9 +1.7
O20A **White River Ci** 79.38 47 P P 01 37 18.2 +0.6
baz=311
O20A **White River Ci** 79.38 47 *e*P P 01 37 18.7 +1.1
comp=Z,6.1nm,0.9s
PDMCI **Parker Dam,Lak** 79.43 55 P P 01 37 18.6 +0.9
baz=308
A32A **Rocking H Ranc** 79.47 35 P P 01 37 17.7 +0.1
baz=317
Y12C **Blythe** 79.53 55 P P 01 37 19.1 +0.9
baz=308
Y12C **Blythe** 79.53 55 *e*P P 01 37 19.8 +1.6
comp=Z,6.6nm,0.8s
C31A **Landman Farms,** 79.71 36 P P 01 37 19.1 +0.1
baz=316
GLA **Glamis** 79.76 56 P P 01 37 20.5 +0.9
baz=308
VOIR 79.77 320⇓*i*P P 01 37 20.5 +1.1
VOIR 79.77 320 ⇓P P 01 37 20.5 +1.1
LANS **Liptovska Anna** 79.78 326 *e*P P 01 37 21.0 +1.7
LANS **Liptovska Anna** 79.78 326 *e*P P 01 37 21.0 +1.7
B32A **Ashes, Strandq** 79.83 35 P P 01 37 19.6 0.0
baz=317
PV09 **Paradox Valley** 79.91 49 *e*P P 01 37 22.3 +1.6
A33A **Warroad** 79.95 34 P P 01 37 20.1 -0.2
baz=317
DRGR 79.97 323⇓*i*P P 01 37 21.2 +0.7
DRGR 79.97 323 ⇓P P 01 37 21.2 +0.7
ARR **Arges** 80.02 321⇑*i*P P 01 37 22.5 +1.7
PV10 **Paradox Valley** 80.05 49 *e*P P 01 37 22.3 +1.0
N23A **Red Feather La** 80.21 45 P P 01 37 22.7 +0.5
baz=312
N23A **Red Feather La** 80.21 45 *e*P P 01 37 23.9 +1.7
comp=Z,9.6nm,1.0s
PV05 **Paradox Valley** 80.21 49 *e*P P 01 37 23.3 +1.2
AGMN **Agassiz Nation** 80.21 35 P P 01 37 21.4 -0.2
baz=317
DPC **Dobruska-Polom** 80.24 328 *e*P P 01 37 22.4 +0.5
DPC *e*pP PcP 01 37 30.9 +1.8
DPC **Dobruska-Polom** 80.24 328 *e*P P 01 37 22.4 +0.5
DPC *e* 01 37 30.9
KRLC **Kraliky** 80.26 328 *e*P P 01 37 21.8 -0.1
KRLC **Kraliky** 80.26 328 *e*P P 01 37 21.8 -0.1
WUAZ **Wupatki** 80.44 52 P P 01 37 24.6 +1.3
baz=310
WUAZ **Wupatki** 80.44 52 *e*P P 01 37 24.5 +1.1
comp=Z,8.2nm,0.9s
PSZ **Piszkesteto** 80.48 325 *e*P P 01 37 23.1 -0.1
PSZ pmax pmax
comp=Z,6.0nm,1.0s
PSZ **Piszkesteto** 80.48 325 *e*P P 01 37 23.1 -0.1
comp=Z,5.7nm,1.0s
PV01 **Paradox Valley** 80.49 49 *e*P P 01 37 25.2 +1.6
VYHS **Vyhne** 80.54 326 *e*P P 01 37 24.0 +0.5
VYHS pmax pmax
comp=Z,1.0nm,0.8s
VYHS **Vyhne** 80.54 326 *e*P P 01 37 24.0 +0.5
B34A **Aery, Baudette** 80.62 34 P P 01 37 22.7 -1.1
baz=318
113A **Mohawk Valley,** 80.63 56 *e*P P 01 37 25.4 +1.2
C33A **Trail** 80.64 35 P P 01 37 23.3 -0.7
baz=317
SMCO **Snowmass** 80.75 47 *e*P P 01 37 26.0 +0.7
comp=Z,6.0nm,1.2s
PVCC **Panska Ves** 80.83 329 *e*P P 01 37 25.5 +0.6
PVCC **Panska Ves** 80.83 329 *e*P P 01 37 25.5 +0.6
F31A **Hecla** 80.84 38 P P 01 37 25.0 -0.1
baz=316
CLL **Collm** 80.86 330 *e*P P 01 37 24.7 -0.4
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL **Collm** 80.86 330 *i* P P 01 37 24.4 -0.6
comp=Z,7.0nm,0.9s
CLL *i* pP PcP 01 37 33.7 +2.1
comp=Z,7.0nm,1.0s
CLL **Collm** 80.86 330 *e*P P 01 37 24.6 -0.4
comp=Z,6.0nm,0.8s
RAYN **Ar Rayn** 80.89 293 *e*P P 01 37 25.3 -0.5
comp=Z,2.4nm,0.8s
GZR **Gura Zlata** 80.93 321⇑*i*P P 01 37 25.3 -0.4
GZR **Gura Zlata** 80.93 321 ⇑P P 01 37 25.3 -0.4
D33A **AnnSam, Waubun** 81.06 36 P P 01 37 26.1 -0.1
baz=317
X16A **Lo Mia Camp, P** 81.10 53 *e*P P 01 37 28.8 +1.9
C34A **RKJ Ranch, Bem** 81.12 35 P P 01 37 26.1 -0.5
baz=318
B35A **Bob, Littlefor** 81.12 34 P P 01 37 26.4 -0.1
baz=319
ISCO **Idaho Springs** 81.12 46 P P 01 37 27.9 +0.8
baz=312
ISCO **Idaho Springs** 81.12 46 *e*P P 01 37 28.7 +1.6
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO **Idaho Springs** 81.12 46 *e*P P 01 37 28.7 +1.6
comp=Z,2.3nm,0.7s
MVCO **Mesa Verde** 81.13 50 P P 01 37 28.1 +1.0
baz=311
MVCO **Mesa Verde** 81.13 50 *e*P P 01 37 28.6 +1.5
comp=Z,4.9nm,0.8s
GOPC **GO Pecny, Ondr** 81.22 329 *e*P P 01 37 27.1 +0.1
GOPC **GO Pecny, Ondr** 81.22 329 *e*P P 01 37 27.1 +0.1
PRU **Pruhonice** 81.26 329 *e*P P 01 37 27.8 +0.6
PRU *e*pP PcP 01 37 36.3 +2.9
PRU **Pruhonice** 81.26 329 *e*P P 01 37 27.8 +0.6
PRU *e* 01 37 36.3
BZS **Buzias** 81.34 322⇓*i*P P 01 37 27.7 -0.1
BZS **Buzias** 81.34 322 ⇓P P 01 37 27.7 -0.1
D34A **Park Rapids** 81.41 36 P P 01 37 28.3 +0.3
baz=318
E33A **Westby DABS, E** 81.45 36 P P 01 37 28.7 +0.4
baz=317
C35A **Jirik Farms, M** 81.50 34 P P 01 37 28.3 -0.2
baz=318
SUSD **Miller** 81.51 39 P P 01 37 28.5 -0.2
baz=316
G32A **Webster** 81.65 38 P P 01 37 29.2 -0.2
baz=316
214A **Organ Pipe Nat** 81.77 56 P P 01 37 31.1 +0.7
baz=309
S22A **4UR Ranch, Cre** 81.78 48 P P 01 37 31.4 +0.8
baz=312
S22A **4UR Ranch, Cre** 81.78 48 *e*P P 01 37 32.5 +1.9
comp=Z,3.4nm,0.8s
F33A **5 Mile Ranch,** 81.80 37 P P 01 37 30.5 +0.3
baz=317
MDVR **Moldovita** 81.90 322⇓*i*P P 01 37 30.6 -0.2
D35A **Remer** 81.93 35 P P 01 37 30.6 -0.2
baz=318
C36A **Pine Crest Far** 81.97 34 P P 01 37 31.1 +0.1
baz=319
E35A **Pequot Lakes** 82.16 35 P P 01 37 31.8 -0.2
baz=318
G33A **Ortonville** 82.21 37 P P 01 37 32.4 +0.1
baz=317
CONA **Conrad Observa** 82.28 327 *e*P P 01 37 33.5 +0.8
comp=Z,5.0nm,1.5s
KHC **Kasperske Hory** 82.32 329 *e*P P 01 37 32.9 0.0
KHC *e*pP sP 01 37 41.4 +1.1
KHC **Kasperske Hory** 82.32 329 *e*P P 01 37 33.1 +0.2
KHC pmax pmax
comp=Z,3.0nm,1.1s
KHC **Kasperske Hory** 82.32 329 *e*P P 01 37 33.1 +0.2
comp=Z,2.7nm,1.1s
OGNE **Ogallala** 82.35 43 P P 01 37 33.5 +0.2
baz=314
EYMN **Ely** 82.41 33 P P 01 37 33.0 -0.4
baz=320
GERES **GERESS Array B** 82.49 328 P P 01 37 33.5 -0.4
comp=Z,1.5nm,0.6s,baz=36,slow=5.8,SNR=14
SDCO **Great Sand Dun** 82.56 48 P P 01 37 35.2 +0.4
baz=312
C38A **Sawbill Land.** 82.69 33 P P 01 37 34.0 -0.8
baz=320
VTS **Vitosha** 82.71 319⇑*i*P P 01 37 35.9 +0.7
VTS **Vitosha** 82.71 319 *e*P P 01 37 35.9 +0.7
VTS pmax pmax
comp=Z,4.0nm,0.9s
VTS **Vitosha** 82.71 319 *e*P P 01 37 35.9 +0.7
comp=Z,3.5nm,0.9s
E36A **McGregor** 82.72 35 P P 01 37 34.2 -0.7
baz=319
GRFO **Grafenberg** 82.83 330 *e*P P 01 37 35.5 0.0
GRFO pmax pmax
comp=Z,7.0nm,0.9s
GRFO **Grafenberg** 82.83 330 *e*P P 01 37 35.5 0.0
comp=Z,7.2nm,0.9s
TUC **Tucson** 82.87 55 P P 01 37 36.4 +0.3
baz=310
K31A **O'Neill** 82.91 40 P P 01 37 36.1 0.0
baz=316
F36A **Milaca** 83.09 35 P P 01 37 37.2 +0.2
baz=319
C39A **Grand Marais** 83.10 32 P P 01 37 37.0 +0.1
baz=321
G35A **Watkins** 83.12 36 P P 01 37 37.1 0.0
baz=318
ECSD **EROS Data Cent** 83.19 39 P P 01 37 37.3 -0.2
baz=317
ECSD **EROS Data Cent** 83.19 39 *e*P P 01 37 37.8 +0.3
comp=Z,6.8nm,0.8s
H35A **Sunnyside Ranc** 83.34 37 P P 01 37 38.8 +0.5
baz=318
E38A **The Farm, Brul** 83.41 34 P P 01 37 38.5 -0.1
baz=320
SOKA **Soboth** 83.60 326 *e*P P 01 37 39.7 +0.1
comp=Z,4.3nm,0.7s
T25A **Trinidad** 83.61 47 P P 01 37 40.9 +0.8
baz=313
T25A **Trinidad** 83.61 47 *e*P P 01 37 41.5 +1.5
comp=Z,7.2nm,0.7s
F38A **Pierce - Schro** 83.76 35 P P 01 37 40.6 +0.2
baz=320
ANMO **Albuquerque** 83.86 50 P P 01 37 42.3 +0.9
baz=312
ANMO **Albuquerque** 83.86 50 *e*P P 01 37 42.9 +1.6
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO **Albuquerque** 83.86 50 *e*P P 01 37 42.9 +1.6
comp=Z,6.6nm,1.1s
SPMN **Marine on St.** 83.90 36 P P 01 37 40.9 -0.1
baz=319
BGNE **Belgrade** 84.09 41 P P 01 37 42.0 -0.2
baz=316
J35A **Milford** 84.15 38 P P 01 37 42.0 -0.4
baz=318
Y22D **IRIS PASSCAL I** 84.16 51 P P 01 37 43.1 +0.2
baz=312
F39A **Loretta** 84.23 34 P P 01 37 42.6 -0.1
baz=321
E40A **Wakefield** 84.27 33 P P 01 37 43.4 +0.4
baz=321
BNM **Barren Site** 84.29 51 *e*P P 01 37 44.4 +0.8
H37A **Dierke Farm, C** 84.33 36 P P 01 37 43.7 +0.4
baz=319
D41A **Chassel** 84.35 32 P P 01 37 42.7 -0.7
baz=322
M33A **Taylor Creek F** 84.47 40 P P 01 37 43.7 -0.4
baz=317
I37A **Lemond, Waseca** 84.53 37 P P 01 37 44.4 +0.1
baz=319
F40A **Park Falls** 84.58 34 P P 01 37 44.0 -0.6
baz=321
L34A **Svendsen Farm,** 84.60 40 P P 01 37 44.5 -0.2
baz=317
K35A **Storm Lake** 84.61 38 P P 01 37 44.6 -0.1
baz=318
121A **Cookes Peak, D** 84.64 53 P P 01 37 46.5 +1.1
baz=312
E41A **Kenton** 84.65 33 P P 01 37 44.9 0.0
baz=322
MOTA **Moosalm** 84.75 329 *i* PcP P 01 37 46.7 +1.2
comp=Z,1.8nm,0.7s
RETA **Reutte** 84.77 329 *e*P P 01 37 45.8 +0.2
comp=Z,3.8nm,0.6s
M34A **Aspy Farms, Fr** 84.83 40 P P 01 37 47.0 +1.1
baz=317
H39A **Augusta** 85.01 35 P P 01 37 47.0 +0.2
baz=320
I38A **Scanlan Farm,** 85.02 36 P P 01 37 46.7 -0.1
baz=320
G40A **Rib Lake** 85.05 34 P P 01 37 46.9 0.0
baz=321
BFO **Black Forest** 85.06 331 *e*P P 01 37 46.7 -0.2
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO **Black Forest** 85.06 331 *e*P P 01 37 46.7 -0.2
comp=Z,6.3nm,0.8s
FETA **Feichten** 85.16 329 *e*P P 01 37 46.8 -0.8
comp=Z,3.9nm,1.0s
DAVA **Damuels** 85.29 330 *e*PcP P 01 37 48.9 +0.6
comp=Z,8.2nm,0.9s
M35A **Neola** 85.31 40 P P 01 37 48.8 +0.5
baz=318
K37A **Belmond** 85.36 38 P P 01 37 48.7 +0.1
baz=319
I39A **Houston** 85.54 36 P P 01 37 48.9 -0.5
baz=320
M36A **Felix, Anita** 85.77 39 P P 01 37 50.6 0.0
baz=318
N35A **Tabor** 85.78 40 P P 01 37 51.2 +0.5
baz=318
J39A **Decorah** 85.85 36 P P 01 37 51.1 +0.1
baz=320
P34A **Walnut Farm, R** 86.14 42 P P 01 37 51.8 -0.7
baz=317
N36A **Muff Farm, Cla** 86.17 40 P P 01 37 53.0 +0.5
baz=318
M37A **Trindle Farm,** 86.18 39 P P 01 37 53.1 +0.5
baz=319
K39A **Oelwein** 86.25 37 P P 01 37 53.1 +0.2
baz=320
J40A **Soldiers Grove** 86.25 36 P P 01 37 52.9 -0.1
baz=321
H42A **Shiocton** 86.38 34 P P 01 37 53.5 0.0
baz=322
Q34A **Chapman** 86.53 42 P P 01 37 54.1 -0.3
baz=317
P35A **Duane Minner,** 86.57 41 P P 01 37 54.0 -0.6
baz=318
KSU1 **Kansas State U** 86.58 42 P P 01 37 54.6 -0.1
baz=317
N37A **Lee Faris, Mou** 86.59 39 P P 01 37 54.5 -0.1
baz=319
M38A **Pleasantville** 86.59 38 P P 01 37 54.7 +0.1
baz=319
K40A **Colesburg** 86.61 36 P P 01 37 54.7 0.0
baz=321
O36A **Bolckow** 86.67 40 P P 01 37 55.5 +0.4
baz=318
I42A **Draeger Farm,** 86.70 34 P P 01 37 54.9 -0.2
baz=322
MNTX **Cornudas Mount** 86.71 52 P P 01 37 56.1 +0.6
baz=313
AMTX **Amarillo** 86.77 48 P P 01 37 56.5 +0.8
baz=315
AMTX **Amarillo** 86.77 48 *e*P P 01 37 57.0 +1.3
R34A **Isabella, Hill** 86.82 43 P P 01 37 56.4 +0.5
baz=317
P36A **Good Intent, A** 86.93 41 P P 01 37 56.2 -0.1
baz=318
F46A **Macinaw City C** 86.96 31 P P 01 37 56.9 +0.6
baz=325
N38A **Joes South For** 87.05 39 P P 01 37 57.3 +0.4
baz=319
L40A **Anamosa** 87.06 37 P P 01 37 57.4 +0.5
baz=321
Q35A **Mercer Eighty,** 87.06 42 P P 01 37 57.1 +0.1
baz=318
O37A **Wolven Farm, M** 87.06 40 P P 01 37 57.1 +0.2
baz=319
Q36A **Arnold C. Orve** 87.28 41 P P 01 37 58.5 +0.4
baz=318
N39A **Derby Farms, D** 87.35 38 P P 01 37 58.7 +0.4
baz=320
R35A **Emporia Munici** 87.37 42 P P 01 37 58.6 +0.1
baz=318
P37A **Lathrop** 87.39 40 P P 01 37 58.7 +0.2
baz=319
R36A **Gordon, Harris** 87.73 42 P P 01 38 00.6 +0.3
baz=318
S35A **Otter Creek Ra** 87.77 43 P P 01 38 00.4 0.0
baz=318
P38A **Dawn** 87.78 40 P P 01 38 00.3 -0.1
baz=319
T35A **Sooner Cattle** 88.23 43 P P 01 38 02.6 0.0
baz=318
Q38A **Cooks Store, C** 88.24 40 P P 01 38 02.4 -0.2
baz=319
P39B **Salisbury** 88.28 39 P P 01 38 03.0 +0.2
baz=320
T36A **Boggs Farm, Ca** 88.47 43 P P 01 38 04.2 +0.4
baz=318
Q39A **Willow Grove F** 88.50 40 P P 01 38 04.2 +0.4
baz=320
S37A **Fort Scott** 88.51 42 P P 01 38 04.3 +0.4
baz=318
U35A **Pawnee** 88.51 44 P P 01 38 04.4 +0.4
baz=317
WMOK **Wichita Mounta** 88.55 46 P P 01 38 04.4 +0.2
baz=316
N42A **Yates City** 88.58 37 P P 01 38 04.5 +0.4
baz=321
P40A **Paris** 88.60 39 P P 01 38 04.4 +0.1
baz=320
O41A **Passleys Farm,** 88.72 38 P P 01 38 04.7 -0.2
baz=321
T37A **Cheneyville 18** 88.94 42 P P 01 38 06.3 +0.3
baz=318
P41A **Barry, Barry** 88.97 38 P P 01 38 06.3 +0.3
baz=321
Q40A **Laux Farm, Aux** 88.99 39 P P 01 38 06.2 0.0
baz=320
R39A **Chumby, Stover** 89.02 40 P P 01 38 06.0 -0.4
baz=320
HDIL **Hopedale** 89.14 36 P P 01 38 06.7 -0.1
baz=322
W35A **Tecumseh** 89.33 45 P P 01 38 08.1 +0.3
baz=317
T38A **Diamond** 89.33 42 P P 01 38 08.0 +0.2
baz=319
O43A **Sugar Creek Fa** 89.34 37 P P 01 38 07.5 -0.2
baz=322
S39A **Bolivar** 89.35 41 P P 01 38 07.8 0.0
baz=319
U37A **Salina** 89.36 43 P P 01 38 08.0 0.0
baz=318
TUL1 **Leonard** 89.36 43 P P 01 38 07.9 -0.1
baz=318
P42A **Winchester** 89.39 38 P P 01 38 07.7 -0.3
baz=321
TX31 **Lajitas Ar. Si** 89.40 53 *e*P P 01 38 09.4 +1.0
TXAR **Lajitas Array** 89.41 53 P P 01 38 09.3 +0.9
comp=Z,2.7nm,0.5s,baz=305,slow=2.9,SNR=58
Q41A **Truxton** 89.45 39 P P 01 38 08.7 +0.5
baz=321
ABTX **Abilene, Hawle** 89.56 48 P P 01 38 09.1 +0.1
baz=316
W36A **Wetumka** 89.69 44 P P 01 38 10.0 +0.5
baz=318
U38A **Gravette** 89.73 42 P P 01 38 09.8 +0.1
baz=319
N45A **Kentland** 89.74 35 P P 01 38 10.5 +0.9
baz=323
V37A **Hulbert** 89.74 43 P P 01 38 09.9 +0.2
baz=318
P43A **Skaggs, Pawnee** 89.75 37 P P 01 38 09.9 +0.2
baz=322
Q42A **Golden Eagle** 89.82 38 P P 01 38 10.4 +0.4
baz=321
T39A **Clever** 89.82 41 P P 01 38 10.5 +0.4
baz=319
S40A **Lebanon** 89.84 40 P P 01 38 10.4 +0.2
baz=320
O44A **Mansfield** 89.85 36 P P 01 38 10.8 +0.7
baz=322
R41A **Rosebud** 89.88 39 P P 01 38 11.0 +0.7
baz=321
X36A **Centrahoma** 90.04 45 P P 01 38 11.5 +0.4
baz=318
O45A **Potomac** 90.12 36 P P 01 38 11.6 +0.2
baz=323
W37B **Quinton** 90.13 44 P P 01 38 12.1 +0.5
baz=318
Y35A **Marietta** 90.14 46 P P 01 38 11.9 +0.2
baz=317
V38A **Canehill** 90.15 43 P P 01 38 11.8 +0.1
baz=319
T40A **Mansfield** 90.17 41 P P 01 38 12.0 +0.3
baz=320
U39A **Green Forest** 90.25 42 P P 01 38 12.5 +0.4
baz=319
Q44A **Meyer Farm, Va** 90.57 37 P P 01 38 13.4 -0.1
baz=322
X37A **Clayton** 90.57 44 P P 01 38 13.7 +0.1
baz=318
Y36A **Durant** 90.57 45 P P 01 38 13.9 +0.3
baz=318
V39A **Pettigrew** 90.58 42 P P 01 38 13.5 -0.2
baz=319
S42A **Caledonia** 90.58 39 P P 01 38 13.5 -0.2
baz=321
U40A **Yellville** 90.60 41 P P 01 38 13.9 +0.1
baz=320
W38A **Poteau** 90.68 43 P P 01 38 14.1 -0.1
baz=319
X38A **Whitesboro** 90.81 44 P P 01 38 15.2 +0.5
baz=318
Z36A **Blue Ridge** 90.95 46 P P 01 38 15.9 +0.4
baz=318
JCT **Junction City** 90.99 50 P P 01 38 15.9 +0.2
baz=316
V40A **Witts Springs** 91.04 42 P P 01 38 15.7 -0.1
baz=320
U41A **Viola** 91.10 41 P P 01 38 15.8 -0.3
baz=320
WHTX **Lake Whitney,** 91.30 47 P P 01 38 17.7 +0.6
baz=317
WHTX **Lake Whitney,** 91.30 47 *e*P P 01 38 18.2 +1.1
comp=Z,9.5nm,0.9s
X39A **Fountain Ranch** 91.32 43 P P 01 38 17.5 +0.4
baz=319
W40A **Ferguson Farm,** 91.37 42 P P 01 38 17.6 +0.2
baz=320
V41A **Mountainview** 91.40 41 P P 01 38 17.5 0.0
baz=320
136A **Ennis** 91.48 46 P P 01 38 17.9 0.0
baz=318
MIAR **Mount Ida** 91.59 43 P P 01 38 18.8 +0.5
baz=319
MIAR **Mount Ida** 91.59 43 *e*P P 01 38 19.3 +1.0
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR **Mount Ida** 91.59 43 *e*P P 01 38 19.3 +1.0
comp=Z,7.3nm,0.8s
WHAR **Wooly Hollow** 91.71 42 *e*P P 01 38 19.4 +0.5
comp=Z,32nm,1.7s

Y39A	Lockesburg	91.76	44	P	P	01 38 19.6	+0.5
	baz=319						
V42A	Cord	91.79	41	P	P	01 38 19.0	-0.2
	baz=321						
W41B	Gary Mavity, V	91.82	42	P	P	01 38 19.2	-0.2
	baz=320						
X40A	Basin Creek Fa	92.03	43	P	P	01 38 21.0	+0.6
	baz=320						
O56A	Blue Knob Stat	94.05	30	P	P	01 38 29.5	-0.2
	baz=329						
TORD	Torodi Ar. Bea	117.28	316	PKP	PKPdf	01 43 56.3	-0.9
	comp=Z,0.2nm,0.5s,baz=24,slow=2.2,SNR=7.4						
SUR	Sutherland	132.22	258	ePKPdf	PKPdf	01 44 23.7	-1.8
SNAA	Sanae	141.42	197	PKP	PKPpre	01 44 31.4	
SNAA	Sanae	141.42	197	ePKIKP	PKPdf	01 44 41.1	-0.1
SNAA	Sanae	141.42	197	ePKPdf	PKPdf	01 44 41.1	-0.1
VNA2	Neumayer--Watz	142.98	196	PKP	PKPpre	01 44 37.6	
	baz=264,slow=2.4						
VNA3	Neumayer Olymp	143.22	195	PKP	PKPbc	01 44 42.6	+1.3
VNA1	Neumayer--Stat	143.38	196	PKP	PKPbc	01 44 42.5	+0.7
LPAZ	La Paz	146.00	60	PKPbc	PKPbc	01 44 52.5	+0.2
	comp=Z,9.3nm,0.6s,baz=346,slow=2.5,SNR=54						
LVC	Limon Verde	149.53	69	ePKPdf	PKPdf	01 44 57.8	+0.9
LVC				ePKPbc	PKPbc	01 45 02.3	+0.9
LVC				ePKPab	PKPab	01 45 07.6	+1.2
LCO	Las Campanas	151.46	82	ePKPbc	PKPbc	01 45 06.3	+0.6
LCO				ePKPab	PKPab	01 45 15.1	+1.0

GUC 21 01:27:44.2±0.7, 21°.94S×68°.57W, h130km±6km, ML3.8, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.64	283	⇑iP	Pn	01 28 05.0	+0.6
PB09				i S	Sn	01 28 20.3	+0.7
PB09				IAML		01 28 21.8	
	comp=E,5μm,0.3s						
PB06	IPOC Station P	1.20	230	⇑iP	Pn	01 28 09.9	+0.6
PB06				i S	Sn	01 28 29.2	+0.9
PB06				IAML		01 28 29.3	
	comp=N,1μm,0.4s						
PB01	IPOC Station P	1.23	316	⇑iP	Pn	01 28 10.0	+0.5
PB01				i S	Sn	01 28 29.8	+1.1
PB01				IAML		01 28 31.1	
	comp=E,1μm,0.2s						
PB07	IPOC Station P	1.24	280	⇑iP	Pn	01 28 10.5	+0.9
PB07				i S	Sn	01 28 30.1	+1.1
PB07				IAML		01 28 32.2	
	comp=E,2μm,0.1s						
PB02	IPOC Station P	1.38	296	eP	Pn	01 28 12.0	+1.0
PB02				i S	Sn	01 28 32.4	+0.9
PB02				IAML		01 28 34.5	
	comp=E,2μm,0.3s						
PB04	IPOC Station P	1.51	255	⇑iP	Pn	01 28 13.3	+0.6
PB04				i S	Sn	01 28 35.2	+1.0
PB04				IAML		01 28 40.4	
	comp=N,822nm,0.2s						
HMBC	Humberstone	2.06	323	⇑iP	Pn	01 28 19.2	+0.2
HMBC				eS	Sn	01 28 45.6	0.0
HMBC				IAML		01 28 47.8	
	comp=E,819nm,0.8s						
PB10	IPOC Station P	2.41	229	eP	Pn	01 28 24.0	+0.8
MNMC	Minye Minye	2.95	341	eP	Pn	01 28 31.1	+0.6
MNMC				IAML		01 29 21.5	
	comp=E,252nm,0.3s						

*ISCJB **21** 01:43:42.7±1.1, 26°.7N±0°.1×140°.4E±0°.3, h550km, mb3.6/12, Error ellipse: s-maj=36.9km s-min=14.4km az=169.2*
*IDC **21** 01:43:42.8±3.4, 26°.72N×140°.42E, h534km±35km, mb3.2/12, mb1 3.3/14, mb1mx3.1/39, mbtmp4.1/14, Error ellipse: s-maj=41.4km s-min=12.4km az=78.0*
ISC 21 01:43:43.9±1.3, 26°.7N±0°.1×140°.4E±0°.3, h550km, n16, σ0°67/18, mb3.7/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	15.05	318	P	P	01 46 54.6	+1.0
	1.3nm,0.3s,baz=144,slow=9.0,SNR=20						
USRK	Ussuriysk Ar.	18.73	341	P	P	01 47 27.6	-0.6
	0.4nm,0.3s,baz=171,slow=11,SNR=9.0						
SONM	Songino Array	33.92	317	P	P	01 49 40.9	-0.7
	1.6nm,0.4s,baz=127,slow=8.2,SNR=15						
CMAR	Chiang Mai Arr	39.05	267	P	P	01 50 23.9	-0.2
	1.0nm,0.3s,baz=54,slow=9.4,SNR=4.3						
WRA	Warramunga Arr	46.77	188	P	P	01 51 23.8	-0.3
	0.5nm,0.4s,baz=4.0,slow=7.5,SNR=15						
ZALV	Zalesovo Beam	48.75	320	P	P	01 51 37.6	-0.9
	0.5nm,0.3s,baz=150,slow=6.7,SNR=3.4						
ZALV				PcP	PcP	01 52 53.1	+0.1
	0.7nm,0.4s,baz=104,slow=6.1,SNR=3.3						
MKAR	Makanchi Array	49.51	310	P	P	01 51 44.3	-0.1
	1.7nm,0.5s,baz=94,slow=9.9,SNR=13						
MKAR				PcP	PcP	01 52 57.0	+1.0
	0.4nm,0.5s,baz=87,slow=8.8,SNR=2.7						
ASAR	Alice Springs	50.49	188	P	P	01 51 51.7	-0.1
	0.3nm,0.4s,baz=0.9,slow=4.9,SNR=7.4						
ARCES	ARCESS Array B	73.38	341	P	P	01 54 20.7	+1.0
	2.8nm,0.9s,baz=80,slow=9.3,SNR=7.5						
KBZ	Khabaz	77.11	313	P	P	01 54 42.0	+1.0
	2.3nm,0.8s,baz=95,slow=12,SNR=5.4						
FINES	FINESS Array B	77.58	333	P	P	01 54 43.2	0.0
	1.9nm,0.3s,baz=69,slow=4.7,SNR=39						
AKASG	Malin Array Be	81.99	323	P	P	01 55 06.3	-0.1
	1.3nm,0.3s,baz=52,slow=5.4,SNR=7.8						
NB2	NORSAR Subarra	83.37	338	P	P	01 55 12.8	-0.5
	comp=Z,0.8nm,0.4s,baz=56,slow=5.1						
NOA	NORSAR Array B	83.37	338	P	P	01 55 13.1	-0.2
	comp=Z,0.8nm,0.5s,baz=54,slow=6.5,SNR=7.5						
BRTR	Keskin Array B	85.10	312	P	P	01 55 22.2	-0.2
	comp=Z,0.5nm,0.6s,baz=92,slow=4.3,SNR=3.3						
TORD	Torodi Ar. Bea	123.64	310	PKP	PKPdf	02 01 40.7	+0.7
	comp=Z,0.2nm,0.4s,baz=31,slow=1.7,SNR=7.3						

*ISCJB **21** 01:46:50.9±1.1, 21°.1S±0°.2×68°.7E±0°.2, h13km, mb3.9/12, MS3.7/15, Error ellipse: s-maj=36.9km s-min=17.8km az=33.8*
*IDC **21** 01:46:50.7±1.2, 21°.07S×68°.68E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/37, mbtmp3.8/9, MS3.6/15, Ms1 3.6/15, ms1mx3.5/29, Error ellipse: s-maj=43.3km s-min=21.2km az=30.0*
*NEIC **21** 01:46:52.4±0.9, 21°.06S×68°.69E, h10km, mb4.1/2, Error ellipse: s-maj=30.2km s-min=14.5km az=214.0*
ISC 21 01:46:53.0±1.4, 21°.1S±0°.3×68°.7E±0°.2, h13km, n25, σ0°79/12, mb4.0/12, MS3.7/15, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	13.84	16	T	T	02 04 12.4	
	baz=196,slow=76,SNR=27						
H08S2	Diego Garcia H	13.85	16	T	T	02 04 14.7	
	baz=196,slow=76,SNR=50						
H08S3	Diego Garcia H	13.86	16	T	T	02 04 09.4	
	baz=196,slow=76,SNR=21						
OPO	Ambohidratompo	20.37	273	LR	LR	01 57 13.8	
	comp=Z,216nm,21.2s,baz=96,slow=31						
KMBO	Kilima Mbogo	36.51	299	LR	LR	02 06 01.8	
	comp=Z,128nm,19.5s,baz=109,slow=32						
BOSA	Boshof	39.94	250	LR	LR	02 07 34.9	
	comp=Z,148nm,18.7s,baz=92,slow=31						
CMAR	Chiang Mai Arr	49.22	39	P	P	01 55 42.0	+0.7
	1.2nm,0.4s,baz=179,slow=4.4,SNR=2.9						
CMAR				LR	LR	02 14 20.5	
	comp=Z,40nm,19.4s,baz=218,slow=34						
FITZ	Fitzroy Crossi	53.51	97	P	P	01 56 14.6	+1.0
	2.4nm,0.8s,baz=252,slow=10,SNR=4.2						
GEYT	Alibeck	59.52	350	LR	LR	02 20 00.9	
	comp=Z,24nm,19.6s,baz=250,slow=33						
ASAR	Alice Springs	59.90	106	P	P	01 56 58.0	-1.1
	1.0nm,0.8s,baz=266,slow=6.2,SNR=8.8						
ASAR				LR	LR	02 19 16.6	
	comp=Z,105nm,19.6s,baz=286,slow=32						
WRA	Warramunga Arr	61.10	102	P	P	01 57 06.9	-0.4
	1.0nm,0.7s,baz=258,slow=6.2,SNR=5.7						
WRA				LR	LR	02 20 29.4	
	comp=Z,79nm,21.0s,baz=5.0,slow=33						
STKA	Stephens Creek	65.09	116	LR	LR	02 22 16.6	
	comp=Z,52nm,20.4s,baz=207,slow=33						
MKAR	Makanchi Array	68.66	10	P	P	01 57 55.2	-0.6
	0.4nm,0.7s,baz=186,slow=5.8,SNR=2.4						
MKAR				LR	LR	02 26 13.9	
	comp=Z,40nm,20.3s,baz=210,slow=34						
BRTR	Keskin Array B	68.76	332	P	P	01 57 56.2	-0.7
	0.4nm,0.6s,baz=95,slow=3.2,SNR=3.5						
ABKAR	Akbulak array	70.44	354	eP	P	01 58 06.3	-0.4
	0.7nm,0.7s						
KURK	Kurchatov	72.01	7	eP	P	01 58 15.6	-0.6
	9.4nm,0.9s						
BRVK	Borovoye	73.83	1	eP	P	01 58 27.1	+0.2
	1.8nm,0.5s						
TORD	Torodi Ar. Bea	74.04	291	P	P	01 58 29.4	+0.4
	0.4nm,1.0s,baz=96,slow=5.8,SNR=2.3						
TORD				LR	LR	02 28 49.6	
	comp=Z,36nm,18.6s,baz=225,slow=34						
ZALV	Zalesovo Beam	76.00	10	P	P	01 58 38.8	-0.7
	0.5nm,0.4s,baz=179,slow=8.1,SNR=2.7						
SONM	Songino Array	76.49	25	LR	LR	02 31 59.3	
	comp=Z,36nm,19.6s,baz=234,slow=35						
DBIC	Dimbokro	77.19	282	LR	LR	02 31 09.9	
	comp=Z,39nm,18.1s,baz=70,slow=34						
AKASG	Malin Array Be	79.47	336	P	P	01 58 59.8	+0.9
	0.6nm,0.6s,baz=139,slow=4.7,SNR=4.0						
KSRS	Korea Array	80.58	44	LR	LR	02 34 22.4	
	comp=Z,33nm,19.7s,baz=209,slow=35						
USRK	Ussuriysk Ar.	86.94	40	LR	LR	02 36 42.9	
	comp=Z,36nm,21.9s,baz=275,slow=34						
MJAR	Matsushiro Arr	87.07	49	LR	LR	02 35 55.7	
	comp=Z,35nm,21.7s,baz=110,slow=34						

MAN 21 02:40:33, 9°.60N×122°.70E, h21km, mb4.3, ML3.1, MS2.9, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.59	116	⇑iP	Pb	02 40 45.2	+0.5
SNPH				i S	Sn	02 40 56.0	+0.7
GUIM	Jordan	1.02	354	eP	Pb	02 40 50.8	-1.3
GUIM				eS	Sn	02 41 06.0	+0.1
DCPH	Dipolog City	1.20	147	⇑eP	Pn	02 40 52.3	-2.3
DCPH				eS	Sb	02 41 09.7	-0.4
JAP	San Jose, Anti	1.36	327	⇓eP	Pn	02 40 56.1	-0.6
PAGZ	Pagadian	1.87	159	eP	Pn	02 41 02.5	-1.2
PAGZ				eS	Sb	02 41 29.2	-0.2
RCP	Roxas	1.95	1	⇑eP	Pb	02 41 06.5	-1.3
RCP				eS	Sb	02 41 33.5	+1.8
BUSP	Coron	3.42	314	eP	Pn	02 41 22.1	-3.1

*JMA **21** 02:51:31.0±0.3, 24°.70N×122°.36E, h108km±3km, M3.2*
*ISCJB **21** 02:51:33.5±0.6, 24°.68N±0°.03×122°.50E±0°.02, h99km±5km, Error ellipse: s-maj=5.5km s-min=2.7km az=168.7*
*TAP **21** 02:51:34.2, 24°.72N×122°.41E, h103km±1km, ML4.0, D*
ISC 21 02:51:33.4±1.4, 24°.69N±0°.05×122°.50E±0°.03, h103km±9km, n45, σ0°70/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.47	121	P	Pn	02 51 48.6	-0.6
JYNG				S	Sn	02 52 01.2	+0.1
YOJ	Yonaguni jima	0.52	116	P	Pn	02 51 48.8	-0.8
EGS		0.54	286	eP	Pn	02 51 50.8	+1.1
	baz=286						
EGS				eS	Sn	02 52 03.3	+1.4
	baz=286						
TWB1	Santiao Chiao	0.56	304	eP	Pn	02 51 50.3	+0.4
	baz=307						
TWB1				eS	Sn	02 52 02.4	+0.2
	baz=307						
TWC	Suao	0.60	262	eP	Pn	02 51 50.4	+0.2
	baz=257						
TWC				eS	Sn	02 52 02.7	0.0
	baz=257						
ENA	Nanau	0.74	249	i P	Pn	02 51 52.0	+0.6
	baz=244						
ENA				eS	Sn	02 52 04.8	-0.1
	baz=244						
NWF	Wu-fen Shan	0.75	300	P	Pn	02 51 52.1	+0.5
	baz=301						
NWF				eS	Sn	02 52 04.5	-0.7
	baz=301						
TWE	Neicheng	0.76	272	P	Pn	02 51 51.9	+0.4
	baz=270						
TWE				eS	Sn	02 52 04.8	-0.4
	baz=270						
ENTT	Nioudou	0.85	267	P	Pn	02 51 53.0	+0.6
	baz=264						
ENTT				eS	Sn	02 52 06.3	-0.5
	baz=264						
TWA	Mucha	0.88	289	eS	Sn	02 52 06.1	-1.2
	baz=289						
TWD	Chiawan	1.02	234	eP	Pn	02 51 54.7	+0.4
	baz=229						
TWD				eS	Sn	02 52 09.8	-0.1
	baz=229						
NSK	Sanguang	1.04	269	i P	Pn	02 51 54.7	+0.3
	baz=267						
NSK				S	Sn	02 52 09.7	-0.7
	baz=267						
NNS	Nan Shan	1.06	256	i P	Pn	02 51 55.1	+0.4
	baz=253						
NNS				S	Sn	02 52 10.1	-0.7
	baz=253						
TWS1	Kuangyinshan	1.06	293	P	Pn	02 51 54.8	+0.1
	baz=293						
TWS1				eS	Sn	02 52 09.9	-0.8
	baz=293						
HWA	Hwalien	1.08	229	eP	Pn	02 51 55.6	+0.7
	baz=224						
HWA				eS	Sn	02 52 11.2	+0.1
	baz=224						
IRIF	Iriomote-Funau	1.18	107	P	Pn	02 51 55.5	-0.4
IRIF				eS	Sn	02 52 13.5	+0.5
NCU	National Centr	1.22	283	eP	Pn	02 51 56.7	+0.2
	baz=282						
NCU				eS	Sn	02 52 14.1	+0.2
	baz=282						
WHF	Hehuan Shan	1.25	244	i P	Pn	02 51 57.6	+0.4
	baz=241						
WHF				S	Sn	02 52 14.1	-1.1
	baz=241						
TWT	Tachien	1.28	250	eP	Pn	02 51 58.4	+1.0
	baz=247						
TWT				eS	Sn	02 52 15.4	0.0
	baz=247						
ESL	Shilin	1.31	228	eP	Pn	02 51 57.1	-0.4
	baz=224						
ESL				eS	Sn	02 52 14.5	-1.2
	baz=224						
HATJ	Hateruma jima	1.35	118	P	Pn	02 51 57.9	0.0
HATJ				S	Sn	02 52 16.9	+0.4
NSTT	Nanjuang	1.36	268	i P	Pn	02 51 58.1	0.0
	baz=266						
NSTT				S	Sn	02 52 15.4	-1.4
	baz=266						
JKRS	Kuro-shima	1.45	108	P	Pn	02 51 59.2	+0.1
JKRS				S	Sn	02 52 19.7	+1.0
JIJ	Ishigaki jima	1.53	102	P	Pn	02 51 59.8	-0.4
JIJ				S	Sn	02 52 20.3	-0.2
WDT	Danda	1.56	233	i P	Pn	02 52 01.1	+0.3
	baz=230						
WDT				S	Sn	02 52 20.4	-1.2
	baz=230						
NSY	Sanyi	1.61	260	P	Pn	02 52 01.1	0.0
	baz=258						
NSY				eS	Sn	02 52 21.7	-0.5
	baz=258						
TWQ1	Liyutan	1.61	258	P	Pn	02 52 01.0	-0.1
	baz=256						
TWQ1				eS	Sn	02 52 21.4	-0.8
	baz=256						
JISG	Ishigakijimahi	1.65	93	P	Pn	02 52 01.3	-0.3
JISG				S	Sn	02 52 23.3	+0.2
SMLT	Sun Moon Lake	1.67	241	i P	Pn	02 52 02.9	+0.9
	baz=238						
SMLT				S	Sn	02 52 23.6	0.0
	baz=238						
TYC	Yuchr	1.69	243	i P	Pn	02 52 03.0	+0.8
	baz=240						
TYC				S	Sn	02 52 23.9	-0.1
	baz=240						
TWF1	Yuli	1.73	220	eP	Pn	02 52 02.3	-0.3
	baz=216						
TWF1				eS	Sn	02 52 23.4	-1.5
	baz=216						
YUS	Yu-Shan	1.85	230	P	Pn	02 52 04.9	+0.2
	baz=227						
YUS				eS	Sn	02 52 27.5	-0.9
	baz=227						
ALS	Alishan	1.94	233	i P	Pn	02 52 06.7	+1.0
	baz=230						
ALS				S	Sn	02 52 29.6	-0.6
	baz=230						
CHN5	Tsauling	1.99	237	i P	Pn	02 52 06.7	+0.7
	baz=234						
CHN5				S	Sn	02 52 30.8	-0.1
	baz=234						
JTJ	Tarama	2.00	91	P	Pn	02 52 06.0	-0.1
JTJ				S	Sn	02 52 32.0	+0.9
ELDTW	Lidau	2.02	222	eP	Pn	02 52 07.1	+0.6
	baz=219						
ELDTW				eS	Sn	02 52 30.4	-1.3
	baz=219						
CHN4	Tsaushan	2.20	233	i P	Pn	02 52 09.4	+0.8
	baz=230						
CHN4				S	Sn	02 52 36.2	+0.6
	baz=230						
STYT	Tauyuan	2.21	227	P	Pn	02 52 10.1	+1.3
	baz=224						
STYT				eS	Sn	02 52 36.4	+0.5
	baz=224						
WTP	Ta-pu	2.25	230	P	Pn	02 52 09.7	+0.4
	baz=228						
WTP				eS	Sn	02 52 36.8	0.0
	baz=228						
TWG	Pinlang	2.28	215	eP	Pn	02 52 09.9	+0.2
	baz=212						
TWG				eS	Sn	02 52 36.0	-1.4
	baz=212						
CHN1	Nanshi	2.35	231	i P	Pn	02 52 11.2	+0.6
	baz=228						
CHN1				S	Sn	02 52 39.6	+0.5
	baz=228						
JIRB	Irabujima	2.44	86	P	Pn	02 52 11.7	0.0
JIRB				eS	Sn	02 52 41.1	0.0
SSD	Sandimen	2.58	222	eP	Pn	02 52 14.7	+1.0
	baz=219						
SSD				eS	Sn	02 52 44.5	-0.1
	baz=219						
EAST	Anshuo	2.75	214	eP	Pn	02 52 17.4	+1.4
	baz=211						
EAST				eS	Sn	02 52 47.4	-1.3
	baz=211						
JKE	Kume jima 2	4.20	66	P	Pn	02 52 34.8	-0.5

*BJI **21** 02:55:51.9, 7°.34S×130°.25E, h112km, mb4.9/48, mB4.9/38*
*MOS **21** 02:55:57.6±1.0, 6°.57S×129°.95E, h110km, mb4.9/38, Error ellipse: s-maj=12.3km s-min=6.7km az=116.0*
*ISCJB **21** 02:55:58.6±0.3, 6°.73S±0°.02×130°.09E±0°.03, h127km±3km, mb5.0/90, Error ellipse: s-maj=4.6km s-min=3.3km az=153.9*
*DJA **21** 02:55:58.9±0.2, 7°.3S±3°.×13°.0E±°, h99km±10km, M5.3/18, mb5.5/18, mB5.5/17, MLv6.0/10, Mw(mB)5.0/17*
*NEIC **21** 02:55:59.6±0.5, 6°.70S×130°.05E, h118km±4km, mb5.0/50, Error ellipse: s-maj=5.5km s-min=3.9km az=53.0*
*GCMT **21** 02:55:59.6±0.2, 6°.58S×129°.99E, h120km±2km, MW4.9/95, Moment Tensor Solution. s36,c40; s95,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.09; Mθθ-3.11±.09; Mφφ1.03±.10; Mrθ-1.45±.07; Mφφ0.12±.10; Mθφ0.53±.07; Best double couple: M=3.05300×10^16 NP1:φ=286.00000°, δ62.00000°, λ108.00000°. NP2: φ=72.00000°, δ33.00000°, λ60.00000°. Principal axes: T 2.6060, Plg68.0000°, Azm232.0000°; N 0.8950, Plg16.0000°, Azm98.0000°; P -3.5010, Plg15.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **21** 02:56:00.8±1.2, 6°.63S×129°.93E, h126km±9km, mb4.6/23, mb1 4.6/23, mb1mx4.6/31, mbtmp5.0/23, MS3.7/11, Ms1 3.7/11, ms1mx3.3/31 Error ellipse: s-maj=14.9km s-min=8.4km az=79.0*
ISC 21 02:55:59.3±0.5, 6°.77S±0°.03×129°.97E±0°.04, h119km±4km, n360, σ1°73/403, mb4.9/89, 8C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.79	133	P	Pn	02 56 30.9	+0.8
SAUI				S	Sn	02 56 51.7	-1.9
SAUI	Saumlaki	1.79	133	ePn	Pn	02 56 31.1	+1.0
SAUI				eSn	Sn	02 56 50.3	-3.3
BNDI	Bandanaira	2.23	358	P	Pn	02 56 36.0	+0.3
BNDI				S	Sn	02 57 03.6	0.0
MSAI	Masohi	3.56	343	P	Pn	02 56 54.3	+1.3
FAKI	Fak Fak	4.45	31	P	Pn	02 57 01.9	-3.0
FAKI	Fak Fak	4.45	31	ePn	Pn	02 57 01.8	-3.0
FAKI				eSn	Sn	02 57 45.0	-11
NLAI	Namlea	4.53	321	P	Pn	02 57 08.0	+2.0
KMPI	Kaimana, Papua	4.83	50	P	Pn	02 57 07.8	-2.2
MTN	Manton Dam	6.14	169	P	Pn	02 57 27.0	-0.8
	baz=6.2,SNR=191						
MTN	Manton Dam	6.14	169	ePn	Pn	02 57 26.6	-1.1
MTN				eSn	Sn	02 58 33.0	-3.8
KDU	Kakadu	6.38	157	P	Pn	02 57 30.0	-0.9
	baz=6.4,SNR=645						
SOEI	Soe	6.38	242	P	Pn	02 57 33.3	+2.3
SOEI	Soe	6.38	242	ePn	Pn	02 57 33.5	+2.5
SOEI				eSn	Sn	02 58 42.2	-0.4
LBMI	Labuha	6.57	338	P	Pn	02 57 34.6	+1.0
RKPI	Ransiki, Papua	6.70	39	P	Pn	02 57 33.3	-2.0
BBSI	Bau Bau	7.47	279	P	Pn	02 57 50.1	+4.4
KDI	Kendari	7.84	291	P	Pn	02 57 54.5	+3.8
	79nm,1.4s,1μm						
MMRI	Maumere	7.89	256	P	Pn	02 57 53.3	+2.0
MMRI	Maumere	7.89	256	ePn	Pn	02 57 53.5	+2.1
BAKI	Biak	8.25	48	P	Pn	02 57 55.9	-0.4
EDFI	Ende, Flores	8.44	256	P	Pn	02 58 01.6	+2.7
KNRA	Kununurra	8.93	188	P	Pn	02 58 04.2	-1.3
	baz=9.0,SNR=244						
KMSI	Cibinong	9.43	320	P	Pn	02 58 13.9	+1.7
BSSI	Bau Bau, Buton	9.44	273	P	Pn	02 58 15.2	+2.8
BASI	Baing, Sumba	9.90	249	P	Pn	02 58 19.4	+0.8
SMPI	Sarmi	9.92	62	P	Pn	02 58 17.0	-1.8
APSI	Ampana	10.14	305	P	Pn	02 58 26.1	+4.3
	223nm,1.0s,2μm						
KAPI	Kappang	10.31	279	ePn	Pn	02 58 26.7	+2.5
	32nm,0.8s						
KAPI	Kappang	10.31	279	P	Pn	02 58 26.5	+2.3
	SNR=8.0						
KAPI	Kappang	10.31	279	Pn	Pn	02 58 26.5	+2.3
	SNR=8.0						
MMPI	Merauke	10.46	100	P	Pn	02 58 36.7	+11
SPSI	Sidrap Palu	10.53	285	P	Pn	02 58 29.5	+2.4
TTSI	Tana Toraja	10.77	290	P	Pn	02 58 43.9	+14
MRSI	Marisa	10.77	312	P	Pn	02 58 32.6	+2.3
	354nm,1.1s,3μm						
SGSI	Sangihe	11.29	337	P	Pn	02 58 37.3	0.0
	409nm,0.7s						
JAY	Jayapura	11.50	69	P	Pn	02 58 39.1	-1.0
	324nm,0.8s						
PCI	Palu	11.67	300	P	P	02 58 51.1	+0.4
FITZ	Fitzroy Crossi	12.03	200	P	Pn	02 58 43.3	-3.7
	4.7nm,0.3s,baz=26,slow=10,SNR=177						
FITZ				S	Sn	03 00 47.3	-12
	17nm,0.3s,baz=89,slow=12,SNR=8.8						
FITZ	Fitzroy Crossi	12.03	200	ePn	Pn	02 58 44.0	-3.0
FITZ				S	Sn	03 00 47.2	-12
PLAI	Plampang	12.26	260	P	Pn	02 58 50.9	+0.9
MPSI	Mapaga	12.28	305	P	P	02 58 54.7	-3.0
TWSI	Taliwang, Sumb	13.12	261	P	Pn	02 59 02.3	+1.0
	39nm,0.7s,805nm						
WRAB	Tennant Creek	13.76	162	eP	Pn	02 59 05.9	-3.6
WRAB	Tennant Creek	13.76	162	ePn	Pn	02 59 05.9	-3

MYLDM	**Lahad Datu**	**16.49 316**	*e*Pn	**P**	**02 59 46.9**	**+2.5**
	103nm,1.0s					
PMG	**Port Moresby**	**17.22 100**	P	**Pn**	**02 59 54.2**	**+1.6**
	2.4nm,0.3s,baz=284,slow=4.9,SNR=17					
PMG	**Port Moresby**	**17.22 100**	*e*P	**Pn**	**02 59 53.5**	**+0.8**
	74nm,0.8s					
AS31	**Alice Springs**	**17.22 168**	*e*P	**P**	**02 59 51.8**	**-0.6**
	60nm,0.5s					
ASAR	**Alice Springs**	**17.22 168**	P	**P**	**02 59 51.0**	**-1.4**
	18nm,0.3s,baz=345,slow=11,SNR=299					
ASAR			S	**Sn**	**03 02 55.2**	**-10**
	17nm,0.3s,baz=349,slow=26,SNR=11					
ASAR			LR	LR	03 07 15.1	
	comp=Z,714nm,18.9s,baz=360,slow=39					
MBWA	**Marble Bar**	**17.40 214**	*e*P	**P**	**02 59 54.8**	**+0.4**
	141nm,0.7s					
MBWA			*e*S	Sn	03 02 55.7	-13
MBWA	**Marble Bar**	**17.40 214**	P	**Pn**	**02 59 55.2**	**+0.3**
	SNR=13					
MBWA	**Marble Bar**	**17.40 214**	P	**Pn**	**02 59 55.2**	**+0.3**
	SNR=13					
MTSU	**Mount Surprise**	**17.98 130**	P	**Pn**	**03 00 01.7**	**-0.1**
	baz=18,SNR=116					
WRKA	**Warakurna**	**18.24 185**	P	**P**	**03 00 04.0**	**+0.4**
	baz=18,SNR=584					
PBKI	**Pangkalan Bun**	**18.68 282**	P	**Pn**	**03 00 13.0**	**+2.8**
KKM	**Kota Kinabalu**	**18.72 313**	*e*P	**Pn**	**03 00 10.8**	**0.0**
	68nm,1.2s					
SBUM	**Sibu**	**19.95 297**	*e*P	**Pn**	**03 00 24.2**	**-0.9**
SBUM			*e*Pn	**P**	**03 00 24.5**	**+2.2**
CTA	**Charters Tower**	**20.61 132**	P	Pn	03 00 31.2	-1.5
	71nm,0.7s,baz=309,slow=12,SNR=44					
CTAO	**Charters Tower**	**20.61 132**	*e*P	**P**	**03 00 31.1**	**+1.8**
CTAO			pmax	pmax		
	comp=Z,79nm,0.8s					
CTAO	**Charters Tower**	**20.61 132**	*e*P	**P**	**03 00 31.1**	**+1.8**
	comp=Z,79nm,0.8s					
CTAO			*e*S	S	03 04 01.9	-11
KSM	**Kuching**	**21.27 292**	*e*P	**P**	**03 00 38.2**	**+1.8**
	comp=Z,30nm,0.8s					
GIRL	**Giralia**	**21.89 222**	P	**P**	**03 00 44.6**	**+1.6**
	baz=22,SNR=21					
CISI	**Cisompet, Garu**	**22.00 267**	*e*P	**P**	**03 00 43.0**	**-1.3**
	comp=Z,153nm,0.7s					
TGY	**Tagaytay City**	**22.59 337**	P	**P**	**03 00 50.3**	**+0.1**
	comp=Z,186nm,0.3s,baz=260,slow=2.2,SNR=11					
QLP	**Quilpie**	**23.93 147**	P	**P**	**03 01 03.4**	**+0.9**
	baz=24,SNR=87					
FORT	**Forrest**	**23.95 184**	P	**P**	**03 01 03.8**	**+1.2**
	baz=24,SNR=70					
FORT	**Forrest**	**23.95 184**	*e*P	**P**	**03 01 03.2**	**+0.5**
	comp=Z,2μm,0.6s					
KMBL	**Kambalda**	**25.62 196**	P	**P**	**03 01 18.9**	**+1.1**
	baz=26,SNR=38					
MORW	**Morawa**	**25.79 209**	P	**P**	**03 01 20.3**	**+1.0**
	baz=26,SNR=11					
BBOO	**Buckleboo**	**26.52 168**	P	**P**	**03 01 26.4**	**+0.5**
	baz=27,SNR=35					
BBOO	**Buckleboo**	**26.52 168**	*e*P	**P**	**03 01 25.4**	**-0.5**
	comp=Z,52nm,0.6s					
RMQ	**Roma**	**26.54 140**	P	**P**	**03 01 27.1**	**+0.9**
	baz=27,SNR=6.9					
BLDU	**Ballidu**	**26.79 206**	P	**P**	**03 01 29.4**	**+1.1**
	baz=27,SNR=11					
KLBR	**Kellerberrin**	**27.21 203**	P	**P**	**03 01 33.3**	**+1.2**
	baz=27,SNR=10					
STKA	**Stephens Creek**	**27.24 158**	P	**P**	**03 01 33.0**	**+0.7**
	comp=Z,69nm,0.8s,baz=330,slow=9.1,SNR=132					
STKA			LR	LR	03 13 36.4	
	comp=Z,347nm,19.6s,baz=348,slow=39					
STKA	**Stephens Creek**	**27.24 158**	P	**P**	**03 01 33.1**	**+0.8**
	baz=27,SNR=84					
STKA	**Stephens Creek**	**27.24 158**	*e*P	**P**	**03 01 32.5**	**+0.1**
	comp=Z,12nm,0.8s					
MYKOM	**Kota Tinggi**	**27.43 287**	*e*P	**P**	**03 01 36.7**	**+2.5**
	comp=Z,75nm,1.5s					
HTT	**Hallett**	**27.80 164**	P	**P**	**03 01 38.2**	**+0.8**
	baz=28,SNR=14					
NWAO	**Narrogin (SRO)**	**28.59 203**	P	**P**	**03 01 45.8**	**+1.4**
	comp=Z,29nm,0.8s,baz=269,slow=7.7,SNR=11					
NWAO	**Narrogin (SRO)**	**28.59 203**	P	**P**	**03 01 45.9**	**+1.5**
	baz=29,SNR=6.5					
NWAO			P	**P**	**03 01 45.9**	**+1.5**
	baz=29,SNR=6.5					
NWAO	**Narrogin (SRO)**	**28.59 203**	*e*P	**P**	**03 01 45.1**	**+0.7**
	comp=Z,34nm,0.9s					
CMSA	**Cobar Meteorol**	**28.69 151**	P	**P**	**03 01 46.2**	**+1.0**
	baz=29,SNR=100					
RKGY	**Rocky Gully**	**30.19 202**	P	**P**	**03 02 01.1**	**+2.6**
	baz=30,SNR=10					
IPM	**Ipoh**	**30.98 290**	*e*P	**P**	**03 02 07.9**	**+2.2**
	comp=Z,14nm,0.8s					
ARMA	**Armidale**	**31.09 142**	P	**P**	**03 02 08.5**	**+1.9**
	baz=31,SNR=6.4					
ARMA	**Armidale**	**31.09 142**	*e*P	**P**	**03 02 07.6**	**+0.9**
	comp=Z,25nm,0.9s					
KULM	**Kulim**	**31.62 292**	*e*P	**P**	**03 02 10.5**	**-0.9**
	comp=Z,26nm,1.1s					
ARPS	**Mount Arapiles**	**31.77 162**	P	**P**	**03 02 14.0**	**+1.7**
	baz=32,SNR=80					
QIZ	**Qiongzhong**	**32.42 323**	P	**P**	**03 02 19.9**	**+1.7**
QIZ			S	**S**	**03 07 24.3**	**+0.1**
QIZ			LR	LR		
	comp=Z,69nm,30.1s					
PSI	**Prapat**	**32.42 286**	P	**P**	**03 02 17.1**	**-1.4**
	comp=Z,48nm,1.0s,baz=161,slow=5.6,SNR=19					
MGCD	**Mangrove Creek**	**32.82 146**	P	**P**	**03 02 24.1**	**+2.5**
	baz=33,SNR=11					
CAN	**Canberra**	**33.37 151**	*e*P	**P**	**03 02 27.7**	**+1.3**
CAN			pmax	pmax		
	comp=Z,85nm,0.8s					
CAN	**Canberra**	**33.37 151**	*e*P	**P**	**03 02 27.7**	**+1.3**
	comp=Z,85nm,0.8s					
JOW	**Kunigami**	**33.44 357**	*e*P	**P**	**03 02 26.9**	**-0.2**
	comp=Z,52nm,0.7s					
TRTT	**Trang**	**33.50 295**	P	**P**	**03 02 31.4**	**+3.6**
	comp=Z,17nm,1.1s,comp=Z,716nm					
CNB	**Canberra Magne**	**33.54 151**	P	**P**	**03 02 29.9**	**+2.0**
	baz=34,SNR=19					
TOO	**Toolangi**	**33.75 158**	P	**P**	**03 02 32.2**	**+2.5**
	baz=34,SNR=7.9					
TOO	**Toolangi**	**33.75 158**	P	**P**	**03 02 32.5**	**+2.8**
TOO			pmax	pmax		
	comp=Z,26nm,1.7s					
KRAB	**Krabi**	**34.11 295**	P	P	03 02 41.3	+8.3
LHMI	**Lhok Sumawe**	**35.05 289**	*e*P	**P**	**03 02 41.7**	**+0.5**
	comp=Z,84nm,0.7s					
CHAI	**Chaiyaphum**	**35.71 309**	P	**P**	**03 02 46.9**	**+0.2**
	comp=Z,4.7nm,0.6s					
NONG	**Nongkai**	**36.20 313**	P	**P**	**03 02 49.7**	**-1.1**
	comp=Z,172nm,1.0s,comp=Z,9μm					
SRDT	**SRDT**	**37.11 305**	P	**P**	**03 02 59.5**	**+0.9**
	comp=Z,78nm,0.9s					
UTHA	**Uthaitani**	**37.51 306**	P	**P**	**03 03 02.5**	**+0.5**
	comp=Z,13nm,0.8s,comp=Z,101nm					
UTTA	**Uttaradit**	**37.91 310**	P	**P**	**03 03 05.3**	**-0.1**
	comp=Z,8.3nm,0.8s					
DZM	**Mont Dzumac**	**38.32 117**	*e*P	**P**	**03 03 09.3**	**+0.4**
	comp=Z,12nm,0.6s					
MOO	**Moorlands**	**38.66 159**	P	**P**	**03 03 14.0**	**+2.7**
	baz=39,SNR=9.6					
LAMP	**Lampang**	**39.08 311**	P	**P**	**03 03 16.5**	**+1.4**
	comp=Z,6.2nm,0.7s					
CMAR	**Chiang Mai Arr**	**39.56 310**	P	**P**	**03 03 19.2**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=141,slow=7.6,SNR=39					
CMAR			PcP	**PcP**	**03 05 25.6**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=163,slow=3.2,SNR=8.7					
CMAR			ScP	**ScP**	**03 09 01.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=152,slow=3.3,SNR=7.3					
JNU	**Nakatsue**	**39.68 1**	P	**P**	**03 03 19.1**	**-0.9**
	comp=Z,13nm,0.7s,baz=224,slow=3.0,SNR=10					
CHTO	**Chiang Mai**	**39.77 310**	P	**P**	**03 03 21.0**	**+0.1**
	comp=Z,92nm,0.7s					
CHTO	**Chiang Mai**	**39.77 310**	*e*P	**P**	**03 03 21.1**	**+0.1**
CHTO			*e*		03 05 25.6	
CHTO			pmax	pmax		
	comp=Z,14nm,0.8s					
CHTO	**Chiang Mai**	**39.77 310**	*e*P	**P**	**03 03 21.1**	**+0.2**
	comp=Z,14nm,0.8s					
CHTO			*e*PcP	**PcP**	**03 05 25.6**	**+0.5**
GYA	**Guiyang**	**40.03 327**	*e*P	**P**	**03 03 23.3**	**+0.3**
GYA			pP	pP	03 03 51.0	+1.1
GYA			sP	sP	03 04 05.4	+2.0
GYA			PP	**PnPn**	**03 05 02.8**	**+0.7**
GYA			PcP	**PcP**	**03 05 28.3**	**+2.4**
GYA			ScP	**ScP**	**03 09 05.0**	**+0.9**
GYA			S	**S**	**03 09 23.4**	**+3.1**
GYA			pmax	pmax		
	comp=Z,20nm,0.7s					
GYA			pmax	pmax		
	comp=Z,120nm,5.2s					
NJ2	**Nanjing**	**40.03 345**	*e*P	**P**	**03 03 23.8**	**+1.0**
NJ2			pmax	pmax		
	comp=Z,27nm,0.7s					
KMI	**Kunming**	**41.32 321**	P	**P**	**03 03 35.0**	**+1.2**
KMI			pmax	pmax		
	comp=Z,19nm,1.0s					
ENH	**Enshi**	**41.75 333**	*e*P	**P**	**03 03 35.9**	**-1.1**
MJAR	**Matsushiro Art**	**43.77 10**	P	**P**	**03 03 51.5**	**-1.7**
	comp=Z,18nm,0.7s,baz=186,slow=9.3,SNR=56					
MJAR			ScP	**ScP**	**03 09 16.8**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=182,slow=5.2,SNR=7.3					
MJAR			LR	LR	03 19 27.7	
	comp=Z,46nm,20.6s,baz=175,slow=32					
MAJO	**Matsushiro**	**43.77 10**	*de*P	**P**	**03 03 51.2**	**-2.0**
MAJO			pmax	pmax		
	comp=Z,152nm,0.8s					
MAJO	**Matsushiro**	**43.77 10**	*e*P	**P**	**03 03 51.7**	**-1.5**
	comp=Z,32nm,0.7s					
MJB9	**Matsu-Tunnel**	**43.77 10**	*e*P	**P**	**03 03 51.7**	**-1.5**
	comp=Z,8.1nm,0.7s					
KS15	**Wonju Array Si**	**44.02 358**	*e*P	**P**	**03 03 55.5**	**+0.3**
KSAR	**Wonju Array Be**	**44.02 358**	P	**P**	**03 03 55.2**	**0.0**
KSAR	**Wonju Array Be**	**44.02 358**	P	**P**	**03 03 55.2**	**0.0**
KSAR			ScP	**ScP**	**03 09 18.1**	**-1.5**
KSRS	**Korea Array**	**44.03 358**	P	**P**	**03 03 55.2**	**0.0**
	comp=Z,6.8nm,0.6s,baz=174,slow=9.0,SNR=17					
KSRS			ScP	**ScP**	**03 09 18.1**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=2.7,slow=34,SNR=4.0					
KSRS			LR	LR	03 20 45.4	
	comp=Z,37nm,21.5s,baz=131,slow=34					
CD2	**Chengdu**	**45.09 328**	*e*P	**P**	**03 04 05.0**	**+1.1**
XAN	**Xi'an**	**45.22 335**	P	**P**	**03 04 04.0**	**-0.8**
XAN			pmax	pmax		
	comp=Z,17nm,0.8s					
XAN			pmax	pmax		
	comp=Z,130nm,4.9s					
BJT	**Baijiatuau**	**48.27 346**	*e*P	**P**	**03 04 27.9**	**-0.5**
BJT			pmax	pmax		
	comp=Z,9.0nm,0.5s					
BJT	**Baijiatuau**	**48.27 346**	*e*P	**P**	**03 04 27.9**	**-0.5**
	comp=Z,8.9nm,0.5s					
BJI	**Beijing**	**48.29 346**	P	**P**	**03 04 28.0**	**-0.5**
BJI			pmax	pmax		
	comp=Z,22nm,0.6s					
BJI			pmax	pmax		
	comp=Z,150nm,6.4s					
LZH	**Lanzhou**	**49.19 332**	*e*P	**P**	**03 04 36.3**	**+0.6**
LZH			pP	pP	03 05 03.3	-0.2
LZH			sP	sP	03 05 14.8	-1.9
LZH			PcP	**PcP**	**03 05 58.5**	**+1.3**
LZH			PP	**PP**	**03 06 32.0**	**+1.3**
LZH			*e*S	**S**	**03 11 29.4**	**-3.1**
LZH			pmax	pmax		
	comp=Z,22nm,1.0s					
LZH			pmax	pmax		
	comp=Z,60nm,4.6s					
HHC	**Hu-ho-hao-te**	**50.32 342**	*e*P	**P**	**03 04 47.8**	**+3.7**
HHC			pmax	pmax		
	comp=Z,14nm,0.9s					
HHC			pmax	pmax		
	comp=Z,82nm,5.3s					
CN2	**Changchun**	**50.50 356**	‖P	**P**	**03 04 49.6**	**+4.3**
CN2			*e*sP	sP	03 05 30.0	+3.6
CN2			*e*S	**S**	**03 11 54.8**	**+4.7**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
USRK	**Ussuriysk Ar.**	**50.77 2**	P	**P**	**03 04 47.1**	**-0.1**
	comp=Z,9.8nm,0.7s,baz=188,slow=7.7,SNR=23					
USRK			ScP	**ScP**	**03 09 46.0**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=196,slow=3.6,SNR=4.9					
WHZ	**Wether Hill Ro**	**50.91 146**	*e*P	**P**	**03 04 48.8**	**+0.5**
	comp=Z,41nm,0.8s					
PALK	**Pallekele**	**51.09 285**	*e*P	**P**	**03 04 52.3**	**+2.0**
PALK			pmax	pmax		
	comp=Z,14nm,0.9s					
PALK	**Pallekele**	**51.09 285**	*e*P	**P**	**03 04 52.3**	**+2.0**
	comp=Z,14nm,0.9s					
MDJ	**Mudanjiang**	**51.15 360**	P	**P**	**03 04 50.3**	**+0.2**
MDJ			PP	**PP**	**03 06 49.8**	**+1.7**
MDJ			S	**S**	**03 11 58.5**	**-0.6**
MDJ			SS	**SS**	**03 15 34.6**	**-1.5**
MDJ			pmax	pmax		
	comp=Z,17nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,63nm,4.7s					
MDJ	**Mudanjiang**	**51.15 360**	*e*P	**P**	**03 04 49.7**	**-0.4**
	comp=Z,8.4nm,0.6s					
LBZ	**Lake Benmore**	**51.29 144**	*e*P	**P**	**03 04 51.4**	**+0.1**
	comp=Z,37nm,0.8s					
RPZ	**Rata Peaks**	**51.43 142**	*e*P	**P**	**03 04 54.0**	**+1.7**
	comp=Z,53nm,0.8s					
THZ	**Tophouse**	**51.56 139**	*e*P	**P**	**03 04 52.6**	**-0.8**
	comp=Z,125nm,1.7s					
ASAJ	**Asahikawa**	**51.92 12**	P	**P**	**03 04 55.4**	**-0.5**
	comp=Z,6.9nm,0.5s,baz=232,slow=11,SNR=10					
ASAJ	**Asahikawa**	**51.92 12**	*e*P	**P**	**03 04 55.6**	**-0.3**
	comp=Z,9.1nm,0.6s					
BKZ	**Black Stump Fm**	**52.78 135**	*e*P	**P**	**03 05 03.2**	**+0.8**
	comp=Z,26nm,0.7s					
ODAN	**Odare**	**53.09 311**	*e*P	**P**	**03 05 05.0**	**-0.1**
TAPN	**Taplejung**	**53.11 312**	*e*P	**P**	**03 05 04.1**	**-1.3**
RAMN	**Ramite**	**53.73 311**	*e*P	**P**	**03 05 09.6**	**-0.2**
	comp=Z,73nm,0.5s					
GTA	**Gaotai**	**53.76 331**	P	**P**	**03 05 10.1**	**+0.4**
GTA			pP	pP	03 05 35.8	-2.0
GTA			sP	sP	03 05 48.5	-2.5
GTA			ScP	**ScP**	**03 10 00.0**	**-1.3**
GTA			S	**S**	**03 12 35.8**	**+0.7**
GTA			sS	sS	03 13 22.9	-0.8
GTA			SS	**SS**	**03 16 18.6**	**+0.8**
GTA			pmax	pmax		
	comp=Z,10.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,58nm,5.3s					
GTA			LR	LR		
	comp=Z,130nm,22.8s					
GTA			LR	LR		
	comp=Z,250nm,22.8s					
GTA			LR	LR		
	comp=Z,79nm,18.5s					
JIRN	**Jiri**	**54.41 311**	*e*P	**P**	**03 05 14.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**54.68 11**	‖*e*P	**P**	**03 05 14.4**	**-1.6**
YSS			pmax	pmax		
	comp=Z,10.0nm,1.0s					
YSS	**Yuzh-Sakhalins**	**54.68 11**	*e*P	**P**	**03 05 15.3**	**-0.6**
GUN	**Gumba**	**54.78 311**	*e*P	**P**	**03 05 16.8**	**-0.7**
	comp=Z,25nm,0.4s					
PKIN	**Phulchoki**	**54.97 310**	*e*P	**P**	**03 05 17.7**	**-1.1**
	comp=Z,15nm,0.4s					
KKN	**Kakani**	**55.17 311**	*e*P	**P**	**03 05 19.5**	**-0.7**
	comp=Z,12nm,0.4s					
DMN	**Daman**	**55.20 310**	*e*P	**P**	**03 05 19.5**	**-1.0**
GKN	**Gorkha**	**55.76 310**	*e*P	**P**	**03 05 23.7**	**-0.7**
HYB	**Hyderabad**	**56.19 296**	*i* P	**P**	**03 05 26.0**	**-1.4**
HYB			*e*		03 05 30.0	
KOLN	**Koldanda**	**56.43 310**	*e*P	**P**	**03 05 28.7**	**-0.5**
	comp=Z,21nm,0.7s					
DGAR	**Diego Garcia**	**57.05 266**	‖*e*P	**P**	**03 05 31.7**	**-1.8**
PYUN	**Piuthan**	**57.06 310**	*e*P	**P**	**03 05 33.2**	**-0.5**
	comp=Z,53nm,0.8s					
ULN	**Ulaanbaatar**	**58.04 342**	*ce*P	**P**	**03 05 40.1**	**+0.1**
ULN			pmax	pmax		
	comp=Z,7.0nm,0.6s					
ULN	**Ulaanbaatar**	**58.04 342**	*e*P	**P**	**03 05 40.3**	**+0.3**
	comp=Z,5.4nm,0.6s					
SONM	**Songino Array**	**58.22 342**	P	**P**	**03 05 41.8**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=156,slow=5.9,SNR=11					
TYV	**Tymovskoe**	**58.44 9**	*e*P	P	03 05 52.5	+10
TYV			pmax	pmax		
	comp=Z,900nm,22.0s					
ZAK	**Zakamensk**	**61.44 341**	*e*P	**P**	**03 06 02.0**	**-1.2**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.2s					
WMQ	**Urumqi**	**63.19 327**	P	**P**	**03 06 15.8**	**+0.8**
WMQ			PcP	**PcP**	**03 06 53.1**	**+1.7**
WMQ			sP	sP	03 06 58.8	+1.9
WMQ			pmax	pmax		
	comp=Z,31nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,110nm,4.1s					
WMQ			LR	LR		
	comp=Z,170nm,32.3s					
WMQ			LR	LR		
	comp=Z,160nm,28.5s					
WMQ			LR	LR		
	comp=Z,50nm,20.9s					
PETK	**Petropavlovsk-**	**64.11 18**	P	**P**	**03 06 21.1**	**+0.3**
	comp=Z,12nm,0.6s,baz=174,slow=4.6,SNR=14					
PETK			LR	LR	03 36 31.1	
	comp=Z,21nm,18.3s,baz=196,slow=38					
PDGK	**Podgornoye**	**67.60 322**	P	**P**	**03 06 43.9**	**+0.4**
PDGK			pmax	pmax		
	comp=Z,11nm,1.0s					
KSH	**Kashi**	**67.83 317**	*e*P	**P**	**03 06 45.4**	**+0.4**
KSH			PcP	**PcP**	**03 07 11.8**	**+1.0**
KSH			pP	pP	03 07 14.4	0.0
KSH			sP	sP	03 07 26.9	-0.3
KSH			*e*PP	**PP**	**03 09 19.4**	**+3.2**
KSH			PcS		03 11 09.1	
KSH			S	**S**	**03 15 29.0**	**-5.0**
KSH			ScS	**SKiKP**	**03 16 25.1**	**-4.9**
KSH			pmax	pmax		
	comp=Z,11nm,0.5s					
KSH			pmax	pmax		
	comp=Z,77nm,4.9s					
KSH			LR	LR		
	comp=Z,100nm,6.7s					
KSH			LR	LR		
	comp=Z,76nm,6.7s					
KSH			LR	LR		
	comp=Z,170nm,6.0s					
MK31	**Makanchi Array**	**68.02 327**	*e*P	**P**	**03 06 45.4**	**-0.5**
MK31			pmax	pmax		
	comp=Z,32nm,0.9s					
MK31	**Makanchi Array**	**68.02 327**	*e*P	**P**	**03 06 46.2**	**+0.3**
MKAR	**Makanchi Array**	**68.02 327**	P	**P**	**03 06 46.2**	**+0.3**
	comp=Z,29nm,0.8s,baz=124,slow=7.9,SNR=117					
MKAR			S	**S**	**03 15 33.2**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=119,slow=12,SNR=3.6					
MKAR	**Makanchi Array**	**68.02 327**	*e*P	**P**	**03 06 46.2**	**+0.3**
	comp=Z,162nm,0.9s					
MKAR			S	**S**	**03 15 33.2**	**-2.5**
MAKZ	**Makanchi**	**68.20 327**	*e*P	**P**	**03 06 47.5**	**+0.5**
MAKZ			pmax	pmax		
	comp=Z,34nm,1.0s					
MAKZ	**Makanchi**	**68.20 327**	*e*P	**P**	**03 06 47.5**	**+0.5**
	comp=Z,34nm,1.0s					
YAK	**Yakutsk**	**68.60 360**	P	**P**	**03 06 48.9**	**-0.2**
	comp=Z,43nm,0.6s,baz=155,slow=1.0,SNR=5.8					
YAK	**Yakutsk**	**68.60 360**	*e*P	**P**	**03 06 48.6**	**-0.5**
YAK	**Yakutsk**	**68.60 360**	*e*P	**P**	**03 06 48.8**	**-0.3**
	comp=Z,38nm,0.6s					
AAK	**Ala-Archa**	**70.35 320**	LR	LR	03 41 36.7	
	comp=Z,20nm,19.8s,baz=90,slow=39					
AAK	**Ala-Archa**	**70.35 320**	*c i*P	**P**	**03 07 00.9**	**+0.3**
AAK			pmax	pmax		
	comp=Z,12nm,0.6s					
AAK	**Ala-Archa**	**70.35 320**	*e*P	**P**	**03 07 01.3**	**+0.8**
	comp=Z,24nm,1.1s					
AAK	**Ala-Archa**	**70.35 320**	P	**P**	**03 07 01.3**	**+0.8**
	SNR=9.2					
AAK	**Ala-Archa**	**70.35 320**	P	**P**	**03 07 01.3**	**+0.8**
	SNR=9.2					
KBL	**Kabul**	**70.59 310**	*e*P	**P**	**03 07 03.0**	**+0.7**
KBL			pmax	pmax		
	comp=Z,9.0nm,0.8s					
KBL	**Kabul**	**70.59 310**	*e*P	**P**	**03 07 03.0**	**+0.7**
	comp=Z,8.6nm,0.8s					
MRIV	**Mauritius Mete**	**71.27 251**	*e*P	**P**	**03 07 07.5**	**+1.0**
ZAA0	**Zalesovo Array**	**71.37 334**	*e*P	**P**	**03 07 05.5**	**-0.7**
ZALV	**Zalesovo Beam**	**71.37 334**	P	**P**	**03 07 05.1**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=127,slow=4.9,SNR=16					
ZALV			S	**S**	**03 16 09.5**	**-5.1**
	comp=Z,1.2nm,0.9s,baz=164,slow=7.6,SNR=5.2					
MNAS	**Manas**	**71.56 319**	P	**P**	**03 07 08.4**	**+0.5**
MNAS			pmax	pmax		
	comp=Z,25nm,1.0s					
SEY	**Seymchan**	**71.59 11**	P	**P**	**03 07 07.9**	**+0.6**
	comp=Z,9.0nm,0.7s,baz=205,slow=3.3,SNR=14					
SEY	**Seymchan**	**71.59 11**	‖*e*P	**P**	**03 07 07.4**	**+0.1**
KURBB	**Kurchatov Arra**	**72.30 328**	S	**S**	**03 16 17.4**	**-8.0**
	comp=Z,0.5nm,0.8s,baz=140,slow=12,SNR=5.6					
KURK	**Kurchatov**	**72.31 329**	*c i*P	**P**	**03 07 11.7**	**-0.2**
KURK			*i* *PP	**pP**	**03 07 39.9**	**-1.7**
KURK			pmax	pmax		
	comp=Z,74nm,1.2s					
KURK	**Kurchatov**	**72.31 329**	*e*P	**P**	**03 07 11.9**	**-0.1**
	comp=Z,39nm,1.0s					
KURK			*e*pP	**pP**	**03 07 39.8**	**-1.8**
KURK			S	**S**	**03 16 17.4**	**-8.1**
KURK	**Kurchatov**	**72.31 329**	P	**P**	**03 07 11.8**	**-0.1**
	SNR=10					
KURK	**Kurchatov**	**72.31 329**	P	**P**	**03 07 11.8**	**-0.1**
	SNR=10					
DZET	**Dzherino**	**72.46 314**	P	**P**	**03 07 12.4**	**-0.9**
DZET			pmax	pmax		
	comp=Z,34nm,1.2s					
NVS	**Novosibirsk**	**72.65 334**	*e*P	**P**	**03 07 12.6**	**-1.3**
VNDA	**Vanda**	**72.68 173**	P	**P**	**03 07 14.7**	**+1.0**
	comp=Z,17nm,0.8s,baz=320,slow=6.5,SNR=93					
VNDA			LR	LR	03 37 14.6	
	comp=Z,61nm,21.4s,baz=341,slow=34					
VNDA	**Vanda**	**72.68 173**	*e*P	**P**	**03 07 14.7**	**+1.0**
	comp=Z,19nm,0.9s					
RER	**Riviere de l'E**	**72.90 250**	*e*P	**P**	**03 07 17.4**	**+1.2**
	comp=Z,110nm,0.8s					
KK31	**Karatay Array**	**73.15 319**	P	**P**	**03 07 16.8**	**-0.3**
KK31			pmax	pmax		
	comp=Z,20nm,1.2s					
KKAR	**Karatay Array**	**73.15 319**	*e*P	**P**	**03 07 17.4**	**+0.2**
KKAR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KKAR	**Karatay Array**	**73.15 319**	*e*P	**P**	**03 07 17.4**	**+0.2**
	comp=Z,9.8nm,0.8s					
SBA	**Scott Base**	**73.56 172**	*e*P	**P**	**03 07 20.6**	**+1.7**
SBA			pmax	pmax		
	comp=Z,14nm,0.9s					
SBA	**Scott Base**	**73.56 172**	*e*P	**P**	**03 07 20.6**	**+1.7**
	comp=Z,14nm,0.9s					
MAW	**Mawson**	**75.15 201**	P	**P**	**03 07 29.9**	**+1.6**
	comp=Z,33nm,0.7s,baz=74,slow=6.5,SNR=89					
MAW			LR	LR	03 39 27.3	
	comp=Z,44nm,18.2s,baz=64,slow=35					
MAW	**Mawson**	**75.15 201**	*e*P	**P**	**03 07 29.8**	**+1.5**

SVE					pmax	pmax		
	comp=Z,18nm,1.2s							
ARU	**Arti**	**85.50**	**328**	*c iP*		**P**	**03 08 23.0**	**-0.8**
ARU					*PP	**pP**	**03 08 50.9**	**-3.4**
ARU							03 11 38.5	
ARU					S	**S**	**03 18 37.3**	**-8.0**
ARU					SS	**SS**	**03 24 25.9**	**+2.3**
ARU					pmax	pmax		
	comp=Z,12nm,1.2s							
ARU	**Arti**	**85.50**	**328**	*eP*		**P**	**03 08 23.1**	**-0.6**
	comp=Z,9.2nm,1.0s							
DAMY	**Dhamar**	**87.43**	**285**	*eP*		**P**	**03 08 35.8**	**+1.3**
RAYN	**Ar Rayn**	**87.63**	**294**	*eP*		**P**	**03 08 35.2**	**+0.2**
	comp=Z,33nm,0.7s							
ZEI	**Tsey**	**91.67**	**313**	*eP*		**P**	**03 08 52.9**	**-0.8**
ZEI					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MCK	**McKinley**	**92.09**	**26**	*eP*		**P**	**03 08 54.2**	**-0.7**
MCK	**McKinley**	**92.09**	**26**	*eP*		**P**	**03 08 54.2**	**-0.7**
KMBO	**Kilima Mbogo**	**92.57**	**269**		P	**P**	**03 08 59.5**	**+0.9**
	comp=Z,4.7nm,1.0s,baz=52,slow=7.7,SNR=9.3							
KIV	**Kislovodsk**	**92.70**	**314**	*eP*		**P**	**03 08 59.6**	**+1.4**
KIV					pmax	pmax		
	comp=Z,3.0nm,1.0s							
CCB	**Clear Creek Bu**	**92.74**	**25**	*eP*		**P**	**03 08 57.1**	**-0.7**
ILAR	**Eielson Array**	**93.15**	**25**		P	**P**	**03 08 58.4**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=279,slow=4.3,SNR=16							
ILAR					PKKP	**PKKPdf**	**03 26 08.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=315,slow=0.5,SNR=12							
ILAR					LR	LR	03 53 12.3	
	comp=Z,24nm,18.1s,baz=184,slow=37							
SNAA	**Sanae**	**95.88**	**193**	*cP*		**P**	**03 09 13.0**	**+0.7**
SNAA	**Sanae**	**95.88**	**193**	*eP*		**P**	**03 09 13.2**	**+0.9**
DAWY	**Dawson**	**96.32**	**26**	*eP*		**P**	**03 09 15.1**	**+0.8**
ANN	**Anapa**	**96.52**	**314**	*eP*		**P**	**03 09 19.1**	**+3.5**
VNA2	**Neumayer--Watz**	**97.45**	**193**		P	**P**	**03 09 18.0**	**-1.2**
	baz=257,slow=8.6							
OBN	**Obninsk**	**97.45**	**325**	*eP*		**P**	**03 09 17.6**	**-1.9**
OBN				*e*			03 13 18.4	
OBN					pmax	pmax		
	comp=Z,5.0nm,0.9s							
VNA1	**Neumayer--Stat**	**97.84**	**193**		P	**P**	**03 09 20.3**	**-0.8**
BRTR	**Keskin Array B**	**99.15**	**309**		P	**Pdif**	**03 09 26.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=116,slow=8.5,SNR=5.6							
FINES	**FINESS Array B**	**102.55**	**331**		PKiKP	**PKiKP**	**03 14 02.4**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=123,slow=5.1,SNR=5.5							
YKA	**Yellowknife Ar**	**107.56**	**26**		PKKPbc	PKKPbc	03 25 26.4	-3.0
	comp=Z,2.7nm,0.8s,baz=103,slow=2.2,SNR=3.6							
GERES	**GERESS Array B**	**112.23**	**320**		PKiKP	**PKiKP**	**03 14 21.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=66,slow=2.5,SNR=14							
GERES	**GERESS Array B**	**112.23**	**320**	*i*	PKIKP	**PKiKP**	**03 14 21.0**	**-0.3**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
HLID	**Hailey**	**113.11**	**45**		P	**PKiKP**	**03 14 23.6**	**+0.4**
	baz=283							
BELC	**Belle Mtn. Jos**	**113.65**	**56**		P	**PKiKP**	**03 14 25.6**	**+1.1**
	baz=278							
IRM	**Iron Mountain**	**114.33**	**56**		P	PKPdf	03 14 27.1	+1.4
	baz=279							
EGMT	**Eagleton**	**115.02**	**40**		P	PKPdf	03 14 26.8	+0.1
	baz=289							
SNOW	**Snow King Moun**	**115.71**	**45**	*e*	PKPdf	**PKPdf**	**03 14 29.3**	**+1.0**
BW06	**Boulder Array**	**116.75**	**45**		P	**PKPdf**	**03 14 29.4**	**-0.9**
	baz=287							
PDAR	**Pinedale Array**	**116.75**	**45**		PKP	**PKPdf**	**03 14 30.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=75,slow=1.7,SNR=8.7							
PDAR					SKP		03 17 53.6	
	comp=Z,0.5nm,0.7s,baz=329,slow=2.6,SNR=4.9							
PDAR					PKKPbc	**PKKPbc**	**03 24 57.1**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=101,slow=4.4,SNR=7.9							
WUAZ	**Wupatki**	**117.14**	**54**		P	**PKPdf**	**03 14 30.9**	**-0.3**
	baz=282							
LAO	**LASA Array**	**117.73**	**40**		P	**PKPdf**	**03 14 31.8**	**-0.1**
	baz=291							
TUC	**Tucson**	**118.24**	**57**		P	**PKPdf**	**03 14 32.8**	**-0.5**
	baz=280							
DGMT	**Dagmar**	**118.31**	**38**		P	**PKPdf**	**03 14 31.6**	**-1.3**
	baz=294							
O20A	**White River Ci**	**118.44**	**48**		P	**PKPdf**	**03 14 33.8**	**+0.2**
	baz=286							
K22A	**Casper**	**118.91**	**45**		P	**PKPdf**	**03 14 33.7**	**-0.7**
	baz=289							
RSSD	**Black Hills**	**120.10**	**42**		P	**PKPdf**	**03 14 35.8**	**-0.9**
	baz=292							
S22A	**4UR Ranch, Cre**	**120.16**	**50**		P	**PKPdf**	**03 14 36.9**	**-0.3**
	baz=286							
121A	**Cookes Peak, D**	**120.68**	**56**		P	**PKPdf**	**03 14 38.7**	**+0.6**
	baz=282							
SDCO	**Great Sand Dun**	**121.17**	**50**		P	**PKPdf**	**03 14 39.6**	**+0.6**
	baz=287							
ANMO	**Albuquerque**	**121.19**	**53**		PKP	**PKPdf**	**03 14 39.3**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=3.1,slow=6.0,SNR=5.0							
ANMO					SKP		03 18 04.2	
	comp=Z,1.0nm,0.8s,baz=341,slow=5.2,SNR=3.6							
ANMO	**Albuquerque**	**121.19**	**53**		P	**PKPdf**	**03 14 38.6**	**-0.5**
	baz=285							
ANMO	**Albuquerque**	**121.19**	**53**	*i*	PKIKP	**PKPdf**	**03 14 38.9**	**-0.1**
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.7s							
ANMO	**Albuquerque**	**121.19**	**53**	*e*	PKPdf	**PKPdf**	**03 14 39.0**	**-0.1**
ANMO					SKP		03 18 04.2	
T25A	**Trinidad**	**122.18**	**50**		P	**PKPdf**	**03 14 41.2**	**+0.3**
	baz=288							
B31A	**Greenbush Farm**	**122.22**	**36**		P	**PKPdf**	**03 14 39.9**	**-0.4**
	baz=300							
ULM	**Lac du Bonnet**	**122.27**	**33**		PKP	**PKPdf**	**03 14 39.6**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=340,slow=2.8,SNR=7.7							
C31A	**Landman Farms,**	**122.49**	**36**		P	**PKPdf**	**03 14 40.4**	**-0.5**
	baz=300							
MNTX	**Cornudas Mount**	**122.85**	**57**		P	**PKPdf**	**03 14 41.8**	**-0.3**
	baz=284							
MNTX	**Cornudas Mount**	**122.85**	**57**	*e*	PKPdf	**PKPdf**	**03 14 42.3**	**+0.2**
B34A	**Aery, Baudette**	**123.90**	**34**		P	**PKPdf**	**03 14 42.5**	**-1.0**
	baz=303							
D33A	**AnnSam, Waubun**	**123.92**	**36**		P	**PKPdf**	**03 14 42.6**	**-1.1**
	baz=301							
TAM	**Tamanrasset**	**124.30**	**293**	*e*	PKIKP	**PKPdf**	**03 14 46.0**	**+0.7**
TAM	**Tamanrasset**	**124.30**	**293**	*e*	PKPdf	**PKPdf**	**03 14 46.0**	**+0.7**
F33A	**5 Mile Ranch,**	**124.31**	**38**		P	**PKPdf**	**03 14 43.8**	**-0.7**
	baz=300							
D34A	**Park Rapids**	**124.33**	**36**		P	**PKPdf**	**03 14 43.8**	**-0.7**
	baz=302							
B35A	**Bob, Littlefor**	**124.48**	**34**		P	**PKPdf**	**03 14 44.1**	**-0.6**
	baz=304							
K32A	**Verdigre**	**124.73**	**42**		P	**PKPdf**	**03 14 44.9**	**-0.5**
	baz=296							
TXAR	**Lajitas Array**	**124.83**	**59**		PKP	**PKPdf**	**03 14 46.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=173,slow=2.5,SNR=8.4							
TXAR					PKKPbc	**PKKPbc**	**03 24 27.7**	**0.0**
	comp=Z,0.5nm,0.8s,baz=104,slow=5.3,SNR=5.6							
D35A	**Remer**	**125.00**	**35**		P	**PKPdf**	**03 14 45.1**	**-0.6**
	baz=303							
E35A	**Pequot Lakes**	**125.07**	**36**		P	**PKPdf**	**03 14 45.0**	**-0.9**
	baz=302							
ECSD	**EROS Data Cent**	**125.13**	**40**		P	**PKPdf**	**03 14 45.3**	**-0.8**
	baz=298							
H34A	**Spellman Lake,**	**125.21**	**39**		P	**PKPdf**	**03 14 46.4**	**+0.2**
	baz=300							
M33A	**Taylor Creek F**	**125.73**	**43**		P	**PKPdf**	**03 14 46.2**	**-1.2**
	baz=296							
E36A	**McGregor**	**125.76**	**36**		P	**PKPdf**	**03 14 46.6**	**-0.6**
	baz=303							
J34A	**George**	**125.76**	**40**		P	**PKPdf**	**03 14 47.0**	**-0.3**
	baz=298							
D37A	**Cotton**	**125.88**	**35**		P	**PKPdf**	**03 14 47.2**	**-0.2**
	baz=304							
F36A	**Milaca**	**125.96**	**36**		P	**PKPdf**	**03 14 47.1**	**-0.5**
	baz=302							
O33A	**Hebron**	**126.11**	**44**		P	**PKPdf**	**03 14 48.1**	**0.0**
	baz=295							
P34A	**Walnut Farm, R**	**126.86**	**45**		P	**PKPdf**	**03 14 49.5**	**0.0**
	baz=295							
K36A	**Gilmore City**	**127.04**	**40**		P	**PKPdf**	**03 14 50.0**	**+0.3**
	baz=300							
R34A	**Isabella, Hill**	**127.08**	**46**		P	**PKPdf**	**03 14 50.2**	**+0.2**
	baz=294							
WMOK	**Wichita Mounta**	**127.28**	**51**		P	**PKPdf**	**03 14 50.7**	**+0.2**
	baz=290							
E40A	**Wakefield**	**127.71**	**34**		P	**PKPdf**	**03 14 51.6**	**+0.6**
	baz=306							
JCT	**Junction City**	**127.79**	**57**	*e*	PKIKP	**PKPdf**	**03 14 52.4**	**+0.8**
JCT	**Junction City**	**127.79**	**57**	*e*	PKPdf	**PKPdf**	**03 14 52.4**	**+0.8**
U35A	**Pawnee**	**128.23**	**48**		P	**PKPdf**	**03 14 53.0**	**+0.8**
	baz=293							
R36A	**Gordon, Harris**	**128.32**	**46**		P	**PKPdf**	**03 14 51.7**	**-0.7**
	baz=296							
J39A	**Decorah**	**128.41**	**38**		P	**PKPdf**	**03 14 51.8**	**-0.5**
	baz=303							
TORD	**Torodi Ar. Bea**	**128.74**	**281**		PKP	**PKPdf**	**03 14 53.6**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=83,slow=2.0,SNR=21							
TORD					SKPbc	SKPbc	03 17 59.6	
	comp=Z,2.4nm,0.9s,baz=73,slow=2.7,SNR=6.7							
R37A	**Teagarden Farm**	**128.80**	**45**		P	**PKPdf**	**03 14 53.1**	**-0.2**
	baz=296							
S37A	**Fort Scott**	**129.04**	**46**		P	**PKPdf**	**03 14 54.1**	**+0.4**
	baz=296							
PLCA	**Paso Flores**	**129.10**	**160**		PKP	**PKPdf**	**03 14 54.7**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=349,slow=3.6,SNR=7.1							
PLCA					SKPbc	SKPab	03 18 02.8	-0.6
	comp=Z,2.1nm,0.7s,baz=185,slow=4.3,SNR=4.5							
P38A	**Dawn**	**129.10**	**43**		P	**PKPdf**	**03 14 53.8**	**+0.1**
	baz=298							
X36A	**Centrahoma**	**129.20**	**50**		P	**PKPdf**	**03 14 54.4**	**+0.2**
	baz=292							
R39A	**Chumby, Stover**	**130.06**	**45**		P	**PKPdf**	**03 14 55.1**	**-0.5**
	baz=298							
S39A	**Bolivar**	**130.14**	**45**		P	**PKPdf**	**03 14 54.9**	**-0.9**
	baz=297							
V38A	**Canehill**	**130.16**	**48**		P	**PKPdf**	**03 14 56.2**	**+0.3**
	baz=295							
SCHQ	**Schefferville**	**130.21**	**13**		SKPbc	**SKPab**	**03 18 06.1**	**-1.5**
	comp=Z,21nm,0.8s,baz=349,slow=3.2,SNR=11							
R40A	**Maddies Statio**	**130.60**	**44**		P	**PKPdf**	**03 14 56.2**	**-0.5**
	baz=298							
U39A	**Green Forest**	**130.61**	**47**		P	**PKPdf**	**03 14 56.4**	**-0.4**
	baz=296							
O41A	**Passleys Farm,**	**130.63**	**41**		P	**PKPdf**	**03 14 56.5**	**-0.2**
	baz=301							
S40A	**Lebanon**	**130.76**	**45**		P	**PKPdf**	**03 14 56.9**	**-0.1**
	baz=298							
T40A	**Mansfield**	**130.96**	**46**		P	**PKPdf**	**03 14 57.1**	**-0.3**
	baz=297							
U40A	**Yellville**	**131.08**	**47**		P	**PKPdf**	**03 14 57.9**	**+0.2**
	baz=296							
R41A	**Rosebud**	**131.21**	**44**		P	**PKPdf**	**03 14 57.4**	**-0.4**
	baz=299							
P42A	**Winchester**	**131.26**	**42**		P	**PKPdf**	**03 14 58.0**	**+0.1**
	baz=301							
V40A	**Witts Springs**	**131.34**	**47**		P	**PKPdf**	**03 14 57.9**	**-0.3**
	baz=296							
539A	**Cross D Ranch,**	**132.08**	**55**		P	**PKPdf**	**03 14 59.8**	**+0.1**
	baz=290							
T43A	**Greenville**	**132.56**	**45**		P	**PKPdf**	**03 15 00.1**	**-0.3**
	baz=300							
T44A	**Benton**	**133.04**	**44**		P	**PKPdf**	**03 15 01.3**	**0.0**
	baz=300							
TRQA	**Tornquist**	**134.03**	**167**	*e*	PKPdf	**PKPdf**	**03 15 03.5**	**+0.3**
KIC	**Kosan Boka**	**135.02**	**272**	*e*	PKP2	**PKPdf**	**03 15 06.7**	**+1.0**
	comp=Z,64nm,1.6s							
DBIC	**Dimbokro**	**135.15**	**273**		PKP	**PKPdf**	**03 15 06.7**	**+0.8**
	comp=Z,4.5nm,0.6s,baz=42,slow=1.8,SNR=9.3							
DBIC					SKPbc	**SKPbc**	**03 18 24.2**	**-1.8**
	comp=Z,3.0nm,0.5s,baz=69,slow=4.2,SNR=6.8							
LIC	**Lamto**	**135.30**	**272**	*e*	PKP2	**PKPdf**	**03 15 05.4**	**-0.8**
	comp=Z,56nm,1.1s							
TIC	**Toumodi**	**135.31**	**273**	*e*	PKP2	**PKPdf**	**03 15 06.4**	**+0.2**
LVC	**Limon Verde**	**145.44**	**148**		PKPbc	**PKPab**	**03 15 26.8**	**+1.6**
	baz=241,slow=4.6							
LVC	**Limon Verde**	**145.44**	**148**	*e*	PKPbc	**PKPab**	**03 15 26.3**	**+1.2**
CPUP	**Villa Florida**	**146.34**	**168**		PKPbc	**PKPab**	**03 15 27.8**	**-0.2**
	comp=Z,31nm,0.9s,baz=194,slow=2.5,SNR=27							
CPUP					SKPbc	**SKPbc**	**03 18 54.6**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=164,slow=1.7,SNR=3.5							
NNA	**Nana**	**147.47**	**125**	*i*	PKP2	**PKPab**	**03 15 31.9**	**-0.9**
NNA	**Nana**	**147.47**	**125**	*e*	PKPbc	**PKPbc**	**03 15 31.4**	**+0.7**
BCIP	**Isla Barro Col**	**150.39**	**83**	*eP*		**PKPbc**	**03 15 37.2**	**-0.7**
BCIP	**Isla Barro Col**	**150.39**	**83**	*e*	PKPbc	**PKPbc**	**03 15 37.7**	**-0.2**
OTAV	**Otavalo**	**150.91**	**102**	*eP*		**PKPbc**	**03 15 39.8**	**0.0**
OTAV	**Otavalo**	**150.91**	**102**	*e*	PKPbc	**PKPbc**	**03 15 40.0**	**+0.2**
LPAZ	**La Paz**	**150.92**	**142**		PKP	**PKPdf**	**03 15 35.6**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=303,slow=2.1,SNR=9.8							
LPAZ					PKPbc	**PKiKP**	**03 15 41.4**	**+1.0**
	comp=Z,12nm,0.5s,baz=40,slow=3.3,SNR=77							
LPAZ					PKPab	**PKPab**	**03 15 49.6**	**+2.2**
	comp=Z,31nm,0.8s,baz=170,slow=3.3,SNR=24							
CMBC	**Cumbal**	**151.68**	**101**	*eP*		**PKPbc**	**03 15 41.7**	**+0.1**
FLOC	**Florencia**	**153.94**	**100**	*eP*		**PKPbc**	**03 15 46.1**	**+0.1**
GUYC	**Guyana, Colomb**	**154.73**	**92**	*eP*		**PKPbc**	**03 15 49.0**	**+0.8**
SIV	**San Ignacio**	**154.88**	**154**		PKPab	**PKPab**	**03 16 04.8**	**+1.4**
	comp=Z,12nm,0.7s,baz=220,slow=4.9,SNR=17							
RUSC	**La Rusia**	**157.07**	**91**	*eP*		**PKPab**	**03 16 14.4**	**+0.7**
BDFB	**Brasilia**	**157.64**	**185**		PKP	**PKPdf**	**03 15 43.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=16,slow=6.0,SNR=4.7							
BDFB					PKPab	**PKPab**	**03 16 15.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=243,slow=1.9,SNR=3.5							
RCBR	**Riachuelo**	**161.15**	**229**	*e*	PKPab	**PKPab**	**03 16 31.8**	**+1.1**

JMA 21 02:56:20.5±0.3, 44°00N×147°98E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.74**	**249**	P	Pn	02 56 52.3	+0.3
NEM2				*eS*	Sb	02 57 15.5	-0.2
JRA	**Rausu**	**2.06**	**269**	P	Pn	02 56 57.2	+0.8
JRA				*eS*	Sb	02 57 24.1	-0.9
JNK	**Nakash**	**2.40**	**261**	P	Pn	02 57 02.0	+1.0
JAK	**Akkeshi**	**2.59**	**248**	P	Pn	02 57 04.5	+0.9
JAK				*eS*	Sn	02 57 36.9	+1.1
JAR	**Ashorobuto**	**3.14**	**259**	*eS*	Sn	02 57 51.4	+2.1
JOB	**Onbets**	**3.21**	**251**	P	Pn	02 57 13.6	+1.4
JOB				*eS*	Sn	02 57 52.5	+1.4
JCH	**Churui**	**3.64**	**249**	P	Pn	02 57 19.4	+1.3
JCH				*eS*	Sn	02 58 02.0	+0.2
JKB	**Kayabe**	**5.52**	**250**	P	Pn	02 57 45.6	+1.7

NDI 21 03:07:08.6±2.5, 21°12N×70°58E, h10km, ML3.8, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**1.58**	**66**	*eP*	Pn	03 07 37.0	+0.3
BHV				*eS*	Sb	03 07 58.0	-0.1
BHJ	**Bhuj**	**2.29**	**338**	*eP*	Pn	03 07 46.6	+0.1
BHJ				*eS*	Sn	03 08 15.7	+0.9
BOM	**Bombay**	**3.05**	**136**	*eP*	Pn	03 07 50.3	-6.6
BOM				*eS*	Sn	03 08 24.7	-8.7
KAD	**Karad**	**5.09**	**137**	*ex*	Pb	03 08 33.5	-4.4
KAD				*eS*	Sn	03 09 20.2	-3.8
GOA	**Goa**	**6.39**	**151**	*eS*	Sn	03 09 51.6	-4.2
GOA				AML	AML	03 10 29.8	
	comp=N,120nm,0.4s						
GOA				AML	AML	03 10 30.5	
	comp=E,153nm,0.3s						
BHPL	**Bhopal**	**6.68**	**70**	*eS*	Sn	03 09 57.6	-5.6
BHPL				AML	AML	03 10 51.0	
	comp=E,50nm,0.4s						
BHPL				AML	AML	03 10 51.1	
	comp=N,78nm,0.3s						
NGP	**Nagpur**	**7.90**	**88**	*eP*	Pn	03 09 03.3	-0.4
NGP				*ex*	Sn	03 10 35.8	+2.6
HYB	**Hyderabad**	**8.38**	**115**	*eP*	Pb	03 09 40.2	+6.3
HYB				*eS*	Sb	03 11 11.7	-2.1
HYB				AML	AML	03 11 42.6	
	comp=E,46nm,0.3s						
HYB				AML	AML	03 11 42.7	
	comp=N,69nm,0.5s						

*ISCJB **21** 03:13:21.7±0.6, 42°83N±0°03×13°57E±0°04, h13km±7km, Error ellipse: s-maj=5.3km s-min=4.9km az=167.2*
*CSEM **21** 03:13:21.9±0.1, 42°83N×13°57E, h12km, ML2.5/4, Error ellipse: s-maj=2.9km s-min=2.6km az=105.0*
*ROM **21** 03:13:21.8±0.2, 42°81N×13°53E, h21km±2km, Md2.0/7, Ml2.1/4, Error ellipse: s-maj=2.0km s-min=1.0km az=61.0*

ISC 21 03:13:21.9±0.9, 42°82N±0°02×13°58E±0°03, h12km±8km, n19, σ0°55/36, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.20**	**174**	Pg	**Pb**	**03 13 27.1**	**-0.4**
TERO				Sg	**Sb**	**03 13 30.9**	**+1.5**
	275nm,0.2s						
TERO	**Teramo**	**0.20**	**174**	Pg	**Pb**	**03 13 27.1**	**-0.4**
TERO				Sg	**Sb**	**03 13 30.9**	**+1.5**
	275nm,0.2s						
SMA1	**SAN MARTINO**	**0.26**	**223**	⇑*i* Pg	**Pg**	**03 13 27.5**	**+0.1**
SMA1				Sg	**Sg**	**03 13 31.4**	**+0.3**
	224nm,0.3s						
SMA1	**SAN MARTINO**	**0.26**	**223**	⇑*i* Pg	**Pg**	**03 13 27.5**	**+0.1**
SMA1				Sg	**Sg**	**03 13 31.4**	**+0.3**
	224nm,0.3s						
GUMA	**Gualdo di Mace**	**0.36**	**48**	Pg	**Pg**	**03 13 28.7**	**-0.4**
GUMA				Sg	**Sg**	**03 13 33.9**	**0.0**
	274nm,0.4s						
GUMA	**Gualdo di Mace**	**0.36**	**48**	Pg	**Pg**	**03 13 28.7**	**-0.4**
GUMA				Sg	**Sg**	**03 13 33.9**	**0.0**
	274nm,0.4s						
FDMO	**Fiordimonte**	**0.42**	**301**	Pg	**Pg**	**03 13 30.1**	**-0.1**
FDMO				Sg	**Sg**	**03 13 36.2**	**+0.4**
FDMO	**Fiordimonte**	**0.42**	**301**	Pg	**Pg**	**03 13 30.1**	**-0.1**
FDMO				Sg	**Sg**	**03 13 36.2**	**+0.4**
LNSS	**Leonessa**	**0.45**	**241**	Pg	**Pg**	**03 13 30.4**	**-0.4**
LNSS				Sg	**Sg**	**03 13 37.2**	**+0.3**
LNSS	**Leonessa**	**0.45**	**241**	Pg	**Pg**	**03 13 30.4**	**-0.4**
LNSS				Sg	**Sg**	**03 13 37.2**	**+0.3**
T0104	**Madonna delle**	**0.49**	**201**	Pg	**Pg**	**03 13 31.4**	**-0.2**
T0104				Sg	**Sb**	**03 13 39.3**	**-0.4**
CESI	**CESI - Serrava**	**0.53**	**290**	Pg	**Pg**	**03 13 31.9**	**-0.3**
CESI				Sg	**Sb**	**03 13 39.8**	**-0.8**
CESI	**CESI - Serrava**	**0.53**	**290**	Pg	**Pg**	**03 13 31.9**	**-0.3**
CESI				Sg	**Sb**	**03 13 39.8**	**-0.8**
FAGN	**Fagnano**	**0.56**	**179**	Pg	**Pg**	**03 13 32.6**	**-0.2**
FAGN	**Fagnano**	**0.56**	**179**	Pg	**Pg**	**03 13 32.6**	**-0.2**
SNTG	**Esanatoglia**	**0.64**	**313**	Pg	**Pg**	**03 13 33.9**	**-0.4**
SNTG				Sg	**Sb**	**03 13 43.6**	**-0.1**
	448nm,2.8s						
SNTG	**Esanatoglia**	**0.64**	**313**	Pg	**Pg**	**03 13 33.9**	**-0.4**
SNTG				Sg	**Sb**	**03 13 43.6**	**-0.1**
	448nm,2.8s						
NVLJ	**Novalja**	**1.98**	**28**	*e* Pn	**Pn**	**03 13 55.5**	**+0.4**
NVLJ				Sn	**Sn**	**03 14 20.4**	**+0.6**
NVLJ	**Novalja**	**1.98**	**28**	*e* Pn	**Pn**	**03 13 55.5**	**+0.4**
NVLJ				Sn	**Sn**	**03 14 20.3**	**+0.6**

*IDC **21** 03:16:03.9±2.1, 37°53N×122°50W, h0km, mb3.5/1, mb1 4.0/4, mb1mx3.6/56, mbtmp3.6/4, ML3.8/3, MS2.9/7, Ms1 2.9/7, ms1mx2.7/32, Error ellipse: s-maj=35.4km s-min=15.2km az=56.0*
*NEIC **21** 03:16:05.3±0.0, 37°86N×122°26W, h8km, MW3.8(BRK), After NCEDC.*
NEIC Felt [IV] at Alameda, Albany, Berkeley, Diamond Springs, El Sobrante, Emeryville, Lafayette, Moraga, Oakland, Orinda, Richmond, San Francisco, San Leandro, Santa Rosa and Walnut Creek. Felt throughout the San Francisco Bay area as far as Manteca, Napa and San Juan Bautista.

ISC 21 03:16:06.8±1.1, 37°82N±0°03×122°39W±0°04, h26km±11km, n115, σ1°97/138, MS3.0/4, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCCM	**Marconi Confer**	**0.51**	**310**	*e* Pg	**Pb**	**03 16 16.2**	**-0.9**
MCCM				*e* Sg	**Sb**	**03 16 23.7**	**-0.4**
GDXM	**Geysers**	**1.04**	**342**	*e* Pg	**Pn**	**03 16 23.6**	**-2.1**
GDXM				*e* Sg	**Sb**	**03 16 38.0**	**-1.4**
HOPS	**Hopland Field**	**1.29**	**336**	*e* Pn	**Pn**	**03 16 27.7**	**-1.4**
SAO	**San Andreas Ge**	**1.29**	**144**	*e* Pn	**Pn**	**03 16 27.1**	**-2.1**
SAO				*e* Sg	**Sb**	**03 16 45.5**	**-1.1**
AFDM	**Forest Hills D**	**1.59**	**44**	*e* Pn	**Pn**	**03 16 30.0**	**-3.3**
AFDM				*e* Sn	**Sn**	**03 16 48.1**	**-4.9**
CMB	**Columbia Colle**	**1.60**	**82**	*e* Pn	**Pn**	**03 16 30.8**	**-2.7**
CMB				*e* Sn	**Sn**	**03 16 47.4**	**-5.9**
ORV	**Oroville**	**1.87**	**22**	*e* Pn	**Pn**	**03 16 33.6**	**-3.5**
ORV				*e* Sn	**Sn**	**03 16 53.8**	**-6.2**
PMPB	**Monarch Peak**	**2.04**	**141**	*e* Pn	**Pn**	**03 16 38.1**	**-1.4**
KCPM	**Cahto Peak**	**2.09**	**334**	*e* Pn	**Pn**	**03 16 40.5**	**+0.3**
KCPM				*e* Pg	**Pb**	**03 16 47.8**	**+3.7**
WAKR	**Walker**	**2.43**	**73**	*e* Pn	**Pn**	**03 16 44.8**	**-0.2**
WAKR				*e* Sn	**Sn**	**03 17 13.7**	**-0.2**
O03D	**Paynes Creek**	**2.52**	**10**	P	**Pn**	**03 16 43.5**	**-2.6**
	baz=188,SNR=43						
PNTR	**Pine

BFSC	**Mount Baldy Ra**	**5.24**	**132**	P	**Pn**	**03 17 22.3**	**-1.2**
	baz=316,SNR=12						
BFSC				S	**Sn**	**03 18 21.2**	**-2.0**
	baz=316						
RRX	**Edison Barstow**	**5.25**	**122**	P	**Pn**	**03 17 22.5**	**-1.1**
	baz=307						
RRX				S	**Sn**	**03 18 21.9**	**-1.4**
	baz=307						
SHOC	**Shoshone, Teco**	**5.26**	**109**	P	**Pn**	**03 17 21.7**	**-2.1**
	baz=294						
KEBM	**Edson Butte**	**5.26**	**344**	*e*Pn	**Pn**	**03 17 24.2**	**+0.4**
R11A	**Troy Canyon, C**	**5.39**	**82**	P	**Pn**	**03 17 27.1**	**+1.3**
	baz=267						
R11A				Sb	**Sb**	**03 18 46.1**	**+1.3**
	baz=267						
R11A	**Troy Canyon, C**	**5.39**	**82**	*e*Pn	**Pn**	**03 17 25.1**	**-0.6**
R11A				*e*Pg	**Pb**	**03 17 41.2**	**+0.8**
R11A				*e*Sg	**Sb**	**03 18 48.4**	**+3.7**
J04D	**Umpqua Nationa**	**5.42**	**2**	P	**Pn**	**03 17 26.9**	**+0.8**
	baz=181						
WVOR	**Wild Horse Val**	**5.44**	**31**	*e*Pn	**Pn**	**03 17 25.6**	**-0.6**
WVOR				*e*Pg	**Pb**	**03 17 42.5**	**+1.4**
CIS	**Catalina Islan**	**5.47**	**142**	S	**Sn**	**03 18 24.7**	**-3.9**
	baz=326						
J05D	**Fort Rock, OR**	**5.53**	**9**	P	**Pn**	**03 17 29.8**	**+2.2**
	baz=188						
BBRC	**Big Bear Solar**	**5.67**	**127**	P	**Pn**	**03 17 28.0**	**-1.7**
	baz=311,SNR=8.2						
BBRC				S	**Sn**	**03 18 32.5**	**-1.6**
	baz=311						
TUQ	**Turquoise Moun**	**5.72**	**113**	P	**Pn**	**03 17 29.1**	**-1.0**
	baz=297,SNR=12						
HEC	**Hector,Ludlow**	**5.72**	**120**	P	**Pn**	**03 17 28.7**	**-1.4**
	baz=304,SNR=16						
SCI2	**San Clemente I**	**5.76**	**146**	S	**Sn**	**03 18 34.2**	**-1.5**
	baz=329						
I03D	**Drain, OR**	**5.92**	**353**	P	**Pn**	**03 17 35.0**	**+2.2**
	baz=172						
SHPR	**Sheep Range**	**5.92**	**101**	*e*Pn	**Pn**	**03 17 33.7**	**+0.7**
MURC	**Murrieta**	**5.96**	**133**	P	**Pn**	**03 17 31.3**	**-2.1**
	baz=318,SNR=5.0						
MURC				S	**Sn**	**03 18 38.4**	**-2.5**
	baz=318						
GMRC	**Granite Mounta**	**6.22**	**117**	P	**Pn**	**03 17 34.6**	**-2.5**
	baz=302						
GMRC				S	**Sn**	**03 18 46.8**	**-0.5**
	baz=302						
PFO	**Pinyon Flats O**	**6.39**	**129**	Pn	**Pn**	**03 17 38.2**	**-1.2**
	4.0nm,0.3s,baz=318,slow=11,SNR=45						
PFO				Sn	**Sn**	**03 18 49.8**	**-1.8**
	1.6nm,0.3s,baz=127,slow=17,SNR=5.7						
PFO				LR	LR	03 20 36.9	
	comp=Z,174nm,18.6s,baz=337,slow=43						
PFO	**Pinyon Flats O**	**6.39**	**129**	P	**Pn**	**03 17 38.1**	**-1.2**
	baz=314,SNR=9.9						
PFO				S	**Sn**	**03 18 48.9**	**-2.7**
	baz=314						
PFO	**Pinyon Flats O**	**6.39**	**129**	*e*Pn	**Pn**	**03 17 38.3**	**-1.1**
PFO				*e*Sn	**Sn**	**03 18 50.2**	**-1.4**
BELC	**Belle Mtn. Jos**	**6.43**	**124**	P	**Pn**	**03 17 38.1**	**-1.9**
	baz=309,SNR=30						
BELC				S	**Sn**	**03 18 50.9**	**-1.7**
	baz=309						
LDFC	**Landfair**	**6.47**	**113**	*e*Pn	**Pn**	**03 17 38.3**	**-2.2**
IRM	**Iron Mountain**	**6.92**	**120**	P	**Pn**	**03 17 44.3**	**-2.2**
	baz=305,SNR=6.5						
IRM				S	**Sn**	**03 19 02.3**	**-2.0**
	baz=305						
MONP2	**Monument Peak**	**6.92**	**133**	P	**Pn**	**03 17 45.7**	**-1.0**
	baz=318						
MONP2				S	**Sn**	**03 19 03.4**	**-1.3**
	baz=318						
BC3	**Big Chuckawall**	**7.00**	**124**	P	**Pn**	**03 17 45.5**	**-2.3**
	baz=309,SNR=15						
CCUT	**Cedar City**	**7.17**	**89**	*e*Pn	**Pn**	**03 17 49.2**	**-0.9**
SWSC	**Sam W. Stewart**	**7.25**	**130**	P	**Pn**	**03 17 48.3**	**-2.8**
	baz=315						
LCMT	**Little Creek M**	**7.32**	**94**	*e*Pn	**Pn**	**03 17 51.4**	**-0.8**
PDMCI	**Parker Dam,Lak**	**7.54**	**115**	P	**Pn**	**03 17 52.0**	**-3.0**
	baz=301						
Y12C	**Blythe**	**7.57**	**120**	P	**Pn**	**03 17 51.8**	**-3.6**
	baz=306						
GLA	**Glamis**	**7.79**	**125**	P	**Pn**	**03 17 56.1**	**-2.4**
	baz=311,SNR=7.8						
GLA	**Glamis**	**7.79**	**125**	*e*Pn	**Pn**	**03 17 56.6**	**-1.9**
DUG	**Dugway, Tooele**	**7.83**	**69**	*e*Pn	**Pn**	**03 17 58.1**	**-1.0**
	1.6nm,0.6s						
DUG				*e*Sn	**Sn**	**03 19 24.0**	**-2.8**
DUG				*e*Sg	Sb	03 20 05.3	+11
BGU	**Big Grassy Mou**	**7.89**	**64**	*e*Pn	**Pn**	**03 17 58.3**	**-1.6**
MSU	**Marysvale**	**8.08**	**82**	*e*Pn	**Pn**	**03 18 04.9**	**+2.3**
U15A	**North Rim**	**8.19**	**97**	*e*Pn	**Pn**	**03 18 06.2**	**+2.1**
113A	**Mohawk Valley,**	**8.66**	**123**	*e*Pn	**Pn**	**03 18 06.7**	**-3.7**
HAWA	**Hanford**	**8.83**	**13**	*e*Pn	**Pn**	**03 18 10.3**	**-2.4**
WUAZ	**Wupatki**	**9.14**	**101**	*e*Pn	**Pn**	**03 18 14.3**	**-2.8**
	4.2nm,0.8s						
HWUT	**Hardware Ranch**	**9.16**	**62**	*e*Pn	**Pn**	**03 18 15.4**	**-2.0**
	3.2nm,0.8s						
PDAR	**Pinedale Array**	**10.97**	**59**	Pn	Pn	03 18 48.2	+5.9
	0.0nm,0.3s,baz=238,slow=14,SNR=4.2						
NEW	**Newport**	**11.13**	**19**	LR	LR	03 23 01.8	
	comp=Z,87nm,20.2s,baz=201,slow=37						
BOZ	**Bozeman (W)**	**11.18**	**43**	*e*Pn	**Pn**	**03 18 42.8**	**-2.2**
ANMO	**Albuquerque**	**13.16**	**98**	LR	LR	03 25 21.0	
	comp=Z,31nm,18.3s,baz=101,slow=42						
TX31	**Lajitas Ar. Si**	**17.73**	**113**	*e*Pn	**P**	**03 20 14.7**	**+2.1**
TXAR	**Lajitas Array**	**17.73**	**113**	Pn	**P**	**03 20 14.0**	**+1.4**
	0.0nm,0.3s,baz=295,slow=12,SNR=14						
TXAR	**Lajitas Array**	**17.73**	**113**	Pn	**P**	**03 20 14.0**	**+1.4**
DLBC	**Dease Lake**	**21.23**	**349**	LR	LR	03 30 09.4	
	comp=Z,56nm,19.1s,baz=192,slow=39						
YKA	**Yellowknife Ar**	**25.17**	**9**	LR	LR	03 33 08.0	
	comp=Z,6.6nm,21.1s,baz=180,slow=40						
ILAR	**Eielson Array**	**30.63**	**340**	P	**P**	**03 22 21.4**	**+2.9**
	0.3nm,0.5s,baz=155,slow=8.3,SNR=9.1						
RES	**Resolute Bay**	**39.17**	**11**	LR	LR	03 39 38.5	
	comp=Z,30nm,20.6s,baz=230,slow=36						
H11N3	**WAKE ISLAND Hy**	**63.17**	**275**	T	T	04 35 11.7	
	baz=57,slow=75,SNR=79						
H11N2	**WAKE ISLAND Hy**	**63.17**	**275**	T	T	04 34 44.5	
	baz=57,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy**	**63.19**	**275**	T	T	04 35 01.9	
	baz=57,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**63.99**	**274**	T	T	04 35 57.6	
	baz=55,slow=74,SNR=57						
H11S2	**WAKE ISLAND Hy**	**64.00**	**274**	T	T	04 36 00.2	
	baz=55,slow=74,SNR=25						
H11S3	**WAKE ISLAND Hy**	**64.01**	**274**	T	T	04 35 58.8	
	baz=55,slow=74,SNR=18						
NOA	**NORSAR Array B**	**74.48**	**21**	LR	LR	03 58 53.3	
	comp=Z,7.6nm,19.0s,baz=15,slow=34						

*DHMR **21** 03:22:21.0±3.0, 11°.87N×44°.05E, h9km±37km, ML4.5*
*ISCJB **21** 03:22:24.7±1.1, 11°.96N±0°.09×44°.09E±0°.08, h4km, mb3.6/7, MS3.0/1, Error ellipse: s-maj=15.4km s-min=9.3km az=142.6*
*IDC **21** 03:22:26.1±3.5, 11°.91N×44°.01E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/62, mbtmp3.6/7, MS3.0/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=81.5km s-min=30.9km az=162.0*

ISC 21 03:22:26.2±1.4, 12°.0N±0°.1×44°.20E±0°.09, h4km, n14, σ1°89/15, mb3.8/7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.07**	**45**	*i* P	**Pg**	**03 22 44.8**	**-2.0**
ADEN				*i* S	**Sb**	**03 23 03.0**	**+1.3**
ADEN				AML	AML	03 23 12.8	
	comp=E,10μm,0.5s						
UDYN	**Al 'Udayn**	**1.95**	**353**	*i* P	**Pn**	**03 22 57.4**	**-2.9**
UDYN				*i* S	**Sn**	**03 23 25.1**	**-0.3**
BDHA	**Al Bayda'**	**2.36**	**34**	*i* P	**Pn**	**03 23 03.7**	**-2.3**
BDHA				*i* S	**Sb**	**03 23 40.2**	**+1.2**
BDHA				AML	AML	03 23 44.8	
	comp=N,5μm,0.5s						
DHBB	**Dhamar BB**	**2.54**	**4**	*i* P	**Pn**	**03 23 09.5**	**+0.9**
DHBB				*i* S	**Sb**	**03 23 45.1**	**+0.6**
KMBO	**Kilima Mbogo**	**14.77**	**208**	LR	LR	03 31 14.8	
	comp=N,58nm,19.6s,baz=62,slow=36						
WSAR	**Wadi Sarin**	**17.69**	**49**	LR	LR	03 32 51.5	
	comp=N,31nm,18.7s,baz=180,slow=35						
BRTR	**Keskin Array B**	**29.14**	**343**	P	**P**	**03 28 29.9**	**+1.4**
	comp=N,1.2nm,1.0s,baz=160,slow=3.9,SNR=6.6						
KEST	**Kesra**	**39.33**	**313**	LR	LR	03 48 20.6	
	comp=N,23nm,18.6s,baz=17,slow=40						
TORD	**Torodi Ar. Bea**	**41.47**	**276**	P	**P**	**03 30 13.8**	**-0.9**
	comp=N,0.5nm,0.7s,baz=87,slow=7.7,SNR=3.4						
GERES	**GERESS Array B**	**44.59**	**331**	P	**P**	**03 30 39.2**	**-0.3**
	comp=N,0.2nm,0.5s,baz=150,slow=5.6,SNR=3.5						
BVAR	**Borovoye Array**	**45.96**	**22**	P	**P**	**03 30 52.8**	**+2.6**
	comp=N,0.7nm,0.5s,baz=230,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**47.20**	**35**	P	**P**	**03 31 03.3**	**+3.1**
	comp=N,0.5nm,0.5s,baz=219,slow=7.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**47.61**	**29**	P	**P**	**03 31 04.6**	**+1.4**
	comp=N,0.4nm,0.4s,baz=232,slow=7.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**52.71**	**29**	P	**P**	**03 31 42.1**	**+0.2**
	comp=N,0.6nm,0.4s,baz=238,slow=8.4,SNR=3.8						

*CSEM **21** 03:25:33.7, 12°.15N×44°.10E, h3km, ML3.8*

DHMR 21 03:25:33.7±1.1, 12°.15N×44°.10E, h3km±12km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.07**	**54**	*i* P	Pg	03 25 53.4	-0.8
ADEN				*i* S	Sb	03 26 09.0	-0.1
ADEN				AML	AML	03 26 20.0	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.07**	**54**	*i* P	Pg	03 25 53.3	-0.9
ADEN				*i* S	Sb	03 26 09.0	-0.1
	comp=E,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.81**	**356**	*i* P	Pn	03 26 06.0	0.0
UDYN				*i* S	Sg	03 26 32.6	+0.5
UDYN	**Al 'Udayn**	**1.81**	**356**	*i* P	Pn	03 26 06.0	0.0
UDYN				*i* S	Sg	03 26 32.6	+0.5
BDHA	**Al Bayda'**	**2.31**	**38**	*i* P	Pb	03 26 15.3	-0.9
BDHA				*i* S	Sb	03 26 46.2	+0.9
BDHA				AML	AML	03 26 51.8	
	comp=N,1μm,0.5s						
BDHA	**Al Bayda'**	**2.31**	**38**	*i* P	Pb	03 26 15.3	-0.9
BDHA				*i* S	Sb	03 26 46.2	+0.9
	comp=N,525nm,0.5s						
DHBB	**Dhamar BB**	**2.43**	**7**	*i* P	Pb	03 26 16.6	-1.6
DHBB				*i* S	Sb	03 26 49.8	+1.1
DHBB	**Dhamar BB**	**2.43**	**7**	*i* P	Pb	03 26 16.6	-1.6
DHBB				*i* S	Sb	03 26 49.8	+1.2

*CSEM **21** 03:32:41.8, 12°.11N×44°.13E, h5km, ML3.9*

DHMR 21 03:32:41.8±1.0, 12°.11N×44°.13E, h6km±13km, ML3.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.06**	**52**	*i* P	Pg	03 33 01.3	-0.9
ADEN				*i* S	Sb	03 33 17.2	+0.4
ADEN				AML	AML	03 33 23.3	
	comp=N,3μm,0.8s						
ADEN	**Aden**	**1.06**	**52**	*i* P	Pg	03 33 01.3	-0.9
ADEN				*i* S	Sb	03 33 17.2	+0.4
	comp=N,1μm,0.8s						
UDYN	**Al 'Udayn**	**1.85**	**355**	*i* P	Pn	03 33 15.0	+0.8
UDYN				*i* S	Sg	03 33 41.2	-0.1
UDYN	**Al 'Udayn**	**1.85**	**355**	*i* P	Pn	03 33 15.0	+0.8
UDYN				*i* S	Sg	03 33 41.2	-0.1
BDHA	**Al Bayda'**	**2.32**	**37**	*i* P	Pb	03 33 22.8	-1.5
BDHA				*i* S	Sb	03 33 54.2	+0.9
BDHA				AML	AML	03 34 03.3	
	comp=E,988nm,0.7s						
BDHA	**Al Bayda'**	**2.32**	**37**	*i* P	Pb	03 33 22.8	-1.5
BDHA				*i* S	Sb	03 33 54.2	+0.9
	comp=E,494nm,0.7s						
DHBB	**Dhamar BB**	**2.46**	**6**	*i* P	Pn	03 33 24.5	+1.8
DHBB				*i* S	Sb	03 33 57.7	+0.5
DHBB	**Dhamar BB**	**2.46**	**6**	*i* P	Pn	03 33 24.5	+1.8
DHBB				*i* S	Sb	03 33 57.7	+0.5
HAJJ	**Hajjah**	**3.60**	**352**	*i* S	Sb	03 34 27.2	-2.9
HAJJ	**Hajjah**	**3.60**	**352**	*i* S	Sb	03 34 27.2	-2.9

DHMR 21 03:40:58.0±1.2, 11°.86N×44°.12E, h32km±7km, ML3.9, 1C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.24**	**43**	*i* P	Pb	03 41 20.1	-0.8
ADEN				*i* S	Sb	03 41 36.8	+0.2
UDYN	**Al 'Udayn**	**2.10**	**356**	*i* P	Pb	03 41 33.5	-2.1
UDYN				*i* S	Sb	03 42 01.0	-0.4
BDHA	**Al Bayda'**	**2.53**	**34**	*i* P	Pn	03 41 39.1	+2.0
BDHA				*i* S	Sb	03 42 12.8	-1.0
BDHA				AML	AML	03 42 19.4	
	comp=N,968nm,0.5s						
DHBB	**Dhamar BB**	**2.71**	**6**	*i* P	Pb	03 41 43.3	-2.7
DHBB				*i* S	Sb	03 42 17.5	-1.4

*CSEM **21** 03:45:12.2, 12°.06N×44°.15E, h14km, ML3.6*

DHMR 21 03:45:12.2±0.8, 12°.06N×44°.15E, h14km±9km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.08**	**49**	*i* P	Pb	03 45 31.8	-1.0
ADEN				*i* S	Sn	03 45 47.7	-0.1
ADEN	**Aden**	**1.08**	**49**	*i* P	Pb	03 45 31.8	-0.9
ADEN				*i* S	Sn	03 45 47.7	-0.1
UDYN	**Al 'Udayn**	**1.91**	**355**	*i* P	Pn	03 45 45.5	+1.0
UDYN				*i* S	Sb	03 46 12.0	+1.4
UDYN	**Al 'Udayn**	**1.91**	**355**	*i* P	Pn	03 45 45.5	+1.1
UDYN				*i* S	Sb	03 46 12.0	+1.4
BDHA	**Al Bayda'**	**2.35**	**36**	*i* P	Pb	03 45 52.9	-1.7
BDHA				*i* S	Sb	03 46 24.6	+1.0
BDHA				AML	AML	03 46 30.5	
	comp=N,440nm,0.6s						
BDHA	**Al Bayda'**	**2.35**	**36**	*i* P	Pb	03 45 52.9	-1.7
BDHA				*i* S	Sb	03 46 24.6	+1.0
	comp=N,220nm,0.6s						
DHBB	**Dhamar BB**	**2.51**	**5**	*i* P	Pb	03 45 55.8	-1.5
DHBB				*i* S	Sb	03 46 28.6	+0.4
DHBB	**Dhamar BB**	**2.51**	**5**	*i* P	Pb	03 45 55.8	-1.4
DHBB				*i* S	Sb	03 46 28.5	+0.4

*NIED **21** 03:47:00, 37°.90N×144°.60E, h8km, Mw4.1 Best double couple: M0 1.75000×10^15 NP1:φs194.00000°, δ43.00000°, λ-105.00000°. NP2:φs33.00000°, δ49.00000°, λ-77.00000°.*
*IDC **21** 03:47:48.6±0.8, 37°.64N×144°.91E, h0km, mb3.9/11, mb1 4.2/16, mb1mx4.1/38, mbtmp4.0/16, ML4.2/4, MS3.2/10, Ms1 3.2/10, ms1mx3.0/37, Error ellipse: s-maj=19.5km s-min=17.0km az=124.0*
*ISCJB **21** 03:47:52.9±0.4, 37°.82N±0°.03×144°.63E±0°.03, h33km, mb4.1/22, MS3.4/8, Error ellipse: s-maj=4.9km s-min=3.5km az=177.2*
*JMA **21** 03:47:53.3±0.1, 37°.86N×144°.63E, h47km, M4.8*
*NEIC **21** 03:47:54.2±0.3, 37°.71N×144°.76E, h35km, mb4.3/9, Error ellipse: s-maj=9.2km s-min=6.4km az=150.0*

ISC 21 03:47:54.6±0.7, 37°.80N±0°.05×144°.68E±0°.07, h35km, n67, σ1°22/74, mb4.1/22, MS3.3/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.69**	**299**	P	**Pn**	**03 48 34.6**	**-0.7**
JIO	**Ouri**	**2.71**	**285**	P	**Pn**	**03 48 34.9**	**-0.7**
JIO				S	**Sn**	**03 49 05.8**	**-1.3**
MIYJ	**Miyakonagasawa**	**2.85**	**309**	P	**Pn**	**03 48 36.5**	**-1.2**
MIYJ				S	**Sn**	**03 49 09.1**	**-1.7**
JMK	**Ichinoseki**	**2.95**	**294**	P	**Pn**	**03 48 38.5**	**-0.5**
JMK				S	**Sn**	**03 49 11.9**	**-1.3**
JTH	**Tanohata**	**3.06**	**315**	P	**Pn**	**03 48 39.8**	**-0.7**
JTH				*e*S	**Sn**	**03 49 14.1**	**-1.8**
JMM	**Marumori**	**3.08**	**272**	P	**Pn**	**03 48 39.9**	**-0.8**
JOM	**Ohasama**	**3.13**	**303**	P	**Pn**	**03 48 40.8**	**-0.7**
JOM				*e*S	**Sn**	**03 49 16.4**	**-1.3**
JOU	**Okura**	**3.22**	**281**	P	**Pn**	**03 48 42.2**	**-0.5**
JOU				*e*S	**Sn**	**03 49 18.7**	**-1.1**
JKZ	**Kuzumaki**	**3.40**	**311**	P	**Pn**	**03 48 44.8**	**-0.4**
JKZ				*e*S	**Sn**	**03 49 22.8**	**-1.6**
JFT	**Otama**	**3.46**	**267**	P	**Pn**	**03 48 45.6**	**-0.4**
JFT				S	**Sn**	**03 49 24.9**	**-0.8**
JRG	**Rokugo**	**3.55**	**298**	P	**Pn**	**03 48 46.5**	**-0.7**
JANG	**Nango**	**3.56**	**317**	P	**Pn**	**03 48 46.0**	**-1.3**
JANG				*e*S	**Sn**	**03 49 26.5**	**-1.6**
JYK	**Kaneyama**	**3.57**	**289**	P	**Pn**	**03 48 47.1**	**-0.5**
JYK				*e*S	**Sn**	**03 49 27.5**	**-1.1**
CHOJ	**Chosi**	**3.72**	**237**	*e*S	**Sn**	**03 49 31.7**	**-0.3**
JSB	**Shiboa**	**3.88**	**259**	P	**Pn**	**03 48 51.9**	**+0.1**
JSB				*e*S	**Sn**	**03 49 35.7**	**-0.5**
JYW	**Yuwa**	**3.91**	**298**	P	**Pn**	**03 48 51.8**	**-0.3**
JYW				*e*S	**Sn**	**03 49 35.7**	**-1.0**
JYT	**Yasato**	**3.92**	**248**	*e*S	**Sn**	**03 49 36.7**	**-0.3**
JAH	**Hinai**	**3.95**	**308**	P	**Pn**	**03 48 52.5**	**-0.2**
JAH				*e*S	**Sn**	**03 49 36.8**	**-1.0**
JFY	**Yanaizu**	**3.97**	**266**	S	**Sn**	**03 49 36.9**	**-1.5**
JYA	**Atsumi**	**3.99**	**283**	P	**Pn**	**03 48 53.0**	**-0.3**
JYA				*e*S	**Sn**	**03 49 38.2**	**-0.6**
JTM	**Tenmabayashi**	**4.09**	**318**	P	**Pn**	**03 48 54.2**	**-0.4**
JAW	**Awa shima**	**4.33**	**280**	P	**Pn**	**03 48 57.8**	**-0.2**
JOT	**Ohata**	**4.54**	**323**	P	**Pn**	**03 49 00.4**	**-0.5**
MJAR	**Matsushiro Arr**	**5.32**	**258**	Pn	**Pn**	**03 49 11.8**	**+0.2**
	12nm,0.3s,baz=69,slow=13,SNR=84						
MJAR				LR	LR	03 51 17.3	
	comp=Z,96nm,20.2s,baz=30,slow=38						
MAJO	**Matsushiro**	**5.32**	**258**	*e*Pn	**Pn**	**03 49 11.8**	**+0.3**
	49nm,0.4s						
MAJO				*e*Sn	**Sn**	**03 50 12.3**	**+0.6**
MAT	**Matsushiro**	**5.32**	**258**	P	**Pn**	**03 49 12.3**	**+0.7**
MAT				S	**Sn**	**03 50 13.2**	**+1.6**
JHJ2	**Mitsune**	**6.14**	**222**	*e*Pn	**Pn**	**03 49 20.8**	**-2.0**
JHJ	**Hachijo jima 2**	**6.15**	**222**	Pn	**Pn**	**03 49 19.9**	**-3.0**
	31nm,0.3s,baz=324,slow=22,SNR=7.0						
JHJ				Sn	**Sn**	**03 50 26.8**	**-5.3**
	82nm,0.3s,baz=94,slow=22,SNR=5.4						
JHR	**Hokuryu**	**6.34**	**340**	P	**Pn**	**03 49 26.2**	**+0.6**
ASAJ	**Asahikawa**	**6.50**	**347**	Pn	**Pn**	**03 49 26.9**	**-0.9**
	6.6nm,0.3s,baz=206,slow=14,SNR=25						
ASAJ				Sn	**Sn**	**03 50 37.7**	**-2.9**
	3.9nm,0.3s,baz=289,slow=24,SNR=7.9						
USRK	**Ussuriysk Ar.**	**11.52**	**308**	Pn	**Pn**	**03 50 37.8**	**+1.3**
	0.7nm,0.3s,baz=120,slow=16,SNR=7.5						
KSRS	**Korea Array**	**13.29**	**274**	Pn	**Pn**	**03 51 01.1**	**+0.4**
	0.3nm,0.3s,baz=88,slow=13,SNR=7.9						
KSRS				LR	LR	03 56 02.9	
	comp=Z,101nm,18.7s,baz=58,slow=37						
KSAR	**Wonju Array Be**	**13.32**	**274**	Pn	**Pn**	**03 51 01.1**	**-0.1**
PETK	**Petropavlovsk-**	**17.78**	**26**	LR	LR	04 00 47.2	
	comp=Z,58nm,18.2s,baz=213,slow=44						
MA2	**Magadan**	**22.14**	**8**	LR	LR	04 01 17.3	
	comp=Z,41nm,19.2s,baz=224,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.41**	**127**	T	T	04 20 36.7	
	baz=318,slow=74,SNR=54						
H11N1	**WAKE ISLAND Hy**	**26.42**	**127**	T	T	04 20 40.2	
	baz=318,slow=74,SNR=35						
H11N3	**WAKE ISLAND Hy**	**26.43**	**127**	T	T	04 20 38.6	
	baz=318,slow=74,SNR=50						
SONM	**Songino Array**	**29.55**	**302**	P	**P**	**03 53 57.8**	**+1.8**
	0.2nm,0.3s,baz=105,slow=11,SNR=2.2						
SONM				LR	LR	04 06 02.4	
	comp=Z,25nm,19.9s,baz=168,slow=37						
ZALV	**Zalesovo Beam**	**43.33**	**312**	P	**P**	**03 55 54.2**	**+1.2**
	0.5nm,0.3s,baz=60,slow=3.5,SNR=3.4						
NRIK	**Noril'sk**	**43.68**	**334**	LR	LR	04 15 41.1	
	comp=Z,54nm,18.1s,baz=72,slow=38						
CMAR	**Chiang Mai Arr**	**44.20**	**257**	LR	LR	04 17 57.8	
	comp=Z,14nm,18.7s,baz=81,slow=41						
MKAR	**Makanchi Array**	**45.91**	**302**	P	**P**	**03 56 14.6**	**+0.8**
	0.8nm,0.8s,baz=89,slow=13,SNR=3.3						
ILAR	**Eielson Array**	**47.45**	**33**	P	**P**	**03 56 24.9**	**-0.6**
	2.4nm,0.8s,baz=263,slow=6.7,SNR=23						
KURK	**Kurchatov**	**47.51**	**308**	*e*P	**P**	**03 56 26.5**	**+0.4**
	13nm,0.5s						
BRVK	**Borovoye**	**52.03**	**312**	*e*P	**P**	**03 57 01.2**	**+0.8**
	5.0nm,0.4s						
INK	**Inuvik**	**52.51**	**28**	P	**P**	**03 57 03.6**	**-0.1**
	2.9nm,0.8s,baz=277,slow=3.5,SNR=5.3						
WRAB	**Tennant Creek**	**58.24**	**191**	*e*P	**P**	**03 57 46.3**	**+0.7**
	4.8nm,0.9s						
WRA	**Warramunga Arr**	**58.26**	**191**	P	**P**	**03 57 43.9**	**-1.7**
	3.2nm,0.8s,baz=8.5,slow=6.9,SNR=10						
ABKAR	**Akbulak array**	**59.42**	**311**	*e*P	**P**	**03 57 53.5**	**0.0**
	1.3nm,0.6s						
ASAR	**Alice Springs**	**61.98**	**191**	P	**P**	**03 58 09.5**	**-1.6**
	0.3nm,0.5s,baz=8.8,slow=6.7,SNR=3.4						
OBN	**Obninsk**	**69.02**	**324**	LR	LR	04 31 18.7	
	comp=Z,466nm,21.3s,baz=166,slow=38						
FINES	**FINESS Array B**	**69.32**	**333**	LR	LR	04 31 49.1	
	comp=Z,39nm,19.7s,baz=85,slow=38						
BMO	**Blue Mountains**	**69.48**	**49**	*e*P	**P**	**03 58 59.1**	**-0.4**
FFC	**Flin Flon**	**71.63**	**34**	*e*P	**P**	**03 59 11.8**	**-0.5**
	7.9nm,1.0s						
IMW	**Indian Meadow**	**73.77**	**47**	*e*P	**P**	**03 59 26.1**	**+0.6**
	5.0nm,0.9s						
R11A	**Troy Canyon, C**	**74.23**	**54**	*e*P	**P**	**03 59 27.4**	**-0.8**
	1.7nm,1.3s						

*CSEM **21** 04:03:04.7, 12°.03N×44°.13E, h17km, ML4.0*

DHMR 21 04:03:04.7±2.1, 12°.03N×44°.13E, h17km±31km, ML4.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.12**	**49**	*i* P	Pb	04 03 25.9	+0.3
ADEN				*i* S	Sg	04 03 41.4	+0.4
ADEN				AML	AML	04 03 47.8	
	comp=N,3μm,0.7s						
ADEN	**Aden**	**1.12**	**49**	*i* P	Pb	04 03 25.9	+0.4
ADEN				*i* S	Sg	04 03 41.4	+0.4
UDYN	**Al 'Udayn**	**1.93**	**355**	*i* P	Pb	04 03 38.5	-1.0
UDYN				*i* S	Sb	04 04 03.6	+0.3
UDYN	**Al 'Udayn**	**1.93**	**355**	*i* P	Pb	04 03 38.5	-1.0
UDYN				*i* S	Sb	04 04 03.6	+0.3
BDHA	**Al Bayda'**	**2.39**	**36**	*i* P	Pn	04 03 44.2	+1.0
BDHA				*i* S	Sb	04 04 17.5	+0.9
BDHA				AML	AML	04 04 23.7	
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.39**	**36**	*i* P	Pn	04 03 44.2	+0.9
BDHA				*i* S	Sb	04 04 17.5	+0.9
HAJJ	**Hajjah**	**3.68**	**352**	*i* S	Sb	04 04 50.2	-3.6
HAJJ	**Hajjah**	**3.68**	**352**	*i* S	Sb	04 04 50.2	-3.6

*ISCJB **21** 04:11:59.9±0.8, 11°.94N±0°.06×44°.06E±0°.06, h4km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=10.8km s-min=5.7km az=141.2*

*CSEM **21** 04:12:00.1, 12°.01N×44°.05E, h15km, ML4.1*

*DHMR **21** 04:12:00.1±1.8, 12°.01N×44°.05E, h16km±17km, ML4.1*

*IDC **21** 04:12:00.5±1.7, 11°.74N×44°.01E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/49, mbtmp3.7/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/44, Error ellipse: s-maj=44.8km s-min=17.3km az=163.0*

ISC 21 04:12:01.6±1.0, 11°.99N±0°.08×44°.07E±0°.06, h4km, n16, σ1°56/23, mb3.7/5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.19**	**49**	*i* P	**Pg**	**04 12 22.3**	**-2.1**
ADEN				*i* S	**Sg**	**04 12 38.7**	**-1.1**
ADEN				AML	AML	04 12 43.4	
	comp=E,4μm,0.5s						
ADEN	**Aden**	**1.19**	**49**	*i* P	**Pg**	**04 12 22.3**	**-2.1**
ADEN				*i* S	**Sg**	**04 12 38.7**	**-1.1**
	comp=E,2μm,0.5s						
ATD	**Arta Tunnel**	**1.28**	**249**	Pn	**Pg**	**04 12 24.2**	**-2.0**
	comp=E,75nm,0.3s,baz=209,slow=16,SNR=30						
ATD				Sn	**Sg**	**04 12 41.5**	**-1.3**
	comp=E,121nm,0.3s,baz=247,slow=21,SNR=21						
UDYN	**Al 'Udayn**	**1.97**	**357**	*i* P	**Pn**	**04 12 34.8**	**-1.1**
UDYN				*i* S	**Sn**	**04 12 59.9**	**-1.3**
UDYN	**Al 'Udayn**	**1.97**	**357**	*i* P	**Pn**	**04 12 34.8**	**-1.1**
UDYN				*i* S	**Sn**	**04 12 59.9**	**-1.3**
BDHA	**Al Bayda'**	**2.46**	**36**	*i* P	**Pn**	**04 12 40.9**	**-1.8**
BDHA				*i* S	**Sn**	**04 13 15.3**	**+2.0**
BDHA				AML	AML	04 13 20.9	
	comp=N,3μm,0.5s						
BDHA	**Al Bayda'**	**2.46**	**36**	*i* P	**Pn**	**04 12 40.9**	**-1.8**
BDHA				*i* S	**Sn**	**04 13 15.3**	**+2.0**
	comp=N,1μm,0.5s						
HAJJ	**Hajjah**	**3.72**	**353**	*i* P	**Pn**	**04 12 59.3**	**-0.7**
HAJJ				*i* S	**Sn**	**04 13 45.8**	**+1.4**
HAJJ				AML	AML	04 14 01.6	
	comp=Z,502nm,0.7s						
HAJJ	**Hajjah**	**3.72**	**353**	*i* P	**Pn**	**04 12 59.3**	**-0.7**
HAJJ				*i* S	**Sn**	**04 13 45.8**	**+1.4**
	comp=Z,251nm,0.7s						
KMBO	**Kilima Mbogo**	**14.68**	**208**	LR	LR	04 21 01.4	
	comp=Z,112nm,18.8s,baz=15,slow=38						
BRTR	**Keskin Array B**	**29.13**	**343**	P	**P**	**04 18 05.7**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=156,slow=11,SNR=5.1						
AKASG	**Malin Array Be**	**40.47**	**345**	LR	LR	04 35 51.8	
	comp=Z,22nm,21.1s,baz=10.0,slow=35						
GERES	**GERESS Array B**	**44.55**	**332**	P	**P**	**04 20 15.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=159,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**47.70**	**29**	P	**P**	**04 20 40.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=228,slow=7.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**53.18**	**76**	P	**P**	**04 21 21.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=269,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**62.70**	**42**	P	**P**	**04 22 28.9**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=223,slow=7.9,SNR=5.8						

MEX 21 04:20:18.6±0.4, 16°.34N×98°.52W, h20km±17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**83**	*eP*	Pb	04 20 25.4	-1.3
PNIG				*eS*	Sb	04 20 30.6	-1.5
ACX	**Acapulco**	**1.39**	**292**	*eP*	Pb	04 20 43.9	+0.1
ACX				*eS*	Sb	04 21 01.4	+0.3
CAIG	**El Cayaco**	**1.81**	**293**	*eP*	Pn	04 20 46.5	-2.2
CAIG				*i* S	Sn	04 21 06.4	-4.8
VHO	**Vista Hermosa**	**1.86**	**67**	*eP*	Pn	04 20 47.1	-2.4
MEIG	**Mezcala**	**1.89**	**326**	*eP*	Pn	04 20 47.1	-2.8
MEIG				*eS*	Sn	04 21 09.3	-3.9

IDC 21 04:23:06.0±4.6, 55°.47N×85°.24E, h0km, mb1 2.5/1, mb1mx2.5/30, mbtmp2.5/1, ML1.8/1, Error ellipse: s-maj=35.3km s-min=24.3km az=35.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**189**	*i*		04 32 15.0	
	baz=7.4,slow=327,SNR=13						
ZALV	**Zalesovo Beam**	**1.55**	**189**	Pg	Pn	04 23 33.5	-1.2
	0.4nm,0.3s,baz=14,slow=15,SNR=5.1						
ZALV				Lg	Lg	04 23 55.3	
	0.6nm,0.3s,baz=9.7,slow=27,SNR=5.4						
ZALV				*i*		04 32 21.4	
	1.9nm,0.3s,baz=48,slow=38,SNR=11						
KURBB	**Kurchatov Arra**	**6.32**	**223**	Pn	Pn	04 24 40.3	-0.1
	0.0nm,0.3s,baz=42,slow=14,SNR=2.5						
I34MN	**SONGINO INFRAS**	**15.18**	**112**	*i*		05 54 50.0	
	baz=309,slow=328,SNR=0.3						

DHMR 21 04:31:55.8±1.8, 12°.07N×44°.09E, h6km±37km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.12**	**51**	*i* P	Pg	04 32 16.6	-0.7
ADEN				*i* S	Sb	04 32 32.8	+0.3
UDYN	**Al 'Udayn**	**1.89**	**356**	*i* P	Pn	04 32 28.7	-0.2
UDYN				*i* S	Sg	04 32 56.6	0.0
UDYN				AML	AML	04 33 01.9	
	comp=Z,771nm,0.5s						
BDHA	**Al Bayda'**	**2.38**	**37**	*i* P	Pb	04 32 38.5	-0.7
BDHA				*i* S	Sb	04 33 09.6	+0.6
BDHA				AML	AML	04 33 15.4	
	comp=N,692nm,0.5s						

*NIED **21** 04:42:00, 23°.80N×123°.30E, h11km, Mw3.7 Best double couple: M0:3.41000×10^14 NP1:φ=26.00000°, δ=30.00000°, λ=-171.00000°. NP2:φ=288.00000°, δ=86.00000°, λ=-61.00000°.*

*IDC **21** 04:42:44.2±1.1, 23°.88N×123°.41E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/47, mbtmp3.9/10, MS2.8/2, Ms1 2.8/2, ms1mx2.5/34, Error ellipse: s-maj=49.6km s-min=24.6km az=65.0*

*NEIC **21** 04:42:48.4±2.1, 23°.78N×123°.34E, h28km±15km, mb4.3/1, Error ellipse: s-maj=11.8km s-min=7.6km az=133.0*

*JMA **21** 04:42:49.0±0.2, 23°.77N×123°.30E, h50km±3km, M3.8*

ISC 21 04:42:47.4±0.7, 23°.75N±0°.06×123°.30E±0°.03, h21km±3km, n30, σ0°81/45, mb3.9/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.55**	**57**	P	**Pn**	**04 43 00.8**	**+0.7**
HATJ				S	**Sn**	**04 43 09.3**	**+0.6**
IRIF	**Iriomote-Funau**	**0.70**	**34**	P	**Pn**	**04 43 02.9**	**+0.8**
IRIF				S	**Sn**	**04 43 12.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.76**	**340**	P	**Pn**	**04 43 03.6**	**+0.8**
YOJ				S	**Sn**	**04 43 13.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.76**	**340**	*e*Pn	**Pn**	**04 43 03.5**	**+0.6**
YOJ				*e*Sn	**Sb**	**04 43 12.2**	**+0.5**
JYNG	**Yonagunijimaku**	**0.77**	**335**	P	**Pn**	**04 43 03.7**	**+0.7**
JYNG				S	**Sn**	**04 43 14.0**	**0.0**
JKRS	**Kuro-shima**	**0.81**	**53**	P	**Pn**	**04 43 04.7**	**+1.1**
JKRS				*e*S	**Sn**	**04 43 15.4**	**+0.4**
JIJ	**Ishigaki jima**	**0.98**	**52**	P	**Pb**	**04 43 06.4**	**+0.7**
JIJ				S	**Sn**	**04 43 19.3**	**0.0**
JISG	**Ishigakijimahi**	**1.24**	**48**	P	**Pb**	**04 43 09.9**	**-0.3**
JISG				*e*S	**Sb**	**04 43 25.7**	**-0.1**
JTJ	**Tarama**	**1.56**	**55**	P	**Pn**	**04 43 14.5**	**+0.6**
JTJ				*e*S	**Sb**	**04 43 33.7**	**-1.1**
NACB	**Ninganchiao**	**1.61**	**285**	*e*Pn	**Pn**	**04 43 14.8**	**+0.1**
YULB	**Yu-li**	**1.87**	**259**	*e*Pn	**Pn**	**04 43 18.5**	**+0.3**
YULB				*e*Sn	**Sn**	**04 43 40.5**	**-0.7**
YHNB	**Yeheng**	**1.98**	**298**	*e*Pn	**Pn**	**04 43 21.5**	**+1.8**
YHNB				*e*Sn	**Sn**	**04 43 43.4**	**-0.6**
JIRB	**Irabujima**	**2.02**	**58**	P	**Pn**	**04 43 21.3**	**+1.1**
JIRB				*e*S	**Sn**	**04 43 44.7**	**-0.1**
SSLB	**Suanglung**	**2.15**	**271**	*e*Pn	**Pn**	**04 43 22.9**	**+0.9**
SSLB				*e*Sn	**Sn**	**04 43 47.1**	**-1.0**
TWG	**Pinlang**	**2.25**	**246**	*e*Pn	**Pn**	**04 43 23.7**	**+0.3**
TWG				*e*Sn	**Sn**	**04 43 49.5**	**-1.0**
TPUB	**Ta-pu**	**2.49**	**260**	*e*Pn	**Pn**	**04 43 28.6**	**+1.9**
TPUB				*e*Sn	**Sn**	**04 43 57.1**	**+0.6**
JKE	**Kume jima 2**	**4.07**	**50**	P	**Pn**	**04 43 48.0**	**-0.5**
JKE				*e*S	**Sn**	**04 44 33.4**	**-2.1**
JNU	**Nakatsue**	**11.47**	**34**	*e*Pn	**Pn**	**04 45 29.5**	**-0.5**
KSRS	**Korea Array**	**14.22**	**15**	LR	LR	04 51 48.5	
	comp=Z,25nm,19.2s,baz=206,slow=39						
SONM	**Songino Array**	**27.55**	**335**	P	**P**	**04 48 32.4**	**-0.4**
	0.9nm,0.8s,baz=141,slow=9.6,SNR=4.9						
SONM				LR	LR	05 00 51.1	
	comp=Z,27nm,18.1s,baz=150,slow=40						
MKAR	**Makanchi Array**	**40.00**	**315**	P	**P**	**04 50 20.3**	**-0.4**
	0.6nm,0.5s,baz=101,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**44.74**	**165**	P	**P**	**04 51 00.2**	**+0.7**
	0.3nm,0.5s,baz=349,slow=9.2,SNR=2.5						
ILAR	**Eielson Array**	**68.71**	**27**	P	**P**	**04 53 48.5**	**-0.6**
	0.2nm,0.5s,baz=269,slow=4.6,SNR=4.9						
ARCES	**ARCESS Array B**	**70.66**	**338**	P	**P**	**04 54 00.9**	**-0.2**
	1.8nm,0.8s,baz=67,slow=6.9,SNR=2.8						
FINES	**FINESS Array B**	**72.79**	**330**	P	**P**	**04 54 13.6**	**-0.5**
	1.7nm,0.5s,baz=57,slow=6.3,SNR=19						
AKASG	**Malin Array Be**	**74.47**	**319**	P	**P**	**04 54 23.8**	**-0.3**
	0.7nm,0.4s,baz=57,slow=6.3,SNR=4.2						
BRTR	**Keskin Array B**	**74.98**	**307**	P	**P**	**04 54 28.4**	**+0.9**
	1.0nm,0.8s,baz=114,slow=6.0,SNR=5.7						
NOA	**NORSAR Array B**	**79.50**	**333**	P	**P**	**04 54 52.2**	**-0.1**
	0.8nm,0.6s,baz=50,slow=5.9,SNR=3.5						
SUMG	**Summit**	**83.12**	**355**	*e*P	**P**	**04 55 11.3**	**-0.5**
	1.1nm,0.4s						
GERES	**GERESS Array B**	**84.40**	**321**	P	**P**	**04 55 19.0**	**+0.6**
	1.0nm,0.8s,baz=59,slow=5.1,SNR=5.6						

*CSEM **21** 04:42:53.7, 11°.98N×44°.03E, h9km, ML3.9*

DHMR 21 04:42:53.7±2.0, 11°.98N×44°.03E, h10km±25km, ML3.9, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.22**	**49**	*i* P	Pg	04 43 17.5	+0.3
ADEN				*i* S	Sg	04 43 33.3	+0.2
ADEN				AML	AML	04 43 38.3	
	comp=N,3μm,0.3s						
ADEN	**Aden**	**1.22**	**49**	*i* P	Pg	04 43 17.5	+0.3
ADEN				*i* S	Sg	04 43 33.3	+0.2
	comp=N,1μm,0.3s						
UDYN	**Al 'Udayn**	**1.98**	**358**	*i* P	Pn	04 43 28.0	+0.5
UDYN				*i* S	Sb	04 43 56.0	+1.2
UDYN	**Al 'Udayn**	**1.98**	**358**	*i* P	Pn	04 43 28.0	+0.5
UDYN				*i* S	Sb	04 43 56.0	+1.2
BDHA	**Al Bayda'**	**2.49**	**37**	*i* P	Pn	04 43 36.1	+1.6
BDHA				*i* S	Sb	04 44 10.4	+0.9
BDHA				AML	AML	04 44 16.1	
	comp=N,1μm,0.5s						
BDHA	**Al Bayda'**	**2.49**	**37**	*i* P	Pn	04 43 36.1	+1.6
BDHA				*i* S	Sb	04 44 10.4	+0.9
	comp=N,637nm,0.5s						
HAJJ	**Hajjah**	**3.73**	**354**	*i* P	Pn	04 43 53.9	+2.3
HAJJ				*i* S	Sb	04 44 41.5	-3.5
HAJJ				AML	AML	04 44 57.1	
	comp=Z,273nm,0.5s						
HAJJ	**Hajjah**	**3.73**	**354**	*i* P	Pn	04 43 53.8	+2.3
HAJJ				*i* S	Sb	04 44 41.5	-3.6
	comp=Z,137nm,0.5s						

*ISCJB **21** 04:48:19.3±0.7, 37°.27N±0°.06×71°.94E±0°.10, h10km, Error ellipse: s-maj=12.9km s-min=5.8km az=144.4*

*NNC **21** 04:48:32.5±10.0, 37°.86N×71°.52E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=94.3km s-min=34.4km az=160.0*

ISC 21 04:48:23.3±2.1, 37°.3N±0°.1×72°.1E±0°.2, h10km, n12, σ2°06/11, 8C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.02**	**302**	⇑Pn	Pn	04 49 11.3	0.0
	21nm,0.3s						
DZET				⇑Sn	Sn	04 49 42.8	-4.8
	88nm,0.5s						
DZET				⇑Lg	Lg	04 50 01.9	
	41nm,0.4s						
AAK	**Ala-Archa**	**5.68**	**18**	⇑Pn	Pn	04 49 52.8	+4.8
	3.8nm,0.4s						
AAK				⇑Sn	**Sn**	**04 50 54.0**	**+0.6**
	11nm,0.8s						
KK31	**Karatay Array**	**5.97**	**349**	Pn	**Pn**	**04 49 54.3**	**+2.5**
	3.9nm,0.3s,baz=175,slow=12,SNR=105						
KK31				⇑Pg	Pb	04 49 56.2	-11
	1.5nm,0.3s,baz=163,slow=12,SNR=4.8						
KK31				⇓Sn	**Sn**	**04 50 56.0**	**-4.2**
	4.2nm,0.4s,baz=184,slow=23,SNR=16						
PYUN	**Piuthan**	**12.93**	**132**	*e*P	**Pn**	**04 51 27.6**	**+0.3**
	19nm,0.6s						
KOLN	**Koldanda**	**13.53**	**131**	*e*P	**Pn**	**04 51 35.8**	**+0.2**
GKN	**Gorkha**	**14.01**	**128**	*e*P	**Pn**	**04 51 42.2**	**+0.2**
	11nm,0.3s						
DMN	**Daman**	**14.58**	**128**	*e*P	**Pn**	**04 51 49.5**	**-0.5**
	5.8nm,0.3s						
GUN	**Gumba**	**14.87**	**125**	*e*P	**Pn**	**04 51 52.4**	**-1.6**
	5.6nm,0.3s						
AB31	**Akbulak array**	**14.89**	**328**	⇑Pg	Pn	04 51 49.2	-4.6
	0.6nm,0.3s,baz=134,slow=13,SNR=25						
AB31				⇑Lg	Lg	04 54 20.2	
	1.5nm,0.7s,baz=132,slow=25,SNR=3.8						
JIRN	**Jiri**	**15.24**	**125**	*e*P	**Pn**	**04 51 57.5**	**-1.5**
	36nm,0.4s						
RAMN	**Ramite**	**15.99**	**126**	*e*P	**Pn**	**04 52 06.8**	**-1.8**
	12nm,0.4s						
ODAN	**Odare**	**16.57**	**124**	*e*P	**Pn**	**04 52 15.0**	**-1.0**
	5.8nm,0.4s						

*CSEM **21** 04:59:19.5, 12°.05N×44°.05E, h6km, ML4.1*

DHMR 21 04:59:19.5±1.3, 12°.05N×44°.05E, h7km±17km, ML4.1, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.17**	**52**	*i* P	Pb	04 59 42.0	-0.1
ADEN				*i* S	Sb	04 59 57.5	+0.2
ADEN	**Aden**	**1.17**	**52**	*i* P	Pb	04 59 42.0	0.0
ADEN				*i* S	Sb	04 59 57.5	+0.1
UDYN	**Al 'Udayn**	**1.91**	**358**	*i* P	Pn	04 59 53.0	+0.3
UDYN				*i* S	Sg	05 00 20.3	-0.6
UDYN	**Al 'Udayn**	**1.91**	**358**	*i* P	Pn	04 59 53.0	+0.3
UDYN				*i* S	Sg	05 00 20.3	-0.6
BDHA	**Al Bayda'**	**2.42**	**38**	*i* P	Pb	05 00 01.7	-1.9
BDHA				*i* S	Sb	05 00 34.6	+0.8
BDHA				AML	AML	05 00 40.6	
	comp=N,1μm,0.5s						
BDHA	**Al Bayda'**	**2.42**	**38**	*i* P	Pb	05 00 01.7	-1.9
BDHA				*i* S	Sb	05 00 34.6	+0.8
HAJJ	**Hajjah**	**3.65**	**353**	*i* P	Pn	05 00 18.8	+2.1
HAJJ				*i* S	Sb	05 01 06.2	-3.1
HAJJ	**Hajjah**	**3.65**	**353**	*i* P	Pn	05 00 18.8	+2.1
HAJJ				*i* S	Sb	05 01 06.2	-3.0

DHMR 21 05:03:58.6±0.9, 12°.01N×44°.17E, h13km±10km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.10**	**46**	*i* P	Pb	05 04 18.3	-1.2
ADEN				*i* S	Sn	05 04 34.6	-0.1
ADEN				AML	AML	05 04 45.2	
	comp=E,2μm,0.4s						
ADEN	**Aden**	**1.10**	**46**	*i* P	Pb	05 04 18.6	-0.9
ADEN				*i* S	Sn	05 04 35.4	+0.6
ADEN				AML	AML	05 04 41.4	
	comp=N,2μm,0.3s						
ADEN	**Aden**	**1.10**	**46**	*i* P	Pb	05 04 19.2	-0.3
ADEN				*i* S	Sn	05 04 35.1	+0.3
ADEN				AML	AML	05 04 45.2	
	comp=E,2μm,0.4s						
ADEN	**Aden**	**1.10**	**46**	*i* P	Pb	05 04 19.1	-0.4
ADEN				*i* S	Sn	05 04 35.0	+0.3
ADEN				AML	AML	05 04 45.2	
	comp=E,2μm,0.4s						
UDYN	**Al 'Udayn**	**1.96**	**354**	*i* P	Pn	05 04 32.7	+1.0
UDYN				*i* S	Sb	05 04 59.7	+1.0
UDYN				AML	AML	05 05 04.4	
	comp=Z,842nm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**354**	*i* P	Pn	05 04 32.5	+0.8
UDYN				*i* S	Sb	05 04 59.1	+0.4
UDYN	**Al 'Udayn**	**1.96**	**354**	*i* P	Pb	05 04 33.1	-1.2
UDYN				*i* S	Sb	05 04 59.4	+0.7
UDYN				AML	AML	05 05 04.4	
	comp=Z,842nm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**354**	*i* P	Pn	05 04 31.8	+0.1
UDYN				*i* S	Sb	05 04 59.4	+0.7
BDHA	**Al Bayda'**	**2.38**	**35**	*i* P	Pb	05 04 40.2	-1.3
BDHA				*i* S	Sb	05 05 11.6	+0.6
BDHA				AML	AML	05 05 17.3	
	comp=E,865nm,0.5s						
BDHA	**Al Bayda'**	**2.38**	**35**	*i* P	Pb	05 04 40.2	-1.3
BDHA				*i* S	Sb	05 05 11.9	+1.0
BDHA				AML	AML	05 05 17.3	
	comp=E,865nm,0.5s						
BDHA	**Al Bayda'**	**2.38**	**35**	*i* P	Pb	05 04 40.2	-1.3
BDHA				*i* S	Sb	05 05 11.9	+1.0
BDHA	**Al Bayda'**	**2.38**	**35**	*i* P	Pn	05 04 39.4	+1.8
BDHA				*i* S	Sb	05 05 11.5	+0.5
BDHA				AML	AML	05 05 17.3	
	comp=E,865nm,0.5s						

*ATH **21** 05:12:23.8, 40°.96N×28°.02E, h16km±1km, ML2.9/7, Error ellipse: s-maj=3.5km s-min=1.9km az=46.0*

*THE **21** 05:12:27.6, 40°.88N×27°.91E, h10km±2km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=0.3km az=138.0*

*IASPEI **21** 05:12:27.4±0.9, 40°.86N±0°.02×27°.89E±0°.02, h17km±7km, Error ellipse: s-maj=3.1km s-min=2.4km az=6.3, GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*CSEM **21** 05:12:27.3±0.1, 40°.84N×27°.89E, h10km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.4km az=179.0*

*ISK **21** 05:12:27.0, 40°.84N×27°.90E, h15km, ML3.2*

*DDA **21** 05:12:27.1, 40°.82N×27°.89E, h7km, Ml3.3*

ISC 21 05:12:27.3±0.8, 40°.85N±0°.02×27°.89E±0°.01, h13km±6km, n166, σ0°65/210, 10C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBT3	**Marmara-Eregli**	**0.07**	**63**	*e*PG	**Pg**	**05 12 30.3**	**+0.5**
SBT3	**Marmara-Eregli**	**0.07**	**63**	*e*Pg	**Pg**	**05 12 30.3**	**+0.5**
CRLT	**Corlu**	**0.30**	**338**	*e*PG	**Pb**	**05 12 34.5**	**0.0**
CRLT				*e*SG	**Sb**	**05 12 39.6**	**+0.2**
CRLT	**Corlu**	**0.30**	**338**	*e*Pg	**Pb**	**05 12 34.5**	**0.0**
CRLT				*e*Sg	**Sb**	**05 12 39.6**	**+0.2**
TKR	**Tekirdag**	**0.30**	**298**	*e*PG	**Pb**	**05 12 34.2**	**-0.3**
TKR				*e*SG	**Sb**	**05 12 39.1**	**-0.3**
TKR	**Tekirdag**	**0.30**	**298**	*e*Pg	**Pb**	**05 12 34.2**	**-0.3**
TKR				*e*Sg	**Sb**	**05 12 39.1**	**-0.3**
SLVT	**Silivri**	**0.45**	**33**	*e*PG	**Pb**	**05 12 36.8**	**-0.3**
SLVT	**Silivri**	**0.45**	**33**	P	**Pg**	**05 12 34.1**	**-2.1**
SLVT	**Silivri**	**0.45**	**33**	*e*Pg	**Pb**	**05 12 36.8**	**-0.3**
SLVT				S	**Sg**	**05 12 38.9**	**-3.4**
SBT2	**Guzelce-Avcila**	**0.48**	**87**	*e*PG	**Pb**	**05 12 37.3**	**-0.1**
SBT2	**Guzelce-Avcila**	**0.48**	**87**	*e*Pg	**Pb**	**05 12 37.3**	**-0.1**
ELBA	**Catalca**	**0.51**	**54**	*i* P	**Pg**	**05 12 37.2**	**-0.1**
ELBA	**Catalca**	**0.51**	**54**	P	**Pg**	**05 12 37.2**	**-0.1**
SART	**Tekirdag**	**0.56**	**253**	*i* P	**Pg**	**05 12 38.0**	**-0.3**
SART				*i* S	**Sg**	**05 12 46.0**	**+0.2**
SART	**Tekirdag**	**0.56**	**253**	P	**Pg**	**05 12 38.0**	**-0.3**
SART				S	**Sg**	**05 12 46.0**	**+0.2**
CTKS	**Kestanelik-??a**	**0.61**	**50**	*e*PG	**Pg**	**05 12 39.0**	**-0.1**
CTKS	**Kestanelik-??a**	**0.61**	**50**	*e*Pg	**Pg**	**05 12 39.0**	**-0.1**
KRBG	**Karabiga-Canak**	**0.64**	**225**	*e*PG	**Pg**	**05 12 39.6**	**-0.2**
KRBG	**Karabiga-Canak**	**0.64**	**225**	*e*Pg	**Pg**	**05 12 39.6**	**-0.2**
KNL	**Bal¨–kesir**	**0.64**	**206**	*i* P	**Pb**	**05 12 39.8**	**-0.5**
KNL				*i* S	**Sg**	**05 12 47.5**	**-0.8**
KCTX	**Karacabey (Bur**	**0.69**	**148**	*e*PG	**Pb**	**05 12 40.5**	**-0.6**
KCTX	**Karacabey (Bur**	**0.69**	**148**	*e*Pg	**Pb**	**05 12 40.5**	**-0.6**
CTYL	**Yalikoy Yolu**	**0.69**	**26**	*e*PG	**Pg**	**05 12 40.6**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.69**	**26**	*e*Pg	**Pg**	**05 12 40.6**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**0.79**	**106**	*e*PG	**Pb**	**05 12 42.8**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**0.79**	**106**	*e*Pg	**Pb**	**05 12 42.8**	**+0.1**
ARMT	**Armutlu**	**0.79**	**111**	*e*PG	**Pb**	**05 12 42.9**	**-0.1**
ARMT	**Armutlu**	**0.79**	**111**	*e*Pg	**Pb**	**05 12 42.9**	**-0.1**
GONE	**Gonen-Balikesi**	**0.82**	**191**	*e*PG	**Pb**	**05 12 43.5**	**+0.1**
**GONE

SILT	**Sile**	**1.36 77**	*e*PN	**Pn**	**05 12 52.3**	**+0.3**
SILT	**Sile**	**1.36 77**	*e*Pn	**Pn**	**05 12 52.3**	**+0.3**
DST	**Dursunbey**	**1.37 156**	*e*PN	**Pn**	**05 12 51.8**	**-0.3**
DST	**Dursunbey**	**1.37 156**	*e*Pn	**Pn**	**05 12 51.8**	**-0.3**
ALN	**Alexandroupoli**	**1.40 272**	*e*PN	**Pn**	**05 12 52.2**	**-0.3**
ALN	**Alexandroupoli**	**1.40 272**	P	**Pn**	**05 12 52.1**	**-0.3**
ALN			S	**Sn**	**05 13 11.2**	**+0.5**
ALN	**Alexandroupoli**	**1.40 272**	P	**Pn**	**05 12 52.2**	**-0.3**
ALN			S	**Sb**	**05 13 11.8**	**+0.9**
ALN			AML	AML	05 13 13.9	
	comp=E,761μm,0.6s					
ALN			AML	AML	05 13 14.3	
	comp=N,559μm,0.5s					
ALN	**Alexandroupoli**	**1.40 272**	P	**Pn**	**05 12 52.2**	**-0.3**
ALN			S	**Sn**	**05 13 11.2**	**+0.5**
ADVT	**Abdulvahap**	**1.47 106**	*e*PN	**Pn**	**05 12 53.4**	**0.0**
ADVT	**Abdulvahap**	**1.47 106**	*e*Pn	**Pn**	**05 12 53.4**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.51 223**	*i* P	**Pn**	**05 12 54.3**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.51 223**	P	**Pn**	**05 12 54.3**	**+0.3**
EZN	**Ezine**	**1.57 230**	*e*PN	**Pn**	**05 12 55.4**	**+0.5**
EZN	**Ezine**	**1.57 230**	*e*Pn	**Pn**	**05 12 55.4**	**+0.5**
CAVI	**Cavuskoy**	**1.62 113**	*e*PN	**Pn**	**05 12 55.8**	**+0.2**
CAVI	**Cavuskoy**	**1.62 113**	*e*Pn	**Pn**	**05 12 55.8**	**+0.2**
GADA	**Gvkgeada**	**1.65 247**	*e*PN	**Pn**	**05 12 56.1**	**+0.1**
GADA	**Gvkgeada**	**1.65 247**	P	**Pn**	**05 12 55.8**	**-0.2**
GADA			S	**Sn**	**05 13 17.8**	**+0.8**
GADA	**Gvkgeada**	**1.65 247**	P	**Pn**	**05 12 55.8**	**-0.2**
GADA	**Gvkgeada**	**1.65 247**	*e*Pn	**Pn**	**05 12 56.1**	**+0.1**
GADA			S	**Sn**	**05 13 17.8**	**+0.8**
KAND	**Kocaeli-Kandir**	**1.76 81**	*i* P	**Pn**	**05 12 57.8**	**+0.4**
KAND	**Kocaeli-Kandir**	**1.76 81**	P	**Pn**	**05 12 57.8**	**+0.4**
CUND	**Cunda Adasi-Ba**	**1.78 212**	*e*PN	**Pn**	**05 12 58.0**	**+0.3**
CUND	**Cunda Adasi-Ba**	**1.78 212**	*e*Pn	**Pn**	**05 12 58.0**	**+0.3**
RDO	**Rodhopi**	**1.80 280**	P	**Pn**	**05 12 58.3**	**+0.3**
RDO			S	**Sn**	**05 13 21.1**	**+0.4**
RDO	**Rodhopi**	**1.80 280**	P	**Pn**	**05 12 58.7**	**+0.7**
RDO			S	**Sn**	**05 13 21.2**	**+0.4**
RDO			AML	AML	05 13 25.5	
	comp=N,564μm,0.7s					
RDO			AML	AML	05 13 25.6	
	comp=E,408μm,0.4s					
RDO	**Rodhopi**	**1.80 280**	P	**Pn**	**05 12 58.3**	**+0.3**
RDO			S	**Sn**	**05 13 21.2**	**+0.5**
SMTH	**Samothraki Isl**	**1.83 259**	P	**Pn**	**05 12 57.9**	**-0.6**
SMTH			S	**Sn**	**05 13 22.0**	**+0.5**
SMTH	**Samothraki Isl**	**1.83 259**	P	**Pn**	**05 12 57.4**	**-1.1**
SMTH			S	**Sb**	**05 13 23.9**	**+0.4**
SMTH			AML	AML	05 13 32.0	
	comp=E,283μm,0.5s					
SMTH			AML	AML	05 13 33.0	
	comp=N,220μm,0.5s					
SMTH	**Samothraki Isl**	**1.83 259**	P	**Pn**	**05 12 57.9**	**-0.6**
SMTH			S	**Sn**	**05 13 22.0**	**+0.5**
SPNC	**Sapanca-Adapaz**	**1.85 94**	*e*PN	**Pn**	**05 12 59.0**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.85 94**	*e*Pn	**Pn**	**05 12 59.0**	**+0.4**
TVSB	**Tavsanli**	**1.85 139**	*e*PN	**Pn**	**05 12 59.5**	**+0.7**
TVSB	**Tavsanli**	**1.85 139**	*e*Pn	**Pn**	**05 12 59.5**	**+0.7**
GEYV	**SAKARYA_Geyve**	**1.87 101**	*i* P	**Pb**	**05 13 01.2**	**0.0**
GEYV	**SAKARYA_Geyve**	**1.87 101**	P	**Pb**	**05 13 01.2**	**0.0**
DKL	**Dikili**	**1.93 203**	*e*PN	**Pn**	**05 13 00.3**	**+0.5**
DKL	**Dikili**	**1.93 203**	*e*Pn	**Pn**	**05 13 00.3**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.94 225**	*e*PN	**Pn**	**05 13 00.1**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.94 225**	*e*Pn	**Pn**	**05 13 00.1**	**+0.2**
SIMA	**Simav-Kutahya**	**1.96 154**	*e*PN	**Pn**	**05 13 00.9**	**+0.7**
SIMA	**Simav-Kutahya**	**1.96 154**	*e*Pn	**Pn**	**05 13 00.9**	**+0.7**
PRK	**Paraskevi**	**2.03 218**	P	**Pn**	**05 13 01.7**	**+0.6**
PRK			S	**Sn**	**05 13 27.2**	**+0.9**
PRK	**Paraskevi**	**2.03 218**	P	**Pn**	**05 13 01.5**	**+0.4**
PRK			S	**Sb**	**05 13 29.8**	**+0.8**
PRK			AML	AML	05 13 38.6	
	comp=N,524μm,0.6s					
PRK			AML	AML	05 13 41.0	
	comp=E,995μm,0.8s					
PRK	**Paraskevi**	**2.03 218**	P	**Pn**	**05 13 01.5**	**+0.4**
PRK			S	**Sn**	**05 13 27.2**	**+0.9**
GULT	**Gulveren**	**2.04 101**	*e*PN	**Pn**	**05 13 01.6**	**+0.2**
GULT	**Gulveren**	**2.04 101**	*e*Pn	**Pn**	**05 13 01.6**	**+0.2**
SIGR	**SIGRI**	**2.26 224**	*e*PN	**Pn**	**05 13 04.8**	**+0.5**
SIGR	**SIGRI**	**2.26 224**	P	**Pn**	**05 13 05.1**	**+0.8**
SIGR			S	**Sn**	**05 13 32.9**	**+0.8**
SIGR	**SIGRI**	**2.26 224**	P	**Pn**	**05 13 05.5**	**+1.2**
SIGR			S	**Sb**	**05 13 35.6**	**-0.2**
SIGR			AML	AML	05 13 41.0	
	comp=E,359μm,0.7s					
SIGR			AML	AML	05 13 41.3	
	comp=N,402μm,0.8s					
SIGR	**SIGRI**	**2.26 224**	*e*Pn	**Pn**	**05 13 04.8**	**+0.5**
SIGR	**SIGRI**	**2.26 224**	P	**Pn**	**05 13 05.1**	**+0.8**
SIGR			S	**Sn**	**05 13 32.9**	**+0.8**
LIA	**Limnos Island**	**2.27 246**	P	**Pn**	**05 13 03.7**	**-0.8**
LIA			S	**Sb**	**05 13 35.6**	**-0.6**
LIA			AML	AML	05 13 47.6	
	comp=N,189μm,0.6s					
LIA			AML	AML	05 13 49.5	
	comp=E,138μm,0.9s					
LIA	**Limnos Island**	**2.27 246**	P	**Pn**	**05 13 03.7**	**-0.8**
LIA			S	**Sb**	**05 13 35.6**	**-0.6**
KULA	**Kula-Manisa**	**2.41 165**	*e*PN	**Pn**	**05 13 07.0**	**+0.5**
KULA	**Kula-Manisa**	**2.41 165**	P	**Pn**	**05 13 06.8**	**+0.4**
KULA			S	**Sn**	**05 13 37.0**	**+1.2**
KULA	**Kula-Manisa**	**2.41 165**	P	**Pn**	**05 13 06.8**	**+0.4**
KULA			S	**Sn**	**05 13 37.0**	**+1.2**
KAVA	**Kavala**	**2.56 274**	P	**Pn**	**05 13 09.5**	**+1.0**
KAVA	**Kavala**	**2.56 274**	P	**Pn**	**05 13 09.5**	**+1.0**
CHOS	**Chios island**	**2.84 210**	P	**Pn**	**05 13 12.5**	**+0.1**
CHOS	**Chios island**	**2.84 210**	P	**Pn**	**05 13 12.7**	**+0.4**
CHOS			S	**Sb**	**05 13 50.0**	**-2.5**
CHOS			AML	AML	05 14 07.0	
	comp=E,182μm,0.7s					
CHOS			AML	AML	05 14 07.0	
	comp=N,167μm,0.6s					
CHOS	**Chios island**	**2.84 210**	P	**Pn**	**05 13 12.7**	**+0.4**
CHOS			S	**Sb**	**05 13 50.0**	**-2.5**
OUR	**Ouranopolis**	**3.02 261**	P	**Pn**	**05 13 13.9**	**-0.8**
OUR	**Ouranopolis**	**3.02 261**	P	**Pn**	**05 13 13.9**	**-0.8**
NVR	**Nevrokopi**	**3.08 281**	P	**Pn**	**05 13 16.1**	**+0.4**
NVR	**Nevrokopi**	**3.08 281**	P	**Pn**	**05 13 16.1**	**+0.4**
SRS	**Serrai**	**3.26 276**	P	**Pn**	**05 13 18.3**	**+0.2**
SRS	**Serrai**	**3.26 276**	P	**Pn**	**05 13 18.3**	**+0.2**
PAIG	**Paliouri**	**3.34 255**	P	**Pn**	**05 13 20.2**	**+1.0**
PAIG	**Paliouri**	**3.34 255**	P	**Pn**	**05 13 20.2**	**+1.0**
TIRR	**Tirgusor**	**3.62 6** ⇑	*i*P	**Pn**	**05 13 24.5**	**+1.4**
TIRR	**Tirgusor**	**3.62 6** ⇑	*i*P	**Pn**	**05 13 24.5**	**+1.4**
KNT	**Kendrikon**	**3.79 276**	P	**Pn**	**05 13 26.2**	**+0.9**
KNT	**Kendrikon**	**3.79 276**	P	**Pn**	**05 13 26.2**	**+0.9**
VTS	**Vitosha**	**3.91 298** ⇑	*i*P	**Pn**	**05 13 28.1**	**+1.0**
VTS	**Vitosha**	**3.91 298** ⇑	*i*P	**Pn**	**05 13 28.1**	**+1.0**
CFR	**Carcaliu**	**4.33 2** ⇓	*i*P	**Pn**	**05 13 33.4**	**+0.7**
CFR	**Carcaliu**	**4.33 2** ⇓	*i*P	**Pn**	**05 13 33.4**	**+0.7**
BARS	**Barje**	**4.94 295** ⇓	*i*Pn	**Pn**	**05 13 42.3**	**+1.1**
VOIR		**5.03 337** ⇑	*i*P	**Pn**	**05 13 42.7**	**+0.2**
VOIR		**5.03 337** ⇑	*i*P	**Pn**	**05 13 42.7**	**+0.2**
VRI	**Vrincioaia**	**5.08 351** ⇑	*i*P	**Pn**	**05 13 43.8**	**+0.7**
VRI	**Vrincioaia**	**5.08 351** ⇑	*i*P	**Pn**	**05 13 43.8**	**+0.7**
ZAGS	**Zajecar**	**5.13 307**	*e*Pn	**Pn**	**05 13 43.7**	**0.0**
BOVS	**Bovan**	**5.37 303**	*e*Pn	**Pn**	**05 13 47.8**	**+0.8**
LOT	**Lotru**	**5.49 328** ⇑	*i*P	**Pn**	**05 13 49.3**	**+0.4**
LOT	**Lotru**	**5.49 328** ⇑	*i*P	**Pn**	**05 13 49.3**	**+0.4**
KUBS	**Kucevo**	**5.80 310**	*e*Pn	**Pn**	**05 13 51.8**	**-1.2**
MDVR	**Moldovita**	**6.00 313** ⇓	*i*P	**Pn**	**05 13 55.8**	**0.0**
MDVR	**Moldovita**	**6.00 313** ⇓	*i*P	**Pn**	**05 13 55.8**	**0.0**
GRUS	**Gruza**	**6.12 302**	*e*Pn	**Pn**	**05 13 58.4**	**+1.1**

IDC 21 05:17:16.4±2.7, 16°.35N×146°.42E, h110km±26km, mb3.5/6, mb1 3.8/7, mb1mx3.4/50, mbtmp3.9/7, Error ellipse: s-maj=39.9km s-min=19.6km az=115.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.12**	**209**	P	Pn	05 18 05.2	+1.2
	60nm,0.3s,baz=342,slow=1.0,SNR=23						
GUMO				S	Sn	05 18 40.7	-0.1
	16nm,0.3s,baz=347,slow=24,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**19.46**	**81**	T	T	05 42 34.1	
	baz=266,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**19.47**	**81**	T	T	05 42 35.7	
	baz=266,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**19.48**	**81**	T	T	05 42 34.5	
	baz=266,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**19.75**	**77**	T	T	05 42 54.7	
	baz=263,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**19.76**	**77**	T	T	05 42 55.6	
	baz=263,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**19.77**	**77**	T	T	05 42 57.1	
	baz=263,slow=75,SNR=16						
WRA	**Warramunga Arr**	**37.97**	**199**	P	P	05 24 24.4	+0.7
	0.4nm,0.4s,baz=29,slow=8.9,SNR=6.3						
ASAR	**Alice Springs**	**41.61**	**197**	P	P	05 24 53.4	-0.4
	0.2nm,0.4s,baz=13,slow=8.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**45.25**	**280**	P	P	05 25 22.4	-0.8
	1.5nm,0.7s,baz=84,slow=6.7,SNR=5.8						
ILAR	**Eielson Array**	**65.45**	**26**	P	P	05 27 47.0	-0.3
	0.4nm,0.4s,baz=251,slow=6.0,SNR=14						
INK	**Inuvik**	**71.26**	**23**	P	P	05 28 23.6	+0.2
	3.3nm,0.9s,baz=294,slow=5.7,SNR=4.9						
YKA	**Yellowknife Ar**	**79.74**	**28**	P	P	05 29 12.3	+0.4
	1.7nm,0.9s,baz=285,slow=5.1,SNR=2.7						

*DHMR **21** 05:29:41.0±1.4, 12°.02N×44°.16E, h13km±6km, ML4.2*
*CSEM **21** 05:29:41.0, 12°.02N×44°.16E, h13km, ML4.2*
*IDC **21** 05:29:43.4±6.7, 11°.96N×44°.28E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/44, mbtmp3.9/7, MS3.2/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=140.7km s-min=39.7km az=37.0*

ISC 21 05:29:43.8±1.4, 12°.09N±0°.08×44°.19E±0°.06, h4km, n19, σ1§51/27, mb3.9/7, MS3.1/3, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.03**	**49**	*i* P	**Pg**	**05 30 01.2**	**-2.4**
ADEN				*i* S	**Sg**	**05 30 16.9**	**0.0**
ADEN				AML	AML	05 30 24.4	
	comp=N,5μm,0.6s						
ADEN	**Aden**	**1.03**	**49**	*i* P	**Pg**	**05 30 01.2**	**-2.4**
ADEN				*i* S	**Sg**	**05 30 16.9**	**0.0**
	comp=N,3μm,0.6s						
TRBA	**At Turbah**	**1.14**	**356**	*i* P	**Pg**	**05 30 03.4**	**-2.3**
TRBA				*i* S	**Sg**	**05 30 20.1**	**-0.3**
UDYN	**Al 'Udayn**	**1.88**	**353**	*i* P	**Pn**	**05 30 14.9**	**-2.0**
UDYN				*i* S	**Sb**	**05 30 42.6**	**0.0**
UDYN	**Al 'Udayn**	**1.88**	**353**	*i* P	**Pn**	**05 30 14.9**	**-2.0**
UDYN				*i* S	**Sb**	**05 30 42.7**	**0.0**
BDHA	**Al Bayda'**	**2.30**	**35**	*i* P	**Pn**	**05 30 22.3**	**-0.5**
BDHA				*i* S	**Sn**	**05 30 53.7**	**+1.9**
BDHA				AML	AML	05 31 01.9	
	comp=N,2μm,0.6s						
BDHA	**Al Bayda'**	**2.30**	**35**	*i* P	**Pn**	**05 30 22.3**	**-0.5**
BDHA				*i* S	**Sn**	**05 30 53.7**	**+1.9**
	comp=N,1μm,0.6s						
DHBB	**Dhamar BB**	**2.47**	**4**	*i* P	**Pn**	**05 30 25.4**	**+0.3**
DHBB	**Dhamar BB**	**2.47**	**4**	*i* P	**Pn**	**05 30 25.5**	**+0.3**
HAJJ	**Hajjah**	**3.63**	**351**	*i* P	**Pn**	**05 30 39.8**	**-1.3**
HAJJ				*i* S	**Sn**	**05 31 26.9**	**+2.4**
HAJJ	**Hajjah**	**3.63**	**351**	*i* P	**Pn**	**05 30 39.8**	**-1.3**
HAJJ				*i* S	**Sn**	**05 31 26.9**	**+2.4**
KMBO	**Kilima Mbogo**	**14.83**	**208**	LR	LR	05 38 42.8	
	comp=N,123nm,18.7s,baz=16,slow=37						
BRTR	**Keskin Array B**	**29.07**	**343**	P	**P**	**05 35 47.2**	**+1.7**
	comp=N,1.2nm,1.0s,baz=148,slow=10,SNR=6.3						
BRTR				LR	LR	05 47 25.1	
	comp=N,28nm,21.7s,baz=98,slow=36						
BVAR	**Borovoye Array**	**45.89**	**22**	P	**P**	**05 38 08.5**	**+1.1**
	comp=N,0.4nm,0.4s,baz=242,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**47.15**	**35**	P	**P**	**05 38 18.4**	**+1.1**
	comp=N,0.4nm,0.6s,baz=227,slow=12,SNR=3.5						
MKAR				LR	LR	06 00 55.4	
	comp=N,20nm,21.0s,baz=240,slow=40						
KURBB	**Kurchatov Arra**	**47.55**	**29**	P	**P**	**05 38 21.3**	**+0.9**
	comp=N,0.4nm,0.2s,baz=227,slow=7.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**52.65**	**29**	P	**P**	**05 38 59.2**	**+0.2**
	comp=N,0.4nm,0.2s,baz=243,slow=6.3,SNR=3.9						
ZALV				LR	LR	06 04 06.7	
	comp=N,27nm,18.7s,baz=66,slow=39						
CMAR	**Chiang Mai Arr**	**53.04**	**76**	P	**P**	**05 39 02.9**	**+0.4**
	comp=N,0.8nm,0.4s,baz=271,slow=8.1,SNR=11						
SONM	**Songino Array**	**62.54**	**42**	P	**P**	**05 40 08.0**	**-1.1**
	comp=N,1.3nm,1.0s,baz=258,slow=7.4,SNR=5.7						

*DJA **21** 05:50:19.5±0.3, 1°.S±3°×11°.9E±°, h10km, M4.7/11, mb4.7/9, mB5.3/7, MLv4.7/11, Mw(mB)4.7/7*
*ISCJB **21** 05:50:20.1±0.2, 1°.49S±0°.04×119°.47E±0°.04, h37km, mb4.6/30, MS3.4/15, Error ellipse: s-maj=6.3km s-min=4.3km az=135.2*
*IDC **21** 05:50:20.9±8.2, 1°.48S×119°.71E, h33km±65km, mb4.1/12, mb1 4.2/13, mb1mx3.9/38, mbtmp4.2/13, ML3.6/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/51, Error ellipse: s-maj=33.6km s-min=13.5km az=62.0*
*NEIC **21** 05:50:22.0±0.8, 1°.54S×119°.53E, h44km±8km, mb4.7/20, Error ellipse: s-maj=9.5km s-min=5.3km az=51.0*

ISC 21 05:50:22.0±0.4, 1°.52S±0°.05×119°.55E±0°.06, h37km, n90, σ1§76/87, mb4.6/31, MS3.5/15, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.67**	**25**	P	Pn	05 50 29.5	-5.6
TTSI	**Tana Toraja**	**1.54**	**170**	P	**Pn**	**05 50 47.1**	**+0.2**
MPSI	**Mapaga**	**1.87**	**11**	P	**Pn**	**05 50 48.4**	**-3.1**
APSI	**Ampana**	**2.18**	**74**	P	**Pn**	**05 50 56.7**	**+1.0**
SPSI	**Sidrap Palu**	**2.44**	**175**	P	**Pn**	**05 51 00.2**	**+0.9**
BKB	**Balikpapan**	**2.67**	**275**	P	**Pn**	**05 51 00.5**	**-1.9**
MRSI	**Marisa**	**3.10**	**50**	P	**Pn**	**05 51 06.7**	**-1.7**
BSSI	**Bau Bau, Buton**	**4.69**	**169**	P	**Pn**	**05 51 34.8**	**+4.5**
KMSI	**Cibinong**	**4.89**	**65**	P	**Pn**	**05 51 34.9**	**+1.9**
BBSI	**Bau Bau**	**4.96**	**143**	P	Pn	05 51 39.1	+5.1
MYLDM	**Lahad Datu**	**6.73**	**351**	*e*Pn	**Pn**	**05 51 58.8**	**+0.5**
NLAI	**Namlea**	**7.73**	**103**	P	**Pn**	**05 52 16.5**	**+4.4**
LBMI	**Labuha**	**7.99**	**84**	P	**Pn**	**05 52 14.5**	**-1.2**
KKM	**Kota Kinabalu**	**8.22**	**336**	*e*Pn	**Pn**	**05 52 19.2**	**+0.4**
STKI	**Sintang**	**8.23**	**281**	P	**Pn**	**05 52 16.6**	**-2.3**
SBUM	**Sibu**	**8.32**	**298**	*e*Pn	**Pn**	**05 52 20.4**	**+0.2**
SOEI	**Soe**	**9.43**	**150**	P	Pn	05 52 40.4	+4.9
MSAI	**Masohi**	**9.54**	**101**	P	**Pn**	**05 52 40.9**	**+4.0**
KSM	**Kuching**	**9.71**	**288**	*e*Pn	**Pn**	**05 52 36.3**	**-2.9**
FAKI	**Fak Fak**	**12.76**	**96**	P	**Pn**	**05 53 22.9**	**+1.9**
FAKI	**Fak Fak**	**12.76**	**96**	*e*Pn	**Pn**	**05 53 21.7**	**+0.7**
MTN	**Manton Dam**	**16.07**	**135**	*e*Pn	**P**	**05 54 08.8**	**+0.6**
	21nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.53**	**160**	P	**Pn**	**05 54 23.8**	**+0.2**
	0.2nm,0.3s,baz=17,slow=5.5,SNR=8.2						
FITZ				LR	LR	06 02 59.6	
	comp=Z,184nm,18.1s,baz=344,slow=43						
FITZ	**Fitzroy Crossi**	**17.53**	**160**	*e*Pn	**P**	**05 54 25.6**	**+1.1**
BKNI	**Bangkinang**	**18.60**	**275**	*e*P	**Pn**	**05 54 36.9**	**+0.1**
	57nm,0.4s						
IPM	**Ipoh**	**19.45**	**288**	*e*P	**P**	**05 54 45.5**	**-0.2**
	33nm,1.4s						
KULM	**Kulim**	**20.06**	**290**	*e*P	**P**	**05 54 51.1**	**-1.1**
	19nm,1.1s						
PSI	**Prapat**	**21.07**	**282**	P	**P**	**05 55 04.2**	**+0.8**
	2.9nm,0.3s,baz=154,slow=5.3,SNR=5.3						
PSI				LR	LR	06 04 11.9	
	comp=Z,203nm,18.5s,baz=98,slow=39						
PSI	**Prapat**	**21.07**	**282**	*e*P	**P**	**05 55 02.5**	**-0.8**
	27nm,1.1s						
QIZ	**Qiongzhong**	**22.54**	**335**	P	**P**	**05 55 18.6**	**-0.3**
QIZ				S	**S**	**05 59 24.1**	**+0.3**
QIZ				LR	LR		
	comp=Z,85nm,23.1s						
WRA	**Warramunga Arr**	**23.33**	**143**	P	**P**	**05 55 24.9**	**-2.2**
	comp=Z,11nm,0.8s,baz=318,slow=11,SNR=66						
WRA				LR	LR	06 05 51.7	
	comp=Z,164nm,18.2s,baz=340,slow=40						
WRAB	**Tennant Creek**	**23.33**	**143**	*e*P	**P**	**05 55 25.5**	**-1.6**
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**23.34**	**143**	*e*P	**P**	**05 55 25.6**	**-1.6**
	comp=Z,19nm,0.8s						
TWG	**Pinlang**	**24.23**	**3**	*e*P	**P**	**05 55 35.6**	**0.0**
	comp=Z,91nm,0.4s						
AS31	**Alice Springs**	**26.04**	**149**	*e*P	**P**	**05 55 52.0**	**0.0**
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**26.04**	**149**	P	**P**	**05 55 51.2**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=341,slow=14,SNR=32						
ASAR				LR	LR	06 08 24.1	
	comp=Z,152nm,18.3s,baz=7.5,slow=42						
CMAR	**Chiang Mai Arr**	**28.37**	**315**	P	**P**	**05 56 12.3**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=134,slow=6.8,SNR=7.7						
CMAR				LR	LR	06 09 08.0	
	comp=Z,81nm,19.5s,baz=144,slow=40						
CHTO	**Chiang Mai**	**28.61**	**316**	*e*P	**P**	**05 56 14.6**	**-0.5**
	comp=Z,3.0nm,0.8s						
GUMO	**Guam**	**29.24**	**58**	LR	LR	06 07 28.8	
	comp=Z,40nm,20.8s,baz=140,slow=35						
FORT	**Forrest**	**30.20**	**165**	*e*P	**P**	**05 56 27.8**	**-1.2**
	comp=Z,89nm,0.8s						
ENH	**Enshi**	**33.04**	**344**	*e*P	**P**	**05 56 53.6**	**-0.4**
	comp=Z,20nm,1.3s						
NJ2	**Nanjing**	**33.39**	**359**	*e*P	**P**	**05 56 57.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CD2	**Chengdu**	**35.58**	**336**	*e*P	**P**	**05 57 16.0**	**0.0**
STKA	**Stephens Creek**	**36.67**	**148**	P	**P**	**05 57 24.2**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=14,slow=19,SNR=6.7						
STKA				LR	LR	06 14 36.4	
	comp=Z,140nm,18.0s,baz=5.7,slow=40						
STKA	**Stephens Creek**	**36.67**	**148**	*e*P	**P**	**05 57 24.7**	**-0.6**
	comp=Z,1.4nm,1.1s						
KSRS	**Korea Array**	**39.54**	**10**	LR	LR	06 13 48.7	
	comp=Z,28nm,21.9s,baz=202,slow=36						
LZH	**Lanzhou**	**40.18**	**340**	*e*P	**P**	**05 57 58.4**	**+3.5**
LZH				pP	sP	05 58 11.4	+1.3
LZH				sP	pP	05 58 16.4	+11
LZH				pmax	pmax		
	comp=Z,50nm,1.4s						
LZH				pmax	pmax		
	comp=Z,250nm,5.1s						
BJT	**Baijiatuau**	**41.45**	**356**	*e*P	**P**	**05 58 05.0**	**-0.2**
ODAN	**Odare**	**41.91**	**315**	*e*P	**P**	**05 58 09.8**	**+0.3**
TAPN	**Taplejung**	**41.98**	**315**	*e*P	**P**	**05 58 09.6**	**-0.5**
	comp=Z,32nm,0.9s						
RAMN	**Ramite**	**42.53**	**314**	*e*P	**P**	**05 58 14.0**	**-0.5**
	comp=Z,36nm,1.0s						
HHC	**Hu-ho-hao-te**	**42.79**	**351**	*e*P	**P**	**05 58 18.6**	**+2.4**
HHC				pmax	pmax		
	comp=Z,70nm,7.9s						
JIRN	**Jiri**	**43.24**	**315**	*e*P	**P**	**05 58 19.6**	**-0.8**
	comp=Z,33nm,0.9s						
GUN	**Gumba**	**43.62**	**315**	*e*P	**P**	**05 58 22.5**	**-0.9**
	comp=Z,22nm,0.8s						
GKN	**Gorkha**	**44.56**	**314**	*e*P	**P**	**05 58 29.8**	**-0.9**
GTA	**Gaotai**	**44.58**	**338**	*e*P	**P**	**05 58 30.9**	**+0.2**
GTA				pP	pP	05 58 43.3	+1.8
GTA				sP	sP	05 58 48.3	+2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLN	**Koldanda**	**45.18**	**313**	*e*P	**P**	**05 58 34.9**	**-0.9**
	comp=Z,12nm,0.8s						
CN2	**Changchun**	**45.42**	**6**	*e*P	**P**	**05 58 39.0**	**+1.9**
PYUN	**Piuthan**	**45.81**	**313**	*e*P	**P**	**05 58 40.1**	**-0.7**
	comp=Z,43nm,1.0s						
USRK	**Ussuriysk Ar.**	**46.85**	**12**	P	**P**	**05 58 46.6**	**-1.8**
	comp=Z,2.3nm,0.6s,baz=165,slow=6.7,SNR=4.7						
SONM	**Songino Array**	**50.48**	**349**	P	**P**	**05 59 16.3**	**-0.1**
	comp=Z,4.7nm,1.1s,baz=170,slow=8.2,SNR=14						
SONM				LR	LR	06 21 58.1	
	comp=Z,26nm,18.8s,baz=60,slow=38						
WMQ	**Urumqi**	**53.38**	**332**	P	**P**	**05 59 38.9**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,12nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,74nm,5.3s						
WMQ				LR	LR		
	comp=N,65nm,31.9s						
WMQ				LR	LR		
	comp=E,120nm,27.9s						
WMQ				LR	LR		
	comp=Z,37nm,23.9s						
KSH	**Kashi**	**57.08**	**321**	P	**P**	**06 00 08.6**	**+3.8**
KSH				pP	sP	06 00 21.4	+1.1
KSH				sP	pP	06 00 26.8	+11

*ISCJB **21** 06:06:44.2±2.0, 34°.23N±0°.09×26°.12E±0°.06, h21km±11km, mb3.7/4, Error ellipse: s-maj=15.4km s-min=8.6km az=168.8*
*CSEM **21** 06:06:44.9±0.8, 34°.32N×26°.09E, h10km, ML2.5, Error ellipse: s-maj=14.7km s-min=9.0km az=155.0*
*ATH **21** 06:06:44.4, 34°.28N×25°.99E, h17km±2km, ML2.4/5, Error ellipse: s-maj=3.8km s-min=1.6km az=342.0*
*THE **21** 06:06:45.8, 34°.37N×26°.03E, h0km±2km, ML2.5/6, Error ellipse: s-maj=4.5km s-min=0.8km az=153.0*
ISC 21 06:06:44.5±1.7, 34°.30N±0°.08×26°.03E±0°.04, h18km±5km, n42, σ0°.96/59, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.83**	**11**	P	**Pb**	**06 07 00.5**	**0.0**
ZKR				S	**Sn**	**06 07 12.8**	**-0.3**
ZKR	**Zakros**	**0.83**	**11**	P	**Pb**	**06 07 00.4**	**0.0**
ZKR				S	**Sn**	**06 07 12.8**	**-0.3**
ZKR				AML	AML	06 07 17.9	
	comp=E,975μm,0.3s						
ZKR				AML	AML	06 07 22.1	
	comp=N,453μm,0.5s						
ZKR	**Zakros**	**0.83**	**11**	P	**Pb**	**06 07 00.5**	**0.0**
ZKR				S	**Sn**	**06 07 12.8**	**-0.3**
LAST	**Lasithi**	**0.97**	**332**	P	**Pg**	**06 07 03.4**	**-0.1**
LAST				S	**Sn**	**06 07 18.0**	**+1.2**
LAST	**Lasithi**	**0.97**	**332**	P	**Pn**	**06 07 03.8**	**+0.4**
LAST				S	**Sg**	**06 07 15.9**	**-0.4**
LAST				AML	AML	06 07 27.2	
	comp=N,679μm,0.7s						
LAST				AML	AML	06 07 30.5	
	comp=E,521μm,0.6s						
LAST	**Lasithi**	**0.97**	**332**	P	**Pg**	**06 07 03.4**	**-0.1**
LAST				S	**Sn**	**06 07 18.0**	**+1.2**
NPS	**Neapolis**	**1.02**	**341**	P	**Pb**	**06 07 04.0**	**+0.3**
NPS				S	**Sn**	**06 07 19.2**	**+1.3**
NPS	**Neapolis**	**1.02**	**341**	P	**Pg**	**06 07 04.3**	**-0.1**
NPS				S	**Sn**	**06 07 18.0**	**+0.1**
NPS				AML	AML	06 07 31.2	
	comp=E,551μm,0.7s						
NPS				AML	AML	06 07 31.7	
	comp=N,332μm,0.7s						
NPS	**Neapolis**	**1.02**	**341**	P	**Pg**	**06 07 04.3**	**-0.1**
NPS				S	**Sn**	**06 07 18.0**	**+0.1**
SIVA	**Sivas**	**1.23**	**306**	P	**Pg**	**06 07 08.4**	**0.0**
SIVA				S	**Sg**	**06 07 25.5**	**+0.9**
SIVA	**Sivas**	**1.23**	**306**	P	**Pn**	**06 07 06.3**	**-0.5**
SIVA	**Sivas**	**1.23**	**306**	P	**Pg**	**06 07 08.4**	**0.0**
SIVA				S	**Sg**	**06 07 25.5**	**+0.9**
IDI	**Anoyia**	**1.36**	**317**	P	**Pg**	**06 07 11.3**	**+0.5**
	comp=N,3.6nm,0.3s,baz=139,slow=22,SNR=12						
IDI				S	Sg	06 07 38.0	+9.4
	comp=N,6.7nm,0.3s,baz=210,slow=22,SNR=8.7						
IDI	**Anoyia**	**1.36**	**317**	P	**Pb**	**06 07 09.9**	**+0.4**
IDI				S	**Sg**	**06 07 28.3**	**-0.3**
IDI	**Anoyia**	**1.36**	**317**	P	**Pn**	**06 07 09.3**	**+0.6**
IDI				S	**Sg**	**06 07 28.8**	**+0.1**
IDI				AML	AML	06 07 46.4	
	comp=N,157μm,0.6s						
IDI				AML	AML	06 07 52.8	
	comp=E,151μm,0.6s						
IDI	**Anoyia**	**1.36**	**317**	P	**Pb**	**06 07 09.9**	**+0.4**
IDI				S	**Sg**	**06 07 28.8**	**+0.1**
KARP	**Karpathos**	**1.56**	**36**	P	**Pb**	**06 07 13.1**	**+0.3**
KARP				S	**Sb**	**06 07 33.3**	**+1.1**
KARP	**Karpathos**	**1.56**	**36**	P	**Pg**	**06 07 13.9**	**-0.7**
KARP				S	**Sg**	**06 07 36.9**	**+2.0**
KARP				AML	AML	06 07 49.1	
	comp=N,361μm,0.5s						
KARP				AML	AML	06 07 49.1	
	comp=E,136μm,0.5s						
KARP	**Karpathos**	**1.56**	**36**	P	**Pb**	**06 07 13.1**	**+0.3**
KARP				S	**Sb**	**06 07 33.3**	**+1.1**
GVD	**Gavdhos**	**1.69**	**289**	P	**Pb**	**06 07 15.9**	**+0.8**
GVD	**Gavdhos**	**1.69**	**289**	P	**Pb**	**06 07 15.9**	**+0.8**
IMMV	**Iera Moni Meta**	**2.04**	**305**	P	**Pb**	**06 07 20.6**	**-0.5**
IMMV	**Iera Moni Meta**	**2.04**	**305**	P	**Pb**	**06 07 20.6**	**-0.5**
THR6	**Thira Island,**	**2.12**	**346**	P	**Pn**	**06 07 18.3**	**-0.7**
THR6	**Thira Island,**	**2.12**	**346**	P	**Pn**	**06 07 18.3**	**-0.7**
THR3	**Thira Island,**	**2.17**	**347**	P	**Pn**	**06 07 20.8**	**+1.1**
THR3	**Thira Island,**	**2.17**	**347**	P	**Pn**	**06 07 19.4**	**-0.4**
THR3	**Thira Island,**	**2.17**	**347**	P	**Pn**	**06 07 20.8**	**+1.1**
THR5	**Thira Island,**	**2.19**	**345**	P	**Pn**	**06 07 21.6**	**+1.6**
THR5	**Thira Island,**	**2.19**	**345**	P	**Pn**	**06 07 21.2**	**+1.2**
THR5	**Thira Island,**	**2.19**	**345**	P	**Pn**	**06 07 21.6**	**+1.6**
ANKY	**Antikythira Is**	**2.73**	**306**	P	**Pb**	**06 07 30.6**	**-2.2**
ANKY	**Antikythira Is**	**2.73**	**306**	P	**Pb**	**06 07 30.6**	**-2.2**
APE	**Apeiranthos**	**2.80**	**352**	P	**Pn**	**06 07 27.6**	**-0.8**
APE	**Apeiranthos**	**2.80**	**352**	P	**Pn**	**06 07 27.6**	**-0.8**
KYTH	**Kithira**	**3.13**	**310**	P	**Pn**	**06 07 35.1**	**+2.1**
VLI	**Veliai**	**3.49**	**315**	P	**Pn**	**06 07 38.8**	**+0.9**
VLI	**Veliai**	**3.49**	**315**	P	**Pn**	**06 07 38.8**	**+0.9**
FINES	**FINES Array B**	**27.16**	**0**	P	**P**	**06 12 24.8**	**-1.8**
	comp=E,1.9nm,0.8s,baz=164,slow=16,SNR=3.7						
ARCES	**ARCESS Array B**	**35.29**	**360**	P	**P**	**06 13 36.4**	**-1.6**
	comp=E,1.9nm,0.9s,baz=178,slow=8.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**41.12**	**50**	P	**P**	**06 14 27.7**	**+0.5**
	comp=E,1.1nm,0.7s,baz=276,slow=8.8,SNR=7.4						
MKAR	**Makanchi Array**	**43.66**	**56**	P	**P**	**06 14 48.6**	**+0.5**
	comp=E,0.3nm,0.3s,baz=276,slow=6.6,SNR=4.3						

*IDC **21** 06:10:46.0±2.1, 11°.45N×44°.14E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/53, mbtmp3.7/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/40, Error ellipse: s-maj=56.5km s-min=18.0km az=173.0*
*DHMR **21** 06:10:48.1±1.0, 11°.99N×44°.18E, h15km±10km, ML4.0*
ISC 21 06:10:48.1±1.0, 11°.99N±0°.10×44°.09E±0°.08, h4km, n15, σ2°.13/13, mb3.7/5, MS3.2/4, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.17**	**48**	*i* P	**Pb**	**06 11 08.6**	**-2.3**
ADEN				*i* S	**Sb**	**06 11 24.2**	**-2.3**
ADEN				AML	AML	06 11 30.3	
	comp=N,4μm,0.7s						
ATD	**Arta Tunnel**	**1.30**	**250**	Pn	**Pn**	**06 11 11.2**	**-1.9**
	comp=N,20nm,0.3s,baz=59,slow=12,SNR=14						
ATD				Sn	**Sg**	**06 11 29.1**	**-0.9**
	comp=N,136nm,0.3s,baz=142,slow=23,SNR=29						
BDHA	**Al Bayda'**	**2.44**	**36**	*i* P	**Pn**	**06 11 28.7**	**-0.3**
BDHA				*i* S	**Sb**	**06 12 01.9**	**-1.5**
DHBB	**Dhamar BB**	**2.59**	**6**	*i* P	**Pb**	**06 11 32.7**	**-2.5**
DHBB				*i* S	**Sb**	**06 12 06.6**	**-1.0**
KMBO	**Kilima Mbogo**	**14.69**	**208**	LR	LR	06 19 48.5	
	comp=N,126nm,18.6s,baz=30,slow=38						
WSAR	**Wadi Sarin**	**17.79**	**49**	LR	LR	06 21 50.1	
	comp=N,58nm,21.3s,baz=192,slow=37						
MMAI	**Mount Meron Ar**	**22.40**	**341**	LR	LR	06 23 03.3	
	comp=N,28nm,21.6s,baz=225,slow=32						
GEYT	**Alibeck**	**28.72**	**24**	LR	LR	06 30 01.9	
	comp=N,42nm,19.8s,baz=190,slow=40						
BRTR	**Keskin Array B**	**29.14**	**343**	P	**P**	**06 16 53.9**	**+3.4**
	comp=N,0.4nm,0.4s,baz=144,slow=12,SNR=4.0						
ARU	**Arti**	**45.74**	**11**	LR	LR	06 41 48.4	
	comp=N,45nm,18.3s,baz=180,slow=40						
BVAR	**Borovoye Array**	**46.03**	**22**	P	**P**	**06 19 15.3**	**+2.5**
	comp=N,0.5nm,0.7s,baz=225,slow=3.7,SNR=3.2						
MKAR	**Makanchi Array**	**47.29**	**35**	P	**P**	**06 19 23.8**	**+1.0**
	comp=N,0.2nm,0.3s,baz=243,slow=7.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**52.79**	**29**	LR	LR	06 44 10.5	
	comp=N,25nm,19.0s,baz=248,slow=38						
CMAR	**Chiang Mai Arr**	**53.16**	**76**	P	**P**	**06 20 07.0**	**-0.7**
	comp=N,2.7nm,0.3s,baz=274,slow=8.6,SNR=7.7						
SONM	**Songino Array**	**62.69**	**42**	P	**P**	**06 21 15.0**	**+0.7**
	comp=N,0.6nm,0.9s,baz=250,slow=4.3,SNR=4.6						

*CSEM **21** 06:17:18.3, 12°.13N×44°.21E, h2km, ML3.5*
DHMR 21 06:17:18.3±1.2, 12°.13N×44°.21E, h3km±6km, ML3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.99**	**49**	*i* P	Pg	06 17 37.0	-0.3
ADEN				*i* S	Sb	06 17 51.2	-0.4
ADEN				AML	AML	06 18 01.3	
	comp=N,1μm,0.3s						
ADEN	**Aden**	**0.99**	**49**	*i* P	Pg	06 17 37.0	-0.3
ADEN				*i* S	Sb	06 17 51.2	-0.4
	comp=N,584nm,0.3s						
TRBA	**At Turbah**	**1.10**	**355**	*i* P	Pg	06 17 38.5	-0.9
TRBA				*i* S	Sb	06 17 54.8	-0.2
UDYN	**Al 'Udayn**	**1.84**	**353**	*i* P	Pb	06 17 52.4	-0.4
UDYN				*i* S	Sg	06 18 17.7	+0.2
UDYN	**Al 'Udayn**	**1.84**	**353**	*i* P	Pb	06 17 52.4	-0.4
UDYN				*i* S	Sg	06 18 17.7	+0.1
BDHA	**Al Bayda'**	**2.26**	**36**	*i* P	Pn	06 17 57.7	+0.8
BDHA				*i* S	Sb	06 18 29.7	+1.2
BDHA	**Al Bayda'**	**2.26**	**36**	*i* P	Pn	06 17 57.7	+0.8
BDHA				*i* S	Sb	06 18 29.7	+1.3

*IDC **21** 06:18:23.8±0.9, 12°.07N×143°.24E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.8/39, mbtmp4.2/8, ML3.7/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/37, Error ellipse: s-maj=36.6km s-min=16.4km az=109.0*
*ISCJB **21** 06:18:26.2±0.4, 11°.95N±0°.05×143°.30E±0°.07, h25km, mb4.5/25, MS2.9/3, Error ellipse: s-maj=11.2km s-min=6.1km az=30.3*
*NEIC **21** 06:18:29.4±1.3, 11°.98N×143°.32E, h37km±12km, mb4.6/20, Error ellipse: s-maj=9.9km s-min=5.4km az=113.0*
ISC 21 06:18:27.7±0.5, 11°.98N±0°.08×143°.31E±0°.09, h25km, n43, σ0°.88/38, mb4.6/25, MS2.8/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.21**	**43**	Pn	**Pn**	**06 19 02.3**	**-0.5**
	20nm,0.3s,baz=18,slow=22,SNR=19						
GUMO				Sn	**Sn**	**06 19 30.5**	**+1.2**
	46nm,0.3s,baz=169,slow=22,SNR=10						
GUMO				LR	LR	06 19 46.3	
	comp=Z,94nm,19.1s,baz=139,slow=38						
GUMO	**Guam**	**2.21**	**43**	*e*Sn	**Sn**	**06 19 29.9**	**+0.5**
PATS	**Pohnpei**	**15.65**	**108**	*e*Pn	**Pn**	**06 22 06.4**	**-0.4**
	46nm,1.2s						
FAKI	**Fak Fak**	**18.44**	**217**	*e*P	**Pn**	**06 22 41.6**	**-0.2**
	6.3nm,0.8s						
YOJ	**Yonaguni jima**	**22.90**	**306**	*e*P	**P**	**06 23 30.1**	**+0.4**
	122nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**23.93**	**68**	T	T	06 48 27.5	
	baz=255,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**23.94**	**68**	T	T	06 48 25.5	
	baz=255,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**23.95**	**68**	T	T	06 48 30.6	
	baz=255,slow=75,SNR=8.5						
KWAJ	**Kwajalein Atol**	**24.10**	**95**	*e*P	**P**	**06 23 42.1**	**+0.4**
	90nm,0.8s						
MJAR	**Matsushiro Arr**	**24.89**	**350**	LR	LR	06 32 12.3	
	comp=Z,22nm,19.4s,baz=160,slow=34						
COEN	**Coen**	**25.77**	**180**	*e*P	**P**	**06 23 58.4**	**+1.6**
	22nm,1.4s						
MTN	**Manton Dam**	**27.46**	**207**	*e*P	**P**	**06 24 11.1**	**-0.9**
	23nm,1.4s						
KAPI	**Kappang**	**28.88**	**236**	*e*P	**P**	**06 24 24.4**	**-0.3**
	189nm,0.8s						
WRAB	**Tennant Creek**	**32.91**	**196**	*e*P	**P**	**06 25 01.2**	**+0.9**
	15nm,0.8s						
WB2	**Warramunga Arr**	**32.92**	**196**	*e*P	**P**	**06 25 00.9**	**+0.5**
	6.0nm,0.9s						
WR1	**Warramunga Arr**	**32.92**	**196**	*e*P	**P**	**06 25 00.8**	**+0.5**
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**32.92**	**196**	P	**P**	**06 25 00.8**	**+0.5**
	2.8nm,0.8s,baz=21,slow=9.6,SNR=16						
AS31	**Alice Springs**	**36.60**	**195**	*e*P	**P**	**06 25 32.5**	**+0.4**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**36.60**	**195**	P	**P**	**06 25 32.5**	**+0.4**
	1.1nm,0.6s,baz=17,slow=11,SNR=14						
EIDS	**Eidsvold**	**37.88**	**169**	*e*P	**P**	**06 25 43.0**	**+0.1**
	15nm,1.4s						
DZM	**Mont Dzumac**	**40.74**	**146**	P	**P**	**06 26 07.2**	**+0.3**
	6.5nm,1.0s,baz=230,slow=6.7,SNR=6.3						
DZM	**Mont Dzumac**	**40.74**	**146**	*e*P	**P**	**06 26 07.2**	**+0.3**
	38nm,1.4s						
CMAR	**Chiang Mai Arr**	**43.21**	**284**	LR	LR	06 44 59.8	
	comp=Z,10nm,18.7s,baz=205,slow=37						
STKA	**Stephens Creek**	**43.63**	**182**	P	**P**	**06 26 29.9**	**-0.3**
	0.5nm,0.4s,baz=2.0,slow=10,SNR=4.0						
BBOO	**Buckleboo**	**45.07**	**189**	*e*P	**P**	**06 26 42.3**	**+0.5**
	12nm,1.3s						
TLY	**Talaya**	**50.93**	**329**	LR	LR	06 47 54.1	
	comp=Z,21nm,21.2s,baz=197,slow=35						
KURK	**Kurchatov**	**64.85**	**321**	*e*P	**P**	**06 29 05.3**	**+0.7**
	2.0nm,0.9s						
COLD	**Coldfoot**	**70.01**	**22**	*e*P	**P**	**06 29 37.9**	**+0.9**
	5.0nm,1.4s						
ILAR	**Eielson Array**	**70.67**	**25**	P	**P**	**06 29 39.7**	**-1.4**
	0.8nm,0.6s,baz=251,slow=5.9,SNR=16						
ILB	**Eielson Array**	**70.67**	**25**	*e*P	**P**	**06 29 39.7**	**-1.4**
PAX	**Paxson**	**70.89**	**27**	*e*P	**P**	**06 29 42.4**	**-0.2**
	5.7nm,1.4s						
DOT	**Dot Lake**	**71.65**	**27**	*e*P	**P**	**06 29 47.0**	**-0.1**
	13nm,1.2s						
DAWY	**Dawson**	**73.75**	**27**	*e*P	**P**	**06 30 00.5**	**+0.9**
	5.7nm,1.1s						
YKW3	**Yellowknife Ar**	**84.96**	**27**	*e*P	**P**	**06 31 01.3**	**+0.7**
	8.7nm,1.2s						
ARA0	**ARCESS Array S**	**88.14**	**342**	*e*P	**P**	**06 31 16.5**	**+0.4**
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**06 31 16.5**	**+0.4**
	5.4nm,1.0s,baz=74,slow=5.2,SNR=3.7						
PFO	**Pinyon Flats O**	**91.80**	**55**	*e*P	**P**	**06 31 32.5**	**-1.6**
	3.0nm,1.1s						
FIA0	**FINESS Array S**	**91.97**	**335**	*e*P	**P**	**06 31 33.6**	**-0.5**
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**06 31 33.6**	**-0.5**
	5.1nm,1.1s,baz=29,slow=3.2,SNR=3.1						
TRQA	**Tornquist**	**145.58**	**143**	*e*PKPdf	**PKPdf**	**06 38 03.6**	**-0.7**
PB10	**IPOC Station P**	**145.85**	**114**	*e*PKPdf	**PKPdf**	**06 38 03.0**	**-2.2**
PB11	**IPOC Station P**	**147.40**	**108**	*e*PKPbc	**PKPab**	**06 38 11.6**	**-0.9**
LPAZ	**La Paz**	**149.23**	**102**	PKPbc	**PKPbc**	**06 38 17.6**	**+1.7**
	1.7nm,0.7s,baz=285,slow=4.1,SNR=8.3						

*NIED **21** 06:41:00, 38°.00N×142°.40E, h17km, Mw3.3 Best double couple: Mo1.16000×10^14 NP1:φ=239.00000°, δ47.00000°, λ-32.00000°. NP2:φ=352.00000°, δ67.00000°, λ-132.00000°.*
JMA 21 06:41:59.4±0.2, 38°.04N×142°.39E, h40km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.92**	**297**	P	Pn	06 42 16.2	+0.4
JIO				S	Sn	06 42 28.0	+0.2
OFUJ	**Ofunato**	**1.18**	**332**	P	Pn	06 42 19.6	+0.1
OFUJ				*e*S	Sn	06 42 34.8	+0.5
JMM	**Marumori**	**1.27**	**263**	P	Pn	06 42 21.1	+0.4
JMM				S	Sn	06 42 36.3	-0.3
JMK	**Ichinoseki**	**1.29**	**315**	P	Pn	06 42 21.7	+0.7
JFK	**Kawauchi**	**1.38**	**241**	P	Pn	06 42 22.2	0.0
JFK				S	Sn	06 42 38.7	-0.5
JOU	**Okura**	**1.40**	**284**	P	Pn	06 42 23.6	+1.2
JOM	**Ohasama**	**1.67**	**329**	P	Pn	06 42 27.1	+1.0
JFT	**Otama**	**1.71**	**253**	P	Pn	06 42 27.0	+0.3
JFT				S	Sn	06 42 46.7	-0.6
JYK	**Kaneyama**	**1.82**	**299**	P	Pn	06 42 29.3	+1.1

*ISCJB **21** 06:51:41.7±0.6, 11°.82N±0°.06×44°.14E±0°.05, h4km, mb4.2/14, MS3.3/2, Error ellipse: s-maj=9.6km s-min=5.6km az=140.5*
*IDC **21** 06:51:42.4±1.6, 11°.63N×44°.08E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/39, mbtmp3.8/7, MS3.3/3, Ms1 3.3/3, ms1mx2.7/40, Error ellipse: s-maj=45.1km s-min=15.7km az=167.0*
*NEIC **21** 06:51:43.3±0.7, 11°.59N×44°.08E, h10km, mb4.3/8, Error ellipse: s-maj=18.2km s-min=9.5km az=174.0*
*CSEM **21** 06:51:43.6±0.4, 11°.86N×44°.02E, h2km, mb4.3/8, Error ellipse: s-maj=14.2km s-min=9.1km az=148.0*
*DHMR **21** 06:51:44.3±0.4, 12°.01N×44°.14E, h14km±24km, ML4.3*
ISC 21 06:51:43.1±0.7, 11°.86N±0°.07×44°.13E±0°.06, h4km, n50, σ1°.38/54, mb4.2/14, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.23**	**43**	*i* P	**Pg**	**06 52 04.6**	**-2.2**
ADEN				*i* S	**Sg**	**06 52 20.9**	**-1.9**
ADEN				AML	AML	06 52 30.6	
	comp=E,8μm,0.6s						
ATD	**Arta Tunnel**	**1.30**	**255**	Pn	**Pg**	**06 52 06.5**	**-1.5**
	comp=E,59nm,0.3s,baz=72,slow=9.7,SNR=11						
ATD				Sn	**Sb**	**06 52 24.1**	**-1.0**
	comp=E,160nm,0.3s,baz=284,slow=22,SNR=15						
UDYN	**Al 'Udayn**	**2.10**	**356**	*i* P	**Pn**	**06 52 18.4**	**-0.8**
UDYN				*i* S	**Sn**	**06 52 44.9**	**-0.9**
UDYN	**Al 'Udayn**	**2.10**	**356**	*i* P	**Pn**	**06 52 18.4**	**-0.8**
UDYN				*i* S	**Sn**	**06 52 44.9**	**-0.9**
DHBB	**Dhamar BB**	**2.70**	**5**	*i* P	**Pn**	**06 52 28.3**	**+0.7**
DHBB				*i* S	**Sn**	**06 53 02.4**	**+1.4**
DHBB	**Dhamar BB**	**2.70**	**5**	*i* P	**Pn**	**06 52 28.3**	**+0.7**
DHBB				*i* S	**Sn**	**06 53 02.4**	**+1.4**
DAMY	**Dhamar**	**2.71**	**5**	*e*Sn	**Sb**	**06 53 05.5**	**-0.5**
DAMY	**Dhamar**	**2.71**	**5**	*e*Pn	Pn	06 52 22.6	-5.1
DAMY				*e*Sn	**Sb**	**06 53 05.5**	**-0.5**
KMBO	**Kilima Mbogo**	**14.60**	**208**	LR	LR	07 00 42.8	
	comp=E,99nm,19.2s,baz=40,slow=38						
GEYT	**Alibeck**	**28.82**	**23**	LR	LR	07 10 57.0	
	comp=E,47nm,18.3s,baz=30,slow=40						
BRTR	**Keskin Array B**	**29.27**	**343**	P	**P**	**06 57 49.4**	**+2.9**
	comp=E,3.0nm,1.2s,baz=153,slow=8.3,SNR=7.3						
BR101	**Keskin Array S**	**29.27**	**343**	*e*P	**P**	**06 57 49.4**	**+2.9**
BR101	**Keskin Array S**	**29.27**	**343**	*e*P	**P**	**06 57 49.4**	**+2.9**
TIRR	**Tirgusor**	**35.18**	**340**	*e*P	**P**	**06 58 37.6**	**-0.5**
	comp=E,5.7nm,1.2s						
TIRR	**Tirgusor**	**35.18**	**340**	*e*P	**P**	**06 58 37.6**	**-0.5**
	comp=E,5.7nm,1.2s						
CEL	**Celeste**	**36.40**	**321**	*e*P	**P**	**06 58 48.7**	**-0.1**
	comp=E,22nm,1.1s						
CEL	**Celeste**	**36.40**	**321**	*e*P	**P**	**06 58 48.7**	**-0.1**
	comp=E,22nm,1.1s						
KIEV	**Kiev**	**40.60**	**345**	*e*P	**P**	**06 59 25.6**	**+1.8**
	comp=E,4.1nm,0.8s						
KIEV	**Kiev**	**40.60**	**345**	*e*P	**P**	**06 59 25.6**	**+1.8**
	comp=E,4.1nm,0.8s						
AKBB	**Malin Array Si**	**40.61**	**345**	*e*P	**P**	**06 59 25.6**	**+1.7**
	comp=E,4.1nm,0.7s						
AKBB	**Malin Array Si**	**40.61**	**345**	*e*P	**P**	**06 59 25.6**	**+1.7**
	comp=E,4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**41.41**	**276**	P	**P**	**06 59 30.8**	**-0.2**
	comp=E,0.3nm,0.6s,baz=86,slow=10,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**41.41**	**276**	*e*P	**P**	**06 59 30.8**	**-0.3**
	comp=E,3.7nm,1.4s						
TOA1	**Torodi Ar. Sit**	**41.41**	**276**	*e*P	**P**	**06 59 30.8**	**-0.3**
	comp=E,3.7nm,1.4s						
GEC2	**GERESS Array S**	**44.69**	**332**	*e*P	**P**	**06 59 56.0**	**-1.2**
	comp=E,4.7nm,1.1s						
GEC2	**GERESS Array S**	**44.69**	**332**	*e*P	**P**	**06 59 56.0**	**-1.2**
	comp=E,4.7nm,1.1s						
GERES	**GERESS Array B**	**44.69**	**332**	P	**P**	**06 59 58.6**	**+1.4**
	comp=E,0.3nm,0.3s,baz=222,slow=1.8,SNR=4.4						
MK31	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 20.0**	**+1.6**
MK31	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 20.1**	**+1.6**
MK32	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 19.5**	**+1.1**
MK32	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 19.5**	**+1.1**
MKAR	**Makanchi Array**	**47.37**	**35**	P	**P**	**07 00 19.5**	**+1.1**
	comp=E,1.3nm,1.0s,baz=230,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 20.0**	**+1.6**
	comp=E,9.7nm,1.1s						
MKAR	**Makanchi Array**	**47.37**	**35**	*e*P	**P**	**07 00 20.1**	**+1.6**
	comp=E,9.7nm,1.1s						
ZALV	**Zalesovo Beam**	**52.88**	**29**	P	**P**	**07 01 00.2**	**+0.2**
	comp=E,0.6nm,0.5s,baz=221,slow=10,SNR=3.6						
ZALV				LR	LR	07 26 53.9	
	comp=E,36nm,19.5s,baz=211,slow=40						
ZAA1	**Zalesovo Array**	**52.88**	**29**	*e*P	**P**	**07 01 00.2**	**+0.2**
ZAA1	**Zalesovo Array**	**52.88**	**29**	*e*P	**P**	**07 01 00.2**	**+0.2**
CM31	**Chiang Mai Arr**	**53.15**	**76**	*e*P	**P**	**07 01 03.8**	**+1.2**
CM31	**Chiang Mai Arr**	**53.15**	**76**	*e*P	**P**	**07 01 03.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**53.15**	**76**	P	**P**	**07 01 03.8**	**+1.1**
	comp=E,0.7nm,0.3s,baz=268,slow=8.8,SNR=11						
SONA0	**Songino Array**	**62.75**	**42**	*e*P	**P**	**07 02 11.2**	**+1.5**
	comp=E,1.7nm,1.0s						
SONA0	**Songino Array**	**62.75**	**42**	*e*P	**P**	**07 02 11.2**	**+1.5**
	comp=E,1.7nm,1.0s						
SONM	**Songino Array**	**62.75**	**42**	P	**P**	**07 02 11.2**	**+1.5**
	comp=E,0.9nm,0.9s,baz=256,slow=6.0,SNR=5.1						
LUWI	**Luwuk**	**79.10**	**93**	*e*P	**P**	**07 03 46.7**	**-2.8**
	comp=E,24nm,0.6s						
BLMT	**Blacktail Moun**	**117.40**	**344**	*e*PKIKP	**PKPdf**	**07 10 30.1**	**-0.4**
BLMT	**Blacktail Moun**	**117.40**	**344**	*e*PKPdf	**PKPdf**	**07 10 30.1**	**-0.4**
YBMT	**Yellow Bay**	**117.44**	**344**	*e*PKIKP	**PKPdf**	**07 10 30.2**	**-0.3**
YBMT	**Yellow Bay**	**117.44**	**344**	*e*PKPdf	**PKPdf**	**07 10 30.2**	**-0.3**
LRM	**Limekiln Ridge**	**118.83**	**342**	*e*PKIKP	**PKPdf**	**07 10 32.9**	**-0.5**
LRM	**Limekiln Ridge**	**118.83**	**342**	*e*PKPdf	**PKPdf**	**07 10 32.9**	**-

TGRZ	Tauranga	1.27 250	⇓P*	Pn	07 10 55.0	-0.2
TGRZ			S*	Sn	07 11 11.4	+0.3
TARZ	Mount Tarawera	1.37 226	P*	Pn	07 10 57.6	+1.1
RIGZ	Rimuhau	1.40 180	⇓PN	Pn	07 10 56.9	-0.1
MUGZ	Murupara	1.41 213	P*	Pn	07 10 56.6	-0.6
RRRZ	Republican Roa	1.43 223	⇑P*	Pn	07 10 57.3	-0.1
RTZ	Ruatahuna	1.45 205	P*	Pn	07 10 57.0	-0.7
SNGZ	Shannon Statio	1.52 193	PN	Pn	07 10 59.1	+0.6
SNGZ			AML	AML	07 11 27.3	
SNGZ			AML	AML	07 11 30.3	
PRRZ	Plateau Road	1.61 222	P*	Pn	07 10 59.8	0.0
PRGZ	Paritu Road	1.62 177	PN	Pn	07 10 58.9	-1.1
PRGZ			AML	AML	07 11 22.5	
PRGZ			AML	AML	07 11 25.0	
ALRZ	Allen Road	1.69 221	P*	Pn	07 11 00.9	0.0
KNZ	Kokohu	1.72 182	PN	Pn	07 11 00.3	-1.0
KNZ			AML	AML	07 11 42.4	
KNZ			AML	AML	07 11 43.3	
KUZ	Kuaotunu	1.73 288	PN	Pn	07 11 01.1	-0.3
WHHZ	Waihua	1.82 193	PN	Pn	07 11 03.1	+0.4
WHHZ			SN	Sn	07 11 26.7	+2.1
WHHZ			AML	AML	07 11 32.6	
TOZ	Tahuroa Road	1.85 256	⇓P*	Pn	07 11 02.9	-0.1
MHGZ	Mahia Peninsul	1.85 177	PN	Pn	07 11 02.3	-0.9
MHGZ			AML	AML	07 11 26.5	
MHGZ			AML	AML	07 11 29.9	
MRHZ	Matea Rd	1.86 214	P*	Pn	07 11 03.2	-0.2
MRHZ			AML	AML	07 11 31.2	
MRHZ			AML	AML	07 11 31.5	
NMHZ	Naumai	1.95 203	PN	Pn	07 11 04.9	+0.4
NMHZ			AML	AML	07 11 38.8	
NMHZ			AML	AML	07 11 39.9	
TLZ	Tolley Road	2.04 239	P*	Pn	07 11 05.3	-0.2
ARHZ	Aropaoanui	2.05 197	PN	Pn	07 11 05.7	-0.1
ARHZ			AML	AML	07 11 43.1	
ARHZ			AML	AML	07 11 46.0	
MKAZ	Moumakai	2.09 275	⇑PN	Pn	07 11 06.5	+0.2
BKZ	Black Stump Fm	2.11 208	P*	Pn	07 11 04.5	-2.3
BKZ			AML	AML	07 11 42.1	
BKZ			AML	AML	07 11 42.7	
GRZ	Great Barrier	2.13 299	⇓PN	Pn	07 11 06.9	+0.1
WIAZ	Waiheke Island	2.16 283	⇓PN	Pn	07 11 07.7	+0.3
ETAZ	East Tamaki Re	2.29 278	⇓PN	Pn	07 11 09.7	+0.6
MCHZ	McNeill Hill	2.30 201	PN	Pn	07 11 09.0	-0.2
MCHZ			AML	AML	07 11 52.0	
MCHZ			AML	AML	07 11 56.6	
KBAZ	Karaka Road Bo	2.31 274	⇑PN	Pn	07 11 10.1	+0.9
KWHZ	Kaweka Forest	2.37 206	P*	Pn	07 11 09.9	-0.4
KWHZ			AML	AML	07 11 49.2	
KWHZ			AML	AML	07 11 49.3	
CKHZ	Cape Kidnapper	2.42 193	PN	Pn	07 11 09.4	-1.4
CKHZ			AML	AML	07 11 40.0	
CKHZ			AML	AML	07 11 40.1	
OTVZ	Oturere	2.49 221	P*	Pn	07 11 12.9	+0.9
AWAZ	Awhitu Peninsu	2.50 274	PN	Pn	07 11 13.0	+0.9
NGZ	Ngauruhoe	2.53 222	P*	Pn	07 11 13.6	+1.0
TWVZ	Taurewa	2.55 225	P*	Pn	07 11 14.4	+1.7
BHHZ	Black Hill Sta	2.56 211	P*	Pn	07 11 13.0	+0.1
BHHZ			AML	AML	07 11 53.1	
BHHZ			AML	AML	07 11 55.5	
WTAZ	Waiatarua	2.58 277	PN	Pn	07 11 14.0	+1.0
KRHZ	Kereru	2.58 205	PN	Pn	07 11 12.1	-1.0
KRHZ			AML	AML	07 11 45.2	
KRHZ			AML	AML	07 11 48.2	
KAHZ	Kahuranaki	2.58 195	PN	Pn	07 11 12.2	-0.9
KAHZ			AML	AML	07 11 44.9	
KAHZ			AML	AML	07 11 47.7	
RVAZ	Riverhead Bore	2.60 281	PN	Pn	07 11 14.7	+0.7
FWVZ	Far West T-bar	2.61 221	P*	Pn	07 11 14.4	+0.7
WHVZ	Whangaehu Hut	2.62 220	P*	Pn	07 11 13.4	-0.4
MOVZ	Moawhango	2.63 216	P*	Pn	07 11 13.7	-0.1
WNVZ	Wahianoa	2.65 219	P*	Pn	07 11 14.6	+0.4
PKVZ	Pokaka	2.75 223	P*	Pn	07 11 16.5	+1.1
MTVZ	Mangateitei	2.75 220	P*	Pn	07 11 16.0	+0.5
PXZ	Pawanui	2.82 194	⇑PN	Pn	07 11 14.0	-2.2
PXZ			AML	AML	07 11 48.2	
PXZ			AML	AML	07 11 48.2	
PXZ			AML	AML	07 11 48.4	
PXZ			AML	AML	07 11 48.4	
PNHZ	Pukenui	2.88 205	PN	Pn	07 11 15.5	-1.7
PNHZ			AML	AML	07 12 04.4	
PNHZ			AML	AML	07 12 07.3	
WCZ	Waipu Caves	3.07 295	PN	Pn	07 11 20.1	+0.3
PRHZ	Porangahau	3.09 196	PN	Pn	07 11 17.6	-2.4
PRHZ			AML	AML	07 11 56.4	
PRHZ			AML	AML	07 12 06.3	
TSZ	Takapari Road	3.09 207	PN	Pn	07 11 18.1	-2.0
DVHZ	Dannevirke	3.24 202	PN	Pn	07 11 19.4	-2.8
DVHZ			AML	AML	07 12 02.1	
DVHZ			AML	AML	07 12 03.5	
WAZ	Wanganui	3.28 221	PN	Pn	07 11 23.1	+0.4
ANWZ	Angora Road	3.31 197	PN	Pn	07 11 20.3	-2.7
ANWZ			AML	AML	07 12 01.3	
ANWZ			AML	AML	07 12 02.1	
BFZ	Birch Farm	3.58 199	PN	Pn	07 11 23.5	-3.3
BFZ			AML	AML	07 12 05.6	
MRZ	Mangatainoka R	3.76 206	PN	Pn	07 11 25.6	-3.7
MRZ			AML	AML	07 12 12.9	
MRZ			AML	AML	07 12 14.3	
TIWZ	Tintock	3.77 202	AML	AML	07 12 13.8	
TIWZ			AML	AML	07 12 15.1	
OUZ	Omahuta	3.96 300	PN	Pn	07 11 32.7	+0.8
HOWZ	Holdsworth Sta	4.00 205	PN	Pn	07 11 28.7	-3.8
OGWZ	Otaki Gorge	4.05 209	PN	Pn	07 11 30.7	-2.6
OGWZ			AML	AML	07 12 35.2	
OGWZ			AML	AML	07 12 35.2	
TMWZ	Te Maipa	4.07 200	PN	Pn	07 11 29.6	-3.9
TMWZ			AML	AML	07 12 17.6	
KIW	Kapiti Island	4.19 211	PN	Pn	07 11 32.2	-3.0
MTW	Mount Morrison	4.23 204	PN	Pn	07 11 30.8	-5.0
CAW	Cannon Point	4.34 208	PN	Pn	07 11 34.0	-3.3
CAW			AML	AML	07 12 24.5	
CAW			AML	AML	07 12 27.7	
TRWZ	Traveller	4.40 201	*e*PN	Pn	07 11 33.9	-4.1
PAWZ	Paruwai Farm	4.46 203	PN	Pn	07 11 34.9	-4.0
MSWZ	Moikau Station	4.55 205	PN	Pn	07 11 36.0	-4.1
BHW	Baring Head	4.67 208	PN	Pn	07 11 37.9	-3.9
PLWZ	Palliser	4.69 204	PN	Pn	07 11 37.1	-4.8
TCW	Tory Channel	4.75 214	PN	Pn	07 11 38.8	-4.0
TCW			AML	AML	07 12 33.4	
TCW			AML	AML	07 12 37.3	
TUWZ	Tuamarina	5.08 214	PN	Pn	07 11 43.4	-3.9
NNZ	Nelson	5.18 220	PN	Pn	07 11 45.2	-3.6
THZ	Tophouse	5.83 219	PN	Pn	07 11 53.6	-4.1
KHZ	Kahutara	6.05 211	PN	Pn	07 11 55.9	-4.7
DSZ	Denniston Nort	6.40 224	PN	Pn	07 12 00.7	-4.7
LTZ	Lake Taylor	6.91 216	PN	Pn	07 12 07.0	-5.5
MQZ	McQueen's Vall	7.49 210	PN	Pn	07 12 13.9	-6.4
CTZ	Chatham Island	7.72 148	*e*PN	Pn	07 12 20.3	-3.3
FOZ	Fox Glacier	8.69 222	PN	Pn	07 12 31.3	-5.4
ODZ	Otahua Downs	9.41 212	PN	Pn	07 12 40.3	-6.4
JCZ	Jackson Bay	9.60 222	*e*PN	Pn	07 12 42.6	-6.8

NNC ***21*** *07:20:53.7±9.2, 36°.32N×70°.88E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=68.0km s-min=35.5km az=6.0*
ISCJB ***21*** *07:20:54.3±0.2, 35°.96N±0°.03×71°.30E±0°.03, h102km, mb4.2/39, Error ellipse: s-maj=4.4km s-min=3.1km az=144.2*
IDC ***21*** *07:20:54.7±2.5, 35°.99N×71°.09E, h84km±22km, mb3.9/20, mb1 4.0/26, mb1mx3.8/51, mbtmp4.2/26, Error ellipse: s-maj=16.0km s-min=12.0km az=152.0*
NEIC ***21*** *07:20:55.1±0.7, 36°.02N×71°.16E, h87km±6km, mb4.4/25, Error ellipse: s-maj=6.3km s-min=4.9km az=140.0*
MOS ***21*** *07:20:55.1±0.9, 36°.10N×71°.11E, h98km, mb4.3/21, Error ellipse: s-maj=11.3km s-min=5.9km az=90.8*
ISC 21 07:20:55.9±0.4, 36°.05N±0°.04×71°.13E±0°.04, h102km, n131, σ1§80/138, mb4.3/39, 2C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul			2.27 229	*e*PN	Pn	07 21 32.5 +0.2
KBL					*e*		07 22 00.1
KBL	Kabul			2.27 229	*e*Pn	Pn	07 21 32.5 +0.2
KBL					*e*Sn	Sn	07 22 00.1 0.0
DZET	Dzherino			3.31 327	⇓Pg	Pn	07 21 44.6 -1.3
	40nm,0.6s						
DZET					⇑Sn	Sn	07 22 21.8 -2.7
	282nm,0.5s						
DZET					⇓Lg	Lg	07 22 27.5
	224nm,0.5s						
DZET	Dzherino			3.31 327	PN	Pn	07 21 44.6 -1.3
DZET					S	Sn	07 22 21.8 -2.7
DZET					pmax	pmax	
	comp=Z,40nm,0.6s						
DZET					smax	smax	
	comp=N,282nm,0.5s						
THN	Thein Dam			5.24 132	*e*P	Pn	07 22 06.0 -5.8
THN					*e*S	Sn	07 23 03.6 -7.3
PONG	Pong			5.72 134	*e*P	Pn	07 22 15.0 -3.3
JWA	Jwalamukhi			6.01 132	*e*P	Pn	07 22 21.0 -1.2
JWA					*ex*	x	07 23 18.0
MNAS	Manas			6.52 9	⇓Pn	Pn	07 22 29.9 +0.5
	comp=N,18nm,0.4s						
MNAS					⇓Sn	Sn	07 23 39.9 -2.4
	comp=N,93nm,0.6s						
MNAS	Manas			6.52 9	PN	Pn	07 22 29.9 +0.5
MNAS					pmax	pmax	
	comp=Z,18nm,0.4s						
SDNR	Sundarnagar			6.65 131	*e*P	Pn	07 22 29.6 -1.4
SDNR					*e*S	Sn	07 23 40.6 -4.8
KK31	Karatay Array			7.07 356	Pn	Pn	07 22 36.5 -0.1
	comp=Z,19nm,0.3s,baz=181,slow=14,SNR=370						
KK31					⇓Sn	Sn	07 23 51.7 -3.6
	comp=Z,17nm,0.3s,baz=189,slow=26,SNR=15						
KK31	Karatay Array			7.07 356	PN	Pn	07 22 36.5 -0.1
KK31					S	Sn	07 23 57.1 +1.8
KK31					pmax	pmax	
	comp=Z,19nm,0.3s						
KK31					smax	smax	
	comp=N,17nm,0.3s						
KKAR	Karatay Array			7.07 356	*e*PN	Pn	07 22 36.3 -0.3
KKAR	Karatay Array			7.07 356	*e*Pn	Pn	07 22 36.3 -0.3
KKAR					*e*Sn	Sn	07 23 53.3 -2.1
AAK	Ala-Archa			7.08 21	P	Pn	07 22 37.2 +0.2
	comp=N,12nm,0.3s,baz=48,slow=2.4,SNR=92						
AAK					S	Sn	07 23 55.4 -0.5
	comp=N,4.3nm,0.3s,baz=327,slow=23,SNR=8.8						
AAK	Ala-Archa			7.08 21	⇓Pn	Pn	07 22 37.4 +0.5
	comp=N,13nm,0.4s						
AAK					⇑Sn	Sn	07 23 54.6 -1.3
	comp=N,35nm,0.8s						
AAK	Ala-Archa			7.08 21	*e*Pn	Pn	07 22 37.5 +0.5
AAK					*e*Sn	Sn	07 23 55.4 -0.5
KHET	Khetri			8.88 152	*e*P	Pn	07 22 58.6 -2.8
KHET					*e*S	Sn	07 24 31.2 -8.5
JOSI	Joshimath			8.93 125	*e*P	Pn	07 23 01.2 -1.0
JOSI					*e*S	Sn	07 24 37.9 -3.2
JOSI					AML	AML	07 24 39.7
	comp=N,134nm,0.7s						
JOSI					AML	AML	07 24 40.7
	comp=E,85nm,0.4s						
KUDL	Kundal			9.09 149	*e*P	Pn	07 23 01.2 -3.0
KUDL					*e*S	Sn	07 24 34.1 -11
SONA	Sohna			9.27 145	*e*S	Sn	07 24 39.8 -9.2
GEYT	Alibeck			10.58 284	P	Pn	07 23 21.9 -2.5
	comp=E,3.0nm,0.3s,baz=96,slow=10,SNR=15						
GEYT					S	Sn	07 25 13.1 -7.8
	comp=E,11nm,0.3s,baz=128,slow=28,SNR=14						
PYUN	Piuthan			12.79 125	*e*P	Pn	07 23 50.2 -4.0
	comp=E,44nm,0.4s						
KOLN	Koldanda			13.42 124	*e*P	Pn	07 23 58.1 -4.3
	comp=E,26nm,0.4s						
MAKZ	Makanchi			13.47 34	*e*P	Pn	07 23 59.7 -3.1
MAKZ	Makanchi			13.47 34	*e*Pn	Pn	07 23 59.7 -3.1
MK31	Makanchi Array			13.60 34	*e*P	Pn	07 24 03.9 -0.6
MK31	Makanchi Array			13.60 34	*e*Pn	Pn	07 24 03.9 -0.6
MK32	Makanchi Array			13.60 34	*e*Pn	Pn	07 24 04.5 +0.1
MKAR	Makanchi Array			13.60 34	P	Pn	07 24 04.5 +0.1
	comp=E,0.1nm,0.3s,baz=218,slow=14,SNR=2.9						
MKAR	Makanchi Array			13.60 34	*e*Pn	Pn	07 24 03.7 -0.7
GKN	Gorkha			13.98 121	*e*P	Pn	07 24 05.6 -4.0
	comp=E,40nm,0.4s						
DMN	Daman			14.55 121	*e*P	Pn	07 24 12.8 -4.2
	comp=E,23nm,0.3s						
KKN	Kakani			14.55 120	*e*P	Pn	07 24 13.1 -4.0
	comp=E,44nm,0.5s						
PKIN	Phulchoki			14.77 121	*e*P	Pn	07 24 16.2 -3.6
	comp=E,33nm,0.5s						
PKI	Pulchoki			14.78 121	*e*P	Pn	07 24 16.1 -4.0
	comp=E,30nm,0.5s						
GUN	Gumba			14.90 119	*e*P	Pn	07 24 17.5 -4.2
	comp=E,26nm,0.4s						
JIRN	Jiri			15.27 119	*e*P	Pn	07 24 22.3 -4.0
	comp=E,637nm,0.4s						
KURBB	Kurchatov Arra			15.52 18	P	P	07 24 31.0 0.0
	comp=E,0.1nm,0.3s,baz=204,slow=10,SNR=4.7						
AB31	Akbulak array			15.53 332	Pn	Pn	07 24 27.0 -2.0
	comp=E,3.4nm,0.5s,baz=155,slow=11,SNR=82						
AB31					⇓Sn	Sn	07 27 16.9 -3.7
	comp=E,3.7nm,0.5s						
AB31	Akbulak array			15.53 332	P	Pn	07 24 27.0 -2.0
AB31					S	Sn	07 27 16.9 -3.7
AB31					pmax	pmax	
	comp=Z,3.0nm,0.5s						
AB31					smax	smax	
	comp=N,4.0nm,0.5s						
ABKAR	Akbulak array			15.53 332	*e*Pn	Pn	07 24 27.5 -1.5
	comp=N,74nm,0.6s						
KURK	Kurchatov			15.63 18	P	Pn	07 24 31.0 +0.8
KURK	Kurchatov			15.63 18	*e*Pn	Pn	07 24 31.0 +0.8
RAMN	Ramite			15.99 120	*e*P	Pn	07 24 31.0 -4.2
	comp=N,34nm,0.4s						
TAPN	Taplejung			16.55 117	*e*P	Pn	07 24 38.2 -3.9
	comp=N,31nm,0.4s						
WSAR	Wadi Sarin			16.74 224	P	Pn	07 24 42.6 -1.6
	comp=N,0.1nm,0.3s,baz=243,slow=8.5,SNR=2.4						
BVAR	Borovoye Array			16.98 358	P	P	07 24 48.0 +0.7
	comp=N,0.8nm,0.3s,baz=172,slow=11,SNR=14						
BVAR	Borovoye Array			16.98 358	P	P	07 24 48.0 +0.7
BVAR					pmax	pmax	
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye			17.02 358	*e*P	P	07 24 48.0 +0.4
BRVK					pmax	pmax	
	comp=Z,6.0nm,0.9s						
BRVK	Borovoye			17.02 358	*e*Pn	P	07 24 48.0 +0.4
	comp=Z,5.8nm,0.9s						
AKTO	Aktyubinsk			17.23 331	P	Pn	07 24 48.6 -1.3
	comp=Z,1.2nm,0.3s,baz=140,slow=9.2,SNR=23						
AKTO	Aktyubinsk			17.23 331	⇓Pn	Pn	07 24 48.1 -1.8
	comp=Z,12nm,0.8s						
AKTO					⇓Sn	S	07 28 02.5 -1.4
	comp=Z,17nm,1.4s						
AKTO	Aktyubinsk			17.23 331	P	Pn	07 24 48.9 -1.0
AKTO					S	S	07 28 02.5 -1.4
AKTO					pmax	pmax	
	comp=Z,12nm,0.9s						
AKTO					smax	smax	
	comp=N,17nm,1.5s						
ZAA0	Zalesovo Array			20.29 24	*e*P	P	07 25 23.6 +0.4
ZAA0					*e*S	Sn	07 29 11.6 -3.1
ZALV	Zalesovo Beam			20.29 24	P	P	07 25 23.3 0.0
	comp=N,13nm,0.5s,baz=217,slow=9.6,SNR=54						
ZALV	Zalesovo Beam			20.29 24	P	P	07 25 23.3 0.0
ZALV					pmax	pmax	
	comp=Z,7.0nm,0.4s						
ZAA1	Zalesovo Array			20.29 24	*e*P	P	07 25 23.3 0.0
GNI	Garni			21.14 289	P	P	07 25 33.3 +0.6
	comp=Z,11nm,0.5s,baz=24,slow=5.1,SNR=5.9						
GNI	Garni			21.14 289	*e*P	P	07 25 35.5 +2.8
GNI					pmax	pmax	
	comp=Z,14nm,0.7s						
GNI	Garni			21.14 289	*e*P	P	07 25 35.5 +2.8
	comp=Z,14nm,0.7s						
ARU	Arti			22.09 341	P	P	07 25 43.6 +1.1
	comp=Z,7.6nm,0.2s,baz=115,slow=5.1,SNR=8.8						
ARU	Arti			22.09 341	*e*P	P	07 25 45.6 +3.1
ARU					pmax	pmax	
	comp=Z,9.0nm,0.6s						
ARU	Arti			22.09 341	*e*P	P	07 25 45.6 +3.1
	comp=Z,8.9nm,0.6s						
KBZ	Khabaz			22.90 298	P	P	07 25 52.2 +1.3
	comp=Z,1.3nm,0.6s,baz=137,slow=8.9,SNR=2.7						
RAYN	Ar Rayn			25.42 248	*e*P	P	07 26 14.4 +0.3
SONA0	Songino Array			28.51 55	*e*P	P	07 26 43.6 +1.9
	comp=Z,1.4nm,0.8s						
SONM	Songino Array			28.51 55	P	P	07 26 43.6 +1.9
	comp=Z,0.4nm,0.4s,baz=257,slow=10,SNR=3.6						
BR101	Keskin Array S			29.67 289	*e*P	P	07 26 52.8 +0.7
BRTR	Keskin Array B			29.67 289	P	P	07 26 52.8 +0.7
	comp=Z,1.2nm,0.6s,baz=93,slow=8.7,SNR=7.0						
AKASG	Malin Array Be			33.31 309	P	P	07 27 24.5 +0.9
	comp=Z,0.4nm,0.3s,baz=83,slow=7.1,SNR=5.5						
AKBB	Malin Array Si			33.31 309	*e*P	P	07 27 24.5 +0.8
AKBB					pmax	pmax	
	comp=Z,6.0nm,1.4s						
AKBB	Malin Array Si			33.31 309	*e*P	P	07 27 24.5 +0.8
	comp=Z,6.3nm,1.4s						
KARP	Karpathos			35.44 282	*e*P	P	07 27 43.7 +1.4
	comp=Z,5.0nm,0.8s						
FIA0	FINESS Array S			37.92 326	*e*P	P	07 28 03.9 +1.0
FIA0	FINESS Array S			37.92 326	*e*P	P	07 28 03.9 +1.0
FINES	FINESS Array B			37.92 326	P	P	07 28 03.9 +1.0
	comp=Z,3.1nm,0.6s,baz=123,slow=8.7,SNR=8.8						
AGG	Agios Georgios			38.45 290	*e*P	P	07 28 09.8 +2.1
AGG					pmax	pmax	
	comp=Z,11nm,1.1s						
AGG	Agios Georgios			38.45 290	*e*P	P	07 28 09.8 +2.1
	comp=Z,11nm,1.1s						
KEV	Kevo			41.26 338	*e*P	P	07 28 32.0 +1.5
KEV	Kevo			41.26 338	*e*P	P	07 28 32.0 +1.5
ARA0	ARCESS Array S			41.60 338	*e*P	P	07 28 35.0 +1.6
ARCES	ARCESS Array B			41.60 338	P	P	07 28 35.0 +1.6
	comp=Z,6.7nm,0.6s,baz=111,slow=8.1,SNR=37						
ARE0	ARCESS Array S			41.60 338	*e*P	P	07 28 35.1 +1.7
	comp=Z,20nm,1.1s						
NC405	NORSAR Array S			44.57 323	*e*P	P	07 28 58.8 +1.4
NC602	NORSAR Array S			44.62 323	*e*P	P	07 28 58.5 +0.8
NC303	NORSAR Array S			44.75 324	*e*P	P	07 29 00.3 +1.5
NB201	NORSAR Array S			44.77 323	*e*P	P	07 28 59.8 +0.9
NB2	NORSAR Subarra			44.80 323	P	P	07 28 59.5 +0.2
	comp=Z,2.4nm,0.5s,baz=97,slow=8.6						
NB200	NORSAR Array S			44.80 323	*e*P	P	07 28 59.9 +0.6
NOA	NORSAR Array B			44.80 323	P	P	07 28 59.9 +0.6
	comp=Z,3.2nm,0.6s,baz=97,slow=7.8,SNR=11						
NBO00	NORSAR Array S			45.02 323	*e*P	P	07 29 01.8 +0.9
NC204	NORSAR Array S			45.05 324	*e*P	P	07 29 03.3 +2.1
TIXI	Tiksi			46.16 22	*e*P	P	07 29 10.4 +0.7
TIXI					pmax	pmax	
	comp=Z,3.0nm,0.3s						
TIXI	Tiksi			46.16 22	*e*P	P	07 29 10.4 +0.7
	comp=Z,3.2nm,0.3s						
KMBO	Kilima Mbogo			48.60 228	P	P	07 29 30.9 +1.3
	comp=Z,0.8nm,0.4s,baz=43,slow=19,SNR=3.6						
MNAI	Manna			50.03 137	*e*P	P	07 29 41.7 +1.5
	comp=Z,274nm,1.2s						
ESDC	Sonseca Array			57.76 298	P	P	07 30 37.0 +0.6
	comp=Z,1.0nm,0.5s,baz=61,slow=8.3,SNR=8.6						
TOA0	Torodi Ar. Sit			65.81 269	*e*P	P	07 31 30.0 -0.6
	comp=Z,7.8nm,1.5s						
TOA1	Torodi Ar. Sit			65.81 269	*e*P	P	07 31 29.8 -0.8
	comp=Z,8.7nm,1.4s						
TORD	Torodi Ar. Bea			65.81 269	P	P	07 31 29.8 -0.8
	comp=Z,2.6nm,0.5s,baz=49,slow=6.0,SNR=43						
COLD	Coldfoot			72.38 16	*e*P	P	07 32 11.4 +1.0
	comp=Z,0.4nm,0.6s						
INK	Inuvik			74.33 9	P	P	07 32 22.9 +1.1
	comp=Z,2.0nm,0.5s,baz=334,slow=2.3,SNR=11						
LBTB	Lobatse			74.41 222	*e*P	P	07 32 25.1 +2.2
LBTB					pmax	pmax	
	comp=Z,11nm,1.4s						
LBTB	Lobatse			74.41 222	*e*P	P	07 32 25.1 +2.2
	comp=Z,11nm,1.4s						
GSTR	Great Sitkin T			74.50 36	*e*P	P	07 32 24.3 +1.3
DBIC	Dimbokro			74.78 267	P	P	07 32 25.4 +0.1
	comp=Z,2.3nm,0.9s,baz=179,slow=2.9,SNR=2.8						
DBIC	Dimbokro			74.78 267	*e*P	P	07 32 25.4 +0.1
	comp=Z,9.8nm,1.4s						
ILAR	Eielson Array			75.19 16	P	P	07 32 27.2 +0.4
	comp=Z,0.6nm,0.9s,baz=314,slow=5.5,SNR=6.8						
KTH	Kantishna Hill			75.26 18	*e*P	P	07 32 28.7 +1.4
	comp=Z,13nm,1.4s						
PPLA	Purkeypile			75.48 19	*e*P	P	07 32 30.2 +1.6
	comp=Z,9.4nm,1.4s						
PAX	Paxson			77.06 16	*e*P	P	07 32 38.7 +1.1
PAX					pmax	pmax	
	comp=Z,8.0nm,1.2s						
PAX	Paxson			77.06 16	*e*P	P	07 32 38.7 +1.1
	comp=Z,7.7nm,1.2s						
DAWY	Dawson			77.34 13	*e*P	P	07 32 40.4 +1.4
BOSA	Boshof			77.47 220	P	P	07 32 41.5 +1.3
	comp=Z,3.0nm,0.7s,baz=48,slow=4.6,SNR=6.4						
BOSA	Boshof			77.47 220	*e*P	P	07 32 41.5 +1.3
	comp=Z,8.0nm,1.2s						
SCM	Sheep Creek Mo			77.61 18	*e*P	P	07 32 41.9 +1.3
SCM					pmax	pmax	
	comp=Z,12nm,1.0s						
SCM	Sheep Creek Mo			77.61 18	*e*P	P	07 32 41.9 +1.3
	comp=Z,12nm,1.0s						
WR1	Warramunga Arr			81.66 122	*e*P	P	07 33 03.5 +0.5
	comp=Z,5.7nm,1.3s						
WRA	Warramunga Arr			81.66 122	P	P	07 33 03.5 +0.5
	comp=Z,0.6nm,0.5s,baz=325,slow=4.9,SNR=8.5						
WRAB	Tennant Creek			81.66 122	*e*P	P	07 33 03.8 +0.8
WRAB					pmax	pmax	
	comp=Z,6.0nm,1.1s						
WRAB	Tennant Creek			81.66 122	*e*P	P	07 33 03.8 +0.8
	comp=Z,5.8nm,1.1s						
WB2	Warramunga Arr			81.67 122	*e*P	P	07 33 03.8 +0.7
	comp=Z,6.2nm,1.3s						
YKA	Yellowknife Ar			81.69 3	P	P	07 33 03.5 +1.0
	comp=Z,2.8nm,0.7s,baz=351,slow=5.5,SNR=5.7						
YKB5	Yellowknife Ar			81.69 3	*e*P	P	07 33 03.5 +0.9
WAKE	Wake Island			83.19 71	*e*P	P	07 33 09.7 -1.4
	comp=Z,116nm,1.0s						
AS31	Alice Springs			83.91 125	*e*P	P	07 33 15.0 +0.4
	comp=Z,0.7nm,1.0s	

MLSB	**Milas**	**0.92 148**	*e*PG	Pb	07 51 48.2	-0.3
MLSB	**Milas**	**0.92 148**	*e*Pg	Pb	07 51 48.2	-0.3
CAND	**Candarli**	**0.92 342**	*e*PG	Pg	07 51 48.0	+0.3
CHOS	**Chios island**	**0.93 290**	*e*PG	Pb	07 51 48.4	-0.4
CHOS	**Chios island**	**0.93 290**	P	Pg	07 51 48.2	+0.2
CHOS			S	Sg	07 52 00.7	+0.6
CHOS	**Chios island**	**0.93 290**	P	Pg	07 51 48.1	+0.1
CHOS			S	Sb	07 52 02.0	+0.5
CHOS			AML	AML	07 52 04.5	
	comp=N,503μm,0.3s					
CHOS			AML	AML	07 52 04.8	
	comp=E,651μm,0.3s					
CHOS	**Chios island**	**0.93 290**	P	Pg	07 51 48.2	+0.2
CHOS	**Chios island**	**0.93 290**	*e*Pg	Pb	07 51 48.4	-0.4
CHOS			S	Sg	07 52 00.7	+0.6
AKS	**Akhisar**	**0.94 32**	*e*PG	Pb	07 51 48.8	-0.2
AKS	**Akhisar**	**0.94 32**	*e*Pg	Pb	07 51 48.8	-0.2
DKL	**Dikili**	**1.01 348**	*e*PG	Pg	07 51 49.6	+0.1
DKL	**Dikili**	**1.01 348**	*e*Pg	Pg	07 51 49.6	+0.1
BODT	**Bodrum**	**1.02 174**	*e*PG	Pb	07 51 50.2	-0.1
BODT	**Bodrum**	**1.02 174**	P	Pg	07 51 49.4	-0.3
BODT			S	Sb	07 52 03.6	-0.4
BODT	**Bodrum**	**1.02 174**	P	Pg	07 51 49.4	-0.3
BODT	**Bodrum**	**1.02 174**	*e*Pg	Pb	07 51 50.2	-0.1
BODT			S	Sb	07 52 03.6	-0.4
KULA	**Kula-Manisa**	**1.25 69**	*e*PN	Pb	07 51 54.3	0.0
KULA	**Kula-Manisa**	**1.25 69**	P	Pg	07 51 53.2	-0.9
KULA			S	Sg	07 52 09.3	-1.0
KULA	**Kula-Manisa**	**1.25 69**	P	Pg	07 51 53.2	-0.9
KULA	**Kula-Manisa**	**1.25 69**	*e*Pn	Pn	07 51 54.3	0.0
KULA			S	Sg	07 52 09.3	-1.0
PRK	**Paraskevi**	**1.36 329**	P	Pn	07 51 54.6	-1.2
PRK			S	Sb	07 52 11.5	-2.3
PRK	**Paraskevi**	**1.36 329**	P	Pb	07 51 56.1	0.0
PRK			S	Sn	07 52 14.6	+0.4
PRK			AML	AML	07 52 16.2	
	comp=E,597μm,0.4s					
PRK			AML	AML	07 52 19.3	
	comp=N,533μm,0.7s					
PRK	**Paraskevi**	**1.36 329**	P	Pb	07 51 56.1	0.0
PRK			S	Sn	07 52 14.6	+0.4
DAT	**Datca**	**1.39 166**	*e*PN	Pg	07 51 57.3	+0.6
DAT	**Datca**	**1.39 166**	*e*Pn	Pg	07 51 57.3	+0.6
NISR	**Nisiros**	**1.47 181**	P	Pg	07 51 59.6	+1.4
NISR	**Nisiros**	**1.47 181**	P	Pg	07 51 59.6	+1.4
SIGR	**SIGRI**	**1.53 318**	*e*PN	Pb	07 51 59.0	0.0
SIGR	**SIGRI**	**1.53 318**	P	Pn	07 51 56.2	-1.9
SIGR			S	Sn	07 52 15.3	-3.0
SIGR	**SIGRI**	**1.53 318**	P	Pn	07 51 57.2	-0.9
SIGR			S	Sb	07 52 18.7	+0.1
SIGR			AML	AML	07 52 21.4	
	comp=N,287μm,0.6s					
SIGR			AML	AML	07 52 23.8	
	comp=E,264μm,0.4s					
SIGR	**SIGRI**	**1.53 318**	P	Pn	07 51 57.2	-0.9
SIGR	**SIGRI**	**1.53 318**	*e*Pn	Pb	07 51 59.0	+0.1
SIGR			S	Sb	07 52 18.7	+0.1
APE	**Apeiranthos**	**1.65 233**	*e*PN	Pn	07 52 00.3	+0.6
APE	**Apeiranthos**	**1.65 233**	P	Pg	07 52 01.4	-0.2
APE			S	Sn	07 52 20.9	-0.4
APE			AML	AML	07 52 25.8	
	comp=E,116μm,0.4s					
APE			AML	AML	07 52 28.3	
	comp=N,89μm,0.4s					
APE	**Apeiranthos**	**1.65 233**	*e*Pn	Pn	07 52 00.3	+0.6
APE	**Apeiranthos**	**1.65 233**	P	Pg	07 52 01.5	-0.2
APE			S	Sn	07 52 20.9	-0.4
BALB	**Balikesir**	**1.65 19**	*e*PN	Pb	07 52 00.7	-0.4
BALB	**Balikesir**	**1.65 19**	*e*Pn	Pb	07 52 00.7	-0.4
BOZC	**Bozcaada**	**1.96 334**	*e*PN	Pn	07 52 04.6	+0.5
BOZC	**Bozcaada**	**1.96 334**	*e*Pn	Pn	07 52 04.6	+0.5
TVSB	**Tavsanli**	**2.25 52**	*e*PN	Pn	07 52 09.0	+0.9
TVSB	**Tavsanli**	**2.25 52**	*e*Pn	Pn	07 52 09.0	+0.9
KRBG	**Karabiga-Canak**	**2.31 2**	*e*PN	Pn	07 52 10.0	+1.2
KRBG	**Karabiga-Canak**	**2.31 2**	*e*Pn	Pn	07 52 10.0	+1.2
LPK	**Lapseki**	**2.31 352**	*e*PN	Pn	07 52 09.4	+0.6
LPK	**Lapseki**	**2.31 352**	*e*Pn	Pn	07 52 09.4	+0.6
AKAS	**Kas**	**2.68 133**	*e*PN	Pn	07 52 15.4	+1.4
AKAS	**Kas**	**2.68 133**	*e*Pn	Pn	07 52 15.4	+1.4
SMTH	**Samothraki Isl**	**2.71 332**	P	Pn	07 52 12.5	-1.8
SMTH	**Samothraki Isl**	**2.71 332**	P	Pn	07 52 12.5	-1.8
ALN	**Alexandroupoli**	**2.95 343**	P	Pn	07 52 17.5	-0.1
ALN	**Alexandroupoli**	**2.95 343**	P	Pn	07 52 17.5	0.0

*ISCJB **21** 07:51:48.1±0.4, 32.°24N±0.°03×115.°24W±0.°03, h26km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=138.8*
*ECX **21** 07:51:49.2±0.6, 32.°21N×115.°26W, h6km, MD2.7, ML2.9*
ISC 21 07:51:47.7±1.1, 32.°23N±0.°03×115.°24W±0.°03, h19km±3km, n29, σ0.°76/40, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.18**	**13**	⇓*e*P	**Pg**	**07 51 52.9**	**+0.4**
CPBX	**Cerro Prieto**	**0.19**	**345**	⇓*e*P	**Pg**	**07 51 52.9**	**+0.2**
CPBX				*e*S	**Sg**	**07 51 56.8**	**+0.7**
CPBX				IAML		07 51 57.2	
	comp=E,11μm,0.2s						
CPBX				*e*		07 51 57.2	
EMSC	**East Mesa**	**0.55**	**23**	*e*P	**Pg**	**07 51 59.3**	**+0.5**
DREC	**Desert Rsrch C**	**0.60**	**343**	*e*P	**Pg**	**07 52 00.4**	**+0.7**
ERPC	**Ernies Place**	**0.62**	**325**	*e*P	**Pg**	**07 52 00.6**	**+0.5**
COA	**Coachella**	**0.64**	**9**	*e*P	**Pg**	**07 52 00.8**	**+0.4**
WESC	**Westside Schoo**	**0.67**	**322**	⇓*i*P	**Pg**	**07 52 01.3**	**+0.3**
YMD	**Yuma Desert**	**0.67**	**61**	⇑*i*P	**Pg**	**07 52 01.3**	**+0.2**
YUH	**Yuha Desert**	**0.71**	**306**	⇓*i*P	**Pb**	**07 52 01.3**	**-0.1**
ECBX	**El Chinero**	**0.78**	**168**	*e*P	**Pb**	**07 52 02.2**	**-0.4**
ECBX				*e*S	**Sb**	**07 52 12.9**	**+0.2**
RMX	**La Rumorosa**	**0.80**	**298**	⇓*e*P	**Pb**	**07 52 02.5**	**-0.6**
RMX				*e*S	**Sb**	**07 52 13.1**	**-0.4**
RMX				IAML		07 52 14.5	
	comp=N,414nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.84**	**300**	P	**Pb**	**07 52 03.8**	**0.0**
	baz=123,SNR=72						
IKP				S	**Sb**	**07 52 14.8**	**0.0**
	baz=123						
IKP	**In-Ko-Pah, Jac**	**0.84**	**300**	⇓*i*P	**Pb**	**07 52 03.8**	**0.0**
SWSC	**Sam W. Stewart**	**0.85**	**327**	P	**Pb**	**07 52 03.4**	**-0.6**
	baz=149,SNR=33						
SWSC				S	**Sg**	**07 52 15.4**	**-0.3**
	baz=149						
GLA	**Glamis**	**0.89**	**23**	P	**Pb**	**07 52 04.2**	**-0.4**
	baz=204,SNR=34						
GLA				S	**Sb**	**07 52 16.4**	**+0.3**
	baz=204						
ZAX	**El Zacaton**	**1.13**	**231**	⇑*e*	**Sb**	**07 52 23.9**	**+0.8**
ZAX				IAML		07 52 23.9	
	comp=E,295nm,0.3s						
MONP2	**Monument Peak**	**1.19**	**304**	P	**Pn**	**07 52 09.0**	**-0.6**
	baz=126						
MONP2				S	**Sn**	**07 52 25.3**	**-0.2**
	baz=126						
SPIG	**San Pedro Mart**	**1.20**	**189**	*e*P	**Pn**	**07 52 09.5**	**-0.3**
SPX	**San Pedro Mart**	**1.20**	**189**	⇓*e*P	**Pn**	**07 52 09.7**	**-0.1**
SPX				*e*S	**Sg**	**07 52 26.3**	**-0.5**
SPX				IAML		07 52 27.4	
	comp=E,169nm,0.4s						
SPX				⇑*e*		07 52 27.4	
CBX	**Cerro Bola**	**1.21**	**274**	⇑*e*P	**Pn**	**07 52 09.8**	**0.0**
CBX				IAML		07 52 28.3	
	comp=N,329nm,0.2s						
ECNX	**Esteban Cantu**	**1.29**	**244**	*e*P	**Pn**	**07 52 10.8**	**0.0**
BAR	**Barrett**	**1.29**	**291**	*e*P	**Pb**	**07 52 11.1**	**-0.3**
BC3	**Big Chuckawall**	**1.43**	**353**	P	**Pn**	**07 52 12.2**	**-0.6**
	baz=174,SNR=23						
BC3				S	**Sn**	**07 52 30.1**	**-1.1**
	baz=174						
109C	**Camp Elliot, M**	**1.70**	**293**	Sb	**Sb**	**07 52 40.2**	**+0.8**
	baz=114						
PFO	**Pinyon Flats O**	**1.71**	**324**	P	**Pn**	**07 52 16.0**	**-0.7**
	baz=145,SNR=14						
PFO				S	**Sn**	**07 52 37.2**	**-1.0**
	baz=145						
214A	**Organ Pipe Nat**	**2.08**	**97**	P	**Pn**	**07 52 21.2**	**-0.5**
	baz=277,SNR=5.5						
214A				Sb	**Sb**	**07 52 52.6**	**+2.1**
	baz=277						
MURC	**Murrieta**	**2.13**	**310**	Sb	**Sb**	**07 52 54.0**	**+2.1**
	baz=131						
PDMCI	**Parker Dam,Lak**	**2.26**	**24**	S	**Sn**	**07 52 51.5**	**0.0**
	baz=204						
CIS	**Catalina Islan**	**2.91**	**294**	Sb	**Sb**	**07 53 16.1**	**+1.8**
	baz=114						

*IDC **21** 07:56:05.8±1.0, 34.°69N×84.°80E, h0km, mb3.5/8, mb1 3.8/12, mb1mx3.5/62, mbtmp3.6/12, ML2.8/3, Error ellipse: s-maj=36.1km s-min=16.3km az=57.0*
*ISCJB **21** 07:56:08.6±0.8, 34.°8N±0.°1×84.°9E±0.°2, h33km, mb3.6/5, Error ellipse: s-maj=23.1km s-min=11.1km az=145.4*
ISC 21 07:56:11.2±1.0, 34.°8N±0.°1×85.°0E±0.°2, h35km, n12, σ1.°20/12, mb3.7/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**11.31**	**317**	Pn	**Pn**	**07 58 51.1**	**+0.7**
	baz=112,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**12.14**	**351**	Pn	**Pn**	**07 59 00.5**	**-1.0**
	0.0nm,0.3s,baz=164,slow=13,SNR=4.9						
KURBB	**Kurchatov Arra**	**16.48**	**345**	Pn	**Pn**	**07 59 57.3**	**-2.2**
	0.1nm,0.3s,baz=168,slow=11,SNR=32						
ZALV	**Zalesovo Beam**	**19.13**	**360**	P	**Pn**	**08 00 32.7**	**+0.6**
	0.1nm,0.3s,baz=170,slow=8.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**20.48**	**139**	P	**P**	**08 00 44.9**	**-1.2**
	0.5nm,0.4s,baz=313,slow=11,SNR=4.3						
SONM	**Songino Array**	**20.59**	**44**	P	**P**	**08 00 48.1**	**+0.9**
	2.4nm,1.0s,baz=230,slow=12,SNR=7.3						
BVAR	**Borovoye Array**	**20.95**	**335**	P	**P**	**08 00 50.4**	**-0.4**
	0.8nm,0.7s,baz=161,slow=9.4,SNR=4.8						
AKTO	**Aktyubinsk**	**25.06**	**317**	P	**P**	**08 01 31.1**	**-0.9**
	1.7nm,0.8s,baz=115,slow=3.6,SNR=4.1						
GERES	**GERESS Array B**	**53.05**	**308**	P	**P**	**08 05 23.9**	**-0.9**
	0.6nm,0.6s,baz=50,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**71.85**	**131**	P	**P**	**08 07 30.5**	**-0.1**
	1.1nm,0.8s,baz=325,slow=5.5,SNR=6.9						
ILAR	**Eielson Array**	**72.80**	**21**	P	**P**	**08 07 36.8**	**+1.1**
	0.5nm,0.8s,baz=313,slow=5.9,SNR=5.8						
ASAR	**Alice Springs**	**74.40**	**134**	P	**P**	**08 07 46.5**	**+0.9**
	0.3nm,0.7s,baz=341,slow=7.2,SNR=3.8						

*CSEM **21** 08:01:32.8, 46.°88N×14.°53E, h0km, ML1.3/5, Suspected Mining explosion.*
VIE 21 08:01:32.8±0.2, 46.°88N×14.°53E, h0km, mb1.3/3, ML1.3/5, Error ellipse: s-maj=2.2km s-min=1.3km az=10.0, Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.37**	**178**	Pg	**Pg**	08 01 40.0	+0.1
	1.0nm,0.1s						
OBKA				Sg	Sg	08 01 45.7	+0.9
	12nm,0.3s						
SOKA	**Soboth**	**0.40**	**120**	Pg	**Pg**	08 01 40.5	0.0
	0.2nm,0.0s						
SOKA				Sg	Sg	08 01 46.4	+0.7
	1.4nm,0.1s						
MYKA	**Terra Mystica**	**0.66**	**248**	Pg	**Pg**	08 01 45.3	-0.1
	1.6nm,0.1s						
MYKA				Sg	Sg	08 01 54.2	+0.2
	1.4nm,0.2s						
ARSA	**Arzberg**	**0.77**	**61**	Pg	**Pg**	08 01 47.8	+0.2
	1.1nm,0.2s						
ARSA				Sg	Sg	08 01 58.7	+1.1
	1.9nm,0.4s						
KBA	**Koelnbreinsper**	**0.83**	**284**	Pg	**Pg**	08 01 49.4	+0.6
	0.2nm,0.1s						
KBA				Sg	Sb	08 02 01.1	-1.0
	0.8nm,0.1s						

*NIED **21** 08:02:00, 43.°80N×142.°70E, h185km, Mw6.1 Best double couple: M0 1.88000×10^18 NP1:φs 11.00000°, δ35.00000°, λ-165.00000°. NP2:φs 269.00000°, δ82.00000°, λ-56.00000°.*
*BJI **21** 08:02:35.1, 43.°90N×142.°75E, h190km, mb6.1/89, mB6.1/65*
*ISCJB **21** 08:02:36.6±0.1, 43.°82N±0.°01×142.°55E±0.°01, h190km±1km, mb6.0/687, Error ellipse: s-maj=2.0km s-min=1.4km az=149.2*
*MOS **21** 08:02:36.2±0.9, 43.°89N×142.°54E, h186km, mb6.3/159, MS5.5/28, Error ellipse: s-maj=5.3km s-min=3.6km az=97.7*
MOS Felt (II-III) at Malokuril'skoye; (II) at Yuzhno-Kuril'sk.
*JMA **21** 08:02:36.9±0.1, 43.°79N×142.°65E, h196km±2km, M6.3 Broadband fault plane solution: P waves. NP1: φs 265.00000°, δ82.00000°, λ-82.00000°. NP2:φs 39.00000°, δ11.00000°, λ-136.00000°. Principal axes: T Plg37.0000°, Azm348.0000°; N Plg8.0000°, Azm84.0000°; P Plg52.0000°, Azm184.0000°;*
JMA Felt III J1.
*NEIC **21** 08:02:38.0±0.1, 43.°89N×142.°48E, h187km, mb5.9/292, MW6.1, MW6.1, MW6.1 Error ellipse: s-maj=2.0km s-min=1.5km az=145.0, Moment Tensor Solution. s90 Moment tensor: Scale 10^18Nm; Mrr-0.53; Mθθ 0.63; Mφφ-0.11; Mrθ 1.51; Mθφ 0.99; Mφr-0.26; Best double couple: M0 1.90000×10^18 NP1:φs 273.00000°, δ80.00000°, λ-57.00000°. NP2:φs 17.00000°, δ34.00000°, λ-163.00000°. Principal axes: T 1.9100, Plg28.0000°, Azm337.0000°; N 0.0000, Plg32.0000°, Azm87.0000°; P -1.9200, Plg45.0000°, Azm216.0000°;*
NEIC Felt at Obihiro. Felt [IV] at Misawa, Honshu. Recorded [3 JMA] in Aomori and Iwate.
*SKHL **21** 08:02:37.9±0.7, 43.°96N×142.°71E, h175km±4km, mb6.9/6, Ms5.8/3, msh7.1/5*
SKHL Felt (II-III) at Malokurilskoe,(II) at Yushno-Kurilsk (6.6)/7 (7.0)/7.
*NEIC **21** 08:02:38.0±0.0, 43.°79N×142.°79E, h190km, Moment Tensor Solution. s45 Moment tensor: Scale 10^18Nm; Mrr-0.64; Mθθ 0.58; Mφφ 0.06; Mrθ 1.11; Mθφ 0.80; Mφr-0.27; Best double couple: M0 1.50000×10^18 NP1:φs 269.00000°, δ75.00000°, λ-56.00000°. NP2:φs 21.00000°, δ36.00000°, λ-154.00000°. Principal axes: T 1.4800, Plg22.0000°, Azm334.0000°; N 0.0900, Plg32.0000°, Azm79.0000°; P -1.5700, Plg48.0000°, Azm215.0000°;*
*IDC **21** 08:02:38.0±0.2, 43.°97N×142.°63E, h189km±1km, mb5.8/37, mb1 5.9/42, mb1mx5.9/42, mbtmp6.3/42, MS5.1/18, Ms1 5.1/18, ms1mx4.7/58 Error ellipse: s-maj=5.6km s-min=4.7km az=151.0*
*GCMT **21** 08:02:38.0±0.1, 43.°83N×142.°52E, h192km, MW6.2/150, Moment Tensor Solution. s142, c335; s150, c563; Duration: 2±9 Moment tensor: Scale 10^18Nm; Mrr-0.76±.01; Mθθ 0.93±.01; Mφφ-0.16±.01; Mrθ 1.41±.01; Mθφ 1.40±.01; Mφr-0.25±.01; Best double couple: M0 2.17200×10^18 NP1:φs 272.00000°, δ76.00000°, λ-48.00000°. NP2:φs 17.00000°, δ43.00000°, λ-160.00000°. Principal axes: T 2.2680, Plg20.0000°, Azm332.0000°; N -0.1940, Plg40.0000°, Azm80.0000°; P -2.0750, Plg43.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **21** 08:02:43.9±0.0, 43.°83N×142.°37E, h172km, Moment Tensor Solution. s32 Moment tensor: Scale 10^18Nm; Mrr-0.79; Mθθ 0.89; Mφφ-0.10; Mrθ 1.17; Mθφ 1.38; Mφr-0.12; Best double couple: M0 2.00000×10^18 NP1:φs 270.00000°, δ74.00000°, λ-47.00000°. NP2:φs 16.00000°, δ45.00000°, λ-158.00000°. Principal axes: T 2.1500, Plg18.0000°, Azm329.0000°; N -0.3300, Plg41.0000°, Azm76.0000°; P -1.8100, Plg43.0000°, Azm222.0000°;*
ISC 21 08:02:37.6±0.2, 43.°87N±0.°02×142.°53E±0.°02, h189km±1km, h189km; pP-P, n2460, σ1.°56/3049, mb6.0/722, 285C-65D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKK2	**Kamakawa 2**	**0.16**	**90**	⇓P	**Pn**	**08 03 02.8**	**+0.3**
JKK2				*e*S	**Sn**	**08 03 21.9**	**+0.2**
ASAJ	**Asahikawa**	**0.25**	**11**	P	**Pn**	**08 03 03.1**	**+0.4**
	5μm,0.3s,baz=232,slow=6.6,SNR=9783						
ASAJ				S	**Sn**	**08 03 23.1**	**+0.9**
	717nm,0.3s,baz=350,slow=31,SNR=18						
ASAJ				ScS	**ScS**	**08 17 30.9**	**+2.0**
ASAJ	**Asahikawa**	**0.25**	**11**	⇓P	**Pn**	**08 03 03.0**	**+0.4**
ASAJ				*e*S	**Sn**	**08 03 22.6**	**+0.4**
JAB	**Ashibetsu**	**0.43**	**211**	⇑P	**Pn**	**08 03 03.5**	**+0.3**
JAB				*e*S	**Sn**	**08 03 23.5**	**+0.6**
HRK	**Horoka**	**0.59**	**133**	*e*P	**Pn**	**08 03 04.1**	**+0.2**
HRK				*e*S	**Sn**	**08 03 25.1**	**+0.9**
JHR	**Hokuryu**	**0.60**	**258**	⇓P	**Pn**	**08 03 04.6**	**+0.8**
JHR				*e*S	**Sn**	**08 03 26.3**	**+2.3**
JMP	**Maruseppu**	**0.61**	**77**	⇓P	**Pn**	**08 03 03.9**	**0.0**
JMP				*e*S	**Sn**	**08 03 24.7**	**+0.4**
JFR	**Furan**	**0.71**	**176**	⇑P	**Pn**	**08 03 04.1**	**-0.4**
JFR				*e*S	**Sn**	**08 03 25.1**	**-0.1**
JSS	**Shosan**	**0.72**	**317**	⇓P	**Pn**	**08 03 05.3**	**+0.9**
JYG	**Yagishiri**	**0.97**	**305**	⇓P	**Pn**	**08 03 06.6**	**+0.7**
JYG				*e*S	**Sn**	**08 03 29.9**	**+1.9**
JTKR	**Abashiri--Toko**	**1.00**	**84**	⇓P	**Pn**	**08 03 06.1**	**-0.1**
JTKR				*e*S	**Sn**	**08 03 27.3**	**-1.0**
JAR	**Ashorobuto**	**1.07**	**122**	⇑P	**Pn**	**08 03 06.2**	**-0.5**
JAR				*e*S	**Sn**	**08 03 28.0**	**-1.2**
JSE	**Soyaes**	**1.09**	**2**	⇓P	**Pn**	**08 03 07.4**	**+0.6**
JBT2	**Biratori 2**	**1.10**	**186**	⇑P	**Pn**	**08 03 06.4**	**-0.6**
JEW	**Eniwo**	**1.30**	**218**	⇑P	**Pn**	**08 03 09.0**	**+0.4**
JEW				*e*S	**Sn**	**08 03 32.4**	**-0.1**
JOB	**Onbets**	**1.36**	**135**	⇑P	**Pn**	**08 03 08.0**	**-1.1**
JCH	**Churui**	**1.40**	**154**	⇑P	**Pn**	**08 03 07.5**	**-1.9**
JCH				*e*S	**Sn**	**08 03 30.3**	**-3.7**
JWK2	**Keihoku**	**1.51**	**343**	⇓P	**Pn**	**08 03 11.6**	**+1.2**
JWK2				*e*S	**Sn**	**08 03 37.5**	**+1.5**
JSK	**Shakotan**	**1.58**	**252**	P	**Pn**	**08 03 11.8**	**+0.7**
JSK				*e*S	**Sn**	**08 03 38.5**	**+1.6**
JNBK	**Urakawa-nobuka**	**1.60**	**174**	⇑P	**Pn**	**08 03 10.1**	**-1.2**
JNK	**Nakash**	**1.61**	**100**	⇑P	**Pn**	**08 03 10.3**	**-1.1**
JNB	**Noboribetsu**	**1.78**	**218**	⇑P	**Pn**	**08 03 13.1**	**+0.1**
JAK	**Akkeshi**	**1.80**	**118**	⇑P	**Pn**	**08 03 11.1**	**-2.2**
JAK				*e*S	**Sn**	**08 03 37.1**	**-3.8**
JRA	**Rausu**	**1.87**	**87**	⇓P	**Pn**	**08 03 13.6**	**-0.3**
JRA				*e*S	**Sn**	**08 03 41.4**	**-0.7**
JEM	**Erimo**	**1.91**	**166**	⇑P	**Pn**	**08 03 12.6**	**-1.8**
JKB	**Kayabe**	**2.27**	**210**	⇑P	**Pn**	**08 03 17.6**	**-0.6**
JKB				*e*S	**Sn**	**08 03 47.3**	**-2.5**
JYM2	**Yakumo 2**	**2.37**	**223**	⇑P	**Pn**	**08 03 19.6**	**+0.3**
NEM2	**Nemuro 2**	**2.39**	**101**	⇑P	**Pn**	**08 03 16.9**	**-2.6**
NEM2				*e*S	**Sn**	**08 03 46.7**	**-5.4**
YUK	**Yuzh-Kuril'sk**	**2.41**	**85**	*d i*PN	**Pn**	**08 03 19.1**	**-0.6**
YUK				*i*		08 03 52.0	
YUK				pmax	pmax		
	comp=Z,12μm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				MLR	MLR		
	comp=Z,152μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**2.41**	**85**	*i* P	**Pn**	**08 03 19.1**	**-0.6**
YUK				AMB	AMB	08 03 20.2	
	comp=Z,12μm,0.5s						
YUK				*i* S	**Sn**	**08 03 52.1**	**-0.4**
YUK				A	A	08 03 53.2	
	comp=Z,85μm,0.5s						
YUK				A	A	08 03 53.2	
	comp=Z,19μm,0.5s						
YUK				A	A	08 03 54.5	
	comp=Z,784μm,3.5s						
YUK				A	A	08 03 54.5	
	comp=Z,583μm,3.5s						
YUK				AMS	AMS	08 04 35.7	
	comp=Z,152μm,15.0s						
JOT	**Ohata**	**2.72**	**204**	⇑P	**Pn**	**08 03 22.3**	**-1.1**
JOT				*e*S	**Sn**	**08 03 55.9**	**-3.1**
JSR	**Shiriuchi**	**2.81**	**214**	⇑P	**Pn**	**08 03 24.2**	**-0.3**
JOSM	**Okushiri--Mats**	**2.87**	**232**	⇓P	**Pn**	**08 03 25.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**3.08**	**3**	*c i*PN	**Pn**	**08 03 28.4**	**+0.8**
YSS				*e*S	**Sn**	**08 04 05.0**	**-1.8**
YSS				pmax	pmax		
	comp=N,335μm,2.0s						
YSS				pmax	pmax		
	comp=E,176μm,2.0s						
YSS				pmax	pmax		
	comp=Z,339μm,2.0s						
YSS				pmax	pmax		
	comp=Z,6μm,1.1s						
YSS				pmax	pmax		
	comp=N,6μm,1.6s						
YSS				smax	smax		
	comp=N,13μm,1.4s						
YSS				smax	smax		
	comp=E,37μm,1.6s						
YSS	**Yuzh-Sakhalins**	**3.08**	**3**	*i* P	**Pn**	**08 03 28.3**	**+0.7**
YSS				AMB	AMB	08 03 30.0	
	comp=E,34μm,2.0s						
YSS				AMB	AMB	08 03 30.5	
	comp=E,6μm,1.1s						
YSS				*e*S	**Sn**	**08 04 07.7**	**+0.9**
YSS				A	A	08 04 09.0	
	comp=E,594μm,5.0s						
YSS				A	A	08 04 09.0	
	comp=E,276μm,5.0s						
YSS				A	A	08 04 10.4	
	comp=E,13μm,1.4s						
YSS				A	A	08 04 10.4	
	comp=E,37μm,1.4s						
YSS				AMS	AMS	08 05 59.0	
	comp=E,65μm,7.0s						
YSS	**Yuzh-Sakhalins**	**3.08**	**3**	*e*Pn	**Pn**	**08 03 28.4**	**+0.7**
SHO	**Shikotan**	**3.11**	**89**	*d i*PN	**Pn**	**08 03 25.6**	**-2.3**
SHO				*e*S	**Sn**	**08 04 02.2**	**-5.0**
SHO				pmax	pmax		
	comp=Z,48μm,1.1s						
SHO				pmax	pmax		
	comp=E,5μm,1.3s						
SHO				pmax	pmax		
	comp=N,2μm,0.7s						
SHO				smax	smax		
	comp=E,30μm,0.6s						
SHO				smax	smax		
	comp=N,39μm,0.7s						
SHO	**Shikotan**	**3.11**	**89**	*i* P	**Pn**	**08 03 25.7**	**-2.2**
SHO				AMB	AMB	08 03 34.1	
	comp=N,48μm,1.1s						
SHO				*e*S	**Sn**	**08 04 02.3**	**-5.0**
SHO				A	A	08 04 03.0	
	comp=N,30μm,0.6s						
SHO				A	A	08 04 03.0	
	comp=N,39μm,0.6s						
JSI2	**Shiura 2**	**3.22**	**210**	⇑P	**Pn**	**08 03 28.9**	**-0.5**
JANG	**Nango**	**3.58**	**193**	⇑P	**Pn**	**08 03 31.1**	**-2.7**
JIW	**Iwasaki**	**3.78**	**211**	⇑P	**Pn**	**08 03 35.6**	**-0.6**
JTH	**Tanohata**	**3.96**	**187**	⇑P	**Pn**	**08 03 35.3**	**-3.3**

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UGL                                    eS      Sn     08 04 53.7 -1.3
UGL  Uglegorsk          5.22 357  i P          Pn     08 03 54.6 +0.2
UGL                                    AMB     AMB    08 03 55.6
     comp=N,35μm,6.6s
UGL                                    AMB     AMB    08 03 56.5
     comp=N,6μm,0.9s
UGL                                    i S     Sn     08 04 55.5 +0.5
UGL                                    A       A      08 04 58.0
     comp=N,8μm,1.7s
UGL                                    A       A      08 04 58.6
     comp=N,81μm,5.3s
JIO  Ouri               5.49 190 ⇑P                   Pn     08 03 55.2 -2.8
JYS  Shiratake          5.95 199 ⇑P                   Pn     08 04 02.9 -1.1
JAW  Awa shima          5.95 206 ⇑P                   Pn     08 04 02.9 -1.2
JFK  Kawauchi           6.62 192 ⇑P                   Pn     08 04 09.9 -3.0
ONAJ Iwakimizuishiy     6.89 192 ⇑P                   Pn     08 04 13.3 -3.1
HABR Khabarovsk         6.94 314 ceP N                Pn     08 04 16.0 -0.8
HABR                                   eS      Sn     08 05 35.5 +0.2
HABR                                   MLR     MLR
     comp=Z,18μm,13.0s
TYV  Tymovskoe          6.99   1 ⇑i PN                Pn     08 04 18.3 +0.7
TYV                                    eS      Sn     08 05 36.1 -0.6
TYV                                    pmax    pmax
     comp=Z,6μm,1.1s
TYV                                    pmax    pmax
     comp=Z,26μm,1.7s
TYV                                    smax    smax
     comp=N,2μm,1.4s
TYV                                    smax    smax
     comp=E,118μm,7.2s
TYV                                    MLR     MLR
     comp=Z,35μm,10.0s
TYV  Tymovskoe          6.99   1 eP                   Pn     08 04 18.2 +0.7
TYV                                    AMB     AMB    08 04 19.2
     comp=Z,21μm,3.0s
TYV                                    AMB     AMB    08 04 23.4
     comp=Z,4μm,0.8s
TYV                                    eS      Sn     08 05 37.0 +0.3
TYV                                    A       A      08 05 45.9
     comp=Z,1μm,1.0s
TYV                                    A       A      08 05 50.2
     comp=Z,52μm,4.5s
TYV                                    AMS     AMS    08 08 42.0
     comp=Z,29μm,10.0s
TYV                                    AMS     AMS    08 08 42.0
     comp=Z,35μm,10.0s
JHK  Hiroka             7.14 203 ⇑P                   Pn     08 04 18.3 -1.3
JSB  Shiboa             7.18 197  P                   Pn     08 04 18.3 -1.9
USRK Ussuriysk Ar.      7.61 276  P                   Pn     08 04 26.6 +1.0
     comp=Z,23nm,0.3s,baz=84,slow=18,SNR=421
USRK                                   S       Sn     08 05 52.9 +1.6
     baz=55,slow=45,SNR=1.6
USRK                                   ScS     ScS    08 17 35.0 +0.9
     comp=Z,0.1nm,0.3s,baz=299,slow=8.5,SNR=2.7
VLA  Vladivostok        7.78 268 d i PN               Pn     08 04 28.9 +1.0
JAG  Ashikaga           7.80 199 ⇑P                   Pn     08 04 25.8 -2.5
MJB9 Matsu-Tunnel       8.03 206  ePn                 Pn     08 04 30.6 -0.8
MAJO Matsushiro         8.03 206 d i PN               Pn     08 04 29.8 -1.5
MAJO Matsushiro         8.03 206  eP                 Pn     08 04 31.5 +0.2
MAJO Matsushiro         8.03 206  ePn                 Pn     08 04 30.8 -0.6
MAT  Matsushiro         8.03 206  P                   Pn     08 04 29.8 -1.5
MAT                                    eS      Sn     08 05 56.5 -5.1
MJAR Matsushiro Arr     8.03 206  P                   Pn     08 04 30.1 -1.3
     comp=Z,60nm,0.3s,baz=26,slow=11,SNR=302
MJAR                                   S       Sn     08 05 55.9 -5.8
     baz=68,slow=14,SNR=2.0
MJAR                                   ScP     ScP    08 14 00.8 -0.5
     comp=Z,0.3nm,0.3s,baz=305,slow=0.7,SNR=25
MJAR                                   ScS     ScS    08 17 35.2 +0.1
     comp=Z,0.1nm,0.3s,baz=320,slow=47,SNR=4.3
MSHR Mys Shultsa        8.41 265 d i PN               Pn     08 04 37.1 +1.0
JGN  Niukaw             8.62 209 ⇓P                   Pn     08 04 37.9 -1.2
MDJ  Mudanjiang         9.32 279  P                   Pn     08 04 49.3 +1.3
MDJ                                    S       Sn     08 06 33.3 +1.2
MDJ                                    ScP     ScP    08 14 03.0 +0.5
MDJ                                    PcS     PcS    08 14 22.6 +1.0
MDJ                                    ScS     ScS    08 17 38.4 +1.7
MDJ                                    pmax    pmax
     comp=Z,400nm,0.9s
MDJ                                    pmax    pmax
     comp=Z,2μm,4.3s
MDJ  Mudanjiang         9.32 279  ePn                 Pn     08 04 49.4 +1.3
NKL  Nikolayevsk        9.37 353  i PN                Pn     08 04 49.0 +0.5
NKL                                    eS      Sn     08 06 32.0 -1.0
NKL                                    pmax    pmax
     comp=E,11μm,7.0s
NKL                                    pmax    pmax
     comp=Z,50μm,7.0s
NKL                                    pmax    pmax
     comp=N,2μm,1.4s
NKL                                    pmax    pmax
     comp=E,3μm,1.4s
NKL                                    pmax    pmax
     comp=Z,13μm,1.4s
NKL                                    smax    smax
     comp=E,74μm,9.0s
NKL                                    MLR     MLR
     comp=N,11μm,12.0s
NKL                                    MLR     MLR
     comp=Z,31μm,14.0s
JAO  Obara              9.51 207  P                   Pn     08 04 48.6 -2.0
INU  Inuyama            9.51 208  ePn                 Pn     08 04 49.3 -1.4
OKH  Okha               9.69   1 ⇑i PN                Pn     08 04 53.2 +0.5
OKH                                    pmax    pmax
     comp=Z,10μm,14.0s
JKY  Yasaka            10.02 217  P                   Pn     08 04 56.4 -0.9
JWT  Wachi             10.19 215  P                   Pn     08 04 58.2 -1.2
JKSM Kasumi            10.25 219  P                   Pn     08 04 59.3 -0.9
JHJ  Hachijo jima 2    10.95 192  P                   Pn     08 05 05.6 -3.7
     comp=Z,438nm,0.3s,baz=70,slow=6.6,SNR=36
JHJ                                    S       Sn     08 07 00.9 -10
     comp=Z,406nm,0.3s,baz=77,slow=23,SNR=12
JHJ2 Mitsune           10.95 192  ePn                 Pn     08 05 05.9 -3.4
JHS  Saijyo            11.46 223  P                   Pn     08 05 14.6 -1.3
SKR  Severo-Kuril's    11.46  49 d i PN               Pn     08 05 13.5 -2.2
SKR                                    eS      Sn     08 07 20.1 -2.9
SKR                                    pmax    pmax
     comp=Z,7μm,2.7s
SKR                                    MLR     MLR
     comp=Z,13μm,14.0s
SKR  Severo-Kuril's    11.46  49  eP                 Pn     08 05 14.6 -1.1
SKR                                    AMB     AMB    08 05 16.1
     comp=Z,2μm,0.8s
SKR                                    eS      Sn     08 07 17.0 -6.0
SKR                                    A       A      08 07 22.9
     comp=Z,3μm,0.6s
SKR                                    AMS     AMS    08 10 18.7
     comp=Z,11μm,15.0s
SKR                                    AMS     AMS    08 10 18.7
     comp=Z,11μm,15.0s
SKR                                    AMS     AMS    08 10 18.7
     comp=Z,14μm,15.0s
CN2  Changchun         12.34 276 ⇑P                   Pn     08 05 27.5 +0.5
CN2                                    eSP     sP     08 06 12.5
CN2                                    eS      Sn     08 07 41.1 -3.2
CN2                                    pmax    pmax
     comp=Z,200nm,3.0s
KSRS Korea Array       12.80 245  P                   Pn     08 05 33.0 +0.1
     comp=Z,5.2nm,0.3s,baz=58,slow=12,SNR=179
KSRS                                   S       Sn     08 07 55.3 -0.1
     baz=65,slow=14,SNR=2.4
KSRS                                   LR      LR     08 09 54.4
     comp=Z,4μm,20.3s,baz=52,slow=34
KSRS                                   PcP     PcP    08 10 53.4 +1.1
     comp=Z,0.1nm,0.3s,baz=111,slow=0.9,SNR=4.6
KSRS                                   ScP     ScP    08 14 08.2 +0.9
     comp=Z,0.5nm,0.3s,baz=52,slow=0.6,SNR=28
KSRS                                   ScS     ScS    08 17 44.8 +1.1
     comp=Z,0.1nm,0.3s,baz=14,slow=38,SNR=3.0
JKD  Kudamatsu         12.83 224  P                   Pn     08 05 32.8 -0.5
JKD                                    S       Sn     08 07 51.3 -4.8
KS15 Wonju Array Si    12.84 245  ePn                 Pn     08 05 33.1 -0.2
KSAR Wonju Array Be    12.84 245  PN                  Pn     08 05 33.0 -0.3
KSAR                                   S       Sn     08 07 55.3 -0.9
KSAR Wonju Array Be    12.84 245  P                   Pn     08 05 33.0 -0.3
KSAR                                   S       Sn     08 07 55.3 -0.9
KSAR                                   PcP     PcP    08 10 53.4 +1.1
KSAR                                   ScP     ScP    08 14 08.2 +0.9
KSAR                                   ScS     ScS    08 17 44.8 +1.0
JTY  Toyota            13.08 227  P                   Pn     08 05 35.3 -1.1
JKI  Kunimi            13.32 224  P                   Pn     08 05 38.7 -0.7
PEA0B Petropavlovsk-   13.63  42  ePn                 Pn     08 05 42.2 -0.9
PETK Petropavlovsk-    13.63  42  P                   Pn     08 05 41.8 -1.4
     comp=Z,17nm,0.3s,baz=205,slow=6.6,SNR=121
PETK                                   S       Sn     08 08 12.0 -2.9
     comp=Z,27nm,0.3s,baz=128,slow=5.6,SNR=5.3
PETK                                   ScP     ScP    08 14 08.0 -0.5
     comp=Z,0.4nm,0.3s,baz=127,slow=2.2,SNR=9.5
PETK                                   ScS     ScS    08 17 44.9 -0.3
     comp=Z,0.2nm,0.3s,baz=26,slow=17,SNR=2.9
PETK                                   P3KP           08 42 03.8
     comp=Z,0.1nm,0.3s,baz=249,slow=2.9,SNR=3.6
INCN Inchon            13.64 248  ePn                 Pn     08 05 43.1 -0.3
JFA  Akaike            13.65 226  P                   Pn     08 05 42.3 -1.3
PET  Petropavlovsk     14.05  44 d i P                Pn     08 05 45.9 -2.5
PET                                    eS      Sn     08 08 17.6 -7.3
PET                                    pmax    pmax
     comp=Z,382nm,1.2s
PET                                    pmax    pmax
     comp=Z,700nm,9.6s
PET                                    MLR     MLR
     comp=Z,14μm,17.0s
PET                                    MLR     MLR
     comp=Z,13μm,15.0s
PET  Petropavlovsk     14.05  44  eP                 Pn     08 05 47.2 -1.2
PET                                    AMB     AMB    08 05 49.3
     comp=Z,600nm,1.0s
PET                                    AMB     AMB    08 06 16.2
     comp=Z,8μm,5.0s
PET                                    eS      Sn     08 08 17.3 -7.6
PET                                    A       A      08 08 22.5
     comp=Z,1μm,0.5s
PET                                    AMS     AMS    08 08 55.0
     comp=Z,11μm,8.5s
PET                                    AMS     AMS    08 08 55.0
     comp=Z,16μm,8.5s
PET                                    AMS     AMS    08 08 55.0
     comp=Z,22μm,8.5s
PET  Petropavlovsk     14.05  44  ePn                 Pn     08 05 46.7 -1.6
SNY  Shenyang          14.06 268  ⇓P                  Pn     08 05 48.8 +0.3
SNY                                    sP      sP     08 06 36.3
SNY                                    S       Sn     08 08 16.0 -9.2
SNY                                    ScS     ScS    08 17 46.3 -0.2
SNY                                    pmax    pmax
     comp=Z,320nm,1.4s
SNY                                    pmax    pmax
     comp=Z,4μm,11.6s
SNY                                    LR      LR
     comp=Z,14μm,12.4s
SNY                                    LR      LR
     comp=Z,15μm,13.3s
JNU  Nakatsue          14.07 224  P                   Pn     08 05 47.7 -1.2
     comp=Z,8.3nm,0.3s,baz=29,slow=5.5,SNR=49
JNU  Nakatsue          14.07 224  P                   Pn     08 05 47.4 -1.5
JNU  Nakatsue          14.07 224  ePn                 Pn     08 05 46.9 -2.0
JFI  Itaya             14.08 226  P                   Pn     08 05 48.0 -1.0
JTA  Tamana            14.37 225  P                   Pn     08 05 51.5 -1.1
JUR  Ureshino          14.57 227  P                   Pn     08 05 54.4 -0.6
JTZ  Takazaki          14.96 221  P                   Pn     08 05 59.1 -0.7
JFU  Fukue jima 2      15.55 229  P                   Pn     08 06 06.5 -0.5
DL2  Dalian            16.44 260  ⇓i P                Pn     08 06 17.4 -0.2
DL2                                    sP      sP     08 07 13.0 +1.1
DL2                                    S       S      08 09 14.1 -4.9
DL2                                    ScS     ScS    08 17 51.3 -1.7
DL2                                    pmax    pmax
     comp=Z,2μm,1.2s
DL2                                    pmax    pmax
     comp=Z,11μm,6.3s
MA2  Magadan           16.51  15  P                   P      08 06 16.9 -0.6
     comp=Z,76nm,0.3s,baz=200,slow=10.0,SNR=350
MA2                                    S       S      08 09 17.6 -2.4
     baz=38,slow=16,SNR=3.1
MA2                                    LR      LR     08 12 45.2
     comp=Z,12μm,19.7s,baz=200,slow=37
MA2                                    ScS     ScS    08 17 53.9 +1.4
     comp=Z,0.3nm,0.3s,baz=276,slow=21,SNR=3.8
HIA  Hailar            16.55 297  eP                  P      08 06 17.4 -0.7
HIA                                    pmax    pmax
     comp=Z,2μm,0.7s
HIA  Hailar            16.55 297  eP                  P      08 06 17.4 -0.7
     comp=Z,2μm,0.7s
JYAK Yakushimahirau    16.63 219  P                   P      08 06 19.4 +0.3
CBIJ Chichi jima       16.74 181  eP                  Pn     08 06 21.4  0.0
     comp=Z,924nm,0.9s
CLNS Chul'man          17.11 326  eP                  P      08 06 24.3 +0.1
CLNS                                   eS      S      08 09 33.5 +1.0
CLNS                                   pmax    pmax
     comp=Z,3μm,0.9s
CLNS                                   pmax    pmax
     comp=N,2μm,0.9s
CLNS                                   pmax    pmax
     comp=E,816nm,0.9s
CLNS                                   smax    smax
     comp=E,8μm,13.2s
CLNS                                   smax    smax
     comp=N,4μm,12.9s
CLNS                                   MLR     MLR
     comp=N,9μm,11.0s
CLNS                                   MLR     MLR
     comp=Z,14μm,11.0s
CLNS                                   MLR     MLR
     comp=E,5μm,10.0s
YAK  Yakutsk           19.70 342  P                   P      08 06 50.0 -2.1
     comp=E,0.9nm,0.3s,baz=26,slow=1.8,SNR=367
YAK                                    ScS     ScS    08 18 00.4 -1.8
     comp=E,0.0nm,0.3s,baz=330,slow=24,SNR=14
YAK  Yakutsk           19.70 342  c i P               P      08 06 50.0 -2.1
YAK                                    eS      S      08 10 18.7 -4.9
YAK                                    pmax    pmax
     comp=N,2μm,1.2s
YAK                                    pmax    pmax
     comp=E,632nm,1.0s
YAK                                    pmax    pmax
     comp=Z,3μm,0.9s
YAK                                    smax    smax
     comp=N,6μm,1.4s
YAK                                    smax    smax
     comp=E,10μm,1.4s
YAK  Yakutsk           19.70 342  eP                  P      08 06 50.3 -1.8
     comp=E,7μm,1.2s
YAK                                    eS      S      08 10 22.8 -0.7
YAK                                    ScS     ScS    08 18 00.4 -1.8
SEY  Seymchan          19.93  13  P                   P      08 06 53.6 -1.0
     comp=E,44nm,0.3s,baz=197,slow=6.7,SNR=1416
SEY                                    S       S      08 10 26.0 -2.2
     baz=70,slow=20,SNR=9.4
SEY                                    ScS     ScS    08 18 03.0 -0.1
     comp=E,0.1nm,0.3s,baz=73,slow=23,SNR=9.8
SEY  Seymchan          19.93  13 c eP                 P      08 06 53.4 -1.2
BJI  Beijing           19.94 268  P                   P      08 06 54.3 -0.7
BJI                                    sP      sP     08 07 48.4 -2.2
BJI                                    S       S      08 10 25.3 -3.4
BJI                                    pmax    pmax
     comp=E,430nm,1.3s
BJI                                    pmax    pmax
     comp=E,3μm,3.2s
BJT  Baijiatuau        19.95 268  eP                  P      08 06 55.2 +0.1
BJT                                    pmax    pmax
     comp=Z,418nm,1.0s
BJT  Baijiatuau        19.95 268  eP                  P      08 06 55.2 +0.1
     comp=Z,418nm,1.0s
BJT                                    ePcP    PcP    08 11 04.7 +1.5
JOW  Kunigami          20.55 219  eP                  P      08 07 01.4 -0.2
     comp=Z,2μm,1.0s
JOW                                    ePcP    PcP    08 11 05.7 +1.2
TIA  Tai'an            20.85 257  ⇓P                  P      08 07 04.3 -0.4
TIA                                    PP      pP     08 07 39.1 +2.4
TIA                                    S       S      08 10 43.9 -2.5
TIA                                    SS      SS     08 11 32.3
TIA                                    pmax    pmax
     comp=Z,2μm,0.9s
TIA                                    pmax    pmax
     comp=Z,9μm,5.5s
TIA                                    LR      LR
     comp=Z,6μm,9.6s
TIA                                    LR      LR
     comp=Z,4μm,9.1s
TIA                                    LR      LR
     comp=Z,4μm,8.3s
CIT  Chita             20.94 303  eP                  P      08 07 02.9 -2.7
CIT                                    e       ·      08 07 37.4
CIT                                    e       ·      08 08 00.2
CIT                                    eS      S      08 10 41.8 -6.1
CIT                                    e       ·      08 11 28.2
CIT                                    pmax    pmax
     comp=Z,4μm,1.9s
SSE  Sheshan           21.13 240  ⇓P                  P      08 07 07.3 -0.4
SSE                                    PP      pP     08 07 39.5 -0.3
SSE                                    sP      sP     08 08 03.8 +0.2
SSE                                    S       S      08 10 48.8 -2.6
SSE                                    pmax    pmax
     comp=Z,230nm,1.3s
SSE                                    pmax    pmax
     comp=Z,2μm,3.8s
SSE                                    LR      LR
     comp=Z,3μm,19.1s
SSE                                    LR      LR
     comp=Z,2μm,19.0s
SSE                                    LR      LR
     comp=Z,3μm,16.7s
NJ2  Nanjing           22.00 246  eP                  P      08 07 15.8 -0.8
NJ2                                    S       S      08 11 05.3 -0.4
NJ2                                    PcP     PcP    08 11 08.0 +0.8
NJ2                                    ScP     ScP    08 14 27.8 +1.3
NJ2                                    PcS     PcS    08 14 45.0 -1.0
NJ2                                    ScS     ScS    08 18 12.6 +1.2
NJ2                                    pmax    pmax
     comp=Z,2μm,1.2s
NJ2                                    pmax    pmax
     comp=Z,17μm,3.5s
NJ2                                    LR      LR
     comp=Z,8μm,13.0s
NJ2                                    LR      LR
     comp=Z,9μm,12.9s
NJ2                                    LR      LR
     comp=Z,13μm,12.5s
BOD  Bodaibo           22.56 318  ⇓i P                P      08 07 18.7 -2.9
BOD                                    eS      ScS    08 18 10.0 -2.7
BOD                                    pmax    pmax
     comp=Z,1μm,2.0s
SMY  Shemya            22.64  56  eP                  P      08 07 23.3 +1.0
SMY                                    pmax    pmax
     comp=Z,2μm,1.4s
SMY  Shemya            22.64  56  eP                  P      08 07 23.3 +1.0
     comp=Z,2μm,1.4s
HHC  Hu-ho-hao-te      23.01 273  eP                  P      08 07 26.6 +0.6
HHC                                    sP      sP     08 08 25.0 +1.0
HHC                                    S       S      08 11 22.9 +0.7
HHC                                    SS      SnSn   08 12 25.6 +6.3
HHC                                    pmax    pmax
     comp=Z,390nm,1.4s
HHC                                    pmax    pmax
     comp=Z,3μm,8.8s
TIY  Taiyuan           23.52 265  eP                  P      08 07 32.0 +1.4
TIY                                    sP      PP     08 08 27.5 -0.5
TIY                                    S       S      08 11 28.6 -1.7
TIY                                    SS      SnSn   08 12 36.0 +4.5
TIY                                    pmax    pmax
     comp=Z,360nm,0.9s
TIY                                    pmax    pmax
     comp=Z,7μm,8.4s
TIY                                    LR      LR
     comp=Z,10μm,9.4s
TIY                                    LR      LR
     comp=Z,5μm,7.4s
TIY                                    LR      LR
     comp=Z,6μm,7.1s
BTO  Baotou            24.20 274  eP                  P      08 07 37.3 +0.5
BTO                                    S       S      08 11 35.9 -5.3
BTO                                    pmax    pmax
     comp=Z,90nm,1.3s
BTO                                    LR      LR
     comp=Z,8μm,6.5s
BTO                                    LR      LR
     comp=Z,5μm,6.2s
ULN  Ulaanbaatar       24.88 292 ceP                  P      08 07 43.9 +0.9
ULN                                    pmax    pmax
     comp=Z,3μm,1.6s
ULN  Ulaanbaatar       24.88 292  eP                  P      08 07 43.9 +0.9
ULN  Ulaanbaatar       24.88 292  eP                  P      08 07 44.3 +1.3
     comp=Z,5μm,1.6s
ULN  Ulaanbaatar       24.88 292  P                   P      08 07 44.4 +1.4
     SNR=1087
ULN                                    P       P      08 07 44.4 +1.4
     SNR=1087
ULN  Ulaanbaatar       24.88 292  P                   P      08 07 44.4 +1.4
     SNR=1087
YOJ  Yonaguni jima     25.10 226  eP                  P      08 07 43.8 -1.1
YOJ                                    pmax    pmax
     comp=Z,682nm,1.4s
YOJ  Yonaguni jima     25.10 226  eP                  P      08 07 43.8 -1.1
     comp=Z,682nm,1.4s
SONM Songino Array     25.33 292  P                   P      08 07 48.3 +1.4
     comp=Z,2μm,1.0s,baz=83,slow=7.3,SNR=1828
SONM                                   S       S      08 12 01.9 +3.0
     comp=Z,62nm,1.2s,baz=79,slow=11,SNR=3.9
SONM                                   ScP     ScP    08 14 35.6 +0.2
     comp=Z,31nm,0.9s,baz=117,slow=3.1,SNR=4.8
SONM                                   P3KPbc         08 40 41.4
     comp=Z,0.5nm,0.6s,baz=254,slow=5.5,SNR=9.7
SONM                                   P3KP           08 41 31.9
     comp=Z,1.0nm,0.7s,baz=270,slow=3.0,SNR=5.6
TATO Taipei            25.50 229  eP                  P      08 07 50.3 +1.8
     comp=Z,66μm,1.3s
TATO Taipei            25.50 229  P                   P      08 07 49.0 +0.4
     SNR=37
YHNB Yeheng            25.80 229  eP                  P      08 07 52.5 +1.2
     comp=Z,509nm,1.1s
WHN  Wuhan             25.95 249  ⇓i P                P      08 07 53.8 +1.3
WHN                                    S       S      08 12 08.8 +0.2
WHN                                    pmax    pmax
     comp=Z,3μm,1.0s
WHN                                    LR      LR
     comp=Z,12μm,8.1s
WHN                                    LR      LR
     comp=Z,12μm,13.2s
WHN                                    LR      LR
     comp=Z,16μm,14.7s
NACB Ninganchiao       26.08 228  eP                  P      08 07 52.5 -1.3
     comp=Z,326nm,1.3s
IRK  Irkutsk           26.64 302  eP                  P      08 07 58.9 +0.3
IRK                                    eS      S      08 12 19.5 +0.2
IRK                                    pmax    pmax
     comp=Z,2μm,0.9s
SSLB Suanglung         26.74 228  eP                  P      08 08 00.7 +1.0
     comp=Z,441nm,1.4s
YULB Yu-li             26.87 227  eP                  P      08 08 01.5 +0.6
     comp=Z,319nm,1.5s
TLY  Talaya            27.01 301  P                   P      08 08 02.7 +0.9
     comp=Z,414nm,0.9s,baz=93,slow=5.8,SNR=207
TLY                                    ScP     ScP    08 14 41.4 +1.3
     comp=Z,20nm,0.6s,baz=84,slow=6.6,SNR=7.7
TLY                                    ScS     ScS    08 18 33.7 +2.4
     comp=Z,5.4nm,0.9s,baz=104,slow=24,SNR=5.8
TLY  Talaya            27.01 301 c i P                P      08 08 02.6 +0.8
TLY                                    ePPP    PPP    08 09 05.2
TLY                                    eS      S      08 12 27.7 +2.6
TLY                                    eSS     SnSn   08 13 56.9 +1.6
TLY                                    pmax    pmax
     comp=Z,727nm,1.0s
TLY                                    MLR     MLR
     comp=Z,7μm,12.0s
TLY  Talaya            27.01 301  eP                  P      08 08 02.5 +0.6
     comp=Z,692nm,1.0s
TLY                                    ScP     ScP    08 14 41.4 +1.3
TLY                                    ScS     ScS    08 18 33.7 +2.4
QZH  Quanzhou          27.16 234  ⇓i P                P      08 08 04.3 +0.9
QZH                                    sP      sP     08 09 03.4 -0.2
QZH                                    S       S      08 12 31.1 +3.2
QZH                                    pmax    pmax
     comp=Z,6μm,1.6s
QZH                                    pmax    pmax
     comp=Z,18μm,3.3s
QZH                                    LR      LR
     comp=Z,10μm,12.2s
QZH                                    LR      LR
     comp=Z,4μm,5.3s
QZH                                    LR      LR
     comp=Z,8μm,12.6s
SARN Sarigan           27.23 173  eP                  P      08 08 02.8 -1.2
BILL Bilibino          27.26  19 c i P                P      08 08 00.9 -2.9
BILL                                   e*PP    pP     08 08 41.3 -0.9
BILL                                   e       ·      08 09 00.6
BILL                                   e*SP    sP     08 09 04.1 -0.1
BILL                                   eS      S      08 12 27.5 -1.1
BILL                                   eSS     SnSn   08 14 02.5 +1.5
BILL                                   pmax    pmax
     comp=Z,527nm,2.5s
BILL                                   MLR     MLR
     comp=Z,7μm,18.0s
TPUB Ta-pu             27.31 228  eP                  P      08 08 04.5 -0.2
     comp=Z,449nm,1.1s
TWG  Pinlang           27.46 227  eP                  P      08 08 06.6 +0.5
     comp=Z,1μm,1.0s
ANA2 Anatahan          27.58 173  eP                  P      08 08 08.5 +1.3
XAN  Xi'an             27.75 261  P                   P      08 08 09.5 +0.8
XAN                                    sP      PP     08 09 14.5 -0.6
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XAN S **S** **08 12 35.6 -1.6**
XAN pmax pmax
comp=Z,730nm,1.3s
XAN pmax pmax
comp=Z,3μm,6.9s
XAN LR LR
comp=Z,5μm,11.9s
XAN LR LR
comp=Z,5μm,12.3s
XAN LR LR
comp=Z,6μm,9.2s
ADK Adak 28.19 59 *e*P **P** **08 08 11.7 -0.6**
ADK pmax pmax
comp=Z,375nm,1.1s
ADK Adak 28.19 59 *e*P **P** **08 08 11.7 -0.6**
comp=Z,375nm,1.1s
TIXI Tiksi 28.64 351 P **P** **08 08 13.4 -2.6**
comp=Z,198nm,0.9s,baz=147,slow=8.8,SNR=256
TIXI PP **PnPn** **08 09 17.2 +0.5**
comp=Z,134nm,0.8s,baz=145,slow=14,SNR=7.6
TIXI ScP **ScP** **08 14 44.5 -0.3**
comp=Z,43nm,1.1s,baz=126,slow=7.6,SNR=4.5
TIXI P3KPbc 08 40 27.2
comp=Z,2.0nm,0.6s,baz=14,slow=4.6,SNR=4.2
TIXI Tiksi 28.64 351 *ce*P **P** **08 08 13.2 -2.8**
TIXI pmax pmax
comp=Z,338nm,1.2s
TIXI Tiksi 28.64 351 *e*P **P** **08 08 14.2 -1.8**
comp=Z,836nm,1.4s
TIXI PP **PnPn** **08 09 17.2 +0.5**
TIXI ScP **ScP** **08 14 44.5 -0.3**
TIXI *e* 08 40 27.2
MOY Mondy 28.66 301 *e*P **P** **08 08 17.6 +1.0**
MOY pmax pmax
comp=Z,4μm,2.3s
ENH Enshi 29.44 254 *e*P **P** **08 08 24.3 +0.7**
comp=Z,758nm,0.9s
ATKA Atka Island 29.73 58 *e*P **P** **08 08 25.1 -0.7**
comp=Z,160nm,1.2s
ATKA *e*S **S** **08 13 12.7 +5.1**
GUMO Guam 30.25 175 P **P** **08 08 28.4 -2.3**
comp=Z,61nm,0.4s,baz=147,slow=8.7,SNR=5.6
GUMO PP **sP** **08 09 29.9 -1.3**
comp=Z,131nm,0.9s,baz=257,slow=1.4,SNR=6.2
GUMO Guam 30.25 175 *e*P **P** **08 08 28.7 -2.0**
GUMO 08 09 29.9
GUMO pmax pmax
comp=Z,2μm,1.7s
GUMO Guam 30.25 175 *e*P **P** **08 08 28.7 -2.0**
comp=Z,2μm,1.7s
GUMO PP **sP** **08 09 29.9 -1.3**
LZH Lanzhou 30.43 269 *e*P **P** **08 08 34.3 +1.9**
LZH pP pP 08 09 14.5 +3.3
LZH sP sP 08 09 38.1 +5.1
LZH PcP **PcP** **08 11 29.1 +2.0**
LZH *e*S **S** **08 13 20.0 +0.7**
LZH sS sS 08 14 29.6 +1.4
LZH SS **SnSn** **08 15 16.6 -2.8**
LZH ScS **ScS** **08 18 47.8 -0.3**
LZH pmax pmax
comp=Z,680nm,1.0s
LZH pmax pmax
comp=Z,3μm,5.1s
GZH Guangzhou 31.71 239⇓*i*P **P** **08 08 39.9 -3.7**
GZH PP **PnPn** **08 09 53.9 -2.1**
GZH S **S** **08 13 31.6 -7.5**
GZH pmax pmax
comp=Z,9μm,3.3s
HKC Hong Kong Obse 31.79 237⇑P **P** **08 08 47.0 +2.7**
GTA Gaotai 31.97 277⇓P **P** **08 08 47.3 +1.5**
GTA pP pP 08 09 25.1 +0.3
GTA sP sP 08 09 48.4 +1.9
GTA PP **PP** **08 10 01.6 -0.3**
GTA PcP **PcP** **08 11 32.8 +1.7**
GTA S **S** **08 13 42.8 -0.3**
GTA sS sS 08 14 52.4 +0.2
GTA SS **SnSn** **08 15 48.5 -7.7**
GTA ScS **ScS** **08 18 55.6 0.0**
GTA pmax pmax
comp=Z,69nm,1.3s
GTA pmax pmax
comp=Z,740nm,4.4s
GTA LR LR
comp=Z,19μm,10.0s
GTA LR LR
comp=Z,8μm,13.8s
GTA LR LR
comp=Z,6μm,13.8s
SPIA Saint Paul Isl 32.14 49 *e*P **P** **08 08 48.0 +1.1**
comp=Z,2μm,1.6s
MCO Taipa Grande 32.30 237 P **P** **08 08 51.0 +2.3**
GAMB Gambell 32.56 36 *e*P **P** **08 08 50.4 -0.1**
comp=Z,149nm,1.2s
CD2 Chengdu 33.11 260⇓*i*P **P** **08 08 56.8 +1.0**
CD2 pP pP 08 09 35.8 +0.9
CD2 PP **PP** **08 10 15.4 +0.9**
CD2 S **S** **08 14 00.8 0.0**
CD2 PcS **PcS** **08 15 21.3 +1.1**
CD2 pmax pmax
comp=Z,1μm,0.7s
CD2 pmax pmax
comp=Z,3μm,4.7s
CD2 LR LR
comp=Z,6μm,10.5s
CD2 LR LR
comp=Z,7μm,10.5s
CD2 LR LR
comp=Z,4μm,9.7s
BALP Baler 33.22 219 *e*P **P** **08 08 56.8 +0.1**
BOLP Bolinao 33.45 222 *e*P **P** **08 08 58.2 -0.5**
GYA Guiyang 33.75 251⇓*i*P **P** **08 09 01.8 +0.4**
GYA pP pP 08 09 42.0 +1.4
GYA sP sP 08 10 03.3 +1.0
GYA PP **PP** **08 10 21.8 0.0**
GYA PcP **PcP** **08 11 38.0 +1.7**
GYA S **S** **08 14 08.5 -2.4**
GYA ScP **ScP** **08 15 03.4 +0.5**
GYA sS sS 08 15 20.8 +0.5
GYA SS **SnSn** **08 16 30.3 -9.1**
GYA ScS **ScS** **08 19 03.3 -1.8**
GYA pmax pmax
comp=Z,420nm,0.9s
GYA pmax pmax
comp=Z,3μm,9.6s
GYA LR LR
comp=Z,3μm,14.9s
GYA LR LR
comp=Z,5μm,17.4s
GYA LR LR
comp=Z,6μm,14.6s
SCZP Santa Cruz 33.97 222 *e*P **P** **08 09 02.7 -0.5**
PVCP Virac 34.04 213 *e*P **P** **08 09 04.1 +0.3**
UNV Unalaska Valle 34.29 55 *e*P **P** **08 09 05.6 0.0**
comp=Z,338nm,1.6s
UNV *e*S S 08 14 27.4 +9.2
AKUT Akutan 34.70 54 *e*P **P** **08 09 08.5 -0.5**
comp=Z,286nm,1.4s
CNP Cataman 34.83 212 *e*P **P** **08 09 11.8 +1.2**
AUQP San Andres 34.89 215 *e*P **P** **08 09 13.5 +2.4**
TGY Tagaytay City 34.95 219 P **P** **08 09 13.7 +2.0**
comp=Z,1μm,0.7s,baz=339,slow=2.8,SNR=88
BOAC Boac 35.12 217 *e*P **P** **08 09 13.8 +0.8**
BESP Borongan 35.38 210 *e*P **P** **08 09 16.4 +1.1**
LUBP Lubang 35.59 219 *e*P **P** **08 09 15.8 -1.2**
PLP Palo 35.95 210⇓*i*P **P** **08 09 20.7 +0.6**
FALS False Pass 36.01 53 *e*P **P** **08 09 20.8 +0.6**
comp=Z,259nm,1.1s
OTRP Odiongan 36.02 216 *e*P **P** **08 09 22.0 +1.2**
SJMP San Jose 36.32 217 *e*P **P** **08 09 24.0 +0.7**
RCP Roxas 36.45 214⇑*e*P **P** **08 09 25.6 +1.2**
QIZ Qiongzhong 36.90 238 P **P** **08 09 30.5 +2.3**
QIZ sP **sP** **08 10 30.8 +1.4**
QIZ PP **PnPn** **08 11 00.9 +1.8**
QIZ S **S** **08 15 01.8 +2.9**
QIZ sS **sS** **08 16 13.8 +4.9**
QIZ pmax pmax
comp=Z,290nm,1.5s
QIZ pmax pmax
comp=Z,4μm,11.8s
QIZ LR LR
comp=Z,3μm,14.2s
QIZ LR LR
comp=Z,3μm,13.6s
QIZ LR LR
comp=Z,6μm,14.1s

QIZ Qiongzhong 36.90 238 *e*P **P** **08 09 29.6 +1.4**
comp=Z,488nm,1.2s
QIZ *e*PcP **PcP** **08 11 47.1 +1.5**
MSLP Maasin 36.95 210 *e*P **P** **08 09 29.2 +0.6**
SCPH Surigao 37.05 209⇓*e*P **P** **08 09 30.0 +0.5**
LLP Lapu-Lapu 37.11 211⇓*e*P **P** **08 09 30.6 +0.7**
LLP *e*S **S** **08 15 00.7 -1.2**
BUSP Coron 37.13 218 *e*P **P** **08 09 30.4 +0.2**
KMI Kunming 37.31 253 P **P** **08 09 33.3 +1.4**
KMI pP pP 08 10 12.1 +0.5
KMI sP sP 08 10 33.5 +0.4
KMI PP **PnPn** **08 11 03.3 -0.8**
KMI PcP **PcP** **08 11 48.6 +1.6**
KMI S **S** **08 15 06.0 +0.6**
KMI sS sS 08 16 13.8 -1.8
KMI ScS **ScS** **08 19 24.9 0.0**
KMI pmax pmax
comp=Z,2μm,1.4s
KMI pmax pmax
comp=Z,8μm,6.0s
KMI LR LR
comp=Z,3μm,12.3s
KMI LR LR
comp=Z,4μm,11.1s
KMI LR LR
comp=Z,5μm,13.5s
NRIK Noril'sk 37.53 332 P **P** **08 09 31.2 -1.8**
comp=Z,147nm,0.6s,baz=110,slow=8.5,SNR=196
NRIK PP **PnPn** **08 11 04.5 -1.3**
comp=Z,140nm,1.0s,baz=118,slow=15,SNR=4.1
NRIK ScP **ScP** **08 15 16.2 +0.4**
comp=Z,108nm,1.0s,baz=93,slow=7.5,SNR=7.2
NRIK ScS **ScS** **08 19 25.0 +0.7**
comp=Z,14nm,0.9s,baz=238,slow=15,SNR=6.6
SDPT Sand Point 37.63 52 *e*P **P** **08 09 32.1 -1.8**
comp=Z,171nm,0.8s
ZAA0 Zalesovo Array 38.24 306 *e*P **P** **08 09 39.5 +0.5**
ZAA0 *e*S **S** **08 15 19.2 +0.9**
ZALV Zalesovo Beam 38.24 306 P **P** **08 09 39.4 +0.4**
comp=Z,805nm,0.7s,baz=81,slow=6.4,SNR=874
ZALV ScP **ScP** **08 15 19.2 +0.5**
comp=Z,248nm,0.8s,baz=88,slow=3.6,SNR=36
ZALV ScS **ScS** **08 19 27.7 -1.1**
comp=Z,8.5nm,0.9s,baz=110,slow=8.3,SNR=3.8
ZALV P3KPbc 08 39 45.8
comp=Z,0.7nm,0.4s,baz=270,slow=2.5,SNR=5.0
ZALV Zalesovo Beam 38.24 306 P **P** **08 09 39.4 +0.4**
ZALV 08 15 19.3
ZALV 08 19 27.7
ZALV pmax pmax
comp=Z,819nm,0.7s
WMQ Urumqi 38.92 290 P **P** **08 09 46.5 +1.6**
WMQ pP pP 08 10 27.1 +2.1
WMQ sP sP 08 10 46.8 +0.4
WMQ PP **PnPn** **08 11 24.3 +1.7**
WMQ S **S** **08 15 28.1 -0.9**
WMQ sS sS 08 16 44.5 +5.1
WMQ SS **SS** **08 18 26.9 -1.5**
WMQ ScS **ScS** **08 19 33.4 +0.1**
WMQ pmax pmax
comp=Z,880nm,0.9s
WMQ pmax pmax
comp=Z,2μm,3.8s
WMQ LR LR
comp=Z,25μm,10.9s
WMQ LR LR
comp=Z,8μm,9.3s
WMQ LR LR
comp=Z,4μm,21.5s
BUKP Musuan 38.97 208 *e*P **P** **08 09 46.0 +0.5**
NVS Novosibirsk 39.02 308⇓*i*P **P** **08 09 46.9 +1.4**
NVS *i* PPP PPP 08 11 21.1
NVS *i* S **S** **08 15 31.9 +2.0**
NVS *e*SSS SSS 08 19 32.9
NVS pmax pmax
comp=E,2μm,1.4s
NVS pmax pmax
comp=Z,2μm,1.4s
NVS pmax pmax
comp=N,142nm,0.6s
NVS smax smax
comp=N,311nm,1.6s
NVS smax smax
comp=E,2μm,2.0s
PATS Pohnpei 39.40 155 *e*P **P** **08 09 49.5 +0.5**
comp=E,685nm,1.6s
TT01 Tatalina 39.44 39 *e*P **P** **08 09 49.5 +0.6**
TTA Tatalina 39.45 39 *e*P **P** **08 09 49.3 +0.3**
TTA pmax pmax
comp=Z,1μm,1.4s
TTA Tatalina 39.45 39 *e*P **P** **08 09 49.3 +0.3**
comp=Z,1μm,1.4s
DAV Davao City (W) 39.55 207⇑*e*P **P** **08 09 48.9 -1.4**
DAV Davao City (W) 39.55 207 P **P** **08 09 51.1 +0.7**
SNR=6.7
PAGZ Pagadian 39.60 211 *e*P **P** **08 09 50.5 -0.1**
ZSN Zaisan 39.67 296 *i* P **P** **08 09 51.4 +0.4**
comp=Z,2μm,1.1s
ZSN *i* S **S** **08 15 43.0 +3.1**
ZSN LRM MLR 08 28 30.5
comp=Z,1μm,12.0s
SVW2 Sparrevohn 39.72 42 *e*P **P** **08 09 52.5 +1.3**
comp=Z,1μm,1.1s
CTBH Cotabato--PC H 39.87 209⇓*i*P **P** **08 09 54.4 +1.5**
LKP Lekhapani 40.82 262 *e*P **P** **08 10 00.3 -0.3**
LKP AMB AMB 08 10 03.6
comp=Z,635nm,0.9s
LKP *e*S **S** **08 15 57.0 -0.3**
RSO Redoubt South 41.15 43 *e*P **P** **08 10 03.8 +0.6**
PPLA Purkeypile 41.20 39 *e*P **P** **08 10 04.5 +1.0**
comp=Z,4μm,1.5s
CAST Castle Rocks 41.21 38 *e*P **P** **08 10 04.1 +0.6**
comp=Z,729nm,1.0s
OHAK Old Harbor 41.34 48 *e*P **P** **08 10 04.2 -0.3**
comp=Z,527nm,1.0s
OHAK *e*S **S** **08 16 05.5 +1.3**
DIBR DIBRUGARH 41.41 263 *e*P **P** **08 10 03.8 -1.6**
DIBR AMB AMB 08 10 08.2
comp=Z,471nm,0.9s
DIBR *e*x **S** **08 16 01.6 -4.4**
SPU Mount Spurr 41.41 42 *e*P **P** **08 10 06.4 +1.2**
MK31 Makanchi Array 41.54 296 *i* P **P** **08 10 07.5 +1.1**
MK31 pmax pmax
comp=Z,985nm,0.8s
MK31 Makanchi Array 41.54 296 *e*P **P** **08 10 07.8 +1.4**
MKAR Makanchi Array 41.54 296 P **P** **08 10 07.5 +1.1**
comp=Z,638nm,0.8s,baz=80,slow=8.8,SNR=1064
MKAR ScP **ScP** **08 15 32.5 +0.6**
comp=Z,59nm,1.0s,baz=63,slow=3.8,SNR=6.5
MKAR S **S** **08 16 08.8 +1.1**
comp=Z,47nm,1.1s,baz=74,slow=22,SNR=5.8
MKAR ScS **ScS** **08 19 46.7 -2.2**
comp=Z,2.8nm,0.9s,baz=351,slow=31,SNR=2.1
MKAR P3KPbc 08 39 30.8
comp=Z,2.5nm,0.8s,baz=251,slow=3.7,SNR=12
KDAK Kodiak Island 41.62 47 P **P** **08 10 06.2 -0.5**
comp=Z,319nm,0.9s,baz=288,slow=3.1,SNR=121
KDAK pP **pP** **08 10 46.6 -0.6**
comp=Z,188nm,1.0s,baz=315,slow=4.3,SNR=2.3
KDAK ScP **ScP** **08 15 31.8 0.0**
comp=Z,112nm,1.1s,baz=27,slow=1.5,SNR=7.2
KDAK S **S** **08 16 07.1 -1.2**
comp=Z,65nm,1.2s,baz=8.2,slow=11,SNR=4.7
KDAK Kodiak Island 41.62 47 *ce*P **P** **08 10 06.1 -0.6**
KDAK Kodiak Island 41.62 47 *e*P **P** **08 10 06.1 -0.6**
KDAK Kodiak Island 41.62 47 *e*P **P** **08 10 06.6 -0.1**
comp=Z,444nm,1.0s
KDAK pP **pP** **08 10 46.6 -0.6**
KDAK ScP **ScP** **08 15 31.8 0.0**
KDAK S **S** **08 16 07.1 -1.2**
BPAW Bear Paw Mtn. 41.65 37 *e*P **P** **08 10 07.0 0.0**
comp=Z,316nm,1.0s
BPAW *e*PcP **PcP** **08 12 01.3 +1.3**
MLY Manley 41.70 36 *e*P **P** **08 10 08.3 +0.9**
comp=Z,520nm,1.1s
MAKZ Makanchi 41.74 296 P **P** **08 10 08.5 +0.5**
MAKZ pmax pmax
comp=Z,1μm,1.0s
SEM Semipalatinsk 41.76 302 *i* P **P** **08 10 06.6 -1.7**
comp=Z,5μm,1.3s
SEM *i* S **S** **08 16 09.9 -1.2**
SEM *i* sS **sS** **08 17 22.1 -0.1**
SEM *i* SS **SS** **08 19 24.9 +0.7**
SEM LRM MLR 08 29 39.9
comp=Z,2μm,12.9s

HOM Homer 41.81 44 *e*P **P** **08 10 09.3 +1.1**
comp=Z,626nm,1.0s
COLD Coldfoot 41.84 33 *e*P **P** **08 10 08.6 +0.1**
comp=Z,569nm,0.9s
COLD *e*S **S** **08 16 15.3 +3.8**
SUA Susitna One 42.01 41 *e*P **P** **08 10 10.3 +0.2**
comp=Z,452nm,0.9s
SUA *e*S **S** **08 16 14.7 +0.3**
TRF Thorofare Moun 42.01 38 *e*P **P** **08 10 10.5 +0.4**
comp=Z,529nm,1.1s
CNPM China Poot 42.03 44 *e*P **P** **08 10 10.2 +0.1**
comp=Z,476nm,0.9s
TOLK Toolik Lake Re 42.07 30 P **P** **08 10 09.6 -0.8**
baz=270
TOLK S **S** **08 16 10.9 -4.0**
baz=270
ZIRO ZIRO 42.14 264 *e*P **P** **08 10 11.2 -0.3**
ZIRO AMB AMB 08 10 14.8
comp=Z,307nm,0.9s
BRLK Bradley Lake 42.17 44 *e*P **P** **08 10 11.2 -0.1**
comp=Z,555nm,0.9s
JORH JORHAT 42.31 263 *e*P **P** **08 10 12.1 -0.6**
JORH AMB AMB 08 10 15.2
comp=Z,337nm,0.5s
JORH *e*x **S** **08 16 15.1 -4.2**
MOKO MOKOCHONG 42.37 262 *e*P **P** **08 10 13.5 0.0**
MOKO AMB AMB 08 10 16.2
comp=Z,389nm,1.2s
MOKO *e*x **S** **08 16 18.4 -2.2**
UBPT Khong Chiam 42.45 240 P **P** **08 10 15.0 +1.0**
comp=Z,624nm,1.3s,comp=Z,12μm
ITAN ITANAGAR 42.45 263 *e*P **P** **08 10 14.3 +0.4**
ITAN AMB AMB 08 10 21.3
comp=Z,488nm,1.2s
ITAN *e*x **S** **08 16 16.0 -5.3**
RC01 Rabbit Creek A 42.54 42 *e*P **P** **08 10 14.3 +0.1**
comp=Z,1μm,1.1s
MCK McKinley 42.59 38 *e*P **P** **08 10 15.0 +0.5**
MCK *e*S **S** **08 16 24.0 +1.5**
MCK pmax pmax
comp=Z,866nm,1.0s
MCK McKinley 42.59 38 *e*P **P** **08 10 15.0 +0.5**
MCK McKinley 42.59 38 *e*P **P** **08 10 15.0 +0.5**
comp=Z,866nm,1.0s
MCK *e*S **S** **08 16 24.0 +1.5**
RND Reindeer 42.66 38 *e*P **P** **08 10 14.9 -0.3**
RND pmax pmax
comp=Z,1μm,1.2s
RND Reindeer 42.66 38 *e*P **P** **08 10 14.9 -0.3**
comp=Z,1μm,1.2s
KURK Kurchatov 42.67 303 *ce*P **P** **08 10 16.0 +0.7**
KURK Kurchatov 42.67 303 *e*P **P** **08 10 16.0 +0.7**
KURK Kurchatov 42.67 303 *e*P **P** **08 10 16.5 +1.2**
comp=Z,3μm,0.8s
KURK ScP **ScP** **08 15 36.6 +0.4**
KURK S **S** **08 16 24.7 +0.8**
KURK ScS **ScS** **08 19 52.0 -3.5**
KURK P'P'ab **P'P'ab** **08 43 25.2 +0.2**
KURK Kurchatov 42.67 303 P **P** **08 10 16.5 +1.2**
SNR=1499
KURK P **P** **08 10 16.5 +1.2**
SNR=1499
KURK Kurchatov 42.67 303 P **P** **08 10 16.5 +1.2**
SNR=1499
KURBB Kurchatov Arra 42.75 302 P **P** **08 10 16.9 +0.9**
comp=Z,2μm,0.6s,baz=70,slow=8.9,SNR=1984
KURBB ScP **ScP** **08 15 36.6 +0.1**
comp=Z,119nm,1.1s,baz=74,slow=3.6,SNR=18
KURBB S **S** **08 16 24.7 -0.4**
comp=Z,131nm,1.3s,baz=78,slow=16,SNR=10
KURBB ScS **ScS** **08 19 52.0 -4.0**
comp=Z,1.3nm,0.5s,baz=152,slow=34,SNR=3.6
KURBB PKP2ab 08 43 25.2
comp=Z,0.8nm,0.3s,baz=253,slow=3.7,SNR=4.7
SGSI Sangihe 42.75 205 P **P** **08 10 15.9 -0.5**
comp=Z,924nm,1.6s,comp=Z,13μm
PMR Palmer 42.76 41 *e*P **P** **08 10 16.3 +0.4**
PMR *e*S **S** **08 16 23.9 -1.0**
PMR pmax pmax
comp=Z,842nm,1.0s
PMR Palmer 42.76 41 *e*P **P** **08 10 16.2 +0.4**
comp=Z,842nm,1.0s
PMR *e*S **S** **08 16 23.9 -1.0**
MDM Murphy Dome 42.77 36 *e*P **P** **08 10 16.4 +0.3**
comp=Z,639nm,1.0s
MDM *e*S **S** **08 16 26.2 +1.0**
SEW Seward 42.83 43 *e*P **P** **08 10 16.6 +0.1**
comp=Z,635nm,1.0s
LSA Lhasa 42.85 268 P **P** **08 10 19.0 +1.4**
LSA pmax pmax
comp=Z,150nm,1.4s
WRH Wood River Hil 42.88 37 *e*P **P** **08 10 16.5 -0.3**
comp=Z,855nm,1.2s
COLA College 42.94 36 *e*P **P** **08 10 18.0 +0.7**
COLA pmax pmax
comp=Z,1μm,0.9s
COLA College 42.94 36 *e*P **P** **08 10 17.4 +0.1**
COLA College 42.94 36 *e*P **P** **08 10 18.0 +0.7**
comp=Z,1μm,0.9s
CCB Clear Creek Bu 42.98 36 *e*P **P** **08 10 17.9 +0.2**
comp=Z,605nm,1.4s
KOHI KOHIMA 43.03 261 *e*P **P** **08 10 18.2 -0.5**
KOHI *e*x **S** **08 16 26.1 -4.0**
SML Sawmill 43.10 40 *e*P **P** **08 10 19.6 +0.9**
SML pmax pmax
comp=Z,3μm,1.1s
SML Sawmill 43.10 40 *e*P **P** **08 10 19.6 +0.9**
comp=Z,3μm,1.1s
KDM Kudat 43.15 219⇑P **P** **08 10 21.2 +1.6**
ILAR Eielson Array 43.36 36 P **P** **08 10 19.9 -0.8**
comp=Z,418nm,0.9s,baz=271,slow=5.8,SNR=1043
ILAR ScP **ScP** **08 15 37.5 -1.4**
comp=Z,9.6nm,0.8s,baz=298,slow=3.9,SNR=4.7
ILAR S **S** **08 16 32.1 -1.6**
comp=Z,6.2nm,0.8s,baz=262,slow=12,SNR=4.4
ILAR ScS **SS** **08 19 56.3 +1.9**
comp=Z,1.7nm,1.0s,baz=316,slow=5.3,SNR=2.5
ILAR LR LR 08 29 09.7
comp=Z,2μm,19.1s,baz=288,slow=37
ILAR PKP2ab 08 43 16.0
comp=Z,0.7nm,0.9s,baz=83,slow=3.1,SNR=4.3
ILB Eielson Array 43.36 36 *e*P **P** **08 10 20.6 -0.1**
HDA Harding Lake 43.38 37 *e*P **P** **08 10 20.5 -0.3**
comp=Z,858nm,1.3s
TEZP TEZPUR 43.43 264 *e*P **P** **08 10 18.5 -3.3**
TEZP *e*x **S** **08 16 31.2 -4.4**
SCM Sheep Creek Mo 43.57 40 *e*P **P** **08 10 22.9 +0.3**
SCM *e*S **S** **08 16 41.5 +4.5**
SCM pmax pmax
comp=Z,1μm,1.0s
SCM Sheep Creek Mo 43.57 40 *e*P **P** **08 10 22.9 +0.3**
comp=Z,1μm,1.0s
SCM *e*S **S** **08 16 41.5 +4.5**
IMP Imphal 43.69 261 *e*P **P** **08 10 21.4 -2.5**
IMP *e*x x 08 16 29.5
FYU Fort Yukon 43.84 33 *e*P **P** **08 10 25.3 +0.8**
comp=Z,2μm,1.2s
GLI Glacier Island 43.85 42 *e*P **P** **08 10 25.2 +0.6**
comp=Z,840nm,1.2s
MYLDM Lahad Datu 43.96 216 *e*P **P** **08 10 28.4 +2.3**
comp=Z,2μm,1.6s
CHTO Chiang Mai 44.15 250 P **P** **08 10 28.3 +0.8**
comp=Z,2μm,1.2s,comp=Z,39μm
CHTO Chiang Mai 44.15 250 *e*P **P** **08 10 28.7 +1.2**
CHTO pmax pmax
comp=Z,773nm,1.2s
CHTO Chiang Mai 44.15 250 *e*P **P** **08 10 28.7 +1.2**
comp=Z,773nm,1.2s
CHTO Chiang Mai 44.15 250 P **P** **08 10 29.0 +1.5**
SNR=198
FID Port Fidalgo 44.17 42 *e*P **P** **08 10 27.5 +0.3**
comp=Z,1μm,1.3s
KKM Kota Kinabalu 44.20 219 *e*P **P** **08 10 29.2 +1.2**
comp=Z,651nm,1.5s
PAX Paxson 44.24 39 *e*P **P** **08 10 27.9 +0.1**
PAX pmax pmax
comp=Z,396nm,1.3s
PAX Paxson 44.24 39 *e*P **P** **08 10 27.9 +0.1**
comp=Z,396nm,1.3s
KLU Klutina 44.29 41 *e*P **P** **08 10 28.9 +0.7**
comp=Z,2μm,1.0s
PBKT Sadao Pong 44.38 245 P **P** **08 10 30.0 +0.6**
comp=Z,396nm,1.0s,comp=Z,7μm
CM31 Chiang Mai Arr 44.39 249 *e*P **P** **08 10 31.1 +1.6**
CMAR Chiang Mai Arr 44.39 249 P **P** **08 10 30.9 +1.4**
comp=Z,238nm,1.1s,baz=38,slow=7.4,SNR=324

CMAR PcP **PcP** **08 12 11.9 +2.0**
comp=Z,14nm,0.6s,baz=14,slow=1.1,SNR=8.0
CMAR PP **PP** **08 12 17.4 +0.4**
comp=Z,52nm,1.2s,baz=28,slow=7.5,SNR=4.8
CMAR ScP **ScP** **08 15 45.2 +1.5**
comp=Z,32nm,1.0s,baz=20,slow=3.3,SNR=12
CMAR S **S** **08 16 50.8 +1.1**
comp=Z,2.0nm,0.5s,baz=142,slow=35,SNR=2.8
CMAR ScS **ScS** **08 20 06.5 -0.8**
comp=Z,0.6nm,0.3s,baz=9.3,slow=4.5,SNR=3.9
CMAR SKKP 08 36 58.8
comp=Z,0.8nm,0.3s,baz=235,slow=5.0,SNR=4.2
DIV Divide 44.43 41 *e*P **P** **08 10 30.3 +0.9**
comp=Z,2μm,1.1s
GUWA GUWAHATI 44.48 264 *e*P **P** **08 10 27.7 -2.4**
GUWA *ex* **S** **08 16 44.0 -6.8**
HARP HAARP 44.48 39 *e*P **P** **08 10 30.8 +1.2**
comp=Z,2μm,0.8s
EYAK Cordova Ski Ar 44.56 42 *e*P **P** **08 10 31.2 +1.0**
comp=Z,538nm,0.9s
PDGK Podgornoye 44.65 292 P **P** **08 10 32.1 +0.7**
PDGK pmax pmax
comp=Z,412nm,0.8s
TDK Taldygorghan 44.71 295 *i* P **P** **08 10 30.3 -1.4**
comp=Z,2μm,1.2s
SHL Shillong 44.72 263 *i* P **P** **08 10 32.5 +0.3**
SHL *ex* **S** **08 16 52.0 -2.6**
SHLS Shalkode 44.73 292 *i* P **P** **08 10 28.5 -3.6**
comp=Z,1μm,0.9s
DOT Dot Lake 44.75 37 *e*P **P** **08 10 31.4 -0.4**
comp=Z,1μm,1.3s
BMRM Bremner River 45.02 41 *e*P **P** **08 10 34.7 +0.7**
comp=Z,1μm,1.2s
TSM Tawau 45.02 216 ⇑P **P** **08 10 35.5 +1.0**
MENT Mentasta 45.03 38 *e*P **P** **08 10 35.2 +1.2**
comp=Z,1μm,1.4s
UZB Uzynbulak 45.03 292 *i* P **P** **08 10 32.7 -1.8**
comp=Z,1μm,1.3s
RAGM Ragged Mountai 45.12 42 *e*P **P** **08 10 36.4 +1.7**
comp=Z,1μm,1.4s
KPKS Kokpek 45.13 293 *i* P **P** **08 10 33.7 -1.4**
comp=Z,4μm,1.4s
KPKS *i* sP **sP** **08 11 36.8 -0.6**
KPKS *i* PP **PP** **08 12 23.0 -1.3**
KPKS *i* S **S** **08 16 59.1 -0.9**
KPKS LRM MLR 08 31 34.8
comp=Z,6μm,11.4s
BAKI Biak 45.23 189 P **P** **08 10 36.4 +0.3**
comp=Z,946nm,1.5s,comp=Z,14μm
ZHN Zhinishke 45.42 292 *i* P **P** **08 10 35.6 -1.8**
comp=Z,976nm,0.7s
ZHN *i* PP **PP** **08 12 25.9 -1.3**
ZHN *i* S **S** **08 17 03.1 -1.1**
ZHN LRM MLR 08 31 51.0
comp=Z,2μm,12.1s
SATY Saty 45.48 292 *i* P **P** **08 10 36.5 -1.4**
comp=Z,2μm,1.0s
CRQM Cirque 45.77 41 *e*P **P** **08 10 40.6 +0.6**
comp=Z,2μm,1.2s
EGAK Eagle 45.78 36 *e*P **P** **08 10 39.9 0.0**
comp=Z,1μm,1.0s
EGAK *e*S **S** **08 17 11.2 +2.6**
SMPI Sarmi 45.79 185 P **P** **08 10 41.2 +0.8**
comp=Z,1μm,1.1s,comp=Z,13μm
RKPI Ransiki, Papua 45.80 192 P **P** **08 10 40.4 -0.1**
comp=Z,796nm,1.4s,comp=Z,12μm
TURI Tura 45.84 264 *e*P **P** **08 10 38.7 -2.1**
MANU Manus Island 45.92 173 *e*P **P** **08 10 41.5 +0.1**
comp=Z,724nm,1.8s
GTK Tadong 46.04 267 *e*P **P** **08 10 41.9 -0.7**
GTK *ex* **S** **08 17 07.1 -6.4**
BALM Baldy 46.08 41 *e*P **P** **08 10 43.2 +0.8**
BALM *e*S **S** **08 17 15.6 +2.5**
BALM pmax pmax
comp=Z,982nm,1.2s
BALM Baldy 46.08 41 *e*P **P** **08 10 43.2 +0.8**
comp=Z,982nm,1.2s
BALM *e*S **S** **08 17 15.6 +2.5**
KMSI Cibinong 46.17 206 P **P** **08 10 43.9 +0.5**
AGT Agartala 46.20 262 *e*P **P** **08 10 43.7 +0.1**
AGT AMB AMB 08 10 47.1
comp=Z,462nm,1.6s
AGT *ex* **S** **08 17 13.6 -1.9**
JAY Jayapura 46.21 183 P **P** **08 10 43.9 +0.2**
LBMI Labuha 46.31 201 P **P** **08 10 44.2 -0.3**
CHBT CHBT 46.34 241 P **P** **08 10 46.5 +1.8**
comp=Z,1μm,0.8s,comp=Z,319μm
MDOK Medeo 46.34 293 *i* P **P** **08 10 42.9 -1.8**
comp=Z,1μm,0.7s
MDOK *i* S **S** **08 17 16.1 -1.3**
MDOK LRM MLR 08 32 30.1
comp=Z,3μm,12.1s
AAA Alma-Ata 46.41 293 *e*P **P** **08 10 46.0 +0.8**
AAA *e*S **S** **08 17 21.4 +3.1**
AAA pmax pmax
comp=Z,3μm,2.1s
AAA smax smax
comp=N,16μm,12.1s
BELO BELONIA 46.46 261 *e*P **P** **08 10 46.3 +0.7**
BELO AMB AMB 08 10 48.6
BELO *ex* **S** **08 17 15.8 -3.3**
BRZS Berezniki 46.51 303 *i* P **P** **08 10 44.0 -1.7**
comp=N,2μm,0.7s
BRZS *i* S **S** **08 17 18.4 -1.0**
BRZS LRM MLR 08 31 41.3
TAPN Taplejung 46.67 268 *e*P **P** **08 10 48.6 +1.0**
comp=N,214nm,0.5s
DAWY Dawson 46.69 36 *e*P **P** **08 10 47.2 +0.2**
comp=N,121nm,0.9s
BVAR Borovoye Array 46.81 308 P **P** **08 10 49.0 +0.9**
comp=N,1μm,0.8s,baz=76,slow=8.3,SNR=1496
BVAR ScP **ScP** **08 15 54.3 +0.9**
comp=N,66nm,0.9s,baz=79,slow=3.2,SNR=8.3
BVAR S **S** **08 17 24.2 +0.6**
comp=N,54nm,1.0s,baz=75,slow=7.8,SNR=9.1
BRVK Borovoye 46.86 308*ce*P **P** **08 10 49.2 +0.8**
BRVK pmax pmax
comp=Z,7μm,1.2s
BRVK Borovoye 46.86 308 *e*P **P** **08 10 49.2 +0.8**
BRVK Borovoye 46.86 308 *e*P **P** **08 10 49.4 +1.0**
comp=Z,3μm,1.1s
BRVK Borovoye 46.86 308 P **P** **08 10 49.6 +1.2**
SNR=1681
BRVK P **P** **08 10 49.6 +1.2**
SNR=1681
BRVK Borovoye 46.86 308 P **P** **08 10 49.6 +1.2**
SNR=1681
MRSI Marisa 46.95 209 P **P** **08 10 49.2 -0.2**
ODAN Odare 47.19 268 *e*P **P** **08 10 52.2 +0.7**
comp=Z,1μm,1.4s
SRDT SRDT 47.21 245 P **P** **08 10 52.6 +1.1**
comp=Z,1μm,1.7s,comp=Z,23μm
TKM2 Tokmak 2 47.41 293 P **P** **08 10 53.9 +0.8**
TKM2 pmax pmax
comp=Z,359nm,1.0s
FAKI Fak Fak 47.49 194 *e*P **P** **08 10 53.8 +0.1**
comp=Z,1μm,1.1s
BTLS Baital 47.54 297 *i* P **P** **08 10 51.9 -1.9**
comp=Z,2μm,0.7s
JIRN Jiri 47.59 270 *e*P **P** **08 10 55.8 +1.0**
GUN Gumba 47.67 270 *e*P **P** **08 10 56.2 +0.8**
comp=Z,1μm,0.7s
RAMN Ramite 47.70 269 *e*P **P** **08 10 56.2 +0.6**
comp=Z,956nm,0.7s
MPSI Mapaga 47.81 211 P **P** **08 10 56.3 +0.2**
INK Inuvik 47.97 30 P **P** **08 10 56.5 -0.3**
comp=Z,329nm,0.7s,baz=291,slow=8.4,SNR=505
INK ScP **ScP** **08 15 57.8 -0.1**
comp=Z,39nm,1.1s,baz=316,slow=7.6,SNR=3.7
INK S **S** **08 17 36.2 -3.2**
comp=Z,66nm,1.1s,baz=105,slow=30,SNR=10
INK ScS **ScS** **08 20 28.5 -0.7**
comp=Z,27nm,1.1s,baz=56,slow=31,SNR=15
KMPI Kaimana, Papua 47.98 192 P **P** **08 10 56.9 -0.5**
LUWI Luwuk 48.09 207 *e*P **P** **08 10 57.1 -1.1**
comp=Z,938nm,1.1s
FRU Bishkek 48.10 294⇑*i*P **P** **08 10 58.0 -0.1**
FRU *e* 08 12 52.0
FRU *i* S **S** **08 17 44.0 +2.0**
FRU *i* 08 20 30.0
FRU pmax pmax
comp=Z,280nm,2.0s
FRU smax smax
comp=E,6μm,8.0s
BTM Bintulu 48.16 221 ⇑P **P** **08 10 59.4 +0.6**
KKN Kakani 48.17 270 *e*P **P** **08 10 59.9 +0.8**
comp=E,693nm,1.1s
PKI Pulchoki 48.20 270 *e*P **P** **08 11 00.1 +0.6**
comp=E,760nm,1.1s
PKIN Phulchoki 48.21 270 *e*P **P** **08 11 00.0 +0.5**
comp=E,284nm,0.7s
AAK Ala-Archa 48.26 293 S **S** **08 17 46.6 +2.0**
comp=E,27nm,1.1s,baz=279,slow=22,SNR=3.9
AAK LR LR 08 32 28.5
comp=E,4μm,18.3s,baz=81,slow=37
AAK Ala-Archa 48.26 293*c i*P **P** **08 11 00.6 +1.1**
AAK pmax pmax
comp=Z,96nm,0.4s
AAK Ala-Archa 48.26 293 *e*P **P** **08 11 00.6 +1.1**
AAK Ala-Archa 48.26 293 *e*P **P** **08 11 00.7 +1.1**
comp=Z,445nm,1.4s
AAK S **S** **08 17 46.6 +2.0**
AAK Ala-Archa 48.26 293 P **P** **08 11 01.0 +1.4**
SNR=221
AAK Ala-Archa 48.26 293 P **P** **08 11 01.0 +1.4**
SNR=221
APSI Ampana 48.34 208 P **P** **08 10 59.6 -0.6**
DMN Daman 48.40 270 *e*P **P** **08 11 01.7 +0.8**
comp=Z,1μm,1.2s
HYT Haines Junctio 48.41 40 *e*P **P** **08 11 02.1 +1.8**
comp=Z,2μm,1.2s
GKN Gorkha 48.51 271 *e*P **P** **08 11 02.4 +0.8**
comp=E,524nm,0.7s
JOHN Johnston Islan 48.56 108 *e*P **P** **08 11 02.5 +0.6**
comp=Z,384nm,1.1s
MSAI Masohi 48.57 198 P **P** **08 11 03.1 +1.2**
DHAK Deception Hill 48.62 43 *e*P **P** **08 11 03.6 +1.8**
comp=Z,440nm,1.0s
RABL Rabaul 48.62 167 *e*P **P** **08 11 02.4 +0.1**
comp=Z,1μm,1.3s
KSH Kashi 48.68 289 P P 08 11 07.8 +5.1
KSH pP pP 08 11 50.4 +6.0
KSH sP sP 08 12 11.1 +5.7
KSH *e*PcP **PcP** **08 12 29.8 +4.8**
KSH PP **PP** **08 13 04.8 +7.4**
KSH ScP **ScP** **08 16 05.3 +3.7**
KSH PcS **PcS** **08 16 26.8 +5.3**
KSH S **S** **08 17 55.4 +4.9**
KSH sS sS 08 19 11.4 +8.1
KSH ScS **ScS** **08 20 37.3 +2.0**
KSH SS **SS** **08 21 25.8 +2.9**
KSH pmax pmax
comp=Z,180nm,0.8s
KSH pmax pmax
comp=Z,1μm,2.6s
KSH LR LR
comp=Z,3μm,8.5s
KSH LR LR
comp=Z,3μm,8.9s
KSH LR LR
comp=Z,7μm,12.4s
NLAI Namlea 48.91 201 P **P** **08 11 05.2 +0.7**
PCI Palu 48.98 211 P **P** **08 11 04.1 -1.0**
PCI Palu 48.98 211 P **P** **08 11 04.9 -0.2**
PCI pmax pmax
comp=Z,610nm,1.3s
AAI Ambon 49.07 199 P **P** **08 11 06.0 +0.3**
AAI Ambon 49.07 199 P **P** **08 11 06.5 +0.8**
AAI pmax pmax
comp=Z,785nm,1.2s
SBUM Sibu 49.22 222 *e*P **P** **08 11 08.0 +1.1**
comp=Z,748nm,1.5s
SBUM Sibu 49.22 222 ⇑P **P** **08 11 08.1 +1.2**
KOLN Koldanda 49.40 271 *e*P **P** **08 11 09.5 +1.1**
comp=Z,477nm,0.7s
MNAS Manas 49.65 294 P **P** **08 11 11.1 +1.1**
MNAS pmax pmax
comp=Z,424nm,1.0s
PYUN Piuthan 49.65 272 *e*P **P** **08 11 11.4 +1.1**
comp=Z,689nm,0.6s
WHY Whitehorse 49.68 40 *e*P **P** **08 11 11.3 +1.3**
comp=Z,1μm,1.8s
SKAG Skagway 49.89 41 *e*P **P** **08 11 12.8 +1.5**
comp=Z,239nm,1.0s
BOK Bokaro 50.11 266 *e*P **P** **08 11 14.3 +0.7**
BESE Bessie Mountai 50.43 42 *e*P **P** **08 11 17.0 +1.4**
comp=Z,390nm,1.2s
BESE *e*PcP **PcP** **08 12 32.0 +1.1**
BKB Balikpapan 50.45 214 P **P** **08 11 16.6 +0.5**
KK31 Karatay Array 50.67 296 P **P** **08 11 18.2 +0.6**
KK31 pmax pmax
comp=Z,221nm,0.7s
KKAR Karatay Array 50.67 296 *e*P **P** **08 11 17.7 +0.1**
KKAR pmax pmax
comp=Z,2μm,0.6s
KKAR Karatay Array 50.67 296 *e*P **P** **08 11 17.7 +0.1**
comp=Z,2μm,0.6s
SVE Sverdlovsk 50.73 315*d i*P **P** **08 11 18.6 +0.9**
SVE *e*PPP PPP 08 14 17.4
SVE *e*S **S** **08 18 13.4 -4.7**
SVE *e* 08 20 43.9
SVE *e*SS **SS** **08 21 50.8 -3.6**
SVE pmax pmax
comp=Z,6μm,1.3s
PTH Pithoragarh 50.83 276 *e*P **P** **08 11 18.9 -0.2**
PTH *ex* **S** **08 18 18.6 -2.0**
KDI Kendari 50.88 206 P **P** **08 11 19.8 +0.5**
TTSI Tana Toraja 50.97 210 P **P** **08 11 18.4 -1.6**
MTKI Muara Teweh, K 51.00 217 P **P** **08 11 20.8 +0.6**
KSM Kuching 51.01 223 *e*P **P** **08 11 21.6 +1.3**
comp=Z,468nm,1.1s
KSM *e*PcP **PcP** **08 12 35.1 +1.5**
KSM Kuching 51.01 223 ⇑P **P** **08 11 21.8 +1.5**
BRLS Borolday 51.15 296 *i* P **P** **08 11 21.4 +0.2**
comp=Z,73nm,1.4s
BRLS *i* pP **pP** **08 12 03.5 +0.3**
BRLS *i* PP **PP** **08 13 20.4 +0.9**
BRLS *i* S **S** **08 18 26.3 +2.0**
IUG Iuzhnay 51.43 295 *i* P **P** **08 11 21.8 -1.6**
comp=Z,1μm,1.2s
IUG *i* S **S** **08 18 27.3 -1.1**
IUG LRM MLR 08 35 54.8
comp=Z,2μm,15.2s
SURT Suratani 51.46 241 P **P** **08 11 25.0 +1.3**
comp=Z,200nm,1.8s,comp=Z,4μm
SOKR Solikamsk 51.54 320*c i*P **P** **08 11 22.0 -1.7**
SOKR *PP **pP** **08 12 05.0 -0.8**
SOKR 08 13 18.8
SOKR S **S** **08 18 25.8 -3.2**
SOKR pmax pmax
comp=Z,5μm,1.3s
SOKR MLR MLR
comp=Z,5μm,14.0s
STKI Sintang 51.66 221 P **P** **08 11 26.1 +1.0**
TRTT Trang 51.76 239 P **P** **08 11 27.2 +1.3**
comp=Z,790nm,1.1s,comp=Z,10μm
SPSI Sidrap Palu 51.84 209 P **P** **08 11 25.3 -1.1**
ARU Arti 51.94 315 P **P** **08 11 27.1 +0.4**
comp=Z,2μm,1.0s,baz=69,slow=3.8,SNR=1032
ARU ScP **ScP** **08 16 15.2 +0.1**
comp=Z,20nm,0.6s,baz=337,slow=5.1,SNR=2.8
ARU S **S** **08 18 34.4 -0.2**
comp=Z,9.8nm,0.2s,baz=140,slow=23,SNR=6.4
ARU ScS **ScS** **08 20 54.7 -2.1**
comp=Z,7.1nm,0.2s,baz=195,slow=23,SNR=5.5
ARU Arti 51.94 315*c i*P **P** **08 11 27.0 +0.3**
ARU *PP **pP** **08 12 08.2 -0.7**
ARU 08 12 35.0
ARU 08 13 24.3
ARU PPP PPP 08 14 32.1
ARU *e*S **S** **08 18 36.2 +1.5**
ARU *SS **sS** **08 19 46.8 -1.5**
ARU 08 20 52.7
ARU SS **SS** **08 22 10.4 -3.1**
ARU SSS SSS 08 24 10.2
ARU pmax pmax
comp=Z,7μm,1.7s
ARU Arti 51.94 315 *e*P **P** **08 11 27.1 +0.4**
comp=Z,4μm,1.1s
ARU ScP **ScP** **08 16 15.2 +0.1**
ARU S **S** **08 18 34.4 -0.2**
ARU ScS **ScS** **08 20 54.7 -2.1**
DDI Dehra Dun 51.95 278 *e*P **P** **08 11 28.3 +1.0**
DDI AMB AMB 08 11 29.5
comp=Z,288nm,0.9s
KEKH Kekaha 52.04 95 *e*P **P** **08 11 29.8 +1.9**
comp=Z,121nm,1.0s
SDNR Sundarnagar 52.07 280 *e*P **P** **08 11 29.0 +0.9**
SMLA Simla 52.14 279 *e*P **P** **08 11 29.4 +0.9**
DHRM DHARAMSHALA 52.14 281 *e*P **P** **08 11 29.5 +0.7**
DGPR DIGLIPUR 52.20 250 *e*P **P** **08 11 29.6 +0.4**
DGPR AMB AMB 08 11 32.7
comp=Z,781nm,1.0s
JWA Jwalamukhi 52.32 280 *e*P **P** **08 11 30.0 +0.1**
BBSI Bau Bau 52.33 205 P **P** **08 11 31.2 +1.1**
THN Thein Dam 52.45 281 *e*P P 08 11 25.2 -5.6
THN *e*S **S** **08 18 36.0 -6.3**
WRAK Wrangell Islan 52.53 44 *e*P **P** **08 11 32.5 +1.5**
comp=Z,409nm,1.5s
CRAG Craig 52.53 46 *e*P **P** **08 11 32.6 +1.5**
comp=Z,215nm,1.2s
PONG Pong 52.55 281 *e*P **P** **08 11 33.0 +1.4**
PONG *ex* x 08 11 41.0
KBKI Kotabaru 52.60 214 P **P** **08 11 30.6 -1.4**
SAUI Saumlaki 52.61 194 *e*P **P** **08 11 33.1 +1.1**
comp=Z,1μm,0.8s
DLBC Dease Lake 52.82 41 P **P** **08 11 35.0 +1.8**
comp=Z,112nm,0.8s,baz=298,slow=7.2,SNR=104
DLBC ScP **ScP** **08 16 19.9 +0.9**
comp=Z,19nm,1.1s,baz=123,slow=3.1,SNR=3.9
KAPI Kappang 52.82 209 *e*P **P** **08 11 33.7 0.0**
comp=Z,2μm,1.6s
KAPI Kappang 52.82 209 P **P** **08 11 34.1 +0.4**
SNR=54
KULM Kulim 53.17 236 *e*P **P** **08 11 37.7 +1.4**
comp=Z,664nm,1.0s
PMG Port Moresby 53.19 174 LR LR 08 30 55.4
comp=Z,1μm,21.7s,baz=313,slow=32
PMG Port Moresby 53.19 174*d i*P **P** **08 11 36.2 -0.1**
PMG pmax pmax
comp=Z,650nm,1.1s
PMG Port Moresby 53.19 174 *e*P **P** **08 11 36.3 -0.1**
comp=Z,245nm,1.2s
PBA Port Blair 53.41 249 *e*P P 08 11 39.2 +1.2
PBA AMB AMB 08 11 40.5
comp=Z,727nm,2.6s
OPA Opana 53.45 94 *e*P **P** **08 11 39.9 +1.6**
OPA pmax pmax
comp=Z,291nm,0.9s
OPA Opana 53.45 94 *e*P **P** **08 11 39.9 +1.6**
comp=Z,291nm,0.9s
NDI New Delhi 53.48 277 *e*P **P** **08 11 37.0 -1.4**
IPM Ipoh 53.59 235 *e*P **P** **08 11 39.9 +0.5**
comp=Z,318nm,1.0s
KIP Kipapa 53.61 95*de*P **P** **08 11 40.0 +0.6**
KIP pmax pmax
comp=Z,794nm,0.9s
KIP Kipapa 53.61 95 *e*P **P** **08 11 40.7 +1.3**
comp=Z,144nm,0.9s
BSSI Bau Bau, Buton 53.62 208 P **P** **08 11 38.8 -0.7**
HOPEN Hopen 53.64 345 *e*P **P** **08 11 38.8 0.0**
HON Honolulu 53.68 95 *e*P **P** **08 11 42.3 +2.4**
HON pmax pmax
comp=Z,190nm,0.9s
HON Honolulu 53.68 95 *e*P **P** **08 11 41.5 +1.6**
comp=Z,187nm,0.9s
DZET Dzherino 53.87 292 P **P** **08 11 41.6 +0.3**
DZET pmax pmax
comp=Z,315nm,0.8s
SPA0 Spitsbergen Ar 54.00 348 *e*P **P** **08 11 40.8 -0.7**
SPITS Spitsbergen Ar 54.00 348 S **S** **08 19 00.6 -1.4**
comp=Z,7.1nm,0.9s,baz=80,slow=19,SNR=1.7
SPITS ScS **ScS** **08 21 08.5 -2.1**
comp=Z,10nm,1.0s,baz=111,slow=35,SNR=1.8
PBKI Pangkalan Bun 54.00 219 P **P** **08 11 42.3 0.0**
KBS Kingsbay 54.08 350 *e*P **P** **08 11 41.8 -0.2**
KBS IAmb IAmb 08 11 42.4
comp=Z,342nm,1.1s
KBS *e*S **S** **08 19 00.8 -2.2**
KBS Kingsbay 54.08 350 *e*P **P** **08 11 42.3 +0.3**
KBS pmax pmax
comp=Z,1μm,1.6s
KBS Kingsbay 54.08 350 *e*P **P** **08 11 42.3 +0.3**
KBS Kingsbay 54.08 350 *e*P **P** **08 11 42.3 +0.3**
comp=Z,1μm,1.6s
MYKOM Kota Tinggi 54.15 230 *e*P **P** **08 11 44.9 +1.5**
comp=Z,696nm,1.3s
AB31 Akbulak array 54.35 307 P **P** **08 11 45.4 +1.0**
AB31 pmax pmax
comp=Z,139nm,0.5s
ABKAR Akbulak array 54.35 307 *e*P **P** **08 11 45.4 +1.0**
comp=Z,1μm,0.9s
TPRI Tanjung Pinang 54.49 229 P **P** **08 11 47.4 +1.5**
CHLP Challavanipeta 54.78 262 *e*P **P** **08 11 47.9 0.0**
CHLP IAmb IAmb 08 11 50.0
comp=Z,348nm,1.3s
CHLP *e*pP **pP** **08 12 32.5 +2.0**
CHLP *e*PcP **PcP** **08 12 46.0 -1.9**
CHLP *e*S **S** **08 19 13.9 +0.1**
AKTO Aktyubinsk 54.89 309 P **P** **08 11 48.9 +0.6**
comp=Z,466nm,0.7s,baz=68,slow=7.7,SNR=348
AKTO ScP **ScP** **08 16 28.1 -0.1**
comp=Z,48nm,0.8s,baz=355,slow=4.5,SNR=4.1
AKTO S **S** **08 19 16.2 +1.6**
comp=Z,22nm,1.1s,baz=171,slow=23,SNR=11
HSPB Hornsund (broa 54.96 347 *e*P **P** **08 11 48.3 0.0**
HLK Haleakala 55.31 94 *e*P **P** **08 11 53.4 +1.4**
comp=Z,275nm,1.2s
HNR Honiara 55.36 159 LR LR 08 32 43.4
comp=Z,2μm,21.6s,baz=314,slow=33
HNR Honiara 55.36 159 *e*P **P** **08 11 50.0 -2.0**
HNR Honiara 55.36 159 *e*P **P** **08 11 53.1 +1.1**
HNR pmax pmax
comp=Z,279nm,0.9s
HNR Honiara 55.36 159 *e*P **P** **08 11 53.1 +1.1**
comp=Z,279nm,0.9s
MMRI Maumere 55.41 205 *e*P **P** **08 11 52.0 -0.4**
comp=Z,3μm,1.6s
DSRI Dabo 55.63 228 P **P** **08 11 55.9 +1.9**
EDFI Ende, Flores 55.69 205 P **P** **08 11 52.6 -1.8**
RES Resolute Bay 55.78 16 P **P** **08 11 53.9 -0.4**
comp=Z,2μm,0.9s,baz=304,slow=5.9,SNR=1120
RES ScP **ScP** **08 16 31.4 -0.3**
comp=Z,56nm,1.1s,baz=328,slow=8.9,SNR=4.4
RES S **S** **08 19 23.4 -2.3**
comp=Z,52nm,1.2s,baz=116,slow=18,SNR=14
VIS Vishakhapatnam 55.81 262 *e*P **P** **08 11 56.1 +0.8**
TSI Tuntungan 55.84 237 P **P** **08 11 56.1 +0.6**
SOEI Soe 55.90 202 *e*P **P** **08 11 55.0 -0.9**
comp=Z,1μm,1.6s
KBL Kabul 55.98 287 *e*P **P** **08 11 56.7 +0.1**
KBL pmax pmax
comp=Z,306nm,0.8s
KBL Kabul 55.98 287 *e*P **P** **08 11 56.7 +0.1**
comp=Z,306nm,0.8s
BJO Bjornoya 56.06 344 *e*P **P** **08 11 56.8 +0.6**
BJO *e*S **S** **08 19 30.6 +1.2**
HPAH Hawaii Prepara 56.17 94 *e*P **P** **08 11 58.8 +0.9**
comp=Z,145nm,0.9s
PSI Prapat 56.18 236 *e*P **P** **08 11 58.6 +0.6**
PSI pmax pmax
comp=Z,309nm,1.2s
PSI Prapat 56.18 236 *e*P **P** **08 11 58.6 +0.6**
comp=Z,309nm,1.2s
LVZ Lovozero 56.27 334*ce*P **P** **08 11 57.0 -0.9**
LVZ pmax pmax
comp=Z,601nm,1.1s
LVZ Lovozero 56.27 334 *e*P **P** **08 11 57.3 -0.6**
comp=Z,949nm,1.2s
KCSI Kotacane, Aceh 56.31 238 P **P** **08 11 57.4 -1.4**
POHA Pohakuloa 56.46 94 *e*P **P** **08 12 01.2 +1.0**
comp=Z,460nm,0.9s
BHPL Bhopal 56.56 271 *e*P **P** **08 12 00.8 +0.2**
BHPL AMB AMB 08 12 01.8
comp=Z,706nm,1.9s
MLOA Mauna Loa Obse 56.57 95 *e*P **P** **08 12 02.3 +1.1**
comp=Z,218nm,0.9s
MLSI Meulaboh, Aceh 56.57 239 P **P** **08 12 00.0 -0.7**
MWH Moku'aweowe 56.59 95 *e*P **P** **08 12 02.7 +1.3**
comp=Z,261nm,1.1s
NGP Nagpur 56.69 268 *e*P **P** **08 12 01.6 +0.1**
NGP AMB AMB 08 12 02.9
comp=Z,450nm,1.3s
MLH Mauna Loa 56.73 94 *e*P **P** **08 12 03.3 +1.2**
MLH pmax pmax
comp=Z,289nm,0.9s
MLH Mauna Loa 56.73 94 *e*P **P** **08 12 03.2 +1.2**
comp=Z,288nm,0.9s
RGRI Rengat 56.76 231 P **P** **08 12 03.7 +1.8**
AIN Ainahou 56.76 95 *e*P **P** **08 12 03.0 +0.8**
comp=Z,364nm,0.8s
APA Apatity 56.85 334⇓*i*P **P** **08 12 00.2 -1.7**
APA *i* 08 12 56.0
APA *i* S **S** **08 19 33.0 -6.9**
APA *i* 08 21 32.0
APA pmax pmax
comp=Z,30nm,1.0s

APA MLR MLR
comp=Z,3μm,14.0s
KMMI Kalianget 56.89 215 P **P** **08 12 03.2 +0.4**
PUH Pauahi 56.93 94 *e*P **P** **08 12 03.9 +0.6**
comp=Z,169nm,0.8s
STCH Steam Cracks 56.99 94 *e*P **P** **08 12 04.7 +1.0**
comp=Z,211nm,0.9s
NPOC North of Pu'u 57.00 94 *e*P **P** **08 12 04.3 +0.6**
comp=Z,200nm,0.9s
JCUZ Jacuzzi 57.01 94 *e*P **P** **08 12 05.0 +1.2**
comp=Z,188nm,0.8s
TMCR Tamitsa 57.22 330 *e*P **P** **08 12 04.6 +0.1**
TMCR *e*S **S** **08 19 45.2 +0.5**
TMCR pmax pmax
comp=Z,151nm,1.4s
TWSI Taliwang, Sumb 57.30 211 P **P** **08 12 04.0 -1.7**
SRBI Singaraja 57.33 213 P **P** **08 12 06.1 +0.2**
KEV Kevo 57.39 338 *e*P **P** **08 12 05.6 0.0**
KEV pmax pmax
comp=Z,763nm,0.9s
KEV Kevo 57.39 338 *e*P **P** **08 12 05.6 0.0**
comp=Z,763nm,0.9s
MTN Manton Dam 57.39 193 *e*P **P** **08 12 06.0 -0.3**
comp=Z,609nm,1.0s
MNSI Mandailing Nat 57.40 234 P **P** **08 12 05.0 -1.4**
BASI Baing, Sumba 57.42 206 P **P** **08 12 03.8 -2.7**
YKA Yellowknife Ar 57.52 32 P **P** **08 12 06.7 0.0**
comp=Z,107nm,0.5s,baz=304,slow=7.0,SNR=159
YKA ScP **ScP** **08 16 39.5 0.0**
comp=Z,10nm,1.0s,baz=305,slow=4.0,SNR=4.1
YKA S **S** **08 19 48.7 -0.1**
comp=Z,14nm,0.9s,baz=307,slow=12,SNR=6.9
YKA LR LR 08 38 48.9
comp=Z,162nm,19.4s,baz=0.0,slow=38
YKA PKPPKP **P'P'df** **08 41 49.4 -3.4**
comp=Z,2.7nm,0.9s,baz=149,slow=2.9,SNR=3.5
COEN Coen 57.55 179 *e*P **P** **08 12 07.8 +0.4**
comp=Z,589nm,1.2s
UWJI Ujung Watu 57.62 218 P **P** **08 12 07.9 0.0**
HAMF Hammerfest 57.67 340 *e*P **P** **08 12 07.2 -0.3**
HAMF IAmb IAmb 08 12 09.2
comp=Z,2μm,1.5s
HAMF *e*S **S** **08 19 51.0 +0.4**
DNP Denpasar 57.88 212 P **P** **08 12 08.4 -1.3**
ARCES ARCESS Array B 57.93 338 P **P** **08 12 09.3 -0.2**
comp=Z,326nm,0.9s,baz=50,slow=9.1,SNR=356
ARCES ScP **ScP** **08 16 39.8 -1.5**
comp=Z,47nm,1.1s,baz=81,slow=7.6,SNR=4.8
ARCES S **S** **08 19 53.9 -0.2**
comp=Z,30nm,1.2s,baz=76,slow=6.8,SNR=3.7
ARE0 ARCESS Array S 57.93 338 *e*P **P** **08 12 09.7 +0.2**
comp=Z,1μm,1.4s
RPR Rampur 57.98 266 *e*P **P** **08 12 10.5 0.0**
RPR IAmb IAmb 08 12 12.2
comp=Z,335nm,1.0s
RPR *e*PcP **PcP** **08 13 00.1 -0.4**
RPR *e*PP **PP** **08 14 20.7 -0.3**
RPR *e*S **S** **08 19 54.8 -1.1**
RPR *e* 08 21 31.9
IGBI Denpasar 58.03 212 P **P** **08 12 08.4 -2.4**
SNSI Sinabang, Aceh 58.07 238 P **P** **08 12 11.3 +0.2**
PDSI Padang 58.27 232 P **P** **08 12 11.4 -1.2**
KLMR Klimovskoe 58.50 326*c i*P **P** **08 12 13.4 -0.1**
KLMR *e* 08 12 59.6
KLMR *e* 08 14 21.8
KLMR *e*S **S** **08 20 01.0 -0.5**
KLMR *e*SS **SS** **08 23 56.8 +0.5**
KLMR pmax pmax
comp=Z,5μm,1.5s
SRSP Sriramsagar 58.62 267 *e*P **P** **08 12 13.8 -1.1**
SRSP IAmb IAmb 08 12 16.3
comp=Z,569nm,0.9s
SRSP *e*S **S** **08 20 02.8 -1.4**
PBSI Pulau Batu 58.84 235 P **P** **08 12 16.7 +0.2**
KTK1 Kautokeino 58.88 338 *e*P **P** **08 12 16.2 +0.1**
KTK1 IAmb IAmb 08 12 17.3
comp=Z,1μm,1.0s
KTK1 *e*S **S** **08 20 06.8 +0.5**
LHSI Lahat 59.01 227 P **P** **08 12 18.4 +0.8**
DAG Danmarks Havn 59.04 355⇑*i*P **P** **08 12 16.3 -0.7**
comp=Z,1μm,1.1s
DAG Danmarks Havn 59.04 355⇑*i*P **P** **08 12 16.3 -0.7**
DAG pmax pmax
comp=Z,2μm,1.1s
PCJI Pacitan 59.10 217 P **P** **08 12 15.9 -2.2**
MASI Maura Aman, Be 59.12 229 P **P** **08 12 19.0 +0.6**
UGM Wanagama 59.13 218 *e*P **P** **08 12 17.6 -0.8**
comp=Z,2μm,1.3s
MDSI Maura Dua 59.22 226 P **P** **08 12 19.0 0.0**
SISI Saibi 59.40 233 P **P** **08 12 20.0 -0.3**
TNG Tangerang 59.41 223 P **P** **08 12 20.2 -0.1**
BLSI Bandar Lampung 59.42 224 P **P** **08 12 19.7 -0.7**
HYB Hyderabad 59.44 265⇓*i*P **P** **08 12 21.0 +0.3**
comp=Z,140nm,1.0s
HYB *e*PcP **PcP** **08 13 07.0 +0.7**
HYB *e*sP **sP** **08 13 29.0 +4.4**
HYB *e* 08 14 18.0
HYB *e*PP **PP** **08 14 34.5 +0.4**
HYB *e*ScP **ScP** **08 16 49.0 +0.2**
HYB *e*S **S** **08 20 14.0 -1.0**
HYB *e*ScS **ScS** **08 21 49.0 -3.2**
HYB Hyderabad 59.44 265 *e*P **P** **08 12 20.9 +0.3**
HYB AMB AMB 08 12 22.4
comp=Z,312nm,0.8s
HYBB Hyderabad (bro 59.44 265 *e*P **P** **08 12 20.7 +0.1**
HYBB IAmb IAmb 08 12 22.0
comp=Z,222nm,0.9s
HYBB *e*PcP **PcP** **08 13 06.1 -0.2**
HYBB *e*PP **PP** **08 14 33.0 -1.0**
HYBB *e*S **S** **08 20 13.1 -1.8**
HYBB *e* 08 21 45.8
NJS Nagarjunasagar 59.47 264 *e*P **P** **08 12 20.8 0.0**
NJS IAmb IAmb 08 12 22.2
comp=Z,227nm,1.0s
NJS *e*PcP **PcP** **08 13 05.8 -0.5**
NJS *e*sP **sP** **08 13 23.4 -1.3**
NJS *e*S **S** **08 20 13.9 -1.3**
NJS *e* 08 21 47.6
TRO Tromso 59.55 340⇑*i*P **P** **08 12 24.2 +3.7**
TRO IAmb IAmb 08 12 25.8
comp=Z,2μm,0.9s
TRO *e*S **S** **08 20 18.0 +3.2**
SBJI Serang 59.62 223 P **P** **08 12 20.6 -1.2**
DBJI Dramaga 59.70 222 P **P** **08 12 21.3 -1.0**
LWLI Liwa 59.73 226 P **P** **08 12 21.4 -1.3**
KASI Kota Agung 59.94 225 P **P** **08 12 22.2 -1.7**
CMJI Cimerak 59.96 220 P **P** **08 12 20.2 -3.8**
B927 Port Alberni 60.03 49 P **P** **08 12 25.3 +1.1**
PPSI Pulau Pagai 60.04 231 P **P** **08 12 25.0 +0.3**
SRLM Srisailam 60.06 264 *e*P **P** **08 12 24.6 -0.3**
SRLM IAmb IAmb 08 12 26.0
comp=Z,359nm,1.1s
SRLM *e*PcP **PcP** **08 13 09.4 +0.5**
SRLM *e*PP **PP** **08 14 38.0 -1.6**
SRLM *e*S **S** **08 20 16.7 -6.2**
SRLM *e* 08 21 51.8
B928 Bamfield 60.07 50 P **P** **08 12 25.3 +1.0**
CNJI Cibinong 60.17 221 P **P** **08 12 22.0 -3.5**
SKJI Sukabumi 60.18 222 P **P** **08 12 22.7 -2.9**
MGB Mount Grey 60.22 49 P **P** **08 12 26.0 +0.4**
CGJI Cibinong 60.27 223 P **P** **08 12 23.0 -3.1**
KLRI Killari 60.43 267 *e*P **P** **08 12 27.1 -0.3**
KLRI IAmb IAmb 08 12 28.5
comp=Z,661nm,1.1s
KLRI *e*PcP **PcP** **08 13 09.9 -0.4**
KLRI *e*S **S** **08 20 25.6 -2.0**
KLRI *e* 08 21 54.5
NLLB Nanaimo Lost L 60.48 49 P **P** **08 12 27.5 +0.3**
LLLB Lillooet 60.83 47 *e*P **P** **08 12 30.2 +0.6**
comp=Z,177nm,1.3s
SKHT Srikalahasti 61.05 261 *e*P **P** **08 12 31.3 -0.2**
SKHT IAmb IAmb 08 12 33.6
comp=Z,200nm,1.1s
SKHT *e*PcP **PcP** **08 13 11.5 -1.2**
SKHT *e*PP **PP** **08 14 48.4 +0.2**
SKHT *e*S **S** **08 20 35.7 +0.3**
SKHT *e* 08 21 59.7
KULLO Kullorsuaq 61.09 6⇑*i*P **P** **08 12 30.4 -0.6**
comp=Z,3μm,1.1s
KULLO Kullorsuaq 61.09 6⇑*i*P **P** **08 12 30.4 -0.6**
KULLO pmax pmax
comp=Z,3μm,1.1s
PGC Sidney 61.10 49 *e*P **P** **08 12 31.8 +0.4**
comp=Z,94nm,0.9s
MDRS Chennai 61.12 260 *i*P **P** **08 12 33.4 +1.3**
GEYT Alibeck 61.42 296 P **P** **08 12 34.7 +0.9**
comp=Z,149nm,0.7s,baz=31,slow=3.5,SNR=113
GEYT PP **PP** **08 14 54.3 +3.3**
comp=Z,115nm,1.2s,baz=30,slow=12,SNR=4.6
GEYT S **S** **08 20 41.3 +1.7**
comp=Z,16nm,1.2s,baz=349,slow=4.7,SNR=3.5
GEYT PKPPKP **P'P'df** **08 41 46.0 -1.1**
comp=Z,1.6nm,0.4s,baz=265,slow=8.2,SNR=7.3
GEYT LR LR 08 42 20.5
comp=Z,6μm,18.1s,baz=115,slow=39
A04D Lummi Island 61.46 49 P **P** **08 12 34.6 +0.8**
baz=305,SNR=31
A04D S **S** **08 20 40.8 +1.1**
baz=305
NLWA Neilton Lookou 61.58 50 *e*P **P** **08 12 36.0 +1.2**
comp=Z,99nm,0.8s
STEI Steigen 61.72 340 *e*P **P** **08 12 34.9 -0.3**
STEI IAmb IAmb 08 12 36.7
comp=Z,790nm,1.0s
FUNA Funafuti 61.83 138 *e*P **P** **08 12 37.9 +1.2**
comp=Z,183nm,1.1s
MBW Mount Baker 61.86 48 P **P** **08 12 37.2 +0.5**
LOF Lofoten 61.97 341 *e*P **P** **08 12 34.3 -2.7**
LOF IAmb IAmb 08 12 38.8
comp=Z,538nm,0.7s
LOF *e*S **S** **08 20 47.0 +1.4**
URV Uravakonda 62.00 264 *e*P **P** **08 12 37.5 -0.4**
URV IAmb IAmb 08 12 39.2
comp=Z,188nm,1.0s
URV *e*PcP **PcP** **08 13 16.1 -0.5**
URV *e*S **S** **08 20 46.2 -1.2**
URV *e* 08 22 05.7
B05A Bryant 62.06 49 P **P** **08 12 38.5 +0.7**
baz=306,SNR=29
GNW Green Mountain 62.06 50 *e*P **P** **08 12 38.0 +0.1**
POO Poona 62.12 269 *e*P **P** **08 12 39.1 +0.4**
POO AMB AMB 08 12 39.8
comp=Z,368nm,0.7s
BHJ Bhuj 62.16 276 *e*P **P** **08 12 38.8 -0.1**
B06A Marblemount 62.24 48 *e*P **P** **08 12 39.4 +0.4**
comp=Z,178nm,1.0s
E03A Lebam 62.24 51 *e*P **P** **08 12 40.3 +1.3**
comp=Z,453nm,1.4s
MOS Moscow 62.33 322*α i*P **P** **08 12 39.6 +0.1**
MOS *e**PP **pP** **08 13 25.2 +2.0**
MOS *e**SP **sP** **08 13 46.4 +2.7**
MOS *e* 08 14 54.9
MOS *i*S **S** **08 20 48.9 -1.4**
MOS *i* 08 22 11.6
MOS pmax pmax
comp=E,2μm,1.8s
MOS pmax pmax
comp=Z,8μm,1.9s
MOS pmax pmax
comp=N,2μm,1.6s
MOS pmax pmax
comp=Z,4μm,1.6s
MOS pmax pmax
comp=N,1μm,1.4s
MOS pmax pmax
comp=E,862nm,1.4s
MOS smax smax
comp=E,3μm,2.5s
MOS smax smax
comp=N,12μm,3.8s
MOS MLR MLR
comp=Z,4μm,13.0s
MOS Moscow 62.33 322 *e*P **P** **08 12 39.8 +0.3**
F03A Seaside 62.60 52 *e*P **P** **08 12 42.9 +1.4**
comp=Z,685nm,1.4s
BOM Bombay 62.63 270 *i*P P 08 12 32.7 -9.3
BOM AMb AMB 08 12 34.0
comp=Z,1μm,2.0s
BOM *e*S S 08 20 45.6 -10
D05A Enumclaw 62.74 50 *e*P **P** **08 12 43.8 +1.4**
comp=Z,334nm,1.3s
PUL Pulkovo 62.79 328*ce*P **P** **08 12 42.8 +0.4**
PUL pmax pmax
comp=Z,2μm,1.3s
PUL Pulkovo 62.79 328 *e*P **P** **08 12 42.8 +0.4**
F04D Rainier, OR 62.82 51 P **P** **08 12 44.1 +1.2**
baz=306
C06D Leavenworth 62.91 49 P **P** **08 12 44.2 +0.7**
baz=306,SNR=11
LON Longmire 63.10 50 *e*P **P** **08 12 45.3 +0.5**
LON pmax pmax
comp=Z,336nm,1.8s
LON Longmire 63.10 50 *e*P **P** **08 12 45.3 +0.5**
comp=Z,336nm,1.8s
G03D McMinnville, O 63.19 52 P **P** **08 12 46.5 +1.2**
baz=306,SNR=17
OBN Obninsk 63.19 322 ScP ScP 08 17 05.2
comp=Z,38nm,0.8s,baz=59,slow=9.0,SNR=3.2
OBN S **S** **08 20 59.7 -1.3**
comp=Z,18nm,0.3s,baz=314,slow=23,SNR=6.2
OBN ScS **SKSac** **08 22 17.6 -1.5**
comp=Z,14nm,0.3s,baz=78,slow=18,SNR=2.1
OBN Obninsk 63.19 322*ce*P **P** **08 12 45.0 -0.2**
OBN *e* 08 13 21.2
OBN *e**PP **pP** **08 13 27.2 -1.8**
OBN *e**SP **sP** **08 13 48.7 -0.8**
OBN *e* 08 15 07.5
OBN *e*PPP PPP 08 16 38.0
OBN *i*S **S** **08 20 59.3 -1.7**
OBN *e*SS **SS** **08 25 11.9 +2.1**
OBN pmax pmax
comp=Z,4μm,1.7s
OBN MLR MLR
comp=Z,3μm,14.0s
OBN Obninsk 63.19 322 *e*P **P** **08 12 45.6 +0.4**
OBN Obninsk 63.19 322 *e*P **P** **08 12 45.6 +0.4**
comp=Z,4μm,1.4s
OBN ScP 08 17 05.2
OBN S **S** **08 20 59.7 -1.3**
OBN ScS **SKSac** **08 22 17.6 -1.5**
FIA1 FINESS Array S 63.20 331 *e*P **P** **08 12 45.1 0.0**
comp=Z,2μm,0.9s
FINES FINESS Array B 63.20 331 P **P** **08 12 45.0 -0.2**
comp=Z,552nm,0.6s,baz=50,slow=6.9,SNR=969
FINES S **S** **08 20 59.5 -1.4**
comp=Z,10nm,0.7s,baz=49,slow=15,SNR=5.8
FINES PKPPKP **P'P'df** **08 41 41.7 -2.2**
comp=Z,9.1nm,1.0s,baz=90,slow=1.9,SNR=5.2
F04A Amboy 63.24 51 *e*P **P** **08 12 46.5 +0.9**
comp=Z,279nm,1.2s
MOR8 Moi Rana 63.27 339 *e*P **P** **08 12 44.0 -1.5**
MOR8 IAmb IAmb 08 12 45.9
comp=Z,2μm,0.8s
MOR8 *e*S **S** **08 21 00.9 -0.9**
KONS Konsvik 63.35 340 *e*P **P** **08 12 46.4 +0.4**
KONS IAmb IAmb 08 12 47.8
comp=Z,2μm,1.4s
LTY Liberty 63.43 49 *e*P **P** **08 12 47.4 +0.4**
comp=Z,682nm,1.9s
STOK Stokkvaagen 63.51 340 *e*P **P** **08 12 47.1 0.0**
STOK IAmb IAmb 08 12 48.7
comp=Z,3μm,1.5s
COR Corvallis 63.54 53 *e*P **P** **08 12 49.4 +1.8**
COR pmax pmax
comp=Z,237nm,1.1s
COR Corvallis 63.54 53 *e*P **P** **08 12 49.4 +1.8**
comp=Z,237nm,1.1s
JMIC Jan Mayen 63.57 350 P **P** **08 12 48.1 +0.6**
comp=Z,509nm,1.1s,baz=124,slow=5.1,SNR=10
FITZ Fitzroy Crossi 63.58 198 PKPPKP **P'P'df** **08 41 42.2 +2.8**
comp=Z,2.8nm,0.9s,baz=181,slow=2.7,SNR=4.5
FITZ PKP2bc 08 41 48.3
comp=Z,5.2nm,1.0s,baz=180,slow=4.2,SNR=5.9
XMIS Christmas Isla 63.63 221 *e*P **P** **08 12 48.0 -0.6**
comp=Z,1μm,1.3s
LPSR Galich'ya Gora 63.67 319 *e*P **P** **08 12 48.5 +0.1**
LPSR *e*S **S** **08 21 04.6 -2.5**
LPSR pmax pmax
comp=Z,530nm,0.6s
LPSR smax smax
comp=E,2μm,2.1s
CTAO Charters Tower 63.74 176 *e*P **P** **08 12 48.5 -0.6**
CTAO pmax pmax
comp=Z,496nm,1.5s
CTAO Charters Tower 63.74 176 *e*P **P** **08 12 48.5 -0.6**
comp=Z,496nm,1.5s
SUMG Summit 63.85 0⇑*i*P **P** **08 12 50.5 +0.8**
comp=Z,3μm,1.0s
SUMG Summit 63.85 0 *e*P **P** **08 12 50.6 +0.8**
SUMG pmax pmax
comp=Z,3μm,1.0s
SUMG Summit 63.85 0 *e*P **P** **08 12 50.6 +0.9**
comp=Z,3μm,1.0s
WRAB Tennant Creek 63.93 189 *e*P **P** **08 12 49.8 -0.6**
WRAB *e* 08 13 25.5
WRAB pmax pmax
comp=Z,554nm,1.3s
WRAB Tennant Creek 63.93 189 *e*P **P** **08 12 49.8 -0.6**
comp=Z,554nm,1.3s
WRAB *e*PcP **PcP** **08 13 25.5 +1.3**
WB2 Warramunga Arr 63.94 189 *e*P **P** **08 12 49.7 -0.7**
comp=Z,660nm,1.4s
WB2 *e*PcP **PcP** **08 13 25.2 +1.0**
WRA Warramunga Arr 63.94 189 P **P** **08 12 49.7 -0.7**
comp=Z,76nm,0.4s,baz=7.2,slow=6.7,SNR=234
WRA PcP **PcP** **08 13 24.6 +0.3**
comp=Z,32nm,0.9s,baz=0.8,slow=4.5,SNR=6.4
WRA ScP 08 17 09.1
comp=Z,25nm,1.1s,baz=2.7,slow=4.8,SNR=6.7
WRA S **S** **08 21 06.5 -4.6**
comp=Z,0.9nm,0.7s,baz=182,slow=17,SNR=2.8
WRA PKPPKP **P'P'df** **08 41 41.4 +2.8**
comp=Z,6.3nm,0.9s,baz=192,slow=2.2,SNR=5.2
WRA PKP2bc 08 41 47.0
comp=Z,5.6nm,0.9s,baz=200,slow=2.3,SNR=16
KEBM Edson Butte 63.95 55 *e*P **P** **08 12 52.2 +1.8**
comp=Z,252nm,1.2s
I03D Drain, OR 64.04 54 P **P** **08 12 52.3 +1.3**
baz=307,SNR=38
VORR Voronezh 64.11 318⇑*i*P **P** **08 12 50.0 -1.3**
VORR *e*S **S** **08 21 09.0 -3.6**
VORR pmax pmax
comp=Z,3μm,1.6s
GOA Goa 64.12 267 *e*P **P** **08 12 52.4 +0.6**
G05D Wamic, OR 64.28 51 P **P** **08 12 53.6 +1.1**
baz=307,SNR=30
E07A Sunnyside 64.30 49 *e*P **P** **08 12 53.5 +0.9**
comp=Z,525nm,1.8s
C09A Chrisman Ranch 64.39 48 *e*P **P** **08 12 53.6 +0.4**
comp=Z,170nm,1.1s
KBO Bosley Butte 64.41 55 *e*P **P** **08 12 55.3 +1.8**
comp=Z,373nm,1.5s
D08A Wollman Farm, 64.50 49 *e*P **P** **08 12 54.3 +0.4**
comp=Z,513nm,1.8s
HAWA Hanford 64.57 49 *e*P **P** **08 12 55.5 +1.1**
comp=Z,517nm,1.8s
G06A Carlson Farm, 64.66 51 *e*P **P** **08 12 55.8 +0.7**
comp=Z,616nm,1.8s
NEW Newport 64.72 47 P **P** **08 12 55.7 +0.3**
comp=Z,48nm,1.0s,baz=312,slow=6.1,SNR=78
NEW pP **pP** **08 13 38.8 -0.6**
comp=Z,48nm,1.0s,baz=308,slow=7.4,SNR=2.7
NEW S **S** **08 21 21.3 +1.0**
comp=Z,1.0nm,0.5s,baz=165,slow=17,SNR=7.2
NEW Newport 64.72 47 P **P** **08 12 55.7 +0.3**
baz=308,SNR=80
NEW Newport 64.72 47 *e*P **P** **08 12 56.4 +1.0**
NEW *PP **pP** **08 13 38.8 -0.6**
NEW S **S** **08 21 21.3 +1.0**
NEW pmax pmax
comp=Z,115nm,0.9s
NEW Newport 64.72 47 *e*P **P** **08 12 56.4 +1.0**
NEW Newport 64.72 47 *e*P **P** **08 12 56.4 +1.0**
comp=Z,115nm,0.9s
NEW pP **pP** **08 13 38.8 -0.6**
NEW S **S** **08 21 21.3 +1.0**
I05D Terrebonne, OR 64.81 52 P **P** **08 12 56.8 +0.8**
baz=308,SNR=30
L02D Cave Junction, 64.81 55 P **P** **08 12 57.1 +1.1**
baz=307,SNR=25
PALK Pallekele 64.81 255 P **P** **08 12 56.6 +0.2**
comp=Z,172nm,1.1s,baz=116,slow=1.9,SNR=70
PALK PcP **PcP** **08 13 29.0 +0.8**
comp=Z,19nm,0.9s,baz=116,slow=3.4,SNR=3.9
PALK S **S** **08 21 22.1 -0.1**
comp=Z,1.1nm,0.3s,baz=116,slow=18,SNR=3.8
PALK Pallekele 64.81 255 *i*P **P** **08 12 56.3 -0.1**
SNR=64
PALK Pallekele 64.81 255 *e*P **P** **08 12 56.6 +0.2**
comp=Z,240nm,1.0s
PALK PcP **PcP** **08 13 29.0 +0.8**
PALK S **S** **08 21 22.1 -0.1**
PALK Pallekele 64.81 255 P **P** **08 12 56.9 +0.5**
SNR=36
PALK P **P** **08 12 56.9 +0.5**
SNR=36
PALK Pallekele 64.81 255 P **P** **08 12 56.9 +0.5**
SNR=36
HUMO Hull Mountain 64.92 54 *e*P **P** **08 12 57.8 +1.0**
comp=Z,86nm,1.3s
MAK Makhachkala 65.01 306 *e*P **P** **08 12 58.4 +1.2**
MAK *e* 08 13 25.3
MAK *e**PP **pP** **08 13 43.4 +2.1**
MAK *e**SP **sP** **08 14 03.1 +1.4**
MAK *e* 08 15 20.1
MAK *e*PPP PPP 08 17 05.7
MAK *e*S **S** **08 21 25.7 +1.9**
MAK *e* 08 22 29.1
MAK pmax pmax
comp=Z,1μm,1.7s
KRMB Red Mountain 65.02 56 *e*P **P** **08 12 59.1 +1.6**
comp=Z,188nm,1.5s
VSU Vasula 65.03 329*ce*P **P** **08 12 57.3 +0.2**
VSU pmax pmax
comp=Z,3μm,1.0s
J04D Umpqua Nationa 65.03 53 P **P** **08 12 58.7 +1.0**
baz=308,SNR=48
MNGI Mangalore 65.09 264 *e*P **P** **08 13 02.9 +4.8**
MNGI *e*P P 08 13 04.7 +6.6
MNGI *e*S **S** **08 21 29.9 +4.4**
MNGI *e*x x 08 26 20.0
MNGI AMS AMS 08 26 23.1
comp=Z,909nm,10.6s
E09A Wood Farm, Sta 65.25 49 *e*P **P** **08 12 59.5 +0.7**
comp=Z,748nm,1.8s
JCC Jacoby Creek, 65.37 56 *e*P **P** **08 13 01.3 +1.7**
comp=Z,295nm,1.4s
SCO Scoresbysund 65.40 354⇑*i*P **P** **08 13 00.0 +0.7**
comp=Z,2μm,1.2s
SCO Scoresbysund 65.40 354⇑*i*P **P** **08 13 00.0 +0.7**
SCO pmax pmax
comp=Z,2μm,1.2s
J05D Fort Rock, OR 65.51 53 P **P** **08 13 01.8 +1.1**
baz=308,SNR=79
KHMM Horse Mountain 65.51 56 *e*P **P** **08 13 02.1 +1.4**
comp=Z,316nm,1.5s
YBH Yreka Blue Hor 65.60 55 *e*P **P** **08 13 02.4 +1.2**
YBH pmax pmax
comp=Z,79nm,1.0s
YBH Yreka Blue Hor 65.60 55 *e*P **P** **08 13 02.4 +1.2**
comp=Z,79nm,1.0s
K04D Chiloquin, OR 65.62 54 P **P** **08 13 02.3 +1.0**
baz=308,SNR=22
M02C Callahan 65.72 55 P **P** **08 13 03.3 +1.3**
baz=308,SNR=23
GROC Groznyy 65.85 307 *e*P **P** **08 13 03.1 +0.5**
GROC *e*S **S** **08 21 32.3 -1.8**
GROC pmax pmax
comp=Z,746nm,1.3s
WALA Waterton Lakes 65.88 44 *e*P **P** **08 13 03.2 +0.3**
comp=Z,188nm,1.3s
KMRM Mail Ridge 65.93 57 *e*P **P** **08 13 05.0 +1.8**
comp=Z,287nm,1.7s
N02D Trinity Center 66.07 56 P **P** **08 13 05.4 +1.2**
baz=308,SNR=41
M04C Macdoel 66.08 55 P **P** **08 13 05.3 +1.0**
baz=308,SNR=77
BSMT Bassoo Peak 66.20 46 *e*P **P** **08 13 05.8 +0.8**
BLMT Blacktail Moun 66.32 46 *e*P **P** **08 13 07.4 +1.6**
KCPM Cahto Peak 66.33 57 *e*P **P** **08 13 07.5 +1.6**
comp=Z,435nm,1.8s
WDC Whiskeytown Da 66.41 56 *e*P **P** **08 13 07.2 +1.0**
WDC pmax pmax
comp=Z,204nm,1.5s
WDC Whiskeytown Da 66.41 56 *e*P **P** **08 13 07.2 +1.0**
comp=Z,204nm,1.5s
JTMT Jette 66.53 46 *e*P **P** **08 13 07.8 +0.8**
TRD Trivandrum 66.59 259 *e*P **P** **08 13 08.1 +0.4**
YBMT Yellow Bay 66.59 46 *e*P **P** **08 13 09.0 +1.5**
TBLU Trondheim 66.69 339 *e*P **P** **08 13 06.9 -0.7**
TBLU IAmb IAmb 08 13 08.7
comp=Z,3μm,1.6s
TBLU *e*S **S** **08 21 42.0 -1.4**
BMO Blue Mountains 66.75 50 *e*P **P** **08 13 09.3 +0.8**
BMO pmax pmax

comp=Z,186nm,1.4s
BMO Blue Mountains 66.75 50 *e*P **P 08 13 09.3 +0.8**
comp=Z,186nm,1.4s
ILULI Ilulissat 66.78 5⇑*i*P **P 08 13 08.0 -0.1**
comp=Z,1μm,1.1s
ILULI Ilulissat 66.78 5⇑*i*P **P 08 13 08.0 -0.1**
ILULI pmax pmax
comp=Z,1μm,1.1s
SWMT Swartz Lake 66.83 46 *e*P **P 08 13 09.6 +0.7**
MOD Modoc Plateau 66.91 54 *e*P **P 08 13 10.1 +0.6**
comp=Z,216nm,1.5s
NCK Nalchik 66.92 309*c i*P **P 08 13 10.1 +0.6**
NCK pmax pmax
comp=Z,811nm,1.0s
O03D Paynes Creek 67.03 56 P **P 08 13 10.5 +0.2**
baz=309,SNR=56
HOPS Hopland Field 67.07 58 *e*P **P 08 13 11.6 +1.2**
comp=Z,131nm,1.2s
GUDG Gudauri 67.07 307 P **P 08 13 12.8 +2.1**
KVAR Kislovodsk Arr 67.14 309 S **S 08 21 52.9 +3.2**
comp=Z,173nm,1.3s,baz=132,slow=22,SNR=35
KIV Kislovodsk 67.14 309 *i* P **P 08 13 12.3 +1.4**
SNR=398
KIV Kislovodsk 67.14 309*ce*P **P 08 13 12.3 +1.4**
KIV *e* 08 13 37.6
KIV *e**PP **pP 08 13 56.5 +1.2**
KIV *e* 08 15 38.7
KIV *e*PPP PPP 08 17 21.9
KIV *i* S **S 08 21 52.9 +3.1**
KIV *e*SS **SS 08 26 14.6 +2.7**
KIV pmax pmax
comp=Z,2μm,0.9s
KIV Kislovodsk 67.14 309 *e*P **P 08 13 12.3 +1.4**
KIV Kislovodsk 67.14 309 *e*P **P 08 13 12.4 +1.4**
comp=Z,2μm,0.8s
KIV Kislovodsk 67.14 309 P **P 08 13 12.7 +1.7**
SNR=359
KIV P **P 08 13 12.7 +1.7**
SNR=359
KIV Kislovodsk 67.14 309 P **P 08 13 12.7 +1.7**
SNR=359
KBZ Khabaz 67.17 309 P **P 08 13 12.3 +1.3**
comp=Z,920nm,1.1s,baz=56,slow=3.9,SNR=408
KBZ pP **pP 08 13 57.0 +1.7**
comp=Z,74nm,0.8s,baz=187,slow=18,SNR=0.8
KBZ S **S 08 21 52.0 +2.2**
comp=Z,29nm,1.2s,baz=32,slow=22,SNR=7.7
KBZ PKPPKP **P'P'df 08 41 34.2 -3.3**
comp=Z,2.5nm,1.0s,baz=226,slow=1.9,SNR=4.0
KBZ LR LR 08 45 30.9
comp=Z,4μm,18.9s,baz=54,slow=38
DGRG David-gareji 67.19 306 P **P 08 13 12.4 +1.1**
DGRG David-gareji 67.19 306 P **P 08 13 12.3 +1.1**
ZEI Tsey 67.20 308 *e*P **P 08 13 08.5 -2.9**
ZEI *e* 08 15 40.2
ZEI *e*S **S 08 21 50.3 -0.4**
ZEI pmax pmax
comp=Z,314nm,0.8s
ZEI pmax pmax
comp=N,187nm,0.9s
ZEI pmax pmax
comp=E,178nm,0.9s
IDID Didziasalis 67.25 326 *e*P **P 08 13 11.9 +0.7**
IDID IAmb IAmb 08 13 14.1
comp=Z,551nm,1.1s
SLMT Seeley Lake 67.26 46 *e*P **P 08 13 12.0 +0.3**
MSO Missoula 67.30 46 P **P 08 13 12.2 +0.3**
baz=310,SNR=84
MSO Missoula 67.30 46 *e*P **P 08 13 12.1 +0.2**
comp=Z,384nm,1.6s
ISAL Salakas 67.31 327 *e*P **P 08 13 12.3 +0.7**
ISAL IAmb IAmb 08 13 14.6
comp=Z,414nm,0.8s
XMAS Kiritimati 67.32 110 *e*P **P 08 13 13.2 +0.9**
comp=Z,256nm,1.1s
SEAG Tbilisi Sea 67.32 307 P **P 08 13 13.8 +1.8**
MICGM Minsk 67.35 325⇑*i*P **P 08 13 12.0 +0.1**
MICGM ⇑*i*P **P 08 13 12.0 +0.1**
MICGM PM 08 13 13.0
comp=Z,4.2nm,1.0s
MICGM PM 08 13 13.0
comp=N,0.9nm,1.2s
MICGM PM 08 13 13.0
comp=E,0.6nm,1.2s
MICGM PM 08 13 13.0
comp=Z,11nm,2.0s
MICGM *e*PcP **PcP 08 13 32.0 -6.1**
MICGM *e*pP **pP 08 13 54.0 -2.3**
MICGM *e*sP **sP 08 14 10.0 -6.6**
MICGM *e*PP PP 08 15 34.0 -8.3
MICGM *e*PPP PPP 08 17 20.0
MICGM *e*S **S 08 21 50.0 -1.7**
MICGM SM 08 21 51.0
comp=E,6.1nm,2.0s
MICGM SM 08 21 52.0
comp=N,9.5nm,4.0s
MICGM *e*SP **SPn 08 22 14.0 +1.0**
MICGM *e*sS **pS 08 22 46.0 +3.4**
MICGM *e*SS **SS 08 26 08.0 -6.3**
MICGM *e*SSS SSS 08 29 07.0
MICGM *e*LQ LQ 08 36 16.0
MICGM *e*LR LR 08 42 40.0
MICGM LRM MLR 08 44 56.0
comp=Z,4.1nm,12.0s
MICGM LRM MLR 08 45 06.0
comp=E,4.9nm,12.0s
MNK Minsk 67.35 325*c i*P **P 08 13 12.0 +0.1**
MNK *e* 08 13 32.0
MNK *e**PP **pP 08 13 54.0 -2.3**
MNK *e*PPP PPP 08 17 20.0
MNK *e*S **S 08 21 50.0 -1.7**
MNK *e*SP **SPn 08 22 14.0 +1.0**
MNK *e**SS **pS 08 22 46.0 +3.4**
MNK pmax pmax
comp=Z,11μm,2.0s
MNK pmax pmax
comp=N,850nm,1.2s
MNK pmax pmax
comp=E,610nm,1.2s
MNK pmax pmax
comp=Z,4μm,1.0s
MNK smax smax
comp=E,6μm,2.0s
MNK smax smax
comp=N,9μm,4.0s
MNK pmax pmax
comp=Z,4μm,12.0s
MNK pmax pmax
comp=E,5μm,12.0s
TBLG Delisi 67.38 307 P **P 08 13 14.0 +1.5**
TBLG Delisi 67.38 307 P **P 08 13 13.9 +1.5**
IIGN Ignalina 67.43 326 *e*P **P 08 13 13.1 +0.7**
IIGN IAmb IAmb 08 13 15.2
comp=Z,459nm,0.7s
NACGM Naroch 67.52 326 *e*P **P 08 13 12.0 -1.0**
NACGM PM 08 13 15.0
comp=Z,3.9nm,1.0s
NACGM *e*pP **pP 08 14 02.0 +4.7**
NACGM *e*PP PP 08 15 33.0 -11
NACGM *e*PPP PPP 08 17 22.0
NACGM *e*S **S 08 21 50.0 -3.7**
NACGM *e*PS **PnS 08 22 46.0 +0.4**
NACGM *e*SS SS 08 26 48.0 +31
NACGM *e*SSS SSS 08 29 54.0
WVOR Wild Horse Val 67.54 52 *e*P **P 08 13 14.1 +0.6**
WVOR pmax pmax
comp=Z,433nm,1.6s
WVOR Wild Horse Val 67.54 52 *e*P **P 08 13 14.1 +0.6**
comp=Z,433nm,1.6s
FFC Flin Flon 67.54 35 *e*P **P 08 13 13.2 +0.1**
FFC pmax pmax
comp=Z,393nm,1.1s
FFC Flin Flon 67.54 35 *e*P **P 08 13 13.2 +0.1**
FFC Flin Flon 67.54 35 *e*P **P 08 13 13.2 +0.1**
comp=Z,393nm,1.1s
NEY Neytrino 67.57 309*c i*P **P 08 13 15.6 +1.8**
ONI Oni 67.58 308 P **P 08 13 15.3 +1.6**
ONI Oni 67.58 308 P **P 08 13 15.2 +1.6**
CHMT Chamberlain Mo 67.60 46 *e*P **P 08 13 14.2 +0.2**
AS31 Alice Springs 67.67 189 *e*P **P 08 13 14.9 +0.7**
comp=Z,55nm,0.8s
ASAR Alice Springs 67.67 189 P **P 08 13 14.6 +0.3**
comp=Z,192nm,0.8s,baz=1.4,slow=4.6,SNR=978
ASAR pP **pP 08 13 58.6 -0.1**
comp=Z,21nm,0.8s,baz=7.4,slow=5.8,SNR=1.5
ASAR S **S 08 21 55.7 -0.4**
comp=Z,1.2nm,0.9s,baz=336,slow=5.6,SNR=2.9
ASAR PKP2ab 08 41 37.5
comp=Z,8.6nm,1.0s,baz=176,slow=2.9,SNR=18
ORV Oroville 67.67 56 *e*P **P 08 13 14.2 0.0**
ORV pmax pmax
comp=Z,370nm,1.9s
ORV Oroville 67.67 56 *e*P **P 08 13 14.2 0.0**
comp=Z,370nm,1.9s
MCCM Marconi Confer 67.72 58 *e*P **P 08 13 15.3 +0.9**
comp=Z,129nm,1.1s
MOL Molde 67.95 339 *e*P **P 08 13 16.1 +0.6**
MOL IAmb IAmb 08 13 18.1
comp=Z,1μm,1.3s
DOMB Dombas 68.00 338 *e*P **P 08 13 15.9 0.0**
DOMB IAmb IAmb 08 13 18.1
comp=Z,2μm,1.4s
DOMB *e*S **S 08 22 00.5 +1.3**
MBWA Marble Bar 68.01 203 *e*P **P 08 13 16.4 +0.1**
comp=Z,468nm,1.0s
MBWA Marble Bar 68.01 203 P **P 08 13 16.6 +0.2**
SNR=32
MBWA Marble Bar 68.01 203 P **P 08 13 16.6 +0.2**
SNR=32
NC405 NORSAR Array S 68.02 337 *e*P **P 08 13 16.1 0.0**
NC303 NORSAR Array S 68.03 337 *e*P **P 08 13 16.1 0.0**
BEKR Beckworth 68.16 55 *e*P **P 08 13 17.8 +0.3**
comp=Z,215nm,1.4s
NC204 NORSAR Array S 68.16 337 *e*P **P 08 13 17.1 +0.1**
NB201 NORSAR Array S 68.20 337 *e*P **P 08 13 17.5 +0.3**
NB2 NORSAR Subarra 68.23 337 P **P 08 13 17.7 +0.4**
comp=Z,493nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 68.23 337 P **P 08 13 17.7 +0.4**
baz=36,slow=6.5
NB2 NORSAR Subarra 68.23 337 P **P 08 13 17.7 +0.4**
NB2 pmax pmax
comp=Z,415nm,0.7s
NOA NORSAR Array B 68.23 337 P **P 08 13 17.2 -0.1**
comp=Z,311nm,0.7s,baz=36,slow=6.4,SNR=704
NOA pP **pP 08 14 01.5 -0.3**
comp=Z,23nm,0.8s,baz=38,slow=5.8,SNR=1.2
NOA S **S 08 22 00.0 -2.0**
comp=Z,6.8nm,1.0s,baz=45,slow=11,SNR=3.0
NOA PKPPKP **P'P'df 08 41 28.4 -7.1**
comp=Z,3.3nm,0.9s,baz=154,slow=5.4,SNR=4.0
NOA PKP2bc 08 41 33.4
comp=Z,10nm,1.1s,baz=217,slow=3.1,SNR=3.9
NOA LR LR 08 48 19.3
comp=Z,2μm,18.2s,baz=35,slow=40
AKH Akhalkalaki 68.31 307 P **P 08 13 20.4 +2.0**
AKH Akhalkalaki 68.31 307⇑*i*P **P 08 13 20.6 +2.2**
AKH Akhalkalaki 68.31 307 P **P 08 13 20.3 +2.0**
BGD Bogdanovka 68.34 307 P **P 08 13 20.7 +2.1**
NBO00 NORSAR Array S 68.36 337 *e*P **P 08 13 18.4 +0.2**
AFDM Forest Hills D 68.37 56 *e*P **P 08 13 18.9 +0.2**
comp=Z,223nm,1.6s
NC602 NORSAR Array S 68.38 336 *e*P **P 08 13 17.9 -0.4**
GNI Garni 68.38 305 S **S 08 22 09.2 +4.5**
comp=Z,18nm,1.0s,baz=248,slow=20,SNR=5.7
GNI Garni 68.38 305 P **P 08 13 20.9 +2.1**
GNI Garni 68.38 305 *e*P **P 08 13 20.9 +2.1**
GNI S **S 08 22 09.2 +4.5**
GNI pmax pmax
comp=Z,433nm,1.0s
GNI Garni 68.38 305 *e*P **P 08 13 20.9 +2.1**
comp=Z,433nm,1.0s
GNI S **S 08 22 09.2 +4.5**
HRY Holter Researc 68.47 45 *e*P **P 08 13 20.2 +1.0**
NAO01 NORSAR Array S 68.48 337 *e*P **P 08 13 19.1 +0.2**
MFID Camas Ranch 68.49 50 *e*P **P 08 13 20.2 +0.8**
comp=Z,341nm,1.4s
EGMT Eagleton 68.64 43 P **P 08 13 20.7 +0.4**
baz=312,SNR=66
EGMT Eagleton 68.64 43 *e*P **P 08 13 20.5 +0.3**
comp=Z,242nm,0.9s
LRM Limekiln Ridge 68.74 46 *e*P **P 08 13 22.1 +1.1**
PAHR Pah Rah Range 68.84 55 *e*P **P 08 13 22.4 +0.7**
comp=Z,221nm,1.3s
DLMT Dillon 68.97 47 *e*P **P 08 13 22.7 +0.4**
comp=Z,281nm,1.2s
SFJD Kangerlussuaq 69.00 5⇑*i*P **P 08 13 21.9 0.0**
comp=Z,231nm,0.9s
SFJD Kangerlussuaq 69.00 5 *e*P **P 08 13 22.0 0.0**
SFJD pmax pmax
comp=Z,708nm,1.2s
SFJD Kangerlussuaq 69.00 5 *e*P **P 08 13 22.0 0.0**
comp=Z,708nm,1.2s
SOC Sochi 69.03 311*c i*P **P 08 13 23.0 +0.5**
SOC *e**SP **pP 08 14 07.3 +0.2**
SOC *e* 08 15 53.6
SOC *i* S **S 08 22 13.9 +2.0**
SOC *e*SSS SSS 08 29 54.3
SOC pmax pmax
comp=Z,710nm,1.0s
PNTR Pine Nut 69.11 56 *e*P **P 08 13 24.6 +1.2**
comp=Z,292nm,1.4s
HLID Hailey 69.17 49 P **P 08 13 24.4 +0.7**
baz=311,SNR=47
HLID Hailey 69.17 49 *e*P **P 08 13 24.3 +0.7**
comp=Z,154nm,1.4s
MCMT McKenzie Canyo 69.19 47 *e*P **P 08 13 24.4 +0.6**
DZM Mont Dzumac 69.19 156 LR LR 08 41 09.8
comp=Z,850nm,19.1s,baz=348,slow=33
DZM Mont Dzumac 69.19 156 *e*P **P 08 13 25.2 +1.5**
comp=Z,737nm,1.4s
DZM *e*S **S 08 22 16.9 +2.7**
comp=Z,3μm,24.3s
DZM Mont Dzumac 69.19 156 *e*LR LR 08 33 38.8
comp=Z,3μm,23.5s
DZM Mont Dzumac 69.19 156 *e*P **P 08 13 25.2 +1.5**
comp=Z,462nm,1.3s
OSL Oslo 69.27 336 *e*P **P 08 13 24.7 +1.0**
OSL IAmb IAmb 08 13 26.2
comp=Z,868nm,1.2s
CMB Columbia Colle 69.31 57 *e*P **P 08 13 25.1 +0.6**
CMB pmax pmax
comp=Z,205nm,1.4s
CMB Columbia Colle 69.31 57 *e*P **P 08 13 25.1 +0.6**
comp=Z,205nm,1.4s
BOZ Bozeman (W) 69.32 46 P **P 08 13 25.1 +0.7**
baz=312,SNR=168
BOZ Bozeman (W) 69.32 46 *e*P **P 08 13 25.2 +0.7**
BOZ pmax pmax
comp=Z,125nm,0.8s
BOZ Bozeman (W) 69.32 46 *e*P **P 08 13 25.2 +0.7**
comp=Z,125nm,0.8s
EIDS Eidsvold 69.35 172 *e*P **P 08 13 24.9 +0.4**
comp=Z,283nm,1.2s
ARTV Artvin 69.35 308 *e*P **P 08 13 26.4 +1.5**
comp=Z,654nm,1.7s
YERR Yerington 69.39 55 *e*P **P 08 13 26.2 +1.1**
comp=Z,300nm,1.3s
MSVF Nonsavu 69.39 144 *e*P **P 08 13 27.3 +2.2**
MSVF pmax pmax
comp=Z,364nm,1.2s
MSVF Nonsavu 69.39 144 *e*P **P 08 13 27.3 +2.2**
comp=Z,364nm,1.2s
FOO Floro 69.41 340 *e*P **P 08 13 25.1 +0.6**
FOO IAmb IAmb 08 13 27.2
comp=Z,1μm,1.2s
AKASG Malin Array Be 69.45 321 P **P 08 13 25.0 0.0**
comp=Z,1μm,0.9s,baz=42,slow=6.9,SNR=873
AKASG S **S 08 22 16.2 -0.3**
comp=Z,33nm,1.1s,baz=45,slow=12,SNR=23
AKASG PKPPKP P'P'df 08 41 22.7 -11
comp=Z,0.2nm,0.3s,baz=233,slow=2.8,SNR=8.9
AKASG PKP2ab 08 41 32.5
comp=Z,0.2nm,0.3s,baz=236,slow=2.4,SNR=7.8
AKBB Malin Array Si 69.45 321 *e*P **P 08 13 25.1 +0.1**
AKBB pmax pmax
comp=Z,1μm,0.8s
AKBB Malin Array Si 69.45 321 *e*P **P 08 13 25.1 +0.1**
comp=Z,1μm,0.8s
ANN Anapa 69.46 313*c i*P **P 08 13 25.5 +0.4**
ANN *e* 08 13 43.5
ANN *e**PP **pP 08 14 10.0 +0.3**
ANN *e* 08 16 00.9
ANN *i* S **S 08 22 16.2 -0.6**
ANN *e*SS **SS 08 26 47.6 +0.5**
ANN pmax pmax
comp=Z,1μm,1.5s
ANN pmax pmax
comp=E,206nm,1.5s
ANN pmax pmax
comp=N,169nm,1.0s
ANN pmax pmax
comp=N,234nm,3.5s
ANN pmax pmax
comp=Z,744nm,3.5s
ANN pmax pmax
comp=E,185nm,3.5s
ANN Anapa 69.46 313 *e*P **P 08 13 25.5 +0.4**
KIEV Kiev 69.46 321*c i*P **P 08 13 24.9 -0.1**
KIEV pmax pmax
comp=Z,1μm,1.0s
KIEV Kiev 69.46 321 *e*P **P 08 13 24.9 -0.1**
KIEV Kiev 69.46 321 *e*P **P 08 13 25.1 0.0**
SAO San Andreas Ge 69.47 59 *e*P **P 08 13 26.9 +1.5**
SAO pmax pmax
comp=Z,134nm,1.7s
SAO San Andreas Ge 69.47 59 *e*P **P 08 13 26.9 +1.5**
comp=Z,134nm,1.7s
HYA Hoyanger 69.49 339 *e*P **P 08 13 25.4 +0.4**
HYA IAmb IAmb 08 13 27.6
comp=Z,2μm,1.6s
MNCY Minicoy 69.55 262 *e*P **P 08 13 26.8 +0.6**
WAKR Walker 69.58 56 *e*P **P 08 13 27.2 +0.9**
comp=Z,230nm,1.5s
SUW Suwalki 69.62 327 *e*P **P 08 13 25.8 -0.1**
comp=Z,3μm,3.0s
SUW *e*S **S 08 22 16.1 -2.3**
SUW *e*SKSac **SKSac 08 23 07.4 -0.6**
SUW Suwalki 69.62 327⇑*e*P **P 08 13 25.8 -0.1**
SUW *e*S **S 08 22 16.1 -2.3**
SUW *e* 08 23 07.4
SUW pmax pmax
comp=Z,3μm,3.0s
BMN Battle Mountai 69.64 53 *e*P **P 08 13 27.4 +0.8**
BMN pmax pmax
comp=Z,247nm,1.4s
BMN Battle Mountai 69.64 53 *e*P **P 08 13 27.4 +0.8**
comp=Z,247nm,1.4s
KONO Kongsberg 69.83 337 *e*P **P 08 13 27.2 +0.1**
KONO IAmb IAmb 08 13 29.6
comp=Z,456nm,1.2s
KONO Kongsberg 69.83 337*ce*P **P 08 13 27.3 +0.1**
KONO pmax pmax
comp=Z,2μm,2.1s
KONO Kongsberg 69.83 337 *e*P **P 08 13 27.8 +0.7**
comp=Z,371nm,1.1s
BANOM Banah 69.94 287 *i* P **P 08 13 29.0 +0.6**
SNR=14
BANOM Banah 69.94 287 P **P 08 13 29.4 +1.0**
SNR=13
BANOM Banah 69.94 287 P **P 08 13 29.4 +1.0**
SNR=13
QLMT Earthquake Lak 69.94 47 *e*P **P 08 13 29.7 +1.4**
SUE Sulen 69.94 340 *e*P **P 08 13 28.5 +0.7**
SUE IAmb IAmb 08 13 30.7
comp=Z,1μm,1.3s
SUE *e*S **S 08 22 25.1 +3.2**
WSAR Wadi Sarin 70.02 283 P **P 08 13 30.1 +1.1**
WSAR S **S 08 22 25.9 +1.7**
comp=Z,6.4nm,1.0s,baz=189,slow=21,SNR=3.7
WSAR LR LR 08 49 01.3
comp=Z,728nm,18.1s,baz=66,slow=40
TVH2 Borealis Mine 70.07 56 *e*P **P 08 13 30.8 +1.5**
comp=Z,215nm,1.7s
YHB Horse Butte 70.11 47 *e*P **P 08 13 30.5 +1.0**
comp=Z,127nm,0.8s
BIDO Bidbid 70.20 284 P **P 08 13 30.9 +0.9**
SNR=30
BIDO Bidbid 70.20 284 P **P 08 13 30.9 +0.9**
SNR=30
GCMT Greycliff 70.20 45 *e*P **P 08 13 30.6 +0.7**
PMPB Monarch Peak 70.22 59 *e*P **P 08 13 31.5 +1.4**
comp=Z,58nm,1.1s
YHH Holmes Hill 70.27 46 *e*P **P 08 13 31.1 +0.6**
comp=Z,118nm,1.0s
YMR Madison River 70.29 47 *e*P **P 08 13 31.3 +0.8**
ASK Askoy 70.33 339 *e*P **P 08 13 30.9 +0.7**
ASK IAmb IAmb 08 13 33.0
comp=Z,2μm,1.6s
BER Bergen 70.38 339 *e*P **P 08 13 31.4 +1.0**
BER IAmb IAmb 08 13 33.3
comp=Z,820nm,1.0s
BER *e*S **S 08 22 28.2 +1.2**
YNR Norris Junctio 70.41 46 *e*P **P 08 13 33.1 +1.8**
comp=Z,275nm,1.6s
ODD1 Odda 70.44 338⇑*i*P **P 08 13 31.6 +0.7**
ODD1 IAmb IAmb 08 13 34.0
comp=Z,1μm,1.5s
ODD1 *e*S **S 08 22 29.0 +1.2**
YFT Old Faithful 70.50 47 *e*P **P 08 13 34.1 +2.2**
comp=Z,166nm,1.0s
MLAC Mammoth, Mammo 70.50 56 P **P 08 13 33.0 +1.0**
baz=311,SNR=20
UOSS Minazif 70.63 286 *e*P **P 08 13 33.4 +0.8**
comp=Z,143nm,0.8s
YPP Pitchstone Pla 70.64 47 *e*P **P 08 13 34.4 +1.6**
comp=Z,301nm,1.8s
LKWY Lake 70.66 46 *e*P **P 08 13 35.3 +2.5**
LKWY pmax pmax
comp=Z,196nm,1.3s
LKWY Lake 70.66 46 *e*P **P 08 13 35.3 +2.5**
comp=Z,196nm,1.3s
H17A Grant Village 70.68 47 P **P 08 13 35.2 +2.3**
baz=313,SNR=77
H17A Grant Village 70.68 47 *e*P **P 08 13 35.2 +2.3**
comp=Z,266nm,1.1s
HATD Hatta, Dubai 70.75 286 *i* P **P 08 13 34.1 +0.8**
SNR=40
HATD Hatta, Dubai 70.75 286 P **P 08 13 34.2 +0.8**
SNR=31
HATD Hatta, Dubai 70.75 286 P **P 08 13 34.2 +0.8**
SNR=31
IMW Indian Meadow 70.83 47 *e*P **P 08 13 35.7 +1.8**
comp=Z,305nm,1.5s
RLMT Red Lodge 70.86 45 P **P 08 13 34.7 +0.7**
baz=314,SNR=81
RLMT Red Lodge 70.86 45 *e*P **P 08 13 34.8 +0.7**
comp=Z,123nm,0.9s
PAGB Antelope Grade 70.88 59 *e*P **P 08 13 35.2 +1.3**
comp=Z,566nm,1.7s
ASHO Ashiyiah 70.89 286 *i* P **P 08 13 35.0 +0.7**
SNR=34
ASHO Ashiyiah 70.89 286 P **P 08 13 34.9 +0.7**
SNR=34
ASHO Ashiyiah 70.89 286 P **P 08 13 34.9 +0.7**
SNR=34
BLS5 Blasjo 70.90 338 *e*P **P 08 13 34.6 +0.9**
BLS5 IAmb IAmb 08 13 36.9
comp=Z,259nm,0.8s
BLS5 *e*S **S 08 22 33.6 +0.4**
KOPT Kop Dagi 70.94 307 *e*P **P 08 13 37.5 +2.9**
comp=Z,281nm,0.8s
FXWY Fox Creek 70.95 47 *e*P **P 08 13 36.0 +1.4**
comp=Z,324nm,1.6s
NAZ Nazwa, Dubai 70.97 287 *i* P **P 08 13 35.2 +0.5**
SNR=10.0
NAZ Nazwa, Dubai 70.97 287 P **P 08 13 35.3 +0.6**
SNR=7.1
NAZ Nazwa, Dubai 70.97 287 P **P 08 13 35.3 +0.6**
SNR=7.1
BORG Borgarnes 70.98 353 *e*P **P 08 13 36.4 +2.4**
BORG pmax pmax
comp=Z,1μm,1.4s
BORG Borgarnes 70.98 353 *e*P **P 08 13 36.4 +2.4**
comp=Z,1μm,1.4s
AFI Afiamalu 71.00 133 *e*P **P 08 13 35.7 +0.8**
AFI pmax pmax
comp=Z,148nm,1.1s
AFI Afiamalu 71.00 133 *e*P **P 08 13 35.7 +0.8**
comp=Z,148nm,1.1s
DGMT Dagmar 71.02 40 P **P 08 13 34.8 +0.2**
baz=316,SNR=63
DGMT Dagmar 71.02 40 *e*P **P 08 13 34.8 +0.2**
comp=Z,313nm,0.8s
MOOW Moose Ponds 71.03 47 *e*P **P 08 13 36.1 +1.1**
comp=Z,368nm,1.6s
SIM Simferopol' 71.09 315*ce*P **P 08 13 34.5 -0.6**
SIM *e**PP **pP 08 14 20.0 +0.1**
SIM *e* 08 16 15.0
SIM *e*S **S 08 22 36.0 +0.2**
SIM pmax pmax
comp=Z,557nm,1.1s
SIM MLR MLR
comp=Z,4μm,16.0s
SIM Simferopol' 71.09 315 *e*P **P 08 13 34.5 -0.6**
TPAW Teton Pass 71.10 48 *e*P **P 08 13 36.6 +1.1**
comp=Z,230nm,1.1s
RCTC Rector, Farmer 71.12 58 P **P 08 13 35.5 +0.2**

baz=311,SNR=7.7
FAQ Al Faqa, Dubai 71.18 286 *i* P **P 08 13 36.3 +0.4**
SNR=10
FAQ Al Faqa, Dubai 71.18 286 P **P 08 13 36.6 +0.6**
SNR=7.1
FAQ Al Faqa, Dubai 71.18 286 P **P 08 13 36.6 +0.6**
SNR=7.1
LOHW Long Hollow 71.20 47 *e*P **P 08 13 37.1 +1.1**
comp=Z,311nm,1.5s
SNOW Snow King Moun 71.22 47 *e*P **P 08 13 37.4 +1.2**
comp=Z,384nm,1.8s
REDW Red Top Meadow 71.23 48 *e*P **P 08 13 37.2 +1.0**
comp=Z,441nm,1.6s
TIN Tinemaha, Big 71.25 57 P **P 08 13 37.1 +0.8**
baz=311
HVU Hansel Valley 71.26 50 *e*P **P 08 13 37.2 +0.8**
HVU pmax pmax
comp=Z,225nm,1.4s
HVU Hansel Valley 71.26 50 *e*P **P 08 13 37.2 +0.8**
comp=Z,225nm,1.4s
HOMB Homborsund 71.30 336 *e*P **P 08 13 36.4 +0.4**
HOMB IAmb IAmb 08 13 38.6
comp=Z,760nm,1.4s
HOMB *e*S **S 08 22 38.6 +1.0**
LAO LASA Array 71.31 43 P **P 08 13 36.9 +0.5**
baz=315,SNR=94
LAO LASA Array 71.31 43 *e*P **P 08 13 36.9 +0.5**
comp=Z,347nm,1.4s
SMMC Simmler 71.31 59 P **P 08 13 37.3 +0.7**
baz=311
KMY Karmoy 71.40 338 *e*P **P 08 13 37.5 +0.9**
KMY *e*S **S 08 22 39.7 +0.9**
STAV Stavanger 71.52 338 *e*P **P 08 13 38.2 +0.8**
STAV IAmb IAmb 08 13 40.5
comp=Z,786nm,1.4s
STAV *e*S **S 08 22 43.2 +3.0**
VES Vestal, Richgr 71.52 58 P **P 08 13 37.5 -0.3**
baz=311,SNR=26
SNART Snartemo 71.61 337 *e*P **P 08 13 38.6 +0.8**
SNART IAmb IAmb 08 13 40.8
comp=Z,313nm,0.9s
SORM Soroca 71.68 320⇑*i*P **P 08 13 39.5 +1.0**
PKM Mcpherson Peak 71.70 59 P **P 08 13 39.9 +0.8**
baz=311,SNR=15
BGU Big Grassy Mou 71.70 51 *e*P **P 08 13 39.7 +0.7**
comp=Z,331nm,1.7s
CWC Cottonwood Cre 71.74 57 P **P 08 13 39.7 +0.4**
baz=312
SPUT South Promonto 71.76 50 *e*P **P 08 13 41.1 +1.7**
comp=Z,264nm,1.4s
YEL1 Yell 71.78 342⇑*e*P **P 08 13 39.6 +0.7**
GRAC Grapevine Rang 71.81 56 P **P 08 13 40.5 +1.0**
baz=312,SNR=54
BSD Bornholm Skovb 71.84 331⇑*i*P **P 08 13 39.3 0.0**
comp=Z,922nm,0.8s
BSD Bornholm Skovb 71.84 331⇑*i*P **P 08 13 39.3 0.0**
BSD pmax pmax
comp=Z,920nm,0.8s
R11A Troy Canyon, C 71.96 54 P **P 08 13 41.1 +0.4**
baz=312,SNR=75
R11A Troy Canyon, C 71.96 54 *e*P **P 08 13 41.0 +0.4**
comp=Z,257nm,1.6s
ISA Isabella, Lake 72.01 58 P **P 08 13 40.6 -0.3**
baz=312
ISA Isabella, Lake 72.01 58 *e*P **P 08 13 41.6 +0.7**
ISA pmax pmax
comp=Z,36nm,0.9s
ISA Isabella, Lake 72.01 58 *e*P **P 08 13 41.6 +0.7**
comp=Z,36nm,0.9s
HWUT Hardware Ranch 72.05 49 *e*P **P 08 13 41.8 +0.7**
comp=Z,317nm,1.3s
SBC Santa Barbara 72.05 59 P **P 08 13 41.7 +0.8**
baz=311
DAC Darwin (Calif) 72.14 57 *e*P **P 08 13 42.0 +0.3**
DAC pmax pmax
comp=Z,164nm,1.5s
DAC Darwin (Calif) 72.14 57 *e*P **P 08 13 42.0 +0.3**
comp=Z,164nm,1.5s
ARVC Arvin 72.15 58 P **P 08 13 41.7 +0.2**
baz=312,SNR=6.7
LRW Lerwick 72.17 342⇑*e*P **P 08 13 41.4 +0.2**
BEL Belsk 72.21 326 *e*P **P 08 13 42.7 +1.1**
comp=Z,4μm,4.3s
BEL *e*S **S 08 22 48.4 +0.1**
BEL Belsk 72.21 326⇑*e*P **P 08 13 42.7 +1.1**
BEL *e*S **S 08 22 48.4 +0.1**
COP Copenhagen 72.22 333⇑*i*P **P 08 13 41.9 +0.4**
comp=Z,890nm,0.9s
COP Copenhagen 72.22 333⇑*i*P **P 08 13 41.9 +0.4**
COP pmax pmax
comp=Z,890nm,0.9s
KIS Kishinev 72.28 319⇑*i*P **P 08 13 42.0 -0.1**
comp=Z,2μm,1.5s
KIS *i* pP **sP 08 14 44.0 -3.3**
KIS Kishinev 72.28 319 *e*PP PP 08 16 21.0 -3.7
KIS Kishinev 72.28 319 *e*PPP PPP 08 18 12.0
KIS *i* S **S 08 22 48.0 -1.3**
comp=Z,3μm,2.0s
KIS *i* SKS SKiKP 08 23 12.0 +14
KIS *i* ScS **SKSac 08 23 26.0 -2.3**
KIS Kishinev 72.28 319 *i* PS **PnS 08 23 49.0 +1.7**
KIS *i* sS **sS 08 24 14.0 +6.5**
KIS *i* SSS SSS 08 32 14.0
KIS LRM MLR 08 48 52.0
comp=Z,2μm,11.0s
KIS Kishinev 72.28 319α*i*P **P 08 13 42.0 -0.1**
KIS *i* 08 14 48.0
KIS *e* 08 16 21.0
KIS *e*PPP PPP 08 18 12.0
KIS *i* S **S 08 22 48.0 -1.3**
KIS *i* 08 23 26.0
KIS *i* PS **PnS 08 23 49.0 +1.7**
KIS pmax pmax
comp=E,900nm,1.5s
KIS pmax pmax
comp=Z,2μm,1.5s
KIS pmax pmax
comp=Z,3μm,2.5s
KIS pmax pmax
comp=N,1μm,2.0s
KIS pmax pmax
comp=E,2μm,2.0s
KIS pmax pmax
comp=Z,4μm,4.0s
KIS smax smax
comp=E,3μm,2.0s
KIS smax smax
comp=N,9μm,8.0s
KIS smax smax
comp=E,5μm,3.0s
KIS MLR MLR
comp=Z,6μm,12.0s
KIS MLR MLR
comp=N,4μm,13.0s
KIS MLR MLR
comp=E,2μm,11.0s
KIS MLR MLR
comp=Z,6μm,12.0s
SAN1 Sandwick 72.29 342⇑*e*P **P 08 13 42.2 +0.3**
DUG Dugway, Tooele 72.31 51 P **P 08 13 43.4 +0.8**
baz=313,SNR=86
DUG Dugway, Tooele 72.31 51 *e*P **P 08 13 43.5 +0.8**
DUG pmax pmax
comp=Z,252nm,1.3s
DUG Dugway, Tooele 72.31 51 *e*P **P 08 13 43.5 +0.8**
DUG Dugway, Tooele 72.31 51 *e*P **P 08 13 43.5 +0.8**
comp=Z,252nm,1.3s
BW06 Boulder Array 72.33 47 P **P 08 13 43.1 +0.2**
baz=314,SNR=101
BW06 Boulder Array 72.33 47 *e*P **P 08 13 43.0 +0.2**
comp=Z,216nm,1.4s
PD31 Pinedale Array 72.33 47 *e*P **P 08 13 43.4 +0.6**
PDAR Pinedale Array 72.33 47 P **P 08 13 43.0 +0.1**
comp=Z,42nm,0.8s,baz=250,slow=1.3,SNR=264
PDAR pP **pP 08 14 27.6 -0.1**
comp=Z,61nm,0.9s,baz=271,slow=1.6,SNR=2.2
PDAR S **S 08 22 50.2 -0.4**
comp=Z,2.1nm,1.0s,baz=266,slow=32,SNR=4.7
PDAR PKP2ab 08 41 16.8
comp=Z,2.5nm,1.0s,baz=97,slow=7.6,SNR=7.3
PDAR PKPPKP **P'P'df 08 41 27.1 -1.9**
comp=Z,2.4nm,1.1s,baz=169,slow=1.5,SNR=5.1
PDAR LR LR 08 44 51.5
comp=Z,593nm,21.6s,baz=332,slow=35
MPMC Manual Prospec 72.35 57 P **P 08 13 43.4 +0.4**
baz=312,SNR=64

LVV L'vov 72.38 323*c i*P **P 08 13 45.1 +2.4**
LVV *e**PP **pP 08 14 32.0 +4.4**
LVV *e*S **S 08 22 51.0 +0.6**
LVV pmax pmax
comp=Z,4μm,1.3s
SCZ2 Santa Cruz Isl 72.39 60 P **P 08 13 43.3 +0.2**
baz=311
FURC Furnace Creek, 72.46 56 P **P 08 13 44.1 +0.7**
baz=312,SNR=116
TCUT Toone Canyon 72.47 50 *e*P **P 08 13 44.5 +0.9**
comp=Z,479nm,1.4s
GKP Gorka Klasztor 72.47 329 *e*P **P 08 13 43.6 +0.5**
comp=Z,3μm,3.4s
GKP *e*S **S 08 22 50.7 -0.5**
GKP *e*SKSac **ScS 08 23 31.4 -0.4**
GKP Gorka Klasztor 72.47 329⇑*e*P **P 08 13 43.6 +0.5**
GKP *e*S **S 08 22 50.7 -0.5**
GKP *e* 08 23 31.4
GKP pmax pmax
comp=Z,3μm,3.4s
TPNV Topopah Spring 72.50 55 P **P 08 13 44.4 +0.5**
baz=312,SNR=73
TPNV Topopah Spring 72.50 55 *e*P **P 08 13 44.4 +0.5**
TPNV pmax pmax
comp=Z,369nm,1.5s
TPNV Topopah Spring 72.50 55 *e*P **P 08 13 44.4 +0.5**
comp=Z,369nm,1.5s
OSI Osito Audit: C 72.55 59 P **P 08 13 44.7 +0.7**
baz=312
OSI Osito Audit: C 72.55 59 *e*P **P 08 13 45.4 +1.4**
comp=Z,265nm,1.6s
CTU Camp Tracy 72.57 50 *e*P **P 08 13 44.8 +0.6**
comp=Z,216nm,1.5s
LLD Lille Linde 72.58 333 *i* P **P 08 13 44.0 +0.3**
comp=Z,365nm,0.7s
LLD Lille Linde 72.58 333 *i* P **P 08 13 44.0 +0.3**
LLD pmax pmax
comp=Z,360nm,0.7s
MARD Mardin 72.58 305 *e*P **P 08 13 46.0 +1.8**
comp=Z,754nm,0.9s
MUD Monsted U'grnd 72.62 335⇑*i*P **P 08 13 44.5 +0.6**
comp=Z,411nm,0.8s
MUD Monsted U'grnd 72.62 335⇑*i*P **P 08 13 44.5 +0.6**
MUD pmax pmax
comp=Z,410nm,0.8s
LRMC Laurel Mtn Rad 72.62 57 P **P 08 13 44.7 +0.2**
baz=312,SNR=41
BLG Laguna Peak, P 72.67 59 P **P 08 13 44.7 0.0**
baz=312,SNR=10
IAS Iasi 72.73 320⇑*i*P **P 08 13 46.0 +1.3**
JLU Jordanelle 72.80 50 *e*P **P 08 13 46.2 +0.6**
comp=Z,269nm,1.4s
EDW2 Edwards Air Fo 72.82 58 P **P 08 13 46.1 +0.5**
baz=312,SNR=40
PSUT Pine Spring 72.84 53 *e*P **P 08 13 47.2 +1.4**
comp=Z,116nm,1.2s
RGN Rugen 72.84 332 *e*P **P 08 13 46.9 +1.7**
comp=Z,2μm,1.2s
NLU North Lily Min 72.89 51 *e*P **P 08 13 46.8 +0.7**
comp=Z,209nm,1.4s
LEOM Leova 72.93 319⇓*i*P **P 08 13 47.0 +1.1**
SNCC San Nicolas Is 72.96 60 P **P 08 13 46.7 +0.4**
baz=312,SNR=8.2
SNCC San Nicolas Is 72.96 60 *e*P **P 08 13 47.6 +1.2**
comp=Z,323nm,1.4s
TOKA Tokat 73.01 310 *e*P **P 08 13 47.2 +0.7**
comp=Z,210nm,1.0s
DECC Green Verdugo 73.03 59 P **P 08 13 47.1 +0.3**
baz=312
KWP Kalwaria Pacla 73.09 324 *e*P **P 08 13 48.1 +1.2**
comp=Z,4μm,2.3s
KWP *e*S **SKiKP 08 22 59.7 +0.7**
KWP Kalwaria Pacla 73.09 324⇑*e*P **P 08 13 48.1 +1.2**
KWP *e*S **SKiKP 08 22 59.7 +0.7**
KWP pmax pmax
comp=Z,4μm,2.3s
MPU Maple Canyon 73.10 51 *e*P **P 08 13 48.1 +0.8**
comp=Z,168nm,1.2s
PASC Pasadena Art C 73.18 59 *e*P **P 08 13 48.3 +0.7**
comp=Z,306nm,1.8s
SHOC Shoshone, Teco 73.19 56 P **P 08 13 48.1 +0.4**
baz=312,SNR=16
MWC Mount Wilson 73.22 59 *e*P **P 08 13 48.7 +0.6**
MWC pmax pmax
comp=Z,243nm,1.5s
MWC Mount Wilson 73.22 59 *e*P **P 08 13 48.7 +0.6**
comp=Z,243nm,1.5s
PRAR RASCA 73.22 320⇓*i*P **P 08 13 48.6 +0.9**
GSC Goldstone, Bar 73.27 57 P **P 08 13 48.6 +0.3**
baz=312,SNR=35
GSC Goldstone, Bar 73.27 57 *e*P **P 08 13 48.8 +0.5**
GSC pmax pmax
comp=Z,157nm,1.4s
GSC Goldstone, Bar 73.27 57 *e*P **P 08 13 48.8 +0.5**
comp=Z,157nm,1.4s
ULM Lac du Bonnet 73.36 35 P **P 08 13 47.9 -0.5**
comp=Z,87nm,0.9s,baz=317,slow=6.8,SNR=63
ULM pP **pP 08 14 32.5 -1.0**
comp=Z,62nm,0.9s,baz=318,slow=8.7,SNR=2.7
ULM S **SKiKP 08 22 58.7 -0.7**
comp=Z,12nm,1.1s,baz=99,slow=22,SNR=3.5
ULM LR LR 08 48 27.2
comp=Z,864nm,18.3s,baz=332,slow=38
ULM Lac du Bonnet 73.36 35 *e*P **P 08 13 48.6 +0.2**
ULM *PP **pP 08 14 32.5 -1.0**
ULM S **SKiKP 08 22 58.7 -0.7**
ULM pmax pmax
comp=Z,168nm,1.0s
ULM Lac du Bonnet 73.36 35 *e*P **P 08 13 48.6 +0.2**
comp=Z,168nm,1.0s
ULM pP **pP 08 14 32.5 -1.0**
ULM S **SKiKP 08 22 58.7 -0.7**
FMP Fort Macarthur 73.42 59 P **P 08 13 49.4 +0.4**
baz=312
RRX Edison Barstow 73.44 58 P **P 08 13 49.7 +0.5**
baz=312
SHPR Sheep Range 73.45 55 *e*P **P 08 13 50.2 +0.8**
comp=Z,200nm,1.4s
BFSC Mount Baldy Ra 73.46 58 P **P 08 13 49.4 0.0**
baz=312,SNR=45
BUR08 Bucovina Ar. S 73.48 321 *e*P **P 08 13 50.4 +1.0**
BURAR Bucovina Array 73.50 321⇑*i*P **P 08 13 50.2 +0.8**
BURAR Bucovina Array 73.50 321 P **P 08 13 50.2 +0.8**
CIS Catalina Islan 73.55 59 P **P 08 13 49.9 0.0**
baz=312,SNR=19
MDND Maddock 73.57 38 P **P 08 13 50.0 +0.2**
baz=318,SNR=28
MDND Maddock 73.57 38 *e*P **P 08 13 50.1 +0.4**
comp=Z,481nm,1.1s
TLCR 73.58 318⇑*i*P **P 08 13 51.0 +1.2**
TCRU Three Creeks R 73.60 52 *e*P **P 08 13 51.6 +1.3**
comp=Z,127nm,1.2s
TESR Tescani 73.65 320⇑*i*P **P 08 13 51.1 +0.9**
TUQ Turquoise Moun 73.71 56 P **P 08 13 51.5 +0.6**
baz=313,SNR=59
SCI2 San Clemente I 73.75 60 P **P 08 13 51.2 +0.3**
baz=312
CCUT Cedar City 73.80 53 *e*P **P 08 13 52.3 +0.8**
comp=Z,301nm,1.7s
A31A Linda, St. Vin 73.82 36 P **P 08 13 50.5 -0.6**
baz=320
MSU Marysvale 73.82 52 *e*P **P 08 13 53.0 +1.4**
MSU Marysvale 73.82 52 *e*P **P 08 13 53.0 +1.4**
TMUT Trail Mountain 73.83 51 *e*P **P 08 13 52.7 +1.0**
comp=Z,168nm,1.2s
OJC Ojcow 73.85 326 *e*P **P 08 13 52.2 +0.9**
comp=Z,3μm,2.5s
OJC *e*S **S 08 23 07.0 0.0**
OJC Ojcow 73.85 326⇑*e*P **P 08 13 52.2 +0.9**
OJC *e*S **S 08 23 07.0 0.0**
OJC pmax pmax
comp=Z,3μm,2.5s
HEC Hector,Ludlow 73.87 57 P **P 08 13 52.4 +0.6**
baz=313,SNR=67
STHS Stebnicka Huta 73.88 324 *e*P **P 08 13 52.9 +1.4**
STHS pmax pmax
comp=Z,913nm,1.4s
STHS Stebnicka Huta 73.88 324 *e*P **P 08 13 52.9 +1.4**
STHS *e*S **S 08 23 05.3 -2.0**
BBRC Big Bear Solar 73.90 58 P **P 08 13 52.3 +0.2**
baz=312,SNR=12
CFR Carcaliu 73.92 318⇑*i*P **P 08 13 52.4 +0.7**
CFR Carcaliu 73.92 318⇑*i*P **S 08 23 12.6 +4.8**
SZCU Shurtz Canyon 73.92 53 *e*P **P 08 13 52.9 +0.7**
comp=Z,154nm,1.4s
PETR Petresti 73.96 319⇓*i*P **P 08 13 53.7 +1.8**

P17A Butcher Ranch, 73.97 50 *e*P **P 08 13 53.7 +1.3**
comp=Z,371nm,1.4s
B31A Greenbush Farm 74.00 37 P **P 08 13 52.0 -0.2**
baz=319,SNR=21
K22A Casper 74.01 46 P **P 08 13 52.5 -0.1**
baz=316,SNR=52
K22A Casper 74.01 46 *e*P **P 08 13 53.1 +0.6**
comp=Z,668nm,1.8s
ILGA Ilgaz 74.01 312 *e*P **P 08 13 54.4 +1.7**
comp=Z,856nm,1.2s
ODBI Odobesti 74.01 319⇑*i*P **P 08 13 54.5 +2.2**
UZH Uzhgorod 74.03 323⇓*i*P **P 08 13 52.2 -0.1**
UZH *e* 08 14 03.0
UZH *e**PP **pP 08 14 34.0 -3.5**
UZH *i* S **SKiKP 08 23 04.2 +3.8**
UZH *e*SP **SKSac 08 23 32.4 -9.0**
UZH *e*PS PnS 08 23 52.4 -17
UZH *e*SS **SS 08 27 57.0 +0.4**
UZH MLR MLR
comp=N,2μm,12.0s
UZH MLR MLR
comp=E,3μm,12.0s
UZH MLR MLR
comp=Z,1μm,12.0s
VRI Vrincioaia 74.09 319⇑*i*P **P 08 13 54.0 +1.2**
VRI Vrincioaia 74.09 319⇑*i*P **S 08 23 12.4 +2.6**
VRI Vrincioaia 74.09 319 P **P 08 13 53.8 +1.0**
Q16A Castle Valley 74.11 51 *e*P **P 08 13 54.1 +0.9**
comp=Z,364nm,1.6s
A32A Rocking H Ranc 74.12 36 P **P 08 13 52.3 -0.6**
baz=320,SNR=34
P18A Preston Nutter 74.14 50 *e*P **P 08 13 54.8 +1.3**
comp=Z,274nm,1.4s
MTPU Mount Pierson 74.14 52 *e*P **P 08 13 54.9 +1.3**
comp=Z,532nm,1.9s
PLOR Plostina 74.14 319⇓*i*P **P 08 13 54.0 +1.0**
PLOR Plostina 74.14 319 P **P 08 13 54.1 +1.0**
MURC Murrieta 74.17 59 P **P 08 13 53.6 +0.1**
baz=312,SNR=21
CRVS Cervenica-Dubn 74.18 324 *e*P **P 08 13 54.0 +0.8**
CRVS *e*S **S 08 23 10.0 -0.7**
CRVS Cervenica-Dubn 74.18 324 *e*P **P 08 13 54.0 +0.8**
CRVS *e*S **S 08 23 10.0 -0.7**
RSSD Black Hills 74.22 43 P **P 08 13 53.9 +0.1**
baz=317
RSSD Black Hills 74.22 43 *e*P **P 08 13 53.8 +0.1**
RSSD pmax pmax
comp=Z,326nm,1.4s
RSSD Black Hills 74.22 43 *e*P **P 08 13 53.8 0.0**
comp=Z,326nm,1.4s
BMR Baia Mare 74.23 322⇓*i*P **P 08 13 55.2 +1.7**
LCMT Little Creek M 74.23 54 *e*P **P 08 13 54.8 +0.9**
comp=Z,271nm,1.6s
BIGH Upper Bighouse 74.26 342⇑*e*P **P 08 13 53.9 +0.4**
NIE Niedzica 74.27 325 *e*P **P 08 13 55.3 +1.5**
comp=Z,1μm,4.6s
NIE *e*S **S 08 23 13.3 +1.6**
NIE Niedzica 74.27 325⇑*e*P **P 08 13 55.3 +1.5**
NIE *e*S **S 08 23 13.3 +1.6**
ARCR ARCALIA 74.28 321⇑*i*P **P 08 13 55.8 +2.0**
TRPA Tarpa 74.30 323⇑*e*P **P 08 13 55.3 +1.4**
TIRR Tirgusor 74.31 317⇑*i*P **P 08 13 54.8 +0.7**
TIRR Tirgusor 74.31 317 *e*P **P 08 13 54.7 +0.7**
TIRR pmax pmax
comp=Z,424nm,1.2s
TIRR Tirgusor 74.31 317 *e*P **P 08 13 54.7 +0.7**
comp=Z,424nm,1.2s
GMRC Granite Mounta 74.31 57 P **P 08 13 54.9 +0.5**
baz=313,SNR=49
MLA1 Latheron 74.31 342⇑*e*P **P 08 13 54.1 +0.3**
GRER 74.33 319⇓*i*P **P 08 13 55.6 +1.5**
RWWY Rawlins 74.33 47 *e*P **P 08 13 55.8 +1.2**
comp=Z,378nm,1.4s
SRU San Rafael Swe 74.34 51 *e*P **P 08 13 55.4 +0.9**
SRU pmax pmax
comp=Z,171nm,1.1s
SRU San Rafael Swe 74.34 51 *e*P **P 08 13 55.4 +0.9**
comp=Z,171nm,1.1s
HARR Harsova 74.38 318⇓*i*P **P 08 13 55.7 +1.3**
ARMA Armidale 74.40 172 *e*P **P 08 13 55.5 +0.9**
comp=Z,374nm,1.4s
TLB Topalu 74.40 318⇑*i*P **P 08 13 55.4 +0.9**
TLB Topalu 74.40 318 P **P 08 13 55.5 +0.9**
LDFC Landfair 74.44 56 *e*P **P 08 13 55.7 +0.6**
comp=Z,202nm,1.2s
C31A Landman Farms, 74.45 37 P **P 08 13 54.4 -0.3**
baz=319,SNR=34
KNB Kanab 74.48 53 *e*P **P 08 13 56.4 +1.0**
KNB pmax pmax
comp=Z,434nm,1.7s
KNB Kanab 74.48 53 *e*P **P 08 13 56.4 +1.0**
comp=Z,434nm,1.7s
EFOR EFORIE 74.48 317⇑*i*P **P 08 13 57.1 +2.1**
PKCU Pink Cliffs 74.48 53 *e*P **P 08 13 57.2 +1.7**
comp=Z,119nm,1.1s
B32A Ashes, Strandq 74.51 36 P **P 08 13 54.3 -0.8**
baz=320,SNR=42
A33A Warroad 74.58 35 P **P 08 13 55.0 -0.5**
baz=321,SNR=46
RAC Raciborz 74.61 327 *e*P **P 08 13 57.0 +1.4**
RAC *e*S **S 08 23 17.1 +1.8**
RAC MLR MLR
comp=Z,5μm,16.1s
KSRV Kasrt alli 74.61 305 *e*P **P 08 13 57.7 +1.8**
KSRV Kasrt alli 74.61 305 *e*P **S 08 23 18.7 +2.8**
PFO Pinyon Flats O 74.62 58 S **S 08 23 17.6 +1.3**
comp=Z,0.7nm,0.4s,baz=183,slow=21,SNR=5.8
PFO ScS **ScS 08 23 50.3 +0.3**
comp=Z,4.5nm,1.1s,baz=181,slow=22,SNR=4.3
PFO Pinyon Flats O 74.62 58 P **P 08 13 56.4 +0.2**
baz=313,SNR=40
PFO Pinyon Flats O 74.62 58 *e*P **P 08 13 56.4 +0.2**
PFO S **S 08 23 17.6 +1.3**
PFO 08 23 50.3
PFO pmax pmax
comp=Z,179nm,1.5s
PFO Pinyon Flats O 74.62 58 *e*P **P 08 13 56.4 +0.2**
comp=Z,179nm,1.5s
PFO S **S 08 23 17.6 +1.3**
PFO ScS **ScS 08 23 50.3 +0.3**
BELC Belle Mtn. Jos 74.64 58 P **P 08 13 56.2 -0.1**
baz=313,SNR=78
DOPR Dopca 74.64 320⇑*i*P **P 08 13 57.8 +1.8**
DOPR Dopca 74.64 320⇑*i*P **S 08 23 17.4 +1.4**
RSC Scourie 74.66 343⇑*e*P **S 08 13 56.4 +0.7**
109C Camp Elliot, M 74.70 59 P **P 08 13 56.6 +0.1**
baz=313,SNR=13
AMRR Amara 74.72 318⇑*i*P **P 08 13 58.1 +1.7**
ISR Istrita 74.73 319⇑*i*P **P 08 13 58.2 +1.7**
ISR Istrita 74.73 319⇑*i*P **S 08 23 20.6 +3.6**
ISR Istrita 74.73 319 P **P 08 13 58.1 +1.6**
MLR Muntele Rosu 74.74 319 S **S 08 23 20.1 +2.8**
comp=Z,17nm,1.3s,baz=201,slow=17,SNR=15
MLR Muntele Rosu 74.74 319⇓*i*P **P 08 13 57.7 +1.0**
MLR Muntele Rosu 74.74 319⇑*i*P **S 08 23 20.3 +3.0**
MLR Muntele Rosu 74.74 319 *e*P **P 08 13 57.5 +0.9**
MLR S **S 08 23 20.1 +2.8**
MLR pmax pmax
comp=Z,590nm,1.3s
MLR Muntele Rosu 74.74 319 *e*P **P 08 13 57.5 +0.9**
comp=Z,590nm,1.3s
MLR S **S 08 23 20.1 +2.8**
KSP Ksiaz 74.75 328 *e*P **P 08 13 57.4 +1.0**
comp=Z,2μm,4.4s
KSP *e*S **S 08 23 17.2 +0.3**
KSP Ksiaz 74.75 328⇑*e*P **P 08 13 57.4 +1.0**
KSP *e*S **S 08 23 17.2 +0.3**
OKC Ostrava-Krasne 74.82 326⇑*i*P **P 08 13 57.8 +1.0**
OKC *e*pP **pP 08 14 42.0 -0.1**
OKC *e*PP **PP 08 16 46.1 0.0**
OKC *e*S **S 08 23 15.5 -2.2**
OKC AMS AMS 08 50 40.0
comp=Z,3μm,14.6s
OKC Ostrava-Krasne 74.82 326⇑*i*P **P 08 13 57.8 +1.0**
OKC *e* 08 14 42.0
OKC *e* 08 16 46.1
OKC *e*S **S 08 23 15.5 -2.2**
OKC MLR MLR
comp=Z,3μm,14.6s
LANS Liptovska Anna 74.82 325 *e*P **P 08 13 58.6 +1.7**
LANS *e*S **S 08 23 16.0 -1.8**
LANS Liptovska Anna 74.82 325 *e*P **P 08 13 58.6 +1.7**
LANS *e*S **S 08 23 16.0 -1.8**
AGMN Agassiz Nation 74.87 36 P **P 08 13 56.3 -0.8**

baz=320,SNR=40
AGMN Agassiz Nation 74.87 36 eP P 08 13 57.0 -0.2
comp=Z,145nm,1.2s
O20A White River Ci 74.88 49 P P 08 13 57.8 +0.2
baz=315,SNR=25
O20A White River Ci 74.88 49 eP P 08 13 58.2 +0.6
comp=Z,276nm,1.4s
CJR Cluj-Napoca 74.91 321⇑iP P 08 13 59.0 +1.5
CJR Cluj-Napoca 74.91 321 P P 08 13 58.9 +1.5
KECS Kecovo 74.91 324 eP P 08 13 58.7 +1.3
KECS pmax pmax
comp=Z,108nm,1.1s
KECS Kecovo 74.91 324 eP P 08 13 58.7 +1.3
KECS ePP PP 08 16 32.5 -14
KECS eS S 08 23 18.4 -0.4
MCD Coleburn Disti 74.94 342⇑eP P 08 13 57.6 +0.1
C32A Crookston 74.95 37 P P 08 13 57.0 -0.6
baz=320
NEE2 Needles Airpor 74.95 56 P P 08 13 57.9 0.0
baz=313
BR131 Keskin Array S 74.99 311 eP P 08 13 59.0 +0.8
BRTR Keskin Array B 74.99 311 P P 08 13 58.9 +0.7
comp=Z,81nm,0.8s,baz=70,slow=4.0,SNR=214
BRTR pP pP 08 14 44.3 +0.8
comp=Z,14nm,0.9s,baz=48,slow=4.0,SNR=1.1
BRTR PP PP 08 16 49.5 +1.4
comp=Z,171nm,1.2s,baz=62,slow=6.3,SNR=12
BRTR LR LR 08 53 16.3
comp=Z,2μm,18.1s,baz=65,slow=40
PSN Preselentsi 74.99 317 eP P 08 13 59.5 +1.6
PSN Preselentsi 74.99 317 eP S 08 23 23.3 +3.5
B33A Robert and Kas 75.01 36 P P 08 13 57.2 -0.8
baz=321,SNR=15
D31A Mcclaflin, Tow 75.02 38 P P 08 13 57.7 -0.4
baz=320
SECR 75.02 319⇑iP P 08 13 59.1 +1.0
IRM Iron Mountain 75.05 57 P P 08 13 59.2 +0.6
baz=313,SNR=97
MORC Moravsky Berou 75.11 327⇑iP P 08 13 59.8 +1.2
MORC Moravsky Berou 75.11 327 eP P 08 13 59.7 +1.2
MORC pmax pmax
comp=Z,3μm,0.9s
MORC Moravsky Berou 75.11 327 eP P 08 13 59.7 +1.1
comp=Z,3μm,0.9s
BAR Barrett 75.11 59 eP P 08 13 59.1 +0.2
comp=Z,260nm,1.8s
MME1 Meikle Cairn 75.12 341⇑eP P 08 13 58.4 0.0
NRS Narsarsuaq 75.12 4⇑iP P 08 13 57.9 -0.4
comp=Z,424nm,1.4s
NRS Narsarsuaq 75.12 4⇑iP P 08 13 57.9 -0.4
NRS pmax pmax
comp=Z,420nm,1.4s
MONP2 Monument Peak 75.12 59 P P 08 13 59.2 0.0
baz=313,SNR=26
UPC Upice 75.12 328⇑iP P 08 13 59.5 +0.9
UPC epP pP 08 14 44.2 +0.3
UPC ePP PP 08 16 48.5 -0.2
UPC eS S 08 23 22.3 +1.2
UPC AMS AMS 08 50 00.0
comp=Z,4μm,14.9s
UPC Upice 75.12 328⇑iP P 08 13 59.5 +0.9
UPC e 08 14 44.2
UPC e 08 16 48.5
UPC eS S 08 23 22.3 +1.2
UPC MLR MLR
comp=Z,4μm,14.9s
DPC Dobruska-Polom 75.13 328⇑iP P 08 13 59.9 +1.2
DPC epP pP 08 14 43.1 -0.9
DPC eS S 08 23 19.5 -1.7
DPC AMS AMS 08 50 10.0
comp=Z,2μm,13.7s
DPC Dobruska-Polom 75.13 328⇑iP P 08 13 59.9 +1.2
DPC e*PP pP 08 14 43.1 -0.9
DPC eS S 08 23 19.5 -1.7
DPC MLR MLR
comp=Z,2μm,13.7s
W13A Hualapai Mount 75.16 56 eP P 08 13 60.0 +0.6
comp=Z,128nm,1.5s
KRLC Kraliky 75.17 327⇑iP P 08 14 00.1 +1.2
KRLC Kraliky 75.17 327⇑iP P 08 14 00.1 +1.2
U15A North Rim 75.19 54 eP P 08 14 00.6 +1.0
comp=Z,276nm,1.4s
SULR 75.19 319⇑iP P 08 14 00.6 +1.5
VOIR 75.20 320⇓iP P 08 14 00.2 +1.0
VOIR 75.20 320⇑iP S 08 23 25.9 +3.7
VOIR 75.20 320 P P 08 14 00.1 +0.9
BC3 Big Chuckawall 75.20 58 P P 08 13 59.7 +0.2
baz=313,SNR=52
B34A Aery, Baudette 75.23 35 P P 08 13 58.5 -0.8
baz=321,SNR=26
DRGR 75.25 322⇑iP P 08 14 00.4 +1.0
DRGR 75.25 322⇓iP S 08 23 23.5 +0.8
DRGR 75.25 322 P P 08 13 59.9 +0.5
RRR Rubha Reidh 75.25 343⇑eP P 08 13 59.6 +0.5
D32A Dogwood Acres, 75.26 37 P P 08 13 58.7 -0.7
baz=320,SNR=6.8
E31A Nome 75.31 38 P P 08 13 59.4 -0.4
baz=320,SNR=38
MDO Dochfour 75.32 342⇑eP P 08 13 59.1 -0.5
C33A Trail 75.32 36 P P 08 13 59.1 -0.7
baz=321,SNR=46
ANTO Ankara 75.34 312 eP P 08 14 01.3 +1.2
ANTO pmax pmax
comp=Z,293nm,0.9s
ANTO Ankara 75.34 312 eP P 08 14 01.3 +1.2
comp=Z,293nm,0.9s
ANTO Ankara 75.34 312 P P 08 14 01.4 +1.2
SNR=84
ANTO Ankara 75.34 312 P P 08 14 01.4 +1.2
SNR=84
MTUR Matau 75.35 320⇑iP P 08 14 01.0 +0.9
BR231 Keskin MP Arra 75.37 312 eP P 08 14 01.9 +1.6
RRH Rhenigidale 75.38 344⇑eP P 08 14 00.4 +0.6
DRUM Mains of Drumt 75.38 341⇑eP P 08 14 00.1 +0.2
DRUM AMB AMB 08 14 02.8
comp=Z,530nm,1.4s
STKA Stephens Creek 75.39 181 P P 08 14 00.7 +0.5
comp=Z,67nm,0.5s,baz=359,slow=6.2,SNR=312
STKA PKPPKP P'P'df 08 41 19.1 +0.3
comp=Z,1.6nm,0.9s,baz=40,slow=12,SNR=2.9
STKA Stephens Creek 75.39 181 eP P 08 14 00.7 +0.5
comp=Z,88nm,1.5s
STKA P'P' 08 41 19.1
ARR Arges 75.44 320⇓iP P 08 14 02.5 +1.9
ARR Arges 75.44 320⇓iP S 08 23 28.9 +4.0
DRWC Darouich 75.45 307 eP P 08 14 02.8 +2.0
DRWC Darouich 75.45 307 eP S 08 23 26.8 +1.5
FORT Forrest 75.46 193 eP P 08 14 01.3 +0.7
comp=Z,4μm,0.8s
KAC Achnashellach 75.47 343⇑eP P 08 14 01.0 +0.6
SWSC Sam W. Stewart 75.47 58 P P 08 14 01.0 +0.1
baz=313,SNR=23
IKP In-Ko-Pah, Jac 75.48 59 P P 08 14 01.5 +0.4
baz=313,SNR=58
PHWY Pilot Hill 75.53 46 eP P 08 14 01.4 -0.1
comp=Z,231nm,1.4s
PV09 Paradox Valley 75.54 50 eP P 08 14 02.2 +0.6
PDMCI Parker Dam,Lak 75.56 56 P P 08 14 01.8 +0.5
baz=314,SNR=48
N23A Red Feather La 75.57 47 P P 08 14 02.3 +0.6
baz=316,SNR=38
N23A Red Feather La 75.57 47 eP P 08 14 02.2 +0.6
comp=Z,424nm,1.5s
AKO Adana 75.57 308 iP P 08 14 02.4 +1.0
VYHS Vyhne 75.59 325 eP P 08 14 02.6 +1.2
VYHS pmax pmax
comp=Z,434nm,1.2s
VYHS Vyhne 75.59 325 eP P 08 14 02.5 +1.2
VYHS ePP PP 08 16 33.4 -19
VYHS eS S 08 23 24.5 -1.8
CLL Collm 75.60 330⇑iP P 08 14 01.8 +0.5
CLL e*PP pP 08 14 45.0 -1.6
CLL eS S 08 23 24.0 -2.2
CLL pmax pmax
comp=Z,1μm,0.9s
CLL MLR MLR
comp=Z,3μm,17.0s
CLL Collm 75.60 330 eP P 08 14 02.0 +0.7
CLL Collm 75.60 330⇑iP P 08 14 01.8 +0.5
comp=Z,1μm,0.9s
CLL epP pP 08 14 45.0 -1.6
CLL esP sP 08 15 07.0 +0.3
CLL ePP PP 08 16 51.0 -1.6
CLL esPPP 08 19 42.0
CLL eS S 08 23 25.0 -1.2
comp=N,3μm,18.6s
CLL eSKSac SKSac 08 23 51.0 -2.0
CLL ePS PnS 08 24 37.0 +7.7
CLL eSS SS 08 28 30.0 +10
CLL e 08 33 06.0
CLL LmH 08 45 00.0
comp=N,2μm,20.3s
CLL LmH 08 45 00.0
comp=E,2μm,19.1s
CLL Collm 75.60 330 eP P 08 14 02.0 +0.7
comp=E,802nm,0.8s
PSZ Piszkesteto 75.60 324⇑iP P 08 14 02.6 +1.1
PSZ Piszkesteto 75.60 324 eP P 08 14 03.2 +1.8
PSZ pmax pmax
comp=Z,684nm,1.0s
PSZ Piszkesteto 75.60 324⇑eP P 08 14 02.8 +1.3
PSZ Piszkesteto 75.60 324 eP P 08 14 03.2 +1.8
comp=Z,684nm,1.0s
BRG Berggiesshubel 75.61 329⇑iP P 08 14 01.9 +0.5
comp=Z,385nm,1.1s
BRG pP pP 08 14 46.0 -0.7
BRG i PP PP 08 16 47.2 -5.5
comp=Z,125nm,1.4s
BRG S S 08 23 23.0 -3.4
BRG SS SS 08 28 15.0 -5.4
comp=N,2μm,12.1s
comp=E,3μm,12.6s
comp=Z,5μm,12.9s
BRG Berggiesshubel 75.61 329⇑iP P 08 14 01.9 +0.5
BRG *PP pP 08 14 46.0 -0.7
BRG S S 08 23 23.0 -3.4
BRG pmax pmax
comp=Z,385nm,1.1s
BRG MLR MLR
comp=N,2μm,12.1s
BRG MLR MLR
comp=E,3μm,12.6s
BRG MLR MLR
comp=Z,5μm,12.9s
E32A Braaten, Kindr 75.65 38 P P 08 14 01.3 -0.4
baz=320
PVCC Panska Ves 75.66 329⇑iP P 08 14 02.8 +1.2
PVCC epP pP 08 14 46.1 -0.9
PVCC ePP PP 08 16 54.2 +1.1
PVCC eS S 08 23 26.3 -0.6
PVCC AMS AMS 08 53 00.0
comp=Z,4μm,14.3s
PVCC Panska Ves 75.66 329⇑iP P 08 14 02.8 +1.2
PVCC e 08 14 46.1
PVCC e 08 16 54.2
PVCC eS S 08 23 26.3 -0.6
PVCC MLR MLR
comp=Z,4μm,14.3s
F31A Hecla 75.68 39 P P 08 14 01.4 -0.4
baz=320,SNR=32
PV10 Paradox Valley 75.68 50 eP P 08 14 03.5 +1.2
KPL Plockton 75.70 343⇑eP P 08 14 02.2 +0.6
KPL AMB AMB 08 14 03.8
comp=Z,792nm,1.3s
Y12C Blythe 75.70 57 P P 08 14 02.9 +0.7
baz=314,SNR=75
Y12C Blythe 75.70 57 eP P 08 14 03.4 +1.2
comp=Z,80nm,0.8s
B35A Bob, Littlefor 75.72 35 P P 08 14 01.4 -0.6
baz=322,SNR=42
PRD Provadia 75.73 317 eP P 08 14 04.4 +2.3
PRD Provadia 75.73 317 eP S 08 23 30.8 +2.9
PV04 Paradox Valley 75.75 50 eP P 08 14 03.0 +0.4
KSB Sheil Bridge 75.77 343⇑eP P 08 14 02.6 +0.5
D33A AnnSam, Waubun 75.77 37 P P 08 14 01.6 -0.7
baz=321,SNR=31
C34A RKJ Ranch, Bem 75.78 36 P P 08 14 01.5 -0.9
baz=321,SNR=27
LOT Lotru 75.78 320⇑iP P 08 14 03.3 +0.7
EDU Dundee 75.83 341⇑eP P 08 14 02.7 +0.2
DEV Deva 75.85 321⇑iP P 08 14 04.8 +2.0
DEV Deva 75.85 321 P P 08 14 04.2 +1.4
KAND Kocaeli-Kandir 75.85 314 iP P 08 14 03.6 +0.7
VRAC Vranov 75.86 327 S S 08 23 31.0 +1.9
comp=Z,2.3nm,0.5s,baz=300,slow=22,SNR=7.3
PV05 Paradox Valley 75.86 51 eP P 08 14 04.0 +0.6
HUMR Humele 75.91 319⇑iP P 08 14 03.7 +0.5
BTCH Batrach 75.98 307 eP P 08 14 03.3 -0.5
BTCH Batrach 75.98 307 eP S 08 23 29.4 -1.7
GLA Glamis 76.00 58 P P 08 14 04.6 +0.7
baz=314,SNR=31
GLA Glamis 76.00 58 eP P 08 14 04.8 +0.9
GLA pmax pmax
comp=Z,69nm,0.7s
GLA Glamis 76.00 58 eP P 08 14 04.8 +0.9
comp=Z,69nm,0.7s
GOPC GO Pecny, Ondr 76.07 328⇑iP P 08 14 05.1 +1.1
GOPC ePP PP 08 16 50.7 -6.0
GOPC eS S 08 23 31.1 -0.4
GOPC AMS AMS 08 50 40.0
comp=Z,3μm,17.1s
GOPC GO Pecny, Ondr 76.07 328⇑iP P 08 14 05.1 +1.1
GOPC eS S 08 23 31.1 -0.4
GOPC eS S 08 23 31.1 -0.4
GOPC MLR MLR
comp=Z,3μm,17.1s
PRA Prague 76.08 329⇑iP P 08 14 05.2 +1.2
PRA epP pP 08 14 44.7 -4.7
PRA ePP PP 08 16 52.3 -4.4
PRA eS S 08 23 29.7 -1.8
PRA eXS sS 08 24 48.9 -1.6
PRA AMS AMS 08 53 20.0
comp=Z,4μm,13.7s
PRA Prague 76.08 329⇑iP P 08 14 05.2 +1.2
PRA e 08 16 52.3
PRA eS S 08 23 29.7 -1.8
PRA MLR MLR
comp=Z,4μm,13.7s
D34A Park Rapids 76.09 37 P P 08 14 03.4 -0.8
baz=321,SNR=31
PRU Pruhonice 76.10 328⇑iP P 08 14 05.2 +1.0
PRU epP pP 08 14 47.4 -2.1
PRU ePP PP 08 16 57.1 +0.2
PRU eS S 08 23 30.1 -1.7
PRU ex x 08 24 46.6
PRU AMS AMS 08 53 10.0
comp=Z,3μm,13.5s
PRU Pruhonice 76.10 328⇑iP P 08 14 05.2 +1.0
PRU e*PP pP 08 14 47.4 -2.1
PRU e 08 16 57.1
PRU eS S 08 23 30.1 -1.7
PRU MLR MLR
comp=Z,3μm,13.5s
SIRR Siria 76.11 322⇓iP P 08 14 05.0 +0.7
PV01 Paradox Valley 76.11 50 eP P 08 14 05.0 +0.3
C35A Jirik Farms, M 76.13 35 P P 08 14 03.6 -0.8
baz=322,SNR=44
SMOL Smolenice 76.15 326 eP P 08 14 07.0 +2.5
SMOL eS S 08 23 34.9 +2.5
SMOL Smolenice 76.15 326 eP P 08 14 07.0 +2.5
SMOL eS S 08 23 34.9 +2.5
F32A Veblen 76.18 38 P P 08 14 03.9 -0.8
baz=320,SNR=13
G31A Conde 76.18 39 P P 08 14 04.4 -0.3
baz=320,SNR=19
E33A Westby DABS, E 76.19 37 P P 08 14 04.4 -0.4
baz=321,SNR=68
SMCO Snowmass 76.25 49 eP P 08 14 06.0 +0.4
comp=Z,157nm,1.1s
GZR Gura Zlata 76.28 321⇑iP P 08 14 06.1 +0.8
GZR Gura Zlata 76.28 321⇑iP S 08 23 35.5 +1.4
TREC Trest 76.30 327⇑iP P 08 14 06.3 +1.0
TREC epP pP 08 14 50.3 -0.4
TREC eXS sS 08 24 50.2 -2.9
TREC AMS AMS 08 52 00.0
comp=Z,3μm,14.0s
TREC Trest 76.30 327⇑iP P 08 14 06.3 +1.0
TREC e 08 14 50.3
TREC MLR MLR
comp=Z,3μm,14.0s
BUD Budapest 76.31 324 P P 08 14 06.7 +1.4
BUD Budapest 76.31 324⇑eP P 08 14 06.6 +1.3
ESY Stoneypath 76.31 341⇑eP P 08 14 05.3 +0.1
SRO2 Moca 76.35 325 eP P 08 14 06.4 +0.8
SRO2 Moca 76.35 325 eP P 08 14 06.4 +0.8
KFRA Kufra 76.36 306 eP P 08 14 07.6 +1.6
KFRA Kufra 76.36 306 eP S 08 23 26.1 -9.1
WUAZ Wupatki 76.36 54 P P 08 14 07.1 +1.0
baz=314,SNR=31
WUAZ Wupatki 76.36 54 eP P 08 14 07.1 +1.0
comp=Z,261nm,1.4s
ZIMR 76.38 318⇑iP P 08 14 07.5 +1.7
ARNB Al Arnab 76.39 307 eP P 08 13 60.0 -6.2
ARNB Al Arnab 76.39 307 eP S 08 23 30.6 -4.9
SLNF Slenfeh 76.43 306 eP P 08 14 04.9 -1.6
SUSD Miller 76.43 40 P P 08 14 05.9 -0.2
baz=319,SNR=33
EDI Edinburgh 76.44 341 eP P 08 14 06.3 +0.4
EDI AMB AMB 08 14 07.7
comp=Z,159nm,1.3s
EAB Aberfoyle 76.46 342⇑eP P 08 14 06.4 +0.3
G32A Webster 76.48 39 P P 08 14 06.2 -0.2
baz=320,SNR=24
Y14A Wickenburg 76.49 56 eP P 08 14 07.5 +0.7
comp=Z,276nm,0.9s
ISCO Idaho Springs 76.53 47 P P 08 14 07.8 +0.6
baz=316,SNR=44
ISCO Idaho Springs 76.53 47 eP P 08 14 07.8 +0.6
ISCO pmax pmax
comp=Z,185nm,1.3s
ISCO Idaho Springs 76.53 47 eP P 08 14 07.8 +0.6
comp=Z,185nm,1.3s
LHI Lord Howe Isla 76.54 166 eP P 08 14 08.1 +1.5
comp=Z,278nm,1.2s
BBOO Buckleboo 76.55 186 eP P 08 14 07.2 +0.6
comp=Z,482nm,1.2s
E34A Wadena 76.55 37 P P 08 14 06.2 -0.6
baz=321
C36A Pine Crest Far 76.56 35 P P 08 14 06.3 -0.5
baz=322,SNR=35
F33A 5 Mile Ranch, 76.58 38 P P 08 14 06.5 -0.4
baz=321,SNR=62
BUY Buyukada 76.58 314 iP P 08 14 08.4 +1.4
D35A Remer 76.58 36 P P 08 14 06.1 -0.9
baz=322,SNR=29
CRAR CRAIOVA 76.62 320⇑iP P 08 14 09.0 +1.9
H31A Wolsey 76.62 40 P P 08 14 06.8 -0.5
baz=320,SNR=19
BZS Buzias 76.63 322⇑iP P 08 14 07.8 +0.6
ESKT Eskisehir 76.64 312 iP P 08 14 08.0 +0.5
SRE Strehaia 76.64 320⇓iP P 08 14 09.4 +2.1
MOX Moxa 76.64 330 P P 08 14 07.8 +0.6
RABH Abou Rabah 76.66 305 eP P 08 14 08.2 +0.5
NKC Novy Kostel 76.68 330⇑iP P 08 14 08.1 +0.7
NKC epP pP 08 14 52.2 -0.7
NKC eS S 08 23 34.5 -3.7
NKC AMS AMS 08 53 50.0
comp=Z,3μm,14.3s
NKC Novy Kostel 76.68 330⇑iP P 08 14 08.1 +0.7
NKC e 08 14 52.2
NKC eS S 08 23 34.5 -3.7
NKC MLR MLR
comp=Z,3μm,14.3s
TIM Timisoara 76.72 322⇑iP P 08 14 10.0 +2.3
ELBA Catalca 76.72 315 iP P 08 14 08.9 +1.1
CSKK Cs̄̂kako 76.72 325⇓eP P 08 14 09.4 +1.7
CSKK Cs̄̂kako 76.72 325⇑eS S 08 23 42.8 +4.2
PVL Pavlikeni 76.73 318 eP P 08 14 09.0 +1.2
BIDA Albida 76.78 306 eP P 08 14 04.8 -3.6
BIDA Albida 76.78 306 eP S 08 23 36.2 -3.6
ROOS tl_alroos 76.79 305 eP P 08 14 02.7 -5.7
MVCO Mesa Verde 76.81 51 P P 08 14 09.2 +0.5
baz=316,SNR=35
MVCO Mesa Verde 76.81 51 eP P 08 14 09.6 +0.9
comp=Z,180nm,1.3s
113A Mohawk Valley, 76.84 57 eP P 08 14 09.2 +0.6
comp=Z,344nm,2.0s
PGBU Glenifferbraes 76.84 342⇑eP P 08 14 08.9 +0.8
PGBU AMB AMB 08 14 10.4
comp=Z,1μm,1.3s
E35A Pequot Lakes 76.85 36 P P 08 14 07.7 -0.7
baz=322,SNR=27
C37A Embarrass 76.85 34 P P 08 14 07.9 -0.5
baz=323,SNR=41
D36A Goodland 76.88 35 P P 08 14 07.8 -0.9
baz=322,SNR=19
I31A Royce, Wessing 76.94 40 P P 08 14 08.7 -0.3
baz=320
EYMN Ely 76.96 34 P P 08 14 08.5 -0.4
baz=323,SNR=46
EYMN Ely 76.96 34 eP P 08 14 08.6 -0.4
comp=Z,221nm,0.9s
IGD Bursa 76.97 314 iP P 08 14 09.2 0.0
ESK Eskdalemuir 77.00 341⇑eP P 08 14 09.4 +0.4
ESK Eskdalemuir 77.00 341 eP P 08 14 09.6 +0.5
ESK pmax pmax
comp=Z,447nm,1.4s
ESK Eskdalemuir 77.00 341 eP P 08 14 09.6 +0.5
comp=Z,447nm,1.4s
G33A Ortonville 77.01 38 P P 08 14 09.1 -0.2
baz=321,SNR=56
BANR Banloc 77.03 322⇓iP P 08 14 11.6 +2.2
F34A Alexandria 77.07 37 P P 08 14 09.0 -0.7
baz=321,SNR=15
HAWK Haweek 77.07 306 eP P 08 14 04.7 -5.3
X16A Lo Mia Camp, P 77.08 55 eP P 08 14 11.8 +1.6
comp=Z,80nm,1.0s
H32A Carlson Farm, 77.09 39 P P 08 14 09.3 -0.5
baz=320
LCP Cassop 77.10 340⇑eP P 08 14 10.2 +0.6
ECK Cauldkaine Hil 77.10 341⇑eP P 08 14 10.0 +0.4
EDMD Edmundbyers 77.13 340⇑eP P 08 14 09.9 0.0
EDMD AMB AMB 08 14 10.9
comp=Z,214nm,1.0s
WTSB Winterswijk 77.16 334 eP P 08 14 10.2 +0.2
comp=Z,2μm,1.7s
BOLV Bolvadin 77.17 312 iP P 08 14 11.0 +0.5
BOLV Bolvadin 77.17 312 eP P 08 14 11.4 +0.9
comp=Z,276nm,1.0s
KHC Kasperske Hory 77.17 328⇑iP P 08 14 11.3 +1.1
KHC ePCP PcP 08 14 20.5 +0.3
KHC epP pP 08 14 56.6 +0.9
KHC ex x 08 16 17.0
KHC ePP PP 08 17 06.3 +0.4
KHC eS S 08 23 42.6 -0.9
KHC ex x 08 24 55.7
KHC AMS AMS 08 51 20.0
comp=Z,4μm,16.2s
KHC Kasperske Hory 77.17 328⇑iP P 08 14 11.3 +1.1
KHC e 08 14 20.5
KHC e*PP pP 08 14 56.6 +0.9
KHC e 08 17 06.3
KHC eS S 08 23 42.6 -0.9
KHC e 08 24 55.7
KHC MLR MLR
comp=Z,4μm,16.2s
KHC Kasperske Hory 77.17 328 eP P 08 14 11.2 +1.0
comp=Z,234nm,1.0s
SOP Sopron 77.17 326 P P 08 14 11.6 +1.4
SOP Sopron 77.17 326⇑eP P 08 14 11.8 +1.6
BHH Howats Hill 77.20 341⇑eP P 08 14 10.7 +0.5
D37A Cotton 77.21 35 P P 08 14 09.6 -0.8
baz=323,SNR=19
C38A Sawbill Land. 77.23 34 P P 08 14 09.8 -0.7
baz=323,SNR=40
MDVR Moldovita 77.23 321⇑iP P 08 14 11.2 +0.5
CONA Conrad Observa 77.25 326 iP P 08 14 12.1 +1.4
comp=Z,1μm,1.5s,SNR=275
CONA eS S 08 23 48.3 +3.8
comp=Z,27nm,1.4s
H33A Prehn Over Nor 77.27 39 P P 08 14 10.6 -0.2
baz=320,SNR=70
F35A Swanville 77.32 37 P P 08 14 10.4 -0.7
baz=322,SNR=35
G34A Benson 77.33 38 P P 08 14 10.8 -0.3
baz=321,SNR=55
GEC2 GERESS Array S 77.35 328 eP P 08 14 11.8 +0.5
GEC2 pmax pmax
comp=Z,433nm,1.3s
GEC2 GERESS Array S 77.35 328 eP P 08 14 11.8 +0.5
comp=Z,433nm,1.3s
GERES GERESS Array B 77.35 328 P P 08 14 11.8 +0.5
comp=Z,112nm,0.9s,baz=35,slow=4.9,SNR=426
GERES S S 08 23 47.8 +2.2
comp=Z,0.6nm,0.6s,baz=41,slow=11,SNR=3.5
S22A 4UR Ranch, Cre 77.35 49 P P 08 14 12.7 +1.0
baz=316,SNR=59
S22A 4UR Ranch, Cre 77.35 49 eP P 08 14 12.6 +0.8
comp=Z,208nm,1.4s
E36A McGregor 77.37 36 P P 08 14 10.8 -0.5
baz=322,SNR=47
MARH Ras Al Marh 77.37 305 eP P 08 14 10.2 -1.7
Q24A Divide 77.38 48 P P 08 14 12.2 +0.2
baz=317,SNR=20

Q24A Divide 77.38 48 eP P 08 14 12.3 +0.3
comp=Z,92nm,1.0s
J31A Geddes 77.40 41 P P 08 14 11.4 -0.2
baz=320,SNR=51
WET Wettzell 77.42 329 P P 08 14 12.6 +1.0
I32A Karley and Nic 77.44 40 P P 08 14 11.3 -0.5
baz=320,SNR=14
GMK Mull of Kintyr 77.52 342⇑eP P 08 14 12.4 +0.5
OGNE Ogallala 77.55 44 P P 08 14 12.7 +0.1
baz=318,SNR=17
OGNE Ogallala 77.55 44 eP P 08 14 12.7 +0.1
comp=Z,439nm,1.1s
GRF Grafenberg Arr 77.58 330 P P 08 14 13.6 +1.2
GRFO Grafenberg 77.58 330 eP P 08 14 13.8 +1.4
GRFO pmax pmax
comp=Z,659nm,0.9s
GRFO Grafenberg 77.58 330 eP P 08 14 13.8 +1.4
comp=Z,659nm,0.9s
W18A Petrified Fore 77.59 53 P P 08 14 13.8 +0.8
baz=315
W18A Petrified Fore 77.59 53 eP P 08 14 13.9 +0.9
comp=Z,151nm,1.5s
C39A Grand Marais 77.61 33 P P 08 14 11.7 -0.9
baz=324
KESW Keswick, Cumbr 77.64 340⇑eP P 08 14 13.3 +0.7
KESW AMB AMB 08 14 14.8
comp=Z,896nm,1.3s
GDZ Gediz 77.68 313 iP P 08 14 14.3 +0.9
E37A Wrenshall 77.69 35 P P 08 14 12.5 -0.6
baz=323
H34A Spellman Lake, 77.72 38 P P 08 14 13.0 -0.3
baz=321,SNR=26
I33A Coleman 77.73 39 P P 08 14 13.2 -0.2
baz=321,SNR=46
J32A Parkston 77.76 40 P P 08 14 13.2 -0.4
baz=320,SNR=43
F36A Milaca 77.77 36 P P 08 14 12.5 -1.0
baz=322,SNR=22
BEO Beograd 77.77 322 eP P 08 14 14.8 +1.2
BEO Beograd 77.77 322 eP P 08 14 14.8 +1.2
PGB Panagyurishte 77.79 318 eP P 08 14 14.9 +1.1
PGB Panagyurishte 77.79 318 eP S 08 23 51.9 +1.4
KNL Bal¨–kesir 77.83 315 iP P 08 14 14.4 +0.4
HPK Haverah Park 77.84 339⇑eP P 08 14 14.4 +0.7
HPK AMB AMB 08 14 15.8
comp=Z,659nm,1.5s
QASN Qassioun 77.84 305 eP P 08 14 03.7 -11
KESN Edirne-Kesan 77.85 316 iP P 08 14 15.4 +0.9
G35A Watkins 77.86 37 P P 08 14 13.8 -0.2
baz=322,SNR=41
TOTH TOTAH 77.87 305 eP P 08 14 07.1 -7.3
PLD Plovdiv 77.87 318 P P 08 14 15.2 +1.1
X18A Snowflake 77.88 54 eP P 08 14 15.6 +1.0
comp=Z,291nm,1.9s
GCL Cushendall 77.89 342⇑eP P 08 14 14.6 +0.6
K31A O'Neill 77.91 41 P P 08 14 14.5 +0.1
baz=320
C40A Isle Royale Na 77.91 33 P P 08 14 13.6 -0.7
baz=325
ARSA Arzberg 77.94 326 iP P 08 14 15.6 +1.1
comp=Z,1μm,2.1s,SNR=113
ARSA eS S 08 23 54.7 +2.9
comp=Z,34nm,1.9s
MOA Molln 77.95 327 eP P 08 14 15.4 +0.9
comp=Z,984nm,2.9s,SNR=88
MOA eS S 08 23 56.9 +5.1
comp=Z,49nm,1.7s
214A Organ Pipe Nat 77.98 57 P P 08 14 15.5 +0.5
baz=314,SNR=38
214A Organ Pipe Nat 77.98 57 eP P 08 14 16.1 +1.0
comp=Z,410nm,1.1s
E38A The Farm, Brul 78.01 35 P P 08 14 14.2 -0.6
baz=323,SNR=32
ISP Isparta 78.05 311 P P 08 14 15.4 0.0
ISP Isparta 78.05 311⇑iP P 08 14 16.5 +1.1
ISP Isparta 78.05 311 eP P 08 14 16.2 +0.8
ISP pmax pmax
comp=Z,105nm,0.9s
ISP Isparta 78.05 311 eP P 08 14 16.2 +0.8
comp=Z,105nm,0.9s
BEHE Becsehely 78.05 325⇑eP P 08 14 15.7 +0.6
ECSD EROS Data Cent 78.06 39 P P 08 14 14.8 -0.4
baz=321,SNR=98
ECSD EROS Data Cent 78.06 39 eP P 08 14 15.2 0.0
comp=Z,211nm,1.1s
SDCO Great Sand Dun 78.08 49 P P 08 14 16.2 +0.4
baz=317,SNR=53
SDCO Great Sand Dun 78.08 49 eP P 08 14 16.4 +0.6
comp=Z,133nm,1.4s
H35A Sunnyside Ranc 78.11 38 P P 08 14 15.5 0.0
baz=322,SNR=74
ALN Alexandroupoli 78.12 316 P P 08 14 15.7 +0.2
ALN Alexandroupoli 78.12 316 P S 08 23 50.3 -3.5
ALN Alexandroupoli 78.12 316 P P 08 14 15.7 +0.2
ALN Alexandroupoli 78.12 316 P S 08 23 50.3 -3.5
ALN Alexandroupoli 78.12 316 P P 08 14 15.7 +0.2
DEMI Demirci 78.12 313 iP P 08 14 16.3 +0.6
SALA Sala 78.14 304 eP P 08 14 05.9 -10
G36A St. Michael 78.17 37 P P 08 14 15.2 -0.5
baz=322,SNR=12
I34A Hadley 78.17 39 P P 08 14 15.5 -0.3
baz=321,SNR=31
BALY Balya 78.18 314 iP P 08 14 16.7 +0.8
RZN Rozhen 78.18 317 eP S 08 23 56.1 +1.2
ENEZ Enez 78.18 316 P S 08 23 51.5 -3.0
RDO Rodhopi 78.18 317 P P 08 14 16.9 +1.0
RDO Rodhopi 78.18 317 P P 08 14 16.9 +1.0
IDGL Inch Island, C 78.19 343⇑eP P 08 14 16.1 +0.5
IDGL AMB AMB 08 14 19.0
comp=Z,1μm,1.3s
KHAL Karahalli 78.20 312 iP P 08 14 16.2 0.0
J33A Davis 78.22 40 P P 08 14 15.6 -0.5
baz=321,SNR=50
VTS Vitosha 78.22 319 P P 08 14 17.2 +1.0
VTS Vitosha 78.22 319 P S 08 23 51.4 -3.8
VTS Vitosha 78.22 319⇑iP P 08 14 17.3 +1.0
VTS Vitosha 78.22 319 eP P 08 14 17.6 +1.3
VTS pmax pmax
comp=Z,1μm,1.3s
VTS Vitosha 78.22 319 eP P 08 14 17.8 +1.5
VTS Vitosha 78.22 319 eP S 08 23 58.2 +3.0
VTS Vitosha 78.22 319 eP P 08 14 17.6 +1.3
comp=Z,1μm,1.3s
K32A Verdigre 78.25 41 P P 08 14 15.7 -0.6
baz=320,SNR=14
F37A Hinrichs Farm, 78.26 36 P P 08 14 15.6 -0.7
baz=323,SNR=26
LHO Holmfirth 78.27 339⇑eP P 08 14 16.5 +0.3
KOGS Kog 78.28 325 eP P 08 14 16.8 +0.5
KOGS e 08 15 01.7
KOGS eS S 08 23 54.5 -1.0
KOGS Kog 78.28 325 eP P 08 14 16.8 +0.5
KOGS eS S 08 23 54.5 -1.0
WACR West Acre 78.34 337⇑eP P 08 14 16.9 +0.4
WACR AMB AMB 08 14 18.4
comp=Z,570nm,1.2s
F38A Pierce - Schro 78.39 35 P P 08 14 16.9 -0.1
baz=323,SNR=59
ASF Jabal al Asfar 78.42 304 PP PP 08 17 19.1 +2.1
comp=Z,29nm,0.9s,baz=4.6,slow=2.9,SNR=4.4
ASF S S 08 23 59.9 +2.4
comp=Z,1.1nm,0.3s,baz=313,slow=23,SNR=6.5
MAMC Mammari 78.46 308 P P 08 14 19.0 +1.5
HGN Heimansgroeve 78.47 334 eP P 08 14 17.5 +0.2
comp=Z,568nm,1.0s
TOD Tromm 78.50 331 P P 08 14 18.2 +0.7
BEBN Eben Emael 78.53 334 P P 08 14 17.9 +0.4
comp=Z,198nm,1.1s
KULA Kula-Manisa 78.54 313 P S 08 23 52.4 -6.2
DIVS Divibare 78.54 322 P P 08 14 16.9 -1.0
DIVS Divibare 78.54 322 P S 08 23 56.0 -2.4
SCHQ Schefferville 78.54 17 P P 08 14 17.6 0.0
comp=Z,207nm,1.0s,baz=347,slow=5.7,SNR=68
SCHQ S S 08 23 56.9 -1.1
comp=Z,17nm,1.1s,baz=282,slow=18,SNR=5.3
SCHQ LR LR 08 51 40.1
comp=Z,2μm,19.4s,baz=342,slow=38
SCHQ Schefferville 78.54 17 eP P 08 14 17.8 +0.2
comp=Z,620nm,1.4s
SCHQ S S 08 23 56.9 -1.1
CSS Mathiatis 78.54 308 P P 08 14 18.7 +0.7
CSS Mathiatis 78.54 308 eP P 08 14 18.1 +0.1
comp=Z,57nm,1.0s
SPMN Marine on St. 78.58 36 P P 08 14 17.4 -0.6
baz=323,SNR=29
SPMN Marine on St. 78.58 36 eP P 08 14 17.6 -0.4
comp=Z,86nm,0.8s
MEM Membach 78.58 333 P P 08 14 18.1 +0.2
comp=Z,329nm,1.3s
MEM Membach 78.58 333 P P 08 14 18.3 +0.4
SOKA Soboth 78.60 326 eP P 08 14 19.0 +0.8
comp=Z,1μm,1.3s,SNR=140
SOKA eS S 08 24 01.2 +2.2
comp=Z,54nm,1.5s,SNR=5.1
E39A Mellen 78.60 34 P P 08 14 17.6 -0.5
baz=324
H36A Jessenland, He 78.61 37 P P 08 14 18.3 +0.1
baz=322,SNR=17
GMM Mts of Mourne 78.62 342⇑eP P 08 14 18.4 +0.4
TCHB Talchebab 78.63 304 eP P 08 14 10.1 -8.4
TCHB eP P 08 14 10.7 -7.8
KSCO Kaye Shedlock' 78.68 46 P P 08 14 18.7 -0.1
baz=318,SNR=27
KSCO Kaye Shedlock' 78.68 46 eP P 08 14 20.1 +1.2
comp=Z,220nm,1.1s
SMTH Samothraki Isl 78.69 316 P P 08 14 18.9 +0.2
SMTH Samothraki Isl 78.69 316 P S 08 23 55.6 -4.4
SMTH Samothraki Isl 78.69 316 P P 08 14 18.9 +0.2
I35A Creekview Farm 78.70 38 P P 08 14 18.2 -0.5
baz=322,SNR=43
J34A George 78.71 39 P P 08 14 18.2 -0.6
baz=321,SNR=20
AKHS Akhisar 78.72 314 iP P 08 14 19.2 +0.3
MMAI Mount Meron Ar 78.72 305 PP PP 08 17 21.3 +1.9
comp=Z,116nm,1.1s,baz=48,slow=11,SNR=14
MMAI S S 08 24 02.6 +2.0
comp=Z,1.9nm,0.6s,baz=345,slow=9.5,SNR=6.1
BAYC CANAKKALE_Bayr 78.73 315 iP P 08 14 19.6 +0.6
L32A Elgin 78.73 41 P P 08 14 18.7 -0.2
baz=320,SNR=7.6
KORT Korkueli 78.74 311 iP P 08 14 20.0 +0.8
K33A Hardington 78.75 40 P P 08 14 18.8 -0.2
baz=321,SNR=20
STNC Stoke 78.77 339⇑eP P 08 14 19.3 +0.4
STNC AMB AMB 08 14 20.4
comp=Z,449nm,1.6s
KAVA Kavala 78.80 317 P P 08 14 20.2 +0.9
KAVA Kavala 78.80 317 P P 08 14 20.2 +0.9
E40A Wakefield 78.81 34 P P 08 14 19.5 +0.2
baz=324
ALFC Alefka 78.82 308 P P 08 14 20.3 +0.8
F39A Loretta 78.83 35 P P 08 14 18.8 -0.5
baz=324,SNR=34
FUR Furstenfeldbru 78.83 329 P P 08 14 20.5 +1.2
KKB Krupnik 78.83 318 eP P 08 14 20.4 +0.9
KKB Krupnik 78.83 318 eP S 08 24 04.6 +3.1
D41A Chassel 78.84 33 P P 08 14 19.1 -0.3
baz=325
NVR Nevrokopi 78.85 318 P P 08 14 20.5 +0.9
NVR Nevrokopi 78.85 318 P S 08 23 59.3 -2.4
NVR Nevrokopi 78.85 318 P S 08 23 59.3 -2.4
NVR Nevrokopi 78.85 318 P P 08 14 20.5 +0.9
RAYN Ar Rayn 78.88 292 eP P 08 14 20.9 +0.8
comp=Z,160nm,1.4s
BOZC Bozcaada 78.90 315 iP P 08 14 20.5 +0.7
OBKA Obir 78.93 326 iP P 08 14 20.6 +0.6
comp=Z,281nm,0.9s,SNR=40
OBKA eS S 08 24 06.6 +4.1
comp=Z,55nm,1.6s
KBA Koelnbreinsper 78.94 327 P P 08 14 20.9 +0.7
KBA Koelnbreinsper 78.94 327 eP P 08 14 21.0 +0.9
comp=Z,1μm,1.2s,SNR=227
KBA S S 08 24 03.4 +0.7
comp=Z,116nm,1.6s,SNR=10.0
UCC Uccle 78.94 334 P P 08 14 20.3 +0.4
SZAC Souni 78.95 308 P P 08 14 21.2 +1.0
TUC Tucson 78.96 56 P P 08 14 21.1 +0.7
baz=315
TUC Tucson 78.96 56 eP P 08 14 21.2 +0.8
TUC pmax pmax
comp=Z,50nm,1.0s
TUC Tucson 78.96 56 eP P 08 14 21.2 +0.8
comp=Z,50nm,1.0s
L33A Hoskins 78.96 41 P P 08 14 19.7 -0.4
baz=321
MHTCO State Highway 78.97 49 eP P 08 14 21.4 +0.8
comp=Z,530nm,1.6s
BCLA Clavier 78.97 334 P P 08 14 20.2 +0.2
comp=Z,289nm,1.4s
AYVA Ayvalik 78.98 315 iP P 08 14 21.3 +1.1
J35A Milford 78.99 39 P P 08 14 19.8 -0.4
baz=322,SNR=15
HGTCO Madrid Canyon 79.00 49 eP P 08 14 22.0 +1.3
comp=Z,601nm,1.7s
GOLH Golhisar 79.00 312 iP P 08 14 21.1 +0.6
I36A Fitzsimmons Fa 79.01 38 P P 08 14 19.9 -0.4
baz=322,SNR=20
WME Myndd Eilian 79.01 341⇑eP P 08 14 20.5 +0.3
G38A Ridgeland 79.03 36 P P 08 14 19.6 -0.9
baz=323,SNR=23
CAN Canberra 79.04 175 eP P 08 14 21.3 +0.9
CAN pmax pmax
comp=Z,593nm,1.5s
CAN Canberra 79.04 175 eP P 08 14 21.2 +0.9
comp=Z,593nm,1.5s
WPM1 Penmaenmawr 79.04 340⇑eP P 08 14 20.8 +0.4
H37A Dierke Farm, C 79.05 37 P P 08 14 20.3 -0.3
baz=323,SNR=24
WPS Cemaes, Angles 79.06 341⇑eP P 08 14 20.5 +0.1
WPS AMB AMB 08 14 22.2
comp=Z,234nm,1.3s
AKMC Akamas 79.07 308 P P 08 14 21.6 +0.7
STU Stuttgart 79.07 331 eP P 08 14 22.0 +1.4
STU pmax pmax
comp=Z,456nm,0.9s
STU Stuttgart 79.07 331 eP P 08 14 22.0 +1.4
comp=Z,456nm,0.9s
K34A Le Mars 79.11 40 P P 08 14 20.5 -0.5
baz=321,SNR=35
T25A Trinidad 79.11 48 P P 08 14 21.6 +0.3
baz=318,SNR=40
T25A Trinidad 79.11 48 eP P 08 14 21.6 +0.3
comp=Z,477nm,1.7s
BGNE Belgrade 79.12 42 P P 08 14 20.7 -0.4
baz=320,SNR=14
BGNE Belgrade 79.12 42 eP P 08 14 20.9 -0.2
comp=Z,283nm,1.0s
WLF1 Llynfaes 79.14 341⇑eP P 08 14 21.1 +0.2
WLF1 AMB AMB 08 14 22.8
comp=Z,879nm,1.3s
F40A Park Falls 79.15 34 P P 08 14 20.4 -0.7
baz=324,SNR=28
PPCY Paphos 79.16 308 P P 08 14 22.0 +0.7
SRS Serrai 79.16 318 P P 08 14 21.7 +0.4
SRS Serrai 79.16 318 P P 08 14 21.7 +0.4
SRS Serrai 79.16 318 P P 08 14 21.7 +0.4
E41A Kenton 79.17 33 P P 08 14 20.7 -0.5
baz=325,SNR=30
TAVA DENIZLI_Tavas 79.18 312 iP P 08 14 22.3 +0.8
MYKA Terra Mystica 79.19 327 eP P 08 14 21.7 +0.3
comp=Z,899nm,1.8s,SNR=88
MYKA S S 08 24 05.5 +0.4
comp=Z,61nm,1.6s
FOEL Foel Wylfa 79.21 340⇑eP P 08 14 22.0 +0.7
FOEL AMB AMB 08 14 23.4
comp=Z,792nm,1.7s
YLL Llanberis 79.22 340⇑eP P 08 14 21.8 +0.6
SNF Seneffe 79.22 334 P P 08 14 21.7 +0.3
G39A Holcombe 79.23 35 P P 08 14 20.6 -0.9
baz=324,SNR=17
PRK Paraskevi 79.24 315 P P 08 14 22.1 +0.4
PRK Paraskevi 79.24 315 P S 08 24 02.5 -3.3
PRK Paraskevi 79.24 315 P P 08 14 22.1 +0.4
PRK Paraskevi 79.24 315 P P 08 14 22.1 +0.4
H38A Maiden Rock 79.25 36 P P 08 14 21.1 -0.6
baz=323,SNR=11
BLY Banja Luka 79.26 324 eP P 08 14 22.1 +0.5
comp=Z,207nm,1.3s
OZLJ Ozalj 79.28 325 P P 08 14 21.9 +0.1
I37A Lemond, Waseca 79.28 37 P P 08 14 21.9 0.0
baz=323,SNR=46
LIA Limnos Island 79.30 316 P P 08 14 22.4 +0.4
LIA Limnos Island 79.30 316 P S 08 24 05.8 -0.6
LIA Limnos Island 79.30 316 P P 08 14 22.4 +0.4
LJU Ljubljana 79.31 326 iP P 08 14 22.2 +0.2
LJU e 08 24 06.4
LJU Ljubljana 79.31 326 iP P 08 14 22.2 +0.2
WLF Walferdange 79.35 333 P P 08 14 23.3 +1.2
comp=Z,326nm,1.8s
WLF Walferdange 79.35 333 eP P 08 14 22.7 +0.6
WLF pmax pmax
comp=Z,411nm,1.2s
WLF Walferdange 79.35 333 eP P 08 14 22.6 +0.6
comp=Z,411nm,1.2s
LLW Llanuwychllyn 79.36 340⇑eP P 08 14 22.6 +0.6
LANF Langenberg 79.38 332⇑eP P 08 14 22.9 +0.6
LANF Langenberg 79.38 332 P P 08 14 23.1 +0.8
VISS Visnje 79.38 326 iP P 08 14 22.6 +0.2
VISS Visnje 79.38 326 iP P 08 14 22.6 +0.2
GIVF Givet 79.40 334 eP P 08 14 21.8 -0.6
GIVF pmax pmax
comp=Z,777nm,1.5s
WATA Walderalm 79.41 328 iP P 08 14 23.3 +0.7
comp=Z,886nm,1.1s,SNR=126
WATA eS S 08 24 11.2 +3.6
comp=Z,181nm,1.6s,SNR=7.5
J36A Seneca 1, Swea 79.41 38 P P 08 14 22.0 -0.6
baz=322
PLE Pljevlja 79.41 322⇑iP P 08 14 23.4 +0.7
PLE Pljevlja 79.41 322 P P 08 14 24.0 +1.3
WTTA Wattenberg 79.44 328 eP P 08 14 23.9 +1.0
comp=Z,879nm,1.1s,SNR=134
WTTA S S 08 24 08.0 -0.1
comp=Z,181nm,2.1s
M33A Taylor Creek F 79.45 41 P P 08 14 22.4 -0.5
baz=321,SNR=13
HLM1 Long Mynd 79.46 339⇑eP P 08 14 23.1 +0.4
HLM1 AMB AMB 08 14 26.5
comp=Z,333nm,1.5s
KNT Kendrikon 79.46 318 P P 08 14 23.5 +0.6
KNT Kendrikon 79.46 318 P S 08 24 02.2 -5.9
KNT Kendrikon 79.46 318 P P 08 14 23.5 +0.6
KNT Kendrikon 79.46 318 P S 08 24 02.2 -5.9
KNT Kendrikon 79.46 318 P P 08 14 23.5 +0.6
SIGR SIGRI 79.48 315 P P 08 14 22.9 -0.1
SIGR SIGRI 79.48 315 P S 08 24 00.3 -8.0
SIGR SIGRI 79.48 315 P P 08 14 22.9 -0.1
K35A Storm Lake 79.48 39 P P 08 14 22.2 -0.7
baz=322,SNR=30
CADS Cadrg 79.48 327 iP P 08 14 22.3 -0.6
CADS eS S 08 24 06.0 -2.2
CADS Cadrg 79.48 327 iP P 08 14 22.3 -0.6
CADS eS S 08 24 06.0 -2.2
DOU Dourbes 79.48 334 P P 08 14 22.9 +0.1
comp=Z,190nm,1.4s
VAY Valandovo 79.50 318 P P 08 14 23.9 +0.9
VAY Valandovo 79.50 318 P S 08 24 05.6 -2.9
VAY Valandovo 79.50 318 iP P 08 14 24.1 +1.0
VAY Valandovo 79.50 318 P P 08 14 23.9 +0.9
VAY Valandovo 79.50 318 P S 08 24 05.6 -2.9
VAY Valandovo 79.50 318 P P 08 14 23.9 +0.9
SOH Sokhos 79.50 318 P P 08 14 23.4 +0.2
SOH Sokhos 79.50 318 P S 08 24 08.4 -0.3
SOH Sokhos 79.50 318 P P 08 14 23.4 +0.2
SOH Sokhos 79.50 318 P P 08 14 23.4 +0.2
SKO Skopje 79.53 320 P P 08 14 24.4 +1.2
SKO Skopje 79.53 320 P S 08 24 06.3 -2.5
SKO Skopje 79.53 320 iP P 08 14 24.8 +1.6
ABTA Abfaltersbach 79.53 328 eP P 08 14 23.1 -0.2
comp=Z,462nm,1.5s,SNR=60
ABTA eS S 08 24 11.3 +2.5
comp=Z,45nm,1.2s
L34A Svendsen Farm, 79.54 40 P P 08 14 22.7 -0.6
baz=321,SNR=44
IVA Berane 79.55 321⇑iP P 08 14 24.2 +0.8
OUR Ouranopolis 79.57 317 P P 08 14 24.0 +0.6
OUR Ouranopolis 79.57 317 P S 08 24 05.8 -3.4
OUR Ouranopolis 79.57 317 P P 08 14 24.0 +0.6
OUR Ouranopolis 79.57 317 P P 08 14 24.0 +0.6
MOTA Moosalm 79.58 329 eP P 08 14 24.3 +0.7
comp=Z,884nm,1.2s,SNR=230
MOTA S S 08 24 10.6 +1.2
comp=Z,78nm,1.2s,SNR=6.0
ANMO Albuquerque 79.58 51 S S 08 24 11.5 +1.5
comp=Z,0.4nm,0.4s,baz=297,slow=14,SNR=4.3
ANMO Albuquerque 79.58 51 P P 08 14 24.7 +0.8
baz=317
ANMO Albuquerque 79.58 51c iP P 08 14 23.8 -0.1
ANMO pmax pmax
comp=Z,44nm,1.2s
ANMO Albuquerque 79.58 51 eP P 08 14 24.8 +0.9
comp=Z,74nm,1.1s
ANMO S S 08 24 11.5 +1.5
AYDN Tasoluk 79.58 313 iP P 08 14 25.1 +1.5
RETA Reutte 79.58 329 eP P 08 14 24.4 +0.9
comp=Z,1μm,1.3s,SNR=136
RETA S S 08 24 11.9 +2.6
comp=Z,199nm,1.7s,SNR=13
LAZ Ladron 79.59 52 eP P 08 14 25.0 +1.1
E42A Champion 79.62 33 P P 08 14 23.1 -0.5
baz=326,SNR=11
BAIF Baives 79.64 334 eP P 08 14 23.1 -0.5
BAIF pmax pmax
comp=Z,352nm,1.4s
DSB Dublin 79.64 342 eP P 08 14 24.3 +0.7
comp=Z,622nm,1.4s
G40A Rib Lake 79.64 35 P P 08 14 23.2 -0.6
baz=324,SNR=20
H39A Augusta 79.67 36 P P 08 14 23.2 -0.7
baz=324,SNR=14
FETY Fethiye 79.70 311 P S 08 24 11.0 +0.2
AKAS Kas 79.71 311 iP P 08 14 24.1 -0.3
AKAS Kas 79.71 311 eP P 08 14 25.1 +0.7
comp=Z,132nm,1.0s
F41A Three Lakes 79.71 34 P P 08 14 24.1 -0.1
baz=325
UPM Unac-Piva 79.73 322⇑iP P 08 14 24.5 0.0
I38A Scanlan Farm, 79.73 37 P P 08 14 23.6 -0.7
baz=323,SNR=18
PVY Plav 79.73 321⇑iP P 08 14 24.6 +0.1
KOME Kolasin 79.73 321⇑iP P 08 14 24.8 +0.4
URLA Izmir 79.74 314 iP P 08 14 24.9 +0.5
BFO Black Forest 79.75 331 iP P 08 14 24.6 +0.3
BFO Black Forest 79.75 331 eP P 08 14 25.4 +1.1
comp=Z,854nm,1.5s
J37A Redenius Farm, 79.78 38 P P 08 14 24.0 -0.5
baz=323,SNR=24
KSL Kastellorizon 79.78 311 P P 08 14 24.4 -0.3
KSL Kastellorizon 79.78 311 P S 08 24 10.8 -0.8
KSL Kastellorizon 79.78 311 P P 08 14 24.4 -0.3
TURN Turunc 79.78 312 iP P 08 14 27.2 +2.6
HORT Hortiatis 79.80 318 P P 08 14 24.8 0.0
HORT Hortiatis 79.80 318 P S 08 24 07.9 -3.9
HORT Hortiatis 79.80 318 P P 08 14 24.8 0.0
M34A Aspy Farms, Fr 79.80 41 P P 08 14 24.4 -0.3
baz=321,SNR=13
PLG Polygyros 79.80 317 P P 08 14 25.2 +0.4
PLG Polygyros 79.80 317 P P 08 14 25.2 +0.4
PLG Polygyros 79.80 317 P P 08 14 25.2 +0.4
L35A Bielow Farm, R 79.81 40 P P 08 14 23.9 -0.9
baz=322,SNR=21
DGB ¨zmir 79.82 314 iP P 08 14 25.7 +0.9
MENF Mencas 79.83 336⇑eP P 08 14 25.4 +0.8
THE Thessaloniki 79.84 318 P P 08 14 24.7 -0.2
THE Thessaloniki 79.84 318 P S 08 24 11.4 -0.6
THE Thessaloniki 79.84 318 P P 08 14 24.7 -0.2
THE Thessaloniki 79.84 318 P P 08 14 24.7 -0.2
NWAO Narrogin (SRO) 79.85 201 eP P 08 14 25.4 +0.6
NWAO pmax pmax
comp=Z,862nm,1.1s
NWAO Narrogin (SRO) 79.85 201 eP P 08 14 25.4 +0.6
comp=Z,862nm,1.1s
NWAO Narrogin (SRO) 79.85 201 P P 08 14 25.5 +0.8
SNR=39
NWAO Narrogin (SRO) 79.85 201 P P 08 14 25.5 +0.8
SNR=39
GRG Griva 79.86 318 P P 08 14 25.5 +0.4
GRG Griva 79.86 318 P P 08 14 25.5 +0.4
GRG Griva 79.86 318 P P 08 14 25.5 +0.4
ZEY ¨zmir 79.88 314 iP P 08 14 26.2 +1.1
GCAM G?zelcaml? 79.90 313 iP P 08 14 25.7 +0.5
TRI Trieste 79.90 326 eP P 08 14 25.2 +0.1
TRI pmax pmax
comp=Z,358nm,1.0s
TRI Trieste 79.90 326 eP P 08 14 25.2 +0.1
comp=Z,358nm,1.0s
K36A Gilmore City 79.90 39 P P 08 14 24.9 -0.3
baz=322,SNR=41
LPM Los Pinos Moun 79.94 52 eP P 08 14 26.8 +1.0
STRD Stroud 79.95 339⇑eP P 08 14 25.8 +0.5
STRD AMB AMB 08 14 28.2
comp=Z,972nm,1.5s
Y22D IRIS PASSCAL I 79.95 52 P P 08 14 27.2 +1.4
baz=317

MCH1 Michaelchurch 79.97 339⇑ eP P 08 14 25.4 +0.1
MCH1 AMB AMB 08 14 29.0
comp=Z,366nm,1.4s
N33A J Bar K, Exete 79.98 42 P P 08 14 24.7 -1.0
baz=321
FETA Feichten 79.99 329 i P P 08 14 26.5 +0.7
comp=Z,554nm,1.1s,SNR=97
FETA eS S 08 24 14.9 +1.1
comp=Z,326nm,1.8s,SNR=15
CHOS Chios island 80.00 314 P P 08 14 26.4 +0.5
CHOS Chios island 80.00 314 P S 08 24 09.4 -4.5
CHOS Chios island 80.00 314 P P 08 14 26.4 +0.5
NKY Niksic 80.00 321⇑ iP P 08 14 26.0 +0.1
E43A Lone Tree Farm 80.02 32 P P 08 14 25.1 -0.7
baz=326,SNR=7.7
PAIG Paliouri 80.03 317 P P 08 14 26.2 +0.3
PAIG Paliouri 80.03 317 P S 08 24 06.8 -7.2
PAIG Paliouri 80.03 317 P P 08 14 26.2 +0.3
PAIG Paliouri 80.03 317 P P 08 14 26.2 +0.3
UDBI Udbina 80.04 324 P P 08 14 26.0 0.0
CDF Champ du Feu 80.05 332 eP P 08 14 25.6 -0.4
CDF pmax pmax
comp=Z,823nm,1.4s
NKME Niksic 80.06 321⇑ iP P 08 14 25.9 -0.2
MONM Monmouth 80.06 339⇑ eP P 08 14 26.2 +0.3
MONM AMB AMB 08 14 28.8
comp=Z,631nm,1.4s
BNM Barren Site 80.06 52 eP P 08 14 27.4 +0.8
DAVA Damuels 80.08 329 eP P 08 14 27.0 +0.7
comp=Z,1μm,1.4s,SNR=138
DAVA S S 08 24 17.0 +2.3
comp=Z,72nm,1.7s
F42A Maple Grove Fa 80.08 33 P P 08 14 25.5 -0.6
baz=326
HMNX Herstmonceux 80.08 337⇑ eP P 08 14 27.0 +1.0
HMNX AMB AMB 08 14 28.4
comp=Z,873nm,1.1s
H40A Chili 80.09 35 P P 08 14 25.8 -0.4
baz=324,SNR=17
KRUS Krusevo 80.09 319 i P P 08 14 27.3 +0.9
G41A Antigo 80.11 34 P P 08 14 25.8 -0.5
baz=325,SNR=8.6
WOL Wolverton 80.12 338⇑ eP P 08 14 26.4 +0.2
WOL AMB AMB 08 14 28.8
comp=Z,619nm,1.4s
IGLA Glengowla, Co 80.13 343⇑ eP P 08 14 26.2 0.0
BRY Bratogost 80.13 322⇑ iP P 08 14 26.4 -0.2
OLDB Oldbury-Upon-S 80.16 339⇑ eP P 08 14 26.4 0.0
OLDB AMB AMB 08 14 31.2
comp=Z,327nm,2.2s
K37A Belmond 80.17 38 P P 08 14 26.0 -0.7
baz=323,SNR=58
PDG Podgorica 80.18 321 P P 08 14 27.2 +0.5
PDG Podgorica 80.18 321 P S 08 24 15.6 0.0
PDG Podgorica 80.18 321⇑ iP P 08 14 27.3 +0.5
TTG Podgorica 80.18 321⇑ iP P 08 14 27.1 +0.4
TTG Podgorica 80.18 321 P P 08 14 27.2 +0.5
TTG Podgorica 80.18 321 P P 08 14 27.2 +0.5
E44A Grand Marais A 80.23 32 P P 08 14 26.4 -0.5
baz=327
L36A Harm Buss Farm 80.23 39 P P 08 14 26.6 -0.4
baz=322,SNR=28
I39A Houston 80.23 36 P P 08 14 26.1 -0.9
baz=324,SNR=29
CEME Cevo 80.25 321⇑ iP P 08 14 27.4 +0.3
J38A Wedel Dairy, R 80.25 37 P P 08 14 26.2 -0.8
baz=323,SNR=11
HGH Gray Hill 80.25 339⇑ eP P 08 14 27.1 +0.2
M35A Neola 80.25 40 P P 08 14 27.0 -0.1
baz=322,SNR=74
ECH Echery 80.26 332⇑ eP P 08 14 27.4 +0.4
ECH Echery 80.26 332 eP P 08 14 26.8 -0.2
ECH pmax pmax
comp=Z,490nm,1.2s
ECH Echery 80.26 332 eP P 08 14 27.5 +0.4
comp=Z,486nm,1.2s
CBKS Cedar Bluff 80.32 45 P P 08 14 26.9 -0.7
baz=320,SNR=22
CBKS Cedar Bluff 80.32 45 eP P 08 14 26.9 -0.7
CBKS pmax pmax
comp=Z,124nm,0.9s
CBKS Cedar Bluff 80.32 45 eP P 08 14 26.9 -0.7
comp=Z,124nm,0.9s
BIA Bitola 80.33 319 i P P 08 14 28.1 +0.6
BODT Bodrum 80.33 313 P S 08 24 14.2 -3.2
N34A Lincoln 80.36 41 P P 08 14 26.8 -0.9
baz=321,SNR=18
NVLJ Novalja 80.38 325 P P 08 14 27.0 -0.7
G42A Mountain 80.39 34 P P 08 14 27.4 -0.4
baz=325,SNR=14
SKY Skiros Island 80.39 316 P P 08 14 28.1 +0.2
SKY Skiros Island 80.39 316 P P 08 14 28.1 +0.2
H41A Junction City 80.40 35 P P 08 14 27.1 -0.7
baz=325
F43A Flat Rock, Esc 80.40 33 P P 08 14 27.3 -0.5
baz=326,SNR=8.5
DRME Dracevica, Mon 80.41 321⇑ iP P 08 14 28.6 +0.7
O33A Hebron 80.42 42 P P 08 14 26.9 -1.2
baz=321,SNR=18
BUM Brajici-Budva 80.45 321⇑ iP P 08 14 28.1 -0.1
LIT Litokhoron 80.48 318 P P 08 14 28.3 -0.1
LIT Litokhoron 80.48 318 P S 08 24 04.3 -15
LIT Litokhoron 80.48 318 P P 08 14 28.3 -0.1
LIT Litokhoron 80.48 318 P P 08 14 28.3 -0.1
FNA Florina 80.49 319 P P 08 14 28.4 0.0
FNA Florina 80.49 319 P S 08 24 16.1 -2.8
FNA Florina 80.49 319 P P 08 14 28.4 0.0
FNA Florina 80.49 319 P P 08 14 28.4 0.0
FUORN Ofenpass-Fuorn 80.50 329 eP P 08 14 29.5 +0.9
comp=Z,560nm,0.9s
DAVOX Davos/Dischmat 80.50 329 S S 08 24 19.9 +0.7
comp=Z,24nm,1.1s,baz=176,slow=16,SNR=14
DAVOX PKKPbc PKKPbc 08 33 07.8 +1.2
comp=Z,5.1nm,0.7s,baz=195,slow=3.9,SNR=5.4
OHR Ohrid 80.50 319 i P P 08 14 29.1 +0.6
HCY Herceg Novi 80.52 322⇑ iP P 08 14 28.3 -0.2
319A Douglas 80.52 55 eP P 08 14 30.1 +1.2
comp=Z,134nm,1.0s
ARG Arkhangelos 80.53 312 P P 08 14 29.3 +0.7
ARG Arkhangelos 80.53 312 P P 08 14 29.3 +0.7
ARG Arkhangelos 80.53 312 P P 08 14 29.3 +0.7
STON Ston 80.53 322 P P 08 14 27.9 -0.7
IWEX Carrickbyrne, 80.54 342⇑ eP P 08 14 29.1 +0.7
ULC Ulcinj 80.56 321⇑ iP P 08 14 29.3 +0.5
J39A Decorah 80.57 37 P P 08 14 27.7 -1.1
baz=324,SNR=19
121A Cookes Peak, D 80.57 54 P P 08 14 30.3 +1.1
baz=316,SNR=47
121A Cookes Peak, D 80.57 54 eP P 08 14 30.1 +1.0
comp=Z,72nm,0.9s
F44A Big Bay de Noc 80.57 32 P P 08 14 28.2 -0.5
baz=327,SNR=11
MOF Molkenrain 80.58 331⇑ eP P 08 14 29.0 +0.2
I40A Norwalk 80.59 36 P P 08 14 28.2 -0.6
baz=324,SNR=13
L37A Phoenix Point, 80.62 39 P P 08 14 28.6 -0.5
baz=323,SNR=58
THEF They Montfort 80.65 332⇑ eP P 08 14 29.3 +0.2
K38A Parkersburg 80.65 38 P P 08 14 28.5 -0.7
baz=323,SNR=8.8
KZN Kozani 80.67 318 P P 08 14 29.4 0.0
KZN Kozani 80.67 318 P S 08 24 17.4 -3.5
KZN Kozani 80.67 318 P P 08 14 29.4 0.0
KZN Kozani 80.67 318 P P 08 14 29.4 0.0
M36A Felix, Anita 80.67 40 P P 08 14 29.1 -0.2
baz=322
G43A Wallace 80.67 33 P P 08 14 28.9 -0.3
baz=326,SNR=8.9
XOR Xorichti 80.70 317 P P 08 14 29.3 -0.3
XOR Xorichti 80.70 317 P S 08 24 17.0 -4.1
XOR Xorichti 80.70 317 P P 08 14 29.3 -0.3
HINF Hinteralfeld 80.71 332 eP P 08 14 28.7 -0.8
HINF pmax pmax
comp=Z,369nm,1.4s
SKIA Skiathos 80.72 316 P P 08 14 29.4 -0.2
SKIA Skiathos 80.72 316 P S 08 24 20.7 -0.6
E45A Wooded Hills, 80.73 31 P P 08 14 28.9 -0.7
baz=327,SNR=8.3
NEO Neokhori 80.73 317 P P 08 14 29.4 -0.3
NEO Neokhori 80.73 317 P S 08 24 17.3 -4.2
NEO Neokhori 80.73 317 P P 08 14 29.4 -0.3
N35A Tabor 80.74 41 P P 08 14 29.9 +0.1
baz=322
NIS1 Nisyros Isl. 80.75 313 P P 08 14 30.4 +0.6
NIS1 Nisyros Isl. 80.75 313 P S 08 24 20.6 -1.1
NIS1 Nisyros Isl. 80.75 313 P P 08 14 30.4 +0.6
TIR Tirane 80.76 320⇑ iP P 08 14 30.6 +0.8
TIR Tirane 80.76 320 eP P 08 14 30.6 +0.8
TIR pmax pmax
comp=Z,729nm,1.1s
TIR Tirane 80.76 320 eP P 08 14 30.6 +0.8
comp=Z,729nm,1.1s
I41A Arkdale 80.77 35 P P 08 14 29.3 -0.5
baz=325
NISR Nisiros 80.77 313 P P 08 14 30.1 +0.2
NISR Nisiros 80.77 313 P S 08 24 20.8 -1.0
NISR Nisiros 80.77 313 P P 08 14 30.1 +0.2
O34A Beatrice 80.77 42 P P 08 14 29.0 -0.9
baz=321,SNR=39
FYTO Fytoko, Volos 80.79 317 P P 08 14 30.0 0.0
FYTO Fytoko, Volos 80.79 317 P S 08 24 19.3 -2.7
FYTO Fytoko, Volos 80.79 317 P P 08 14 30.0 0.0
J40A Soldiers Grove 80.93 36 P P 08 14 29.7 -1.0
baz=324,SNR=8.3
H42A Shiocton 80.95 34 P P 08 14 30.4 -0.4
baz=325
TUE Stuetta 80.96 329 eP P 08 14 31.7 +0.7
comp=Z,222nm,0.9s
L38A Oak Wood Farm, 80.97 38 P P 08 14 30.4 -0.5
baz=323,SNR=15
K39A Oelwein 80.99 37 P P 08 14 29.8 -1.2
baz=324,SNR=20
DGAR Diego Garcia 81.03 251 d iP P 08 14 30.5 -1.0
DGAR Diego Garcia 81.03 251 eP P 08 14 30.6 -0.9
comp=Z,753nm,1.2s
SCIA State Center 81.04 39 eP P 08 14 31.4 +0.1
comp=Z,341nm,1.1s
EREA Eretria 81.06 316 P P 08 14 31.3 -0.2
M37A Trindle Farm, 81.06 39 P P 08 14 31.5 +0.1
baz=322,SNR=25
PENT Pentalofos 81.06 319 P P 08 14 31.6 +0.1
SMIA Simia 81.07 316 P P 08 14 31.5 0.0
SMIA Simia 81.07 316 P S 08 24 22.4 -2.5
O35A Humboldt 81.08 41 P P 08 14 30.8 -0.7
baz=322,SNR=15
KARY Karystos 81.09 315 P P 08 14 31.6 0.0
KARY Karystos 81.09 315 P S 08 24 22.6 -2.6
N36A Muff Farm, Cla 81.10 40 P P 08 14 31.7 +0.1
baz=322,SNR=12
LOMF Lomont 81.12 331⇑ eP P 08 14 32.2 +0.5
LOMF Lomont 81.12 331 eP P 08 14 32.4 +0.7
THL Klokotos Trika 81.13 318 P P 08 14 30.8 -0.9
THL Klokotos Trika 81.13 318 P S 08 24 23.1 -2.3
KPRO Kipourio 81.14 318 P P 08 14 31.7 -0.2
KPRO Kipourio 81.14 318 P S 08 24 23.1 -2.6
F45A CMU Biological 81.16 32 P P 08 14 31.3 -0.5
baz=327,SNR=5.7
HSIG 81.19 58 eP P 08 14 33.4 +1.2
comp=Z,311nm,2.0s
P34A Walnut Farm, R 81.20 42 P P 08 14 31.3 -0.9
baz=321,SNR=42
APE Apeiranthos 81.26 314 P P 08 14 31.7 -0.9
APE Apeiranthos 81.26 314⇓ iP P 08 14 32.8 +0.2
APE Apeiranthos 81.26 314 P P 08 14 31.7 -0.9
APE Apeiranthos 81.26 314 P P 08 14 31.7 -0.9
HTL Hartland 81.26 340⇑ eP P 08 14 32.8 +0.5
HTL AMB AMB 08 14 33.8
comp=Z,153nm,1.2s
J41A Loganville 81.27 36 P P 08 14 31.7 -0.7
baz=325
H43A Windswept, Lux 81.29 34 P P 08 14 32.4 -0.1
baz=326
I42A Draeger Farm, 81.30 35 P P 08 14 32.2 -0.4
baz=325,SNR=5.4
K40A Colesburg 81.33 37 P P 08 14 32.0 -0.7
baz=324,SNR=17
LKR Lokris 81.35 316 P P 08 14 32.5 -0.4
LKR Lokris 81.35 316 P S 08 24 21.6 -6.2
LKR Lokris 81.35 316 P P 08 14 32.5 -0.4
EIL Elat 81.37 303 PP PP 08 17 39.9 -1.4
comp=Z,121nm,1.2s,baz=6.9,slow=5.1,SNR=6.1
EIL S S 08 24 30.0 +1.7
comp=Z,8.5nm,1.3s,baz=204,slow=22,SNR=10
PTL Penteli 81.37 316 P S 08 24 27.5 -0.6
F46A Macinaw City C 81.38 31 P P 08 14 32.5 -0.4
baz=328,SNR=16
AGG Agios Georgios 81.39 317 P P 08 14 32.3 -0.9
AGG Agios Georgios 81.39 317 eP P 08 14 32.5 -0.7
AGG pmax pmax
comp=Z,318nm,1.0s
AGG Agios Georgios 81.39 317 eP P 08 14 32.5 -0.7
comp=Z,318nm,1.0s
L39A Vinton 81.41 38 P P 08 14 32.6 -0.6
baz=324,SNR=27
M38A Pleasantville 81.44 39 P P 08 14 33.2 -0.2
baz=323,SNR=53
ATHU Athens Univers 81.48 316 P P 08 14 32.9 -0.8
ATHU Athens Univers 81.48 316 P S 08 24 29.6 +0.4
ATHU Athens Univers 81.48 316 P P 08 14 32.9 -0.8
N37A Lee Faris, Mou 81.50 40 P P 08 14 33.5 -0.2
baz=322,SNR=22
ATH Athens Observa 81.51 316 P P 08 14 33.3 -0.5
ATH Athens Observa 81.51 316 P S 08 24 25.9 -3.5
ATH Athens Observa 81.51 316 P P 08 14 33.3 -0.5
ATH Athens Observa 81.51 316 P P 08 14 33.3 -0.5
JFWS Jewell Farm 81.54 36 eP P 08 14 33.3 -0.6
JFWS pmax pmax
comp=Z,203nm,1.4s
JFWS Jewell Farm 81.54 36 eP P 08 14 33.3 -0.6
comp=Z,203nm,1.4s
KARP Karpathos 81.54 312 P P 08 14 33.8 -0.3
KARP Karpathos 81.54 312 eP P 08 14 34.5 +0.4
comp=Z,60nm,0.8s
P35A Duane Minner, 81.61 42 P P 08 14 33.6 -0.7
baz=322,SNR=13
JAN Janina 81.62 318 P P 08 14 35.2 +0.8
JAN Janina 81.62 318 P S 08 24 30.9 +0.3
JAN Janina 81.62 318 P P 08 14 35.2 +0.8
JAN Janina 81.62 318 P P 08 14 35.2 +0.8
Q34A Chapman 81.63 43 P P 08 14 33.8 -0.7
baz=321,SNR=27
DYA Yadsworthy 81.64 339⇑ eP P 08 14 34.3 +0.1
DYA AMB AMB 08 14 35.3
comp=Z,386nm,1.3s
DYA Yadsworthy 81.64 339 eP P 08 14 34.9 +0.6
comp=Z,524nm,1.2s
O36A Bolckow 81.64 41 P P 08 14 34.3 -0.1
baz=322,SNR=22
KSU1 Kansas State U 81.65 42 P P 08 14 33.7 -0.8
baz=321,SNR=18
KSU1 Kansas State U 81.65 42 eP P 08 14 33.9 -0.7
comp=Z,218nm,1.4s
J42A Columbus 81.68 35 P P 08 14 34.0 -0.6
baz=325,SNR=13
VAL Valentia 81.70 343⇓ iP P 08 14 34.2 -0.3
VAL Valentia 81.70 343⇓ iS S 08 24 32.6 +1.7
EVR Evrytania 81.73 317 P P 08 14 34.6 -0.5
EVR Evrytania 81.73 317 P S 08 24 28.7 -3.2
EVR Evrytania 81.73 317 P P 08 14 34.6 -0.5
K41A Shullsburg 81.76 36 P P 08 14 34.3 -0.7
baz=324,SNR=13
DSF Desfina 81.77 317 P P 08 14 34.3 -0.9
DSF Desfina 81.77 317 P S 08 24 25.2 -7.0
DSF Desfina 81.77 317 P P 08 14 34.3 -0.9
SENIN Lac Senin/Sane 81.80 330 eP P 08 14 35.8 +0.3
comp=Z,278nm,1.1s
L40A Anamosa 81.80 37 P P 08 14 34.4 -0.8
baz=324,SNR=19
SANT Santorini 81.83 313 eP P 08 14 34.2 -1.4
comp=Z,276nm,1.3s
THR3 Thira Island, 81.83 314 P P 08 14 34.8 -0.7
THR3 Thira Island, 81.83 314 P P 08 14 34.8 -0.7
LTK Loutraki 81.85 316 P P 08 14 34.1 -1.5
LTK Loutraki 81.85 316 P S 08 24 28.4 -4.6
LTK Loutraki 81.85 316 P P 08 14 34.1 -1.5
M39A Webster 81.85 38 P P 08 14 35.2 -0.4
baz=324,SNR=60
LOUT Loutraki 81.87 316 P P 08 14 34.4 -1.3
LOUT Loutraki 81.87 316 P S 08 24 28.9 -4.3
THR6 Thira Island, 81.87 313 P P 08 14 34.9 -0.8
THR6 Thira Island, 81.87 313 P P 08 14 34.9 -0.8
VLDQ Val d'Or 81.88 26 eP P 08 14 34.5 -1.1
comp=Z,535nm,1.1s
DSL Palaion Diasel 81.91 318 P P 08 14 36.1 +0.2
DSL Palaion Diasel 81.91 318 P S 08 24 25.7 -7.9
DSL Palaion Diasel 81.91 318 P P 08 14 36.1 +0.2
N38A Joes South For 81.92 39 P P 08 14 35.7 -0.2
baz=323,SNR=13
J43A Natural Harves 81.92 35 P P 08 14 35.4 -0.5
baz=326
P36A Good Intent, A 81.92 41 P P 08 14 35.5 -0.4
baz=322,SNR=25
ANX Ano Chora 81.92 317 P P 08 14 35.9 -0.2
ANX Ano Chora 81.92 317 P S 08 24 27.3 -6.6
SGD Sagiada 81.95 319 P P 08 14 36.5 +0.4
SGD Sagiada 81.95 319 P S 08 24 25.6 -8.3
R34A Isabella, Hill 81.96 43 P P 08 14 35.5 -0.6
baz=321,SNR=15
KALE Kalithea 81.97 317 P P 08 14 35.7 -0.6
KALE Kalithea 81.97 317 P S 08 24 29.7 -4.6
KALE Kalithea 81.97 317 P P 08 14 35.7 -0.6
THAL Thalero 81.99 316 P P 08 14 35.6 -0.7
O37A Wolven Farm, M 81.99 40 P P 08 14 36.4 +0.1
baz=322
SERG Sergoula 82.00 317 P P 08 14 35.8 -0.6
SERG Sergoula 82.00 317 P S 08 24 26.1 -8.4
CABF La Chapelle 82.01 331 eP P 08 14 36.0 -0.4
CABF pmax pmax
comp=Z,363nm,1.5s
K42A Prairie Point, 82.03 36 P P 08 14 35.7 -0.8
baz=325,SNR=13
EFP Efpalio 82.06 317 P P 08 14 36.7 0.0
EFP Efpalio 82.06 317 P S 08 24 29.2 -5.9
KEK Kerkira 82.08 319 P P 08 14 37.0 +0.3
KEK Kerkira 82.08 319 P S 08 24 29.6 -5.6
KEK Kerkira 82.08 319 P P 08 14 37.0 +0.3
PVO Paravola 82.10 317 P P 08 14 37.1 +0.2
PVO Paravola 82.10 317 P S 08 24 30.8 -4.7
DID Didima 82.11 316 P P 08 14 34.9 -2.1
DID Didima 82.11 316 P P 08 14 34.9 -2.1
L41A Preston 82.11 37 P P 08 14 36.0 -0.9
baz=324,SNR=14
Q35A Mercer Eighty, 82.12 42 P P 08 14 36.4 -0.6
baz=322,SNR=31
MHLO Agia Marina, M 82.14 314 P P 08 14 35.4 -1.7
LAKA Lakka 82.17 317 P S 08 24 23.6 -13
N39A Derby Farms, D 82.19 39 P P 08 14 37.1 -0.2
baz=323,SNR=66
CCA1 Carnmenellis 82.19 340⇑ eP P 08 14 37.5 +0.3
M40A Post Highland 82.20 38 P P 08 14 36.9 -0.5
baz=324,SNR=39
FLN La Foliniere 82.21 336 eP P 08 14 36.5 -0.7
FLN pmax pmax
comp=Z,458nm,1.2s
GUR Goura 82.23 316 P P 08 14 36.8 -0.9
GUR Goura 82.23 316 P S 08 24 31.4 -5.6
GUR Goura 82.23 316 P P 08 14 36.8 -0.9
GLMI Grayling 82.23 32 eP P 08 14 37.5 0.0
comp=Z,269nm,0.9s
KLV Kalavryta, Ach 82.24 317 P P 08 14 37.1 -0.6
KLV Kalavryta, Ach 82.24 317 P S 08 24 29.2 -7.9
KLV Kalavryta, Ach 82.24 317 P P 08 14 37.1 -0.6
JQE Queens East 82.25 337⇑ eP P 08 14 37.5 +0.1
LDF La Druitiere 82.25 336 eP P 08 14 36.8 -0.7
LDF pmax pmax
comp=Z,293nm,1.2s
AMTX Amarillo 82.27 48 P P 08 14 38.2 +0.3
baz=319
AMTX Amarillo 82.27 48 eP P 08 14 38.5 +0.5
comp=Z,159nm,1.1s
JRS Jersey 82.28 337 eP P 08 14 38.1 +0.6
PDO Prodromos 82.28 318 P P 08 14 37.9 +0.1
JSA Saint Aubin 82.30 338⇑ eP P 08 14 38.0 +0.3
JSA AMB AMB 08 14 40.8
comp=Z,319nm,1.1s
Q36A Arnold C. Orve 82.32 42 P P 08 14 37.3 -0.7
baz=322,SNR=6.6
O38A Galt 82.34 40 P P 08 14 38.0 -0.1
baz=323,SNR=20
P37A Lathrop 82.36 41 P P 08 14 38.0 -0.2
baz=322,SNR=48
MSTX Muleshoe 82.36 50 P P 08 14 38.4 -0.1
baz=319,SNR=18
MSTX Muleshoe 82.36 50 eP P 08 14 38.2 -0.3
comp=Z,126nm,1.5s
ZKR Zakros 82.38 312 P P 08 14 38.9 +0.5
ZKR Zakros 82.38 312 P P 08 14 38.9 +0.5
LKD2 Lefkada island 82.39 318 P P 08 14 38.4 0.0
LKD2 Lefkada island 82.39 318 P S 08 24 30.9 -7.6
LKD2 Lefkada island 82.39 318 P P 08 14 38.4 0.0
CPRX Cap Rock 82.45 51 eP P 08 14 40.0 +1.0
R35A Emporia Munici 82.46 43 P P 08 14 38.8 0.0
baz=322,SNR=23
S34A Willow Spring 82.49 44 P P 08 14 38.5 -0.5
baz=321,SNR=12
AXS Araxos 82.50 317 P P 08 14 38.9 -0.1
K43A Burlington 82.52 35 P P 08 14 38.3 -0.7
baz=326,SNR=5.6
VLC Villacollemand 82.52 327 eP P 08 14 39.9 +0.9
comp=Z,529nm,1.2s
DRO Drossia 82.53 317 P P 08 14 39.5 +0.4
DRO Drossia 82.53 317 P S 08 24 35.5 -4.4
U32A Winter Ranch, 82.55 46 P P 08 14 39.5 +0.2
baz=320,SNR=8.0
RLS Riolos of Patr 82.57 317 P P 08 14 39.9 +0.6
RLS Riolos of Patr 82.57 317 P P 08 14 39.9 +0.6
MNTX Cornudas Mount 82.57 53 P P 08 14 40.0 +0.6
baz=318,SNR=79
MNTX Cornudas Mount 82.57 53 eP P 08 14 40.0 +0.6
comp=Z,74nm,1.2s
NPS Neapolis 82.59 313 P P 08 14 39.0 -0.5
NPS Neapolis 82.59 313 P P 08 14 39.0 -0.5
NPS Neapolis 82.59 313 P P 08 14 39.0 -0.5
N40A Mertquake, Sal 82.59 38 P P 08 14 39.2 -0.2
baz=324,SNR=29
RSL Roselend 82.62 331⇑ eP P 08 14 39.8 +0.2
VLX Vlachokerasia 82.65 316 P P 08 14 39.0 -0.9
VLX Vlachokerasia 82.65 316 P S 08 24 36.2 -5.1
GRR Gorron 82.65 336 eP P 08 14 39.1 -0.4
GRR pmax pmax
comp=Z,322nm,1.1s
M41A Milan 82.66 37 P P 08 14 39.1 -0.6
baz=324,SNR=25
O39A Kirksville 82.67 39 P P 08 14 39.6 -0.2
baz=323,SNR=33
P38A Dawn 82.71 40 P P 08 14 40.1 +0.1
baz=323,SNR=37
LPL La Plagne 82.73 330 eP P 08 14 40.2 -0.1
LPL pmax pmax
comp=Z,207nm,0.8s
LAST Lasithi 82.74 313 P P 08 14 40.2 -0.1
LAST Lasithi 82.74 313 P P 08 14 40.2 -0.1
LPG La Plagne 82.74 330 eP P 08 14 40.4 0.0
LPG pmax pmax
comp=Z,565nm,1.2s
L43A Garden Prairie 82.77 36 P P 08 14 39.6 -0.7
baz=326
AVF Avril sur Loir 82.78 333 eP P 08 14 39.2 -1.0
AVF pmax pmax
comp=Z,794nm,1.2s
R36A Gordon, Harris 82.80 42 P P 08 14 40.3 -0.2
baz=322,SNR=72
AQU L'Aquila 82.80 325 eP P 08 14 41.2 +0.7
AQU pmax pmax
comp=Z,454nm,1.0s
AQU L'Aquila 82.80 325 eP P 08 14 41.2 +0.7
comp=Z,454nm,1.0s
AMT Artemida-Makis 82.86 317 P P 08 14 40.7 -0.1
VLI Veliai 82.87 315 P P 08 14 38.5 -2.4
VLI Veliai 82.87 315 P S 08 24 36.7 -6.6
VLI Veliai 82.87 315 P P 08 14 38.5 -2.4
Q37A Longview Farm, 82.87 41 P P 08 14 40.2 -0.7
baz=322,SNR=8.0
S35A Otter Creek Ra 82.90 43 P P 08 14 41.2 +0.1
baz=322
VLS Valsamata 82.90 318 P P 08 14 41.0 -0.1
VLS Valsamata 82.90 318 P S 08 24 43.4 -0.3
VLS Valsamata 82.90 318 P P 08 14 41.0 -0.1
VLS Valsamata 82.90 318 P P 08 14 41.0 -0.1
M42A Sheffield 82.94 37 P P 08 14 40.3 -0.8
baz=325,SNR=14
IDI Anoyia 82.95 313 PP PP 08 17 54.6 +0.5
comp=Z,78nm,1.1s,baz=52,slow=6.8,SNR=4.0
IDI S S 08 24 38.1 -6.3
comp=Z,31nm,1.1s,baz=97,slow=3.5,SNR=6.7
IDI PKKPbc PKKPbc 08 33 03.0 +2.3
comp=Z,8.0nm,1.0s,baz=305,slow=10.0,SNR=3.8
IDI Anoyia 82.95 313 P P 08 14 40.5 -0.9
IDI Anoyia 82.95 313 eP P 08 14 41.0 -0.5
comp=Z,446nm,1.3s
IDI PP PP 08 17 54.5 +0.5
IDI S S 08 24 38.1 -6.3

IDI PKKPbc **PKKPbc** 08 33 03.0 +2.3
T34A McClaskey Farm 82.98 44 P **P** 08 14 41.4 -0.1
baz=321,SNR=43
ITM Ithomi 83.02 316 P **P** 08 14 41.3 -0.4
ITM Ithomi 83.02 316 P **P** 08 14 41.3 -0.4
N41A Harden Midland 83.06 38 P **P** 08 14 41.3 -0.5
baz=324,SNR=34
O40A La Belle 83.08 39 P **P** 08 14 41.8 -0.1
baz=324,SNR=55
L44A Lake County Fo 83.13 35 P **P** 08 14 41.8 -0.3
baz=326
R37A Teagarden Farm 83.13 42 P **P** 08 14 41.5 -0.7
baz=322,SNR=46
BNI Bardonecchia 83.15 330 eP **P** 08 14 43.7 +1.3
BNI pmax pmax
comp=Z,264nm,1.1s
BNI Bardonecchia 83.15 330 eP **P** 08 14 43.7 +1.3
comp=Z,264nm,1.1s
P39B Salisbury 83.18 40 P **P** 08 14 42.2 -0.2
baz=323,SNR=28
Q38A Cooks Store, C 83.20 41 P **P** 08 14 42.2 -0.4
baz=323,SNR=44
SIVA Sivas 83.20 313 P **P** 08 14 43.1 +0.5
SIVA Sivas 83.20 313 P **P** 08 14 43.1 +0.5
VAM Vamos 83.22 314 P **P** 08 14 43.6 +0.9
VAM Vamos 83.22 314 P **P** 08 14 43.6 +0.9
VAM Vamos 83.22 314 P **P** 08 14 43.6 +0.9
S36A Lake Cedric, C 83.23 43 P **P** 08 14 42.5 -0.2
baz=322,SNR=64
IMMV Iera Moni Meta 83.30 314 P **P** 08 14 42.3 -0.8
N42A Yates City 83.33 37 P **P** 08 14 42.8 -0.4
baz=325,SNR=20
PYL PYLOS 83.33 316 P **P** 08 14 42.4 -0.9
PYL PYLOS 83.33 316 P S 08 24 39.0 -9.0
PYL PYLOS 83.33 316 P **P** 08 14 42.4 -0.9
ANKY Antikythira Is 83.34 314 P **P** 08 14 42.7 -0.6
ANKY Antikythira Is 83.34 314 P **P** 08 14 42.7 -0.6
T35A Sooner Cattle 83.40 44 P **P** 08 14 43.8 +0.2
baz=322,SNR=66
PLDF La Plantade 83.41 333 eP **P** 08 14 44.2 +0.6
Q39A Willow Grove F 83.43 40 P **P** 08 14 43.7 0.0
baz=323
P40A Paris 83.47 39 P **P** 08 14 43.8 -0.1
baz=324,SNR=52
AGO Saint Agoulin 83.50 333⇑eP **P** 08 14 45.0 +1.0
O41A Passleys Farm, 83.53 38 P **P** 08 14 43.9 -0.3
baz=324,SNR=34
ORIF Oris-en-Rattie 83.55 331 eP **P** 08 14 44.3 0.0
ORIF pmax pmax
comp=Z,460nm,1.4s
RAR Rarotonga 83.56 127 LR LR 08 46 15.4
comp=Z,953nm,20.2s,baz=306,slow=31
S37A Fort Scott 83.57 42 P **P** 08 14 44.0 -0.4
baz=322,SNR=33
T36A Boggs Farm, Ca 83.60 43 P **P** 08 14 44.8 +0.1
baz=322,SNR=33
OUZ Omahuta 83.64 155 eP **P** 08 14 47.4 +2.8
comp=Z,233nm,1.3s
R38A Fenwick Farm, 83.68 41 P **P** 08 14 44.0 -1.0
baz=323,SNR=28
CUC Castrocucco 83.69 322 eP **P** 08 14 45.0 -0.1
comp=Z,120nm,1.1s
SSB Saint Sauveur 83.70 332 eP **P** 08 14 45.8 +0.7
SSB pmax pmax
comp=Z,351nm,1.2s
SSB Saint Sauveur 83.70 332 eP **P** 08 14 45.8 +0.7
comp=Z,351nm,1.2s
U35A Pawnee 83.72 44 P **P** 08 14 45.5 +0.2
baz=321,SNR=18
GVD Gavdhos 83.72 313 P **P** 08 14 45.2 -0.1
GVD Gavdhos 83.72 313 P **P** 08 14 45.2 -0.1
QUIF Quistinic 83.73 338 eP **P** 08 14 44.8 -0.3
QUIF pmax pmax
comp=Z,448nm,1.5s
P41A Barry, Barry 83.81 39 P **P** 08 14 45.5 -0.1
baz=324,SNR=44
PYM Petit Puy Mans 83.81 333⇑eP **P** 08 14 46.5 +0.9
O42A Bath 83.82 38 P **P** 08 14 45.2 -0.5
baz=325,SNR=16
HDIL Hopedale 83.87 37 P **P** 08 14 45.6 -0.3
baz=325,SNR=29
HDIL Hopedale 83.87 37 eP **P** 08 14 45.6 -0.3
comp=Z,747nm,1.3s
Q40A Laux Farm, Aux 83.89 40 P **P** 08 14 45.9 -0.1
baz=324,SNR=43
LUCF Luceram 83.90 329⇑eP **P** 08 14 46.3 +0.1
WMOK Wichita Mounta 83.92 47 P **P** 08 14 46.4 0.0
baz=320,SNR=58
WMOK Wichita Mounta 83.92 47 eP **P** 08 14 46.3 0.0
WMOK pmax pmax
comp=Z,136nm,1.4s
WMOK Wichita Mounta 83.92 47 eP **P** 08 14 46.3 0.0
comp=Z,136nm,1.4s
MVIF Mont Vial 83.97 329⇑eP **P** 08 14 46.6 0.0
R39A Chumby, Stover 83.99 41 P **P** 08 14 46.2 -0.3
baz=323
REVF Revere 84.02 329⇑eP **P** 08 14 46.6 -0.1
VIVF Saint-Julien-l 84.03 331 eP **P** 08 14 46.7 0.0
VIVF pmax pmax
comp=Z,255nm,1.0s
T37A Cheneyville 18 84.03 43 P **P** 08 14 46.5 -0.3
baz=322,SNR=30
OG26 St.-Nazaire-De 84.05 331⇑eP **P** 08 14 47.9 +1.1
O43A Sugar Creek Fa 84.09 37 P **P** 08 14 46.7 -0.3
baz=325,SNR=16
S38A Stockton 84.12 42 P **P** 08 14 46.3 -1.0
baz=323,SNR=19
V35A Meyer Ranch, C 84.14 45 P **P** 08 14 47.3 -0.1
baz=321,SNR=19
N44A Piper City 84.18 36 P **P** 08 14 47.1 -0.4
baz=326,SNR=16
LBL Lubilhac 84.18 332 eP **P** 08 14 48.4 +0.9
P42A Winchester 84.20 38 P **P** 08 14 47.3 -0.3
baz=325,SNR=29
U36A Oologah 84.20 44 P **P** 08 14 47.6 0.0
baz=322,SNR=17
FRNF Fournols 84.27 333⇑eP **P** 08 14 48.8 +0.9
Q41A Truxton 84.31 39 P **P** 08 14 48.2 +0.1
baz=324,SNR=60
S39A Bolivar 84.35 41 P **P** 08 14 47.6 -0.8
baz=323,SNR=38
R40A Maddies Statio 84.37 40 P **P** 08 14 48.1 -0.4
baz=324,SNR=41
N45A Kentland 84.40 36 P **P** 08 14 48.2 -0.3
baz=326,SNR=7.2
T38A Diamond 84.40 42 P **P** 08 14 48.4 -0.3
baz=323,SNR=51
TRQ Mont Tremblant 84.46 25 eP **P** 08 14 49.1 +0.2
U37A Salina 84.50 43 P **P** 08 14 49.1 0.0
baz=322,SNR=26
P43A Skaggs, Pawnee 84.52 38 P **P** 08 14 49.0 -0.2
baz=325,SNR=17
TUL1 Leonard 84.55 44 P **P** 08 14 49.4 0.0
baz=322,SNR=26
TUL1 Leonard 84.55 44 eP **P** 08 14 49.2 -0.2
comp=Z,761nm,1.8s
O44A Mansfield 84.56 37 P **P** 08 14 49.1 -0.4
baz=326,SNR=15
V36A Jenks 84.57 44 P **P** 08 14 49.7 +0.1
baz=322,SNR=10
W35A Tecumseh 84.59 45 P **P** 08 14 49.9 +0.3
baz=322,SNR=30
Q42A Golden Eagle 84.66 39 P **P** 08 14 50.0 +0.1
baz=325,SNR=35
N46A Monticello 84.68 35 P **P** 08 14 49.6 -0.4
baz=327
PLVO Plevna 84.72 27 eP **P** 08 14 49.6 -0.6
comp=Z,168nm,1.0s
AAM Ann Arbor 84.74 33 eP **P** 08 14 50.9 +0.6
AAM pmax pmax
comp=Z,385nm,1.4s
AAM Ann Arbor 84.74 33 eP **P** 08 14 50.9 +0.6
comp=Z,385nm,1.4s
R41A Rosebud 84.78 40 P **P** 08 14 50.2 -0.3
baz=324,SNR=34
O45A Potomac 84.80 36 P **P** 08 14 50.6 0.0
baz=326,SNR=24
S40A Lebanon 84.81 41 P **P** 08 14 50.3 -0.5
baz=324,SNR=36
LEPF PUYLOUBIER 84.82 330⇑eP **P** 08 14 51.3 +0.6
U38A Gravette 84.83 43 P **P** 08 14 50.5 -0.3
baz=323,SNR=25
CAF Calviac 84.85 333 eP **P** 08 14 50.6 -0.2
CAF pmax pmax
comp=Z,628nm,1.4s
T39A Clever 84.86 42 P **P** 08 14 50.4 -0.6
baz=323
V37A Hulbert 84.90 44 P **P** 08 14 51.2 0.0
baz=322,SNR=49
W36A Wetumka 84.93 45 P **P** 08 14 51.5 +0.1
baz=322,SNR=28
SFIN Lafayette 84.96 36 P **P** 08 14 51.3 -0.2
baz=327,SNR=7.8
SFIN Lafayette 84.96 36 eP **P** 08 14 51.2 -0.2
comp=Z,490nm,1.5s
Q43A New Douglas 85.02 38 P **P** 08 14 51.6 -0.1
baz=325,SNR=12
SLM Saint Louis 85.02 39 eP **P** 08 14 52.4 +0.6
SLM pmax pmax
comp=Z,526nm,1.3s
SLM Saint Louis 85.02 39 eP **P** 08 14 52.4 +0.6
comp=Z,526nm,1.3s
CCM Cathedral Cave 85.03 40 eP **P** 08 14 51.6 -0.2
CCM pmax pmax
comp=Z,307nm,1.2s
CCM Cathedral Cave 85.03 40 eP **P** 08 14 51.6 -0.2
comp=Z,307nm,1.2s
CEL Celeste 85.06 321 eP **P** 08 14 52.6 +0.6
comp=Z,325nm,1.0s
R42A Luebbering 85.06 39 P **P** 08 14 51.8 -0.1
baz=325,SNR=32
P44A Sand Creek, Wi 85.06 37 P **P** 08 14 51.9 0.0
baz=326,SNR=23
ABTX Abilene, Hawle 85.08 49 P **P** 08 14 52.3 +0.1
baz=320,SNR=30
ABTX Abilene, Hawle 85.08 49 eP **P** 08 14 52.3 +0.1
comp=Z,448nm,1.8s
X35A Drake 85.13 46 P **P** 08 14 52.1 -0.3
baz=322,SNR=25
T40A Mansfield 85.17 41 P **P** 08 14 51.9 -0.6
baz=324,SNR=26
HHAR Hobbs 85.17 43 eP **P** 08 14 52.1 -0.5
comp=Z,398nm,1.6s
S41A Jillco Farms, 85.18 40 P **P** 08 14 52.1 -0.5
baz=324,SNR=36
V38A Canehill 85.28 43 P **P** 08 14 53.0 -0.1
baz=323,SNR=64
TX31 Lajitas Ar. Si 85.31 53 eP **P** 08 14 54.3 +0.8
TXAR Lajitas Array 85.31 53 P **P** 08 14 53.7 +0.2
comp=Z,40nm,0.9s,baz=293,slow=3.3,SNR=234
TXAR pP **pP** 08 15 40.2 +0.3
comp=Z,42nm,0.9s,baz=274,slow=3.1,SNR=2.9
TXAR S **S** 08 25 00.5 -7.6
comp=Z,0.4nm,0.9s,baz=54,slow=45,SNR=4.3
TXAR PKKPbc **PKKPbc** 08 32 58.0 +2.8
comp=Z,1.4nm,0.6s,baz=145,slow=6.0,SNR=16
TXAR PKP2ab 08 40 57.9
comp=Z,1.1nm,1.0s,baz=161,slow=8.0,SNR=5.6
TXAR PKPPKP **P'P'df** 08 41 02.7 -2.8
comp=Z,3.9nm,1.1s,baz=136,slow=3.2,SNR=7.8
X36A Centrahoma 85.31 45 P **P** 08 14 53.5 +0.2
baz=322,SNR=18
U39A Green Forest 85.32 42 P **P** 08 14 52.9 -0.4
baz=323,SNR=59
W37B Quinton 85.34 44 P **P** 08 14 53.7 +0.3
baz=322,SNR=23
Q44A Meyer Farm, Va 85.35 38 P **P** 08 14 53.2 -0.2
baz=326,SNR=24
R43A Red Bud 85.45 39 P **P** 08 14 53.6 -0.3
baz=325,SNR=21
S42A Caledonia 85.47 40 P **P** 08 14 53.9 -0.1
baz=325,SNR=44
Y35A Marietta 85.48 46 P **P** 08 14 54.1 0.0
baz=321
U40A Yellville 85.64 42 P **P** 08 14 54.5 -0.4
baz=324,SNR=95
V39A Pettigrew 85.67 43 P **P** 08 14 54.6 -0.5
baz=323,SNR=48
X37A Clayton 85.80 44 P **P** 08 14 55.5 -0.2
baz=322,SNR=13
W38A Poteau 85.85 44 P **P** 08 14 55.9 0.0
baz=323,SNR=20
R44A Waltonville 85.86 38 P **P** 08 14 55.6 -0.3
baz=326,SNR=18
Y36A Durant 85.87 46 P **P** 08 14 55.8 -0.2
baz=322,SNR=15
PQI Presque Isle 85.88 21 eP **P** 08 14 55.5 -0.3
comp=Z,273nm,1.1s
LONY Lake Ozonia 85.89 26 eP **P** 08 14 55.3 -0.7
comp=Z,96nm,1.2s
OLIL Olney 85.89 37 eP **P** 08 14 56.3 +0.3
comp=Z,376nm,1.3s
HPIG 85.91 56 eP **P** 08 14 57.4 +0.8
comp=Z,89nm,1.1s
S43A Fulton Ridge, 85.96 39 P **P** 08 14 56.1 -0.3
baz=325,SNR=21
BUF Buffalo 85.98 29 eP **P** 08 14 56.8 +0.5
FRNY Flat Rock 86.01 25 eP **P** 08 14 56.3 -0.2
comp=Z,99nm,1.1s
X38A Whitesboro 86.01 44 P **P** 08 14 56.8 +0.1
baz=322,SNR=17
P47A Martinsville 86.06 36 P **P** 08 14 56.7 -0.1
baz=327
U41A Viola 86.10 41 P **P** 08 14 56.6 -0.6
baz=324,SNR=26
V40A Witts Springs 86.10 42 P **P** 08 14 56.6 -0.6
baz=324,SNR=33
W39A Magazine 86.11 43 P **P** 08 14 56.9 -0.3
baz=323,SNR=19
Y37A Hugo 86.15 45 P **P** 08 14 57.7 +0.3
baz=322
MTLF Montolieu 86.20 332 eP **P** 08 14 57.9 +0.4
MTLF pmax pmax
comp=Z,274nm,1.2s
BLO Bloomington 86.21 36 eP **P** 08 14 58.2 +0.6
BLO pmax pmax
comp=Z,647nm,1.9s
BLO Bloomington 86.21 36 eP **P** 08 14 58.2 +0.6
comp=Z,646nm,1.9s
S44A Carbondale 86.24 39 P **P** 08 14 57.9 +0.2
baz=325
T43A Greenville 86.27 40 P **P** 08 14 57.6 -0.3
baz=325,SNR=40
ERPA Erie 86.28 30 eP **P** 08 14 58.5 +0.6
comp=Z,428nm,1.4s
Z36A Blue Ridge 86.29 46 P **P** 08 14 57.8 -0.3
baz=322,SNR=17
U42A Revenden 86.42 41 P **P** 08 14 58.2 -0.5
baz=324,SNR=14
V41A Mountainview 86.44 42 P **P** 08 14 58.3 -0.5
baz=324,SNR=48
LRDF Laroque-de-Fa 86.45 332⇑eP **P** 08 15 00.2 +1.5
PBMO Poplar Bluff 86.45 40 eP **P** 08 14 58.8 0.0
comp=Z,517nm,1.2s
W40A Ferguson Farm, 86.47 43 P **P** 08 14 58.6 -0.3
baz=323,SNR=29
MMNY Mt. Morris Dam 86.48 29 eP **P** 08 14 58.8 0.0
X39A Fountain Ranch 86.50 44 P **P** 08 14 59.5 +0.4
baz=323
TAU Tasmania Unive 86.50 176 eP **P** 08 14 59.4 +0.8
TAU pmax pmax
comp=Z,273nm,1.5s
TAU Tasmania Unive 86.50 176 eP **P** 08 14 59.4 +0.8
comp=Z,273nm,1.5s
S45A Carrier Mills 86.55 38 P **P** 08 14 59.3 0.0
baz=326,SNR=15
T44A Benton 86.58 39 P **P** 08 14 59.4 0.0
baz=325,SNR=13
NCB Newcomb 86.59 26 eP **P** 08 14 59.0 -0.4
comp=Z,1.9nm,1.3s
ALLY Alegheny Colle 86.63 31 eP **P** 08 15 00.3 +0.6
comp=Z,420nm,1.4s
JCT Junction City 86.64 50 P **P** 08 14 60.0 +0.1
baz=320,SNR=18
JCT Junction City 86.64 50 eP **P** 08 15 00.3 +0.4
JCT pmax pmax
comp=Z,513nm,1.8s
JCT Junction City 86.64 50 eP **P** 08 15 00.3 +0.4
comp=Z,513nm,1.8s
Y38A Idabel 86.65 44 P **P** 08 14 59.5 -0.3
baz=323,SNR=6.1
USIN University of 86.72 37 eP **P** 08 15 00.6 +0.5
comp=Z,380nm,1.3s
SJAF Saint Jean de 86.73 331⇑eP **P** 08 15 00.6 +0.5
MIAR Mount Ida 86.73 43 P **P** 08 15 00.5 +0.3
baz=323,SNR=35
MIAR Mount Ida 86.73 43 eP **P** 08 15 00.7 +0.5
MIAR pmax pmax
comp=Z,666nm,1.8s
MIAR Mount Ida 86.73 43 eP **P** 08 15 00.7 +0.5
comp=Z,666nm,1.8s
WHTX Lake Whitney, 86.75 47 P **P** 08 15 00.4 +0.1
baz=321,SNR=12
WHTX Lake Whitney, 86.75 47 eP **P** 08 15 00.9 +0.6
comp=Z,431nm,1.6s
Z37A Pogue Cattle C 86.77 46 P **P** 08 15 00.5 +0.1
baz=322,SNR=18
ACSO Alum Creek Sta 86.77 33 eP **P** 08 15 01.2 +0.9
comp=Z,348nm,1.4s
WHAR Wooly Hollow 86.77 42 eP **P** 08 15 00.4 0.0
comp=Z,607nm,1.3s
V42A Cord 86.78 41 P **P** 08 14 59.8 -0.6
baz=324,SNR=17
CARF Carcanieres 86.79 332⇑eP **P** 08 15 01.5 +1.0
U43A Rector 86.79 40 P **P** 08 15 00.5 0.0
baz=325,SNR=25
CLTB Caltabellotta 86.83 322 eP **P** 08 15 01.5 +0.7
comp=Z,63nm,1.1s
PKME Peaks-Kenny Pk 86.85 22 eP **P** 08 15 01.2 +0.6
comp=Z,189nm,1.2s
PARMO Parma 86.86 40 eP **P** 08 15 01.5 +0.7
comp=Z,488nm,1.0s
136A Ennis 86.86 47 P **P** 08 15 00.7 -0.2
baz=322,SNR=12
VSL Villasalto 86.86 326 eP **P** 08 15 00.5 -0.3
comp=Z,121nm,1.1s
W41B Gary Mavity, V 86.88 42 P **P** 08 15 00.6 -0.3
baz=324,SNR=45
MDV Middlebury 86.89 25 eP **P** 08 15 01.0 +0.2
M54A Oil Creek Stat 86.93 30 P **P** 08 15 01.0 -0.1
baz=331,SNR=14
Y39A Lockesburg 86.96 44 P **P** 08 15 01.4 +0.1
baz=323,SNR=39
PPT Papeete 86.99 118 P **P** 08 15 02.0 +0.4
comp=Z,70nm,1.0s,baz=259,slow=19,SNR=3.9
PPT LR LR 08 48 09.7
comp=Z,2μm,20.0s,baz=313,slow=31
PPT Papeete 86.99 118 P **P** 08 15 02.0 +0.4
PPT pmax pmax
comp=Z,70nm,1.0s
PPT2 Papeete2 87.01 118 eP **P** 08 15 02.7 +1.0
comp=Z,162nm,1.4s
PPT2 Papeete2 87.01 118 eS **S** 08 25 26.8 +2.3
comp=Z,2μm,24.5s
PPT2 Papeete2 87.01 118 eLQ LQ 08 38 07.0
comp=Z,6μm,29.0s
PPT2 eLR LR 08 41 42.4
comp=Z,2μm,21.0s,baz=311
U44A Portageville 87.02 40 P **P** 08 15 01.6 0.0
baz=325,SNR=5.2
LBNH Lisbon 87.04 24 eP **P** 08 15 02.3 +0.7
LBNH pmax pmax
comp=Z,139nm,1.4s
LBNH Lisbon 87.04 24 eP **P** 08 15 02.3 +0.7
comp=Z,139nm,1.4s
Z38A Mt. Pleasant 87.04 45 P **P** 08 15 01.7 -0.1
baz=322
PAE Paea 87.06 118 eP **P** 08 15 02.4 +0.6
comp=Z,23nm,1.2s
SALF Salau 87.06 333⇑eP **P** 08 15 02.2 +0.4
TAOE Nuku Hiva Isla 87.06 105 eS **S** 08 25 25.4 +0.2
comp=Z,1μm,25.8s
TAOE Nuku Hiva Isla 87.06 105 eLR LR 08 41 30.2
comp=Z,2μm,22.5s
TAOE Nuku Hiva Isla 87.06 105 eP **P** 08 15 02.5 +0.4
comp=Z,255nm,1.3s
WCI Wyandotte Cave 87.10 36 eP **P** 08 15 02.0 +0.1
WCI pmax pmax
comp=Z,504nm,1.5s
WCI Wyandotte Cave 87.10 36 eP **P** 08 15 02.0 +0.1
comp=Z,504nm,1.5s
VALF Valcebollere 87.10 332⇑eP **P** 08 15 03.3 +1.2
TIAR Tiarei 87.13 118 eP **P** 08 15 03.2 +1.0
comp=Z,44nm,1.1s
X40A Basin Creek Fa 87.15 43 P **P** 08 15 02.2 0.0
baz=324,SNR=34
W42A Bald Knob 87.15 42 P **P** 08 15 01.9 -0.3
baz=324
UALR University of 87.16 42 eP **P** 08 15 02.7 +0.4
comp=Z,380nm,1.8s
137A Heron Place, G 87.17 46 P **P** 08 15 02.6 +0.3
baz=322
LABF Labassere 87.17 333⇑eP **P** 08 15 02.5 +0.3
V43A Jonesboro 87.20 41 P **P** 08 15 03.1 +0.6
baz=325
236A Katherine and 87.23 47 P **P** 08 15 02.5 -0.2
baz=322
N54A Moraine State 87.29 31 P **P** 08 15 03.0 +0.2
baz=331,SNR=35
ACCN Adirondack Com 87.29 26 eP **P** 08 15 02.5 -0.2
comp=Z,163nm,1.3s
RESF Ens 87.30 333⇑eP **P** 08 15 04.9 +1.9
X41A Kaden, Bauxite 87.30 43 P **P** 08 15 02.8 -0.1
baz=324,SNR=14
REYF Montagne du Re 87.30 334⇑eP **P** 08 15 03.2 +0.3
GNAR Gosnell 87.30 40 eP **P** 08 15 04.1 +1.2
comp=Z,1μm,1.4s
U44B Burton Farm, H 87.31 39 P **P** 08 15 03.2 +0.3
baz=325,SNR=17
Y40A Okolona 87.31 43 P **P** 08 15 03.0 0.0
baz=323,SNR=9.3
VIEF Viey 87.33 333⇑eP **P** 08 15 04.5 +1.4
HBAR Harrisburg 87.34 41 eP **P** 08 15 04.3 +1.3
comp=Z,1μm,1.3s
ORDF Ordiarp 87.34 334⇑eP **P** 08 15 03.1 +0.1
TVO Taravao 87.36 118 eP **P** 08 15 04.4 +1.0
comp=Z,30nm,1.2s
ATE Arette 87.38 334⇑eP **P** 08 15 03.6 +0.4
GLAT Glass 87.39 39 eP **P** 08 15 04.4 +1.1
comp=Z,2μm,1.4s
WVL Waterville 87.39 22 eP **P** 08 15 03.8 +0.6
comp=Z,127nm,0.9s
OSSF Osses 87.41 334⇑eP **P** 08 15 03.6 +0.3
LMN Caledonia Moun 87.42 19 eP **P** 08 15 04.0 +0.7
comp=Z,210nm,1.1s
HNH Hanover 87.42 24 eP **P** 08 15 04.3 +0.9
comp=Z,131nm,1.1s
138A Matatall Enter 87.46 45 P **P** 08 15 04.2 +0.4
baz=322
Z39A Irene McRaven, 87.47 45 P **P** 08 15 04.2 +0.5
baz=323,SNR=9.5
V44A Blytheville 87.47 40 P **P** 08 15 04.1 +0.4
baz=325
LARF Larrau 87.52 334 eP **P** 08 15 05.8 +1.9
UTMT University of 87.53 39 eP **P** 08 15 04.9 +1.0
comp=Z,1μm,1.4s
336A Riesel 87.54 47 P **P** 08 15 04.1 -0.1
baz=322,SNR=7.1
URZ Urewera 87.54 153 eP **P** 08 15 03.6 -0.1
comp=Z,160nm,1.2s
U45A Rockin P Farm, 87.57 39 P **P** 08 15 04.4 +0.2
baz=326,SNR=10
237A Washetta, Mont 87.61 46 P **P** 08 15 04.3 -0.2
baz=322,SNR=5.8
435B Jarrell 87.62 48 P **P** 08 15 04.4 -0.1
baz=321
GGN Saint George 87.62 20 eP **P** 08 15 04.7 +0.5
comp=Z,126nm,0.9s
WLAR White Oak Lake 87.65 44 eP **P** 08 15 05.2 +0.6
comp=Z,545nm,1.5s
HALT Halls 87.66 40 eP **P** 08 15 05.5 +0.8
comp=Z,962nm,1.4s
WDD Wied Dalam 87.67 320 eP **P** 08 15 04.6 0.0
comp=Z,138nm,0.9s
X42A Stuttgart 87.69 42 P **P** 08 15 04.7 -0.1
baz=324
W43A Forest City 87.69 41 P **P** 08 15 04.9 +0.2
baz=325
Y41A Eaglette Beard 87.74 43 P **P** 08 15 05.4 +0.4
baz=324,SNR=15
139A Bunkhouse Ranc 87.81 45 P **P** 08 15 05.7 +0.3
baz=323,SNR=5.1
FFD Franklin Falls 87.83 24 eP **P** 08 15 06.3 +1.1
comp=Z,392nm,1.4s
EMMW East Machias 87.84 21 eP **P** 08 15 05.9 +0.6
comp=Z,154nm,0.9s
Z40A Long Farm, Mag 87.85 44 P **P** 08 15 06.3 +0.8
baz=323
TRY Troy 87.88 26 eP **P** 08 15 06.1 +0.6
comp=Z,219nm,1.3s
238A Jacksonville 87.97 46 P **P** 08 15 07.0 +0.9
baz=322
V45A Humboldt 87.98 40 P **P** 08 15 05.7 -0.4
baz=326,SNR=8.4
436A Wall Ranch, Ga 88.05 48 P **P** 08 15 07.1 +0.5
baz=322
W44A Shelby Farms P 88.07 40 P **P** 08 15 06.8 +0.2
baz=325
X43A Marvell 88.07 42 P **P** 08 15 06.6 0.0
baz=325,SNR=6.2
337A Centerville 88.11 47 P **P** 08 15 07.5 +0.7
baz=322

CCAR	Cane Creek	88.13	43	eP	P	08 15 08.2	+1.3
	comp=Z,719nm,1.4s						
Z41A	Richland Creek	88.15	44	P	P	08 15 07.5	+0.5
	baz=324,SNR=7.3						
WVT	Waverly	88.17	39	eP	P	08 15 07.2	+0.2
WVT				pmax	pmax		
	comp=Z,286nm,1.2s						
WVT	Waverly	88.17	39	eP	P	08 15 07.2	+0.2
	comp=Z,286nm,1.2s						
BKZ	Black Stump Fm	88.17	154	eP	P	08 15 07.3	+0.6
	comp=Z,182nm,1.4s						
Y42A	Garnett, Star	88.19	43	P	P	08 15 07.7	+0.5
	baz=324,SNR=12						
140A	Cam and Jess,	88.25	44	P	P	08 15 08.1	+0.6
	baz=323,SNR=9.6						
239A	Gary	88.29	45	P	P	08 15 08.3	+0.6
	baz=323						
SSPA	Standing Stone	88.34	30	eP	P	08 15 08.0	+0.3
	comp=Z,254nm,1.2s						
W45A	Hickory Valley	88.35	40	P	P	08 15 07.8	-0.1
	baz=326,SNR=18						
437A	Phantom Ranch,	88.36	47	P	P	08 15 08.6	+0.7
	baz=322						
338A	Crockett	88.38	46	P	P	08 15 08.7	+0.6
	baz=322						
NATX	Nacogdoches	88.40	46	P	P	08 15 08.8	+0.6
	baz=323,SNR=8.6						
NATX	Nacogdoches	88.40	46	eP	P	08 15 09.1	+0.9
	comp=Z,487nm,1.4s						
O56A	Blue Knob Stat	88.42	30	P	P	08 15 08.5	+0.3
	baz=332,SNR=32						
X44A	Crenshaw	88.44	41	P	P	08 15 08.4	+0.1
	baz=325,SNR=9.7						
536A	Bastrop	88.45	48	P	P	08 15 08.8	+0.3
	baz=322						
MCWV	Mont Chateau	88.48	31	eP	P	08 15 09.1	+0.7
	comp=Z,423nm,1.6s						
833A	Chaparral WMA,	88.52	51	P	P	08 15 09.4	+0.6
	baz=320						
Y43A	Makayla and Ka	88.54	42	P	P	08 15 09.2	+0.4
	baz=325,SNR=10						
Z42A	Norrel Spur, H	88.56	43	P	P	08 15 09.3	+0.4
	baz=324,SNR=14						
141A	Papa Simpson,	88.62	44	P	P	08 15 09.7	+0.5
	baz=324,SNR=9.0						
240A	Hunter Patters	88.64	45	P	P	08 15 09.7	+0.4
	baz=323,SNR=9.2						
HRV	Adam Dziewonsk	88.74	24	eP	P	08 15 10.4	+0.9
HRV				pmax	pmax		
	comp=Z,208nm,1.2s						
HRV	Adam Dziewonsk	88.74	24	eP	P	08 15 10.4	+0.9
	comp=Z,208nm,1.2s						
438A	Sam Houston St	88.77	47	P	P	08 15 10.5	+0.6
	baz=322						
OXF	Oxford	88.78	41	eP	P	08 15 09.8	-0.1
OXF				pmax	pmax		
	comp=Z,706nm,1.3s						
OXF	Oxford	88.78	41	eP	P	08 15 09.8	-0.1
	comp=Z,706nm,1.3s						
339A	Huntington	88.79	46	P	P	08 15 10.1	+0.1
	baz=323						
N59A	State Game Lan	88.83	28	P	P	08 15 10.3	+0.3
	baz=334,SNR=32						
Y44A	Strider, Charl	88.85	41	P	P	08 15 10.4	+0.2
	baz=325,SNR=11						
537A	Green Hill Far	88.85	48	P	P	08 15 10.8	+0.5
	baz=322						
X45A	UM Field Stati	88.86	41	P	P	08 15 10.2	-0.1
	baz=325,SNR=14						
636A	Smothers Creek	88.91	49	P	P	08 15 11.3	+0.7
	baz=322,SNR=9.2						
WES	Weston	88.92	24	eP	P	08 15 11.3	+0.9
WES				pmax	pmax		
	comp=Z,480nm,1.1s						
WES	Weston	88.92	24	eP	P	08 15 11.2	+0.9
	comp=Z,480nm,1.1s						
Z43A	Armstrong Fami	88.96	43	P	P	08 15 11.2	+0.5
	baz=324						
ATD	Arta Tunnel	88.97	285	ScS	S	08 25 49.5	+6.2
	comp=Z,14nm,0.4s,baz=137,slow=23,SNR=5.0						
735A	Kenedy	88.99	50	P	P	08 15 12.1	+1.1
	baz=321						
BCX	Boston College	89.01	24	eP	P	08 15 11.7	+0.9
	comp=Z,335nm,1.1s						
PLAL	Pickwick Lake	89.01	39	eP	P	08 15 10.8	-0.2
	comp=Z,430nm,1.6s						
ODNJ	Ogdensburg	89.07	27	eP	P	08 15 11.6	+0.4
	comp=Z,126nm,1.3s						
340A	Bronson	89.07	45	P	P	08 15 11.4	+0.1
	baz=323,SNR=7.8						
241A	Mo Tay, Goldon	89.08	44	P	P	08 15 12.1	+0.7
	baz=324,SNR=11						
439A	Center Grove,	89.11	46	P	P	08 15 11.8	+0.3
	baz=323,SNR=6.6						
933A	Laredo	89.13	51	P	P	08 15 12.6	+0.9
	baz=321,SNR=17						
142A	Monroe	89.14	43	P	P	08 15 12.4	+0.7
	baz=324						
538A	Harpers Horsep	89.18	47	P	P	08 15 12.8	+0.9
	baz=322						
HKT	Hockley	89.21	48	eP	P	08 15 12.5	+0.6
HKT				pmax	pmax		
	comp=Z,182nm,1.9s						
HKT	Hockley	89.21	48	eP	P	08 15 12.5	+0.6
	comp=Z,182nm,1.9s						
Y45A	Yeager Farm, C	89.24	41	P	P	08 15 12.7	+0.6
	baz=325,SNR=35						
BRYW	Bryant College	89.28	25	eP	P	08 15 12.9	+0.8
	comp=Z,455nm,1.3s						
143A	Socs Landing,	89.29	43	P	P	08 15 13.0	+0.7
	baz=324						
Z44A	Pea Ridge, Bel	89.30	42	P	P	08 15 12.9	+0.6
	baz=325,SNR=12						
736A	Circle Diamond	89.32	49	P	P	08 15 14.0	+1.5
	baz=322,SNR=7.2						
637A	Eagle Lake	89.34	48	P	P	08 15 13.7	+1.1
	baz=322						
PAL	Palisades	89.36	27	eP	P	08 15 13.2	+0.7
PAL				pmax	pmax		
	comp=Z,348nm,1.4s						
PAL	Palisades	89.36	27	eP	P	08 15 13.2	+0.7
	comp=Z,348nm,1.4s						
835A	Beeville	89.42	50	P	P	08 15 14.2	+1.2
	baz=321,SNR=5.0						
242A	Grayson	89.44	44	P	P	08 15 14.0	+0.9
	baz=324						
MVL	Millersville	89.44	29	eP	P	08 15 13.6	+0.7
	comp=Z,146nm,1.2s						
BFZ	Birch Farm	89.48	155	eP	P	08 15 13.7	+1.0
	comp=Z,243nm,1.5s						
341A	Kurthwood	89.50	45	P	P	08 15 13.9	+0.5
	baz=324,SNR=7.3						
THZ	Tophouse	89.51	158	eP	P	08 15 13.7	+0.8
	comp=Z,298nm,1.6s						
CPNY	Central Park	89.54	27	eP	P	08 15 13.7	+0.4
	comp=Z,284nm,1.4s						
Y46A	Houston	89.55	41	P	P	08 15 13.6	0.0
	baz=326,SNR=35						
934A	Benavides	89.56	51	P	P	08 15 14.7	+1.0
	baz=321						
440A	Kirbyville	89.57	46	P	P	08 15 13.7	0.0
	baz=323						
Z45A	Winona	89.58	41	P	P	08 15 14.2	+0.5
	baz=325,SNR=9.7						
539A	Cross D Ranch,	89.67	47	P	P	08 15 15.3	+1.1
	baz=323						
SWET	Sewanee	89.78	38	eP	P	08 15 14.4	-0.2
	comp=Z,430nm,1.2s						
SDMD	Soldier's Deli	89.79	29	eP	P	08 15 15.1	+0.6
	comp=Z,211nm,1.7s						
PSUB	Penn St. - Bra	89.82	28	eP	P	08 15 14.9	+0.3
	comp=Z,234nm,1.3s						
144A	Alexander Plac	89.83	42	P	P	08 15 15.6	+0.7
	baz=325						
034A	Hebbronville	89.88	51	P	P	08 15 15.8	+0.6
	baz=321,SNR=9.2						
342A	Flagon Creek P	89.90	44	P	P	08 15 16.0	+0.8
	baz=324,SNR=6.4						
243A	Waterproof	89.92	44	P	P	08 15 16.1	+0.8
	baz=324						
441A	DeRidder	89.96	45	P	P	08 15 15.8	+0.3
	baz=324						
540A	Vidor	89.98	46	P	P	08 15 16.4	+0.8
	baz=323						
Y47A	UCPARC, Winfie	90.01	40	P	P	08 15 15.3	-0.3
	baz=326,SNR=16						
KEST	Kesra	90.06	324	P	P	08 15 15.8	-0.2
	comp=Z,100nm,0.9s,baz=330,slow=1.1,SNR=42						
KEST				S	SKSac	08 25 28.7	-0.3
	comp=Z,12nm,1.1s,baz=83,slow=23,SNR=6.1						
KEST	Kesra	90.06	324	eP	P	08 15 16.5	+0.5
	comp=Z,126nm,1.0s						
KEST				S	SKSac	08 25 28.7	-0.3
Z46A	Louisville	90.08	41	P	P	08 15 16.5	+0.5
	baz=326,SNR=14						
145A	Houston Renfro	90.09	42	P	P	08 15 16.5	+0.5
	baz=325,SNR=5.6						
CMAH	Djebel Manchou	90.11	325	P	P	08 15 15.5	-0.7
VBMS	Vicksburg	90.12	43	P	P	08 15 17.2	+1.0
	baz=325						
VBMS	Vicksburg	90.12	43	eP	P	08 15 16.0	-0.2
	comp=Z,934nm,1.6s						
738A	Farr-Stevens R	90.18	48	P	P	08 15 17.5	+0.9
	baz=322						
244A	Avery, Jackson	90.18	43	P	P	08 15 17.0	+0.6
	baz=325,SNR=9.4						
CPCT	Cooper Cave	90.20	37	eP	P	08 15 16.9	+0.4
	comp=Z,307nm,1.1s						
CAEH	'Ain El Ouahch	90.21	326	P	P	08 15 15.9	-0.7
LTZ	Lake Taylor	90.29	159	eP	P	08 15 17.6	+1.2
	comp=Z,108nm,1.2s						
KHZ	Kahutara	90.29	158	eP	P	08 15 17.1	+0.7
	comp=Z,106nm,1.2s						
343A	Vidalia	90.33	44	P	P	08 15 18.3	+1.1
	baz=324						
TKL	Tuckaleechee C	90.35	36	eP	P	08 15 17.8	+0.5
TKL				pmax	pmax		
	comp=Z,267nm,1.1s						
TKL	Tuckaleechee C	90.35	36	eP	P	08 15 17.8	+0.5
	comp=Z,267nm,1.1s						
PBRG	Braganca	90.35	338	eP	P	08 15 16.7	-0.5
	comp=Z,172nm,1.7s						
PBRG				epP	pP	08 16 02.8	-1.2
PBRG				eSKSac	SKSac	08 25 31.0	+0.6
FOZ	Fox Glacier	90.38	161	eP	P	08 15 18.5	+1.7
	comp=Z,255nm,1.1s						
442A	Mamou	90.38	45	P	P	08 15 18.9	+1.5
	baz=324						
BLA	Blacksburg	90.38	33	eP	P	08 15 18.1	+0.7
BLA				pmax	pmax		
	comp=Z,470nm,1.4s						
BLA	Blacksburg	90.38	33	eP	P	08 15 18.1	+0.7
	comp=Z,470nm,1.4s						
ABSA	Djebel Ababsia	90.39	325	P	P	08 15 17.3	-0.2
146A	Union	90.48	41	P	P	08 15 18.8	+0.9
	baz=326,SNR=6.6						
Z47A	Carrollton	90.49	40	P	P	08 15 17.8	0.0
	baz=326,SNR=8.8						
IP04	Greensprings	90.50	31	eP	P	08 15 19.0	+1.1
	comp=Z,564nm,1.6s						
541A	Lake Charles	90.51	46	P	P	08 15 18.8	+0.7
	baz=324						
VWCC	Virginia Weste	90.53	33	eP	P	08 15 18.6	+0.5
245A	Little AP, Sta	90.57	42	P	P	08 15 19.2	+0.9
	baz=325,SNR=6.5						
Z48A	Northport	90.58	40	P	P	08 15 17.8	-0.5
	baz=326,SNR=6.9						
CKFL	Kef-Lekhel	90.59	326	P	P	08 15 18.4	-0.1
IP03	Louisa	90.60	31	eP	P	08 15 19.2	+0.9
	comp=Z,375nm,1.5s						
PGAV	Gavieira, Arco	90.61	339	eP	P	08 15 18.4	-0.1
	comp=Z,203nm,1.6s						
PGAV				epP	pP	08 16 04.3	-1.0
PGAV	Gavieira, Arco	90.61	339	ePP	PP	08 18 56.3	+1.2
PGAV				eSKSac	SKSac	08 25 32.1	+0.1
CVRD	Centerville Ro	90.63	31	eP	P	08 15 19.2	+0.8
	comp=Z,352nm,1.4s						
344A	Westbrook Farm	90.64	43	P	P	08 15 19.7	+1.1
	baz=325,SNR=7.2						
PTRD	Partlow Road	90.65	31	eP	P	08 15 19.3	+0.7
	comp=Z,700nm,0.3s						
443A	Delano Plantat	90.67	44	P	P	08 15 20.0	+1.3
	baz=324						
CBN	Corbin Frederi	90.67	30	eP	P	08 15 19.5	+0.9
	comp=Z,357nm,1.4s						
IP07	Quail	90.68	31	eP	P	08 15 19.5	+0.8
	comp=Z,262nm,1.5s						
IP06	Yanceyville	90.69	31	eP	P	08 15 19.4	+0.7
	comp=Z,307nm,1.7s						
IP01	Cuckoo	90.69	31	eP	P	08 15 19.4	+0.7
	comp=Z,268nm,1.5s						
035Z	Hargill	90.70	51	P	P	08 15 20.4	+1.5
	baz=321						
OXZ	Oxford	90.74	159	eP	P	08 15 19.3	+0.8
	comp=Z,334nm,1.0s						
PCAB	Cabril	90.79	338	eP	P	08 15 19.5	+0.3
	comp=Z,174nm,1.6s						
PCAB				epP	pP	08 16 08.0	+2.0
PCAB	Cabril	90.79	338	ePP	PP	08 18 57.8	+1.4
542A	Morse	90.79	45	P	P	08 15 20.8	+1.5
	baz=324						
CASM	Ain Smara	90.81	326	P	P	08 15 19.1	-0.3
147A	Livingston	90.83	41	P	P	08 15 19.8	+0.3
	baz=326,SNR=14						
RPZ	Rata Peaks	90.85	160	LR	LR	08 50 02.4	
	comp=Z,772nm,21.9s,baz=325,slow=31						
RPZ	Rata Peaks	90.85	160	eP	P	08 15 20.5	+1.5
	comp=Z,500nm,0.9s						
IP05	Hopewell Churc	90.86	31	eP	P	08 15 20.2	+0.7
	comp=Z,374nm,1.7s						
ZAIG	Zacatecas	90.88	57	eP	P	08 15 21.3	+1.0
	comp=Z,18nm,1.2s						
JSRW	J. Sargeant Re	90.94	31	eP	P	08 15 20.4	+0.5
246A	Jackson Lee, B	90.96	42	P	P	08 15 21.2	+1.1
	baz=326						
CTEI	Djebel Teioual	91.01	326	P	P	08 15 20.6	+0.1
MVO	Moncorvo	91.03	338	eP	P	08 15 20.3	-0.1
	comp=Z,222nm,1.3s						
MVO				epP	pP	08 16 05.9	-1.3
MVO	Moncorvo	91.03	338	ePP	PP	08 18 59.0	+0.6
MVO				eSKSac	SKSac	08 25 35.4	+1.1
POLO	Lamas de Olo	91.04	338	eP	P	08 15 20.3	-0.2
	comp=Z,143nm,1.3s						
POLO				epP	pP	08 16 05.9	-1.4
POLO	Lamas de Olo	91.04	338	ePP	PP	08 18 59.4	+0.9
POLO				eSKSac	SKSac	08 25 35.0	+0.6
MSEY	Mahe Island	91.08	265	i P	P	08 15 22.4	+1.5
345A	Thompson Farm,	91.10	43	P	P	08 15 21.9	+1.1
	baz=325						
LNIG	Linares	91.10	53	eP	P	08 15 20.9	0.0
	comp=Z,20nm,0.9s						
PVRL	Vila Real	91.11	338	eP	P	08 15 21.3	+0.6
	comp=Z,252nm,1.6s						
LRAL	Lakeview Retre	91.12	40	eP	P	08 15 21.4	+0.6
	comp=Z,118nm,1.3s						
CRLZ	Canterbury Las	91.12	159	eP	P	08 15 21.9	+1.7
	comp=Z,161nm,1.4s						
URVA	University of	91.17	31	eP	P	08 15 21.6	+0.7
543A	St. Martinvill	91.18	45	P	P	08 15 22.1	+1.0
	baz=324						
247A	Quitman	91.18	41	P	P	08 15 22.0	+0.9
	baz=326,SNR=5.8						
444A	Pine Grove	91.23	44	P	P	08 15 22.3	+0.9
	baz=325						
MQZ	McQueen's Vall	91.25	159	eP	P	08 15 22.4	+1.5
	comp=Z,241nm,1.3s						
LBZ	Lake Benmore	91.27	161	eP	P	08 15 22.5	+1.6
	comp=Z,296nm,1.0s						
SET	Setif	91.30	327	P	P	08 15 22.0	+0.3
346A	Big Creek Wild	91.31	42	P	P	08 15 22.4	+0.6
	baz=325						
TBI	Tubuai	91.33	122	eP	P	08 15 22.9	+1.2
	comp=Z,180nm,1.0s						
TBI	Tubuai	91.33	122	eS	S	08 26 05.8	+1.6
	comp=Z,1μm,40.5s						
TBI	Tubuai	91.33	122	eLQ	LQ	08 39 50.0	
	comp=Z,4μm,32.5s						
TBI				eLR	LR	08 43 33.3	
	comp=Z,2μm,21.2s,baz=317						
CKHR	Kef el Ahmar	91.41	326	P	P	08 15 22.8	+0.5
445A	Amite	91.42	43	P	P	08 15 23.0	+0.8
	baz=325						
ESDC	Sonseca Array	91.50	335	P	P	08 15 22.8	+0.2
	comp=Z,90nm,1.0s,baz=23,slow=3.5,SNR=189						
ESDC				pP	pP	08 16 09.7	+0.2
	comp=Z,12nm,0.9s,baz=28,slow=4.1,SNR=1.7						
ESDC				PP	PP	08 19 03.1	+0.9
	comp=Z,20nm,1.1s,baz=22,slow=8.2,SNR=5.6						
ESDC				S	SKSac	08 25 37.1	+0.1
	comp=Z,0.2nm,0.4s,baz=112,slow=19,SNR=2.8						
ESDC				ScS	S	08 26 06.2	+0.4
	comp=Z,7.4nm,1.1s,baz=22,slow=10,SNR=9.9						
ESDC				PKKPbc	PKKPbc	08 32 42.0	+1.4
	comp=Z,0.2nm,0.3s,baz=236,slow=0.9,SNR=6.4						
ESLA	Sonseca Array	91.50	335	eP	P	08 15 22.8	+0.2
	comp=Z,150nm,1.1s						
544A	White Castle	91.51	44	P	P	08 15 23.1	+0.4
	baz=324						
248A	Dixon Mills	91.56	41	P	P	08 15 23.3	+0.5
	baz=326						
DCZ	Deep Cove	91.61	163	eP	P	08 15 23.3	+0.9
	comp=Z,56nm,1.3s						
PVIS	Viseu	91.68	338	eP	P	08 15 23.9	+0.5
	comp=Z,160nm,1.4s						
PVIS	Viseu	91.68	338	ePP	PP	08 19 04.7	+1.2
ABA	Alger-Bouzarea	91.69	329	P	P	08 15 28.0	+4.6
MLZ	Mavora Lakes	91.72	162	eP	P	08 15 24.8	+1.7
	comp=Z,57nm,1.1s						
PAB	San Pablo	91.74	335	eP	P	08 15 24.3	+0.6
PAB				pmax	pmax		
	comp=Z,133nm,1.1s						
PAB	San Pablo	91.74	335	eP	P	08 15 24.3	+0.6
	comp=Z,133nm,1.1s						
347A	Saraland	91.75	42	P	P	08 15 24.4	+0.6
	baz=326						
KMSC	Kings Mountain	91.81	35	P	P	08 15 23.9	-0.1
	baz=330,SNR=9.7						
KMSC	Kings Mountain	91.81	35	eP	P	08 15 24.4	+0.4
	comp=Z,295nm,1.3s						
446A	Poplarville	91.85	43	P	P	08 15 24.7	+0.4
	baz=326						
MTE	Manteigas	91.88	338	eP	P	08 15 24.6	+0.3
	comp=Z,228nm,1.2s						
MTE				epP	pP	08 16 10.7	-0.5
MTE	Manteigas	91.88	338	ePP	PP	08 19 05.9	+0.8
MTE				eSKSac	SKSac	08 25 39.9	+0.7
MTE	Manteigas	91.88	338	eP	P	08 15 24.0	-0.3
	comp=Z,140nm,1.0s						
ODZ	Otahua Downs	92.00	160	eP	P	08 15 26.0	+1.7
	comp=Z,190nm,1.1s						
ATAF	Djebel Tarf	92.02	327	P	P	08 15 25.0	-0.1
AKET	Djebel Ketaf	92.03	328	P	P	08 15 26.0	+0.8
348A	Jackson	92.04	41	P	P	08 15 25.9	+0.7
	baz=326						
546A	Slidell	92.13	43	P	P	08 15 26.1	+0.6
	baz=325						
WHZ	Wether Hill Ro	92.18	163	eP	P	08 15 26.6	+1.5
	comp=Z,109nm,1.8s						
447A	Lucedale	92.19	42	P	P	08 15 26.4	+0.6
	baz=326						
EMHD	Djebel Mahouad	92.25	328	P	P	08 15 30.0	+3.8
645A	Chauvin	92.32	44	P	P	08 15 27.1	+0.7
	baz=325						
PCBR	Castelo Branco	92.38	337	eP	P	08 15 25.9	-0.6
	comp=Z,110nm,1.4s						
PCBR	Castelo Branco	92.38	337	ePP	PP	08 19 09.9	+1.0
GOGA	Godfrey	92.39	37	eP	P	08 15 27.3	+0.6
GOGA				pmax	pmax		
	comp=Z,288nm,1.4s						
GOGA	Godfrey	92.39	37	eP	P	08 15 27.3	+0.6
	comp=Z,288nm,1.4s						
448A	Bay Minette	92.46	42	P	P	08 15 27.7	+0.6
	baz=326						
PCAS	Casmilo, Conde	92.46	338	eP	P	08 15 26.4	-0.5
	comp=Z,188nm,1.5s						
PCAS				epP	pP	08 16 11.7	-2.1
PCAS	Casmilo, Conde	92.46	338	ePP	PP	08 19 10.7	+1.1
PCAS				eSKSac	SKSac	08 25 42.9	+0.6
JSC	Jenkinsville	92.58	35	eP	P	08 15 28.1	+0.5
JSC				pmax	pmax		
	comp=Z,211nm,1.4s						
JSC	Jenkinsville	92.58	35	eP	P	08 15 28.1	+0.5
	comp=Z,210nm,1.4s						
PMRV	Marv??o	92.74	337	eP	P	08 15 27.8	-0.4
	comp=Z,125nm,1.3s						
PMRV				epP	pP	08 16 13.9	-1.2
PMRV	Marv??o	92.74	337	ePP	PP	08 19 12.6	+0.8
PMRV				eSKSac	SKSac	08 25 45.5	+1.6
PTOM	Tomar	92.85	338	eP	P	08 15 28.8	+0.1
	comp=Z,140nm,1.2s						
EANR	'Ain N'Sour	93.16	330	P	P	08 15 30.8	+0.5
PMTG	Montargil	93.31	338	eP	P	08 15 30.0	-0.8
	comp=Z,91nm,1.3s						
PMTG				epP	pP	08 16 16.2	-1.5
PMTG	Montargil	93.31	338	ePP	PP	08 19 17.1	+0.9
PMTG				eSKSac	SKSac	08 25 48.2	+1.3
PESTR	Estremoz	93.32	337	eP	P	08 15 30.6	-0.3
	comp=Z,112nm,1.5s						
PESTR				epP	pP	08 16 16.3	-1.5
PESTR	Estremoz	93.32	337	ePP	PP	08 19 18.1	+1.8
PESTR				eSKSac	SKSac	08 25 49.2	+2.1
PMAFR	Mafra	93.70	338	eP	P	08 15 32.6	-0.1
	comp=Z,186nm,1.2s						
PMAFR	Mafra	93.70	338	ePP	PP	08 19 20.6	+1.3
PMAFR				eSKSac	SKSac	08 25 50.6	+1.5
EVO	Evora	93.75	337	eP	P	08 15 32.6	-0.3
	comp=Z,105nm,1.5s						
EVO				epP	pP	08 16 18.6	-1.1
EVO	Evora	93.75	337	ePP	PP	08 19 20.3	+0.7
PBAR	Barrancos	93.81	336	eP	P	08 15 33.0	-0.1
	comp=Z,216nm,1.4s						
PBAR				epP	pP	08 16 19.1	-0.9
PBAR	Barrancos	93.81	336	ePP	PP	08 19 20.8	+0.7
PBAR				eSKSac	SKSac	08 25 50.8	+1.1
LIS	Lisbon	93.89	338	eP	P	08 15 34.1	+0.6
LIS				AMb	AMB	08 15 36.9	
	comp=Z,208nm,0.6s						
LIS				eS	SKSac	08 25 50.6	+0.5
LIS	Lisbon	93.89	338	eP	P	08 15 34.1	+0.6
LIS				eS	SKSac	08 25 50.6	+0.5
LIS				pmax	pmax		
	comp=Z,208nm,0.6s						
TIGA	Tifton	94.01	38	P	P	08 15 34.4	+0.3
	baz=329						
TIGA	Tifton	94.01	38	eP	P	08 15 35.4	+1.2
	comp=Z,642nm,1.9s						
PBEJ	Beja	94.18	337	eP	P	08 15 34.8	-0.1
	comp=Z,106nm,1.7s						
PBEJ				epP	pP	08 16 21.9	+0.2
PBEJ	Beja	94.18	337	ePP	PP	08 19 24.2	+1.2
PNCL	Nicolau / Gran	94.29	337	eP	P	08 15 35.2	-0.1
	comp=Z,79nm,1.3s						
PNCL	Nicolau / Gran	94.29	337	ePP	PP	08 19 25.7	+1.9
PNCL				eSKSac	SKSac	08 25 53.7	+1.4
PCVE	Castro Verde	94.60	337	eP	P	08 15 36.5	-0.3
	comp=Z,72nm,1.2s						
PCVE				epP	pP	08 16 21.9	-1.8
PCVE	Castro Verde	94.60	337	ePP	PP	08 19 27.6	+1.4
PCVE				eSKSac	SKSac	08 25 55.4	+1.4
PVAQ	Vaqueiros	94.72	337	eP	P	08 15 37.4	+0.1
	comp=Z,79nm,1.4s						
PVAQ				epP	pP	08 16 22.6	-1.6
PVAQ	Vaqueiros	94.72	337	ePP	PP	08 19 28.7	+1.5
PVAQ				eSKSac	SKSac	08 25 55.6	+1.0
PBDV	Barranco-do-Ve	94.93	337	eP	P	08 15 37.6	-0.7
	comp=Z,80nm,1.4s						
PBDV	Barranco-do-Ve	94.93	337	ePP	PP	08 19 30.4	+1.5
PBDV				eSKSac	SKSac	08 25 57.7	+1.9
MORF	Marmelete	95.07	337	eP	P	08 15 39.5	+0.5
MORF				AMb	AMB	08 15 41.1	
	comp=Z,94nm,2.0s						
MORF				ePP	PP	08 19 31.3	+

comp=Z,3.5nm,0.9s,baz=26,slow=9.4,SNR=3.5
KMBO PKKP **PKKPdf** 08 32 16.3 -2.6
comp=Z,0.7nm,0.3s,baz=305,slow=1.4,SNR=3.5
KMBO Kilima Mbogo 101.77 280 P **Pdif** 08 16 10.8 +1.2
SNR=11
KMBO Kilima Mbogo 101.77 280 Pdiff **Pdif** 08 16 10.8 +1.2
SNR=11
TAM Tamanrasset 102.84 320 *e*P **Pdif** 08 16 15.0 +0.9
TORD Torodi Ar. Bea 112.96 318 PKiKP **PKiKP** 08 20 51.0 -1.5
comp=Z,4.0nm,0.5s,baz=33,slow=1.9,SNR=23
TORD PP **PP** 08 21 40.5 -2.7
comp=Z,223nm,1.2s,baz=22,slow=3.1,SNR=25
TORD PKKPbc **PKKPbc** 08 31 38.6 +0.6
comp=Z,4.6nm,0.8s,baz=212,slow=3.1,SNR=9.4
TORD SKKPbc SKKPbc 08 34 57.1 -4.3
comp=Z,5.1nm,1.1s,baz=183,slow=5.4,SNR=4.0
TORD P5KP 08 59 40.2
comp=Z,1.3nm,1.1s,baz=280,slow=0.9,SNR=7.5
ANWB Willy Bob 114.83 26 *e*P **PP** 08 21 53.6 -2.4
LSZ Lusaka 117.94 276 PKP **PKPdf** 08 21 02.4 +0.3
comp=Z,6.3nm,0.4s,baz=46,slow=2.3,SNR=12
LSZ PP **PP** 08 22 15.3 -3.8
comp=Z,7.5nm,0.8s,baz=54,slow=6.0,SNR=4.9
LSZ PKKPab **PKKPab** 08 31 23.7 -2.2
comp=Z,1.5nm,0.3s,baz=208,slow=3.4,SNR=5.0
SDV Santo Domingo 119.49 38 PP PP 08 22 28.6 -0.2
SDV SKP 08 24 22.2
comp=Z,31nm,1.1s,baz=345,slow=3.7,SNR=5.5
SDV PKKPab **PKKPab** 08 31 19.7 -2.0
comp=Z,2.1nm,0.3s,baz=128,slow=3.2,SNR=3.0
SDV Santo Domingo 119.49 38 *e*PKPdf **PKPdf** 08 21 04.9 -0.4
SDV PP **PP** 08 22 28.6 -0.2
SDV SKP 08 24 22.2
SDV PKKPab **PKKPab** 08 31 19.7 -2.0
BRRC Barranca, Sant 119.60 42 *e*P **PKPdf** 08 21 04.8 -0.5
GIRC Giron, Santand 119.88 42 *e*P **PKPdf** 08 21 05.0 -1.0
GUYC Guyana, Colomb 120.38 45 *e*P **PKPdf** 08 21 05.8 -1.6
GRGC Isla de Gorgon 120.77 49 *e*P **PKPdf** 08 21 06.6 -0.9
PCRV Puerto La Cruz 120.81 32 PP PP 08 22 34.8 -2.7
PCRV PKKPbc **PKKPbc** 08 31 09.2 -1.4
comp=Z,6.0nm,0.4s,baz=203,slow=2.3,SNR=6.8
RUSC La Rusia 120.96 42 *e*P **PKPdf** 08 21 07.9 -0.7
RUSC La Rusia 120.96 42 *e*PKPdf **PKPdf** 08 21 07.8 -0.7
MATP Matopo 121.05 271 PKP **PKPdf** 08 21 07.8 -0.1
comp=Z,12nm,0.5s,baz=40,slow=1.7,SNR=30
MATP PP **PP** 08 22 33.9 -6.5
comp=Z,5.7nm,0.7s,baz=43,slow=7.0,SNR=4.2
MATP PKKPbc **PKKPab** 08 31 11.7 -0.3
comp=Z,3.4nm,0.8s,baz=195,slow=7.6,SNR=4.3
ROSC El Rosal 121.25 44 PKP **PKPdf** 08 21 09.1 +0.2
comp=Z,13nm,1.0s,baz=337,slow=18,SNR=12
ROSC pPKP **pPKPdf** 08 21 58.8 +0.8
comp=Z,6.5nm,0.6s,baz=138,slow=5.2,SNR=1.7
ROSC PP **PP** 08 22 41.8 +0.6
comp=Z,6.6nm,0.6s,baz=44,slow=8.1,SNR=5.8
ROSC PKKPbc **PKKPbc** 08 31 11.3 +2.0
comp=Z,6.5nm,0.6s,baz=184,slow=3.1,SNR=4.7
ROSC El Rosal 121.25 44 *e*PKP **PKPdf** 08 21 08.6 -0.3
DBIC Dimbokro 121.70 321 PKP **PKPdf** 08 21 08.6 -0.6
comp=Z,12nm,0.7s,baz=30,slow=1.9,SNR=19
DBIC PP **PP** 08 22 36.6 -7.1
comp=Z,89nm,1.2s,baz=11,slow=7.9,SNR=14
DBIC PKKPab **PKKPbc** 08 31 09.0 +1.8
comp=Z,7.6nm,0.8s,baz=193,slow=5.9,SNR=5.1
DBIC Dimbokro 121.70 321 *e*PKPdf **PKPdf** 08 21 09.0 -0.3
DBIC PP **PP** 08 22 36.6 -7.1
DBIC PKKPab **PKKPbc** 08 31 09.0 +1.8
VNDA Vanda 121.71 175 PKP **PKPdf** 08 21 07.4 0.0
comp=Z,23nm,1.0s,baz=313,slow=4.2,SNR=66
VNDA PP **PP** 08 22 42.0 -1.9
comp=Z,15nm,1.1s,baz=322,slow=6.9,SNR=4.6
VNDA PKKPbc **PKKPbc** 08 31 09.1 +1.0
comp=Z,3.0nm,0.9s,baz=247,slow=1.9,SNR=5.6
VNDA Vanda 121.71 175 *e*PKPdf **PKPdf** 08 21 07.8 +0.5
VNDA PP **PP** 08 22 42.0 -1.9
VNDA PKKPbc **PKKPbc** 08 31 09.1 +1.0
TIC Toumodi 121.79 321 *e*P **PKPdf** 08 21 08.1 -1.4
TIC Toumodi 121.79 321 *e*P **PKKPbc** 08 31 07.7 +0.8
KIC Kosan Boka 121.92 321 *e*P **PKPdf** 08 21 06.8 -2.9
comp=Z,82nm,1.2s
KIC Kosan Boka 121.92 321 *e*P **PKKPbc** 08 31 07.8 +1.4
comp=Z,87nm,1.5s
PRAC Prado 121.92 46 *e*P **PKPdf** 08 21 08.9 -0.9
PRAC Prado 121.92 46 *e*PKPdf **PKPdf** 08 21 09.5 -0.3
POPC Popayan, Colom 121.97 48 *e*P **PKPdf** 08 21 08.1 -2.0
LIC Lamto 122.17 321 *e*P **PKPdf** 08 21 09.9 -0.3
comp=Z,89nm,1.3s
LIC Lamto 122.17 321 *e*P **PKKPbc** 08 31 05.6 +0.2
comp=Z,43nm,1.3s
SBA Scott Base 122.36 174 *e*PKIKP **PKPdf** 08 21 09.6 +1.0
SBA Scott Base 122.36 174 *e*PKPdf **PKPdf** 08 21 09.6 +1.0
CMBC Cumbal 122.67 50 *e*P **PKPdf** 08 21 12.0 +0.3
OTAV Otavalo 122.89 51 *e*P **PKPdf** 08 21 09.7 -2.5
OTAV Otavalo 122.89 51 *e*PKPdf **PKPdf** 08 21 11.9 -0.2
FLOC Florencia 123.32 48 *e*P **PKPdf** 08 21 10.7 -1.8
LBTB Lobatse 125.99 269 PKP **PKPdf** 08 21 17.6 +0.3
comp=Z,60nm,1.1s,baz=76,slow=2.1,SNR=33
LBTB PP **PP** 08 23 12.4 -1.1
comp=Z,9.3nm,0.9s,baz=66,slow=5.8,SNR=5.5
LBTB Lobatse 125.99 269 *e*PKPdf **PKPdf** 08 21 18.1 +0.8
LBTB PP **PP** 08 23 12.4 -1.1
MAW Mawson 126.03 208 PKP **PKPdf** 08 21 16.3 +0.5
comp=Z,44nm,0.9s,baz=28,slow=1.3,SNR=61
MAW PP **PP** 08 23 11.4 -1.4
comp=Z,18nm,1.2s,baz=57,slow=13,SNR=2.3
MAW SKKPbc SKKPbc 08 34 21.4 -4.7
comp=Z,6.4nm,1.1s,baz=317,slow=1.0,SNR=5.9
MAW Mawson 126.03 208 *e*PKPdf **PKPdf** 08 21 16.7 +0.9
MAW PP **PP** 08 23 11.4 -1.4
MAW SKKPbc SKKPbc 08 34 21.4 -4.7
TSUM Tsumeb 128.12 280 PKP **PKPdf** 08 21 21.7 +0.2
comp=Z,15nm,1.1s,baz=125,slow=0.5,SNR=17
TSUM SKPbc SKPbc 08 24 23.3
comp=Z,28nm,1.1s,baz=56,slow=6.6,SNR=8.1
BOSA Boshof 128.35 265 PKP **PKPdf** 08 21 21.7 0.0
comp=Z,25nm,1.1s,baz=165,slow=0.8,SNR=14
BOSA PP **PP** 08 23 27.4 -1.7
comp=Z,9.0nm,0.9s,baz=61,slow=8.3,SNR=3.9
BOSA SKPbc SKPbc 08 24 24.4
comp=Z,15nm,0.9s,baz=63,slow=3.6,SNR=5.7
ATAH Atahualpa 128.86 57 PKP **PKPdf** 08 21 24.2 +0.7
comp=Z,49nm,0.9s,baz=320,slow=1.1,SNR=10
ATAH pPKP **pPKPdf** 08 22 13.6 +1.0
comp=Z,45nm,1.1s,baz=298,slow=3.3,SNR=4.8
ATAH SKPbc SKPbc 08 24 26.1
comp=Z,44nm,1.0s,baz=324,slow=7.5,SNR=10
PTGA Pitinga 132.60 31 PKP **PKPdf** 08 21 30.0 -0.1
comp=Z,15nm,1.0s,baz=322,slow=3.6,SNR=9.1
PTGA pPKP **pPKPdf** 08 22 20.0 +0.8
comp=Z,21nm,1.1s,baz=12,slow=3.7,SNR=5.1
PTGA PP PP 08 23 44.5 -11
comp=Z,7.8nm,0.8s,baz=5.4,slow=6.0,SNR=4.4
PTGA SKPbc **SKPbc** 08 24 39.0 -0.4
comp=Z,176nm,1.2s,baz=353,slow=4.6,SNR=21
NNA Nana 133.59 59 PKP **PKPdf** 08 21 32.0 +0.1
comp=Z,16nm,0.6s,baz=290,slow=3.5,SNR=12
NNA pPKP **pPKPdf** 08 22 20.4 -0.6
comp=Z,40nm,1.1s,baz=310,slow=2.6,SNR=4.0
NNA SKPbc **SKPbc** 08 24 42.0 -0.7
comp=Z,126nm,1.0s,baz=309,slow=4.6,SNR=29
QSPA South Pole Qui 133.61 180 *e*PKPdf **PKPdf** 08 21 31.6 +1.2
SUR Sutherland 133.62 264 PKhKP PKPpre 08 21 23.0
comp=Z,0.5nm,0.9s,baz=106,slow=5.9,SNR=5.6
SUR PKP **PKiKP** 08 21 33.7 +0.8
comp=Z,1.2nm,0.9s,baz=166,slow=9.8,SNR=7.6
SUR SKP 08 24 44.5
comp=Z,2.3nm,1.1s,baz=70,slow=9.3,SNR=7.2
SYO Syowa Base 134.64 210⇑ *e*X **PKPdf** 08 21 30.4 -1.7
SYO Syowa Base 134.64 210⇓ *e*PKiKP **PKiKP** 08 21 37.9 +4.4
SYO Syowa Base 134.64 210⇓ *i*P **SKPbc** 08 24 43.2 -1.0
SAML Samuel 138.63 40 *e*PKPpre PKPpre 08 21 31.7
RCBR Riachuelo 142.08 357 SKPbc **SKPbc** 08 25 07.7 +0.6
comp=Z,113nm,1.3s,baz=355,slow=4.1,SNR=8.9
RCBR Riachuelo 142.08 357 *e*PKPpre PKPpre 08 21 43.4
RCBR SKPbc **SKPbc** 08 25 07.7 +0.6
LPAZ La Paz 142.18 53 PKhKP PKPpre 08 21 43.2
comp=Z,18nm,1.1s,baz=346,slow=4.6,SNR=20
LPAZ PKP **PKPdf** 08 21 48.2 -0.1
comp=Z,14nm,1.0s,baz=337,slow=5.4,SNR=25
LPAZ pPKP pPKPdf 08 22 37.8 +0.3
comp=Z,24nm,1.1s,baz=12,slow=6.7,SNR=3.0
LPAZ SKPbc **SKPbc** 08 25 07.3 -0.6
comp=Z,25nm,1.0s,baz=1.4,slow=7.2,SNR=8.2
NVL N'lazarevskaya 143.89 205 *e*PKIKP PKPab 08 21 45.6 -1.0
NVL *e* 08 25 01.5
NVL pmax pmax

comp=Z,1.0nm,1.5s
PB01 IPOC Station P 145.02 60 *e*PKPbc **PKPdf** 08 21 52.8 +0.2
PB04 IPOC Station P 145.54 62 *e*PKPdf **PKPdf** 08 21 53.7 +0.2
SIV San Ignacio 145.74 43 PKPbc **PKPbc** 08 21 54.2 -0.3
comp=Z,58nm,0.5s,baz=296,slow=2.9,SNR=133
SIV pPKPbc **pPKPdf** 08 22 43.1 +0.2
comp=Z,46nm,0.7s,baz=343,slow=3.7,SNR=2.8
SIV SKPbc **SKPbc** 08 25 15.4 -0.3
comp=Z,14nm,0.9s,baz=331,slow=2.9,SNR=3.8
SIV SKKPab **SKKPab** 08 33 09.5 -0.1
comp=Z,15nm,1.1s,baz=201,slow=4.4,SNR=6.1
PB10 IPOC Station P 146.12 64 *e*PKPdf **PKPab** 08 21 56.5 0.0
LVC Limon Verde 146.53 61 PKPbc **PKPbc** 08 21 56.7 -0.5
comp=Z,656nm,1.1s,baz=289,slow=2.4,SNR=8.5
LVC pPKPbc pPKPab 08 22 46.3 0.0
comp=Z,359nm,1.0s,baz=331,slow=2.9,SNR=4.1
LVC SKPbc **SKiKP** 08 25 18.5 +0.5
comp=Z,127nm,1.1s,baz=303,slow=3.7,SNR=3.5
LVC Limon Verde 146.53 61 *e*PKPdf **PKPbc** 08 21 57.1 -0.1
LVC pPKPbc pPKPab 08 22 46.3 0.0
LVC SKPbc **SKiKP** 08 25 18.5 +0.5
SNAA **Sanae** 147.50 200 P **PKPdf** 08 21 55.0 -0.2
SNAA **Sanae** 147.50 200 PP PP 08 25 27.4 +1.0
comp=Z,60nm,1.1s,baz=118,slow=10,SNR=4.9
SNAA SKKPbc 08 33 00.6
comp=Z,14nm,1.1s,baz=311,slow=5.2,SNR=6.9
SNAA Sanae 147.50 200 *d i*PKIKP **PKPdf** 08 21 54.4 -0.8
SNAA Sanae 147.50 200 *e*PKPdf **PKPdf** 08 21 55.5 +0.4
SNAA *e*PKPbc **PKPbc** 08 21 58.2 +0.1
SNAA PP **PP** 08 25 27.4 +1.0
SNAA SKKPbc 08 33 00.6
VNA2 Neumayer--Watz 149.09 199 P **PKPdf** 08 21 58.0 +0.3
baz=108,slow=2.0
VNA3 Neumayer Olymp 149.37 197 P **PKPdf** 08 21 58.2 +0.1
VNA1 Neumayer--Stat 149.49 199 P **PKPdf** 08 21 58.6 +0.4
LCO Las Campanas 149.66 72 *e*PKPdf **PKPdf** 08 22 00.4 +0.1
LCO *e*PKPbc **PKPbc** 08 22 05.4 +0.3
BDFB Brasilia 150.46 21 PKP **PKPdf** 08 22 02.5 +0.9
comp=Z,24nm,1.1s,baz=61,slow=1.2,SNR=16
BDFB PKPbc **PKiKP** 08 22 07.8 0.0
comp=Z,50nm,0.9s,baz=125,slow=2.4,SNR=57
BDFB pPKPbc **pPKPbc** 08 22 56.0 0.0
comp=Z,69nm,1.1s,baz=156,slow=3.0,SNR=3.9
ROC1 El Roble 151.74 79 *e*PKPbc **PKPbc** 08 22 09.3 -0.5
ROCH El Roble 151.74 79 *e*P **PKPbc** 08 22 09.5 -0.3
PEL Peldehue 152.06 79 *e*P **PKPbc** 08 22 09.7 -0.5
GO05 HualaæØ 152.12 83 *e*PKPdf **PKPdf** 08 22 03.2 -0.3
GO05 *e*PKPbc **PKPbc** 08 22 09.8 -0.5
CLCH Cerro Calan 152.30 79 *e*P **PKPbc** 08 22 09.3 -1.6
PMSA Palmer Station 154.31 154 *e*PKPbc **PKPbc** 08 22 15.8 +1.7
CHRN Cochrane 155.31 110 *e*PKPbc PKPbc 08 22 17.6
CHRN *e*PKPab **PKPab** 08 22 33.7 -0.2
PLCA Paso Flores 155.42 94 PKP **PKPdf** 08 22 06.2 -1.8
comp=Z,4.0nm,0.9s,baz=226,slow=9.0,SNR=5.7
PLCA PKPbc PKPbc 08 22 17.8
comp=Z,16nm,1.0s,baz=288,slow=2.6,SNR=12
PLCA pPKPab **pPKPab** 08 23 22.9 +0.9
comp=Z,30nm,1.1s,baz=287,slow=4.3,SNR=3.1
PLCA Paso Flores 155.42 94 *e*PKPdf **PKPdf** 08 22 07.8 -0.2
PLCA PKPbc PKPbc 08 22 17.8
PLCA *e*PKPab **PKPab** 08 22 36.7 +1.9
PLCA pPKPab **pPKPab** 08 23 22.9 +0.9
GO09 Cerro Castillo 155.52 120 *e*PKPab **PKPab** 08 22 36.9 +2.2
CPUP Villa Florida 156.22 49 PKP **PKPdf** 08 22 09.5 0.0
comp=Z,10.0nm,1.1s,baz=346,slow=2.4,SNR=6.3
CPUP PKPbc PKPbc 08 22 21.1
comp=Z,5.4nm,0.8s,baz=48,slow=2.4,SNR=3.8
CPUP PKPab **PKPab** 08 22 36.2 -2.0
comp=Z,13nm,0.9s,baz=28,slow=3.7,SNR=4.8
CPUP pPKP **pPKPdf** 08 22 58.6 -0.2
comp=Z,7.8nm,0.7s,baz=9.6,slow=5.7,SNR=1.5
CPUP pPKPab **pPKPab** 08 23 24.8 -0.7
comp=Z,27nm,0.9s,baz=323,slow=4.9,SNR=3.3
CPUP SKKPbc 08 32 32.2
comp=Z,6.5nm,1.1s,baz=57,slow=4.3,SNR=3.0
USHA Ushuaia 157.23 130 PKPab **PKPab** 08 22 43.4 +1.4
comp=Z,255nm,1.1s,baz=157,slow=0.7,SNR=6.8
USHA pPKPab **pPKPab** 08 23 29.1 -0.1
comp=Z,107nm,0.9s,baz=350,slow=6.1,SNR=2.8
SPB Sao Paulo 158.17 25 *e*PKPdf **PKPdf** 08 22 12.6 +0.6
SPB *e*PKPab **PKPab** 08 22 47.5 +0.8

IDC 21 08:16:26.3±11.0, 8°.19S×129°.06E, h170km±86km, mb3.5/1, mb1 3.8/3, mb1mx3.1/48, mbtmp4.2/3, Error ellipse: s-maj=90.9km s-min=80.4km az=95.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.75**	**157**	P	Pn	08 19 20.1	-1.6
	1.0nm,0.3s,baz=339,slow=12,SNR=18						
WRA				S	Sn	08 21 45.0	+1.6
	1.5nm,0.3s,baz=325,slow=23,SNR=6.8						
ASAR	**Alice Springs**	**16.07**	**164**	P	P	08 20 04.0	+0.8
	0.8nm,0.3s,baz=342,slow=11,SNR=17						
ASAR				S	S	08 23 01.8	+0.3
	0.3nm,0.3s,baz=346,slow=26,SNR=7.1						
STKA	**Stephens Creek**	**26.30**	**155**	P	P	08 21 46.4	+0.2
	1.5nm,0.7s,baz=329,slow=12,SNR=3.1						

*ISCJB **21** 08:17:10.9±0.6, 11°.83N×0°.05×44°.18E±0°.05, h4km, mb4.5/15, MS3.7/1, Error ellipse: s-maj=8.2km s-min=6.1km az=135.8*
*IDC **21** 08:17:10.0±1.3, 11°.43N×44°.12E, h0km, mb4.2/8, mb1 4.3/9, mb1mx3.9/70, mbtmp4.3/9, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.5/40, Error ellipse: s-maj=27.8km s-min=16.7km az=171.0*
*NEIC **21** 08:17:12.0±0.6, 11°.54N×44°.14E, h10km, mb4.8/7, Error ellipse: s-maj=12.8km s-min=9.0km az=176.0*
*DHMR **21** 08:17:13.7±0.8, 12°.04N×44°.23E, h14km±12km, ML4.6*
*CSEM **21** 08:17:13.2±0.4, 11°.78N×44°.08E, h10km, mb4.7/5, Error ellipse: s-maj=11.8km s-min=10.2km az=146.0*
ISC 21 08:17:12.2±0.8, 11°.81N±0°.07×44°.12E±0°.07, h4km, n49, σ1°65/56, mb4.4/15, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.28**	**257**	Pn	**Pg**	**08 17 35.3**	**-1.4**
	191nm,0.3s,baz=44,slow=2.7,SNR=18						
ATD				Sn	**Sn**	**08 17 53.7**	**-0.8**
	606nm,0.3s,baz=100,slow=23,SNR=23						
ADEN	**Aden**	**1.28**	**41**	*i* P	Pn	08 17 32.2	-4.6
ADEN				*i* S	**Sg**	**08 17 47.6**	**-5.7**
ADEN				AML	AML	08 17 54.4	
	comp=N,11μm,0.3s						
UDYN	**Al 'Udayn**	**2.15**	**356**	*i* P	**Pn**	**08 17 47.6**	**-1.3**
UDYN				*i* S	**Sn**	**08 18 13.3**	**-2.8**
UDYN	**Al 'Udayn**	**2.15**	**356**	*i* P	**Pn**	**08 17 47.6**	**-1.3**
UDYN				*i* S	**Sn**	**08 18 13.3**	**-2.8**
DHBB	**Dhamar BB**	**2.75**	**5**	*i* P	**Pn**	**08 17 57.1**	**-0.4**
DHBB				*i* S	**Sn**	**08 18 31.1**	**-0.3**
DHBB				AML	AML	08 18 43.9	
	comp=N,7μm,0.5s						
DAMY	**Dhamar**	**2.76**	**6**	*e*Pn	**Pn**	**08 18 00.7**	**+3.2**
DAMY				*e*Sn	**Sn**	**08 18 34.1**	**+2.7**
DAMY	**Dhamar**	**2.76**	**6**	*e*Pn	**Pn**	**08 18 00.7**	**+3.2**
DAMY				*e*Sn	**Sn**	**08 18 34.1**	**+2.7**
HAJJ	**Hajjah**	**3.90**	**353**	*i* P	**Pn**	**08 18 13.1**	**0.0**
HAJJ				*i* S	**Sn**	**08 18 58.9**	**-0.5**
HAJJ	**Hajjah**	**3.90**	**353**	*i* P	**Pn**	**08 18 13.1**	**0.0**
HAJJ				*i* S	**Sn**	**08 18 58.9**	**-0.5**
WSAR	**Wadi Sarin**	**17.89**	**49**	P	**Pn**	**08 21 23.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=253,slow=14,SNR=4.4						
WSAR	**Wadi Sarin**	**17.89**	**49**	*e*Pn	**Pn**	**08 21 23.0**	**+0.9**
ASF	**Jabal al Asfar**	**21.32**	**343**	P	**P**	**08 22 02.2**	**+1.9**
	comp=N,12nm,1.2s,baz=178,slow=4.5,SNR=3.1						
BR101	**Keskin Array S**	**29.31**	**343**	*e*P	**P**	**08 23 18.2**	**+2.2**
BR101	**Keskin Array S**	**29.31**	**343**	*e*P	**P**	**08 23 18.2**	**+2.2**
BR131	**Keskin Array S**	**29.31**	**343**	*e*P	**P**	**08 23 17.1**	**+1.1**
BR131	**Keskin Array S**	**29.31**	**343**	*e*P	**P**	**08 23 17.1**	**+1.1**
BRTR	**Keskin Array B**	**29.31**	**343**	P	**P**	**08 23 18.2**	**+2.2**
	comp=N,2.6nm,1.0s,baz=156,slow=7.9,SNR=4.0						
AGG	**Agios Georgios**	**33.31**	**328**	*e*P	**P**	**08 23 50.5**	**-0.7**
	comp=N,21nm,1.1s						
AGG	**Agios Georgios**	**33.31**	**328**	*e*P	**P**	**08 23 50.5**	**-0.7**
	comp=N,21nm,1.1s						
TIRR	**Tirgusor**	**35.22**	**340**	*e*P	**P**	**08 24 09.9**	**+2.3**
	comp=N,12nm,1.0s						
MATP	**Matopo**	**35.53**	**206**	LR	LR	08 38 01.3	
	comp=N,147nm,21.0s,baz=37,slow=36						
WDD	**Wied Dalam**	**35.87**	**317**	*e*P	**P**	**08 24 15.7**	**+2.4**
	comp=N,44nm,0.9s						

KEST Kesra 39.41 313 *e*P **P** 08 24 43.8 +0.3
comp=N,8.8nm,1.1s
KEST Kesra 39.41 313 *e*P **P** 08 24 43.8 +0.3
comp=N,8.8nm,1.1s
ABKAR Akbulak array 39.57 16 *e*P **P** 08 24 44.1 -0.4
comp=N,45nm,1.1s
ABKAR Akbulak array 39.57 16 *e*P **P** 08 24 44.1 -0.4
comp=N,45nm,1.1s
BVAR Borovoye Array 46.18 22 P **P** 08 25 38.9 +0.9
comp=N,2.3nm,0.9s,baz=229,slow=15,SNR=3.3
MK32 Makanchi Array 47.42 35 *e*P **P** 08 25 47.8 -0.1
MK32 Makanchi Array 47.42 35 *e*P **P** 08 25 47.8 -0.1
MKAR Makanchi Array 47.42 35 P **P** 08 25 47.8 -0.1
comp=N,3.4nm,1.0s,baz=208,slow=4.6,SNR=4.2
KURBB Kurchatov Arra 47.83 29 P **P** 08 25 51.9 +0.9
comp=N,3.2nm,1.1s,baz=231,slow=7.5,SNR=4.7
KURK Kurchatov 47.94 29 *e*P **P** 08 25 51.9 +0.1
KURK Kurchatov 47.94 29 *e*P **P** 08 25 51.9 +0.1
FIA1 FINESS Array S 51.27 349 *e*P **P** 08 26 18.3 +1.4
comp=N,7.7nm,1.0s
FIA1 FINESS Array S 51.27 349 *e*P **P** 08 26 18.3 +1.4
comp=N,7.7nm,1.0s
ZALV Zalesovo Beam 52.93 29 P **P** 08 26 29.0 -0.5
comp=N,0.9nm,0.3s,baz=224,slow=6.2,SNR=3.7
ZALV Zalesovo Beam 52.93 29 P **P** 08 26 29.0 -0.5
ZAA1 Zalesovo Array 52.93 29 *e*P **P** 08 26 29.0 -0.5
ZAA1 Zalesovo Array 52.93 29 *e*P **P** 08 26 29.0 -0.5
CM31 Chiang Mai Arr 53.17 76 *e*P **P** 08 26 31.7 -0.2
CM31 Chiang Mai Arr 53.17 76 *e*P **P** 08 26 31.7 -0.2
CMAR Chiang Mai Arr 53.17 76 P **P** 08 26 32.6 +0.7
comp=N,4.6nm,0.8s,baz=271,slow=8.7,SNR=14
SONA0 Songino Array 62.80 42 *e*P **P** 08 27 39.4 +0.3
comp=N,7.1nm,1.2s
SONA0 Songino Array 62.80 42 *e*P **P** 08 27 39.4 +0.3
comp=N,7.1nm,1.2s
SONM Songino Array 62.80 42 P **P** 08 27 39.4 +0.3
comp=N,2.3nm,0.8s,baz=238,slow=8.1,SNR=5.2
PB10 IPOC Station P 117.12 250 *e*PKIKP **PKPdf** 08 35 57.0 -2.4
PB10 IPOC Station P 117.12 250 *e*PKPdf **PKPdf** 08 35 57.0 -2.4
LHI Lord Howe Isla 117.29 119 *e*PKIKP **PKPdf** 08 35 58.7 -0.8
LHI Lord Howe Isla 117.29 119 *e*PKPdf **PKPdf** 08 35 58.7 -0.8

*ISCJB **21** 08:25:07.6±0.3, 19°.66S±0°.03×69°.11W±0°.05, h101km±2km, mb4.7/109, Error ellipse: s-maj=7.7km s-min=4.4km az=163.1*
*IDC **21** 08:25:07.0±1.4, 19°.60S×69°.24W, h84km±14km, mb4.1/12, mb1 4.2/15, mb1mx4.0/40, mbtmp4.5/15, Error ellipse: s-maj=15.4km s-min=10.8km az=78.0*
*NEIC **21** 08:25:09.0±0.0, 19°.76S×69°.31W, h100km, mb4.6/99, After GUC.*
NEIC Felt [III] at Camina, Huara and Pica; [II] at Alto Hospicio and Iquique.
*GUC **21** 08:25:09.2±0.7, 19°.76S×69°.31W, h100km±4km, ML4.9*
ISC 21 08:25:08.8±0.5, 19°.70S±0°.04×69°.25W±0°.06, h99km±4km, n169, σ1$26/190, mb4.5/108, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.39**	**261**	*e*Pn	**Pn**	**08 25 24.4**	**+0.3**
PB11				*e*Sn	**Sn**	**08 25 35.6**	**+0.3**
PB08	**IPOC Station P**	**0.45**	**168**	⇓ *i*P	**Pn**	**08 25 25.3**	**+0.6**
PB08				*i* S	**Sn**	**08 25 37.4**	**+1.0**
PB08				IAML		08 25 38.0	
	comp=E,47μm,0.6s						
MNMC	**Minye Minye**	**0.65**	**330**	⇑ *i*P	**Pn**	**08 25 27.0**	**+0.9**
MNMC				*i* S	**Sn**	**08 25 40.6**	**+1.6**
MNMC				IAML		08 25 41.4	
	comp=N,47μm,0.7s						
PSGC	**Pisagua**	**0.83**	**277**	⇑ *i*P	**Pn**	**08 25 27.6**	**0.0**
PSGC				*i* S	**Sn**	**08 25 41.4**	**-0.2**
HMBC	**Humberstone**	**0.83**	**226**	⇑ *i*P	**Pn**	**08 25 27.6**	**0.0**
HMBC				*i* S	**Sn**	**08 25 41.7**	**0.0**
HMBC				IAML		08 25 42.0	
	comp=N,46μm,0.3s						
PB01	**IPOC Station P**	**1.35**	**189**	⇑ *i*P	**Pn**	**08 25 33.6**	**+0.2**
PB01				*i* S	**Sn**	**08 25 52.2**	**+0.2**
PB01	**IPOC Station P**	**1.35**	**189**	*e*Pn	**Pn**	**08 25 33.7**	**+0.2**
PB01				*e*Sn	**Sn**	**08 25 52.4**	**+0.4**
PB12	**IPOC Station P**	**1.49**	**316**	⇓ *i*P	**Pn**	**08 25 35.0**	**0.0**
PB12				*i* S	**Sn**	**08 25 54.6**	**-0.2**
PB12				IAML		08 25 59.6	
	comp=E,23μm,0.3s						
PB09	**IPOC Station P**	**2.08**	**180**	⇑ *i*P	**Pn**	**08 25 43.0**	**+0.3**
PB09				*i* S	**Sn**	**08 26 09.1**	**+0.6**
PB09				IAML		08 26 14.7	
	comp=N,29μm,0.7s						
PB07	**IPOC Station P**	**2.10**	**196**	⇑ *i*P	**Pn**	**08 25 42.4**	**-0.5**
PB07				*i* S	**Sn**	**08 26 08.9**	**0.0**
PB04	**IPOC Station P**	**2.75**	**198**	*e*P	**Pn**	**08 25 50.5**	**-1.0**
PB04				*e*S	**Sn**	**08 26 23.0**	**-1.2**
PB04				IAML		08 26 49.1	
	comp=N,3μm,0.3s						
PB04	**IPOC Station P**	**2.75**	**198**	*e*Pn	**Pn**	**08 25 51.1**	**-0.3**
PB04				*e*Sn	**Sn**	**08 26 27.3**	**+3.1**
LVC	**Limon Verde**	**2.91**	**174**	P	**Pn**	**08 25 54.5**	**+0.7**
	comp=N,3μm,0.3s,baz=11,slow=9.4,SNR=243						
LVC				S	**Sn**	**08 26 28.5**	**+0.2**
	comp=N,14μm,0.3s,baz=60,slow=19,SNR=27						
LVC	**Limon Verde**	**2.91**	**174**	*e*Pn	**Pn**	**08 25 54.8**	**+1.0**
LVC				*e*Sn	**Sn**	**08 26 29.0**	**+0.7**
LPAZ	**La Paz**	**3.56**	**18**	P	**Pn**	**08 26 05.5**	**+2.8**
	comp=N,19nm,0.3s,baz=219,slow=6.5,SNR=167						
PB10	**IPOC Station P**	**3.98**	**198**	*e*Pn	**Pn**	**08 26 06.2**	**-1.6**
SIV	**San Ignacio**	**8.62**	**66**	P	**Pn**	**08 27 08.5**	**-2.3**
	comp=N,5.5nm,0.3s,baz=270,slow=10,SNR=29						
LCO	**Las Campanas**	**9.36**	**188**	*e*Pn	**Pn**	**08 27 16.5**	**-4.7**
NNA	**Nana**	**10.59**	**315**	P	**Pn**	**08 27 34.8**	**-2.9**
	comp=N,1.4nm,0.3s,baz=55,slow=10,SNR=3.4						
NNA				S	**Sn**	**08 29 29.6**	**-4.8**
	comp=N,2.1nm,0.3s,baz=243,slow=14,SNR=2.7						
SAML	**Samuel**	**12.19**	**30**	*e*Pn	**Pn**	**08 27 56.9**	**-2.3**
CPUP	**Villa Florida**	**12.80**	**123**

SWET	Sewanee	56.87	344	eP	P	08 34 42.4 -0.9
	comp=N,46nm,2.0s					
WVT	Waverly	58.24	342	eP	P	08 34 51.6 -1.3
	comp=N,8.8nm,0.8s					
HPIG		58.27	321	eP	P	08 34 53.8 +0.3
	comp=N,3.4nm,0.6s					
SLBS	Sierra La Lagu	58.60	316	eP	P	08 34 57.2 +1.5
	comp=N,46nm,1.9s					
MIAR	Mount Ida	58.70	337	eP	P	08 34 55.4 -0.8
	comp=N,6.0nm,0.8s					
WHAR	Wooly Hollow	58.90	338	eP	P	08 34 56.9 -0.6
	comp=N,50nm,1.9s					
WHAR				eS	S	08 43 00.5 +4.7
TXAR	Lajitas Array	58.98	325	P	P	08 34 57.9 -0.4
	comp=N,0.6nm,0.5s,baz=154,slow=7.6,SNR=9.0					
TX31	Lajitas Ar. Si	58.98	325	eP	P	08 34 58.2 -0.1
PBMO	Poplar Bluff	59.63	340	eP	P	08 35 01.6 -0.9
	comp=N,9.6nm,0.6s					
WMOK	Wichita Mounta	60.98	332	eP	P	08 35 11.8 0.0
	comp=N,7.8nm,1.5s					
CCM	Cathedral Cave	61.06	340	eP	P	08 35 10.9 -1.3
	comp=N,11nm,1.0s					
BRYW	Bryant College	61.34	358	eP	P	08 35 13.8 -0.2
	comp=N,429nm,1.8s					
MNTX	Cornudas Mount	61.74	325	eP	P	08 35 16.9 -0.1
	comp=N,4.4nm,1.1s					
SFIN	Lafayette	62.04	345	eP	P	08 35 17.4 -1.3
	comp=N,68nm,1.6s					
HDIL	Hopedale	62.78	343	eP	P	08 35 22.4 -1.3
	comp=N,106nm,1.9s					
319A	Douglas	63.68	322	eP	P	08 35 29.8 -0.2
	comp=N,8.3nm,0.8s					
KSU1	Kansas State U	63.86	337	eP	P	08 35 30.1 -0.7
	comp=N,6.9nm,0.8s					
SNAA	Sanae	64.08	161	P	P	08 35 32.3 +0.4
	comp=N,1.8nm,0.9s,baz=263,slow=7.3,SNR=4.4					
SNAA				pP	pP	08 35 59.4 +2.7
	comp=N,3.8nm,1.0s,baz=340,slow=7.4,SNR=4.4					
SNAA	Sanae	64.08	161	eP	P	08 35 32.6 +0.7
	comp=N,30nm,1.7s					
SNAA				pP	pP	08 35 59.4 +2.7
SCIA	State Center	65.19	340	eP	P	08 35 38.9 -0.5
	comp=N,72nm,1.8s					
TUC	Tucson	65.23	322	eP	P	08 35 41.0 +1.0
	comp=N,6.9nm,1.6s					
JFWS	Jewell Farm	65.24	343	eP	P	08 35 38.8 -0.9
	comp=N,59nm,1.6s					
TRQ	Mont Tremblant	65.78	356	eP	P	08 35 42.8 -0.4
BGNE	Belgrade	66.44	337	eP	P	08 35 47.5 -0.1
	comp=N,38nm,0.6s					
SDCO	Great Sand Dun	66.55	329	eP	P	08 35 49.2 +0.7
	comp=N,8.1nm,1.3s					
SDCO				eS	S	08 44 34.8 +2.8
Q24A	Divide	67.35	330	eP	P	08 35 54.4 +0.7
	comp=N,5.2nm,0.8s					
Y14A	Wickenburg	67.69	322	eP	P	08 35 56.8 +1.1
	comp=N,12nm,0.9s					
WUAZ	Wupatki	67.90	324	eP	P	08 35 58.5 +1.5
	comp=N,4.2nm,0.8s					
ECSD	EROS Data Cent	67.93	339	eP	P	08 35 56.2 -0.7
	comp=N,24nm,1.9s					
LIC	Lamto	68.21	75	eP	P	08 35 57.5 -1.7
	comp=N,69nm,1.8s					
ISCO	Idaho Springs	68.23	331	eP	P	08 36 00.0 +0.8
	comp=N,4.1nm,1.3s					
PV01	Paradox Valley	68.36	327	eP	P	08 36 01.1 +1.1
SMCO	Snowmass	68.38	329	eP	P	08 36 01.2 +0.9
	comp=N,3.8nm,1.0s					
TIC	Toumodi	68.38	74	eP	P	08 35 59.2 -1.2
Y12C	Blythe	68.46	320	eP	P	08 36 01.1 +0.7
	comp=N,3.1nm,0.7s					
KIC	Kosan Boka	68.52	75	eP	P	08 35 59.6 -1.6
	comp=N,6.2nm,0.4s					
DBIC	Dimbokro	68.54	74	P	P	08 36 00.0 -1.3
	comp=N,6.0nm,0.8s,baz=219,slow=6.7,SNR=5.4					
DBIC				PcP	pP	08 36 27.1 +0.7
	comp=N,3.2nm,0.7s,baz=207,slow=6.4,SNR=3.9					
DBIC	Dimbokro	68.54	74	eP	P	08 36 00.2 -1.1
	comp=N,8.7nm,0.9s					
DBIC				PcP	pP	08 36 27.1 +0.7
BAR	Barrett	69.05	318	eP	P	08 36 05.6 +1.4
	comp=N,6.8nm,0.9s					
U15A	North Rim	69.07	324	eP	P	08 36 05.6 +1.1
	comp=N,5.5nm,1.0s					
PFO	Pinyon Flats O	69.55	319	eP	P	08 36 08.7 +1.5
	comp=N,7.8nm,1.1s					
KNB	Kanab	69.79	324	eP	P	08 36 10.3 +1.5
	comp=N,7.2nm,0.9s					
LCMT	Little Creek M	70.02	324	eP	P	08 36 10.6 +0.5
	comp=N,4.7nm,1.0s					
SRU	San Rafael Swe	70.10	327	ePKIKP	P	08 36 11.7 +1.1
SRU	San Rafael Swe	70.10	327	ePKPdf	P	08 36 11.7 +1.1
SRU	San Rafael Swe	70.10	327	eP	P	08 36 11.7 +1.1
	comp=N,25nm,0.6s					
MTPU	Mount Pierson	70.18	325	eP	P	08 36 12.7 +1.3
	comp=N,2.7nm,1.1s					
EYMN	Ely	70.23	344	eP	P	08 36 10.2 -0.8
	comp=N,19nm,1.2s					
Q16A	Castle Valley	70.29	326	eP	P	08 36 11.6 -0.3
	comp=N,34nm,0.9s					
P18A	Preston Nutter	70.35	327	eP	P	08 36 13.4 +1.1
	comp=N,16nm,0.5s					
CCUT	Cedar City	70.47	324	eP	P	08 36 14.6 +1.6
	comp=N,4.6nm,0.8s					
P17A	Butcher Ranch,	70.48	327	eP	P	08 36 13.9 +1.0
	comp=N,76nm,0.7s					
MSU	Marysvale	70.52	325	ePKIKP	P	08 36 14.7 +1.4
MSU	Marysvale	70.52	325	ePKPdf	P	08 36 14.7 +1.4
MSU	Marysvale	70.52	325	eP	P	08 36 14.7 +1.4
TMUT	Trail Mountain	70.59	327	eP	P	08 36 14.8 +1.1
	comp=N,347nm,0.4s					
SHPR	Sheep Range	70.75	322	eP	P	08 36 16.2 +1.6
	comp=N,3.8nm,0.9s					
RSSD	Black Hills	71.05	334	eP	P	08 36 17.1 +0.8
	comp=N,4.8nm,0.8s					
MPU	Maple Canyon	71.35	327	eP	P	08 36 19.2 +1.0
	comp=N,5.2nm,0.8s					
NLU	North Lily Min	71.53	327	eP	P	08 36 20.7 +1.4
	comp=N,4.4nm,0.5s					
TPNV	Topopah Spring	71.69	322	eP	P	08 36 21.7 +1.4
	comp=N,4.4nm,0.6s					
AGMN	Agassiz Nation	71.76	342	eP	P	08 36 20.0 -0.2
	comp=N,4.9nm,0.6s					
DAC	Darwin (Calif)	72.03	321	eP	P	08 36 23.7 +1.3
	comp=N,3.4nm,0.8s					
DUG	Dugway, Tooele	72.09	326	eP	P	08 36 23.6 +1.0
	comp=N,5.8nm,1.1s					
R11A	Troy Canyon, C	72.28	323	eP	P	08 36 25.2 +1.4
	comp=N,9.3nm,1.5s					
BW06	Boulder Array	72.40	330	eP	P	08 36 25.0 +0.5
	comp=N,16nm,2.0s					
PD31	Pinedale Array	72.40	330	eP	P	08 36 24.8 +0.3
PDAR	Pinedale Array	72.40	330	P	P	08 36 24.3 -0.2
	comp=N,0.6nm,0.5s,baz=113,slow=7.7,SNR=9.4					
HWUT	Hardware Ranch	72.50	328	eP	P	08 36 25.1 +0.1
	comp=N,3.0nm,0.8s					
MDND	Maddock	72.55	339	eP	P	08 36 25.0 +0.1
	comp=N,31nm,0.5s					
SPUT	South Promonto	72.72	327	eP	P	08 36 26.4 +0.1
	comp=N,3.9nm,0.8s					
BGU	Big Grassy Mou	72.74	327	eP	P	08 36 26.9 +0.5
	comp=N,3.3nm,1.0s					
HVU	Hansel Valley	73.23	327	eP	P	08 36 30.1 +0.8
	comp=N,13nm,1.8s					
REDW	Red Top Meadow	73.47	330	eP	P	08 36 31.0 +0.2
	comp=N,17nm,2.0s					
ULM	Lac du Bonnet	73.51	343	P	P	08 36 29.6 -0.9
	comp=N,5.2nm,0.5s,baz=150,slow=6.3,SNR=11					
ULM	Lac du Bonnet	73.51	343	eP	P	08 36 29.9 -0.6
	comp=N,8.0nm,0.6s					
LOHW	Long Hollow	73.54	330	eP	P	08 36 31.6 +0.4
	comp=N,1.6nm,0.8s					
TPAW	Teton Pass	73.61	330	eP	P	08 36 32.5 +0.8
	comp=N,16nm,1.9s					
MOOW	Moose Ponds	73.71	330	eP	P	08 36 32.4 +0.2
	comp=N,8.3nm,1.9s					
FXWY	Fox Creek	73.76	330	eP	P	08 36 33.2 +0.7
	comp=N,3.2nm,1.1s					
IMW	Indian Meadow	73.91	330	eP	P	08 36 34.1 +0.6
	comp=N,8.3nm,1.4s					
PMPB	Monarch Peak	73.94	319	eP	P	08 36 35.4 +1.9
	comp=N,35nm,1.3s					
LAO	LASA Array	74.03	334	eP	P	08 36 34.2 +0.5
	comp=N,31nm,1.9s					
RLMT	Red Lodge	74.09	332	eP	P	08 36 34.8 +0.5
	comp=N,26nm,1.9s					
YHH	Holmes Hill	74.55	331	eP	P	08 36 38.8 +1.6
	comp=N,4.9nm,0.8s					
YHB	Horse Butte	74.68	330	eP	P	08 36 39.3 +1.5
	comp=N,5.2nm,0.7s					
DGMT	Dagmar	74.70	337	eP	P	08 36 38.4 +0.8
	comp=N,10nm,0.9s					
GCMT	Greycliff	74.78	332	eP	P	08 36 39.1 +0.8
CMB	Columbia Colle	74.86	320	eP	P	08 36 40.9 +2.2
	comp=N,9.5nm,1.8s					
PNTR	Pine Nut	75.08	322	eP	P	08 36 41.8 +1.6
	comp=N,3.3nm,0.7s					
HLID	Hailey	75.36	328	eP	P	08 36 43.0 +1.4
	comp=N,4.6nm,0.9s					
PAHR	Pah Rah Range	75.37	322	eP	P	08 36 43.0 +1.3
	comp=N,8.6nm,0.8s					
MCMT	McKenzie Canyo	75.52	330	eP	P	08 36 44.0 +1.3
DLMT	Dillon	75.80	330	eP	P	08 36 44.6 +0.6
	comp=N,15nm,1.8s					
AFDM	Forest Hills D	75.80	321	eP	P	08 36 45.1 +1.0
	comp=N,2.6nm,0.9s					
MFID	Camas Ranch	75.97	327	eP	P	08 36 46.4 +1.4
	comp=N,5.3nm,1.0s					
BEKR	Beckworth	76.04	322	eP	P	08 36 46.7 +1.1
	comp=N,12nm,1.8s					
ORV	Oroville	76.50	321	eP	P	08 36 49.5 +1.5
	comp=N,8.2nm,1.1s					
EGMT	Eagleton	76.55	333	eP	P	08 36 48.8 +0.6
	comp=N,11nm,1.2s					
TORD	Torodi Ar. Bea	77.06	71	P	P	08 36 50.1 -1.6
	comp=N,2.1nm,0.4s,baz=255,slow=5.0,SNR=34					
TORD				pP	pP	08 37 17.7 +0.5
	comp=N,2.6nm,0.8s,baz=246,slow=5.2,SNR=3.7					
MOD	Modoc Plateau	77.34	323	eP	P	08 36 53.5 +0.7
	comp=N,15nm,1.9s					
BMO	Blue Mountains	77.74	327	eP	P	08 36 55.6 +0.6
	comp=N,3.4nm,0.9s					
WDC	Whiskeytown Da	77.77	321	eP	P	08 36 54.7 -0.4
	comp=N,11nm,1.8s					
KMRM	Mail Ridge	78.24	320	eP	P	08 36 59.2 +1.4
	comp=N,45nm,1.6s					
KRMB	Red Mountain	79.17	321	eP	P	08 37 04.2 +1.3
	comp=N,17nm,1.4s					
KBO	Bosley Butte	79.78	322	eP	P	08 37 07.5 +1.3
	comp=N,64nm,1.9s					
PGC	Sidney	83.42	327	eP	P	08 37 25.8 +0.8
	comp=N,27nm,1.8s					
YKA	Yellowknife Ar	89.39	341	P	P	08 37 53.7 -0.2
	comp=N,11nm,0.8s,baz=128,slow=4.8,SNR=20					
YKW3	Yellowknife Ar	89.45	341	eP	P	08 37 54.1 0.0
MXZ	Matakaoa Point	94.73	227	eP	P	08 38 18.9 -0.4
	comp=N,295nm,1.8s					
ASAR	Alice Springs	131.34	209	PKP	PKPdf	08 44 09.7 -0.7
	comp=N,0.8nm,0.5s,baz=121,slow=1.6,SNR=12					
WC3	Warramunga Arr	134.29	212	ePKPdf	PKPdf	08 44 16.6 +0.7
WB2	Warramunga Arr	134.32	212	ePKPdf	PKPdf	08 44 15.8 -0.2
WRA	Warramunga Arr	134.32	212	PKP	PKPdf	08 44 15.9 -0.1
	comp=N,1.9nm,0.6s,baz=142,slow=1.6,SNR=16					
FITZ	Fitzroy Crossi	139.69	202	PKP	PKPdf	08 44 26.1 +0.2
	comp=N,2.4nm,0.9s,baz=189,slow=8.5,SNR=3.3					
MKAR	Makanchi Array	144.35	34	PKP	PKPbc	08 44 32.2 +0.3
	comp=N,0.6nm,0.6s,baz=263,slow=3.1,SNR=3.7					
USRK	Ussuriysk Ar.	149.82	329	PKPbc	PKPbc	08 44 47.8 +0.4
	comp=N,3.5nm,0.7s,baz=294,slow=2.2,SNR=6.2					
CBIJ	Chichi jima	150.28	290	ePKPbc	PKPbc	08 44 47.6 -1.4
MJAR	Matsushiro Arr	150.69	311	PKPbc	PKPbc	08 44 49.5 -0.3
	comp=N,2.3nm,0.7s,baz=79,slow=2.0,SNR=7.4					
SONM	Songino Array	151.71	6	PKPbc	PKPbc	08 44 51.9 -0.1
	comp=N,3.2nm,0.5s,baz=268,slow=1.4,SNR=11					

CSEM ***21*** *08:26:38.0, 11°.98N×44°.16E, h12km, ML4.0*

DHMR 21 08:26:38.0±0.5, 11°.98N×44°.16E, h12km±8km, ML4.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.13**	**45**	*i* P		Pb	08 26 58.8	-0.6
ADEN				*i* S		Sg	08 27 14.5	+0.1
ADEN				AML		AML	08 27 20.1	
	comp=N,4μm,0.5s							
ADEN	**Aden**	**1.13**	**45**	*i* P		Pb	08 26 58.8	-0.6
ADEN				*i* S		Sg	08 27 14.5	+0.1
	comp=N,2μm,0.5s							
UDYN	**Al 'Udayn**	**1.98**	**355**	*i* P		Pn	08 27 12.6	+1.1
UDYN				*i* S		Sb	08 27 39.9	+0.9
UDYN				AML		AML	08 27 46.9	
	comp=E,2μm,0.6s							
UDYN	**Al 'Udayn**	**1.98**	**355**	*i* P		Pn	08 27 12.6	+1.0
UDYN				*i* S		Sb	08 27 39.9	+1.0
	comp=E,761nm,0.6s							
DHBB	**Dhamar BB**	**2.58**	**5**	*i* P		Pb	08 27 22.5	-2.0
DHBB				*i* S		Sb	08 27 57.5	+1.1
HAJJ	**Hajjah**	**3.74**	**352**	*i* S		Sb	08 28 25.1	-4.4
HAJJ	**Hajjah**	**3.74**	**352**	*i* S		Sb	08 28 25.1	-4.4

BJI 21 08:26:42.0, 43°.08N×124°.63E, h6km, ML3.7/15, **1D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**0.94**	**39**	*e*Pg		Pg	08 26 58.9	-1.1
CN2				*e*Sg		Sg	08 27 11.4	-0.7
SNY	**Shenyang**	**1.47**	**212**	||Pg		Pn	08 27 07.3	-1.8
SNY				Sg		Sn	08 27 26.1	-2.5
SNY				smax		smax		
	comp=N,1μm,0.4s							
SNY				smax		smax		
	comp=E,880nm,0.3s							
MDJ	**Mudanjiang**	**3.90**	**65**	Pg		Pb	08 27 52.5	+1.3
MDJ				Sg		Sb	08 28 42.4	+3.7
MDJ				smax		smax		
	comp=N,170nm,0.5s							
MDJ				smax		smax		
	comp=E,170nm,0.6s							
DL2	**Dalian**	**4.75**	**210**	Pg		Pb	08 28 06.3	+0.7
DL2				Sn		Sb	08 28 56.4	-6.6
DL2				Sg		Sg	08 29 07.8	-6.6
DL2				smax		smax		
	comp=N,200nm,0.6s							
DL2				smax		smax		
	comp=E,270nm,0.8s							

IDC ***21*** *08:29:21.9±0.6, 27°.16N×91°.32E, h0km, mb4.0/23, mb1 4.2/24, mb1mx4.0/60, mbtmp4.0/24, ML4.0/1, Error ellipse: s-maj=19.9km s-min=13.9km az=49.0*

DMN ***21*** *08:29:22.6±0.5, 27°.33N×91°.71E, h10km, Ml4.7/5, Error ellipse: s-maj=23.9km s-min=9.6km az=3.0*

BJI ***21*** *08:29:24.4, 27°.17N×91°.41E, h6km, ML3.6/2*

NEIC ***21*** *08:29:26.0±1.7, 27°.13N×91°.28E, h27km±12km, mb4.5/24, Error ellipse: s-maj=7.1km s-min=4.3km az=54.0*

ISC 21 08:29:23.9±0.8, 27°.22N±0°.03×91°.40E±0°.03, h12km±5km, n100, g0°91/113, mb4.3/41, 1C, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUWA	**GUWAHATI**	**1.05**	**166**	*e*P		**Pb**	**08 29 43.3**	**-0.7**
GUWA				*e*S		**Sb**	**08 29 57.8**	**0.0**
TEZP	**TEZPUR**	**1.39**	**115**	*e*P		**Pb**	**08 29 49.9**	**+0.2**
TEZP				*e*S		**Sg**	**08 30 08.1**	**-0.4**
TEZP				AML		AML	08 30 13.4	
	comp=E,4μm,0.2s							
TEZP				AML		AML	08 30 13.6	
	comp=N,5μm,0.2s							
SHL	**Shillong**	**1.70**	**165**	*i* PN		**Pb**	**08 29 55.0**	**-0.2**
SHL				*e*SN		**Sg**	**08 30 18.0**	**-0.6**
TURI	**Tura**	**1.92**	**210**	*e*P		**Pb**	**08 29 58.6**	**-0.1**
TURI				*ex*		**Sg**	**08 30 24.3**	**-1.3**
TURI				AML		AML	08 30 27.1	
	comp=N,10μm,0.2s							
TURI				AML		AML	08 30 27.3	
	comp=E,12μm,0.1s							
ITAN	**ITANAGAR**	**2.07**	**91**	*e*P		**Pb**	**08 30 01.1**	**-0.2**
ITAN				*e*S		**Sg**	**08 30 29.0**	**-1.4**
ITAN				AML		AML	08 30 39.9	
	comp=E,1μm,0.3s							
ITAN				AML		AML	08 30 40.2	
	comp=N,2μm,0.4s							
ZIRO	**ZIRO**	**2.20**	**81**	*e*P		**Pb**	**08 30 02.2**	**-1.5**
ZIRO				*e*S		**Sg**	**08 30 32.7**	**-1.9**
ZIRO				AML		AML	08 30 39.6	
	comp=N,11μm,0.6s							
ZIRO				AML		AML	08 30 40.8	
	comp=E,6μm,0.3s							
LSA	**Lhasa**	**2.48**	**355**	Pn		**Pb**	**08 30 08.5**	**-0.2**
LSA				Pg		**Pg**	**08 30 10.4**	**-1.1**
LSA				Sg		**Sg**	**08 30 43.3**	**-0.5**
LSA				smax		smax		
	comp=E,330nm,0.6s							
LSA	**Lhasa**	**2.48**	**355**	*e*Pn		**Pb**	**08 30 08.4**	**-0.2**
LSA				*e*Sn		**Sg**	**08 30 43.5**	**-0.2**
GTK	**Tadong**	**2.49**	**273**	*ex*		**Pn**	**08 30 05.2**	**+0.8**
GTK				*e*S		**Sb**	**08 30 39.2**	**-0.2**
GTK				AML		AML	08 30 42.2	
	comp=E,3μm,0.4s							
GTK				AML		AML	08 30 42.6	
	comp=N,2μm,0.0s							
JORH	**JORHAT**	**2.59**	**100**	AML		AML	08 30 48.5	
	comp=E,2μm,0.3s							
JORH				AML		AML	08 30 48.9	
	comp=N,2μm,0.3s							
KOHI	**KOHIMA**	**2.85**	**121**	*e*S		**Sn**	**08 30 44.8**	**+1.2**
KOHI				AML		AML	08 31 00.4	
	comp=E,520nm,0.5s							
KOHI				AML		AML	08 31 01.8	
	comp=N,408nm,0.5s							
TAPN	**Taplejung**	**3.29**	**273**	*e*Pn		**Pn**	**08 30 16.3**	**+0.9**
TAPN				*e*Sn		**Sn**	**08 30 56.6**	**+2.0**
	comp=N,292nm,0.3s							
IMP	**Imphal**	**3.30**	**135**	*e*P		**Pn**	**08 30 16.5**	**+1.1**
IMP				*ex*		x	08 30 48.3	
IMP				AML		AML	08 31 02.0	
	comp=E,116nm,0.6s							
IMP				AML		AML	08 31 02.2	
	comp=N,104nm,0.4s							
ODAN	**Odare**	**3.59**	**265**	*e*Pn		**Pn**	**08 30 20.2**	**+0.6**
ODAN				*e*Sn		**Sn**	**08 31 04.0**	**+1.9**
	comp=N,477nm,0.3s							
RAMN	**Ramite**	**4.29**	**268**	*e*Pn		**Pn**	**08 30 30.1**	**+1.0**
JIRN	**Jiri**	**4.65**	**277**	*e*Pn		**Pn**	**08 30 35.1**	**+0.8**
GUN	**Gumba**	**4.95**	**279**	*e*Pn		**Pn**	**08 30 39.4**	**+1.1**
GUN				*e*Sn		**Sn**	**08 31 35.1**	**-0.6**
	comp=N,226nm,0.4s							
PKI	**Pulchoki**	**5.34**	**275**	*e*Pn		**Pn**	**08 30 44.3**	**+0.6**
PKIN	**Phulchoki**	**5.35**	**275**	*e*Pn		**Pn**	**08 30 44.3**	**+0.5**
KKN	**Kakani**	**5.47**	**277**	*e*Pn		**Pn**	**08 30 45.9**	**+0.6**
KKN				*e*Sn		**Sn**	**08 31 47.5**	**-0.7**
	comp=N,105nm,0.3s							
DMN	**Daman**	**5.61**	**275**	*e*Pn		**Pn**	**08 30 48.1**	**+0.8**
GKN	**Gorkha**	**6.05**	**279**	*e*Pn		**Pn**	**08 30 53.7**	**+0.4**
DANN	**Dangsing**	**6.86**	**281**	*e*Pn		**Pn**	**08 31 04.6**	**0.0**
KOLN	**Koldanda**	**6.95**	**276**	*e*Pn		**Pn**	**08 31 05.1**	**-0.6**
PYUN	**Piuthan**	**7.51**	**279**	*e*Pn		**Pn**	**08 31 12.2**	**-1.2**
PYUN				*e*Sn		**Sn**	**08 32 35.7**	**-2.9**
	comp=N,63nm,0.3s							
CM31	**Chiang Mai Arr**	**11.15**	**140**	*e*Pn		**Pn**	**08 32 03.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.15**	**140**	Pn		**Pn**	**08 32 03.6**	**+0.5**
	comp=N,0.3nm,0.3s,baz=310,slow=12,SNR=7.3							
KBL	**Kabul**	**20.51**	**296**	*e*P		**P**	**08 34 00.3**	**-1.7**
	comp=N,18nm,0.9s							
AAK	**Ala-Archa**	**20.65**	**323**	P		Pn	08 34 05.4	-0.4
	comp=N,5.8nm,0.8s,baz=164,slow=10,SNR=8.9							
AAK	**Ala-Archa**	**20.65**	**323**	*e*P		**P**	**08 34 03.4**	**-0.1**
	comp=N,9.3nm,1.0s							
MK31	**Makanchi Array**	**20.82**	**342**	S		**P**	**08 34 05.2**	**+0.1**
	comp=N,13nm,0.8s,baz=110,slow=28,SNR=38							
MK31	**Makanchi Array**	**20.82**	**342**	*e*P		**P**	**08 34 05.5**	**+0.4**
MK32	**Makanchi Array**	**20.82**	**342**	*e*P		**P**	**08 34 05.5**	**+0.3**
MKAR	**Makanchi Array**	**20.82**	**342**	P		**P**	**08 34 05.5**	**+0.3**
	comp=N,8.3nm,0.6s,baz=152,slow=13,SNR=56							
MKAR	**Makanchi Array**	**20.82**	**342**	*e*P		**P**	**08 34 05.5**	**+0.3**
	comp=N,80nm,0.8s							
MAKZ	**Makanchi**	**20.92**	**342**	⇑S		**P**	**08 34 05.7**	**-0.5**
	comp=N,7.2nm,1.1s							
MAKZ	**Makanchi**	**20.92**	**342**	*e*P		**P**	**08 34 06.7**	**+0.4**
	comp=N,9.4nm,0.8s							
SONA0	**Songino Array**	**23.69**	**26**	*e*P		**P**	**08 34 35.9**	**+0.5**
SONM	**Songino Array**	**23.69**	**26**	P		**P**	**08 34 35.9**	**+0.5**
	comp=N,1.3nm,0.7s,baz=209,slow=11,SNR=4.2							
KURBB	**Kurchatov Arra**	**25.35**	**341**	P		**P**	**08 34 50.7**	**+0.2**
	comp=N,3.7nm,0.8s,baz=155,slow=9.3,SNR=20							
KURK	**Kurchatov**	**25.41**	**341**	*e*P		**P**	**08 34 52.1**	**+1.1**
	comp=N,3.5nm,0.8s							
ZALV	**Zalesovo Beam**	**27.14**	**351**	P		**P**	**08 35 07.8**	**+1.1**
	comp=N,2.9nm,0.7s,baz=173,slow=6.8,SNR=11							
ZAA1	**Zalesovo Array**	**27.15**	**351**	*e*P		**P**	**08 35 07.8**	**+1.1**
BVAR	**Borovoye Array**	**30.15**	**334**	P		**P**	**08 35 33.6**	**+0.1**
	comp=N,0.9nm,0.6s,baz=129,slow=12,SNR=5.7							
ABKAR	**Akbulak array**	**32.71**	**321**	*e*P		**P**	**08 35 56.9**	**+0.8**
	comp=N,29nm,0.6s							
AKTO	**Aktyubinsk**	**34.38**	**321**	P		**P**	**08 36 10.8**	**+0.2**
	comp=N,1.5nm,0.6s,baz=112,slow=8.6,SNR=5.8							
DGAR	**Diego Garcia**	**39.01**	**211**	*e*P		**P**	**08 36 49.7**	**-0.7**
	comp=N,161nm,1.1s							
MJAR	**Matsushiro Arr**	**40.49**	**65**	P		**P**	**08 37 03.0**	**+0.4**
	comp=N,1.3nm,0.6s,baz=273,slow=12,SNR=3.8							
NRIK	**Noril'sk**	**42.21**	**358**	P		**P**	**08 37 16.9**	**+0.6**
	comp=N,2.7nm,0.7s,baz=148,slow=9.5,SNR=3.5							
KOPT	**Kop Dagi**	**43.73**	**300**	*e*P		P	08 37 24.0	-5.3
	comp=N,33nm,0.4s							
BR101	**Keskin Array S**	**49.01**	**300**	*e*P		**P**	**08 38 11.3**	**+0.6**
BRTR	**Keskin Array B**	**49.01**	**300**	P		**P**	**08 38 11.3**	**+0.6**
	comp=N,0.5nm,0.5s,baz=91,slow=10,SNR=3.3							
TIXI	**Tiksi**	**49.05**	**15**	P		**P**	**08 38 10.8**	**+0.5**
	comp=N,1.3nm,0.3s,baz=336,slow=8.6,SNR=3.1							
CSS	**Mathiatis**	**49.73**	**294**	*e*P		**P**	**08 38 16.9**	**+0.8**
	comp=N,3.7nm,1.1s							
AKASG	**

TOA1	Torodi Ar. Sit	83.84	282	*e*P		P		08 41 53.2	-0.6
	comp=Z,3.7nm,1.1s								
HLK	Haleakala	99.01	61	*e*P		Pdif		08 43 05.0	-0.3
	comp=Z,58nm,1.0s								
LPM	Los Pinos Moun	116.46	17	*e*PKPdf		PKPdf		08 48 06.8	-1.4
TX31	Lajitas Ar. Si	121.94	16	*e*PKPdf		PKPdf		08 48 18.9	+0.2
TXAR	Lajitas Array	121.94	16	PKP		PKPdf		08 48 18.7	0.0
	comp=Z,0.1nm,0.4s,baz=157,slow=1.1,SNR=6.1								
CCIG	Comitan	136.62	5	*e*PKPdf		PKPdf		08 48 48.2	+1.3
ROSC	El Rosal	145.27	334	PKPbc		PKPdf		08 49 03.3	+0.5
	comp=Z,14nm,0.8s,baz=47,slow=1.7,SNR=8.8								
ROSC	El Rosal	145.27	334	*e*PKPbc		PKPbc		08 49 01.2	-1.2
PRAC	Prado	146.52	335	*e*PKPdf		PKPbc		08 49 05.5	-0.4
SAML	Samuel	149.88	302	*e*PKPbc		PKPbc		08 49 15.0	+0.3
CPUP	Villa Florida	152.10	265	PKPbc		PKPbc		08 49 19.2	-0.4
	comp=Z,1.6nm,0.7s,baz=127,slow=8.0,SNR=3.3								

*NEIC **21** 08:39:22.8±0.0, 32°.22N×115°.25W, h10km, ML3.3(PAS), ML3.4(ECX), After ECX.*
*ECX **21** 08:39:22.8±0.6, 32°.22N×115°.25W, h10km, MD3.2, ML3.4*
*MEX **21** 08:39:23.9±0.4, 32°.29N×115°.17W, h14km±36km, MD3.8*

ISC 21 08:39:21.7±0.9, 32°.21N±0°.02×115°.27W±0°.02, h16km±6km, n81, σ1°34/115, 4C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.21	17	*e*P		**Pg**	08 39 26.7	+0.1
MBIG				*e*S		**Sg**	08 39 28.7	-1.1
MBIG	**Mexicali**	0.21	17	⇑*e*P		**Pg**	08 39 26.6	+0.1
CPBX	**Cerro Prieto**	0.21	352	⇓*e*P		**Pg**	08 39 26.7	0.0
CPBX				*e*S		**Sg**	08 39 29.7	-0.2
CPBX				IAML			08 39 32.0	
	comp=N,19μm,0.2s							
CPBX				⇓*e*			08 39 32.0	
EMSC	**East Mesa**	0.58	24	*e*Pg		**Pb**	08 39 33.6	+0.1
DREC	**Desert Rsrch C**	0.61	346	*e*Pg		**Pb**	08 39 34.4	+0.4
ERPC	**Ernies Place**	0.63	328	⇓*i*P		**Pb**	08 39 34.4	+0.1
ERPC	**Ernies Place**	0.63	328	*e*Pg		**Pb**	08 39 34.4	+0.1
COA	**Coachella**	0.66	11	⇓*i*P		**Pg**	08 39 34.6	-0.1
COA	**Coachella**	0.66	11	*e*Pg		**Pg**	08 39 34.6	-0.1
WESC	**Westside Schoo**	0.67	325	⇓*i*P		**Pg**	08 39 35.0	0.0
WESC	**Westside Schoo**	0.67	325	*e*Pg		**Pb**	08 39 35.3	+0.2
YMD	**Yuma Desert**	0.70	61	⇑*i*P		**Pg**	08 39 35.2	-0.2
YUH	**Yuha Desert**	0.70	309	⇓*i*P		**Pg**	08 39 35.2	-0.3
YUH	**Yuha Desert**	0.70	309	*e*Pg		**Pg**	08 39 35.2	-0.3
COK	**Cook Ranch**	0.75	329	*e*P		**Pg**	08 39 36.0	-0.2
ECBX	**El Chinero**	0.76	166	*e*P		**Pb**	08 39 36.2	-0.3
ECBX				*e*S		**Sb**	08 39 47.0	+0.4
RMX	**La Rumorosa**	0.79	300	*e*P		**Pg**	08 39 36.3	-0.8
RMX				*e*S		**Sg**	08 39 46.9	-0.7
RMX				IAML			08 39 48.3	
	comp=N,2μm,0.1s							
RMX				⇓*e*			08 39 48.3	
IKP	**In-Ko-Pah, Jac**	0.83	302	P		**Pg**	08 39 37.6	-0.3
	baz=125,SNR=169							
IKP				S		**Sg**	08 39 48.5	-0.5
	baz=125							
IKP	**In-Ko-Pah, Jac**	0.83	302	⇓*i*P		**Pg**	08 39 37.6	-0.3
SWSC	**Sam W. Stewart**	0.86	329	P		**Pg**	08 39 37.2	-1.2
	baz=151,SNR=113							
SWSC				S		**Sg**	08 39 48.8	-0.9
	baz=151							
SWSC	**Sam W. Stewart**	0.86	329	*e*Pg		**Pg**	08 39 38.0	-0.4
CRR	**Carrizo Plain**	0.90	319	*e*Pg		**Pb**	08 39 38.2	-0.7
GLA	**Glamis**	0.92	24	P		**Pb**	08 39 38.1	-1.2
	baz=203,SNR=124							
GLA				S		**Sb**	08 39 49.5	-1.9
	baz=203							
GLA	**Glamis**	0.92	24	*e*Pg		**Pb**	08 39 38.5	-0.8
GLA				*e*Sn		**Sb**	08 39 50.5	-0.8
ERRC	**Elmore Ranch**	1.02	333	*e*Pg		**Pb**	08 39 40.2	-0.7
CBKC	**Canebrake**	1.08	310	*e*Pg		**Pb**	08 39 41.5	-0.5
ZAX	**El Zacaton**	1.10	231	⇑*e*P		**Pb**	08 39 42.2	-0.2
ZAX				*e*S		**Sn**	08 39 57.4	0.0
ZAX				⇓*e*			08 39 59.1	
ZAX				IAML			08 39 59.1	
	comp=N,1μm,0.5s							
SPIG	**San Pedro Mart**	1.17	188	*e*P		**Pn**	08 39 43.7	-0.1
SPIG				*e*S		**Sn**	08 39 59.5	-0.1
SPX	**San Pedro Mart**	1.17	188	⇓*e*P		**Pn**	08 39 43.7	-0.1
SPX				*e*S		**Sn**	08 39 59.9	+0.3
SPX				IAML			08 40 02.7	
	comp=N,469nm,0.3s							
SPX				⇓*e*			08 40 02.7	
CBX	**Cerro Bola**	1.19	275	*e*P		**Pn**	08 39 43.6	-0.1
CBX				*e*S		**Sb**	08 39 58.4	-0.7
CBX	**Cerro Bola**	1.19	275	⇑*e*P		**Pn**	08 39 43.6	-0.1
CBX				*e*S		**Sg**	08 39 59.6	-0.5
CBX				IAML			08 40 04.7	
	comp=E,916nm,0.5s							
MONP2	**Monument Peak**	1.19	305	P		**Pn**	08 39 42.9	-1.0
	baz=127,SNR=155							
MONP2				S		**Sb**	08 39 59.0	-0.3
	baz=127							
TJIG	**Tijuana**	1.21	281	*e*P		**Pn**	08 39 43.6	-0.3
TJIG				*e*S		**Sb**	08 39 59.4	-0.3
BAR	**Barrett**	1.27	292	*e*Pg		**Pn**	08 39 44.8	-0.1
BAR				*e*Sg		**Sb**	08 40 01.7	+0.1
113A	**Mohawk Valley,**	1.39	66	*e*Pn		**Pn**	08 39 45.7	-0.7
BORC	**Borrego Spring**	1.43	318	*e*Pn		**Pn**	08 39 45.8	-1.3
BC3	**Big Chuckawall**	1.45	354	P		**Pn**	08 39 46.1	-1.3
	baz=174,SNR=87							
BC3				S		**Sn**	08 40 03.2	-3.0
	baz=174							
EML	**El Monte Cty P**	1.49	297	*e*Pn		**Pb**	08 39 49.5	+0.4
EML				*e*Sn		**Sb**	08 40 08.3	+0.5
DPP	**Dos Picos Cty**	1.61	300	*e*Pn		**Pg**	08 39 52.6	-0.2
DPP				*e*Sn		**Sb**	08 40 12.0	+0.6
HWB	**Hans Werner Br**	1.64	300	*e*Pn		**Pn**	08 39 50.5	+0.5
HWB				*e*Sn		**Sb**	08 40 13.2	+1.0
Y12C	**Blythe**	1.66	22	*e*Pn		**Pb**	08 39 52.3	+0.4
Y12C				*e*Sn		**Sg**	08 40 14.9	-0.3
109C	**Camp Elliot, M**	1.69	294	P		**Pn**	08 39 50.6	0.0
	baz=115,SNR=49							
109C				Sb		**Sb**	08 40 13.7	+0.2
	baz=115							
CPE	**Camp Elliot**	1.69	294	*e*Pn		**Pb**	08 39 52.4	-0.1
CPE				*e*Sn		**Sb**	08 40 13.9	+0.4
FRD	**Ford Ranch, An**	1.70	319	*e*Pn		**Pn**	08 39 49.9	-1.0
XPFO	**Piæon Flat**	1.72	325	*e*Pn		**Pn**	08 39 49.8	-1.3
PFO	**Pinyon Flats O**	1.72	325	P		**Pn**	08 39 49.9	-1.2
	baz=146,SNR=22							
PFO	**Pinyon Flats O**	1.72	325	*e*Pn		**Pn**	08 39 49.8	-1.3
SNDA	**J Saunders Pla**	1.75	320	*e*Pn		**Pn**	08 39 50.8	-0.8
SNDA				*e*Sn		**Sg**	08 40 17.6	-0.6
CRY	**Cary Ranch**	1.83	318	*e*Pn		**Pn**	08 39 49.4	-3.2
BELC	**Belle Mtn. Jos**	1.89	341	P		**Pn**	08 39 51.9	-1.6
	baz=162							
IRM	**Iron Mountain**	1.94	3	P		**Pn**	08 39 52.8	-1.3
	baz=183,SNR=44							
IRM	**Iron Mountain**	1.94	3	*e*Pn		**Pn**	08 39 54.0	-0.1
BACC	**Bachelor Mtn.**	2.04	314	*e*Pn		**Pn**	08 39 55.9	+0.4
BACC				*e*Sn		**Sg**	08 40 27.1	-0.4
DGR	**Domenigoni Val**	2.05	315	*e*Pn		**Pn**	08 39 55.4	-0.2
HMTC	**Hemet**	2.09	316	*e*Sn		**Sb**	08 40 26.4	+1.4
214A	**Organ Pipe Nat**	2.10	96	P		**Pn**	08 39 55.2	-1.1
	baz=276,SNR=12							
214A				Sb		**Sb**	08 40 26.6	+1.3
	baz=276							
MURC	**Murrieta**	2.13	311	P		**Pn**	08 39 55.9	-0.8
	baz=132,SNR=32							
MURC				Sb		**Sb**	08 40 27.7	+1.4
	baz=132							
Y14A	**Wickenburg**	2.57	47	*e*Pn		**Pn**	08 40 03.0	+0.3
LDFC	**Landfair**	2.86	3	*e*Pn		**Pn**	08 40 09.9	+3.0
CIS	**Catalina Islan**	2.90	295	Sb		**Sb**	08 40 50.2	+1.8
	baz=115							
FMP	**Fort Macarthur**	2.95	301	Sb		**Sb**	08 40 51.5	+1.7
	baz=121							
MWC	**Mount Wilson**	3.08	311	*e*Pn		**Pb**	08 40 17.8	+1.5
MWC				*e*Sn		**Sb**	08 40 57.0	+3.3
W13A	**Hualapai Mount**	3.10	21	*e*Pn		**Pn**	08 40 11.7	+1.4
W13A				*e*Pg		**Pb**	08 40 19.0	+2.3
GSC	**Goldstone, Bar**	3.34	338	*e*Pg		**Pg**	08 40 23.7	-2.0
TUC	**Tucson**	3.80	87	*e*Pg		**Pg**	08 40 34.6	+0.1
TUC				*e*Sg		**Sg**	08 41 20.7	-3.1
X16A	**Lo Mia Camp, P**	3.89	54	*e*Pn		**Pn**	08 40 22.2	+1.2
SHPR	**Sheep Range**	4.29	1	*e*Pn		**Pn**	08 40 28.1	+1.6
SHPR				*e*Pg		**Pg**	08 40 45.1	+1.3
DAC	**Darwin (Calif)**	4.49	335	*e*Pg		**Pg**	08 40 49.2	+1.4
WUAZ	**Wupatki**	4.62	43	*e*Pn		**Pn**	08 40 33.6	+2.5
TPNV	**Topopah Spring**	4.80	351	*e*Pn		**Pn**	08 40 36.7	+3.2
TPNV				*e*Pg		**Pg**	08 40 54.8	+1.2
U15A	**North Rim**	4.88	30	*e*Pn		**Pn**	08 40 36.9	+2.3
U15A				*e*Sg		**Sg**	08 41 55.8	-2.5
CARC	**Carrizo Plain**	4.91	310	*e*Pg		**Pg**	08 40 55.8	+0.1
CARC				*e*Sn		**Sn**	08 41 30.3	-1.1
X18A	**Snowflake**	5.02	61	*e*Pn		**Pn**	08 40 37.4	+0.9
LCMT	**Little Creek M**	5.07	19	*e*Pn		**Pn**	08 40 39.4	+2.2
KNB	**Kanab**	5.20	22	*e*Pn		**Pn**	08 40 42.1	+3.0
CCUT	**Cedar City**	5.55	16	*e*Pn		**Pn**	08 40 45.9	+2.0
PKCU	**Pink Cliffs**	5.76	24	*e*Pg		**Pg**	08 41 12.4	+0.4
R11A	**Troy Canyon, C**	6.13	358	*e*Pg		**Pg**	08 41 16.8	-2.3
MTPU	**Mount Pierson**	6.34	23	*e*Pg		**Pg**	08 41 19.9	-3.2
LAZ	**Ladron**	7.15	70	*e*Pn		**Pn**	08 41 09.1	+3.3
MVCO	**Mesa Verde**	7.48	46	*e*Pn		**Pn**	08 41 13.2	+2.8

GUC 21 08:49:39.1±0.7, 19°.74S×69°.33W, h99km±3km, ML3.6, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	0.43	158	*i*P		Pn	08 49 55.1	+0.3
PB08				*i*S		Sn	08 50 07.2	+0.8
PB08				IAML			08 50 07.7	
	comp=E,3μm,0.2s							
MNMC	**Minye Minye**	0.66	337	⇓*i*P		Pn	08 49 56.9	+0.5
MNMC				*i*S		Sn	08 50 10.1	+0.9
MNMC				IAML			08 50 10.6	
	comp=N,2μm,0.2s							
HMBC	**Humberstone**	0.75	224	⇑*i*P		Pn	08 49 57.4	+0.3
HMBC				*i*S		Sn	08 50 11.5	+1.0
PSGC	**Pisagua**	0.76	281	⇑*i*P		Pn	08 49 57.3	+0.2
PSGC				*i*S		Sn	08 50 11.2	+0.6
PB01	**IPOC Station P**	1.31	187	⇑*i*P		Pn	08 50 03.5	+0.5
PB01				*i*S		Sn	08 50 22.2	+1.0
PB01				IAML			08 50 22.8	
	comp=E,2μm,0.3s							
PB12	**IPOC Station P**	1.46	320	⇓*i*P		Pn	08 50 04.9	-0.1
PB12				*e*S		Sn	08 50 24.7	+0.1
PB12				IAML			08 50 27.0	
	comp=E,1μm,0.1s							
ARCH	**Arica**	1.54	323	⇑*i*P		Pn	08 50 06.1	+0.3
ARCH				*e*S		Sn	08 50 26.7	+0.6
PB07	**IPOC Station P**	2.04	195	*i*P		Pn	08 50 12.3	-0.1
PB07				*i*S		Sn	08 50 37.9	+0.1
PB09	**IPOC Station P**	2.05	178	⇓*i*P		Pn	08 50 13.3	+0.9
PB09				*i*S		Sn	08 50 39.6	+1.8
PB09				IAML			08 50 44.4	
	comp=N,902nm,0.7s							

DHMR 21 08:53:40.7±1.1, 11°.99N×44°.14E, h12km±147km, ML3.8, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	1.13	46	*i*P		Pb	08 54 00.8	-1.5
ADEN				*i*S		Sn	08 54 18.0	0.0
ADEN				AML	AML		08 54 23.9	
	comp=E,3μm,0.3s							
UDYN	**Al 'Udayn**	1.97	355	*i*P		Pb	08 54 15.7	-1.0
UDYN				*i*S		Sb	08 54 42.1	+0.8
UDYN				AML	AML		08 54 48.8	
	comp=E,780nm,0.5s							
DHBB	**Dhamar BB**	2.58	5	*i*P		Pb	08 54 25.4	-1.7
DHBB				*i*S		Sb	08 54 59.6	+0.8

*ISCJB **21** 08:59:17.0±0.5, 40°.38N±0°.04×30°.04E±0°.03, h8km±6km, Error ellipse: s-maj=6.4km s-min=4.2km az=166.1*
*ISK **21** 08:59:16.4, 40°.39N×30°.06E, h11km, MD2.6*
*DDA **21** 08:59:16.1, 40°.36N×29°.99E, h7km, Md2.6*
*CSEM **21** 08:59:17.0±0.2, 40°.37N×30°.04E, h8km, MD2.6, Error ellipse: s-maj=4.3km s-min=2.9km az=170.0*

ISC 21 08:59:16.8±0.9, 40°.37N±0°.03×30°.05E±0°.02, h15km±6km, n36, σ0°36/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYV	**SAKARYA_Geyve**	0.22	58	*i*P		**Pg**	08 59 21.5	-0.2
GEYV				*i*S		**Sg**	08 59 25.8	+0.8
GEYV	**SAKARYA_Geyve**	0.22	58	P		**Pg**	08 59 21.5	-0.2
GEYV				S		**Sg**	08 59 25.8	+0.8
CAVI	**Cavuskoy**	0.23	224	*e*PG		**Pg**	08 59 21.8	-0.2
CAVI				*e*SG		**Sb**	08 59 26.6	-0.2
CAVI	**Cavuskoy**	0.23	224	*e*Pg		**Pg**	08 59 21.8	-0.2
CAVI				*e*Sg		**Sb**	08 59 26.6	-0.2
ADVT	**Abdulvahap**	0.25	285	*e*PG		**Pg**	08 59 21.8	-0.4
ADVT				*e*SG		**Sg**	08 59 26.0	+0.1
ADVT	**Abdulvahap**	0.25	285	*e*Pg		**Pg**	08 59 21.8	-0.4
ADVT				*e*Sg		**Sg**	08 59 26.0	+0.1
GULT	**Gulveren**	0.36	80	*e*PG		**Pg**	08 59 24.2	0.0
GULT	**Gulveren**	0.36	80	*e*Pg		**Pg**	08 59 24.2	0.0
YLV	**Yalova**	0.56	291	*e*PG		**Pg**	08 59 27.7	-0.1
YLV				*e*SG		**Sb**	08 59 36.4	+0.2
YLV	**Yalova**	0.56	291	*e*Pg		**Pg**	08 59 27.7	-0.1
YLV				*e*Sg		**Sb**	08 59 36.4	+0.2
KAND	**Kocaeli-Kandir**	0.73	8	*i*P		**Pg**	08 59 30.9	-0.1
KAND				*i*S		**Sb**	08 59 41.4	+0.2
KAND	**Kocaeli-Kandir**	0.73	8	P		**Pg**	08 59 31.0	-0.1
KAND				S		**Sb**	08 59 41.4	+0.2
SAHE	**Sakarya_HENDEK**	0.78	51	*i*P		**Pg**	08 59 32.0	+0.1
SAHE				*i*S		**Sn**	08 59 44.2	-0.6
SAHE	**Sakarya_HENDEK**	0.78	51	P		**Pg**	08 59 32.0	+0.1
SAHE				S		**Sn**	08 59 44.2	-0.6
SILT	**Sile**	0.84	338	*e*PG		**Pb**	08 59 32.8	-0.4
SILT	**Sile**	0.84	338	*e*Pg		**Pb**	08 59 32.8	-0.4
BUY	**Buyukada**	0.86	304	*e*PG		**Pb**	08 59 33.2	-0.3
BUY	**Buyukada**	0.86	304	*e*Pg		**Pb**	08 59 33.2	-0.3
MDUB	**Mudurnu**	0.88	83	*e*PG		**Pb**	08 59 33.2	-0.7
MDUB	**Mudurnu**	0.88	83	*e*Pg		**Pb**	08 59 33.2	-0.7
ARMT	**Armutlu**	0.93	283	*e*PG		**Pb**	08 59 34.3	-0.4
ARMT	**Armutlu**	0.93	283	*e*Pg		**Pb**	08 59 34.3	-0.4
SBT5	**Esenkoy-Cinarc**	0.93	287	*e*PG		**Pb**	08 59 34.8	+0.1
SBT5	**Esenkoy-Cinarc**	0.93	287	*e*Pg		**Pb**	08 59 34.8	+0.1
TVSB	**Tavsanli**	1.02	207	*e*PG		**Pg**	08 59 36.9	+0.3
TVSB	**Tavsanli**	1.02	207	*e*Pg		**Pg**	08 59 36.9	+0.3
KAVV	**Kandilli-Istan**	1.03	313	*e*PG		**Pn**	08 59 36.9	+0.2
KAVV	**Kandilli-Istan**	1.03	313	*e*Pg		**Pn**	08 59 36.9	+0.2
ISK	**Istanbul-Kandi**	1.03	313	*e*PG		**Pb**	08 59 35.9	-0.5
ISK	**Istanbul-Kandi**	1.03	313	*e*Pg		**Pb**	08 59 35.9	-0.5
KLYT	**Kilyos**	1.17	319	*e*PN		**Pg**	08 59 39.5	+0.2
KLYT	**Kilyos**	1.17	319	*e*Pn		**Pg**	08 59 39.6	+0.2
CTKS	**Kestanelik-??a**	1.46	307	*e*PN		**Pn**	08 59 43.2	+0.5
CTKS	**Kestanelik-??a**	1.46	307	*e*Pn		**Pn**	08 59 43.2	+0.5
BTIN	**Bart'–n**	2.09	52	*i*P		**Pb**	08 59 54.2	-0.3
BTIN	**Bart'–n**	2.09	52	P		**Pb**	08 59 54.2	-0.3

*ISCJB **21** 09:08:17.4±0.5, 24°.24N±0°.07×123°.00E±0°.02, h52km±9km, Error ellipse: s-maj=12.1km s-min=3.2km az=177.2*
*JMA **21** 09:08:17.2±0.1, 24°.33N×122°.99E, h57km±1km, M2.2*
*TAP **21** 09:08:18.9, 24°.16N×122°.82E, h16km±1km, ML2.9, D*

ISC 21 09:08:18.0±1.3, 24°.24N±0°.08×123°.00E±0°.03, h47km±11km, n24, σ0°75/43, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.21	346	P		**Pn**	09 08 25.9	-0.2
JYNG				S		**Sn**	09 08 32.1	+0.2
YOJ	**Yonaguni jima**	0.22	2	P		**Pn**	09 08 26.0	-0.2
YOJ				S		**Sn**	09 08 32.1	+0.1
IRIF	**Iriomote-Funau**	0.67	82	P		**Pn**	09 08 30.9	-0.3
IRIF				S		**Sn**	09 08 41.0	+0.3
HATJ	**Hateruma jima**	0.76	104	P		**Pn**	09 08 32.6	+0.3
HATJ				S		**Sn**	09 08 43.5	+0.8
JKRS	**Kuro-shima**	0.92	90	P		**Pn**	09 08 34.6	+0.1
JKRS				S		**Sn**	09 08 47.4	+0.8
JIJ	**Ishigaki jima**	1.05	83	P		**Pn**	09 08 35.8	-0.4
JIJ				S		**Sn**	09 08 49.0	-0.8
TWC	**Suao**	1.11	289	*e*P		**Pn**	09 08 36.7	-0.4
	baz=297							
TWC				*e*S		**Sn**	09 08 51.7	+0.3
	baz=297							
ENA	**Nanau**	1.17	279	*e*P		**Pn**	09 08 37.9	0.0
	baz=285							
ENA				*e*S		**Sn**	09 08 52.4	-0.3
	baz=285							
JISG	**Ishigakijimahi**	1.24	74	P		**Pn**	09 08 38.3	-0.6
JISG				S		**Sn**	09 08 53.9	-0.6
ENTT	**Nioudou**	1.37	287	*e*P		**Pn**	09 08 41.7	+1.0
	baz=292							
ENTT				*e*S		**Sn**	09 08 58.5	+0.8
	baz=292							
WHF	**Hehuan Shan**	1.59	267	*e*P		**Pn**	09 08 43.6	-0.5
	baz=269							
WHF				*e*S		**Sn**	09 09 02.3	-1.3
	baz=269							
JTJ	**Tarama**	1.60	75	P		**Pn**	09 08 43.8	0.0
JTJ				*e*S		**Sn**	09 09 03.2	0.0
TWT	**Tachien**	1.67	271	*e*P		**Pn**	09 08 46.0	+1.1
	baz=273							
TWT				*e*S		**Sn**	09 09 05.2	-0.1
	baz=273							
EHY	**Hungye**	1.71	245	*e*P		**Pn**	09 08 44.4	-0.9
	baz=244							
WDT	**Danda**	1.78	255	*e*P		**Pn**	09 08 46.1	-0.5
	baz=255							
WDT				*e*S		**Sn**	09 09 06.8	-1.3
	baz=255							
TWF1	**Yuli**	1.80	241	*e*P		**Pn**	09 08 45.8	-0.7
	baz=239							
TYC	**Yuchr**	1.99	261	*e*P		**Pn**	09 08 49.8	+0.7
	baz=261							
TYC				*e*S		**Sn**	09 09 12.3	-0.6
	baz=261							
YUS	**Yu-Shan**	2.02	249	P		**Pn**	09 08 50.1	+0.1
	baz=248							
YUS				*e*S		**Sn**	09 09 12.8	-1.6
	baz=248							
YUS	**Yu-Shan**	2.02	249	*e*P		**Pn**	09 08 50.2	+0.1
	baz=311							
CHN5	**Tsauling**	2.22	254	P		**Pn**	09 08 53.3	+0.8
	baz=254							
CHN5				*e*S		**Sn**	09 09 18.2	-0.5
	baz=254							
STYT	**Tauyuan**	2.32	243	*e*P		**Pn**	09 08 55.6	+1.9
	baz=242							
CHN4	**Tsaushan**	2.38	249	P		**Pn**	09 08 55.4	+0.8
	baz=248							
CHN4				*e*S		**Sn**	09 09 22.5	0.0
	baz=248							
WTP	**Ta-pu**	2.40	246	*e*P		**Pn**	09 08 55.7	+0.8
	baz=245							
CHN1	**Nanshi**	2.50	246	*e*P		**Pn**	09 08 57.5	+1.3
	baz=245							
CHN1				*e*S		**Sn**	09 09 25.4	-0.1
	baz=245							

TAP 21 09:08:44.5, 23°.33N×121°.16E, h10km±1km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	0.13	79	*e*P		Pb	09 08 48.9	-0.3
	baz=80							
TWF1				*e*S		Sg	09 08 50.7	+0.9
	baz=80							
ELDTW	**Lidau**	0.19	223	P		Pg	09 08 49.0	+0.4
	baz=220							
ELDTW				S		Sg	09 08 53.0	+1.6
	baz=220							
EHY	**Hungye**	0.23	41	P		Pb	09 08 50.4	-0.5
	baz=42							
ALS	**Alishan**	0.37	300	*e*P		Pg	09 08 52.1	+0.2
	baz=299							
ALS				*e*S		Sb	09 08 59.0	-0.3
	baz=299							
STYT	**Tauyuan**	0.40	246	*e*P		Pb	09 08 53.3	-0.5
	baz=245							
STYT				S		Sb	09 08 59.7	-0.2
	baz=245							

*ISCJB **21** 09:11:42.8±0.6, 62°.06N±0°.05×2°.24E±0°.06, h0km, Error ellipse: s-maj=6.8km s-min=4.0km az=170.7*
*CSEM **21** 09:11:45.6±0.2, 62°.08N×2°.21E, h10km, ML2.5, Error ellipse: s-maj=6.6km s-min=3.7km az=162.0*
*BER **21** 09:11:48.4±1.3, 62°.03N×2°.20E, h10km, MD2.6, ML2.5, ML2.2(NAO)*
*BGS **21** 09:11:48.2±0.6, 62°.00N×2°.27E, h10km±999km, ML3.5*
*NAO **21** 09:11:50.1±6.1, 62°.28N×2°.99E, h2km±26km, ML2.2*
*UPP **21** 09:11:53.4±3.4, 61°.84N×3°.29E, h0km, ML2.2*

**ISC 21 09:11:43.4±0.9, 62°.02N±0°.05×2°.15E±0°.03,

KMY					*e*S	**Sn**	**09 13 12.3**	**-1.4**
	SNR=50							
BLS5	**Blasjo**	**3.36**	**139**		*e*P	**Pn**	**09 12 39.3**	**+2.2**
BLS5					*e*S	**Sn**	**09 13 16.1**	**-1.4**
BLS5					IAML		09 13 18.6	
	comp=Z,16nm,0.2s							
BLS5	**Blasjo**	**3.36**	**139**		*e*P	**Pn**	**09 12 39.3**	**+2.2**
	SNR=50							
BLS5					*e*S	**Sn**	**09 13 16.1**	**-1.4**
	SNR=50							
STAV	**Stavanger**	**3.56**	**149**		*e*	**Sn**	**09 13 20.7**	**-1.8**
NB2	**NORSAR Subarra**	**4.45**	**99**	Pn		**Pn**	**09 12 53.1**	**+1.0**
	baz=286,slow=14							
NB2					Sn	**Sn**	**09 13 42.8**	**-1.8**
	baz=284,slow=28							
NB2					Lg	Lg	09 14 00.7	
NB2	**NORSAR Subarra**	**4.45**	**99**	Pn		**Pn**	**09 12 53.1**	**+1.0**
	baz=286,slow=14							
NB2					Sn	**Sn**	**09 13 42.8**	**-1.8**
	baz=284,slow=28							
NB2					Lg	Lg	09 14 00.7	
NB2	**NORSAR Subarra**	**4.45**	**99**	Pn		**Pn**	**09 12 53.1**	**+1.0**
	SNR=50							
NB2					Sn	**Sn**	**09 13 42.8**	**-1.8**
	SNR=50							
MLA1	**Latheron**	**4.63**	**219**		*e*P	**Pn**	**09 12 56.1**	**+1.6**
MLA1	**Latheron**	**4.63**	**219**		*e*P	**Pn**	**09 12 56.1**	**+1.6**
MLA1	**Latheron**	**4.63**	**219**		*e*P	**Pn**	**09 12 56.1**	**+1.6**
	SNR=49							
BIGH	**Upper Bighouse**	**4.65**	**223**		*e*P	**Pn**	**09 12 56.4**	**+1.6**
BIGH					*e*S	**Sn**	**09 13 46.6**	**-2.7**
BIGH					AML	AML	09 13 48.6	
	comp=E,40nm,0.2s							
BIGH					AML	AML	09 13 50.1	
	comp=N,36nm,0.4s							
BIGH	**Upper Bighouse**	**4.65**	**223**		*e*P	**Pn**	**09 12 56.4**	**+1.6**
BIGH					*e*S	**Sn**	**09 13 46.6**	**-2.7**
BIGH					AML	AML	09 13 48.6	
	comp=E,40nm,0.2s							
BIGH					AML	AML	09 13 50.1	
	comp=N,36nm,0.4s							
BIGH	**Upper Bighouse**	**4.65**	**223**		*e*P	**Pn**	**09 12 56.4**	**+1.6**
	SNR=49							
BIGH					*e*S	**Sn**	**09 13 46.6**	**-2.7**
	comp=N,36nm,0.4s							
HOMB	**Homborsund**	**4.92**	**137**		*e*P	**Pn**	**09 13 00.9**	**+2.5**
HOMB					*e*S	**Sn**	**09 13 52.9**	**-3.1**
HOMB					IAML		09 13 57.7	
	comp=Z,5.1nm,0.3s							
HOMB	**Homborsund**	**4.92**	**137**		*i* P	**Pn**	**09 13 00.3**	**+1.8**
	SNR=49							
HOMB					*i* S	**Sn**	**09 13 54.8**	**-1.2**
	SNR=49							
MCD	**Coleburn Disti**	**5.22**	**214**		*e*S	**Sn**	**09 14 00.3**	**-3.1**
MCD					*e*S	**Sn**	**09 14 01.1**	**-2.2**
MCD					AML	AML	09 14 02.3	
	comp=E,29nm,0.4s							
MCD					AML	AML	09 14 04.0	
	comp=N,30nm,0.4s							
MCD	**Coleburn Disti**	**5.22**	**214**		*e*S	**Sn**	**09 14 00.3**	**-3.1**
MCD					*e*S	**Sn**	**09 14 01.1**	**-2.2**
MCD					AML	AML	09 14 02.3	
	comp=E,29nm,0.4s							
MCD					AML	AML	09 14 04.0	
	comp=N,30nm,0.4s							
MCD	**Coleburn Disti**	**5.22**	**214**		*e*S	**Sn**	**09 14 00.3**	**-3.1**
STRU	**Stroemstad**	**5.37**	**120**		P	**Pn**	**09 13 05.9**	**+1.2**
STRU	**Stroemstad**	**5.37**	**120**		P	**Pn**	**09 13 05.9**	**+1.2**
MME1	**Meikle Cairn**	**5.38**	**211**		*e*P	**Pn**	**09 13 07.2**	**+2.3**
MME1	**Meikle Cairn**	**5.38**	**211**		*e*P	**Pn**	**09 13 07.2**	**+2.3**
MME1	**Meikle Cairn**	**5.38**	**211**		*e*P	**Pn**	**09 13 07.2**	**+2.3**
	SNR=49							
DRUM	**Mains of Drumt**	**5.64**	**207**		*e*P	**Pn**	**09 13 10.4**	**+2.0**
DRUM					*e*S	**Sn**	**09 14 10.8**	**-3.0**
DRUM					AML	AML	09 14 13.2	
	comp=N,66nm,0.2s							
DRUM					AML	AML	09 14 13.6	
	comp=E,72nm,0.3s							
DRUM	**Mains of Drumt**	**5.64**	**207**		*e*P	**Pn**	**09 13 10.4**	**+2.0**
DRUM					*e*S	**Sn**	**09 14 10.8**	**-3.0**
DRUM					AML	AML	09 14 13.2	
	comp=N,66nm,0.2s							
DRUM					AML	AML	09 14 13.6	
	comp=E,72nm,0.3s							
DRUM	**Mains of Drumt**	**5.64**	**207**		*e*P	**Pn**	**09 13 10.4**	**+2.0**
	SNR=49							
HFS	**Hagfors**	**5.92**	**104**	Pn		**Pn**	**09 13 13.7**	**+1.5**
	baz=289,slow=14							
HFS					Sn	**Sn**	**09 14 18.4**	**-2.1**
	baz=305,slow=28							
HFS	**Hagfors**	**5.92**	**104**	Pn		**Pn**	**09 13 13.7**	**+1.5**
	baz=289,slow=14							
HFS					Sn	**Sn**	**09 14 18.4**	**-2.1**
	baz=305,slow=28							
HFS	**Hagfors**	**5.92**	**104**	Pn		**Pn**	**09 13 13.6**	**+1.5**
	SNR=50							
HFS					Sn	**Sn**	**09 14 18.4**	**-2.1**
	SNR=50							
VANU	**Vaenersborg**	**6.07**	**121**		P	**Pn**	**09 13 15.6**	**+1.3**
VANU	**Vaenersborg**	**6.07**	**121**		P	**Pn**	**09 13 15.6**	**+1.3**
KPL	**Plockton**	**6.13**	**224**		*e*P	**Pn**	**09 13 16.7**	**+1.6**
KPL	**Plockton**	**6.13**	**224**		*e*P	**Pn**	**09 13 16.7**	**+1.6**
	SNR=49							
TJOU	**Tjoern**	**6.21**	**126**		P	**Pn**	**09 13 17.5**	**+1.4**
TJOU					S	**Sn**	**09 14 22.1**	**-5.5**
TJOU	**Tjoern**	**6.21**	**126**		P	**Pn**	**09 13 17.5**	**+1.4**
NASU	**Vaermlandsnaes**	**6.28**	**115**		P	**Pn**	**09 13 18.1**	**+1.1**
NASU	**Vaermlandsnaes**	**6.28**	**115**		P	**Pn**	**09 13 18.1**	**+1.1**
STOK	**Stokkvaagen**	**6.42**	**43**		*e*P	**Pn**	**09 13 18.3**	**-0.8**
STOK					*e*S	Sn	09 14 23.7	-9.2
STOK	**Stokkvaagen**	**6.42**	**43**		*e*P	**Pn**	**09 13 18.3**	**-0.8**
	SNR=47							
BORU	**Boraas**	**6.92**	**125**		P	**Pn**	**09 13 26.9**	**+0.9**
FKPU	**Falk**	**6.96**	**119**		P	**Pn**	**09 13 27.5**	**+1.0**
FKPU	**Falk**	**6.96**	**119**		P	**Pn**	**09 13 27.5**	**+1.0**
FABU	**Falkenberg**	**7.36**	**128**		P	**Pn**	**09 13 32.7**	**+0.8**
FIA0	**FINESS Array S**	**11.34**	**82**	Pn		**Pn**	**09 14 26.9**	**+0.4**
	baz=288,slow=11							
FIA0	**FINESS Array S**	**11.34**	**82**	Pn		**Pn**	**09 14 26.9**	**+0.4**
	baz=288,slow=11							
FIA0	**FINESS Array S**	**11.34**	**82**	Pn		**Pn**	**09 14 26.9**	**+0.4**
	SNR=50							
ARA0	**ARCESS Array S**	**12.11**	**42**	Pn		**Pn**	**09 14 36.4**	**-0.6**
	baz=235,slow=16							
ARA0	**ARCESS Array S**	**12.11**	**42**	Pn		**Pn**	**09 14 36.4**	**-0.6**
	baz=235,slow=16							
ARA0	**ARCESS Array S**	**12.11**	**42**	Pn		**Pn**	**09 14 36.4**	**-0.6**
	SNR=50							

DHMR 21 09:20:04.3±0.6, 11°.98N×44°.14E, h14km±31km, ML3.8, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.14**	**46**	*i* P	Pb	09 20 25.3	-0.5
ADEN				*i* S	Sn	09 20 41.5	+0.2
UDYN	**Al 'Udayn**	**1.98**	**355**	*i* P	Pb	09 20 39.1	-1.1
UDYN				*i* S	Sb	09 21 05.7	+0.9
UDYN				AML	AML	09 21 12.3	
	comp=E,1μm,0.4s						
DHBB	**Dhamar BB**	**2.58**	**5**	*i* P	Pb	09 20 48.5	-2.2
DHBB				*i* S	Sb	09 21 23.6	+1.2

DDA ***21*** *09:38:04.6, 38°.92N×34°.93E, h7km, Md2.9*
CSEM ***21*** *09:38:06.3±0.3, 39°.05N×34°.92E, h2km, MD2.7, Error ellipse: s-maj=7.8km s-min=5.7km az=169.0*
ISK ***21*** *09:38:06.8, 38°.99N×34°.97E, h8km, MD2.7*
ISC 21 09:38:06.1±1.2, 39°.02N±0°.03×34°.96E±0°.03, h2km±12km, n19, σ1s26/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.71**	**103**	*e*PG	**Pb**	**09 38 21.2**	**-0.1**
BNN	**Bunyan**	**0.71**	**103**	*e*Pg	**Pb**	**09 38 21.2**	**-0.1**
CDAG	**Cicekdag**	**0.76**	**323**	*i* P	**Pg**	**09 38 19.2**	**-1.4**
CDAG	**Cicekdag**	**0.76**	**323**	P	**Pg**	**09 38 19.2**	**-1.4**
CUSAR	**Sarkisla-SIVAS**	**1.08**	**68**	*i* P	**Pg**	**09 38 26.4**	**-0.4**
CUSAR				*i* S	**Sn**	**09 38 43.0**	**-1.0**
CUSAR	**Sarkisla-SIVAS**	**1.08**	**68**	P	**Pg**	**09 38 26.4**	**-0.4**
CUSAR				S	**Sn**	**09 38 43.0**	**-1.0**
SERE	**Sereflikochisa**	**1.09**	**267**	*e*PN	**Pn**	**09 38 27.8**	**-0.6**
SERE	**Sereflikochisa**	**1.09**	**267**	*e*Pn	**Pn**	**09 38 27.8**	**-0.6**
CORM	**Corum**	**1.19**	**348**	*e*PN	**Pn**	**09 38 30.2**	**+0.4**
CORM				*e*SN	**Sn**	**09 38 48.0**	**+1.4**
CORM	**Corum**	**1.19**	**348**	*e*Pn	**Pn**	**09 38 30.2**	**+0.4**
CORM				*e*Sn	**Sn**	**09 38 48.0**	**+1.4**
COAL	**Corum-Alaca**	**1.24**	**1**	*i* P	**Pn**	**09 38 29.0**	**-1.5**
COAL				*i* S	**Sn**	**09 38 49.9**	**+2.1**
COAL	**Corum-Alaca**	**1.24**	**1**	P	**Pn**	**09 38 29.0**	**-1.5**
COAL				S	**Sn**	**09 38 49.9**	**+2.1**
SARI	**SarD1z-Kayseri**	**1.30**	**118**	*e*PN	**Pn**	**09 38 30.7**	**-0.7**
SULT	**Sultanhani-AKS**	**1.39**	**235**	*e*PN	**Pg**	**09 38 33.0**	**+0.2**
SULT				*e*SN	**Sg**	**09 38 52.6**	**+1.8**
SULT	**Sultanhani-AKS**	**1.39**	**235**	*e*Pn	**Pg**	**09 38 33.0**	**+0.2**
SULT				*e*Sn	**Sg**	**09 38 52.6**	**+1.8**
KKUL	**Konya-Kulu**	**1.59**	**276**	*i* P	**Pb**	**09 38 35.1**	**-1.2**
KKUL				*i* S	**Sg**	**09 38 57.5**	**+0.2**
KKUL	**Konya-Kulu**	**1.59**	**276**	P	**Pb**	**09 38 35.1**	**-1.2**
KKUL				S	**Sg**	**09 38 57.5**	**+0.2**
CTAK	**Corum_Osmancik**	**1.63**	**356**	*i* P	**Pb**	**09 38 36.6**	**-0.4**
CTAK				*i* S	**Sg**	**09 39 00.6**	**+2.0**
CTAK	**Corum_Osmancik**	**1.63**	**356**	P	**Pb**	**09 38 36.6**	**-0.4**
CTAK				S	**Sg**	**09 39 00.6**	**+2.0**

IDC ***21*** *09:39:58.9±2.0, 9°.17S×119°.98E, h0km, mb3.7/2, mb1 4.1/5, mb1mx3.7/54, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=141.9km s-min=22.4km az=58.0*
ISCJB ***21*** *09:40:01.4±0.6, 9°.93S±0°.07×119°.33E±0°.05, h35km, mb3.8/2, Error ellipse: s-maj=11.2km s-min=5.1km az=24.0*
DJA ***21*** *09:40:01.8±0.4, 10°S±7°×11°9E±°, h10km, M4.4/5, MLv4.4/5*
ISC 21 09:40:02.2±0.8, 9°.89S±0°.08×119°.34E±0°.05, h35km, n14, σ2s72/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.97**	**77**	P	**Pn**	**09 40 19.7**	**+0.4**
BASI	**Baing, Sumba**	**1.26**	**105**	P	**Pn**	**09 40 25.1**	**+1.8**
PLAI	**Plampang**	**1.87**	**304**	P	**Pn**	**09 40 30.9**	**-0.9**
PLAI				S	**Sn**	**09 40 55.6**	**+1.4**
EDFI	**Ende, Flores**	**2.58**	**64**	P	**Pn**	**09 40 41.7**	**+0.1**
TWSI	**Taliwang, Sumb**	**2.69**	**295**	P	**Pn**	**09 40 43.2**	**+0.3**
MMRI	**Maumere**	**3.12**	**67**	P	**Pn**	**09 40 51.0**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.90**	**17**	P	**Pn**	**09 40 59.5**	**-0.1**
IGBI	**Denpasar**	**4.28**	**284**	P	**Pn**	**09 41 06.4**	**+1.6**
IGBI				S	**Sn**	**09 41 56.0**	**+2.5**
SOEI	**Soe**	**4.86**	**89**	P	**Pn**	**09 41 17.3**	**+4.4**
FITZ	**Fitzroy Crossi**	**10.19**	**144**	Pn	**Pn**	**09 42 28.5**	**+2.4**
	0.4nm,0.3s,baz=339,slow=10.0,SNR=9.4						
FITZ				Sn	**Sn**	**09 44 15.8**	**-3.4**
	1.8nm,0.3s,baz=176,slow=14,SNR=10						
WRA	**Warramunga Arr**	**17.59**	**126**	Pn	**Pn**	**09 44 04.8**	**+0.1**
	0.6nm,0.3s,baz=302,slow=12,SNR=9.0						
WRA				S	Sn	09 47 11.0	-8.7
	0.1nm,0.3s,baz=305,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**19.52**	**136**	P	**Pn**	**09 44 30.1**	**+1.9**
	0.4nm,0.3s,baz=324,slow=12,SNR=55						
ASAR				S	**S**	**09 47 58.5**	**-7.0**
	0.1nm,0.3s,baz=304,slow=21,SNR=5.5						
SONM	**Songino Array**	**58.61**	**350**	P	**P**	**09 49 54.4**	**-1.4**
	0.5nm,0.4s,baz=167,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**65.40**	**333**	P	**P**	**09 50 40.4**	**-0.9**
	0.5nm,0.6s,baz=152,slow=6.5,SNR=5.5						

IDC 21 09:41:56.2±999.0, 49°.57N×53°.51E, h0km, Error ellipse: s-maj=1912.0km s-min=66.7km az=72.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**3.04**	**72**	*i*		09 58 40.0	
	baz=256,slow=324,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**19.77**	**65**	*i*		11 46 40.0	
	baz=271,slow=329,SNR=1.0						
I34MN	**SONGINO INFRAS**	**34.38**	**72**	*i*		13 15 40.0	
	baz=293,slow=323,SNR=0.4						

ISCJB ***21*** *09:42:15.9±0.9, 11°.84N±0°.06×44°.11E±0°.07, h4km, mb3.6/5, MS3.5/4, Error ellipse: s-maj=11.4km s-min=6.4km az=39.2*
IDC ***21*** *09:42:16.9±1.8, 11°.63N×44°.01E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/53, mbtmp3.6/5, MS3.6/6, Ms1 3.6/6, ms1mx3.2/45, Error ellipse: s-maj=50.1km s-min=16.8km az=163.0*
CSEM ***21*** *09:42:18.4, 12°.02N×44°.21E, h17km, ML4.3*
DHMR ***21*** *09:42:18.4±1.1, 12°.02N×44°.21E, h17km±18km, ML4.3*
ISC 21 09:42:17.6±0.9, 12°.05N±0°.06×44°.04E±0°.05, h4km, n19, σ2s04/22, mb3.8/5, MS3.5/4, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.17**	**52**	*i* P	**Pg**	**09 42 38.7**	**-1.4**
ADEN				*i* S	**Sg**	**09 42 52.8**	**-2.5**
ADEN				AML	AML	09 42 59.9	
	comp=E,7μm,0.3s						
ADEN	**Aden**	**1.17**	**52**	*i* P	**Pg**	**09 42 38.7**	**-1.4**
ADEN				*i* S	**Sg**	**09 42 52.8**	**-2.5**
	comp=E,3μm,0.3s						
ATD	**Arta Tunnel**	**1.27**	**246**	Pn	**Pg**	**09 42 39.9**	**-2.2**
	comp=E,111nm,0.3s,baz=245,slow=7.5,SNR=23						
ATD				Sn	**Sn**	**09 42 57.7**	**-2.2**
	comp=E,387nm,0.3s,baz=118,slow=23,SNR=13						
UDYN	**Al 'Udayn**	**1.91**	**358**	*i* P	**Pb**	**09 42 52.0**	**-1.1**
UDYN				*i* S	**Sg**	**09 43 18.9**	**-0.1**
UDYN				AML	AML	09 43 25.6	
	comp=E,3μm,0.6s						
UDYN	**Al 'Udayn**	**1.91**	**358**	*i* P	**Pb**	**09 42 52.0**	**-1.1**
UDYN				*i* S	**Sg**	**09 43 18.9**	**-0.1**
	comp=E,2μm,0.6s						
DHBB	**Dhamar BB**	**2.53**	**8**	*i* P	**Pb**	**09 43 02.2**	**-1.6**
DHBB				*i* S	**Sb**	**09 43 36.1**	**+0.7**
DHBB	**Dhamar BB**	**2.53**	**8**	*i* P	**Pb**	**09 43 02.2**	**-1.6**
DHBB				*i* S	**Sb**	**09 43 36.1**	**+0.7**
HAJJ	**Hajjah**	**3.65**	**353**	*i* P	**Pn**	**09 43 17.2**	**+2.1**
HAJJ				*i* S	**Sb**	**09 44 04.2**	**-3.4**
HAJJ	**Hajjah**	**3.65**	**353**	*i* P	**Pn**	**09 43 17.2**	**+2.1**
HAJJ				*i* S	**Sb**	**09 44 04.2**	**-3.4**
KMBO	**Kilima Mbogo**	**14.72**	**208**	LR	LR	09 51 16.8	
	comp=E,334nm,19.6s,baz=84,slow=38						
WSAR	**Wadi Sarin**	**17.79**	**49**	LR	LR	09 53 43.5	
	comp=E,159nm,19.1s,baz=255,slow=38						
GNI	**Garni**	**28.00**	**1**	LR	LR	10 01 11.8	
	comp=E,100nm,18.8s,baz=202,slow=40						
BRTR	**Keskin Array B**	**29.06**	**343**	P	**P**	**09 48 21.4**	**+2.1**
	comp=E,0.7nm,0.8s,baz=140,slow=7.0,SNR=2.4						
BRTR				LR	LR	09 58 56.0	
	comp=E,89nm,20.6s,baz=170,slow=34						
AKTO	**Aktyubinsk**	**39.96**	**14**	LR	LR	10 08 46.6	
	comp=E,95nm,18.2s,slow=39						
TORD	**Torodi Ar. Bea**	**41.30**	**276**	P	**P**	**09 50 05.7**	**+0.9**
	comp=E,0.4nm,0.8s,baz=81,slow=6.4,SNR=4.1						
BVAR	**Borovoye Array**	**45.99**	**22**	P	P	09 50 46.6	+4.7
	comp=E,0.7nm,0.6s,baz=206,slow=9.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**47.66**	**29**	P	**P**	**09 50 57.8**	**+2.7**
	comp=E,0.8nm,1.0s,baz=232,slow=8.5,SNR=8.5						
HFS	**Hagfors**	**52.98**	**342**	LR	LR	10 16 07.2	
	comp=E,61nm,18.9s,baz=22,slow=38						
CMAR	**Chiang Mai Arr**	**53.19**	**76**	P	**P**	**09 51 37.6**	**+0.1**
	comp=E,0.8nm,0.3s,baz=269,slow=7.5,SNR=5.6						

MDD ***21*** *09:50:36.6±3.1, 37°.44N×14°.10W, h0km, mb4.3/3, Error ellipse: s-maj=37.2km s-min=24.4km az=8.0, PRXIMO*
INMG ***21*** *09:50:38.7±1.0, 37°.15N×14°.41W, h10km, ML2.3, Error ellipse: s-maj=12.3km s-min=8.8km az=153.0*
CSEM ***21*** *09:50:39.7±0.6, 37°.50N×13°.81W, h10km, mb4.3, Error ellipse: s-maj=14.2km s-min=9.5km az=4.0*
ISC 21 09:50:38.3±4.0, 37°.4N±0°.1×13°.9W±0°.2, h10km, n34, σ0s99/58, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.93**	**66**	*e*Pn	**Pn**	**09 51 39.6**	**+0.9**
PMAFR				*e*Sn	**Sn**	**09 52 26.3**	**+1.5**
PMAFR	**Mafra**	**3.93**	**66**	P	**Pn**	**09 51 39.6**	**+0.9**
	2.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**09 52 25.4**	**+0.6**
	9.4nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.93**	**66**	P	**Pn**	**09 51 39.6**	**+0.9**
	2.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**09 52 25.4**	**+0.6**
	9.4nm,0.3s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**09 52 26.3**	**+1.5**
PFVI	**Vila Bisbo**	**4.04**	**93**	*e*Pn	**Pn**	**09 51 40.9**	**+0.6**
PFVI				*e*Sn	**Sn**	**09 52 26.5**	**-1.2**
PFVI				A	A	09 52 29.2	
	7.8nm,0.7s						
PFVI	**Vila Bisbo**	**4.04**	**93**	P	**Pn**	**09 51 40.9**	**+0.6**
	1.2nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**09 52 26.9**	**-0.8**
	1.1nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.04**	**93**	P	**Pn**	**09 51 40.9**	**+0.6**
	1.2nm,0.0s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**09 52 26.5**	**-1.2**
	7.8nm,0.7s						
PFVI				S	**Sn**	**09 52 26.9**	**-0.8**
	1.1nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.29**	**79**	*e*Sn	**Sn**	**09 52 33.2**	**-0.6**
PNCL				A	A	09 52 41.0	
	2.4nm,0.1s						
PNCL	**Nicolau / Gran**	**4.29**	**79**	*e*Sn	**Sn**	**09 52 33.2**	**-0.6**
	2.4nm,0.1s						
PCVE	**Castro Verde**	**4.65**	**86**	*e*Pn	**Pn**	**09 51 49.1**	**+0.5**
PCVE				*e*Sn	**Sn**	**09 52 41.6**	**-1.0**
PCVE				A	A	09 52 49.6	
	2.1nm,0.5s						
PCVE	**Castro Verde**	**4.65**	**86**	P	**Pn**	**09 51 49.1**	**+0.5**
PCVE				S	**Sn**	**09 52 41.6**	**-1.0**
	2.1nm,0.5s						
PCVE	**Castro Verde**	**4.65**	**86**	P	**Pn**	**09 51 49.1**	**+0.5**
PCVE				S	**Sn**	**09 52 41.6**	**-1.0**
	2.1nm,0.5s						
PMTG	**Montargil**	**4.74**	**68**	*e*Pn	**Pn**	**09 51 50.4**	**+0.6**
PMTG				*e*Sn	**Sn**	**09 52 45.4**	**+0.6**
PMTG				A	A	09 52 46.9	
	1.6nm,0.3s						
PMTG	**Montargil**	**4.74**	**68**	*e*Pn	**Pn**	**09 51 50.4**	**+0.6**
PMTG				*e*Sn	**Sn**	**09 52 45.4**	**+0.6**
	1.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.75**	**91**	*e*Sn	**Sn**	**09 52 45.9**	**+0.8**
PBDV	**Barranco-do-Ve**	**4.75**	**91**	S	**Sn**	**09 52 45.9**	**+0.8**
PBDV	**Barranco-do-Ve**	**4.75**	**91**	S	**Sn**	**09 52 45.9**	**+0.8**
EGRO	**El Granado**	**5.09**	**87**	P	**Pn**	**09 51 55.6**	**+1.0**
	1.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**09 52 53.3**	**-0.2**
	2.8nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**5.09**	**87**	P	**Pn**	**09 51 55.6**	**+1.0**
	1.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**09 52 53.3**	**-0.2**
	2.8nm,0.5s,SNR=7.9						
PESTR	**Estremoz**	**5.16**	**72**	*e*Sn	**Sn**	**09 52 55.2**	**0.0**
PESTR	**Estremoz**	**5.16**	**72**	*e*Sn	**Sn**	**09 52 55.2**	**0.0**
PBAR	**Barrancos**	**5.47**	**80**	*e*Sn	**Sn**	**09 53 03.1**	**+0.3**
PBAR				A	A	09 53 11.3	
	3.3nm,0.7s						
PBAR	**Barrancos**	**5.47**	**80**	S	**Sn**	**09 53 03.1**	**+0.3**
	3.3nm,0.7s						
PBAR	**Barrancos**	**5.47**	**80**	S	**Sn**	**09 53 03.1**	**+0.3**
	3.3nm,0.7s						
PMRV	**Marv??o**	**5.47**	**67**	*e*Pn	**Pn**	**09 52 00.7**	**+0.8**
PMRV				*e*Sn	**Sn**	**09 53 02.7**	**-0.1**
PMRV				A	A	09 53 05.4	
	1.6nm,0.3s						
PMRV	**Marv??o**	**5.47**	**67**	P	**Pn**	**09 52 00.7**	**+0.8**
PMRV				S	**Sn**	**09 53 02.7**	**-0.1**
	1.6nm,0.3s						
PMRV	**Marv??o**	**5.47**	**67**	P	**Pn**	**09 52 00.7**	**+0.8**
PMRV				S	**Sn**	**09 53 02.7**	**-0.1**
	1.6nm,0.3s						
EBAD	**Badajoz**	**5.58**	**74**	P	**Pn**	**09 52 01.3**	**0.0**
	0.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**09 53 03.9**	**-1.5**
	1.6nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**5.58**	**74**	P	**Pn**	**09 52 01.3**	**0.0**
	0.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**09 53 03.9**	**-1.5**
	1.6nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.74**	**85**	P	**Pn**	**09 52 03.8**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**09 53 07.9**	**-1.5**
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.74**	**85**	P	**Pn**	**09 52 03.8**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**09 53 07.9**	**-1.5**
	0.7nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.30**	**44**	P	**Pn**	**09 52 10.2**	**-1.1**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.30**	**44**	P	**Pn**	**09 52 10.2**	**-1.1**
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.74**	**82**	P	**Pn**	**09 52 18.2**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**09 53 31.3**	**-2.8**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.74**	**82**	P	**Pn**	**09 52 18.2**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**09 53 31.3**	**-2.8**
	0.1nm

baz=125,slow=37
ARA0 ARCESS Array S 3.57 305 Pn **Pn 09 54 35.8 +1.2**
SNR=50
ARA0 Sn **Sn 09 55 17.2 -0.1**
SNR=50
ARA0 Lg Lg 09 55 30.3
SNR=1.7
ARCES ARCESS Array B 3.57 305 Pn **Pn 09 54 35.8 +1.3**
comp=Z,5.5nm,0.3s,baz=120,slow=16,SNR=182
ARCES Sn **Sn 09 55 18.1 +0.8**
comp=Z,2.4nm,0.3s,baz=120,slow=27,SNR=7.4
ARCES Lg Lg 09 55 29.6
comp=Z,5.6nm,0.3s,baz=128,slow=33,SNR=12
HEF Hetta 3.89 285 *e*P **Pn 09 54 39.9 +1.0**
HEF *e*SG **Sg 09 55 40.2 -2.6**
HEF MSG 09 55 45.1
comp=Z,8.8nm,0.2s
HEF Hetta 3.89 285 P **Pn 09 54 39.9 +1.0**
HEF Sg **Sg 09 55 40.1 -2.6**
TOF Tornio 4.09 251 *e*P **Pn 09 54 42.4 +0.7**
TOF *e*S **Sn 09 55 30.2 +0.1**
TOF Tornio 4.09 251 P **Pn 09 54 42.3 +0.7**
TOF S **Sn 09 55 30.2 +0.1**
KTK1 Kautokeino 4.14 293 *e*P **Pn 09 54 44.1 +1.6**
KTK1 IAML 09 55 53.3
comp=Z,9.4nm,0.4s
KTK1 Kautokeino 4.14 293 *e*P **Pn 09 54 44.1 +1.6**
SNR=49
KJN Kajaani 4.41 218 *e*SG **Sb 09 55 53.4 +3.4**
KJN MSG 09 55 55.9
comp=Z,7.8nm,0.3s
FIA0 FINESS Array S 7.11 212 Pn **Pn 09 55 24.3 +1.2**
baz=22,slow=16
FIA0 Sn **Sn 09 56 41.8 -2.6**
baz=39,slow=28
FIA0 Lg Lg 09 57 14.4
baz=27,slow=22
FIA0 FINESS Array S 7.11 212 Pn **Pn 09 55 24.3 +1.2**
baz=22,slow=16
FIA0 Sn **Sn 09 56 41.8 -2.6**
baz=39,slow=28
FIA0 Lg Lg 09 57 14.4
baz=27,slow=22
FIA0 FINESS Array S 7.11 212 Pn **Pn 09 55 24.3 +1.2**
SNR=50
FIA0 Sn **Sn 09 56 41.8 -2.6**
SNR=50
FINES FINESS Array B 7.11 212 Pn **Pn 09 55 24.4 +1.2**
comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=4.6
FINES Sn **Sn 09 56 42.6 -1.8**
comp=Z,0.2nm,0.3s,baz=38,slow=22,SNR=3.4
SPA0 Spitsbergen Ar 11.62 342 Pn **Pn 09 56 24.0 -0.8**
baz=136,slow=14
SPA0 Spitsbergen Ar 11.62 342 P **Pn 09 56 24.0 -0.8**
baz=136,slow=14
NOA NORSAR Array B 11.79 246 Pn **Pn 09 56 26.2 -1.0**
comp=Z,0.2nm,0.3s,baz=49,slow=20,SNR=3.2

*VIE **21** 10:03:07.4±0.4, 46°.41N×15°.19E, h0km, ML0.9/2, Error ellipse: s-maj=3.5km s-min=1.8km az=7.0, Suspected Mining induced.*
*CSEM **21** 10:03:08.2±99.0, 46°.39N×15°.07E, h0km, Mining explosion.*

LJU 21 10:03:08.2, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.29**	**355**			Sg	Sg	10 03 16.9	-0.6
	3.1nm,0.3s								
OBKA	**Obir**	**0.38**	**288**			Sg	Sb	10 03 22.5	-1.8
	4.6nm,0.3s								

DHMR 21 10:03:58.6±2.0, 12°.05N×44°.15E, h4km±104km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.09**	**48**	*i* P		Pg	Pg	10 04 18.3	-1.2
ADEN				*i* S		Sb	Sb	10 04 34.9	+0.3
ADEN						AML	AML	10 04 40.2	
	comp=E,2μm,0.4s								
UDYN	**Al 'Udayn**	**1.91**	**355**	*i* P		Pn	Pn	10 04 32.2	+0.1
UDYN				*i* S		Sg	Sg	10 05 00.1	0.0
DHBB	**Dhamar BB**	**2.52**	**5**	*i* P		Pb	Pb	10 04 44.1	-0.5
DHBB				*i* S		Sb	Sb	10 05 16.5	+0.5

IDC 21 10:07:49.6±2.8, 54°.20N×87°.20E, h0km, mb1 3.0/2, mb1mx2.9/56, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.5km s-min=18.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**261**	*i*				10 16 30.0	
	baz=80,slow=336,SNR=2.8								
ZALV	**Zalesovo Beam**	**1.43**	**261**			Pg	Pn	10 08 14.9	-1.9
	1.8nm,0.3s,baz=79,slow=16,SNR=12								
ZALV						Lg	Lg	10 08 35.4	
	1.9nm,0.3s,baz=80,slow=27,SNR=7.4								
KURBB	**Kurchatov Arra**	**6.40**	**239**			Pn	Pn	10 09 25.6	+0.5
	0.1nm,0.3s,baz=55,slow=14,SNR=8.2								
KURBB						Sn	Sn	10 10 37.9	-1.0
	0.0nm,0.3s,baz=68,slow=21,SNR=2.6								
KURBB						Lg	Lg	10 11 15.4	
	0.0nm,0.3s,baz=44,slow=28,SNR=4.1								
MKAR	**Makanchi Array**	**8.05**	**205**			Pn	Pn	10 09 49.3	+1.5
	0.2nm,0.3s,baz=31,slow=17,SNR=3.2								

*ISCJB **21** 10:11:49.3±0.6, 11°.82N±0°.05×44°.17E±0°.06, h4km, mb3.8/13, MS3.6/7, Error ellipse: s-maj=9.0km s-min=6.4km az=38.9*
*IDC **21** 10:11:51.0±1.0, 12°.02N×44°.05E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.8/49, mbtmp3.8/12, ML2.9/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/34, Error ellipse: s-maj=29.2km s-min=15.9km az=159.0*
*DHMR **21** 10:11:54.1±1.0, 12°.10N×44°.29E, h15km±16km, ML4.3*
*CSEM **21** 10:11:54.1, 12°.10N×44°.29E, h15km, ML4.3*

ISC 21 10:11:50.8±0.7, 11°.89N±0°.06×44°.19E±0°.06, h4km, n32, σ2°38/33, mb3.9/13, MS3.5/7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.17**	**41**	*i* P			**Pn**	**10 12 12.3**	**-1.6**
ADEN				*i* S			**Sb**	**10 12 24.7**	**-4.4**
ADEN						AML	AML	10 12 33.6	
	comp=E,10μm,0.4s								
ADEN	**Aden**	**1.17**	**41**	*i* P			**Pn**	**10 12 12.3**	**-1.6**
ADEN				*i* S			**Sb**	**10 12 24.7**	**-4.4**
	comp=E,5μm,0.4s								
ATD	**Arta Tunnel**	**1.37**	**255**				**Pn**	**10 12 14.6**	**-2.1**
	comp=E,194nm,0.3s,baz=348,slow=1.7,SNR=76								
ATD						Sn	**Sn**	**10 12 32.2**	**-3.1**
	comp=E,325nm,0.3s,baz=72,slow=20,SNR=22								
UDYN	**Al 'Udayn**	**2.07**	**354**	*i* P			**Pb**	**10 12 26.9**	**-2.2**
UDYN				*i* S			**Sb**	**10 12 52.6**	**-2.7**
UDYN	**Al 'Udayn**	**2.07**	**354**	*i* P			**Pb**	**10 12 26.9**	**-2.2**
UDYN				*i* S			**Sb**	**10 12 52.6**	**-2.7**
DHBB	**Dhamar BB**	**2.67**	**4**	*i* P			**Pb**	**10 12 36.2**	**-3.1**
DHBB				*i* S			**Sb**	**10 13 09.7**	**-2.9**
DHBB	**Dhamar BB**	**2.67**	**4**	*i* P			**Pb**	**10 12 36.2**	**-3.1**
DHBB				*i* S			**Sb**	**10 13 09.7**	**-2.9**
HAJJ	**Hajjah**	**3.83**	**351**	*i* P			**Pn**	**10 12 52.3**	**+1.6**
HAJJ				*i* S			**Sn**	**10 13 38.5**	**+2.2**
HAJJ	**Hajjah**	**3.83**	**351**	*i* P			**Pn**	**10 12 52.3**	**+1.6**
HAJJ				*i* S			**Sn**	**10 13 38.5**	**+2.2**
KMBO	**Kilima Mbogo**	**14.66**	**209**			Lg	Lg	10 19 23.4	
	comp=E,0.2nm,0.3s,baz=114,slow=20,SNR=3.9								
KMBO						LR	LR	10 20 50.9	
	comp=E,360nm,19.8s,baz=274,slow=37								
WSAR	**Wadi Sarin**	**17.78**	**49**			P	**P**	**10 15 59.0**	**-1.2**
	comp=E,0.0nm,0.3s,baz=263,slow=11,SNR=3.6								
WSAR						LR	LR	10 23 26.4	
	comp=E,226nm,19.9s,baz=252,slow=39								
EIL	**Elat**	**19.67**	**335**			LR	LR	10 22 32.8	
	comp=E,100nm,20.7s,baz=190,slow=33								
MMAI	**Mount Meron Ar**	**22.52**	**340**			LR	LR	10 25 45.1	
	comp=E,85nm,18.1s,baz=155,slow=37								
GNI	**Garni**	**28.15**	**1**			LR	LR	10 30 21.6	
	comp=E,138nm,20.6s,baz=176,slow=40								
GEYT	**Alibeck**	**28.76**	**23**			LR	LR	10 32 09.0	
	comp=E,130nm,19.6s,baz=335,slow=42								
BRTR	**Keskin Array B**	**29.25**	**343**			P	**P**	**10 17 57.0**	**+2.9**
	comp=E,2.7nm,0.9s,baz=144,slow=11,SNR=9.7								
KBZ	**Khabaz**	**31.74**	**358**			LR	LR	10 31 38.6	
	comp=E,111nm,19.1s,baz=128,slow=38								
AKTO	**Aktyubinsk**	**40.07**	**14**			P	**P**	**10 19 30.6**	**+3.3**
	comp=E,0.5nm,0.3s,baz=179,slow=6.5,SNR=4.7								
AKASG	**Malin Array Be**	**40.59**	**345**			P	**P**	**10 19 30.4**	**-1.1**
	comp=E,0.2nm,0.3s,baz=149,slow=7.6,SNR=5.3								
TORD	**Torodi Ar. Bea**	**41.47**	**276**			P	**P**	**10 19 39.9**	**+0.6**
	comp=E,1.6nm,1.0s,baz=92,slow=2.9,SNR=7.9								
GERES	**GERESS Array B**	**44.69**	**332**			P	**P**	**10 20 02.9**	**-2.1**
	comp=E,0.7nm,0.7s,baz=138,slow=12,SNR=3.5								
BVAR	**Borovoye Array**	**46.08**	**22**			P	**P**	**10 20 16.7**	**+0.9**
	comp=E,1.8nm,0.8s,baz=203,slow=7.2,SNR=7.6								
MKAR	**Makanchi Array**	**47.31**	**35**			P	**P**	**10 20 26.7**	**+1.1**
	comp=E,1.2nm,0.8s,baz=232,slow=6.0,SNR=7.6								
KURBB	**Kurchatov Arra**	**47.73**	**29**			P	**P**	**10 20 28.9**	**+0.1**
	comp=E,0.3nm,0.3s,baz=229,slow=8.2,SNR=12								
ESDC	**Sonseca Array**	**50.64**	**312**			P	**P**	**10 20 52.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=116,slow=8.7,SNR=4.5								
ZALV	**Zalesovo Beam**	**52.82**	**29**			P	**P**	**10 21 07.5**	**+0.2**
	comp=E,1.4nm,0.7s,baz=257,slow=5.9,SNR=6.7								
ZALV						LR	LR	10 47 01.1	
	comp=E,128nm,18.2s,baz=250,slow=40								
CMAR	**Chiang Mai Arr**	**53.08**	**76**			P	**P**	**10 21 11.1**	**+1.2**
	comp=E,3.1nm,0.9s,baz=271,slow=7.8,SNR=12								
SONM	**Songino Array**	**62.69**	**42**			P	**P**	**10 22 17.5**	**+0.5**
	comp=E,1.0nm,0.7s,baz=239,slow=8.1,SNR=8.1								
MJAR	**Matsushiro Arr**	**86.20**	**54**			LR	LR	11 06 42.7	
	comp=E,19nm,18.6s,baz=280,slow=38								
ASAR	**Alice Springs**	**94.43**	**113**			P	**P**	**10 25 14.9**	**+2.1**
	comp=E,0.3nm,0.9s,baz=282,slow=4.6,SNR=3.6								
GUMO	**Guam**	**97.38**	**74**			LR	LR	11 07 00.4	
	comp=E,26nm,20.1s,baz=157,slow=34								
TXAR	**Lajitas Array**	**128.60**	**324**			PKP	**PKPdf**	**10 31 00.5**	**+0.4**
	comp=E,0.4nm,0.9s,baz=259,slow=0.9,SNR=3.5								

IDC 21 10:28:10.0±999.0, 47°.41N×48°.76E, h0km, Error ellipse: s-maj=5674.0km s-min=150.6km az=61.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.81**	**60**	*i*				11 09 00.0	
	baz=248,slow=304,SNR=0.6								
I46RU	**ZALESOVO INFRA**	**23.57**	**60**	*i*				12 50 00.0	
	baz=267,slow=324,SNR=5.1								
I34MN	**SONGINO INFRAS**	**38.08**	**67**	*i*				14 26 30.0	
	baz=290,slow=322,SNR=0.6								

MEX 21 10:28:51.6±0.4, 15°.64N×96°.14W, h18km±49km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.13**	**12**	*e*P			Pb	10 28 54.9	+0.7
HUIG				*e*S			Sg	10 28 57.5	-1.0
VHO	**Vista Hermosa**	**1.54**	**338**	*i* P			Pn	10 29 15.2	-3.1
VHO				*e*S			Sn	10 29 33.0	-4.8
TLIG	**Tlapa**	**3.02**	**310**	*e*P			Pn	10 29 35.4	-3.2
TLIG				*e*S			Sn	10 30 11.1	-3.2

IDC 21 10:29:30.2±8.1, 55°.51N×85°.09E, h0km, Error ellipse: s-maj=48.5km s-min=24.8km az=6.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**186**	*i*				10 38 30.0	
	baz=5.2,slow=334,SNR=4.7								
ZALV	**Zalesovo Beam**	**1.57**	**186**			Pg	Pn	10 29 58.7	-0.6
	0.2nm,0.3s,baz=5.6,slow=17,SNR=2.5								
ZALV						Lg	Lg	10 30 20.0	
	0.4nm,0.3s,baz=6.0,slow=31,SNR=5.9								
I34MN	**SONGINO INFRAS**	**15.27**	**111**	*i*				12 04 10.0	
	baz=311,slow=329,SNR=0.2								

DHMR 21 10:30:11.3±0.9, 12°.12N×44°.17E, h7km±182km, ML3.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.02**	**51**	*i* P			Pg	10 30 30.7	-0.3
ADEN				*i* S			Sb	10 30 44.9	-0.2
ADEN						AML	AML	10 30 52.9	
	comp=E,4μm,0.5s								
UDYN	**Al 'Udayn**	**1.84**	**354**	*i* P			Pn	10 30 43.9	+0.3
UDYN				*i* S			Sg	10 31 10.2	-0.4
UDYN						AML	AML	10 31 16.0	
	comp=E,1μm,0.5s								
DHBB	**Dhamar BB**	**2.44**	**5**	*i* S			Sb	10 31 27.4	+1.2

DHMR 21 10:34:35.6±1.5, 11°.96N×44°.14E, h15km±79km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.16**	**46**	*i* P			Pn	10 34 56.7	-0.5
ADEN				*i* S			Sg	10 35 13.3	+0.3
ADEN						AML	AML	10 35 23.4	
	comp=E,1μm,0.5s								
UDYN	**Al 'Udayn**	**2.00**	**355**	*i* P			Pn	10 35 09.7	+0.7
UDYN				*i* S			Sb	10 35 38.0	+1.4
UDYN						AML	AML	10 35 46.2	
	comp=E,487nm,0.5s								
DHBB	**Dhamar BB**	**2.60**	**5**	*i* P			Pb	10 35 21.1	-1.1
DHBB				*i* S			Sb	10 35 54.6	+0.5

KRSC 21 10:43:25.4±0.8, 54°.46N×161°.77E, h48km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**347**	*e*P			Pn	10 43 34.4	+1.4
MKZ				*e*S			Sn	10 43 39.3	+1.0
KZV	**Kizimen**	**1.08**	**308**	*e*P			Pn	10 43 45.0	+0.7
KZV				*e*S			Sn	10 43 58.0	-0.2
TUMD	**Tumrok D**	**1.09**	**314**	*e*P			Pn	10 43 44.8	+0.5
TUMD				*e*S			Sn	10 43 58.9	+0.6
TUMR	**Tumrok**	**1.25**	**312**	*e*P			Pn	10 43 47.7	+1.1
KII	**Karymskiy**	**1.43**	**254**	P			Pn	10 43 50.8	+1.8
KII				*e*S			Sn	10 44 08.5	+1.9
KMNR	**Kamenistaya**	**1.57**	**327**	*e*P			Pn	10 43 53.0	+2.1
KMNR				*e*S			Sn	10 44 10.8	+0.7
BZMR	**Bezymyannaya**	**1.65**	**334**	P			Pn	10 43 53.5	+1.4
ZLN	**Zelenaya**	**1.66**	**341**	*e*P			Pn	10 43 54.4	+2.3
BZWR	**Bezymyannyi-We**	**1.68**	**335**	*e*P			Pn	10 43 54.2	+1.7
KIRR	**Kirishev**	**1.71**	**332**	*e*P			Pn	10 43 54.9	+2.0
SPN	**Mys Shipunski**	**1.71**	**218**	P			Pn	10 43 54.4	+1.6
SPN				*e*S			Sn	10 44 13.4	-0.1
KPT	**Kopyto**	**1.75**	**330**	*e*P			Pn	10 43 55.8	+2.4
CIRR	**Tsirk**	**1.76**	**341**	*e*P			Pn	10 43 55.8	+2.2
KBTR	**Krutoberegovo**	**1.85**	**18**	*e*P			Pn	10 43 57.3	+2.6
KBTR				*e*S			Sn	10 44 20.1	+3.2
KBG	**Krutoberegovo**	**1.88**	**16**	*e*P			Pn	10 43 58.5	+3.5
KBG				*e*S			Sn	10 44 21.8	+4.3
KRSR	**Krestovskiy**	**1.89**	**339**	*e*P			Pn	10 43 57.8	+2.5
NLC	**Nalytchevo**	**1.93**	**229**	*e*P			Pn	10 43 57.7	+1.9
NLC				*e*S			Sn	10 44 20.7	+1.9
KOZ	**Kozyrevsk**	**1.94**	**327**	*e*P			Pn	10 43 58.1	+2.2
SDLR	**Sedlovina**	**2.08**	**236**	*e*P			Pn	10 44 00.8	+2.9
SDLR				*e*S			Sn	10 44 26.3	+3.7
KRER	**Koryakskii**	**2.13**	**238**	*e*P			Pn	10 44 02.6	+3.9
KRER				*e*S			Sn	10 44 27.6	+3.6
UGLR	**Uglovaya**	**2.15**	**236**	*e*P			Pn	10 44 02.0	+3.1
UGLR				*e*S			Sn	10 44 27.4	+3.1
KRX	**Arik**	**2.15**	**240**	*e*S			Sn	10 44 27.8	+3.4
AVH	**Avacha**	**2.16**	**238**	*e*P			Pn	10 44 02.4	+3.4
AVH				*e*S			Sn	10 44 28.5	+4.0
KOK	**Koryaka**	**2.19**	**239**	*e*P			Pn	10 44 03.5	+4.0
KOK				*e*S			Sn	10 44 28.8	+3.4
ESO	**Esso**	**2.29**	**311**	*e*P			Pn	10 44 02.3	+1.6
DALK	**Dalny**	**2.29**	**233**	*e*P			Pn	10 44 03.8	+3.1
DALK				*e*S			Sn	10 44 30.4	+2.7
PET	**Petropavlovsk**	**2.34**	**233**	*e*P			Pn	10 44 04.1	+2.7
PET				*e*S			Sn	10 44 31.7	+2.8
GNL	**Ganaly**	**2.38**	**253**	*e*P			Pn	10 44 04.8	+2.7
BKI	**Bering**	**2.54**	**71**	*e*P			Pn	10 44 06.5	+2.4
BKI				*e*S			Sn	10 44 35.4	+1.6
KRMR	**Karymshinskiy**	**2.71**	**234**	*e*P			Pn	10 44 10.4	+3.9
KRMR				*e*S			Sn	10 44 42.7	+4.7
RUS	**Russkaya**	**2.81**	**225**	*e*P			Pn	10 44 10.8	+3.0
RUS				*e*S			Sn	10 44 42.4	+1.9
ASAK	**Asacha**	**3.11**	**230**	*e*P			Pn	10 44 16.6	+4.5
APC	**Apacha**	**3.14**	**243**	*e*P			Pn	10 44 15.8	+3.4
APC				*e*S			Sn	10 44 51.9	+3.3

*ISCJB **21** 10:51:16.5±1.7, 33°.1S±0°.1×178°.1W±0°.3, h34km, mb3.6/2, Error ellipse: s-maj=39.0km s-min=10.4km az=18.6*
*IDC **21** 10:51:16.1±3.0, 32°.85S×178°.56W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/34, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=69.5km s-min=44.7km az=122.0*

ISC 21 10:51:17.3±2.7, 33°.1S±0°.2×178°.0W±0°.4, h34km, n14, σ1°.04/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.38**	**213**			**Pn**	**Pn**	**10 52 35.9**	**+0.7**
MXZ						SN	**Sn**	**10 53 37.1**	**+1.1**
PKGZ	**Pakihiroa**	**5.75**	**213**	*e*PN		**Pn**	**Pn**	**10 52 40.4**	**+0.1**
HAZ	**Te Kaha**	**5.79**	**215**	*e*PN		**Pn**	**Pn**	**10 52 41.5**	**+0.8**
HAZ						SN	**Sn**	**10 53 48.1**	**+2.3**
PUZ	**Puketiti**	**5.83**	**211**	*e*PN		**Pn**	**Pn**	**10 52 41.3**	**0.0**
PUZ						SN	**Sn**	**10 53 46.3**	**-0.6**
RUGZ	**Raukumara Rang**	**6.00**	**215**	PN		**Pn**	**Pn**	**10 52 44.4**	**+0.6**
TWGZ	**Tauwhareparae**	**6.03**	**212**	PN		**Pn**	**Pn**	**10 52 43.9**	**-0.3**
MWZ	**Matawai**	**6.37**	**214**	PN		**Pn**	**Pn**	**10 52 48.5**	**-0.2**
MWZ						SN	**Sn**	**10 53 59.3**	**-1.0**
URZ	**Urewera**	**6.51**	**216**	Pn		**Pn**	**Pn**	**10 52 51.6**	**+1.0**
	2.8nm,0.3s,baz=262,slow=3.4,SNR=30								
URZ						Sn	**Sn**	**10 54 01.7**	**-2.0**
	1.7nm,0.3s,baz=7.4,slow=22,SNR=6.2								
URZ	**Urewera**	**6.51**	**216**	PN		**Pn**	**Pn**	**10 52 49.5**	**-1.1**
RIGZ	**Rimuhau**	**6.57**	**210**	*e*PN		**Pn**	**Pn**	**10 52 52.0**	**+0.5**
SNGZ	**Shannon Statio**	**6.82**	**212**	PN		**Pn**	**Pn**	**10 52 53.8**	**-1.1**
ASAR	**Alice Springs**	**43.03**	**270**	P			**P**	**10 59 13.7**	**-0.3**
	0.4nm,0.5s,baz=109,slow=7.3,SNR=10								
WRA	**Warramunga Arr**	**44.26**	**275**	P			**P**	**10 59 23.8**	**0.0**
	1.0nm,0.4s,baz=114,slow=7.8,SNR=20								
FINES	**FINESS Array B**	**147.66**	**339**	PKPbc			**PKPab**	**11 10 59.9**	**+0.1**
	1.4nm,0.6s,baz=11,slow=1.9,SNR=7.3								

*CSEM **21** 10:57:49.5±0.2, 45°.22N×21°.59E, h2km, ML1.5, Error ellipse: s-maj=6.6km s-min=3.3km az=101.0*
*BUC **21** 10:57:49.4±0.5, 45°.25N×21°.61E, h3km±9km, MD2.3/3, Error ellipse: s-maj=8.2km s-min=3.1km az=92.0*

BEO 21 10:57:49.8±0.3, 45°.24N×21°.68E, h5km±5km, M1.5/7, 12C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.38**	**353**	*i* Pg			Pg	10 57 56.7	-0.5
BZS				*e*Sg			Sg	10 58 02.2	0.0
BZS	**Buzias**	**0.38**	**353**	⇑*i* P			Pg	10 57 56.8	-0.4
BZS				*i* S			Sg	10 58 02.0	-0.2
BZS	**Buzias**	**0.38**	**353**	⇑*i* P			Pg	10 57 56.8	-0.4
BZS	**Buzias**	**0.38**	**353**	S			Sg	10 58 02.0	-0.2
BZS	**Buzias**	**0.38**	**353**	⇑*i* P			Pg	10 57 56.8	-0.4
BZS				S			Sg	10 58 02.0	-0.2
MDVR	**Moldovita**	**0.46**	**177**	⇑*i* P			Pg	10 57 59.1	+0.5
MDVR				*i* S			Sb	10 58 06.1	-1.4
MDVR	**Moldovita**	**0.46**	**177**	⇑*i* P			Pg	10 57 59.1	+0.5
MDVR	**Moldovita**	**0.46**	**177**	S			Sb	10 58 06.1	-1.4
MDVR	**Moldovita**	**0.46**	**177**	⇑*i* P			Pg	10 57 59.1	+0.5
MDVR				S			Sb	10 58 06.1	-1.4
GZR	**Gura Zlata**	**0.79**	**78**	⇓*i* P			Pb	10 58 06.2	+0.2
GZR				*i* S			Sn	10 58 19.1	-0.7
GZR	**Gura Zlata**	**0.79**	**78**	⇓*i* P			Pb	10 58 06.2	+0.2
GZR	**Gura Zlata**	**0.79**	**78**	⇓*i* P			Pb	10 58 06.2	+0.2
GZR				S			Sn	10 58 19.1	-0.7
KUBS	**Kucevo**	**0.83**	**180**	*e*Pg			Pg	10 58 04.3	-1.4
KUBS				*e*Sg			Sg	10 58 15.8	-0.6
KUBS	**Kucevo**	**0.83**	**180**	*e*Pg			Pg	10 58 04.3	-1.4
SIRR	**Siria**	**1.03**	**359**	⇑*i* P			Pb	10 58 10.2	+0.1
SIRR	**Siria**	**1.03**	**359**	⇑*i* P			Pb	10 58 10.2	+0.1
SIRR	**Siria**	**1.03**	**359**	⇑*i* P			Pb	10 58 10.2	+0.1
SIRR				S			Sg	10 58 22.6	-0.3
TRUS	**Trudelj**	**1.36**	**222**	*e*Pg			Pn	10 58 15.0	-0.4
TRUS				*e*Sg			Sb	10 58 33.1	-0.3
TRUS	**Trudelj**	**1.36**	**222**	*e*Pg			Pn	10 58 15.0	-0.4
TRUS				*e*Sg			Sb	10 58 33.1	-0.3
ZAGS	**Zajecar**	**1.48**	**164**	*e*Pg			Pn	10 58 17.2	+0.2
ZAGS				*e*Sg			Sg	10 58 37.7	+0.3
ZAGS	**Zajecar**	**1.48**	**164**	*e*Pg			Pn	10 58 17.2	+0.2
ZAGS				*e*Sg			Sg	10 58 37.7	+0.3
LOT	**Lotru**	**1.49**	**81**	⇓*i* P			Pg	10 58 18.4	+0.1
LOT				*i* S			Sg	10 58 39.8	+2.2
LOT	**Lotru**	**1.49**	**81**	⇓*i* P			Pg	10 58 18.4	+0.1
LOT	**Lotru**	**1.49**	**81**	⇓*i* P			Pg	10 58 18.4	+0.1
LOT				S			Sg	10 58 39.8	+2.2
GRUS	**Gruza**	**1.52**	**207**	*e*Pg			Pb	10 58 18.4	0.0
GRUS	**Gruza**	**1.52**	**207**	*e*Pg			Pb	10 58 18.4	0.0
BOVS	**Bovan**	**1.60**	**179**	*e*Pg			Pn	10 58 18.3	-0.4
BOVS				*e*Sg			Sg	10 58 40.9	-0.4
BOVS	**Bovan**	**1.60**	**179**	*e*Pg			Pn	10 58 18.3	-0.4
BOVS				*e

WSAR	**Wadi Sarin**	**17.89**	**48**	P	**P**	**11 03 33.1 +0.5**
	comp=Z,0.1nm,0.3s,baz=254,slow=7.4,SNR=3.5					
ASF	**Jabal al Asfar**	**21.38**	**343**	P	**P**	**11 04 14.4 +3.6**
	comp=Z,3.8nm,1.0s,baz=338,slow=4.9,SNR=3.4					
BRTR	**Keskin Array B**	**29.36**	**343**	P	**P**	**11 05 28.9 +2.6**
	comp=Z,1.1nm,0.9s,baz=151,slow=8.1,SNR=5.2					
TORD	**Torodi Ar. Bea**	**41.45**	**277**	P	**P**	**11 07 10.3 0.0**
	comp=Z,0.4nm,0.9s,baz=104,slow=6.1,SNR=3.3					
GERES	**GERESS Array B**	**44.78**	**332**	P	**P**	**11 07 40.5 +3.6**
	comp=Z,0.7nm,0.8s,baz=198,slow=8.3,SNR=7.4					
MKAR	**Makanchi Array**	**47.43**	**35**	P	**P**	**11 07 57.0 -0.7**
	comp=Z,0.3nm,0.4s,baz=215,slow=8.8,SNR=2.8					
KURBB	**Kurchatov Arra**	**47.85**	**29**	P	**P**	**11 08 01.4 +0.5**
	comp=Z,0.4nm,0.2s,baz=231,slow=8.7,SNR=6.1					
ZALV	**Zalesovo Beam**	**52.95**	**29**	P	**P**	**11 08 40.9 +1.5**
	comp=Z,0.4nm,0.4s,baz=232,slow=7.1,SNR=3.6					
CMAR	**Chiang Mai Arr**	**53.15**	**76**	P	**P**	**11 08 38.5 -2.9**
	comp=Z,0.6nm,0.3s,baz=277,slow=7.9,SNR=3.5					

IDC 21 11:08:50.1±2.4, 11°.37N×44°.17E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/40, mbtmp3.6/3, Error ellipse: s-maj=69.1km s-min=19.7km az=179.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.31**	**277**	Pn	Pn	11 09 16.1	+0.4
	29nm,0.3s,baz=106,slow=2.0,SNR=6.0						
ATD				Sn	Sn	11 09 33.7	-0.2
	70nm,0.3s,baz=84,slow=23,SNR=10						
AKASG	**Malin Array Be**	**41.09**	**346**	P	P	11 16 35.7	+0.1
	0.3nm,0.3s,baz=142,slow=11,SNR=2.3						
CMAR	**Chiang Mai Arr**	**53.23**	**75**	P	P	11 18 10.9	0.0
	0.5nm,0.3s,baz=274,slow=8.7,SNR=5.4						
SONM	**Songino Array**	**63.09**	**42**	P	P	11 19 19.4	-0.3
	0.2nm,0.4s,baz=261,slow=9.5,SNR=3.2						

MEX 21 11:15:11.6±0.3, 16°.40N×91°.74W, h50km±6km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.40**	**253**	*e*P	Pn	11 15 20.6	-1.4
CCIG				*i* S	Sn	11 15 27.5	-1.7
PCIG		**1.58**	**244**	*e*P	Pn	11 15 35.7	-1.5
PCIG				*i* S	Sn	11 15 54.5	-2.0
CMIG	**Matias Romero**	**3.09**	**283**	*e*P	Pn	11 15 56.8	-1.2

*ISCJB **21** 11:22:37.8±0.9, 11°.84N±0°.07×44°.17E±0°.07, h4km, mb3.7/6, Error ellipse: s-maj=11.7km s-min=8.0km az=41.2*
*IDC **21** 11:22:39.0±1.5, 11°.81N×44°.08E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/30, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=45.4km s-min=16.9km az=160.0*
ISC 21 11:22:39.6±1.1, 11°.88N±0°.10×44°.07E±0°.10, h4km, n10, σ1.77/12, mb3.8/6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.24**	**254**	Pn	**Pg**	**11 23 03.6**	**+0.1**
	47nm,0.3s,baz=48,slow=9.6,SNR=20						
ATD				Sn	**Sn**	**11 23 21.3**	**+0.2**
	215nm,0.3s,baz=235,slow=22,SNR=57						
UDYN	**Al 'Udayn**	**2.08**	**357**	*i* P	**Pn**	**11 23 12.3**	**-3.2**
UDYN				*e*		11 23 12.4	
	baz=195,slow=11						
UDYN				*i* S	**Sn**	**11 23 41.5**	**-0.4**
UDYN				AML	AML	11 23 46.6	
	comp=Z,3μm,0.5s						
HAJJ	**Hajjah**	**3.83**	**353**	*i* P	**Pn**	**11 23 37.8**	**-1.8**
HAJJ				*i* S	**Sn**	**11 24 28.2**	**+3.1**
HAJJ				AML	AML	11 24 46.0	
	comp=Z,2μm,0.7s						
KMBO	**Kilima Mbogo**	**14.59**	**208**	LR	LR	11 31 40.3	
	comp=Z,93nm,19.7s,baz=86,slow=37						
BRTR	**Keskin Array B**	**29.23**	**343**	P	**P**	**11 28 44.8**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=153,slow=11,SNR=4.1						
BVAR	**Borovoye Array**	**46.14**	**22**	P	**P**	**11 31 04.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=201,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**47.40**	**35**	P	**P**	**11 31 15.2**	**0.0**
	comp=Z,0.3nm,0.2s,baz=220,slow=5.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**52.90**	**29**	P	**P**	**11 31 56.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=224,slow=8.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**53.21**	**76**	P	**P**	**11 32 00.1**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=270,slow=8.8,SNR=10						
SONM	**Songino Array**	**62.78**	**42**	P	**P**	**11 33 06.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=243,slow=6.5,SNR=4.7						

JMA 21 11:32:10.3±0.1, 36°.78N×141°.02E, h49km±1km, M1.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**331**	P	Pn	11 32 19.7	-0.4
ONAJ				S	Sn	11 32 26.5	-0.5
JHO	**Hitachi**	**0.40**	**245**	P	Pn	11 32 20.2	-0.1
JHO				S	Sn	11 32 27.1	-0.4
JFK	**Kawauchi**	**0.60**	**349**	P	Pn	11 32 22.3	-0.4
JFK				S	Sn	11 32 30.9	-0.8
JYT	**Yasato**	**0.86**	**231**	P	Pn	11 32 26.0	-0.2
JYT				*e*S	Sn	11 32 37.1	-0.6
JFT	**Otama**	**0.92**	**324**	P	Pn	11 32 27.6	+0.7
JFT				S	Sn	11 32 39.7	+0.6
JMM	**Marumori**	**1.10**	**351**	P	Pn	11 32 29.3	0.0
JMM				S	Sn	11 32 43.3	-0.1
JAG	**Ashikaga**	**1.31**	**255**	P	Pn	11 32 32.2	0.0

*IDC **21** 11:47:50.1±8.1, 33°.86N×136°.92E, h170km±154km, mb3.0/2, mb1 3.1/3, mb1mx2.8/42, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=184.7km s-min=135.3km az=137.0*
*ISCJB **21** 11:47:53.5±0.6, 35°.0N±0°.1×137°.3E±0°.2, h300km, mb3.0/2, Error ellipse: s-maj=22.5km s-min=11.5km az=32.0*
*JMA **21** 11:47:53.6±0.3, 34°.99N×137°.35E, h301km±3km, M3.0*
ISC 21 11:47:54.0±1.1, 35°.1N±0°.1×137°.3E±0°.1, h300km, n12, σ0.65/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.82**	**216**	P	**Pn**	**11 48 33.4**	**-0.3**
JKG	**Kaga**	**1.45**	**328**	P	**Pn**	**11 48 36.7**	**-0.1**
JOD2	**Odawara 2**	**1.49**	**81**	P	**Pn**	**11 48 37.2**	**+0.1**
JWT	**Wachi**	**1.56**	**279**	P	**Pn**	**11 48 37.7**	**+0.1**
JRY	**Ryogami san**	**1.63**	**53**	P	**Pn**	**11 48 38.5**	**+0.5**
JWY	**Kouya**	**1.63**	**240**	P	**Pn**	**11 48 38.0**	**-0.2**
MJAR	**Matsushiro Arr**	**1.66**	**26**	P	**Pn**	**11 48 38.7**	**+0.5**
	1.2nm,0.3s,baz=204,slow=8.6,SNR=12						
MJAR				S	**S**	**11 49 13.0**	**-0.4**
	0.3nm,0.3s,baz=228,slow=38,SNR=7.1						
MAT	**Matsushiro**	**1.66**	**26**	P	**Pn**	**11 48 38.6**	**+0.4**
MAT				S	**S**	**11 49 12.8**	**-0.6**
MAT	**Matsushiro**	**1.66**	**26**	P	**Pn**	**11 48 38.8**	**+0.6**
MAT				*e*S	**S**	**11 49 12.8**	**-0.6**
JAG	**Ashikaga**	**2.23**	**52**	P	**Pn**	**11 48 41.9**	**-0.7**
WRA	**Warramunga Arr**	**54.77**	**183**	P	**P**	**11 56 52.6**	**-0.7**
	0.5nm,0.3s,baz=0.6,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**58.49**	**184**	P	**P**	**11 57 20.8**	**+1.4**
	0.2nm,0.6s,baz=14,slow=12,SNR=5.4						

IDC 21 11:53:33.0±9.2, 55°.56N×85°.18E, h0km, Error ellipse: s-maj=51.8km s-min=28.6km az=7.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**187**	*i*		12 02 05.0	
	baz=5.6,slow=330,SNR=6.8						
ZALV	**Zalesovo Beam**	**1.63**	**187**	Pg	Pn	11 54 02.4	-0.5
	0.4nm,0.3s,baz=6.6,slow=15,SNR=5.0						
ZALV				Lg	Lg	11 54 24.9	
	0.8nm,0.3s,baz=11,slow=31,SNR=9.1						
I34MN	**SONGINO INFRAS**	**15.24**	**112**	*i*		13 34 20.0	
	baz=309,slow=325,SNR=0.6						

IDC 21 12:01:31.1±50.0, 22°.50S×173°.38W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/28, mbtmp3.6/3, Error ellipse: s-maj=951.3km s-min=187.0km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.89**	**247**	P	P	12 09 13.8	-1.3
	1.5nm,0.8s,baz=63,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**48.28**	**258**	P	P	12 10 14.4	0.0
	1.0nm,1.2s,baz=89,slow=6.3,SNR=8.1						
WRA	**Warramunga Arr**	**48.61**	**263**	P	P	12 10 17.6	+0.6
	0.2nm,0.4s,baz=101,slow=8.2,SNR=6.5						

MEX 21 12:08:57.6±0.7, 27°.36N×111°.29W, h12km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.66**	**34**	*e*P	Pg	12 09 08.8	-1.6
GUYB				*e*S	Sg	12 09 17.1	-1.9
SRIG	**Santa Rosalia**	**0.85**	**268**	*e*P	Pg	12 09 11.3	-2.6
SRIG				*i* S	Sg	12 09 22.5	-2.6
HSIG		**1.69**	**10**	*e*P	Pn	12 09 25.7	-1.2
HSIG				*i* S	Sn	12 09 45.0	-3.5

IDC 21 12:11:12.5±0.7, 13°.90N×144°.86E, h156km±4km, mb3.1/4, mb1 3.4/4, mb1mx3.1/64, mbtmp3.6/4, Error ellipse: s-maj=46.1km s-min=17.8km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.31**	**178**	P	Pn	12 11 35.3	+1.4
	146nm,0.3s,baz=327,slow=1.7,SNR=74						
GUMO				S	Sn	12 11 51.3	+1.2
	152nm,0.3s,baz=128,slow=23,SNR=37						
WRA	**Warramunga Arr**	**35.18**	**197**	P	P	12 17 51.5	-0.2
	1.8nm,0.8s,baz=20,slow=9.3,SNR=20						
ASAR	**Alice Springs**	**38.84**	**196**	P	P	12 18 22.5	-0.1
	0.3nm,0.4s,baz=16,slow=6.8,SNR=19						
MKAR	**Makanchi Array**	**61.26**	**316**	P	P	12 21 11.1	-0.2
	0.2nm,0.5s,baz=91,slow=8.9,SNR=2.7						
ILAR	**Eielson Array**	**68.30**	**25**	P	P	12 21 56.1	-0.3
	0.4nm,0.8s,baz=250,slow=5.9,SNR=3.6						

MAN 21 12:13:21, 9°.50N×122°.12E, h15km, mb4.2, ML3.0, MS2.8, 4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.11**	**98**	⇓*i*P	Pb	12 13 41.9	-0.2
SNPH				*i* S	Sg	12 13 57.2	0.0
GUIM	**Jordan**	**1.21**	**22**	*e*P	Pn	12 13 41.8	-1.6
GUIM				*e*S	Sb	12 13 55.9	-3.3
JAP	**San Jose, Anti**	**1.25**	**352**	⇓*e*P	Pn	12 13 43.2	-0.8
DCPH	**Dipolog City**	**1.52**	**127**	⇓*e*P	Pb	12 13 48.7	-0.2
DCPH				*e*S	Sg	12 14 10.0	-0.1
LLP	**Lapu-Lapu**	**2.00**	**66**	*e*P	Pb	12 13 57.4	+0.4
LLP				*e*S	Sb	12 14 20.9	-0.8
RCP	**Roxas**	**2.14**	**17**	⇓*e*P	Pb	12 13 58.1	-1.4
RCP				*e*S	Sn	12 14 24.0	+1.4

*NIED **21** 12:14:00, 36°.80N×140°.60E, h5km, Mw3.6 Best double couple: M0=2.72000×10^14 NP1:φs=2.00000°, δ17.00000°, λ-122.00000°. NP2:φs=215.00000°, δ76.00000°, λ-81.00000°.*
JMA 21 12:14:29.3, 36°.85N×140°.58E, h9km±1km, M3.6, 6C Broadband fault plane solution: P waves. NP1: φs=222.00000°, δ53.00000°, λ-92.00000°. **NP2:** φs=46.00000°, δ37.00000°, λ-87.00000°. **Principal axes:** T Plg=8.0000°, Azm=314.0000°; N Plg=2.0000°, Azm=224.0000°; P Plg=82.0000°, Azm=120.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.24**	**182**	⇑P	Pg	12 14 34.0	-0.1
JHO				S	Sg	12 14 37.3	-0.1
ONAJ	**Iwakimizuishiy**	**0.31**	**35**	⇑P	Pg	12 14 35.4	0.0
JSB	**Shiboa**	**0.54**	**283**	⇑P	Pb	12 14 40.5	-0.5
JSB				S	Sb	12 14 48.1	-0.8
JFK	**Kawauchi**	**0.57**	**24**	⇑P	Pg	12 14 40.0	-0.3
JFK				S	Sg	12 14 47.7	-0.1
JFT	**Otama**	**0.69**	**344**	⇑P	Pg	12 14 42.7	0.0
JFT				S	Sg	12 14 51.9	+0.1
JYT	**Yasato**	**0.69**	**207**	⇑P	Pg	12 14 42.3	-0.4
JYT				S	Sg	12 14 51.5	-0.3
MAT	**Matsushiro**	**1.93**	**262**	P	Pn	12 15 02.9	+0.6
MAT				S	Sb	12 15 28.6	-0.3

IDC 21 12:15:07.7±1.2, 21°.03N×122°.31E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/65, mbtmp3.7/7, MS2.3/2, Ms1 2.5/2, ms1mx2.3/41 Error ellipse: s-maj=52.7km s-min=17.8km az=61.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**7.01**	**191**	LR	LR	12 19 26.1	
	comp=Z,16nm,19.9s,baz=50,slow=37						
CMAR	**Chiang Mai Arr**	**22.14**	**267**	P	P	12 20 05.4	+0.2
	0.5nm,0.3s,baz=65,slow=8.2,SNR=4.7						
CMAR				LR	LR	12 27 52.2	
	comp=Z,13nm,20.2s,baz=105,slow=34						
SONM	**Songino Array**	**29.66**	**338**	P	P	12 21 15.6	+0.4
	0.3nm,0.5s,baz=153,slow=7.7,SNR=2.0						
MKAR	**Makanchi Array**	**41.34**	**318**	P	P	12 22 55.5	+0.1
	0.5nm,0.6s,baz=110,slow=11,SNR=5.3						
H11N1	**WAKE ISLAND Hy 41.71**	**84**		T	T	13 07 56.6	
	baz=280,slow=75,SNR=40						
H11N2	**WAKE ISLAND Hy 41.72**	**84**		T	T	13 08 03.2	
	baz=280,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy 41.73**	**84**		T	T	13 08 01.6	
	baz=280,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy 41.74**	**85**		T	T	13 07 58.8	
	baz=281,slow=75,SNR=219						
H11S1	**WAKE ISLAND Hy 41.75**	**85**		T	T	13 07 59.8	
	baz=281,slow=75,SNR=220						
H11S2	**WAKE ISLAND Hy 41.76**	**85**		T	T	13 08 00.2	
	baz=281,slow=75,SNR=169						
WRA	**Warramunga Arr**	**42.39**	**163**	P	P	12 23 03.4	-0.7
	0.6nm,0.6s,baz=344,slow=9.2,SNR=7.2						
KURBB	**Kurchatov Arra**	**45.20**	**322**	P	P	12 23 25.5	-0.9
	0.6nm,0.3s,baz=115,slow=7.6,SNR=5.8						
ASAR	**Alice Springs**	**45.84**	**165**	P	P	12 23 31.9	+0.1
	0.3nm,0.4s,baz=346,slow=8.1,SNR=9.3						
STKA	**Stephens Creek**	**55.76**	**160**	P	P	12 24 46.8	+0.3
	1.1nm,0.4s,baz=351,slow=9.1,SNR=4.1						

*ATH **21** 12:26:32.0, 41°.64N×24°.59E, h19km±1km, ML2.9/18, Error ellipse: s-maj=2.0km s-min=0.8km az=185.0*
*SOF **21** 12:26:31.9, 41°.66N×24°.60E, h7km, MD2.8*
*THE **21** 12:26:32.5, 41°.65N×24°.59E, h2km±1km, ML3.1/8, Error ellipse: s-maj=1.4km s-min=0.4km az=199.0*
*CSEM **21** 12:26:32.7±0.1, 41°.64N×24°.55E, h2km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.6km az=44.0*
*BEO **21** 12:26:32.1±0.7, 41°.62N×24°.60E, h0km±3km, M3.1/1*
*ISK **21** 12:26:39.4, 41°.11N×24°.74E, h5km, ML2.9*
*DDA **21** 12:26:46.6, 41°.05N×25°.07E, h10km, Ml2.8*
ISC 21 12:26:32.3±1.0, 41°.64N±0°.02×24°.59E±0°.01, h4km±9km, n151, σ0.89/219, 16C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.11**	**65**	*i* P	**Pg**	**12 26 34.7**	**+0.2**
PLD	**Plovdiv**	**0.47**	**11**	⇓*i*Pg	**Pg**	**12 26 41.6**	**+0.2**
PLD	**Plovdiv**	**0.47**	**11**	*i* P	**Pg**	**12 26 41.7**	**+0.3**
PLD	**Plovdiv**	**0.47**	**11**	⇓*i*Pg	**Pg**	**12 26 41.6**	**+0.2**
NVR	**Nevrokopi**	**0.62**	**242**	P	**Pg**	**12 26 44.1**	**-0.1**
NVR				S	**Sg**	**12 26 52.9**	**+0.7**
NVR	**Nevrokopi**	**0.62**	**242**	P	**Pg**	**12 26 44.2**	**0.0**
NVR				S	**Sg**	**12 26 53.0**	**+0.7**
NVR				AML	AML	12 26 57.3	
	comp=N,1569μm,0.2s						
NVR				AML	AML	12 27 02.5	
	comp=E,1118μm,0.1s						
NVR	**Nevrokopi**	**0.62**	**242**	P	**Pg**	**12 26 44.2**	**0.0**
NVR				S	**Sg**	**12 26 52.9**	**+0.7**
MMB	**Musomiste**	**0.65**	**266**	*i* P	**Pg**	**12 26 44.6**	**-0.1**
KAVA	**Kavala**	**0.65**	**185**	P	**Pg**	**12 26 44.8**	**+0.1**
KAVA				S	**Sb**	**12 26 54.5**	**-1.1**
KAVA	**Kavala**	**0.65**	**185**	P	**Pg**	**12 26 45.2**	**+0.4**
KAVA				S	**Sg**	**12 26 54.2**	**+1.1**
KAVA				AML	AML	12 26 56.4	
	comp=E,1102μm,0.2s						
KAVA				AML	AML	12 27 00.1	
	comp=N,1464μm,0.3s						
KAVA	**Kavala**	**0.65**	**185**	P	**Pg**	**12 26 44.8**	**+0.1**
KAVA				S	**Sg**	**12 26 54.2**	**+1.1**
DIM	**Dimitrovgrad**	**0.82**	**60**	*i* P	**Pg**	**12 26 48.1**	**+0.2**
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**	**12 26 48.8**	**-0.2**
RDO				S	**Sb**	**12 27 01.0**	**-1.0**
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**	**12 26 49.1**	**+0.1**
RDO				S	**Sg**	**12 26 59.8**	**-0.4**
RDO				AML	AML	12 27 05.9	
	comp=E,3106μm,0.2s						
RDO				AML	AML	12 27 06.3	
	comp=N,2682μm,0.2s						
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**	**12 26 49.1**	**+0.1**
RDO				S	**Sb**	**12 27 01.0**	**-1.0**
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**12 26 50.3**	**+0.5**
SRS				S	**Sb**	**12 27 03.2**	**-0.1**
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**12 26 49.9**	**+0.1**
SRS				S	**Sg**	**12 27 01.3**	**-0.4**
SRS				AML	AML	12 27 07.8	
	comp=N,1990μm,0.3s						
SRS				AML	AML	12 27 08.3	
	comp=E,2990μm,0.4s						
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**12 26 49.9**	**+0.1**
SRS				S	**Sg**	**12 27 01.3**	**-0.4**
KKB	**Krupnik**	**1.15**	**282**	*i* P	**Pg**	**12 26 53.2**	**-1.1**
SOH	**Sokhos**	**1.24**	**229**	P	**Pg**	**12 26 55.8**	**-0.3**
SOH				S	**Sb**	**12 27 13.0**	**+0.3**
SOH	**Sokhos**	**1.24**	**229**	P	**Pg**	**12 26 55.9**	**-0.1**
SOH				S	**Sg**	**12 27 12.3**	**+0.2**
SOH				AML	AML	12 27 16.2	
	comp=E,2705μm,0.5s						
SOH				AML	AML	12 27 17.3	
	comp=N,4006μm,0.4s						
SOH	**Sokhos**	**1.24**	**229**	P	**Pg**	**12 26 55.9**	**-0.1**
SOH				S	**Sg**	**12 27 12.3**	**+0.2**
ALN	**Alexandroupoli**	**1.33**	**124**	*e*PG	**Pg**	**12 26 59.4**	**+1.7**
ALN				*e*SG	**Sn**	**12 27 15.6**	**-0.1**
ALN	**Alexandroupoli**	**1.33**	**124**	P	**Pn**	**12 26 57.4**	**-0.2**
ALN				S	**Sb**	**12 27 15.1**	**0.0**
ALN	**Alexandroupoli**	**1.33**	**124**	P	**Pn**	**12 26 57.6**	**0.0**
ALN				S	**Sg**	**12 27 14.6**	**-0.3**
ALN				AML	AML	12 27 19.5	
	comp=N,525μm,0.4s						
ALN				AML	AML	12 27 23.0	
	comp=E,679μm,0.5s						
ALN	**Alexandroupoli**	**1.33**	**124**	P	**Pn**	**12 26 57.4**	**-0.2**
ALN	**Alexandroupoli**	**1.33**	**124**	*e*Pg	**Pg**	**12 26 59.4**	**+1.7**
ALN				S	**Sg**	**12 27 14.6**	**-0.3**
ALN				*e*Sg	**Sn**	**12 27 15.6**	**-0.1**
KNT	**Kendrikon**	**1.36**	**250**	P	**Pn**	**12 26 58.0**	**-0.1**
KNT	**Kendrikon**	**1.36**	**250**	P	**Pn**	**12 26 58.2**	**+0.1**
KNT				S	**Sb**	**12 27 14.5**	**-1.6**
KNT				AML	AML	12 27 19.1	
	comp=N,1733μm,0.3s						
KNT				AML	AML	12 27 19.3	
	comp=E,1875μm,0.4s						
KNT	**Kendrikon**	**1.36**	**250**	P	**Pn**	**12 26 58.0**	**-0.1**
KNT				S	**Sb**	**12 27 14.5**	**-1.6**
SMTH	**Samothraki Isl**	**1.37**	**148**	P	**Pn**	**12 26 58.0**	**-0.2**
SMTH				S	**Sn**	**12 27 18.4**	**+1.5**
SMTH	**Samothraki Isl**	**1.37**	**148**	P	**Pg**	**12 26 59.3**	**+0.8**
SMTH				S	**Sn**	**12 27 16.7**	**-0.2**
SMTH				AML	AML	12 27 19.1	
	comp=N,918μm,0.5s						
SMTH				AML	AML	12 27 20.7	
	comp=E,594μm,0.4s						
SMTH	**Samothraki Isl**	**1.37**	**148**	P	**Pn**	**12 26 58.0**	**-0.2**
SMTH				S	**Sn**	**12 27 16.7**	**-0.2**
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**12 26 57.9**	**-0.5**
OUR				S	**Sn**	**12 27 18.1**	**+0.9**
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**12 26 57.6**	**-0.8**
OUR				S	**Sn**	**12 27 18.8**	**+1.7**
OUR				AML	AML	12 27 20.3	
	comp=E,1589μm,0.4s						
OUR				AML	AML	12 27 21.5	
	comp=N,969μm,0.3s						
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**12 26 57.9**	**-0.5**
OUR				S	**Sn**	**12 27 18.1**	**+0.9**
VTS	**Vitosha**	**1.40**	**313**	P	**Pn**	**12 26 58.0**	**-0.8**
VTS	**Vitosha**	**1.40**	**313**	*e*Pg	**Pn**	**12 26 57.9**	**-0.8**
VTS				*e*Sg	**Sn**	**12 27 18.1**	**+0.3**
VTS	**Vitosha**	**1.40**	**313**	⇑*i*P	**Pn**	**12 26 58.0**	**-0.8**
VTS				S	**Sn**	**12 27 19.1**	**+1.3**
VTS	**Vitosha**	**1.40**	**313**	*i* P	**Pn**	**12 26 58.0**	**-0.8**
VTS	**Vitosha**	**1.40**	**313**	P	**Pn**	**12 26 58.0**	**-0.8**
VTS				*e*Sg	**Sn**	**12 27 18.1**	**+0.3**
ENEZ	**Enez**	**1.49**	**127**	*e*PN	**Pg**	**12 27 01.8**	**+1.0**
ENEZ				*e*SN	**Sn**	**12 27 19.2**	**-0.5**
ENEZ	**Enez**	**1.49**	**127**	P	**Pn**	**12 27 00.1**	**+0.3**
ENEZ				S	**Sg**	**12 27 20.6**	**+0.5**
ENEZ	**Enez**	**1.49**	**127**	P	**Pn**	**12 27 00.1**	**+0.3**
ENEZ	**Enez**	**1.49**	**127**	*e*Pn	**Pg**	**12 27 01.8**	**+1.0**
ENEZ				*e*Sn	**Sn**	**12 27 19.2**	**-0.5**
ENEZ				S	**Sg**	**12 27 20.6**	**+0.5**
HORT	**Hortiatis**	**1.53**	**228**	P	**Pn**	**12 27 00.7**	**+0.2**
HORT	**Hortiatis**	**1.53**	**228**	P	**Pn**	**12 27 00.8**	**+0.2**
HORT				S	**Sg**	**12 27 21.7**	**+0.1**
HORT	**Hortiatis**	**1.53**	**228**	P	**Pn**	**12 27 00.7**	**+0.2**
HORT				S	**Sg**	**12 27 21.7**	**+0.1**
PLG	**Polygyros**	**1.53**	**215**	P	**Pn**	**12 27 00.9**	**+0.4**
PLG	**Polygyros**	**1.53**	**215**	P	**Pb**	**12 27 01.2**	**-0.1**
PLG				S	**Sg**	**12 27 21.7**	**+0.1**
PLG				AML	AML	12 27 24.4	
	comp=N,1019μm,0.7s						
PLG				AML	AML	12 27 25.1	
	comp=E,735μm,0.3s						
PLG	**Polygyros**	**1.53**	**215**	P	**Pn**	**12 27 00.9**	**+0.4**
PLG				S	**Sg**	**12 27 21.7**	**+0.1**
VAY	**Valandovo**	**1.55**	**259**	*e*Pn	**Pn**	**12 27 01.2**	**+0.5**
**VAY

comp=N,198μm,0.6s
PAIG Paliouri 1.85 202 P **Pn 12 27 04.2 -0.6**
PAIG S **Sn 12 27 27.5 -1.1**
GELI Tayfur-Gelibol 1.89 130 *e*PN **Pg 12 27 08.3 -0.2**
GELI Tayfur-Gelibol 1.89 130 *e*Pn **Pg 12 27 08.3 -0.2**
LPK Lapseki 2.08 127 *e*PN **Pg 12 27 11.5 -0.6**
LPK Lapseki 2.08 127 *e*Pn **Pg 12 27 11.5 -0.6**
BOZC Bozcaada 2.12 148 *e*PN **Pb 12 27 11.1 -0.1**
BOZC Bozcaada 2.12 148 *i* P **Pn 12 27 07.3 -1.2**
BOZC *i* S **Sn 12 27 33.7 -1.5**
BOZC Bozcaada 2.12 148 *e*Pn **Pb 12 27 11.1 -0.1**
SART Tekirdag 2.18 115 *i* P **Pb 12 27 11.1 -1.2**
SART *i* S **Sg 12 27 41.5 -0.7**
SART Tekirdag 2.18 115 P **Pb 12 27 11.1 -1.2**
SART S **Sg 12 27 41.5 -0.7**
ZAPS Zavoj 2.18 319 *e*Pn **Pn 12 27 10.4 +1.0**
ZAPS *e*Sg **Sg 12 27 43.0 +0.7**
LIT Litokhoron 2.21 227 P **Pb 12 27 12.8 -0.1**
LIT AML AML 12 27 52.3
comp=N,96μm,0.3s
LIT AML AML 12 27 53.5
comp=E,86μm,0.6s
LIT Litokhoron 2.21 227 P **Pb 12 27 12.8 -0.1**
BARS Barje 2.37 301 *e*Pn **Pn 12 27 12.1 +0.1**
BARS *e*Sg **Sg 12 27 47.9 -0.5**
BARS Barje 2.37 301 *e*Pn **Pn 12 27 12.1 +0.1**
BARS *e*Sg **Sg 12 27 47.9 -0.5**
KRBG Karabiga-Canak 2.40 120 *e*PN **Pb 12 27 16.6 +0.5**
KRBG Karabiga-Canak 2.40 120 *e*Pn **Pb 12 27 16.6 +0.5**
BAYC CANAKKALE_Bayr 2.41 141 *i* P **Pn 12 27 12.5 -0.1**
BAYC *i* S **Sn 12 27 42.0 -0.6**
BAYC CANAKKALE_Bayr 2.41 141 P **Pn 12 27 12.5 -0.1**
BAYC S **Sn 12 27 42.0 -0.6**
MRMT Marmara Adasi 2.50 114 *e*PN **Pb 12 27 18.6 +0.8**
MRMT Marmara Adasi 2.50 114 *e*Pn **Pb 12 27 18.6 +0.8**
XOR Xorichti 2.51 206 P **Pn 12 27 13.8 -0.1**
XOR Xorichti 2.51 206 P **Pn 12 27 13.5 -0.5**
XOR AML AML 12 27 45.5
comp=N,132μm,0.3s
XOR AML AML 12 27 54.6
comp=E,87μm,0.6s
XOR Xorichti 2.51 206 P **Pn 12 27 13.8 -0.1**
NEO Neokhori 2.56 204 P **Pn 12 27 13.3 -1.2**
NEO AML AML 12 27 57.7
comp=E,162μm,0.4s
NEO AML AML 12 27 58.0
comp=N,248μm,0.6s
NEO Neokhori 2.56 204 P **Pn 12 27 13.3 -1.2**
SIGR SIGRI 2.61 158 P **Pn 12 27 14.4 -0.9**
SIGR AML AML 12 27 56.6
comp=E,152μm,0.6s
SIGR AML AML 12 27 57.3
comp=N,170μm,0.7s
SIGR SIGRI 2.61 158 P **Pn 12 27 14.4 -0.9**
SBT3 Marmara-Eregli 2.66 105 *e*PN **Pg 12 27 22.3 -1.1**
ZAGS Zajecar 2.78 322 *e*Pn **Pn 12 27 19.2 +1.6**
ZAGS *e*Sg **Sg 12 28 00.6 -0.9**
ZAGS Zajecar 2.78 322 *e*Pn **Pn 12 27 19.2 +1.6**
ZAGS *e*Sg **Sg 12 28 00.6 -0.9**
CTYL Yalikoy Yolu 2.78 92 *e*PN **Pg 12 27 26.2 +0.6**
BOVS Bovan 2.91 314 *e*Pn **Pn 12 27 19.8 +0.4**
BOVS *e*Sg **Sg 12 28 06.3 +0.4**
BOVS Bovan 2.91 314 *e*Pn **Pn 12 27 19.8 +0.4**
BOVS *e*Sg **Sg 12 28 06.3 +0.4**
BOLS Boljevac 2.92 319 *e*Pn **Pn 12 27 18.3 -1.3**
BOLS Boljevac 2.92 319 *e*Pn **Pn 12 27 18.3 -1.3**
KPRO Kipourio 2.97 237 P **Pn 12 27 21.4 +1.1**
KPRO Kipourio 2.97 237 P **Pn 12 27 21.4 +1.1**
SELS Selova 3.01 303 *e*Pn **Pn 12 27 20.2 -0.7**
SELS *e*Sg **Sg 12 28 07.9 -1.2**
SELS Selova 3.01 303 *e*Pn **Pn 12 27 20.2 -0.7**
SELS *e*Sg **Sg 12 28 07.9 -1.2**
SBT2 Guzelce-Avcila 3.06 103 *e*PN **Pb 12 27 28.2 +1.0**
AGG Agios Georgios 3.13 214 P **Pn 12 27 23.9 +1.4**
AGG Agios Georgios 3.13 214 P **Pn 12 27 24.0 +1.4**
KLYT Kilyos 3.37 95 *e*PN **Pb 12 27 33.9 +1.3**
DJES Djerdap 3.38 334 *e*Pn **Pn 12 27 27.8 +1.9**
SBT5 Esenkoy-Cinarc 3.40 106 *e*PN **Pb 12 27 32.4 -0.6**
ARMT Armutlu 3.40 107 *e*PN **Pb 12 27 32.4 -0.8**
ISK Istanbul-Kandi 3.42 98 *e*PN **Pb 12 27 34.0 +0.6**
KAVV Kandilli-Istan 3.42 98 *e*PN **Pb 12 27 34.0 +0.6**
CHOS Chios island 3.44 160 P **Pn 12 27 26.7 -0.1**
CHOS Chios island 3.44 160 P **Pn 12 27 26.7 -0.1**
KUBS Kucevo 3.50 323 *e*Pn **Pn 12 27 26.7 -0.8**
KUBS *e*Sg **Sb 12 28 21.3 +3.7**
KUBS Kucevo 3.50 323 *e*Pn **Pn 12 27 26.7 -0.8**
GRUS Gruza 3.63 310 *e*Pn **Pn 12 27 29.0 -0.3**
GRUS *e*Sn **Sn 12 28 13.5 +0.9**
GRUS Gruza 3.63 310 *e*Pn **Pn 12 27 29.0 -0.3**
GRUS *e*Sn **Sn 12 28 13.5 +0.9**
ARR Arges 3.72 0 ‖ *i*P **Pb 12 27 36.1 -2.6**
ISR Istrita 3.76 22 ⇑ *i*P **Pn 12 27 33.1 +2.0**
ISR Istrita 3.76 22 ⇑ *i*P **Pn 12 27 33.1 +2.0**
MDVR Moldovita 3.78 327 ⇑ *i*P **Pn 12 27 31.0 -0.4**
MDVR Moldovita 3.78 327 ⇑ *i*P **Pn 12 27 31.0 -0.4**
IVAS Ivanjica 3.80 302 *e*Pn **Pn 12 27 33.1 +1.4**
IVAS Ivanjica 3.80 302 *e*Pn **Pn 12 27 33.1 +1.4**
VOIR 3.81 5 ⇑ *i*P **Pn 12 27 32.5 +0.7**
VOIR 3.81 5 ⇑ *i*P **Pn 12 27 32.5 +0.7**
TLB Topalu 3.88 40 ‖ *i*P **Pb 12 27 39.4 -1.9**
MLR Muntele Rosu 3.97 14 ⇑ *i*P **Pn 12 27 36.0 +1.9**
MLR Muntele Rosu 3.97 14 ⇑ *i*P **Pn 12 27 36.0 +1.9**
TIRR Tirgusor 3.97 44 ⇑ *i*P **Pb 12 27 40.2 -2.6**
DIVS Divibare 4.17 308 *e*Pn **Pn 12 27 36.6 -0.3**
DIVS Divibare 4.17 308 *e*Pn **Pn 12 27 36.6 -0.3**
PLOR Plostina 4.46 19 ⇑ *i*P **Pn 12 27 42.7 +1.9**
PLOR Plostina 4.46 19 ⇑ *i*P **Pn 12 27 42.7 +1.9**
VRI Vrincioaia 4.50 19 ⇑ *i*P **Pn 12 27 43.2 +2.0**
VRI Vrincioaia 4.50 19 ⇑ *i*P **Pn 12 27 43.2 +2.0**
BZS Buzias 4.52 333 ⇑ *i*P **Pn 12 27 40.7 -0.8**
BZS Buzias 4.52 333 ⇑ *i*P **Pn 12 27 40.7 -0.8**

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*ISCJB **21** 12:34:49.0±0.4, 11°.90N±0°.05×44°.15E±0°.05, h4km, mb4.2/21, MS3.8/28, Error ellipse: s-maj=8.7km s-min=5.9km az=44.6*
*IDC **21** 12:34:49.8±0.9, 11°.83N×44°.14E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/39, mbtmp4.0/14, ML3.7/2, MS3.8/31, Ms1 3.8/31, ms1mx3.7/48, Error ellipse: s-maj=24.0km s-min=16.1km az=161.0*
*CSEM **21** 12:34:50.3±0.3, 11°.95N×44°.06E, h2km, mb4.6/8, Error ellipse: s-maj=12.6km s-min=8.5km az=132.0*
*NEIC **21** 12:34:51.7±0.5, 11°.84N×44°.21E, h10km, mb4.5/10, Error ellipse: s-maj=13.9km s-min=9.1km az=140.0*
*GCMT **21** 12:34:51.7±0.3, 12°.04N×44°.05E, h15km±1km, MW4.8/62, Moment Tensor Solution. s20, c20; s62, c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.66±.17; $M_{\theta\theta}$1.24±.11; $M_{\phi\phi}$0.42±.10; $M_{r\theta}$0.28±.21; $M_{\theta\phi}$-0.62±.06; $M_{\phi r}$1.47±.28; Best double couple: $M_0$2.08300×10^{16} NP1:ϕ_s151.00000°, δ62.00000°, λ-60.00000°. NP2: ϕ_s280.00000°, δ40.00000°, λ-133.00000°. Principal axes: T 1.6690, Plg12.0000°, Azm219.0000°; N 0.8290, Plg26.0000°, Azm316.0000°; P -2.4980, Plg61.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 12:34:51.3±0.6, 11°.96N±0°.05×44°.08E±0°.06, h4km, n84, σ1§59/68, mb4.2/21, MS3.8/28, 2C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.28 251**		**Pn**	**Pn**	**12 35 13.4**	**-2.7**
	154nm,0.3s,baz=43,slow=11,SNR=118						
ATD				Sn	**Sg**	**12 35 31.5**	**-1.1**
	738nm,0.3s,baz=270,slow=20,SNR=35						
ATD	**Arta Tunnel**	**1.28 251**		*e*Pn	**Pn**	**12 35 13.4**	**-2.7**
ATD				*e*Sn	**Sg**	**12 35 31.9**	**-0.7**
ATD	**Arta Tunnel**	**1.28 251**		*e*Pn	**Pn**	**12 35 13.4**	**-2.7**
ATD				*e*Sn	**Sg**	**12 35 31.9**	**-0.7**
UDYN	**Al 'Udayn**	**2.00 357**		*i* P	**Pn**	**12 35 22.8**	**-3.3**
UDYN				*e*		12 35 23.2	
	baz=197,slow=14						
UDYN				*i* S	**Sn**	**12 35 51.6**	**-0.1**
UDYN				AML	AML	12 35 59.2	
	comp=Z,9μm,0.6s						
UDYN	**Al 'Udayn**	**2.00 357**		*i* P	**Pn**	**12 35 22.8**	**-3.3**
	comp=Z,5μm,0.6s						
UDYN				*i* S	**Sn**	**12 35 51.6**	**-0.1**
DAMY	**Dhamar**	**2.62**	**7**	*e*Pn	**Pn**	**12 35 34.2**	**-0.5**
DAMY	**Dhamar**	**2.62**	**7**	*e*Pn	**Pn**	**12 35 34.2**	**-0.5**
HAJJ	**Hajjah**	**3.75 353**		⇑ *i*P	**Pn**	**12 35 48.1**	**-2.0**
HAJJ				*i* S	**Sb**	**12 36 40.3**	**-3.9**
HAJJ	**Hajjah**	**3.75 353**		⇑ *i*P	**Pn**	**12 35 48.1**	**-2.0**
KMBO	**Kilima Mbogo**	**14.66 208**		Pn	**Pn**	**12 38 19.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=45,slow=16,SNR=5.0						
KMBO				Lg	Lg	12 42 15.5	
	comp=Z,0.3nm,0.3s,baz=314,slow=20,SNR=3.2						
KMBO				LR	LR	12 43 50.5	
	comp=Z,1μm,19.8s,baz=82,slow=37						
KMBO	**Kilima Mbogo**	**14.66 208**		*e*Pn	**Pn**	**12 38 17.8**	**-2.1**
KMBO	**Kilima Mbogo**	**14.66 208**		*e*Pn	**Pn**	**12 38 17.8**	**-2.1**
UOSS	**Minazif**	**17.28**	**40**	*e*Pn	**Pn**	**12 38 53.4**	**-0.2**
	comp=Z,33nm,0.9s						
UOSS	**Minazif**	**17.28**	**40**	*e*Pn	**Pn**	**12 38 53.4**	**-0.2**
	comp=Z,33nm,0.9s						
WSAR	**Wadi Sarin**	**17.82**	**49**	Pn	**P**	**12 39 00.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=231,slow=2.6,SNR=7.8						
WSAR				LR	LR	12 46 26.0	
	comp=Z,669nm,19.0s,baz=250,slow=39						
EIL	**Elat**	**19.57 336**		LR	LR	12 45 31.3	
	comp=Z,291nm,21.0s,baz=180,slow=32						
MMAI	**Mount Meron Ar**	**22.42 341**		LR	LR	12 47 58.6	
	comp=Z,175nm,19.1s,baz=230,slow=35						
GNI	**Garni**	**28.09**	**1**	LR	LR	12 53 21.4	
	comp=Z,350nm,20.5s,baz=175,slow=39						
BR101	**Keskin Array S**	**29.16 343**		*e*P	**P**	**12 40 56.0**	**+2.2**
BRTR	**Keskin Array B**	**29.16 343**		P	**P**	**12 40 56.0**	**+2.2**
	comp=Z,2.5nm,0.9s,baz=155,slow=12,SNR=13						
BRTR				LR	LR	12 52 54.3	
	comp=Z,230nm,18.1s,baz=144,slow=37						
OPO	**Ambohidratompo**	**30.49 174**		LR	LR	12 52 23.6	
	comp=Z,254nm,20.7s,baz=6.0,slow=35						
LSZ	**Lusaka**	**31.30 211**		LR	LR	12 53 57.4	
	comp=Z,684nm,19.9s,baz=32,slow=37						
KBZ	**Khabaz**	**31.67 358**		LR	LR	12 55 30.2	
	comp=Z,201nm,18.4s,baz=186,slow=39						
KVAR	**Kislovodsk Arr**	**31.91 358**		LR	LR	12 55 16.9	
	comp=Z,200nm,20.2s,baz=118,slow=38						
PALK	**Palleke**	**36.38**	**94**	LR	LR	12 54 28.0	
	comp=Z,104nm,18.6s,baz=296,slow=32						
TAM	**Tamanrasset**	**38.24 292**		*e*P	**P**	**12 42 16.8**	**+3.8**
	comp=Z,5.1nm,1.3s						
KEST	**Kesra**	**39.29 313**		LR	LR	12 58 19.4	
	comp=Z,84nm,19.2s,baz=302,slow=36						
ABKAR	**Akbulak array**	**39.44**	**16**	*e*P	**P**	**12 42 22.8**	**+0.3**
	comp=Z,30nm,0.9s						
ABKAR	**Akbulak array**	**39.44**	**16**	*e*P	**P**	**12 42 22.8**	**+0.3**
	comp=Z,30nm,0.9s						
AKTO	**Aktyubinsk**	**40.04**	**14**	LR	LR	13 02 09.3	
	comp=Z,316nm,19.5s,slow=41						
AAK	**Ala-Archa**	**40.39**	**35**	*e*P	**P**	**12 42 31.8**	**+1.1**
	comp=Z,5.1nm,1.0s						
AAK	**Ala-Archa**	**40.39**	**35**	*e*P	**P**	**12 42 31.8**	**+1.1**
	comp=Z,5.1nm,1.0s						
AKASG	**Malin Array Be**	**40.51 345**		P	**P**	**12 42 31.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=154,slow=6.5,SNR=5.5						
AKASG	**Malin Array Be**	**40.51 345**		P	**P**	**12 42 31.0**	**-0.3**
AKBB	**Malin Array Si**	**40.51 345**		*e*P	**P**	**12 42 30.5**	**-0.8**
	comp=Z,10nm,1.3s						
AKBB	**Malin Array Si**	**40.51 345**		*e*P	**P**	**12 42 30.5**	**-0.8**
	comp=Z,10nm,1.3s						
TSUM	**Tsumeb**	**40.51 220**		P	**P**	**12 42 32.9**	**+1.1**
	comp=Z,1.8nm,1.0s,baz=85,slow=8.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**41.36 276**		P	**P**	**12 42 39.7**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=93,slow=7.0,SNR=9.0						
TORD				LR	LR	12 59 24.7	
	comp=Z,110nm,20.0s,baz=240,slow=36						
TOA1	**Torodi Ar. Sit**	**41.36 276**		*e*P	**P**	**12 42 39.7**	**+0.8**
	comp=Z,4.3nm,1.1s						
TOA1	**Torodi Ar. Sit**	**41.36 276**		*e*P	**P**	**12 42 39.7**	**+0.8**
	comp=Z,4.3nm,1.1s						
OBN	**Obninsk**	**43.46 354**		LR	LR	13 04 06.4	
	comp=Z,100nm,18.1s,baz=100,slow=40						
BOSA	**Boshof**	**44.25 204**		LR	LR	13 02 22.2	
	comp=Z,350nm,18.5s,baz=32,slow=37						
GEC2	**GERESS Array S**	**44.58 332**		*e*P	**P**	**12 43 04.6**	**0.0**
	comp=Z,5.2nm,1.0s						
GEC2	**GERESS Array S**	**44.58 332**		*e*P	**P**	**12 43 04.6**	**0.0**
	comp=Z,5.2nm,1.0s						
GERES	**GERESS Array B**	**44.58 332**		P	**P**	**12 43 04.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=134,slow=5.8,SNR=7.3						
ARU	**Arti**	**45.77**	**11**	LR	LR	13 06 58.6	
	comp=Z,133nm,18.5s,baz=202,slow=42						
BVAR	**Borovoye Array**	**46.06**	**22**	P	**P**	**12 43 14.2**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=212,slow=5.3,SNR=6.6						
BVAR				LR	LR	13 05 04.2	
	comp=Z,170nm,20.2s,baz=236,slow=39						
MAKZ	**Makanchi**	**47.15**	**35**	*e*P	**P**	**12 43 24.1**	**-0.8**
	comp=Z,4.9nm,1.0s						
MAKZ	**Makanchi**	**47.15**	**35**	*e*P	**P**	**12 43 24.1**	**-0.8**
	comp=Z,4.9nm,1.0s						
MK31	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.6**	**-0.6**
MK31	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.6**	**-0.6**
MK32	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.5**	**-0.7**
MK32	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.4**	**-0.7**
MKAR	**Makanchi Array**	**47.32**	**35**	P	**P**	**12 43 25.4**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=208,slow=6.2,SNR=13						
MKAR				LR	LR	13 06 03.1	
	comp=Z,85nm,19.0s,baz=234,slow=40						
MKAR	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.5**	**-0.7**
	comp=Z,32nm,0.9s						
MKAR	**Makanchi Array**	**47.32**	**35**	*e*P	**P**	**12 43 25.5**	**-0.7**
	comp=Z,32nm,0.9s						
KURBB	**Kurchatov Arra**	**47.72**	**29**	P	**P**	**12 43 29.2**	**0.0**
	comp=Z,2.5nm,0.9s,baz=229,slow=8.1,SNR=16						
KURK	**Kurchatov**	**47.83**	**29**	*e*P	**P**	**12 43 29.9**	**-0.1**
KURK	**Kurchatov**	**47.83**	**29**	*e*P	**P**	**12 43 29.9**	**-0.1**
DBIC	**Dimbokro**	**48.53 268**		LR	LR	13 03 54.0	
	comp=Z,59nm,18.2s,baz=59,slow=36						
MDT	**Midelt**	**49.09 303**		LR	LR	13 04 26.0	
	comp=Z,110nm,18.4s,baz=109,slow=36						
ESDC	**Sonseca Array**	**50.52 312**		P	**P**	**12 43 54.3**	**+3.4**
	comp=Z,0.5nm,0.6s,baz=93,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**51.12 349**		LR	LR	13 06 38.8	
	comp=Z,82nm,19.1s,baz=104,slow=37						
ZAA0	**Zalesovo Array**	**52.82**	**29**	*e*P	**P**	**12 44 06.5**	**-1.3**
ZAA0	**Zalesovo Array**	**52.82**	**29**	*e*P	**P**	**12 44 06.5**	**-1.3**
ZALV	**Zalesovo Beam**	**52.82**	**29**	P	**P**	**12 44 06.5**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=235,slow=8.1,SNR=7.7						
ZAA1	**Zalesovo Array**	**52.82**	**29**	*e*P	**P**	**12 44 06.6**	**-1.2**
ZAA1	**Zalesovo Array**	**52.82**	**29**	*e*P	**P**	**12 44 06.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**53.17**	**76**	P	**P**	**12 44 09.9**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=275,slow=8.5,SNR=20						
CMAR				LR	LR	13 06 37.7	
	comp=Z,20nm,18.1s,baz=280,slow=36						
NOA	**NOAR Array B**	**54.56 341**		LR	LR	13 09 09.4	
	comp=Z,58nm,18.7s,baz=120,slow=38						
ARCES	**ARCESS Array B**	**58.74 352**		LR	LR	13 10 42.2	
	comp=Z,89nm,18.6s,baz=108,slow=37						
SONA0	**Songino Array**	**62.71**	**42**	*e*P	**P**	**12 45 17.5**	**-0.2**
SONA0	**Songino Array**	**62.71**	**42**	*e*P	**P**	**12 45 17.5**	**-0.2**
SONM	**Songino Array**	**62.71**	**42**	P	**P**	**12 45 17.5**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=244,slow=7.4,SNR=9.5						
SONM				LR	LR	13 16 02.7	
	comp=Z,94nm,21.3s,baz=268,slow=39						
NRIK	**Noril'sk**	**63.61**	**16**	LR	LR	13 18 11.2	
	comp=Z,276nm,18.2s,baz=226,slow=41						
KSRS	**Korea Array**	**77.98**	**54**	LR	LR	13 27 03.3	
	comp=Z,28nm,18.0s,baz=288,slow=40						
SYO	**Syowa Base**	**80.82 182**		‖ *e*PcP	**PcP**	**12 47 15.0**	**+2.6**
FRB	**Frobisher Bay**	**89.03 336**		LR	LR	13 29 07.2	
	comp=Z,22nm,19.9s,baz=74,slow=36						
WRA	**Warramunga Arr**	**94.24 109**		P	**P**	**12 48 10.2**	**-2.2**
	comp=Z,0.9nm,1.0s,baz=333,slow=11,SNR=7.0						
WR1	**Warramunga Arr**	**94.24 109**		*e*P	**P**	**12 48 10.2**	**-2.2**
	comp=Z,25nm,1.7s						
WR1	**Warramunga Arr**	**94.24 109**		*e*P	**P**	**12 48 10.2**	**-2.2**
	comp=Z,25nm,1.7s						
ASAR	**Alice Springs**	**94.55 113**		P	**P**	**12 48 13.7**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=269,slow=4.6,SNR=5.3						
ASAR				LR	LR	13 28 29.0	
	comp=Z,35nm,18.8s,baz=8.0,slow=34						
GUMO	**Guam**	**97.47**	**74**	LR	LR	13 33 07.6	
	comp=Z,9.3nm,19.5s,baz=174,slow=36						
TXAR	**Lajitas Array**	**128.49 323**		PKP	**PKPdf**	**12 54 02.0**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=40,slow=2.1,SNR=4.0						

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*GII **21** 12:37:30.0±0.0, 28°.50N×34°.75E, h4km, MD3.7/4*
*SGS **21** 12:37:33.0, 28°.54N×34°.71E, h10km*
ISC 21 12:37:30.9±2.5, 28°.53N±0°.06×34°.7E±0°.1, h4km±13km, n16, σ0§48/24, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDAS	**Al Bad'**	**0.36 106**		S	**Sb**	**12 37 45.4**	**-0.5**
BDAS				P	**Pb**	**12 37 40.0**	**+0.2**
HAQS	**Haql**	**0.55**	**20**	S	**Sb**	**12 37 51.1**	**-0.2**
HAQS				P	**Pb**	**12 37 43.1**	**-0.1**
JLOS		**0.72**	**73**	S	**Sb**	**12 37 55.8**	**-0.5**
JLOS				P	**Pb**	**12 37 46.1**	**0.0**
HQLS		**0.83**	**22**	S	**Sb**	**12 37 59.7**	**+0.3**
HQLS				P	**Pb**	**12 37 48.1**	**+0.2**
EIL	**Elat**	**1.15**	**10**	Pg	**Pg**	**12 37 52.5**	**-0.6**
EIL				Sg	**Sn**	**12 38 10.2**	**+0.1**
MBRI	**Mt Berech**	**1.27**	**8**	Pg	**Pg**	**12 37 54.7**	**-0.6**
HRFI	**Mount Harif**	**1.53**	**11**	Pn	**Pn**	**12 37 58.0**	**-1.0**
HRFI				Sn	**Sg**	**12 38 20.9**	**+0.9**
KRMI	**Paran Flat**	**1.58**	**0**	Pn	**Pn**	**12 37 59.5**	**-0.3**
KRMI				Sn	**Sg**	**12 38 22.1**	**+0.3**
TBKS	**Tabuk**	**1.64 100**		S	**Sg**	**12 38 24.1**	**+0.4**
TBKS				P	**Pg**	**12 38 02.4**	**0.0**
PRNI	**Paran**	**1.83**	**8**	Pn	**Pn**	**12 38 02.9**	**-0.3**
ZFRI	**Zfri**	**2.06**	**11**	Pn	**Pn**	**12 38 06.2**	**0.0**
RMNI	**Mount Ramon**	**2.06**	**1**	Pn	**Pn**	**12 38 06.9**	**+0.5**
MZDA	**Masada**	**2.83**	**11**	Pn	**Pn**	**12 38 17.3**	**+0.5**
AMAZ	**Amatzia**	**3.00**	**3**	Pn	**Pn**	**12 38 19.7**	**+0.5**
DSI	**Dead Sea**	**3.08**	**11**	Pn	**Pn**	**12 38 20.7**	**+0.3**
SLTI	**Sal'it**	**3.71**	**4**	Pn	**Pn**	**12 38 29.2**	**+0.2**

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*ISCJB **21** 12:38:19.6±0.9, 11°.78N±0°.07×44°.15E±0°.07, h4km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=8.3km az=138.8*
*IDC **21** 12:38:20.8±1.6, 11°.87N×44°.02E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/40, mbtmp3.8/6, Error ellipse: s-maj=60.2km s-min=17.0km az=155.0*
ISC 21 12:38:21.5±1.2, 11°.8N±0°.1×44°.08E±0°.09, h4km, n9, σ1§37/11, mb3.9/6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.24 258**		Pn	**Pg**	**12 38 45.2**	**0.0**
	70nm,0.3s,baz=297,slow=16,SNR=43						
ATD				Sn	**Sb**	**12 39 01.8**	**-0.1**
	71nm,0.3s,baz=73,slow=19,SNR=9.4						
UDYN	**Al 'Udayn**	**2.17 357**		*i* P	Pn	12 38 52.3	-6.3
UDYN				*e*		12 38 52.5	
	baz=208,slow=9.3						
UDYN				*i* S	**Sn**	**12 39 23.4**	**-2.5**
UDYN				AML	AML	12 39 30.7	
	comp=E,1μm,0.4s						
HAJJ	**Hajjah**	**3.92 353**		*i* P	**Pn**	**12 39 22.6**	**0.0**
HAJJ				*i* S	**Sn**	**12 40 11.7**	**+2.5**
BVAR	**Borovoye Array**	**46.21**	**22**	P	**P**	**12 46 47.9**	**+0.3**
	comp=E,0.5nm,0.5s,baz=207,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**47.46**	**35**	P	**P**	**12 46 57.0**	**-0.4**
	comp=E,1.2nm,1.0s,baz=223,slow=6.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**47.87**	**29**	P	**P**	**12 46 59.6**	**-0.9**
	comp=E,1.1nm,1.0s,baz=231,slow=8.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**52.96**	**29**	P	**P**	**12 47 37.9**	**-1.1**
	comp=E,0.4nm,0.4s,baz=242,slow=3.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**53.21**	**76**	P	**P**	**12 47 41.6**	**+0.2**
	comp=E,0.9nm,0.3s,baz=272,slow=8.3,SNR=8.8						
SONM	**Songino Array**	**62.83**	**42**	P	**P**	**12 48 48.9**	**+0.3**
	comp=E,0.3nm,0.4s,baz=258,slow=7.4,SNR=4.5						

IDC 21 12:51:17.6±2.1, 6°.66S×128°.74E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.4/38, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=112.7km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.28 158**		Pn	Pn	12 54 40.5	-0.8
	0.4nm,0.3s,baz=337,slow=12,SNR=7.7						
WRA				Sn	Sn	12 57 08.4	-12
	0.5nm,0.3s,baz=335,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.62 164**		P	Pn	12 55 25.1	+0.4
	0.5nm,0.3s,baz=345,slow=10,SNR=46						
ASAR				S	Sn	12 58 31.2	-11
	0.1nm,0.3s,baz=312,slow=17,SNR=4.3						
MKAR	**Makanchi Array**	**67.26 327**		P	P	13 02 14.1	0.0
	0.3nm,0.4s,baz=126,slow=6.8,SNR=4.6						

IDC 21 13:07:40.9±10.0, 25°.12S×179°.36E, h531km±120km, mb2.8/3, mb1 3.1/4, mb1mx2.8/33, mbtmp3.9/4, Error ellipse: s-maj=99.9km s-min=36.9km az=17.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.24 188**		P	P	13 10 32.9	+0.8
	1.1nm,0.3s,baz=354,slow=3.4,SNR=10.0						
URZ				S	S	13 12 50.3	-2.9
	baz=180,slow=20,SNR=3.9						
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JWZ	Kozaga	3.11	286	P	Pn	13 14 51.6	-0.4
JRY	Ryogami san	3.33	355	P	Pn	13 14 54.6	0.0
JWY	Kouya	3.44	297	P	Pn	13 14 56.3	+0.2
JAG	Ashikaga	3.72	2	P	Pn	13 14 58.3	-1.1
JAG				eS	Sn	13 15 44.0	-1.3
MJAR	Matsushiro Arr	3.94	347	P	Pn	13 15 02.8	+0.7
	0.6nm,0.3s,baz=20,slow=11,SNR=7.4						
MJAR				S	Sn	13 15 49.6	-0.5
	1.0nm,0.3s,baz=277,slow=32,SNR=4.6						
MAT	Matsushiro	3.94	347	S	Sn	13 15 48.9	-1.2
JWT	Wachi	4.13	310	P	Pn	13 15 04.7	+0.2
JWT				S	Sn	13 15 53.9	-0.4
JAI	Aioi	4.19	286	P	Pn	13 15 04.7	-0.6
JAI				S	Sn	13 15 55.3	-0.4
KSRS	Korea Array	10.45	300	P	Pn	13 16 27.8	+1.7
	0.1nm,0.3s,baz=115,slow=13,SNR=9.0						
ASAJ	Asahikawa	11.69	12	P	Pn	13 16 40.9	-1.1
	0.3nm,0.3s,baz=231,slow=13,SNR=3.8						
SONM	Songino Array	29.03	311	P	P	13 19 43.1	+0.6
	0.3nm,0.6s,baz=133,slow=8.1,SNR=2.1						
ZALV	Zalesovo Beam	43.67	316	P	P	13 21 45.8	0.0
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.3						
ZALV				PcP	PcP	13 23 29.4	+0.2
	1.1nm,0.6s,baz=118,slow=2.3,SNR=5.0						
MKAR	Makanchi Array	45.07	306	P	P	13 21 57.0	-0.1
	0.2nm,0.2s,baz=91,slow=10,SNR=3.3						
MKAR				PcP	PcP	13 23 35.1	+0.8
	0.2nm,0.2s,baz=72,slow=4.7,SNR=2.9						
WRA	Warramunga Arr	52.56	186	P	P	13 22 53.0	-1.2
	0.3nm,0.3s,baz=1.8,slow=7.7,SNR=11						
ASAR	Alice Springs	56.28	186	P	P	13 23 19.8	-1.3
	0.3nm,0.5s,baz=13,slow=8.1,SNR=12						
GEYT	Alibeck	64.44	300	P	P	13 24 16.4	+0.2
	1.3nm,0.5s,baz=104,slow=6.1,SNR=2.7						
ARCES	ARCESS Array B	67.43	340	P	P	13 24 35.8	+1.1
	2.7nm,0.9s,baz=74,slow=9.5,SNR=3.9						
FINES	FINESS Array B	71.83	332	P	P	13 25 02.1	+0.5
	1.1nm,0.4s,baz=59,slow=5.0,SNR=11						
AKASG	Malin Array Be	76.64	322	P	P	13 25 29.7	0.0
	0.4nm,0.2s,baz=48,slow=5.6,SNR=4.5						
HFS	Hagfors	77.30	335	P	P	13 25 33.6	+0.4
	1.8nm,0.4s,baz=65,slow=4.7,SNR=11						
NB2	NORSAR Subarra	77.49	337	P	P	13 25 34.5	+0.2
	comp=Z,1.1nm,0.5s,baz=44,slow=5.3						
NOA	NORSAR Array B	77.49	337	P	P	13 25 34.9	+0.6
	comp=Z,0.5nm,0.7s,baz=45,slow=5.6,SNR=7.5						
BRTR	Keskin Array B	80.39	311	P	P	13 25 51.0	+0.4
	comp=Z,0.9nm,0.6s,baz=102,slow=2.3,SNR=4.0						

*IDC **21** 13:17:18.7±0.8, 24°.45N×112°.50W, h0km, mb4.3/6, mb1 4.4/12, mb1mx4.1/51, mbtmp4.2/12, ML4.0/5, MS3.9/15, Ms1 3.9/15, ms1mx3.7/33, Error ellipse: s-maj=26.4km s-min=14.1km az=64.0*

*ISCJB **21** 13:17:19.1±0.4, 24°.45N±0°.04×112°.48W±0°.03, h10km, mb4.4/20, MS3.8/12, Error ellipse: s-maj=5.8km s-min=2.7km az=32.7*

*NEIC **21** 13:17:20.3±0.6, 24°.38N×112°.50W, h10km, mb4.2/48, Error ellipse: s-maj=8.5km s-min=5.3km az=42.0*

*MEX **21** 13:17:23.2±0.5, 24°.64N×112°.35W, h10km, MD4.5*

ISC 21 13:17:21.1±0.7, 24°.51N±0°.06×112°.43W±0°.07, h10km, n302, σ1°33/292, mb4.4/20, MS3.8/12, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.98	101	Pn	Pn	13 17 52.8	-1.9
	722nm,0.3s,baz=293,slow=2.9,SNR=311						
LPIG				Sn	Sn	13 18 18.6	-1.0
	423nm,0.3s,baz=1.2,slow=19,SNR=9.9						
LPIG	La Paz	1.98	101	i P	Pn	13 17 52.8	-1.9
LPIG				eS	Sn	13 18 15.9	-3.7
SRIG	Santa Rosalia	2.80	3	eP	Pn	13 18 03.0	-2.9
SRIG				i S	Sn	13 18 34.5	-5.3
SRIG	Santa Rosalia	2.80	3	ePn	Pn	13 18 04.0	-2.0
HSIG		4.68	16	ePn	Pn	13 18 33.5	+1.7
H06E1	SOCORRO T-PHAS	5.87	166	Pn	Pn	13 18 45.9	-2.3
H06E1				T	T	13 24 44.1	
	SNR=317						
H06S1	SOCORRO T	5.91	166	Pn	Pn	13 18 47.6	-1.1
H06S1				T	T	13 24 43.1	
	SNR=9.9						
HPIG		6.56	67	ePn	Pn	13 18 57.9	0.0
319A	Douglas	7.38	21	ePn	Pn	13 19 10.2	+1.2
214A	Organ Pipe Nat	7.42	358	P	Pn	13 19 09.3	-0.2
	baz=178,SNR=18						
214A	Organ Pipe Nat	7.42	358	ePn	Pn	13 19 09.5	0.0
	94nm,0.8s						
214A				eSn	Sn	13 20 35.5	+1.6
TUC	Tucson	7.90	10	P	Pn	13 19 16.9	+0.7
	baz=191						
TUC	Tucson	7.90	10	ePn	Pn	13 19 16.3	+0.1
TUC				eSn	Sn	13 20 44.7	-1.0
IKP	In-Ko-Pah, Jac	8.73	339	P	Pn	13 19 27.8	+0.4
	baz=158						
GLA	Glamis	8.76	347	P	Pn	13 19 28.3	+0.3
	baz=166,SNR=18						
GLA	Glamis	8.76	347	ePn	Pn	13 19 28.4	+0.5
SWSC	Sam W. Stewart	8.91	341	P	Pn	13 19 30.0	+0.1
	baz=160						
121A	Cookes Peak, D	8.97	26	P	Pn	13 19 32.9	+2.0
	baz=208,SNR=12						
121A	Cookes Peak, D	8.97	26	ePn	Pn	13 19 33.1	+2.2
	17nm,0.7s						
121A				eSn	Sn	13 21 12.6	+0.4
MONP2	Monument Peak	9.05	338	P	Pn	13 19 32.1	+0.1
	baz=157						
TX31	Lajitas Ar. Si	9.18	57	ePn	Pn	13 19 33.0	-0.7
TXAR	Lajitas Array	9.18	57	Pn	Pn	13 19 33.3	-0.4
	0.6nm,0.3s,baz=230,slow=14,SNR=34						
TXAR				LR	LR	13 23 24.7	
	comp=Z,488nm,18.5s,baz=0.0,slow=40						
ZAIG	Zacatecas	9.21	99	ePn	Pn	13 19 36.2	+1.9
109C	Camp Elliot, M	9.30	335	P	Pn	13 19 35.0	-0.2
	baz=154						
Y12C	Blythe	9.38	349	P	Pn	13 19 36.9	+0.5
	baz=169						
Y12C	Blythe	9.38	349	ePn	Pn	13 19 37.2	+0.9
Y14A	Wickenburg	9.41	357	ePn	Pn	13 19 38.2	+1.4
MNTX	Cornudas Mount	9.48	39	P	Pn	13 19 39.5	+1.7
	baz=222,SNR=13						
MNTX	Cornudas Mount	9.48	39	ePn	Pn	13 19 38.0	+0.2
MNTX				eSn	Sn	13 21 21.0	-3.5
BC3	Big Chuckawall	9.48	345	P	Pn	13 19 38.6	+0.7
	baz=164,SNR=13						
PFO	Pinyon Flats O	9.72	340	Pn	Pn	13 19 41.8	+0.6
	0.3nm,0.3s,baz=157,slow=6.7,SNR=4.8						
PFO				LR	LR	13 23 06.4	
	comp=Z,973nm,18.1s,baz=164,slow=36						
PFO	Pinyon Flats O	9.72	340	P	Pn	13 19 41.8	+0.6
	baz=158						
PFO	Pinyon Flats O	9.72	340	ePn	Pn	13 19 41.1	-0.1
PFO				eSn	Sn	13 21 27.3	-3.3
PDMCI	Parker Dam,Lak	9.87	352	P	Pn	13 19 44.1	+1.1
	baz=171						
IRM	Iron Mountain	9.90	347	P	Pn	13 19 44.2	+0.8
	baz=166,SNR=13						
X16A	Lo Mia Camp, P	9.91	5	ePn	Pn	13 19 45.7	+1.9
BELC	Belle Mtn. Jos	9.95	343	P	Pn	13 19 45.9	+1.5
	baz=162,SNR=15						
MURC	Murrieta	9.97	336	P	Pn	13 19 45.1	+0.7
	baz=155						
X18A	Snowflake	10.21	12	ePn	Pn	13 19 50.1	+2.2
GMRC	Granite Mounta	10.61	345	P	Pn	13 19 55.0	+1.6
	baz=164,SNR=6.5						
W13A	Hualapai Mount	10.62	354	ePn	Pn	13 19 55.5	+1.9
BFSC	Mount Baldy Ra	10.71	336	P	Pn	13 19 56.0	+1.4
	baz=154						
LDFC	Landfair	10.78	348	ePn	Pn	13 19 57.1	+1.4
HEC	Hector,Ludlow	10.82	343	P	Pn	13 19 57.5	+1.3
	baz=161						
MWC	Mount Wilson	10.85	334	ePn	Pn	13 19 58.2	+1.6
BNM	Barren Site	10.85	26	ePn	Pn	13 19 58.2	+1.5
LAZ	Ladron	10.88	24	ePn	Pn	13 20 00.1	+3.0
DECC	Green Verdugo	10.98	333	P	Pn	13 19 59.3	+1.0
	baz=151						
WUAZ	Wupatki	11.01	5	P	Pn	13 20 00.5	+1.8
	baz=185,SNR=12						
WUAZ	Wupatki	11.01	5	Pn	Pn	13 19 58.6	-0.1
RRX	Edison Barstow	11.06	340	P	Pn	13 20 01.5	+2.1
	baz=158						
TUQ	Turquoise Moun	11.30	345	P	Pn	13 20 04.8	+2.0
	baz=164,SNR=11						
SCZ2	Santa Cruz Isl	11.34	328	P	Pn	13 20 03.7	+0.4
	baz=145						
GSC	Goldstone, Bar	11.40	342	P	Pn	13 20 05.9	+1.8
	baz=160						
EDW2	Edwards Air Fo	11.40	336	P	Pn	13 20 06.2	+2.0
	baz=154,SNR=11						
OSI	Osito Audit: C	11.46	333	P	Pn	13 20 06.1	+1.2
	baz=150						
ANMO	Albuquerque	11.62	25	Pn	Pn	13 20 08.5	+1.3
	0.1nm,0.3s,baz=43,slow=14,SNR=6.2						
ANMO	Albuquerque	11.62	25	P	Pn	13 20 09.2	+2.0
	baz=208						
ANMO	Albuquerque	11.62	25	ePn	Pn	13 20 05.5	-1.7
SBC	Santa Barbara	11.75	329	P	Pn	13 20 09.4	+0.6
	baz=146						
LNIG	Linares	11.79	85	ePn	Pn	13 20 13.9	+4.5
SHOC	Shoshone, Teco	11.82	345	P	Pn	13 20 11.1	+1.3
	baz=163						
LRMC	Laurel Mtn Rad	11.84	339	P	Pn	13 20 11.7	+1.6
	baz=157,SNR=8.5						
U15A	North Rim	11.88	1	ePn	Pn	13 20 14.2	+3.4
ARVC	Arvin	11.94	334	P	Pn	13 20 13.1	+1.6
	baz=151,SNR=9.2						
PKM	Mcpherson Peak	12.16	330	P	Pn	13 20 15.7	+1.1
	baz=147,SNR=6.1						
SHPR	Sheep Range	12.18	350	ePn	Pn	13 20 16.4	+1.6
933A	Laredo	12.22	73	P	Pn	13 20 16.7	+1.4
	baz=258						
ISA	Isabella, Lake	12.28	336	P	Pn	13 20 17.1	+1.0
	baz=154						
ISA	Isabella, Lake	12.28	336	ePn	Pn	13 20 17.5	+1.4
833A	Chaparral WMA,	12.28	69	P	Pn	13 20 17.7	+1.5
	baz=254						
MPMC	Manual Prospec	12.30	340	P	Pn	13 20 18.2	+1.6
	baz=158,SNR=18						
KNB	Kanab	12.47	359	ePn	Pn	13 20 22.0	+3.2
LCMT	Little Creek M	12.48	357	ePn	Pn	13 20 19.8	+0.9
FURC	Furnace Creek,	12.51	343	P	Pn	13 20 20.3	+1.2
	baz=162,SNR=9.0						
DAC	Darwin (Calif)	12.54	340	ePn	Pn	13 20 19.6	-0.2
	37nm,1.3s						
SMMC	Simmler	12.60	330	P	Pn	13 20 22.0	+1.5
	baz=147						
VES	Vestal, Richgr	12.67	335	P	Pn	13 20 22.3	+1.0
	baz=152						
JCT	Junction City	12.68	59	P	Pn	13 20 22.7	+1.0
	baz=245						
JCT	Junction City	12.68	59	ePn	Pn	13 20 23.0	+1.4
	35nm,1.1s						
TPNV	Topopah Spring	12.82	346	P	Pn	13 20 25.4	+1.8
	baz=165,SNR=8.7						
TPNV	Topopah Spring	12.82	346	ePn	Pn	13 20 24.3	+0.7
CWC	Cottonwood Cre	12.84	339	P	Pn	13 20 25.6	+1.8
	baz=157						
934A	Benavides	12.88	73	P	Pn	13 20 24.9	+0.6
	baz=259						
PKCU	Pink Cliffs	12.89	0	ePn	Pn	13 20 28.9	+4.2
CCUT	Cedar City	13.02	357	ePn	Pn	13 20 29.8	+3.4
SZCU	Shurtz Canyon	13.05	358	ePn	Pn	13 20 30.1	+3.2
PAGB	Antelope Grade	13.06	331	ePn	Pn	13 20 28.0	+1.3
MVCO	Mesa Verde	13.10	14	P	Pn	13 20 29.2	+1.7
	baz=196						
MVCO	Mesa Verde	13.10	14	ePn	Pn	13 20 29.4	+1.9
035Z	Hargill	13.12	78	P	Pn	13 20 28.2	+0.7
	baz=264						
RCTC	Rector, Farmer	13.13	335	P	Pn	13 20 29.2	+1.5
	baz=152						
035A	Encino	13.14	76	P	Pn	13 20 28.6	+0.8
	baz=262						
GRAC	Grapevine Rang	13.14	342	P	Pn	13 20 29.0	+1.1
	baz=160,SNR=7.5						
TIN	Tinemaha, Big	13.45	340	P	Pn	13 20 34.0	+1.8
	baz=157						
MTPU	Mount Pierson	13.49	1	ePn	Pn	13 20 36.5	+3.6
ABTX	Abilene, Hawle	13.83	51	P	Pn	13 20 39.3	+2.0
	baz=237						
AMTX	Amarillo	13.92	40	P	Pn	13 20 40.1	+1.5
	baz=225						
AMTX	Amarillo	13.92	40	ePn	Pn	13 20 39.5	+1.0
	12nm,1.0s						
MSU	Marysvale	13.96	1	ePn	Pn	13 20 42.0	+2.8
PV01	Paradox Valley	13.97	13	ePn	Pn	13 20 41.1	+1.7
S22A	4UR Ranch, Cre	14.03	19	P	Pn	13 20 41.7	+1.4
	baz=202						
R11A	Troy Canyon, C	14.05	350	P	Pn	13 20 40.3	-0.1
	baz=168,SNR=9.1						
R11A	Troy Canyon, C	14.05	350	ePn	Pn	13 20 40.7	+0.3
PV10	Paradox Valley	14.12	11	eP	P	13 20 49.5	+0.4
PV04	Paradox Valley	14.16	11	ePn	Pn	13 20 42.3	+0.4
MLAC	Mammoth, Mammo	14.17	339	P	Pn	13 20 43.7	+1.6
	baz=156						
PV09	Paradox Valley	14.22	11	ePn	Pn	13 20 46.0	+3.1
T25A	Trinidad	14.34	27	P	Pn	13 20 45.9	+1.5
	baz=211						
T25A	Trinidad	14.34	27	ePn	Pn	13 20 46.6	+2.2
SDCO	Great Sand Dun	14.46	23	P	Pn	13 20 48.2	+2.1
	baz=206						
SDCO	Great Sand Dun	14.46	23	ePn	Pn	13 20 45.7	-0.4
636A	Smothers Creek	14.57	67	P	Pn	13 20 48.0	+0.6
	baz=253						
SRU	San Rafael Swe	14.64	6	ePn	Pn	13 20 50.2	+1.6
737A	Port Lavaca	14.91	70	P	Pn	13 20 53.4	+1.4
	baz=257						
SMCO	Snowmass	15.33	16	ePn	Pn	13 20 59.1	+1.1
	9.9nm,1.0s						
336A	Riesel	15.38	60	P	Pn	13 20 59.0	+0.8
	baz=247						
WMOK	Wichita Mounta	15.63	46	P	Pn	13 21 02.4	+0.9
	baz=233						
WMOK	Wichita Mounta	15.63	46	ePn	Pn	13 21 02.5	+0.9
	30nm,1.4s						
DUG	Dugway, Tooele	15.64	359	P	Pn	13 21 02.3	+0.6
	baz=179,SNR=7.8						
DUG	Dugway, Tooele	15.64	359	ePn	Pn	13 21 02.9	+1.2
	25nm,1.4s						
Q24A	Divide	15.67	21	P	Pn	13 21 03.7	+1.4
	baz=205						
638A	Rosharon	15.91	68	P	Pn	13 21 05.6	+0.5
	baz=256						
O20A	White River Ci	15.97	12	P	Pn	13 21 06.6	+0.5
	baz=194,SNR=6.4						
O20A	White River Ci	15.97	12	ePn	Pn	13 21 06.9	+0.8
	35nm,1.0s						
CTU	Camp Tracy	16.14	2	ePn	Pn	13 21 09.4	+1.1
	30nm,1.3s						
PAHR	Pah Rah Range	16.24	340	ePn	Pn	13 21 10.2	+0.6
	29nm,1.4s						
ISCO	Idaho Springs	16.29	19	P	P	13 21 12.3	-1.0
	baz=203						
ISCO	Idaho Springs	16.29	19	ePn	Pn	13 21 11.4	+1.1
	8.1nm,1.1s						
Y35A	Maetta	16.36	52	P	Pn	13 21 11.9	+1.0
	baz=239						
BGU	Big Grassy Mou	16.38	358	ePn	Pn	13 21 10.8	-0.4
	29nm,1.5s						
BMN	Battle Mountai	16.38	347	ePn	Pn	13 21 10.3	-0.9
	15nm,1.3s						
Z36A	Blue Ridge	16.49	54	P	P	13 21 14.7	-0.5
	baz=242						
TCUT	Toone Canyon	16.58	3	ePn	P	13 21 16.1	-0.3
	39nm,1.2s						
KSCO	Kaye Shedlock'	16.67	28	P	Pn	13 21 16.0	+1.1
	baz=213						
BEKR	Beckworth	16.70	338	ePn	Pn	13 21 16.1	+0.7
	29nm,1.6s						
HWUT	Hardware Ranch	17.06	2	ePn	Pn	13 21 20.3	+0.3
	23nm,1.1s						
X36A	Centrahoma	17.19	51	P	P	13 21 23.5	+0.5
	baz=238						
N23A	Red Feather La	17.21	17	P	P	13 21 24.2	+0.7
	baz=200						
N23A	Red Feather La	17.21	17	ePn	Pn	13 21 22.5	+0.6
	26nm,1.4s						
HVU	Hansel Valley	17.22	359	ePn	Pn	13 21 22.7	+0.8
	26nm,1.4s						
V35A	Meyer Ranch, C	17.51	47	P	Pn	13 21 25.8	+0.3
	baz=234						
W36A	Wetumka	17.58	49	P	P	13 21 27.6	+0.3
	baz=237						
O03D	Paynes Creek	17.59	336	P	P	13 21 27.8	+0.2
	baz=151,SNR=5.6						
CMIG	Matias Romero	17.98	111	P	P	13 21 32.4	+0.6
	0.1nm,0.3s,baz=264,slow=12,SNR=3.9						
CMIG				LR	LR	13 27 50.5	
	comp=Z,491nm,21.4s,baz=272,slow=35						
T34A	McClaskey Farm	18.05	43	P	P	13 21 33.3	+0.7
	baz=230						
W37B	Quinton	18.13	50	P	Pn	13 21 33.3	+0.2
	baz=238						
BW06	Boulder Array	18.36	7	P	Pn	13 21 35.5	-0.6
	baz=188,SNR=9.1						
BW06	Boulder Array	18.36	7	eP	Pn	13 21 35.8	-0.3
	13nm,1.2s						
PDAR	Pinedale Array	18.36	7	P	Pn	13 21 36.0	-0.1
	0.2nm,0.3s,baz=178,slow=9.7,SNR=22						
PDAR				LR	LR	13 28 55.3	
	comp=Z,410nm,18.0s,baz=180,slow=38						
MOD	Modoc Plateau	18.54	341	eP	P	13 21 37.6	-0.3
	22nm,1.4s						
S34A	Willow Spring	18.54	41	P	Pn	13 21 38.7	+0.7
	baz=229						
OGNE	Ogallala	18.55	25	P	Pn	13 21 39.3	+1.0
	baz=211						
WVOR	Wild Horse Val	18.60	345	eP	P	13 21 38.5	-0.1
	24nm,1.5s						
V37A	Hulbert	18.73	49	P	Pn	13 21 40.5	+0.2
	baz=237						
K22A	Casper	18.74	14	P	P	13 21 40.1	-0.1
	baz=197,SNR=7.8						
K22A	Casper	18.74	14	eP	Pn	13 21 40.9	+0.3
	30nm,1.0s						
REDW	Red Top Meadow	18.85	4	eP	Pn	13 21 42.3	+0.4
	9.5nm,0.9s						
T36A	Boggs Farm, Ca	18.90	45	P	P	13 21 42.1	+0.3
	baz=233						
M04C	Macdoel	18.92	338	P	Pn	13 21 44.0	+1.3
	baz=153,SNR=8.2						
TPAW	Teton Pass	18.97	3	eP	P	13 21 43.2	+0.4
	14nm,1.0s						
S35A	Otter Creek Ra	19.01	43	P	P	13 21 42.8	-0.2
	baz=231						
342A	Flagon Creek P	19.02	64	P	P	13 21 43.3	+0.1
	baz=254						
U37A	Salina	19.03	47	P	P	13 21 43.4	+0.2
	baz=236						
MFID	Camas Ranch	19.06	352	eP	Pn	13 21 44.7	+0.2
	17nm,1.3s						
HLID	Hailey	19.07	356	P	P	13 21 44.3	+0.4
	baz=175,SNR=5.8						
HLID	Hailey	19.07	356	eP	P	13 21 44.1	+0.3
	8.7nm,1.1s						
LOHW	Long Hollow	19.11	4	eP	Pn	13 21 44.9	-0.2
	7.7nm,1.0s						
FXWY	Fox Creek	19.11	3	eP	Pn	13 21 45.0	-0.2
	9.4nm,0.8s						
V38A	Canehill	19.22	50	P	Pn	13 21 46.0	-0.3
	baz=239						
MOOW	Moose Ponds	19.24	4	eP	Pn	13 21 46.4	-0.2
	21nm,1.4s						
IMW	Indian Meadow	19.38	3	eP	P	13 21 47.8	+0.5
	22nm,1.1s						
S36A	Lake Cedric, C	19.49	44	P	Pn	13 21 49.1	-0.4
	baz=232						
T37A	Cheneyville 18	19.56	46	P	Pn	13 21 50.0	-0.4
	baz=235						
V39A	Pettigrew	19.74	51	P	P	13 21 50.9	-0.2
	baz=240						
H17A	Grant Village	19.89	4	P	Pn	13 21 55.0	+0.5
	baz=185						
H17A	Grant Village	19.89	4	P	P	13 21 51.3	-1.6
	14nm,1.2s						
LKWY	Lake	20.07	4	P	P	13 21 54.7	-0.2
	14nm,0.8s						
J05D	Fort Rock, OR	20.08	341	P	P	13 21 54.9	+0.1
	baz=156,SNR=6.0						
YHH	Holmes Hill	20.27	3	eP	Pn	13 21 58.1	-0.9
	12nm,1.0s						
MCMT	McKenzie Canyo	20.27	359	eP	Pn	13 21 58.6	-0.4
J04D	Umpqua Nationa	20.31	339	P	P	13 21 58.0	+0.6
	baz=154						
R37A	Teagarden Farm	20.32	43	P	P	13 21 58.3	+0.9
	baz=232						
P35A	Duane Minner,	20.39	39	P	P	13 21 59.1	+1.0
	baz=227						
T39A	Clever	20.54	48	P	P	13 22 00.5	+0.8
	baz=238						
U40A	Yellville	20.55	50	P	P	13 22 00.2	+0.3
	baz=240,SNR=6.0						
BMO	Blue Mountains	20.68	350	eP	P	13 22 00.3	-1.0
	5.7nm,1.0s						
RLMT	Red Lodge	20.72	6	P	P	13 22 02.5	+0.6
	baz=188,SNR=9.2						
RLMT	Red Lodge	20.72	6	eP	P	13 22 02.7	+0.9
	25nm,1.3s						
RSSD	Black Hills	20.73	17	P	Pn	13 22 03.5	-0.9
	baz=202						
RSSD	Black Hills	20.73	17	eP	P	13 22 02.2	+0.2
	14nm,1.3s						
V41A	Mountainview	20.78	53	P	P	13 22 03.1	+0.8
	baz=243						
DLMT	Dillon	20.80	360	eP	P	13 22 02.0	-0.7
	14nm,1.0s						
R38A	Fenwick Farm,	20.83	45	P	P	13 22 03.6	+0.8
	baz=234						
S39A	Bolivar	20.93	47	P	P	13 22 03.1	-0.8
	baz=236						
BOZ	Bozeman (W)	21.05	2	P	P	13 22 05.8	+0.5
	baz=182,SNR=8.4						
BOZ	Bozeman (W)	21.05	2	eP	P	13 22 06.2	+0.9
	26nm,1.4s						
I05D	Terrebonne, OR	21.07	342	P	P	13 22 05.9	+0.4
	baz=157						
T40A	Mansfield	21.19	49	P	P	13 22 07.9	+1.2
	baz=239,SNR=5.5						
U41A	Viola	21.21	51	P	P	13 22 06.8	-0.2
	baz=242						
K31A	O'Neill	21.31	29	P	P	13 22 08.4	+0.4
	baz=216						
GCMT	Greycliff	21.35	5	eP	P	13 22 07.8	-0.7
S40A	Lebanon	21.43	48	P	P	13 22 08.7	-0.6
	baz=238,SNR=9.3						
R39A	Chumby, Stover	21.46	46	P	P	13 22 10.0	+0.3
	baz=236						
Q38A	Cooks Store, C	21.47	43	P	P	13 22 09.8	0.0
	baz=233						
U42A	Revenden	21.70	52	P	P	13 22 11.2	-1.0
	baz=243,SNR=6.4						
J31A	Geddes	21.86	28	P	P	13 22 13.4	-0.4
	baz=215						
COR	Corvallis	21.90	339	eP	P	13 22 14.3	+0.1
	33nm,1.1s						
M35A	Neola	21.91	35	P	P	13 22 14.0	-0.4
	baz=224						
S41A	Jillco Farms,	21.94	49	P	P	13 22 14.3	-0.6
	baz=239,SNR=7.5						
447A	Lucedale	21.95	68	P	P	13 22 14.

baz=242
ECSD EROS Data Cent 23.14 30 P **P 13 22 28.1 +0.5**
baz=219
ECSD EROS Data Cent 23.14 30 *eP* **P 13 22 26.9 -0.6**
7.6nm,0.9s
JTMT Jette 23.23 357 *eP* **P 13 22 26.9 -1.6**
N39A Derby Farms, D 23.32 41 P **P 13 22 29.7 +0.4**
baz=232
H32A Carlson Farm, 23.39 28 P **P 13 22 31.4 +1.4**
baz=216
LON Longmire 23.43 344 *eP* **P 13 22 30.2 -0.2**
40nm,1.9s
P41A Barry, Barry 23.50 45 P **P 13 22 31.9 +0.7**
baz=236
EGMT Eagleton 23.56 4 P **P 13 22 32.2 +0.4**
baz=186
EGMT Eagleton 23.56 4 *eP* **P 13 22 31.2 -0.5**
8.8nm,0.8s
LTY Liberty 23.63 346 *eP* **P 13 22 32.2 -0.2**
9.0nm,1.2s
G31A Conde 23.66 26 P **P 13 22 33.0 +0.4**
baz=214
S44A Carbondale 23.72 51 P **P 13 22 33.4 +0.1**
baz=243
E03A Lebam 23.73 341 *eP* **P 13 22 36.0 +2.8**
44nm,1.0s
O41A Passleys Farm, 23.86 44 P **P 13 22 34.9 +0.3**
baz=236
K37A Belmond 23.91 36 P **P 13 22 35.7 +0.6**
baz=226
NEW Newport 23.99 352 P **P 13 22 35.9 +0.1**
6.3nm,1.0s,baz=188,slow=11,SNR=5.4
NEW LR LR 13 32 28.5
comp=Z,340nm,18.5s,baz=180,slow=38
NEW Newport 23.99 352 P **P 13 22 35.7 -0.1**
baz=170
NEW Newport 23.99 352 *eP* **P 13 22 36.0 +0.1**
11nm,1.1s
S45A Carrier Mills 24.20 52 P **P 13 22 37.8 0.0**
baz=244
C06D Leavenworth 24.31 346 P **P 13 22 38.6 -0.2**
baz=161
J37A Redenius Farm, 24.33 35 P **P 13 22 39.4 +0.4**
baz=226
G33A Ortonville 24.37 28 P **P 13 22 39.8 +0.5**
baz=217
O42A Bath 24.42 45 P **P 13 22 40.3 +0.6**
baz=237
WALA Waterton Lakes 24.53 358 *eP* **P 13 22 40.7 -0.2**
16nm,1.4s
H35A Sunnyside Ranc 24.71 31 P **P 13 22 43.2 +0.8**
baz=221
DGMT Dagmar 24.78 13 P **P 13 22 43.0 0.0**
baz=198
E31A Nome 24.90 24 P **P 13 22 43.9 -0.2**
baz=213
B05A Bryant 24.91 345 P **P 13 22 43.6 -0.5**
baz=159
F33A 5 Mile Ranch, 24.94 27 P **P 13 22 44.3 -0.2**
baz=217
F34A Alexandria 25.35 29 P **P 13 22 48.5 +0.3**
baz=219
MDND Maddock 25.42 20 P **P 13 22 49.7 +0.9**
baz=208
A04D Lummi Island 25.48 344 P **P 13 22 50.0 +0.7**
baz=158
G36A St. Michael 25.62 32 P **P 13 22 51.0 +0.4**
baz=222
SPMN Marine on St. 26.07 33 P **P 13 22 54.4 -0.3**
baz=224
E35A Pequot Lakes 26.32 29 P **P 13 22 57.5 +0.5**
baz=219
D34A Park Rapids 26.39 27 P **P 13 22 57.4 -0.2**
baz=217
H39A Augusta 26.46 35 P **P 13 22 59.5 +1.1**
baz=227
B32A Ashes, Strandq 26.94 24 P **P 13 23 03.5 +1.0**
baz=213
TKL Tuckaleechee C 27.08 59 LR LR 13 33 29.2
comp=Z,148nm,18.6s,baz=248,slow=36
AGMN Agassiz Nation 27.11 25 P **P 13 23 04.3 +0.2**
baz=215
E37A Wrenshall 27.24 31 P **P 13 23 04.9 -0.3**
baz=223
C35A Jirik Farms, M 27.39 28 P **P 13 23 07.6 +1.0**
baz=219
ULM Lac du Bonnet 28.73 22 LR LR 13 35 35.2
comp=Z,528nm,18.3s,baz=230,slow=38
YKA Yellowknife Ar 38.00 358 LR LR 13 38 59.4
comp=Z,16nm,21.2s,baz=180,slow=34
ROSC El Rosal 41.52 112 LR LR 13 42 08.1
comp=Z,87nm,20.3s,baz=240,slow=36
PAMC Pamplona, Colo 41.65 107 *eP* **P 13 25 15.0 +4.5**
RUSC La Rusia 42.03 110 *eP* **P 13 25 12.6 -1.1**
RUSC La Rusia 42.03 110 *eP* **P 13 25 17.4 +3.7**
5.2nm,1.0s
SDV Santo Domingo 42.75 104 *eP* **P 13 25 20.8 +1.6**
SDV Santo Domingo 42.75 104 *eP* **P 13 25 20.1 +0.9**
15nm,1.2s
INK Inuvik 45.65 349 P **P 13 25 41.1 -0.4**
3.8nm,0.9s,baz=138,slow=6.1,SNR=3.1
ILAR Eielson Array 46.00 340 P **P 13 25 44.0 -0.3**
2.1nm,0.8s,baz=149,slow=7.0,SNR=23
ILAR LR LR 13 44 40.8
comp=Z,162nm,18.3s,baz=147,slow=36
ILB Eielson Array 46.00 340 *eP* **P 13 25 46.8 +2.5**
LPAZ La Paz 59.26 129 P **P 13 27 23.1 -0.8**
1.3nm,0.7s,baz=322,slow=7.0,SNR=6.1
CPUP Villa Florida 73.40 130 P **P 13 28 54.1 +0.5**
4.0nm,0.7s,baz=328,slow=8.2,SNR=9.2
H11N3 WAKE ISLAND Hy 73.88 285 T T 14 49 44.3
baz=68,slow=75,SNR=56
H11N2 WAKE ISLAND Hy 73.89 285 T T 14 49 40.6
baz=68,slow=75,SNR=50
H11N1 WAKE ISLAND Hy 73.90 285 T T 14 49 41.5
baz=68,slow=75,SNR=52
BDFB Brasilia 74.43 116 LR LR 14 01 23.1
comp=Z,36nm,18.6s,baz=294,slow=36
H11S1 WAKE ISLAND Hy 74.49 284 T T 14 50 40.4
baz=62,slow=74,SNR=32
H11S2 WAKE ISLAND Hy 74.49 284 T T 14 50 41.4
baz=62,slow=74,SNR=30
H11S3 WAKE ISLAND Hy 74.51 284 T T 14 50 41.3
baz=62,slow=74,SNR=26
NOA NORSAR Array B 83.41 24 LR LR 14 06 59.3
comp=Z,37nm,18.2s,baz=140,slow=36
NRIK Noril'sk 85.30 353 P **P 13 29 57.3 -0.6**
2.3nm,0.5s,baz=27,slow=2.3,SNR=3.1
NRIK LR LR 14 08 55.0
comp=Z,31nm,21.6s,baz=309,slow=36
FINES FINESS Array B 88.05 19 LR LR 14 09 37.2
comp=Z,113nm,19.6s,baz=283,slow=36
GERES GERESS Array B 92.58 32 LR LR 14 11 49.2
comp=Z,79nm,19.3s,baz=288,slow=35
AKASG Malin Array Be 97.81 23 LR LR 14 15 46.0
comp=Z,70nm,18.6s,baz=300,slow=36
WRA Warramunga Arr 118.55 260 PKP **PKPdf 13 36 07.9 -1.9**
0.3nm,0.7s,baz=60,slow=2.2,SNR=3.3
ASAR Alice Springs 119.99 256 PKP **PKPdf 13 36 10.5 -2.1**
0.4nm,0.8s,baz=88,slow=2.3,SNR=7.2

*DHMR **21** 13:17:35.1±1.1, 11°.88N×44°.12E, h4km±17km, ML4.7*
*ISCJB **21** 13:17:37.3±0.7, 11°.86N±0°.06×44°.18E±0°.06, h4km, mb3.7/8, MS3.5/11, Error ellipse: s-maj=9.9km s-min=6.0km az=140.6*
*IDC **21** 13:17:38.2±1.5, 11°.67N×44°.18E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/50, mbtmp3.8/9, ML3.1/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/31, Error ellipse: s-maj=42.2km s-min=17.5km az=169.0*
ISC 21 13:17:39.4±0.9, **11°.88N**±0°.09×**44°.15E**±0°.07, **h4**km, **n21,** σ1º**58**/15, **mb4.0**/8, **MS3.5**/11, **Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.20**	**42**	*i* P	Pg	13 17 58.4	-4.1
ADEN				*i* S	**Sg**	**13 18 15.3**	**-2.8**
ADEN				AML	AML	13 18 20.7	
	comp=N,15μm,0.8s						
ATD	**Arta Tunnel**	**1.33**	**255**	Pn	**Pn**	**13 18 02.5**	**-2.3**
	comp=N,127nm,0.3s,baz=36,slow=1.1,SNR=94						
ATD				Sn	**Sg**	**13 18 20.1**	**-1.9**
	comp=N,687nm,0.3s,baz=258,slow=21,SNR=46						
UDYN	**Al 'Udayn**	**2.08**	**355**	*i* P	Pn	13 18 11.6	-3.6
UDYN				*i* S	**Sn**	**13 18 41.2**	**-0.5**
UDYN				AML	AML	13 18 47.1	
	comp=E,10μm,0.5s						
HAJJ	**Hajjah**	**3.83**	**352**	*i* P	**Pn**	**13 18 37.4**	**-2.0**
HAJJ				*i* S	**Sn**	**13 19 26.1**	**+1.1**
HAJJ				AML	AML	13 19 44.9	
	comp=Z,3μm,0.9s						
KMBO	**Kilima Mbogo**	**14.63**	**208**	LR	LR	13 26 39.0	
	comp=Z,523nm,19.6s,baz=74,slow=37						
WSAR	**Wadi Sarin**	**17.82**	**49**	P	**Pn**	**13 21 48.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=248,slow=14,SNR=3.7						
WSAR				LR	LR	13 29 14.3	
	comp=Z,321nm,18.4s,baz=250,slow=39						
EIL	**Elat**	**19.66**	**336**	LR	LR	13 28 29.5	
	comp=Z,72nm,18.9s,baz=216,slow=33						
MMAI	**Mount Meron Ar**	**22.51**	**341**	LR	LR	13 29 55.1	
	comp=Z,67nm,20.4s,baz=190,slow=32						
GNI	**Garni**	**28.16**	**1**	LR	LR	13 35 58.9	
	comp=Z,124nm,19.7s,baz=176,slow=39						
GEYT	**Alibeck**	**28.79**	**23**	LR	LR	13 37 47.9	
	comp=Z,160nm,18.8s,baz=240,slow=42						
BRTR	**Keskin Array B**	**29.25**	**343**	P	**P**	**13 23 44.5**	**+1.8**
	comp=Z,1.6nm,1.0s,baz=146,slow=11,SNR=6.6						
BRTR				LR	LR	13 35 11.9	
	comp=Z,64nm,19.5s,baz=142,slow=36						
KBZ	**Khabaz**	**31.75**	**358**	LR	LR	13 37 28.1	
	comp=Z,86nm,18.7s,baz=174,slow=37						
TORD	**Torodi Ar. Bea**	**41.43**	**276**	P	**P**	**13 25 28.3**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=77,slow=7.4,SNR=4.3						
TORD				LR	LR	13 41 50.3	
	comp=Z,56nm,18.6s,baz=215,slow=35						
BOSA	**Boshof**	**44.21**	**204**	LR	LR	13 45 11.5	
	comp=Z,117nm,20.5s,baz=43,slow=38						
GERES	**GERESS Array B**	**44.68**	**332**	P	**P**	**13 25 55.5**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=121,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.34**	**35**	P	**P**	**13 26 14.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=219,slow=5.6,SNR=5.7						
MKAR				LR	LR	13 49 36.7	
	comp=Z,70nm,18.5s,baz=247,slow=40						
DBIC	**Dimbokro**	**48.59**	**268**	LR	LR	13 45 31.1	
	comp=Z,39nm,20.1s,baz=63,slow=34						
ZALV	**Zalesovo Beam**	**52.85**	**29**	P	**P**	**13 26 55.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=258,slow=7.4,SNR=4.3						
ZALV				LR	LR	13 52 49.4	
	comp=Z,192nm,18.0s,baz=250,slow=40						
CMAR	**Chiang Mai Arr**	**53.12**	**76**	P	**P**	**13 26 59.1**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=272,slow=8.5,SNR=14						
CMAR				LR	LR	13 50 51.4	
	comp=Z,11nm,18.6s,baz=299,slow=38						
SONM	**Songino Array**	**62.72**	**42**	P	**P**	**13 28 06.0**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=241,slow=6.0,SNR=7.0						
KSRS	**Korea Array**	**77.97**	**54**	P	**P**	**13 29 39.2**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=282,slow=6.3,SNR=4.6						

*ISCJB **21** 13:18:23.4±1.6, 19°.1S±0°.2×169°.4E±0°.3, h246km, mb3.9/8, Error ellipse: s-maj=45.5km s-min=11.9km az=33.7*
*IDC **21** 13:18:23.3±2.5, 18°.91S×169°.31E, h226km±28km, mb3.7/8, mb1 3.8/9, mb1mx3.5/37, mbtmp4.3/9, MS2.8/2, Ms1 2.8/2, ms1mx2.6/19, Error ellipse: s-maj=55.0km s-min=20.8km az=147.0*
ISC 21 13:18:24.5±1.7, **19°.1S**±0°.2×**169°.4E**±0°.3, **h246**km, **n12,** σ1º**13**/12, **mb4.0**/8, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**223**	P	**Pn**	**13 19 27.4**	**-1.2**
	7.0nm,0.3s,baz=344,slow=23,SNR=37						
DZM				S	**S**	**13 20 19.4**	**-0.1**
	5.0nm,0.3s,baz=199,slow=15,SNR=3.2						
DZM				LR	LR	13 20 57.8	
	comp=Z,59nm,20.7s,baz=244,slow=37						
CTA	**Charters Tower**	**21.84**	**264**	P	**P**	**13 22 57.1**	**-0.4**
	3.5nm,0.6s,baz=110,slow=12,SNR=4.5						
PMG	**Port Moresby**	**23.61**	**291**	LR	LR	13 31 36.5	
	comp=Z,60nm,20.3s,baz=206,slow=34						
STKA	**Stephens Creek**	**28.04**	**238**	P	**P**	**13 23 55.7**	**+2.4**
	1.7nm,0.4s,baz=64,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**33.03**	**263**	P	**P**	**13 24 36.0**	**-1.1**
	1.5nm,0.4s,baz=88,slow=8.4,SNR=29						
ASAR	**Alice Springs**	**33.32**	**256**	P	**P**	**13 24 39.5**	**-0.1**
	12nm,0.4s,baz=81,slow=8.7,SNR=534						
FITZ	**Fitzroy Crossi**	**41.42**	**264**	P	**P**	**13 25 47.7**	**+0.3**
	2.3nm,0.5s,baz=97,slow=7.4,SNR=10.0						
PETK	**Petropavlovsk-**	**72.66**	**353**	P	**P**	**13 29 25.5**	**+0.4**
	2.5nm,0.8s,baz=158,slow=4.7,SNR=3.6						
SONM	**Songino Array**	**87.24**	**323**	P	**P**	**13 30 43.6**	**+0.3**
	0.6nm,0.8s,baz=152,slow=9.4,SNR=3.6						
ILAR	**Eielson Array**	**90.08**	**17**	P	**P**	**13 30 55.4**	**-0.6**
	0.6nm,0.7s,baz=247,slow=4.6,SNR=8.6						
ARCES	**ARCESS Array B**	**125.01**	**345**	PKP	**PKPdf**	**13 36 55.4**	**+0.7**
	3.6nm,0.9s,baz=27,slow=3.0,SNR=3.8						
GERES	**GERESS Array B**	**144.48**	**331**	PKP	**PKPab**	**13 37 29.4**	**-1.3**
	0.5nm,0.7s,baz=346,slow=2.8,SNR=4.2						

*IDC **21** 13:20:20.4±0.8, 1°.00S×127°.16E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/44, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=57.3km s-min=16.6km az=76.0*
*ISCJB **21** 13:20:23.6±0.4, 1°.01S±0°.04×126°.99E±0°.04, h34km, mb4.0/6, Error ellipse: s-maj=5.5km s-min=5.2km az=12.9*
*DJA **21** 13:20:24.1±0.5, 1°.5±2°.×12°.7E±°., h23km±5km, M4.1/13, mB5.0/2, mb4.3/7, MLv4.0/13, Mw(mB)4.3/2*
ISC 21 13:20:25.2±0.7, **1°.04S**±0°.05×**127°.05E**±0°.05, **h34**km, **n24,** σ1º**08**/28, **mb4.1**/6, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.60**	**49**	P	**Pn**	**13 20 35.7**	**-1.5**
LBMI				S	**Sn**	**13 20 44.9**	**-0.9**
SANI	**Sanana**	**1.46**	**226**	P	**Pn**	**13 20 48.0**	**-1.2**
SANI				S	**Sn**	**13 21 06.5**	**-0.7**
NLAI	**Namlea**	**2.19**	**179**	P	**Pn**	**13 20 58.5**	**-0.7**
NLAI				S	**Sn**	**13 21 24.9**	**-0.2**
AAI	**Ambon**	**2.87**	**157**	P	**Pn**	**13 21 09.6**	**+1.0**
MSAI	**Masohi**	**2.96**	**141**	P	**Pn**	**13 21 11.6**	**+1.7**
KMSI	**Cibinong**	**3.46**	**298**	P	**Pn**	**13 21 17.5**	**+0.8**
KMSI				S	**Sn**	**13 21 54.7**	**-1.8**
BNDI	**Bandanaira**	**4.49**	**141**	P	**Pn**	**13 21 32.3**	**+1.5**
MRSI	**Marisa**	**5.32**	**286**	P	**Pn**	**13 21 43.3**	**+1.0**
APSI	**Ampana**	**5.40**	**271**	P	**Pn**	**13 21 41.4**	**-2.0**
BBSI	**Bau Bau**	**6.29**	**225**	P	**Pn**	**13 21 55.4**	**-0.2**
PCI	**Palu**	**7.21**	**271**	P	**Pn**	**13 22 08.9**	**+0.6**
MPSI	**Mapaga**	**7.28**	**281**	P	**Pn**	**13 22 10.4**	**+1.2**
TTSI	**Tana Toraja**	**7.50**	**254**	P	**Pn**	**13 22 12.3**	**+0.1**
BNSI	**Bone**	**7.70**	**244**	P	**Pn**	**13 22 14.0**	**-0.9**
SPSI	**Sidrap Palu**	**7.83**	**248**	P	**Pn**	**13 22 16.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**17.02**	**185**	Pn	**P**	**13 24 21.7**	**-0.6**
	0.1nm,0.3s,baz=16,slow=9.2,SNR=7.4						
WRA	**Warramunga Arr**	**20.10**	**160**	P	**P**	**13 24 55.0**	**-1.2**
	3.0nm,0.9s,baz=336,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.46**	**164**	P	**P**	**13 25 30.8**	**-1.0**
	4.0nm,0.8s,baz=343,slow=9.8,SNR=28						
STKA	**Stephens Creek**	**33.61**	**157**	P	**P**	**13 27 03.5**	**+1.0**
	4.9nm,0.8s,baz=331,slow=8.6,SNR=10.0						
SONM	**Songino Array**	**51.90**	**342**	P	**P**	**13 29 31.3**	**+0.7**
	0.4nm,0.7s,baz=139,slow=9.0,SNR=2.7						
PETK	**Petropavlovsk-**	**59.72**	**21**	P	**P**	**13 30 26.6**	**+0.2**
	1.7nm,0.7s,baz=228,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**61.66**	**327**	P	**P**	**13 30 40.0**	**+0.3**
	0.5nm,0.5s,baz=136,slow=7.8,SNR=6.6						
TIXI	**Tiksi**	**72.57**	**1**	P	**P**	**13 31 48.0**	**-0.5**
	0.8nm,0.3s,baz=196,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**124.58**	**285**	PKP	**PKPdf**	**13 39 23.2**	**+1.0**
	0.2nm,0.7s,baz=64,slow=3.4,SNR=2.8						

*ISCJB **21** 13:21:03.7±1.1, 21°.9S±0°.1×179°.4W±0°.2, h600km, mb4.0/7, Error ellipse: s-maj=20.8km s-min=14.8km az=170.0*
*IDC **21** 13:21:03.5±3.0, 21°.75S×179°.27W, h589km±30km, mb3.4/7, mb1 3.6/9, mb1mx3.2/38, mbtmp4.4/9, Error ellipse: s-maj=44.1km s-min=25.5km az=168.0*
ISC 21 13:21:05.0±1.2, **22°.0S**±0°.2×**179°.4W**±0°.1, **h600**km, **n10,** σ1º**13**/13, **mb4.2**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.18**	**267**	P	**P**	**13 23 56.9**	**+1.1**
	0.6nm,0.3s,baz=162,slow=20,SNR=5.1						
URZ	**Urewera**	**16.54**	**190**	P	**P**	**13 24 27.3**	**+0.2**
	0.7nm,0.3s,baz=304,slow=3.6,SNR=5.6						
URZ				S	**S**	**13 27 11.1**	**-0.5**
	0.3nm,0.3s,baz=148,slow=19,SNR=3.7						
CTA	**Charters Tower**	**32.12**	**267**	P	**P**	**13 26 45.0**	**0.0**
	9.0nm,0.6s,baz=93,slow=9.8,SNR=12						
STKA	**Stephens Creek**	**36.04**	**246**	P	**P**	**13 27 18.7**	**+1.3**
	3.1nm,0.5s,baz=82,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**42.98**	**258**	P	**P**	**13 28 12.8**	**-0.2**
	7.1nm,0.5s,baz=91,slow=8.1,SNR=78						
ASAR				PcP	**PcP**	**13 29 49.3**	**-0.2**
	0.4nm,0.6s,baz=88,slow=4.7,SNR=4.1						
ASAR				ScP	**ScP**	**13 32 45.7**	**+1.4**
	0.8nm,0.9s,baz=99,slow=4.2,SNR=6.0						
ASAR				S	**S**	**13 33 54.0**	**-2.4**
	0.7nm,0.8s,baz=95,slow=16,SNR=5.5						
WRA	**Warramunga Arr**	**43.17**	**264**	P	**P**	**13 28 13.5**	**-1.1**
	3.2nm,0.3s,baz=96,slow=7.7,SNR=100						
FITZ	**Fitzroy Crossi**	**51.60**	**264**	P	**P**	**13 29 17.3**	**-0.2**
	1.3nm,0.4s,baz=85,slow=4.5,SNR=15						
TXAR	**Lajitas Array**	**88.89**	**58**	P	**P**	**13 32 56.2**	**-0.7**
	0.7nm,0.9s,baz=216,slow=6.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**13 32 59.8**	**+0.4**
	0.6nm,0.7s,baz=132,slow=2.8,SNR=5.8						
AKASG	**Malin Array Be**	**143.63**	**329**	PKP	PKPab	13 39 28.5	-2.9
	1.7nm,0.6s,baz=43,slow=4.7,SNR=8.1						

TRN 21 13:26:52.3, 15°.20N×61°.03W, h150km, MD3.7, 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAMF	**Morne Balai**	**0.40**	**197**	*eP*	Pn	13 27 14.3	+1.0
CXM	**Morne La Croix**	**0.41**	**200**	‖*eP*	Pn	13 27 14.7	+1.2
CXM				*eS*	Sn	13 27 30.5	+0.9
PCM	**Pelee Case Pet**	**0.42**	**205**	‖*eP*	Pn	13 27 14.5	+1.1
PCM	**Pelee Case Pet**	**0.42**	**205**	*eP*	Pn	13 27 14.6	+1.2
GBMF	**Grand Be**	**0.42**	**199**	*eP*	Pn	13 27 14.7	+1.3
FDF	**Fort de France**	**0.47**	**195**	*eP*	Pn	13 27 14.8	+1.2
FDF				*eS*	Sn	13 27 30.1	+0.3
BBL	**Barber's Block**	**0.54**	**308**	*eP*	Pn	13 27 14.7	+0.7
LPMF	**Morne Lapointe**	**0.62**	**175**	*eP*	Pn	13 27 15.1	+0.8
MVM	**Montagne Vaucl**	**0.65**	**169**	‖*eP*	Pn	13 27 15.5	+0.9
TRMF	**Trois Ilets**	**0.66**	**182**	*eP*	Pn	13 27 15.9	+1.4
BIM	**Bigot**	**0.68**	**184**	*eP*	Pn	13 27 16.4	+1.6
BIM				*eS*	Sn	13 27 32.2	+0.4
MGG	**Marie-Galante**	**0.77**	**339**	*eP*	Pn	13 27 16.6	+1.3
MGG				*eS*	Sn	13 27 33.0	+0.1
TBG	**Guadaloupe-3**	**0.89**	**318**	*i P*	Pn	13 27 17.0	+0.9
TBG				*eS*	Sn	13 27 35.7	+1.3
SSG	**Sans Toucher**	**1.09**	**325**	*eP*	Pn	13 27 19.1	+1.0
DEG	**La Desirade**	**1.11**	**358**	*eP*	Pn	13 27 19.7	+1.5
DEG				*eS*	Sn	13 27 39.3	+1.3
SLB	**Belfond**	**1.36**	**181**	*eP*	Pn	13 27 21.4	+0.8
SLB				*eS*	Sn	13 27 43.5	+1.3
MCLT	**Moule a Chique**	**1.48**	**177**	*eP*	Pn	13 27 22.3	+0.5
MCLT				*eS*	Sn	13 27 44.4	+0.1
SSV	**Crater Summit**	**1.86**	**185**	*eP*	Pn	13 27 26.4	+0.4
SSV				*eS*	Sn	13 27 52.6	+0.8
SVV	**Soufriere Volc**	**1.88**	**186**	*eP*	Pn	13 27 25.7	-0.4
SVV				*eS*	Sn	13 27 53.1	+1.2
MLYT	**Lee's Yard**	**1.89**	**324**	*eP*	Pn	13 27 26.5	+0.3
MLYT				*eS*	Sn	13 27 52.2	0.0
SVB	**Belmont**	**1.92**	**187**	*eP*	Pn	13 27 27.2	+0.6
SVB				*eS*	Sn	13 27 52.7	-0.3
BPA	**Boggy Peak**	**2.01**	**337**	*eP*	Pn	13 27 28.7	+1.1
BPA				*eS*	Sn	13 27 55.9	+1.2
ANWB	**Willy Bob**	**2.56**	**344**	*eP*	Pn	13 27 34.6	+0.3
ANWB				*eS*	Sn	13 28 06.0	-0.6
GRW	**Mount Saint Ca**	**3.08**	**192**	*eP*	Pn	13 27 43.0	+2.1
GRW				*eS*	Sn	13 28 19.1	+0.7
TOSP	**Speyside**	**3.90**	**173**	*eP*	Pn	13 27 52.9	+1.5

*ATH **21** 13:31:44.3, 38°.22N×25°.66E, h29km±2km, ML2.0/9, Error ellipse: s-maj=3.4km s-min=1.0km az=98.0*
*ISCJB **21** 13:31:45.4±0.5, 38°.26N±0°.03×25°.65E±0°.04, h26km±7km, Error ellipse: s-maj=6.0km s-min=5.0km az=140.0*
*CSEM **21** 13:31:45.2±0.2, 38°.24N×25°.67E, h20km, ML2.0, Error ellipse: s-maj=7.6km s-min=4.2km az=131.0*
*DDA **21** 13:31:51.4, 38°.35N×26°.13E, h6km, Ml2.5*
ISC 21 13:31:45.1±1.1, **38°.23N**±0°.03×**25°.64E**±0°.03, **h19**km±3km, **n33,** σ0º**78**/57, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.36**	**64**	P	**Pb**	**13 31 53.6**	**+0.4**
CHOS				S	**Sg**	**13 31 57.0**	**-1.1**
CHOS				AML	AML	13 31 58.5	
	comp=N,1136μm,0.2s						
CHOS				AML	AML	13 31 59.2	
	comp=E,2059μm,0.2s						
CHOS	**Chios island**	**0.36**	**64**	P	**Pb**	**13 31 53.6**	**+0.4**
CHOS				S	**Sg**	**13 31 57.0**	**-1.1**
ZEY	**˜zmir**	**0.68**	**89**	*i P*	**Pb**	**13 31 58.1**	**-0.2**
ZEY				*i S*	**Sg**	**13 32 07.7**	**0.0**
URLA	**Izmir**	**0.76**	**80**	*i P*	**Pb**	**13 31 59.9**	**0.0**
URLA				*i S*	**Sg**	**13 32 10.5**	**+0.2**
URLA	**Izmir**	**0.76**	**80**	P	**Pb**	**13 31 59.9**	**0.0**
URLA				S	**Sg**	**13 32 10.5**	**+0.2**
KARY	**Karystos**	**0.97**	**259**	P	**Pg**	**13 32 04.7**	**+0.7**
KARY				S	**Sb**	**13 32 15.9**	**+0.2**
KARY				AML	AML	13 32 17.4	
	comp=E,141μm,0.2s						
KARY				AML	AML	13 32 18.3	
	comp=N,180μm,0.2s						
KARY	**Karystos**	**0.97**	**259**	P	**Pg**	**13 32 04.7**	**+0.7**
KARY				S	**Sb**	**13 32 15.9**	**+0.2**
DGB	**˜zmir**	**0.99**	**100**	*i P*	**Pb**	**13 32 03.6**	**-0.2**
DGB				*i S*	**Sn**	**13 32 18.1**	**+0.4**
SIGR	**SIGRI**	**1.00**	**10**	P	**Pb**	**13 32 03.6**	**-0.2**
SIGR				AML	AML	13 32 19.7	
	comp=E,119μm,0.4s						
SIGR				S	**Sg**	**13 32 19.8**	**+2.1**
SIGR				AML	AML	13 32 19.9	
	comp=N,101μm,0.5s						
SIGR	**SIGRI**	**1.00**	**10**	P	**Pb**	**13 32 03.7**	**-0.2**
PRK	**Paraskevi**	**1.13**	**26**	P	**Pn**	**13 32 05.8**	**-0.2**
PRK				S	**Sb**	**13 32 19.7**	**-0.8**
PRK				AML	AML	13 32 29.0	
	comp=E,95μm,0.5s						
PRK				AML	AML	13 32 31.3	
	comp=N,96μm,0.5s						
PRK	**Paraskevi**	**1.13**	**26**	P	**Pn**	**13 32 05.8**	**-0.2**
PRK				S	**Sb**	**13 32 19.7**	**-0.8**
APE	**Apeiranthos**	**1.16**	**184**	P	**Pn**	**13 32 05.8**	**-0.6**
APE				S	**Sn**	**13 32 22.2**	**+0.4**
APE				AML	AML	13 32 24.7	
	comp=N,96μm,0.2s						
APE				AML	AML	13 32 24.7	
	comp=E,80μm,0.2s						
APE	**Apeiranthos**	**1.16**	**184**	P	**Pn**	**13 32 05.8**	**-0.6**
APE				S	**Sn**	**13 32 22.2**	**+0.4**
SERI	**Serifos**	**1.40**	**221**	P	**Pb**	**13 32 10.7**	**-0.1**
SERI				S	**Sg**	**13 32 30.3**	**-0.3**
SERI				AML	AML	13 32 31.9	
	comp=E,119μm,0.3s						
SERI				AML	AML	13 32 32.4	

MHLO			S	Sn	13 32 39.0	+0.9
THR3	Thira Island,	1.82 186	P	Pn	13 32 15.2	-0.3
THR3	Thira Island,	1.82 186	P	Pn	13 32 15.2	-0.3
DID	Didima	2.03 250	P	Pb	13 32 20.7	-0.8
DID			AML	AML	13 32 50.8	
	comp=E,30μm,0.7s					
DID			AML	AML	13 32 53.0	
	comp=N,34μm,0.5s					
DID	Didima	2.03 250	P	Pb	13 32 20.7	-0.8

*ISK **21** 13:36:19.8, 41°.60N×35°.49E, h5km, MD2.4*
*DDA **21** 13:36:20.9, 41°.58N×35°.45E, h12km, Ml2.9*
*CSEM **21** 13:36:21.1±0.2, 41°.58N×35°.46E, h2km, MD2.4, Error ellipse: s-maj=4.7km s-min=3.3km az=56.0*
ISC 21 13:36:18.9±1.2, 41°.67N±0°.04×35°.54E±0°.05, h16km±7km, n22, σ0°35/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIKM	Dikmen	0.21	265	ePG	Pg	13 36 23.8	-0.1
DIKM				eSG	Sg	13 36 27.4	+0.2
DIKM	Dikmen	0.21	265	ePg	Pg	13 36 23.8	-0.1
DIKM				eSg	Sg	13 36 27.4	+0.2
SNOP	Sinop	0.43	325	ePG	Pn	13 36 30.5	+0.1
SNOP				eSG	Sn	13 36 37.6	-0.3
SNOP	Sinop	0.43	325	ePg	Pn	13 36 30.5	+0.1
SNOP				eSg	Sn	13 36 37.6	-0.3
SINO	SINOP_Merkez	0.43	324	iP	Pn	13 36 30.1	-0.3
SINO				iS	Sn	13 36 38.4	+0.5
SINO	SINOP_Merkez	0.43	324	P	Pn	13 36 30.1	-0.3
SINO				S	Sn	13 36 38.4	+0.5
BOYT	Boyabat	0.54	243	iP	Pb	13 36 29.5	-0.5
BOYT				iS	Sg	13 36 36.8	0.0
BOYT	Boyabat	0.54	243	P	Pb	13 36 29.5	-0.5
BOYT				S	Sg	13 36 36.8	0.0
SAMS	Samsun-Alacam	0.58	122	iP	Pn	13 36 32.5	+0.1
SAMS				iS	Sn	13 36 41.3	-0.2
SAMS	Samsun-Alacam	0.58	122	P	Pn	13 36 32.5	+0.1
SAMS				S	Sn	13 36 41.3	-0.2
HAVZ	Havza	0.61	167	iP	Pb	13 36 31.2	0.0
HAVZ				iS	Sb	13 36 40.3	+0.8
HAVZ	Havza	0.61	167	P	Pb	13 36 31.2	0.0
HAVZ				S	Sb	13 36 40.3	+0.8
KVT	Kavak	0.70	147	ePG	Pn	13 36 33.9	-0.3
KVT	Kavak	0.70	147	ePg	Pn	13 36 33.9	-0.3
CTAK	Corum_Osmancik	1.17	209	iP	Pg	13 36 41.1	-0.4
CTAK				iS	Sn	13 36 56.8	+0.4
CTAK	Corum_Osmancik	1.17	209	P	Pg	13 36 41.1	-0.4
CTAK				S	Sn	13 36 56.8	+0.4
COAL	Corum-Alaca	1.48	197	iP	Pg	13 36 46.7	-0.6
COAL				iS	Sg	13 37 06.5	0.0
COAL	Corum-Alaca	1.48	197	P	Pg	13 36 46.7	-0.6
COAL				S	Sg	13 37 06.5	0.0
ILGA	Ilgaz	1.50	246	iP	Pb	13 36 46.5	-0.1
ILGA				iS	Sg	13 37 07.8	+0.3
ILGA	Ilgaz	1.50	246	P	Pb	13 36 46.5	-0.1
ILGA				S	Sg	13 37 07.8	+0.3
CORM	Corum	1.64	205	ePN	Pg	13 36 50.1	-0.4
CORM				eSN	Sg	13 37 11.9	+0.1
CORM	Corum	1.64	205	ePn	Pg	13 36 50.1	-0.4
CORM				eSn	Sg	13 37 11.9	+0.1

IDC 21 13:38:08.4±5.4, 30°.25S×178°.08W, h77km±42km, mb3.2/3, mb1 3.4/3, mb1mx3.2/16, mbtmp3.5/3, Error ellipse: s-maj=87.0km s-min=49.0km az=144.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.00	8	P	Pn	13 38 27.0	-0.2
	90nm,0.3s,baz=83,slow=16,SNR=4.7						
RAO				S	Sn	13 38 41.8	+0.4
	179nm,0.3s,baz=48,slow=23,SNR=11						
URZ	Urewera	8.93	205	S	Sn	13 41 43.8	-10
	0.6nm,0.3s,baz=161,slow=19,SNR=5.7						
STKA	Stephens Creek	34.45	257	P	P	13 44 49.4	+0.6
	1.3nm,0.8s,baz=83,slow=13,SNR=3.4						
ASAR	Alice Springs	43.05	267	P	P	13 46 00.4	-0.4
	0.2nm,0.6s,baz=109,slow=7.3,SNR=4.5						
WRA	Warramunga Arr	44.02	272	P	P	13 46 08.2	-0.4
	0.3nm,0.3s,baz=110,slow=8.1,SNR=8.3						
FINES	FINESS Array B	144.98	340	PKP	PKPab	13 57 35.5	+0.1
	2.2nm,0.8s,baz=45,slow=4.1,SNR=3.9						

*NSSC **21** 13:40:07.7±35.0, 34°.22N×34°.63E, h34km±660km, ML2.4*
*ISCJB **21** 13:40:21.9±0.5, 33°.79N±0°.03×35°.73E±0°.05, h10km, Error ellipse: s-maj=5.6km s-min=4.1km az=3.4*
*CSEM **21** 13:40:22.1, 33°.78N×35°.78E, h0km, ML2.9*
*GRAL **21** 13:40:22.1±0.3, 33°.78N×35°.78E, h0km±18km, MD2.9*
ISC 21 13:40:23.3±0.9, 33°.79N±0°.02×35°.73E±0°.03, h10km, n19, σ2°18/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.13	333	eP	Pg	13 40 25.1	-1.3
BHL				eS	Sg	13 40 27.4	-1.2
BHL	Bhannes	0.13	333	eP	Pg	13 40 25.1	-1.3
BHL				eS	Sg	13 40 27.4	-1.2
DQRL	Deir Qamar	0.15	237	eP	Pg	13 40 25.6	-1.2
DQRL				eS	Sg	13 40 28.1	-1.0
DQRL	Deir Qamar	0.15	237	eP	Pg	13 40 25.6	-1.2
DQRL				eS	Sg	13 40 28.1	-1.0
BEYL	Beirut	0.21	293	eP	Pg	13 40 26.8	-0.8
BEYL	Beirut	0.21	293	eP	Pg	13 40 26.8	-0.8
QRWL	Qaraoun	0.24	188	eP	Pg	13 40 26.5	-1.8
QRWL	Qaraoun	0.24	188	eP	Pg	13 40 26.5	-1.8
BRBR	Barbar	0.42	153	eP	Pg	13 40 29.8	-1.8
BRBR				AML	AML	13 40 39.2	
	comp=E,200nm,0.3s						
BRBR				AML	AML	13 40 41.0	
	comp=N,127nm,0.4s						
BRBR				eS	Sb	13 40 47.0	+7.5
SHBL	Chebaa	0.44	178	eP	Pg	13 40 29.8	-2.1
SHBL				eS	Sg	13 40 35.5	-2.3
SHBL	Chebaa	0.44	178	eP	Pg	13 40 29.8	-2.1
SHBL				eS	Sg	13 40 35.5	-2.3
HWQ	Hawqa	0.52	21	eP	Pg	13 40 31.5	-1.9
HWQ	Hawqa	0.52	21	eP	Pg	13 40 31.5	-1.9
MARH	Ras Al Marh	0.67	69	eP	Pg	13 40 34.3	-2.0
MARH				eS	Sn	13 40 52.3	+2.4
MARH				AML	AML	13 40 52.7	
	comp=N,1μm,0.4s						
MARH				AML	AML	13 40 54.3	
	comp=E,136nm,0.8s						
TOTH	TOTAH	0.73	126	eP	Pg	13 40 35.4	-1.9
TOTH				AML	AML	13 40 57.5	
	comp=N,53nm,0.5s						
TOTH				AML	AML	13 40 58.8	
	comp=E,55nm,0.7s						
HAWK	Haweek	0.92	38	eP	Pg	13 40 33.6	-7.5
HAWK				eS	Sg	13 40 50.7	-2.4
HAWK				AML	AML	13 40 58.4	
	comp=N,42nm,0.5s						
HAWK				AML	AML	13 40 59.4	
	comp=E,36nm,0.4s						
SALA	Sala	1.37	142	eP	Pn	13 40 48.9	+0.3
SALA				eS	Sn	13 41 07.1	+0.3
SALA				AML	AML	13 41 12.2	
	comp=E,5.8nm,0.4s						
SALA				AML	AML	13 41 13.7	
	comp=N,44nm,0.4s						
RABH	Abou Rabah	1.39	62	eP	Pn	13 40 48.5	-0.3
RABH				AML	AML	13 40 49.9	
	comp=N,20nm,0.3s						
RABH				AML	AML	13 40 51.3	
	comp=E,332nm,0.1s						
RABH				eS	Sg	13 41 09.4	+1.5
BTCH	Batrach	2.32	15	eP	Pb	13 41 04.5	-0.7
BTCH				AML	AML	13 41 10.5	
	comp=E,17nm,0.3s						
BTCH				AML	AML	13 41 12.9	
	comp=N,20nm,0.6s						
BTCH				eS	Sg	13 41 37.2	-0.7

*ISCJB **21** 13:47:35.9±1.3, 11°.8N±0°.3×44°.2E±0°.1, h10km, mb3.6/6, MS3.1/2, Error ellipse: s-maj=39.9km s-min=9.2km az=160.0*

*IDC **21** 13:47:36.0±1.5, 11°.78N×44°.10E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/32, mbtmp3.7/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/43, Error ellipse: s-maj=49.1km s-min=16.0km az=162.0*
ISC 21 13:47:37.4±1.5, 11°.7N±0°.3×44°.1E±0°.1, h10km, n11, σ1°28/8, mb3.7/6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.25	261	Pn	Pn	13 48 00.0	-1.1
	170nm,0.3s,baz=64,slow=3.0,SNR=53						
ATD				Sn	Sn	13 48 18.2	+0.1
	166nm,0.3s,baz=270,slow=20,SNR=22						
KMBO	Kilima Mbogo	14.47	209	LR	LR	13 56 36.3	
	comp=Z,152nm,18.1s,baz=97,slow=37						
WSAR	Wadi Sarin	17.95	48	LR	LR	13 59 02.2	
	comp=Z,62nm,20.7s,baz=238,slow=38						
GNI	Garni	28.32	1	LR	LR	14 05 45.5	
	comp=Z,40nm,21.0s,baz=188,slow=38						
GEYT	Alibeck	28.95	23	LR	LR	14 07 36.3	
	comp=Z,52nm,19.2s,baz=230,slow=42						
BRTR	Keskin Array B	29.39	343	P	P	13 53 41.9	+0.8
	0.9nm,0.8s,baz=144,slow=9.2,SNR=5.2						
TORD	Torodi Ar. Bea	41.41	277	P	P	13 55 25.8	+1.3
	0.3nm,0.7s,baz=96,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	47.49	35	P	P	13 56 12.3	-0.4
	0.2nm,0.3s,baz=216,slow=6.0,SNR=6.1						
ZALV	Zalesovo Beam	53.01	29	P	P	13 56 52.3	-2.0
	0.3nm,0.3s,baz=203,slow=4.4,SNR=4.1						
CMAR	Chiang Mai Arr	53.20	76	P	P	13 56 57.0	+0.7
	1.1nm,0.7s,baz=274,slow=8.5,SNR=10						
SONM	Songino Array	62.87	42	P	P	13 58 03.7	-0.1
	0.7nm,0.7s,baz=250,slow=6.0,SNR=4.1						

IDC 21 14:06:02.9±4.7, 15°.68S×176°.05W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/35, mbtmp4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/34, Error ellipse: s-maj=168.1km s-min=94.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.69	240	P	P	14 13 53.1	-0.5
	1.9nm,0.9s,baz=82,slow=9.3,SNR=5.0						
WRA	Warramunga Arr	47.30	257	P	P	14 14 38.7	+0.1
	0.6nm,0.5s,baz=90,slow=7.7,SNR=16						
ASAR	Alice Springs	47.60	252	P	P	14 14 40.9	-0.1
	4.0nm,0.4s,baz=89,slow=7.7,SNR=146						
ASAR				PcP	PcP	14 16 10.5	-0.4
	0.3nm,0.6s,baz=105,slow=3.3,SNR=4.4						
FITZ	Fitzroy Crossi	55.66	259	LR	LR	14 37 44.1	
	comp=Z,32nm,18.1s,slow=34						

*NIED **21** 14:18:00, 36°.70N×140°.70E, h5km, Mw3.9 Best double couple: M0:8.48000×10^14 NP1:φs.336.00000°, δ34.00000°, λ-73.00000°. NP2:φs.136.00000°, δ58.00000°, λ-101.00000°.*
*ISCJB **21** 14:18:04.8±0.6, 36°.69N±0°.03×140°.63E±0°.05, h10km±3km, mb3.8/11, MS2.9/3, Error ellipse: s-maj=7.3km s-min=4.1km az=32.6*
*IDC **21** 14:18:05.1±0.8, 36°.72N×140°.51E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/56, mbtmp3.8/12, ML3.8/1, MS2.9/4, Ms1 2.9/4, ms1mx2.5/50, Error ellipse: s-maj=17.2km s-min=12.6km az=164.0*
*JMA **21** 14:18:05.5, 36°.70N×140°.61E, h5km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs.134.00000°, δ58.00000°, λ-116.00000°. NP2: φs.356.00000°, δ40.00000°, λ-55.00000°. Principal axes: T Plg10.0000°, Azm242.0000°; N Plg22.0000°, Azm148.0000°; P Plg66.0000°, Azm355.0000°;*
JMA Felt II J1.
*NEIC **21** 14:18:10.5±0.6, 36°.79N×140°.41E, h35km, mb4.0/1 Error ellipse: s-maj=14.3km s-min=10.0km az=145.0*
NEIC Recorded [2 JMA] in Ibaraki.
ISC 21 14:18:05.4±1.2, 36°.72N±0°.03×140°.52E±0°.04, h1km±8km, n34, σ0°89/33, mb3.8/11, MS2.5/3, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.11	161	↑↑P	Pg	14 18 07.7	+0.1
JHO				S	Sg	14 18 09.1	+0.1
ONAJ	Iwakimizuishiy	0.44	30	↑↑P	Pg	14 18 13.8	-0.1
ONAJ				eS	Sg	14 18 19.7	+0.1
JSB	Shiboa	0.55	297	P	Pb	14 18 18.1	+0.4
JSB				eS	Sb	14 18 25.2	-0.9
JYT	Yasato	0.56	209	↑↑P	Pg	14 18 16.7	+0.7
JYT				eS	Sg	14 18 24.4	+1.1
JFK	Kawauchi	0.70	23	P	Pg	14 18 18.7	-0.2
JFK				S	Sg	14 18 28.1	0.0
JFT	Otama	0.81	349	↓P	Pg	14 18 21.6	+0.6
JFT				S	Sb	14 18 32.8	-1.0
JAG	Ashikaga	0.91	252	↑↑P	Pb	14 18 23.3	-0.6
JAG				S	Sb	14 18 36.5	0.0
JFY	Yanaizu	0.95	317	P	Pb	14 18 24.6	0.0
JFY				eS	Sb	14 18 37.7	0.0
MJAR	Matsushiro Arr	1.87	265	Pg	Pb	14 18 39.0	-1.3
	24nm,0.3s,baz=86,slow=9.4,SNR=205						
MJAR				Lg	Lg	14 19 04.7	
	39nm,0.3s,baz=87,slow=27,SNR=17						
MJAR				LR	LR	14 19 20.6	
	comp=Z,80nm,19.9s,baz=110,slow=41						
MAJO	Matsushiro	1.87	265	ePn	Pb	14 18 39.5	-0.9
MAT	Matsushiro	1.87	265	P	Pb	14 18 39.3	-1.1
MAT				S	Sg	14 19 05.8	+0.3
ASAJ	Asahikawa	7.56	11	Pn	Pn	14 19 56.2	-0.4
	1.6nm,0.3s,baz=224,slow=8.7,SNR=25						
ASAJ				Sn	Sn	14 21 25.3	+2.4
	0.2nm,0.3s,baz=75,slow=20,SNR=2.9						
USRK	Ussuriysk Ar.	9.90	322	Pn	Pn	14 20 29.6	+0.8
	0.1nm,0.3s,baz=128,slow=11,SNR=2.4						
KSRS	Korea Array	10.10	278	LR	LR	14 24 11.0	
	comp=Z,56nm,19.2s,baz=95,slow=36						
PETK	Petropavlovsk-	20.32	31	LR	LR	14 30 16.1	
	comp=Z,19nm,18.9s,baz=232,slow=36						
GUMO	Guam	23.36	169	LR	LR	14 32 15.1	
	comp=Z,17nm,19.5s,baz=150,slow=36						
SONM	Songino Array	27.37	305	P	P	14 23 51.3	-0.9
	1.0nm,0.7s,baz=105,slow=9.2,SNR=5.6						
H11N2	WAKE ISLAND Hy	28.61	119	T	T	14 53 45.1	
	baz=312,slow=75,SNR=94						
H11N1	WAKE ISLAND Hy	28.62	119	T	T	14 53 47.0	
	baz=312,slow=75,SNR=108						
H11N3	WAKE ISLAND Hy	28.63	119	T	T	14 53 47.0	
	baz=312,slow=75,SNR=56						
H11S1	WAKE ISLAND Hy	29.30	121	T	T	14 54 38.1	
	baz=314,slow=75,SNR=228						
H11S3	WAKE ISLAND Hy	29.30	121	T	T	14 54 36.5	
	baz=314,slow=75,SNR=246						
H11S2	WAKE ISLAND Hy	29.31	121	T	T	14 54 37.2	
	baz=314,slow=75,SNR=217						
ZALV	Zalesovo Beam	41.60	313	P	P	14 25 52.5	-2.1
	1.9nm,0.6s,baz=88,slow=7.1,SNR=8.2						
MKAR	Makanchi Array	43.68	302	P	P	14 26 11.8	+0.1
	0.2nm,0.3s,baz=98,slow=7.5,SNR=5.7						
ILAR	Eielson Array	50.14	32	P	P	14 27 01.9	0.0
	0.3nm,0.6s,baz=264,slow=5.5,SNR=7.5						
BVAR	Borovoye Array	50.26	312	P	P	14 27 02.2	-0.8
	0.7nm,0.6s,baz=80,slow=10,SNR=4.5						
INK	Inuvik	54.99	27	P	P	14 27 38.1	+0.3
	1.3nm,0.7s,baz=19,slow=9.6,SNR=2.8						
WRAB	Tennant Creek	56.65	187	P	P	14 27 41.9	-8.3
	1.2nm,0.8s						
WRA	Warramunga Arr	56.66	187	P	P	14 27 49.7	-0.5
	2.6nm,0.8s,baz=3.7,slow=7.3,SNR=18						
ASAR	Alice Springs	60.38	187	P	P	14 28 15.9	-0.3
	1.4nm,0.8s,baz=13,slow=7.6,SNR=15						
PDAR	Pinedale Array	78.39	45	P	P	14 30 08.6	+0.7
	0.4nm,0.5s,baz=281,slow=2.4,SNR=4.0						
URZ	Urewera	81.91	152	LR	LR	15 06 00.3	
	comp=Z,29nm,18.3s,baz=42,slow=35						
TXAR	Lajitas Array	90.88	52	P	P	14 31 12.2	+1.2
	0.2nm,0.7s,baz=316,slow=5.0,SNR=2.9						

*IDC **21** 14:25:57.0±7.2, 11°.98N×44°.36E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/53, mbtmp3.5/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/33, Error ellipse: s-maj=156.7km s-min=39.7km az=35.0*
ISC 21 14:25:58.0±1.5, 12°.0N±0°.2×44°.4E±0°.2, h4km, n16, σ0°61/9, mb3.7/5, MS3.2/8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	0.96	38	iP	Pg	14 26 16.0	-0.3
ADEN				e		14 26 16.3	
	baz=186,slow=5.1						
ADEN				iS	Sn	14 26 32.5	+0.2
ADEN				AML	AML	14 26 41.2	
	comp=E,5μm,0.6s						
BDHA	Al Bayda'	2.26	30	iP	Pn	14 26 37.5	+1.1
BDHA				iS	Sg	14 27 10.4	-0.4
BDHA				AML	AML	14 27 21.0	
	comp=E,1μm,0.6s						
KMBO	Kilima Mbogo	14.86	209	LR	LR	14 35 31.8	
	comp=E,56nm,19.7s,baz=95,slow=39						
EIL	Elat	19.64	335	LR	LR	14 36 37.9	
	comp=E,43nm,21.0s,baz=232,slow=33						
MMAI	Mount Meron Ar	22.47	340	LR	LR	14 38 11.9	
	comp=E,44nm,18.4s,baz=250,slow=33						
GNI	Garni	28.02	1	LR	LR	14 44 27.0	
	comp=E,55nm,19.8s,baz=157,slow=40						
GEYT	Alibeck	28.58	23	LR	LR	14 45 11.0	
	comp=E,64nm,19.5s,baz=305,slow=40						
BRTR	Keskin Array B	29.19	343	P	P	14 32 00.8	-0.1
	comp=E,0.3nm,0.5s,baz=152,slow=9.2,SNR=2.2						
BRTR				LR	LR	14 43 38.6	
	comp=E,33nm,18.4s,baz=108,slow=36						
KVAR	Kislovodsk Arr	31.86	358	LR	LR	14 46 21.8	
	comp=E,44nm,18.3s,baz=141,slow=38						
MKAR	Makanchi Array	47.10	35	P	P	14 34 31.6	+0.4
	comp=E,0.2nm,0.2s,baz=236,slow=10,SNR=4.0						
KURBB	Kurchatov Arra	47.53	29	P	P	14 34 33.7	-0.7
	comp=E,0.1nm,0.3s,baz=234,slow=6.6,SNR=4.1						
ZALV	Zalesovo Beam	52.62	29	LR	LR	15 01 14.4	
	comp=E,73nm,18.3s,baz=252,slow=40						
CMAR	Chiang Mai Arr	52.87	76	P	P	14 35 15.4	-0.1
	comp=E,1.8nm,1.0s,baz=273,slow=8.2,SNR=11						
NOA	NORSAR Array B	54.60	341	LR	LR	14 58 25.3	
	comp=E,9.9nm,18.9s,baz=235,slow=36						
ARCES	ARCESS Array B	58.72	352	LR	LR	15 04 51.6	
	comp=E,30nm,18.5s,baz=244,slow=40						
SONM	Songino Array	62.47	42	P	P	14 36 22.5	-0.3
	comp=E,0.4nm,0.8s,baz=244,slow=6.4,SNR=3.8						

MEX 21 14:32:45.4±2.0, 17°.87N×103°.72W, h12km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.55	40	iP	Pg	14 32 55.9	-0.2
MMIG				eS	Sg	14 33 01.8	-1.7
R15V		1.32	349	eP	Pn	14 33 05.5	-4.3
R15V				iS	Sb	14 33 18.6	-8.6
ZIIG	Zihuatanejo	2.16	97	eP	Pn	14 33 17.4	-3.9
ZIIG				eS	Sn	14 33 40.1	-7.9
SFJM	Santa Fe	2.68	14	eP	Pn	14 33 20.7	-7.9
SFJM				eS	Sn	14 33 34.1	-27
MOIG	Morelia	3.00	53	eP	Pn	14 33 24.2	-8.8
MOIG				eS	Sn	14 33 49.6	-19

JMA 21 14:33:27.4±0.3, 22°.19N×125°.95E, h38km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	2.61	349	P	Pn	14 34 08.5	+1.5
JTJ	Tarama	2.69	335	P	Pn	14 34 09.9	+1.7
JTJ				S	Sn	14 34 41.9	+2.3
JKRS	Kuro-shima	2.71	319	P	Pn	14 34 10.4	+2.0
JKRS				S	Sn	14 34 42.7	+2.8
HATJ	Hateruma jima	2.71	314	P	Pn	14 34 10.0	+1.6
HATJ				eS	Sn	14 34 41.4	+1.4
JIRB	Irabujima	2.72	345	P	Pn	14 34 09.9	+1.3
JIJ	Ishigaki jima	2.73	323	P	Pn	14 34 10.2	+1.5
JIJ				eS	Sn	14 34 41.7	+1.3
JIKM	Ikemajima	2.80	347	P	Pn	14 34 11.6	+2.0
JISG	Ishigakijimahi	2.82	328	P	Pn	14 34 11.7	+1.8
JISG				eS	Sn	14 34 44.8	+2.1
IRIF	Iriomote-Funau	2.95	317	P	Pn	14 34 13.6	+1.9
IRIF				S	Sn	14 34 48.4	+2.5
YOJ	Yonaguni jima	3.52	310	P	Pn	14 34 21.8	+2.2
YOJ				eS	Sn	14 35 01.6	+1.6

*ISK **21** 14:37:21.6, 41°.55N×35°.45E, h2km, MD2.6*
*ISCJB **21** 14:37:22.5±0.6, 41°.61N±0°.04×35°.51E±0°.05, h5km±6km, Error ellipse: s-maj=7.3km s-min=4.3km az=136.5*
*CSEM **21** 14:37:22.7±0.2, 41°.58N×35°.47E, h10km, MD2.6, Error ellipse: s-maj=6.0km s-min=4.1km az=51.0*
*DDA **21** 14:37:23.0, 41°.58N×35°.38E, h12km, Ml2.7*
ISC 21 14:37:22.7±0.9, 41°.59N±0°.03×35°.46E±0°.03, h10km±7km, n24, σ0°80/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIKM	Dikmen	0.16	294	ePG	Pg	14 37 25.9	-0.4
DIKM				eSG	Sg	14 37 29.0	+0.3
DIKM	Dikmen	0.16	294	ePg	Pg	14 37 25.9	-0.4
DIKM				eSg	Sg	14 37 29.0	+0.3
BOYT	Boyabat	0.45	248	iP	Pg	14 37 30.9	-0.6
BOYT				iS	Sb	14 37 39.1	-0.3
BOYT	Boyabat	0.45	248	P	Pg	14 37 30.9	-0.6
BOYT				S	Sb	14 37 39.1	-0.3
SINO	SINOP_Merkez	0.47	336	iP	Pg	14 37 32.1	+0.2
SINO				iS	Sb	14 37 39.8	-0.3
SINO	SINOP_Merkez	0.47	336	P	Pg	14 37 32.1	+0.2
SINO				S	Sb	14 37 39.8	-0.3
SNOP	Sinop	0.47	337	ePG	Pg	14 37 32.6	+0.6
SNOP	Sinop	0.47	337	ePg	Pg	14 37 32.6	+0.6
HAVZ	Havza	0.55	159	iP	Pg	14 37 33.5	+0.2
HAVZ				iS	Sb	14 37 42.1	-0.3
HAVZ	Havza	0.55	159	P	Pg	14 37 33.5	+0.2
SAMS	Samsun-Alacam	0.59	112	iP	Pg	14 37 34.5	+0.3
SAMS				iS	Sn	14 37 46.6	-0.3
SAMS	Samsun-Alacam	0.59	112	P	Pg	14 37 34.5	+0.3
KVT	Kavak	0.67	138	ePG	Pg	14 37 34.8	-0.9
KVT				eSG	Sg	14 37 45.1	+0.5
KVT	Kavak	0.67	138	ePg	Pg	14 37 34.8	-0.9
KVT				eSg	Sg	14 37 45.1	+0.5
CTAK	Corum_Osmancik	1.06	208	iP	Pg	14 37 42.8	-0.4
CTAK				iS	Sn	14 37 58.8	+0.1
CTAK	Corum_Osmancik	1.06	208	P	Pg	14 37 42.8	-0.4
CTAK				S	Sn	14 37 58.8	+0.1
BZK	Bozkurt	1.15	290	ePN	Pb	14 37 44.2	-0.4
BZK	Bozkurt	1.15	290	ePn	Pb	14 37 44.2	-0.4
COAL	Corum-Alaca	1.38	195	iP	Pn	14 37 47.8	-0.3
COAL				iS	Sg	14 38 09.1	+2.1
COAL	Corum-Alaca	1.38	195	P	Pn	14 37 47.8	-0.3
COAL				S	Sg	14 38 09.1	+2.1
ILGA	Ilgaz	1.41	248	iP	Pn	14 37 48.2	-0.5
ILGA				iS

s-min=3.9km az=14.7
*NEIC **21** 14:40:36.3±0.8, 24°.88N×94°.21E, h66km±8km, mb4.5/19, Error ellipse: s-maj=7.8km s-min=4.9km az=66.0*
NEIC Felt [II] at Manipur, India. Also felt at Bokakhat and Kohima.
ISC 21 14:40:34.5±0.6, **24°.85N**±0°.03×**94°.02E**±0°.03, **h49**km±5km, **n107**, σ2§43/147, **mb4.3**/43, **MS3.3**/7, **3C, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.07**	**257**	⇑*iP*	**Pn**	**14 40 41.6**	**-0.6**
IMP				*eS*	**Sn**	**14 40 46.3**	**-1.4**
IMP				AML	AML	14 40 46.8	
	comp=N,43μm,0.3s						
IMP				AML	AML	14 40 49.9	
	comp=E,18μm,0.4s						
MOKO	**MOKOCHONG**	**1.54**	**17**	*eP*	**Pn**	**14 41 00.5**	**+0.9**
MOKO				*eS*	**Sn**	**14 41 19.0**	**+0.5**
MOKO				AML	AML	14 41 23.1	
	comp=E,16μm,0.4s						
MOKO				AML	AML	14 41 23.3	
	comp=N,9μm,0.6s						
JORH	**JORHAT**	**1.90**	**6**	*eP*	**Pn**	**14 41 05.1**	**+0.6**
JORH				*eS*	**Sn**	**14 41 28.4**	**+1.2**
JORH				*eS*	**Sn**	**14 41 29.1**	**+1.9**
JORH				AML	AML	14 41 31.7	
	comp=N,10μm,0.4s						
JORH				AML	AML	14 41 31.7	
	comp=E,9μm,0.5s						
SHL	**Shillong**	**2.06**	**291**	*eP*	**Pn**	**14 41 08.1**	**+1.1**
SHL				*eS*	**Sn**	**14 41 33.0**	**+1.4**
TEZP	**TEZPUR**	**2.08**	**328**	*eP*	**Pn**	**14 41 06.9**	**-0.1**
TEZP				*eS*	**Sn**	**14 41 30.8**	**-0.8**
TEZP				AML	AML	14 41 39.1	
	comp=N,6μm,0.1s						
TEZP				AML	AML	14 41 39.4	
	comp=E,8μm,0.2s						
ITAN	**ITANAGAR**	**2.30**	**353**	*eP*	**Pn**	**14 41 10.6**	**+0.6**
ITAN				*eS*	**Sn**	**14 41 38.4**	**+1.2**
ITAN				AML	AML	14 41 47.0	
	comp=N,8μm,0.4s						
ITAN				AML	AML	14 41 48.2	
	comp=E,5μm,0.4s						
GUWA	**GUWAHATI**	**2.50**	**303**	*eP*	**Pn**	**14 41 12.5**	**-0.2**
GUWA				*ex*	**Sn**	**14 41 36.3**	**-5.6**
GUWA				AML	AML	14 41 59.3	
	comp=E,2μm,0.5s						
ZIRO	**ZIRO**	**2.67**	**357**	*eP*	**Pn**	**14 41 15.0**	**-0.3**
ZIRO				*ex*	**Sn**	**14 41 39.7**	**-6.9**
AGT	**Agartala**	**2.70**	**250**	*eP*	**Pn**	**14 41 17.7**	**+2.2**
AGT				*ex*	x	14 41 51.4	
AGT				AML	AML	14 41 54.1	
	comp=N,3μm,0.3s						
AGT				AML	AML	14 41 54.2	
	comp=E,4μm,0.5s						
DIBR	**DIBRUGARH**	**2.73**	**17**	*eP*	**Pn**	**14 41 16.2**	**+0.3**
BELO	**BELONIA**	**2.84**	**236**	*ex*	**Pn**	**14 41 21.6**	**+4.2**
BELO				AML	AML	14 41 23.7	
LKP	**Lekhapani**	**2.97**	**33**	*eP*	**Pn**	**14 41 22.4**	**+3.3**
LKP				*eS*	**Sn**	**14 41 53.9**	**+0.3**
LKP				AML	AML	14 42 06.3	
	comp=N,6μm,0.7s						
LKP				AML	AML	14 42 06.5	
	comp=E,3μm,0.4s						
TURI	**Tura**	**3.41**	**283**	*eP*	**Pn**	**14 41 27.3**	**+2.0**
TURI				*eS*	**Sn**	**14 42 06.5**	**+2.0**
TURI				AML	AML	14 42 09.7	
	comp=N,3μm,0.2s						
TURI				AML	AML	14 42 09.8	
	comp=E,4μm,0.1s						
GTK	**Tadong**	**5.46**	**298**	*eP*	**Pn**	**14 41 54.4**	**+0.9**
GTK				*ex*	**Sn**	**14 42 56.5**	**+1.4**
LSA	**Lhasa**	**5.47**	**333**	*ePn*	**Pn**	**14 41 55.8**	**+1.9**
LSA				*eSn*	**Sn**	**14 42 59.4**	**+3.7**
TAPN	**Taplejung**	**6.20**	**295**	*ePn*	**Pn**	**14 42 05.9**	**+2.1**
TAPN				*eSn*	**Sn**	**14 43 12.4**	**-1.1**
	comp=E,882nm,0.9s						
ODAN	**Odare**	**6.30**	**290**	*ePn*	**Pn**	**14 42 06.5**	**+1.4**
ODAN				*eSn*	**Sn**	**14 43 13.8**	**-2.1**
	comp=E,843nm,0.5s						
RAMN	**Ramite**	**7.00**	**289**	*ePn*	**Pn**	**14 42 15.9**	**+1.1**
RAMN				*eSn*	**Sn**	**14 43 30.3**	**-2.9**
	comp=E,870nm,0.9s						
BOK	**Bokaro**	**7.49**	**264**	*eP*	**Pn**	**14 42 20.8**	**-0.5**
BOK				*eP*	**Pn**	**14 42 22.2**	**+0.9**
BOK				*eS*	**Sn**	**14 43 41.6**	**-3.4**
CHTO	**Chiang Mai**	**7.54**	**142**	*ePn*	**Pn**	**14 42 23.6**	**+1.6**
CHTO				*eSn*	**Sn**	**14 43 43.3**	**-3.0**
JIRN	**Jiri**	**7.57**	**293**	*ePn*	**Pn**	**14 42 23.8**	**+1.2**
JIRN				*eSn*	**Sn**	**14 43 45.5**	**-1.8**
CM31	**Chiang Mai Arr**	**7.83**	**143**	*ePn*	**Pn**	**14 42 27.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**7.83**	**143**	Pn	**Pn**	**14 42 27.6**	**+1.7**
	comp=E,0.7nm,0.3s,baz=319,slow=13,SNR=49						
CMAR				Lg	Lg	14 44 27.3	
	comp=E,0.7nm,0.3s,baz=318,slow=28,SNR=3.4						
CMAR				LR	LR	14 46 16.0	
	comp=E,146nm,18.0s,baz=325,slow=44						
GUN	**Gumba**	**7.91**	**294**	*ePn*	**Pn**	**14 42 28.3**	**+1.0**
GUN				*eSn*	**Sn**	**14 43 55.1**	**-0.6**
	comp=E,496nm,0.7s						
KMI	**Kunming**	**7.92**	**86**	P	**Pn**	**14 42 30.8**	**+3.5**
KMI				pP		14 42 36.4	
KMI				S	**Sn**	**14 44 02.1**	**+6.5**
KMI				pmax	pmax		
	comp=E,10.0nm,1.6s						
KMI				LR	LR		
	comp=E,500nm,10.4s						
KMI				LR	LR		
	comp=E,180nm,7.9s						
PKI	**Pulchoki**	**8.20**	**291**	*ePn*	**Pn**	**14 42 32.0**	**+0.8**
PKIN	**Phulchoki**	**8.21**	**291**	*ePn*	**Pn**	**14 42 31.8**	**+0.5**
PKIN				*eSn*	**Sn**	**14 43 58.3**	**-4.6**
	comp=E,58nm,0.2s						
KKN	**Kakani**	**8.37**	**292**	*ePn*	**Pn**	**14 42 33.9**	**+0.4**
DMN	**Daman**	**8.46**	**291**	*ePn*	**Pn**	**14 42 34.8**	**0.0**
GKN	**Gorkha**	**8.98**	**293**	*ePn*	**Pn**	**14 42 41.8**	**0.0**
GKN				*eSn*	**Sn**	**14 44 18.5**	**-3.1**
	comp=E,113nm,0.2s						
KOLN	**Koldanda**	**9.79**	**290**	*ePn*	**Pn**	**14 42 52.1**	**-0.8**
PYUN	**Piuthan**	**10.40**	**291**	*ePn*	**Pn**	**14 42 59.6**	**-1.7**
PYUN				*eSn*	**Sn**	**14 44 50.3**	**-6.2**
	comp=E,207nm,0.6s						
CD2	**Chengdu**	**10.52**	**53**	*eP*	**Pn**	**14 43 02.5**	**-0.2**
CD2				S	**Sn**	**14 44 57.8**	**-1.3**
CD2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CD2				LR	LR		
	comp=E,300nm,11.4s						
CD2				LR	LR		
	comp=E,300nm,13.9s						
GYA	**Guiyang**	**11.52**	**79**	P	**Pn**	**14 43 16.8**	**+0.3**
GYA				PP	**PnPn**	**14 43 26.0**	**+1.6**
GYA				sP		14 43 36.3	
GYA				S	**Sn**	**14 45 21.3**	**-2.5**
GYA				pmax	pmax		
	comp=E,20nm,0.8s						
DGPR	**DIGLIPUR**	**11.65**	**185**	*eP*	**Pn**	**14 43 17.6**	**-0.7**
LZH	**Lanzhou**	**14.03**	**35**	*eP*	**Pn**	**14 43 49.3**	**-1.5**
LZH				pP	P	14 43 59.6	+2.2
LZH				sP		14 44 08.3	
LZH				*eS*	**Sn**	**14 46 18.4**	**-6.7**
LZH				SS	**S**	**14 46 41.3**	**-3.1**
LZH				pmax	pmax		
	comp=E,19nm,1.0s						
LZH				LR	LR		
	comp=E,280nm,10.0s						
LZH				LR	LR		
	comp=E,270nm,8.8s						
LZH				LR	LR		
	comp=E,250nm,11.4s						
ENH	**Enshi**	**14.74**	**65**	*ePn*	**Pn**	**14 43 57.7**	**-2.3**
BHPL	**Bhopal**	**15.25**	**267**	*eP*	**Pn**	**14 44 05.3**	**-1.4**
GTA	**Gaotai**	**15.32**	**17**	P	**P**	**14 44 14.3**	**+2.7**
GTA				pP	sP	14 44 26.8	-2.2
GTA				sP	pP	14 44 37.6	+15
GTA				S	**S**	**14 47 07.1**	**-3.6**
GTA				sS	sS	14 47 24.3	-4.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,53nm,4.9s						
GTA				LR	LR		
	comp=N,110nm,8.1s						
GTA				LR	LR		
	comp=E,120nm,10.0s						
GTA				LR	LR		
	comp=Z,110nm,10.0s						
XAN	**Xi'an**	**15.87**	**51**	P	**Pn**	**14 44 15.5**	**+0.8**
XAN				S	Sn	14 46 58.3	-11
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN				LR	LR		
	comp=Z,120nm,17.3s						
XAN				LR	LR		
	comp=Z,96nm,17.8s						
XAN				LR	LR		
	comp=Z,200nm,14.9s						
SMLA	**Simla**	**16.14**	**297**	*ex*	**Pn**	**14 44 15.1**	**-3.0**
HYB	**Hyderabad**	**16.20**	**246**	*i P*	**P**	**14 44 23.0**	**+1.5**
HYB				*e*		14 47 08.0	
HYB				*eS*	**Sn**	**14 47 18.0**	**+0.1**
HYB	**Hyderabad**	**16.20**	**246**	*eP*	**Pn**	**14 44 20.2**	**+1.1**
DHRM	**DHARAMSHALA**	**17.22**	**299**	*ex*	**Pn**	**14 44 29.5**	**-2.3**
WMQ	**Urumqi**	**19.62**	**346**	P	**Pn**	**14 45 02.6**	**+1.9**
WMQ				pP	sP	14 45 15.9	-0.6
WMQ				S	**S**	**14 48 33.4**	**-4.4**
WMQ				SS	**SnSn**	**14 49 05.3**	**+10**
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,6.1s						
WMQ				LR	LR		
	comp=Z,140nm,6.1s						
WMQ				LR	LR		
	comp=Z,140nm,5.3s						
LHMI	**Lhok Sumawe**	**19.71**	**171**	*eP*	**P**	**14 44 59.6**	**-0.3**
	comp=Z,34nm,0.6s						
POO	**Poona**	**19.76**	**255**	*ex*	**Pn**	**14 44 58.0**	**-4.5**
KSH	**Kashi**	**21.09**	**318**	*eP*	**P**	**14 45 16.3**	**+1.3**
KSH				pP	sP	14 45 30.6	-1.9
KSH				sP	pP	14 45 37.8	+11
KSH				PP	**PnPn**	**14 45 42.8**	**+7.2**
KSH				S	**S**	**14 49 00.0**	**-7.1**
KSH				PcP	**PcP**	**14 49 19.8**	**-0.1**
KSH				SS	**SnSn**	**14 49 36.9**	**+5.7**
KSH				PcS	**PcS**	**14 52 52.8**	**-5.2**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,82nm,4.8s						
KSH				LR	LR		
	comp=Z,140nm,5.2s						
KSH				LR	LR		
	comp=Z,120nm,5.0s						
KSH				LR	LR		
	comp=Z,75nm,6.3s						
IPM	**Ipoh**	**21.34**	**160**	P	**P**	**14 45 15.5**	**-2.2**
	comp=Z,13nm,0.7s						
PALK	**Pallekele**	**21.63**	**218**	P	**P**	**14 45 22.7**	**+1.9**
	comp=Z,9.1nm,0.6s,baz=60,slow=0.7,SNR=11						
PALK	**Pallekele**	**21.63**	**218**	*eP*	**P**	**14 45 23.0**	**+2.2**
	comp=Z,12nm,0.8s						
PSI	**Prapat**	**22.42**	**167**	P	**P**	**14 45 30.2**	**+0.8**
	comp=Z,4.5nm,0.6s,baz=329,slow=8.5,SNR=3.8						
PSI	**Prapat**	**22.42**	**167**	*eP*	**P**	**14 45 30.0**	**+0.6**
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**23.70**	**300**	*eP*	**P**	**14 45 43.3**	**+1.1**
	comp=Z,13nm,1.2s						
MK31	**Makanchi Array**	**23.82**	**340**	*eP*	**P**	**14 45 43.2**	**+0.2**
MKAR	**Makanchi Array**	**23.82**	**340**	P	**P**	**14 45 43.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=138,slow=11,SNR=15						
MKAR	**Makanchi Array**	**23.82**	**340**	*eP*	**P**	**14 45 43.1**	**+0.1**
	comp=Z,36nm,0.8s						
MAKZ	**Makanchi**	**23.94**	**339**	*eP*	**P**	**14 45 45.4**	**+1.3**
	comp=Z,11nm,1.3s						
AAK	**Ala-Archa**	**23.96**	**323**	P	**P**	**14 45 45.2**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=168,slow=3.4,SNR=3.9						
AAK	**Ala-Archa**	**23.96**	**323**	*eP*	**P**	**14 45 44.2**	**-0.2**
	comp=Z,16nm,1.3s						
SONM	**Songino Array**	**24.95**	**20**	P	**P**	**14 45 54.1**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=200,slow=9.9,SNR=11						
SONM				ScP	**ScP**	**14 53 03.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=197,slow=4.5,SNR=3.7						
ULN	**Ulaanbaatar**	**25.19**	**21**	P	**P**	**14 45 56.5**	**+0.9**
	comp=Z,4.1nm,0.8s						
TGY	**Tagaytay City**	**27.48**	**108**	LR	LR	14 58 10.1	
	comp=Z,35nm,18.4s,baz=188,slow=39						
KURBB	**Kurchatov Arra**	**28.38**	**339**	P	**P**	**14 46 24.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=148,slow=9.1,SNR=7.4						
KURBB				ScP	**ScP**	**14 53 13.7**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=159,slow=2.4,SNR=11						
KURBB	**Kurchatov Arra**	**28.38**	**339**	⇑Pn	**ScP**	**14 53 13.3**	**+0.7**
	comp=Z,1.7nm,0.9s						
KURK	**Kurchatov**	**28.43**	**339**	*eP*	**P**	**14 46 24.8**	**+0.3**
	comp=Z,8.4nm,1.4s						
KURK				ScP	**ScP**	**14 53 13.7**	**+0.9**
KURK	**Kurchatov**	**28.43**	**339**	⇑Pn	**ScP**	**14 53 13.4**	**+0.6**
	comp=Z,6.6nm,1.5s						
ZAA0	**Zalesovo Array**	**29.87**	**349**	*eP*	**P**	**14 46 37.1**	**-0.1**
ZALV	**Zalesovo Beam**	**29.87**	**349**	P	**P**	**14 46 38.2**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=184,slow=12,SNR=4.4						
KSAR	**Wonju Array Be**	**31.41**	**58**	P	**P**	**14 46 48.4**	**-2.6**
KSRS	**Korea Array**	**31.45**	**58**	P	**P**	**14 46 48.4**	**-2.9**
	comp=Z,0.7nm,0.7s,baz=247,slow=10.0,SNR=3.9						
KSRS				LR	LR	15 00 58.9	
	comp=Z,36nm,18.8s,baz=235,slow=39						
GEYT	**Alibeck**	**33.10**	**302**	P	**P**	**14 47 05.7**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=111,slow=8.1,SNR=8.8						
BVAR	**Borovoye Array**	**33.30**	**334**	P	**P**	**14 47 06.4**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=127,slow=11,SNR=4.6						
BVAR				ScP	**ScP**	**14 53 30.8**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=111,slow=6.3,SNR=5.4						
MDJ	**Mudanjiang**	**34.89**	**47**	P	**P**	**14 47 19.8**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,29nm,3.8s						
ABKAR	**Akbulak array**	**36.03**	**321**	*eP*	**P**	**14 47 30.5**	**-0.4**
	comp=Z,27nm,0.4s						
USRK	**Ussuriysk Ar.**	**36.34**	**48**	P	**P**	**14 47 31.7**	**-2.0**
	comp=Z,3.1nm,0.7s,baz=258,slow=5.9,SNR=9.7						
MJAR	**Matsushiro Arr**	**39.43**	**62**	P	**P**	**14 47 57.7**	**-2.3**
	comp=Z,1.2nm,0.6s,baz=266,slow=9.3,SNR=5.2						
MJAR				LR	LR	15 05 37.6	
	comp=Z,29nm,20.9s,baz=290,slow=38						
ASAJ	**Asahikawa**	**43.71**	**51**	P	**P**	**14 48 33.9**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=75,slow=8.5,SNR=7.5						
RAYN	**Ar Rayn**	**44.09**	**279**	*eP*	**P**	**14 48 39.3**	**+1.1**
	comp=Z,22nm,1.6s						
NRIK	**Noril'sk**	**44.68**	**357**	LR	LR	15 08 58.7	
	comp=Z,36nm,19.1s,baz=200,slow=38						
TIXI	**Tiksi**	**50.76**	**14**	P	**P**	**14 49 29.3**	**0.0**
	comp=Z,1.5nm,0.4s,baz=182,slow=4.9,SNR=10.0						
TIXI	**Tiksi**	**50.76**	**14**	*eP*	**P**	**14 49 29.1**	**-0.2**
	comp=Z,8.2nm,1.4s						
MBWA	**Marble Bar**	**52.11**	**149**	*eP*	**P**	**14 49 38.6**	**-1.4**
	comp=Z,77nm,2.0s						
BRTR	**Keskin Array B**	**52.25**	**302**	P	**P**	**14 49 40.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=133,slow=6.9,SNR=5.5						
PETK	**Petropavlovsk-**	**54.81**	**41**	LR	LR	15 16 09.9	
	comp=Z,26nm,18.4s,baz=249,slow=39						
AKASG	**Malin Array Be**	**55.35**	**316**	P	**P**	**14 50 03.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=81,slow=6.4,SNR=7.1						
FINES	**FINESS Array B**	**57.37**	**328**	P	**P**	**14 50 22.1**	**+0.3**
	comp=Z,6.0nm,1.1s,baz=66,slow=4.6,SNR=4.4						
WRA	**Warramunga Arr**	**59.34**	**135**	P	**P**	**14 50 31.1**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=324,slow=7.3,SNR=37						
WB2	**Warramunga Arr**	**59.34**	**135**	*eP*	**P**	**14 50 31.1**	**-0.8**
	comp=Z,29nm,2.0s						
ARCES	**ARCESS Array B**	**59.46**	**338**	P	**P**	**14 50 33.5**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=116,slow=8.4,SNR=2.4						
KMBO	**Kilima Mbogo**	**60.69**	**254**	P	**P**	**14 50 42.9**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=45,slow=9.8,SNR=5.7						
NWAO	**Narrogin (SRO)**	**61.56**	**158**	P	**P**	**14 50 46.3**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=275,slow=1.3,SNR=5.6						
AS31	**Alice Springs**	**61.81**	**138**	*eP*	**P**	**14 50 48.0**	**-0.7**
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**61.81**	**138**	P	**P**	**14 50 48.2**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=318,slow=6.5,SNR=52						
NB2	**NORSAR Subarra**	**65.14**	**328**	P	P	14 51 19.1	+8.9
	comp=Z,4.5nm,1.1s,baz=83,slow=6.5						
GEC2	**GERESS Array S**	**65.50**	**314**	*eP*	**P**	**14 51 14.0**	**+1.2**
GERES	**GERESS Array B**	**65.50**	**314**	P	**P**	**14 51 13.5**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=73,slow=4.5,SNR=9.7						
GERES				LR	LR	15 24 31.4	
	comp=Z,42nm,18.0s,baz=78,slow=40						
KEST	**Kesra**	**71.85**	**302**	P	**P**	**14 51 53.0**	**+0.5**
	comp=Z,8.0nm,1.0s,baz=292,slow=3.1,SNR=5.1						
KEST	**Kesra**	**71.85**	**302**	*eP*	**P**	**14 51 54.1**	**+1.6**
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**72.43**	**139**	P	**P**	**14 51 55.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=313,slow=7.1,SNR=5.3						
LSZ	**Lusaka**	**75.55**	**245**	P	**P**	**14 52 15.7**	**+1.2**
	comp=Z,5.0nm,0.8s,baz=53,slow=6.3,SNR=8.7						
LSZ	**Lusaka**	**75.55**	**245**	*eP*	**P**	**14 52 16.0**	**+1.4**
	comp=Z,8.6nm,1.0s						
ILAR	**Eielson Array**	**79.15**	**22**	P	**P**	**14 52 33.7**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=301,slow=3.8,SNR=6.1						
ILAR				LR	LR	15 29 31.9	
	comp=Z,32nm,18.6s,baz=100,slow=37						
LBTB	**Lobatse**	**82.68**	**238**	P	**P**	**14 52 55.5**	**+2.1**
	comp=Z,6.3nm,0.7s,baz=92,slow=6.2,SNR=9.2						
BOSA	**Boshof**	**84.82**	**235**	P	**P**	**14 53 05.7**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=61,slow=4.2,SNR=9.2						
TORD	**Torodi Ar. Bea**	**86.64**	**283**	P	**P**	**14 53 14.8**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=62,slow=4.1,SNR=14						
TORD				PP	**PP**	**14 56 36.7**	**+0.7**
	comp=Z,0.9nm,1.1s,baz=54,slow=7.7,SNR=3.5						
TXAR	**Lajitas Array**	**123.51**	**19**	PKP	**PKPdf**	**14 59 27.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=9.8,slow=1.0,SNR=4.8						

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*SJA **21** 14:46:47.1±2.0, 22°.32S×68°.73W, h124km±21km, ML2.8, MW3.0*
*IDC **21** 14:46:48.9±1.0, 22°.58S×68°.40W, h101km±9km, mb3.2/2, mb1 3.5/4, mb1mx3.2/30, mbtmp3.7/4, Error ellipse: s-maj=33.1km s-min=27.4km az=155.0*
*ISCJB **21** 14:46:49.6±0.6, 22°.57S±0°.06×68°.64W±0°.05, h124km±6km, mb3.4/2, Error ellipse: s-maj=9.3km s-min=6.9km az=15.2*
*GUC **21** 14:46:49.9±0.6, 22°.50S×68°.64W, h122km±5km, ML4.0*
ISC 21 14:46:49.8±0.9, **22°.57S**±0°.06×**68°.56W**±0°.04, **h112**km±7km, **n18**, σ1§58/29, **1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.33**	**262**	P	**Pn**	**14 47 06.4**	**-0.1**
	14μm,0.3s,baz=79,slow=5.4,SNR=6019						
LVC				S	**Sn**	**14 47 18.4**	**-0.5**
	18μm,0.3s,baz=270,slow=20,SNR=179						
LVC	**Limon Verde**	**0.33**	**262**	*i P*	**Pn**	**14 47 06.4**	**-0.1**
LVC				*eS*	**Sn**	**14 47 18.9**	**-0.1**
PB06	**IPOC Station P**	**0.95**	**261**	*eP*	**Pn**	**14 47 11.3**	**+0.4**
PB06				*i S*	**Sn**	**14 47 28.2**	**+1.4**
PB09	**IPOC Station P**	**0.99**	**320**	*eP*	**Pn**	**14 47 11.9**	**+0.5**
PB09				*i S*	**Sn**	**14 47 28.5**	**+0.9**
PB09				IAML		14 47 30.9	
	comp=E,9μm,0.4s						
PB07	**IPOC Station P**	**1.49**	**304**	*eP*	**Pn**	**14 47 17.2**	**+0.4**
PB07				*i S*	**Sn**	**14 47 37.5**	**+0.2**
PB07				IAML		14 47 39.8	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**1.49**	**279**	*eP*	**Pn**	**14 47 17.0**	**+0.1**
PB04				*i S*	**Sn**	**14 47 38.2**	**+0.9**
PB04				IAML		14 47 41.3	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.74**	**330**	*eP*	**Pn**	**14 47 20.0**	**+0.2**
PB01				*i S*	**Sn**	**14 47 42.7**	**0.0**
PB01				IAML		14 47 45.1	
	comp=E,1μm,0.2s						
PB02	**IPOC Station P**	**1.75**	**315**	*eP*	**Pn**	**14 47 20.3**	**+0.3**
PB02				*i S*	**Sn**	**14 47 42.9**	**-0.1**
PB02				IAML		14 47 46.8	
	comp=E,2μm,0.3s						
PB10	**IPOC Station P**	**2.07**	**242**	*eP*	**Pn**	**14 47 23.6**	**-0.2**
PB10				*i S*	**Sn**	**14 47 48.6**	**-1.2**
PB10				IAML		14 48 08.3	
	comp=N,1μm,0.3s						
YJA	**Yavi**	**2.84**	**83**	⇑*eP*	**Pn**	**14 47 35.8**	**+1.5**
	baz=275,slow=10						
YJA				IAML		14 47 36.5	
	comp=Z,18nm,0.7s						
YJA				*eS*	**Sn**	**14 48 11.5**	**+3.1**
HJA	**Humahuaca**	**2.97**	**103**	*eP*	**Pn**	**14 47 37.3**	**+1.3**
HJA				*eS*	**Sn**	**14 48 06.6**	**-4.7**
SLA	**San Lorenzo**	**3.53**	**128**	*i P*	**Pn**	**14 47 45.2**	**+2.1**
SLA				IAML		14 47 48.9	
	comp=Z,21nm,0.6s						
LPAZ	**La Paz**	**6.26**	**4**	P	**Pn**	**14 48 21.2**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=188,slow=3.7,SNR=10.0						
SIV	**San Ignacio**	**9.63**	**49**	P	**Pn**	**14 49 01.9**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=245,slow=13,SNR=22						
SIV				S	Sn	14 50 41.1	-11
	comp=Z,0.8nm,0.3s,baz=334,slow=23,SNR=6.1						
TXAR	**Lajitas Array**	**61.69**	**325**	P	**P**	**14 56 56.8**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=142,slow=7.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.41**	**70**	P	**P**	**14 58 32.4**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=254,slow=5.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**142.77**	**26**	PKP	**PKPdf**	**15 06 10.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=315,slow=0.8,SNR=2.9						
MKAR	**Makanchi Array**	**146.29**	**37**	PKPbc	**PKPbc**	**15 06 17.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=300,slow=2.4,SNR=5.3						

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*IDC **21** 14:48:30.7±6.7, 11°.72N×44°.44E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.3/52, mbtmp3.6/7, MS3.2/5, Ms1 3.2/5, ms1mx2.8/35, Error ellipse: s-maj=139.8km s-min=40.0km az=35.0*
*DHMR **21** 14:48:31.2±0.3, 12°.00N×44°.20E, h8km±10km, ML4.2*
ISC 21 14:48:32.0±1.4, **11°.9N**±0°.1×**44°.5E**±0°.2, **h4**km, **n14**, σ0§76/11, **

1.3nm,0.2s
DJR eS Sg 14 54 08.0 -1.8
2.2nm,0.3s
KURBB **Kurchatov Arra** 3.91 321 ⇑Sn Sb 14 54 04.1 +0.8
8.0nm,0.5s
KURK **Kurchatov** 3.94 323 ⇓Sn Sb 14 54 04.0 -0.3

*IDC **21** 14:55:54.7±1.7, 53°.53N×160°.79E, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.2/41, mbtmp3.5/2, Error ellipse: s-maj=55.3km s-min=14.0km az=163.0*
*ISCJB **21** 14:55:58.8±0.8, 53°.60N±0°.03×160°.78E±0°.06, h18km±6km, mb3.4/2, Error ellipse: s-maj=6.8km s-min=2.6km az=34.8*
*KRSC **21** 14:55:58.1±1.0, 53°.58N×160°.86E, h48km±18km, ML4.0*
*MOS **21** 14:55:59.6±0.6, 53°.55N×160°.84E, h44km, mb4.2/1, Error ellipse: s-maj=9.1km s-min=4.6km az=79.2*

ISC 21 14:55:57.6±1.3, 53°.59N±0°.03×160°.81E±0°.03, h12km±9km, n81, σ1§22/137, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**224**	PN	**Pn**	**14 56 13.6**	**+0.6**
SPN				S	**Sn**	**14 56 23.2**	**-0.3**
SPN	**Mys Shipunski**	**0.68**	**224**	*e*P	**Pn**	**14 56 13.6**	**+0.6**
SPN				*e*S	**Sn**	**14 56 23.2**	**-0.3**
KII	**Karymskiy**	**0.92**	**300**	PN	**Pb**	**14 56 15.9**	**+0.3**
KII				S	**Sg**	**14 56 27.4**	**-0.1**
KII	**Karymskiy**	**0.92**	**300**	*e*P	**Pb**	**14 56 15.9**	**+0.3**
KII				*e*S	**Sg**	**14 56 27.4**	**-0.1**
NLC	**Nalytchevo**	**0.97**	**245**	PN	**Pn**	**14 56 17.2**	**+0.2**
NLC				S	**Sb**	**14 56 29.2**	**+0.1**
NLC	**Nalytchevo**	**0.97**	**245**	*e*P	**Pn**	**14 56 17.2**	**+0.2**
NLC				*e*S	**Sb**	**14 56 29.2**	**+0.1**
MKZ	**Mys Kozlova**	**1.11**	**29**	PN	**Pn**	**14 56 19.3**	**+0.3**
MKZ				S	**Sg**	**14 56 33.4**	**-0.1**
MKZ	**Mys Kozlova**	**1.11**	**29**	*e*P	**Pn**	**14 56 19.3**	**+0.3**
MKZ				*e*S	**Sg**	**14 56 33.4**	**-0.1**
SDLR	**Sedlovina**	**1.19**	**256**	PN	**Pg**	**14 56 20.5**	**-0.1**
SDLR				S	**Sb**	**14 56 35.3**	**-0.3**
SDLR	**Sedlovina**	**1.19**	**256**	*e*P	**Pg**	**14 56 20.5**	**-0.1**
SDLR				*e*S	**Sb**	**14 56 35.3**	**-0.3**
UGLR	**Uglovaya**	**1.25**	**253**	PN	**Pg**	**14 56 21.5**	**-0.1**
UGLR	**Uglovaya**	**1.25**	**253**	*e*P	**Pg**	**14 56 21.5**	**-0.1**
KRER	**Koryakskii**	**1.26**	**258**	PN	**Pg**	**14 56 21.9**	**0.0**
KRER				S	**Sb**	**14 56 37.2**	**-0.6**
KRER	**Koryakskii**	**1.26**	**258**	*e*P	**Pg**	**14 56 21.9**	**0.0**
KRER				*e*S	**Sb**	**14 56 37.2**	**-0.6**
AVH	**Avacha**	**1.28**	**256**	PN	**Pg**	**14 56 22.0**	**-0.2**
AVH	**Avacha**	**1.28**	**256**	*e*P	**Pg**	**14 56 22.0**	**-0.2**
KRX	**Arik**	**1.31**	**261**	PN	**Pn**	**14 56 22.1**	**+0.2**
KRX				S	**Sb**	**14 56 37.6**	**-1.5**
KRX	**Arik**	**1.31**	**261**	*e*P	**Pn**	**14 56 22.1**	**+0.2**
KRX				*e*S	**Sb**	**14 56 37.6**	**-1.5**
KOK	**Koryaka**	**1.33**	**258**	PN	**Pb**	**14 56 22.6**	**0.0**
KOK	**Koryaka**	**1.33**	**258**	*e*P	**Pb**	**14 56 22.6**	**0.0**
DALK	**Dalny**	**1.35**	**246**	PN	**Pn**	**14 56 22.6**	**+0.3**
DALK				S	**Sb**	**14 56 38.5**	**-1.6**
DALK	**Dalny**	**1.35**	**246**	*e*P	**Pn**	**14 56 22.6**	**+0.3**
DALK				*e*S	**Sb**	**14 56 38.5**	**-1.6**
PET	**Petropavlovsk**	**1.41**	**247**	⇑*i*PN	**Pn**	**14 56 23.4**	**+0.3**
PET				*e*S	**Sn**	**14 56 39.5**	**-2.1**
PET				pmax	pmax		
comp=Z,168nm,0.4s
PET smax smax
comp=N,210nm,0.6s
PET smax smax
comp=E,161nm,0.4s
PET **Petropavlovsk** **1.41** **247** *e*P **Pn** **14 56 23.4** **+0.3**
PET S **Sn** **14 56 40.7** **-0.9**
KZV **Kizimen** **1.56** **349** PN **Pn** **14 56 25.4** **+0.1**
KZV S **Sn** **14 56 43.2** **-2.3**
KZV **Kizimen** **1.56** **349** *e*P **Pn** **14 56 25.4** **+0.1**
KZV *e*S **Sn** **14 56 43.2** **-2.3**
TUMD **Tumrok D** **1.64** **352** *e*P **Pn** **14 56 26.2** **-0.1**
TUMD *e*S **Sn** **14 56 44.9** **-2.3**
GNL **Ganaly** **1.71** **275** PN **Pn** **14 56 27.8** **+0.5**
GNL S **Sn** **14 56 49.3** **+0.1**
GNL **Ganaly** **1.71** **275** *e*P **Pn** **14 56 27.8** **+0.5**
GNL *e*S **Sn** **14 56 49.3** **+0.1**
TUMR **Tumrok** **1.74** **347** PN **Pn** **14 56 28.4** **+0.6**
TUMR S **Sn** **14 56 49.0** **-1.0**
TUMR **Tumrok** **1.74** **347** *e*P **Pn** **14 56 28.4** **+0.6**
TUMR *e*S **Sn** **14 56 49.0** **-1.0**
KRMR **Karymshinskiy** **1.78** **246** PN **Pn** **14 56 29.0** **+0.8**
KRMR S **Sn** **14 56 51.5** **+0.8**
KRMR **Karymshinskiy** **1.78** **246** *e*P **Pn** **14 56 29.0** **+0.8**
KRMR *e*S **Sn** **14 56 51.5** **+0.8**
RUS **Russkaya** **1.81** **231** PN **Pn** **14 56 28.7** **+0.2**
RUS S **Sn** **14 56 51.8** **+0.5**
RUS **Russkaya** **1.81** **231** *e*P **Pn** **14 56 28.7** **+0.2**
RUS *e*P **Pn** **14 56 29.3** **+0.8**
RUS *e*S **Sn** **14 56 51.6** **+0.3**
RUS *e*S **Sn** **14 56 51.8** **+0.5**
PETK **Petropavlovsk-** **1.92** **257** Pg **Pn** **14 56 30.8** **+0.6**
comp=E,32nm,0.3s,baz=77,slow=19,SNR=699
PETK Lg Lg 14 56 53.8
comp=E,11nm,0.3s,baz=78,slow=34,SNR=7.0
MTVR **Mutnovka** **1.93** **236** PN **Pn** **14 56 31.4** **+1.0**
MTVR S **Sn** **14 56 55.8** **+1.1**
MTVR **Mutnovka** **1.93** **236** P **Pn** **14 56 31.4** **+1.0**
MTVR *e*S **Sn** **14 56 55.8** **+1.1**
ASAK **Asacha** **2.13** **237** PN **Pn** **14 56 34.8** **+1.7**
ASAK S **Sb** **14 57 02.1** **-0.5**
ASAK **Asacha** **2.13** **237** *e*P **Pn** **14 56 34.8** **+1.7**
ASAK *e*S **Sb** **14 57 02.1** **-0.5**
KMNR **Kamenistaya** **2.20** **352** PN **Pn** **14 56 35.2** **+1.2**
KMNR **Kamenistaya** **2.20** **352** *e*P **Pn** **14 56 35.2** **+1.2**
APC **Apacha** **2.29** **255** PN **Pn** **14 56 36.3** **+1.1**
APC S **Sn** **14 57 04.8** **+1.5**
APC **Apacha** **2.29** **255** *e*P **Pn** **14 56 36.3** **+1.1**
APC *e*S **Sn** **14 57 04.8** **+1.5**
BZMR **Bezymyannaya** **2.36** **356** PN **Pn** **14 56 37.8** **+1.5**
BZMR S **Sn** **14 57 07.0** **+1.7**
BZMR **Bezymyannaya** **2.36** **356** *e*P **Pn** **14 56 37.8** **+1.5**
BZMR *e*S **Sn** **14 57 07.0** **+1.7**
KIRR **Kirishev** **2.39** **354** PN **Pn** **14 56 38.0** **+1.3**
KIRR S **Sn** **14 57 07.6** **+1.7**
KIRR **Kirishev** **2.39** **354** *e*P **Pn** **14 56 38.0** **+1.3**
KIRR *e*S **Sn** **14 57 07.6** **+1.7**
BZWR **Bezymyannyi-We** **2.39** **356** PN **Pn** **14 56 38.3** **+1.6**
BZWR **Bezymyannyi-We** **2.39** **356** *e*P **Pn** **14 56 38.3** **+1.6**
KPT **Kopyto** **2.41** **352** PN **Pn** **14 56 38.0** **+1.1**
KPT **Kopyto** **2.41** **352** *e*P **Pn** **14 56 38.0** **+1.1**
ZLN **Zelenaya** **2.44** **360** PN **Pn** **14 56 39.1** **+1.8**
ZLN S **Sn** **14 57 08.2** **+1.2**
ZLN **Zelenaya** **2.44** **360** *e*P **Pn** **14 56 39.1** **+1.8**
ZLN *e*S **Sn** **14 57 08.2** **+1.2**
LGNR **Loginova** **2.50** **358** PN **Pn** **14 56 40.6** **+2.2**
LGNR S **Sn** **14 57 10.8** **+1.9**
LGNR **Loginova** **2.50** **358** *e*P **Pn** **14 56 40.6** **+2.2**
LGNR *e*S **Sn** **14 57 10.8** **+1.9**
CIRR **Tsirk** **2.53** **359** PN **Pn** **14 56 40.5** **+1.8**
CIRR S **Sn** **14 57 11.4** **+1.9**
CIRR **Tsirk** **2.53** **359** *e*P **Pn** **14 56 40.5** **+1.8**
CIRR *e*S **Sn** **14 57 11.4** **+1.9**
KOZ **Kozyrevsk** **2.54** **348** PN **Pn** **14 56 39.4** **+0.8**
KOZ S **Sn** **14 57 09.7** **+0.3**
KOZ **Kozyrevsk** **2.54** **348** *e*P **Pn** **14 56 39.4** **+0.8**
KOZ *e*S **Sn** **14 57 09.7** **+0.3**
KRSR **Krestovskiy** **2.64** **357** PN **Pn** **14 56 41.4** **+1.3**
KRSR **Krestovskiy** **2.64** **357** *e*P **Pn** **14 56 41.4** **+1.3**
ESO **Esso** **2.64** **333** PN **Pn** **14 56 40.2** **+0.1**
ESO **Esso** **2.64** **333** *e*P **Pn** **14 56 40.2** **+0.1**
KLY **Klyuchi** **2.73** **358** PN **Pn** **14 56 42.7** **+1.4**
KLY S **Sn** **14 57 14.3** **+0.1**
KLY **Klyuchi** **2.73** **358** *e*P **Pn** **14 56 42.7** **+1.4**
KLY *e*S **Sn** **14 57 14.2** **+0.1**
KLY *e*S **Sn** **14 57 14.3** **+0.1**
KBTR **Krutoberegovo** **2.87** **23** PN **Pn** **14 56 44.5** **+1.3**
KBTR S **Sn** **14 57 18.7** **+1.1**
KBTR **Krutoberegovo** **2.87** **23** *e*P **Pn** **14 56 44.5** **+1.3**
KBTR *e*S **Sn** **14 57 18.7** **+1.1**
KBG **Krutoberegovo** **2.89** **22** PN **Pn** **14 56 46.2** **+2.8**
KBG S **Sn** **14 57 19.8** **+1.8**
KBG **Krutoberegovo** **2.89** **22** P **Pn** **14 56 46.2** **+2.8**
KBG *e*S **Sn** **14 57 19.8** **+1.8**
SRKR **Sorokina** **3.08** **4** PN **Pn** **14 56 47.7** **+1.6**
SRKR **Sorokina** **3.08** **4** *e*P **Pn** **14 56 47.7** **+1.6**

BKI	**Bering**	**3.43**	**60**	PN	**Pn**	**14 56 51.3**	**+0.5**
BKI	**Bering**	**3.43**	**60**	*e*P	**Pn**	**14 56 51.3**	**+0.5**
BKI				*e*S	**Sn**	**14 57 27.6**	**-3.7**
SKR	**Severo-Kuril's**	**4.10**	**227**	PN	**Pn**	**14 57 02.4**	**+2.4**
SKR				S	**Sn**	**14 57 49.1**	**+1.2**
SKR	**Severo-Kuril's**	**4.10**	**227**	*e*P	**Pn**	**14 57 02.4**	**+2.4**
SKR				*e*S	**Sn**	**14 57 49.1**	**+1.2**
ILAR	**Eielson Array**	**28.16**	**46**	P	**P**	**15 01 48.4**	**-1.0**
comp=E,0.7nm,0.9s,baz=263,slow=7.2,SNR=5.3
H11N2 **WAKE ISLAND Hy** **34.12** **170** T T 15 39 29.1
baz=354,slow=76,SNR=24
H11N3 **WAKE ISLAND Hy** **34.13** **170** T T 15 39 08.9
baz=354,slow=76,SNR=24
H11N1 **WAKE ISLAND Hy** **34.14** **170** T T 15 39 37.6
baz=354,slow=76,SNR=27
TXAR **Lajitas Array** **70.05** **68** P **P** **15 07 08.8** **-0.6**
comp=E,0.3nm,0.6s,baz=332,slow=5.1,SNR=3.7

*IDC **21** 14:55:57.6±3.1, 21°.12S×175°.97W, h85km±27km, mb4.1/15, mb1 4.2/18, mb1mx4.1/31, mbtmp4.4/18, Error ellipse: s-maj=21.1km s-min=13.5km az=118.0*
*BJI **21** 14:56:01.4, 21°.70S×176°.50W, h156km, mb4.7/17, mB5.0/13*
*ISCJB **21** 14:56:02.7±0.4, 21°.41S±0°.04×175°.90W±0°.08, h154km, mb4.5/30, Error ellipse: s-maj=10.5km s-min=5.9km az=3.1*
*NEIC **21** 14:56:03.1±1.7, 21°.33S×175°.90W, h140km±16km, mb4.8/12, Error ellipse: s-maj=12.4km s-min=11.0km az=103.0*
NEIC Felt at 'Ohonua.

ISC 21 14:56:04.0±0.5, 21°.49S±0°.07×175°.86W±0°.08, h154km, n79, σ2§57/88, mb4.5/29, 9C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.85**	**302**	*e*Pn	**Pn**	**14 57 41.9**	**-0.3**
AFI	**Afiamalu**	**8.49**	**28**	P	Pn	14 57 54.3	-10
1.7nm,0.3s,baz=18,slow=20,SNR=3.7
AFI S Sn 14 59 19.6 -19
7.0nm,0.3s,baz=184,slow=16,SNR=4.1
RAR **Rarotonga** **14.99** **92** P **Pn** **14 59 27.0** **-1.3**
1.2nm,0.3s,baz=324,slow=2.5,SNR=4.3
DZM **Mont Dzumac** **16.45** **265** P **Pn** **14 59 49.6** **+3.5**
1.1nm,0.3s,baz=82,slow=18,SNR=12
DZM **Mont Dzumac** **16.45** **265** *e*P **Pn** **14 59 49.6** **+3.5**
52nm,1.0s
WMGZ **Waiomatatini S** **17.01** **196** PN **Pn** **14 59 53.9** **+1.2**
PUZ **Puketiti** **17.29** **196** *e*PN **P** **14 59 55.2** **+0.1**
PUZ SN S 15 02 54.0 -13
MWZ **Matawai** **17.73** **197** PN **P** **15 00 00.2** **+0.2**
MWZ SN **S** **15 03 07.3** **-8.8**
URZ **Urewera** **17.77** **198** P **Pn** **15 00 01.8** **0.0**
5.7nm,0.3s,baz=11,slow=1.2,SNR=33
URZ S **S** **15 03 10.1** **-6.9**
2.2nm,0.3s,baz=89,slow=23,SNR=11
URZ **Urewera** **17.77** **198** *e*P **P** **14 59 59.5** **-1.0**
22nm,0.5s
URZ S **S** **15 03 10.1** **-6.9**
URZ **Urewera** **17.77** **198** *e*PN **P** **15 00 01.3** **+0.8**
URZ SN **S** **15 03 12.4** **-4.5**
RIGZ **Rimuhau** **18.01** **196** PN **Pn** **15 00 05.5** **+0.8**
NMHZ **Naumai** **18.64** **198** PN **Pn** **15 00 11.5** **-0.6**
BKZ **Black Stump Fm** **18.80** **199** *e*PN **P** **15 00 11.7** **0.0**
BHHZ **Black Hill Sta** **19.22** **199** PN **P** **15 00 15.8** **-0.5**
PXZ **Pawanui** **19.49** **197** *e*PN **P** **15 00 19.5** **+0.4**
PXZ SN **S** **15 03 46.5** **-4.5**
QRZ **Quartz Range** **21.64** **204** PN **P** **15 00 46.9** **+4.7**
THZ **Tophouse** **22.32** **203** *e*P **P** **15 00 48.8** **-0.3**
22nm,0.8s
THZ **Tophouse** **22.32** **203** PN **P** **15 00 48.1** **-0.9**
DSZ **Denniston Nort** **22.71** **204** PN **P** **15 00 53.6** **+0.9**
LTZ **Lake Taylor** **23.44** **202** *e*P **P** **15 01 01.6** **+2.3**
29nm,0.7s
LTZ **Lake Taylor** **23.44** **202** PN **P** **15 01 01.4** **+2.1**
INZ **Inchbonnie** **23.69** **204** PN **P** **15 01 03.4** **+1.8**
OXZ **Oxford** **24.00** **202** *e*P **P** **15 01 04.2** **-0.2**
41nm,0.6s
OXZ **Oxford** **24.00** **202** *e*PN **P** **15 01 06.5** **+2.1**
WVZ **Waitaha Valley** **24.26** **204** *e*PN **P** **15 01 07.7** **+1.0**
RPZ **Rata Peaks** **24.69** **203** P **P** **15 01 13.3** **+2.7**
13nm,0.4s,baz=292,slow=2.3,SNR=13
RPZ **Rata Peaks** **24.69** **203** *e*P **P** **15 01 13.1** **+2.4**
23nm,0.8s
FOZ **Fox Glacier** **25.00** **205** *e*P **P** **15 01 16.5** **+3.0**
43nm,0.6s
JCZ **Jackson Bay** **25.87** **206** PN **P** **15 01 23.3** **+1.9**
WHZ **Wether Hill Ro** **27.71** **205** *e*P **P** **15 01 41.1** **+3.3**
16nm,0.7s
ARMA **Armidale** **30.46** **246** *e*P **P** **15 02 03.7** **+1.2**
7.9nm,0.5s
PMG **Port Moresby** **37.51** **283** *e*P **P** **15 03 03.1** **-0.1**
42nm,0.9s
STKA **Stephens Creek** **39.18** **246** P **P** **15 03 17.9** **+0.9**
6.4nm,0.5s,baz=95,slow=10,SNR=38
STKA **Stephens Creek** **39.18** **246** *e*P **P** **15 03 18.1** **+1.0**
1.8nm,0.6s
AS31 **Alice Springs** **46.24** **257** *e*P **P** **15 04 13.7** **-0.4**
ASAR **Alice Springs** **46.24** **257** P **P** **15 04 14.4** **+0.2**
8.4nm,0.8s,baz=92,slow=8.7,SNR=254
ASAR PcP **PcP** **15 05 48.8** **+1.5**
5.7nm,0.7s,baz=103,slow=3.8,SNR=24
WB2 **Warramunga Arr** **46.44** **263** *e*P **P** **15 04 15.6** **-0.1**
WRAB **Tennant Creek** **46.44** **263** *e*P **P** **15 04 13.9** **-1.8**
7.6nm,0.7s
WRA **Warramunga Arr** **46.45** **263** P **P** **15 04 15.2** **-0.5**
6.0nm,0.4s,baz=96,slow=8.6,SNR=93
WRA PcP **PcP** **15 05 49.5** **+1.5**
4.5nm,0.8s,baz=96,slow=3.6,SNR=12
FORT **Forrest** **50.74** **247** *e*P **P** **15 04 48.8** **+0.4**
MTN **Manton Dam** **51.17** **271** *e*P **P** **15 04 50.9** **-0.9**
VNDA **Vanda** **57.11** **186** P **P** **15 05 38.0** **+4.2**
0.7nm,0.7s,baz=16,slow=4.5,SNR=6.5
QSPA **South Pole Qui** **68.58** **180** *e*P **P** **15 06 53.8** **+3.7**
MJAR **Matsushiro Arr** **72.20** **323** P **P** **15 07 10.7** **-1.5**
1.5nm,0.5s,baz=159,slow=6.0,SNR=8.2
MAT **Matsushiro** **72.20** **323** P **P** **15 07 10.9** **-1.3**
ASAJ **Asahikawa** **75.56** **330** P **P** **15 07 31.6** **+0.1**
2.6nm,0.7s,baz=77,slow=14,SNR=3.8
PETK **Petropavlovsk-** **77.75** **344** P **P** **15 07 43.0** **-0.7**
11nm,0.6s,baz=104,slow=7.2,SNR=24
USRK **Ussuriysk Ar.** **80.91** **325** P **P** **15 08 01.1** **+0.1**
3.6nm,0.9s,baz=34,slow=5.5,SNR=8.4
MAW **Mawson** **81.30** **199** P **P** **15 08 05.7** **+3.0**
2.6nm,0.7s,baz=134,slow=6.9,SNR=9.9
NJ2 **Nanjing** **82.05** **309** *e*P **P** **15 08 04.0** **-3.2**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MDJ **Mudanjiang** **82.48** **324** P **P** **15 08 08.4** **-0.8**
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,49nm,5.8s
CN2 **Changchun** **84.31** **322** *e*P **P** **15 08 17.0** **-1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TXAR **Lajitas Array** **85.92** **56** P **P** **15 08 28.3** **+1.2**
0.7nm,0.8s,baz=211,slow=8.2,SNR=9.3
SYO **Syowa Base** **86.19** **192** ⇓*e*P P 15 08 40.6 +13
PDAR **Pinedale Array** **88.33** **42** P **P** **15 08 38.4** **-0.1**
0.5nm,0.8s,baz=240,slow=4.8,SNR=4.0
ILAR **Eielson Array** **88.85** **12** P **P** **15 08 39.4** **-0.8**
0.5nm,0.5s,baz=221,slow=6.1,SNR=10
GYA **Guiyang** **88.87** **299** *e*P **P** **15 08 39.6** **-1.7**
GYA PP **PP** **15 12 14.8** **+1.7**
GYA SKS **SKSac** **15 18 48.0** **-8.8**
GYA S **SKKSac** **15 19 07.6** **-1.2**
GYA pmax pmax
comp=Z,20nm,1.0s
XAN **Xi'an** **90.32** **307** P **P** **15 08 48.3** **+0.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,100nm,6.4s
HHC **Hu-ho-hao-te** **91.47** **314** *e*P **P** **15 08 51.8** **-1.3**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,79nm,7.4s
CMAR **Chiang Mai Arr** **92.33** **289** P **P** **15 08 59.0** **+1.6**
1.3nm,0.6s,baz=108,slow=2.5,SNR=16
LZH **Lanzhou** **94.96** **307** *e*P **P** **15 09 05.3** **-4.0**
LZH pmax pmax
comp=Z,16nm,1.1s

SONM	**Songino Array**	**97.81**	**318**	P	Pdif	15 09 22.3	+0.4
0.3nm,0.5s,baz=108,slow=4.7,SNR=3.3
KSH **Kashi** **117.09** **304** *e*PKP **PKPdf** **15 14 24.8** **-6.2**
KSH PP **PP** **15 15 43.4** **0.0**
KSH PKS PKSdf 15 17 59.1 -8.7
KSH SS SS 15 31 31.8 -8.7
KSH AMB AMB
comp=Z,93nm,4.7s
KSH LR LR
comp=N,280nm,11.9s
KSH LR LR
comp=E,240nm,9.6s
KSH LR LR
comp=Z,260nm,10.8s
FINES **FINESS Array B** **137.27** **345** PKP **PKPdf** **15 15 09.4** **+0.9**
1.1nm,0.5s,baz=328,slow=2.5,SNR=6.5
AKASG **Malin Array Be** **144.83** **332** PKP **PKPab** **15 15 21.2** **-0.7**
5.1nm,0.7s,baz=43,slow=4.5,SNR=66
BRTR **Keskin Array B** **148.98** **313** PKPbc **PKPbc** **15 15 34.8** **+0.6**
3.4nm,0.7s,baz=142,slow=3.0,SNR=18
UPC **Upice** **149.57** **345** ⇑*e*PKP **PKPbc** **15 15 36.5** **+1.4**
DPC **Dobruska-Polom** **149.64** **344** ⇑*e*PKP **PKPbc** **15 15 36.6** **+1.3**
KRLC **Kraliky** **149.78** **344** ⇑*e*PKP **PKPbc** **15 15 36.9** **+1.2**
PVCC **Panska Ves** **149.88** **347** ⇑*e*PKP **PKPbc** **15 15 37.4** **+1.6**
PRU **Pruhonice** **150.40** **346** ⇑*e*PKP **PKPbc** **15 15 37.9** **+0.8**
GOPC **GO Pecny, Ondr** **150.41** **346** ⇑*e*PKP **PKPbc** **15 15 38.2** **+1.1**
NKC **Novy Kostel** **150.58** **349** ⇑*e*PKP **PKPbc** **15 15 38.5** **+1.0**
TREC **Trest** **150.82** **345** ⇑*e*PKP **PKPbc** **15 15 39.0** **+0.9**
KHC **Kasperske Hory** **151.41** **347** ⇑*e*PKP **PKPbc** **15 15 40.4** **+0.9**
KHC *e*PKPAB **PKPab** **15 15 48.2** **-0.1**
GERES **GERESS Array B** **151.66** **347** PKPbc **PKPbc** **15 15 41.1** **+0.9**
2.0nm,0.8s,baz=27,slow=1.5,SNR=13
CONA **Conrad Observa** **151.99** **343** *i* PKPbc **PKPbc** **15 15 39.0** **-2.0**
4.4nm,0.9s
FETA **Feichten** **153.98** **350** *e*PKPbc **PKPbc** **15 15 43.5** **-2.0**
5.9nm,1.5s

*DDA **21** 15:00:42.0, 38°.24N×31°.01E, h7km, Md2.6*
*ISK **21** 15:00:41.5, 38°.26N×31°.01E, h14km, MD2.7*
*ISCJB **21** 15:00:42.2±0.5, 38°.25N±0°.03×31°.03E±0°.03, h6km±7km, Error ellipse: s-maj=4.4km s-min=4.1km az=178.6*
*CSEM **21** 15:00:42.2±0.2, 38°.25N×31°.02E, h10km, MD2.7, Error ellipse: s-maj=3.9km s-min=3.2km az=26.0*

ISC 21 15:00:42.1±1.0, 38°.25N±0°.03×31°.02E±0°.02, h10km±9km, n18, σ0§35/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGO	**Egridir - ISPA**	**0.32**	**215**	*i* P	**Pg**	**15 00 48.3**	**-0.1**
BAGO				*i* S	**Sg**	**15 00 52.8**	**+0.1**
BOLV	**Bolvadin**	**0.47**	**353**	*i* P	**Pg**	**15 00 51.4**	**0.0**
BOLV				*i* S	**Sg**	**15 00 57.5**	**-0.1**
SHUT	**Suhut-Afyon**	**0.48**	**310**	*e*PG	**Pg**	**15 00 51.2**	**-0.3**
SHUT				*e*SG	**Sg**	**15 00 58.1**	**+0.3**
SHUT	**Suhut-Afyon**	**0.48**	**310**	*e*Pg	**Pg**	**15 00 51.2**	**-0.3**
SHUT				*e*Sg	**Sg**	**15 00 58.1**	**+0.3**
DOGA	**KONYA_Doganhis**	**0.53**	**105**	*i* P	**Pg**	**15 00 52.8**	**+0.3**
DOGA				*i* S	**Sg**	**15 00 59.8**	**+0.3**
DOGA	**KONYA_Doganhis**	**0.53**	**105**	P	**Pg**	**15 00 52.8**	**+0.3**
DOGA				S	**Sg**	**15 00 59.8**	**+0.3**
ISP	**Isparta**	**0.58**	**223**	*e*PG	**Pg**	**15 00 53.2**	**-0.2**
ISP				*e*SG	**Sb**	**15 01 02.1**	**-0.6**
ISP	**Isparta**	**0.58**	**223**	*e*Pg	**Pg**	**15 00 53.2**	**-0.2**
ISP				*e*Sg	**Sb**	**15 01 02.1**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.77**	**181**	*e*PG	**Pg**	**15 00 56.9**	**-0.1**
SUTC				*e*SG	**Sb**	**15 01 08.4**	**+0.2**
SUTC	**Sutluce-Ispart**	**0.77**	**181**	*e*Pg	**Pg**	**15 00 56.9**	**-0.1**
SUTC				*e*Sg	**Sb**	**15 01 08.5**	**+0.2**
KDHN	**Kadinhani**	**0.90**	**72**	*i* P	**Pn**	**15 01 00.7**	**-0.3**
KDHN				*i* S	**Sn**	**15 01 13.6**	**-0.5**
KONT	**Konya--Tatoy**	**1.10**	**106**	*e*PN	**Pb**	**15 01 03.3**	**0.0**
KONT				*e*SN	**Sn**	**15 01 19.0**	**+0.2**
KONT	**Konya--Tatoy**	**1.10**	**106**	*i* P	**Pb**	**15 01 02.9**	**-0.4**
KONT	**Konya--Tatoy**	**1.10**	**106**	*e*Pn	**Pb**	**15 01 03.3**	**0.0**
KONT				*e*Sn	**Sn**	**15 01 19.0**	**+0.2**
KHAL	**Karahalli**	**1.21**	**276**	*i* P	**Pg**	**15 01 05.8**	**+0.5**
KHAL				*i* S	**Sn**	**15 01 22.3**	**+0.7**
KHAL	**Karahalli**	**1.21**	**276**	P	**Pg**	**15 01 05.8**	**+0.5**
KHAL				S	**Sn**	**15 01 22.3**	**+0.7**
ESKT	**Eskisehir**	**1.28**	**354**	*i* P	**Pn**	**15 01 05.9**	**-0.2**
SEYT	**Eskypehyr**	**1.28**	**354**	P	**Pn**	**15 01 05.9**	**-0.2**

*IDC **21** 15:09:40.2±7.0, 17°.82N×95°.48E, h92km±63km, mb3.2/3, mb1 3.3/4, mb1mx3.0/44, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=59.6km s-min=19.3km az=61.0*

ISC 21 15:09:38.2±1.2, 18°.0N±0°.1×95°.2E±0°.1, h100km, n13, σ3§13/20, mb3.6/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.55**	**83**	P	**Pn**	**15 10 31.2**	**-0.1**
7.3nm,0.3s,baz=258,slow=15,SNR=117
CMAR S **Sn** **15 11 09.7** **-2.7**
12nm,0.3s,baz=259,slow=24,SNR=16
ODAN **Odare** **11.38** **322** *e*Pn **Pn** **15 12 19.8** **+1.9**
ODAN *e*Sn **Sn** **15 14 21.4** **-1.8**
35nm,0.4s
TAPN **Taplejung** **11.57** **325** *e*Pn **Pn** **15 12 24.6** **+4.1**
TAPN *e*Sn **Sn** **15 14 27.1** **-0.9**
18nm,0.5s
RAMN **Ramite** **11.93** **320** *e*Pn **Pn** **15 12 26.5** **+1.4**
JIRN **Jiri** **12.69** **321** *e*Pn **P** **15 12 39.1** **-3.6**
JIRN *e*Sn **Sn** **15 14 51.9** **-3.2**
107nm,0.3s
PKIN **Phulchoki** **13.12** **318** *e*Pn **Pn** **15 12 43.1** **+2.1**
PKIN *e*Sn **Sn** **15 15 02.3** **-3.2**
8.3nm,0.3s
KKN **Kakani** **13.35** **318** *e*Pn **P** **15 12 47.6** **-2.2**
GKN **Gorkha** **13.90** **317** *e*Pn **Pn** **15 12 53.1** **+2.0**
GKN *e*Sn **Sn** **15 15 20.1** **-4.1**
12nm,0.4s
KOLN **Koldanda** **14.44** **314** *e*Pn **P** **15 13 01.5** **-0.4**
KOLN *e*Sn **Sn** **15 15 32.3** **-4.9**
11nm,0.4s
MKAR **Makanchi Array** **30.60** **342** P **P** **15 15 47.1** **+4.5**
0.2nm,0.3s,baz=158,slow=9.6,SNR=2.5
MKAR pP **pP** **15 16 07.9** **+2.9**
0.1nm,0.3s,baz=160,slow=8.9,SNR=1.8
ZALV **Zalesovo Beam** **36.73** **350** P P 15 16 40.7 +5.1
0.6nm,0.4s,baz=169,slow=8.7,SNR=2.8
WRA **Warramunga Arr** **53.83** **133** pP pP 15 19 11.2 -4.1
0.4nm,0.6s,baz=317,slow=7.1,SNR=2.6
ASAR **Alice Springs** **56.06** **136** P **P** **15 19 08.2** **+1.0**
0.2nm,0.5s,baz=315,slow=7.2,SNR=7.8
ASAR pP **pP** **15 19 27.8** **-3.8**
0.3nm,0.6s,baz=316,slow=6.8,SNR=3.5

DHMR 21 15:15:28.0±0.3, 11°.99N×44°.17E, h14km±3km, ML3.6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.12**	**46**	*i* P	Pb	15 15 48.5

BANOM				S		Sb	15 16 30.9	+1.0
BANOM	**Banah**	**1.46**	**178**	P		**Pb**	**15 16 11.2**	**-0.4**
	SNR=7.2							
BANOM				S		Sb	15 16 30.9	+1.0
NGRK	**Negar Kerman**	**2.29**	**11**	*e*Pn		**Pb**	**15 16 24.2**	**-1.8**
NGRK	**Negar Kerman**	**2.29**	**11**	*e*Pn		**Pb**	**15 16 24.2**	**-1.8**
UOSS	**Minazif**	**2.43**	**181**	P		**Pn**	**15 16 24.4**	**+0.5**
	SNR=8.0							
HATD	**Hatta, Dubai**	**2.55**	**182**	P		**Pn**	**15 16 25.2**	**-0.4**
HATD	**Hatta, Dubai**	**2.55**	**182**	P		**Pn**	**15 16 25.2**	**-0.4**
TVBK	**TV Kerman**	**2.63**	**10**	*e*Pn		**Pn**	**15 16 28.4**	**+1.5**
TVBK	**TV Kerman**	**2.63**	**10**	*e*Pn		**Pn**	**15 16 28.4**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.69**	**193**	P		**Pn**	**15 16 27.9**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.69**	**193**	P		**Pn**	**15 16 27.9**	**+0.4**
ASHO	**Ashiyiah**	**2.70**	**183**	P		**Pn**	**15 16 28.5**	**+0.9**
ASHO	**Ashiyiah**	**2.70**	**183**	P		**Pn**	**15 16 28.5**	**+0.9**
CHMN	**Cheshme madani**	**2.72**	**25**	*e*Pn		**Pn**	**15 16 29.9**	**+1.8**
CHMN	**Cheshme madani**	**2.72**	**25**	*e*Pn		**Pn**	**15 16 29.9**	**+1.8**
KHGB	**Koh Gabri**	**2.99**	**4**	*e*Pn		**Pn**	**15 16 33.7**	**+2.0**
KHGB	**Koh Gabri**	**2.99**	**4**	*e*Pn		**Pn**	**15 16 33.7**	**+2.0**
ISRV	**Sarvestan**	**3.40**	**307**	*e*Pn		**Pn**	**15 16 38.5**	**+1.0**
ISRV				*e*AMB		AMB	15 18 01.6	
	comp=Z,322nm,0.2s							
ISRV	**Sarvestan**	**3.40**	**307**	*e*Pn		**Pn**	**15 16 38.5**	**+1.0**
IPAR	**Pars**	**3.72**	**312**	*e*Pn		**Pn**	**15 16 43.7**	**+1.8**
IPAR				*e*AMB		AMB	15 18 03.5	
	comp=Z,280nm,0.3s							
IPAR	**Pars**	**3.72**	**312**	*e*Pn		**Pn**	**15 16 43.7**	**+1.8**
IBAF	**Bafgh**	**4.23**	**352**	*e*Pn		**Pn**	**15 16 49.4**	**+0.6**
IBAF				*e*AMB		AMB	15 18 08.8	
	comp=Z,136nm,0.2s							
IBAF	**Bafgh**	**4.23**	**352**	*e*Pn		**Pn**	**15 16 49.4**	**+0.6**
IMEH	**Mehriz**	**4.23**	**341**	*e*Pn		**Pn**	**15 16 50.2**	**+1.3**
IMEH				*e*AMB		AMB	15 16 53.5	
	comp=Z,229nm,0.1s							
IMEH	**Mehriz**	**4.23**	**341**	*e*Pn		**Pn**	**15 16 50.2**	**+1.3**
IRAM	**Ramesheh**	**5.54**	**324**	*e*AMB		AMB	15 17 13.2	
	comp=Z,123nm,0.1s							
IRAM				*e*Pn		**Pn**	**15 17 07.7**	**+0.9**
IGAR	**Gharneh**	**6.19**	**325**	*e*Pn		**Pn**	**15 17 16.8**	**+1.1**
IGAR				*e*AMB		AMB	15 17 17.2	
	comp=Z,286nm,0.1s							
IZEF	**Zefreh**	**6.45**	**329**	*e*Pn		**Pn**	**15 17 19.5**	**+0.1**
IZEF				*e*AMB		AMB	15 17 26.1	
	comp=Z,59nm,0.1s							
IZEF	**Zefreh**	**6.45**	**329**	*e*Pn		**Pn**	**15 17 19.5**	**+0.1**
IPIR	**Pirpir**	**7.02**	**320**	*e*Pn		**Pn**	**15 17 27.7**	**+0.4**
IPIR				*e*AMB		AMB	15 17 31.3	
	comp=Z,111nm,0.1s							
IPIR	**Pirpir**	**7.02**	**320**	*e*Pn		**Pn**	**15 17 27.7**	**+0.4**
IDHR	**Dehrash**	**11.15**	**313**	*e*Pn		**Pn**	**15 18 21.9**	**-1.9**
IDHR	**Dehrash**	**11.15**	**313**	*e*Pn		**Pn**	**15 18 21.9**	**-1.9**

*DHMR **21** 15:18:33.2±1.6, 11°.85N×44°.17E, h15km±281km, ML4.1*
*ISCJB **21** 15:18:34.5±0.9, 11°.85N±0°.08×44°.17E±0°.07, h4km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=13.5km s-min=6.1km az=143.1*
*IDC **21** 15:18:35.0±1.9, 11°.56N×44°.12E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/34, mbtmp3.7/5, MS3.2/3, Ms1 3.2/3, ms1mx2.6/43, Error ellipse: s-maj=52.4km s-min=17.5km az=170.0*

ISC 21 15:18:36.3±1.1, 11°.9N±0°.1×44°.16E±0°.08, h4km, n12, σ2°.12/13, mb3.8/5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.18**	**43**	*i* P	**Pg**	**15 18 55.7**	**-3.2**
ADEN				*i* S	**Sg**	**15 19 12.8**	**-1.5**
ADEN				AML	AML	15 19 21.7	
	comp=E,5μm,0.7s						
ATD	**Arta Tunnel**	**1.34**	**254**	Pn	**Pn**	**15 18 59.9**	**-2.0**
	comp=E,74nm,0.3s,baz=42,slow=2.5,SNR=14						
ATD				Sn	**Sg**	**15 19 17.6**	**-1.8**
	comp=E,107nm,0.3s,baz=266,slow=23,SNR=16						
UDYN	**Al 'Udayn**	**2.05**	**355**	*i* P	**Pn**	**15 19 10.6**	**-1.2**
UDYN				*i* S	**Sn**	**15 19 38.1**	**+0.1**
BDHA	**Al Bayda'**	**2.47**	**34**	*i* P	**Pn**	**15 19 15.5**	**-2.1**
BDHA				*i* S	**Sn**	**15 19 50.5**	**+2.2**
BDHA				AML	AML	15 20 01.8	
	comp=N,1μm,0.7s						
KMBO	**Kilima Mbogo**	**14.66**	**208**	LR	LR	15 27 45.1	
	comp=N,140nm,18.2s,baz=306,slow=38						
WSAR	**Wadi Sarin**	**17.79**	**49**	LR	LR	15 30 24.9	
	comp=N,42nm,20.3s,baz=250,slow=39						
GEYT	**Alibeck**	**28.76**	**23**	LR	LR	15 38 44.0	
	comp=N,39nm,19.5s,baz=220,slow=42						
BRTR	**Keskin Array B**	**29.23**	**343**	P	**P**	**15 24 42.6**	**+3.2**
	comp=N,0.6nm,0.8s,baz=167,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**47.32**	**35**	P	**P**	**15 27 11.3**	**+0.2**
	comp=N,0.2nm,0.2s,baz=234,slow=8.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**52.82**	**29**	P	**P**	**15 27 53.8**	**+1.0**
	comp=N,0.4nm,0.3s,baz=244,slow=9.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**53.11**	**76**	P	**P**	**15 27 56.2**	**+0.6**
	comp=N,1.0nm,0.5s,baz=271,slow=8.8,SNR=11						
SONM	**Songino Array**	**62.70**	**42**	P	**P**	**15 29 04.3**	**+1.7**
	comp=N,0.5nm,0.8s,baz=244,slow=7.0,SNR=4.8						

DHMR 21 15:35:54.6±0.5, 12°.00N×44°.19E, h12km±9km, ML3.9, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.09**	**45**	⇓*i* P	Pb	15 36 14.5	-1.0
ADEN				*i* S	Sg	15 36 30.2	+0.4
ADEN				AML	AML	15 36 39.3	
	comp=E,3μm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**354**	*i* P	Pb	15 36 29.3	-1.2
UDYN				*i* S	Sb	15 36 55.9	+0.8
BDHA	**Al Bayda'**	**2.38**	**34**	*i* P	Pb	15 36 35.6	-1.9
BDHA				*i* S	Sb	15 37 08.0	+1.0
BDHA				AML	AML	15 37 16.4	
	comp=N,951nm,0.5s						

*ISCJB **21** 15:38:01.5±0.4, 40°.35N±0°.03×27°.09E±0°.03, h7km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=179.1*
*CSEM **21** 15:38:01.7±0.1, 40°.35N×27°.10E, h10km, MD2.7, Error ellipse: s-maj=2.8km s-min=2.0km az=170.0*
*DDA **21** 15:38:01.5, 40°.36N×27°.10E, h9km, Md2.6*
*ISK **21** 15:38:01.1, 40°.32N×27°.10E, h9km, MD2.7*

ISC 21 15:38:01.6±0.9, 40°.35N±0°.02×27°.10E±0°.02, h14km±7km, n36, σ0°.39/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.16**	**75**	*e*PG	**Pg**	**15 38 05.5**	**-0.1**
KRBG				*e*SG	**Sg**	**15 38 08.0**	**-0.2**
KRBG	**Karabiga-Canak**	**0.16**	**75**	*e*Pg	**Pg**	**15 38 05.5**	**-0.1**
KRBG				*e*Sg	**Sg**	**15 38 08.0**	**-0.2**
LPK	**Lapseki**	**0.26**	**274**	*e*PG	**Pb**	**15 38 07.6**	**-0.4**
LPK	**Lapseki**	**0.26**	**274**	*e*Pg	**Pb**	**15 38 07.6**	**-0.4**
KNL	**Bal¨–kesir**	**0.34**	**104**	*i* P	**Pg**	**15 38 08.1**	**-0.4**
KNL				*i* S	**Sb**	**15 38 14.3**	**-0.3**
SART	**Tekirdag**	**0.34**	**11**	*i* P	**Pg**	**15 38 08.6**	**0.0**
SART				*i* S	**Sg**	**15 38 13.4**	**-0.1**
SART	**Tekirdag**	**0.34**	**11**	P	**Pg**	**15 38 08.6**	**0.0**
SART				S	**Sg**	**15 38 13.4**	**-0.1**
MRMT	**Marmara Adasi**	**0.46**	**57**	*e*PG	**Pg**	**15 38 10.5**	**-0.2**
MRMT	**Marmara Adasi**	**0.46**	**57**	*e*Pg	**Pg**	**15 38 10.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.48**	**276**	*e*PG	**Pg**	**15 38 11.4**	**+0.3**
GELI				*e*SG	**Sb**	**15 38 18.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.48**	**276**	*e*Pg	**Pg**	**15 38 11.4**	**+0.3**
GELI				*e*Sg	**Sb**	**15 38 18.2**	**-0.4**
ERIK	**Erikli-Kesan**	**0.55**	**306**	*e*PG	**Pg**	**15 38 11.9**	**-0.4**
ERIK	**Erikli-Kesan**	**0.55**	**306**	*e*Pg	**Pg**	**15 38 12.0**	**-0.4**
KESN	**Edirne-Kesan**	**0.57**	**326**	*i* P	**Pg**	**15 38 12.7**	**-0.2**
KESN	**Edirne-Kesan**	**0.57**	**326**	P	**Pg**	**15 38 12.7**	**-0.2**
BALY	**Balya**	**0.73**	**147**	*i* P	**Pg**	**15 38 15.6**	**-0.3**
BALY				*i* S	**Sg**	**15 38 25.6**	**+0.1**
BALY	**Balya**	**0.73**	**147**	P	**Pg**	**15 38 15.6**	**-0.3**
BALY				S	**Sg**	**15 38 25.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.74**	**215**	*i* P	**Pb**	**15 38 16.2**	**-0.1**
BAYC				*i* S	**Sb**	**15 38 26.8**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.74**	**215**	P	**Pb**	**15 38 16.2**	**-0.1**
BAYC				S	**Sb**	**15 38 26.8**	**+0.6**
SBT3	**Marmara-Eregli**	**0.85**	**51**	*e*PG	**Pb**	**15 38 18.7**	**+0.7**
SBT3	**Marmara-Eregli**	**0.85**	**51**	*e*Pg	**Pb**	**15 38 18.7**	**+0.7**
GADA	**Gvkgeada**	**0.93**	**260**	*e*PG	**Pg**	**15 38 19.2**	**-0.4**
GADA	**Gvkgeada**	**0.93**	**260**	*e*Pg	**Pg**	**15 38 19.2**	**-0.4**
BOZC	**Bozcaada**	**0.95**	**238**	*e*PG	**Pg**	**15 38 19.5**	**-0.5**
BOZC				*e*SG	**Sb**	**15 38 32.7**	**+0.5**
BOZC	**Bozcaada**	**0.95**	**238**	*i* P	**Pb**	**15 38 20.4**	**+0.6**
BOZC				*i* S	**Sb**	**15 38 32.8**	**+0.6**
BOZC	**Bozcaada**	**0.95**	**238**	*e*Pg	**Pg**	**15 38 19.5**	**-0.5**
BOZC				*e*Sg	**Sb**	**15 38 32.7**	**+0.5**
ALN	**Alexandroupoli**	**0.97**	**305**	*e*PG	**Pg**	**15 38 19.9**	**-0.4**
ALN				*e*SG	**Sn**	**15 38 34.4**	**+0.2**
ALN	**Alexandroupoli**	**0.97**	**305**	*e*Pg	**Pg**	**15 38 19.9**	**-0.4**
ALN				*e*Sg	**Sn**	**15 38 34.4**	**+0.2**
KCTX	**Karacabey (Bur**	**0.97**	**95**	*e*PG	**Pg**	**15 38 19.5**	**-0.8**
KCTX	**Karacabey (Bur**	**0.97**	**95**	*e*Pg	**Pg**	**15 38 19.5**	**-0.8**
ARMT	**Armutlu**	**1.36**	**80**	*e*PN	**Pb**	**15 38 27.0**	**+0.2**
ARMT	**Armutlu**	**1.36**	**80**	*e*Pn	**Pb**	**15 38 27.0**	**+0.2**
CTKS	**Kestanelik-??a**	**1.39**	**50**	*e*PN	**Pb**	**15 38 27.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.39**	**50**	*e*Pn	**Pb**	**15 38 27.3**	**+0.1**
EDRB	**Edirne**	**1.52**	**350**	*e*PN	**Pb**	**15 38 29.5**	**+0.1**
EDRB	**Edirne**	**1.52**	**350**	*e*Pn	**Pb**	**15 38 29.5**	**+0.1**

*DHMR **21** 15:40:10.3±1.3, 11°.93N×44°.09E, h8km±16km, ML4.9*
*IDC **21** 15:40:12.0±0.6, 11°.87N×44°.12E, h0km, mb4.2/24, mb1 4.3/27, mb1mx4.1/47, mbtmp4.2/27, ML3.5/3, MS4.1/36, Ms1 4.1/36, ms1mx4.0/44, Error ellipse: s-maj=15.3km s-min=10.4km az=144.0*
*CSEM **21** 15:40:12.4±0.3, 11°.83N×44°.31E, h2km, mb4.7/9, Error ellipse: s-maj=13.0km s-min=9.7km az=123.0*
*MOS **21** 15:40:12.0±1.5, 11°.82N×44°.27E, h10km, mb5.0/12, Error ellipse: s-maj=12.5km s-min=6.1km az=95.8*
*NEIC **21** 15:40:13.1±0.5, 11°.91N×44°.15E, h10km, mb4.8/10, Error ellipse: s-maj=11.6km s-min=9.0km az=123.0*
*GCMT **21** 15:40:13.1±0.2, 12°.06N×44°.18E, h12km, MW4.9/88, Moment Tensor Solution. s23,c26; s88,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.55±.07; $M_{\theta\theta}$2.00±.06; $M_{\phi\phi}$0.54±.07; $M_{r\theta}$0.66±.25; $M_{\theta\phi}$-0.88±.06; $M_{r\phi}$0.21±.31; Best double couple: $M_0$2.57300×10^{16} NP1:ϕ_s286.00000°, δ52.00000°, λ-102.00000°. NP2: ϕ_s124.00000°, δ40.00000°, λ-76.00000°. Principal axes: T 2.4690, Plg6.0000°, Azm24.0000°; N 0.2050, Plg9.0000°, Azm293.0000°; P -2.6780, Plg79.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*OMAN **21** 15:40:14.2±0.9, 11°.38N×44°.23E, h_{29km}±476km Error ellipse: s-maj=200.3km s-min=10.4km az=19.0*

ISC 21 15:40:13.0±2.1, 11°.91N±0°.05×44°.14E±0°.05, h8km±13km, n166, σ1°.88/154, mb4.4/50, MS4.0/35, 19C-7D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.19**	**44**	*i* P	**Pn**	**15 40 32.8**	**-3.3**
ADEN				*i* S	**Sb**	**15 40 50.1**	**-1.4**
ADEN				AML	AML	15 40 56.1	
	comp=E,29μm,0.4s						
ADEN	**Aden**	**1.19**	**44**	*i* P	**Pn**	**15 40 32.8**	**-3.3**
ADEN				*i* S	**Sb**	**15 40 50.1**	**-1.4**
	comp=E,14μm,0.4s						
ATD	**Arta Tunnel**	**1.32**	**253**	Pn	**Pn**	**15 40 35.8**	**-2.0**
	comp=E,471nm,0.3s,baz=353,slow=2.6,SNR=148						
ATD				Sn	**Sg**	**15 40 54.4**	**-1.0**
	comp=E,1μm,0.3s,baz=221,slow=19,SNR=30						
UDYN	**Al 'Udayn**	**2.05**	**355**	*i* P	**Pn**	**15 40 46.6**	**-1.4**
UDYN				*i* S	**Sn**	**15 41 14.1**	**+0.2**
BDHA	**Al Bayda'**	**2.48**	**34**	*i* P	**Pn**	**15 40 52.9**	**-1.1**
BDHA				*i* S	**Sb**	**15 41 28.3**	**-0.6**
BDHA	**Al Bayda'**	**2.48**	**34**	*i* P	**Pn**	**15 40 52.9**	**-1.1**
DAMY	**Dhamar**	**2.66**	**5**	*e*Pn	**Pn**	**15 40 54.4**	**-2.1**
DAMY				*e*Sn	**Sn**	**15 41 27.1**	**-2.0**
DAMY	**Dhamar**	**2.66**	**5**	*e*Pn	**Pn**	**15 40 54.4**	**-2.1**
DAMY				*e*Sn	**Sn**	**15 41 27.1**	**-2.0**
HAJJ	**Hajjah**	**3.80**	**352**	*i* P	**Pn**	**15 41 12.1**	**-0.1**
HAJJ				*i* S	**Sn**	**15 41 59.0**	**+1.9**
KMBO	**Kilima Mbogo**	**14.65**	**208**	Pn	**Pn**	**15 43 41.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=49,slow=13,SNR=9.0						
KMBO				Lg	Lg	15 47 55.0	
	comp=E,0.3nm,0.3s,baz=292,slow=15,SNR=6.8						
KMBO				LR	LR	15 49 12.3	
	comp=E,3μm,19.7s,baz=78,slow=37						
KMBO	**Kilima Mbogo**	**14.65**	**208**	P	**Pn**	**15 43 40.0**	**-1.0**
KMBO				*e*		15 46 22.2	
KMBO				pmax	pmax		
	comp=Z,148nm,2.4s						
KMBO	**Kilima Mbogo**	**14.65**	**208**	Pn	**Pn**	**15 43 40.0**	**-1.0**
	comp=Z,148nm,2.4s						
KMBO				*e*Sn	**Sn**	**15 46 22.2**	**-1.6**
KMBO	**Kilima Mbogo**	**14.65**	**208**	Pn	**Pn**	**15 43 40.0**	**-1.0**
	comp=Z,148nm,2.4s						
KMBO				*e*Sn	**Sn**	**15 46 22.2**	**-1.6**
WSAR	**Wadi Sarin**	**17.81**	**49**	P	**Pn**	**15 44 20.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=260,slow=13,SNR=12						
WSAR				S	**Sn**	**15 47 42.9**	**+2.6**
	baz=299,slow=19,SNR=2.8						
WSAR				LR	LR	15 51 47.9	
	comp=Z,1μm,19.1s,baz=250,slow=39						
EIL	**Elat**	**19.63**	**336**	P	**Pn**	**15 44 42.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.9						
EIL				LR	LR	15 50 53.7	
	comp=Z,563nm,20.9s,baz=177,slow=33						
ASF	**Jabal al Asfar**	**21.24**	**343**	P	**P**	**15 45 01.6**	**+1.9**
	comp=Z,14nm,1.2s,baz=121,slow=5.5,SNR=6.9						
MMAI	**Mount Meron Ar**	**22.48**	**341**	P	**P**	**15 45 14.6**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=299,slow=27,SNR=5.3						
MMAI				LR	LR	15 53 20.9	
	comp=Z,323nm,18.7s,baz=100,slow=35						
GNI	**Garni**	**28.13**	**1**	P	**P**	**15 46 06.5**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=16,slow=18,SNR=3.9						
GNI				LR	LR	15 58 43.6	
	comp=Z,688nm,20.4s,baz=174,slow=40						
GNI	**Garni**	**28.13**	**1**	*e*P	**P**	**15 46 05.3**	**-0.6**
GNI	**Garni**	**28.13**	**1**	*e*P	**P**	**15 46 05.2**	**-0.6**
GNI	**Garni**	**28.13**	**1**	*e*P	**P**	**15 46 05.2**	**-0.6**
GEYT	**Alibeck**	**28.77**	**23**	P	**P**	**15 46 10.4**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=158,slow=39,SNR=3.1						
GEYT				LR	LR	15 59 27.8	
	comp=Z,946nm,20.1s,baz=220,slow=40						
IDI	**Anoyia**	**29.09**	**326**	LR	LR	15 57 43.9	
	comp=Z,96nm,18.1s,baz=136,slow=36						
BRTR	**Keskin Array B**	**29.22**	**343**	P	**P**	**15 46 16.9**	**+1.4**
	comp=Z,6.4nm,1.0s,baz=152,slow=8.0,SNR=19						
BRTR				LR	LR	15 57 13.1	
	comp=Z,317nm,19.0s,baz=144,slow=35						
AKH	**Akhalkalaki**	**29.39**	**359**	⇑*i* P	P	15 46 23.4	+6.4
ZEI	**Tsey**	**30.76**	**360**	*e*P	**P**	**15 46 31.1**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LSZ	**Lusaka**	**31.29**	**211**	P	**P**	**15 46 34.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=288,slow=3.2,SNR=2.4						
LSZ	**Lusaka**	**31.29**	**211**	P	**P**	**15 46 34.0**	**0.0**
LSZ	**Lusaka**	**31.29**	**211**	P	**P**	**15 46 34.0**	**0.0**
KBZ	**Khabaz**	**31.72**	**358**	P	**P**	**15 46 38.8**	**+1.5**
	comp=Z,3.4nm,1.1s,baz=226,slow=9.9,SNR=4.8						
KBZ				LR	LR	16 00 01.3	
	comp=Z,387nm,18.6s,baz=175,slow=37						
KIV	**Kislovodsk**	**31.95**	**358**	*e*P	**P**	**15 46 42.4**	**+2.9**
KIV				*e*		15 47 44.5	
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**31.95**	**358**	*e*P	**P**	**15 46 42.4**	**+2.9**
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**31.95**	**358**	P	**P**	**15 46 43.1**	**+3.6**
	SNR=5.9						
KVAR	**Kislovodsk Arr**	**31.95**	**358**	LR	LR	16 00 39.2	
	comp=Z,380nm,20.3s,slow=38						
HYB	**Hyderabad**	**33.71**	**76**	*i* P	**P**	**15 46 57.0**	**+1.8**
TIRR	**Tirgusor**	**35.13**	**340**	⇑*i* P	**P**	**15 47 09.1**	**+2.0**
TIRR	**Tirgusor**	**35.13**	**340**	⇑P	**P**	**15 47 09.1**	**+2.0**
TIRR	**Tirgusor**	**35.13**	**340**	P	**P**	**15 47 09.1**	**+2.0**
CFR	**Carcaliu**	**35.86**	**341**	⇑*i* P	**P**	**15 47 15.9**	**+2.5**
CFR	**Carcaliu**	**35.86**	**341**	⇑P	**P**	**15 47 15.9**	**+2.5**
CFR	**Carcaliu**	**35.86**	**341**	P	**P**	**15 47 15.9**	**+2.5**
VAE	**Valguarnera**	**36.83**	**319**	LR	LR	16 01 56.4	
	comp=Z,113nm,18.2s,baz=169,slow=35						
MLR	**Muntele Rosu**	**36.89**	**339**	⇑*i* P	P	15 47 27.9	+5.6
MLR	**Muntele Rosu**	**36.89**	**339**	⇑P	P	15 47 27.9	+5.6
VRI	**Vrincioaia**	**36.94**	**340**	⇑*i* P	P	15 47 26.6	+4.0
VRI	**Vrincioaia**	**36.94**	**340**	⇑P	P	15 47 26.6	+4.0
VRI	**Vrincioaia**	**36.94**	**340**	P	P	15 47 26.6	+4.0
PLOR	**Plostina**	**36.95**	**340**	⇓*i* P	P	15 47 26.6	+3.9
PLOR	**Plostina**	**36.95**	**340**	⇓P	P	15 47 26.6	+3.9
PLOR	**Plostina**	**36.95**	**340**	P	P	15 47 26.6	+3.9
VOIR		**37.17**	**338**	⇑*i* P	**P**	**15 47 27.7**	**+3.1**
VOIR		**37.17**	**338**	⇑P	**P**	**15 47 27.7**	**+3.1**
VOIR		**37.17**	**338**	P	**P**	**15 47 27.7**	**+3.1**
MDVR	**Moldovita**	**37.97**	**334**	⇑*i* P	**P**	**15 47 32.3**	**+0.9**
GZR	**Gura Zlata**	**38.02**	**335**	⇑*i* P	**P**	**15 47 34.9**	**+3.1**
GZR	**Gura Zlata**	**38.02**	**335**	⇑P	**P**	**15 47 34.9**	**+3.1**
GZR	**Gura Zlata**	**38.02**	**335**	P	**P**	**15 47 34.9**	**+3.1**
TAM	**Tamanrasset**	**38.30**	**292**	*e*P	**P**	**15 47 34.2**	**-0.4**
TAM				pmax	pmax		
	comp=Z,12nm,1.4s						
TAM	**Tamanrasset**	**38.30**	**292**	*e*P	**P**	**15 47 34.2**	**-0.4**
	comp=Z,12nm,1.4s						
TAM	**Tamanrasset**	**38.30**	**292**	*e*P	**P**	**15 47 34.1**	**-0.4**
	comp=Z,12nm,1.4s						
BZS	**Buzias**	**38.68**	**335**	⇑*i* P	**P**	**15 47 40.0**	**+2.7**
BZS	**Buzias**	**38.68**	**335**	⇑P	**P**	**15 47 40.0**	**+2.7**
BZS	**Buzias**	**38.68**	**335**	P	**P**	**15 47 40.0**	**+2.7**
BURAR	**Bucovina Array**	**38.97**	**340**	⇓*i* P	P	15 47 44.0	+4.1
BURAR	**Bucovina Array**	**38.97**	**340**	⇓P	P	15 47 44.0	+4.1
DRGR		**39.19**	**337**	⇑*i* P	**P**	**15 47 44.6**	**+2.9**
DRGR		**39.19**	**337**	⇑P	**P**	**15 47 44.6**	**+2.9**
DRGR		**39.19**	**337**	P	**P**	**15 47 44.6**	**+2.9**
KEST	**Kesra**	**39.36**	**313**	LR	LR	16 03 41.1	
	comp=Z,165nm,19.5s,baz=200,slow=36						
ABKAR	**Akbulak array**	**39.47**	**16**	*e*P	**P**	**15 47 43.5**	**-0.3**
	comp=Z,10nm,1.0s						
ABKAR	**Akbulak array**	**39.47**	**16**	*e*P	**P**	**15 47 43.5**	**-0.3**
	comp=Z,10nm,1.0s						
AKTK	**Aktyubinsk**	**40.07**	**14**	P	**P**	**15 47 49.1**	**+0.3**
AKTO	**Aktyubinsk**	**40.07**	**14**	P	**P**	**15 47 49.1**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=211,slow=11,SNR=9.0						
AKTO				LR	LR	16 07 40.6	
	comp=Z,590nm,18.4s,slow=41						
AAK	**Ala-Archa**	**40.39**	**35**	*e*P	**P**	**15 47 49.1**	**-2.8**
AAK				pmax	pmax		
	comp=Z,57nm,1.9s						
AAK	**Ala-Archa**	**40.39**	**35**	*e*P	**P**	**15 47 49.1**	**-2.8**
	comp=Z,57nm,1.9s						
AAK	**Ala-Archa**	**40.39**	**35**	*e*P	**P**	**15 47 49.1**	**-2.8**
	comp=Z,57nm,1.9s						
KIEV	**Kiev**	**40.56**	**345**	*e*P	**P**	**15 47 50.8**	**-2.1**
KIEV				pmax	pmax		
	comp=Z,25nm,1.5s						
KIEV	**Kiev**	**40.56**	**345**	*e*P	**P**	**15 47 50.8**	**-2.1**
	comp=Z,25nm,1.5s						
KIEV	**Kiev**	**40.56**	**345**	*e*P	**P**	**15 47 50.8**	**-2.1**
	comp=Z,25nm,1.5s						
AKASG	**Malin Array Be**	**40.56**	**345**	P	**P**	**15 47 52.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=160,slow=7.0,SNR=13						
FRU	**Bishkek**	**40.59**	**35**	*e*P	**P**	**15 47 54.0**	**+0.7**
FRU	**Bishkek**	**40.59**	**35**	*e*P	**P**	**15 47 54.0**	**+0.7**
UZH	**Uzhgorod**	**40.87**	**338**	*e*P	**P**	**15 47 52.2**	**-3.3**
UZH				*e*		15 47 54.4	
UZH				*e*		15 47 56.2	
UZH				*e*PPP	PPP	15 49 50.2	
UZH				*e*S	**S**	**15 54 01.8**	**-5.3**
PSZ	**Piszkesteto**	**41.23**	**335**	⇓*i* P	**P**	**15 48 01.9**	**+3.3**
PSZ	**Piszkesteto**	**41.23**	**335**	⇓P	**P**	**15 48 01.9**	**+3.3**
PSZ	**Piszkesteto**	**41.23**	**335**	⇓*i* P	**P**	**15 48 01.9**	**+3.3**
PSZ	**Piszkesteto**	**41.23**	**335**	P	**P

comp=Z,30nm,18.1s,baz=290,slow=36
SURT Suratani 53.77 88 P **P 15 49 39.8 +3.3**
comp=Z,7.1nm,1.5s
NOA NORSAR Array B 54.62 341 P **P 15 49 41.5 -0.5**
comp=Z,2.3nm,0.9s,baz=138,slow=7.3,SNR=3.0
NOA LR LR 16 14 31.5
comp=Z,116nm,18.1s,baz=135,slow=38
TRTT Trang 54.81 89 P P 15 49 48.4 +4.2
comp=Z,27nm,1.5s
PBKT Sadao Pong 55.14 78 P **P 15 49 47.7 +1.3**
comp=Z,10nm,1.6s,comp=Z,562nm
GTA Gaotai 56.14 50 *e*P **P 15 49 54.8 +1.3**
GTA pP sP 15 50 01.8 +4.9
GTA sP pP 15 50 04.8 +8.9
GTA S S 15 58 02.5 +19
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,74nm,5.8s
GTA LR LR
comp=N,80nm,17.6s
GTA LR LR
comp=E,140nm,20.4s
GTA LR LR
comp=Z,200nm,20.0s
SKNT Sakolnakorn 57.99 77 P **P 15 50 08.5 +1.7**
comp=Z,20nm,2.0s
LZH Lanzhou 58.66 55 *e*P **P 15 50 12.8 +1.4**
LZH pP sP 15 50 20.4 +5.6
LZH sP pP 15 50 24.3 +10
LZH pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 58.79 352 LR LR 16 17 30.4
comp=Z,86nm,18.1s,baz=122,slow=38
TLY Talaya 61.99 37 LR LR 16 20 16.9
comp=Z,74nm,20.0s,baz=253,slow=39
XAN Xi'an 62.58 58 P **P 15 50 38.6 +0.5**
XAN pmax pmax
comp=Z,8.0nm,1.8s
SONM Songino Array 62.71 42 P **P 15 50 39.2 +0.4**
comp=Z,2.7nm,0.9s,baz=241,slow=6.9,SNR=24
SONM LR LR 16 21 23.9
comp=Z,187nm,20.1s,baz=260,slow=39
ENH Enshi 62.87 62 *e*P **P 15 50 37.8 -2.2**
comp=Z,38nm,1.8s
ENH Enshi 62.87 62 *e*P **P 15 50 37.8 -2.2**
comp=Z,38nm,1.8s
ULN Ulaanbaatar 63.15 42 P **P 15 50 39.5 -2.2**
ULN pmax pmax
comp=Z,12nm,1.5s
ULN Ulaanbaatar 63.15 42 P **P 15 50 39.5 -2.2**
comp=Z,12nm,1.5s
ULN Ulaanbaatar 63.15 42 P **P 15 50 39.5 -2.2**
comp=Z,12nm,1.5s
NRIK Noril'sk 63.64 16 P **P 15 50 44.8 +0.5**
comp=Z,3.4nm,1.0s,baz=217,slow=5.9,SNR=4.7
NRIK LR LR 16 23 33.4
comp=Z,577nm,18.0s,baz=241,slow=41
BOD Bodaibo 69.30 32 *e*P **P 15 51 17.4 -3.4**
BOD pmax pmax
comp=Z,18nm,1.9s
KSRS Korea Array 77.97 54 LR LR 16 28 48.0
comp=Z,22nm,21.7s,baz=270,slow=37
USRK Ussuriysk Ar. 80.28 47 P **P 15 52 24.3 -0.4**
comp=Z,0.8nm,0.5s,baz=260,slow=11,SNR=6.8
USRK LR LR 16 32 14.4
comp=Z,88nm,21.7s,baz=275,slow=39
MAW Mawson 80.46 173 P **P 15 52 25.0 0.0**
comp=Z,2.1nm,0.9s,baz=321,slow=5.4,SNR=4.4
MAW LR LR 16 23 00.4
comp=Z,194nm,20.4s,baz=54,slow=32
MAW Mawson 80.46 173 P **P 15 52 25.0 0.0**
MAW Mawson 80.46 173 P **P 15 52 25.0 0.0**
MJAR Matsushiro Arr 86.24 54 P **P 15 52 56.9 +1.2**
comp=Z,1.5nm,0.9s,baz=298,slow=7.9,SNR=4.5
MJAR LR LR 16 34 52.2
comp=Z,25nm,18.4s,baz=180,slow=38
PETK Petropavlovsk- 94.14 34 LR LR 16 41 07.9
comp=Z,226nm,18.7s,baz=302,slow=39
WRA Warramunga Arr 94.17 109 P **P 15 53 34.4 +1.2**
comp=Z,2.1nm,1.2s,baz=292,slow=4.4,SNR=4.2
ASAR Alice Springs 94.49 113 P **P 15 53 35.9 +1.2**
comp=Z,0.7nm,0.9s,baz=291,slow=4.4,SNR=5.0
ASAR LR LR 16 30 06.8
comp=Z,51nm,21.8s,baz=302,slow=32
BDFB Brasilia 95.18 255 LR LR 16 33 46.7
comp=Z,57nm,20.0s,baz=266,slow=34
TXAR Lajitas Array 128.55 323 PKP **PKPdf 15 59 22.9 +1.3**
comp=Z,0.6nm,0.9s,baz=132,slow=1.9,SNR=5.7

*ISCJB **21** 15:44:41.2±1.0, 11°.79N±0°.08×44°.18E±0°.07, h4km, mb3.7/3, Error ellipse: s-maj=14.3km s-min=6.2km az=143.5*
*IDC **21** 15:44:42.1±1.4, 12°.06N×43°.93E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.2/47, mbtmp3.7/3, Error ellipse: s-maj=72.2km s-min=17.4km az=149.0*
*DHMR **21** 15:44:45.4±0.6, 12°.03N×44°.19E, h13km±6km, ML3.8*
ISC 21 15:44:42.4±1.1, 11°.98N±0°.09×44°.07E±0°.06, h4km, n7, σ1°.17/11, mb3.8/3, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.19**	**48**	*i* P	**Pg**	**15 45 04.9**	**-0.3**
ADEN				*i* S	**Sg**	**15 45 20.4**	**-0.3**
ADEN				AML	AML	15 45 29.2	
	comp=E,3μm,0.7s						
ATD	**Arta Tunnel**	**1.28**	**250**	Pn	**Pg**	**15 45 05.3**	**-1.7**
	comp=E,7.4nm,0.3s,baz=285,slow=20,SNR=17						
ATD				Sn	**Sb**	**15 45 25.7**	**+1.6**
	comp=E,41nm,0.3s,baz=281,slow=23,SNR=6.6						
UDYN	**Al 'Udayn**	**1.98**	**357**	*i* P	**Pb**	**15 45 19.6**	**+0.5**
UDYN				*i* S	**Sg**	**15 45 45.6**	**-0.4**
UDYN				AML	AML	15 45 51.3	
	comp=Z,698nm,0.5s						
BDHA	**Al Bayda'**	**2.46**	**36**	*i* P	**Pb**	**15 45 25.9**	**-1.5**
BDHA				*i* S	**Sb**	**15 45 58.0**	**-0.2**
BDHA				AML	AML	15 46 11.0	
	comp=E,815nm,0.5s						
MKAR	**Makanchi Array**	**47.31**	**35**	P	**P**	**15 53 18.2**	**+1.0**
	comp=E,0.2nm,0.2s,baz=243,slow=6.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.80**	**29**	P	**P**	**15 53 58.4**	**-0.3**
	comp=E,0.4nm,0.4s,baz=237,slow=6.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**53.17**	**76**	P	**P**	**15 54 03.4**	**+1.2**
	comp=E,1.0nm,0.9s,baz=268,slow=9.0,SNR=7.1						

DHMR 21 15:52:59.6±1.7, 11°.95N×44°.08E, h13km±18km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.21**	**47**	*i* P	Pn	15 53 22.2	0.0
ADEN				*i* S	Sg	15 53 38.6	0.0
ADEN				AML	AML	15 53 47.7	
	comp=E,2μm,0.4s						
UDYN	**Al 'Udayn**	**2.01**	**357**	*i* P	Pb	15 53 35.2	-1.0
UDYN				*i* S	Sb	15 54 01.8	+0.7
UDYN				AML	AML	15 54 09.4	
	comp=E,495nm,0.6s						
BDHA	**Al Bayda'**	**2.48**	**36**	*i* P	Pn	15 53 41.4	+1.4
BDHA				*i* S	Sb	15 54 16.3	+1.4
BDHA				AML	AML	15 54 25.0	
	comp=N,600nm,0.5s						

*ISCJB **21** 15:55:03.8±0.5, 51°.59N±0°.03×16°.05E±0°.03, h0km, Error ellipse: s-maj=3.6km s-min=2.6km az=4.5*
*CSEM **21** 15:55:05.8±0.3, 51°.58N×16°.02E, h2km, ML3.2/8, Error ellipse: s-maj=5.3km s-min=2.9km az=1.0*
*IDC **21** 15:55:07.8±0.8, 51°.51N×15°.93E, h0km, mb1 3.2/5, mb1mx3.1/48, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=13.9km s-min=7.5km az=112.0*
*VIE **21** 15:55:08.6±0.9, 51°.41N×16°.03E, h0km, mb2.5/4, ML2.7/5, Error ellipse: s-maj=9.7km s-min=5.5km az=96.0, Suspected Mining induced.*
ISC 21 15:55:05.9±0.8, 51°.59N±0°.04×16°.02E±0°.02, h0km, n49, σ0°.91/90, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**167**	*e*Pg	**Pg**	**15 55 20.8**	**+0.1**
KSP				*i* Sg	**Sg**	**15 55 31.1**	**+0.5**
KSP	**Ksiaz**	**0.77**	**167**	*e*Pg	**Pg**	**15 55 20.8**	**+0.1**
KSP				*i* Sg	**Sg**	**15 55 31.1**	**+0.5**
KSP	**Ksiaz**	**0.77**	**167**	*e*Pg	**Pg**	**15 55 20.8**	**+0.1**
KSP				*i* Sg	**Sg**	**15 55 31.1**	**+0.5**
UPC	**Upice**	**1.09**	**180**	*e*PG	**Pg**	**15 55 26.4**	**-0.3**
UPC				*e*SG	**Sg**	**15 55 41.0**	**+0.2**
	comp=Z,37nm,0.2s						
UPC	**Upice**	**1.09**	**180**	Pg	**Pg**	**15 55 26.4**	**-0.3**
UPC				Sg	**Sg**	**15 55 41.0**	**+0.2**
	37nm,0.2s						
DPC	**Dobruska-Polom**	**1.26**	**171**	*e*PG	**Pg**	**15 55 29.7**	**-0.3**
DPC				*e*SG	**Sg**	**15 55 45.6**	**-0.7**
	comp=Z,37nm,0.6s						
DPC	**Dobruska-Polom**	**1.26**	**171**	Pg	**Pg**	**15 55 29.7**	**-0.3**
DPC				Sg	**Sg**	**15 55 45.6**	**-0.7**
	37nm,0.6s						
PVCC	**Panska Ves**	**1.40**	**221**	*e*PG	**Pn**	**15 55 32.6**	**-0.1**
PVCC				*e*SG	**Sn**	**15 55 52.1**	**+0.2**
	comp=Z,81nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**221**	Pg	**Pn**	**15 55 32.6**	**-0.1**
PVCC				Sg	**Sn**	**15 55 52.1**	**+0.2**
	81nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**242**	PG	**Pn**	**15 55 34.0**	**+0.1**
BRG				SG	**Sb**	**15 55 53.9**	**0.0**
	79nm,0.5s						
KRLC	**Kraliky**	**1.59**	**162**	*e*PG	**Pn**	**15 55 34.8**	**-0.6**
KRLC				*e*SG	**Sg**	**15 55 57.2**	**+0.1**
KRLC	**Kraliky**	**1.59**	**162**	Pg	**Pn**	**15 55 34.8**	**-0.6**
KRLC				Sg	**Sg**	**15 55 57.2**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.85**	**205**	*e*PG	**Pb**	**15 55 40.6**	**-0.1**
GOPC				*e*SG	**Sg**	**15 56 04.9**	**-0.5**
GOPC	**GO Pecny, Ondr**	**1.85**	**205**	Pg	**Pb**	**15 55 40.6**	**-0.1**
GOPC				Sg	**Sg**	**15 56 04.9**	**-0.5**
PRU	**Pruhonice**	**1.86**	**211**	*e*PN	**Pn**	**15 55 38.5**	**-0.5**
PRU				*e*PG	**Pb**	**15 55 40.1**	**-0.6**
PRU				*e*SG	**Sb**	**15 56 04.4**	**-0.1**
	comp=Z,15nm,0.3s						
PRU	**Pruhonice**	**1.86**	**211**	Pn	**Pn**	**15 55 38.5**	**-0.5**
CLL	**Collm**	**1.91**	**263**	*i* Pn	**Pn**	**15 55 38.5**	**-1.2**
	comp=Z,9.0nm,0.4s						
CLL				*i* Pg	**Pb**	**15 55 41.6**	**+0.1**
CLL				*i*		15 55 45.5	
CLL				*i* Sg	**Sg**	**15 56 08.2**	**+1.1**
	comp=Z,20nm,0.5s						
MORC	**Moravsky Berou**	**2.06**	**151**	*e*Pn	**Pn**	**15 55 41.1**	**-0.7**
MORC				*e*Sg	**Sg**	**15 56 11.9**	**-0.2**
OKC	**Ostrava-Krasne**	**2.22**	**142**	*e*PG	**Pb**	**15 55 47.5**	**+0.6**
OKC				*e*SG	**Sg**	**15 56 16.9**	**-0.3**
OKC	**Ostrava-Krasne**	**2.22**	**142**	Pg	**Pb**	**15 55 47.5**	**+0.6**
OKC				Sg	**Sg**	**15 56 16.9**	**-0.3**
VRAC	**Vranov**	**2.32**	**171**	Pn	**Pn**	**15 55 45.5**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=339,slow=15,SNR=6.4						
VRAC				Lg	Lg	15 56 20.2	
	comp=Z,2.1nm,0.3s,baz=133,slow=16,SNR=7.2						
VRAC	**Vranov**	**2.32**	**171**	*e*Pn	**Pn**	**15 55 45.1**	**-0.2**
VRAC				*e*Sg	**Sg**	**15 56 19.7**	**-0.6**
TREC	**Trest**	**2.33**	**189**	*e*PN	**Pn**	**15 55 45.2**	**-0.2**
TREC				*e*PG	**Pb**	**15 55 49.2**	**+0.5**
TREC	**Trest**	**2.33**	**189**	Pn	**Pn**	**15 55 45.2**	**-0.2**
NKC	**Novy Kostel**	**2.64**	**240**	*e*PN	**Pn**	**15 55 49.6**	**-0.1**
NKC				*e*PG	**Pg**	**15 55 56.0**	**-0.4**
NKC				*e*SG	**Sg**	**15 56 31.4**	**+0.8**
	comp=Z,30nm,0.5s						
NKC	**Novy Kostel**	**2.64**	**240**	Pn	**Pn**	**15 55 49.6**	**-0.1**
OJC	**Ojcow**	**2.76**	**118**	*e*Pg	**Pg**	**15 55 57.9**	**-0.9**
OJC				*e*Sg	**Sg**	**15 56 33.6**	**-1.0**
OJC	**Ojcow**	**2.76**	**118**	*e*Pg	**Pg**	**15 55 57.9**	**-0.9**
OJC				*e*Sg	**Sg**	**15 56 33.6**	**-1.0**
OJC	**Ojcow**	**2.76**	**118**	*e*Pg	**Pg**	**15 55 57.9**	**-0.9**
OJC				*e*Sg	**Sg**	**15 56 33.6**	**-1.0**
KHC	**Kasperske Hory**	**2.92**	**213**	*e*PN	**Pn**	**15 55 53.2**	**-0.4**
KHC				*e*PG	**Pb**	**15 55 59.3**	**+0.5**
KHC				*e*SN	**Sn**	**15 56 28.7**	**-0.6**
KHC				*e*SG	**Sg**	**15 56 39.3**	**-0.3**
	comp=Z,11nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**213**	Pn	**Pn**	**15 55 53.2**	**-0.4**
KHC				Sn	**Sn**	**15 56 28.7**	**-0.6**
KHC				Sg	**Sg**	**15 56 39.3**	**-0.3**
	comp=Z,11nm,0.4s						
GERES	**GERESS Array B**	**3.13**	**209**	Pn	**Pn**	**15 55 56.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=17						
GERES				Pg	**Pb**	**15 56 02.6**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=27,slow=18,SNR=35						
GERES				Sn	**Sn**	**15 56 34.9**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=22,slow=18,SNR=4.5						
GERES				Lg	Lg	15 56 45.3	
	comp=Z,2.6nm,0.3s,baz=29,slow=27,SNR=6.4						
LANS	**Liptovska Anna**	**3.30**	**137**	*e*Pg	**Pg**	**15 56 08.0**	**-1.1**
LANS				*e*Sg	**Sg**	**15 56 50.1**	**-1.6**
LANS	**Liptovska Anna**	**3.30**	**137**	*e*PG	**Pg**	**15 56 08.0**	**-1.1**
LANS				*e*SG	**Sg**	**15 56 50.1**	**-1.6**
VYHS	**Vyhne**	**3.59**	**149**	*e*Pg	**Pg**	**15 56 15.2**	**+0.4**
VYHS	**Vyhne**	**3.59**	**149**	*e*	**Pn**	**15 56 02.0**	**-0.9**
VYHS	**Vyhne**	**3.59**	**149**	*e*PG	**Pg**	**15 56 15.2**	**+0.4**
CONA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**15 56 04.4**	**+0.4**
	comp=Z,0.6nm,0.2s						
MOA	**Molln**	**3.91**	**198**	Pn	**Pn**	**15 56 07.3**	**0.0**
	comp=Z,1.6nm,0.2s						
MOA				Sg	**Sg**	**15 57 11.2**	**-0.4**
	comp=Z,2.9nm,0.3s						
STHS	**Stebnicka Huta**	**3.98**	**121**	*e*Pg	**Pg**	**15 56 23.0**	**+0.7**
STHS				*e*Sg	**Sg**	**15 57 16.2**	**+2.3**
STHS	**Stebnicka Huta**	**3.98**	**121**	*e*	**Pn**	**15 56 09.5**	**+1.2**
STHS	**Stebnicka Huta**	**3.98**	**121**	*e*PG	**Pg**	**15 56 23.0**	**+0.7**
STHS				*e*SG	**Sg**	**15 57 16.2**	**+2.3**
STHS				*e*LG	Lg	15 57 25.0	
KECS	**Kecovo**	**4.24**	**135**	*e*Pg	**Pg**	**15 56 30.1**	**+2.9**
KECS	**Kecovo**	**4.24**	**135**	*e*PG	**Pg**	**15 56 30.1**	**+2.9**
ARSA	**Arzberg**	**4.36**	**184**	Sg	**Sg**	**15 57 25.8**	**0.0**
	comp=Z,5.2nm,0.6s						
KBA	**Koelnbreinsper**	**4.84**	**202**	Pn	**Pn**	**15 56 20.0**	**-0.2**
	comp=Z,2.4nm,0.4s						
KBA				Sg	**Sg**	**15 57 45.1**	**+3.7**
	comp=Z,5.1nm,0.5s						
AKASG	**Malin Array Be**	**8.36**	**91**	Pn	**Pn**	**15 57 06.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=278,slow=11,SNR=3.7						
HFS	**Hagfors**	**8.66**	**352**	Pn	**Pn**	**15 57 12.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=16,SNR=2.7						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**15 57 48.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=206,slow=9.3,SNR=2.9						

IDC 21 15:57:40.2±2.3, 6°.27S×129°.45E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.4/30, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=152.9km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**161**	Pn	Pn	16 01 05.2	-0.3
	0.3nm,0.3s,baz=344,slow=13,SNR=13						
WRA				Sn	Sn	16 03 30.6	-15
	0.8nm,0.3s,baz=339,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.82**	**167**	P	Pn	16 01 50.0	+0.2
	0.2nm,0.3s,baz=344,slow=9.9,SNR=34						
ASAR				S	Sn	16 04 54.8	-14
	0.2nm,0.3s,baz=348,slow=25,SNR=6.3						
MKAR	**Makanchi Array**	**67.31**	**327**	P	P	16 08 37.0	0.0
	0.5nm,0.6s,baz=126,slow=7.3,SNR=5.5						

*ATH **21** 15:58:36.8, 40°.62N×26°.55E, h23km±3km, ML1.9/6, Error ellipse: s-maj=4.3km s-min=1.0km az=285.0*
*THE **21** 15:58:37.2, 40°.62N×26°.56E, h0km±2km, ML1.7/1, Error ellipse: s-maj=3.1km s-min=0.8km az=89.0*
*IASPEI **21** 15:58:37.3±0.8, 40°.61N±0°.02×26°.55E±0°.02, h9km±6km, Error ellipse: s-maj=3.2km s-min=2.7km az=47.1, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **21** 15:58:37.4±0.1, 40°.62N×26°.54E, h8km, MD2.9, Error ellipse: s-maj=2.4km s-min=2.2km az=49.0*
*ISK **21** 15:58:37.2, 40°.61N×26°.54E, h6km, MD2.9*
*DDA **21** 15:58:37.3, 40°.59N×26°.55E, h7km, Md2.7*
ISC 21 15:58:37.3±0.8, 40°.61N±0°.02×26°.55E±0°.02, h9km±5km, n63, σ0°.52/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIK	**Erikli-Kesan**	**0.06**	**336**	*e*Pg	**Pg**	**15 58 39.0**	**-0.3**
ERIK				*e*Sg	**Sg**	**15 58 40.7**	**-0.1**
ERIK	**Erikli-Kesan**	**0.06**	**336**	*e*Pg	**Pg**	**15 58 39.0**	**-0.3**
ERIK				*e*Sg	**Sg**	**15 58 40.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.22**	**195**	*e*PG	**Pg**	**15 58 42.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.22**	**195**	*e*Pg	**Pg**	**15 58 42.1**	**+0.3**
KESN	**Edirne-Kesan**	**0.24**	**25**	*i* P	**Pg**	**15 58 42.3**	**0.0**
KESN				*i* S	**Sg**	**15 58 46.9**	**+1.3**
KESN	**Edirne-Kesan**	**0.24**	**25**	P	**Pg**	**15 58 42.3**	**0.0**
KESN				S	**Sg**	**15 58 46.9**	**+1.3**
LPK	**Lapseki**	**0.29**	**146**	*e*PG	**Pg**	**15 58 43.4**	**+0.3**
LPK	**Lapseki**	**0.29**	**146**	*e*Pg	**Pg**	**15 58 43.4**	**+0.3**
ENEZ	**Enez**	**0.32**	**293**	*e*PG	**Pg**	**15 58 43.9**	**+0.1**
ENEZ	**Enez**	**0.32**	**293**	P	**Pg**	**15 58 43.8**	**+0.1**
ENEZ				S	**Sg**	**15 58 48.9**	**+0.8**
ENEZ	**Enez**	**0.32**	**293**	P	**Pg**	**15 58 43.8**	**+0.1**
ENEZ				S	**Sg**	**15 58 48.9**	**+0.8**
ALN	**Alexandroupoli**	**0.48**	**307**	*e*PG	**Pb**	**15 58 47.6**	**-0.3**
ALN	**Alexandroupoli**	**0.48**	**307**	P	**Pg**	**15 58 46.5**	**-0.1**
ALN				S	**Sg**	**15 58 53.7**	**+0.9**
ALN	**Alexandroupoli**	**0.48**	**307**	P	**Pg**	**15 58 46.7**	**+0.1**
ALN				S	**Sg**	**15 58 53.8**	**+1.0**
ALN				AML	AML	15 58 54.5	
	comp=N,236μm,0.3s						
ALN				AML	AML	15 58 55.2	
	comp=E,133μm,0.3s						
ALN	**Alexandroupoli**	**0.48**	**307**	P	**Pg**	**15 58 46.5**	**-0.1**
ALN	**Alexandroupoli**	**0.48**	**307**	*e*Pg	**Pb**	**15 58 47.6**	**-0.3**
ALN				S	**Sg**	**15 58 53.7**	**+0.9**
SART	**Tekirdag**	**0.49**	**81**	*i* P	**Pb**	**15 58 47.6**	**-0.6**
SART	**Tekirdag**	**0.49**	**81**	P	**Pb**	**15 58 47.6**	**-0.6**
KRBG	**Karabiga-Canak**	**0.61**	**111**	*e*PG	**Pb**	**15 58 49.9**	**-0.3**
KRBG	**Karabiga-Canak**	**0.61**	**111**	*e*Pg	**Pb**	**15 58 49.9**	**-0.3**
GADA	**Gvkgeada**	**0.65**	**230**	*e*PG	**Pg**	**15 58 50.0**	**+0.1**
GADA	**Gvkgeada**	**0.65**	**230**	P	**Pg**	**15 58 50.2**	**+0.3**
GADA				S	**Sb**	**15 59 00.1**	**+0.1**
GADA	**Gvkgeada**	**0.65**	**230**	*e*Pg	**Pg**	**15 58 50.0**	**+0.1**
GADA				S	**Sb**	**15 59 00.1**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**260**	P	**Pg**	**15 58 52.1**	**-0.4**
SMTH	**Samothraki Isl**	**0.79**	**260**	P	**Pg**	**15 58 52.2**	**-0.3**
SMTH				S	**Sb**	**15 59 03.5**	**-0.5**
SMTH				AML	AML	15 59 05.9	
	comp=E,194μm,0.1s						
SMTH				AML	AML	15 59 06.7	
	comp=N,188μm,0.2s						
SMTH	**Samothraki Isl**	**0.79**	**260**	P	**Pg**	**15 58 52.2**	**-0.3**
SMTH				S	**Sb**	**15 59 03.5**	**-0.5**
MRMT	**Marmara Adasi**	**0.80**	**90**	*e*PG	**Pg**	**15 58 52.5**	**-0.2**
MRMT	**Marmara Adasi**	**0.80**	**90**	*e*Pg	**Pg**	**15 58 52.5**	**-0.2**
KNL	**Bal¨–kesir**	**0.82**	**114**	*i* P	**Pb**	**15 58 53.7**	**0.0**
BOZC	**Bozcaada**	**0.86**	**206**	*e*PG	**Pg**	**15 58 53.5**	**-0.3**
BOZC	**Bozcaada**	**0.86**	**206**	*i* P	**Pg**	**15 58 53.5**	**-0.3**
BOZC				*i* S	**Sb**	**15 59 06.2**	**+0.2**
BOZC	**Bozcaada**	**0.86**	**206**	*e*Pg	**Pg**	**15 58 53.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.87**	**180**	*i* P	**Pg**	**15 58 53.3**	**-0.8**
BAYC				*i* S	**Sb**	**15 59 06.0**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.87**	**180**	P	**Pg**	**15 58 53.3**	**-0.8**
BAYC				S	**Sb**	**15 59 06.0**	**-0.4**
RDO	**Rodhopi**	**0.93**	**305**	P	**Pg**	**15 58 54.5**	**-0.8**
RDO	**Rodhopi**	**0.93**	**305**	P	**Pg**	**15 58 54.6**	**-0.6**
RDO				S	**Sb**	**15 59 08.3**	**+0.1**
RDO				AML	AML	15 59 12.0	
	comp=N,203μm,0.3s						
RDO				AML	AML	15 59 13.2	
	comp=E,112μm,0.2s						
RDO	**Rodhopi**	**0.93**	**305**	P	**Pg**	**15 58 54.7**	**-0.6**
RDO				S	**Sb**	**15 59 08.3**	**+0.1**
SBT3	**Marmara-Eregli**	**1.12**	**75**	*e*PN	**Pn**	**15 58 59.4**	**+0.4**
SBT3	**Marmara-Eregli**	**1.12**	**75**	*e*Pn	**Pn**	**15 58 59.4**	**+0.4**
BALY	**Balya**	**1.20**	**136**	*i* P	**Pg**	**15 59 00.0**	**-0.3**
BALY				*i* S	**Sg**	**15 59 15.4**	**-0.5**
BALY	**Balya**	**1.20**	**136**	P	**Pg**	**15 59 00.0**	**-0.3**
BALY				S	**Sg**	**15 59 15.4**	**-0.5**
EDRB	**Edirne**	**1.24**	**7**	*e*PN	**Pg**	**15 59 01.1**	**-0.1**
EDRB	**Edirne**	**1.24**	**7**	P	**Pb**	**15 59 00.7**	**-0.3**
EDRB	**Edirne**	**1.24**	**7**	P	**Pb**	**15 59 00.7**	**-0.3**
EDRB	**Edirne**	**1.24**	**7**	*e*Pn	**Pg**	**15 59 01.1**	**-0.1**
LIA	**Limnos Island**	**1.27**	**236**	P	**Pn**	**15 59 00.8**	**-0.4**
LIA	**Limnos Island**	**1.27**	**236**	P	**Pn**	**15 59 00.7**	**-0.5**
LIA				S	**Sg**	**15 59 18.0**	**0.0**
LIA				AML	AML	15 59 21.6	
	comp=N,56μm,0.4s						
LIA				AML	AML	15 59 22.1	
	comp=E,49μm,0.3s						
LIA	**Limnos Island**	**1.27**	**236**	P	**Pn**	**15 59 00.8**	**-0.4**
LIA				S	**Sg**	**15 59 18.0**	**0.0**
AYVA	**Ayvalik**	**1.31**	**175**	*i* P	**Pb**	**15 59 02.1**	**+0.1**
AYVA				*i* S	**Sn**	**15 59 20.9**	**+1.5**
AYVA	**Ayvalik**	**1.31**	**175**	P	**Pb**	**15 59 02.2**	**+0.1**
AYVA				S	**Sn**	**15 59 20.9**	**+1.5**
PRK	**Paraskevi**	**1.38**	**189**	P	**Pb**	**15 59 03.2**	**-0.1**
PRK	**Paraskevi**	**1.38**	**189**	P	**Pb**	**15 59 03.3**	**-0.1**
PRK				S	**Sg**	**15 59 22.0**	**+0.3**
PRK				AML	AML	15 59 26.2	
	comp=N,109μm,0.5s						
PRK				AML	AML	15 59 26.5	
	comp=E,86μm,0.4s						
PRK	**Paraskevi**	**1.38**	**189**	P	**Pb**	**15 59 03.2**	**-0.1**
PRK				S	**Sg**	**15 59 22.0**	**+0.3**
SIGR	**SIGRI**	**1.50**	**201**	*e*PN	**Pb**	**15 59 05.1**	**-0.2**
SIGR	**SIGRI**	**1.50**	**201**	P	**Pn**	**15 59 03.8**	**-0.6**
SIGR				S	**Sg**	**15 59 25.5**	**0.0**
SIGR				AML	AML	15 59 26.0	
	comp=N,249μm,0.5s						
SIGR				AML	AML	15 59 26.0	
	comp=E,89μm,0.4s						
SIGR	**SIGRI**	**1.50**	**201**	P	**Pn**	**15 59 03.8**	**-0.6**
SIGR	**SIGRI**	**1.50**	**201**	*e*Pn	**Pb**	**15 59 05.1**	**-0.2**
SIGR				S	**Sg**	**15 59 25.5**	**0.0**
KAVA	**Kavala**	**1.59**	**285**	P	**Pn**	**15 59 04.5**	**-1.2**
KAVA	**Kavala**	**1.59**	**285**	P	**Pn**	**15 59 04.5**	**-1.2**
CTKS	**Kestanelik-??a**	**1.61**	**67**	*e*PN	**Pb**	**15 59 06.9**	**-0.3**
CTKS				*e*SN	**

MORC				*e*Sg	**Sg**	**15 59 19.7**	**0.0**
	31nm,0.7s						
TREC	**Trest**	**1.36 303**		*e*PG	**Pg**	**15 59 06.2**	**-0.4**
TREC				*e*SG	**Sb**	**15 59 24.9**	**0.0**
	comp=Z,38nm,0.4s						
TREC	**Trest**	**1.36 303**		*e*Pn	**Pg**	**15 59 06.2**	**-0.4**
TREC	**Trest**	**1.36 303**		Pg	**Pg**	**15 59 06.2**	**-0.4**
TREC				*e*Sn	**Sb**	**15 59 24.9**	**0.0**
TREC				Sg	**Sb**	**15 59 24.9**	**0.0**
	38nm,0.4s						
CSKK	**Cs^‡kako**	**1.39 150**		*e*Pn	**Pn**	**15 59 06.7**	**-0.4**
CSKK				*e*Sn	**Sn**	**15 59 25.7**	**-0.5**
CSKK	**Cs^‡kako**	**1.39 150**		*e*Pn	**Pn**	**15 59 06.7**	**-0.4**
CSKK				*e*Sn	**Sn**	**15 59 25.7**	**-0.5**
OKC	**Ostrava-Krasne**	**1.40**	**25**	*e*PG	**Pn**	**15 59 06.8**	**-0.4**
OKC				*e*SG	**Sb**	**15 59 25.5**	**-0.3**
	comp=Z,22nm,0.6s						
OKC	**Ostrava-Krasne**	**1.40**	**25**	*e*Pn	**Pn**	**15 59 06.8**	**-0.4**
OKC	**Ostrava-Krasne**	**1.40**	**25**	Pg	**Pn**	**15 59 06.8**	**-0.4**
OKC				*e*Sn	**Sb**	**15 59 25.5**	**-0.3**
OKC				Sg	**Sb**	**15 59 25.5**	**-0.3**
	22nm,0.6s						
KRLC	**Kraliky**	**1.53 349**		*e*PG	**Pg**	**15 59 09.5**	**-0.3**
KRLC				*e*SG	**Sn**	**15 59 31.4**	**+1.6**
KRLC	**Kraliky**	**1.53 349**		*e*Pn	**Pg**	**15 59 09.5**	**-0.3**
KRLC	**Kraliky**	**1.53 349**		Pg	**Pg**	**15 59 09.5**	**-0.3**
KRLC				*e*Sn	**Sn**	**15 59 31.4**	**+1.6**
LANS	**Liptovska Anna**	**1.58**	**68**	*e*Pn	**Pn**	**15 59 08.8**	**-1.0**
LANS	**Liptovska Anna**	**1.58**	**68**	*e*Pg	**Pn**	**15 59 08.8**	**-1.0**
LANS	**Liptovska Anna**	**1.58**	**68**	*e*PG	**Pn**	**15 59 08.8**	**-1.0**
ARSA	**Arzberg**	**1.76 222**		Pn	**Pn**	**15 59 12.0**	**-0.2**
ARSA				Sg	**Sg**	**15 59 37.6**	**+0.7**
	6.4nm,0.5s						
DPC	**Dobruska-Polom**	**1.88 342**		*e*PG	**Pg**	**15 59 16.1**	**-0.3**
DPC				*e*SG	**Sg**	**15 59 42.3**	**+1.6**
	comp=Z,10nm,0.5s						
DPC	**Dobruska-Polom**	**1.88 342**		Pg	**Pg**	**15 59 16.1**	**-0.3**
DPC				Sg	**Sg**	**15 59 42.3**	**+1.6**
	10nm,0.5s						
PSZ	**Piszkesteto**	**1.89 109**		*e*Pn	**Pg**	**15 59 17.4**	**+0.7**
PSZ				*e*Sn	**Sg**	**15 59 42.7**	**+1.5**
PSZ	**Piszkesteto**	**1.89 109**		*e*Pn	**Pg**	**15 59 17.4**	**+0.7**
PSZ				*e*Sn	**Sg**	**15 59 42.7**	**+1.5**
GOPC	**GO Pecny, Ondr**	**2.09 311**		*e*PG	**Pg**	**15 59 20.2**	**-0.4**
GOPC				*e*SG	**Sg**	**15 59 47.1**	**-0.6**
GOPC	**GO Pecny, Ondr**	**2.09 311**		Pg	**Pg**	**15 59 20.2**	**-0.4**
GOPC				Sg	**Sg**	**15 59 47.1**	**-0.6**
UPC	**Upice**	**2.09 338**		*e*SG	**Sg**	**15 59 48.5**	**+0.8**
UPC	**Upice**	**2.09 338**		Sg	**Sg**	**15 59 48.5**	**+0.8**
MOA	**Molln**	**2.12 251**		Pn	**Pn**	**15 59 16.4**	**-0.7**
MOA	**Molln**	**2.12 251**		Pg	**Pg**	**15 59 20.5**	**-0.5**
	1.4nm,0.2s						
MOA				Sg	**Sg**	**15 59 49.5**	**+1.0**
	3.6nm,0.2s						
KECS	**Kecovo**	**2.16**	**91**	*e*Pn	**Pn**	**15 59 15.0**	**-2.7**
KECS				*e*Sg	**Sg**	**15 59 51.6**	**+1.8**
KECS	**Kecovo**	**2.16**	**91**	*e*PN	**Pn**	**15 59 15.0**	**-2.7**
KECS				*e*SG	**Sg**	**15 59 51.6**	**+1.8**
KECS				*e*LG	Lg	15 59 54.4	
PRU	**Pruhonice**	**2.26 310**		*e*PG	**Pg**	**15 59 24.0**	**+0.2**
PRU				*e*SG	**Sg**	**15 59 52.2**	**-1.0**
	comp=Z,12nm,0.4s						
PRU	**Pruhonice**	**2.26 310**		Pg	**Pg**	**15 59 24.0**	**+0.2**
PRU				Sg	**Sg**	**15 59 52.2**	**-1.0**
	12nm,0.4s						
KHC	**Kasperske Hory**	**2.48 284**		*e*PN	**Pn**	**15 59 23.0**	**+0.8**
KHC				*e*PG	**Pg**	**15 59 27.6**	**-0.4**
KHC				*e*SG	**Sg**	**16 00 00.5**	**+0.3**
	comp=Z,8.8nm,0.4s						
KHC	**Kasperske Hory**	**2.48 284**		*e*Pn	**Pn**	**15 59 23.0**	**+0.8**
BRG	**Berggiesshubel**	**3.14 318**		SG	**Sg**	**16 00 22.6**	**+1.2**
	4.7nm,0.4s						
CLL	**Collm**	**3.87 317**		*e*Pg	**Pb**	**15 59 50.0**	**+0.4**
CLL				*i* Sg	**Sg**	**16 00 44.8**	**+0.1**
	comp=Z,13nm,0.8s						
CLL				LmV		16 44 00.0	
	comp=Z,100nm,21.5s						

*IDC **21** 16:12:20.3±0.8, 35°.38N×81°.48E, h0km, mb3.6/9, mb1 3.9/15, mb1mx3.7/44, mbtmp3.8/15, ML3.4/6, MS3.5/12, Ms1 3.5/12, ms1mx3.3/46, Error ellipse: s-maj=22.5km s-min=14.7km az=52.0*

*ISCJB **21** 16:12:21.7±0.3, 35°.55N±0°.02×81°.58E±0°.05, h15km, mb3.6/10, MS3.5/10, Error ellipse: s-maj=5.6km s-min=3.2km az=170.4*

*MOS **21** 16:12:23.4±1.6, 35°.59N×81°.68E, h28km, mb4.1/5, Error ellipse: s-maj=18.0km s-min=7.1km az=104.5*

*BJI **21** 16:12:23.9, 35°.61N×81°.50E, h7km, mb4.1/10, mB4.1/3, ML4.5/8, Ms3.9/6, Ms7 3.7/4*

*NNC **21** 16:12:29.0±1.6, 36°.01N×81°.58E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=14.2km s-min=12.0km az=119.0*

ISC 21 16:12:23.7±0.5, 35°.54N±0°.05×81°.60E±0°.05, h15km, n62, σ2ŝ15/69, mb3.8/10, MS3.5/10, 5C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**5.25 200**		*e*P	**Pn**	**16 13 40.5**	**-1.4**
JOSI				AML	AML	16 14 08.2	
	comp=N,204nm,0.7s						
JOSI				AML	AML	16 14 09.1	
	comp=E,192nm,0.9s						
JOSI				*e*S	**Sn**	**16 14 41.6**	**-0.6**
DHRM	**DHARAMSHALA**	**5.49 235**		*e*P	**Pn**	**16 13 46.9**	**+1.8**
DHRM				*e*S	**Sn**	**16 14 54.8**	**+6.7**
DHRM				AML	AML	16 15 21.9	
	comp=N,34nm,0.6s						
DHRM				AML	AML	16 15 25.5	
	comp=E,36nm,0.8s						
SMLA	**Simla**	**5.75 221**		*e*P	**Pn**	**16 13 50.0**	**+1.5**
SMLA				*e*S	**Sn**	**16 14 56.7**	**+2.6**
SMLA				AML	AML	16 14 58.6	
	comp=N,32nm,0.7s						
SMLA				AML	AML	16 15 02.0	
	comp=E,36nm,0.6s						
THN	**Thein Dam**	**5.78 239**		*e*P	**Pn**	**16 13 53.0**	**+4.1**
KSH	**Kashi**	**5.98 313**		Pn	**Pn**	**16 13 52.6**	**+0.9**
KSH				Sn	**Sn**	**16 15 04.0**	**+4.0**
KSH				smax	smax		
	comp=E,1μm,0.8s						
KSH				smax	smax		
	comp=E,1μm,0.9s						
DANN	**Dangsing**	**7.40 165**		*e*P	**Pn**	**16 14 11.6**	**+0.2**
PYUN	**Piuthan**	**7.51 171**		*e*P	**Pn**	**16 14 11.8**	**-1.0**
KOLN	**Koldanda**	**7.93 167**		*e*P	**Pn**	**16 14 18.3**	**-0.3**
GKN	**Gorkha**	**7.94 160**		*e*P	**Pn**	**16 14 19.8**	**+1.0**
	comp=E,23nm,0.3s						
PDGK	**Podgornoye**	**7.95 349**		⇓Pn	**Pn**	**16 14 19.9**	**+1.1**
	comp=E,14nm,0.8s						
PDGK				⇓Sn	**Sn**	**16 15 47.9**	**-0.6**
	comp=E,103nm,1.0s						
PDGK				⇓Lg	Lg	16 16 28.4	
	comp=E,181nm,0.8s						
PDGK	**Podgornoye**	**7.95 349**		P	**Pn**	**16 14 19.9**	**+1.1**
PDGK				S	**Sn**	**16 15 47.9**	**-0.6**
PDGK				pmax	pmax		
	comp=Z,14nm,0.8s						
PDGK				smax	smax		
	comp=N,103nm,1.0s						
KKN	**Kakani**	**8.34 157**		*e*P	**Pn**	**16 14 26.1**	**+1.9**
	comp=N,43nm,0.4s						
MDOK	**Medeo**	**8.39 337**		Pn	**Pn**	**16 14 25.4**	**+0.6**
MDOK				Lg	Lg	16 16 39.0	
GUN	**Gumba**	**8.43 153**		*e*P	**Pn**	**16 14 27.7**	**+2.1**
	comp=N,57nm,0.6s						
DMN	**Daman**	**8.45 158**		*e*P	**Pn**	**16 14 27.7**	**+1.9**
KNDC	**Almaty**	**8.47 336**		⇓Pg	Pb	16 14 58.0	+8.1
	comp=N,9.9nm,0.4s						
KNDC				⇓Lg	Lg	16 16 42.7	
	comp=N,56nm,0.9s						
PKIN	**Phulchoki**	**8.57 157**		*e*P	**Pn**	**16 14 29.2**	**+1.7**
	comp=N,41nm,0.4s						
TKM2	**Tokmak 2**	**8.72 330**		⇑Pn	**Pn**	**16 14 31.2**	**+1.8**
	comp=N,3.3nm,0.8s						
TKM2				⇑Pg		16 14 59.0	
	comp=N,7.9nm,0.6s						
TKM2				⇓Lg	Lg	16 16 52.3	
	comp=N,74nm,1.1s						
TKM2	**Tokmak 2**	**8.72 330**		P	**Pn**	**16 14 31.2**	**+1.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JIRN	**Jiri**	**8.77 152**		*e*P	**Pn**	**16 14 32.6**	**+2.3**
	comp=Z,866nm,0.4s						
KHET	**Khetri**	**8.92 215**		*e*P	**Pn**	**16 14 30.4**	**-1.6**
KHET				*e*S	**Sn**	**16 16 08.6**	**-3.7**
KHET				AML	AML	16 16 12.9	
	comp=N,8.2nm,0.4s						
KHET				AML	AML	16 16 13.2	
	comp=E,6.4nm,0.3s						
AAK	**Ala-Archa**	**8.98 324**		Pn	**Pn**	**16 14 34.8**	**+1.8**
	comp=E,0.2nm,0.3s,baz=128,slow=8.7,SNR=8.3						
AAK				Lg	Lg	16 17 04.5	
	comp=E,1.9nm,0.3s,baz=292,slow=12,SNR=5.3						
AAK				LR	LR	16 18 27.0	
	comp=E,434nm,19.7s,baz=125,slow=40						
AAK	**Ala-Archa**	**8.98 324**		⇓Pn	**Pn**	**16 14 35.2**	**+2.2**
	comp=E,2.5nm,0.8s						
AAK				Lg	Lg	16 16 59.8	
	comp=E,230nm,1.4s						
WMQ	**Urumqi**	**9.51**	**28**	P	**Pn**	**16 14 42.9**	**+2.7**
WMQ				S	**Sn**	**16 16 29.3**	**+2.5**
WMQ				smax	smax		
	comp=E,53nm,0.6s						
WMQ				smax	smax		
	comp=E,41nm,0.3s						
WMQ				LR	LR		
	comp=E,460nm,6.9s						
RAMN	**Ramite**	**9.57 152**		*e*P	**Pn**	**16 14 41.4**	**+0.3**
	comp=E,46nm,0.5s						
TAPN	**Taplejung**	**9.69 146**		*e*P	**Pn**	**16 14 44.0**	**+1.2**
MNAS	**Manas**	**9.91 317**		⇑Pn	**Pn**	**16 14 49.0**	**+3.4**
	comp=E,2.0nm,0.7s						
MNAS				⇓Pg		16 15 21.2	
	comp=E,19nm,1.3s						
MNAS				⇓Lg	Lg	16 17 29.0	
	comp=E,39nm,1.0s						
MNAS	**Manas**	**9.91 317**		P	**Pn**	**16 14 49.2**	**+3.6**
MNAS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ODAN	**Odare**	**9.97 149**		*e*P	**Pn**	**16 14 47.0**	**+0.4**
	comp=Z,39nm,0.5s						
MK31	**Makanchi Array**	**11.26**	**2**	Pn	**Pn**	**16 15 03.6**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=183,slow=12,SNR=45						
MK31				⇑Sn	**Sn**	**16 17 07.1**	**-2.5**
	comp=Z,16nm,0.9s,baz=188,slow=21,SNR=4.1						
MK31				⇑Lg	Lg	16 18 13.1	
	comp=Z,8.8nm,0.7s,baz=167,slow=26,SNR=3.9						
MK31	**Makanchi Array**	**11.26**	**2**	P	**Pn**	**16 15 03.6**	**-0.4**
MK31				S	**Sn**	**16 17 07.1**	**-2.5**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MK31				smax	smax		
	comp=N,16nm,1.0s						
MKAR	**Makanchi Array**	**11.26**	**2**	Pn	**Pn**	**16 15 03.8**	**-0.3**
	comp=N,1.6nm,0.3s,baz=181,slow=12,SNR=32						
MKAR				Sn	**Sn**	**16 17 07.0**	**-2.6**
	comp=N,1.0nm,0.3s,baz=179,slow=24,SNR=4.5						
MKAR				Lg	Lg	16 18 20.1	
	baz=176,slow=28,SNR=1.7						
MAKZ	**Makanchi**	**11.27**	**1**	⇓Pn	**Pn**	**16 15 03.4**	**-0.7**
	comp=N,18nm,1.0s						
MAKZ				⇓Sn	**Sn**	**16 17 06.7**	**-3.0**
	comp=N,32nm,1.1s						
MAKZ	**Makanchi**	**11.27**	**1**	P	**Pn**	**16 15 03.4**	**-0.7**
MAKZ				S	**Sn**	**16 17 06.7**	**-3.0**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.0s						
MAKZ				smax	smax		
	comp=N,320nm,1.1s						
KK31	**Karatay Array**	**11.43 315**		⇓Pn	**Pn**	**16 15 08.8**	**+2.5**
	comp=N,0.2nm,0.3s						
KK31				⇓Sn	**Sn**	**16 17 14.7**	**+1.0**
	comp=N,2.8nm,0.6s						
KK31				⇓Lg	Lg	16 18 18.5	
	comp=N,8.6nm,0.8s						
KK31	**Karatay Array**	**11.43 315**		P	**Pn**	**16 15 08.8**	**+2.5**
KK31				S	**Sn**	**16 17 14.7**	**+1.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KK31				smax	smax		
	comp=N,3.0nm,0.6s						
BOK	**Bokaro**	**12.28 161**		*e*P	Pn	16 15 08.1	-10
BHPL	**Bhopal**	**12.78 198**		*e*P	**Pn**	**16 15 21.8**	**-3.0**
GTA	**Gaotai**	**14.97**	**70**	*e*P	P	16 16 05.8	+5.5
GTA				pP	pP	16 16 10.9	
GTA				sP	sP	16 16 14.0	
GTA				S	**S**	**16 19 00.6**	**+2.4**
GTA				SS	SS	16 19 16.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,95nm,4.9s						
GTA				LR	LR		
	comp=N,240nm,13.8s						
GTA				LR	LR		
	comp=E,280nm,11.4s						
GTA				LR	LR		
	comp=Z,300nm,10.5s						
KURBB	**Kurchatov Arra**	**15.24 353**		Pn	**Pn**	**16 15 55.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=11						
KURBB				Lg	Lg	16 20 32.2	
	comp=Z,0.1nm,0.3s,baz=181,slow=28,SNR=4.1						
KURK	**Kurchatov**	**15.32 353**		P	**Pn**	**16 15 55.8**	**-3.5**
ZALV	**Zalesovo Beam**	**18.55**	**6**	P	**P**	**16 16 38.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=193,slow=11,SNR=16						
GEYT	**Alibeck**	**18.96 284**		P	**P**	**16 16 42.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=91,slow=12,SNR=3.5						
GEYT				LR	LR	16 25 33.6	
	comp=Z,78nm,20.3s,baz=105,slow=42						
CD2	**Chengdu**	**19.10**	**98**	P	**Pn**	**16 16 48.0**	**+1.3**
CD2				S	**S**	**16 20 24.1**	**+1.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,350nm,9.7s						
BVAR	**Borovoye Array**	**19.20 339**		P	**P**	**16 16 47.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=140,slow=9.7,SNR=13						
ZAK	**Zakamensk**	**21.61**	**40**	*e*P	**P**	**16 17 14.1**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**22.12**	**49**	P	**P**	**16 17 19.9**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=243,slow=11,SNR=3.8						
AKTO	**Aktyubinsk**	**22.65 318**		P	**P**	**16 17 24.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=114,slow=14,SNR=3.4						
AKTO				LR	LR	16 27 06.3	
	comp=Z,272nm,19.2s,baz=131,slow=39						
CMAR	**Chiang Mai Arr**	**22.92 133**		P	**P**	**16 17 25.6**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=327,slow=9.7,SNR=3.8						
CMAR				LR	LR	16 26 08.3	
	comp=Z,51nm,20.8s,baz=319,slow=36						
WSAR	**Wadi Sarin**	**23.40 245**		LR	LR	16 27 45.6	
	comp=Z,47nm,18.3s,baz=52,slow=40						
ARU	**Arti**	**26.09 330**		LR	LR	16 29 11.0	
	comp=Z,92nm,18.8s,baz=117,slow=39						
BRTR	**Keskin Array B**	**37.85 291**		P	**P**	**16 19 37.7**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=92,slow=7.2,SNR=3.4						
AKASG	**Malin Array Be**	**40.25 309**		LR	LR	16 38 52.5	
	comp=Z,136nm,19.9s,baz=100,slow=40						
FINES	**FINESS Array B**	**43.17 325**		P	**P**	**16 20 23.4**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=99,slow=9.0,SNR=2.9						
FINES				LR	LR	16 39 11.3	
	comp=Z,119nm,18.2s,baz=102,slow=37						
NOA	**NORSAR Array B**	**50.30 323**		LR	LR	16 43 43.8	
	comp=Z,74nm,19.3s,baz=85,slow=37						
GERES	**GERESS Array B**	**50.42 307**		LR	LR	16 46 09.9	
	comp=Z,54nm,18.9s,baz=83,slow=40						
KEST	**Kesra**	**57.40 293**		LR	LR	16 50 50.1	
	comp=Z,32nm,19.1s,baz=288,slow=40						
LSZ	**Lusaka**	**71.47 235**		LR	LR	16 56 04.8	
	comp=Z,21nm,19.7s,baz=70,slow=37						
ILAR	**Eielson Array**	**73.08**	**20**	P	**P**	**16 23 54.0**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=303,slow=4.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**74.33 275**		P	**P**	**16 23 59.8**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=48,slow=4.3,SNR=4.9						
WRA	**Warramunga Arr**	**74.44 129**		P	**P**	**16 24 00.3**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=325,slow=5.5,SNR=6.0						
ASAR	**Alice Springs**	**76.92 132**		P	**P**	**16 24 13.9**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=320,slow=5.4,SNR=6.1						

*IDC **21** 16:32:55.5±0.8, 0°.78S×127°.90E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/37, mbtmp4.0/10, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/41, Error ellipse: s-maj=44.7km s-min=15.2km az=74.0*

*ISCJB **21** 16:32:57.5±0.8, 0°.87S±0°.04×127°.49E±0°.04, h19km±6km, mb4.2/12, MS3.1/3, Error ellipse: s-maj=7.5km s-min=5.3km az=150.8*

*DJA **21** 16:32:57.7±0.4, 1°.S±4°×12°.8E±°, h12km±4km, M4.4/10, mb4.8/4, mB4.8/3, MLv4.3/10, Mw(mB)4.1/3*

*NEIC **21** 16:32:58.0±0.0, 0°.82S×127°.57E, h10km, mb4.2/2, After DJA.*

NEIC Felt [III] at Labuha.

ISC 21 16:32:58.2±1.2, 0°.87S±0°.06×127°.52E±0°.07, h13km±7km, n41, σ1ŝ65/51, mb4.3/12, MS3.2/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.23 356**		P	**Pg**	**16 33 02.7**	**-0.5**
LBMI				S	**Sg**	**16 33 06.5**	**-0.1**
NLAI	**Namlea**	**2.39 190**		P	**Pn**	**16 33 37.7**	**+0.6**
NLAI				S	**Sn**	**16 34 05.1**	**-1.2**
MSAI	**Masohi**	**2.83 150**		P	**Pn**	**16 33 43.5**	**+0.2**
MSAI				S	**Sn**	**16 34 16.7**	**-0.6**
AAI	**Ambon**	**2.88 166**		P	**Pn**	**16 33 44.4**	**+0.5**
AAI				S	**Pn**	**16 33 45.1**	**+1.2**
KMSI	**Cibinong**	**3.82 292**		P	**Pn**	**16 33 57.2**	**+0.4**
KMSI				S	**Sn**	**16 34 37.8**	**-3.8**
LUWI	**Luwuk**	**4.75 268**		*e*Pn	**Pn**	**16 34 08.7**	**-0.9**
LUWI				*e*Sn	**Sn**	**16 35 02.5**	**-2.1**
MRSI	**Marisa**	**5.74 283**		P	**Pn**	**16 34 23.6**	**+0.4**
MRSI				S	**Sn**	**16 35 32.0**	**+3.1**
APSI	**Ampana**	**5.87 270**		P	**Pn**	**16 34 25.9**	**+0.9**
	128nm,0.4s,2μm0.6nm						
APSI				S	**Sn**	**16 35 30.6**	**-1.6**
	128nm,0.4s,2μm0.6nm						
PCI	**Palu**	**7.68 270**		P	**Pn**	**16 34 50.3**	**+0.4**
TTSI	**Tana Toraja**	**7.99 254**		P	**Pn**	**16 34 54.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.23 186**		P	**Pn**	**16 36 59.9**	**+1.2**
	0.2nm,0.3s,baz=12,slow=8.2,SNR=9.1						
WRAB	**Tennant Creek**	**20.09 161**		*e*P	**P**	**16 37 29.3**	**-2.5**
	5.5nm,0.8s						
WRA	**Warramunga Arr**	**20.10 161**		P	**P**	**16 37 29.5**	**-2.3**
	3.5nm,0.7s,baz=339,slow=12,SNR=20						
PMG	**Port Moresby**	**21.30 114**		LR	LR	16 48 43.9	
	comp=Z,135nm,18.7s,baz=254,slow=45						
ASAR	**Alice Springs**	**23.49 165**		P	**P**	**16 38 06.3**	**-1.7**
	9.1nm,0.8s,baz=346,slow=11,SNR=101						
ASAR				PcP	**PcP**	**16 41 52.9**	**-1.0**
	0.3nm,0.6s,baz=353,slow=1.5,SNR=4.6						
STKA	**Stephens Creek**	**33.59 158**		P	**P**	**16 39 37.6**	**-0.7**
	2.3nm,0.8s,baz=340,slow=9.6,SNR=6.5						
STKA				LR	LR	16 53 55.9	
	comp=Z,50nm,19.7s,baz=24,slow=38						
CMAR	**Chiang Mai Arr**	**34.03 306**		P	**P**	**16 39 44.3**	**+2.0**
	0.2nm,0.3s,baz=142,slow=8.9,SNR=4.9						
CMAR				LR	LR	16 54 22.2	
	comp=Z,16nm,21.5s,baz=162,slow=38						
ENH	**Enshi**	**35.41 332**		P	**P**	**16 39 55.4**	**+1.2**
	6.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.05**	**5**	P	**P**	**16 41 11.8**	**-1.9**
	1.1nm,0.5s,baz=198,slow=9.1,SNR=3.3						
LSA	**Lhasa**	**46.12 314**		*e*P	**P**	**16 41 20.3**	**-2.8**
	6.1nm,0.6s						
ASAJ	**Asahikawa**	**46.77**	**15**	P	**P**	**16 41 26.1**	**-1.3**
	3.2nm,0.8s,baz=180,slow=7.1,SNR=3.6						
TAPN	**Taplejung**	**47.44 309**		*e*P	**P**	**16 41 33.8**	**+0.5**
	12nm,0.6s						
GTA	**Gaotai**	**47.45 331**		*e*P	**P**	**16 41 33.0**	**+0.1**
GTA				pP	sP	16 41 38.5	-0.1
GTA				sP	pP	16 41 41.8	+4.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ODAN	**Odare**	**47.45 309**		*e*P	**P**	**16 41 33.8**	**+0.5**
	comp=Z,24nm,0.7s						
RAMN	**Ramite**	**48.12 308**		*e*P	**P**	**16 41 39.3**	**+0.8**
	comp=Z,60nm,0.6s						
JIRN	**Jiri**	**48.77 309**		*e*P	**P**	**16 41 44.2**	**+0.5**
	comp=Z,158nm,0.6s						
GUN	**Gumba**	**49.13 309**		*e*P	**P**	**16 41 46.9**	**+0.5**
	comp=Z,36nm,0.6s						
PKIN	**Phulchoki**	**49.35 308**		*e*P	**P**	**16 41 48.0**	**0.0**
KKN	**Kakani**	**49.55 308**		*e*P	**P**	**16 41 49.7**	**+0.3**
	comp=Z,15nm,0.7s						
DMN	**Daman**	**49.60 308**		*e*P	**P**	**16 41 50.2**	**+0.3**
GKN	**Gorkha**	**50.15 308**		*e*P	**P**	**16 41 54.2**	**+0.3**
	comp=Z,15nm,0.7s						
KOLN	**Koldanda**	**50.86 308**		*e*P	**P**	**16 42 00.0**	**+0.6**
	comp=Z,36nm,0.7s						
DANN	**Dangsing**	**50.99 308**		*e*P	**P**	**16 42 01.3**	**+0.8**
PYUN	**Piuthan**	**51.49 308**		*e*P	**P**	**16 42 04.6**	**+0.5**
	comp=Z,45nm,0.8s						
SONM	**Songino Array**	**51.88 342**		P	**P**	**16 42 05.3**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=160,slow=6.6,SNR=5.8						
MKAR	**Makanchi Array**	**61.78 326**		P	**P**	**16 43 15.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=119,slow=7.7,SNR=12						
KSH	**Kashi**	**61.87 317**		*e*P	P	16 43 23.6	+5.9
KSH				pP	pP	16 43 40.8	+19
KSH				sP	sP	16 43 46.8	+23
KSH				PcP	**PcP**	**16 44 02.5**	**+4.0**
KSH				PP	PP	16 45 44.6	+11
KSH				PcS	**PcS**	**16 48 05.4**	**+3.7**
KSH				S	**S**	**16 51 42.5**	**+1.1**
KSH				sS	sS	16 52 10.1	+22
KSH				ScS	**SKSac**	**16 53 05.9**	**-3.7**
KSH	**Kashi**	**61.87 317**		SS	SS	16 55 48.6	+4.9
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,150nm,6.0s						
KSH				LR	LR		
	comp=N,120nm,5.2s						
KSH				LR	LR		
	comp

TOTH					AML	AML	16 39 18.9	
	comp=N,158nm,0.6s							
TOTH					AML	AML	16 39 22.8	
	comp=E,145nm,0.6s							
QASN	**Qassioun**	**5.14**	**15**	*e*P		**Pb**	**16 38 09.8**	**-0.3**
QASN				*e*S		**Sb**	**16 39 12.3**	**+0.6**
QASN					AML	AML	16 39 37.9	
	comp=E,298nm,0.5s							
QASN					AML	AML	16 39 52.1	
	comp=N,187nm,0.5s							
DQRL	**Deir Qamar**	**5.18**	**9**	*e*P		**Pg**	**16 38 16.4**	**-3.5**
MARH	**Ras Al Marh**	**5.67**	**16**	*e*P		**Pb**	**16 38 14.6**	**-4.5**
HWQ	**Hawqa**	**5.80**	**11**	*e*P		**Pb**	**16 38 24.8**	**+3.4**
HAWK	**Haweek**	**6.12**	**14**	*e*P		**Pb**	**16 38 23.6**	**-3.2**

*IDC **21** 16:56:14.6±0.5, 17°.47N×147°.73E, h0km, mb4.3/27, mb1 4.4/28, mb1mx4.3/57, mbtmp4.3/28, ML4.6/1, MS3.3/6, Ms1 3.4/6, ms1mx2.9/52, Error ellipse: s-maj=18.0km s-min=11.3km az=92.0*
*ISCJB **21** 16:56:16.6±0.5, 17°.49N±0°.05×147°.7E±0°.1, h26km, mb4.3/34, MS3.3/6, Error ellipse: s-maj=14.6km s-min=6.5km az=13.8*
*NEIC **21** 16:56:21.0±1.9, 17°.46N×147°.60E, h47km±16km, mb4.6/9, Error ellipse: s-maj=15.1km s-min=7.9km az=85.0*
ISC 21 16:56:18.6±0.6, 17°.55N±0°.07×147°.6E±0°.1, h26km, n49, σ1°44/47, mb4.3/34, MS3.3/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.75**	**214**	Pn	**Pn**	**16 57 28.3**	**-0.2**
	24nm,0.3s,baz=62,slow=1.1,SNR=16						
GUMO				Sn	**Sn**	**16 58 24.3**	**+1.5**
	21nm,0.3s,baz=0.0,slow=20,SNR=4.0						
CBIJ	**Chichi jima**	**10.75**	**333**	*e*Pn	**Pn**	**16 58 47.1**	**-3.7**
MJAR	**Matsushiro Arr**	**20.67**	**338**	P	**P**	**17 00 57.5**	**+0.9**
	5.4nm,0.7s,baz=165,slow=9.9,SNR=17						
MAJO	**Matsushiro**	**20.67**	**338**	*e*P	**P**	**17 00 54.1**	**-2.5**
	15nm,0.6s						
MAT	**Matsushiro**	**20.67**	**338**	P	**P**	**17 00 57.8**	**+1.2**
JNU	**Nakatsue**	**21.62**	**319**	P	**P**	**17 01 08.7**	**+1.9**
	9.2nm,0.9s,baz=190,slow=17,SNR=4.0						
KSRS	**Korea Array**	**26.33**	**323**	P	**P**	**17 01 52.9**	**+0.5**
	1.8nm,0.5s,baz=144,slow=8.6,SNR=12						
KSRS				LR	LR	17 12 26.0	
	comp=Z,42nm,18.6s,baz=151,slow=37						
KSAR	**Wonju Array Be**	**26.34**	**323**	P	**P**	**17 01 52.9**	**+0.4**
ASAJ	**Asahikawa**	**26.82**	**352**	P	**P**	**17 01 58.8**	**+2.0**
	2.4nm,0.7s,baz=170,slow=7.9,SNR=4.2						
HNR	**Honiara**	**29.45**	**155**	LR	LR	17 14 11.1	
	comp=Z,149nm,19.0s,baz=12,slow=37						
USRK	**Ussuriysk Ar.**	**29.65**	**337**	P	**P**	**17 02 24.4**	**+2.4**
	1.5nm,0.6s,baz=177,slow=12,SNR=4.3						
WRAB	**Tennant Creek**	**39.46**	**200**	*e*P	**P**	**17 03 46.6**	**-0.3**
	8.9nm,0.9s						
WRA	**Warramunga Arr**	**39.48**	**200**	P	**P**	**17 03 46.5**	**-0.6**
	2.8nm,0.7s,baz=24,slow=9.2,SNR=15						
WRA				PcP	**PcP**	**17 05 54.8**	**0.0**
	1.3nm,0.7s,baz=18,slow=3.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**41.51**	**212**	P	**P**	**17 04 03.7**	**-0.2**
	1.0nm,0.4s,baz=106,slow=18,SNR=3.6						
MA2	**Magadan**	**42.03**	**2**	LR	LR	17 24 32.1	
	comp=Z,44nm,18.0s,baz=140,slow=40						
ASAR	**Alice Springs**	**43.10**	**199**	P	**P**	**17 04 15.6**	**-1.2**
	0.6nm,0.6s,baz=25,slow=9.3,SNR=10						
ASAR				PcP	**PcP**	**17 06 07.5**	**+1.0**
	0.8nm,0.5s,baz=26,slow=3.2,SNR=6.4						
SONM	**Songino Array**	**45.18**	**321**	P	**P**	**17 04 34.4**	**+1.0**
	1.8nm,0.7s,baz=137,slow=8.4,SNR=16						
SONM				LR	LR	17 23 07.5	
	comp=Z,28nm,20.3s,baz=116,slow=36						
CMAR	**Chiang Mai Arr**	**46.19**	**279**	P	**P**	**17 04 42.7**	**+1.0**
	1.9nm,0.8s,baz=72,slow=6.5,SNR=18						
CMAR				LR	LR	17 20 36.2	
	comp=Z,19nm,20.9s,baz=120,slow=32						
YAK	**Yakutsk**	**46.19**	**348**	*e*P	**P**	**17 04 42.0**	**+1.0**
	8.5nm,0.4s						
STKA	**Stephens Creek**	**49.48**	**187**	P	**P**	**17 05 05.9**	**-1.0**
	1.1nm,0.6s,baz=30,slow=15,SNR=4.5						
STKA				LR	LR	17 27 00.8	
	comp=Z,46nm,18.2s,baz=26,slow=37						
NWAO	**Narrogin (SRO)**	**57.99**	**210**	P	**P**	**17 06 08.4**	**-0.8**
	11nm,0.6s,baz=265,slow=8.8,SNR=9.1						
ZALV	**Zalesovo Beam**	**60.03**	**323**	P	**P**	**17 06 23.7**	**+0.6**
	2.7nm,0.6s,baz=100,slow=6.0,SNR=14						
MKAR	**Makanchi Array**	**60.57**	**314**	P	**P**	**17 06 28.5**	**+1.5**
	1.4nm,0.5s,baz=94,slow=8.7,SNR=12						
NRIK	**Noril'sk**	**63.31**	**340**	P	**P**	**17 06 47.6**	**+2.7**
	3.6nm,0.7s,baz=128,slow=10,SNR=4.1						
KURK	**Kurchatov**	**63.34**	**318**	*e*P	**P**	**17 06 44.2**	**-1.2**
	66nm,0.9s						
ILAR	**Eielson Array**	**63.87**	**26**	P	**P**	**17 06 47.8**	**-0.9**
	4.3nm,0.8s,baz=254,slow=5.5,SNR=35						
HYB	**Hyderabad**	**65.51**	**282**	*i* P	**P**	**17 06 59.0**	**-1.3**
HYB				*e*		17 07 14.0	
BVAR	**Borovoye Array**	**68.52**	**321**	P	**P**	**17 07 19.9**	**+1.1**
	5.7nm,0.6s,baz=93,slow=7.7,SNR=22						
BRVK	**Borovoye**	**68.58**	**321**	P	**P**	**17 07 18.2**	**-0.9**
	19nm,0.8s						
KKAR	**Karatay Array**	**68.90**	**310**	*e*P	**P**	**17 07 20.5**	**-0.9**
	3.2nm,0.8s						
INK	**Inuvik**	**69.71**	**23**	P	**P**	**17 07 25.9**	**+0.1**
	4.1nm,1.0s,baz=235,slow=8.5,SNR=3.7						
ARU	**Arti**	**75.05**	**325**	P	**P**	**17 07 58.6**	**+0.6**
	5.2nm,0.6s,baz=142,slow=1.9,SNR=11						
ARU	**Arti**	**75.05**	**325**	*e*P	**P**	**17 07 54.0**	**-3.9**
	18nm,0.9s						
ABKAR	**Akbulak array**	**75.42**	**317**	*e*P	**P**	**17 07 57.2**	**-2.9**
	2.3nm,0.4s						
AKTO	**Aktyubinsk**	**76.43**	**319**	P	**P**	**17 08 06.0**	**+0.1**
	0.9nm,0.5s,baz=80,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	**78.14**	**28**	P	**P**	**17 08 15.0**	**-0.2**
	1.2nm,0.5s,baz=283,slow=6.0,SNR=4.1						
NEW	**Newport**	**80.53**	**42**	*e*P	P	17 08 22.5	-6.2
	4.8nm,1.0s						
BMO	**Blue Mountains**	**81.33**	**46**	P	P	17 08 24.2	-9.0
	3.0nm,1.1s						
ARCES	**ARCESS Array B**	**84.14**	**343**	P	**P**	**17 08 47.8**	**+0.7**
	2.8nm,0.7s,baz=70,slow=4.0,SNR=5.6						
PDAR	**Pinedale Array**	**87.31**	**46**	P	**P**	**17 09 03.8**	**+0.1**
	0.2nm,0.3s,baz=298,slow=4.0,SNR=2.9						
KBZ	**Khabaz**	**88.24**	**315**	P	**P**	**17 09 07.9**	**+0.1**
	1.0nm,0.6s,baz=115,slow=1.8,SNR=4.0						
FINES	**FINESS Array B**	**88.68**	**336**	P	**P**	**17 09 08.8**	**-0.7**
	2.5nm,0.7s,baz=64,slow=4.4,SNR=6.0						
BRTR	**Keskin Array B**	**96.22**	**315**	P	**P**	**17 09 44.6**	**-0.4**
	0.5nm,0.5s,baz=47,slow=4.8,SNR=3.6						
TXAR	**Lajitas Array**	**96.96**	**56**	P	**P**	**17 09 48.8**	**+0.3**
	0.1nm,0.5s,baz=276,slow=3.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**134.59**	**310**	PKP	**PKPdf**	**17 15 36.3**	**+0.6**
	0.3nm,0.6s,baz=5.8,slow=1.9,SNR=2.8						
DBIC	**Dimbokro**	**143.69**	**309**	PKP	PKPbc	17 15 50.2	+0.4
	1.8nm,0.6s,baz=212,slow=13,SNR=3.5						
LVC	**Limon Verde**	**145.38**	**104**	PKPbc	**PKPdf**	**17 15 56.1**	**+0.6**
	31nm,0.7s,baz=266,slow=4.5,SNR=9.3						
LPAZ	**La Paz**	**145.80**	**93**	PKPbc	**PKPab**	**17 15 57.9**	**+0.3**
	4.9nm,0.7s,baz=292,slow=2.2,SNR=24						
PTGA	**Pitinga**	**148.13**	**61**	PKPbc	**PKPbc**	**17 16 01.9**	**-1.2**
	3.6nm,0.7s,baz=322,slow=5.4,SNR=7.2						

*ISCJB **21** 17:00:02.3±0.3, 67°.08N±0°.02×20°.90E±0°.06, h0km, mb3.5/1, Error ellipse: s-maj=3.6km s-min=2.8km az=173.1*
*CSEM **21** 17:00:03.4±0.2, 67°.10N×20°.94E, h2km, ML2.3, Error ellipse: s-maj=4.2km s-min=3.3km az=70.0, Mining explosion.*
*UPP **21** 17:00:03.2±0.1, 67°.08N×20°.92E, h0km, ML2.2*
*HEL **21** 17:00:04.3, 67°.15N×20°.94E, h0km, ML2.3, Explosion*
*IDC **21** 17:00:04.4±0.8, 67°.09N×21°.09E, h0km, mb3.6/1, mb1 3.4/6, mb1mx3.2/56, mbtmp3.4/6, ML2.6/5, Error ellipse: s-maj=15.6km s-min=7.3km az=112.0*
*NAO **21** 17:00:04.0±1.0, 67°.12N×21°.38E, ML2.5*
*BER **21** 17:00:06.0±3.5, 67°.14N×21°.08E, h0km, ML1.6, ML2.5(NAO), Suspected explosion*
ISC 21 17:00:03.1±0.7, 67°.08N±0°.02×20°.94E±0°.02, h0km, n93, σ1°01/125, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**287**	P	**Pg**	**17 00 06.4**	**+0.4**
DUNU	**Dundret**	**0.15**	**287**	*i* P	**Pg**	**17 00 06.4**	**+0.4**
DUNU	**Dundret**	**0.15**	**287**	P	**Pg**	**17 00 06.4**	**+0.4**
MASU	**Masugnsbyn**	**0.56**	**47**	P	**Pg**	**17 00 14.2**	**+0.4**
MASU	**Masugnsbyn**	**0.56**	**47**	*i* P	**Pg**	**17 00 14.2**	**+0.4**
MASU	**Masugnsbyn**	**0.56**	**47**	P	**Pg**	**17 00 14.1**	**+0.4**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**17 00 16.9**	**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	*i* P	**Pg**	**17 00 16.9**	**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**136**	P	**Pg**	**17 00 16.9**	**+0.1**
PAJU	**Pajala**	**0.85**	**93**	P	**Pg**	**17 00 19.3**	**-0.1**
PAJU	**Pajala**	**0.85**	**93**	*i* P	**Pg**	**17 00 19.3**	**-0.1**
PAJU	**Pajala**	**0.85**	**93**	P	**Pg**	**17 00 19.3**	**-0.1**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**17 00 19.9**	**-0.6**
KUA	**Kurravaara**	**0.91**	**345**	*e*P	**Pg**	**17 00 19.9**	**-0.6**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**17 00 19.9**	**-0.6**
RATU	**Laukkuluspa**	**0.91**	**326**	P	**Pg**	**17 00 19.4**	**-1.1**
HARU	**Harads**	**0.92**	**179**	P	**Pg**	**17 00 19.9**	**-0.7**
HARU	**Harads**	**0.92**	**179**	*e*P	**Pg**	**17 00 19.9**	**-0.7**
HARU	**Harads**	**0.92**	**179**	P	**Pg**	**17 00 20.0**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 00 21.2**	**-0.9**
SALU	**Saltoluokta**	**1.00**	**289**	*e*P	**Pg**	**17 00 21.2**	**-0.9**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**17 00 21.2**	**-0.9**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**17 00 22.1**	**-1.1**
LANU	**Lannavaara**	**1.05**	**22**	*e*P	**Pg**	**17 00 22.1**	**-1.1**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**17 00 22.1**	**-1.1**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**17 00 23.2**	**-0.5**
NIKU	**Nikkaluokta**	**1.08**	**318**	*e*P	**Pg**	**17 00 23.2**	**-0.5**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**17 00 23.2**	**-0.5**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**17 00 31.7**	**-0.3**
KALU	**Kalix**	**1.56**	**141**	*e*P	**Pn**	**17 00 31.7**	**-0.3**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**17 00 31.7**	**-0.3**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 00 32.6**	**+0.1**
SJUU				S	**Sg**	**17 00 54.7**	**+0.3**
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	**Pn**	**17 00 32.6**	**+0.1**
SJUU				*e*S	**Sg**	**17 00 54.7**	**+0.3**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 00 32.6**	**+0.1**
SJUU				S	**Sg**	**17 00 54.7**	**+0.3**
TOF	**Tornio**	**1.68**	**125**	*e*PN	**Pb**	**17 00 34.6**	**-0.2**
TOF				*e*SN	**Sg**	**17 00 57.1**	**+0.1**
TOF	**Tornio**	**1.68**	**125**	Pn	**Pb**	**17 00 34.6**	**-0.2**
TOF				Sn	**Sg**	**17 00 57.1**	**+0.1**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pn**	**17 00 33.1**	**-0.7**
HEF				MSG		17 00 53.3	
	comp=Z,20nm,0.2s						
HEF				*e*SN	**Sb**	**17 00 56.4**	**-0.4**
HEF	**Hetta**	**1.69**	**37**	P	**Pn**	**17 00 33.1**	**-0.7**
HEF				Sn	**Sb**	**17 00 56.4**	**-0.4**
LILU	**Lilltraesk**	**1.85**	**194**	P	**Pn**	**17 00 35.7**	**-0.3**
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	**17 00 35.7**	**-0.3**
LILU	**Lilltraesk**	**1.85**	**194**	P	**Pn**	**17 00 35.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pb**	**17 00 38.4**	**-0.7**
KIF				Lg	Lg	17 01 05.7	
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pb**	**17 00 38.4**	**-0.7**
KIF				Lg	Lg	17 01 05.7	
KIF	**Kilpisjarvi**	**1.94**	**358**	*e*P	**Pb**	**17 00 37.8**	**-1.3**
KIF				MSG		17 01 01.1	
	comp=Z,32nm,0.2s						
KIF				*e*SG	**Sg**	**17 01 06.4**	**+1.2**
KIF	**Kilpisjarvi**	**1.94**	**358**	P	**Pb**	**17 00 37.8**	**-1.3**
KIF	**Kilpisjarvi**	**1.94**	**358**	Pn	**Pb**	**17 00 38.4**	**-0.7**
	SNR=50						
KIF				Lg	Lg	17 01 05.7	
	SNR=90						
KIF				Sg	**Sg**	**17 01 06.4**	**+1.2**
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB	**Pb**	**17 00 40.4**	**-0.9**
RNF				*e*SG	**Sg**	**17 01 09.2**	**+0.1**
RNF	**Rovaniemi**	**2.06**	**101**	Pb	**Pb**	**17 00 40.4**	**-0.9**
RNF				Sg	**Sg**	**17 01 09.2**	**+0.1**
KTK1	**Kautokeino**	**2.12**	**23**	*e*P	**Pb**	**17 00 41.1**	**-1.3**
KTK1				IAML		17 01 15.9	
	comp=Z,9.1nm,0.2s						
KTK1	**Kautokeino**	**2.12**	**23**	*e*P	**Pb**	**17 00 41.1**	**-1.3**
	SNR=50						
SGF	**Sodankyl**	**2.20**	**78**	*e*P	**Pn**	**17 00 41.8**	**+0.9**
SGF				*e*SG	**Sb**	**17 01 12.2**	**+0.8**
SGF	**Sodankyl**	**2.20**	**78**	P	**Pn**	**17 00 41.7**	**+0.9**
SGF				Sg	**Sb**	**17 01 12.2**	**+0.8**
BURU	**Burvik**	**2.51**	**176**	P	**Pn**	**17 00 45.7**	**+0.6**
BURU	**Burvik**	**2.51**	**176**	*e*P	**Pn**	**17 00 45.7**	**+0.6**
BURU	**Burvik**	**2.51**	**176**	P	**Pn**	**17 00 45.6**	**+0.6**
TRO	**Tromso**	**2.67**	**345**	*e*	**Pb**	**17 00 51.9**	**+0.2**
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pn**	**17 00 51.9**	**+2.2**
OUL				*e*SG	**Sg**	**17 01 33.9**	**-0.3**
OUL	**Oulu**	**2.84**	**132**	P	**Pn**	**17 00 51.8**	**+2.2**
OUL				Sg	**Sg**	**17 01 33.9**	**-0.3**
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 00 52.2**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=216,slow=13,SNR=56						
ARCES				Sn	**Sn**	**17 01 30.1**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=218,slow=21,SNR=7.9						
ARE0	**ARCESS Array S**	**2.99**	**32**	*e*P	**Pn**	**17 00 51.8**	**+0.1**
ARE0				*e*S	**Sn**	**17 01 28.4**	**+0.2**
ARE0	**ARCESS Array S**	**2.99**	**32**	P	**Pn**	**17 00 51.8**	**+0.1**
ARE0				S	**Sn**	**17 01 28.4**	**+0.2**
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 00 52.2**	**+0.5**
	baz=207,slow=16						
ARA0				Lg	Lg	17 01 32.6	
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 00 52.2**	**+0.5**
	baz=207,slow=16						
ARA0				Lg	Lg	17 01 32.6	
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 00 52.2**	**+0.5**
	SNR=50						
ARA0				Lg	Lg	17 01 32.6	
	SNR=2.0						
LOF	**Lofoten**	**3.02**	**294**	*e*P	**Pn**	**17 00 52.6**	**+0.5**
LOF	**Lofoten**	**3.02**	**294**	*e*P	**Pn**	**17 00 52.6**	**+0.5**
	SNR=50						
OUFX	**Oulainen**	**3.14**	**149**	*e*P	**Pn**	**17 00 55.5**	**+1.9**
OUFX	**Oulainen**	**3.14**	**149**	P	**Pn**	**17 00 55.5**	**+1.9**
KONS	**Konsvik**	**3.15**	**263**	*e*P	**Pn**	**17 00 55.5**	**+1.7**
KONS	**Konsvik**	**3.15**	**263**	*e*P	**Pn**	**17 00 55.5**	**+1.7**
	SNR=50						
MSF	**Maaselka**	**3.45**	**106**	*e*PB	**Pb**	**17 01 03.9**	**-1.0**
MSF				*e*S	**Sn**	**17 01 42.9**	**+3.4**
KEV	**Kevo**	**3.50**	**37**	Pn	**Pn**	**17 00 58.6**	**0.0**
KEV	**Kevo**	**3.50**	**37**	Pn	**Pn**	**17 00 58.6**	**0.0**
KEV	**Kevo**	**3.50**	**37**	*e*P	**Pn**	**17 00 59.2**	**+0.6**
KEV				*e*S	**Sn**	**17 01 42.6**	**+1.9**
KEV	**Kevo**	**3.50**	**37**	Pn	**Pn**	**17 00 58.6**	**0.0**
	SNR=50						
KEV	**Kevo**	**3.50**	**37**	P	**Pn**	**17 00 59.2**	**+0.6**
KEV				S	**Sn**	**17 01 42.6**	**+1.9**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**17 01 03.4**	**+1.6**
KU6				*e*S	**Sn**	**17 01 44.3**	**-2.1**
KU6	**Riekki**	**3.73**	**102**	P	**Pn**	**17 01 03.4**	**+1.6**
KU6				S	**Sn**	**17 01 44.2**	**-2.1**
VAF	**Ylistaro**	**4.12**	**169**	*e*P	**Pn**	**17 01 08.8**	**+1.7**
VAF	**Ylistaro**	**4.12**	**169**	P	**Pn**	**17 01 08.8**	**+1.7**
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 01 14.1**	**-0.9**
	baz=264,slow=16						
APA0				Sn	**Sn**	**17 02 08.5**	**-1.5**
	baz=270,slow=22						
APA0				Lg	Lg	17 02 27.7	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 01 14.1**	**-0.9**
	baz=264,slow=16						
APA0				Sn	**Sn**	**17 02 08.5**	**-1.5**
	baz=270,slow=22						
APA0				Lg	Lg	17 02 27.7	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 01 14.1**	**-0.9**
	SNR=50						
APA0				Sn	**Sn**	**17 02 08.5**	**-1.5**
	SNR=50						
APA0				Lg	Lg	17 02 27.7	
	SNR=5.8						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 01 34.6**	**+0.6**
	baz=349,slow=16						
FIA0				Sn	**Sn**	**17 02 45.3**	**+1.1**
	baz=338,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 01 34.6**	**+0.6**
	baz=349,slow=16						
FIA0				Sn	**Sn**	**17 02 45.3**	**+1.1**
	baz=338,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**17 01 34.6**	**+0.6**
	SNR=50						
FIA0				Sn	**Sn**	**17 02 45.3**	**+1.1**
	SNR=50						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 01 35.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=11						
FINES				Sn	**Sn**	**17 02 45.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=350,slow=22,SNR=7.9						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**17 01 52.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=2.7						
NOA				Sn	**Sn**	**17 03 16.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=335,slow=21,SNR=2.4						
NOA				Lg	Lg	17 03 56.2	
	comp=Z,0.2nm,0.3s,baz=354,slow=13,SNR=2.6						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 01 56.3**	**+0.3**
	baz=28,slow=14						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 01 56.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=19,slow=13,SNR=7.0						
HFS				Sn	**Sn**	**17 03 20.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=32,slow=27,SNR=2.3						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 01 56.3**	**+0.3**
	baz=28,slow=14						
SPITS	**Spitsbergen Ar**	**11.24**	**355**	Pn	**Pn**	**17 02 44.1**	**-0.5**
	baz=154,slow=17,SNR=2.4						
BRTR	**Keskin Array B**	**28.31**	**159**	P	**P**	**17 05 58.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=7.3,slow=7.7,SNR=3.1						

*IDC **21** 17:03:16.6±1.6, 28°.74S×176°.65W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/43, mbtmp4.1/3, Error ellipse: s-maj=58.6km s-min=25.2km az=154.0*
*NEIC **21** 17:03:21.2±2.6, 29°.55S×176°.60W, h38km±17km, mb4.6/9, Error ellipse: s-maj=28.3km s-min=13.5km az=73.0*
ISC 21 17:03:23.7±1.2, 29°.84S±0°.08×176°.8W±0°.1, h35km, n25, σ2°31/28, mb4.1/7, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**301**	Pn	**Pn**	**17 03 42.2**	**-0.8**
	137nm,0.3s,baz=97,slow=13,SNR=11						
RAO				Sn	**Sn**	**17 03 59.4**	**+2.2**
	579nm,0.3s,baz=25,slow=20,SNR=9.9						
RAO	**Raoul Island**	**1.13**	**301**	*e*Pn	**Pn**	**17 03 41.6**	**-1.4**
RAO				*e*Sn	**Sn**	**17 03 59.4**	**+2.2**
URZ	**Urewera**	**9.80**	**209**	*e*Pn	**Pn**	**17 05 43.7**	**+1.7**
URZ				*e*Sn	**Sn**	**17 07 31.1**	**+0.3**
BKZ	**Black Stump Fm**	**10.82**	**209**	*e*Pn	**Pn**	**17 05 59.1**	**+3.0**
BKZ				*e*Sn	**Sn**	**17 07 50.0**	**-6.0**
THZ	**Tophouse**	**14.52**	**212**	*e*Pn	**Pn**	**17 06 46.5**	**-0.2**
OXZ	**Oxford**	**16.15**	**210**	*e*Pn	**P**	**17 07 09.7**	**-1.1**
	48nm,1.6s						
RPZ	**Rata Peaks**	**16.90**	**212**	*e*Pn	**P**	**17 07 19.8**	**+0.7**
	82nm,1.8s						
ODZ	**Otahua Downs**	**18.12**	**210**	*e*P	**Pn**	**17 07 32.0**	**-0.5**
	37nm,1.5s						
WHZ	**Wether Hill Ro**	**19.99**	**212**	*e*P	**Pn**	**17 07 56.1**	**+1.2**
	67nm,1.8s						
STKA	**Stephens Creek**	**35.61**	**256**	P	**P**	**17 10 20.1**	**+2.0**
	4.5nm,0.9s,baz=92,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**35.61**	**256**	*e*P	**P**	**17 10 19.5**	**+1.4**
	1.2nm,1.0s						
AS31	**Alice Springs**	**44.17**	**266**	*e*P	**P**	**17 11 27.9**	**-1.4**
	1.8nm,1.4s						
ASAR	**Alice Springs**	**44.17**	**266**	P	**P**	**17 11 27.5**	**-1.9**
	1.6nm,0.7s,baz=102,slow=7.6,SNR=18						
WB2	**Warramunga Arr**	**45.10**	**271**	*e*P	**P**	**17 11 35.1**	**-1.7**
	40nm,2.0s						
WRAB	**Tennant Creek**	**45.11**	**271**	*e*P	**P**	**17 11 34.6**	**-2.2**
	31nm,2.0s						
WR1	**Warramunga Arr**	**45.11**	**271**	*e*P	**P**	**17 11 35.1**	**-1.7**
	36nm,1.8s						
WRA	**Warramunga Arr**	**45.11**	**271**	P	**P**	**17 11 35.1**	**-1.7**
	1.2nm,0.5s,baz=110,slow=7.4,SNR=8.1						
SYO	**Syowa Base**	**77.89**	**193**	*e*pP	pP	17 15 30.0	+1.6
FIA0	**FINESS Array S**	**144.96**	**341**	*e*PKPdf	**PKPab**	**17 22 52.9**	**-2.8**
FINES	**FINESS Array B**	**144.96**	**341**	PKP	**PKPab**	**17 22 52.9**	**-2.8**
	2.8nm,0.8s,baz=38,slow=2.5,SNR=4.2						
AKASG	**Malin

MID	Middleton Isla	3.16	140	*e*Pn	Pn	17 10 28.6	-1.3
MID				*e*Sn	Sn	17 11 05.4	-2.6
COLA	College	3.18	19	*e*Pn	Pn	17 10 29.9	-0.3
COLA				*e*Sn	Sn	17 11 06.3	-2.3
MDM	Murphy Dome	3.21	16	*e*Pn	Pn	17 10 30.4	-0.3
MENT	Mentasta	3.24	68	*e*Pn	Pn	17 10 32.3	+1.2
ILAR	Eielson Array	3.27	27	Pn	Pn	17 10 30.9	-0.5
	8.1nm,0.3s,baz=208,slow=14,SNR=139						
ILAR				Sn	Sb	17 11 21.0	+2.9
	45nm,0.3s,baz=210,slow=28,SNR=23						
ILB	Eielson Array	3.27	27	*e*Pn	Pn	17 10 31.0	-0.4
ILB				*e*Sn	Sn	17 11 08.9	-1.9
VRDI	Verde Repeater	3.36	99	P	Pn	17 10 33.3	+0.5
DOT	Dot Lake	3.37	56	*e*Pn	Pn	17 10 34.5	+1.6
CRQM	Cirque	3.65	105	*e*Pn	Pn	17 10 37.7	+0.9
BALM	Baldy	3.92	99	*e*Pn	Pn	17 10 40.9	+0.4
BALM				*e*Sn	Sn	17 11 25.1	-1.9
KDAK	Kodiak Island	4.29	196	Pn	Pn	17 10 45.3	0.0
	1.3nm,0.3s,baz=45,slow=8.0,SNR=40						
KDAK				Sn	Sn	17 11 35.5	-0.2
	1.4nm,0.3s,baz=156,slow=22,SNR=2.6						
KDAK				LR	LR	17 12 22.6	
	comp=Z,71nm,21.8s,baz=50,slow=40						
KDAK	Kodiak Island	4.29	196	*e*Pn	Pn	17 10 46.5	+1.1
KDAK				*e*Pg	Pb	17 10 47.2	-8.0
KDAK				Sn	Sn	17 11 35.5	-0.2
OHAK	Old Harbor	4.93	199	*e*Pn	Pn	17 10 54.9	+0.6
EGAK	Eagle	5.04	51	*e*Pn	Pn	17 10 56.5	+0.9
FYU	Fort Yukon	5.18	23	*e*Pn	Pn	17 10 58.0	+0.3
PCA	Pinnacle	5.22	106	*e*Pn	Pn	17 10 59.3	+0.9
COLD	Coldfoot	5.35	1	*e*Pn	Pn	17 11 00.0	+0.1
DAWY	Dawson	5.43	62	*e*Pn	Pn	17 11 01.5	+0.3
HYT	Haines Junctio	6.26	94	*e*Pn	Pn	17 11 11.5	-1.1
DHAK	Deception Hill	6.61	110	*e*Pn	Pn	17 11 19.3	+2.0
WHY	Whitehorse	7.54	93	*e*Pn	Pn	17 11 30.7	+0.5
BESE	Bessie Mountai	8.38	107	*e*Pn	Pn	17 11 42.6	+1.0
INK	Inuvik	9.53	40	Pn	Pn	17 11 58.3	+1.1
	0.6nm,0.3s,baz=237,slow=13,SNR=14						
INK				Sn	Sn	17 13 47.3	+2.6
	0.4nm,0.3s,baz=267,slow=15,SNR=3.9						
INK				LR	LR	17 15 25.8	
	comp=Z,21nm,20.6s,baz=187,slow=36						
DLBC	Dease Lake	10.67	100	Pn	Pn	17 12 13.3	+0.3
	0.2nm,0.3s,baz=278,slow=14,SNR=2.9						
DLBC				LR	LR	17 16 39.7	
	comp=Z,144nm,18.5s,baz=92,slow=39						
YKA	Yellowknife Ar	16.54	72	Pn	Pn	17 13 33.1	+1.1
	0.1nm,0.3s,baz=284,slow=11,SNR=3.1						
YKA				LR	LR	17 20 05.0	
	comp=Z,5.8nm,21.1s,baz=180,slow=38						
YKB5	Yellowknife Ar	16.54	72	*e*Pn	Pn	17 13 33.1	+1.1
RES	Resolute Bay	22.99	34	P	P	17 14 46.2	+1.6
	1.2nm,0.7s,baz=260,slow=12,SNR=4.9						
SEY	Seymchan	25.80	298	P	P	17 15 10.2	-0.9
	1.0nm,0.2s,baz=98,slow=23,SNR=3.1						
PDAR	Pinedale Array	30.69	110	P	P	17 15 55.3	+0.1
	0.2nm,0.4s,baz=325,slow=4.5,SNR=3.4						
ELU	Electric Lake	32.51	115	*e*P	P	17 16 11.9	+0.5
HEC	Hector,Ludlow	34.54	126	*e*P	P	17 16 29.6	+0.8
DEVC	Devers	35.24	127	*e*P	P	17 16 31.6	-3.2
YAK	Yakutsk	35.36	307	P	P	17 16 34.5	-0.9
	7.2nm,0.5s,baz=254,slow=1.0,SNR=4.5						
PFO	Pinyon Flats O	35.57	127	LR	LR	17 29 48.4	
	comp=Z,30nm,21.2s,baz=148,slow=34						
LTX	Lajitas	44.52	115	*e*P	P	17 17 51.3	-0.7
TXAR	Lajitas Array	44.52	115	P	P	17 17 51.3	-0.7
	0.2nm,0.6s,baz=340,slow=7.8,SNR=2.9						
ARA0	ARCESS Array S	48.81	2	*e*P	P	17 18 26.4	+1.3
ARCES	ARCESS Array B	48.81	2	P	P	17 18 26.4	+1.3
	3.0nm,0.9s,baz=345,slow=6.5,SNR=4.0						
KSRS	Korea Array	54.03	283	LR	LR	17 41 00.6	
	comp=Z,12nm,21.8s,baz=190,slow=35						
SONA0	Songino Array	54.72	307	*e*P	P	17 19 10.6	+1.0
SONM	Songino Array	54.72	307	P	P	17 19 10.6	+1.0
	0.9nm,0.8s,baz=38,slow=7.3,SNR=7.4						
ZAA1	Zalesovo Array	56.59	324	*e*P	P	17 19 22.8	0.0
ZALV	Zalesovo Beam	56.60	324	P	P	17 19 22.8	0.0
	0.4nm,0.4s,baz=64,slow=6.6,SNR=3.5						
MK32	Makanchi Array	63.74	322	*e*P	P	17 20 10.9	-0.9
MKAR	Makanchi Array	63.74	322	P	P	17 20 10.9	-0.9
	0.2nm,0.3s,baz=19,slow=5.8,SNR=3.3						
AKASG	Malin Array Be	67.74	0	P	P	17 20 37.0	-0.6
	0.6nm,0.4s,baz=344,slow=5.7,SNR=6.1						
CMAR	Chiang Mai Arr	83.22	297	P	P	17 22 07.0	+0.2
	0.6nm,0.8s,baz=1.8,slow=6.1,SNR=7.4						

WEL 21 17:12:50.0±0.1, 41°35S×173°44E, h97km±1km, ML3.6/30, 7C-11D, Error ellipse: s-maj=1.5km s-min=1.3km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.14	342	⇓PN	Pn	17 13 03.4	-0.2
NNZ				SN	Sn	17 13 13.1	-0.8
TUWZ	Tuamarina	0.39	101	⇑PN	Pn	17 13 05.0	+0.3
TUWZ				SN	Sn	17 13 15.2	-0.5
TUWZ				AML	AML	17 13 16.4	
BSWZ	Blackbirch Sta	0.49	138	⇑PN	Pn	17 13 05.6	+0.2
BSWZ				SN	Sn	17 13 17.2	+0.3
BSWZ				AML	AML	17 13 17.6	
THZ	Tophouse	0.57	224	⇑PN	Pn	17 13 06.1	0.0
THZ				SN	Sn	17 13 17.5	-0.7
TCW	Tory Channel	0.65	77	PN	Pn	17 13 07.1	+0.4
TCW				SN	Sn	17 13 18.7	-0.4
TCW				AML	AML	17 13 19.6	
DUWZ	D'Urville Isla	0.66	34	PN	Pn	17 13 07.4	+0.5
CMWZ	Cape Campbell	0.70	124	PN	Pn	17 13 06.6	-0.6
CMWZ				AML	AML	17 13 23.9	
CMWZ				AML	AML	17 13 27.9	
QRZ	Quartz Range	0.87	307	⇑PN	Pn	17 13 08.4	-0.4
WEL	Wellington	1.00	86	PN	Pn	17 13 10.2	0.0
WEL				AML	AML	17 13 26.1	
WEL				AML	AML	17 13 26.1	
WEL				AML	AML	17 13 27.1	
WEL				AML	AML	17 13 27.1	
KHZ	Kahutara	1.06	176	⇓PN	Pn	17 13 11.1	+0.2
KHZ				AML	AML	17 13 26.1	
KHZ				AML	AML	17 13 26.1	
KHZ				AML	AML	17 13 26.9	
KHZ				AML	AML	17 13 26.9	
BHW	Baring Head	1.08	93	PN	Pn	17 13 10.8	-0.2
BHW				AML	AML	17 13 27.1	
BHW				AML	AML	17 13 27.2	
KIW	Kapiti Island	1.22	67	⇓PN	Pn	17 13 12.8	+0.2
KIW				AML	AML	17 13 31.4	
KIW				AML	AML	17 13 31.6	
CAW	Cannon Point	1.25	79	PN	Pn	17 13 12.9	-0.2
CAW				AML	AML	17 13 31.1	
CAW				AML	AML	17 13 31.6	
DSZ	Denniston Nort	1.29	252	PN	Pn	17 13 13.1	-0.5
MSWZ	Moikau Station	1.36	93	PN	Pn	17 13 14.0	-0.5
MSWZ				AML	AML	17 13 33.0	
MSWZ				AML	AML	17 13 33.4	
PLWZ	Palliser	1.38	100	⇑PN	Pn	17 13 14.2	-0.4
PLWZ				AML	AML	17 13 32.1	
PLWZ				AML	AML	17 13 32.2	
OGWZ	Otaki Gorge	1.41	68	PN	Pn	17 13 14.9	-0.1
OGWZ				AML	AML	17 13 34.5	
OGWZ				AML	AML	17 13 35.0	
PAWZ	Paruwai Farm	1.50	92	⇑PN	Pn	17 13 15.4	-0.6
PAWZ				AML	AML	17 13 35.6	
PAWZ				AML	AML	17 13 36.1	
MTW	Mount Morrison	1.57	84	PN	Pn	17 13 16.2	-0.7
MTW				AML	AML	17 13 37.1	
MTW				AML	AML	17 13 37.8	
HOWZ	Holdsworth Sta	1.63	74	PN	Pn	17 13 17.2	-0.6
HOWZ				AML	AML	17 13 38.8	
HOWZ				AML	AML	17 13 38.9	
LTZ	Lake Taylor	1.67	211	⇓PN	Pn	17 13 17.7	-0.5
TRWZ	Traveller	1.69	92	PN	Pn	17 13 18.0	-0.5
MRZ	Mangatainoka R	1.76	68	PN	Pn	17 13 18.7	-0.7
MRZ				AML	AML	17 13 42.2	
MRZ				AML	AML	17 13 42.6	
OHWZ	Ohakea	1.83	52	PN	Pn	17 13 20.5	+0.3
TMWZ	Te Maipa	1.86	83	PN	Pn	17 13 20.0	-0.7
TMWZ				AML	AML	17 13 44.4	
TMWZ				AML	AML	17 13 44.5	
TIWZ	Tintock	1.94	73	PN	Pn	17 13 20.8	-0.8
TIWZ				AML	AML	17 13 45.9	
TIWZ				AML	AML	17 13 46.2	
NMEZ	Namu Road	1.97	10	⇓PN	Pn	17 13 23.3	+1.3
WAZ	Wanganui	1.98	37	⇓PN	Pn	17 13 23.5	+1.2
POWZ	Post Office Ro	2.01	62	PN	Pn	17 13 21.7	-0.9
POWZ				AML	AML	17 13 56.5	
POWZ				AML	AML	17 13 59.6	
INZ	Inchbonnie	2.02	227	⇓PN	Pn	17 13 22.2	-0.4
LREZ	Lake Rotokare	2.03	22	PN	Pn	17 13 24.7	+1.9
PRWZ	Pori Road	2.08	68	PN	Pn	17 13 22.9	-0.5
PRWZ				AML	AML	17 13 50.2	
PRWZ				AML	AML	17 13 50.6	
PREZ	Palmer Road	2.08	16	PN	Pn	17 13 25.0	+1.4
NWEZ	Newall Road	2.10	9	PN	Pn	17 13 25.2	+1.4
KHEZ	Kahui Hut	2.10	12	PN	Pn	17 13 25.1	+1.2
CPWZ	Castlepoint	2.13	79	AML	AML	17 13 52.6	
NEZ	North Egmont	2.14	14	PN	Pn	17 13 25.3	+0.9
PKE	Pukeiti	2.20	11	⇑PN	Pn	17 13 26.4	+1.3
BFZ	Birch Farm	2.23	73	PN	Pn	17 13 24.3	-1.1
BFZ				AML	AML	17 13 52.5	
BFZ				AML	AML	17 13 52.5	
BFZ				AML	AML	17 13 52.5	
BFZ				AML	AML	17 13 52.5	
OXZ	Oxford	2.23	207	⇓PN	Pn	17 13 23.8	-1.6
DREZ	Durham Road	2.24	15	PN	Pn	17 13 26.8	+1.2
CRLZ	Canterbury Las	2.30	195	⇓PN	Pn	17 13 24.7	-1.6
TSZ	Takapari Road	2.31	57	PN	Pn	17 13 25.6	-0.9
TSZ				AML	AML	17 13 56.1	
DVHZ	Dannevirke	2.32	64	PN	Pn	17 13 25.3	-1.4
DVHZ				AML	AML	17 13 54.7	
DVHZ				AML	AML	17 13 55.1	
MHEZ	Mangahewa	2.37	17	PN	Pn	17 13 28.8	+1.4
MQZ	McQueen's Vall	2.42	194	⇓PN	Pn	17 13 26.0	-1.9
VRZ	Vera Road	2.44	25	PN	Pn	17 13 29.4	+1.1
MTVZ	Mangateitei	2.50	39	PN	Pn	17 13 29.5	+0.4
PKVZ	Pokaka	2.53	36	PN	Pn	17 13 29.5	+0.1
PNHZ	Pukenui	2.55	56	PN	Pn	17 13 28.4	-1.3
PNHZ				AML	AML	17 14 00.9	
PNHZ				AML	AML	17 14 01.2	
WNVZ	Wahianoa	2.61	40	⇓PN	Pn	17 13 30.8	+0.2
WPHZ	Waipukurau	2.62	62	SN	Sn	17 14 01.8	0.0
MOVZ	Moawhango	2.63	43	PN	Pn	17 13 30.4	-0.3
WHVZ	Whangaehu Hut	2.64	39	PN	Pn	17 13 31.4	+0.3
WVZ	Waitaha Valley	2.64	229	PN	Pn	17 13 29.9	-1.0
FWVZ	Far West T-bar	2.65	38	PN	Pn	17 13 31.7	+0.5
PRHZ	Porangahau	2.66	67	PN	Pn	17 13 30.1	-1.0
NGZ	Ngauruhoe	2.73	38	PN	Pn	17 13 32.1	-0.2
BHHZ	Black Hill Sta	2.73	48	PN	Pn	17 13 31.6	-0.6
TWVZ	Taurewa	2.75	35	PN	Pn	17 13 32.4	0.0
OTVZ	Oturere	2.77	39	PN	Pn	17 13 32.9	+0.1
WTVZ	West Tongariro	2.78	37	PN	Pn	17 13 32.8	0.0
KRHZ	Kereru	2.81	54	PN	Pn	17 13 31.9	-1.3
KRHZ				AML	AML	17 14 08.1	
KRHZ				AML	AML	17 14 08.9	
KRVZ	Karewarewa	2.82	37	PN	Pn	17 13 33.2	-0.2
PXZ	Pawanui	2.92	64	*e*PN	Pn	17 13 32.7	-1.9
RPZ	Rata Peaks	2.94	216	PN	Pn	17 13 33.4	-1.6
KWHZ	Kaweka Forest	2.98	51	PN	Pn	17 13 34.3	-1.2
KWHZ				AML	AML	17 14 12.2	
KWHZ				AML	AML	17 14 13.9	
KAHZ	Kahuranaki	3.05	60	PN	Pn	17 13 34.9	-1.5
BKZ	Black Stump Fm	3.20	48	PN	Pn	17 13 37.0	-1.3
MRHZ	Matea Rd	3.40	43	PN	Pn	17 13 39.5	-1.6
MRHZ				AML	AML	17 14 19.5	
MRHZ				AML	AML	17 14 20.4	
NMHZ	Naumai	3.42	50	PN	Pn	17 13 40.1	-1.3
NMHZ				AML	AML	17 14 21.9	
NMHZ				AML	AML	17 14 24.2	
TLZ	Tolley Road	3.43	29	PN	Pn	17 13 41.4	-0.1
FOZ	Fox Glacier	3.45	230	PN	Pn	17 13 40.3	-1.4
LBZ	Lake Benmore	3.86	217	PN	Pn	17 13 44.9	-2.3
TOZ	Tahuroa Road	3.95	24	PN	Pn	17 13 48.6	+0.1
URZ	Urewera	4.19	44	PN	Pn	17 13 48.9	-2.7
ODZ	Otahua Downs	4.22	208	PN	Pn	17 13 50.4	-1.6
RIGZ	Rimuhau	4.24	53	PN	Pn	17 13 49.9	-2.5
RIGZ				AML	AML	17 14 39.2	
RIGZ				AML	AML	17 14 40.2	
JCZ	Jackson Bay	4.38	230	PN	Pn	17 13 52.7	-1.5
AWAZ	Awhitu Peninsu	4.38	13	PN	Pn	17 13 55.0	+0.7
KBAZ	Karaka Road Bo	4.40	15	PN	Pn	17 13 56.1	+1.6
MKAZ	Moumakai	4.45	18	PN	Pn	17 13 55.5	+0.3
ETAZ	East Tamaki Re	4.54	15	PN	Pn	17 13 57.2	+0.8
RVAZ	Riverhead Bore	4.66	11	PN	Pn	17 13 59.1	+1.1
RUGZ	Raukumara Rang	4.71	45	PN	Pn	17 13 56.5	-2.3
WIAZ	Waiheke Island	4.74	17	PN	Pn	17 13 59.9	+0.8
WKZ	Wanaka	4.75	222	SN	Sn	17 14 47.0	-6.0
EAZ	Earnscleugh	4.91	216	*e*PN	Pn	17 13 59.3	-2.1
KUZ	Kuaotunu	4.93	22	*e*PN	Pn	17 14 01.3	-0.4
WMGZ	Waiomatatini S	5.22	49	PN	Pn	17 14 02.3	-3.3
TUZ	Tuapeka	5.36	210	*e*PN	Pn	17 14 06.9	-0.6
CTZ	Chatham Island	7.72	111	*e*PN	Pn	17 14 39.1	-0.4

*JMA **21** 17:12:51.7±0.2, 24°.75N×121°.86E, h105km±2km, M2.6*
*ISCJB **21** 17:12:52.5±0.6, 24°.79N±0°.03×121°.93E±0°.02, h101km±4km, Error ellipse: s-maj=5.8km s-min=3.0km az=153.0*
*TAP **21** 17:12:52.4, 24°.81N×121°.88E, h104km±1km, ML3.2, C*
ISC 21 17:12:53.1±1.5, 24°.77N±0°.05×121°.93E±0°.03, h98km±8km, n47, σ0°79/88, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	Ilan	0.16	268	*e*P	Pn	17 13 07.5	+0.6
	baz=246						
ILA				*e*S	Sn	17 13 18.1	+0.9
	baz=246						
TWC	Suao	0.18	204	P	Pn	17 13 07.2	+0.2
	baz=184						
TWC				S	Sn	17 13 18.1	+0.8
	baz=184						
TWB1	Santiao Chiao	0.24	13	*e*P	Pn	17 13 06.9	-0.3
	baz=29						
TWB1				*e*S	Sn	17 13 16.8	-0.9
	baz=29						
TWE	Neicheng	0.24	258	P	Pn	17 13 07.5	+0.3
	baz=242						
TWE				S	Sn	17 13 18.4	+0.7
	baz=242						
NWF	Wu-fen Shan	0.33	336	*e*P	Pn	17 13 07.6	-0.2
	baz=341						
NWF				*e*S	Sn	17 13 17.7	-0.9
	baz=341						
ENTT	Nioudou	0.35	248	P	Pn	17 13 07.8	0.0
	baz=237						
ENTT				*e*S	Sn	17 13 19.3	+0.6
	baz=237						
TWA	Mucha	0.38	304	*e*P	Pn	17 13 07.6	-0.3
	baz=302						
TWA				*e*S	Sn	17 13 18.5	-0.4
	baz=302						
ENA	Nanau	0.38	207	P	Pn	17 13 08.5	+0.6
	baz=196						
ENA				*e*S	Sn	17 13 19.9	+0.9
	baz=196						
NSK	Sanguang	0.53	260	*e*P	Pn	17 13 08.2	-0.8
	baz=253						
NSK				*e*S	Sn	17 13 20.1	-0.8
	baz=253						
TWS1	Kuangyinshan	0.57	305	P	Pn	17 13 09.0	-0.2
	baz=305						
TWS1				S	Sn	17 13 21.0	-0.2
	baz=305						
TWY	Chenhua	0.58	329	*e*P	Pn	17 13 10.0	+0.7
	baz=332						
TWY				*e*S	Sn	17 13 21.3	-0.2
	baz=332						
NNS	Nan Shan	0.60	237	P	Pn	17 13 09.3	-0.3
	baz=230						
NNS				*e*S	Sn	17 13 22.1	+0.1
	baz=230						
TWD	Chiawan	0.75	204	*e*P	Pn	17 13 10.2	-0.7
	baz=198						
TWD				*e*S	Sn	17 13 23.6	-0.5
	baz=198						
NSTT	Nanjuang	0.85	261	P	Pn	17 13 11.2	-0.7
	baz=257						
NSTT				S	Sn	17 13 25.0	-1.0
	baz=257						
TWT	Tachien	0.86	233	*e*P	Pn	17 13 12.4	+0.3
	baz=229						
TWT				*e*S	Sn	17 13 27.3	+1.0
	baz=229						
WHF	Hehuan Shan	0.87	224	*e*P	Pn	17 13 12.9	+0.5
	baz=219						
WHF				*e*S	Sn	17 13 27.4	+0.4
	baz=219						
JYNG	Yonagunijimaku	0.98	109	P	Pn	17 13 13.1	0.0
JYNG				S	Sn	17 13 28.7	+0.5
YOJ	Yonaguni jima	1.03	107	P	Pn	17 13 13.6	-0.1
ESL	Shilin	1.05	205	*e*P	Pn	17 13 12.6	-1.4
	baz=201						
ESL				*e*S	Sn	17 13 29.1	-0.7
	baz=201						
TWQ1	Liyutan	1.13	248	*e*P	Pn	17 13 14.3	-0.6
	baz=245						
TWQ1				*e*S	Sn	17 13 30.3	-1.0
	baz=245						
SMLT	Sun Moon Lake	1.29	227	*e*P	Pn	17 13 17.2	+0.4
	baz=223						
SMLT				*e*S	Sn	17 13 35.4	+0.6
	baz=223						
TYC	Yuchr	1.30	229	*e*P	Pn	17 13 16.7	-0.2
	baz=225						
TYC				*e*S	Sn	17 13 34.4	-0.4
	baz=225						
EHY	Hungye	1.38	204	*e*P	Pn	17 13 17.9	+0.1
	baz=201						
EHY				*e*S	Sn	17 13 35.4	-1.0
	baz=201						
WNT	Mingjian	1.44	232	*e*P	Pn	17 13 18.2	-0.4
	baz=229						
TWF1	Yuli	1.53	202	*e*P	Pn	17 13 18.9	-0.7
	baz=199						
TWF1				*e*S	Sn	17 13 39.2	-0.5
	baz=199						
YUS	Yu-Shan	1.56	215	*e*P	Pn	17 13 21.3	+0.8
	baz=212						
YUS				*e*S	Sn	17 13 42.5	+1.3
	baz=212						
ALS	Alishan	1.62	220	*e*P	Pn	17 13 21.4	+0.3
	baz=216						
ALS				*e*S	Sn	17 13 44.3	+2.0
	baz=216						
CHN5	Tsauling	1.63	225	*e*P	Pn	17 13 21.3	+0.3
	baz=222						
CHN5				*e*S	Sn	17 13 43.3	+1.1
	baz=222						
WGK	Gukeng	1.65	229	*e*P	Pn	17 13 21.2	+0.1
	baz=226						
IRIF	Iriomote-Funau	1.70	104	P	Pn	17 13 21.2	-0.5
IRIF				S	Sn	17 13 43.7	+0.2
CHKT	Chengkung	1.74	197	*e*P	Pn	17 13 20.9	-1.5
	baz=195						
CHKT				*e*S	Sn	17 13 43.5	-1.1
	baz=195						
ELDTW	Lidau	1.78	208	*e*P	Pn	17 13 22.8	-0.2
	baz=205						
ELDTW				*e*S	Sn	17 13 45.7	+0.1
	baz=205						
HATJ	Hateruma jima	1.85	112	P	Pn	17 13 24.1	+0.4
CHN4	Tsaushan	1.87	221	*e*P	Pn	17 13 24.2	+0.3
	baz=218						
CHN4				*e*S	Sn	17 13 49.1	+1.8
	baz=218						
STYT	Tauyuan	1.93	214	*e*P	Pn	17 13 25.3	+0.5
	baz=211						
STYT				*e*S	Sn	17 13 49.6	+0.7
	baz=211						
WTP	Ta-pu	1.94	219	*e*P	Pn	17 13 24.6	-0.3
	baz=216						
WTP				*e*S	Sn	17 13 50.8	+1.7
	baz=216						
JKRS	Kuro-shima	1.97	105	P	Pn	17 13 25.3	+0.1
JKRS				*e*S	Sn	17 13 49.9	+0.2
TWK	Hsinying	1.99	222	*e*P	Pn	17 13 25.2	-0.4
	baz=219						
TWK				*e*S	Sn	17 13 50.3	-0.1
	baz=219						
CHN1	Nanshi	2.03	219	*e*P	Pn	17 13 25.7	-0.4
	baz=217						
CHN1				*e*S	Sn	17 13 51.0	-0.2
	baz=217						
JIJ	Ishigaki jima	2.06	101	P	Pn	17 13 26.0	-0.3
JIJ				*e*S	Sn	17 13 51.5	-0.2
SGST	Jiashian	2.08	216	*e*P	Pn	17 13 28.3	+1.5
	baz=214						
SGST				*e*S	Sn	17 13 53.0	+0.6
	baz=214						
TWG	Pinlang	2.09	202	*e*P	Pn	17 13 26.8	-0.1
	baz=200						
TWG				*e*S	Sn	17 13 51.1	-1.5
	baz=200						
JISG	Ishigakijimahi	2.17	94	P	Pn	17 13 27.8	-0.1
JISG				*e*S	Sn	17 13 54.3	-0.2
SSD	Sandimen	2.34	211	*e*P	Pn	17 13 32.1	+2.0
	baz=208						
ECL	Taimali	2.34	203	*e*P	Pn	17 13 28.1	-2.0
	baz=200						
ECL				*e*S	Sn	17 13 57.3	-1.1
	baz=200						
JTJ	Tarama	2.53	92	P	Pn	17 13 32.7	+0.2
JTJ				S	Sn	17 14 03.2	+0.5
JIRB	Irabujima	2.95	88	*e*S	Sn	17 14 13.1	+0.3

DHMR 21 17:14:05.2±0.8, 12°.16N×44°.16E, h3km±14km, ML3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	1.01	52	*i* P	Pg	17 14 24.3	-0.3
ADEN				*i* S	Sg	17 14 38.4	+0.6
ADEN				AML	AML	17 14 47.5	
	comp=E,2μm,0.5s						
UDYN	Al 'Udayn	1.81	354	*i* P	Pn	17 14 37.6	+0.1
UDYN				*i* S	Sg	17 15 03.7	+0.2
UDYN				AML	AML	17 15 09.0	
	comp=E,514nm,0.4s						
HAJJ	Hajjah	3.56	351	*i* S	Sb	17 15 50.0	-2.8

*IDC **21** 17:28:46.1±1.1, 20°.98N×122°.32E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/41, mbtmp3.6/7, MS2.9/1, Ms1 3.1/1, ms1mx2.5/50, Error ellipse: s-maj=51.3km s-min=17.6km az=63.0*
*ISCJB **21** 17:28:49.8±0.7, 20°.94N±0°.06×122°.22E±0°.10, h33km, mb3.5/7, MS2.7/1, Error ellipse: s-maj=14.8km s-min=5.6km az=27.7*
*JMA **21** 17:28:50.1±0.5, 21°.31N×121°.92E, h0km, M3.8*
ISC 21 17:28:51.6±0.9, 20°.96N±0°.08×122°.2E±0°.1, h35km, n21, σ1°36/20, mb3.5/7, Philippine Islands region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time

ASAR	**Alice Springs**	**45.80**	**165**	P	**P**	**17 37 09.9**	**-0.3**
	0.3nm,0.5s,baz=345,slow=7.3,SNR=8.3						
STKA	**Stephens Creek**	**55.74**	**160**	P	**P**	**17 38 25.1**	**+0.2**
	2.1nm,0.7s,baz=328,slow=7.1,SNR=6.8						

*GII **21** 17:34:06.9±0.0,28.°50N×34.°61E,h1km,mb4.1/5,MD4.0/5*
*SGS **21** 17:34:11.6,28.°55N×34.°71E,h10km*
ISC 21 17:34:09.5±2.0,28.°56N±0.°03×34.°72E±0.°06,h4km±15km,n18,σ0°91/32,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**0.27**	**165**	S	**Sb**	**17 34 20.9**	**-1.0**
RSHS				P	**Pb**	**17 34 16.8**	**-0.2**
BDAS	**Al Bad'**	**0.36**	**111**	S	**Sb**	**17 34 24.0**	**-0.6**
BDAS				P	**Pb**	**17 34 18.6**	**+0.1**
HAQS	**Haql**	**0.52**	**20**	S	**Sb**	**17 34 29.0**	**-0.2**
HAQS				P	**Pb**	**17 34 21.5**	**+0.3**
JLOS		**0.70**	**75**	S	**Sb**	**17 34 34.1**	**-0.4**
JLOS				P	**Pb**	**17 34 24.5**	**+0.1**
HQLS		**0.80**	**22**	S	**Sn**	**17 34 37.9**	**-2.1**
HQLS				P	**Pn**	**17 34 26.5**	**-1.1**
EIL	**Elat**	**1.12**	**10**	Pg	**Pb**	**17 34 30.9**	**-0.6**
EIL				Sg	**Sn**	**17 34 47.5**	**-0.5**
MBRI	**Mt Berech**	**1.24**	**8**	Pn	**Pb**	**17 34 33.0**	**-0.6**
MBRI				Sn	**Sn**	**17 34 52.0**	**+1.0**
HRFI	**Mount Harif**	**1.50**	**11**	Pn	**Pn**	**17 34 36.3**	**-0.9**
HRFI				Sn	**Sg**	**17 34 58.9**	**+1.3**
TBKS	**Tabuk**	**1.64**	**102**	S	**Sg**	**17 35 02.8**	**+0.6**
TBKS				P	**Pb**	**17 34 39.5**	**-0.9**
PRNI	**Paran**	**1.80**	**8**	Pn	**Pn**	**17 34 41.3**	**-0.1**
PRNI				Sn	**Sg**	**17 35 06.8**	**-0.6**
ZFRI	**Zfri**	**2.03**	**11**	Pn	**Pn**	**17 34 44.5**	**0.0**
ZFRI				Sn	**Sb**	**17 35 12.6**	**+0.1**
BIDS	**Bi'r al Bayda'**	**2.60**	**130**	S	**Sb**	**17 35 30.0**	**+0.9**
BIDS				P	**Pn**	**17 34 52.8**	**+0.3**
MZDA	**Masada**	**2.80**	**11**	Pn	**Pn**	**17 34 54.7**	**-0.3**
MZDA				Sn	**Sg**	**17 35 39.4**	**+0.1**
AMAZ	**Amatzia**	**2.97**	**3**	Pn	**Pn**	**17 34 57.2**	**-0.2**
DSI	**Dead Sea**	**3.05**	**11**	Pn	**Pn**	**17 34 58.8**	**+0.2**
SLTI	**Sal'it**	**3.68**	**4**	Pn	**Pn**	**17 35 07.6**	**+0.4**
SLTI				Sn	**Sn**	**17 35 54.0**	**+2.9**
HMDT	**Nahal Hemdat**	**3.75**	**11**	Pn	**Pn**	**17 35 08.7**	**+0.6**
MMLI	**Mount Malkishu**	**3.91**	**9**	Pn	**Pn**	**17 35 10.6**	**+0.1**

*IDC **21** 17:37:58.7±1.8, 11.°66N×44.°12E,h0km,mb3.7/5,*
mb1 3.8/5,mb1mx3.5/40,mbtmp3.7/5,MS3.3/7,Ms1 3.3/7,
ms1mx3.1/46,Error ellipse: s-maj=53.3km s-min=17.8km
az=167.0
*ISCJB **21** 17:37:59.1±0.9, 11.°78N±0.°07×44.°18E±0.°07,h10km,*
mb3.7/5,MS3.1/5,Error ellipse: s-maj=11.4km
s-min=8.1km az=41.1
ISC 21 17:38:00.7±1.1,11.°78N±0.°09×44.°1E±0.°1,h10km,n14,σ1°9°16/11,mb3.9/5,MS3.1/5,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.25**	**259**	Pn	**Pn**	**17 38 23.8**	**-0.6**
	141nm,0.3s,baz=51,slow=13,SNR=7.2						
ATD				Sn	**Sn**	**17 38 41.6**	**+0.2**
	144nm,0.3s,baz=215,slow=23,SNR=18						
UDYN	**Al 'Udayn**	**2.17**	**357**	*i* P	**Pn**	**17 38 36.3**	**-0.8**
UDYN				*i* S	**Sn**	**17 39 01.8**	**-2.4**
HAJJ	**Hajjah**	**3.92**	**353**	*i* P	**Pn**	**17 39 02.0**	**+0.8**
HAJJ				*e*		17 39 02.2	
	baz=218,slow=18						
HAJJ				*i* S	**Sn**	**17 39 48.8**	**+1.3**
HAJJ				AML	AML	17 40 15.2	
	comp=Z,634nm,0.9s						
KMBO	**Kilima Mbogo**	**14.52**	**208**	LR	LR	17 47 00.0	
	comp=Z,185nm,20.6s,baz=332,slow=38						
WSAR	**Wadi Sarin**	**17.92**	**49**	LR	LR	17 49 25.9	
	comp=Z,118nm,18.9s,baz=247,slow=38						
MMAI	**Mount Meron Ar**	**22.59**	**341**	LR	LR	17 50 16.5	
	comp=Z,41nm,20.9s,baz=225,slow=32						
GNI	**Garni**	**28.26**	**1**	LR	LR	17 55 34.2	
	comp=Z,66nm,20.1s,baz=246,slow=37						
GEYT	**Alibeck**	**28.90**	**23**	LR	LR	17 58 08.9	
	comp=Z,67nm,18.1s,baz=110,slow=42						
BRTR	**Keskin Array B**	**29.33**	**343**	P	**P**	**17 44 04.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=156,slow=9.0,SNR=3.7						
BRTR				LR	LR	17 56 03.8	
	comp=Z,38nm,18.1s,baz=131,slow=37						
KBZ	**Khabaz**	**31.85**	**358**	LR	LR	17 57 14.0	
	comp=Z,38nm,19.9s,baz=180,slow=36						
MKAR	**Makanchi Array**	**47.45**	**35**	P	**P**	**17 46 35.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=224,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.96**	**29**	P	**P**	**17 47 17.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=234,slow=9.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**53.20**	**76**	P	**P**	**17 47 18.9**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=271,slow=8.3,SNR=10						
SONM	**Songino Array**	**62.83**	**42**	P	**P**	**17 48 27.8**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=258,slow=6.6,SNR=4.7						

IDC 21 17:43:06.2±28.0,23.°37S×173.°93W,h0km,mb3.9/4,mb1 4.1/4,mb1mx3.7/32,mbtmp3.9/4,Error ellipse: s-maj=523.1km s-min=154.0km az=78.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.05**	**267**	P	P	17 50 18.6	+0.3
	1.9nm,0.3s,baz=93,slow=14,SNR=9.9						
STKA	**Stephens Creek**	**40.08**	**248**	P	P	17 50 44.0	+0.5
	0.4nm,0.3s,baz=84,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**47.61**	**259**	P	P	17 51 43.9	-0.4
	0.3nm,0.4s,baz=97,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**48.00**	**264**	P	P	17 51 46.8	-0.5
	1.0nm,0.3s,baz=105,slow=8.4,SNR=17						

*ISN **21** 17:49:49.9±0.9,40.°48N×40.°52E,h0km±999km,ML3.5*
*NSSP **21** 17:49:53.3,41.°00N×42.°53E,h12km,Ms3.4*
*TIF **21** 17:49:54.8,40.°92N×42.°52E,h9km±2km*
*DDA **21** 17:49:55.4,40.°95N×42.°55E,h13km,Ml3.6*
*TEH **21** 17:49:55.0,40.°95N×42.°55E,h13km,ML3.5*
*ISK **21** 17:49:55.3,40.°88N×42.°59E,h5km,ML3.2*
*CSEM **21** 17:49:56.3±0.1,40.°93N×42.°47E,h2km,ML3.2,Error ellipse: s-maj=4.0km s-min=3.3km az=5.0*
*MOS **21** 17:49:56.0±1.8,40.°85N×42.°07E,h10km,mb4.1/3,Error ellipse: s-maj=9.5km s-min=7.5km az=31.6*
*AZER **21** 17:50:00.9±0.9,40.°80N×42.°80E,h5km,Error ellipse: s-maj=15.5km s-min=7.9km az=175.0*
ISC 21 17:49:55.5±1.1,40.°95N±0.°01×42.°55E±0.°01,h1km±9km,n160,σ1°45/242,mb3.6/3,21C-19D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.41**	**201**	*e*PG	**Pg**	**17 50 03.3**	**-0.1**
SENK				*e*SG	**Sb**	**17 50 09.9**	**-2.6**
SENK	**Senkaya-Erzuru**	**0.41**	**201**	*e*Pg	**Pg**	**17 50 03.3**	**-0.1**
SENK				*e*Sg	**Sb**	**17 50 10.0**	**-2.6**
DAGI	**Agillar**	**0.50**	**286**	*i* P	**Pg**	**17 50 05.3**	**+0.2**
DAGI				*i* S	**Sb**	**17 50 13.1**	**-1.9**
ARTV	**Artvin**	**0.53**	**297**	*i* P	**Pg**	**17 50 06.2**	**+0.5**
ARTV				*i* S	**Sb**	**17 50 13.7**	**-2.1**
ARTV	**Artvin**	**0.53**	**297**	P	**Pg**	**17 50 06.2**	**+0.5**
ARTV				S	**Sb**	**17 50 13.7**	**-2.1**
EPOS	**Posof**	**0.57**	**14**	*i* P	**Pb**	**17 50 07.6**	**-0.8**
EPOS				*i* S	**Sb**	**17 50 17.2**	**0.0**
EPOS	**Posof**	**0.57**	**14**	P	**Pb**	**17 50 07.6**	**-0.8**
EPOS				S	**Sb**	**17 50 17.2**	**0.0**
DDEM	**Demirkent**	**0.61**	**265**	*i* P	**Pg**	**17 50 07.1**	**-0.1**
DDEM				*i* S	**Sg**	**17 50 15.6**	**+0.6**
DDEM	**Demirkent**	**0.61**	**265**	P	**Pg**	**17 50 07.1**	**-0.1**
DDEM				S	**Sg**	**17 50 15.6**	**+0.6**
DBOC	**Borcka**	**0.78**	**301**	*i* P	**Pg**	**17 50 10.4**	**0.0**
DBOC				*i* S	**Sg**	**17 50 21.1**	**+0.6**
DBOC	**Borcka**	**0.78**	**301**	P	**Pg**	**17 50 10.4**	**0.0**
DBOC				S	**Sg**	**17 50 21.1**	**+0.6**
DIGO	**Kars**	**0.82**	**130**	*i* P	**Pg**	**17 50 11.1**	**-0.2**
DIGO				*i* S	**Sg**	**17 50 22.2**	**+0.3**
DIGO	**Kars**	**0.82**	**130**	P	**Pg**	**17 50 11.1**	**-0.2**
DIGO				S	**Sg**	**17 50 22.2**	**+0.3**
EAK	**Akyaka**	**0.84**	**108**	*i* P	**Pg**	**17 50 11.9**	**+0.2**
EAK				*i* S	**Sb**	**17 50 24.6**	**-0.3**
EAK	**Akyaka**	**0.84**	**108**	P	**Pg**	**17 50 11.9**	**+0.2**
EAK				S	**Sb**	**17 50 24.6**	**-0.3**
AKH	**Akhalkalaki**	**0.85**	**57**	*e*PG	**Pg**	**17 50 12.3**	**+0.5**
AKH	**Akhalkalaki**	**0.85**	**57**	P	**Pg**	**17 50 12.0**	**+0.1**
AKH				S	**Sb**	**17 50 23.9**	**-1.2**
AKH	**Akhalkalaki**	**0.85**	**57**	PG	**Pg**	**17 50 11.9**	**+0.1**
AKH	**Akhalkalaki**	**0.85**	**57**	*e*Pg	**Pg**	**17 50 12.3**	**+0.5**
BGD	**Bogdanovka**	**0.85**	**68**	P	**Pg**	**17 50 12.3**	**+0.4**
BGD				S	**Sg**	**17 50 23.5**	**+0.5**
HOMI	**Horasan**	**1.02**	**209**	*i* P	**Pg**	**17 50 14.3**	**-0.9**
HOMI				*i* S	**Sn**	**17 50 32.3**	**0.0**
EATA	**Eleskirt**	**1.08**	**182**	*i* P	**Pg**	**17 50 15.5**	**-0.8**
EATA				*i* S	**Sn**	**17 50 32.6**	**-1.3**
EATA	**Eleskirt**	**1.08**	**182**	P	**Pg**	**17 50 15.5**	**-0.8**
EATA				S	**Sn**	**17 50 32.6**	**-1.3**
ERZM	**Erzurum**	**1.38**	**221**	*i* P	**Pg**	**17 50 21.7**	**-0.2**
ERZM				*i* S	**Sg**	**17 50 41.8**	**+2.0**
ERZM	**Erzurum**	**1.38**	**221**	P	**Pg**	**17 50 21.7**	**-0.2**
ERZM				S	**Sg**	**17 50 41.8**	**+2.0**
STE	**Stepanavan**	**1.38**	**87**	⇓P	**Pn**	**17 50 21.0**	**-1.0**
STEZ	**Stepenevan**	**1.40**	**87**	⇓*i*P	**Pn**	**17 50 21.0**	**-1.3**
STEZ				⇓S	**Sg**	**17 50 41.0**	**+0.4**
AGRB	**Hanur-Agry**	**1.41**	**166**	*e*PN	**Pb**	**17 50 21.8**	**-0.9**
AGRB				*e*SN	**Sg**	**17 50 41.7**	**+0.9**
AGRB	**Hanur-Agry**	**1.41**	**166**	*e*Pn	**Pb**	**17 50 21.8**	**-0.9**
AGRB				*e*Sn	**Sg**	**17 50 41.7**	**+0.9**
KZR	**Kazreti**	**1.48**	**72**	P	**Pg**	**17 50 23.6**	**-0.2**
KZR				S	**Sg**	**17 50 43.2**	**+0.3**
TUTA	**Tutak**	**1.56**	**172**	*i* P	**Pb**	**17 50 24.5**	**-0.7**
TUTA	**Tutak**	**1.56**	**172**	P	**Pb**	**17 50 24.5**	**-0.7**
EKAR	**Karacoban**	**1.73**	**193**	*i* P	**Pg**	**17 50 28.6**	**0.0**
EKAR	**Karacoban**	**1.73**	**193**	P	**Pg**	**17 50 28.6**	**0.0**
ONI	**Oni**	**1.78**	**22**	P	**Pb**	**17 50 28.6**	**-0.4**
ONI				S	**Sg**	**17 50 53.3**	**+0.7**
ONI	**Oni**	**1.78**	**22**	PN	**Pb**	**17 50 28.5**	**-0.4**
ECAT	**Cat-ERZURUM**	**1.80**	**223**	*i* P	**Pb**	**17 50 28.9**	**-0.5**
ECAT	**Cat-ERZURUM**	**1.80**	**223**	P	**Pb**	**17 50 28.9**	**-0.5**
KOPT	**Kop Dagi**	**1.82**	**240**	*i* P	**Pg**	**17 50 30.8**	**+0.4**
KOPT				*i* S	**Sg**	**17 50 57.0**	**+3.0**
KOPT	**Kop Dagi**	**1.82**	**240**	P	**Pg**	**17 50 30.8**	**+0.4**
TBLG	**Delisi**	**1.82**	**64**	*e*PN	**Pb**	**17 50 29.8**	**+0.1**
TBLG				*e*SN	**Sg**	**17 50 53.8**	**-0.4**
TBLG	**Delisi**	**1.82**	**64**	P	**Pb**	**17 50 28.9**	**-0.8**
TBLG				S	**Sg**	**17 50 53.9**	**-0.2**
TBLG	**Delisi**	**1.82**	**64**	PN	**Pb**	**17 50 28.9**	**-0.8**
TBLG	**Delisi**	**1.82**	**64**	Pn	**Pb**	**17 50 28.9**	**-0.8**
TBLG				S	**Sg**	**17 50 53.7**	**-0.4**
GNI	**Garni**	**1.85**	**115**	⇑*i*P	**Pb**	**17 50 29.1**	**-1.1**
GNI				⇑*i*S	**Sg**	**17 50 55.3**	**+0.4**
GNI	**Garni**	**1.85**	**115**	*e*PN	**Pb**	**17 50 29.0**	**-1.2**
GNI	**Garni**	**1.85**	**115**	⇑P	**Pb**	**17 50 29.1**	**-1.1**
GNI				S	**Sg**	**17 50 55.3**	**+0.4**
SEAG	**Tbilisi Sea**	**1.88**	**64**	P	**Pb**	**17 50 30.8**	**+0.1**
SEAG				S	**Sg**	**17 50 56.3**	**+0.3**
VRTB	**Varto-Mus**	**1.97**	**206**	*e*PN	**Pb**	**17 50 30.5**	**-1.7**
VRTB	**Varto-Mus**	**1.97**	**206**	*i* P	**Pb**	**17 50 31.3**	**-0.9**
VRTB	**Varto-Mus**	**1.97**	**206**	*e*Pn	**Pb**	**17 50 30.5**	**-1.7**
VRTB	**Varto-Mus**	**1.97**	**206**	P	**Pb**	**17 50 31.3**	**-0.9**
GUDG	**Gudauri**	**2.09**	**43**	P	**Pb**	**17 50 34.6**	**+0.2**
GUDG				S	**Sg**	**17 51 06.9**	**+4.1**
DIGR	**Digorskoe uzhe**	**2.10**	**21**	*i* PN	**Pb**	**17 50 34.0**	**-0.5**
DIGR				*e*S	**Sg**	**17 51 02.5**	**-0.4**
DIGR	**Digorskoe uzhe**	**2.10**	**21**	*i* Pn	**Pb**	**17 50 34.0**	**-0.5**
DIGR				*e*Sn	**Sg**	**17 51 02.5**	**-0.4**
ZEI	**Tsey**	**2.10**	**28**	*e*PN	**Pb**	**17 50 33.1**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,61nm,0.6s						
MACK	**Trabzon**	**2.11**	**271**	*i* P	**Pb**	**17 50 33.5**	**-1.0**
MACK				*i* S	**Sb**	**17 51 00.8**	**-0.3**
MACK	**Trabzon**	**2.11**	**271**	P	**Pb**	**17 50 33.5**	**-1.0**
MACK				S	**Sb**	**17 51 00.8**	**-0.3**
KTUT	**Trabzon**	**2.11**	**272**	*e*PN	**Pb**	**17 50 32.6**	**-1.9**
KTUT				*e*SN	**Sb**	**17 51 01.1**	**0.0**
KTUT	**Trabzon**	**2.11**	**272**	*e*Pn	**Pb**	**17 50 32.6**	**-1.9**
KTUT				*e*Sn	**Sb**	**17 51 01.1**	**0.0**
QZX	**Qazax, Azerbai**	**2.14**	**86**	⇑P	**Pb**	**17 50 34.4**	**-0.6**
	SNR=61						
QZX				⇑S	**Sb**	**17 51 00.8**	**-1.3**
QZX	**Qazax, Azerbai**	**2.14**	**86**	P	**Pb**	**17 50 34.4**	**-0.6**
	SNR=61						
QZX				S	**Sb**	**17 51 00.8**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.15**	**226**	*e*PN	**Pb**	**17 50 33.5**	**-1.8**
YEDI				*e*SN	**Sb**	**17 51 01.1**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.15**	**226**	*e*Pn	**Pb**	**17 50 33.5**	**-1.8**
YEDI				*e*Sn	**Sb**	**17 51 01.1**	**-1.5**
DGRG	**David-gareji**	**2.19**	**76**	P	**Pb**	**17 50 35.2**	**-0.7**
DGRG				S	**Sb**	**17 51 04.2**	**+0.6**
DGRG	**David-gareji**	**2.19**	**76**	PN	**Pb**	**17 50 35.8**	**-0.1**
DGRG	**David-gareji**	**2.19**	**76**	P	**Pb**	**17 50 35.4**	**-0.5**
DGRG	**David-gareji**	**2.19**	**76**	Pn	**Pb**	**17 50 35.8**	**-0.1**
DGRG				S	**Sg**	**17 51 04.6**	**-1.3**
LACR	**Lac**	**2.29**	**34**	*i* PN	**Pb**	**17 50 37.1**	**-0.5**
LACR				*e*S	**Sg**	**17 51 09.9**	**+0.9**
LACR				pmax	pmax		
	comp=Z,108nm,0.3s						
LACR				smax	smax		
	comp=E,223nm,0.6s						
LACR	**Lac**	**2.29**	**34**	*i* Pn	**Pb**	**17 50 37.1**	**-0.5**
	comp=E,108nm,0.3s						
NEY	**Neytrino**	**2.31**	**3**	*i* PN	**Pb**	**17 50 37.3**	**-0.7**
NEY				*i* S	**Sg**	**17 51 08.3**	**-1.3**
NEY				pmax	pmax		
	comp=Z,120nm,0.4s						
NEY				smax	smax		
	comp=N,252nm,0.7s						
NEY	**Neytrino**	**2.31**	**3**	*i* Pn	**Pb**	**17 50 37.3**	**-0.7**
	comp=N,120nm,0.4s						
NEY				*i* Sn	**Sg**	**17 51 08.3**	**-1.3**
	comp=N,252nm,0.7s						
KORR	**Kora**	**2.42**	**27**	*e*PN	**Pg**	**17 50 41.1**	**-0.8**
KORR				*e*S	**Sg**	**17 51 13.1**	**-0.1**
KORR	**Kora**	**2.42**	**27**	*e*Pn	**Pg**	**17 50 41.1**	**-0.8**
BNGB	**Bing¶l**	**2.42**	**217**	*e*PN	**Pb**	**17 50 37.8**	**-2.2**
GDB	**GEDABAY**	**2.44**	**94**	⇑P	**Pb**	**17 50 39.9**	**-0.4**
	SNR=16						
GDB				⇑S	**Sb**	**17 51 08.0**	**-2.9**
GDB	**GEDABAY**	**2.44**	**94**	P	**Pb**	**17 50 39.9**	**-0.4**
	SNR=16						
GDB				S	**Sb**	**17 51 08.0**	**-2.9**
LSNR	**Lesken**	**2.52**	**22**	*e*PN	**Pb**	**17 50 41.7**	**+0.2**
LSNR				*e*S	**Sg**	**17 51 16.7**	**+0.3**
LSNR				pmax	pmax		
	comp=Z,45nm,0.5s						
LSNR				smax	smax		
	comp=Z,93nm,0.6s						
LSNR	**Lesken**	**2.52**	**22**	*e*Pn	**Pb**	**17 50 41.7**	**+0.2**
	comp=Z,45nm,0.5s						
VADZ	**Vardenis**	**2.56**	**107**	*e*P	**Pb**	**17 50 40.0**	**-2.2**
VADZ				*e*S	**Sg**	**17 51 18.0**	**+0.4**
VADZ	**Vardenis**	**2.56**	**107**	P	**Pb**	**17 50 40.0**	**-2.2**
BINT	**Bingol**	**2.60**	**218**	PN	**Pb**	**17 50 37.2**	**-1.6**
BINT	**Bingol**	**2.60**	**218**	*e*Pn	**Pn**	**17 50 37.8**	**-1.0**
VLKR	**Vladikavkaz**	**2.63**	**36**	*e*PN	**Pb**	**17 50 42.6**	**-0.8**
VLKR				*e*S	**Sg**	**17 51 18.2**	**-1.8**
VLKR	**Vladikavkaz**	**2.63**	**36**	*e*Pn	**Pb**	**17 50 42.6**	**-0.8**
KELT	**Kelkit**	**2.63**	**253**	*i* P	**Pb**	**17 50 41.5**	**-2.0**
KELT				*i* S	**Sb**	**17 51 15.5**	**-1.0**
KELT	**Kelkit**	**2.63**	**253**	P	**Pb**	**17 50 41.5**	**-2.0**
KELT				S	**Sb**	**17 51 15.5**	**-1.0**
NCK	**Nalchik**	**2.66**	**17**	*e*PN	**Pb**	**17 50 43.3**	**-0.7**
NCK	**Nalchik**	**2.66**	**17**	*e*Pn	**Pb**	**17 50 43.3**	**-0.7**
STDR	**Stavd-Durt**	**2.67**	**24**	*e*PN	**Pb**	**17 50 44.6**	**+0.5**
STDR				*e*S	**Sg**	**17 51 19.7**	**-1.6**
STDR	**Stavd-Durt**	**2.67**	**24**	*e*Pn	**Pb**	**17 50 44.6**	**+0.5**
KMGR	**Komgaron**	**2.73**	**39**	*e*PN	**Pb**	**17 50 45.5**	**+0.4**
KMGR				*e*S	**Sg**	**17 51 22.0**	**-1.1**
KMGR	**Komgaron**	**2.73**	**39**	*e*Pn	**Pb**	**17 50 45.5**	**+0.4**
BTKR	**Batakoyurt**	**2.84**	**31**	*e*PN	**Pb**	**17 50 46.6**	**-0.4**
BTKR				*e*S	**Sb**	**17 51 24.0**	**+1.7**
BTKR	**Batakoyurt**	**2.84**	**31**	*e*Pn	**Pb**	**17 50 46.6**	**-0.4**
GANJ	**Ganja**	**2.88**	**95**	⇓P	**Pn**	**17 50 43.9**	**+1.4**
	SNR=29						
GANJ				⇓S	**Sn**	**17 51 18.7**	**+0.9**
GANJ	**Ganja**	**2.88**	**95**	P	**Pn**	**17 50 43.9**	**+1.4**
	SNR=29						
GANJ				S	**Sn**	**17 51 18.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.98**	**201**	*e*PN	**Pn**	**17 50 44.8**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.98**	**201**	*e*Pn	**Pn**	**17 50 44.8**	**+0.9**
KIV	**Kislovodsk**	**3.01**	**2**	*e*PN	**Pb**	**17 50 47.2**	**-2.7**
KIV				*e*S	**Sb**	**17 51 25.8**	**-1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV	**Kislovodsk**	**3.01**	**2**	*e*Pn	**Pb**	**17 50 47.2**	**-2.7**
	comp=Z,11nm,1.0s						
KIV				*e*Sn	**Sb**	**17 51 25.8**	**-1.4**
ZKTA	**Zakatala**	**3.15**	**76**	⇓P	**Pb**	**17 50 48.8**	**-3.4**
	SNR=6.0						
ZKTA				⇓S	**Sb**	**17 51 26.5**	**-4.5**
PTK	**Pertek**	**3.18**	**231**	*e*PN	**Pn**	**17 50 48.1**	**+1.4**
PTK	**Pertek**	**3.18**	**231**	*e*Pn	**Pn**	**17 50 48.2**	**+1.4**
IMRD	**Marand**	**3.30**	**132**	*e*P	**Pb**	**17 50 55.2**	**+0.3**
IMRD	**Marand**	**3.30**	**132**	*e*P	**Pb**	**17 50 55.2**	**+0.3**
GROC	**Groznyy**	**3.31**	**46**	*e*PN	**Pb**	**17 50 54.9**	**0.0**
GROC				*e*S	**Sb**	**17 51 37.9**	**+2.3**
SOC	**Sochi**	**3.37**	**322**	*e*PN	**Pn**	**17 50 49.9**	**+0.7**
SOC				*e*		17 51 30.0	
SOC				pmax	pmax		
	comp=Z,58nm,0.6s						
SOC				smax	smax		
	comp=N,51nm,0.6s						
SOC				smax	smax		
	comp=E,26nm,0.6s						
SOC	**Sochi**	**3.37**	**322**	*e*Pn	**Pn**	**17 50 49.9**	**+0.7**
	comp=E,58nm,0.6s						
SOC				*e*Sn	**Sn**	**17 51 30.0**	**+0.2**
	comp=E,51nm,0.6s						
SUSE	**Susehri**	**3.39**	**259**	*i* P	**Pb**	**17 50 55.5**	**-1.0**
SUSE				*i* S	**Sb**	**17 51 38.4**	**+0.2**
MNGR	**Mingechevir, A**	**3.44**	**91**	⇓P	**Pn**	**17 50 52.0**	**+1.7**
	SNR=3.1						
MNGR				⇑S	**Sn**	**17 51 32.4**	**+0.7**
MNGR	**Mingechevir, A**	**3.44**	**91**	P	**Pn**	**17 50 52.0**	**+1.7**
	SNR=3.1						
MNGR				S	**Sn**	**17 51 32.4**	**+0.7**
SEKA	**Sheki**	**3.52**	**84**	⇓P	**Pb**	**17 50 55.5**	**-3.2**
	SNR=3.7						
SEKA				⇑S	**Sb**	**17 51 36.9**	**-5.1**
SEKA	**Sheki**	**3.52**	**84**	P	**Pb**	**17 50 55.5**	**-3.2**
	SNR=3.7						
SEKA				S	**Sb**	**17 51 36.9**	**-5.1**
ISHB	**Shabestar**	**3.56**	**137**	*e*P	**Pb**	**17 50 59.6**	**+0.2**
BRDA	**Brd**	**3.59**	**99**	⇑P	**Pn**	**17 50 53.9**	**+1.7**
	SNR=3.7						
BRDA				⇓S	**Sn**	**17 51 35.3**	**+0.1**
BRDA	**Brd**	**3.59**	**99**	P	**Pn**	**17 50 53.9**	**+1.7**
	SNR=3.7						
BRDA				S	**Sn**	**17 51 35.3**	**+0.1**
AKT	**Akhty**	**3.94**	**81**	*e*PN	**Pb**	**17 51 06.8**	**+0.9**
AKT				*e*S	**Sb**	**17 51 57.3**	**+3.2**
AKT				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKT				smax	smax		
	comp=E,19nm,0.4s						
QBL	**Gabala**	**4.00**	**88**	⇓P	**Pn**	**17 51 00.9**	**+2.9**
	SNR=3.1						
QBL				⇓S	**Sn**	**17 51 46.4**	**+0.8**
QBL	**Gabala**	**4.00**	**88**	P	**Pn**	**17 51 00.9**	**+2.9**
	SNR=3.1						
QBL				S	**Sn**	**17 51 46.4**	**+0.8**
RSDY	**Resadiye-TOKAT**	**4.01**	**264**	*e*PN	**Pn**	**17 51 01.1**	**+3.1**
IHRS	**Heris**	**4.35**	**126**	*e*P	**Pb**	**17 51 12.7**	**-0.1**
IHRS	**Heris**	**4.35**	**126**	*e*P	**Pb**	**17 51 12.7**	**-0.1**
SVSK	**Karacayir**	**4.36**	**258**	*e*PN	**Pn**	**17 51 06.2**	**+3.4**
SUDU	**Sudak**	**6.80**	**308**	*e*P	**Pn**	**17 51 35.5**	**-0.8**
SUDU				*e*S	**Sn**	**17 52 53.0**	**-1.3**
ALU	**Alushta**	**7.06**	**305**	⇓*i*P	**Pn**	**17 51 38.8**	**-1.0**
ALU				*e*S	**Sn**	**17 52 58.5**	**-2.1**
ALU	**Alushta**	**7.06**	**305**	*i* P	**Pn**	**17 51 38.8**	**-1.0**
ALU				*e*S	**Sn**	**17 52 58.5**	**-2.1**
YAL	**Yalta**	**7.12**	**303**	*e*P	**Pn**	**17 51 40.7**	**0.0**
YAL				*e*S	**Sn**	**17 53 02.2**	**0.0**
**Y

M_{rr}1.32±.01; $M_{\theta\theta}$-0.16±.00; $M_{\phi\phi}$-1.17±.00; $M_{r\theta}$0.27±.01; $M_{\theta\phi}$-0.69±.00; $M_{\phi r}$0.31±.01; Best double couple: $M_0$1.48100×10^{20} NP1:ϕ_s31.00000°, δ53.00000°, λ96.00000°. NP2:ϕ_s202.00000°, δ37.00000°, λ83.00000°. Principal axes: T 1.3830, Plg81.0000°, Azm327.0000°; N 0.1860, Plg4.0000°, Azm208.0000°; P -1.5780, Plg8.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***21*** *17:57:17.0±0.0, 28°.64S×175°.71W, h50km, Moment Tensor Solution. s39 Moment tensor: Scale 10^{20}Nm; M_{rr}1.28; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-1.27; $M_{r\theta}$0.08; $M_{\theta\phi}$-0.76; $M_{\phi r}$-0.19; Best double couple: $M_0$1.50000×10^{20} NP1:ϕ_s196.00000°, δ48.00000°, λ78.00000°. NP2:ϕ_s34.00000°, δ43.00000°, λ104.00000°. Principal axes: T 1.3100, Plg80.0000°, Azm41.0000°; N 0.3200, Plg9.0000°, Azm204.0000°; P -1.6400, Plg2.0000°, Azm294.0000°;*

NEIC ***21*** *17:57:41.3±0.0, 28°.56S×175°.84W, h47km, Moment Tensor Solution. s205 Moment tensor: Scale 10^{20}Nm; M_{rr}1.44; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.20; $M_{\theta\phi}$-0.66; $M_{\phi r}$0.22; Best double couple: $M_0$1.50000×10^{20} NP1:ϕ_s205.00000°, δ40.00000°, λ86.00000°. NP2:ϕ_s31.00000°, δ51.00000°, λ94.00000°. Principal axes: T 1.4700, Plg84.0000°, Azm325.0000°; N 0.0800, Plg3.0000°, Azm208.0000°; P -1.5500, Plg6.0000°, Azm118.0000°;*

ISC 21 17:57:17.3±0.3, 28°.88S±0.03°×176°.03W±0°.03, h35km±1km, h35km:pP-P, n2731, o1970/2932, mb6.8/179, MS7.5/303, 199C-42D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**257**	Pn		**Pb**		**17 57 47.9**	**+0.1**
	11μm,0.3s,baz=34,slow=18,SNR=552								
RAO				Sn		**Sb**		**17 58 14.6**	**+5.8**
	19μm,0.3s,baz=331,slow=4.6,SNR=6.5								
RAO	**Raoul Island**	**1.69**	**257**	*e*P		**Pb**		**17 57 48.0**	**+0.1**
MXZ	**Matakaoa Point**	**9.87**	**207**	*e*Pn		**Pn**		**17 59 33.2**	**-3.4**
MXZ	**Matakaoa Point**	**9.87**	**207**	PN		**Pn**		**17 59 32.8**	**-3.8**
MXZ				SN		**Sn**		**18 01 21.7**	**-4.5**
WMGZ	**Waiomatatini S**	**10.05**	**206**	PN		**Pn**		**17 59 35.4**	**-3.8**
WMGZ				SN		**Sn**		**18 01 23.8**	**-6.8**
HAZ	**Te Kaha**	**10.25**	**209**	*e*PN		**Pn**		**17 59 38.0**	**-3.9**
GRZ	**Great Barrier**	**10.27**	**222**	PN		**Pn**		**17 59 44.4**	**+2.3**
KUZ	**Kuaotunu**	**10.47**	**219**	PN		**Pn**		**17 59 45.1**	**+0.2**
RUGZ	**Raukumara Rang**	**10.47**	**205**	PN		**Pn**		**17 59 40.7**	**-4.3**
CNGZ	**Carnagh Statio**	**10.71**	**205**	PN		**Pn**		**17 59 44.0**	**-4.2**
WCZ	**Waipu Caves**	**10.75**	**227**	PN		**Pn**		**17 59 51.3**	**+2.6**
OUZ	**Omahuta**	**10.83**	**232**	*e*Pn		**Pn**		**17 59 51.9**	**+2.0**
OUZ	**Omahuta**	**10.83**	**232**	PN		Pn		17 59 53.9	+4.1
WIAZ	**Waiheke Island**	**10.83**	**221**	PN		**Pn**		**17 59 51.2**	**+1.4**
MWZ	**Matawai**	**10.85**	**208**	PN		Pn		17 59 44.9	-5.2
OPRZ	**Ohinepanea**	**10.87**	**213**	PN		**Pn**		**17 59 47.0**	**-3.4**
ABAZ	**Army Bay**	**10.88**	**223**	PN		**Pn**		**17 59 52.6**	**+2.1**
TGRZ	**Tauranga**	**10.92**	**214**	PN		**Pn**		**17 59 49.0**	**-2.1**
URZ	**Urewera**	**10.96**	**210**	Pn		**Pn**		**17 59 47.8**	**-3.8**
	39nm,0.3s,baz=274,slow=3.5,SNR=88								
URZ				Sn		**Sn**		**18 01 48.3**	**-4.6**
	1μm,0.3s,baz=346,slow=24,SNR=16								
URZ	**Urewera**	**10.96**	**210**	*e*Pn		Pn		17 59 46.8	-4.8
URZ				*e*Sn		**Sn**		**18 01 48.3**	**-4.6**
URZ	**Urewera**	**10.96**	**210**	PN		Pn		17 59 46.2	-5.3
MKAZ	**Moumakai**	**11.04**	**220**	PN		**Pn**		**17 59 53.5**	**+0.8**
ETAZ	**East Tamaki Re**	**11.06**	**221**	PN		**Pn**		**17 59 54.6**	**+1.6**
RIGZ	**Rimuhau**	**11.07**	**206**	PN		Pn		17 59 47.7	-5.5
RVAZ	**Riverhead Bore**	**11.14**	**223**	PN		**Pn**		**17 59 56.4**	**+2.3**
OMRZ	**Omania**	**11.17**	**213**	PN		**Pn**		**17 59 53.0**	**-1.5**
KBAZ	**Karaka Road Bo**	**11.18**	**221**	PN		**Pn**		**17 59 56.2**	**+1.6**
PRGZ	**Paritu Road**	**11.21**	**205**	PN		Pn		17 59 49.6	-5.6
MUGZ	**Murupara**	**11.29**	**210**	PN		Pn		17 59 51.0	-5.1
TOZ	**Tahuroa Road**	**11.31**	**217**	PN		**Pn**		**17 59 56.2**	**-0.2**
KNZ	**Kokohu**	**11.38**	**206**	PN		Pn		17 59 51.5	-5.8
PRRZ	**Plateau Road**	**11.47**	**211**	*e*PN		**Pn**		**17 59 55.8**	**-2.9**
ALRZ	**Allen Road**	**11.55**	**211**	PN		**Pn**		**17 59 55.8**	**-3.9**
KUTZ	**Kaahu Road**	**11.73**	**213**	PN		**Pn**		**18 00 00.2**	**-2.1**
MRHZ	**Matea Rd**	**11.74**	**210**	*e*PN		Pn		17 59 56.7	-5.7
NMHZ	**Naumai**	**11.79**	**208**	*e*PN		Pn		17 59 57.2	-5.8
ARHZ	**Aropaoanui**	**11.85**	**207**	*e*PN		Pn		17 59 58.6	-5.2
BKZ	**Black Stump Fm**	**11.98**	**209**	*e*Pn		Pn		18 00 00.6	-5.0
BKZ	**Black Stump Fm**	**11.98**	**209**	*e*PN		Pn		17 59 59.5	-6.1
CKHZ	**Cape Kidnapper**	**12.16**	**206**	*e*PN		Pn		18 00 01.0	-7.0
KWHZ	**Kaweka Forest**	**12.23**	**209**	*e*PN		Pn		18 00 02.3	-6.7
HIZ	**Hauiti**	**12.23**	**216**	*e*Pn		**Pn**		**18 00 10.4**	**+1.4**
OTVZ	**Oturere**	**12.35**	**212**	*e*PN		Pn		18 00 06.1	-4.6
MSVF	**Nonsavu**	**12.35**	**333**	*e*P		**Pn**		**18 00 12.2**	**+1.4**
MSVF	**Nonsavu**	**12.35**	**333**	*e*Pn		**Pn**		**18 00 11.7**	**+0.9**
KAHZ	**Kahuranaki**	**12.36**	**206**	PN		Pn		18 00 04.1	-6.7
KRHZ	**Kereru**	**12.43**	**208**	*e*PN		Pn		18 00 04.9	-6.9
WHVZ	**Whangaehu Hut**	**12.48**	**212**	*e*PN		**Pn**		**18 00 08.1**	**-4.4**
WNVZ	**Wahianoa**	**12.51**	**211**	*e*PN		Pn		18 00 06.4	-6.5
PXZ	**Pawanui**	**12.57**	**206**	*e*PN		Pn		18 00 06.5	-7.0
WPHZ	**Waipukurau**	**12.76**	**207**	*e*PN		Pn		18 00 10.6	-5.6
PRHZ	**Porangahau**	**12.86**	**206**	*e*PN		Pn		18 00 10.1	-7.5
NEZ	**North Egmont**	**13.19**	**216**	*e*PN		**Pn**		**18 00 20.0**	**-2.2**
BFZ	**Birch Farm**	**13.37**	**206**	*e*Pn		Pn		18 00 18.6	-5.9
BFZ	**Birch Farm**	**13.37**	**206**	*e*PN		Pn		18 00 16.5	-8.0
PRWZ	**Pori Road**	**13.37**	**207**	*e*PN		Pn		18 00 18.4	-6.1
CPWZ	**Castlepoint**	**13.58**	**206**	*e*PN		Pn		18 00 21.2	-6.1
TIWZ	**Tintock**	**13.59**	**207**	*e*PN		Pn		18 00 20.9	-6.6
MRZ	**Mangatainoka R**	**13.62**	**208**	*e*PN		Pn		18 00 19.6	-8.3
HOWZ	**Holdsworth Sta**	**13.84**	**208**	*e*PN		Pn		18 00 22.6	-8.4
OGWZ	**Otaki Gorge**	**13.92**	**209**	*e*PN		Pn		18 00 24.3	-7.7
KIW	**Kapiti Island**	**14.06**	**209**	*e*PN		Pn		18 00 25.6	-8.4
CAW	**Cannon Point**	**14.20**	**208**	*e*PN		Pn		18 00 27.0	-8.9
PAWZ	**Paruwai Farm**	**14.28**	**207**	*e*PN		Pn		18 00 28.9	-8.2
DUWZ	**D'Urville Isla**	**14.46**	**212**	*e*PN		Pn		18 00 31.4	-8.0
SNZO	**South Karori**	**14.52**	**209**	*e*Pn		Pn		18 00 33.0	-7.2
BHW	**Baring Head**	**14.53**	**208**	SN		Sn		18 03 06.5	-14
TCW	**Tory Channel**	**14.62**	**210**	*e*PN		Pn		18 00 31.8	-10
CTZ	**Chatham Island**	**14.83**	**182**	PN		**Pn**		**18 00 40.9**	**-3.5**
CTZ				SN		Sn		18 03 10.4	-17
TUWZ	**Tuamarina**	**14.95**	**210**	*e*PN		Pn		18 00 36.6	-9.4
I36NZ	**CHATHAM INFRAS**	**15.01**	**181**	Pn		**Pn**		**18 00 43.2**	**-3.6**
	baz=346,slow=12,SNR=0.5								
NNZ	**Nelson**	**15.04**	**212**	PN		Pn		18 00 37.9	-9.2
QRZ	**Quartz Range**	**15.15**	**215**	*e*PN		Pn		18 00 39.8	-8.9
AFI	**Afiamalu**	**15.41**	**16**	Pn		**Pn**		**18 00 48.0**	**-4.3**
	78nm,0.3s,baz=63,slow=1.2,SNR=89								
AFI				Sn		Sn		18 03 28.8	-13
	460nm,0.3s,baz=168,slow=20,SNR=6.9								
AFI	**Afiamalu**	**15.41**	**16**	*e*Pn		**Pn**		**18 00 47.9**	**-4.3**
AFI				*es*P		P		18 00 48.2	-8.3
AFI				*e*Sn		Sn		18 03 29.6	-12
THZ	**Tophouse**	**15.69**	**212**	*e*Pn		**Pn**		**18 00 49.5**	**-6.2**
THZ	**Tophouse**	**15.69**	**212**	*e*PN		Pn		18 00 46.2	-9.5
KHZ	**Kahutara**	**15.93**	**209**	*e*Pn		Pn		18 00 50.3	-8.4
KHZ	**Kahutara**	**15.93**	**209**	*e*PN		Pn		18 00 48.8	-10
RAR	**Rarotonga**	**16.58**	**66**	Pn		**Pn**		**18 01 02.6**	**-4.6**
	107nm,0.3s,baz=233,slow=6.9,SNR=105								
RAR				Sn		Sn		18 03 50.1	-20
	222nm,0.3s,baz=68,slow=15,SNR=5.7								
RAR				LR		LR		18 05 52.4	
	comp=Z,1922μm,20.2s,baz=255,slow=31								
RAR	**Rarotonga**	**16.58**	**66**	P		**Pn**		**18 01 02.6**	**-4.6**
RAR				pmax		pmax			
	comp=Z,107nm,0.3s								
RAR				MLR		MLR			
	comp=Z,922μm,20.2s								
RAR	**Rarotonga**	**16.58**	**66**	*e*Pn		**Pn**		**18 01 02.4**	**-4.8**
RAR				*e*Sn		Sn		18 03 50.0	-20
LTZ	**Lake Taylor**	**16.78**	**211**	*e*Pn		**Pn**		**18 01 03.0**	**-6.6**
LTZ	**Lake Taylor**	**16.78**	**211**	*e*PN		Pn		18 01 01.1	-8.5
I22FR	**PORTLAGUERRE I**	**16.82**	**289**	Pn		**P**		**18 01 15.8**	**+3.7**
	baz=77,slow=25,SNR=1.8								
DZM	**Mont Dzumac**	**17.20**	**289**	P		**P**		**18 01 18.7**	**+2.3**
	comp=Z,5.9nm,0.3s,baz=106,slow=14,SNR=40								
DZM				S		**S**		**18 04 36.7**	**+2.8**
	baz=55,slow=19,SNR=2.0								
DZM	**Mont Dzumac**	**17.20**	**289**	*e*P		**P**		**18 01 18.4**	**+2.0**
	comp=Z,20μm,1.6s								
DZM				*e*LQ		LQ		18 04 30.8	
	comp=Z,1533μm,25.9s								
DZM				*e*LR		LR		18 05 18.2	
	comp=Z,5652μm,26.1s,baz=132								
DZM	**Mont Dzumac**	**17.20**	**289**	*e*P		**P**		**18 01 17.2**	**+0.8**
DZM				*e*S		**S**		**18 04 33.6**	**-0.2**
CRLZ	**Canterbury Las**	**17.26**	**209**	*e*Pn		**Pn**		**18 01 10.3**	**-5.2**
OXZ	**Oxford**	**17.31**	**210**	*e*Pn		Pn		18 01 08.0	-8.2
OXZ	**Oxford**	**17.31**	**210**	PN		Pn		18 01 06.7	-10
MQZ	**McQueen's Vall**	**17.35**	**208**	*e*Pn		Pn		18 01 08.8	-7.9
MQZ	**McQueen's Vall**	**17.35**	**208**	PN		Pn		18 01 06.9	-10
WVZ	**Waitaha Valley**	**17.72**	**213**	*e*PN		Pn		18 01 13.6	-7.7
RPZ	**Rata Peaks**	**18.06**	**212**	P		**Pn**		**18 01 19.7**	**-5.8**
	comp=Z,19nm,0.3s,baz=40,slow=1.6,SNR=31								
RPZ				S		Sn		18 04 24.5	-21
	comp=Z,92nm,0.3s,baz=300,slow=21,SNR=10.0								
RPZ	**Rata Peaks**	**18.06**	**212**	*e*Pn		Pn		18 01 18.0	-7.4
RPZ				*e*Sn		Sn		18 04 24.6	-21
RPZ	**Rata Peaks**	**18.06**	**212**	*e*PN		Pn		18 01 16.8	-8.7
FOZ	**Fox Glacier**	**18.51**	**214**	*e*P		**P**		**18 01 23.8**	**-6.8**
FOZ	**Fox Glacier**	**18.51**	**214**	*e*PN		P		18 01 22.9	-7.6
LBZ	**Lake Benmore**	**18.98**	**212**	*e*P		**P**		**18 01 30.9**	**-4.8**
LBZ	**Lake Benmore**	**18.98**	**212**	*e*PN		**P**		**18 01 28.9**	**-6.8**
ODZ	**Otahua Downs**	**19.29**	**210**	*e*P		**P**		**18 01 35.7**	**-3.3**
ODZ	**Otahua Downs**	**19.29**	**210**	*e*PN		**P**		**18 01 32.8**	**-6.2**
JCZ	**Jackson Bay**	**19.42**	**215**	*e*PN		**P**		**18 01 34.3**	**-6.3**
WKZ	**Wanaka**	**19.86**	**213**	*e*P		**P**		**18 01 42.2**	**-3.1**
EAZ	**Earnscleugh**	**20.03**	**211**	*e*PN		**P**		**18 01 42.8**	**-4.3**
TUZ	**Tuapeka**	**20.44**	**210**	*e*PN		**P**		**18 01 50.4**	**-1.2**
MLZ	**Mavora Lakes**	**20.68**	**213**	*e*P		**P**		**18 01 51.1**	**-3.2**
MLZ	**Mavora Lakes**	**20.68**	**213**	*e*PN		**P**		**18 01 51.8**	**-2.5**
FUNA	**Funafuti**	**20.74**	**347**	*e*P		**P**		**18 01 53.4**	**-1.7**
FUNA				LR		LR			
	comp=Z,723μm,22.0s								
SYZ	**Scrubby Hill**	**21.11**	**209**	*e*PN		**P**		**18 01 58.4**	**-0.4**
WHZ	**Wether Hill Ro**	**21.15**	**212**	*e*P		**P**		**18 01 56.3**	**-3.0**
WHZ	**Wether Hill Ro**	**21.15**	**212**	*e*PN		**P**		**18 01 56.9**	**-2.4**
DCZ	**Deep Cove**	**21.22**	**214**	*e*P		**P**		**18 01 57.7**	**-2.3**
DCZ	**Deep Cove**	**21.22**	**214**	*e*PN		**P**		**18 01 58.6**	**-1.5**
LHI	**Lord Howe Isla**	**21.67**	**257**	*e*P		**P**		**18 02 06.7**	**+1.7**
APZ	**The Paps**	**21.84**	**211**	PN		**P**		**18 02 06.3**	**-0.4**
PYZ	**Puysegur Point**	**21.96**	**214**	*e*P		**P**		**18 02 05.1**	**-2.9**
PYZ	**Puysegur Point**	**21.96**	**214**	PN		**P**		**18 02 06.7**	**-1.2**
TBI	**Tubuai**	**24.46**	**83**	*e*P		**P**		**18 02 32.3**	**-0.8**
	comp=Z,8μm,1.2s								
TBI				*e*S		**S**		**18 06 46.0**	**-5.0**
	comp=Z,1360μm,30.2s								
TBI				*e*LQ		LQ		18 07 19.9	
	comp=Z,3517μm,31.2s								
TBI				*e*LR		LR		18 08 20.9	
	comp=Z,4487μm,26.8s,baz=248								
PAE	**Paea**	**26.68**	**71**	*e*P		**P**		**18 02 52.3**	**-0.9**
	comp=Z,1μm,1.4s								
PAE	**Paea**	**26.68**	**71**	*e*T		T		18 30 21.6	
	comp=Z,205nm,0.3s								
PPT2	**Papeete2**	**26.72**	**71**	*e*P		**P**		**18 02 53.4**	**-0.3**
	comp=Z,5μm,1.4s								
PPT2				*e*S		**S**		**18 07 22.5**	**-4.7**
	comp=Z,633μm,28.8s								
PPT2				*e*LQ		LQ		18 08 12.0	
	comp=Z,3111μm,26.0s								
PPT2				*e*LR		LR		18 09 28.4	
	comp=Z,4216μm,26.0s,baz=237								
PPT2	**Papeete2**	**26.72**	**71**	*e*T		T		18 30 25.3	
	comp=Z,150nm,0.3s								
PPTF	**Pamatai, Papee**	**26.73**	**71**	*e*P		**P**		**18 02 53.2**	**-0.6**
PPT	**Papeete**	**26.73**	**71**	P		**P**		**18 02 53.6**	**-0.1**
	comp=Z,452nm,1.0s,baz=255,slow=3.8,SNR=22								
PPT				S		S		18 07 54.3	+27
	comp=Z,130nm,0.8s,baz=270,slow=20,SNR=3.1								
PPT				LR		LR		18 10 44.7	
	comp=Z,1120μm,20.0s,baz=246,slow=30								
PPT	**Papeete**	**26.73**	**71**	*e*P		**P**		**18 02 53.7**	**0.0**
PPT	**Papeete**	**26.73**	**71**	*e*P		**P**		**18 02 53.2**	**-0.5**
PPT				*e*				18 07 54.3	
TVO	**Taravao**	**26.89**	**72**	*e*P		**P**		**18 02 54.7**	**-0.6**
	comp=Z,820nm,1.0s								
TVO	**Taravao**	**26.89**	**72**	*e*T		T		18 30 37.8	
	comp=Z,31nm,0.3s								
TIAR	**Tiarei**	**26.93**	**71**	*e*P		**P**		**18 02 54.7**	**-0.8**
	comp=Z,2μm,1.1s								
TIAR	**Tiarei**	**26.93**	**71**	*e*T		T		18 30 40.2	
	comp=Z,22nm,0.3s								
ARMA	**Armidale**	**28.10**	**259**	P		**P**		**18 03 07.0**	**+1.0**
	baz=28,SNR=83								
ARMA	**Armidale**	**28.10**	**259**	*e*P		**P**		**18 03 06.4**	**+0.4**
MGCD	**Mangrove Creek**	**28.41**	**253**	P		**P**		**18 03 08.9**	**+0.3**
	baz=28,SNR=51								
EIDS	**Eidsvold**	**29.42**	**269**	P		**P**		**18 03 17.2**	**-0.5**
	baz=29,SNR=44								
EIDS	**Eidsvold**	**29.42**	**269**	*e*P		**P**		**18 03 16.8**	**-0.9**
HNR	**Honiara**	**29.70**	**306**	P		**P**		**18 03 18.5**	**-1.7**
	comp=Z,243nm,0.6s,baz=44,slow=3.2,SNR=22								
HNR				S		**S**		**18 08 06.2**	**-7.9**
	comp=Z,113nm,0.8s,baz=195,slow=20,SNR=1.7								
HNR	**Honiara**	**29.70**	**306**	*e*P		**P**		**18 03 19.2**	**-1.0**
HNR				pmax		pmax			
	comp=Z,4μm,1.2s								
HNR				MLR		MLR			
	comp=Z,480μm,19.0s								
HNR	**Honiara**	**29.70**	**306**	*e*P		**P**		**18 03 16.7**	**-3.6**
HNR				*e*S		**S**		**18 08 06.2**	**-7.9**
HNR				LR		LR			
	comp=Z,482μm,19.0s								
CNB	**Canberra Magne**	**29.90**	**249**	P		**P**		**18 03 22.4**	**+0.5**
	baz=30,SNR=206								
CAN	**Canberra**	**30.20**	**249**	*e*P		**P**		**18 03 24.6**	**0.0**
CAN				MLR		MLR			
	comp=Z,311μm,20.0s								
CAN	**Canberra**	**30.20**	**249**	*e*P		**P**		**18 03 24.6**	**0.0**
CAN				LR		LR			
	comp=Z,311μm,20.0s								
RMQ	**Roma**	**31.20**	**266**	P		**P**		**18 03 33.8**	**+0.3**
	baz=31,SNR=173								
MCQ	**Macquarie Isla**	**31.36**	**208**	*e*P		**P**		**18 03 35.7**	**+1.2**
MCQ	**Macquarie Isla**	**31.36**	**208**	*e*P		**P**		**18 03 35.6**	**+1.2**
TARA	**Tarawa**	**31.87**	**339**	*e*P		**P**		**18 03 37.8**	**-1.5**
TARA				LR		LR			
	comp=Z,61μm,22.0s								
MOO	**Moorlands**	**32.54**	**235**	P		**P**		**18 03 45.7**	**+0.7**
	baz=32,SNR=41								
TAU	**Tasmania Unive**	**32.55**	**235**	*e*P		**P**		**18 03 44.8**	**-0.2**
TAU				MLR		MLR			
	comp=Z,308μm,19.0s								
TAU	**Tasmania Unive**	**32.55**	**235**	*e*P		**P**		**18 03 44.8**	**-0.2**
TAU				LR		LR			
	comp=Z,308μm,19.0s								
CMSA	**Cobar Meteorol**	**33.07**	**256**	P		**P**		**18 03 49.7**	**-0.1**
	baz=33,SNR=108								
TOO	**Toolangi**	**33.15**	**245**	P		**P**		**18 03 50.4**	**0.0**
	baz=33,SNR=124								
TOO	**Toolangi**	**33.15**	**245**	P		**P**		**18 03 50.5**	**+0.1**
TOO				pmax		pmax			
	comp=Z,747nm,1.0s								
QLP	**Quilpie**	**35.13**	**264**	P		**P**		**18 04 06.6**	**-1.1**
	baz=35,SNR=187								
CTA	**Charters Tower**	**35.30**	**276**	P		**P**		**18 04 08.8**	**-0.4**
	comp=Z,425nm,0.7s,baz=99,slow=11,SNR=98								
CTA				LR		LR		18 16 49.1	
	comp=Z,948μm,21.8s,baz=106,slow=33								
CTAO	**Charters Tower**	**35.30**	**276**	*e*P		**P**		**18 04 08.8**	**-0.4**
CTAO				pmax		pmax			
	comp=Z,3μm,1.4s								
CTAO				MLR		MLR			
	comp=Z,1100μm,22.0s								
CTAO	**Charters Tower**	**35.30**	**276**	*e*P		**P**		**18 04 08.2**	**-1.0**
CTAO				LR		LR			
	comp=Z,1578μm,22.0s								
XMAS	**Kiritimati**	**35.54**	**33**	*e*P		**P**		**18 04 11.4**	**+0.2**
XMAS				LR		LR			
	comp=Z,4.0nm,22.0s								
ARPS	**Mount Arapiles**	**36.03**	**246**	P		**P**		**18 04 15.5**	**+0.2**
	baz=36,SNR=166								
STKA	**Stephens Creek**	**36.51**	**255**	P		**P**		**18 04 18.9**	**-0.6**
	comp=Z,124nm,1.0s,baz=94,slow=9.9,SNR=148								
STKA				S		**S**		**18 10 00.7**	**+1.2**
	comp=Z,28nm,0.9s,baz=344,slow=18,SNR=2.2								
STKA				LR		LR		18 18 24.1	
	comp=Z,355μm,20.4s,baz=89,slow=35								
STKA				P3KPbc				18 34 53.9	
	comp=Z,8.0nm,1.1s,baz=307,slow=9.5,SNR=8.8								
STKA				PKPPKP		P'P'df		18 37 10.6	-10
	comp=Z,14nm,1.1s,baz=332,slow=0.8,SNR=4.2								
STKA	**Stephens Creek**	**36.51**	**255**	P		**P**		**18 04 18.9**	**-0.6**
	baz=36,SNR=114								
STKA	**Stephens Creek**	**36.51**	**255**	*e*P		**P**		**18 04 18.6**	**-0.9**
STKA				S		**S**		**18 10 00.7**	**+1.2**
STKA				*e*				18 34 53.9	
STKA				P'P'				18 37 10.6	
RKT	**Rikitea**	**37.21**	**91**	*e*P		**P**		**18 04 26.0**	**+0.5**
	comp=Z,1μm,1.3s								
RKT				*e*S		**S**		**18 10 08.0**	**-2.3**
	comp=Z,492μm,31.5s								
RKT				*e*LQ		LQ		18 12 50.0	
	comp=Z,920μm,26.5s								
RKT				*e*LR		LR		18 14 24.4	
	comp=Z,2615μm,27.0s,baz=254								
RKT	**Rikitea**	**37.21**	**91**	*e*T		T		18 43 27.3	
	comp=Z,46nm,0.3s								
MTSU	**Mount Surprise**	**37.74**	**278**	P		**P**		**18 04 29.6**	**-0.5**
	baz=38,SNR=181								
HTT	**Hallett**	**38.59**	**252**	P		**P**		**18 04 35.9**	**-1.2**
	baz=38,SNR=254								
RABL	**Rabaul**	**38.90**	**303**	*e*P		**P**		**18 04 35.6**	**-4.2**
TAOE	**Nuku Hiva Isla**	**39.13**	**67**	*e*P		**P**		**18 04 41.4**	**-0.5**
	comp=Z,3μm,1.4s								
TAOE				*e*S		**S**		**18 10 36.6**	**-3.1**
	comp=Z,413μm,28.1s								
TAOE				*e*LQ		LQ		18 13 33.5	
	comp=Z,964μm,24.5s								
TAOE				*e*LR		LR		18 15 11.3	
	comp=Z,2242μm,26.1s,baz=243								
TAOE	**Nuku Hiva Isla**	**39.13**	**67**	*e*T		T		18 45 55.9	
	comp=Z,118nm,0.2s								
TAOE	**Nuku Hiva Isla**	**39.13**	**67**	*e*P		**P**		**18 04 41.4**	**-0.5**
PMG	**Port Moresby**	**39.57**	**292**	P		**P**		**18 04 43.6**	**-1.8**
	comp=Z,73nm,1.1s,baz=114,slow=8.4,SNR=3.4								
PMG				LR		LR		18 18 28.2	
	comp=Z,676μm,21.7s,baz=119,slow=32								
PMG	**Port Moresby**	**39.57**	**292**	*c i*P		**P**		**18 04 42.8**	**-2.6**
PMG				pmax		pmax			
	comp=Z,5μm,1.9s								
PMG				MLR		MLR			
	comp=Z,1388μm,17.0s								
COEN	**Coen**	**40.56**	**283**	P		**P**		**18 04 52.8**	**-0.8**
	baz=40,SNR=32								
COEN	**Coen**	**40.56**	**283**	*e*P		**P**		**18 04 52.2**	**-1.4**
KWAJ	**Kwajalein Atol**	**40.65**	**335**	*e*P		**P**		**18 04 56.1**	**+1.8**
KWAJ				MLR		MLR			
	comp=Z,560μm,22.0s								
KWAJ	**Kwajalein Atol**	**40.65**	**335**	*e*P		**P**		**18 04 53.5**	**-0.8**
PTCN	**Pitcairn Islan**	**40.92**	**96**	*e*P		**P**		**18 04 56.3**	**-0.3**
PTCN				LR		LR			
	comp=Z,1171μm,22.0s								
QIS	**Mount Isa**	**40.95**	**271**	P		**P**		**18 04 55.3**	**-1.5**
	baz=41,SNR=46								
BBOO	**Buckleboo**	**41.05**	**252**	P		**P**		**18 04 55.7**	**-1.8**
	baz=41,SNR=98								
BBOO	**Buckleboo**	**41.05**	**252**	*e*P		**P**		**18 04 55.0**	**-2.5**
PATS	**Pohnpei**	**43.27**	**321**	P		**

KEKH **Kekaha** 52.96 19 *e*P P 18 06 29.6 -0.8
KMBL **Kambalda** 53.12 251 P P 18 06 29.4 -2.3
baz=53,SNR=37
OPA **Opana** 53.20 21 *e*P P 18 06 33.2 +1.1
OPA pmax pmax
comp=Z,1μm,1.1s
OPA MLR MLR
comp=Z,250μm,19.0s
OPA **Opana** 53.20 21 *e*P P 18 06 32.0 -0.1
BAKI **Biak** 53.26 292 P P 18 06 32.9 0.0
FITZ **Fitzroy Crossi** 54.10 268 P P 18 06 37.4 -1.7
comp=Z,102nm,0.7s,baz=121,slow=7.2,SNR=63
FITZ **Fitzroy Crossi** 54.10 268 P P 18 06 37.3 -1.7
baz=54,SNR=100
FITZ **Fitzroy Crossi** 54.10 268 *e*P P 18 06 36.6 -2.4
RKGY **Rocky Gully** 56.33 246 P P 18 06 54.7 -0.2
baz=56,SNR=18
KLBR **Kellerberrin** 56.47 250 P P 18 06 54.0 -1.9
baz=56,SNR=93
NWAO **Narrogin (SRO)** 56.54 248 P P 18 06 54.5 -1.9
comp=Z,215nm,1.1s,baz=336,slow=7.6,SNR=22
NWAO LR LR 18 30 52.3
comp=Z,110μm,18.3s,baz=308,slow=36
NWAO **Narrogin (SRO)** 56.54 248 P P 18 06 55.4 -1.0
baz=56,SNR=18
NWAO P P 18 06 55.4 -1.0
baz=56,SNR=18
NWAO **Narrogin (SRO)** 56.54 248 *e*P P 18 06 54.7 -1.8
NWAO pmax pmax
comp=Z,2μm,1.8s
NWAO **Narrogin (SRO)** 56.54 248 P P 18 06 54.6 -1.9
SNR=35
NWAO P P 18 06 54.6 -1.9
SNR=35
NWAO **Narrogin (SRO)** 56.54 248 P P 18 06 54.6 -1.9
SNR=35
BNDI **Bandanaira** 56.58 285 P P 18 06 54.8 -2.1
comp=Z,2μm,1.4s,comp=Z,56μmcomp=Z,440μm
GUMO **Guam** 56.66 313 LR LR 18 26 35.7
comp=Z,249μm,21.5s,baz=137,slow=31
GUMO **Guam** 56.66 313 *e*P P 18 06 56.3 -1.0
GUMO pmax pmax
comp=Z,4μm,1.4s
GUMO **Guam** 56.66 313 *e*P P 18 06 54.4 -2.9
MIDW **Midway** 56.79 359 *e*P P 18 06 57.0 -1.0
MIDW LR LR
comp=Z,345μm,22.0s
BLDU **Balliu** 57.60 250 P P 18 07 01.7 -2.3
baz=58,SNR=48
MSAI **Masohi** 58.02 285 P P 18 07 06.6 -0.5
comp=Z,130nm,0.8s,comp=Z,9μmcomp=Z,97μm
MBWA **Marble Bar** 58.11 262 *e*P P 18 07 04.9 -2.7
MBWA LR LR
comp=Z,410μm,20.0s
MBWA **Marble Bar** 58.11 262 P P 18 07 05.9 -1.8
SNR=82
MBWA P P 18 07 05.9 -1.8
SNR=82
MBWA **Marble Bar** 58.11 262 P P 18 07 05.9 -1.8
SNR=82
RPN **Rapa Nui** 58.19 106 P P 18 07 08.5 +0.3
comp=Z,151nm,0.9s,baz=322,slow=4.6,SNR=6.5
RPN LR LR 18 26 25.9
comp=Z,417μm,19.9s,baz=258,slow=30
RPN **Rapa Nui** 58.19 106 *e*P P 18 07 09.6 +1.5
RPN pmax pmax
comp=Z,3μm,2.0s
RPN MLR MLR
comp=Z,790μm,20.0s
RPN **Rapa Nui** 58.19 106 *e*P P 18 07 07.2 -1.0
SARN **Sarigan** 58.44 316 *e*P P 18 07 07.9 -2.0
AAI **Ambon** 58.47 285 P P 18 07 09.3 -0.9
comp=Z,623nm,1.5s,comp=Z,31μmcomp=Z,423μm
MORW **Morawa** 58.62 252 P P 18 07 08.9 -2.2
baz=58,SNR=24
SOEI **Soe** 58.87 276 P P 18 07 12.7 -0.4
comp=Z,2μm,1.3s,comp=Z,55μmcomp=Z,553μm
SOEI **Soe** 58.87 276 *e*P P 18 07 12.2 -1.0
NLAI **Namlea** 59.63 284 P P 18 07 16.8 -1.5
comp=Z,1μm,1.6s,comp=Z,34μmcomp=Z,432μm
PALU **Palau** 59.73 299 P P 18 07 17.0 -2.0
baz=60,SNR=52
LBMI **Labuha** 60.67 287 P P 18 07 24.2 -1.2
comp=Z,910nm,1.7s,comp=Z,35μmcomp=Z,381μm
MMRI **Maumere** 61.16 276 P P 18 07 27.0 -1.7
comp=Z,2μm,2.4s,comp=Z,54μmcomp=Z,411μm
MMRI **Maumere** 61.16 276 *e*P P 18 07 26.5 -2.2
QSPA **South Pole Qui** 61.23 180 *e*P P 18 07 29.4 +0.8
QSPA LR LR
comp=Z,81μm,21.0s
EDFI **Ende, Flores** 61.58 276 P P 18 07 29.5 -2.2
comp=Z,1μm,2.2s,comp=Z,32μmcomp=Z,387μm
BASI **Baing, Sumba** 61.88 274 P P 18 07 33.5 -0.1
comp=Z,3μm,0.5s,comp=Z,47μmcomp=Z,482μm
GIRL **Giralia** 62.32 258 P P 18 07 35.7 -0.8
baz=62,SNR=18
WSI **Waingapu** 62.37 274 P P 18 07 34.7 -2.2
comp=Z,4μm,0.6s,comp=Z,66μmcomp=Z,466μm
BBSI **Bau Bau** 62.38 279 P P 18 07 35.6 -1.4
comp=Z,234nm,2.5s,comp=Z,7μm
KDI **Kendari** 63.10 281 P P 18 07 39.9 -1.8
comp=Z,622nm,2.1s,comp=Z,22μmcomp=Z,463μm
BSSI **Bau Bau, Buton** 63.87 278 P P 18 07 45.3 -1.5
comp=Z,778nm,1.8s,comp=Z,25μmcomp=Z,351μm
MIR **Mirnyy** 64.24 206⇑*i*P P 18 07 49.0 +0.5
MIR *i*S S 18 16 13.0 -10
MIR pmax pmax
comp=Z,220nm,1.0s
MIR smax smax
comp=N,50μm,10.0s
KMSI **Cibinong** 64.29 286 P P 18 07 47.7 -1.9
comp=N,1μm,1.2s,comp=N,11μmcomp=N,2μm
LUWI **Luwuk** 64.46 284 P P 18 07 49.6 -1.1
comp=N,2μm,1.6s,comp=N,36μmcomp=N,440μm
LUWI **Luwuk** 64.46 284 *e*P P 18 07 48.9 -1.8
PLAI **Plampang** 64.97 274 P P 18 07 52.1 -1.9
comp=N,3μm,0.9s,comp=N,44μmcomp=N,415μm
BNSI **Bone** 65.05 279 P P 18 07 52.1 -2.4
comp=N,1μm,2.3s,comp=N,37μmcomp=N,388μm
KAPI **Kappang** 65.05 278 PFAKE 18 08 00.0 +5.4
KAPI LR LR
comp=Z,196μm,22.0s
KAPI **Kappang** 65.05 278 P P 18 07 53.8 -0.8
SNR=86
KAPI P P 18 07 53.8 -0.8
SNR=86
KAPI **Kappang** 65.05 278 P P 18 07 53.8 -0.8
SNR=86
APSI **Ampana** 65.48 283 P P 18 07 56.4 -1.0
comp=Z,1μm,1.8s,comp=Z,29μmcomp=Z,414μm
SPSI **Sidrap Palu** 65.56 279 P P 18 07 55.3 -2.5
comp=Z,196nm,1.0s,comp=Z,17μm
TWSI **Taliwang, Sumb** 65.79 273 P P 18 07 57.9 -1.5
comp=Z,1μm,1.2s,comp=Z,26μmcomp=Z,370μm
MATI **Mati** 65.96 293 *e*P P 18 07 56.7 -3.7
MRSI **Marisa** 65.96 285 P P 18 07 57.7 -2.7
comp=Z,395nm,1.2s,comp=Z,19μmcomp=Z,365μm
TTSI **Tana Toraja** 65.97 280 P P 18 07 58.6 -1.9
comp=Z,617nm,1.3s,comp=Z,19μmcomp=Z,379μm
DAV **Davao City (W)** 66.58 293⇑*e*P P 18 08 01.7 -2.6
DAV **Davao City (W)** 66.58 293 *e*P P 18 08 02.5 -1.8
DAV LR LR
comp=Z,86μm,22.0s
DAV **Davao City (W)** 66.58 293 P P 18 08 03.2 -1.1
SNR=34
DAV **Davao City (W)** 66.58 293 P P 18 08 03.2 -1.1
SNR=34
BIPH **Bislig** 66.60 294⇑*i*P P 18 08 06.4 +2.0
DMPH **Davao City--Mi** 66.64 293⇑*e*P P 18 08 03.0 -1.8
KCP **Kidapawan** 66.94 293⇑*e*P P 18 08 04.6 -2.1
PCI **Palu** 67.04 282 P P 18 08 07.1 -0.2
comp=Z,3μm,1.7s,comp=Z,59μmcomp=Z,505μm
IGBI **Denpasar** 67.27 272 P P 18 08 08.3 -0.5
comp=Z,3μm,0.8s,comp=Z,49μmcomp=Z,255μm
DNP **Denpasar** 67.28 273 P P 18 08 08.0 -0.9
comp=Z,2μm,1.2s,comp=Z,99μmcomp=Z,379μm
SRBI **Singaraja** 67.55 273 P P 18 08 09.8 -0.8
comp=Z,1μm,1.2s,comp=Z,31μmcomp=Z,210μm
MPSI **Mapaga** 67.62 283 P P 18 08 09.3 -1.7
comp=Z,580nm,1.1s,comp=Z,20μmcomp=Z,398μm
CTBH **Cotabato--PC H** 67.75 292⇑*e*P P 18 08 10.5 -1.2
SCPH **Surigao** 68.23 295⇑*e*P P 18 08 13.2 -1.6
JAGI **Jajag, Banyuwa** 68.31 272 P P 18 08 13.2 -2.2
comp=Z,2μm,2.1s,comp=Z,44μmcomp=Z,365μm
JAGI **Jajag, Banyuwa** 68.31 272 *e*P P 18 08 12.7 -2.6
CBIJ **Chichi jima** 68.57 320 *e*P P 18 08 15.2 -1.4
MSLP **Maasin** 68.94 295 *e*P P 18 08 17.4 -1.8

KBKI **Kotabaru** 69.00 278 P P 18 08 17.2 -2.5
GMJI **Gumukmas** 69.02 272 P P 18 08 17.8 -2.0
KMMI **Kalianget** 69.13 273 P P 18 08 20.5 0.0
comp=Z,2μm,1.2s,comp=Z,62μmcomp=Z,375μm
BLJI **Banyuglugur** 69.13 273 P P 18 08 19.2 -1.3
DCPH **Dipolog City** 69.25 293⇑*e*P P 18 08 16.9 -4.2
PLP **Palo** 69.45 296⇑*e*P P 18 08 19.4 -3.0
OCLP **Ormoc** 69.68 296 *e*P P 18 08 22.1 -1.6
LLP **Lapu-Lapu** 69.76 295 *e*P P 18 08 22.7 -1.6
LLP *e*S S 18 17 27.3 -4.0
SNPH **Sibulan** 69.78 293⇑*e*P P 18 08 22.4 -2.1
CNP **Catarman** 70.50 297 *e*P P 18 08 26.7 -2.1
PCJI **Pacitan** 71.04 271 P P 18 08 31.1 -1.1
MTKI **Muara Teweh, K** 71.27 280 P P 18 08 32.7 -0.9
comp=Z,1μm,2.0s,comp=Z,28μmcomp=Z,360μm
MYLDM **Lahad Datu** 71.36 287 *e*P P 18 08 34.0 -0.1
TSM **Tawau** 71.42 286 ⇑P P 18 08 34.5 0.0
RCP **Roxas** 71.45 295⇑*e*P P 18 08 33.2 -1.5
PVCP **Virac** 71.55 298 *e*P P 18 08 32.8 -2.3
UGM **Wanagama** 71.74 271 P P 18 08 36.2 -0.3
comp=Z,2μm,1.2s,comp=Z,38μmcomp=Z,368μm
UGM **Wanagama** 71.74 271 *e*P P 18 08 34.9 -1.6
UWJI **Ujung Watu** 72.07 273 P P 18 08 37.5 -0.9
comp=Z,2μm,1.1s,comp=Z,59μmcomp=Z,298μm
SMRI **Semarang** 72.22 272 *e*P P 18 08 38.5 -0.8
OTRP **Odiongan** 72.49 295 *e*P P 18 08 37.3 -3.5
PMSA **Palmer Station** 72.94 155 P P 18 08 43.0 +0.4
comp=Z,428nm,1.0s,baz=236,slow=6.0,SNR=35
PMSA **Palmer Station** 72.94 155 *e*P P 18 08 42.7 0.0
PMSA LR LR
comp=Z,166μm,21.0s
GQP **Guinayangan** 73.06 297⇑*e*P P 18 08 42.7 -1.5
PBKI **Pangkalan Bun** 73.21 276 P P 18 08 45.1 -0.1
comp=Z,3μm,1.1s,comp=Z,46μmcomp=Z,355μm
SJMP **San Jose** 73.27 295 *e*P P 18 08 44.6 -0.8
BOAC **Boac** 73.27 296 *e*P P 18 08 44.9 -0.6
CMJI **Cimerak** 73.62 270 P P 18 08 46.0 -1.6
comp=Z,2μm,1.1s,comp=Z,36μmcomp=Z,327μm
PPR **Puerto Princes** 73.68 291⇑*e*P P 18 08 47.6 -0.3
KDM **Kudat** 73.69 288 ⇑P P 18 08 48.1 +0.1
KKM **Kota Kinabalu** 73.74 286 *e*P P 18 08 47.3 -1.1
KKM LR LR
comp=Z,105μm,22.0s
KKM **Kota Kinabalu** 73.74 286 ⇑P P 18 08 47.9 -0.6
ENPP **El Nido** 73.91 293 *e*P P 18 08 48.3 -1.0
CISI **Cisompet, Garu** 74.28 270 P P 18 08 50.1 -1.5
comp=Z,2μm,1.3s,comp=Z,54μmcomp=Z,366μm
CISI **Cisompet, Garu** 74.28 270 *e*P P 18 08 49.7 -1.9
MAW **Mawson** 74.32 200 P P 18 08 51.8 +1.1
comp=Z,1μm,1.2s,baz=123,slow=8.6,SNR=281
MAW S S 18 18 21.7 -0.4
comp=Z,9.5nm,1.1s,baz=72,slow=20,SNR=1.4
MAW **Mawson** 74.32 200 P P 18 08 51.9 +1.1
baz=74,SNR=453
MAW **Mawson** 74.32 200 *e*P P 18 08 51.9 +1.1
MAW pmax pmax
comp=Z,780nm,1.8s
MAW **Mawson** 74.32 200 *e*P P 18 08 51.5 +0.7
MAW *e*S S 18 18 20.5 -1.6
TGY **Tagaytay City** 74.36 296 LR LR 18 39 31.8
comp=Z,80μm,20.7s,baz=128,slow=34
JHJ2 **Mitsune** 74.52 323 *e*P P 18 08 51.1 -1.3
STKI **Sintang** 74.73 279 P P 18 08 54.4 +0.3
comp=Z,2μm,1.1s,comp=Z,34μmcomp=Z,306μm
XMIS **Christmas Isla** 74.84 266 *e*P P 18 08 53.6 -1.2
BTM **Bintulu** 74.92 282 ⇓P P 18 08 55.8 +0.6
CNJI **Cibinong** 75.00 270 P P 18 08 54.2 -1.4
comp=Z,2μm,1.1s,comp=Z,42μmcomp=Z,293μm
SBUM **Sibu** 75.28 281 *e*P P 18 08 57.0 -0.3
SBUM **Sibu** 75.28 281 ⇓P P 18 08 57.4 +0.1
CAUP **Cauayan** 75.34 299 *e*P P 18 08 56.9 -0.6
SKJI **Sukadumi** 75.64 270 P P 18 08 58.1 -1.3
comp=Z,3μm,1.2s,comp=Z,42μmcomp=Z,269μm
DBJI **Dramaga** 75.68 270 P P 18 08 59.0 -0.6
comp=Z,3μm,1.2s,comp=Z,80μmcomp=Z,311μm
GO09 **Cerro Castillo** 75.91 141 *e*P P 18 09 00.2 -0.1
SGCP **Mt. Cagua** 75.95 300 *e*P P 18 08 58.4 -2.5
SCZP **Santa Cruz** 76.14 297 *e*P P 18 08 59.2 -2.8
USHA **Ushuaia** 76.20 145 P P 18 09 02.5 +0.7
comp=Z,1μm,1.1s,baz=239,slow=6.1,SNR=19
SBJI **Serang** 76.43 270 P P 18 09 02.3 -1.5
comp=Z,3μm,2.0s,comp=Z,52μmcomp=Z,222μm
KSM **Kuching** 76.44 279 *e*P P 18 09 03.0 -0.9
KSM LR LR
comp=Z,136μm,22.0s
KSM **Kuching** 76.44 279 ⇑P P 18 09 04.1 +0.2
BOLP **Bolinao** 76.49 297 *e*P P 18 09 01.6 -2.4
CGJI **Cibinong** 76.58 270 P P 18 09 03.2 -1.5
comp=Z,2μm,1.2s,comp=Z,45μmcomp=Z,316μm
ABRA **Dolores** 76.61 299 *e*P P 18 09 02.6 -2.1
JOW **Kunigami** 76.94 311 *e*P P 18 09 06.2 -0.2
BLSI **Bandar Lampung** 77.56 271 P P 18 09 08.7 -1.5
comp=Z,2μm,1.1s,comp=Z,36μmcomp=Z,277μm
CHRN **Cochrane** 77.71 137 *e*P P 18 09 10.9 +0.4
INU **Inuyama** 77.72 322 *e*P P 18 09 09.8 -0.7
MJAR **Matsushiro Arr** 78.00 324 P P 18 09 10.7 -1.4
comp=Z,68nm,0.7s,baz=159,slow=5.7,SNR=99
MJAR S S 18 19 05.9 +2.6
comp=Z,1.2nm,0.8s,baz=150,slow=9.9,SNR=2.0
MJAR PKKP **PKKPbc** 18 28 08.4 -5.4
comp=Z,8.3nm,1.2s,baz=310,slow=1.0,SNR=5.8
MJAR PKPPKP **P'P'df** 18 36 17.1 +5.5
comp=Z,31nm,1.1s,baz=334,slow=1.4,SNR=7.3
MJAR LR LR 18 37 36.2
comp=Z,125μm,21.4s,baz=140,slow=31
MAJO **Matsushiro** 78.00 324*c i*P P 18 09 10.8 -1.3
MAJO pmax pmax
comp=Z,1μm,1.2s
MAJO MLR MLR
comp=Z,438μm,21.0s
MAJO **Matsushiro** 78.00 324 *e*P P 18 09 11.2 -0.9
MAJO LR LR
comp=Z,133μm,21.0s
MAT **Matsushiro** 78.00 324 P P 18 09 11.3 -0.8
MAT S S 18 19 09.2 +5.9
MJB9 **Matsu-Tunnel** 78.01 324 *e*P P 18 09 11.3 -0.8
KASI **Kota Agung** 78.14 270 P P 18 09 11.8 -1.6
comp=Z,3μm,0.9s,comp=Z,42μmcomp=Z,328μm
PPBI **Pangkal Pinang** 78.30 274 P P 18 09 14.1 -0.2
comp=Z,2μm,1.8s,comp=Z,37μmcomp=Z,309μm
H06S1 **SOCORRO T** 78.65 61 P P 18 09 17.9 +1.9
SNR=10
H06E1 **SOCORRO T-PHAS** 78.70 61 P P 18 09 17.1 +0.8
H06N1 **SOCORRO T-PHAS** 78.70 61 P P 18 09 16.5 +0.2
LWLI **Liwa** 78.77 270 P P 18 09 15.7 -1.3
comp=Z,3μm,1.1s,comp=Z,35μm
MDSI **Maura Dua** 78.91 271 P P 18 09 16.0 -1.7
comp=Z,2μm,1.0s,comp=Z,38μmcomp=Z,274μm
SYO **Syowa Base** 78.97 192⇓*i*P P 18 09 15.6 -1.4
YOJ **Yonaguni jima** 79.04 306 *e*P P 18 09 18.0 -0.1
YOJ pmax pmax
comp=Z,2μm,1.2s
YOJ MLR MLR
comp=Z,140μm,20.0s
YOJ **Yonaguni jima** 79.04 306 *e*P P 18 09 17.4 -0.6
TWG **Pinlang** 79.43 303 *e*P P 18 09 17.4 -2.9
JNU **Nakatsue** 79.59 317 P P 18 09 20.1 -0.8
comp=Z,82nm,0.9s,baz=115,slow=2.1,SNR=30
JNU PKPPKP **P'P'df** 18 36 13.3 +3.9
comp=Z,23nm,1.2s,baz=0.0,slow=2.0,SNR=4.1
SNAA **Sanae** 79.61 178 P P 18 09 20.5 -0.1
SNAA **Sanae** 79.61 178 PKKPbc PKKPbc 18 28 07.7 -1.7
comp=Z,9.6nm,0.9s,baz=326,slow=3.3,SNR=12
SNAA **Sanae** 79.61 178*c i*P P 18 09 19.8 -0.8
SNAA **Sanae** 79.61 178 *e*P P 18 09 20.0 -0.6
SNAA PKKPbc **PKKPbc** 18 28 07.7 -1.7
YULB **Yu-li** 79.62 304 *e*P P 18 09 18.4 -2.9
VNA3 **Neumayer Olymp** 79.69 176 P P 18 09 20.5 -0.5
LHSI **Lahat** 79.80 271 P P 18 09 21.2 -1.3
comp=Z,2μm,1.8s,comp=Z,99μm
NACB **Ninganchiao** 79.88 305 *e*P P 18 09 20.9 -1.7
ERM **Erimo** 79.97 330 PFAKE 18 09 30.0 +7.3
ERM LR LR
comp=Z,557μm,22.0s
MNAI **Manna** 80.04 271 *e*P P 18 09 22.0 -1.9
TPUB **Ta-pu** 80.05 303 *e*P P 18 09 20.9 -2.8
SSLB **Suanglung** 80.11 304 *e*P P 18 09 21.4 -2.5
VNA2 **Neumayer--Watz** 80.15 176 P P 18 09 23.5 +0.1
baz=168,slow=4.8
YHNB **Yeheng** 80.34 305 *e*P P 18 09 23.6 -1.6
YHNB LR LR
comp=Z,186μm,22.0s
VNA1 **Neumayer--Stat** 80.37 176 P P 18 09 24.6 +0.1
ADK **Adak** 80.42 360 *e*P P 18 09 24.7 -0.2

ADK pmax pmax
comp=Z,3μm,1.1s
ADK MLR MLR
comp=Z,260μm,21.0s
ADK **Adak** 80.42 360 *e*P P 18 09 23.8 -1.0
ADK LR LR
comp=Z,255μm,21.0s
TATO **Taipei** 80.44 305 *e*P P 18 09 24.4 -1.2
TATO LR LR
comp=Z,189μm,22.0s
TATO **Taipei** 80.44 305 P P 18 09 25.5 -0.2
SNR=25
TATO P P 18 09 25.5 -0.2
SNR=25
TATO **Taipei** 80.44 305 P P 18 09 25.5 -0.2
SNR=25
DSRI **Dabo** 80.47 275 P P 18 09 35.0 +8.8
NVL **N'lazarevskaya** 80.48 183⇑*i*P P 18 09 24.7 -0.5
NVL *e* 18 12 29.5
NVL *e*S S 18 19 26.2 -2.6
NVL smax smax
comp=N,48μm,17.8s
YUK **Yuzh-Kuril'sk** 80.51 333*c i*P P 18 09 25.5 0.0
YUK *i* 18 09 31.7
YUK *e* 18 12 23.8
YUK *e*PPP PPP 18 14 18.5
YUK *i*S S 18 19 34.2 +4.7
YUK *e*SS SS 18 24 40.3 -2.7
YUK *e*SSS SSS 18 28 07.1
YUK pmax pmax
comp=N,635nm,1.7s
YUK pmax pmax
comp=E,270nm,1.7s
YUK pmax pmax
comp=Z,3μm,2.9s
ATKA **Atka Island** 80.75 1 *e*P P 18 09 25.9 -0.7
KUR **Kuril'sk** 80.75 335*c i*P P 18 09 27.3 +0.5
KUR *i* 18 09 34.2
KUR *e* 18 12 31.3
KUR *i*S S 18 19 35.2 +3.2
KUR *e* 18 20 17.3
KUR pmax pmax
comp=E,1μm,1.9s
KUR pmax pmax
comp=Z,3μm,1.9s
KUR pmax pmax
comp=N,903nm,2.2s
KUR pmax pmax
comp=Z,48μm,16.9s
KUR pmax pmax
comp=N,22μm,16.2s
KUR pmax pmax
comp=E,16μm,16.8s
TPRI **Tanjung Pinang** 81.20 276 P P 18 09 29.6 -0.4
comp=E,1μm,1.7s,comp=E,39μmcomp=E,375μm
MASI **Maura Aman, Be** 81.25 271 P P 18 09 29.2 -1.2
comp=E,5μm,1.6s,comp=E,71μmcomp=E,340μm
SMY **Shemya** 81.72 354 *e*P P 18 09 31.5 -0.3
SMY pmax pmax
comp=Z,8μm,1.6s
SMY MLR MLR
comp=Z,260μm,22.0s
SMY **Shemya** 81.72 354 *e*P P 18 09 31.1 -0.6
COCO **West Island** 81.74 261 *e*P P 18 09 32.7 -0.1
COCO MLR MLR
comp=Z,120μm,19.0s
COCO **West Island** 81.74 261 *e*P P 18 09 32.7 -0.1
COCO LR LR
comp=Z,120μm,19.0s
NIKH **Nikolski High** 81.75 4 *e*P P 18 09 30.9 -1.0
SNCC **San Nicolas Is** 81.76 45 P P 18 09 33.0 +0.5
baz=228,SNR=12
SNCC S S 18 19 49.8 +6.7
baz=228
SNCC **San Nicolas Is** 81.76 45 *e*P P 18 09 32.6 +0.1
ASAJ **Asahikawa** 81.91 331 PKKPbc PKKPbc 18 28 07.9 +2.7
comp=Z,7.3nm,0.8s,baz=297,slow=17,SNR=5.2
ASAJ PKPPKP 18 36 06.2
comp=Z,9.7nm,1.1s,baz=301,slow=6.2,SNR=4.6
ASAJ LR LR 18 39 48.0
comp=Z,2μm,21.9s,baz=170,slow=31
ASAJ **Asahikawa** 81.91 331 *e*P P 18 09 33.6 +0.6
ASAJ *e*PKKPbc **PKKPbc** 18 28 07.3 +2.1
ASAJ P'P' 18 36 06.2
SCI2 **San Clemente I** 82.19 46 P P 18 09 35.1 +0.3
baz=228,SNR=39
SCZ2 **Santa Cruz Isl** 82.19 44 P P 18 09 35.4 +0.6
baz=227,SNR=38
MYKOM **Kota Tinggi** 82.21 276 *e*P P 18 09 34.9 -0.5
MYKOM **Kota Tinggi** 82.21 276 ⇓P P 18 09 35.5 +0.2
PLCA **Paso Flores** 82.27 132 P P 18 09 35.9 +0.5
comp=Z,369nm,1.3s,baz=260,slow=5.4,SNR=89
PLCA S S 18 19 50.2 +1.5
comp=Z,4.0nm,1.1s,baz=352,slow=15,SNR=2.2
PLCA PKKPbc **PKKPbc** 18 28 03.2 +0.7
comp=Z,20nm,1.1s,baz=82,slow=2.7,SNR=8.2
PLCA PKP2bc 18 35 55.6
comp=Z,6.4nm,1.0s,baz=270,slow=3.4,SNR=5.5
PLCA PKPPKP P'P'df 18 36 01.9 -10
comp=Z,13nm,1.1s,baz=61,slow=4.0,SNR=5.9
PLCA LR LR 18 37 55.1
comp=Z,201μm,21.1s,baz=304,slow=30
PLCA **Paso Flores** 82.27 132 *e*P P 18 09 35.3 -0.1
PLCA *e*S S 18 19 48.1 -0.6
PLCA *e*PKKPbc **PKKPbc** 18 28 04.4 +1.8
PLCA ⇑*e* 18 35 55.6
PLCA P'P' 18 36 01.9
LPIG **La Paz** 82.28 57 P P 18 09 35.9 +0.5
comp=Z,33nm,0.5s,baz=203,slow=2.5,SNR=23
LPIG S S 18 19 51.1 +2.4
comp=Z,24nm,0.3s,baz=207,slow=4.5,SNR=1.6
LPIG LR LR 18 38 32.4
comp=Z,340μm,19.7s,baz=219,slow=30
PAF **Port-aux-Franc** 82.39 217 *e*P P 18 09 36.8 +1.1
PAF MLR MLR
comp=Z,55μm,19.0s
PAF **Port-aux-Franc** 82.39 217 *e*P P 18 09 36.8 +1.1
PAF LR LR
comp=Z,55μm,19.0s
SBC **Santa Barbara** 82.45 44 P P 18 09 36.4 +0.4
baz=227
BLDC **Black Mountain** 82.47 42 *e*P P 18 09 37.0 +0.8
PTAM **Tassajara Cree** 82.50 43 *e*P P 18 09 35.6 -0.8
RGRI **Rengat** 82.50 274 P P 18 09 37.9 +1.0
comp=Z,4μm,2.1s,comp=Z,119μmcomp=Z,302μm
QZH **Quanzhou** 82.52 304⇑*i*P P 18 09 36.0 -0.6
QZH S S 18 19 45.3 -5.9
QZH pmax pmax
comp=Z,12μm,2.2s
QZH pmax pmax
comp=Z,30μm,2.9s
QZH LR LR
comp=Z,136μm,19.4s
QZH LR LR
comp=Z,83μm,19.7s
QZH LR LR
comp=Z,178μm,21.3s
CIS **Catalina Islan** 82.55 45 P P 18 09 37.0 +0.3
baz=228,SNR=34
BLG **Laguna Peak, P** 82.62 45 P P 18 09 37.3 +0.3
baz=228,SNR=15
PKM **Mcpherson Peak** 82.69 44 P P 18 09 38.3 +0.8
baz=227,SNR=35
KGM **Kluang** 82.78 276 ⇓P P 18 09 38.5 +0.1
UNV **Unalaska Valle** 82.80 6 *e*P P 18 09 37.3 0.0
SRIG **Santa Rosalia** 82.81 54 *e*P P 18 09 38.0 -0.1
FMP **Fort Macarthur** 82.83 45 P P 18 09 38.7 +0.6
baz=228
SMMC **Simmler** 82.87 43 P P 18 09 39.1 +0.8
baz=227,SNR=29
SKR **Severo-Kuril's** 82.96 343*c i*P P 18 09 38.7 +0.4
SKR *e*S S 18 19 53.1 -1.4
SKR MLR MLR
comp=Z,89μm,18.0s
SKR MLR MLR
comp=Z,83μm,17.0s
PAGB **Antelope Grade** 83.00 43 *e*P P 18 09 39.9 +0.9
PMPB **Monarch Peak** 83.00 42 *e*P P 18 09 39.9 +0.9
SAO **San Andreas Ge** 83.01 41 *e*P P 18 09 39.8 +0.9
SAO pmax pmax
comp=Z,470nm,1.1s
SAO MLR MLR
comp=Z,600μm,20.0s
SAO **San Andreas Ge** 83.01 41 *e*P P 18 09 39.4 +0.4
109C **Camp Elliot, M** 83.04 47 P P 18 09 39.6 +0.4
baz=229,SNR=6.8

HLPM	Lions Peak	83.09	41	eP	P	18 09 41.2	+1.8
EFI	East Falkland	83.11	146c	iP	P	18 09 39.3	-0.1
EFI				pmax	pmax		
	comp=Z,597nm,1.0s						
EFI				MLR	MLR		
	comp=Z,33μm,22.0s						
EFI	East Falkland	83.11	146	eP	P	18 09 38.7	-0.7
EFI				LR	LR		
	comp=Z,285μm,22.0s						
AKUT	Akutan	83.15	6	eP	P	18 09 38.8	-0.4
MCCM	Marconi Confer	83.16	39	eP	P	18 09 39.7	+0.1
DECC	Green Verdugo	83.17	45	P	P	18 09 40.0	+0.1
	baz=228						
OSI	Osito Audit: C	83.17	44	P	P	18 09 40.4	+0.5
	baz=228,SNR=9.2						
OSI	Osito Audit: C	83.17	44	eP	P	18 09 40.3	+0.5
BAR	Barrett	83.18	47	eP	P	18 09 39.9	-0.1
PASC	Pasadena Art C	83.21	45	eP	P	18 09 40.3	+0.2
MHC	Mount Hamilton	83.30	41	eP	P	18 09 41.4	+0.8
MHC	Mount Hamilton	83.30	41	eP	P	18 09 41.4	+0.8
HPCM	Pacheco Lake	83.31	41	eP	P	18 09 41.7	+1.2
MWC	Mount Wilson	83.32	45	eP	P	18 09 41.2	+0.3
MWC				pmax	pmax		
	comp=Z,630nm,1.2s						
MWC				MLR	MLR		
	comp=Z,370μm,20.0s						
MWC	Mount Wilson	83.32	45	eP	P	18 09 40.9	0.0
BKS	Berkeley--Byer	83.33	40	eP	P	18 09 41.6	+1.0
SFJWR	San Luis Fatjo	83.36	41	eP	P	18 09 43.3	+2.5
PPSI	Pulau Pagai	83.38	270	P	P	18 09 42.1	+0.6
	comp=Z,5μm,2.0s,comp=Z,106μmcomp=Z,350μm						
BAKC	Calstate	83.42	44	eP	P	18 09 41.3	+0.2
ARVC	Arvin	83.45	44	P	P	18 09 41.8	+0.6
	baz=228,SNR=14						
MURC	Murrieta	83.45	46	P	P	18 09 41.8	+0.5
	baz=229,SNR=79						
MONP2	Monument Peak	83.48	47	P	P	18 09 42.3	+0.6
	baz=230,SNR=166						
IKP	In-Ko-Pah, Jac	83.53	47	P	P	18 09 42.4	+0.6
	baz=230,SNR=97						
CVS	Carmenet Viney	83.54	40	eP	P	18 09 42.3	+0.7
BFSC	Mount Badly Ra	83.58	45	P	P	18 09 42.6	+0.5
	baz=229,SNR=113						
BDM	Black Diamond	83.59	40	eP	P	18 09 43.0	+1.1
DGR	Domenigoni Val	83.60	46	eP	P	18 09 42.7	+0.5
HOPS	Hopland Field	83.65	39	eP	P	18 09 42.8	+0.5
GDXM	Geysers	83.67	39	eP	P	18 09 42.9	+0.4
FRD	Ford Ranch, An	83.75	46	eP	P	18 09 43.9	+0.9
VES	Vestal, Richgr	83.77	43	P	P	18 09 43.3	+0.4
	baz=228,SNR=58						
SNDA	J Saunders Pla	83.79	46	eP	P	18 09 44.0	+0.8
EDW2	Edwards Air Fo	83.79	45	P	P	18 09 43.7	+0.6
	baz=228,SNR=63						
NMTM	Middletown	83.87	39	eP	P	18 09 44.3	+1.0
KCPM	Cahto Peak	83.87	38	eP	P	18 09 44.2	+0.8
PDSI	Padang	83.87	272	P	P	18 09 41.7	-2.3
SWSC	Sam W. Stewart	83.91	47	P	P	18 09 44.4	+0.7
	baz=230,SNR=51						
KFPM	Farley Peak	83.92	38	eP	P	18 09 44.5	+0.8
PFO	Pinyon Flats O	83.92	46	P	P	18 09 44.4	+0.5
	comp=Z,148nm,1.1s,baz=234,slow=4.3,SNR=142						
PFO				S	S	18 20 05.6	+0.2
	comp=Z,2.7nm,0.8s,baz=282,slow=9.3,SNR=1.8						
PFO				PKKPbc	PKKPbc	18 28 03.5	+3.5
	comp=Z,8.3nm,1.0s,baz=135,slow=1.4,SNR=4.5						
PFO				PKPPKP	P'P'df	18 36 05.0	+2.8
	comp=Z,14nm,1.2s,baz=343,slow=3.1,SNR=4.3						
PFO				LR	LR	18 38 58.8	
	comp=Z,429μm,20.7s,baz=224,slow=30						
PFO	Pinyon Flats O	83.92	46	P	P	18 09 44.6	+0.7
	baz=229,SNR=135						
PFO	Pinyon Flats O	83.92	46	eP	P	18 09 43.9	0.0
PFO				S	S	18 20 05.6	+0.2
PFO				PKKPbc	PKKPbc	18 28 03.5	+3.5
PFO				P'P'		18 36 05.0	
XPFO	Piæon Flat	83.92	46	eP	P	18 09 44.0	+0.1
BKNI	Bangkinang	83.96	274	eP	P	18 09 43.2	-1.2
RCTC	Rector, Farmer	83.99	43	P	P	18 09 44.4	+0.4
	baz=228						
KIPM	Iron Peak	84.01	38	eP	P	18 09 45.2	+1.0
ISA	Isabella, Lake	84.02	44	P	P	18 09 45.1	+0.9
	baz=228,SNR=50						
ISA	Isabella, Lake	84.02	44	eP	P	18 09 44.9	+0.6
ISA				pmax	pmax		
	comp=Z,2μm,1.6s						
ISA				MLR	MLR		
	comp=Z,340μm,20.0s						
ISA	Isabella, Lake	84.02	44	eP	P	18 09 44.4	+0.1
BBRC	Big Bear Solar	84.05	46	P	P	18 09 45.4	+0.7
	baz=229						
FALS	False Pass	84.10	7	eP	P	18 09 43.8	-0.2
YSS	Yuzh-Sakhalins	84.15	333α	iP	P	18 09 45.5	+1.0
YSS				e*PP	pP	18 09 56.7	+1.2
YSS				e*SP	sP	18 10 00.6	+1.1
YSS				e		18 12 58.3	
YSS				eS	S	18 20 09.0	+2.3
YSS				eSSS	SSS	18 29 02.0	
YSS				pmax	pmax		
	comp=Z,460nm,2.4s						
YSS				pmax	pmax		
	comp=Z,20μm,15.0s						
YSS				pmax	pmax		
	comp=N,12μm,17.0s						
YSS				pmax	pmax		
	comp=E,6μm,19.0s						
YSS				smax	smax		
	comp=N,129μm,22.0s						
YSS				smax	smax		
	comp=E,58μm,22.0s						
YSS	Yuzh-Sakhalins	84.15	333	eP	P	18 09 45.1	+0.6
YSS				LR	LR		
	comp=Z,106μm,22.0s						
KMRM	Mail Ridge	84.18	38	eP	P	18 09 45.6	+0.7
HKC	Hong Kong Obse	84.31	299	⇑P	P	18 09 47.0	+1.1
GASB	Alder Springs	84.32	38	eP	P	18 09 47.3	+1.6
GO05	HualaæØ	84.32	127	eP	P	18 09 44.8	-1.2
KSRS	Korea Array	84.33	318	P	P	18 09 45.7	+0.1
	comp=Z,64nm,0.9s,baz=142,slow=5.6,SNR=79						
KSRS				PKKPbc	PKKPbc	18 28 01.6	+2.6
	comp=Z,6.8nm,1.2s,baz=328,slow=4.4,SNR=4.3						
KSRS				PKPPKP	P'P'df	18 36 02.6	+1.9
	comp=Z,8.4nm,1.2s,baz=303,slow=3.2,SNR=7.8						
KSRS				LR	LR	18 39 24.3	
	comp=Z,51μm,21.3s,baz=120,slow=30						
KSRS	Korea Array	84.33	318	P	P	18 09 45.7	+0.1
KSRS				pmax	pmax		
	comp=Z,41nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,51μm,21.3s						
KS15	Wonju Array Si	84.34	318	eP	P	18 09 45.4	-0.4
KSAR	Wonju Array Be	84.34	318	P	P	18 09 45.7	0.0
KSAR	Wonju Array Be	84.34	318	P	P	18 09 45.7	0.0
KSAR				PKKPbc	PKKPbc	18 28 01.6	+2.6
KSAR				P'P'		18 36 02.6	
LRMC	Laurel Mtn Rad	84.38	44	P	P	18 09 46.8	+0.6
	baz=228,SNR=245						
RRX	Edison Barstow	84.41	45	P	P	18 09 46.8	+0.6
	baz=229,SNR=14						
SSE	Sheshan	84.42	310	⇑P	P	18 09 46.3	0.0
SSE				pP	pP	18 09 55.8	-1.5
SSE				S	S	18 20 09.1	-1.1
SSE				sS	pS	18 20 24.5	+0.5
SSE				pmax	pmax		
	comp=Z,150nm,1.5s						
SSE				pmax	pmax		
	comp=Z,40μm,12.0s						
SSE				LR	LR		
	comp=Z,96μm,22.6s						
SSE				LR	LR		
	comp=Z,110μm,22.6s						
SSE				LR	LR		
	comp=Z,210μm,23.4s						
JCC	Jacoby Creek,	84.44	37	eP	P	18 09 46.8	+0.6
BELC	Belle Mtn. Jos	84.47	46	P	P	18 09 47.6	+0.9
	baz=230,SNR=208						
CMB	Columbia Colle	84.49	41	eP	P	18 09 47.0	+0.4
CMB				pmax	pmax		
	comp=Z,550nm,1.1s						
CMB				MLR	MLR		
	comp=Z,460μm,20.0s						
CMB	Columbia Colle	84.49	41	eP	P	18 09 46.7	+0.1
PET	Petropavlovsk	84.49	345c	iP	P	18 09 46.1	0.0
PET				e		18 13 04.7	
PET				eS	S	18 20 08.2	-1.6
PET				ePS	PnS	18 20 59.0	-8.7
PET				eSS	SS	18 25 41.8	0.0
PET				pmax	pmax		
	comp=Z,400nm,2.0s						
PET				pmax	pmax		
	comp=Z,31μm,15.4s						
PET				pmax	pmax		
	comp=Z,75μm,19.8s						
PET				smax	smax		
	comp=N,67μm,22.4s						
PET				smax	smax		
	comp=E,58μm,21.8s						
PET				MLR	MLR		
	comp=Z,60μm,19.0s						
PET				MLR	MLR		
	comp=Z,77μm,20.0s						
PET	Petropavlovsk	84.49	345	eP	P	18 09 44.8	-1.3
PET				LR	LR		
	comp=Z,174μm,22.0s						
TPC	Twentynine Pal	84.50	46	eP	P	18 09 47.5	+0.7
BC3	Big Chuckawall	84.59	47	P	P	18 09 48.3	+1.0
	baz=230,SNR=285						
GLA	Glamis	84.61	48	P	P	18 09 48.5	+1.2
	baz=230,SNR=83						
GLA	Glamis	84.61	48	eP	P	18 09 48.4	+1.1
GLA				pmax	pmax		
	comp=Z,1μm,1.3s						
GLA				MLR	MLR		
	comp=Z,250μm,21.0s						
GLA	Glamis	84.61	48	eP	P	18 09 47.9	+0.6
KHMM	Horse Mountain	84.64	37	eP	P	18 09 48.1	+0.7
CLC	China Lake	84.65	44	eP	P	18 09 48.1	+0.6
CLC	China Lake	84.65	44	eP	P	18 09 48.1	+0.6
MCO	Taipa Grande	84.68	299	P	P	18 09 50.0	+2.2
HSIG		84.74	53	eP	P	18 09 47.6	-0.4
OHCM	Honcut	84.77	39	eP	P	18 09 48.4	+0.6
CWC	Cottonwood Cre	84.78	43	P	P	18 09 48.9	+0.7
	baz=228						
AFDM	Forest Hills D	84.79	40	eP	P	18 09 47.9	-0.1
HEC	Hector,Ludlow	84.79	45	P	P	18 09 49.0	+0.7
	baz=229,SNR=203						
HEC	Hector,Ludlow	84.79	45	eP	P	18 09 48.9	+0.7
PEA0B	Petropavlovsk-	84.79	344	eP	P	18 09 47.4	-0.3
PETK	Petropavlovsk-	84.79	344	P	P	18 09 47.7	0.0
	comp=Z,129nm,0.8s,baz=119,slow=6.4,SNR=92						
PETK				PKKPbc	PKKPbc	18 27 57.0	-1.9
	comp=Z,3.7nm,0.7s,baz=27,slow=3.5,SNR=3.1						
PETK				PKPPKP	P'P'df	18 36 02.6	+4.8
	comp=Z,4.3nm,0.9s,baz=52,slow=2.4,SNR=4.4						
PETK				LR	LR	18 41 57.2	
	comp=Z,127μm,21.1s,baz=158,slow=32						
PEA1	Petropavlovsk-	84.80	344	eP	P	18 09 47.7	0.0
PEA1				ePKKPbc	PKKPbc	18 27 57.0	-1.9
PEA1				eP'P'df	P'P'df	18 36 02.6	+4.8
GSC	Goldstone, Bar	84.80	45	P	P	18 09 49.2	+0.9
	baz=229,SNR=178						
GSC	Goldstone, Bar	84.80	45	eP	P	18 09 48.9	+0.6
GSC				pmax	pmax		
	comp=Z,890nm,1.3s						
GSC				MLR	MLR		
	comp=Z,370μm,20.0s						
GSC	Goldstone, Bar	84.80	45	eP	P	18 09 48.4	+0.2
FRIM	Kepong	84.85	277	⇓P	P	18 09 48.4	-0.5
SISI	Saibi	84.88	271	P	P	18 09 50.0	+0.9
	comp=Z,1μm,1.8s,comp=Z,56μmcomp=Z,347μm						
MPMC	Manual Prospec	84.88	44	P	P	18 09 49.6	+0.8
	baz=229,SNR=361						
ORV	Oroville	84.92	39	eP	P	18 09 49.0	+0.4
ORV				pmax	pmax		
	comp=Z,2μm,1.7s						
ORV				MLR	MLR		
	comp=Z,330μm,20.0s						
ORV	Oroville	84.92	39	eP	P	18 09 48.6	-0.1
SDPT	Sand Point	84.94	9	eP	P	18 09 48.6	+0.3
DAC	Darwin (Calif)	84.96	44	eP	P	18 09 49.2	0.0
DAC	Darwin (Calif)	84.96	44	eP	P	18 09 49.2	0.0
KRMB	Red Mountain	85.01	37	eP	P	18 09 50.0	+0.8
WDC	Whiskeytown Da	85.06	38	eP	P	18 09 50.0	+0.7
WDC				pmax	pmax		
	comp=Z,1μm,1.2s						
WDC				MLR	MLR		
	comp=Z,440μm,20.0s						
WDC	Whiskeytown Da	85.06	38	eP	P	18 09 49.9	+0.5
TIN	Tinemaha, Big	85.09	43	P	P	18 09 50.5	+0.8
	baz=228,SNR=18						
INCN	Inchon	85.10	318	eP	P	18 09 49.5	-0.1
INCN				LR	LR		
	comp=Z,782nm,19.0s						
IRM	Iron Mountain	85.11	47	P	P	18 09 51.0	+1.3
	baz=230,SNR=347						
IRM	Iron Mountain	85.11	47	eP	P	18 09 50.8	+1.0
MLAC	Mammoth, Mammo	85.12	42	P	P	18 09 51.1	+1.1
	baz=228,SNR=15						
113A	Mohawk Valley,	85.12	48	eP	P	18 09 49.9	+0.1
GMRC	Granite Mounta	85.18	46	P	P	18 09 51.2	+0.9
	baz=230,SNR=192						
GMRC	Granite Mounta	85.18	46	eP	P	18 09 51.0	+0.7
Y12C	Blythe	85.25	47	P	P	18 09 51.3	+0.9
	baz=231,SNR=50						
Y12C	Blythe	85.25	47	eP	P	18 09 51.0	+0.5
214A	Organ Pipe Nat	85.25	50	P	P	18 09 51.4	+0.9
	baz=232						
N02D	Trinity Center	85.25	38	P	P	18 09 51.6	+1.2
	baz=225,SNR=129						
O03D	Paynes Creek	85.27	39	P	P	18 09 50.7	+0.3
	baz=226,SNR=280						
O03D	Paynes Creek	85.27	39	eP	P	18 09 50.8	+0.3
KBO	Bosley Butte	85.34	36	eP	P	18 09 51.5	+0.7
WAKR	Walker	85.36	41	eP	P	18 09 51.5	+0.3
GZH	Guangzhou	85.38	299	⇑iP	P	18 09 52.4	+1.1
GZH				PP	PP	18 13 06.6	-3.4
GZH				S	S	18 20 16.4	-3.5
TUQ	Turquoise Moun	85.44	45	P	P	18 09 52.3	+0.8
	baz=230,SNR=140						
MNSI	Mandailing Nat	85.46	273	P	P	18 09 49.3	-2.7
M02C	Callahan	85.47	37	P	P	18 09 52.8	+1.3
	baz=225,SNR=82						
SHOC	Shoshone, Teco	85.52	45	P	P	18 09 52.4	+0.6
	baz=229,SNR=146						
FURC	Furnace Creek,	85.53	44	P	P	18 09 52.3	+0.6
	baz=229,SNR=56						
KTRM	Thompson Ridge	85.56	37	eP	P	18 09 53.3	+1.4
LRDM	Redding Peak	85.57	39	eP	P	18 09 54.0	+2.1
GRAC	Grapevine Rang	85.57	43	P	P	18 09 53.0	+1.0
	baz=229,SNR=273						
L02D	Cave Junction,	85.62	36	P	P	18 09 53.3	+1.2
	baz=224,SNR=64						
PNTR	Pine Nut	85.66	41	eP	P	18 09 52.9	+0.2
LDFC	Landfair	85.72	46	eP	P	18 09 53.9	+1.0
BEKR	Beckworth	85.77	40	eP	P	18 09 52.8	-0.3
KEBM	Edson Butte	85.77	35	eP	P	18 09 53.6	+0.8
YBH	Yreka Blue Hor	85.79	37	eP	P	18 09 53.8	+0.8
YBH				pmax	pmax		
	comp=Z,460nm,1.0s						
YBH				MLR	MLR		
	comp=Z,240μm,20.0s						
YBH	Yreka Blue Hor	85.79	37	eP	P	18 09 53.5	+0.4
LGBM	Gray Butte	85.79	38	eP	P	18 09 53.9	+0.6
YERR	Yerington	85.80	41	eP	P	18 09 53.4	+0.1
NEE2	Needles Airpor	85.83	46	P	P	18 09 54.5	+1.2
	baz=230,SNR=24						
PDMCI	Parker Dam,Lak	85.84	47	P	P	18 09 54.4	+1.1
	baz=231,SNR=156						
SPIA	Saint Paul Isl	85.86	3	eP	P	18 09 53.1	+0.3
LBCM	Butte Creek Ri	85.89	38	eP	P	18 09 54.0	+0.4
QIZ	Qiongzhong	85.92	294	P	P	18 09 54.8	+0.7
QIZ				sP	sP	18 10 11.6	+2.5
QIZ				S	S	18 20 28.1	+2.7
QIZ				sS	sS	18 20 48.3	+4.6
QIZ				pmax	pmax		
	comp=Z,220nm,1.7s						
QIZ				LR	LR		
	comp=Z,37μm,23.8s						
QIZ				LR	LR		
	comp=Z,102μm,34.8s						
QIZ	Qiongzhong	85.92	294	eP	P	18 09 54.2	+0.2
QIZ				LR	LR		
	comp=Z,52μm,21.0s						
PAYG	Puerto Ayora	85.95	89	eP	P	18 09 55.7	+1.3
PAYG				LR	LR		
	comp=Z,411μm,20.0s						
LBFM	Black Fox Moun	85.95	38	eP	P	18 09 54.9	+0.9
LBFM	Black Fox Moun	85.95	38	eP	P	18 09 54.9	+0.9
IPM	Ipoh	85.98	277	eP	P	18 09 53.8	-0.8
ROC1	El Roble	86.03	126	eP	P	18 09 54.9	0.0
ROCH	El Roble	86.03	126	⇓iP	P	18 09 55.6	+0.7
LTIM	Timbered Crate	86.05	38	eP	P	18 09 55.1	+0.7
MSHR	Mys Shultsa	86.12	324c	eP	P	18 09 55.1	+0.6
VLA	Vladivostok	86.14	325c	iP	P	18 09 54.5	-0.1
VLA				pmax	pmax		
	comp=Z,987nm,2.1s						
VLA				MLR	MLR		
	comp=Z,60μm,19.0s						
CLCH	Cerro Calan	86.14	126	⇑iP	P	18 09 55.0	-0.2
CHGN	Chignik	86.16	10	eP	P	18 09 54.2	-0.1
PEL	Peldehue	86.17	126	⇑iP	P	18 09 55.0	-0.3
PBSI	Pulau Batu	86.19	272	P	P	18 09 55.5	-0.1
	comp=Z,3μm,2.1s,comp=Z,71μmcomp=Z,300μm						
PAHR	Pah Rah Range	86.20	40	eP	P	18 09 55.3	0.0
TPNV	Topopah Spring	86.22	44	P	P	18 09 56.4	+1.1
	baz=229,SNR=39						
TPNV	Topopah Spring	86.22	44	eP	P	18 09 56.1	+0.7
TPNV				pmax	pmax		
	comp=Z,970nm,1.3s						
TPNV				MLR	MLR		
	comp=Z,420μm,20.0s						
TPNV	Topopah Spring	86.22	44	eP	P	18 09 55.7	+0.4
HUMO	Hull Mountain	86.28	36	eP	P	18 09 55.8	+0.4
M04C	Macdoel	86.29	37	P	P	18 09 56.3	+0.7
	baz=225,SNR=90						
Y14A	Wickenburg	86.35	48	eP	P	18 09 56.1	+0.2
FCH	Farellones	86.36	126	eP	P	18 09 56.5	-0.1
DBO	Dodson Butte	86.50	36	eP	P	18 09 57.4	+0.9
W13A	Hualapai Mount	86.51	47	eP	P	18 09 57.3	+0.4
NJ2	Nanjing	86.58	309	eP	P	18 09 57.8	+0.8
NJ2				sP	sP	18 10 13.8	+1.7
NJ2				PP	PP	18 13 24.5	+4.9
NJ2				SKS	SKSac	18 20 19.5	-1.6
NJ2				S	S	18 20 32.3	+0.9
NJ2				pmax	pmax		
	comp=Z,420nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,7μm,3.5s						
NJ2				LR	LR		
	comp=Z,149μm,25.5s						
NJ2				LR	LR		
	comp=Z,169μm,24.5s						
NJ2				LR	LR		
	comp=Z,330μm,24.9s						
SHPR	Sheep Range	86.60	45	eP	P	18 09 57.8	+0.5
KULM	Kulim	86.70	278	eP	P	18 09 57.2	-0.9
KULM				LR	LR		
	comp=Z,102μm,20.0s						
TUC	Tucson	86.83	50	P	P	18 09 59.8	+1.4
	baz=233						
TUC	Tucson	86.83	50	eP	P	18 09 59.6	+1.2
TUC				pmax	pmax		
	comp=Z,1μm,1.2s						
TUC				MLR	MLR		
	comp=Z,210μm,20.0s						
TUC	Tucson	86.83	50	eP	P	18 09 58.9	+0.5
TUC				LR	LR		
	comp=Z,288μm,20.0s						
MOIG	Morelia	86.83	66	eP	P	18 09 58.5	-0.4
I03D	Drain, OR	86.86	35	P	P	18 09 58.9	+0.8
	baz=224,SNR=60						
USRK	Ussuriysk Ar.	86.86	325	P	P	18 09 58.7	+0.6
	comp=Z,101nm,0.9s,baz=129,slow=2.7,SNR=179						
USRK				PKKP	PKKPdf	18 27 43.4	-4.3
	comp=Z,3.6nm,0.9s,baz=306,slow=3.4,SNR=4.5						
USRK				PKKPbc	PKKPbc	18 27 56.4	+3.1
	comp=Z,10nm,1.0s,baz=318,slow=1.9,SNR=5.7						
USRK				PKPPKP	P'P'df	18 35 58.6	+3.2
	comp=Z,4.3nm,0.9s,baz=211,slow=1.1,SNR=7.2						
USRK				LR	LR	18 43 11.1	
	comp=Z,257μm,21.9s,baz=126,slow=32						
K04D	Chiloquin, OR	86.92	37	P	P	18 09 59.1	+0.5
	baz=225,SNR=10						
PSI	Prapat	87.00	275	LR	LR	18 48 38.6	
	comp=Z,128μm,22.0s,baz=128,slow=36						
PSI	Prapat	87.00	275	eP	P	18 09 58.2	-1.5
PSI				pmax	pmax		
	comp=Z,3μm,1.4s						
PSI	Prapat	87.00	275	eP	P	18 09 57.8	-1.9
J04D	Umpqua Nationa	87.17	36	P	P	18 10 00.5	+0.5
	baz=225,SNR=43						
MOD	Modoc Plateau	87.20	38	eP	P	18 09 59.7	-0.3
319A	Douglas	87.30	52	eP	P	18 10 01.3	+0.6
HPIG		87.33	57	eP	P	18 10 00.3	-0.8
TYV	Tymovskoe	87.38	335	eP	P	18 10 01.4	+1.0
TYV				eS	S	18 20 38.5	+0.3
TYV				pmax	pmax		
	comp=Z,1μm,2.2s						
TYV				pmax	pmax		
	comp=Z,54μm,17.5s						
TYV				smax	smax		
	comp=N,78μm,16.8s						
ZAIG	Zacatecas	87.39	62	eP	P	18 10 01.8	+0.2
COR	Corvallis	87.52	35	eP	P	18 10 02.0	+0.8
COR	Corvallis	87.52	35	eP	P	18 10 02.0	+0.8
R11A	Troy Canyon, C	87.52	43	P	P	18 10 02.0	+0.3
	baz=230,SNR=173						
R11A	Troy Canyon, C	87.52	43	eP	P	18 10 01.4	-0.3
UBPT	Khong Chiam	87.54	289	P	P	18 10 03.0	+1.0
	comp=N,1μm,2.0s,comp=N,34μm						
TCBU	Trout Butte	87.59	35	eP	P	18 10 05.9	+4.1
IRO	Indian Ridge	87.63	36	eP	P	18 10 02.2	+0.2
SKLT	Songkhla	87.64	279	P	P	18 10 03.5	+0.9
	comp=N,1μm,2.0s						
J05D	Fort Rock, OR	87.66	37	P	P	18 10 02.6	+0.4
	baz=226,SNR=101						
X16A	Lo Mia Camp, P	87.67	48	eP	P	18 10 03.4	+0.8
ICU	Indian Springs	87.77	45	eP	P	18 10 04.0	+1.1
OHAK	Old Harbor	87.89	12	eP	P	18 10 03.0	+0.2
BMN	Battle Mountai	87.92	41	eP	P	18 10 03.7	+0.1
BMN				pmax	pmax		
	comp=Z,740nm,1.3s						
BMN				MLR	MLR		
	comp=Z,480μm,20.0s						
BMN	Battle Mountai	87.92	41	eP	P	18 10 03.3	-0.2
PRLK	Prince Lake	87.93	36	eP	P	18 10 03.9	+0.5
G03D	McMinnville, O	87.98	34	P	P	18 10 04.5	+1.0
	baz=224,SNR=10						
LCMT	Little Creek M	88.11	45	eP	P	18 10 04.8	+0.3
KMOR	Kings Mountain	88.18	34	eP	P	18 10 05.2	+0.7
GCAZ	Grand Canyon	88.22	47	eP	P	18 10 06.5	+1.3
I05D	Terrebonne, OR	88.34	36	P	P	18 10 05.9	+0.6
	baz=226,SNR=68						
U15A	North Rim	88.35	46	eP	P	18 10 06.8	+1.0
KCSI	Kotacane, Aceh	88.35	275	P	P	18 10 04.8	-1.3
	comp=Z,703nm,1.4s,comp=Z,23μmcomp=Z,272μm						
LCO	Las Campanas	88.35	122	eP	P	18 10 05.4	-0.8
LCO				LR	LR		
	comp=Z,234μm,21.0s						
F03A	Seaside	88.36	34	eP	P	18 10 05.5	+0.2
MDJ	Mudanjiang	88.37	324	P	P	18 10 06.0	+0.7
MDJ				pP	pP	18 10 15.3	-1.1
MDJ				sP	sP	18 10 19.0	-1.4
MDJ				PP	PP	18 13 33.3	-0.4
MDJ				S	S	18 20 51.4	+3.4
MDJ				sS	sS	18 21 06.1	-0.2
MDJ				SS	SS	18 26 40.4	+1.4
MDJ				pmax	pmax		
	comp=Z,230nm,1

WVOR Wild Horse Val 88.46 39 *e*P **P 18 10 05.9 -0.1**
WVOR LR LR
comp=Z,498µm,20.0s
ARUT Antelope Range 88.47 45 *e*P **P 18 10 07.2 +0.9**
ARUT Antelope Range 88.47 45 *e*P **P 18 10 07.2 +0.9**
KDAK Kodiak Island 88.55 12 LR LR 18 42 47.9
comp=Z,155µm,21.6s,baz=213,slow=31
KDAK Kodiak Island 88.55 12 *e*P **P 18 10 06.9 +1.1**
KDAK pmax pmax
comp=Z,2µm,1.6s
KDAK Kodiak Island 88.55 12 *e*P **P 18 10 05.7 -0.2**
SZCU Shurtz Canyon 88.57 45 *e*P **P 18 10 07.5 +0.7**
HABR Khabarovsk 88.58 330*c i*P **P 18 10 05.8 -0.4**
HABR *e**PP **pP 18 10 14.8 -2.5**
HABR *e**SP **sP 18 10 18.7 -2.5**
HABR *e* 18 13 32.2
HABR *e*PPP PPP 18 15 28.2
HABR *e*S **SKSac 18 20 29.8 -2.6**
HABR *e* 18 20 44.4
HABR *e*SS **SS 18 26 39.3 -2.6**
HABR *e*SSS SSS 18 30 14.5
HABR MLR MLR
comp=Z,91µm,19.0s
EKU East Kanab 88.62 46 *e*P **P 18 10 08.2 +1.2**
PSUT Pine Spring 88.69 44 *e*P **P 18 10 07.6 +0.3**
BHU Blowhard Mount 88.71 45 *e*P **P 18 10 09.1 +1.5**
X18A Snowflake 88.72 49 *e*P **P 18 10 08.3 +0.8**
F04D Rainier, OR 88.73 34 P **P 18 10 08.2 +1.2**
baz=224,SNR=22
TPTI 88.74 274 P **P 18 10 07.0 -0.9**
comp=Z,2µm,2.4s,comp=Z,51µmcomp=Z,389µm
TRTT Trang 88.76 280 P **P 18 10 08.5 +0.6**
comp=Z,2µm,2.1s,comp=Z,48µm
E03A Lebam 88.80 33 *e*P **P 18 10 07.8 +0.6**
WHN Wuhan 88.82 306⇑*i*P **P 18 10 08.6 +0.8**
WHN pP **pP 18 10 16.4 -2.5**
WHN SKS **SKSac 18 20 35.3 +0.6**
WHN SS **SS 18 26 48.8 +2.7**
WHN pmax pmax
comp=Z,2µm,1.6s
WHN pmax pmax
comp=Z,15µm,3.8s
WHN LR LR
comp=Z,272µm,22.2s
WHN LR LR
comp=Z,473µm,25.4s
WHN LR LR
comp=Z,608µm,23.0s
HOOD Mount Hood Mea 88.86 35 *e*P **P 18 10 08.1 +0.2**
CHBT CHBT 88.91 285 P **P 18 10 09.8 +1.2**
comp=Z,2µm,2.1s,comp=Z,285µm
F04A Amboy 88.91 34 *e*P **P 18 10 08.0 +0.1**
DWU Dry Willow Pea 88.94 45 *e*P **P 18 10 09.5 +0.9**
VFP Flag Point 88.96 35 P **P 18 10 08.5 +0.2**
PKCU Pink Cliffs 88.96 46 *e*P **P 18 10 09.9 +1.1**
G05D Wamic, OR 88.98 35 P **P 18 10 09.0 +0.8**
baz=226,SNR=78
121A Cookes Peak, D 89.00 52 P **P 18 10 09.9 +1.0**
baz=234,SNR=107
LVP Lakeview Peak 89.02 34 *e*P **P 18 10 08.9 +0.4**
DL2 Dalian 89.02 316⇑*i*P **P 18 10 08.8 +0.3**
DL2 PP **PP 18 13 38.9 -0.1**
DL2 SKS **SKSac 18 20 36.5 +1.0**
DL2 S **ScS 18 20 57.3 -2.1**
DL2 pmax pmax
comp=Z,1µm,1.9s
DL2 pmax pmax
comp=Z,54µm,8.6s
DL2 LR LR
comp=Z,57µm,26.5s
DL2 LR LR
comp=Z,123µm,25.2s
DL2 LR LR
comp=Z,247µm,25.1s
FL2 Flat Top 2 89.13 34 P **P 18 10 09.7 +0.7**
W18A Petrified Fore 89.21 49 P **P 18 10 10.8 +1.0**
baz=233,SNR=13
W18A Petrified Fore 89.21 49 *e*P **P 18 10 10.5 +0.7**
STD Studebaker Rid 89.23 34 *e*P **P 18 10 10.4 +0.9**
NLWA Neilton Lookou 89.26 32 *e*P **P 18 10 10.4 +0.9**
NLWA LR LR
comp=Z,320µm,20.0s
TRQA Tornquist 89.27 134 *e*P **P 18 10 09.6 -0.5**
TRQA LR LR
comp=Z,318µm,22.0s
G06A Carlson Farm, 89.32 36 *e*P **P 18 10 09.9 0.0**
VTHM Trough 89.32 36 P **P 18 10 10.3 +0.4**
MTPU Mount Pierson 89.41 45 *e*P **P 18 10 12.0 +1.1**
VGB Gordon Butte 89.44 35 *e*P **P 18 10 10.7 +0.3**
VGB Gordon Butte 89.44 35 *e*P **P 18 10 10.7 +0.3**
EPT El Paso 89.46 53 *e*P **P 18 10 11.1 +0.2**
SKNT Sakolnakorn 89.63 290 P **P 18 10 12.6 +0.7**
comp=Z,2µm,1.4s,comp=Z,52µm
MSU Marysvale 89.70 45 *e*P **P 18 10 12.8 +0.7**
MSU Marysvale 89.70 45 *e*P **P 18 10 12.8 +0.7**
FSU Fish Springs 89.72 43 *e*P **P 18 10 12.4 +0.4**
SNY Shenyang 89.74 319⇑P **P 18 10 11.8 0.0**
SNY PP **PP 18 13 46.0 +1.3**
SNY SKS **SKSac 18 20 40.8 +1.3**
SNY S **ScS 18 21 06.8 +1.6**
SNY pmax pmax
comp=Z,270nm,2.0s
SNY pmax pmax
comp=Z,48µm,12.1s
SNY LR LR
comp=Z,56µm,27.0s
SNY LR LR
comp=Z,82µm,23.5s
SNY LR LR
comp=Z,176µm,31.9s
LON Longmire 89.79 34 *e*P **P 18 10 12.1 0.0**
LON pmax pmax
comp=Z,980nm,1.5s
LON MLR MLR
comp=Z,190µm,20.0s
LON Longmire 89.79 34 *e*P **P 18 10 11.4 -0.6**
GNW Green Mountain 89.88 33 *e*P **P 18 10 12.9 +0.6**
LHMI Lhok Sumawe 89.89 276 P **P 18 10 13.1 -0.1**
comp=Z,1µm,1.9s,comp=Z,40µmcomp=Z,279µm
LHMI Lhok Sumawe 89.89 276 *e*P **P 18 10 12.9 -0.3**
MLSI Meulaboh, Aceh 89.90 275 P **P 18 10 12.8 -0.5**
comp=Z,1µm,1.7s,comp=Z,33µmcomp=Z,236µm
C04A Brinnon 89.92 33 *e*P **P 18 10 13.7 +1.2**
NKL Nikolayevsk 89.95 336 *i* P **P 18 10 14.0 +1.5**
NKL pmax pmax
comp=N,2µm,2.0s
NKL pmax pmax
comp=E,4µm,2.0s
NKL pmax pmax
comp=N,9µm,16.0s
NKL pmax pmax
comp=E,7µm,16.0s
NKL pmax pmax
comp=Z,37µm,16.0s
PANH Panhandle Gap, 89.95 34 *e*P **P 18 10 13.6 +0.6**
PKDT Phuket 89.96 279 P **P 18 10 14.5 +0.9**
comp=Z,1µm,2.2s,comp=Z,35µm
CN2 Changchun 89.99 322⇑P **P 18 10 12.9 -0.1**
CN2 *es*P sP 18 10 27.0 -1.0
CN2 *e*S **S 18 21 04.3 +1.1**
CN2 pmax pmax
comp=Z,15µm,7.0s
CN2 LR LR
comp=Z,16µm,22.0s
CN2 LR LR
comp=Z,11µm,22.0s
D05A Enumclaw 90.01 34 *e*P **P 18 10 13.4 +0.4**
WCU Willow Creek 90.03 44 *e*P **P 18 10 14.8 +1.0**
MMU Miners Mountai 90.06 45 *e*P **P 18 10 14.4 +0.6**
SURT Suratani 90.08 280 P **P 18 10 14.9 +0.8**
comp=Z,670nm,2.1s,comp=Z,19µm
TRW Toppenish Ridg 90.10 35 P **P 18 10 14.1 +0.6**
HOPE Hope Point 90.12 158 *e*P **P 18 10 12.8 -0.8**
HOPE LR LR
comp=Z,106µm,21.0s
LTX Lajitas 90.13 56 *e*P **P 18 10 14.4 +0.3**
LTX Lajitas 90.13 56 *e*P **P 18 10 14.4 +0.3**
TX31 Lajitas Ar. Si 90.13 56 *e*P **P 18 10 14.0 -0.1**
TXAR Lajitas Array 90.13 56 P **P 18 10 14.4 +0.3**
comp=Z,80nm,1.0s,baz=207,slow=5.9,SNR=236
TXAR PKKPbc **PKKPdf 18 27 41.9 +0.7**
comp=Z,4.9nm,1.0s,baz=84,slow=2.8,SNR=4.5
TXAR PKPPKP **P'P'df 18 35 53.5 +1.7**
comp=Z,4.9nm,1.1s,baz=48,slow=1.3,SNR=5.6
TXAR LR LR 18 43 09.7
comp=Z,203µm,20.2s,baz=0.0,slow=31
SP2 Seward Park 2 90.14 33 P **P 18 10 14.9 +1.3**
MNTX Cornudas Mount 90.20 54 P **P 18 10 14.7 +0.4**
baz=236,SNR=195
MNTX Cornudas Mount 90.20 54 *e*P **P 18 10 14.1 -0.2**
MNTX LR LR
comp=Z,108µm,22.0s
TIA Tai'an 90.21 312⇑P **P 18 10 14.9 +0.7**
TIA pP **pP 18 10 25.0 -0.3**
TIA sP **sP 18 10 30.3 +1.0**
TIA SKS **SKSac 18 20 43.9 +1.2**
TIA pmax pmax
comp=Z,440nm,1.6s
TIA pmax pmax
comp=Z,3µm,4.5s
TIA LR LR
comp=Z,143µm,27.6s
TIA LR LR
comp=Z,138µm,29.0s
TIA LR LR
comp=Z,342µm,29.7s
FLU Fool Peak 90.24 44 *e*P **P 18 10 15.5 +1.0**
DUG Dugway, Tooele 90.36 43 P **P 18 10 15.3 +0.2**
baz=232
DUG Dugway, Tooele 90.36 43 *e*P **P 18 10 15.2 +0.2**
DUG pmax pmax
comp=Z,190nm,1.2s
DUG MLR MLR
comp=Z,420µm,20.0s
DUG Dugway, Tooele 90.36 43 *e*P **P 18 10 14.8 -0.2**
DUG LR LR
comp=Z,421µm,20.0s
PGC Sidney 90.36 32 *e*P **P 18 10 14.5 -0.1**
CNPM China Poot 90.44 12 *e*P **P 18 10 15.0 +0.3**
SGU Sterling 90.44 44 *e*P **P 18 10 17.0 +1.5**
Y22D IRIS PASSCAL I 90.48 51 P **P 18 10 16.7 +0.9**
baz=235
Y22D IRIS PASSCAL I 90.48 51 *e*P **P 18 10 16.6 +0.9**
HOM Homer 90.49 12 *e*P **P 18 10 15.0 +0.1**
LENM Lemitar 90.50 51 *e*P **P 18 10 17.1 +1.2**
C05A Tolt Reservoir 90.51 33 *e*P **P 18 10 15.9 +0.6**
LAZ Ladron 90.52 50 *e*P **P 18 10 16.4 +0.4**
LEVU Levan 90.54 44 *e*P **P 18 10 17.0 +1.0**
Q16A Castle Valley 90.57 45 *e*P **P 18 10 16.6 +0.5**
SNO Snow College 90.59 44 *e*P **P 18 10 17.7 +1.4**
E07A Sunnyside 90.63 35 *e*P **P 18 10 15.9 -0.1**
CMIG Matias Romero 90.65 71 P **P 18 10 17.3 +0.7**
comp=Z,100nm,1.1s,baz=217,slow=5.0,SNR=56
CMIG PKKPbc **PKKPbc 18 27 42.7 +0.1**
comp=Z,5.9nm,1.0s,baz=0.0,slow=5.7,SNR=3.0
CMIG LR LR 18 42 12.7
comp=Z,221µm,20.6s,baz=236,slow=30
NLU North Lily Min 90.65 44 *e*P **P 18 10 16.0 -0.4**
MFID Camas Ranch 90.66 39 *e*P **P 18 10 15.9 -0.4**
HAWA Hanford 90.68 35 *e*P **P 18 10 16.5 +0.4**
HAWA LR LR
comp=Z,400µm,20.0s
BGU Big Grassy Mou 90.68 42 *e*P **P 18 10 16.4 -0.1**
LTY Liberty 90.70 34 *e*P **P 18 10 15.9 -0.4**
LVIG Laguna Verde 90.70 68 *e*P **P 18 10 16.5 -0.4**
MDW Midway 90.71 35 *e*P **P 18 10 17.1 +0.8**
MDW Midway 90.71 35 *e*P **P 18 10 17.1 +0.8**
B05A Bryant 90.72 33 P **P 18 10 17.0 +0.8**
baz=225,SNR=64
BRLK Bradley Lake 90.72 12 *e*P **P 18 10 16.4 +0.4**
BNM Barren Site 90.73 51 *e*P **P 18 10 16.8 -0.2**
CHAI Chaiyaphum 90.75 288 P P 18 10 26.8 +10
A04D Lummi Island 90.75 32 P **P 18 10 17.0 +0.7**
baz=225,SNR=24
TMUT Trail Mountain 90.78 45 *e*P **P 18 10 17.7 +0.5**
BMO Blue Mountains 90.80 37 *e*P **P 18 10 16.6 -0.3**
BMO pmax pmax
comp=Z,1µm,1.7s
BMO MLR MLR
comp=Z,320µm,20.0s
BMO Blue Mountains 90.80 37 *e*P **P 18 10 16.4 -0.5**
BMO LR LR
comp=Z,318µm,20.0s
LPM Los Pinos Moun 90.81 51 *e*P **P 18 10 17.3 0.0**
LNIG Linares 90.93 62 *e*P **P 18 10 16.7 -1.1**
MPU Maple Canyon 90.96 44 *e*P **P 18 10 17.7 -0.2**
BBB Bella Bella 90.96 27 P **P 18 10 18.1 +0.9**
comp=Z,164nm,0.9s,baz=257,slow=7.1,SNR=12
RSO Redoubt South 91.04 11 *e*P **P 18 10 17.0 -0.7**
C06D Leavenworth 91.06 34 P **P 18 10 18.2 +0.3**
baz=226,SNR=20
SRU San Rafael Swe 91.09 45 *e*P **P 18 10 18.9 +0.4**
SRU pmax pmax
comp=Z,590nm,1.2s
SRU MLR MLR
comp=Z,290µm,21.0s
SRU San Rafael Swe 91.09 45 *e*P **P 18 10 18.3 -0.2**
SAIU Southern Antel 91.14 43 *e*P **P 18 10 18.8 +0.1**
P17A Butcher Ranch, 91.18 45 *e*P **P 18 10 18.9 0.0**
B06A Marblemount 91.19 33 *e*P **P 18 10 18.4 +0.1**
SVW2 Sparrevohn 91.19 10 *e*P **P 18 10 17.7 -0.4**
MVCO Mesa Verde 91.25 48 P **P 18 10 19.7 +0.3**
baz=234,SNR=26
MVCO Mesa Verde 91.25 48 *e*P **P 18 10 19.1 -0.3**
MVCO LR LR
comp=Z,282µm,21.0s
SPUT South Promonto 91.26 42 *e*P **P 18 10 19.1 -0.1**
ANMO Albuquerque 91.29 50 P **P 18 10 19.9 +0.4**
comp=Z,83nm,0.9s,baz=40,slow=4.5,SNR=164
ANMO PKPPKP **P'P'df 18 35 50.4 +1.2**
comp=Z,4.3nm,1.2s,baz=275,slow=1.6,SNR=4.1
ANMO Albuquerque 91.29 50 P **P 18 10 20.2 +0.7**
baz=235
ANMO Albuquerque 91.29 50*c e*P **P 18 10 19.8 +0.3**
ANMO pmax pmax
comp=Z,541nm,1.4s
ANMO MLR MLR
comp=Z,100µm,17.0s
ANMO Albuquerque 91.29 50 *e*P **P 18 10 19.4 -0.1**
ANMO P'P' 18 35 50.4
ANMO LR LR
comp=Z,315µm,20.0s
CTU Camp Tracy 91.30 43 *e*P **P 18 10 19.2 -0.2**
SEW Seward 91.32 13 *e*P **P 18 10 18.7 0.0**
RBU Red Butte Cany 91.32 43 *e*P **P 18 10 19.6 +0.2**
WTV Waterville 91.36 34 *e*P **P 18 10 19.4 +0.1**
HVU Hansel Valley 91.36 42 *e*P **P 18 10 20.0 +0.4**
HVU pmax pmax
comp=Z,1µm,1.4s
HVU MLR MLR
comp=Z,390µm,20.0s
HVU Hansel Valley 91.36 42 *e*P **P 18 10 19.6 -0.1**
PV05 Paradox Valley 91.37 47 *e*P **P 18 10 20.2 +0.3**
PB10 IPOC Station P 91.39 118 *e*P **P 18 10 19.4 -0.7**
JLU Jordanelle 91.43 43 *e*P **P 18 10 20.1 +0.1**
D08A Wollman Farm, 91.44 35 *e*P **P 18 10 19.5 -0.2**
E09A Wood Farm, Sta 91.47 36 *e*P **P 18 10 19.4 -0.4**
TUIG Tuzandepetl 91.50 70 *e*P **P 18 10 21.1 +0.5**
MTUT Morton Thiokol 91.51 42 *e*P **P 18 10 20.4 +0.2**
HLID Hailey 91.54 40 P **P 18 10 20.9 +0.5**
baz=230,SNR=223
HLID Hailey 91.54 40 *e*P **P 18 10 20.8 +0.3**
HLID LR LR
comp=Z,292µm,20.0s
LTU Little Mountai 91.56 42 *e*P **P 18 10 20.9 +0.4**
P18A Preston Nutter 91.57 45 *e*P **P 18 10 20.6 -0.3**
PV10 Paradox Valley 91.59 46 *e*P **P 18 10 21.2 +0.3**
PV09 Paradox Valley 91.60 46 *e*P **P 18 10 20.8 -0.2**
HTU Hoyt Peak 91.61 44 *e*P **P 18 10 21.3 +0.3**
GZU Grizzly Peak 91.62 43 *e*P **P 18 10 21.2 +0.2**
CRAG Craig 91.67 23 *e*P **P 18 10 22.1 +1.7**
WVUT Wellsville 91.74 42 *e*P **P 18 10 22.5 +1.1**
PV01 Paradox Valley 91.74 47 *e*P **P 18 10 21.2 -0.4**
HONU Honeyville 91.76 42 *e*P **P 18 10 21.5 0.0**
TCUT Toone Canyon 91.77 43 *e*P **P 18 10 21.7 +0.1**
SPU Mount Spurr 91.84 11 *e*P **P 18 10 20.1 -1.2**
MCU Monte Cristo P 91.92 43 *e*P **P 18 10 22.3 -0.1**
PBKT Sadao Pong 91.93 288 P **P 18 10 23.6 +1.0**
comp=Z,830nm,2.8s,comp=Z,26µm
HWUT Hardware Ranch 91.97 43 *e*P **P 18 10 21.7 -0.8**
HWUT LR LR
comp=Z,453µm,20.0s
HDU Hyde Park 91.97 42 *e*P **P 18 10 23.1 +0.6**
CPRX Cap Rock 92.01 53 *e*P **P 18 10 22.1 -0.7**
B08A Colville Reser 92.11 34 *e*P **P 18 10 22.1 -0.7**
BEI Bear River Ran 92.15 42 *e*P **P 18 10 24.3 +1.0**
NNA Nana 92.17 105 PKKPbc PKKPbc 18 27 38.1 -0.2
comp=Z,5.8nm,0.5s,baz=66,slow=4.9,SNR=3.4
NNA PKPPKP 18 35 46.8
comp=Z,5.4nm,0.3s,baz=143,slow=2.9,SNR=3.8
NNA LR LR 18 42 42.8
comp=Z,235µm,21.2s,baz=234,slow=30
NNA Nana 92.17 105 *i* P **P 18 10 25.1 +1.1**
NNA Nana 92.17 105 *e*P **P 18 10 23.7 -0.2**
NNA *e*SS SS 18 27 38.1 +3.6
NNA *e*P'P'df **P'P'df 18 35 46.8 -5.6**
RC01 Rabbit Creek A 92.17 12 *e*P **P 18 10 22.8 +0.1**
ENH Enshi 92.18 303 *e*P **P 18 10 23.9 +0.3**
ENH LR LR
comp=Z,151µm,22.0s
C09A Chrisman Ranch 92.26 35 *e*P **P 18 10 23.2 -0.3**
GYA Guiyang 92.30 299⇑*i*P **P 18 10 24.9 +0.6**
GYA pP pP 18 10 36.0 +0.6
GYA PP **PP 18 14 11.3 +5.8**
GYA SKS **SKSac 18 20 53.4 -1.9**
GYA S **S 18 21 24.6 -0.7**
GYA sS sS 18 21 41.8 -1.9
GYA SS **SS 18 27 37.4 +0.5**
GYA pmax pmax
comp=Z,550nm,1.2s
GYA LR LR
comp=Z,44µm,21.4s
GYA LR LR
comp=Z,68µm,22.7s
GYA LR LR
comp=Z,95µm,22.4s
MA2 Magadan 92.30 344*c e*P **P 18 10 22.4 -0.9**
PB04 IPOC Station P 92.33 117 *e*P **P 18 10 24.9 +0.1**
SUA Susitna One 92.33 12 *e*P **P 18 10 23.3 -0.3**
BMUT Black Mountain 92.38 42 *e*P **P 18 10 25.0 +0.6**
GAMB Gambell 92.41 2 *e*P **P 18 10 24.0 +0.4**
SRDT SRDT 92.41 285 P **P 18 10 26.1 +1.3**
comp=Z,2µm,2.3s,comp=Z,53µm
LLLB Lillooet 92.47 31 *e*P **P 18 10 24.1 -0.3**
933A Laredo 92.48 60 P **P 18 10 25.2 +0.2**
baz=239,SNR=38
EYAK Cordova Ski Ar 92.49 14 *e*P **P 18 10 23.8 -0.4**
GLI Glacier Island 92.50 14 *e*P **P 18 10 24.1 -0.2**
FID Port Fidalgo 92.52 14 *e*P **P 18 10 23.8 -0.5**
CCIG Comitan 92.54 73 *e*P **P 18 10 26.0 +0.3**
RAGM Ragged Mountai 92.59 15 *e*P **P 18 10 24.5 -0.2**
PNT Penticton 92.63 33 *e*P **P 18 10 25.5 +0.4**
PNT Penticton 92.63 33 *e*P **P 18 10 25.5 +0.4**
S22A 4UR Ranch, Cre 92.64 48 P **P 18 10 26.6 +0.7**
baz=235,SNR=57
S22A 4UR Ranch, Cre 92.64 48 *e*P **P 18 10 26.1 +0.2**
034A Hebbronville 92.65 61 P **P 18 10 26.8 +1.1**
baz=239,SNR=106
WRAK Wrangell Islan 92.70 23 PFAKE 18 10 40.0 +15
WRAK LR LR
comp=Z,102µm,21.0s
PMR Palmer 92.75 13 *e*P **P 18 10 25.3 0.0**
PMR pmax pmax
comp=Z,760nm,1.2s
PMR MLR MLR
comp=Z,120µm,22.0s
PMR Palmer 92.75 13 *e*P **P 18 10 25.1 -0.2**
833A Chaparral WMA, 92.76 59 P **P 18 10 26.0 -0.2**
baz=238,SNR=24
035Z Hargill 92.81 61 P **P 18 10 26.5 +0.1**
baz=239,SNR=6.6
TT01 Tatalina 92.86 9 *e*P **P 18 10 25.8 0.0**
TTA Tatalina 92.88 9 *e*P **P 18 10 26.3 +0.3**
TTA Tatalina 92.88 9 *e*P **P 18 10 26.3 +0.3**
DIV Divide 93.01 14 *e*P **P 18 10 26.5 -0.1**
035A Encino 93.03 61 P **P 18 10 28.2 +0.7**
baz=239,SNR=23
934A Benavides 93.05 60 P **P 18 10 28.4 +0.9**
baz=239,SNR=31
BJT Baijiatuau 93.05 315 *e*P **P 18 10 27.7 +0.4**
BJT pmax pmax
comp=Z,2µm,1.8s
BJT Baijiatuau 93.05 315 *e*P **P 18 10 27.1 -0.2**
BJT LR LR
comp=Z,124µm,22.0s
BJI Beijing 93.06 315 P **P 18 10 27.8 +0.5**
BJI PP **PP 18 14 13.8 +2.7**
BJI SKS **SKSac 18 20 58.1 -0.5**
BJI S **ScS 18 21 33.0 +0.1**
BJI pmax pmax
comp=Z,210nm,2.3s
BJI LR LR
comp=Z,93µm,29.1s
BJI LR LR
comp=Z,88µm,28.1s
BJI LR LR
comp=Z,297µm,28.1s
DHAK Deception Hill 93.09 18 *e*P **P 18 10 27.1 0.0**
SML Sawmill 93.10 13 *e*P **P 18 10 28.2 +1.2**
SML pmax pmax
comp=Z,590nm,1.3s
SML MLR MLR
comp=Z,130µm,22.0s
SML Sawmill 93.10 13 *e*P **P 18 10 26.8 -0.2**
O20A White River Ci 93.12 45 P **P 18 10 27.8 0.0**
baz=234,SNR=26
O20A White River Ci 93.12 45 *e*P **P 18 10 27.3 -0.6**
BMRM Bremner River 93.12 15 *e*P **P 18 10 27.1 -0.1**
NEW Newport 93.15 35 P **P 18 10 27.2 -0.3**
comp=Z,30nm,1.1s,baz=230,slow=4.7,SNR=47
NEW Newport 93.15 35 P **P 18 10 27.4 -0.2**
baz=229
NEW Newport 93.15 35 *e*P **P 18 10 27.3 -0.3**
NEW pmax pmax
comp=Z,450nm,1.6s
NEW MLR MLR
comp=Z,420µm,20.0s
NEW Newport 93.15 35 *e*P **P 18 10 26.8 -0.7**
NEW LR LR
comp=Z,425µm,20.0s
LVC Limon Verde 93.15 118 PKKPbc PKKPbc 18 27 36.7 +0.3
comp=Z,21nm,0.8s,baz=36,slow=2.5,SNR=3.5
LVC LR LR 18 42 48.7
comp=Z,1301µm,21.8s,baz=218,slow=29
LVC Limon Verde 93.15 118 *e*P **P 18 10 29.1 +0.3**
LVC *e*PKKPdf **PKKPbc 18 27 36.7 +0.3**
LVC LR LR
comp=Z,310µm,22.0s
MCMT McKenzie Canyo 93.21 39 *e*P **P 18 10 28.1 -0.1**
ATAH Atahualpa 93.23 100 PKKPbc PKKPbc 18 27 34.2 -1.8
comp=Z,5.4nm,0.8s,baz=67,slow=4.4,SNR=3.6
CRQM Cirque 93.27 15 *e*P **P 18 10 28.0 0.0**
MSTX Muleshoe 93.29 53 P **P 18 10 28.4 -0.2**
baz=237,SNR=64
MSTX Muleshoe 93.29 53 *e*P **P 18 10 27.9 -0.7**
KLU Klutina 93.31 14 *e*P **P 18 10 27.7 -0.3**
SCM Sheep Creek Mo 93.32 13 *e*P **P 18 10 28.9 +0.8**
SCM pmax pmax
comp=Z,600nm,1.0s
SCM Sheep Creek Mo 93.32 13 *e*P **P 18 10 28.4 +0.3**
SMCO Snowmass 93.36 47 *e*P **P 18 10 28.8 -0.5**
PCA Pinnacle 93.40 17 *e*P **P 18 10 28.5 0.0**
PPLA Purkeypile 93.42 11 *e*P **P 18 10 27.1 -1.6**
REDW Red Top Meadow 93.45 42 *e*P **P 18 10 29.3 0.0**
TPAW Teton Pass 93.47 41 *e*P **P 18 10 29.4 -0.1**
KVTX Kingsville 93.50 61 *e*P **P 18 10 30.0 +0.4**
KVTX LR LR
comp=Z,152µm,19.0s
SDCO Great Sand Dun 93.51 48 P **P 18 10 29.9 +0.1**
baz=236,SNR=133
SDCO Great Sand Dun 93.51 48 *e*P **P 18 10 29.4 -0.5**
SDCO LR LR
comp=Z,202µm,21.0s
FXWY Fox Creek 93.52 41 *e*P **P 18 10 29.1 -0.6**
PB01 IPOC Station P 93.54 116 *e*P **P 18 10 30.3 +0.1**
SNOW Snow King Moun 93.57 42 *e*P **P 18 10 29.9 -0.1**
JCT Junction City 93.57 57 P **P 18 10 29.5 -0.5**
baz=238,SNR=43
JCT Junction City 93.57 57 *e*P **P 18 10 29.3 -0.7**
JCT pmax pmax
comp=Z,500nm,1.3s
JCT MLR MLR
comp=Z,320µm,20.0s
JCT Junction City 93.57 57 *e*P **P 18 10 28.7 -1.2**
JCT LR LR
comp=Z,320µm,20.0s
BESE Bessie Mountai 93.64 20 *e*P **P 18 10 29.7 +0.1**
DLMT Dillon 93.69 39 *e*P **P 18 10 30.2 0.0**
BALM Baldy 93.70 16 *e*P **P 18 10 29.9 0.0**
BALM pmax pmax
comp=Z,310nm,1.0s
BALM MLR MLR

comp=Z,160µm,20.0s
BALM Baldy 93.70 16 *e*P **P 18 10 29.6 -0.3**
MHTCO State Highway 93.70 49 *e*P **P 18 10 30.0 -0.7**
IMW Indian Meadow 93.73 41 *e*P **P 18 10 30.6 -0.1**
LOHW Long Hollow 93.75 41 *e*P **P 18 10 30.4 -0.3**
MOOW Moose Ponds 93.75 41 *e*P **P 18 10 30.1 -0.6**
MCID Moose Creek 93.77 41 *e*P **P 18 10 31.5 +0.8**
BW06 Boulder Array 93.86 43 P **P 18 10 30.9 -0.4**
baz=234,SNR=49
BW06 Boulder Array 93.86 43 *e*P **P 18 10 30.1 -1.1**
BW06 LR LR
comp=Z,437µm,20.0s
PD31 Pinedale Array 93.86 43 *e*P **P 18 10 30.4 -0.8**
PDAR Pinedale Array 93.86 43 P **P 18 10 30.5 -0.8**
comp=Z,34nm,0.9s,baz=204,slow=3.3,SNR=122
PDAR PP **PP 18 14 18.4 +0.9**
comp=Z,36nm,1.1s,baz=225,slow=6.2,SNR=3.8
PDAR PKKPbc **PKKPdf 18 27 35.3 -0.1**
comp=Z,7.9nm,0.7s,baz=48,slow=4.0,SNR=10
PDAR PKPPKP **P'P'df 18 35 45.1 +1.5**
comp=Z,3.7nm,1.1s,baz=94,slow=2.3,SNR=4.6
PDAR LR LR 18 46 13.3
comp=Z,400µm,20.1s,baz=242,slow=31
MSO Missoula 93.87 37 P **P 18 10 30.4 -0.7**
baz=231
MSO Missoula 93.87 37 *e*P **P 18 10 29.9 -1.1**
936A North Padre Is 93.88 61 P **P 18 10 32.1 +0.7**
baz=239
T25A Trinidad 93.89 49 P **P 18 10 31.5 0.0**
baz=236,SNR=51
T25A Trinidad 93.89 49 *e*P **P 18 10 31.3 -0.3**
BGMT Barton Gulch 93.92 40 *e*P **P 18 10 31.8 +0.4**
835A Beeville 93.92 60 P **P 18 10 32.3 +0.7**
baz=239
CAST Castle Rocks 93.93 11 *e*P **P 18 10 29.0 -1.8**
QLMT Earthquake Lak 94.01 40 *e*P **P 18 10 32.3 +0.4**
YPP Pitchstone Pla 94.03 41 *e*P **P 18 10 32.1 0.0**
LRM Limekiln Ridge 94.05 39 *e*P **P 18 10 31.4 -0.7**
BSMT Bassoo Peak 94.07 36 *e*P **P 18 10 30.8 -1.2**
PB11 IPOC Station P 94.09 115 *e*P **P 18 10 32.4 -0.5**
YHB Horse Butte 94.10 40 *e*P **P 18 10 32.7 +0.4**
YFT Old Faithful 94.12 41 *e*P **P 18 10 33.9 +1.5**
TIY Taiyuan 94.15 311 *e*P **P 18 10 32.9 +0.4**
TIY S **S 18 21 43.8 +2.7**
TIY SS **SS 18 28 04.3 +1.4**
TIY pmax pmax
comp=Z,150nm,1.2s
TIY pmax pmax
comp=Z,9µm,9.2s
TIY LR LR
comp=Z,208µm,31.3s
TIY LR LR
comp=Z,166µm,25.6s
TIY LR LR
comp=Z,343µm,31.0s
YMR Madison River 94.18 40 *e*P **P 18 10 33.1 +0.4**
SKAG Skagway 94.22 20 *e*P **P 18 10 33.2 +1.0**
YPM Purple Mountai 94.23 40 *e*P **P 18 10 34.3 +1.3**
735A Kenedy 94.23 59 P **P 18 10 33.2 +0.3**
baz=239
H17A Grant Village 94.24 41 P **P 18 10 34.3 +1.3**
baz=233,SNR=42
H17A Grant Village 94.24 41 *e*P **P 18 10 34.1 +1.2**
KTH Kantishna Hill 94.25 11 *e*P **P 18 10 31.0 -1.3**
YLT Little Thumb C 94.25 41 *e*P **P 18 10 35.0 +1.9**
TRF Thorofare Moun 94.26 11 *e*P **P 18 10 31.3 -1.2**
SWMT Swartz Lake 94.27 37 *e*P **P 18 10 31.0 -1.8**
JTMT Jette 94.27 37 *e*P **P 18 10 31.4 -1.4**
HARP HAARP 94.29 14 *e*P **P 18 10 32.9 +0.4**
CHMT Chamberlain Mo 94.29 38 *e*P **P 18 10 32.1 -1.0**
YHH Holmes Hill 94.32 40 *e*P **P 18 10 33.4 0.0**
BOZ Bozeman (W) 94.37 39 P **P 18 10 33.9 +0.4**
baz=232
BOZ Bozeman (W) 94.37 39 *e*P **P 18 10 33.8 +0.4**
BOZ pmax pmax
comp=Z,450nm,1.1s
BOZ MLR MLR
comp=Z,290µm,20.0s
BOZ Bozeman (W) 94.37 39 *e*P **P 18 10 33.2 -0.2**
BOZ LR LR
comp=Z,285µm,20.0s
SLMT Seeley Lake 94.37 37 *e*P **P 18 10 31.8 -1.6**
YNR Norris Junctio 94.37 41 *e*P **P 18 10 34.4 +0.8**
BLMT Blacktail Moun 94.39 36 *e*P **P 18 10 31.9 -1.7**
YTP The Promontory 94.40 41 *e*P **P 18 10 34.7 +1.0**
Q24A Divide 94.42 48 P **P 18 10 33.8 -0.2**
baz=236,SNR=41
Q24A Divide 94.42 48 *e*P **P 18 10 33.8 -0.2**
LKWY Lake 94.44 41 *e*P **P 18 10 34.1 +0.2**
LKWY MLR MLR
comp=Z,650µm,20.0s
LKWY Lake 94.44 41 *e*P **P 18 10 34.1 +0.2**
LKWY LR LR
comp=Z,650µm,20.0s
RND Reindeer 94.47 12 *e*P **P 18 10 33.2 -0.1**
RND pmax pmax
comp=Z,810nm,1.2s
RND MLR MLR
comp=Z,170µm,22.0s
RND Reindeer 94.47 12 *e*P **P 18 10 31.9 -1.5**
MNMC Minye Minye 94.48 115 *e*P **P 18 10 34.7 -0.1**
YBMT Yellow Bay 94.48 37 *e*P **P 18 10 32.0 -1.8**
CM31 Chiang Mai Arr 94.53 288 *e*P **P 18 10 35.5 +0.9**
CMAR Chiang Mai Arr 94.53 288 P **P 18 10 35.9 +1.2**
comp=Z,38nm,0.9s,baz=133,slow=3.1,SNR=82
CMAR PP **PP 18 14 25.8 +2.9**
comp=Z,17nm,1.1s,baz=101,slow=4.7,SNR=2.9
CMAR PKKPbc **PKKPbc 18 27 33.2 +0.6**
comp=Z,26nm,1.2s,baz=290,slow=4.5,SNR=8.9
CMAR PKPPKP **P'P'df 18 35 44.1 -1.1**
comp=Z,2.4nm,1.0s,baz=278,slow=3.3,SNR=5.7
CMAR LR LR 18 55 22.3
comp=Z,32µm,19.5s,baz=150,slow=37
AMTX Amarillo 94.54 53 P **P 18 10 34.0 -0.4**
baz=238
AMTX Amarillo 94.54 53 *e*P **P 18 10 33.5 -0.8**
XAN Xi'an 94.58 306 P **P 18 10 34.9 +0.4**
XAN pP pP 18 10 44.4 -1.2
XAN PP **PP 18 14 20.0 -3.1**
XAN SKS **SKSac 18 21 04.5 -2.8**
XAN pmax pmax
comp=Z,500nm,1.3s
XAN LR LR
comp=Z,38µm,22.1s
XAN LR LR
comp=Z,105µm,21.8s
XAN LR LR
comp=Z,217µm,21.5s
ISCO Idaho Springs 94.58 47 P **P 18 10 34.9 +0.1**
baz=236,SNR=22
ISCO Idaho Springs 94.58 47 *e*P **P 18 10 34.8 +0.1**
ISCO pmax pmax
comp=Z,270nm,1.8s
ISCO MLR MLR
comp=Z,250µm,20.0s
ISCO Idaho Springs 94.58 47 *e*P **P 18 10 34.4 -0.3**
ISCO LR LR
comp=Z,254µm,20.0s
RWWY Rawlins 94.65 44 *e*P **P 18 10 34.0 -0.9**
KMI Kunming 94.68 296 P **P 18 10 36.8 +1.4**
KMI pP pP 18 10 45.1 -1.4
KMI sP sP 18 10 49.3 -1.2
KMI PP **PP 18 14 29.6 +5.3**
KMI S **S 18 21 42.9 -3.7**
KMI sS sS 18 22 08.0 +3.0
KMI pmax pmax
comp=Z,420nm,2.0s
KMI LR LR
comp=Z,22µm,28.2s
KMI LR LR
comp=Z,79µm,23.3s
KMI LR LR
comp=Z,127µm,25.4s
CHTO Chiang Mai 94.70 289 P **P 18 10 36.1 +0.6**
comp=Z,1µm,0.9s,comp=Z,69µm
CHTO Chiang Mai 94.70 289 *e*P **P 18 10 36.0 +0.6**
CHTO MLR MLR
comp=Z,87µm,22.0s
CHTO Chiang Mai 94.70 289 *e*P **P 18 10 36.0 +0.6**
CHTO LR LR
comp=Z,87µm,22.0s
CHTO Chiang Mai 94.70 289 P **P 18 10 36.7 +1.3**
SNR=243
CHTO P **P 18 10 36.7 +1.3**
SNR=243
CHTO Chiang Mai 94.70 289 PcP **P 18 10 36.7 +1.3**
SNR=243
PAX Paxson 94.73 13 *e*P **P 18 10 34.1 -0.4**
PAX pmax pmax
comp=Z,160nm,1.1s
PAX MLR MLR
comp=Z,150µm,20.0s
PAX Paxson 94.73 13 *e*P **P 18 10 33.7 -0.8**
HYT Haines Junctio 94.75 18 *e*P **P 18 10 34.4 -0.4**
BPAW Bear Paw Mtn. 94.75 11 *e*P **P 18 10 33.7 -0.9**
MCK McKinley 94.76 12 *e*P **P 18 10 34.3 -0.3**
MCK pmax pmax
comp=Z,480nm,1.2s
MCK MLR MLR
comp=Z,180µm,21.0s
MCK McKinley 94.76 12 *e*P **P 18 10 33.9 -0.7**
ABTX Abilene, Hawle 94.80 55 P **P 18 10 35.3 -0.3**
baz=239,SNR=28
ABTX Abilene, Hawle 94.80 55 *e*P **P 18 10 34.6 -0.9**
736A Circle Diamond 94.84 60 P **P 18 10 36.7 +1.0**
baz=240
SEY Seymchan 94.91 346 PKKPbc PKKPbc 18 27 33.2 -0.2
comp=Z,14nm,0.8s,baz=233,slow=2.9,SNR=8.2
SEY LR LR 18 45 48.8
comp=Z,136µm,21.8s,baz=140,slow=31
SEY Seymchan 94.91 346 *c*e**P P 18 10 35.3 +0.1**
HRY Holter Researc 94.94 38 *e*P **P 18 10 35.5 -0.5**
N23A Red Feather La 94.99 46 P **P 18 10 36.7 +0.2**
baz=236
N23A Red Feather La 94.99 46 *e*P **P 18 10 35.9 -0.7**
MENT Mentasta 95.07 14 *e*P **P 18 10 35.5 -0.5**
636A Smothers Creek 95.11 59 P **P 18 10 37.2 +0.2**
baz=240,SNR=16
CRMT Chrome Mountai 95.12 40 *e*P **P 18 10 37.4 +0.4**
737A Port Lavaca 95.22 60 P **P 18 10 38.7 +1.2**
baz=240
WALA Waterton Lakes 95.29 36 *e*P **P 18 10 36.5 -1.0**
WHY Whitehorse 95.33 19 *e*P **P 18 10 37.3 -0.1**
435B Jarrell 95.37 58 P **P 18 10 37.5 -0.6**
baz=240
536A Bastrop 95.40 59 P **P 18 10 38.0 -0.3**
baz=240
RLMT Red Lodge 95.42 41 P **P 18 10 38.9 +0.6**
baz=234
RLMT Red Lodge 95.42 41 *e*P **P 18 10 37.9 -0.4**
RLMT LR LR
comp=Z,350µm,20.0s
PHWY Pilot Hill 95.52 46 *e*P **P 18 10 38.1 -0.8**
GCMT Greycliff 95.58 40 *e*P **P 18 10 38.7 -0.3**
WRH Wood River Hil 95.59 12 *e*P **P 18 10 37.4 -0.9**
TGUH Tegucigalpa,Un 95.60 77 *e*P **P 18 10 39.5 0.0**
K22A Casper 95.62 44 P **P 18 10 39.2 0.0**
baz=236,SNR=48
K22A Casper 95.62 44 *e*P **P 18 10 38.6 -0.6**
DOT Dot Lake 95.62 14 *e*P **P 18 10 38.2 -0.3**
637A Eagle Lake 95.64 60 P **P 18 10 39.6 +0.2**
baz=240
MLY Manley 95.65 11 *e*P **P 18 10 37.3 -1.4**
HDA Harding Lake 95.74 12 *e*P **P 18 10 38.3 -0.7**
MAPC Malpelo 95.79 89 *e*P **P 18 10 40.7 +0.2**
CCB Clear Creek Bu 95.80 12 *e*P **P 18 10 38.1 -1.2**
JTS JuntasAbangare 95.83 82 LR LR 18 44 03.5
comp=Z,250µm,21.8s,baz=288,slow=29
738A Farr-Stevens R 95.86 60 P **P 18 10 40.7 +0.3**
baz=240
436A Wall Ranch, Ga 95.95 58 P **P 18 10 40.8 0.0**
baz=240
537A Green Hill Far 95.97 59 P **P 18 10 41.0 +0.1**
baz=240
COLA College 96.00 12 *e*P **P 18 10 40.1 0.0**
COLA pmax pmax
comp=Z,310nm,1.0s
COLA MLR MLR
comp=Z,170µm,22.0s
COLA College 96.00 12 *e*P **P 18 10 39.2 -0.9**
COLA LR LR
comp=Z,154µm,22.0s
MDM Murphy Dome 96.01 12 *e*P **P 18 10 38.6 -1.6**
WHTX Lake Whitney, 96.07 57 P **P 18 10 40.6 -0.7**
baz=240,SNR=9.2
WHTX Lake Whitney, 96.07 57 *e*P **P 18 10 39.9 -1.4**
ILAR Eielson Array 96.08 12 P **P 18 10 39.8 -0.8**
comp=Z,40nm,0.8s,baz=219,slow=4.9,SNR=134
ILAR PP **PP 18 14 35.5 +1.5**
comp=Z,17nm,0.9s,baz=227,slow=7.0,SNR=3.1
ILAR PKKPbc **PKKPbc 18 27 23.9 -6.5**
comp=Z,4.9nm,0.9s,baz=333,slow=2.9,SNR=4.7
ILAR PKKP **PKKPdf 18 27 32.5 +0.6**
comp=Z,14nm,1.1s,baz=346,slow=3.9,SNR=6.3
ILAR PKPPKP **P'P'df 18 35 41.1 +4.2**
comp=Z,6.7nm,1.2s,baz=334,slow=2.0,SNR=7.3
ILAR LR LR 18 46 55.2
comp=Z,84µm,21.6s,baz=214,slow=31
ILAR Eielson Array 96.08 12 P **P 18 10 39.8 -0.8**
ILAR 18 14 35.5
ILAR pmax pmax
comp=Z,38nm,0.8s
ILAR pmax pmax
comp=Z,17nm,0.9s
ILAR MLR MLR
comp=Z,84µm,21.6s
ILB Eielson Array 96.08 12 *e*P **P 18 10 39.2 -1.3**
KSCO Kaye Shedlock' 96.09 49 P **P 18 10 41.5 +0.1**
baz=238,SNR=8.6
KSCO Kaye Shedlock' 96.09 49 *e*P **P 18 10 40.8 -0.7**
336A Riesel 96.22 58 P **P 18 10 41.6 -0.4**
baz=240
HKT Hockley 96.27 59 *e*P **P 18 10 42.8 +0.6**
HKT pmax pmax
comp=Z,270nm,1.6s
HKT MLR MLR
comp=Z,200µm,20.0s
HKT Hockley 96.27 59 *e*P **P 18 10 41.8 -0.4**
638A Rosharon 96.30 60 P **P 18 10 43.6 +1.2**
baz=240
HHC Hu-ho-hao-te 96.43 313 *e*P **P 18 10 43.1 +0.2**
HHC pP sP 18 10 59.0 +1.1
HHC SKS **SKSac 18 21 09.4 -7.5**
HHC S **S 18 22 01.1 +0.3**
HHC sS pS 18 22 15.3 +0.2
HHC pmax pmax
comp=Z,63nm,1.9s
HHC pmax pmax
comp=Z,11µm,10.9s
HHC LR LR
comp=Z,81µm,20.6s
HHC LR LR
comp=Z,101µm,21.6s
HHC LR LR
comp=Z,176µm,22.6s
437A Phantom Ranch, 96.47 58 P **P 18 10 43.2 +0.1**
baz=240
WMOK Wichita Mounta 96.50 54 P **P 18 10 42.5 -0.8**
baz=239,SNR=23
WMOK Wichita Mounta 96.50 54 *e*P **P 18 10 42.7 -0.6**
WMOK pmax pmax
comp=Z,190nm,1.7s
WMOK MLR MLR
comp=Z,120µm,21.0s
WMOK Wichita Mounta 96.50 54 *e*P **P 18 10 41.8 -1.4**
WMOK LR LR
comp=Z,121µm,21.0s
HIA Hailar 96.50 324 *c i*P **P 18 10 41.5 -1.3**
HIA pmax pmax
comp=Z,260nm,2.1s
HIA MLR MLR
comp=Z,59µm,19.0s
HIA Hailar 96.50 324 *e*P **P 18 10 41.6 -1.3**
HIA LR LR
comp=Z,170µm,21.0s
PBA Port Blair 96.59 280 *e*P P 18 10 44.7 +0.7
PBA AMB AMB 18 10 54.8
comp=Z,1µm,0.0s
PBA AMS AMS 19 04 27.0
comp=Z,34µm,13.5s
538A Harpers Horsep 96.66 59 P **P 18 10 44.5 +0.4**
baz=240
CD2 Chengdu 96.74 301 ⇑ *i*P **P 18 10 45.3 +0.8**
CD2 pP sP 18 10 57.5 -2.1
CD2 PP **PP 18 14 40.8 +0.8**
CD2 SKS **SKSac 18 21 18.0 -0.9**
CD2 S **S 18 22 04.1 +0.3**
CD2 SS **SS 18 28 40.8 +0.9**
CD2 pmax pmax
comp=Z,460nm,0.8s
CD2 pmax pmax
comp=Z,26µm,10.4s
CD2 LR LR
comp=Z,122µm,20.9s
CD2 LR LR
comp=Z,152µm,22.8s
CD2 LR LR
comp=Z,191µm,23.8s
236A Katherine and 96.76 57 P **P 18 10 43.8 -0.6**
baz=240
OTAV Otavalo 96.76 93 *e*P **P 18 10 46.8 +1.3**
OTAV Otavalo 96.76 93 *e*P **P 18 10 45.9 +0.4**
OTAV LR LR
comp=Z,249µm,21.0s
EGMT Eagleton 96.85 38 P **P 18 10 44.6 0.0**
baz=234
EGMT Eagleton 96.85 38 PFAKE 18 11 00.0 +15
EGMT LR LR
comp=Z,503µm,20.0s
337A Centerville 96.90 58 P **P 18 10 45.1 0.0**
baz=240
438A Sam Houston St 96.93 59 P **P 18 10 45.6 +0.3**
baz=240
136A Ennis 96.99 57 P **P 18 10 44.9 -0.6**
baz=240
DAWY Dawson 97.02 15 *e*P **P 18 10 45.1 +0.2**
DGPR DIGLIPUR 97.14 281 *e*P **P 18 10 46.0 -0.6**
DGPR AMB AMB 18 10 56.4
comp=Z,869nm,0.0s
DGPR AMS AMS 18 54 36.1
comp=Z,108µm,25.9s
U32A Winter Ranch, 97.18 52 P **P 18 10 46.2 -0.1**
baz=239
LPAZ La Paz 97.18 113 P Pdif 18 10 47.8 +0.2
comp=Z,31nm,0.8s,baz=232,slow=2.4,SNR=76
LPAZ PKKPbc **PKKPbc 18 27 26.6 +0.7**
comp=Z,9.9nm,0.9s,baz=33,slow=4.4,SNR=4.3
LPAZ LR LR 18 46 25.0
comp=Z,106µm,21.8s,baz=240,slow=30
LPAZ La Paz 97.18 113 *e*P Pdif 18 10 48.0 +0.4
LPAZ pmax pmax
comp=Z,170nm,1.1s
LPAZ La Paz 97.18 113 *e*P **P 18 10 47.4 -0.1**
LPAZ PKKPbc **PKKPbc 18 27 26.6 +0.7**
539A Cross D Ranch, 97.18 60 P Pdif 18 10 46.8 +0.3
baz=241
EGAK Eagle 97.23 14 *e*P **P 18 10 45.5 -0.2**
EGAK LR LR
comp=Z,157µm,22.0s
BTO Baotou 97.29 312 *e*P **P 18 10 46.3 -0.5**
237A Washetta, Mont 97.29 58 P **P 18 10 46.4 -0.4**
baz=240
Y35A Marietta 97.33 55 P **P 18 10 46.8 -0.2**
baz=240,SNR=12
338A Crockett 97.35 58 P **P 18 10 46.9 -0.2**
baz=241
Z36A Blue Ridge 97.45 56 P **P 18 10 47.5 -0.1**
baz=240
439A Center Grove, 97.48 59 P **P 18 10 47.9 +0.2**
baz=241
OGNE Ogallala 97.50 47 P **P 18 10 47.6 -0.1**
baz=238
OGNE Ogallala 97.50 47 *e*P **P 18 10 46.9 -0.8**
OGNE LR LR
comp=Z,360µm,21.0s
BILL Bilibino 97.53 353 *c i*P **P 18 10 46.4 -0.6**
BILL *i* 18 14 46.7
BILL *e*PPP PPP 18 16 49.2
BILL *e*S **SKSac 18 21 16.7 -4.4**
BILL *e*SS **SS 18 28 47.1 -2.2**
BILL pmax pmax
comp=Z,296nm,1.7s
BILL MLR MLR
comp=Z,91µm,19.0s
X35A Drake 97.62 55 P **P 18 10 47.6 -0.7**
baz=240,SNR=25
137A Heron Place, G 97.62 57 P **P 18 10 48.2 -0.1**
baz=241
TEIG Tepich 97.64 71 *e*P **P 18 10 48.8 +0.1**
CMBC Cumbal 97.64 93 *e*P **P 18 10 48.9 -0.6**
COLD Coldfoot 97.78 10 *e*P **P 18 10 48.0 -0.2**
540A Vidor 97.79 60 P **P 18 10 49.1 0.0**
baz=241
238A Jacksonville 97.80 58 P **P 18 10 49.3 +0.2**
baz=241
Y36A Durant 97.87 56 P **P 18 10 48.8 -0.6**
baz=240,SNR=10
339A Huntington 97.90 59 P **P 18 10 49.3 -0.3**
baz=241
CBKS Cedar Bluff 97.91 50 P **P 18 10 49.4 -0.2**
baz=239,SNR=13
CBKS Cedar Bluff 97.91 50 *e*P Pdif 18 10 50.4 +0.8
CBKS pmax pmax
comp=Z,550nm,1.7s
CBKS MLR MLR
comp=Z,280µm,22.0s
CBKS Cedar Bluff 97.91 50 *e*P **P 18 10 48.7 -0.8**
CBKS LR LR
comp=Z,284µm,22.0s
RSSD Black Hills 97.94 44 P **P 18 10 49.6 -0.2**
baz=237
RSSD Black Hills 97.94 44 *e*P **P 18 10 49.5 -0.3**
RSSD pmax pmax
comp=Z,540nm,1.2s
RSSD MLR MLR
comp=Z,490µm,20.0s
RSSD Black Hills 97.94 44 *e*P **P 18 10 49.0 -0.8**
FYU Fort Yukon 98.00 12 *e*P **P 18 10 48.6 -0.6**
Z37A Pogue Cattle C 98.01 57 P **P 18 10 49.9 -0.1**
baz=241
NATX Nacogdoches 98.03 58 P **P 18 10 49.8 -0.3**
baz=241
NATX Nacogdoches 98.03 58 *e*P Pdif 18 10 55.0 +4.8
comp=Z,184nm,1.4s
NATX LR LR
comp=Z,249µm,20.0s
LAO LASA Array 98.06 41 P Pdif 18 10 50.5 +0.5
baz=236
LAO LASA Array 98.06 41 *e*P **P 18 10 49.8 -0.3**
LAO LR LR
comp=Z,250µm,20.0s
W35A Tecumseh 98.06 54 P **P 18 10 49.9 -0.3**
baz=240,SNR=24
440A Kirbyville 98.07 59 P **P 18 10 50.2 -0.1**
baz=241
138A Matatall Enter 98.14 57 P **P 18 10 50.2 -0.4**
baz=241
X36A Centrahoma 98.15 55 P **P 18 10 49.9 -0.7**
baz=241,SNR=14
239A Gary 98.29 58 P **P 18 10 50.9 -0.5**
baz=241
541A Lake Charles 98.33 60 P Pdif 18 10 52.4 +0.8
baz=241
GRGC Isla de Gorgon 98.33 91 *e*P **P 18 10 50.6 -1.4**
V35A Meyer Ranch, C 98.39 54 P **P 18 10 51.0 -0.7**
baz=240
Y37A Hugo 98.39 56 P **P 18 10 51.5 -0.3**
baz=241
340A Bronson 98.44 59 P **P 18 10 51.8 -0.2**
baz=241
Z38A Mt. Pleasant 98.51 57 P **P 18 10 51.5 -0.8**
baz=241
W36A Wetumka 98.52 55 P **P 18 10 51.8 -0.5**
baz=241
441A DeRidder 98.65 60 P **P 18 10 52.8 -0.2**
baz=242
139A Bunkhouse Ranc 98.67 58 P **P 18 10 52.2 -0.8**
baz=241
T34A McClaskey Farm 98.76 53 P **P 18 10 52.9 -0.4**
baz=240,SNR=9.0
U35A Pawnee 98.76 53 P **P 18 10 53.1 -0.3**
baz=241
240A Hunter Patters 98.83 58 P **P 18 10 53.6 -0.1**
baz=242
542A Morse 98.84 61 P **P 18 10 53.9 +0.1**
baz=242
CLNS Chul'man 98.84 332 *c i*P **P 18 10 52.9 -0.4**
CLNS *e* 18 11 08.8
CLNS *e* 18 14 51.0
CLNS *e*S **SKSac 18 21 29.3 +1.0**
CLNS *e*PS **PS 18 23 56.3 +5.3**
CLNS pmax pmax
comp=Z,96nm,1.6s
CLNS pmax pmax
comp=E,32nm,1.5s
CLNS pmax pmax
comp=N,55nm,1.6s

CLNS pmax pmax
comp=Z,188nm,1.5s
CLNS pmax pmax
comp=E,90nm,1.3s
CLNS pmax pmax
comp=N,150nm,1.3s
CLNS smax smax
comp=N,26μm,17.4s
CLNS smax smax
comp=E,19μm,17.7s
X37A Clayton 98.87 55 P P 18 10 53.1 -0.8
baz=241
341A Kurthwood 98.94 59 P P 18 10 54.2 0.0
baz=242
Y38A Idabel 99.01 56 P Pdif 18 10 53.5 -1.1
baz=241
V36A Jenks 99.03 54 P Pdif 18 10 54.1 -0.5
baz=241
W37B Quinton 99.09 55 P Pdif 18 10 54.1 -0.8
baz=241
Z39A Irene McRaven, 99.09 57 P Pdif 18 10 54.3 -0.6
baz=241
S34A Willow Spring 99.15 52 P Pdif 18 10 54.8 -0.3
baz=241
TOLK Toolik Lake Re 99.18 10 P Pdif 18 10 54.1 -0.4
baz=204
T35A Sooner Cattle 99.18 53 P Pdif 18 10 54.2 -1.1
baz=241,SNR=10.0
TUL1 Leonard 99.20 54 P Pdif 18 10 54.5 -0.8
baz=241
TUL1 Leonard 99.20 54 *e*P **Pdif 18 10 54.5 -0.8**
LZH Lanzhou 99.20 306 *e*P **Pdif 18 10 56.3 +0.7**
LZH pP pP 18 11 06.8 +0.1
LZH sP sP 18 11 08.8 -1.8
LZH PP **PP 18 14 58.0 -0.9**
LZH *e*S **S 18 22 22.0 -2.8**
LZH sS sS 18 22 43.6 +0.3
LZH SS **SS 18 29 16.3 +1.7**
LZH pmax pmax
comp=E,740nm,1.0s
LZH pmax pmax
comp=E,5μm,6.3s
LZH LR LR
comp=E,32μm,17.0s
LZH LR LR
comp=E,108μm,19.2s
LZH LR LR
comp=E,187μm,19.8s
442A Mamou 99.21 60 P Pdif 18 10 55.4 -0.1
baz=242
140A Cam and Jess, 99.25 58 P Pdif 18 10 55.0 -0.6
baz=242
X38A Whitesboro 99.30 56 P Pdif 18 10 54.9 -0.9
baz=241
R34A Isabella, Hill 99.35 51 P Pdif 18 10 55.8 -0.1
baz=241
543A St. Martinvill 99.36 61 P Pdif 18 10 55.9 -0.2
baz=242
POPC Popayan, Colom 99.42 92 *e*P **Pdif 18 10 57.6 +0.4**
241A Mo Tay, Goldon 99.45 59 P Pdif 18 10 56.1 -0.4
baz=242
U36A Oologah 99.48 54 P Pdif 18 10 56.1 -0.4
baz=241
Y39A Lockesburg 99.48 57 P Pdif 18 10 55.7 -0.9
baz=242
CPUP Villa Florida 99.56 127 P Pdif 18 10 57.3 0.0
comp=E,10nm,1.0s,baz=237,slow=4.7,SNR=7.2
CPUP PKKPbc **PKKPbc 18 27 18.5 -0.2**
comp=E,15nm,1.0s,baz=47,slow=4.9,SNR=9.4
CPUP PKPPKP **P'P'df 18 35 34.6 -4.5**
comp=E,10nm,1.1s,baz=18,slow=6.4,SNR=5.2
CPUP LR LR 18 48 20.9
comp=E,214μm,21.2s,baz=252,slow=31
CPUP Villa Florida 99.56 127 *e*P **Pdif 18 10 57.7 +0.4**
342A Flagon Creek P 99.60 60 P Pdif 18 10 57.0 -0.2
baz=242
V37A Hulbert 99.65 54 P Pdif 18 10 56.7 -0.6
baz=241
Z40A Long Farm, Mag 99.67 57 P Pdif 18 10 56.7 -0.8
baz=242
S35A Otter Creek Ra 99.69 52 P Pdif 18 10 56.8 -0.7
baz=241
T36A Boggs Farm, Ca 99.69 53 P Pdif 18 10 57.2 -0.3
baz=241
W38A Poteau 99.71 55 P Pdif 18 10 56.9 -0.8
baz=242,SNR=5.7
443A Delano Plantat 99.73 60 P Pdif 18 10 58.2 +0.4
baz=242
141A Papa Simpson, 99.74 58 P Pdif 18 10 57.5 -0.2
baz=242
X39A Fountain Ranch 99.74 56 P Pdif 18 10 57.0 -0.8
baz=242
BCIP Isla Barro Col 99.76 85 *e*P **Pdif 18 10 56.3 -2.0**
BCIP Isla Barro Col 99.76 85 PFAKE 18 11 10.0 +12
BCIP LR LR
comp=Z,224μm,20.0s
FLOC Florencia 99.85 94 *e*P **Pdif 18 10 59.2 +0.3**
Q34A Chapman 99.86 51 P Pdif 18 10 57.8 -0.4
baz=241
544A White Castle 99.90 61 P Pdif 18 10 59.0 +0.4
baz=242
U37A Salina 99.92 54 P Pdif 18 10 57.9 -0.6
baz=241
O33A Hebron 99.98 50 P Pdif 18 10 58.2 -0.6
baz=241
645A Chauvin 100.03 62 P Pdif 18 10 59.9 +0.7
baz=242
242A Grayson 100.05 59 P Pdif 18 10 58.5 -0.7
baz=242
R35A Emporia Munici 100.08 52 P Pdif 18 10 58.8 -0.4
baz=241
343A Vidalia 100.09 60 P Pdif 18 10 59.3 -0.1
baz=242
Y40A Okolona 100.12 57 P Pdif 18 10 58.6 -0.8
baz=242
Z41A Richland Creek 100.12 58 P Pdif 18 10 58.9 -0.6
baz=242
MIAR Mount Ida 100.15 56 P Pdif 18 10 58.9 -0.7
baz=242
MIAR Mount Ida 100.15 56 PFAKE 18 11 10.0 +10
MIAR LR LR
comp=Z,237μm,20.0s
V38A Canehill 100.17 55 P Pdif 18 10 59.1 -0.5
baz=242,SNR=11
KSU1 Kansas State U 100.17 51 P Pdif 18 10 59.5 -0.1
baz=241
KSU1 Kansas State U 100.17 51 PFAKE 18 11 10.0 +10
KSU1 LR LR
comp=Z,175μm,20.0s
DGMT Dagmar 100.18 40 P Pdif 18 10 59.7 +0.3
baz=238
DGMT Dagmar 100.18 40 *e*Pdif **Pdif 18 11 01.1 +1.7**
DGMT LR LR
comp=Z,277μm,21.0s
S36A Lake Cedric, C 100.21 53 P Pdif 18 10 59.4 -0.4
baz=241
P34A Walnut Farm, R 100.24 51 P Pdif 18 11 00.0 +0.1
baz=241,SNR=13
BGNE Belgrade 100.26 48 P Pdif 18 10 59.8 -0.2
baz=241
W39A Magazine 100.30 56 P Pdif 18 10 60.0 -0.3
baz=242
545A Edgard 100.39 62 P Pdif 18 11 01.1 +0.4
baz=243
N33A J Bar K, Exete 100.40 49 P Pdif 18 11 00.3 -0.3
baz=241
T37A Cheneyville 18 100.40 53 P Pdif 18 11 00.1 -0.6
baz=242
142A Monroe 100.43 59 P Pdif 18 11 00.1 -0.8
baz=242
Q35A Mercer Eighty, 100.44 51 P Pdif 18 11 00.1 -0.8
baz=241
U38A Gravette 100.45 54 P Pdif 18 11 00.2 -0.8
baz=242
K31A O'Neill 100.47 47 P Pdif 18 11 00.2 -0.6
baz=240
243A Waterproof 100.47 59 P Pdif 18 11 00.6 -0.4
baz=242
444A Pine Grove 100.50 61 P Pdif 18 11 01.0 -0.2
baz=243
YAK Yakutsk 100.51 337 P **Pdif 18 10 59.3 -1.1**
comp=Z,8.4nm,0.7s,baz=136,slow=1.4,SNR=12
YAK PP **PP 18 15 07.7 -0.3**
comp=Z,43nm,0.9s,baz=170,slow=5.2,SNR=4.1
YAK Yakutsk 100.51 337 *c iP* **Pdif 18 10 59.4 -1.1**
YAK *e* 18 15 04.7
YAK *e*S **SKSac 18 21 34.6 -1.6**
YAK *e*SS **SS 18 29 31.6 +0.3**
YAK pmax pmax
comp=Z,191nm,2.0s
YAK pmax pmax
comp=N,51nm,1.7s
YAK pmax pmax
comp=E,73nm,1.9s
YAK pmax pmax
comp=Z,3μm,2.1s
YAK pmax pmax
comp=E,1μm,2.2s
YAK pmax pmax
comp=N,2μm,2.2s
YAK smax smax
comp=E,4μm,8.6s
YAK smax smax
comp=N,30μm,14.1s
YAK Yakutsk 100.51 337 *e*Pdif **Pdif 18 10 59.1 -1.3**
YAK PP **PP 18 15 07.7 -0.3**
YAK LR LR
comp=Z,170μm,22.0s
Y41A Eaglette Beard 100.55 57 P Pdif 18 11 00.4 -1.0
baz=242
R36A Gordon, Harris 100.56 52 P Pdif 18 11 00.7 -0.7
baz=242
O34A Beatrice 100.63 50 P Pdif 18 11 01.3 -0.3
baz=241
L32A Elgin 100.65 48 P Pdif 18 11 01.1 -0.5
baz=241
X40A Basin Creek Fa 100.66 57 P Pdif 18 11 00.8 -1.1
baz=242
646A Port Sulphur 100.69 62 P Pdif 18 11 03.1 +1.0
baz=243
V39A Pettigrew 100.70 55 P Pdif 18 11 01.0 -1.1
baz=242
Z42A Norrel Spur, H 100.76 58 P Pdif 18 11 01.2 -1.1
baz=242
S37A Fort Scott 100.76 53 P Pdif 18 11 01.6 -0.7
baz=242
P35A Duane Minner, 100.78 51 P Pdif 18 11 01.9 -0.4
baz=242
T38A Diamond 100.80 54 P Pdif 18 11 01.8 -0.6
baz=242,SNR=7.1
J31A Geddes 100.81 46 P Pdif 18 11 01.7 -0.6
baz=240
445A Amite 100.81 61 P Pdif 18 11 02.5 -0.1
baz=243
W40A Ferguson Farm, 100.82 56 P Pdif 18 11 02.0 -0.5
baz=242
344A Westbrook Farm 100.84 60 P Pdif 18 11 02.8 +0.1
baz=243
Q36A Arnold C. Orve 100.89 52 P Pdif 18 11 02.0 -0.8
baz=242
X41A Kaden, Bauxite 100.90 57 P Pdif 18 11 02.0 -0.9
baz=242
143A Scott Landing, 100.90 59 P Pdif 18 11 02.5 -0.5
baz=243
M33A Taylor Creek F 100.97 49 P Pdif 18 11 02.3 -0.8
baz=241
K32A Verdigre 100.99 47 P Pdif 18 11 02.2 -1.0
baz=241
R37A Teagarden Farm 101.02 52 P Pdif 18 11 02.8 -0.5
baz=242
546A Slidell 101.07 62 P Pdif 18 11 03.9 +0.1
baz=243
U39A Green Forest 101.07 55 P Pdif 18 11 02.8 -0.9
baz=242
N34A Lincoln 101.08 49 P Pdif 18 11 03.3 -0.3
baz=241
Y42A Garnett, Star 101.14 58 P Pdif 18 11 03.4 -0.6
baz=243
244A Avery, Jackson 101.14 60 P Pdif 18 11 03.8 -0.3
baz=243
O35A Humboldt 101.20 50 P Pdif 18 11 03.8 -0.3
baz=242
L33A Hoskins 101.20 48 P Pdif 18 11 03.5 -0.7
baz=241
SUSD Miller 101.23 45 P Pdif 18 11 03.7 -0.6
baz=241
Z43A Armstrong Fami 101.25 58 P Pdif 18 11 03.9 -0.6
baz=243
V40A Witts Springs 101.28 55 P Pdif 18 11 03.6 -1.1
baz=242,SNR=5.7
I31A Royce, Wessing 101.30 46 P Pdif 18 11 03.8 -0.7
baz=241
345A Thompson Farm, 101.31 61 P Pdif 18 11 04.6 -0.2
baz=243
CIT Chita 101.31 324 *e*P **Pdif 18 11 08.8 +4.4**
CIT pmax pmax
comp=Z,316nm,2.5s
M34A Aspy Farms, Fr 101.34 49 P Pdif 18 11 04.4 -0.3
baz=242
S38A Stockton 101.35 53 P Pdif 18 11 04.1 -0.7
baz=242
VBMS Vicksburg 101.35 60 P Pdif 18 11 04.7 -0.3
baz=243
P36A Good Intent, A 101.37 51 P Pdif 18 11 04.2 -0.7
baz=242
W41B Gary Mavity, V 101.41 56 P Pdif 18 11 04.5 -0.7
baz=243
J32A Parkston 101.41 47 P Pdif 18 11 04.2 -0.8
baz=241
T39A Clever 101.44 54 P Pdif 18 11 04.3 -1.0
baz=242
U40A Yellville 101.51 55 P Pdif 18 11 04.7 -0.9
baz=243
PRAC Prado 101.54 92 *e*P **Pdif 18 11 07.1 +0.7**
Q37A Longview Farm, 101.55 52 P Pdif 18 11 04.8 -0.9
baz=242
H31A Wolsey 101.55 46 P Pdif 18 11 04.8 -0.8
baz=241
X42A Stuttgart 101.58 57 P Pdif 18 11 05.7 -0.2
baz=243
446A Poplarville 101.59 61 P Pdif 18 11 05.7 -0.4
baz=243
K33A Hardington 101.59 48 P Pdif 18 11 05.1 -0.8
baz=242
R38A Fenwick Farm, 101.61 53 P Pdif 18 11 04.9 -1.1
baz=242,SNR=5.2
144A Alexander Plac 101.61 59 P Pdif 18 11 06.2 +0.1
baz=243
N35A Tabor 101.66 50 P Pdif 18 11 06.0 -0.2
baz=242
CAPC Capurgana 101.69 87 *e*P **Pdif 18 11 05.4 -1.6**
L34A Svendsen Farm, 101.69 49 P Pdif 18 11 05.4 -0.9
baz=242
245A Little AP, Sta 101.74 60 P Pdif 18 11 06.4 -0.3
baz=243
V41A Mountainview 101.75 56 P Pdif 18 11 06.0 -0.7
baz=243
O36A Bolckow 101.78 51 P Pdif 18 11 06.0 -0.7
baz=242
346A Big Creek Wild 101.78 61 P Pdif 18 11 06.4 -0.5
baz=243
S39A Bolivar 101.79 53 P Pdif 18 11 05.8 -1.0
baz=243
Y43A Makayla and Ka 101.81 58 P Pdif 18 11 06.0 -1.0
baz=243
GUYC Guyana, Colomb 101.82 91 *e*P **Pdif 18 11 08.2 +0.1**
INK Inuvik 101.87 15 P Pdif 18 11 06.2 -0.2
comp=Z,9.7nm,0.9s,baz=207,slow=4.8,SNR=4.2
INK PP **PKiKP 18 15 23.9 -5.2**
comp=Z,21nm,1.0s,baz=224,slow=9.3,SNR=3.4
INK PKKPbc **PKKPbc 18 27 12.4 -1.5**
comp=Z,21nm,1.1s,baz=45,slow=4.0,SNR=4.2
INK PKPPKP **P'P'df 18 35 29.4 +3.4**
comp=Z,18nm,1.2s,baz=12,slow=3.5,SNR=4.4
Z44A Pea Ridge, Bel 101.89 59 P Pdif 18 11 06.3 -1.0
baz=243
M35A Neola 101.91 49 P Pdif 18 11 06.6 -0.7
baz=242
P37A Lathrop 101.94 51 P Pdif 18 11 06.6 -0.9
baz=242
J33A Davis 101.95 47 P Pdif 18 11 06.2 -1.2
baz=242
145A Houston Renfro 101.97 59 P Pdif 18 11 06.7 -1.1
baz=243
I32A Karley and Nic 101.97 46 P Pdif 18 11 06.6 -0.8
baz=241
W42A Bald Knob 101.98 56 P Pdif 18 11 06.9 -0.8
baz=243
G31A Conde 102.08 45 P Pdif 18 11 07.1 -0.8
baz=241
N36A Muff Farm, Cla 102.10 50 P Pdif 18 11 07.7 -0.5
baz=242
T40A Mansfield 102.11 54 P Pdif 18 11 07.5 -0.8
baz=243
X43A Marvell 102.11 57 P Pdif 18 11 07.8 -0.5
baz=243
447A Lucedale 102.14 62 P Pdif 18 11 08.6 +0.1
baz=244
HELC Santa Helena 102.15 90 *e*P **Pdif 18 11 08.6 -0.8**
Q38A Cooks Store, C 102.16 52 P Pdif 18 11 07.5 -0.9
baz=243
U41A Viola 102.17 55 P Pdif 18 11 07.1 -1.4
baz=243
H32A Carlson Farm, 102.22 46 P Pdif 18 11 08.1 -0.5
baz=242
K34A Le Mars 102.22 48 P Pdif 18 11 07.7 -0.9
baz=242
R39A Chumby, Stover 102.27 53 P Pdif 18 11 08.2 -0.7
baz=243
L35A Bielow Farm, R 102.31 49 P Pdif 18 11 08.4 -0.7
baz=242
246A Jackson Lee, B 102.31 60 P Pdif 18 11 08.8 -0.5
baz=244
V42A Cord 102.32 56 P Pdif 18 11 08.1 -1.0
baz=243
S40A Lebanon 102.33 54 P Pdif 18 11 08.6 -0.6
baz=243,SNR=9.3
O37A Wolven Farm, M 102.35 51 P Pdif 18 11 08.1 -1.1
baz=243
F31A Hecla 102.36 44 P Pdif 18 11 08.4 -0.8
baz=241
Y44A Strider, Charl 102.36 58 P Pdif 18 11 08.2 -1.2
baz=244
ECSD EROS Data Cent 102.37 47 P Pdif 18 11 08.7 -0.6
baz=242
ECSD EROS Data Cent 102.37 47 *e*Pdif **Pdif 18 11 08.9 -0.4**
ECSD LR LR
comp=Z,213μm,20.0s
I33A Coleman 102.40 46 P Pdif 18 11 08.1 -1.4
baz=242
Z45A Winona 102.49 59 P Pdif 18 11 09.1 -0.9
baz=244
347A Saraland 102.49 61 P Pdif 18 11 10.1 0.0
baz=244
W43A Forest City 102.50 57 P Pdif 18 11 08.9 -1.1
baz=243
M36A Felix, Anita 102.50 50 P Pdif 18 11 09.1 -0.8
baz=242
MDND Maddock 102.51 42 P Pdif 18 11 09.0 -0.8
baz=241
P38A Dawn 102.52 52 P Pdif 18 11 08.4 -1.6
baz=243
G32A Webster 102.53 45 P Pdif 18 11 09.3 -0.7
baz=242
ROSC El Rosal 102.57 91 Pdiff **Pdif 18 11 12.3 +1.0**
comp=Z,4.7nm,0.4s,baz=180,slow=5.5,SNR=4.5
ROSC PKKP **PKKPdf 18 27 18.1 +0.2**
comp=Z,16nm,0.8s,baz=192,slow=22,SNR=4.6
ROSC El Rosal 102.57 91 *e*P **Pdif 18 11 12.3 +1.0**
ROSC El Rosal 102.57 91 *e*Pdif **Pdif 18 11 11.8 +0.5**
ROSC PKKP **PKKPdf 18 27 18.1 +0.2**
N37A Lee Faris, Mou 102.58 50 P Pdif 18 11 09.5 -0.7
baz=243
J34A George 102.58 47 P Pdif 18 11 09.4 -0.9
baz=242
146A Union 102.64 60 P Pdif 18 11 10.5 -0.2
baz=244
Q39A Willow Grove F 102.64 52 P Pdif 18 11 09.5 -1.0
baz=243
X44A Crenshaw 102.65 58 P Pdif 18 11 09.8 -0.9
baz=244
U42A Revenden 102.67 55 P Pdif 18 11 09.8 -0.9
baz=243
247A Quitman 102.73 60 P Pdif 18 11 10.4 -0.7
baz=244
H33A Prehn Over Nor 102.74 46 P Pdif 18 11 10.8 -0.1
baz=242
O38A Galt 102.79 51 P Pdif 18 11 10.3 -0.9
baz=243
K35A Storm Lake 102.80 48 P Pdif 18 11 10.3 -0.9
baz=242
ULN Ulaanbaatar 102.80 318 *e*P **Pdif 18 11 10.7 -0.6**
ULN MLR MLR
comp=Z,130μm,22.0s
ULN Ulaanbaatar 102.80 318 *e*Pdif **Pdif 18 11 09.9 -1.4**
ULN LR LR
comp=Z,131μm,22.0s
ULN Ulaanbaatar 102.80 318 P Pdif 18 11 11.0 -0.2
SNR=45
ULN Ulaanbaatar 102.80 318 Pdiff **Pdif 18 11 11.0 -0.2**
SNR=45
R40A Maddies Statio 102.80 53 P Pdif 18 11 10.2 -1.1
baz=243
448A Bay Minette 102.81 62 P Pdif 18 11 11.4 -0.1
baz=244
Y45A Yeager Farm, C 102.82 58 P Pdif 18 11 10.7 -0.8
baz=244
S41A Jillco Farms, 102.86 54 P Pdif 18 11 10.3 -1.3
baz=243,SNR=13
L36A Harm Buss Farm 102.88 49 P Pdif 18 11 10.6 -0.9
baz=243
E31A Nome 102.91 44 P Pdif 18 11 10.7 -0.9
baz=242
V43A Jonesboro 102.92 56 P Pdif 18 11 11.3 -0.5
baz=244
SIV San Ignacio 102.97 117 PKKPbc PKKPbc 18 27 09.8 +1.0
comp=Z,20nm,1.0s,baz=67,slow=4.5,SNR=8.4
M37A Trindle Farm, 102.97 50 P Pdif 18 11 11.4 -0.6
baz=243
Z46A Louisville 102.97 59 P Pdif 18 11 11.6 -0.5
baz=244
348A Jackson 102.99 61 P Pdif 18 11 11.7 -0.6
baz=244
I34A Hadley 103.00 47 P Pdif 18 11 11.3 -0.7
baz=242
P39B Salisbury 103.00 52 P Pdif 18 11 10.8 -1.3
baz=243
F32A Veblen 103.05 45 P Pdif 18 11 11.7 -0.5
baz=242
J35A Milford 103.11 48 P Pdif 18 11 11.3 -1.3
baz=243
G33A Ortonville 103.17 46 P Pdif 18 11 12.0 -0.8
baz=242
SONA0 Songino Array 103.17 317 *e*Pdif **Pdif 18 11 11.2 -1.7**
SONA0 *e*PP **PKiKP 18 15 33.9 +1.6**
SONA0 *e*PKKPbc **PKKPbc 18 27 09.8 +0.3**
SONA0 *e*P'P'df **P'P'df 18 35 28.4 +2.5**
SONM Songino Array 103.17 317 Pdiff **Pdif 18 11 11.2 -1.7**
comp=Z,6.8nm,1.0s,baz=139,slow=3.5,SNR=22
SONM PKiKP **PKiKP 18 15 33.9 +1.6**
comp=Z,39nm,1.2s,baz=135,slow=1.8,SNR=4.5
SONM PKKPbc **PKKPbc 18 27 09.8 +0.3**
comp=Z,38nm,1.1s,baz=271,slow=3.2,SNR=8.1
SONM PKPPKP **P'P'df 18 35 28.4 +2.5**
comp=Z,2.9nm,1.0s,baz=298,slow=3.1,SNR=4.3
W44A Shelby Farms P 103.17 57 P Pdif 18 11 11.8 -1.2
baz=244
X45A UM Field Stati 103.17 58 P Pdif 18 11 11.4 -1.6
baz=244
MOTC Monteria, Cord 103.23 87 *e*P **Pdif 18 11 12.3 -1.4**
D31A Mcclaflin, Tow 103.24 43 P Pdif 18 11 11.8 -1.2
baz=242
Q40A Laux Farm, Aux 103.25 53 P Pdif 18 11 12.1 -1.2
baz=244
N38A Joes South For 103.25 51 P Pdif 18 11 12.3 -1.0
baz=243
147A Livingston 103.25 60 P Pdif 18 11 12.2 -1.2
baz=244
K36A Gilmore City 103.27 49 P Pdif 18 11 12.1 -1.2
baz=243
U43A Rector 103.28 56 P Pdif 18 11 12.3 -1.2
baz=244
Y46A Houston 103.34 59 P Pdif 18 11 12.6 -1.2
baz=244
H34A Spellman Lake, 103.34 46 P Pdif 18 11 12.8 -0.7
baz=243
YKA Yellowknife Ar 103.35 25 Pdiff **Pdif 18 11 11.9 -1.2**
comp=Z,2.4nm,0.8s,baz=236,slow=4.5,SNR=6.1
YKA PKiKP **PKiKP 18 15 32.3 +0.4**
comp=Z,7.8nm,0.9s,baz=215,slow=1.7,SNR=6.3
YKA PKKPbc **PKKPbc 18 27 07.6 -1.7**
comp=Z,12nm,0.8s,baz=41,slow=2.9,SNR=18
YKA PKPPKP **P'P'df 18 35 27.9 +4.0**
comp=Z,3.9nm,1.0s,baz=43,slow=1.8,SNR=3.0
YKB5 Yellowknife Ar 103.35 25 *e*Pdif **Pdif 18 11 11.9 -1.2**
YKB5 *e*PP **PKiKP 18 15 32.4 +0.4**
YKB5 *e*PKKPbc **PKKPbc 18 27 07.6 -1.7**
YKB5 *e*P'P'df **P'P'df 18 35 27.9 +4.0**
248A Dixon Mills 103.41 61 P Pdif 18 11 13.7 -0.5
baz=244
V44A Blytheville 103.42 56 P Pdif 18 11 13.8 -0.3
baz=244
E32A Braaten, Kindr 103.43 44 P Pdif 18 11 12.9 -1.0

baz=242
R41A Rosebud 103.43 54 P Pdif 18 11 13.1 -1.0
baz=244
I35A Creekview Farm 103.48 47 P Pdif 18 11 12.9 -1.3
baz=243
O39A Kirksville 103.48 51 P Pdif 18 11 13.3 -1.0
baz=244
L37A Phoenix Point, 103.50 49 P Pdif 18 11 13.2 -1.1
baz=243
P40A Paris 103.50 52 P Pdif 18 11 13.5 -0.9
baz=244
BRAL Brewton 103.54 62 PFAKE 18 11 30.0 +15
BRAL LR LR
comp=Z,123µm,20.0s
F33A 5 Mile Ranch, 103.56 45 P Pdif 18 11 13.7 -0.8
baz=243
M38A Pleasantville 103.56 50 P Pdif 18 11 13.6 -1.0
baz=244
C31A Landman Farms, 103.59 43 P Pdif 18 11 13.6 -1.0
baz=242
SHL Shillong 103.59 292 *e*P **Pdif 18 11 14.3 -1.0**
SHL AMB AMB 18 11 21.8
comp=Z,104nm,5.8s
SHL Shillong 103.59 292 *e*P **Pdif 18 11 16.5 +1.1**
SHL *e*S **PKiKP 18 15 40.0 +6.2**
S42A Caledonia 103.61 54 P Pdif 18 11 13.9 -1.0
baz=244
Z47A Carrollton 103.64 60 P Pdif 18 11 14.2 -0.9
baz=244
W45A Hickory Valley 103.65 57 P Pdif 18 11 14.1 -1.0
baz=244
J36A Seneca 1, Swea 103.66 48 P Pdif 18 11 14.3 -0.6
baz=243
T43A Greenville 103.68 55 P Pdif 18 11 13.7 -1.5
baz=244
G34A Benson 103.69 46 P Pdif 18 11 13.8 -1.3
baz=243
D32A Dogwood Acres, 103.71 44 P Pdif 18 11 13.8 -1.3
baz=242
SCIA State Center 103.76 50 PFAKE 18 11 30.0 +15
SCIA LR LR
comp=Z,257µm,20.0s
N39A Derby Farms, D 103.79 51 P Pdif 18 11 14.2 -1.4
baz=244
Q41A Truxton 103.82 53 P Pdif 18 11 14.7 -1.1
baz=244
R42A Luebbering 103.84 54 P Pdif 18 11 14.9 -1.0
baz=244
U44A Portageville 103.86 56 P Pdif 18 11 14.7 -1.3
baz=244
K37A Belmond 103.86 49 P Pdif 18 11 14.7 -1.2
baz=244
O40A La Belle 103.89 52 P Pdif 18 11 15.0 -1.0
baz=244
B31A Greenbush Farm 103.93 42 P Pdif 18 11 15.4 -0.7
baz=242
H35A Sunnyside Ranc 103.95 47 P Pdif 18 11 15.2 -1.1
baz=243
U44B Burton Farm, H 104.03 56 P Pdif 18 11 15.0 -1.8
baz=244
E33A Westby DABS, E 104.04 45 P Pdif 18 11 15.9 -0.6
baz=243
L38A Oak Wood Farm, 104.04 50 P Pdif 18 11 15.6 -1.1
baz=244
S43A Fulton Ridge, 104.04 55 P Pdif 18 11 15.7 -1.1
baz=244
V45A Humboldt 104.06 57 P Pdif 18 11 14.7 -2.2
baz=244
Z48A Northport 104.10 60 P Pdif 18 11 15.9 -1.3
baz=245
Y47A UCPARC, Winfie 104.10 59 P Pdif 18 11 16.0 -1.2
baz=245
RUSC La Rusia 104.15 91 *e*P **Pdif 18 11 16.4 -2.1**
J37A Redenius Farm, 104.16 48 P Pdif 18 11 16.2 -1.0
baz=244
BRRC Barranca, Sant 104.17 90 *e*P **Pdif 18 11 14.8 -3.2**
I36A Fitzsimmons Fa 104.18 47 P Pdif 18 11 15.8 -1.5
baz=244
F34A Alexandria 104.18 45 P Pdif 18 11 16.9 -0.3
baz=243
T44A Benton 104.18 55 P Pdif 18 11 16.4 -1.0
baz=244
P41A Barry, Barry 104.25 52 P Pdif 18 11 17.0 -0.7
baz=244
M39A Webster 104.28 50 P Pdif 18 11 16.9 -0.8
baz=244
Q42A Golden Eagle 104.30 53 P Pdif 18 11 17.6 -0.3
baz=244
C32A Crookston 104.32 43 P Pdif 18 11 16.7 -1.1
baz=243
K38A Parkersburg 104.39 49 P Pdif 18 11 16.8 -1.4
baz=244
BARC Barichara 104.39 90 *e*P **Pdif 18 11 18.9 -0.3**
G35A Watkins 104.41 46 P Pdif 18 11 17.9 -0.3
baz=244
N40A Mertquake, Sal 104.42 51 P Pdif 18 11 17.4 -1.0
baz=244
D33A AnnSam, Wauburn 104.42 44 P Pdif 18 11 18.1 -0.3
baz=243
A31A Linda, St. Vin 104.44 42 P Pdif 18 11 17.8 -0.5
baz=243
R43A Red Bud 104.45 54 P Pdif 18 11 18.4 -0.2
baz=245
U45A Rockin P Farm, 104.47 56 P Pdif 18 11 17.9 -0.8
baz=245
H36A Jessenland, He 104.48 47 P Pdif 18 11 18.1 -0.5
baz=244
E34A Wadena 104.56 45 P Pdif 18 11 18.5 -0.4
baz=243
O41A Passleys Farm, 104.57 52 P Pdif 18 11 18.6 -0.5
baz=244
I37A Lemond, Waseca 104.57 48 P Pdif 18 11 18.6 -0.4
baz=244
FFC Flin Flon 104.58 35 PFAKE 18 11 30.0 +11
FFC LR LR
comp=Z,233µm,20.0s
B32A Ashes, Strandq 104.58 43 P Pdif 18 11 18.2 -0.7
baz=243
F35A Swanville 104.64 46 P Pdif 18 11 19.2 -0.1
baz=244
L39A Vinton 104.67 50 P Pdif 18 11 18.2 -1.3
baz=244
S44A Carbondale 104.68 55 P Pdif 18 11 19.2 -0.5
baz=245
M40A Post Highland 104.69 51 P Pdif 18 11 18.4 -1.2
baz=244
P42A Winchester 104.72 53 P Pdif 18 11 19.3 -0.4
baz=245
C33A Trail 104.75 43 P Pdif 18 11 18.5 -1.2
baz=243
D34A Park Rapids 104.80 44 P Pdif 18 11 19.2 -0.7
baz=244
A32A Rocking H Ranc 104.84 42 P Pdif 18 11 19.4 -0.6
baz=243
N41A Harden Midland 104.84 52 P Pdif 18 11 19.8 -0.5
baz=245
J38A Wedel Dairy, R 104.87 49 P Pdif 18 11 20.0 -0.4
baz=244
G36A St. Michael 104.88 46 P Pdif 18 11 19.6 -0.7
baz=244
Q43A New Douglas 104.89 54 P Pdif 18 11 19.6 -1.0
baz=245
DGAR Diego Garcia 104.92 253 PFAKE 18 11 30.0 +8.7
DGAR LR LR
comp=Z,115µm,19.0s
AGMN Agassiz Nation 104.94 43 P Pdif 18 11 19.6 -0.9
baz=243
AGMN Agassiz Nation 104.94 43 PFAKE 18 15 50.0
AGMN LR LR
comp=Z,278µm,20.0s
K39A Oelwein 105.00 49 P Pdif 18 11 20.2 -0.8
baz=244
R44A Waltonville 105.04 55 P Pdif 18 11 21.3 0.0
baz=245
E35A Pequot Lakes 105.05 45 P Pdif 18 11 21.2 +0.1
baz=244
PALK Pallekele 105.07 270 Pdiff **Pdif 18 11 22.4 +0.4**
comp=Z,10nm,0.8s,baz=116,slow=5.5,SNR=9.0
PALK PKiKP **PKiKP 18 15 37.7 +1.0**
comp=Z,37nm,1.0s,baz=91,slow=5.5,SNR=6.6
PALK Pallekele 105.07 270 *i* P **Pdif 18 11 21.3 -0.8**
SNR=37
PALK Pallekele 105.07 270 *e*P **Pdif 18 11 22.1 +0.1**
PALK *i* 18 15 37.7
PALK Pallekele 105.07 270 *e*Pdif **Pdif 18 11 22.1 +0.1**
PALK PKiKP **PKiKP 18 15 37.7 +1.0**
PALK Pallekele 105.07 270 P **Pdif 18 11 23.1 +1.1**
SNR=24
PALK Pallekele 105.07 270 Pdiff **Pdif 18 11 23.1 +1.1**
SNR=24
B33A Robert and Kas 105.09 43 P **Pdif 18 11 20.6 -0.6**
baz=244
H37A Dierke Farm, C 105.13 47 P **Pdif 18 11 21.5 0.0**
baz=244
O42A Bath 105.16 52 P **Pdif 18 11 20.9 -0.9**
baz=245
S45A Carrier Mills 105.16 55 P **Pdif 18 11 21.6 -0.2**
baz=245
PAMC Pamplona, Colo 105.17 90 *e*P **Pdif 18 11 23.5 +0.5**
L40A Anamosa 105.17 50 P **Pdif 18 11 21.4 -0.3**
baz=245
SAML Samuel 105.20 109 *e*Pdif **Pdif 18 11 22.4 -0.2**
SAML LR LR
comp=Z,512µm,22.0s
C34A RKJ Ranch, Bem 105.22 44 P **Pdif 18 11 21.0 -0.8**
baz=244
I38A Scanlan Farm, 105.28 48 P **Pdif 18 11 21.7 -0.4**
baz=245
F36A Milaca 105.30 46 P **Pdif 18 11 21.5 -0.7**
baz=244
P43A Skaggs, Pawnee 105.31 53 P **Pdif 18 11 21.9 -0.5**
baz=245
M41A Milan 105.34 51 P **Pdif 18 11 21.8 -0.7**
baz=245
Q44A Meyer Farm, Va 105.36 54 P **Pdif 18 11 21.6 -1.1**
baz=245
J39A Decorah 105.39 49 P **Pdif 18 11 22.2 -0.5**
baz=245
N42A Yates City 105.46 52 P **Pdif 18 11 22.4 -0.6**
baz=245
SPMN Marine on St. 105.48 47 P **Pdif 18 11 22.2 -0.8**
baz=245
K40A Colesburg 105.50 50 P **Pdif 18 11 22.5 -0.7**
baz=245
D35A Remer 105.50 45 P **Pdif 18 11 22.8 -0.3**
baz=244
A33A Warroad 105.50 42 P **Pdif 18 11 22.7 -0.4**
baz=244
H38A Maiden Rock 105.58 47 P **Pdif 18 11 22.5 -1.0**
baz=245
L41A Preston 105.66 50 P **Pdif 18 11 22.6 -1.3**
baz=245
I39A Houston 105.73 48 P **Pdif 18 11 23.1 -1.1**
baz=245
O43A Sugar Creek Fa 105.73 53 P **Pdif 18 11 22.7 -1.5**
baz=245
B34A Aery, Baudette 105.74 43 P **Pdif 18 11 23.7 -0.4**
baz=244
E36A McGregor 105.75 45 P **Pdif 18 11 23.7 -0.5**
baz=245
ULM Lac du Bonnet 105.79 41 Pdiff **Pdif 18 11 25.2 +1.0**
comp=Z,4.4nm,0.8s,baz=246,slow=6.0,SNR=4.3
ULM PKiKP **PKiKP 18 15 38.8 +1.9**
comp=Z,41nm,1.2s,baz=242,slow=3.5,SNR=5.6
ULM PKKPbc **PKKPbc 18 27 00.3 -1.1**
comp=Z,12nm,0.9s,baz=75,slow=1.6,SNR=4.8
F37A Hinrichs Farm, 105.81 46 P **Pdif 18 11 24.6 +0.2**
baz=245
C35A Jirik Farms, M 105.81 44 P **Pdif 18 11 23.8 -0.7**
baz=244
MTDJ Mount Denham 105.82 78 PFAKE 18 15 50.0
MTDJ LR LR
comp=Z,279µm,21.0s
HDIL Hopedale 105.86 52 P **Pdif 18 11 24.1 -0.7**
baz=246
HDIL Hopedale 105.86 52 PFAKE 18 15 50.0
HDIL LR LR
comp=Z,132µm,20.0s
P44A Sand Creek, Wi 105.88 54 P **Pdif 18 11 24.1 -0.8**
baz=246
M42A Sheffield 105.91 51 P **Pdif 18 11 24.2 -0.8**
baz=245
LSA Lhasa 105.92 295 PFAKE 18 15 50.0
LSA LR LR
comp=Z,37µm,19.0s
K41A Shullsburg 106.01 50 P **Pdif 18 11 24.1 -1.3**
baz=245
J40A Soldiers Grove 106.05 49 P **Pdif 18 11 24.2 -1.4**
baz=245
G38A Ridgeland 106.06 47 P **Pdif 18 11 24.5 -1.1**
baz=245
D36A Goodland 106.08 45 P **Pdif 18 11 25.7 0.0**
baz=245
ZAK Zakamensk 106.16 319 *e*P **Pdif 18 11 25.8 -0.2**
ZAK pmax pmax
comp=Z,37nm,1.4s
JFWS Jewell Farm 106.18 50 PFAKE 18 15 50.0
JFWS LR LR
comp=Z,221µm,20.0s
H39A Augusta 106.23 48 P **Pdif 18 11 25.7 -0.7**
baz=245
B35A Bob, Littlefor 106.24 44 P **Pdif 18 11 26.0 -0.3**
baz=245
O44A Mansfield 106.27 53 P **Pdif 18 11 26.3 -0.4**
baz=246
E37A Wrenshall 106.30 46 P **Pdif 18 11 26.1 -0.5**
baz=245
I40A Norwalk 106.34 49 P **Pdif 18 11 26.1 -0.7**
baz=246
TIGA Tifton 106.34 63 P **Pdif 18 11 26.1 -1.1**
baz=246
F38A Pierce - Schro 106.38 46 P **Pdif 18 11 27.4 +0.4**
baz=245
IRK Irkutsk 106.41 321 *e*P **Pdif 18 11 26.1 -0.9**
IRK *e* 18 34 57.4
IRK pmax pmax
comp=Z,140nm,2.3s
BWNR Bhubaneshwar 106.41 284 *ex* **Pdif 18 11 18.2 -9.5**
BWNR AMB AMB 18 11 34.1
comp=Z,63nm,1.3s
TLY Talaya 106.51 320 *c i*P **Pdif 18 11 26.5 -1.0**
TLY *e* 18 15 55.4
TLY *e*PPP PPP 18 18 12.4
TLY *e* 18 22 06.6
TLY *e*PS **PS 18 25 02.0 -10**
TLY pmax pmax
comp=Z,14nm,1.1s
TLY Talaya 106.51 320 PFAKE 18 15 50.0
TLY LR LR
comp=Z,101µm,22.0s
J41A Loganville 106.52 49 P **Pdif 18 11 26.8 -0.9**
baz=246
C36A Pine Crest Far 106.53 44 P **Pdif 18 11 26.5 -1.1**
baz=245
D37A Cotton 106.53 45 P **Pdif 18 11 27.1 -0.6**
baz=245
G39A Holcombe 106.55 47 P **Pdif 18 11 28.0 +0.2**
baz=246
K42A Prairie Point, 106.73 50 P **Pdif 18 11 28.3 -0.4**
baz=246
N44A Piper City 106.76 52 P **Pdif 18 11 28.0 -0.8**
baz=246
H40A Chili 106.78 48 P **Pdif 18 11 27.5 -1.3**
baz=246
O45A Potomac 106.82 53 P **Pdif 18 11 28.2 -1.0**
baz=246
E38A The Farm, Brul 106.85 46 P **Pdif 18 11 29.4 +0.3**
baz=246
L43A Garden Prairie 106.90 51 P **Pdif 18 11 29.1 -0.3**
baz=246
I41A Arkdale 106.90 49 P **Pdif 18 11 28.3 -1.0**
baz=246
C37A Embarrass 106.92 45 P **Pdif 18 11 28.9 -0.4**
baz=246
F39A Loretta 106.97 47 P **Pdif 18 11 29.3 -0.4**
baz=246
J42A Columbus 107.10 50 P **Pdif 18 11 29.5 -0.7**
baz=246
G40A Rib Lake 107.17 47 P **Pdif 18 11 30.2 -0.3**
baz=246
N45A Kentland 107.21 53 P **Pdif 18 11 30.6 -0.3**
baz=247
GOGA Godfrey 107.23 61 PFAKE 18 15 50.0
GOGA LR LR
comp=Z,173µm,20.0s
H41A Junction City 107.27 48 P **Pdif 18 11 30.1 -0.9**
baz=246
TIXI Tiksi 107.27 344 Pdiff **Pdif 18 11 30.0 -0.4**
comp=Z,4.4nm,1.1s,baz=96,slow=4.6,SNR=14
TIXI PKiKP **PKiKP 18 15 39.9 +0.9**
comp=Z,40nm,1.0s,baz=150,slow=2.8,SNR=9.7
TIXI PKKP **PKKPdf 18 27 11.4 +0.5**
comp=Z,52nm,1.2s,baz=27,slow=2.4,SNR=10
TIXI Tiksi 107.27 344 P **Pdif 18 11 30.0 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 107.27 344 *e*Pdif **Pdif 18 11 30.0 -0.4**
TIXI *e*PKiKP **PKiKP 18 15 39.9 +0.9**
TIXI LR LR
comp=Z,152µm,22.0s
SFIN Lafayette 107.32 53 P **Pdif 18 11 30.8 -0.5**
baz=247
K43A Burlington 107.38 51 P **Pdif 18 11 30.6 -0.9**
baz=247
E39A Mellen 107.39 46 P **Pdif 18 11 31.5 0.0**
baz=246
EYMN Ely 107.43 45 P **Pdif 18 11 30.5 -1.2**
baz=246
EYMN Ely 107.43 45 PFAKE 18 15 50.0
EYMN LR LR
comp=Z,385µm,20.0s
VIS Vishakhapatnam 107.44 281 *e*P **Pdif 18 11 29.0 -3.3**
VIS AMS AMS 19 06 12.8
comp=Z,37µm,18.7s
L44A Lake County Fo 107.46 51 P **Pdif 18 11 30.8 -1.1**
baz=247
I42A Draeger Farm, 107.46 49 P **Pdif 18 11 31.6 -0.3**
baz=247
C38A Sawbill Land. 107.48 45 P **Pdif 18 11 31.4 -0.5**
baz=246
F40A Park Falls 107.48 47 P **Pdif 18 11 31.1 -0.8**
baz=246
P47A Martinsville 107.55 54 P **Pdif 18 11 32.3 -0.1**
baz=247
J43A Natural Harves 107.59 50 P **Pdif 18 11 31.6 -0.9**
baz=247
SDV Santo Domingo 107.69 89 PKKP **PKKPdf 18 27 03.4 -4.9**
comp=Z,4.5nm,0.4s,baz=16,slow=3.0,SNR=4.2
TAPN Taplejung 107.73 292 *e*P **Pdif 18 11 34.2 +0.3**
comp=Z,186nm,1.5s
N46A Monticello 107.77 53 P **Pdif 18 11 33.3 0.0**
baz=247
ODAN Odare 107.80 291 *e*P **Pdif 18 11 34.6 +0.5**
comp=Z,638nm,2.0s
BOK Bokaro 107.80 288 *e*P **Pdif 18 11 34.7 +0.8**
BOK AMB AMB 18 11 41.8
comp=Z,98nm,0.0s
BOK AMS AMS 18 59 59.5
comp=Z,62µm,21.4s
G41A Antigo 107.81 48 P **Pdif 18 11 33.4 0.0**
baz=247
E40A Wakefield 107.83 46 P **Pdif 18 11 32.3 -1.2**
baz=247
H42A Shiocton 107.96 49 P **Pdif 18 11 33.7 -0.4**
baz=247
MOY Mondy 108.01 319 *e*P **Pdif 18 11 38.9 +4.6**
MOY pmax pmax
comp=Z,114nm,3.3s
F41A Three Lakes 108.06 47 P **Pdif 18 11 34.4 -0.1**
baz=247
MDRS Chennai 108.10 275 *e*P **Pdif 18 11 33.7 -1.6**
MDRS AMB AMB 18 11 44.9
comp=Z,78nm,0.7s
SPB Sao Paulo 108.10 131 PFAKE 18 15 50.0
SPB LR LR
comp=Z,120µm,22.0s
C39A Grand Marais 108.23 45 P **Pdif 18 11 33.9 -1.3**
baz=247
G42A Mountain 108.31 48 P **Pdif 18 11 33.8 -1.9**
baz=247
E41A Kenton 108.44 47 P **Pdif 18 11 34.0 -2.1**
baz=247
H43A Windswept, Lux 108.45 49 P **Pdif 18 11 35.7 -0.5**
baz=248
RAMN Ramite 108.48 291 *e*P **Pdif 18 11 37.3 +0.2**
comp=Z,358nm,1.7s
GTBY Guantanamo Bay 108.61 77 PFAKE 18 15 50.0
GTBY LR LR
comp=Z,137µm,21.0s
F42A Maple Grove Fa 108.70 48 P **Pdif 18 11 36.8 -0.6**
baz=248
G43A Wallace 108.80 48 P **Pdif 18 11 36.1 -1.7**
baz=248
C40A Isle Royale Na 108.87 45 P **Pdif 18 11 37.6 -0.4**
baz=248
D41A Chassel 108.92 46 P **Pdif 18 11 38.0 -0.2**
baz=248
TRD Trivandrum 108.93 269 *e*P **Pdif 18 11 36.6 -2.5**
E42A Champion 109.09 47 P **Pdif 18 11 38.9 -0.2**
baz=248
JIRN Jiri 109.10 292 *e*P **Pdif 18 11 40.4 +0.4**
comp=Z,3µm,2.0s
F43A Flat Rock, Esc 109.35 48 P **Pdif 18 11 39.4 -0.8**
baz=248
GUN Gumba 109.45 292 *e*P **Pdif 18 11 42.1 +0.6**
comp=Z,591nm,2.0s
RER Riviere de l'E 109.51 231 PFAKE 18 16 00.0
RER LR LR
comp=Z,62µm,20.0s
KMSC Kings Mountain 109.53 60 P **Pdif 18 11 39.1 -2.2**
baz=248
NHSC New Hope 109.65 62 PFAKE 18 16 00.0
NHSC LR LR
comp=Z,145µm,20.0s
E43A Lone Tree Farm 109.67 47 P **Pdif 18 11 40.3 -1.4**
baz=249
PKIN Phulchoki 109.71 291 *e*P **Pdif 18 11 42.9 +0.3**
comp=Z,82nm,1.2s
KKN Kakani 109.89 291 *e*P **Pdif 18 11 43.9 +0.5**
comp=Z,183nm,1.4s
F44A Big Bay de Noc 109.89 48 P **Pdif 18 11 42.1 -0.5**
baz=249
DMN Daman 109.96 291 *e*P **Pdif 18 11 44.1 +0.4**
comp=Z,461nm,1.9s
ACSO Alum Creek Sta 110.17 55 PFAKE 18 16 00.0
ACSO LR LR
comp=Z,250µm,20.0s
F45A CMU Biological 110.38 48 P **Pdif 18 11 44.4 -0.4**
baz=249
AAM Ann Arbor 110.44 52 PFAKE 18 16 00.0
AAM LR LR
comp=Z,188µm,22.0s
E44A Grand Marais A 110.44 47 P **Pdif 18 11 45.4 +0.3**
baz=249
GKN Gorkha 110.50 291 *e*P **Pdif 18 11 46.1 +0.1**
comp=Z,228nm,1.5s
GLMI Grayling 110.67 49 PFAKE 18 16 00.0
GLMI LR LR
comp=Z,221µm,20.0s
E45A Wooded Hills, 110.83 48 P **Pdif 18 11 45.8 -1.0**
baz=250
F46A Macinaw City C 110.91 49 P **Pdif 18 11 46.5 -0.6**
baz=250
BLA Blacksburg 110.97 58 PFAKE 18 16 00.0
BLA LR LR
comp=Z,137µm,19.0s
KOLN Koldanda 111.26 291 *e*P **Pdif 18 11 49.1 -0.3**
HYB Hyderabad 111.44 279 *i* Pdiff **Pdif 18 11 50.0 -0.2**
HYB *e*PKP **PKiKP 18 15 49.0 +0.5**
HYB *e*PP **PP 18 16 28.0 -1.6**
HYB *e*PKKP **PKKPbc 18 26 43.0 +0.5**
HYB LR LR
comp=Z,106nm,24.0s
HYB Hyderabad 111.44 279 *e*P **PKiKP 18 15 45.4 -3.1**
SDDR Presa de Saban 111.50 80 PFAKE 18 16 00.0
SDDR LR LR
comp=Z,81µm,21.0s
PYUN Piuthan 111.88 291 *e*P **Pdif 18 11 51.9 -0.3**
CNNC Cliffs of the 112.19 61 PFAKE 18 16 00.0
CNNC LR LR
comp=Z,131µm,22.0s
MNCY Minicoy 112.26 267 AMB AMB 18 12 02.5
comp=Z,105nm,2.0s
MNCY *e*P **PKiKP 18 15 50.5 +0.5**
PTGA Pitinga 112.29 104 PKiKP **PKiKP 18 15 49.8 -0.4**
comp=Z,17nm,1.1s,baz=222,slow=4.1,SNR=5.7
PTGA PKKPbc **PKKPbc 18 26 42.6 +3.1**
comp=Z,23nm,0.9s,baz=57,slow=5.4,SNR=7.4
PTGA Pitinga 112.29 104 *e*Pdif **Pdif 18 11 52.2 -1.9**
PTGA PKiKP **PKiKP 18 15 49.8 -0.4**
PTGA *e*PKKPbc **PKKPbc 18 26 39.4 -0.1**
PTGA LR LR
comp=Z,36µm,19.0s
NGP Nagpur 112.53 282 *e*P **PKiKP 18 15 47.8 -2.6**
NGP *ex* x 18 26 10.7
N54A Moraine State 112.56 55 P **Pdif 18 11 54.2 -0.5**
baz=251
TRIS Tristan da Cun 112.64 166 PFAKE 18 16 00.0
TRIS LR LR
comp=Z,40µm,21.0s
GRTK Grand Turk 112.65 77 PFAKE 18 16 00.0
GRTK LR LR

comp=Z,116μm,20.0s
M54A Oil Creek Stat 112.97 54 P **Pdif 18 11 56.3 -0.1**
baz=251
BDFB Brasilia 113.06 124 PKiKP **PKiKP 18 15 51.9 +0.2**
comp=Z,12nm,1.0s,baz=110,slow=1.7,SNR=8.3
BDFB PKKPbc **PKKPbc 18 26 38.5 +1.2**
comp=Z,12nm,1.1s,baz=229,slow=5.8,SNR=5.3
O56A Blue Knob Stat 113.36 56 P **Pdif 18 11 58.2 -0.1**
baz=251
CBN Corbin Frederi 113.58 58 PFAKE 18 16 00.0
CBN LR LR
comp=Z,122μm,20.0s
WMQ Urumqi 113.63 308 PKP **PKiKP 18 15 51.4 -0.5**
WMQ PP **PP 18 16 48.8 +3.9**
WMQ SKS **SKSdf 18 22 52.5 -8.9**
WMQ AMB AMB
comp=Z,22μm,11.5s
WMQ LR LR
comp=Z,64μm,24.3s
WMQ LR LR
comp=Z,80μm,25.9s
WMQ LR LR
comp=Z,102μm,25.9s
BHPL Bhopal 114.72 284 *e*P PKPdf 18 15 53.2 -1.4
BHPL AMS AMS 19 05 25.8
comp=Z,43μm,24.6s
GOA Goa 114.75 275 *e*P PKPdf 18 15 54.5 -0.3
GOA AMS AMS 19 01 07.1
comp=Z,109μm,19.7s
RES Resolute Bay 115.30 17 PKP **PKPdf 18 15 52.5 -1.6**
comp=Z,118nm,1.2s,baz=227,slow=3.5,SNR=19
RES PKKPbc **PKKPbc 18 26 30.2 -0.6**
comp=Z,12nm,1.1s,baz=114,slow=3.3,SNR=3.4
PSUB Penn St. - Bra 115.53 57 *e*PKPdf **PKPdf 18 15 53.4 -2.2**
N59A State Game Lan 115.59 56 P **Pdif 18 12 08.7 +0.5**
baz=253
SJG San Juan 115.60 83 PKKPbc PKKPbc 18 26 28.8 +0.4
comp=Z,7.0nm,0.3s,baz=83,slow=6.7,SNR=2.3
SJG San Juan 115.60 83 *e*PKiKP **PKPdf 18 15 56.1 -0.2**
SJG MLR MLR
comp=Z,190μm,20.0s
SJG San Juan 115.60 83 *e*PKPdf **PKPdf 18 15 52.1 -4.3**
SJG LR LR
comp=Z,202μm,21.0s
KSPA Keystone Colle 115.78 55 *e*PKPdf **PKPdf 18 15 55.2 -0.8**
POO Poona 115.97 278 *e*P **PKPdf 18 15 56.1 -1.0**
POO Poona 115.97 278 *e*P **Pdif 18 12 19.0 +8.6**
VLDQ Val d'Or 116.38 48 *e*PKPdf **PKPdf 18 15 54.2 -2.7**
ODNJ Ogdensburg 116.48 56 *e*PKPdf **PKPdf 18 15 56.7 -0.7**
ZSN Zaisan 116.55 311 *e*Pdif **Pdif 18 12 11.1 -1.1**
ZSN *i* PKP **PKPdf 18 15 55.9 -1.5**
ZSN *i* PP **PP 18 17 04.0 -1.3**
ZSN LRM MLR 19 05 08.5
comp=Z,7μm,20.9s
ABPO Ambohimpanom 116.65 227 *e*PKIKP **PKPdf 18 15 58.2 -0.5**
ABPO MLR MLR
comp=Z,30μm,20.0s
ABPO Ambohimpanom 116.65 227 *e*PKPdf **PKPdf 18 15 58.2 -0.5**
ABPO LR LR
comp=Z,30μm,20.0s
DDI Dehra Dun 116.70 291 *e*P **PKPdf 18 15 57.2 -1.0**
DDI AMS AMS 19 09 19.3
comp=Z,52μm,25.2s
CPNY Central Park 116.87 56 *e*PKPdf **PKPdf 18 15 54.3 -3.8**
PAL Palisades 116.97 56 *e*PKIKP **PKPdf 18 15 57.9 -0.4**
PAL Palisades 116.97 56 *e*PKPdf **PKPdf 18 15 57.9 -0.4**
OPO Ambohidratompo 117.01 227 PKP **PKPdf 18 16 00.0 +0.7**
comp=Z,19nm,0.9s,baz=148,slow=2.5,SNR=14
SUR Sutherland 117.01 196 PKP **PKPdf 18 15 58.8 -0.3**
comp=Z,5.7nm,0.8s,baz=152,slow=3.5,SNR=26
SUR PKKPbc **PKKPbc 18 26 23.9 -0.5**
comp=Z,0.9nm,1.0s,baz=45,slow=7.1,SNR=3.2
SUR Sutherland 117.01 196 *e*PKPdf **PKPdf 18 15 59.0 -0.2**
SUR *e*PKKPbc **PKKPbc 18 26 23.4 -1.0**
SUR LR LR
comp=Z,67μm,22.0s
SUR Sutherland 117.01 196 P **PKPdf 18 15 59.7 +0.6**
SNR=11
SUR Sutherland 117.01 196 PKiKP **PKPdf 18 15 59.7 +0.6**
SNR=11
BOM Bombay 117.02 278 *i* x **Pdif 18 12 08.8 -6.1**
BOM AMb AMB 18 12 30.3
comp=Z,566nm,16.9s
BOM *ex* x 18 15 43.1
LONY Lake Ozonia 117.43 52 *e*PKPdf **PKPdf 18 15 57.1 -2.0**
LONY LR LR
comp=Z,181μm,20.0s
NCB Newcomb 117.52 53 *e*PKPdf **PKPdf 18 15 58.9 -0.4**
TRY Troy 117.60 54 *e*PKPdf **PKPdf 18 15 59.2 -0.2**
TOSP Speyside 117.64 92 *e* **PKKPdf 18 26 46.6 -2.7**
SMLA Simla 117.68 292 *e*P **PKPdf 18 15 58.8 -1.2**
SMLA AMS AMS 19 03 42.2
comp=Z,97μm,18.4s
YLE Yale 117.76 56 *e*PKPdf **PKPdf 18 15 59.4 -0.4**
ACCN Adirondack Com 117.76 54 *e*PKPdf **PKPdf 18 15 59.1 -0.7**
TRQ Mont Tremblant 117.84 50 *e*PKPdf **PKPdf 18 16 02.9 +3.0**
SVB Belmont 117.87 90 *e* **PKKPab 18 26 28.4 +4.1**
SVB Belmont 117.87 90 *e* **PKKPdf 18 26 53.3 +4.3**
SVB Belmont 117.87 90 *e*PKPdf **PKPdf 18 15 59.4 -1.4**
SABA Saba 117.94 84 *e* PKKPdf 18 26 58.6 +10
SSV Crater Summit 117.95 90 *e* **PKKPab 18 26 27.9 +3.9**
ZAA0 Zalesovo Array 118.03 319 *e*Pdif **Pdif 18 12 19.3 +0.7**
ZAA0 *e*PKPdf **PKPdf 18 15 58.7 -1.2**
ZAA1 Zalesovo Array 118.03 319 *e*Pdif **Pdif 18 12 19.1 +0.4**
ZAA1 *e*PKPdf **PKPdf 18 15 58.7 -1.2**
ZAA1 *e*PKKSdf PKKSbc 18 30 01.0 -8.0
ZALV Zalesovo Beam 118.03 319 Pdiff **Pdif 18 12 19.1 +0.5**
comp=Z,0.9nm,0.8s,baz=100,slow=1.6,SNR=5.9
ZALV PKP **PKPdf 18 15 58.7 -1.2**
comp=Z,64nm,0.8s,baz=133,slow=1.0,SNR=45
ZALV SKKPbc SKKPbc 18 30 01.0 -6.1
comp=Z,14nm,1.0s,baz=264,slow=4.3,SNR=3.7
ZALV Zalesovo Beam 118.03 319 P **Pdif 18 12 19.1 +0.5**
ZALV 18 15 58.7
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV pmax pmax
comp=Z,96nm,0.9s
MK31 Makanchi Array 118.10 310 PKIKP **PKPdf 18 15 59.2 -1.2**
MK31 pmax pmax
comp=Z,199nm,1.1s
MK31 Makanchi Array 118.10 310 *e*PKPdf **PKPdf 18 15 58.7 -1.6**
MK32 Makanchi Array 118.10 310 *e*Pdif **Pdif 18 12 20.4 +1.2**
MK32 *e*PKPdf **PKPdf 18 15 58.9 -1.4**
MK32 *e*PKKPbc **PKKPbc 18 26 20.4 +0.1**
MK32 *e*PKKSdf PKKSbc 18 29 57.6 -11
MKAR Makanchi Array 118.10 310 Pdiff **Pdif 18 12 20.4 +1.2**
comp=Z,4.4nm,1.1s,baz=107,slow=4.5,SNR=4.7
MKAR PKP **PKPdf 18 15 58.9 -1.5**
comp=Z,106nm,1.0s,baz=95,slow=0.7,SNR=49
MKAR PKKPbc **PKKPbc 18 26 20.4 +0.1**
comp=Z,18nm,0.9s,baz=284,slow=2.5,SNR=10
MKAR SKKPbc SKKPbc 18 29 57.6 -8.8
comp=Z,18nm,1.2s,baz=318,slow=1.9,SNR=3.4
SEUS St. Eustatius 118.12 85 *e* PKKPdf 18 26 57.3 +8.6
FRNY Flat Rock 118.17 52 *e*PKPdf **PKPdf 18 15 59.9 -0.6**
MDV Middlebury 118.25 53 *e*PKPdf **PKPdf 18 15 59.4 -1.3**
SMRT St. Maarten 118.26 84 *e* **PKKPdf 18 26 52.0 +3.5**
SMRT St. Maarten 118.26 84 *e*PKPdf **PKPdf 18 15 59.6 -1.9**
SKI Saint Kitts 118.26 85 *e* PKKPdf 18 27 01.3 +13
SKI Saint Kitts 118.26 85 *e*PKIKP **PKPdf 18 16 00.8 -0.7**
SKI Saint Kitts 118.26 85 *e*PKPdf **PKPdf 18 16 00.8 -0.7**
SLDE Delcer 118.27 89 *e* PKKPab 18 26 31.8 +9.3
SLB Belfond 118.30 89 *e* **PKKPab 18 26 28.6 +6.1**
MAKZ Makanchi 118.32 310 *e*PKIKP **PKPdf 18 15 59.6 -1.2**
MAKZ Makanchi 118.32 310 *e*PKPdf **PKPdf 18 15 59.5 -1.2**
MCLT Moule a Chique 118.33 89 *e* **PKKPbc 18 26 19.8 +1.0**
MCLT Moule a Chique 118.33 89 *e* PKKPab 18 26 32.9 +11
QUA2 Belchertown 118.42 55 *e*PKPdf **PKPdf 18 16 00.9 -0.1**
SLW Petit Monier 118.47 89 *e* PKKPab 18 26 33.2 +12
FDF Fort de France 118.58 88 *e*P **Pdif 18 12 20.0 -2.0**
FDF Fort de France 118.58 88 *e* PKKPdf 18 27 03.4 +16
FDF Fort de France 118.58 88 *e*PKIKP **PKPdf 18 16 02.0 -0.2**
FDF MLR MLR
comp=Z,189μm,21.0s
FDF Fort de France 118.58 88 *e*PKPdf **PKPdf 18 16 02.0 -0.2**
FDF LR LR
comp=Z,189μm,21.0s
TBG Guadaloupe-3 118.62 87 *e* **PKKPab 18 26 23.9 +3.1**
BBL Barber's Block 118.64 87 *e*P **PKKPab 18 26 21.4 +0.5**
GDHS Morne Mazeau, 118.69 86 *e*PKPdf **PKPdf 18 16 02.0 -0.3**
DHRM DHARAMSHALA 118.73 293 *e*P **PKPdf 18 16 01.2 -1.1**
DHRM AMS AMS 19 03 57.5
comp=Z,83μm,21.4s

DLPL La Plaine 118.75 88 *e* PKKPab 18 26 30.0 +10
DWS Wesley 118.79 87 *e* **PKKPbc 18 26 12.1 -5.0**
DWS Wesley 118.79 87 *e* PKKPdf 18 27 02.6 +15
HNH Hanover 118.81 54 *e*PKPdf **PKPdf 18 16 02.0 +0.2**
BPA Boggy Peak 118.92 86 *e* 18 27 18.5
BRYW Bryant College 118.92 56 *e*PKPdf **PKPdf 18 16 01.9 -0.2**
NRIK Noril'sk 118.95 336 Pdiff **Pdif 18 12 26.6 +4.2**
comp=Z,1.0nm,0.4s,baz=74,slow=3.4,SNR=6.9
NRIK PKP **PKPdf 18 16 00.7 -0.6**
comp=Z,53nm,0.7s,baz=78,slow=2.2,SNR=31
NRIK PKKPbc **PKKPbc 18 26 19.7 +1.9**
comp=Z,22nm,0.9s,baz=1.0,slow=0.5,SNR=5.3
HRV Adam Dziewonsk 119.05 55 *e*PKIKP **PKPdf 18 16 02.4 +0.1**
HRV Adam Dziewonsk 119.05 55 *e*PKPdf **PKPdf 18 16 02.4 +0.1**
NVS Novosibirsk 119.11 319 *e*P **Pdif 18 12 25.2 +1.8**
NVS *e* 18 16 02.2
NVS *i* 18 17 26.4
NVS *e* 18 22 52.9
NVS pmax pmax
comp=Z,395nm,1.2s
NVS pmax pmax
comp=E,180nm,1.3s
LBNH Lisbon 119.19 53 *e*PKIKP **PKPdf 18 16 02.3 -0.2**
LBNH Lisbon 119.19 53 *e*PKPdf **PKPdf 18 16 02.3 -0.2**
WES Weston 119.19 55 *e*PKIKP **PKPdf 18 16 02.3 -0.2**
WES Weston 119.19 55 *e*PKPdf **PKPdf 18 16 02.3 -0.2**
SHLS Shalkode 119.22 306 *i* PKP **PKPdf 18 15 59.6 -3.2**
comp=E,405nm,1.6s
SHLS LRM MLR 19 07 10.0
comp=E,8μm,22.7s
ANWB Willy Bob 119.23 85 *e* PKKPdf 18 26 57.3 +11
ANWB Willy Bob 119.23 85 PFAKE 18 16 10.0 +6.7
ANWB LR LR
comp=Z,185μm,21.0s
PDGK Podgornoye 119.24 306 PKIKP **PKPdf 18 16 01.5 -1.3**
PDGK pmax pmax
comp=Z,214nm,1.2s
BCX Boston College 119.29 55 *e*PKPdf **PKPdf 18 16 02.6 -0.1**
BBGH Gun Hill 119.30 91 PFAKE 18 16 10.0 +6.4
BBGH LR LR
comp=Z,170μm,22.0s
BOSA Boshof 119.31 201 Pdiff **Pdif 18 12 29.9 +4.6**
comp=Z,3.3nm,0.9s,baz=102,slow=6.9,SNR=3.6
BOSA PKP **PKPdf 18 16 03.8 +0.2**
comp=Z,148nm,1.1s,baz=156,slow=2.3,SNR=37
BOSA PKKPbc **PKKPbc 18 26 17.3 +1.3**
comp=Z,10nm,0.8s,baz=332,slow=3.6,SNR=8.0
BOSA SKKPbc SKKPbc 18 29 38.3 -20
comp=Z,8.1nm,0.9s,baz=297,slow=2.3,SNR=3.0
BOSA Boshof 119.31 201 *e*Pdif **Pdif 18 12 29.9 +4.6**
BOSA *e*PKPdf **PKPdf 18 16 03.4 -0.2**
BOSA *e*PKPdf **PKPdf 18 16 03.8 +0.2**
BOSA *e*PKKPbc **PKKPbc 18 26 17.3 +1.3**
BOSA *e*PKKSdf PKKSbc 18 29 38.3 -27
DEG La Desirade 119.32 87 *e* **PKKPab 18 26 23.6 +5.8**
H05N1 Guadeloupe/Mar 119.32 87 PKP **PKPdf 18 16 01.5 -2.1**
UZB Uzynbulak 119.53 306 *i* PKP **PKPdf 18 16 00.6 -2.9**
comp=Z,1μm,1.6s
UZB *i* PP **PP 18 17 22.9 -3.4**
UZB *i* PS **PS 18 27 11.8 -3.6**
UZB *i* SS SS 18 33 44.2 -3.5
UZB LRM MLR 19 07 54.3
comp=Z,17μm,22.9s
KPKS Kokpek 119.85 306 *i* PKP **PKPdf 18 16 01.4 -2.5**
KPKS *i* PP **PP 18 17 24.8 -3.5**
KPKS LRM MLR 19 06 25.7
comp=Z,31μm,22.7s
SATY Saty 119.95 305 *e*Pdif **Pdif 18 12 24.8 -2.9**
SATY *i* PKP **PKPdf 18 16 02.2 -2.0**
SATY *i* PP **PP 18 17 25.8 -3.3**
SATY LRM MLR 19 07 11.2
comp=Z,22μm,23.9s
SEM Semipalatinsk 120.15 314 *i* PKP **PKPdf 18 16 01.8 -2.7**
comp=Z,1μm,1.2s
SEM *i* PS **PS 18 27 17.5 -3.4**
SEM *i* SS SS 18 33 51.9 -3.5
SEM LRM MLR 19 07 32.5
comp=Z,20μm,20.4s
MSEY Mahe Island 120.34 245 *i* P **PKPdf 18 16 06.6 +0.9**
SNR=7.5
MSEY Mahe Island 120.34 245 *e*PKIKP **PKPdf 18 16 05.5 -0.2**
MSEY MLR MLR
comp=Z,55μm,22.0s
MSEY Mahe Island 120.34 245 *e*PKPdf **PKPdf 18 16 05.5 -0.2**
MSEY LR LR
comp=Z,55μm,22.0s
MSEY Mahe Island 120.34 245 P **PKPdf 18 16 06.1 +0.3**
SNR=9.0
MSEY Mahe Island 120.34 245 PKiKP **PKPdf 18 16 06.1 +0.3**
SNR=9.0
TDK Taldyqorghan 120.37 308 *i* PP PP 18 17 27.7 -4.1
TDK LRM MLR 19 06 50.8
comp=Z,14μm,20.3s
WVL Waterville 120.85 53 *e*PKPdf **PKPdf 18 16 04.8 -0.9**
KSH Kashi 120.94 301 Pdif **Pdif 18 12 41.8 +10**
KSH PKP **PKiKP 18 16 06.5 +0.2**
KSH sPKP 18 16 21.1
KSH PP **PP 18 17 41.1 +5.1**
KSH PKS **PKSdf 18 19 41.5 -1.4**
KSH Kashi 120.94 301 SKS **SKSdf 18 23 13.0 -2.7**
KSH Kashi 120.94 301 SS SS 18 34 10.0 +4.1
KSH AMB AMB
comp=Z,8μm,14.5s
KSH LR LR
comp=N,53μm,27.0s
KSH LR LR
comp=E,98μm,21.7s
KSH LR LR
comp=Z,125μm,23.3s
KSH pmax pmax
comp=Z,4μm,14.2s
MDOK Medeo 120.95 305 *e*Pdif **Pdif 18 12 28.5 -3.6**
MDOK *i* PKP **PKPdf 18 16 03.7 -2.4**
comp=Z,419nm,1.2s
MDOK *i* PP **PP 18 17 32.1 -3.9**
MDOK *i* SKP 18 19 36.3
MDOK *i* SKS **SKSdf 18 23 13.0 -2.6**
MDOK *i* PS **PS 18 27 24.2 -3.8**
MDOK *i* SS **SS 18 34 02.0 -4.0**
MDOK LRM MLR 19 08 06.8
comp=Z,18μm,23.9s
AAA Alma-Ata 121.05 305 *e*P **Pdif 18 12 41.0 +8.6**
AAA *e*S **PP 18 17 36.3 -0.3**
AAA pmax pmax
comp=Z,3μm,18.1s
AAA Alma-Ata 121.05 305 *e*Pdif **Pdif 18 12 29.5 -3.0**
AAA *i* PKP **PKPdf 18 16 03.9 -2.4**
AAA *i* PP **PP 18 17 33.1 -3.4**
AAA LRM MLR 19 08 10.1
comp=Z,11μm,25.1s
KURK Kurchatov 121.23 314 *c* *i*PKIKP **PKPdf 18 16 04.8 -1.4**
KURK pmax pmax
comp=Z,2μm,1.7s
KURK MLR MLR
comp=Z,231μm,20.0s
KURK Kurchatov 121.23 314 *e*Pdif **Pdif 18 12 31.1 -1.8**
KURK *e*PKPdf **PKPdf 18 16 05.0 -1.2**
KURK *e*PP **PP 18 17 40.5 +3.1**
KURK *e*PKKPbc **PKKPbc 18 26 09.1 +0.2**
KURK LR LR
comp=Z,188μm,22.0s
KURK Kurchatov 121.23 314 P **PKPdf 18 16 05.1 -1.1**
SNR=51
KURK Kurchatov 121.23 314 PKPdf **PKPdf 18 16 05.1 -1.1**
SNR=51
PKME Peaks-Kenny Pk 121.24 52 *e*PKPdf **PKPdf 18 16 05.5 -0.8**
PKME LR LR
comp=Z,159μm,20.0s
KURBB Kurchatov Arra 121.27 314 Pdiff **Pdif 18 12 31.1 -2.0**
comp=Z,0.1nm,0.2s,baz=109,slow=3.9,SNR=2.6
KURBB PKP **PKPdf 18 16 05.0 -1.3**
comp=Z,142nm,1.0s,baz=102,slow=1.8,SNR=89
KURBB PP **PP 18 17 40.5 +2.8**
comp=Z,20nm,1.0s,baz=92,slow=4.6,SNR=2.8
KURBB PKKPbc **PKKPbc 18 26 09.1 +0.4**
comp=Z,23nm,1.1s,baz=278,slow=5.1,SNR=8.3
BHJ Bhuj 121.38 281 *e*P **PKPdf 18 16 06.2 -1.1**
BHJ AMS AMS 19 04 35.8
comp=Z,46μm,22.6s
KUU Kurty 121.60 306 *e*Pdif **Pdif 18 12 31.5 -3.3**
KUU *i* PKP **PKPdf 18 16 04.7 -2.5**
KUU *i* PP **PP 18 17 36.7 -3.6**
KUU LRM MLR 19 06 10.2
comp=Z,18μm,25.1s

BBSR BB Station 121.74 68 *e*PKPdf **PKPdf 18 16 07.5 -0.3**
BBSR LR LR
comp=Z,133μm,22.0s
TULEG Thule 121.86 15 *e*PKPdf **PKPdf 18 16 05.9 -0.8**
PQI Presque Isle 122.36 51 *e*PKPdf **PKPdf 18 16 08.0 -0.5**
EMMW East Machias 122.42 53 *e*PKPdf **PKPdf 18 16 08.2 -0.4**
LBTB Lobatse 122.52 203 PKP **PKPdf 18 16 09.8 0.0**
comp=Z,55nm,0.9s,baz=130,slow=2.6,SNR=27
LBTB PKKPbc **PKKPbc 18 26 03.8 0.0**
comp=Z,18nm,1.0s,baz=298,slow=7.5,SNR=4.3
LBTB Lobatse 122.52 203 *e*PKIKP **PKPdf 18 16 09.1 -0.6**
LBTB Lobatse 122.52 203 *e*PKPdf **PKPdf 18 16 09.1 -0.6**
LBTB *e*PKKPbc **PKKPbc 18 26 05.5 +1.6**
FRU Bishkek 122.63 304 *e*P **Pdif 18 12 50.0 +11**
FRU *i* 18 16 08.0
FRU *e* 18 17 47.0
FRU pmax pmax
comp=E,2μm,14.0s
AAK Ala-Archa 122.69 304 PKP **PKPdf 18 16 08.7 -0.8**
comp=E,50nm,0.8s,baz=129,slow=2.9,SNR=37
AAK PKKPbc **PKKPbc 18 26 03.4 +0.1**
comp=E,27nm,1.0s,baz=243,slow=5.3,SNR=8.3
AAK Ala-Archa 122.69 304 *c* *i*PKIKP **PKPdf 18 16 07.9 -1.6**
AAK MLR MLR
comp=Z,160μm,25.0s
AAK Ala-Archa 122.69 304 *e*PKPdf **PKPdf 18 16 08.7 -0.8**
AAK *e*PKPdf **PKPdf 18 16 08.9 -0.6**
AAK *e*PKKPbc **PKKPbc 18 26 03.4 +0.1**
AAK LR LR
comp=Z,148μm,22.0s
AAK Ala-Archa 122.69 304 P **PKPdf 18 16 08.9 -0.6**
SNR=50
AAK Ala-Archa 122.69 304 PKiKP **PKPdf 18 16 08.9 -0.6**
SNR=50
GGN Saint George 122.92 53 *e*PKPdf **PKPdf 18 16 09.1 -0.5**
FRB Frobisher Bay 123.20 30 PKKPbc PKKPbc 18 26 03.2 +1.7
comp=Z,24nm,1.0s,baz=122,slow=4.6,SNR=3.5
BTLS Baital 123.42 307 *i* PKP **PKPdf 18 16 08.5 -2.1**
BTLS LRM MLR 19 08 46.9
comp=Z,21μm,23.9s
SCHQ Schefferville 123.97 41 PKP **PKPdf 18 16 10.1 -1.3**
comp=Z,92nm,1.1s,baz=260,slow=2.3,SNR=22
SCHQ Schefferville 123.97 41 *e*PKPdf **PKPdf 18 16 10.2 -1.1**
MNAS Manas 124.11 304 PKIKP **PKPdf 18 16 11.5 -0.7**
MNAS pmax pmax
comp=Z,390nm,1.2s
LMN Caledonia Moun 124.44 52 *e*PKPdf **PKPdf 18 16 11.7 -0.9**
BRZS Berezniki 124.93 313 *i* PKP **PKPdf 18 16 11.2 -2.1**
comp=Z,226nm,1.6s
BRZS *i* PP **PP 18 17 59.0 -3.4**
BRZS *i* PS **PS 18 27 59.3 -3.5**
BRZS *i* SS SS 18 34 53.3 -2.4
DZA Taraz 125.02 304 *i* PKP **PKPdf 18 16 11.2 -2.7**
DZA *i* PP **PP 18 17 59.1 -4.2**
DZA LRM MLR 19 08 19.4
comp=Z,32μm,25.1s
KULLO Kullorsuaq 125.17 17⇑ *i*P **PKPdf 18 16 11.6 -1.5**
comp=Z,755nm,1.3s
KULLO *i* 18 18 04.6
comp=Z,95μm,23.0s
KULLO Kullorsuaq 125.17 17⇑ *i*PKIKP **PKPdf 18 16 11.6 -1.5**
KULLO *i* 18 18 04.6
KULLO pmax pmax
comp=Z,760nm,1.3s
KULLO MLR MLR
comp=Z,95μm,23.0s
KBL Kabul 125.19 294 *e*PKIKP **PKPdf 18 16 13.9 -0.7**
KBL Kabul 125.19 294 *e*PKPdf **PKPdf 18 16 14.2 -0.4**
KK31 Karatay Array 125.65 304 PKIKP **PKPdf 18 16 15.0 0.0**
KK31 pmax pmax
comp=Z,162nm,0.9s
KKAR Karatay Array 125.65 304 *e*PKIKP **PKPdf 18 16 12.2 -2.8**
KKAR Karatay Array 125.65 304 *e*PKPdf **PKPdf 18 16 12.2 -2.8**
IUG Iuzhnay 125.86 303 *i* PKP **PKPdf 18 16 12.8 -2.7**
comp=Z,3μm,1.7s
IUG *i* PP **PP 18 18 05.5 -3.6**
IUG *i* SS SS 18 35 04.7 -3.5
IUG LRM MLR 19 11 01.3
comp=Z,17μm,24.4s
BRLS Borolday 126.13 304 *i* PKP **PKPdf 18 16 13.3 -2.6**
comp=Z,145nm,1.2s
BRLS *i* PP **PP 18 18 07.5 -3.3**
BRLS *i* SKS **SKSdf 18 23 22.5 -2.5**
BRLS *i* SS **SS 18 35 08.5 -2.8**
BRLS LRM MLR 19 11 18.6
comp=Z,3μm,24.1s
CHM Chimkent 126.20 303 *i* PKP **PKPdf 18 16 13.7 -2.4**
comp=Z,2μm,1.8s
CHM *i* SKP 18 19 46.3
CHM *i* SKS **SKSdf 18 23 22.6 -2.6**
CHM *i* PS **PS 18 28 10.0 -4.3**
CHM *i* SS **SS 18 35 08.6 -3.6**
CHM LRM MLR 19 12 42.2
comp=Z,23μm,25.2s
DZET Dzherino 126.23 299 PKIKP **PKPdf 18 16 15.3 -1.1**
DZET pmax pmax
comp=Z,211nm,0.9s
BVAR Borovoye Array 126.50 316 Pdiff **Pdif 18 13 00.5 +4.1**
comp=Z,0.7nm,0.7s,baz=98,slow=6.1,SNR=6.7
BVAR PKP **PKPdf 18 16 15.4 -0.9**
comp=Z,158nm,0.9s,baz=136,slow=1.6,SNR=61
BRVK Borovoye 126.56 317 PKIKP **PKPdf 18 16 15.8 -0.6**
BRVK pmax pmax
comp=Z,599nm,1.3s
BRVK Borovoye 126.56 317 *e*PKPdf **PKPdf 18 16 15.1 -1.3**
BRVK LR LR
comp=Z,68μm,22.0s
BRVK Borovoye 126.56 317 P **PKPdf 18 16 16.0 -0.4**
SNR=97
BRVK Borovoye 126.56 317 PKPdf **PKPdf 18 16 16.0 -0.4**
SNR=97
RCBR Riachuelo 128.41 126 PKP **PKPdf 18 16 20.8 -0.4**
comp=Z,347nm,1.3s,baz=171,slow=2.7,SNR=19
RCBR Riachuelo 128.41 126 *e*PKPdf **PKPdf 18 16 20.7 -0.4**
RCBR LR LR
comp=Z,416μm,21.0s
ILULI Ilulissat 128.91 22 *i* P **PKPdf 18 16 18.6 -1.7**
comp=Z,560nm,1.3s
ILULI *i* 18 18 28.8
comp=Z,178μm,20.0s
ILULI Ilulissat 128.91 22 *i* PKIKP **PKPdf 18 16 18.6 -1.7**
ILULI *i* 18 18 28.8
ILULI pmax pmax
comp=Z,560nm,1.3s
ILULI MLR MLR
comp=Z,180μm,20.0s
KBS Kingsbay 129.74 358 *e*PKIKP **PKPdf 18 16 21.3 -0.4**
KBS MLR MLR
comp=Z,119μm,22.0s
KBS Kingsbay 129.74 358 *e*PKPdf **PKPdf 18 16 21.3 -0.4**
KBS LR LR
comp=Z,119μm,22.0s
SFJD Kangerlussuaq 129.91 25 PKP **PKPdf 18 16 20.6 -1.7**
comp=Z,47nm,1.0s,baz=295,slow=1.7,SNR=14
SFJD SKKPbc SKKPbc 18 29 20.1 -7.6
comp=Z,43nm,1.2s,baz=82,slow=6.2,SNR=3.8
SFJD Kangerlussuaq 129.91 25 *i* P **PKPdf 18 16 20.9 -1.4**
comp=Z,118μm,20.0s
SFJD Kangerlussuaq 129.91 25 *i* PKIKP **PKPdf 18 16 20.9 -1.4**
SFJD MLR MLR
comp=Z,120μm,20.0s
SFJD Kangerlussuaq 129.91 25 *e*PKPdf **PKPdf 18 16 20.6 -1.7**
SFJD *e* 18 29 20.1
SFJD LR LR
comp=Z,121μm,20.0s
LSZ Lusaka 130.25 211 PKhKP PKPpre 18 16 09.9
comp=Z,8.5nm,1.1s,baz=146,slow=2.4,SNR=3.3
LSZ PKP **PKPdf 18 16 24.8 +0.1**
comp=Z,118nm,1.0s,baz=163,slow=1.8,SNR=52
LSZ Lusaka 130.25 211 *e*PKPpre PKPpre 18 16 11.6
LSZ *e*PKPdf **PKPdf 18 16 24.6 -0.2**
LSZ *ep*PKPdf **PKiKP 18 16 25.8 +0.2**
LSZ LR LR
comp=Z,63μm,21.0s
SPA0 Spitsbergen Ar 130.30 357 *e*Pdif **Pdif 18 13 12.8 0.0**
SPA0 *e*PKPdf **PKPdf 18 16 22.0 -0.8**
SPA0 *e*PP **PP 18 18 36.7 -0.1**
SPA0 *e*PP PP 18 18 38.1 +1.3
SPA0 *e*SP SP 18 28 42.8 -0.1
SPA0 *e*SS SS 18 36 04.2 +3.6
SPITS Spitsbergen Ar 130.30 357 PKP **PKPdf 18 16 21.6 -1.2**
comp=Z,342nm,1.0s,baz=18,slow=0.5,SNR=31
SPITS SKKPbc SKKPbc 18 29 22.5 -4.2
comp=Z,63nm,1.1s,baz=178,slow=11,SNR=4.5
TSUM Tsumeb 130.42 197 PKP **PKPdf 18 16 25.0 0.0**

	comp=Z,16nm,0.7s,baz=148,slow=1.8,SNR=33						
TSUM				PP	**PP**	**18 18 43.3**	**+5.7**
	comp=Z,108nm,1.1s,baz=148,slow=7.6,SNR=5.1						
TSUM	**Tsumeb**	**130.42**	**197**	*e*PKPdf	**PKPdf**	**18 16 25.3**	**+0.3**
TSUM				*e*PP	**PP**	**18 18 43.3**	**+5.7**
TSUM				LR	LR		
	comp=Z,57μm,20.0s						
SUMG	**Summit**	**130.78**	**16⇑**	*i*P	**PKPdf**	**18 16 23.9**	**-0.5**
SUMG				*i*		18 18 41.4	
	comp=Z,181μm,24.0s						
SUMG	**Summit**	**130.78**	**16⇑**	*i*PKIKP	**PKPdf**	**18 16 23.9**	**-0.5**
SUMG				*i*		18 18 41.4	
SUMG				MLR	MLR		
	comp=Z,180μm,24.0s						
SUMG	**Summit**	**130.78**	**16**	*e*PKPdf	**PKPdf**	**18 16 23.9**	**-0.5**
DAG	**Danmarks Havn**	**130.84**	**7⇑**	*i*P	**PKPdf**	**18 16 22.2**	**-1.7**
DAG				*i*		18 18 35.3	
	comp=Z,132μm,23.0s						
DAG	**Danmarks Havn**	**130.84**	**7⇑**	*i*PKIKP	**PKPdf**	**18 16 22.2**	**-1.7**
DAG				MLR	MLR		
	comp=Z,150μm,23.0s						
WSAR	**Wadi Sarin**	**130.93**	**277**	PKP	**PKPdf**	**18 16 25.4**	**-0.2**
	comp=Z,34nm,0.9s,baz=180,slow=1.3,SNR=27						
HOPEN	**Hopen**	**131.24**	**354**	*e*Pdif	**Pdif**	**18 13 19.0**	**+2.1**
HOPEN				*e*PKPdf	**PKPdf**	**18 16 24.7**	**+0.1**
HOPEN				*e*PP	**PP**	**18 18 44.7**	**+1.9**
HOPEN				*e*PS	**PS**	**18 28 56.1**	**-0.7**
HOPEN				*e*SS	SS	18 36 09.1	-3.0
HOPEN				IVMs_BB	IVMs_BB	19 05 46.9	
	comp=Z,36μm,23.7s						
BIDO	**Bidbid**	**131.45**	**277**	P	**PKPdf**	**18 16 26.2**	**-0.4**
	SNR=52						
BIDO	**Bidbid**	**131.45**	**277**	PKiKP	**PKPdf**	**18 16 26.2**	**-0.4**
	SNR=52						
HSPB	**Hornsund (broa**	**131.49**	**357**	*e*PKIKP	**PKPdf**	**18 16 25.1**	**0.0**
HSPB				MLR	MLR		
	comp=Z,114μm,22.9s						
SVE	**Sverdlovsk**	**131.78**	**322**	*d i*PKIKP	**PKPdf**	**18 16 25.2**	**-1.0**
SVE				pmax	pmax		
	comp=Z,855nm,2.1s						
ARU	**Arti**	**132.99**	**322**	PKhKP	PKPpre	18 16 13.3	
	comp=Z,6.8nm,0.7s,baz=64,slow=1.9,SNR=7.8						
ARU	**Arti**	**132.99**	**322**	*i* PKIKP	**PKPdf**	**18 16 27.1**	**-1.3**
ARU						18 18 50.3	
ARU				PPP	PPP	18 21 50.4	
ARU						18 23 34.3	
ARU	**Arti**	**132.99**	**322**	*e*PKPpre	PKPpre	18 16 13.8	
ARU				*e*PKPdf	**PKPdf**	**18 16 27.6**	**-0.9**
ARU				LR	LR		
	comp=Z,270μm,22.0s						
SOKR	**Solikamsk**	**133.10**	**326**	*c i*PKIKP	**PKPdf**	**18 16 25.1**	**-3.4**
SOKR				pmax	pmax		
	comp=Z,564nm,1.9s						
SOKR				MLR	MLR		
	comp=Z,85μm,20.0s						
AB31	**Akbulak array**	**133.20**	**312**	PKHKP	PKPpre	18 16 17.1	
AB31				pmax	pmax		
	comp=Z,19nm,1.1s						
ABKAR	**Akbulak array**	**133.20**	**312**	*e*PKPpre	PKPpre	18 16 16.8	
ABKAR				*e*PKPdf	**PKPdf**	**18 16 28.9**	**-0.2**
UOSS	**Minazif**	**133.56**	**278**	*e*PKPdf	**PKPdf**	**18 16 27.9**	**-2.7**
HATD	**Hatta, Dubai**	**133.59**	**278**	*i* P	**PKPdf**	**18 16 29.7**	**-0.9**
	SNR=50						
HATD	**Hatta, Dubai**	**133.59**	**278**	P	**PKPdf**	**18 16 30.1**	**-0.5**
	SNR=40						
HATD	**Hatta, Dubai**	**133.59**	**278**	PKiKP	**PKPdf**	**18 16 30.1**	**-0.5**
	SNR=40						
ASHO	**Ashiyiah**	**133.61**	**278**	*i* P	**PKPdf**	**18 16 29.7**	**-1.0**
	SNR=15						
ASHO	**Ashiyiah**	**133.61**	**278**	P	**PKPdf**	**18 16 30.0**	**-0.7**
	SNR=37						
ASHO	**Ashiyiah**	**133.61**	**278**	PKiKP	**PKPdf**	**18 16 30.0**	**-0.7**
	SNR=37						
BANOM	**Banah**	**133.75**	**279**	*i* P	**PKPdf**	**18 16 30.4**	**-0.5**
	SNR=20						
BANOM	**Banah**	**133.75**	**279**	P	**PKPdf**	**18 16 30.2**	**-0.7**
	SNR=8.3						
BANOM	**Banah**	**133.75**	**279**	PKiKP	**PKPdf**	**18 16 30.2**	**-0.7**
	SNR=8.3						
FAQ	**Al Faqa, Dubai**	**134.03**	**278**	*i* P	**PKPdf**	**18 16 30.4**	**-1.1**
	SNR=35						
FAQ	**Al Faqa, Dubai**	**134.03**	**278**	P	**PKPdf**	**18 16 30.6**	**-0.8**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**134.03**	**278**	PKiKP	**PKPdf**	**18 16 30.6**	**-0.8**
	SNR=23						
NAZ	**Nazwa, Dubai**	**134.04**	**278**	*i* P	**PKPdf**	**18 16 30.7**	**-0.7**
	SNR=16						
NAZ	**Nazwa, Dubai**	**134.04**	**278**	P	**PKPdf**	**18 16 29.4**	**-2.0**
	SNR=19						
NAZ	**Nazwa, Dubai**	**134.04**	**278**	PKPdf	**PKPdf**	**18 16 29.4**	**-2.0**
	SNR=19						
NRS	**Narsarsuaq**	**134.19**	**31**	*i* P	**PKPdf**	**18 16 28.8**	**-1.7**
NRS				*i*		18 19 02.8	
	comp=Z,162μm,21.0s						
NRS	**Narsarsuaq**	**134.19**	**31**	*i* PKIKP	**PKPdf**	**18 16 28.8**	**-1.7**
NRS				*i*		18 19 02.8	
NRS				MLR	MLR		
	comp=Z,160μm,21.0s						
NRS	**Narsarsuaq**	**134.19**	**31**	*e*PKPpre	PKPpre	18 16 18.9	
NRS				*e*PKPdf	**PKPdf**	**18 16 30.2**	**-0.4**
ASHT	**Ashkhabad**	**134.24**	**296**	PKIKP	**PKPdf**	**18 16 32.9**	**+1.5**
ASHT				pmax	pmax		
	comp=Z,341nm,1.1s						
AKTO	**Aktyubinsk**	**134.32**	**314**	PKhKP	PKPpre	18 16 19.9	
	comp=Z,9.0nm,0.8s,baz=92,slow=3.1,SNR=15						
AKTO				PKP	**PKPdf**	**18 16 32.0**	**+0.9**
	comp=Z,66nm,0.8s,baz=53,slow=2.6,SNR=14						
SHEL	**Horse Pasture**	**134.45**	**167**	*e*PKIKP	**PKPdf**	**18 16 33.0**	**+0.5**
SHEL				MLR	MLR		
	comp=Z,18μm,20.0s						
SHEL	**Horse Pasture**	**134.45**	**167**	*e*PKPdf	**PKPdf**	**18 16 33.0**	**+0.5**
SHEL				LR	LR		
	comp=Z,18μm,20.0s						
GEYT	**Alibeck**	**134.45**	**296**	PKhKP	PKPpre	18 16 19.9	
	comp=Z,9.1nm,0.9s,baz=104,slow=1.8,SNR=9.4						
GEYT				PKP	**PKPdf**	**18 16 31.6**	**-0.3**
	comp=Z,65nm,1.1s,baz=231,slow=0.9,SNR=19						
GEYT				PP	**PP**	**18 19 11.6**	**+6.7**
	comp=Z,46nm,1.1s,baz=134,slow=4.2,SNR=3.1						
GEYT				SKP		18 20 15.6	
	comp=Z,71nm,1.0s,baz=92,slow=4.3,SNR=4.0						
SCO	**Scoresbysund**	**135.86**	**12**	*i* P	**PKPdf**	**18 16 31.1**	**-2.3**
SCO				*i*		18 19 11.1	
	comp=Z,138μm,23.0s						
SCO	**Scoresbysund**	**135.86**	**12**	*e*PKIKP	**PKPdf**	**18 16 31.1**	**-2.3**
SCO				*i*		18 19 11.1	
SCO				MLR	MLR		
	comp=Z,140μm,23.0s						
KMBO	**Kilima Mbogo**	**136.35**	**233**	PKhKP	PKPpre	18 16 27.6	
	comp=Z,5.3nm,0.9s,baz=98,slow=3.5,SNR=12						
KMBO				PKP	**PKPdf**	**18 16 37.5**	**+1.0**
	comp=Z,76nm,1.1s,baz=49,slow=2.3,SNR=20						
KMBO	**Kilima Mbogo**	**136.35**	**233**	*e*PKHKP	PKPpre	18 16 24.3	
KMBO				*e*		18 16 35.2	
KMBO				MLR	MLR		
	comp=Z,55μm,20.0s						
KMBO	**Kilima Mbogo**	**136.35**	**233**	*e*PKPpre	PKPpre	18 16 24.2	
KMBO				*e*		18 16 27.4	
KMBO				*es*PKPdf	**PKPdf**	**18 16 35.2**	**-1.3**
KMBO				*e*		18 16 35.7	
KMBO				LR	LR		
	comp=Z,55μm,20.0s						
HAMF	**Hammerfest**	**136.74**	**351**	*e*PKPdf	**PKPdf**	**18 16 34.8**	**-0.3**
HAMF				*e*PP	**PP**	**18 19 18.6**	**+0.7**
HAMF				*e*SP	SP	18 29 37.4	-0.5
HAMF				IVMs_BB	IVMs_BB	19 10 27.3	
	comp=Z,59μm,23.7s						
LVZ	**Lovozero**	**136.90**	**344**	*i* PKIKP	**PKPdf**	**18 16 33.0**	**-2.5**
LVZ	**Lovozero**	**136.90**	**344**	*e*PKPpre	PKPpre	18 16 26.6	
LVZ				*e*PKPdf	**PKPdf**	**18 16 34.3**	**-1.2**
LVZ				LR	LR		
	comp=Z,93μm,22.0s						
KEV	**Kevo**	**137.00**	**348**	*e*PKHKP	PKPpre	18 16 25.5	
KEV				*e*		18 16 33.7	
KEV				MLR	MLR		
	comp=Z,111μm,22.0s						
KEV	**Kevo**	**137.00**	**348**	*e*PKPpre	PKPpre	18 16 25.5	
KEV				*e*PKPdf	**PKPdf**	**18 16 33.7**	**-1.9**
KEV				LR	LR		
	comp=Z,111μm,22.0s						
JMIC	**Jan Mayen**	**137.28**	**6**	*e*Pdif	**Pdif**	**18 13 46.3**	**+2.5**
JMIC				*e*PP	**PP**	**18 19 22.6**	**+1.5**
ARA0	**ARCESS Array S**	**137.45**	**349**	*e*PKPpre	PKPpre	18 16 29.2	
ARA0				*e*PKPdf	**PKPdf**	**18 16 36.8**	**+0.3**
ARCES	**ARCESS Array B**	**137.45**	**349**	PKhKP	PKPpre	18 16 29.2	
	comp=Z,44nm,0.8s,baz=65,slow=1.0,SNR=42						
ARCES				PKP	**PKPdf**	**18 16 36.8**	**+0.3**
	comp=Z,273nm,0.8s,baz=26,slow=1.8,SNR=38						
ARCES	**ARCESS Array B**	**137.45**	**349**	*e*PKHKP	PKPpre	18 16 25.2	
ARE0	**ARCESS Array S**	**137.45**	**349**	*e*Pdif	**Pdif**	**18 13 44.5**	**-0.2**
ARE0				*e*PKPdf	PKPpre	18 16 27.9	
ARE0				*e*PP	**PP**	**18 19 23.2**	**+0.9**
ARE0				IVMs_BB	IVMs_BB	19 11 25.5	
	comp=Z,43μm,23.4s						
ARE0	**ARCESS Array S**	**137.45**	**349**	*e*PKPpre	PKPpre	18 16 29.8	
ARE0				*e*PKPdf	**PKPdf**	**18 16 37.2**	**+0.8**
APA	**Apatity**	**137.46**	**344⇑**	*i*PKHKP	PKPpre	18 16 17.0	
APA				*i*		18 19 19.0	
APA				*i*		18 23 46.0	
APA				*i* PPS	PPS	18 31 36.0	
KTK1	**Kautokeino**	**138.29**	**350**	*e*PKPdf	**PKPdf**	**18 16 35.0**	**-3.0**
KTK1				*e*PP	**PP**	**18 19 26.6**	**-0.9**
TRO	**Tromso**	**138.31**	**352**	*e*PKPdf	**PKPdf**	**18 16 34.0**	**-4.0**
TRO				*e*PP	**PP**	**18 19 29.2**	**+1.7**
TRO				*e*		18 29 43.3	
TRO				*e*SS	SS	18 37 37.9	+1.0
TRO				IVMs_BB	IVMs_BB	19 10 06.4	
	comp=Z,30μm,26.7s						
H10S3	**ASCENSION HYDR**	**138.31**	**152**	PKP	**PKPdf**	**18 16 42.3**	**+2.9**
H10S3				T	T	20 52 34.0	
	baz=206						
H10S2	**ASCENSION HYDR**	**138.31**	**152**	PKP	**PKPdf**	**18 16 42.9**	**+3.5**
H10S2				T	T	20 52 41.2	
	baz=206						
H10S1	**ASCENSION HYDR**	**138.33**	**152**	PKP	**PKPdf**	**18 16 42.9**	**+3.5**
H10S1				T	T	20 52 41.6	
	baz=206						
TMCR	**Tamitsa**	**138.61**	**338**	*e*PKIKP	**PKPdf**	**18 16 34.8**	**-3.9**
TMCR				pmax	pmax		
	comp=Z,364nm,1.1s						
ASCN	**Ascension**	**139.36**	**151**	*e*PKPdf	**PKPdf**	**18 16 44.1**	**+2.5**
ASCN				LR	LR		
	comp=Z,61μm,21.0s						
H10N3	**ASCENSION HYDR**	**139.38**	**151**	PKP	**PKPdf**	**18 16 43.6**	**+2.3**
	baz=191,slow=3.8,SNR=5.1						
H10N3				T	T	20 52 43.7	
	baz=203,slow=75,SNR=4.1						
H10N1	**ASCENSION HYDR**	**139.38**	**151**	PKP	**PKPdf**	**18 16 44.9**	**+3.5**
	baz=191,slow=3.8,SNR=8.1						
H10N1				T	T	20 52 54.8	
	baz=203,slow=75,SNR=6.1						
H10N2	**ASCENSION HYDR**	**139.40**	**151**	PKP	**PKPdf**	**18 16 44.2**	**+2.9**
	baz=191,slow=3.8,SNR=5.8						
H10N2				T	T	20 52 57.2	
	baz=203,slow=75,SNR=6.4						
KLMR	**Klimovskoe**	**140.20**	**334**	*e*PKIKP	**PKPdf**	**18 16 38.5**	**-3.2**
KLMR				*e*		18 19 38.4	
KLMR				*e*SS	SS	18 37 58.5	-1.3
KLMR				*e*SSS	SSS	18 43 12.3	
KLMR				pmax	pmax		
	comp=Z,1μm,1.3s						
LOF	**Lofoten**	**140.31**	**354**	*e*Pdif	**Pdif**	**18 13 57.4**	**0.0**
LOF				*e*PKPdf	**PKPdf**	**18 16 37.6**	**-4.1**
LOF				*e*SS	SS	18 38 03.0	+2.6
STEI	**Steigen**	**140.34**	**353**	*e*PKPdf	**PKPdf**	**18 16 37.9**	**-3.8**
STEI				IVMs_BB	IVMs_BB	19 09 38.8	
	comp=Z,38μm,26.1s						
BORG	**Borgarnes**	**140.73**	**17**	PFAKE		18 16 50.0	+7.5
BORG				LR	LR		
	comp=Z,39μm,22.0s						
KONS	**Konsvik**	**141.94**	**354**	*e*PKPdf	**PKPdf**	**18 16 41.5**	**-3.1**
KONS				*e*PP	**PP**	**18 19 50.6**	**+0.8**
STOK	**Stokkvaagen**	**142.11**	**354**	*e*PKPdf	**PKPdf**	**18 16 42.6**	**-2.3**
STOK				*e*	**PP**	**18 19 52.1**	**+1.3**
STOK				*e*PP	**PP**	**18 19 52.2**	**+1.3**
MOR8	**Moi Rana**	**142.13**	**353**	*e*Pdif	**Pdif**	**18 14 11.0**	**+5.4**
MOR8				*e*PKPdf	**PKPdf**	**18 16 39.7**	**-5.3**
MOR8				*e*PP	**PP**	**18 19 47.7**	**-3.4**
MOR8				IVMs_BB	IVMs_BB	19 10 58.7	
	comp=Z,42μm,22.2s						
MAK	**Makhachkala**	**142.47**	**304**	*e*P	**Pdif**	**18 14 07.5**	**0.0**
MAK				*e*		18 16 43.4	
MAK				*e*		18 19 49.4	
MAK				*e*SS	SS	18 38 25.4	-2.5
MAK				*e*SSS	SSS	18 43 44.5	
MAK				pmax	pmax		
	comp=Z,1μm,2.2s						
RAYN	**Ar Rayn**	**142.49**	**272**	*e*PKPpre	PKPpre	18 16 42.5	
RAYN				LR	LR		
	comp=Z,84μm,22.0s						
GROC	**Groznyy**	**143.67**	**305**	*e*PKIKP	PKPab	18 16 44.2	-1.0
GROC				*e*		18 23 51.1	
GROC				pmax	pmax		
	comp=Z,2μm,1.9s						
VAF	**Ylistaro**	**143.73**	**346**	PKIKP	PKPab	18 16 44.8	0.0
MOS	**Moscow**	**144.01**	**328**	*c i*PKIKP	**PKPab**	**18 16 45.3**	**-0.7**
MOS				*i*		18 20 03.9	
MOS				*e*PPP	PPP	18 23 18.2	
MOS				pmax	pmax		
	comp=N,4μm,2.5s						
MOS				pmax	pmax		
	comp=Z,4μm,2.1s						
MOS				pmax	pmax		
	comp=N,1μm,2.0s						
MOS				pmax	pmax		
	comp=Z,15μm,2.5s						
DGRG	**David-gareji**	**144.23**	**302**	P	**PKPab**	**18 16 47.9**	**+0.4**
DGRG	**David-gareji**	**144.23**	**302**	PKIKP	**PKPab**	**18 16 47.8**	**+0.4**
FIA1	**FINESS Array S**	**144.27**	**342**	*e*PKPdf	**PKPab**	**18 16 46.2**	**-0.7**
FIA0	**FINESS Array S**	**144.27**	**342**	*e*PKIKP	**PKPab**	**18 16 46.0**	**-0.9**
FIA0	**FINESS Array S**	**144.27**	**342**	*e*PKPdf	**PKPab**	**18 16 46.0**	**-0.9**
FINES	**FINESS Array B**	**144.27**	**342**	PKP	**PKPab**	**18 16 46.0**	**-0.9**
	comp=Z,367nm,0.7s,baz=48,slow=2.8,SNR=256						
FINES	**FINESS Array B**	**144.27**	**342**	*e*PKIKP	**PKPab**	**18 16 45.6**	**-1.3**
PUL	**Pulkovo**	**144.30**	**337**	*c i*PKIKP	**PKPab**	**18 16 46.3**	**-0.7**
SEAG	**Tbilisi Sea**	**144.61**	**302**	P	PKPbc	18 16 49.5	+0.5
TBLG	**Delisi**	**144.66**	**302**	P	**PKPab**	**18 16 49.1**	**0.0**
TBLG	**Delisi**	**144.66**	**302**	PKIKP	**PKPab**	**18 16 49.0**	**0.0**
GUDG	**Gudauri**	**144.75**	**304**	P	**PKPdf**	**18 16 50.4**	**-0.2**
GNI	**Garni**	**144.85**	**300**	PKP	**PKPab**	**18 16 49.9**	**-0.1**
	comp=Z,448nm,1.0s,baz=137,slow=0.5,SNR=156						
GNI	**Garni**	**144.85**	**300**	P	**PKPab**	**18 16 48.9**	**-1.0**
GNI	**Garni**	**144.85**	**300**	*e*PKPdf	**PKPab**	**18 16 49.9**	**-0.1**
GNI				*e*PKPdf	PKPbc	18 16 50.3	+0.2
GNI				LR	LR		
	comp=Z,117μm,22.0s						
OBN	**Obninsk**	**144.86**	**327**	PKP	**PKPab**	**18 16 48.3**	**-0.9**
	comp=Z,1μm,1.0s,baz=53,slow=2.0,SNR=216						
OBN	**Obninsk**	**144.86**	**327**	*c i*PKIKP	**PKPab**	**18 16 47.4**	**-1.8**
OBN				*i*		18 20 05.9	
OBN				*i* PPP	PPP	18 23 18.4	
OBN				*e*		18 23 45.6	
OBN				*e*SS	SS	18 38 50.8	-3.2
OBN				*e*SSS	SSS	18 44 17.2	
OBN				pmax	pmax		
	comp=Z,1μm,1.0s						
OBN	**Obninsk**	**144.86**	**327**	*e*PKPdf	**PKPab**	**18 16 48.4**	**-0.8**
OBN				LR	LR		
	comp=Z,161μm,22.0s						
KZR	**Kazreti**	**144.95**	**302**	P	**PKPdf**	**18 16 52.3**	**+1.5**
LPSR	**Galich'ya Gora**	**145.00**	**322**	*e*PKIKP	**PKPbc**	**18 16 49.1**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,1μm,1.0s						
LPSR				MLR	MLR		
	comp=Z,193μm,25.0s						
ZEI	**Tsey**	**145.11**	**304**	*i* PKHKP	PKPpre	18 16 45.5	
ZEI				pmax	pmax		
	comp=Z,2μm,1.2s						
ZEI				pmax	pmax		
	comp=E,2μm,1.4s						
ZEI				pmax	pmax		
	comp=N,770nm,1.1s						
ZEI				MLR	MLR		
	comp=Z,129μm,25.0s						
ZEI				MLR	MLR		
	comp=E,95μm,24.0s						
ZEI				MLR	MLR		
	comp=N,69μm,23.0s						
NCK	**Nalchik**	**145.20**	**306**	*c i*PKIKP	**PKPbc**	**18 16 50.4**	**-0.4**
NCK				MLR	MLR		
	comp=Z,103μm,23.0s						
VORR	**Voronezh**	**145.29**	**321⇑**	*i*PKP2	**PKPbc**	**18 16 48.0**	**-2.8**
VORR				pmax	pmax		
	comp=Z,4μm,1.8s						
TBLU	**Trondheim**	**145.38**	**355**	*e*PKPbc	**PKPbc**	**18 16 49.3**	**-1.5**
TBLU				*e*PP	**PP**	**18 20 09.9**	**-0.6**
ONI	**Oni**	**145.47**	**304**	P	**PKPdf**	**18 16 52.0**	**+0.2**
ONI	**Oni**	**145.47**	**304**	PKIKP	**PKPdf**	**18 16 51.9**	**+0.2**
AKH	**Akhalkalaki**	**145.63**	**302**	P	**PKPdf**	**18 16 52.2**	**0.0**
AKH	**Akhalkalaki**	**145.63**	**302⇑**	*i*P	**PKPdf**	**18 16 52.0**	**-0.2**
AKH	**Akhalkalaki**	**145.63**	**302**	PKIKP	**PKPdf**	**18 16 52.1**	**0.0**
KBZ	**Khabaz**	**145.64**	**306**	PKPbc	**PKPdf**	**18 16 51.2**	**-0.6**
	comp=Z,212nm,1.0s,baz=64,slow=1.5,SNR=167						
EAK	**Akyaka**	**145.65**	**301**	*i* P	**PKPab**	**18 16 53.1**	**+0.2**
DYDN	**Diyadin**	**145.72**	**299**	*i* P	**PKPdf**	**18 16 52.0**	**-0.4**
KVAR	**Kislovodsk Arr**	**145.74**	**307**	PKPbc	**PKPab**	**18 16 53.1**	**+0.1**
	comp=Z,519nm,1.2s,baz=46,slow=1.4,SNR=205						
KIV	**Kislovodsk**	**145.74**	**307**	*i* P	**PKPdf**	**18 16 51.3**	**-0.8**
	SNR=674						
KIV	**Kislovodsk**	**145.74**	**307**	*c i*PKIKP	**PKPdf**	**18 16 50.6**	**-1.6**
KIV				*i*		18 20 12.7	
KIV				*e*PPP	PPP	18 23 36.4	
KIV				*e*		18 23 52.1	
KIV				*e*SS	SS	18 39 00.4	-5.2
KIV				*e*SSS	SSS	18 44 29.1	
KIV				pmax	pmax		
	comp=Z,4μm,1.4s						
KIV	**Kislovodsk**	**145.74**	**307**	*e*PKPdf	**PKPdf**	**18 16 51.0**	**-1.2**
KIV				LR	LR		
	comp=Z,123μm,21.0s						
KIV	**Kislovodsk**	**145.74**	**307**	P	**PKPdf**	**18 16 51.6**	**-0.5**
	SNR=619						
KIV	**Kislovodsk**	**145.74**	**307**	PKPab	**PKPdf**	**18 16 51.6**	**-0.5**
	SNR=619						
HAKT	**HAKKARI**	**145.85**	**295**	*i* P	**PKPdf**	**18 16 52.9**	**+0.1**
DIGO	**Kars**	**145.86**	**300**	*i* P	**PKPdf**	**18 16 50.8**	**-1.9**
VMUR	**Van-Muradiye**	**145.86**	**298**	*i* P	**PKPab**	**18 16 53.7**	**0.0**
NEY	**Neytrino**	**145.87**	**305**	*i* PKP2	**PKPdf**	**18 16 51.8**	**-0.7**
CUKT	**Cukurca**	**145.94**	**295**	*i* P	**PKPab**	**18 16 55.3**	**+1.2**
TVAN	**Van**	**146.03**	**297**	*i* P	**PKPab**	**18 16 56.4**	**+1.9**
EPOS	**Posof**	**146.19**	**302**	*i* P	**PKPbc**	**18 16 54.5**	**+0.4**
GEVA	**Gevas**	**146.32**	**297**	*i* P	**PKPbc**	**18 16 54.7**	**0.0**
TUTA	**Tutak**	**146.41**	**299**	*i* P	**PKPbc**	**18 16 55.2**	**+0.3**
VSU	**Vasula**	**146.49**	**338**	*i* PKIKP	**PKPdf**	**18 16 51.6**	**-1.2**
EATA	**Eleskirt**	**146.60**	**299**	*i* P	**PKPbc**	**18 16 55.9**	**+0.3**
AKN	**Aaknes**	**146.64**	**357⇑**	*i* P	**PKPdf**	**18 16 53.8**	**+0.8**
AKN				*e*SS	SS	18 39 16.6	+3.2
DOMB	**Dombas**	**146.66**	**356⇑**	*i*P	**PKPdf**	**18 16 52.8**	**-0.2**
DOMB				*e*SKSdf	**SKSdf**	**18 23 55.2**	**-3.8**
ARTV	**Artvin**	**146.83**	**302**	*i* P	**PKPdf**	**18 16 55.4**	**+1.1**
ARTV	**Artvin**	**146.83**	**302**	*e*PKPdf	**PKPdf**	**18 16 53.8**	**-0.5**
DAGI	**Agillar**	**146.86**	**302**	*i* P	**PKPbc**	**18 16 56.0**	**-0.1**
DBOC	**Borcka**	**147.00**	**302**	*i* P	**PKPdf**	**18 16 54.5**	**+0.2**
EKAR	**Karacoban**	**147.00**	**298**	*i* P	**PKPbc**	**18 16 56.6**	**-0.1**
DDEM	**Demirkent**	**147.01**	**301**	*i* P	**PKPbc**	**18 16 57.1**	**+0.6**
HOMI	**Horasan**	**147.02**	**300**	*i* P	**PKPbc**	**18 16 56.1**	**-0.6**
FOO	**Floro**	**147.27**	**359**	*e*PKPdf	**PKPdf**	**18 16 53.5**	**-0.5**
NC303	**NORSAR Array S**	**147.28**	**353**	*e*PKPdf	**PKPdf**	**18 16 52.8**	**-1.3**
NC204	**NORSAR Array S**	**147.29**	**354**	*e*PKPdf	**PKPdf**	**18 16 53.9**	**-0.3**
NC405	**NORSAR Array S**	**147.35**	**353**	*e*PKPdf	**PKPdf**	**18 16 53.6**	**-0.7**
ERZM	**Erzurum**	**147.45**	**300**	*i* P	**PKPbc**	**18 16 58.0**	**0.0**
NB201	**NORSAR Array S**	**147.46**	**353**	*e*PKPdf	**PKPdf**	**18 16 54.7**	**+0.3**
NB2	**NORSAR Subarra**	**147.48**	**353**	PKP	**PKPdf**	**18 16 54.9**	**+0.4**
	comp=Z,8μm,2.0s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**147.48**	**353**	PKP	**PKPdf**	**18 16 54.9**	**+0.4**
	baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**147.48**	**353**	PKP2	**PKPbc**	**18 16 57.2**	**+0.2**
NB200	**NORSAR Array S**	**147.48**	**353**	*e*PKPdf	**PKPdf**	**18 16 55.1**	**+0.7**
NOA	**NORSAR Array B**	**147.48**	**353**	PKPbc	**PKPdf**	**18 16 55.1**	**+0.7**
	comp=Z,61nm,0.7s,baz=10,slow=4.1,SNR=198						
VRTB	**Varto-Mus**	**147.48**	**298**	*i* P	**PKPab**	**18 16 59.6**	**-0.5**
NBO00	**NORSAR Array S**	**147.53**	**354**	*e*PKPdf	**PKPdf**	**18 16 54.3**	**-0.3**
HYA	**Hoyanger**	**147.68**	**358**	*e*PKPbc	**PKPbc**	**18 16 57.0**	**-0.5**
HYA				IAmb	IAmb	18 17 07.4	
	comp=Z,6μm,1.8s						
NAO01	**NORSAR Array S**	**147.70**	**354**	*e*PKPdf	**PKPdf**	**18 16 54.5**	**-0.2**
BNGL	**BINGOL**	**147.74**	**298**	*i* P	**PKPab**	**18 17 01.3**	**+0.2**
NC602	**NORSAR Array S**	**147.74**	**353**	*e*PKPbc	**PKPdf**	**18 16 56.5**	**+1.6**
NC602	**NORSAR Array S**	**147.74**	**353**	*e*PKPdf	**PKPdf**	**18 16 53.8**	**-1.0**
BTMN	**Batman**	**147.76**	**296**	*i* P	**PKPdf**	**18 16 57.0**	**+1.3**
SVAN	**Silvan-Diyarba**	**147.79**	**297**	*i* P	**PKPdf**	**18 16 57.0**	**+1.3**
ECAT	**Cat-ERZUR

MNK pmax pmax
comp=Z,95μm,28.0s
IIGN Ignalina 149.09 335 *e*P **PKPdf 18 16 56.5 -0.7**
IIGN IAmb IAmb 18 17 08.3
comp=Z,508nm,1.0s
ANN Anapa 149.12 310*c i*PKHKP PKPpre 18 16 56.0
ANN *i* 18 20 42.4
ANN *e* 18 33 17.1
ANN *e*SS SS 18 39 34.1 -9.2
ANN pmax pmax
comp=N,1μm,2.5s
ANN pmax pmax
comp=Z,3μm,2.6s
ANN pmax pmax
comp=E,626nm,2.5s
ANN pmax pmax
comp=Z,80μm,15.3s
ANN pmax pmax
comp=E,17μm,15.3s
ANN pmax pmax
comp=N,28μm,15.3s
ANN MLR MLR
comp=Z,130μm,24.0s
ANN MLR MLR
comp=E,62μm,24.0s
ANN MLR MLR
comp=N,102μm,24.0s
NACGM Naroch 149.22 334 *e*PKP **PKPdf 18 16 56.0 -1.4**
NACGM *e*PKP **PKPdf 18 16 56.0 -1.4**
NACGM PKPM 18 17 06.0
comp=Z,4.8nm,1.0s
NACGM *e*PP **PP 18 20 35.0 +1.6**
NACGM *e*PPP PPP 18 23 54.0
NACGM *e*SKS **SKSdf 18 24 06.0 +3.3**
NACGM *e*SKKS **SKKSac 18 27 18.0 -3.8**
NACGM *e*SKSP 18 30 46.0
NACGM *e*SS **SS 18 39 43.0 0.0**
NACGM *e*SSS SSS 18 45 30.0
NACGM *e*LQ LQ 18 59 30.0
NACGM *e*LR LR 19 09 35.0
NACGM LRM MLR 19 16 41.0
comp=Z,214nm,27.0s
NACGM LRM1 19 19 02.0
comp=Z,200nm,24.0s
H07S1 FLORES T-PHASE 149.23 61 PKPbc **PKPbc 18 17 03.4 +1.0**
SNR=86
H07S1 FLORES T-PHASE 149.23 61 *e*PKPdf **PKPbc 18 17 01.5 -0.8**
H07N1 FLORES T-PHASE 149.25 60 PKPbc **PKPbc 18 17 02.8 +0.4**
SNR=60
H07N1 FLORES T-PHASE 149.25 60 *e*PKPdf **PKPbc 18 17 02.7 +0.4**
BLS5 Blasjo 149.42 357 *e*PKPbc **PKPbc 18 17 01.0 -1.1**
BLS5 IAmb IAmb 18 17 10.6
comp=Z,18μm,2.6s
BLS5 *e*SKSdf **SKSdf 18 24 00.6 -2.2**
BLS5 *e*SS **SS 18 39 50.0 +5.4**
ELZG Elazig 149.48 298 *i* P **PKPbc 18 17 04.7 +1.6**
GRSN GIRESUNGRSN 149.60 302 *i* P **PKPbc 18 17 04.1 +1.0**
KMY Karmoy 149.66 359 *e*PKPbc **PKPbc 18 17 02.0 -0.6**
KSRV Kasrt alli 149.72 292 *e*P **PKPdf 18 16 59.1 +0.2**
KEMA Kemaliye 149.74 299 *i* P **PKPbc 18 17 04.5 +0.9**
SUSE Susehri 149.80 301 *i* P **PKPbc 18 17 04.4 +0.6**
ORDU Ordu-Boztepe 149.89 303 *i* P **PKPbc 18 17 05.2 +1.4**
BIGH Upper Bighouse 149.90 8⇑*e*P **PKPdf 18 16 57.5 -0.9**
BIGH AMS AMS 19 20 36.9
comp=Z,169μm,20.5s
STAV Stavanger 149.93 358 *e*PKPbc **PKPbc 18 17 03.2 -0.1**
STAV *e*PP **PP 18 20 39.2 +2.2**
STAV *e*SKSdf **SKSdf 18 24 03.8 +0.5**
STAV IVMs_BB IVMs_BB 19 23 22.7
comp=Z,33μm,24.5s
SURC SANLIURFA_SURC 149.96 294 *i* P **PKPbc 18 17 04.5 +0.3**
RRH Rhenigidale 150.03 11⇑*e*P **PKPdf 18 16 57.3 -1.3**
ATAB Bozova 150.15 296 *i* P **PKPbc 18 17 05.4 +0.7**
CUZAR Zara_SIVAS 150.18 301 *i* P **PKPbc 18 17 06.0 +1.2**
RRR Rubha Reidh 150.24 11⇑*e*P **PKPdf 18 16 57.9 -1.1**
HOMB Homborsund 150.45 355 *e*PKPdf **PKPdf 18 16 58.4 -0.9**
HOMB *e*SKSdf **SKSdf 18 24 03.6 -0.5**
SNART Snartemo 150.47 357 *e*PKPbc **PKPbc 18 17 04.8 +0.2**
SNART IVMs_BB IVMs_BB 19 25 37.0
comp=Z,20μm,21.7s
CUKAN kangal_SIVAS 150.52 300 *i* P **PKPbc 18 17 06.0 +0.4**
KAC Achnashellach 150.66 10 *e*P **PKPdf 18 16 58.8 -0.8**
SCER sogukcermik 150.67 301 *i* P **PKPbc 18 17 07.9 +1.9**
GZT Gaziantep 150.74 296 *i* P **PKPbc 18 17 07.4 +1.2**
KPL Plockton 150.76 11⇑*e*P **PKPdf 18 16 59.1 -0.7**
KPL AMS AMS 19 21 36.1
comp=Z,98μm,20.9s
CUGUR Gurin_S¨VAS 150.77 298 *i* P **PKPbc 18 17 08.3 +2.0**
MDO Dochfour 150.86 9 *e*P **PKPdf 18 16 57.8 -2.1**
MCD Coleburn Disti 150.87 8 *e*P **PKPdf 18 16 58.1 -1.9**
KSB Sheil Bridge 150.92 11⇑*e*P **PKPdf 18 16 58.8 -1.2**
SACV Santiago Islan 151.00 113 *e*PKPdf **PKPdf 18 16 60.0 -1.5**
SACV LR LR
comp=Z,92μm,21.0s
SAMS Samsun-Alacam 151.02 304 *i* P **PKPbc 18 17 08.2 +1.6**
TOKA Tokat 151.06 302 *e*PKPdf **PKPdf 18 16 59.9 -1.0**
CUALT Altinyayla-SIV 151.07 300 *i* P **PKPbc 18 17 07.9 +1.0**
AKASG Malin Array Be 151.07 326 PKP **PKPdf 18 16 58.9 -1.6**
comp=Z,52nm,1.0s,baz=34,slow=1.0,SNR=113
AKASG PKPbc **PKPbc 18 17 06.3 0.0**
comp=Z,514nm,0.8s,baz=44,slow=2.4,SNR=214
AKASG PP **PP 18 20 42.5 -1.7**
comp=Z,9.8nm,0.8s,baz=42,slow=3.9,SNR=3.0
AKBB Malin Array Si 151.07 326 *e*PKIKP **PKPdf 18 16 59.1 -1.4**
AKBB Malin Array Si 151.07 326 *e*PKPdf **PKPdf 18 16 58.7 -1.7**
AKBB *e*PKPbc **PKPbc 18 17 05.7 -0.6**
KIEV Kiev 151.08 326 *e*PKIKP **PKPdf 18 16 58.6 -1.9**
KIEV MLR MLR
comp=Z,93μm,21.0s
KIEV Kiev 151.08 326 *e*PKPdf **PKPdf 18 16 58.6 -1.9**
KIEV LR LR
comp=Z,93μm,21.0s
MME1 Meikle Cairn 151.16 8 *e*P **PKPdf 18 16 58.1 -2.3**
KUZU Kuzuini 151.19 294 *i* P **PKPbc 18 17 07.6 +0.4**
SUW Suwalki 151.24 336 *e*PKPdf **PKPdf 18 16 59.7 -0.9**
SUW *e*PP **PP 18 20 46.7 +1.7**
SUW *e* 18 31 11.7
SUW *e*SPP SPP 18 33 45.1
SUW *e*SS **SS 18 40 08.5 +3.2**
SUW LMZ LR 19 18 41.1
comp=Z,342μm,25.0s
SUW Suwalki 151.24 336 *e*PKIKP **PKPdf 18 16 59.7 -0.9**
SUW *e* 18 20 46.7
SUW *e*SPP SPP 18 33 45.2
SUW *e*SS **SS 18 40 08.5 +3.2**
SUW MLR MLR
comp=Z,342μm,25.0s
RABH Abou Rabah 151.25 290 *e*P **PKPdf 18 17 01.5 +0.1**
HCB Kahramanmara¨ 151.26 296 *i* P **PKPbc 18 17 07.2 0.0**
PCED Cedros 151.28 62 *e*PKPdf **PKPdf 18 17 01.9 +0.7**
CUSAR Sarkisla-SIVAS 151.43 300 *i* P **PKPbc 18 17 08.4 +0.6**
HAVZ Havza 151.44 304 *i* P **PKPbc 18 17 08.5 +0.9**
PCAN Candelaria 151.47 62 *e*PKPdf **PKPdf 18 17 02.3 +0.8**
ASF Jabal al Asfar 151.51 285 PKP **PKPdf 18 17 01.5 -0.4**
comp=Z,51nm,1.3s,baz=125,slow=0.8,SNR=28
ASF PKPbc **PKiKP 18 17 09.0 +0.5**
comp=Z,523nm,1.0s,baz=75,slow=0.6,SNR=87
PICO Pico 151.51 62 *e*PKPdf **PKPdf 18 17 02.5 +0.8**
DRWC Darouich 151.54 294 *e*P **PKPdf 18 17 02.9 +1.1**
SINO SINOP_Merkez 151.55 306 *i* P **PKPbc 18 17 05.5 -2.2**
KFRA Kufra 151.55 291 *e*P **PKPdf 18 17 02.9 +1.1**
DRUM Mains of Drumt 151.61 7⇑*e*P **PKPdf 18 16 59.0 -2.1**
DRUM AMS AMS 19 20 10.0
comp=Z,105μm,22.6s
ROSA Rosais 151.62 61 *e*PKPdf **PKPdf 18 17 00.9 -0.8**
ROSA Rosais 151.62 61 *e*PKPdf **PKPdf 18 17 02.0 +0.3**
ROSA *e*PKPbc **PKiKP 18 17 08.6 +0.2**
PPNO Prainha do Nor 151.65 62 *e*PKPdf **PKPdf 18 17 03.3 +1.5**
SALA Sala 151.66 286 *e*P **PKPdf 18 17 02.5 +0.3**
ANDN Andirin 151.67 296 *i* P **PKPbc 18 17 08.7 +0.4**
PGRA Graciosa 151.76 61 *e*PKPdf **PKPdf 18 17 02.5 +0.6**
BTCH Batrach 151.76 293 *e*P **PKPdf 18 17 01.1 -1.0**
MARH Ras Al Marh 151.86 289 *e*P **PKPdf 18 17 02.0 -0.6**
HAWK Haweek 151.91 290 *e*P **PKPdf 18 17 03.7 +1.3**
FKH Fakeheh 151.92 289 *e*P **PKPdf 18 17 02.0 -0.4**
TOTH TOTAH 151.92 287 *e*P **PKPdf 18 17 02.7 +0.3**
BOYT Boyabat 151.94 305 *i* P **PKPbc 18 17 09.9 +1.2**
BIDA Albida 151.95 291 *e*P **PKPdf 18 17 01.6 -0.8**
QASN Qassioun 152.04 288 *e*P **PKPdf 18 16 59.7 -3.0**
YAYL Yayladag 152.05 293 *i* P **PKPbc 18 17 06.9 -2.4**
EAB Aberfoyle 152.07 10⇑*e*P **PKPdf 18 17 00.4 -1.4**
ARNB Al Arnab 152.17 293 *e*P **PKPdf 18 17 01.7 -1.0**
COAL Corum-Alaca 152.19 302 *i* P **PKPbc 18 17 08.3 -1.0**
MUD Monsted U'grnd 152.19 354 *i* P **PKPdf 18 17 01.4 -0.5**
comp=Z,2μm,1.2s
comp=Z,129μm,24.0s
MUD Monsted U'grnd 152.19 354 *i* PKIKP **PKPdf 18 17 01.4 -0.5**
MUD pmax pmax
comp=Z,2μm,1.2s
MUD MLR MLR
comp=Z,130μm,24.0s
CTAK Corum_Osmancik 152.23 303 *i* P **PKPbc 18 17 07.8 -1.7**
HWQ Hawqa 152.30 289 *e*P **PKPdf 18 17 01.7 -1.3**
TCHB Talchebab 152.30 286 *e*P **PKPdf 18 17 05.5 +2.5**
BRBR Barbar 152.32 288 *e*P **PKPdf 18 17 03.0 -0.2**
YURE YUREGIR 152.34 295 *i* P **PKPbc 18 17 10.4 +0.6**
YAHY KAYSERI_Yahyal 152.36 298 *i* P **PKPbc 18 17 10.8 +0.9**
AKO Adana 152.40 296 *i* P **PKPbc 18 17 09.7 -0.2**
ADH Angra Heroismo 152.40 61 *e*PKPdf **PKPdf 18 17 05.1 +2.2**
PGBU Glenifferbraes 152.41 10⇑*e*P **PKPdf 18 17 01.4 -0.9**
PGBU AMS AMS 19 19 26.9
comp=Z,96μm,22.3s
RCY Rachaya 152.41 288 *e*P **PKPdf 18 17 02.9 -0.4**
SHBL Chebaa 152.49 287 *e*P **PKPdf 18 17 02.9 -0.5**
EDI Edinburgh 152.49 9⇑*e*P **PKPdf 18 17 01.3 -1.1**
EDI AMS AMS 19 19 43.1
comp=Z,81μm,22.7s
COP Copenhagen 152.53 350⇑*i* P **PKPdf 18 17 02.0 -0.5**
comp=Z,650nm,0.8s
comp=Z,120μm,25.0s
COP Copenhagen 152.53 350⇑*i*PKIKP **PKPdf 18 17 02.0 -0.5**
COP pmax pmax
comp=Z,650nm,0.8s
COP MLR MLR
comp=Z,120μm,25.0s
QRWL Qaraoun 152.54 288 *e*P **PKPdf 18 17 02.8 -0.6**
BHL Bhannes 152.56 289 *e*P **PKPdf 18 17 02.9 -0.6**
ESY Stoneypath 152.57 8⇑*e*P **PKPdf 18 17 01.0 -1.6**
BSD Bornholm Skovb 152.62 346⇑*i* P **PKPdf 18 17 01.7 -0.9**
comp=Z,2μm,1.2s
comp=Z,197μm,23.0s
BSD Bornholm Skovb 152.62 346⇑*i*PKIKP **PKPdf 18 17 01.7 -0.9**
BSD pmax pmax
comp=Z,2μm,1.2s
BSD MLR MLR
comp=Z,200μm,23.0s
DQRL Deir Qamar 152.63 288 *e*P **PKPdf 18 17 02.8 -0.7**
BEYL Beirut 152.69 289 *e*P **PKPdf 18 17 02.7 -0.8**
MMAI Mount Meron Ar 152.78 287 PKP **PKPdf 18 17 03.9 +0.1**
comp=Z,156nm,1.3s,baz=90,slow=1.4,SNR=19
MMAI PKPbc **PKPbc 18 17 11.6 +0.7**
comp=Z,621nm,1.0s,baz=64,slow=3.4,SNR=103
CDAG Cicekdag 152.80 301 *i* P **PKPbc 18 17 09.7 -1.1**
ILGA Ilgaz 152.90 305 *i* P **PKPbc 18 17 09.7 -1.4**
ILGA Ilgaz 152.90 305 *e*PKPdf **PKPdf 18 17 02.8 -1.0**
ILGA *e*PKPbc **PKPbc 18 17 12.2 +1.2**
LLD Lille Linde 152.91 350 *i* P **PKPdf 18 17 02.8 -0.2**
LLD *i* 18 17 11.2
LLD Lille Linde 152.91 350 *i* PKIKP **PKPdf 18 17 02.8 -0.2**
LLD *i* 18 17 11.2
GULE Gulek 152.95 296 *i* P **PKPdf 18 17 07.5 +3.6**
DED Mersin 152.98 295 *i* P **PKPbc 18 17 11.2 0.0**
EIL Elat 153.00 279 PKP **PKPdf 18 17 03.6 -0.4**
comp=Z,125nm,1.1s,baz=56,slow=1.3,SNR=33
EIL PKPbc **PKPbc 18 17 12.2 +0.9**
comp=Z,440nm,0.9s,baz=76,slow=1.3,SNR=43
EKA Eskdalemuir Ar 153.07 9 PKP **PKPdf 18 17 02.3 -1.0**
comp=Z,22nm,0.8s,baz=0.0,slow=0.0,SNR=15
EKA PKPbc **PKPbc 18 17 10.7 +0.1**
comp=Z,46nm,0.8s,baz=340,slow=1.6,SNR=22
ESK Eskdalemuir 153.08 9⇑*e*P **PKPdf 18 17 02.5 -0.8**
ESK AMS AMS 19 21 47.8
comp=Z,116μm,21.5s
ESK Eskdalemuir 153.08 9 *e*PKIKP **PKPdf 18 17 02.5 -0.8**
ESK *e* 18 17 10.8
ESK MLR MLR
comp=Z,153μm,21.0s
ESK Eskdalemuir 153.08 9 *e*PKPdf **PKPdf 18 17 02.5 -0.8**
ESK *e*PKPbc **PKPbc 18 17 10.8 +0.1**
ESK LR LR
comp=Z,153μm,21.0s
SORM Soroca 153.10 322⇑*i*P **PKPdf 18 17 01.5 -2.0**
SORM Soroca 153.10 322⇑PKIKP **PKPdf 18 17 01.6 -2.0**
GAL1 Galloway 153.28 11 AMS AMS 19 18 35.8
comp=Z,43μm,24.0s
BHH Howats Hill 153.30 9⇑*e*P **PKPdf 18 17 02.4 -1.2**
BR101 Keskin Array S 153.32 302 *e*PKPdf **PKPdf 18 17 03.0 -1.4**
BR101 *e*PKPbc **PKPbc 18 17 11.8 -0.2**
BR131 Keskin Array S 153.32 302 *e*PKPdf **PKPdf 18 17 02.1 -2.3**
BRTR Keskin Array B 153.32 302 PKP **PKPdf 18 17 03.0 -1.3**
comp=Z,39nm,1.1s,baz=149,slow=1.2,SNR=3.9
BRTR PKPbc **PKPbc 18 17 11.8 -0.2**
comp=Z,155nm,0.9s,baz=124,slow=2.3,SNR=30
BRTR Keskin Array B 153.32 302 PKIKP **PKPdf 18 17 03.1 -1.3**
BRTR 18 17 11.8
BRTR pmax pmax
comp=Z,8.0nm,1.0s
KERG Konya-Eregli 153.44 297 *i* P **PKPbc 18 17 12.5 +0.3**
RGN Rugen 153.47 348 *e*PKPdf **PKPdf 18 17 03.5 -0.4**
KIS Kishinev 153.51 320 *i* PKP **PKPdf 18 17 02.0 -2.2**
KIS M M 18 17 17.0
comp=Z,28μm,20.0s
KIS Kishinev 153.51 320 *i* PP PP 18 21 06.0 +7.7
comp=Z,14μm,16.0s
KIZK Mersin 153.57 294 *i* P **PKPbc 18 17 08.8 -3.5**
IGLA Glengowla, Co 153.59 8⇑*e*P **PKPdf 18 17 03.0 -1.1**
GMM Mts of Mourne 153.65 13⇑*e*P **PKPdf 18 17 03.0 -1.2**
EDMD Edmundbyers 153.72 8⇑*e*P **PKPdf 18 17 02.3 -2.0**
EDMD AMS AMS 19 22 21.7
comp=Z,98μm,21.4s
PSET Sete Cidades 153.73 62 *e*PKPdf **PKPdf 18 17 02.8 -2.1**
GKP Gorka Klasztor 153.75 342 *e*PKPdf **PKPdf 18 17 04.0 -0.3**
GKP *e* 18 31 18.7
GKP *e*SPP SPP 18 34 06.4
GKP *e*SSS SSS 18 46 22.6
GKP LMZ LR 19 22 04.8
comp=Z,332μm,24.2s
GKP Gorka Klasztor 153.75 342 *e*PKIKP **PKPdf 18 17 04.1 -0.3**
GKP *e*SPP SPP 18 34 06.4
GKP *e*SSS SSS 18 46 22.6
GKP MLR MLR
comp=Z,332μm,24.2s
BBAL Bala 153.75 302 *i* P **PKPdf 18 17 08.1 +3.1**
BTIN Bart¨–n 153.76 307 *i* P **PKPbc 18 17 12.6 0.0**
PDA Ponta Delgada 153.79 63 *e*PKPdf **PKPdf 18 17 07.0 +2.1**
KESW Keswick, Cumbr 153.80 9⇑*e*P **PKPdf 18 17 02.9 -1.5**
KESW AMS AMS 19 19 11.3
comp=Z,102μm,23.2s
PHNC Paralimni 153.83 291 P **PKPdf 18 17 06.7 +1.6**
BEL Belsk 153.86 336 *e*PKPdf **PKPdf 18 17 04.3 -0.2**
BEL *e*SPP SPP 18 34 08.4
BEL *e*SS **SS 18 40 37.5 +3.4**
BEL *e*SSS SSS 18 46 31.3
BEL LMZ LR 19 21 54.5
comp=Z,292μm,24.0s
BEL Belsk 153.86 336 *e*PKIKP **PKPdf 18 17 04.3 -0.2**
BEL *e*SPP SPP 18 34 08.5
BEL *e*SS **SS 18 40 37.5 +3.4**
BEL *e*SSS SSS 18 46 31.3
BEL MLR MLR
comp=Z,292μm,24.0s
LCP Cassop 153.86 7 *e*P **PKPdf 18 17 04.0 -0.5**
CMLA Cha da Macela 153.90 62 *i* PKIKP **PKPdf 18 17 07.9 +2.8**
CMLA Cha da Macela 153.90 62 *e*PKPdf **PKPdf 18 17 06.2 +1.1**
CMLA Cha da Macela 153.90 62 PFAKE 18 17 20.0 -6.4
CMLA LR LR
comp=Z,128μm,22.0s
ANTO Ankara 153.91 302 *e*PKIKP **PKPdf 18 17 03.5 -1.7**
ANTO MLR MLR
comp=Z,64μm,22.0s
ANTO Ankara 153.91 302 *e*PKPdf **PKPdf 18 17 03.5 -1.7**
ANTO LR LR
comp=Z,64μm,22.0s
ANTO Ankara 153.91 302 P **PKPdf 18 17 04.1 -1.0**
SNR=215
ANTO Ankara 153.91 302 PKPdf **PKPdf 18 17 04.1 -1.0**
SNR=215
PCALD Caldeiras da R 153.92 62 *e*PKPdf **PKPdf 18 17 05.8 +0.7**
BR231 Keskin MP Arra 153.93 302 *e*PKPdf **PKPdf 18 17 03.6 -1.6**
CMDR Camlidere-ANKA 153.97 304 *i* P **PKPbc 18 17 10.7 -2.6**
KKUL Konya-Kulu 154.00 301 *i* P **PKPdf 18 17 09.2 +3.8**
IAS Iasi 154.09 321⇑*i*P **PKPab 18 17 27.4 +0.6**
IAS Iasi 154.09 321⇑PKP2 **PKPab 18 17 27.4 +0.6**
LVV L'vov 154.11 329 *e*PKIKP **PKPdf 18 17 04.3 -0.7**
LVV *e* 18 24 09.0
LVV pmax pmax
comp=Z,2μm,1.9s
LEOM Leova 154.13 319⇓*i*P **PKPbc 18 17 09.9 -3.3**
LEOM Leova 154.13 319⇓PKIKP **PKPbc 18 17 09.9 -3.3**
BCAM Yenicaga 154.16 305 *i* P **PKPbc 18 17 10.7 -3.0**
BART Pico Bartolome 154.17 62 *e*PKPdf **PKPdf 18 17 06.4 +0.8**
PSMA Santa Maria 154.35 64 *e*PKPdf **PKPdf 18 17 04.8 -0.9**
PSMN Pico do Norte, 154.40 64 *e*PKPdf **PKPdf 18 17 05.9 +0.1**
CSS Mathiatis 154.40 291 P **PKPdf 18 17 04.2 -1.7**
CSS Mathiatis 154.40 291 *e*PKPdf **PKPdf 18 17 03.8 -2.2**
CSS LR LR
comp=Z,21μm,21.0s
CSS Mathiatis 154.40 291 P **PKPdf 18 17 05.9 0.0**
MAMC Mammari 154.47 292 P **PKPdf 18 17 05.9 -0.1**
TLCR 154.49 316⇓*i*P **PKPdf 18 17 06.6 +1.0**
TLCR 154.49 316⇓PKIKP **PKPdf 18 17 06.6 +1.0**
DSB Dublin 154.49 15 *e*PKPdf **PKPdf 18 17 04.4 -1.0**
ERMK Ermenek 154.53 295 *i* P **PKPdf 18 17 05.7 -0.5**
HPK Haverah Park 154.61 8 AMS AMS 19 23 44.3
comp=Z,89μm,20.5s
VAL Valentia 154.64 21 *e*P PKPpre 18 16 55.9
VAL Valentia 154.64 21⇑*i*PP PP 18 21 06.5 +2.4
PRAR RASCA 154.71 323⇑*i*P **PKPdf 18 17 05.8 -0.1**
KONT Konya--Tatoy 154.71 298 *i* P **PKPbc 18 17 13.5 -1.4**
WPS Cemaes, Angles 154.72 12⇑*e*P **PKPdf 18 17 03.8 -1.9**
WPS AMS AMS 19 22 09.0
comp=Z,119μm,21.1s
WME Myndd Eilian 154.76 12⇑*e*P **PKPdf 18 17 04.0 -1.7**
KDHN Kadinhani 154.77 300 *i* P **PKPdf 18 17 09.5 +3.0**
SZAC Souni 154.79 291 P **PKPdf 18 17 06.2 -0.3**
KWP Kalwaria Pacla 154.83 331 *e*PKPdf **PKPdf 18 17 05.5 -0.5**
KWP *e*SPP SPP 18 34 21.6
KWP *e*SS **SS 18 40 51.1 +6.1**
KWP *e*SSS SSS 18 46 49.1
KWP LMZ LR 19 20 14.7
comp=Z,320μm,27.0s
KWP Kalwaria Pacla 154.83 331 *e*PKIKP **PKPdf 18 17 05.5 -0.5**
KWP *e*SS SS 18 40 51.1 +6.1
KWP MLR MLR
comp=Z,320μm,27.0s
WLF1 Llynfaes 154.85 12⇑*e*P **PKPdf 18 17 04.8 -1.0**
WLF1 AMS AMS 19 22 22.9
comp=Z,261μm,21.5s
CFR Carcaliu 154.90 317⇑*i*P **PKPdf 18 17 04.6 -1.6**
CFR Carcaliu 154.90 317⇑PKIKP **PKPdf 18 17 04.6 -1.6**
WPM1 Penmaenmawr 154.96 11 *e*P **PKPdf 18 17 04.6 -1.5**
ALFC Alefka 154.98 292 P **PKPdf 18 17 05.9 -0.8**
LHO Holmfirth 154.99 8⇑*e*P **PKPdf 18 17 05.6 -0.5**
TESR Tescani 155.00 321⇑*i*P **PKPdf 18 17 04.0 -2.4**
SAHE Sakarya_HENDEK 155.02 306 *i* P **PKPdf 18 17 06.5 0.0**
BUR08 Bucovina Ar. S 155.06 324 *e*PKPdf **PKPdf 18 17 05.6 -0.9**
BURAR Bucovina Array 155.07 324⇓*i*P **PKPdf 18 17 05.4 -1.1**
BURAR Bucovina Array 155.07 324⇓PKIKP **PKPdf 18 17 05.4 -1.1**
TIRR Tirgusor 155.11 315⇓*i*P **PKPdf 18 17 07.6 +1.1**
TIRR Tirgusor 155.11 315 *e*PKIKP **PKPdf 18 17 05.3 -1.2**
TIRR Tirgusor 155.11 315 *e*PKPdf **PKPdf 18 17 05.2 -1.2**
PETR Petresti 155.14 319⇓*i*P **PKPab 18 17 33.4 +2.1**
EFOR EFORIE 155.16 314⇑*i*P **PKPdf 18 17 09.5 +2.9**
DOGA KONYA_Doganhis 155.21 299 *i* P **PKPdf 18 17 10.8 +3.7**
IWEX Carrickbyrne, 155.21 16⇑*e*P **PKPdf 18 17 05.2 -1.2**
ODBI Odobesti 155.21 319⇓*i*P PKPdf 18 17 15.5 +8.9
AKMC Akamas 155.22 292 P **PKPdf 18 17 05.6 -1.4**
PPCY Paphos 155.22 291 P **PKPdf 18 17 05.6 -1.4**
LMK Market Rasen 155.24 6⇑*e*P **PKPdf 18 17 05.4 -1.0**
LMK AMS AMS 19 24 49.6
comp=Z,110μm,20.4s
TLB Topalu 155.27 316⇓*i*P **PKPdf 18 17 07.2 +0.5**
TLB Topalu 155.27 316⇓PKIKP **PKPdf 18 17 07.2 +0.5**
HARR Harsova 155.28 316⇓*i*P **PKPdf 18 17 09.0 +2.2**
HARR Harsova 155.28 316⇓PKIKP **PKPdf 18 17 09.0 +2.2**
VRI Vrincioaia 155.34 320⇓*i*P **PKPdf 18 17 05.6 -1.3**
VRI Vrincioaia 155.34 320⇓PKIKP **PKPdf 18 17 05.6 -1.3**
STNC Stoke 155.39 9⇑*e*P **PKPdf 18 17 05.8 -0.8**
STNC AMS AMS 19 29 00.4
comp=Z,79μm,21.0s
PLOR Plostina 155.40 320⇓*i*P **PKPdf 18 17 05.9 -1.1**
PLOR Plostina 155.40 320⇓PKIKP **PKPdf 18 17 05.9 -1.1**
LLW Llanuwychllyn 155.40 11⇑*e*P **PKPdf 18 17 04.6 -2.1**
KAND Kocaeli-Kandir 155.40 307 *i* P **PKPdf 18 17 10.1 +3.0**
CVDA Cernavoda 155.40 315⇑*i*P PKPdf 18 17 18.1 +11
FOEL Foel Wylfa 155.44 10⇑*e*P **PKPdf 18 17 06.0 -0.8**
FOEL AMS AMS 19 27 32.3
comp=Z,110μm,20.6s
ESKT Eskisehir 155.45 303 *i* P **PKPdf 18 17 07.7 +0.3**
OJC Ojcow 155.54 335 *e*PKPdf **PKPdf 18 17 06.0 -1.0**
OJC *e*PP **PP 18 21 10.1 +0.8**
OJC *e* 18 31 42.2
OJC *e*SPP SPP 18 34 24.7
OJC *e*SS **SS 18 40 42.9 -10**
OJC *e*SSS SSS 18 46 50.7
OJC LMZ LR 19 23 33.1
comp=Z,358μm,23.9s
OJC Ojcow 155.54 335 *e*PKPdf **PKPdf 18 17 05.7 -1.3**
OJC Ojcow 155.54 335 *e*PKPdf **PKPdf 18 17 05.7 -1.3**
GEYV SAKARYA_Geyve 155.54 305 *i* P **PKPdf 18 17 06.7 -0.6**
BOLV Bolvadin 155.60 301 *e*PKPdf **PKPdf 18 17 06.3 -1.2**
STHS Stebnicka Huta 155.61 332 *e*PKIKP **PKPdf 18 17 08.0 +0.9**
STHS Stebnicka Huta 155.61 332 *e*PKP **PKPdf 18 17 08.0 +0.9**
PSN Preselentsi 155.64 314 *i* P **PKPdf 18 17 05.8 -1.5**
AMRR Amara 155.69 317⇑*i*P **PKPdf 18 17 06.5 -0.8**
AMRR Amara 155.69 317⇑PKIKP **PKPdf 18 17 06.5 -0.8**
PGOR Pogoanele 155.74 317⇓*i*P **PKPdf 18 17 08.7 +1.3**
UZH Uzhgorod 155.76 329⇑*i*PKIKP **PKPdf 18 17 05.0 -2.3**
UZH *i* 18 17 14.7
UZH *e* 18 17 33.9
UZH *i* 18 21 10.7
UZH *e* 18 24 06.9
HLM1 Long Mynd 155.84 10⇑*e*P **PKPdf 18 17 06.3 -1.0**
HLM1 AMS AMS 19 23 28.8
comp=Z,95μm,20.8s
CWF Charnwood Fore 155.85 8⇑*e*P **PKPdf 18 17 06.1 -1.1**
CWF AMS AMS 19 24 27.0
comp=Z,80μm,21.2s
CWF Charnwood Fore 155.85 8 *e*PKPdf **PKPdf 18 17 06.4 -0.8**
ARCR ARCALIA 155.86 324⇓*i*P **PKPdf 18 17 06.7 -0.8**
ISR Istrita 155.88 318⇑*i*P **PKPdf 18 17 11.5 +3.9**
ISR Istrita 155.88 318⇑PKIKP **PKPdf 18 17 11.5 +3.9**
BMR Baia Mare 155.89 326⇓*i*P **PKPdf 18 17 06.3 -1.2**
BMR Baia Mare 155.89 326⇓PKIKP **PKPdf 18 17 06.3 -1.2**
BAGO Egridir - ISPA 155.91 299 *i* P **PKPdf 18 17 07.0 -1.0**
LIC Lamto 155.91 158 *e*PKIKP **PKPdf 18 17 09.0 +0.4**
comp=Z,2μm,1.2s
CRVS Cervenica-Dubn 155.92 331 *e*PKIKP **PKPdf 18 17 06.8 -0.7**
CRVS *e* 18 21 11.3
CRVS *e*SS **S'S'ac 18 41 41.2 +3.4**
CRVS Cervenica-Dubn 155.92 331 *e*PKP **PKPdf 18 17 06.8 -0.7**
CRVS *e*PP **PP 18 21 11.3 -0.2**
CRVS *e*SKKSDF 18 31 31.5
CRVS *e*SS **S'S'ac 18 41 41.2 +3.4**
NIE Niedzica 155.99 333 *e*PKPdf **PKPdf 18 17 07.7 +0.1**
NIE *e*PP **PP 18 21 14.0 +2.1**
NIE *e* 18 31 37.9
NIE *e*SPP SPP 18 34 29.9
NIE *e*SS **SS 18 40 59.2 +1.7**
NIE *e*SSS SSS 18 46 59.6
NIE LMZ LR 19 21 42.5
comp=Z,195μm,25.4s
NIE Niedzica 155.99 333 *e*PKIKP **PKPdf 18 17 07.7 +0.1**
NIE *e* 18 21 14.0
NIE *e*SPP SPP 18 34 29.9
NIE *e*SS **SS 18 40 59.2 +1.7**
NIE *e*SSS SSS 18 46 59.6
NIE MLR MLR
comp=Z,195μm,25.4s
MLR Muntele Rosu 156.01 320 PKP **PKPdf 18 17 06.4 -1.4**
comp=Z,4.6nm,0.9s,baz=268,slow=10,SNR=36
MLR Muntele Rosu 156.01 320⇑*i*P **PKPdf 18 17 06.5 -1.4**
MLR Muntele Rosu 156.01 320 *e*PKPdf **PKPdf 18 17 05.9 -2.0**
DOPR Dopca 156.03 321⇑*i*P **PKPdf 18 17 08.6 +0.8**
WACR West Acre 156.05 5⇑*e*P **PKPdf 18 17 05.9 -1.6**
WACR AMS AMS 19 27 57.5
comp=Z,98μm,20.5s
KIC Kosan Boka 156.13 158 *e*PKIKP **PKPdf 18 17 09.3 +0.4**
comp=Z,2μm,1.1s
ISP Isparta 156.16 299 P **PKPdf 18 17 06.2 -2.1**
ISP Isparta 156.16 299⇑*i*P **PKPdf 18 17 11.1 +2.8**
ISP Isparta 156.16 299 *e*PKIKP **PKPdf 18 17 06.9 -1.4**
ISP Isparta 156.16 299 P **PKPdf 18 17 06.2 -2.1**
ISP LR LR
comp=Z,122μm,22.0s
KSP Ksiaz 156.18 340 *e*PKPdf **PKPdf 18 17 07.4 -0.4**
KSP *e*PP **PP 18 21 14.8 +2.1**
KSP *e* 18 31 27.0

KSP eSPP SPP 18 34 25.5
KSP LMZ LR 19 24 02.1
comp=Z,225μm,23.5s
KSP Ksiaz 156.18 340 ePKIKP **PKPdf 18 17 07.4 -0.4**
KSP e 18 21 14.8
KSP eSPP SPP 18 34 25.5
KSP MLR MLR
comp=Z,225μm,23.5s
ISK Istanbul-Kandi 156.21 307 P **PKPdf 18 17 06.3 -1.8**
ISK Istanbul-Kandi 156.21 307 PKIKP **PKPdf 18 17 06.3 -1.8**
ISK Istanbul-Kandi 156.21 307 P **PKPdf 18 17 06.3 -1.8**
RAC Raciborz 156.23 337 ePKIKP **PKPdf 18 17 07.5 -0.3**
RAC MLR MLR
comp=Z,160μm,23.5s
TIC Toumodi 156.31 157 ePKIKP **PKPdf 18 17 09.5 +0.4**
MCH1 Michaelchurch 156.33 11⇑ eP **PKPdf 18 17 06.9 -1.0**
MCH1 AMS AMS 19 26 31.3
comp=Z,105μm,20.7s
BBTS Babate 156.33 122 PKP **PKPdf 18 17 10.1 +1.1**
comp=Z,714nm,1.3s,baz=274,slow=1.1,SNR=42
PRD Provadia 156.37 313 i P **PKPdf 18 17 07.1 -1.1**
DBIC Dimbokro 156.39 158 PKP **PKPdf 18 17 08.6 -0.6**
comp=Z,317nm,1.2s,baz=158,slow=1.7,SNR=54
DBIC PKPab **PKPab 18 17 39.3 +1.9**
comp=Z,292nm,1.1s,baz=181,slow=6.0,SNR=5.1
DBIC Dimbokro 156.39 158 ePKIKP **PKPdf 18 17 09.0 -0.2**
IGD Bursa 156.40 305 i P **PKPdf 18 17 07.5 -1.0**
OKC Ostrava-Krasne 156.45 337⇑ iPKPDF **PKPdf 18 17 07.4 -0.8**
OKC ePKPAB **PKPab 18 17 38.0 +1.2**
OKC epPKP **pPKPab 18 17 44.0 -3.9**
OKC ePP **PP 18 21 15.3 +1.0**
OKC ex x 18 25 03.8
OKC eSKKS 18 31 45.2
OKC ex x 18 34 20.8
OKC AMS AMS 19 21 00.0
comp=Z,182μm,26.2s
OKC Ostrava-Krasne 156.45 337⇑ iPKIKP **PKPdf 18 17 07.4 -0.8**
OKC e 18 21 15.3
OKC e 18 34 20.8
OKC MLR MLR
comp=Z,182μm,26.2s
KORT Korkueli 156.48 297 i P **PKPdf 18 17 08.1 -0.7**
CJR Cluj-Napoca 156.50 325⇓ iP **PKPdf 18 17 06.1 -2.3**
CJR Cluj-Napoca 156.50 325⇓ iPKIKP **PKPdf 18 17 06.1 -2.3**
MONM Monmouth 156.51 11⇑ eP **PKPdf 18 17 06.7 -1.5**
MONM AMS AMS 19 26 46.3
comp=Z,101μm,21.0s
LANS Liptovska Anna 156.53 334 ePKIKP **PKPdf 18 17 09.4 +1.0**
LANS Liptovska Anna 156.53 334 ePKP **PKPdf 18 17 09.4 +1.0**
BRDR BURDUR-Merkez 156.54 299 i P **PKPdf 18 17 07.8 -1.1**
VOIR 156.54 320⇓ iP **PKPdf 18 17 07.9 -0.6**
VOIR 156.54 320⇓ iPKIKP **PKPdf 18 17 07.9 -0.6**
UPC Upice 156.56 340⇑ iPKPDF **PKPdf 18 17 07.7 -0.6**
UPC ePKPAB **PKPab 18 17 38.5 +1.3**
UPC epPKP **pPKPab 18 17 44.8 -3.6**
UPC ePP **PP 18 21 17.7 +2.9**
UPC eSKKS 18 31 37.7
UPC ex x 18 34 31.9
UPC AMS AMS 19 22 40.0
comp=Z,273μm,24.7s
UPC Upice 156.56 340⇑ iPKIKP **PKPdf 18 17 07.7 -0.6**
UPC e 18 21 17.7
UPC e 18 34 31.9
UPC MLR MLR
comp=Z,273μm,24.7s
GDZ Gediz 156.59 302 i P **PKPdf 18 17 08.1 -0.8**
CLL Collm 156.59 346 i PKIKP **PKPdf 18 17 07.2 -1.1**
CLL e 18 21 17.0
CLL pmax pmax
comp=Z,654nm,1.9s
CLL Collm 156.59 346 i PKPdf **PKPdf 18 17 07.2 -1.1**
comp=Z,654nm,1.9s
CLL i PKPdf(2) 18 17 14.0
comp=Z,2μm,2.1s
CLL i PKPdif **sPKPdf 18 17 23.1 -0.5**
CLL i 18 17 26.6
CLL i PKPab **PKPab 18 17 38.0 +0.7**
CLL i PKPab(2) 18 17 43.9
comp=Z,5μm,2.2s
CLL ePP **PP 18 21 16.0 +1.1**
CLL ePPIp 18 21 17.0
comp=N,21μm,19.8s
CLL ePPIp 18 21 17.0
comp=E,9μm,20.2s
CLL ePPIp 18 21 17.0
comp=Z,34μm,17.9s
CLL i 18 21 42.6
comp=Z,2μm,2.7s
CLL ePPP PPP 18 25 04.0
CLL ePPPP 18 27 12.0
CLL eSKKSac SKKSac 18 28 06.0 +4.1
CLL ePSKS 18 31 35.0
CLL ePPS PPS 18 34 29.0
CLL ePSKSrev 18 35 45.0
CLL eSS SS 18 41 06.0 +2.7
CLL ePSSrev 18 50 06.0
CLL eSSSS 18 51 12.0
CLL Lmax 19 19 00.0
CLL L L 19 27 00.0
comp=Z,119μm,21.1s
CLL Collm 156.59 346 ePKPdf **PKPdf 18 17 07.0 -1.3**
CLL ePKPab **PKPab 18 17 37.7 +0.4**
DPC Dobruska-Polom 156.60 340⇑ iPKPDF **PKPdf 18 17 07.8 -0.6**
DPC ePKPAB **PKPab 18 17 38.8 +1.3**
DPC epPKP **pPKPab 18 17 45.2 -3.4**
DPC ePP **PP 18 21 17.1 +2.0**
DPC ex x 18 25 02.0
DPC eSKKS 18 31 40.5
DPC AMS AMS 19 23 30.0
comp=Z,166μm,22.8s
DPC Dobruska-Polom 156.60 340⇑ iPKIKP **PKPdf 18 17 07.8 -0.6**
DPC e 18 21 17.1
DPC MLR MLR
comp=Z,166μm,22.8s
KECS Kecovo 156.65 331 ePKIKP **PKPdf 18 17 08.7 +0.2**
KECS Kecovo 156.65 331 ePKP **PKPdf 18 17 08.7 +0.2**
MTUR Matau 156.66 320⇑ iP **PKPdf 18 17 10.1 +1.4**
MTUR Matau 156.66 320⇑ iPKIKP **PKPdf 18 17 10.1 +1.4**
STRD Stroud 156.67 10⇑ eP **PKPdf 18 17 06.9 -1.5**
STRD AMS AMS 19 26 38.0
comp=Z,119μm,21.2s
KRLC Kraliky 156.70 339⇑ iPKPDF **PKPdf 18 17 07.8 -0.8**
KRLC ePKPAB **PKPab 18 17 39.3 +1.4**
KRLC epPKP **pPKPab 18 17 45.3 -3.8**
KRLC Kraliky 156.70 339⇑ iPKIKP **PKPdf 18 17 07.8 -0.8**
HGH Gray Hill 156.71 11⇑ eP **PKPdf 18 17 07.1 -1.3**
MORC Moravsky Berou 156.71 337⇑ iP **PKPdf 18 17 08.4 -0.2**
MORC Moravsky Berou 156.71 337 ePKIKP **PKPdf 18 17 07.5 -1.1**
MORC Moravsky Berou 156.71 337 ePKPdf **PKPdf 18 17 07.5 -1.1**
MORC ePKPab **PKPab 18 17 39.2 +1.2**
OLDB Oldbury-Upon-S 156.73 10 AMS AMS 19 20 35.9
comp=Z,123μm,23.7s
BRG Berggiesshubel 156.78 344⇑ iPKP **PKPdf 18 17 07.7 -0.8**
comp=Z,1μm,2.0s
BRG Berggiesshubel 156.78 344 i PKP **PKPab 18 17 39.3 +1.2**
comp=Z,4μm,2.1s
BRG PP **PP 18 21 11.0 -5.0**
BRG i 18 31 42.0
BRG i 18 34 30.0
BRG SS SS 18 40 58.0 -7.4
comp=N,189μm,25.7s
comp=E,102μm,24.7s
comp=Z,231μm,26.6s
BRG Berggiesshubel 156.78 344⇑ iPKIKP **PKPdf 18 17 07.7 -0.8**
BRG 18 21 11.0
BRG i 18 34 30.0
BRG SS SS 18 40 58.0 -7.4
BRG pmax pmax
comp=Z,4μm,2.1s
BRG MLR MLR
comp=N,189μm,25.7s
BRG MLR MLR
comp=E,102μm,24.7s
BRG MLR MLR
comp=Z,231μm,26.6s
KHAL Karahalli 156.80 301 i P **PKPdf 18 17 07.8 -1.3**
ARR Arges 156.82 321⇑ iP **PKPdf 18 17 07.9 -1.0**
WTSB Winterswijk 156.84 356 ePKPdf **PKPdf 18 17 07.5 -1.0**
WTSB ePKPbc **PKPab 18 17 38.5 +0.2**
comp=Z,5μm,2.2s
DRGR 156.89 326⇑ iP **PKPdf 18 17 07.8 -1.1**
DRGR 156.89 326⇑ iPKIKP **PKPdf 18 17 07.8 -1.1**
PVCC Panska Ves 156.94 343⇑ iPKPDF **PKPdf 18 17 08.1 -0.7**
PVCC ePKPAB **PKPab 18 17 40.6 +1.8**
PVCC epPKP **pPKPab 18 17 46.3 -3.7**
PVCC ePP **PP 18 21 18.3 +1.4**
PVCC eSKKS 18 31 41.9
PVCC AMS AMS 19 22 30.0
comp=Z,179μm,25.9s
PVCC Panska Ves 156.94 343⇑ iPKIKP **PKPdf 18 17 08.1 -0.7**
PVCC e 18 21 18.3
PVCC MLR MLR
comp=Z,179μm,25.9s
HTL Hartland 157.01 14⇑ eP **PKPdf 18 17 08.1 -0.7**
HTL AMS AMS 19 29 08.4
comp=Z,49μm,23.0s
GOLH Golhisar 157.04 298 i P **PKPdf 18 17 08.9 -0.6**
HUMR Humele 157.13 319⇑ iP **PKPab 18 17 40.9 +1.0**
DEMI Demirci 157.17 303 i P **PKPdf 18 17 08.7 -0.9**
AKAS Kas 157.22 295 i P **PKPdf 18 17 08.7 -1.1**
AKAS Kas 157.22 295 ePKPdf **PKPdf 18 17 08.2 -1.6**
LOT Lotru 157.24 322⇓ iP **PKPdf 18 17 08.7 -0.8**
JMB Yambol 157.25 313 i P **PKPdf 18 17 07.8 -1.6**
WOL Wolverton 157.26 8⇑ eP **PKPdf 18 17 07.9 -1.3**
WOL AMS AMS 19 30 17.4
comp=Z,86μm,22.5s
SZH Strazhica 157.26 315 i P **PKPdf 18 17 08.0 -1.4**
VYHS Vyhne 157.31 334 ePKIKP **PKPdf 18 17 08.0 -1.3**
VYHS e 18 21 20.6
VYHS Vyhne 157.31 334 ePKP **PKPdf 18 17 08.0 -1.3**
VYHS e 18 17 41.9
VYHS ePP **PP 18 21 20.6 +1.5**
VYHS eSKKSDF 18 31 40.3
VYHS eSS **S'S'ac 18 41 46.4 -1.2**
DNZL Cakiroluk 157.32 299 i P **PKPdf 18 17 09.8 -0.1**
BUG Bochum--Univer 157.33 355 PKIKP **PKPdf 18 17 09.4 +0.2**
PSZ Piszkesteto 157.34 331⇑ iP **PKPdf 18 17 08.4 -1.1**
PSZ Piszkesteto 157.34 331 ePKIKP **PKPdf 18 17 08.3 -1.2**
PSZ Piszkesteto 157.34 331 ePKPdf **PKPdf 18 17 08.7 -0.8**
PSZ LR LR
comp=Z,144μm,20.0s
KULA Kula-Manisa 157.38 302 P **PKPdf 18 17 09.3 -0.5**
KULA Kula-Manisa 157.38 302 P **PKPdf 18 17 09.3 -0.5**
PRA Prague 157.39 342⇑ ePKPDF **PKPdf 18 17 09.3 0.0**
PRA ePKPAB **PKPab 18 17 41.0 +0.2**
PRA epPKP **pPKPab 18 17 48.3 -3.6**
PRA ePP **PP 18 21 21.4 +2.1**
PRA ex x 18 25 10.3
PRA ex x 18 31 45.5
PRA ex x 18 34 39.0
PRA eSS SS 18 41 15.0 +3.0
PRA AMS AMS 19 23 40.0
comp=Z,200μm,24.7s
PRA Prague 157.39 342 ePKIKP **PKPdf 18 17 09.3 0.0**
PRA e 18 21 21.4
PRA e 18 34 39.0
PRA eSS SS 18 41 15.0 +3.0
PRA MLR MLR
comp=Z,200μm,24.7s
ZIMR 157.40 316⇑ iP **PKPdf 18 17 10.5 +1.0**
ZIMR 157.40 316⇑ iPKIKP **PKPdf 18 17 10.5 +1.0**
DEV Deva 157.41 324⇑ iP **PKPdf 18 17 08.5 -1.0**
DEV Deva 157.41 324⇑ iPKIKP **PKPdf 18 17 08.5 -1.0**
VRAC Vranov 157.43 338 PKP **PKPdf 18 17 08.2 -1.3**
comp=Z,79nm,1.1s,baz=67,slow=0.7,SNR=65
VRAC PKPab **PKPab 18 17 40.6 -0.4**
comp=Z,297nm,1.3s,baz=58,slow=3.7,SNR=9.1
VRAC Vranov 157.43 338 PKIKP **PKPdf 18 17 08.2 -1.3**
VRAC pmax pmax
comp=Z,34nm,1.1s
GOPC GO Pecny, Ondr 157.44 342⇑ iPKPDF **PKPdf 18 17 08.6 -0.9**
GOPC ePKPAB **PKPab 18 17 40.4 -0.7**
GOPC epPKP **pPKPab 18 17 48.4 -3.8**
GOPC ePP **PP 18 21 20.9 +1.2**
GOPC ex x 18 41 04.4
GOPC AMS AMS 19 23 10.0
comp=Z,238μm,25.1s
GOPC GO Pecny, Ondr 157.44 342⇑ iPKIKP **PKPdf 18 17 08.6 -0.9**
GOPC e 18 21 20.9
GOPC eSS SS 18 41 04.4 -8.2
GOPC MLR MLR
comp=Z,238μm,25.1s
PRU Pruhonice 157.44 342⇑ iPKPDF **PKPdf 18 17 08.5 -0.9**
PRU ePKPAB **PKPab 18 17 42.2 +1.2**
PRU epPKP **pPKPab 18 17 48.3 -3.8**
PRU ePP **PP 18 21 22.5 +2.9**
PRU ex x 18 31 44.3
PRU ex x 18 34 38.8
PRU eSS SS 18 41 09.9 -2.6
PRU AMS AMS 19 23 20.0
comp=Z,202μm,24.5s
PRU Pruhonice 157.44 342⇑ iPKIKP **PKPdf 18 17 08.5 -0.9**
PRU e 18 21 22.5
PRU e 18 34 38.8
PRU eSS SS 18 41 09.9 -2.6
PRU MLR MLR
comp=Z,202μm,24.5s
EDRB Edirne 157.45 311 P **PKPdf 18 17 08.0 -1.7**
EDRB Edirne 157.45 311 P **PKPdf 18 17 08.0 -1.7**
TAVA DENIZLI_Tavas 157.48 299 i P **PKPdf 18 17 09.8 -0.3**
MOX Moxa 157.51 347 PKIKP **PKPdf 18 17 08.9 -0.6**
FETY Fethiye 157.55 297 P **PKPdf 18 17 09.3 -0.7**
FETY Fethiye 157.55 297 ePKPdf **PKPdf 18 17 09.3 -0.7**
KNL Bal¨-kesir 157.59 307 i P **PKPdf 18 17 09.7 -0.3**
CCA1 Carnmenellis 157.60 16⇑ eP **PKPdf 18 17 09.0 -0.6**
CCA1 AMS AMS 19 23 45.2
comp=Z,109μm,20.5s
DYA Yadsworthy 157.66 13 AMS AMS 19 24 26.4
comp=Z,85μm,21.0s
DYA Yadsworthy 157.66 13 ePKPdf **PKPdf 18 17 08.6 -1.1**
PVL Pavlikeni 157.66 316 i P **PKPdf 18 17 10.1 +0.2**
SART Tekirdag 157.66 308 i P **PKPab 18 17 43.0 +0.6**
NKC Novy Kostel 157.72 346⇑ iPKPDF **PKPdf 18 17 09.0 -0.8**
NKC ePKPAB **PKPab 18 17 43.3 +1.0**
NKC epPKP **pPKPab 18 17 49.0 -4.4**
NKC ePP **PP 18 21 22.3 +1.1**
NKC ex x 18 31 46.6
NKC ex x 18 34 42.6
NKC ex x 18 41 04.0
NKC AMS AMS 19 24 50.0
comp=Z,188μm,23.9s
NKC Novy Kostel 157.72 346⇑ iPKIKP **PKPdf 18 17 09.0 -0.8**
NKC e 18 21 22.3
NKC e 18 34 42.6
NKC MLR MLR
comp=Z,188μm,23.9s
BALY Balya 157.72 305 i P **PKPdf 18 17 08.9 -1.3**
SIRR Siria 157.77 326⇓ iP **PKPdf 18 17 08.8 -1.2**
TREC Trest 157.79 340⇑ iPKPDF **PKPdf 18 17 08.8 -1.1**
TREC ePKPAB **PKPab 18 17 43.0 +0.4**
TREC epPKP **pPKPab 18 17 49.8 -3.9**
TREC ePP **PP 18 21 24.8 +3.2**
TREC ex x 18 31 45.8
TREC ex x 18 34 44.7
TREC AMS AMS 19 24 40.0
comp=Z,218μm,24.3s
TREC Trest 157.79 340⇑ iPKIKP **PKPdf 18 17 08.8 -1.1**
TREC e 18 21 24.8
TREC e 18 34 44.7
TREC MLR MLR
comp=Z,218μm,24.3s
GZR Gura Zlata 157.81 323⇓ iP **PKPdf 18 17 09.0 -1.1**
GZR Gura Zlata 157.81 323⇓ iPKIKP **PKPdf 18 17 09.0 -1.1**
SMOL Smolenice 157.82 336 ePKIKP **PKPdf 18 17 11.1 +1.1**
SMOL Smolenice 157.82 336 ePKP **PKPdf 18 17 11.1 +1.1**
SMOL e 18 17 47.2
DALY Dalyan (Mu¨la 157.84 297 i P **PKPdf 18 17 09.7 -0.6**
HMNX Herstmonceux 157.87 6⇑ eP **PKPdf 18 17 09.7 -0.2**
HMNX AMS AMS 19 25 20.3
comp=Z,149μm,20.8s
TURN Turunc 157.87 297 i P **PKPdf 18 17 11.2 +0.8**
AKHS Akhisar 157.89 303 i P **PKPdf 18 17 09.6 -0.8**
KESN Edirne-Kesan 157.95 309 i P **PKPdf 18 17 10.1 -0.8**
BEBN Eben Emael 158.07 357 PKP **PKPdf 18 17 09.4 -0.8**
BEBN PKPab **PKPab 18 17 45.1 +1.4**
HGN Heimansgroeve 158.09 357 ePKPdf **PKPdf 18 17 09.2 -1.0**
HGN ePKPbc **PKPab 18 17 43.7 -0.1**
comp=Z,4μm,2.3s
HGN ePP **PP 18 21 26.3 +3.3**
UCC Uccle 158.11 359 PKP **PKPdf 18 17 09.9 -0.3**
AYDN Tasoluk 158.22 300 i P **PKPdf 18 17 10.7 -0.2**
MEM Membach 158.24 356 PKP **PKPdf 18 17 09.6 -0.8**
MEM PKPab **pPKPab 18 17 54.9 -0.6**
BZS Buzias 158.25 325⇓ iP **PKPdf 18 17 08.6 -2.0**
BZS Buzias 158.25 325⇓ iPKIKP **PKPdf 18 17 08.6 -2.0**
MENF Mencas 158.31 3 PKP **PKPdf 18 17 10.2 -0.2**
ENEZ Enez 158.35 309 P **PKPdf 18 17 10.7 -0.1**
ALN Alexandroupoli 158.35 309 P **PKPdf 18 17 08.8 -2.0**
ALN Alexandroupoli 158.35 309 PKIKP **PKPdf 18 17 08.8 -2.0**
ALN Alexandroupoli 158.35 309 P **PKPdf 18 17 08.8 -2.0**
TIM Timisoara 158.37 326⇑ iP **PKPdf 18 17 10.8 +0.1**
TIM Timisoara 158.37 326⇑ iPKIKP **PKPdf 18 17 10.8 +0.1**
ARG Arkhangelos 158.40 296 P **PKPdf 18 17 09.5 -1.5**
ARG Arkhangelos 158.40 296 PKIKP **PKPdf 18 17 09.5 -1.5**
ARG Arkhangelos 158.40 296 P **PKPdf 18 17 09.5 -1.5**
SNF Seneffe 158.40 359 PKP **PKPdf 18 17 10.5 0.0**
SNF PKPab **PKPab 18 17 46.4 +1.3**
KDZ Kurdzhali 158.41 312 i P **PKPdf 18 17 09.7 -1.2**
BCLA Clavier 158.46 358 PKP **PKPdf 18 17 09.7 -1.0**
BCLA PKPab **PKPab 18 17 44.9 -0.5**
KHC Kasperske Hory 158.48 343⇑ iPKPDF **PKPdf 18 17 09.6 -1.2**
KHC ePKPAB **PKPab 18 17 46.1 +0.5**
KHC epPKP **pPKPab 18 17 52.7 -4.0**
KHC esPKP 18 18 01.5
KHC ePP **PP 18 21 22.0 -3.4**
KHC ex x 18 21 28.0
KHC ex x 18 31 53.8
KHC ex x 18 34 41.7
KHC ex x 18 41 12.0
KHC AMS AMS 19 22 50.0
comp=Z,229μm,26.0s
KHC Kasperske Hory 158.48 343⇑ iPKIKP **PKPdf 18 17 09.6 -1.2**
KHC e 18 17 46.1
KHC e 18 21 28.0
KHC e 18 34 41.7
KHC MLR MLR
comp=Z,229μm,26.0s
KHC Kasperske Hory 158.48 343 ePKPdf **PKPdf 18 17 09.2 -1.6**
KHC ePKPab **PKPab 18 17 46.9 +1.3**
BAYC CANAKKALE_Bayi 158.49 306 i P **PKPdf 18 17 09.8 -1.2**
GRF Grafenberg Arr 158.49 347 PKIKP **PKPdf 18 17 10.6 -0.2**
GRFO Grafenberg 158.49 347 ePKIKP **PKPdf 18 17 09.5 -1.3**
GRFO e 18 17 46.5
GRFO Grafenberg 158.49 347 ePKPdf **PKPdf 18 17 09.5 -1.3**
GRFO ePKPab **PKPab 18 17 46.5 +0.9**
MPEP Malo Peshtene 158.54 318 i P **PKPdf 18 17 09.7 -1.3**
AYVA Ayvalik 158.55 305 i P **PKPdf 18 17 10.9 -0.2**
RDO Rodhopi 158.57 311 P **PKPdf 18 17 09.3 -1.8**
RDO Rodhopi 158.57 311 ePKPdf **PKPdf 18 17 09.3 -1.8**
PLD Plovdiv 158.64 314 i P **PKPdf 18 17 09.6 -1.5**
WET Wettzell 158.64 344 PKIKP **PKPdf 18 17 10.1 -0.9**
GCAM G?zelcaml? 158.70 300 i P **PKPdf 18 17 14.8 +3.5**
DAT Datca 158.70 298 i P **PKPdf 18 17 12.8 +1.3**
GEC2 GERESS Array S 158.71 342 ePKIKP **PKPdf 18 17 09.9 -1.3**
GEC2 GERESS Array S 158.71 342 ePKPdf **PKPdf 18 17 09.5 -1.7**
GEC2 ePKPab **PKPab 18 17 46.4 -0.3**
GERES GERESS Array B 158.71 342 PKP **PKPdf 18 17 09.8 -1.3**
comp=Z,26nm,1.0s,baz=27,slow=1.5,SNR=73
BDRM Kayabasi 158.72 299 i P **PKPdf 18 17 12.9 +1.4**
PGB Panagyurishte 158.74 315 i P **PKPdf 18 17 09.7 -1.6**
GADA Gvkgeada 158.76 308 P **PKPdf 18 17 08.8 -2.5**
GADA Gvkgeada 158.76 308 ePKPdf **PKPdf 18 17 08.8 -2.5**
MDVR Moldovita 158.78 323⇑ iP **PKPdf 18 17 09.8 -1.5**
BOZC Bozcaada 158.80 307 i P **PKPab 18 17 47.9 +0.5**
GIVF Givet 158.80 358 ePKIKP **PKPdf 18 17 10.5 -0.6**
GIVF pmax pmax
comp=Z,707nm,1.6s
DOU Dourbes 158.81 359 PKP **PKPdf 18 17 10.3 -0.7**
DOU PKPab **PKPab 18 17 47.5 +0.7**
BODT Bodrum 158.82 299 P **PKPdf 18 17 09.6 -2.0**
BODT Bodrum 158.82 299 ePKPdf **PKPdf 18 17 09.6 -2.0**
BAIF Baives 158.85 360 ePKIKP **PKPdf 18 17 10.6 -0.5**
BAIF pmax pmax
comp=Z,561nm,1.6s
RZN Rozhen 158.85 313 i P **PKPdf 18 17 09.7 -2.0**
DGB ˜zmir 158.85 302 i P **PKPdf 18 17 09.6 -1.9**
CONA Conrad Observa 158.87 337 i PKPdf **PKPdf 18 17 10.0 -1.3**
comp=Z,4μm,4.4s,SNR=39
CONA epPKPab **PKPab 18 17 53.4 +6.0**
comp=Z,7μm,2.2s
PRK Paraskevi 158.88 305 P **PKPdf 18 17 10.1 -1.4**
PRK Paraskevi 158.88 305 PKIKP **PKPdf 18 17 10.1 -1.4**
PRK Paraskevi 158.88 305 P **PKPdf 18 17 10.1 -1.4**
SMTH Samothraki Isl 158.89 309 P **PKPdf 18 17 10.0 -1.5**
SMTH Samothraki Isl 158.89 309 P **PKPdf 18 17 10.0 -1.5**
WLF Walferdange 159.18 356 PKP **PKPdf 18 17 11.3 -0.2**
WLF PKPab **PKPab 18 17 49.0 +0.5**
WLF Walferdange 159.18 356 ePKIKP **PKPdf 18 17 10.8 -0.7**
WLF e 18 17 49.1
WLF MLR MLR
comp=Z,189μm,21.0s
WLF Walferdange 159.18 356 ePKPdf **PKPdf 18 17 10.8 -0.7**
WLF ePKPab **PKPab 18 17 49.1 +0.5**
WLF LR LR
comp=Z,189μm,21.0s
JSA Saint Aubin 159.18 11⇑ eP **PKPdf 18 17 10.9 -0.6**
JSA AMS AMS 19 23 37.1
comp=Z,117μm,22.0s
SIGR SIGRI 159.19 305 P **PKPdf 18 17 09.7 -2.2**
SIGR SIGRI 159.19 305 P **PKPdf 18 17 09.7 -2.2**
JQE Queens East 159.19 11⇑ eP **PKPdf 18 17 10.7 -0.8**
VTS Vitosha 159.30 316 P **PKPdf 18 17 09.1 -3.0**
VTS Vitosha 159.30 316⇓ iP **PKPdf 18 17 11.0 -1.1**
VTS Vitosha 159.30 316⇓ iPKIKP **PKPdf 18 17 11.0 -1.1**
VTS Vitosha 159.30 316 i P **PKPdf 18 17 10.5 -1.6**
VTS Vitosha 159.30 316 ePKPdf **PKPdf 18 17 10.0 -2.1**
VTS ePKPab **PKPab 18 17 50.0 +0.4**
KARP Karpathos 159.31 295 P **PKPdf 18 17 10.7 -1.5**
KARP Karpathos 159.31 295 ePKPdf **PKPdf 18 17 11.0 -1.2**
KARP ePKPab **PKPab 18 17 49.6 -0.1**
KAVA Kavala 159.32 311 P **PKPdf 18 17 10.4 -1.6**
KAVA Kavala 159.32 311 P **PKPdf 18 17 10.4 -1.6**
CHOS Chios island 159.35 303 P **PKPdf 18 17 09.9 -2.3**
CHOS Chios island 159.35 303 P **PKPdf 18 17 09.9 -2.3**
LIA Limnos Island 159.38 308 P **PKPdf 18 17 09.8 -2.3**
LIA Limnos Island 159.38 308 P **PKPdf 18 17 09.8 -2.3**
BEO Beograd 159.40 325 ePKIKP **PKPdf 18 17 10.8 -1.1**
BEO e 18 17 48.5
BEO Beograd 159.40 325 ePKPdf **PKPdf 18 17 10.8 -1.1**
BEO ePKPab **PKPab 18 17 48.5 -1.1**
MOA Molln 159.45 340 i PKPdf **PKPdf 18 17 10.4 -1.6**
comp=Z,2μm,2.9s,SNR=28
MOA epPKPab **PKPab 18 17 55.6 +5.8**
comp=Z,6μm,2.1s
MMB Musomiste 159.53 314 i P **PKPdf 18 17 10.1 -2.2**
ARSA Arzberg 159.57 337 i PKPdf **PKPdf 18 17 10.6 -1.5**
comp=Z,3μm,3.7s,SNR=25
ARSA epPKPab **PKPab 18 17 56.0 +5.6**
comp=Z,6μm,5.0s
NVR Nevrokopi 159.57 313 P **PKPdf 18 17 10.1 -2.2**
NVR Nevrokopi 159.57 313 P **PKPdf 18 17 10.1 -2.2**
LANF Langenberg 159.71 353 PKP **PKPdf 18 17 12.1 -0.1**
STU Stuttgart 159.73 350 ePKIKP **PKPdf 18 17 11.1 -1.1**
STU e 18 17 49.6
STU Stuttgart 159.73 350 ePKPdf **PKPdf 18 17 11.1 -1.1**
STU ePKPab **PKPab 18 17 49.6 -1.4**
ROSF Rostrenen 159.78 14 ePKIKP **PKPdf 18 17 11.5 -0.8**
ROSF pmax pmax
comp=Z,448nm,1.4s
KKB Krupnik 159.79 315 i P **PKPdf 18 17 10.5 -2.0**
SRS Serrai 159.87 313 P **PKPdf 18 17 10.4 -2.2**
SRS Serrai 159.87 313 PKIKP **PKPdf 18 17 10.4 -2.2**
SRS Serrai 159.87 313 P **PKPdf 18 17 10.4 -2.2**
KOGS Kog 159.99 335 ePKPdf **PKPdf 18 17 10.9 -1.6**
KOGS e 18 17 58.4
KOGS ePP **PP 18 21 36.3 +2.6**
OUR Ouranopolis 160.00 310 P **PKPdf 18 17 10.3 -2.5**
OUR Ouranopolis 160.00 310 ePKIKP **PKPdf 18 17 10.3 -2.5**
OUR Ouranopolis 160.00 310 ePKPdf **PKPdf 18 17 10.3 -2.5**
STR Strasbourg 160.11 353 PKP **PKPdf 18 17 12.6 0.0**
DIVS Divibare 160.14 324 P **PKPdf 18 17 11.2 -1.7**
ZKR Zakros 160.15 294 P **PKPdf 18 17 11.2 -1.9**
ZKR Zakros 160.15 294 P **PKPdf 18 17 11.2 -1.9**
GRR Gorron 160.17 10 ePKIKP **PKPdf 18 17 12.2 -0.5**
GRR pmax pmax
comp=Z,636nm,1.5s
SOH Sokhos 160.17 312 P **PKPdf 18 17 10.5 -2.5**
SOH Sokhos 160.17 312 PKIKP **PKPdf 18 17 10.5 -2.5**
SOH Sokhos 160.17 312 P **PKPdf 18 17 10.5 -2.5**
APE Apeiranthos 160.18 300 P **PKPdf 18 17 11.1 -2.1**
APE Apeiranthos 160.18 300⇑ iP **PKPdf 18 17 11.0 -2.1**
APE Apeiranthos 160.18 300 ePKIKP **PKPdf 18 17 11.1 -2.1**
APE Apeiranthos 160.18 300 ePKPdf **PKPdf 18 17 11.1 -2.1**
QUIF Quistinic 160.21 14 ePKIKP **PKPdf 18 17 12.2 -0.5**
QUIF pmax pmax
comp=Z,2μm,2.1s

SOKA Soboth 160.23 337 *i* PKPdf **PKPdf 18 17 11.6 -1.4**
comp=Z,3μm,5.0s,SNR=45
SOKA *e*PKPAb PKPab 18 18 01.1 +7.8
comp=Z,6μm,2.3s
BFO Black Forest 160.29 351 *e*PKIKP **PKPdf 18 17 11.7 -1.2**
BFO Black Forest 160.29 351 *e*PKPdf **PKPdf 18 17 11.4 -1.5**
BFO *e*PKPAb **PKPab 18 17 52.4 -1.1**
BFO LR LR
comp=Z,119μm,21.0s
KNT Kendrikon 160.29 313 P **PKPdf 18 17 10.8 -2.3**
KNT Kendrikon 160.29 313 PKIKP **PKPdf 18 17 10.8 -2.3**
KNT Kendrikon 160.29 313 P **PKPdf 18 17 10.8 -2.3**
PLG Polygyros 160.34 311 P **PKPdf 18 17 10.5 -2.7**
PLG Polygyros 160.34 311 PKIKP **PKPdf 18 17 10.5 -2.7**
PLG Polygyros 160.34 311 P **PKPdf 18 17 10.5 -2.7**
PAIG Paliouri 160.40 309 P **PKPdf 18 17 10.4 -2.8**
PAIG Paliouri 160.40 309 PKIKP **PKPdf 18 17 10.4 -2.8**
PAIG Paliouri 160.40 309 P **PKPdf 18 17 10.4 -2.8**
VAY Valandovo 160.41 314 P **PKPdf 18 17 10.8 -2.4**
VAY Valandovo 160.41 314 ⇑*i*PKP **PKPdf 18 17 10.8 -2.4**
VAY Valandovo 160.41 314 *e*PKIKP **PKPdf 18 17 10.8 -2.4**
VAY Valandovo 160.41 314 *e*PKPdf **PKPdf 18 17 10.8 -2.4**
KBA Koelnbreinsper 160.41 341 PKIKP **PKPdf 18 17 12.0 -1.3**
KBA Koelnbreinsper 160.41 341 *i* PKPdf **PKPdf 18 17 11.5 -1.8**
comp=Z,2μm,2.6s,SNR=29
KBA *i* pPKPab PKPab 18 18 02.1 +7.9
comp=Z,3μm,2.6s
SANT Santorini 160.44 298 P **PKPdf 18 17 11.0 -2.5**
SANT Santorini 160.44 298 *e*PKPdf **PKPdf 18 17 10.7 -2.8**
SANT *e*PKPAb **PKPab 18 17 53.1 -1.6**
SANT LR LR
comp=Z,77μm,21.0s
CMBO Columbo, Santo 160.45 298 P **PKPdf 18 17 11.2 -2.2**
HORT Hortiatis 160.45 312 P **PKPdf 18 17 11.2 -2.2**
HORT Hortiatis 160.45 312 P **PKPdf 18 17 11.2 -2.2**
THT1 Athinios (Pele 160.46 298 P **PKPdf 18 17 11.1 -2.3**
THR3 Thira Island, 160.48 298 P **PKPdf 18 17 11.8 -1.6**
THR3 Thira Island, 160.48 298 *e*PKPdf **PKPdf 18 17 11.8 -1.6**
THE Thessaloniki 160.52 312 P **PKPdf 18 17 11.1 -2.2**
THE Thessaloniki 160.52 312 *e*PKIKP **PKPdf 18 17 11.1 -2.2**
THE Thessaloniki 160.52 312 *e*PKPdf **PKPdf 18 17 11.1 -2.2**
ECH Echery 160.54 354 PKP **PKPdf 18 17 12.3 -0.9**
ECH Echery 160.54 354 *e*PKIKP **PKPdf 18 17 11.7 -1.5**
ECH Echery 160.54 354 *e*PKPdf **PKPdf 18 17 11.4 -1.7**
ECH *e*PKPAb **PKPab 18 17 54.4 -0.1**
ECH LR LR
comp=Z,118μm,21.0s
OBKA Obir 160.54 338 *i* PKPdf **PKPdf 18 17 12.0 -1.3**
comp=Z,4μm,3.8s,SNR=9.3
OBKA *e*pPKPab **PKPab 18 17 59.5 +4.8**
comp=Z,7μm,5.3s
NPS Neapolis 160.60 295 P **PKPdf 18 17 12.3 -1.3**
NPS Neapolis 160.60 295 PKIKP **PKPdf 18 17 12.3 -1.3**
NPS Neapolis 160.60 295 P **PKPdf 18 17 12.3 -1.3**
ZAG Zagreb 160.61 334 PKIKP **PKPdf 18 17 14.6 +1.3**
THEF They Montfort 160.62 356 PKP **PKPdf 18 17 12.5 -0.7**
WATA Walderalm 160.65 344 *e*PKPdf **PKPdf 18 17 12.0 -1.5**
comp=Z,944nm,1.6s,SNR=54
WATA *e*pPKPab **PKPab 18 18 02.5 +7.3**
comp=Z,4μm,1.8s
KARY Karystos 160.67 303 P **PKPdf 18 17 11.7 -1.9**
RETA Reutte 160.69 346 *e*PKPdf **PKPdf 18 17 12.4 -1.0**
comp=Z,3μm,2.6s,SNR=42
RETA *e*pPKPab **PKPab 18 18 00.3 +5.0**
comp=Z,5μm,2.3s
WTTA Wattenberg 160.70 344 *e*PKPdf **PKPdf 18 17 12.7 -0.9**
comp=Z,3μm,2.5s,SNR=76
WTTA *e*pPKPab **PKPab 18 18 00.2 +4.8**
comp=Z,5μm,2.6s
GRG Griva 160.72 314 P **PKPdf 18 17 11.4 -2.2**
GRG Griva 160.72 314 PKIKP **PKPdf 18 17 12.1 -1.5**
GRG Griva 160.72 314 P **PKPdf 18 17 11.4 -2.2**
SKO Skopje 160.73 317 P **PKPdf 18 17 11.9 -1.6**
SKO Skopje 160.73 317 ⇑*i*PKP **PKPdf 18 17 12.1 -1.5**
SKO Skopje 160.73 317 PKIKP **PKPdf 18 17 11.9 -1.6**
SKO Skopje 160.73 317 P **PKPdf 18 17 11.9 -1.6**
MYKA Terra Mystica 160.73 339 *i* PKPdf **PKPdf 18 17 11.8 -1.7**
comp=Z,1μm,2.2s,SNR=15
MYKA *e*pPKPab **PKPab 18 18 00.2 +4.7**
comp=Z,668nm,2.1s
LAST Lasithi 160.73 294 P **PKPdf 18 17 13.1 -0.8**
LAST Lasithi 160.73 294 P **PKPdf 18 17 13.1 -0.8**
MOTA Moosalm 160.75 345 *i* PKPdf **PKPdf 18 17 12.0 -1.6**
comp=Z,904nm,1.5s,SNR=120
MOTA *e*pPKPab **PKPab 18 18 01.3 +5.7**
comp=Z,5μm,2.1s
SISC Sisak 160.75 333 P **PKPdf 18 17 13.0 -0.4**
VNDS Vrh nad Dolski 160.85 337 *e*PKPdf **PKPdf 18 17 12.3 -1.2**
EREA Eretria 160.88 305 P **PKPdf 18 17 11.8 -2.1**
SKIA Skiathos 160.89 308 P **PKPdf 18 17 11.7 -2.1**
MOF Molkenrain 160.90 353 PKP **PKPdf 18 17 13.0 -0.7**
ABTA Abfaltersbach 160.95 342 *i* PKPdf **PKPdf 18 17 12.1 -1.7**
comp=Z,2μm,2.4s,SNR=65
ABTA *e*pPKPab **PKPab 18 18 03.1 +6.6**
comp=Z,3μm,2.2s
LJU Ljubljana 160.96 337 *e*PKPdf **PKPdf 18 17 12.6 -1.1**
LJU *e*PP **PP 18 21 41.8 +2.9**
LJU *e* 18 32 06.6
LJU *e* 18 35 03.5
LJU *e* 18 36 43.0
LJU *e*SS SS 18 42 01.8 +12
LJU *e* 18 49 18.9
HINF Hinteralfeld 160.96 354 *e*PKIKP **PKPdf 18 17 12.5 -1.2**
HINF pmax pmax
comp=Z,1μm,2.0s
OZLJ Ozalj 160.99 335 P **PKPdf 18 17 11.7 -1.9**
PLE Pljevlja 160.99 323 ⇑*i*PKP **PKPdf 18 17 12.2 -1.7**
XOR Xorichti 160.99 308 P **PKPdf 18 17 11.6 -2.4**
XOR Xorichti 160.99 308 P **PKPdf 18 17 11.6 -2.4**
BLY Banja Luka 160.99 330 *e*PKPdf **PKPdf 18 17 12.1 -1.7**
BLY *e*PKPab **PKPab 18 17 53.8 -2.8**
NEO Neokhori 161.00 308 P **PKPdf 18 17 11.9 -2.1**
NEO Neokhori 161.00 308 P **PKPdf 18 17 11.9 -2.1**
IVA Berane 161.03 322 ⇑*i*PKP **PKPdf 18 17 12.3 -1.7**
DAVA Damuels 161.06 348 *e*PKPdf **PKPdf 18 17 13.1 -0.9**
comp=Z,3μm,2.4s,SNR=56
DAVA *e*pPKPab PKPab 18 18 04.8 +7.8
comp=Z,3μm,2.2s
CADS Cadrg 161.06 339 *e*PKPdf **PKPdf 18 17 12.1 -1.7**
PTL Penteli 161.08 304 P **PKPdf 18 17 11.7 -2.4**
PTL Penteli 161.08 304 P **PKPdf 18 17 11.7 -2.4**
LIT Litokhoron 161.11 311 P **PKPdf 18 17 12.1 -1.9**
LIT Litokhoron 161.11 311 *e*PKIKP **PKPdf 18 17 12.1 -1.9**
LIT Litokhoron 161.11 311 *e*PKPdf **PKPdf 18 17 12.1 -1.9**
FETA Feichten 161.13 346 *i* PKPdf **PKPdf 18 17 13.1 -0.9**
comp=Z,4μm,2.9s,SNR=144
FETA *e*pPKPab **PKPab 18 18 03.1 +5.7**
comp=Z,4μm,3.8s
FYTO Fytoko, Volos 161.15 309 P **PKPdf 18 17 12.0 -2.1**
FYTO Fytoko, Volos 161.15 309 P **PKPdf 18 17 12.0 -2.1**
MHLO Agia Marina, M 161.16 300 P **PKPdf 18 17 12.1 -2.1**
ATHU Athens Univers 161.17 304 P **PKPdf 18 17 12.2 -2.0**
ATHU Athens Univers 161.17 304 P **PKPdf 18 17 12.2 -2.0**
IDI Anoyia 161.17 295 PKP **PKPdf 18 17 13.2 -1.1**
comp=Z,114nm,1.2s,baz=120,slow=2.5,SNR=67
IDI Anoyia 161.17 295 P **PKPdf 18 17 13.3 -1.1**
IDI Anoyia 161.17 295 *e*PKPdf **PKPdf 18 17 12.9 -1.4**
IDI *e*PKPab **PKPab 18 17 55.5 -2.4**
PVY Plav 161.18 321 *e*PKP **PKPdf 18 17 12.3 -1.9**
KRUS Krusevo 161.20 316 ⇑*i*PKP **PKPdf 18 17 12.3 -1.9**
SMIA Simia 161.20 307 P **PKPdf 18 17 12.4 -1.8**
VLY Voula,Athens 161.21 304 P **PKPdf 18 17 12.0 -2.2**
VLY Voula,Athens 161.21 304 P **PKPdf 18 17 12.0 -2.2**
KOME Kolasin 161.25 322 ⇑*i*PKP **PKPdf 18 17 12.3 -1.9**
SIVA Sivas 161.30 294 P **PKPdf 18 17 13.6 -0.8**
SIVA Sivas 161.30 294 P **PKPdf 18 17 13.6 -0.8**
UPM Unac-Piva 161.33 324 ⇑*i*PKP **PKPdf 18 17 12.4 -2.0**
BIA Bitola 161.36 315 ⇑*i*PKP **PKPdf 18 17 12.7 -1.6**
PMOZ Porto Moniz, M 161.41 73 *e*PKPdf **PKPdf 18 17 15.7 +1.0**
PMOZ Porto Moniz, M 161.41 73 *e*SS SS 18 42 05.0 +7.3
PMOZ Porto Moniz, M 161.41 73 *e*LR LR 19 12 11.6
comp=Z,95μm,22.0s
LOMF Lomont 161.43 354 PKP **PKPdf 18 17 13.5 -0.7**
LKR Lokris 161.45 307 P **PKPdf 18 17 12.3 -2.1**
LKR Lokris 161.45 307 P **PKPdf 18 17 12.3 -2.1**
FNA Florina 161.46 314 P **PKPdf 18 17 12.2 -2.2**
FNA Florina 161.46 314 PKIKP **PKPdf 18 17 12.2 -2.2**
FNA Florina 161.46 314 P **PKPdf 18 17 12.2 -2.2**
KZN Kozani 161.47 313 P **PKPdf 18 17 12.5 -2.0**
KZN Kozani 161.47 313 PKIKP **PKPdf 18 17 12.5 -2.0**
KZN Kozani 161.47 313 P **PKPdf 18 17 12.5 -2.0**
TRI Trieste 161.51 338 *e*PKIKP **PKPdf 18 17 13.3 -0.9**
TRI *e* 18 17 58.8
TRI Trieste 161.51 338 *e*PKPdf **PKPdf 18 17 13.2 -0.9**
TRI *e*PKPab **PKPab 18 17 58.8 0.0**
DAVOX Davos/Dischmat 161.54 347 PKP **PKPdf 18 17 13.5 -1.0**
comp=Z,177nm,1.3s,baz=109,slow=1.3,SNR=74
DAVOX PKPab **PKPab 18 18 00.5 +1.4**
comp=Z,126nm,0.8s,baz=31,slow=4.3,SNR=4.2
DAVOX PP **PP 18 21 41.6 -0.5**
comp=Z,46nm,1.1s,baz=50,slow=4.3,SNR=2.9
NKY Niksic 161.56 323 ⇑*i*PKP **PKPdf 18 17 12.7 -1.8**
NKME Niksic 161.61 323 ⇑*i*PKP **PKPdf 18 17 12.7 -1.8**
FUORN Ofenpass-Fuorn 161.62 346 *e*PKPdf **PKPdf 18 17 13.4 -1.3**
FUORN *e*PKPab **PKPab 18 17 59.7 +0.1**
OHR Ohrid 161.63 316 ⇑*i*PKP **PKPdf 18 17 13.0 -1.6**
PMAR Madeira 161.66 73 *e*PKPdf **PKPdf 18 17 15.8 +0.7**
PMAR Madeira 161.66 73 *e*PP PP 18 21 48.9 +4.5
PDG Podgorica 161.68 322 P **PKPdf 18 17 12.8 -1.7**
PDG Podgorica 161.68 322 ⇑*i*P **PKPdf 18 17 14.1 -0.4**
TTG Podgorica 161.68 322 ⇑*i*PKP **PKPdf 18 17 13.0 -1.5**
TTG Podgorica 161.68 322 PKIKP **PKPdf 18 17 12.8 -1.7**
TTG Podgorica 161.68 322 P **PKPdf 18 17 12.8 -1.7**
VAM Vamos 161.69 296 P **PKPdf 18 17 14.2 -0.6**
VAM Vamos 161.69 296 PKIKP **PKPdf 18 17 14.2 -0.6**
VAM Vamos 161.69 296 P **PKPdf 18 17 14.2 -0.6**
FUL Funchal 161.69 73 *e*PKPdf **PKPdf 18 17 15.6 +0.8**
THL Klokotos Trika 161.69 310 P **PKPdf 18 17 12.2 -2.4**
BRY Bratogost 161.73 324 ⇑*i*PKP **PKPdf 18 17 12.1 -2.7**
LTK Loutraki 161.74 305 P **PKPdf 18 17 12.2 -2.6**
LTK Loutraki 161.74 305 P **PKPdf 18 17 12.2 -2.6**
AGG Agios Georgios 161.74 308 P **PKPdf 18 17 13.0 -1.7**
AGG Agios Georgios 161.74 308 *e*PKIKP **PKPdf 18 17 13.1 -1.7**
AGG Agios Georgios 161.74 308 *e*PKPdf **PKPdf 18 17 12.8 -1.9**
DID Didima 161.75 303 P **PKPdf 18 17 12.3 -2.5**
DID Didima 161.75 303 *e*PKPdf **PKPdf 18 17 12.3 -2.5**
LOUT Loutraki 161.75 305 P **PKPdf 18 17 11.5 -3.3**
UDBI Udbina 161.77 332 P **PKPdf 18 17 13.5 -1.1**
CEME Cevo 161.78 322 ⇑*i*PKP **PKPdf 18 17 13.1 -1.6**
IMMV Iera Moni Meta 161.84 296 P **PKPdf 18 17 14.0 -0.9**
DRME Dracevica, Mon 161.88 321 ⇑*i*PKP **PKPdf 18 17 13.5 -1.3**
DSF Desfina 161.88 306 P **PKPdf 18 17 12.7 -2.3**
DSF Desfina 161.88 306 P **PKPdf 18 17 12.7 -2.3**
GVD Gavdhos 161.92 294 P **PKPdf 18 17 13.4 -1.6**
GVD Gavdhos 161.92 294 P **PKPdf 18 17 13.4 -1.6**
KPRO Kipourio 161.92 312 P **PKPdf 18 17 13.4 -1.6**
PENT Pentalofos 161.94 313 P **PKPdf 18 17 13.4 -1.6**
TUE Stuetta 161.94 348 *e*PKPdf **PKPdf 18 17 13.8 -1.1**
TUE *e*PKPab **PKPab 18 18 00.7 -0.2**
TUE LR LR
comp=Z,156μm,21.0s
THAL Thalero 161.95 305 P **PKPdf 18 17 12.8 -2.1**
BUM Brajici-Budva 161.96 322 ⇑*i*PKP **PKPdf 18 17 13.3 -1.6**
ULC Ulcinj 162.00 321 ⇑*i*PKP **PKPdf 18 17 13.2 -1.7**
TIR Tirane 162.04 318 ⇓*i*P **PKPdf 18 17 15.2 +0.3**
TIR Tirane 162.04 318 *e*PKIKP **PKPdf 18 17 14.3 -0.6**
TIR MLR MLR
comp=Z,153μm,22.0s
TIR Tirane 162.04 318 *e*PKPdf **PKPdf 18 17 14.3 -0.6**
TIR *e*PKPab **PKPab 18 18 02.3 +0.9**
TIR LR LR
comp=Z,153μm,22.0s
HCY Herceg Novi 162.08 323 ⇑*i*PKP **PKPdf 18 17 13.6 -1.3**
NVLJ Novalja 162.10 334 P **PKPdf 18 17 13.0 -1.8**
PMPS Porto Santo 162.10 71 *e*PKPdf **PKPdf 18 17 16.1 +0.9**
AVF Avril sur Loir 162.11 1 *e*PKIKP **PKPdf 18 17 14.1 -0.7**
AVF pmax pmax
comp=Z,413nm,1.4s
EVR Evrytania 162.15 309 P **PKPdf 18 17 14.4 -0.9**
EVR Evrytania 162.15 309 P **PKPdf 18 17 14.4 -0.9**
KALE Kalithea 162.17 307 P **PKPdf 18 17 13.5 -1.8**
KALE Kalithea 162.17 307 P **PKPdf 18 17 13.5 -1.8**
STON Ston 162.18 325 P **PKPdf 18 17 13.5 -1.5**
SERG Sergoula 162.22 307 P **PKPdf 18 17 13.9 -1.4**
GUR Goura 162.22 305 P **PKPdf 18 17 14.3 -2.0**
GUR Goura 162.22 305 P **PKPdf 18 17 13.4 -2.0**
ANX Ano Chora 162.23 308 P **PKPdf 18 17 15.7 +0.3**
VLI Veliai 162.26 301 P **PKPdf 18 17 13.2 -2.1**
VLI Veliai 162.26 301 P **PKPdf 18 17 13.2 -2.1**
ANKY Antikythira Is 162.26 298 P **PKPdf 18 17 13.9 -1.4**
ANKY Antikythira Is 162.26 298 P **PKPdf 18 17 13.9 -1.4**
KLV Kalavryta, Ach 162.31 306 P **PKPdf 18 17 13.9 -1.5**
KLV Kalavryta, Ach 162.31 306 P **PKPdf 18 17 13.9 -1.5**
EFP Efpalio 162.31 307 P **PKPdf 18 17 15.9 +0.6**
KYTH Kithira 162.33 300 P **PKPdf 18 17 13.8 -1.6**
KYTH Kithira 162.33 300 *e*PKPdf **PKPdf 18 17 13.8 -1.6**
LAKA Lakka 162.35 307 P **PKPdf 18 17 14.3 -1.1**
LAKA Lakka 162.35 307 *e*PKPdf **PKPdf 18 17 14.3 -1.1**
SENIN Lac Senin/Sane 162.35 352 *e*PKPdf **PKPdf 18 17 14.1 -1.3**
SENIN *e*PKPab **PKPab 18 18 03.4 +0.7**
JAN Janina 162.41 312 P **PKPdf 18 17 14.2 -1.2**
JAN Janina 162.41 312 PKIKP **PKPdf 18 17 14.2 -1.2**
JAN Janina 162.41 312 P **PKPdf 18 17 14.2 -1.2**
VLX Vlachokerasia 162.43 304 P **PKPdf 18 17 13.9 -1.7**
VLX Vlachokerasia 162.43 304 P **PKPdf 18 17 13.9 -1.7**
PVO Paravola 162.49 308 P **PKPdf 18 17 14.6 -0.9**
DSL Palaion Diasel 162.53 310 P **PKPdf 18 17 14.3 -1.2**
DSL Palaion Diasel 162.53 310 *e*PKPdf **PKPdf 18 17 14.3 -1.2**
DRO Drossia 162.66 306 P **PKPdf 18 17 14.8 -0.9**
PDO Prodromos 162.73 309 P **PKPdf 18 17 14.6 -1.1**
AXS Araxos 162.79 307 P **PKPdf 18 17 15.2 -0.6**
RLS Riolos of Patr 162.79 307 P **PKPdf 18 17 14.4 -1.4**
RLS Riolos of Patr 162.79 307 P **PKPdf 18 17 14.4 -1.4**
ITM Ithomi 162.83 303 P **PKPdf 18 17 14.0 -1.9**
ITM Ithomi 162.83 303 P **PKPdf 18 17 14.0 -1.9**
SGD Sagiada 162.84 313 P **PKPdf 18 17 14.7 -1.1**
AGO Saint Agoulin 162.85 2 PKP **PKPdf 18 17 15.6 0.0**
AMT Artemida-Makis 162.85 305 P **PKPdf 18 17 14.3 -1.6**
PLDF La Plantade 162.94 1 PKP **PKPdf 18 17 15.6 -0.2**
LKD2 Lefkada island 163.00 310 P **PKPdf 18 17 14.6 -1.4**
LKD2 Lefkada island 163.00 310 P **PKPdf 18 17 14.6 -1.4**
KEK Kerkira 163.06 314 P **PKPdf 18 17 14.8 -1.2**
KEK Kerkira 163.06 314 P **PKPdf 18 17 14.8 -1.2**
PYL PYLOS 163.08 303 P **PKPdf 18 17 14.2 -1.9**
PYL PYLOS 163.08 303 P **PKPdf 18 17 14.2 -1.9**
RSL Roselend 163.09 354 PKP **PKPdf 18 17 15.4 -0.7**
PYM Petit Puy Mans 163.14 2 PKP **PKPdf 18 17 15.9 -0.1**
LPL La Plagne 163.25 353 *e*PKIKP **PKPdf 18 17 16.0 -0.3**
LPL pmax pmax
comp=Z,559nm,1.7s
LPG La Plagne 163.27 353 *e*PKIKP **PKPdf 18 17 16.1 -0.3**
LPG pmax pmax
comp=Z,1μm,1.9s
VLS Valsamata 163.34 308 P **PKPdf 18 17 14.6 -1.7**
VLS Valsamata 163.34 308 PKIKP **PKPdf 18 17 14.6 -1.7**
VLS Valsamata 163.34 308 P **PKPdf 18 17 14.6 -1.7**
FRNF Fournols 163.49 3 PKP **PKPdf 18 17 16.5 +0.2**
PGAV Gavieira, Arco 163.60 34 *e*PKPdf **PKPdf 18 17 16.8 +0.2**
PGAV Gavieira, Arco 163.60 34 *e*PP PP 18 21 56.5 +3.2
PGAV Gavieira, Arco 163.60 34 *e*SS SS 18 42 24.0 +5.8
PGAV Gavieira, Arco 163.60 34 *e*LR LR 19 13 13.8
comp=Z,128μm,20.0s
GRN Grenoble 163.61 356 PKP **PKPdf 18 17 16.4 -0.1**
GDM Grand'Maison 163.62 355 PKP **PKPdf 18 17 16.2 -0.4**
SSB Saint Sauveur 163.62 359 PKP **PKPdf 18 17 16.0 -0.4**
SSB Saint Sauveur 163.62 359 *e*PKIKP **PKPdf 18 17 15.6 -0.8**
SSB MLR MLR
comp=Z,113μm,21.0s
SSB Saint Sauveur 163.62 359 *e*PKPdf **PKPdf 18 17 15.6 -0.8**
SSB LR LR
comp=Z,113μm,21.0s
LBL Lubilhac 163.67 2 PKP **PKPdf 18 17 16.2 -0.3**
BNI Bardonecchia 163.72 353 *e*PKIKP **PKPdf 18 17 16.0 -0.7**
BNI MLR MLR
comp=Z,164μm,21.0s
BNI Bardonecchia 163.72 353 *e*PKPdf **PKPdf 18 17 16.0 -0.7**
BNI LR LR
comp=Z,164μm,21.0s
PCAB Cabril 163.91 34 *e*PKPdf **PKPdf 18 17 17.0 +0.2**
PCAB Cabril 163.91 34 *e*PP PP 18 21 54.7 -0.2
VLC Villacollemand 163.91 343 *e*PKPdf **PKPdf 18 17 14.1 -2.6**
VLC *e*PKPab **PKPab 18 18 09.9 +0.5**
VLC LR LR
comp=Z,163μm,22.0s
CAF Calviac 163.91 5 *e*PKIKP **PKPdf 18 17 16.6 -0.1**
CAF pmax pmax
comp=Z,448nm,1.4s
ORIF Oris-en-Rattie 163.92 355 *e*PKIKP **PKPdf 18 17 16.4 -0.4**
ORIF pmax pmax
comp=Z,508nm,1.3s
PTO Porto 164.03 37 *e*PKPdf **PKPdf 18 17 18.4 +1.6**
VIVF Saint-Julien-l 164.04 358 *e*PKIKP **PKPdf 18 17 16.6 -0.2**
VIVF pmax pmax
comp=Z,615nm,1.4s
TOA0 Torodi Ar. Sit 164.20 172 *e*PKPdf **PKPdf 18 17 16.5 -1.3**
TOA0 *e*PKPab **PKPab 18 18 11.9 +0.6**
TORD Torodi Ar. Bea 164.20 172 PKP **PKPdf 18 17 17.2 -0.5**
comp=Z,268nm,1.1s,baz=253,slow=0.2,SNR=226
TORD PKPab **PKPab 18 18 12.0 +0.7**
comp=Z,894nm,1.0s,baz=186,slow=3.3,SNR=22
TOA1 Torodi Ar. Sit 164.21 172 *e*PKPdf **PKPdf 18 17 17.2 -0.5**
TOA1 *e*PKPab **PKPab 18 18 12.0 +0.7**
POLO Lamas de Olo 164.28 34 *e*PKPdf **PKPdf 18 17 17.8 +0.6**
POLO Lamas de Olo 164.28 34 *e*PP PP 18 22 00.7 +3.8
POLO Lamas de Olo 164.28 34 *e*LR LR 19 15 25.7
comp=Z,81μm,20.0s
OG26 St.-Nazaire-De 164.30 356 PKP **PKPdf 18 17 17.3 +0.2**
PVRL Vila Real 164.39 35 *e*PKPdf **PKPdf 18 17 17.8 +0.6**
PVRL Vila Real 164.39 35 *e*PP PP 18 21 59.3 +1.8
PBRG Braganca 164.44 31 *e*PKPdf **PKPdf 18 17 16.3 -1.0**
PBRG Braganca 164.44 31 *e*PP PP 18 22 01.1 +3.5
PBRG Braganca 164.44 31 *e*LR LR 19 18 57.3
comp=Z,165μm,22.0s
AQU L'Aquila 164.54 333 *e*PKIKP **PKPdf 18 17 15.9 -1.5**
AQU MLR MLR
comp=Z,281μm,22.0s
AQU L'Aquila 164.54 333 *e*PKPdf **PKPdf 18 17 15.9 -1.5**
AQU *e*PKPab **PKPab 18 18 13.3 +1.0**
AQU LR LR
comp=Z,281μm,22.0s
PVIS Viseu 164.71 36 *e*PKPdf **PKPdf 18 17 18.0 +0.4**
PVIS Viseu 164.71 36 *e*PP PP 18 22 00.1 +0.9
LUCF Luceram 164.78 351 PKP **PKPdf 18 17 16.7 -0.9**
MVIF Mont Vial 164.80 351 PKP **PKPdf 18 17 17.0 -0.7**
MVO Moncorvo 164.81 33 *e*PKPdf **PKPdf 18 17 17.9 +0.2**
MVO Moncorvo 164.81 33 *e*PP PP 18 22 00.5 +0.9
MVO Moncorvo 164.81 33 *e*SS SS 18 42 36.6 +6.0
MVO Moncorvo 164.81 33 *e*LR LR 19 15 36.3
comp=Z,140μm,20.0s
PCAS Casmilo, Conde 164.86 39 *e*PKPdf **PKPdf 18 17 18.0 +0.4**
PCAS Casmilo, Conde 164.86 39 *e*PP PP 18 22 01.3 +1.3
PCAS Casmilo, Conde 164.86 39 *e*LR LR 19 17 19.4
comp=Z,198μm,20.0s
REVF Revere 164.92 350 PKP **PKPdf 18 17 16.7 -0.9**
OSSF Osses 165.05 15 PKP **PKPdf 18 17 17.3 -0.4**
PMAFR Mafra 165.12 44 *e*PKPdf **PKPdf 18 17 18.9 +1.0**
PMAFR Mafra 165.12 44 *e*PP PP 18 22 05.2 +3.6
PMAFR Mafra 165.12 44 *e*LR LR 19 17 16.8
comp=Z,157μm,20.0s
MTE Manteigas 165.12 36 *e*PKPdf **PKPdf 18 17 18.3 +0.4**
MTE Manteigas 165.12 36 *e*PP PP 18 22 04.8 +3.4
MTE Manteigas 165.12 36 *e*SS SS 18 42 36.8 +2.8
MTE Manteigas 165.12 36 *e*LR LR 19 15 40.7
comp=Z,150μm,22.0s
MTE Manteigas 165.12 36 *e*PKPdf **PKPdf 18 17 17.6 -0.3**
MTE *e*PKPab **PKPab 18 18 14.5 -0.5**
MTE LR LR
comp=Z,153μm,21.0s
ORDF Ordiarp 165.16 14 PKP **PKPdf 18 17 17.7 -0.1**
PTOM Tomar 165.20 40 *e*PKPdf **PKPdf 18 17 18.7 +0.8**
CUC Castrocucco 165.24 322 *e*PKPdf **PKPdf 18 17 15.7 -2.3**
CUC LR LR
comp=Z,71μm,20.0s
PMST Lisbon--Monsan 165.31 45 *e*PKPdf **PKPdf 18 17 18.9 +0.9**
PMST Lisbon--Monsan 165.31 45 *e*PP PP 18 22 05.7 +3.1
LARF Larrau 165.32 14 PKP **PKPdf 18 17 18.5 +0.5**
ATE Arette 165.33 14 PKP **PKPdf 18 17 17.8 -0.2**
LIS Lisbon 165.35 45 *e*P **PKPdf 18 17 17.5 -0.6**
LIS *e*PP **PP 18 22 03.5 +0.8**
LIS AMS AMS 19 23 60.0
comp=Z,143μm,21.3s
LIS Lisbon 165.35 45 *e*PKPdf **PKPdf 18 17 19.0 +0.9**
LIS Lisbon 165.35 45 *e*PP PP 18 22 04.4 +1.7
LIS Lisbon 165.35 45 *e*PKIKP **PKPdf 18 17 17.5 -0.6**
LIS *e* 18 22 03.5
REYF Montagne du Re 165.41 13 PKP **PKPdf 18 17 18.4 +0.3**
LABF Labassere 165.52 11 PKP **PKPdf 18 17 18.2 0.0**
PCBR Castelo Branco 165.56 38 *e*PKPdf **PKPdf 18 17 18.6 +0.4**
PCBR Castelo Branco 165.56 38 *e*PP PP 18 22 04.3 +0.7
VIEF Viey 165.67 12 PKP **PKPdf 18 17 17.9 -0.4**
PMTG Montargil 165.68 42 *e*PKPdf **PKPdf 18 17 18.0 -0.3**
PMTG Montargil 165.68 42 *e*PP PP 18 22 07.8 +3.5
PMTG Montargil 165.68 42 *e*LR LR 19 14 59.6
comp=Z,138μm,22.0s
RESF Ens 165.80 11 PKP **PKPdf 18 17 19.0 +0.5**
PMRV Marv??o 165.90 39 *e*PKPdf **PKPdf 18 17 18.7 +0.1**
PMRV Marv??o 165.90 39 *e*PP PP 18 22 09.1 +3.6
PMRV Marv??o 165.90 39 *e*SS SS 18 42 49.4 +7.5
PMRV Marv??o 165.90 39 *e*LR LR 19 15 06.2
comp=Z,198μm,22.0s
LRDF Laroque-de-Fa 165.93 4 PKP **PKPdf 18 17 18.2 -0.2**
SALF Salau 165.97 8 PKP **PKPdf 18 17 18.5 -0.1**
PNCL Nicolau / Gran 166.10 45 *e*PKPdf **PKPdf 18 17 19.5 +0.8**
PNCL Nicolau / Gran 166.10 45 *e*PP PP 18 22 12.0 +5.3
PNCL Nicolau / Gran 166.10 45 *e*LR LR 19 17 03.9
comp=Z,137μm,22.0s
CARF Carcanieres 166.11 6 PKP **PKPdf 18 17 18.2 -0.5**
EVO Evora 166.15 43 *e*PKPdf **PKPdf 18 17 19.4 +0.7**
EVO Evora 166.15 43 *e*PP PP 18 22 10.5 +3.6
PESTR Estremoz 166.18 41 *e*PKPdf **PKPdf 18 17 19.2 +0.4**
PESTR Estremoz 166.18 41 *e*PP PP 18 22 09.5 +2.5
PESTR Estremoz 166.18 41 *e*LR LR 19 15 12.5
comp=Z,133μm,18.0s
CEL Celeste 166.36 316 PFAKE 18 17 30.0 +11
CEL LR LR
comp=Z,101μm,21.0s
SJAF Saint Jean de 166.40 3 PKP **PKPdf 18 17 18.5 -0.3**
VALF Valcebollere 166.42 6 PKP **PKPdf 18 17 19.1 0.0**
PFVI Vila Bisbo 166.48 49 *e*PKPdf **PKPdf 18 17 19.8 +0.8**
PFVI Vila Bisbo 166.48 49 *e*PP PP 18 22 14.4 +5.6
PFVI Vila Bisbo 166.48 49 *e*LR LR 19 16 09.8
comp=Z,161μm,22.0s
PFVI Vila Bisbo 166.48 49 *e*PKPdf **PKPdf 18 17 19.6 +0.5**
MORF Marmelete 166.50 48 *e*P **PKPdf 18 17 18.5 -0.7**
MORF *e*PP **PP 18 22 09.5 +0.6**
MORF AMS AMS 19 22 04.0
comp=Z,124μm,21.9s
MORF Marmelete 166.50 48 *e*PKPdf **PKPdf 18 17 19.9 +0.8**
MORF Marmelete 166.50 48 *e*LR LR 19 16 28.3
comp=Z,123μm,22.0s
MORF Marmelete 166.50 48 *e*PKIKP **PKPdf 18 17 18.4 -0.7**
MORF *e* 18 22 09.5
PBEJ Beja 166.57 44 *e*PKPdf **PKPdf 18 17 19.8 +0.7**
PBEJ Beja 166.57 44 *e*PP PP 18 22 10.4 +1.4
PCVE Castro Verde 166.70 46 *e*PKPdf **PKPdf 18 17 20.1 +0.9**
PCVE Castro Verde 166.70 46 *e*PP PP 18 22 10.5 +0.7
PCVE Castro Verde 166.70 46 *e*LR LR 19 17 00.0
comp=Z,143μm,22.0s
PBAR Barrancos 166.96 42 *e*PKPdf **PKPdf 18 17 20.3 +0.9**
PBAR Barrancos 166.96 42 *e*PP PP 18 22 13.3 +2.3
PBAR Barrancos 166.96 42 *e*LR LR 19 14 59.4
comp=Z,414μm,20.0s
PBDV Barranco-do-Ve 167.00 47 *e*PKPdf **PKPdf 18 17 20.7 +1.2**
PBDV Barranco-do-Ve 167.00 47 *e*PP PP 18 22 13.0 +1.6
PBDV Barranco-do-Ve 167.00 47 *e*LR LR 19 17 14.1
comp=Z,142μm,22.0s
PVAQ Vaqueiros 167.04 46 *e*PKPdf **PKPdf 18 17 20.4 +0.9**
**PVAQ Vaquei

WDD	**Wied Dalam**	**168.70**	**311**	*e*PKPdf	**PKPdf**	**18 17 19.2**	**-1.4**
WDD				*e*PKPab	**PKPab**	**18 18 30.6**	**-0.2**
WDD				LR	LR		
	comp=Z,185μm,21.0s						
RTC	**Rabat Centre**	**169.45**	**58**	PFAKE		18 17 30.0	+8.8
RTC				LR	LR		
	comp=Z,665μm,21.0s						
MDT	**Midelt**	**171.65**	**60**	PKP	**PKPdf**	**18 17 23.4**	**+0.8**
	comp=Z,146nm,1.1s,baz=294,slow=0.3,SNR=131						
CMAH	**Djebel Manchou**	**171.75**	**340**	P	**PKPdf**	**18 17 21.3**	**-1.2**
CAEH	**ʿAin El Ouahch**	**171.76**	**344**	P	**PKPdf**	**18 17 21.7**	**-0.7**
KEST	**Kesra**	**171.79**	**328**	PKP	**PKPdf**	**18 17 22.6**	**+0.1**
	comp=Z,80nm,1.0s,baz=145,slow=1.4,SNR=29						
KEST	**Kesra**	**171.79**	**328**	*e*PKPdf	**PKPdf**	**18 17 22.1**	**-0.5**
KEST				*e*PKPab	**PKPab**	**18 18 41.4**	**-3.2**
ABSA	**Djebel Ababsia**	**172.06**	**339**	P	**PKPdf**	**18 17 21.9**	**-0.8**
ABA	**Alger-Bouzarea**	**172.06**	**5**	P	**PKPdf**	**18 17 22.8**	**+0.3**
CKFL	**Kef-Lekhel**	**172.15**	**344**	P	**PKPdf**	**18 17 22.0**	**-0.7**
USTO	**Oran**	**172.17**	**28**	P	**PKPdf**	**18 17 26.0**	**+3.5**
EBNR	**Beni Rached**	**172.33**	**15**	P	**PKPdf**	**18 17 23.8**	**+1.1**
OKGL	**Djebel Kef Gue**	**172.33**	**21**	P	**PKPdf**	**18 17 27.0**	**+4.3**
CASM	**Aïn Smara**	**172.34**	**345**	P	**PKPdf**	**18 17 22.3**	**-0.4**
ECHA	**Ech Chlef**	**172.43**	**16**	P	**PKPdf**	**18 17 23.9**	**+1.3**
OTSS	**Djebel Tessala**	**172.45**	**31**	P	**PKPdf**	**18 17 24.0**	**+1.1**
EANR	**ʿAin N'Sour**	**172.55**	**18**	P	**PKPdf**	**18 17 24.2**	**+1.4**
CTEI	**Djebel Teioual**	**172.55**	**345**	P	**PKPdf**	**18 17 22.7**	**-0.2**
SET	**Setif**	**172.60**	**351**	P	**PKPdf**	**18 17 23.0**	**+0.1**
OJBR	**Djebel Berber**	**172.65**	**24**	P	**PKPdf**	**18 17 25.0**	**+2.1**
EMHD	**Djebel Mahouad**	**172.65**	**6**	P	**PKPdf**	**18 17 23.5**	**+0.5**
CKHR	**Kef el Ahmar**	**172.77**	**350**	P	**PKPdf**	**18 17 23.3**	**+0.3**
OJGS	**Djebel Guires**	**172.86**	**22**	P	**PKPdf**	**18 17 25.0**	**+2.0**
ATAF	**Djebel Tarf**	**173.02**	**358**	P	**PKPdf**	**18 17 24.6**	**+1.5**
TAM	**Tamanrasset**	**173.78**	**193**	*e*PKIKP	**PKPdf**	**18 17 23.9**	**+0.1**
TAM				*e*		18 18 51.6	
TAM				MLR	MLR		
	comp=Z,139μm,20.0s						
TAM	**Tamanrasset**	**173.78**	**193**	*e*PKPdf	**PKPdf**	**18 17 23.9**	**+0.1**
TAM				*e*PKPab	**PKPab**	**18 18 51.6**	**-2.1**
TAM				LR	LR		
	comp=Z,139μm,20.0s						

*MEX **21** 18:02:50.0±0.4, 30.°54N×114.°46W, h25km±134km, MD3.4*
*ECX **21** 18:03:01.6±0.4, 31.°48N×115.°50W, h6km, MD1.8, ML2.1*

ISC 21 18:02:53.8±3.4, 31.°0N±0.°1×114.°7W±0.°1, h10km, n5, σ0°64/9, 3C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.58**	**328**	*e*P	**Pn**	**18 03 08.7**	**+0.6**
ECBX				*e*S	**Sb**	**18 03 13.9**	**-0.3**
ECBX				IAML		18 03 14.3	
	comp=N,127nm,0.1s						
ECBX			⇑	*e*		18 03 14.3	
ECBX				IAML		18 03 14.4	
	comp=E,128nm,0.1s						
ECBX			⇑	*e*		18 03 14.4	
SPX	**San Pedro Mart**	**0.67**	**276**	*e*P	**Pn**	**18 03 10.0**	**+0.4**
SPX				*e*S	**Sg**	**18 03 15.7**	**+0.2**
SPIG	**San Pedro Mart**	**0.67**	**276**	*e*P	**Pg**	**18 03 06.0**	**-0.8**
SPIG				*e*S	**Sg**	**18 03 15.4**	**-0.2**
SPIG				*e*S	**Sb**	**18 03 18.2**	**+1.0**
SPIG	**San Pedro Mart**	**0.67**	**276**	*e*P	**Pn**	**18 03 09.7**	**+0.1**
SPIG				*e*S	**Sg**	**18 03 15.7**	**+0.1**
CGIG		**5.82**	**94**	*e*P	Pn	18 04 10.7	-10
CGIG				*e*S	Sn	18 04 42.3	-45
CGIG				*e*S	Sb	18 05 12.9	-32

*NEIC **21** 18:02:56.5±0.0, 19.°13N×67.°67W, h10km, MD3.4(RSPR), After RSPR.*

RSPR 21 18:02:56.5, 19.°13N×67.°67W, h10km±10km, MD3.4/5, 6C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.76**	**166**	*e*S	Sg	18 03 20.0	-1.2
IDE	**Isla Desecheo**	**0.76**	**166**	⇓*e*P	Pg	18 03 08.7	-2.6
IDE	**Isla Desecheo**	**0.76**	**166**	*e*Pg	Pg	18 03 08.5	-2.8
IDE				*e*Sn	Sg	18 03 19.6	-1.6
AGPR	**Aguadilla, PR**	**0.85**	**141**	⇓*e*P	Pg	18 03 10.8	-2.0
AGPR	**Aguadilla, PR**	**0.85**	**141**	⇓*e*P	Pg	18 03 10.8	-2.0
AGP	**Aguadilla**	**0.88**	**145**	*e*Pg	Pg	18 03 10.7	-2.8
AGP				*e*Sg	Sg	18 03 21.9	-3.1
MPR	**Mayaguez**	**1.04**	**151**	*e*Pg	Pg	18 03 13.7	-3.0
MPR				*e*Sg	Sb	18 03 30.6	+0.2
IMPR	**Mona Island, P**	**1.07**	**193**	*e*S	Sg	18 03 28.5	-2.7
LSP	**Las Mesas**	**1.10**	**149**	⇑*e*P	Pb	18 03 14.9	-2.8
LSP	**Las Mesas**	**1.10**	**149**	*e*Pn	Pb	18 03 14.9	-2.8
AOPR	**Arecibo Observ**	**1.17**	**132**	⇓*e*P	Pb	18 03 15.5	-3.3
AOPR	**Arecibo Observ**	**1.17**	**132**	*e*Pn	Pb	18 03 15.5	-3.3
CRPR	**Cabo Rojo, PR**	**1.24**	**154**	⇑*e*P	Pn	18 03 17.5	-2.3
CRPR	**Cabo Rojo, PR**	**1.24**	**154**	*e*Pn	Pn	18 03 17.5	-2.3
CELP	**Cerrillos**	**1.48**	**135**	⇑*e*P	Pn	18 03 20.1	-3.1
CELP	**Cerrillos**	**1.48**	**135**	*e*Pn	Pn	18 03 20.1	-3.1
CELP				*e*Sn	Sn	18 03 40.7	-1.8
OBIP	**Obispado Ponce**	**1.48**	**137**	⇓*e*P	Pn	18 03 20.7	-2.5
DR12	**Loma Pena Alta**	**1.65**	**258**	⇑*e*P	Pn	18 03 21.8	-3.8
DR12				*e*S	Sn	18 03 43.2	-3.7
DR12	**Loma Pena Alta**	**1.65**	**258**	*e*Pn	Pn	18 03 21.8	-3.8
SJG	**San Juan**	**1.77**	**125**	⇑*e*P	Pn	18 03 24.6	-2.5
SJG	**San Juan**	**1.77**	**125**	*e*Pn	Pn	18 03 23.7	-3.4
SJG				*e*Sn	Sn	18 03 46.3	-3.3
CBYP	**Canovanas**	**1.92**	**116**	⇑*e*P	Pn	18 03 26.0	-3.3
CBYP	**Canovanas**	**1.92**	**116**	*e*Pn	Pn	18 03 26.0	-3.3
CBYP				*e*Sn	Sn	18 03 52.7	-1.0
STVI	**Saint Thomas**	**2.69**	**106**	*e*Pn	Pn	18 03 36.2	-3.6
STVI				*e*Sn	Sn	18 04 07.8	-4.8
ABVI	**Anegada Island**	**3.19**	**97**	*e*Pn	Pn	18 03 41.2	-5.5
SDDR	**Presa de Saban**	**3.42**	**268**	*e*Pn	Pn	18 03 48.6	-1.4
SDDR				*e*Sn	Sb	18 04 39.7	+0.7

*SCB **21** 18:33:57.4±0.5, 15.°44S×70.°02W, h200km, Ml3.6/1, Error ellipse: s-maj=21.1km s-min=14.2km az=18.0*
*IDC **21** 18:34:00.7±1.2, 15.°87S×70.°03W, h229km±10km, mb3.4/1, mb1 3.6/4, mb1mx3.2/38, mbtmp4.2/4, Error ellipse: s-maj=21.2km s-min=18.3km az=107.0*
*ISCJB **21** 18:34:01.8±1.0, 15.°92S±0.°08×70.°29W±0.°08, h200km, mb3.5/1, Error ellipse: s-maj=11.9km s-min=10.1km az=17.0*

ISC 21 18:34:00.3±1.0, 15.°80S±0.°09×70.°23W±0.°09, h200km, n11, σ2°22/16, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**1.77**	**118**	*e*Pn	**Pn**	**18 34 38.6**	**+1.5**
BBOD				*e*Sn	**Sn**	**18 35 09.1**	**+3.4**
BBOB	**La Paz, Bander**	**2.05**	**100**	⇑*i*Pn	**Pn**	**18 34 40.5**	**+0.7**
BBOB				*e*Sn	**Sn**	**18 35 11.7**	**+1.2**
	90nm,0.3s						
LPAZ	**La Paz**	**2.08**	**104**	P	**Pn**	**18 34 41.2**	**+1.0**
	32nm,0.3s,baz=295,slow=7.5,SNR=736						
LPAZ				S	**Sn**	**18 35 12.7**	**+1.5**
	7.4nm,0.3s,baz=197,slow=24,SNR=16						
LPAZ	**La Paz**	**2.08**	**104**	*e*Pn	**Pn**	**18 34 41.0**	**+0.8**
LPAZ				*e*Sn	**Sn**	**18 35 11.8**	**+0.6**
BBOJ	**La Paz, Jacaqu**	**2.28**	**121**	*e*Pn	**Pn**	**18 34 44.7**	**+2.4**
BBOE	**La Paz, Chanca**	**2.38**	**115**	*e*Pn	**Pn**	**18 34 45.5**	**+2.1**
LVC	**Limon Verde**	**6.88**	**170**	P	**Pn**	**18 35 40.5**	**+1.1**
	44nm,0.3s,baz=340,slow=9.7,SNR=12						
LVC				S	**Sn**	**18 36 55.6**	**-2.3**
	92nm,0.3s,baz=89,slow=22,SNR=11						
NNA	**Nana**	**7.46**	**300**	P	**Pn**	**18 35 48.8**	**+2.3**
	3.0nm,0.3s,baz=136,slow=15,SNR=5.1						
PTGA	**Pitinga**	**18.08**	**35**	P	**P**	**18 37 54.9**	**-2.3**
	0.7nm,0.3s,baz=204,slow=19,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.72**	**72**	P	**P**	**18 45 25.8**	**-4.2**
	0.8nm,0.6s,baz=266,slow=4.9,SNR=6.4						
SONM	**Songino Array**	**147.94**	**4**	PKPbc	**PKPdf**	**18 53 19.2**	**+0.4**
	0.3nm,0.5s,baz=345,slow=2.2,SNR=3.5						

*ISCJB **21** 18:34:05.4±0.7, 32.°22N±0.°07×138.°0E±0.°1, h400km, mb3.1/4, Error ellipse: s-maj=12.2km s-min=8.7km az=159.0*
*IDC **21** 18:34:05.4±0.9, 32.°11N×138.°20E, h410km±17km, mb2.9/4, mb1 3.0/6, mb1mx2.8/44, mbtmp3.7/6, Error ellipse: s-maj=48.0km s-min=18.1km az=66.0*
*JMA **21** 18:34:06.4±0.3, 32.°34N×138.°43E, h415km±3km, M3.6*

ISC 21 18:34:05.3±0.8, 32.°22N±0.°08×138.°2E±0.°1, h400km, n16, σ1°91/20, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.64**	**56**	P	**Pn**	**18 35 00.3**	**+1.1**
	25nm,0.3s,baz=98,slow=22,SNR=8.0						
JHJ				S	**S**	**18 35 45.3**	**+2.6**
	12nm,0.3s,baz=270,slow=20,SNR=3.2						
JHJ2	**Mitsune**	**1.66**	**57**	P	**Pn**	**18 35 00.9**	**+1.7**
JOD2	**Odawara 2**	**3.14**	**14**	P	**Pn**	**18 35 11.0**	**+1.4**
JYN	**Shimob**	**3.29**	**6**	P	**Pn**	**18 35 12.6**	**+1.7**
BSO1	**Boso 1**	**3.39**	**43**	*e*S	**S**	**18 36 03.9**	**-0.6**
JRY	**Ryogami san**	**3.84**	**9**	P	**Pn**	**18 35 17.1**	**+1.3**
JRY				*e*S	**S**	**18 36 13.0**	**-0.1**
MJAR	**Matsushiro Arr**	**4.31**	**1**	P	**Pn**	**18 35 21.4**	**+1.0**
	2.4nm,0.3s,baz=168,slow=10,SNR=24						
MAT	**Matsushiro**	**4.32**	**1**	P	**Pn**	**18 35 21.7**	**+1.4**
MAT				S	**S**	**18 36 15.6**	**-5.7**
JAG	**Ashikaga**	**4.33**	**14**	P	**Pn**	**18 35 21.0**	**+0.5**
JAG				*e*S	**S**	**18 36 20.2**	**-1.4**
CBIJ	**Chichi jima**	**6.19**	**144**	*e*S	**S**	**18 36 56.7**	**-0.7**
JMK	**Ichinoseki**	**7.17**	**20**	P	**P**	**18 35 51.4**	**+0.1**
KSRS	**Korea Array**	**9.90**	**305**	P	**P**	**18 36 23.5**	**+1.9**
	0.3nm,0.3s,baz=123,slow=10.0,SNR=6.1						
SONM	**Songino Array**	**28.64**	**312**	P	**P**	**18 39 27.1**	**0.0**
	0.4nm,0.6s,baz=112,slow=9.5,SNR=2.7						
MKAR	**Makanchi Array**	**44.58**	**306**	P	**P**	**18 41 39.2**	**-0.4**
	0.4nm,0.7s,baz=78,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**51.99**	**185**	P	**P**	**18 42 34.0**	**-1.6**
	0.9nm,0.8s,baz=1.8,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**71.81**	**332**	P	**P**	**18 44 45.3**	**0.0**
	0.8nm,0.4s,baz=50,slow=4.3,SNR=8.8						

IDC 21 18:34:46.8±2.5, 28.°11S×177.°65W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/22, mbtmp3.9/3, Error ellipse: s-maj=52.3km s-min=22.8km az=84.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**192**	Pn	Pb	18 35 09.7	-0.1
	350nm,0.3s,baz=88,slow=9.0,SNR=24						
RAO				Sn	Sn	18 35 29.7	+2.8
	730nm,0.3s,baz=60,slow=19,SNR=15						
STKA	**Stephens Creek**	**35.35**	**254**	P	P	18 41 43.5	-0.6
	2.3nm,1.0s,baz=101,slow=5.2,SNR=2.3						
ASAR	**Alice Springs**	**43.59**	**264**	P	P	18 42 52.8	-0.2
	1.0nm,0.6s,baz=100,slow=7.1,SNR=28						
WRA	**Warramunga Arr**	**44.37**	**270**	P	P	18 42 59.5	+0.2
	1.1nm,0.6s,baz=110,slow=8.1,SNR=10						
AKASG	**Malin Array Be**	**149.63**	**325**	PKPbc	PKPbc	18 54 37.8	-0.2
	0.8nm,0.6s,baz=32,slow=2.2,SNR=3.6						

*IDC **21** 18:52:46.2±1.5, 28.°31S×176.°15W, h46km±9km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.8/4, Error ellipse: s-maj=47.0km s-min=14.1km az=144.0*

ISC 21 18:52:44.6±1.1, 28.°3S±0.°3×176.°1W±0.°2, h36km, n11, σ1°19/14, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.88**	**241**	P	**Pn**	**18 53 14.8**	**+0.7**
	70nm,0.3s,baz=78,slow=20,SNR=4.4						
RAO				S	**Sn**	**18 53 37.5**	**+0.9**
	202nm,0.3s,baz=86,slow=22,SNR=4.2						
URZ	**Urewera**	**11.43**	**208**	S	Sn	18 57 18.2	-13
	2.1nm,0.3s,baz=236,slow=22,SNR=7.4						
STKA	**Stephens Creek**	**36.65**	**254**	P	**P**	**18 59 47.1**	**-0.7**
	0.8nm,0.6s,baz=109,slow=15,SNR=4.8						
STKA				pP	**sP**	**19 00 00.5**	**-2.0**
	1.0nm,0.6s,baz=73,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**44.97**	**264**	P	**P**	**19 00 55.5**	**-1.0**
	0.6nm,0.5s,baz=104,slow=6.8,SNR=8.4						
ASAR				pP	**pP**	**19 01 08.8**	**+1.7**
	0.9nm,0.6s,baz=104,slow=6.6,SNR=4.8						
WRA	**Warramunga Arr**	**45.78**	**269**	P	**P**	**19 01 02.1**	**-0.8**
	1.6nm,0.5s,baz=108,slow=7.8,SNR=17						
WRA				pP	**pP**	**19 01 14.7**	**+1.1**
	1.0nm,0.5s,baz=108,slow=7.9,SNR=4.8						
TXAR	**Lajitas Array**	**89.84**	**56**	P	**P**	**19 05 41.0**	**+1.1**
	0.3nm,0.7s,baz=206,slow=6.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**120.89**	**314**	PKP	**PKPdf**	**19 11 32.9**	**+0.2**
	0.5nm,0.7s,baz=107,slow=2.2,SNR=6.1						
BVAR	**Borovoye Array**	**126.10**	**317**	PKP	**PKPdf**	**19 11 42.8**	**+0.2**
	0.3nm,0.6s,baz=8.5,slow=2.9,SNR=2.5						
FINES	**FINESS Array B**	**143.76**	**342**	PKP	**PKPdf**	**19 12 14.1**	**-1.0**
	2.1nm,0.6s,baz=50,slow=2.4,SNR=14						
AKASG	**Malin Array Be**	**150.62**	**326**	PKPbc	**PKPbc**	**19 12 33.2**	**+0.9**
	1.5nm,0.5s,baz=41,slow=2.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**164.74**	**172**	PKPab	**PKPab**	**19 13 39.9**	**-0.9**
	1.1nm,0.9s,baz=186,slow=3.4,SNR=5.3						

*MOS **21** 18:54:10.5±1.1, 51.°97N×143.°17E, h10km, mb3.9/1, Error ellipse: s-maj=26.4km s-min=12.6km az=91.9*
MOS Felt (II-III) at Nogliki.
*ISCJB **21** 18:54:11.1±0.8, 51.°93N±0.°04×143.°02E±0.°08, h11km, Error ellipse: s-maj=8.2km s-min=4.6km az=150.9*
*SKHL **21** 18:54:13.2±0.6, 51.°16N×141.°54E, h10km, mb3.6/2*

ISC 21 18:54:13.5±0.9, 51.°85N±0.°05×143.°11E±0.°07, h11km, n12, σ1°56/14, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.03**	**196**	*e*PN	**Pg**	**18 54 32.9**	**-0.3**
TYV				*e*S	**Sg**	**18 54 45.7**	**-0.8**
TYV				smax	smax		
	comp=Z,190nm,0.3s						
TYV	**Tymovskoe**	**1.03**	**196**	*e*Pg	**Pb**	**18 54 33.2**	**0.0**
TYV				AMB	AMB	18 54 33.7	
	comp=Z,35nm,0.3s						
TYV				*e*Sg	**Sb**	**18 54 46.8**	**+0.1**
TYV				A	A	18 54 49.1	
	comp=Z,191nm,0.2s						
NKL	**Nikolayevsk**	**1.98**	**312**	*e*PN	**Pb**	**18 54 49.0**	**-0.5**
NKL				*e*		18 55 14.5	
NKL	**Nikolayevsk**	**1.98**	**312**	*e*Pg	**Pb**	**18 54 49.0**	**-0.5**
NKL				AMB	AMB	18 54 50.5	
	comp=Z,11nm,0.2s						
NKL				*e*Sg	**Sb**	**18 55 14.5**	**+0.4**
NKL				A	A	18 55 16.7	
	comp=Z,30nm,0.4s						
UGL	**Uglegorsk**	**2.85**	**194**	*e*PN	**Pn**	**18 54 59.8**	**+0.9**
UGL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.90**	**183**	*e*PN	**Pn**	**18 55 28.7**	**+1.6**
EKMR	**Ekimchan**	**6.33**	**285**	*e*Sg	**Sg**	**18 57 39.0**	**+2.4**
EKMR				A	A	18 57 40.0	
	comp=Z,6.0nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**8.03**	**166**	*e*PN	**Pn**	**18 56 09.9**	**-0.1**
SKR	**Severo-Kuril's**	**8.24**	**93**	*e*PN	**Pn**	**18 56 15.3**	**+2.5**
HIA	**Hailar**	**15.06**	**269**	*e*P	**Pn**	**18 57 44.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FFC	**Flin Flon**	**60.84**	**37**	*i* P	**P**	**19 04 22.8**	**-2.5**
ESK	**Eskdalemuir**	**69.61**	**340**	*i* P	P	19 05 15.1	-7.1

IDC 21 19:13:55.0±4.9, 28.°09S×176.°66W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/23, mbtmp3.6/2, Error ellipse: s-maj=107.4km s-min=34.5km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.60**	**223**	Pn	Pn	19 14 24.9	+0.3
	251nm,0.3s,baz=85,slow=11,SNR=22						
RAO				Sn	Sn	19 14 45.2	-0.8
	571nm,0.3s,baz=74,slow=22,SNR=11						
ASAR	**Alice Springs**	**44.46**	**264**	P	P	19 22 08.3	+0.1
	0.4nm,0.5s,baz=99,slow=7.0,SNR=7.7						
WRA	**Warramunga Arr**	**45.24**	**269**	P	P	19 22 14.4	0.0
	0.4nm,0.3s,baz=109,slow=8.0,SNR=6.3						
FINES	**FINESS Array B**	**143.35**	**342**	PKP	PKPbc	19 33 28.8	+1.0
	2.3nm,0.9s,baz=29,slow=3.2,SNR=5.5						

*NNC **21** 19:39:41.7±15.0, 38.°55N×72.°87E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=130.2km s-min=41.1km az=133.0*
*KRNET **21** 19:39:58.7±0.1, 39.°31N×71.°76E, mb2.5*

ISC 21 19:39:56.4±2.3, 38.°8N±0.°1×71.°53E±0.°08, h31km, n10, σ1°88/20, 12C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.36**	**336**	⇓*i*P	**Pn**	**19 40 19.3**	**0.0**
	baz=316						
BTK				⇓*i*S	**Sn**	**19 40 34.1**	**-2.2**
	baz=316						
DZET	**Dzherino**	**2.11**	**271**	⇓Pn	**Pn**	**19 40 29.1**	**-0.5**
	0.8nm,0.2s						
DZET				⇑Sn	Sb	19 41 14.9	+15
	23nm,0.6s						
ARSB	**Arslanbob**	**2.74**	**24**	⇑*i*P	**Pn**	**19 40 39.0**	**+0.6**
	baz=24						
ARSB				⇑*i*S	**Sn**	**19 41 08.6**	**-2.0**
	baz=24						
ARK	**Arkit**	**3.00**	**6**	⇑*i*P	**Pn**	**19 40 42.5**	**+0.6**
	baz=4.0						
ARK				⇑*i*S	**Sn**	**19 41 15.0**	**-1.8**
	baz=4.0						
TOKL	**Toktogul**	**3.29**	**18**	⇓*i*P	**Pn**	**19 40 46.3**	**+0.5**
	baz=18						
TOKL				⇓*i*S	**Sn**	**19 41 21.6**	**-2.2**
	baz=18						
AML	**Almayashu**	**3.70**	**26**	⇑*i*P	**Pn**	**19 40 52.3**	**+0.5**
	baz=27						
AML				⇑*i*S	**Sn**	**19 41 31.4**	**-3.1**
	baz=27						
ARLS	**Aral**	**3.72**	**34**	⇑*i*P	**Pn**	**19 40 52.7**	**+0.9**
	baz=37						
ARLS				⇑*i*S	**Sn**	**19 41 32.6**	**-2.0**
	baz=37						
MNAS	**Manas**	**3.74**	**11**	⇑*i*P	**Pn**	**19 40 52.9**	**+0.8**
	baz=10.0						
MNAS				⇑*i*S	**Sn**	**19 41 32.8**	**-2.4**
	baz=10.0						
MNAS	**Manas**	**3.74**	**11**	⇓Pg	**Pn**	**19 40 53.4**	**+1.3**
	4.6nm,1.1s						
MNAS				⇓Sn	**Sn**	**19 41 31.9**	**-3.3**
	0.9nm,0.3s						
KK31	**Karatay Array**	**4.35**	**350**	⇓Pn	**Pn**	**19 40 59.7**	**-0.6**
	0.4nm,0.3s,baz=158,slow=12,SNR=7.7						
KK31				⇑Pg	**Pb**	**19 41 14.3**	**+2.2**
	1.0nm,0.5s,baz=165,slow=18,SNR=12						
KK31				⇓Sn	**Sn**	**19 41 51.7**	**+1.7**
	0.7nm,0.3s,baz=170,slow=23,SNR=5.8						

*ISCJB **21** 19:41:21.4±0.9, 29.°57S±0.°06×176.°0W±0.°1, h28km, mb4.2/10, Error ellipse: s-maj=12.8km s-min=8.4km az=166.2*
*NEIC **21** 19:41:23.9±0.9, 29.°54S×176.°01W, h35km, mb4.7/14, Error ellipse: s-maj=14.3km s-min=11.4km az=77.0*
*IDC **21** 19:41:26.1±3.5, 29.°50S×176.°06W, h49km±26km, mb3.8/6, mb1 4.0/7, mb1mx3.7/32, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=30.9km s-min=23.5km az=40.0*

ISC 21 19:41:23.5±1.1, 29.°50S±0.°09×176.°0W±0.°1, h28km, n29, σ1°30/32, mb4.3/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.68**	**278**	P	**Pn**	**19 41 51.5**	**+0.5**
	378nm,0.3s,baz=108,slow=20,SNR=25						
RAO				S	**Sn**	**19 42 12.8**	**+1.1**
	244nm,0.3s,baz=270,slow=20,SNR=5.3						
URZ	**Urewera**	**10.44**	**211**	P	**Pn**	**19 43 52.7**	**+1.4**
	0.7nm,0.3s,baz=84,slow=19,SNR=5.7						
URZ				S	**Sn**	**19 45 47.9**	**+0.6**
	3.3nm,0.3s,baz=65,slow=23,SNR=14						
URZ	**Urewera**	**10.44**	**211**	*e*Pn	**Pn**	**19 43 48.2**	**-3.1**
URZ				*e*Sn	**Sn**	**19 45 47.9**	**+0.6**
OUZ	**Omahuta**	**10.48**	**234**	*e*Pn	**Pn**	**19 43 49.0**	**-2.8**
BKZ	**Black Stump Fm**	**11.46**	**211**	*e*Pn	**Pn**	**19 44 03.5**	**-1.8**
BFZ	**Birch Farm**	**12.83**	**207**	*e*Pn	**Pn**	**19 44 23.9**	**-0.1**
THZ	**Tophouse**	**15.18**	**213**	*e*Pn	**Pn**	**19 44 54.6**	**-1.5**
	84nm,1.5s						
KHZ	**Kahutara**	**15.40**	**210**	*e*Pn	**Pn**	**19 44 57.6**	**-1.3**
	149nm,2.0s						
MQZ	**McQueen's Vall**	**16.83**	**210**	*e*Pn	**Pn**	**19 45 17.3**	**+0.3**
	45nm,1.3s						
DZM	**Mont Dzumac**	**17.43**	**291**	*e*Pn	**Pn**	**19 45 23.9**	**-0.9**
	106nm,1.9s						
RPZ	**Rata Peaks**	**17.55**	**213**	*e*Pn	**Pn**	**19 45 24.8**	**-1.3**
	51nm,1.7s						
FOZ	**Fox Glacier**	**18.02**	**215**	*e*Pn	**Pn**	**19 45 31.2**	**-0.6**
	35nm,1.2s						
ODZ	**Otahua Downs**	**18.77**	**211**	*e*P	**Pn**	**19 45 41.8**	**+0.9**
	43nm,1.7s						
WKZ	**Wanaka**	**19.36**	**214**	*e*P	**Pn**	**19 45 48.3**	**+0.2**
	144nm,1.8s						
MLZ	**Mavora Lakes**	**20.19**	**214**	*e*P	**P**	**19 45 56.5**	**+0.6**
	91nm,2.0s						
CTA	**Charters Tower**	**35.39**	**277**	P	**P**	**19 48 17.6**	**+0.6

DGB	˜zmir	0.91	66	*i* P	Pg	19 45 04.7	-0.9
DGB				*i* S	Sg	19 45 17.4	-0.1
GMLD	Gumuldur	0.95	65	*e*PG	Pn	19 45 07.0	0.0
GMLD	Gumuldur	0.95	65	*e*Pg	Pn	19 45 07.0	0.0
KRBN	Karaburun	1.07	32	*e*PG	Pg	19 45 07.7	-0.9
KRBN	Karaburun	1.07	32	*e*Pg	Pg	19 45 07.7	-0.9
GCAM	G?zelcaml?	1.12	89	*i* P	Pb	19 45 08.4	-0.7
GCAM				*i* S	Sg	19 45 23.7	-0.2
GCAM	G?zelcaml?	1.12	89	P	Pb	19 45 08.4	-0.7
GCAM				S	Sg	19 45 23.7	-0.2
KARY	Karystos	1.16	288	P	Pb	19 45 09.3	-0.5
KARY				S	Sg	19 45 24.9	-0.2
KARY	Karystos	1.16	288	P	Pb	19 45 09.4	-0.4
KARY				S	Sg	19 45 25.0	-0.2
KARY				AML	AML	19 45 26.1	
	comp=E,1224μm,0.3s						
KARY				AML	AML	19 45 27.4	
	comp=N,1326μm,0.2s						
KARY	Karystos	1.16	288	P	Pb	19 45 09.3	-0.5
KARY				S	Sg	19 45 25.0	-0.2
SERI	Serifos	1.19	244	P	Pb	19 45 09.8	-0.6
SERI				S	Sb	19 45 25.1	-0.7
SERI				AML	AML	19 45 27.5	
	comp=E,1874μm,0.3s						
SERI				AML	AML	19 45 27.8	
	comp=N,1780μm,0.5s						
SERI	Serifos	1.19	244	P	Pb	19 45 09.8	-0.6
SERI				S	Sb	19 45 25.1	-0.7
FOCM	Fo˜§a	1.25	34	*e*PN	Pn	19 45 11.0	-0.2
FOCM	Fo˜§a	1.25	34	*e*Pn	Pn	19 45 11.0	-0.2
CMBO	Columbo, Santo	1.25	196	P	Pn	19 45 08.8	-2.4
CMBO	Columbo, Santo	1.25	196	P	Pn	19 45 08.9	-2.4
THR2	Thira island,	1.27	194	P	Pn	19 45 11.1	-0.4
THR2	Thira island,	1.27	194	P	Pn	19 45 11.3	-0.2
THR2	Thira island,	1.27	194	P	Pn	19 45 11.1	-0.4
THR7	Fira-Santorini	1.30	194	P	Pg	19 45 13.8	+0.9
THR7	Fira-Santorini	1.30	194	P	Pg	19 45 13.8	+0.9
THR3	Thira Island,	1.31	195	P	Pn	19 45 12.1	0.0
THR3	Thira Island,	1.31	195	P	Pb	19 45 13.0	+0.5
THR3	Thira Island,	1.31	195	P	Pn	19 45 12.1	0.0
THR5	Thira Island,	1.32	197	P	Pn	19 45 11.4	-0.8
THR5	Thira Island,	1.32	197	P	Pn	19 45 10.3	-1.9
THR5	Thira Island,	1.32	197	P	Pn	19 45 11.4	-0.8
THT1	Athinios (Pele	1.33	194	P	Pn	19 45 12.1	-0.2
THT1	Athinios (Pele	1.33	194	P	Pn	19 45 12.1	-0.2
BODT	Bodrum	1.33	117	*e*PN	Pg	19 45 13.8	+0.2
BODT	Bodrum	1.33	117	P	Pn	19 45 11.3	-1.1
BODT				S	Sn	19 45 30.4	+0.3
BODT	Bodrum	1.33	117	P	Pn	19 45 11.3	-1.1
BODT	Bodrum	1.33	117	*e*Pn	Pg	19 45 13.8	+0.2
BODT				S	Sn	19 45 30.4	+0.3
SANT	Santorini	1.34	193	P	Pn	19 45 12.0	-0.5
SANT				S	Sg	19 45 31.2	+0.1
SANT	Santorini	1.34	193	P	Pn	19 45 11.8	-0.7
SANT				S	Sb	19 45 29.6	-0.6
SANT				AML	AML	19 45 37.2	
	comp=N,771μm,0.3s						
SANT				AML	AML	19 45 37.3	
	comp=E,1220μm,0.4s						
SANT	Santorini	1.34	193	P	Pn	19 45 12.0	-0.5
SANT				S	Sb	19 45 29.6	-0.6
SAP1	Santorini-Akro	1.37	195	P	Pn	19 45 12.4	-0.4
SAP1				AML	AML	19 45 40.9	
	comp=N,2698μm,0.5s						
SAP1				AML	AML	19 45 43.3	
	comp=E,2404μm,0.7s						
SAP1	Santorini-Akro	1.37	195	P	Pn	19 45 12.4	-0.4
THR6	Thira Island,	1.37	195	P	Pn	19 45 12.7	-0.1
THR6	Thira Island,	1.37	195	P	Pn	19 45 12.7	-0.1
THR6	Thira Island,	1.37	195	P	Pn	19 45 12.7	-0.1
BDRM	Kayabasi	1.43	115	*i* P	Pg	19 45 15.1	-0.2
BDRM				*i* S	Sg	19 45 35.0	+1.1
BDRM	Kayabasi	1.43	115	P	Pg	19 45 15.1	-0.2
BDRM				S	Sg	19 45 35.0	+1.1
CAND	Candarli	1.48	31	*e*PN	Pb	19 45 15.2	-0.3
MHLO	Agia Marina, M	1.51	229	P	Pn	19 45 14.0	-0.8
MHLO				S	Sn	19 45 33.8	-0.5
MHLO	Agia Marina, M	1.51	229	P	Pn	19 45 13.6	-1.2
MHLO				S	Sb	19 45 35.5	+0.5
MHLO				AML	AML	19 45 42.2	
	comp=N,2634μm,0.5s						
MHLO				AML	AML	19 45 44.5	
	comp=E,4303μm,0.7s						
MHLO	Agia Marina, M	1.51	229	P	Pn	19 45 14.0	-0.8
MHLO				S	Sn	19 45 33.8	-0.5
NIS1	Nisyros Isl.	1.52	135	*e*PN	Pg	19 45 17.3	+0.1
NIS1	Nisyros Isl.	1.52	135	*e*Pn	Pg	19 45 17.3	+0.1
SIGR	SIGRI	1.53	1	*e*PN	Pn	19 45 14.5	-0.5
SIGR	SIGRI	1.53	1	P	Pn	19 45 13.6	-1.4
SIGR	SIGRI	1.53	1	P	Pn	19 45 12.9	-2.1
SIGR	SIGRI	1.53	1	P	Pn	19 45 13.6	-1.4
SIGR	SIGRI	1.53	1	*e*Pn	Pn	19 45 14.5	-0.5
SKY	Skiros Island	1.56	320	P	Pn	19 45 15.4	-0.1
SKY	Skiros Island	1.56	320	P	Pn	19 45 15.4	-0.1
PTL	Penteli	1.60	284	P	Pn	19 45 15.7	-0.3
PTL				S	Sn	19 45 37.0	+0.4
PTL	Penteli	1.60	284	P	Pn	19 45 15.5	-0.5
PTL				S	Sn	19 45 36.9	+0.4
PTL				AML	AML	19 45 41.3	
	comp=E,967μm,0.6s						
PTL				AML	AML	19 45 43.4	
	comp=N,504μm,0.8s						
PTL	Penteli	1.60	284	P	Pn	19 45 15.7	-0.3
PTL				S	Sn	19 45 36.9	+0.4
MLSB	Milas	1.60	103	*e*PN	Pg	19 45 19.1	+0.5
MLSB	Milas	1.60	103	*e*Pn	Pg	19 45 19.1	+0.5
PRK	Paraskevi	1.60	12	P	Pn	19 45 14.8	-1.2
PRK	Paraskevi	1.60	12	P	Pn	19 45 14.8	-1.2
PRK				S	Sn	19 45 35.3	-1.3
PRK				AML	AML	19 45 45.9	
	comp=N,1049μm,0.6s						
PRK				AML	AML	19 45 47.7	
	comp=E,2036μm,1.1s						
PRK	Paraskevi	1.60	12	P	Pn	19 45 14.8	-1.2
PRK				S	Sn	19 45 35.3	-1.3
VLY	Voula,Athens	1.62	277	P	Pn	19 45 16.0	-0.3
VLY	Voula,Athens	1.62	277	P	Pn	19 45 16.3	0.0
VLY				S	Sn	19 45 36.8	-0.3
VLY				AML	AML	19 45 41.6	
	comp=N,2019μm,0.4s						
VLY				AML	AML	19 45 43.7	
	comp=E,1894μm,0.4s						
VLY	Voula,Athens	1.62	277	P	Pn	19 45 16.0	-0.3
VLY				S	Sn	19 45 36.8	-0.3
DKL	Dikili	1.62	31	*e*PN	Pn	19 45 16.9	+0.5
DKL	Dikili	1.62	31	*e*Pn	Pn	19 45 16.9	+0.5
AYDN	Tasoluk	1.63	90	*i* P	Pg	19 45 18.7	-0.5
AYDN				*i* S	Sg	19 45 42.3	+2.0
AYDN	Tasoluk	1.63	90	P	Pg	19 45 18.7	-0.5
AYDN				S	Sg	19 45 42.3	+2.0
ATHU	Athens Univers	1.64	281	P	Pn	19 45 16.2	-0.4
ATHU				S	Sn	19 45 37.4	-0.3
ATHU	Athens Univers	1.64	281	P	Pn	19 45 15.9	-0.7
ATHU				S	Sn	19 45 38.3	+0.6
ATHU	Athens Univers	1.64	281	P	Pn	19 45 16.2	-0.4
ATHU				S	Sn	19 45 37.4	-0.3
EREA	Eretria	1.67	297	P	Pn	19 45 16.9	-0.1
EREA	Eretria	1.67	297	P	Pn	19 45 17.1	+0.1
EREA	Eretria	1.67	297	P	Pn	19 45 16.9	-0.1
DAT	Datca	1.69	124	*e*PN	Pg	19 45 20.1	-0.3
DAT	Datca	1.69	124	*i* P	Pg	19 45 19.9	-0.5
DAT				*i* S	Sg	19 45 42.7	+0.4
DAT	Datca	1.69	124	P	Pg	19 45 19.9	-0.5
DAT	Datca	1.69	124	*e*Pn	Pg	19 45 20.1	-0.3
DAT				S	Sg	19 45 42.7	+0.4
ATH	Athens Observa	1.70	280	P	Pn	19 45 17.3	0.0
ATH	Athens Observa	1.70	280	P	Pn	19 45 17.4	0.0
ATH				S	Sn	19 45 39.1	+0.1
ATH				AML	AML	19 45 45.3	
	comp=E,1154μm,0.5s						
ATH				AML	AML	19 45 45.5	
	comp=N,1435μm,0.4s						
ATH	Athens Observa	1.70	280	P	Pn	19 45 17.3	0.0
ATH				S	Sn	19 45 39.1	+0.1
AYVA	Ayvalik	1.76	22	*i* P	Pb	19 45 20.8	+0.7
AYVA				*i* S	Sg	19 45 45.4	+0.9
AYVA	Ayvalik	1.76	22	P	Pb	19 45 20.8	+0.7
AYVA				S	Sg	19 45 45.4	+0.9
GPNR	Gulpinar-Canak	1.79	8	*e*PN	Pn	19 45 18.8	+0.2
GPNR	Gulpinar-Canak	1.79	8	*e*Pn	Pn	19 45 18.8	+0.2
AKHS	Akhisar	1.97	52	*i* P	Pg	19 45 26.0	+0.3
AKHS				*i* S	Sg	19 45 52.3	+1.1
AKHS	Akhisar	1.97	52	P	Pg	19 45 26.0	+0.3
AKHS				S	Sg	19 45 52.3	+1.1
DID	Didima	2.06	266	P	Pn	19 45 22.1	-0.4
DID	Didima	2.06	266	P	Pn	19 45 21.6	-0.8
DID	Didima	2.06	266	P	Pn	19 45 22.1	-0.4
BAYC	CANAKKALE_Bayr	2.13	15	*i* P	Pn	19 45 21.9	-1.5
BAYC	CANAKKALE_Bayr	2.13	15	P	Pn	19 45 21.9	-1.5
EZN	Ezine	2.18	10	*e*PN	Pn	19 45 24.2	+0.3
EZN	Ezine	2.18	10	*e*Pn	Pn	19 45 24.2	+0.3
LIA	Limnos Island	2.27	347	P	Pn	19 45 24.7	-0.5
LIA	Limnos Island	2.27	347	P	Pn	19 45 24.7	-0.5
LOUT	Loutraki	2.28	279	P	Pn	19 45 25.4	0.0
LOUT	Loutraki	2.28	279	P	Pn	19 45 25.4	0.0
LTK	Loutraki	2.29	279	P	Pn	19 45 25.4	-0.1
LTK	Loutraki	2.29	279	P	Pn	19 45 25.4	-0.1
TURN	Turunc	2.36	109	*i* P	Pn	19 45 24.7	-1.7
TURN				*i* S	Sb	19 45 59.1	-0.2
TURN	Turunc	2.36	109	P	Pn	19 45 24.7	-1.7
TURN				S	Sb	19 45 59.1	-0.2
SKIA	Skiathos	2.37	309	P	Pn	19 45 27.1	+0.4
SKIA	Skiathos	2.37	309	P	Pn	19 45 27.1	+0.4
SMIA	Simia	2.38	301	P	Pn	19 45 26.4	-0.4
SMIA	Simia	2.38	301	P	Pn	19 45 26.4	-0.4
PROD	Prodromos	2.38	285	P	Pn	19 45 27.4	+0.6
PROD	Prodromos	2.38	285	P	Pn	19 45 27.4	+0.6
KULA	Kula-Manisa	2.38	69	*e*PN	Pb	19 45 29.7	-1.1
KULA	Kula-Manisa	2.38	69	*e*Pn	Pb	19 45 29.7	-1.1
KARP	Karpathos	2.39	153	*e*PN	Pb	19 45 29.2	-1.6
KARP	Karpathos	2.39	153	P	Pn	19 45 26.5	-0.4
KARP	Karpathos	2.39	153	P	Pn	19 45 26.5	-0.4
KARP	Karpathos	2.39	153	*e*Pn	Pb	19 45 29.2	-1.6
DALY	Dalyan (Mu˜la	2.42	110	*e*PN	Pb	19 45 30.8	-0.5
DALY	Dalyan (Mu˜la	2.42	110	*i* P	Pg	19 45 33.6	-0.6
DALY				*i* S	Sg	19 46 09.6	+4.1
DALY	Dalyan (Mu˜la	2.42	110	*e*PN	Pb	19 45 30.8	-0.5
DALY	Dalyan (Mu˜la	2.42	110	P	Pg	19 45 33.6	-0.6
NPS	Neapolis	2.42	184	P	Pn	19 45 26.1	-1.2
NPS	Neapolis	2.42	184	P	Pn	19 45 26.1	-1.2
BALY	Balya	2.49	34	*i* P	Pb	19 45 33.3	+0.7
BALY				*i* S	Sg	19 46 07.4	-0.5
BALY	Balya	2.49	34	P	Pb	19 45 33.3	+0.7
VLI	Velíai	2.50	248	P	Pn	19 45 28.0	-0.4
VLI	Veliai	2.50	248	P	Pn	19 45 28.0	-0.4
VLI	Veliai	2.50	248	P	Pn	19 45 28.0	-0.4
GADA	Gvkgeada	2.51	1	*e*PN	Pn	19 45 28.5	0.0
GADA	Gvkgeada	2.51	1	*e*Pn	Pn	19 45 28.5	0.0
IDI	Anoyia	2.51	198	P	Pn	19 45 29.0	+0.4
IDI	Anoyia	2.51	198	P	Pn	19 45 29.0	+0.4
BALB	Balikesir	2.53	39	*e*PN	Pn	19 45 30.2	+1.4
BALB	Balikesir	2.53	39	*e*Pn	Pn	19 45 30.2	+1.4
LAST	Lasithi	2.53	186	P	Pn	19 45 29.0	+0.1
LAST	Lasithi	2.53	186	P	Pn	19 45 29.0	+0.1
DNZL	Cakiroluk	2.55	89	*i* P	Pg	19 45 36.1	-0.8
DNZL				*i* S	Sg	19 46 11.4	+1.4
ZKR	Zakros	2.58	173	P	Pn	19 45 30.7	+1.2
ZKR	Zakros	2.58	173	P	Pn	19 45 30.7	+1.2
NEO	Neokhori	2.61	309	P	Pn	19 45 30.1	+0.2
NEO	Neokhori	2.61	309	P	Pn	19 45 30.1	+0.2
VAM	Vamos	2.62	210	P	Pn	19 45 28.5	-1.6
VAM	Vamos	2.62	210	P	Pn	19 45 28.5	-1.6
KYTH	Kithira	2.64	238	P	Pn	19 45 29.5	-0.8
KYTH	Kithira	2.64	238	P	Pn	19 45 29.5	-0.8
DEMI	Demirci	2.65	58	*i* P	Pg	19 45 37.0	-1.6
DEMI				*i* S	Sg	19 46 14.3	+1.3
ANKY	Antikythira Is	2.72	229	P	Pn	19 45 31.0	-0.4
ANKY	Antikythira Is	2.72	229	P	Pn	19 45 31.0	-0.4
GELI	Tayfur-Gelibol	2.76	10	*e*PN	Pn	19 45 33.1	+1.1
GELI	Tayfur-Gelibol	2.76	10	*e*Pn	Pn	19 45 33.1	+1.1
VLX	Vlachokerasia	2.76	265	P	Pn	19 45 33.5	+1.5
VLX	Vlachokerasia	2.76	265	P	Pn	19 45 33.5	+1.5
GUR	Goura	2.77	276	P	Pn	19 45 32.8	+0.6
GUR	Goura	2.77	276	P	Pn	19 45 32.8	+0.6
LPK	Lapseki	2.78	15	*e*PN	Pn	19 45 33.2	+0.9
LPK	Lapseki	2.78	15	*e*Pn	Pn	19 45 33.2	+0.9
SMTH	Samothraki Isl	2.79	355	P	Pn	19 45 30.7	-1.8
SMTH	Samothraki Isl	2.79	355	P	Pn	19 45 30.7	-1.8
PAIG	Paliouri	2.80	324	P	Pn	19 45 31.9	-0.6
PAIG	Paliouri	2.80	324	P	Pn	19 45 31.9	-0.6
FETY	Fethiye	2.80	111	*e*PN	Pb	19 45 36.0	-2.0
FETY	Fethiye	2.80	111	*e*Pn	Pb	19 45 36.0	-2.0
FETY	Fethiye	2.80	111	P	Pb	19 45 36.5	-1.4
FYTO	Fytoko, Volos	2.85	308	P	Pn	19 45 33.5	+0.4
FYTO	Fytoko, Volos	2.85	308	P	Pn	19 45 33.5	+0.4
KNL	Bal˜–kesir	2.90	27	*i* P	Pg	19 45 42.1	-1.5
KNL				*i* S	Sg	19 46 21.1	-0.1
KLV	Kalavryta, Ach	2.93	278	P	Pn	19 45 35.2	+0.8
KLV	Kalavryta, Ach	2.93	278	P	Pn	19 45 35.2	+0.8
KRBG	Karabiga-Canak	2.94	22	*e*PN	Pn	19 45 35.4	+1.0
KRBG	Karabiga-Canak	2.94	22	*e*Pn	Pn	19 45 35.4	+1.0
KHAL	Karahalli	2.97	76	*i* P	Pg	19 45 44.7	-0.2
KHAL				*i* S	Sg	19 46 21.1	-2.4
KALE	Kalithea	3.00	285	P	Pn	19 45 35.6	+0.3
KALE	Kalithea	3.00	285	P	Pn	19 45 35.6	+0.3
ERIK	Erikli-Kesan	3.03	10	*e*PN	Pn	19 45 36.5	+0.8
ERIK	Erikli-Kesan	3.03	10	*e*Pn	Pn	19 45 36.5	+0.8
AGG	Agios Georgios	3.06	297	*e*PN	Pn	19 45 36.0	-0.1
AGG	Agios Georgios	3.06	297	P	Pn	19 45 37.3	+1.2
AGG	Agios Georgios	3.06	297	*e*Pn	Pn	19 45 36.0	-0.1
AGG	Agios Georgios	3.06	297	P	Pn	19 45 37.3	+1.2
ENEZ	Enez	3.06	5	*e*PN	Pn	19 45 36.5	+0.4
ENEZ	Enez	3.06	5	*e*Pn	Pn	19 45 36.5	+0.4
ALN	Alexandroupoli	3.21	3	*e*PN	Pn	19 45 38.7	+0.5
ALN	Alexandroupoli	3.21	3	*e*Pn	Pn	19 45 38.7	+0.5
MRMT	Marmara Adasi	3.23	25	*e*PN	Pn	19 45 39.8	+1.4
MRMT	Marmara Adasi	3.23	25	*e*Pn	Pn	19 45 39.8	+1.4
KCTX	Karacabey (Bur	3.25	37	*e*PN	Pn	19 45 39.8	+1.1
KCTX	Karacabey (Bur	3.25	37	*e*Pn	Pn	19 45 39.8	+1.1
DRO	Drossia	3.27	276	P	Pn	19 45 40.2	+1.2
DRO	Drossia	3.27	276	P	Pn	19 45 40.2	+1.2
PYL	PYLOS	3.35	258	P	Pn	19 45 43.0	+2.9
PYL	PYLOS	3.35	258	P	Pn	19 45 43.0	+2.9
TVSB	Tavsanli	3.35	57	*e*PN	Pn	19 45 42.0	+1.8
TVSB	Tavsanli	3.35	57	*e*Pn	Pn	19 45 42.0	+1.8
SBT3	Marmara-Eregli	3.61	27	*e*PN	Pn	19 45 45.4	+1.9
SBT3	Marmara-Eregli	3.61	27	*e*Pn	Pn	19 45 45.4	+1.9
ARMT	Armutlu	3.72	38	*e*PN	Pn	19 45 47.2	+2.0
ARMT	Armutlu	3.72	38	*e*Pn	Pn	19 45 47.2	+2.0
CTKS	Kestanelik-??a	4.11	29	*e*PN	Pn	19 45 52.7	+2.2
CTKS	Kestanelik-??a	4.11	29	*e*Pn	Pn	19 45 52.7	+2.2
EDRB	Edirne	4.22	9	*e*PN	Pn	19 45 53.1	+1.1
EDRB	Edirne	4.22	9	*e*Pn	Pn	19 45 53.1	+1.1

IDC 21 19:48:31.5±2.0, 58°.04S×25°.52W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.5/25, mbtmp3.7/1, Error ellipse: s-maj=109.6km s-min=71.7km az=136.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	74.37	28	P	P	20 00 10.9	0.0
	0.5nm,0.6s,baz=194,slow=6.8,SNR=4.3						
SONM	Songino Array	149.90	89	PKPbc	PKPbc	20 08 22.3	-0.4
	0.4nm,0.5s,baz=213,slow=2.3,SNR=4.2						
ILAR	Eielson Array	152.10	309	PKPbc	PKPbc	20 08 27.0	-0.2
	0.7nm,0.5s,baz=126,slow=2.0,SNR=10						

IDC 21 19:48:27.6±1.2, 6°.45S×148°.07E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.7/46, mbtmp4.0/8, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx3.1/33, Error ellipse: s-maj=42.9km s-min=20.8km az=106.0

ISCJB 21 19:48:32.5±0.5, 6°.50S±0°.07×147°.99E±0°.08, h51km, mb4.2/10, MS3.1/1, Error ellipse: s-maj=12.8km s-min=8.6km az=30.4

NEIC 21 19:48:33.4±0.8, 6°.49S×147°.99E, h38km±8km, mb4.2/5, Error ellipse: s-maj=10.1km s-min=6.7km az=122.0

ISC 21 19:48:34.3±0.7, 6°.50S±0°.09×148°.02E±0°.09, h51km, n25, σ0°.84/24, mb4.3/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.01	196	Pn	Pn	19 49 18.7	-0.9
	5.4nm,0.3s,baz=43,slow=6.0,SNR=16						
PMG	Port Moresby	3.01	196	*e*Pn	Pn	19 49 18.5	-1.1
MANU	Manus Island	4.47	352	*e*Pn	Pn	19 49 39.6	0.0
RABL	Rabaul	4.72	61	*e*Pn	Pn	19 49 41.3	-1.7
COEN	Coen	8.81	212	*e*Pn	Pn	19 50 39.5	+0.3
SAUI	Saumlaki	16.65	264	*e*Pn	Pn	19 52 22.1	-2.3
	278nm,0.9s						
WR1	Warramunga Arr	18.85	224	*e*P	P	19 52 50.0	-0.3
	16nm,1.4s						
WRA	Warramunga Arr	18.85	224	P	P	19 52 50.0	-0.3
	0.4nm,0.3s,baz=48,slow=11,SNR=8.2						
AS31	Alice Springs	21.81	217	*e*P	P	19 53 22.7	+0.3
	4.6nm,0.4s						
ASAR	Alice Springs	21.81	217	P	P	19 53 22.3	-0.1
	9.2nm,0.5s,baz=54,slow=9.1,SNR=180						
FITZ	Fitzroy Crossi	24.69	240	P	P	19 53 51.4	+0.7
	5.2nm,0.4s,baz=53,slow=7.9,SNR=53						
FITZ	Fitzroy Crossi	24.69	240	*e*P	P	19 53 51.1	+0.4
	6.8nm,0.6s						
STKA	Stephens Creek	25.95	193	P	P	19 54 01.6	-0.5
	2.3nm,0.4s,baz=4.5,slow=7.4,SNR=12						
STKA	Stephens Creek	25.95	193	*e*P	P	19 54 01.9	-0.2
	1.0nm,0.9s						
MBWA	Marble Bar	31.01	239	*e*P	P	19 54 48.0	+0.7
	16nm,1.1s						
MSVF	Nonsavu	31.36	114	*e*P	P	19 54 51.6	+1.1
	147nm,2.0s						
KHZ	Kahutara	42.30	152	*e*P	P	19 56 23.4	+0.3
	81nm,1.6s						
ASAJ	Asahikawa	50.62	355	LR	LR	20 16 23.8	
	comp=Z,22nm,21.8s,baz=353,slow=33						
VNDA	Vanda	71.36	177	P	P	19 59 49.0	+0.6
	0.4nm,0.7s,baz=336,slow=6.7,SNR=3.6						
VNDA	Vanda	71.36	177	*e*P	P	19 59 48.6	+0.2
MK32	Makanchi Array	78.53	320	*e*P	P	20 00 30.2	-0.2
MKAR	Makanchi Array	78.53	320	P	P	20 00 30.2	-0.2
	0.1nm,0.3s,baz=101,slow=7.7,SNR=5.9						
ILAR	Eielson Array	85.54	23	P	P	20 01 07.5	+0.8
	0.3nm,0.7s,baz=250,slow=5.6,SNR=3.6						
TORD	Torodi Ar. Bea	146.20	284	PKPbc	PKPab	20 08 10.9	0.0
	0.5nm,0.4s,baz=76,slow=3.7,SNR=12						
TOA1	Torodi Ar. Sit	146.20	284	*e*PKPdf	PKPab	20 08 10.9	0.0

ISCJB 21 19:51:58.3±0.8, 11°.86N±0°.07×44°.13E±0°.07, h4km, mb3.6/7, Error ellipse: s-maj=11.0km s-min=7.7km az=43.9

IDC 21 19:51:58.9±1.6, 11°.70N×44°.11E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/53, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=42.9km s-min=16.4km az=165.0

ISC 21 19:52:00.1±1.0, 11°.89N±0°.09×44°.1E±0°.1, h4km, n11, σ1°.56/14, mb3.8/7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.27	254	Pn	Pn	19 52 23.5	-1.2
	81nm,0.3s,baz=357,slow=4.4,SNR=13						
ATD				Sn	Sn	19 52 41.2	-1.0
	244nm,0.3s,baz=266,slow=23,SNR=15						
UDYN	Al 'Udayn	2.06	357	*i* P	Pn	19 52 33.3	-2.5
UDYN				*e*		19 52 33.4	
	baz=187,slow=14						
UDYN				*i* S	Sn	19 53 01.7	-0.3
UDYN				AML	AML	19 53 06.3	
	comp=Z,2μm,0.5s						
HAJJ	Hajjah	3.81	353	*i* P	Pn	19 52 57.4	-2.5
HAJJ				*i* S	Sn	19 53 47.4	+2.1
WSAR	Wadi Sarin	17.86	49	P	P	19 56 10.4	0.0
	comp=Z,0.1nm,0.3s,baz=167,slow=16,SNR=3.4						
BRTR	Keskin Array B	29.23	343	P	P	19 58 03.3	+0.1
	comp=Z,0.6nm,0.8s,baz=145,slow=8.8,SNR=3.4						
GERES	GERESS Array B	44.64	332	P	P	20 00 16.6	+2.6
	comp=Z,0.2nm,0.6s,baz=150,slow=11,SNR=3.6						
BVAR	Borovoye Array	46.11	22	P	P	20 00 25.9	+0.5
	comp=Z,0.6nm,0.7s,baz=225,slow=5.9,SNR=5.3						
MKAR	Makanchi Array	47.37	35	P	P	20 00 35.0	-0.4
	comp=Z,0.6nm,0.8s,baz=223,slow=6.6,SNR=3.5						
KURBB	Kurchatov Arra	47.78	29	P	P	20 00 38.8	+0.4
	comp=Z,0.6nm,0.8s,baz=234,slow=7.9,SNR=6.1						
CMAR	Chiang Mai Arr	53.18	76	P	P	20 01 19.7	-0.2
	comp=Z,2.1nm,1.0s,baz=273,slow=8.9,SNR=13		

MAYB	Maynard	1.76	58	Pn	Pn	19 53 51.4	-2.1
PHC	Port Hardy	1.80	47	Pn	Pn	19 53 53.3	-0.6
PHC				Sn	Sn	19 54 13.6	-3.2
TLCB	Telegraph Cove	2.02	57	Pn	Pn	19 53 55.5	-1.4
TLCB				Sn	Sn	19 54 17.7	-4.4
NCRB	Newcastle Ridg	2.40	66	Pn	Pn	19 54 01.6	-0.7
BBB	Bella Bella	2.83	17	Pn	Pn	19 54 07.0	-1.2
BBB				Sn	Sn	19 54 37.5	-4.8
MGB	Mount Grey	3.19	97	Pn	Pn	19 54 12.0	-1.1
MGB				Sn	Sg	19 55 03.6	-1.5

*ISCJB **21** 19:59:05.7±0.8, 36°.71N±0°.05×70°.9E±0°.1, h200km, mb3.5/2, Error ellipse: s-maj=12.0km s-min=6.2km az=155.8*
*NNC **21** 19:59:08.8±3.2, 37°.03N×71°.16E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=25.5km s-min=12.4km az=169.0*
*IDC **21** 19:59:11.7±8.6, 37°.00N×71°.05E, h211km±54km, mb3.4/2, mb1 3.1/7, mb1mx2.7/63, mbtmp3.6/7, Error ellipse: s-maj=84.9km s-min=42.1km az=172.0*

ISC 21 19:59:06.9±1.0, 36°.71N±0°.08×70°.91E±0°.09, h200km, n17, σ1ᵽ63/22, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.66	322	⇓Pn	Pn	19 59 51.4	-1.3
	32nm,0.3s						
DZET				Sn	Sn	20 00 25.0	-3.6
	38nm,0.4s						
MNAS	Manas	5.89	12	Pn	Pn	20 00 33.1	+0.2
	2.2nm,0.3s						
MNAS				Sn	Sn	20 01 39.3	-1.6
	13nm,0.6s						
KK31	Karatay Array	6.39	357	⇑Pn	Pn	20 00 39.2	0.0
	6.8nm,0.6s,baz=187,slow=13,SNR=51						
KK31				Pg		20 00 45.5	
	2.2nm,0.3s,baz=185,slow=14,SNR=8.2						
KK31				Sn	Sn	20 01 49.1	-3.2
	3.2nm,0.3s,baz=184,slow=21,SNR=12						
AAK	Ala-Archa	6.53	24	P	Pn	20 00 41.9	+0.7
	0.8nm,0.3s,baz=194,slow=8.5,SNR=9.0						
AAK				S	Sn	20 01 54.8	-1.0
	0.7nm,0.3s,baz=312,slow=23,SNR=16						
AAK	Ala-Archa	6.53	24	Pn	Pn	20 00 41.2	+0.1
	2.6nm,0.8s						
AAK				⇑Sn	Sn	20 01 54.8	-1.0
	5.6nm,0.6s						
MKAR	Makanchi Array	13.16	37	P	P	20 02 08.9	-0.5
	0.1nm,0.3s,baz=214,slow=9.3,SNR=2.6						
GKN	Gorkha	14.48	123	eP	Pn	20 02 21.6	-1.4
	9.0nm,0.5s						
KURBB	Kurchatov Arra	14.94	19	P	Pn	20 02 28.0	-0.2
	baz=212,slow=10,SNR=3.1						
KKN	Kakani	15.05	122	eP	Pn	20 02 29.8	-0.3
	8.5nm,0.7s						
PKIN	Phulchoki	15.27	123	eP	Pn	20 02 32.3	-0.4
	10nm,0.6s						
JIRN	Jiri	15.76	121	eP	P	20 02 38.4	-0.2
	63nm,0.4s						
RAMN	Ramite	16.49	122	eP	P	20 02 44.9	-1.6
	7.3nm,0.6s						
AKTO	Aktyubinsk	16.56	330	P	Pn	20 02 48.0	+0.2
	0.3nm,0.3s,baz=141,slow=9.4,SNR=4.8						
ZALV	Zalesovo Beam	19.75	25	P	P	20 03 21.6	+0.3
	0.3nm,0.3s,baz=221,slow=11,SNR=6.6						
ARCES	ARCESS Array B	40.92	338	P	P	20 06 31.8	+2.5
	1.9nm,0.9s,baz=113,slow=9.3,SNR=5.3						
NB2	NORSAR Subarra	44.16	323	P	P	20 06 57.6	+2.1
	comp=Z,1.3nm,0.6s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.16	323	P	P	20 06 57.6	+2.1
	comp=Z,1.0nm,0.6s,baz=94,slow=7.9,SNR=3.4						

*ISCJB **21** 20:09:55.9±0.3, 11°.78N±0°.04×44°.19E±0°.04, h4km, mb4.5/64, Error ellipse: s-maj=6.6km s-min=5.1km az=149.7*
*IDC **21** 20:09:57.0±0.8, 11°.83N×44°.15E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/49, mbtmp4.1/18, ML3.3/2, Error ellipse: s-maj=18.9km s-min=14.7km az=153.0*
*NEIC **21** 20:09:58.5±0.4, 11°.76N×44°.17E, h10km, mb4.8/49, Error ellipse: s-maj=7.7km s-min=6.5km az=154.0*

ISC 21 20:09:57.9±0.4, 11°.83N±0°.06×44°.13E±0°.06, h4km, n90, σ1ᵽ28/92, mb4.7/64, 1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.29	257	Pn	Pg	20 10 20.5	-2.3
	530nm,0.3s,baz=209,slow=7.1,SNR=54						
ATD				Sn	Sg	20 10 38.5	-1.2
	748nm,0.3s,baz=228,slow=22,SNR=21						
DAMY	Dhamar	2.74	5	ePn	Pn	20 10 40.5	-2.5
DAMY				eSn	Sn	20 11 18.1	+1.3
FURI	Furi	6.11	242	ePn	Pn	20 11 30.6	+1.2
KMBO	Kilima Mbogo	14.57	208	Pn	Pn	20 13 25.3	-0.1
	0.1nm,0.3s,baz=40,slow=11,SNR=4.7						
KMBO	Kilima Mbogo	14.57	208	ePn	Pn	20 13 23.3	-2.0
UOSS	Minazif	17.34	40	ePn	Pn	20 14 00.5	-0.6
	99nm,1.7s						
WSAR	Wadi Sarin	17.87	49	P	Pn	20 14 06.1	-1.5
	0.1nm,0.3s,baz=240,slow=13,SNR=6.8						
ASF	Jabal al Asfar	21.32	343	P	P	20 14 46.6	+0.6
	3.2nm,0.9s,baz=73,slow=1.5,SNR=5.0						
MMAI	Mount Meron Ar	22.56	341	P	P	20 14 59.5	+0.2
	6.2nm,1.1s,baz=141,slow=9.3,SNR=4.7						
CSS	Mathiatis	25.04	339	eP	P	20 15 20.7	-2.6
	12nm,1.7s						
MARD	Mardin	25.55	354	eP	P	20 15 30.6	+2.5
	23nm,1.4s						
GNI	Garni	28.21	1	eP	P	20 15 54.9	+2.9
	42nm,1.8s						
KOPT	Kop Dagi	28.26	354	eP	P	20 15 56.1	+3.5
	123nm,0.4s						
GEYT	Alibeck	28.85	23	P	P	20 15 56.9	-0.7
	0.9nm,0.9s,baz=222,slow=1.9,SNR=3.5						
TOKA	Tokat	29.18	348	eP	P	20 15 59.1	-1.4
	18nm,1.6s						
BOLV	Bolvadin	29.24	339	eP	P	20 16 03.1	+1.9
	13nm,0.4s						
BRTR	Keskin Array B	29.30	343	P	P	20 16 02.5	+0.7
	3.5nm,1.0s,baz=153,slow=8.3,SNR=18						
BR101	Keskin Array S	29.30	343	eP	P	20 16 02.5	+0.7
BR131	Keskin Array S	29.30	343	eP	P	20 16 02.7	+1.0
ARTV	Artvin	29.31	357	eP	P	20 16 03.5	+1.7
	8.8nm,1.5s						
BR231	Keskin MP Arra	29.66	342	eP	P	20 16 05.0	+0.2
ANTO	Ankara	29.68	342	eP	P	20 16 06.8	+1.8
	56nm,1.9s						
ILGA	Ilgaz	30.52	344	eP	P	20 16 14.7	+2.2
	29nm,1.3s						
LSZ	Lusaka	31.22	211	eP	P	20 16 15.7	-3.2
	9.0nm,1.4s						
KBZ	Khabaz	31.80	358	P	P	20 16 24.8	+1.3
	2.4nm,1.1s,baz=220,slow=12,SNR=3.6						
KBL	Kabul	32.01	41	eP	P	20 16 26.2	+0.4
	5.4nm,1.3s						
KIV	Kislovodsk	32.04	358	eP	P	20 16 25.6	-0.1
	18nm,1.3s						
AGG	Agios Georgios	33.30	328	eP	P	20 16 37.9	+1.0
	62nm,1.5s						
TIRR	Tirgusor	35.21	340	eP	P	20 16 51.2	-2.1
	12nm,1.1s						
VTS	Vitosha	35.65	333	eP	P	20 16 57.9	+0.7
	17nm,1.7s						
TAM	Tamanrasset	38.33	292	eP	P	20 17 21.5	+1.1
	10nm,1.6s						
KKAR	Karatay Array	38.64	31	eP	P	20 17 23.8	+1.2
	14nm,0.8s						
BUR08	Bucovina Ar. S	39.08	340	eP	P	20 17 25.5	-0.8
ABKAR	Akbulak array	39.55	16	eP	P	20 17 30.0	0.0
	39nm,1.1s						
TSUM	Tsumeb	40.44	221	eP	P	20 17 38.3	+0.4
	28nm,2.0s						
AAK	Ala-Archa	40.46	35	eP	P	20 17 39.4	+1.4
	24nm,1.9s						
KIEV	Kiev	40.64	345	eP	P	20 17 38.7	-0.4
	16nm,1.4s						
AKASG	Malin Array Be	40.64	345	P	P	20 17 38.5	-0.5
	1.1nm,0.7s,baz=163,slow=7.0,SNR=8.9						
AKBB	Malin Array Si	40.64	345	eP	P	20 17 38.2	-0.9
	16nm,1.4s						
PSZ	Piszkesteto	41.30	335	eP	P	20 17 45.3	+0.6
	27nm,1.5s						
TORD	Torodi Ar. Bea	41.42	276	P	P	20 17 46.7	+0.7
	2.2nm,0.9s,baz=97,slow=5.9,SNR=11						
TOA1	Torodi Ar. Sit	41.42	277	eP	P	20 17 46.7	+0.6
	12nm,1.4s						
VYHS	Vyhne	42.20	335	eP	P	20 17 53.2	+1.3
OJC	Ojcow	43.19	337	eP	P	20 18 00.2	+0.3
	33nm,1.8s						
OKC	Ostrava-Krasne	43.53	336	eP	P	20 18 03.4	+0.7
OBN	Obninsk	43.59	354	eP	P	20 18 04.0	+1.0
	43nm,1.5s						
MORC	Moravsky Berou	43.73	335	eP	P	20 18 04.8	+0.5
	135nm,1.9s						
BOSA	Boshof	44.16	204	P	P	20 18 08.4	+0.4
	4.7nm,1.1s,baz=21,slow=4.7,SNR=4.1						
DPC	Dobruska-Polom	44.67	335	eP	P	20 18 11.8	-0.1
GEC2	GERESS Array S	44.72	332	eP	P	20 18 12.4	0.0
	17nm,1.5s						
GERES	GERESS Array B	44.72	332	P	P	20 18 11.2	-1.2
	1.5nm,0.8s,baz=132,slow=7.4,SNR=14						
KHC	Kasperske Hory	44.98	332	eP	P	20 18 14.4	0.0
KHC	Kasperske Hory	44.98	332	eP	P	20 18 15.0	+0.7
	8.5nm,1.7s						
GOPC	GO Pecny, Ondr	45.00	333	eP	P	20 18 15.6	+1.1
PRU	Pruhonice	45.16	333	eP	P	20 18 16.3	+0.5
PRU				ex	x	20 18 22.5	
BRVK	Borovoye	46.15	22	eP	P	20 18 23.7	+0.2
	15nm,1.6s						
CLL	Collm	46.80	334	eP	P	20 18 27.6	-1.0
	14nm,1.4s						
BFO	Black Forest	47.03	328	eP	P	20 18 30.9	+0.3
	16nm,1.6s						
LSA	Lhasa	47.06	60	eP	P	20 18 31.4	-0.3
	15nm,1.8s						
MAKZ	Makanchi	47.23	35	eP	P	20 18 32.6	+0.4
	18nm,1.5s						
MK31	Makanchi Array	47.40	35	eP	P	20 18 33.1	-0.3
MK32	Makanchi Array	47.40	35	eP	P	20 18 31.8	-1.6
MKAR	Makanchi Array	47.40	35	P	P	20 18 31.8	-1.6
	2.8nm,1.0s,baz=218,slow=5.4,SNR=9.9						
MKAR	Makanchi Array	47.40	35	eP	P	20 18 32.7	-0.7
	31nm,0.9s						
KURK	Kurchatov	47.91	29	eP	P	20 18 37.4	+0.1
	16nm,1.4s						
ESDC	Soneca Array	50.64	312	P	P	20 18 58.1	-0.4
	1.3nm,0.7s,baz=101,slow=7.2,SNR=12						
ESLA	Sonseca Array	50.64	312	eP	P	20 18 59.4	+0.9
	22nm,1.4s						
PAB	San Pablo	50.88	312	eP	P	20 19 01.2	+0.9
	30nm,1.5s						
ZAA0	Zalesovo Array	52.91	29	eP	P	20 19 14.1	-1.0
ZALV	Zalesovo Beam	52.91	29	P	P	20 19 13.8	-1.3
	2.1nm,0.6s,baz=231,slow=7.8,SNR=10						
ZAA1	Zalesovo Array	52.91	29	eP	P	20 19 13.8	-1.3
CHTO	Chiang Mai	53.15	75	eP	P	20 19 15.8	-1.6
	3.0nm,1.3s						
CM31	Chiang Mai Arr	53.16	76	eP	P	20 19 16.9	-0.6
CMAR	Chiang Mai Arr	53.16	76	P	P	20 19 17.3	-0.2
	8.5nm,1.0s,baz=274,slow=8.5,SNR=34						
KULM	Kulim	56.18	92	eP	P	20 19 40.7	+1.1
	28nm,1.3s						
GTA	Gaotai	56.19	50	eP	P	20 19 40.1	+0.7
GTA				pP	sP	20 19 47.3	+6.1
GTA				sP	pP	20 19 50.3	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONA0	Songino Array	62.77	42	eP	P	20 20 23.8	-0.9
SONM	Songino Array	62.77	42	P	P	20 20 23.8	-0.9
	comp=Z,2.4nm,0.8s,baz=233,slow=7.5,SNR=15						
ENH	Enshi	62.91	62	eP	P	20 20 25.3	-0.5
	comp=Z,36nm,1.9s						
ULN	Ulaanbaatar	63.21	42	eP	P	20 20 27.1	-0.6
	comp=Z,11nm,1.7s						
SBUM	Sibu	68.06	92	eP	P	20 20 58.9	-0.5
	comp=Z,7.8nm,1.1s						
BJT	Baijiatuan	68.75	52	eP	P	20 21 04.2	+0.8
	comp=Z,7.3nm,0.5s						
KKM	Kota Kinabalu	71.28	88	eP	P	20 21 19.0	-0.4
	comp=Z,27nm,1.2s						
HIA	Hailar	71.74	42	eP	P	20 21 21.8	+0.3
	comp=Z,7.1nm,0.9s						
TIXI	Tiksi	77.19	19	eP	P	20 21 51.7	-1.0
	comp=Z,8.3nm,1.5s						
YAK	Yakutsk	77.56	29	eP	P	20 21 54.4	-0.5
	comp=Z,12nm,0.6s						
USRK	Ussuriysk Ar.	80.34	47	P	P	20 22 10.9	+0.3
	comp=Z,1.1nm,0.6s,baz=276,slow=5.4,SNR=4.4						
SYO	Syowa Base	80.70	182	eP	P	20 22 15.4	+3.6
ASAR	Alice Springs	94.46	113	P	P	20 23 20.3	+0.3
	comp=Z,0.9nm,0.9s,baz=287,slow=3.5,SNR=4.8						
AS31	Alice Springs	94.46	113	eP	P	20 23 19.2	-0.8
	comp=Z,1.6nm,1.4s						

*ISCJB **21** 20:10:50.9±0.7, 8°.6S±0°.2×125°.0E±0°.2, h24km, mb3.7/4, Error ellipse: s-maj=40.7km s-min=6.9km az=147.2*
*IDC **21** 20:10:51.9±1.1, 8°.55S×124°.58E, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.7/44, mbtmp3.9/7, ML3.9/3, Error ellipse: s-maj=95.2km s-min=18.7km az=61.0*

ISC 21 20:10:53.9±0.9, 8°.6S±0°.2×124°.9E±0°.3, h24km, n13, σ2ᵽ22/15, mb3.8/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.47	176	Pn	Pn	20 13 09.0	0.0
	0.9nm,0.3s,baz=352,slow=7.7,SNR=35						
FITZ				Sn	Sn	20 14 43.3	-11
	8.4nm,0.3s,baz=212,slow=2.5,SNR=29						
WRA	Warramunga Arr	14.49	142	Pn	P	20 14 23.6	-0.5
	0.6nm,0.3s,baz=317,slow=12,SNR=32						
WRA				Sn	Sn	20 16 56.1	-1.4
	2.3nm,0.3s,baz=307,slow=22,SNR=8.8						
ASAR	Alice Springs	17.27	151	P	P	20 14 58.7	+3.7
	0.5nm,0.3s,baz=322,slow=12,SNR=36						
ASAR				S	Sn	20 18 01.2	-4.0
	0.6nm,0.3s,baz=318,slow=22,SNR=13						
STKA	Stephens Creek	27.86	149	P	P	20 16 45.3	+3.5
	1.4nm,0.9s,baz=323,slow=15,SNR=3.6						
CMAR	Chiang Mai Arr	37.16	316	P	P	20 18 03.5	+0.2
	0.9nm,0.7s,baz=145,slow=7.3,SNR=12						
TAPN	Taplejung	50.77	316	eP	P	20 19 53.3	+0.5
RAMN	Ramite	51.29	315	eP	P	20 19 55.9	-0.7
	9.3nm,0.5s						
JIRN	Jiri	52.02	315	eP	P	20 20 00.7	-1.5
PKIN	Phulchoki	52.52	315	eP	P	20 20 03.7	-2.1
	2.9nm,0.3s						
GKN	Gorkha	53.31	314	eP	P	20 20 09.8	-1.7
KOLN	Koldanda	53.91	314	eP	P	20 20 13.9	-2.1
MKAR	Makanchi Array	66.93	330	P	P	20 21 44.9	+0.5
	0.7nm,0.5s,baz=131,slow=7.8,SNR=15						
ZALV	Zalesovo Beam	70.90	336	P	P	20 22 08.7	-0.2
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.7						

IDC 21 20:19:27.6±2.2, 0°.85N×127°.20E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/36, mbtmp3.6/3, Error ellipse: s-maj=174.5km s-min=26.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.81	162	P	P	20 24 21.2	-0.3
	1.3nm,0.6s,baz=340,slow=11,SNR=10						
ASAR	Alice Springs	25.22	165	P	P	20 24 55.5	+0.2
	1.5nm,0.7s,baz=344,slow=12,SNR=19						
MKAR	Makanchi Array	60.19	326	P	P	20 29 37.3	-0.1
	0.2nm,0.3s,baz=124,slow=7.5,SNR=4.6						

*ISCJB **21** 20:32:25.1±0.7, 37°.64N±0°.04×26°.72E±0°.06, h4km±14km, Error ellipse: s-maj=9.5km s-min=4.2km az=149.3*
*DDA **21** 20:32:25.2, 37°.66N×26°.73E, h7km, Md2.7*
*ISK **21** 20:32:25.2, 37°.65N×26°.81E, h5km, MD2.8*
*CSEM **21** 20:32:25.5±0.2, 37°.63N×26°.72E, h2km, MD2.7, Error ellipse: s-maj=5.9km s-min=3.3km az=53.0*

ISC 21 20:32:25.5±1.2, 37°.66N±0°.03×26°.75E±0°.05, h9km±13km, n18, σ0ᵽ53/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.39	84	iP	Pg	20 32 33.5	+0.3
GCAM				iS	Sb	20 32 39.9	-0.8
GCAM	G?zelcaml?	0.39	84	P	Pg	20 32 33.5	+0.3
GCAM				S	Sb	20 32 39.9	-0.8
DGB	¯zmir	0.41	15	iP	Pg	20 32 32.6	-0.9
DGB				iS	Sg	20 32 39.0	+0.2
ZEY	¯zmir	0.61	342	iP	Pg	20 32 36.6	-0.7
ZEY				iS	Sb	20 32 46.6	-0.5
URLA	Izmir	0.71	350	ePG	Pb	20 32 40.1	0.0
URLA				eSG	Sb	20 32 50.1	+0.1
URLA	Izmir	0.71	350	iP	Pg	20 32 39.2	0.0
URLA				iS	Sb	20 32 49.8	-0.2
URLA	Izmir	0.71	350	P	Pg	20 32 39.2	0.0
URLA				S	Sb	20 32 49.8	-0.2
URLA	Izmir	0.71	350	ePg	Pb	20 32 40.1	0.0
URLA				eSg	Sb	20 32 50.1	+0.1
BODT	Bodrum	0.75	143	ePG	Pg	20 32 38.8	-1.1
BODT				eSG	Sg	20 32 50.3	+0.6
BODT	Bodrum	0.75	143	ePg	Pg	20 32 38.8	-1.1
BODT				eSg	Sg	20 32 50.3	+0.6
BDRM	Kayabasi	0.81	137	iP	Pg	20 32 41.0	-0.2
BDRM				iS	Sb	20 32 53.0	0.0
BDRM	Kayabasi	0.81	137	P	Pg	20 32 41.0	-0.2
BDRM				S	Sb	20 32 53.0	0.0
AYDN	Tasoluk	0.90	90	iP	Pg	20 32 42.5	-0.3
AYDN	Tasoluk	0.90	90	P	Pg	20 32 42.5	-0.3
CHOS	Chios island	0.91	323	ePG	Pb	20 32 43.5	0.0
CHOS	Chios island	0.91	323	ePg	Pb	20 32 43.5	0.0
APE	Apeiranthos	1.14	239	ePN	Pn	20 32 48.2	+0.5
APE	Apeiranthos	1.14	239	ePn	Pn	20 32 48.2	+0.5

*ISCJB **21** 20:38:46.7±0.7, 29°.28S±0°.04×175°.65W±0°.08, h33km, mb4.7/21, Error ellipse: s-maj=9.5km s-min=5.6km az=172.7*
*NEIC **21** 20:38:51.7±0.5, 29°.30S×176°.08W, h35km, mb4.7/26, Error ellipse: s-maj=12.6km s-min=6.8km az=103.0*
*IDC **21** 20:38:54.6±3.6, 29°.41S×176°.02W, h60km±27km, mb3.7/5, mb1 4.0/7, mb1mx3.8/30, mbtmp4.1/7, ML4.3/2, Error ellipse: s-maj=28.7km s-min=23.1km az=52.0*

ISC 21 20:38:50.6±0.7, 29°.18S±0°.08×175°.99W±0°.07, h28km, n70, σ1ᵽ65/73, mb4.7/20, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.69	267	P	Pb	20 39 20.1	-0.8
	231nm,0.3s,baz=80,slow=11,SNR=13						
RAO				S	Sb	20 39 42.2	+0.4
	850nm,0.3s,baz=73,slow=20,SNR=12						
RAO	Raoul Island	1.69	267	ePn	Pb	20 39 19.9	-1.1
RAO				eSn	Sb	20 39 42.2	+0.4
RAO				eSn	Sn	20 39 42.4	+3.5
MXZ	Matakaoa Point	9.62	208	ePn	Pn	20 41 06.7	-0.5
MXZ	Matakaoa Point	9.62	208	PN	Pn	20 41 06.5	-0.7
MXZ				SN		20 41 44.1	
WMGZ	Waiomatatini S	9.80	207	PN	Pn	20 41 09.2	-0.4
WMGZ				SN		20 41 49.5	
WMGZ	Waiomatatini S	9.80	207	SN	Sn	20 43 02.7	+4.0
HAZ	Te Kaha	10.01	210	ePN	Pn	20 41 12.3	-0.2
HAZ	Te Kaha	10.01	210	SN	Sn	20 43 05.5	+1.7
PUZ	Puketiti	10.08	207	PN	Pn	20 41 09.9	-3.6
PUZ				SN		20 41 56.3	
RUGZ	Raukumara Rang	10.23	209	ePN	Pn	20 41 16.3	+0.7
TWGZ	Tauwhareparae	10.28	208	PN	Pn	20 41 15.6	-0.6
TWGZ	Tauwhareparae	10.28	208	SN	Sn	20 43 12.2	+1.6
CNGZ	Carnagh Statio	10.46	206	ePN	Pn	20 41 19.0	+0.4
MWZ	Matawai	10.60	209	ePN	Pn	20 41 20.4	-0.3
OUZ	Omahuta	10.68	233	ePn	Pn	20 41 27.5	+5.9
URZ	Urewera	10.72	211	P	Pn	20 41 21.2	-1.0
	2.0nm,0.3s,baz=260,slow=4.0,SNR=46						
URZ				S	Sn	20 43 21.2	0.0
	2.5nm,0.3s,baz=165,slow=20,SNR=3.3						
URZ	Urewera	10.72	211	PN	Pn	20 41 20.5	-1.7
URZ				SN		20 42 06.9	
URZ	Urewera	10.72	211	SN	Sn	20 43 21.3	0.0
RIGZ	Rimuhau	10.82	207	PN	Pn	20 41 24.1	+0.4
MHGZ	Mahia Peninsul	11.16	205	ePN	Pn	20 41 29.1	+0.9
BKZ	Black Stump Fm	11.74	210	ePn	Pn	20 41 35.2	-1.0
KWHZ	Kaweka Forest	11.99	210	PN	Pn	20 41 38.2	-1.4
HIZ	Hauiti	12.02	217	ePn	Pn	20 41 39.2	-0.8
BFZ	Birch Farm	13.12	207	ePn	Pn	20 41 53.9	-1.1
BFZ	Birch Farm	13.12	207	PN	Pn	20 41 52.9	-2.1
SNZO	South Karori	14.28	210	ePn	Pn	20 42 07.2	-3.6
THZ	Tophouse	15.46	213	ePn	Pn	20 42 23.2	-3.5
	43nm,1.2s						
KHZ	Kahutara	15.69	210	ePn	Pn	20 42 25.9	-3.7
	136nm,1.9s						
LTZ	Lake Taylor	16.55	212	ePn	Pn	20 42 39.6	-1.0
	24nm,1.2s						
MQZ	McQueen's Vall	17.11	209	ePn	Pn	20 42 42.4	-5.3
	179nm,2.0s						
DZM	Mont Dzumac	17.34	290	ePn	Pn	20 42 50.5	-0.2
	70nm,1.8s						
RPZ	Rata Peaks	17.83	212	P	P	20 42 56.7	-0.5
	1.5nm,0.3s,baz=19,slow=3.4,SNR=6.2						
RPZ	Rata Peaks	17.83	212	ePn	Pn	20 42 54.6	-2.0
	109nm,1.9s						
FOZ	Fox Glacier	18.29	215	eP	Pn	20 42 58.3	-3.9
	161nm,2.0s						
LBZ	Lake Benmore	18.75	212	eP	Pn	20 43 07.0	-0.8
	66nm,2.0s						
ODZ	Otahua Downs	19.05	210	eP	Pn	20 43 10.9	-0.5
	48nm,1.7s						
WKZ	Wanaka	19.63	213	eP	Pn	20 43 16.4	-2.0
	44nm,1.3s						
MLZ	Mavora Lakes	20.46	214	eP	P	20 43 25.4	-0.5
	68nm,1.9s						
WHZ	Wether Hill Ro	20.93	213	eP	P	20 43 29.7	-1.3
	45nm,1.5s						
CTAO	Charters Tower	35.37	276	eP	P	20 45 43.6	-0.4
	66nm,1.9s						
STKA	Stephens Creek	36.47	255	P	P	20 45 54.2	+0.9
	1.0nm,0.6s,baz=110,slow=12,SNR=5.0						
STKA	Stephens Creek	36.47	255	eP	P	20 45 52.4	-0.9
	1.8nm,1.4s						
RABL	Rabaul	39.09	303	eP	P	20 46 14.7	-0.9
	48nm,0.5s						
BBOO	Buckleboo	40.99	252	eP	P	20 46 29.0	-2.2
	42nm,1.7s						
AS31	Alice Springs	44.94	265	eP	P	20 47 02.4	-0.9
	1.2nm,0.5s						
ASAR	Alice Springs	44.94	265

ellipse: s-maj=18.6km s-min=9.7km az=143.0
*IDC **21** 20:44:20.1±1.1, 28°.21S×176°.24W, h48km±6km, mb3.9/6, mb1 4.1/6, mb1mx3.8/27, mbtmp4.1/6, Error ellipse: s-maj=36.0km s-min=9.0km az=140.0*

ISC 21 20:44:18.5±0.6, 28°.63S±0°.10×176°.03W±0°.10, h36km, n31, σ1°69/35, mb4.8/18, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77**	**249**	P	**Pn**	**20 44 48.0**	**+1.5**
	128nm,0.3s,baz=77,slow=12,SNR=12						
RAO				S	**Sn**	**20 45 11.2**	**+3.4**
	377nm,0.3s,baz=99,slow=23,SNR=10						
URZ	**Urewera**	**11.18**	**209**	P	**Pn**	**20 46 56.1**	**+0.4**
	0.7nm,0.3s,baz=360,slow=19,SNR=5.4						
URZ				S	**Sn**	**20 48 56.1**	**-3.3**
	0.9nm,0.3s,baz=359,slow=24,SNR=9.1						
CTA	**Charters Tower**	**35.28**	**275**	P	**P**	**20 51 08.8**	**-1.3**
	4.1nm,0.8s,baz=103,slow=16,SNR=2.5						
STKA	**Stephens Creek**	**36.58**	**254**	P	**P**	**20 51 20.1**	**-1.0**
	3.7nm,1.0s,baz=88,slow=8.4,SNR=5.8						
STKA	**Stephens Creek**	**36.58**	**254**	*e*P	**P**	**20 51 20.0**	**-1.1**
	2.1nm,1.4s						
AS31	**Alice Springs**	**44.96**	**264**	*e*P	**P**	**20 52 28.6**	**-1.7**
	1.9nm,1.4s						
ASAR	**Alice Springs**	**44.96**	**264**	P	**P**	**20 52 28.9**	**-1.4**
	0.8nm,0.6s,baz=95,slow=7.1,SNR=26						
ASAR				pP	**pP**	**20 52 42.2**	**+1.3**
	0.7nm,0.5s,baz=101,slow=6.8,SNR=4.6						
WB2	**Warramunga Arr**	**45.78**	**269**	*e*P	**P**	**20 52 35.6**	**-1.3**
	25nm,1.8s						
WRAB	**Tennant Creek**	**45.79**	**269**	*e*P	**P**	**20 52 35.1**	**-1.7**
	20nm,0.3s						
WR1	**Warramunga Arr**	**45.79**	**269**	*e*P	**P**	**20 52 34.5**	**-2.5**
	28nm,1.9s						
WRA	**Warramunga Arr**	**45.79**	**269**	P	**P**	**20 52 34.5**	**-2.5**
	1.9nm,0.6s,baz=108,slow=7.7,SNR=17						
WRA				pP	**pP**	**20 52 48.8**	**+1.2**
	1.3nm,0.7s,baz=109,slow=7.9,SNR=4.2						
FORT	**Forrest**	**48.18**	**253**	*e*P	**P**	**20 52 54.0**	**-1.5**
	92nm,0.7s						
VNDA	**Vanda**	**50.03**	**186**	*e*P	**P**	**20 53 08.3**	**-0.6**
	4.9nm,1.4s						
MLOA	**Mauna Loa Obse**	**51.80**	**25**	*e*P	**P**	**20 53 20.8**	**-2.5**
	327nm,1.6s						
KIP	**Kipapa**	**52.71**	**21**	*e*P	**P**	**20 53 29.5**	**-0.1**
	284nm,1.8s						
KEKH	**Kekaha**	**52.72**	**19**	*e*P	**P**	**20 53 29.3**	**-0.3**
	476nm,1.9s						
FITZ	**Fitzroy Crossi**	**54.12**	**268**	*e*P	**P**	**20 53 38.9**	**-1.3**
	26nm,1.9s						
MBWA	**Marble Bar**	**58.15**	**262**	*e*P	**P**	**20 54 07.7**	**-1.3**
	50nm,1.8s						
QSPA	**South Pole Qui**	**61.48**	**180**	*e*P	**P**	**20 54 32.8**	**+1.5**
	14nm,0.9s						
SYO	**Syowa Base**	**79.21**	**192⇑**	*e*P	**P**	**20 56 21.6**	**+2.3**
SYO	**Syowa Base**	**79.21**	**192⇓**	*e*PcP	**PcP**	**20 56 25.2**	**-2.4**
TXAR	**Lajitas Array**	**89.98**	**56**	P	**P**	**20 57 15.2**	**+0.8**
	0.8nm,0.8s,baz=207,slow=7.9,SNR=7.8						
ILAR	**Eielson Array**	**95.83**	**12**	P	**P**	**20 57 40.0**	**-0.4**
	0.8nm,0.7s,baz=219,slow=5.0,SNR=7.2						
ILAR				pP	**pP**	**20 57 53.4**	**+1.5**
	0.3nm,0.7s,baz=219,slow=6.4,SNR=2.2						
FIA0	**FINESS Array S**	**144.03**	**342**	*e*PKPpre	PKPpre	21 03 46.0	
FINES	**FINESS Array B**	**144.03**	**342**	PKP	PKPab	21 03 46.0	-1.0
	2.6nm,0.9s,baz=75,slow=8.1,SNR=6.9						
NB2	**NORSAR Subarra**	**147.23**	**353**	PKP	**PKPbc**	**21 03 57.7**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=12,slow=3.0						
NB200	**NORSAR Array S**	**147.23**	**353**	*e*PKPbc	**PKPdf**	**21 03 57.0**	**+2.0**
NOA	**NORSAR Array B**	**147.23**	**353**	PKPbc	**PKPdf**	**21 03 57.0**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=1.2,slow=3.6,SNR=5.4						
AKASG	**Malin Array Be**	**150.86**	**326**	PKPbc	**PKPbc**	**21 04 06.3**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=45,slow=3.0,SNR=14						
AKASG				pPKPbc	**pPKPbc**	**21 04 19.6**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=45,slow=3.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**164.45**	**172**	PKPab	**PKPab**	**21 05 13.8**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=181,slow=4.7,SNR=9.9						
TOA1	**Torodi Ar. Sit**	**164.46**	**172**	*e*PKPab	**PKPab**	**21 05 13.8**	**+0.4**

*SJA **21** 20:45:52.2±0.4, 34°.62S×73°.81W, h12km±18km, ML4.9, MW4.5*
*IDC **21** 20:46:11.7±0.7, 33°.68S×72°.31W, h0km, mb4.4/12, mb1 4.5/16, mb1mx4.3/33, mbtmp4.4/16, ML4.5/4, Error ellipse: s-maj=26.9km s-min=14.2km az=95.0*
*GUC **21** 20:46:13.9±0.6, 33°.68S×72°.50W, h37km±3km, ML4.5*
*ISCJB **21** 20:46:14.5±1.0, 33°.77S±0°.04×72°.48W±0°.04, h28km±7km, mb4.6/39, Error ellipse: s-maj=6.4km s-min=5.2km az=139.0*
*NEIC **21** 20:46:17.0±0.2, 33°.75S×72°.24W, h35km, mb4.7/34, Error ellipse: s-maj=6.7km s-min=4.6km az=79.0*

ISC 21 20:46:16.1±0.8, 33°.72S±0°.04×72°.34W±0°.06, h28km±5km, n111, σ1°35/132, mb4.7/39, 7C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.73**	**158**	*i*P	**Pb**	**20 46 28.8**	**-1.4**
CHPI				*i*S	**Sn**	**20 46 40.6**	**-0.1**
ROC1	**El Roble**	**1.33**	**57**	*e*P	**Pb**	**20 46 39.9**	**-0.6**
ROC1	**El Roble**	**1.33**	**57**	*e*Pn	**Pn**	**20 46 38.5**	**-0.5**
GO05	**HualaæØ**	**1.33**	**165**	*e*Pn	**Pn**	**20 46 37.2**	**-1.7**
ROCH	**El Roble**	**1.33**	**57⇑**	*i*P	**Pn**	**20 46 38.9**	**-0.2**
ROCH				*i*S	**Sb**	**20 47 00.4**	**+3.0**
ROCH				IAML		20 47 10.3	
	comp=N,13μm,0.4s						
ANTU	**Antumapu**	**1.43**	**85**	*e*P	**Pn**	**20 46 40.8**	**+0.6**
ANTU				*i*S	**Sb**	**20 47 01.3**	**+1.4**
ANTU				IAML		20 47 14.4	
	comp=N,9μm,0.7s						
PEL	**Peldehue**	**1.50**	**68⇑**	*i*P	**Pn**	**20 46 41.8**	**+0.7**
PEL				IAML		20 47 19.3	
	comp=N,9μm,0.6s						
FSR	**Penalolen**	**1.53**	**82⇑**	*i*P	**Pb**	**20 46 42.7**	**-1.1**
FSR				*i*S	**Sb**	**20 47 04.4**	**+1.6**
CLCH	**Cerro Calan**	**1.54**	**79⇑**	*i*P	**Pn**	**20 46 42.5**	**+0.8**
CLCH				*i*S	**Sb**	**20 47 01.9**	**-1.1**
CLCH				IAML		20 47 22.7	
	comp=E,14μm,0.8s						
NICH	**Los Niches**	**1.58**	**145⇓**	*i*P	**Pn**	**20 46 42.8**	**+0.5**
FCH	**Farellones**	**1.75**	**78⇑**	*i*P	**Pn**	**20 46 46.0**	**+1.1**
FCH				*i*S	**Sb**	**20 47 10.6**	**+1.1**
FCH				IAML		20 47 19.4	
	comp=E,4μm,0.5s						
YECH	**El Yeso**	**1.88**	**89**	IAML		20 47 27.9	
	comp=N,9μm,1.2s						
LNCH	**Linares**	**2.21**	**164⇑**	*i*P	**Pb**	**20 46 57.1**	**+1.7**
LNCH				*i*S	**Sb**	**20 47 24.7**	**+2.4**
AUSP	**Uspallata**	**2.89**	**60**	*e*P	**Pn**	**20 47 03.0**	**+2.4**
ARCO	**CERRO ARCO**	**2.98**	**74**	*e*P	**Pn**	**20 47 02.7**	**+1.0**
ARCO				IAML		20 47 13.8	
	comp=Z,1μm,0.5s						
ARCO				*e*S	Sb	20 47 55.2	+11
AAGR	**Agrelo**	**3.00**	**79**	*e*P	**Pn**	**20 47 02.7**	**+0.8**
AAGR				*e*S	Sb	20 47 54.7	+10
ASAL	**Salagasta**	**3.15**	**70**	*e*P	**Pn**	**20 47 05.5**	**+1.6**
RTLS	**Leoncito**	**3.20**	**54**	*e*P	**Pn**	**20 47 07.7**	**+3.0**
RTCV	**Cerro Valdivia**	**3.69**	**61**	*e*P	**Pn**	**20 47 13.9**	**+2.5**
ACCO	**Cerro Coronel**	**4.17**	**43**	*e*P	**Pn**	**20 47 20.6**	**+2.4**
ACCO				*e*S	**Sb**	**20 48 26.1**	**+7.0**
AMOG	**MOGNA**	**4.27**	**51**	*e*P	**Pn**	**20 47 21.5**	**+2.2**
AROD	**Rodeo**	**4.29**	**35**	*e*P	**Pn**	**20 47 21.8**	**+1.9**
ACDV	**Cuesta del Vie**	**4.47**	**39**	*e*P	**Pn**	**20 47 23.9**	**+1.8**
ACAN	**Cantantal**	**4.56**	**73**	*e*P	**Pn**	**20 47 24.5**	**+1.2**
LCO	**Las Campanas**	**4.89**	**17**	*e*Pn	**Pn**	**20 47 25.9**	**-2.1**
AVFE	**Valle Fertil**	**5.14**	**55**	*e*P	**Pn**	**20 47 33.0**	**+1.7**
AVFE				IAML		20 49 06.2	
	comp=Z,220nm,0.5s						
AGUA	**GUANDACOL**	**5.34**	**39**	*e*P	**Pn**	**20 47 35.5**	**+1.4**
AGUA				*e*S	**Sb**	**20 48 51.9**	**-0.5**
ACHE	**Chepes**	**5.43**	**64**	*e*P	**Pn**	**20 47 36.9**	**+1.6**
ACHE				*e*S	**Sb**	**20 48 54.7**	**-0.3**
APLL	**PUNTA DE LOS L**	**5.94**	**58**	*e*P	**Pn**	**20 47 44.0**	**+1.7**
ACLC	**CERRO LA CRUZ**	**6.28**	**49**	*e*P	**Pn**	**20 47 48.5**	**+1.5**
ACLC				*e*S	**Sb**	**20 49 14.8**	**-4.6**
PLCA	**Paso Flores**	**7.15**	**169**	Pn	**Pn**	**20 47 58.8**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=358,slow=11,SNR=32						
PLCA	**Paso Flores**	**7.15**	**169**	*e*Pn	**Pn**	**20 47 57.9**	**-0.9**
AHML	**Horco Molle**	**9.18**	**43**	*e*P	**Pn**	**20 48 27.5**	**+0.7**
TRQA	**Tornquist**	**9.45**	**120**	*e*Pn	**Pn**	**20 48 31.0**	**+0.6**
LVC	**Limon Verde**	**11.47**	**16**	Pn	**Pn**	**20 48 57.6**	**-0.7**
	comp=Z,17nm,0.3s,baz=198,slow=9.6,SNR=2.6						
LVC				Lg	Lg	20 51 53.0	
	comp=Z,29nm,0.3s,baz=80,slow=20,SNR=7.1						
LVC	**Limon Verde**	**11.47**	**16**	*e*Pn	**Pn**	**20 48 59.3**	**+1.0**
PB11	**IPOC Station P**	**14.10**	**10**	*e*Pn	**Pn**	**20 49 37.1**	**+2.9**
CPUP	**Villa Florida**	**14.93**	**64**	Pn	**Pn**	**20 49 45.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=237,slow=16,SNR=1.9						
CPUP	**Villa Florida**	**14.93**	**64**	*e*Pn	**Pn**	**20 49 44.3**	**-1.0**
LPAZ	**La Paz**	**17.76**	**13**	P	**Pn**	**20 50 21.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=179,slow=4.5,SNR=15						
LPAZ	**La Paz**	**17.76**	**13**	*e*Pn	**Pn**	**20 50 21.6**	**-0.3**
	comp=Z,24nm,1.0s						
SIV	**San Ignacio**	**20.36**	**33**	P	**P**	**20 50 49.0**	**-1.6**
	comp=Z,7.4nm,0.8s,baz=230,slow=7.7,SNR=16						
USHA	**Ushuaia**	**21.29**	**174**	P	**P**	**20 51 00.6**	**+0.4**
	comp=Z,67nm,0.8s,baz=338,slow=4.5,SNR=4.5						
NNA	**Nana**	**22.02**	**348**	*e*P	**P**	**20 51 09.9**	**+1.6**
	comp=Z,26nm,0.9s						
SPB	**Sao Paulo**	**24.02**	**72**	*e*P	**P**	**20 51 28.1**	**-0.5**
	comp=Z,33nm,1.0s						
SAML	**Samuel**	**26.05**	**21**	*e*P	**P**	**20 51 47.0**	**-0.1**
	comp=Z,11nm,1.0s						
BDFB	**Brasilia**	**28.38**	**57**	P	**P**	**20 52 07.2**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=22,slow=8.4,SNR=9.7						
BDFB	**Brasilia**	**28.38**	**57**	*e*P	**P**	**20 52 07.2**	**-1.1**
	comp=Z,72nm,2.0s						
OTAV	**Otavalo**	**34.26**	**349**	*e*P	**P**	**20 53 01.8**	**+1.4**
	comp=Z,10nm,1.0s						
PTGA	**Pitinga**	**34.80**	**22**	P	**P**	**20 53 03.7**	**-0.8**
	comp=Z,14nm,1.2s,baz=217,slow=8.3,SNR=6.6						
PTGA	**Pitinga**	**34.80**	**22**	*e*P	**P**	**20 53 03.8**	**-0.8**
	comp=Z,13nm,1.0s						
RUSC	**La Rusia**	**39.40**	**359**	*e*P	**P**	**20 53 44.5**	**+0.4**
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**51.94**	**158**	P	**P**	**20 55 22.7**	**+0.6**
	comp=Z,10nm,0.9s,baz=272,slow=6.0,SNR=37						
SNAA	**Sanae**	**51.94**	**158**	*e*P	**P**	**20 55 22.2**	**+0.1**
	comp=Z,22nm,1.1s						
VNDA	**Vanda**	**64.33**	**191**	P	**P**	**20 56 49.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=106,slow=4.6,SNR=3.6						
VNDA	**Vanda**	**64.33**	**191**	*e*P	**P**	**20 56 47.9**	**-0.7**
LTX	**Lajitas**	**69.36**	**331**	*e*P	**P**	**20 57 22.1**	**+0.8**
TXAR	**Lajitas Array**	**69.36**	**331**	P	**P**	**20 57 22.1**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=172,slow=7.1,SNR=6.5						
SWET	**Sewanee**	**69.75**	**348**	*e*P	**P**	**20 57 24.9**	**+1.4**
MNTX	**Cornudas Mount**	**72.14**	**331**	*e*P	**P**	**20 57 37.7**	**-0.4**
	comp=Z,14nm,1.8s						
MAW	**Mawson**	**73.52**	**164**	P	**P**	**20 57 46.2**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=247,slow=6.9,SNR=7.5						
MAW	**Mawson**	**73.52**	**164**	*e*P	**P**	**20 57 46.2**	**+0.4**
	comp=Z,3.5nm,1.4s						
DBIC	**Dimbokro**	**75.32**	**72**	P	**P**	**20 57 57.0**	**-0.1**
	comp=Z,8.3nm,1.1s,baz=217,slow=8.3,SNR=3.9						
DBIC	**Dimbokro**	**75.32**	**72**	*e*P	**P**	**20 57 56.8**	**-0.3**
	comp=Z,24nm,1.5s						
T25A	**Trinidad**	**76.57**	**334**	*e*P	**P**	**20 58 04.7**	**+0.7**
	comp=Z,14nm,1.1s						
X16A	**Lo Mia Camp, P**	**77.06**	**328**	*e*P	**P**	**20 58 08.0**	**+1.2**
	comp=Z,7.1nm,1.1s						
U15A	**North Rim**	**79.12**	**328**	*e*P	**P**	**20 58 19.0**	**+0.7**
	comp=Z,22nm,1.9s						
SMCO	**Snowmass**	**79.31**	**333**	*e*P	**P**	**20 58 20.1**	**+0.7**
	comp=Z,7.4nm,1.0s						
TSUM	**Tsumeb**	**79.53**	**106**	*e*P	**P**	**20 58 21.3**	**+0.5**
	comp=Z,24nm,1.7s						
KNB	**Kanab**	**79.85**	**328**	*e*P	**P**	**20 58 23.0**	**+0.9**
	comp=Z,9.9nm,1.2s						
ECSD	**EROS Data Cent**	**80.20**	**342**	*e*P	**P**	**20 58 22.9**	**-0.7**
	comp=Z,8.3nm,1.0s						
BOSA	**Boshof**	**80.42**	**118**	P	**P**	**20 58 25.4**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=240,slow=3.8,SNR=4.7						
SHPR	**Sheep Range**	**80.48**	**326**	*e*P	**P**	**20 58 25.3**	**-0.2**
	comp=Z,8.2nm,1.2s						
CCUT	**Cedar City**	**80.53**	**328**	*e*P	**P**	**20 58 26.0**	**+0.2**
	comp=Z,6.6nm,1.2s						
MSU	**Marysvale**	**80.82**	**329**	*e*P	**P**	**20 58 28.2**	**+0.9**
P18A	**Preston Nutter**	**80.97**	**331**	*e*P	**P**	**20 58 28.8**	**+0.5**
	comp=Z,12nm,1.2s						
TPNV	**Topopah Spring**	**81.35**	**326**	*e*P	**P**	**20 58 31.4**	**+1.2**
	comp=Z,4.6nm,1.0s						
DAC	**Darwin (Calif)**	**81.45**	**325**	*e*P	**P**	**20 58 29.6**	**-1.1**
	comp=Z,21nm,1.8s						
R11A	**Troy Canyon, C**	**82.18**	**327**	*e*P	**P**	**20 58 34.9**	**+0.4**
	comp=Z,6.4nm,1.3s						
DUG	**Dugway, Tooele**	**82.50**	**330**	*e*P	**P**	**20 58 36.1**	**+0.1**
	comp=Z,7.4nm,1.2s						
LBTB	**Lobatse**	**82.65**	**115**	*e*P	**P**	**20 58 36.5**	**-0.8**
	comp=Z,16nm,1.1s						
BGU	**Big Grassy Mou**	**83.20**	**330**	*e*P	**P**	**20 58 39.8**	**+0.1**
	comp=Z,12nm,1.7s						
SPUT	**South Promonto**	**83.28**	**331**	*e*P	**P**	**20 58 39.4**	**-0.7**
	comp=Z,32nm,1.9s						
PD31	**Pinedale Array**	**83.40**	**333**	*e*P	**P**	**20 58 40.3**	**-0.5**
PDAR	**Pinedale Array**	**83.40**	**333**	P	**P**	**20 58 40.5**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=134,slow=4.3,SNR=3.9						
HVU	**Hansel Valley**	**83.81**	**331**	*e*P	**P**	**20 58 42.0**	**-0.9**
	comp=Z,7.3nm,1.4s						
TOA0	**Torodi Ar. Sit**	**84.35**	**70**	*e*P	**P**	**20 58 45.4**	**-0.6**
	comp=Z,9.1nm,1.0s						
TOA1	**Torodi Ar. Sit**	**84.35**	**70**	*e*P	**P**	**20 58 46.0**	**0.0**
	comp=Z,8.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**20 58 46.0**	**0.0**
	comp=Z,5.1nm,1.0s,baz=256,slow=3.9,SNR=23						
MDND	**Maddock**	**84.80**	**342**	*e*P	**P**	**20 58 47.2**	**-0.3**
YHH	**Holmes Hill**	**85.61**	**334**	*e*P	**P**	**20 58 52.4**	**+0.4**
ORV	**Oroville**	**85.93**	**324**	*e*P	**P**	**20 58 54.2**	**+0.8**
	comp=Z,17nm,1.4s						
HLID	**Hailey**	**85.97**	**331**	*e*P	**P**	**20 58 54.2**	**+0.5**
	comp=Z,14nm,1.6s						
MCMT	**McKenzie Canyo**	**86.40**	**332**	*e*P	**P**	**20 58 55.7**	**-0.2**
WR1	**Warramunga Arr**	**120.89**	**209**	*e*PKPdf	**PKPdf**	**21 05 05.0**	**-1.3**
WRA	**Warramunga Arr**	**120.89**	**209**	PKP	**PKPdf**	**21 05 05.0**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=162,slow=1.4,SNR=5.4						
H11S2	**WAKE ISLAND Hyl**	**25.53**	**270**	T	T	23 23 20.1	
	baz=118,slow=75,SNR=6.6						
H11S1	**WAKE ISLAND Hyl**	**25.54**	**270**	T	T	23 23 14.1	
	baz=118,slow=75,SNR=5.8						
H11S3	**WAKE ISLAND Hyl**	**25.54**	**270**	T	T	23 23 23.6	
	baz=118,slow=75,SNR=3.9						
GEYT	**Alibeck**	**139.98**	**69**	PKP	**PKPdf**	**21 05 41.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=295,slow=4.6,SNR=3.5						
HYB	**Hyderabad**	**149.28**	**115**	*i* PKP	**PKPbc**	**21 06 02.0**	**-0.7**
KSH	**Kashi**	**154.00**	**68**	*e*PKPbc	**PKPdf**	**21 06 05.1**	**+0.1**
KSH				pPKP	pPKPdf	21 06 15.1	+0.8
KSH				sPKP		21 06 18.8	
KSH				PKS	**PKSdf**	**21 09 38.3**	**-1.1**
KSH				PP	**PP**	**21 10 00.5**	**-1.3**
KSH				SKS	**SKSdf**	**21 13 10.3**	**+0.3**
ZAA1	**Zalesovo Array**	**154.11**	**32**	*e*PKPdf	**PKPdf**	**21 06 04.2**	**-0.3**
ZAA1				*e*PKPbc	**PKPbc**	**21 06 12.1**	**-0.6**
ZALV	**Zalesovo Beam**	**154.12**	**32**	PKP	**PKPdf**	**21 06 04.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=270,slow=3.0,SNR=5.8						
ZALV				PKPbc	**PKPbc**	**21 06 12.1**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=301,slow=3.1,SNR=6.0						
MK32	**Makanchi Array**	**156.76**	**48**	*e*PKPdf	**PKPdf**	**21 06 08.2**	**-0.2**
MK32				*e*PKPab	**PKPab**	**21 06 38.2**	**+0.2**
MKAR	**Makanchi Array**	**156.76**	**48**	PKP	**PKPdf**	**21 06 08.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=347,slow=1.9,SNR=3.9						
MKAR				PKPab	**PKPab**	**21 06 38.2**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=304,slow=3.7,SNR=11						
CMAR	**Chiang Mai Arr**	**162.92**	**151**	PKP	**PKPdf**	**21 06 15.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=222,slow=2.6,SNR=6.6						
CMAR				PKPab	**PKPab**	**21 07 04.4**	**-1.0**
	comp=Z,1.6nm,1.2s,baz=226,slow=5.2,SNR=4.3						
SONA0	**Songino Array**	**165.86**	**3**	*e*PKPdf	**PKPdf**	**21 06 17.1**	**-1.0**
SONA0				*e*PKPab	**PKPab**	**21 07 17.2**	**-0.5**
SONM	**Songino Array**	**165.86**	**3**	PKP	**PKPdf**	**21 06 17.1**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=191,slow=2.9,SNR=3.0						
SONM				PKPab	**PKPab**	**21 07 17.2**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=343,slow=4.6,SNR=5.3						
GTA	**Gaotai**	**171.51**	**46**	*e*PKP	**PKPdf**	**21 06 22.8**	**+0.8**
GTA				pPKP	**sPKPdf**	**21 06 33.5**	**-0.9**
GTA				sPKP		21 06 37.1	
GTA				PKPab	**PKPab**	**21 07 44.0**	**+0.9**
LZH	**Lanzhou**	**176.07**	**52**	*e*PKP	**PKPdf**	**21 06 25.3**	**+1.5**
LZH				pPKP	**sPKPdf**	**21 06 35.6**	**-0.6**
LZH				sPKP		21 06 39.8	
LZH				PKP	**PKPab**	**21 08 06.6**	**+3.1**
LZH				LR	LR		
	comp=N,290nm,19.0s						
LZH				LR	LR		
	comp=E,270nm,17.0s						
LZH				LR	LR		
	comp=Z,370nm,20.2s						

*ISK **21** 20:46:26.7, 41°.00N×42°.41E, h6km, MD2.8*
*DDA **21** 20:46:28.0, 40°.91N×42°.53E, h7km, Md2.9*
*TIF **21** 20:46:27.0, 40°.92N×42°.51E, h8km±3km*
*CSEM **21** 20:46:28.2±0.1, 40°.90N×42°.53E, h2km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.7km az=179.0*

ISC 21 20:46:28.0±1.1, 40°.93N±0°.02×42°.53E±0°.02, h4km±11km, n32, σ0°74/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.39**	**201**	*e*PG	**Pg**	**20 46 35.7**	**+0.1**
SENK				*e*SG	**Sb**	**20 46 42.3**	**-1.7**
SENK	**Senkaya-Erzuru**	**0.39**	**201**	*e*Pg	**Pg**	**20 46 35.7**	**+0.1**
SENK				*e*Sg	**Sb**	**20 46 42.3**	**-1.7**
DAGI	**Agillar**	**0.49**	**288**	*i* P	**Pg**	**20 46 37.7**	**+0.2**
DAGI				*i* S	**Sb**	**20 46 45.1**	**-1.7**
ARTV	**Artvin**	**0.52**	**300**	*i* P	**Pg**	**20 46 38.5**	**+0.4**
ARTV				*i* S	**Sb**	**20 46 46.3**	**-1.6**
ARTV	**Artvin**	**0.52**	**300**	P	**Pg**	**20 46 38.5**	**+0.4**
ARTV				S	**Sb**	**20 46 46.3**	**-1.6**
DDEM	**Demirkent**	**0.59**	**267**	*i* P	**Pg**	**20 46 39.4**	**0.0**
DDEM				*i* S	**Sg**	**20 46 48.0**	**+0.9**
DDEM	**Demirkent**	**0.59**	**267**	P	**Pg**	**20 46 39.4**	**0.0**
DDEM				S	**Sg**	**20 46 48.0**	**+0.9**
EPOS	**Posof**	**0.60**	**14**	*i* P	**Pg**	**20 46 40.1**	**+0.6**
EPOS				*i* S	**Sb**	**20 46 49.6**	**-0.4**
EPOS	**Posof**	**0.60**	**14**	P	**Pg**	**20 46 40.1**	**+0.6**
EPOS				S	**Sb**	**20 46 49.6**	**-0.4**
DBOC	**Borcka**	**0.78**	**303**	*i* P	**Pg**	**20 46 42.8**	**-0.1**
DBOC				*i* S	**Sg**	**20 46 53.6**	**+0.7**
DBOC	**Borcka**	**0.78**	**303**	P	**Pg**	**20 46 42.8**	**-0.1**
DBOC				S	**Sg**	**20 46 53.7**	**+0.7**
DIGO	**Kars**	**0.82**	**128**	*i* P	**Pg**	**20 46 44.1**	**+0.3**
DIGO				*i* S	**Sg**	**20 46 54.5**	**+0.1**
DIGO	**Kars**	**0.82**	**128**	P	**Pg**	**20 46 44.1**	**+0.3**
DIGO				S	**Sg**	**20 46 54.5**	**+0.1**
EAK	**Akyaka**	**0.85**	**106**	*i* P	**Pg**	**20 46 44.1**	**-0.3**
EAK				*i* S	**Sg**	**20 46 56.2**	**+0.7**
EAK	**Akyaka**	**0.85**	**106**	P	**Pg**	**20 46 44.1**	**-0.3**
EAK				S	**Sg**	**20 46 56.2**	**+0.7**
AKH	**Akhalkalaki**	**0.87**	**56**	*e*PG	**Pg**	**20 46 44.8**	**0.0**
AKH				*e*SG	**Sb**	**20 46 57.8**	**-0.1**
AKH	**Akhalkalaki**	**0.87**	**56**	P	**Pg**	**20 46 44.9**	**0.0**
AKH				S	**Sg**	**20 46 56.3**	**+0.2**
AKH	**Akhalkalaki**	**0.87**	**56**	P	**Pg**	**20 46 44.8**	**0.0**
AKH				S	**Sg**	**20 46 56.0**	**-0.2**
AKH				*e*Sg	**Sb**	**20 46 57.8**	**-0.1**
HOMI	**Horasan**	**1.00**	**209**	*i* P	**Pg**	**20 46 47.3**	**+0.1**
EATA	**Eleskirt**	**1.06**	**182**	*i* P	**Pg**	**20 46 48.1**	**-0.3**
EATA	**Eleskirt**	**1.06**	**182**	P	**Pg**	**20 46 48.1**	**-0.3**
AGRB	**Hanur-Agry**	**1.39**	**165**	*e*PN	**Pg**	**20 46 54.8**	**0.0**
AGRB				*e*SN	**Sn**	**20 47 15.1**	**+1.8**
AGRB

0.2nm,0.4s,baz=56,slow=3.9,SNR=2.9
MKAR Makanchi Array 44.06 303 P **P 21 10 55.9 +0.3**
0.2nm,0.3s,baz=82,slow=7.7,SNR=2.8
ILAR Eielson Array 51.32 32 P **P 21 11 51.9 +0.5**
0.5nm,0.7s,baz=264,slow=6.5,SNR=6.8
WRA Warramunga Arr 55.44 187 P **P 21 12 21.5 -0.5**
0.4nm,0.4s,baz=1.0,slow=7.6,SNR=7.4
ASAR Alice Springs 59.16 187 P **P 21 12 46.1 -2.2**
0.1nm,0.5s,baz=20,slow=8.3,SNR=3.2

WEL 21 21:12:27.2±0.1, 43°58S×172°37E, h8km, ML3.8/26, 6C-5D, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.18**	**89**	⇓PG	Pg	21 12 31.1	+0.1
CRLZ				SG	Sg	21 12 34.0	+0.4
CRLZ				AML	AML	21 12 34.2	
CRLZ				AML	AML	21 12 34.2	
CRLZ				AML	AML	21 12 34.4	
MQZ	**McQueen's Vall**	**0.24**	**122**	⇓PG	Pg	21 12 32.1	0.0
MQZ				SG	Sg	21 12 35.8	+0.5
MQZ				AML	AML	21 12 36.1	
OXZ	**Oxford**	**0.35**	**316**	⇓PG	Pg	21 12 33.8	-0.3
OXZ				AML	AML	21 12 42.9	
OXZ				AML	AML	21 12 42.9	
OXZ				AML	AML	21 12 43.1	
OXZ				AML	AML	21 12 43.2	
LTZ	**Lake Taylor**	**0.80**	**355**	P*	Pg	21 12 42.6	0.0
LTZ				AML	AML	21 12 54.5	
RPZ	**Rata Peaks**	**0.97**	**262**	P*	Pg	21 12 45.5	-0.4
RPZ				AML	AML	21 13 00.7	
RPZ				AML	AML	21 13 01.9	
INZ	**Inchbonnie**	**1.09**	**321**	P*	Pg	21 12 46.5	-1.7
WVZ	**Waitaha Valley**	**1.30**	**292**	P*	Pn	21 12 50.3	-1.2
WVZ				AML	AML	21 13 11.6	
WVZ				AML	AML	21 13 12.1	
KHZ	**Kahutara**	**1.44**	**37**	⇑PN	Pn	21 12 51.7	-1.9
KHZ				AML	AML	21 13 16.9	
KHZ				AML	AML	21 13 16.9	
KHZ				AML	AML	21 13 17.8	
KHZ				AML	AML	21 13 17.8	
LBZ	**Lake Benmore**	**1.77**	**242**	⇑PN	Pn	21 12 56.8	-1.4
LBZ				AML	AML	21 13 25.7	
LBZ				AML	AML	21 13 25.9	
LBZ				AML	AML	21 13 33.3	
LBZ				AML	AML	21 13 33.3	
THZ	**Tophouse**	**1.86**	**12**	⇓PN	Pn	21 12 57.8	-1.6
THZ				AML	AML	21 13 34.0	
THZ				AML	AML	21 13 36.0	
FOZ	**Fox Glacier**	**1.86**	**271**	PN	Pn	21 12 59.1	-0.2
FOZ				AML	AML	21 13 31.7	
FOZ				AML	AML	21 13 31.7	
FOZ				AML	AML	21 13 32.2	
FOZ				AML	AML	21 13 32.2	
DSZ	**Denniston Nort**	**1.88**	**347**	⇑PN	Pn	21 12 58.3	-1.3
DSZ				AML	AML	21 13 26.0	
DSZ				AML	AML	21 13 26.0	
DSZ				AML	AML	21 13 28.6	
DSZ				AML	AML	21 13 29.8	
ODZ	**Otahua Downs**	**1.92**	**220**	⇑PN	Pn	21 12 58.4	-1.7
ODZ				AML	AML	21 13 32.2	
ODZ				AML	AML	21 13 32.2	
ODZ				AML	AML	21 13 35.8	
ODZ				AML	AML	21 13 39.9	
BSWZ	**Blackbirch Sta**	**2.17**	**31**	PN	Pn	21 13 02.1	-1.5
BSWZ				AML	AML	21 13 36.3	
BSWZ				AML	AML	21 13 39.1	
TUWZ	**Tuamarina**	**2.44**	**29**	PN	Pn	21 13 05.3	-2.0
TUWZ				AML	AML	21 13 56.7	
NNZ	**Nelson**	**2.48**	**18**	⇑PN	Pn	21 13 06.7	-1.1
NNZ				AML	AML	21 13 57.7	
NNZ				AML	AML	21 15 37.4	
HHSZ	**Highcliff Hill**	**2.63**	**208**	PN	Pn	21 13 08.2	-1.7
HHSZ				AML	AML	21 14 04.5	
HHSZ				AML	AML	21 14 04.5	
JCZ	**Jackson Bay**	**2.64**	**258**	PN	Pn	21 13 08.6	-1.6
JCZ				AML	AML	21 13 56.0	
JCZ				AML	AML	21 13 57.9	
WKZ	**Wanaka**	**2.72**	**242**	⇓PN	Pn	21 13 09.5	-1.7
WKZ				AML	AML	21 13 59.5	
WKZ				AML	AML	21 14 11.2	
EAZ	**Earnscleugh**	**2.75**	**232**	PN	Pn	21 13 09.7	-1.8
EAZ				AML	AML	21 13 56.1	
EAZ				AML	AML	21 13 56.1	
EAZ				AML	AML	21 13 56.7	
QRZ	**Quartz Range**	**2.75**	**2**	*e*PN	Pn	21 13 10.5	-1.1
QRZ				AML	AML	21 13 22.0	
QRZ				AML	AML	21 13 22.0	
QRZ				AML	AML	21 13 59.7	
QRZ				AML	AML	21 13 59.7	
TCW	**Tory Channel**	**2.75**	**31**	*e*PN	Pn	21 13 09.4	-2.2
TCW				AML	AML	21 13 51.3	
TCW				AML	AML	21 13 55.3	
PLWZ	**Palliser**	**2.93**	**48**	*e*PN	Pn	21 13 11.3	-2.8
DUWZ	**D'Urville Isla**	**3.00**	**23**	*e*PN	Pn	21 13 13.2	-1.9
DUWZ				AML	AML	21 13 59.2	
DUWZ				AML	AML	21 14 05.8	
TUZ	**Tuapeka**	**3.08**	**218**	⇑PN	Pn	21 13 14.2	-1.8
TUZ				AML	AML	21 14 12.6	
TUZ				AML	AML	21 14 12.6	
TUZ				AML	AML	21 14 14.3	
TUZ				AML	AML	21 14 20.3	
CAW	**Cannon Point**	**3.18**	**40**	PN	Pn	21 13 14.8	-2.6
CAW				AML	AML	21 13 54.5	
CAW				AML	AML	21 13 58.2	
OGWZ	**Otaki Gorge**	**3.46**	**38**	AML	AML	21 14 04.4	
OGWZ				AML	AML	21 14 07.6	
MLZ	**Mavora Lakes**	**3.53**	**238**	PN	Pn	21 13 20.0	-2.3
MRZ	**Mangatainoka R**	**3.77**	**40**	PN	Pn	21 13 22.9	-2.6
MRZ				AML	AML	21 14 12.5	
WHZ	**Wether Hill Ro**	**3.91**	**232**	PN	Pn	21 13 24.7	-2.8
BFZ	**Birch Farm**	**4.08**	**46**	PN	Pn	21 13 26.9	-3.0
DCZ	**Deep Cove**	**4.18**	**241**	PN	Pn	21 13 29.3	-1.9
APZ	**The Paps**	**4.49**	**222**	PN	Pn	21 13 33.2	-2.3

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*DDA **21** 21:13:25.9, 37°71N×25°85E, h6km, Md2.8*
*ISCJB **21** 21:13:26.4±1.0, 37°71N±0°04×25°85E±0°08, h5km±8km, Error ellipse: s-maj=10.5km s-min=6.3km az=20.6*
*CSEM **21** 21:13:26.9±0.3, 37°70N×25°86E, h5km, MD2.7, Error ellipse: s-maj=8.0km s-min=5.7km az=93.0*
*ISK **21** 21:13:26.6, 37°68N×25°95E, h9km, MD2.7*
ISC 21 21:13:26.2±1.6, 37°70N±0°03×25°84E±0°05, h7km±16km, n19, σ0°54/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.68**	**201**	*e*PG	Pb	21 13 40.3	-0.1
APE	**Apeiranthos**	**0.68**	**201**	*e*Pg	Pb	21 13 40.3	-0.1
CHOS	**Chios island**	**0.70**	**14**	*e*PG	Pb	21 13 41.2	+0.3
CHOS				*e*SG	Sb	21 13 51.4	+0.5
CHOS	**Chios island**	**0.70**	**14**	*e*Pg	Pb	21 13 41.2	+0.3
CHOS				*e*Sg	Sb	21 13 51.4	+0.5
ZEY	**˜zmir**	**0.75**	**44**	*i* P	Pg	21 13 39.9	-0.7
ZEY				*i* S	Sb	21 13 52.0	-0.1
URLA	**Izmir**	**0.89**	**42**	*e*PG	Pg	21 13 42.7	-0.6
URLA				*e*SG	Sg	21 13 55.3	+0.4
URLA	**Izmir**	**0.89**	**42**	*i* P	Pg	21 13 42.7	-0.6
URLA				*i* S	Sg	21 13 55.5	+0.7
URLA	**Izmir**	**0.89**	**42**	P	Pg	21 13 42.7	-0.6
URLA				S	Sg	21 13 55.5	+0.7
DGB	**˜zmir**	**0.90**	**67**	*i* P	Pg	21 13 42.3	-1.2
DGB				*i* S	Sg	21 13 55.5	+0.4
GCAM	**G?zelcaml?**	**1.11**	**90**	*i* P	Pg	21 13 47.7	+0.3
GCAM				*i* S	Sb	21 14 02.1	-0.2
GCAM	**G?zelcaml?**	**1.11**	**90**	P	Pg	21 13 47.7	+0.3
GCAM				S	Sb	21 14 02.1	-0.2
BODT	**Bodrum**	**1.33**	**118**	*e*PN	Pb	21 13 51.6	0.0
BODT	**Bodrum**	**1.33**	**118**	*e*Pn	Pb	21 13 51.6	0.0
BDRM	**Kayabasi**	**1.43**	**116**	*i* P	Pb	21 13 52.6	-0.6
BDRM				*i* S	Sg	21 14 12.9	+0.8
BDRM	**Kayabasi**	**1.43**	**116**	P	Pb	21 13 52.6	-0.6
BDRM				S	Sg	21 14 12.9	+0.8
SIGR	**SIGRI**	**1.51**	**1**	*e*PN	Pb	21 13 54.2	-0.3
SIGR	**SIGRI**	**1.51**	**1**	*e*Pn	Pb	21 13 54.2	-0.3
AYDN	**Tasoluk**	**1.62**	**91**	*i* P	Pg	21 13 57.0	-0.3
AYDN	**Tasoluk**	**1.62**	**91**	P	Pg	21 13 57.0	-0.3

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*ISCJB **21** 21:19:02.2±0.5, 19°73N±0°05×69°93W±0°04, h10km, mb4.0/7, Error ellipse: s-maj=6.6km s-min=5.1km az=178.5*
*IDC **21** 21:19:02.1±0.9, 19°78N×69°95W, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.8/55, mbtmp4.1/9, ML3.5/3, Error ellipse: s-maj=25.7km s-min=21.1km az=28.0*
*NEIC **21** 21:19:06.0±2.1, 19°74N×70°03W, h26km±16km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=6.7km az=208.0*
ISC 21 21:19:03.8±0.6, 19°67N±0°05×69°93W±0°04, h10km, n32, σ1°77/39, mb4.1/7, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.45**	**242**	*e*Pn	Pn	21 19 30.0	-0.2
SDDR				*e*Sg	Sn	21 19 50.5	+1.2
GRTK	**Grand Turk**	**2.15**	**329**	*e*Pn	Pn	21 19 38.9	-0.8
GRTK				*e*Sg	Sn	21 20 07.8	+1.3
SJG	**San Juan**	**3.90**	**113**	Pn	Pn	21 20 02.7	-1.2
1.8nm,0.3s,baz=311,slow=19,SNR=4.2							
SJG				Sn	Sn	21 20 48.9	-0.8
18nm,0.3s,baz=309,slow=5.7,SNR=7.2							
SJG	**San Juan**	**3.90**	**113**	*e*Pn	Pn	21 20 05.6	+1.7
SJG				*e*Pb	Pb	21 20 12.3	-0.4
SJG				*e*Sn	Sb	21 21 01.4	+1.3
SJG				*e*Sg	Sg	21 21 08.9	-0.4
GTBY	**Guantanamo Bay**	**4.88**	**274**	*e*Pn	Pn	21 20 15.1	-2.3
GTBY				*e*Sb	Sb	21 21 29.1	+0.8
MTDJ	**Mount Denham**	**7.33**	**260**	*e*Pn	Pn	21 20 50.7	-0.4
URIC	**Uribia, Colomb**	**8.17**	**194**	*e*P	Pn	21 22 30.9	-4.0
PCRV	**Puerto La Cruz**	**10.73**	**151**	Pn	Pn	21 21 40.0	+2.2
1.4nm,0.3s,baz=332,slow=2.8,SNR=6.5							
PCRV				Sn	Sn	21 23 36.8	-1.4
0.5nm,0.3s,baz=354,slow=19,SNR=2.1							
SDV	**Santo Domingo**	**10.74**	**184**	Pn	Pn	21 21 39.8	+1.8
1.5nm,0.3s,baz=37,slow=11,SNR=8.5							
SDV				Sn	Sn	21 23 36.6	-1.9
1.4nm,0.3s,baz=288,slow=16,SNR=3.5							
SDV	**Santo Domingo**	**10.74**	**184**	*e*P	Pn	21 21 40.7	+2.7
SDV	**Santo Domingo**	**10.74**	**184**	*e*Pn	Pn	21 21 40.1	+2.1
SJCC	**San Jacinto, C**	**10.96**	**208**	*e*P	Pn	21 21 40.0	-0.9
PAMC	**Pamplona, Colo**	**12.55**	**193**	*e*P	Pn	21 22 05.0	+2.1
GIRC	**Giron, Santand**	**12.91**	**195**	*e*P	Pn	21 22 10.3	+2.6
ZARC	**Zaragoza, Cauc**	**13.01**	**202**	*e*P	Pn	21 22 12.1	+3.2
CAPC	**Capurgana**	**13.11**	**214**	*e*P	Pn	21 22 09.4	-0.8
BARC	**Barichara**	**13.38**	**194**	*e*P	Pn	21 22 16.5	+2.4
RUSC	**La Rusia**	**14.03**	**193**	*e*P	Pn	21 22 21.6	-1.7
HELC	**Santa Helena**	**14.46**	**203**	*e*P	Pn	21 22 30.1	+1.1
NORC	**Norcasia**	**14.82**	**200**	*e*P	Pn	21 22 36.0	+2.3
GUYC	**Guyana, Colomb**	**15.31**	**201**	*e*P	Pn	21 22 42.6	+2.0
TXAR	**Lajitas Array**	**32.07**	**294**	P	P	21 25 31.1	-0.1
0.9nm,0.7s,baz=111,slow=10,SNR=11							
H07S1	**FLORES T-PHASE**	**38.63**	**51**	T	T	22 07 07.2	
SNR=7.6							
H07N1	**FLORES T-PHASE**	**38.79**	**51**	T	T	22 07 18.8	
SNR=24							
MOOW	**Moose Ponds**	**41.63**	**315**	*e*P	P	21 26 52.4	-0.2
2.9nm,0.8s							
ESDC	**Sonseca Array**	**59.41**	**55**	P	P	21 29 07.0	+0.2
1.0nm,0.7s,baz=274,slow=6.3,SNR=5.7							
ILAR	**Eielson Array**	**66.83**	**333**	P	P	21 29 54.8	-0.8
0.4nm,0.8s,baz=116,slow=6.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**68.60**	**83**	P	P	21 30 07.8	+0.2
1.0nm,0.7s,baz=286,slow=5.3,SNR=7.6							
ARCES	**ARCESS Array B**	**73.63**	**21**	P	P	21 30 36.4	-0.8
5.0nm,1.0s,baz=260,slow=5.0,SNR=3.3							
FINES	**FINESS Array B**	**75.76**	**30**	P	P	21 30 48.7	-0.9
4.3nm,1.0s,baz=299,slow=2.9,SNR=3.2							
STKA	**Stephens Creek**	**149.23**	**240**	PKPbc	PKPdf	21 38 52.1	+3.1
1.4nm,0.6s,baz=90,slow=4.0,SNR=4.3							
ASAR	**Alice Springs**	**157.50**	**256**	PKPab	PKPab	21 39 31.8	-1.1
0.8nm,0.9s,baz=105,slow=5.4,SNR=4.3							

MAN 21 21:27:59, 9°75N×122°10E, h31km, mb4.0, ML2.8, MS2.5, 2C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.99**	**29**	*e*P	Pn	21 28 16.9	+0.1
GUIM				*e*S	Sn	21 28 29.9	+0.2
JAP	**San Jose, Anti**	**1.00**	**351**	⇓*e*P	Pb	21 28 18.9	+1.0
SNPH	**Sibulan**	**1.19**	**110**	⇑*i*P	Pn	21 28 19.7	+0.1
SNPH				*i* S	Sn	21 28 35.0	+0.3
DCPH	**Dipolog City**	**1.70**	**133**	⇑*e*P	Pn	21 28 26.7	+0.2
DCPH				*e*S	Sn	21 28 48.3	+1.1
RCP	**Roxas**	**1.90**	**19**	⇓*e*P	Pb	21 28 32.7	-0.4
RCP				*e*S	Sb	21 28 58.1	+1.6
LLP	**Lapu-Lapu**	**1.92**	**73**	*e*P	Pn	21 28 30.9	+1.3
LLP				*e*S	Sn	21 28 53.6	+0.8
MSLP	**Maasin**	**2.74**	**82**	*e*P	Pn	21 28 43.6	+2.7
MSLP				*e*S	Sb	21 29 21.0	+0.4
SJMP	**San Jose**	**2.86**	**340**	*e*P	Pn	21 28 43.9	+1.4
BUSP	**Coron**	**2.91**	**320**	*e*P	Pn	21 28 45.5	+2.3
BUSP				*e*S	Sn	21 29 18.7	+1.4
ENPP	**El Nido**	**3.00**	**299**	*e*P	Pn	21 28 46.4	+2.0
ENPP				*e*S	Sn	21 29 20.6	+1.2

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*ATH **21** 21:28:34.7, 37°69N×25°89E, h41km±3km, ML1.9/3, Error ellipse: s-maj=5.6km s-min=1.6km az=119.0*
*ISK **21** 21:28:35.2, 37°66N×25°98E, h26km, MD2.6*
*CSEM **21** 21:28:36.0±0.3, 37°67N×25°87E, h40km, ML1.9, Error ellipse: s-maj=8.9km s-min=6.6km az=119.0*
*DDA **21** 21:29:24.0, 37°89N×25°68E, h67km, Md2.8*
ISC 21 21:28:35.7±1.2, 37°69N±0°03×25°86E±0°03, h24km±13km, n24, σ0°87/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.67**	**203**	*e*PG	Pb	21 28 49.4	+0.7
APE				*e*SG	Sn	21 28 59.9	+0.5
APE	**Apeiranthos**	**0.67**	**203**	P	Pb	21 28 47.4	-1.4
APE				S	Sn	21 29 00.1	+0.6
APE	**Apeiranthos**	**0.67**	**203**	P	Pb	21 28 47.3	-1.4
APE	**Apeiranthos**	**0.67**	**203**	*e*Pg	Pb	21 28 49.4	+0.7
APE				*e*Sg	Sn	21 28 59.9	+0.5
CHOS	**Chios island**	**0.71**	**12**	*e*PG	Pb	21 28 50.0	+0.5
CHOS				*e*SG	Sn	21 29 00.8	+0.2
CHOS	**Chios island**	**0.71**	**12**	P	Pb	21 28 49.1	-0.4
CHOS				S	Sb	21 28 59.6	+0.7
CHOS				AML	AML	21 29 03.3	
comp=N,78μm,0.2s							
CHOS				AML	AML	21 29 06.3	
comp=E,138μm,0.2s							
CHOS	**Chios island**	**0.71**	**12**	P	Pb	21 28 49.1	-0.4
CHOS	**Chios island**	**0.71**	**12**	*e*Pg	Pb	21 28 50.0	+0.5
CHOS				S	Sb	21 28 59.7	+0.7
CHOS				*e*Sg	Sn	21 29 00.8	+0.2
ZEY	**˜zmir**	**0.75**	**43**	*i* P	Pb	21 28 49.5	-0.6
ZEY				*i* S	Sn	21 29 01.1	-0.2
DGB	**˜zmir**	**0.89**	**65**	*i* P	Pb	21 28 51.5	-0.9
DGB				*i* S	Sb	21 29 04.6	+0.8
URLA	**Izmir**	**0.89**	**41**	*i* P	Pb	21 28 51.4	-1.1
URLA				*i* S	Sn	21 29 04.8	0.0
URLA	**Izmir**	**0.89**	**41**	P	Pb	21 28 51.3	-1.1
URLA				S	Sn	21 29 04.8	0.0
GCAM	**G?zelcaml?**	**1.09**	**89**	*i* P	Pb	21 28 56.5	+0.7
GCAM				*i* S	Sn	21 29 11.6	+1.9
GCAM	**G?zelcaml?**	**1.09**	**89**	P	Pb	21 28 56.5	+0.7
GCAM				S	Sn	21 29 11.6	+1.9
KARY	**Karystos**	**1.18**	**287**	P	Pn	21 28 57.0	+0.4
KARY				S	Sn	21 29 11.4	-0.5
KARY				AML	AML	21 29 14.2	
comp=E,70μm,0.1s							
KARY				AML	AML	21 29 15.1	
comp=N,102μm,0.2s							
KARY	**Karystos**	**1.18**	**287**	P	Pn	21 28 57.0	+0.4
KARY				S	Sn	21 29 11.4	-0.5
BODT	**Bodrum**	**1.31**	**118**	*e*PN	Pn	21 28 57.0	-1.5
BODT	**Bodrum**	**1.31**	**118**	*e*Pn	Pn	21 28 57.0	-1.5
SIGR	**SIGRI**	**1.52**	**360**	P	Pn	21 29 00.8	-0.5
SIGR	**SIGRI**	**1.52**	**360**	P	Pn	21 29 00.8	-0.5
PRK	**Paraskevi**	**1.59**	**12**	P	Pn	21 29 01.9	-0.4
PRK	**Paraskevi**	**1.59**	**12**	P	Pn	21 29 01.9	-0.4
VLY	**Voula,Athens**	**1.65**	**276**	P	Pn	21 29 02.8	-0.2
VLY				AML	AML	21 29 28.2	
comp=E,59μm,0.4s							
VLY				AML	AML	21 29 28.8	
comp=N,63μm,0.4s							
VLY	**Voula,Athens**	**1.65**	**276**	P	Pn	21 29 02.8	-0.2

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*ISCJB **21** 21:49:49.3±1.2, 29°36S±0°09×175°9W±0°1, h38km, mb4.2/8, Error ellipse: s-maj=15.1km s-min=12.3km az=0.8*
*NEIC **21** 21:49:52.6±0.7, 29°19S×176°14W, h35km, mb4.4/4, Error ellipse: s-maj=16.1km s-min=13.8km az=191.0*
*IDC **21** 21:49:57.8±3.7, 29°07S×176°41W, h70km±25km, mb3.8/4, mb1 3.9/4, mb1mx3.6/25, mbtmp4.1/4, Error ellipse: s-maj=55.4km s-min=36.4km az=179.0*
ISC 21 21:49:52.3±0.9, 29°2S±0°1×175°99W±0°10, h38km, n16, σ1°32/19, mb4.1/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.68**	**267**	P	Pn	21 50 20.2	+1.0
272nm,0.3s,baz=67,slow=6.9,SNR=15							
RAO				S	Sn	21 50 41.6	+2.1
638nm,0.3s,baz=22,slow=22,SNR=10							
RAO	**Raoul Island**	**1.68**	**267**	*e*Pn	Pn	21 50 18.8	-0.4
RAO				*e*Sn	Sn	21 50 40.3	+0.8
URZ	**Urewera**	**10.71**	**211**	P	Pn	21 52 21.9	-1.2
0.5nm,0.3s,baz=281,slow=2.9,SNR=5.2							
URZ				S	Sn	21 54 21.1	-0.5
2.4nm,0.3s,baz=152,slow=23,SNR=14							
CTA	**Charters Tower**	**35.37**	**276**	P	P	21 56 44.3	-0.1
2.3nm,0.5s,baz=93,slow=9.0,SNR=3.0							
STKA	**Stephens Creek**	**36.46**	**255**	P	P	21 56 53.1	-0.6
0.9nm,0.5s,baz=100,slow=11,SNR=3.9							
PMG	**Port Moresby**	**39.72**	**292**	*e*P	P	21 57 21.2	-0.1
9.5nm,0.9s							
ASAR	**Alice Springs**	**44.94**	**265**	P	P	21 58 03.0	-0.8
1.6nm,0.7s,baz=104,slow=7.1,SNR=19							
WRAB	**Tennant Creek**	**45.81**	**270**	*e*P	P	21 58 10.0	-0.7
1.7nm,0.7s							
WRA	**Warramunga Arr**	**45.82**	**270**	P	P	21 58 09.9	-0.9
1.0nm,0.5s,baz=108,slow=7.9,SNR=12							
PMSA	**Palmer Station**	**72.64**	**155**	*e*P	P	22 01 16.8	+1.2
13nm,1.2s							
CHTO	**Chiang Mai**	**94.83**	**289**	*e*P	P	22 03 10.5	-0.1
0.5nm,0.5s							
FINES	**FINESS Array B**	**144.57**	**342**	PKP	PKPdf	22 09 23.1	-0.9
3.4nm,1.0s,baz=53,slow=2.3,SNR=8.8							
NOA	**NORSAR Array B**	**147.78**	**353**	PKPbc	PKPab	22 09 33.2	-1.7
0.9nm,0.6s,baz=13,slow=4.4,SNR=2.7							
AKASG	**Malin Array Be**	**151.34**	**326**	PKPbc	PKPbc	22 09 42.1	+0.6
0.3nm,0.2s,baz=43,slow=2.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**163.89**	**172**	PKPab	PKPab	22 10 47.0	+2.4
1.0nm,0.7s,baz=184,slow=4.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**163.89**	**172**	PKPab	PKPab	22 10 47.0	+2.4

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*ISCJB **21** 21:55:48.2±0.8, 17°4S±0°1×175°5W±0°1, h300km, mb4.3/10, Error ellipse: s-maj=19.4km s-min=8.9km az=139.7*
*NEIC **21** 21:55:48.7±1.0, 17°43S×175°51W, h286km±14km, mb4.4/8, Error ellipse: s-maj=16.5km s-min=12.9km az=97.0*
*IDC **21** 21:55:49.3±3.9, 17°52S×175°57W, h284km±41km, mb4.0/3, mb1 4.2/4, mb1mx3.4/28, mbtmp4.7/4, Error ellipse: s-maj=136.2km s-min=36.6km az=153.0*
ISC 21 21:55:49.5±0.9, 17°4S±0°1×175°4W±0°1, h300km, n13, σ0°93/17, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.92**	**46**	P	Pn	21 57 07.8	+1.6
19nm,0.3s,baz=297,slow=6.8,SNR=3.8							
AFI				S	S	21 58 05.7	-2.1
baz=45,slow=19,SNR=3.1							
AFI	**Afiamalu**	**4.92**	**46**	*e*Pn	Pn	21 57 06.2	0.0
75nm,0.6s							
AFI				*e*S	S	21 58 07.2	-0.6
FUNA	**Funafuti**	**10.23**	**329**	Pn	Pn	21 58 10.0	-0.5
HNR	**Honiara**	**25.20**	**285**	P	P	22 00 48.0	-0.7
11nm,0.6s							
SNZO	**South Karori**	**25.33**	**198**	*e*P	P	22 00 48.7	-0.8
20nm,0.7s							
CTAO	**Charters Tower**	**36.34**	**260**	P	P	22 02 25.4	-0.4
5.7nm,0.5s							
PMG	**Port Moresby**	**37.19**	**277**	P	P	22 02 33.2	+0.2
2.9nm,0.4s							
STKA	**Stephens Creek**	**41.38**	**241**	P	P	22 03 07.5	+0.3
6.3nm,0.5s,baz=82,slow=9.3,SNR=3.0							
MIDW	**Midway**	**45.35**	**358**	*e*P	P	22 03 39.6	+1.0
44nm,0.7s							
WRAB	**Tennant Creek**	**47.52**	**259**	*e*P	P	22 03 55.0	-0.6
1.9nm,0.3s							
WRA	**Warramunga Arr**	**47.53**	**259**	P	P	22 03 55.0	-0.7
2.5nm,0.7s,baz=96,slow=6.9,SNR=39							
WRA				PcP	PcP	22 05 21.3	+0.7
0.6nm,0.8s,baz=99,slow=5.4,SNR=2.9							
ASAR	**Alice Springs**	**47.67**	**254**	P	P	22 03 56.5	-0.3
15nm,0.6s,baz=88,slow=8.5,SNR=207							
ASAR				PcP	PcP	22 05 21.6	+0.6
0.5nm,0.5s,baz=102,slow=4.4,SNR=3.9							
MAJO	**Matsushiro**	**69.22**	**321**	*e*P	P	22 06 24.9	+0.5
1.6nm,0.4s							

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*ISCJB **21** 22:02:32.3±0.9, 11°56N±0°09×44°2E±0°1, h10km, mb3.8/7, MS4.5/1, Error ellipse: s-maj=17.4km s-min=10.7km az=30.4*
*IDC **21** 22:02:32.8±1.7, 11°53N×44°16E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/34, mbtmp3.5/5, MS4.5/1, Ms1 4.5/1, ms1mx3.6/34, Error ellipse: s-maj=52.9km s-min=12.8km az=172.0*
*NEIC **21** 22:02:34.3±1.0, 11°64N×44°09E, h10km, mb4.4/2, Error ellipse: s-maj=23.9km s-min=13.0km az=147.0*
**ISC 21 22:02:34.2±1.1, 11°6N±0°1×44°1E±0°1, h10km, n10, σ1°12/10, mb

7.7nm,0.9s,baz=86,slow=6.6,SNR=12
LSZ Lusaka 38.91 257 *e*P **P 22 18 06.9 -0.2**
4.1nm,0.8s
CMAR Chiang Mai Arr 41.27 49 P **P 22 18 26.3 -0.2**
0.6nm,0.5s,baz=245,slow=11,SNR=5.6
CMAR LR LR 22 32 44.8
comp=Z,217nm,20.7s,baz=132,slow=32
CHTO Chiang Mai 41.50 48 *e*P **P 22 18 28.2 -0.2**
3.8nm,1.0s
BOSA Boshof 44.23 238 P **P 22 18 50.1 -0.5**
7.1nm,1.1s,baz=84,slow=6.6,SNR=5.4
ASF Jabal al Asfar 50.26 326 LR LR 22 39 26.9
comp=Z,497nm,21.1s,baz=35,slow=34
GNI Garni 53.20 338 LR LR 22 41 03.0
comp=Z,458nm,19.0s,baz=0.5,slow=34
KBZ Khabaz 56.99 339 P **P 22 20 26.8 +0.4**
1.6nm,0.9s,baz=170,slow=11,SNR=2.3
MKAR Makanchi Array 57.03 12 P **P 22 20 26.9 +0.1**
0.4nm,0.4s,baz=191,slow=7.7,SNR=4.9
BRTR Keskin Array B 57.70 329 P **P 22 20 32.1 +0.3**
0.9nm,0.6s,baz=134,slow=11,SNR=5.7
ABKAR Akbulak array 58.33 354 *e*P **P 22 20 35.5 -0.2**
1.0nm,0.6s
MAW Mawson 58.67 182 P **P 22 20 38.1 +0.2**
3.2nm,0.9s,baz=353,slow=3.6,SNR=2.5
ZALV Zalesovo Beam 64.34 11 P **P 22 21 16.5 +0.1**
0.4nm,0.3s,baz=210,slow=4.8,SNR=3.9
ASAR Alice Springs 64.89 112 P **P 22 21 20.8 0.0**
0.8nm,0.5s,baz=276,slow=6.0,SNR=16
WRA Warramunga Arr 65.29 108 P **P 22 21 24.3 +0.9**
1.2nm,0.8s,baz=279,slow=7.1,SNR=4.6
SONM Songino Array 66.17 28 P **P 22 21 29.3 +0.7**
1.1nm,0.7s,baz=216,slow=7.3,SNR=6.7
AKASG Malin Array Be 68.04 335 P **P 22 21 39.9 -0.3**
0.4nm,0.4s,baz=135,slow=5.2,SNR=2.6
TORD Torodi Ar. Bea 68.94 288 P **P 22 21 46.5 0.0**
0.6nm,0.9s,baz=108,slow=4.7,SNR=3.1
ESDC Sonseca Array 81.72 312 P **P 22 22 58.8 -1.0**
0.5nm,0.7s,baz=94,slow=3.9,SNR=5.0
ARCES ARCESS Array B 83.47 346 P **P 22 23 08.4 +0.3**
3.8nm,0.9s,baz=148,slow=5.3,SNR=3.7
MA2 Magadan 94.24 30 LR LR 23 09 45.2
comp=Z,117nm,18.1s,baz=353,slow=38
OTAV Otavalo 145.02 258 *e*PKPdf **PKPdf 22 30 20.5 +0.5**
OTAV epPKPdf sPKPbc 22 30 25.2 -0.1
PDAR Pinedale Array 146.21 356 PKPbc **PKPab 22 30 21.9 -0.6**
0.2nm,0.3s,baz=77,slow=1.9,SNR=2.5
LRAL Lakeview Retre 146.40 319 *e*PKPbc **PKPab 22 30 23.6 +0.3**
TXAR Lajitas Array 158.09 339 PKPab **PKPab 22 31 10.0 -2.1**
0.4nm,1.0s,baz=20,slow=2.9,SNR=2.8

DDA ***21*** *22:17:31.6, 40°.92N×42°.53E, h7km, Md2.7*
TIF ***21*** *22:17:31.2, 40°.93N×42°.52E, h18km±1km*
CSEM ***21*** *22:17:31.5, 40°.92N×42°.53E, h7km, MD2.7*
ISC 21 22:17:31.8±1.0, 40°.93N±0°.03×42°.53E±0°.02, h11km±11km, n18, σ0s32/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAGI	**Agillar**	**0.49**	**288**	*i* P	**Pg**	**22 17 41.1**	**-0.3**
ARTV	**Artvin**	**0.52**	**300**	*i* P	**Pg**	**22 17 41.9**	**-0.1**
ARTV				*i* S	**Sb**	**22 17 50.4**	**-0.4**
ARTV	**Artvin**	**0.52**	**300**	P	**Pg**	**22 17 41.9**	**-0.1**
ARTV				S	**Sb**	**22 17 50.4**	**-0.4**
DDEM	**Demirkent**	**0.59**	**267**	*i* P	**Pg**	**22 17 43.2**	**-0.1**
DDEM				*i* S	**Sg**	**22 17 51.4**	**+0.3**
DDEM	**Demirkent**	**0.59**	**267**	P	**Pg**	**22 17 43.2**	**-0.1**
DDEM				S	**Sg**	**22 17 51.4**	**+0.3**
EPOS	**Posof**	**0.59**	**14**	*i* P	**Pg**	**22 17 43.6**	**+0.2**
EPOS				*i* S	**Sb**	**22 17 52.8**	**0.0**
EPOS	**Posof**	**0.59**	**14**	P	**Pg**	**22 17 43.6**	**+0.2**
EPOS				S	**Sb**	**22 17 52.8**	**0.0**
DBOC	**Borcka**	**0.78**	**303**	*i* P	**Pg**	**22 17 46.3**	**-0.5**
DBOC				*i* S	**Sg**	**22 17 57.2**	**+0.3**
DBOC	**Borcka**	**0.78**	**303**	P	**Pg**	**22 17 46.3**	**-0.5**
DBOC				S	**Sg**	**22 17 57.2**	**+0.3**
DIGO	**Kars**	**0.82**	**128**	*i* P	**Pg**	**22 17 47.6**	**0.0**
DIGO				*i* S	**Sg**	**22 17 58.6**	**+0.3**
DIGO	**Kars**	**0.82**	**128**	P	**Pg**	**22 17 47.6**	**0.0**
DIGO				S	**Sg**	**22 17 58.7**	**+0.3**
EAK	**Akyaka**	**0.85**	**106**	*i* P	**Pg**	**22 17 47.5**	**-0.7**
EAK				*i* S	**Sb**	**22 18 00.4**	**+0.2**
EAK	**Akyaka**	**0.85**	**106**	P	**Pg**	**22 17 47.5**	**-0.7**
EAK				S	**Sb**	**22 18 00.4**	**+0.2**
AKH	**Akhalkalaki**	**0.87**	**56**	P	**Pg**	**22 17 48.3**	**-0.3**
AKH				S	**Sg**	**22 18 00.0**	**0.0**
HOMI	**Horasan**	**1.00**	**209**	*i* P	**Pb**	**22 17 51.1**	**-0.2**
HOMI				*i* S	**Sn**	**22 18 06.5**	**+0.3**
ERZM	**Erzurum**	**1.35**	**221**	*i* P	**Pg**	**22 17 57.7**	**-0.1**
ERZM	**Erzurum**	**1.35**	**221**	P	**Pg**	**22 17 57.7**	**-0.1**
ONI	**Oni**	**1.80**	**22**	P	**Pb**	**22 18 05.1**	**+0.3**
ONI				S	**Sg**	**22 18 29.3**	**-0.3**

IDC 21 22:33:51.2±2.3, 28°.19S×175°.87W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/29, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=53.0km s-min=36.0km az=176.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.08**	**239**	Pn	Pn	22 34 28.0	+0.7
	42nm,0.3s,baz=61,slow=19,SNR=4.4						
RAO				Sn	Sn	22 34 53.2	-0.8
	129nm,0.3s,baz=66,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**45.14**	**264**	P	P	22 42 09.5	-0.3
	0.2nm,0.5s,baz=98,slow=7.0,SNR=4.2						
WRA	**Warramunga Arr**	**45.94**	**269**	P	P	22 42 15.6	-0.5
	0.2nm,0.3s,baz=108,slow=6.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**164.86**	**171**	PKPab	PKPab	22 54 53.6	0.0
	0.5nm,1.1s,baz=210,slow=6.0,SNR=2.5						

TRN 21 23:09:37.7, 10°.47N×61°.66W, h24km, MD4.1, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.25**	**126**	*e*P	Pb	23 09 43.4	-0.5
ALNG	**Atlantic LNG**	**0.29**	**186**	*e*P	Pb	23 09 44.4	0.0
ALNG				*e*S	Sb	23 09 49.7	+0.7
TRN	**Trinidad (W)**	**0.31**	**54**	*e*P	Pb	23 09 44.1	-0.7
TRN				*e*S	Sb	23 09 50.4	+0.9
TBH	**Brigand Hill**	**0.58**	**88**	*e*P	Pb	23 09 49.7	+0.5
TBH				*e*S	Sb	23 09 58.2	+1.1
BOT	**Bacolet**	**1.16**	**53**	*e*P	Pn	23 09 58.2	-0.2
TOSP	**Speyside**	**1.38**	**53**	*e*P	Pn	23 10 02.1	+0.6
TOSP				*e*S	Sn	23 10 19.3	+0.4
GRW	**Mount Saint Ca**	**1.68**	**360**	*e*P	Pn	23 10 06.8	+1.0
GRW				*e*S	Sn	23 10 27.1	+0.5
GRSS	**Sisters**	**1.82**	**1**	*e*P	Pn	23 10 08.2	+0.6
GRSS				*e*S	Sn	23 10 29.7	-0.2
SVB	**Belmont**	**2.82**	**8**	*e*S	Sn	23 10 54.6	0.0
SSV	**Crater Summit**	**2.88**	**9**	*e*S	Sn	23 10 55.6	-0.6
BBGH	**Gun Hill**	**3.36**	**37**	*e*P	Pn	23 10 29.5	+0.7
BBGH				*e*S	Sn	23 11 07.3	-0.6
FDF	**Fort de France**	**4.27**	**7**	*e*S	Sn	23 11 28.5	-2.0

BJI ***21*** *23:19:10.1, 11°.69N×43°.96E, h5km, mb4.6/44, mB5.1/27, Ms4.7/12, Ms7 4.5/12*
OMAN ***21*** *23:19:11.1±7.6, 11°.32N×44°.02E, h10km, Error ellipse: s-maj=148.0km s-min=17.0km az=14.0*
ISCJB ***21*** *23:19:12.1±0.2, 11°.82N±0°.04×44°.21E±0°.03, h4km, mb4.7/128, MS4.3/4, Error ellipse: s-maj=5.3km s-min=4.0km az=20.0*
MOS ***21*** *23:19:13.4±1.1, 11°.86N×44°.22E, h12km, mb5.0/46, Error ellipse: s-maj=8.5km s-min=4.2km az=102.7*
CSEM ***21*** *23:19:13.9±0.1, 11°.86N×44°.20E, h2km, mb4.8/78, Error ellipse: s-maj=6.5km s-min=5.6km az=48.0*
IDC ***21*** *23:19:13.5±0.6, 11°.92N×44°.23E, h0km, mb4.3/29, mb1 4.4/32, mb1mx4.3/51, mbtmp4.3/32, ML3.4/3, MS4.3/4, Ms1 4.2/4, ms1mx3.6/32, Error ellipse: s-maj=14.0km s-min=12.8km az=133.0*
NEIC ***21*** *23:19:14.8±0.2, 11°.82N×44°.19E, h10km, mb4.9/57, Error ellipse: s-maj=5.0km s-min=4.8km az=64.0*
NEIC Felt at Djibouti, Djibouti.
ISN ***21*** *23:19:24.9±1.5, 13°.40N×39°.15E, h0km±129km*
ISC 21 23:19:14.4±0.3, 11°.92N±0°.05×44°.27E±0°.05, h4km, n408, σ1s43/422, mb4.8/128, MS4.2/4, 27C-10D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.45**	**254**	Pn	Pn	23 19 36.0	-5.4
	388nm,0.3s,baz=51,slow=10,SNR=34						
ATD				Lg	Lg	23 19 53.5	
	1μm,0.3s,baz=324,slow=23,SNR=26						
DAMY	**Dhamar**	**2.64**	**3**	*e*Pn	**Pn**	**23 19 59.9**	**+1.9**
DAMY	**Dhamar**	**2.64**	**3**	*e*Pn	**Pn**	**23 19 59.9**	**+1.9**
KMBO	**Kilima Mbogo**	**14.72**	**209**	Pn	**Pn**	**23 22 41.5**	**-2.3**
	0.1nm,0.3s,baz=338,slow=17,SNR=3.4						
KMBO				Sn	**Sn**	**23 25 35.2**	**+7.5**
	0.2nm,0.3s,baz=278,slow=13,SNR=3.7						
KMBO				Lg	Lg	23 26 56.0	
	0.2nm,0.3s,baz=90,slow=20,SNR=4.2						
KMBO				LR	LR	23 28 12.8	
	comp=Z,1μm,19.4s,baz=50,slow=37						
KMBO	**Kilima Mbogo**	**14.72**	**209**	*e*P	**Pn**	**23 22 42.1**	**-1.7**
KMBO						23 25 35.2	
KMBO				pmax	pmax		
	comp=Z,19nm,1.3s						
KMBO	**Kilima Mbogo**	**14.72**	**209**	*e*Pn	**Pn**	**23 22 42.1**	**-1.7**
	comp=Z,19nm,1.3s						
KMBO	**Kilima Mbogo**	**14.72**	**209**	*e*Pn	**Pn**	**23 22 42.1**	**-1.7**
	comp=Z,19nm,1.3s						
KMBO				Sn	**Sn**	**23 25 35.2**	**+7.5**
UOSS	**Minazif**	**17.18**	**39**	*e*Pn	**P**	**23 23 16.9**	**-0.3**
	comp=Z,52nm,1.2s						
UOSS	**Minazif**	**17.18**	**39**	*e*Pn	**P**	**23 23 16.9**	**-0.3**
	comp=Z,52nm,1.2s						
WSAR	**Wadi Sarin**	**17.70**	**49**	Pn	**Pn**	**23 23 20.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=247,slow=12,SNR=12						
WSAR				LR	LR	23 31 09.0	
	comp=Z,931nm,18.0s,baz=238,slow=40						
EIL	**Elat**	**19.67**	**335**	P	**P**	**23 23 43.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=93,slow=19,SNR=5.8						
EIL				Lg	Lg	23 29 24.2	
	comp=Z,0.1nm,0.3s,baz=285,slow=20,SNR=2.8						
MSEY	**Mahe Island**	**19.90**	**145**	*e*P	**P**	**23 23 47.2**	**0.0**
MSEY				pmax	pmax		
	comp=Z,20nm,0.8s						
MSEY	**Mahe Island**	**19.90**	**145**	*e*P	**P**	**23 23 47.2**	**0.0**
	comp=Z,20nm,0.8s						
MSEY	**Mahe Island**	**19.90**	**145**	*e*P	**P**	**23 23 47.2**	**0.0**
	comp=Z,20nm,0.8s						
ASF	**Jabal al Asfar**	**21.27**	**343**	P	**P**	**23 24 01.7**	**-0.2**
	comp=Z,14nm,1.1s,baz=100,slow=5.9,SNR=9.4						
ASF				Lg	Lg	23 30 17.3	
	comp=Z,1.0nm,0.8s,baz=35,slow=4.9,SNR=2.3						
MMAI	**Mount Meron Ar**	**22.51**	**340**	P	**P**	**23 24 16.3**	**+1.0**
	comp=Z,39nm,1.2s,baz=142,slow=4.2,SNR=12						
MMAI				Lg	Lg	23 31 01.9	
	comp=Z,4.5nm,1.0s,baz=268,slow=36,SNR=3.0						
CSS	**Mathiatis**	**25.00**	**338**	*e*P	**P**	**23 24 39.7**	**+0.3**
	comp=Z,6.0nm,1.2s						
CSS	**Mathiatis**	**25.00**	**338**	*e*P	**P**	**23 24 39.7**	**+0.3**
	comp=Z,6.0nm,1.2s						
MARD	**Mardin**	**25.48**	**354**	*e*P	**P**	**23 24 44.8**	**+1.0**
	comp=Z,52nm,1.5s						
MARD	**Mardin**	**25.48**	**354**	*e*P	**P**	**23 24 44.9**	**+1.0**
	comp=Z,52nm,1.5s						
AKAS	**Kas**	**27.59**	**334**	*e*P	**P**	**23 25 03.4**	**+0.5**
	comp=Z,22nm,1.5s						
AKAS	**Kas**	**27.59**	**334**	*e*P	**P**	**23 25 03.4**	**+0.5**
	comp=Z,22nm,1.5s						
GNI	**Garni**	**28.12**	**1**	P	**P**	**23 25 08.1**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=103,slow=5.5,SNR=4.4						
GNI				LR	LR	23 37 51.5	
	comp=Z,666nm,19.6s,baz=201,slow=40						
GNI	**Garni**	**28.12**	**1**	*i* P	**P**	**23 25 08.1**	**+0.4**
GNI				pmax	pmax		
	comp=Z,23nm,1.1s						
GNI	**Garni**	**28.12**	**1**	*i* P	**P**	**23 25 08.1**	**+0.4**
	comp=Z,23nm,1.1s						
GNI	**Garni**	**28.12**	**1**	*e*P	**P**	**23 25 08.5**	**+0.8**
	comp=Z,24nm,1.3s						
KARP	**Karpathos**	**28.16**	**329**	*e*P	**P**	**23 25 06.9**	**-1.1**
	comp=Z,12nm,1.1s						
KARP	**Karpathos**	**28.16**	**329**	*e*P	**P**	**23 25 06.9**	**-1.1**
	comp=Z,12nm,1.1s						
GEYT	**Alibeck**	**28.71**	**23**	P	**P**	**23 25 13.6**	**+0.8**
	comp=Z,5.1nm,1.2s,baz=172,slow=12,SNR=4.9						
TOKA	**Tokat**	**29.11**	**348**	*e*P	**P**	**23 25 17.4**	**+1.0**
	comp=Z,15nm,1.4s						
TOKA	**Tokat**	**29.11**	**348**	*e*P	**P**	**23 25 17.4**	**+1.0**
	comp=Z,15nm,1.4s						
IDI	**Anoyia**	**29.15**	**326**	*e*P	**P**	**23 25 14.1**	**-2.7**
	comp=Z,11nm,1.1s						
IDI	**Anoyia**	**29.15**	**326**	*e*P	**P**	**23 25 14.1**	**-2.7**
	comp=Z,11nm,1.1s						
BOLV	**Bolvadin**	**29.20**	**338**	*e*P	**P**	**23 25 18.5**	**+1.2**
	comp=Z,12nm,1.0s						
BOLV	**Bolvadin**	**29.20**	**338**	*e*P	**P**	**23 25 18.5**	**+1.2**
	comp=Z,12nm,1.0s						
ARTV	**Artvin**	**29.22**	**356**	*e*P	**P**	**23 25 18.6**	**+1.1**
	comp=Z,12nm,1.6s						
ARTV	**Artvin**	**29.22**	**356**	*e*P	**P**	**23 25 18.6**	**+1.1**
	comp=Z,12nm,1.6s						
BRTR	**Keskin Array B**	**29.25**	**343**	P	**P**	**23 25 18.5**	**+0.9**
	comp=Z,7.4nm,1.1s,baz=159,slow=7.8,SNR=25						
BRTR				PcP	**PcP**	**23 28 25.3**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=187,slow=3.2,SNR=3.7						
BR131	**Keskin Array S**	**29.25**	**343**	*e*P	**P**	**23 25 18.6**	**+0.9**
BR131	**Keskin Array S**	**29.25**	**343**	*e*P	**P**	**23 25 18.6**	**+0.9**
ANTO	**Ankara**	**29.63**	**342**	*e*P	**P**	**23 25 23.1**	**+2.1**
ANTO				pmax	pmax		
	comp=Z,32nm,1.3s						
ANTO	**Ankara**	**29.63**	**342**	P	**P**	**23 25 22.1**	**+1.1**
	SNR=6.7						
ANTO	**Ankara**	**29.63**	**342**	*e*P	**P**	**23 25 23.1**	**+2.1**
	comp=Z,32nm,1.3s						
ANTO	**Ankara**	**29.63**	**342**	P	**P**	**23 25 22.1**	**+1.1**
	SNR=6.7						
ANTO	**Ankara**	**29.63**	**342**	P	**P**	**23 25 22.1**	**+1.1**
	SNR=6.7						
APE	**Apeiranthos**	**30.17**	**329**	⇑*i*P	P	23 25 35.4	+10
APE	**Apeiranthos**	**30.17**	**329**	⇑P	P	23 25 35.4	+10
ILGA	**Ilgaz**	**30.46**	**344**	*e*P	**P**	**23 25 28.5**	**0.0**
	comp=Z,66nm,1.7s						
ILGA	**Ilgaz**	**30.46**	**344**	*e*P	**P**	**23 25 28.5**	**0.0**
	comp=Z,66nm,1.7s						
ZEI	**Tsey**	**30.75**	**359**	*e*P	**P**	**23 25 32.2**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ABPO	**Ambohimpanom**	**30.88**	**175**	*e*P	**P**	**23 25 29.6**	**-2.8**
ABPO				pmax	pmax		
	comp=Z,26nm,1.5s						
ABPO	**Ambohimpanom**	**30.88**	**175**	*e*P	**P**	**23 25 29.6**	**-2.8**
	comp=Z,26nm,1.5s						
ABPO	**Ambohimpanom**	**30.88**	**175**	*e*P	**P**	**23 25 29.6**	**-2.8**
	comp=Z,26nm,1.5s						
LSZ	**Lusaka**	**31.37**	**211**	P	**P**	**23 25 36.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=55,slow=9.2,SNR=4.1						
LSZ	**Lusaka**	**31.37**	**211**	*e*P	**P**	**23 25 36.4**	**-0.2**
LSZ	**Lusaka**	**31.37**	**211**	*e*P	**P**	**23 25 36.4**	**-0.2**
LSZ	**Lusaka**	**31.37**	**211**	*e*P	**P**	**23 25 36.4**	**-0.2**
KBZ	**Khabaz**	**31.71**	**358**	P	**P**	**23 25 39.4**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=180,slow=6.1,SNR=3.2						
KBZ				LR	LR	23 39 52.8	
	comp=Z,312nm,21.1s,baz=116,slow=39						
KBL	**Kabul**	**31.85**	**41**	*e*P	**P**	**23 25 41.5**	**+0.6**
KBL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBL	**Kabul**	**31.85**	**41**	*e*P	**P**	**23 25 41.5**	**+0.6**
	comp=Z,4.0nm,1.0s						
KBL	**Kabul**	**31.85**	**41**	*e*P	**P**	**23 25 41.5**	**+0.6**
	comp=Z,4.0nm,1.0s						
KIV	**Kislovodsk**	**31.95**	**358**	*ce*P	**P**	**23 25 42.9**	**+1.5**
KIV				*e*		23 26 49.7	
KIV				pmax	pmax		
	comp=Z,35nm,1.7s						
KIV	**Kislovodsk**	**31.95**	**358**	P	**P**	**23 25 42.3**	**+0.9**
	SNR=7.2						
KIV	**Kislovodsk**	**31.95**	**358**	*e*P	**P**	**23 25 42.8**	**+1.3**
	comp=Z,28nm,1.3s						
KIV	**Kislovodsk**	**31.95**	**358**	P	**P**	**23 25 42.3**	**+0.9**
	SNR=7.2						
KIV	**Kislovodsk**	**31.95**	**358**	P	**P**	**23 25 42.3**	**+0.9**
	SNR=7.2						
GOF	**Gofitskoye**	**33.04**	**358**	⇑*e*P	**P**	**23 25 51.6**	**+0.7**
GOF	**Gofitskoye**	**33.04**	**358**	*e*P	**P**	**23 25 51.6**	**+0.7**
AGG	**Agios Georgios**	**33.29**	**328**	*e*P	**P**	**23 25 52.7**	**-0.5**
AGG				pmax	pmax		
	comp=Z,48nm,1.4s						
AGG	**Agios Georgios**	**33.29**	**328**	*e*P	**P**	**23 25 52.7**	**-0.5**
	comp=Z,48nm,1.4s						
AGG	**Agios Georgios**	**33.29**	**328**	*e*P	**P**	**23 25 52.7**	**-0.5**
	comp=Z,48nm,1.4s						
PAIG	**Paliouri**	**33.31**	**330**	P	**P**	**23 25 55.5**	**+2.2**
PAIG				pmax	pmax		
	comp=Z,13nm,1.7s						
PAIG	**Paliouri**	**33.31**	**330**	P	**P**	**23 25 55.5**	**+2.2**
	comp=Z,13nm,1.7s						
HYB	**Hyderabad**	**33.58**	**76**	*i* P	**P**	**23 25 57.0**	**+1.0**
LIT	**Litokhoron**	**34.02**	**329**	P	**P**	**23 26 02.2**	**+2.6**
LIT				pmax	pmax		
	comp=Z,13nm,1.6s						
LIT	**Litokhoron**	**34.02**	**329**	P	**P**	**23 26 02.2**	**+2.6**
	comp=Z,13nm,1.6s						
KNT	**Kendrikon**	**34.64**	**331**	P	**P**	**23 26 06.4**	**+1.5**
KNT				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KNT	**Kendrikon**	**34.64**	**331**	P	**P**	**23 26 06.4**	**+1.5**
	comp=Z,6.0nm,1.6s						
GRG	**Griva**	**34.72**	**330**	P	**P**	**23 26 08.2**	**+2.6**
GRG				pmax	pmax		
	comp=Z,22nm,1.5s						
GRG	**Griva**	**34.72**	**330**	P	**P**	**23 26 08.2**	**+2.6**
	comp=Z,22nm,1.5s						
VTS	**Vitosha**	**35.62**	**333**	⇓*i*P	**P**	**23 26 14.0**	**+0.5**
VTS	**Vitosha**	**35.62**	**333**	*e*P	**P**	**23 26 13.8**	**+0.3**
VTS				pmax	pmax		
	comp=Z,17nm,1.4s						
VTS	**Vitosha**	**35.62**	**333**	*e*P	**P**	**23 26 13.8**	**+0.3**
	comp=Z,17nm,1.4s						
VTS	**Vitosha**	**35.62**	**333**	*e*P	**P**	**23 26 13.8**	**+0.3**
	comp=Z,17nm,1.4s						
CFR	**Carcaliu**	**35.90**	**340**	⇓*i*P	**P**	**23 26 16.1**	**+0.5**
CFR	**Carcaliu**	**35.90**	**340**	⇓P	**P**	**23 26 16.1**	**+0.5**
CFR	**Carcaliu**	**35.90**	**340**	P	**P**	**23 26 16.1**	**+0.5**
PALK	**Pallekele**	**36.20**	**94**	*ce*P	**P**	**23 26 21.8**	**+3.1**
CEL	**Celeste**	**36.44**	**321**	*e*P	**P**	**23 26 20.6**	**+0.1**
	comp=Z,14nm,0.9s						
CEL	**Celeste**	**36.44**	**321**	*e*P	**P**	**23 26 20.6**	**+0.1**
	comp=Z,14nm,0.9s						
MLR	**Muntele Rosu**	**36.92**	**338**	⇓*i*P	**P**	**23 26 27.7**	**+3.1**
MLR	**Muntele Rosu**	**36.92**	**338**	*e*P	**P**	**23 26 25.0**	**+0.4**
MLR				pmax	pmax		
	comp=Z,18nm,1.3s						
MLR	**Muntele Rosu**	**36.92**	**338**	*e*P	**P**	**23 26 25.0**	**+0.4**
	comp=Z,18nm,1.3s						
MLR	**Muntele Rosu**	**36.92**	**338**	*e*P	**P**	**23 26 25.0**	**+0.4**
	comp=Z,18nm,1.3s						
VRI	**Vrincioaia**	**36.97**	**340**	⇑*i*P	**P**	**23 26 28.1**	**+3.2**
VRI	**Vrincioaia**	**36.97**	**340**	⇑P	**P**	**23 26 28.1**	**+3.2**
PLOR	**Plostina**	**36.99**	**339**	⇑*i*P	**P**	**23 26 27.0**	**+2.0**
PLOR	**Plostina**	**36.99**	**339**	⇑P	**P**	**23 26 27.0**	**+2.0**
PLOR	**Plostina**	**36.99**	**339**	P	**P**	**23 26 27.0**	**+2.0**
VOIR		**37.21**	**337**	⇓*i*P	**P**	**23 26 26.6**	**-0.3**
VOIR		**37.21**	**337**	⇓P	**P**	**23 26 26.6**	**-0.3**
VOIR		**37.21**	**337**	P	**P**	**23 26 26.6**	**-0.3**
ARR	**Arges**	**37.31**	**337**	⇑*i*P	**P**	**23 26 28.3**	**+0.5**
LOT	**Lotru**	**37.71**	**336**	⇓*i*P	**P**	**23 26 31.5**	**+0.3**
CLTB	**Caltabellotta**	**37.74**	**318**	*e*P	**P**	**23 26 31.3**	**-0.3**
	comp=Z,35nm,1.4s						
CLTB	**Caltabellotta**	**37.74**	**318**	*e*P	**P**	**23 26 31.3**	**-0.3**
	comp=Z,35nm,1.4s						
MDVR	**Moldovita**	**38.02**	**334**	⇑*i*P	**P**	**23 26 33.7**	**-0.1**
GZR	**Gura Zlata**	**38.06**	**335**	⇑*i*P	**P**	**23 26 34.8**	**+0.6**
GZR	**Gura Zlata**	**38.06**	**335**	⇑P	**P**	**23 26 34.8**	**+0.6**
GZR	**Gura Zlata**	**38.06**	**335**	P	**P**	**23 26 34.8**	**+0.6**
TAM	**Tamanrasset**	**38.42**	**292**	*e*P	**P**	**23 26 36.9**	**-0.7**
TAM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TAM	**Tamanrasset**	**38.42**	**292**	*e*P	**P**	**23 26 36.9**	**-0.7**
	comp=Z,8.0nm,1.2s						
TAM	**Tamanrasset**	**38.42**	**292**	*e*P	**P**	**23 26 36.9**	**-0.7**
	comp=Z,7.7nm,1.2s						
PRAR	**RASCA**	**38.45**	**340**	⇓*i*P	**P**	**23 26 38.2**	**+0.9**
SORM	**Soroca**	**38.48**	**343**	⇑*i*P	**P**	**23 26 37.0**	**-0.5**
SORM	**Soroca**	**38.48**	**343**	⇑P	**P**	**23 26 37.0**	**-0.5**
SORM	**Soroca**	**38.48**	**343**	P	**P**	**23 26 37.0**	**-0.5**
KKAR	**Karatay Array**	**38.49**	**31**	*e*P	**P**	**23 26 38.6**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,34nm,1.2s						
KKAR	**Karatay Array**	**38.49**	**31**	*e*P	**P**	**23 26 38.5**	**+0.8**
	comp=Z,34nm,1.2s						
KKAR	**Karatay Array**	**38.49**	**31**	*e*P	**P**	**23 26 38.5**	**+0.8**
	comp=Z,34nm,1.2s						
BEO	**Beograd**	**38.59**	**333**	*e*P	**P**	**23 26 39.4**	**+0.9**
BEO	**Beograd**	**38.59**	**333**	*e*P	**P**	**23 26 39.4**	**+0.9**
BZS	**Buzias**	**38.73**	**334**	⇓*i*P	**P**	**23 26 39.5**	**-0.2**
BZS	**Buzias**	**38.73**	**334**	⇓P	**P**	**23 26 39.5**	**-0.2**
BZS	**Buzias**	**38.73**	**334**	P	**P**	**23 26 39.5**	**-0.2**
BURAR	**Bucovina Array**	**39.01**	**339**	⇑*i*P	**P**	**23 26 42.7**	**+0.6**
BURAR	**Bucovina Array**	**39.01**	**339**	⇑P	**P**	**23 26 42.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**39.04**	**339**	*e*P	**P**	**23

UZH **Uzhgorod** 40.91 338 *eP* **P** 23 26 56.4 -1.4
GKN **Gorkha** 40.95 61 *eP* **P** 23 26 58.6 -0.1
comp=Z,31nm,1.1s
DMN **Daman** 41.26 62 *eP* **P** 23 27 01.3 0.0
PSZ **Piszkesteto** 41.27 335⇑ *iP* **P** 23 27 01.4 +0.5
PSZ **Piszkesteto** 41.27 335 *eP* **P** 23 27 00.4 -0.5
PSZ pmax pmax
comp=Z,19nm,1.3s
PSZ **Piszkesteto** 41.27 335 *eP* **P** 23 27 00.4 -0.5
comp=Z,19nm,1.3s
PSZ **Piszkesteto** 41.27 335 *eP* **P** 23 27 00.4 -0.5
comp=Z,19nm,1.3s
LVV **L'vov** 41.31 340 *eP* **P** 23 27 04.4 +3.4
LVV **L'vov** 41.31 340 *eP* **P** 23 27 04.4 +3.4
KKN **Kakani** 41.45 61 *eP* **P** 23 27 03.2 +0.4
comp=Z,43nm,1.2s
KECS **Kecovo** 41.49 336 *eP* **P** 23 27 05.9 +3.4
KECS pmax pmax
comp=Z,5.0nm,1.4s
KECS **Kecovo** 41.49 336 *eP* **P** 23 27 05.9 +3.4
PKIN **Phulchoki** 41.50 62 *eP* **P** 23 27 02.8 -0.5
comp=Z,19nm,1.2s
TOA0 **Torodi Ar. Sit** 41.54 276 *eP* **P** 23 27 02.7 -0.8
comp=Z,24nm,1.5s
TOA0 **Torodi Ar. Sit** 41.54 276 *eP* **P** 23 27 02.6 -0.8
comp=Z,24nm,1.5s
TORD **Torodi Ar. Bea** 41.54 276 P **P** 23 27 02.0 -1.5
comp=Z,3.5nm,1.0s,baz=98,slow=11,SNR=17
TORD **Torodi Ar. Bea** 41.54 276 P **P** 23 27 02.0 -1.5
STHS **Stebnicka Huta** 41.95 338 *eP* **P** 23 27 09.8 +3.4
STHS **Stebnicka Huta** 41.95 338 *eP* **P** 23 27 09.8 +3.4
STHS **Stebnicka Huta** 41.95 338 *eP* **P** 23 27 09.8 +3.4
GUN **Gumba** 42.00 61 *eP* **P** 23 27 07.2 -0.3
comp=Z,60nm,1.2s
VYHS **Vyhne** 42.17 335 *eP* **P** 23 27 07.9 -0.2
VYHS **Vyhne** 42.17 335 *eP* **P** 23 27 07.9 -0.2
VYHS **Vyhne** 42.17 335 *eP* **P** 23 27 07.9 -0.2
JIRN **Jíri** 42.21 62 *eP* **P** 23 27 08.6 -0.6
comp=Z,225nm,1.2s
RAMN **Ramite** 42.41 63 *eP* **P** 23 27 10.0 -0.7
comp=Z,64nm,1.5s
SOKA **Soboth** 42.53 330 *eP* **P** 23 27 12.3 +1.1
comp=Z,18nm,1.4s
SOKA **Soboth** 42.53 330 P **P** 23 27 12.3 +1.1
comp=Z,18nm,1.4s
ARSA **Arzberg** 42.71 331 *eP* **P** 23 27 13.5 +0.9
comp=Z,13nm,1.3s
ARSA **Arzberg** 42.71 331 P **P** 23 27 13.5 +0.9
comp=Z,13nm,1.3s
CONA **Conrad Observa** 43.04 332 *eP* **P** 23 27 16.3 +1.0
comp=Z,26nm,1.5s
CONA **Conrad Observa** 43.04 332 P **P** 23 27 16.3 +1.0
comp=Z,26nm,1.5s
ODAN **Odare** 43.08 63 *eP* **P** 23 27 15.9 -0.2
OJC **Ojcow** 43.15 337 *eP* **P** 23 27 15.8 -0.3
OJC pmax pmax
comp=Z,22nm,1.5s
OJC **Ojcow** 43.15 337 *eP* **P** 23 27 15.8 -0.3
comp=Z,22nm,1.5s
OJC **Ojcow** 43.15 337 *eP* **P** 23 27 15.8 -0.3
comp=Z,22nm,1.5s
MYKA **Terra Mystica** 43.19 329 *i P* **P** 23 27 17.2 +0.7
comp=Z,15nm,1.5s
MYKA **Terra Mystica** 43.19 329 P **P** 23 27 17.2 +0.7
comp=Z,15nm,1.5s
TAPN **Taplejung** 43.46 63 *eP* **P** 23 27 18.9 -0.4
comp=Z,28nm,1.2s
OKC **Ostrava-Krasne** 43.50 336 *eP* **P** 23 27 17.5 -1.4
OKC **Ostrava-Krasne** 43.50 336 *eP* **P** 23 27 17.5 -1.4
OKC **Ostrava-Krasne** 43.50 336 P **P** 23 27 17.5 -1.4
OBN **Obninsk** 43.51 354 *ceP* **P** 23 27 20.3 +1.5
OBN *e* 23 29 02.9
OBN pmax pmax
comp=Z,21nm,1.7s
OBN **Obninsk** 43.51 354 *eP* **P** 23 27 18.4 -0.4
comp=Z,77nm,1.9s
OBN **Obninsk** 43.51 354 *eP* **P** 23 27 18.4 -0.4
comp=Z,77nm,1.9s
PDGK **Podgornoye** 43.63 38 P **P** 23 27 24.2 +4.0
PDGK pmax pmax
comp=Z,6.0nm,1.1s
MORC **Moravsky Berou** 43.70 335 *eP* **P** 23 27 19.6 -1.0
MORC pmax pmax
comp=Z,119nm,1.8s
MORC **Moravsky Berou** 43.70 335 *eP* **P** 23 27 19.6 -1.0
comp=Z,119nm,1.8s
MORC **Moravsky Berou** 43.70 335 *eP* **P** 23 27 19.6 -1.0
comp=Z,119nm,1.8s
MOA **Molln** 43.73 331 *eP* **P** 23 27 20.0 -0.8
comp=Z,13nm,1.4s
MOA **Molln** 43.73 331 P **P** 23 27 20.0 -0.8
comp=Z,13nm,1.4s
VRAC **Vranov** 43.74 334 P **P** 23 27 19.4 -1.4
comp=Z,2.3nm,0.9s,baz=138,slow=3.4,SNR=5.0
ABTA **Abfaltersbach** 43.84 328 *eP* **P** 23 27 21.0 -0.8
comp=Z,12nm,1.8s
ABTA **Abfaltersbach** 43.84 328 P **P** 23 27 21.0 -0.8
comp=Z,12nm,1.8s
MOS **Moscow** 44.02 355 *eP* **P** 23 27 20.9 -2.1
MOS pmax pmax
comp=Z,66nm,1.2s
MOS **Moscow** 44.02 355 *eP* **P** 23 27 20.9 -2.1
comp=Z,66nm,1.2s
TREC **Trest** 44.21 333 *eP* **P** 23 27 23.0 -1.7
TREC **Trest** 44.21 333 *eP* **P** 23 27 23.0 -1.7
TREC **Trest** 44.21 333 P **P** 23 27 23.0 -1.7
KRLC **Kraliky** 44.24 335 *eP* **P** 23 27 24.1 -0.8
KRLC **Kraliky** 44.24 335 *eP* **P** 23 27 24.1 -0.8
KRLC **Kraliky** 44.24 335 P **P** 23 27 24.1 -0.8
BOSA **Boshof** 44.30 204 P **P** 23 27 25.1 -0.6
comp=Z,6.6nm,1.0s,baz=346,slow=8.3,SNR=4.4
DPC **Dobruska-Polom** 44.64 335 *eP* **P** 23 27 26.4 -1.7
DPC *ex* x 23 27 34.0
DPC **Dobruska-Polom** 44.64 335 *eP* **P** 23 27 26.4 -1.7
DPC *e* 23 27 34.0
DPC **Dobruska-Polom** 44.64 335 P **P** 23 27 26.4 -1.7
GEC2 **GERESS Array S** 44.70 331 *eP* **P** 23 27 28.2 -0.5
GEC2 pmax pmax
comp=Z,31nm,1.4s
GEC2 **GERESS Array S** 44.70 331 *eP* **P** 23 27 28.2 -0.5
comp=Z,31nm,1.4s
GEC2 **GERESS Array S** 44.70 331 *eP* **P** 23 27 28.2 -0.5
comp=Z,31nm,1.4s
GERES **GERESS Array B** 44.70 331 P **P** 23 27 27.2 -1.4
comp=Z,2.4nm,0.9s,baz=134,slow=7.6,SNR=20
UPC **Upice** 44.89 335 *eP* **P** 23 27 28.9 -1.2
UPC **Upice** 44.89 335 *eP* **P** 23 27 28.9 -1.2
UPC **Upice** 44.89 335 P **P** 23 27 28.9 -1.2
FETA **Feichten** 44.94 328 *eP* **P** 23 27 31.0 +0.3
comp=Z,8.9nm,1.2s
FETA **Feichten** 44.94 328 P **P** 23 27 31.0 +0.3
comp=Z,8.9nm,1.2s
KHC **Kasperske Hory** 44.96 332 *eP* **P** 23 27 29.7 -0.9
KHC *ex* x 23 27 38.2
KHC **Kasperske Hory** 44.96 332 *eP* **P** 23 27 29.8 -0.9
KHC pmax pmax
comp=Z,12nm,1.7s
KHC **Kasperske Hory** 44.96 332 *eP* **P** 23 27 29.8 -0.9
comp=Z,12nm,1.7s
KHC **Kasperske Hory** 44.96 332 *eP* **P** 23 27 29.8 -0.9
comp=Z,12nm,1.7s
GOPC **GO Pecny, Ondr** 44.98 333 *eP* **P** 23 27 30.2 -0.6
GOPC *ep*P **sP** 23 27 35.8 +3.3
GOPC **GO Pecny, Ondr** 44.98 333 *eP* **P** 23 27 30.2 -0.6
GOPC *e* 23 27 35.8
GOPC **GO Pecny, Ondr** 44.98 333 P **P** 23 27 30.2 -0.6
PRU **Pruhonice** 45.14 333 *eP* **P** 23 27 30.4 -1.6
PRU *ep*P **sP** 23 27 36.7 +2.9
PRU **Pruhonice** 45.14 333 *eP* **P** 23 27 30.4 -1.6
PRU *e* 23 27 36.7
PRU **Pruhonice** 45.14 333 P **P** 23 27 30.4 -1.6
SUW **Suwalki** 45.20 343 P **P** 23 27 36.4 +4.0
SUW **Suwalki** 45.20 343 P **P** 23 27 36.4 +4.0
PRA **Prague** 45.25 333 *eP* **P** 23 27 32.3 -0.6
PRA **Prague** 45.25 333 *eP* **P** 23 27 32.3 -0.6
PRA **Prague** 45.25 333 P **P** 23 27 32.3 -0.6
WET **Wettzell** 45.30 331 P **P** 23 27 34.5 +1.2
WET pmax pmax
comp=Z,12nm,1.5s
WET **Wettzell** 45.30 331 P **P** 23 27 34.5 +1.2
comp=Z,12nm,1.5s
PVCC **Panska Ves** 45.52 334 *eP* **P** 23 27 33.7 -1.4
PVCC **Panska Ves** 45.52 334 *eP* **P** 23 27 33.7 -1.4
PVCC **Panska Ves** 45.52 334 P **P** 23 27 33.7 -1.4
DAVA **Damuels** 45.56 327 *i P* **P** 23 27 35.3 -0.3
comp=Z,14nm,1.3s
DAVA **Damuels** 45.56 327 P **P** 23 27 35.3 -0.3
comp=Z,14nm,1.3s
ARU **Arti** 45.77 11 *c i P* **P** 23 27 38.0 +1.1
ARU 23 29 24.5
ARU S **S** 23 34 23.2 +2.3
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU **Arti** 45.77 11 *eP* **P** 23 27 37.8 +0.9
comp=Z,13nm,1.3s
ARU S **S** 23 34 23.2 +2.3
ARU **Arti** 45.77 11 *eP* **P** 23 27 37.8 +0.9
comp=Z,13nm,1.3s
BRVK **Borovoye** 46.01 22 *ceP* **P** 23 27 37.0 -1.9
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK **Borovoye** 46.01 22 *eP* **P** 23 27 39.8 +1.0
comp=Z,9.5nm,1.2s
BRVK **Borovoye** 46.01 22 *eP* **P** 23 27 39.8 +1.0
comp=Z,9.5nm,1.2s
BVAR **Borovoye Array** 46.02 22 P **P** 23 27 38.9 -0.1
comp=Z,7.5nm,1.1s,baz=216,slow=7.3,SNR=13
BRG **Berggiesshubel** 46.05 334 *eP* **P** 23 27 37.8 -1.4
comp=Z,26nm,1.7s
BRG **Berggiesshubel** 46.05 334 *eP* **P** 23 27 37.8 -1.4
BRG pmax pmax
comp=Z,26nm,1.7s
BRG **Berggiesshubel** 46.05 334 *eP* **P** 23 27 37.8 -1.4
comp=Z,26nm,1.7s
GRFO **Grafenberg** 46.46 331 *eP* **P** 23 27 42.3 -0.2
GRFO pmax pmax
comp=Z,55nm,1.9s
GRFO **Grafenberg** 46.46 331 *eP* **P** 23 27 42.3 -0.2
comp=Z,55nm,1.9s
GRFO **Grafenberg** 46.46 331 *eP* **P** 23 27 42.3 -0.2
comp=Z,55nm,1.9s
SVE **Sverdlovsk** 46.55 12 *eP* **P** 23 27 42.9 -0.1
SVE pmax pmax
comp=Z,17nm,1.6s
SVE **Sverdlovsk** 46.55 12 *eP* **P** 23 27 42.9 -0.1
comp=Z,17nm,1.6s
CLL **Collm** 46.77 333 *eP* **P** 23 27 44.0 -0.9
CLL pmax pmax
comp=Z,16nm,1.4s
CLL **Collm** 46.77 333 *eP* **P** 23 27 44.0 -0.9
comp=Z,16nm,1.4s
CLL **Collm** 46.77 333 *i P* **P** 23 27 43.3 -1.6
comp=Z,25nm,1.7s
CLL **Collm** 46.77 333 *eP* **P** 23 27 44.0 -0.9
comp=Z,16nm,1.4s
STU **Stuttgart** 46.86 329 *eP* **P** 23 27 45.5 -0.1
STU pmax pmax
comp=Z,7.0nm,0.6s
STU **Stuttgart** 46.86 329 *eP* **P** 23 27 45.5 -0.1
comp=Z,6.8nm,0.6s
STU **Stuttgart** 46.86 329 *eP* **P** 23 27 45.5 -0.1
comp=Z,6.8nm,0.6s
MOX **Moxa** 46.93 332 P **P** 23 27 47.1 +1.0
MOX pmax pmax
comp=Z,25nm,2.0s
MOX **Moxa** 46.93 332 P **P** 23 27 47.1 +1.0
comp=Z,25nm,2.0s
BFO **Black Forest** 47.03 328 *eP* **P** 23 27 46.4 -0.6
BFO pmax pmax
comp=Z,21nm,1.6s
BFO **Black Forest** 47.03 328 *eP* **P** 23 27 46.4 -0.6
comp=Z,21nm,1.6s
BFO **Black Forest** 47.03 328 *eP* **P** 23 27 46.4 -0.6
comp=Z,21nm,1.6s
MAKZ **Makanchi** 47.07 35 *eP* **P** 23 27 48.5 +1.1
MAKZ pmax pmax
comp=Z,20nm,1.4s
MAKZ **Makanchi** 47.07 35 *eP* **P** 23 27 48.5 +1.1
comp=Z,20nm,1.4s
MAKZ **Makanchi** 47.07 35 *eP* **P** 23 27 48.5 +1.1
comp=Z,20nm,1.4s
MK31 **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
MK31 **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
MK31 **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
MKAR **Makanchi Array** 47.24 35 P **P** 23 27 47.4 -1.3
comp=Z,7.3nm,1.0s,baz=242,slow=9.2,SNR=16
MKAR **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
MKAR pmax pmax
comp=Z,49nm,0.9s
MKAR **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
comp=Z,49nm,0.9s
MKAR **Makanchi Array** 47.24 35 *eP* **P** 23 27 48.6 -0.1
comp=Z,49nm,0.9s
SSB **Saint Sauveur** 47.41 322 *eP* **P** 23 27 49.7 -0.3
SSB pmax pmax
comp=Z,14nm,1.4s
SSB **Saint Sauveur** 47.41 322 *eP* **P** 23 27 49.7 -0.3
comp=Z,14nm,1.4s
SSB **Saint Sauveur** 47.41 322 *eP* **P** 23 27 49.7 -0.3
comp=Z,14nm,1.4s
ECH **Echery** 47.58 327 *eP* **P** 23 27 51.3 0.0
ECH pmax pmax
comp=Z,38nm,2.0s
ECH **Echery** 47.58 327 *eP* **P** 23 27 51.3 0.0
comp=Z,38nm,2.0s
ECH **Echery** 47.58 327 *eP* **P** 23 27 51.2 0.0
comp=Z,38nm,2.0s
KURK **Kurchatov** 47.77 29 *ceP* **P** 23 27 53.1 +0.5
KURK pmax pmax
comp=Z,86nm,1.6s
KURK **Kurchatov** 47.77 29 *eP* **P** 23 27 53.1 +0.5
comp=Z,86nm,1.6s
KURK **Kurchatov** 47.77 29 *eP* **P** 23 27 52.8 +0.2
comp=Z,31nm,1.5s
KURK **Kurchatov** 47.77 29 P **P** 23 27 53.2 +0.6
SNR=12
KURK P **P** 23 27 53.2 +0.6
SNR=12
KURK **Kurchatov** 47.77 29 P **P** 23 27 53.2 +0.6
SNR=12
DBIC **Dimbokro** 48.71 268 P **P** 23 27 59.2 -1.3
comp=Z,9.3nm,1.2s,baz=131,slow=22,SNR=4.2
DBIC **Dimbokro** 48.71 268 *eP* **P** 23 27 59.7 -0.8
DBIC pmax pmax
comp=Z,37nm,1.4s
DBIC **Dimbokro** 48.71 268 *eP* **P** 23 27 59.7 -0.8
comp=Z,37nm,1.4s
DBIC **Dimbokro** 48.71 268 *eP* **P** 23 27 59.7 -0.8
comp=Z,37nm,1.4s
KLMR **Klimovskoe** 48.97 357 *eP* **P** 23 28 00.1 -1.6
KLMR *e* 23 29 23.6
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR **Klimovskoe** 48.97 357 *eP* **P** 23 28 00.1 -1.6
comp=Z,26nm,1.2s
KLMR **Klimovskoe** 48.97 357 *eP*cP **PcP** 23 29 23.6 -2.2
WLF **Walferdange** 48.98 328 *eP* **P** 23 28 01.9 -0.1
WLF pmax pmax
comp=Z,25nm,1.4s
WLF **Walferdange** 48.98 328 *eP* **P** 23 28 01.9 -0.1
comp=Z,25nm,1.4s
WLF **Walferdange** 48.98 328 *eP* **P** 23 28 01.9 -0.1
comp=Z,25nm,1.4s
WMQ **Urumqi** 48.99 41 P **P** 23 28 03.0 +0.7
WMQ pmax pmax
comp=Z,12nm,0.5s
WMQ pmax pmax
comp=Z,160nm,3.8s
WMQ LR LR
comp=N,340nm,32.3s
WMQ LR LR
comp=E,410nm,35.9s
WMQ LR LR
comp=Z,380nm,35.9s
WMQ **Urumqi** 48.99 41 P **P** 23 28 04.3 +2.0
WMQ pP sP 23 28 08.9 +4.8
WMQ sP pP 23 28 12.5 +8.9
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,160nm,3.8s
WMQ LR LR
comp=Z,260nm,38.8s
WMQ LR LR
comp=Z,280nm,26.9s
WMQ LR LR
comp=Z,550nm,39.1s
MDT **Midelt** 49.26 303 P **P** 23 28 03.2 -1.4
comp=Z,2.7nm,0.9s,baz=96,slow=6.3,SNR=4.5
ESDC **Sonseca Array** 50.68 312 P **P** 23 28 14.3 -0.9
comp=Z,4.7nm,1.1s,baz=105,slow=6.5,SNR=15
ESLA **Sonseca Array** 50.68 312 *eP* **P** 23 28 15.2 0.0
comp=Z,32nm,1.6s
ESLA **Sonseca Array** 50.68 312 *eP* **P** 23 28 15.2 0.0
comp=Z,32nm,1.6s
PAB **San Pablo** 50.92 312 *eP* **P** 23 28 17.2 +0.1
PAB pmax pmax
comp=Z,32nm,1.4s
PAB **San Pablo** 50.92 312 *eP* **P** 23 28 17.2 +0.1
comp=Z,32nm,1.4s
PAB **San Pablo** 50.92 312 *eP* **P** 23 28 17.2 +0.1
comp=Z,32nm,1.4s
LHMI **Lhok Sumawe** 52.44 93 *eP* **P** 23 28 28.7 0.0
comp=Z,66nm,1.0s
LHMI **Lhok Sumawe** 52.44 93 *eP* **P** 23 28 28.7 0.0
comp=Z,66nm,1.0s
PBAR **Barrancos** 52.52 309 *eP* **P** 23 28 28.6 -0.3
comp=Z,46nm,1.2s
NVS **Novosibirsk** 52.58 27 *eP* **P** 23 28 29.2 +0.1
NVS **Novosibirsk** 52.58 27 *eP* **P** 23 28 29.2 +0.1
ZAA0 **Zalesovo Array** 52.76 29 *eP* **P** 23 28 30.2 -0.2
ZAA0 **Zalesovo Array** 52.76 29 *eP* **P** 23 28 30.2 -0.2
ZALV **Zalesovo Beam** 52.76 29 P **P** 23 28 28.9 -1.5
comp=Z,5.0nm,0.9s,baz=240,slow=8.5,SNR=15
CHTO **Chiang Mai** 53.00 75 P **P** 23 28 35.8 +3.0
comp=Z,21nm,1.7s
CHTO **Chiang Mai** 53.00 75 *eP* **P** 23 28 32.8 0.0
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CHTO **Chiang Mai** 53.00 75 *eP* **P** 23 28 32.8 0.0
comp=Z,6.0nm,1.3s
CHTO **Chiang Mai** 53.00 75 *eP* **P** 23 28 32.8 0.0
comp=Z,6.0nm,1.3s
CM31 **Chiang Mai Arr** 53.00 76 *eP* **P** 23 28 32.5 -0.3
CM31 **Chiang Mai Arr** 53.00 76 *eP* **P** 23 28 32.5 -0.3
CMAR **Chiang Mai Arr** 53.00 76 P **P** 23 28 33.0 +0.1
comp=Z,10nm,0.9s,baz=274,slow=8.2,SNR=48
CMAR PcP **PcP** 23 29 42.7 +1.1
comp=Z,2.1nm,1.0s,baz=268,slow=5.0,SNR=3.2
CMAR **Chiang Mai Arr** 53.00 76 P **P** 23 28 33.0 +0.1
PBEJ **Beja** 53.11 309 *eP* **P** 23 28 35.0 +1.7
PESTR **Estremoz** 53.12 310 *eP* **P** 23 28 34.0 +0.6
comp=Z,29nm,1.5s
PMRV **Marv??o** 53.13 311 *eP* **P** 23 28 33.0 -0.5
comp=Z,30nm,1.6s
PCBR **Castelo Branco** 53.31 311 *eP* **P** 23 28 34.4 -0.3
comp=Z,22nm,1.6s
EVO **Evora** 53.35 309 *eP* **P** 23 28 34.5 -0.6
comp=Z,50nm,1.4s
PMTG **Montargil** 53.65 310 *eP* **P** 23 28 37.0 -0.3
comp=Z,22nm,1.4s
PVIS **Viseu** 53.86 312 *eP* **P** 23 28 38.9 0.0
comp=Z,25nm,1.4s
POLO **Lamas de Olo** 53.98 313 *eP* **P** 23 28 41.0 +1.2
comp=Z,10nm,1.5s
PCAS **Casmilo, Conde** 54.12 311 *eP* **P** 23 28 40.7 0.0
comp=Z,38nm,1.4s
NAO01 **NORSAR Array S** 54.61 341 *eP* **P** 23 28 43.7 -0.2
NAO01 **NORSAR Array S** 54.61 341 *eP* **P** 23 28 43.6 -0.2
NOA **NORSAR Array B** 54.65 341 P **P** 23 28 43.1 -1.1
comp=Z,2.1nm,0.9s,baz=125,slow=9.9,SNR=3.0
TRTT **Trang** 54.68 89 P **P** 23 28 47.6 +2.4
comp=Z,20nm,1.3s,comp=Z,462nm
NBO00 **NORSAR Array S** 54.78 341 *eP* **P** 23 28 45.5 +0.3
NBO00 **NORSAR Array S** 54.78 341 *eP* **P** 23 28 45.5 +0.3
PSI **Prapat** 54.87 95 *eP* **P** 23 28 46.2 -0.5
PSI pmax pmax
comp=Z,20nm,1.4s
PSI **Prapat** 54.87 95 *eP* **P** 23 28 46.2 -0.5
comp=Z,20nm,1.4s
PBKT **Sadao Pong** 55.01 78 P **P** 23 28 48.2 +0.7
comp=Z,13nm,1.1s,comp=Z,2μm
GTA **Gaotai** 56.03 50 P **P** 23 28 55.8 +1.1
GTA pP sP 23 29 00.3 +3.8
GTA sP pP 23 29 02.8 +6.8
GTA pmax pmax
comp=Z,4.0nm,0.9s
KMI **Kunming** 56.59 68 P **P** 23 28 58.9 -0.1
KMI pmax pmax
comp=Z,12nm,1.1s
CD2 **Chengdu** 57.86 61 *eP* **P** 23 29 06.8 -0.9
SKNT **Sakolnakorn** 57.86 77 P **P** 23 29 09.4 +1.5
comp=Z,42nm,0.9s,comp=Z,4μm
LZH **Lanzhou** 58.54 55 *eP* P 23 29 18.3 +5.7
LZH pP sP 23 29 22.1 +7.8
LZH sP pP 23 29 24.3 +10
LZH pmax pmax
comp=Z,13nm,1.0s
MYKOM **Kota Tinggi** 59.89 95 *eP* **P** 23 29 21.5 -0.5
comp=Z,22nm,1.1s
MYKOM **Kota Tinggi** 59.89 95 *eP* **P** 23 29 21.4 -0.5
comp=Z,22nm,1.1s
GYA **Guiyang** 60.16 66⇑ *iP* **P** 23 29 23.1 -0.8
GYA PP **PP** 23 31 40.0 +3.5
GYA S **S** 23 37 38.3 -0.2
GYA SS **SS** 23 41 36.5 +0.9
GYA pmax pmax
comp=Z,20nm,0.8s
GYA LR LR
comp=Z,460nm,19.8s
GYA LR LR
comp=Z,310nm,20.4s
GYA LR LR
comp=Z,470nm,20.8s
XAN **Xi'an** 62.46 58 P **P** 23 29 39.3 0.0
XAN pmax pmax
comp=Z,11nm,1.2s
SONM **Songino Array** 62.61 42 P **P** 23 29 39.8 -0.3
comp=Z,7.2nm,1.1s,baz=250,slow=5.8,SNR=24
ULN **Ulaanbaatar** 63.05 42 *ceP* **P** 23 29 43.3 +0.2
ULN pmax pmax
comp=Z,12nm,1.7s
ULN **Ulaanbaatar** 63.05 42 *eP* **P** 23 29 43.5 +0.4
comp=Z,8.2nm,1.2s
ULN **Ulaanbaatar** 63.05 42 *eP* **P** 23 29 43.5 +0.4
comp=Z,8.2nm,1.2s
ULN **Ulaanbaatar** 63.05 42 P **P** 23 29 43.9 +0.9
SNR=5.1
ULN **Ulaanbaatar** 63.05 42 pP **P** 23 29 43.9 +0.9
SNR=5.1
NRIK **Noril'sk** 63.59 16 P **P** 23 29 46.2 +0.1
comp=Z,7.9nm,1.1s,baz=190,slow=4.6,SNR=6.4
HHC **Hu-ho-hao-te** 65.14 50 *eP* **P** 23 29 57.6 +0.7
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.0s
BJI **Beijing** 68.60 52 P **P** 23 30 19.1 +0.3
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI pmax pmax
comp=Z,160nm,4.9s
BOD **Bodaibo** 69.22 32 *eP* **P** 23 30 21.4 -0.9
BOD pmax pmax
comp=Z,13nm,1.8s
BOD **Bodaibo** 69.22 32 *eP* **P** 23 30 21.4 -0.9
comp=Z,13nm,1.8s
NJ2 **Nanjing** 70.77 60 *eP* **P** 23 30 32.0 -0.3
NJ2 pmax pmax
comp=Z,16nm,0.5s
HIA **Hailar** 71.58 42 *i P* **P** 23 30 35.6 -1.4
HIA pmax pmax
comp=Z,10.0nm,1.1s
HIA **Hailar** 71.58 42 *i P* **P** 23 30 35.6 -1.4
comp=Z,10.0nm,1.1s
CN2 **Changchun** 75.51 48 *eP* **P** 23 31 00.0 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s
SUMG **Summit** 76.52 342 *i P* **P** 23 31 05.9 0.0
comp=Z,21nm,1.3s
SUMG **Summit** 76.52 342 *i P* **P** 23 31 05.9 0.0
SUMG pmax pmax
comp=Z,21nm,1.3s
SUMG **Summit** 76.52 342 *i P* **P** 23 31 05.9 0.0
comp=Z,21nm,1.3s
TIXI **Tiksi** 77.06 19 *ceP* **P** 23 31 08.1 -0.3
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI **Tiksi** 77.06 19 *eP* **P** 23 31 08.1 -0.3
comp=Z,6.0nm,1.2s
TIXI **Tiksi** 77.06 19 *eP* **P** 23 31 07.7 -0.7
comp=Z,13nm,1.5s
YAK **Yakutsk** 77.41 29 *i P* **P** 23 31 12.4 +1.9
YAK pmax pmax
comp=Z,14nm,0.8s
YAK **Yakutsk** 77.41 29 *i P* **P** 23 31 12.4 +1.9
comp=Z,14nm,0.8s
KSAR **Wonju Array Be** 77.82 54 P **P** 23 31 12.8 -0.6

KSAR	Wonju Array Be	77.82	54	P	P	23 31 12.8	-0.6
KSAR	Wonju Array Be	77.82	54	P	P	23 31 12.8	-0.6
KSRS	Korea Array	77.85	54	P	P	23 31 12.8	-0.7
	comp=Z,1.9nm,0.9s,baz=265,slow=6.8,SNR=3.0						
USRK	Ussuriysk Ar.	80.17	47	P	P	23 31 25.9	-0.2
	comp=Z,1.1nm,0.5s,baz=298,slow=4.1,SNR=5.5						
MJAR	Matsushiro Arr	86.13	54	P	P	23 31 57.0	-0.1
	comp=Z,4.9nm,1.1s,baz=273,slow=5.6,SNR=6.5						
SNAA	Sanae	89.08	193	P	P	23 32 08.4	-2.1
VNA2	Neumayer--Watz	89.67	195	P	P	23 32 11.9	-1.3
	baz=263,slow=6.6						
BILL	Bilibino	90.28	19	eP	P	23 32 17.8	+1.6
BILL				e		23 35 51.3	
BILL				ePPP	PPP	23 37 49.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL	Bilibino	90.28	19	eP	P	23 32 17.8	+1.6
	comp=Z,2.0nm,1.1s						
VNA3	Neumayer Olymp	90.45	195	P	P	23 32 15.7	-1.2
WRA	Warramunga Arr	94.06	109	P	P	23 32 34.9	+0.2
	comp=Z,1.5nm,1.0s,baz=285,slow=3.5,SNR=6.5						
WRAB	Tennant Creek	94.06	109	eP	P	23 32 34.6	-0.1
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRAB	Tennant Creek	94.06	109	eP	P	23 32 34.6	-0.1
	comp=Z,4.8nm,1.0s						
WRAB	Tennant Creek	94.06	109	eP	P	23 32 34.6	-0.1
	comp=Z,4.8nm,1.0s						
ASAR	Alice Springs	94.37	113	P	P	23 32 36.2	+0.2
	comp=Z,0.9nm,0.8s,baz=291,slow=3.7,SNR=8.4						
OTAV	Otavalo	121.88	278	ePKIKP	PKPdf	23 38 11.7	0.0
OTAV	Otavalo	121.88	278	ePKPdf	PKPdf	23 38 11.7	0.0
TXAR	Lajitas Array	128.62	324	PKP	PKPdf	23 38 24.3	+0.5
	comp=Z,0.7nm,0.9s,baz=90,slow=0.9,SNR=6.7						

*IDC **21** 23:19:51.1±1.8, 37.°01N×140.°64E, $h0^{km}$, mb3.8/3, mb1 4.0/3, mb1mx3.5/43, mbtmp3.8/3, Error ellipse: s-maj=34.4km s-min=18.0km az=4.0*
*ISCJB **21** 23:19:52.7±0.5, 37.°02N±0.°03×140.°69E±0.°05, $h19^{km}$±5^{km}, mb3.7/3, Error ellipse: s-maj=7.1km s-min=4.6km az=16.7*
*JMA **21** 23:19:53.2, 37.°03N×140.°61E, $h9^{km}$±1^{km}, M3.6*
JMA Felt II J1.

ISC 21 23:19:52.8±0.9, 37.°03N±0.°03×140.°62E±0.°04, $h13^{km}$±8^{km}, n20, σ0^{s}52/22, mb3.8/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.16	62	P	Pg	23 19 56.9	+0.2
ONAJ				S	Sg	23 19 59.6	+0.2
JFK	Kawauchi	0.40	31	P	Pb	23 20 00.9	-0.7
JFK				S	Sg	23 20 06.4	+0.3
JHO	Hitachi	0.42	186	P	Pb	23 20 01.3	-0.7
JHO				eS	Sg	23 20 06.8	+0.1
JFT	Otama	0.54	335	P	Pg	23 20 03.1	-0.3
JFT				S	Sg	23 20 11.0	+0.4
JSB	Shiboa	0.56	264	P	Pb	23 20 04.7	+0.2
JSB				S	Sb	23 20 12.5	0.0
JFY	Yanaizu	0.82	298	P	Pb	23 20 08.8	-0.1
JFY				S	Sg	23 20 19.3	-0.3
JMM	Marumori	0.85	9	P	Pg	23 20 08.9	-0.3
JMM				eS	Sg	23 20 19.9	-0.5
JYT	Yasato	0.87	203	P	Pb	23 20 09.2	-0.5
JYT				eS	Sg	23 20 20.6	-0.3
MJAR	Matsushiro Arr	2.00	257	Pg	Pb	23 20 28.0	-0.9
	25nm,0.3s,baz=82,slow=17,SNR=62						
MJAR				Lg	Lg	23 20 53.9	
	34nm,0.3s,baz=96,slow=25,SNR=19						
MAT	Matsushiro	2.00	257	P	Pb	23 20 28.1	-0.8
MAT				S	Sb	23 20 54.3	+0.6
USRK	Ussuriysk Ar.	9.71	320	Pn	Pn	23 22 18.8	+6.7
	0.2nm,0.3s,baz=134,slow=13,SNR=6.7						
SONM	Songino Array	27.26	304	P	P	23 25 37.3	+0.6
	0.5nm,0.5s,baz=107,slow=9.2,SNR=3.5						
H11N2	WAKE ISLAND Hy	28.69	120	T	T	23 55 39.9	
	baz=313,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	28.70	120	T	T	23 55 40.9	
	baz=313,slow=75,SNR=32						
H11N3	WAKE ISLAND Hy	28.71	120	T	T	23 55 41.7	
	baz=313,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy	29.39	122	T	T	23 56 34.0	
	baz=314,slow=75,SNR=21						
H11S3	WAKE ISLAND Hy	29.39	122	T	T	23 56 34.3	
	baz=314,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	29.41	122	T	T	23 56 34.4	
	baz=314,slow=75,SNR=14						
WRA	Warramunga Arr	56.97	187	P	P	23 29 38.0	0.0
	1.5nm,0.7s,baz=3.3,slow=7.3,SNR=12						
ASAR	Alice Springs	60.70	187	P	P	23 30 04.4	+0.6
	0.4nm,0.6s,baz=11,slow=6.6,SNR=5.8						

*CSEM **21** 23:24:36.1, 36.°97N×29.°80E, $h7^{km}$, MD2.4*

DDA 21 23:24:36.1, 36.°97N×29.°80E, $h7^{km}$, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.33	324	i P	Pg	23 24 41.3	-1.3
GOLH				i S	Sg	23 24 47.9	+1.0
GOLH	Golhisar	0.33	324	P	Pg	23 24 41.3	-1.3
GOLH				S	Sg	23 24 47.9	+1.0
KORT	Korkueli	0.44	86	i P	Pg	23 24 44.1	-0.6
KORT				i S	Sb	23 24 52.2	-0.9
KORT	Korkueli	0.44	86	P	Pg	23 24 44.1	-0.6
KORT				S	Sb	23 24 52.2	-0.9
FETY	Fethiye	0.67	240	P	Pg	23 24 48.9	-0.1
FETY				S	Sb	23 24 59.3	-0.4
TAVA	DENIZLI_Tavas	0.86	305	i P	Pg	23 24 53.1	+0.3
TAVA	DENIZLI_Tavas	0.86	305	P	Pg	23 24 53.1	+0.4

TRN 21 23:32:58.2, 10.°45N×61.°79W, $h11^{km}$, MD3.6, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.35	111	eP	Pg	23 33 05.8	+0.6
TRN	Trinidad (W)	0.43	62	eP	Pg	23 33 05.9	-0.7
TBH	Brigand Hill	0.71	87	eP	Pb	23 33 13.1	+0.5
BOT	Bacolet	1.27	56	eP	Pn	23 33 21.0	-0.8
TOSP	Speyside	1.49	55	eP	Pb	23 33 25.8	-0.2
TOSP				eS	Sn	23 33 44.5	+0.1
GRW	Mount Saint Ca	1.71	4	eP	Pn	23 33 27.9	0.0
GRW				eS	Sb	23 33 50.8	-0.4
GRSS	Sisters	1.85	5	eP	Pn	23 33 29.8	-0.1
GRSS				eS	Sn	23 33 53.9	+0.7
SVB	Belmont	2.86	10	eP	Pn	23 33 43.6	-0.1
SVB				eS	Sn	23 34 18.5	+0.3
SVV	Soufriere Volc	2.91	11	eP	Pn	23 33 45.5	+1.1
SVV				eS	Sn	23 34 19.6	+0.2
SSV	Crater Summit	2.92	11	eP	Pn	23 33 44.9	+0.2
SSV				eS	Sn	23 34 19.4	-0.4

IDC 21 23:38:06.8±3.0, 30.°04S×175.°37W, $h0^{km}$, mb3.3/2, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML4.1/1, Error ellipse: s-maj=100.0km s-min=52.4km az=175.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.35	289	Pn	Pn	23 38 46.9	+0.3
	47nm,0.3s,baz=96,slow=19,SNR=4.9						
RAO				Sn	Sn	23 39 10.4	-5.8
	410nm,0.3s,baz=92,slow=20,SNR=11						
ASAR	Alice Springs	45.40	265	P	P	23 46 27.8	+0.4
	0.2nm,0.6s,baz=98,slow=6.5,SNR=5.6						
WRA	Warramunga Arr	46.36	270	P	P	23 46 34.0	-1.1
	0.3nm,0.5s,baz=112,slow=7.1,SNR=5.3						
FINES	FINESS Array B	145.55	342	PKPbc	PKPdf	23 57 45.8	-0.4
	1.6nm,0.9s,baz=32,slow=3.4,SNR=3.8						

WEL 21 23:50:03.9±0.4, 36.°47S×177.°23E, $h5^{km}$, ML3.7/12, Error ellipse: s-maj=4.1km s-min=2.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	Kuaotunu	1.24	257	P*	Pg	23 50 26.6	-1.1
KUZ				S*	Sb	23 50 44.2	0.0
KUZ				AML	AML	23 50 45.7	
KUZ				AML	AML	23 50 45.8	
KUZ				AML	AML	23 50 59.4	
HAZ	Te Kaha	1.36	161	P*	Pn	23 50 27.2	-2.3
HAZ				S*	Sb	23 50 44.7	-2.8
HAZ				AML	AML	23 50 54.8	
MXZ	Matakaoa Point	1.40	142	P*	Pn	23 50 27.1	-2.9
MXZ				S*	Sb	23 50 45.5	-3.0
MXZ				S*	Sg	23 50 45.8	-2.9
WHRZ	Whale Island	1.40	188	P*	Pn	23 50 27.1	-3.0
GRZ	Great Barrier	1.44	278	PN	Pn	23 50 30.2	-0.4
GRZ				AML	AML	23 50 51.7	
GRZ				AML	AML	23 50 53.0	
OPRZ	Ohinepanea	1.48	201	AML	AML	23 50 58.7	
RUGZ	Raukumara Rang	1.54	167	P*	Pn	23 50 30.5	-1.6
PKGZ	Pakihiroa	1.57	155	PN	Pn	23 50 32.1	-0.4
PKGZ				AML	AML	23 50 32.4	
PKGZ				AML	AML	23 50 32.9	
WMGZ	Waiomatatini S	1.65	145	PN	Pn	23 50 33.4	-0.1
WMGZ				AML	AML	23 50 38.3	
WMGZ				AML	AML	23 51 03.8	
WIAZ	Waiheke Island	1.71	258	PN	Pn	23 50 33.9	-0.5
WIAZ				AML	AML	23 51 06.4	
WIAZ				AML	AML	23 51 09.5	
MKAZ	Moumakai	1.78	248	PN	Pn	23 50 34.8	-0.4
MKAZ				SN	Sn	23 50 58.2	+0.1
MKAZ				AML	AML	23 51 06.5	
URZ	Urewera	1.79	183	P*	Pn	23 50 32.5	-2.9
URZ				AML	AML	23 51 09.0	
PUZ	Puketiti	1.80	153	PN	Pn	23 50 34.0	-1.6
PUZ				AML	AML	23 51 10.7	
PUZ				AML	AML	23 51 14.1	
TWGZ	Tauwhareparae	1.81	161	PN	Pn	23 50 35.4	-0.3
TWGZ				AML	AML	23 51 07.4	
TWGZ				AML	AML	23 51 13.0	
MWZ	Matawai	1.88	173	P*	Pn	23 50 35.4	-1.3

*ISCJB **21** 23:52:04.4±0.5, 50.°28N±0.°03×18.°71E±0.°03, $h0^{km}$, Error ellipse: s-maj=4.8km s-min=2.5km az=19.3*
*CSEM **21** 23:52:05.4±0.3, 50.°27N×18.°75E, $h2^{km}$, ML3.0/8, Error ellipse: s-maj=7.1km s-min=3.4km az=15.0*
*WAR **21** 23:52:06.5, 50.°27N×18.°83E, $h1^{km}$, Mw2.8*
*VIE **21** 23:52:07.0±1.5, 50.°20N×18.°72E, $h0^{km}$, mb2.1/3, ML2.6/4, Error ellipse: s-maj=14.1km s-min=9.7km az=129.0, Suspected Mining induced.*

ISC 21 23:52:06.2±0.8, 50.°21N±0.°03×18.°75E±0.°02, $h0^{km}$, n41, σ0^{s}67/76, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.54	227	ePG	Pb	23 52 18.3	-0.1
OKC				eSG	Sg	23 52 23.8	+0.5
	comp=Z,33nm,0.2s						
OKC	Ostrava-Krasne	0.54	227	Pg	Pb	23 52 18.3	-0.1
OKC				Sg	Sg	23 52 23.8	+0.5
	33nm,0.2s						
OJC	Ojcow	0.68	88	ePg	Pg	23 52 18.3	-0.8
OJC				eSg	Sg	23 52 28.4	+0.6
OJC	Ojcow	0.68	88	ePg	Pg	23 52 18.3	-0.8
OJC				eSg	Sg	23 52 28.4	+0.6
OJC	Ojcow	0.68	88	ePg	Pg	23 52 18.3	-0.8
OJC				eSg	Sg	23 52 28.4	+0.6
MORC	Moravsky Berou	0.89	242	ePg	Pb	23 52 24.1	-0.4
MORC				eSg	Sb	23 52 37.1	+0.2
LANS	Liptovska Anna	1.16	156	ePg	Pb	23 52 29.3	+0.3
LANS				eSg	Sn	23 52 45.9	-0.2
LANS	Liptovska Anna	1.16	156	ePG	Pb	23 52 29.3	+0.3
LANS				eSG	Sn	23 52 45.9	-0.2
KRLC	Kraliky	1.27	265	ePG	Pg	23 52 30.1	-0.4
KRLC				eSG	Sg	23 52 47.2	+0.2
KRLC	Kraliky	1.27	265	Pg	Pg	23 52 30.1	-0.4
KRLC				Sg	Sg	23 52 47.2	+0.2
NIE	Niedzica	1.28	128	ePg	Pb	23 52 30.4	-0.2
NIE				eSg	Sn	23 52 49.3	+0.1
NIE	Niedzica	1.28	128	ePg	Pg	23 52 30.4	-0.2
NIE				eSg	Sn	23 52 49.3	+0.1
NIE	Niedzica	1.28	128	ePg	Pg	23 52 30.4	-0.2
NIE				eSg	Sn	23 52 49.3	+0.1
DPC	Dobruska-Polom	1.56	276	ePG	Pn	23 52 34.9	-0.3
DPC				eSG	Sn	23 52 56.3	+0.1
	comp=Z,24nm,0.4s						
DPC	Dobruska-Polom	1.56	276	Pg	Pn	23 52 34.9	-0.3
DPC				Sg	Sn	23 52 56.3	+0.1
	24nm,0.4s						
VRAC	Vranov	1.66	238	ePn	Pn	23 52 36.8	+0.2
VRAC				eSg	Sg	23 52 59.8	+0.3
KSP	Ksiaz	1.69	293	ePb	Pn	23 52 36.4	-0.6
KSP				ePg	Pb	23 52 38.3	+0.1
KSP				eSg	Sg	23 53 00.9	+0.4
KSP	Ksiaz	1.69	293	ePb	Pn	23 52 36.4	-0.6
KSP	Ksiaz	1.69	293	ePb	Pn	23 52 36.4	-0.6
KSP				ePg	Pb	23 52 38.3	+0.1
KSP				eSg	Sg	23 53 00.9	+0.4
VYHS	Vyhne	1.71	178	ePn	Pn	23 52 37.1	-0.2
VYHS				eSn	Sn	23 52 59.1	-0.8
VYHS	Vyhne	1.71	178	ePN	Pn	23 52 37.1	-0.2
VYHS				eSN	Sn	23 52 59.1	-0.8
VYHS				eLG	Lg	23 53 02.2	
UPC	Upice	1.78	281	ePG	Pb	23 52 39.5	-0.1
UPC				eSG	Sg	23 53 03.3	+0.1
	comp=Z,11nm,0.2s						
UPC	Upice	1.78	281	Pg	Pb	23 52 39.5	-0.1
UPC				Sg	Sg	23 53 03.3	+0.1
	11nm,0.2s						
SMOL	Smolenice	1.90	207	eSn	Sn	23 53 04.9	+0.4
SMOL	Smolenice	1.90	207	eSN	Sn	23 53 04.9	+0.4
KECS	Kecovo	2.06	146	ePn	Pn	23 52 41.1	-1.0
KECS	Kecovo	2.06	146	ePN	Pn	23 52 41.1	-1.0
KECS				eLG	Lg	23 53 14.3	
CRVS	Cervenica-Dubn	2.20	125	ePg	Pb	23 52 46.9	+0.1
CRVS	Cervenica-Dubn	2.20	125	ePG	Pb	23 52 46.9	+0.1
TREC	Trest	2.30	248	ePG	Pb	23 52 48.4	-0.2
TREC				eSG	Sg	23 53 19.5	-0.6
	comp=Z,9.8nm,0.2s						
TREC	Trest	2.30	248	Pg	Pb	23 52 48.4	-0.2
TREC				Sg	Sg	23 53 19.5	-0.6
	9.8nm,0.2s						
GOPC	GO Pecny, Ondr	2.57	265	ePG	Pb	23 52 53.8	+0.7
GOPC	GO Pecny, Ondr	2.57	265	Pg	Pb	23 52 53.8	+0.7
PRU	Pruhonice	2.72	267	ePG	Pb	23 52 55.8	+0.2
PRU				eSG	Sb	23 53 31.3	+1.8
	comp=Z,5.2nm,0.3s						
PRU	Pruhonice	2.72	267	Pg	Pb	23 52 55.8	+0.2
PRU				Sg	Sb	23 53 31.3	+1.8
	5.2nm,0.3s						
CONA	Conrad Observa	2.97	221	Pn	Pn	23 52 54.9	+0.3
	0.9nm,0.2s						
CONA				Sn	Sn	23 53 30.7	-0.2
	2.4nm,0.3s						
BRG	Berggiesshubel	3.14	284	PG	Pg	23 53 05.6	-0.7
BRG				SG	Sg	23 53 46.1	-0.8
	4.5nm,0.6s						
KHC	Kasperske Hory	3.53	254	ePN	Pn	23 53 03.0	+0.8
KHC				ePG	Pb	23 53 10.2	+0.8
KHC				eSG	Sg	23 53 57.9	-1.5
	comp=Z,9.7nm,0.4s						
KHC	Kasperske Hory	3.53	254	Pn	Pn	23 53 03.0	+0.8
KHC				Sg	Sg	23 53 57.9	-1.5
	9.7nm,0.4s						
MOA	Molln	3.78	233	Pn	Pn	23 53 06.7	+1.1
	0.2nm,0.1s						
MOA				Sg	Sg	23 54 05.6	-1.8
	4.7nm,0.4s						
CLL	Collm	3.81	289	i Pg	Pg	23 53 18.6	-0.6
CLL				eSg	Sg	23 54 07.0	-1.5

*IDC **22** 00:00:58.3±1.8, 20.°60N×99.°92E, $h0^{km}$, mb3.6/2, mb1 3.6/3, mb1mx3.2/45, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=29.1km s-min=15.2km az=98.0*

ISC 22 00:00:59.5±2.4, 20.°53N±0.°09×99.°9E±0.°3, $h10^{km}$, n14, σ1^{s}07/15, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	2.23	203	Pn	Pn	00 01 36.2	-0.3
	9.5nm,0.3s,baz=16,slow=13,SNR=60						
CMAR				Pg	Pg	00 01 42.5	+0.2
	76nm,0.3s,baz=17,slow=17,SNR=147						
CMAR				Lg	Lg	00 02 11.8	
	105nm,0.3s,baz=19,slow=14,SNR=4.5						
TAPN	Taplejung	13.00	304	eP	P	00 04 16.1	+0.9
	4.4nm,0.6s						
ODAN	Odare	13.03	301	eP	P	00 04 17.1	+1.6
RAMN	Ramite	13.71	300	eP	P	00 04 24.7	+1.7
	5.7nm,0.6s						
JIRN	Jiri	14.34	302	eP	P	00 04 30.0	-0.2
	37nm,0.5s						
GUN	Gumba	14.70	303	eP	P	00 04 34.7	+0.5
	10nm,0.6s						
PKIN	Phulchoki	14.94	301	eP	P	00 04 36.3	-0.4
	9.2nm,0.6s						
KKN	Kakani	15.12	301	eP	P	00 04 39.3	+0.6
	6.6nm,0.6s						
GKN	Gorkha	15.73	301	eP	P	00 04 44.3	-1.1
	36nm,1.3s						
KOLN	Koldanda	16.48	299	eP	P	00 04 52.2	-1.5
	6.6nm,0.8s						
DANN	Dangsing	16.58	301	eP	P	00 04 53.4	-1.5
	1.0nm,0.8s						
PYUN	Piuthan	17.10	299	eP	Pn	00 04 58.3	-0.6
MKAR	Makanchi Array	29.86	335	P	P	00 07 07.3	+0.3
	0.3nm,0.6s,baz=154,slow=10,SNR=3.8						
ZALV	Zalesovo Beam	35.29	345	P	P	00 07 54.2	-0.2
	0.6nm,0.6s,baz=142,slow=7.3,SNR=1.9						

*ISCJB **22** 00:13:21.4±0.6, 11.°7N±0.°1×44.°27E±0.°06, $h4^{km}$, mb3.9/14, Error ellipse: s-maj=15.4km s-min=7.6km az=157.4*
*IDC **22** 00:13:22.8±1.3, 11.°75N×44.°25E, $h0^{km}$, mb3.8/9, mb1 4.0/11, mb1mx3.8/44, mbtmp3.9/11, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/39, Error ellipse: s-maj=32.0km s-min=17.1km az=163.0*
*NEIC **22** 00:13:24.1±0.7, 11.°76N×44.°22E, $h10^{km}$, mb4.1/4, Error ellipse: s-maj=18.2km s-min=12.0km az=139.0*
*CSEM **22** 00:13:24.1, 11.°76N×44.°22E, $h10^{km}$, mb4.1/4*

ISC 22 00:13:23.1±0.7, 11.°8N±0.°1×44.°21E±0.°08, $h4^{km}$, n23, σ1^{s}41/24, mb3.9/14, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.36	260	Pn	Pn	00 13 47.8	-1.2
	149nm,0.3s,baz=210,slow=20,SNR=15						
ATD				Sn	Sg	00 14 06.6	-0.3
	579nm,0.3s,baz=81,slow=24,SNR=24						
RAYN	Ar Rayn	11.75	6	eP	Pn	00 16 08.8	-2.9
	45nm,1.4s						
RAYN	Ar Rayn	11.75	6	eP	Pn	00 16 08.8	-2.9
	45nm,1.4s						
KMBO	Kilima Mbogo	14.57	209	Pn	Pn	00 16 49.2	-1.2
	0.2nm,0.3s,baz=62,slow=17,SNR=2.0						
KMBO				Lg	Lg	00 21 04.3	
	0.1nm,0.3s,baz=91,slow=21,SNR=4.3						
KMBO				LR	LR	00 22 15.8	
	comp=Z,222nm,19.6s,baz=241,slow=37						
WSAR	Wadi Sarin	17.84	48	P	Pn	00 17 31.2	-1.2
	0.1nm,0.3s,baz=214,slow=3.6,SNR=3.8						
ASF	Jabal al Asfar	21.39	343	P	P	00 18 13.5	+1.5
	0.7nm,0.3s,baz=155,slow=2.0,SNR=3.0						
ASF				Lg	Lg	00 24 33.1	
	0.8nm,0.4s,baz=0.0,slow=20,SNR=3.5						
BRTR	Keskin Array B	29.37	343	P	P	00 19 28.4	+0.9
	1.7nm,0.9s,baz=161,slow=13,SNR=9.4						
ABKAR	Akbulak array	39.58	16	eP	P	00 20 55.6	+0.2
	1.8nm,0.9s						
ABKAR	Akbulak array	39.58	16	eP	P	00 20 55.6	+0.2
	1.8nm,0.9s						
AAK	Ala-Archa	40.46	35	P	P	00 21 05.9	+2.8
	0.5nm,0.4s,baz=222,slow=14,SNR=3.0						
TORD	Torodi Ar. Bea	41.50	277	P	P	00 21 14.2	+2.3
	0.9nm,0.8s,baz=85,slow=7.9,SNR=6.6						
GERES	GERESS Array B	44.80	332	P	P	00 21 38.9	+0.6
	0.7nm,0.8s,baz=96,slow=5.4,SNR=5.7						
MKAR	Makanchi Array	47.39	35	P	P	00 21 58.3	-0.3
	1.7nm,0.9s,baz=223,slow=9.8,SNR=7.7						
ESDC	Sonseca Array	50.73	312	P	P	00 22 24.4	0.0
	0.9nm,0.8s,baz=113,slow=7.3,SNR=3.6						
ZALV	Zalesovo Beam	52.91	29	P	P	00 22 39.2	-1.1
	0.9nm,0.6s,baz=241,slow=6.3,SNR=5.6						
CMAR	Chiang Mai Arr	53.09	76	P	P	00 22 43.1	+0.9
	3.3nm,1.1s,baz=274,slow=8.7,SNR=9.7						
SONM	Songino Array	62.76	42	P	P	00 23 50.4	+0.6
	0.9nm,0.7s,baz=245,slow=6.4,SNR=4.2						
ULN	Ulaanbaatar	63.20	42	eP	P	00 23 53.0	+0.2
	1.5nm,0.9s						
ULN	Ulaanbaatar	63.20	42	eP	P	00 23 53.0	+0.2
	1.5nm,0.9s						
SFJD	Kangerlussuaq	81.14	337	eP	P	00 25 40.3	+0.7
	3.9nm,0.8s						
SFJD	Kangerlussuaq	81.14	337	eP	P	00 25 40.3	+0.7
	3.9nm,0.8s						
WRAB	Tennant Creek	94.07	109	eP	P	00 26 43.0	-0.5
	0.4nm,0.6s						
WRAB	Tennant Creek	94.07	109	eP	P	00 26 43.0	-0.5
	0.4nm,0.6s						

*ISCJB **22** 00:16:08.0±0.9, 11.°5N±0.°1×44.°24E±0.°08, $h10^{km}$, mb3.6/5, Error ellipse: s-maj=19.6km s-min=9.3km az=158.4*
*IDC **22** 00:16:08.3±1.7, 11.°52N×44.°16E, $h0^{km}$, mb3.7/5, mb1 3.8/7, mb1mx3.5/43, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=37.4km s-min=17.1km az=152.0*

ISC 22 00:16:09.9±1.1, 11.°5N±0.°1×44.°2E±0.°1, $h10^{km}$, n8, σ0^{s}92/9, mb3.7/5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.29	270	Pn	Pn	00 16 33.1	-0.9
	231nm,0.3s,baz=220,slow=22,SNR=8.8						
ATD				Sn	Sn	00 16 51.4	+0.1
	167nm,0.3s,baz=132,slow=23,SNR=9.9						
KMBO	Kilima Mbogo	14.33	209	Pn	Pn	00 19 33.5	+0.2
	baz=90,slow=4.0,SNR=2.6						
KMBO				Lg	Lg	00 23 42.4	
	baz=78,slow=20,SNR=2.4						
WSAR	Wadi Sarin	18.04	48	P	Pn	00 20 20.1	-0.7
	0.1nm,0.3s,baz=281,slow=9.2,SNR=3.0						
BRTR	Keskin Array B	29.59	343	P	P	00 22 16.7	+1.4
	1.2nm,0.9s,baz=147,slow=7.0,SNR=5.6						
TORD	Torodi Ar. Bea	41.48	277	P	P	00 23 58.0	+0.6
	0.6nm,0.8s,baz=89,slow=7.0,SNR=4.1						
GERES	GERESS Array B	44.99	332	P	P	00 24 24.8	-0.7
	0.7nm,0.9s,baz=138,slow=10,SNR=4.3						
MKAR	Makanchi Array	47.62	35	P	P	00 24

XMIS				*e*Sn	Sn	00 19 20.0	-5.8
CBJI	**Citeko**	**3.04**	**63**	P	Pn	00 18 50.9	+0.8
CBJI				S	Sn	00 19 24.6	-1.8
KLSI		**3.19**	**11**	P	Pn	00 18 52.5	+0.5
KLSI				S	Sn	00 19 32.2	+2.3
MDSI	**Maura Dua**	**3.33**	**1**	P	Pn	00 18 53.6	-0.5
MDSI				S	Sn	00 19 33.1	-0.4
CISI	**Cisompet, Garu**	**3.66**	**86**	P	Pn	00 18 59.0	+0.4
CISI	**Cisompet, Garu**	**3.66**	**86**	*e*Pn	Pn	00 18 58.5	-0.1
LHSI	**Lahat**	**4.03**	**351**	P	Pn	00 19 03.7	0.0
LHSI				S	Sn	00 19 51.1	+0.3
CMJI	**Cimerak**	**4.28**	**90**	P	Pn	00 19 06.8	-0.2
PMBI	**Palembang**	**4.92**	**7**	P	Pn	00 19 16.6	+0.7
346nm,0.8s,65μm5.7nm							
MASI	**Maura Aman, Be**	**5.04**	**338**	P	Pn	00 19 15.8	-1.7
366nm,1.0s,4μm3.1nm							
MASI				S	Sn	00 20 08.2	-7.4
366nm,1.0s,4μm3.1nm							
JMBI	**JAMBI**	**6.19**	**355**	P	Pn	00 19 33.3	0.0
356nm,0.5s,1.8nm							
SMRI	**Semarang**	**6.31**	**83**	*e*Pn	Pn	00 19 36.2	+1.2
97nm,0.5s							
UGM	**Wanagama**	**6.33**	**91**	P	Pn	00 19 35.0	-0.3
531nm,0.8s,8μm2.4nm							
UGM	**Wanagama**	**6.33**	**91**	*e*Pn	Pn	00 19 35.4	0.0
PPSI	**Pulau Pagai**	**6.50**	**321**	P	Pn	00 19 35.3	-2.3
166nm,0.8s,1.0nm							
UWJI	**Ujung Watu**	**6.91**	**79**	P	Pn	00 19 45.8	+2.6
PCJI	**Pacitan**	**6.99**	**93**	P	Pn	00 19 44.5	+0.2
RGRI	**Rengat**	**7.66**	**346**	P	Pn	00 19 52.1	-1.4
202nm,0.5s,49μm7.2nm							
SISI	**Saibi**	**8.19**	**322**	P	Pn	00 19 57.2	-3.7
81nm,0.6s							
COCO	**West Island**	**8.38**	**238**	*e*P	Pn	00 20 03.1	-0.4
COCO				pmax	pmax		
comp=Z,543nm,0.7s							
COCO	**West Island**	**8.38**	**238**	*e*Pn	Pn	00 20 03.1	-0.4
comp=Z,543nm,0.7s							
BKNI	**Bangkinang**	**8.68**	**339**	P	Pn	00 20 05.9	-1.7
comp=Z,95nm,0.6s,comp=Z,10μm							
PBSI	**Pulau Batu**	**9.69**	**323**	P	Pn	00 20 20.2	-1.2
KMMI	**Kalianget**	**9.79**	**86**	P	Pn	00 20 24.3	+1.6
JAGI	**Jajag, Banyuwa**	**9.94**	**94**	P	Pn	00 20 24.3	-0.6
comp=Z,123nm,1.0s,comp=Z,2μm							
JAGI	**Jajag, Banyuwa**	**9.94**	**94**	*e*Pn	Pn	00 20 24.4	-0.5
JAGI				*e*Sn	Sn	00 22 12.8	-3.6
IGBI	**Denpasar**	**10.94**	**96**	P	Pn	00 20 39.6	+1.0
comp=Z,82nm,0.6s							
PSI	**Prapat**	**11.78**	**334**	Pn	Pn	00 20 46.6	-3.6
comp=Z,0.3nm,0.3s,baz=143,slow=12,SNR=3.9							
MTKI	**Muara Teweh, K**	**12.73**	**58**	P	Pn	00 21 00.9	-2.2
SBUM	**Sibu**	**13.02**	**39**	*e*Pn	Pn	00 21 07.3	+0.2
MMRI	**Maumere**	**17.94**	**94**	*e*Pn	P	00 22 11.8	-0.2
comp=Z,60nm,0.7s							
KKM	**Kota Kinabalu**	**18.32**	**41**	*e*Pn	P	00 22 16.6	+0.2
comp=Z,31nm,0.7s							
MYLDM	**Lahad Datu**	**19.31**	**48**	*e*P	Pn	00 22 28.5	+0.3
comp=Z,75nm,0.9s							
LUWI	**Luwuk**	**19.76**	**71**	*e*P	P	00 22 31.0	-1.2
comp=Z,18nm,0.6s							
SOEI	**Soe**	**19.99**	**97**	P	Pn	00 22 36.8	+0.3
SOEI	**Soe**	**19.99**	**97**	*e*P	P	00 22 34.7	-0.1
comp=Z,90nm,0.8s							
MBWA	**Marble Bar**	**20.06**	**133**	*e*P	P	00 22 35.1	-0.2
comp=Z,16nm,0.6s							
CHBT	**CHBT**	**20.54**	**355**	P	Pn	00 22 44.2	+1.5
comp=Z,160nm,1.5s							
PATY	**Pattaya**	**20.88**	**351**	P	Pn	00 22 45.6	-1.2
comp=Z,11nm,1.0s,comp=Z,725nm							
SANI	**Sanana**	**22.51**	**76**	P	P	00 23 00.5	-1.4
SRDT	**SRDT**	**22.60**	**347**	P	P	00 23 05.1	+2.4
comp=Z,68nm,1.2s							
FITZ	**Fitzroy Crossi**	**23.28**	**118**	P	P	00 23 09.7	-0.1
comp=Z,9.3nm,0.8s,baz=275,slow=6.5,SNR=32							
FITZ				S	S	00 27 20.0	-2.0
comp=Z,2.6nm,0.8s,baz=330,slow=20,SNR=2.9							
FITZ	**Fitzroy Crossi**	**23.28**	**118**	P	P	00 23 09.8	0.0
baz=23							
NLAI	**Namlea**	**23.31**	**80**	P	P	00 23 09.2	-0.9
comp=Z,58nm,1.1s,comp=Z,1μm							
LBMI	**Labuha**	**24.36**	**74**	P	P	00 23 21.1	+0.8
KNRA	**Kununurra**	**25.32**	**110**	P	P	00 23 29.1	+0.3
baz=25,SNR=4.8							
CM31	**Chiang Mai Arr**	**26.63**	**349**	*e*P	P	00 23 40.9	+0.2
CMAR	**Chiang Mai Arr**	**26.63**	**349**	P	P	00 23 40.8	+0.1
comp=Z,30nm,0.8s,baz=183,slow=8.6,SNR=181							
KLBR	**Kellerberrin**	**26.83**	**154**	P	P	00 23 43.1	+0.7
baz=27							
SAUI	**Saumlaki**	**26.91**	**92**	*e*P	P	00 23 43.6	+0.2
comp=Z,456nm,1.1s							
CHTO	**Chiang Mai**	**26.98**	**349**	P	P	00 23 43.8	0.0
comp=Z,268nm,0.9s,comp=Z,2μm							
CHTO	**Chiang Mai**	**26.98**	**349**	*e*P	P	00 23 43.9	+0.1
CHTO				pmax	pmax		
comp=Z,36nm,0.7s							
CHTO	**Chiang Mai**	**26.98**	**349**	*e*P	P	00 23 43.9	+0.1
comp=Z,36nm,0.7s							
MTN	**Manton Dam**	**27.01**	**103**	P	P	00 23 44.3	+0.1
baz=27,SNR=5.9							
MTN	**Manton Dam**	**27.01**	**103**	*e*P	P	00 23 44.2	0.0
comp=Z,17nm,0.6s							
TGY	**Tagaytay City**	**27.45**	**37**	LR	LR	00 35 43.6	
comp=Z,136nm,21.2s,baz=154,slow=39							
PALK	**Pallekele**	**27.77**	**302**	P	P	00 23 51.6	+0.5
comp=Z,16nm,1.0s,baz=119,slow=7.3,SNR=6.1							
PALK	**Pallekele**	**27.77**	**302**	*ce*P	P	00 23 55.1	+4.0
PALK	**Pallekele**	**27.77**	**302**	*e*P	P	00 23 51.5	+0.5
comp=Z,26nm,1.0s							
KMBL	**Kambalda**	**28.67**	**147**	P	P	00 23 59.3	+0.3
baz=29							
WRKA	**Warakurna**	**28.71**	**129**	P	P	00 23 59.2	-0.2
baz=29,SNR=8.0							
H08S2	**Diego Garcia H**	**31.35**	**268**	T	T	00 58 40.6	
baz=90,slow=75,SNR=15							
H08S3	**Diego Garcia H**	**31.36**	**268**	T	T	00 58 11.4	
baz=90,slow=75,SNR=28							
H08S1	**Diego Carcia H**	**31.36**	**268**	T	T	00 58 14.3	
baz=90,slow=75,SNR=16							
DGAR	**Diego Garcia**	**31.40**	**269**	*e*P	P	00 24 23.0	-0.3
DGAR	**Diego Garcia**	**31.40**	**269**	*e*P	P	00 24 22.9	-0.3
comp=Z,406nm,1.6s							
WRA	**Warramunga Arr**	**31.63**	**115**	P	P	00 24 25.3	+0.1
comp=Z,16nm,0.6s,baz=287,slow=10,SNR=114							
WRA				PcP	PcP	00 27 17.7	+0.2
comp=Z,2.2nm,0.5s,baz=299,slow=2.2,SNR=6.8							
WRAB	**Tennant Creek**	**31.64**	**115**	*de*P	P	00 24 25.4	+0.1
WRAB				pmax	pmax		
comp=Z,57nm,1.0s							
WRAB	**Tennant Creek**	**31.64**	**115**	*e*P	P	00 24 25.5	+0.2
comp=Z,25nm,0.6s							
WB2	**Warramunga Arr**	**31.64**	**115**	*e*P	P	00 24 25.5	+0.1
comp=Z,21nm,0.6s							
FORT	**Forrest**	**31.96**	**139**	*e*P	P	00 24 27.8	-0.2
comp=Z,268nm,1.1s							
AS31	**Alice Springs**	**32.58**	**122**	*e*P	P	00 24 33.5	-0.2
comp=Z,2.7nm,1.1s							
ASAR	**Alice Springs**	**32.58**	**122**	P	P	00 24 33.3	-0.3
comp=Z,6.6nm,0.9s,baz=295,slow=8.0,SNR=34							
ASAR				PcP	PcP	00 27 20.4	+0.4
comp=Z,2.4nm,0.8s,baz=314,slow=3.4,SNR=6.6							
KMI	**Kunming**	**32.79**	**358**	P	P	00 24 37.4	+1.8
KMI				pP	sP	00 24 41.5	+0.1
KMI				pmax	pmax		
comp=Z,13nm,1.1s							
KMI				LR	LR		
comp=Z,150nm,17.9s							
KMI				LR	LR		
comp=Z,400nm,23.5s							
KMI				LR	LR		
comp=Z,300nm,16.0s							
TWG	**Pinlang**	**34.70**	**28**	*e*P	P	00 24 52.3	+0.4
comp=Z,126nm,1.2s							
TPUB	**Ta-pu**	**34.91**	**27**	*e*P	P	00 24 53.0	-0.7
comp=Z,100nm,1.6s							
YULB	**Yu-li**	**35.29**	**28**	*e*P	P	00 24 56.7	-0.4
comp=Z,74nm,1.6s							
SSLB	**Suanglung**	**35.47**	**27**	*e*P	P	00 24 58.9	+0.2
comp=Z,33nm,0.9s							
HYB	**Hyderabad**	**35.62**	**315**	*i*P	P	00 25 01.0	+1.0
NACB	**Ninganchiao**	**36.10**	**28**	*e*P	P	00 25 03.6	-0.3
comp=Z,22nm,0.9s							
QIS	**Mount Isa**	**36.54**	**114**	P	P	00 25 08.6	+0.7
baz=36,SNR=12							
YOJ	**Yonaguni jima**	**37.01**	**29**	*e*P	P	00 25 11.3	-0.4
YOJ				pmax	pmax		
comp=Z,264nm,1.4s							
YOJ	**Yonaguni jima**	**37.01**	**29**	*e*P	P	00 25 11.3	-0.4
comp=Z,264nm,1.4s							
ODAN	**Odare**	**38.12**	**335**	*e*P	P	00 25 22.2	+0.8
comp=Z,41nm,0.7s							
ENH	**Enshi**	**38.24**	**7**	*e*P	P	00 25 21.8	-0.4
comp=Z,19nm,0.9s							
TAPN	**Taplejung**	**38.43**	**336**	*e*P	P	00 25 25.3	+1.2
comp=Z,75nm,1.0s							
CD2	**Chengdu**	**38.53**	**359**	*e*P	P	00 25 24.6	0.0
CD2				S	S	00 31 23.0	+2.9
CD2				pmax	pmax		
comp=Z,30nm,0.6s							
CD2				pmax	pmax		
comp=Z,220nm,5.0s							
RAMN	**Ramite**	**38.54**	**334**	*e*P	P	00 25 26.2	+1.3
comp=Z,25nm,0.6s							
JIRN	**Jiri**	**39.33**	**334**	*e*P	P	00 25 32.9	+1.2
comp=Z,479nm,0.7s							
LSA	**Lhasa**	**39.36**	**342**	P	P	00 25 33.3	+1.3
LSA				pmax	pmax		
comp=Z,15nm,0.9s							
LSA	**Lhasa**	**39.36**	**342**	*e*P	P	00 25 32.7	+0.7
LSA				pmax	pmax		
comp=Z,15nm,0.5s							
LSA	**Lhasa**	**39.36**	**342**	*e*P	P	00 25 32.7	+0.7
comp=Z,15nm,0.5s							
PKIN	**Phulchoki**	**39.60**	**333**	*e*P	P	00 25 34.5	+0.6
comp=Z,9.5nm,0.5s							
GUN	**Gumba**	**39.68**	**334**	*e*P	P	00 25 35.7	+1.1
comp=Z,73nm,0.7s							
DMN	**Daman**	**39.76**	**333**	*e*P	P	00 25 36.1	+0.9
comp=Z,66nm,0.9s							
KKN	**Kakani**	**39.84**	**333**	*e*P	P	00 25 36.7	+0.9
GKN	**Gorkha**	**40.31**	**333**	*e*P	P	00 25 40.7	+1.1
MTSU	**Mount Surprise**	**40.38**	**109**	P	P	00 25 41.5	+1.2
baz=40,SNR=17							
KOLN	**Koldanda**	**40.59**	**331**	*e*P	P	00 25 43.0	+1.0
comp=Z,66nm,0.8s							
HTT	**Hallett**	**41.00**	**133**	P	P	00 25 45.3	+0.1
baz=41,SNR=5.9							
PYUN	**Piuthan**	**41.16**	**331**	*e*P	P	00 25 47.6	+0.9
comp=Z,84nm,0.9s							
XAN	**Xi'an**	**41.90**	**6**	P	P	00 25 51.8	-0.7
XAN				S	S	00 32 16.4	+6.0
XAN				pmax	pmax		
comp=Z,26nm,0.9s							
XAN				LR	LR		
comp=Z,83nm,19.2s							
XAN				LR	LR		
comp=Z,130nm,15.8s							
XAN				LR	LR		
comp=Z,220nm,17.2s							
NJ2	**Nanjing**	**42.09**	**19**	*e*P	P	00 25 55.0	+1.1
NJ2				pmax	pmax		
comp=Z,16nm,0.5s							
STKA	**Stephens Creek**	**42.24**	**130**	P	P	00 25 55.5	+0.1
comp=Z,15nm,0.5s,baz=303,slow=7.9,SNR=58							
STKA	**Stephens Creek**	**42.24**	**130**	P	P	00 25 55.5	+0.1
baz=42,SNR=43							
STKA	**Stephens Creek**	**42.24**	**130**	*e*P	P	00 25 55.4	+0.1
STKA				pmax	pmax		
comp=Z,4.0nm,0.6s							
STKA	**Stephens Creek**	**42.24**	**130**	*e*P	P	00 25 55.4	+0.1
comp=Z,3.7nm,0.6s							
QLP	**Quilpie**	**42.36**	**121**	P	P	00 25 57.7	+1.3
baz=42,SNR=16							
CTAO	**Charters Tower**	**42.52**	**111**	*e*P	P	00 25 58.3	+0.5
CTAO				pmax	pmax		
comp=Z,30nm,1.0s							
CTAO	**Charters Tower**	**42.52**	**111**	*e*P	P	00 25 58.3	+0.5
comp=Z,30nm,1.0s							
LZH	**Lanzhou**	**43.70**	**360**	*e*P	P	00 26 08.4	+1.3
LZH				pP	sP	00 26 12.1	-0.9
LZH				sP	pP	00 26 14.8	+3.4
LZH				pmax	pmax		
comp=Z,28nm,1.0s							
LZH				pmax	pmax		
comp=Z,140nm,5.3s							
LZH				LR	LR		
comp=Z,200nm,13.5s							
LZH				LR	LR		
comp=Z,150nm,10.8s							
LZH				LR	LR		
comp=Z,340nm,14.4s							
CMSA	**Cobar Meteorol**	**45.29**	**127**	P	P	00 26 20.7	+0.8
baz=45,SNR=11							
GTA	**Gaotai**	**47.18**	**355**	P	P	00 26 35.8	+1.1
GTA				pP	sP	00 26 43.3	+2.7
GTA				sP	pP	00 26 46.8	+7.8
GTA				PcP	PcP	00 28 07.3	+1.1
GTA				S	S	00 33 29.3	+2.1
GTA				sS	sS	00 33 40.9	+6.7
GTA				SS	SS	00 36 50.9	-3.9
GTA				pmax	pmax		
comp=Z,10.0nm,1.1s							
GTA				pmax	pmax		
comp=Z,59nm,4.5s							
GTA				LR	LR		
comp=Z,170nm,15.7s							
GTA				LR	LR		
comp=Z,160nm,18.1s							
GTA				LR	LR		
comp=Z,290nm,15.7s							
TOO	**Toolangi**	**47.69**	**135**	P	P	00 26 40.7	+2.0
baz=48,SNR=4.2							
EIDS	**Eidsvold**	**47.96**	**117**	P	P	00 26 42.3	+1.4
baz=48							
EIDS	**Eidsvold**	**47.96**	**117**	*e*P	P	00 26 40.9	-0.1
comp=Z,11nm,0.8s							
JNU	**Nakatsue**	**48.03**	**31**	*e*P	P	00 26 41.5	+0.2
comp=Z,17nm,1.0s							
MSEY	**Mahe Island**	**48.44**	**271**	*e*P	P	00 26 43.6	-1.3
MSEY				pmax	pmax		
comp=Z,34nm,1.0s							
MSEY	**Mahe Island**	**48.44**	**271**	*e*P	P	00 26 43.6	-1.3
comp=Z,34nm,1.0s							
BJI	**Beijing**	**48.93**	**12**	P	P	00 26 47.3	-0.7
BJI				pmax	pmax		
comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**48.93**	**7**	*e*P	P	00 26 49.3	+1.1
HHC				sP	sP	00 26 56.3	+2.2
HHC				PcP	PcP	00 28 12.6	+0.2
HHC				ScP	ScP	00 32 05.3	-2.0
HHC				S	S	00 33 52.8	+0.9
HHC				pmax	pmax		
comp=Z,18nm,1.0s							
HHC				pmax	pmax		
comp=Z,120nm,5.4s							
HHC				LR	LR		
comp=Z,480nm,18.7s							
HHC				LR	LR		
comp=Z,430nm,14.9s							
HHC				LR	LR		
comp=Z,440nm,17.4s							
CAN	**Canberra**	**49.29**	**130**	P	P	00 26 52.6	+1.6
baz=49							
CAN	**Canberra**	**49.29**	**130**	*e*P	P	00 26 51.8	+0.7
CAN				pmax	pmax		
comp=Z,13nm,0.8s							
CAN	**Canberra**	**49.29**	**130**	*e*P	P	00 26 51.8	+0.7
comp=Z,13nm,0.8s							
KS15	**Wonju Array Si**	**50.23**	**25**	*e*P	P	00 26 58.6	+0.6
KSAR	**Wonju Array Be**	**50.23**	**25**	P	P	00 26 58.2	+0.2
KSAR	**Wonju Array Be**	**50.23**	**25**	P	P	00 26 58.2	+0.2
KSRS	**Korea Array**	**50.25**	**25**	P	P	00 26 58.2	0.0
comp=Z,4.7nm,1.0s,baz=191,slow=8.1,SNR=10							
WMQ	**Urumqi**	**53.54**	**345**	P	P	00 27 24.0	+1.3
WMQ				pP	sP	00 27 27.3	-1.3
WMQ				sP	pP	00 27 30.8	+3.8
WMQ				PcP	PcP	00 28 28.0	-1.4
WMQ				pmax	pmax		
comp=Z,14nm,0.7s							
WMQ				pmax	pmax		
comp=Z,210nm,4.1s							
WMQ				LR	LR		
comp=Z,77nm,39.5s							
WMQ				LR	LR		
comp=Z,140nm,38.9s							
WMQ				LR	LR		
comp=Z,240nm,39.0s							
KBL	**Kabul**	**53.65**	**324**	*e*P	P	00 27 23.5	-0.4
KBL				pmax	pmax		
comp=Z,4.0nm,0.8s							
KBL	**Kabul**	**53.65**	**324**	*e*P	P	00 27 23.5	-0.4
comp=Z,4.0nm,0.8s							
KSH	**Kashi**	**53.86**	**333**	P	P	00 27 23.3	-1.9
KSH				pP	pP	00 27 27.8	-1.7
KSH				sP	sP	00 27 30.4	-0.8
KSH				PcP	PcP	00 28 28.8	-2.0
KSH				PP	PP	00 29 28.3	+1.8
KSH				PcS	PcS	00 32 22.6	-7.5
KSH				S	S	00 34 53.1	-7.0
KSH				SS	SKiKP	00 38 33.1	-6.0
KSH				pmax	pmax		
comp=Z,8.0nm,0.7s							
KSH				pmax	pmax		
comp=Z,94nm,4.4s							
KSH				LR	LR		
comp=Z,140nm,5.9s							
KSH				LR	LR		
comp=Z,110nm,7.5s							
KSH				LR	LR		
comp=Z,210nm,6.4s							
WSAR	**Wadi Sarin**	**54.16**	**306**	P	P	00 27 26.8	-0.8
comp=Z,5.0nm,0.8s,baz=95,slow=9.4,SNR=3.5							
MJAR	**Matsushiro Arr**	**54.51**	**34**	P	P	00 27 27.8	-2.1
comp=Z,2.3nm,0.7s,baz=205,slow=8.1,SNR=5.3							
SONM	**Songino Array**	**55.47**	**2**	P	P	00 27 37.1	+0.4
comp=Z,11nm,0.8s,baz=182,slow=9.3,SNR=29							
SONM				PcP	PcP	00 28 37.2	+0.4
comp=Z,6.1nm,0.7s,baz=186,slow=4.3,SNR=7.4							
ULN	**Ulaanbaatar**	**55.52**	**2‖**	*e*P	P	00 27 37.2	0.0
ULN				pmax	pmax		
comp=Z,13nm,1.7s							
ULN	**Ulaanbaatar**	**55.52**	**2**	*e*P	P	00 27 37.6	+0.5
comp=Z,7.8nm,0.7s							
MSHR	**Mys Shultsa**	**55.91**	**24**	*i*P	P	00 27 39.0	-0.8
ABPO	**Ambohimpanom**	**56.24**	**252**	*i*P	P	00 27 44.7	+1.8
OPO	**Ambohidratompo**	**56.25**	**253**	P	P	00 27 43.7	+0.7
comp=Z,5.2nm,1.0s,baz=88,slow=9.4,SNR=6.3							
VLA	**Vladivostok**	**56.66**	**24⇑**	*e*P	P	00 27 41.0	-4.1
VLA				*e*		00 28 37.9	
VLA				pmax	pmax		
comp=Z,8.0nm,0.6s							
AAK	**Ala-Archa**	**57.05**	**334**	*i*P	P	00 27 47.0	-1.1
AAK				pmax	pmax		
comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**57.05**	**334**	*e*P	P	00 27 48.3	+0.2
comp=Z,4.8nm,0.7s							
USRK	**Ussuriysk Ar.**	**57.60**	**23**	P	P	00 27 51.2	-0.6
comp=Z,11nm,0.6s,baz=210,slow=6.1,SNR=26							
MK31	**Makanchi Array**	**57.77**	**342**	*e*P	P	00 27 53.0	0.0
MK31	**Makanchi Array**	**57.77**	**342**	*e*P	P	00 27 53.0	0.0
MKAR	**Makanchi Array**	**57.77**	**342**	P	P	00 27 52.7	-0.2
comp=Z,4.2nm,0.7s,baz=152,slow=8.9,SNR=30							
MKAR	**Makanchi Array**	**57.77**	**342**	*e*P	P	00 27 53.0	0.0
MKAR				pmax	pmax		
comp=Z,37nm,0.6s							
MKAR	**Makanchi Array**	**57.77**	**342**	*e*P	P	00 27 53.0	0.0
comp=Z,37nm,0.6s							
ZAK	**Zakamensk**	**57.99**	**359**	*e*P	P	00 27 53.5	-1.0
ZAK				pmax	pmax		
comp=Z,4.0nm,1.4s							
HIA	**Hailar**	**58.49**	**12**	*i*P	P	00 27 56.1	-1.9
HIA				pmax	pmax		
comp=Z,7.0nm,1.0s							
KKAR	**Karatay Array**	**59.20**	**332**	*e*P	P	00 28 03.0	-0.1
KKAR				pmax	pmax		
comp=Z,13nm,0.6s							
KKAR	**Karatay Array**	**59.20**	**332**	*e*P	P	00 28 03.0	-0.1
comp=Z,13nm,0.6s							
TLY	**Talaya**	**59.28**	**360**	*e*P	P	00 28 05.0	+1.5
TLY				pmax	pmax		
comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**62.37**	**342**	*de*P	P	00 28 24.2	-0.2
KURK				pmax	pmax		
comp=Z,49nm,1.2s							
KURK	**Kurchatov**	**62.37**	**342**	*e*P	P	00 28 24.3	-0.1
comp=Z,11nm,1.0s							
GEYT	**Alibeck**	**62.54**	**320**	P	P	00 28 26.0	+0.1
comp=Z,8.8nm,0.9s,baz=152,slow=6.7,SNR=18							
ZAA0	**Zalesovo Array**	**63.68**	**347**	*e*P	P	00 28 32.9	-0.2
ZALV	**Zalesovo Beam**	**63.68**	**347**	P	P	00 28 32.8	-0.3
comp=Z,13nm,0.7s,baz=151,slow=3.4,SNR=65							
YSS	**Yuzh-Sakhalins**	**64.44**	**28‖**	*e*P	P	00 28 37.8	-0.4
YSS				pmax	pmax		
comp=Z,30nm,1.2s							
NVS	**Novosibirsk**	**64.86**	**347**	*e*P	P	00 28 39.8	-1.0
RAYN	**Ar Rayn**	**65.19**	**300**	*e*P	P	00 28 44.0	+0.3
comp=Z,7.6nm,0.6s							
MAW	**Mawson**	**65.76**	**196**	P	P	00 28 47.4	+1.0
comp=Z,2.3nm,0.7s,baz=33,slow=8.7,SNR=3.6							
BOD	**Bodaibo**	**65.93**	**6**	*e*P	P	00 28 47.7	0.0
BOD				pmax	pmax		
comp=Z,16nm,1.0s							
KMBO	**Kilima Mbogo**	**66.94**	**272**	P	P	00 28 55.7	+0.3
comp=Z,2.2nm,0.6s,baz=75,slow=9.9,SNR=8.3							
BRVK	**Borovoye**	**67.13**	**339**	*ce*P	P	00 28 55.4	-0.1
BRVK				pmax	pmax		
comp=Z,18nm,1.7s							
BRVK	**Borovoye**	**67.13**	**339**	*e*P	P	00 28 55.3	-0.2
comp=Z,9.1nm,1.2s							
ABKAR	**Akbulak array**	**68.71**	**331**	*e*P	P	00 29 05.0	-0.4
comp=Z,111nm,0.6s							
BKZ	**Black Stump Fm**	**71.42**	**129**	*e*P	P	00 29 23.0	+0.5
comp=Z,19nm,0.7s							
YAK	**Yakutsk**	**72.43**	**12**	*i*P	P	00 29 27.2	-0.6
YAK	**Yakutsk**	**72.43**	**12**	*e*P	P	00 29 27.3	-0.6
comp=Z,31nm,0.6s							
SVE	**Sverdlovsk**	**73.63**	**337⇑**	*i*P	P	00 29 35.6	+0.5
SVE				pmax	pmax		
comp=Z,27nm,1.2s							
SYO	**Syowa Base**	**73.75**	**200⇑**	*e*P	P	00 29 34.6	-1.1
ARU	**Arti**	**74.18**	**336**	*d*P	P	00 29 38.5	+0.2
ARU						00 32 22.0	
ARU				S	S	00 39 13.8	+2.5
ARU				SS	SS	00 43 57.4	+0.4
ARU				pmax	pmax		
comp=Z,16nm,1.0s							
ARU	**Arti**	**74.18**	**336**	*e*P	P	00 29 38.5	+0.2
comp=Z,13nm,1.0s							
MARD	**Mardin**	**74.19**	**312**	*e*P	P	00 29 39.9	+0.9
comp=Z,31nm,1.2s							
ZEI	**Tsey**	**74.31**	**318**	*e*P	P	00 29 39.3	-0.4
ZEI				pmax	pmax		
comp=Z,3.0nm,0.6s							
LSZ	**Lusaka**	**74.47**	**256**	*e*P	P	00 29 41.8	+0.7
LSZ				pmax	pmax		
comp

LPSR Galich'ya Gora 81.60 326 eP P 00 30 19.5 -0.2
LPSR pmax pmax
comp=Z,20nm,1.0s
QSPA South Pole Qui 82.16 180 eP P 00 30 22.7 0.0
comp=Z,111nm,1.3s
OBN Obninsk 83.90 328⇑ eP P 00 30 32.6 +1.0
OBN e 00 33 44.4
OBN pmax pmax
comp=Z,69nm,1.7s
OBN MLR MLR
comp=Z,171nm,25.0s
OBN Obninsk 83.90 328 eP P 00 30 32.3 +0.7
comp=Z,42nm,1.0s
KARP Karpathos 84.05 307 eP P 00 30 33.3 +0.4
comp=Z,29nm,1.0s
KLMR Klimovskoe 84.85 334 eP P 00 30 34.8 -1.5
KLMR pmax pmax
comp=Z,32nm,1.3s
CFR Carcaliu 85.77 317⇓ iP P 00 30 41.9 +0.6
CFR Carcaliu 85.77 317⇓ P P 00 30 41.9 +0.6
IDI Anoyia 85.79 306 P P 00 30 42.4 +0.7
comp=Z,8.9nm,0.8s,baz=83,slow=7.4,SNR=7.3
LEOM Leova 86.04 318⇑ iP P 00 30 43.6 +1.0
LEOM Leova 86.04 318 ⇑P P 00 30 43.6 +1.0
SORM Soroca 86.42 319⇑ iP P 00 30 44.3 -0.1
SORM Soroca 86.42 319 ⇑P P 00 30 44.3 -0.1
AKASG Malin Array Be 86.59 322 P P 00 30 44.6 -0.6
comp=Z,1.8nm,0.6s,baz=85,slow=4.8,SNR=13
AKASG PP PP 00 34 06.6 -0.6
comp=Z,0.2nm,0.3s,baz=97,slow=6.6,SNR=4.2
KIEV Kiev 86.60 322 eP P 00 30 43.3 -1.9
KIEV pmax pmax
comp=Z,4.0nm,1.0s
TMCR Tamitsa 86.90 336 eP P 00 30 47.1 +0.7
VRI Vrincioaia 86.90 317⇑ iP P 00 30 48.3 +1.4
VRI Vrincioaia 86.90 317 ⇑P P 00 30 48.3 +1.4
TESR Tescani 87.12 318⇓ iP P 00 30 48.9 +1.0
BILL Bilibino 87.22 19⇑ iP P 00 30 47.5 -0.4
BILL e 00 34 06.3
BILL eS SKSac 00 41 13.6 -1.1
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,115nm,22.0s
MLR Muntele Rosu 87.34 316⇑ iP P 00 30 49.6 +0.3
MLR Muntele Rosu 87.34 316 eP P 00 30 49.5 +0.3
MLR pmax pmax
comp=Z,22nm,1.2s
MLR Muntele Rosu 87.34 316 eP P 00 30 49.5 +0.3
comp=Z,22nm,1.2s
PRAR RASCA 87.61 318⇑ iP P 00 30 51.2 +0.9
DOPR Dopca 87.83 317⇑ iP P 00 30 52.6 +1.2
SNAA Sanae 87.87 198 P P 00 30 52.6 +1.4
SNAA Sanae 87.87 198 eP P 00 30 50.4 -0.8
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 87.87 198 eP P 00 30 50.4 -0.8
comp=Z,9.6nm,1.0s
ARR Arges 88.21 316⇑ iP P 00 30 53.4 +0.1
BURAR Bucovina Array 88.33 318⇓ iP P 00 30 55.4 +1.6
BURAR Bucovina Array 88.33 318 ⇓P P 00 30 55.4 +1.6
BUR08 Bucovina Ar. S 88.35 318 eP P 00 30 55.2 +1.2
VTS Vitosha 88.62 313⇑ iP P 00 30 55.7 +0.3
VTS Vitosha 88.62 313 eP P 00 30 55.5 +0.1
VTS pmax pmax
comp=Z,11nm,0.9s
VTS Vitosha 88.62 313 eP P 00 30 55.5 +0.1
comp=Z,11nm,0.9s
LOT Lotru 88.83 316⇑ iP P 00 30 56.8 +0.6
GRG Griva 88.89 311 P P 00 30 56.5 0.0
CJR Cluj-Napoca 89.21 317⇑ iP P 00 30 59.3 +1.4
CJR Cluj-Napoca 89.21 317 ⇑P P 00 30 59.3 +1.4
JOF Joensuu 89.23 334 P P 00 30 59.5 +2.0
JOF pmax pmax
comp=Z,28nm,0.8s
GZR Gura Zlata 89.50 316⇑ iP P 00 31 01.4 +2.1
GZR Gura Zlata 89.50 316 ⇑P P 00 31 01.4 +2.1
VNA2 Neumayer--Watz 89.51 198 P P 00 31 00.7 +1.8
baz=88,slow=4.3
DRGR 89.82 317⇑ iP P 00 31 01.7 +0.9
DRGR 89.82 317 ⇑P P 00 31 01.7 +0.9
VNA1 Neumayer--Stat 89.89 198 P P 00 31 03.0 +2.5
VNA3 Neumayer Olymp 90.06 197 P P 00 31 03.1 +1.6
MDVR Moldovita 90.12 315⇑ iP P 00 31 02.7 +0.5
BZS Buzias 90.34 316⇓ iP P 00 31 03.8 +0.6
BZS Buzias 90.34 316 ⇓P P 00 31 03.8 +0.6
SIRR Siria 90.43 317⇓ iP P 00 31 04.3 +0.7
SUW Suwalki 91.00 324 P P 00 31 06.4 +0.4
SUW pmax pmax
comp=Z,39nm,1.2s
FINES FINESS Array B 91.17 332 P P 00 31 06.8 +0.2
comp=Z,4.7nm,0.6s,baz=116,slow=5.9,SNR=43
STHS Stebnicka Huta 91.29 320 eP P 00 31 08.6 +1.1
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 91.29 320 eP P 00 31 08.6 +1.1
KECS Kecovo 91.62 319 eP P 00 31 09.4 +0.4
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 91.62 319 eP P 00 31 09.4 +0.4
LANS Liptovska Anna 92.39 319 eP P 00 31 12.9 +0.2
LANS Liptovska Anna 92.39 319 eP P 00 31 12.9 +0.2
VYHS Vyhne 92.70 318 eP P 00 31 14.5 +0.4
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 92.70 318 eP P 00 31 14.4 +0.4
ARCES ARCESS Array B 93.33 340 P P 00 31 16.8 +0.2
comp=Z,3.4nm,0.7s,baz=90,slow=6.4,SNR=14
DPC Dobruska-Polom 94.58 320 eP P 00 31 23.6 +0.9
DPC Dobruska-Polom 94.58 320 eP P 00 31 23.6 +0.9
PRU Pruhonice 95.68 320 eP P 00 31 28.3 +0.6
PRU Pruhonice 95.68 320 eP P 00 31 28.3 +0.6
GERES GERESS Array B 96.12 318 P P 00 31 30.1 +0.2
comp=Z,0.4nm,0.6s,baz=104,slow=5.6,SNR=5.4
KHC Kasperske Hory 96.23 319 epP P 00 31 35.4 +5.1
KHC Kasperske Hory 96.23 319 eP P 00 31 35.4 +5.1
TORD Torodi Ar. Bea 103.80 282 Pdiff Pdif 00 32 05.3 +0.5
comp=Z,0.2nm,0.7s,baz=104,slow=4.6,SNR=4.0
TORD PKIKP PP 00 36 22.0 0.0
comp=Z,0.4nm,0.8s,baz=112,slow=1.6,SNR=6.2
EGMT Eagleton 130.74 30 P PKPdf 00 37 14.1 +0.7
baz=313
MPMC Manual Prospec 132.81 47 P PKPdf 00 37 18.6 +0.8
baz=296
R11A Troy Canyon, C 133.08 43 P PKPdf 00 37 19.3 +1.1
baz=300
PDAR Pinedale Array 134.33 35 PKP PKPdf 00 37 21.4 +0.9
comp=Z,0.5nm,0.5s,baz=227,slow=1.2,SNR=6.1
PFO Pinyon Flats O 134.63 50 PKIKP PKPdf 00 37 24.6 +3.4
IKP In-Ko-Pah, Jac 135.30 51 P PKPdf 00 37 24.0 +1.5
baz=295
BC3 Big Chuckawall 135.37 49 P PKPdf 00 37 24.0 +1.4
baz=296
IRM Iron Mountain 135.38 48 P PKPdf 00 37 24.4 +1.9
baz=297
RSSD Black Hills 136.31 29 P PKPdf 00 37 25.1 +0.9
baz=318
O20A White River Ci 136.77 37 P PKPdf 00 37 26.4 +1.3
baz=309
WUAZ Wupatki 137.42 44 P PKPdf 00 37 27.5 +1.0
baz=302
N23A Red Feather La 137.59 34 P PKPdf 00 37 27.9 +1.2
baz=313
E38A The Farm, Brul 139.10 17 P PKPdf 00 37 30.8 +1.8
baz=336
F36A Milaca 139.17 19 P PKPdf 00 37 30.7 +1.6
baz=333
E39A Mellen 139.58 16 P PKPdf 00 37 31.4 +1.5
baz=337
ECSD EROS Data Cent 139.91 23 P PKPdf 00 37 32.3 +1.7
baz=327
F39A Loretta 139.91 16 P PKPdf 00 37 32.4 +2.0
baz=336
SDCO Great Sand Dun 139.94 38 P PKPdf 00 37 32.7 +1.6
baz=311
F40A Park Falls 140.12 16 P PKPdf 00 37 32.9 +2.1
baz=338
G40A Rib Lake 140.70 16 P PKPdf 00 37 34.0 +2.1
baz=337
E45A Wooded Hills, 140.80 10 P PKPdf 00 37 34.0 +2.0
baz=345
F43A Flat Rock, Esc 140.91 13 P PKPdf 00 37 33.9 +1.7
baz=342
ANMO Albuquerque 141.07 42 P PKPdf 00 37 34.8 +1.6
baz=307
ANMO Albuquerque 141.07 42c iPKIKP PKPdf 00 37 32.5 -0.6
ANMO pmax pmax
comp=Z,4.0nm,1.2s
BGNE Belgrade 141.16 27 P PKPdf 00 37 35.2 +2.3
baz=323
I38A Scanlan Farm, 141.18 19 P PKPdf 00 37 35.1 +2.3
baz=334
G43A Wallace 141.34 13 P PKPdf 00 37 35.4 +2.3
baz=341
L36A Harm Buss Farm 142.05 23 P PKPdf 00 37 36.8 +2.4
baz=329
I42A Draeger Farm, 142.32 15 P PKPdf 00 37 30.6 -4.2
baz=339
J41A Loganville 142.50 17 P PKPdf 00 37 30.9 -4.2
baz=337
O34A Beatrice 142.80 27 P PKPdf 00 37 31.7 -4.2
baz=324
L39A Vinton 143.00 20 P PKPdf 00 37 32.7 -3.4
baz=333
N36A Muff Farm, Cla 143.02 24 P PKPbc 00 37 33.4 +0.5
baz=328
M38A Pleasantville 143.19 22 P PKPbc 00 37 33.7 +0.4
baz=331
P34A Walnut Farm, R 143.26 28 P PKPbc 00 37 33.8 +0.2
baz=324
O36A Bolckow 143.59 25 P PKPbc 00 37 34.9 +0.4
baz=327
MNTX Cornudas Mount 143.69 45 ePKPdf PKPdf 00 37 36.6 -1.1
Q34A Chapman 143.71 28 P PKPbc 00 37 35.7 +0.8
baz=323,SNR=5.9
KSU1 Kansas State U 143.72 28 P PKPbc 00 37 35.2 +0.3
baz=324
BDFB Brasilia 143.87 230 PKP PKPbc 00 37 36.7 +0.6
comp=Z,0.7nm,0.3s,baz=214,slow=3.6,SNR=3.5
O37A Wolven Farm, M 143.90 24 P PKPbc 00 37 35.4 -0.1
baz=328,SNR=5.6
P36A Good Intent, A 143.92 26 P PKPab 00 37 35.0 +0.1
baz=326
N39A Derby Farms, D 143.92 22 P PKPab 00 37 35.2 +0.3
baz=331,SNR=7.5
L43A Garden Prairie 143.96 16 P PKPab 00 37 34.8 -0.2
baz=338
R34A Isabella, Hill 144.05 29 P PKPbc 00 37 36.0 +0.1
baz=322
M41A Milan 144.15 19 P PKPab 00 37 35.7 -0.1
baz=335
Q35A Mercer Eighty, 144.18 27 P PKPab 00 37 36.0 +0.1
baz=324,SNR=8.0
O38A Galt 144.21 23 P PKPab 00 37 36.1 +0.1
baz=329
N40A Mertquake, Sal 144.24 21 P PKPab 00 37 36.0 0.0
baz=333,SNR=5.0
P37A Lathrop 144.31 25 P PKPab 00 37 36.5 +0.1
baz=328,SNR=11
M42A Sheffield 144.33 18 P PKPab 00 37 35.9 -0.5
baz=336
Q36A Arnold C. Orve 144.35 27 P PKPab 00 37 36.3 -0.3
baz=325
O39A Kirksville 144.45 22 P PKPab 00 37 36.9 +0.1
baz=331,SNR=11
R35A Emporia Munici 144.53 28 P PKPbc 00 37 37.7 +0.2
baz=324
S34A Willow Spring 144.59 30 P PKPab 00 37 37.6 +0.1
baz=322
P38A Dawn 144.61 24 P PKPbc 00 37 37.7 +0.1
baz=329,SNR=27
U32A Winter Ranch, 144.62 33 P PKPab 00 37 37.8 +0.1
baz=318
N41A Harden Midland 144.65 20 P PKPab 00 37 37.3 -0.3
baz=334,SNR=9.1
N42A Yates City 144.81 19 P PKPab 00 37 37.9 -0.2
baz=335,SNR=12
O40A La Belle 144.81 22 P PKPab 00 37 38.0 -0.2
baz=332,SNR=12
R36A Gordon, Harris 144.85 27 P PKPab 00 37 38.3 -0.1
baz=325,SNR=23
Q37A Longview Farm, 144.86 26 P PKPab 00 37 37.7 -0.7
baz=327
S35A Otter Creek Ra 144.99 29 P PKPbc 00 37 39.1 +0.1
baz=323,SNR=17
P39B Salisbury 145.03 23 P PKPbc 00 37 38.9 -0.2
baz=330,SNR=14
T34A McClaskey Farm 145.08 31 P PKPbc 00 37 39.3 0.0
baz=321,SNR=5.3
Q38A Cooks Store, C 145.14 25 P PKPbc 00 37 39.1 -0.3
baz=328,SNR=23
R37A Teagarden Farm 145.16 27 P PKPbc 00 37 39.1 -0.4
baz=326,SNR=31
O41A Passleys Farm, 145.17 20 P PKPbc 00 37 39.1 -0.4
baz=333,SNR=28
P40A Paris 145.27 22 P PKPbc 00 37 39.6 -0.2
baz=331,SNR=23
HDIL Hopedale 145.29 18 P PKPbc 00 37 39.5 -0.3
baz=336,SNR=5.1
HDIL Hopedale 145.29 18 ePKPbc PKPbc 00 37 39.8 0.0
S36A Lake Cedric, C 145.30 28 P PKPbc 00 37 39.8 -0.2
baz=324,SNR=17
Q39A Willow Grove F 145.33 24 P PKPbc 00 37 39.9 -0.1
baz=329,SNR=26
O42A Bath 145.37 19 P PKPbc 00 37 39.5 -0.5
baz=335
N44A Piper City 145.41 17 P PKPbc 00 37 40.0 -0.1
baz=338,SNR=5.8
P41A Barry, Barry 145.50 21 P PKPbc 00 37 40.3 -0.2
baz=333,SNR=20
T35A Sooner Cattle 145.50 30 P PKPbc 00 37 40.7 0.0
baz=322,SNR=13
O43A Sugar Creek Fa 145.53 18 P PKPdf 00 37 40.3 -0.2
baz=336,SNR=7.3
N45A Kentland 145.53 16 P PKPab 00 37 40.9 +0.1
baz=339,SNR=16
S37A Fort Scott 145.62 27 P PKPdf 00 37 40.6 -0.2
baz=325,SNR=14
R38A Fenwick Farm, 145.67 26 P PKPdf 00 37 40.2 -0.6
baz=327,SNR=15
N46A Monticello 145.69 15 P PKPbc 00 37 41.2 +0.1
baz=341,SNR=15
T36A Boggs Farm, Ca 145.69 29 P PKPbc 00 37 41.3 +0.1
baz=323,SNR=10
Q40A Laux Farm, Aux 145.72 23 P PKPdf 00 37 41.1 +0.2
baz=331,SNR=14
U35A Pawnee 145.82 31 P PKPbc 00 37 41.8 +0.2
baz=321,SNR=5.6
P42A Winchester 145.83 20 P PKPdf 00 37 41.2 +0.1
baz=334,SNR=10
O44A Mansfield 145.91 17 P PKPbc 00 37 41.7 -0.1
baz=337
R39A Chumby, Stover 145.93 24 P PKPbc 00 37 41.8 -0.1
baz=329
WMOK Wichita Mounta 145.94 35 P PKPbc 00 37 42.2 +0.1
baz=317,SNR=9.2
WMOK Wichita Mounta 145.94 35 ePKP2 PKPbc 00 37 41.9 -0.2
WMOK Wichita Mounta 145.94 35 ePKPab PKPbc 00 37 41.9 -0.2
O45A Potomac 146.03 16 P PKPbc 00 37 42.4 +0.2
baz=339,SNR=10
P43A Skaggs, Pawnee 146.05 19 P PKPbc 00 37 42.1 -0.1
baz=335,SNR=9.8
Q41A Truxton 146.08 22 P PKPbc 00 37 42.2 -0.1
baz=332,SNR=9.9
SFIN Lafayette 146.08 15 P PKPbc 00 37 42.5 +0.2
baz=340,SNR=11
SFIN Lafayette 146.08 15 ePKPab PKPbc 00 37 42.6 +0.2
T37A Cheneyville 18 146.10 28 P PKPbc 00 37 42.3 -0.2
baz=325,SNR=18
S38A Stockton 146.14 26 P PKPdf 00 37 41.9 +0.2
baz=327,SNR=27
V35A Meyer Ranch, C 146.23 32 P PKPbc 00 37 43.1 +0.1
baz=320,SNR=9.5
TXAR Latias Array 146.24 47 PKPbc PKPbc 00 37 43.3 0.0
comp=Z,6.9nm,0.6s,baz=284,slow=1.5,SNR=69
R40A Maddies Statio 146.26 24 P PKPbc 00 37 42.7 -0.2
baz=330,SNR=57
U36A Oologah 146.30 30 P PKPbc 00 37 43.1 +0.1
baz=323,SNR=5.9
M54A Oil Creek Stat 146.30 5 P PKPbc 00 37 42.7 -0.3
baz=353
S39A Bolivar 146.34 25 P PKPbc 00 37 42.8 -0.4
baz=326,SNR=29
Q42A Golden Eagle 146.37 21 P PKPbc 00 37 43.0 -0.2
baz=333,SNR=14
O47A Sheridan 146.45 14 P PKPbc 00 37 43.1 -0.4
baz=341
T38A Diamond 146.46 27 P PKPbc 00 37 43.3 -0.3
baz=326,SNR=25
P44A Sand Creek, Wi 146.49 18 P PKPbc 00 37 43.6 0.0
baz=337,SNR=7.8
U37A Salina 146.59 29 P PKPbc 00 37 43.9 -0.1
baz=324,SNR=5.6
R41A Rosebud 146.60 22 P PKPbc 00 37 43.7 -0.2
baz=331,SNR=43
Q43A New Douglas 146.63 20 P PKPbc 00 37 43.9 -0.1
baz=335,SNR=8.3
TUL1 Leonard 146.65 30 P PKPbc 00 37 44.2 0.0
baz=322,SNR=6.1
TUL1 Leonard 146.65 30 ePKPbc PKPdf 00 37 43.0 +0.4
V36A Jenks 146.67 31 P PKPbc 00 37 44.3 +0.1
baz=322,SNR=13
W35A Tecumseh 146.68 32 P PKPbc 00 37 44.4 +0.1
baz=320,SNR=6.7
S40A Lebanon 146.76 25 P PKPbc 00 37 44.1 -0.3
baz=329,SNR=40
N54A Moraine State 146.81 6 P PKPbc 00 37 44.5 0.0
baz=353
R42A Luebbering 146.83 22 P PKPbc 00 37 44.5 -0.1
baz=332,SNR=21
CCM Cathedral Cave 146.86 23 ePKP2 PKPbc 00 37 44.5 -0.2
CCM Cathedral Cave 146.86 23 ePKPab PKPbc 00 37 44.5 -0.2
T39A Clever 146.87 26 P PKPbc 00 37 44.6 -0.2
baz=327,SNR=20
Q44A Meyer Farm, Va 146.88 19 P PKPbc 00 37 44.6 -0.1
baz=336,SNR=12
U38A Gravette 146.90 28 P PKPbc 00 37 44.5 -0.4
baz=325,SNR=13
ABTX Abilene, Hawle 146.91 39 P PKPab 00 37 45.8 -0.6
baz=313,SNR=13
ABTX Abilene, Hawle 146.91 39 ePKPbc PKPdf 00 37 43.7 +0.5
ABTX ePKPab PKPab 00 37 46.0 -0.3
V37A Hulbert 146.99 29 P PKPbc 00 37 44.9 -0.2
baz=323,SNR=14
W36A Wetumka 147.03 32 P PKPbc 00 37 45.3 0.0
baz=321,SNR=7.3
N59A State Game Lan 147.06 360 P PKPbc 00 37 45.2 0.0
baz=0.2
S41A Jillco Farms, 147.07 24 P PKPbc 00 37 45.3 0.0
baz=330,SNR=101
ACSO Alum Creek Sta 147.13 10 ePKPbc PKPbc 00 37 45.2 -0.2
T40A Mansfield 147.13 25 P PKPbc 00 37 45.2 -0.3
baz=329,SNR=29
P47A Martinsville 147.14 15 P PKPbc 00 37 45.3 -0.1
baz=341
R43A Red Bud 147.14 21 P PKPbc 00 37 45.2 -0.2
baz=334,SNR=15
X35A Drake 147.20 33 P PKPbc 00 37 45.7 0.0
baz=319,SNR=19
S42A Caledonia 147.28 22 P PKPbc 00 37 45.6 -0.3
baz=332,SNR=22
SSPA Standing Stone 147.29 3 ePKPbc PKPbc 00 37 45.6 -0.2
V38A Canehill 147.36 29 P PKPbc 00 37 45.7 -0.5
baz=324,SNR=8.9
U39A Green Forest 147.36 27 P PKPbc 00 37 45.6 -0.6
baz=326,SNR=14
X36A Centrahoma 147.40 32 P PKPbc 00 37 46.3 0.0
baz=320
W37B Quinton 147.44 31 P PKPbc 00 37 46.6 +0.2
baz=322,SNR=24
R44A Waltonville 147.46 20 P PKPbc 00 37 46.3 -0.1
baz=335,SNR=6.7
Y35A Marietta 147.53 34 P PKPbc 00 37 47.0 +0.3
baz=318
T41A Mountain View 147.54 24 P PKPbc 00 37 46.5 -0.1
baz=330,SNR=28
O56A Blue Knob Stat 147.62 4 P PKPbc 00 37 46.8 0.0
baz=355
U40A Yellville 147.66 26 P PKPbc 00 37 46.8 -0.2
baz=327,SNR=24
S43A Fulton Ridge, 147.72 21 P PKPbc 00 37 46.8 -0.3
baz=333
V39A Pettigrew 147.74 28 P PKPbc 00 37 46.8 -0.5
baz=326,SNR=15
T42A Van Buren 147.81 23 P PKPbc 00 37 47.4 0.0
baz=331
X37A Clayton 147.90 31 P PKPbc 00 37 47.9 +0.2
baz=322
S44A Carbondale 147.90 20 P PKPbc 00 37 47.7 +0.2
baz=334,SNR=9.0
W38A Poteau 147.94 30 P PKPbc 00 37 48.0 +0.2
baz=324,SNR=9.4
Y36A Durant 147.95 33 P PKPbc 00 37 47.9 +0.1
baz=320
U41A Viola 148.07 25 P PKPbc 00 37 48.1 0.0
baz=329,SNR=17
T43A Greenville 148.07 22 P PKPbc 00 37 47.8 -0.3
baz=332,SNR=23
X38A Whitesboro 148.11 30 P PKPbc 00 37 48.7 +0.5
baz=323,SNR=30
V40A Witts Springs 148.14 27 P PKPbc 00 37 48.0 -0.3
baz=327,SNR=25
S45A Carrier Mills 148.14 19 P PKPbc 00 37 48.3 +0.1
baz=336,SNR=5.1
W39A Magazine 148.20 29 P PKPbc 00 37 48.4 0.0
baz=325
JCT Junction City 148.23 42 P PKPbc 00 37 49.4 +0.7
baz=310
JCT Junction City 148.23 42 ePKIKP PKPdf 00 37 45.8 +0.4
JCT e 00 37 49.7
JCT e 00 38 01.0
JCT Junction City 148.23 42 ePKPdf PKPdf 00 37 45.8 +0.4
JCT ePKPab PKPab 00 37 49.7 -2.0
JCT epPKPdf pPKPdf 00 38 01.0 +11
Y37A Hugo 148.24 32 P PKPbc 00 37 48.9 +0.3
baz=321
WCI Wyandotte Cave 148.31 16 ePKP2 PKPbc 00 37 48.6 -0.1
WCI Wyandotte Cave 148.31 16 ePKPbc PKPbc 00 37 48.6 -0.1
WCI epPKPdf pPKPdf 00 38 00.2 +10
T44A Benton 148.33 21 P PKPbc 00 37 48.8 +0.1
baz=334
Z36A Blue Ridge 148.34 34 P PKPbc 00 37 49.2 +0.3
baz=319
U42A Revenden 148.34 24 P PKPbc 00 37 48.8 0.0
baz=330,SNR=42
V41A Mountainview 148.45 26 P PKPbc 00 37 48.8 -0.3
baz=328,SNR=22
W40A Ferguson Farm, 148.53 28 P PKPbc 00 37 49.3 0.0
baz=326,SNR=15
X39A Fountain Ranch 148.59 30 P PKPbc 00 37 50.1 +0.6
baz=324,SNR=31
U43A Rector 148.66 23 P PKPbc 00 37 49.3 -0.2
baz=332
WHTX Lake Whitney, 148.68 37 P PKPbc 00 37 50.5 +0.7
baz=316
WHTX Lake Whitney, 148.68 37 ePKPbc PKPbc 00 37 50.1 +0.3
Y38A Idabel 148.75 31 P PKPbc 00 37 49.8 -0.1
baz=322
V42A Cord 148.75 25 P PKPbc 00 37 49.6 -0.3
baz=329
MIAR Mount Ida 148.82 29 P PKPbc 00 37 50.7 +0.6
baz=324
MIAR Mount Ida 148.82 29 ePKP2 PKPbc 00 37 50.5 +0.4
MIAR Mount Ida 148.82 29 ePKPbc PKPbc 00 37 50.5 +0.4
MIAR epPKPdf pPKPdf 00 38 02.0 +11
136A Ennis 148.87 35 P PKPbc 00 37 50.8 +0.5
baz=318
W41B Gary Mavity, V 148.92 27 P PKPbc 00 37 49.9 -0.4
baz=327
Y39A Lockesburg 149.06 30 P PKPbc 00 37 51.1 +0.4
baz=323
U44B Burton Farm, H 149.08 21 P PKPbc 00 37 51.1 +0.4
baz=333
137A Heron Place, G 149.22 34 P PKPbc 00 37 52.0 +0.8
baz=319
236A Katherine and 149.22 36 P PKPbc 00 37 52.0 +0.9
baz=317
X40A Basin Creek Fa 149.22 28 P PKPbc 00 37 51.8 +0.7
baz=326
U45A Rockin P Farm, 149.28 21 P PKPbc 00 37 51.4 +0.3
baz=334
X41A Kaden, Bauxite 149.37 28 P PKPbc 00 37 51.7 +0.3
baz=326
Y40A Okolona 149.40 29 P PKPbc 00 37 51.9 +0.3
baz=324
336A Riesel 149.48 37 P PKPbc 00 37 52.7 +0.8
baz=316
138A Matatall Enter 149.54 33 P PKPbc 00 37 53.4 +1.5
baz=320
237A Washetta, Mont 149.63 35 P PKPbc 00 37 53.3 +1.2
baz=318
X42A Stuttgart 149.72 26 P PKPbc 00 37 52.7 +0.4
baz=328
833A Chaparral WMA, 149.87 45 P PKPbc 00 37 53.9 +1.0
baz=308
139A Bunkhouse Ranc 149.90 32 P PKPbc 00 37 53.7 +0.9
baz=321
436A Wall Ranch, Ga 149.94 38 P PKPbc 00 37 54.0 +1.0
baz=315
Z40A Long Farm, Mag 149.95 30 P PKPbc 00 37 53.8 +0.9

	baz=324							
X43A	Marvell	150.07	25	P		PKPbc	00 37 53.8	+0.6
	baz=329							
337A	Centerville	150.09	36	P		PKPbc	00 37 55.0	+1.6
	baz=317							
W45A	Hickory Valley	150.19	22	P		PKPbc	00 37 53.4	0.0
	baz=333							
Z41A	Richland Creek	150.24	29	P		PKPbc	00 37 54.3	+0.7
	baz=325							
Y42A	Garnett, Star	150.25	27	P		PKPbc	00 37 54.2	+0.6
	baz=327							
437A	Phantom Ranch,	150.30	37	P		PKPbc	00 37 55.0	+1.2
	baz=316							
140A	Cam and Jess,	150.35	31	P		PKPbc	00 37 54.9	+1.0
	baz=323							
239A	Gary	150.36	33	P		PKPbc	00 37 55.0	+1.1
	baz=320							
933A	Laredo	150.38	45	P		PKPbc	00 37 55.7	+1.6
	baz=307							
338A	Crockett	150.40	35	P		PKPbc	00 37 55.3	+1.2
	baz=318							
NATX	Nacogdoches	150.46	34	P		PKPbc	00 37 55.0	+0.8
	baz=320							
NATX	Nacogdoches	150.46	34	*e*PKPdf		PKPdf	00 37 49.4	+0.5
NATX				*e*PKPbc		PKPbc	00 37 55.0	+0.8
BLA	Blacksburg	150.47	7	*e*PKIKP		PKPbc	00 37 53.9	-0.3
BLA	Blacksburg	150.47	7	*e*PKPbc		PKPbc	00 37 53.9	-0.3
Y43A	Makayla and Ka	150.57	26	P		PKPbc	00 37 55.3	+0.9
	baz=329							
Z42A	Norrel Spur, H	150.64	28	P		PKPbc	00 37 55.3	+0.8
	baz=326							
636A	Smothers Creek	150.67	40	P		PKPbc	00 37 56.6	+1.9
	baz=313							
OXF	Oxford	150.68	23	*e*PKIKP		PKPbc	00 37 54.5	-0.1
OXF	Oxford	150.68	23	*e*PKPbc		PKPbc	00 37 54.5	-0.1
141A	Papa Simpson,	150.72	30	P		PKPbc	00 37 55.6	+0.8
	baz=324							
240A	Hunter Patters	150.73	32	P		PKPbc	00 37 55.7	+0.9
	baz=322							
438A	Sam Houston St	150.75	36	P		PKPbc	00 37 56.1	+1.2
	baz=317							
X45A	UM Field Stati	150.76	23	P		PKPbc	00 37 54.8	0.0
	baz=332							
Y44A	Strider, Charl	150.83	25	P		PKPbc	00 37 55.8	+0.8
	baz=330							
339A	Huntington	150.84	34	P		PKPbc	00 37 56.0	+0.9
	baz=320							
934A	Benavides	150.92	45	P		PKPbc	00 37 57.3	+1.9
	baz=308							
835A	Beeville	150.96	43	P		PKPbc	00 37 57.4	+1.9
	baz=310							
736A	Circle Diamond	151.02	41	P		PKPbc	00 37 57.7	+2.1
	baz=312							
HKT	Hockley	151.11	38	*e*PKIKP		PKPbc	00 37 57.0	+1.3
HKT	Hockley	151.11	38	*e*PKPbc		PKPbc	00 37 57.0	+1.3
439A	Center Grove,	151.12	35	P		PKPbc	00 37 57.1	+1.4
	baz=318							
034A	Hebbronville	151.13	46	P		PKPbc	00 37 58.0	+2.1
	baz=308							
340A	Bronson	151.14	33	P		PKPbc	00 37 56.5	+0.7
	baz=321							
637A	Eagle Lake	151.16	39	P		PKPbc	00 37 57.7	+1.8
	baz=314							
241A	Mo Tay, Goldon	151.18	31	P		PKPbc	00 37 56.9	+1.0
	baz=323							
Y45A	Yeager Farm, C	151.19	24	P		PKPbc	00 37 56.3	+0.5
	baz=331							
Z44A	Pea Ridge, Bel	151.32	26	P		PKPbc	00 37 56.7	+0.5
	baz=329							
Y46A	Houston	151.44	23	P		PKPbc	00 37 56.4	0.0
	baz=332							
Z45A	Winona	151.56	25	P		PKPbc	00 37 57.2	+0.5
	baz=330							
341A	Kurthwood	151.59	32	P		PKPbc	00 37 57.8	+1.0
	baz=322							
440A	Kirbyville	151.62	34	P		PKPbc	00 37 58.2	+1.3
	baz=320							
Y47A	UCPARC, Winfie	151.81	21	P		PKPbc	00 37 56.9	-0.4
	baz=334							
Z46A	Louisville	152.02	24	P		PKPbc	00 37 58.3	+0.6
	baz=332							
145A	Houston Renfro	152.12	26	P		PKPbc	00 37 58.7	+0.7
	baz=329							
244A	Avery, Jackson	152.25	28	P		PKPbc	00 37 58.9	+0.5
	baz=327							
Z47A	Carrollton	152.35	22	P		PKPbc	00 37 58.8	+0.3
	baz=333							
KMSC	Kings Mountain	152.37	10	P		PKPbc	00 37 58.4	-0.1
	baz=348							
KMSC	Kings Mountain	152.37	10	*e*PKPbc		PKPbc	00 37 58.5	-0.1
KMSC				*e*PKPab		PKPab	00 38 07.8	-0.5
Z48A	Northport	152.38	21	P		PKPbc	00 37 58.3	-0.3
	baz=334							
245A	Little AP, Sta	152.62	27	P		PKPbc	00 37 59.5	+0.4
	baz=329							
344A	Westbrook Farm	152.72	29	P		PKPbc	00 38 00.3	+0.9
	baz=326							
147A	Livingston	152.74	23	P		PKPbc	00 37 59.6	+0.2
	baz=332							
LRAL	Lakeview Retre	152.89	21	*e*PKPdf		PKPdf	00 37 53.4	+0.8
LRAL				*e*PKPbc		PKPbc	00 37 59.1	-0.6
247A	Quitman	153.15	24	P		PKPbc	00 38 01.3	+1.0
	baz=331							
345A	Thompson Farm,	153.17	28	P		PKPbc	00 38 01.3	+0.9
	baz=328							
543A	St. Martinvill	153.27	32	P		PKPbc	00 38 01.4	+0.8
	baz=323							
LPAZ	La Paz	154.83	198	PKP		PKPdf	00 37 56.5	0.0
	comp=Z,1.6nm,1.0s,baz=61,slow=5.0,SNR=5.1							
LPAZ				PKPab		PKPab	00 38 19.9	-0.1
	comp=Z,2.1nm,0.7s,baz=179,slow=7.2,SNR=7.0							

*IDC **22** 00:31:06.9±9.5, 12°.24N×87°.85W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/24, mbtmp3.6/5, Error ellipse: s-maj=198.2km s-min=90.7km az=12.0*
*CASC **22** 00:31:22.5±1.9, 12°.90N×88°.79W, h36km±407km, ML3.8*
ISC 22 00:31:17.0±1.4,**12°.71N**±0°.06×**88°.83W**±0°.04,**h15**km±9km,
n38,σ1§**88**/48,**mb3.5**/5,**1D**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.67**	**3**	*e*P	**Pn**	**00 31 36.6**	**+4.5**
UESV				*e*S	**Sn**	**00 31 47.7**	**+5.4**
LCY	**Lacayo**	**0.88**	**36**	*e*P	**Pn**	**00 31 36.5**	**+1.4**
VSM	**San Miguel**	**0.90**	**37**	*e*P	**Pn**	**00 31 36.9**	**+1.5**
PACA	**Pacayal**	**0.90**	**33**	*e*P	**Pn**	**00 31 36.7**	**+1.4**
PACA				*e*S	**Sb**	**00 31 47.5**	**+1.1**
LFRS	**El Faro**	**0.94**	**346**	*i e*P	**Pn**	**00 31 37.0**	**+1.2**
LBRS	**Las Brisas**	**1.04**	**349**	*e*P	**Pn**	**00 31 38.6**	**+1.4**
SNET	**Serv Nac Est T**	**1.05**	**338**	*e*P	**Pn**	**00 31 38.5**	**+1.3**
SNET				*e*S	**Sg**	**00 31 50.8**	**-0.3**
SNET				AML	AML	00 31 52.1	
	comp=Z,5μm,0.2s						
UDBS	**Soyapango**	**1.06**	**342**	*e*P	**Pn**	**00 31 38.7**	**+1.3**
UDBS				*e*S	**Sg**	**00 31 51.0**	**-0.4**
OPAM	**San Salvador**	**1.06**	**340**	*e*P	**Pn**	**00 31 38.8**	**+1.2**
OPAM				*e*S	**Sg**	**00 31 51.1**	**-0.5**
LFU	**La Fuente**	**1.07**	**345**	*e*P	**Pn**	**00 31 38.9**	**+1.3**
CUSC	**San Salvador**	**1.08**	**341**	*e*P	**Pn**	**00 31 38.7**	**+1.0**
CUSC				*e*S	**Sg**	**00 31 51.3**	**-0.7**
UEES	**San Salvador**	**1.09**	**338**	*e*P	**Pn**	**00 31 39.0**	**+1.2**
UEES				*e*S	**Sg**	**00 31 51.5**	**-0.8**
UEES				AML	AML	00 31 54.4	
	comp=Z,5μm,0.3s						
BOQS	**Boqueron**	**1.11**	**337**	*e*P	**Pn**	**00 31 39.8**	**+1.6**
BOQS				*e*S	**Sg**	**00 31 52.6**	**-0.5**
CNCH	**Conchagua**	**1.12**	**60**	*e*P	**Pn**	**00 31 40.1**	**+1.7**
CAHU	**Cacacuatique**	**1.22**	**30**	*e*P	**Pn**	**00 31 40.8**	**+1.1**
SBLS	**San Blas**	**1.36**	**326**	*e*P	**Pg**	**00 31 44.0**	**+0.6**
SBLS				*e*S	**Sg**	**00 32 00.0**	**-1.1**
SNJE	**San Jose**	**1.38**	**327**	*e*P	**Pb**	**00 31 43.7**	**+1.1**
MONT	**Ecomontaæa**	**1.39**	**325**	*e*P	**Pg**	**00 31 44.2**	**+0.3**
RTR	**El Retiro**	**1.42**	**326**	*e*P	**Pb**	**00 31 44.6**	**+1.2**
UNIC	**Santa Ana**	**1.46**	**331**	*e*P	**Pn**	**00 31 44.5**	**+1.5**
UNIC				*e*S	**Sb**	**00 32 01.2**	**-1.2**
CUS1	**Cusmapa**	**1.62**	**318**	*e*P	**Pb**	**00 31 47.6**	**+1.0**
RBDL	**Robledal**	**1.62**	**329**	*e*P	**Pn**	**00 31 47.2**	**+1.9**
CRIN	**San Cristobal**	**1.74**	**90**	*e*P	**Pg**	**00 31 50.2**	**-0.3**
CRIN				*e*S	**Sb**	**00 32 10.9**	**+0.6**
CRIN				AML	AML	00 32 16.4	
	comp=N,1μm,0.6s						
TGUH	**Tegucigalpa,Un**	**2.02**	**48**	*e*P	**Pn**	**00 31 52.2**	**+1.6**
TGUH				AML	AML	00 31 59.7	
	comp=Z,974nm,0.5s						

COPN	**Copaltepe**	**2.25**	**103**	*e*P		**Pb**	**00 31 57.2**	**-0.2**
MOMN	**Momotombo**	**2.26**	**97**	*e*P		**Pb**	**00 31 57.7**	**+0.1**
ESTN	**Estel**	**2.43**	**81**	*e*P		**Pb**	**00 31 59.1**	**-1.5**
ESTN				*e*S		**Sn**	**00 32 27.2**	**+1.3**
BOAB	**BOACO BROADBAN**	**3.10**	**94**	*e*P		**Pn**	**00 32 08.0**	**+2.6**
CRZ1	**La Cruz**	**3.52**	**117**	*e*S		**Sn**	**00 32 55.0**	**+2.2**
VCR	**Vista de Mar**	**4.05**	**129**	*e*P		**Pn**	**00 32 22.2**	**+3.5**
VCR				*e*S		**Sn**	**00 33 08.6**	**+2.7**
CGA2	**Cerro Gallo 2**	**5.05**	**122**	*e*P		Pn	00 32 39.8	+7.4
URSC	**Urasca**	**5.72**	**119**	*e*P		Pn	00 32 50.1	+8.5
BUS	**Buena Vista**	**5.88**	**122**	*e*P		Pn	00 32 52.0	+7.8
TXAR	**Lajitas Array**	**21.53**	**322**	P		**P**	**00 36 07.9**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=140,slow=11,SNR=10							
PDAR	**Pinedale Array**	**34.92**	**333**	P		**P**	**00 38 08.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=138,slow=8.2,SNR=1.5							
ULM	**Lac du Bonnet**	**37.88**	**353**	P		**P**	**00 38 30.3**	**-3.1**
	comp=Z,0.9nm,0.4s,baz=163,slow=14,SNR=1.5							
YKA	**Yellowknife Ar**	**53.02**	**345**	P		**P**	**00 40 30.4**	**-2.6**
	comp=Z,1.0nm,0.6s,baz=132,slow=8.6,SNR=10							
ILAR	**Eielson Array**	**65.24**	**336**	P		**P**	**00 41 55.2**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=138,slow=5.6,SNR=2.4							

*IDC **22** 00:36:24.5±5.5, 36°.34N×71°.15E, h67km±36km, mb3.6/4, mb1 3.6/9, mb1mx3.3/48, mbtmp3.8/9, ML3.6/5, Error ellipse: s-maj=66.9km s-min=26.2km az=143.0*
*ISCJB **22** 00:36:27.8±1.1, 36°.69N±0°.08×71°.07E±0°.10, h100km, mb3.9/3, Error ellipse: s-maj=12.8km s-min=8.9km az=137.9*
*NNC **22** 00:36:30.6±1.4, 36°.81N×70°.99E, h124km±15km, mb3.0, mpv3.7, Error ellipse: s-maj=13.5km s-min=8.0km az=149.0*
ISC 22 00:36:28.7±1.6,**36°.7N**±0°.1×**70°.92E**±0°.09,**h100**km,**n19**,
σ1§**56**/25,**mb4.1**/3,**10C-2D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.69**	**323**	⇑P	**Pn**	**00 37 12.1**	**+1.7**
	11nm,0.5s						
DZET				⇑S	**Sn**	**00 37 44.7**	**+2.1**
	36nm,0.5s						
MNAS	**Manas**	**5.93**	**11**	⇑P	**Pn**	**00 37 55.1**	**+1.0**
	2.5nm,0.3s						
MNAS				⇑S	**Sn**	**00 39 00.3**	**-0.4**
	8.3nm,0.6s						
KK31	**Karatay Array**	**6.42**	**357**	⇓P	**Pn**	**00 38 01.6**	**+0.9**
	0.9nm,0.2s,baz=177,slow=13,SNR=27						
KK31				⇑S	**Sn**	**00 39 11.9**	**-0.6**
	2.7nm,0.6s,baz=172,slow=14,SNR=4.1						
AAK	**Ala-Archa**	**6.56**	**24**	P	**Pn**	**00 38 02.9**	**+0.3**
	3.2nm,0.3s,baz=181,slow=7.0,SNR=44						
AAK				S	**Sn**	**00 39 15.4**	**-0.6**
	0.4nm,0.3s,baz=66,slow=20,SNR=3.2						
AAK	**Ala-Archa**	**6.56**	**24**	⇑P	**Pn**	**00 38 02.7**	**+0.1**
	5.5nm,0.4s						
AAK				⇑S	**Sn**	**00 39 14.9**	**-1.1**
	3.5nm,0.7s						
TKM2	**Tokmak 2**	**7.20**	**29**	⇑P	**Pn**	**00 38 11.1**	**-0.3**
	3.2nm,0.5s						
GEYT	**Alibeck**	**10.28**	**281**	P	**Pn**	**00 38 51.9**	**-1.2**
	0.7nm,0.3s,baz=97,slow=9.8,SNR=13						
GEYT				S	**Sn**	**00 40 42.4**	**-4.0**
	1.3nm,0.3s,baz=288,slow=25,SNR=8.3						
AB31	**Akbulak array**	**14.90**	**331**	P	**Pn**	**00 39 53.5**	**-0.5**
	0.4nm,0.3s,baz=164,slow=8.1,SNR=15						
KURBB	**Kurchatov Arra**	**14.97**	**19**	P	**P**	**00 39 57.4**	**-0.6**
	0.0nm,0.3s,baz=205,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**14.97**	**19**	⇑P	**Pn**	**00 39 54.8**	**-0.1**
	3.8nm,1.3s						
BVA0	**Borovoye Array**	**16.35**	**359**	P	**P**	**00 40 12.5**	**-0.6**
	1.7nm,1.1s,baz=160,slow=11,SNR=5.6						
BVAR	**Borovoye Array**	**16.35**	**359**	P	**P**	**00 40 12.8**	**-0.4**
	0.3nm,0.3s,baz=156,slow=7.5,SNR=6.7						
AKTO	**Aktyubinsk**	**16.59**	**330**	P	**P**	**00 40 16.3**	**+0.4**
	0.4nm,0.3s,baz=141,slow=14,SNR=7.5						
AKTO	**Aktyubinsk**	**16.59**	**330**	⇓P	**P**	**00 40 16.7**	**+0.8**
	4.0nm,0.8s						
ZAA0	**Zalesovo Array**	**19.78**	**25**	⇑P	**P**	**00 40 47.7**	**-3.0**
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**19.78**	**25**	P	**P**	**00 40 49.8**	**-0.9**
	1.5nm,0.3s,baz=228,slow=11,SNR=7.3						
FINES	**FINESS Array B**	**37.30**	**326**	P	**P**	**00 43 33.7**	**+3.0**
	2.3nm,0.8s,baz=103,slow=8.6,SNR=4.3						
ARCES	**ARCESS Array B**	**40.95**	**338**	P	**P**	**00 44 03.0**	**+1.9**
	3.7nm,1.0s,baz=112,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	**P**	**00 47 03.2**	**+0.6**
	0.3nm,0.7s,baz=51,slow=5.8,SNR=7.1						

*ISCJB **22** 00:39:31.4±0.7, 11°.8N±0°.1×44°.20E±0°.07, h4km, mb3.7/11, MS3.6/1, Error ellipse: s-maj=17.2km s-min=7.9km az=159.2*
*IDC **22** 00:39:32.5±1.5, 11°.79N×44°.15E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/35, mbtmp3.8/8, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/40, Error ellipse: s-maj=43.0km s-min=15.4km az=162.0*
*NEIC **22** 00:39:34.2±0.6, 11°.80N×44°.13E, h10km, mb4.1/3, Error ellipse: s-maj=15.3km s-min=10.7km az=151.0*
ISC 22 00:39:33.1±0.8,**11°.8N**±0°.1×**44°.14E**±0°.08,**h4**km,**n18**,
σ0§**98**/16,**mb3.9**/11,**Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.29**	**258**	Pn	**Pg**	**00 39 56.9**	**-1.2**
	192nm,0.3s,baz=56,slow=11,SNR=13						
ATD				Sn	**Sb**	**00 40 15.4**	**+0.2**
	500nm,0.3s,baz=252,slow=22,SNR=34						
KMBO	**Kilima Mbogo**	**14.55**	**209**	Lg	Lg	00 47 09.8	
	0.1nm,0.3s,baz=101,slow=9.8,SNR=3.5						
WSAR	**Wadi Sarin**	**17.88**	**49**	P	**P**	**00 43 43.4**	**-0.2**
	0.1nm,0.3s,baz=215,slow=12,SNR=2.1						
ASF	**Jabal al Asfar**	**21.35**	**343**	Lg	Lg	00 50 45.7	
	1.3nm,0.7s,baz=224,slow=13,SNR=3.1						
GNI	**Garni**	**28.25**	**1**	P	**P**	**00 45 27.7**	**+0.2**
	1.6nm,0.4s						
GEYT	**Alibeck**	**28.87**	**23**	LR	LR	00 58 47.9	
	comp=Z,153nm,21.7s,baz=220,slow=40						
BRTR	**Keskin Array B**	**29.33**	**343**	P	**P**	**00 45 38.6**	**+1.5**
	1.0nm,0.9s,baz=153,slow=11,SNR=6.8						
ABPO	**Ambohimpanom**	**30.77**	**174**	P	**P**	**00 45 49.9**	**-0.2**
	1.9nm,0.7s						
ABKAR	**Akbulak array**	**39.58**	**16**	*e*P	**P**	**00 47 05.5**	**0.0**
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**41.43**	**277**	P	**P**	**00 47 23.2**	**+1.9**
	0.5nm,0.8s,baz=79,slow=7.5,SNR=3.1						
GERES	**GERESS Array B**	**44.75**	**332**	P	**P**	**00 47 46.7**	**-1.1**
	0.8nm,0.8s,baz=126,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**47.42**	**35**	P	**P**	**00 48 08.7**	**-0.1**
	1.4nm,0.3s,baz=226,slow=4.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**52.93**	**29**	P	**P**	**00 48 48.6**	**-1.8**
	1.0nm,0.7s,baz=243,slow=6.5,SNR=5.3						
CHTO	**Chiang Mai**	**53.15**	**75**	P	**P**	**00 48 53.0**	**+0.3**
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**53.16**	**76**	P	**P**	**00 48 52.9**	**+0.2**
	1.2nm,0.7s,baz=271,slow=9.2,SNR=9.5						
SONM	**Songino Array**	**62.79**	**42**	P	**P**	**00 50 00.2**	**+0.1**
	1.0nm,0.7s,baz=253,slow=4.4,SNR=3.3						
PMSA	**Palmer Station**	**108.33**	**205**	*e*PKP	**PKiKP**	**00 58 02.9**	**+0.5**
WAKE	**Wake Island**	**115.50**	**62**	*e*Pdif	**Pdif**	**00 54 29.9**	**+0.6**

*IDC **22** 00:43:28.2±2.6, 28°.32S×177°.14W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/19, mbtmp3.9/2, Error ellipse: s-maj=69.0km s-min=25.2km az=116.0*
*NEIC **22** 00:43:30.4±0.6, 28°.34S×177°.29W, h10km, mb4.4/6, Error ellipse: s-maj=20.4km s-min=12.4km az=136.0*
*ISCJB **22** 00:43:34.9±0.8, 28°.17S±0°.09×177°.4W±0°.2, h48km, mb4.3/8, Error ellipse: s-maj=23.4km s-min=11.0km az=21.5*
ISC 22 00:43:35.6±0.9,**28°.4S**±0°.1×**177°.3W**±0°.2,**h48**km,**n11**,
σ1§**44**/12,**mb4.3**/8,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.04**	**210**	Pn	**Pn**	**00 43 51.2**	**-2.6**
	208nm,0.3s,baz=271,slow=22,SNR=12						
RAO				Sn	**Sn**	**00 44 10.1**	**+2.8**
	486nm,0.3s,baz=270,slow=20,SNR=6.2						
HNR	**Honiara**	**28.48**	**307**	*e*P	**P**	**00 49 25.6**	**-0.7**
	32nm,0.6s						
ASAR	**Alice Springs**	**43.85**	**264**	P	**P**	**00 51 37.2**	**-0.1**
	1.0nm,0.6s,baz=104,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**44.66**	**270**	P	**P**	**00 51 44.5**	**+0.6**
	1.2nm,0.6s,baz=110,slow=7.5,SNR=7.1						

CMB	**Columbia Colle**	**84.84**	**42**	P		**P**	**00 56 05.9**	**+0.8**
	1.1nm,0.3s							
KULM	**Kulim**	**85.50**	**278**	*e*P		**P**	**00 56 08.8**	**-0.1**
	2.7nm,0.6s							
ANMO	**Albuquerque**	**91.83**	**51**	*e*P		**P**	**00 56 38.2**	**-0.5**
	0.7nm,0.9s							
CHTO	**Chiang Mai**	**93.46**	**289**	*e*P		**P**	**00 56 47.3**	**+1.0**
	0.5nm,0.4s							
WALA	**Waterton Lakes**	**95.52**	**36**	P		**P**	**00 56 55.5**	**+0.2**
	0.5nm,0.4s							
AKASG	**Malin Array Be**	**149.99**	**325**	PKPbc		**PKPbc**	**01 03 19.8**	**-0.5**
	0.7nm,0.5s,baz=44,slow=2.8,SNR=1.8							
BRTR	**Keskin Array B**	**152.08**	**302**	PKPbc		**PKPbc**	**01 03 26.6**	**+0.8**
	0.3nm,0.7s,baz=10,slow=1.6,SNR=2.0							

*ISCJB **22** 00:55:26.4±0.3, 67°.80N±0°.02×20°.24E±0°.06, h0km, Error ellipse: s-maj=3.1km s-min=2.8km az=19.6*
*UPP **22** 00:55:26.8±0.0, 67°.82N×20°.19E, h0km, ML2.4*
*CSEM **22** 00:55:27.0±0.2, 67°.80N×20°.27E, h2km, ML2.1, Error ellipse: s-maj=3.7km s-min=3.5km az=14.0, Mining explosion.*
*HEL **22** 00:55:27.5±0.0, 67°.83N×20°.19E, h0km, ML2.0, ML2.1(UPP), Explosion*
*NAO **22** 00:55:27.5±1.4, 67°.80N×20°.38E, ML2.3*
*IDC **22** 00:55:27.2±1.1, 67°.76N×20°.34E, h0km, mb1 3.3/4, mb1mx3.0/55, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=18.3km s-min=8.0km az=120.0*
*BER **22** 00:55:29.6±3.9, 67°.81N×20°.19E, h0km, ML1.8, ML2.3(NAO), Suspected explosion*
ISC 22 00:55:26.6±0.7,**67°.80N**±0°.02×**20°.24E**±0°.02,**h0**km,**n83**,
σ1§**12**/120,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**13**	P	**Pg**	**00 55 29.8**	**0.0**
KUA				S	**Sg**	**00 55 32.0**	**+0.2**
KUA	**Kurravaara**	**0.16**	**13**	*i* P	**Pg**	**00 55 29.8**	**0.0**
KUA				*i* S	**Sg**	**00 55 32.0**	**+0.2**
KUA	**Kurravaara**	**0.16**	**13**	P	**Pg**	**00 55 29.8**	**0.0**
KUA				S	**Sg**	**00 55 32.0**	**+0.2**
RATU	**Laukkuluspa**	**0.25**	**277**	P	**Pg**	**00 55 31.4**	**+0.1**
RATU				S	**Sg**	**00 55 34.6**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**280**	P	**Pg**	**00 55 35.3**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**280**	*i* P	**Pg**	**00 55 35.3**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**280**	P	**Pg**	**00 55 35.3**	**-0.2**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**00 55 40.3**	**+0.6**
DUNU	**Dundret**	**0.69**	**169**	*i* P	**Pg**	**00 55 40.3**	**+0.6**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**00 55 40.3**	**+0.6**
LANU	**Lannavaara**	**0.71**	**68**	P	**Pg**	**00 55 40.3**	**+0.2**
LANU	**Lannavaara**	**0.71**	**68**	*i* P	**Pg**	**00 55 40.3**	**+0.2**
LANU	**Lannavaara**	**0.71**	**68**	P	**Pg**	**00 55 40.3**	**+0.2**
MASU	**Masugnsbyn**	**0.75**	**116**	P	**Pg**	**00 55 41.6**	**+0.6**
MASU	**Masugnsbyn**	**0.75**	**116**	*i* P	**Pg**	**00 55 41.6**	**+0.6**
MASU	**Masugnsbyn**	**0.75**	**116**	P	**Pg**	**00 55 41.5**	**+0.6**
SALU	**Saltoluokta**	**0.79**	**239**	P	**Pg**	**00 55 41.5**	**-0.1**
SALU	**Saltoluokta**	**0.79**	**239**	*i* P	**Pg**	**00 55 41.5**	**-0.1**
SALU	**Saltoluokta**	**0.79**	**239**	P	**Pg**	**00 55 41.5**	**-0.1**
KIF	**Kilpisjarvi**	**1.23**	**9**	Pg	**Pn**	**00 55 51.0**	**-0.1**
KIF				Lg	Lg	00 56 06.2	
KIF	**Kilpisjarvi**	**1.23**	**9**	Pg	**Pn**	**00 55 51.0**	**-0.1**
KIF				Lg	Lg	00 56 06.2	
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pg**	**00 55 48.8**	**-1.4**
KIF				*e*SB	**Sg**	**00 56 06.1**	**0.0**
KIF	**Kilpisjarvi**	**1.23**	**9**	P	**Pg**	**00 55 48.8**	**-1.4**
KIF	**Kilpisjarvi**	**1.23**	**9**	Pg	**Pn**	**00 55 51.0**	**-0.1**
	SNR=90						
KIF				Sb	**Sg**	**00 56 06.1**	**0.0**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**00 55 52.2**	**-0.3**
	baz=308						
PAJU	**Pajala**	**1.35**	**124**	*e*P	**Pg**	**00 55 52.2**	**-0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**00 55 52.2**	**-0.3**
HEF	**Hetta**	**1.42**	**63**	*e*PG	**Pn**	**00 55 53.1**	**-0.6**
	baz=243						
HEF				MSG		00 56 10.7	
	comp=Z,18nm,0.2s						
HEF				*e*SB	**Sg**	**00 56 11.8**	**-0.4**
HEF	**Hetta**	**1.42**	**63**	Pg	**Pn**	**00 55 53.0**	**-0.6**
HEF				Sb	**Sg**	**00 56 11.8**	**-0.4**
ERTU	**Ertsjaerv**	**1.46**	**148**	P	**Pn**	**00 55 54.3**	**+

KONS	**Konsvik**	**3.07**	**248**	*eP*		**Pn**		**00 56 16.8**	**+0.6**
	SNR=50								
KEV	**Kevo**	**3.15**	**48**	*eS*		**Sn**		**00 56 56.1**	**+0.5**
KEV				MSG				00 57 00.1	
	comp=Z,4.4nm,0.2s								
KEV	**Kevo**	**3.15**	**48**	S		**Sn**		**00 56 56.1**	**+0.5**
	comp=Z,4.4nm,0.2s								
STOK	**Stokkvaagen**	**3.19**	**246**	*eP*		**Pn**		**00 56 18.9**	**+1.1**
STOK	**Stokkvaagen**	**3.19**	**246**	*eP*		**Pn**		**00 56 18.9**	**+1.1**
	SNR=50								
OUL	**Oulu**	**3.54**	**138**	*eP*		**Pn**		**00 56 26.1**	**+3.4**
OUL	**Oulu**	**3.54**	**138**	P		**Pn**		**00 56 26.1**	**+3.4**
MSF	**Maaselka**	**3.96**	**114**	*eP*		**Pn**		**00 56 30.1**	**+1.7**
	baz=298								
MSF	**Maaselka**	**3.96**	**114**	P		**Pn**		**00 56 30.1**	**+1.7**
KU6	**Riekki**	**4.20**	**111**	*eP*		**Pn**		**00 56 33.5**	**+1.8**
KU6	**Riekki**	**4.20**	**111**	P		**Pn**		**00 56 33.5**	**+1.8**
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**		**00 56 41.0**	**+0.1**
	baz=288,slow=14								
APA0				Sn		**Sn**		**00 57 36.7**	**-1.1**
	baz=277,slow=22								
APA0				Lg		Lg		00 57 56.4	
	baz=283,slow=28								
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**		**00 56 41.0**	**+0.1**
	baz=288,slow=14								
APA0				Sn		**Sn**		**00 57 36.7**	**-1.1**
	baz=277,slow=22								
APA0				Lg		Lg		00 57 56.4	
	baz=283,slow=28								
APA0	**Apatity Array**	**4.86**	**86**	Pn		**Pn**		**00 56 41.0**	**+0.1**
	SNR=50								
APA0				Sn		**Sn**		**00 57 36.7**	**-1.1**
	SNR=50								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**		**00 57 09.7**	**+1.6**
	baz=352,slow=14								
FIA0				Sn		**Sn**		**00 58 26.3**	**-0.4**
	baz=343,slow=28								
FIA0				Lg		Lg		00 58 59.3	
	baz=343,slow=37								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**		**00 57 09.7**	**+1.6**
	baz=352,slow=14								
FIA0				Sn		**Sn**		**00 58 26.3**	**-0.4**
	baz=343,slow=28								
FIA0				Lg		Lg		00 58 59.3	
	baz=343,slow=37								
FIA0	**FINESS Array S**	**6.85**	**156**	Pn		**Pn**		**00 57 09.7**	**+1.6**
	SNR=50								
FIA0				Sn		**Sn**		**00 58 26.3**	**-0.4**
	SNR=50								
FIA0				Lg		Lg		00 58 59.3	
	SNR=4.0								
FINES	**FINESS Array B**	**6.85**	**156**	Pn		**Pn**		**00 57 08.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=1.2,slow=18,SNR=3.4								
FINES				Sn		**Sn**		**00 58 25.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=357,slow=25,SNR=1.6								
FINES				Lg		Lg		00 58 59.3	
	comp=Z,0.3nm,0.3s,baz=345,slow=28,SNR=7.9								
NB2	**NORSAR Subarra**	**7.82**	**214**	Lg		Lg		00 59 33.5	
	baz=35,slow=28								
NB2	**NORSAR Subarra**	**7.82**	**214**	Lg		Lg		00 59 33.5	
	baz=35,slow=28								
NOA	**NORSAR Array B**	**7.82**	**214**	Pn		**Pn**		**00 57 19.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=43,slow=26,SNR=2.5								
NOA				Lg		Lg		00 59 33.5	
	comp=Z,0.3nm,0.3s,baz=250,slow=16,SNR=4.2								
HFS	**Hagfors**	**8.21**	**204**	Pn		**Pn**		**00 57 26.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=16,slow=17,SNR=1.9								
HFS				Sn		**Sn**		**00 58 56.1**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=18,slow=19,SNR=2.1								
HFS				Lg		Lg		00 59 45.9	
	comp=Z,0.2nm,0.3s,baz=18,slow=31,SNR=3.3								

*ISCJB **22** 00:58:08.2±0.5, 11°.41N±0°.07×44°.29E±0°.05, h10km, mb4.0/16, Error ellipse: s-maj=10.8km s-min=7.3km az=165.7*
*IDC **22** 00:58:08.9±1.7, 11°.42N×44°.20E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.6/57, mbtmp3.8/12, Error ellipse: s-maj=42.0km s-min=15.7km az=170.0*
*NEIC **22** 00:58:10.2±0.5, 11°.43N×44°.24E, h10km, mb4.4/4, Error ellipse: s-maj=11.5km s-min=9.0km az=135.0*
*CSEM **22** 00:58:10.2, 11°.43N×44°.24E, h10km, mb4.4/4*

ISC 22 00:58:10.2±0.6, 11°.44N±0°.09×44°.23E±0°.07, h10km, n31, σ0§90/30, mb3.9/16, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.36**	**274**	Pn	**Pn**	**00 58 34.5**	**-0.8**
	150nm,0.3s,baz=61,slow=8.8,SNR=35						
ATD				Sn	**Sb**	**00 58 53.1**	**-0.1**
	144nm,0.3s,baz=197,slow=19,SNR=14						
KMBO	**Kilima Mbogo**	**14.28**	**210**	Lg	Lg	01 05 43.2	
	0.1nm,0.3s,baz=108,slow=12,SNR=4.4						
KMBO	**Kilima Mbogo**	**14.28**	**210**	*ePn*	**Pn**	**01 01 32.4**	**-0.4**
KMBO	**Kilima Mbogo**	**14.28**	**210**	*ePn*	**Pn**	**01 01 32.4**	**-0.4**
WSAR	**Wadi Sarin**	**18.06**	**48**	P	**Pn**	**01 02 19.1**	**-2.2**
	baz=246,slow=20,SNR=2.1						
MSEY	**Mahe Island**	**19.53**	**144**	*eP*	**P**	**01 02 37.9**	**-0.1**
	10.0nm,0.6s						
MSEY	**Mahe Island**	**19.53**	**144**	*eP*	**P**	**01 02 37.9**	**-0.1**
	10.0nm,0.6s						
ASF	**Jabal al Asfar**	**21.72**	**343**	Lg	Lg	01 09 37.1	
	2.3nm,1.1s,baz=345,slow=20,SNR=3.0						
GNI	**Garni**	**28.60**	**1**	P	**P**	**01 04 06.2**	**-0.6**
	5.7nm,0.7s						
GNI	**Garni**	**28.60**	**1**	P	**P**	**01 04 06.2**	**-0.6**
	5.7nm,0.7s						
BRTR	**Keskin Array B**	**29.70**	**343**	P	**P**	**01 04 16.9**	**+0.4**
	0.7nm,0.8s,baz=141,slow=11,SNR=4.4						
KVAR	**Kislovodsk Arr**	**32.43**	**358**	P	**P**	**01 04 42.8**	**+2.3**
	3.1nm,0.9s,baz=163,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**40.50**	**14**	P	**P**	**01 05 50.1**	**+0.9**
	0.8nm,0.8s,baz=124,slow=7.3,SNR=2.8						
AAK	**Ala-Archa**	**40.73**	**35**	P	**P**	**01 05 52.9**	**+1.5**
	1.8nm,0.9s,baz=195,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**41.56**	**277**	P	**P**	**01 05 59.5**	**+1.1**
	0.7nm,0.9s,baz=96,slow=8.6,SNR=4.9						
GERES	**GERESS Array B**	**45.11**	**332**	P	**P**	**01 06 25.7**	**-1.0**
	0.3nm,0.6s,baz=161,slow=9.3,SNR=4.2						
BVAR	**Borovoye Array**	**46.48**	**22**	P	**P**	**01 06 37.5**	**+0.1**
	1.4nm,0.8s,baz=217,slow=6.3,SNR=6.7						
CLL	**Collm**	**47.19**	**334**	*eP*	**P**	**01 06 42.0**	**-0.9**
MKAR	**Makanchi Array**	**47.66**	**35**	P	**P**	**01 06 46.9**	**+0.1**
	1.2nm,0.9s,baz=225,slow=8.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**48.11**	**29**	P	**P**	**01 06 50.2**	**+0.1**
	1.0nm,0.9s,baz=228,slow=7.8,SNR=4.5						
KURK	**Kurchatov**	**48.21**	**29**	P	**P**	**01 06 50.2**	**-0.7**
KURK	**Kurchatov**	**48.21**	**29**	P	**P**	**01 06 50.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**53.16**	**75**	P	**P**	**01 07 29.1**	**+0.3**
	2.1nm,0.8s,baz=273,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**53.20**	**29**	P	**P**	**01 07 27.7**	**-0.8**
	0.6nm,0.5s,baz=226,slow=7.7,SNR=4.7						
SHEL	**Horse Pasture**	**56.45**	**242**	*eP*	**P**	**01 07 53.2**	**+0.5**
	5.2nm,0.6s						
SHEL	**Horse Pasture**	**56.45**	**242**	*eP*	**P**	**01 07 53.2**	**+0.5**
	5.2nm,0.6s						
COCO	**West Island**	**57.26**	**113**	*eP*	**P**	**01 07 58.5**	**+0.1**
	18nm,0.3s						
COCO	**West Island**	**57.26**	**113**	*eP*	**P**	**01 07 58.5**	**+0.1**
	18nm,0.3s						
SONM	**Songino Array**	**63.00**	**42**	P	**P**	**01 08 38.5**	**+1.0**
	0.6nm,0.8s,baz=231,slow=7.1,SNR=3.7						
ULN	**Ulaanbaatar**	**63.44**	**42**	*eP*	**P**	**01 08 40.3**	**-0.1**
	0.3nm,0.2s						
ULN	**Ulaanbaatar**	**63.44**	**42**	*eP*	**P**	**01 08 40.3**	**-0.1**
	0.3nm,0.2s						

*DDA **22** 01:01:22.6, 39°.09N×29°.08E, h7km, Md2.6*
*ISK **22** 01:01:22.3, 39°.14N×29°.07E, h8km, MD2.6*
*ISCJB **22** 01:01:23.0±0.5, 39°.13N±0°.04×29°.10E±0°.04, h7km±5km, Error ellipse: s-maj=6.1km s-min=4.6km az=162.2*
*CSEM **22** 01:01:23.2±0.2, 39°.15N×29°.09E, h8km, MD2.6, Error ellipse: s-maj=5.5km s-min=4.6km az=119.0*

ISC 22 01:01:23.2±1.0, 39°.12N±0°.03×29°.09E±0°.02, h8km±8km, n24, σ0§60/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.09**	**244**	*ePG*	**Pg**	**01 01 25.6**	**+0.1**
SIMA	**Simav-Kutahya**	**0.09**	**244**	*ePg*	**Pg**	**01 01 25.6**	**+0.1**
DEMI	**Demirci**	**0.30**	**254**	*i P*	**Pg**	**01 01 29.3**	**+0.2**
DEMI				*i* S	**Sg**	**01 01 33.5**	**+0.3**
DEMI	**Demirci**	**0.30**	**254**	P	**Pg**	**01 01 29.3**	**+0.1**
GDZ	**Gediz**	**0.31**	**96**	*i P*	**Pg**	**01 01 29.1**	**-0.2**
GDZ				*i* S	**Sg**	**01 01 33.6**	**+0.2**
GDZ	**Gediz**	**0.31**	**96**	P	**Pg**	**01 01 29.1**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**42**	*ePG*	**Pg**	**01 01 31.5**	**-0.2**
TVSB				*e*SG	**Sg**	**01 01 37.5**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**42**	*ePg*	**Pg**	**01 01 31.5**	**-0.2**
TVSB				*e*Sg	**Sg**	**01 01 37.5**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**209**	*ePG*	**Pg**	**01 01 35.8**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**209**	*ePg*	**Pg**	**01 01 35.8**	**-0.8**
KHAL	**Karahalli**	**0.82**	**157**	*i P*	**Pn**	**01 01 40.9**	**-0.2**
KHAL				*i* S	**Sg**	**01 01 49.9**	**+0.4**
KHAL	**Karahalli**	**0.82**	**157**	P	**Pn**	**01 01 40.9**	**-0.2**
KHAL				S	**Sg**	**01 01 49.9**	**+0.4**
AKHS	**Akhisar**	**1.02**	**257**	*i P*	**Pb**	**01 01 43.2**	**0.0**
AKHS				*i* S	**Sg**	**01 01 55.4**	**-0.7**
AKHS	**Akhisar**	**1.02**	**257**	P	**Pb**	**01 01 43.2**	**0.0**
AKHS				S	**Sg**	**01 01 55.4**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*ePN*	**Pn**	**01 01 46.5**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*ePn*	**Pn**	**01 01 46.5**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*ePN*	**Pn**	**01 01 46.4**	**-0.9**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*ePn*	**Pn**	**01 01 46.4**	**-0.9**
BALY	**Balya**	**1.29**	**299**	*i P*	**Pg**	**01 01 48.0**	**0.0**
BALY				*i* S	**Sn**	**01 02 06.6**	**+1.4**
BALY	**Balya**	**1.29**	**299**	P	**Pg**	**01 01 48.0**	**0.0**
BALY				S	**Sn**	**01 02 06.6**	**+1.4**
ARMT	**Armutlu**	**1.45**	**353**	*ePN*	**Pn**	**01 01 49.2**	**-0.6**
ARMT	**Armutlu**	**1.45**	**353**	*ePn*	**Pn**	**01 01 49.2**	**-0.6**
YLV	**Yalova**	**1.46**	**9**	*ePN*	**Pn**	**01 01 49.3**	**-0.6**
YLV	**Yalova**	**1.46**	**9**	*ePn*	**Pn**	**01 01 49.3**	**-0.6**

*ISCJB **22** 01:11:56.9±0.8, 6°.8S±0°.1×155°.57E±0°.08, h100km, mb3.4/5, Error ellipse: s-maj=20.9km s-min=10.2km az=167.6*
*IDC **22** 01:11:59.1±2.9, 6°.86S×155°.51E, h111km±27km, mb3.3/5, mb1 3.6/7, mb1mx3.4/32, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.7/12, Error ellipse: s-maj=36.0km s-min=21.6km az=153.0*

ISC 22 01:11:58.0±0.8, 6°.7S±0°.1×155°.56E±0°.07, h100km, n17, σ3§21/17, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.14**	**123**	P	**Pn**	**01 13 13.6**	**+0.9**
	10nm,0.3s,baz=204,slow=12,SNR=2.6						
HNR				S	**Sn**	**01 14 03.0**	**-7.8**
	7.8nm,0.3s,baz=159,slow=17,SNR=2.8						
HNR				LR	LR	01 15 05.8	
	comp=Z,196nm,18.2s,baz=288,slow=37						
HNR	**Honiara**	**5.14**	**123**	*eP*	**Pn**	**01 13 13.0**	**+0.3**
HNR				*eS*	**Sn**	**01 14 19.0**	**+8.2**
PMG	**Port Moresby**	**8.75**	**251**	P	**Pn**	**01 14 01.5**	**-0.3**
	2.8nm,0.3s,baz=76,slow=19,SNR=4.4						
PMG				S	**Sn**	**01 15 40.9**	**+2.2**
	0.8nm,0.3s,baz=180,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**24.46**	**235**	P	**P**	**01 17 06.6**	**-1.3**
	0.9nm,0.8s,baz=59,slow=9.2,SNR=8.7						
WRA				PcP	**PcP**	**01 20 44.0**	**-0.4**
	0.2nm,0.5s,baz=57,slow=2.1,SNR=4.1						
ASAR	**Alice Springs**	**26.81**	**229**	P	**P**	**01 17 27.1**	**-2.0**
	0.2nm,0.3s,baz=58,slow=9.2,SNR=5.3						
ASAR				PcP	**PcP**	**01 20 49.0**	**-0.7**
	0.1nm,0.6s,baz=57,slow=3.4,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**27.31**	**24**	T	T	01 45 57.1	
	baz=202,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**27.31**	**24**	T	T	01 45 58.7	
	baz=202,slow=75,SNR=69						
H11S1	**WAKE ISLAND Hy**	**27.32**	**24**	T	T	01 45 58.9	
	baz=202,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.49**	**23**	T	T	01 47 29.9	
	baz=213,slow=78,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.50**	**23**	T	T	01 47 34.5	
	baz=213,slow=78,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**28.51**	**23**	T	T	01 47 34.7	
	baz=213,slow=78,SNR=7.2						
ILAR	**Eielson Array**	**82.87**	**21**	P	**P**	**01 24 10.9**	**-0.2**
	0.4nm,0.4s,baz=246,slow=5.0,SNR=9.1						
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**01 24 16.5**	**+1.5**
	0.3nm,0.5s,baz=103,slow=5.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**01 24 19.2**	**+0.9**
	0.6nm,0.4s,baz=143,slow=6.7,SNR=2.5						
ARCES	**ARCESS Array B**	**109.44**	**343**	PKiKP	**PKiKP**	**01 30 16.6**	**+0.3**
	2.5nm,0.9s,baz=37,slow=3.0,SNR=6.1						
FINES	**FINESS Array B**	**113.87**	**336**	PKP	**PKiKP**	**01 30 24.9**	**0.0**
	3.1nm,0.9s,baz=126,slow=1.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**153.48**	**286**	PKPbc	**PKPbc**	**01 31 45.6**	**-0.3**
	0.3nm,0.5s,baz=35,slow=1.9,SNR=7.8						
TORD				PKPab	**PKPab**	**01 31 57.2**	**-1.4**
	0.4nm,0.5s,baz=86,slow=2.5,SNR=5.9						

DJA 22 01:12:24.5±1.0, 1°S±3°×12°4E±°, h16km±8km, M3.8/2, MLv3.8/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.38**	**342**	P	Pn	01 12 49.0	-0.1
KMSI				S	Sb	01 13 07.6	+0.2
SANI	**Sanana**	**2.05**	**129**	P	Pn	01 12 58.4	+0.1
SANI				S	Sn	01 13 24.5	+1.0
MRSI	**Marisa**	**2.75**	**296**	P	Pn	01 13 07.4	-0.5
MRSI				S	Sn	01 13 41.4	+0.6
APSI	**Ampana**	**2.76**	**267**	P	Pn	01 13 08.0	-0.1
APSI				S	Sn	01 13 42.0	+1.0
LBMI	**Labuha**	**3.10**	**88**	P	Pn	01 13 12.8	0.0
LBMI				S	Sn	01 13 50.3	+0.7
KDI	**Kendari**	**3.65**	**209**	P	Pn	01 13 20.5	+0.1
NLAI	**Namlea**	**3.66**	**133**	P	Pn	01 13 20.8	+0.3
MPSI	**Mapaga**	**4.63**	**283**	P	Pn	01 13 33.7	-0.1

*IDC **22** 01:48:20.0±0.5, 43°.63N×28°.95W, h0km, mb4.1/28, mb1 4.3/29, mb1mx4.2/45, mbtmp4.1/29, ML4.6/1, MS3.7/14, Ms1 3.7/14, ms1mx3.4/46, Error ellipse: s-maj=14.9km s-min=11.2km az=5.0*
*ISCJB **22** 01:48:20.2±0.1, 43°.47N±0°.03×28°.95W±0°.03, h14km, mb4.5/83, MS3.8/14, Error ellipse: s-maj=4.4km s-min=3.0km az=27.1*
*NEIC **22** 01:48:21.6±0.2, 43°.60N×28°.91W, h10km, mb4.7/53, Error ellipse: s-maj=5.6km s-min=3.3km az=184.0*
*CSEM **22** 01:48:21.7±0.1, 43°.65N×28°.95W, h10km, mb4.7/51, Error ellipse: s-maj=6.9km s-min=3.2km az=8.0*

ISC 22 01:48:22.1±0.3, 43°.53N±0°.05×29°.01W±0°.05, h14km, n514, σ1§03/493, mb4.6/83, MS3.7/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**4.15**	**203**	T	T	01 53 44.9	
H07S1	**FLORES T-PHASE**	**4.46**	**202**	Pn	**Pn**	**01 49 28.9**	**-0.4**
H07S1				Sn	**Sn**	**01 50 19.7**	**-1.3**
PCED	**Cedros**	**4.90**	**177**	*eP*	**Pn**	**01 49 34.8**	**-0.5**
PICO	**Pico**	**5.04**	**175**	*eP*	**Pn**	**01 49 37.3**	**0.0**
PCAN	**Candelaria**	**5.08**	**175**	*eP*	**Pn**	**01 49 36.9**	**-0.8**
PSET	**Sete Cidades**	**6.22**	**155**	*eP*	**Pn**	**01 49 52.4**	**-1.1**
PDA	**Ponta Delgada**	**6.31**	**155**	*eP*	**Pn**	**01 49 52.7**	**-1.9**
PDA				*eS*	**Sn**	**01 51 02.7**	**-3.8**
PDA				A	A	01 51 05.5	
	16nm,0.4s						
CMLA	**Cha da Macela**	**6.34**	**154**	*eP*	**Pn**	**01 49 53.4**	**-1.6**
CMLA				*eS*	**Sn**	**01 51 03.9**	**-3.3**
CMLA				A	A	01 51 05.5	
	12nm,0.5s						
BART	**Pico Bartolome**	**6.44**	**152**	*eP*	**Pn**	**01 49 54.1**	**-2.5**
PSMA	**Santa Maria**	**7.17**	**154**	*eP*	**Pn**	**01 50 04.4**	**-2.0**
PSMN	**Pico do Norte,**	**7.18**	**154**	*eP*	**Pn**	**01 50 04.7**	**-1.9**
PMOZ	**Porto Moniz, M**	**14.14**	**135**	*eT*	T	02 05 17.4	
PMOZ	**Porto Moniz, M**	**14.14**	**135**	*eP*	**Pn**	**01 51 42.9**	**+0.9**
	111nm,1.4s						
PMOZ				*e*LR	LR	01 54 54.5	
	260nm,20.0s						
PMAR	**Madeira**	**14.37**	**135**	*eT*	T	02 05 36.5	
PMAR	**Madeira**	**14.37**	**135**	*eP*	**Pn**	**01 51 44.4**	**-0.8**
	88nm,1.4s						
FUL	**Funchal**	**14.44**	**135**	*eT*	T	02 05 39.1	
FUL	**Funchal**	**14.44**	**135**	*eP*	**Pn**	**01 51 47.8**	**+1.9**
	104nm,1.9s						
PGAV	**Gavieira, Arco**	**15.31**	**89**	*eT*	T	02 06 27.7	
PGAV	**Gavieira, Arco**	**15.31**	**89**	*eP*	**P**	**01 52 03.5**	**+0.9**
	37nm,1.4s						
PGAV				*e*S	**S**	**01 55 13.9**	**+10**
PGAV				*e*LR	LR	01 55 18.0	
	326nm,20.0s						
PGAV	**Gavieira, Arco**	**15.31**	**89**	*eP*	**P**	**01 52 03.5**	**+0.9**
	37nm,1.4s						
PMAFR	**Mafra**	**15.52**	**100**	*e*LR	LR	01 55 21.0	
	366nm,20.0s						
PCAS	**Casmilo, Conde**	**15.68**	**96**	*e*T	T	02 06 55.7	
PCAS	**Casmilo, Conde**	**15.68**	**96**	*eP*	**P**	**01 52 07.1**	**+0.6**
	32nm,1.6s						
PCAS				*e*LR	LR	01 55 29.8	
	281nm,20.0s						
PCAS	**Casmilo, Conde**	**15.68**	**96**	*eP*	**P**	**01 52 07.1**	**+0.6**
	32nm,1.6s						
POLO	**Lamas de Olo**	**15.80**	**91**	*e*T	T	02 06 50.9	
POLO	**Lamas de Olo**	**15.80**	**91**	*e*LR	LR	01 55 29.8	
	127nm,22.0s						
PVRL	**Vila Real**	**15.88**	**91**	*eP*	**P**	**01 52 08.5**	**-0.3**
	19nm,2.0s						
PVRL	**Vila Real**	**15.88**	**91**	*eP*	**P**	**01 52 08.5**	**-0.3**
	19nm,2.0s						
PVIS	**Viseu**	**15.91**	**93**	*e*T	T	02 07 01.0	
PMTG	**Montargil**	**16.23**	**99**	*e*T	T	02 07 18.4	
PMTG	**Montargil**	**16.23**	**99**	*eP*	**P**	**01 52 12.8**	**+0.2**
	32nm,1.1s						
PMTG				*e*LR	LR	01 55 41.6	
	238nm,20.0s						
PMTG	**Montargil**	**16.23**	**99**	*eP*	**P**	**01 52 12.8**	**+0.2**
	32nm,1.1s						
PNCL	**Nicolau / Gran**	**16.40**	**102**	*eP*	**P**	**01 52 15.1**	**+0.6**
	28nm,1.9s						
PNCL				*e*LR	LR	01 55 50.4	
	382nm,20.0s						
PNCL	**Nicolau / Gran**	**16.40**	**102**	*eP*	**P**	**01 52 15.1**	**+0.6**
	28nm,1.9s						
MVO	**Moncorvo**	**16.41**	**91**	*eP*	**P**	**01 52 16.6**	**+1.9**
	19nm,1.1s						
MVO				*e*S	**S**	**01 55 33.0**	**+6.9**
MVO				*e*LR	LR	01 55 47.5	
	197nm,20.0s						
MVO	**Moncorvo**	**16.41**	**91**	*eP*	**P**	**01 52 16.6**	**+1.9**
	19nm,1.1s						
PBRG	**Braganca**	**16.46**	**88**	*eP*	**P**	**01 52 16.1**	**+0.9**
	23nm,1.8s						
PBRG				*e*LR	LR	01 55 50.4	
	302nm,20.0s						
PBRG	**Braganca**	**16.46**	**88**	*eP*	**P**	**01 52 16.1**	**+0.9**
	23nm,1.8s						
PCBR	**Castelo Branco**	**16.49**	**96**	*eP*	**P**	**01 52 16.2**	**+0.7**
	21nm,1.2s						
PCBR	**Castelo Branco**	**16.49**	**96**	*eP*	**P**	**01 52 16.2**	**+0.7**
	21nm,1.2s						
EVO	**Evora**	**16.59**	**100**	*eP*	**P**	**01 52 17.3**	**+0.6**
	20nm,1.5s						
EVO	**Evora**	**16.59**	**100**	*eP*	**P**	**01 52 17.3**	**+0.6**
	20nm,1.5s						
PFVI	**Vila Bisbo**	**16.64**	**106**	*e*LR	LR	01 55 59.3	
	418nm,20.0s						
MORF	**Marmelete**	**16.68**	**105**	*e*LR	LR	01 56 05.2	
	317nm,20.0s						
PMRV	**Marv??o**	**16.70**	**97**	*e*T	T	02 07 23.7	
PMRV	**Marv??o**	**16.70**	**97**	*e*LR	LR	01 56 02.2	
	280nm,18.0s						
PMRV				*e*S	S	01 56 15.9	+44
PESTR	**Estremoz**	**16.76**	**99**	*e*LR	LR	01 56 02.2	
	258nm,20.0s						
PBEJ	**Beja**	**16.91**	**102**	*eP*	**P**	**01 52 21.4**	**+1.2**
	26nm,1.3s						
PBEJ	**Beja**	**16.91**	**102**	*eP*	**P**	**01 52 21.4**	**+1.2**
	26nm,1.3s						
PCVE	**Castro Verde**	**16.96**	**103**	*e*LR	LR	01 56 14.0	
	358nm,20.0s						
PBDV	**Barranco-do-Ve**	**17.22**	**104**	*e*LR	LR	01 56 14.0	
	304nm,20.0s						
PVAQ	**Vaqueiros**	**17.30**	**103**	*e*LR	LR	01 56 22.9	
	280nm,20.0s						
PVAQ				*e*S	S	01 56 25.6	+42
PBAR	**Barrancos**	**17.44**	**100**	*e*T	T	02 08 11.3	
PBAR	**Barrancos**	**17.44**	**100**	*e*LR	LR	01 56 19.9	
	650nm,20.0s						
ESDC	**Sonseca Array**	**19.09**	**93**	P	**P**	**01 52 43.8**	**-0.6**
	0.4nm,0.3s,baz=295,slow=11,SNR=8.2						
ESDC				LR	LR	01 58 18.0	
	comp=Z,114nm,21.7s,baz=310,slow=31						
EKA	**Eskdalemuir Ar**	**20.41**	**46**	P	Pn	01 53 01.0	+0.4
	4.2nm,0.9s,baz=243,slow=8.4,SNR=4.5						
MDT	**Midelt**	**21.88**	**111**	P	**P**	**01 53 14.3**	**-0.3**
	1.3nm,0.8s,baz=311,slow=11,SNR=4.2						
MDT				LR	LR	02 00 04.4	
	comp=Z,124nm,20.9s,baz=268,slow=32						
SSB	**Saint Sauveur**	**23.94**	**74**	*eP*	**P**	**01 53 38.6**	**+3.0**
	5.3nm,0.9s						
BCLA	**Clavier**	**24.24**	**61**	P	**P**	**01

G40A	Rib Lake baz=69	42.83 294	P	P	01 56 19.9 +0.5
L43A	Garden Prairie baz=67	42.98 290	P	P	01 56 21.2 +0.6
O45A	Potomac baz=65	43.05 287	P	P	01 56 21.9 +0.7
F39A	Loretta baz=70,SNR=5.3	43.08 296	P	P	01 56 22.1 +0.7
K42A	Prairie Point, baz=67	43.16 291	P	P	01 56 23.1 +1.0
H40A	Chili baz=69	43.18 294	P	P	01 56 23.2 +0.9
E38A	The Farm, Brul baz=70	43.26 297	P	P	01 56 23.5 +0.6
C37A	Embarrass baz=71	43.30 299	P	P	01 56 23.5 +0.3
J41A	Loganville baz=68	43.39 292	P	P	01 56 24.7 +0.7
G39A	Holcombe baz=69,SNR=5.9	43.46 295	P	P	01 56 25.2 +0.7
I40A	Norwalk baz=68	43.60 293	P	P	01 56 26.6 +0.9
D37A	Cotton baz=70	43.64 298	P	P	01 56 26.5 +0.5
F38A	Pierce - Schro baz=69	43.69 296	P	P	01 56 27.4 +1.0
C36A	Pine Crest Far baz=71	43.70 299	P	P	01 56 27.1 +0.7
H39A	Augusta baz=68	43.76 294	P	P	01 56 27.9 +1.1
E37A	Wrenshall baz=70	43.82 297	P	P	01 56 28.5 +1.1
J40A	Soldiers Grove baz=67	43.87 292	P	P	01 56 28.9 +1.0
K41A	Shullsburg baz=67	43.88 291	P	P	01 56 28.5 +0.5
G38A	Ridgeland baz=69	43.96 295	P	P	01 56 29.0 +0.5
B35A	Bob, Littlefor baz=71	44.07 300	P	P	01 56 30.0 +0.7
D36A	Goodland baz=70	44.10 298	P	P	01 56 30.4 +0.7
O43A	Sugar Creek Fa baz=65	44.14 287	P	P	01 56 31.0 +0.9
I39A	Houston baz=68	44.22 293	P	P	01 56 31.4 +0.8
F37A	Hinrichs Farm, baz=69	44.26 296	P	P	01 56 31.7 +0.7
E36A	McGregor baz=69,SNR=5.1	44.39 297	P	P	01 56 32.9 +1.0
K40A	Colesburg baz=66	44.41 291	P	P	01 56 33.0 +0.8
H38A	Maiden Rock baz=68	44.42 294	P	P	01 56 33.0 +0.7
C35A	Jirik Farms, M baz=70	44.45 299	P	P	01 56 32.9 +0.5
Q44A	Meyer Farm, Va baz=64	44.53 285	P	P	01 56 34.0 +0.9
M41A	Milan baz=66	44.54 289	P	P	01 56 34.1 +0.9
J39A	Decorah baz=67	44.55 292	P	P	01 56 33.8 +0.6
P43A	Skaggs, Pawnee baz=64	44.56 287	P	P	01 56 34.0 +0.6
SPMN	Marine on St. baz=68,SNR=6.0	44.56 295	P	P	01 56 34.0 +0.7
SPMN	Marine on St. 8.6nm,0.7s	44.56 295	eP	P	01 56 34.2 +0.9
SPMN	Marine on St. 8.6nm,0.7s	44.56 295	eP	P	01 56 34.2 +0.9
B34A	Aery, Baudette baz=70	44.61 300	P	P	01 56 34.2 +0.5
I38A	Scanlan Farm, baz=67	44.69 294	P	P	01 56 35.1 +0.7
D35A	Remer baz=69	44.71 298	P	P	01 56 34.9 +0.4
O42A	Bath baz=65	44.71 288	P	P	01 56 35.2 +0.6
L40A	Anamosa baz=66	44.72 291	P	P	01 56 35.3 +0.6
S45A	Carrier Mills baz=63	44.77 284	P	P	01 56 35.7 +0.6
ULM	Lac du Bonnet 3.6nm,0.9s,baz=355,slow=5.3,SNR=3.4	44.80 303	P	P	01 56 34.7 -0.5
ULM	comp=Z,226nm,20.5s,baz=122,slow=34		LR	LR	02 13 38.5
F36A	Milaca baz=68,SNR=5.8	44.80 296	P	P	01 56 35.6 +0.4
R44A	Waltonville baz=63	44.87 285	P	P	01 56 36.3 +0.5
K39A	Oelwein baz=66	44.92 292	P	P	01 56 36.9 +0.7
A33A	Warroad baz=70	44.92 301	P	P	01 56 36.9 +0.7
Q43A	New Douglas baz=64	44.99 286	P	P	01 56 37.8 +0.9
N41A	Harden Midland baz=65	45.03 289	P	P	01 56 37.9 +0.7
C34A	RKJ Ranch, Bem baz=70	45.06 299	P	P	01 56 37.7 +0.5
E35A	Pequot Lakes baz=69	45.12 298	P	P	01 56 38.6 +0.8
P42A	Winchester baz=64	45.16 287	P	P	01 56 38.8 +0.6
G36A	St. Michael baz=68	45.18 296	P	P	01 56 38.7 +0.5
M40A	Post Highland baz=65	45.19 290	P	P	01 56 38.9 +0.6
L39A	Vinton baz=66	45.23 291	P	P	01 56 39.4 +0.7
S44A	Carbondale baz=63	45.24 284	P	P	01 56 39.8 +0.9
O41A	Passleys Farm, baz=64	45.30 288	P	P	01 56 39.9 +0.6
AGMN	Agassiz Nation baz=70	45.43 300	P	P	01 56 40.6 +0.4
D34A	Park Rapids baz=69	45.44 299	P	P	01 56 40.6 +0.3
R43A	Red Bud baz=63	45.45 285	P	P	01 56 41.4 +0.9
N40A	Mertquake, Sal baz=65	45.46 289	P	P	01 56 41.1 +0.6
F35A	Swanville baz=68	45.48 297	P	P	01 56 41.0 +0.3
U45A	Rockin P Farm, baz=62	45.52 282	P	P	01 56 41.6 +0.6
K38A	Parkersburg baz=66	45.54 292	P	P	01 56 41.5 +0.4
C33A	Trail baz=69	45.56 300	P	P	01 56 41.5 +0.2
Q42A	Golden Eagle baz=63	45.59 286	P	P	01 56 42.3 +0.8
M39A	Webster baz=65	45.61 290	P	P	01 56 42.4 +0.7
A32A	Rocking H Ranc baz=70	45.61 301	P	P	01 56 41.8 +0.2
P41A	Barry, Barry baz=64	45.62 287	P	P	01 56 42.4 +0.6
E34A	Wadena baz=68	45.63 298	P	P	01 56 42.4 +0.6
G35A	Watkins baz=68	45.67 296	P	P	01 56 42.8 +0.7
T44A	Benton baz=62	45.76 283	P	P	01 56 43.7 +0.8
J37A	Redenius Farm, baz=66	45.79 293	P	P	01 56 43.8 +0.7
B32A	Ashes, Strandq baz=69	45.82 301	P	P	01 56 43.9 +0.6
D33A	AnnSam, Waubun baz=69	45.83 299	P	P	01 56 44.0 +0.6
L38A	Oak Wood Farm, baz=65	45.87 291	P	P	01 56 44.1 +0.4
S43A	Fulton Ridge, baz=62	45.87 284	P	P	01 56 44.3 +0.4
LRAL	Lakeview Retre 7.5nm,1.2s	45.88 277	eP	P	01 56 44.8 +0.9
LRAL	Lakeview Retre 7.5nm,1.2s	45.88 277	eP	P	01 56 44.8 +0.9
U44B	Burton Farm, H baz=61	45.94 282	P	P	01 56 44.9 +0.5
O40A	La Belle baz=64	45.98 288	P	P	01 56 45.0 +0.4
BRTR	Keskin Array B 1.4nm,0.9s,baz=291,slow=4.9,SNR=7.4	46.00 72	P	P	01 56 45.6 +0.6
BRTR	comp=Z,52nm,19.9s,baz=249,slow=37		LR	LR	02 16 34.2
R42A	Luebbering baz=63	46.05 286	P	P	01 56 45.7 +0.5
Y47A	UCPARC, Winfie baz=60	46.05 279	P	P	01 56 46.1 +0.9
Q41A	Truxton baz=63,SNR=5.9	46.05 287	P	P	01 56 46.0 +0.8
K37A	Belmond baz=66	46.07 292	P	P	01 56 45.7 +0.3
N39A	Derby Farms, D baz=64	46.09 290	P	P	01 56 46.1 +0.6
H35A	Sunnyside Ranc baz=67	46.09 295	P	P	01 56 46.1 +0.6
Z48A	Northport baz=59	46.11 278	P	P	01 56 46.6 +0.9
E33A	Westby DABS, E baz=68	46.17 298	P	P	01 56 46.6 +0.5
T43A	Greenville baz=62	46.25 284	P	P	01 56 47.6 +0.8
S42A	Caledonia baz=62,SNR=6.7	46.29 285	P	P	01 56 47.5 +0.4
J36A	Seneca 1, Swea baz=66	46.31 293	P	P	01 56 47.6 +0.4
M38A	Pleasantville baz=65	46.33 291	P	P	01 56 47.9 +0.4
P40A	Paris baz=63	46.37 288	P	P	01 56 48.3 +0.6
W45A	Hickory Valley baz=60	46.39 281	P	P	01 56 48.7 +0.7
L37A	Phoenix Point, baz=65	46.41 292	P	P	01 56 48.4 +0.4
R41A	Rosebud baz=62,SNR=7.8	46.45 286	P	P	01 56 49.0 +0.6
CCM	Cathedral Cave 77nm,1.0s	46.47 286	eP	P	01 56 48.9 +0.3
CCM	Cathedral Cave 77nm,1.0s	46.47 286	eP	P	01 56 48.9 +0.3
Z47A	Carrollton baz=59,SNR=7.7	46.57 278	P	P	01 56 50.3 +1.0
D32A	Dogwood Acres, baz=68	46.58 299	P	P	01 56 49.6 +0.3
Q40A	Laux Farm, Aux baz=63	46.62 287	P	P	01 56 50.2 +0.5
N38A	Joes South For baz=64	46.63 290	P	P	01 56 50.3 +0.6
K36A	Gilmore City baz=65	46.67 293	P	P	01 56 50.5 +0.4
H34A	Spellman Lake, baz=66	46.73 296	P	P	01 56 51.1 +0.6
C31A	Landman Farms, baz=68	46.79 300	P	P	01 56 51.1 +0.2
Y46A	Houston baz=59,SNR=7.1	46.79 279	P	P	01 56 51.4 +0.4
P39B	Salisbury baz=63	46.87 288	P	P	01 56 52.1 +0.4
X45A	UM Field Stati baz=60	46.90 280	P	P	01 56 52.1 +0.1
G33A	Ortonville baz=67	46.95 297	P	P	01 56 52.4 +0.2
FFC	Flin Flon 6.6nm,0.8s	46.96 311	eP	P	01 56 52.6 +0.5
FFC	Flin Flon 6.6nm,0.8s	46.96 311	eP	P	01 56 52.6 +0.5
147A	Livingston baz=58	46.98 277	P	P	01 56 53.3 +0.7
S41A	Jillco Farms, baz=62,SNR=10	47.04 285	P	P	01 56 53.5 +0.5
R40A	Maddies Statio baz=62,SNR=9.2	47.08 286	P	P	01 56 53.7 +0.4
O38A	Galt baz=63	47.09 289	P	P	01 56 53.8 +0.5
Z46A	Louisville baz=59	47.20 278	P	P	01 56 54.9 +0.7
Q39A	Willow Grove F baz=63	47.23 288	P	P	01 56 54.8 +0.4
U42A	Reveden baz=61,SNR=5.8	47.27 283	P	P	01 56 54.9 +0.1
Y45A	Yeager Farm, C baz=59	47.29 280	P	P	01 56 55.5 +0.6
T41A	Mountain View baz=61,SNR=8.9	47.31 285	P	P	01 56 55.5 +0.3
N37A	Lee Faris, Mou baz=64	47.31 290	P	P	01 56 55.4 +0.3
E31A	Nome baz=67	47.35 299	P	P	01 56 55.9 +0.6
P38A	Dawn baz=63	47.35 289	P	P	01 56 55.8 +0.4
H33A	Prehn Over Nor baz=66	47.35 296	P	P	01 56 55.6 +0.2
X44A	Crenshaw baz=60	47.40 281	P	P	01 56 56.6 +0.8
O37A	Wolven Farm, M baz=63	47.53 289	P	P	01 56 57.1 +0.3
247A	Quitman baz=58	47.55 277	P	P	01 56 58.0 +1.0
S40A	Lebanon baz=62,SNR=9.4	47.56 286	P	P	01 56 57.7 +0.6
R39A	Chumby, Stover baz=62	47.61 287	P	P	01 56 58.2 +0.8
G32A	Webster baz=66	47.61 297	P	P	01 56 57.8 +0.4
V42A	Cord baz=60	47.64 283	P	P	01 56 57.8 +0.1
Z45A	Winona baz=59	47.65 279	P	P	01 56 58.4 +0.7
ECSD	EROS Data Cent baz=65,SNR=5.9	47.65 295	P	P	01 56 58.4 +0.7
ECSD	EROS Data Cent 5.5nm,0.8s	47.65 295	eP	P	01 56 57.9 +0.2
ECSD	EROS Data Cent 5.5nm,0.8s	47.65 295	eP	P	01 56 57.9 +0.2
Q38A	Cooks Store, C baz=62	47.71 288	P	P	01 56 58.6 +0.4
U41A	Viola baz=61	47.76 284	P	P	01 56 58.8 +0.2
T40A	Mansfield baz=61,SNR=6.5	47.79 285	P	P	01 56 59.3 +0.4
347A	Saraland baz=58	47.84 276	P	P	01 57 00.4 +1.1
F31A	Hecla baz=66	47.86 298	P	P	01 56 59.9 +0.7
H32A	Carlson Farm, baz=66	47.88 296	P	P	01 56 60.0 +0.5
P37A	Lathrop baz=63	47.93 289	P	P	01 57 00.1 +0.2
J33A	Davis baz=65	48.06 295	P	P	01 57 01.3 +0.4
G31A	Conde baz=66	48.08 297	P	P	01 57 01.3 +0.3
I32A	Karley and Nic baz=65	48.09 296	P	P	01 57 01.5 +0.4
S39A	Bolivar baz=62,SNR=16	48.10 286	P	P	01 57 01.5 +0.2
O36A	Bolckow baz=63	48.10 290	P	P	01 57 01.2 -0.1
V41A	Mountainview baz=60	48.19 283	P	P	01 57 02.0 0.0
145A	Houston Renfro baz=58	48.21 278	P	P	01 57 02.6 +0.5
Z44A	Pea Ridge, Bel baz=59	48.23 279	P	P	01 57 02.8 +0.5
R38A	Fenwick Farm, baz=62,SNR=9.0	48.27 287	P	P	01 57 02.9 +0.4
Q37A	Longview Farm, baz=62	48.33 288	P	P	01 57 03.6 +0.6
U40A	Yellville baz=61,SNR=13	48.41 284	P	P	01 57 04.0 +0.3
T39A	Clever baz=61,SNR=6.9	48.45 285	P	P	01 57 04.2 +0.2
245A	Little AP, Sta baz=58	48.49 278	P	P	01 57 04.9 +0.6
P36A	Good Intent, A baz=62	48.50 289	P	P	01 57 04.4 +0.1
S38A	Stockton baz=61	48.53 286	P	P	01 57 04.8 +0.2
W41B	Gary Mavity, V baz=60	48.56 283	P	P	01 57 04.8 0.0
H31A	Wolsey baz=65	48.56 297	P	P	01 57 05.0 +0.2
V40A	Witts Springs baz=60,SNR=12	48.66 284	P	P	01 57 05.7 +0.1
L33A	Hoskins baz=64	48.76 293	P	P	01 57 06.6 +0.3
446A	Poplarville baz=57	48.77 276	P	P	01 57 07.4 +1.0
N34A	Lincoln baz=63	48.83 291	P	P	01 57 06.6 -0.3
U39A	Green Forest baz=60,SNR=9.6	48.84 285	P	P	01 57 07.0 +0.1
VBMS	Vicksburg baz=58	48.84 278	P	P	01 57 07.4 +0.4
R37A	Teagarden Farm baz=62	48.85 288	P	P	01 57 07.2 +0.2
SUSD	Miller baz=65	48.89 297	P	P	01 57 07.3 0.0
Y42A	Garnett, Star baz=59	48.91 281	P	P	01 57 07.6 +0.1
Q36A	Arnold C. Orve baz=62	48.98 289	P	P	01 57 08.2 +0.2
K32A	Verdigre baz=64	49.01 294	P	P	01 57 08.0 -0.2
T38A	Diamond baz=61,SNR=7.9	49.09 286	P	P	01 57 08.9 0.0
P35A	Duane Minner, baz=62	49.10 290	P	P	01 57 09.1 +0.1
S37A	Fort Scott baz=61	49.11 287	P	P	01 57 09.0 0.0
W40A	Ferguson Farm, baz=60	49.13 283	P	P	01 57 09.5 +0.3
V39A	Pettigrew baz=60	49.22 284	P	P	01 57 10.1 +0.1
143A	Socs Landing, baz=58	49.22 279	P	P	01 57 10.1 +0.2
J31A	Geddes baz=64	49.24 295	P	P	01 57 10.3 +0.3
O34A	Beatrice baz=62	49.26 291	P	P	01 57 10.2 +0.1
R36A	Gordon, Harris baz=61	49.31 288	P	P	01 57 10.6 +0.1
X40A	Basin Creek Fa baz=59	49.32 282	P	P	01 57 10.5 -0.2
U38A	Gravette baz=60	49.44 285	P	P	01 57 11.3 -0.3
Y41A	Eaglette Beard baz=59	49.47 281	P	P	01 57 11.9 0.0
T37A	Cheneyville 18 baz=61,SNR=6.0	49.48 286	P	P	01 57 11.7 -0.2
N33A	J Bar K, Exete baz=63	49.52 292	P	P	01 57 11.8 -0.3
K31A	O'Neill baz=64	49.55 294	P	P	01 57 12.1 -0.2
W39A	Magazine baz=60	49.64 283	P	P	01 57 13.3 +0.3
P34A	Walnut Farm, R baz=62	49.65 290	P	P	01 57 13.1 0.0
S36A	Lake Cedric, C baz=61,SNR=6.2	49.66 287	P	P	01 57 12.9 -0.3
BGNE	Belgrade baz=63	49.69 293	P	P	01 57 13.2 -0.2
KSU1	Kansas State U baz=62	49.71 289	P	P	01 57 13.5 -0.1
V38A	Canehill baz=60,SNR=9.0	49.74 285	P	P	01 57 13.7 -0.2
MIAR	Mount Ida baz=59,SNR=11	49.82 283	P	P	01 57 14.7 +0.3
MIAR	Mount Ida 19nm,1.0s	49.82 283	eP	P	01 57 14.6 +0.1
MIAR	Mount Ida 19nm,1.0s	49.82 283	eP	P	01 57 14.6 +0.1
Y40A	Okolona baz=59	49.88 282	P	P	01 57 15.1 +0.1
Z41A	Richland Creek baz=58	49.93 281	P	P	01 57 15.6 +0.3
U37A	Salina baz=60,SNR=11	49.97 286	P	P	01 57 15.6 -0.1
Q34A	Chapman baz=61	50.02 289	P	P	01 57 15.9 0.0
T36A	Boggs Farm, Ca baz=60	50.18 287	P	P	01 57 16.9 -0.3
S35A	Otter Creek Ra baz=61	50.19 288	P	P	01 57 17.0 -0.2
X39A	Fountain Ranch baz=59	50.22 283	P	P	01 57 17.2 -0.3
W38A	Poteau baz=59	50.22 284	P	P	01 57 17.6 +0.1
V37A	Hulbert baz=60	50.25 285	P	P	01 57 17.5 -0.2
Z40A	Long Farm, Mag baz=58	50.36 281	P	P	01 57 18.8 +0.2
U36A	Oologah baz=60	50.41 286	P	P	01 57 18.6 -0.3
KBZ	Khabaz 2.4nm,0.8s,baz=313,slow=4.6,SNR=6.3	50.47 63	P	P	01 57 20.1 +0.9
DGMT	Dagmar baz=66	50.51 304	P	P	01 57 20.2 +0.7
YKA	Yellowknife Ar 1.4nm,0.8s,baz=69,slow=7.5,SNR=6.3	50.67 323	P	P	01 57 20.2 -0.3
TUL1	Leonard baz=60	50.69 285	P	P	01 57 20.7 -0.4
TUL1	Leonard 9.0nm,0.8s	50.69 285	eP	P	01 57 20.7 -0.4
TUL1	Leonard 9.0nm,0.8s	50.69 285	eP	P	01 57 20.7 -0.4
T35A	Sooner Cattle baz=60,SNR=6.2	50.70 287	P	P	01 57 20.8 -0.3
S34A	Willow Spring baz=60	50.72 288	P	P	01 57 20.7 -0.6
W37B	Quinton baz=59	50.83 284	P	P	01 57 22.0 -0.1
V36A	Jenks baz=59	50.86 285	P	P	01 57 22.7 +0.3
X37A	Clayton baz=59	51.07 284	P	P	01 57 24.1 +0.2
U35A	Pawnee baz=60,SNR=7.3	51.12 286	P	P	01 57 24.1 -0.2
341A	Kurthwood baz=57	51.22 279	P	P	01 57 25.3 +0.3
W36A	Wetumka baz=59	51.39 285	P	P	01 57 26.0 -0.3
V35A	Meyer Ranch, C baz=59	51.50 286	P	P	01 57 26.7 -0.4
Y37A	Hugo baz=58	51.56 283	P	P	01 57 28.0 +0.4
X36A	Centrahoma baz=58	51.77 284	P	P	01 57 29.0 -0.1
W35A	Tecumseh baz=59	51.84 285	P	P	01 57 29.4 -0.2
NATX	Nacogdoches baz=57	52.06 280	P	P	01 57 31.7 +0.3
Y36A	Durant baz=58	52.07 283	P	P	01 57 31.4 -0.1
X35A	Drake baz=58	52.30 284	P	P	01 57 32.9 -0.2
137A	Heron Place, G baz=57	52.39 282	P	P	01 57 34.2 +0.4
Z36A	Blue Ridge baz=58	52.51 283	P	P	01 57 35.3 +0.6
LAO	LASA Array baz=63,SNR=8.5	52.52 302	P	P	01 57 35.8 +1.2
LAO	LASA Array 16nm,1.0s	52.52 302	eP	P	01 57 35.6 +1.0
LAO	LASA Array 16nm,1.0s	52.52 302	eP	P	01 57 35.6 +1.0
Y35A	Marietta baz=58	52.60 284	P	P	01 57 35.6 +0.3
U32A	Winter Ranch, baz=59	52.69 288	P	P	01 57 36.2 +0.1
338A	Crockett baz=57	52.74 280	P	P	01 57 36.6 +0.1
237A	Washetta, Mont baz=57	52.75 281	P	P	01 57 36.4 0.0
136A	Ennis baz=57	53.01 282	P	P	01 57 38.9 +0.5
WMOK	Wichita Mounta baz=58,SNR=8.6	53.39 286	P	P	01 57 41.2 0.0
WMOK	Wichita Mounta 7.1nm,1.1s	53.39 286	eP	P	01 57 41.2 0.0
WMOK	Wichita Mounta 7.1nm,1.1s	53.39 286	eP	P	01 57 41.2 0.0
336A	Riesel baz=56	53.82 281	P	P	01 57 44.9 +0.5
638A	Rosharon baz=55	53.91 278	P	P	01 57 46.1 +1.0
WHTX	Lake Whitney, baz=57,SNR=7.1	53.93 282	P	P	01 57 45.5 +0.4
WHTX	Lake Whitney, 19nm,1.0s	53.93 282	eP	P	01 57 44.7 -0.4
WHTX	Lake Whitney, 19nm,1.0s	53.93 282	eP	P	01 57 44.7 -0.4
ARU	Arti 4.8nm,0.9s	54.00 43	eP	P	01 57 44.7 -0.6
ARU	Arti 4.8nm,0.9s	54.00 43	eP	P	01 57 44.7 -0.6
EGMT	Eagleton baz=62	54.05 305	P	P	01 57 46.1 +0.2
537A	Green Hill Far baz=56	54.17 279	P	P	01 57 47.6 +0.8
PHWY	Pilot Hill 3.3nm,0.6s	54.58 296	eP	P	01 57 50.6 +0.5

PHWY	Pilot Hill	54.58	296	eP	P	01 57 50.6 +0.5
	3.3nm,0.6s					
K22A	Casper	54.60	298	P	P	01 57 50.3 +0.1
	baz=60,SNR=6.0					
K22A	Casper	54.60	298	eP	P	01 57 50.2 +0.1
	15nm,1.1s					
K22A	Casper	54.60	298	eP	P	01 57 50.1 +0.1
	15nm,1.1s					
636A	Smothers Creek	55.04	279	P	P	01 57 53.9 +0.7
	baz=55					
N23A	Red Feather La	55.10	296	P	P	01 57 54.8 +0.9
	baz=60,SNR=9.4					
RLMT	Red Lodge	55.13	302	P	P	01 57 54.7 +0.7
	baz=61,SNR=5.2					
RLMT	Red Lodge	55.13	302	eP	P	01 57 54.5 +0.6
	24nm,1.6s					
RLMT	Red Lodge	55.13	302	eP	P	01 57 54.5 +0.6
	24nm,1.6s					
ABTX	Abilene, Hawle	55.13	284	P	P	01 57 53.5 -0.4
	baz=56					
AMTX	Amarillo	55.34	287	P	P	01 57 56.2 +0.7
	baz=57					
AMTX	Amarillo	55.34	287	eP	P	01 57 56.5 +1.0
	12nm,0.8s					
AMTX	Amarillo	55.34	287	eP	P	01 57 56.5 +1.0
	12nm,0.8s					
736A	Circle Diamond	55.34	279	P	P	01 57 56.2 +0.7
	baz=55					
ISCO	Idaho Springs	55.44	294	P	P	01 57 56.8 +0.4
	baz=59					
ISCO	Idaho Springs	55.44	294	eP	P	01 57 57.0 +0.6
	2.5nm,1.0s					
ISCO	Idaho Springs	55.44	294	eP	P	01 57 57.0 +0.6
	2.5nm,1.0s					
Q24A	Divide	55.56	293	P	P	01 57 57.4 +0.1
	baz=59					
WALA	Waterton Lakes	55.99	308	eP	P	01 58 00.3 +0.4
	9.2nm,0.9s					
WALA	Waterton Lakes	55.99	308	eP	P	01 58 00.3 +0.4
	9.3nm,0.9s					
T25A	Trinidad	56.01	291	P	P	01 58 01.2 +0.8
	baz=58					
835A	Beeville	56.27	279	P	P	01 58 03.2 +1.1
	baz=54					
BOZ	Bozeman (W)	56.34	303	P	P	01 58 02.9 +0.4
	baz=60,SNR=7.9					
BOZ	Bozeman (W)	56.34	303	eP	P	01 58 03.0 +0.4
	7.5nm,1.1s					
BOZ	Bozeman (W)	56.34	303	eP	P	01 58 03.0 +0.4
	7.5nm,1.1s					
SDCO	Great Sand Dun	56.43	292	P	P	01 58 03.9 +0.4
	baz=58					
JCT	Junction City	56.43	282	P	P	01 58 03.0 -0.3
	baz=55					
JCT	Junction City	56.43	282	eP	P	01 58 03.1 -0.2
	3.8nm,0.6s					
JCT	Junction City	56.43	282	eP	P	01 58 03.1 -0.2
	3.8nm,0.6s					
PDAR	Pinedale Array	56.48	299	P	P	01 58 03.1 -0.6
	2.1nm,0.8s,baz=59,slow=8.8,SNR=16					
BW06	Boulder Array	56.48	299	P	P	01 58 03.3 -0.4
	baz=59,SNR=6.3					
BW06	Boulder Array	56.48	299	eP	P	01 58 03.0 -0.7
	4.1nm,1.1s					
BW06	Boulder Array	56.48	299	eP	P	01 58 03.0 -0.7
	4.1nm,1.1s					
MSTX	Muleshoe	56.59	287	P	P	01 58 04.7 +0.3
	baz=57,SNR=18					
MSTX	Muleshoe	56.59	287	eP	P	01 58 04.8 +0.3
	28nm,1.0s					
MSTX	Muleshoe	56.59	287	eP	P	01 58 04.8 +0.3
	28nm,1.0s					
SMCO	Snowmass	56.66	294	eP	P	01 58 05.8 +0.5
	2.5nm,0.9s					
SMCO	Snowmass	56.66	294	eP	P	01 58 05.8 +0.5
	2.5nm,0.9s					
LOHW	Long Hollow	56.71	301	eP	P	01 58 04.9 -0.4
	6.8nm,1.1s					
LOHW	Long Hollow	56.71	301	eP	P	01 58 04.9 -0.4
	6.8nm,1.1s					
IMW	Indian Meadow	56.77	301	eP	P	01 58 06.6 +0.7
	8.6nm,1.1s					
IMW	Indian Meadow	56.77	301	eP	P	01 58 06.6 +0.7
	8.6nm,1.1s					
TPAW	Teton Pass	56.99	301	eP	P	01 58 07.3 -0.1
	9.6nm,1.3s					
TPAW	Teton Pass	56.99	301	eP	P	01 58 07.3 -0.1
	9.6nm,1.3s					
O20A	White River Ci	56.99	296	P	P	01 58 07.7 +0.4
	baz=58					
REDW	Red Top Meadow	56.99	301	eP	P	01 58 07.6 +0.2
	17nm,1.3s					
REDW	Red Top Meadow	56.99	301	eP	P	01 58 07.6 +0.2
	17nm,1.3s					
MSO	Missoula	57.11	305	P	P	01 58 08.1 +0.1
	baz=59					
S22A	4UR Ranch, Cre	57.32	293	P	P	01 58 10.6 +0.7
	baz=57					
833A	Chaparral WMA,	57.38	280	P	P	01 58 10.1 +0.2
	baz=54					
ABKAR	Akbulak array	58.18	50	eP	P	01 58 15.3 0.0
	0.9nm,0.6s					
ABKAR	Akbulak array	58.18	50	eP	P	01 58 15.3 0.0
	0.9nm,0.6s					
NEW	Newport	58.23	308	P	P	01 58 15.7 0.0
	6.9nm,0.9s,baz=65,slow=8.7,SNR=11					
NEW	Newport	58.23	308	P	P	01 58 15.8 0.0
	baz=59,SNR=6.1					
NEW	Newport	58.23	308	eP	P	01 58 15.1 -0.6
	7.1nm,0.9s					
NEW	Newport	58.23	308	eP	P	01 58 15.2 -0.6
	7.1nm,0.9s					
NRIK	Noril'sk	58.25	22	P	P	01 58 15.3 -0.2
	3.2nm,0.6s,baz=332,slow=7.7,SNR=4.4					
PV04	Paradox Valley	58.35	295	eP	P	01 58 17.7 +0.8
PV04	Paradox Valley	58.35	295	eP	P	01 58 17.7 +0.8
HWUT	Hardware Ranch	58.36	299	eP	P	01 58 17.2 +0.3
	11nm,0.9s					
HWUT	Hardware Ranch	58.36	299	eP	P	01 58 17.2 +0.3
	11nm,0.9s					
ANMO	Albuquerque	58.59	290	P	P	01 58 17.9 -0.8
	1.9nm,0.7s,baz=82,slow=19					
ANMO	Albuquerque	58.59	290	P	P	01 58 19.7 +1.1
	baz=56					
ANMO	Albuquerque	58.59	290	eP	P	01 58 20.0 +1.3
	3.5nm,1.1s					
ANMO	Albuquerque	58.59	290	eP	P	01 58 19.9 +1.3
	3.5nm,1.1s					
MVCO	Mesa Verde	58.73	293	P	P	01 58 20.7 +1.1
	baz=57					
MVCO	Mesa Verde	58.73	293	eP	P	01 58 21.2 +1.6
	20nm,1.6s					
MVCO	Mesa Verde	58.73	293	eP	P	01 58 21.2 +1.6
	20nm,1.6s					
HLID	Hailey	59.10	302	P	P	01 58 22.6 +0.6
	baz=58,SNR=5.4					
HLID	Hailey	59.10	302	eP	P	01 58 22.9 +0.9
	3.9nm,1.1s					
HLID	Hailey	59.10	302	eP	P	01 58 22.9 +0.9
	3.9nm,1.1s					
DLBC	Dease Lake	59.30	323	LR	LR	02 21 48.4
	comp=Z,72nm,18.5s,baz=140,slow=34					
MNTX	Cornudas Mount	59.68	286	P	P	01 58 26.1 0.0
	baz=55					
MNTX	Cornudas Mount	59.68	286	eP	P	01 58 26.0 0.0
	2.5nm,1.0s					
MNTX	Cornudas Mount	59.68	286	eP	P	01 58 26.0 0.0
	2.5nm,1.0s					
TXAR	Lajitas Array	59.84	283	P	P	01 58 27.8 +0.6
	4.7nm,0.8s,baz=69,slow=6.8,SNR=54					
DUG	Dugway, Tooele	59.92	298	P	P	01 58 28.3 +0.7
	baz=56,SNR=14					
DUG	Dugway, Tooele	59.92	298	eP	P	01 58 28.2 +0.5
	17nm,1.3s					
DUG	Dugway, Tooele	59.92	298	eP	P	01 58 28.2 +0.5
	17nm,1.3s					
SAML	Samuel	60.76	219	eP	P	01 58 33.6 +0.2
	1.7nm,0.8s					
SAML	Samuel	60.76	219	eP	P	01 58 33.6 +0.2
	1.7nm,0.8s					
121A	Cookes Peak, D	60.87	288	P	P	01 58 35.7 +1.4
	baz=54,SNR=10					
121A	Cookes Peak, D	60.87	288	eP	P	01 58 35.7 +1.4
	12nm,1.1s					
BDFB	Brasilia	61.40	201	P	P	01 58 39.0 +1.1
	1.8nm,0.6s,baz=250,slow=5.2,SNR=5.3					
BDFB	Brasilia	61.40	201	P	P	01 58 39.0 +1.1
BRVK	Borovoye	61.55	43	eP	P	01 58 38.3 -0.1
	9.3nm,0.9s					
BRVK	Borovoye	61.55	43	eP	P	01 58 38.3 -0.1
	9.3nm,0.9s					
WUAZ	Wupatki	61.59	293	P	P	01 58 40.4 +1.1
	baz=55					
WUAZ	Wupatki	61.59	293	eP	P	01 58 40.8 +1.6
	8.4nm,1.2s					
WUAZ	Wupatki	61.59	293	eP	P	01 58 40.8 +1.6
	8.4nm,1.2s					
OTAV	Otavalo	61.59	240	eP	P	01 58 40.3 +0.6
	6.2nm,1.1s					
OTAV	Otavalo	61.59	240	eP	P	01 58 40.3 +0.6
	6.2nm,1.1s					
ILAR	Eielson Array	61.69	335	P	P	01 58 39.0 -0.2
	1.0nm,0.9s,baz=44,slow=6.2,SNR=11					
ILAR				LR	LR	02 23 20.2
	comp=Z,78nm,18.4s,baz=212,slow=34					
ILAR	Eielson Array	61.69	335	P	P	01 58 39.0 -0.2
WVOR	Wild Horse Val	62.30	303	eP	P	01 58 44.6 +0.8
	38nm,1.3s					
WVOR	Wild Horse Val	62.30	303	eP	P	01 58 44.6 +0.8
	38nm,1.3s					
BMN	Battle Mountai	62.57	301	eP	P	01 58 46.8 +1.1
	7.4nm,1.1s					
BMN	Battle Mountai	62.57	301	eP	P	01 58 46.8 +1.1
	7.4nm,1.1s					
R11A	Troy Canyon, C	62.73	298	P	P	01 58 47.1 +0.3
	baz=54,SNR=5.0					
TUC	Tucson	63.06	290	P	P	01 58 50.3 +1.4
	baz=54					
TUC	Tucson	63.06	290	eP	P	01 58 50.1 +1.2
	9.4nm,1.3s					
TUC	Tucson	63.06	290	eP	P	01 58 50.1 +1.2
	9.4nm,1.3s					
GEYT	Alibeck	63.32	62	P	P	01 58 50.8 +0.2
	0.5nm,0.4s,baz=302,slow=14,SNR=2.2					
J05D	Fort Rock, OR	63.37	305	P	P	01 58 52.0 +1.0
	baz=54					
G03D	McMinnville, O	63.43	308	P	P	01 58 52.3 +1.2
	baz=54					
MOD	Modoc Plateau	63.62	304	eP	P	01 58 53.8 +1.2
	5.8nm,0.4s					
MOD	Modoc Plateau	63.62	304	eP	P	01 58 53.8 +1.2
	5.8nm,0.4s					
TPNV	Topopah Spring	63.98	297	P	P	01 58 55.1 0.0
	baz=54					
TIXI	Tiksi	64.05	8	eP	P	01 58 55.0 +0.2
	4.2nm,0.9s					
TIXI	Tiksi	64.05	8	eP	P	01 58 55.0 +0.2
	4.2nm,0.9s					
PDMCI	Parker Dam,Lak	64.15	294	P	P	01 58 57.1 +1.1
	baz=53					
NEE2	Needles Airpor	64.19	294	P	P	01 58 57.4 +1.1
	baz=53					
SHOC	Shoshone, Teco	64.61	296	P	P	01 59 00.1 +1.1
	baz=53					
M04C	Macdoel	64.62	304	P	P	01 58 59.6 +0.4
	baz=53					
214A	Organ Pipe Nat	64.65	291	P	P	01 59 00.4 +1.1
	baz=53					
TUQ	Turquoise Moun	64.66	296	P	P	01 59 00.3 +0.8
	baz=53					
FURC	Furnace Creek,	64.66	297	P	P	01 59 00.3 +1.1
	baz=53					
GRAC	Grapevine Rang	64.67	298	P	P	01 59 00.3 +0.8
	baz=53					
Y12C	Blythe	64.73	293	P	P	01 59 01.0 +1.2
	baz=53					
GMRC	Granite Mounta	64.87	295	P	P	01 59 01.7 +0.8
	baz=53					
IRM	Iron Mountain	64.90	294	P	P	01 59 01.9 +0.9
	baz=53					
HEC	Hector,Ludlow	65.29	295	P	P	01 59 04.3 +0.7
	baz=53					
MPMC	Manual Prospec	65.31	297	P	P	01 59 04.9 +1.1
	baz=53,SNR=7.3					
GSC	Goldstone, Bar	65.31	296	P	P	01 59 04.9 +1.1
	baz=53,SNR=5.5					
GLA	Glamis	65.35	293	P	P	01 59 05.1 +1.1
	baz=53					
BC3	Big Chuckawall	65.41	294	P	P	01 59 05.2 +0.8
	baz=53					
N02D	Trinity Center	65.62	304	P	P	01 59 06.3 +0.7
	baz=53					
CMB	Columbia Colle	65.97	300	eP	P	01 59 08.4 +0.6
	40nm,1.3s					
CMB	Columbia Colle	65.97	300	eP	P	01 59 08.4 +0.6
	40nm,1.3s					
SWSC	Sam W. Stewart	66.07	293	P	P	01 59 09.4 +0.9
	baz=52					
PFO	Pinyon Flats O	66.10	294	P	P	01 59 10.2 +1.3
	2.8nm,0.9s,baz=64,slow=4.6					
PFO	Pinyon Flats O	66.10	294	P	P	01 59 09.9 +1.0
	baz=52					
IKP	In-Ko-Pah, Jac	66.45	293	P	P	01 59 11.9 +0.8
	baz=52					
BFSC	Mount Baldy Ra	66.51	295	P	P	01 59 12.1 +0.6
	baz=52					
MONP2	Monument Peak	66.52	294	P	P	01 59 12.9 +1.2
	baz=52,SNR=5.8					
KURK	Kurchatov	67.06	41	eP	P	01 59 13.8 -0.7
	37nm,0.9s					
KURK	Kurchatov	67.06	41	eP	P	01 59 13.8 -0.7
	37nm,0.9s					
ZALV	Zalesovo Beam	67.67	36	P	P	01 59 17.2 -1.1
	0.8nm,0.4s,baz=288,slow=7.3,SNR=5.5					
ZALV				LR	LR	02 28 30.7
	comp=Z,31nm,19.5s,baz=66,slow=36					
LPAZ	La Paz	69.48	220	P	P	01 59 31.1 +0.4
	1.9nm,0.9s,baz=0.1,slow=5.6,SNR=7.3					
AAK	Ala-Archa	70.25	50	LR	LR	02 31 54.0
	comp=Z,34nm,19.0s,baz=259,slow=37					
AAK	Ala-Archa	70.25	50	eP	P	01 59 35.2 +0.4
AAK	Ala-Archa	70.25	50	eP	P	01 59 35.2 +0.4
MKAR	Makanchi Array	71.51	42	P	P	01 59 41.8 -0.4
	3.8nm,0.9s,baz=316,slow=6.8,SNR=14					
KSH	Kashi	73.17	51	eP	P	01 59 51.8 -0.6
KSH				pP	pP	01 59 56.8 -0.2
KSH				sP	sP	01 59 59.0 +0.3
KSH				ePcP	PcP	02 00 09.6 +0.6
KSH				PP	PP	02 02 35.8 +0.9
KSH				S	S	02 09 15.1 -4.8
KSH				SKS	SKSac	02 09 51.8 -6.2
KSH	Kashi	73.17	51	ScS	ScS	02 09 55.4 -5.0
KSH	Kashi	73.17	51	SS	SS	02 13 57.6 -2.8
KSH				pmax	pmax	
	comp=Z,12nm,1.4s					
KSH				pmax	pmax	
	comp=Z,110nm,5.7s					
KSH				LR	LR	
	comp=N,120nm,5.5s					
KSH				LR	LR	
	comp=E,130nm,5.8s					
KSH				LR	LR	
	comp=Z,160nm,6.4s					
CPUP	Villa Florida	74.23	206	P	P	01 59 59.0 +0.7
	comp=Z,2.0nm,0.7s,baz=289,slow=2.4,SNR=3.7					
CPUP	Villa Florida	74.23	206	P	P	01 59 59.0 +0.7
LVC	Limon Verde	75.33	218	eP	P	02 00 05.2 -0.1
	comp=Z,3.5nm,0.9s					
LVC	Limon Verde	75.33	218	eP	P	02 00 05.2 -0.1
	comp=Z,3.5nm,0.9s					
WMQ	Urumqi	76.29	42	P	P	02 00 11.8 +1.5
LSZ	Lusaka	78.43	124	eP	P	02 00 23.0 +0.4
	comp=Z,4.8nm,1.1s					
LSZ	Lusaka	78.43	124	eP	P	02 00 23.0 +0.4
	comp=Z,4.8nm,1.1s					
SONM	Songino Array	80.90	29	P	P	02 00 35.4 -0.3
	comp=Z,1.5nm,0.8s,baz=328,slow=5.2,SNR=8.3					
ULN	Ulaanbaatar	81.10	28	eP	P	02 00 36.6 -0.2
	comp=Z,3.4nm,1.0s					
ULN	Ulaanbaatar	81.10	28	eP	P	02 00 36.6 -0.2
	comp=Z,3.4nm,1.0s					
LCO	Las Campanas	81.69	216	eP	P	02 00 41.1 +1.0
	comp=Z,9.2nm,1.0s					
LCO	Las Campanas	81.69	216	eP	P	02 00 41.1 +1.0
	comp=Z,9.2nm,1.0s					
PETK	Petropavlovsk-	83.57	356	P	P	02 00 49.4 0.0
	comp=Z,6.6nm,1.0s,baz=350,slow=7.9,SNR=3.4					
HHC	Hu-ho-hao-te	88.80	29	eP	P	02 01 12.5 -3.0
HHC				pmax	pmax	
	comp=Z,11nm,0.5s					
PLCA	Paso Flores	91.86	210	P	P	02 01 29.5 +0.1
	comp=Z,2.1nm,0.9s,baz=195,slow=20,SNR=3.1					
XAN	Xi'an	93.78	34	P	P	02 01 36.9 -1.8
XAN				pmax	pmax	
	comp=Z,6.0nm,0.7s					
XAN				LR	LR	
	comp=N,79nm,16.9s					
XAN				LR	LR	
	comp=E,87nm,14.3s					
XAN				LR	LR	
	comp=Z,190nm,19.7s					
NJ2	Nanjing	99.24	27	eP	Pdif	02 02 04.0 +0.6
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
WRA	Warramunga Arr	152.65	36	PKP	PKPdf	02 08 12.2 +0.8
	comp=Z,0.5nm,0.8s,baz=345,slow=2.7,SNR=4.7					
WRA				PKPbc	PKPbc	02 08 18.1 -0.3
	comp=Z,1.9nm,1.0s,baz=336,slow=2.8,SNR=6.5					
ASAR	Alice Springs	155.69	41	PKPbc	PKPbc	02 08 24.2
	comp=Z,0.3nm,0.7s,baz=254,slow=0.9,SNR=4.3					
ASAR				PKPab	PKPab	02 08 40.7 -1.2
	comp=Z,0.8nm,0.8s,baz=343,slow=4.4,SNR=6.0					

*IDC **22** 01:56:40.0±1.5, 16°.57S×173°.23W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/33, mbtmp3.8/6, Error ellipse: s-maj=96.8km s-min=21.0km az=148.0*
*NEIC **22** 01:56:41.8±1.0, 16°.16S×173°.35W, h10km, mb4.1/2, Error ellipse: s-maj=46.3km s-min=12.1km az=143.0*
*ISCJB **22** 01:56:47.4±1.2, 16°.4S±0°.3×173°.4W±0°.2, h66km, mb3.8/8, Error ellipse: s-maj=52.9km s-min=16.0km az=147.0*

ISC 22 01:56:48.8±1.2, 16°.4S±0°.3×173°.4W±0°.2, h66km, n25, σ0s69/18, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.95	32	Pn	Pn	01 57 23.2	-10
	11nm,0.3s,baz=191,slow=1.9,SNR=12						
AFI				Sn	Sn	01 57 52.1	-16
	55nm,0.3s,baz=50,slow=23,SNR=16						
H11S2	WAKE ISLAND Hy	39.86	330	T	T	02 46 21.6	
	baz=149,slow=76,SNR=4.3						
H11S3	WAKE ISLAND Hy	39.87	330	T	T	02 46 22.6	
	baz=149,slow=76,SNR=4.0						
H11S1	WAKE ISLAND Hy	39.88	330	T	T	02 46 23.0	
	baz=149,slow=76,SNR=3.1						
H11N3	WAKE ISLAND Hy	40.82	331	T	T	02 47 29.5	
	baz=150,slow=77,SNR=16						
H11N1	WAKE ISLAND Hy	40.83	331	T	T	02 47 31.5	
	baz=150,slow=77,SNR=19						
H11N2	WAKE ISLAND Hy	40.84	331	T	T	02 47 30.6	
	baz=150,slow=77,SNR=20						
STKA	Stephens Creek	43.55	241	P	P	02 04 45.2	-1.0
	1.5nm,0.7s,baz=104,slow=12,SNR=5.0						
WRAB	Tennant Creek	49.63	258	eP	P	02 05 35.1	+1.1
	0.8nm,0.3s						
WRA	Warramunga Arr	49.63	258	P	P	02 05 34.6	+0.5
	0.4nm,0.4s,baz=95,slow=6.7,SNR=12						
ASAR	Alice Springs	49.82	253	P	P	02 05 35.8	+0.4
	2.5nm,0.5s,baz=90,slow=8.1,SNR=42						
SOEI	Soe	60.91	268	eP	P	02 06 55.5	+0.2
MAJO	Matsushiro	69.74	320	eP	P	02 07 52.0	0.0
TXAR	Lajitas Array	81.17	56	P	P	02 08 58.2	+0.5
	0.1nm,0.4s,baz=231,slow=6.9,SNR=3.0						
MCK	McKinley	82.13	11	eP	P	02 09 01.1	-0.8
	1.0nm,0.5s						
PDAR	Pinedale Array	83.02	42	P	P	02 09 07.2	-0.1
	0.7nm,0.6s,baz=204,slow=3.3,SNR=8.5						
ILAR	Eielson Array	83.45	11	P	P	02 09 08.6	-0.1
	0.5nm,0.6s,baz=234,slow=6.2,SNR=13						
ARCES	ARCESS Array B	125.63	352	PKP	PKPdf	02 15 43.2	+1.1
	2.4nm,0.8s,baz=359,slow=4.5,SNR=5.7						
CLL	Collm	144.84	353	ePKPdf	PKPdf	02 16 18.0	-0.1
MORC	Moravsky Berou	145.59	347	ePKPbc	PKPab	02 16 20.2	+0.1
GRFO	Grafenberg	146.62	355	ePKPbc	PKPbc	02 16 22.8	-0.1
PSZ	Piszkesteto	146.76	344	ePKPbc	PKPdf	02 16 22.3	+0.7
BRTR	Keskin Array B	146.97	320	PKPbc	PKPab	02 16 26.1	+0.1
	2.8nm,0.7s,baz=126,slow=2.7,SNR=21						
GERES	GERESS Array B	147.16	351	PKPbc	PKPab	02 16 25.5	-0.8
	1.4nm,0.7s,baz=28,slow=3.2,SNR=11						
BNI	Bardonecchia	151.47	360	ePKPbc	PKPbc	02 16 34.6	-1.0

*MOS **22** 02:29:54.0±1.4, 55°.53N×163°.37E, h59km, mb4.3/1, Error ellipse: s-maj=9.6km s-min=8.6km az=50.5*

KRSC 22 02:29:54.0±1.1, 55°.53N×163°.37E, h59km±24km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.75	336	PN	Pn	02 30 08.6	-0.1
KBTR				S	Sn	02 30 18.5	-1.0
KBTR	Krutoberegovo	0.75	336	eP	Pn	02 30 08.6	-0.1
KBTR				eS	Sn	02 30 18.5	-1.0
MKZ	Mys Kozlova	1.36	225	PN	Pn	02 30 17.8	+1.1
MKZ				S	Sn	02 30 36.2	+2.5
MKZ	Mys Kozlova	1.36	225	eP	Pn	02 30 17.8	+1.1
MKZ				eS	Sn	02 30 36.2	+2.5
BKI	Bering	1.52	101	PN	Pn	02 30 21.9	+3.1
BKI				S	Sn	02 30 42.2	+4.6
BKI	Bering	1.52	101	eP	Pn	02 30 21.9	+3.1
BKI				eS	Sn	02 30 42.2	+4.6
ZLN	Zelenaya	1.53	290	PN	Pn	02 30 21.0	+1.9
ZLN				S	Sn	02 30 41.2	+3.2
ZLN	Zelenaya	1.53	290	eP	Pn	02 30 21.0	+1.9
ZLN				eS	Sn	02 30 41.2	+3.2
CIRR	Tsirk	1.59	293	PN	Pn	02 30 21.5	+1.5
CIRR				S	Sn	02 30 41.6	+2.0
CIRR	Tsirk	1.59	293	eP	Pn	02 30 21.5	+1.5
CIRR				eS	Sn	02 30 41.6	+2.0
LGNR	Loginova	1.61	291	PN	Pn	02 30 22.1	+1.7
LGNR	Loginova	1.61	291	eP	Pn	02 30 22.1	+1.7
SRKR	Sorokina	1.67	313	PN	Pn	02 30 23.2	+2.2
SRKR	Sorokina	1.67	313	eP	Pn	02 30 23.2	+2.2
BZMR	Bezymyannaya	1.68	285	PN	Pn	02 30 23.0	+1.8
BZMR				S	Sn	02 30 43.9	+2.2
BZMR	Bezymyannaya	1.68	285	eP	Pn	02 30 23.0	+1.8
BZMR				eS	Sn	02 30 43.9	+2.2
BZWR	Bezymyannyi-We	1.68	286	PN	Pn	02 30 22.7	+1.5
BZWR				S	Sn	02 30 44.4	+2.6
BZWR	Bezymyannyi-We	1.68	286	eP	Pn	02 30 22.7	+1.5
BZWR				eS	Sn	02 30 44.4	+2.6
KLY	Klyuchi	1.72	298	PN	Pn	02 30 21.7	+0.2
KLY				S	Sn	02 30 42.2	-0.2
KLY	Klyuchi	1.72	298	eP	Pn	02 30 21.7	+0.2
KLY				eS	Sn	02 30 42.2	-0.2
KRSR	Krestovskiy	1.73	295	PN	Pn	02 30 22.5	+0.8
KRSR				S	Sn	02 30 43.3	+0.6
KRSR	Krestovskiy	1.73	295	eP	Pn	02 30 22.5	+0.8
KRSR				eS	Sn	02 30 43.3	+0.6
TUMD	Tumrok D	1.73	260	eP	Pn	02 30 23.1	+1.4
TUMD				eS	Sn	02 30 44.3	+1.6
KIRR	Kirishev	1.77	285	PN	Pn	02 30 24.2	+1.9
KIRR				S	Sn	02 30 46.5	+2.7
KIRR	Kirishev	1.77	285	eP	Pn	02 30 24.2	+1.9
KIRR				eS	Sn	02 30 46.5	+2.7
KMNR	Kamenistaya	1.79	278	PN	Pn	02 30 24.9	+2.3
KMNR				S	Sn	02 30 48.4	+4.0
KMNR	Kamenistaya	1.79	278	eP	Pn	02 30 24.9	+2.3
KMNR				eS	Sn	02 30 48.4	+4.0
KZV	Kizimen	1.81	258	PN	Pn	02 30 24.9	+2.0
KZV				S	Sn	02 30 47.0	+2.2
KZV	Kizimen	1.81	258	eP	Pn	02 30 24.9	+2.0
KZV				eS	Sn	02 30 47.0	+2.2

AVH	**Avacha**	**3.54**	**232**	*e*P	Pn	02 30 49.1 +2.7
AVH				*e*P	Pn	02 30 49.7 +3.3
GNL	**Ganaly**	**3.66**	**242**	PN	Pn	02 30 51.2 +3.1
GNL	**Ganaly**	**3.66**	**242**	*e*P	Pn	02 30 51.2 +3.1
DALK	**Dalny**	**3.69**	**229**	PN	Pn	02 30 51.3 +2.9
DALK				S	Sn	02 31 35.2 +4.6
DALK	**Dalny**	**3.69**	**229**	*e*P	Pn	02 30 51.3 +2.9
DALK				*e*S	Sn	02 31 35.2 +4.6
KRMR	**Karymshinskiy**	**4.10**	**231**	PN	Pn	02 30 57.4 +3.4
KRMR	**Karymshinskiy**	**4.10**	**231**	*e*P	Pn	02 30 57.4 +3.4
RUS	**Russkaya**	**4.23**	**225**	PN	Pn	02 30 58.7 +2.9
RUS	**Russkaya**	**4.23**	**225**	*e*P	Pn	02 30 58.7 +2.9

NIED ***22*** *02:31:00, 37°.30N×141°.80E, h35km, Mw4.3 Best double couple: M0:3.32000×10^15 NP1:φ=158.00000°, δ=29.00000°, λ=-35.00000°. NP2:φ=279.00000°, δ=74.00000°, λ=-115.00000°.*
IDC ***22*** *02:31:52.6±0.9, 37°.20N×141°.99E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/54, mbtmp3.8/9, ML3.6/2, MS3.7/2, Ms1 3.7/2, ms1mx2.6/48, Error ellipse: s-maj=23.7km s-min=19.7km az=101.0*
ISCJB ***22*** *02:31:54.4±1.1, 37°.28N±0°.03×141°.93E±0°.05, h23km±7km, mb4.0/11, MS4.3/1, Error ellipse: s-maj=7.3km s-min=5.4km az=21.9*
NEIC ***22*** *02:31:54.9±4.5, 37°.19N×141°.99E, h15km±27km, mb4.0/3, Error ellipse: s-maj=13.3km s-min=9.0km az=114.0*
NEIC Recorded [2 JMA] in Fukushima.
JMA ***22*** *02:31:56.4±0.2, 37°.29N×141°.82E, h39km±3km, M4.1*
JMA Felt II J1.

ISC 22 02:31:53.3±1.8, 37°.28N±0°.04×141°.89E±0°.06, h5km±10km, n35, σ1§29/40, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**276**	P	**Pn**	**02 32 10.8**	**-0.7**
JFK				S	**Sg**	**02 32 20.3**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.89**	**259**	P	**Pn**	**02 32 12.0**	**-0.6**
ONAJ				S	**Sg**	**02 32 22.4**	**+0.4**
JMM	**Marumori**	**1.05**	**304**	P	**Pn**	**02 32 14.2**	**-0.5**
JMM				S	**Sg**	**02 32 26.6**	**-0.4**
JIO	**Ouri**	**1.25**	**340**	P	**Pg**	**02 32 17.1**	**-0.1**
JIO				S	**Sb**	**02 32 31.3**	**-2.4**
JHO	**Hitachi**	**1.25**	**238**	P	**Pn**	**02 32 16.8**	**-0.7**
JHO				S	**Sb**	**02 32 31.0**	**-2.9**
JFT	**Otama**	**1.26**	**281**	P	**Pg**	**02 32 18.1**	**+0.6**
JFT				S	**Sb**	**02 32 32.4**	**-1.7**
JOU	**Okura**	**1.45**	**318**	P	**Pb**	**02 32 20.5**	**-0.4**
JOU				S	**Sn**	**02 32 38.5**	**-1.3**
JYS	**Shirataka**	**1.72**	**303**	P	**Pb**	**02 32 25.1**	**-0.4**
JYS				*e*S	**Sn**	**02 32 45.5**	**-0.9**
JFY	**Yanaizu**	**1.75**	**275**	P	**Pb**	**02 32 24.9**	**-1.0**
JFY				S	**Sn**	**02 32 46.1**	**-0.9**
JMK	**Ichinoseki**	**1.75**	**343**	P	**Pb**	**02 32 24.9**	**-1.0**
JMK				S	**Sn**	**02 32 45.4**	**-1.6**
JYK	**Kaneyama**	**2.03**	**324**	P	**Pn**	**02 32 28.8**	**+0.6**
MJAR	**Matsushiro Arr**	**3.04**	**257**	Pn	**Pn**	**02 32 43.6**	**+1.4**
	6.6nm,0.3s,baz=95,slow=28,SNR=43						
MJAR				Sn	**Sn**	**02 33 20.6**	**+1.7**
	12nm,0.3s,baz=120,slow=14,SNR=4.9						
MAJO	**Matsushiro**	**3.04**	**257**	*e*Pn	**Pn**	**02 32 43.4**	**+1.2**
MAT	**Matsushiro**	**3.04**	**257**	P	**Pn**	**02 32 43.7**	**+1.5**
MAT				S	**Sn**	**02 33 21.2**	**+2.2**
JHJ	**Hachijo jima 2**	**4.50**	**203**	Sn	**Sn**	**02 33 52.3**	**-2.6**
	59nm,0.3s,baz=68,slow=22,SNR=3.3						
ASAJ	**Asahikawa**	**6.85**	**4**	Pn	**Pn**	**02 33 35.8**	**+1.4**
	1.2nm,0.3s,baz=203,slow=7.0,SNR=7.3						
ASAJ				Sn	**Sn**	**02 34 52.5**	**-0.2**
	0.9nm,0.3s,baz=139,slow=19,SNR=3.7						
USRK	**Ussuriysk Ar.**	**10.20**	**316**	Pn	Pn	02 34 27.2	+6.8
	0.2nm,0.3s,baz=108,slow=14,SNR=4.3						
USRK				LR	LR	02 37 54.4	
	comp=Z,122nm,21.5s,baz=206,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	03 07 18.4	
	baz=314,slow=75,SNR=181						
H11N1	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	03 07 19.0	
	baz=314,slow=75,SNR=217						
SONM	**Songino Array**	**27.96**	**303**	P	**P**	**02 37 45.3**	**+0.5**
	0.5nm,0.6s,baz=99,slow=9.1,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**27.97**	**122**	T	T	03 07 19.8	
	baz=314,slow=75,SNR=143						
H11S1	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	03 08 19.5	
	baz=316,slow=76,SNR=134						
H11S3	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	03 08 14.9	
	baz=316,slow=76,SNR=89						
H11S2	**WAKE ISLAND Hy**	**28.70**	**124**	T	T	03 08 22.2	
	baz=316,slow=76,SNR=71						
ZALV	**Zalesovo Beam**	**42.03**	**312**	P	**P**	**02 39 47.5**	**+2.0**
	0.5nm,0.3s,baz=116,slow=6.6,SNR=2.1						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**02 40 04.1**	**0.0**
	0.2nm,0.3s,baz=82,slow=11,SNR=5.3						
KURK	**Kurchatov**	**46.08**	**308**	*e*P	**P**	**02 40 19.0**	**+1.0**
	92nm,0.9s						
ILAR	**Eielson Array**	**49.08**	**32**	P	**P**	**02 40 41.1**	**-0.1**
	1.0nm,0.7s,baz=264,slow=6.6,SNR=12						
KKAR	**Karatay Array**	**53.33**	**300**	*e*P	**P**	**02 41 13.8**	**+0.3**
	1.2nm,0.7s						
WRAB	**Tennant Creek**	**57.35**	**188**	*e*P	**P**	**02 41 41.5**	**-1.0**
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**02 41 41.9**	**-0.7**
	2.0nm,0.5s,baz=5.5,slow=7.4,SNR=24						
ABKAR	**Akbulak array**	**58.07**	**310**	*e*P	**P**	**02 41 48.9**	**+1.5**
	0.5nm,0.5s						
ASAR	**Alice Springs**	**61.09**	**188**	P	**P**	**02 42 08.1**	**-0.3**
	1.1nm,0.8s,baz=8.4,slow=7.0,SNR=12						
PALK	**Pallekele**	**62.79**	**258**	LR	LR	03 12 45.2	
	comp=Z,191nm,18.6s,baz=116,slow=39						
TXAR	**Lajitas Array**	**89.67**	**53**	P	**P**	**02 44 53.1**	**+0.3**
	0.1nm,0.7s,baz=291,slow=2.5,SNR=2.4						

IDC 22 02:44:04.5±2.6, 29°.21N×139°.25E, h435km±29km, mb3.2/8, mb1 3.3/9, mb1mx2.9/55, mbtmp3.9/9, Error ellipse: s-maj=36.7km s-min=13.9km az=85.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.36**	**353**	P	P	02 45 52.4	-0.4
	0.9nm,0.3s,baz=169,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**49.10**	**186**	P	P	02 52 10.6	-0.1
	0.6nm,0.4s,baz=1.4,slow=7.7,SNR=15						
KURBB	**Kurchatov Arra**	**49.71**	**313**	P	P	02 52 15.0	+0.1
	0.2nm,0.3s,baz=90,slow=8.5,SNR=4.3						
ASAR	**Alice Springs**	**52.82**	**186**	P	P	02 52 37.9	-0.2
	0.1nm,0.4s,baz=13,slow=9.7,SNR=4.2						
ARCES	**ARCESS Array B**	**70.69**	**340**	P	P	02 54 35.0	+0.3
	1.9nm,0.7s,baz=44,slow=7.4,SNR=4.6						
YKA	**Yellowknife Ar**	**71.51**	**28**	P	P	02 54 39.8	+0.2
	0.4nm,0.7s,baz=299,slow=5.8,SNR=3.3						
FINES	**FINESS Array B**	**74.90**	**333**	P	P	02 54 59.2	0.0
	1.7nm,1.0s,baz=60,slow=8.2,SNR=4.8						
HFS	**Hagfors**	**80.45**	**336**	P	P	02 55 29.2	-0.2
	7.6nm,1.2s,baz=39,slow=7.4,SNR=2.2						
NOA	**NORSAR Array B**	**80.68**	**337**	P	P	02 55 29.9	-0.7
	0.9nm,0.7s,baz=28,slow=15,SNR=3.3						

IDC 22 02:46:52.6±2.1, 22°.94S×179°.97W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/20, mbtmp4.0/4, Error ellipse: s-maj=159.2km s-min=33.1km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.12**	**247**	P	P	02 53 46.9	-1.0
	0.9nm,0.4s,baz=101,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**42.23**	**260**	P	P	02 54 47.5	-0.3
	0.6nm,0.4s,baz=99,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**42.51**	**265**	P	P	02 54 50.7	+0.6
	1.9nm,0.3s,baz=99,slow=6.9,SNR=56						
TXAR	**Lajitas Array**	**89.90**	**58**	P	P	02 59 54.1	0.0
	0.3nm,0.8s,baz=202,slow=4.5,SNR=4.2						

ISCJB ***22*** *02:56:33.7±0.8, 51°.43N±0°.04×16°.08E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.8km az=17.1*
WAR ***22*** *02:56:35.1, 51°.49N×16°.09E, h1km, Mw2.3*
CSEM ***22*** *02:56:35.2±0.4, 51°.44N×16°.05E, h2km, ML3.0/7, Error ellipse: s-maj=6.8km s-min=3.5km az=8.0*
PRU ***22*** *02:56:36.3, 51°.42N×16°.04E, h0km*

ISC 22 02:56:35.6±1.1, 51°.44N±0°.05×16°.04E±0°.02, h0km, n35, σ0§81/63, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**165**	*e*Pg	**Pg**	**02 56 47.5**	**+0.1**
KSP				*e*Sg	**Sg**	**02 56 56.4**	**+1.1**
KSP	**Ksiaz**	**0.62**	**165**	*e*Pg	**Pg**	**02 56 47.5**	**+0.1**
KSP				*e*Sg	**Sg**	**02 56 56.4**	**+1.1**
KSP	**Ksiaz**	**0.62**	**165**	*e*Pg	**Pg**	**02 56 47.5**	**+0.1**
KSP				*e*Sg	**Sg**	**02 56 56.4**	**+1.1**
UPC	**Upice**	**0.93**	**181**	*e*PG	**Pg**	**02 56 53.6**	**+0.2**
UPC				*e*SG	**Sg**	**02 57 06.4**	**+1.0**
	comp=Z,23nm,0.2s						
UPC	**Upice**	**0.93**	**181**	Pg	**Pg**	**02 56 53.6**	**+0.2**
UPC				Sg	**Sg**	**02 57 06.4**	**+1.0**
	23nm,0.2s						
DPC	**Dobruska-Polom**	**1.10**	**170**	*e*PG	**Pg**	**02 56 56.4**	**-0.3**
DPC				*e*SG	**Sg**	**02 57 10.8**	**-0.1**
	comp=Z,17nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**170**	Pg	**Pg**	**02 56 56.4**	**-0.3**
DPC				Sg	**Sg**	**02 57 10.8**	**-0.1**
	17nm,0.4s						
PVCC	**Panska Ves**	**1.30**	**226**	*e*PG	**Pg**	**02 57 00.8**	**+0.4**
PVCC				*e*SG	**Sn**	**02 57 18.8**	**-0.2**
	comp=Z,39nm,0.3s						
PVCC	**Panska Ves**	**1.30**	**226**	Pg	**Pg**	**02 57 00.8**	**+0.4**
PVCC				Sg	**Sn**	**02 57 18.8**	**-0.2**
	39nm,0.3s						
BRG	**Berggiesshubel**	**1.43**	**248**	PG	**Pg**	**02 57 03.1**	**+0.1**
BRG				SG	**Sn**	**02 57 22.9**	**+0.6**
	22nm,0.6s						
KRLC	**Kraliky**	**1.44**	**161**	*e*PG	**Pn**	**02 57 02.6**	**-0.4**
KRLC				*e*SG	**Sg**	**02 57 21.1**	**-0.8**
KRLC	**Kraliky**	**1.44**	**161**	Pg	**Pn**	**02 57 02.6**	**-0.4**
KRLC				Sg	**Sg**	**02 57 21.1**	**-0.8**
PRA	**Prague**	**1.71**	**217**	*e*SG	**Sg**	**02 57 31.0**	**+0.7**
	comp=Z,9.1nm,0.5s						
PRA	**Prague**	**1.71**	**217**	Sg	**Sg**	**02 57 31.0**	**+0.7**
	9.1nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.72**	**208**	*e*PG	**Pb**	**02 57 08.1**	**+0.1**
GOPC				*e*SG	**Sn**	**02 57 29.9**	**+0.5**
GOPC	**GO Pecny, Ondr**	**1.72**	**208**	Pg	**Pb**	**02 57 08.1**	**+0.1**
GOPC				Sg	**Sn**	**02 57 29.9**	**+0.5**
PRU	**Pruhonice**	**1.73**	**214**	*e*PG	**Pg**	**02 57 09.1**	**+0.3**
PRU				*e*SG	**Sg**	**02 57 31.3**	**+0.1**
	comp=Z,10nm,0.3s						
PRU	**Pruhonice**	**1.73**	**214**	Pg	**Pg**	**02 57 09.1**	**+0.3**
PRU				Sg	**Sg**	**02 57 31.3**	**+0.1**
	10nm,0.3s						
CLL	**Collm**	**1.91**	**267**	*i* Pn	**Pn**	**02 57 07.7**	**-1.6**
CLL				*i* Pg	**Pb**	**02 57 10.8**	**-0.4**
CLL				*i*		02 57 13.4	
CLL				*i* Sg	**Sg**	**02 57 37.3**	**+0.6**
	comp=Z,5.0nm,0.5s						
MORC	**Moravsky Berou**	**1.92**	**149**	*e*Pn	**Pn**	**02 57 08.6**	**-0.9**
MORC				*e*Sg	**Sb**	**02 57 35.5**	**-0.4**
OKC	**Ostrava-Krasne**	**2.09**	**139**	*e*PG	**Pb**	**02 57 14.6**	**+0.3**
OKC				*e*SG	**Sb**	**02 57 40.4**	**-0.4**
OKC	**Ostrava-Krasne**	**2.09**	**139**	Pg	**Pb**	**02 57 14.6**	**+0.3**
OKC				Sg	**Sb**	**02 57 40.4**	**-0.4**
VRAC	**Vranov**	**2.16**	**170**	*e*Pn	**Pn**	**02 57 13.3**	**+0.5**
VRAC				*e*Sg	**Sg**	**02 57 44.5**	**-0.4**
NKC	**Novy Kostel**	**2.57**	**243**	*e*PN	**Pn**	**02 57 18.6**	**+0.1**
NKC				*e*PG	**Pg**	**02 57 24.2**	**-0.7**
NKC				*e*SG	**Sg**	**02 57 59.7**	**+1.5**
	comp=Z,12nm,0.4s						
NKC	**Novy Kostel**	**2.57**	**243**	Pn	**Pn**	**02 57 18.6**	**+0.1**
KHC	**Kasperske Hory**	**2.79**	**215**	*e*PN	**Pn**	**02 57 20.7**	**-0.9**
KHC				*e*PG	**Pb**	**02 57 27.3**	**+0.9**
KHC				*e*SG	**Sg**	**02 58 05.8**	**+0.5**
	comp=Z,5.0nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**215**	Pn	**Pn**	**02 57 20.7**	**-0.9**
SMOL	**Smolenice**	**3.06**	**162**	*e*Sg	**Sg**	**02 58 12.9**	**-0.9**
SMOL	**Smolenice**	**3.06**	**162**	*e*SG	**Sg**	**02 58 12.9**	**-0.9**
LANS	**Liptovska Anna**	**3.17**	**135**	*e*Sg	**Sg**	**02 58 18.9**	**+1.4**
LANS	**Liptovska Anna**	**3.17**	**135**	*e*SG	**Sg**	**02 58 18.9**	**+1.4**
VYHS	**Vyhne**	**3.46**	**147**	*e*Sg	**Sg**	**02 58 25.0**	**-1.5**
VYHS	**Vyhne**	**3.46**	**147**	*e*SG	**Sg**	**02 58 25.0**	**-1.5**
STHS	**Stebnicka Huta**	**3.90**	**119**	*e*Pg	**Pg**	**02 57 50.0**	**-0.2**
STHS				*e*Sg	**Sg**	**02 58 42.7**	**+2.1**
STHS	**Stebnicka Huta**	**3.90**	**119**	*e*PG	**Pg**	**02 57 50.0**	**-0.2**
STHS				*e*SG	**Sg**	**02 58 42.7**	**+2.1**

NNC 22 02:58:05.9±2.6, 37°.09N×71°.46E, h0km, mb4.1, mpv3.7, 4C-4D, Error ellipse: s-maj=21.9km s-min=10.6km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.70**	**310**	⇓P	Pn	02 58 50.7	0.0
	19nm,0.3s						
DZET				⇓S	Sn	02 59 25.6	+1.5
	205nm,0.5s						
MNAS	**Manas**	**5.45**	**8**	⇑P	Pn	02 59 28.6	0.0
	2.9nm,0.4s						
MNAS				⇑S	Sn	03 00 33.7	+1.6
	21nm,0.5s						
AAK	**Ala-Archa**	**6.02**	**22**	⇑P	Pn	02 59 36.6	+0.3
	3.7nm,0.4s						
AAK				⇓S	Sn	03 00 48.9	+2.9
	2.5nm,0.5s						
KK31	**Karatay Array**	**6.05**	**353**	P	Pn	02 59 36.1	-0.6
	0.6nm,0.2s,baz=174,slow=12,SNR=31						
KK31				⇑S	Sn	03 00 45.7	-1.0
	4.2nm,0.3s,baz=120,slow=42,SNR=5.6						
TKM2	**Tokmak 2**	**6.64**	**27**	⇓P	Pn	02 59 44.1	-0.8
	7.6nm,0.7s						

ISCJB ***22*** *03:10:00.8±0.5, 33°.86S±0°.10×56°.3E±0°.1, h12km, mb4.3/20, MS3.5/6, Error ellipse: s-maj=16.4km s-min=10.9km az=136.9*
IDC ***22*** *03:10:00.6±0.7, 33°.83S×56°.24E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.8/53, mbtmp4.0/13, ML3.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/43, Error ellipse: s-maj=24.8km s-min=20.5km az=33.0*
NEIC ***22*** *03:10:02.2±0.3, 33°.84S×56°.31E, h10km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=6.7km az=46.0*

ISC 22 03:10:02.5±0.6, 33°.8S±0°.1×56°.3E±0°.1, h12km, n40, σ0§49/31, mb4.3/20, MS3.5/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**16.83**	**329**	*e*Pn	**Pn**	**03 13 58.1**	**-0.1**
	82nm,1.4s						
OPO	**Ambohidratompo**	**17.24**	**330**	P	**Pn**	**03 14 03.9**	**+0.5**
	0.2nm,0.3s,baz=139,slow=19,SNR=5.8						
BOSA	**Boshof**	**26.98**	**273**	LR	LR	03 24 01.2	
	comp=Z,65nm,21.4s,baz=124,slow=31						
H08S1	**Diego Garcia H**	**30.06**	**34**	T	T	03 47 21.1	
	baz=207,slow=76,SNR=237						
H08S2	**Diego Garcia H**	**30.07**	**34**	T	T	03 47 24.1	
	baz=207,slow=76,SNR=70						
H08S3	**Diego Garcia H**	**30.08**	**34**	T	T	03 47 14.6	
	baz=207,slow=76,SNR=197						
H08N3	**Diego Garcia H**	**30.57**	**30**	T	T	03 48 33.3	
	baz=204,slow=76,SNR=66						
H08N1	**Diego Garcia H**	**30.58**	**30**	T	T	03 48 45.9	
	baz=204,slow=76,SNR=63						
H08N2	**Diego Garcia H**	**30.59**	**30**	T	T	03 48 35.0	
	baz=204,slow=76,SNR=76						
MAW	**Mawson**	**34.02**	**175**	LR	LR	03 27 50.7	
	comp=Z,114nm,20.3s,baz=287,slow=31						
KMBO	**Kilima Mbogo**	**37.11**	**327**	P	**P**	**03 17 12.9**	**-0.3**
	0.6nm,0.4s,baz=144,slow=11,SNR=3.5						
KMBO				LR	LR	03 30 44.0	
	comp=Z,96nm,20.7s,baz=92,slow=34						
KMBO	**Kilima Mbogo**	**37.11**	**327**	*e*P	**P**	**03 17 13.6**	**+0.3**
	1.0nm,0.6s						
TSUM	**Tsumeb**	**37.33**	**283**	P	**P**	**03 17 14.7**	**-0.4**
	1.8nm,0.2s,baz=124,slow=7.4,SNR=5.5						
TSUM				LR	LR	03 30 49.7	
	comp=Z,60nm,18.5s,baz=334,slow=34						
TSUM	**Tsumeb**	**37.33**	**283**	*e*P	**P**	**03 17 16.1**	**+1.0**
	1.4nm,0.6s						
SNAA	**Sanae**	**48.62**	**201**	P	**P**	**03 18 45.7**	**0.0**
	2.7nm,0.9s,baz=79,slow=6.7,SNR=10						
SNAA				LR	LR	03 37 44.5	
	comp=Z,34nm,18.1s,baz=146,slow=34						
SNAA	**Sanae**	**48.62**	**201**	*e*P	**P**	**03 18 45.5**	**-0.3**
MNAI	**Manna**	**52.32**	**66**	*e*P	**P**	**03 19 14.1**	**-0.3**
QSPA	**South Pole Qui**	**56.34**	**180**	*e*P	**P**	**03 19 43.1**	**-0.1**
RAYN	**Ar Rayn**	**57.96**	**348**	*e*P	**P**	**03 19 55.1**	**+0.2**
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**66.01**	**45**	P	**P**	**03 20 49.5**	**+0.4**
	1.8nm,0.4s,baz=236,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**67.37**	**104**	P	**P**	**03 20 58.0**	**+0.1**
	0.6nm,0.6s,baz=233,slow=5.8,SNR=8.6						
WRA	**Warramunga Arr**	**69.52**	**101**	P	**P**	**03 21 11.5**	**+0.2**
	1.9nm,0.9s,baz=234,slow=5.7,SNR=4.3						
WRAB	**Tennant Creek**	**69.53**	**101**	*e*P	**P**	**03 21 11.7**	**+0.3**
	2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.84**	**302**	P	**P**	**03 21 13.0**	**-0.3**
	0.4nm,0.8s,baz=137,slow=4.3,SNR=3.2						
TAM	**Tamanrasset**	**74.19**	**312**	*e*P	**P**	**03 21 40.0**	**+0.6**
	1.0nm,0.8s						
BRTR	**Keskin Array B**	**76.14**	**342**	P	**P**	**03 21 49.0**	**-1.3**
	1.2nm,0.9s,baz=160,slow=3.9,SNR=5.5						
AAK	**Ala-Archa**	**77.92**	**14**	P	**P**	**03 22 00.4**	**+0.2**
	2.3nm,0.8s,baz=223,slow=5.1,SNR=6.4						
AAK	**Ala-Archa**	**77.92**	**14**	*e*P	**P**	**03 22 01.1**	**+0.9**
	7.3nm,1.3s						
ABKAR	**Akbulak array**	**82.79**	**2**	*e*P	**P**	**03 22 25.7**	**-0.3**
	3.4nm,1.0s						
PMG	**Port Moresby**	**85.56**	**98**	*e*P	**P**	**03 22 41.6**	**+0.5**
	17nm,0.9s						
KURBB	**Kurchatov Arra**	**86.37**	**14**	P	**P**	**03 22 44.1**	**0.0**
	2.0nm,1.1s,baz=209,slow=5.8,SNR=8.2						
KURK	**Kurchatov**	**86.47**	**14**	*e*P	**P**	**03 22 44.0**	**-0.6**
	16nm,1.1s						
BVAR	**Borovoye Array**	**87.37**	**8**	P	**P**	**03 22 48.8**	**-0.1**
	1.6nm,0.8s,baz=155,slow=4.1,SNR=7.5						
BRVK	**Borovoye**	**87.39**	**8**	*e*P	**P**	**03 22 48.3**	**-0.7**
	5.7nm,0.5s						
AKASG	**Malin Array Be**	**87.50**	**343**	P	**P**	**03 22 49.8**	**+0.2**
	0.3nm,0.3s,baz=179,slow=3.7,SNR=4.0						
SONM	**Songino Array**	**92.87**	**31**	LR	LR	04 03 07.4	
	comp=Z,52nm,20.0s,baz=92,slow=34						
ULN	**Ulaanbaatar**	**93.17**	**31**	*e*P	**P**	**03 23 15.9**	**-0.5**
	1.1nm,0.5s						
INK	**Inuvik**	**145.03**	**6**	PKPbc	**PKPbc**	**03 29 38.0**	**-0.1**
	14nm,1.1s,baz=337,slow=2.5,SNR=5.7						
ILAR	**Eielson Array**	**145.97**	**18**	PKPbc	**PKPdf**	**03 29 40.7**	**+0.2**
	0.9nm,0.8s,baz=316,slow=3.7,SNR=11						
YKA	**Yellowknife Ar**	**150.75**	**351**	PKPbc	**PKPbc**	**03 29 53.7**	**-0.1**
	1.6nm,0.9s,baz=7.6,slow=1.9,SNR=5.7						

IDC 22 03:10:44.3±34.0, 24°.42S×178°.91W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/41, mbtmp4.0/4, MS3.5/8, Ms1 3.5/8, ms1mx3.2/28, Error ellipse: s-maj=655.5km s-min=164.4km az=95.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.67**	**277**	LR	LR	03 18 07.2	
	comp=Z,194nm,18.2s,baz=36,slow=32						
HNR	**Honiara**	**25.07**	**303**	LR	LR	03 25 24.0	
	comp=Z,100nm,20.7s,baz=144,slow=35						
STKA	**Stephens Creek**	**35.46**	**249**	P	P	03 17 43.1	+0.5
	2.8nm,0.9s,baz=90,slow=5.1,SNR=5.0						
STKA				LR	LR	03 30 54.3	
	comp=Z,186nm,19.6s,baz=48,slow=34						
ASAR	**Alice Springs**	**42.94**	**261**	P	P	03 18 44.1	-1.2
	1.1nm,0.8s,baz=102,slow=8.4,SNR=8.6						
ASAR				LR	LR	03 34 37.8	
	comp=Z,64nm,21.2s,baz=118,slow=33						
WRA	**Warramunga Arr**	**43.37**	**266**	P	P	03 18 48.9	+0.1
	1.7nm,0.8s,baz=107,slow=7.7,SNR=4.0						
WRA				LR	LR	03 36 55.3	
	comp=Z,65nm,18.7s,baz=100,slow=36						
FITZ	**Fitzroy Crossi**	**51.78**	**266**	P	P	03 19 54.4	+0.2
	0.7nm,0.3s,baz=83,slow=8.1,SNR=2.5						
MJAR	**Matsushiro Arr**	**72.89**	**325**	LR	LR	03 48 14.4	
	comp=Z,24nm,21.6s,baz=215,slow=31						
KSRS	**Korea Array**	**79.29**	**320**	LR	LR	03 57 00.9	
	comp=Z,5.2nm,18.6s,baz=126,slow=35						
PETK	**Petropavlovsk-**	**79.84**	**346**	LR	LR	03 57 27.7	
	comp=Z,28nm,18.0s,baz=146,slow=35						

IDC ***22*** *03:14:19.7±2.7, 2°.20S×100°.32E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/56, mbtmp3.7/5, Error ellipse: s-maj=131.5km s-min=21.5km az=57.0*
ISCJB ***22*** *03:14:27.0±0.5, 2°.02S±0°.04×100°.48E±0°.06, h56km, mb3.7/4, Error ellipse: s-maj=8.4km s-min=6.1km az=160.0*
DJA ***22*** *03:14:26.3±0.3, 2°.S±2°.×10°.0E±°., h10km, M3.5/7, MLv3.5/7*

ISC 22 03:14:28.1±0.8, 2°.04S±0°.05×100°.43E±0°.06, h56km, n13, σ1§33/17, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.83**

YECH	**El Yeso**	**1.57**	**222**	⇓*i*P	**Pn**	**03 17 01.7**	**+1.0**
YECH				*i* S	**Sn**	**03 17 24.2**	**+1.3**
YECH				IAML		03 17 25.0	
	comp=N,1μm,0.4s						
AMOG	**MOGNA**	**1.58**	**10**	*e*P	**Pn**	**03 17 01.2**	**+0.7**
AMOG				*e*S	**Sn**	**03 17 23.5**	**+0.9**
PEL	**Peldehue**	**1.69**	**247**	⇑*i*P	**Pn**	**03 17 01.4**	**-0.3**
PEL				*i* S	**Sn**	**03 17 24.3**	**-0.6**
PEL				IAML		03 17 25.6	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.70**	**238**	⇑*i*P	**Pn**	**03 17 01.9**	**+0.1**
CLCH				*i* S	**Sn**	**03 17 25.0**	**0.0**
CLCH				IAML		03 17 26.3	
	comp=N,3μm,0.6s						
ANTU	**Antumapu**	**1.86**	**234**	*e*P	**Pn**	**03 17 03.6**	**0.0**
ANTU				*e*S	**Sn**	**03 17 28.4**	**+0.1**
ANTU				IAML		03 17 31.9	
	comp=E,906nm,0.2s						
ROCH	**El Roble**	**1.90**	**255**	⇑*i*P	**Pn**	**03 17 03.8**	**-0.6**
ROCH				*i* S	**Sn**	**03 17 28.6**	**-1.0**
ROCH				IAML		03 17 30.7	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**1.91**	**255**	*e*P	**Pn**	**03 17 04.0**	**-0.5**
ROC1				*e*S	**Sn**	**03 17 28.6**	**-1.1**
ACCO	**Cerro Coronel**	**1.91**	**354**	*e*P	**Pn**	**03 17 05.7**	**+1.0**
ACCO				*e*S	**Sn**	**03 17 31.4**	**+1.4**
AVFE	**Valle Fertil**	**2.17**	**33**	*e*P	**Pn**	**03 17 07.8**	**+0.2**
AVFE				IAML		03 17 43.4	
	comp=Z,174nm,0.4s						
ACHE	**Chepes**	**2.27**	**55**	*e*P	**Pn**	**03 17 09.3**	**+0.5**
ACDV	**Cuesta del Vie**	**2.33**	**354**	*e*P	**Pn**	**03 17 10.9**	**+1.2**
ACDV				*e*S	**Sn**	**03 17 40.3**	**+1.4**
AROD	**Rodeo**	**2.38**	**346**	*e*P	**Pn**	**03 17 11.9**	**+1.4**
AROD				*e*S	**Sn**	**03 17 41.5**	**+1.1**
APLL	**PUNTA DE LOS L**	**2.87**	**44**	*e*P	**Pn**	**03 17 16.6**	**+0.2**
APLL				*e*S	**Sn**	**03 17 51.1**	**+0.1**
TLL	**Tololo Astrono**	**2.87**	**323**	IAML		03 17 55.1	
	comp=N,904nm,0.4s						
AGUA	**GUANDACOL**	**3.01**	**6**	*e*P	**Pn**	**03 17 19.3**	**+1.0**
ACLC	**CERRO LA CRUZ**	**3.46**	**28**	*e*P	**Pn**	**03 17 23.8**	**-0.4**
GO05	**HualaæØ**	**3.60**	**225**	*e*P	**Pn**	**03 17 23.6**	**-2.3**
GO05				*e*S	**Sn**	**03 18 05.0**	**-3.1**
TCA	**Tanti**	**3.78**	**73**	*i* P	**Pn**	**03 17 28.0**	**-0.4**
TCA				IAML		03 18 28.1	
	comp=Z,153nm,0.6s						
VCA	**Vinchina**	**3.78**	**8**	*i* P	**Pn**	**03 17 29.3**	**+0.8**
VCA				*e*S	**Sn**	**03 18 13.3**	**+0.7**
VCA				IAML		03 18 19.0	
	comp=Z,244nm,0.4s						
LCO	**Las Campanas**	**3.83**	**335**	*e*P	**Pn**	**03 17 29.2**	**0.0**
LCO				*e*S	**Sn**	**03 18 12.2**	**-1.7**
CYA	**Choya**	**4.81**	**34**	IAML		03 18 54.8	
	comp=Z,44nm,0.5s						
TRQA	**Tornquist**	**7.88**	**137**	IAML		03 20 57.4	
	comp=Z,90nm,0.7s						
PLCA	**Paso Flores**	**8.34**	**189**	P	**Pn**	**03 18 27.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=352,slow=14,SNR=2.6						
LVC	**Limon Verde**	**9.85**	**360**	P	**Pn**	**03 18 47.7**	**-2.4**
	comp=Z,25nm,0.3s,baz=179,slow=6.9,SNR=9.0						
LVC				S	**Sn**	**03 20 32.1**	**-7.0**
	comp=Z,18nm,0.3s,baz=234,slow=19,SNR=3.0						
CPUP	**Villa Florida**	**11.75**	**61**	P	**Pn**	**03 19 12.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=236,slow=15,SNR=3.3						
CPUP				LR	LR	03 24 17.4	
	comp=Z,129nm,21.8s,baz=220,slow=40						
LPAZ	**La Paz**	**16.15**	**2**	P	**P**	**03 20 12.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=180,slow=7.9,SNR=15						
SIV	**San Ignacio**	**17.87**	**25**	P	**P**	**03 20 31.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=223,slow=12,SNR=7.2						
SNAA	**Sanae**	**51.98**	**158**	P	**P**	**03 25 27.9**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=266,slow=9.0,SNR=15						
TXAR	**Lajitas Array**	**69.82**	**328**	P	**P**	**03 27 29.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=158,slow=8.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**81.16**	**68**	P	**P**	**03 28 34.0**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=214,slow=6.4,SNR=5.6						
PDAR	**Pinedale Array**	**83.69**	**331**	P	**P**	**03 28 46.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**123.34**	**206**	PKP	**PKPdf**	**03 35 13.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=159,slow=1.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**151.50**	**33**	PKPbc	**PKPbc**	**03 36 10.6**	**+0.9**
	comp=Z,4.4nm,0.5s,baz=301,slow=2.7,SNR=17						

*ISCJB **22** 03:29:21.1±0.2, 61°.70N±0°.02×150°.90W±0°.04, h77km±3km, mb3.5/3, Error ellipse: s-maj=3.4km s-min=2.7km az=41.1*
*IDC **22** 03:29:21.0±2.1, 61°.66N×151°.46W, h63km±23km, mb3.3/3, mb1 3.7/6, mb1mx3.3/42, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=30.9km s-min=15.4km az=107.0*
*NEIC **22** 03:29:22.8±0.0, 61°.71N×150°.92W, h65km, ML3.3(AEIC), After AEIC.*
NEIC Felt at Willow.

ISC 22 03:29:22.3±0.8, 61°.71N±0°.03×150°.92W±0°.03, h68km±6km, n94, σ0°93/116, mb3.6/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.26**	**161**	P	**Pn**	**03 29 32.6**	**-0.5**
SUA				S	**Sn**	**03 29 40.7**	**-0.4**
SKT	**Skwentna**	**0.40**	**314**	P	**Pn**	**03 29 33.3**	**-0.7**
SKT				S	**Sn**	**03 29 41.9**	**-0.8**
STLK	**Strandline Lak**	**0.48**	**245**	P	**Pn**	**03 29 34.3**	**-0.6**
FIB	**Fire Island**	**0.65**	**146**	P	**Pn**	**03 29 36.8**	**+0.4**
FIB				S	**Sn**	**03 29 48.4**	**+1.6**
CGLM	**Capps Glacier**	**0.66**	**233**	P	**Pn**	**03 29 36.3**	**-0.3**
NCG	**North Capps Gl**	**0.67**	**243**	P	**Pn**	**03 29 36.1**	**-0.7**
SPCG	**Spurr Capps Gl**	**0.67**	**232**	P	**Pn**	**03 29 36.5**	**-0.3**
SPCG				S	**Sn**	**03 29 47.5**	**-0.1**
SPCP	**Crater Peak Br**	**0.74**	**234**	P	**Pn**	**03 29 37.4**	**-0.3**
SPCP				S	**Sn**	**03 29 49.0**	**0.0**
VOGL	**Vogel Lake**	**0.75**	**162**	P	**Pn**	**03 29 38.2**	**+0.6**
SPU	**Mount Spurr**	**0.76**	**227**	*e*Pn	**Pn**	**03 29 37.4**	**-0.3**
SPU				*e*Sn	**Sn**	**03 29 48.7**	**-0.5**
CUT	**Chulitna**	**0.76**	**23**	P	**Pn**	**03 29 37.5**	**-0.3**
RC01	**Rabbit Creek A**	**0.84**	**137**	P	**Pn**	**03 29 38.0**	**-0.7**
RC01				S	**Sn**	**03 29 50.9**	**+0.1**
CKL	**Chakachamna La**	**0.85**	**234**	P	**Pn**	**03 29 38.5**	**-0.5**
PMR	**Palmer**	**0.86**	**97**	P	**Pn**	**03 29 37.9**	**-0.9**
PMR				S	**Sn**	**03 29 50.7**	**-0.5**
SPWE	**Spurr West**	**0.90**	**242**	P	**Pn**	**03 29 39.3**	**-0.2**
GHO	**Glory Hole Cre**	**0.95**	**85**	P	**Pn**	**03 29 39.8**	**-0.3**
GHO				S	**Sn**	**03 29 54.4**	**+1.1**
KNK	**Knik Glacier**	**1.22**	**103**	P	**Pn**	**03 29 43.1**	**-0.3**
SML	**Sawmill**	**1.23**	**84**	P	**Pn**	**03 29 43.5**	**-0.2**
SML				S	**Sn**	**03 29 59.8**	**+0.1**
SLKM	**Skilak Lake**	**1.25**	**164**	P	**Pn**	**03 29 43.2**	**-0.7**
PPLA	**Purkeypile**	**1.33**	**334**	P	**Pn**	**03 29 44.8**	**-0.3**
PPLA				S	**Sn**	**03 30 02.8**	**+0.6**
DFR	**Drift River**	**1.41**	**218**	P	**Pn**	**03 29 45.8**	**-0.2**
DFR				S	**Sn**	**03 30 04.8**	**+0.9**
RDJH	**Redoubt Jeurge**	**1.45**	**220**	P	**Pn**	**03 29 46.4**	**-0.2**
RDJH				S	**Sn**	**03 30 05.5**	**+0.7**
PWL	**Port Wells**	**1.51**	**123**	P	**Pn**	**03 29 46.5**	**-0.8**
RSO	**Redoubt South**	**1.54**	**216**	*e*Pn	**Pn**	**03 29 48.1**	**+0.3**
RDWB	**Redoubt West**	**1.54**	**218**	P	**Pn**	**03 29 47.7**	**-0.1**
RDWB				S	**Sn**	**03 30 08.0**	**+0.9**
RED	**Redoubt Volcan**	**1.58**	**216**	P	**Pn**	**03 29 48.2**	**0.0**
SCM	**Sheep Creek Mo**	**1.71**	**84**	P	**Pn**	**03 29 49.6**	**-0.4**
SCM				S	**Sn**	**03 30 11.7**	**+0.6**
SEW	**Seward**	**1.76**	**155**	P	**Pn**	**03 29 50.8**	**+0.2**
TRF	**Thorofare Moun**	**1.77**	**9**	P	**Pn**	**03 29 51.1**	**+0.1**
TRF				S	**Sn**	**03 30 14.7**	**+1.9**
CAST	**Castle Rocks**	**1.80**	**343**	P	**Pn**	**03 29 51.1**	**-0.1**
CAST				S	**Sn**	**03 30 13.5**	**+0.4**
KTH	**Kantishna Hill**	**1.85**	**360**	P	**Pn**	**03 29 52.5**	**+0.6**
KTH				S	**Sn**	**03 30 15.5**	**+1.0**
BRLK	**Bradley Lake**	**1.95**	**180**	P	**Pn**	**03 29 52.8**	**-0.4**
BRLK				S	**Sn**	**03 30 18.4**	**+1.7**
RND	**Reindeer**	**1.96**	**28**	P	**Pn**	**03 29 53.5**	**+0.3**
INE	**Iliamna NE**	**1.96**	**213**	P	**Pn**	**03 29 53.7**	**+0.3**
ILW	**Iliamna West**	**1.98**	**214**	P	**Pn**	**03 29 53.7**	**+0.1**
GLI	**Glacier Island**	**2.02**	**113**	P	**Pn**	**03 29 52.6**	**-1.5**
HOM	**Homer**	**2.09**	**190**	*e*Pn	**Pn**	**03 29 56.4**	**+1.4**
DHY	**Denali Highway**	**2.15**	**49**	P	**Pn**	**03 29 56.5**	**+0.5**
CNPM	**China Poot**	**2.19**	**184**	P	**Pn**	**03 29 56.1**	**-0.4**
MCK	**McKinley**	**2.23**	**23**	P	**Pn**	**03 29 57.5**	**+0.5**
VLZ	**Valdez**	**2.28**	**103**	P	**Pn**	**03 29 56.6**	**-1.0**
SVW2	**Sparrevohn**	**2.33**	**257**	P	**Pn**	**03 29 57.6**	**-0.6**
FID	**Port Fidalgo**	**2.35**	**112**	P	**Pn**	**03 29 57.1**	**-1.5**
KLU	**Klutina**	**2.40**	**93**	*e*Pn	**Pn**	**03 29 56.9**	**-2.4**
BPAW	**Bear Paw Mtn.**	**2.40**	**359**	P	**Pn**	**03 29 59.1**	**-0.2**
DIV	**Divide**	**2.54**	**101**	*e*Pn	**Pn**	**03 30 03.1**	**+1.9**
PS11	**TAPS Pump St11**	**2.60**	**79**	P	**Pn**	**03 30 02.0**	**0.0**
TT01	**Tatalina**	**2.67**	**299**	P	**Pn**	**03 30 02.8**	**-0.1**
TTA	**Tatalina**	**2.68**	**300**	P	**Pn**	**03 30 02.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.76**	**113**	*e*Pn	**Pn**	**03 30 04.0**	**-0.2**
HARP	**HAARP**	**2.80**	**73**	P	**Pn**	**03 30 05.0**	**+0.3**
PAX	**Paxson**	**2.84**	**61**	P	**Pn**	**03 30 05.6**	**+0.3**
WRH	**Wood River Hil**	**3.06**	**24**	P	**Pn**	**03 30 08.5**	**+0.3**
BMRM	**Bremner River**	**3.13**	**101**	*e*Pn	**Pn**	**03 30 10.8**	**+1.5**
FOPK	**Fourpeaked Vol**	**3.22**	**204**	P	**Pn**	**03 30 09.7**	**-0.8**
HDA	**Harding Lake**	**3.26**	**32**	*e*Pn	**Pn**	**03 30 11.1**	**+0.2**
CCB	**Clear Creek Bu**	**3.27**	**24**	P	**Pn**	**03 30 10.8**	**-0.2**
MLY	**Manley**	**3.34**	**1**	P	**Pn**	**03 30 12.2**	**+0.2**
PS08	**TAPS Pump Stn8**	**3.40**	**31**	P	**Pn**	**03 30 12.8**	**0.0**
COLA	**College**	**3.47**	**22**	P	**Pn**	**03 30 13.6**	**-0.1**
MDM	**Murphy Dome**	**3.48**	**19**	P	**Pn**	**03 30 13.8**	**-0.2**
ILAR	**Eielson Array**	**3.58**	**29**	P	**Pn**	**03 30 15.3**	**0.0**
	4.8nm,0.3s,baz=218,slow=14,SNR=131						
ILAR				S	**Sn**	**03 30 55.5**	**-0.7**
	3.4nm,0.3s,baz=210,slow=23,SNR=4.3						
ILB	**Eielson Array**	**3.58**	**29**	P	**Pn**	**03 30 15.2**	**0.0**
MENT	**Mentasta**	**3.58**	**67**	*e*Pn	**Pn**	**03 30 16.0**	**+0.7**
DOT	**Dot Lake**	**3.71**	**55**	P	**Pn**	**03 30 17.1**	**0.0**
KAWH	**Katmai**	**3.86**	**212**	P	**Pn**	**03 30 19.0**	**-0.2**
CRQM	**Cirque**	**3.88**	**101**	P	**Pn**	**03 30 19.2**	**-0.4**
KVTA	**Katmai Vly 10**	**3.99**	**215**	P	**Pn**	**03 30 20.9**	**0.0**
KAKN	**Katmai Knife C**	**4.00**	**213**	P	**Pn**	**03 30 20.9**	**-0.2**
TGL	**Tana Glacier**	**4.02**	**100**	P	**Pn**	**03 30 21.2**	**-0.2**
KDAK	**Kodiak Island**	**4.03**	**193**	P	**Pn**	**03 30 19.6**	**-1.8**
	1.7nm,0.3s,baz=11,slow=10.0,SNR=29						
KDAK				S	**Sn**	**03 31 03.5**	**-3.6**
	2.5nm,0.3s,baz=308,slow=19,SNR=2.8						
KDAK	**Kodiak Island**	**4.03**	**193**	P	**Pn**	**03 30 19.9**	**-1.4**
KELA	**Mount Kelaz**	**4.07**	**219**	P	**Pn**	**03 30 21.6**	**-0.5**
PTPK	**Patty Peak**	**4.09**	**94**	P	**Pn**	**03 30 22.1**	**-0.3**
KABR	**Katmai Barrier**	**4.13**	**211**	P	**Pn**	**03 30 22.5**	**-0.3**
BALM	**Baldy**	**4.18**	**95**	P	**Pn**	**03 30 22.9**	**-0.7**
KIAG	**Kiagna River**	**4.20**	**97**	P	**Pn**	**03 30 23.6**	**-0.3**
BARK	**Barkley Ridge**	**4.30**	**104**	P	**Pn**	**03 30 25.2**	**+0.1**
ISLE	**Juniper Island**	**4.30**	**101**	P	**Pn**	**03 30 24.6**	**-0.7**
BCA3	**Beaver Creek A**	**4.46**	**68**	P	**Pn**	**03 30 27.1**	**-0.2**
IM3	**Indian Mountai**	**4.47**	**345**	P	**Pn**	**03 30 27.6**	**+0.1**
BARN	**Barnard Glacie**	**4.50**	**94**	P	**Pn**	**03 30 27.2**	**-0.8**
OHAK	**Old Harbor**	**4.66**	**196**	P	**Pn**	**03 30 29.0**	**-1.0**
EGAK	**Eagle**	**5.38**	**51**	*e*Pn	**Pn**	**03 30 39.8**	**0.0**
FYU	**Fort Yukon**	**5.47**	**25**	*e*Pn	**Pn**	**03 30 43.9**	**+2.8**
COLD	**Coldfoot**	**5.55**	**3**	*e*Pn	**Pn**	**03 30 42.1**	**-0.1**
DAWY	**Dawson**	**5.78**	**61**	P	**Pn**	**03 30 44.9**	**-0.4**
BM3	**Burnt Mountain**	**6.34**	**23**	P	**Pn**	**03 30 51.9**	**-1.1**
CHGN	**Chignik**	**6.66**	**219**	*e*Pn	**Pn**	**03 30 58.8**	**+1.5**
INK	**Inuvik**	**9.87**	**40**	P	**Pn**	**03 31 43.9**	**+2.9**
	0.2nm,0.3s,baz=252,slow=15,SNR=5.5						
INK				S	**Sn**	**03 33 27.7**	**-2.2**
	0.1nm,0.3s,baz=76,slow=16,SNR=3.0						
WRAK	**Wrangell Islan**	**10.91**	**111**	*e*Pn	**Pn**	**03 31 56.8**	**+1.5**
TXAR	**Lajitas Array**	**44.69**	**114**	P	**P**	**03 37 29.2**	**+0.9**
	0.2nm,0.6s,baz=320,slow=5.2,SNR=3.7						
SONM	**Songino Array**	**54.61**	**306**	P	**P**	**03 38 41.8**	**-1.7**
	0.8nm,0.5s,baz=28,slow=6.5,SNR=4.9						
ESDC	**Sonseca Array**	**75.47**	**26**	P	**P**	**03 40 58.5**	**-0.2**
	0.4nm,0.5s,baz=346,slow=4.8,SNR=4.2						

IDC 22 03:42:18.9±9.2, 5°.86S×147°.84E, h50km±62km, mb3.7/3, mb1 3.7/5, mb1mx3.4/34, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=76.9km s-min=51.3km az=54.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.58**	**191**	P	Pn	03 43 12.1	+0.1
	3.1nm,0.3s,baz=6.8,slow=19,SNR=3.8						
PMG				S	Sn	03 43 53.9	+0.8
	6.1nm,0.3s,baz=18,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**19.18**	**222**	P	P	03 46 37.8	-0.9
	0.3nm,0.3s,baz=46,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**22.21**	**216**	P	P	03 47 11.0	-0.3
	0.9nm,0.3s,baz=52,slow=8.9,SNR=30						
FITZ	**Fitzroy Crossi**	**24.85**	**239**	P	P	03 47 37.4	+0.4
	6.1nm,0.6s,baz=63,slow=9.0,SNR=37						
STKA	**Stephens Creek**	**26.53**	**192**	P	P	03 47 52.1	+0.1
	0.4nm,0.3s,baz=0.5,slow=12,SNR=3.3						

NNC 22 03:51:45.8±1.6, 38°.49N×71°.15E, h0km, mb3.6, mpv3.3, 7C-5D, Error ellipse: s-maj=14.9km s-min=5.4km az=148.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.84**	**281**	⇓Pg	Pn	03 52 18.9	+0.2
	28nm,0.4s						
DZET				⇑Lg	Lg	03 52 45.7	
	161nm,0.5s						
MNAS	**Manas**	**4.12**	**14**	⇑Pn	Pn	03 52 51.5	+1.4
	2.2nm,0.6s						
MNAS				⇓Pg	Pb	03 52 59.3	0.0
	4.3nm,0.6s						
MNAS				⇓Sn	Sn	03 53 40.7	+1.6
	7.5nm,0.6s						
MNAS				⇑Lg	Lg	03 53 57.7	
	38nm,1.1s						
KK31	**Karatay Array**	**4.63**	**354**	⇑Pn	Pn	03 52 57.6	+0.6
	1.0nm,0.3s,baz=176,slow=13,SNR=36						
KK31				⇑Pg	Pb	03 53 09.2	+1.3
	1.7nm,0.3s,baz=166,slow=15,SNR=3.4						
KK31				⇑Sn	Sn	03 53 52.4	+0.9
	3.8nm,0.7s,baz=171,slow=29,SNR=4.3						
KK31				⇑Lg	Lg	03 54 12.2	
	4.5nm,0.5s,baz=171,slow=29,SNR=4.3						
TKM2	**Tokmak 2**	**5.57**	**36**	⇓Pn	Pn	03 53 10.5	+0.4
	5.5nm,0.9s						
TKM2				⇓Lg	Lg	03 54 41.1	
	8.2nm,0.9s						
AB31	**Akbulak array**	**13.44**	**327**	P	Pn	03 54 55.9	-1.7
	0.2nm,0.4s,baz=143,slow=12,SNR=4.9						

*IDC **22** 04:03:00.0±0.6, 19°.68N×122°.06E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.1/55, mbtmp4.3/18, ML3.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/52, Error ellipse: s-maj=25.6km s-min=11.8km az=65.0*
*ISCJB **22** 04:03:04.3±0.4, 19°.74N±0°.04×122°.11E±0°.07, h44km, mb4.4/35, MS4.3/1, Error ellipse: s-maj=9.9km s-min=5.8km az=179.8*
*NEIC **22** 04:03:10.5±2.6, 19°.69N×122°.00E, h85km±25km, mb4.5/17, Error ellipse: s-maj=11.1km s-min=5.7km az=65.0*

ISC 22 04:03:06.4±0.5, 19°.74N±0°.06×122°.00E±0°.10, h44km, n54, σ1°55/47, mb4.4/35, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.49**	**178**	*e*P	Pn	04 03 35.5	+4.9
SGCP				*e*S	**Sn**	**04 03 54.2**	**+5.3**
ABRA	**Dolores**	**2.41**	**211**	*e*P	**Pn**	**04 03 46.0**	**+2.6**
ABRA				*e*S	**Sn**	**04 04 12.2**	**+0.6**
CAUP	**Cauayan**	**2.78**	**183**	*e*P	Pn	04 03 57.3	+8.8
BOLP	**Bolinao**	**3.88**	**211**	*e*P	**Pn**	**04 04 06.4**	**+2.8**
BOLP				*e*S	**Sn**	**04 04 44.4**	**-3.6**
BALP	**Baler**	**3.99**	**186**	*e*P	Pn	04 04 11.7	+6.6
BALP				*e*S	**Sn**	**04 04 46.4**	**-4.3**
SCZP	**Santa Cruz**	**4.41**	**207**	*e*P	Pn	04 04 20.0	+9.1
KSAR	**Wonju Array Be**	**18.38**	**15**	P	**Pn**	**04 07 18.2**	**+0.3**
KSRS	**Korea Array**	**18.40**	**15**	P	**Pn**	**04 07 18.2**	**+0.1**
	0.3nm,0.3s,baz=200,slow=11,SNR=3.4						
KSRS				LR	LR	04 13 60.0	
	comp=Z,21nm,18.8s,baz=188,slow=36						
LUWI	**Luwuk**	**20.66**	**178**	*e*P	Pn	04 07 45.2	-0.1
CHTO	**Chiang Mai**	**21.78**	**271**	*e*P	**P**	**04 07 55.8**	**+1.1**
	4.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.82**	**271**	P	**P**	**04 07 55.8**	**+0.7**
	3.5nm,0.5s,baz=76,slow=8.9,SNR=29						
KULM	**Kulim**	**25.26**	**238**	*e*P	**P**	**04 08 29.4**	**+0.8**
	13nm,0.8s						
IPM	**Ipoh**	**25.45**	**236**	*e*P	**P**	**04 08 29.9**	**-0.5**
	6.7nm,0.6s						
SONM	**Songino Array**	**30.76**	**339**	P	**P**	**04 09 18.1**	**+0.4**
	0.4nm,0.4s,baz=163,slow=10,SNR=3.6						
FITZ	**Fitzroy Crossi**	**37.77**	**174**	P	**P**	**04 10 16.8**	**-1.6**
	1.2nm,0.6s,baz=339,slow=9.1,SNR=63						
MBWA	**Marble Bar**	**40.70**	**183**	*e*P	**P**	**04 10 40.9**	**-1.9**
	22nm,0.7s						
WRAB	**Tennant Creek**	**41.24**	**162**	*e*P	**P**	**04 10 45.8**	**-1.5**
	24nm,0.7s						
WRA	**Warramunga Arr**	**41.25**	**162**	P	**P**	**04 10 46.2**	**-1.2**
	26nm,0.6s,baz=343,slow=9.0,SNR=125						
MKAR	**Makanchi Array**	**42.11**	**319**	P	**P**	**04 10 55.2**	**+0.9**
	2.8nm,0.7s,baz=116,slow=9.4,SNR=14						
H11S3	**WAKE ISLAND Hy**	**42.15**	**84**	T	T	04 56 19.4	
	baz=280,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**42.16**	**82**	T	T	04 56 55.6	
	baz=278,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**42.16**	**84**	T	T	04 56 21.0	
	baz=280,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**42.17**	**82**	T	T	04 56 33.2	
	baz=278,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**42.17**	**84**	T	T	04 56 21.1	
	baz=280,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**42.18**	**82**	T	T	04 56 55.3	
	baz=278,slow=75,SNR=13						
ZALV	**Zalesovo Beam**	**44.41**	**329**	P	**P**	**04 11 12.9**	**+0.3**
	2.2nm,0.6s,baz=113,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**44.67**	**164**	P	**P**	**04 11 14.5**	**-0.7**
	12nm,0.5s,baz=353,slow=7.4,SNR=200						
AAK	**Ala-Archa**	**45.88**	**311**	*e*P	**P**	**04 11 24.9**	**+0.2**
	1.5nm,0.8s						
KURK	**Kurchatov**	**46.02**	**323**	*e*P	**P**	**04 11 25.9**	**+0.4**
	23nm,0.7s						
KURBB	**Kurchatov Arra**	**46.03**	**322**	P	**P**	**04 11 26.2**	**+0.6**
	5.4nm,0.7s,baz=123,slow=7.6,SNR=28						
CTA	**Charters Tower**	**46.16**	**148**	P	**P**	**04 11 26.6**	**-0.4**
	5.0nm,0.8s,baz=352,slow=7.1,SNR=3.9						
CTAO	**Charters Tower**	**46.16**	**148**	*e*P	**P**	**04 11 27.0**	**0.0**
	32nm,0.8s						
KKAR	**Karatay Array**	**48.84**	**310**	*e*P	**P**	**04 11 48.6**	**+1.0**
	0.8nm,0.6s						
FORT	**Forrest**	**50.56**	**173**	*e*P	**P**	**04 12 00.0**	**-0.6**
BVAR	**Borovoye Array**	**51.62**	**323**	P	**P**	**04 12 08.9**	**+0.4**
	1.3nm,0.7s,baz=106,slow=9.4,SNR=7.3						
BVAR				PcP	**PcP**	**04 13 20.9**	**-0.8**
	1.0nm,0.6s,baz=92,slow=3.3,SNR=4.9						
BRVK	**Borovoye**	**51.69**	**323**	*e*P	**P**	**04 12 09.3**	**+0.4**
	6.0nm,0.8s						
BBOO	**Buckleboo**	**53.95**	**165**	*e*P	**P**	**04 12 25.2**	**-0.6**
	5.7nm,0.7s						
STKA	**Stephens Creek**	**54.65**	**160**	P	**P**	**04 12 30.4**	**-0.5**
	3.4nm,0.6s,baz=340,slow=8.0,SNR=10						
ABKAR	**Akbulak array**	**57.12**	**316**	*e*P	**P**	**04 12 48.3**	**-0.2**
	2.2nm,0.4s						
GEYT	**Alibeck**	**57.76**	**303**	P	**P**	**04 12 54.1**	**+0.8**
	1.6nm,0.4s,baz=97,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**58.51**	**318**	P	**P**	**04 12 58.2**	**0.0**
	1.9nm,0.5s,baz=100,slow=13,SNR=5.7						
ARU	**Arti**	**59.13**	**325**	P	**P**	**04 13 02.2**	**-0.2**
	6.9nm,0.2s,baz=96,slow=10,SNR=4.1						
CAN	**Canberra**	**60.45**	**155**	*e*P	**P**	**04 13 13.1**	**+1.4**
	5.3nm,0.8s						
KBZ	**Khabaz**	**68.88**	**310**	P	**P**	**04 14 06.3**	**-0.3**
	2.1nm,0.8s,baz=73,slow=4.9,SNR=4.5						
KIV	**Kislovodsk**	**69.00**	**311**	*e*P	**P**	**04 14 07.9**	**+0.3**
	5.7n

VLX			S	Sg	04 18 40.3	+1.0
PYL	**PYLOS**	**0.37 222**	P	Pg	04 18 36.0	0.0
PYL			P	Pb	04 18 36.1	-2.1
PYL			S	Sg	04 18 42.0	+1.2
PYL	**PYLOS**	**0.37 222**	P	Pg	04 18 36.0	0.0
PYL	**PYLOS**	**0.37 222**	P	Pg	04 18 36.1	+0.1
PYL			S	Sg	04 18 42.0	+1.2
TRIP	**Tripoli**	**0.39 26**	P	Pg	04 18 36.5	+0.2
TRIP			S	Sg	04 18 42.4	+0.9
TRIP	**Tripoli**	**0.39 26**	P	Pg	04 18 36.5	+0.1
TRIP			S	Sg	04 18 42.4	+0.9
MES2	**Methoni**	**0.45 219**	P	Pg	04 18 37.8	+0.4
MES2			S	Sg	04 18 43.5	+0.4
MES2	**Methoni**	**0.45 219**	P	Pg	04 18 37.8	+0.4
MES2			S	Sg	04 18 43.5	+0.4
AMT	**Artemida-Makis**	**0.45 322**	P	Pg	04 18 37.8	+0.3
AMT			S	Sg	04 18 44.3	+0.9
AMT			AML	AML	04 18 46.7	
	comp=N,85μm,0.2s					
AMT			AML	AML	04 18 47.4	
	comp=E,50μm,0.3s					
AMT	**Artemida-Makis**	**0.45 322**	P	Pg	04 18 37.8	+0.3
AMT			S	Sg	04 18 44.3	+0.9
GUR	**Goura**	**0.79 17**	P	Pg	04 18 43.6	-0.4
GUR			S	Sg	04 18 54.1	-0.2
GUR	**Goura**	**0.79 17**	P	Pg	04 18 43.6	-0.4
GUR			S	Sg	04 18 54.1	-0.3
KLV	**Kalavryta, Ach**	**0.87 5**	P	Pg	04 18 45.9	+0.4
KLV	**Kalavryta, Ach**	**0.87 5**	P	Pg	04 18 45.9	+0.4

*ISCJB **22** 04:31:30.7±0.4, 30°.57N×0°.04×81°.37E±0°.03, h10km, mb3.5/6, Error ellipse: s-maj=6.1km s-min=3.4km az=18.5*
*DMN **22** 04:31:31.0±0.5, 30°.70N×81°.14E, h10km, Ml4.6/6, Error ellipse: s-maj=14.6km s-min=8.9km az=54.0*
*NDI **22** 04:31:32.9±7.1, 29°.85N×81°.86E, h15km±684km, ML3.5*
*IDC **22** 04:31:42.3±8.6, 30°.80N×81°.94E, h98km±80km, mb3.2/6, mb1 3.3/9, mb1mx3.1/66, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=51.4km s-min=17.8km az=48.0*
ISC 22 04:31:31.3±0.6, 30°.54N±0°.07×81°.26E±0°.04, h10km, n27, σ1§70/38, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.34**	**223**	*e*P	**Pn**	**04 31 53.9**	**-2.3**
PTH				*e*S	**Sb**	**04 32 13.9**	**+0.1**
JOSI	**Joshimath**	**1.47**	**271**	*e*P	**Pg**	**04 32 00.6**	**+1.2**
JOSI				*e*S	**Sg**	**04 32 19.8**	**+1.3**
JOSI				AML	AML	04 32 25.6	
	comp=E,2μm,0.9s						
JOSI				AML	AML	04 32 26.1	
	comp=N,1μm,0.4s						
KALG	**Kalgarh**	**2.40**	**245**	*e*P	**Pn**	**04 32 06.4**	**-4.2**
KALG				*e*S	**Sb**	**04 32 42.2**	**-2.0**
DDI	**Dehra Dun**	**2.77**	**266**	*e*P	**Pg**	**04 32 25.0**	**+0.6**
PYUN	**Piuthan**	**2.86**	**148**	*e*Pn	**Pn**	**04 32 17.4**	**+0.2**
PYUN				*e*Sn	**Sn**	**04 32 52.6**	**+0.7**
	comp=N,2μm,0.8s						
DANN	**Dangsing**	**3.09**	**134**	*e*Pn	**Pn**	**04 32 20.6**	**+0.3**
DANN				*e*Sn	**Sn**	**04 32 57.7**	**+0.2**
KOLN	**Koldanda**	**3.44**	**143**	*e*Pn	**Pn**	**04 32 25.6**	**+0.5**
KOLN				*e*Sn	**Sn**	**04 33 05.9**	**-0.1**
	comp=N,367nm,0.4s						
GKN	**Gorkha**	**3.89**	**130**	*e*Pn	**Pn**	**04 32 31.9**	**+0.7**
GKN				*e*Sn	**Sn**	**04 33 15.5**	**-1.5**
	comp=N,437nm,0.3s						
NDI	**New Delhi**	**3.98**	**243**	*e*P	**Pn**	**04 32 36.0**	**+3.7**
DMN	**Daman**	**4.46**	**130**	*e*Pn	**Pn**	**04 32 39.2**	**0.0**
DMN				*e*Sn	**Sn**	**04 33 30.7**	**-0.6**
	comp=N,175nm,0.5s						
KKN	**Kakani**	**4.46**	**127**	*e*Pn	**Pn**	**04 32 39.7**	**+0.5**
KKN				*e*Sn	**Sn**	**04 33 29.2**	**-2.0**
	comp=N,158nm,0.4s						
GUN	**Gumba**	**4.81**	**122**	*e*Pn	**Pn**	**04 32 44.1**	**-0.1**
THN	**Thein Dam**	**5.09**	**293**	*e*P	**Pb**	**04 32 59.0**	**-1.5**
THN				*e*S	Sg	04 34 03.4	-11
JIRN	**Jiri**	**5.18**	**122**	*e*Pn	**Pn**	**04 32 49.2**	**0.0**
KHET	**Khetri**	**5.36**	**244**	*e*P	**Pn**	**04 32 53.8**	**+2.5**
KHET				*e*S	**Sn**	**04 33 55.6**	**+2.5**
KHET				AML	AML	04 34 20.9	
	comp=E,13nm,0.2s						
KHET				AML	AML	04 34 22.4	
	comp=N,28nm,0.4s						
RAMN	**Ramite**	**5.90**	**126**	*e*Pn	**Pn**	**04 32 57.9**	**-1.1**
RAMN				*e*Sn	**Sn**	**04 34 04.0**	**-2.8**
	comp=N,176nm,0.5s						
TAPN	**Taplejung**	**6.49**	**118**	*e*Pn	**Pn**	**04 33 06.9**	**-0.2**
ODAN	**Odare**	**6.52**	**123**	*e*Pn	**Pn**	**04 33 07.6**	**+0.2**
MKAR	**Makanchi Array**	**16.25**	**3**	P	**P**	**04 35 23.0**	**+0.4**
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=3.1						
CMAR	**Chiang Mai Arr**	**20.06**	**123**	P	**P**	**04 36 03.8**	**-1.0**
	comp=N,0.5nm,0.3s,baz=312,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**20.16**	**355**	P	**Pn**	**04 36 05.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=177,slow=11,SNR=6.5						
ZALV	**Zalesovo Beam**	**23.53**	**5**	P	**P**	**04 36 40.8**	**-0.6**
	comp=N,0.6nm,0.4s,baz=187,slow=11,SNR=2.9						
BVAR	**Borovoye Array**	**23.83**	**344**	P	**P**	**04 36 45.8**	**+1.4**
	comp=N,0.4nm,0.4s,baz=138,slow=8.9,SNR=2.1						
FINES	**FINESS Array B**	**47.15**	**327**	P	**P**	**04 40 04.2**	**+0.8**
	comp=N,1.4nm,0.8s,baz=100,slow=5.8,SNR=3.3						
WRA	**Warramunga Arr**	**71.57**	**128**	P	**P**	**04 42 51.7**	**-1.2**
	comp=N,0.8nm,0.6s,baz=323,slow=6.2,SNR=5.7						
ASAR	**Alice Springs**	**73.85**	**131**	P	**P**	**04 43 04.9**	**-1.5**
	comp=N,0.4nm,0.6s,baz=313,slow=6.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**74.54**	**276**	P	**P**	**04 43 14.3**	**+3.6**
	comp=N,0.2nm,0.6s,baz=57,slow=5.3,SNR=2.6						

*SCB **22** 04:33:03.3±1.6, 23°.77S×66°.86W, h250km, Ml3.5/1, Error ellipse: s-maj=42.9km s-min=19.9km az=7.0*
*ISCJB **22** 04:33:05.9±0.5, 24°.10S±0°.04×67°.01W±0°.03, h201km±5km, mb3.2/1, Error ellipse: s-maj=6.2km s-min=4.8km az=31.0*
*SJA **22** 04:33:05.3±0.7, 24°.03S×66°.94W, h208km±18km, ML2.8, MW3.4*
*GUC **22** 04:33:07.8±0.4, 24°.07S×67°.24W, h191km±26km, ML4.5*
*IDC **22** 04:33:07.2±1.3, 23°.89S×66°.85W, h195km±14km, mb3.1/1, mb1 3.3/6, mb1mx3.1/31, mbtmp3.7/6, Error ellipse: s-maj=21.6km s-min=17.5km az=163.0*
ISC 22 04:33:06.2±0.8, 24°.08S±0°.05×66°.97W±0°.04, h194km±8km, n28, σ1§36/41, 6C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**116**	*i* P	**Pn**	**04 33 40.8**	**+1.4**
SLA				*i* S	**Sn**	**04 34 06.0**	**+0.7**
SLA				IAML		04 34 09.3	
	comp=Z,72nm,0.6s						
HJA	**Humahuaca**	**1.67**	**59**	*i* P	**Pn**	**04 33 42.4**	**+0.9**
HJA				IAML		04 33 44.5	
	comp=Z,109nm,0.5s						
HJA				*e*S	**Sn**	**04 34 09.8**	**+1.0**
AZAP	**Zapla**	**1.75**	**95**	*i* P	**Pn**	**04 33 42.7**	**+0.7**
AZAP				IAML		04 33 44.8	
	comp=Z,86nm,0.3s						
AZAP				*e*S	**Sn**	**04 34 06.6**	**-3.2**
FSA	**Cafayete**	**2.22**	**156**	*e*P	**Pn**	**04 33 47.7**	**+0.9**
FSA				*e*S	**Sn**	**04 34 15.0**	**-3.5**
FSA				IAML		04 34 20.6	
	comp=Z,8.9nm,0.7s						
LVC	**Limon Verde**	**2.30**	**309**	P	**Pn**	**04 33 49.2**	**+1.3**
	comp=Z,919nm,0.3s,baz=134,slow=7.3,SNR=88						
LVC				S	**Sn**	**04 34 21.1**	**+0.8**
	comp=Z,3μm,0.3s,baz=280,slow=20,SNR=79						
YJA	**Yavi**	**2.32**	**36**	*e*P	**Pn**	**04 33 48.9**	**+0.7**
YJA				IAML		04 33 50.1	
	comp=Z,16nm,0.3s						
YJA				*e*S	**Sn**	**04 34 20.6**	**-0.2**
PB06	**IPOC Station P**	**2.75**	**299**	⇑*i*P	**Pn**	**04 33 53.9**	**+1.1**
PB06				*i* S	**Sn**	**04 34 28.3**	**-0.8**
PB06				IAML		04 34 33.0	
	comp=N,955nm,0.2s						
MOCB	**Mochara**	**3.07**	**24**	⇓*i*Pn	**Pn**	**04 33 58.0**	**+1.1**
MOCB				*e*Sn	**Sn**	**04 34 37.6**	**+1.2**
	comp=N,177nm,1.2s						
AHML	**Horco Molle**	**3.08**	**152**	*i* P	**Pn**	**04 33 56.9**	**+0.4**
AHML				*i* S	**Sn**	**04 34 35.6**	**-0.4**
PB09	**IPOC Station P**	**3.08**	**317**	⇑*i*P	**Pn**	**04 33 58.0**	**+1.2**
PB09				*i* S	**Sn**	**04 34 36.0**	**-0.3**
PB09				IAML		04 34 38.8	
	comp=E,1μm,0.3s						
PB14	**IPOC Station P**	**3.18**	**259**	⇑*i*P	**Pn**	**04 33 58.6**	**+0.6**
PB14				*i* S	**Sn**	**04 34 36.9**	**-1.5**
PB14				IAML		04 34 42.8	
	comp=E,469nm,0.3s						
PB10	**IPOC Station P**	**3.33**	**279**	⇑*i*P	**Pn**	**04 34 00.4**	**+0.9**
PB10				*i* S	**Sn**	**04 34 40.1**	**-1.1**
PB04	**IPOC Station P**	**3.40**	**300**	⇑*i*P	**Pn**	**04 34 01.0**	**+0.5**
PB04				*i* S	**Sn**	**04 34 41.9**	**-1.1**
PB04				IAML		04 34 49.4	
	comp=N,588nm,0.4s						
CYA	**Choya**	**4.47**	**167**	IAML		04 34 59.7	
	comp=Z,4.7nm,0.2s						
BBOJ	**La Paz, Jacaqu**	**7.16**	**351**	*e*Pn	**Pn**	**04 34 50.3**	**+1.2**
BBOE	**La Paz, Chanca**	**7.29**	**352**	⇑*i*Pn	**Pn**	**04 34 51.2**	**+0.4**
BBOD	**La Paz, Gloria**	**7.56**	**348**	*e*Pn	**Pn**	**04 34 55.4**	**+1.1**
LPAZ	**La Paz**	**7.82**	**352**	P	**Pn**	**04 34 57.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=157,slow=7.0,SNR=23						
LPAZ				S	**Sn**	**04 36 23.7**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=15,SNR=4.2						
LPAZ	**La Paz**	**7.82**	**352**	*e*Pn	**Pn**	**04 34 58.1**	**+0.2**
BBOB	**La Paz, Bander**	**7.97**	**352**	*e*Pn	**Pn**	**04 34 59.8**	**+0.1**
CPUP	**Villa Florida**	**9.02**	**106**	P	**Pn**	**04 35 13.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=302,slow=15,SNR=2.9						
SIV	**San Ignacio**	**9.77**	**36**	P	**Pn**	**04 35 19.6**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=1.4,slow=1.4,SNR=10						
PLCA	**Paso Flores**	**16.88**	**189**	P	**Pn**	**04 36 52.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=4.1						
BDFB	**Brasilia**	**19.69**	**68**	P	**P**	**04 37 20.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=38,slow=9.5,SNR=13						
TORD	**Torodi Ar. Bea**	**76.57**	**69**	P	**P**	**04 44 35.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=246,slow=5.1,SNR=7.8						
ASAR	**Alice Springs**	**128.40**	**205**	PKP	**PKPdf**	**04 51 51.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=118,slow=2.2,SNR=6.2						
WRA	**Warramunga Arr**	**131.57**	**207**	PKP	**PKPdf**	**04 51 57.7**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=172,slow=1.7,SNR=5.5						
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	**PKPbc**	**04 52 24.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=340,slow=4.3,SNR=3.8						

*ISCJB **22** 04:41:30.8±1.0, 40°.37N±0°.05×29°.00W±0°.09, h10km, mb3.5/3, MS3.6/23, Error ellipse: s-maj=10.2km s-min=6.8km az=0.6*
*IDC **22** 04:41:31.1±1.8, 41°.43N×29°.37W, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/58, mbtmp3.4/5, ML3.7/1, MS3.7/24, Ms1 3.7/24, ms1mx3.6/30, Error ellipse: s-maj=66.0km s-min=26.5km az=3.0*
*PDA **22** 04:41:32.1±0.9, 40°.59N×29°.29W, h10km, ML3.4, Error ellipse: s-maj=5.8km s-min=3.6km az=90.0*
*CSEM **22** 04:41:32.1, 40°.59N×29°.29W, h10km, ML3.4*
ISC 22 04:41:30.3±1.1, 40°.40N±0°.07×29°.18W±0°.08, h10km, n54, σ1§35/56, mb3.5/4, MS3.6/23, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.65**	**146**	*e*P	**Pn**	**04 41 59.2**	**-0.2**
PGRA				*e*S	**Sn**	**04 42 19.2**	**-1.4**
PGRA				A	A	04 42 23.8	
	61nm,0.3s						
PGRA	**Graciosa**	**1.65**	**146**	*e*P	**Pn**	**04 41 59.2**	**-0.2**
PGRA				*e*S	**Sn**	**04 42 19.2**	**-1.4**
PCED	**Cedros**	**1.81**	**168**	*e*P	**Pn**	**04 42 01.7**	**+0.2**
PCED				*e*S	**Sn**	**04 42 23.6**	**-0.9**
PCED				A	A	04 42 26.1	
	54nm,0.1s						
PCED	**Cedros**	**1.81**	**168**	*e*P	**Pn**	**04 42 01.7**	**+0.2**
PCED				*e*S	**Sn**	**04 42 23.6**	**-0.9**
ROSA	**Rosais**	**1.83**	**156**	*e*P	**Pn**	**04 42 01.8**	**0.0**
ROSA				*e*S	**Sn**	**04 42 23.8**	**-1.2**
ROSA				A	A	04 42 30.4	
	45nm,0.3s						
ROSA	**Rosais**	**1.83**	**156**	*e*P	**Pn**	**04 42 01.8**	**0.0**
ROSA				*e*S	**Sn**	**04 42 23.8**	**-1.2**
CALA	**Caldeira**	**1.85**	**168**	*e*S	**Sn**	**04 42 24.9**	**-0.8**
CALA	**Caldeira**	**1.85**	**168**	*e*S	**Sn**	**04 42 24.9**	**-0.8**
HOR	**Horta**	**1.92**	**167**	*e*P	**Pn**	**04 42 03.1**	**+0.1**
HOR				*e*S	**Sn**	**04 42 26.1**	**-1.1**
HOR				A	A	04 42 29.0	
	129nm,0.2s						
HOR	**Horta**	**1.92**	**167**	*e*P	**Pn**	**04 42 03.1**	**+0.1**
HOR				*e*S	**Sn**	**04 42 26.1**	**-1.1**
PICO	**Pico**	**1.98**	**163**	*e*P	**Pn**	**04 42 04.1**	**+0.1**
PICO				*e*S	**Sn**	**04 42 28.3**	**-0.7**
PICO				A	A	04 42 37.0	
	76nm,0.3s						
PICO	**Pico**	**1.98**	**163**	*e*P	**Pn**	**04 42 04.1**	**+0.1**
PICO				*e*S	**Sn**	**04 42 28.3**	**-0.7**
PCAN	**Candelaria**	**2.01**	**164**	*e*P	**Pn**	**04 42 04.5**	**+0.2**
PCAN				*e*S	**Sn**	**04 42 28.5**	**-0.9**
PCAN				A	A	04 42 36.7	
	82nm,0.4s						
PCAN	**Candelaria**	**2.01**	**164**	*e*P	**Pn**	**04 42 04.5**	**+0.2**
PCAN				*e*S	**Sn**	**04 42 28.5**	**-0.9**
PPNO	**Prainha do Nor**	**2.05**	**159**	*e*P	**Pn**	**04 42 04.8**	**-0.1**
PPNO				*e*S	**Sn**	**04 42 30.0**	**-0.6**
PPNO				A	A	04 42 36.9	
	46nm,0.3s						
PPNO	**Prainha do Nor**	**2.05**	**159**	*e*P	**Pn**	**04 42 04.8**	**-0.1**
PPNO				*e*S	**Sn**	**04 42 30.0**	**-0.6**
ADH	**Angra Heroismo**	**2.30**	**139**	*e*P	**Pn**	**04 42 08.0**	**-0.3**
ADH				*e*S	**Sn**	**04 42 35.4**	**-1.3**
ADH				A	A	04 42 41.5	
	38nm,0.4s						
ADH	**Angra Heroismo**	**2.30**	**139**	*e*P	**Pn**	**04 42 08.0**	**-0.3**
ADH				*e*S	**Sn**	**04 42 35.4**	**-1.3**
PSET	**Sete Cidades**	**3.72**	**133**	*e*P	**Pn**	**04 42 27.8**	**-0.1**
PSET				*e*S	**Sn**	**04 43 10.3**	**-1.5**
PSET				A	A	04 43 17.1	
	27nm,0.4s						
PSET	**Sete Cidades**	**3.72**	**133**	*e*P	**Pn**	**04 42 27.8**	**-0.1**
PSET				*e*S	**Sn**	**04 43 10.3**	**-1.5**
PDA	**Ponta Delgada**	**3.81**	**133**	*e*P	**Pn**	**04 42 29.5**	**+0.5**
PDA				*e*S	**Sn**	**04 43 11.8**	**-2.1**
PDA				A	A	04 43 15.8	
	11nm,0.3s						
PDA	**Ponta Delgada**	**3.81**	**133**	*e*P	**Pn**	**04 42 29.5**	**+0.5**
PDA				*e*S	**Sn**	**04 43 11.8**	**-2.1**
CMLA	**Cha da Macela**	**3.88**	**132**	*e*P	**Pn**	**04 42 30.0**	**0.0**
CMLA				*e*S	**Sn**	**04 43 14.0**	**-1.6**
CMLA				A	A	04 43 21.5	
	13nm,0.3s						
CMLA	**Cha da Macela**	**3.88**	**132**	*e*P	**Pn**	**04 42 30.0**	**0.0**
CMLA				*e*S	**Sn**	**04 43 14.0**	**-1.6**
BART	**Pico Bartolome**	**4.07**	**129**	*e*P	**Pn**	**04 42 32.7**	**-0.1**
BART	**Pico Bartolome**	**4.07**	**129**	*e*P	**Pn**	**04 42 32.7**	**-0.1**
PSMA	**Santa Maria**	**4.65**	**136**	*e*P	**Pn**	**04 42 40.8**	**+0.2**
PSMN	**Pico do Norte,**	**4.67**	**135**	*e*P	**Pn**	**04 42 41.3**	**+0.3**
PSMN	**Pico do Norte,**	**4.67**	**135**	*e*P	**Pn**	**04 42 41.3**	**+0.3**
ESDC	**Sonseca Array**	**19.31**	**84**	P	**Pn**	**04 45 59.0**	**+2.4**
	0.1nm,0.3s,baz=290,slow=12,SNR=3.7						
ESDC				LR	LR	04 52 10.2	
	comp=Z,280nm,20.1s,baz=285,slow=33						
MDT	**Midelt**	**21.08**	**103**	P	**P**	**04 46 21.3**	**+6.4**
	1.9nm,1.0s,baz=303,slow=7.1,SNR=4.6						
MDT				LR	LR	04 52 46.1	
	comp=Z,225nm,21.8s,baz=328,slow=31						
DAVOX	**Davos/Dischmat**	**28.78**	**64**	LR	LR	04 57 12.6	
	comp=Z,152nm,20.3s,baz=277,slow=33						
SCHQ	**Schefferville**	**28.79**	**313**	LR	LR	04 57 13.4	
	comp=Z,150nm,20.9s,baz=22,slow=34						
KEST	**Kesra**	**30.52**	**86**	LR	LR	05 00 05.3	
	comp=Z,167nm,18.4s,baz=305,slow=36						
GERES	**GERESS Array B**	**31.32**	**60**	LR	LR	04 58 45.8	
	comp=Z,85nm,20.3s,baz=255,slow=33						
NOA	**NORSAR Array B**	**32.11**	**36**	LR	LR	04 59 19.2	
	comp=Z,60nm,20.9s,baz=255,slow=34						
VRAC	**Vranov**	**33.20**	**59**	LR	LR	04 59 33.1	
	comp=Z,107nm,19.8s,baz=270,slow=33						
TORD	**Torodi Ar. Bea**	**38.33**	**126**	LR	LR	05 03 14.6	
	comp=Z,89nm,19.9s,baz=345,slow=33						
FINES	**FINESS Array B**	**39.17**	**39**	LR	LR	05 03 38.3	
	comp=Z,94nm,18.4s,baz=272,slow=34						
DBIC	**Dimbokro**	**40.03**	**140**	LR	LR	05 05 17.1	
	comp=Z,68nm,18.2s,baz=322,slow=35						
ARCES	**ARCESS Array B**	**40.57**	**26**	LR	LR	05 02 38.1	
	comp=Z,64nm,20.6s,baz=210,slow=32						
AKASG	**Malin Array Be**	**41.18**	**55**	P	**P**	**04 49 11.5**	**-3.3**
	0.4nm,0.6s,baz=281,slow=7.5,SNR=4.3						
AKASG				LR	LR	05 05 57.4	
	comp=Z,147nm,18.6s,baz=255,slow=36						
ULM	**Lac du Bonnet**	**46.45**	**306**	LR	LR	05 07 57.0	
	comp=Z,197nm,19.9s,baz=24,slow=35						
BRTR	**Keskin Array B**	**47.16**	**69**	LR	LR	05 09 29.7	
	comp=Z,21nm,18.6s,baz=280,slow=36						
KBZ	**Khabaz**	**52.05**	**61**	LR	LR	05 12 38.7	
	comp=Z,47nm,20.6s,baz=222,slow=36						
ROSC	**El Rosal**	**53.78**	**241**	LR	LR	05 10 51.1	
	comp=Z,68nm,21.2s,baz=110,slow=32						
PDAR	**Pinedale Array**	**57.94**	**301**	LR	LR	05 15 26.3	
	comp=Z,123nm,19.8s,baz=71,slow=36						
TXAR	**Lajitas Array**	**60.46**	**285**	P	**P**	**04 51 39.8**	**-0.7**
	0.3nm,0.6s,baz=60,slow=7.4,SNR=4.7						
TXAR				LR	LR	05 18 24.9	
	comp=Z,74nm,18.3s,baz=0.0,slow=37						
ILAR	**Eielson Array**	**64.46**	**335**	LR	LR	05 16 31.5	
	comp=Z,32nm,19.3s,baz=24,slow=33						
LPAZ	**La Paz**	**67.02**	**221**	LR	LR	05 18 57.6	
	comp=Z,61nm,19.2s,baz=14,slow=33						
KURBB	**Kurchatov Arra**	**69.53**	**40**	P	**P**	**04 52 38.8**	**-0.2**
	0.5nm,0.7s,baz=310,slow=6.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**70.30**	**35**	LR	LR	05 22 53.8	
	comp=Z,38nm,20.7s,baz=66,slow=36						
KMBO	**Kilima Mbogo**	**72.98**	**107**	LR	LR	05 23 48.6	
	comp=Z,37nm,20.7s,baz=106,slow=35						
MKAR	**Makanchi Array**	**73.92**	**42**	LR	LR	05 26 13.3	
	comp=Z,65nm,18.8s,baz=332,slow=37						

*ISK **22** 05:24:17.9, 40°.07N×38°.19E, h5km, MD3.0*
*CSEM **22** 05:24:19.9±0.2, 40°.04N×38°.19E, h2km, ML3.4, Error ellipse: s-maj=3.9km s-min=3.7km az=52.0*
*DDA **22** 05:24:20.9, 40°.08N×38°.06E, h7km, Ml3.4*
ISC 22 05:24:20.7±0.8, 40°.06N±0°.03×38°.17E±0°.02, h14km±6km, n35, σ0§96/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.15**	**11**	*i* P	**Pg**	**05 24 24.6**	**-0.1**
SUSE				*i* S	**Sg**	**05 24 27.7**	**+0.4**
SUSE	**Susehri**	**0.15**	**11**	P	**Pg**	**05 24 24.6**	**-0.1**
SUSE				S	**Sg**	**05 24 27.7**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.35**	**241**	*i* P	**Pg**	**05 24 27.0**	**-0.9**
CUZAR				*i* S	**Sg**	**05 24 32.2**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.35**	**241**	P	**Pg**	**05 24 27.0**	**-0.9**
CUZAR				S	**Sg**	**05 24 32.2**	**-0.5**
RSDY	**Resadiye-TOKAT**	**0.72**	**298**	*e*PG	**Pg**	**05 24 33.1**	**-1.7**
RSDY				*e*SG	**Sg**	**05 24 44.6**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.72**	**298**	*e*Pg	**Pg**	**05 24 33.1**	**-1.7**
RSDY				*e*Sg	**Sg**	**05 24 44.6**	**+0.2**
SVSK	**Karacayir**	**0.91**	**261**	*e*PG	**Pg**	**05 24 36.7**	**-1.5**
SVSK	**Karacayir**	**0.91**	**261**	*e*Pg	**Pg**	**05 24 36.7**	**-1.5**
CUKAN	**kangal_SIVAS**	**0.92**	**216**	*i* P	**Pg**	**05 24 37.2**	**-1.3**
CUKAN				*i* S	**Sb**	**05 24 51.0**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.92**	**216**	P	**Pg**	**05 24 37.2**	**-1.3**
CUKAN				S	**Sb**	**05 24 51.0**	**+0.4**
ORDU	**Ordu-Boztepe**	**0.96**	**346**	*i* P	**Pb**	**05 24 38.6**	**-0.4**
ORDU				*i* S	**Sb**	**05 24 52.1**	**+0.4**
ORDU	**Ordu-Boztepe**	**0.96**	**346**	P	**Pb**	**05 24 38.7**	**-0.4**
ORDU				S	**Sb**	**05 24 52.1**	**+0.4**
EZC	**Erzincan**	**0.96**	**108**	*e*Pn	**Pn**	**05 24 43.6**	**+3.7**
ERZN	**Erzincan**	**1.29**	**111**	*e*PN	**Pg**	**05 24 43.6**	**-1.8**
ERZN				*e*SN	**Sb**	**05 25 01.2**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.34**	**235**	*i* P	**Pn**	**05 24 45.3**	**+0.2**
CUALT				*i* S	**Sn**	**05 25 04.5**	**+1.7**
CUALT	**Altinyayla-SIV**	**1.34**	**235**	P	**Pn**	**05 24 45.3**	**+0.2**
CUALT				S	**Sn**	**05 25 04.5**	**+1.7**
TNCL	**Tunceli-Merkez**	**1.42**	**131**	*i* P	**Pn**	**05 24 46.1**	**0.0**
TNCL				*i* S	**Sb**	**05 25 05.1**	**+0.1**
TNCL	**Tunceli-Merkez**	**1.42**	**131**	P	**Pn**	**05 24 46.2**	**0.0**
TNCL				S	**Sb**	**05 25 05.1**	**+0.1**
PTK	**Pertek**	**1.50**	**140**	*e*PN	**Pn**	**05 24 46.8**	**-0.6**
PTK	**Pertek**	**1.50**	**140**	*e*Pn	**Pn**	**05 24 46.8**	**-0.6**
KTUT	**Trabzon**	**1.53**	**52**	*e*PN	**Pn**	**05 24 47.5**	**-0.1**
KTUT				*e*SN	**Sg**	**05 25 08.9**	**-1.0**
KTUT	**Trabzon**	**1.53**	**52**	*e*Pn	**Pn**	**05 24 47.5**	**-0.1**
KTUT				*e*Sn	**Sg**	**05 25 09.0**	**-1.0**
DARE	**Darende-Malaty**	**1.58**	**200**	*e*PN	**Pn**	**05 24 48.7**	**+0.4**
DARE				*e*SN	**Sb**	**05 25 10.7**	**+1.2**
DARE	**Darende-Malaty**	**1.58**	**200**	*e*Pn	**Pn**	**05 24 48.7**	**+0.

273nm,1.9s
THZ Tophouse 24.28 204 *e*P **P 05 29 47.4 -1.9**
208nm,2.0s
KHZ Kahutara 24.61 203 *e*P **P 05 29 50.3 -1.8**
19nm,0.8s
LTZ Lake Taylor 25.39 204 *e*P **P 05 29 57.9 -1.4**
20nm,0.7s
OXZ Oxford 25.95 204 *e*P **P 05 30 01.8 -2.5**
39nm,0.8s
RPZ Rata Peaks 26.66 205 P **P 05 30 09.3 -1.5**
16nm,0.9s,baz=342,slow=6.4,SNR=5.2
RPZ Rata Peaks 26.66 205 *e*P **P 05 30 11.0 +0.2**
19nm,0.7s
FOZ Fox Glacier 27.01 207 *e*P **P 05 30 15.3 +1.4**
44nm,0.8s
HNR Honiara 27.36 289 LR LR 05 41 11.3
comp=Z,118nm,19.5s,baz=142,slow=37
LBZ Lake Benmore 27.56 205 *e*P **P 05 30 20.8 +2.0**
35nm,1.3s
ODZ Otahua Downs 27.94 204 *e*P **P 05 30 24.6 +2.4**
130nm,1.8s
WKZ Wanaka 28.40 206 *e*P **P 05 30 28.7 +2.4**
39nm,1.1s
MLZ Mavora Lakes 29.21 206 *e*P **P 05 30 37.0 +3.5**
22nm,1.0s
DCZ Deep Cove 29.70 207 *e*P **P 05 30 42.1 +4.3**
70nm,1.7s
WHZ Wether Hill Ro 29.70 206 *e*P **P 05 30 40.3 +2.5**
51nm,1.4s
TAOE Nuku Hiva Isla 34.51 76 *e*LR LR 05 39 50.8
192nm,28.9s
CAN Canberra 35.90 237 *e*P **P 05 31 31.2 -1.0**
CAN pmax pmax
comp=Z,9.0nm,0.8s
CAN Canberra 35.90 237 *e*P **P 05 31 31.1 -1.0**
comp=Z,8.6nm,0.8s
CTA Charters Tower 37.32 263 P **P 05 31 43.5 -1.0**
comp=Z,9.4nm,0.7s,baz=90,slow=11,SNR=9.2
CTAO Charters Tower 37.32 263 *e*P **P 05 31 44.9 +0.5**
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 37.32 263 *e*P **P 05 31 44.9 +0.5**
comp=Z,13nm,0.8s
PMG Port Moresby 39.01 280 *e*P **P 05 31 56.0 -2.7**
PMG pmax pmax
comp=Z,106nm,0.9s
TAU Tasmania Unive 39.60 226 *e*P **P 05 32 03.5 +0.3**
TAU pmax pmax
comp=Z,122nm,1.7s
TAU Tasmania Unive 39.60 226 *e*P **P 05 32 03.5 +0.3**
comp=Z,122nm,1.7s
STKA Stephens Creek 41.38 244 P **P 05 32 16.6 -1.6**
comp=Z,7.0nm,0.8s,baz=87,slow=9.9,SNR=20
STKA LR LR 05 47 34.1
comp=Z,83nm,18.0s,baz=35,slow=34
STKA Stephens Creek 41.38 244 *e*P **P 05 32 17.3 -0.9**
comp=Z,1.6nm,0.8s
MANU Manus Island 41.84 290 *e*P **P 05 32 22.1 0.0**
comp=Z,126nm,1.3s
MLOA Mauna Loa Obse 43.33 26 *e*P **P 05 32 34.2 -0.4**
comp=Z,181nm,1.4s
BBOO Buckleboo 46.12 244 *e*P **P 05 32 55.7 -0.7**
comp=Z,12nm,0.9s
AS31 Alice Springs 48.31 256 *e*P **P 05 33 11.9 -1.6**
comp=Z,1.9nm,0.8s
ASAR Alice Springs 48.31 256 P **P 05 33 12.1 -1.5**
comp=Z,8.2nm,0.8s,baz=87,slow=8.3,SNR=65
ASAR PcP **PcP 05 34 40.1 -0.1**
comp=Z,3.3nm,0.7s,baz=109,slow=3.7,SNR=11
ASAR LR LR 05 52 50.8
comp=Z,92nm,18.9s,baz=98,slow=35
WB2 Warramunga Arr 48.41 261 *e*P **P 05 33 13.1 -1.3**
comp=Z,8.8nm,0.8s
WRAB Tennant Creek 48.42 261 *e*P **P 05 33 10.9 -3.5**
WRAB pmax pmax
comp=Z,20nm,1.0s
WRAB Tennant Creek 48.42 261 *e*P **P 05 33 13.2 -1.2**
comp=Z,12nm,1.0s
WRA Warramunga Arr 48.42 261 P **P 05 33 12.6 -1.8**
comp=Z,6.4nm,0.8s,baz=97,slow=7.8,SNR=31
WRA PcP **PcP 05 34 41.0 +0.5**
comp=Z,4.4nm,1.0s,baz=94,slow=3.6,SNR=7.3
WRA LR LR 05 52 38.5
comp=Z,95nm,18.2s,baz=50,slow=35
FORT Forrest 52.94 246 *e*P **P 05 33 46.9 -1.4**
comp=Z,157nm,0.8s
MTN Manton Dam 52.98 269 *e*P **P 05 33 48.5 -0.3**
comp=Z,8.8nm,0.7s
FITZ Fitzroy Crossi 56.85 261 P **P 05 34 16.0 -0.8**
comp=Z,2.0nm,0.6s,baz=102,slow=6.2,SNR=8.1
FITZ Fitzroy Crossi 56.85 261 *e*P **P 05 34 16.4 -0.4**
comp=Z,29nm,1.8s
SBA Scott Base 58.52 185 *e*P **P 05 34 29.1 +1.5**
SBA pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 58.52 185 *e*P **P 05 34 29.1 +1.5**
comp=Z,10nm,1.0s
VNDA Vanda 58.64 186 P **P 05 34 28.6 +0.1**
comp=Z,3.2nm,0.8s,baz=7.9,slow=6.8,SNR=12
VNDA Vanda 58.64 186 *e*P **P 05 34 28.9 +0.4**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 58.64 186 *e*P **P 05 34 28.9 +0.4**
comp=Z,3.8nm,0.9s
SOEI Soe 60.31 270 *e*P **P 05 34 41.5 +0.4**
comp=Z,41nm,1.0s
MBWA Marble Bar 61.65 256 *e*P **P 05 34 49.5 -0.5**
comp=Z,35nm,1.4s
QSPA South Pole Qui 69.94 180 *e*P **P 05 35 42.7 -0.1**
MJAR Matsushiro Arr 72.24 321 P **P 05 35 57.3 +0.3**
comp=Z,7.5nm,0.8s,baz=158,slow=5.7,SNR=13
MJAR LR LR 06 07 34.4
comp=Z,7.5nm,18.2s,baz=140,slow=36
MAJO Matsushiro 72.25 321 *e*P **P 05 35 56.3 -0.7**
MAJO pmax pmax
comp=Z,63nm,0.9s
MAJO Matsushiro 72.25 321 *e*P **P 05 35 58.0 +1.0**
comp=Z,10nm,0.8s
MAT Matsushiro 72.25 321 P **P 05 35 58.5 +1.5**
MJB9 Matsu-Tunnel 72.25 321 *e*P **P 05 35 57.6 +0.6**
comp=Z,2.7nm,0.9s
PETK Petropavlovsk- 76.97 343 P **P 05 36 24.4 +0.4**
comp=Z,6.0nm,0.8s,baz=119,slow=8.6,SNR=4.2
TPUB Ta-pu 77.02 301 *e*P **P 05 36 25.7 +0.7**
comp=Z,48nm,0.9s
YSS Yuzh-Sakhalins 77.34 331 *e*P **P 05 36 25.7 -0.5**
YSS pmax pmax
comp=Z,10.0nm,1.2s
WAKR Walker 77.53 41 *e*P **P 05 36 28.6 +0.9**
comp=Z,4.1nm,1.0s
PNTR Pine Nut 77.79 40 *e*P **P 05 36 30.7 +1.5**
comp=Z,9.2nm,1.2s
LDFC Landfair 78.28 46 *e*P **P 05 36 33.0 +1.1**
comp=Z,9.1nm,1.0s
PAHR Pah Rah Range 78.31 40 *e*P **P 05 36 32.8 +0.8**
comp=Z,7.6nm,1.5s
TPNV Topopah Spring 78.60 44 *e*P **P 05 36 34.5 +0.8**
TPNV pmax pmax
comp=Z,5.0nm,1.1s
TPNV Topopah Spring 78.60 44 *e*P **P 05 36 34.5 +0.8**
comp=Z,4.7nm,1.1s
SHPR Sheep Range 79.06 45 *e*P **P 05 36 37.0 +0.8**
comp=Z,3.0nm,0.9s
Y14A Wickenburg 79.08 48 *e*P **P 05 36 36.9 +0.6**
comp=Z,11nm,0.9s
MOD Modoc Plateau 79.15 38 *e*P **P 05 36 37.0 +0.4**
comp=Z,9.3nm,1.6s
KSRS Korea Array 79.19 317 P **P 05 36 38.5 +1.9**
comp=Z,2.5nm,0.6s,baz=133,slow=5.7,SNR=7.7
KSAR Wonju Array Be 79.21 316 P **P 05 36 38.5 +1.7**
KSAR Wonju Array Be 79.21 316 P **P 05 36 38.5 +1.7**
TUC Tucson 79.78 50 *e*P **P 05 36 41.1 +0.9**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 79.78 50 *e*P **P 05 36 41.1 +0.9**
comp=Z,5.4nm,1.1s
R11A Troy Canyon, C 79.85 43 *e*P **P 05 36 41.7 +1.2**
comp=Z,1.6nm,0.9s
X16A Lo Mia Camp, P 80.43 48 *e*P **P 05 36 45.0 +1.2**
comp=Z,3.7nm,0.9s
WVOR Wild Horse Val 80.44 38 *e*P **P 05 36 44.5 +0.9**
WVOR pmax pmax
comp=Z,7.0nm,1.4s
WVOR Wild Horse Val 80.44 38 *e*P **P 05 36 44.5 +0.9**
comp=Z,7.2nm,1.4s
LCMT Little Creek M 80.61 45 *e*P **P 05 36 46.0 +1.4**
comp=Z,3.6nm,1.0s
CCUT Cedar City 80.83 45 *e*P **P 05 36 47.5 +1.6**
comp=Z,4.9nm,1.2s
KNB Kanab 80.90 45 *e*P **P 05 36 47.7 +1.5**
KNB pmax pmax
comp=Z,9.0nm,1.4s
KNB Kanab 80.90 45 *e*P **P 05 36 47.7 +1.5**
comp=Z,8.8nm,1.4s
U15A North Rim 80.93 46 *e*P **P 05 36 47.7 +1.2**
comp=Z,5.0nm,1.0s
SZCU Shurtz Canyon 81.04 45 *e*P **P 05 36 48.3 +1.3**
comp=Z,6.1nm,1.2s
WUAZ Wupatki 81.06 47 *e*P **P 05 36 48.5 +1.4**
comp=Z,3.3nm,1.0s
MTPU Mount Pierson 81.88 45 *e*P **P 05 36 53.5 +1.9**
comp=Z,6.8nm,1.2s
MSU Marysvale 82.15 44 *e*P **P 05 36 54.4 +1.6**
MSU Marysvale 82.15 44 *e*P **P 05 36 54.4 +1.6**
NJ2 Nanjing 82.62 308 *e*P **P 05 36 53.6 -1.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
TMUT Trail Mountain 83.21 44 *e*P **P 05 36 59.9 +1.4**
comp=Z,12nm,0.4s
MNTX Cornudas Mount 83.46 53 *e*P **P 05 37 00.8 +1.3**
comp=Z,8.2nm,1.5s
SRU San Rafael Swe 83.56 44 *e*P **P 05 37 00.2 +0.1**
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 83.56 44 *e*P **P 05 37 00.2 +0.1**
comp=Z,4.8nm,0.8s
HVU Hansel Valley 83.58 41 *e*P **P 05 37 00.8 +0.7**
HVU pmax pmax
comp=Z,2.0nm,0.8s
HVU Hansel Valley 83.58 41 *e*P **P 05 37 00.8 +0.7**
comp=Z,2.4nm,0.8s
HLID Hailey 83.60 39 *e*P **P 05 37 01.0 +0.8**
comp=Z,6.7nm,1.2s
P17A Butcher Ranch, 83.61 44 *e*P **P 05 37 01.8 +1.5**
comp=Z,5.9nm,1.0s
TX31 Lajitas Ar. Si 83.67 56 *e*P **P 05 37 01.6 +0.8**
TXAR Lajitas Array 83.67 56 P **P 05 37 01.2 +0.4**
comp=Z,1.1nm,0.9s,baz=224,slow=6.9,SNR=11
B08A Colville Reser 83.80 33 *e*P **P 05 37 01.0 +0.1**
comp=Z,19nm,1.9s
TT01 Tatalina 83.96 8 *e*P **P 05 37 03.0 +1.7**
TTA Tatalina 83.98 8 *e*P **P 05 37 02.6 +1.0**
TTA pmax pmax
comp=Z,28nm,1.8s
TTA Tatalina 83.98 8 *e*P **P 05 37 02.5 +1.0**
comp=Z,28nm,1.8s
P18A Preston Nutter 84.01 44 *e*P **P 05 37 03.8 +1.2**
comp=Z,12nm,1.4s
TCUT Toone Canyon 84.07 42 *e*P **P 05 37 04.0 +1.3**
comp=Z,16nm,0.9s
PV09 Paradox Valley 84.16 46 *e*P **P 05 37 04.7 +1.3**
PV10 Paradox Valley 84.16 46 *e*P **P 05 37 04.4 +1.2**
ANMO Albuquerque 84.23 50 *e*P **P 05 37 03.4 -0.2**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 84.23 50 *e*P **P 05 37 03.8 +0.2**
comp=Z,17nm,1.9s
PV01 Paradox Valley 84.35 46 *e*P **P 05 37 05.1 +0.9**
CRQM Cirque 84.36 15 *e*P **P 05 37 05.1 +1.5**
comp=Z,79nm,1.8s
CN2 Changchun 84.38 321 *e*P **P 05 37 06.9 +3.0**
LNIG Linares 85.11 61 *e*P **P 05 37 09.3 +1.3**
comp=Z,4.1nm,0.7s
MCMT McKenzie Canyo 85.25 39 *e*P **P 05 37 09.7 +1.1**
KTH Kantishna Hill 85.33 10 *e*P **P 05 37 06.0 -2.3**
comp=Z,45nm,1.9s
S22A 4UR Ranch, Cre 85.34 47 *e*P **P 05 37 09.1 -0.2**
comp=Z,19nm,1.8s
TRF Thorofare Moun 85.35 10 *e*P **P 05 37 09.6 +1.1**
comp=Z,46nm,1.8s
SNOW Snow King Moun 85.75 41 *e*P **P 05 37 13.1 +2.0**
comp=Z,6.0nm,1.3s
TIA Tai'an 85.88 311 *e*P **P 05 37 13.8 +2.2**
TIA pmax pmax
comp=Z,10.0nm,0.6s
SMCO Snowmass 85.95 46 *e*P **P 05 37 14.0 +1.6**
comp=Z,3.5nm,1.0s
PDAR Pinedale Array 86.12 42 P **P 05 37 12.2 -0.7**
comp=Z,1.0nm,0.9s,baz=208,slow=2.9,SNR=5.4
MSTX Muleshoe 86.45 52 *e*P **P 05 37 14.8 +0.1**
comp=Z,6.6nm,0.8s
DOT Dot Lake 86.71 13 *e*P **P 05 37 15.9 +0.8**
comp=Z,93nm,1.9s
CCB Clear Creek Bu 86.88 11 *e*P **P 05 37 16.2 +0.4**
comp=Z,13nm,1.2s
SEY Seymchan 86.94 345 *e*P **P 05 37 16.3 +0.2**
COLA College 87.08 11 *e*P **P 05 37 16.2 -0.6**
COLA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 87.16 11 P **P 05 37 17.3 +0.1**
comp=Z,0.6nm,0.6s,baz=224,slow=5.5,SNR=5.4
SYO Syowa Base 87.89 191 ⇑*e*X P 05 37 16.4 -4.4
DAWY Dawson 88.11 14 *e*P **P 05 37 23.5 +1.6**
comp=Z,26nm,1.8s
SNAA Sanae 88.23 177 *e*P **P 05 37 23.4 +0.8**
SNAA pmax pmax
comp=Z,16nm,2.0s
SNAA Sanae 88.23 177 *e*P **P 05 37 23.4 +0.8**
comp=Z,16nm,2.0s
EGAK Eagle 88.32 13 *e*P **P 05 37 24.2 +1.5**
comp=Z,24nm,1.6s
HIA Hailar 90.65 323 *i* P **P 05 37 33.6 -0.5**
HIA pmax pmax
comp=Z,6.0nm,0.9s
XAN Xi'an 90.97 306 P **P 05 37 37.8 +1.8**
XAN pP sP 05 37 50.9 +1.4
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,76nm,5.7s
HHC Hu-ho-hao-te 91.86 313 *e*P **P 05 37 41.1 +1.1**
HHC pP pP 05 37 51.8 +1.8
HHC sP sP 05 37 55.6 +2.1
HHC S **S 05 48 37.0 -2.3**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,79nm,5.7s
HHC LR LR
comp=Z,95nm,24.3s
HHC LR LR
comp=Z,100nm,23.0s
HHC LR LR
comp=Z,70nm,22.4s
CMAR Chiang Mai Arr 93.60 288 P **P 05 37 49.7 +1.3**
comp=Z,3.4nm,0.9s,baz=123,slow=3.1,SNR=21
CMAR LR LR 06 18 50.7
comp=Z,13nm,19.6s,baz=125,slow=35
ULM Lac du Bonnet 97.91 39 LR LR 06 17 36.6
comp=Z,73nm,18.2s,baz=328,slow=32
TIXI Tiksi 99.40 344 *e*P **Pdif 05 38 13.2 -0.2**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 113.72 313 PKiKP **PKiKP 05 43 09.6 -0.5**
comp=Z,0.5nm,0.6s,baz=45,slow=2.2,SNR=2.8
KURK Kurchatov 116.31 317 *i* PKIKP **PKPdf 05 43 14.6 -0.3**
KURK Kurchatov 116.31 317 PKP **PKPdf 05 43 14.2 -0.7**
KURBB Kurchatov Arra 116.36 317 PKP **PKPdf 05 43 14.2 -0.8**
comp=Z,0.6nm,0.7s,baz=90,slow=2.2,SNR=4.8
KSH Kashi 117.81 305 *e*PKP **PKPdf 05 43 20.0 +1.7**
KSH sPKP 05 43 36.0
KSH PP PP 05 44 40.9 +8.6
KSH PKS **PKSdf 05 46 56.4 +1.3**
KSH SKS **SKSdf 05 50 28.8 +0.4**
KSH SKKS **SKKSac 05 51 28.3 -2.3**
KSH SS **SS 06 00 47.8 +4.0**
KSH AMB AMB
comp=Z,120nm,5.2s
KSH LR LR
comp=Z,96nm,5.8s
KSH LR LR
comp=Z,79nm,4.5s
KSH LR LR
comp=Z,96nm,6.5s
BVAR Borovoye Array 121.24 320 PKP **PKPdf 05 43 24.1 -0.2**
comp=Z,1.1nm,0.6s,baz=102,slow=3.4,SNR=7.4
SPA0 Spitsbergen Ar 121.70 358 *e*PKPdf **PKPdf 05 43 27.3 +2.7**
ARU Arti 127.03 326 *i* PKIKP **PKPdf 05 43 35.4 +0.1**
ARU 05 45 31.7
ARU 05 50 43.8
ARU SS SS 06 02 33.0 -6.5
ARCES ARCESS Array B 129.19 351 PKP **PKPdf 05 43 40.0 +0.9**
comp=Z,3.7nm,1.1s,baz=23,slow=3.2,SNR=3.2
ARCES ARCESS Array B 129.19 351 PKIKP **PKPdf 05 43 40.0 +0.9**
AKASG Malin Array Be 144.43 335 PKP PKPbc 05 44 06.5 +0.3
comp=Z,3.4nm,0.7s,baz=40,slow=4.5,SNR=37
AKBB Malin Array Si 144.43 335 *e*PKIKP PKPbc 05 44 06.4 +0.2
AKBB Malin Array Si 144.43 335 *e*PKPdf **PKPab 05 44 06.4 +0.4**
KIEV Kiev 144.44 335 *e*PKIKP PKPbc 05 44 06.6 +0.4
KIEV Kiev 144.44 335 *e*PKPdf PKPbc 05 44 06.6 +0.4
SORM Soroca 146.77 332 ⇓*i*P **PKPbc 05 44 13.2 -0.3**
SORM Soroca 146.77 332 ⇓PKP2 **PKPbc 05 44 13.2 -0.3**
STHS Stebnicka Huta 148.36 341 *e*PKP2 **PKPab 05 44 20.8 -0.3**
STHS Stebnicka Huta 148.36 341 *e*PKP **PKPab 05 44 20.8 -0.3**
CLL Collm 148.41 352 *i* PKP2 **PKPbc 05 44 18.6 +0.7**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 148.41 352 *i* PKPbc **PKPbc 05 44 18.6 +0.7**
comp=Z,5.0nm,0.8s
CLL *i* PKPab **PKPab 05 44 22.2 +1.0**
CLL *e*PP **PP 05 47 48.0 +1.8**
CLL Collm 148.41 352 *e*PKPbc **PKPbc 05 44 18.4 +0.5**
BUR08 Bucovina Ar. S 148.47 335 *e*PKPbc **PKPbc 05 44 19.7 +1.3**
BURAR Bucovina Array 148.48 335 ⇑*i*P **PKPbc 05 44 18.9 +0.5**
BURAR Bucovina Array 148.48 335 ⇑PKP2 **PKPbc 05 44 18.9 +0.5**
UPC Upice 148.68 348 ⇑*e*PKP **PKPbc 05 44 19.9 +1.2**
UPC Upice 148.68 348 *e*PKP2 **PKPbc 05 44 19.9 +1.2**
BRG Berggiesshubel 148.70 350 *e*PKP **PKPbc 05 44 19.3 +0.6**
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 148.70 350 *e*PKP2 **PKPbc 05 44 19.3 +0.6**
BRG pmax pmax
comp=Z,3.0nm,0.9s
UZH Uzhgorod 148.71 339 *i* PKP2 **PKPbc 05 44 20.2 +1.4**
TLCR 148.73 328 ⇑*i*P **PKPbc 05 44 18.3 -0.6**
TLCR 148.73 328 ⇑PKP2 **PKPbc 05 44 18.3 -0.6**
CRVS Cervenica-Dubn 148.74 340 *e*PKP2 **PKPab 05 44 23.6 +1.0**
CRVS Cervenica-Dubn 148.74 340 *e*PKP **PKPab 05 44 23.6 +1.0**
DPC Dobruska-Polom 148.76 347 ⇑*e*PKP **PKPbc 05 44 20.4 +1.4**
DPC *ep*PKP **sPKPbc 05 44 32.6 -0.1**
DPC Dobruska-Polom 148.76 347 *e*PKP2 **PKPbc 05 44 20.4 +1.4**
MORC Moravsky Berou 149.03 345 ⇑*i*P **PKPbc 05 44 20.0 +0.3**
MORC Moravsky Berou 149.03 345 ⇑PKP2 **PKPbc 05 44 20.0 +0.3**
CFR Carcaliu 149.06 329 ⇓*i*P **PKPbc 05 44 19.1 -0.7**
CFR Carcaliu 149.06 329 ⇓PKP2 **PKPbc 05 44 19.1 -0.7**
LANS Liptovska Anna 149.12 343 *e*PKP2 **PKPbc 05 44 21.8 +1.9**
LANS Liptovska Anna 149.12 343 *e*PKP **PKPbc 05 44 21.8 +1.9**
VRI Vrincioaia 149.21 331 ⇑*i*P **PKPbc 05 44 21.4 +1.2**
VRI Vrincioaia 149.21 331 ⇑PKP2 **PKPbc 05 44 21.4 +1.2**
PLOR Plostina 149.26 331 ⇓*i*P **PKPab 05 44 25.2 +0.3**
PLOR Plostina 149.26 331 ⇓PKP2 **PKPab 05 44 25.2 +0.3**
BR131 Keskin Array S 149.33 316 *e*PKPbc **PKPbc 05 44 20.8 -0.1**
BRTR Keskin Array B 149.33 316 PKPbc **PKPbc 05 44 20.6 -0.3**
comp=Z,1.3nm,0.6s,baz=127,slow=3.3,SNR=7.7
TIRR Tirgusor 149.45 328 *e*PKIKP **PKPdf 05 44 15.0 -1.3**
TIRR Tirgusor 149.45 328 *e*PKPdf **PKPdf 05 44 15.0 -1.3**
PRU Pruhonice 149.45 349 ⇑*e*PKP **PKPbc 05 44 22.5 +1.9**
PRU Pruhonice 149.45 349 *e*PKP2 **PKPbc 05 44 22.5 +1.9**
TLB Topalu 149.54 328 ⇑*i*P **PKPbc 05 44 22.9 +1.9**
TLB Topalu 149.54 328 ⇑PKP2 **PKPbc 05 44 22.9 +1.9**
VYHS Vyhne 149.89 343 *e*PKP2 **PKPbc 05 44 23.0 +1.2**
VYHS Vyhne 149.89 343 *e*PKP **PKPbc 05 44 22.9 +1.2**
PSZ Piszkesteto 150.10 341 ⇑*i*P **PKPbc 05 44 22.0 -0.4**
PSZ Piszkesteto 150.10 341 ⇑PKIKP **PKPbc 05 44 22.0 -0.4**
DRGR 150.13 337 ⇑*i*P **PKPbc 05 44 23.2 +0.7**
DRGR 150.13 337 ⇑PKIKP **PKPbc 05 44 23.2 +0.7**
VOIR 150.29 332 ⇑*i*P **PKPbc 05 44 23.1 +0.2**
VOIR 150.29 332 ⇑PKIKP **PKPbc 05 44 23.1 +0.2**
KHC Kasperske Hory 150.44 350 ⇑*e*PKP **PKPbc 05 44 24.0 +0.9**
KHC *e*PKPAB **PKPab 05 44 30.7 +1.1**
KHC *ep*PKP **pPKPab 05 44 39.1 -0.5**
KHC Kasperske Hory 150.44 350 *e*PKIKP **PKPbc 05 44 24.0 +0.9**
KHC *e* 05 44 30.7
KHC *e* 05 44 39.1
ARR Arges 150.53 333 ⇓*i*P **PKPbc 05 44 25.4 +1.9**
GERES GERESS Array B 150.70 350 PKPbc **PKPbc 05 44 23.6 -0.2**
comp=Z,1.1nm,0.8s,baz=352,slow=2.0,SNR=6.1
SIRR Siria 150.96 337 ⇓*i*P **PKPbc 05 44 23.0 -1.4**
BZS Buzias 151.53 337 ⇑*i*P **PKPbc 05 44 26.1 +0.4**
BZS Buzias 151.53 337 ⇑PKIKP **PKPbc 05 44 26.1 +0.4**

IDC 22 06:02:07.7±50.0, 15°.88S×174°.88W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.8/3, Error ellipse: s-maj=952.6km s-min=180.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.57**	**240**	P	P	06 10 05.8	+0.2
0.8nm,0.4s,baz=83,slow=8.1,SNR=5.1							
WRA	**Warramunga Arr**	**48.35**	**257**	P	P	06 10 51.1	-0.5
0.1nm,0.3s,baz=94,slow=7.5,SNR=6.3							
ASAR	**Alice Springs**	**48.61**	**252**	P	P	06 10 53.5	-0.1
1.4nm,0.3s,baz=88,slow=8.2,SNR=36							

IDC 22 06:32:06.0±1.9, 16°.96S×178°.07W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/30, mbtmp4.0/5, Error ellipse: s-maj=149.2km s-min=32.3km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.38**	**240**	P	P	06 39 38.1	+0.6
1.3nm,0.4s,baz=90,slow=13,SNR=5.7							
WRA	**Warramunga Arr**	**45.13**	**259**	P	P	06 40 24.2	-0.5
1.0nm,0.5s,baz=96,slow=6.9,SNR=12							
ASAR	**Alice Springs**	**45.37**	**253**	P	P	06 40 26.0	-0.5
6.1nm,0.5s,baz=88,slow=8.7,SNR=61							
FITZ	**Fitzroy Crossi**	**53.51**	**260**	P	P	06 41 28.9	+0.1
0.5nm,0.5s,baz=121,slow=5.9,SNR=2.5							
TXAR	**Lajitas Array**	**85.21**	**58**	P	P	06 44 44.9	0.0
0.2nm,0.7s,baz=230,slow=5.4,SNR=3.4							

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*IDC **22** 06:35:00.3±1.7, 27°.27S×177°.74W, h154km±16km, mb3.8/11, mb1 4.1/11, mb1mx3.9/28, mbtmp4.2/11, Error ellipse: s-maj=21.5km s-min=19.6km az=15.0*
*NEIC **22** 06:35:00.6±0.9, 27°.26S×177°.87W, h154km±9km, mb4.5/31, Error ellipse: s-maj=9.0km s-min=7.2km az=162.0*
*ISCJB **22** 06:35:01.5±0.3, 27°.55S±0°.03×177°.99W±0°.08, h180km, mb4.3/40, Error ellipse: s-maj=10.1km s-min=4.2km az=14.8*

ISC 22 06:35:03.1±0.4, 27°.56S±0°.05×178°.1W±0°.1, h180km, n95, σ1871/99, mb4.3/40, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**176**	P	**Pn**	**06 35 35.5**	**-1.4**
691nm,0.3s,baz=323,slow=10,SNR=38							
RAO				S	**Sn**	**06 36 02.9**	**-0.4**
628nm,0.3s,baz=14,slow=21,SNR=8.1							
RAO	**Raoul Island**	**1.69**	**176**	*e*Pn	**Pn**	**06 35 35.4**	**-1.6**
RAO				*e*Sn	**Sn**	**06 36 07.0**	**+3.7**
MSVF	**Nonsavu**	**10.41**	**339**	*e*Pn	**Pn**	**06 37 25.5**	**-2.7**
MXZ	**Matakaoa Point**	**10.44**	**196**	PN	Pn	06 37 21.9	-6.3
MXZ				SN	**Sn**	**06 39 22.1**	**-2.1**
WMGZ	**Waiomatatini S**	**10.65**	**195**	PN	Pn	06 37 25.4	-5.7
WMGZ				SN	**Sn**	**06 39 25.3**	**-4.2**
HAZ	**Te Kaha**	**10.75**	**198**	PN	Pn	06 37 26.8	-5.5
HAZ				SN	**Sn**	**06 39 30.3**	**-1.6**
PKGZ	**Pakihiroa**	**10.80**	**197**	PN	Pn	06 37 25.8	-7.2
PKGZ				SN	**Sn**	**06 39 29.5**	**-3.6**
PUZ	**Puketiti**	**10.93**	**195**	PN	Pn	06 37 28.1	-6.6
PUZ				SN	**Sn**	**06 39 29.5**	**-6.6**
RUGZ	**Raukumara Rang**	**10.98**	**198**	PN	Pn	06 37 30.2	-5.2
MWZ	**Matawai**	**11.37**	**198**	PN	Pn	06 37 35.1	-5.2
URZ	**Urewera**	**11.41**	**200**	P	Pn	06 37 36.0	-4.9
0.7nm,0.3s,baz=112,slow=11,SNR=4.7							
URZ				S	**Sn**	**06 39 44.2**	**-3.5**
4.1nm,0.3s,baz=326,slow=23,SNR=13							
URZ	**Urewera**	**11.41**	**200**	*e*Pn	**Pn**	**06 37 37.9**	**-3.0**
URZ				*e*Sn	**Sn**	**06 39 44.2**	**-3.5**
URZ	**Urewera**	**11.41**	**200**	PN	Pn	06 37 35.3	-5.6
URZ				SN	**Sn**	**06 39 44.0**	**-3.6**
AFI	**Afiamalu**	**14.79**	**25**	P	Pn	06 38 09.9	-14
9.0nm,0.3s,baz=207,slow=11,SNR=12							
AFI				S	Sn	06 40 35.1	-34
3.3nm,0.3s,baz=319,slow=20,SNR=4.0							
AFI	**Afiamalu**	**14.79**	**25**	*e*Pn	Pn	06 38 10.2	-14
AFI				*e*Sn	Sn	06 40 35.1	-34
SNZO	**South Karori**	**14.95**	**202**	*e*Pn	**P**	**06 38 27.6**	**+1.0**
26nm,0.9s							
CTA	**Charters Tower**	**33.39**	**275**	P	**P**	**06 41 27.7**	**+3.0**
3.2nm,0.6s,baz=116,slow=13,SNR=4.8							
CTAO	**Charters Tower**	**33.39**	**275**	*e*P	**P**	**06 41 27.4**	**+2.7**
16nm,1.3s							

PATS	Pohnpei	41.12	323	*e*P	P	06 42 28.6	-1.1
	126nm,1.5s						
AS31	Alice Springs	43.28	264	*e*P	P	06 42 49.1	+1.9
	1.4nm,1.3s						
AS31				*e*PP	PcP	06 44 34.0	+1.0
ASAR	Alice Springs	43.28	264	P	P	06 42 49.1	+1.9
	0.7nm,0.4s,baz=96,slow=6.9,SNR=8.6						
ASAR				PcP	PcP	06 44 34.0	+1.0
	0.7nm,0.6s,baz=118,slow=3.5,SNR=4.9						
WB2	Warramunga Arr	44.00	269	*e*P	P	06 42 54.6	+1.6
	4.5nm,1.0s						
WRAB	Tennant Creek	44.00	269	*e*P	P	06 42 54.0	+1.1
	3.7nm,1.0s						
WR1	Warramunga Arr	44.01	269	*e*P	P	06 42 54.3	+1.3
	4.6nm,1.0s						
WR1				*e*PcP	PcP	06 44 36.6	+1.2
WRA	Warramunga Arr	44.01	269	P	P	06 42 54.3	+1.3
	2.5nm,0.7s,baz=107,slow=7.6,SNR=13						
WRA				PcP	PcP	06 44 36.6	+1.2
	1.1nm,0.7s,baz=102,slow=3.1,SNR=4.9						
VNDA	Vanda	50.91	186	P	P	06 43 47.4	+2.0
	2.0nm,1.0s,baz=5.8,slow=9.1,SNR=4.7						
VNDA	Vanda	50.91	186	*e*P	P	06 43 47.8	+2.4
	3.8nm,1.3s						
QSPA	South Pole Qui	62.54	180	*e*P	P	06 45 11.0	+3.4
JOW	Kunigami	74.72	312	*e*P	P	06 46 24.0	+0.7
	30nm,1.2s						
MJAR	Matsushiro Arr	75.89	325	P	P	06 46 29.0	-0.7
	3.4nm,0.6s,baz=170,slow=5.9,SNR=8.8						
MAJO	Matsushiro	75.89	325	*e*P	P	06 46 29.5	-0.2
	22nm,1.3s						
MAT	Matsushiro	75.89	325	P	P	06 46 29.0	-0.7
MJB9	Matsu-Tunnel	75.89	325	*e*P	P	06 46 29.5	-0.2
	5.4nm,1.3s						
ADK	Adak	79.11	1	*e*P	P	06 46 45.6	-1.5
	38nm,1.0s						
SNAA	Sanae	80.99	178	*e*P	P	06 46 59.0	+1.8
	3.4nm,1.1s						
KSRS	Korea Array	82.16	319	P	P	06 47 04.3	+0.6
	2.9nm,0.6s,baz=134,slow=6.4,SNR=11						
KS15	Wonju Array Si	82.17	319	*e*P	P	06 47 02.5	-1.2
KSAR	Wonju Array Be	82.17	319	P	P	06 47 04.3	+0.5
PETK	Petropavlovsk-	83.06	346	P	P	06 47 07.1	-0.9
	6.6nm,0.8s,baz=159,slow=5.6,SNR=4.7						
PEA1	Petropavlovsk-	83.06	346	*e*P	P	06 47 07.1	-0.9
PLCA	Paso Flores	84.48	133	*e*P	P	06 47 17.5	+1.6
USRK	Ussuriysk Ar.	84.77	326	P	P	06 47 16.9	0.0
	2.1nm,0.5s,baz=128,slow=3.9,SNR=5.2						
KRMB	Red Mountain	85.04	38	*e*P	P	06 47 17.3	-1.2
	16nm,1.5s						
GSC	Goldstone, Bar	85.16	46	*e*P	P	06 47 18.9	-0.3
	2.6nm,0.9s						
TPNV	Topopah Spring	86.53	45	*e*P	P	06 47 25.9	-0.1
	3.5nm,1.4s						
Y14A	Wickenburg	86.82	49	*e*P	P	06 47 26.7	-0.6
	26nm,1.5s						
X16A	Lo Mia Camp, P	88.15	49	*e*P	P	06 47 34.4	+0.6
	2.6nm,0.8s						
U15A	North Rim	88.75	47	*e*P	P	06 47 37.0	+0.3
	1.9nm,0.8s						
CNPM	China Poot	89.55	13	*e*P	P	06 47 38.7	-0.8
LTY	Liberty	90.63	35	*e*P	P	06 47 44.4	-0.6
	3.0nm,0.9s						
TXAR	Lajitas Array	90.90	57	P	P	06 47 45.5	-1.2
	0.6nm,0.9s,baz=203,slow=6.1,SNR=5.2						
TMUT	Trail Mountain	91.12	46	*e*P	P	06 47 47.6	-0.1
	2.5nm,0.7s						
SUA	Susitna One	91.43	13	*e*P	P	06 47 47.4	-0.9
	20nm,1.4s						
GLI	Glacier Island	91.66	15	*e*P	P	06 47 48.0	-1.3
	67nm,1.5s						
TT01	Tatalina	91.85	10	*e*P	P	06 47 49.7	-0.4
PMR	Palmer	91.87	13	*e*P	P	06 47 49.0	-1.2
	12nm,1.4s						
TTA	Tatalina	91.88	10	*e*P	P	06 47 49.7	-0.6
	5.6nm,1.3s						
SCM	Sheep Creek Mo	92.46	14	*e*P	P	06 47 52.6	-0.4
	19nm,1.4s						
KLU	Klutina	92.47	15	*e*P	P	06 47 50.8	-2.3
	25nm,1.4s						
S22A	4UR Ranch, Cre	93.10	49	*e*P	P	06 47 56.6	-0.3
	1.6nm,1.0s						
NEW	Newport	93.11	36	*e*P	P	06 47 55.5	-0.8
	1.9nm,0.8s						
KTH	Kantishna Hill	93.31	12	*e*P	P	06 47 54.8	-2.1
	9.8nm,1.4s						
TRF	Thorofare Moun	93.33	12	*e*P	P	06 47 55.4	-1.8
	9.2nm,1.2s						
SNOW	Snow King Moun	93.79	42	*e*P	P	06 47 59.5	-0.4
	2.6nm,0.9s						
PD31	Pinedale Array	94.12	43	*e*P	P	06 47 59.1	-2.3
PDAR	Pinedale Array	94.12	43	P	P	06 47 59.1	-2.3
	0.7nm,0.9s,baz=205,slow=3.1,SNR=4.2						
ILAR	Eielson Array	95.18	13	P	P	06 48 03.3	-2.1
	0.8nm,0.8s,baz=220,slow=5.4,SNR=10.0						
ILB	Eielson Array	95.18	13	*e*P	P	06 48 03.3	-2.1
MK31	Makanchi Array	115.89	311	*e*PKPdf	PKPdf	06 53 23.6	-0.5
MK32	Makanchi Array	115.89	311	*e*PKPdf	PKPdf	06 53 23.5	-0.6
MKAR	Makanchi Array	115.89	311	PKP	PKPdf	06 53 23.5	-0.6
	0.4nm,0.6s,baz=241,slow=1.9,SNR=3.8						
MKAR	Makanchi Array	115.89	311	*e*PKPdf	PKPdf	06 53 23.8	-0.4
SPA0	Spitsbergen Ar	128.87	356	*e*PKPdf	PKPdf	06 53 48.1	-0.1
ARA0	ARCESS Array S	135.81	348	*e*PKPdf	PKPdf	06 54 01.0	-0.5
ARCES	ARCESS Array B	135.81	348	PKP	PKPdf	06 54 01.0	-0.5
	1.3nm,0.6s,baz=338,slow=1.3,SNR=6.1						
FIA0	FINESS Array S	142.46	341	*e*PKPpre	PKPpre	06 54 08.3	
NC303	NORSAR Array S	145.74	352	*e*PKPdf	PKPdf	06 54 19.4	-0.1
NC204	NORSAR Array S	145.76	352	*e*PKPdf	PKPdf	06 54 19.7	+0.1
NC405	NORSAR Array S	145.81	352	*e*PKPdf	PKPbc	06 54 20.4	-0.1
NB201	NORSAR Array S	145.92	352	*e*PKPdf	PKPdf	06 54 20.2	+0.4
NB2	NORSAR Subarra	145.94	352	PKP	PKPdf	06 54 19.7	-0.2
	comp=Z,1.3nm,0.6s,baz=16,slow=3.2						
NB200	NORSAR Array S	145.94	352	*e*PKPdf	PKPdf	06 54 20.0	+0.1
NOA	NORSAR Array B	145.94	352	PKPbc	PKPdf	06 54 20.0	+0.1
	comp=Z,2.4nm,0.6s,baz=17,slow=2.8,SNR=7.2						
MARD	Mardin	146.01	297	*e*PKPdf	PKPab	06 54 23.7	+0.8
NAO01	NORSAR Array S	146.17	352	*e*PKPdf	PKPbc	06 54 21.6	+0.1
NC602	NORSAR Array S	146.19	352	*e*PKPdf	PKPdf	06 54 20.3	+0.1
HFS	Hagfors	146.45	349	PKPbc	PKPdf	06 54 21.2	+0.5
	comp=Z,4.0nm,0.6s,baz=48,slow=2.1,SNR=20						
AKASG	Malin Array Be	148.97	326	PKPbc	PKPbc	06 54 28.8	-0.6
	comp=Z,4.1nm,0.5s,baz=45,slow=3.7,SNR=20						
AKBB	Malin Array Si	148.97	326	*e*PKPbc	PKPbc	06 54 28.9	-0.5
KIEV	Kiev	148.98	326	*e*PKPbc	PKPbc	06 54 28.9	-0.5
BR101	Keskin Array S	151.10	303	*e*PKPbc	PKPbc	06 54 35.4	+0.3
BRTR	Keskin Array B	151.10	303	PKPbc	PKPbc	06 54 35.4	+0.3
	comp=Z,1.5nm,0.6s,baz=131,slow=4.5,SNR=6.5						
BUR08	Bucovina Ar. S	152.94	324	*e*PKPbc	PKPbc	06 54 40.5	+1.6
TORD	Torodi Ar. Bea	165.66	179	PKP	PKPdf	06 54 46.9	0.0
	comp=Z,0.4nm,0.7s,baz=262,slow=1.1,SNR=2.8						
TORD				PKPab	PKPab	06 55 48.4	+1.8
	comp=Z,0.5nm,0.7s,baz=176,slow=5.3,SNR=3.9						
TOA1	Torodi Ar. Sit	165.67	179	*e*PKPdf	PKPdf	06 54 46.9	0.0
TOA1				*e*PKPab	PKPab	06 55 48.4	+1.8

IDC ***22*** *06:39:13.8±0.7, 61°.05N×27°.95W, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/46, mbtmp3.9/18, ML3.9/3, MS3.6/29, Ms1 3.6/29, ms1mx3.4/44, Error ellipse: s-maj=23.8km s-min=12.4km az=14.0*

MOS ***22*** *06:39:14.2±1.2, 61°.14N×27°.82W, h10km, mb4.6/40, Error ellipse: s-maj=9.8km s-min=7.9km az=43.6*

ISCJB ***22*** *06:39:14.2±0.1, 61°.27N±0°.03×27°.76W±0°.03, h10km, mb4.4/81, MS3.5/26, Error ellipse: s-maj=4.2km s-min=2.0km az=168.1*

REY ***22*** *06:39:15.3, 60°.73N×25°.98W, h10km*

CSEM ***22*** *06:39:15.9±0.1, 61°.25N×27°.67W, h10km, mb4.6/68, Error ellipse: s-maj=5.7km s-min=3.8km az=177.0*

NEIC ***22*** *06:39:16.1±0.2, 61°.08N×27°.75W, h10km, mb4.6/46, Error ellipse: s-maj=6.5km s-min=3.2km az=186.0*

ISC 22 06:39:16.2±0.4, 61°.13N±0°.06×27°.45W±0°.04, h10km, n486, σ1**83**/499**, mb4.5**/80**, MS3.5**/26**, 2C-1D, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	3.49	37	P	Pn	06 40 09.0	-1.4
	baz=25						
IRNE	Reykjanes	3.49	37	P	Pn	06 40 09.0	-1.4
IGRV	Grindav??k	3.59	38	P	Pn	06 40 10.3	-1.5
	baz=26						
IGRV				S	Sn	06 40 55.2	+1.0
	baz=26						
IGRV	Grindav??k	3.59	38	P	Pn	06 40 10.3	-1.5
IGRV				S	Sn	06 40 55.2	+1.0
INYL	Nylenda	3.60	35	P	Pn	06 40 10.4	-1.5
	baz=24						
INYL				S	Sn	06 40 57.1	+2.7
	baz=24						
INYL	Nylenda	3.60	35	P	Pn	06 40 10.4	-1.5
INYL				S	Sn	06 40 57.1	+2.7
IVOG	Vogar	3.69	37	P	Pn	06 40 12.2	-1.0
	baz=26						
IVOG	Vogar	3.69	37	P	Pn	06 40 12.2	-1.0
IKRI	Krysuvik	3.72	40	P	Pn	06 40 12.4	-1.2
	baz=28						
IKRI	Krysuvik	3.72	40	P	Pn	06 40 12.4	-1.2
IVOS	Vogsosar	3.82	42	P	Pn	06 40 13.1	-1.9
	baz=31						
IVOS	Vogsosar	3.82	42	P	Pn	06 40 13.1	-1.9
IKAS	Kald??rsel	3.89	39	P	Pn	06 40 15.0	-1.0
	baz=28						
IKAS	Kald??rsel	3.89	39	P	Pn	06 40 15.0	-1.0
ISAN	Sandskeio	4.00	40	P	Pn	06 40 15.9	-1.6
	baz=30						
ISAN				S	Sn	06 41 04.2	-0.3
	baz=30						
ISAN	Sandskeio	4.00	40	P	Pn	06 40 15.9	-1.6
ISAN				S	Sn	06 41 04.2	-0.3
IBJA	Bjarnastaoir	4.01	42	P	Pn	06 40 16.2	-1.5
	baz=32						
IBJA				S	Sn	06 41 04.1	-0.6
	baz=32						
IBJA	Bjarnastaoir	4.01	42	P	Pn	06 40 16.2	-1.5
IBJA				S	Sn	06 41 04.1	-0.6
IKUD	Kuludalsa	4.11	36	P	Pn	06 40 18.9	0.0
	baz=26						
IKUD				S	Sn	06 41 09.0	+2.1
	baz=26						
IKUD	Kuludalsa	4.11	36	P	Pn	06 40 18.9	0.0
IKUD				S	Sn	06 41 09.0	+2.1
ISOL	Solvholt	4.12	44	P	Pn	06 40 16.3	-2.8
	baz=34						
ISOL				S	Sn	06 41 04.0	-3.3
	baz=34						
ISOL	Solvholt	4.12	44	P	Pn	06 40 16.3	-2.8
ISOL				S	Sn	06 41 04.0	-3.3
IASM	Asmuli	4.18	46	P	Pn	06 40 17.2	-2.6
	baz=36						
IASM				S	Sn	06 41 04.3	-4.3
	baz=36						
IASM	Asmuli	4.18	46	P	Pn	06 40 17.2	-2.6
IKRO	Krokur	4.18	42	P	Pn	06 40 19.1	-0.8
	baz=32						
IKRO				S	Sn	06 41 04.4	-4.3
	baz=32						
IKRO	Krokur	4.18	42	P	Pn	06 40 19.1	-0.8
IKRO				S	Sn	06 41 04.4	-4.3
IHEI	Heioarbar	4.21	40	P	Pn	06 40 20.2	-0.1
	baz=30						
IHEI	Heioarbar	4.21	40	P	Pn	06 40 20.2	-0.1
IMID	Miomork	4.34	51	P	Pn	06 40 18.4	-3.7
	baz=42						
IMID	Miomork	4.34	51	P	Pn	06 40 18.4	-3.7
ISAU	Saurbar	4.34	45	P	Pn	06 40 19.2	-2.9
	baz=36						
ISAU				S	Sn	06 41 08.8	-3.9
	baz=36						
ISAU	Saurbar	4.34	45	P	Pn	06 40 19.2	-2.9
ISAU				S	Sn	06 41 08.8	-3.9
ISMJ	Smjorgil	4.44	51	P	Pn	06 40 19.9	-3.6
	baz=42						
IESK	Eystri-Skogar	4.44	54	P	Pn	06 40 19.5	-4.0
	baz=45						
IESK				S	Sn	06 41 10.4	-4.7
	baz=45						
IESK	Eystri-Skogar	4.44	54	P	Pn	06 40 19.5	-4.0
IESK				S	Sn	06 41 10.4	-4.7
IHAU	Haukadalur	4.49	47	P	Pn	06 40 22.0	-2.1
	baz=38						
IHAU				S	Sn	06 41 12.4	-3.9
	baz=38						
IHAU	Haukadalur	4.49	47	P	Pn	06 40 22.0	-2.1
IHAU				S	Sn	06 41 12.4	-3.9
IALF	Alftagrof	4.53	55	P	Pn	06 40 20.9	-3.8
	baz=46						
BORG	Borgarnes	4.59	35	*e*P	Pn	06 40 25.5	0.0
BORG				*e*		06 41 24.7	
BORG	Borgarnes	4.59	35	*e*P	Pn	06 40 25.5	0.0
BORG				*e*S	Sn	06 41 24.7	+6.0
BORG	Borgarnes	4.59	35	*e*Pn	Pn	06 40 25.5	0.0
BORG				*e*Sn	Sn	06 41 24.7	+6.0
IGYG	Gygjarholskot	4.60	43	P	Pn	06 40 23.7	-1.9
	baz=34						
IGYG				S	Sn	06 41 17.5	-1.5
	baz=34						
IGYG	Gygjarholskot	4.60	43	P	Pn	06 40 23.7	-1.9
IGYG				S	Sn	06 41 17.5	-1.5
SFJD	Kangerlussuaq	11.67	310	Pn	Pn	06 42 00.1	-2.4
	0.6nm,0.3s,baz=132,slow=12,SNR=3.2						
SFJD				Sn	Sn	06 44 10.1	-2.5
	0.8nm,0.3s,baz=108,slow=20,SNR=2.2						
SFJD				LR	LR	06 45 49.7	
	comp=Z,510nm,19.8s,baz=106,slow=34						
SUMG	Summit	12.25	344	*i* P	Pn	06 42 10.0	-0.8
	8.3nm,0.8s						
SUMG	Summit	12.25	344	*i* P	Pn	06 42 10.0	-0.8
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SUMG	Summit	12.25	344	*e*Pn	Pn	06 42 09.8	-1.0
SUMG	Summit	12.25	344	*e*Pn	Pn	06 42 09.8	-1.0
JMIC	Jan Mayen	12.45	30	LR	LR	06 46 01.6	
	comp=Z,184nm,19.9s,baz=208,slow=32						
ILULI	Ilulissat	12.73	319	*i* P	Pn	06 42 20.1	+3.1
ILULI	Ilulissat	12.73	319	*i* P	Pn	06 42 20.1	+3.1
ESK	Eskdalemuir	13.98	104	*e*P	Pn	06 42 34.8	+0.7
ESK	Eskdalemuir	13.98	104	*e*Pn	Pn	06 42 34.8	+0.7
EKA	Eskdalemuir Ar	14.00	104	Pn	Pn	06 42 35.1	+0.8
	baz=304,slow=13,SNR=5.6						
NB200	NORSAR Array S	18.52	73	*e*P	Pn	06 43 34.0	+1.5
NB200	NORSAR Array S	18.52	73	*e*P	Pn	06 43 34.0	+1.5
NOA	NORSAR Array B	18.52	73	P	Pn	06 43 34.1	+1.5
	comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=3.7						
NOA				LR	LR	06 49 42.5	
	comp=Z,159nm,21.2s,baz=285,slow=34						
FRB	Frobisher Bay	18.96	296	LR	LR	06 49 44.4	
	comp=Z,413nm,19.7s,baz=78,slow=34						
LDF	La Druitiere	19.93	117	*e*P	P	06 43 48.1	+0.2
LDF				pmax	pmax		
	comp=Z,12nm,0.9s						
LDF	La Druitiere	19.93	117	*e*P	P	06 43 48.1	+0.2
	comp=Z,12nm,0.9s						
HFS	Hagfors	19.97	75	P	Pn	06 43 50.1	+0.2
	comp=Z,4.9nm,1.1s,baz=283,slow=13,SNR=2.7						
HFS				LR	LR	06 50 48.3	
	comp=Z,189nm,21.2s,baz=286,slow=34						
BAIF	Baives	20.81	108	*e*P	P	06 43 58.4	+1.0
BAIF				pmax	pmax		
	comp=Z,18nm,0.8s						
BAIF	Baives	20.81	108	*e*P	P	06 43 58.4	+1.0
	comp=Z,18nm,0.8s						
DOU	Dourbes	20.96	107	P	Pn	06 44 02.1	+0.5
DOU				pmax	pmax		
	comp=Z,177nm,1.1s						
DOU	Dourbes	20.96	107	P	Pn	06 44 02.1	+0.5
	comp=Z,177nm,1.1s						
GIVF	Givet	21.07	107	*e*P	P	06 44 02.9	+2.7
GIVF				pmax	pmax		
	comp=Z,52nm,1.2s						
GIVF	Givet	21.07	107	*e*P	P	06 44 02.9	+2.7
	comp=Z,52nm,1.2s						
MEM	Membach	21.27	104	P	P	06 44 03.7	+1.3
MEM				pmax	pmax		
	comp=Z,27nm,0.9s						
MEM	Membach	21.27	104	P	P	06 44 03.7	+1.3
	comp=Z,27nm,0.9s						
BUG	Bochum--Univer	21.32	101	P	P	06 44 07.4	+4.6
BUG				pmax	pmax		
	comp=Z,34nm,1.2s						
MFF	Saint Martin d	21.47	120	*e*P	P	06 44 08.9	+4.4
MFF				pmax	pmax		
	comp=Z,35nm,1.2s						
MFF	Saint Martin d	21.47	120	*e*P	P	06 44 08.9	+4.4
	comp=Z,35nm,1.2s						
SCHQ	Schefferville	21.54	271	LR	LR	06 51 07.0	
	comp=Z,152nm,18.4s,baz=64,slow=34						
SPITS	Spitsbergen Ar	21.92	22	LR	LR	06 50 33.9	
	comp=Z,50nm,19.9s,baz=175,slow=31						
WLF	Walferdange	21.99	106	*e*P	P	06 44 11.0	+1.0
WLF				pmax	pmax		
	comp=Z,27nm,1.2s						
WLF	Walferdange	21.99	106	*e*P	P	06 44 11.0	+1.0
	comp=Z,27nm,1.2s						
LOR	Lormes	22.68	113	*e*P	P	06 44 17.7	+0.1
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LOR	Lormes	22.68	113	*e*P	P	06 44 17.7	+0.1
	comp=Z,8.0nm,0.8s						
SSF	Saint Saulge	22.69	114	*e*P	P	06 44 18.8	+1.3
SSF				pmax	pmax		
	comp=Z,36nm,1.6s						
SSF	Saint Saulge	22.69	114	*e*P	P	06 44 18.8	+1.3
	comp=Z,36nm,1.6s						
AVF	Avril sur Loir	22.82	115	*e*P	P	06 44 18.0	-1.0
AVF				pmax	pmax		
	comp=Z,23nm,1.0s						
AVF	Avril sur Loir	22.82	115	*e*P	P	06 44 18.0	-1.0
	comp=Z,23nm,1.0s						
ARA0	ARCESS Array S	22.89	46	*e*P	P	06 44 21.0	+1.5
ARA0	ARCESS Array S	22.89	46	*e*P	P	06 44 21.0	+1.5
ARCES	ARCESS Array B	22.89	46	P	P	06 44 21.0	+1.5
	comp=Z,3.6nm,0.6s,baz=276,slow=8.7,SNR=13						
ARCES				LR	LR	06 51 58.4	
	comp=Z,85nm,18.0s,baz=276,slow=33						
ARE0	ARCESS Array S	22.89	46	*e*P	P	06 44 22.3	+2.8
	comp=Z,54nm,1.6s						
ARE0	ARCESS Array S	22.89	46	*e*P	P	06 44 22.3	+2.8
	comp=Z,54nm,1.6s						
SMF	Signal de Mont	23.15	114	*e*P	P	06 44 22.2	-0.2
SMF				pmax	pmax		
	comp=Z,12nm,1.0s						
SMF	Signal de Mont	23.15	114	*e*P	P	06 44 22.2	-0.2
	comp=Z,12nm,1.0s						
HAU	Haudompre	23.26	109	*e*P	P	06 44 25.4	+1.8
HAU				pmax	pmax		
	comp=Z,13nm,0.8s						
HAU	Haudompre	23.26	109	*e*P	P	06 44 25.4	+1.8
	comp=Z,13nm,0.8s						
KEV	Kevo	23.39	46	*e*P	P	06 44 26.1	+1.5
KEV				pmax	pmax		
	comp=Z,67nm,1.6s						
KEV	Kevo	23.39	46	*e*P	P	06 44 26.1	+1.5
	comp=Z,67nm,1.6s						
KEV	Kevo	23.39	46	*e*P	P	06 44 26.1	+1.5
	comp=Z,67nm,1.6s						
CDF	Champ du Feu	23.40	107	*e*P	P	06 44 25.3	+0.3
CDF				pmax	pmax		
	comp=Z,12nm,1.1s						
CDF	Champ du Feu	23.40	107	*e*P	P	06 44 25.3	+0.3
	comp=Z,12nm,1.1s						
ECH	Echery	23.48	108	*e*P	P	06 44 27.8	+2.0
ECH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ECH	Echery	23.48	108	*e*P	P	06 44 27.8	+2.0
	comp=Z,9.0nm,1.0s						
ECH	Echery	23.48	108	*e*P	P	06 44 27.8	+2.0
	comp=Z,8.9nm,1.0s						
MOX	Moxa	23.92	98	P	P	06 44 32.0	+2.1
MOX	Moxa	23.92	98	P	P	06 44 32.0	+2.1
BFO	Black Forest	23.95	106	*i* P	P	06 44 35.2	+5.0
CLL	Collm	24.16	96	*i* P	P	06 44 33.1	+1.0
CLL				pmax	pmax		
	comp=Z,15nm,1.3s						
CLL	Collm	24.16	96	*i* P	P	06 44 33.1	+1.0
	comp=Z,15nm,1.3s						
CLL	Collm	24.16	96	*i* P	P	06 44 33.1	+1.0
	comp=Z,15nm,1.3s						
CLL				*i*		06 44 44.9	
CLL				Lm	MLR	06 52 00.0	
	comp=Z,12nm,1.3s						
CLL				Lm	MLR	06 52 00.0	
	comp=N,100nm,22.0s						
CLL				Lm	MLR	06 52 00.0	
	comp=E,100nm,21.9s						
CABF	La Chapelle	24.18	112	*e*P	P	06 44 33.7	+1.2
CABF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CABF	La Chapelle	24.18	112	*e*P	P	06 44 33.7	+1.2
	comp=Z,8.0nm,0.9s						
SSB	Saint Sauveur	24.52	116	*e*P	P	06 44 36.7	+1.1
SSB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SSB	Saint Sauveur	24.52	116	*e*P	P	06 44 36.7	+1.1
	comp=Z,10.0nm,1.1s						
SSB	Saint Sauveur	24.52	116	*e*P	P	06 44 36.7	+1.1
	comp=Z,9.5nm,1.1s						
BRG	Berggiesshubel	24.89	95	*e*P	P	06 44 40.0	+1.2
	comp=Z,7.9nm,1.1s						
BRG	Berggiesshubel	24.89	95	*e*P	P	06 44 40.0	+1.2
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG	Berggiesshubel	24.89	95	*e*P	P	06 44 40.0	+1.2
	comp=Z,8.0nm,1.1s						
SENIN	Lac Senin/Sane	24.92	110	*e*P	P	06 44 39.8	+0.5
	comp=Z,14nm,1.0s						
SENIN	Lac Senin/Sane	24.92	110	*e*P	P	06 44 39.8	+0.5
	comp=Z,14nm,1.0s						
GKP	Gorka Klasztor	25.00	88	P	P	06 44 45.9	+6.2
GKP				pmax	pmax		
	comp=Z,76nm,0.6s						
FIA0	FINESS Array S	25.12	66	*e*P	P	06 44 42.0	+1.2
FIA0	FINESS Array S	25.12	66	*e*P	P	06 44 42.0	+1.2
FIA0	FINESS Array S	25.12	66	*e*P	P	06 44 42.0	+1.2
FINES	FINESS Array B	25.12	66	P	P	06 44 42.0	+1.2
	comp=Z,2.8nm,0.7s,baz=306,slow=6.6,SNR=6.3						
FINES				LR	LR	06 54 08.3	
	comp=Z,90nm,18.2s,baz=279,slow=35						
FIA1	FINESS Array S	25.12	66	*e*P	P	06 44 42.9	+2.1
	comp=Z,87nm,1.8s						
FIA1	FINESS Array S	25.12	66	*e*P	P	06 44 42.9	+2.1
	comp=Z,87nm,1.8s						
LPL	La Plagne	25.31	112	*e*P	P	06 44 44.4	+1.5
LPL				pmax	pmax		
	comp=Z,10

KLMR	Klimovskoe	31.20	60	eP		P	06 45 34.8 -0.3
	comp=Z,14nm,1.4s						
KLMR	Klimovskoe	31.20	60	eP	cP	PcP	06 48 29.7 +0.4
KIEV	Kiev	32.40	83	eP		P	06 45 48.1 +2.4
KIEV				pmax		pmax	
	comp=Z,3.0nm,0.9s						
KIEV	Kiev	32.40	83	eP		P	06 45 48.1 +2.4
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	32.40	83	P		P	06 45 45.7 0.0
	comp=Z,1.1nm,0.6s,baz=308,slow=9.0,SNR=4.4						
AKASG				LR		LR	06 58 42.8
	comp=Z,58nm,19.2s,baz=315,slow=36						
AKBB	Malin Array Si	32.40	83	eP		P	06 45 45.7 0.0
AKBB				pmax		pmax	
	comp=Z,7.0nm,1.1s						
AKBB	Malin Array Si	32.40	83	eP		P	06 45 45.7 0.0
	comp=Z,7.0nm,1.1s						
AKBB	Malin Array Si	32.40	83	eP		P	06 45 45.7 0.0
	comp=Z,6.6nm,1.1s						
KEST	Kesra	34.46	121	LR		LR	07 00 14.0
	comp=Z,144nm,18.1s,baz=146,slow=36						
F44A	Big Bay de Noc	36.77	273	P		P	06 46 21.1 -2.4
	baz=44						
O56A	Blue Knob Stat	37.24	260	P		P	06 46 28.6 +0.9
	baz=38						
N54A	Moraine State	37.39	262	P		P	06 46 28.9 0.0
	baz=39						
E41A	Kenton	37.64	276	P		P	06 46 27.9 -3.1
	baz=44						
EYMN	Ely	37.81	280	P		P	06 46 29.7 -2.7
	baz=45						
EYMN	Ely	37.81	280	eP		P	06 46 31.9 -0.5
	comp=Z,5.5nm,0.8s						
EYMN	Ely	37.81	280	eP		P	06 46 31.9 -0.5
	comp=Z,5.5nm,0.8s						
C38A	Sawbill Land.	37.87	279	P		P	06 46 30.3 -2.5
	baz=45						
YKA	Yellowknife Ar	38.23	311	P		P	06 46 33.6 -2.0
	comp=Z,0.9nm,0.8s,baz=50,slow=9.0,SNR=3.1						
YKA				LR		LR	07 01 32.6
	comp=Z,18nm,18.4s,baz=0.0,slow=35						
YKB5	Yellowknife Ar	38.23	311	eP		P	06 46 33.7 -2.0
YKB5	Yellowknife Ar	38.23	311	eP		P	06 46 33.6 -2.0
ULM	Lac du Bonnet	38.28	286	P		P	06 46 33.2 -3.1
	comp=Z,3.4nm,0.8s,baz=39,slow=13,SNR=3.4						
ULM				LR		LR	07 01 12.7
	comp=Z,356nm,18.3s,baz=32,slow=35						
C37A	Embarrass	38.29	280	P		P	06 46 33.8 -2.6
	baz=45						
E39A	Mellen	38.47	277	P		P	06 46 34.8 -3.1
	baz=44						
B35A	Bob, Littlefor	38.58	282	P		P	06 46 36.2 -2.7
	baz=46						
C36A	Pine Crest Far	38.58	280	P		P	06 46 36.1 -2.8
	baz=45						
F40A	Park Falls	38.59	276	P		P	06 46 35.4 -3.5
	baz=44						
H42A	Shiocton	38.85	273	P		P	06 46 38.5 -2.6
	baz=43						
F39A	Loretta	38.98	277	P		P	06 46 39.9 -2.3
	baz=44						
D36A	Goodland	39.15	280	P		P	06 46 40.9 -2.7
	baz=44						
C35A	Jirik Farms, M	39.17	281	P		P	06 46 41.1 -2.7
	baz=45						
F38A	Pierce - Schro	39.41	278	P		P	06 46 43.7 -2.1
	baz=44						
AGMN	Agassiz Nation	39.64	283	P		P	06 46 46.2 -1.5
	baz=45						
E36A	McGregor	39.67	279	P		P	06 46 45.7 -2.3
	baz=44						
H40A	Chili	39.67	275	P		P	06 46 46.5 -1.5
	baz=43						
G38A	Ridgeland	39.98	277	P		P	06 46 48.0 -2.5
	baz=43						
C33A	Trail	39.98	283	P		P	06 46 48.2 -2.3
	baz=45						
H39A	Augusta	40.06	276	P		P	06 46 49.1 -2.1
	baz=43						
D34A	Park Rapids	40.19	281	P		P	06 46 50.3 -2.0
	baz=44						
E35A	Pequot Lakes	40.19	280	P		P	06 46 50.9 -1.4
	baz=44						
F36A	Milaca	40.27	279	P		P	06 46 50.9 -2.1
	baz=43						
B31A	Greenbush Farm	40.39	285	P		P	06 46 52.4 -1.5
	baz=45						
SPMN	Marine on St.	40.39	278	P		P	06 46 51.9 -2.0
	baz=43						
SPMN	Marine on St.	40.39	278	eP		P	06 46 53.4 -0.6
	comp=Z,14nm,1.1s						
SPMN	Marine on St.	40.39	278	eP		P	06 46 53.4 -0.6
	comp=Z,14nm,1.1s						
J41A	Loganville	40.42	273	P		P	06 46 52.0 -2.2
	baz=42						
D33A	AnnSam, Waubun	40.46	282	P		P	06 46 52.0 -2.5
	baz=44						
N46A	Monticello	40.70	268	P		P	06 46 55.3 -1.2
	baz=40						
C31A	Landman Farms,	40.88	284	P		P	06 46 55.7 -2.2
	baz=44						
O47A	Sheridan	40.94	267	P		P	06 46 56.8 -1.7
	baz=39						
I38A	Scanlan Farm,	41.04	276	P		P	06 46 57.1 -2.2
	baz=42						
G35A	Watkins	41.20	279	P		P	06 46 58.8 -1.8
	baz=43						
P47A	Martinsville	41.56	266	P		P	06 47 01.9 -1.7
	baz=39						
I37A	Lemond, Waseca	41.57	277	P		P	06 47 01.5 -2.2
	baz=42						
F33A	5 Mile Ranch,	41.61	281	P		P	06 47 02.0 -2.0
	baz=43						
L41A	Preston	41.63	273	P		P	06 47 02.3 -1.8
	baz=41						
J38A	Wedel Dairy, R	41.65	275	P		P	06 47 02.3 -2.0
	baz=42						
H35A	Sunnyside Ranc	41.75	279	P		P	06 47 02.8 -2.4
	baz=42						
ARU	Arti	41.78	56	c iP		P	06 47 05.6 +0.4
ARU							06 48 41.0
ARU							06 49 01.9
ARU				S		S	06 53 20.4 -1.7
ARU				SS		SS	06 56 24.4 -3.0
ARU				pmax		pmax	
	comp=Z,10.0nm,1.4s						
ARU	Arti	41.78	56	i P		P	06 47 05.6 +0.4
	comp=Z,10.0nm,1.4s						
ARU	Arti	41.78	56	PcP		PcP	06 49 01.9 +0.8
ARU				S		S	06 53 20.4 -1.7
K39A	Oelwein	41.82	274	P		P	06 47 04.0 -1.7
	baz=41						
NRIK	Noril'sk	41.88	29	LR		LR	07 05 32.3
	comp=Z,32nm,18.2s,baz=128,slow=38						
L40A	Anamosa	41.99	273	P		P	06 47 04.9 -2.2
	baz=41						
HDIL	Hopedale	42.20	270	P		P	06 47 07.7 -1.2
	baz=40						
H34A	Spellman Lake,	42.23	279	P		P	06 47 07.2 -1.9
	baz=42						
K38A	Parkersburg	42.29	275	P		P	06 47 07.9 -1.7
	baz=41						
L39A	Vinton	42.32	274	P		P	06 47 08.0 -1.8
	baz=41						
BR101	Keskin Array S	42.48	91	eP		P	06 47 12.9 +1.6
BR101	Keskin Array S	42.48	91	eP		P	06 47 12.9 +1.6
BRTR	Keskin Array B	42.48	91	P		P	06 47 12.9 +1.7
	comp=Z,1.4nm,0.7s,baz=318,slow=7.2,SNR=5.2						
BRTR				LR		LR	07 07 07.0
	comp=Z,42nm,20.3s,baz=285,slow=39						
BRTR	Keskin Array B	42.48	91	P		P	06 47 13.0 +1.7
G32A	Webster	42.62	281	P		P	06 47 10.6 -1.6
	baz=42						
K37A	Belmond	42.62	276	P		P	06 47 10.8 -1.4
	baz=41						
M40A	Post Highland	42.63	273	P		P	06 47 11.3 -1.0
	baz=40						
H33A	Prehn Over Nor	42.68	280	P		P	06 47 11.4 -1.4
	baz=42						
P44A	Sand Creek, Wi	42.72	268	P		P	06 47 12.0 -1.1
	baz=39						
N41A	Harden Midland	42.84	271	P		P	06 47 12.8 -1.2
	baz=40						
M39A	Webster	42.89	273	P		P	06 47 13.9 -0.6
	baz=40						
P43A	Skaggs, Pawnee	43.02	269	P		P	06 47 14.6 -1.0
	baz=39						
H32A	Carlson Farm,	43.15	281	P		P	06 47 14.8 -1.8
	baz=42						
L37A	Phoenix Point,	43.16	275	P		P	06 47 15.2 -1.5
	baz=40						
O41A	Passleys Farm,	43.31	271	P		P	06 47 16.5 -1.4
	baz=39						
ECSD	EROS Data Cent	43.33	279	P		P	06 47 16.8 -1.2
	baz=41						
ECSD	EROS Data Cent	43.33	279	eP		P	06 47 18.0 0.0
	comp=Z,9.4nm,1.4s						
ECSD	EROS Data Cent	43.33	279	eP		P	06 47 18.0 0.0
	comp=Z,9.4nm,1.4s						
M38A	Pleasantville	43.43	274	P		P	06 47 17.3 -1.5
	baz=40						
N39A	Derby Farms, D	43.51	273	P		P	06 47 18.1 -1.4
	baz=40						
I32A	Karley and Nic	43.51	280	P		P	06 47 18.5 -1.0
	baz=42						
O40A	La Belle	43.79	272	P		P	06 47 20.2 -1.5
	baz=39						
M37A	Trindle Farm,	43.86	275	P		P	06 47 20.3 -2.0
	baz=40						
K34A	Le Mars	43.87	278	P		P	06 47 20.3 -2.0
	baz=41						
R44A	Waltonville	43.90	268	P		P	06 47 21.2 -1.4
	baz=38						
KBZ	Khabaz	43.90	80	P		P	06 47 24.4 +1.9
	comp=Z,3.6nm,0.9s,baz=326,slow=9.6,SNR=6.7						
KBZ				LR		LR	07 06 00.3
	comp=Z,91nm,19.8s,baz=299,slow=36						
L35A	Bielow Farm, R	44.04	277	P		P	06 47 21.9 -1.8
	baz=40						
NEY	Neytrino	44.18	81	eP		P	06 47 26.2 +1.2
NEY				pmax		pmax	
	comp=Z,1.0nm,0.9s						
NEY	Neytrino	44.18	81	eP		P	06 47 26.2 +1.2
	comp=Z,1.0nm,0.9s						
R43A	Red Bud	44.29	268	P		P	06 47 25.1 -0.6
	baz=38						
P40A	Paris	44.33	271	P		P	06 47 24.6 -1.5
	baz=39						
Q41A	Truxton	44.39	270	P		P	06 47 24.9 -1.6
	baz=38						
S44A	Carbondale	44.42	267	P		P	06 47 26.6 -0.2
	baz=38						
TAM	Tamanrasset	44.56	134	eP		P	06 47 29.2 +1.0
TAM				pmax		pmax	
	comp=Z,14nm,1.7s						
TAM	Tamanrasset	44.56	134	eP		P	06 47 29.2 +1.0
	comp=Z,14nm,1.7s						
TAM	Tamanrasset	44.56	134	eP		P	06 47 29.2 +1.0
	comp=Z,14nm,1.7s						
M35A	Neola	44.60	276	P		P	06 47 26.4 -1.9
	baz=40						
R42A	Luebbering	44.70	269	P		P	06 47 27.8 -1.2
	baz=38						
Q40A	Laux Farm, Aux	44.76	271	P		P	06 47 28.6 -0.9
	baz=38						
WVT	Waverly	44.97	265	eP		P	06 47 29.1 -2.1
WVT				pmax		pmax	
	comp=Z,4.0nm,1.0s						
WVT	Waverly	44.97	265	eP		P	06 47 29.1 -2.1
	comp=Z,4.0nm,1.0s						
WVT	Waverly	44.97	265	eP		P	06 47 29.1 -2.1
	comp=Z,4.1nm,1.0s						
R41A	Rosebud	44.97	270	P		P	06 47 30.4 -0.8
	baz=38						
CCM	Cathedral Cave	45.10	269	eP		P	06 47 29.8 -2.4
CCM				pmax		pmax	
	comp=Z,10.0nm,1.3s						
CCM	Cathedral Cave	45.10	269	eP		P	06 47 29.8 -2.4
	comp=Z,10.0nm,1.3s						
CCM	Cathedral Cave	45.10	269	eP		P	06 47 29.8 -2.4
	comp=Z,9.7nm,1.3s						
S42A	Caledonia	45.10	269	P		P	06 47 30.7 -1.5
	baz=38						
DAWY	Dawson	45.13	325	eP		P	06 47 32.0 -0.2
	comp=Z,20nm,1.8s						
DAWY	Dawson	45.13	325	eP		P	06 47 32.0 -0.2
	comp=Z,20nm,1.8s						
Q39A	Willow Grove F	45.16	272	P		P	06 47 30.1 -2.5
	baz=38						
T43A	Greenville	45.40	268	P		P	06 47 33.4 -1.2
	baz=37						
R40A	Maddies Statio	45.41	271	P		P	06 47 32.8 -1.8
	baz=38						
LAO	LASA Array	45.64	289	P		P	06 47 35.2 -1.3
	baz=42						
S41A	Jillco Farms,	45.71	269	P		P	06 47 35.1 -1.9
	baz=38						
PBMO	Poplar Bluff	45.71	268	eP		P	06 47 36.2 -0.9
	comp=Z,6.9nm,0.8s						
PBMO	Poplar Bluff	45.71	268	eP		P	06 47 36.2 -0.9
	comp=Z,6.9nm,0.8s						
R39A	Chumby, Stover	45.76	271	P		P	06 47 35.2 -2.3
	baz=38						
P36A	Good Intent, A	45.79	274	P		P	06 47 35.2 -2.5
	baz=39						
S40A	Lebanon	46.07	270	P		P	06 47 37.9 -1.9
	baz=38						
T41A	Mountain View	46.15	269	P		P	06 47 38.6 -1.9
	baz=37						
EGMT	Eagleton	46.24	293	P		P	06 47 40.3 -0.9
	baz=42						
P35A	Duane Minner,	46.26	275	P		P	06 47 38.9 -2.5
	baz=39						
R38A	Fenwick Farm,	46.28	272	P		P	06 47 39.0 -2.6
	baz=38,SNR=8.7						
S39A	Bolivar	46.39	271	P		P	06 47 39.3 -3.1
	baz=38,SNR=8.0						
W45A	Hickory Valley	46.41	265	P		P	06 47 41.4 -1.2
	baz=36						
T40A	Mansfield	46.43	270	P		P	06 47 41.1 -1.7
	baz=37						
U42A	Revenden	46.45	268	P		P	06 47 41.7 -1.2
	baz=37						
TIXI	Tiksi	46.49	10	ceP		P	06 47 42.8 +0.1
TIXI				pmax		pmax	
	comp=Z,9.0nm,2.5s						
TIXI	Tiksi	46.49	10	eP		P	06 47 42.8 +0.1
	comp=Z,9.0nm,2.5s						
TIXI	Tiksi	46.49	10	eP		P	06 47 44.1 +1.4
	comp=Z,3.3nm,0.5s						
ILAR	Eielson Array	46.55	329	P		P	06 47 43.0 -0.3
	comp=Z,0.3nm,0.7s,baz=41,slow=7.4,SNR=3.2						
ILAR				PcP		PcP	06 49 15.8 -1.5
	comp=Z,0.6nm,0.7s,baz=22,slow=3.0,SNR=6.2						
ILB	Eielson Array	46.55	329	eP		P	06 47 43.0 -0.3
ILB	Eielson Array	46.55	329	ePcP		PcP	06 49 15.8 -1.5
ILB	Eielson Array	46.55	329	eP		P	06 47 43.0 -0.3
ILB				ePcP		PcP	06 49 15.8 -1.5
O33A	Hebron	46.59	277	P		P	06 47 41.6 -2.4
	baz=39						
P34A	Walnut Farm, R	46.63	276	P		P	06 47 41.9 -2.4
	baz=39						
S38A	Stockton	46.73	271	P		P	06 47 43.3 -1.8
	baz=38						
Y47A	UCPARC, Winfie	46.78	263	P		P	06 47 45.4 -0.1
	baz=35						
Q35A	Mercer Eighty,	46.79	274	P		P	06 47 43.3 -2.2
	baz=38						
KSU1	Kansas State U	46.88	275	P		P	06 47 44.2 -2.1
	baz=38						
KSU1	Kansas State U	46.88	275	eP		P	06 47 45.0 -1.2
	comp=Z,7.8nm,0.8s						
KSU1	Kansas State U	46.88	275	eP		P	06 47 45.0 -1.2
	comp=Z,7.8nm,0.8s						
T39A	Clever	46.95	270	P		P	06 47 44.6 -2.2
	baz=37						
R36A	Gordon, Harris	46.95	273	P		P	06 47 44.8 -2.0
	baz=38						
V42A	Cord	46.95	268	P		P	06 47 45.4 -1.5
	baz=37						
Z48A	Northport	47.06	262	P		P	06 47 47.6 -0.1
	baz=35						
S37A	Fort Scott	47.07	272	P		P	06 47 45.0 -2.8
	baz=38,SNR=6.9						
LRAL	Lakeview Retre	47.08	261	eP		P	06 47 47.9 +0.1
	comp=Z,20nm,1.8s						
LRAL	Lakeview Retre	47.08	261	eP		P	06 47 47.9 +0.1
	comp=Z,20nm,1.8s						
Q34A	Chapman	47.18	275	P		P	06 47 46.0 -2.6
	baz=38						
U40A	Yellville	47.22	269	P		P	06 47 47.2 -1.8
	baz=37,SNR=6.4						
Y46A	Houston	47.28	264	P		P	06 47 48.8 -0.6
	baz=35						
V41A	Mountainview	47.34	268	P		P	06 47 47.8 -2.1
	baz=37						
T38A	Diamond	47.38	271	P		P	06 47 48.2 -2.0
	baz=37,SNR=6.3						
S36A	Lake Cedric, C	47.47	273	P		P	06 47 48.1 -2.8
	baz=38						
U39A	Green Forest	47.51	270	P		P	06 47 48.8 -2.4
	baz=37						
GNI	Garni	47.52	82	i P		P	06 47 54.4 +3.0
GNI				pmax		pmax	
	comp=Z,25nm,1.0s						
GNI	Garni	47.52	82	i P		P	06 47 54.4 +3.0
	comp=Z,25nm,1.0s						
ABKAR	Akbulak array	47.55	63	eP		P	06 47 53.2 +1.9
	comp=Z,10.0nm,0.8s						
ABKAR	Akbulak array	47.55	63	eP		P	06 47 53.2 +1.9
	comp=Z,10.0nm,0.8s						
T37A	Cheneyville 18	47.62	272	P		P	06 47 50.1 -1.9
	baz=37						
Y45A	Yeager Farm, C	47.62	264	P		P	06 47 51.0 -1.1
	baz=35						
V40A	Witts Springs	47.65	269	P		P	06 47 50.9 -1.4
	baz=37,SNR=7.0						
WHAR	Wooly Hollow	47.80	268	eP		P	06 47 52.0 -1.5
	comp=Z,41nm,1.9s						
WHAR	Wooly Hollow	47.80	268	eP		P	06 47 52.0 -1.5
	comp=Z,41nm,1.9s						
R34A	Isabella, Hill	47.81	275	P		P	06 47 51.3 -2.2
	baz=38						
S35A	Otter Creek Ra	47.85	274	P		P	06 47 51.0 -2.9
	baz=38						
W41B	Gary Mavity, V	47.88	268	P		P	06 47 52.1 -1.9
	baz=36						
U38A	Gravette	47.90	271	P		P	06 47 51.6 -2.7
	baz=37						
V39A	Pettigrew	48.02	270	P		P	06 47 52.8 -2.4
	baz=37						
T36A	Boggs Farm, Ca	48.13	273	P		P	06 47 53.0 -3.0
	baz=37						
RND	Reindeer	48.17	329	eP		P	06 47 57.1 +1.0
RND				pmax		pmax	
	comp=Z,38nm,1.8s						
RND	Reindeer	48.17	329	eP		P	06 47 57.1 +1.0
	comp=Z,38nm,1.8s						
RND	Reindeer	48.17	329	eP		P	06 47 57.1 +1.0
	comp=Z,10nm,1.3s						
RND	Reindeer	48.17	329	eP		P	06 47 57.1 +1.0
	comp=Z,38nm,1.8s						
W40A	Ferguson Farm,	48.26	269	P		P	06 47 55.7 -1.3
	baz=36						
U37A	Salina	48.28	271	P		P	06 47 54.8 -2.4
	baz=37						
V38A	Canehill	48.37	270	P		P	06 47 56.0 -1.9
	baz=37						
Z44A	Pea Ridge, Bel	48.53	265	P		P	06 47 58.9 -0.2
	baz=35						
T35A	Sooner Cattle	48.55	273	P		P	06 47 57.3 -2.0
	baz=37						
W39A	Magazine	48.60	269	P		P	06 47 58.3 -1.3
	baz=36						
V37A	Hulbert	48.71	271	P		P	06 47 58.6 -1.8
	baz=37						
X40A	Basin Creek Fa	48.72	268	P		P	06 47 59.2 -1.3
	baz=36						
Y42A	Garnett, Star	48.73	266	P		P	06 47 59.9 -0.8
	baz=36						
T34A	McClaskey Farm	48.80	274	P		P	06 47 59.3 -1.8
	baz=37						
145A	Houston Renfro	48.84	264	P		P	06 48 01.0 -0.4
	baz=35						
BRVK	Borovoye	48.88	53	i P		P	06 48 02.2 +0.7
BRVK				pmax		pmax	
	comp=Z,15nm,2.5s						
BRVK	Borovoye	48.88	53	i P		P	06 48 02.2 +0.7
	comp=Z,15nm,2.5s						
BOZ	Bozeman (W)	48.92	292	P		P	06 48 01.8 -0.4
	baz=40,SNR=5.3						
BOZ	Bozeman (W)	48.92	292	eP		P	06 48 01.5 -0.6
BOZ				pmax		pmax	
	comp=Z,4.0nm,0.8s						
BOZ	Bozeman (W)	48.92	292	eP		P	06 48 01.5 -0.6
	comp=Z,4.0nm,0.8s						
BOZ	Bozeman (W)	48.92	292	eP		P	06 48 01.5 -0.6
	comp=Z,3.9nm,0.8s						
TUL1	Leonard	49.01	272	P		P	06 48 01.2 -1.5
	baz=37						
MIAR	Mount Ida	49.03	269	P		P	06 48 01.7 -1.2
	baz=36						
MIAR	Mount Ida	49.03	269	eP		P	06 48 00.1 -2.8
MIAR				pmax		pmax	
	comp=Z,6.0nm,1.0s						
MIAR	Mount Ida	49.03	269	eP		P	06 48 00.1 -2.8
	comp=Z,6.0nm,1.0s						
MIAR	Mount Ida	49.03	269	eP		P	06 48 00.1 -2.8
	comp=Z,6.1nm,1.0s						
W38A	Poteau	49.06	270	P		P	06 48 01.6 -1.5
	baz=36						
Y41A	Eaglette Beard	49.10	267	P		P	06 48 02.5 -0.9
	baz=36						
V36A	Jenks	49.18	272	P		P	06 48 02.3 -1.7
	baz=37						
Z42A	Norrel Spur, H	49.27	266	P		P	06 48 04.2 -0.6
	baz=35						
X39A	Fountain Ranch	49.32	269	P		P	06 48 04.4 -0.8
	baz=36						
W37B	Quinton	49.45	271	P		P	06 48 04.6 -1.6
	baz=36						
X38A	Whitesboro	49.54	270	P		P	06 48 05.5 -1.3
	baz=36						
346A	Big Creek Wild	49.61	263	P		P	06 48 06.7 -0.7
	baz=34						
V35A	Meyer Ranch, C	49.63	272	P		P	06 48 05.7 -1.8
	baz=36						
Z41A	Richland Creek	49.70	267	P		P	06 48 07.6 -0.4
	baz=35						
447A	Lucedale	49.71	261	P		P	06 48 09.6 +1.5
	baz=34						
W36A	Wetumka	49.84	271	P		P	06 48 06.9 -2.1
	baz=36						
KSCO	Kaye Shedlock'	49.84	280	P		P	06 48 06.8 -2.5
	baz=38						
X37A	Clayton	49.86	270	P		P	06 48 08.2 -1.1
	baz=36						
N23A	Red Feather La	49.94	284	P		P	06 48 09.6 -0.6
	baz=38,SNR=5.5						
N23A	Red Feather La	49.94	284	eP		P	06 48 10.1 0.0
	comp=Z,9.0nm,1.1s						
N23A	Red Feather La	49.94	284	eP		P	06 48 10.1 0.0
	comp=Z,9.0nm,1.1s						
W35A	Tecumseh	50.14	272	P		P	06 48 09.4 -2.0
	baz=36						
B08A	Colville Reser	50.15	300	eP		P	06 48 11.3 0.0
	comp=Z,3.5nm,0.9s						
B08A	Colville Reser	50.15	300	eP		P	06 48 11.3 0.0
	comp=Z,3.5nm,0.9s						
BW06	Boulder Array	50.16	288	P		P	06 48 09.7 -2.0
	baz=39						
BW06	Boulder Array	50.16	288	eP		P	06 48 10.5 -1.3
BW06	Boulder Array	50.16	288	eP		P	06 48 10.5 -1.3
PD31	Pinedale Array	50.16	288	eP		P	06 48 09.2 -2.6
PD31	Pinedale Array	50.16	288	eP		P	06 48 09.2 -2.6
PDAR	Pinedale Array	50.16	288	P		P	06 48 09.2 -2.6
	comp=Z,1.5nm,0.8s,baz=59,slow=6.0,SNR=12						
PDAR				LR		LR	07 08 27.5
	comp=Z,154nm,20.0s,baz=47,slow=35						
344A	Westbrook Farm	50.17	264	P		P	06 48 12.3 +0.6
	baz=34						
X36A	Centrahoma	50.35	271	P		P	06 48 11.9 -1.2
	baz=36						
242A	Grayson	50.36	265	P		P	06 48 12.7 -0.4
	baz=35						
Y37A	Hugo	50.48	270	P		P	06 48 13.1 -0.9
	baz=36						
X35A	Drake	50.80	271	P		P	06 48 15.1 -1.2
	baz=36						
Y36A	Durant	50.87	271	P		P	06 48 15.7 -1.1
	baz=36						
Y35A	Marietta	51.23	271	P		P	06 48 18.1 -1.5
	baz=36						
WMOK	Wichita Mounta	51.40	273	P		P	06 48 19.6 -1.3
	baz=36,SNR=7.0						
WMOK	Wichita Mounta	51.40	273	eP		P	06 48 20.1 -0.8
WMOK				pmax		pmax	
	comp=Z,8.0nm,1.1s						
WMOK	Wichita Mounta	51.40	273	eP		P	06 48 20.1 -0.8
	comp=Z,8.0nm,1.1s						
WMOK	Wichita Mounta	51.40	273	eP		P	06 48 20.1 -0.8
	comp=Z,7.6nm,1.1s						
MLI	Malad Range	51.92	290	eP		P	06 48 25.0 0.0
MLI	Malad Range	51.92	290	eP		P	06 48 25.0 0.0

BMO	**Blue Mountains**	**52.02 296**	*e*P	**P**	**06 48 25.3**	**-0.2**
BMO			pmax	pmax		
comp=Z,3.0nm,0.9s						
BMO	**Blue Mountains**	**52.02 296**	*e*P	**P**	**06 48 25.3**	**-0.2**
comp=Z,3.0nm,0.9s						
BMO	**Blue Mountains**	**52.02 296**	*e*P	**P**	**06 48 25.3**	**-0.2**
comp=Z,2.7nm,0.9s						
237A	**Washetta, Mont**	**52.18 269**	P	**P**	**06 48 27.6**	**+0.9**
baz=35						
T25A	**Trinidad**	**52.18 280**	P	**P**	**06 48 26.1**	**-0.9**
baz=37						
T25A	**Trinidad**	**52.18 280**	*e*P	**P**	**06 48 26.1**	**-0.9**
comp=Z,6.3nm,1.0s						
T25A	**Trinidad**	**52.18 280**	*e*P	**P**	**06 48 26.1**	**-0.9**
comp=Z,6.3nm,1.0s						
SDCO	**Great Sand Dun**	**52.22 281**	P	**P**	**06 48 26.4**	**-0.9**
baz=37						
SDCO	**Great Sand Dun**	**52.22 281**	*e*P	**P**	**06 48 27.3**	**0.0**
comp=Z,2.5nm,1.1s						
SDCO	**Great Sand Dun**	**52.22 281**	*e*P	**P**	**06 48 27.3**	**0.0**
comp=Z,2.5nm,1.1s						
TOA1	**Torodi Ar. Sit**	**52.36 143**	*e*P	**P**	**06 48 27.3**	**-0.9**
comp=Z,17nm,1.6s						
TOA1	**Torodi Ar. Sit**	**52.36 143**	*e*P	**P**	**06 48 27.3**	**-0.9**
comp=Z,17nm,1.6s						
TOA0	**Torodi Ar. Sit**	**52.37 143**	*e*P	**P**	**06 48 30.1**	**+1.8**
comp=Z,26nm,2.0s						
TOA0	**Torodi Ar. Sit**	**52.37 143**	*e*P	**P**	**06 48 30.1**	**+1.8**
comp=Z,26nm,2.0s						
TORD	**Torodi Ar. Bea**	**52.37 143**	P	**P**	**06 48 27.3**	**-1.0**
comp=Z,1.1nm,0.6s,baz=341,slow=7.6,SNR=8.5						
541A	**Lake Charles**	**52.51 265**	P	**P**	**06 48 30.7**	**+1.6**
baz=34						
S22A	**4UR Ranch, Cre**	**52.85 282**	*e*P	**P**	**06 48 30.8**	**-1.2**
comp=Z,4.3nm,0.9s						
S22A	**4UR Ranch, Cre**	**52.85 282**	*e*P	**P**	**06 48 30.8**	**-1.2**
comp=Z,4.3nm,0.9s						
WHTX	**Lake Whitney,**	**52.99 270**	P	**P**	**06 48 31.2**	**-1.6**
baz=35						
WHTX	**Lake Whitney,**	**52.99 270**	*e*P	**P**	**06 48 31.7**	**-1.0**
comp=Z,6.6nm,0.8s						
WHTX	**Lake Whitney,**	**52.99 270**	*e*P	**P**	**06 48 31.7**	**-1.0**
comp=Z,6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**53.38 43**	LR	LR	07 13 09.5	
comp=Z,28nm,18.2s,baz=252,slow=38						
SRU	**San Rafael Swe**	**53.50 286**	*e*P	**P**	**06 48 35.4**	**-1.2**
SRU			pmax	pmax		
comp=Z,3.0nm,1.0s						
SRU	**San Rafael Swe**	**53.50 286**	*e*P	**P**	**06 48 35.4**	**-1.2**
comp=Z,3.0nm,1.0s						
SRU	**San Rafael Swe**	**53.50 286**	*e*P	**P**	**06 48 35.4**	**-1.2**
comp=Z,3.0nm,1.0s						
ABTX	**Abilene, Hawle**	**53.53 272**	P	**P**	**06 48 35.8**	**-1.0**
baz=35						
KURK	**Kurchatov**	**53.88 49**	*i* P	**P**	**06 48 39.2**	**+0.2**
KURK			pmax	pmax		
comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**53.88 49**	*i* P	**P**	**06 48 39.2**	**+0.2**
comp=Z,8.0nm,1.0s						
MVCO	**Mesa Verde**	**54.07 283**	P	**P**	**06 48 41.1**	**+0.2**
baz=36						
637A	**Eagle Lake**	**54.54 267**	P	**P**	**06 48 44.8**	**+0.7**
baz=34						
ANMO	**Albuquerque**	**54.93 280**	P	**P**	**06 48 46.4**	**-0.7**
baz=36						
ANMO	**Albuquerque**	**54.93 280**	*i* P	**P**	**06 48 46.4**	**-0.7**
ANMO			pmax	pmax		
comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**54.93 280**	*e*P	**P**	**06 48 46.1**	**-1.0**
comp=Z,1.9nm,0.9s						
ANMO	**Albuquerque**	**54.93 280**	*e*P	**P**	**06 48 46.1**	**-1.0**
comp=Z,1.9nm,0.9s						
J05D	**Fort Rock, OR**	**54.98 297**	P	**P**	**06 48 48.8**	**+1.5**
baz=36						
JCT	**Junction City**	**55.37 271**	P	**P**	**06 48 49.1**	**-1.0**
baz=34						
JCT	**Junction City**	**55.37 271**	*e*P	**P**	**06 48 48.9**	**-1.2**
JCT			pmax	pmax		
comp=Z,7.0nm,0.9s						
JCT	**Junction City**	**55.37 271**	*e*P	**P**	**06 48 48.9**	**-1.2**
comp=Z,7.0nm,0.9s						
JCT	**Junction City**	**55.37 271**	*e*P	**P**	**06 48 48.9**	**-1.2**
comp=Z,6.6nm,0.9s						
GEYT	**Alibeck**	**55.61 73**	LR	LR	07 12 51.4	
comp=Z,47nm,19.0s,baz=5.0,slow=36						
MOD	**Modoc Plateau**	**55.69 295**	*e*P	**P**	**06 48 52.6**	**+0.1**
comp=Z,7.5nm,1.4s						
MOD	**Modoc Plateau**	**55.69 295**	*e*P	**P**	**06 48 52.6**	**+0.1**
comp=Z,7.5nm,1.4s						
LAB	**Little Aspen B**	**56.16 297**	*e*P	**P**	**06 48 54.4**	**-1.4**
LAB	**Little Aspen B**	**56.16 297**	*e*P	**P**	**06 48 54.4**	**-1.4**
R11A	**Troy Canyon, C**	**56.45 289**	P	**P**	**06 48 58.0**	**0.0**
baz=36						
M04C	**Macdoel**	**56.45 297**	P	**P**	**06 48 59.7**	**+1.8**
baz=36						
LCMT	**Little Creek M**	**56.46 287**	*e*P	**P**	**06 48 57.2**	**-0.8**
comp=Z,6.0nm,1.8s						
LCMT	**Little Creek M**	**56.46 287**	*e*P	**P**	**06 48 57.2**	**-0.8**
comp=Z,6.0nm,1.8s						
L02D	**Cave Junction,**	**56.91 298**	P	**P**	**06 49 03.7**	**+2.7**
baz=35						
PAHR	**Pah Rah Range**	**57.06 293**	*e*P	**P**	**06 49 02.9**	**+0.6**
comp=Z,14nm,1.9s						
PAHR	**Pah Rah Range**	**57.06 293**	*e*P	**P**	**06 49 02.9**	**+0.6**
comp=Z,14nm,1.9s						
MNTX	**Cornudas Mount**	**57.07 277**	P	**P**	**06 49 01.4**	**-0.8**
baz=34						
933A	**Laredo**	**57.49 269**	P	**P**	**06 49 05.7**	**+0.4**
baz=33						
121A	**Cookes Peak, D**	**57.53 279**	P	**P**	**06 49 05.2**	**-0.5**
baz=34						
TPNV	**Topopah Spring**	**57.90 289**	*e*P	**P**	**06 49 07.9**	**-0.3**
TPNV			pmax	pmax		
comp=Z,12nm,1.8s						
TPNV	**Topopah Spring**	**57.90 289**	*e*P	**P**	**06 49 07.9**	**-0.3**
comp=Z,12nm,1.8s						
TPNV	**Topopah Spring**	**57.90 289**	*e*P	**P**	**06 49 07.9**	**-0.3**
comp=Z,12nm,1.8s						
TXAR	**Lajitas Array**	**58.19 274**	P	**P**	**06 49 07.7**	**-2.5**
comp=Z,0.4nm,0.6s,baz=54,slow=4.5,SNR=6.4						
TXAR			LR	LR	07 13 36.9	
comp=Z,125nm,18.3s,baz=0.0,slow=36						
MK31	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.1**	**+1.0**
MK31	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.1**	**+1.0**
MK31	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.1**	**+1.0**
MK32	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 12.5**	**+0.4**
MK32	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 12.5**	**+0.4**
MKAR	**Makanchi Array**	**58.49 49**	P	**P**	**06 49 12.5**	**+0.4**
comp=Z,1.3nm,0.7s,baz=330,slow=5.8,SNR=7.3						
MKAR	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.3**	**+1.2**
MKAR			pmax	pmax		
comp=Z,15nm,1.0s						
MKAR	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.2**	**+1.2**
comp=Z,15nm,1.0s						
MKAR	**Makanchi Array**	**58.49 49**	*e*P	**P**	**06 49 13.2**	**+1.2**
comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**58.94 57**	LR	LR	07 14 01.2	
comp=Z,72nm,18.6s,baz=334,slow=35						
AAK	**Ala-Archa**	**58.94 57**	*e*P	**P**	**06 49 15.4**	**0.0**
AAK			pmax	pmax		
comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**58.94 57**	*e*P	**P**	**06 49 16.4**	**+1.0**
comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**58.94 57**	*e*P	**P**	**06 49 16.4**	**+1.0**
comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**58.94 57**	⇓*i*P	**P**	**06 49 15.4**	**0.0**
baz=40						
DAC	**Darwin (Calif)**	**59.06 290**	*e*P	**P**	**06 49 16.8**	**+0.4**
DAC			pmax	pmax		
comp=Z,3.0nm,0.9s						
DAC	**Darwin (Calif)**	**59.06 290**	*e*P	**P**	**06 49 16.8**	**+0.4**
comp=Z,3.0nm,0.9s						
DAC	**Darwin (Calif)**	**59.06 290**	*e*P	**P**	**06 49 16.8**	**+0.4**
comp=Z,2.9nm,0.9s						
MPMC	**Manual Prospec**	**59.20 289**	P	**P**	**06 49 17.9**	**+0.6**
baz=34						
BC3	**Big Chuckawall**	**60.24 286**	P	**P**	**06 49 25.0**	**+0.5**
baz=34						
EDW2	**Edwards Air Fo**	**60.40 289**	P	**P**	**06 49 27.2**	**+1.7**
baz=34						
SONM	**Songino Array**	**65.19 32**	LR	LR	07 20 18.7	
comp=Z,38nm,18.5s,baz=34,slow=38						
WSAR	**Wadi Sarin**	**68.07 82**	LR	LR	07 22 53.7	
comp=Z,29nm,18.1s,baz=356,slow=38						
KMBO	**Kilima Mbogo**	**79.03 113**	LR	LR	07 26 04.1	
comp=Z,20nm,20.2s,baz=94,slow=36						
BOSA	**Boshof**	**99.09 135**	LR	LR	07 37 47.7	
comp=Z,24nm,20.0s,baz=214,slow=35						

FORT	**Forrest**	**145.62 39**	*e*PKIKP	**PKPbc**	**06 58 54.3**	**0.0**
FORT	**Forrest**	**145.62 39**	*e*PKPdf	**PKPbc**	**06 58 54.3**	**0.0**
QSPA	**South Pole Qui**	**151.03 180**	*e*PKPbc	**PKPbc**	**06 59 06.1**	**-1.5**
BFZ	**Birch Farm**	**154.92 314**	*e*PKPbc	**PKPbc**	**06 59 17.6**	**+0.7**
BFZ	**Birch Farm**	**154.92 314**	*e*PKPbc	**PKPbc**	**06 59 17.6**	**+0.7**
LBZ	**Lake Benmore**	**160.24 320**	*e*PKIKP	**PKPdf**	**06 59 15.1**	**+0.3**
LBZ	**Lake Benmore**	**160.24 320**	*e*PKPdf	**PKPdf**	**06 59 15.1**	**+0.3**

*NNC **22** 06:48:36.6±6.1, 40.°87N×72.°69E, h0km, mb2.2, mpv2.0, Error ellipse: s-maj=43.9km s-min=26.1km az=162.0*

KRNET 22 06:48:33.9±0.1, 40.°87N×72.°49E, h10km, mb2.1, 10C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.58**	**40**	⇓*i*P	Pg	06 48 45.5	+0.3
ARSB	baz=39			⇓*i*S	Sg	06 48 53.8	+0.8
ARK	**Arkit**	**1.00**	**337**	⇓*i*P	Pg	06 48 52.6	-0.6
ARK	baz=337			⇓*i*S	Sn	06 49 07.7	-0.7
BTK	**Batken**	**1.51**	**238**	⇑*i*P	Pg	06 49 03.1	+0.2
BTK	baz=238			⇑*i*S	Sg	06 49 24.3	+1.8
AML	**Almayashu**	**1.55**	**35**	⇑*i*P	Pg	06 49 04.1	+0.5
AML	baz=35			⇑*i*S	Sg	06 49 25.0	+1.3
MNAS	**Manas**	**1.61**	**0**	⇑*i*P	Pg	06 49 04.8	0.0
MNAS	baz=1.0			⇑*i*S	Sg	06 49 27.5	+1.8
MNAS	**Manas**	**1.61**	**0**	⇑Pg	Pg	06 49 05.9	+1.1
MNAS	0.7nm,0.5s			⇓Lg	Lg	06 49 28.9	
ARLS	**Aral**	**1.70**	**54**	⇑*i*P	Pg	06 49 06.0	-0.4
ARLS	baz=54			⇑*i*S	Sg	06 49 29.4	+1.0
EKS2	**Erkin-Say**	**2.03**	**28**	⇓*e*P	Pb	06 49 11.8	+0.9
EKS2	baz=28			⇓*i*S	Sg	06 49 38.7	-0.4
AAK	**Ala-Archa**	**2.31**	**40**	⇓*i*S	Sb	06 49 45.8	+1.3
AAK	**Ala-Archa**	**2.31**	**40**	Lg	Lg	06 49 47.9	
KK31	**Karatay Array**	**2.67**	**327**	⇑Pg	Pg	06 49 27.6	+2.5
KK31	0.3nm,0.5s,baz=349,slow=8.9,SNR=4.2			⇓Lg	Lg	06 50 03.4	
	0.8nm,0.5s,baz=133,slow=28,SNR=5.9						

*SOME **22** 07:03:15.1, 44.°78N×82.°18E, h20km*

ISC 22 07:03:16.6±3.7, 44.°6N±0.°2×82.°4E±0.°2, h35km, n4, σ1°09/8, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.86**	**264**	*e*P	**Pn**	**07 03 46.3**	**+0.2**
DJR	2.9nm,0.2s			*e*S	**Sn**	**07 04 08.3**	**0.0**
MK31	**Makanchi Array**	**2.24**	**359**	⇑Pn	**Pn**	**07 03 51.3**	**+0.1**
MK31	2.7nm,0.3s,baz=181,slow=16,SNR=67			Sn	**Sn**	**07 04 18.5**	**+1.0**
	1.0nm,0.2s,baz=183,slow=26,SNR=17						
KAPS	**Kapalarasan**	**2.26**	**290**	*e*P	**Pn**	**07 03 51.6**	**+0.1**
KAPS	1.5nm,0.1s			*e*S	**Sn**	**07 04 17.6**	**-0.6**
	3.7nm,0.2s						
MAKZ	**Makanchi**	**2.27**	**353**	⇓Pn	**Pn**	**07 03 49.8**	**-1.7**
MAKZ	2.9nm,0.6s			⇑Sn	**Sn**	**07 04 19.5**	**+1.3**
	3.2nm,0.4s						

*ISK **22** 07:15:32.8, 41.°57N×35.°39E, h4km, MD2.7*
*ISCJB **22** 07:15:33.3±0.5, 41.°60N±0.°03×35.°45E±0.°04, h7km±6km, Error ellipse: s-maj=6.4km s-min=3.8km az=136.4*
*DDA **22** 07:15:33.1, 41.°56N×35.°43E, h7km, Ml3.0*
*CSEM **22** 07:15:33.2±0.2, 41.°59N×35.°44E, h12km, MD2.7, Error ellipse: s-maj=5.2km s-min=3.3km az=52.0*

ISC 22 07:15:33.2±1.0, 41.°58N±0.°03×35.°43E±0.°03, h7km±8km, n24, σ0°86/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIKM	**Dikmen**	**0.15**	**301**	*e*PG	**Pg**	**07 15 36.0**	**-0.3**
DIKM				*e*SG	**Sg**	**07 15 38.7**	**+0.4**
DIKM	**Dikmen**	**0.15**	**301**	*e*Pg	**Pg**	**07 15 36.0**	**-0.3**
DIKM				*e*Sg	**Sg**	**07 15 38.7**	**+0.4**
BOYT	**Boyabat**	**0.42**	**249**	*i* P	**Pg**	**07 15 41.5**	**+0.1**
BOYT				*i* S	**Sb**	**07 15 48.9**	**-0.8**
BOYT	**Boyabat**	**0.42**	**249**	P	**Pg**	**07 15 41.5**	**+0.1**
BOYT				S	**Sb**	**07 15 48.9**	**-0.8**
SNOP	**Sinop**	**0.47**	**340**	*e*PG	**Pg**	**07 15 42.5**	**+0.1**
SNOP				*e*SG	**Sg**	**07 15 49.8**	**+1.2**
SNOP	**Sinop**	**0.47**	**340**	*e*Pg	**Pg**	**07 15 42.5**	**+0.1**
SNOP				*e*Sg	**Sg**	**07 15 49.8**	**+1.2**
SINO	**SINOP_Merkez**	**0.47**	**339**	*i* P	**Pg**	**07 15 42.7**	**+0.3**
SINO				*i* S	**Sb**	**07 15 50.2**	**-1.0**
SINO	**SINOP_Merkez**	**0.47**	**339**	P	**Pg**	**07 15 42.7**	**+0.3**
SINO				S	**Sb**	**07 15 50.2**	**-1.0**
HAVZ	**Havza**	**0.55**	**156**	*i* P	**Pg**	**07 15 43.7**	**0.0**
HAVZ				*i* S	**Sb**	**07 15 52.6**	**-0.7**
HAVZ	**Havza**	**0.55**	**156**	P	**Pg**	**07 15 43.7**	**0.0**
HAVZ				S	**Sb**	**07 15 52.6**	**-0.7**
SAMS	**Samsun-Alacam**	**0.61**	**110**	*i* P	**Pg**	**07 15 44.7**	**-0.3**
SAMS				*i* S	**Sb**	**07 15 53.8**	**-1.3**
SAMS	**Samsun-Alacam**	**0.61**	**110**	P	**Pg**	**07 15 44.7**	**-0.3**
SAMS				S	**Sb**	**07 15 53.8**	**-1.3**
KVT	**Kavak**	**0.68**	**136**	*e*PG	**Pg**	**07 15 46.2**	**0.0**
KVT				*e*SG	**Sb**	**07 15 57.5**	**+0.4**
KVT	**Kavak**	**0.68**	**136**	*e*Pg	**Pg**	**07 15 46.3**	**0.0**
KVT				*e*Sg	**Sb**	**07 15 57.5**	**+0.4**
CTAK	**Corum_Osmancik**	**1.04**	**208**	*i* P	**Pg**	**07 15 53.1**	**-0.1**
CTAK				*i* S	**Sn**	**07 16 09.3**	**-0.1**
CTAK	**Corum_Osmancik**	**1.04**	**208**	P	**Pg**	**07 15 53.2**	**-0.1**
CTAK				S	**Sn**	**07 16 09.3**	**-0.1**
BZK	**Bozkurt**	**1.13**	**290**	*e*PN	**Pg**	**07 15 54.5**	**-0.4**
BZK	**Bozkurt**	**1.13**	**290**	*e*Pn	**Pg**	**07 15 54.5**	**-0.4**
COAL	**Corum-Alaca**	**1.36**	**194**	*i* P	**Pn**	**07 15 57.7**	**-1.1**
COAL				*i* S	**Sn**	**07 16 19.8**	**+2.6**
COAL	**Corum-Alaca**	**1.36**	**194**	P	**Pn**	**07 15 57.7**	**-1.1**
COAL				S	**Sn**	**07 16 19.8**	**+2.6**
ILGA	**Ilgaz**	**1.39**	**248**	*i* P	**Pn**	**07 15 59.0**	**-0.3**
ILGA	**Ilgaz**	**1.39**	**248**	P	**Pn**	**07 15 59.0**	**-0.3**
CORM	**Corum**	**1.52**	**204**	*e*PN	**Pb**	**07 16 01.8**	**-0.1**
CORM	**Corum**	**1.52**	**204**	*e*Pn	**Pb**	**07 16 01.8**	**-0.1**

MEX 22 07:25:06.1±0.7, 17.°99N×98.°69W, h63km±15km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.87**	**297**	*e*P	Pn	07 25 21.5	-1.3
PLIG				*e*S	Sn	07 25 33.8	-1.3
MEIG	**Mezcala**	**0.89**	**266**	*e*P	Pn	07 25 21.6	-1.3
MEIG				*e*S	Sn	07 25 33.7	-1.7
YAIG	**Yautepec**	**0.94**	**337**	*e*P	Pn	07 25 22.3	-1.3
YAIG				*e*S	Sn	07 25 34.0	-2.6
PPM	**Popocatepetl**	**1.07**	**3**	*e*P	Pn	07 25 24.2	-1.5
PPM				*e*S	Sn	07 25 38.3	-1.9
ACX	**Acapulco**	**1.58**	**225**	*e*P	Pn	07 25 30.7	-1.3
ACX				*e*S	Sn	07 25 49.5	-1.9
ARIG	**Puente Sto Nin**	**1.60**	**281**	*e*P	Pn	07 25 30.7	-1.6
ARIG				*e*S	Sn	07 25 50.7	-1.4
CAIG	**El Cayaco**	**1.77**	**238**	*e*P	Pn	07 25 34.6	0.0
CAIG				*e*S	Sn	07 25 54.3	-1.9
VHO	**Vista Hermosa**	**2.08**	**116**	*e*P	Pn	07 25 37.2	-1.6
VHO				*e*S	Sn	07 25 56.7	-7.0
ZIIG	**Zihuatanejo**	**2.67**	**262**	*e*P	Pn	07 25 45.5	-1.3
ZIIG				*e*S	Sn	07 26 16.0	-2.0

NNC 22 07:27:04.1±1.5, 36.°97N×71.°03E, h0km, mb3.6, mpv3.3, 3C-5D, Error ellipse: s-maj=12.7km s-min=6.6km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.52**	**317**	⇓P	Pn	07 27 46.5	+0.1
DZET	1.1nm,0.2s			⇓S	Sn	07 28 19.4	+1.4
	23nm,0.3s						
MNAS	**Manas**	**5.62**	**11**	⇑P	Pn	07 28 29.7	+0.7
MNAS	0.9nm,0.3s			⇑S	Sn	07 29 35.7	+1.3
	2.7nm,0.5s						
KK31	**Karatay Array**	**6.13**	**356**	P	Pn	07 28 36.4	+0.4
KK31	0.8nm,0.2s,baz=175,slow=12,SNR=38			⇓S	Sn	07 29 47.4	+0.5
	0.9nm,0.3s,baz=183,slow=22,SNR=9.5						
AAK	**Ala-Archa**	**6.25**	**24**	⇓P	Pn	07 28 37.7	0.0
AAK	2.8nm,0.4s			⇓S	Sn	07 29 51.5	+1.5
	3.1nm,0.6s						
TKM2	**Tokmak 2**	**6.90**	**29**	⇑P	Pn	07 28 46.3	-0.3
	1.6nm,0.5s						
AB31	**Akbulak array**	**14.68**	**330**	P	Pn	07 30 29.3	-3.7
	0.2nm,0.6s,baz=142,slow=13,SNR=4.1						

*NIED **22** 07:31:00, 37.°00N×141.°30E, h11km, Mw3.8 Best double couple: M0=4.95000×10^14 NP1:φs=54.00000°, δ35.00000°, λ-68.00000°. NP2:φs=208.00000°, δ58.00000°, λ-104.00000°.*

JMA 22 07:31:32.7±0.1, 36.°98N×141.°26E, h33km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**288**	P	Pb	07 31 41.3	-0.4
ONAJ				S	Sb	07 31 47.3	-0.6
JFK	**Kawauchi**	**0.49**	**322**	P	Pb	07 31 42.6	-0.6
JFK				S	Sb	07 31 49.9	-0.6
JHO	**Hitachi**	**0.67**	**237**	P	Pn	07 31 45.1	-0.7
JHO				S	Sb	07 31 54.3	-0.7
JFT	**Otama**	**0.91**	**306**	P	Pb	07 31 49.8	-0.3
JMM	**Marumori**	**0.96**	**337**	P	Pn	07 31 49.5	-0.4
JSB	**Shiboa**	**1.07**	**270**	P	Pb	07 31 52.8	0.0
JSB				S	Sb	07 32 07.0	+0.5
JFY	**Yanaizu**	**1.31**	**289**	P	Pb	07 31 56.2	-0.6
JFY				S	Sb	07 32 13.4	+0.1
JOU	**Okura**	**1.46**	**341**	P	Pn	07 31 57.8	+1.0
JOU				S	Sb	07 32 16.3	-1.3
MAT	**Matsushiro**	**2.49**	**261**	P	Pn	07 32 13.4	+2.5
MAT				S	Sb	07 32 46.1	-0.9

*ISCJB **22** 07:35:55.6±0.4, 0.°07N±0.°03×123.°76E±0.°03, h131km±3km, mb4.5/67, Error ellipse: s-maj=6.0km s-min=4.0km az=38.4*
*IDC **22** 07:35:56.1±2.1, 0.°02N×123.°48E, h129km±18km, mb4.1/21, mb1 4.2/22, mb1mx4.1/41, mbtmp4.5/22, MS2.9/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=24.0km s-min=8.6km az=73.0*
*DJA **22** 07:35:59.3±0.4, 0.°S±3.°×12.°4E±.°, h37km±9km, M5.0/12, mb5.2/12, mB5.4/11, MLv5.1/6, Mw(mB)4.9/11*
*NEIC **22** 07:36:01.8±1.1, 0.°04N×123.°69E, h177km±10km, mb4.5/37, Error ellipse: s-maj=12.2km s-min=5.6km az=68.0*
*KLM **22** 07:36:08.6, 0.°36S×122.°42E, h19km, mb4.7*

ISC 22 07:35:56.0±0.7, 0.°11N±0.°04×123.°82E±0.°04, h122km±5km, n148, σ1°51/168, mb4.6/66, 3C-4D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.49**	**19**	P	**Pn**	**07 36 13.8**	**-0.4**
KMSI				S	**Sn**	**07 36 24.9**	**-3.0**
MRSI	**Marisa**	**1.92**	**281**	P	**Pn**	**07 36 29.6**	**+1.0**
MRSI				S	**Sn**	**07 36 53.3**	**-0.2**
APSI	**Ampana**	**2.40**	**245**	P	**Pn**	**07 36 34.4**	**-0.2**
APSI				S	**Sn**	**07 37 01.6**	**-2.6**
SANI	**Sanana**	**3.04**	**135**	P	**Pn**	**07 36 43.6**	**+0.6**
SANI				S	**Sn**	**07 37 18.6**	**-0.6**
LBMI	**Labuha**	**3.75**	**101**	P	**Pn**	**07 36 54.9**	**+2.6**
LBMI				S	**Sn**	**07 37 35.8**	**-0.1**
MPSI	**Mapaga**	**3.93**	**273**	P	**Pn**	**07 36 56.5**	**+1.8**
MPSI				S	**Sn**	**07 37 41.9**	**+1.7**
PCI	**Palu**	**4.11**	**256**	P	**Pn**	**07 36 58.3**	**+1.2**
NLAI	**Namlea**	**4.67**	**135**	P	**Pn**	**07 37 05.7**	**+1.2**
TTSI	**Tana Toraja**	**5.08**	**232**	P	**Pn**	**07 37 09.3**	**-0.8**
BBSI	**Bau Bau**	**5.69**	**193**	P	**Pn**	**07 37 18.5**	**+0.1**
	28nm,0.9s,2μm						
SPSI	**Sidrap Palu**	**5.72**	**225**	P	**Pn**	**07 37 18.2**	**-0.6**
	146nm,0.6s,4μm0.8nm						
BNSI	**Bone**	**5.81**	**220**	P	**Pn**	**07 37 20.3**	**+0.3**
	155nm,0.6s,2μm						
MSAI	**Masohi**	**6.15**	**124**	P	**Pn**	**07 37 26.9**	**+2.4**
	103nm,0.9s,1μm0.3nm						
KAPI	**Kappang**	**6.51**	**219**	*e*Pn	Pn	07 37 35.7	+6.3
BSSI	**Bau Bau, Buton**	**7.04**	**208**	P	**Pn**	**07 37 38.1**	**+1.5**
	249nm,0.6s,3μm1.0nm						
BKB	**Balikpapan**	**7.06**	**259**	P	**Pn**	**07 37 38.1**	**+1.3**
	328nm,0.9s,3μm1.3nm						
MYLDM	**Lahad Datu**	**7.33**	**314**	*e*Pn	Pn	07 37 46.0	+5.6
MYLDM	**Lahad Datu**	**7.33**	**314**	⇓P	Pn	07 37 47.1	+6.7
BNDI	**Bandanaira**	**7.62**	**127**	P	Pn	07 37 50.5	+6.1
EDFI	**Ende, Flores**	**9.05**	**194**	P	**Pn**	**07 38 08.4**	**+4.6**
KKM	**Kota Kinabalu**	**9.62**	**308**	*e*Pn	Pn	07 38 16.9	+5.5
KKM	**Kota Kinabalu**	**9.62**	**308**	⇑P	**Pn**	**07 38 16.1**	**+4.6**
KDM	**Kudat**	**9.72**	**314**	⇓P	Pn	07 38 20.1	+7.4
SBUM	**Sibu**	**11.83**	**281**	⇑P	**Pn**	**07 38 39.4**	**-1.6**
KSM	**Kuching**	**13.58**	**276**	⇓P	**Pn**	**07 39 01.7**	**-2.1**
MTN	**Manton Dam**	**14.77**	**151**	P	**Pn**	**07 39 18.6**	**-0.3**
	baz=15,SNR=7.1						

NJ2 pmax pmax
comp=Z,23nm,0.5s
KMI Kunming 32.16 322 P P 07 42 16.4 +3.9
KMI pmax pmax
comp=Z,20nm,0.9s
STKA Stephens Creek 35.98 154 P P 07 42 45.1 -0.1
comp=Z,2.1nm,0.4s,baz=331,slow=9.6,SNR=14
STKA PcP **PcP 07 45 09.3 0.0**
comp=Z,2.6nm,0.5s,baz=10.0,slow=3.9,SNR=5.7
STKA Stephens Creek 35.98 154 P P 07 42 45.6 +0.3
baz=36,SNR=11
STKA Stephens Creek 35.98 154 *e*P **P 07 42 45.5 +0.3**
comp=Z,1.6nm,1.3s
STKA *e*PcP **PcP 07 45 09.3 0.0**
HTT Hallett 36.26 158 P P 07 42 48.1 +0.5
baz=36,SNR=6.6
XAN Xi'an 36.54 339 P P 07 42 51.3 +1.4
XAN pP sP 07 43 31.5 +0.4
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN LR LR
comp=E,79nm,10.3s
XAN LR LR
comp=Z,12nm,9.5s
INU Inuyama 37.16 18 *e*P **P 07 42 56.2 +1.1**
comp=Z,20nm,1.1s
KSAR Wonju Array Be 37.34 5 P **P 07 42 57.6 +1.0**
KSRS Korea Array 37.36 5 P **P 07 42 57.6 +0.9**
comp=Z,1.1nm,0.4s,baz=182,slow=10,SNR=5.2
CMSA Cobar Meteorol 37.68 149 P **P 07 43 01.1 +1.5**
baz=38,SNR=8.6
MAJO Matsushiro 38.63 19 *e*P **P 07 43 08.4 +0.9**
comp=Z,14nm,0.7s
MAT Matsushiro 38.63 19 P **P 07 43 07.6 +0.1**
MJAR Matsushiro Arr 38.63 19 P **P 07 43 07.8 +0.3**
comp=Z,11nm,0.7s,baz=192,slow=9.0,SNR=41
MJB9 Matsu-Tunnel 38.64 19 *e*P **P 07 43 08.2 +0.7**
comp=Z,3.4nm,0.6s
ARMA Armidale 40.26 141 *e*P **P 07 43 23.0 +1.8**
comp=Z,11nm,1.4s
LZH Lanzhou 40.33 335 *e*P **P 07 43 24.4 +2.6**
LZH pP sP 07 44 03.9 +0.6
LZH sP pP 07 44 23.8 +34
LZH pmax pmax
comp=Z,19nm,1.0s
HHC Hu-ho-hao-te 42.06 346 *e*P **P 07 43 39.3 +3.5**
HHC pP sP 07 44 17.6 +0.2
HHC sP pP 07 44 37.4 +34
HHC PcS **PcS 07 49 20.6 +0.3**
HHC S **S 07 49 46.1 +0.1**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,95nm,6.4s
HHC LR LR
comp=N,580nm,17.4s
HHC LR LR
comp=E,480nm,14.9s
HHC LR LR
comp=Z,430nm,17.4s
CAN Canberra 42.35 149 *e*P **P 07 43 40.3 +2.1**
comp=Z,14nm,1.4s
CAN *e*PP **PcP 07 45 30.5 +1.0**
CN2 Changchun 43.53 2 *e*P **P 07 43 52.1 +4.6**
ODAN Odare 43.98 310 *e*P **P 07 43 51.9 +0.2**
comp=Z,9.5nm,0.6s
TAPN Taplejung 44.00 311 *e*P **P 07 43 51.8 0.0**
USRK Ussuriysk Ar. 44.50 8 P **P 07 43 56.0 +0.8**
comp=Z,5.4nm,0.3s,baz=188,slow=5.8,SNR=34
MDJ Mudanjiang 44.62 6 P **P 07 44 00.0 +3.9**
MDJ pmax pmax
comp=Z,13nm,0.6s
MDJ pmax pmax
comp=Z,23nm,3.9s
RAMN Ramite 44.63 310 *e*P **P 07 43 57.4 +0.5**
comp=Z,22nm,0.5s
GTA Gaotai 44.86 333 *e*P **P 07 44 00.3 +2.0**
GTA pP sP 07 44 41.3 +1.1
GTA sP pP 07 45 02.1 +36
GTA PcP **PcP 07 45 38.5 +0.5**
GTA S **S 07 50 24.8 -2.1**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,59nm,6.3s
GTA LR LR
comp=N,69nm,15.2s
GTA LR LR
comp=E,110nm,19.5s
GTA LR LR
comp=Z,88nm,17.1s
JIRN Jiri 45.31 310 *e*P **P 07 44 02.6 +0.2**
GUN Gumba 45.67 310 *e*P **P 07 44 05.2 0.0**
DMN Daman 46.11 310 *e*P **P 07 44 08.2 -0.4**
comp=Z,9.9nm,0.7s
GKN Gorkha 46.67 310 *e*P **P 07 44 12.6 -0.2**
ASAJ Asahikawa 46.91 19 *e*P **P 07 44 15.8 +1.7**
comp=Z,11nm,0.8s
KOLN Koldanda 47.36 309 *e*P **P 07 44 18.1 -0.1**
DANN Dangsing 47.51 310 *e*P **P 07 44 19.4 -0.1**
PYUN Piuthan 47.99 309 *e*P **P 07 44 22.6 -0.5**
SONM Songino Array 49.90 345 P **P 07 44 37.3 +0.2**
comp=Z,1.8nm,0.5s,baz=159,slow=10,SNR=7.1
SONM PcP **PcP 07 45 55.5 -0.3**
comp=Z,0.8nm,0.5s,baz=162,slow=2.8,SNR=3.0
WMQ Urumqi 54.13 328 P **P 07 45 09.9 +1.3**
WMQ pP sP 07 45 49.4 -1.7
WMQ sP PcP 07 46 03.8 -7.9
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.5s
WMQ LR LR
comp=N,19nm,18.3s
WMQ LR LR
comp=E,48nm,31.9s
WMQ LR LR
comp=Z,43nm,39.5s
KSH Kashi 58.65 318 *e*P **P 07 45 40.4 -0.4**
KSH PcP **PcP 07 46 30.3 +0.7**
KSH sP sP 07 46 43.8 +20
KSH PP **PP 07 47 54.3 +2.4**
KSH PcS PcS 07 50 22.3 -9.2
KSH S S 07 53 23.3 -13
KSH sS sS 07 54 39.4 +13
KSH ScS ScS 07 55 01.3 -18
KSH Kashi 58.65 318 SS SS 07 57 20.8 -10
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,76nm,6.0s
KSH LR LR
comp=N,82nm,8.4s
KSH LR LR
comp=E,97nm,9.6s
KSH LR LR
comp=Z,59nm,6.1s
MK31 Makanchi Array 58.96 328 *e*P **P 07 45 42.2 -0.4**
MKAR Makanchi Array 58.96 328 P **P 07 45 42.0 -0.7**
comp=Z,6.2nm,0.5s,baz=125,slow=8.2,SNR=44
MKAR PcP **PcP 07 46 29.4 -1.1**
comp=Z,4.1nm,0.6s,baz=134,slow=3.5,SNR=11
MKAR Makanchi Array 58.96 328 *e*P **P 07 45 42.1 -0.5**
comp=Z,53nm,0.5s
MKAR PcP **PcP 07 46 29.4 -1.1**
MAKZ Makanchi 59.14 328 *e*P **P 07 45 43.2 -0.6**
comp=Z,4.1nm,0.6s
PETK Petropavlovsk- 59.87 23 P **P 07 45 50.1 +1.4**
comp=Z,6.4nm,0.6s,baz=184,slow=3.1,SNR=9.8
YAK Yakutsk 61.93 3 *e*P **P 07 46 01.9 -0.5**
comp=Z,39nm,0.7s
BKZ Black Stump Fm 61.95 136 *e*P **P 07 46 03.9 +0.8**
comp=Z,25nm,1.4s
URZ Urewera 62.00 134 P **P 07 46 03.3 -0.1**
comp=Z,5.6nm,0.7s,baz=250,slow=4.3,SNR=3.1
ZALV Zalesovo Beam 62.56 335 P **P 07 46 05.0 -1.8**
comp=Z,2.4nm,0.7s,baz=134,slow=6.4,SNR=6.3
ZALV PcP **PcP 07 46 42.1 -2.7**
comp=Z,1.3nm,0.5s,baz=129,slow=4.2,SNR=2.8
KURK Kurchatov 63.30 330 *e*P **P 07 46 10.8 -0.9**
comp=Z,19nm,0.6s
TIXI Tiksi 71.50 2 *e*P **P 07 47 02.2 -0.8**
comp=Z,15nm,0.4s
ABKAR Abkulak array 73.15 322 *e*P **P 07 47 11.8 -1.4**
ABKAR *e*PcP **PcP 07 47 27.5 -1.7**
ARU Arti 76.47 329 *e*P **P 07 47 30.3 -2.0**
comp=Z,5.8nm,0.5s
VNDA Vanda 80.24 172 P **P 07 47 52.6 +0.1**
comp=Z,2.1nm,0.8s,baz=319,slow=5.9,SNR=11
VNDA Vanda 80.24 172 *e*P **P 07 47 52.5 -0.1**
comp=Z,2.3nm,0.9s
SBA Scott Base 81.18 172 *e*P **P 07 47 58.6 +1.0**
comp=Z,2.2nm,1.0s
KBZ Khabaz 83.36 314 P **P 07 48 07.6 -2.0**
comp=Z,1.4nm,0.8s,baz=294,slow=0.9,SNR=3.7
SVW2 Sparrevohn 85.36 29 *e*P **P 07 48 20.9 +1.6**
comp=Z,5.7nm,1.1s
TT01 Tatalina 85.42 27 *e*P **P 07 48 21.1 +1.5**
OHAK Old Harbor 86.05 33 *e*P **P 07 48 24.3 +1.5**
comp=Z,38nm,1.3s
KDAK Kodiak Island 86.48 32 P **P 07 48 25.1 +0.2**
comp=Z,5.1nm,0.7s,baz=225,slow=3.2,SNR=8.0
KDAK Kodiak Island 86.48 32 *e*P **P 07 48 25.6 +0.7**
comp=Z,38nm,1.2s
PPLA Purkeypile 87.16 27 *e*P **P 07 48 29.1 +0.8**
comp=Z,11nm,1.2s
CAST Castle Rocks 87.25 27 *e*P **P 07 48 29.3 +0.7**
comp=Z,1.0nm,0.8s
BRLK Bradley Lake 87.53 30 *e*P **P 07 48 30.3 +0.4**
comp=Z,36nm,1.2s
SYO Syowa Base 88.02 201⇑ *e*P **P 07 48 30.3 -1.7**
SYO Syowa Base 88.02 201⇓ *e*PcP **PcP 07 48 35.2 +1.5**
COLD Coldfoot 88.34 23 *e*P **P 07 48 35.1 +1.4**
comp=Z,4.3nm,0.7s
RND Reindeer 88.70 27 *e*P **P 07 48 35.3 -0.2**
comp=Z,13nm,1.5s
MDM Murphy Dome 89.03 25 *e*P **P 07 48 38.6 +1.7**
comp=Z,5.3nm,1.3s
CCB Clear Creek Bu 89.20 25 *e*P **P 07 48 37.2 -0.5**
comp=Z,3.4nm,0.8s
DHY Denali Highway 89.36 27 *e*P **P 07 48 39.5 +0.8**
comp=Z,12nm,1.5s
ILAR Eielson Array 89.60 25 P **P 07 48 38.3 -1.3**
comp=Z,0.7nm,0.5s,baz=244,slow=4.8,SNR=11
ILB Eielson Array 89.60 25 *e*P **P 07 48 38.8 -0.8**
QSPA South Pole Qui 90.04 180 *e*P **P 07 48 41.9 +0.2**
BRTR Keskin Array B 90.08 310 P **P 07 48 40.5 -2.1**
comp=Z,0.8nm,0.8s,baz=122,slow=6.4,SNR=3.6
CSS Mathiatis 90.34 305 *e*P **P 07 48 43.6 -0.2**
comp=Z,5.5nm,1.4s
RAGM Ragged Mountai 90.66 30 *e*P **P 07 48 45.5 +0.9**
comp=Z,34nm,1.2s
MENT Mentasta 91.03 27 *e*P **P 07 48 47.0 +0.7**
comp=Z,4.4nm,1.0s
BALM Baldy 91.77 29 *e*P **P 07 48 50.8 +0.9**
comp=Z,12nm,1.4s
ARCES ARCESS Array B 92.82 340 P **P 07 48 52.5 -1.9**
comp=Z,1.4nm,0.4s,baz=93,slow=4.6,SNR=18
ARE0 ARCESS Array S 92.82 340 *e*P **P 07 48 52.9 -1.6**
comp=Z,34nm,1.4s
AKASG Malin Array Be 92.84 321 P **P 07 48 51.5 -3.5**
comp=Z,0.7nm,0.5s,baz=67,slow=5.1,SNR=3.6
DAWY Dawson 92.89 26 *e*P **P 07 48 55.8 +0.9**
comp=Z,5.5nm,1.1s
SPA0 Spitsbergen Ar 93.44 349 *e*P **P 07 48 56.2 -1.0**
FINES FINESS Array B 93.62 332 P **P 07 48 55.7 -2.5**
comp=Z,0.7nm,0.4s,baz=98,slow=4.3,SNR=8.2
INK Inuvik 94.58 21 P **P 07 49 01.9 -0.5**
comp=Z,1.5nm,0.5s,baz=314,slow=5.0,SNR=9.7
BUR08 Bucovina Ar. S 95.74 318 *e*P **P 07 49 07.1 -1.4**
HFS Hagfors 99.83 332 P **Pdif 07 49 23.6 -2.8**
comp=Z,1.4nm,0.5s,baz=128,slow=5.9,SNR=11
NOA NORSAR Array B 100.69 333 P **Pdif 07 49 27.9 -2.4**
comp=Z,1.1nm,0.8s,baz=72,slow=4.3,SNR=2.5
PDAR Pinedale Array 115.98 41 PKP **PKPdf 07 54 25.5 +0.4**
comp=Z,0.2nm,0.4s,baz=251,slow=2.8,SNR=3.3
SMCO Snowmass 119.35 44 *e*PKPdf **PKPdf 07 54 29.9 -2.0**
TORD Torodi Ar. Bea 121.17 285 PKP **PKPdf 07 54 34.5 -1.0**
comp=Z,0.8nm,0.4s,baz=98,slow=2.1,SNR=16
LAZ Ladron 121.32 49 *e*PKPdf **PKPdf 07 54 30.4 -5.2**
ANMO Albuquerque 121.60 48 PKP **PKPdf 07 54 36.0 -0.1**
comp=Z,0.7nm,0.5s,baz=95,slow=4.5,SNR=3.1
SCHQ Schefferville 124.55 7 PKP **PKPdf 07 54 39.9 -1.0**
comp=Z,4.0nm,0.5s,baz=242,slow=5.0,SNR=3.8
TXAR Lajitas Array 126.10 53 PKP **PKPdf 07 54 45.0 +0.3**
comp=Z,0.4nm,0.7s,baz=204,slow=1.9,SNR=6.9
PKME Peaks-Kenny Pk 133.35 13 *e*PKPdf **PKPdf 07 54 59.2 +1.3**
PLAL Pickwick Lake 134.11 37 *e*PKPdf **PKPdf 07 55 00.1 +0.5**
SSPA Standing Stone 134.90 23 *e*PKPdf **PKPdf 07 55 01.6 +0.7**
ROC1 El Roble 144.44 158 *e*PKPdf **PKPab 07 55 17.1 -0.2**
LCO Las Campanas 148.08 155 *e*PKPbc **PKPbc 07 55 28.4 -0.1**
CPUP Villa Florida 153.90 178 *e*PKPbc **PKPbc 07 55 41.9 +0.2**
LVC Limon Verde 154.43 152 *e*PKPbc **PKPbc 07 55 44.9 +1.4**
LPAZ La Paz 160.06 144 PKP **PKPdf 07 55 43.5 +0.9**
comp=Z,0.9nm,0.8s,baz=242,slow=3.5,SNR=4.8
LPAZ PKPab **PKPab 07 56 23.8 +1.0**
comp=Z,1.5nm,0.8s,baz=183,slow=3.4,SNR=5.7

MAN 22 07:36:21,9.81N×122.25E,h17km,mb4.8,ML3.7,MS3.8, 3C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.88**	**22**	*e*P	Pb	07 36 37.4	-0.4
GUIM				*e*S	Sn	07 36 51.1	+0.1
JAP	**San Jose, Anti**	**0.98**	**342⇓**	*e*P	Pb	07 36 38.5	-1.1
SNPH	**Sibulan**	**1.07**	**115⇑**	*i*P	Pb	07 36 40.0	-1.2
SNPH				*i*S	Sg	07 36 55.9	0.0
TBP	**Tagbilaran**	**1.59**	**94**	*e*P	Pb	07 36 49.2	-0.7
TBP				*e*S	Sg	07 37 17.3	+4.9
LLP	**Lapu-Lapu**	**1.76**	**73⇑**	*i*P	Pn	07 36 51.0	+0.3
LLP				*e*S	Sb	07 37 14.2	-0.5
RCP	**Roxas**	**1.81**	**15⇓**	*e*P	Pb	07 36 53.0	-0.7
RCP				*e*S	Sg	07 37 19.2	-0.1
MSLP	**Maasin**	**2.59**	**83**	*e*P	Pn	07 37 02.7	+0.6
MSLP				*e*S	Sn	07 37 34.9	+1.7
OCLP	**Ormoc**	**2.63**	**62**	*e*P	Pn	07 37 03.3	+0.6
OCLP				*e*S	Sn	07 37 35.6	+1.4
PLP	**Palo**	**3.00**	**63⇑**	*i*P	Pn	07 37 08.1	+0.3
BUKP	**Musuan**	**3.37**	**124**	*e*P	Pn	07 37 14.3	+1.4
BUKP				*e*S	Sb	07 37 58.0	-3.2
BESP	**Borongan**	**3.60**	**60**	*e*P	Pn	07 37 15.1	-1.0

MAN 22 07:46:52,9.80N×122.03E,h16km,mb4.4,ML3.3,MS3.2, 1C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.94**	**355⇓**	*e*P	Pn	07 47 19.4	+8.8
GUIM	**Jordan**	**0.99**	**34**	*e*P	Pg	07 47 11.2	0.0
GUIM				*e*S	Sn	07 47 25.6	+0.8
SNPH	**Sibulan**	**1.28**	**111⇑**	*i*P	Pn	07 47 14.2	-1.0
SNPH				*i*S	Sb	07 47 29.7	-2.2
RCP	**Roxas**	**1.88**	**22⇓**	*e*P	Pb	07 47 27.0	+0.9
RCP				*e*S	Sg	07 47 51.3	-1.5
LLP	**Lapu-Lapu**	**1.98**	**75**	*e*P	Pn	07 47 25.8	+0.9
LLP				*e*S	Sb	07 47 52.4	+0.4
PAGZ	**Pagadian**	**2.36**	**145**	*e*P	Pn	07 47 31.2	+1.1
MSLP	**Maasin**	**2.81**	**83**	*e*P	Pn	07 47 37.8	+1.5
MSLP				*e*S	Sn	07 48 11.5	+1.7
OCLP	**Ormoc**	**2.83**	**64**	*e*P	Pn	07 47 37.3	+0.8
ENPP	**El Nido**	**2.92**	**299**	*e*P	Pb	07 47 40.8	-2.8
ENPP				*e*S	Sn	07 48 14.0	+1.5
BUKP	**Musuan**	**3.56**	**122**	*e*P	Pn	07 47 48.7	+2.1
BUKP				*e*S	Sn	07 48 31.6	+3.2

IDC 22 07:47:50.0±10.0,20.18S×179.09W,h658km±106km, mb3.0/5,mb1 3.3/5,mb1mx2.8/45,mbtmp4.0/5,Error ellipse: s-maj=141.2km s-min=37.0km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.60**	**257**	P	P	07 54 59.0	-0.2
ASAR				PcP	PcP	07 56 31.6	+0.3
WRA	**Warramunga Arr**	**43.63**	**262**	P	P	07 54 59.5	-0.1
FITZ	**Fitzroy Crossi**	**52.06**	**262**	P	P	07 56 02.4	+0.6
ILAR	**Eielson Array**	**88.24**	**13**	P	P	07 59 33.2	+0.4
PDAR	**Pinedale Array**	**89.44**	**44**	P	P	07 59 39.2	0.0
HFS	**Hagfors**	**139.06**	**350**	PKhKP	PKPpre	08 05 56.8	
AKASG	**Malin Array Be**	**142.24**	**330**	PKP	PKPdf	08 06 07.3	-2.0

IDC 22 07:48:03.8±1.4,2.55N×126.98E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.6/62,mbtmp3.9/6,Error ellipse: s-maj=94.9km s-min=18.4km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**162**	P	P	07 53 15.4	-0.1
	0.4nm,0.8s,baz=339,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**26.92**	**166**	P	P	07 53 46.3	-0.6
	0.6nm,0.6s,baz=341,slow=7.3,SNR=20						
CMAR	**Chiang Mai Arr**	**31.69**	**302**	P	P	07 54 29.9	+0.5
	1.7nm,0.4s,baz=125,slow=5.6,SNR=2.8						
MKAR	**Makanchi Array**	**58.66**	**326**	P	P	07 58 03.4	+0.3
	1.1nm,0.4s,baz=112,slow=8.0,SNR=18						
KURBB	**Kurchatov Arra**	**62.86**	**328**	P	P	07 58 31.2	-0.3
	1.9nm,0.5s,baz=128,slow=6.4,SNR=20						
BVAR	**Borovoye Array**	**68.44**	**327**	P	P	07 59 07.8	+0.2
	0.7nm,0.7s,baz=107,slow=8.2,SNR=3.8						

ISCJB ***22*** *07:48:10.0±1.8,51.5N±0.1×175.10W±0.06,h25km±10km, mb3.3/3,Error ellipse: s-maj=20.1km s-min=4.1km az=165.1*
NEIC ***22*** *07:48:11.8±0.0,51.57N×175.18W,h28km,ML3.9(AEIC), After AEIC.*
ISC 22 07:48:11.4±1.9,**51.5N**±0.1×**175.19W**±0.04,**h28**km±13km, **n26,**σ1.06/33,**mb3.5/3,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.74**	**313**	P	**Pb**	**07 48 26.0**	**+0.4**
GSCK	**Great Sitkin C**	**0.77**	**308**	P	**Pb**	**07 48 26.4**	**+0.2**
GSTR	**Great Sitkin T**	**0.77**	**316**	P	**Pn**	**07 48 26.9**	**+0.4**
GSTD	**Great Sitkin T**	**0.79**	**311**	P	**Pb**	**07 48 26.7**	**+0.2**
GSTD				S	**Sn**	**07 48 38.1**	**+0.5**
ETKA	**Kagalaska Isla**	**0.82**	**293**	P	**Pb**	**07 48 26.9**	**-0.1**
ATKA	**Atka Island**	**0.90**	**42**	P	**Pn**	**07 48 27.0**	**-1.2**
ATKA				S	**Sb**	**07 48 38.9**	**-1.1**
ADAG	**Mount Adagdak**	**0.98**	**297**	P	**Pb**	**07 48 30.2**	**+0.5**
KOKL	**Mount Kliuchef**	**0.99**	**38**	P	**Pn**	**07 48 29.6**	**+0.1**
KOKL				S	**Sb**	**07 48 41.6**	**-1.0**
ADK	**Adak**	**0.99**	**291**	P	**Pn**	**07 48 28.5**	**-0.9**
ADK				S	**Sn**	**07 48 42.6**	**0.0**
KOFP	**Korovin Flat P**	**1.00**	**42**	P	**Pn**	**07 48 29.6**	**0.0**
KOKV	**Korovin Volcan**	**1.04**	**37**	P	**Pn**	**07 48 30.4**	**+0.3**
KOKV				S	**Sb**	**07 48 44.3**	**+0.4**
KOSE	**Korovin Southe**	**1.07**	**41**	P	**Pn**	**07 48 30.8**	**+0.3**
KOSE				S	**Sb**	**07 48 44.9**	**+0.1**
KIRH	**Kanaga Island**	**1.24**	**288**	P	**Pn**	**07 48 33.0**	**+0.1**
KIKV	**Kanaga Island**	**1.28**	**286**	P	**Pn**	**07 48 33.4**	**-0.1**
TAPA	**Tanaga Point A**	**1.66**	**281**	P	**Pn**	**07 48 38.8**	**+0.2**
TAFL	**Tanaga Flats**	**1.70**	**278**	P	**Pn**	**07 48 39.4**	**+0.2**
TAFP	**Tanaga Falls P**	**1.78**	**283**	P	**Pn**	**07 48 40.8**	**+0.5**
TAFP				S	**Sn**	**07 49 03.8**	**+1.9**
GAEA	**Gareloi East**	**2.23**	**278**	P	**Pn**	**07 48 47.7**	**+1.3**
GALAA	**Gareloi Lava P**	**2.24**	**277**	P	**Pn**	**07 48 48.4**	**+1.7**
UNV	**Unalaska Valle**	**5.76**	**63**	P	**Pn**	**07 49 36.7**	**+1.8**
UNV				S	**Sn**	**07 50 42.4**	**+2.3**
SPIA	**Saint Paul Isl**	**6.34**	**25**	P	**Pn**	**07 49 45.1**	**+2.3**
KDAK	**Kodiak Island**	**14.45**	**56**	P	**P**	**07 51 38.6**	**-1.7**
	2.1nm,0.3s,baz=288,slow=9.7,SNR=20						
ILAR	**Eielson Array**	**19.73**	**37**	P	**P**	**07 52 37.4**	**-1.1**
	0.2nm,0.3s,baz=227,slow=10,SNR=10						
INK	**Inuvik**	**26.04**	**34**	P	**P**	**07 53 41.0**	**-0.7**
	0.1nm,0.3s,baz=243,slow=9.0,SNR=3.9						
PDAR	**Pinedale Array**	**44.10**	**75**	P	**P**	**07 56 16.6**	**-0.5**
	0.5nm,0.5s,baz=308,slow=3.9,SNR=6.4						
TXAR	**Lajitas Array**	**56.39**	**84**	P	P	07 57 57.0	+6.8
	0.3nm,0.5s,baz=304,slow=4.5,SNR=7.3						

MAN 22 07:51:16,9.71N×122.08E,h30km,mb4.3,ML3.1,MS2.9, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.04**	**29**	*e*P	Pn	07 51 34.4	-0.2
GUIM				*e*S	Sb	07 51 48.8	0.0
JAP	**San Jose, Anti**	**1.04**	**353⇑**	*e*P	Pb	07 51 35.5	0.0
SNPH	**Sibulan**	**1.20**	**107⇑**	*i*P	Pn	07 51 37.1	+0.4
SNPH				*i*S	Sn	07 51 52.2	+0.2
TBP	**Tagbilaran**	**1.76**	**90**	*e*P	Pb	07 51 47.7	+0.1
LLP	**Lapu-Lapu**	**1.95**	**72**	*e*P	Pn	07 51 48.1	+0.9
LLP				*e*S	Sn	07 52 11.2	+0.5
RCP	**Roxas**	**1.96**	**19⇓**	*e*P	Pb	07 51 50.0	-0.9
RCP				*e*S	Sb	07 52 16.2	+1.2
MSLP	**Maasin**	**2.77**	**81**	*e*P	Pn	07 52 01.6	+3.2
MSLP				*e*S	Sn	07 52 34.6	+3.8
ENPP	**El Nido**	**3.01**	**300**	*e*P	Pn	07 52 03.6	+2.0
ENPP				*e*S	Sn	07 52 38.0	+1.3

NIED ***22*** *08:05:00,37.50N×143.50E,h5km,Mw3.6 Best double couple: M03.03000×10^14 NP1:φ171.00000°,δ35.00000°, λ176.00000°. NP2:φ164.00000°,δ88.00000°,λ55.00000°.*
IDC ***22*** *08:05:07.8±1.1,37.32N×143.74E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.5/34,mbtmp3.5/6,ML3.9/2,Error ellipse: s-maj=33.6km s-min=22.3km az=98.0*
ISCJB ***22*** *08:05:11.0±0.7,37.45N±0.05×143.55E±0.06,h33km, mb3.5/4,Error ellipse: s-maj=7.3km s-min=5.9km az=139.2*
JMA ***22*** *08:05:11.8±0.2,37.47N×143.49E,h45km,M4.0*
ISC 22 08:05:12.5±1.1,**37.47N**±0.06×**143.57E**±0.08,**h35**km,**n22,** σ1.34/32,**mb3.6/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.01**	**300**	P	**Pn**	**08 05 43.8**	**-0.2**
JIO				S	**Sn**	**08 06 07.1**	**-0.8**
JFK	**Kawauchi**	**2.15**	**268**	P	**Pn**	**08 05 45.3**	**-0.6**
JFK				*e*S	**Sn**	**08 06 09.5**	**-1.9**
OFUJ	**Ofunato**	**2.20**	**318**	P	**Pn**	**08 05 46.0**	**-0.5**
OFUJ				S	**Sn**	**08 06 11.4**	**-1.0**
JMM	**Marumori**	**2.24**	**281**	P	**Pn**	**08 05 46.5**	**-0.6**
JMM				S	**Sn**	**08 06 12.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**2.24**	**261**	P	**Pn**	**08 05 46.7**	**-0.5**
ONAJ				S	**Sn**	**08 06 12.0**	**-1.7**
JMK	**Ichinoseki**	**2.37**	**309**	P	**Pn**	**08 05 48.9**	**0.0**
JFT	**Otama**	**2.57**	**272**	P	**Pn**	**08 05 52.2**	**+0.5**
JFT				*e*S	**Sn**	**08 06 21.6**	**-0.2**
JOM	**Ohasama**	**2.68**	**319**	P	**Pn**	**08 05 53.6**	**+0.4**
JOM				*e*S	**Sn**	**08 06 24.4**	**0.0**
JYK	**Kaneyama**	**2.91**	**301**	P	**Pn**	**08 05 56.9**	**+0.5**
JANG	**Nango**	**3.31**	**332**	P	**Pn**	**08 06 02.1**	**+0.2**
JAG	**Ashikaga**	**3.46**	**254**	P	**Pn**	**08 06 03.9**	**0.0**
JRY	**Ryogami san**	**4.02**	**250**	P	**Pn**	**08 06 11.3**	**-0.3**
JRY				*e*S	**Sn**	**08 06 54.3**	**-3.2**
JOT	**Ohata**	**4.37**	**334**	P	**Pn**	**08 06 17.1**	**+0.8**
MJAR	**Matsushiro Arr**	**4.39**	**259**	Pn	**Pn**	**08 06 18.2**	**+1.5**
	2.2nm,0.3s,baz=85,slow=15,SNR=14						
MAT	**Matsushiro**	**4.39**	**259**	P	**Pn**	**08 06 18.6**	**+1.9**
MAT				*e*S	**Sn**	**08 07 05.3**	**-1.4**
JKB	**Kayabe**	**4.83**	**337**	P	**Pn**	**08 06 23.5**	**+0.9**
JCH	**Churui**	**5.14**	**358**	P	**Pn**	**08 06 25.8**	**-1.1**
JCH				*e*S	**Sn**	**08 07 21.0**	**-4.0**
ASAJ	**Asahikawa**	**6.68**	**354**	Pn	**Pn**	**08 06 48.5**	**+0.5**
	4.0nm,0.3s,baz=216,slow=11,SNR=12						
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**08 13 28.6**	**+1.5**
	0.2nm,0.4s,baz=76,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**48.20**	**33**	P	**P**	**08 13 50.5**	**+1.2**
	0.8nm,0.7s,baz=264,slow=6.9,SNR=8.9						
WRA	**Warramunga Arr**	**57.76**	**190**	P	**P**	**08 14 59.5**	**-0.6**
	0.4nm,0.7s,baz=12,slow=7.6,SNR=3.9						
ASAR	**Alice Springs**	**61.49**	**190**	P	**P**	**08 15 25.4**	**-0.3**
	0.3nm,0.7s,baz=15,slow=7.7,SNR=3.8						

ISCJB ***22*** *08:27:03.1±0.6,31.35S±0.02×69.41W±0.03,h114km±6km, Error ellipse: s-maj=4.9km s-min=3.5km az=22.3*
SJA ***22*** *08:27:03.4±1.0,31.34S×69.35W,h105km±4km,ML3.5, MW3.7*
GUC ***22*** *08:27:03.2±0.7,31.33S×69.81W,h136km±4km,ML3.5*
ISC 22 08:27:03.7±1.4,**31.35S**±0.03×**69.42W**±0.04,**h109**km±9km, **n31,**σ0.71/51,**3C-3D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.46**	**167**	*e*P	**Pn**	**08 27 20.4**	**-0.2**
RTLS				*e*S	**Sn**	**08 27 33.3**	**+0.1**

RTLS				IAML		08 27 33.9	
	comp=Z,3μm,0.2s						
SJA	**San Juan**	**0.76**	**104**	*i* P	**Pn**	**08 27 22.5**	**0.0**
SJA				*e*S	**Sn**	**08 27 35.9**	**-0.7**
SJA				IAML		08 27 38.8	
	comp=Z,650nm,0.2s						
RTLL	**Cerro Villicun**	**0.81**	**89**	⇓*i*P	**Pn**	**08 27 22.3**	**-0.6**
RTLL				*i* S	**Sn**	**08 27 37.0**	**-0.5**
RTLL				IAML		08 27 37.5	
	comp=N,1μm,0.4s						
RTLL	**Cerro Villicun**	**0.81**	**89**	*i* P	**Pn**	**08 27 22.4**	**-0.6**
RTLL				*e*S	**Sn**	**08 27 36.8**	**-0.6**
RTLL				IAML		08 27 38.4	
	comp=Z,858nm,0.3s						
ACCO	**Cerro Coronel**	**0.81**	**22**	*e*P	**Pn**	**08 27 23.4**	**0.0**
ACCO				*e*S	**Sn**	**08 27 39.1**	**+1.0**
AUSP	**Uspallata**	**0.88**	**178**	*e*P	**Pn**	**08 27 24.0**	**+0.1**
AUSP				*e*S	**Sn**	**08 27 39.0**	**-0.1**
AMOG	**MOGNA**	**0.89**	**63**	*e*P	**Pn**	**08 27 23.6**	**-0.2**
AMOG				*e*S	**Sn**	**08 27 37.5**	**-1.4**
RTCV	**Cerro Valdivia**	**0.91**	**125**	*i* P	**Pn**	**08 27 24.0**	**0.0**
RTCV				*e*S	**Sn**	**08 27 39.2**	**0.0**
AROD	**Rodeo**	**1.18**	**358**	*i* P	**Pn**	**08 27 27.6**	**+0.5**
AROD				*i* S	**Sn**	**08 27 46.2**	**+1.5**
ACDV	**Cuesta del Vie**	**1.20**	**12**	*e*P	**Pn**	**08 27 27.7**	**+0.5**
ACDV				*e*S	**Sn**	**08 27 45.7**	**+0.9**
ASAL	**Salagasta**	**1.34**	**158**	*e*P	**Pn**	**08 27 29.1**	**+0.4**
ASAL				*e*S	**Sn**	**08 27 48.9**	**+1.4**
ARCO	**CERRO ARCO**	**1.55**	**165**	*e*P	**Pn**	**08 27 31.8**	**+0.6**
ARCO				*e*S	**Sn**	**08 27 53.2**	**+1.1**
ARCO				IAML		08 27 54.9	
	comp=Z,393nm,0.3s						
TLL	**Tololo Astrono**	**1.67**	**314**	⇑*i*P	**Pn**	**08 27 32.5**	**-0.3**
TLL				*i* S	**Sn**	**08 27 54.5**	**-0.4**
TLL				IAML		08 27 58.4	
	comp=E,708nm,0.3s						
AAGR	**Agrelo**	**1.80**	**164**	*e*P	**Pn**	**08 27 34.5**	**+0.2**
AAGR				*e*S	**Sn**	**08 27 58.8**	**+1.2**
AVFE	**Valle Fertil**	**1.82**	**68**	*e*P	**Pn**	**08 27 34.3**	**-0.2**
AVFE				*e*S	**Sn**	**08 27 57.6**	**-0.3**
AVFE				IAML		08 27 59.9	
	comp=Z,312nm,0.3s						
AGUA	**GUANDACOL**	**2.02**	**24**	*e*P	**Pn**	**08 27 37.9**	**+0.9**
AGUA				*e*S	**Sn**	**08 28 03.7**	**+1.3**
PEL	**Peldehue**	**2.09**	**211**	⇑*i*P	**Pn**	**08 27 37.4**	**-0.4**
PEL				*i* S	**Sn**	**08 28 03.4**	**-0.5**
PEL				IAML		08 28 07.2	
	comp=N,230nm,1.1s						
FCH	**Farellones**	**2.11**	**200**	*e*P	**Pn**	**08 27 39.3**	**+1.0**
FCH				IAML		08 28 11.8	
	comp=E,310nm,0.2s						
ROCH	**El Roble**	**2.11**	**219**	⇓*i*P	**Pn**	**08 27 37.6**	**-0.6**
ROCH				*i* S	**Sn**	**08 28 03.9**	**-0.8**
ROCH				IAML		08 28 07.3	
	comp=N,378nm,0.3s						
ACAN	**Cantantal**	**2.11**	**117**	*e*P	**Pn**	**08 27 38.4**	**+0.3**
ACAN				*e*S	**Sn**	**08 28 03.9**	**-0.6**
ROC1	**El Roble**	**2.12**	**219**	*e*P	**Pn**	**08 27 37.5**	**-0.8**
ROC1				*e*S	**Sn**	**08 28 04.1**	**-0.7**
CLCH	**Cerro Calan**	**2.25**	**205**	⇓*i*P	**Pn**	**08 27 40.3**	**+0.4**
CLCH				*i* S	**Sn**	**08 28 08.2**	**+0.5**
CLCH				IAML		08 28 11.6	
	comp=E,310nm,0.3s						
ACHE	**Chepes**	**2.37**	**86**	*e*P	**Pn**	**08 27 41.4**	**-0.2**
ACHE				*e*S	**Sn**	**08 28 09.8**	**-0.6**
ANTU	**Antumapu**	**2.44**	**205**	*e*P	**Pn**	**08 27 42.4**	**0.0**
ANTU				IAML		08 28 13.9	
	comp=N,344nm,0.4s						
LCO	**Las Campanas**	**2.58**	**334**	⇑*i*P	**Pn**	**08 27 43.8**	**-0.6**
LCO				*i* S	**Sn**	**08 28 14.9**	**-0.7**
LCO	**Las Campanas**	**2.58**	**334**	IAML		08 28 16.1	
	comp=E,260nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.66**	**70**	*e*P	**Pn**	**08 27 44.9**	**-0.3**
APLL				*e*S	**Sn**	**08 28 16.1**	**-1.1**
VCA	**Vinchina**	**2.81**	**22**	IAML		08 28 27.7	
	comp=Z,208nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.87**	**49**	*e*P	**Pn**	**08 27 48.5**	**+0.4**
TCA	**Tanti**	**4.13**	**91**	IAML		08 28 51.2	
	comp=Z,37nm,0.5s						
CYA	**Choya**	**4.27**	**48**	IAML		08 28 56.8	
	comp=Z,18nm,0.4s						

DHMR 22 08:31:59.0±0.7, 11°.99N×44°.27E, h5km±6km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.04**	**42**	*i* P	Pg	08 32 18.0	-1.1
ADEN				*i* S	Sb	08 32 33.8	+0.2
ADEN				AML	AML	08 32 40.8	
	comp=N,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.99**	**351**	*i* P	Pb	08 32 34.8	-1.0
UDYN				*i* S	Sb	08 33 01.9	+1.0
BDHA	**Al Bayda'**	**2.34**	**32**	*i* P	Pb	08 32 40.3	-1.5
BDHA				*i* S	Sb	08 33 12.3	+1.1

BJI ***22*** *08:34:14.2, 5°.02S×100°.73E, h15km, mb4.8/54, mB4.9/46, Ms4.8/44, Ms7 4.5/39*
KLM ***22*** *08:34:17.1, 4°.75S×100°.53E, h19km, mb4.9*
MOS ***22*** *08:34:19.8±1.0, 4°.55S×100°.76E, h33km, mb5.0/31, Error ellipse: s-maj=10.7km s-min=6.4km az=108.9*
ISCJB ***22*** *08:34:19.8±0.2, 4°.58S±0°.03×100°.72E±0°.02, h33km, mb4.8/87, MS4.1/27, Error ellipse: s-maj=4.6km s-min=2.6km az=36.0*
IDC ***22*** *08:34:21.2±3.7, 4°.63S×100°.70E, h33km±26km, mb4.4/28, mb1 4.5/29, mb1mx4.3/43, mbtmp4.6/29, ML3.4/1, MS3.7/14, Ms1 3.7/14, ms1mx3.4/40, Error ellipse: s-maj=23.2km s-min=9.6km az=48.0*
NEIC ***22*** *08:34:21.6±1.7, 4°.58S×100°.74E, h33km±11km, mb4.9/34, Error ellipse: s-maj=8.2km s-min=3.9km az=50.0*
DJA ***22*** *08:34:21.5±0.6, 5°.S±2°.×10°.1E±°, h28km±6km, M4.7/30, mb5.0/30, mB5.2/16, MLv4.9/12, Mw(mB)4.6/16*
ISC 22 08:34:21.9±0.3, 4°.58S±0°.04×100°.68E±0°.05, h35km, n346, σ19°39/362, mb4.8/87, MS4.0/27, 7C-9D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.93**	**340**	P	**Pn**	**08 34 50.8**	**-1.4**
PPSI				S	**Sn**	**08 35 15.0**	**-0.2**
MASI	**Maura Aman, Be**	**2.11**	**47**	P	**Pn**	**08 34 53.5**	**-1.3**
MASI				S	**Sn**	**08 35 18.2**	**-1.7**
MNAI	**Manna**	**2.28**	**85**	P	**Pn**	**08 34 55.9**	**-1.1**
MNAI	**Manna**	**2.28**	**85**	*e*Pn	**Pn**	**08 34 56.0**	**-1.1**
LHSI	**Lahat**	**2.93**	**75**	P	**Pn**	**08 35 05.0**	**-1.0**
LHSI				S	**Sn**	**08 35 41.3**	**+1.2**
LWLI	**Liwa**	**3.40**	**97**	P	**Pn**	**08 35 11.1**	**-1.4**
LWLI				S	**Sn**	**08 35 52.0**	**+0.4**
MDSI	**Maura Dua**	**3.49**	**89**	P	**Pn**	**08 35 12.7**	**-1.0**
MDSI				S	**Sn**	**08 35 53.2**	**-0.6**
SISI	**Saibi**	**3.60**	**334**	P	**Pn**	**08 35 15.6**	**+0.4**
SISI				S	**Sn**	**08 35 54.3**	**-2.3**
PDSI	**Padang**	**3.65**	**357**	P	**Pn**	**08 35 15.7**	**-0.3**
PDSI				S	**Sn**	**08 35 56.2**	**-1.7**
SDSI	**Sungai Dareh**	**3.70**	**12**	P	**Pn**	**08 35 16.4**	**-0.2**
KASI	**Kota Agung**	**3.92**	**104**	P	**Pn**	**08 35 18.5**	**-1.0**
KASI				S	**Sn**	**08 35 59.2**	**-5.1**
KLSI		**4.04**	**92**	P	**Pn**	**08 35 20.2**	**-1.0**
KLSI				S	**Sn**	**08 36 05.7**	**-1.7**
PMBI	**Palembang**	**4.40**	**68**	P	**Pn**	**08 35 24.7**	**-1.5**
BKNI	**Bangkinang**	**4.89**	**4**	P	**Pn**	**08 35 32.6**	**-0.3**
BKNI	**Bangkinang**	**4.89**	**4**	*e*Pn	**Pn**	**08 35 32.1**	**-0.9**
CGJI	**Cibinong**	**5.38**	**112**	P	**Pn**	**08 35 38.7**	**-1.0**
CGJI				S	**Sn**	**08 36 34.9**	**-5.6**
DSRI	**Dabo**	**5.64**	**44**	P	**Pn**	**08 35 43.2**	**0.0**
	361nm,0.9s,4μm1.3nm						
SBJI	**Serang**	**5.64**	**106**	P	**Pn**	**08 35 45.4**	**+2.2**
	196nm,1.3s,0.7nm						
DBJI	**Dramaga**	**6.35**	**108**	P	**Pn**	**08 35 51.8**	**-1.3**
	244nm,1.0s,8μm1.0nm						
CBJI	**Citeko**	**6.41**	**107**	P	**Pn**	**08 35 57.1**	**+3.3**
	352nm,0.9s,2.2nm						
CNJI	**Cibinong**	**6.96**	**113**	P	**Pn**	**08 35 58.3**	**-3.2**
	195nm,0.8s,2μm1.1nm						
MYKOM	**Kota Tinggi**	**7.08**	**27**	*e*Pn	**Pn**	**08 36 01.8**	**-1.2**
PSI	**Prapat**	**7.54**	**347**	Pn	**Pn**	**08 36 07.8**	**-1.7**
	0.6nm,0.3s,baz=172,slow=10,SNR=9.2						
PSI				LR	LR	08 39 22.6	
	comp=Z,524nm,21.1s,baz=158,slow=40						
PSI	**Prapat**	**7.54**	**347**	*e*P	**Pn**	**08 36 08.6**	**-0.9**
PSI	**Prapat**	**7.54**	**347**	*e*Pn	**Pn**	**08 36 08.6**	**-0.9**
XMIS	**Christmas Isla**	**7.66**	**140**	*e*Pn	**Pn**	**08 36 12.6**	**+1.6**
XMIS				*e*Sn	Sn	08 37 25.5	-11
CISI	**Cisompet, Garu**	**7.69**	**113**	P	**Pn**	**08 36 08.4**	**-3.0**
	163nm,0.6s,17nm						
CISI	**Cisompet, Garu**	**7.69**	**113**	*e*Pn	**Pn**	**08 36 08.1**	**-3.3**
CISI				*e*Sn	**Sn**	**08 37 36.5**	**-0.9**
CISI	**Cisompet, Garu**	**7.69**	**113**	P	**Sn**	**08 37 36.7**	**-0.7**
FRIM	**Kepong**	**7.82**	**7**	⇓P	**Pn**	**08 36 12.8**	**-0.5**
CMJI	**Cimerak**	**8.35**	**113**	P	**Pn**	**08 36 17.5**	**-3.0**
	121nm,0.8s,1μm						
TPTI		**8.54**	**336**	P	**Pn**	**08 36 22.9**	**-0.2**
	87nm,0.6s,916nm						
KCSI	**Kotacane, Aceh**	**8.56**	**340**	P	**Pn**	**08 36 24.8**	**+1.4**
	41nm,0.9s						
IPM	**Ipoh**	**9.01**	**2**	*e*Pn	**Pn**	**08 36 29.1**	**-0.5**
IPM	**Ipoh**	**9.01**	**2**	⇓P	**Pn**	**08 36 29.2**	**-0.4**
MLSI	**Meulaboh, Aceh**	**9.77**	**334**	P	**Pn**	**08 36 40.3**	**+0.3**
	231nm,0.9s						
KULM	**Kulim**	**9.81**	**360**	*e*Pn	**Pn**	**08 36 40.2**	**-0.2**
KULM	**Kulim**	**9.81**	**360**	⇑P	**Pn**	**08 36 40.6**	**+0.1**
KTGM	**Kuala Trenggan**	**10.14**	**14**	⇓P	**Pn**	**08 36 44.3**	**-0.8**
KSM	**Kuching**	**11.35**	**58**	*e*Pn	**Pn**	**08 37 02.1**	**+0.5**
STKI	**Sintang**	**11.73**	**67**	P	**Pn**	**08 37 09.6**	**+2.7**
TRTT	**Trang**	**12.38**	**355**	P	P	08 37 22.1	-5.1
	26nm,1.2s,0.1nm						
SBUM	**Sibu**	**13.48**	**59**	*e*Pn	**Pn**	**08 37 32.2**	**+1.4**
SURT	**Suratani**	**13.58**	**352**	P	**P**	**08 37 42.4**	**+1.8**
MTKI	**Muara Teweh, K**	**14.65**	**76**	P	**P**	**08 37 54.3**	**+1.7**
CHBT	**CHBT**	**17.30**	**5**	P	**P**	**08 38 22.5**	**+0.6**
	123nm,1.2s						
KKM	**Kota Kinabalu**	**18.76**	**56**	*e*P	**P**	**08 38 37.8**	**-0.4**
	50nm,1.2s						
KKM	**Kota Kinabalu**	**18.76**	**56**	⇓P	**P**	**08 38 37.3**	**-0.9**
SPSI	**Sidrap Palu**	**19.05**	**89**	P	**P**	**08 38 41.4**	**+0.2**
	27nm,1.1s						
TTSI	**Tana Toraja**	**19.16**	**86**	P	Pn	08 38 51.9	+8.4
TSM	**Tawau**	**19.31**	**63**	⇓P	**P**	**08 38 43.0**	**-1.1**
BNSI	**Bone**	**19.37**	**90**	P	**Pn**	**08 38 50.7**	**+4.6**
PCI	**Palu**	**19.48**	**80**	P	**Pn**	**08 38 48.2**	**+0.8**
	163nm,1.6s,2μm						
PCI	**Palu**	**19.48**	**80**	P	**Pn**	**08 38 48.2**	**+0.8**
PCI				pmax	pmax		
	comp=Z,163nm,1.6s						
KDM	**Kudat**	**19.76**	**55**	⇑P	**P**	**08 38 48.3**	**-0.7**
MPSI	**Mapaga**	**19.81**	**76**	P	**P**	**08 38 49.8**	**+0.2**
	comp=Z,36nm,0.9s,comp=Z,496nm						
MYLDM	**Lahad Datu**	**20.27**	**62**	*e*P	**P**	**08 38 55.0**	**+0.4**
	comp=Z,34nm,0.8s						
UBPT	**Khong Chiam**	**20.30**	**13**	P	**P**	**08 38 54.4**	**-0.4**
	comp=Z,78nm,1.1s,comp=Z,930nm						
BASI	**Baing, Sumba**	**20.50**	**107**	P	Pn	08 39 01.2	+1.7
	comp=Z,270nm,1.4s,comp=Z,3μm						
PBKT	**Sadao Pong**	**21.02**	**1**	P	**P**	**08 39 04.0**	**+1.4**
	comp=Z,13nm,0.8s,comp=Z,8μm						
APSI	**Ampana**	**21.26**	**81**	P	**P**	**08 39 05.9**	**+0.6**
	comp=Z,73nm,1.2s,comp=Z,1μm						
SKNT	**Sakolnakorn**	**21.67**	**9**	P	**P**	**08 39 08.8**	**-0.8**
	comp=Z,37nm,1.3s						
MMRI	**Maumere**	**21.79**	**102**	*e*P	**P**	**08 39 10.9**	**-0.1**
	comp=Z,44nm,0.4s						
MRSI	**Marisa**	**21.83**	**77**	P	**P**	**08 39 11.7**	**+0.3**
	comp=Z,35nm,1.1s,comp=Z,713nm						
CM31	**Chiang Mai Arr**	**22.96**	**356**	*e*P	**P**	**08 39 23.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**22.96**	**356**	P	**P**	**08 39 22.7**	**-0.7**
	comp=Z,13nm,0.8s,baz=186,slow=8.8,SNR=41						
CMAR				LR	LR	08 50 10.0	
	comp=Z,304nm,18.7s,baz=180,slow=41						
PALK	**Pallekele**	**23.16**	**300**	LR	LR	08 47 47.6	
	comp=Z,152nm,19.8s,baz=116,slow=35						
PALK	**Pallekele**	**23.16**	**300**	*e*P	**P**	**08 39 26.9**	**+1.4**
PALK				pmax	pmax		
	comp=Z,30nm,1.5s						
PALK	**Pallekele**	**23.16**	**300**	*e*P	**P**	**08 39 26.9**	**+1.4**
	comp=Z,30nm,1.5s						
CHTO	**Chiang Mai**	**23.31**	**356**	P	**P**	**08 39 27.4**	**+0.5**
	comp=Z,61nm,1.3s						
CHTO	**Chiang Mai**	**23.31**	**356**	*e*P	**P**	**08 39 27.1**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,20nm,1.0s						
CHTO	**Chiang Mai**	**23.31**	**356**	*e*P	**P**	**08 39 27.1**	**+0.2**
	comp=Z,20nm,1.0s						
SOEI	**Soe**	**23.95**	**104**	P	**P**	**08 39 38.4**	**+5.1**
SOEI	**Soe**	**23.95**	**104**	*e*P	**P**	**08 39 32.0**	**-1.3**
	comp=Z,72nm,0.9s						
QIZ	**Qiongzhong**	**25.14**	**21**	P	**P**	**08 39 45.9**	**+2.0**
SANI	**Sanana**	**25.39**	**85**	P	**P**	**08 39 44.8**	**-1.4**
	comp=Z,37nm,1.4s						
BUKP	**Musuan**	**27.29**	**63**	*e*P	**P**	**08 40 02.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**27.86**	**121**	P	**P**	**08 40 07.2**	**-1.3**
	comp=Z,10.0nm,0.9s,baz=282,slow=5.2,SNR=19						
FITZ	**Fitzroy Crossi**	**27.86**	**121**	P	**P**	**08 40 07.7**	**-0.8**
	baz=27,SNR=6.2						
FITZ	**Fitzroy Crossi**	**27.86**	**121**	*e*P	**P**	**08 40 07.7**	**-0.8**
	comp=Z,24nm,0.8s						
H08S2	**Diego Garcia H**	**28.19**	**262**	T	T	09 10 32.1	
	baz=85,slow=75,SNR=221						
H08S3	**Diego Garcia H**	**28.19**	**262**	T	T	09 10 03.5	
	baz=85,slow=75,SNR=269						
H08S1	**Diego Carcia H**	**28.20**	**262**	T	T	09 10 06.4	
	baz=85,slow=75,SNR=228						
KMI	**Kunming**	**29.59**	**4**	P	**P**	**08 40 25.8**	**+1.8**
KMI				sP	pP	08 40 35.0	+0.9
KMI				S	**S**	**08 45 20.9**	**+3.7**
KMI				pmax	pmax		
	comp=Z,20nm,1.0s						
KMI				pmax	pmax		
	comp=Z,82nm,3.1s						
KMI				LR	LR		
	comp=Z,740nm,13.3s						
KMI				LR	LR		
	comp=Z,2μm,12.2s						
KMI				LR	LR		
	comp=Z,500nm,14.1s						
SAUI	**Saumlaki**	**30.62**	**98**	*e*P	**P**	**08 40 33.7**	**+0.7**
	comp=Z,476nm,1.2s						
MTN	**Manton Dam**	**31.17**	**107**	*e*P	**P**	**08 40 37.4**	**-0.5**
	comp=Z,21nm,1.0s						
GYA	**Guiyang**	**31.40**	**10**	⇑*i*P	**P**	**08 40 39.8**	**0.0**
GYA				pP	pP	08 40 48.3	-1.6
GYA				PP	**PP**	**08 41 47.6**	**-3.6**
GYA				S	**S**	**08 45 50.0**	**+4.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,530nm,17.2s						
GYA				LR	LR		
	comp=Z,480nm,17.4s						
GYA				LR	LR		
	comp=Z,470nm,17.8s						
ODAN	**Odare**	**33.80**	**338**	*e*P	**P**	**08 41 02.2**	**+1.2**
	comp=Z,45nm,0.8s						
TAPN	**Taplejung**	**34.13**	**339**	*e*P	**P**	**08 41 05.4**	**+1.5**
	comp=Z,94nm,0.9s						
RAMN	**Ramite**	**34.18**	**337**	*e*P	**P**	**08 41 05.8**	**+1.5**
	comp=Z,56nm,0.7s						
JIRN	**Jiri**	**34.97**	**337**	*e*P	**P**	**08 41 12.6**	**+1.3**
	comp=Z,617nm,0.8s						
PKI	**Pulchoki**	**35.20**	**336**	*e*P	**P**	**08 41 13.8**	**+0.5**
LSA	**Lhasa**	**35.29**	**346**	*e*P	**P**	**08 41 15.3**	**+1.2**
LSA				pmax	pmax		
	comp=Z,17nm,0.9s						
LSA	**Lhasa**	**35.29**	**346**	*e*P	**P**	**08 41 15.3**	**+1.2**
	comp=Z,17nm,0.9s						
GUN	**Gumba**	**35.32**	**337**	*e*P	**P**	**08 41 15.3**	**+1.0**
	comp=Z,51nm,0.6s						
DMN	**Daman**	**35.36**	**336**	*e*P	**P**	**08 41 15.3**	**+0.8**
	comp=Z,25nm,0.9s						
CD2	**Chengdu**	**35.41**	**5**	*e*P	**P**	**08 41 16.5**	**+1.8**
CD2				S	**S**	**08 46 50.8**	**+3.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,580nm,13.9s						
CD2				LR	LR		
	comp=Z,910nm,15.9s						
CD2				LR	LR		
	comp=Z,620nm,16.9s						
KKN	**Kakani**	**35.45**	**336**	*e*P	**P**	**08 41 16.0**	**+0.8**
ENH	**Enshi**	**35.67**	**13**	*e*P	**P**	**08 41 16.7**	**-0.2**
	comp=Z,16nm,1.0s						
GKN	**Gorkha**	**35.90**	**335**	*e*P	**P**	**08 41 19.9**	**+0.8**
	comp=Z,96nm,1.1s						
YOJ	**Yonaguni jima**	**36.14**	**36**	*e*P	**P**	**08 41 21.4**	**+0.5**
YOJ				pmax	pmax		
	comp=Z,149nm,1.2s						
YOJ	**Yonaguni jima**	**36.14**	**36**	*e*P	**P**	**08 41 21.4**	**+0.5**
	comp=Z,149nm,1.2s						
KOLN	**Koldanda**	**36.14**	**334**	*e*P	**P**	**08 41 22.1**	**+0.9**
	comp=Z,36nm,0.7s						
WRA	**Warramunga Arr**	**36.15**	**118**	P	**P**	**08 41 19.9**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=293,slow=9.4,SNR=25						
WRA				PcP	**PcP**	**08 43 45.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=300,slow=1.3,SNR=2.3						
WRA				LR	LR	08 57 54.6	
	comp=Z,56nm,18.1s,baz=290,slow=39						
WRAB	**Tennant Creek**	**36.16**	**118**	*e*P	**P**	**08 41 19.0**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**36.16**	**118**	*e*P	**P**	**08 41 20.5**	**-0.8**
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**36.16**	**118**	*e*P	**P**	**08 41 20.4**	**-0.9**
	comp=Z,21nm,0.9s						
PYUN	**Piuthan**	**36.70**	**333**	*e*P	**P**	**08 41 26.7**	**+0.8**
	comp=Z,106nm,1.1s						
ASAR	**Alice Springs**	**37.23**	**124**	P	**P**	**08 41 29.4**	**-0.9**
	comp=Z,4.9nm,0.9s,baz=298,slow=7.9,SNR=46						
ASAR				PcP	**PcP**	**08 43 50.0**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=306,slow=3.2,SNR=2.8						
ASAR				S	**S**	**08 47 13.7**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=290,slow=17,SNR=6.1						
ASAR				LR	LR	08 58 02.4	
	comp=Z,147nm,21.3s,baz=308,slow=38						
AS31	**Alice Springs**	**37.23**	**124**	*e*P	**P**	**08 41 29.8**	**-0.6**
	comp=Z,4.3nm,0.8s						
WHN	**Wuhan**	**37.30**	**20**	⇓P	**P**	**08 41 32.4**	**+1.7**
WHN				S	**S**	**08 47 17.3**	**+1.3**
WHN				LR	LR		
	comp=Z,900nm,13.7s						
XAN	**Xi'an**	**39.20**	**11**	P	**P**	**08 41 46.3**	**-0.4**
XAN				PP	**PnPn**	**08 43 19.6**	**-0.3**
XAN				S	**S**	**08 47 43.8**	**-0.9**
XAN				pmax	pmax		
	comp=Z,46nm,0.8s						
XAN				pmax	pmax		
	comp=Z,91nm,4.7s						
XAN				LR	LR		
	comp=Z,180nm,13.1s						
XAN				LR	LR		
	comp=Z,460nm,14.0s						
XAN				LR	LR		
	comp=Z,470nm,17.1s						
NJ2	**Nanjing**	**40.33**	**24**	*e*P	**P**	**08 41 57.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
LZH	**Lanzhou**	**40.56**	**4**	*e*P	**P**	**08 41 59.8**	**+1.6**
LZH				pP	pP	08 42 04.6	-3.9
LZH				sP	sP	08 42 07.4	-5.3
LZH				PP	**PnPn**	**08 43 39.5**	**+3.3**
LZH				SS	SS	08 51 02.4	-3.9
LZH				pmax	pmax		
	comp=Z,62nm,1.2s						
LZH				pmax	pmax		
	comp=Z,200nm,4.4s						
LZH				LR	LR		
	comp=Z,2μm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,14.8s						
LZH				LR	LR		
	comp=Z,2μm,15.3s						
QIS	**Mount Isa**	**41.02**	**116**	P	**P**	**08 42 00.4**	**-1.7**
	baz=40,SNR=4.1						
GTA	**Gaotai**	**43.78**	**359**	*e*P	**P**	**08 42 24.8**	**+0.4**
GTA				pP	pP	08 42 29.3	-5.4
GTA				S	**S**	**08 48 53.8**	**+1.1**
GTA				SS	**SS**	**08 52 01.8**	**-7.8**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,87nm,4.7s						
GTA				LR	LR		
	comp=Z,400nm,12.8s						
GTA				LR	LR		
	comp=Z,340nm,12.8s						
GTA				LR	LR		
	comp=Z,450nm,12.8s						
MTSU	**Mount Surprise**	**44.72**	**111**	P	**P**	**08 42 32.2**	**+0.1**
	baz=44,SNR=12						
HHC	**Hu-ho-hao-te**	**46.30**	**11**	*e*P	**P**	**08 42 44.9**	**+0.6**
HHC				S	**S**	**08 49 30.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,21nm,1.3s						
HHC				pmax	pmax		
	comp=Z,84nm,4.8s						
PMG	**Port Moresby**	**46.35**	**99**	P	**P**	**08 42 44.1**	**-0.9**
	comp=Z,30nm,0.9s,baz=271,slow=7.4,SNR=4.0						
BJT	**Baijiatuau**	**46.61**	**16**	*e*P	**P**	**08 42 46.8**	**+0.1**
BJT				pmax	pmax		
	comp=Z,49nm,1.4s						
BJT	**Baijiatuau**	**46.61**	**16**	*e*P	**P**	**08 42 46.8**	**+0.1**
	comp=Z,49nm,1.4s						
BJI	**Beijing**	**46.64**	**16**	P	**P**	**08 42 46.3**	**-0.5**
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				pmax	pmax		
	comp=Z,130nm,4.1s						
BJI				LR	LR		
	comp=Z,580nm,15.0s						
BJI				LR	LR		
	comp=Z,230nm,16.8s						
BJI				LR	LR		
	comp=Z,330nm,15.6s						
CTA	**Charters Tower**	**46.93**	**113**	P	**P**	**08 42 49.4**	**-0.1**
	comp=Z,18n

comp=Z,19nm,1.1s
AAK Ala-Archa 52.66 336 P P 08 43 33.4 +0.5
comp=Z,1.8nm,0.9s,baz=146,slow=3.6,SNR=3.0
AAK Ala-Archa 52.66 336 *e*P **P 08 43 33.2 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 52.66 336 *e*P **P 08 43 33.3 +0.4**
comp=Z,6.0nm,0.9s
FRU Bishkek 52.77 336 *e*P P 08 43 42.0 +8.4
CN2 Changchun 53.08 22 *e*P **P 08 43 39.1 +3.3**
MK31 Makanchi Array 53.68 344 *e*P **P 08 43 40.7 +0.5**
MK31 Makanchi Array 53.68 344 *e*P **P 08 43 40.7 +0.5**
MKAR Makanchi Array 53.68 344 P **P 08 43 40.7 +0.5**
comp=Z,7.2nm,0.8s,baz=145,slow=8.7,SNR=38
MKAR Makanchi Array 53.68 344 *e*P **P 08 43 40.7 +0.5**
MKAR pmax pmax
comp=Z,111nm,0.9s
MKAR Makanchi Array 53.68 344 *e*P **P 08 43 40.7 +0.5**
comp=Z,111nm,0.9s
MAKZ Makanchi 53.78 344 *e*P **P 08 43 42.6 +1.7**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 53.78 344 *e*P **P 08 43 42.6 +1.7**
comp=Z,9.1nm,0.9s
MAJO Matsushiro 53.87 37 *e*P **P 08 43 40.0 -1.7**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 53.87 37 *e*P **P 08 43 40.9 -0.8**
comp=Z,8.0nm,0.8s
MAT Matsushiro 53.87 37 P **P 08 43 40.2 -1.5**
MJAR Matsushiro Arr 53.87 37 P **P 08 43 40.0 -1.7**
comp=Z,5.1nm,0.8s,baz=209,slow=7.4,SNR=16
MJB9 Matsu-Tunnel 53.87 37 *e*P **P 08 43 40.4 -1.3**
comp=Z,1.9nm,0.8s
ABPO Ambohimpanom 54.03 250 *e*P **P 08 43 43.9 +0.4**
ABPO pmax pmax
comp=Z,7.0nm,1.0s
ABPO Ambohimpanom 54.03 250 *e*P **P 08 43 43.9 +0.4**
comp=Z,7.4nm,1.0s
KKAR Karatay Array 54.75 333 *e*P **P 08 43 48.2 +0.2**
KKAR pmax pmax
comp=Z,22nm,0.7s
KKAR Karatay Array 54.75 333 *e*P **P 08 43 48.2 +0.2**
comp=Z,22nm,0.7s
MDJ Mudanjiang 55.41 25 P **P 08 43 55.0 +2.3**
MDJ ScP **ScP 08 48 50.8 +1.6**
MDJ PcS **PcS 08 48 52.5 -0.2**
MDJ sS sS 08 51 53.3 +0.8
MDJ pmax pmax
comp=Z,5.0nm,0.5s
MDJ pmax pmax
comp=Z,38nm,5.3s
MDJ LR LR
comp=Z,79nm,18.9s
MDJ LR LR
comp=Z,73nm,18.9s
TLY Talaya 56.10 2 P **P 08 43 58.2 +0.6**
comp=Z,2.4nm,0.6s,baz=220,slow=2.3,SNR=7.2
TLY Talaya 56.10 2 *e*P **P 08 43 58.4 +0.8**
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY MLR MLR
comp=Z,360nm,14.0s
USRK Ussuriysk Ar. 56.12 27 P **P 08 43 58.2 +0.4**
comp=Z,22nm,0.8s,baz=221,slow=5.7,SNR=37
HIA Hailar 56.14 15 *e*P **P 08 43 58.1 +0.2**
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 56.14 15 *e*P **P 08 43 58.1 +0.2**
comp=Z,15nm,1.1s
GEYT Alibeck 57.86 321 P **P 08 44 09.5 -0.8**
comp=Z,2.0nm,0.4s,baz=156,slow=7.6,SNR=3.5
GEYT LR LR 09 09 52.6
comp=Z,54nm,18.3s,baz=95,slow=37
KURBB Kurchatov Arra 58.20 344 P **P 08 44 12.4 0.0**
comp=Z,3.4nm,0.9s,baz=161,slow=6.6,SNR=15
KURK Kurchatov 58.26 344 *e*P **P 08 44 12.5 -0.3**
KURK pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 58.26 344 *e*P **P 08 44 13.2 +0.4**
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 59.81 349 *e*P **P 08 44 23.8 +0.3**
ZALV Zalesovo Beam 59.81 349 P **P 08 44 23.6 +0.1**
comp=Z,18nm,0.8s,baz=177,slow=5.1,SNR=37
NVS Novosibirsk 60.96 349 *e*P **P 08 44 30.2 -1.1**
BVAR Borovoye Array 62.83 340 P **P 08 44 43.4 -0.5**
comp=Z,1.8nm,0.7s,baz=141,slow=9.6,SNR=9.5
BRVK Borovoye 62.89 340 *e*P **P 08 44 43.5 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BOD Bodaibo 63.12 8 *e*P **P 08 44 45.6 -0.2**
BOD pmax pmax
comp=Z,22nm,1.1s
YSS Yuzh-Sakhalins 63.32 31⇑*e*P **P 08 44 47.5 +0.2**
YSS *e* 08 44 56.3
YSS pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 63.32 31 *e*P **P 08 44 47.2 -0.1**
comp=Z,35nm,1.0s
ABKAR Akbulak array 64.22 332 *e*P **P 08 44 52.8 -0.4**
comp=Z,298nm,0.7s
AKTO Aktyubinsk 65.94 332 P **P 08 45 04.2 -0.1**
comp=Z,3.8nm,1.0s,baz=122,slow=14,SNR=5.4
GNI Garni 67.85 317 *e*P **P 08 45 17.1 +0.1**
GNI pmax pmax
comp=Z,26nm,1.1s
SVE Sverdlovsk 69.31 338 *e*P **P 08 45 25.8 +0.3**
SVE pmax pmax
comp=Z,18nm,0.9s
MARD Mardin 69.47 313 *e*P **P 08 45 28.0 +0.9**
comp=Z,21nm,0.7s
ZEI Tsey 69.61 319 *e*P **P 08 45 28.1 +0.1**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 69.83 337 P **P 08 45 28.0 -0.7**
comp=Z,5.1nm,0.2s,baz=128,slow=1.8,SNR=4.2
ARU Arti 69.83 337*d i*P **P 08 45 28.2 -0.5**
ARU 08 45 47.5
ARU 08 47 58.2
ARU S **S 08 54 38.3 +2.6**
ARU SS **SS 08 59 03.3 -1.7**
ARU pmax pmax
comp=Z,6.0nm,1.2s
YAK Yakutsk 70.06 14 P **P 08 45 29.2 -0.8**
comp=Z,11nm,0.3s,baz=239,slow=0.8,SNR=4.6
YAK Yakutsk 70.06 14 *e*P **P 08 45 28.4 -1.6**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK Yakutsk 70.06 14 *e*P **P 08 45 29.1 -0.8**
comp=E,62nm,1.0s
NEY Neytrino 70.59 319 *e*P **P 08 45 34.3 +0.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.69 319 P **P 08 45 34.5 +0.3**
comp=Z,5.3nm,0.9s,baz=130,slow=3.2,SNR=9.2
KVAR Kislovodsk Arr 70.93 320 P **P 08 45 35.4 -0.5**
comp=Z,5.6nm,0.6s,baz=322,slow=8.5,SNR=3.1
KIV Kislovodsk 70.93 320⇑*e*P **P 08 45 35.2 -0.7**
KIV *e* 08 48 14.2
KIV *e*S **S 08 54 47.1 -2.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,26nm,16.0s
SOKR Solikamsk 72.72 338⇑*i*P **P 08 45 44.8 -1.2**
SOKR pmax pmax
comp=Z,27nm,1.3s
NRIK Noril'sk 74.31 355 P **P 08 45 52.1 -3.2**
comp=Z,2.7nm,0.5s,baz=162,slow=5.5,SNR=5.9
NRIK LR LR 09 23 22.3
comp=Z,140nm,18.1s,baz=137,slow=40
BOSA Boshof 75.03 242 LR LR 09 11 34.2
comp=Z,65nm,21.0s,baz=30,slow=30
MA2 Magadan 75.10 24 LR LR 09 21 24.5
comp=Z,36nm,20.1s,baz=268,slow=38
BRTR Keskin Array B 75.56 313 P **P 08 46 02.4 -1.0**
comp=Z,1.5nm,0.8s,baz=132,slow=7.2,SNR=7.0
ILGA Ilgaz 75.93 314 *e*P **P 08 46 05.2 -0.4**
comp=Z,7.7nm,0.9s
BKZ Black Stump Fm 76.12 129 *e*P **P 08 46 06.4 -0.1**
comp=Z,45nm,0.7s
TIXI Tiksi 78.29 9 P **P 08 46 15.8 -2.0**
comp=Z,1.9nm,0.6s,baz=197,slow=5.2,SNR=6.8
TIXI Tiksi 78.29 9 *e*P **P 08 46 17.0 -0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 78.29 9 *e*P **P 08 46 16.6 -1.2**
comp=Z,16nm,1.3s
OBN Obninsk 79.33 328⇓*e*P **P 08 46 24.0 +0.1**
OBN *e* 08 49 22.4
OBN *e*S S 08 56 31.2 +9.3
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,43nm,16.0s
VNDA Vanda 79.51 169 P **P 08 46 24.2 -0.3**
comp=Z,1.9nm,1.0s,baz=286,slow=6.2,SNR=5.3
VNDA Vanda 79.51 169 *e*P **P 08 46 25.7 +1.1**
VNDA pmax pmax
comp=Z,7.0nm,1.4s
VNDA Vanda 79.51 169 *e*P **P 08 46 25.7 +1.1**
comp=Z,7.4nm,1.4s
KLMR Klimovskoe 80.43 334 *e*P **P 08 46 28.8 -0.9**
KLMR pmax pmax
comp=Z,29nm,1.4s
AKASG Malin Array Be 81.93 322 P **P 08 46 37.4 -0.5**
comp=Z,0.1nm,0.2s,baz=84,slow=5.0,SNR=4.6
AKASG LR LR 09 27 08.2
comp=Z,16nm,18.8s,baz=50,slow=39
KIEV Kiev 81.94 322 *e*P **P 08 46 39.3 +1.4**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
TMCR Tamitsa 82.57 337 *e*P P 08 46 49.7 +8.8
TMCR pmax pmax
comp=Z,34nm,0.9s
BUR08 Bucovina Ar. S 83.65 319 *e*P **P 08 46 47.8 +0.7**
BILL Biiibino 85.33 20⇑*e*P **P 08 46 55.3 +0.3**
BILL pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 86.60 320 *e*P P 08 47 10.2 +8.5
STHS pmax pmax
comp=Z,6.0nm,1.4s
STHS Stebnicka Huta 86.60 320 *e*P P 08 47 10.2 +8.5
FINES FINESS Array B 86.70 332 P **P 08 47 02.1 +0.2**
comp=Z,5.2nm,1.0s,baz=115,slow=12,SNR=3.3
VYHS Vyhne 88.00 319 *e*P P 08 47 15.5 +7.0
VYHS Vyhne 88.00 319 *e*P P 08 47 15.5 +7.0
ARCES ARCESS Array B 89.12 340 P **P 08 47 14.6 +1.3**
comp=Z,3.3nm,0.9s,baz=54,slow=11,SNR=3.7
ARCES LR LR 09 31 46.2
comp=Z,48nm,19.5s,baz=96,slow=39
DPC Dobruska-Polom 89.89 320 *e*pP P 08 47 27.4 +10
DPC Dobruska-Polom 89.89 320 *e*P P 08 47 27.4 +10
SNAA Sanae 89.91 198 *e*P **P 08 47 17.4 +0.3**
GERES GERESS Array B 91.42 319 P **P 08 47 29.1 +4.4**
comp=Z,0.5nm,0.8s,baz=55,slow=3.7,SNR=2.7
NOA NORSAR Array B 93.72 331 LR LR 09 32 52.2
comp=Z,24nm,19.9s,baz=90,slow=37
TORD Torodi Ar. Bea 99.76 282 LR LR 09 35 23.2
comp=Z,17nm,18.2s,baz=60,slow=37
R11A Troy Canyon, C 132.92 39 *e*PKPdf **PKPdf 08 53 37.0 +2.8**
ANMO Albuquerque 140.72 36 *i* PKIKP **PKPdf 08 53 50.5 +1.8**
LPM Los Pinos Moun 141.05 37 *e*PKPdf **PKPdf 08 53 49.3 -0.1**
MNTX Cornudas Mount 143.59 39 *e*PKPdf **PKPdf 08 53 53.3 -0.4**
S37A Fort Scott 144.07 21 P **PKPab 08 53 51.2 -0.6**
baz=333
T35A Sooner Cattle 144.16 24 P **PKPab 08 53 52.3 +0.1**
baz=330
R39A Chumby, Stover 144.17 19 P **PKPab 08 53 51.8 -0.4**
baz=336
T36A Boggs Farm, Ca 144.29 23 P **PKPab 08 53 52.4 -0.2**
baz=331
R40A Maddies Statio 144.43 18 P **PKPab 08 53 52.6 -0.6**
baz=337
O56A Blue Knob Stat 144.47 359 P **PKPab 08 53 52.4 -0.9**
baz=1.2
S38A Stockton 144.51 20 P **PKPab 08 53 52.4 -1.1**
baz=334
U35A Pawnee 144.54 25 P PKPbc 08 53 53.7 -0.1
baz=329
T37A Cheneyville 18 144.60 22 P **PKPab 08 53 53.3 -0.5**
baz=332,SNR=6.8
S39A Bolivar 144.65 19 P **PKPab 08 53 53.0 -0.9**
baz=335
R41A Rosebud 144.69 17 P **PKPab 08 53 53.4 -0.7**
baz=339
R42A Luebbering 144.87 16 P **PKPab 08 53 53.8 -0.9**
baz=340
T38A Diamond 144.90 21 P **PKPab 08 53 54.2 -0.8**
baz=333,SNR=5.1
U36A Oologah 144.93 23 P **PKPab 08 53 54.7 -0.4**
baz=331
CCM Cathedral Cave 144.95 17 *e*PKIKP **PKPab 08 53 54.5 -0.6**
CCM Cathedral Cave 144.95 17 *e*PKPdf **PKPab 08 53 54.5 -0.6**
WMOK Wichita Mounta 144.99 29 P **PKPab 08 53 54.7 -0.7**
baz=325,SNR=7.4
WMOK Wichita Mounta 144.99 29 *e*PKIKP **PKPab 08 53 55.2 -0.2**
WMOK Wichita Mounta 144.99 29 *e*PKPbc **PKPab 08 53 55.2 -0.2**
S40A Lebanon 145.00 18 P **PKPab 08 53 54.4 -0.9**
baz=337,SNR=6.7
V35A Meyer Ranch, C 145.02 25 P **PKPbc 08 53 54.9 -0.5**
baz=328
MCWV Mont Chateau 145.08 1 *e*PKPbc **PKPbc 08 53 55.1 -0.3**
OLIL Olney 145.08 12 *e*PKPbc **PKPab 08 53 55.5 0.0**
R43A Red Bud 145.10 15 P **PKPbc 08 53 54.6 -0.9**
baz=341
U37A Salina 145.16 23 P **PKPbc 08 53 55.4 -0.4**
baz=332
T39A Clever 145.23 20 P **PKPbc 08 53 55.3 -0.7**
baz=335,SNR=5.6
S41A Jillco Farms, 145.24 17 P **PKPbc 08 53 55.3 -0.8**
baz=338,SNR=22
SDMD Soldier's Deli 145.26 357 *e*PKPbc **PKPbc 08 53 55.8 -0.3**
TUL1 Leonard 145.32 24 P **PKPbc 08 53 55.9 -0.5**
baz=330
TUL1 Leonard 145.32 24 *e*PKPbc **PKPdf 08 53 56.5 -0.1**
R44A Waltonville 145.33 14 P **PKPbc 08 53 55.7 -0.5**
baz=343
S42A Caledonia 145.34 16 P **PKPbc 08 53 55.4 -0.9**
baz=340
V36A Jenks 145.37 24 P **PKPbc 08 53 56.3 -0.2**
baz=330
U38A Gravette 145.40 22 P **PKPbc 08 53 55.9 -0.8**
baz=333,SNR=7.2
T40A Mansfield 145.40 19 P **PKPbc 08 53 55.7 -0.9**
baz=336
W35A Tecumseh 145.52 26 P **PKPdf 08 53 56.4 -0.6**
baz=328
LCO Las Campanas 145.59 193 *e*PKPdf **PKPdf 08 53 56.5 -1.2**
V37A Hulbert 145.60 23 P **PKPdf 08 53 56.7 -0.3**
baz=331
HHAR Hobbs 145.70 21 *e*PKPdf **PKPdf 08 53 57.1 -0.2**
T41A Mountain View 145.74 18 P **PKPdf 08 53 57.0 -0.3**
baz=338,SNR=8.7
U39A Green Forest 145.78 21 P **PKPdf 08 53 57.1 -0.2**
baz=334
W36A Wetumka 145.81 25 P **PKPdf 08 53 57.3 -0.1**
baz=329
S44A Carbondale 145.82 14 P **PKPdf 08 53 57.4 0.0**
baz=342
V38A Canehill 145.90 22 P **PKPdf 08 53 57.3 -0.2**
baz=332
WCI Wyandotte Cave 145.91 10 *e*PKP2 **PKPdf 08 53 57.6 +0.1**
WCI Wyandotte Cave 145.91 10 *e*PKPdf **PKPdf 08 53 57.6 +0.1**
U40A Yellville 146.02 20 P **PKPdf 08 53 57.7 -0.1**
baz=335,SNR=5.4
X35A Drake 146.11 27 P **PKPdf 08 53 58.0 0.0**
baz=327
T43A Greenville 146.13 16 P **PKPdf 08 53 57.7 -0.2**
baz=340
W37B Quinton 146.14 24 P **PKPdf 08 53 58.2 +0.2**
baz=330
V39A Pettigrew 146.21 21 P **PKPdf 08 53 58.2 0.0**
baz=334,SNR=5.6
X36A Centrahoma 146.24 26 P **PKPbc 08 53 58.7 -0.6**
baz=328
ABTX Abilene, Hawle 146.25 32 P **PKPbc 08 53 59.3 -0.1**
baz=322
TX31 Lajitas Ar. Si 146.27 40 *e*PKPdf **PKPab 08 54 00.7 +0.3**
TXAR Lajitas Array 146.27 40 PKPbc **PKPab 08 54 00.6 +0.2**
comp=Z,5.6nm,0.9s,baz=285,slow=1.7,SNR=52
T44A Benton 146.31 15 P **PKPbc 08 53 58.9 -0.5**
baz=341
U41A Viola 146.33 19 P **PKPbc 08 53 58.8 -0.6**
baz=337
PBMO Poplar Bluff 146.37 16 *e*PKPdf **PKPdf 08 53 58.6 +0.3**
HPIG 146.43 46 *e*PKPdf **PKPbc 08 53 60.0 -0.3**
Y35A Marietta 146.49 27 P **PKPdf 08 53 58.7 +0.1**
baz=327
V40A Witts Springs 146.53 20 P **PKPdf 08 53 59.1 +0.4**
baz=335,SNR=7.0
U42A Revenden 146.54 18 P **PKPdf 08 53 59.2 +0.6**
baz=338,SNR=7.8
W38A Poteau 146.56 23 P **PKPbc 08 53 59.7 -0.4**
baz=332
X37A Clayton 146.64 25 P **PKPbc 08 54 00.2 -0.2**
baz=330
U43A Rector 146.76 16 P **PKPbc 08 53 59.8 -0.9**
baz=340
V41A Mountainview 146.77 19 P **PKPbc 08 53 59.9 -0.9**
baz=336,SNR=6.7
X38A Whitesboro 146.79 24 P **PKPbc 08 54 00.3 -0.6**
baz=331
Y36A Durant 146.84 26 P **PKPbc 08 54 00.4 -0.6**
baz=328
W40A Ferguson Farm, 146.99 21 P **PKPbc 08 54 00.8 -0.6**
baz=334
V42A Cord 146.99 18 P **PKPbc 08 54 01.0 -0.4**
baz=338
X39A Fountain Ranch 147.21 23 P **PKPbc 08 54 01.5 -0.5**
baz=332
W41B Gary Mavity, V 147.29 20 P **PKPbc 08 54 01.9 -0.3**
baz=336
Z36A Blue Ridge 147.30 27 P **PKPbc 08 54 01.9 -0.4**
baz=327
MIAR Mount Ida 147.38 22 P **PKPbc 08 54 02.4 -0.1**
baz=333
MIAR Mount Ida 147.38 22 *e*PKP2 **PKPbc 08 54 02.4 -0.1**
MIAR Mount Ida 147.38 22 *e*PKPbc **PKPbc 08 54 02.4 -0.1**
Y38A Idabel 147.47 24 P **PKPbc 08 54 02.1 -0.7**
baz=330
WVT Waverly 147.64 13 *e*PKP2 **PKPbc 08 54 03.0 -0.1**
WVT Waverly 147.64 13 *e*PKPbc **PKPbc 08 54 03.0 -0.1**
X40A Basin Creek Fa 147.71 21 P **PKPbc 08 54 02.8 -0.6**
baz=334
JCT Junction City 147.80 35 P **PKPbc 08 54 03.7 -0.1**
baz=319
JCT Junction City 147.80 35 *e*PKP2 **PKPbc 08 54 04.4 +0.5**
JCT Junction City 147.80 35 *e*PKPbc **PKPbc 08 54 04.4 +0.5**
X41A Kaden, Bauxite 147.82 21 P **PKPbc 08 54 03.0 -0.7**
baz=335
Y41A Eaglette Beard 148.33 21 P **PKPbc 08 54 04.5 -0.6**
baz=334
138A Matatall Enter 148.41 26 P **PKPbc 08 54 05.6 +0.3**
baz=329
336A Riesel 148.66 30 P **PKPbc 08 54 06.0 0.0**
baz=325
PLAL Pickwick Lake 148.68 14 *e*PKPbc **PKPbc 08 54 05.3 -0.7**
OXF Oxford 148.78 16 *e*PKP2 **PKPbc 08 54 05.9 -0.3**
OXF Oxford 148.78 16 *e*PKPbc **PKPbc 08 54 05.9 -0.3**
TKL Tuckaleechee C 148.80 7 *e*PKP2 **PKPbc 08 54 06.1 -0.2**
TKL Tuckaleechee C 148.80 7 *e*PKPbc **PKPbc 08 54 06.1 -0.2**
X45A UM Field Stati 148.87 16 P **PKPbc 08 54 05.7 -0.7**
baz=340
Y43A Makayla and Ka 148.88 19 P **PKPbc 08 54 06.3 -0.2**
baz=337
SWET Sewanee 148.91 11 *e*PKPbc **PKPbc 08 54 06.4 -0.2**
CPCT Cooper Cave 148.91 8 *e*PKPbc **PKPbc 08 54 06.5 0.0**
Y45A Yeager Farm, C 149.35 17 P **PKPbc 08 54 07.6 -0.1**
baz=340
Y46A Houston 149.53 16 P **PKPbc 08 54 07.5 -0.6**
baz=341
KMSC Kings Mountain 149.53 3 P **PKPbc 08 54 08.0 -0.1**
baz=356
536A Bastrop 149.60 31 P **PKPbc 08 54 08.6 +0.2**
baz=323
Z44A Pea Ridge, Bel 149.63 19 P **PKPbc 08 54 08.4 +0.1**
baz=336
833A Chaparral WMA, 149.64 37 P **PKPbc 08 54 08.9 +0.4**
baz=318
241A Mo Tay, Goldon 149.87 23 P **PKPbc 08 54 09.1 +0.1**
baz=332
636A Smothers Creek 150.08 32 P **PKPbc 08 54 10.4 +0.8**
baz=323
439A Center Grove, 150.14 27 P **PKPbc 08 54 10.3 +0.6**
baz=328
Z46A Louisville 150.15 16 P **PKPbc 08 54 09.9 +0.2**
baz=340
933A Laredo 150.23 38 P **PKPbc 08 54 10.8 +0.8**
baz=317
Z47A Carrollton 150.38 15 P **PKPbc 08 54 09.6 -0.6**
baz=342
145A Houston Renfro 150.41 18 P **PKPbc 08 54 10.4 +0.1**
baz=338
736A Circle Diamond 150.49 33 P **PKPbc 08 54 11.0 +0.5**
baz=322
637A Eagle Lake 150.49 31 P **PKPbc 08 54 11.4 +0.8**
baz=324
146A Union 150.64 17 P **PKPbc 08 54 11.0 +0.1**
baz=340
244A Avery, Jackson 150.68 20 P **PKPbc 08 54 11.2 +0.2**
baz=336
147A Livingston 150.83 16 P **PKPbc 08 54 11.5 +0.3**
baz=341
034A Hebbronville 150.99 38 P **PKPbc 08 54 12.9 +1.1**
baz=317
344A Westbrook Farm 151.20 21 P **PKPbc 08 54 12.8 +0.6**
baz=336
248A Dixon Mills 151.51 15 P **PKPbc 08 54 13.5 +0.6**
baz=342
035Z Hargill 151.81 38 P **PKPbc 08 54 15.1 +1.4**
baz=317
LNIG Linares 152.02 42 *e*PKPab **PKPab 08 54 23.3 -0.3**

DJA 22 08:37:17.7±1.6,**8°S**±9°×**10°8E**±°,**h22**km±10km,**M3.8/7,**
MLv3.8/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.60**	**360**	P	Pn	08 37 30.5	-0.4
CMJI				S	Sn	08 37 39.6	-0.4
CISI	**Cisompet, Garu**	**1.04**	**323**	S	Sb	08 37 50.6	+0.3
CNJI	**Cibinong**	**1.69**	**309**	P	Pn	08 37 46.4	+0.4
UGM	**Wanagama**	**2.11**	**77**	P	Pn	08 37 50.2	-1.5
UGM				S	Sn	08 38 13.7	-3.5
SKJI	**Sukabumi**	**2.33**	**306**	P	Pn	08 37 54.8	+0.1

KRNET ***22*** *08:37:44.6±0.1,40°.92N×73°.98E,h14km,mb3.2*
NNC ***22*** *08:37:46.5±1.7,40°.93N×73°.90E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=14.2km s-min=9.5km az=155.0
SOME ***22*** *08:37:48.3,40°.98N×73°.93E,h10km*
ISC 22 08:37:44.2±1.4,**40°.88N**±0°.05×**73°.98E**±0°.03,**h4**km±13km,
n34,σ0=90/62,12C-32D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.88**	**301**	⇓*i*P	**Pg**	**08 38 01.3**	**+0.3**
ARSB				⇓*i*S	**Sb**	**08 38 14.1**	**-0.1**
ARLS	**Aral**	**1.01**	**15**	⇓*i*P	**Pg**	**08 38 03.8**	**+0.1**
ARLS				⇓*i*S	**Sb**	**08 38 18.0**	**-0.3**
AML	**Almayashu**	**1.27**	**350**	⇓*i*P	**Pb**	**08 38 08.5**	**-0.5**
AML				⇓*i*S	**Sn**	**08 38 26.5**	**-0.4**
UCH	**Uchtor**	**1.41**	**16**	⇓*e*P	**Pb**	**08 38 11.4**	**+0.1**
UCH				⇓*i*S	**Sg**	**08 38 30.6**	**+1.2**
ARK	**Arkit**	**1.77**	**302**	⇓*i*P	**Pg**	**08 38 17.8**	**-0.4**
ARK				⇓*i*S	**Sg**	**08 38 41.9**	**+0.7**
EKS2	**Erkin-Say**	**1.79**	**355**	⇑*i*P	**Pb**	**08 38 17.8**	**+0.2**
EKS2				⇑*i*S	**Sg**	**08 38 41.3**	**-0.4**
AAK	**Ala-Archa**	**1.80**	**12**	⇓*i*P	**Pb**	**08 38 18.2**	**+0.3**
AAK				⇓*i*S	**Sg**	**08 38 42.1**	**+0.1**
AAK	**Ala-Archa**	**1.80**	**12**	⇓Pn	**Pg**	**08 38 18.6**	**-0.1**
AAK				⇑Sn	**Sg**	**08 38 42.5**	**+0.5**
KBK	**Karagaybulak**	**1.92**	**22**	⇓*i*P	**Pg**	**08 38 20.8**	**-0.2**
KBK				⇓*i*S	**Sg**	**08 38 46.4**	**+0.6**
MRKS	**Merke**	**1.95**	**343**	*e*P	**Pg**	**08 38 22.4**	**+0.8**

	28nm,0.2s							
MRKS				eS	Sg	08 38 46.9	+0.1
	46nm,0.3s							
MNAS	**Manas**	1.95	326	⇑iP	Pb	08 38 20.6	+0.2
	baz=325							
MNAS				⇑iS	Sg	08 38 46.6	-0.3
	baz=325							
MNAS	**Manas**	1.95	326	⇓Pn	Pb	08 38 20.2	-0.2
	18nm,0.7s							
MNAS				⇓Lg	Lg	08 38 46.4	
	9.6nm,0.3s							
FRU1	**Bishkek**	1.99	14	⇓eP	Pb	08 38 20.9	-0.1
	baz=14							
FRU1				⇓iS	Sb	08 38 46.8	+0.6
	baz=14							
BOOM	**Boomskoye usch**	2.18	42	⇓iP	Pb	08 38 24.1	-0.2
	baz=42							
BOOM				⇓iS	Sb	08 38 52.8	+1.0
	baz=42							
ULHL	**Ulahol**	2.18	50	⇑eP	Pb	08 38 24.1	-0.3
	baz=51							
ULHL				⇑iS	Sb	08 38 51.8	0.0
	baz=51							
CHMS	**Chumysh**	2.19	15	⇓eP	Pb	08 38 24.3	-0.2
	baz=15							
CHMS				⇓iS	Sb	08 38 52.3	+0.2
	baz=15							
TKM2	**Tokmak 2**	2.37	30	⇓eP	Pb	08 38 26.8	-0.8
	baz=31							
TKM2				⇓iS	Sb	08 38 57.1	-0.2
	baz=31							
TKM2	**Tokmak 2**	2.37	30	⇓Pn	Pb	08 38 28.4	+0.7
	10nm,0.7s							
TKM2				⇑Lg	Lg	08 39 00.4	
	25nm,0.5s							
USP	**Ospenovka**	2.42	9	⇑iP	Pb	08 38 27.2	-1.1
	baz=9.0							
USP				⇑iS	Sb	08 38 58.0	-0.5
	baz=9.0							
BTK	**Batken**	2.55	252	⇓iP	Pb	08 38 29.9	-0.7
	baz=251							
BTK				⇓iS	Sb	08 39 02.9	+0.6
	baz=251							
KST	**Kastek**	2.62	34	eP	Pg	08 38 35.0	+0.5
	3.7nm,0.2s							
KST				eS	Sg	08 39 08.5	+0.2
	37nm,0.3s							
DGS	**Degeres**	2.71	29	eP	Pg	08 38 37.2	+1.0
	16nm,0.5s							
DGS				eS	Sg	08 39 12.1	+0.7
	67nm,0.7s							
IZV	**Izvestkoviy**	2.92	41	eP	Pg	08 38 40.6	+0.5
	12nm,0.5s							
IZV				eS	Sg	08 39 17.9	0.0
	39nm,0.4s							
TNSS	**Tian-Shan**	3.09	45	eP	Pg	08 38 44.0	+0.5
	7.7nm,0.3s							
TNSS				eS	Sg	08 39 23.7	+0.2
	35nm,0.5s							
IUG	**Iuzhnay**	3.22	294	eP	Pg	08 38 45.3	-0.7
	8.0nm,0.3s							
IUG				eS	Sg	08 39 26.3	-1.5
	73nm,0.3s							
MDOK	**Medeo**	3.23	44	⇓Pg	Pb	08 38 43.5	+1.2
MDOK				⇓Lg	Lg	08 39 26.7	
MDOK	**Medeo**	3.23	44	eP	Pg	08 38 45.7	-0.4
	6.2nm,0.4s							
MDOK				eS	Sg	08 39 27.0	-1.0
	15nm,0.5s							
KOTS	**Kotyrbulak**	3.31	44	eP	Pg	08 38 47.7	0.0
KOTS				eS	Sg	08 39 30.5	-0.2
KK31	**Karatay Array**	3.41	312	⇑Pg	Pb	08 38 46.2	+1.0
	0.9nm,0.3s,baz=128,slow=16,SNR=13							
KK31				⇑Lg	Lg	08 39 30.3	
	3.2nm,0.3s,baz=134,slow=28,SNR=6.8							
KTBS	**Karatobe**	3.47	34	eP	Pg	08 38 50.1	-0.5
KTBS				eS	Sg	08 39 34.5	-1.1
CHKK	**Chushkaly**	3.72	36	eP	Pg	08 38 54.7	-0.7
	5.3nm,0.3s							
CHKK				eS	Sg	08 39 42.1	-1.5
	42nm,0.4s							
ARXS	**Arharly**	4.38	39	eP	Pg	08 39 06.3	-1.8
	4.5nm,0.4s							
ARXS				eS	Sg	08 40 02.6	-2.2
	14nm,0.4s							
DZET	**Dzherino**	4.47	244	⇓Pg	Pb	08 39 05.9	+2.5
	2.5nm,0.4s							
PDGK	**Podgornoye**	4.78	57	⇓Pg	Pb	08 39 11.8	+3.2
	2.4nm,0.8s							

*KRNET **22** 08:39:19.9±0.1, 40°.05N×72°.88E, h17km, mb2.8*
*SOME **22** 08:39:26.8, 40°.45N×72°.58E, h10km*
*NNC **22** 08:39:29.0±4.3, 40°.36N×72°.81E, h0km, mb3.2, mpv2.8,*
Error ellipse: s-maj=38.0km s-min=22.6km az=140.0
ISC 22 08:39:21.3±1.7, 40°.23N±0°.06×72°.88E±0°.04, h1km±13km, n17, σ1°79/33, 19C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	1.09	4	⇑iP	Pn	08 39 44.1	+0.2
	baz=3.0						
ARSB				⇑iS	Sn	08 40 02.8	+3.0
	baz=3.0						
BTK	**Batken**	1.59	264	⇑iP	Pb	08 39 50.2	-1.3
	baz=271						
BTK				⇑iS	Sb	08 40 10.9	-1.2
	baz=271						
ARK	**Arkit**	1.71	336	⇑iP	Pg	08 39 54.5	+0.3
	baz=339						
ARK				⇑iS	Sg	08 40 19.1	+2.7
	baz=339						
ARLS	**Aral**	1.96	33	⇑iP	Pg	08 39 58.9	0.0
	baz=31						
ARLS				⇑iS	Sg	08 40 26.5	+2.1
	baz=31						
AML	**Almayashu**	2.00	18	⇑eP	Pg	08 40 00.1	+0.5
	baz=16						
AML				⇑iS	Sg	08 40 25.8	+0.3
	baz=16						
MNAS	**Manas**	2.27	353	⇓iP	Pb	08 40 03.1	-0.1
	baz=354						
MNAS				⇓iS	Sg	08 40 33.6	-0.7
	baz=354						
MNAS	**Manas**	2.27	353	⇑Pn	Pg	08 40 04.7	-0.2
	3.1nm,0.4s						
MNAS				⇓Sn	Sg	08 40 36.4	+2.1
	6.4nm,0.4s						
UCH	**Uchtor**	2.34	31	⇓eP	Pg	08 40 06.1	-0.2
	baz=29						
UCH				⇓eS	Sb	08 40 34.9	+0.7
	baz=29						
EKS2	**Erkin-Say**	2.52	15	⇑iP	Pg	08 40 08.5	-1.2
	baz=14						
EKS2				⇑iS	Sb	08 40 38.2	-0.8
	baz=14						
MRKS	**Merke**	2.53	6	eP	Pg	08 40 09.7	0.0
	13nm,0.3s						
MRKS				eS	Sg	08 40 41.9	-0.6
	30nm,0.4s						
AAK	**Ala-Archa**	2.69	26	⇓eP	Pb	08 40 10.4	0.0
	baz=25						
AAK				⇓eS	Sb	08 40 42.1	-1.9
	baz=25						
AAK	**Ala-Archa**	2.69	26	⇓Pn	Pg	08 40 12.1	-0.8
	2.0nm,0.3s						
AAK				⇑Sn	Sb	08 40 45.7	+1.7
	8.5nm,0.7s						
IUG	**Iuzhnay**	2.88	313	eP	Pb	08 40 12.2	-1.3
	8.9nm,0.2s						
IUG				eS	Sb	08 40 46.3	-2.9
	24nm,0.3s						
KBK	**Karagaybulak**	2.88	32	⇑eP	Pb	08 40 13.3	-0.3
	baz=30						
KBK				⇑iS	Sb	08 40 47.6	-1.8
	baz=30						
ULHL	**Ulahol**	3.24	50	⇑iP	Pb	08 40 18.7	-1.0
	baz=48						
ULHL				⇑iS	Sb	08 40 56.0	-3.7
	baz=48						
KK31	**Karatay Array**	3.37	329	⇓Pn	Pb	08 40 22.7	+0.8
	1.0nm,0.3s						
KK31				⇑Sn	Sb	08 40 58.9	-4.5
	2.6nm,0.4s,baz=149,slow=25,SNR=5.5						
DZET	**Dzherino**	3.44	247	⇓Sn	Sb	08 41 07.5	+2.1
	16nm,0.7s						

*ISCJB **22** 08:40:03.0±0.5, 44°.87N±0°.02×22°.36E±0°.03, h3km±4km,*
Error ellipse: s-maj=3.9km s-min=3.2km az=32.2
*CSEM **22** 08:40:03.7±0.2, 44°.88N×22°.41E, h5km, ML2.0, Error ellipse: s-maj=4.0km s-min=2.8km az=111.0*
*BUC **22** 08:40:04.3±0.8, 44°.97N×22°.41E, h3km, MD2.6/3, Error ellipse: s-maj=7.6km s-min=4.9km az=338.0*
*BEO **22** 08:40:04.0±0.3, 44°.88N×22°.46E, h14km±2km, M2.0/1*
ISC 22 08:40:03.7±1.1, 44°.93N±0°.02×22°.36E±0°.02, h4km±10km, n50, σ0°72/84, 12C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJES	**Djerdap**	0.28	156	ePg	Pg	08 40 08.9	-0.2
DJES				eSg	Sg	08 40 12.6	-0.2
MDVR	**Moldovita**	0.48	253	⇓iP	Pb	08 40 15.1	+0.4
MDVR				i S	Sb	08 40 22.5	+0.4
MDVR	**Moldovita**	0.48	253	⇓iP	Pb	08 40 15.1	+0.4
MDVR	**Moldovita**	0.48	253	⇓iP	Pb	08 40 15.1	+0.4
MDVR				S	Sb	08 40 22.5	+0.4
GZR	**Gura Zlata**	0.56	32	⇑iP	Pg	08 40 14.1	-0.2
GZR				i S	Sg	08 40 21.3	-0.2
GZR	**Gura Zlata**	0.56	32	⇑iP	Pg	08 40 14.1	-0.2
GZR	**Gura Zlata**	0.56	32	⇑iP	Pg	08 40 14.1	-0.2
GZR				S	Sg	08 40 21.3	-0.2
KUBS	**Kucevo**	0.71	224	ePg	Pg	08 40 16.4	-0.8
KUBS				eSg	Sb	08 40 28.4	-0.2
KUBS	**Kucevo**	0.71	224	ePg	Pg	08 40 16.4	-0.8
KUBS				eSg	Sb	08 40 28.4	-0.2
BZS	**Buzias**	0.87	323	ePg	Pb	08 40 21.5	+0.2
BZS				eSg	Sb	08 40 34.0	+0.7
BZS	**Buzias**	0.87	323	⇓iP	Pb	08 40 21.7	+0.4
BZS				i S	Sb	08 40 33.8	+0.5
BZS	**Buzias**	0.87	323	⇓iP	Pb	08 40 21.7	+0.4
BZS	**Buzias**	0.87	323	ePg	Pb	08 40 21.5	+0.2
BZS	**Buzias**	0.87	323	⇓iP	Pb	08 40 21.7	+0.4
BZS				S	Sb	08 40 33.8	+0.5
BZS				eSg	Sb	08 40 34.0	+0.7
SVIS	**Svilajnac**	1.05	231	ePg	Pg	08 40 23.2	-0.5
SVIS				eSg	Sb	08 40 38.3	-0.1
ZAGS	**Zajecar**	1.12	185	ePg	Pg	08 40 23.9	-1.1
ZAGS	**Zajecar**	1.12	185	ePg	Pg	08 40 23.9	-1.1
BOVS	**Bovan**	1.37	200	ePg	Pn	08 40 29.6	0.0
BOVS				eSg	Sg	08 40 47.1	-0.6
BOVS	**Bovan**	1.37	200	ePg	Pn	08 40 29.6	0.0
BOVS				eSg	Sg	08 40 47.1	-0.6
SIRR	**Siria**	1.43	340	⇑iP	Pb	08 40 32.0	+1.1
SIRR				i S	Sg	08 40 48.4	-1.2
SIRR	**Siria**	1.43	340	⇑iP	Pb	08 40 32.0	+1.1
SIRR	**Siria**	1.43	340	⇑iP	Pb	08 40 32.0	+1.1
SIRR				S	Sg	08 40 48.4	-1.2
TRUS	**Trudelj**	1.56	244	ePg	Pn	08 40 32.2	0.0
TRUS	**Trudelj**	1.56	244	ePg	Pn	08 40 32.2	0.0
GRUS	**Gruza**	1.57	229	ePg	Pg	08 40 34.1	+0.4
GRUS				eSg	Sg	08 40 55.5	+1.5
GRUS	**Gruza**	1.57	229	ePg	Pg	08 40 34.1	+0.4
GRUS				eSg	Sg	08 40 55.5	+1.5
ZAPS	**Zavoj**	1.66	173	ePg	Pn	08 40 34.1	+0.4
ZAPS				eSg	Sn	08 40 54.7	-0.8
ARR	**Arges**	1.67	74	⇑iP	Pn	08 40 34.4	+0.6
ARR				i S	Sn	08 40 56.1	+0.3
ARR	**Arges**	1.67	74	⇑iP	Pn	08 40 34.4	+0.6
ARR	**Arges**	1.67	74	⇑iP	Pn	08 40 34.4	+0.6
ARR				S	Sn	08 40 56.1	+0.3
DIVS	**Divibare**	1.88	245	ePg	Pn	08 40 37.2	+0.5
DIVS				eSg	Sg	08 41 06.0	+1.9
DRGR		1.88	7	ePn	Pn	08 40 36.1	-0.6
DRGR				eSn	Sn	08 41 00.1	-0.9
DRGR		1.88	7	⇓iP	Pb	08 40 38.3	-0.4
DRGR				i S	Sb	08 41 02.7	+0.1
DRGR		1.88	7	⇓iP	Pb	08 40 38.3	-0.4
DRGR		1.88	7	ePn	Pn	08 40 36.1	-0.6
DRGR		1.88	7	⇓iP	Pb	08 40 38.3	-0.4
DRGR				eSn	Sn	08 41 00.1	-0.9
DRGR				S	Sb	08 41 02.7	+0.1
HUMR	**Humele**	1.91	101	i S	Sb	08 41 03.7	+0.4
HUMR	**Humele**	1.91	101	S	Sb	08 41 03.7	+0.4
HUMR	**Humele**	1.91	101	S	Sb	08 41 03.7	+0.4
SELS	**Selova**	1.92	208	eSg	Sb	08 41 04.6	+0.9
VOIR		1.97	74	⇑iP	Pn	08 40 38.5	+0.5
VOIR				i S	Sn	08 41 03.9	+0.7
VOIR		1.97	74	⇑iP	Pn	08 40 38.5	+0.5
VOIR		1.97	74	⇑iP	Pn	08 40 38.5	+0.5
VOIR				S	Sn	08 41 03.9	+0.7
TEKS	**Tekeris**	2.05	260	ePn	Pn	08 40 39.2	+0.2
TEKS				eSn	Sn	08 41 03.3	-1.7
TEKS	**Tekeris**	2.05	260	ePn	Pn	08 40 39.2	+0.2
TEKS				eSn	Sn	08 41 03.3	-1.7
IVAS	**Ivanjica**	2.08	230	ePg	Pg	08 40 43.3	-0.2
IVAS				eSg	Sg	08 41 11.5	+1.1
IVAS	**Ivanjica**	2.08	230	ePg	Pg	08 40 43.3	-0.2
IVAS				eSg	Sg	08 41 11.5	+1.1
BARS	**Barje**	2.14	191	ePg	Pb	08 40 42.7	-0.4
BARS				eSg	Sb	08 41 10.3	+0.3
BARS	**Barje**	2.14	191	ePg	Pb	08 40 42.7	-0.4
BARS				eSg	Sb	08 41 10.3	+0.3
SJES	**Sjenica**	2.39	227	eSn	Sn	08 41 12.4	-1.1

MAN 22 08:40:15, 11°.57N×122°.42E, h20km, mb4.0, ML2.7, MS2.4, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	0.94	210	⇓eP	Pn	08 40 41.6	+8.5
GUIM	**Jordan**	0.95	170	eP	Pn	08 40 33.3	0.0
GUIM				eS	Sn	08 40 47.5	+1.3
LLP	**Lapu-Lapu**	1.96	129	eP	Pn	08 40 47.5	+0.4
LLP				eS	Sb	08 41 15.3	+1.1
MSLP	**Maasin**	2.79	121	eP	Pn	08 41 00.1	+1.6
MSLP				eS	Sb	08 41 35.0	-2.9
ENPP	**El Nido**	2.96	263	eP	Pn	08 41 03.4	+2.5
ENPP				eS	Sn	08 41 37.7	+1.9

IDC 22 08:43:22.6±9.0, 55°.58N×85°.27E, h0km, Error ellipse: s-maj=51.1km s-min=29.6km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.66	189	i		08 54 10.0	
	baz=7.1,slow=328,SNR=11						
ZALV	**Zalesovo Beam**	1.66	189	Pg	Pn	08 43 52.9	0.0
	1.0nm,0.3s,baz=11,slow=13,SNR=9.7						
ZALV				Lg	Lg	08 44 14.9	
	1.4nm,0.3s,baz=12,slow=28,SNR=12						
ZALV				Rg	Rg	08 44 23.3	
	3.0nm,0.4s,baz=8.8,slow=29,SNR=37						
I34MN	**SONGINO INFRAS**	15.20	112	i		10 10 40.0	
	baz=311,slow=326,SNR=0.2						

IDC 22 08:49:03.6±13.0, 9°.87S×165°.22E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/41, mbtmp4.1/6, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/32, Error ellipse: s-maj=229.9km s-min=42.6km az=45.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	5.21	274	Pn	Pn	08 50 24.4	+1.5
	15nm,0.3s,baz=157,slow=4.2,SNR=6.0						
HNR				Sn	Sn	08 51 20.1	-3.7
	17nm,0.3s,baz=18,slow=20,SNR=3.6						
HNR				LR	LR	08 52 13.4	
	comp=Z,480nm,18.9s,baz=135,slow=36						
DZM	**Mont Dzumac**	12.19	175	Pn	Pn	08 51 58.0	-0.8
	0.1nm,0.3s,baz=51,slow=6.5,SNR=2.0						
PMG	**Port Moresby**	17.81	270	LR	LR	08 59 39.4	
	comp=Z,122nm,19.4s,baz=320,slow=36						
CTA	**Charters Tower**	20.93	239	P	P	08 53 47.1	-0.9
	6.0nm,0.8s,baz=72,slow=12,SNR=3.6						
H11S2	**WAKE ISLAND Hy 28.21**	3		T	T	09 25 59.9	
	baz=184,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy 28.22**	3		T	T	09 26 04.2	
	baz=184,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy 28.23**	3		T	T	09 25 59.7	
	baz=184,slow=76,SNR=7.0						
H11N1	**WAKE ISLAND Hy 29.44**	3		T	T	09 27 30.4	
	baz=184,slow=76,SNR=9.2						
H11N3	**WAKE ISLAND Hy 29.44**	3		T	T	09 27 30.2	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy 29.46**	3		T	T	09 27 27.2	
	baz=184,slow=76,SNR=9.7						
STKA	**Stephens Creek**	30.95	222	P	P	08 55 24.3	+1.7
	2.1nm,0.8s,baz=50,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	31.42	248	P	P	08 55 26.6	-0.3
	1.8nm,0.8s,baz=78,slow=9.2,SNR=8.9						
ASAR	**Alice Springs**	32.88	241	P	P	08 55 38.5	-1.1
	0.5nm,0.6s,baz=61,slow=10,SNR=12						
PPT	**Papeete**	44.49	105	LR	LR	09 11 44.5	
	comp=Z,38nm,19.6s,baz=214,slow=31						

*NIED **22** 08:57:00, 38°.20N×141°.70E, h56km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:φ0 188.00000°, δ21.00000°, λ77.00000°. NP2:φ0 22.00000°, δ70.00000°, λ95.00000°.*
*ISCJB **22** 08:57:37.1±0.7, 38°.17N±0°.03×141°.72E±0°.08, h57km±4km, mb3.9/17, MS3.2/1, Error ellipse: s-maj=11.0km s-min=4.3km az=20.8*
*JMA **22** 08:57:37.7±0.1, 38°.17N×141°.71E, h51km±1km, M3.9*
JMA Felt I J1.
*IDC **22** 08:57:40.8±2.4, 38°.17N×141°.62E, h75km±21km, mb3.7/17, mb1 3.9/21, mb1mx3.8/44, mbtmp4.0/21, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=19.7km s-min=13.7km az=82.0*
ISC 22 08:57:37.7±1.3, 38°.18N±0°.05×141°.80E±0°.09, h46km±11km, n45, σ1°79/51, mb3.9/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	0.45	308	P	Pn	08 57 48.1	0.0
JIO				S	Sn	08 57 55.0	-0.4
JMM	**Marumori**	0.85	249	P	Pn	08 57 52.3	-1.0
JMM				eS	Sn	08 58 02.9	-1.8
JMK	**Ichinoseki**	0.89	330	P	Pn	08 57 54.0	+0.1
JMK				S	Sn	08 58 05.3	-0.4
OFUJ	**Ofunato**	0.91	354	P	Pn	08 57 54.2	+0.1
OFUJ				S	Sn	08 58 05.7	-0.3
JOU	**Okura**	0.91	282	P	Pn	08 57 53.6	-0.5
JFK	**Kawauchi**	1.09	222	P	Pn	08 57 56.0	-0.6
JFK				eS	Sn	08 58 09.1	-1.5
JFT	**Otama**	1.33	241	P	Pn	08 57 59.6	-0.2
JFT				S	Sn	08 58 15.3	-1.1
JYK	**Kaneyama**	1.35	304	P	Pn	08 57 59.7	-0.3
JOM	**Ohasama**	1.35	343	P	Pn	08 58 00.5	+0.4
JOM				eS	Sn	08 58 17.2	+0.3
JYS	**Shiratake**	1.36	272	P	Pn	08 57 59.9	-0.4
JYS				eS	Sn	08 58 16.1	-1.1
JRG	**Rokugo**	1.52	324	P	Pn	08 58 02.9	+0.5
JYA	**Atsumi**	1.69	285	P	Pn	08 58 04.4	-0.3
JFY	**Yanaizu**	1.83	246	P	Pn	08 58 06.6	0.0
JFY				eS	Sn	08 58 28.0	-0.6
MJAR	**Matsushiro Arr**	3.29	241	P	Pn	08 58 27.8	+1.1
	4.6nm,0.3s,baz=40,slow=12,SNR=38						
MJAR				S	Sn	08 59 13.1	+8.5
	5.1nm,0.3s,baz=155,slow=33,SNR=5.4						
MJAR				LR	LR	08 59 56.7	
	comp=Z,170nm,20.0s,baz=55,slow=43						
MAT	**Matsushiro**	3.29	241	P	Pn	08 58 27.7	+1.0
MAT				S	Sn	08 59 10.2	+5.5
JHJ	**Hachijo jima 2**	5.31	199	P	Pn	08 58 56.9	+2.5
	14nm,0.3s,baz=151,slow=22,SNR=9.4						
JHJ				S	Sn	08 59 54.0	-0.3
	25nm,0.3s,baz=256,slow=24,SNR=6.4						
ASAJ	**Asahikawa**	5.96	6	P	Pn	08 59 03.8	+0.5
	1.5nm,0.3s,baz=229,slow=9.7,SNR=7.4						
ASAJ				S	Sn	09 00 14.5	+4.2
	1.3nm,0.3s,baz=181,slow=32,SNR=3.5						
USRK	**Ussuriysk Ar.**	9.53	312	P	Pn	08 59 53.8	+1.7
	0.7nm,0.3s,baz=124,slow=13,SNR=18						
KSRS	**Korea Array**	11.00	271	P	Pn	09 00 13.2	+0.8
	0.3nm,0.3s,baz=76,slow=14,SNR=4.2						
KSRS				LR	LR	09 04 15.9	
	comp=Z,72nm,18.2s,baz=115,slow=36						
SEY	**Seymchan**	25.61	11	P	P	09 03 03.5	+1.1
	2.3nm,0.8s,baz=116,slow=17,SNR=3.9						
SONM	**Songino Array**	27.42	302	P	P	09 03 19.0	0.0
	0.9nm,0.6s,baz=85,slow=9.7,SNR=5.2						
H11N2	**WAKE ISLAND Hy 28.50**	123		T	T	09 33 42.6	
	baz=316,slow=76,SNR=597						
H11N1	**WAKE ISLAND Hy 28.50**	123		T	T	09 33 43.4	
	baz=316,slow=76,SNR=277						
H11N3	**WAKE ISLAND Hy 28.51**	123		T	T	09 33 44.1	
	baz=316,slow=76,SNR=132						
H11S1	**WAKE ISLAND Hy 29.25**	125		T	T	09 34 40.6	
	baz=318,slow=76,SNR=314						
H11S3	**WAKE ISLAND Hy 29.25**	125		T	T	09 34 39.9	
	baz=318,slow=76,SNR=388						
H11S2	**WAKE ISLAND Hy 29.26**	125		T	T	09 34 43.4	
	baz=318,slow=76,SNR=75						
TIXI	**Tiksi**	34.19	353	LR	LR	09 19 36.5	
	comp=Z,45nm,21.0s,baz=183,slow=38						
ZALV	**Zalesovo Beam**	41.38	311	P	P	09 05 18.4	-0.6
	5.0nm,0.5s,baz=92,slow=7.3,SNR=3.5						
CMAR	**Chiang Mai Arr**	42.09	254	P	P	09 05 24.7	-0.5
	0.7nm,0.4s,baz=39,slow=7.2,SNR=2.9						
NRIK	**Noril'sk**	42.36	335	P	P	09 05 26.9	0.0
	2.0nm,0.4s,baz=103,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	43.78	301	P	P	09 05 38.1	-0.5
	2.4nm,0.6s,baz=86,slow=9.6,SNR=21						
ILAR	**Eielson Array**	48.37	33	P	P	09 06 15.2	+0.7
	0.4nm,0.7s,baz=276,slow=5.7,SNR=4.5						
WRA	**Warramunga Arr**	58.23	188	P	P	09 07 26.8	-0.6
	1.0nm,0.5s,baz=5.7,slow=7.2,SNR=16						
ASAR	**Alice Springs**	61.96	188	P	P	09 07 52.6	-0.3
	0.7nm,0.7s,baz=4.3,slow=4.4,SNR=9.8						
ARCES	**ARCESS Array B**	63.03	339	P	P	09 07 59.0	-0.6
	4.4nm,1.0s,baz=53,slow=8.3,SNR=7.6						
FINES	**FINESS Array B**	67.94	332	P	P	09 08 29.8	-1.5
	1.8nm,0.6s,baz=52,slow=7.5,SNR=6.6						
KBZ	**Khabaz**	70.39	311	P	P	09 08 46.2	-0.5
	2.5nm,0.8s,baz=27,slow=1.8,SNR=6.0						
NB2	**NORSAR Subarra**	73.25	337	P	P	09 09 03.2	-0.5
	comp=Z,1.0nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	73.25	337	P	P	09 09 03.0	-0.6

ASAR	**Alice Springs**	**66.80**	**115**	P		P	09 15 11.5	+0.1
	0.7nm,0.8s,baz=283,slow=5.7,SNR=7.1							
PDAR	**Pinedale Array**	**139.42**	**358**	PKP		PKPdf	09 23 48.9	+1.4
	0.5nm,0.9s,baz=325,slow=2.5,SNR=3.3							
TXAR	**Lajitas Array**	**151.83**	**345**	PKPbc		PKPbc	09 24 14.7	-0.4
	0.6nm,0.8s,baz=48,slow=1.9,SNR=7.7							

MEX 22 09:09:44.3±0.7, 16°.86N×100°.19W, h7km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**338**	*e*P	Pg	09 09 47.7	-0.7
CAIG				*e*S	Sg	09 09 51.5	+0.2
ACX	**Acapulco**	**0.31**	**88**	*e*P	Pg	09 09 48.9	-1.6
ACX				*e*S	Sg	09 09 54.0	-0.6
MEIG	**Mezcala**	**1.19**	**27**	*e*P	Pg	09 10 02.8	-4.5
MEIG				*e*S	Sg	09 10 17.6	-5.1
ARIG	**Puente Sto Nin**	**1.42**	**354**	*e*P	Pn	09 10 06.4	-4.2
ARIG				*e*S	Sb	09 10 24.7	-4.9
ZIIG	**Zihuatanejo**	**1.43**	**302**	*e*P	Pn	09 10 07.2	-3.5
ZIIG				*e*S	Sn	09 10 27.0	-2.7
PLIG	**Platanillo**	**1.66**	**23**	*e*P	Pn	09 10 11.1	-2.9
PLIG				*e*S	Sn	09 10 33.0	-2.5

DDA 22 09:27:22.6, 41°.00N×32°.56E, h7km, Ml2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.42**	**244**	*i* P	Pg	09 27 30.6	-0.1
BCAM				*i* S	Sb	09 27 38.4	-0.6
CMDR	**Camlidere-ANKA**	**0.51**	**187**	*i* P	Pg	09 27 31.8	-0.7
ILGA	**Ilgaz**	**0.88**	**86**	*i* P	Pg	09 27 38.9	-0.5
ILGA				*i* S	Sb	09 27 52.9	+0.7

THE ***22*** *09:28:08.8, 36°.60N×21°.36E, h13km, ML3.2/23, Error ellipse: s-maj=1.3km s-min=0.7km az=72.0*
ATH ***22*** *09:28:08.9, 36°.66N×21°.37E, h30km±1km, ML3.2/6, Error ellipse: s-maj=4.7km s-min=1.3km az=64.0*
CSEM ***22*** *09:28:08.2±0.3, 36°.58N×21°.35E, h12km, ML3.2, Error ellipse: s-maj=5.2km s-min=3.6km az=52.0*

ISC 22 09:28:08.6±1.6, 36°.60N±0°.04×21°.35E±0°.05, h14km±8km, n87, σ0°.66/142, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.36**	**52**	P	**Pb**	**09 28 16.8**	**0.0**
MES2				S	**Sg**	**09 28 21.3**	**+0.4**
MES2				AML	AML	09 28 22.5	
	comp=E,16341μm,0.8s						
MES2				AML	AML	09 28 27.9	
	comp=N,9215μm,0.4s						
MES2	**Methoni**	**0.36**	**52**	P	**Pb**	**09 28 16.8**	**0.0**
MES2				S	**Sg**	**09 28 21.3**	**+0.4**
PYL	**PYLOS**	**0.43**	**47**	P	**Pg**	**09 28 17.4**	**+0.2**
PYL				S	**Sg**	**09 28 23.2**	**+0.2**
PYL	**PYLOS**	**0.43**	**47**	P	**Pg**	**09 28 17.5**	**+0.2**
PYL				S	**Sg**	**09 28 23.1**	**+0.2**
PYL	**PYLOS**	**0.43**	**47**	P	**Pg**	**09 28 17.4**	**+0.2**
PYL				S	**Sg**	**09 28 23.2**	**+0.2**
MES3	**Kyparissia**	**0.70**	**22**	P	**Pg**	**09 28 21.5**	**-0.7**
MES3				S	**Sb**	**09 28 32.2**	**+0.2**
MES3	**Kyparissia**	**0.70**	**22**	P	**Pg**	**09 28 21.5**	**-0.7**
MES3				S	**Sb**	**09 28 32.2**	**+0.2**
ITM	**Ithomi**	**0.74**	**38**	P	**Pg**	**09 28 22.4**	**-0.6**
ITM				S	**Sb**	**09 28 34.4**	**+1.2**
ITM	**Ithomi**	**0.74**	**38**	P	**Pg**	**09 28 23.0**	**0.0**
ITM				AML	AML	09 28 34.3	
	comp=N,4922μm,0.6s						
ITM				AML	AML	09 28 36.5	
	comp=E,3806μm,0.5s						
ITM	**Ithomi**	**0.74**	**38**	P	**Pg**	**09 28 23.0**	**0.0**
ITM				S	**Sb**	**09 28 34.4**	**+1.2**
AMT	**Artemida-Makis**	**0.97**	**17**	P	**Pb**	**09 28 26.5**	**-0.8**
AMT				S	**Sn**	**09 28 41.5**	**0.0**
AMT	**Artemida-Makis**	**0.97**	**17**	P	**Pb**	**09 28 26.7**	**-0.5**
AMT				S	**Sb**	**09 28 41.0**	**+1.0**
AMT				AML	AML	09 28 45.9	
	comp=N,4218μm,0.4s						
AMT				AML	AML	09 28 47.0	
	comp=E,3180μm,0.9s						
AMT	**Artemida-Makis**	**0.97**	**17**	P	**Pb**	**09 28 26.7**	**-0.5**
AMT				S	**Sb**	**09 28 41.0**	**+1.0**
VLX	**Vlachokerasia**	**1.13**	**47**	P	**Pb**	**09 28 29.2**	**-0.7**
VLX				S	**Sb**	**09 28 44.9**	**+0.5**
VLX	**Vlachokerasia**	**1.13**	**47**	P	**Pb**	**09 28 29.1**	**-0.7**
VLX				AML	AML	09 28 46.3	
	comp=E,3205μm,0.8s						
VLX				AML	AML	09 28 46.3	
	comp=N,3493μm,0.6s						
VLX	**Vlachokerasia**	**1.13**	**47**	P	**Pb**	**09 28 29.2**	**-0.7**
VLX				S	**Sb**	**09 28 44.9**	**+0.5**
TRIP	**Tripoli**	**1.18**	**38**	P	**Pn**	**09 28 30.2**	**-0.6**
TRIP				AML	AML	09 28 51.0	
	comp=E,1136μm,0.7s						
TRIP				AML	AML	09 28 53.3	
	comp=N,1312μm,0.6s						
TRIP	**Tripoli**	**1.18**	**38**	P	**Pn**	**09 28 30.2**	**-0.6**
VLI	**Veliai**	**1.28**	**84**	P	**Pn**	**09 28 32.4**	**+0.3**
VLI				S	**Sb**	**09 28 49.2**	**+0.4**
VLI	**Veliai**	**1.28**	**84**	P	**Pn**	**09 28 32.3**	**+0.2**
VLI	**Veliai**	**1.28**	**84**	P	**Pn**	**09 28 32.3**	**+0.2**
VLI				S	**Sb**	**09 28 49.2**	**+0.4**
DRO	**Drossia**	**1.38**	**12**	P	**Pn**	**09 28 33.4**	**0.0**
DRO				S	**Sb**	**09 28 52.1**	**+0.4**
DRO	**Drossia**	**1.38**	**12**	P	**Pn**	**09 28 32.4**	**-1.0**
DRO	**Drossia**	**1.38**	**12**	P	**Pn**	**09 28 33.4**	**0.0**
DRO				S	**Sb**	**09 28 52.1**	**+0.4**
KYTH	**Kithira**	**1.41**	**103**	P	**Pn**	**09 28 34.2**	**+0.4**
KYTH				S	**Sb**	**09 28 53.3**	**+0.8**
KYTH	**Kithira**	**1.41**	**103**	P	**Pg**	**09 28 35.5**	**-0.1**
RLS	**Riolos of Patr**	**1.46**	**4**	P	**Pn**	**09 28 34.6**	**+0.1**
RLS	**Riolos of Patr**	**1.46**	**4**	P	**Pn**	**09 28 34.6**	**+0.1**
GUR	**Goura**	**1.55**	**30**	P	**Pn**	**09 28 36.1**	**+0.2**
GUR				S	**Sb**	**09 28 56.8**	**+0.1**
GUR	**Goura**	**1.55**	**30**	P	**Pn**	**09 28 36.3**	**+0.4**
GUR	**Goura**	**1.55**	**30**	P	**Pn**	**09 28 36.3**	**+0.4**
GUR				S	**Sb**	**09 28 56.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.57**	**24**	P	**Pn**	**09 28 36.1**	**-0.1**
KLV				S	**Sb**	**09 28 57.3**	**0.0**
KLV	**Kalavryta, Ach**	**1.57**	**24**	P	**Pn**	**09 28 36.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.57**	**24**	P	**Pn**	**09 28 36.4**	**+0.2**
KLV				S	**Sb**	**09 28 57.3**	**0.0**
AXS	**Araxos**	**1.59**	**1**	P	**Pn**	**09 28 36.8**	**+0.5**
AXS				S	**Sn**	**09 28 56.3**	**-0.4**
AXS	**Araxos**	**1.59**	**1**	P	**Pn**	**09 28 36.8**	**+0.5**
AXS				S	**Sn**	**09 28 56.3**	**-0.4**
VLS	**Valsamata**	**1.69**	**339**	P	**Pn**	**09 28 37.4**	**-0.3**
VLS	**Valsamata**	**1.69**	**339**	P	**Pn**	**09 28 37.4**	**-0.3**
LAKA	**Lakka**	**1.71**	**17**	P	**Pn**	**09 28 38.4**	**+0.4**
LAKA				S	**Sn**	**09 29 00.0**	**+0.3**
ANKY	**Antikythira Is**	**1.74**	**114**	P	**Pn**	**09 28 38.1**	**-0.2**
ANKY				S	**Sn**	**09 29 00.2**	**-0.1**
ANKY	**Antikythira Is**	**1.74**	**114**	P	**Pn**	**09 28 39.1**	**+0.8**
ANKY	**Antikythira Is**	**1.74**	**114**	P	**Pn**	**09 28 38.1**	**-0.2**
ANKY				S	**Sn**	**09 29 00.2**	**-0.1**
DID	**Didima**	**1.76**	**59**	P	**Pn**	**09 28 38.2**	**-0.5**
DID				S	**Sn**	**09 29 00.3**	**-0.6**
DID	**Didima**	**1.76**	**59**	P	**Pn**	**09 28 37.6**	**-1.1**
DID				AML	AML	09 29 12.3	
	comp=N,725μm,0.6s						
DID				AML	AML	09 29 12.6	
	comp=E,616μm,0.5s						
DID	**Didima**	**1.76**	**59**	P	**Pn**	**09 28 38.2**	**-0.5**
DID				S	**Sn**	**09 29 00.3**	**-0.6**
THAL	**Thalero**	**1.77**	**36**	P	**Pn**	**09 28 38.6**	**-0.2**
THAL				S	**Sn**	**09 29 01.5**	**+0.3**
THAL	**Thalero**	**1.77**	**36**	P	**Pn**	**09 28 38.6**	**-0.2**
THAL				S	**Sn**	**09 29 01.5**	**+0.3**
EFP	**Efpalio**	**1.88**	**13**	P	**Pn**	**09 28 41.3**	**+1.1**
EFP				S	**Sn**	**09 29 05.0**	**+1.3**
KALE	**Kalithea**	**1.89**	**19**	P	**Pn**	**09 28 41.4**	**+0.8**
KALE				S	**Sn**	**09 29 03.7**	**-0.6**
KALE	**Kalithea**	**1.89**	**19**	P	**Pn**	**09 28 41.4**	**+0.8**
KALE				S	**Sn**	**09 29 03.7**	**-0.6**
SERG	**Sergoula**	**1.89**	**17**	P	**Pn**	**09 28 41.5**	**+1.0**
SERG				S	**Sb**	**09 29 06.4**	**-0.1**
SERG	**Sergoula**	**1.89**	**17**	P	**Pn**	**09 28 41.5**	**+1.0**
SERG				S	**Sb**	**09 29 06.4**	**-0.1**
LOUT	**Loutraki**	**1.90**	**43**	P	**Pn**	**09 28 40.2**	**-0.3**
LOUT				S	**Sn**	**09 29 05.7**	**+1.5**
LOUT	**Loutraki**	**1.90**	**43**	P	**Pn**	**09 28 40.2**	**-0.3**
LOUT				S	**Sn**	**09 29 05.7**	**+1.5**
LTK	**Loutraki**	**1.92**	**42**	P	**Pn**	**09 28 40.3**	**-0.5**
LTK				S	**Sn**	**09 29 06.3**	**+1.5**
LTK	**Loutraki**	**1.92**	**42**	P	**Pn**	**09 28 40.3**	**-0.5**
LTK				S	**Sn**	**09 29 06.3**	**+1.5**
PDO	**Prodromos**	**2.00**	**356**	P	**Pn**	**09 28 42.5**	**+0.6**
PDO				S	**Sb**	**09 29 09.1**	**-0.4**
PDO	**Prodromos**	**2.00**	**356**	P	**Pn**	**09 28 42.5**	**+0.6**
PDO				S	**Sb**	**09 29 09.1**	**-0.4**
PVO	**Paravola**	**2.02**	**4**	P	**Pn**	**09 28 42.1**	**-0.1**
DSF	**Desfina**	**2.04**	**27**	P	**Pn**	**09 28 42.0**	**-0.5**
DSF				S	**Sn**	**09 29 07.2**	**-0.5**
DSF	**Desfina**	**2.04**	**27**	P	**Pn**	**09 28 42.0**	**-0.5**
DSF				S	**Sn**	**09 29 07.2**	**-0.5**
ANX	**Ano Chora**	**2.04**	**13**	P	**Pn**	**09 28 43.7**	**+1.1**
ANX				S	**Sn**	**09 29 07.3**	**-0.6**
ANX	**Ano Chora**	**2.04**	**13**	P	**Pn**	**09 28 43.7**	**+1.1**
ANX				S	**Sn**	**09 29 07.3**	**-0.6**
LKD2	**Lefkada island**	**2.25**	**346**	P	**Pn**	**09 28 46.7**	**+1.2**
LKD2	**Lefkada island**	**2.25**	**346**	P	**Pn**	**09 28 46.7**	**+1.2**
VLY	**Voula,Athens**	**2.32**	**57**	P	**Pn**	**09 28 45.1**	**-1.2**
VLY	**Voula,Athens**	**2.32**	**57**	P	**Pn**	**09 28 45.1**	**-1.2**
EVR	**Evrytania**	**2.34**	**9**	P	**Pn**	**09 28 46.9**	**+0.2**
EVR				S	**Sn**	**09 29 16.4**	**+1.1**
EVR	**Evrytania**	**2.34**	**9**	P	**Pn**	**09 28 46.9**	**+0.2**
EVR				S	**Sn**	**09 29 16.4**	**+1.1**
ATHU	**Athens Univers**	**2.37**	**54**	P	**Pn**	**09 28 45.8**	**-1.3**
ATHU	**Athens Univers**	**2.37**	**54**	P	**Pn**	**09 28 45.8**	**-1.3**
LKR	**Lokris**	**2.43**	**32**	P	**Pn**	**09 28 47.0**	**-0.8**
LKR				S	**Sn**	**09 29 17.2**	**-0.2**
LKR	**Lokris**	**2.43**	**32**	P	**Pn**	**09 28 47.0**	**-0.8**
LKR				S	**Sn**	**09 29 17.2**	**-0.2**
MHLO	**Agia Marina, M**	**2.46**	**87**	P	**Pn**	**09 28 47.5**	**-0.7**
MHLO	**Agia Marina, M**	**2.46**	**87**	P	**Pn**	**09 28 47.5**	**-0.7**
DSL	**Palaion Diasel**	**2.54**	**356**	P	**Pn**	**09 28 50.0**	**+0.6**
DSL	**Palaion Diasel**	**2.54**	**356**	P	**Pn**	**09 28 50.0**	**+0.6**
AGG	**Agios Georgios**	**2.54**	**17**	P	**Pn**	**09 28 50.0**	**+0.6**
AGG				S	**Sn**	**09 29 20.1**	**0.0**
AGG	**Agios Georgios**	**2.54**	**17**	P	**Pn**	**09 28 50.0**	**+0.6**
AGG				S	**Sn**	**09 29 20.1**	**0.0**
THL	**Klokotos Trika**	**3.00**	**10**	P	**Pn**	**09 28 55.9**	**+0.1**
THL	**Klokotos Trika**	**3.00**	**10**	P	**Pn**	**09 28 55.9**	**+0.1**
XOR	**Xorichti**	**3.12**	**27**	P	**Pn**	**09 28 57.2**	**-0.2**
XOR	**Xorichti**	**3.12**	**27**	P	**Pn**	**09 28 57.2**	**-0.2**
SGD	**Sagiada**	**3.13**	**344**	P	**Pn**	**09 28 56.5**	**-1.0**
KEK	**Kerkira**	**3.34**	**339**	P	**Pn**	**09 28 59.5**	**-0.9**
KPRO	**Kipourio**	**3.35**	**0**	P	**Pn**	**09 29 01.0**	**+0.4**
KPRO				S	**Sn**	**09 29 41.3**	**+1.1**
KPRO	**Kipourio**	**3.35**	**0**	P	**Pn**	**09 29 01.0**	**+0.4**
KPRO				S	**Sn**	**09 29 41.3**	**+1.1**

NIED ***22*** *09:28:00, 24°.80N×125°.40E, h47km, Mw4.0 Best double couple: M0=1.30000×10^15 NP1:φs=39.00000°, δ37.00000°, λ62.00000°. NP2:φs=252.00000°, δ57.00000°, λ109.00000°.*
ISCJB ***22*** *09:28:14.1±0.4, 24°.80N±0°.07×125°.37E±0°.04, h56km±2km, mb4.0/18, MS3.4/2, Error ellipse: s-maj=12.0km s-min=4.2km az=152.7*
NEIC ***22*** *09:28:15.7±0.9, 24°.80N×125°.31E, h54km±9km, mb4.4/3, Error ellipse: s-maj=13.0km s-min=9.1km az=148.0*
NEIC Recorded [2 JMA] on Miyako-jima.
JMA ***22*** *09:28:15.2±0.1, 24°.82N×125°.37E, h49km±1km, M3.8*
JMA Felt II J1.
IDC ***22*** *09:28:18.6±5.6, 24°.85N×125°.28E, h76km±54km, mb3.6/16, mb1 3.7/17, mb1mx3.6/49, mbtmp3.9/17, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/40, Error ellipse: s-maj=20.2km s-min=15.6km az=72.0*

ISC 22 09:28:14.9±0.8, 24°.79N±0°.08×125°.40E±0°.05, h50km±5km, n51, σ1°.14/61, mb4.1/18, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.03**	**169**	P	**Pn**	**09 28 22.7**	**+0.2**
JOGS				S	**Sn**	**09 28 28.3**	**+0.4**
JMJ	**Miyako jima 2**	**0.10**	**285**	P	**Pn**	**09 28 22.7**	**0.0**
JMJ				S	**Sn**	**09 28 28.2**	**0.0**
JIKM	**Ikemajima**	**0.19**	**314**	P	**Pn**	**09 28 23.1**	**-0.1**
JIKM				S	**Sn**	**09 28 29.0**	**0.0**
JIRB	**Irabujima**	**0.21**	**281**	P	**Pn**	**09 28 23.1**	**-0.2**
JIRB				S	**Sn**	**09 28 28.8**	**-0.4**
JTJ	**Tarama**	**0.65**	**257**	P	**Pn**	**09 28 28.4**	**+0.4**
JTJ				S	**Sn**	**09 28 37.7**	**+0.2**
JISG	**Ishigakijimahi**	**1.01**	**259**	P	**Pn**	**09 28 32.5**	**-0.3**
JISG				*e*S	**Sn**	**09 28 46.4**	**+0.4**
JIJ	**Ishigaki jima**	**1.22**	**250**	P	**Pn**	**09 28 36.0**	**+0.4**
JIJ				*e*S	**Sn**	**09 28 51.1**	**+0.1**
JKRS	**Kuro-shima**	**1.38**	**247**	P	**Pn**	**09 28 38.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.59**	**254**	P	**Pn**	**09 28 40.8**	**+0.2**
HATJ	**Hateruma jima**	**1.63**	**244**	P	**Pn**	**09 28 42.6**	**+1.4**
JKE	**Kume jima 2**	**1.98**	**39**	P	**Pn**	**09 28 46.4**	**+0.4**
YOJ	**Yonaguni jima**	**2.20**	**262**	P	**Pn**	**09 28 49.2**	**+0.2**
YOJ	**Yonaguni jima**	**2.20**	**262**	*e*Pn	**Pn**	**09 28 49.1**	**+0.2**
JYNG	**Yonagunijimaku**	**2.26**	**262**	P	**Pn**	**09 28 50.1**	**+0.3**
JAGN	**Aguni-jima**	**2.44**	**42**	P	**Pn**	**09 28 53.4**	**+1.1**
JNTH	**Nagotoyohara**	**2.93**	**53**	P	**Pn**	**09 28 59.7**	**+0.7**
JOW	**Kunigami**	**3.29**	**51**	P	**Pn**	**09 29 04.6**	**+0.6**
JOW	**Kunigami**	**3.29**	**51**	*e*Pn	**Pn**	**09 29 04.2**	**+0.1**
TATO	**Taipei**	**3.56**	**274**	*e*Pn	**Pn**	**09 29 10.0**	**+2.4**
YHNB	**Yeheng**	**3.66**	**269**	*e*Pn	**Pn**	**09 29 11.3**	**+2.1**
JOKE	**Okinoerabujima**	**3.83**	**47**	P	**Pn**	**09 29 11.2**	**-0.2**
YULB	**Yu-li**	**4.00**	**250**	*e*Pn	**Pn**	**09 29 12.3**	**-1.5**
YULB				*e*Sn	**Sn**	**09 29 57.9**	**-1.5**
SSLB	**Suanglung**	**4.18**	**257**	*e*Pn	**Pn**	**09 29 15.1**	**-1.1**
SSLB				*e*Sn	**Sn**	**09 30 02.3**	**-1.5**
JTK	**Tokunoshima**	**4.37**	**46**	P	**Pn**	**09 29 18.1**	**-0.6**
TWG	**Pinlang**	**4.42**	**245**	*e*Pn	**Pn**	**09 29 17.9**	**-1.6**
TWG				*e*Sn	**Sn**	**09 30 05.5**	**-4.2**
TPUB	**Ta-pu**	**4.61**	**252**	*e*Pn	**Pn**	**09 29 22.6**	**+0.6**
TPUB				*e*Sn	**Sn**	**09 30 13.0**	**-1.3**
JAM	**Amami Oshima**	**5.21**	**45**	P	**Pn**	**09 29 29.4**	**-0.9**
JMZ	**Minamidaito 2**	**5.37**	**78**	P	**Pn**	**09 29 29.9**	**-2.6**
KSAR	**Wonju Array Be**	**12.79**	**9**	P	**P**	**09 31 23.3**	**-0.4**
KSRS	**Korea Array**	**12.81**	**9**	P	**P**	**09 31 23.3**	**-0.6**
	0.2nm,0.3s,baz=198,slow=11,SNR=5.5						
KSRS				LR	LR	09 36 09.9	
	comp=Z,24nm,19.7s,baz=130,slow=37						
MJAR	**Matsushiro Arr**	**16.06**	**40**	P	**P**	**09 32 00.9**	**+0.8**
	0.4nm,0.3s,baz=220,slow=11,SNR=4.4						
USRK	**Ussuriysk Ar.**	**20.10**	**14**	P	Pn	09 32 47.5	+1.0
	0.8nm,0.5s,baz=257,slow=7.2,SNR=2.7						
ASAJ	**Asahikawa**	**23.84**	**32**	P	**P**	**09 33 24.2**	**+0.7**
	1.3nm,0.3s,baz=218,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**25.36**	**261**	P	**P**	**09 33 38.3**	**+0.7**
	1.0nm,0.4s,baz=49,slow=9.7,SNR=3.6						
SONM	**Songino Array**	**27.49**	**332**	P	**P**	**09 33 55.6**	**-1.0**
	0.4nm,0.4s,baz=157,slow=4.7,SNR=3.0						
SONM				LR	LR	09 46 33.2	
	comp=Z,37nm,19.4s,baz=87,slow=40						
MKAR	**Makanchi Array**	**40.63**	**314**	P	**P**	**09 35 50.2**	**+0.1**
	1.6nm,0.5s,baz=100,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**41.90**	**325**	P	**P**	**09 35 59.1**	**-1.1**
	1.7nm,0.5s,baz=107,slow=8.4,SNR=7.7						
KURK	**Kurchatov**	**44.15**	**318**	P	**P**	**09 36 18.8**	**+0.3**
KURBB	**Kurchatov Arra**	**44.17**	**318**	P	**P**	**09 36 18.8**	**0.0**
	2.3nm,0.2s,baz=110,slow=9.1,SNR=3.0						
WRAB	**Tennant Creek**	**45.30**	**168**	*e*P	**P**	**09 36 27.4**	**-0.6**
	7.8nm,1.1s						
WRA	**Warramunga Arr**	**45.31**	**168**	P	**P**	**09 36 28.8**	**+0.7**
	0.4nm,0.6s,baz=348,slow=8.7,SNR=3.2						
ASAR	**Alice Springs**	**48.87**	**170**	P	**P**	**09 36 57.8**	**+2.0**
	0.2nm,0.5s,baz=355,slow=7.2,SNR=3.9						
BVAR	**Borovoye Array**	**49.67**	**320**	P	**P**	**09 37 01.8**	**+0.1**
	0.3nm,0.3s,baz=124,slow=13,SNR=3.1						
BVAR				LR	LR	10 01 06.6	
	comp=Z,123nm,19.6s,baz=254,slow=40						
ABKAR	**Akbulak array**	**55.78**	**314**	*e*P	**P**	**09 37 47.0**	**+0.2**
	1.1nm,0.8s						
ARU	**Arti**	**56.95**	**322**	*e*P	**P**	**09 37 52.6**	**-2.5**
	8.6nm,0.9s						
GEYT	**Alibeck**	**57.80**	**300**	P	**P**	**09 38 02.4**	**+0.9**
	1.6nm,0.2s,baz=84,slow=4.5,SNR=3.8						
ILAR	**Eielson Array**	**66.90**	**28**	P	**P**	**09 39 02.6**	**+0.9**
	0.6nm,0.6s,baz=298,slow=9.2,SNR=12						
KBZ	**Khabaz**	**68.09**	**309**	P	**P**	**09 39 09.8**	**+0.2**
	2.5nm,0.7s,baz=109,slow=4.4,SNR=6.7						
FINES	**FINESS Array B**	**72.85**	**330**	P	**P**	**09 39 38.9**	**+0.6**
	3.8nm,1.0s,baz=205,slow=8.4,SNR=5.5						
AKASG	**Malin Array Be**	**74.95**	**319**	P	**P**	**09 39 49.4**	**-1.4**
	0.9nm,0.4s,baz=50,slow=5.8,SNR=6.1						
BRTR	**Keskin Array B**	**75.88**	**307**	P	**P**	**09 39 56.9**	**+0.3**
	2.4nm,0.8s,baz=84,slow=5.1,SNR=12						

JMA 22 09:28:45.9±0.1, 35°.39N×140°.99E, h35km±2km, M2.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.33**	**341**	P	Pn	09 28 54.0	-0.2
CHOJ				S	Sn	09 28 59.7	-0.2
KTR	**Katsuura**	**0.60**	**247**	P	Pn	09 28 57.8	-0.2
KTR				S	Sn	09 29 06.7	+0.2
JCN	**Nagara**	**0.65**	**273**	P	Pn	09 28 59.2	+0.7
BSO4	**Boso 4**	**0.67**	**233**	P	Pn	09 28 59.0	+0.2
BSO3	**Boso 3**	**0.71**	**214**	P	Pn	09 28 59.2	0.0
BSO3				*e*X		09 29 08.9	
BSO1	**Boso 1**	**0.73**	**181**	P	Pn	09 28 59.3	0.0
JYT	**Yasato**	**1.06**	**322**	P	Pn	09 29 04.5	+0.3
MAT	**Matsushiro**	**2.53**	**298**	P	Pn	09 29 27.1	+2.5
MAT				S	Sn	09 30 00.2	+6.0

IDC 22 09:31:21.2±2.7, 2°.16S×68°.01E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/48, mbtmp3.6/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/42, Error ellipse: s-maj=107.1km s-min=37.1km az=57.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.10**	**144**	T	T	09 38 17.1	
	baz=325,slow=75,SNR=551						
H08N3	**Diego Garcia H**	**5.11**	**145**	T	T	09 38 12.7	
	baz=325,slow=75,SNR=546						
H08N1	**Diego Carcia H**	**5.12**	**144**	T	T	09 38 13.4	
	baz=325,slow=75,SNR=642						
GNI	**Garni**	**47.18**	**336**	LR	LR	09 57 48.6	
	comp=Z,393nm,21.4s,baz=228,slow=34						
MKAR	**Makanchi Array**	**50.34**	**13**	P	P	09 40 19.8	-0.1
	0.5nm,0.7s,baz=181,slow=5.9,SNR=3.7						
KVAR	**Kislovodsk Arr**	**51.20**	**337**	LR	LR	10 02 16.0	
	comp=Z,16nm,19.4s,baz=205,slow=36						
BRTR	**Keskin Array B**	**52.24**	**327**	LR	LR	10 01 02.9	
	comp=Z,41nm,21.7s,baz=92,slow=34						
WRA	**Warramunga Arr**	**67.04**	**111**	P	P	09 42 16.5	-0.3
	0.8nm,0.8s,baz=284,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**67.10**	**115**	P	P	09 42 17.4	+0.2
	0.4nm,0.8s,baz=278,slow=6.5,SNR=5.0						
TXAR	**Lajitas Array**	**151.84**	**344**	PKPbc	PKPbc	09 51 18.8	-0.2
	0.4nm,0.9s,baz=68,slow=2.4,SNR=4.4						

WEL 22 09:35:30.4±0.3, 37°.04S×176°.92E, h228km±2km, ML4.1/45, 12C-14D, Error ellipse: s-maj=3.4km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.85**	**200**	PN	Pn	09 36 02.4	+0.3
OPRZ				SN	S	09 36 27.1	0.0
HAZ	**Te Kaha**	**0.99**	**136**	⇓PN	Pn	09 36 02.7	-0.2
HAZ				SN	S	09 36 27.4	-1.0
HAZ				AML	AML	09 36 33.6	
HAZ				AML	AML	09 36 34.1	
KUZ	**Kuaotunu**	**1.01**	**287**	⇑PN	Pn	09 36 02.3	-0.7
KUZ				SN	S	09 36 28.7	+0.2
RUGZ	**Raukumara Rang**	**1.10**	**147**	⇓PN	Pn	09 36 03.1	-0.7
RUGZ				SN	S	09 36 28.8	-1.1
MXZ	**Matakaoa Point**	**1.22**	**116**	PN	Pn	09 36 04.3	-0.1
MXZ				SN	S	09 36 30.6	-0.4
URZ	**Urewera**	**1.22**	**173**	⇑PN	Pn	09 36 04.2	-0.2
URZ				AML	AML	09 36 32.9	
URZ				AML	AML	09 36 34.3	
TARZ	**Mount Tarawera**	**1.23**	**195**	⇓PN	Pn	09 36 05.6	+1.0
PKGZ	**Pakihiroa**	**1.25**	**133**	PN

KRHZ				AML	AML	09 36 56.2	
KRHZ				AML	AML	09 36 57.6	
VRZ	**Vera Road**	**2.69 219**		PN	Pn	09 36 18.9	+0.9
KAHZ	**Kahuranaki**	**2.75 181**	⇑	PN	Pn	09 36 18.3	-0.4
KAHZ				AML	AML	09 36 59.1	
KAHZ				AML	AML	09 37 00.5	
PNHZ	**Pukenui**	**2.92 191**	⇓	PN	Pn	09 36 19.6	-1.0
PNHZ				AML	AML	09 36 59.8	
PNHZ				AML	AML	09 37 02.4	
PXZ	**Pawanui**	**2.98 181**	⇑	PN	Pn	09 36 20.3	-0.9
PXZ				AML	AML	09 37 02.5	
PXZ				AML	AML	09 37 02.5	
PXZ				AML	AML	09 37 02.9	
PXZ				AML	AML	09 37 02.9	
WPHZ	**Waipukurau**	**3.04 187**		PN	Pn	09 36 21.3	-0.6
WPHZ				AML	AML	09 37 02.6	
WPHZ				AML	AML	09 37 06.8	
TSZ	**Takapari Road**	**3.10 194**		PN	Pn	09 36 21.4	-1.3
WAZ	**Wanganui**	**3.10 209**	⇓	PN	Pn	09 36 22.1	-0.5
PRHZ	**Porangahau**	**3.23 184**		PN	Pn	09 36 22.9	-1.1
PRHZ				AML	AML	09 37 10.7	
PRHZ				AML	AML	09 37 13.2	
DVHZ	**Dannevirke**	**3.30 190**	⇓	PN	Pn	09 36 23.4	-1.5
DVHZ				AML	AML	09 37 07.3	
DVHZ				AML	AML	09 37 08.9	
OHWZ	**Ohakea**	**3.40 201**		PN	Pn	09 36 25.5	-0.5
ANWZ	**Angora Road**	**3.43 186**		PN	Pn	09 36 25.2	-1.2
ANWZ				AML	AML	09 37 11.7	
ANWZ				AML	AML	09 37 12.4	
POWZ	**Post Office Ro**	**3.46 195**		PN	Pn	09 36 25.4	-1.4
POWZ				AML	AML	09 37 15.0	
POWZ				AML	AML	09 37 17.3	
PRWZ	**Pori Road**	**3.58 192**		PN	Pn	09 36 27.0	-1.1
PRWZ				AML	AML	09 37 14.4	
PRWZ				AML	AML	09 37 15.3	
BFZ	**Birch Farm**	**3.67 188**		PN	Pn	09 36 27.5	-1.7
BFZ				AML	AML	09 37 15.4	
BFZ				AML	AML	09 37 15.4	
MRZ	**Mangatainoka R**	**3.76 196**	⇑	PN	Pn	09 36 28.1	-2.1
MRZ				AML	AML	09 37 17.2	
MRZ				AML	AML	09 37 17.6	
TIWZ	**Tintock**	**3.81 192**		PN	Pn	09 36 29.2	-1.7
TIWZ				AML	AML	09 37 19.8	
TIWZ				AML	AML	09 37 20.5	
HOWZ	**Holdsworth Sta**	**4.00 195**		PN	Pn	09 36 30.8	-2.3
HOWZ				AML	AML	09 37 21.7	
HOWZ				AML	AML	09 37 24.0	
OGWZ	**Otaki Gorge**	**4.01 199**		PN	Pn	09 36 31.2	-2.0
OGWZ				AML	AML	09 37 22.6	
OGWZ				AML	AML	09 37 22.7	
KIWZ	**Kapiti Island**	**4.12 202**	⇓	PN	Pn	09 36 32.2	-2.4
TMWZ	**Te Maipa**	**4.14 191**		PN	Pn	09 36 33.1	-1.7
TMWZ				AML	AML	09 37 25.2	
TMWZ				AML	AML	09 37 26.0	
MTW	**Mount Morrison**	**4.25 195**		PN	Pn	09 36 33.7	-2.5
CAW	**Cannon Point**	**4.31 199**		PN	Pn	09 36 34.3	-2.5
CAW				AML	AML	09 37 27.5	
CAW				AML	AML	09 37 30.3	
DUWZ	**D'Urville Isla**	**4.42 211**		PN	Pn	09 36 35.5	-2.7
TRWZ	**Traveller**	**4.45 192**		PN	Pn	09 36 36.6	-2.0
PAWZ	**Paruwai Farm**	**4.49 195**	⇓	PN	Pn	09 36 36.7	-2.4
PAWZ				AML	AML	09 37 32.0	
WEL	**Wellington**	**4.55 201**		PN	Pn	09 36 37.4	-2.5
WEL				AML	AML	09 37 33.0	
MSWZ	**Moikau Station**	**4.56 196**		PN	Pn	09 36 37.1	-2.8
MSWZ				AML	AML	09 37 33.5	
BHW	**Baring Head**	**4.64 199**		PN	Pn	09 36 38.0	-2.9
TCW	**Tory Channel**	**4.64 205**		PN	Pn	09 36 38.6	-2.3
TCW				AML	AML	09 37 34.9	
TCW				AML	AML	09 37 36.7	
PLWZ	**Palliser**	**4.70 195**		PN	Pn	09 36 38.8	-2.9
TUWZ	**Tuamarina**	**4.95 207**		PN	Pn	09 36 42.0	-2.7
TUWZ				AML	AML	09 37 41.7	
TUWZ				AML	AML	09 37 43.8	
NNZ	**Nelson**	**5.00 212**		PN	Pn	09 36 42.1	-3.2
QRZ	**Quartz Range**	**5.10 221**		PN	Pn	09 36 43.4	-3.2
BSWZ	**Blackbirch Sta**	**5.23 206**		PN	Pn	09 36 45.8	-2.4
THZ	**Tophouse**	**5.65 212**		PN	Pn	09 36 50.3	-3.2
KHZ	**Kahutara**	**5.96 205**		PN	Pn	09 36 54.2	-3.3
DSZ	**Denniston Nort**	**6.14 219**		PN	Pn	09 36 56.0	-3.8
LTZ	**Lake Taylor**	**6.75 210**		PN	Pn	09 37 04.4	-3.2
INZ	**Inchbonnie**	**7.07 215**		PN	Pn	09 37 07.9	-3.6
OXZ	**Oxford**	**7.30 209**		PN	Pn	09 37 10.6	-4.0
MQZ	**McQueen's Vall**	**7.41 205**	⇑	PN	Pn	09 37 11.6	-4.3
WVZ	**Waitaha Valley**	**7.66 216**		PN	Pn	09 37 15.9	-3.3
FOZ	**Fox Glacier**	**8.45 218**		PN	Pn	09 37 25.2	-4.0
LBZ	**Lake Benmore**	**8.94 213**		PN	Pn	09 37 31.4	-4.1
ODZ	**Otahua Downs**	**9.29 209**		PN	Pn	09 37 37.0	-3.0

IDC 22 09:36:40.5±8.3, 18°.57S×169°.44E, h233km±46km, mb3.5/4, mb1 3.6/5, mb1mx3.2/33, mbtmp4.0/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=107.6km s-min=71.4km az=105.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.47 218**		P	Pn	09 37 49.4	+0.1
	0.3nm,0.3s,baz=60,slow=16,SNR=8.3						
DZM				S	S	09 38 44.3	+0.4
	0.4nm,0.3s,baz=73,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**28.36 237**		P	P	09 42 12.9	-0.2
	1.4nm,0.5s,baz=62,slow=7.9,SNR=6.6						
WRA	**Warramunga Arr**	**33.13 262**		P	P	09 42 54.3	-0.8
	0.2nm,0.3s,baz=90,slow=8.4,SNR=13						
ASAR	**Alice Springs**	**33.47 255**		P	P	09 42 58.0	-0.1
	4.0nm,0.5s,baz=83,slow=9.0,SNR=75						
GUMO	**Guam**	**40.10 321**		LR	LR	10 02 44.9	
	comp=Z,30nm,18.7s,baz=292,slow=39						
FITZ	**Fitzroy Crossi**	**41.50 263**		P	P	09 44 06.4	+1.1
	1.1nm,0.6s,baz=112,slow=10,SNR=5.6						

*BJI **22** 09:38:44.2, 28°.90S×176°.10W, h7km, mb5.5/44, mB5.6/32, Ms5.0/26, Ms7 4.8/26*

*IDC **22** 09:38:46.4±0.4, 28°.61S×176°.10W, h0km, mb5.3/18, mb1 5.4/18, mb1mx5.3/25, mbtmp5.3/18, MS4.5/20, Ms1 4.5/20, ms1mx4.5/27, Error ellipse: s-maj=17.2km s-min=12.2km az=169.0*

*GCMT **22** 09:38:47.2±0.2, 28°.65S×175°.80W, h12km, MW5.2/115, Moment Tensor Solution. s70,c105; s115,c181; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.81±.01; $M_{\theta\theta}$0.44±.01; $M_{\phi\phi}$0.36±.01; $M_{r\theta}$-0.07±.04; $M_{r\phi}$-0.30±.01; $M_{\theta\phi}$0.05±.04; Best double couple: $M_0$0.76200×10^{17} NP1:ϕ_s131.00000°, δ48.00000°, λ-91.00000°. NP2:ϕ_s312.00000°, δ42.00000°, λ-89.00000°. Principal axes: T 0.7110, Plg3.0000°, Azm221.0000°; N 0.1040, Plg1.0000°, Azm131.0000°; P -0.8140, Plg87.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 09:38:47.2±0.1, 28°.86S×176°.15W, h10km, mb5.2/64 Error ellipse: s-maj=5.4km s-min=3.3km az=136.0*

*ISCJB **22** 09:38:49.7±0.1, 28°.97S±0°.02×176°.24W±0°.03, h38km, mb5.5/136, MS4.7/33, Error ellipse: s-maj=4.7km s-min=2.3km az=38.3*

*MOS **22** 09:38:51.1±0.9, 28°.46S×176°.21W, h33km, mb5.6/59, MS4.8/8, Error ellipse: s-maj=9.6km s-min=9.2km az=85.2*

ISC 22 09:38:51.6±0.2, 28°.81S±0°.04×176°.12W±0°.05, h38km, n692, σ1s41/701, mb5.5/135, MS4.7/33, 31C-25D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.63 254**		Pn	**Pn**	**09 39 19.7**	**+1.9**
	1μm,0.3s,baz=141,slow=21,SNR=70						
RAO				Sn	**Sn**	**09 39 41.3**	**+3.8**
	3μm,0.3s,baz=106,slow=22,SNR=29						
RAO	**Raoul Island**	**1.63 254**		*e*Pn	**Pn**	**09 39 20.0**	**+2.2**
RAO				*e*Sn	**Sn**	**09 39 42.2**	**+4.7**
MXZ	**Matakaoa Point**	**9.89 207**		PN	Pn	09 41 05.6	-5.6
MXZ				SN	**Sn**	**09 42 58.8**	**-2.0**
WMGZ	**Waiomatatini S**	**10.07 206**		PN	**Pn**	**09 41 09.4**	**-4.2**
WMGZ				SN	**Sn**	**09 43 03.2**	**-2.1**
PKGZ	**Pakihiroa**	**10.27 207**		PN	Pn	09 41 10.9	-5.4
PKGZ				SN	**Sn**	**09 43 08.8**	**-1.3**
HAZ	**Te Kaha**	**10.27 208**		PN	Pn	09 41 11.3	-5.0
HAZ				SN	**Sn**	**09 43 11.1**	**+1.0**
PUZ	**Puketiti**	**10.36 205**		PN	Pn	09 41 11.7	-5.8
PUZ				SN	**Sn**	**09 43 10.7**	**-1.5**
KUZ	**Kuaotunu**	**10.47 219**		PN	**Pn**	**09 41 18.7**	**-0.3**
RUGZ	**Raukumara Rang**	**10.49 208**		PN	Pn	09 41 14.6	-4.8
RUGZ				SN	**Sn**	**09 43 15.6**	**-0.1**
TWGZ	**Tauwhareparae**	**10.55 206**		PN	Pn	09 41 14.6	-5.6
TWGZ				SN	**Sn**	**09 43 13.6**	**-3.6**
CNGZ	**Carnagh Statio**	**10.74 205**		PN	Pn	09 41 17.0	-5.7
CNGZ				SN	**Sn**	**09 43 20.8**	**-0.8**
OUZ	**Omahuta**	**10.81 231**		*e*Pn	**Pn**	**09 41 26.4**	**+2.7**
OUZ	**Omahuta**	**10.81 231**		PN	**Pn**	**09 41 27.1**	**+3.4**
TKGZ	**Te Karaka**	**10.83 206**		PN	Pn	09 41 17.9	-6.1
TKGZ				SN	**Sn**	**09 43 21.2**	**-2.7**
MWZ	**Matawai**	**10.87 207**		PN	Pn	09 41 18.3	-6.2
MWZ				SN	**Sn**	**09 43 22.6**	**-2.3**
OPRZ	**Ohinepanea**	**10.89 212**		PN	Pn	09 41 20.5	-4.3
URZ	**Urewera**	**10.98 209**		Pn	Pn	09 41 20.3	-5.7
	4.4nm,0.3s,baz=272,slow=4.7,SNR=23						
URZ				Sn	**Sn**	**09 43 22.6**	**-4.9**
	16nm,0.3s,baz=342,slow=23,SNR=12						
URZ	**Urewera**	**10.98 209**		*e*Pn	Pn	09 41 21.6	-4.4
URZ				Sn	**Sn**	**09 43 22.6**	**-4.9**
URZ	**Urewera**	**10.98 209**		PN	Pn	09 41 20.2	-5.8
RAGZ	**Rawiri**	**11.05 207**		PN	Pn	09 41 21.1	-6.0
RIGZ	**Rimuhau**	**11.10 206**		PN	Pn	09 41 21.1	-6.5
NIUE	**Niue**	**11.22 32**		P	Pn	09 41 19.3	-10
	baz=11,SNR=5.4						
PRGZ	**Paritu Road**	**11.24 205**		PN	Pn	09 41 23.3	-6.4
MUGZ	**Murupara**	**11.31 210**		PN	Pn	09 41 24.1	-6.4
SNGZ	**Shannon Statio**	**11.33 207**		PN	Pn	09 41 25.8	-5.1
RTZ	**Ruatahuna**	**11.33 209**		PN	Pn	09 41 24.5	-6.5
MHGZ	**Mahia Peninsul**	**11.44 204**		PN	Pn	09 41 25.2	-7.1
MRHZ	**Matea Rd**	**11.76 210**		PN	Pn	09 41 30.2	-6.5
NMHZ	**Naumai**	**11.81 208**		PN	Pn	09 41 31.7	-5.8
ARHZ	**Aropaoanui**	**11.88 207**		PN	Pn	09 41 31.8	-6.5
BKZ	**Black Stump Fm**	**12.00 209**		*e*Pn	Pn	09 41 35.6	-4.4
BKZ	**Black Stump Fm**	**12.00 209**		PN	Pn	09 41 32.7	-7.4
MCHZ	**McNeill Hill**	**12.15 207**		PN	Pn	09 41 35.9	-6.1
HIZ	**Hauiti**	**12.24 215**		*e*Pn	**Pn**	**09 41 43.8**	**+0.5**
KWHZ	**Kaweka Forest**	**12.25 208**		PN	Pn	09 41 36.5	-6.9
MSVF	**Nonsavu**	**12.26 333**		*e*P	**Pn**	**09 41 42.1**	**-1.6**
MSVF	**Nonsavu**	**12.26 333**		*e*Pn	**Pn**	**09 41 42.1**	**-1.6**
KAHZ	**Kahuranaki**	**12.38 206**		PN	Pn	09 41 37.2	-8.0
BHHZ	**Black Hill Sta**	**12.45 209**		PN	Pn	09 41 39.6	-6.7
KRHZ	**Kereru**	**12.46 208**		PN	Pn	09 41 38.8	-7.5
WNVZ	**Wahianoa**	**12.53 211**		PN	Pn	09 41 42.4	-4.9
PXZ	**Pawanui**	**12.59 205**		PN	Pn	09 41 39.5	-8.6
PNHZ	**Pukenui**	**12.75 208**		PN	Pn	09 41 42.5	-7.8
PRHZ	**Porangahau**	**12.88 206**		PN	Pn	09 41 44.6	-7.5
ANWZ	**Angora Road**	**13.11 206**		PN	Pn	09 41 47.7	-7.4
POWZ	**Post Office Ro**	**13.33 208**		PN	Pn	09 41 52.9	-5.3
BFZ	**Birch Farm**	**13.39 206**		*e*Pn	**Pn**	**09 41 55.1**	**-3.8**
TIWZ	**Tintock**	**13.61 207**		PN	Pn	09 41 53.7	-8.3
MRZ	**Mangatainoka R**	**13.64 208**		PN	Pn	09 41 53.0	-9.3
CAW	**Cannon Point**	**14.22 208**		PN	Pn	09 42 01.2	-9.2
SNZO	**South Karori**	**14.54 209**		*e*Pn	**Pn**	**09 42 12.0**	**-2.6**
SNZO				*e*Sn	Sn	09 44 44.3	-10
AFI	**Afiamalu**	**15.37 16**		Pn	Pn	09 42 15.9	-10
	5.8nm,0.3s,baz=256,slow=7.6,SNR=7.0						
AFI				Sn	Sn	09 44 51.2	-24
	23nm,0.3s,baz=256,slow=17,SNR=7.2						
AFI				LR	LR	09 47 17.3	
	comp=Z,371nm,21.3s,baz=180,slow=34						
AFI	**Afiamalu**	**15.37 16**		*e*P	Pn	09 42 17.4	-8.4
AFI				pmax	pmax		
	comp=Z,154nm,1.0s						
AFI	**Afiamalu**	**15.37 16**		*e*Pn	Pn	09 42 17.4	-8.4
	comp=Z,154nm,1.0s						
THZ	**Tophouse**	**15.70 212**		*e*Pn	**Pn**	**09 42 27.4**	**-2.6**
	comp=Z,90nm,0.7s						
KHZ	**Kahutara**	**15.95 209**		*e*Pn	**Pn**	**09 42 30.8**	**-2.3**
	comp=Z,190nm,0.7s						
KHZ				*e*Sn	Sn	09 45 18.3	-10
RAR	**Rarotonga**	**16.63 67**		Pn	Pn	09 42 31.5	-10
	comp=Z,4.4nm,0.3s,baz=261,slow=8.9,SNR=14						
RAR				Sn	Sn	09 45 18.3	-27
	comp=Z,3.4nm,0.3s,baz=292,slow=23,SNR=4.5						
RAR				LR	LR	09 49 26.2	
	comp=Z,1μm,18.4s,baz=234,slow=39						
RAR	**Rarotonga**	**16.63 67**		P	**Pn**	**09 42 42.1**	**+0.3**
RAR				pmax	pmax		
	comp=Z,101nm,0.9s						
RAR	**Rarotonga**	**16.63 67**		Pn	**Pn**	**09 42 42.1**	**+0.3**
	comp=Z,101nm,0.9s						
RAR				*e*Sn	Sn	09 45 12.4	-33
RAR				Sn	S	09 45 18.3	-37
LTZ	**Lake Taylor**	**16.80 211**		*e*Pn	**Pn**	**09 42 40.5**	**-3.3**
	comp=Z,60nm,0.7s						
LTZ				*e*Sn	Sn	09 45 37.3	-12
DZM	**Mont Dzumac**	**17.11 289**		P	**P**	**09 42 51.0**	**+1.7**
	comp=Z,3.8nm,0.3s,baz=113,slow=15,SNR=39						
DZM				LR	LR	09 48 20.7	
	comp=Z,2μm,20.1s,baz=110,slow=34						
DZM	**Mont Dzumac**	**17.11 289**		*e*P	**P**	**09 42 50.9**	**+1.6**
	comp=Z,318nm,1.4s						
DZM				*e*LQ	LQ	09 46 10.6	
	comp=Z,3μm,29.6s						
DZM				*e*LR	LR	09 46 54.8	
	comp=Z,2μm,20.8s						
DZM	**Mont Dzumac**	**17.11 289**		*e*P	**Pn**	**09 42 47.7**	**-0.3**
	comp=Z,90nm,0.8s						
OXZ	**Oxford**	**17.33 210**		*e*Pn	**Pn**	**09 42 45.3**	**-5.1**
	comp=Z,110nm,0.6s						
MQZ	**McQueen's Vall**	**17.38 208**		*e*Pn	**Pn**	**09 42 48.4**	**-2.6**
	comp=Z,98nm,1.3s						
MQZ				*e*Sn	Sn	09 45 48.6	-15
RPZ	**Rata Peaks**	**18.08 211**		P	**Pn**	**09 42 54.9**	**-4.8**
	comp=Z,5.8nm,0.3s,baz=45,slow=2.1,SNR=23						
RPZ				S	Sn	09 46 04.8	-16
	comp=Z,2.4nm,0.3s,baz=135,slow=22,SNR=7.7						
RPZ	**Rata Peaks**	**18.08 211**		*e*P	**Pn**	**09 42 57.3**	**-2.4**
RPZ				*e*Sn	Sn	09 46 07.4	-13
LBZ	**Lake Benmore**	**19.00 211**		*e*P	**P**	**09 43 09.5**	**-0.3**
	comp=Z,39nm,1.0s						
LBZ				*e*Sn	**Sn**	**09 46 40.6**	**-1.8**
ODZ	**Otahua Downs**	**19.31 209**		*e*P	**P**	**09 43 11.3**	**-1.9**
	comp=Z,94nm,0.9s						
WKZ	**Wanaka**	**19.87 212**		*e*P	**P**	**09 43 17.7**	**-1.8**
	comp=Z,33nm,0.8s						
FUNA	**Funafuti**	**20.66 347**		*e*P	**P**	**09 43 23.5**	**-4.6**
	comp=Z,197nm,1.0s						
MLZ	**Mavora Lakes**	**20.70 213**		*e*P	**P**	**09 43 28.2**	**-0.2**
	comp=Z,42nm,1.0s						
WHZ	**Wether Hill Ro**	**21.17 212**		*e*P	**P**	**09 43 29.8**	**-3.7**
	comp=Z,39nm,0.9s						
LHI	**Lord Howe Isla**	**21.61 257**		*e*P	**P**	**09 43 42.4**	**+4.1**
	comp=Z,160nm,0.9s						
PYZ	**Puysegur Point**	**21.97 213**		*e*P	**P**	**09 43 39.9**	**-2.1**
	comp=Z,128nm,1.2s						
TBI	**Tubuai**	**24.53 83**		*e*LQ	LQ	09 48 43.7	
	comp=Z,3μm,27.8s						
TBI				*e*LR	LR	09 49 43.4	
	comp=Z,2μm,28.5s,baz=246						
TBI	**Tubuai**	**24.53 83**		*e*T	T	10 07 21.0	
	comp=Z,10nm,0.3s						
PAE	**Paea**	**26.73 71**		*e*T	T	10 10 21.1	
	comp=Z,8.8nm,0.3s						
PPT2	**Papeete2**	**26.77 71**		*e*LQ	LQ	09 49 34.5	
	comp=Z,2μm,24.5s						
PPT2				*e*LR	LR	09 50 39.1	
	comp=Z,3μm,26.8s,baz=238						
PPT2	**Papeete2**	**26.77 71**		*e*T	T	10 10 22.0	
	comp=Z,7.7nm,0.3s						
PPT	**Papeete**	**26.78 71**		LR	LR	09 54 09.6	
	comp=Z,1μm,18.0s,baz=246,slow=35						
PPT	**Papeete**	**26.78 71**		P	P	09 44 15.6	-12
ARMA	**Armidale**	**28.04 259**		P	**P**	**09 44 39.7**	**+0.3**
	baz=28,SNR=18						
ARMA	**Armidale**	**28.04 259**		*e*P	**P**	**09 44 38.4**	**-1.0**
	comp=Z,29nm,0.8s						
EIDS	**Eidsvold**	**29.35 269**		P	**P**	**09 44 51.9**	**+1.0**
	baz=29,SNR=8.8						
EIDS	**Eidsvold**	**29.35 269**		*e*P	**P**	**09 44 51.4**	**+0.4**
	comp=Z,31nm,0.9s						
HNR	**Honiara**	**29.60 306**		P	**P**	**09 44 51.7**	**-1.5**
	comp=Z,175nm,0.8s,baz=100,slow=2.6,SNR=5.7						
HNR				LR	LR	09 55 34.1	
	comp=Z,390nm,18.5s,baz=156,slow=34						
CNB	**Canberra Magne**	**29.86 249**		P	**P**	**09 44 57.6**	**+2.2**
	baz=30,SNR=14						
MILA	**Mila**	**30.15 245**		P	**P**	**09 45 00.2**	**+2.1**
	baz=30,SNR=5.6						
CAN	**Canberra**	**30.16 249**		*e*P	**P**	**09 44 57.5**	**-0.6**
CAN				pmax	pmax		
	comp=Z,34nm,1.1s						
CAN	**Canberra**	**30.16 249**		*e*P	**P**	**09 44 57.5**	**-0.6**
	comp=Z,34nm,1.1s						
CMSA	**Cobar Meteorol**	**33.02 256**		P	**P**	**09 45 24.1**	**+0.9**
	baz=33,SNR=5.8						
TOO	**Toolangi**	**33.11 245**		P	**P**	**09 45 25.7**	**+1.7**
	baz=33,SNR=11						
TOO	**Toolangi**	**33.11 245**		P	**P**	**09 45 26.4**	**+2.4**
QLP	**Quilpie**	**35.06 264**		P	**P**	**09 45 41.2**	**+0.2**
	baz=35,SNR=18						
CTA	**Charters Tower**	**35.22 276**		P	**P**	**09 45 42.9**	**+0.5**
	comp=Z,32nm,0.6s,baz=103,slow=10.0,SNR=44						
CTA				LR	LR	09 58 32.8	
	comp=Z,1μm,21.8s,baz=94,slow=34						
CTAO	**Charters Tower**	**35.22 276**		*e*P	**P**	**09 45 41.6**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,38nm,0.8s						
CTAO	**Charters Tower**	**35.22 276**		*e*P	**P**	**09 45 41.6**	**-0.8**
	comp=Z,38nm,0.8s						
ARPS	**Mount Arapiles**	**35.99 246**		P	**P**	**09 45 50.1**	**+1.2**
	baz=36,SNR=9.0						
STKA	**Stephens Creek**	**36.45 254**		P	**P**	**09 45 53.8**	**+0.9**
	comp=Z,12nm,0.6s,baz=99,slow=10,SNR=61						
STKA				LR	LR	10 00 14.3	
	comp=Z,2μm,18.5s,baz=79,slow=35						
STKA	**Stephens Creek**	**36.45 254**		P	**P**	**09 45 53.6**	**+0.7**
	baz=37,SNR=38						
STKA	**Stephens Creek**	**36.45 254**		*e*P	**P**	**09 45 51.1**	**-1.8**
	comp=Z,16nm,1.8s						
RKT	**Rikitea**	**37.29 91**		*e*LR	LR	09 55 42.6	
	comp=Z,1μm,31.2s						
MTSU	**Mount Surprise**	**37.66 278**		P	**P**	**09 46 03.3**	**0.0**
	baz=38,SNR=37						
HTT	**Hallett**	**38.54 252**		P	**P**	**09 46 11.1**	**+0.5**
	baz=39,SNR=20						
RABL	**Rabaul**	**38.80 303**		*e*P	**P**	**09 46 11.0**	**-1.9**
	comp=Z,118nm,0.6s						
TAOE	**Nuku Hiva Isla**	**39.18 67**		*e*S	S	09 51 52.6	-21
	comp=Z,345nm,28.2s						
TAOE				*e*LR	LR	09 56 21.7	
	comp=Z,2μm,26.5s						
PMG	**Port Moresby**	**39.47 292**		P	**P**	**09 46 17.6**	**-0.9**
	comp=Z,83nm,0.9s,baz=115,slow=6.7,SNR=11						
PMG				LR	LR	10 00 31.1	
	comp=Z,617nm,20.1s,baz=135,slow=33						
PMG	**Port Moresby**	**39.47 292**		*i* P	**P**	**09 46 17.3**	**-1.2**
PMG				pmax	pmax		
	comp=Z,357nm,0.9s						
PMG	**Port Moresby**	**39.47 292**		*e*P	**P**	**09 46 17.1**	**-1.4**
	comp=Z,93nm,0.9s						
COEN	**Coen**	**40.47 283**		P	**P**	**09 46 26.7**	**-0.1**
	baz=40,SNR=19						
COEN	**Coen**	**40.47 283**		*e*P	**P**	**09 46 25.1**	**-1.7**
	comp=Z,24nm,0.9s						
QIS	**Mount Isa**	**40.87 271**		P	**P**	**09 46 29.3**	**-0.8**
	baz=41,SNR=6.0						
BBOO	**Buckleboo**	**40.99 252**		P	**P**	**09 46 31.1**	**+0.1**
	baz=41,SNR=24						
BBOO	**Buckleboo**	**40.99 252**		*e*P	**P**	**09 46 29.1**	**-1.8**
	comp=Z,21nm,0.8s						
PATS	**Pohnpei**	**43.17 321**		P	**P**	**09 46 48.9**	**+0.2**
	baz=43,SNR=4.4						
PATS	**Pohnpei**	**43.17 321**		*e*P	**P**	**09 46 48.4**	**-0.4**
	comp=Z,276nm,1.8s						
MANU	**Manus Island**	**43.79 301**		*e*P	**P**	**09 46 52.5**	**-1.4**
	comp=Z,108nm,0.8s						
AS31	**Alice Springs**	**44.86 265**		*e*P	**P**	**09 47 01.4**	**-1.0**
	comp=Z,7.4nm,0.7s						
ASAR	**Alice Springs**	**44.86 265**		P	**P**	**09 47 01.4**	**-1.0**
	comp=Z,239nm,1.4s,baz=95,slow=6.9,SNR=216						
ASAR				PcP	**PcP**	**09 48 43.9**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=109,slow=4.2,SNR=3.2						
ASAR				ScP	**ScP**	**09 52 42.9**	**+10**
	comp=Z,1.8nm,1.0s,baz=100,slow=3.9,SNR=4.3						
ASAR				S	**S**	**09 53 42.5**	**+4.8**
	comp=Z,1.1nm,0.9s,baz=107,slow=15,SNR=5.0						
ASAR				PKiKP	**PKiKP**	**09 55 42.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=104,slow=1.1,SNR=8.9						
ASAR				LR	LR	10 05 39.0	
	comp=Z,2μm,18.4s,baz=110,slow=36						
WB2	**Warramunga Arr**	**45.70 270**		*e*P	**P**	**09 47 07.9**	**-1.2**
	comp=Z,41nm,0.7s						
WRAB	**Tennant Creek**	**45.70 270**		*i* P	**P**	**09 47 05.8**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,58nm,0.8s						
WRAB	**Tennant Creek**	**45.70 270**		*e*P	**P**	**09 47 07.6**	**-1.6**
	comp=Z,37nm,0.8s						
WRA	**Warramunga Arr**	**45.71 270**		P	**P**	**09 47 07.6**	**-1.6**
	comp=Z,45nm,0.7s,ba

PCI	Palu	66.95	282	P		P	09 49 40.5 -0.2
	comp=Z,153nm,1.1s,comp=Z,2µm						
IGBI	Denpasar	67.20	272	P		P	09 49 40.9 -1.3
	comp=Z,149nm,0.7s,comp=Z,2µm						
MPSI	Mapaga	67.53	283	P		P	09 49 43.1 -1.2
	comp=Z,35nm,1.0s,comp=Z,365nm						
JAGI	Jajag, Banyuwa	68.23	272	P		P	09 49 47.5 -1.3
	comp=Z,49nm,0.8s						
JAGI	Jajag, Banyuwa	68.23	272	eP		P	09 49 47.4 -1.3
MYLDM	Lahad Datu	71.27	287	eP		P	09 50 08.4 +1.0
KKM	Kota Kinabalu	73.65	287	eP		P	09 50 21.9 +0.1
KKM	Kota Kinabalu	73.65	287	⇑P		P	09 50 20.9 -0.8
CISI	Cisompet, Garu	74.21	270	eP		P	09 50 24.4 -0.7
MAW	Mawson	74.36	200	P		P	09 50 27.7 +2.8
	comp=Z,23nm,1.1s,baz=120,slow=5.7,SNR=9.4						
MAW				LR		LR	10 22 16.4
	comp=Z,256nm,19.7s,baz=80,slow=35						
MAW	Mawson	74.36	200	P		P	09 50 27.4 +2.5
	baz=75,SNR=4.7						
MAW	Mawson	74.36	200	P		P	09 50 27.7 +2.8
MAW				pmax		pmax	
	comp=Z,29nm,1.2s						
SBUM	Sibu	75.20	281	eP		P	09 50 31.2 +0.6
USHA	Ushuaia	76.30	145	LR		LR	10 18 21.0
	comp=Z,2µm,18.8s,baz=262,slow=31						
KSM	Kuching	76.36	279	eP		P	09 50 36.8 -0.5
JOW	Kunigami	76.84	311	eP		P	09 50 40.1 +0.4
INU	Inuyama	77.62	322	eP		P	09 50 44.1 +0.3
MJAR	Matsushiro Arr	77.90	324	P		P	09 50 44.9 -0.5
	comp=Z,17nm,0.9s,baz=159,slow=5.3,SNR=35						
MJAR				LR		LR	10 20 31.5
	comp=Z,200nm,21.2s,baz=55,slow=32						
MJAR	Matsushiro Arr	77.90	324	P		P	09 50 44.9 -0.5
MJAR				pmax		pmax	
	comp=Z,18nm,0.9s						
MAJO	Matsushiro	77.90	324	d iP		P	09 50 45.0 -0.4
MAJO				pmax		pmax	
	comp=Z,175nm,0.9s						
MAJO	Matsushiro	77.90	324	eP		P	09 50 45.1 -0.4
MAT	Matsushiro	77.90	324	P		P	09 50 45.0 -0.4
MJB9	Matsu-Tunnel	77.91	324	eP		P	09 50 45.2 -0.2
SYO	Syowa Base	79.02	192	⇓eP		P	09 50 49.2 -1.9
SYO	Syowa Base	79.02	192	⇓epP		P	09 50 51.0 -0.1
SYO	Syowa Base	79.02	192	⇓esP		P	09 50 54.0 +2.9
JNU	Nakatsue	79.49	317	eP		P	09 50 54.5 +0.3
SNAA	Sanae	79.68	178	P		P	09 50 56.2 +1.4
SNAA	Sanae	79.68	178	eP		P	09 50 55.6 +0.7
SNAA	Sanae	79.68	178	eP		P	09 50 55.5 +0.7
	comp=Z,1µm,1.1s						
VNA3	Neumayer Olymp	79.76	176	P		P	09 50 56.3 +1.0
SSLB	Suanglung	80.00	304	eP		P	09 50 56.0 -1.2
VNA2	Neumayer--Watz	80.22	176	P		P	09 50 59.2 +1.5
	baz=175,slow=4.6						
VNA1	Neumayer--Stat	80.44	176	P		P	09 51 00.3 +1.5
NVL	N'lazarevskaya	80.54	183	eP		P	09 50 59.7 +0.3
KUR	Kuril'sk	80.66	335	P		P	09 51 01.7 +1.5
KUR				MLR		MLR	
	comp=Z,330nm,14.0s						
SNCC	San Nicolas Is	81.77	45	P		P	09 51 06.7 +0.3
	baz=228						
ASAJ	Asahikawa	81.82	331	eP		P	09 51 07.8 +1.4
	comp=Z,12nm,0.8s						
MYKOM	Kota Tinggi	82.13	276	eP		P	09 51 09.6 +0.8
MYKOM	Kota Tinggi	82.13	276	⇓P		P	09 51 09.9 +1.1
SCI2	San Clemente I	82.20	46	P		P	09 51 08.5 -0.2
	baz=228						
SCZ2	Santa Cruz Isl	82.20	44	P		P	09 51 08.9 +0.2
	baz=228						
PLCA	Paso Flores	82.38	132	P		P	09 51 11.0 +1.2
	comp=Z,18nm,1.0s,baz=251,slow=5.0,SNR=17						
PLCA				LR		LR	10 21 43.8
	comp=Z,383nm,18.1s,baz=333,slow=31						
CIS	Catalina Islan	82.56	45	P		P	09 51 10.5 -0.1
	baz=228						
BLG	Laguna Peak, P	82.63	45	P		P	09 51 11.1 +0.1
	baz=228						
PKM	Mcpherson Peak	82.69	44	P		P	09 51 11.9 +0.5
	baz=227						
KGM	Kluang	82.70	276	⇓P		P	09 51 12.8 +1.0
FMP	Fort Macarthur	82.84	45	P		P	09 51 11.9 -0.1
	baz=228						
SMMC	Simmler	82.87	43	P		P	09 51 12.7 +0.5
	baz=227						
109C	Camp Elliot, M	83.05	47	P		P	09 51 12.9 -0.3
	baz=229						
DECC	Green Verdugo	83.17	45	P		P	09 51 13.6 -0.2
	baz=228						
OSI	Osito Audit: C	83.17	44	P		P	09 51 13.9 +0.1
	baz=228						
ARVC	Arvin	83.45	44	P		P	09 51 15.4 +0.3
	baz=228						
MURC	Murrieta	83.46	46	P		P	09 51 15.4 +0.2
	baz=229,SNR=9.9						
MONP2	Monument Peak	83.49	47	P		P	09 51 16.0 +0.4
	baz=230,SNR=25						
IKP	In-Ko-Pah, Jac	83.53	47	P		P	09 51 16.0 +0.2
	baz=230,SNR=16						
BFSC	Mount Baldy Ra	83.58	45	P		P	09 51 16.0 -0.1
	baz=229,SNR=16						
VES	Vestal, Richgr	83.77	43	P		P	09 51 16.8 +0.1
	baz=228,SNR=16						
EDW2	Edwards Air Fo	83.80	45	P		P	09 51 17.2 +0.2
	baz=228,SNR=9.1						
BKNI	Bangkinang	83.88	274	eP		P	09 51 17.3 -0.5
	comp=Z,159nm,1.1s						
SWSC	Sam W. Stewart	83.92	47	P		P	09 51 17.8 +0.2
	baz=230,SNR=7.8						
PFO	Pinyon Flats O	83.93	46	P		P	09 51 18.1 +0.3
	baz=230,SNR=22						
PFO	Pinyon Flats O	83.93	46	eP		P	09 51 17.7 -0.1
PFO				pmax		pmax	
	comp=Z,31nm,1.2s						
PFO	Pinyon Flats O	83.93	46	eP		P	09 51 17.7 -0.1
	comp=Z,32nm,1.2s						
RCTC	Rector, Farmer	83.99	43	P		P	09 51 18.1 +0.2
	baz=228						
ISA	Isabella, Lake	84.02	44	P		P	09 51 18.6 +0.5
	baz=228,SNR=6.1						
YSS	Yuzh-Sakhalins	84.06	333	κ iP		P	09 51 19.2 +1.3
YSS				pmax		pmax	
	comp=Z,80nm,1.0s						
YSS				MLR		MLR	
	comp=Z,300nm,21.0s						
YSS	Yuzh-Sakhalins	84.06	333	eP		P	09 51 18.3 +0.4
BBRC	Big Bear Solar	84.06	46	P		P	09 51 19.0 +0.4
	baz=229						
KSRS	Korea Array	84.23	318	P		P	09 51 20.3 +1.3
	comp=Z,13nm,0.9s,baz=141,slow=6.0,SNR=21						
KSRS				LR		LR	10 26 54.3
	comp=Z,117nm,18.1s,baz=112,slow=34						
KSAR	Wonju Array Be	84.24	318	P		P	09 51 20.3 +1.2
KSAR	Wonju Array Be	84.24	318	P		P	09 51 20.3 +1.2
LRMC	Laurel Mtn Rad	84.39	44	P		P	09 51 20.3 +0.3
	baz=229,SNR=21						
RRX	Edison Barstow	84.41	45	P		P	09 51 20.4 +0.3
	baz=229						
BELC	Belle Mtn. Jos	84.47	46	P		P	09 51 21.1 +0.5
	baz=230,SNR=36						
CMB	Columbia Colle	84.49	41	eP		P	09 51 20.4 -0.1
CMB				pmax		pmax	
	comp=Z,175nm,1.1s						
CMB	Columbia Colle	84.49	41	eP		P	09 51 20.4 -0.1
	comp=Z,175nm,1.1s						
BC3	Big Chuckawall	84.60	47	P		P	09 51 21.9 +0.7
	baz=230,SNR=30						
GLA	Glamis	84.62	48	P		P	09 51 22.0 +0.8
	baz=230,SNR=9.7						
PETK	Petropavlovsk-	84.71	345	P		P	09 51 21.2 +0.2
	comp=Z,51nm,0.9s,baz=128,slow=7.5,SNR=14						
PETK				LR		LR	10 26 11.6
	comp=Z,268nm,19.1s,baz=156,slow=34						
FRIM	Kepong	84.77	277	⇓P		P	09 51 23.8 +1.4
CWC	Cottonwood Cre	84.78	43	P		P	09 51 22.3 +0.3
	baz=228						
HEC	Hector,Ludlow	84.80	46	P		P	09 51 22.4 +0.3
	baz=229,SNR=27						
GSC	Goldstone, Bar	84.81	45	P		P	09 51 22.5 +0.3
	baz=229,SNR=22						
MPMC	Manual Prospec	84.88	44	P		P	09 51 23.1 +0.4
	baz=229,SNR=25						
DAC	Darwin (Calif)	84.97	44	eP		P	09 51 23.0 0.0
DAC				pmax		pmax	
	comp=Z,41nm,1.8s						
DAC	Darwin (Calif)	84.97	44	eP		P	09 51 23.0 0.0
	comp=Z,41nm,1.8s						
TIN	Tinemaha, Big	85.10	43	P		P	09 51 24.2 +0.6
	baz=282						
IRM	Iron Mountain	85.12	47	P		P	09 51 24.5 +0.9
	baz=230,SNR=42						
MLAC	Mammoth, Mammo	85.12	42	P		P	09 51 24.3 +0.5
	baz=228						
GMRC	Granite Mounta	85.19	46	P		P	09 51 24.6 +0.4
	baz=230,SNR=17						
N02D	Trinity Center	85.25	38	P		P	09 51 25.1 +0.9
	baz=225,SNR=7.3						
Y12C	Blythe	85.26	47	P		P	09 51 25.0 +0.7
	baz=231,SNR=11						
O03D	Paynes Creek	85.26	39	P		P	09 51 24.4 +0.1
	baz=226,SNR=18						
214A	Organ Pipe Nat	85.27	50	P		P	09 51 25.0 +0.6
	baz=232,SNR=14						
214A	Organ Pipe Nat	85.27	50	eP		P	09 51 24.6 +0.1
	comp=Z,212nm,1.4s						
TUQ	Turquoise Moun	85.44	45	P		P	09 51 25.8 +0.4
	baz=230,SNR=19						
M02C	Callahan	85.47	37	P		P	09 51 26.2 +1.0
	baz=225,SNR=7.8						
SHOC	Shoshone, Teco	85.53	45	P		P	09 51 26.0 +0.3
	baz=229,SNR=20						
FURC	Furnace Creek,	85.53	44	P		P	09 51 25.9 +0.3
	baz=229,SNR=19						
GRAC	Grapevine Rang	85.58	43	P		P	09 51 26.6 +0.7
	baz=229,SNR=20						
L02D	Cave Junction,	85.62	36	P		P	09 51 26.8 +0.8
	baz=224,SNR=6.3						
NEE2	Needles Airpor	85.84	47	P		P	09 51 28.0 +0.8
	baz=230						
PDMCI	Parker Dam,Lak	85.85	47	P		P	09 51 28.0 +0.7
	baz=231,SNR=15						
LBCM	Butte Creek Ri	85.89	38	P		P	09 51 27.5 +0.1
IPM	Ipoh	85.89	277	eP		P	09 51 28.6 +0.6
	comp=Z,131nm,1.3s						
IPM	Ipoh	85.89	277	⇑P		P	09 51 29.2 +1.2
MSHR	Mys Shultsa	86.03	324	d iP		P	09 51 27.7 -0.2
TPNV	Topopah Spring	86.22	44	P		P	09 51 29.8 +0.6
	baz=229,SNR=48						
HUMO	Hull Mountain	86.27	36	eP		P	09 51 29.5 +0.3
	comp=Z,244nm,1.4s						
M04C	Macdoel	86.28	37	P		P	09 51 29.7 +0.4
	baz=225,SNR=8.2						
NJ2	Nanjing	86.48	310	eP		P	09 51 29.1 -1.3
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
KULM	Kulim	86.61	278	eP		P	09 51 31.5 0.0
	comp=Z,82nm,1.3s						
USRK	Ussuriysk Ar.	86.77	325	P		P	09 51 32.5 +1.0
	comp=Z,24nm,0.8s,baz=143,slow=3.3,SNR=39						
USRK				LR		LR	10 25 50.7
	comp=Z,358nm,20.5s,baz=114,slow=33						
TUC	Tucson	86.84	50	P		P	09 51 33.4 +1.0
	baz=233						
TUC	Tucson	86.84	50	eP		P	09 51 33.3 +1.0
TUC				pmax		pmax	
	comp=Z,66nm,0.9s						
TUC	Tucson	86.84	50	eP		P	09 51 33.3 +1.0
	comp=Z,66nm,0.9s						
I03D	Drain, OR	86.85	35	P		P	09 51 32.3 +0.4
	baz=224,SNR=9.8						
K04D	Chiloquin, OR	86.92	37	P		P	09 51 32.6 +0.2
	baz=226						
J04D	Umpqua Nationa	87.16	36	P		P	09 51 34.0 +0.3
	baz=225,SNR=15						
MOD	Modoc Plateau	87.19	38	eP		P	09 51 33.5 -0.4
	comp=Z,18nm,0.8s						
MOD				ePP		PP	09 54 57.4 -1.0
TYV	Tymovskoe	87.28	335	eP		P	09 51 33.0 -0.8
TYV				pmax		pmax	
	comp=Z,20nm,1.8s						
TYV				pmax		pmax	
	comp=Z,100nm,4.4s						
R11A	Troy Canyon, C	87.53	43	P		P	09 51 35.5 -0.1
	baz=230,SNR=14						
R11A	Troy Canyon, C	87.53	43	eP		P	09 51 35.2 -0.4
	comp=Z,9.0nm,1.3s						
J05D	Fort Rock, OR	87.65	37	P		P	09 51 36.3 +0.3
	baz=226,SNR=20						
BMN	Battle Mountai	87.92	41	eP		P	09 51 37.1 -0.3
BMN				pmax		pmax	
	comp=Z,33nm,1.2s						
BMN	Battle Mountai	87.92	41	eP		P	09 51 37.1 -0.3
	comp=Z,33nm,1.2s						
G03D	McMinnville, O	87.97	34	P		P	09 51 38.0 +0.7
	baz=224						
MDJ	Mudanjiang	88.27	325	P		P	09 51 39.6 +0.9
MDJ				pP		PcP	09 51 44.3 +3.9
MDJ				sP		pP	09 51 47.4 -3.2
MDJ				pmax		pmax	
	comp=Z,33nm,0.8s						
MDJ				pmax		pmax	
	comp=Z,150nm,4.5s						
MDJ				LR		LR	
	comp=Z,110nm,20.7s						
MDJ				LR		LR	
	comp=Z,65nm,19.9s						
MDJ				LR		LR	
	comp=Z,200nm,20.7s						
MDJ	Mudanjiang	88.27	325	eP		P	09 51 39.8 +1.0
	comp=Z,39nm,1.1s						
I05D	Terrebonne, OR	88.33	36	P		P	09 51 39.4 +0.3
	baz=226						
WUAZ	Wupatki	88.39	48	P		P	09 51 40.5 +0.7
	baz=232						
WUAZ	Wupatki	88.39	48	eP		P	09 51 40.5 +0.7
	comp=Z,48nm,1.4s						
WVOR	Wild Horse Val	88.46	39	eP		P	09 51 39.5 -0.3
WVOR				pmax		pmax	
	comp=Z,22nm,1.2s						
WVOR	Wild Horse Val	88.46	39	eP		P	09 51 39.5 -0.3
	comp=Z,22nm,1.2s						
HABR	Khabarovsk	88.48	330	eP		P	09 51 37.6 -2.0
HABR				e			09 55 04.0
HABR				eS		SKSac	10 02 05.4 +0.1
HABR				e			10 02 27.7
HABR				eSS		SS	10 08 11.5 -2.6
HABR				eSSS		SSS	10 11 44.3
HABR				pmax		pmax	
	comp=Z,4.0nm,0.3s						
HABR				MLR		MLR	
	comp=Z,367nm,20.0s						
KDAK	Kodiak Island	88.50	12	P		P	09 51 39.0 -0.5
	comp=Z,19nm,1.0s,baz=180,slow=4.0,SNR=4.3						
KDAK	Kodiak Island	88.50	12	P		P	09 51 39.0 -0.5
KDAK				pmax		pmax	
	comp=Z,19nm,1.0s						
TRTT	Trang	88.68	280	P		P	09 51 43.0 +1.6
	comp=Z,64nm,1.3s,comp=Z,953nm						
F04D	Rainier, OR	88.72	34	P		P	09 51 41.9 +1.1
	baz=224						
WHN	Wuhan	88.72	306	⇑P		P	09 51 42.8 +1.6
G05D	Wamic, OR	88.97	35	P		P	09 51 42.6 +0.6
	baz=226						
121A	Cookes Peak, D	89.02	52	P		P	09 51 43.8 +1.0
	baz=234						
121A	Cookes Peak, D	89.02	52	eP		P	09 51 43.6 +0.8
	comp=Z,47nm,1.6s						
W18A	Petrified Fore	89.22	49	P		P	09 51 44.5 +0.8
	baz=233						
W18A	Petrified Fore	89.22	49	eP		P	09 51 44.1 +0.4
	comp=Z,46nm,1.3s						
TDL	Tradedollar La	89.30	34	P		P	09 51 44.3 +0.6
TRQA	Tornquist	89.37	134	eP		P	09 51 45.0 +0.7
	comp=Z,54nm,1.5s						
SKNT	Sakolnakorn	89.53	290	P		P	09 51 47.0 +1.7
	comp=Z,127nm,0.9s						
HDW	Hoodsport	89.81	33	P		P	09 51 46.9 +0.9
NKL	Nikolayevsk	89.86	336	eP		P	09 51 46.0 +0.1
NKL				pmax		pmax	
	comp=Z,110nm,1.1s						
CN2	Changchun	89.89	322	eP		P	09 51 44.3 -2.1
TRW	Toppenish Ridg	90.09	35	P		P	09 51 47.9 +0.6
TIA	Tai'an	90.11	312	⇓P		P	09 51 48.8 +1.2
TIA				pmax		pmax	
	comp=Z,50nm,1.1s						
TXAR	Lajitas Array	90.15	56	P		P	09 51 48.4 +0.3
	comp=Z,14nm,1.0s,baz=212,slow=7.4,SNR=102						
TXAR				PKKPbc		PKKPbc	10 09 20.5 +2.1
	comp=Z,0.4nm,0.9s,baz=29,slow=2.9,SNR=3.6						
TXAR				LR		LR	10 24 17.5
	comp=Z,307nm,20.2s,baz=0.0,slow=30						
MNTX	Cornudas Mount	90.23	54	P		P	09 51 48.5 +0.2
	baz=236,SNR=21						
MNTX	Cornudas Mount	90.23	54	eP		P	09 51 48.4 +0.2
	comp=Z,18nm,1.0s						
PGC	Sidney	90.34	32	eP		P	09 51 47.4 -0.9
	comp=Z,23nm,1.0s						
DUG	Dugway, Tooele	90.36	43	P		P	09 51 49.1 +0.3
	baz=232						
DUG	Dugway, Tooele	90.36	43	eP		P	09 51 48.7 -0.2
DUG				pmax		pmax	
	comp=Z,9.0nm,1.4s						
DUG	Dugway, Tooele	90.36	43	eP		P	09 51 48.7 -0.2
	comp=Z,8.9nm,1.4s						
Y22D	IRIS PASSCAL I	90.50	51	P		P	09 51 50.4 +0.7
	baz=235						
E07A	Sunnyside	90.61	35	P		P	09 51 50.3 +0.6
MFID	Camas Ranch	90.66	39	eP		P	09 51 50.2 +0.1
	comp=Z,40nm,1.4s						
HAWA	Hanford	90.67	35	eP		P	09 51 50.2 +0.2
	comp=Z,48nm,1.1s						
MDW	Midway	90.70	35	P		P	09 51 50.7 +0.6
MDW	Midway	90.70	35	P		P	09 51 50.6 +0.6
B05A	Bryant	90.70	33	P		P	09 51 50.6 +0.6
	baz=225,SNR=12						
A04D	Lummi Island	90.74	32	P		P	09 51 51.0 +0.9
	baz=225,SNR=11						
GBB	Gable Butte	90.76	35	P		P	09 51 50.8 +0.4
BMO	Blue Mountains	90.79	37	eP		P	09 51 50.4 -0.3
BMO				pmax		pmax	
	comp=Z,39nm,1.5s						
BMO	Blue Mountains	90.79	37	eP		P	09 51 50.4 -0.3
	comp=Z,39nm,1.5s						
LPM	Los Pinos Moun	90.83	51	eP		P	09 51 45.9 -5.4
C06D	Leavenworth	91.04	34	P		P	09 51 51.7 +0.1
	baz=226						
ETW	Entiat	91.10	34	P		P	09 51 52.1 +0.1
MVCO	Mesa Verde	91.26	48	P		P	09 51 53.3 0.0
	baz=234						
MVCO	Mesa Verde	91.26	48	eP		P	09 51 53.2 0.0
	comp=Z,7.5nm,1.1s						
ANMO	Albuquerque	91.31	50	P		P	09 51 53.7 +0.3
	baz=235						
ANMO	Albuquerque	91.31	50	c iP		P	09 51 52.8 -0.7
ANMO				pmax		pmax	
	comp=Z,18nm,1.0s						
ANMO	Albuquerque	91.31	50	eP		P	09 51 53.8 +0.3
	comp=Z,23nm,1.1s						
WTV	Waterville	91.35	34	P		P	09 51 53.1 -0.1
HLID	Hailey	91.54	40	P		P	09 51 54.7 +0.4
	baz=230						
HLID	Hailey	91.54	40	eP		P	09 51 54.4 +0.1
	comp=Z,19nm,1.1s						
PV04	Paradox Valley	91.69	46	eP		P	09 51 55.2 +0.1
PV01	Paradox Valley	91.75	47	eP		P	09 51 55.1 -0.4
	comp=Z,1µm,0.9s						
PBKT	Sadao Pong	91.84	288	P		P	09 51 58.2 +2.2
	comp=Z,17nm,1.3s						
HWUT	Hardware Ranch	91.97	43	eP		P	09 51 56.4 0.0
	comp=Z,4.5nm,0.9s						
HWUT				ePP		PP	09 55 33.3 -3.3
ENH	Enshi	92.08	304	eP		P	09 51 58.3 +1.4
	comp=Z,151nm,1.4s						
RC01	Rabbit Creek A	92.12	12	eP		P	09 51 56.4 +0.1
	comp=Z,71nm,1.3s						
GYA	Guiyang	92.20	299	eP		P	09 51 56.4 -1.3
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
933A	Laredo	92.51	60	P		P	09 51 59.1 +0.1
	baz=239						
S22A	4UR Ranch, Cre	92.65	48	P		P	09 52 00.3 +0.5
	baz=235,SNR=17						
034A	Hebbronville	92.68	61	P		P	09 52 00.9 +1.1
	baz=239						
833A	Chaparral WMA,	92.79	59	P		P	09 51 60.0 -0.2
	baz=239						
035Z	Hargill	92.85	61	P		P	09 52 00.7 +0.2
	baz=239						
BJT	Baijiatuau	92.95	315	eP		P	09 52 01.2 +0.5
BJT				pmax		pmax	
	comp=Z,12nm,0.8s						
BJT	Baijiatuau	92.95	315	eP		P	09 52 01.2 +0.5
	comp=Z,12nm,0.8s						
BJI	Beijing	92.96	315	P		P	09 52 00.9 +0.2
BJI				S		S	10 03 11.0 +7.2
BJI				pmax		pmax	
	comp=Z,18nm,0.7s						
BJI				LR		LR	
	comp=Z,160nm,19.3s						
BJI				LR		LR	
	comp=Z,110nm,21.2s						
BJI				LR		LR	
	comp=Z,100nm,20.4s						
035A	Encino	93.06	61	P		P	09 52 01.4 0.0
	baz=239						
BMRM	Bremner River	93.08	15	eP		P	09 52 01.4 +0.6
	comp=Z,74nm,1.4s						
934A	Benavides	93.08	60	P		P	09 52 02.4 +0.8
	baz=239						
O20A	White River Ci	93.12	45	P		P	09 52 01.5 -0.2
	baz=234,SNR=6.9						
O20A	White River Ci	93.12	45	eP		P	09 52 01.3 -0.5
	comp=Z,4.7nm,0.8s						
NEW	Newport	93.14	35	P		P	09 52 01.1 -0.3
	baz=229						
MSTX	Muleshoe	93.31	53	P		P	09 52 02.2 -0.4
	baz=237						
MSTX	Muleshoe	93.31	53	eP		P	09 52 02.1 -0.5
	comp=Z,22nm,1.0s						
PPLA	Purkeypile	93.37	11	eP		P	09 52 01.7 -0.6
SMCO	Snowmass	93.38	47	eP		P	09 52 03.2 0.0
	comp=Z,14nm,1.2s						
REDW	Red Top Meadow	93.46	42	eP		P	09 52 02.7 -0.5
	comp=Z,30nm,1.0s						
TPAW	Teton Pass	93.47	41	eP		P	09 52 03.0 -0.4
	comp=Z,30nm,1.3s						
SDCO	Great Sand Dun	93.52	49	P		P	09 52 03.7 0.0
	baz=236,SNR=12						
SDCO	Great Sand Dun	93.52	49	eP		P	09 52 03.6 -0.1
	comp=Z,7.4nm,1.1s						
SNOW	Snow King Moun	93.57	42	eP		P	09 52 04.0 +0.2
	comp=Z,34nm,1.0s						
JCT	Junction City	93.60	57	P		P	09 52 03.2 -0.7
	baz=238						
JCT	Junction City	93.60	57	eP		P	09 52 03.3 -0.7
JCT				pmax		pmax	
	comp=Z,27nm,1.2s						
JCT	Junction City	93.60	57	eP		P	09 52 03.3 -0.7
	comp=Z,27nm,1.2s						
DLMT	Dillon	93.68	39	eP		P	09 52 04.3 +0.2
	comp=Z,36nm,1.4s						
IMW	Indian Meadow	93.73	41	eP		P	09 52 04.8 +0.2
	comp=Z,21nm,1.0s						
LOHW	Long Hollow	93.75	41	eP		P	09 52 04.6 0.0
	comp=Z,28nm,1.4s						
MOOW	Moose Ponds	93.75	41	eP		P	09 52 04.7 +0.1
	comp=Z,42nm,1.9s						
BW06	Boulder Array	93.86	43	P		P	09 52 04.6 -0.5
	baz=234,SNR=8.4						
BW06	Boulder Array	93.86	43	eP		P	09 52 04.2 -1.0
	comp=Z,6.4nm,1.1s						
BW06				ePP		PP	09 55 47.8 -3.7
PDAR	Pinedale Array	93.86	43	P		P	09 52 04.8 -0.3
	comp=Z,4.1nm,0.9s,baz=213,slow=3.9,SNR=30						
PDAR				PP		PP	09 55 50.0 -1.4
	comp=Z,0.3nm,0.7s,baz=237,slow=8.1,SNR=4.6						
PDAR				PKKPbc		PKKPbc	10 09 10.3 +0.7
	comp=Z,1.1nm,0.7s,baz=

comp=Z,5.9nm,0.8s,baz=140,slow=3.3,SNR=23
CMAR PP **PP** **09 55 57.8 +1.6**
comp=Z,0.7nm,0.4s,baz=130,slow=6.3,SNR=4.7
CMAR Chiang Mai Arr 94.44 288 P **P** **09 52 09.5 +1.4**
CMAR 09 55 57.8
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
XAN Xi'an 94.48 306 P **P** **09 52 08.5 +0.6**
XAN S **S** **10 03 24.5 +6.9**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN pmax pmax
comp=Z,100nm,7.7s
XAN LR LR
comp=Z,110nm,19.9s
XAN LR LR
comp=Z,170nm,21.2s
XAN LR LR
comp=Z,310nm,19.8s
AMTX Amarillo 94.56 53 P **P** **09 52 07.7 -0.6**
baz=238
AMTX Amarillo 94.56 53 *e*P **P** **09 52 07.4 -0.9**
comp=Z,25nm,1.4s
KMI Kunming 94.58 296 P **P** **09 52 10.9 +2.1**
KMI pmax pmax
comp=Z,21nm,1.3s
KMI LR LR
comp=Z,150nm,21.9s
KMI LR LR
comp=Z,160nm,20.7s
KMI LR LR
comp=Z,120nm,20.8s
ISCO Idaho Springs 94.59 47 P **P** **09 52 08.6 -0.1**
baz=236
CHTO Chiang Mai 94.61 289 P **P** **09 52 10.8 +2.0**
comp=Z,66nm,1.1s
CHTO Chiang Mai 94.61 289 *e*P **P** **09 52 10.3 +1.5**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 94.61 289 *e*P **P** **09 52 10.3 +1.5**
comp=Z,13nm,1.0s
ABTX Abilene, Hawle 94.82 55 P **P** **09 52 08.9 -0.6**
baz=239
ABTX Abilene, Hawle 94.82 55 *e*P **P** **09 52 09.2 -0.3**
comp=Z,3.6nm,0.6s
736A Circle Diamond 94.87 60 P **P** **09 52 10.4 +0.7**
baz=240
N23A Red Feather La 95.00 46 P **P** **09 52 10.4 0.0**
baz=236
636A Smothers Creek 95.14 59 P **P** **09 52 11.1 +0.1**
baz=240
435B Jarrell 95.40 58 P **P** **09 52 11.4 -0.7**
baz=240
RLMT Red Lodge 95.42 41 P **P** **09 52 12.5 +0.4**
baz=234,SNR=11
RLMT Red Lodge 95.42 41 *e*P **P** **09 52 11.9 -0.2**
comp=Z,16nm,1.4s
K22A Casper 95.62 44 P **P** **09 52 13.0 -0.1**
baz=236,SNR=12
K22A Casper 95.62 44 *e*P **P** **09 52 12.8 -0.4**
comp=Z,12nm,0.9s
637A Eagle Lake 95.67 60 P **P** **09 52 13.0 -0.4**
baz=240
COLA College 95.95 12 *e*P **P** **09 52 13.1 -0.7**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 95.95 12 *e*P **P** **09 52 13.1 -0.7**
comp=Z,19nm,0.8s
ILAR Eielson Array 96.03 12 P **P** **09 52 13.5 -0.7**
comp=Z,7.0nm,0.8s,baz=221,slow=5.4,SNR=70
ILAR PP **PP** **09 56 03.7 -3.8**
comp=Z,2.8nm,1.1s,baz=217,slow=8.4,SNR=4.8
ILAR PKIKP **PKiKP** **09 56 52.8 +0.1**
comp=Z,0.5nm,0.7s,baz=261,slow=2.5,SNR=4.9
ILAR LR LR 10 34 56.9
comp=Z,95nm,18.2s,baz=195,slow=35
KSCO Kaye Shedlock' 96.10 49 P **P** **09 52 15.4 +0.1**
baz=238
HHC Hu-ho-hao-te 96.33 313 *e*P **P** **09 52 13.5 -2.8**
HHC pP PcP 09 52 18.3 +1.9
HHC sP pP 09 52 20.5 -7.7
HHC S **S** **10 03 32.3 -1.2**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,120nm,7.9s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,1μm,22.4s
HHC LR LR
comp=Z,1μm,23.6s
PBA Port Blair 96.51 280 *e*P P 09 52 18.5 +1.0
WMOK Wichita Mounta 96.52 54 P **P** **09 52 17.0 -0.2**
baz=239
CD2 Chengdu 96.64 302 *e*P **P** **09 52 18.0 +0.1**
CD2 S **S** **10 03 40.3 +3.8**
CD2 SS **SS** **10 10 17.1 +4.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,160nm,16.4s
CD2 LR LR
comp=Z,180nm,17.9s
CD2 LR LR
comp=Z,200nm,15.9s
438A Sam Houston St 96.96 59 P **P** **09 52 19.4 +0.1**
baz=241
DGPR DIGLIPUR 97.05 281 *e*P **P** **09 52 19.1 -0.9**
DGPR AMS AMS 10 44 33.7
comp=Z,333nm,8.8s
LPAZ La Paz 97.28 113 P Pdif 09 52 22.9 +0.9
comp=Z,4.4nm,1.0s,baz=194,slow=3.9,SNR=12
BILL Bilibino 97.45 353⇑*e*P **P** **09 52 20.1 -0.4**
BILL *e* 09 56 12.6
BILL pmax pmax
comp=Z,20nm,1.4s
BILL MLR MLR
comp=Z,280nm,19.0s
Z36A Blue Ridge 97.48 56 P Pdif 09 52 22.1 +0.5
baz=240
RSSD Black Hills 97.94 44 P **P** **09 52 23.5 -0.2**
baz=237
RSSD Black Hills 97.94 44 *e*P **P** **09 52 23.3 -0.4**
RSSD pmax pmax
comp=Z,25nm,1.1s
RSSD Black Hills 97.94 44 *e*P **P** **09 52 23.3 -0.4**
comp=Z,25nm,1.1s
LAO LASA Array 98.06 41 P Pdif 09 52 24.7 +0.7
baz=236
LAO LASA Array 98.06 41 *e*P Pdif 09 52 24.6 +0.6
comp=Z,8.9nm,1.0s
W35A Tecumseh 98.08 54 P **P** **09 52 23.9 -0.3**
baz=240
541A Lake Charles 98.36 60 P Pdif 09 52 25.8 +0.2
baz=242
341A Kurthwood 98.97 59 P Pdif 09 52 29.3 +1.1
baz=242
LZH Lanzhou 99.10 306 *e*P **Pdif** **09 52 28.3 -0.7**
LZH pP pP 09 52 31.6 -9.3
LZH sP sP 09 52 33.8 -11
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.3s
LZH LR LR
comp=Z,120nm,11.0s
LZH LR LR
comp=Z,260nm,15.8s
LZH LR LR
comp=Z,290nm,20.5s
T35A Sooner Cattle 99.20 53 P **Pdif** **09 52 30.3 +1.1**
baz=241
P34A Walnut Farm, R 100.25 51 P **Pdif** **09 52 35.2 +1.4**
baz=241
ECSD EROS Data Cent 102.38 47 P **Pdif** **09 52 44.3 +1.1**
baz=242
SONM Songino Array 103.07 318 P **Pdif** **09 52 46.3 0.0**
comp=Z,0.6nm,0.7s,baz=145,slow=5.4,SNR=3.8
SONM PP **PP** **09 56 57.9 -3.9**
comp=Z,0.9nm,0.9s,baz=140,slow=7.8,SNR=4.0
SONM PKKPbc **PKKPbc** **10 08 44.5 +0.8**
comp=Z,0.6nm,0.5s,baz=278,slow=3.2,SNR=5.0

SHL Shillong 103.50 292 *e*P **Pdif** **09 52 47.3 -1.4**
BWNR Bhubaneshwar 106.32 284 *ex* **Pdif** **09 53 03.4 +2.2**
TIXI Tiksi 107.18 344 *e*PKPdf **PKiKP** **09 57 10.6 -2.0**
TIXI *e*PP **PP** **09 57 28.3 -3.0**
F40A Park Falls 107.49 47 P **PKiKP** **09 57 14.9 +0.9**
baz=246
BOK Bokaro 107.71 288 *e*P **Pdif** **09 53 06.3 -1.0**
BOK AMB AMB 09 56 53.1
comp=Z,31nm,1.1s
HYB Hyderabad 111.35 279 *e*P **PKiKP** **09 57 20.9 -1.3**
NGP Nagpur 112.44 283 *e*P **PKiKP** **09 57 20.0 -4.0**
O56A Blue Knob Stat 113.39 56 P **PKiKP** **09 57 25.4 0.0**
baz=251
WMQ Urumqi 113.53 308 PKP **PKiKP** **09 57 20.8 -4.8**
WMQ LR LR
comp=Z,63nm,20.3s
WMQ LR LR
comp=Z,71nm,27.5s
WMQ LR LR
comp=Z,120nm,17.3s
AKL Akola 114.01 281 *e*P **PKiKP** **09 57 26.3 -0.8**
BHPL Bhopal 114.63 284 *ex* **PKiKP** **09 57 23.7 -4.6**
GOA Goa 114.67 275 *e*P PKPdf 09 57 26.9 -1.6
POO Poona 115.89 278 *e*P **PKPdf** **09 57 31.6 +0.8**
POO AMS AMS 10 46 03.7
comp=Z,287nm,15.7s
SMLA Simla 117.59 292 *e*P **PKPdf** **09 57 33.9 +0.3**
ZALV Zalesovo Beam 117.93 319 PKP **PKPdf** **09 57 33.1 -0.5**
comp=Z,6.6nm,0.8s,baz=167,slow=0.7,SNR=24
MK31 Makanchi Array 118.00 310 *i* PKIKP **PKPdf** **09 57 33.2 -0.8**
MK31 pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 118.00 310 PKP **PKPdf** **09 57 33.5 -0.5**
comp=Z,9.4nm,0.9s,baz=78,slow=2.9,SNR=36
MKAR PKKPbc **PKKPbc** **10 07 54.2 -0.3**
comp=Z,0.4nm,0.6s,baz=335,slow=5.4,SNR=4.0
MAKZ Makanchi 118.22 310 PKIKP **PKPdf** **09 57 33.5 -0.9**
MAKZ pmax pmax
comp=Z,15nm,1.1s
DHRM DHARAMSHALA 118.64 293 *e*P **PKPdf** **09 57 36.2 +0.2**
DHRM AMS AMS 10 44 09.2
comp=Z,74nm,3.3s
NRIK Noril'sk 118.85 336 PKP **PKPdf** **09 57 35.1 +0.2**
comp=Z,8.0nm,0.8s,baz=88,slow=3.5,SNR=5.6
NVS Novosibirsk 119.01 319 *e*PKIKP **PKPdf** **09 57 34.0 -1.6**
PDGK Podgornoye 119.14 306 PKIKP **PKPdf** **09 57 36.2 -0.3**
PDGK pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 119.34 202 PKP **PKPdf** **09 57 39.0 +1.6**
comp=Z,12nm,0.9s,baz=154,slow=3.1,SNR=12
KSH Kashi 120.84 301 *e*PKP **PKPdf** **09 57 40.8 +1.0**
KSH PKS **PKSdf** **10 01 15.8 -0.8**
KSH SKS **SKSdf** **10 04 51.5 +2.5**
KSH AMB AMB
comp=Z,100nm,5.4s
KSH LR LR
comp=Z,95nm,8.1s
KSH LR LR
comp=Z,62nm,6.1s
KSH LR LR
comp=Z,160nm,6.7s
KURK Kurchatov 121.13 314 *e*PKIKP **PKPdf** **09 57 39.2 -0.6**
KURK Kurchatov 121.13 314 *e*PKPdf **PKPdf** **09 57 39.4 -0.4**
KURK *e*PP **PP** **09 59 06.8 -3.8**
KURK PKKPbc **PKKPbc** **10 07 44.9 +1.9**
KURBB Kurchatov Arra 121.17 314 PKP **PKPdf** **09 57 39.5 -0.5**
comp=Z,11nm,0.8s,baz=102,slow=2.0,SNR=93
KURBB PKKPbc **PKKPbc** **10 07 44.9 +2.0**
comp=Z,0.9nm,0.4s,baz=293,slow=4.9,SNR=5.9
BHJ Bhuj 121.29 281 AMS AMS 10 53 16.4
comp=Z,294nm,18.3s
TKM2 Tokmak 2 121.84 305 PKIKP **PKPdf** **09 57 41.4 -0.4**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 122.58 304 PKP **PKPdf** **09 57 43.3 +0.2**
comp=Z,5.4nm,0.8s,baz=148,slow=3.8,SNR=15
AAK Ala-Archa 122.58 304⇓*i* PKIKP **PKPdf** **09 57 43.0 -0.1**
AAK Ala-Archa 122.58 304 *e*PKPdf **PKPdf** **09 57 43.2 +0.1**
MNAS Manas 124.00 304 PKIKP **PKPdf** **09 57 45.9 0.0**
MNAS pmax pmax
comp=Z,24nm,1.1s
KK31 Karatay Array 125.55 304 *i* PKIKP **PKPdf** **09 57 48.4 -0.2**
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 125.55 304 *e*PKIKP **PKPdf** **09 57 48.5 -0.1**
KKAR Karatay Array 125.55 304 *e*PKPdf **PKPdf** **09 57 48.5 -0.1**
DZET Dzherino 126.13 299 PKIKP **PKPdf** **09 57 50.2 +0.2**
DZET pmax pmax
comp=Z,20nm,1.0s
BVAR Borovoye Array 126.40 317 PKP **PKPdf** **09 57 50.3 +0.4**
comp=Z,13nm,0.9s,baz=93,slow=3.1,SNR=52
BRVK Borovoye 126.47 317 PKIKP **PKPdf** **09 57 49.8 -0.2**
BRVK pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 126.47 317 *e*PKPdf **PKPdf** **09 57 50.0 0.0**
LSZ Lusaka 130.26 211 *e*PKIKP **PKPdf** **09 58 00.5 +1.9**
LSZ Lusaka 130.26 211 *e*PKPdf **PKPdf** **09 58 00.5 +1.9**
SUMG Summit 130.74 16 *i* P **PKPdf** **09 57 59.2 +1.1**
comp=Z,12nm,0.9s
SUMG Summit 130.74 16 *i* PKIKP **PKPdf** **09 57 59.2 +1.1**
SUMG pmax pmax
comp=Z,12nm,0.9s
WSAR Wadi Sarin 130.84 277 PKP **PKPdf** **09 58 00.3 +1.0**
comp=Z,16nm,1.1s,baz=44,slow=1.7,SNR=4.1
SVE Sverdlovsk 131.68 322 *e*PKIKP **PKPdf** **09 58 00.2 +0.4**
SVE pmax pmax
comp=Z,16nm,1.3s
ARU Arti 132.88 322 PKP **PKPdf** **09 58 02.5 +0.3**
comp=Z,8.2nm,0.6s,baz=317,slow=1.1,SNR=13
ARU Arti 132.88 322 *i* PKIKP **PKPdf** **09 58 02.4 +0.3**
ARU 10 00 26.1
ARU SS SS 10 18 03.5 -3.5
SOKR Solikamsk 133.00 326*d* *i* PKIKP **PKPdf** **09 58 01.1 -1.1**
SOKR pmax pmax
comp=Z,34nm,1.3s
AB31 Akbulak array 133.10 312 *i* PKIKP **PKPdf** **09 58 02.5 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 133.10 312 *e*PKPdf **PKPdf** **09 58 02.6 -0.1**
AKTO Aktyubinsk 134.22 314 PKP **PKPdf** **09 58 05.4 +0.6**
comp=Z,8.2nm,0.8s,baz=84,slow=2.4,SNR=17
AKTO Aktyubinsk 134.22 314 PKIKP **PKPdf** **09 58 04.4 -0.4**
AKTO pmax pmax
comp=Z,11nm,0.9s
GEYT Alibeck 134.35 296 PKP **PKPdf** **09 58 06.5 +0.9**
comp=Z,5.8nm,0.7s,baz=349,slow=1.5,SNR=6.6
KMBO Kilima Mbogo 136.33 233 PKP **PKPdf** **09 58 12.3 +2.1**
comp=Z,9.0nm,1.0s,baz=351,slow=1.8,SNR=16
KMBO Kilima Mbogo 136.33 233 *e*PKPdf **PKPdf** **09 58 12.2 +1.9**
ISRV Sarvestan 137.24 283 *e*P **PKPdf** **09 58 11.6 +0.1**
ARCES ARCESS Array B 137.37 349 PKhKP PKPpre 09 57 59.6
comp=Z,5.6nm,0.8s,baz=9.3,slow=2.0,SNR=21
ARCES PKP **PKPdf** **09 58 10.3 +0.2**
comp=Z,17nm,0.7s,baz=52,slow=1.0,SNR=24
H10S3 ASCENSION HYDR 138.41 152 T T 12 33 27.3
baz=202,slow=74,SNR=4.9
H10S2 ASCENSION HYDR 138.41 152 T T 12 33 25.5
baz=202,slow=74,SNR=5.6
H10S1 ASCENSION HYDR 138.42 152 T T 12 33 29.7
baz=202,slow=74,SNR=5.5
H10N3 ASCENSION HYDR 139.47 151 T T 12 35 01.0
baz=202,slow=75,SNR=4.4
H10N1 ASCENSION HYDR 139.48 151 T T 12 35 01.7
baz=202,slow=75,SNR=6.3
H10N2 ASCENSION HYDR 139.49 151 T T 12 35 02.6
baz=202,slow=75,SNR=7.3
KLMR Klimovskoe 140.11 334 *e*PKIKP **PKPdf** **09 58 13.8 -1.5**
KLMR *e* 10 01 09.2
KLMR pmax pmax
comp=Z,35nm,1.3s
RAYN Ar Rayn 142.41 272 *e*PKPdf **PKPdf** **09 58 17.7 -3.0**
MOS Moscow 143.91 328 *e*PKHKP PKPpre 09 58 19.0
MOS pmax pmax
comp=Z,66nm,0.8s
FINES FINESS Array B 144.19 342 PKP **PKPab** **09 58 20.6 +0.2**
comp=Z,90nm,0.9s,baz=67,slow=2.7,SNR=98
OBN Obninsk 144.76 327 PKP **PKPab** **09 58 21.9 -0.8**
comp=Z,37nm,0.2s,baz=51,slow=1.6,SNR=20
OBN Obninsk 144.76 327⇑*i* PKIKP PKPbc 09 58 23.0 +0.2
OBN *e* 10 01 43.7
OBN *e* 10 05 23.5
OBN pmax pmax
comp=Z,179nm,1.2s
OBN Obninsk 144.76 327 *e*PKPdf PKPbc 09 58 23.0 +0.2
LPSR Galich'ya Gora 144.90 322 *e*PKIKP **PKPab** **09 58 23.2 -0.1**

LPSR pmax pmax
comp=Z,90nm,0.9s
NCK Nalchik 145.09 306 *i* PKIKP **PKPdf** **09 58 25.1 +0.3**
GOF Gofitskoye 145.13 308⇓*i* PKIKP **PKPdf** **09 58 25.1 +0.3**
GOF pmax pmax
comp=Z,110nm,0.8s
AKH Akhalkalaki 145.53 302⇓*i* P **PKPab** **09 58 27.4 +1.1**
KBZ Khabaz 145.54 306 PKPbc **PKPab** **09 58 26.3 +0.3**
comp=Z,20nm,0.8s,baz=50,slow=0.7,SNR=14
KVAR Kislovodsk Arr 145.64 307 PKPbc **PKPdf** **09 58 26.1 +0.3**
comp=Z,74nm,1.1s,baz=221,slow=1.8,SNR=7.7
KIV Kislovodsk 145.64 307⇓*i* PKIKP **PKPbc** **09 58 26.4 +0.2**
KIV *e* 10 01 44.2
KIV pmax pmax
comp=Z,63nm,0.8s
NEY Neytrino 145.77 305 *i* PKP2 **PKPdf** **09 58 26.4 +0.2**
NB2 NORSAR Subarra 147.40 353 PKP **PKPbc** **09 58 30.0 -0.7**
comp=Z,49nm,0.7s,baz=20,slow=3.0
NB2 NORSAR Subarra 147.40 353 PKP **PKPbc** **09 58 30.0 -0.7**
baz=20,slow=3.0
NOA NORSAR Array B 147.40 353 PKPbc **PKPbc** **09 58 30.3 -0.4**
comp=Z,40nm,0.8s,baz=11,slow=2.9,SNR=62
SOC Sochi 147.82 307 *i* PKHKP PKPpre 09 58 27.7
SOC pmax pmax
comp=Z,36nm,0.9s
HFS Hagfors 147.98 351 PKPbc **PKPbc** **09 58 31.9 -0.3**
comp=Z,61nm,0.6s,baz=64,slow=3.4,SNR=94
MICGM Minsk 148.99 333⇓*e*P **PKPbc** **09 58 35.0 0.0**
MICGM PM 09 58 37.0
comp=Z,0.3nm,1.5s
MNK Minsk 148.99 333⇓*e*PKP2 **PKPbc** **09 58 35.0 0.0**
MNK pmax pmax
comp=Z,280nm,1.5s
ANN Anapa 149.02 310 *i* PKP2 **PKPbc** **09 58 35.6 +0.2**
ANN pmax pmax
comp=Z,118nm,1.2s
NACGM Naroch 149.13 334 *e* **PKPbc** **09 58 34.0 -1.3**
AKASG Malin Array Be 150.97 326 PKP **PKPdf** **09 58 33.5 -0.7**
comp=Z,3.4nm,0.8s,baz=38,slow=1.7,SNR=9.0
AKASG PKPbc **PKPbc** **09 58 37.9 -2.0**
comp=Z,83nm,0.8s,baz=45,slow=2.9,SNR=112
AKASG PKPab **PKPab** **09 58 47.5 0.0**
comp=Z,16nm,0.7s,baz=44,slow=3.7,SNR=11
AKASG Malin Array Be 150.97 326 PKIKP **PKPdf** **09 58 33.5 -0.7**
AKASG 09 58 37.9
AKASG 09 58 47.5
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG pmax pmax
comp=Z,83nm,0.8s
AKASG pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 150.98 326 *e*PKIKP **PKPdf** **09 58 33.8 -0.3**
KIEV *e* 09 58 39.7
KIEV *e* 09 58 47.1
KIEV Kiev 150.98 326 *e*PKPdf **PKPdf** **09 58 33.8 -0.3**
KIEV *e*PKPbc **PKPbc** **09 58 39.7 -0.2**
KIEV *e*PKPab **pPKPdf** **09 58 47.0 +0.6**
ROOS tl_alroos 151.10 289 *e*P **PKPbc** **09 58 42.0 +1.1**
SUW Suwalki 151.15 336 *e*PKPbc **PKPbc** **09 58 40.6 +0.4**
SUW Suwalki 151.15 336 *e*PKIKP **PKPbc** **09 58 40.6 +0.4**
RABH Abou Rabah 151.16 290 *e*P **PKPbc** **09 58 40.8 -0.2**
SIM Simferopol' 151.16 312 *d* *i* PKIKP **PKPbc** **09 58 39.2 -1.4**
SIM pmax pmax
comp=Z,38nm,0.7s
ASF Jabal al Asfar 151.41 285 PKPbc **PKPbc** **09 58 43.4 +1.7**
comp=Z,28nm,0.8s,baz=92,slow=2.6,SNR=22
ASF PKPab **PKPab** **09 58 50.0 -0.1**
comp=Z,8.1nm,0.6s,baz=26,slow=6.0,SNR=3.8
DRWC Darouich 151.44 294 *e*P **PKPbc** **09 58 41.0 -0.6**
BTCH Batrach 151.67 293 *e*P **PKPbc** **09 58 41.2 -0.9**
MARH Ras Al Marh 151.77 289 *e*P **PKPbc** **09 58 43.9 +1.1**
HAWK Haweek 151.81 290 *e*P **PKPbc** **09 58 43.6 +1.1**
BIDA Albida 151.86 291 *e*P **PKPbc** **09 58 43.4 +0.7**
ARNB Al Arnab 152.08 293 *e*P **PKPbc** **09 58 43.7 +0.6**
COP Copenhagen 152.45 350 *i* P **PKPbc** **09 58 43.8 +0.7**
comp=Z,62nm,0.8s
COP Copenhagen 152.45 350 *i* PKIKP **PKPbc** **09 58 43.8 +0.7**
COP pmax pmax
comp=Z,62nm,0.8s
BSD Bornholm Skovb 152.54 346 *i* P **PKPbc** **09 58 43.6 +0.3**
BSD *i* 09 58 53.2
BSD Bornholm Skovb 152.54 346 *i* PKIKP **PKPbc** **09 58 43.6 +0.3**
BSD *i* 09 58 53.2
MMAI Mount Meron Ar 152.69 287 PKPbc **PKPbc** **09 58 45.6 +1.1**
comp=Z,23nm,0.7s,baz=80,slow=4.7,SNR=21
MMAI PKPab **PKPab** **09 58 55.0 -0.3**
comp=Z,15nm,0.6s,baz=94,slow=3.3,SNR=9.0
LLD Lille Linde 152.83 350 *i* P **PKPbc** **09 58 44.8 +0.9**
LLD Lille Linde 152.83 350 *i* PKIKP **PKPbc** **09 58 44.8 +0.9**
EIL Elat 152.91 279 PKPbc **PKPbc** **09 58 46.4 +1.3**
comp=Z,28nm,0.7s,baz=299,slow=3.3,SNR=22
EIL PKPab **PKPab** **09 58 56.0 -0.3**
comp=Z,13nm,0.7s,baz=80,slow=15,SNR=5.7
SORM Soroca 153.00 322⇑*i* P **PKPbc** **09 58 44.8 +0.2**
SORM Soroca 153.00 322⇑PKIKP **PKPbc** **09 58 44.8 +0.2**
BRTR Keskin Array B 153.22 302 PKP **PKPdf** **09 58 38.6 +0.6**
comp=Z,3.6nm,1.1s,baz=253,slow=1.3,SNR=6.8
BRTR PKPbc **PKPbc** **09 58 45.6 0.0**
comp=Z,11nm,1.0s,baz=116,slow=2.4,SNR=15
BRTR PKPab **pPKPbc** **09 58 58.4 +0.6**
comp=Z,7.6nm,0.8s,baz=116,slow=2.9,SNR=7.7
BRTR Keskin Array B 153.22 302 PKIKP **PKPdf** **09 58 38.7 +0.6**
BRTR 09 58 45.6
BRTR pmax pmax
comp=Z,5.0nm,1.2s
GKP Gorka Klasztor 153.66 342 *e*PKP **PKPbc** **09 58 46.6 +0.8**
GKP Gorka Klasztor 153.66 342 *e*PKIKP **PKPbc** **09 58 46.6 +0.8**
BEL Belsk 153.76 336 *e*PKP **PKPbc** **09 58 47.1 +1.0**
BEL Belsk 153.76 336 *e*PKIKP **PKPbc** **09 58 47.1 +1.0**
ANTO Ankara 153.81 303 *e*PKIKP **PKPdf** **09 58 38.6 -0.2**
ANTO *e* 09 58 47.2
ANTO *e* 09 59 00.3
ANTO Ankara 153.81 303 *e*PKPdf **PKPdf** **09 58 38.6 -0.2**
ANTO *e*PKPbc **PKiKP** **09 58 47.2 +0.4**
ANTO *e*PKPab **PKPab** **09 59 00.3 +0.4**
LVV L'vov 154.02 329 *e*PKIKP **PKPdf** **09 58 41.2 +2.5**
TLCR 154.39 316⇑*i* P **PKPab** **09 59 01.8 -0.2**
TLCR 154.39 316⇑PKP2 **PKPab** **09 59 01.8 -0.2**
TESR Tescani 154.91 321⇓*i* P **PKPab** **09 59 04.4 +0.2**
BURAR Bucovina Array 154.97 324⇑*i* P **PKPbc** **09 58 50.9 +1.9**
BURAR Bucovina Array 154.97 324⇑PKIKP **PKPbc** **09 58 50.9 +1.9**
TIRR Tirgusor 155.01 315⇑*i* P **PKPab** **09 59 04.9 +0.2**
TIRR Tirgusor 155.01 315⇑PKP2 **PKPab** **09 59 04.9 +0.2**
TLB Topalu 155.17 316⇑*i* P **PKPab** **09 59 05.7 +0.4**
TLB Topalu 155.17 316⇑PKP2 **PKPab** **09 59 05.7 +0.4**
VRI Vrincioaia 155.24 320⇑*i* P **PKPab** **09 59 06.3 +0.6**
VRI Vrincioaia 155.24 320⇑PKP2 **PKPab** **09 59 06.3 +0.6**
PLOR Plostina 155.29 320⇓*i* P **PKPab** **09 59 03.0 -2.9**
PLOR Plostina 155.29 320⇓PKP2 **PKPab** **09 59 03.1 -2.8**
OJC Ojcow 155.45 335 *e*PKP **PKPdf** **09 58 41.2 +0.5**
OJC Ojcow 155.45 335 *e*PKIKP **PKPdf** **09 58 41.2 +0.5**
STHS Stebnicka Huta 155.52 332 *e*PKIKP **PKPdf** **09 58 41.8 +1.0**
STHS *e* 09 59 02.8
STHS Stebnicka Huta 155.52 332 *e*PKP **PKPdf** **09 58 41.8 +1.0**
STHS *e* 09 58 41.9
STHS *e* 09 59 02.8
UZH Uzhgorod 155.66 329 *e*PKIKP **PKPdf** **09 58 38.4 -2.6**
UZH *i* 09 58 43.4
NIE Niedzica 155.90 333 *e*PKP **PKPdf** **09 58 42.3 +0.9**
NIE Niedzica 155.90 333 *e*PKIKP **PKPdf** **09 58 42.3 +0.9**
MLR Muntele Rosu 155.91 320 PKP **PKPdf** **09 58 41.9 +0.3**
comp=Z,0.3nm,0.4s,baz=295,slow=11,SNR=3.6
MLR PKPab **PKPab** **09 59 09.5 +0.8**
comp=Z,2.5nm,1.0s,baz=238,slow=8.8,SNR=7.0
DOPR Dopca 155.93 321⇑*i* P **PKPdf** **09 58 43.7 +2.2**
KSP Ksiaz 156.09 340 *e*PKP **PKPdf** **09 58 42.1 +0.6**
KSP Ksiaz 156.09 340 *e*PKIKP **PKPdf** **09 58 42.1 +0.6**
OKC Ostrava-Krasne 156.36 337 *e*PKPAB **PKPab** **09 59 10.4 +0.2**
OKC Ostrava-Krasne 156.36 337 *e*PKP2 **PKPab** **09 59 10.4 +0.2**
LANS Liptovska Anna 156.44 334 *e*PKP2 **PKPab** **09 59 11.4 +0.7**
LANS Liptovska Anna 156.44 334 *e*PKP **PKPab** **09 59 11.4 +0.7**
VOIR 156.44 320⇑*i* P **PKPab** **09 59 11.3 +0.4**
VOIR 156.44 320⇑PKP2 **PKPab** **09 59 11.3 +0.4**
UPC Upice 156.47 340 *e*PKPAB **PKPab** **09 59 11.4 +0.7**
UPC AMS AMS 11 12 00.0
comp=Z,300nm,19.0s
UPC Upice 156.47 340 *e*PKP2 **PKPab** **09 59 11.4 +0.7**
UPC MLR MLR
comp=Z,300nm,19.0s
DBIC Dimbokro 156.48 158 PKP **PKPdf** **09 58 44.0 +0.9**
comp=Z,6.2nm,0.9s,baz=94,slow=6.8,SNR=3.6
DBIC PKPab **PKPab** **09 59 12.8 +1.2**

comp=Z,2.8nm,0.6s,baz=220,slow=3.9,SNR=4.9
CLL Collm 156.51 346 *i* PKIKP **PKPdf 09 58 41.8 -0.2**
CLL *i* 09 59 10.4
CLL pmax pmax
comp=Z,11nm,1.1s
CLL pmax pmax
comp=Z,56nm,0.9s
CLL Collm 156.51 346 *i* PKPdf **PKPdf 09 58 41.8 -0.2**
comp=Z,11nm,1.1s
CLL *i* PKPdif **pPKPdf 09 58 52.5 -1.8**
comp=Z,17nm,1.0s
CLL *i* PKPab **PKPab 09 59 10.4 -0.4**
comp=Z,56nm,0.9s
DPC Dobruska-Polom 156.51 340 *e*PKPDF **PKPdf 09 58 42.8 +0.7**
DPC *e*PKPAB **PKPab 09 59 11.9 +0.9**
DPC Dobruska-Polom 156.51 340 *e*PKIKP **PKPdf 09 58 42.8 +0.7**
KECS Kecovo 156.56 331 *e*PKIKP **PKPdf 09 58 43.5 +1.3**
KECS Kecovo 156.56 331 *e*PKP **PKPdf 09 58 43.5 +1.3**
KECS *e* 09 59 11.2
KRLC Kraliky 156.61 339 *e*PKPDF **PKPdf 09 58 42.5 +0.2**
KRLC *e*PKPAB **PKPab 09 59 12.1 +0.7**
KRLC Kraliky 156.61 339 *e*PKIKP **PKPdf 09 58 42.5 +0.2**
MORC Moravsky Berou 156.62 337 ⇑*i*P **PKPdf 09 58 42.9 +0.6**
MORC Moravsky Berou 156.62 337 *e*PKIKP **PKPdf 09 58 42.4 +0.1**
MORC Moravsky Berou 156.62 337 *e*PKPdf **PKPdf 09 58 42.4 +0.1**
MORC *e*PKPab **PKPab 09 59 11.8 +0.3**
BRG Berggiesshubel 156.70 344 *e*PKP **PKPdf 09 58 42.6 +0.3**
comp=Z,21nm,1.5s
BRG *i* 09 58 53.2
comp=Z,15nm,1.0s
BRG Berggiesshubel 156.70 344 *i* PKP **PKPab 09 59 11.3 -0.3**
comp=Z,48nm,0.9s
BRG Berggiesshubel 156.70 344 *e*PKIKP **PKPdf 09 58 42.6 +0.3**
BRG *i* 09 58 53.2
BRG pmax pmax
comp=Z,21nm,1.5s
ARR Arges 156.72 321 ⇑*i*P **PKPdf 09 58 43.2 +0.6**
DRGR 156.79 326 ⇑*i*P **PKPdf 09 58 42.8 +0.2**
DRGR 156.79 326 ⇑PKIKP **PKPdf 09 58 42.8 +0.2**
PVCC Panska Ves 156.85 342 *e*PKPDF **PKPdf 09 58 43.2 +0.7**
PVCC *e*PKPAB **PKPab 09 59 12.9 +0.6**
PVCC Panska Ves 156.85 342 *e*PKIKP **PKPdf 09 58 43.2 +0.7**
VYHS Vyhne 157.22 334 *e*PKP2 **PKPab 09 59 14.6 +0.6**
VYHS Vyhne 157.22 334 *e*PKP **PKPab 09 59 14.5 +0.5**
PSZ Piszkesteto 157.25 331 ⇑*i*P **PKPab 09 59 12.3 -1.9**
PSZ Piszkesteto 157.25 331 *e*PKIKP **PKPdf 09 58 43.3 +0.1**
PSZ Piszkesteto 157.25 331 *e*PKPdf **PKPdf 09 58 43.2 +0.1**
PRA Prague 157.31 342 *e*PKPAB **PKPab 09 59 14.9 +0.6**
PRA Prague 157.31 342 *e*PKP2 **PKPab 09 59 14.9 +0.6**
VRAC Vranov 157.34 338 PKP **PKPdf 09 58 42.3 -0.9**
comp=Z,2.0nm,0.5s,baz=354,slow=3.1,SNR=6.2
VRAC PKPab **PKPab 09 59 15.4 +0.9**
comp=Z,21nm,1.1s,baz=18,slow=3.7,SNR=15
GOPC GO Pecny, Ondr 157.35 341 *e*PKPAB **PKPab 09 59 15.0 +0.5**
GOPC GO Pecny, Ondr 157.35 341 *e*PKP2 **PKPab 09 59 15.0 +0.5**
PRU Pruhonice 157.35 342 *e*PKPAB **PKPab 09 59 14.9 +0.4**
PRU AMS AMS 11 09 30.0
comp=Z,300nm,22.0s
PRU Pruhonice 157.35 342 *e*PKP2 **PKPab 09 59 14.9 +0.4**
PRU MLR MLR
comp=Z,300nm,22.0s
NKC Novy Kostel 157.64 345 *e*PKPAB **PKPab 09 59 16.1 +0.3**
NKC Novy Kostel 157.64 345 *e*PKP2 **PKPab 09 59 16.1 +0.3**
SIRR Siria 157.68 326 ⇓*i*P **PKPdf 09 58 43.1 -0.6**
TREC Trest 157.70 340 *e*PKPAB **PKPab 09 59 16.6 +0.5**
TREC Trest 157.70 340 *e*PKP2 **PKPab 09 59 16.6 +0.5**
GZR Gura Zlata 157.71 323 ⇓*i*P **PKPdf 09 58 44.6 +0.8**
GZR Gura Zlata 157.71 323 ⇓PKIKP **PKPdf 09 58 44.6 +0.8**
BZS Buzias 158.15 325 ⇑*i*P **PKPdf 09 58 44.4 +0.1**
BZS Buzias 158.15 325 ⇑PKIKP **PKPdf 09 58 44.4 +0.1**
MEM Membach 158.17 356 PKPab **PKPab 09 59 17.9 -0.1**
KHC Kasperske Hory 158.39 343 *e*PKPDF **PKPdf 09 58 44.6 +0.1**
KHC *ex* x 09 58 56.7
KHC *e*PKPAB **PKPab 09 59 19.5 +0.4**
KHC Kasperske Hory 158.39 343 *e*PKIKP **PKPdf 09 58 44.6 +0.1**
KHC *e* 09 58 56.7
KHC *e* 09 59 19.5
KHC Kasperske Hory 158.39 343 *e*PKPdf **PKPdf 09 58 43.4 -1.1**
KHC *e*PKPab **PKPab 09 59 19.5 +0.4**
BCLA Clavier 158.39 358 PKPab **PKPab 09 59 18.8 -0.1**
GERES GERESS Array B 158.62 342 PKP **PKPdf 09 58 44.0 -0.8**
comp=Z,1.1nm,0.7s,baz=225,slow=1.7,SNR=7.7
GERES PKPab **PKPab 09 59 20.4 +0.2**
comp=Z,5.5nm,0.8s,baz=35,slow=4.9,SNR=15
MDVR Moldovita 158.68 323 ⇑*i*P **PKPdf 09 58 44.7 -0.3**
DOU Dourbes 158.74 359 PKPab **PKPab 09 59 20.2 -0.2**
CONA Conrad Observa 158.78 337 *e*PKPdf **PKPdf 09 58 43.8 -1.2**
comp=Z,6.9nm,1.3s
CONA *i* PKPab **PKPab 09 59 21.6 +0.7**
comp=Z,35nm,1.3s,SNR=7.6
WLF Walferdange 159.10 356 PKPab **PKPab 09 59 22.5 +0.4**
VTS Vitosha 159.20 317 ⇑*i*P **PKPab 09 59 24.1 +1.1**
VTS Vitosha 159.20 317 ⇑PKP2 **PKPab 09 59 24.1 +1.1**
MOA Molln 159.36 340 *i* PKPab **PKPab 09 59 23.6 +0.3**
comp=Z,36nm,1.3s,SNR=11
ARSA Arzberg 159.48 337 *i* PKPdf **PKPdf 09 58 44.4 -1.5**
comp=Z,5.5nm,0.9s
ARSA *i* PKPab **PKPab 09 59 24.1 +0.2**
comp=Z,12nm,1.2s
SOKA Soboth 160.14 337 *i* PKPdf **PKPdf 09 58 46.1 -0.6**
comp=Z,10nm,1.3s
SOKA *i* PKPab **PKPab 09 59 26.7 -0.1**
comp=Z,28nm,1.1s,SNR=7.4
KBA Koelnbreinsper 160.32 341 *i* PKPdf **PKPdf 09 58 46.2 -0.8**
comp=Z,10nm,1.1s
KBA *i* PKPab **PKPab 09 59 28.6 +0.9**
comp=Z,20nm,1.1s,SNR=6.1
OBKA Obir 160.45 338 *e*PKPab **PKPab 09 59 28.5 +0.3**
comp=Z,16nm,0.9s
RETA Reutte 160.60 346 *i* PKPab **PKPab 09 59 29.1 +0.3**
comp=Z,37nm,1.5s,SNR=5.8
WTTA Wattenberg 160.61 344 *i* PKPab **PKPab 09 59 28.9 -0.1**
comp=Z,52nm,1.7s,SNR=6.5
MYKA Terra Mystica 160.64 339 *i* PKPab **PKPab 09 59 28.6 -0.3**
comp=Z,26nm,1.4s
MOTA Moosalm 160.66 345 *i* PKPdf **PKPdf 09 58 47.1 -0.3**
comp=Z,3.8nm,0.7s
MOTA *i* PKPab **PKPab 09 59 28.8 -0.3**
comp=Z,24nm,1.0s,SNR=7.7
ABTA Abfaltersbach 160.86 342 *e*PKPdf **PKPdf 09 58 46.9 -0.6**
comp=Z,13nm,1.5s
ABTA *i* PKPab **PKPab 09 59 29.2 -0.7**
comp=Z,37nm,1.1s,SNR=6.5
DAVA Damuels 160.97 347 *i* PKPdf **PKPdf 09 58 47.9 +0.2**
comp=Z,9.1nm,1.3s
DAVA *i* PKPab **PKPab 09 59 30.6 +0.1**
comp=Z,15nm,1.1s
FETA Feichten 161.05 345 *i* PKPdf **PKPdf 09 58 47.9 +0.1**
comp=Z,20nm,1.1s
FETA *i* PKPab **PKPab 09 59 30.9 0.0**
comp=Z,22nm,1.2s
IDI Anoyia 161.07 295 PKPab **PKPab 09 59 31.8 +0.4**
comp=Z,5.2nm,0.6s,baz=108,slow=0.6,SNR=3.6
DAVOX Davos/Dischmat 161.46 347 PKP **PKPdf 09 58 48.7 +0.5**
comp=Z,5.6nm,0.9s,baz=224,slow=4.0,SNR=5.8
DAVOX PKPab **PKPab 09 59 32.4 -0.3**
comp=Z,14nm,0.9s,baz=334,slow=7.8,SNR=11
PCAB Cabril 163.89 34 *e*PKPdf **PKPdf 09 58 52.5 +1.9**
PCAB Cabril 163.89 34 *e*PKPab **PKPab 09 59 43.0 -0.4**
POLO Lamas de Olo 164.26 34 *e*PKPdf **PKPdf 09 58 52.4 +1.4**
TORD Torodi Ar. Bea 164.28 172 PKP **PKPdf 09 58 52.2 +0.5**
comp=Z,7.9nm,0.9s,baz=282,slow=0.7,SNR=36
TORD PKPab **PKPab 09 59 46.2 +0.8**
comp=Z,26nm,1.1s,baz=194,slow=3.8,SNR=24
TORD PP **PP 10 03 34.2 +4.1**
comp=Z,1.6nm,0.8s,baz=154,slow=6.3,SNR=3.8
PVIS Viseu 164.70 36 *e*PKPdf **PKPdf 09 58 52.8 +1.4**
PVIS Viseu 164.70 36 *e*PKPab **PKPab 09 59 46.3 -0.7**
MVO Moncorvo 164.79 33 *e*PKPdf **PKPdf 09 58 53.1 +1.6**
MVO Moncorvo 164.79 33 *e*PKPab **PKPab 09 59 47.1 -0.3**
PCAS Casmilo, Conde 164.85 39 *e*PKPdf **PKPdf 09 58 53.0 +1.5**
PCAS Casmilo, Conde 164.85 39 *e*PKPab **PKPab 09 59 46.6 -1.0**
PMAFR Mafra 165.12 44 *e*PKPdf **PKPdf 09 58 53.7 +2.0**
PTOM Tomar 165.20 40 *e*PKPdf **PKPdf 09 58 53.5 +1.7**
PTOM Tomar 165.20 40 *e*PKPab **PKPab 09 59 48.5 -0.6**
PCBR Castelo Branco 165.56 37 *e*PKPdf **PKPdf 09 58 53.7 +1.7**
PMTG Montargil 165.68 41 *e*PKPdf **PKPdf 09 58 53.2 +1.0**
PMTG Montargil 165.68 41 *e*PKPab **PKPab 09 59 49.8 -1.5**
PMRV Marv??o 165.90 38 *e*PKPdf **PKPdf 09 58 53.7 +1.3**
PMRV Marv??o 165.90 38 *e*PKPab **PKPab 09 59 51.2 -1.1**
PNCL Nicolau / Gran 166.11 45 *e*PKPdf **PKPdf 09 58 54.0 +1.5**
PNCL Nicolau / Gran 166.11 45 *e*PKPab **PKPab 09 59 52.4 -0.8**
PESTR Estremoz 166.18 41 *e*PKPdf **PKPdf 09 58 54.3 +1.7**
PESTR Estremoz 166.18 41 *e*PKPab **PKPab 09 59 52.5 -1.0**
MORF Marmelete 166.51 48 *e*PKPdf **PKPdf 09 58 55.2 +2.2**
PCVE Castro Verde 166.71 46 *e*PKPdf **PKPdf 09 58 55.1 +2.1**
PBAR Barrancos 166.97 41 *e*PKPdf **PKPdf 09 58 55.1 +1.9**
PBAR Barrancos 166.97 41 *e*PKPab **PKPab 09 59 56.3 -0.7**
PAB San Pablo 167.32 30 *e*PKIKP **PKPdf 09 58 54.7 +1.2**
PAB San Pablo 167.32 30 *e*PKPdf **PKPdf 09 58 54.7 +1.2**
ESDC Sonseca Array 167.38 29 PKP **PKPdf 09 58 54.6 +1.1**
comp=Z,5.7nm,1.0s,baz=346,slow=2.6,SNR=19
ESDC PKPab **PKPab 09 59 57.6 -1.2**
comp=Z,1.6nm,0.5s,baz=319,slow=4.1,SNR=11
KEST Kesra 171.70 328 PKP **PKPdf 09 58 57.2 +0.9**
comp=Z,6.6nm,0.9s,baz=342,slow=7.3,SNR=5.7
KEST PKPab **PKPab 10 00 17.3 -0.7**
comp=Z,5.5nm,0.9s,baz=345,slow=4.2,SNR=3.8

KRSC 22 09:41:28.5±2.4, 50°.00N×156°.70E, h45km±24km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.78**	**332**	*e*P	Pn	09 41 42.2	-1.0
SKR				*e*S	Sn	09 41 53.8	0.0
RUS	**Russkaya**	**2.69**	**24**	*e*P	Pn	09 42 12.0	+2.7
RUS				*e*S	Sn	09 42 43.3	+2.7
DALK	**Dalny**	**3.30**	**22**	P	Pn	09 42 21.4	+3.8
DALK				*e*S	Sn	09 43 00.9	+5.4
AVH	**Avacha**	**3.51**	**20**	*e*P	Pn	09 42 25.7	+5.1
AVH				P	Pn	09 42 27.0	+6.4
SDLR	**Sedlovina**	**3.56**	**22**	*e*P	Pn	09 42 25.2	+3.9
SPN	**Mys Shipunski**	**3.73**	**32**	*e*P	Pn	09 42 27.2	+3.6
SPN				*e*S	Sn	09 43 10.4	+4.2
MKZ	**Mys Kozlova**	**5.51**	**32**	*e*P	Pn	09 42 50.3	+2.4

CSEM 22 09:45:38.0±0.7, 36°.93N×34°.65E, h15km, MD2.2, Error ellipse: s-maj=15.7km s-min=4.9km az=94.0
DDA 22 09:45:41.6, 36°.95N×34°.34E, h7km, Ml1.9
ISK 22 09:45:37.8, 36°.95N×34°.58E, h16km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.10**	**209**	PG	Pg	09 45 41.5	+0.2
MERS				*e*SG	Sg	09 45 43.9	+0.4
MERS	**Mersin**	**0.10**	**209**	*i* Pg	Pg	09 45 41.5	+0.2
MERS				*e*Sg	Sg	09 45 43.9	+0.4
GULE	**Gulek**	**0.36**	**25**	*i* P	Pn	09 45 51.4	+2.7
GULE				*i* S	Sn	09 45 58.5	+2.9
GULE	**Gulek**	**0.36**	**25**	P	Pn	09 45 51.3	+2.7
GULE				S	Sn	09 45 58.5	+3.0
KERG	**Konya-Eregli**	**0.59**	**322**	*i* P	Pn	09 45 51.1	-0.5
KERG				*i* S	Sb	09 45 59.0	+1.0
KERG	**Konya-Eregli**	**0.59**	**322**	P	Pn	09 45 51.1	-0.5
KERG				S	Sb	09 45 59.0	+1.1
KIZK	**Mersin**	**0.59**	**217**	*e*PG	Pb	09 45 49.8	+0.1
KIZK				*e*SG	Sb	09 45 58.6	+0.8
KIZK	**Mersin**	**0.59**	**217**	*i* P	Pb	09 45 50.5	+0.8
KIZK				*i* S	Sb	09 45 58.9	+1.1
KIZK	**Mersin**	**0.59**	**217**	P	Pb	09 45 50.5	+0.8
KIZK				S	Sb	09 45 58.9	+1.1
KEBE	**Keben-Mersin**	**0.86**	**234**	*e*PG	Pg	09 45 54.9	+0.3
KEBE				*e*SG	Sn	09 46 07.4	-0.3
KEBE	**Keben-Mersin**	**0.86**	**234**	*e*Pg	Pg	09 45 54.9	+0.3
KEBE				*e*Sg	Sn	09 46 07.4	-0.2
IKL	**Isikli**	**1.01**	**226**	*e*PG	Pg	09 45 57.6	+0.2
IKL	**Isikli**	**1.01**	**226**	*e*Pg	Pg	09 45 57.6	+0.2

MOS 22 09:47:45.4±0.9, 55°.14N×160°.41E, h2km, mb4.3/1, Error ellipse: s-maj=13.2km s-min=3.7km az=83.2
KRSC 22 09:47:45.4±0.4, 55°.14N×160°.41E, h-2km±3km, ML4.1, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.06**	**356**	*e*P	Pg	09 47 47.7	+1.2
TUMD				*e*S	Sg	09 47 48.9	+1.6
KZV	**Kizimen**	**0.07**	**245**	PN	Pg	09 47 48.2	+1.5
KZV	**Kizimen**	**0.07**	**245**	*e*P	Pg	09 47 48.2	+1.5
TUMR	**Tumrok**	**0.20**	**313**	PN	Pg	09 47 50.9	+1.6
TUMR	**Tumrok**	**0.20**	**313**	*e*P	Pg	09 47 50.9	+1.6
KMNR	**Kamenistaya**	**0.62**	**351**	PN	Pb	09 47 58.8	-0.4
KMNR				S	Sb	09 48 08.9	+0.4
KMNR	**Kamenistaya**	**0.62**	**351**	*e*P	Pb	09 47 58.8	-0.4
KMNR				*e*S	Sb	09 48 08.9	+0.4
BZMR	**Bezymyannaya**	**0.80**	**3**	PN	Pb	09 48 01.9	-0.3
BZMR				S	Sb	09 48 14.6	+1.1
BZMR	**Bezymyannaya**	**0.80**	**3**	*e*P	Pb	09 48 01.9	-0.3
BZMR				*e*S	Sb	09 48 14.6	+1.1
KIRR	**Kirishev**	**0.81**	**357**	PN	Pb	09 48 02.0	-0.5
KIRR				S	Sn	09 48 15.8	-1.3
KIRR	**Kirishev**	**0.81**	**357**	*e*P	Pb	09 48 02.0	-0.5
KIRR				*e*S	Sn	09 48 15.8	-1.3
BZWR	**Bezymyannyi-We**	**0.82**	**4**	PN	Pb	09 48 02.7	0.0
BZWR	**Bezymyannyi-We**	**0.82**	**4**	*e*P	Pb	09 48 02.7	0.0
KPT	**Kopyto**	**0.83**	**353**	PN	Pb	09 48 03.0	+0.3
KPT	**Kopyto**	**0.83**	**353**	*e*P	Pb	09 48 03.0	+0.3
ZLN	**Zelenaya**	**0.91**	**14**	PN	Pb	09 48 04.0	0.0
ZLN				S	Sn	09 48 19.4	+0.1
ZLN	**Zelenaya**	**0.91**	**14**	*e*P	Pb	09 48 04.0	0.0
ZLN				*e*S	Sn	09 48 19.4	+0.1
LGNR	**Loginova**	**0.96**	**10**	PN	Pb	09 48 05.4	+0.4
LGNR	**Loginova**	**0.96**	**10**	*e*P	Pb	09 48 05.4	+0.4
KOZ	**Kozyrevsk**	**0.97**	**342**	PN	Pb	09 48 05.0	0.0
KOZ	**Kozyrevsk**	**0.97**	**342**	*e*P	Pb	09 48 05.0	0.0
MKZ	**Mys Kozlova**	**0.97**	**127**	PN	Pb	09 48 05.0	+0.1
MKZ				S	Sb	09 48 19.1	+0.9
MKZ	**Mys Kozlova**	**0.97**	**127**	*e*P	Pb	09 48 05.0	+0.1
MKZ				*e*S	Sb	09 48 19.1	+0.9
CIRR	**Tsirk**	**0.99**	**11**	PN	Pb	09 48 05.6	+0.1
CIRR	**Tsirk**	**0.99**	**11**	*e*P	Pb	09 48 05.6	+0.1
KRSR	**Krestovskiy**	**1.08**	**5**	PN	Pb	09 48 06.8	-0.2
KRSR	**Krestovskiy**	**1.08**	**5**	*e*P	Pb	09 48 06.8	-0.2
KLY	**Klyuchi**	**1.18**	**7**	PN	Pn	09 48 08.9	-0.2
KLY				S	Sn	09 48 27.5	+1.6
KLY	**Klyuchi**	**1.18**	**7**	*e*P	Pn	09 48 08.9	-0.2
KLY				*e*S	Sn	09 48 27.5	+1.6
KII	**Karymskiy**	**1.24**	**207**	PN	Pn	09 48 10.0	0.0
KII	**Karymskiy**	**1.24**	**207**	*e*P	Pn	09 48 10.0	0.0
ESO	**Esso**	**1.25**	**310**	PN	Pg	09 48 08.4	-0.8
ESO				S	Sb	09 48 26.8	+0.4
ESO	**Esso**	**1.25**	**310**	*e*P	Pg	09 48 08.4	-0.8
ESO				*e*S	Sb	09 48 26.8	+0.4
SRKR	**Sorokina**	**1.57**	**16**	PN	Pg	09 48 15.9	+0.4
SRKR	**Sorokina**	**1.57**	**16**	*e*P	Pg	09 48 15.9	+0.4
KBG	**Krutoberegovo**	**1.71**	**48**	PN	Pb	09 48 17.1	-0.6
KBG				S	Sg	09 48 40.7	+0.3
KBG	**Krutoberegovo**	**1.71**	**48**	*e*P	Pb	09 48 17.1	-0.6
KBG				*e*S	Sg	09 48 40.7	+0.3
KBTR	**Krutoberegovo**	**1.73**	**51**	PN	Pn	09 48 17.1	+0.4
KBTR	**Krutoberegovo**	**1.73**	**51**	*e*P	Pn	09 48 17.1	+0.4
GNL	**Ganaly**	**2.04**	**226**	PN	Pn	09 48 22.1	+1.0
GNL				S	Sg	09 48 50.9	-0.1
GNL	**Ganaly**	**2.04**	**226**	*e*P	Pn	09 48 22.1	+1.0
GNL				*e*S	Sg	09 48 50.9	-0.1
SPN	**Mys Shipunski**	**2.06**	**186**	PN	Pn	09 48 21.1	-0.1
SPN				S	Sn	09 48 48.3	+0.7
SPN	**Mys Shipunski**	**2.06**	**186**	*e*P	Pn	09 48 21.1	-0.1
SPN				*e*S	Sn	09 48 48.3	+0.7
SDLR	**Sedlovina**	**2.07**	**206**	PN	Pb	09 48 23.3	-0.6
SDLR	**Sedlovina**	**2.07**	**206**	*e*P	Pb	09 48 23.3	-0.6
NLC	**Nalytchevo**	**2.07**	**198**	PN	Pn	09 48 22.5	+1.2
NLC				S	Sb	09 48 50.9	+0.9
NLC	**Nalytchevo**	**2.07**	**198**	*e*P	Pn	09 48 22.5	+1.2
NLC				S	Sb	09 48 50.9	+0.9
KRER	**Koryakskii**	**2.08**	**209**	PN	Pb	09 48 24.4	+0.3
KRER	**Koryakskii**	**2.08**	**209**	*e*P	Pb	09 48 24.4	+0.3
AVH	**Avacha**	**2.12**	**208**	PN	Pb	09 48 24.2	-0.5
AVH	**Avacha**	**2.12**	**208**	*e*P	Pb	09 48 24.2	-0.5
KOK	**Koryaka**	**2.13**	**210**	PN	Pb	09 48 25.2	+0.4
KOK	**Koryaka**	**2.13**	**210**	*e*P	Pb	09 48 25.2	+0.4
UGLR	**Uglovaya**	**2.15**	**206**	PN	Pb	09 48 24.9	-0.3
UGLR	**Uglovaya**	**2.15**	**206**	*e*P	Pb	09 48 24.9	-0.3
DALK	**Dalny**	**2.33**	**205**	PN	Pb	09 48 26.8	-1.4
DALK	**Dalny**	**2.33**	**205**	*e*P	Pb	09 48 26.8	-1.4
PET	**Petropavlovsk**	**2.36**	**207**	*e*PN	Pb	09 48 27.7	-1.0
PET				*e*S	Sg	09 49 03.0	+1.9
PET				pmax	pmax		
comp=Z,117nm,0.5s
PET smax smax
comp=E,154nm,0.5s
PET smax smax
comp=N,202nm,0.6s
PET Petropavlovsk 2.36 207 *e*P Pb 09 48 27.1 -1.6
KRMR Karymshinskiy 2.68 211 PN Pb 09 48 32.1 -2.0
KRMR Karymshinskiy 2.68 211 *e*P Pb 09 48 32.1 -2.0
APC Apacha 2.93 222 PN Pn 09 48 35.1 +1.9
APC Apacha 2.93 222 *e*P Pn 09 48 35.1 +1.9
RUS Russkaya 2.94 203 PN Pn 09 48 35.0 +1.8
RUS Russkaya 2.94 203 *e*P Pn 09 48 35.0 +1.8
ASAK Asacha 3.14 209 PN Pb 09 48 40.6 -1.4
ASAK Asacha 3.14 209 *e*P Pb 09 48 40.6 -1.4

AZER 22 09:55:46.8±1.0, 38°.45N×41°.20E, h5km, Error ellipse: s-maj=23.7km s-min=9.7km az=154.0
ISN 22 09:55:50.2±0.6, 39°.49N×42°.36E, h13km±60km, ML3.8
NSSP 22 09:55:56.7, 39°.98N×42°.15E, h15km, Ms3.5
ISK 22 09:55:58.2, 38°.97N×42°.28E, h5km, ML3.7
ATA 22 09:55:58.0±0.9, 38°.99N×42°.39E, h26km±2km, ML4.5, MW4.3
TEH 22 09:55:59.0, 38°.98N×42°.35E, h14km, ML3.8
DDA 22 09:55:59.0, 38°.99N×42°.35E, h14km, Ml3.8
CSEM 22 09:56:00.2±0.2, 38°.95N×42°.35E, h10km, ML3.8, Error ellipse: s-maj=4.9km s-min=4.5km az=159.0
ISC 22 09:55:59.3±1.1, 38°.98N±0°.02×42°.32E±0°.01, h1km±10km, n111, σ1.38/155, 11C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.34**	**324**	⇓*i*P	**Pg**	**09 56 06.5**	**+0.6**
EKAR				*e*S	**Sb**	**09 56 14.3**	**-0.3**
EKAR				IAML		09 56 20.1	
comp=Z,3μm,0.3s
EKAR Karacoban 0.34 324 *i* P **Pg 09 56 06.8 +0.8**
EKAR *i* S **Sb 09 56 14.5 -0.1**
EKAR Karacoban 0.34 324 P **Pg 09 56 06.8 +0.8**
EKAR S **Sb 09 56 14.5 -0.1**
TUTA Tutak 0.57 42 ⇑*e*P **Pg 09 56 09.6 -0.7**
TUTA *e*S **Sg 09 56 18.4 +0.6**
TUTA IAML 09 56 19.4
comp=Z,11μm,0.2s
TUTA Tutak 0.57 42 *i* P **Pg 09 56 09.7 -0.7**
TUTA *i* S **Sg 09 56 18.3 +0.6**
TUTA Tutak 0.57 42 P **Pg 09 56 09.7 -0.7**
TUTA S **Sg 09 56 18.3 +0.6**
VRTB Varto-Mus 0.70 286 *e*PG **Pg 09 56 12.0 -0.8**
VRTB *e*SG **Sg 09 56 22.7 +0.9**
VRTB Varto-Mus 0.70 286 *i* P **Pg 09 56 09.7 -3.0**
VRTB *i* S **Sg 09 56 23.0 +1.2**
VRTB Varto-Mus 0.70 286 *e*Pg **Pg 09 56 12.0 -0.8**
VRTB *e*Sg **Sg 09 56 22.7 +0.9**
VRTB S **Sg 09 56 23.0 +1.2**
AGRB Hanur-Agry 0.79 41 *e*PG **Pg 09 56 14.5 -0.1**
AGRB Hanur-Agry 0.79 41 *e*Pg **Pg 09 56 14.5 -0.1**
GEVA Gevas 0.88 139 ⇓*i*P **Pg 09 56 15.5 -0.7**
GEVA *e*S **Sg 09 56 28.3 +0.8**
GEVA IAML 09 56 34.0
comp=Z,1μm,0.4s
GEVA Gevas 0.88 139 *i* P **Pg 09 56 15.7 -0.4**
GEVA *i* S **Sb 09 56 28.7 -1.1**
GEVA Gevas 0.88 139 P **Pg 09 56 15.7 -0.4**
GEVA S **Sb 09 56 28.7 -1.1**
EATA Eleskirt 0.90 8 ⇓*i*P **Pg 09 56 15.8 -0.7**
EATA *e*S **Sg 09 56 28.9 +0.8**
EATA IAML 09 56 34.1
comp=Z,437nm,0.5s
EATA Eleskirt 0.90 8 *i* P **Pg 09 56 15.9 -0.6**
EATA *i* S **Sb 09 56 29.4 -1.0**
BNGL BINGOL 0.92 269 ⇑*i*P **Pg 09 56 16.4 -0.5**
BNGL BINGOL 0.92 269 *i* P **Pg 09 56 16.6 -0.3**
BNGL *i* S **Sb 09 56 30.1 -0.8**
TVAN Van 0.96 117 *i* P **Pb 09 56 19.3 +0.4**
TVAN *i* S **Sn 09 56 33.9 -0.6**
TVAN Van 0.96 117 P **Pb 09 56 19.3 +0.4**
VMUR Van-Muradiye 0.97 89 *i* P **Pg 09 56 17.5 -0.5**
VMUR *i* S **Sn 09 56 33.6 -1.3**
VMUR Van-Muradiye 0.97 89 P **Pg 09 56 17.5 -0.5**
HOMI Horasan 1.12 343 ⇓*i*P **Pg 09 56 20.0 -0.8**
HOMI IAML 09 56 21.9
comp=Z,466nm,0.4s
HOMI Horasan 1.12 343 *i* P **Pg 09 56 20.2 -0.5**
HOMI *i* S **Sb 09 56 37.2 +0.4**
ERZM Erzurum 1.19 322 *e*P **Pg 09 56 21.5 -0.6**
ERZM Erzurum 1.19 322 *i* P **Pg 09 56 21.5 -0.6**
ERZM *i* S **Sg 09 56 36.9 -0.7**
ERZM Erzurum 1.19 322 P **Pg 09 56 21.5 -0.6**
DYDN Diyadin 1.20 61 ⇑*i*P **Pg 09 56 20.5 -1.9**
DYDN *e*S **Sg 09 56 37.3 -0.7**
DYDN IAML 09 56 51.8
comp=Z,566nm,0.4s
DYDN Diyadin 1.20 61 *i* P **Pg 09 56 21.0 -1.4**
DYDN *i* S **Sg 09 56 37.9 -0.1**
DYDN Diyadin 1.20 61 P **Pg 09 56 21.0 -1.4**
DYDN S **Sg 09 56 37.9 -0.1**
SVAN Silvan-Diyarba 1.21 227 *e*PN **Pg 09 56 22.1 -0.3**
SVAN *e*SN **Sb 09 56 39.3 +0.2**
SVAN Silvan-Diyarba 1.21 227 *i* P **Pg 09 56 22.1 -0.3**
SVAN *i* S **Sb 09 56 39.7 +0.6**
SVAN Silvan-Diyarba 1.21 227 P **Pg 09 56 22.1 -0.3**
SVAN *e*Sn **Sb 09 56 39.3 +0.2**
ECAT Cat-ERZURUM 1.22 301 *e*P **Pg 09 56 21.9 -0.8**
ECAT *e*S **Sn 09 56 41.2 +0.1**
ECAT IAML 09 56 43.0
comp=Z,628nm,0.4s
ECAT Cat-ERZURUM 1.22 301 *i* P **Pg 09 56 21.5 -1.3**
ECAT *i* S **Sb 09 56 40.3 +0.5**
BNGB Bing¨¶l 1.28 271 *e*PN **Pg 09 56 22.5 -1.4**
BTMN Batman 1.36 218 *i* P **Pg 09 56 25.2 -0.2**
BTMN *i* S **Sn 09 56 44.6 +0.2**
BTMN Batman 1.36 218 P **Pg 09 56 25.2 -0.2**
BTMN S **Sn 09 56 44.6 +0.2**
BINT Bingol 1.43 267 *e*Pn **Pn 09 56 22.5 -4.1**
SIRN S¨–rnak 1.48 177 *i* P **Pb 09 56 27.9 +0.2**
SIRN *i* S **Sn 09 56 49.6 +2.4**
SIRN S¨–rnak 1.48 177 P **Pb 09 56 27.9 +0.2**
SENK Senkaya-Erzuru 1.58 1 *e*PN **Pn 09 56 29.1 +0.3**
SENK *e*SN **Sg 09 56 50.9 +0.6**
SENK Senkaya-Erzuru 1.58 1 *e*

PTK	Pertek	2.29	269	*e*PN	Pn	09 56 38.7	+0.2
PTK	Pertek	2.29	269	*e*Pn	Pn	09 56 38.7	+0.2
DBOC	Borcka	2.42	348	*i* P	Pn	09 56 40.6	+0.5
DBOC	Borcka	2.42	348	P	Pn	09 56 40.6	+0.5
EZC	Erzincan	2.43	290	*e*Pn	Pn	09 56 35.8	-4.5
NAX	Nakhchivan SNR=7.8	2.48	84	⇑P	Pn	09 56 41.3	+0.4
NAX				⇑S	Sg	09 57 23.8	+4.9
NAX	Nakhchivan SNR=7.8	2.48	84	P	Pn	09 56 41.3	+0.4
EPOS	Posof	2.54	7	*i* P	Pn	09 56 42.8	+0.9
EPOS	Posof	2.54	7	P	Pn	09 56 42.8	+0.9
STE	Stepanavan	2.56	37	⇑P	Pn	09 56 42.0	-0.1
AKH	Akhalkalaki	2.59	20	P	Pn	09 56 42.9	+0.3
AKH				S	Sg	09 57 22.4	-0.2
KELT	Kelkit	2.65	297	*e*P	Pn	09 56 42.6	-0.8
KELT	comp=Z,52nm,0.4s			IAML		09 56 57.3	
KELT	Kelkit	2.65	297	*i* P	Pn	09 56 45.2	+1.9
KELT	Kelkit	2.65	297	P	Pn	09 56 45.2	+1.9
IMRD	Marand	2.65	95	*e*P	Pb	09 56 45.7	-2.0
IMRD	Marand	2.65	95	*e*P	Pb	09 56 45.7	-2.0
ISHB	Shabestar	2.67	104	*e*P	Pb	09 56 47.3	-0.8
VADZ	Vardenis	2.90	65	P	Pn	09 56 44.0	-2.9
KEMA	Kemaliye	2.99	277	*i* P	Pn	09 56 49.0	+1.0
KEMA	Kemaliye	2.99	277	P	Pn	09 56 49.0	+1.0
QZX	Qazax, Azerbai SNR=7.3	3.13	47	⇑P	Pn	09 56 50.8	+0.9
QZX				⇓S	Sg	09 57 40.7	+0.8
QZX	Qazax, Azerbai SNR=7.3	3.13	47	P	Pn	09 56 50.8	+0.9
GDB	GEDABAY SNR=18	3.16	55	⇓P	Pn	09 56 51.5	+1.1
GDB				⇑S	Sg	09 57 42.4	+1.4
GDB	GEDABAY SNR=18	3.16	55	P	Pn	09 56 51.5	+1.1
TBLG	Delisi	3.31	33	P	Pn	09 56 53.6	+1.2
TBLG				S	Sg	09 57 53.6	+7.9
TBLG	Delisi	3.31	33	P	Pn	09 56 53.6	+1.2
DGRG	David-gareji	3.40	42	P	Pn	09 56 55.2	+1.7
DGRG	David-gareji	3.40	42	P	Pn	09 56 55.3	+1.7
GANJ	Ganja SNR=19	3.50	60	⇑P	Pn	09 56 56.1	+1.1
GANJ				⇓S	Sg	09 57 50.1	-1.8
GANJ	Ganja SNR=19	3.50	60	P	Pn	09 56 56.1	+1.1
ONI	Oni	3.71	13	P	Pn	09 56 58.9	+1.0
ONI				S	Sg	09 57 57.1	-1.5
IHRS	Heris	3.75	99	*e*P	Pb	09 57 07.0	+0.5
IBST	Bostanabad	3.81	108	*e*P	Pb	09 57 07.1	-0.4
ZKTA	Zakatala SNR=7.2	4.23	50	⇓P	Pn	09 57 05.9	+0.9
ZKTA				⇓S	Sb	09 58 07.6	+1.5
LRK	Lerik	4.71	92	⇑P	Pn	09 57 10.7	-1.0
LRK	Lerik	4.71	92	P	Pn	09 57 10.7	-1.0
XNQ	Khinaliq	4.97	62	⇑P	Pn	09 57 16.6	+1.3
XNQ	Khinaliq	4.97	62	P	Pn	09 57 16.6	+1.3
BHD	Baghdad SNR=5.0	5.93	163	*e*Pn	Pn	09 57 26.0	-2.3
RTB	Rutbah SNR=5.0	6.15	196	*e*Pn	Pn	09 57 29.0	-2.4

IDC 22 10:01:40.8±9.2, 55°.59N×85°.26E, h0km, Error ellipse: s-maj=52.4km s-min=27.7km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.66	189	*i*		10 12 30.0	
	baz=9.0,slow=326,SNR=9.5						
ZALV	Zalesovo Beam	1.66	189	Pg	Pn	10 02 11.3	+0.1
	0.4nm,0.3s,baz=4.4,slow=12,SNR=3.9						
ZALV				Lg	Lg	10 02 33.3	
	0.6nm,0.3s,baz=8.1,slow=27,SNR=5.7						
I34MN	SONGINO INFRAS	15.21	112	*i*		11 28 10.0	
	baz=312,slow=331,SNR=0.6						

ISK ***22*** *10:06:25.5, 39°.08N×29°.19E, h5km, ML2.1*
CSEM ***22*** *10:06:26.6±0.1, 39°.14N×29°.09E, h0km±1km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.9km az=138.0*
DDA ***22*** *10:06:26.4, 39°.13N×29°.09E, h7km, Ml2.6*
ISC 22 10:06:26.6±0.9, 39°.13N±0°.02×29°.10E±0°.03, h12km±9km, n17, σ0.942/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.30	97	*i* P	Pg	10 06 32.9	+0.1
GDZ				*i* S	Sg	10 06 37.5	+0.6
GDZ	Gediz	0.30	97	P	Pg	10 06 32.9	+0.1
GDZ				S	Sg	10 06 37.5	+0.6
DEMI	Demirci	0.31	255	*i* P	Pg	10 06 32.9	-0.1
DEMI				*i* S	Sg	10 06 37.2	0.0
DEMI	Demirci	0.31	255	P	Pg	10 06 32.8	-0.1
DEMI				S	Sg	10 06 37.2	0.0
TVSB	Tavsanli	0.43	41	*e*PG	Pg	10 06 34.5	-0.7
TVSB				*e*SG	Sg	10 06 40.2	-0.7
TVSB	Tavsanli	0.43	41	*e*Pg	Pg	10 06 34.5	-0.7
TVSB				*e*Sg	Sg	10 06 40.2	-0.7
KULA	Kula-Manisa	0.70	209	*e*PG	Pg	10 06 39.7	-0.5
KULA				*e*SG	Sg	10 06 49.5	+0.1
KULA	Kula-Manisa	0.70	209	*e*Pg	Pg	10 06 39.7	-0.5
KULA				*e*Sg	Sg	10 06 49.5	+0.1
MANT	Manisa	0.76	214	*i* P	Pg	10 06 41.4	0.0
MANT				*i* S	Sg	10 06 51.3	-0.1
MANT	Manisa	0.76	214	P	Pg	10 06 41.4	0.0
MANT				S	Sg	10 06 51.3	-0.1
KHAL	Karahalli	0.81	158	*i* P	Pb	10 06 42.8	0.0
KHAL				*i* S	Sb	10 06 53.9	+0.1
KHAL	Karahalli	0.81	158	P	Pb	10 06 42.8	0.0
KHAL				S	Sb	10 06 53.9	+0.1
IGD	Bursa	1.14	4	*i* P	Pb	10 06 47.9	-0.4
IGD				*i* S	Sn	10 07 03.9	-0.1
ARMT	Armutlu	1.45	353	*e*PN	Pb	10 06 54.0	+0.4
ARMT				*e*SN	Sg	10 07 14.1	+0.7
ARMT	Armutlu	1.45	353	*e*Pn	Pb	10 06 54.0	+0.4
ARMT				*e*Sn	Sg	10 07 14.1	+0.7
YLV	Yalova	1.46	8	*e*PN	Pb	10 06 53.9	+0.2
YLV				*e*SN	Sg	10 07 14.0	+0.5
YLV	Yalova	1.46	8	*e*Pn	Pb	10 06 53.9	+0.2
YLV				*e*Sn	Sg	10 07 14.0	+0.5

SCB ***22*** *10:07:40.1±0.8, 17°.97S×69°.49W, h136km±5km, Ml4.2/1, Error ellipse: s-maj=22.4km s-min=6.8km az=82.0*
GUC ***22*** *10:07:41.8±0.6, 18°.14S×69°.59W, h124km±3km, ML4.9*
BJI ***22*** *10:07:41.6, 18°.00S×69°.30W, h110km, mB5.2/11*
ISCJB ***22*** *10:07:41.1±0.1, 17°.92S±0°.02×69°.30W±0°.03, h130km, mb4.9/138, Error ellipse: s-maj=4.6km s-min=2.7km az=167.0*
NEIC ***22*** *10:07:43.1±0.2, 18°.00S×69°.31W, mb5.0/118, Error ellipse: s-maj=6.9km s-min=4.1km az=69.0*
NEIC Felt [II] at Arica and Poconchile. Also felt at Iquique. Felt at Arequipa and Tacna, Peru.
IDC ***22*** *10:07:43.2±0.5, 17°.96S×69°.40W, h128km±3km, mb4.6/18, mb1 4.7/21, mb1mx4.6/25, mbtmp5.0/21, MS3.5/3, Ms1 3.5/3, ms1mx3.1/28, Error ellipse: s-maj=13.0km s-min=11.1km az=70.0*
GCMT ***22*** *10:07:43.1±0.4, 18°.10S×69°.75W, h152km±3km, MW5.1/79, Moment Tensor Solution. s21,c24; s79,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.90±.23; Mθθ-0.12±.21; Mφφ 1.02±.28; Mrθ 0.55±.14; Mrφ 0.66±.24; Mθφ-5.60±.19; Best double couple: M=5.74800×10^16 NP1:φs355.00000°, δ85.00000°, λ-98.00000°. NP2: φs234.00000°, δ9.00000°, λ-31.00000°. Principal axes: T 5.7440, Plg40.0000°, Azm92.0000°; N 0.0060, Plg8.0000°, Azm356.0000°; P -5.7530, Plg49.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***22*** *10:07:45.2±1.2, 17°.75S×69°.37W, h153km, mb5.0/30 Error ellipse: s-maj=15.8km s-min=6.8km az=113.6*
ISC 22 10:07:42.7±0.3, 18°.05S±0°.03×69°.56W±0°.04, h128km±2km, h128km:pP-P, n871, σ1.938/943, mb5.0/137, 9C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB13	IPOC Station P	0.29	170	⇑*i*P	Pn	10 08 01.1	-0.3
PB13				*i* S	Sn	10 08 14.8	-0.7
PB12	IPOC Station P	0.92	233	⇑*i*P	Pn	10 08 03.3	-1.5
PB12				*e*S	Sn	10 08 19.2	-2.4
PB12				IAML		10 08 20.0	
	comp=E,131μm,0.7s						
MNMC	Minye Minye	1.07	182	⇑*i*P	Pn	10 08 06.1	-0.3
MNMC				*i* S	Sn	10 08 23.6	-0.8
MNMC				IAML		10 08 26.4	
	comp=N,32μm,0.6s						
PSGC	Pisagua	1.63	199	⇑*i*P	Pn	10 08 10.9	-1.3
PSGC				*i* S	Sn	10 08 32.5	-2.3
BBOD	La Paz, Gloria	1.68	33	*e*Pn	Pn	10 08 14.3	+1.0
BBOJ	La Paz, Jacaqu	1.69	51	*e*Pn	Pn	10 08 15.0	+1.7
BBOE	La Paz, Chanca	1.94	51	*e*Pn	Pn	10 08 18.3	+1.9
I08BO	LAS PENAS INFR	2.11	30	P	Pn	10 08 20.8	+2.3
	baz=226,slow=16,SNR=1.4						
I08BO				*i*		10 20 40.0	
	baz=203,slow=327,SNR=1.4						
PB08	IPOC Station P	2.11	170	⇑*i*P	Pn	10 08 18.6	+0.3
PB08				*i* S	Sn	10 08 45.5	-0.1
PB08				IAML		10 08 52.3	
	comp=E,4μm,0.7s						
LPAZ	La Paz	2.22	38	P	Pn	10 08 21.4	+1.5
	comp=E,359nm,0.3s,baz=227,slow=7.5						
LPAZ	La Paz	2.22	38	⇓*i*P	Pn	10 08 21.4	+1.5
LPAZ	La Paz	2.22	38	P	Pn	10 08 20.8	+0.9
LPAZ				pmax	pmax		
	comp=Z,4μm,3.2s						
LPAZ	La Paz	2.22	38	*e*Pn	Pn	10 08 21.3	+1.4
LPAZ				*e*Sn	Sn	10 08 49.8	+1.4
HMBC	Humberstone	2.24	188	⇑*i*P	Pn	10 08 18.4	-1.2
HMBC				*i* S	Sn	10 08 46.0	-2.0
HMBC				IAML		10 08 51.0	
	comp=E,5μm,0.4s						
BBOB	La Paz, Bander	2.34	36	*e*Pn	Pn	10 08 22.5	+1.2
PB01	IPOC Station P	2.98	179	⇑*i*P	Pn	10 08 28.1	-0.9
PB01				*i* S	Sn	10 09 01.0	-3.8
PB01	IPOC Station P	2.98	179	*e*Pn	Pn	10 08 28.2	-0.9
PB01				*e*Sn	Sn	10 09 01.8	-2.9
PB07	IPOC Station P	3.67	185	*e*P	Pn	10 08 37.0	-1.1
PB04	IPOC Station P	4.29	187	*e*Pn	Pn	10 08 44.8	-1.6
PB04				*e*Sn	Sn	10 09 28.9	-7.2
LVC	Limon Verde	4.57	172	P	Pn	10 08 50.5	+0.1
	comp=E,2μm,0.3s,baz=6.5,slow=8.9,SNR=671						
LVC				S	Sn	10 09 40.2	-2.8
	comp=E,5μm,0.3s,baz=150,slow=19,SNR=16						
MOCB	Mochara	4.87	131	⇑*i*Pn	Pn	10 08 57.0	+2.5
MOCB				*e*Sn	Sn	10 09 53.2	+3.0
	comp=E,190nm,0.8s						
PB10	IPOC Station P	5.51	190	*e*Pn	Pn	10 08 59.8	-2.8
PB10				*e*Sn	Sn	10 09 57.3	-7.6
SIV	San Ignacio	8.37	77	P	Pn	10 09 38.6	-2.6
	comp=E,21nm,0.3s,baz=273,slow=11,SNR=86						
SIV				S	Sn	10 11 07.9	-6.2
	comp=E,7.6nm,0.3s,baz=9.1,slow=23,SNR=7.5						
SIV	San Ignacio	8.37	77	*e*P	Pn	10 09 38.6	-2.6
FSA	Cafayete	8.68	158	*e*P	Pn	10 09 44.0	-1.4
FSA				*e*S	Sn	10 11 19.7	-2.0
NNA	Nana	9.27	310	P	Pn	10 09 51.0	-2.3
	comp=E,22nm,0.3s,baz=137,slow=12,SNR=36						
NNA				S	Sn	10 11 28.6	-7.3
	comp=E,11nm,0.3s,baz=295,slow=9.8,SNR=5.5						
AHML	Horco Molle	9.53	157	*e*P	Pn	10 09 53.9	-2.8
VCA	Vinchina	10.71	174	*e*P	Pn	10 10 08.8	-3.8
VCA				IAML		10 12 11.3	
	comp=Z,51nm,0.9s						
LCO	Las Campanas	10.96	185	*e*Pn	Pn	10 10 10.7	-5.4
SAML	Samuel	10.96	35	*e*Pn	Pn	10 10 12.7	-3.3
SAML				*e*Sn	Sn	10 12 08.9	-8.1
AGUA	GUANDACOL	11.42	175	*e*P	Pn	10 10 17.5	-4.6
AGUA				*e*S	Sn	10 12 17.9	-10
ACLC	CERRO LA CRUZ	11.57	169	*e*P	Pn	10 10 19.5	-4.6
APLL	PUNTA DE LOS L	12.59	168	*e*P	Pn	10 10 31.7	-5.6
APLL				*e*S	Sn	10 12 43.3	-13
AVFE	Valle Fertil	12.70	172	*e*P	Pn	10 10 33.5	-5.3
AVFE				IAML		10 10 48.4	
	comp=Z,33nm,0.8s						
RTCV	Cerro Valdivia	13.78	176	*e*P	Pn	10 10 46.4	-6.3
ATAH	Atahualpa	13.86	320	P	Pn	10 10 52.8	-1.3
	comp=Z,0.3nm,0.3s,baz=137,slow=12,SNR=6.9						
TCA	Tanti	13.97	162	*e*P	Pn	10 10 49.0	-6.2
TCA				IAML		10 11 00.2	
	comp=Z,34nm,0.6s						
CPUP	Villa Florida	13.99	128	P	Pn	10 10 52.9	-2.5
	comp=Z,1.2nm,0.3s,baz=310,slow=12,SNR=23						
CPUP				LR	LR	10 17 17.9	
	comp=Z,135nm,19.5s,baz=320,slow=41						
CPUP				ScP	ScP	10 19 30.5	+1.9
	comp=Z,0.1nm,0.3s,baz=329,slow=5.4,SNR=3.6						
AUSP	Uspallata	14.11	179	*e*P	Pn	10 10 51.3	-5.8
ASAL	Salagasta	14.49	178	*e*P	Pn	10 10 55.4	-6.3
PTGA	Pitinga	19.62	30	P	P	10 11 59.7	-1.6
	comp=Z,21nm,0.3s,baz=300,slow=23,SNR=128						
PTGA				S	S	10 15 27.7	-8.2
	comp=Z,0.5nm,0.3s,baz=202,slow=16,SNR=4.5						
PTGA				LR	LR	10 19 49.7	
	comp=Z,111nm,20.0s,baz=206,slow=37						
PTGA	Pitinga	19.62	30	*e*P	P	10 11 59.5	-1.8
	comp=Z,54nm,0.6s						
PTGA				S	S	10 15 27.7	-8.2
OTAV	Otavalo	20.17	333	*e*P	Pn	10 12 09.9	-0.9
OTAV	Otavalo	20.17	333	*e*P	P	10 12 08.8	+1.1
	comp=Z,26nm,0.7s						
FLOC	Florencia	20.41	342	*e*P	P	10 12 09.1	-0.8
CMBC	Cumbal	20.55	336	*e*P	Pn	10 12 13.8	-1.5
BDFB	Brasilia	20.76	87	P	P	10 12 12.6	-1.0
	comp=Z,53nm,0.7s,baz=47,slow=12,SNR=38						
BDFB	Brasilia	20.76	87	*e*P	P	10 12 12.0	-1.6
	comp=Z,86nm,0.7s						
CRUC	La Cruz	20.81	339	*e*P	P	10 12 11.8	-2.6
TRQA	Tornquist	21.00	163	*e*P	P	10 12 16.3	+0.3
	comp=Z,73nm,0.8s						
POPC	Popayan, Colom	21.63	340	*e*P	P	10 12 22.5	-0.6
PRAC	Prado	22.26	346	*e*P	P	10 12 29.1	-0.3
	comp=Z,13nm,0.8s						
PLCA	Paso Flores	22.62	182	P	P	10 12 33.7	+0.9
	comp=Z,20nm,0.9s,baz=29,slow=12,SNR=30						
PLCA	Paso Flores	22.62	182	*e*P	P	10 12 34.1	+1.3
PLCA	Paso Flores	22.62	182	*e*P	P	10 12 34.0	+1.3
NORC	Norcasia	24.05	347	*e*P	P	10 12 44.5	-1.6
RUSC	La Rusia	24.05	351	*e*P	P	10 12 45.8	-0.9
RUSC	La Rusia	24.05	351	*e*P	P	10 12 45.5	-1.1
	comp=Z,12nm,0.8s						
BARC	Barichara	24.75	351	*e*P	P	10 12 51.0	-1.8
HELC	Santa Helena	24.80	346	*e*P	P	10 12 51.5	-1.8
HELC	Santa Helena	24.80	346	*e*P	P	10 12 51.5	-1.8
	comp=Z,43nm,0.4s						
PAMC	Pamplona, Colo	25.42	353	*e*P	P	10 12 57.2	-1.9
ZARC	Zaragoza, Cauc	25.92	348	*e*P	P	10 13 00.1	-3.0
SDV	Santo Domingo	26.79	358	P	P	10 13 09.8	-1.2
	comp=Z,3.9nm,0.4s,baz=95,slow=8.7,SNR=3.1						
SDV	Santo Domingo	26.79	358	*e*P	P	10 13 10.2	-0.9
	comp=Z,4.5nm,0.5s						
MOTC	Monteria, Cord	27.33	347	*e*P	P	10 13 13.5	-2.2
CHRN	Cochrane	29.22	184	*e*P	P	10 13 33.9	+1.7
	comp=Z,11nm,1.0s						
RCBR	Riachuelo	35.02	74	P	P	10 14 23.3	0.0
	comp=Z,38nm,0.7s,baz=241,slow=8.3,SNR=23						
RCBR				LR	LR	10 30 32.2	
	comp=Z,116nm,18.8s,baz=242,slow=39						
RCBR	Riachuelo	35.02	74	*e*P	P	10 14 22.4	-0.9
	comp=Z,43nm,0.8s						
CBYP	Canovanas	36.28	6	*e*P	P	10 14 31.5	-2.4
	comp=Z,31nm,0.9s						
USHA	Ushuaia	36.72	179	P	P	10 14 37.6	+0.4
	comp=Z,67nm,1.0s,baz=204,slow=10.0,SNR=2.7						
CCIG	Comitan	40.73	326	*e*P	P	10 15 11.5	+0.3
	comp=Z,30nm,1.1s						
TEIG	Tepich	42.24	333	*e*P	P	10 15 23.8	+0.4
	comp=Z,10nm,0.8s						
TIGA	Tifton	51.02	345	P	P	10 16 31.3	-0.3
	baz=162						
RGRS	Roger Stewart	51.68	349	*e*P	P	10 16 36.2	-0.2
	comp=Z,729nm,0.4s						
LNIG	Linares	51.69	325	*e*P	P	10 16 36.8	+0.1
	comp=Z,20nm,0.9s						
BRAL	Brewton	51.75	341	*e*P	P	10 16 37.4	+0.4
	comp=Z,174nm,0.7s						
448A	Bay Minette	51.78	340	P	P	10 16 37.5	+0.2
	baz=157						
546A	Slidell	51.79	338	P	P	10 16 36.9	-0.4
	baz=155						
ZAIG	Zacatecas	51.84	320	*e*P	P	10 16 39.9	+1.6
	comp=Z,16nm,1.0s						
ZAIG				*e*pP	pP	10 17 09.2	+1.0
NHSC	New Hope	51.87	349	*e*P	P	10 16 36.8	-1.2
	comp=Z,26nm,1.0s						
NHSC				*e*pP	pP	10 17 07.5	-0.3
447A	Lucedale	51.92	339	P	P	10 16 38.5	+0.2
	baz=156,SNR=6.4						
446A	Poplarville	52.17	338	P	P	10 16 40.5	+0.3
	baz=156						
035Z	Hargill	52.20	327	P	P	10 16 41.5	+1.1
	baz=145						
348A	Jackson	52.24	340	P	P	10 16 40.8	+0.2
	baz=158,SNR=6.7						
347A	Saraland	52.44	339	P	P	10 16 42.2	+0.1
	baz=157,SNR=24						
445A	Amite	52.46	337	P	P	10 16 43.0	+0.7
	baz=155						
444A	Pine Grove	52.60	337	P	P	10 16 44.1	+0.7
	baz=154						
936A	North Padre Is	52.60	329	P	P	10 16 44.5	+1.1
	baz=146						
035A	Encino	52.61	328	P	P	10 16 44.4	+0.9
	baz=145						
346A	Big Creek Wild	52.74	339	P	P	10 16 44.3	0.0
	baz=156,SNR=7.8						
542A	Morse	52.77	335	P	P	10 16 46.5	+1.9
	baz=152						
248A	Dixon Mills	52.82	341	P	P	10 16 44.8	-0.1
	baz=158,SNR=40						
GOGA	Godfrey	52.87	345	*e*P	P	10 16 44.8	-0.5
GOGA				pmax	pmax		
	comp=Z,11nm,1.0s						
GOGA	Godfrey	52.87	345	*e*P	P	10 16 44.8	-0.5
	comp=Z,11nm,1.0s						
345A	Thompson Farm,	52.87	338	P	P	10 16 45.3	-0.1
	baz=155,SNR=6.0						
541A	Lake Charles	52.98	334	P	P	10 16 47.0	+0.9
	baz=151						
034A	Hebbronville	53.01	327	P	P	10 16 47.4	+0.9
	baz=144,SNR=6.6						
247A	Quitman	53.06	340	P	P	10 16 46.6	-0.1
	baz=157,SNR=10						
246A	Jackson Lee, B	53.20	339	P	P	10 16 47.5	-0.3
	baz=156						
JSC	Jenkinsville	53.22	348	*e*P	P	10 16 47.5	-0.3
JSC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JSC	Jenkinsville	53.22	348	*e*P	P	10 16 47.5	-0.3
	comp=Z,5.8nm,0.8s						
442A	Mamou	53.24	335	P	P	10 16 49.2	+1.2
	baz=152						
344A	Westbrook Farm	53.26	337	P	P	10 16 48.3	+0.1
	baz=154,SNR=6.7						
934A	Benavides	53.36	328	P	P	10 16 49.9	+0.9
	baz=145						
638A	Rosharon	53.40	332	P	P	10 16 50.3	+1.1
	baz=149						
LRAL	Lakeview Retre	53.47	342	*e*P	P	10 16 49.0	-0.6
	comp=Z,50nm,1.1s						
245A	Little AP, Sta	53.48	338	P	P	10 16 49.6	-0.2
	baz=156,SNR=11						
147A	Livingston	53.52	340	P	P	10 16 49.3	-0.8
	baz=158,SNR=5.6						
835A	Beeville	53.58	329	P	P	10 16 52.1	+1.5
	baz=146						
441A	DeRidder	53.58	335	P	P	10 16 52.0	+1.4
	baz=152						
146A	Union	53.75	340	P	P	10 16 51.6	-0.1
	baz=157,SNR=12						
933A	Laredo	53.76	327	P	P	10 16 52.5	+0.5
	baz=144,SNR=12						
736A	Circle Diamond	53.76	330	P	P	10 16 53.5	+1.6
	baz=147,SNR=12						
244A	Avery, Jackson	53.77	338	P	P	10 16 51.7	-0.2
	baz=155,SNR=6.8						
342A	Flagon Creek P	53.79	336	P	P	10 16 52.6	+0.6
	baz=153,SNR=16						
637A	Eagle Lake	53.82	331	P	P	10 16 53.5	+1.2
	baz=148,SNR=8.0						
VBMS	Vicksburg	53.87	338	P	P	10 16 52.6	0.0
	baz=155						
440A	Kirbyville	53.90	334	P	P	10 16 54.1	+1.2
	baz=151						
Z47A	Carrollton	53.95	341	P	P	10 16 52.5	-0.7
	baz=158,SNR=27						
Z48A	Northport	53.95	341	P	P	10 16 52.4	-0.7
	baz=158,SNR=37						
145A	Houston Renfro	54.01	339	P	P	10 16 53.4	-0.2
	baz=156,SNR=8.4						
HKT	Hockley	54.03	332	*e*P	P	10 16 54.9	+1.2
HKT				pmax	pmax		
	comp=Z,18nm,1.1s						
HKT	Hockley	54.03	332	*e*P	P	10 16 54.9	+1.2
	comp=Z,18nm,1.1s						
KMSC	Kings Mountain	54.07	348	P	P	10 16 53.4	-0.6
	baz=166,SNR=5.8						
KMSC	Kings Mountain	54.07	348	*e*P	P	10 16 53.7	-0.3
	comp=Z,7.7nm,0.6s						
341A	Kurthwood	54.09	335	P	P	10 16 54.7	+0.5
	baz=152,SNR=6.7						
636A	Smothers Creek	54.20	330	P	P	10 16 56.3	+1.2
	baz=147,SNR=13						
Z46A	Louisville	54.22	340	P	P	10 16 55.1	0.0
	baz=157,SNR=9.6						
439A	Center Grove,	54.28	333	P	P	10 16 56.9	+1.3
	baz=150,SNR=11						
242A	Grayson	54.33	336	P	P	10 16 56.4	+0.4
	baz=153,SNR=6.1						
537A	Green Hill Far	54.36	331	P	P	10 16 57.3	+1.1
	baz=148,SNR=10						
833A	Chaparral WMA,	54.40	327	P	P	10 16 57.2	+0.6
	baz=144,SNR=14						
340A	Bronson	54.45	334	P	P	10 16 57.6	+0.7
	baz=151,SNR=9.3						
Y47A	UCPARC, Winfie	54.53	341	P	P	10 16 56.6	-0.8
	baz=158,SNR=39						
438A	Sam Houston St	54.55	332	P	P	10 16 58.7	+1.2
	baz=149						
241A	Mo Tay, Goldon	54.60	336	P	P	10 16 58.8	+0.9
	baz=152						
143A	Socs Landing,	54.63	337	P	P	10 16 57.8	-0.3
	baz=154,SNR=6.7						
Z45A	Winona	54.63	339	P	P	10 16 57.8	-0.3
	baz=156,SNR=6.7						
339A	Huntington	54.66	334	P	P	10 16 59

baz=157,SNR=9.2
435B Jarrell 55.54 331 P P 10 17 05.1 +0.4
baz=147,SNR=6.5
Y43A Makayla and Ka 55.55 338 P P 10 17 04.4 -0.3
baz=155
OXF Oxford 55.58 340 *e*P P 10 17 03.5 -1.4
OXF pmax pmax
comp=Z,85nm,1.0s
OXF Oxford 55.58 340 *e*P P 10 17 03.5 -1.4
comp=Z,85nm,1.0s
PLAL Pickwick Lake 55.60 342 *e*P P 10 17 03.9 -1.1
comp=Z,36nm,0.9s
Z41A Richland Creek 55.65 336 P P 10 17 05.5 +0.1
baz=153
336A Riesel 55.70 332 P P 10 17 06.5 +0.7
baz=148,SNR=12
139A Bunkhouse Ranc 55.76 335 P P 10 17 07.4 +1.1
baz=151
237A Washetta, Mont 55.77 333 P P 10 17 07.4 +1.1
baz=149,SNR=6.0
Y42A Garnett, Star 55.78 338 P P 10 17 06.3 -0.1
baz=154
X44A Crenshaw 55.81 339 P P 10 17 05.6 -1.0
baz=156
CCAR Cane Creek 55.85 338 *e*P P 10 17 06.4 -0.4
comp=Z,44nm,0.6s
VWCC Virginia Weste 55.87 350 *e*P P 10 17 06.3 -0.7
Z40A Long Farm, Mag 55.88 336 P P 10 17 07.9 +0.9
baz=152,SNR=22
BLA Blacksburg 55.91 350 *e*P P 10 17 06.7 -0.6
BLA pmax pmax
comp=Z,9.0nm,0.8s
BLA Blacksburg 55.91 350 *e*P P 10 17 06.7 -0.6
comp=Z,9.1nm,0.8s
138A Matatall Enter 56.03 334 P P 10 17 09.3 +1.1
baz=150,SNR=6.7
X43A Marvell 56.08 339 P P 10 17 08.2 -0.2
baz=155,SNR=5.5
236A Katherine and 56.09 332 P P 10 17 09.3 +0.8
baz=148,SNR=8.9
W45A Hickory Valley 56.10 341 P P 10 17 07.6 -1.0
baz=157,SNR=23
Y41A Eaglette Beard 56.13 337 P P 10 17 09.1 +0.2
baz=153,SNR=5.4
WLAR White Oak Lake 56.15 336 *e*P P 10 17 09.8 +0.9
comp=Z,62nm,1.0s
Z39A Irene McRaven, 56.17 335 P P 10 17 10.0 +0.9
baz=151,SNR=5.6
IP07 Quail 56.24 352 *e*P P 10 17 09.0 -0.5
comp=Z,34nm,1.7s
IP07 *e*pP pP 10 17 38.8 -1.1
137A Heron Place, G 56.26 333 P P 10 17 11.1 +1.3
baz=150,SNR=16
IP03 Louisa 56.34 352 *e*P P 10 17 09.9 -0.3
JCT Junction City 56.35 329 P P 10 17 10.5 -0.1
baz=145,SNR=7.9
JCT Junction City 56.35 329 *e*P P 10 17 10.7 +0.1
JCT *e* 10 18 07.1
JCT pmax pmax
comp=Z,23nm,0.8s
JCT Junction City 56.35 329 *e*P P 10 17 10.7 +0.1
comp=Z,23nm,0.8s
JCT *e*PcP PcP 10 18 07.1 +0.8
136A Ennis 56.49 333 P P 10 17 12.2 +0.8
baz=149,SNR=7.9
WHTX Lake Whitney, 56.49 332 P P 10 17 11.9 +0.4
baz=148,SNR=20
WHTX Lake Whitney, 56.49 332 *e*P P 10 17 11.6 +0.2
comp=Z,34nm,0.7s
Y40A Okolona 56.50 336 P P 10 17 11.7 +0.3
baz=152,SNR=13
Z38A Mt. Pleasant 56.50 334 P P 10 17 12.3 +0.9
baz=150
V45A Humboldt 56.57 341 P P 10 17 10.8 -1.1
baz=158,SNR=13
WVT Waverly 56.60 342 *e*P P 10 17 10.8 -1.3
WVT pmax pmax
comp=Z,52nm,0.6s
WVT Waverly 56.60 342 *e*P P 10 17 10.8 -1.3
comp=Z,52nm,0.6s
Z37A Pogue Cattle C 56.72 334 P P 10 17 14.0 +1.0
baz=150
Y39A Lockesburg 56.75 336 P P 10 17 13.7 +0.5
baz=152,SNR=32
HPIG 56.81 321 *e*P P 10 17 14.1 0.0
comp=Z,14nm,1.0s
HPIG *e*pP pP 10 17 44.9 +0.4
UALR University of 56.83 338 *e*P P 10 17 12.8 -0.9
comp=Z,20nm,0.8s
UALR *e*pP pP 10 17 43.7 -0.5
HBAR Harrisburg 56.95 339 *e*P P 10 17 13.8 -0.8
comp=Z,56nm,1.1s
HBAR *e*pP pP 10 17 45.2 +0.2
W42A Bald Knob 56.98 339 P P 10 17 14.3 -0.5
baz=155,SNR=8.1
Y38A Idabel 56.99 335 P P 10 17 15.1 +0.2
baz=151,SNR=11
U45A Rockin P Farm, 57.07 342 P P 10 17 14.6 -0.8
baz=158,SNR=9.1
MIAR Mount Ida 57.08 336 P P 10 17 15.4 -0.1
baz=152,SNR=20
MIAR Mount Ida 57.08 336 *e*P P 10 17 14.8 -0.8
MIAR *e**PP pP 10 17 46.6 +0.6
MIAR pmax pmax
comp=Z,21nm,0.8s
MIAR Mount Ida 57.08 336 *e*P P 10 17 14.8 -0.8
comp=Z,21nm,0.8s
MIAR *e*pP pP 10 17 46.5 +0.6
UTMT University of 57.10 341 *e*P P 10 17 13.7 -2.0
comp=Z,185nm,1.2s
V43A Jonesboro 57.12 340 P P 10 17 15.2 -0.6
baz=156
Z36A Blue Ridge 57.13 333 P P 10 17 16.6 +0.7
baz=149,SNR=17
W41B Gary Mavity, V 57.15 338 P P 10 17 15.5 -0.5
baz=154,SNR=9.6
GLAT Glass 57.16 341 *e*P P 10 17 15.0 -1.1
comp=Z,227nm,1.4s
U44B Burton Farm, H 57.24 341 P P 10 17 16.1 -0.5
baz=157,SNR=22
X39A Fountain Ranch 57.26 336 P P 10 17 17.3 +0.5
baz=152,SNR=33
WHAR Wooly Hollow 57.27 338 *e*P P 10 17 16.2 -0.7
WHAR *e*pP pP 10 17 47.2 -0.1
Y37A Hugo 57.40 334 P P 10 17 18.9 +1.2
baz=150,SNR=43
V42A Cord 57.42 339 P P 10 17 17.0 -0.9
baz=155
PVMO Portageville 57.42 341 *e*P P 10 17 17.4 -0.5
comp=Z,229nm,0.8s
W40A Ferguson Farm, 57.47 337 P P 10 17 18.5 +0.3
baz=153,SNR=20
TX31 Lajitas Ar. Si 57.48 324 *e*P P 10 17 18.7 +0.1
TXAR Lajitas Array 57.48 324 P P 10 17 18.6 +0.1
comp=Z,3.7nm,0.6s,baz=150,slow=8.9,SNR=54
TXAR pP pP 10 17 49.5 +0.4
comp=Z,1.7nm,0.7s,baz=151,slow=8.1,SNR=3.7
TXAR PcP PcP 10 18 11.5 +0.7
comp=Z,1.8nm,0.7s,baz=148,slow=5.5,SNR=5.4
U44A Portageville 57.50 341 P P 10 17 18.0 -0.4
baz=157,SNR=12
Y36A Durant 57.60 334 P P 10 17 19.7 +0.5
baz=149
U43A Rector 57.61 340 P P 10 17 18.6 -0.5
baz=156,SNR=8.4
V41A Mountainview 57.67 338 P P 10 17 18.9 -0.7
baz=154,SNR=28
PARMO Parma 57.67 341 *e*P P 10 17 19.4 -0.2
comp=Z,180nm,0.8s
X38A Whitesboro 57.68 335 P P 10 17 20.4 +0.7
baz=151,SNR=34
W39A Magazine 57.74 337 P P 10 17 20.4 +0.3
baz=152,SNR=12
X37A Clayton 57.83 335 P P 10 17 21.3 +0.6
baz=150,SNR=31
U42A Revenden 57.87 339 P P 10 17 20.2 -0.8
baz=155,SNR=24
W38A Poteau 57.91 336 P P 10 17 21.9 +0.5
baz=152,SNR=33
V40A Witts Springs 57.92 338 P P 10 17 20.9 -0.6
baz=154,SNR=26
Y35A Marietta 57.93 333 P P 10 17 22.1 +0.6
baz=149,SNR=7.1
PBMO Poplar Bluff 57.99 340 *e*P P 10 17 21.4 -0.5
comp=Z,144nm,1.4s
PBMO *e*pP pP 10 17 51.4 -1.0
T44A Benton 58.01 341 P P 10 17 21.4 -0.6
baz=157
ABTX Abilene, Hawle 58.03 330 P P 10 17 22.6 +0.3
baz=146,SNR=9.9
ABTX Abilene, Hawle 58.03 330 *e*P P 10 17 22.7 +0.3
comp=Z,31nm,0.8s
ABTX *e*pP pP 10 17 53.9 +1.0
U41A Viola 58.09 339 P P 10 17 21.7 -0.9
baz=155,SNR=37
WCI Wyandotte Cave 58.15 345 *e*P P 10 17 21.6 -1.4
WCI pmax pmax
comp=Z,64nm,1.2s
WCI Wyandotte Cave 58.15 345 *e*P P 10 17 21.6 -1.4
comp=Z,64nm,1.2s
MCWV Mont Chateau 58.21 351 *e*P P 10 17 23.6 +0.2
comp=Z,6.3nm,0.8s
X36A Centrahoma 58.21 334 P P 10 17 23.3 -0.2
baz=150,SNR=8.3
T43A Greenville 58.22 341 P P 10 17 22.9 -0.6
baz=156,SNR=33
S45A Carrier Mills 58.25 342 P P 10 17 23.1 -0.6
baz=158,SNR=40
V39A Pettigrew 58.25 337 P P 10 17 23.6 -0.3
baz=153,SNR=45
USIN University of 58.26 343 *e*P P 10 17 22.7 -1.1
comp=Z,38nm,0.8s
X35A Drake 58.33 333 P P 10 17 24.2 -0.1
baz=149,SNR=11
W37B Quinton 58.33 335 P P 10 17 24.6 +0.3
baz=151,SNR=14
U40A Yellville 58.43 338 P P 10 17 24.4 -0.6
baz=154,SNR=28
S44A Carbondale 58.47 342 P P 10 17 24.6 -0.5
baz=158,SNR=48
V38A Canehill 58.56 336 P P 10 17 25.6 -0.3
baz=152,SNR=28
S43A Fulton Ridge, 58.60 341 P P 10 17 25.4 -0.8
baz=157,SNR=25
O56A Blue Knob Stat 58.62 352 P P 10 17 25.9 -0.4
baz=170
W36A Wetumka 58.65 334 P P 10 17 26.2 -0.3
baz=150,SNR=21
T41A Mountain View 58.67 339 P P 10 17 25.8 -0.9
baz=155,SNR=21
U39A Green Forest 58.68 337 P P 10 17 26.0 -0.7
baz=153,SNR=15
HHAR Hobbs 58.76 337 *e*P P 10 17 26.9 -0.4
comp=Z,19nm,0.9s
HHAR *e*pP pP 10 17 57.3 -0.6
V37A Hulbert 58.86 336 P P 10 17 28.0 0.0
baz=151,SNR=23
R44A Waltonville 58.93 342 P P 10 17 27.3 -1.0
baz=158,SNR=8.6
W35A Tecumseh 58.93 334 P P 10 17 27.9 -0.6
baz=149,SNR=9.8
S42A Caledonia 59.01 340 P P 10 17 27.9 -1.1
baz=156,SNR=18
T40A Mansfield 59.02 339 P P 10 17 28.4 -0.7
baz=154,SNR=22
U38A Gravette 59.06 337 P P 10 17 28.7 -0.6
baz=152,SNR=7.0
V36A Jenks 59.09 335 P P 10 17 29.6 0.0
baz=150,SNR=29
BLO Bloomington 59.10 345 *e*P P 10 17 28.6 -0.9
BLO pmax pmax
comp=Z,38nm,0.9s
BLO Bloomington 59.10 345 *e*P P 10 17 28.6 -0.9
comp=Z,38nm,0.9s
OLIL Olney 59.10 343 *e*P P 10 17 28.6 -1.0
comp=Z,19nm,0.6s
TUL1 Leonard 59.14 335 P P 10 17 29.8 -0.1
baz=150,SNR=14
TUL1 Leonard 59.14 335 *e*P P 10 17 29.9 0.0
comp=Z,34nm,1.0s
S41A Jillco Farms, 59.16 340 P P 10 17 29.1 -0.8
baz=155,SNR=30
R43A Red Bud 59.21 341 P P 10 17 29.5 -0.8
baz=157,SNR=12
T39A Clever 59.21 338 P P 10 17 29.5 -0.8
baz=153,SNR=8.5
U37A Salina 59.31 336 P P 10 17 31.1 +0.1
baz=151,SNR=21
ACSO Alum Creek Sta 59.32 348 *e*P P 10 17 30.5 -0.5
comp=Z,39nm,1.3s
P47A Martinsville 59.33 345 P P 10 17 30.0 -1.1
baz=161
WMOK Wichita Mounta 59.40 332 P P 10 17 31.2 -0.6
baz=147,SNR=7.0
WMOK Wichita Mounta 59.40 332 *e*P P 10 17 31.0 -0.7
WMOK Wichita Mounta 59.40 332 *e*P P 10 17 31.0 -0.7
WMOK *e*pP pP 10 18 02.0 -0.4
CCM Cathedral Cave 59.42 340 *e*P P 10 17 31.0 -0.7
CCM pmax pmax
comp=Z,33nm,1.1s
CCM Cathedral Cave 59.42 340 *e*P P 10 17 31.0 -0.7
comp=Z,33nm,1.1s
CCM *e*pP pP 10 18 01.7 -0.7
S40A Lebanon 59.42 339 P P 10 17 31.2 -0.6
baz=154,SNR=22
V35A Meyer Ranch, C 59.44 334 P P 10 17 31.7 -0.2
baz=149,SNR=10
R42A Luebbering 59.48 341 P P 10 17 31.7 -0.5
baz=156,SNR=38
N54A Moraine State 59.51 351 P P 10 17 31.9 -0.4
baz=168
Q44A Meyer Farm, Va 59.52 342 P P 10 17 31.2 -1.2
baz=158,SNR=11
U36A Oologah 59.54 336 P P 10 17 32.6 0.0
baz=151,SNR=7.3
T38A Diamond 59.55 337 P P 10 17 32.4 -0.3
baz=152,SNR=24
R41A Rosebud 59.68 340 P P 10 17 33.0 -0.5
baz=156,SNR=42
BRYW Bryant College 59.70 358 *e*P P 10 17 33.1 -0.5
comp=Z,69nm,1.3s
Q43A New Douglas 59.75 342 P P 10 17 33.0 -1.0
baz=158
S39A Bolivar 59.79 338 P P 10 17 33.9 -0.4
baz=154,SNR=26
T37A Cheneyville 18 59.87 337 P P 10 17 34.7 -0.1
baz=152,SNR=46
U35A Pawnee 59.92 335 P P 10 17 35.5 +0.3
baz=150,SNR=15
P44A Sand Creek, Wi 59.93 343 P P 10 17 33.9 -1.3
baz=159,SNR=8.2
S38A Stockton 59.94 338 P P 10 17 34.8 -0.5
baz=153,SNR=13
R40A Maddies Statio 59.97 339 P P 10 17 34.8 -0.7
baz=155,SNR=18
Q42A Golden Eagle 59.98 341 P P 10 17 34.9 -0.6
baz=157,SNR=28
M54A Oil Creek Stat 59.99 351 P P 10 17 35.3 -0.4
baz=169
O47A Sheridan 60.02 345 P P 10 17 34.4 -1.4
baz=162
T36A Boggs Farm, Ca 60.18 336 P P 10 17 36.9 0.0
baz=151,SNR=28
Q41A Truxton 60.23 341 P P 10 17 36.6 -0.6
baz=156,SNR=24
MNTX Cornudas Mount 60.23 325 P P 10 17 37.1 -0.4
baz=140,SNR=19
MNTX Cornudas Mount 60.23 325 *e*P P 10 17 37.0 -0.5
comp=Z,12nm,1.0s
R39A Chumby, Stover 60.25 339 P P 10 17 36.8 -0.6
baz=154,SNR=13
T35A Sooner Cattle 60.30 335 P P 10 17 38.0 +0.1
baz=150,SNR=14
P43A Skaggs, Pawnee 60.35 342 P P 10 17 37.1 -0.9
baz=158,SNR=31
SFIN Lafayette 60.38 345 P P 10 17 36.7 -1.6
baz=160,SNR=15
SFIN Lafayette 60.38 345 *e*P P 10 17 36.8 -1.5
comp=Z,39nm,0.6s
S37A Fort Scott 60.39 337 P P 10 17 38.3 -0.1
baz=152,SNR=31
O45A Potomac 60.42 344 P P 10 17 37.0 -1.5
baz=160,SNR=41
R38A Fenwick Farm, 60.44 338 P P 10 17 38.1 -0.6
baz=153,SNR=18
O44A Mansfield 60.53 343 P P 10 17 37.5 -1.8
baz=159,SNR=12
P42A Winchester 60.54 342 P P 10 17 38.4 -1.0
baz=157,SNR=14
Q40A Laux Farm, Aux 60.54 340 P P 10 17 38.5 -0.8
baz=155,SNR=8.0
S36A Lake Cedric, C 60.65 336 P P 10 17 40.0 -0.1
baz=151,SNR=37
MSTX Muleshoe 60.65 329 P P 10 17 40.2 -0.2
baz=143,SNR=18
MSTX Muleshoe 60.65 329 *e*P P 10 17 40.2 -0.2
comp=Z,33nm,0.9s
T34A McClaskey Farm 60.66 335 P P 10 17 40.6 +0.3
baz=149,SNR=12
N46A Monticello 60.78 345 P P 10 17 39.5 -1.4
baz=161,SNR=5.7
P41A Barry, Barry 60.84 341 P P 10 17 40.4 -1.0
baz=156,SNR=20
AMTX Amarillo 60.85 330 P P 10 17 41.3 -0.5
baz=144
AMTX Amarillo 60.85 330 *e*P P 10 17 41.7 -0.1
comp=Z,9.9nm,0.8s
U32A Winter Ranch, 60.88 333 P P 10 17 41.9 +0.1
baz=148
R37A Teagarden Farm 60.88 337 P P 10 17 41.3 -0.4
baz=152
Q39A Willow Grove F 60.88 339 P P 10 17 41.1 -0.6
baz=154,SNR=17
O43A Sugar Creek Fa 60.89 343 P P 10 17 40.3 -1.4
baz=158,SNR=12
S35A Otter Creek Ra 60.89 336 P P 10 17 41.9 +0.1
baz=150,SNR=41
N45A Kentland 60.93 344 P P 10 17 40.4 -1.6
baz=160,SNR=5.3
P40A Paris 61.02 340 P P 10 17 41.9 -0.8
baz=155,SNR=15
O42A Bath 61.02 342 P P 10 17 41.6 -1.1
baz=157,SNR=11
Q38A Cooks Store, C 61.03 339 P P 10 17 42.3 -0.4
baz=154,SNR=27
N44A Piper City 61.04 344 P P 10 17 41.1 -1.6
baz=160,SNR=12
HDIL Hopedale 61.13 343 P P 10 17 42.0 -1.3
baz=158,SNR=17
HDIL Hopedale 61.13 343 *e*P P 10 17 42.1 -1.3
comp=Z,86nm,0.6s
R36A Gordon, Harris 61.14 337 P P 10 17 43.2 -0.3
baz=152,SNR=32
O41A Passleys Farm, 61.19 341 P P 10 17 42.6 -1.2
baz=157,SNR=18
P39B Salisbury 61.21 340 P P 10 17 43.3 -0.6
baz=154,SNR=11
S34A Willow Spring 61.22 335 P P 10 17 44.0 -0.1
baz=150
Q37A Longview Farm, 61.24 338 P P 10 17 43.6 -0.6
baz=153,SNR=6.1
R35A Emporia Munici 61.40 336 P P 10 17 45.4 +0.2
baz=151,SNR=6.1
O40A La Belle 61.50 341 P P 10 17 44.9 -0.9
baz=156,SNR=13
M44A Midewin, Midew 61.57 344 P P 10 17 44.6 -1.7
baz=160
P38A Dawn 61.59 339 P P 10 17 45.8 -0.7
baz=154,SNR=9.6
N42A Yates City 61.59 342 P P 10 17 45.4 -1.0
baz=158,SNR=28
Q36A Arnold C. Orve 61.69 337 P P 10 17 46.7 -0.5
baz=152,SNR=6.2
N41A Harden Midland 61.72 342 P P 10 17 46.3 -1.0
baz=157
R34A Isabella, Hill 61.79 335 P P 10 17 48.0 +0.1
baz=150,SNR=12
Q35A Mercer Eighty, 61.81 337 P P 10 17 47.8 -0.2
baz=151,SNR=11
O39A Kirksville 61.83 340 P P 10 17 47.5 -0.6
baz=155,SNR=7.7
P37A Lathrop 61.84 338 P P 10 17 47.6 -0.6
baz=153,SNR=34
O38A Galt 62.02 339 P P 10 17 48.8 -0.6
baz=154,SNR=12
M42A Sheffield 62.10 343 P P 10 17 48.7 -1.1
baz=158
N40A Mertquake, Sal 62.10 341 P P 10 17 48.9 -1.0
baz=156,SNR=12
P36A Good Intent, A 62.17 338 P P 10 17 49.8 -0.6
baz=152,SNR=15
121A Cookes Peak, D 62.20 324 P P 10 17 52.1 +1.2
baz=138,SNR=11
121A Cookes Peak, D 62.20 324 *e*P P 10 17 52.2 +1.3
comp=Z,4.8nm,0.5s
319A Douglas 62.21 322 *e*P P 10 17 52.1 +1.2
Q34A Chapman 62.21 336 P P 10 17 50.6 -0.1
baz=150,SNR=8.7
KSU1 Kansas State U 62.24 336 P P 10 17 50.4 -0.4
baz=151,SNR=8.7
KSU1 Kansas State U 62.24 336 *e*P P 10 17 50.6 -0.2
comp=Z,32nm,0.9s
M41A Milan 62.24 342 P P 10 17 49.5 -1.4
baz=157,SNR=14
L44A Lake County Fo 62.28 345 P P 10 17 49.6 -1.4
baz=160
O37A Wolven Farm, M 62.29 339 P P 10 17 50.5 -0.6
baz=153,SNR=12
N39A Derby Farms, D 62.38 341 P P 10 17 50.9 -0.8
baz=155,SNR=14
P35A Duane Minner, 62.39 337 P P 10 17 51.3 -0.5
baz=151,SNR=7.0
L43A Garden Prairie 62.50 344 P P 10 17 51.5 -1.0
baz=159,SNR=31
N38A Joes South For 62.55 340 P P 10 17 52.1 -0.7
baz=154,SNR=9.1
M40A Post Highland 62.56 342 P P 10 17 51.9 -1.0
baz=156,SNR=19
P34A Walnut Farm, R 62.71 337 P P 10 17 54.0 +0.1
baz=150,SNR=26
BNM Barren Site 62.78 326 *e*P P 10 17 55.6 +0.7
M39A Webster 62.83 341 P P 10 17 53.7 -1.0
baz=156,SNR=13
N37A Lee Faris, Mou 62.84 339 P P 10 17 54.3 -0.5
baz=153,SNR=32
L41A Preston 62.88 343 P P 10 17 53.8 -1.2
baz=157,SNR=15
K43A Burlington 62.88 345 P P 10 17 54.1 -0.9
baz=160,SNR=7.3
LPM Los Pinos Moun 62.91 326 *e*P P 10 17 56.7 +1.1
O35A Humboldt 63.00 338 P P 10 17 54.8 -1.1
baz=152
L40A Anamosa 63.08 342 P P 10 17 55.3 -1.0
baz=157,SNR=14
M38A Pleasantville 63.10 340 P P 10 17 55.6 -0.9
baz=154,SNR=20
N36A Muff Farm, Cla 63.15 339 P P 10 17 56.6 -0.2
baz=153,SNR=36
O34A Beatrice 63.21 337 P P 10 17 56.9 -0.4
baz=151,SNR=9.2
K42A Prairie Point, 63.22 344 P P 10 17 56.5 -0.7
baz=159,SNR=34
CBKS Cedar Bluff 63.24 334 P P 10 17 57.8 +0.3
baz=148,SNR=11
CBKS Cedar Bluff 63.24 334 *e*P P 10 17 58.0 +0.5
CBKS *e**PP pP 10 18 29.9 +1.3
CBKS pmax pmax
comp=Z,29nm,0.8s
CBKS Cedar Bluff 63.24 334 *e*P P 10 17 58.0 +0.5
comp=Z,30nm,0.8s
CBKS *e*pP pP 10 18 29.9 +1.3
LAZ Ladron 63.25 326 *e*P P 10 17 59.3 +1.4
LAZ *e*pP pP 10 18 30.5 +1.6
ANMO Albuquerque 63.30 326 P P 10 17 58.8 +0.6
baz=140
ANMO Albuquerque 63.30 326 *d*iP P 10 17 58.4 +0.2
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 63.30 326 *e*P P 10 17 58.9 +0.7
comp=Z,5.4nm,0.7s
K41A Shullsburg 63.32 343 P P 10 17 57.1 -0.8
baz=158,SNR=8.4
L39A Vinton 63.36 341 P P 10 17 57.3 -0.9
baz=156,SNR=7.9
M37A Trindle Farm, 63.36 340 P P 10 17 58.0 -0.2
baz=154,SNR=13
N35A Tabor 63.43 338 P P 10 17 58.1 -0.6
baz=152,SNR=12
O33A Hebron 63.46 336 P P 10 17 59.0 +0.1
baz=150
VNA3 Neumayer Olymp 63.52 162 P P 10 18 19.2 +20
J43A Natural Harves 63.54 345 P P 10 17 58.6 -0.7
baz=160,SNR=11
SCIA State Center 63.54 340 *e*P P 10 17 59.1 -0.3
comp=Z,52nm,0.6s
JFWS Jewell Farm 63.59 343 *e*P P 10 17 59.1 -0.6
JFWS pmax pmax
comp=Z,50nm,0.6s
JFWS Jewell Farm 63.59 343 *e*P P 10 17 59.1 -0.6
comp=Z,50nm,0.6s
K40A Colesburg 63.64 342 P P 10 17 59.2 -0.8
baz=157,SNR=8.7
J42A Columbus 63.66 344 P P 10 17 59.4 -0.8

baz=159,SNR=6.1
M36A **Felix, Anita** 63.66 339 P P 10 18 00.0 -0.2
baz=153,SNR=19
L38A **Oak Wood Farm,** 63.67 341 P P 10 17 59.5 -0.8
baz=155,SNR=13
N34A **Lincoln** 63.72 337 P P 10 18 00.1 -0.5
baz=151,SNR=16
TUC **Tucson** 63.77 322 P P 10 18 02.0 +0.8
baz=136
TUC **Tucson** 63.77 322 eP P 10 18 01.7 +0.5
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC **Tucson** 63.77 322 eP P 10 18 01.7 +0.5
comp=Z,3.9nm,0.8s
K39A **Oelwein** 63.86 342 P P 10 18 00.5 -1.0
baz=156,SNR=12
L37A **Phoenix Point,** 63.91 340 P P 10 18 00.9 -0.9
baz=154
J41A **Loganville** 63.94 344 P P 10 18 01.3 -0.6
baz=158,SNR=23
T25A **Trinidad** 63.98 329 P P 10 18 03.3 +0.7
baz=143,SNR=7.3
T25A **Trinidad** 63.98 329 eP P 10 18 03.4 +0.7
comp=Z,6.6nm,0.8s
M35A **Neola** 63.98 338 P P 10 18 01.9 -0.4
baz=152,SNR=15
N33A **J Bar K, Exete** 63.98 337 P P 10 18 02.2 -0.1
baz=150,SNR=5.4
GLMI **Grayling** 64.06 348 eP P 10 18 02.8 0.0
comp=Z,51nm,0.9s
K38A **Parkersburg** 64.08 341 P P 10 18 02.2 -0.7
baz=155,SNR=13
VNA2 **Neumayer--Watz** 64.09 161 P P 10 18 23.0 +20
baz=289,slow=6.2
MHTCO **State Highway** 64.11 329 eP P 10 18 04.3 +0.8
comp=Z,31nm,1.6s
TRQ **Mont Tremblant** 64.13 356 eP P 10 18 02.9 -0.3
I42A **Draeger Farm,** 64.14 345 P P 10 18 02.9 -0.4
baz=159,SNR=19
J40A **Soldiers Grove** 64.17 343 P P 10 18 02.9 -0.6
baz=157,SNR=20
L36A **Harm Buss Farm** 64.19 339 P P 10 18 03.5 -0.1
baz=153,SNR=28
M34A **Aspy Farms, Fr** 64.33 338 P P 10 18 04.3 -0.3
baz=151
J39A **Decorah** 64.39 342 P P 10 18 04.3 -0.6
baz=156,SNR=42
H43A **Windswept, Lux** 64.41 346 P P 10 18 04.3 -0.7
baz=161,SNR=12
K37A **Belmond** 64.45 341 P P 10 18 04.4 -0.9
baz=154,SNR=12
L35A **Bielow Farm, R** 64.50 339 P P 10 18 05.5 -0.2
baz=152,SNR=16
I41A **Arkdale** 64.55 344 P P 10 18 05.3 -0.6
baz=158,SNR=10
I40A **Norwalk** 64.59 343 P P 10 18 05.5 -0.7
baz=158,SNR=12
J38A **Wedel Dairy, R** 64.60 342 P P 10 18 05.2 -1.0
baz=156,SNR=5.5
K36A **Gilmore City** 64.60 340 P P 10 18 06.2 -0.1
baz=154,SNR=48
M33A **Taylor Creek F** 64.61 337 P P 10 18 06.1 -0.3
baz=151,SNR=7.2
H42A **Shiocton** 64.63 345 P P 10 18 06.0 -0.4
baz=160,SNR=24
KSCO **Kaye Shedlock'** 64.66 332 P P 10 18 07.5 +0.5
baz=145
L34A **Svendsen Farm,** 64.66 338 P P 10 18 06.4 -0.3
baz=152,SNR=18
214A **Organ Pipe Nat** 64.74 320 P P 10 18 09.0 +1.6
baz=134,SNR=22
214A **Organ Pipe Nat** 64.74 320 eP P 10 18 08.9 +1.4
comp=Z,106nm,1.0s
I39A **Houston** 64.81 343 P P 10 18 07.1 -0.5
baz=157,SNR=16
BGNE **Belgrade** 64.82 337 P P 10 18 08.0 +0.2
baz=150,SNR=20
BGNE **Belgrade** 64.82 337 eP P 10 18 08.2 +0.4
comp=Z,178nm,0.9s
J37A **Redenius Farm,** 64.92 341 P P 10 18 07.8 -0.5
baz=154,SNR=13
K35A **Storm Lake** 64.94 339 P P 10 18 08.4 -0.1
baz=153,SNR=14
SDCO **Great Sand Dun** 64.99 329 P P 10 18 10.1 +0.8
baz=142,SNR=35
SDCO **Great Sand Dun** 64.99 329 eP P 10 18 10.0 +0.8
comp=Z,15nm,0.8s
F46A **Macinaw City C** 65.00 348 P P 10 18 08.1 -0.7
baz=164
H41A **Junction City** 65.01 344 P P 10 18 08.4 -0.5
baz=159,SNR=6.9
F45A **CMU Biological** 65.07 348 P P 10 18 08.5 -0.7
baz=163,SNR=5.7
G43A **Wallace** 65.13 346 P P 10 18 08.8 -0.9
baz=161,SNR=8.3
L33A **Hoskins** 65.16 338 P P 10 18 09.5 -0.5
baz=151,SNR=6.0
J36A **Seneca 1, Swea** 65.19 340 P P 10 18 09.7 -0.4
baz=154,SNR=21
K34A **Le Mars** 65.20 339 P P 10 18 09.8 -0.4
baz=152,SNR=7.8
W18A **Petrified Fore** 65.20 324 P P 10 18 11.6 +1.0
baz=137,SNR=6.3
W18A **Petrified Fore** 65.20 324 eP P 10 18 11.8 +1.2
comp=Z,18nm,1.1s
H40A **Chili** 65.21 344 P P 10 18 09.6 -0.6
baz=158,SNR=22
I38A **Scanlan Farm,** 65.21 342 P P 10 18 09.9 -0.4
baz=156,SNR=9.9
L32A **Elgin** 65.29 337 P P 10 18 10.6 -0.2
baz=150,SNR=8.2
G42A **Mountain** 65.29 345 P P 10 18 10.1 -0.6
baz=160,SNR=17
K33A **Hardington** 65.44 338 P P 10 18 11.7 -0.1
baz=151,SNR=6.3
G41A **Antigo** 65.45 345 P P 10 18 11.0 -0.7
baz=159,SNR=11
J35A **Milford** 65.50 340 P P 10 18 11.6 -0.5
baz=153,SNR=15
H39A **Augusta** 65.50 343 P P 10 18 11.4 -0.7
baz=157,SNR=9.5
I37A **Lemond, Waseca** 65.51 341 P P 10 18 11.9 -0.2
baz=155,SNR=26
F44A **Big Bay de Noc** 65.53 347 P P 10 18 11.4 -0.8
baz=162
F43A **Flat Rock, Esc** 65.56 347 P P 10 18 11.6 -0.8
baz=161,SNR=17
E45A **Wooded Hills,** 65.64 348 P P 10 18 12.4 -0.5
baz=164,SNR=7.5
S22A **4UR Ranch, Cre** 65.65 328 P P 10 18 14.1 +0.6
baz=141,SNR=15
S22A **4UR Ranch, Cre** 65.65 328 eP P 10 18 14.4 +0.9
comp=Z,7.6nm,0.8s
J34A **George** 65.68 339 P P 10 18 13.1 -0.1
baz=152,SNR=9.8
I36A **Fitzsimmons Fa** 65.70 341 P P 10 18 12.9 -0.5
baz=154,SNR=8.6
F42A **Maple Grove Fa** 65.71 346 P P 10 18 12.7 -0.6
baz=160
SNAA **Sanae** 65.72 161 P P 10 18 14.6 +1.4
SNAA **Sanae** 65.72 161 eP P 10 18 14.7 +1.4
SNAA **Sanae** 65.72 161 eP P 10 18 14.5 +1.2
comp=Z,15nm,1.3s
G40A **Rib Lake** 65.76 344 P P 10 18 13.2 -0.6
baz=158,SNR=7.1
H38A **Maiden Rock** 65.78 342 P P 10 18 13.4 -0.4
baz=156,SNR=9.8
Q24A **Divide** 65.78 330 P P 10 18 15.1 +0.7
baz=142,SNR=8.6
Q24A **Divide** 65.78 330 eP P 10 18 15.5 +1.1
comp=Z,12nm,0.8s
Q24A epP pP 10 18 46.1 +0.5
K32A **Verdigre** 65.84 337 P P 10 18 13.8 -0.5
baz=150,SNR=6.4
I35A **Creekview Farm** 65.86 340 P P 10 18 14.2 -0.3
baz=153,SNR=13
H37A **Dierke Farm, C** 65.88 342 P P 10 18 14.3 -0.2
baz=155,SNR=14
113A **Mohawk Valley,** 65.88 320 eP P 10 18 16.1 +1.4
F41A **Three Lakes** 65.92 345 P P 10 18 14.5 -0.3
baz=159,SNR=26
OGNE **Ogallala** 65.99 334 P P 10 18 15.8 +0.3
baz=146
G39A **Holcombe** 66.03 343 P P 10 18 14.9 -0.6
baz=157,SNR=25
E43A **Lone Tree Farm** 66.04 347 P P 10 18 14.8 -0.7
baz=162,SNR=10
E44A **Grand Marais A** 66.04 348 P P 10 18 15.6 +0.1
baz=163
J33A **Davis** 66.06 338 P P 10 18 15.5 -0.2
baz=151,SNR=54
MVCO **Mesa Verde** 66.09 327 P P 10 18 17.1 +0.8
baz=139,SNR=13
MVCO **Mesa Verde** 66.09 327 eP P 10 18 17.1 +0.8
comp=Z,18nm,1.0s
K31A **O'Neill** 66.10 337 P P 10 18 16.2 +0.2
baz=149,SNR=11
G38A **Ridgeland** 66.11 343 P P 10 18 15.3 -0.7
baz=157,SNR=20
H36A **Jessenland, He** 66.18 341 P P 10 18 16.3 -0.1
baz=154,SNR=7.9
Y14A **Wickenburg** 66.23 321 eP P 10 18 18.4 +1.3
Y14A ePcP PcP 10 18 47.2 +1.0
E42A **Champion** 66.29 346 P P 10 18 16.5 -0.6
baz=161,SNR=10
ECSD **EROS Data Cent** 66.30 339 P P 10 18 17.1 -0.1
baz=152,SNR=17
ECSD **EROS Data Cent** 66.30 339 eP P 10 18 17.1 -0.1
comp=Z,85nm,1.6s
I34A **Hadley** 66.31 340 P P 10 18 17.1 -0.2
baz=152,SNR=5.9
F40A **Park Falls** 66.34 344 P P 10 18 17.3 -0.1
baz=158,SNR=33
WUAZ **Wupatki** 66.41 324 P P 10 18 19.7 +1.5
baz=136,SNR=11
WUAZ **Wupatki** 66.41 324 eP P 10 18 19.8 +1.5
comp=Z,16nm,0.9s
J32A **Parkston** 66.42 338 P P 10 18 17.5 -0.4
baz=150,SNR=19
SPMN **Marine on St.** 66.43 342 P P 10 18 17.4 -0.6
baz=156,SNR=25
SPMN **Marine on St.** 66.43 342 eP P 10 18 17.6 -0.4
comp=Z,41nm,0.5s
F39A **Loretta** 66.55 344 P P 10 18 18.3 -0.5
baz=158,SNR=23
E41A **Kenton** 66.57 346 P P 10 18 18.1 -0.7
baz=160,SNR=6.3
H35A **Sunnyside Ranc** 66.57 341 P P 10 18 18.5 -0.4
baz=154,SNR=26
I33A **Coleman** 66.64 339 P P 10 18 19.2 -0.2
baz=152,SNR=12
ISCO **Idaho Springs** 66.66 330 P P 10 18 20.7 +0.7
baz=142,SNR=16
ISCO **Idaho Springs** 66.66 330 eP P 10 18 20.9 +0.9
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO **Idaho Springs** 66.66 330 eP P 10 18 20.9 +0.9
comp=Z,12nm,0.9s
J31A **Geddes** 66.67 337 P P 10 18 19.2 -0.4
baz=150,SNR=6.6
G36A **St. Michael** 66.72 342 P P 10 18 19.6 -0.2
baz=155,SNR=11
GLA **Glamis** 66.73 319 P P 10 18 21.7 +1.4
baz=132
GLA **Glamis** 66.73 319 eP P 10 18 22.1 +1.9
GLA pmax pmax
comp=Z,8.0nm,1.0s
GLA **Glamis** 66.73 319 eP P 10 18 22.1 +1.9
comp=Z,8.0nm,1.0s
E40A **Wakefield** 66.78 345 P P 10 18 20.3 +0.1
baz=159,SNR=25
PV01 **Paradox Valley** 66.83 327 eP P 10 18 22.2 +1.2
SMCO **Snowmass** 66.83 329 eP P 10 18 22.3 +1.2
comp=Z,14nm,0.6s
F37A **Hinrichs Farm,** 66.84 343 P P 10 18 20.4 -0.2
baz=156,SNR=12
F38A **Pierce - Schro** 66.84 343 P P 10 18 20.3 -0.3
baz=157,SNR=25
H34A **Spellman Lake,** 66.85 340 P P 10 18 20.5 -0.1
baz=153,SNR=10
I32A **Karley and Nic** 66.85 338 P P 10 18 20.6 -0.2
baz=151,SNR=11
E39A **Mellen** 66.88 344 P P 10 18 20.8 0.0
baz=158,SNR=22
G35A **Watkins** 66.93 341 P P 10 18 21.0 -0.2
baz=154,SNR=9.0
Y12C **Blythe** 67.02 320 P P 10 18 23.5 +1.5
baz=133,SNR=7.8
Y12C **Blythe** 67.02 320 eP P 10 18 23.7 +1.7
comp=Z,12nm,0.8s
D41A **Chassel** 67.03 346 P P 10 18 21.7 0.0
baz=160
PDMCI **Parker Dam,Lak** 67.16 321 P P 10 18 24.1 +1.2
baz=134,SNR=7.4
H33A **Prehn Over Nor** 67.18 339 P P 10 18 22.8 +0.1
baz=152,SNR=13
F36A **Milaca** 67.22 342 P P 10 18 22.5 -0.5
baz=155,SNR=15
I31A **Royce, Wessing** 67.23 338 P P 10 18 23.3 +0.1
baz=150,SNR=37
H32A **Carlson Farm,** 67.26 339 P P 10 18 23.2 -0.1
baz=151,SNR=8.5
IKP **In-Ko-Pah, Jac** 67.26 318 P P 10 18 25.3 +1.7
baz=131,SNR=11
SWSC **Sam W. Stewart** 67.26 319 P P 10 18 25.0 +1.5
baz=132
G34A **Benson** 67.31 340 P P 10 18 23.1 -0.5
baz=153,SNR=5.5
E38A **The Farm, Brul** 67.35 344 P P 10 18 23.4 -0.5
baz=157,SNR=8.1
PV09 **Paradox Valley** 67.39 327 eP P 10 18 26.0 +1.3
BC3 **Big Chuckawall** 67.52 320 P P 10 18 26.8 +1.5
baz=132,SNR=16
G33A **Ortonville** 67.53 340 P P 10 18 24.6 -0.4
baz=152,SNR=16
F35A **Swanville** 67.53 341 P P 10 18 24.5 -0.4
baz=154,SNR=6.6
E37A **Wrenshall** 67.55 343 P P 10 18 24.8 -0.2
baz=156
H31A **Wolsey** 67.60 338 P P 10 18 25.2 -0.3
baz=150,SNR=5.2
MONP2 **Monument Peak** 67.62 318 P P 10 18 27.7 +1.6
baz=131,SNR=13
BAR **Barrett** 67.64 318 eP P 10 18 27.6 +1.7
BAR epP pP 10 18 58.9 +1.6
comp=Z,21nm,0.9s
IRM **Iron Mountain** 67.67 320 P P 10 18 27.7 +1.6
baz=133,SNR=24
N23A **Red Feather La** 67.68 331 P P 10 18 27.3 +0.9
baz=142,SNR=7.8
N23A **Red Feather La** 67.68 331 eP P 10 18 27.4 +0.9
F34A **Alexandria** 67.69 341 P P 10 18 25.8 -0.1
baz=153,SNR=7.9
E36A **McGregor** 67.74 343 P P 10 18 26.0 -0.2
baz=155,SNR=8.6
SUSD **Miller** 67.74 338 P P 10 18 26.1 -0.3
baz=150,SNR=5.2
NEE2 **Needles Airpor** 67.77 321 P P 10 18 27.9 +1.2
baz=133
PHWY **Pilot Hill** 67.78 331 eP P 10 18 28.0 +1.0
comp=Z,39nm,1.8s
PHWY epP pP 10 18 59.9 +1.5
G32A **Webster** 67.94 339 P P 10 18 27.1 -0.5
baz=151
109C **Camp Elliot, M** 68.05 318 P P 10 18 29.8 +1.3
baz=131
F33A **5 Mile Ranch,** 68.06 340 P P 10 18 27.8 -0.5
baz=152,SNR=14
LIC **Lamto** 68.06 75 eP P 10 18 27.6 -1.4
comp=Z,101nm,1.2s
BELC **Belle Mtn. Jos** 68.09 320 P P 10 18 30.6 +1.7
baz=132,SNR=10
D37A **Cotton** 68.09 343 P P 10 18 28.1 -0.4
baz=156,SNR=7.2
E35A **Pequot Lakes** 68.11 342 P P 10 18 28.2 -0.4
baz=154,SNR=10
C39A **Grand Marais** 68.11 345 P P 10 18 28.1 -0.4
baz=159,SNR=13
PFO **Pinyon Flats O** 68.12 319 P P 10 18 30.8 +1.7
baz=131,SNR=12
PFO **Pinyon Flats O** 68.12 319 eP P 10 18 30.7 +1.7
PFO pmax pmax
comp=Z,14nm,0.8s
PFO **Pinyon Flats O** 68.12 319 eP P 10 18 30.7 +1.7
comp=Z,14nm,0.8s
G31A **Conde** 68.16 339 P P 10 18 28.6 -0.3
baz=150
O20A **White River Ci** 68.19 329 P P 10 18 30.5 +1.1
baz=140,SNR=8.5
O20A **White River Ci** 68.19 329 eP P 10 18 30.5 +1.1
comp=Z,18nm,1.0s
TIC **Toumodi** 68.23 75 eP P 10 18 29.1 -0.9
LDFC **Landfair** 68.27 321 eP P 10 18 32.5 +2.5
comp=Z,26nm,0.9s
KNB **Kanab** 68.29 324 eP P 10 18 32.3 +2.1
KNB pmax pmax
comp=Z,32nm,0.9s
KNB **Kanab** 68.29 324 eP P 10 18 32.2 +2.1
comp=Z,32nm,0.9s
C38A **Sawbill Land.** 68.31 344 P P 10 18 28.9 -0.9
baz=158,SNR=7.1
MMU **Miners Mountai** 68.31 326 eP P 10 18 31.6 +1.3
F32A **Veblen** 68.35 340 P P 10 18 29.7 -0.4
baz=152
KIC **Kosan Boka** 68.38 75 eP P 10 18 30.0 -1.0
comp=Z,88nm,0.6s
DBIC **Dimbokro** 68.39 75 P P 10 18 30.2 -0.8
comp=Z,43nm,0.6s,baz=232,slow=7.2,SNR=65
DBIC **Dimbokro** 68.39 75 eP P 10 18 30.3 -0.7
DBIC pmax pmax
comp=Z,61nm,0.8s
DBIC **Dimbokro** 68.39 75 eP P 10 18 30.3 -0.7
comp=Z,61nm,0.8s
GMRC **Granite Mounta** 68.41 320 P P 10 18 32.6 +1.7
baz=132,SNR=22
D35A **Remer** 68.48 342 P P 10 18 31.1 +0.2
baz=155
LCMT **Little Creek M** 68.53 324 eP P 10 18 33.3 +1.7
comp=Z,11nm,0.9s
E33A **Westby DABS, E** 68.55 341 P P 10 18 30.7 -0.7
baz=153,SNR=7.6
C37A **Embarrass** 68.55 344 P P 10 18 30.8 -0.5
baz=157,SNR=6.7
MURC **Murrieta** 68.57 319 P P 10 18 33.3 +1.5
baz=131
SRU **San Rafael Swe** 68.57 327 eP P 10 18 32.9 +1.1
SRU pmax pmax
comp=Z,11nm,0.7s
SRU **San Rafael Swe** 68.57 327 eP P 10 18 32.9 +1.1
comp=Z,10nm,0.7s
EYMN **Ely** 68.58 344 P P 10 18 30.8 -0.6
baz=157,SNR=7.6
EYMN **Ely** 68.58 344 eP P 10 18 30.9 -0.6
comp=Z,20nm,0.6s
EYMN epP pP 10 19 03.4 +0.5
MTPU **Mount Pierson** 68.67 325 eP P 10 18 34.1 +1.4
comp=Z,5.8nm,0.8s
F31A **Hecla** 68.72 339 P P 10 18 32.3 -0.1
baz=150,SNR=26
C36A **Pine Crest Far** 68.76 343 P P 10 18 32.3 -0.3
baz=156,SNR=15
Q16A **Castle Valley** 68.77 326 eP P 10 18 34.6 +1.5
comp=Z,7.9nm,0.7s
P18A **Preston Nutter** 68.81 327 eP P 10 18 35.0 +1.6
comp=Z,11nm,0.7s
D34A **Park Rapids** 68.82 342 P P 10 18 32.3 -0.7
baz=154,SNR=7.9
BBRC **Big Bear Solar** 68.83 319 P P 10 18 35.6 +1.9
baz=131,SNR=6.6
HEC **Hector,Ludlow** 68.85 320 P P 10 18 35.4 +1.9
baz=132,SNR=18
SZCU **Shurtz Canyon** 68.85 324 eP P 10 18 35.7 +2.0
comp=Z,5.4nm,0.7s
P17A **Butcher Ranch,** 68.95 327 eP P 10 18 35.2 +1.1
comp=Z,17nm,0.9s
E32A **Braaten, Kindr** 68.97 340 P P 10 18 33.7 -0.2
baz=152
CCUT **Cedar City** 68.98 324 eP P 10 18 36.6 +2.2
comp=Z,20nm,0.9s
TUQ **Turquoise Moun** 69.00 321 P P 10 18 36.1 +1.6
baz=132,SNR=15
MSU **Marysvale** 69.01 325 eP P 10 18 36.3 +1.6
MSU **Marysvale** 69.01 325 eP P 10 18 36.2 +1.6
C35A **Jirik Farms, M** 69.02 343 P P 10 18 33.7 -0.6
baz=155,SNR=9.1
SCI2 **San Clemente I** 69.03 317 P P 10 18 36.1 +1.5
baz=130
TMUT **Trail Mountain** 69.06 326 eP P 10 18 36.5 +1.4
comp=Z,6.2nm,0.6s
D33A **AnnSam, Waubun** 69.07 341 P P 10 18 34.1 -0.5
baz=153
E31A **Nome** 69.21 339 P P 10 18 35.1 -0.3
baz=151
CIS **Catalina Islan** 69.22 318 P P 10 18 37.3 +1.5
baz=130
C34A **RKJ Ranch, Bem** 69.25 342 P P 10 18 35.2 -0.4
baz=154,SNR=15
BFSC **Mount Baldy Ra** 69.28 319 P P 10 18 37.7 +1.4
baz=131,SNR=9.4
SHPR **Sheep Range** 69.28 322 eP P 10 18 38.1 +1.9
comp=Z,15nm,0.9s
K22A **Casper** 69.34 332 P P 10 18 37.3 +0.8
baz=142,SNR=5.5
K22A **Casper** 69.34 332 eP P 10 18 37.2 +0.8
FMP **Fort Macarthur** 69.34 318 P P 10 18 38.6 +2.2
baz=130
D32A **Dogwood Acres,** 69.43 340 P P 10 18 36.5 -0.3
baz=152,SNR=7.2
RSSD **Black Hills** 69.44 334 P P 10 18 37.9 +0.8
baz=145
RSSD **Black Hills** 69.44 334 eP P 10 18 38.2 +1.0
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD **Black Hills** 69.44 334 eP P 10 18 38.2 +1.0
comp=Z,13nm,1.0s
GSC **Goldstone, Bar** 69.45 320 P P 10 18 39.0 +1.8
baz=132,SNR=12
GSC **Goldstone, Bar** 69.45 320 eP P 10 18 39.1 +1.8
GSC pmax pmax
comp=Z,12nm,0.8s
GSC **Goldstone, Bar** 69.45 320 eP P 10 18 39.1 +1.8
comp=Z,12nm,0.8s
MWC **Mount Wilson** 69.52 319 eP P 10 18 39.6 +1.8
MWC pmax pmax
comp=Z,15nm,0.8s
MWC **Mount Wilson** 69.52 319 eP P 10 18 39.6 +1.8
comp=Z,15nm,0.8s
SHOC **Shoshone, Teco** 69.53 321 P P 10 18 39.0 +1.4
baz=132,SNR=9.4
B35A **Bob, Littlefor** 69.55 343 P P 10 18 36.9 -0.5
baz=155,SNR=14
PASC **Pasadena Art C** 69.57 318 eP P 10 18 40.0 +2.1
D31A **Mcclaflin, Tow** 69.59 340 P P 10 18 37.6 -0.1
baz=151
C33A **Trail** 69.60 341 P P 10 18 37.3 -0.5
baz=153,SNR=11
DECC **Green Verdugo** 69.71 318 P P 10 18 40.5 +1.7
baz=130
EDW2 **Edwards Air Fo** 69.91 319 P P 10 18 41.2 +1.2
baz=131,SNR=14
B34A **Aery, Baudette** 69.92 343 P P 10 18 39.4 -0.4
baz=154,SNR=7.4
NLU **North Lily Min** 70.00 326 eP P 10 18 42.4 +1.7
comp=Z,6.9nm,0.9s
B33A **Robert and Kas** 70.01 342 P P 10 18 39.9 -0.4
baz=153,SNR=5.6
BLG **Laguna Peak, P** 70.08 318 P P 10 18 42.5 +1.5
baz=130
LRMC **Laurel Mtn Rad** 70.10 320 P P 10 18 42.8 +1.5
baz=131,SNR=10
AGMN **Agassiz Nation** 70.11 342 P P 10 18 40.5 -0.3
baz=153,SNR=11
AGMN **Agassiz Nation** 70.11 342 eP P 10 18 40.5 -0.3
comp=Z,16nm,0.8s
JLU **Jordanelle** 70.15 327 eP P 10 18 43.1 +1.4
comp=Z,29nm,1.3s
OSI **Osito Audit: C** 70.19 318 P P 10 18 43.6 +1.8
baz=130
TPNV **Topopah Spring** 70.22 322 P P 10 18 44.0 +2.0
baz=132,SNR=30
TPNV **Topopah Spring** 70.22 322 eP P 10 18 44.2 +2.2
TPNV pmax pmax
comp=Z,25nm,1.0s
TPNV **Topopah Spring** 70.22 322 eP P 10 18 44.1 +2.2
comp=Z,25nm,1.0s
C31A **Landman Farms,** 70.24 340 P P 10 18 41.5 -0.2
baz=151,SNR=8.2
FURC **Furnace Creek,** 70.26 321 P P 10 18 44.1 +2.1
baz=132,SNR=28
MPMC **Manual Prospec** 70.37 320 P P 10 18 44.3 +1.3
baz=131,SNR=13
CTU **Camp Tracy** 70.37 327 eP P 10 18 44.2 +1.3
comp=Z,6.3nm,1.2s
SCZ2 **Santa Cruz Isl** 70.38 317 P P 10 18 44.3 +1.4
baz=129
B32A **Ashes, Strandq** 70.40 341 P P 10 18 42.3 -0.3
baz=153,SNR=14
TCUT **Toone Canyon** 70.51 328 eP P 10 18 45.3 +1.5
comp=Z,15nm,0.8s
A33A **Warroad** 70.55 342 P P 10 18 43.3 -0.2
baz=154
DUG **Dugway, Tooele** 70.57 326 P P 10 18 45.4 +1.4
baz=136,SNR=18
DUG **Dugway, Tooele** 70.57 326 eP P 10 18 45.5 +1.4

DUG pmax pmax
comp=Z,12nm,0.9s
DUG Dugway, Tooele 70.57 326 *e*P **P 10 18 45.5 +1.4**
comp=Z,12nm,0.9s
DAC Darwin (Calif) 70.58 320 *e*P **P 10 18 45.6 +1.4**
DAC *e* 10 19 05.4
DAC pmax pmax
comp=Z,12nm,0.9s
DAC Darwin (Calif) 70.58 320 *e*P **P 10 18 45.6 +1.4**
comp=Z,12nm,0.9s
DAC *e*PcP **PcP 10 19 05.4 +0.8**
DAC *e*pP **pP 10 19 17.3 +1.4**
ISA Isabella, Lake 70.71 319 P **P 10 18 46.8 +1.9**
baz=130
ISA Isabella, Lake 70.71 319 *e*P **P 10 18 46.9 +2.0**
ISA pmax pmax
comp=Z,13nm,0.8s
ISA Isabella, Lake 70.71 319 *e*P **P 10 18 46.9 +2.0**
comp=Z,13nm,0.8s
R11A Troy Canyon, C 70.79 323 P **P 10 18 47.4 +1.9**
baz=133,SNR=17
R11A Troy Canyon, C 70.79 323 *e*P **P 10 18 47.3 +1.8**
BW06 Boulder Array 70.84 330 P **P 10 18 45.9 +0.2**
baz=140,SNR=10
BW06 Boulder Array 70.84 330 *e*P **P 10 18 45.9 +0.2**
comp=Z,9.9nm,1.3s
PD31 Pinedale Array 70.84 330 *e*P **P 10 18 46.0 +0.2**
PDAR Pinedale Array 70.84 330 P **P 10 18 45.9 +0.2**
comp=Z,2.7nm,0.7s,baz=125,slow=7.5,SNR=23
PDAR pP **pP 10 19 17.9 +0.5**
comp=Z,2.2nm,0.9s,baz=126,slow=7.5,SNR=2.6
A32A Rocking H Ranc 70.85 342 P **P 10 18 44.9 -0.5**
baz=153
MDND Maddock 70.91 339 P **P 10 18 46.4 +0.6**
baz=150,SNR=11
MDND Maddock 70.91 339 *e*P **P 10 18 46.5 +0.7**
GRAC Grapevine Rang 70.91 321 P **P 10 18 47.9 +1.8**
baz=132,SNR=5.5
HWUT Hardware Ranch 70.95 328 *e*P **P 10 18 47.0 +0.6**
comp=Z,7.0nm,0.7s
CWC Cottonwood Cre 70.98 320 P **P 10 18 48.5 +1.8**
baz=131
PKM Mcpherson Peak 71.06 318 P **P 10 18 48.9 +1.8**
baz=129,SNR=6.1
SPUT South Promonto 71.18 327 *e*P **P 10 18 49.1 +1.3**
comp=Z,19nm,1.3s
VES Vestal, Richgr 71.21 319 P **P 10 18 49.4 +1.6**
baz=130,SNR=6.5
BGU Big Grassy Mou 71.21 327 *e*P **P 10 18 48.9 +1.0**
comp=Z,10nm,1.0s
BEI Bear River Ran 71.44 328 *e*P **P 10 18 50.9 +1.6**
SMMC Simmler 71.44 318 P **P 10 18 51.4 +2.1**
baz=129
RCTC Rector, Farmer 71.60 320 P **P 10 18 51.2 +1.0**
baz=130,SNR=5.5
HVU Hansel Valley 71.69 327 *e*P **P 10 18 51.6 +0.8**
HVU pmax pmax
comp=Z,9.0nm,0.7s
HVU Hansel Valley 71.69 327 *e*P **P 10 18 51.6 +0.8**
comp=Z,9.0nm,0.7s
ULM Lac du Bonnet 71.86 343 P **P 10 18 51.0 -0.4**
comp=Z,26nm,0.7s,baz=154,slow=6.3,SNR=54
ULM pP **pP 10 19 22.6 -0.6**
comp=Z,11nm,0.7s,baz=157,slow=5.0,SNR=3.7
ULM Lac du Bonnet 71.86 343 P **P 10 18 51.0 -0.4**
ULM pmax pmax
comp=Z,26nm,0.7s
ULM pmax pmax
comp=Z,11nm,0.7s
PAGB Antelope Grade 71.86 319 *e*P **P 10 18 54.0 +2.2**
REDW Red Top Meadow 71.91 330 *e*P **P 10 18 53.1 +1.0**
SNOW Snow King Moun 71.94 330 *e*P **P 10 18 53.3 +1.0**
LOHW Long Hollow 71.98 330 *e*P **P 10 18 53.3 +0.8**
TPAW Teton Pass 72.05 330 *e*P **P 10 18 54.3 +1.3**
QSPA South Pole Qui 72.12 180 *e*P **P 10 18 53.8 +0.8**
comp=Z,24nm,0.9s
MOOW Moose Ponds 72.14 330 *e*P **P 10 18 54.2 +0.7**
FXWY Fox Creek 72.20 330 *e*P **P 10 18 54.8 +0.9**
MLAC Mammoth, Mammo 72.21 321 P **P 10 18 56.0 +1.9**
baz=131
IMW Indian Meadow 72.35 330 *e*P **P 10 18 56.0 +1.1**
LAO LASA Array 72.43 334 P **P 10 18 55.6 +0.6**
baz=143,SNR=10
LAO LASA Array 72.43 334 *e*P **P 10 18 55.8 +0.8**
LAO *e*pP **pP 10 19 28.4 +1.7**
RLMT Red Lodge 72.51 332 P **P 10 18 56.6 +1.0**
baz=140,SNR=14
RLMT Red Lodge 72.51 332 *e*P **P 10 18 56.7 +1.0**
H17A Grant Village 72.55 330 P **P 10 18 57.6 +1.6**
baz=139
H17A Grant Village 72.55 330 *e*P **P 10 18 57.8 +1.8**
YPP Pitchstone Pla 72.57 330 *e*P **P 10 18 58.6 +2.4**
SCHQ Schefferville 72.63 2 P **P 10 18 55.1 -0.8**
comp=Z,5.4nm,0.5s,baz=220,slow=5.2,SNR=4.2
YFT Old Faithful 72.72 330 *e*P **P 10 18 59.7 +2.8**
YNR Norris Junctio 72.84 331 *e*P **P 10 18 59.8 +2.1**
YMR Madison River 72.94 330 *e*P **P 10 19 00.4 +2.2**
YHH Holmes Hill 72.98 331 *e*P **P 10 19 00.1 +1.6**
DGMT Dagmar 73.08 337 P **P 10 18 59.8 +1.0**
baz=145,SNR=6.0
DGMT Dagmar 73.08 337 *e*P **P 10 18 59.9 +1.2**
YHB Horse Butte 73.11 330 *e*P **P 10 19 01.3 +2.1**
WAKR Walker 73.14 321 *e*P **P 10 19 02.0 +2.5**
GCMT Greycliff 73.20 332 *e*P **P 10 19 01.0 +1.4**
QLMT Earthquake Lak 73.28 330 *e*P **P 10 19 02.1 +1.8**
YERR Yerington 73.34 322 *e*P **P 10 19 02.6 +2.0**
CMB Columbia Colle 73.41 320 *e*P **P 10 19 02.5 +1.6**
CMB Columbia Colle 73.41 320 *e*P **P 10 19 02.5 +1.6**
PNTR Pine Nut 73.62 322 *e*P **P 10 19 04.8 +2.4**
HLID Hailey 73.82 328 P **P 10 19 04.9 +1.6**
baz=136,SNR=29
HLID Hailey 73.82 328 *e*P **P 10 19 05.0 +1.6**
PAHR Pah Rah Range 73.89 322 *e*P **P 10 19 05.9 +2.0**
BOZ Bozeman (W) 73.95 331 P **P 10 19 05.0 +0.9**
baz=138,SNR=5.2
BOZ Bozeman (W) 73.95 331 *e*P **P 10 19 02.9 -1.2**
BOZ Bozeman (W) 73.95 331 *e*P **P 10 19 02.9 -1.2**
MCMT McKenzie Canyo 73.96 329 *e*P **P 10 19 05.7 +1.5**
DLMT Dillon 74.23 330 *e*P **P 10 19 07.0 +1.3**
AFDM Forest Hills D 74.35 321 *e*P **P 10 19 08.0 +1.6**
MFID Camas Ranch 74.44 327 *e*P **P 10 19 08.4 +1.5**
MFID *e*pP **pP 10 19 41.6 +2.8**
BEKR Beckworth 74.57 322 *e*P **P 10 19 09.5 +1.7**
EGMT Eagleton 74.96 333 P **P 10 19 10.2 +0.5**
baz=140,SNR=7.9
EGMT Eagleton 74.96 333 *e*P **P 10 19 10.7 +0.9**
ORV Oroville 75.05 321 *e*P **P 10 19 12.2 +1.9**
ORV Oroville 75.05 321 *e*P **P 10 19 12.2 +1.9**
ORV *e*pP **pP 10 19 44.3 +2.0**
WVOR Wild Horse Val 75.27 325 *e*P **P 10 19 12.7 +1.0**
WVOR Wild Horse Val 75.27 325 *e*P **P 10 19 12.7 +1.0**
O03D Paynes Creek 75.69 321 P **P 10 19 14.6 +0.5**
baz=129,SNR=5.1
MOD Modoc Plateau 75.85 323 *e*P **P 10 19 16.5 +1.4**
MSO Missoula 75.94 330 P **P 10 19 16.8 +1.4**
baz=136,SNR=7.6
MSO Missoula 75.94 330 *e*P **P 10 19 17.1 +1.7**
SLMT Seeley Lake 76.03 331 *e*P **P 10 19 17.2 +1.2**
BMO Blue Mountains 76.20 327 *e*P **P 10 19 18.0 +1.1**
BMO Blue Mountains 76.20 327 *e*P **P 10 19 18.0 +1.1**
WDC Whiskeytown Da 76.31 321 *e*P **P 10 19 17.7 +0.2**
WDC Whiskeytown Da 76.31 321 *e*P **P 10 19 17.7 +0.2**
SWMT Swartz Lake 76.47 331 *e*P **P 10 19 19.9 +1.6**
N02D Trinity Center 76.65 321 P **P 10 19 19.7 +0.2**
baz=128,SNR=6.0
M04C Macdoel 76.66 323 P **P 10 19 20.9 +1.3**
baz=129,SNR=9.8
TORD Torodi Ar. Bea 76.81 71 P **P 10 19 19.7 -1.1**
comp=Z,46nm,0.5s,baz=252,slow=5.3,SNR=137
M02C Callahan 77.00 322 P **P 10 19 22.3 +0.8**
baz=128
BSMT Bassoo Peak 77.08 331 *e*P **P 10 19 23.5 +1.6**
K04D Chiloquin, OR 77.14 323 P **P 10 19 23.7 +1.4**
baz=129
J05D Fort Rock, OR 77.27 324 P **P 10 19 24.5 +1.5**
baz=130,SNR=11
WALA Waterton Lakes 77.56 332 *e*P **P 10 19 25.3 +0.8**
WALA *e*PcP **PcP 10 19 34.0 -0.2**
J04D Umpqua Nationa 77.73 324 P **P 10 19 27.0 +1.3**
baz=129,SNR=7.1
E09A Wood Farm, Sta 77.77 328 *e*P **P 10 19 26.9 +1.4**
HUMO Hull Mountain 77.82 323 *e*P **P 10 19 26.6 +0.7**
L02D Cave Junction, 77.92 322 P **P 10 19 27.9 +1.5**
baz=128
I05D Terrebonne, OR 78.01 325 P **P 10 19 28.9 +2.0**
baz=130,SNR=12
G06A Carlson Farm, 78.21 326 *e*P **P 10 19 30.1 +2.1**
HAWA Hanford 78.39 327 *e*P **P 10 19 30.6 +1.6**
HAWA *e*pP **pP 10 20 02.8 +1.6**
NEW Newport 78.48 330 P **P 10 19 30.3 +0.9**
baz=134
D08A Wollman Farm, 78.53 328 *e*P **P 10 19 31.1 +1.3**
G05D Wamic, OR 78.58 326 P **P 10 19 32.2 +2.2**
baz=130,SNR=6.1
E07A Sunnyside 78.67 327 *e*P **P 10 19 32.7 +2.2**
C09A Chrisman Ranch 78.72 329 *e*P **P 10 19 32.2 +1.5**
I03D Drain, OR 78.72 323 P **P 10 19 32.3 +1.5**
baz=128
SBA Scott Base 79.09 190 *e*P **P 10 19 34.9 +2.5**
SBA Scott Base 79.09 190 *e*P **P 10 19 34.9 +2.5**
PFVI Vila Bisbo 79.25 45 *e*P **P 10 19 37.3 +3.5**
MORF Marmelete 79.46 45 *e*P **P 10 19 36.9 +1.9**
WTV Waterville 79.48 328 P **P 10 19 36.4 +1.4**
LTY Liberty 79.55 327 *e*P **P 10 19 37.1 +1.7**
ETW Entiat 79.61 328 P **P 10 19 37.2 +1.5**
F04A Amboy 79.61 326 *e*P **P 10 19 37.0 +1.4**
B08A Colville Reser 79.62 329 *e*P **P 10 19 36.4 +0.7**
G03D McMinnville, O 79.62 325 P **P 10 19 37.8 +2.1**
baz=129
LON Longmire 79.81 326 *e*P **P 10 19 37.7 +0.9**
LON Longmire 79.81 326 *e*P **P 10 19 37.7 +0.9**
PBDV Barranco-do-Ve 79.91 45 *e*P P 10 19 43.7 +6.2
SYO Syowa Base 79.93 160 *e*P **P 10 19 37.0 0.0**
PNCL Nicolau / Gran 79.97 44 *e*P **P 10 19 38.7 +1.0**
comp=Z,35nm,1.7s
PCVE Castro Verde 80.04 45 *e*P **P 10 19 39.2 +1.1**
VNDA Vanda 80.12 190 P **P 10 19 40.0 +2.0**
comp=Z,3.8nm,0.9s,baz=127,slow=4.6,SNR=20
VNDA Vanda 80.12 190 *e*P **P 10 19 40.5 +2.5**
PVAQ Vaqueiros 80.14 45 *e*P **P 10 19 41.3 +2.7**
D05A Enumclaw 80.19 327 *e*P **P 10 19 40.4 +1.7**
MOE Montemor 80.31 44 *e*P **P 10 19 41.2 +1.7**
PBEJ Beja 80.36 45 *e*P **P 10 19 41.2 +1.3**
E03A Lebam 80.62 326 *e*P **P 10 19 43.1 +2.1**
PMTG Montargil 80.68 44 *e*P **P 10 19 42.3 +0.8**
comp=Z,25nm,1.8s
PMTG *e*pP **pP 10 20 17.0 +3.2**
RPW Rockport 80.76 328 P **P 10 19 42.3 +0.5**
B06A Marblemount 80.79 328 *e*P **P 10 19 42.7 +0.8**
JCW Jim Creek 80.81 328 P **P 10 19 42.6 +0.6**
PTOM Tomar 80.85 43 *e*P **P 10 19 44.7 +2.3**
B05A Bryant 80.94 328 P **P 10 19 43.2 +0.5**
baz=130,SNR=11
PESTR Estremoz 80.99 44 *e*P **P 10 19 45.9 +2.7**
PBAR Barrancos 81.00 45 *e*P **P 10 19 43.8 +0.6**
MBW Mount Baker 81.18 328 P **P 10 19 44.7 +0.5**
A04D Lummi Island 81.54 328 P **P 10 19 47.1 +1.3**
baz=130,SNR=6.1
PCBR Castelo Branco 81.58 43 *e*P **P 10 19 47.1 +0.9**
PVIS Viseu 81.77 43 *e*P **P 10 19 48.4 +1.1**
PGC Sidney 81.88 327 *e*P **P 10 19 49.1 +1.5**
PVRL Vila Real 82.18 42 *e*P **P 10 19 51.2 +1.8**
POLO Lamas de Olo 82.19 42 *e*P **P 10 19 47.3 -2.2**
POLO *e*pP **pP 10 20 25.0 +3.0**
PCAB Cabril 82.22 42 *e*P **P 10 19 51.1 +1.5**
LLLB Lillooet 82.35 329 *e*P **P 10 19 51.1 +1.1**
MVO Moncorvo 82.56 42 *e*P **P 10 19 52.5 +1.0**
comp=Z,16nm,0.9s
PAB San Pablo 83.50 45 *e*P **P 10 19 57.1 +0.8**
PAB *e*PP **pP 10 20 31.9 +3.0**
PAB San Pablo 83.50 45 *e*P **P 10 19 57.1 +0.8**
PAB *e*pP **pP 10 20 31.9 +3.0**
ESDC Sonseca Array 83.83 45 P **P 10 19 58.1 +0.1**
comp=Z,4.9nm,0.9s,baz=250,slow=5.5,SNR=18
ESDC pP **pP 10 20 30.4 -0.2**
comp=Z,9.4nm,1.1s,baz=244,slow=5.1,SNR=4.8
ESLA Sonseca Array 83.83 45 *e*P **P 10 19 58.9 +0.9**
ESLA *e*pP **pP 10 20 33.7 +3.2**
BOSA Boshof 85.61 119 P **P 10 20 07.2 -0.1**
comp=Z,13nm,1.1s,baz=252,slow=4.8,SNR=11
BOSA Boshof 85.61 119 P **P 10 20 07.3 -0.1**
BOSA pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 85.61 119 *e*P **P 10 20 07.4 0.0**
LBTB Lobatse 87.02 115 *e*P **P 10 20 14.7 +0.4**
LBTB Lobatse 87.02 115 *e*P **P 10 20 14.7 +0.4**
YKA Yellowknife Ar 87.75 341 P **P 10 20 17.0 +0.4**
comp=Z,18nm,0.7s,baz=134,slow=4.8,SNR=52
YKA pP **pP 10 20 49.5 0.0**
comp=Z,10nm,0.8s,baz=134,slow=4.8,SNR=7.7
MAW Mawson 87.79 164 P **P 10 20 17.1 +0.2**
comp=Z,5.4nm,0.7s,baz=182,slow=10,SNR=4.1
MAW Mawson 87.79 164 P **P 10 20 17.1 +0.2**
MAW pmax pmax
comp=Z,4.0nm,0.7s
KEST Kesra 91.72 53 P **P 10 20 35.7 -0.3**
comp=Z,3.9nm,0.7s,baz=323,slow=6.5,SNR=4.1
SUMG Summit 92.77 9 *i* P **P 10 20 38.3 -2.1**
SUMG Summit 92.77 9 *e*P **P 10 20 38.3 -2.1**
GERES GERESS Array B 99.06 42 P **Pdif 10 21 09.5 +0.4**
comp=Z,0.7nm,0.7s,baz=279,slow=3.4,SNR=3.6
ILAR Eielson Array 100.89 335 P **Pdif 10 21 18.0 +1.3**
comp=Z,0.2nm,0.7s,baz=100,slow=3.7,SNR=3.2
ILAR PP PP 10 25 18.1 -8.3
comp=Z,0.5nm,0.8s,baz=104,slow=7.0,SNR=5.1
TOLK Toolik Lake Re 103.07 338 P **Pdif 10 21 25.6 -0.8**
baz=106
BRTR Keskin Array B 111.32 54 PP PP 10 26 35.6 -8.5
comp=Z,0.9nm,0.8s,baz=258,slow=4.9,SNR=3.8
KLMR Klimovskoe 114.88 31 *e*PKIKP PKPdf 10 26 03.3 -4.5
KLMR pmax pmax
comp=Z,12nm,1.4s
STKA Stephens Creek 122.06 211 PKP **PKPdf 10 26 23.2 +0.5**
comp=Z,1.8nm,0.6s,baz=17,slow=2.2,SNR=6.3
STKA pPKP **pPKPdf 10 26 57.6 +0.5**
comp=Z,3.1nm,1.2s,baz=160,slow=1.3,SNR=2.6
TIXI Tiksi 125.31 353 *i* PKIKP **PKPdf 10 26 27.7 +0.1**
SEY Seymchan 126.70 338 PKP **PKPdf 10 26 31.4 +1.0**
comp=Z,8.1nm,0.7s,baz=104,slow=4.6
ABKAR Abkulak array 128.99 41 *e*PKPdf **PKPdf 10 26 33.2 -2.0**
PETK Petropavlovsk- 129.42 325 PKP **PKPdf 10 26 35.5 -0.5**
comp=Z,9.3nm,0.9s,baz=62,slow=3.5,SNR=6.1
PETK Petropavlovsk- 129.42 325 PKIKP **PKPdf 10 26 35.5 -0.5**
PETK pmax pmax
comp=Z,6.0nm,0.8s
ASAR Alice Springs 132.63 210 PKP **PKPdf 10 26 43.5 +0.4**
comp=Z,1.8nm,0.6s,baz=134,slow=2.0,SNR=24
ASAR SKPbc **SKPbc 10 29 59.0 +0.4**
comp=Z,1.9nm,0.8s,baz=144,slow=4.0,SNR=9.8
PMG Port Moresby 134.63 236 *i* PKIKP **PKPdf 10 26 48.1 +1.1**
WRA Warramunga Arr 135.55 213 PKhKP PKPpre 10 26 42.1
comp=Z,1.3nm,0.9s,baz=144,slow=1.4,SNR=5.2
WRA PKP **PKPdf 10 26 49.0 +0.5**
comp=Z,5.4nm,0.9s,baz=153,slow=1.6,SNR=22
WRA SKPbc **SKPbc 10 30 07.5 -0.8**
comp=Z,5.1nm,1.0s,baz=141,slow=2.7,SNR=10
WRAB Tennant Creek 135.55 213 *e*PKIKP **PKPdf 10 26 48.2 -0.4**
ZALV Zalesovo Beam 139.07 23 PKhKP PKPpre 10 26 48.2
comp=Z,5.4nm,0.7s,baz=328,slow=2.3,SNR=23
ZALV PKP **PKPdf 10 26 54.0 +0.1**
comp=Z,5.4nm,0.7s,baz=263,slow=3.0,SNR=23
ZALV pPKP pPKPdf 10 27 28.5 +0.1
comp=Z,11nm,0.8s,baz=292,slow=2.7,SNR=7.2
ZALV SKPbc **SKPbc 10 30 17.6 +0.3**
comp=Z,2.5nm,0.7s,baz=308,slow=3.8,SNR=7.3
YSS Yuzh-Sakhalins 140.82 325 *i* PKIKP **PKPdf 10 26 57.8 +0.5**
AAK Ala-Archa 140.91 43 *i* PKIKP **PKPdf 10 26 58.1 +0.2**
ASAJ Asahikawa 142.54 321 PKP **PKPdf 10 26 58.6 -2.0**
comp=Z,6.1nm,0.7s,baz=139,slow=2.7,SNR=8.9
MKAR Makanchi Array 143.14 33 PKP **PKPdf 10 27 00.2 -1.3**
comp=Z,1.9nm,0.7s,baz=319,slow=2.9,SNR=9.8
MKAR pPKP **pPKPdf 10 27 35.7 -0.4**
comp=Z,1.7nm,0.7s,baz=299,slow=2.5,SNR=3.5
MKAR SKPbc **SKPbc 10 30 26.4 -1.7**
comp=Z,1.8nm,0.7s,baz=336,slow=3.2,SNR=6.2
KSH Kashi 143.31 47 *e*PKP **PKPdf 10 27 03.8 +1.6**
KSH pPKP pPKPdf 10 27 32.3 -4.4
KSH sPKP 10 27 41.5
KSH PP **PP 10 30 18.3 +3.9**
KSH PKS **PKSdf 10 30 38.1 +0.1**
KSH SKS **SKSdf 10 34 01.1 +0.8**
KSH SKKS **SKKSac 10 36 55.8 +0.6**
KSH SS **SS 10 48 46.0 +1.3**
KSH AMB AMB
comp=Z,110nm,7.4s
KSH LR LR
comp=Z,79nm,5.1s
KSH LR LR
comp=Z,77nm,5.8s
KSH LR LR
comp=Z,100nm,6.1s
MOY Mondy 145.63 10 *e*PKP2 **PKPab 10 27 07.9 +1.1**
MOY pmax pmax
comp=Z,16nm,1.7s
ZAK Zakamensk 147.24 8 *e*PKP2 **PKPdf 10 27 09.7 +1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
WMQ Urumqi 147.95 32 PKPbc **PKPdf 10 27 09.6 -0.3**
WMQ LR LR
comp=Z,53nm,20.9s
WMQ LR LR
comp=Z,40nm,19.1s
WMQ LR LR
comp=Z,41nm,19.1s
HIA Hailar 147.97 348 *e*PKIKP **PKPdf 10 27 10.0 +0.2**
HIA *e* 10 27 13.5
HIA Hailar 147.97 348 *e*PKPdf **PKPdf 10 27 09.9 +0.2**
HIA *e*PKPbc **PKPbc 10 27 13.5 +0.6**
USRK Ussuriysk Ar. 148.26 330 PKPbc **PKPbc 10 27 14.9 +1.1**
comp=Z,24nm,0.8s,baz=22,slow=1.8,SNR=32
USRK pPKPbc **pPKPbc 10 27 48.3 +0.4**
comp=Z,8.8nm,0.9s,baz=35,slow=3.2,SNR=2.1
MDJ Mudanjiang 149.03 333 PKPbc **PKPbc 10 27 17.8 +2.0**
SOEI Soe 149.18 207 *e*PKPbc **PKPbc 10 27 18.2 +1.0**
MJAR Matsushiro Arr 149.38 313 PKPbc **PKPbc 10 27 17.9 +1.0**
comp=Z,15nm,0.6s,baz=88,slow=1.4,SNR=47
MAJO Matsushiro 149.38 313 *e*PKHKP **PKPdf 10 27 12.8 +0.4**
MAJO *e* 10 27 22.8
MAJO Matsushiro 149.38 313 *e*PKPdf **PKPdf 10 27 12.8 +0.4**
MAJO *e*PKPbc **PKiKP 10 27 17.6 -0.4**
MAJO *e*PKPab **PKPab 10 27 22.8 +0.8**
MAT Matsushiro 149.38 313 PKP **PKPbc 10 27 17.8 +0.9**
CBIJ Chichi jima 149.41 293 *e*PKPdf PKPpre 10 27 04.4
HYB Hyderabad 149.64 86 *i* PKP **PKPbc 10 27 18.0 -0.1**
HYB *e* 10 27 33.0
HYB *e* 10 27 54.0
SONM Songino Array 150.11 5 PKP **PKPdf 10 27 14.8 +1.4**
comp=Z,6.6nm,0.7s,baz=225,slow=0.9,SNR=9.6
SONM PKPbc **PKiKP 10 27 19.8 +0.4**
comp=Z,3.2nm,0.5s,baz=353,slow=2.8,SNR=8.4
SONM pPKPbc **pPKPbc 10 27 53.1 +0.4**
comp=Z,5.5nm,0.7s,baz=311,slow=1.2,SNR=4.1
SONM Songino Array 150.11 5 PKHKP PKPpre 10 27 14.8
SONM 10 27 19.8
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM pmax pmax
comp=Z,3.0nm,0.5s
ULN Ulaanbaatar 150.14 5 *e*PKP2 **PKPbc 10 27 19.2 +0.6**
ULN Ulaanbaatar 150.14 5 *e*PKPbc **PKPbc 10 27 19.1 +0.6**
CN2 Changchun 151.38 337 *e*PKPbc **PKPdf 10 27 11.0 -4.3**
KSRS Korea Array 155.32 325 PKP **PKPdf 10 27 21.9 +0.8**
comp=Z,2.1nm,1.0s,baz=79,slow=1.9,SNR=4.7
KSRS PKPbc PKPbc 10 27 31.4
comp=Z,4.0nm,0.8s,baz=348,slow=1.3,SNR=8.8
KSRS PKPab **PKPab 10 27 47.2 +0.4**
comp=Z,5.3nm,1.0s,baz=50,slow=5.6,SNR=6.9
KSAR Wonju Array Be 155.35 325 PKIKP **PKPdf 10 27 21.9 +0.7**
KSAR 10 27 47.3
KSAR Wonju Array Be 155.35 325 PKP **PKPdf 10 27 21.9 +0.7**
KSAR PKPbc PKPbc 10 27 31.4
KSAR PKPab **PKPab 10 27 47.2 +0.3**
GTA Gaotai 156.80 21 *e*PKP **PKPdf 10 27 27.3 +4.1**
GTA pPKP PKPab 10 27 54.8 +1.5
GTA PKPab **pPKPdf 10 27 59.3 +1.5**
GTA sPKP 10 28 04.8
HHC Hu-ho-hao-te 157.26 358 *e*PKP **PKPdf 10 27 18.5 -5.2**
LZH Lanzhou 161.11 17 *e*PKP **PKPdf 10 27 31.3 +2.9**
LZH pPKP pPKPdf 10 27 57.8 -5.2
LZH sPKP 10 28 08.4
LZH PKPab **sPKPdf 10 28 17.6 +1.4**
LZH LR LR
comp=Z,290nm,19.0s
LZH LR LR
comp=Z,270nm,17.0s
LZH LR LR
comp=Z,370nm,20.2s
NJ2 Nanjing 164.13 333 *e*PKP **PKPdf 10 27 31.6 +0.4**
CD2 Chengdu 165.83 24 PKP **PKPdf 10 27 31.8 -1.0**
WHN Wuhan 167.07 345 PKP **PKPdf 10 27 38.4 +4.7**
ENH Enshi 167.80 4 *e*PKPdf **PKPdf 10 27 33.9 -0.4**
ENH *e*pPKPdf **pPKPdf 10 28 11.4 +2.4**
ENH *e*PKPab **PKPab 10 28 40.8 -0.7**
CMAR Chiang Mai Arr 169.06 86 PKP **PKPdf 10 27 34.0 -1.4**
comp=Z,0.8nm,0.3s,baz=286,slow=1.3,SNR=3.7
CMAR PKPab **PKPab 10 28 47.4 -0.4**
comp=Z,1.3nm,0.4s,baz=274,slow=6.0,SNR=11
GYA Guiyang 170.93 22 *e*PKP **PKPdf 10 27 36.3 -0.1**
GYA sPKP 10 28 22.0
GYA PKPab **PKPab 10 28 57.3 +1.7**
GYA PKS **PKSdf 10 31 07.6 -1.4**
GYA PP **PP 10 32 48.0 +2.8**
GYA AMB AMB
comp=Z,120nm,8.4s

ISCJB ***22*** *10:25:01.0±0.5, 22°.51N±0°.10×142°.2E±0°.2, h260km, mb3.7/19, Error ellipse: s-maj=19.7km s-min=13.3km az=0.4*
IDC ***22*** *10:25:07.1±3.7, 22°.50N×142°.19E, h304km±36km, mb3.5/17, mb1 3.7/19, mb1mx3.5/44, mbtmp4.1/19, Error ellipse: s-maj=18.6km s-min=10.2km az=90.0*
ISC 22 10:25:02.4±0.6, 22°.6N±0°.1×142°.0E±0°.2, h260km, n24, σ0=92/23, mb3.7/19, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**14.43**	**319**	P	Pn	10 28 20.4	+5.2
0.5nm,0.3s,baz=42,slow=12,SNR=4.2							
KSRS	**Korea Array**	**19.20**	**324**	P	**Pn**	**10 29 11.9**	**+0.5**
0.2nm,0.3s,baz=149,slow=9.5,SNR=4.1							
SONM	**Songino Array**	**38.01**	**320**	P	**P**	**10 31 54.3**	**-1.4**
0.4nm,0.4s,baz=96,slow=7.4,SNR=2.6							
WRA	**Warramunga Arr**	**42.90**	**191**	P	**P**	**10 32 36.0**	**+0.2**
9.0nm,0.6s,baz=10,slow=8.2,SNR=96							
ASAR	**Alice Springs**	**46.61**	**190**	P	**P**	**10 33 05.6**	**+0.6**
2.3nm,0.5s,baz=16,slow=13,SNR=51							
ZALV	**Zalesovo Beam**	**52.89**	**321**	P	**P**	**10 33 52.7**	**+1.1**
1.5nm,0.4s,baz=110,slow=8.5,SNR=7.1							
MKAR	**Makanchi Array**	**53.34**	**312**	P	**P**	**10 33 56.9**	**+1.8**
0.8nm,0.5s,baz=96,slow=9.9,SNR=5.3							
STKA	**Stephens Creek**	**54.12**	**180**	P	**P**	**10 34 00.1**	**-0.6**
0.7nm,0.3s,baz=16,slow=5.7,SNR=9.5							
KDAK	**Kodiak Island**	**58.11**	**35**	P	**P**	**10 34 28.4**	**-0.2**
5.6nm,0.9s,baz=131,slow=3.4,SNR=20							
ILAR	**Eielson Array**	**61.77**	**27**	P	**P**	**10 34 52.9**	**-0.5**
0.8nm,0.6s,baz=259,slow=6.0,SNR=15							
INK	**Inuvik**	**67.22**	**24**	P	**P**	**10 35 28.3**	**-0.1**
1.2nm,0.8s,baz=312,slow=7.1,SNR=5.4							
YKA	**Yellowknife Ar**	**76.20**	**28**	P	**P**	**10 36 22.0**	**+0.2**
1.6nm,0.7s,baz=294,slow=5.3,SNR=5.2							
RES	**Resolute Bay**	**76.50**	**13**	P	**P**	**10 36 23.5**	**+0.2**
1.9nm,0.8s,baz=7.3,slow=21,SNR=8.0							
ARCES	**ARCESS Array B**	**77.78**	**341**	P	**P**	**10 36 31.8**	**+1.2**
1.4nm,0.4s,baz=76,slow=8.5,SNR=15							
KBZ	**Khabaz**	**81.02**	**314**	P	**P**	**10 36 49.4**	**+1.0**
2.2nm,0.8s,baz=95,slow=4.5,SNR=5.1							
FINES	**FINESS Array B**	**81.96**	**334**	P	**P**	**10 36 53.1**	**+0.2**
4.0nm,0.5s,baz=71,slow=4.7,SNR=45							
AKASG	**Malin Array Be**	**86.20**	**324**	P	**P**	**10 37 12.4**	**-2.0**
0.6nm,0.5s,baz=56,slow=4.9,SNR=3.8							
PDAR	**Pinedale Array**	**87.53**	**44**	P	**P**	**10 37 21.8**	**+0.4**
0.2nm,0.5s,baz=205,slow=4.0,SNR=3.5							
NOA	**NORSAR Array B**	**87.77**	**338**	P	**P**	**10 37 20.7**	**-1.1**
1.0nm,0.6s,baz=49,slow=4.8,SNR=2.9							
BRTR	**Keskin Array B**	**88.99**	**313**	P	**P**	**10 37 27.5**	**-0.7**
0.6nm,0.6s,baz=76,slow=6.1,SNR=2.9							
TXAR	**Lajitas Array**	**98.41**	**54**	P	**P**	**10 38 11.4**	**-0.1**
0.1nm,0.5s,baz=262,slow=6.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**127.38**	**309**	PKP	**PKPdf**	**10 43 37.0**	**0.0**
0.1nm,0.4s,baz=174,slow=2.9,SNR=3.4							
PLCA	**Paso Flores**	**147.11**	**131**	PKPbc	**PKPbc**	**10 44 14.9**	**0.0**
0.6nm,0.4s,baz=224,slow=1.2,SNR=4.6							
LPAZ	**La Paz**	**150.91**	**83**	PKPbc	**PKPbc**	**10 44 26.5**	**+0.8**
2.0nm,0.5s,baz=354,slow=2.1,SNR=9.0							

NNC 22 10:31:37.6±2.0, 37°.07N×71°.10E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=15.8km s-min=9.0km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**315**	⇓P	Pn	10 32 19.4	-0.1

6.1nm,0.3s
DZET ⇑S Sn 10 32 52.2 +1.4
14nm,0.5s
MNAS Manas 5.52 11 ⇓P Pn 10 33 01.6 +0.5
0.8nm,0.5s
MNAS ⇑S Sn 10 34 07.0 +1.5
1.5nm,0.5s
KK31 Karatay Array 6.05 356 ⇑P Pn 10 33 08.4 +0.1
1.0nm,0.4s,baz=181,slow=13,SNR=17
KK31 ⇑S Sn 10 34 18.6 +0.4
1.3nm,0.6s,baz=184,slow=24,SNR=5.7

DHMR 22 10:40:30.3±1.0, 11°.88N×44°.03E, h9km±17km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.29**	**46**	*i* P		Pn 10 40 53.6	-0.9
ADEN	comp=Z,2μm,0.6s				AML	AML 10 41 07.8	
ADEN				*i* S		Sn 10 41 12.6	+0.7
UDYN	**Al 'Udayn**	**2.08**	**358**	*i* P		Pb 10 41 07.5	-0.8
UDYN				*i* S		Sb 10 41 35.1	+0.7
BDHA	**Al Bayda'**	**2.57**	**35**	*i* P		Pn 10 41 14.5	+2.2
BDHA				*i* S		Sb 10 41 49.6	+1.1

IDC 22 10:41:01.1±8.9, 55°.57N×85°.13E, h0km, Error ellipse: s-maj=50.7km s-min=27.0km az=6.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**186**	*i*		10 51 30.0	
	baz=7.5,slow=325,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.64**	**186**	Pg		Pn 10 41 30.9	-0.2
	1.1nm,0.3s,baz=8.2,slow=15,SNR=8.1						
ZALV				Lg		Lg 10 41 52.8	
	2.0nm,0.3s,baz=2.7,slow=32,SNR=15						
I34MN	**SONGINO INFRAS**	**15.27**	**112**	*i*		12 07 40.0	
	baz=310,slow=333,SNR=0.4						

*IDC **22** 10:50:53.3±1.3, 8°.94S×157°.70E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/29, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=29.2km s-min=26.8km az=156.0*
*NEIC **22** 10:50:54.7±0.8, 9°.02S×157°.70E, h10km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=10.7km az=176.0*
*ISCJB **22** 10:50:55.2±0.9, 9°.0S±0°.1×157°.59E±0°.09, h23km, mb3.7/7, Error ellipse: s-maj=19.4km s-min=12.7km az=177.8*
ISC 22 10:50:56.7±0.9, 9°.0S±0°.2×157°.68E±0°.06, h23km, n13, σ1°.34/15, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.27**	**100**	Pn	**Pn**	**10 51 31.4**	**-1.3**
	44nm,0.3s,baz=176,slow=9.1,SNR=9.7						
HNR				Sn	**Sb**	**10 52 06.1**	**+1.5**
	40nm,0.3s,baz=270,slow=20,SNR=4.2						
HNR	**Honiara**	**2.27**	**100**	*e*P	**Pn**	**10 51 30.0**	**-2.8**
HNR	**Honiara**	**2.27**	**100**	*e*Pn	**Pn**	**10 51 31.9**	**-0.9**
HNR				Sn	**Sb**	**10 52 06.1**	**+1.5**
PMG	**Port Moresby**	**10.40**	**267**	*e*Pn	**Pn**	**10 53 24.7**	**+0.2**
COEN	**Coen**	**15.03**	**250**	Pn	**Pn**	**10 54 27.0**	**-0.8**
	8.5nm,1.0s						
CTAO	**Charters Tower**	**15.57**	**224**	Pn	**Pn**	**10 54 35.0**	**+0.1**
	250nm,1.9s						
ARMA	**Armidale**	**22.01**	**194**	*e*P	**P**	**10 55 49.3**	**-0.3**
	12nm,1.4s						
WRAB	**Tennant Creek**	**25.02**	**242**	*e*P	**P**	**10 56 18.6**	**-0.5**
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**25.03**	**242**	P	**P**	**10 56 19.1**	**-0.3**
	2.1nm,0.6s,baz=67,slow=9.5,SNR=21						
ASAR	**Alice Springs**	**26.99**	**235**	P	**P**	**10 56 36.6**	**-0.4**
	0.4nm,0.8s,baz=66,slow=8.9,SNR=4.1						
STKA	**Stephens Creek**	**27.19**	**211**	P	**P**	**10 56 41.0**	**+2.3**
	0.5nm,0.5s,baz=45,slow=16,SNR=1.8						
CMAR	**Chiang Mai Arr**	**64.06**	**296**	P	**P**	**11 01 29.8**	**+0.4**
	1.6nm,0.9s,baz=117,slow=5.9,SNR=6.7						
SONM	**Songino Array**	**72.49**	**327**	P	**P**	**11 02 21.8**	**+0.1**
	0.5nm,0.5s,baz=122,slow=5.3,SNR=2.6						

*ISCJB **22** 11:02:53.1±0.3, 20°.00S±0°.02×68°.55W±0°.04, h107km±2km, mb4.9/183, Error ellipse: s-maj=5.8km s-min=3.0km az=160.4*
*IDC **22** 11:02:54.5±0.9, 20°.03S×68°.63W, h103km±7km, mb4.6/23, mb1 4.7/28, mb1mx4.6/37, mbtmp5.0/28, MS3.8/4, Ms1 3.8/4, ms1mx3.3/17, Error ellipse: s-maj=13.1km s-min=7.7km az=88.0*
*GUC **22** 11:02:55.7±0.7, 20°.16S×68°.89W, h117km±3km, ML5.2*
*SCB **22** 11:02:56.3±0.6, 19°.95S×68°.52W, h115km, Ml4.7/1, Error ellipse: s-maj=20.8km s-min=4.5km az=54.0*
*GCMT **22** 11:02:56.8±0.3, 20°.03S×69°.09W, h139km±3km, MW5.1/82, Moment Tensor Solution. s32,c36; s82,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.88±.17; $M_{\theta\theta}$0.53±.19; $M_{\phi\phi}$3.35±.26; $M_{r\theta}$1.31±.12; $M_{\theta\phi}$-2.14±.17; $M_{\phi r}$-3.42±.18; Best double couple: $M_0$5.56900×10^{16} NP1:ϕ_s337.00000°, δ66.00000°, λ-85.00000°. NP2: ϕ_s145.00000°, δ25.00000°, λ-101.00000°. Principal axes: T 5.8610, Plg21.0000°, Azm63.0000°; N -0.5870, Plg5.0000°, Azm155.0000°; P -5.2760, Plg69.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **22** 11:02:56.8, 20°.10S×68°.50W, h124km, mB5.2/10*
*NEIC **22** 11:02:56.8±0.2, 20°.11S×68°.53W, mb4.9/166, MW4.9, Error ellipse: s-maj=6.2km s-min=3.7km az=76.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$2.33; $M_{r\theta}$1.17; $M_{\theta\phi}$-0.44; $M_{\phi r}$-1.29; Best double couple: $M_0$2.80000×10^{16} NP1:ϕ_s329.00000°, δ66.00000°, λ-113.00000°. NP2:ϕ_s196.00000°, δ33.00000°, λ-48.00000°. Principal axes: T 2.8700, Plg18.0000°, Azm76.0000°; N -0.1900, Plg21.0000°, Azm339.0000°; P -2.6800, Plg62.0000°, Azm203.0000°;*
NEIC Felt [III] at Camina, Huara, La Tirana, Pica and Pozo Almonte and [II] at Alto Hospicio, Iquique, Mamina and Pisagua, Chile.
*MOS **22** 11:02:57.6±1.3, 19°.91S×68°.51W, h139km, mb4.8/37 Error ellipse: s-maj=14.8km s-min=6.3km az=114.2*
ISC 22 11:02:56.6±0.3, 20°.11S±0°.03×68°.80W±0°.04, h124km±2km, h124km:pP-P, n826, σ1°.26/896, mb4.9/184, 12C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.33**	**264**	⇑*i*P	**Pn**	**11 03 13.2**	**-1.5**
PB08				*i* S	**Sn**	**11 03 26.2**	**-1.9**
HMBC	**Humberstone**	**1.03**	**260**	⇑*i*P	**Pn**	**11 03 17.6**	**-1.9**
HMBC				*i* S	**Sn**	**11 03 34.4**	**-2.3**
HMBC					IAML	11 03 35.1	
	comp=E,40μm,1.0s						
PB01	**IPOC Station P**	**1.13**	**214**	⇑*i*P	**Pn**	**11 03 18.8**	**-1.6**
PB01				*i* S	**Sn**	**11 03 36.0**	**-2.5**
PB01					IAML	11 03 37.1	
	comp=N,32μm,0.8s						
PB01	**IPOC Station P**	**1.13**	**214**	*e*Pn	**Pn**	**11 03 18.8**	**-1.6**
PB01				*e*Sn	**Sn**	**11 03 36.0**	**-2.5**
MNMC	**Minye Minye**	**1.22**	**322**	⇓*i*P	**Pn**	**11 03 21.2**	**-0.4**
MNMC				*e*S	**Sn**	**11 03 40.0**	**-0.4**
MNMC					IAML	11 03 41.2	
	comp=E,95μm,0.4s						
PSGC	**Pisagua**	**1.34**	**292**	⇑*i*P	**Pn**	**11 03 21.4**	**-1.3**
PSGC				*i* S	**Sn**	**11 03 40.5**	**-1.9**
PB09	**IPOC Station P**	**1.73**	**194**	⇑*i*P	**Pn**	**11 03 26.1**	**-1.2**
PB09				*i* S	**Sn**	**11 03 48.8**	**-1.7**
PB09					IAML	11 03 52.0	
	comp=E,45μm,1.2s						
PB13	**IPOC Station P**	**1.88**	**339**	⇓*i*P	**Pn**	**11 03 30.1**	**+0.6**
PB13				*e*S	**Sn**	**11 03 55.9**	**+1.5**
PB07	**IPOC Station P**	**1.90**	**212**	⇑*i*P	**Pn**	**11 03 27.4**	**-1.9**
PB12	**IPOC Station P**	**2.07**	**316**	⇑*i*P	**Pn**	**11 03 30.2**	**-1.0**
PB12				*e*S	**Sn**	**11 03 56.1**	**-1.5**
LVC	**Limon Verde**	**2.49**	**182**	P	**Pn**	**11 03 36.2**	**-0.7**
	comp=E,5μm,0.3s,baz=20,slow=11,SNR=354						
LVC				S	**Sn**	**11 04 06.3**	**-1.4**
	comp=E,23μm,0.3s,baz=317,slow=23,SNR=17						
LVC	**Limon Verde**	**2.49**	**182**	*e*Pn	**Pn**	**11 03 36.1**	**-0.8**
LVC				*e*Sn	**Sn**	**11 04 06.6**	**-1.1**
PB04	**IPOC Station P**	**2.55**	**209**	⇑*i*P	**Pn**	**11 03 35.3**	**-2.1**
PB04	**IPOC Station P**	**2.55**	**209**	*e*Pn	**Pn**	**11 03 36.1**	**-1.3**
PB04				*e*Sn	**Sn**	**11 04 05.4**	**-3.3**
PB06	**IPOC Station P**	**2.69**	**195**	⇑*i*P	**Pn**	**11 03 37.1**	**-2.0**
PB06				*i* S	**Sn**	**11 04 09.0**	**-2.8**
BBOJ	**La Paz, Jacaqu**	**3.17**	**11**	*e*Pn	**Pn**	**11 03 47.5**	**+1.7**
MOCB	**Mochara**	**3.17**	**112**	⇑*i*Pn	**Pn**	**11 03 47.2**	**+1.5**
MOCB				*e*Sn	**Sn**	**11 04 25.3**	**+1.7**
	comp=E,2μm,1.0s						
BBOE	**La Paz, Chanca**	**3.37**	**13**	*e*Pn	**Pn**	**11 03 49.9**	**+1.5**
BBOD	**La Paz, Gloria**	**3.46**	**3**	*e*Pn	**Pn**	**11 03 51.8**	**+2.2**
PB10	**IPOC Station P**	**3.76**	**205**	*e*Pn	**Pn**	**11 03 50.1**	**-2.9**
LPAZ	**La Paz**	**3.85**	**10**	P	**Pn**	**11 03 56.3**	**+1.4**
	comp=E,54nm,0.3s,baz=195,slow=6.6,SNR=676						
LPAZ				S	**Sn**	**11 04 35.3**	**-4.6**
	baz=265,slow=5.7,SNR=1.7						
LPAZ	**La Paz**	**3.85**	**10**	P	**Pn**	**11 03 55.9**	**+1.0**
LPAZ	**La Paz**	**3.85**	**10**	*e*Pn	**Pn**	**11 03 56.4**	**+1.5**
BBOB	**La Paz, Bander**	**3.99**	**9**	*e*Pn	**Pn**	**11 03 57.9**	**+1.2**
ASTB	**Santa Barbara**	**5.56**	**134**	*e*P	**Pn**	**11 04 15.2**	**-2.1**
ASTB				*e*S	**Sn**	**11 05 19.6**	**-0.6**
FSA	**Cafayete**	**6.52**	**157**	*e*P	**Pn**	**11 04 30.8**	**+0.6**
AHML	**Horco Molle**	**7.37**	**155**	*e*P	**Pn**	**11 04 39.5**	**-2.2**
SIV	**San Ignacio**	**8.41**	**62**	P	**Pn**	**11 04 52.6**	**-3.2**
	comp=E,114nm,0.3s,baz=262,slow=11,SNR=1089						
SIV	**San Ignacio**	**8.41**	**62**	*e*P	**Pn**	**11 04 52.6**	**-3.2**
VCA	**Vinchina**	**8.61**	**176**	*e*P	**Pn**	**11 04 59.1**	**+0.7**
VCA					IAML	11 05 35.7	
	comp=Z,48nm,0.7s						
LCO	**Las Campanas**	**9.03**	**191**	*e*Pn	Pn	11 04 58.0	-6.3
LCO				*e*Sn	Sn	11 06 33.1	-11
AGUA	**GUANDACOL**	**9.35**	**178**	*e*P	**Pn**	**11 05 08.2**	**-0.1**
AGUA				*e*S	**Sn**	**11 06 51.1**	**-0.6**
ACLC	**CERRO LA CRUZ**	**9.43**	**170**	*e*P	**Pn**	**11 05 07.3**	**-2.2**
APLL	**PUNTA DE LOS L**	**10.45**	**169**	*e*P	**Pn**	**11 05 19.1**	**-4.1**
AVFE	**Valle Fertil**	**10.58**	**174**	*e*P	**Pn**	**11 05 21.9**	**-3.0**
AVFE					IAML	11 05 41.4	
	comp=Z,14nm,0.6s						
AMOG	**MOGNA**	**10.79**	**179**	*e*P	**Pn**	**11 05 25.6**	**-2.1**
NNA	**Nana**	**11.17**	**315**	P	**Pn**	**11 05 30.5**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=139,slow=20,SNR=3.1						
NNA				S	**Sn**	**11 07 33.1**	**-2.9**
	comp=Z,1.8nm,0.3s,baz=154,slow=13,SNR=2.7						
NNA	**Nana**	**11.17**	**315**	*e*P	**Pn**	**11 05 32.7**	**-0.2**
NNA				S	**Sn**	**11 07 33.1**	**-2.9**
NNA	**Nana**	**11.17**	**315**	*e*Pn	**Pn**	**11 05 32.7**	**-0.2**
NNA				S	**Sn**	**11 07 33.1**	**-2.9**
ACHE	**Chepes**	**11.18**	**170**	*e*P	**Pn**	**11 05 28.4**	**-4.5**
RTCV	**Cerro Valdivia**	**11.71**	**179**	*e*P	**Pn**	**11 05 36.9**	**-3.0**
TCA	**Tanti**	**11.81**	**162**	*e*P	Pn	11 05 33.7	-7.5
AUSP	**Uspallata**	**12.08**	**182**	*e*P	**Pn**	**11 05 42.8**	**-2.2**
CPUP	**Villa Florida**	**12.23**	**123**	P	**Pn**	**11 05 43.9**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=307,slow=12,SNR=86						
CPUP				LR	LR	11 11 12.6	
	comp=Z,200nm,18.1s,baz=282,slow=41						
CPUP	**Villa Florida**	**12.23**	**123**	*e*Pn	**Pn**	**11 05 43.8**	**-3.0**
SAML	**Samuel**	**12.35**	**27**	*e*Pn	**Pn**	**11 05 44.6**	**-3.7**
ASAL	**Salagasta**	**12.44**	**180**	*e*P	**Pn**	**11 05 46.0**	**-3.4**
AAGR	**Agrelo**	**12.93**	**180**	*e*P	**Pn**	**11 05 52.1**	**-3.7**
ROC1	**El Roble**	**12.97**	**188**	*e*Pn	**Pn**	**11 05 55.5**	**-1.0**
GO05	**HualaæØ**	**15.10**	**190**	*e*Pn	**P**	**11 06 26.3**	**+0.5**
	comp=Z,121nm,1.4s						
ATAH	**Atahualpa**	**15.90**	**323**	P	**P**	**11 06 35.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=161,slow=9.1,SNR=5.8						
TRQA	**Tornquist**	**18.84**	**163**	*e*P	**P**	**11 07 06.1**	**-0.8**
	comp=Z,74nm,0.6s						
BDFB	**Brasilia**	**20.27**	**81**	P	**P**	**11 07 21.2**	**-1.5**
	comp=Z,16nm,0.4s,baz=301,slow=12,SNR=50						
BDFB				LR	LR	11 17 00.4	
	comp=Z,217nm,21.7s,baz=26,slow=42						
BDFB	**Brasilia**	**20.27**	**81**	*e*P	**P**	**11 07 21.1**	**-1.6**
	comp=Z,244nm,1.6s						
PLCA	**Paso Flores**	**20.61**	**184**	P	**P**	**11 07 25.9**	**-0.2**
	comp=Z,117nm,0.8s,baz=32,slow=12,SNR=116						
PLCA				PcP	**PcP**	**11 11 32.5**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=272,slow=0.9,SNR=5.5						
PLCA	**Paso Flores**	**20.61**	**184**	*e*P	**P**	**11 07 25.9**	**-0.2**
PLCA						11 11 32.5	
PLCA				pmax	pmax		
	comp=Z,160nm,0.8s						
PLCA	**Paso Flores**	**20.61**	**184**	*e*P	**P**	**11 07 25.9**	**-0.2**
	comp=Z,160nm,0.8s						
PLCA				PcP	**PcP**	**11 11 32.5**	**+0.8**
PTGA	**Pitinga**	**21.11**	**25**	P	**P**	**11 07 28.6**	**-3.0**
	comp=Z,48nm,0.4s,baz=214,slow=12,SNR=149						
PTGA	**Pitinga**	**21.11**	**25**	*e*P	**P**	**11 07 28.5**	**-3.0**
	comp=Z,47nm,0.9s						
OTAV	**Otavalo**	**22.32**	**334**	*e*P	**P**	**11 07 43.9**	**-0.8**
OTAV	**Otavalo**	**22.32**	**334**	*e*P	**P**	**11 07 47.2**	**+2.5**
	comp=Z,19nm,0.9s						
FLOC	**Florencia**	**22.58**	**342**	*e*P	**P**	**11 07 42.7**	**-4.2**
CMBC	**Cumbal**	**22.71**	**336**	*e*P	**P**	**11 07 51.3**	**+2.7**
PRAC	**Prado**	**24.41**	**345**	*e*P	**P**	**11 08 05.2**	**+1.5**
PRAC	**Prado**	**24.41**	**345**	*e*P	**P**	**11 08 03.6**	**-0.1**
	comp=Z,17nm,0.6s						
ROSC	**El Rosal**	**25.38**	**347**	P	**P**	**11 08 13.8**	**+0.9**
	comp=Z,16nm,0.5s,baz=240,slow=20,SNR=6.0						
ROSC	**El Rosal**	**25.38**	**347**	*e*P	**P**	**11 08 16.4**	**+3.5**
ROSC	**El Rosal**	**25.38**	**347**	*e*P	**P**	**11 08 12.3**	**-0.6**
	comp=Z,20nm,1.1s						
GUYC	**Guyana, Colomb**	**25.99**	**345**	*e*P	**P**	**11 08 18.8**	**+0.3**
RUSC	**La Rusia**	**26.18**	**350**	*e*P	**P**	**11 08 19.6**	**-0.6**
RUSC	**La Rusia**	**26.18**	**350**	*e*P	**P**	**11 08 20.3**	**+0.1**
	comp=Z,38nm,0.7s						
NORC	**Norcasia**	**26.20**	**346**	*e*P	**P**	**11 08 19.6**	**-0.3**
BARC	**Barichara**	**26.88**	**350**	*e*P	**P**	**11 08 24.6**	**-1.7**
HELC	**Santa Helena**	**26.96**	**345**	*e*P	**P**	**11 08 25.8**	**-1.3**
HELC	**Santa Helena**	**26.96**	**345**	*e*P	**P**	**11 08 26.3**	**-0.8**
	comp=Z,66nm,0.6s						
CHRN	**Cochrane**	**27.25**	**186**	*e*P	**P**	**11 08 27.9**	**-1.2**
	comp=Z,16nm,0.7s						
GIRC	**Giron, Santand**	**27.36**	**350**	*e*P	**P**	**11 08 29.9**	**-0.5**
PAMC	**Pamplona, Colo**	**27.54**	**352**	*e*P	**P**	**11 08 32.0**	**-0.5**
OCAC	**Ocana**	**28.52**	**351**	*e*P	**P**	**11 08 38.8**	**-1.9**
SDV	**Santo Domingo**	**28.87**	**356**	P	**P**	**11 08 42.7**	**-1.2**
	comp=Z,14nm,0.7s,baz=238,slow=2.1,SNR=14						
SDV	**Santo Domingo**	**28.87**	**356**	*e*P	**P**	**11 08 42.9**	**-1.0**
	comp=Z,23nm,0.8s						
EFI	**East Falkland**	**32.61**	**168**	*e*P	**P**	**11 09 16.3**	**0.0**
EFI				pmax	pmax		
	comp=Z,112nm,0.7s						
EFI	**East Falkland**	**32.61**	**168**	*e*P	**P**	**11 09 16.3**	**0.0**
	comp=Z,112nm,0.7s						
SVB	**Belmont**	**33.99**	**13**	*e*P	**P**	**11 09 26.8**	**-1.9**
	comp=Z,100nm,0.5s						
RCBR	**Riachuelo**	**34.97**	**71**	*e*P	**P**	**11 09 37.2**	**0.0**
	comp=Z,47nm,0.8s						
FDF	**Fort de France**	**35.43**	**13**	*e*P	**P**	**11 09 38.9**	**-2.1**
FDF				pmax	pmax		
	comp=Z,90nm,0.6s						
FDF	**Fort de France**	**35.43**	**13**	*e*P	**P**	**11 09 38.9**	**-2.1**
	comp=Z,90nm,0.6s						
SJG	**San Juan**	**38.07**	**4**	P	**P**	**11 10 01.4**	**-1.9**
	comp=Z,104nm,0.7s,baz=146,slow=4.7,SNR=60						
SJG	**San Juan**	**38.07**	**4**	*e*P	**P**	**11 10 01.2**	**-2.1**
	comp=Z,108nm,0.8s						
MTP	**Monte Pirata**	**38.10**	**5**	*e*P	**P**	**11 10 00.8**	**-2.8**
	comp=Z,56nm,0.7s						
HUMP	**Col San Antoni**	**38.12**	**5**	*e*P	**P**	**11 10 01.4**	**-2.3**
	comp=Z,23nm,0.5s						
HUMP				*e*S	**S**	**11 15 45.1**	**-2.6**
ANWB	**Willy Bob**	**38.17**	**11**	*e*P	**P**	**11 09 59.6**	**-4.5**
ANWB	**Willy Bob**	**38.17**	**11**	*e*P	**P**	**11 10 00.1**	**-4.0**
CBYP	**Canovanas**	**38.25**	**5**	*e*P	**P**	**11 10 02.5**	**-2.4**
	comp=Z,106nm,0.9s						
IDE	**Isla Desecheo**	**38.27**	**2**	*e*P	**P**	**11 10 03.8**	**-1.2**
SDDR	**Presa de Saban**	**38.92**	**356**	*e*P	**P**	**11 10 10.4**	**-0.1**
	comp=Z,9.9nm,0.7s						
CCIG	**Comitan**	**42.81**	**326**	*e*P	**P**	**11 10 42.8**	**+0.2**
	comp=Z,12nm,0.7s						
LNIG	**Linares**	**53.77**	**325**	*e*P	**P**	**11 12 06.5**	**+0.1**
	comp=Z,12nm,1.0s						
ZAIG	**Zacatecas**	**53.87**	**321**	*e*P	**P**	**11 12 08.7**	**+1.2**
	comp=Z,24nm,1.0s						
BRAL	**Brewton**	**53.91**	**341**	*e*pP	pP	11 12 37.8	+1.2
NHSC	**New Hope**	**54.02**	**348**	*e*P	**P**	**11 12 08.3**	**+0.3**
	comp=Z,50nm,1.0s						
348A	**Jackson**	**54.41**	**340**	P	**P**	**11 12 11.1**	**+0.2**
	baz=158						
347A	**Saraland**	**54.60**	**339**	P	**P**	**11 12 12.1**	**-0.2**
	baz=157						
248A	**Dixon Mills**	**54.98**	**340**	P	**P**	**11 12 14.9**	**-0.1**
	baz=158						
GOGA	**Godfrey**	**55.03**	**345**	*e*P	**P**	**11 12 15.2**	**-0.1**
GOGA				pmax	pmax		
	comp=Z,21nm,1.4s						
GOGA	**Godfrey**	**55.03**	**345**	*e*P	**P**	**11 12 15.2**	**-0.1**
	comp=Z,21nm,1.4s						
034A	**Hebbronville**	**55.11**	**327**	P	**P**	**11 12 16.5**	**+0.4**
	baz=145						
247A	**Quitman**	**55.23**	**339**	P	**P**	**11 12 17.0**	**+0.2**
	baz=157						
JSC	**Jenkinsville**	**55.37**	**347**	*e*P	**P**	**11 12 18.1**	**+0.4**
JSC				pmax	pmax		
	comp=Z,18nm,1.2s						
JSC	**Jenkinsville**	**55.37**	**347**	*e*P	**P**	**11 12 18.1**	**+0.4**
	comp=Z,18nm,1.2s						
344A	**Westbrook Farm**	**55.41**	**337**	P	**P**	**11 12 18.3**	**+0.2**
	baz=155						
934A	**Benavides**	**55.47**	**328**	P	**P**	**11 12 19.7**	**+1.1**
	baz=145						
LRAL	**Lakeview Retre**	**55.63**	**341**	*e*P	**P**	**11 12 19.1**	**-0.6**
LRAL				*e*pP	**pP**	**11 12 49.0**	**0.0**
245A	**Little AP, Sta**	**55.64**	**338**	P	**P**	**11 12 19.6**	**-0.2**
	baz=156						
835A	**Beeville**	**55.69**	**329**	P	**P**	**11 12 21.1**	**+0.9**
	baz=146						
441A	**DeRidder**	**55.73**	**335**	P	**P**	**11 12 21.7**	**+1.3**
	baz=152						
933A	**Laredo**	**55.86**	**327**	P	**P**	**11 12 21.8**	**+0.3**
	baz=145						
736A	**Circle Diamond**	**55.89**	**330**	P	**P**	**11 12 23.0**	**+1.4**
	baz=147,SNR=9.5						
146A	**Union**	**55.91**	**339**	P	**P**	**11 12 22.6**	**+0.9**
	baz=157						
244A	**Avery, Jackson**	**55.93**	**338**	P	**P**	**11 12 21.4**	**-0.4**
	baz=155						
342A	**Flagon Creek P**	**55.94**	**336**	P	**P**	**11 12 22.9**	**+1.0**
	baz=153,SNR=6.2						
637A	**Eagle Lake**	**55.95**	**331**	P	**P**	**11 12 23.5**	**+1.5**
	baz=148,SNR=5.7						
440A	**Kirbyville**	**56.04**	**334**	P	**P**	**11 12 23.6**	**+0.9**
	baz=151						
Z47A	**Carrollton**	**56.11**	**341**	P	**P**	**11 12 22.2**	**-0.9**
	baz=158						
Z48A	**Northport**	**56.11**	**341**	P	**P**	**11 12 22.3**	**-0.8**
	baz=158,SNR=5.9						
HKT	**Hockley**	**56.16**	**332**	*e*P	**P**	**11 12 23.9**	**+0.5**
HKT				pmax	pmax		
	comp=Z,12nm,1.0s						
HKT	**Hockley**	**56.16**	**332**	*e*P	**P**	**11 12 23.9**	**+0.5**
	comp=Z,12nm,1.0s						
145A	**Houston Renfro**	**56.17**	**339**	P	**P**	**11 12 23.5**	**0.0**
	baz=156						
KMSC	**Kings Mountain**	**56.22**	**348**	*e*P	**P**	**11 12 24.0**	**+0.2**
	comp=Z,10nm,0.8s						
636A	**Smothers Creek**	**56.32**	**330**	P	**P**	**11 12 25.7**	**+1.0**
	baz=148						
Z46A	**Louisville**	**56.38**	**340**	P	**P**	**11 12 25.3**	**+0.3**
	baz=157						
439A	**Center Grove,**	**56.42**	**333**	P	**P**	**11 12 26.8**	**+1.4**
	baz=150,SNR=10						
242A	**Grayson**	**56.49**	**336**	P	**P**	**11 12 26.3**	**+0.5**
	baz=153						
537A	**Green Hill Far**	**56.49**	**331**	P	**P**	**11 12 27.0**	**+1.1**
	baz=148,SNR=5.7						
833A	**Chaparral WMA,**	**56.50**	**327**	P	**P**	**11 12 26.4**	**+0.5**
	baz=145,SNR=7.8						
340A	**Bronson**	**56.60**	**334**	P	**P**	**11 12 27.6**	**+1.0**
	baz=151,SNR=6.7						
438A	**Sam Houston St**	**56.69**	**332**	P	**P**	**11 12 28.5**	**+1.2**
	baz=150						
Y47A	**UCPARC, Winfie**	**56.69**	**341**	P	**P**	**11 12 26.8**	**-0.4**
	baz=158						
143A	**Socs Landing,**	**56.79**	**337**	P	**P**	**11 12 28.2**	**+0.3**
	baz=154						
Z45A	**Winona**	**56.79**	**339**	P	**P**	**11 12 28.0**	**+0.1**
	baz=156						
339A	**Huntington**	**56.80**	**334**	P	**P**	**11 12 29.1**	**+1.1**
	baz=151						
Z44A	**Pea Ridge, Bel**	**56.96**	**338**	P	**P**	**11 12 29.0**	**-0.1**
	baz=155						
Y46A	**Houston**	**56.99**	**340**	P	**P**	**11 12 28.8**	**-0.5**
	baz=157						
437A	**Phantom Ranch,**	**57.05**	**332**	P	**P**	**11 12 30.8**	**+1.1**
	baz=149						
240A	**Hunter Patters**	**57.10**	**335**	P	**P**	**11 12 31.2**	**+1.1**
	baz=152						
338A	**Crockett**	**57.14**	**333**	P	**P**	**11 12 32.0**	**+1.5**
	baz=150,SNR=15						
Y45A	**Yeager Farm, C**	**57.20**	**339**	P	**P**	**11 12 31.0**	**+0.2**
	baz=156						
NATX	**Nacogdoches**	**57.22**	**334**	P	**P**	**11 12 32.1**	**+1.2**
	baz=151,SNR=7.6						
NATX	**Nacogdoches**	**57.22**	**334**	*e*P	**P**	**11 12 32.2**	**+1.3**
	comp=Z,48nm,0.8s						
CPCT	**Cooper Cave**	**57.23**	**345**	*e*P	**P**	**11 12 30.9

baz=149,SNR=5.9
Z38A **Mt. Pleasant** 58.65 334 P P 11 12 41.7 +0.7
baz=151
Y40A **Okolona** 58.65 336 P P 11 12 41.2 +0.3
baz=153,SNR=5.0
V45A **Humboldt** 58.73 341 P P 11 12 40.5 -0.9
baz=158
WVT **Waverly** 58.76 342 eP P 11 12 40.7 -0.9
WVT pmax pmax
comp=Z,20nm,0.8s
WVT **Waverly** 58.76 342 eP P 11 12 40.7 -0.9
comp=Z,20nm,0.8s
X41A **Kaden, Bauxite** 58.80 337 P P 11 12 42.2 +0.3
baz=154
HPIG 58.85 321 eP P 11 12 43.5 +0.8
comp=Z,12nm,1.1s
Z37A **Pogue Cattle C** 58.87 334 P P 11 12 43.2 +0.8
baz=150
Y39A **Lockesburg** 58.90 335 P P 11 12 43.1 +0.5
baz=152,SNR=10
Y38A **Idabel** 59.14 335 P P 11 12 44.7 +0.4
baz=151,SNR=12
U45A **Rockin P Farm,** 59.24 341 P P 11 12 44.3 -0.6
baz=158
MIAR **Mount Ida** 59.24 336 P P 11 12 45.0 0.0
baz=153,SNR=13
MIAR **Mount Ida** 59.24 336 eP P 11 12 45.0 0.0
MIAR pmax pmax
comp=Z,29nm,1.3s
MIAR **Mount Ida** 59.24 336 eP P 11 12 45.0 0.0
comp=Z,29nm,1.3s
Z36A **Blue Ridge** 59.27 333 P P 11 12 45.9 +0.7
baz=149,SNR=20
V43A **Jonesboro** 59.28 339 P P 11 12 44.7 -0.5
baz=156
W41B **Gary Mavity, V** 59.31 338 P P 11 12 45.1 -0.3
baz=154
U44B **Burton Farm, H** 59.41 341 P P 11 12 45.8 -0.3
baz=157
X39A **Fountain Ranch** 59.41 336 P P 11 12 46.6 +0.4
baz=152,SNR=21
Y37A **Hugo** 59.55 334 P P 11 12 48.3 +1.2
baz=150,SNR=47
TXAR **Lajitas Array** 59.55 325 P P 11 12 47.6 +0.2
comp=Z,2.6nm,0.7s,baz=150,slow=8.7,SNR=37
TX31 **Lajitas Ar. Si** 59.55 325 eP P 11 12 47.7 +0.3
V42A **Cord** 59.58 339 P P 11 12 46.8 -0.5
baz=155
W40A **Ferguson Farm,** 59.62 337 P P 11 12 47.9 +0.4
baz=153,SNR=10
U43A **Rector** 59.77 340 P P 11 12 48.2 -0.3
baz=156
V41A **Mountainview** 59.83 338 P P 11 12 48.4 -0.6
baz=154,SNR=11
X38A **Whitesboro** 59.83 335 P P 11 12 49.8 +0.8
baz=151,SNR=18
PARMO **Parma** 59.83 341 eP P 11 12 48.8 -0.2
comp=Z,44nm,0.5s
W39A **Magazine** 59.89 336 P P 11 12 49.9 +0.4
baz=152,SNR=12
X37A **Clayton** 59.98 335 P P 11 12 50.5 +0.4
baz=151,SNR=24
U42A **Revenden** 60.03 339 P P 11 12 49.6 -0.7
baz=155,SNR=9.4
W38A **Poteau** 60.06 336 P P 11 12 51.4 +0.8
baz=152,SNR=20
Y35A **Marietta** 60.07 333 P P 11 12 51.3 +0.6
baz=149,SNR=11
V40A **Witts Springs** 60.08 338 P P 11 12 50.3 -0.5
baz=154,SNR=6.9
PBMO **Poplar Bluff** 60.15 340 eP P 11 12 50.7 -0.4
comp=Z,19nm,0.5s
ABTX **Abilene, Hawle** 60.16 330 P P 11 12 51.4 +0.1
baz=146,SNR=9.5
ABTX **Abilene, Hawle** 60.16 330 eP P 11 12 51.5 +0.1
comp=Z,21nm,0.8s
ABTX epP pP 11 13 21.6 +0.4
T44A **Benton** 60.17 341 P P 11 12 50.9 -0.4
baz=157
MVL **Millersville** 60.20 353 eP P 11 12 51.4 0.0
comp=Z,8.5nm,0.8s
U41A **Viola** 60.25 339 P P 11 12 51.2 -0.7
baz=155,SNR=8.5
WCI **Wyandotte Cave** 60.31 344 eP P 11 12 51.4 -0.8
WCI pmax pmax
comp=Z,12nm,0.7s
WCI **Wyandotte Cave** 60.31 344 eP P 11 12 51.4 -0.8
comp=Z,12nm,0.7s
MCWV **Mont Chateau** 60.34 350 eP P 11 12 52.8 +0.4
comp=Z,7.3nm,0.8s
X36A **Centrahoma** 60.36 334 P P 11 12 52.4 -0.2
baz=150,SNR=12
T43A **Greenville** 60.38 340 P P 11 12 52.2 -0.5
baz=156,SNR=16
V39A **Pettigrew** 60.41 337 P P 11 12 53.0 -0.1
baz=153,SNR=20
S45A **Carrier Mills** 60.41 342 P P 11 12 52.4 -0.5
baz=158
X35A **Drake** 60.47 333 P P 11 12 53.2 -0.2
baz=149,SNR=25
W37B **Quinton** 60.48 335 P P 11 12 53.9 +0.5
baz=151,SNR=17
U40A **Yellville** 60.59 338 P P 11 12 53.8 -0.3
baz=154,SNR=8.8
S44A **Carbondale** 60.63 341 P P 11 12 53.9 -0.5
baz=158,SNR=5.8
V38A **Canehill** 60.72 336 P P 11 12 55.0 -0.1
baz=152,SNR=22
O56A **Blue Knob Stat** 60.75 351 P P 11 12 55.6 +0.4
baz=169
S43A **Fulton Ridge,** 60.77 341 P P 11 12 54.8 -0.6
baz=157
W36A **Wetumka** 60.80 334 P P 11 12 55.4 -0.2
baz=150,SNR=18
T41A **Mountain View** 60.83 339 P P 11 12 54.9 -0.9
baz=155
U39A **Green Forest** 60.84 337 P P 11 12 55.4 -0.5
baz=153,SNR=12
HHAR **Hobbs** 60.91 337 eP P 11 12 56.2 -0.2
comp=Z,15nm,1.0s
V37A **Hulbert** 61.02 336 P P 11 12 57.3 +0.2
baz=151,SNR=31
W35A **Tecumseh** 61.08 334 P P 11 12 56.9 -0.6
baz=150,SNR=10
R44A **Waltonville** 61.09 342 P P 11 12 56.7 -0.8
baz=158
S42A **Caledonia** 61.17 340 P P 11 12 57.1 -1.0
baz=156,SNR=6.9
T40A **Mansfield** 61.18 338 P P 11 12 57.7 -0.5
baz=154
U38A **Gravette** 61.22 337 P P 11 12 58.2 -0.3
baz=152,SNR=7.7
V36A **Jenks** 61.25 335 P P 11 12 58.8 +0.2
baz=151,SNR=23
BLO **Bloomington** 61.26 344 eP P 11 12 57.9 -0.7
BLO pmax pmax
comp=Z,15nm,0.6s
BLO **Bloomington** 61.26 344 eP P 11 12 57.9 -0.7
comp=Z,15nm,0.6s
TUL1 **Leonard** 61.30 335 P P 11 12 59.0 +0.1
baz=151,SNR=10
TUL1 **Leonard** 61.30 335 eP P 11 12 59.1 +0.1
comp=Z,32nm,1.0s
S41A **Jillco Farms,** 61.32 339 P P 11 12 58.4 -0.6
baz=155,SNR=13
VNA3 **Neumayer Olymp** 61.36 162 P P 11 12 59.5 +0.5
R43A **Red Bud** 61.37 341 P P 11 12 58.8 -0.6
baz=157
T39A **Clever** 61.37 338 P P 11 12 58.9 -0.5
baz=153,SNR=9.4
ACSO **Alum Creek Sta** 61.46 348 eP P 11 13 00.0 0.0
comp=Z,28nm,1.0s
ACSO epP pP 11 13 32.4 +2.4
U37A **Salina** 61.47 336 P P 11 13 00.3 +0.2
baz=152,SNR=24
P47A **Martinsville** 61.49 345 P P 11 12 59.3 -0.8
baz=161
WMOK **Wichita Mounta** 61.54 332 P P 11 12 60.0 -0.6
baz=148,SNR=8.9
WMOK **Wichita Mounta** 61.54 332 eP P 11 13 00.0 -0.6
WMOK pmax pmax
comp=Z,5.0nm,0.8s
WMOK **Wichita Mounta** 61.54 332 eP P 11 12 60.0 -0.6
comp=Z,5.2nm,0.8s
VNA1 **Neumayer--Stat** 61.56 161 P P 11 13 01.2 +0.9
CCM **Cathedral Cave** 61.58 340 eP P 11 13 00.4 -0.4
CCM pmax pmax
comp=Z,32nm,1.3s
CCM **Cathedral Cave** 61.58 340 eP P 11 13 00.4 -0.4
comp=Z,32nm,1.3s
S40A **Lebanon** 61.58 339 P P 11 13 00.4 -0.4
baz=154,SNR=7.5
V35A **Meyer Ranch, C** 61.59 334 P P 11 13 00.7 -0.3
baz=150,SNR=8.3
N54A **Moraine State** 61.64 350 P P 11 13 01.8 +0.7
baz=168
R42A **Luebbering** 61.64 340 P P 11 13 00.8 -0.4
baz=156,SNR=12
Q44A **Meyer Farm, Va** 61.68 342 P P 11 13 00.4 -1.1
baz=158,SNR=6.9
U36A **Oologah** 61.69 335 P P 11 13 01.7 +0.1
baz=151,SNR=5.3
T38A **Diamond** 61.71 337 P P 11 13 01.7 0.0
baz=152,SNR=19
BRYW **Bryant College** 61.76 358 eP P 11 13 02.0 +0.1
comp=Z,36nm,0.8s
R41A **Rosebud** 61.84 340 P P 11 13 02.2 -0.4
baz=156,SNR=16
Q43A **New Douglas** 61.91 342 P P 11 13 02.2 -0.8
baz=158
VNA2 **Neumayer--Watz** 61.93 161 P P 11 13 03.3 +0.5
baz=284,slow=7.4
S39A **Bolivar** 61.95 338 P P 11 13 03.1 -0.2
baz=154,SNR=20
T37A **Cheneyville 18** 62.02 337 P P 11 13 04.0 +0.2
baz=152,SNR=57
U35A **Pawnee** 62.07 335 P P 11 13 04.4 +0.3
baz=150,SNR=26
P44A **Sand Creek, Wi** 62.09 343 P P 11 13 03.2 -1.0
baz=159,SNR=5.1
S38A **Stockton** 62.10 338 P P 11 13 04.0 -0.4
baz=153,SNR=11
M54A **Oil Creek Stat** 62.12 351 P P 11 13 04.6 +0.3
baz=168
R40A **Maddies Statio** 62.13 339 P P 11 13 03.9 -0.5
baz=155,SNR=12
Q42A **Golden Eagle** 62.14 341 P P 11 13 04.1 -0.4
baz=157,SNR=11
O47A **Sheridan** 62.18 345 P P 11 13 03.7 -1.0
baz=161
MNTX **Cornudas Mount** 62.31 325 P P 11 13 05.5 -0.4
baz=141,SNR=14
MNTX **Cornudas Mount** 62.31 325 eP P 11 13 05.4 -0.5
comp=Z,7.6nm,1.0s
T36A **Boggs Farm, Ca** 62.33 336 P P 11 13 05.9 +0.1
baz=151,SNR=26
Q41A **Truxton** 62.40 340 P P 11 13 05.8 -0.4
baz=156,SNR=7.0
R39A **Chumby, Stover** 62.41 339 P P 11 13 06.1 -0.3
baz=154,SNR=11
T35A **Sooner Cattle** 62.45 335 P P 11 13 06.9 +0.2
baz=150,SNR=14
P43A **Skaggs, Pawnee** 62.51 342 P P 11 13 06.1 -0.8
baz=158,SNR=14
SFIN **Lafayette** 62.54 344 P P 11 13 05.9 -1.2
baz=160,SNR=9.5
SFIN **Lafayette** 62.54 344 eP P 11 13 06.0 -1.2
comp=Z,20nm,0.6s
S37A **Fort Scott** 62.55 337 P P 11 13 07.4 +0.1
baz=152,SNR=28
O45A **Potomac** 62.58 344 P P 11 13 06.2 -1.2
baz=160
R38A **Fenwick Farm,** 62.60 338 P P 11 13 07.3 -0.3
baz=153,SNR=21
TRY **Troy** 62.68 356 eP P 11 13 08.3 +0.3
comp=Z,22nm,0.7s
O44A **Mansfield** 62.69 343 P P 11 13 06.8 -1.4
baz=159
P42A **Winchester** 62.70 341 P P 11 13 07.4 -0.9
baz=157,SNR=7.5
Q40A **Laux Farm, Aux** 62.70 340 P P 11 13 07.7 -0.6
baz=155,SNR=5.9
MSTX **Muleshoe** 62.76 329 P P 11 13 08.9 -0.1
baz=144,SNR=13
MSTX **Muleshoe** 62.76 329 eP P 11 13 09.0 +0.1
MSTX epP pP 11 13 39.4 +0.4
MSTX ePcP PcP 11 13 47.7 +1.3
S36A **Lake Cedric, C** 62.80 336 P P 11 13 09.1 +0.2
baz=151,SNR=36
T34A **McClaskey Farm** 62.82 335 P P 11 13 09.4 +0.3
baz=150,SNR=9.8
N46A **Monticello** 62.94 345 P P 11 13 08.6 -1.2
baz=161
AMTX **Amarillo** 62.98 330 P P 11 13 09.9 -0.5
baz=145
AMTX **Amarillo** 62.98 330 eP P 11 13 10.3 0.0
comp=Z,9.6nm,0.8s
P41A **Barry, Barry** 63.00 341 P P 11 13 09.5 -0.7
baz=156,SNR=12
U32A **Winter Ranch,** 63.02 333 P P 11 13 10.5 0.0
baz=148
R37A **Teagarden Farm** 63.04 337 P P 11 13 10.4 -0.1
baz=152,SNR=15
Q39A **Willow Grove F** 63.05 339 P P 11 13 10.3 -0.3
baz=154,SNR=5.2
S35A **Otter Creek Ra** 63.05 336 P P 11 13 10.8 +0.2
baz=151,SNR=26
O43A **Sugar Creek Fa** 63.05 343 P P 11 13 09.4 -1.1
baz=158
N45A **Kentland** 63.09 344 P P 11 13 09.5 -1.3
baz=160
P40A **Paris** 63.18 340 P P 11 13 11.0 -0.4
baz=155,SNR=7.8
O42A **Bath** 63.19 342 P P 11 13 10.4 -1.0
baz=157
Q38A **Cooks Store, C** 63.19 338 P P 11 13 11.5 0.0
baz=154,SNR=20
N44A **Piper City** 63.20 344 P P 11 13 10.2 -1.4
baz=159,SNR=5.5
HDIL **Hopedale** 63.29 343 P P 11 13 11.1 -1.0
baz=158
HDIL **Hopedale** 63.29 343 eP P 11 13 11.5 -0.6
comp=Z,18nm,0.7s
R36A **Gordon, Harris** 63.30 337 P P 11 13 12.0 -0.2
baz=152,SNR=7.8
O41A **Passleys Farm,** 63.35 341 P P 11 13 11.4 -1.1
baz=156
P39B **Salisbury** 63.37 339 P P 11 13 12.2 -0.5
baz=155,SNR=14
S34A **Willow Spring** 63.37 335 P P 11 13 12.6 -0.2
baz=150
Q37A **Longview Farm,** 63.41 338 P P 11 13 12.7 -0.3
baz=153,SNR=5.4
HSIG 63.55 319 eP P 11 13 15.3 +1.2
comp=Z,43nm,1.7s
R35A **Emporia Munici** 63.56 336 P P 11 13 14.3 +0.3
baz=151
SNAA **Sanae** 63.56 161 P P 11 13 14.0 +0.3
SNAA **Sanae** 63.56 161 eP P 11 13 13.9 +0.2
SNAA pmax pmax
comp=Z,30nm,0.8s
SNAA **Sanae** 63.56 161 eP P 11 13 13.8 +0.2
comp=Z,30nm,0.8s
O40A **La Belle** 63.66 340 P P 11 13 13.9 -0.7
baz=156,SNR=8.2
P38A **Dawn** 63.76 339 P P 11 13 14.8 -0.4
baz=154,SNR=12
N42A **Yates City** 63.76 342 P P 11 13 14.3 -0.9
baz=158
N41A **Harden Midland** 63.88 341 P P 11 13 16.1 +0.1
baz=157
R34A **Isabella, Hill** 63.94 335 P P 11 13 16.7 +0.2
baz=150,SNR=7.4
Q35A **Mercer Eighty,** 63.97 337 P P 11 13 16.4 -0.3
baz=151,SNR=10
O39A **Kirksville** 64.00 340 P P 11 13 16.3 -0.5
baz=155
P37A **Lathrop** 64.00 338 P P 11 13 16.4 -0.5
baz=153,SNR=12
O38A **Galt** 64.18 339 P P 11 13 17.5 -0.4
baz=154,SNR=9.3
319A **Douglas** 64.25 322 eP P 11 13 20.2 +1.4
121A **Cookes Peak, D** 64.27 324 P P 11 13 20.3 +1.3
baz=139,SNR=8.1
121A **Cookes Peak, D** 64.27 324 eP P 11 13 20.0 +1.1
comp=Z,9.8nm,1.1s
121A esP sP 11 14 04.0 +1.4
N40A **Mertquake, Sal** 64.27 341 P P 11 13 17.7 -0.8
baz=156,SNR=5.2
P36A **Good Intent, A** 64.33 338 P P 11 13 18.6 -0.4
baz=152
Q34A **Chapman** 64.36 336 P P 11 13 19.0 -0.2
baz=150
KSU1 **Kansas State U** 64.39 336 P P 11 13 19.1 -0.3
baz=151,SNR=6.1
KSU1 **Kansas State U** 64.39 336 eP P 11 13 18.8 -0.6
comp=Z,26nm,0.9s
M41A **Milan** 64.41 342 P P 11 13 18.4 -1.0
baz=157
O37A **Wolven Farm, M** 64.45 339 P P 11 13 19.5 -0.2
baz=153,SNR=9.9
N39A **Derby Farms, D** 64.55 340 P P 11 13 19.7 -0.6
baz=155,SNR=6.4
P35A **Duane Minner,** 64.55 337 P P 11 13 20.0 -0.4
baz=151
L43A **Garden Prairie** 64.66 344 P P 11 13 20.4 -0.6
baz=159,SNR=7.6
O36A **Bolckow** 64.70 338 P P 11 13 20.8 -0.5
baz=153,SNR=7.1
N38A **Joes South For** 64.71 340 P P 11 13 20.9 -0.5
baz=154
M40A **Post Highland** 64.72 341 P P 11 13 20.6 -0.8
baz=156,SNR=7.0
P34A **Walnut Farm, R** 64.86 336 P P 11 13 22.7 +0.2
baz=151,SNR=16
BNM **Barren Site** 64.87 326 eP P 11 13 23.9 +1.0
BNM epP PcP 11 13 54.7 -0.5
M39A **Webster** 64.99 341 P P 11 13 22.5 -0.8
baz=156
LPM **Los Pinos Moun** 65.00 326 eP P 11 13 25.0 +1.3
N37A **Lee Faris, Mou** 65.00 339 P P 11 13 23.1 -0.2
baz=153,SNR=13
K43A **Burlington** 65.04 344 P P 11 13 22.9 -0.7
baz=160
L41A **Preston** 65.04 342 P P 11 13 22.5 -1.0
baz=157
O35A **Humboldt** 65.16 337 P P 11 13 23.5 -0.8
baz=152
L40A **Anamosa** 65.24 342 P P 11 13 24.2 -0.6
baz=157
SADO **Sadowa** 65.25 352 P P 11 13 24.4 -0.3
comp=Z,2.7nm,0.4s,baz=171,slow=6.8,SNR=6.6
M38A **Pleasantville** 65.26 340 P P 11 13 24.2 -0.8
baz=154,SNR=5.2
N36A **Muff Farm, Cla** 65.31 338 P P 11 13 25.3 0.0
baz=153,SNR=12
LAZ **Ladron** 65.33 326 eP P 11 13 27.5 +1.7
O34A **Beatrice** 65.37 337 P P 11 13 25.4 -0.3
baz=151,SNR=9.9
K42A **Prairie Point,** 65.38 343 P P 11 13 25.2 -0.5
baz=158,SNR=9.1
CBKS **Cedar Bluff** 65.39 334 P P 11 13 26.4 +0.5
baz=148,SNR=6.0
CBKS **Cedar Bluff** 65.39 334 eP P 11 13 26.8 +0.9
CBKS pmax pmax
comp=Z,43nm,0.8s
CBKS **Cedar Bluff** 65.39 334 eP P 11 13 26.8 +0.9
comp=Z,43nm,0.8s
ANMO **Albuquerque** 65.39 326 P P 11 13 27.0 +0.8
baz=141
ANMO **Albuquerque** 65.39 326 eP P 11 13 26.3 0.0
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO **Albuquerque** 65.39 326 eP P 11 13 26.2 0.0
comp=Z,6.2nm,0.8s
K41A **Shullsburg** 65.48 343 P P 11 13 25.7 -0.6
baz=158
L39A **Vinton** 65.53 341 P P 11 13 25.9 -0.7
baz=156
M37A **Trindle Farm,** 65.53 339 P P 11 13 26.6 0.0
baz=154,SNR=9.1
N35A **Tabor** 65.59 338 P P 11 13 26.9 -0.2
baz=152,SNR=10
O33A **Hebron** 65.61 336 P P 11 13 27.4 +0.1
baz=150,SNR=13
J43A **Natural Harves** 65.70 344 P P 11 13 27.1 -0.6
baz=160,SNR=5.5
JFWS **Jewell Farm** 65.75 343 eP P 11 13 27.7 -0.4
JFWS pmax pmax
comp=Z,23nm,0.9s
JFWS **Jewell Farm** 65.75 343 eP P 11 13 27.7 -0.4
comp=Z,23nm,0.9s
K40A **Colesburg** 65.80 342 P P 11 13 27.6 -0.8
baz=157,SNR=5.7
TUC **Tucson** 65.81 322 P P 11 13 29.8 +1.0
baz=136
TUC **Tucson** 65.81 322 eP P 11 13 29.5 +0.7
TUC pmax pmax
comp=Z,11nm,1.3s
TUC **Tucson** 65.81 322 eP P 11 13 29.5 +0.7
comp=Z,11nm,1.3s
J42A **Columbus** 65.82 344 P P 11 13 28.1 -0.4
baz=159
M36A **Felix, Anita** 65.82 339 P P 11 13 28.5 -0.1
baz=153,SNR=7.1
L38A **Oak Wood Farm,** 65.84 341 P P 11 13 28.1 -0.6
baz=155
N34A **Lincoln** 65.87 337 P P 11 13 28.6 -0.4
baz=151,SNR=12
K39A **Oelwein** 66.02 342 P P 11 13 28.8 -1.0
baz=156,SNR=9.3
L37A **Phoenix Point,** 66.08 340 P P 11 13 29.7 -0.4
baz=154
T25A **Trinidad** 66.10 329 P P 11 13 31.7 +1.0
baz=143,SNR=7.3
T25A **Trinidad** 66.10 329 eP P 11 13 31.7 +1.0
comp=Z,9.2nm,0.8s
J41A **Loganville** 66.10 343 P P 11 13 29.8 -0.5
baz=158,SNR=5.2
N33A **J Bar K, Exete** 66.14 337 P P 11 13 30.5 -0.1
baz=150
M35A **Neola** 66.14 338 P P 11 13 30.2 -0.4
baz=152
TRQ **Mont Tremblant** 66.22 356 eP P 11 13 31.1 0.0
TRQ epP pP 11 14 01.9 +0.5
MHTCO **State Highway** 66.22 329 eP P 11 13 32.1 +0.5
comp=Z,21nm,1.4s
MHTCO epP pP 11 14 02.6 +0.8
K38A **Parkersburg** 66.24 341 P P 11 13 30.7 -0.6
baz=155,SNR=5.1
I42A **Draeger Farm,** 66.30 344 P P 11 13 31.3 -0.3
baz=159,SNR=5.1
J40A **Soldiers Grove** 66.33 343 P P 11 13 31.3 -0.4
baz=157,SNR=9.2
J39A **Decorah** 66.55 342 P P 11 13 32.6 -0.6
baz=156,SNR=20
H43A **Windswept, Lux** 66.56 345 P P 11 13 32.3 -0.9
baz=160
K37A **Belmond** 66.62 340 P P 11 13 32.9 -0.7
baz=154,SNR=5.7
L35A **Bielow Farm, R** 66.66 339 P P 11 13 33.8 -0.1
baz=152,SNR=13
I41A **Arkdale** 66.70 344 P P 11 13 33.7 -0.4
baz=158
I40A **Norwalk** 66.75 343 P P 11 13 34.0 -0.5
baz=158,SNR=6.8
214A **Organ Pipe Nat** 66.76 320 P P 11 13 36.5 +1.7
baz=135,SNR=20
214A **Organ Pipe Nat** 66.76 320 eP P 11 13 36.5 +1.7
comp=Z,74nm,0.9s
214A epP pP 11 14 06.3 +1.1
214A esP sP 11 14 19.7 +1.1
J38A **Wedel Dairy, R** 66.76 341 P P 11 13 33.9 -0.7
baz=156
K36A **Gilmore City** 66.76 340 P P 11 13 34.5 -0.1
baz=154,SNR=9.5
M33A **Taylor Creek F** 66.77 337 P P 11 13 34.3 -0.3
baz=151,SNR=8.2
H42A **Shiocton** 66.78 345 P P 11 13 34.3 -0.3
baz=160
KSCO **Kaye Shedlock'** 66.79 332 P P 11 13 35.6 +0.6
baz=145,SNR=6.7
KSCO **Kaye Shedlock'** 66.79 332 eP P 11 13 36.0 +1.0
comp=Z,36nm,1.0s
L34A **Svendsen Farm,** 66.82 338 P P 11 13 34.7 -0.3
baz=152,SNR=8.0
I39A **Houston** 66.97 342 P P 11 13 35.4 -0.5
baz=157,SNR=11
BGNE **Belgrade** 66.98 336 P P 11 13 36.4 +0.3
baz=150,SNR=26
BGNE **Belgrade** 66.98 336 eP P 11 13 36.3 +0.3
comp=Z,136nm,0.6s
J37A **Redenius Farm,** 67.08 341 P P 11 13 36.2 -0.3
baz=154
K35A **Storm Lake** 67.10 339 P P 11 13 36.6 -0.1
baz=153
SDCO **Great Sand Dun** 67.11 329 P P 11 13 38.2 +1.0
baz=142,SNR=46
SDCO **Great Sand Dun** 67.11 329 eP P 11 13 38.1 +1.0
comp=Z,38nm,1.4s
H41A **Junction City** 67.17 344 P P 11 13 36.7 -0.4
baz=158
W18A **Petrified Fore** 67.27 324 eP P 11 13 38.9 +0.7
W18A epP pP 11 14 09.6 +1.0

G43A	Wallace	67.28	346	P	P	11 13 37.0	-0.8
	baz=160						
J36A	Seneca 1, Swea	67.35	340	P	P	11 13 37.9	-0.4
	baz=154						
K34A	Le Mars	67.36	339	P	P	11 13 38.0	-0.4
	baz=152						
H40A	Chili	67.37	343	P	P	11 13 37.9	-0.5
	baz=158,SNR=12						
I38A	Scanlan Farm,	67.38	342	P	P	11 13 37.8	-0.6
	baz=156,SNR=9.1						
L32A	Elgin	67.44	337	P	P	11 13 38.7	-0.2
	baz=150						
G42A	Mountain	67.45	345	P	P	11 13 38.2	-0.6
	baz=160						
G41A	Antigo	67.60	345	P	P	11 13 39.5	-0.3
	baz=159						
K33A	Hardington	67.60	338	P	P	11 13 40.0	+0.1
	baz=151						
J35A	Milford	67.66	339	P	P	11 13 39.8	-0.4
	baz=153						
H39A	Augusta	67.66	343	P	P	11 13 39.5	-0.7
	baz=157,SNR=5.1						
I37A	Lemond, Waseca	67.67	341	P	P	11 13 39.9	-0.3
	baz=155						
F43A	Flat Rock, Esc	67.71	346	P	P	11 13 39.8	-0.6
	baz=161						
X16A	Lo Mia Camp, P	67.71	323	eP	P	11 13 42.7	+1.7
S22A	4UR Ranch, Cre	67.76	328	P	P	11 13 42.2	+0.9
	baz=141,SNR=14						
S22A	4UR Ranch, Cre	67.76	328	eP	P	11 13 42.2	+0.9
	comp=Z,6.0nm,0.9s						
J34A	George	67.84	339	P	P	11 13 41.1	-0.3
	baz=152						
I36A	Fitzsimmons Fa	67.86	341	P	P	11 13 41.2	-0.3
	baz=154						
Q24A	Divide	67.91	330	P	P	11 13 43.2	+0.9
	baz=143,SNR=18						
Q24A	Divide	67.91	330	eP	P	11 13 43.6	+1.3
	comp=Z,24nm,0.7s						
LIC	Lamto	67.91	74	eP	P	11 13 40.8	-1.6
	comp=Z,68nm,0.6s						
G40A	Rib Lake	67.92	344	P	P	11 13 41.4	-0.4
	baz=158						
H38A	Maiden Rock	67.94	342	P	P	11 13 42.0	0.0
	baz=156						
K32A	Verdigre	68.00	337	P	P	11 13 42.5	+0.1
	baz=150						
I35A	Creekview Farm	68.03	340	P	P	11 13 42.2	-0.3
	baz=153						
H37A	Dierke Farm, C	68.04	342	P	P	11 13 42.3	-0.3
	baz=155						
F41A	Three Lakes	68.08	345	P	P	11 13 42.5	-0.3
	baz=159,SNR=7.4						
TIC	Toumodi	68.09	74	eP	P	11 13 41.9	-1.7
NVL	N'lazarevskaya	68.09	159	eP	P	11 13 42.6	0.0
OGNE	Ogallala	68.14	333	P	P	11 13 44.0	+0.7
	baz=146						
E43A	Lone Tree Farm	68.19	347	P	P	11 13 42.9	-0.6
	baz=161						
MVCO	Mesa Verde	68.19	327	P	P	11 13 44.9	+1.0
	baz=140,SNR=15						
MVCO	Mesa Verde	68.19	327	eP	P	11 13 45.0	+1.0
	comp=Z,13nm,0.7s						
G39A	Holcombe	68.19	343	P	P	11 13 42.9	-0.6
	baz=157,SNR=8.6						
J33A	Davis	68.22	338	P	P	11 13 43.5	-0.2
	baz=151,SNR=15						
KIC	Kosan Boka	68.22	74	eP	P	11 13 43.0	-1.4
	comp=Z,188nm,0.8s						
DBIC	Dimbokro	68.25	74	P	P	11 13 43.3	-1.2
	comp=Z,84nm,0.7s,baz=222,slow=6.5,SNR=80						
DBIC				LR	LR	11 43 27.7	
	comp=Z,118nm,18.3s,baz=268,slow=36						
DBIC	Dimbokro	68.25	74	eP	P	11 13 43.3	-1.2
DBIC				pmax	pmax		
	comp=Z,114nm,0.9s						
DBIC	Dimbokro	68.25	74	eP	P	11 13 43.3	-1.2
	comp=Z,114nm,0.9s						
K31A	O'Neill	68.26	337	P	P	11 13 44.4	+0.4
	baz=150						
G38A	Ridgeland	68.27	343	P	P	11 13 43.4	-0.6
	baz=156						
H36A	Jessenland, He	68.34	341	P	P	11 13 44.8	+0.4
	baz=154						
ECSD	EROS Data Cent	68.46	339	P	P	11 13 45.0	-0.2
	baz=152,SNR=8.3						
ECSD	EROS Data Cent	68.46	339	eP	P	11 13 45.2	-0.1
	comp=Z,23nm,1.4s						
WUAZ	Wupatki	68.47	324	P	P	11 13 47.3	+1.7
	baz=137,SNR=14						
WUAZ	Wupatki	68.47	324	eP	P	11 13 47.4	+1.7
	comp=Z,22nm,1.0s						
F40A	Park Falls	68.50	344	P	P	11 13 45.3	-0.1
	baz=158,SNR=11						
J32A	Parkston	68.57	338	P	P	11 13 45.7	-0.3
	baz=150,SNR=13						
SPMN	Marine on St.	68.59	342	P	P	11 13 45.4	-0.5
	baz=156						
SPMN	Marine on St.	68.59	342	eP	P	11 13 45.5	-0.5
	comp=Z,8.6nm,0.8s						
F39A	Loretta	68.70	344	P	P	11 13 46.3	-0.4
	baz=158,SNR=5.6						
H35A	Sunnyside Ranc	68.73	340	P	P	11 13 46.5	-0.4
	baz=154,SNR=6.2						
GLA	Glamis	68.74	320	P	P	11 13 48.8	+1.6
	baz=133						
ISCO	Idaho Springs	68.79	330	P	P	11 13 48.7	+1.0
	baz=143,SNR=22						
ISCO	Idaho Springs	68.79	330	eP	P	11 13 48.8	+1.0
ISCO				pmax	pmax		
	comp=Z,12nm,0.7s						
ISCO	Idaho Springs	68.79	330	eP	P	11 13 48.8	+1.0
	comp=Z,12nm,0.7s						
I33A	Coleman	68.80	339	P	P	11 13 47.9	+0.6
	baz=152						
J31A	Geddes	68.83	337	P	P	11 13 47.4	-0.1
	baz=150,SNR=8.5						
PV01	Paradox Valley	68.93	327	eP	P	11 13 49.9	+1.3
E40A	Wakefield	68.93	345	P	P	11 13 48.2	+0.1
	baz=159,SNR=5.8						
SMCO	Snowmass	68.94	329	eP	P	11 13 50.2	+1.4
	comp=Z,14nm,0.7s						
F37A	Hinrichs Farm,	69.00	342	P	P	11 13 48.6	+0.1
	baz=156						
F38A	Pierce - Schro	69.00	343	P	P	11 13 48.1	-0.4
	baz=157,SNR=5.2						
H34A	Spellman Lake,	69.01	340	P	P	11 13 48.5	-0.1
	baz=153						
I32A	Karley and Nic	69.01	338	P	P	11 13 48.5	-0.1
	baz=151,SNR=6.7						
E39A	Mellen	69.04	344	P	P	11 13 48.8	0.0
	baz=158						
Y12C	Blythe	69.04	320	P	P	11 13 50.8	+1.8
	baz=134,SNR=7.9						
Y12C	Blythe	69.04	320	eP	P	11 13 50.9	+1.9
	comp=Z,12nm,0.9s						
G35A	Watkins	69.09	341	P	P	11 13 49.0	-0.1
	baz=154						
D41A	Chassel	69.19	346	P	P	11 13 49.8	+0.2
	baz=160						
PDMCI	Parker Dam,Lak	69.20	321	P	P	11 13 51.6	+1.7
	baz=134						
IKP	In-Ko-Pah, Jac	69.26	318	P	P	11 13 52.5	+2.0
	baz=132,SNR=5.9						
H33A	Prehn Over Nor	69.34	339	P	P	11 13 50.7	0.0
	baz=152,SNR=9.2						
F36A	Milaca	69.38	342	P	P	11 13 50.4	-0.5
	baz=155,SNR=5.2						
H32A	Carlson Farm,	69.42	339	P	P	11 13 51.0	-0.1
	baz=151,SNR=7.9						
G34A	Benson	69.47	340	P	P	11 13 51.1	-0.3
	baz=153						
PV09	Paradox Valley	69.49	327	eP	P	11 13 53.7	+1.6
BC3	Big Chuckawall	69.54	320	P	P	11 13 53.9	+1.7
	baz=133,SNR=13						
MONP2	Monument Peak	69.62	318	P	P	11 13 54.5	+1.6
	baz=132,SNR=7.9						
BAR	Barrett	69.63	318	eP	P	11 13 54.5	+1.8
	comp=Z,14nm,0.9s						
BAR				ePcP	PcP	11 14 16.2	+1.4
U15A	North Rim	69.64	324	eP	P	11 13 55.1	+2.1
G33A	Ortonville	69.69	340	P	P	11 13 52.4	-0.3
	baz=152,SNR=11						
F35A	Swanville	69.69	341	P	P	11 13 52.6	-0.2
	baz=154						
IRM	Iron Mountain	69.69	320	P	P	11 13 54.8	+1.7
	baz=134,SNR=16						
H31A	Wolsey	69.76	338	P	P	11 13 53.0	-0.2
	baz=150						
N23A	Red Feather La	69.81	331	P	P	11 13 55.0	+1.0
	baz=143,SNR=11						
N23A	Red Feather La	69.81	331	eP	P	11 13 55.2	+1.2
	comp=Z,16nm,0.7s						
F34A	Alexandria	69.85	341	P	P	11 13 53.7	0.0
	baz=153						
SUSD	Miller	69.90	337	P	P	11 13 53.9	-0.2
	baz=150,SNR=5.6						
E36A	McGregor	69.90	342	P	P	11 13 53.9	-0.1
	baz=155						
PHWY	Pilot Hill	69.92	331	eP	P	11 13 55.6	+1.0
	comp=Z,48nm,1.7s						
QSPA	South Pole Qui	70.08	180	eP	P	11 13 56.3	+1.2
	comp=Z,224nm,0.9s						
G32A	Webster	70.10	339	P	P	11 13 55.0	-0.3
	baz=151						
BELC	Belle Mtn. Jos	70.10	320	P	P	11 13 57.4	+1.7
	baz=133,SNR=7.5						
PFO	Pinyon Flats O	70.12	319	P	P	11 13 57.7	+1.9
	baz=132,SNR=10						
PFO	Pinyon Flats O	70.12	319	eP	P	11 13 57.7	+1.9
PFO	Pinyon Flats O	70.12	319	eP	P	11 13 57.7	+1.9
F33A	5 Mile Ranch,	70.22	340	P	P	11 13 55.5	-0.5
	baz=152,SNR=7.1						
EKU	East Kanab	70.22	324	eP	P	11 13 58.6	+2.2
D37A	Cotton	70.26	343	P	P	11 13 55.8	-0.4
	baz=156						
C39A	Grand Marais	70.27	345	P	P	11 13 55.8	-0.4
	baz=158						
E35A	Pequot Lakes	70.27	342	P	P	11 13 56.0	-0.3
	baz=154,SNR=6.7						
O20A	White River Ci	70.30	329	P	P	11 13 58.2	+1.2
	baz=140,SNR=12						
O20A	White River Ci	70.30	329	eP	P	11 13 58.1	+1.2
	comp=Z,19nm,0.9s						
LDFC	Landfair	70.31	321	eP	P	11 13 59.6	+2.7
	comp=Z,22nm,1.0s						
G31A	Conde	70.32	338	P	P	11 13 56.3	-0.3
	baz=150,SNR=6.0						
KNB	Kanab	70.36	324	eP	P	11 13 59.6	+2.3
KNB				pmax	pmax		
	comp=Z,39nm,1.0s						
KNB	Kanab	70.36	324	eP	P	11 13 59.6	+2.3
	comp=Z,39nm,1.0s						
PKCU	Pink Cliffs	70.39	324	eP	P	11 13 59.8	+2.1
	comp=Z,6.9nm,0.9s						
MMU	Miners Mountai	70.39	326	eP	P	11 13 59.0	+1.4
GMRC	Granite Mounta	70.43	320	P	P	11 13 59.6	+1.9
	baz=133,SNR=20						
E34A	Wadena	70.47	341	P	P	11 13 57.3	-0.1
	baz=154,SNR=6.5						
D36A	Goodland	70.48	343	P	P	11 13 57.1	-0.4
	baz=156						
MURC	Murrieta	70.57	319	P	P	11 14 00.0	+1.6
	baz=132						
LCMT	Little Creek M	70.59	324	eP	P	11 14 00.5	+1.8
	comp=Z,11nm,0.9s						
D35A	Remer	70.64	342	P	P	11 13 58.6	0.0
	baz=155						
SRU	San Rafael Swe	70.67	327	eP	P	11 14 00.3	+1.2
SRU				pmax	pmax		
	comp=Z,25nm,0.7s						
SRU	San Rafael Swe	70.67	327	eP	P	11 14 00.3	+1.2
	comp=Z,25nm,0.7s						
C37A	Embarrass	70.71	344	P	P	11 13 58.6	-0.3
	baz=156						
EYMN	Ely	70.73	344	P	P	11 13 59.2	+0.1
	baz=157						
MTPU	Mount Pierson	70.75	325	eP	P	11 14 01.4	+1.5
	comp=Z,8.3nm,0.9s						
BBRC	Big Bear Solar	70.84	319	P	P	11 14 02.4	+2.1
	baz=132						
Q16A	Castle Valley	70.86	326	eP	P	11 14 01.7	+1.4
	comp=Z,14nm,0.7s						
HEC	Hector,Ludlow	70.87	320	P	P	11 14 02.4	+2.1
	baz=133						
F31A	Hecla	70.89	339	P	P	11 13 60.0	-0.1
	baz=151,SNR=21						
C36A	Pine Crest Far	70.92	343	P	P	11 13 60.0	-0.2
	baz=156,SNR=5.0						
SZCU	Shurtz Canyon	70.92	324	eP	P	11 14 02.9	+2.2
	comp=Z,5.0nm,0.8s						
D34A	Park Rapids	70.99	341	P	P	11 13 59.9	-0.7
	baz=154						
TUQ	Turquoise Moun	71.04	321	P	P	11 14 03.0	+1.6
	baz=133,SNR=10						
CCUT	Cedar City	71.05	324	eP	P	11 14 03.9	+2.4
	comp=Z,24nm,0.9s						
P17A	Butcher Ranch,	71.05	327	eP	P	11 14 02.8	+1.4
	comp=Z,23nm,0.8s						
MSU	Marysvale	71.09	325	eP	P	11 14 03.6	+1.9
MSU	Marysvale	71.09	325	eP	P	11 14 03.6	+1.9
TMUT	Trail Mountain	71.16	326	eP	P	11 14 03.9	+1.7
	comp=Z,9.3nm,0.6s						
C35A	Jirik Farms, M	71.18	342	P	P	11 14 01.4	-0.4
	baz=155						
D33A	AnnSam, Waubun	71.23	341	P	P	11 14 02.3	+0.2
	baz=153						
BFSC	Mount Baldy Ra	71.28	319	P	P	11 14 04.3	+1.4
	baz=132,SNR=7.8						
SHPR	Sheep Range	71.33	322	eP	P	11 14 05.1	+2.0
	comp=Z,9.9nm,0.9s						
FMP	Fort Macarthur	71.33	318	P	P	11 14 05.0	+2.1
	baz=131						
E31A	Nome	71.37	339	P	P	11 14 02.9	0.0
	baz=151						
C34A	RKJ Ranch, Bem	71.41	342	P	P	11 14 02.7	-0.5
	baz=154,SNR=8.0						
GSC	Goldstone, Bar	71.47	320	P	P	11 14 05.8	+1.9
	baz=132,SNR=9.4						
GSC	Goldstone, Bar	71.47	320	eP	P	11 14 05.8	+1.9
GSC				e*PP	pP	11 14 36.4	+1.7
GSC				pmax	pmax		
	comp=Z,34nm,1.7s						
GSC	Goldstone, Bar	71.47	320	eP	P	11 14 05.8	+1.9
	comp=Z,34nm,1.7s						
GSC				epP	pP	11 14 36.4	+1.7
K22A	Casper	71.47	332	P	P	11 14 04.9	+1.0
	baz=142,SNR=8.5						
K22A	Casper	71.47	332	eP	P	11 14 05.2	+1.4
	comp=Z,12nm,0.8s						
MWC	Mount Wilson	71.52	319	eP	P	11 14 06.1	+1.8
MWC				pmax	pmax		
	comp=Z,34nm,1.4s						
MWC	Mount Wilson	71.52	319	eP	P	11 14 06.1	+1.8
	comp=Z,34nm,1.4s						
SHOC	Shoshone, Teco	71.56	321	P	P	11 14 05.9	+1.5
	baz=133,SNR=7.5						
PASC	Pasadena Art C	71.57	318	eP	P	11 14 06.6	+2.2
	comp=Z,36nm,1.4s						
RSSD	Black Hills	71.59	334	P	P	11 14 05.3	+0.7
	baz=145						
RSSD	Black Hills	71.59	334	eP	P	11 14 05.9	+1.3
RSSD				pmax	pmax		
	comp=Z,18nm,0.8s						
RSSD	Black Hills	71.59	334	eP	P	11 14 05.9	+1.3
	comp=Z,18nm,0.8s						
D32A	Dogwood Acres,	71.60	340	P	P	11 14 04.0	-0.2
	baz=152,SNR=5.0						
B35A	Bob, Littlefor	71.71	343	P	P	11 14 04.6	-0.3
	baz=155,SNR=8.6						
D31A	Mcclaflin, Tow	71.75	340	P	P	11 14 04.9	-0.3
	baz=151						
C33A	Trail	71.76	341	P	P	11 14 04.8	-0.4
	baz=153,SNR=8.5						
SNCC	San Nicolas Is	71.81	317	P	P	11 14 07.6	+1.7
	baz=130						
EDW2	Edwards Air Fo	71.92	319	P	P	11 14 07.9	+1.4
	baz=132,SNR=9.7						
B34A	Aery, Baudette	72.09	342	P	P	11 14 06.9	-0.3
	baz=154						
NLU	North Lily Min	72.10	326	eP	P	11 14 09.4	+1.6
	comp=Z,10nm,1.0s						
LRMC	Laurel Mtn Rad	72.12	320	P	P	11 14 09.5	+1.7
	baz=132						
B33A	Robert and Kas	72.17	342	P	P	11 14 07.4	-0.3
	baz=153						
OSI	Osito Audit: C	72.19	318	P	P	11 14 10.0	+1.8
	baz=131						
JLU	Jordanelle	72.25	327	eP	P	11 14 10.2	+1.6
	comp=Z,26nm,1.2s						
TPNV	Topopah Spring	72.26	322	P	P	11 14 10.9	+2.1
	baz=133,SNR=19						
TPNV	Topopah Spring	72.26	322	eP	P	11 14 10.8	+2.1
TPNV				pmax	pmax		
	comp=Z,17nm,1.0s						
TPNV	Topopah Spring	72.26	322	eP	P	11 14 10.8	+2.1
	comp=Z,17nm,1.0s						
AGMN	Agassiz Nation	72.27	341	P	P	11 14 08.2	-0.1
	baz=153,SNR=9.2						
AGMN	Agassiz Nation	72.27	341	eP	P	11 14 08.1	-0.1
	comp=Z,14nm,0.8s						
FURC	Furnace Creek,	72.30	321	P	P	11 14 10.7	+2.0
	baz=133,SNR=21						
SCZ2	Santa Cruz Isl	72.36	317	P	P	11 14 10.9	+1.7
	baz=130						
MPMC	Manual Prospec	72.39	320	P	P	11 14 11.0	+1.4
	baz=132,SNR=8.1						
C31A	Landman Farms,	72.41	340	P	P	11 14 09.0	-0.1
	baz=151,SNR=6.6						
CTU	Camp Tracy	72.47	327	eP	P	11 14 11.3	+1.5
	comp=Z,14nm,1.3s						
B32A	Ashes, Strandq	72.56	341	P	P	11 14 09.8	-0.2
	baz=152,SNR=12						
ARVC	Arvin	72.59	319	P	P	11 14 12.2	+1.7
	baz=131						
DAC	Darwin (Calif)	72.60	320	eP	P	11 14 12.3	+1.5
DAC				e		11 14 28.4	
DAC				e*PP	pP	11 14 42.7	+1.1
DAC				pmax	pmax		
	comp=Z,26nm,1.4s						
DAC	Darwin (Calif)	72.60	320	eP	P	11 14 12.3	+1.5
	comp=Z,26nm,1.4s						
DAC				ePcP	PcP	11 14 28.4	+0.8
DAC				epP	pP	11 14 42.7	+1.1
DAC				esP	sP	11 14 55.8	+0.8
TCUT	Toone Canyon	72.62	328	eP	P	11 14 12.5	+1.7
	comp=Z,15nm,0.7s						
DUG	Dugway, Tooele	72.66	326	P	P	11 14 12.5	+1.5
	baz=137,SNR=18						
DUG	Dugway, Tooele	72.66	326	eP	P	11 14 12.5	+1.5
DUG				pmax	pmax		
	comp=Z,18nm,1.1s						
DUG	Dugway, Tooele	72.66	326	eP	P	11 14 12.5	+1.5
	comp=Z,18nm,1.1s						
SBC	Santa Barbara	72.70	318	P	P	11 14 11.2	+0.1
	baz=130						
A33A	Warroad	72.71	342	P	P	11 14 10.7	-0.1
	baz=154,SNR=8.6						
ISA	Isabella, Lake	72.73	319	P	P	11 14 13.4	+2.0
	baz=131						
ISA	Isabella, Lake	72.73	319	eP	P	11 14 13.4	+2.0
ISA				pmax	pmax		
	comp=Z,11nm,0.8s						
ISA	Isabella, Lake	72.73	319	eP	P	11 14 13.4	+2.0
	comp=Z,10nm,0.8s						
R11A	Troy Canyon, C	72.85	323	P	P	11 14 14.2	+2.0
	baz=134,SNR=19						
R11A	Troy Canyon, C	72.85	323	eP	P	11 14 14.2	+2.0
	comp=Z,6.4nm,0.8s						
MCU	Monte Cristo P	72.92	328	eP	P	11 14 13.8	+1.1
B31A	Greenbush Farm	72.94	340	P	P	11 14 12.0	-0.2
	baz=152						
BW06	Boulder Array	72.96	330	P	P	11 14 13.2	+0.4
	baz=140,SNR=9.2						
BW06	Boulder Array	72.96	330	eP	P	11 14 13.2	+0.4
	comp=Z,4.1nm,0.9s						
PDAR	Pinedale Array	72.96	330	P	P	11 14 13.2	+0.4
	comp=Z,3.3nm,0.8s,baz=118,slow=7.7,SNR=23						
CWC	Cottonwood Cre	73.00	320	P	P	11 14 15.1	+2.0
	baz=132						
A32A	Rocking H Ranc	73.02	341	P	P	11 14 12.5	-0.1
	baz=153						
PKM	Mcpherson Peak	73.05	318	P	P	11 14 15.2	+1.8
	baz=130,SNR=5.9						
HWUT	Hardware Ranch	73.06	328	eP	P	11 14 14.2	+0.9
	comp=Z,18nm,0.8s						
MDND	Maddock	73.07	339	P	P	11 14 13.7	+0.7
	baz=150,SNR=5.1						
MDND	Maddock	73.07	339	eP	P	11 14 14.2	+1.1
	comp=Z,70nm,0.7s						
VES	Vestal, Richgr	73.22	319	P	P	11 14 15.9	+1.8
	baz=131,SNR=9.9						
A31A	Linda, St. Vin	73.24	341	P	P	11 14 13.9	-0.1
	baz=152						
SPUT	South Promonto	73.28	327	eP	P	11 14 15.9	+1.2
	comp=Z,22nm,1.0s						
BGU	Big Grassy Mou	73.30	327	eP	P	11 14 16.0	+1.2
	comp=Z,13nm,1.0s						
SMMC	Simmler	73.44	318	P	P	11 14 17.7	+2.2
	baz=130,SNR=8.0						
TIN	Tinemaha, Big	73.50	321	P	P	11 14 18.0	+2.1
	baz=132						
RCTC	Rector, Farmer	73.62	320	P	P	11 14 17.6	+1.2
	baz=131						
HVU	Hansel Valley	73.80	327	eP	P	11 14 18.6	+1.0
HVU				pmax	pmax		
	comp=Z,19nm,1.1s						
HVU	Hansel Valley	73.80	327	eP	P	11 14 18.6	+1.0
	comp=Z,19nm,1.1s						
PAGB	Antelope Grade	73.87	319	eP	P	11 14 20.3	+2.3
	comp=Z,20nm,1.2s						
ULM	Lac du Bonnet	74.03	342	P	P	11 14 18.1	-0.4
	comp=Z,9.7nm,0.6s,baz=150,slow=6.4,SNR=17						
ULM	Lac du Bonnet	74.03	342	eP	P	11 14 18.2	-0.3
REDW	Red Top Meadow	74.03	329	eP	P	11 14 20.2	+1.2
	comp=Z,12nm,0.9s						
SNOW	Snow King Moun	74.06	330	eP	P	11 14 19.9	+0.6
	comp=Z,15nm,0.9s						
LOHW	Long Hollow	74.10	330	eP	P	11 14 20.5	+1.1
	comp=Z,9.3nm,0.8s						
TPAW	Teton Pass	74.17	329	eP	P	11 14 21.2	+1.3
	comp=Z,13nm,0.8s						
MOOW	Moose Ponds	74.27	330	eP	P	11 14 21.4	+1.0
	comp=Z,5.8nm,0.7s						
FXWY	Fox Creek	74.32	330	eP	P	11 14 21.9	+1.2
	comp=Z,9.8nm,0.9s						
IMW	Indian Meadow	74.47	330	eP	P	11 14 23.1	+1.4
	comp=Z,29nm,1.2s						
LAO	LASA Array	74.58	334	P	P	11 14 22.7	+0.8
	baz=144,SNR=10						
LAO	LASA Array	74.58	334	eP	P	11 14 22.8	+0.8
	comp=Z,42nm,1.4s						
RLMT	Red Lodge	74.64	332	P	P	11 14 23.8	+1.3
	baz=141,SNR=17						
RLMT	Red Lodge	74.64	332	eP	P	11 14 23.9	+1.3
	comp=Z,16nm,0.8s						
SCHQ	Schefferville	74.65	1	P	P	11 14 22.0	-0.1
	comp=Z,5.9nm,0.7s,baz=111,slow=2.8,SNR=4.1						
H17A	Grant Village	74.68	330	P	P	11 14 24.5	+1.7
	baz=139,SNR=8.3						
H17A	Grant Village	74.68	330	eP	P	11 14 25.0	+2.1
	comp=Z,8.8nm,0.7s						
YPP	Pitchstone Pla	74.69	330	eP	P	11 14 24.9	+2.0
	comp=Z,16nm,1.7s						
YFT	Old Faithful	74.84	330	eP	P	11 14 26.7	+2.9
	comp=Z,12nm,0.8s						
YNR	Norris Junctio	74.97	330	eP	P	11 14 26.9	+2.5
	comp=Z,11nm,0.8s						
YMR	Madison River	75.07	330	eP	P	11 14 27.2	+2.2
	comp=Z,23nm,0.9s						
YHH	Holmes Hill	75.11	330	eP	P	11 14 27.5	+2.2
	comp=Z,25nm,0.7s						
WAKR	Walker	75.18	321	eP	P	11 14 28.2	+2.5
	comp=Z,8.9nm,1.2s						
DGMT	Dagmar	75.24	337	P	P	11 14 26.8	+1.2
	baz=146,SNR=8.6						
DGMT	Dagmar	75.24	337	eP	P	11 14 27.0	+1.4
	comp=Z,28nm,0.8s						
YHB	Horse Butte	75.24	330	eP	P	11 14 27.9	+1.9
	comp=Z,26nm,0.7s						
GCMT	Greycliff	75.34	332	eP	P	11 14 27.0	+0.6
YERR	Yerington	75.38	322	eP	P	11 14 29.1	+2.2
	comp=Z,24nm,1.4s						
QLMT	Earthquake Lak	75.41	330	eP	P	11 14 29.0	+2.1
CMB	Columbia Colle	75.44	320	eP	P	11 14 28.2	+1.2

MCMT McKenzie Canyo 76.08 329 eP P 11 14 32.0 +1.2
DLMT Dillon 76.35 330 eP P 11 14 33.8 +1.6
comp=Z,42nm,1.5s
AFDM Forest Hills D 76.38 321 eP P 11 14 33.6 +1.3
comp=Z,7.5nm,1.0s
AFDM epP pP 11 15 04.9 +1.5
MFID Camas Ranch 76.54 327 eP P 11 14 35.1 +1.8
comp=Z,15nm,1.0s
BEKR Beckworth 76.61 322 eP P 11 14 35.4 +1.6
comp=Z,25nm,1.6s
LRM Limekiln Ridge 76.63 330 eP P 11 14 35.4 +1.5
TORD Torodi Ar. Bea 76.80 71 P P 11 14 33.9 -1.3
comp=Z,21nm,0.5s,baz=252,slow=5.3,SNR=368
TORD S S 11 24 08.2 -4.6
comp=Z,2.4nm,0.8s,baz=246,slow=11,SNR=8.8
TORD LR LR 11 49 02.2
comp=Z,79nm,18.2s,baz=320,slow=36
HRY Holter Researc 77.01 331 eP P 11 14 37.7 +1.9
ORV Oroville 77.08 321 eP P 11 14 38.2 +2.0
ORV e*PP pP 11 15 08.9 +1.5
ORV pmax pmax
comp=Z,29nm,1.3s
ORV Oroville 77.08 321 eP P 11 14 38.2 +2.0
comp=Z,29nm,1.3s
ORV epP pP 11 15 08.9 +1.5
EGMT Eagleton 77.10 333 P P 11 14 36.9 +0.7
baz=141,SNR=7.9
EGMT Eagleton 77.10 333 eP P 11 14 36.9 +0.7
comp=Z,22nm,0.8s
SBA Scott Base 77.21 190 eP P 11 14 38.5 +2.1
SBA pmax pmax
comp=Z,26nm,1.2s
SBA Scott Base 77.21 190 eP P 11 14 38.5 +2.1
comp=Z,26nm,1.2s
O03D Paynes Creek 77.73 321 P P 11 14 40.2 +0.3
baz=130
SYO Syowa Base 77.77 160⇧ eP P 11 14 38.8 -0.8
SYO Syowa Base 77.77 160⇧ epP pP 11 15 10.2 -0.6
CHMT Chamberlain Mo 77.81 331 eP P 11 14 41.7 +1.3
MOD Modoc Plateau 77.92 323 eP P 11 14 42.6 +1.6
comp=Z,33nm,1.5s
MSO Missoula 78.07 330 P P 11 14 43.2 +1.5
baz=137,SNR=11
MSO Missoula 78.07 330 eP P 11 14 43.4 +1.7
comp=Z,21nm,1.4s
SLMT Seeley Lake 78.16 331 eP P 11 14 43.6 +1.3
VNDA Vanda 78.23 190 P P 11 14 44.0 +1.9
comp=Z,7.2nm,0.8s,baz=131,slow=5.3,SNR=22
VNDA Vanda 78.23 190 eP P 11 14 44.2 +2.1
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 78.23 190 eP P 11 14 44.1 +2.1
comp=Z,8.3nm,0.8s
BMO Blue Mountains 78.30 327 eP P 11 14 44.1 +1.1
BMO pmax pmax
comp=Z,18nm,0.8s
BMO Blue Mountains 78.30 327 eP P 11 14 44.1 +1.1
comp=Z,18nm,0.8s
SWMT Swartz Lake 78.59 331 eP P 11 14 46.3 +1.7
M04C Macdoel 78.71 322 P P 11 14 46.6 +1.3
baz=130,SNR=5.1
JTMT Jette 78.90 331 eP P 11 14 47.8 +1.5
BLMT Blacktail Moun 79.13 331 eP P 11 14 49.2 +1.6
K04D Chiloquin, OR 79.20 323 P P 11 14 49.4 +1.3
baz=130
BSMT Bassoo Peak 79.21 330 eP P 11 14 49.5 +1.5
J05D Fort Rock, OR 79.34 324 P P 11 14 50.3 +1.5
baz=131,SNR=10
WALA Waterton Lakes 79.69 332 eP P 11 14 51.5 +1.0
J04D Umpqua Nationa 79.80 323 P P 11 14 52.6 +1.2
baz=130,SNR=7.9
E09A Wood Farm, Sta 79.88 328 eP P 11 14 52.7 +1.3
comp=Z,9.2nm,0.9s
L02D Cave Junction, 79.96 322 P P 11 14 53.4 +1.4
baz=129
I05D Terrebonne, OR 80.08 325 P P 11 14 54.6 +1.9
baz=131,SNR=22
G06A Carlson Farm, 80.30 326 eP P 11 14 55.6 +1.8
comp=Z,15nm,1.0s
TSUM Tsumeb 80.35 107 P P 11 14 55.1 +0.3
comp=Z,12nm,0.8s,baz=237,slow=12,SNR=13
HAWA Hanford 80.50 327 eP P 11 14 56.4 +1.7
comp=Z,18nm,0.6s
HAWA epP pP 11 15 28.2 +2.1
NEW Newport 80.60 330 P P 11 14 55.8 +0.6
baz=134
NEW Newport 80.60 330 eP P 11 14 55.9 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 80.60 330 eP P 11 14 55.9 +0.6
comp=Z,5.7nm,0.8s
D08A Wollman Farm, 80.64 328 eP P 11 14 57.0 +1.4
comp=Z,38nm,1.4s
G05D Wamic, OR 80.66 325 P P 11 14 57.8 +2.1
baz=131,SNR=8.3
E07A Sunnyside 80.77 327 eP P 11 14 58.2 +2.0
comp=Z,10nm,0.8s
I03D Drain, OR 80.78 323 P P 11 14 57.7 +1.3
baz=129,SNR=6.3
C09A Chrisman Ranch 80.83 329 eP P 11 14 58.0 +1.5
PNCL Nicolau / Gran 80.94 44 eP P 11 14 57.8 +0.5
PVAQ Vaqueiros 81.07 45 eP P 11 14 59.5 +1.5
COR Corvallis 81.32 324 eP P 11 15 00.6 +1.5
COR Corvallis 81.32 324 eP P 11 15 00.6 +1.5
PBEJ Beja 81.32 44 eP P 11 15 00.1 +0.8
PBEJ epP pP 11 15 32.1 +1.3
LTY Liberty 81.66 327 eP P 11 15 02.2 +1.2
comp=Z,14nm,0.6s
PMTG Montargil 81.67 43 eP P 11 15 01.3 +0.2
PMTG epP pP 11 15 33.5 +0.9
G03D McMinnville, O 81.70 324 P P 11 15 03.0 +1.9
baz=129
F04A Amboy 81.70 325 eP P 11 15 02.6 +1.4
comp=Z,25nm,0.8s
B08A Colville Reser 81.73 329 eP P 11 15 01.9 +0.6
comp=Z,15nm,1.1s
LON Longmire 81.91 326 eP P 11 15 03.0 +0.7
LON pmax pmax
comp=Z,7.0nm,0.6s
LON Longmire 81.91 326 eP P 11 15 03.0 +0.7
comp=Z,7.1nm,0.6s
PBAR Barrancos 81.95 45 eP P 11 15 02.8 +0.2
PBAR epP pP 11 15 34.7 +0.6
PESTR Estremoz 81.97 44 epP pP 11 15 35.8 +1.6
F04D Rainier, OR 82.11 325 P P 11 15 04.9 +1.7
baz=130
D05A Enumclaw 82.29 327 eP P 11 15 05.5 +1.4
D05A epP pP 11 15 37.2 +1.5
PCBR Castelo Branco 82.58 43 ePcP PcP 11 15 11.1 +0.5
B06A Marblemount 82.90 328 eP P 11 15 08.0 +0.7
B05A Bryant 83.04 327 P P 11 15 08.5 +0.5
baz=130,SNR=19
POLO Lamas de Olo 83.23 42 eP P 11 15 08.9 -0.4
comp=Z,14nm,1.7s
PCAB Cabril 83.28 41 eP P 11 15 09.3 -0.2
PCAB epP pP 11 15 41.1 +0.1
MVO Moncorvo 83.60 42 eP P 11 15 11.6 +0.4
comp=Z,21nm,1.6s
MVO epP pP 11 15 42.6 -0.2
A04D Lummi Island 83.65 327 P P 11 15 12.4 +1.3
baz=130
PGC Sidney 83.98 327 eP P 11 15 14.2 +1.4
BOSA Boshof 84.01 118 P P 11 15 13.6 -0.2
comp=Z,11nm,1.1s,baz=250,slow=3.7,SNR=7.2
BOSA Boshof 84.01 118 eP P 11 15 14.2 +0.5
PBRG Braganca 84.13 42 eP P 11 15 13.8 0.0
comp=Z,23nm,2.4s
PBRG epP pP 11 15 45.0 -0.5
PAB San Pablo 84.45 44 eP P 11 15 15.8 +0.2
PAB e*PP pP 11 15 47.4 +0.2
PAB San Pablo 84.45 44 eP P 11 15 15.8 +0.2
PAB epP pP 11 15 47.4 +0.2
LLLB Lillooet 84.47 329 eP P 11 15 15.9 +0.5
ESDC Sonseca Array 84.77 45 P P 11 15 16.9 -0.2
comp=Z,4.2nm,0.9s,baz=250,slow=5.2,SNR=18
ESLA Sonseca Array 84.77 45 eP P 11 15 17.4 +0.3
ESLA epP pP 11 15 50.0 +1.1
LBTB Lobatse 85.51 115 P P 11 15 21.2 -0.1
comp=Z,8.1nm,0.8s,baz=254,slow=6.2,SNR=11
LBTB Lobatse 85.51 115 eP P 11 15 21.8 +0.5
MAW Mawson 85.63 163 P P 11 15 20.4 -0.5
comp=Z,6.2nm,0.5s,baz=207,slow=5.7,SNR=9.1
YKA Yellowknife Ar 89.91 341 P P 11 15 41.6 +0.4
comp=Z,12nm,0.5s,baz=130,slow=4.5,SNR=67

KEST Kesra 92.39 53 P P 11 15 53.6 +0.1
comp=Z,3.9nm,1.0s,baz=229,slow=9.3,SNR=3.1
EKA Eskdalemuir Ar 93.38 31 P P 11 15 56.6 -0.8
comp=Z,0.9nm,0.7s,baz=232,slow=5.4,SNR=3.7
ILAR Eielson Array 103.04 335 PP PP 11 20 59.5 +2.5
comp=Z,0.8nm,0.9s,baz=96,slow=5.7,SNR=4.7
TOLK Toolik Lake Re 105.23 338 P PKiKP 11 21 04.6 +0.6
baz=106
BRTR Keskin Array B 111.94 54 PP PP 11 21 59.2 -3.7
comp=Z,0.5nm,0.5s,baz=258,slow=6.2,SNR=4.9
BRTR PKKPbc PKKPab 11 32 18.3 +0.1
comp=Z,1.2nm,0.7s,baz=119,slow=4.2,SNR=5.3
KBZ Khabaz 119.16 50 PP PP 11 22 52.0 -1.1
comp=Z,3.0nm,0.9s,baz=192,slow=3.3,SNR=3.6
STKA Stephens Creek 120.67 210 PKP PKPdf 11 21 34.4 -0.1
comp=Z,2.7nm,0.6s,baz=140,slow=3.9,SNR=8.4
NWAO Narrogin (SRO) 126.95 186 PKP PKPdf 11 21 46.6 +0.2
comp=Z,4.8nm,0.5s,baz=167,slow=14,SNR=6.6
TIXI Tiksi 127.43 353 ePKIKP PKPdf 11 21 46.1 +0.1
TIXI Tiksi 127.43 353 ePKPdf PKPdf 11 21 46.1 +0.1
H11S2 WAKE ISLAND Hyl 27.79 278 T T 13 41 39.6
baz=102,slow=75,SNR=332
H11S1 WAKE ISLAND Hyl 27.80 278 T T 13 41 53.4
baz=102,slow=75,SNR=120
H11S3 WAKE ISLAND Hyl 27.81 278 T T 13 41 40.9
baz=102,slow=75,SNR=103
H11N3 WAKE ISLAND Hyl 27.83 280 T T 13 41 53.9
baz=102,slow=75,SNR=59
H11N2 WAKE ISLAND Hyl 27.85 280 T T 13 41 45.1
baz=102,slow=75,SNR=53
H11N1 WAKE ISLAND Hyl 27.85 280 T T 13 41 59.1
baz=102,slow=75,SNR=36
ASAR Alice Springs 131.19 208 PKhKP PKPpre 11 21 35.2
comp=Z,0.4nm,0.6s,baz=144,slow=2.5,SNR=6.4
ASAR PKP PKPdf 11 21 54.7 -0.1
comp=Z,4.9nm,0.5s,baz=129,slow=1.7,SNR=52
ASAR SKPbc SKPab 11 25 09.1 +0.4
comp=Z,1.2nm,1.0s,baz=145,slow=5.0,SNR=5.5
PETK Petropavlovsk- 131.50 324 PKP PKPdf 11 21 55.2 +0.9
comp=Z,5.5nm,0.8s,baz=80,slow=2.0,SNR=9.1
WRA Warramunga Arr 134.20 211 PKhKP PKPpre 11 21 48.0
comp=Z,0.9nm,0.7s,baz=113,slow=2.8,SNR=8.3
WRA PKP PKPdf 11 22 00.5 0.0
comp=Z,6.0nm,0.5s,baz=157,slow=1.8,SNR=43
WRA SKP 11 25 27.1
comp=Z,1.1nm,0.9s,baz=168,slow=4.2,SNR=4.7
WRAB Tennant Creek 134.20 211 ePKIKP PKPdf 11 22 00.7 +0.2
WRAB Tennant Creek 134.20 211 ePKPdf PKPdf 11 22 00.7 +0.2
BRVK Borovoye 134.52 34 ePKIKP PKPdf 11 22 00.8 +0.8
BRVK e 11 22 33.3
BRVK Borovoye 134.52 34 ePKPdf PKPdf 11 22 00.8 +0.8
BRVK epPKPdf pPKPdf 11 22 33.3 -0.1
BVAR Borovoye Array 134.59 34 PKP PKPdf 11 22 00.7 +0.5
comp=Z,0.9nm,0.7s,baz=306,slow=5.1,SNR=5.3
FITZ Fitzroy Crossi 139.47 201 PKhKP PKPpre 11 22 01.0
comp=Z,3.4nm,0.7s,baz=180,slow=5.3,SNR=12
KURK Kurchatov 140.11 32 PKIKP PKPdf 11 22 10.9 +0.5
KURK Kurchatov 140.11 32 PKP PKPdf 11 22 10.9 +0.5
KURK SKPbc SKiKP 11 25 36.5 -1.1
KURBB Kurchatov Arra 140.12 32 PKP PKPdf 11 22 10.9 +0.5
comp=Z,0.9nm,0.5s,baz=310,slow=2.5,SNR=5.9
KURBB SKPbc SKiKP 11 25 36.6 -1.1
comp=Z,0.6nm,0.6s,baz=297,slow=2.6,SNR=4.1
ZALV Zalesovo Beam 140.65 24 PKhKP PKPpre 11 22 08.3
comp=Z,3.2nm,0.5s,baz=325,slow=2.3,SNR=14
ZALV SKPbc SKiKP 11 25 38.6 0.0
comp=Z,4.1nm,0.7s,baz=303,slow=3.9,SNR=11
AAK Ala-Archa 141.87 46 PKP PKPdf 11 22 11.2 -2.9
comp=Z,0.7nm,0.3s,baz=229,slow=9.3,SNR=3.6
BOD Bodaibo 142.28 358 ePKHKP PKPpre 11 22 08.3
BOD pmax pmax
comp=Z,4.0nm,1.1s
KSH Kashi 144.14 50 ePKP PKPbc 11 22 17.1 +0.6
KSH PP PP 11 25 35.8 +2.0
KSH PKS PKSdf 11 25 52.3 -1.5
KSH SKS SKSdf 11 29 16.3 0.0
KSH SKKS SKKSac 11 32 15.8 +1.1
KSH AMB AMB
comp=Z,140nm,5.8s
KSH LR LR
comp=Z,100nm,5.6s
KSH LR LR
comp=Z,70nm,5.8s
KSH LR LR
comp=Z,73nm,6.1s
MKAR Makanchi Array 144.44 35 PKP PKPab 11 22 16.8 0.0
comp=Z,2.9nm,0.7s,baz=10,slow=3.0,SNR=12
MKAR SKPbc SKiKP 11 25 46.7 -0.1
comp=Z,1.1nm,0.6s,baz=328,slow=3.1,SNR=3.8
ASAJ Asahikawa 144.57 320 ePKPbc PKPdf 11 22 18.6 0.0
GUMO Guam 147.17 264 ePKP2 PKPbc 11 22 26.4 +0.3
GUMO Guam 147.17 264 ePKPbc PKPbc 11 22 26.4 +0.3
MOY Mondy 147.50 12 ePKP2 PKPab 11 22 27.5 -1.0
MOY pmax pmax
comp=Z,11nm,1.2s
SOEI Soe 147.66 205 ePKPbc PKPbc 11 22 28.7 +1.1
SOEI ePKPab PKPab 11 22 31.9 +1.8
ZAK Zakamensk 149.14 10 ePKP2 PKPbc 11 22 29.5 -0.9
ZAK pmax pmax
comp=Z,5.0nm,1.2s
WMQ Urumqi 149.27 34 PKPbc PKPdf 11 22 26.0 -0.5
WMQ LR LR
comp=Z,22nm,15.3s
WMQ LR LR
comp=Z,28nm,23.1s
WMQ LR LR
comp=Z,33nm,21.1s
MMRI Maumere 149.44 202 ePKPdf PKPdf 11 22 27.2 -0.4
MMRI ePKPbc PKPbc 11 22 32.5 +0.3
USRK Ussuriysk Ar. 150.38 329 PKPbc PKPbc 11 22 33.7 +0.2
comp=Z,18nm,0.7s,baz=51,slow=1.5,SNR=27
MJAR Matsushiro Arr 151.27 310 PKPbc PKPbc 11 22 36.2 +0.4
comp=Z,6.0nm,0.5s,baz=107,slow=1.2,SNR=26
MAJO Matsushiro 151.27 310 ePKIKP PKPbc 11 22 36.5 +0.6
MAJO e 11 22 44.5
MAJO Matsushiro 151.27 310 ePKPbc PKPbc 11 22 36.5 +0.6
MAJO ePKPab PKPab 11 22 44.5 +0.3
MAT Matsushiro 151.27 310 PKP PKPbc 11 22 36.1 +0.2
SONM Songino Array 152.07 7 PKP PKPdf 11 22 31.7 +0.9
comp=Z,2.4nm,0.8s,baz=34,slow=1.5,SNR=11
SONM PKPbc PKiKP 11 22 37.9 +0.2
comp=Z,3.9nm,0.6s,baz=340,slow=1.3,SNR=13
CISI Cisompet, Garu 152.31 173 ePKPdf PKPdf 11 22 32.1 +0.1
CISI ePKPbc PKiKP 11 22 39.2 0.0
CN2 Changchun 153.54 336 ePKPbc PKPdf 11 22 28.3 -4.6
KSRS Korea Array 157.40 323 PKP PKPdf 11 22 39.0 +0.8
comp=Z,2.2nm,0.8s,baz=127,slow=1.9,SNR=6.1
KSRS PKPab PKPab 11 23 10.8 +0.6
comp=Z,4.9nm,0.9s,baz=51,slow=4.1,SNR=8.9
KSAR Wonju Array Be 157.43 323 PKIKP PKPdf 11 22 39.1 +0.8
KSAR Wonju Array Be 157.43 323 PKP PKPdf 11 22 39.0 +0.8
KSAR PKPab PKPab 11 23 10.8 +0.5
GTA Gaotai 158.41 25 PKP PKPdf 11 22 40.8 +1.2
GTA pPKP pPKPdf 11 23 13.6 +0.4
GTA sPKP 11 23 25.4
PSI Prapat 159.04 144 PKP PKPdf 11 22 41.6 +0.4
comp=Z,2.5nm,0.4s,baz=192,slow=9.2,SNR=4.5
PSI PKPab pPKPdf 11 23 15.7 +1.0
comp=Z,2.7nm,0.4s,baz=226,slow=11,SNR=4.9
HHC Hu-ho-hao-te 159.32 359 ePKP PKPdf 11 22 34.3 -6.3
XAN Xi'an 165.97 8 PKP PKPdf 11 22 48.3 +1.0
NJ2 Nanjing 166.26 332 ePKP PKPdf 11 22 50.6 +3.1
CD2 Chengdu 167.32 30 PKP PKPdf 11 22 46.8 -1.6
CMAR Chiang Mai Arr 168.31 96 PKP PKPdf 11 22 49.6 +0.2
comp=Z,0.6nm,0.5s,baz=270,slow=1.8,SNR=7.1
CMAR PKPab PKPab 11 23 58.1 -0.7
comp=Z,0.5nm,0.3s,baz=257,slow=5.7,SNR=4.5
CMAR PP PP 11 27 50.8 +2.4
comp=Z,0.6nm,0.4s,baz=262,slow=6.2,SNR=4.9
GYA Guiyang 172.43 33 ePKP PKPdf 11 22 51.0 -0.6
GYA pPKP pPKPdf 11 23 23.3 -1.9
GYA sPKP 11 23 36.4
GYA PKPab PKPab 11 24 18.8 +2.1
GYA PKS PKSdf 11 26 22.1 -2.0
GYA PP PP 11 28 10.9 +3.5
GYA AMB AMB
comp=Z,120nm,8.6s

*IDC **22** 11:03:29.2±0.6,28.°80S×176.°20W,h0km,mb4.4/12, mb1 4.6/12,mb1mx4.5/20,mbtmp4.4/12,MS3.8/10, Ms1 3.8/10,ms1mx3.5/24,Error ellipse: s-maj=22.5km s-min=21.9km az=135.0*
*ISCJB **22** 11:03:30.6±0.5,29.°33S±0.°04×175.°86W±0.°08,h33km, mb4.6/20,MS3.9/8,Error ellipse: s-maj=10.2km s-min=5.0km az=15.1*
*NEIC **22** 11:03:34.5±0.4,28.°84S×176.°16W,h35km,mb4.6/5,Error ellipse: s-maj=17.0km s-min=10.4km az=168.0*
ISC 22 11:03:34.6±0.5,29.09S±0.07×176.10W±0.08,h38km,n94, σ1⇧63/89,mb4.6/20,MS3.8/8,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.60	264	Pn	Pn	11 04 01.9	+1.6
	751nm,0.3s,baz=82,slow=15,SNR=44						
RAO				LR	LR	11 04 19.5	
	comp=Z,653nm,20.3s,baz=126,slow=32						
RAO				Sn	Sn	11 04 21.4	+1.7
	4μm,0.3s,baz=26,slow=22,SNR=20						
PKGZ	Pakihiroa	10.03	207	PN	Pn	11 05 52.5	-3.7
PKGZ				SN	Sn	11 07 47.0	-0.5
HAZ	Te Kaha	10.04	209	PN	Pn	11 05 53.3	-2.9
PUZ	Puketiti	10.12	206	PN	Pn	11 05 54.1	-3.2
PUZ				SN	Sn	11 07 49.9	+0.4
RUGZ	Raukumara Rang	10.26	209	PN	Pn	11 05 56.1	-3.2
RUGZ				SN	Sn	11 07 53.9	+0.8
CNGZ	Carnagh Statio	10.50	205	PN	Pn	11 05 58.5	-4.0
CNGZ				SN	Sn	11 08 00.3	+1.6
MWZ	Matawai	10.64	208	PN	Pn	11 06 01.5	-3.0
URZ	Urewera	10.75	210	Pn	Pn	11 06 00.7	-5.3
	3.2nm,0.3s,baz=63,slow=2.3,SNR=13						
URZ				Sn	Sn	11 08 02.3	-2.6
	4.0nm,0.3s,baz=105,slow=20,SNR=15						
URZ	Urewera	10.75	210	PN	Pn	11 06 02.8	-3.2
MUGZ	Murupara	11.08	210	PN	Pn	11 06 08.7	-1.8
SNGZ	Shannon Statio	11.09	208	PN	Pn	11 06 08.5	-2.2
RTZ	Ruatahuna	11.10	209	PN	Pn	11 06 07.3	-3.6
BKZ	Black Stump Fm	11.77	209	PN	Pn	11 06 14.8	-5.2
BFZ	Birch Farm	13.15	206	PN	Pn	11 06 33.0	-5.8
MRZ	Mangatainoka R	13.41	208	PN	Pn	11 06 36.1	-6.1
THZ	Tophouse	15.48	212	PN	Pn	11 07 07.7	-2.5
AFI	Afiamalu	15.63	16	Pn	Pn	11 07 00.1	-12
	0.8nm,0.3s,baz=156,slow=20,SNR=2.0						
AFI				Sn	Sn	11 09 37.3	-27
	1.3nm,0.3s,baz=192,slow=19,SNR=2.4						
AFI				LR	LR	11 15 50.6	
	comp=Z,44nm,18.4s,baz=22,slow=48						
KHZ	Kahutara	15.72	209	PN	Pn	11 07 09.9	-3.3
RAR	Rarotonga	16.72	66	Pn	Pn	11 07 15.4	-11
	0.6nm,0.3s,baz=184,slow=13,SNR=2.2						
RAR				Sn	Sn	11 10 03.0	-28
	1.4nm,0.3s,baz=287,slow=19,SNR=2.9						
RAR				LR	LR	11 14 10.8	
	comp=Z,198nm,18.8s,baz=260,slow=38						
DZM	Mont Dzumac	17.22	290	eP	P	11 07 35.5	+1.9
	94nm,1.6s						
DZM				eLR	LR	11 11 33.5	
	1μm,26.4s						
DZM	Mont Dzumac	17.22	290	eP	Pn	11 07 32.5	+0.1
	16nm,0.8s						
RPZ	Rata Peaks	17.86	212	P	Pn	11 07 37.1	-2.9
	0.7nm,0.3s,baz=356,slow=14,SNR=4.2						
RPZ				S	Sn	11 10 43.4	-15
	0.8nm,0.3s,baz=9.0,slow=19,SNR=4.6						
TBI	Tubuai	24.55	83	eLR	LR	11 14 39.5	
	602nm,29.2s,baz=248						
TBI	Tubuai	24.55	83	eT	T	11 32 00.3	
	7.7nm,0.4s						
PAE	Paea	26.80	71	eT	T	11 34 46.5	
	2.4nm,0.4s						
PPT2	Papeete2	26.84	71	eLR	LR	11 15 36.5	
	670nm,28.2s,baz=236						
PPT	Papeete	26.85	71	LR	LR	11 16 21.1	
	comp=Z,236nm,21.3s,baz=204,slow=29						
ARMA	Armidale	28.00	259	eP	P	11 09 23.6	+1.5
	2.4nm,0.5s						
HNR	Honiara	29.78	306	LR	LR	11 19 37.2	
	comp=Z,125nm,18.0s,baz=146,slow=33						
STKA	Stephens Creek	36.40	255	P	P	11 10 35.3	-0.2
	3.8nm,0.6s,baz=99,slow=9.9,SNR=12						
STKA				LR	LR	11 24 45.5	
	comp=Z,403nm,18.1s,baz=47,slow=35						
TAOE	Nuku Hiva Isla	39.27	66	eLR	LR	11 21 22.4	
	272nm,25.9s						
ASAR	Alice Springs	44.85	265	P	P	11 11 44.0	-1.4
	6.3nm,0.8s,baz=111,slow=7.8,SNR=47						
ASAR				PcP	PcP	11 13 26.3	-0.5
	0.9nm,0.9s,baz=128,slow=5.2,SNR=2.8						
ASAR				LR	LR	11 30 20.4	
	comp=Z,370nm,18.2s,baz=106,slow=36						
WRAB	Tennant Creek	45.72	270	eP	P	11 11 50.4	-1.9
	10nm,0.9s						
WRA	Warramunga Arr	45.73	270	P	P	11 11 50.9	-1.5
	10nm,0.8s,baz=109,slow=8.0,SNR=49						
WRA				LR	LR	11 30 14.8	
	comp=Z,97nm,18.1s,baz=150,slow=35						
VNDA	Vanda	49.57	186	P	P	11 12 23.4	+2.1
	0.5nm,0.9s,baz=358,slow=4.4,SNR=2.9						
FITZ	Fitzroy Crossi	54.03	268	eP	P	11 12 54.1	-1.4
	11nm,1.2s						
MBWA	Marble Bar	58.03	262	eP	P	11 13 22.3	-1.7
	101nm,1.1s						
STKI	Sintang	74.70	279	P	P	11 15 11.3	+0.4
DBJI	Dramaga	75.63	270	P	P	11 15 17.2	+1.0
KSM	Kuching	76.42	279	eP	P	11 15 19.9	-0.8
	45nm,1.1s						
CGJI	Cibinong	76.52	270	P	P	11 15 21.8	+0.5
MJAR	Matsushiro Arr	78.13	324	P	P	11 15 28.1	-1.6
	3.1nm,0.9s,baz=160,slow=5.9,SNR=6.3						
KLSI		78.28	271	P	P	11 15 30.1	-1.0
SYO	Syowa Base	78.75	192⇧	eP	P	11 15 35.6	+2.8
MDSI	Maura Dua	78.86	271	P	P	11 15 33.0	-1.3
DSRI	Dabo	80.43	275	P	P	11 15 43.4	+0.5
MASI	Maura Aman, Be	81.19	271	P	P	11 15 46.9	-0.1
PLCA	Paso Flores	82.18	132	P	P	11 15 53.5	+1.6
	2.3nm,1.0s,baz=239,slow=6.9,SNR=3.6						
PLCA				LR	LR	11 45 28.8	
	comp=Z,46nm,18.4s,baz=87,slow=31						
PDSI	Padang	83.82	272	P	P	11 16 00.2	-0.5
KSRS	Korea Array	84.44	318	P	P	11 16 02.6	-0.5
	2.2nm,0.8s,baz=136,slow=5.7,SNR=5.3						
KSRS				LR	LR	11 52 34.6	
	comp=Z,18nm,18.2s,baz=170,slow=35						
KSAR	Wonju Array Be	84.45	318	P	P	11 16 02.6	-0.6
PETK	Petropavlovsk-	84.97	345	P	P	11 16 05.0	-0.5
	8.8nm,0.8s,baz=101,slow=8.1,SNR=7.0						
IPM	Ipoh	85.94	277	eP	P	11 16 11.1	-0.2
	20nm,0.9s						
USRK	Ussuriysk Ar.	87.00	325	P	P	11 16 15.2	-0.6
	2.7nm,0.7s,baz=162,slow=3.6,SNR=5.3						
TUC	Tucson	87.00	50	eP	P	11 16 16.7	+0.5
	5.6nm,0.9s						
TPTI		88.70	274	P	P	11 16 25.3	+0.7
TXAR	Lajitas Array	90.29	56	P	P	11 16 31.6	-0.2
	1.7nm,1.0s,baz=222,slow=4.9,SNR=6.7						
ENH	Enshi	92.24	303	eP	P	11 16 40.0	-0.7
	8.8nm,0.8s						
CMAR	Chiang Mai Arr	94.54	288	P	P	11 16 52.9	+1.3
	0.7nm,0.4s,baz=146,slow=3.4,SNR=6.2						
ILAR	Eielson Array	96.29	12	P	P	11 16 57.1	-1.3
	1.2nm,0.8s,baz=220,slow=5.0,SNR=12						
CPUP	Villa Florida	99.48	127	LR	LR	11 56 25.6	
	comp=Z,44nm,20.1s,baz=218,slow=32						
BOSA	Boshof	119.10	201	PKP	PKPdf	11 22 20.5	+0.4
	1.8nm,0.8s,baz=181,slow=10,SNR=3.4						
KURK	Kurchatov	121.33	314	PKP	PKPdf	11 22 22.5	-0.8
KURBB	Kurchatov Arra	121.37	314	PKP	PKPdf	11 22 22.5	-0.9
	2.8nm,0.9s,baz=104,slow=2.7,SNR=12						
BVAR	Borovoye Array	126.61	316	PKP	PKPdf	11 22 33.0	-0.4
	2.7nm,0.7s,baz=90,slow=3.0,SNR=9.5						
AKTO	Aktyubinsk	134.42	313	PKP	PKPdf	11 22 48.4	+0.2
	1.2nm,0.5s,baz=56,slow=7.3,SNR=3.8						
GEYT	Alibeck	134.49	296	PKP	PKPdf	11 22 50.4	+1.5
	1.5nm,0.6s,baz=141,slow=4.8,SNR=3.0						
KMBO	Kilima Mbogo	136.18	233	PKP	PKPdf	11 22 54.9	+1.9
	0.4nm,0.3s,baz=127,slow=18,SNR=3.6						
ARCES	ARCESS Array B	137.64	349	PKP	PKPdf	11 22 51.8	-1.9
	0.7nm,0.6s,baz=336,slow=2.7,SNR=3.9						
FINES	FINESS Array B	144.45	342	PKP	PKPab	11 23 03.7	-0.7
	9.0nm,0.7s,baz=69,slow=2.8,SNR=22						
OBN	Obninsk	145.00	327	PKP	PKPbc	11 23 06.0	-0.7
	36nm,0.3s,baz=353,slow=19,SNR=3.6						
KBZ	Khabaz	145.72	306	PKPbc	PKPdf	11 23 08.0	-0.9
	4.5nm,0.8s,baz=111,slow=2.2,SNR=6.1						
KVAR	Kislovodsk Arr	145.81	306	PKPbc	PKPab	11 23 10.2	0.0
	7.8nm,0.7s,baz=66,slow=5.1,SNR=5.7						
NB2	NORSAR Subarra	147.67	353	PKP	PKPbc	11 23 13.5	-1.0
	comp=Z,12nm,0.9s,baz=14,slow=2.7						
NOA	NORSAR Array B	147.67	353	PKPbc	PKPbc	11 23 13.8	-0.7

comp=Z,5.4nm,0.7s,baz=2.7,slow=6.2,SNR=16
AKASG Malin Array Be 151.21 326 PKPbc **PKPbc 11 23 23.1 -0.5**
comp=Z,9.8nm,0.7s,baz=46,slow=2.9,SNR=6.1
KIEV Kiev 151.22 326 *e*PKPbc **PKPbc 11 23 22.9 -0.6**
ASF Jabal al Asfar 151.50 285 **PKPbc 11 23 26.0 +1.1**
comp=Z,4.0nm,0.7s,baz=85,slow=3.2,SNR=6.4
MMAI Mount Meron Ar 152.78 286 **PKPbc 11 23 28.6 +0.9**
comp=Z,2.2nm,0.7s,baz=102,slow=7.8,SNR=5.3
EIL Elat 152.97 279 PKPbc **PKPbc 11 23 29.3 +1.1**
comp=Z,6.0nm,0.9s,baz=68,slow=11,SNR=3.6
BRTR Keskin Array B 153.38 301 PKPbc **PKPbc 11 23 27.3 -1.7**
comp=Z,1.1nm,0.6s,baz=140,slow=2.7,SNR=4.7
BRTR PKPab **PKPab 11 23 42.3 +1.0**
comp=Z,1.5nm,0.8s,baz=102,slow=3.0,SNR=5.0
UPC Upice 156.73 340 *e*PKPAB **PKPab 11 23 55.2 +0.3**
DPC Dobruska-Polom 156.77 340 *e*PKPAB **PKPab 11 23 55.3 +0.2**
CLL Collm 156.78 345 *i* PKPab **PKPab 11 23 54.2 -0.8**
comp=Z,10.0nm,0.9s
KRLC Kraliky 156.87 339 *e*PKPAB **PKPab 11 23 55.2 -0.4**
BRG Berggiesshubel 156.96 344 *e*P **PKPab 11 23 55.0 -0.8**
comp=Z,11nm,1.0s
VRAC Vranov 157.60 338 PKPab **PKPab 11 23 58.8 +0.2**
comp=Z,1.4nm,0.4s,baz=83,slow=6.8,SNR=3.1
GOPC GO Pecny, Ondr 157.61 341 *e*PKPAB **PKPab 11 23 59.2 +0.5**
PRU Pruhonice 157.61 342 *e*PKPAB **PKPab 11 23 58.4 -0.3**
NKC Novy Kostel 157.91 345 *e*PKPAB **PKPab 11 23 59.5 -0.5**
KHC Kasperske Hory 158.66 342 *e*PKPAB **PKPab 11 24 02.7 -0.6**
GERES GERESS Array B 158.88 342 PKPab **PKPab 11 24 00.9 -3.5**
comp=Z,0.4nm,0.2s,baz=93,slow=5.3,SNR=4.6
TORD Torodi Ar. Bea 164.01 172 PKP **PKPdf 11 23 35.2 +0.7**
comp=Z,1.2nm,0.8s,baz=311,slow=0.8,SNR=7.4
TORD PKPab **PKPab 11 24 29.1 +1.7**
comp=Z,5.1nm,0.7s,baz=186,slow=4.4,SNR=18
ESDC Sonseca Array 167.61 29 PKP **PKPdf 11 23 38.3 +1.5**
comp=Z,0.1nm,0.3s,baz=345,slow=3.0,SNR=4.2

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*ISCJB **22** 11:05:58.8±0.9, 11°.82N±0°.08×44°.12E±0°.07, h4km, mb3.6/6, MS3.9/1, Error ellipse: s-maj=12.8km s-min=6.7km az=143.4*
*IDC **22** 11:05:59.0±1.6, 11°.62N×43°.93E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/41, mbtmp3.7/7, ML3.5/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/48, Error ellipse: s-maj=47.4km s-min=18.3km az=167.0*
*CSEM **22** 11:05:59.5, 11°.95N×44°.26E, h4km, ML4.2*
*DHMR **22** 11:05:59.5±1.1, 11°.95N×44°.26E, h5km±9km, ML4.2*
ISC 22 11:06:00.7±1.0, 11°.92N±0°.09×44°.19E±0°.06, h4km, n18, σ2s 05/22, mb3.8/6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.15**	**42**	*i* P	**Pg**	**11 06 19.6**	**-3.2**
ADEN				*i* S	**Sg**	**11 06 35.3**	**-2.4**
ADEN				AML	AML	11 06 54.4	
	comp=E,6μm,0.5s						
ADEN	**Aden**	**1.15**	**42**	*i* P	**Pg**	**11 06 19.6**	**-3.2**
ADEN				*i* S	**Sg**	**11 06 35.3**	**-2.4**
ATD	**Arta Tunnel**	**1.37**	**254**	Pn	Pn	11 06 20.6	-6.1
	comp=E,82nm,0.3s,baz=90,slow=20,SNR=24						
ATD				Sn	**Sg**	**11 06 41.9**	**-3.0**
	comp=E,164nm,0.3s,baz=124,slow=20,SNR=22						
UDYN	**Al 'Udayn**	**2.05**	**354**	*i* P	**Pn**	**11 06 35.8**	**-0.3**
UDYN				*i* S	**Sn**	**11 07 03.2**	**+0.9**
UDYN	**Al 'Udayn**	**2.05**	**354**	*i* P	**Pn**	**11 06 35.8**	**-0.3**
UDYN				*i* S	**Sn**	**11 07 03.2**	**+0.9**
BDHA	**Al Bayda'**	**2.45**	**33**	*i* P	**Pn**	**11 06 40.6**	**-1.0**
BDHA				*i* S	**Sn**	**11 07 14.3**	**+2.2**
BDHA	**Al Bayda'**	**2.45**	**33**	*i* P	**Pn**	**11 06 40.6**	**-1.0**
BDHA				*i* S	**Sn**	**11 07 14.3**	**+2.2**
HAJJ	**Hajjah**	**3.81**	**351**	*i* P	**Pn**	**11 07 01.4**	**+1.1**
HAJJ	**Hajjah**	**3.81**	**351**	*i* P	**Pn**	**11 07 01.4**	**+1.1**
KMBO	**Kilima Mbogo**	**14.68**	**208**	LR	LR	11 15 00.8	
	comp=E,158nm,18.1s,baz=86,slow=38						
WSAR	**Wadi Sarin**	**17.77**	**49**	P	**P**	**11 10 11.6**	**+1.7**
	comp=E,0.1nm,0.3s,baz=297,slow=16,SNR=2.5						
BRTR	**Keskin Array B**	**29.23**	**343**	P	**P**	**11 12 06.3**	**+2.5**
	comp=E,0.8nm,0.6s,baz=165,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**41.47**	**276**	P	**P**	**11 13 47.4**	**-1.7**
	comp=E,0.4nm,0.9s,baz=81,slow=8.9,SNR=2.3						
GERES	**GERESS Array B**	**44.67**	**332**	P	**P**	**11 14 13.1**	**-1.6**
	comp=E,0.2nm,0.3s,baz=161,slow=13,SNR=4.2						
BVAR	**Borovoye Array**	**46.05**	**22**	LR	LR	11 36 42.5	
	comp=E,146nm,21.6s,baz=255,slow=40						
MKAR	**Makanchi Array**	**47.29**	**35**	P	**P**	**11 14 36.4**	**+1.0**
	comp=E,0.2nm,0.2s,baz=251,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**53.08**	**76**	P	**P**	**11 15 20.9**	**+1.2**
	comp=E,0.9nm,0.3s,baz=276,slow=8.0,SNR=9.7						
SONM	**Songino Array**	**62.67**	**42**	P	**P**	**11 16 29.1**	**+2.3**
	comp=E,0.5nm,0.6s,baz=270,slow=7.2,SNR=2.3						

DHMR 22 11:25:35.8±0.7, 11°.98N×44°.11E, h13km±7km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.17**	**47**	*i* P	Pn	11 25 57.1	-0.7
ADEN				*i* S	Sn	11 26 13.8	+0.1
ADEN				AML	AML	11 26 30.6	
	comp=E,2μm,0.4s						
UDYN	**Al 'Udayn**	**1.98**	**356**	*i* P	Pb	11 26 10.8	-1.0
UDYN				*i* S	Sb	11 26 37.3	+0.7
BDHA	**Al Bayda'**	**2.44**	**35**	*i* P	Pn	11 26 17.6	+1.9
BDHA				*i* S	Sb	11 26 51.0	+1.1

IDC 22 11:36:16.1±9.3, 55°.57N×85°.20E, h0km, Error ellipse: s-maj=52.7km s-min=35.0km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**188**	*i*		11 47 05.0	
	baz=7.3,slow=326,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.64**	**188**	Pg	Pn	11 36 46.0	-0.1
	0.6nm,0.3s,baz=3.0,slow=9.9,SNR=4.6						
ZALV				Lg	Lg	11 37 08.0	
	1.1nm,0.3s,baz=6.0,slow=31,SNR=7.0						

JMA 22 11:50:15.4±0.1, 36°.52N×137°.68E, h1km±1km, M0.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.36**	**108**	P	Pg	11 50 22.8	+0.6
MAT	**Matsushiro**	**0.42**	**87**	P	Pg	11 50 23.8	+0.3

JMA 22 11:50:21.4±0.1, 36°.52N×137°.68E, h2km±1km, M1.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.29**	**287**	P	Pg	11 50 27.7	+0.7
JTT				S	Sg	11 50 32.4	+1.6
JNG	**Nsakai**	**0.36**	**108**	P	Pg	11 50 28.8	+0.5
JNG				S	Sg	11 50 33.9	+1.0
JGN	**Niukaw**	**0.42**	**225**	P	Pg	11 50 29.4	0.0
JGN				S	Sg	11 50 35.3	+0.5
MAT	**Matsushiro**	**0.42**	**87**	P	Pg	11 50 29.7	+0.1
MAT				S	Sg	11 50 35.6	+0.5
MAT	**Matsushiro**	**0.42**	**87**	S	Pg	11 50 29.7	+0.1

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*ISCJB **22** 11:52:20.8±0.7, 36°.97N±0°.04×140°.78E±0°.06, h15km±7km, mb3.7/2, Error ellipse: s-maj=7.8km s-min=5.6km az=25.1*
*IDC **22** 11:52:20.9±1.7, 36°.92N×140°.67E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/42, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=23.6km s-min=18.4km az=0.0*
*JMA **22** 11:52:21.6, 37°.00N×140°.66E, h6km±1km, M3.2*
JMA Felt I J1.
ISC 22 11:52:21.2±1.0, 36°.97N±0°.04×140°.70E±0°.04, h10km±9km, n20, σ0s 84/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.15**	**33**	P	**Pg**	**11 52 24.7**	**+0.1**
ONAJ				S	**Sg**	**11 52 27.2**	**+0.3**
JHO	**Hitachi**	**0.38**	**196**	P	**Pb**	**11 52 29.2**	**-0.8**
JFK	**Kawauchi**	**0.42**	**20**	P	**Pg**	**11 52 29.3**	**-0.1**
JFK				S	**Sg**	**11 52 35.0**	**+0.1**
JFT	**Otama**	**0.61**	**332**	P	**Pg**	**11 52 33.0**	**-0.1**
JFT				S	**Sg**	**11 52 40.9**	**-0.3**
JSB	**Shiboa**	**0.62**	**270**	P	**Pb**	**11 52 34.0**	**-0.2**
JSB				S	**Sb**	**11 52 42.5**	**-0.5**
JYT	**Yasato**	**0.85**	**209**	P	**Pg**	**11 52 37.6**	**+0.1**
JMM	**Marumori**	**0.89**	**5**	P	**Pg**	**11 52 37.7**	**-0.7**
JMM				S	**Sg**	**11 52 49.4**	**-0.7**
JFY	**Yanaizu**	**0.90**	**299**	P	**Pg**	**11 52 38.3**	**-0.3**
JFY				S	**Sg**	**11 52 49.6**	**-0.7**
MJAR	**Matsushiro Arr**	**2.04**	**259**	Pn	**Pn**	**11 52 57.0**	**+1.2**
	5.8nm,0.3s,baz=77,slow=16,SNR=24						
MJAR				Lg	Lg	11 53 23.2	
	7.9nm,0.3s,baz=80,slow=31,SNR=18						
MAT	**Matsushiro**	**2.04**	**259**	P	**Pn**	**11 52 57.3**	**+1.6**
MAT				S	**Sb**	**11 53 24.3**	**+0.3**
JHJ	**Hachijo jima 2**	**3.92**	**191**	Pn	**Pn**	**11 53 22.1**	**+0.6**
	1.1nm,0.3s,baz=73,slow=19,SNR=2.0						
JHJ				Sn	**Sn**	**11 54 05.7**	**-1.9**
	4.5nm,0.3s,baz=72,slow=19,SNR=1.8						
ASAJ	**Asahikawa**	**7.28**	**11**	Pn	**Pn**	**11 54 08.3**	**+0.7**
	0.4nm,0.3s,baz=214,slow=8.5,SNR=6.3						
H11N2	**WAKE ISLAND Hy 28.61**	**120**		T	T	12 28 05.4	
	baz=312,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy 28.62**	**120**		T	T	12 28 04.8	
	baz=312,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy 28.63**	**120**		T	T	12 28 06.0	
	baz=312,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy 29.31**	**122**		T	T	12 28 57.1	
	baz=314,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy 29.31**	**122**		T	T	12 28 58.5	
	baz=314,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy 29.33**	**122**		T	T	12 28 59.2	
	baz=314,slow=75,SNR=17						
WRA	**Warramunga Arr**	**56.93**	**187**	P	**P**	**12 02 06.8**	**+0.2**
	0.9nm,0.8s,baz=2.2,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**60.65**	**187**	P	**P**	**12 02 33.7**	**+1.2**
	0.4nm,0.9s,baz=17,slow=9.9,SNR=4.1						

IDC 22 12:13:19.6±9.7, 18°.31S×178°.57W, h518km±108km, mb3.1/4, mb1 3.3/4, mb1mx2.8/40, mbtmp4.0/4, Error ellipse: s-maj=106.7km s-min=40.8km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.30**	**242**	P	P	12 19 55.8	+0.1
	1.1nm,0.3s,baz=74,slow=5.6,SNR=13						
WRA	**Warramunga Arr**	**44.41**	**260**	P	P	12 20 43.8	-0.5
	0.4nm,0.4s,baz=98,slow=6.4,SNR=13						
ASAR	**Alice Springs**	**44.53**	**255**	P	P	12 20 45.2	-0.1
	2.9nm,0.4s,baz=89,slow=9.1,SNR=112						
ASAR				PcP	PcP	12 22 17.3	-0.1
	0.4nm,0.7s,baz=98,slow=3.7,SNR=3.8						
TXAR	**Lajitas Array**	**86.34**	**58**	P	P	12 25 06.9	-0.1
	0.3nm,0.6s,baz=214,slow=6.2,SNR=5.5						

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*IDC **22** 12:20:17.0±2.2, 39°.08N×142°.35E, h0km, mb3.5/3, mb1 3.4/5, mb1mx3.3/44, mbtmp3.3/5, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/33, Error ellipse: s-maj=54.6km s-min=26.9km az=87.0*
*ISCJB **22** 12:20:24.1±1.0, 38°.92N±0°.05×142°.0E±0°.1, h61km±6km, mb3.5/3, Error ellipse: s-maj=15.8km s-min=7.1km az=12.7*
*JMA **22** 12:20:25.8±0.1, 38°.92N×141°.93E, h52km±1km, M3.5*
JMA Felt I J1.
ISC 22 12:20:23.5±1.6, 38°.93N±0°.05×142°.2E±0°.1, h49km±13km, n21, σ1s 39/22, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**292**	P	**Pn**	**12 20 34.9**	**+1.2**
OFUJ				S	**Sn**	**12 20 41.1**	**+0.1**
JMK	**Ichinoseki**	**0.74**	**272**	P	**Pn**	**12 20 37.9**	**+0.2**
JMK				S	**Sn**	**12 20 46.4**	**-1.6**
JIO	**Ouri**	**0.80**	**234**	P	**Pn**	**12 20 38.8**	**+0.4**
JIO				S	**Sn**	**12 20 47.6**	**-1.7**
JOM	**Ohasama**	**0.87**	**309**	P	**Pn**	**12 20 40.4**	**+0.9**
JOM				S	**Sn**	**12 20 50.9**	**-0.2**
JRG	**Rokugo**	**1.28**	**292**	P	**Pn**	**12 20 45.2**	**+0.2**
JRG				*e*S	**Sn**	**12 20 59.6**	**-1.4**
JOU	**Okura**	**1.30**	**245**	P	**Pn**	**12 20 45.3**	**0.0**
JOU				*e*S	**Sn**	**12 20 59.9**	**-1.7**
JYK	**Kaneyama**	**1.41**	**270**	P	**Pn**	**12 20 46.8**	**+0.1**
JMM	**Marumori**	**1.51**	**226**	P	**Pn**	**12 20 48.4**	**+0.3**
JMM				*e*S	**Sn**	**12 21 05.0**	**-1.6**
JANG	**Nango**	**1.53**	**341**	P	**Pn**	**12 20 50.0**	**+1.6**
MJAR	**Matsushiro Arr**	**3.94**	**234**	Pn	**Pn**	**12 21 23.0**	**+1.6**
	0.9nm,0.3s,baz=41,slow=12,SNR=7.5						
ASAJ	**Asahikawa**	**5.20**	**3**	Pn	**Pn**	**12 21 35.5**	**-3.1**
	baz=207,slow=6.8						
ASAJ				Sn	**Sn**	**12 22 38.1**	**+0.9**
	0.1nm,0.3s,baz=169,slow=5.2,SNR=1.9						
H11N2	**WAKE ISLAND Hy 28.67**	**125**		T	T	12 56 46.6	
	baz=317,slow=76,SNR=79						
H11N1	**WAKE ISLAND Hy 28.68**	**125**		T	T	12 56 48.5	
	baz=317,slow=76,SNR=73						
H11N3	**WAKE ISLAND Hy 28.69**	**125**		T	T	12 56 52.4	
	baz=317,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy 29.45**	**127**		T	T	12 57 42.3	
	baz=319,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy 29.45**	**127**		T	T	12 57 47.1	
	baz=319,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy 29.47**	**127**		T	T	12 57 42.7	
	baz=319,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**12 28 01.1**	**-1.2**
	0.4nm,0.4s,baz=78,slow=6.6,SNR=3.2						
NRIK	**Noril'sk**	**41.81**	**334**	LR	LR	12 47 32.7	
	comp=Z,50nm,19.9s,baz=128,slow=39						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**12 28 24.0**	**+0.9**
	1.2nm,0.9s,baz=92,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**59.02**	**189**	P	**P**	**12 30 19.5**	**+1.2**
	0.2nm,0.4s,baz=5.6,slow=7.0,SNR=4.8						

MAN 22 12:21:45, 12°.53N×120°.90E, h9km, mb3.8, ML2.5, MS2.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.23**	**109**	*e*P	Pg	12 21 51.3	+1.7
SJMP				*e*S	Sg	12 21 55.7	+3.0
BUSP	**Coron**	**0.86**	**232**	*e*P	Pn	12 22 03.0	-0.3
BUSP				*e*S	Sn	12 22 16.0	-0.1
PGP	**Puerto Galera**	**0.96**	**3**	⇓*i*P	Pg	12 22 03.5	-0.1
PGP				*i* S	Sg	12 22 15.9	-0.2
OTRP	**Odiongan**	**1.11**	**99**	*e*P	Pn	12 22 07.0	+0.2
OTRP				*e*S	Sn	12 22 23.1	+0.9
BOAC	**Boac**	**1.30**	**45**	*e*P	Pn	12 22 09.3	-0.1
BOAC				*e*S	Sg	12 22 27.4	+0.5
LUBP	**Lubang**	**1.35**	**332**	*e*P	Pg	12 22 10.8	-0.2
LUBP				*e*S	Sb	12 22 25.4	-2.5
ENPP	**El Nido**	**1.96**	**228**	*e*P	Pb	12 22 21.2	+0.4
ENPP				*e*S	Sn	12 22 42.2	-0.8

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*ISCJB **22** 12:27:29.8±1.0, 12°.57N±0°.03×120°.88E±0°.03, h7km±7km, mb3.5/3, MS3.0/1, Error ellipse: s-maj=6.1km s-min=4.7km az=36.6*
*IDC **22** 12:27:29.8±1.4, 12°.69N×121°.42E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=56.0km s-min=17.3km az=65.0*
*MAN **22** 12:27:29, 12°.53N×120°.91E, h2km, mb4.5, ML3.4, MS3.3*
ISC 22 12:27:30.1±1.2, 12°.58N±0°.03×120°.91E±0°.03, h8km±10km, n16, σ1s 58/24, mb3.5/3, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.24**	**118**	*e*P	**Pg**	**12 27 35.1**	**+0.2**
SJMP				*e*S	**Sg**	**12 27 39.5**	**+1.5**
BUSP	**Coron**	**0.89**	**231**	*e*P	**Pg**	**12 27 46.8**	**-0.5**
BUSP				*e*S	**Sb**	**12 27 59.5**	**-0.5**
PGP	**Puerto Galera**	**0.92**	**3**	⇓*e*P	**Pg**	**12 27 47.2**	**-0.6**
PGP				*e*S	**Sb**	**12 28 00.1**	**-0.8**
OTRP	**Odiongan**	**1.11**	**101**	*e*P	**Pb**	**12 27 49.7**	**-1.9**
OTRP				*e*S	**Sg**	**12 28 06.7**	**+0.9**
BOAC	**Boac**	**1.27**	**46**	*e*P	**Pn**	**12 27 52.6**	**-1.6**
BOAC				*e*S	**Sb**	**12 28 10.6**	**-0.2**
LUBP	**Lubang**	**1.32**	**331**	*e*P	**Pg**	**12 27 54.8**	**-0.6**
LUBP				*e*S	**Sb**	**12 28 11.0**	**-1.2**
TGY	**Tagaytay City**	**1.52**	**1**	Pn	**Pb**	**12 27 58.4**	**-0.2**
	244nm,0.3s,baz=192,slow=3.5,SNR=24						
TGY				Sn	**Sb**	**12 28 17.2**	**-0.8**
	103nm,0.3s,baz=121,slow=18,SNR=6.3						
TGY	**Tagaytay City**	**1.52**	**1**	*e*P	**Pb**	**12 27 58.1**	**-0.5**
LQP	**Lukban**	**1.65**	**22**	⇑*e*P	**Pb**	**12 28 00.7**	**-0.2**
ENPP	**El Nido**	**1.99**	**227**	*e*P	**Pn**	**12 28 02.7**	**-1.3**
ENPP				*e*S	**Sb**	**12 28 29.9**	**-1.5**
GQP	**Guinayangan**	**2.00**	**48**	⇑*e*P	**Pb**	**12 28 05.4**	**-1.3**
GQP				*i* S	**Sb**	**12 28 31.9**	**+0.1**
RCP	**Roxas**	**2.06**	**119**	⇑*e*P	**Pg**	**12 28 09.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.95**	**288**	P	**P**	**12 32 29.9**	**+5.5**
	0.4nm,0.4s,baz=92,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**34.91**	**158**	P	**P**	**12 34 22.1**	**-0.4**
	0.8nm,0.7s,baz=336,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**37.19**	**344**	LR	LR	12 52 45.7	
	comp=Z,23nm,18.7s,baz=36,slow=41						
ASAR	**Alice Springs**	**38.20**	**161**	P	**P**	**12 34 51.1**	**+0.6**
	0.5nm,0.5s,baz=342,slow=7.0,SNR=18						

IDC 22 12:51:44.5±1.5, 13°.86N×51°.33E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/41, mbtmp3.7/6, MS3.0/4, Ms1 3.0/4, ms1mx2.6/30, Error ellipse: s-maj=44.9km s-min=30.5km az=167.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.60**	**255**	LR	LR	12 56 36.0	
	comp=Z,96nm,18.6s,baz=107,slow=34						
GNI	**Garni**	**26.82**	**349**	LR	LR	13 09 34.6	
	comp=Z,24nm,20.4s,baz=95,slow=40						
PALK	**Pallekele**	**29.59**	**100**	LR	LR	13 06 24.6	
	comp=Z,30nm,20.8s,baz=115,slow=30						
MKAR	**Makanchi Array**	**41.82**	**32**	P	P	12 59 34.0	-2.1
	0.4nm,0.6s,baz=224,slow=8.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**45.86**	**78**	P	P	13 00 08.5	-0.5
	1.0nm,0.7s,baz=278,slow=9.6,SNR=9.9						
ZALV	**Zalesovo Beam**	**47.87**	**26**	P	P	13 00 24.5	+0.4
	0.8nm,0.6s,baz=242,slow=9.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**48.20**	**275**	P	P	13 00 27.1	-0.2
	0.4nm,0.4s,baz=81,slow=7.4,SNR=3.8						
BOSA	**Boshof**	**49.19**	**211**	LR	LR	13 20 55.4	
	comp=Z,16nm,18.4s,baz=230,slow=36						
SONM	**Songino Array**	**56.59**	**41**	P	P	13 01 31.2	+1.9
	0.4nm,0.5s,baz=255,slow=5.8,SNR=3.7						
WRA	**Warramunga Arr**	**88.25**	**111**	P	P	13 04 38.4	0.0
	0.6nm,0.9s,baz=297,slow=3.7,SNR=3.6						

IDC 22 13:00:02.4±11.0, 17°.92S×177°.72W, h582km±119km, mb2.8/4, mb1 3.1/4, mb1mx2.8/23, mbtmp3.8/4, Error ellipse: s-maj=122.5km s-min=44.0km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.20**	**241**	P	P	13 06 41.4	-0.2
	1.1nm,0.8s,baz=55,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**45.28**	**259**	P	P	13 07 29.1	-0.3
	0.6nm,0.4s,baz=95,slow=7.1,SNR=26						
ASAR	**Alice Springs**	**45.42**	**254**	P	P	13 07 30.4	0.0
	1.1nm,0.5s,baz=90,slow=8.3,SNR=61						
ASAR				PcP	PcP	13 08 56.8	-0.3
	0.1nm,0.4s,baz=98,slow=4.1,SNR=4.2						
ILAR	**Eielson Array**	**85.75**	**13**	P	P	13 11 40.1	-0.1
	0.5nm,1.1s,baz=222,slow=4.9,SNR=3.6						

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*JMA **22** 13:18:17.4±0.3, 24°.12N×122°.29E, h9km, M2.1*
*TAP **22** 13:18:18.4, 24°.14N×122°.23E, h21km±1km, ML2.7, D*
ISC 22 13:18:15.6±1.2, 24°.06N±0°.03×122°.24E±0°.02, h6km±10km, n24, σ0s 91/43, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.59**	**309**	*e*P	**Pn**	**13 18 29.9**	**-0.5**
	baz=311						
ENA				*e*S	**Sb**	**13 18 37.1**	**+0.3**
	baz=311						
TWC	**Suao**	**0.66**	**327**	⇑P	**Pb**	**13 18 29.5**	**+0.1**
	baz=324						
TWC				*e*S	**Sg**	**13 18 37.4**	**+0.7**
	baz=324						
JYNG	**Yonagunijimaku**	**0.75**	**58**	P	**Pg**	**13 18 30.0**	**0.0**
JYNG				*e*S	**Sg**	**13 18 40.1**	**+0.4**
ESL	**Shilin**	**0.78**	**252**	*e*P	**Pn**	**13 18 33.2**	**+0.1**
	baz=234						
ESL				*e*S	**Sn**	**13 18 44.1**	**-1.1**
	baz=234						
YOJ	**Yonaguni jima**	**0.81**	**60**	P	**Pb**	**13 18 32.3**	**+0.3**
YOJ				*e*S	**Sg**	**13 18 42.7**	**+1.2**
TWE	**Neicheng**	**0.84**	**321**	*e*P	**Pn**	**13 18 33.5**	**-0.5**
	baz=323						
TWE				*e*S	**Sb**	**13 18 44.0**	**-0.2**
	baz=323						
ENTT	**Nioudou**	**0.85**	**313**	P	**Pn**	**13 18 33.8**	**-0.3**
	baz=317						
ENTT				*e*S	**Sb**	**13 18 44.4**	**+0.1**
	baz=317						
NNS	**Nan Shan**	**0.88**	**296**	*e*P	**Pn**	**13 18 35.7**	**+1.1**
	baz=291						
NNS				*e*S	**Sn**	**13 18 48.1**	**+0.3**
	baz=291						
WHF	**Hehuan Shan**	**0.90**	**276**	*e*P	**Pn**	**13 18 35.7**	**+0.6**
	baz=258						
WHF				*e*S	**Sn**	**13 18 49.0**	**+0.3**
	baz=258						
TWB1	**Santiao Chiao**	**0.97**	**346**	*e*P	**Pb**	**13 18 35.1**	**+0.3**
	baz=346						
TWB1				*e*S	**Sb**	**13 18 48.4**	**+0.5**
	baz=346						
EHY	**Hungye**	**1.01**	**237**	*e*S	**Sn**	**13 18 52.8**	**+2.0**
	baz=224						
NSK	**Sanguang**	**1.01**	**307**	*e*P	**Pn**	**13 18 36.9**	**+0.4**
	baz=304						
NSK				*e*S	**Sn**	**13 18 50

intensity MM 5.

ISC 22 13:19:41.4±0.7,37.37S±0.05×177.79E±0.04,h64km±5km, n161,σ1§16/145,mb4.6/14,27C-39D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.39**	**181**	⇓*e*P*	**Pn**	**13 19 52.0**	**-0.6**
HAZ				S*	**Sn**	**13 20 00.5**	**-0.3**
HAZ				AML	AML	13 20 00.9	
HAZ				AML	AML	13 20 01.2	
HAZ				AML	AML	13 20 01.3	
MXZ	**Matakaoa Point**	**0.46**	**115**	P*	**Pn**	**13 19 52.3**	**-0.9**
MXZ				S*	**Sn**	**13 20 01.9**	**0.0**
MXZ				AML	AML	13 20 04.8	
WIZ	**White Island**	**0.50**	**251**	P*	**Pn**	**13 19 53.1**	**-0.5**
WIZ				S*	**Sn**	**13 20 02.3**	**-0.3**
PKGZ	**Pakihiroa**	**0.57**	**156**	⇑PN	**Pn**	**13 19 54.3**	**-0.1**
PKGZ				SN	**Sn**	**13 20 05.5**	**+1.4**
PKGZ				AML	AML	13 20 09.2	
RUGZ	**Raukumara Rang**	**0.60**	**188**	⇑P*	**Pn**	**13 19 54.4**	**-0.5**
RUGZ				S*	**Sn**	**13 20 04.0**	**-0.8**
WMGZ	**Waiomatatini S**	**0.67**	**132**	⇓PN	**Pn**	**13 19 56.8**	**+1.3**
WMGZ				AML	AML	13 20 09.9	
WMGZ				AML	AML	13 20 10.3	
PUZ	**Puketiti**	**0.80**	**152**	⇑PN	**Pn**	**13 19 57.9**	**+0.9**
PUZ				*e*SN	**Sn**	**13 20 10.9**	**+2.3**
PUZ				AML	AML	13 20 13.3	
WHRZ	**Whale Island**	**0.81**	**233**	⇓P*	**Pn**	**13 19 57.4**	**+0.2**
WHRZ				S*	**Sn**	**13 20 08.8**	**0.0**
TWGZ	**Tauwhareparae**	**0.82**	**169**	PN	**Pn**	**13 19 58.5**	**+1.1**
TWGZ				AML	AML	13 20 15.0	
TWGZ				AML	AML	13 20 15.2	
MWZ	**Matawai**	**0.99**	**192**	⇑P*	**Pn**	**13 19 59.6**	**+0.1**
MWZ				S*	**Sn**	**13 20 12.8**	**0.0**
MWZ				AML	AML	13 20 13.3	
URZ	**Urewera**	**1.04**	**211**	P	**Pn**	**13 20 00.2**	**+0.1**
973nm,0.3s,baz=274,slow=5.2,SNR=4043							
URZ				S	**Sn**	**13 20 14.3**	**+0.4**
baz=329,slow=19							
URZ				LR	LR	13 20 41.9	
comp=Z,534nm,19.9s,baz=38,slow=55							
URZ	**Urewera**	**1.04**	**211**	P*	**Pn**	**13 20 00.2**	**+0.1**
URZ				S*	**Sn**	**13 20 14.1**	**+0.2**
URZ				AML	AML	13 20 14.5	
TKGZ	**Te Karaka**	**1.07**	**177**	⇓PN	**Pn**	**13 20 01.9**	**+1.5**
TKGZ				AML	AML	13 20 23.4	
TKGZ				AML	AML	13 20 24.8	
MARZ	**Manawahe**	**1.08**	**235**	⇓P*	**Pn**	**13 20 00.7**	**+0.1**
MARZ				S*	**Sn**	**13 20 15.4**	**+0.5**
OPRZ	**Ohinepanea**	**1.09**	**244**	P*	**Pn**	**13 20 00.6**	**0.0**
OPRZ				S*	**Sn**	**13 20 15.3**	**+0.2**
EDRZ	**Edgecumbe**	**1.11**	**228**	⇓P*	**Pn**	**13 20 01.4**	**+0.3**
CNGZ	**Carnagh Statio**	**1.16**	**164**	⇓PN	**Pn**	**13 20 02.8**	**+1.1**
CNGZ				AML	AML	13 20 22.9	
CNGZ				AML	AML	13 20 23.1	
RAGZ	**Rawiri**	**1.16**	**195**	⇑P*	**Pn**	**13 20 02.5**	**+0.7**
RAGZ				AML	AML	13 20 19.4	
RAGZ				AML	AML	13 20 28.9	
TGRZ	**Tauranga**	**1.27**	**253**	⇓P*	**Pn**	**13 20 03.2**	**+0.1**
LIRZ	**Lichensteins R**	**1.28**	**240**	⇓P*	**Pn**	**13 20 03.8**	**+0.6**
MKRZ	**Makatiti**	**1.30**	**233**	⇓P*	**Pn**	**13 20 04.4**	**+0.9**
TARZ	**Mount Tarawera**	**1.33**	**229**	P*	**Pn**	**13 20 04.6**	**+0.6**
RIGZ	**Rimuhau**	**1.34**	**181**	⇓PN	**Pn**	**13 20 05.1**	**+1.1**
RIGZ				AML	AML	13 20 33.7	
RIGZ				AML	AML	13 20 36.0	
OMRZ	**Omania**	**1.34**	**236**	⇓P*	**Pn**	**13 20 04.7**	**+0.6**
MUGZ	**Murupara**	**1.37**	**216**	⇑P*	**Pn**	**13 20 04.6**	**+0.2**
KARZ	**Kaharoa**	**1.39**	**242**	⇓P*	**Pn**	**13 20 05.2**	**+0.5**
RRRZ	**Republican Roa**	**1.40**	**226**	⇓P*	**Pn**	**13 20 05.4**	**+0.6**
RTZ	**Ruatahuna**	**1.40**	**207**	P*	**Pn**	**13 20 05.4**	**+0.1**
HLRZ	**Highlands Stat**	**1.44**	**232**	⇓P*	**Pn**	**13 20 06.2**	**+0.8**
SNGZ	**Shannon Statio**	**1.46**	**194**	⇑PN	**Pn**	**13 20 07.1**	**+1.6**
SNGZ				AML	AML	13 20 28.8	
SNGZ				AML	AML	13 20 38.5	
UTU	**Utuhina**	**1.50**	**237**	⇓P*	**Pn**	**13 20 07.2**	**+1.1**
KMRZ	**Kaimai**	**1.54**	**251**	⇓P*	**Pn**	**13 20 06.9**	**+0.2**
HSRZ	**Hossack Road**	**1.54**	**232**	⇓P*	**Pn**	**13 20 07.8**	**+1.0**
PRGZ	**Paritu Road**	**1.55**	**177**	PN	**Pn**	**13 20 07.2**	**+0.2**
PRGZ				AML	AML	13 20 30.8	
PRGZ				AML	AML	13 20 33.2	
HRRZ	**Handcock Road**	**1.57**	**229**	⇓P*	**Pn**	**13 20 07.8**	**+0.8**
PRRZ	**Plateau Road**	**1.58**	**224**	⇓P*	**Pn**	**13 20 07.9**	**+0.7**
ALRZ	**Allen Road**	**1.65**	**223**	P*	**Pn**	**13 20 08.8**	**+0.7**
GRRZ	**Galatos Road**	**1.65**	**233**	⇓P*	**Pn**	**13 20 09.3**	**+1.1**
KNZ	**Kokohu**	**1.65**	**183**	⇓PN	**Pn**	**13 20 08.5**	**+0.3**
KNZ				AML	AML	13 20 50.7	
KNZ				AML	AML	13 20 51.5	
WPRZ	**Whakapapatarin**	**1.72**	**228**	⇓P*	**Pn**	**13 20 10.7**	**+1.0**
WHHZ	**Waihua**	**1.76**	**194**	⇑PN	**Pn**	**13 20 10.8**	**+1.2**
WHHZ				AML	AML	13 20 44.6	
WHHZ				AML	AML	13 20 49.7	
KUZ	**Kuaotunu**	**1.77**	**290**	⇑*e*PN	**Pn**	**13 20 09.3**	**-0.4**
MHGZ	**Mahia Peninsul**	**1.78**	**177**	⇓PN	**Pn**	**13 20 10.3**	**+0.3**
MHGZ				AML	AML	13 20 38.1	
MHGZ				AML	AML	13 20 45.4	
MRHZ	**Matea Rd**	**1.82**	**216**	⇑P*	**Pn**	**13 20 11.0**	**+0.5**
MRHZ				AML	AML	13 20 37.9	
MRHZ				AML	AML	13 20 39.2	
TOZ	**Tahuroa Road**	**1.85**	**258**	P*	**Pn**	**13 20 11.1**	**+0.3**
NMHZ	**Naumai**	**1.89**	**204**	PN	**Pn**	**13 20 12.7**	**+1.2**
NMHZ				AML	AML	13 20 48.1	
NMHZ				AML	AML	13 20 52.4	
KUTZ	**Kaahu Road**	**1.91**	**234**	⇓P*	**Pn**	**13 20 12.8**	**+1.1**
WHTZ	**Whakaora**	**1.94**	**228**	P*	**Pn**	**13 20 13.6**	**+1.5**
ARHZ	**Aropaoanui**	**1.99**	**198**	⇑PN	**Pn**	**13 20 13.8**	**+1.1**
ARHZ				AML	AML	13 20 51.4	
ARHZ				AML	AML	13 20 54.3	
TLZ	**Tolley Road**	**2.02**	**241**	P*	**Pn**	**13 20 13.8**	**+0.6**
BKZ	**Black Stump Fm**	**2.06**	**209**	⇑P*	**Pn**	**13 20 14.2**	**+0.4**
BKZ				AML	AML	13 20 49.8	
BKZ				AML	AML	13 20 50.9	
WATZ	**Wairara**	**2.10**	**230**	⇓P*	**Pn**	**13 20 15.3**	**+1.0**
MKAZ	**Moumakai**	**2.11**	**276**	PN	**Pn**	**13 20 14.8**	**+0.4**
GRZ	**Great Barrier**	**2.18**	**300**	⇑PN	**Pn**	**13 20 15.1**	**-0.2**
RATZ	**Rangitukua**	**2.18**	**226**	P*	**Pn**	**13 20 16.7**	**+1.3**
WIAZ	**Waiheke Island**	**2.20**	**284**	⇓PN	**Pn**	**13 20 15.9**	**+0.3**
RITZ	**Rihia Road**	**2.21**	**223**	P*	**Pn**	**13 20 17.2**	**+1.4**
MCHZ	**McNeill Hill**	**2.24**	**202**	PN	**Pn**	**13 20 17.1**	**+0.9**
MCHZ				AML	AML	13 21 00.5	
MCHZ				AML	AML	13 21 04.8	
KATZ	**Kakaramea**	**2.30**	**225**	P*	**Pn**	**13 20 18.3**	**+1.2**
KWHZ	**Kaweka Forest**	**2.32**	**207**	⇑P*	**Pn**	**13 20 18.0**	**+0.8**
KWHZ				AML	AML	13 20 57.4	
KWHZ				AML	AML	13 20 57.5	
ETAZ	**East Tamaki Re**	**2.32**	**279**	⇓PN	**Pn**	**13 20 17.9**	**+0.7**
KBAZ	**Karaka Road Bo**	**2.33**	**276**	⇑PN	**Pn**	**13 20 18.3**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.35**	**193**	PN	**Pn**	**13 20 17.5**	**-0.1**
CKHZ				AML	AML	13 20 48.2	
CKHZ				AML	AML	13 20 48.3	
MTAZ	**Motutapu**	**2.38**	**283**	⇓PN	**Pn**	**13 20 18.6**	**+0.7**
KRVZ	**Karewarewa**	**2.41**	**224**	⇑P*	**Pn**	**13 20 20.2**	**+1.6**
OTVZ	**Oturere**	**2.45**	**222**	⇓P*	**Pn**	**13 20 20.4**	**+1.2**
WTVZ	**West Tongariro**	**2.46**	**224**	⇑P*	**Pn**	**13 20 20.7**	**+1.5**
EPAZ	**Eden Park BICE**	**2.48**	**281**	⇓PN	**Pn**	**13 20 20.6**	**+1.2**
ABAZ	**Army Bay**	**2.49**	**287**	⇓PN	**Pn**	**13 20 20.2**	**+0.7**
NGZ	**Ngauruhoe**	**2.49**	**223**	⇓P*	**Pn**	**13 20 21.0**	**+1.3**
HBAZ	**Herne Bay Bore**	**2.50**	**281**	⇓PN	**Pn**	**13 20 20.7**	**+1.1**
TWVZ	**Taurewa**	**2.51**	**227**	⇓P*	**Pn**	**13 20 21.3**	**+1.3**
BHHZ	**Black Hill Sta**	**2.51**	**212**	P*	**Pn**	**13 20 20.6**	**+0.7**
BHHZ				AML	AML	13 21 01.3	
BHHZ				AML	AML	13 21 05.4	
KAHZ	**Kahuranaki**	**2.52**	**196**	⇑PN	**Pn**	**13 20 20.0**	**-0.1**
KAHZ				AML	AML	13 20 53.1	
KAHZ				AML	AML	13 20 54.1	
AWAZ	**Awhitu Peninsu**	**2.53**	**276**	⇓PN	**Pn**	**13 20 20.8**	**+0.8**
KRHZ	**Kereru**	**2.53**	**206**	PN	**Pn**	**13 20 20.1**	**0.0**
KRHZ				AML	AML	13 20 53.1	
KRHZ				AML	AML	13 20 53.3	
TUVZ	**Tukino**	**2.53**	**221**	P*	**Pn**	**13 20 21.3**	**+1.1**
FWVZ	**Far West T-bar**	**2.58**	**222**	P*	**Pn**	**13 20 22.1**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.58**	**221**	⇑P*	**Pn**	**13 20 22.0**	**+1.1**
HIZ	**Hauiti**	**2.58**	**243**	PN	**Pn**	**13 20 23.4**	**+2.6**
DRZ	**Dome Shelter**	**2.58**	**222**	P*	**Pn**	**13 20 22.7**	**+1.5**
MOVZ	**Moawhango**	**2.59**	**218**	⇓P*	**Pn**	**13 20 21.6**	**+0.6**
WTAZ	**Waiatarua**	**2.60**	**279**	PN	**Pn**	**13 20 22.0**	**+0.9**
WNVZ	**Wahianoa**	**2.60**	**221**	⇓P*	**Pn**	**13 20 22.2**	**+1.0**
TRVZ	**Turoa**	**2.61**	**222**	⇑P*	**Pn**	**13 20 22.9**	**+1.5**
RVAZ	**Riverhead Bore**	**2.63**	**282**	PN	**Pn**	**13 20 22.1**	**+0.6**
MTVZ	**Mangateitei**	**2.71**	**221**	⇑P*	**Pn**	**13 20 24.1**	**+1.4**
PKVZ	**Pokaka**	**2.71**	**224**	P*	**Pn**	**13 20 24.4**	**+1.8**
PXZ	**Pawanui**	**2.75**	**195**	⇑PN	**Pn**	**13 20 22.0**	**-1.1**
PXZ				AML	AML	13 20 56.4	
PXZ				AML	AML	13 20 56.4	
PXZ				AML	AML	13 20 56.6	
PXZ				AML	AML	13 20 56.6	
PNHZ	**Pukenui**	**2.83**	**206**	⇑PN	**Pn**	**13 20 23.6**	**-0.6**
PNHZ				AML	AML	13 21 15.0	
PNHZ				AML	AML	13 21 15.5	
WPHZ	**Waipukurau**	**2.89**	**201**	⇑PN	**Pn**	**13 20 24.2**	**-0.8**
WPHZ				AML	AML	13 21 04.7	
WPHZ				AML	AML	13 21 30.5	
VRZ	**Vera Road**	**2.96**	**233**	P*	**Pn**	**13 20 28.0**	**+2.1**
PRHZ	**Porangahau**	**3.03**	**197**	⇓PN	**Pn**	**13 20 25.8**	**-1.1**
PRHZ				AML	AML	13 21 05.1	
PRHZ				AML	AML	13 21 05.8	
TSZ	**Takapari Road**	**3.04**	**207**	⇑PN	**Pn**	**13 20 26.2**	**-0.9**
TSZ				AML	AML	13 21 19.0	
TSZ				AML	AML	13 21 20.4	
WCZ	**Waipu Caves**	**3.11**	**296**	PN	**Pn**	**13 20 27.7**	**-0.4**
DVHZ	**Dannevirke**	**3.19**	**203**	⇑PN	**Pn**	**13 20 27.5**	**-1.6**
DVHZ				AML	AML	13 21 09.5	
DVHZ				AML	AML	13 21 10.3	
ANWZ	**Angora Road**	**3.25**	**198**	AML	AML	13 21 09.5	
ANWZ				AML	AML	13 21 10.3	
POWZ	**Post Office Ro**	**3.41**	**207**	AML	AML	13 21 31.7	
POWZ				AML	AML	13 21 31.7	
PRWZ	**Pori Road**	**3.48**	**203**	AML	AML	13 21 16.2	
PRWZ				AML	AML	13 21 18.5	
BFZ	**Birch Farm**	**3.52**	**199**	AML	AML	13 21 13.5	
BFZ				AML	AML	13 21 13.5	
BFZ				AML	AML	13 21 17.0	
BFZ				AML	AML	13 21 17.0	
MRZ	**Mangatainoka R**	**3.71**	**207**	AML	AML	13 21 21.0	
MRZ				AML	AML	13 21 22.5	
TIWZ	**Tintock**	**3.71**	**203**	AML	AML	13 21 20.9	
TIWZ				AML	AML	13 21 22.6	
CPWZ	**Castlepoint**	**3.75**	**199**	AML	AML	13 21 23.7	
CPWZ				AML	AML	13 21 27.2	
HOWZ	**Holdsworth Sta**	**3.94**	**206**	AML	AML	13 21 26.0	
HOWZ				AML	AML	13 21 26.9	
OGWZ	**Otaki Gorge**	**4.00**	**210**	AML	AML	13 21 43.4	
OGWZ				AML	AML	13 21 43.5	
TMWZ	**Te Maipa**	**4.01**	**201**	AML	AML	13 21 25.7	
TMWZ				AML	AML	13 21 26.8	
KIW	**Kapiti Island**	**4.14**	**212**	AML	AML	13 21 29.6	
KIW				AML	AML	13 21 44.6	
MTW	**Mount Morrison**	**4.18**	**204**	AML	AML	13 21 29.0	
MTW				AML	AML	13 21 31.4	
CAW	**Cannon Point**	**4.29**	**209**	AML	AML	13 21 32.7	
CAW				AML	AML	13 21 35.9	
TRWZ	**Traveller**	**4.34**	**201**	AML	AML	13 21 32.9	
TRWZ				AML	AML	13 21 37.8	
PAWZ	**Paruwai Farm**	**4.41**	**204**	AML	AML	13 21 34.3	
PAWZ				AML	AML	13 21 35.8	
MSWZ	**Moikau Station**	**4.50**	**205**	AML	AML	13 21 36.4	
MSWZ				AML	AML	13 22 10.6	
WEL	**Wellington**	**4.56**	**210**	AML	AML	13 21 39.6	
WEL				AML	AML	13 21 39.6	
WEL				AML	AML	13 21 41.1	
WEL				AML	AML	13 21 41.1	
SNZO	**South Karori**	**4.61**	**210**	*e*Pn	**Pn**	**13 20 45.8**	**-2.6**
SNZO				*e*Sn	**Sn**	**13 21 37.9**	**-2.6**
BHW	**Baring Head**	**4.62**	**208**	AML	AML	13 21 40.5	
BHW				AML	AML	13 22 05.1	
PLWZ	**Palliser**	**4.63**	**204**	AML	AML	13 21 39.1	
PLWZ				AML	AML	13 21 39.6	
TCW	**Tory Channel**	**4.71**	**214**	AML	AML	13 21 41.6	
TCW				AML	AML	13 21 41.8	
TUWZ	**Tuamarina**	**5.03**	**215**	AML	AML	13 21 52.7	
TUWZ				AML	AML	13 21 52.8	
CMWZ	**Cape Campbell**	**5.17**	**211**	AML	AML	13 22 22.8	
CMWZ				AML	AML	13 22 24.9	
BSWZ	**Blackbirch Sta**	**5.29**	**214**	AML	AML	13 21 57.9	
BSWZ				AML	AML	13 22 22.9	
KHZ	**Kahutara**	**6.01**	**212**	AML	AML	13 22 12.1	
KHZ				AML	AML	13 22 14.7	
KHZ				AML	AML	13 22 14.9	
KHZ				AML	AML	13 22 21.4	
RPZ	**Rata Peaks**	**8.15**	**217**	P	**Pn**	**13 21 33.0**	**-3.9**
8.5nm,0.3s,baz=96,slow=9.2,SNR=31							
RPZ				S	Sn	13 22 58.5	-9.0
14nm,0.3s,baz=129,slow=22,SNR=17							
RPZ				LR	LR	13 25 32.6	
comp=Z,271nm,18.0s,baz=50,slow=43							
DZM	**Mont Dzumac**	**18.13**	**324**	P	**Pn**	**13 23 49.4**	**+0.6**
0.6nm,0.3s,baz=153,slow=18,SNR=6.2							
DZM				LR	LR	13 29 04.4	
comp=Z,127nm,20.9s,baz=178,slow=31							
DZM	**Mont Dzumac**	**18.13**	**324**	*e*LR	LR	13 28 04.7	
212nm,28.6s							
ARMA	**Armidale**	**22.75**	**280**	P	**P**	**13 24 39.9**	**+1.6**
4.2nm,0.8s							
CAN	**Canberra**	**23.24**	**266**	*e*P	**P**	**13 24 46.4**	**+3.2**
3.0nm,0.7s							
AFI	**Afiamalu**	**25.15**	**24**	LR	LR	13 32 42.8	
comp=Z,77nm,21.7s,baz=107,slow=31							
EIDS	**Eidsvold**	**25.66**	**290**	*e*P	**P**	**13 25 06.1**	**+0.9**
12nm,1.1s							
STKA	**Stephens Creek**	**30.16**	**270**	P	**P**	**13 25 46.3**	**+1.0**
4.9nm,0.8s,baz=87,slow=8.1,SNR=10							
STKA				LR	LR	13 36 29.9	
comp=Z,78nm,21.5s,baz=36,slow=33							
TBI	**Tubuai**	**31.35**	**73**	*e*LR	LR	13 34 00.7	
119nm,30.8s							
TBI	**Tubuai**	**31.35**	**73**	*e*T	T	13 58 05.3	
14nm,0.3s							
CTA	**Charters Tower**	**32.37**	**293**	P	**P**	**13 26 06.1**	**+1.2**
5.2nm,0.6s,baz=125,slow=10,SNR=8.8							
CTAO	**Charters Tower**	**32.37**	**293**	*e*P	**P**	**13 26 06.4**	**+1.5**
16nm,0.5s							
PAE	**Paea**	**34.72**	**65**	*e*T	T	14 02 21.6	
1.7nm,0.3s							
PPT2	**Papeete2**	**34.77**	**64**	*e*LR	LR	13 35 37.8	
158nm,28.2s							
PPT2	**Papeete2**	**34.77**	**64**	*e*T	T	14 02 26.0	
3.3nm,0.3s							
PPT	**Papeete**	**34.78**	**64**	LR	LR	13 36 34.0	
comp=Z,85nm,21.1s,baz=166,slow=29							
TVO	**Taravao**	**34.88**	**65**	*e*T	T	14 02 33.4	
2.6nm,0.3s							
ASAR	**Alice Springs**	**39.85**	**277**	P	**P**	**13 27 08.3**	**-0.5**
5.3nm,0.6s,baz=124,slow=7.8,SNR=73							
ASAR				PcP	**PcP**	**13 29 10.6**	**-3.0**
2.5nm,0.5s,baz=119,slow=4.0,SNR=10							
ASAR				ScP	**ScP**	**13 32 56.6**	**-0.3**
0.5nm,0.7s,baz=122,slow=3.2,SNR=4.7							
ASAR				LR	LR	13 44 27.6	
comp=Z,56nm,18.1s,baz=122,slow=37							
WRA	**Warramunga Arr**	**41.49**	**282**	P	**P**	**13 27 21.8**	**-0.5**
6.4nm,0.5s,baz=123,slow=7.0,SNR=92							
WRA				PcP	**PcP**	**13 29 17.9**	**-1.0**
0.6nm,0.5s,baz=131,slow=3.2,SNR=2.6							
FITZ	**Fitzroy Crossi**	**49.34**	**278**	*e*P	**P**	**13 28 23.9**	**-0.4**
3.5nm,0.5s							
QSPA	**South Pole Qui**	**52.76**	**180**	*e*P	**P**	**13 28 51.1**	**+1.6**
18nm,0.4s							
MAW	**Mawson**	**64.56**	**203**	P	**P**	**13 30 11.5**	**+0.3**
5.6nm,0.8s,baz=94,slow=6.4,SNR=6.5							
MAW				LR	LR	13 58 01.7	
comp=Z,24nm,18.2s,baz=328,slow=36							
SYO	**Syowa Base**	**69.53**	**195**	⇑*e*X	**P**	**13 30 41.0**	**-1.7**
SNAA	**Sanae**	**71.26**	**180**	P	**P**	**13 30 54.0**	**+0.7**
SNAA	**Sanae**	**71.26**	**180**	P	**P**	**13 30 53.2**	**-0.1**
VNA3	**Neumayer Olymp**	**71.56**	**177**	P	**P**	**13 30 55.7**	**+0.6**
VNA2	**Neumayer--Watz**	**71.95**	**178**	P	**P**	**13 30 58.3**	**+0.9**
baz=180,slow=4.6							
VNA1	**Neumayer--Stat**	**72.20**	**178**	P	**P**	**13 30 59.8**	**+1.0**
KSM	**Kuching**	**73.17**	**285**	*e*P	**P**	**13 31 05.3**	**-0.2**
7.3nm,0.8s							
PLCA	**Paso Flores**	**80.25**	**134**	P	**P**	**13 31 45.0**	**-0.2**
4.5nm,0.7s,baz=260,slow=5.5,SNR=9.4							
KSRS	**Korea Array**	**87.55**	**322**	P	**P**	**13 32 22.1**	**+0.1**
2.2nm,0.7s,baz=140,slow=5.8,SNR=8.7							
KSRS				LR	LR	14 09 57.7	
comp=Z,28nm,18.8s,baz=125,slow=34							
KSAR	**Wonju Array Be**	**87.56**	**322**	P	**P**	**13 32 22.1**	**0.0**
CMAR	**Chiang Mai Arr**	**92.52**	**291**	P	**P**	**13 32 45.5**	**-0.3**
2.4nm,0.8s,baz=148,slow=3.4,SNR=13							
ARCES	**ARCESS Array B**	**144.47**	**344**	PKP	**PKPab**	**13 39 06.8**	**-0.9**
6.2nm,0.6s,baz=52,slow=2.6,SNR=42							
KBZ	**Khabaz**	**145.48**	**295**	PKPbc	**PKPdf**	**13 39 10.4**	**-1.3**
1.7nm,0.6s,baz=152,slow=5.0,SNR=6.0							
DBIC	**Dimbokro**	**149.35**	**175**	PKPbc	**PKPdf**	**13 39 21.4**	**+2.3**
1.7nm,0.4s,baz=204,slow=2.4,SNR=5.3							
FINES	**FINESS Array B**	**150.12**	**333**	PKPbc	**PKPdf**	**13 39 21.5**	**+2.7**
5.1nm,0.6s,baz=42,slow=3.7,SNR=33							
BRTR	**Keskin Array B**	**151.97**	**286**	PKPbc	**PKPbc**	**13 39 26.9**	**-2.2**
2.6nm,0.7s,baz=137,slow=4.7,SNR=12							
AKASG	**Malin Array Be**	**153.99**	**311**	PKPab	**PKPab**	**13 39 44.5**	**-2.1**
4.8nm,0.6s,baz=56,slow=4.1,SNR=15							
TORD	**Torodi Ar. Bea**	**155.63**	**189**	PKP	**PKPdf**	**13 39 27.1**	**-1.1**
1.5nm,0.9s,baz=155,slow=0.5,SNR=8.3							
TORD				PKPab	**sPKPdf**	**13 39 53.1**	**-0.6**
2.2nm,0.5s,baz=160,slow=3.6,SNR=15							

*ISCJB **22** 14:00:37.0±0.3,44°.53N±0°.02×9°.39E±0°.03,h14km±2km,*
Error ellipse: s-maj=4.1km s-min=2.8km az=19.6
*ROM **22** 14:00:37.0±0.1,44°.55N×9°.42E,h8km±1km,Md2.2/7,*
Ml2.3/5,Error ellipse: s-maj=1.5km s-min=0.9km az=67.0
*GEN **22** 14:00:37.5,44°.58N×9°.44E,h9km,ML2.1*
*CSEM **22** 14:00:37.6±0.2,44°.50N×9°.40E,h10km,ML2.4/14,Error ellipse: s-maj=4.5km s-min=2.8km az=20.0*
*LDG **22** 14:00:39.4±0.2,44°.43N×9°.37E,h10km,Md2.6/2,Ml2.4/11,*
Error ellipse: s-maj=4.4km s-min=2.9km az=30.0

ISC 22 14:00:37.8±0.8,44°.52N±0°.02×9°.42E±0°.02,h14km±5km, n60,σ1§19/102,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.14**	**146**	Pg	**Pg**	**14 00 41.3**	**-0.3**
SC2M				Sg	**Sg**	**14 00 44.4**	**+0.3**
2μm,0.2s							
SC2M	**Scurtabo**	**0.14**	**146**	P	**Pg**	**14 00 41.3**	**-0.3**
SC2M				S	**Sg**	**14 00 44.4**	**+0.3**
MSSA	**Maissana**	**0.22**	**161**	Pg	**Pg**	**14 00 42.6**	**-0.1**
MSSA				Sg	**Sg**	**14 00 46.7**	**+0.7**
336nm,0.4s							
MSSA	**Maissana**	**0.22**	**161**	Pg	**Pg**	**14 00 42.6**	**-0.1**
MSSA				Sg	**Sg**	**14 00 46.7**	**+0.7**
336nm,0.4s							
BOB	**Bobbio (Coli)**	**0.24**	**5**	Pg	**Pg**	**14 00 42.1**	**-1.1**
BOB				Sg	**Sg**	**14 00 45.7**	**-1.1**
373nm,0.5s							
BOB	**Bobbio (Coli)**	**0.24**	**5**	Pg	**Pg**	**14 00 42.1**	**-1.1**
BOB				Sg	**Sg**	**14 00 45.7**	**-1.1**
373nm,0.5s							
CODM	**Codolo**	**0.34**	**113**	P	**Pg**	**14 00 44.4**	**-0.3**
CODM				S	**Sg**	**14 00 49.4**	**0.0**
GRAM	**Graiana**	**0.46**	**94**	P	**Pg**	**14 00 46.1**	**-0.9**
GRAM				S	**Sg**	**14 00 52.4**	**-0.9**
PLMA	**Palmaria, Port**	**0.57**	**147**	Pg	**Pg**	**14 00 48.6**	**-0.3**
PLMA				Sg	**Sb**	**14 00 57.8**	**+0.4**
76nm,0.2s							
PLMA	**Palmaria, Port**	**0.57**	**147**	Pg	**Pg**	**14 00 48.6**	**-0.3**
PLMA				Sg	**Sb**	**14 00 57.8**	**+0.4**
76nm,0.2s							
PCP	**Piancastagn**	**0.63**	**272**	Pg	**Pg**	**14 00 49.5**	**-0.6**
PCP				Sg	**Sg**	**14 00 58.5**	**+0.1**
PCP	**Piancastagn**	**0.63**	**272**	P	**Pg**	**14 00 49.5**	**-0.6**
PCP				S	**Sg**	**14 00 58.1**	**-0.3**
SARO	**Sassorosso**	**0.78**	**115**	P	**Pg**	**14 00 52.4**	**-0.6**
VLC	**Villacollemand**	**0.78**	**117**	Pg	**Pg**	**14 00 52.6**	**-0.4**
VLC				Sg	**Sb**	**14 01 04.0**	**+0.3**
VLC	**Villacollemand**	**0.78**	**117**	Pg	**Pg**	**14 00 52.6**	**-0.4**
VLC				Sg	**Sb**	**14 01 04.0**	**+0.3**
FINB	**Finale Ligure**	**0.86**	**247**	Pg	**Pg**	**14 00 54.3**	**-0.1**
FINB				Sg	**Sb**	**14 01 06.4**	**+0.6**
171nm,0.2

MAN 22 14:03:12, 19°.51N×121°.56E, h20km, Philippine Islands region

KRSC 22 14:09:47.1±1.8, 51°.29N×158°.69E, h51km±20km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.15**	**354**	*eP*	Pn	14 10 08.1	+1.2
RUS				*eS*	Sn	14 10 22.4	+0.9
ASAK	**Asacha**	**1.20**	**336**	*eP*	Pn	14 10 09.2	+1.6
ASAK				*eS*	Sn	14 10 24.6	+1.7
MTVR	**Mutnovka**	**1.23**	**345**	*eP*	Pn	14 10 09.7	+1.5
MTVR				*eS*	Sn	14 10 25.1	+1.3
KRMR	**Karymshinskiy**	**1.58**	**348**	*eP*	Pn	14 10 15.2	+2.5
KRMR				*eS*	Sn	14 10 34.7	+2.7
PET	**Petropavlovsk**	**1.73**	**359**	*eP*	Pn	14 10 16.8	+2.0
PET				*eS*	Sn	14 10 37.9	+2.1
SKR	**Severo-Kuril's**	**1.74**	**250**	*eP*	Pn	14 10 16.0	+1.1
SKR				*eS*	Sn	14 10 36.6	+0.8
DALK	**Dalny**	**1.74**	**1**	*eP*	Pn	14 10 17.2	+2.3
DALK				*eS*	Sn	14 10 38.1	+2.2
APC	**Apacha**	**1.89**	**331**	*eP*	Pn	14 10 19.6	+2.7
APC				*eS*	Sn	14 10 42.3	+2.7
UGLR	**Uglovaya**	**1.92**	**2**	*eP*	Pn	14 10 21.1	+3.6
NLC	**Nalytchevo**	**1.92**	**12**	*eS*	Sn	14 10 40.7	+0.3
NLC				*eS*	Sn	14 10 40.8	+0.4
AVH	**Avacha**	**1.98**	**1**	*eP*	Pn	14 10 22.2	+4.0
SPN	**Mys Shipunski**	**1.98**	**24**	*eP*	Pn	14 10 21.6	+3.4
SPN				*eS*	Sn	14 10 46.5	+4.6
SDLR	**Sedlovina**	**1.99**	**3**	*eP*	Pn	14 10 20.4	+1.9
KOK	**Koryaka**	**2.00**	**359**	*eS*	Sn	14 10 47.6	+5.1
KRER	**Koryakskii**	**2.02**	**1**	*eS*	Sn	14 10 45.7	+2.7
KRX	**Arik**	**2.07**	**359**	*eP*	Pn	14 10 22.3	+2.7
KRX				*eS*	Sn	14 10 47.3	+3.1
GNL	**Ganaly**	**2.45**	**349**	*eP*	Pn	14 10 29.2	+4.5
MKZ	**Mys Kozlova**	**3.75**	**28**	*eP*	Pn	14 10 44.2	+1.8
KBTR	**Krutoberegovo**	**5.50**	**25**	*eP*	Pn	14 11 08.8	+2.4

IDC 22 14:09:51.8±2.6, 28°.73S×175°.54W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.7/24, mbtmp3.9/4, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/20, Error ellipse: s-maj=71.5km s-min=39.5km az=142.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.15**	**255**	Pn	Pb	14 10 30.8	-0.8
	164nm,0.3s,baz=30,slow=22,SNR=19						
RAO				Sn	Sn	14 10 51.2	-5.1
	1μm,0.3s,baz=56,slow=23,SNR=30						
RAO				LR	LR	14 11 23.7	
	comp=Z,222nm,18.1s,baz=324,slow=43						
URZ	**Urewera**	**11.31**	**211**	Pn	Pn	14 12 33.9	-0.8
	0.2nm,0.3s,baz=114,slow=18,SNR=3.8						
URZ				Sn	Sn	14 14 34.5	-7.2
	1.8nm,0.3s,baz=150,slow=22,SNR=16						
ASAR	**Alice Springs**	**45.37**	**264**	P	P	14 18 12.2	-0.1
	0.3nm,0.7s,baz=103,slow=7.0,SNR=7.5						
WRA	**Warramunga Arr**	**46.22**	**269**	P	P	14 18 17.7	-1.3
	1.2nm,0.8s,baz=107,slow=8.4,SNR=8.9						
AKASG	**Malin Array Be**	**151.18**	**326**	PKPbc	PKPbc	14 29 47.0	+0.3
	0.3nm,0.3s,baz=52,slow=4.8,SNR=2.7						

MOS ***22*** *14:14:56.3±1.6, 54°.10N×123°.74E, h8km, mb4.2/1, Error ellipse: s-maj=15.6km s-min=12.1km az=120.7*
MOS Felt (II) at Skovorodino.
SKHL ***22*** *14:14:57.0±0.1, 54°.19N×123°.82E, h14km±7km, mb4.5/7*
SKHL Felt (II) at Skovorodino.

ISC 22 14:14:56.7±1.4, 54°.31N±0°.05×123°.82E±0°.03, h2km±12km, n25, σ1§70/43, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**1.85**	**85**	*ePn*	**Pn**	**14 15 28.6**	**-0.9**
KROS				*ePg*	**Pb**	**14 15 31.1**	**-0.2**
KROS				AMB	AMB	14 15 32.7	
	110nm,0.5s						
KROS				*eSg*	**Sg**	**14 15 55.6**	**-0.5**
ZEA	**Zeya**	**2.11**	**104**	*eP*	**Pb**	**14 15 34.6**	**-1.0**
ZEA				*eSG*	**Sb**	**14 16 01.9**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZEA				smax	smax		
	comp=N,32μm,0.8s						
ZEA	**Zeya**	**2.11**	**104**	*ePg*	**Pb**	**14 15 34.7**	**-0.9**
ZEA				AMB	AMB	14 15 35.8	
	comp=N,80nm,0.3s						
ZEA				*eSg*	**Sb**	**14 16 01.9**	**-0.3**
ZEA				A	A	14 16 04.0	
	comp=N,2μm,0.8s						
TUP	**Tupik**	**2.26**	**274**	*eP*	**Pn**	**14 15 34.9**	**-0.3**
TUP				*eS*	**Sn**	**14 16 03.3**	**-0.3**
TUP	**Tupik**	**2.26**	**274**	*ePn*	**Pn**	**14 15 34.9**	**-0.3**
TUP				*ePg*	**Pb**	**14 15 38.4**	**+0.1**
TUP				AMB	AMB	14 15 44.8	
	comp=N,108nm,0.4s						
TUP				*eSn*	**Sn**	**14 16 03.3**	**-0.3**
TUP				*eSg*	**Sb**	**14 16 07.5**	**+0.8**
TUP				A	A	14 16 09.6	
	comp=N,2μm,0.5s						
CLNS	**Chul'man**	**2.60**	**13**	*eP*	**Pb**	**14 15 42.3**	**-1.8**
CLNS				*eS*	**Sb**	**14 16 13.6**	**-2.9**
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.3s						
CLNS				smax	smax		
	comp=E,94nm,0.6s						
CLNS				smax	smax		
	comp=Z,25nm,0.3s						
CLNS				smax	smax		
	comp=N,92nm,0.4s						
CLNS	**Chul'man**	**2.60**	**13**	*ePn*	**Pb**	**14 15 42.3**	**-1.8**
CLNS				*ePg*	**Pg**	**14 15 48.6**	**+2.0**
CLNS				AMB	AMB	14 15 51.7	
	comp=N,31nm,0.2s						
CLNS				*eSg*	**Sg**	**14 16 22.3**	**+2.0**
CLNS				A	A	14 16 26.0	
	comp=N,847nm,0.4s						
BMKR	**Bomnak**	**2.96**	**80**	*eP*	**Pn**	**14 15 44.0**	**-0.7**
BMKR				*eS*	**Sn**	**14 16 20.4**	**-0.3**
BMKR				pmax	pmax		
	comp=Z,100nm,0.5s						
BMKR	**Bomnak**	**2.96**	**80**	*ePn*	**Pn**	**14 15 44.0**	**-0.7**
BMKR				*ePg*	**Pb**	**14 15 51.1**	**+1.0**
BMKR				AMB	AMB	14 15 56.8	
	comp=Z,95nm,0.5s						
BMKR				*eSn*	**Sn**	**14 16 20.4**	**-0.3**
BMKR				*eSg*	**Sg**	**14 16 30.0**	**-1.6**
BMKR				A	A	14 16 34.9	
	comp=Z,302nm,0.5s						
BMKR				A	A	14 16 34.9	
	comp=Z,350nm,0.5s						
CRS	**Chara**	**4.08**	**312**	*eP*	**Pn**	**14 16 02.6**	**+2.5**
CRS	**Chara**	**4.08**	**312**	*ePn*	**Pn**	**14 16 02.6**	**+2.5**
CRS				*ePg*	**Pg**	**14 16 12.8**	**-1.9**
CRS				*eSg*	**Sg**	**14 17 07.6**	**+0.1**
CRS				A	A	14 17 14.8	
	comp=Z,395nm,1.2s						
EKMR	**Ekimchan**	**5.57**	**99**	*ePn*	**Pn**	**14 16 19.2**	**-1.4**
EKMR				AMB	AMB	14 16 23.6	
	comp=Z,31nm,0.5s						
EKMR				*ePg*	**Pb**	**14 16 37.5**	**+2.9**
EKMR				*eSg*	**Sg**	**14 17 51.5**	**-4.0**
EKMR				A	A	14 17 59.8	
	comp=Z,180nm,0.8s						
EKMR				A	A	14 17 59.8	
	comp=Z,140nm,0.8s						
BOD	**Bodaibo**	**6.52**	**307**	*eP*	**Pn**	**14 16 34.4**	**+0.8**
CIT	**Chita**	**6.58**	**254**	*eP*	**Pn**	**14 16 35.1**	**+0.6**
CIT				*eS*	**Sn**	**14 17 46.9**	**-3.3**
YAK	**Yakutsk**	**8.33**	**19**	*eP*	Pn	14 17 06.5	+8.1
YAK				*e*		14 18 31.7	
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
YAK				smax	smax		
	comp=N,8.0nm,0.6s						
YAK				smax	smax		
	comp=E,7.0nm,0.6s						

GRNR	**Gornyy**	**8.46**	**110**	*eSg*	Sg	14 19 19.2	-9.0
GRNR				A	A	14 19 35.5	
	comp=E,68nm,0.9s						
OKH	**Okha**	**11.30**	**86**	*eP*	**Pn**	**14 17 41.6**	**+2.6**
OKH	**Okha**	**11.30**	**86**	*eP*	**Pn**	**14 17 41.6**	**+2.6**
TYV	**Tymovskoe**	**11.96**	**99**	*eP*	**Pn**	**14 17 49.6**	**+1.5**
TYV	**Tymovskoe**	**11.96**	**99**	*eP*	**Pn**	**14 17 49.6**	**+1.5**
UGL	**Uglegorsk**	**12.46**	**107**	*eP*	**Pn**	**14 17 55.9**	**+0.9**
UGL	**Uglegorsk**	**12.46**	**107**	*eP*	**Pn**	**14 17 55.9**	**+0.9**
MSHR	**Mys Shultsa**	**12.70**	**155**	*eP*	**Pn**	**14 17 58.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**14.07**	**114**	*eP*	**Pn**	**14 18 18.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**14.07**	**114**	*eP*	**Pn**	**14 18 18.7**	**+1.8**

JMA 22 14:30:08.7±0.3, 32°.04N×142°.25E, h68km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.31**	**297**	P	Pn	14 30 45.4	+0.9
JHCJ				*eS*	Sn	14 31 12.1	+0.2
BSO1	**Boso 1**	**2.82**	**338**	P	Pn	14 30 52.2	+1.4
BSO1				*eS*	Sn	14 31 26.2	+2.8
BSO3	**Boso 3**	**3.12**	**333**	P	Pn	14 30 56.5	+1.3
JYT	**Yasato**	**4.51**	**338**	P	Pn	14 31 16.1	+1.6
JHU	**Hanno**	**4.53**	**328**	P	Pn	14 31 15.9	+1.1
JHU				*eS*	Sn	14 32 08.7	+2.5
JRY	**Ryogami san**	**4.84**	**326**	P	Pn	14 31 20.9	+1.8
JRY				*eS*	Sn	14 32 16.2	+2.4

IDC ***22*** *14:32:19.6±0.5, 61°.71N×151°.88W, h0km, mb4.2/24, mb1 4.3/27, mb1mx4.2/47, mbtmp4.2/27, ML3.9/3, MS3.1/8, Ms1 3.2/8, ms1mx2.9/32, Error ellipse: s-maj=14.0km s-min=11.1km az=35.0*
ISCJB ***22*** *14:32:20.3±0.3, 61°.53N±0°.02×152°.02W±0°.03, h14km±2km, mb4.4/69, MS3.2/7, Error ellipse: s-maj=2.9km s-min=2.5km az=141.1*
NEIC ***22*** *14:32:20.8±0.0, 61°.48N×151°.91W, h9km, mb4.4/41, MW4.0, ML4.2(AEIC), Moment Tensor Solution. s56 Moment tensor: Scale 10^15^Nm; M_{rr}0.96; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$0.14; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.43; $M_{\phi r}$0.49; Best double couple: M_0=1.20000×10^15^ NP1:ϕ_s=276.00000°, δ=42.00000°, λ=127.00000°. NP2:ϕ_s=50.00000°, δ=57.00000°, λ=61.00000°. Principal axes: T 1.1900, Plg65.0000°, Azm268.0000°; N 0.0900, Plg24.0000°, Azm67.0000°; P -1.2800, Plg8.0000°, Azm160.0000°; After AEIC.*
NEIC Felt [III] at Anchorage and [II] at Eagle River. Also felt at Anchor Point, Chugiak, Cooper Landing, Homer, Kenai, Moose Pass and Palmer.

ISC 22 14:32:21.5±0.8, 61°.51N±0°.02×152°.01W±0°.03, h16km±4km, n346, σ1§57/349, mb4.3/69, MS3.4/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.09**	**99**	P	**Pg**	**14 32 22.8**	**-2.0**
SPCG	**Spurr Capps Gl**	**0.22**	**181**	P	**Pg**	**14 32 25.1**	**-1.4**
SPCG				S	**Sg**	**14 32 28.3**	**-1.7**
CRP	**Crater Peak**	**0.26**	**196**	P	**Pg**	**14 32 26.0**	**-1.1**
SPCP	**Crater Peak Br**	**0.26**	**196**	P	**Pg**	**14 32 26.0**	**-1.2**
SPCP				S	**Sg**	**14 32 29.6**	**-1.4**
SPBG	**Spurr Blockage**	**0.31**	**214**	P	**Pg**	**14 32 27.1**	**-0.8**
SPBG				S	**Sg**	**14 32 31.8**	**-0.6**
BGL	**Barrier Glacie**	**0.31**	**216**	P	**Pg**	**14 32 27.1**	**-1.0**
CKT	**Bend**	**0.33**	**197**	P	**Pg**	**14 32 27.2**	**-1.1**
SPU	**Mount Spurr**	**0.33**	**184**	*ePg*	**Pg**	**14 32 26.9**	**-1.5**
CKL	**Chakachamna La**	**0.35**	**207**	P	**Pg**	**14 32 27.8**	**-1.0**
SPWE	**Spurr West**	**0.35**	**228**	P	**Pg**	**14 32 28.2**	**-0.6**
SKT	**Skwentna**	**0.52**	**26**	P	**Pg**	**14 32 30.4**	**-1.4**
SKT				S	**Sg**	**14 32 37.8**	**-1.1**
SUA	**Susitna One**	**0.61**	**94**	P	**Pg**	**14 32 31.5**	**-2.0**
VOGL	**Vogel Lake**	**0.92**	**123**	P	**Pg**	**14 32 38.3**	**-1.0**
FIB	**Fire Island**	**0.95**	**111**	P	**Pg**	**14 32 38.6**	**-1.2**
FIB				S	**Sb**	**14 32 52.5**	**+0.6**
DFR	**Drift River**	**0.98**	**200**	P	**Pg**	**14 32 38.4**	**-2.0**
RDJH	**Redoubt Jeurge**	**1.00**	**203**	P	**Pg**	**14 32 38.9**	**-1.9**
RDWB	**Redoubt West**	**1.10**	**202**	P	**Pb**	**14 32 40.6**	**-1.7**
RSO	**Redoubt South**	**1.11**	**199**	*ePg*	**Pb**	**14 32 40.7**	**-1.7**
RED	**Redoubt Volcan**	**1.16**	**199**	P	**Pb**	**14 32 41.4**	**-1.8**
RED				S	**Sb**	**14 32 56.6**	**-1.3**
RC01	**Rabbit Creek A**	**1.18**	**110**	*ePg*	**Pb**	**14 32 41.1**	**-2.4**
CUT	**Chulitna**	**1.22**	**42**	P	**Pb**	**14 32 42.5**	**-1.6**
SLKM	**Skilak Lake**	**1.33**	**138**	P	**Pn**	**14 32 43.8**	**-1.7**
PMR	**Palmer**	**1.38**	**85**	*ePn*	**Pn**	**14 32 44.4**	**-1.7**
PPLA	**Purkeypile**	**1.39**	**357**	*ePn*	**Pn**	**14 32 46.1**	**-0.3**
GHO	**Glory Hole Cre**	**1.50**	**79**	P	**Pn**	**14 32 46.7**	**-1.1**
GHO				S	**Sn**	**14 33 06.9**	**-0.1**
ILS	**Iliamna Low So**	**1.64**	**199**	P	**Pn**	**14 32 49.5**	**-0.3**
KNK	**Knik Glacier**	**1.71**	**92**	P	**Pn**	**14 32 50.5**	**-0.1**
SVW2	**Sparrevohn**	**1.77**	**258**	*ePn*	**Pn**	**14 32 51.7**	**+0.2**
SML	**Sawmill**	**1.78**	**79**	*ePn*	**Pn**	**14 32 51.0**	**-0.6**
BRLK	**Bradley Lake**	**1.84**	**162**	*ePn*	**Pn**	**14 32 52.3**	**-0.2**
HOM	**Homer**	**1.87**	**174**	*ePn*	**Pn**	**14 32 53.4**	**+0.7**
SEW	**Seward**	**1.89**	**137**	*ePn*	**Pn**	**14 32 52.4**	**-0.6**
PWL	**Port Wells**	**1.90**	**109**	P	**Pn**	**14 32 52.7**	**-0.5**
CAST	**Castle Rocks**	**1.92**	**359**	*ePn*	**Pn**	**14 32 54.0**	**+0.6**
CNPM	**China Poot**	**2.03**	**169**	*ePn*	**Pn**	**14 32 55.0**	**0.0**
TRF	**Thorofare Moun**	**2.10**	**22**	*ePn*	**Pn**	**14 32 56.8**	**+0.6**
KTH	**Kantishna Hill**	**2.11**	**13**	*ePn*	**Pn**	**14 32 57.1**	**+0.9**
SCM	**Sheep Creek Mo**	**2.26**	**88**	*ePn*	**Pn**	**14 32 59.3**	**+1.1**
AUE	**Augustine Isla**	**2.26**	**198**	P	**Pn**	**14 32 59.6**	**+1.4**
AUI	**Augustine Isla**	**2.29**	**198**	P	**Pb**	**14 33 00.8**	**-1.6**
TT01	**Tatalina**	**2.34**	**308**	*ePn*	**Pn**	**14 33 00.1**	**+0.8**
TTA	**Tatalina**	**2.35**	**309**	*ePn*	**Pn**	**14 33 00.3**	**+0.8**
RND	**Reindeer**	**2.40**	**36**	*ePn*	**Pn**	**14 33 00.3**	**+0.1**
GLI	**Glacier Island**	**2.46**	**103**	*ePn*	**Pn**	**14 33 01.2**	**+0.2**
BPAW	**Bear Paw Mtn.**	**2.64**	**10**	*ePn*	**Pn**	**14 33 03.5**	**+0.1**
MCK	**McKinley**	**2.64**	**31**	*ePn*	**Pn**	**14 33 04.1**	**+0.6**
JPK	**Jack Peak**	**2.65**	**98**	P	**Pn**	**14 33 04.5**	**+0.8**
DHY	**Denali Highway**	**2.68**	**52**	*ePn*	**Pn**	**14 33 04.9**	**+0.8**
CDD	**Cape Douglas**	**2.72**	**198**	P	**Pn**	**14 33 05.6**	**+1.2**
VMT	**TAPS TI Valdez**	**2.76**	**96**	P	**Pn**	**14 33 05.9**	**+0.9**
VLZ	**Valdez**	**2.77**	**95**	P	**Pn**	**14 33 05.7**	**+0.6**
FID	**Port Fidalgo**	**2.79**	**103**	*ePn*	**Pn**	**14 33 05.3**	**-0.2**
FOSS	**Fourpeaked Sta**	**2.85**	**198**	P	**Pn**	**14 33 08.5**	**+2.2**
FOPK	**Fourpeaked Vol**	**2.86**	**195**	P	**Pn**	**14 33 08.0**	**+1.6**
HIN	**Hinchinbrook I**	**2.91**	**110**	P	**Pn**	**14 33 07.7**	**+0.5**
KLU	**Klutina**	**2.92**	**88**	*ePn*	**Pn**	**14 33 08.0**	**+0.7**
DIV	**Divide**	**3.03**	**95**	*ePn*	**Pn**	**14 33 09.4**	**+0.5**
PS11	**TAPS Pump St11**	**3.16**	**77**	P	**Pn**	**14 33 12.0**	**+1.5**
EYAK	**Cordova Ski Ar**	**3.20**	**105**	*ePn*	**Pn**	**14 33 11.1**	**+0.1**
KAHC	**Katmai Hardscr**	**3.24**	**209**	P	**Pn**	**14 33 12.9**	**+1.2**
HARP	**HAARP**	**3.36**	**71**	*ePn*	**Pn**	**14 33 15.4**	**+2.1**
PAX	**Paxson**	**3.39**	**62**	*ePn*	**Pn**	**14 33 15.7**	**+1.8**
KAWH	**Katmai**	**3.44**	**205**	P	**Pn**	**14 33 16.2**	**+1.8**
WRH	**Wood River Hil**	**3.47**	**29**	*ePn*	**Pn**	**14 33 14.7**	**0.0**
KVTA	**Katmai Vly 10**	**3.55**	**209**	P	**Pn**	**14 33 17.1**	**+1.3**
KAKN	**Katmai Knife C**	**3.57**	**207**	P	**Pn**	**14 33 17.8**	**+1.6**
MLY	**Manley**	**3.58**	**9**	*ePn*	**Pn**	**14 33 16.7**	**+0.4**
KELA	**Mount Kelaz**	**3.61**	**213**	P	**Pn**	**14 33 18.0**	**+1.3**
BMRM	**Bremner River**	**3.62**	**95**	*ePn*	**Pn**	**14 33 18.2**	**+1.3**
CCB	**Clear Creek Bu**	**3.68**	**29**	*ePn*	**Pn**	**14 33 17.6**	**-0.1**
KABR	**Katmai Barrier**	**3.71**	**205**	P	**Pn**	**14 33 19.1**	**+1.0**
HDA	**Harding Lake**	**3.71**	**36**	*ePn*	**Pn**	**14 33 18.7**	**+0.6**
KDAK	**Kodiak Island**	**3.75**	**185**	Pn	**Pn**	**14 33 20.3**	**+1.7**
	18nm,0.3s,baz=50,slow=6.3,SNR=1079						
KDAK				Sn	**Sn**	**14 34 03.1**	**+0.7**
	35nm,0.3s,baz=325,slow=22,SNR=6.3						
KDAK				LR	LR	14 34 44.1	
	comp=Z,130nm,21.8s,baz=100,slow=37						
KDAK	**Kodiak Island**	**3.75**	**185**	P	**Pn**	**14 33 20.1**	**+1.4**
RAGM	**Ragged Mountai**	**3.75**	**104**	*ePn*	**Pn**	**14 33 18.5**	**-0.2**
PS08	**TAPS Pump Stn8**	**3.85**	**36**	P	**Pn**	**14 33 20.5**	**+0.5**
MDM	**Murphy Dome**	**3.86**	**25**	*ePn*	**Pn**	**14 33 20.4**	**+0.2**
COLA	**College**	**3.87**	**27**	*ePn*	**Pn**	**14 33 20.5**	**+0.4**
ILAR	**Eielson Array**	**4.01**	**33**	Pn	**Pn**	**14 33 22.5**	**+0.2**
	10nm,0.3s,baz=220,slow=15,SNR=114						
ILAR				Sn	**Sn**	**14 34 11.1**	**+2.2**
	23nm,0.3s,baz=222,slow=23,SNR=7.8						
ILAR				Lg	Lg	14 34 22.1	
	20nm,0.3s,baz=229,slow=28,SNR=5.8						
ILB	**Eielson Array**	**4.01**	**33**	*ePn*	**Pn**	**14 33 22.4**	**+0.2**
VRDI	**Verde Repeater**	**4.13**	**90**	P	**Pn**	**14 33 25.0**	**+1.0**
MENT	**Mentasta**	**4.14**	**66**	*ePn*	**Pn**	**14 33 25.2**	**+1.3**
DOT	**Dot Lake**	**4.25**	**56**	*ePn*	**Pn**	**14 33 27.5**	**+1.9**
MCARA	**McCarthy VSAT**	**4.32**	**88**	P	**Pn**	**14 33 27.9**	**+1.4**
OHAK	**Old Harbor**	**4.35**	**189**	*ePn*	**Pn**	**14 33 28.0**	**+1.1**
CRQM	**Cirque**	**4.37**	**96**	*ePn*	**Pn**	**14 33 29.5**	**+2.2**
KHIT	**Khitrov Hills**	**4.40**	**100**	P	**Pn**	**14 33 27.3**	**-0.4**

TGL	**Tana Glacier**	**4.51**	**96**	P	**Pn**	**14 33 30.5**	**+1.2**
IM3	**Indian Mountai**	**4.56**	**351**	P	**Pn**	**14 33 30.4**	**+0.7**
PTPK	**Patty Peak**	**4.61**	**90**	P	**Pn**	**14 33 32.0**	**+1.4**
BALM	**Baldy**	**4.69**	**92**	*ePn*	**Pn**	**14 33 32.9**	**+1.3**
KIAG	**Kiagna River**	**4.70**	**93**	P	**Pn**	**14 33 32.5**	**+0.7**
BARK	**Barkley Ridge**	**4.77**	**99**	P	**Pn**	**14 33 33.6**	**+0.9**
ISLE	**Juniper Island**	**4.79**	**97**	P	**Pn**	**14 33 33.4**	**+0.4**
BAGL	**Bagley Icefiel**	**4.94**	**98**	P	**Pn**	**14 33 36.2**	**+1.3**
BARN	**Barnard Glacie**	**5.01**	**91**	P	**Pn**	**14 33 37.5**	**+1.3**
BCA3	**Beaver Creek A**	**5.02**	**67**	P	**Pn**	**14 33 37.4**	**+1.2**
GRNC	**Granite Creek**	**5.04**	**94**	P	**Pn**	**14 33 37.5**	**+1.0**
SII	**Sitkinak Islan**	**5.09**	**194**	*ePn*	Pn	14 33 42.1	+5.0
CTGM	**Chitina Glacie**	**5.19**	**91**	P	**Pn**	**14 33 39.3**	**+0.8**
RKAV	**Rock Avalanche**	**5.35**	**98**	P	**Pn**	**14 33 41.5**	**+0.8**
LOGN	**Logan Glacier**	**5.37**	**93**	P	**Pn**	**14 33 41.5**	**+0.5**
COLD	**Coldfoot**	**5.79**	**7**	*ePn*	**Pn**	**14 33 47.8**	**+1.1**
FYU	**Fort Yukon**	**5.88**	**27**	*ePn*	**Pn**	**14 33 48.8**	**+1.0**
EGAK	**Eagle**	**5.91**	**52**	*ePn*	**Pn**	**14 33 50.0**	**+1.8**
PCA	**Pinnacle**	**5.93**	**99**	*ePn*	**Pn**	**14 33 48.6**	**+0.1**
CHGN	**Chignik**	**6.19**	**215**	*ePn*	**Pn**	**14 33 55.7**	**+3.6**
BCPM	**Bancas Point**	**6.27**	**99**	P	**Pn**	**14 33 53.7**	**+0.5**
DAWY	**Dawson**	**6.33**	**61**	*ePn*	**Pn**	**14 33 55.5**	**+1.4**
BM3	**Burnt Mountain**	**6.73**	**25**	P	**Pn**	**14 34 00.1**	**+0.4**
HYT	**Haines Junctio**	**7.05**	**89**	*ePn*	**Pn**	**14 34 05.4**	**+1.3**
TOLK	**Toolik Lake Re**	**7.23**	**7**	P	**Pn**	**14 34 07.3**	**+0.9**
	baz=189,SNR=16						
TOLK	**Toolik Lake Re**	**7.23**	**7**	P	**Pn**	**14 34 08.7**	**+2.2**
PLBC	**Pleasant Camp**	**8.00**	**98**	P	**Pn**	**14 34 16.9**	**+0.1**
WHY	**Whitehorse**	**8.35**	**88**	*ePn*	**Pn**	**14 34 22.2**	**+0.5**
SKAG	**Skagway**	**8.49**	**97**	*ePn*	**Pn**	**14 34 24.4**	**+0.9**
INK	**Inuvik**	**10.36**	**41**	Pn	**Pn**	**14 34 50.3**	**+1.2**
	0.4nm,0.3s,baz=242,slow=18,SNR=12						
INK				Lg	Lg	14 37 49.2	
	0.2nm,0.3s,baz=162,slow=20,SNR=4.0						
INK				LR	LR	14 39 16.3	
	comp=Z,143nm,20.0s,baz=238,slow=41						
DLBC	**Dease Lake**	**11.42**	**96**	Pn	**Pn**	**14 35 03.8**	**+0.1**
	0.7nm,0.3s,baz=264,slow=8.5,SNR=11						
DLBC				LR	LR	14 40 09.1	
	comp=Z,108nm,19.5s,baz=264,slow=41						
YKA	**Yellowknife Ar**	**17.43**	**70**	P	**P**	**14 36 24.2**	**-0.6**
	0.3nm,0.3s,baz=278,slow=9.9,SNR=6.4						
LLLB	**Lillooet**	**19.85**	**110**	*eP*	**Pn**	**14 36 53.0**	**-0.1**
	14nm,1.2s						
A04D	**Lummi Island**	**20.86**	**114**	P	**P**	**14 37 01.9**	**-0.5**
	baz=319						
B08A	**Colville Reser**	**22.63**	**111**	*eP*	**P**	**14 37 25.7**	**+4.3**
	7.4nm,0.9s						
NEW	**Newport**	**23.70**	**108**	P	**P**	**14 37 33.5**	**+1.2**
	6.8nm,0.9s,baz=332,slow=10,SNR=4.1						
NEW	**Newport**	**23.70**	**108**	P	**P**	**14 37 32.4**	**+0.1**
	baz=317,SNR=6.5						
NEW	**Newport**	**23.70**	**108**	*eP*	**P**	**14 37 33.8**	**+1.5**
	7.7nm,0.9s						
E07A	**Sunnyside**	**23.76**	**114**	*eP*	**P**	**14 37 35.9**	**+3.0**
	6.6nm,0.9s						
RES	**Resolute Bay**	**23.77**	**34**	P	**P**	**14 37 32.4**	**-0.3**
	1.8nm,0.6s,baz=241,slow=4.7,SNR=9.3						
D08A	**Wollman Farm,**	**23.79**	**112**	*eP*	**P**	**14 37 38.2**	**+5.1**
	14nm,1.3s						
I03D	**Drain, OR**	**24.59**	**123**	P	**P**	**14 37 41.5**	**+0.9**
	baz=327						
WALA	**Waterton Lakes**	**24.61**	**103**	*eP*	**P**	**14 37 45.1**	**+4.2**
	18nm,1.4s						
I05D	**Terrebonne, OR**	**24.89**	**120**	P	**P**	**14 37 42.0**	**-1.3**
	baz=325						
SEY	**Seymchan**	**25.28**	**298**

baz=316
E36A McGregor 36.25 87 P P 14 39 24.2 +0.7
baz=316
C38A Sawbill Land. 36.34 84 P P 14 39 23.9 -0.3
baz=315
WUAZ Wupatki 36.45 117 P P 14 39 27.0 +1.4
baz=328
WUAZ Wupatki 36.45 117 eP P 14 39 26.1 +0.6
3.8nm,0.8s
F36A Milaca 36.60 88 P P 14 39 26.6 +0.1
baz=317
S22A 4UR Ranch, Cre 36.60 109 P P 14 39 28.2 +1.3
baz=325
S22A 4UR Ranch, Cre 36.60 109 eP P 14 39 32.0 +5.1
2.0nm,0.8s
ECSD EROS Data Cent 36.69 93 P P 14 39 28.0 +0.7
baz=319,SNR=6.3
ECSD EROS Data Cent 36.69 93 eP P 14 39 29.7 +2.5
5.1nm,0.6s
SDCO Great Sand Dun 37.20 108 P P 14 39 32.6 +0.5
baz=325
SDCO Great Sand Dun 37.20 108 eP P 14 39 37.1 +5.1
2.4nm,0.9s
F38A Pierce - Schro 37.31 86 P P 14 39 33.2 +0.7
baz=317
SPMN Marine on St. 37.41 88 P P 14 39 34.6 +1.2
baz=317
SPMN Marine on St. 37.41 88 eP P 14 39 37.8 +4.5
8.6nm,0.7s
F39A Loretta 37.80 86 P P 14 39 37.3 +0.6
baz=317
H37A Dierke Farm, C 37.83 89 P P 14 39 37.6 +0.7
baz=318
G38A Ridgeland 37.90 87 P P 14 39 38.6 +1.0
baz=317
E40A Wakefield 37.91 84 P P 14 39 38.0 +0.4
baz=316
I37A Lemond, Waseca 38.02 90 P P 14 39 40.2 +1.6
baz=318
H38A Maiden Rock 38.06 88 P P 14 39 38.4 -0.5
baz=318
G39A Holcombe 38.14 86 P P 14 39 38.9 -0.7
baz=317
F40A Park Falls 38.18 85 P P 14 39 39.2 -0.7
baz=317
E41A Kenton 38.34 83 P P 14 39 39.9 -1.3
baz=316
I38A Scanlan Farm, 38.51 89 P P 14 39 43.0 +0.3
baz=318
H39A Augusta 38.54 87 P P 14 39 44.2 +1.3
baz=318,SNR=5.9
G40A Rib Lake 38.62 86 P P 14 39 44.2 +0.6
baz=317,SNR=5.2
K37A Belmond 38.84 91 P P 14 39 46.3 +0.9
baz=319,SNR=6.0
J38A Wedel Dairy, R 38.98 90 P P 14 39 46.8 +0.1
baz=319
H40A Chili 39.01 87 P P 14 39 47.7 +0.9
baz=318,SNR=6.1
E43A Lone Tree Farm 39.34 82 P P 14 39 50.9 +1.3
baz=317
I40A Norwalk 39.44 88 P P 14 39 50.8 +0.3
baz=319
G42A Mountain 39.49 84 P P 14 39 52.4 +1.5
baz=318
L38A Oak Wood Farm, 39.65 91 P P 14 39 53.7 +1.5
baz=320
I41A Arkdale 39.68 87 P P 14 39 54.6 +2.2
baz=318
M37A Trindle Farm, 39.69 93 P P 14 39 53.7 +1.1
baz=320
K39A Oelwein 39.73 90 P P 14 39 53.8 +0.9
baz=320
J40A Soldiers Grove 39.76 88 P P 14 39 53.9 +0.8
baz=319
M38A Pleasantville 40.09 92 P P 14 39 57.4 +1.5
baz=320
K40A Colesburg 40.09 89 P P 14 39 56.6 +0.7
baz=320
L39A Vinton 40.12 91 P P 14 39 56.8 +0.7
baz=320
J41A Loganville 40.13 88 P P 14 39 57.0 +0.8
baz=319,SNR=5.9
P35A Duane Minner, 40.21 97 P P 14 39 58.8 +1.9
baz=322
I42A Draeger Farm, 40.26 86 P P 14 39 58.3 +1.0
baz=319
KSU1 Kansas State U 40.27 98 P P 14 39 58.6 +1.2
baz=322
JFWS Jewell Farm 40.36 88 eP P 14 40 01.5 +3.4
18nm,0.6s
SPITS Spitsbergen Ar 40.37 4 LR LR 14 54 58.4
comp=Z,19nm,20.2s,baz=85,slow=34
P36A Good Intent, A 40.52 96 P P 14 39 59.9 +0.4
baz=322
L40A Anamosa 40.54 90 P P 14 40 00.5 +0.9
baz=320,SNR=7.9
K41A Shullsburg 40.56 89 P P 14 40 00.5 +0.7
baz=320,SNR=7.3
J42A Columbus 40.59 87 P P 14 40 01.4 +1.4
baz=319
Q35A Mercer Eighty, 40.73 97 P P 14 40 02.2 +1.0
baz=323,SNR=5.1
N39A Derby Farms, D 40.84 92 P P 14 40 02.8 +0.7
baz=321
F46A Macinaw City C 40.84 81 P P 14 40 03.0 +0.9
baz=318
L41A Preston 40.88 89 P P 14 40 03.6 +1.3
baz=320
J43A Natural Harves 40.88 86 P P 14 40 02.8 +0.4
baz=319
K42A Prairie Point, 40.89 88 P P 14 40 03.5 +1.0
baz=320
P37A Lathrop 40.96 95 P P 14 40 03.5 +0.4
baz=322,SNR=6.0
O38A Galt 40.96 94 P P 14 40 03.1 0.0
baz=322
M41A Milan 41.39 90 P P 14 40 06.8 +0.1
baz=320
R36A Gordon, Harris 41.41 97 P P 14 40 08.4 +1.6
baz=323
S35A Otter Creek Ra 41.53 99 P P 14 40 09.3 +1.4
baz=323
MSTX Muleshoe 41.56 108 P P 14 40 07.9 -0.3
baz=327
MSTX Muleshoe 41.56 108 eP P 14 40 12.7 +4.4
7.7nm,0.9s
O40A La Belle 41.73 92 P P 14 40 09.7 +0.4
baz=321
Q38A Cooks Store, C 41.80 95 P P 14 40 10.8 +0.8
baz=322
S36A Lake Cedric, C 41.84 98 P P 14 40 11.8 +1.4
baz=323
T35A Sooner Cattle 42.06 100 P P 14 40 12.8 +0.7
baz=324
P40A Paris 42.10 93 P P 14 40 12.9 +0.4
baz=322
O41A Passleys Farm, 42.20 91 P P 14 40 13.4 +0.2
baz=321
T36A Boggs Farm, Ca 42.24 99 P P 14 40 13.9 +0.3
baz=324
R38A Fenwick Farm, 42.28 96 P P 14 40 14.2 +0.3
baz=323
MNTX Cornudas Mount 42.31 113 P P 14 40 14.7 +0.5
baz=329
Q40A Laux Farm, Aux 42.51 94 P P 14 40 16.9 +1.2
baz=322
M44A Midewin, Midew 42.58 88 P P 14 40 17.4 +1.1
baz=320
R39A Chumby, Stover 42.59 95 P P 14 40 16.9 +0.4
baz=323
T37A Cheneyville 18 42.65 98 P P 14 40 17.0 +0.1
baz=324
S38A Stockton 42.72 96 P P 14 40 17.6 +0.1
baz=323
NRIK Noril'sk 42.76 333 P P 14 40 17.9 +0.5
3.8nm,0.5s,baz=56,slow=5.3,SNR=10
NRIK LR LR 15 01 06.2
comp=Z,35nm,18.2s,baz=86,slow=40
WMOK Wichita Mounta 42.76 104 P P 14 40 18.9 +1.0
baz=326
WMOK Wichita Mounta 42.76 104 eP P 14 40 22.0 +4.1
2.1nm,0.8s
P42A Winchester 42.88 91 P P 14 40 19.5 +0.7
baz=322
S39A Bolivar 42.95 96 P P 14 40 18.7 -0.7
baz=323
R40A Maddies Statio 42.98 94 P P 14 40 18.5 -1.1
baz=323

S40A Lebanon 43.41 95 P P 14 40 22.4 -0.7
baz=323
U38A Gravette 43.45 98 P P 14 40 23.7 +0.3
baz=324
T39A Clever 43.46 97 P P 14 40 21.9 -1.6
baz=324
V37A Hulbert 43.54 99 P P 14 40 22.6 -1.5
baz=324
O45A Potomac 43.62 89 P P 14 40 25.2 +0.5
baz=321
Q43A New Douglas 43.69 91 P P 14 40 25.5 +0.2
baz=322
S41A Jillco Farms, 43.78 95 P P 14 40 25.9 -0.2
baz=323,SNR=6.4
P44A Sand Creek, Wi 43.80 90 P P 14 40 25.4 -0.8
baz=322
V38A Canehill 43.90 98 P P 14 40 26.3 -0.8
baz=324
U39A Green Forest 43.92 97 P P 14 40 27.0 -0.3
baz=324
X36A Centrahoma 44.04 101 P P 14 40 27.1 -1.1
baz=325
S42A Caledonia 44.09 93 P P 14 40 28.6 0.0
baz=323
R43A Red Bud 44.11 92 P P 14 40 28.7 0.0
baz=323
T41A Mountain View 44.21 95 P P 14 40 29.0 -0.5
baz=323
O47A Sheridan 44.37 87 P P 14 40 30.3 -0.5
baz=321
V40A Witts Springs 44.70 97 P P 14 40 34.0 +0.5
baz=324
T43A Greenville 44.88 94 P P 14 40 34.5 -0.4
baz=323,SNR=5.0
V41A Mountainview 45.04 96 P P 14 40 36.0 -0.1
baz=324
PBMO Poplar Bluff 45.06 94 eP P 14 40 39.6 +3.3
TX31 Lajitas Ar. Si 45.09 113 eP P 14 40 40.8 +4.0
TXAR Lajitas Array 45.09 113 P P 14 40 37.7 +1.0
1.0nm,0.7s,baz=326,slow=5.3,SNR=12
TXAR PcP PcP 14 42 17.4 +0.2
0.3nm,0.5s,baz=75,slow=1.6,SNR=7.1
TRQ Mont Tremblant 45.26 73 eP P 14 40 41.1 +3.2
MIAR Mount Ida 45.37 99 P P 14 40 38.4 -0.4
baz=325
JCT Junction City 45.85 108 P P 14 40 43.4 +0.7
baz=328
JCT Junction City 45.85 108 eP P 14 40 44.6 +1.9
13nm,1.0s
M54A Oil Creek Stat 46.48 81 P P 14 40 46.9 -0.6
baz=321
N54A Moraine State 46.75 81 P P 14 40 48.7 -0.9
baz=321
OXF Oxford 47.38 95 eP P 14 40 56.2 +1.7
81nm,1.5s
PLAL Pickwick Lake 47.64 93 eP P 14 41 00.4 +3.9
18nm,0.4s
636A Smothers Creek 47.95 106 P P 14 40 58.7 -0.3
baz=328
O56A Blue Knob Stat 47.97 81 P P 14 40 58.5 -0.6
baz=322
Y46A Houston 48.16 95 P P 14 41 01.5 +1.0
baz=325,SNR=7.6
SWET Sewanee 48.47 91 eP P 14 41 06.4 +3.3
7.1nm,0.8s
Y47A UCPARC, Winfie 48.62 94 P P 14 41 04.7 +0.5
baz=325,SNR=5.4
146A Union 49.08 96 P P 14 41 07.5 -0.2
baz=326
Z47A Carrollton 49.09 95 P P 14 41 07.9 +0.2
baz=325
ARCES ARCESS Array B 49.23 1 P P 14 41 07.4 -1.0
2.8nm,0.8s,baz=26,slow=9.4,SNR=4.5
ARCES PcP PcP 14 42 30.0 -1.1
1.4nm,0.7s,baz=347,slow=1.6,SNR=4.1
447A Lucedale 50.80 97 P P 14 41 19.9 -0.9
baz=326
KSRS Korea Array 53.33 282 P P 14 41 40.5 +1.1
2.9nm,0.7s,baz=34,slow=7.0,SNR=11
KSAR Wonju Array Be 53.36 282 P P 14 41 40.5 +0.8
SONM Songino Array 54.30 306 P P 14 41 48.2 +1.5
2.3nm,0.6s,baz=42,slow=7.4,SNR=12
SONM LR LR 15 06 36.8
comp=Z,45nm,19.9s,baz=45,slow=38
ZAA0 Zalesovo Array 56.44 324 eP P 14 42 01.8 -0.1
ZALV Zalesovo Beam 56.44 324 P P 14 42 01.9 +0.1
5.5nm,0.6s,baz=31,slow=6.8,SNR=22
NOA NORSAR Array B 57.10 10 P P 14 42 04.9 -1.5
0.8nm,0.8s,baz=350,slow=7.2,SNR=2.6
FINES FINESS Array B 57.36 1 P P 14 42 06.8 -1.3
1.3nm,0.6s,baz=20,slow=6.1,SNR=5.4
HHC Hu-ho-hao-te 57.92 297 eP P 14 42 14.1 +1.5
HHC PcP PcP 14 43 06.6 +1.9
HHC ScP ScP 14 47 04.5 +0.7
HHC PcS PcS 14 47 06.3 +0.2
HHC S S 14 50 11.1 -0.7
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,77nm,5.6s
HHC LR LR
comp=N,210nm,26.1s
HHC LR LR
comp=E,670nm,20.6s
HHC LR LR
comp=Z,42nm,21.1s
HFS Hagfors 58.18 8 P P 14 42 13.2 -0.8
comp=Z,2.4nm,0.7s,baz=5.7,slow=4.3,SNR=4.7
ARU Arti 59.98 341 eP P 14 42 26.3 -0.2
comp=Z,6.9nm,0.8s
BRVK Borovoye 60.95 332 eP P 14 42 33.4 +0.2
comp=Z,4.9nm,0.9s
KURK Kurchatov 61.05 326 eP P 14 42 33.6 -0.3
comp=Z,11nm,1.5s
MKAR Makanchi Array 63.55 321 P P 14 42 50.2 -0.6
comp=Z,2.1nm,0.7s,baz=40,slow=7.0,SNR=12
GTA Gaotai 63.96 305 eP P 14 42 54.5 +0.8
GTA pP pP 14 42 58.0 -0.7
GTA sP sP 14 43 00.6 0.0
GTA pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 64.50 316 P P 14 42 59.9 +2.8
WMQ pP sP 14 43 04.8 +0.7
WMQ sP pP 14 43 08.9 +6.7
WMQ LR LR
comp=N,50nm,20.1s
WMQ LR LR
comp=E,21nm,25.7s
WMQ LR LR
comp=Z,20nm,20.1s
ABKAR Akbulak array 66.64 338 eP P 14 43 10.7 -0.1
comp=Z,25nm,0.6s
CLL Collm 66.89 10 eP P 14 43 12.0 -0.3
AKASG Malin Array Be 68.13 359 P P 14 43 19.1 -1.0
comp=Z,3.1nm,0.6s,baz=4.2,slow=6.3,SNR=9.9
AKBB Malin Array Si 68.13 359 eP P 14 43 19.4 -0.7
comp=Z,13nm,1.3s
GERES GERESS Array B 69.40 10 P P 14 43 27.8 -0.4
comp=Z,0.3nm,0.4s,baz=358,slow=11,SNR=4.3
AAK Ala-Archa 69.59 325 eP P 14 43 29.9 +0.3
comp=Z,2.4nm,0.8s
KKAR Karatay Array 70.20 328 eP P 14 43 33.1 -0.1
comp=Z,12nm,0.6s
BUR08 Bucovina Ar. S 71.17 2 eP P 14 43 39.0 -0.1
KSH Kashi 72.07 323 eP P 14 43 41.8 -2.8
KSH pP pP 14 43 47.6 -2.1
KSH sP sP 14 43 50.3 -1.3
KSH PcP PcP 14 44 00.0 -3.0
KSH PP PP 14 46 23.4 -0.7
KSH S S 14 52 57.6 -8.0
KSH PcS 14 53 05.5
KSH SKS SKSac 14 53 41.8 -6.2
KSH Kashi 72.07 323 ScS ScS 14 53 44.4 -5.5
KSH Kashi 72.07 323 SS SS 14 57 43.1 +1.5
KSH AMB AMB
comp=Z,10.0nm,1.1s
KSH pmax pmax
comp=Z,96nm,4.4s
KSH LR LR
comp=N,47nm,7.6s
KSH LR LR
comp=E,51nm,5.3s
KSH LR LR
comp=Z,160nm,5.5s
KBZ Khabaz 74.42 349 P P 14 43 58.2 0.0
comp=Z,2.7nm,0.9s,baz=298,slow=2.9,SNR=6.8
ESDC Sonseca Array 75.87 25 P P 14 44 06.5 -0.3

comp=Z,0.6nm,0.6s,baz=316,slow=2.7,SNR=4.7
GEYT Alibeck 77.92 336 P P 14 44 19.0 +0.6
comp=Z,1.2nm,0.6s,baz=24,slow=8.1,SNR=4.0
BRTR Keskin Array B 79.01 356 P P 14 44 23.8 -0.6
comp=Z,0.5nm,0.5s,baz=335,slow=6.5,SNR=3.6
TAPN Taplejung 79.28 309 eP P 14 44 27.1 +0.8
GUN Gumba 79.45 310 eP P 14 44 28.2 +0.9
JIRN Jiri 79.56 310 eP P 14 44 28.9 +1.0
DANN Dangsing 79.81 312 eP P 14 44 30.7 +1.5
GKN Gorkha 79.82 311 eP P 14 44 29.7 +0.7
ODAN Odare 79.84 309 eP P 14 44 29.2 -0.1
PKIN Phulchoki 79.93 311 eP P 14 44 29.8 0.0
RAMN Ramite 80.06 309 eP P 14 44 30.4 -0.1
comp=Z,24nm,1.0s
PYUN Piuthan 80.31 313 eP P 14 44 32.5 +0.7
comp=Z,30nm,1.0s
KOLN Koldanda 80.40 312 eP P 14 44 32.8 +0.5
CMAR Chiang Mai Arr 82.67 295 P P 14 44 43.6 -0.5
comp=Z,1.9nm,0.8s,baz=6.7,slow=6.1,SNR=16
CMAR LR LR 15 23 04.6
comp=Z,15nm,18.4s,baz=260,slow=37
BOSA Boshof 147.05 4 PKPbc PKPdf 14 52 00.8 -0.2

TAP ***22*** *14:37:56.0,24°.92N×122°.47E,h12km,ML3.2,D*
JMA ***22*** *14:37:56.1±0.3,24°.86N×122°.44E,h1km±4km,M2.4*
ISC 22 14:37:56.1±1.2,24°.89N±0°.04×122°.47E±0°.03,h17km±9km,
n33,σ0°.69/58,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.46	285	⇑P	Pb	14 38 05.4	-0.3
	baz=281						
TWB1				eS	Sb	14 38 11.3	-0.9
	baz=281						
EGS		0.49	264	eP	Pb	14 38 06.6	+0.2
	baz=261						
EGS				S	Sb	14 38 14.1	+0.8
	baz=261						
JYNG	Yonagunijimaku	0.61	136	P	Pb	14 38 08.2	-0.2
JYNG				eS	Sb	14 38 16.6	-0.2
TWC	Suao	0.63	244	eP	Pb	14 38 08.7	0.0
	baz=241						
TWC				eS	Sg	14 38 16.7	-0.3
	baz=241						
NWF	Wu-fen Shan	0.65	286	eP	Pn	14 38 09.8	-0.9
	baz=284						
NWF				eS	Sb	14 38 18.7	+0.7
	baz=284						
YOJ	Yonaguni jima	0.65	131	P	Pb	14 38 08.9	-0.1
YOJ				eS	Sb	14 38 17.7	-0.1
ILA	Ilan	0.67	259	eS	Sn	14 38 20.0	-1.0
	baz=243						
TWE	Neicheng	0.75	257	eP	Pb	14 38 10.9	+0.1
	baz=254						
TWE				eS	Sb	14 38 20.9	+0.2
	baz=254						
ENA	Nanau	0.81	235	eP	Pb	14 38 11.9	+0.1
	baz=233						
ENA				eS	Sg	14 38 22.4	-0.2
	baz=233						
TWA	Mucha	0.81	276	eP	Pn	14 38 12.3	-0.5
	baz=274						
TWA				eS	Sn	14 38 23.7	-0.8
	baz=274						
PCYT	Pengchaiyu	0.82	334	eP	Pn	14 38 12.7	-0.2
	baz=333						
PCYT				S	Sn	14 38 24.9	+0.3
	baz=333						
ENTT	Nioudou	0.86	253	eP	Pn	14 38 13.2	-0.3
	baz=234						
ENTT				eS	Sb	14 38 24.4	+0.4
	baz=234						
TWY	Chenhua	0.88	296	eP	Pn	14 38 13.9	+0.2
	baz=294						
TWY				eS	Sn	14 38 26.1	0.0
	baz=294						
NSK	Sanguang	1.04	258	eP	Pn	14 38 15.9	0.0
	baz=271						
NSK				eS	Sb	14 38 29.0	-0.1
	baz=271						
NNS	Nan Shan	1.10	246	eP	Pg	14 38 17.1	-0.3
	baz=243						
NNS				eS	Sb	14 38 31.1	+0.3
	baz=243						
TWD	Chiawan	1.14	225	eP	Pg	14 38 18.0	-0.1
	baz=232						
TWD				eS	Sn	14 38 32.9	+0.4
	baz=232						
IRIF	Iriomote-Funau	1.27	116	P	Pg	14 38 21.3	+0.7
WHF	Hehuan Shan	1.33	236	eP	Pg	14 38 21.7	-0.1
	baz=234						
WHF				eS	Sn	14 38 38.4	+0.5
	baz=234						
TWT	Tachien	1.34	242	eP	Pg	14 38 21.6	-0.4
	baz=230						
TWT				eS	Sg	14 38 40.1	+0.5
	baz=230						
NSTT	Nanjuang	1.36	259	eP	Pb	14 38 20.6	-0.6
	baz=257						
NSTT				eS	Sg	14 38 41.4	+1.2
	baz=257						
ESL	Shilin	1.43	222	eP	Pg	14 38 23.3	-0.4
	baz=219						
ESL				eS	Sg	14 38 41.5	-0.9
	baz=219						
TWQ1	Liyutan	1.64	251	eP	Pg	14 38 28.4	+0.8
	baz=266						
EHY	Hungye	1.74	217	eP	Pg	14 38 28.9	-0.6
	baz=216						
SMLT	Sun Moon Lake	1.75	235	eP	Pg	14 38 29.4	-0.3
	baz=233						
SMLT				eS	Sg	14 38 53.3	+0.7
	baz=233						
TYC	Yuchr	1.77	237	eP	Pb	14 38 28.1	0.0
	baz=234						
TYC				eS	Sb	14 38 50.6	+0.4
	baz=234						
TWF1	Yuli	1.87	215	eP	Pb	14 38 29.9	0.0
	baz=201						
YUS	Yu-Shan	1.97	225	eP	Pb	14 38 31.6	-0.2
	baz=206						
YUS				eS	Sb	14 38 56.5	+0.2
	baz=206						
ALS	Alishan	2.05	228	eP	Pb	14 38 32.3	-0.8
	baz=210						
CHN5	Tsauling	2.09	232	eP	Pg	14 38 35.7	-0.5
	baz=213						
ELDTW	Lidau	2.16	218	eP	Pb	14 38 33.8	-1.0
	baz=204						
CHN4	Tsaushan	2.30	229	eP	Pb	14 38 37.0	-0.3
	baz=210						
CHN4				eS	Sb	14 39 07.8	+2.3
	baz=210						
WTP	Ta-pu	2.36	226	eP	Pb	14 38 39.3	+1.0
	baz=208						
WTP				S	Sb	14 39 08.6	+1.5
	baz=208						
SGST	Jiashian	2.50	224	eP	Pb	14 38 39.3	-1.2
	baz=206						
SGST				eS	Sb	14 39 12.4	+1.3
	baz=206						

IDC ***22*** *14:39:43.2±2.5,12°.38N×124°.94E,h0km,mb3.8/3,*
mb1 4.0/3,mb1mx3.4/52,mbtmp3.8/3,MS2.5/1,Ms1 2.5/1,
ms1mx2.1/31,Error ellipse: s-maj=359.9km s-min=32.2km
az=70.0
MAN ***22*** *14:39:45,12°.03N×123°.97E,h2km,mb4.5,ML3.3,MS3.2*
ISC 22 14:39:45.0±2.2,12°.06N±0°.04×124°.00E±0°.04,h7km±16km,
n14,σ1°.21/23,mb3.5/3,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	Catarman	0.79	55	eP	Pn	14 40 01.5	-1.0
CNP				eS	Sn	14 40 14.3	-0.3
OCLP	Ormoc	1.17	149	eP	Pn	14 40 08.2	+0.5
OCLP				eS	Sn	14 40 25.5	+1.6
PLP	Palo	1.31	133⇑	eP	Pn	14 40 09.2	-0.4
PLP				eS	Sn	14 40 28.4	+1.0
RCP	Roxas	1.32	248⇓	eP	Pn	14 40 09.5	-0.4
RCP				eS	Sg	14 40 28.1	+0.5
BESP	Borongan	1.48	108	eP	Pb	14 40 12.2	-0.6
BESP				eS	Sn	14 40 30.4	-1.2
PVCP	Virac	1.54	6	eP	Pn	14 40 13.4	+0.6

PVCP				*e*S		**Sn**	**14 40 35.9 +2.9**
LLP	**Lapu-Lapu**	**1.73**	**181**⇑	*e*P		**Pb**	**14 40 16.9 -0.2**
LLP				*e*S		**Sn**	**14 40 38.9 +1.1**
GUIM	**Jordan**	**1.98**	**224**	*e*P		**Pn**	**14 40 19.8 +0.8**
GUIM				*e*S		**Sn**	**14 40 43.8 -0.3**
MSLP	**Maasin**	**2.09**	**156**	*e*P		**Pn**	**14 40 20.8 +0.3**
MSLP				*e*S		**Sb**	**14 40 49.4 +0.1**
ENPP	**El Nido**	**4.56**	**260**	*e*P		**Pn**	**14 40 54.5 +0.1**
ENPP				*e*S		**Sn**	**14 41 45.1 -2.7**
KSRS	**Korea Array**	**25.53**	**7**	LR		LR	14 55 27.5
	comp=Z,11nm,20.9s,baz=65,slow=38						
WRA	**Warramunga Arr**	**33.39**	**162**	P		**P**	**14 46 22.9 -1.4**
	0.3nm,0.7s,baz=345,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**36.80**	**165**	P		**P**	**14 46 54.5 +0.8**
	0.3nm,0.4s,baz=344,slow=7.2,SNR=8.1						
FINES	**FINESS Array B**	**83.27**	**331**	P		**P**	**14 52 12.3 +0.2**
	5.1nm,1.1s,baz=90,slow=3.8,SNR=3.8						

ISCJB ***22*** *14:44:59.7±0.4,4°.34S±0°.05×126°.80E±0°.06,h350km, mb3.6/9,Error ellipse: s-maj=7.6km s-min=6.6km az=161.3*

IDC ***22*** *14:45:00.2±1.5,4°.44S×126°.45E,h346km±14km,mb3.5/10, mb1 3.6/12,mb1mx3.4/42,mbtmp4.2/12,Error ellipse: s-maj=26.3km s-min=8.2km az=69.0*

DJA ***22*** *14:45:02.0±0.5,4°.S±4°.×12°.7E±°,h319km±6km,M4.7/4, mB4.7/2,mb4.6/2,MLv4.7/4,Mw(mB)3.9/2*

ISC 22 14:45:00.1±0.5,4°.38S±0°.06×126°.76E±0°.08,h350km,n33, σ1§93/41,mb3.7/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.18**	**17**	P	**Pn**	**14 45 46.6**	**-0.1**
NLAI				S	**S**	**14 46 20.9**	**-3.1**
AAI	**Ambon**	**1.59**	**64**	P	**Pn**	**14 45 49.1**	**+0.3**
AAI				S	**S**	**14 46 22.7**	**-5.1**
MSAI	**Masohi**	**2.39**	**65**	P	**Pn**	**14 45 53.9**	**-0.5**
SANI	**Sanana**	**2.44**	**342**	P	**Pn**	**14 45 54.6**	**-0.2**
BNDI	**Bandanaira**	**3.14**	**93**	P	**Pn**	**14 46 01.5**	**+0.8**
LBMI	**Labuha**	**3.79**	**11**	P	**Pn**	**14 46 09.0**	**+1.9**
BBSI	**Bau Bau**	**4.32**	**255**	P	**Pn**	**14 46 14.1**	**+1.7**
KMSI	**Cibinong**	**5.65**	**330**	P	**Pn**	**14 46 30.4**	**+3.3**
SOEI	**Soe**	**5.88**	**205**	P	**Pn**	**14 46 31.4**	**+1.6**
MMRI	**Maumere**	**6.17**	**227**	P	**Pn**	**14 46 34.2**	**+1.3**
BNSI	**Bone**	**6.64**	**270**	P	**Pn**	**14 46 40.3**	**+2.0**
EDFI	**Ende, Flores**	**6.65**	**229**	P	**Pn**	**14 46 40.3**	**+1.7**
	49nm,1.0s,703nm						
MRSI	**Marisa**	**6.82**	**315**	P	**Pn**	**14 46 40.6**	**+0.2**
SPSI	**Sidrap Palu**	**6.99**	**273**	P	Pn	14 46 49.0	+6.6
TTSI	**Tana Toraja**	**7.05**	**281**	P	Pn	14 46 54.0	+11
PCI	**Palu**	**7.73**	**296**	P	**Pn**	**14 46 55.7**	**+4.5**
MPSI	**Mapaga**	**8.31**	**304**	P	**P**	**14 46 59.7**	**-1.1**
TWSI	**Taliwang, Sumb**	**10.72**	**246**	P	**Pn**	**14 47 26.5**	**-0.3**
SRBI	**Singaraja**	**12.05**	**252**	P	**Pn**	**14 47 44.3**	**+1.7**
JAGI	**Jajag, Banyuwa**	**13.17**	**251**	P	**Pn**	**14 47 55.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.68**	**185**	P	**Pn**	**14 48 00.8**	**-0.9**
	0.8nm,0.3s,baz=18,slow=10,SNR=43						
FITZ				S	**S**	**14 50 24.7**	**-4.9**
	0.2nm,0.3s,baz=307,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**17.14**	**155**	P		**P**	**14 48 38.4 +0.4**
	1.1nm,0.3s,baz=333,slow=11,SNR=46						
WRA				S		**S**	**14 51 37.2 -1.5**
	0.3nm,0.3s,baz=332,slow=20,SNR=6.0						
WRA				ScP		**ScP**	**14 56 04.4 +0.3**
	0.1nm,0.3s,baz=337,slow=1.9,SNR=6.1						
ASAR	**Alice Springs**	**20.37**	**161**	P		**P**	**14 49 12.8 +1.1**
	4.2nm,0.3s,baz=350,slow=15,SNR=73						
ASAR				S		**S**	**14 52 38.7 +1.3**
	11nm,1.1s,baz=352,slow=23,SNR=14						
ASAR				PcP		**PcP**	**14 53 09.1 +0.6**
	1.0nm,0.5s,baz=358,slow=1.8,SNR=5.9						
ASAR				ScP		**ScP**	**14 56 11.6 +0.3**
	0.6nm,0.5s,baz=352,slow=2.3,SNR=5.4						
CTA	**Charters Tower**	**24.58**	**131**	P		**P**	**14 49 52.2 +2.4**
	7.9nm,1.1s,baz=286,slow=9.6,SNR=2.9						
NWAO	**Narrogin (SRO)**	**29.76**	**196**	P		**P**	**14 50 35.1 -0.4**
	6.1nm,0.5s,baz=38,slow=20,SNR=18						
STKA	**Stephens Creek**	**30.69**	**155**	P		**P**	**14 50 45.2 +1.5**
	7.1nm,0.4s,baz=334,slow=8.5,SNR=53						
STKA				PcP		**PcP**	**14 53 32.0 0.0**
	1.1nm,0.4s,baz=334,slow=5.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**35.59**	**310**	P		**P**	**14 51 23.4 -2.5**
	0.7nm,0.5s,baz=140,slow=7.9,SNR=7.3						
CMAR				ScP		**ScP**	**14 57 00.2 +1.9**
	0.5nm,0.8s,baz=158,slow=2.9,SNR=5.1						
KSRS	**Korea Array**	**41.63**	**1**	P		**P**	**14 52 15.8 +0.5**
	1.0nm,0.5s,baz=193,slow=10,SNR=3.8						
SONM	**Songino Array**	**54.99**	**343**	P		**P**	**14 53 56.5 +0.1**
	1.0nm,0.8s,baz=160,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**64.30**	**328**	P		**P**	**14 54 59.2 +0.1**
	1.1nm,0.4s,baz=114,slow=8.6,SNR=28						
ZALV	**Zalesovo Beam**	**67.84**	**335**	P		**P**	**14 55 20.1 -1.2**
	0.7nm,0.4s,baz=108,slow=4.8,SNR=4.0						
VNDA	**Vanda**	**75.43**	**173**	P		**P**	**14 56 06.3 +0.5**
	0.5nm,0.5s,baz=305,slow=8.3,SNR=9.9						
CPUP	**Villa Florida**	**149.21**	**173**	PKPbc		**PKPbc**	**15 04 09.3 +0.8**
	1.1nm,0.5s,baz=318,slow=5.8,SNR=3.2						

MAN 22 14:53:14,9°.77N×122°.13E,h28km,mb4.4,ML3.2,MS3.1, 2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.97**	**28**	*e*P	Pb	14 53 32.4	+0.2
GUIM				*e*S	Sb	14 53 46.0	+1.4
DCPH	**Dipolog City**	**1.69**	**134**⇓	*e*P	Pn	14 53 42.7	+1.1
DCPH				*e*S	Sb	14 54 04.2	-1.1
RCP	**Roxas**	**1.88**	**19**⇓	*e*P	Pb	14 53 48.1	+0.3
RCP				*e*S	Sb	14 54 15.2	+4.3
LLP	**Lapu-Lapu**	**1.89**	**73**	*e*P	Pn	14 53 45.8	+1.3
LLP				*e*S	Sn	14 54 09.0	+1.6
PAGZ	**Pagadian**	**2.28**	**147**	*e*P	Pn	14 53 51.4	+1.6
PAGZ				*e*S	Sb	14 54 21.9	-0.3
MSLP	**Maasin**	**2.72**	**82**	*e*P	Pb	14 53 59.8	-2.2
MSLP				*e*S	Sb	14 54 33.7	-1.2
ENPP	**El Nido**	**3.02**	**299**	*e*P	Pn	14 54 01.8	+1.9
ENPP				*e*S	Sn	14 54 35.5	+0.3

IDC 22 14:59:06.6±11.0,24°.06S×66°.46W,h151km±89km, mb3.2/1,mb1 3.1/2,mb1mx3.0/15,mbtmp3.5/2,Error ellipse: s-maj=138.5km s-min=83.0km az=57.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.89**	**348**	P	Pn	15 00 59.1	0.0
	0.2nm,0.3s,baz=171,slow=13,SNR=4.4						
LPAZ				S	Sn	15 02 28.1	+0.6
	baz=346,slow=19,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.13**	**69**	P	P	15 10 38.3	+0.1
	0.3nm,0.5s,baz=256,slow=5.8,SNR=4.8						
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc	PKPdf	15 18 28.4	+0.5
	0.5nm,0.4s,baz=288,slow=3.6,SNR=3.7						

MAN 22 15:08:00,9°.91N×125°.96E,h11km,mb3.7,ML2.4,MS2.0, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.48**	**255**⇓	*e*P	Pb	15 08 10.2	-0.3
MSLP	**Maasin**	**1.10**	**282**	*e*P	Pb	15 08 19.7	-1.4
MSLP				*e*S	Sn	15 08 37.2	+0.5
BUKP	**Musuan**	**2.20**	**204**	*e*P	Pn	15 08 37.4	+0.9
BUKP				*e*S	Sn	15 09 04.7	+0.9

GCMT 22 15:44:24.0±0.6,4°.52S×105°.63W,h19km±2km,MW4.8/75, Moment Tensor Solution. s30,c33; s75,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.13±.10; Mθθ0.45±.09; Mφφ-0.58±.10; Mrθ0.27±.19; Mθφ1.40±.09; Mφr0.77±.24; **Best double couple:** M0 1.70500×1016 **NP1:**φs9.00000°,δ85.00000°, λ152.00000°. **NP2:**φs102.00000°,δ62.00000°,λ6.00000°. **Principal axes:** T 1.7140, Plg23.0000°, Azm322.0000°; N -0.0200, Plg61.0000°, Azm179.0000°; P -1.6950, Plg16.0000°, Azm59.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Central East Pacific Rise**

ISCJB ***22*** *15:52:28.9±0.4,32°.62N±0°.03×115°.71W±0°.03,h23km±4km Error ellipse: s-maj=5.0km s-min=3.5km az=40.3*

ECX ***22*** *15:52:29.9±0.5,32°.58N×115°.71W,h3km,MD2.1,ML2.3*

MEX ***22*** *15:52:31.9±0.4,32°.73N×115°.75W,h16km±999km,MD3.5*

ISC 22 15:52:28.7±0.9,32°.66N±0°.03×115°.73W±0°.03,h25km±6km, n26,σ0§61/40,2C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.10**	**31**⇓	*i*P	**Pb**	**15 52 33.4**	**+0.1**
WESC	**Westside Schoo**	**0.10**	**357**⇓	*i*P	**Pb**	**15 52 33.5**	**+0.2**
YUH	**Yuha Desert**	**0.17**	**266**⇑	*i*P	**Pb**	**15 52 33.5**	**-0.5**
COK	**Cook Ranch**	**0.19**	**359**⇓	*i*P	**Pb**	**15 52 35.2**	**+1.0**
SWSC	**Sam W. Stewart**	**0.29**	**348**	P	**Pb**	**15 52 36.5**	**+0.9**
	baz=169,SNR=9.7						
SWSC				S	**Sn**	**15 52 41.9**	**-1.1**
	baz=169						
RMX	**La Rumorosa**	**0.30**	**260**	*e*P	**Pb**	**15 52 35.2**	**-0.7**
RMX				*e*S	**Sb**	**15 52 39.8**	**-0.9**
IKP	**In-Ko-Pah, Jac**	**0.33**	**269**	P	**Pb**	**15 52 36.2**	**+0.1**
	baz=102,SNR=21						
IKP				S	**Sb**	**15 52 41.2**	**-0.1**
	baz=102						
IKP	**In-Ko-Pah, Jac**	**0.33**	**269**⇑	*i*P	**Pb**	**15 52 36.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.43**	**124**	IAML		15 52 44.6	
	comp=N,613nm,0.1s						
MONP2	**Montmount Peak**	**0.63**	**292**	P	**Pn**	**15 52 42.0**	**-0.3**
	baz=117,SNR=15						
MONP2				S	**Sn**	**15 52 50.8**	**-1.0**
	baz=117						
BAR	**Barrett**	**0.80**	**272**	*e*P	**Pn**	**15 52 44.7**	**+0.3**
TJIG	**Tijuana**	**0.83**	**255**	*e*P	**Pb**	**15 52 45.0**	**+0.5**
TJIG				*e*S	**Sb**	**15 52 55.2**	**-0.1**
GLA	**Glamis**	**0.85**	**62**	P	**Pn**	**15 52 44.7**	**-0.5**
	baz=238						
GLA				S	**Sb**	**15 52 55.8**	**-0.1**
	baz=238						
CBX	**Cerro Bola**	**0.86**	**247**	*e*P	**Pb**	**15 52 45.5**	**+0.4**
CBX				*e*S	**Sb**	**15 52 56.7**	**+0.3**
CBX	**Cerro Bola**	**0.86**	**247**	*e*P	**Pb**	**15 52 45.5**	**+0.4**
CBX				*e*S	**Sb**	**15 52 56.7**	**+0.3**
CBX				IAML		15 52 59.5	
	comp=N,92nm,0.5s						
CBX				*e*		15 52 59.5	
BC3	**Big Chuckawall**	**1.02**	**13**	P	**Pn**	**15 52 47.7**	**+0.1**
	baz=192						
BC3				S	**Sb**	**15 53 01.7**	**+0.9**
	baz=192						
SDRC	**San Diego Road**	**1.03**	**275**	*e*P	**Pb**	**15 52 48.7**	**+0.9**
PFO	**Pinyon Flats O**	**1.13**	**327**	P	**Pb**	**15 52 49.9**	**+0.2**
	baz=149						
PFO				S	**Sb**	**15 53 05.0**	**+0.9**
	baz=149						
109C	**Camp Elliot, M**	**1.19**	**282**	P	**Pb**	**15 52 50.2**	**-0.2**
	baz=104						
109C				S	**Sb**	**15 53 06.0**	**+0.6**
	baz=104						
ZAX	**El Zacaton**	**1.23**	**202**	*e*P	**Pn**	**15 52 50.3**	**-0.2**
ZAX				*e*S	**Sn**	**15 53 06.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**217**	*e*P	**Pn**	**15 52 50.8**	**+0.2**
ECNX				*e*S	**Sn**	**15 53 06.8**	**+0.2**
ECBX	**El Chinero**	**1.31**	**154**	*e*P	**Pn**	**15 52 51.0**	**-0.5**
ECBX				*e*S	**Sn**	**15 53 07.7**	**-0.4**
ECBX				IAML		15 53 09.2	
	comp=N,88nm,0.3s						
ECBX				*e*		15 53 09.2	
BELC	**Belle Mtn. Jos**	**1.36**	**350**	P	**Pb**	**15 52 53.2**	**-0.4**
	baz=171,SNR=5.4						
BELC				S	**Sb**	**15 53 10.5**	**0.0**
	baz=171						
Y12C	**Blythe**	**1.48**	**42**	Sb	**Sb**	**15 53 15.2**	**+1.2**
	baz=221						
IRM	**Iron Mountain**	**1.57**	**18**	P	**Pb**	**15 52 56.4**	**-0.7**
	baz=197						
SPX	**San Pedro Mart**	**1.62**	**172**	*e*P	**Pn**	**15 52 56.9**	**+0.9**

IDC 22 15:52:42.9±3.0,19°.15S×169°.75E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.7/36,mbtmp4.0/6,ML3.7/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/29,Error ellipse: s-maj=80.2km s-min=33.1km az=128.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.25**	**226**	Pn	Pn	15 53 49.5	+0.5
	3.8nm,0.3s,baz=98,slow=11,SNR=38						
DZM				Sn	Sn	15 54 38.3	-1.0
	2.8nm,0.3s,baz=139,slow=20,SNR=4.0						
DZM				LR	LR	15 55 17.1	
	comp=Z,404nm,18.4s,baz=14,slow=36						
AFI	**Afiamalu**	**18.46**	**76**	LR	LR	16 02 31.7	
	comp=Z,148nm,21.0s,baz=180,slow=32						
CTA	**Charters Tower**	**22.15**	**264**	P	P	15 57 41.9	+1.4
	3.1nm,0.9s,baz=65,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**28.30**	**238**	P	P	15 58 38.9	+0.5
	1.0nm,0.7s,baz=76,slow=13,SNR=3.7						
STKA				LR	LR	16 08 40.2	
	comp=Z,83nm,21.8s,baz=25,slow=34						
WRA	**Warramunga Arr**	**33.34**	**263**	P	P	15 59 21.5	-1.5
	3.4nm,1.1s,baz=88,slow=7.9,SNR=5.1						
ASAR	**Alice Springs**	**33.62**	**256**	P	P	15 59 25.1	-0.3
	4.8nm,0.5s,baz=84,slow=8.8,SNR=112						
ASAR				PcP	PcP	16 02 05.4	-0.4
	0.3nm,0.8s,baz=87,slow=1.9,SNR=2.9						
ASAR				LR	LR	16 12 36.8	
	comp=Z,79nm,18.6s,baz=87,slow=36						
GUMO	**Guam**	**40.73**	**321**	LR	LR	16 16 22.7	
	comp=Z,12nm,20.0s,baz=160,slow=35						
SONM	**Songino Array**	**87.44**	**323**	P	P	16 05 32.5	+0.2
	0.6nm,0.6s,baz=134,slow=4.2,SNR=5.0						
LPIG	**La Paz**	**88.94**	**64**	LR	LR	16 35 40.4	
	comp=Z,23nm,18.8s,baz=260,slow=29						
TXAR	**Lajitas Array**	**96.30**	**61**	LR	LR	16 42 31.9	
	comp=Z,14nm,19.7s,baz=0.0,slow=31						

NIED ***22*** *15:53:00,41°.00N×142°.40E,h41km,Mw3.7 Best double couple: M0 3.62000×1014 NP1:*φs*240.00000°,*δ*24.00000°, λ148.00000°. NP2:*φs*359.00000°,*δ*77.00000°,*λ*69.00000°.*

ISCJB ***22*** *15:53:03.3±0.6,41°.00N±0°.04×142°.40E±0°.07,h61km±6km, mb3.7/6,Error ellipse: s-maj=9.8km s-min=4.7km az=34.5*

JMA ***22*** *15:53:03.2±0.1,41°.01N×142°.42E,h32km±4km,M3.7*

IDC ***22*** *15:53:05.8±2.1,40°.96N×142°.57E,h72km±19km,mb3.4/6, mb1 3.5/9,mb1mx3.3/59,mbtmp3.6/9,MS2.4/2,Ms1 2.4/2, ms1mx2.1/24,Error ellipse: s-maj=29.1km s-min=13.5km az=104.0*

ISC 22 15:53:04.2±1.1,41°.01N±0°.04×142°.37E±0°.06,h50km±12km, n27,σ1§18/29,mb3.7/6,4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.91**	**226**	⇓P	**Pn**	**15 53 20.1**	**-0.7**
JANG				S	**Sn**	**15 53 32.1**	**-0.8**
JTM	**Tenmabayashi**	**1.01**	**257**	⇓P	**Pn**	**15 53 22.0**	**-0.1**
JTM				S	**Sn**	**15 53 35.6**	**+0.3**
JOT	**Ohata**	**1.06**	**291**	⇓P	**Pn**	**15 53 22.2**	**-0.6**
JOT				S	**Sn**	**15 53 36.0**	**-0.5**
JEM	**Erimo**	**1.16**	**30**	P	**Pn**	**15 53 23.5**	**-0.6**
JEM				S	**Sn**	**15 53 38.9**	**0.0**
JNBK	**Urakawa-nobuka**	**1.30**	**13**	P	**Pn**	**15 53 26.1**	**+0.2**
JKB	**Kayabe**	**1.33**	**311**	P	**Pn**	**15 53 25.8**	**-0.6**
JAH	**Hinai**	**1.56**	**239**	P	**Pn**	**15 53 30.0**	**+0.5**
JAH				S	**Sn**	**15 53 49.5**	**+1.0**
JSR	**Shiriuchi**	**1.56**	**290**	⇓P	**Pn**	**15 53 29.7**	**+0.2**
JSR				S	**Sn**	**15 53 49.9**	**+1.4**
JOM	**Ohasama**	**1.75**	**209**	P	**Pn**	**15 53 32.5**	**+0.4**
JOM				*e*S	**Sn**	**15 53 53.8**	**+0.6**
JCH	**Churui**	**1.76**	**25**	P	**Pn**	**15 53 32.1**	**-0.2**
JCH				*e*S	**Sn**	**15 53 53.6**	**+0.1**
JNB	**Noboribetsu**	**1.76**	**326**	P	**Pn**	**15 53 31.6**	**-0.7**
JBT2	**Biratori 2**	**1.76**	**360**	P	**Pn**	**15 53 32.6**	**+0.3**
ASAJ	**Asahikawa**	**3.10**	**3**	P	**Pn**	**15 53 51.7**	**+1.0**
	5.0nm,0.3s,baz=222,slow=11,SNR=51						
ASAJ				S	**Sn**	**15 54 30.3**	**+3.8**
	4.7nm,0.3s,baz=224,slow=33,SNR=8.5						
MJAR	**Matsushiro Arr**	**5.52**	**217**	P	**Pn**	**15 54 26.7**	**+2.8**
	1.0nm,0.3s,baz=30,slow=13,SNR=21						
MJAR				LR	LR	15 57 02.9	
	comp=Z,29nm,21.8s,baz=35,slow=43						
KSRS	**Korea Array**	**11.75**	**257**	P	Pn	15 55 54.6	+5.4
	0.1nm,0.3s,baz=65,slow=14,SNR=3.0						
KSRS				LR	LR	15 59 33.8	
	comp=Z,25nm,18.9s,baz=50,slow=33						
H11N2	**WAKE ISLAND Hy**	**29.78**	**128**	T	T	16 30 11.3	
	baz=333						
H11N1	**WAKE ISLAND Hy**	**29.79**	**128**	T	T	16 30 18.1	
	baz=333						
H11N3	**WAKE ISLAND Hy**	**29.80**	**128**	T	T	16 30 11.3	
	baz=333						
H11S1	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	16 31 37.7	
	baz=322,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**30.62**	**130**	T	T	16 31 41.1	
	baz=322,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.64**	**130**	T	T	16 31 39.4	
	baz=322,slow=76,SNR=9.9						
ZALV	**Zalesovo Beam**	**39.89**	**309**	P	**P**	**16 00 33.4**	**+0.5**
	0.9nm,0.5s,baz=99,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**42.75**	**299**	P	**P**	**16 00 56.1**	**-0.4**
	0.8nm,0.5s,baz=85,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**45.76**	**34**	P	**P**	**16 01 19.9**	**-0.4**
	0.2nm,0.7s,baz=264,slow=6.3,SNR=3.0						
WRA	**Warramunga Arr**	**61.10**	**189**	P	**P**	**16 03 11.5**	**-1.7**
	0.4nm,0.6s,baz=4.9,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**64.83**	**189**	P	**P**	**16 03 36.6**	**-1.3**
	0.3nm,0.7s,baz=4.3,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**65.65**	**332**	P	**P**	**16 03 43.2**	**+0.4**
	4.6nm,1.1s,baz=30,slow=8.5,SNR=4.4						

NSSC ***22*** *16:03:48.0±1.4,35°.87N×30°.05E,h41km±999km,ML2.9*

NIC ***22*** *16:03:49.4±0.3,35°.96N×30°.07E,h16km,mb4.1,ML3.7*

ISK ***22*** *16:03:51.2,35°.77N×30°.56E,h8km,ML3.7*

DDA ***22*** *16:03:52.1,35°.69N×30°.47E,h30km,Ml3.7*

CSEM ***22*** *16:03:53.3±0.1,35°.81N×30°.56E,h10km,ML3.5,Error ellipse: s-maj=3.4km s-min=2.0km az=3.0*

IDC ***22*** *16:03:54.9±1.1,35°.87N×30°.56E,h45km±14km,mb3.6/13, mb1 3.7/19,mb1mx3.5/48,mbtmp3.8/19,ML3.4/7,MS2.8/6, Ms1 2.8/6,ms1mx2.5/44,Error ellipse: s-maj=12.7km s-min=9.4km az=178.0*

THE ***22*** *16:03:54.4,35°.88N×30°.56E,h4km±5km,ML3.5/6,Error ellipse: s-maj=15.9km s-min=1.3km az=192.0*

ISCJB ***22*** *16:03:54.1±0.2,35°.74N±0°.02×30°.58E±0°.02,h64km±4km, mb3.8/14,Error ellipse: s-maj=3.9km s-min=1.9km az=16.2*

ISC 22 16:03:55.8±0.9,35°.81N±0°.03×30°.54E±0°.02,h54km±10km, n213,σ1§40/259,mb3.8/14,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.84**	**294**	P	**Pn**	**16 04 10.7**	**-0.9**
KSL				S	**Sn**	**16 04 23.6**	**+0.5**
AKAS	**Kas**	**0.86**	**299**	*i* P	**Pn**	**16 04 10.5**	**-1.5**
AKAS				*i* S	**Sn**	**16 04 26.5**	**+2.7**
ELL	**Elmali**	**1.06**	**332**	*e*PN	**Pn**	**16 04 12.4**	**-2.2**
ELL	**Elmali**	**1.06**	**332**	*e*Pn	**Pn**	**16 04 12.4**	**-2.2**
ANTB	**Antalya**	**1.09**	**5**	*e*PN	**Pn**	**16 04 13.2**	**-1.6**
ANTB				*e*SN	**Sn**	**16 04 29.9**	**+1.0**
ANTB	**Antalya**	**1.09**	**5**	*e*Pn	**Pn**	**16 04 13.2**	**-1.6**
ANTB				*e*Sn	**Sn**	**16 04 29.9**	**+1.0**
KORT	**Korkueli**	**1.20**	**353**	*e*PN	**Pn**	**16 04 15.9**	**-0.5**
KORT	**Korkueli**	**1.20**	**353**	*i* P	**Pn**	**16 04 16.0**	**-0.4**
KORT				*i* S	**Sn**	**16 04 34.8**	**+3.1**
KORT	**Korkueli**	**1.20**	**353**	P	**Pn**	**16 04 16.0**	**-0.4**
KORT				S	**Sn**	**16 04 34.8**	**+3.1**
FETY	**Fethiye**	**1.43**	**305**	*e*PN	**Pn**	**16 04 18.9**	**-0.6**
FETY	**Fethiye**	**1.43**	**305**	P	**Pn**	**16 04 19.3**	**-0.3**
FETY				S	**Sn**	**16 04 37.9**	**+0.6**
FETY	**Fethiye**	**1.43**	**305**	*e*Pn	**Pn**	**16 04 18.9**	**-0.6**
FETY	**Fethiye**	**1.43**	**305**	P	**Pn**	**16 04 19.2**	**-0.3**
FETY				S	**Sn**	**16 04 37.9**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.58**	**328**	*e*PN	**Pn**	**16 04 21.2**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.58**	**328**	*e*Pn	**Pn**	**16 04 21.2**	**-0.4**
GOLH	**Golhisar**	**1.62**	**331**	*i* P	**Pn**	**16 04 23.2**	**+1.0**
GOLH				*i* S	**Sn**	**16 04 46.9**	**+4.8**
GOLH	**Golhisar**	**1.62**	**331**	P	**Pn**	**16 04 23.2**	**+1.0**
GOLH				S	**Sn**	**16 04 46.9**	**+4.8**
BCK	**Bucak**	**1.65**	**1**	*e*PN	**Pn**	**16 04 21.6**	**-0.9**
BCK	**Bucak**	**1.65**	**1**	*e*Pn	**Pn**	**16 04 21.6**	**-0.9**
AKMC	**Akamas**	**1.66**	**118**	P	**Pn**	**16 04 23.4**	**+0.8**
AKMC	**Akamas**	**1.66**	**118**	P	**Pn**	**16 04 23.4**	**+0.8**
	baz=297						
SUTC	**Sutluce-Ispart**	**1.70**	**12**	*e*PN	**Pn**	**16 04 22.7**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.70**	**12**	*e*Pn	**Pn**	**16 04 22.7**	**-0.6**
PPCY	**Paphos**	**1.74**	**122**	P	**Pn**	**16 04 23.7**	**0.0**
PPCY	**Paphos**	**1.74**	**122**	P	**Pn**	**16 04 23.7**	**0.0**
	baz=300						
ALFC	**Alefka**	**1.81**	**111**	P	**Pn**	**16 04 24.5**	**-0.1**
ALFC				S	**Sn**	**16 04 52.4**	**+6.0**
ALFC	**Alefka**	**1.81**	**111**	P	**Pn**	**16 04 24.5**	**-0.1**
	baz=291						
ALFC				S	**Sn**	**16 04 52.4**	**+6.0**
DALY	**Dalyan (Mu¨la**	**1.82**	**304**	*e*PN	**Pn**	**16 04 24.6**	**-

BDRM S **Sn** **16 05 11.5 +1.0**
LADK Ladik-KONYA 2.80 31 *e*PN **Pn** **16 04 38.3 +0.1**
LADK Ladik-KONYA 2.80 31 *e*Pn **Pn** **16 04 38.3 +0.1**
NIS1 Nisyros Isl. 2.83 287 *e*PN **Pn** **16 04 38.4 -0.2**
NIS1 Nisyros Isl. 2.83 287 P **Pn** **16 04 38.3 -0.3**
NIS1 S **Sn** **16 05 12.0 +0.6**
NIS1 Nisyros Isl. 2.83 287 *e*Pn **Pn** **16 04 38.4 -0.2**
NIS1 S **Sn** **16 05 12.0 +0.6**
BODT Bodrum 2.88 297 *e*PN **Pn** **16 04 39.1 -0.3**
BODT Bodrum 2.88 297 P **Pn** **16 04 39.2 -0.1**
BODT S **Sn** **16 05 12.8 0.0**
BODT Bodrum 2.88 297 P **Pn** **16 04 39.2 -0.1**
BODT S **Sn** **16 05 12.8 0.0**
KDHN Kadinhani 2.98 25 *i* P **Pn** **16 04 40.3 -0.5**
KDHN Kadinhani 2.98 25 P **Pn** **16 04 40.3 -0.5**
KIZK Mersin 2.99 76 *e*PN **Pn** **16 04 40.0 -0.8**
KIZK Mersin 2.99 76 *i* P **Pn** **16 04 41.4 +0.6**
KIZK *i* S Sn 16 05 24.5 +9.0
KIZK Mersin 2.99 76 P **Pn** **16 04 41.4 +0.6**
KULA Kula-Manisa 3.08 331 *e*PN **Pn** **16 04 42.3 +0.2**
KULA Kula-Manisa 3.08 331 *e*Pn **Pn** **16 04 42.3 +0.2**
KIZT Kizilcal 3.24 19 *e*Pn Pn 16 04 40.0 -4.4
KERG Konya-Eregli 3.30 60 *i* P **Pn** **16 04 45.8 +0.7**
KERG *i* S **Sn** **16 05 29.2 +6.0**
KERG Konya-Eregli 3.30 60 P **Pn** **16 04 45.8 +0.7**
CHBY Cihanbeyli 3.34 34 *e*PN **Pn** **16 04 45.2 -0.5**
CHBY Cihanbeyli 3.34 34 *e*Pn **Pn** **16 04 45.2 -0.5**
SULT Sultanhani-AKS 3.37 44 *e*PN **Pn** **16 04 46.1 0.0**
SULT Sultanhani-AKS 3.37 44 *e*Pn **Pn** **16 04 46.1 0.0**
GDZ Gediz 3.38 346 *i* P **Pn** **16 04 45.7 -0.5**
GDZ Gediz 3.38 346 P **Pn** **16 04 45.7 -0.5**
MERS Mersin 3.38 71 *e*PN **Pn** **16 04 45.7 -0.5**
MERS Mersin 3.38 71 *e*Pn **Pn** **16 04 45.7 -0.5**
SIMA Simav-Kutahya 3.49 340 *e*PN **Pn** **16 04 47.5 -0.2**
SIMA Simav-Kutahya 3.49 340 *e*Pn **Pn** **16 04 47.5 -0.2**
ZKR Zakros 3.59 260 P **Pn** **16 04 50.0 +0.9**
ZKR Zakros 3.59 260 P **Pn** **16 04 50.0 +0.9**
DED Mersin 3.62 70 *i* P **Pn** **16 04 50.1 +0.6**
SVRH Sivrihisar-ESK 3.71 12 *e*PN **Pn** **16 04 50.5 -0.2**
SVRH Sivrihisar-ESK 3.71 12 *e*Pn **Pn** **16 04 50.5 -0.2**
GULE Gulek 3.72 65 *i* P Pn 16 04 55.6 +4.7
GULE Gulek 3.72 65 P Pn 16 04 55.6 +4.7
TVSB Tavsanli 3.73 347 *e*PN **Pn** **16 04 51.7 +0.7**
TVSB Tavsanli 3.73 347 *e*Pn **Pn** **16 04 51.7 +0.7**
KULU Kulu 3.77 31 *e*PN **Pn** **16 04 51.6 +0.1**
KULU Kulu 3.77 31 *e*Pn **Pn** **16 04 51.7 +0.1**
GULA Gulagac 3.89 48 *e*PN **Pn** **16 04 53.6 +0.4**
GULA Gulagac 3.89 48 *e*Pn **Pn** **16 04 53.6 +0.4**
KRTS Karatas 3.99 78 *e*PN **Pn** **16 04 54.3 -0.1**
KRTS Karatas 3.99 78 *e*Pn **Pn** **16 04 54.3 -0.1**
THT1 Athinios (Pele 4.17 279 P **Pn** **16 04 57.1 +0.1**
THT1 Athinios (Pele 4.17 279 P **Pn** **16 04 57.1 +0.1**
THR2 Thira island, 4.18 280 P **Pn** **16 04 56.8 -0.2**
THR2 Thira island, 4.18 280 P **Pn** **16 04 56.8 -0.2**
THR6 Thira Island, 4.20 279 P **Pn** **16 04 58.1 +0.8**
THR6 Thira Island, 4.20 279 P **Pn** **16 04 58.1 +0.8**
THR3 Thira Island, 4.20 280 P **Pn** **16 04 58.1 +0.8**
THR3 Thira Island, 4.20 280 P **Pn** **16 04 58.1 +0.8**
CMBO Columbo, Santo 4.20 280 P **Pn** **16 04 58.4 +1.0**
CMBO Columbo, Santo 4.20 280 P **Pn** **16 04 58.4 +1.0**
APE Apeiranthos 4.23 289 *e*PN **Pn** **16 04 58.5 +0.7**
APE Apeiranthos 4.23 289 *e*Pn **Pn** **16 04 58.5 +0.7**
YURE YUREGIR 4.24 75 *e*PN **Pn** **16 04 58.2 +0.3**
YURE YUREGIR 4.24 75 *e*Pn **Pn** **16 04 58.2 +0.3**
THR5 Thira Island, 4.24 280 P **Pn** **16 04 59.1 +1.2**
THR5 Thira Island, 4.24 280 P **Pn** **16 04 59.1 +1.2**
CEYT Ceyhan 4.37 73 *e*PN **Pn** **16 04 59.8 +0.1**
CEYT Ceyhan 4.37 73 *e*Pn **Pn** **16 04 59.8 +0.1**
CHOS Chios island 4.41 307 *e*PN **Pn** **16 05 01.1 +0.8**
CHOS Chios island 4.41 307 P **Pn** **16 05 00.1 -0.2**
CHOS S **Sn** **16 05 51.2 +0.9**
CHOS Chios island 4.41 307 P **Pn** **16 05 00.1 -0.2**
CHOS Chios island 4.41 307 *e*Pn **Pn** **16 05 01.1 +0.8**
CHOS S **Sn** **16 05 51.2 +0.9**
ARNB Al Arnab 4.42 88 *e*P **Pn** **16 04 59.8 -0.6**
ARNB *e*S **Sn** **16 05 50.2 -0.3**
ARNB AML AML 16 05 58.4
comp=E,43nm,0.5s
ARNB AML AML 16 06 04.4
comp=N,57nm,0.7s
CAVI Cavuskoy 4.42 353 *e*PN **Pn** **16 05 01.6 +1.2**
CAVI Cavuskoy 4.42 353 *e*Pn **Pn** **16 05 01.6 +1.2**
KOZT Kozan 4.57 67 *e*PN **Pn** **16 05 02.7 +0.3**
KOZT Kozan 4.57 67 *e*Pn **Pn** **16 05 02.7 +0.3**
GULT Gulveren 4.61 360 *e*PN **Pn** **16 05 03.9 +0.8**
GULT Gulveren 4.61 360 *e*Pn **Pn** **16 05 03.9 +0.8**
BRTR Keskin Array B 4.61 31 P **Pn** **16 05 02.8 -0.4**
comp=N,1.7nm,0.3s,baz=201,slow=16,SNR=43
BRTR S **Sn** **16 05 53.6 -1.9**
comp=N,0.6nm,0.3s,baz=203,slow=28,SNR=4.0
IDI Anoyia 4.63 265 P **Pn** **16 05 03.7 +0.3**
comp=N,14nm,0.3s,baz=69,slow=15,SNR=78
IDI S **Sn** **16 05 55.9 0.0**
comp=N,10nm,0.3s,baz=282,slow=19,SNR=6.6
IDI LR LR 16 07 36.7
comp=N,40nm,21.0s,baz=104,slow=48
IDI Anoyia 4.63 265 P **Pn** **16 05 03.5 +0.1**
IDI S **Sn** **16 05 58.2 +2.3**
IDI Anoyia 4.63 265 P **Pn** **16 05 03.5 +0.1**
IDI S **Sn** **16 05 58.2 +2.3**
SIVA Sivas 4.74 262 P **Pn** **16 05 06.1 +1.3**
SIVA Sivas 4.74 262 P **Pn** **16 05 06.1 +1.3**
BIDA Albida 4.79 98 *e*P **Pn** **16 05 03.5 -2.0**
BIDA *e*S **Sn** **16 05 58.5 -1.3**
BIDA AML AML 16 06 13.8
comp=E,119nm,0.5s
BIDA AML AML 16 06 14.6
comp=N,130nm,0.7s
BTCH Batrach 4.81 86 *e*P **Pn** **16 05 04.0 -1.8**
BTCH *e*S **Sn** **16 05 59.2 -1.1**
BTCH AML AML 16 06 19.3
comp=N,94nm,0.5s
BTCH AML AML 16 06 23.0
comp=E,91nm,0.6s
MMAI Mount Meron Ar 4.89 123 P **Pn** **16 05 06.1 -0.9**
comp=E,4.8nm,0.3s,baz=306,slow=12,SNR=26
MMAI S **Sn** **16 06 01.8 -0.6**
comp=E,7.1nm,0.3s,baz=312,slow=22,SNR=5.9
HAWK Haweek 4.98 103 *e*P **Pn** **16 05 06.8 -1.3**
HAWK *e*S **Sn** **16 06 03.2 -1.2**
HAWK AML AML 16 06 16.8
comp=E,38nm,0.6s
HAWK AML AML 16 06 18.0
comp=N,16nm,0.5s
DRWC Darouich 5.02 79 *e*P **Pn** **16 05 06.4 -2.3**
DRWC *e*S **Sn** **16 06 03.4 -2.1**
DRWC AML AML 16 06 19.9
comp=E,19nm,0.6s
DRWC AML AML 16 06 23.4
comp=N,31nm,0.5s
BRBR Barbar 5.07 117 *e*P **Pn** **16 05 07.9 -1.6**
BRBR *e*S **Sn** **16 06 05.8 -0.9**
BRBR AML AML 16 06 23.6
comp=N,12nm,0.5s
BRBR AML AML 16 06 35.1
comp=E,38nm,0.8s
VAM Vamos 5.18 267 P **Pn** **16 05 11.4 +0.6**
VAM Vamos 5.18 267 P **Pn** **16 05 11.4 +0.6**
MARH Ras Al Marh 5.20 108 *e*P **Pn** **16 05 10.7 -0.7**
MARH *e*S **Sn** **16 06 09.2 -1.0**
MARH AML AML 16 06 33.4
comp=N,33nm,0.6s
MARH AML AML 16 06 33.7
comp=E,42nm,0.5s
IMMV Iera Moni Meta 5.35 268 P **Pn** **16 05 13.6 +0.5**
IMMV Iera Moni Meta 5.35 268 P **Pn** **16 05 13.6 +0.5**
GVD Gavdhos 5.36 261 P **Pn** **16 05 12.7 -0.6**
GVD Gavdhos 5.36 261 P **Pn** **16 05 12.7 -0.6**
SARI SarD1z-Kayseri 5.37 59 *e*PN **Pn** **16 05 14.2 +0.7**
KMRS Kahramanmaras 5.39 70 *e*PN **Pn** **16 05 14.4 +0.7**
KMRS Kahramanmaras 5.39 70 *e*Pn **Pn** **16 05 14.4 +0.7**
TOTH TOTAH 5.44 115 *e*P **Pn** **16 05 12.4 -2.0**
TOTH *e*S **Sn** **16 06 13.8 -2.0**
TOTH AML AML 16 06 33.9
comp=N,36nm,0.6s
TOTH AML AML 16 06 38.5
comp=E,30nm,0.6s
TCHB Talchebab 5.48 123 *e*P **Pn** **16 05 13.9 -1.1**
TCHB *e*S **Sn** **16 06 14.8 -2.0**
TCHB AML AML 16 06 28.4
comp=E,21nm,0.5s
TCHB AML AML 16 06 32.9
comp=N,44nm,0.7s
RABH Abou Rabah 5.63 102 *e*P **Pn** **16 05 15.6 -1.5**
RABH *e*S **Sn** **16 06 19.5 -1.0**
RABH AML AML 16 06 29.4
comp=N,10nm,0.6s
RABH AML AML 16 06 40.5
comp=E,15nm,0.5s
ROOS tl_alroos 5.78 105 *e*P **Pn** **16 05 17.4 -1.7**
ROOS *e*S **Sn** **16 06 22.5 -1.6**
ROOS AML AML 16 06 38.4
comp=N,34nm,0.5s
ROOS AML AML 16 06 42.7
comp=E,46nm,0.5s
ANKY Antikythira Is 5.88 273 P **Pn** **16 05 20.5 +0.2**
ANKY Antikythira Is 5.88 273 P **Pn** **16 05 20.5 +0.2**
SALA Sala 5.99 119 *e*P **Pn** **16 05 21.0 -1.1**
SALA *e*S **Sn** **16 06 26.9 -2.6**
SALA AML AML 16 06 42.9
comp=E,1.9nm,0.5s
SALA AML AML 16 06 52.6
comp=N,14nm,0.6s
DID Didima 6.11 288 P **Pn** **16 05 24.6 +1.1**
DID Didima 6.11 288 P **Pn** **16 05 24.6 +1.1**
VLI Veliai 6.21 281 P **Pn** **16 05 25.7 +0.8**
VLI Veliai 6.21 281 P **Pn** **16 05 25.7 +0.8**
ASF Jabal al Asfar 6.41 123 P **Pn** **16 05 26.9 -0.8**
comp=N,0.3nm,0.3s,baz=303,slow=7.3,SNR=2.8
ASF S **Sn** **16 06 44.1 +4.5**
comp=N,0.2nm,0.3s,baz=97,slow=19,SNR=2.1
KSRV Kasrt alli 6.88 87 *e*P **Pn** **16 05 34.5 +0.4**
KSRV *e*S **Sn** **16 06 50.7 -0.3**
KSRV AML AML 16 07 18.8
comp=Z,5.7nm,0.5s
EIL Elat 7.17 148 P **Pn** **16 05 37.4 -0.6**
comp=Z,0.8nm,0.3s,baz=280,slow=21,SNR=9.4
EIL S **Sn** **16 06 55.5 -2.5**
comp=Z,0.4nm,0.3s,baz=90,slow=24,SNR=1.9
EIL LR LR 16 09 29.9
comp=Z,60nm,20.7s,baz=274,slow=46
GNI Garni 12.01 65 LR LR 16 12 12.5
comp=Z,55nm,18.1s,baz=250,slow=42
KBZ Khabaz 12.36 46 P **Pn** **16 06 47.3 -1.6**
comp=Z,0.0nm,0.3s,baz=243,slow=6.8,SNR=3.8
AKASG Malin Array Be 14.91 357 P **P** **16 07 27.0 -0.8**
comp=Z,0.9nm,0.3s,baz=172,slow=9.8,SNR=7.7
KEST Kesra 17.20 276 P **P** **16 07 54.8 +1.5**
comp=Z,0.2nm,0.3s,baz=94,slow=19,SNR=5.1
GERES GERESS Array B 17.96 322 P **Pn** **16 08 02.7 +1.0**
comp=Z,0.1nm,0.3s,baz=124,slow=7.2,SNR=6.5
DAVOX Davos/Dischmat 18.94 312 LR LR 16 16 54.7
comp=Z,58nm,18.4s,baz=92,slow=41
GEYT Alibeck 22.14 76 P **P** **16 08 46.3 -0.7**
comp=Z,2.3nm,0.6s,baz=284,slow=12,SNR=5.0
AKTO Aktyubinsk 24.63 45 P **P** **16 09 10.9 -0.2**
comp=Z,3.2nm,0.6s,baz=249,slow=9.7,SNR=9.7
FINES FINESS Array B 25.81 355 P **P** **16 09 20.7 -0.9**
comp=Z,3.4nm,0.8s,baz=159,slow=12,SNR=13
HFS Hagfors 26.66 341 P **P** **16 09 29.3 -0.1**
comp=Z,2.9nm,1.0s,baz=126,slow=7.3,SNR=3.1
HFS LR LR 16 22 12.7
comp=Z,33nm,19.8s,baz=138,slow=41
ESDC Sonseca Array 27.45 289 P **P** **16 09 35.7 -1.1**
comp=Z,0.1nm,0.3s,baz=71,slow=9.5,SNR=3.6
ARU Arti 28.00 34 P **P** **16 09 39.1 -2.2**
comp=Z,0.8nm,0.3s,baz=205,slow=4.5,SNR=4.1
NOA NORSAR Array B 28.09 340 LR LR 16 21 47.6
comp=Z,21nm,20.3s,baz=300,slow=38
ARCES ARCESS Array B 33.89 357 P **P** **16 10 31.7 -1.4**
comp=Z,2.0nm,0.8s,baz=170,slow=8.6,SNR=6.4
TORD Torodi Ar. Bea 34.39 236 P **P** **16 10 38.6 +0.6**
comp=Z,0.6nm,0.6s,baz=31,slow=9.6,SNR=5.0
AAK Ala-Archa 34.42 65 P **P** **16 10 37.7 -0.5**
comp=Z,1.5nm,0.5s,baz=231,slow=5.8,SNR=5.0
KURBB Kurchatov Arra 37.29 51 P **P** **16 11 02.1 -0.4**
comp=Z,0.8nm,0.2s,baz=271,slow=8.9,SNR=5.0
MKAR Makanchi Array 39.74 58 P **P** **16 11 23.1 0.0**
comp=Z,0.5nm,0.5s,baz=263,slow=6.8,SNR=4.4
ZALV Zalesovo Beam 41.38 47 P **P** **16 11 35.4 -1.1**
comp=Z,0.9nm,0.5s,baz=262,slow=10,SNR=5.2
SONM Songino Array 55.65 52 P **P** **16 13 26.6 +0.2**
comp=Z,0.3nm,0.5s,baz=250,slow=7.8,SNR=2.8
CMAR Chiang Mai Arr 62.14 87 P **P** **16 14 12.3 +0.6**
comp=Z,0.5nm,0.7s,baz=294,slow=9.7,SNR=5.4

JMA 22 16:04:02.7±0.4, 37°.15N×144°.34E, h42km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.70**	**300**	P	Pn	16 04 45.4	+1.8
JFK	**Kawauchi**	**2.77**	**276**	P	Pn	16 04 45.8	+1.2
JFK				*e*S	Sn	16 05 18.6	+1.7
ONAJ	**Iwakimizuishiy**	**2.83**	**270**	*e*S	Sn	16 05 19.8	+1.4
OFUJ	**Ofunato**	**2.85**	**313**	P	Pn	16 04 47.2	+1.5
JMK	**Ichinoseki**	**3.05**	**307**	*e*S	Sn	16 05 26.2	+2.6
JFT	**Otama**	**3.21**	**278**	P	Pn	16 04 53.1	+2.5
JFT				*e*S	Sn	16 05 30.8	+3.1

SJA 22 16:08:06.9±0.7, 33°.93S×70°.09W, h156km±5km, ML2.9, MW3.3
GUC 22 16:08:11.4±0.6, 33°.63S×70°.25W, h118km±3km, ML3.5
ISC 22 16:08:05.9±3.3, 34°.05±0°.2×70°.25W±0°.07, h132km±14km, n25, σ1§71/39, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.39**	**21**	⇓*i*P	**Pn**	**16 08 24.1**	**-1.0**
YECH				*i* S	**Sn**	**16 08 36.9**	**-2.5**
YECH				IAML		16 08 42.4	
comp=N,2μm,0.4s							
ANTU	**Antumapu**	**0.56**	**325**	⇑*i*P	**Pn**	**16 08 27.3**	**+1.7**
ANTU				*i* S	**Sn**	**16 08 39.3**	**-1.1**
ANTU				IAML		16 08 40.2	
comp=N,3μm,0.3s							
FSR	**Penalolen**	**0.59**	**337**	⇑*i*P	**Pn**	**16 08 27.6**	**+1.8**
FSR				*i* S	**Sn**	**16 08 39.5**	**-1.4**
CLCH	**Cerro Calan**	**0.67**	**339**	⇑*i*P	**Pn**	**16 08 28.2**	**+1.8**
CLCH				*i* S	**Sn**	**16 08 40.5**	**-1.3**
CLCH				IAML		16 08 41.5	
comp=E,3μm,0.2s							
FCH	**Farellones**	**0.70**	**357**	⇓*i*P	**Pn**	**16 08 28.5**	**+1.6**
FCH				*i* S	**Sn**	**16 08 41.5**	**-1.2**
RCDM	**Rinconada Maip**	**0.71**	**319**	*e*P	**Pn**	**16 08 28.1**	**+1.6**
RCDM				*e*S	**Sn**	**16 08 40.9**	**-1.3**
PEL	**Peldehue**	**0.95**	**337**	⇑*i*P	**Pn**	**16 08 29.9**	**+1.3**
PEL				*i* S	**Sn**	**16 08 43.9**	**-1.9**
PEL				IAML		16 08 45.0	
comp=N,3μm,0.3s							
ROC1	**El Roble**	**1.23**	**328**	*e*P	**Pn**	**16 08 35.0**	**+3.5**
ROCH	**El Roble**	**1.23**	**329**	⇑*i*P	**Pn**	**16 08 32.6**	**+1.2**
ROCH				*i* S	**Sn**	**16 08 49.2**	**-1.6**
ROCH				IAML		16 08 50.5	
comp=N,1μm,0.3s							
AAGR	**Agrelo**	**1.51**	**52**	*e*P	**Pn**	**16 08 36.2**	**+1.8**
ARCO	**CERRO ARCO**	**1.62**	**43**	*e*P	**Pn**	**16 08 37.4**	**+1.7**
ARCO				*e*S	**Sn**	**16 08 59.9**	**+1.6**
ARCO				IAML		16 09 06.5	
comp=Z,81nm,0.6s							
ASAL	**Salagasta**	**1.86**	**40**	*e*P	**Pn**	**16 08 39.7**	**+1.3**
ASAL				*e*S	**Sn**	**16 09 04.4**	**+1.2**
AUSP	**Uspallata**	**1.94**	**22**	*e*P	**Pn**	**16 08 41.9**	**+2.3**
RTLS	**Leoncito**	**2.36**	**20**	*e*P	**Pn**	**16 08 46.5**	**+1.8**
RTCV	**Cerro Valdivia**	**2.59**	**34**	*e*P	**Pn**	**16 08 47.7**	**+0.3**
ACAN	**Cantantal**	**3.11**	**57**	*e*P	**Pn**	**16 08 54.7**	**+0.7**
AMOG	**MOGNA**	**3.42**	**26**	*e*P	**Pn**	**16 08 58.8**	**+0.6**
AMOG				*e*S	**Sn**	**16 09 37.5**	**-1.0**
ACCO	**Cerro Coronel**	**3.57**	**17**	*e*P	**Pn**	**16 09 02.3**	**+1.9**
ACCO				*e*S	**Sn**	**16 09 42.2**	**-0.3**
TLL	**Tololo Astrono**	**3.88**	**353**	*i* P	**Pn**	**16 09 05.2**	**+0.8**
TLL				*i* S	**Sn**	**16 09 45.4**	**-4.2**
AROD	**Rodeo**	**3.90**	**10**	*e*P	**Pn**	**16 09 06.3**	**+1.5**
AVFE	**Valle Fertil**	**4.11**	**36**	*e*P	**Pn**	**16 09 07.9**	**+0.7**
AVFE				IAML		16 09 56.1	
comp=Z,17nm,0.4s							
ACHE	**Chepes**	**4.16**	**48**	*e*P	**Pn**	**16 09 08.2**	**+0.1**
ACHE				*e*S	**Sn**	**16 09 54.2**	**-2.0**
AGUA	**GUANDACOL**	**4.77**	**19**	*e*P	**Pn**	**16 09 16.8**	**+0.8**
APLL	**PUNTA DE LOS L**	**4.80**	**42**	*e*P	**Pn**	**16 09 16.6**	**+0.1**
ACLC	**CERRO LA CRUZ**	**5.38**	**32**	*e*P	**Pn**	**16 09 24.8**	**+0.5**

IDC 22 16:26:45.8±9.1, 36°.95N×72°.03E, h140km±98km, mb3.1/1, mb1 3.2/4, mb1mx2.9/37, mbtmp3.7/4, Error ellipse: s-maj=107.1km s-min=36.5km az=152.0
ISCJB 22 16:26:47.6±0.5, 37°.21N±0°.04×71°.84E±0°.06, h150km, mb3.2/1, Error ellipse: s-maj=7.6km s-min=4.7km az=152.7
NNC 22 16:26:50.7±4.1, 37°.60N×71°.79E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=38.1km s-min=29.8km az=65.0
ISC 22 16:26:47.7±0.8, 37°.19N±0°.07×71°.85E±0°.07, h150km, n22, σ1§34/26, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.32**	**5**	⇑P	**Pn**	**16 28 08.0**	**+2.6**
28nm,0.3s							
MNAS				⇓S	**Sn**	**16 29 04.3**	**-1.8**
58nm,0.6s							
AAK	**Ala-Archa**	**5.81**	**20**	⇓P	**Pn**	**16 28 14.3**	**+2.3**
21nm,0.4s							
AAK				⇑S	**Sn**	**16 29 18.1**	**+0.3**
28nm,0.7s							
KK31	**Karatay Array**	**6.00**	**351**	P	**Pn**	**16 28 16.5**	**+2.2**
0.7nm,0.3s,baz=161,slow=11,SNR=38							
KK31				S	**Sn**	**16 29 20.6**	**-1.6**
12nm,0.4s,baz=167,slow=17,SNR=14							
TKM2	**Tokmak 2**	**6.41**	**25**	⇑P	**Pn**	**16 28 21.6**	**+1.6**
5.6nm,0.4s							
MDOK	**Medeo**	**7.17**	**32**	P	**Pn**	**16 28 31.8**	**+1.7**
PDGK	**Podgornoye**	**8.47**	**41**	⇓P	**Pn**	**16 28 48.2**	**+0.7**
2.7nm,0.6s							
GEYT	**Alibeck**	**10.93**	**278**	P	**Pn**	**16 29 21.1**	**+1.1**
0.5nm,0.3s,baz=105,slow=9.8,SNR=6.6							
GEYT				S	**Sn**	**16 31 19.3**	**-1.5**
0.6nm,0.3s,baz=101,slow=15,SNR=3.9							
MKAR	**Makanchi Array**	**12.34**	**36**	P	**Pn**	**16 29 38.5**	**+0.2**
0.1nm,0.3s,baz=224,slow=12,SNR=3.0							
PYUN	**Piuthan**	**13.04**	**131**	*e*P	**Pn**	**16 29 48.8**	**+1.2**
12nm,0.4s							
KOLN	**Koldanda**	**13.65**	**130**	*e*P	**Pn**	**16 29 55.8**	**+0.4**
6.6nm,0.3s							
GKN	**Gorkha**	**14.13**	**127**	*e*P	**Pn**	**16 30 01.8**	**+0.3**
27nm,0.5s							
KKN	**Kakani**	**14.69**	**126**	*e*P	**Pn**	**16 30 08.8**	**+0.3**
5.5nm,0.4s							
DMN	**Daman**	**14.70**	**127**	*e*P	**P**	**16 30 09.5**	**-1.4**
5.1nm,0.3s							
AB31	**Akbulak array**	**14.84**	**328**	⇓P	**P**	**16 30 11.1**	**-0.8**
0.3nm,0.4s							
PKIN	**Phulchoki**	**14.91**	**126**	*e*P	**P**	**16 30 12.0**	**-1.3**
9.9nm,0.4s							
GUN	**Gumba**	**15.00**	**124**	*e*P	**P**	**16 30 13.5**	**-0.8**
16nm,0.5s							
JIRN	**Jiri**	**15.37**	**124**	*e*P	**P**	**16 30 18.7**	**+0.2**
93nm,0.3s							
RAMN	**Ramite**	**16.12**	**125**	*e*P	**P**	**16 30 27.2**	**+0.6**
23nm,0.5s							
TAPN	**Taplejung**	**16.60**	**122**	*e*P	**Pn**	**16 30 32.8**	**+0.8**
3.1nm,0.3s							
ODAN	**Odare**	**16.70**	**124**	*e*P	**Pn**	**16 30 32.8**	**-0.5**
13nm,0.5s							
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**16 30 56.7**	**-1.1**
0.6nm,0.3s,baz=214,slow=11,SNR=6.8							
SONM	**Songino Array**	**27.39**	**56**	P	**P**	**16 32 18.7**	**-0.3**
0.3nm,0.5s,baz=251,slow=9.0,SNR=3.1							

IDC 22 16:49:34.4±1.4, 38°.84N×142°.14E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/54, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=63.2km s-min=23.7km az=131.0
JMA 22 16:49:59.4±0.2, 35°.85N×141°.81E, h20km±4km, M3.1
ISC 22 16:49:50.2±2.1, 36°.7N±0°.1×141°.91E±0°.10, h19km, n6, σ3§69/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.34**	**220**	P	**Pn**	**16 50 14.0**	**+0.1**
CHOJ				S	**Sn**	**16 50 24.8**	**-6.3**
JYT	**Yasato**	**1.48**	**250**	*e*S	**Sg**	**16 50 41.7**	**+3.8**
MJAR	**Matsushiro Arr**	**2.98**	**267**	Pn	**Pn**	**16 50 33.3**	**-3.3**
0.5nm,0.3s,baz=159,slow=14,SNR=8.2							
MJAR				Pg	**Pg**	**16 50 46.5**	**-1.0**
1.3nm,0.3s,baz=85,slow=9.2,SNR=8.0							
MJAR				Lg	Lg	16 51 28.6	
0.8nm,0.3s,baz=188,slow=17,SNR=4.7							
MAT	**Matsushiro**	**2.99**	**267**	P	**Pg**	**16 50 47.3**	**-0.1**
MAT				*e*S	**Sb**	**16 51 21.7**	**+2.8**
WRA	**Warramunga Arr**	**56.83**	**189**	P	**P**	**16 59 35.0**	**+1.6**
0.7nm,0.7s,baz=4.8,slow=7.3,SNR=5.9							
ASAR	**Alice Springs**	**60.55**	**188**	P	**P**	**17 00 01.6**	**+2.2**
0.6nm,0.9s,baz=14,slow=8.5,SNR=4.7							

IDC 22 16:57:42.9±2.9, 27°.85S×176°.54W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.6/2, Error ellipse: s-maj=82.5km s-min=30.4km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**221**	Pn	Pn	16 58 16.3	+0.4
44nm,0.3s,baz=56,slow=15,SNR=8.4							
RAO				Sn	Sn	16 58 39.8	-0.2
148nm,0.3s,baz=69,slow=23,SNR=7.5							
ASAR	**Alice Springs**	**44.59**	**264**	P	P	17 05 56.8	-0.4
0.5nm,0.7s,baz=98,slow=6.6,SNR=6.3							
WRA	**Warramunga Arr**	**45.35**	**269**	P	P	17 06 03.3	+0.1
0.6nm,0.6s,baz=109,slow=7.8,SNR=5.3							
FINES	**FINESS Array B**	**143.16**	**342**	PKP	PKPbc	17 17 15.5	+0.3
2.7nm,0.9s,baz=141,slow=6.4,SNR=5.3							
AKASG	**Malin Array Be**	**149.97**	**326**	PKPbc	PKPbc	17 17 35.1	+0.1
1.2nm,0.6s,baz=39,slow=2.5,SNR=5.1							

IDC 22 17:11:48.7±1.4, 8°.28N×126°.45E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/52, mbtmp3.7/7, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31, Error ellipse: s-maj=75.1km s-min=18.0km az=67.0
ISCJB 22 17:11:50.5±0.8, 8°.46N±0°.08×127°.22E±0°.08, h35km, mb3.6/7, MS2.7/1, Error ellipse: s-maj=11.7km s-min=10.8km az=147.3
MAN 22 17:11:51, 8°.33N×126°.99E, h21km, mb4.3, ML3.1, MS2.9
ISC 22 17:11:51.9±1.1, 8°.40N±0°.07×127°.2E±0°.1, h35km, n12, σ2§35/14, mb3.6/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.72**	**213**	*e*P	**Pn**	**17 12 17.1**	**-2.2**
MATI				*e*S	**Sn**	**17 12 36.5**	**-3.6**
DMPH	**Davao City--Mi**	**2.12**	**232**	⇑*i*P	**Pn**	**17 12 26.7**	**+1.8**
DMPH				*i* S	**Sn**	**17 12 53.8**	**+3.7**
BUKP	**Musuan**	**2.17**	**256**	*e*P	**Pn**	**17 12 25.6**	**0.0**
BUKP				*e*S	**Sn**	**17 12 51.5**	**+0.1**
SCPH	**Surigao**	**2.17**	**309**	⇓*e*P	**Pn**	**17 12 25.9**	**+0.3**
BESP	**Borongan**	**3.62**	**332**	*e*P	Pn	17 12 54.4	+8.9
FITZ	**Fitzroy Crossi**	**26.38**	**183**	P	**P**	**17 17 24.4**	**-0.8**
1.6nm,0.9s,baz=0.0,slow=7.1,SNR=2.7							
FITZ				LR	LR	17 27 59.7	
comp=Z,19nm,18.1s,baz=100,slow=37							
WRA

baz=1.5
HTT S **Sg** 17 19 16.8 -0.8
baz=1.5
STKA Stephens Creek 1.88 86 Pg **Pb** 17 19 04.2 -0.8
57nm,0.3s,baz=268,slow=16,SNR=389
STKA Lg Lg 17 19 26.8
64nm,0.3s,baz=344,slow=20,SNR=22
STKA Stephens Creek 1.88 86 P **Pb** 17 19 04.0 -1.1
baz=1.7
BBOO Buckleboo 2.93 254 P **Pb** 17 19 21.2 -1.7
baz=3.1
BBOO S **Sb** 17 19 58.6 -0.1
baz=3.1
ARPS Mount Arapiles 5.15 158 P **Pn** 17 19 47.7 -0.1
baz=5.1
CMSA Cobar Meteorol 5.39 86 P **Pn** 17 19 50.6 -0.5
baz=5.2
TOO Toolangi 7.47 139 P **Pn** 17 20 19.9 +0.3
baz=7.4
CAN Canberra 8.65 115 P **Pn** 17 20 35.9 -0.1
baz=8.5
ASAR Alice Springs 9.64 328 Pn **Pn** 17 20 52.4 +3.0
0.1nm,0.3s,baz=144,slow=13,SNR=15
ASAR Sn **Sn** 17 22 40.0 +2.2
0.3nm,0.3s,baz=146,slow=23,SNR=8.2
FORT Forrest 9.77 274 P **Pn** 17 20 53.8 +2.6
baz=9.9
RMQ Roma 9.86 58 P **Pn** 17 20 53.1 +0.5
baz=9.7
WRKA Warakurna 11.98 303 P **Pn** 17 21 25.0 +3.4
baz=12
WRA Warramunga Arr 12.86 338 Pn **Pn** 17 21 35.7 +2.1
0.1nm,0.3s,baz=157,slow=12,SNR=5.9
WRA Sn **Sn** 17 23 53.9 -2.9
0.1nm,0.3s,baz=159,slow=12,SNR=1.8
CTA Charters Tower 13.38 29 Pn **Pn** 17 21 39.2 -1.6
0.3nm,0.3s,baz=216,slow=19,SNR=2.3
FITZ Fitzroy Crossi 18.61 315 P **Pn** 17 22 50.7 +2.2
0.1nm,0.3s,baz=156,slow=4.0,SNR=3.5
FITZ S **Sn** 17 26 10.2 -6.5
0.1nm,0.3s,baz=263,slow=8.1,SNR=2.4

*ISCJB **22** 17:24:05.9±0.7,29°.07S±0°.07×175°.46W±0°.08, h33km, mb4.5/10, MS3.2/2, Error ellipse: s-maj=11.4km s-min=8.5km az=38.2*
*NEIC **22** 17:24:08.5±1.4,29°.04S×175°.51W, h37km±14km, mb4.7/10, Error ellipse: s-maj=17.5km s-min=11.1km az=145.0*
*IDC **22** 17:24:10.9±3.0,27°.93S×176°.69W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/37, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=77.3km s-min=25.3km az=119.0*
ISC 22 17:24:08.6±1.0, 29°.1S±0°.1×175°.5W±0°.1, h35km, n23, σ1§12/24, mb4.5/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.13 264**		Pn	**Pn**	**17 24 42.5**	**+0.8**
	47nm,0.3s,baz=0.8,slow=22,SNR=7.7						
RAO				Sn	**Sn**	17 25 06.5	-0.5
	339nm,0.3s,baz=104,slow=22,SNR=9.2						
URZ	**Urewera**	**11.05 212**		Pn	**Pn**	**17 26 43.2**	**-1.0**
	0.3nm,0.3s,baz=54,slow=8.7,SNR=3.0						
URZ				Sn	**Sn**	**17 28 47.3**	**+0.8**
	0.7nm,0.3s,baz=186,slow=20,SNR=7.3						
URZ	**Urewera**	**11.05 212**		*e*Pn	**Pn**	**17 26 42.6**	**-1.6**
URZ				*e*Sn	**Sn**	**17 28 47.3**	**+0.8**
BKZ	**Black Stump Fm**	**12.07 211**		*e*Pn	**Pn**	**17 26 58.6**	**+0.5**
BFZ	**Birch Farm**	**13.43 208**		*e*Pn	**Pn**	**17 27 16.5**	**-0.2**
THZ	**Tophouse**	**15.80 214**		*e*Pn	**Pn**	**17 27 49.3**	**+0.9**
	90nm,1.7s						
KHZ	**Kahutara**	**16.02 211**		*e*Pn	**Pn**	**17 27 50.4**	**-0.7**
	78nm,1.8s						
RAR	**Rarotonga**	**16.22 65**		*e*Pn	**Pn**	**17 27 53.0**	**-0.8**
	309nm,1.9s						
MQZ	**McQueen's Vall**	**17.44 210**		*e*P	**P**	**17 28 09.5**	**-0.4**
	68nm,1.7s						
STKA	**Stephens Creek**	**36.92 255**		LR	LR	17 43 12.3	
	comp=Z,26nm,21.0s,baz=27,slow=32						
AS31	**Alice Springs**	**45.39 264**		*e*P	**P**	**17 32 21.7**	**-2.3**
	2.9nm,1.8s						
ASAR	**Alice Springs**	**45.39 264**		P	**P**	**17 32 23.2**	**-0.8**
	0.4nm,0.6s,baz=96,slow=7.0,SNR=8.5						
ASAR				LR	LR	17 49 26.5	
	comp=Z,48nm,19.5s,baz=121,slow=34						
WB2	**Warramunga Arr**	**46.25 270**		*e*P	**P**	**17 32 30.3**	**-0.5**
	19nm,1.6s						
WRAB	**Tennant Creek**	**46.26 270**		*e*P	**P**	**17 32 29.9**	**-0.9**
	4.9nm,0.6s						
WR1	**Warramunga Arr**	**46.26 270**		*e*P	**P**	**17 32 29.9**	**-0.9**
	27nm,1.9s						
WRA	**Warramunga Arr**	**46.26 270**		P	**P**	**17 32 29.9**	**-0.9**
	1.0nm,0.5s,baz=108,slow=7.9,SNR=15						
MTN	**Manton Dam**	**51.97 276**		*e*P	**P**	**17 33 13.5**	**-1.1**
	22nm,1.3s						
FITZ	**Fitzroy Crossi**	**54.57 268**		P	**P**	**17 33 33.6**	**0.0**
	1.3nm,0.7s,baz=125,slow=5.5,SNR=5.1						
FITZ	**Fitzroy Crossi**	**54.57 268**		*e*P	**P**	**17 33 33.5**	**-0.1**
	17nm,1.8s						
KAPI	**Kappang**	**65.55 278**		*e*P	**P**	**17 34 48.3**	**-0.7**
	566nm,1.2s						
MJAR	**Matsushiro Arr**	**78.42 324**		P	**P**	**17 36 06.5**	**+0.8**
	0.4nm,0.5s,baz=131,slow=5.1,SNR=3.3						
FINES	**FINESS Array B**	**144.58 342**		PKhKP	PKPpre	17 43 42.2	
	1.6nm,0.7s,baz=42,slow=2.6,SNR=7.6						
AKASG	**Malin Array Be**	**151.48 326**		PKPbc	**PKPbc**	**17 44 01.2**	**+2.7**
	1.4nm,0.6s,baz=43,slow=2.8,SNR=6.3						

*IDC **22** 17:24:43.1±20.0, 32°.03N×138°.87E, h337km±76km, mb2.7/2, mb1 2.6/4, mb1mx2.5/53, mbtmp3.4/4, Error ellipse: s-maj=302.6km s-min=79.8km az=166.0*
*JMA **22** 17:24:50.3±0.4, 32°.72N×138°.77E, h359km, M3.1*
ISC 22 17:24:50.3±3.6, 32°.7N±0°.3×138°.5E±0°.2, h350km, n11, σ0§99/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**2.67 348**		P	**Pn**	**17 25 48.5**	**+1.6**
JHU	**Hanno**	**3.18 11**		P	**Pn**	**17 25 50.8**	**-0.4**
JHU				S	**S**	**17 26 41.0**	**+0.8**
JRY	**Ryogami san**	**3.29 5**		P	**Pn**	**17 25 53.9**	**+1.6**
JNG	**Nsakai**	**3.68 355**		P	**Pn**	**17 25 57.1**	**+1.0**
JYT	**Yasato**	**3.75 21**		P	**Pn**	**17 25 56.9**	**+0.2**
JAG	**Ashikaga**	**3.76 12**		P	**Pn**	**17 25 57.2**	**+0.3**
JAG				S	**S**	**17 26 50.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.81 356**		P	**Pn**	**17 25 56.9**	**-0.4**
	0.4nm,0.3s,baz=171,slow=10,SNR=9.8						
JHO	**Hitachi**	**4.22 23**		P	**Pn**	**17 26 02.1**	**+0.6**
JHO				S	**S**	**17 26 57.9**	**-1.1**
KSRS	**Korea Array**	**9.87 301**		P	**Pn**	**17 27 07.0**	**+0.4**
	0.2nm,0.3s,baz=116,slow=10.0,SNR=7.2						
SONM	**Songino Array**	**28.52 311**		P	**P**	**17 30 14.9**	**+0.1**
	0.3nm,0.6s,baz=100,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**44.52 305**		P	**P**	**17 32 27.1**	**-1.3**
	0.5nm,0.9s,baz=87,slow=9.5,SNR=5.7						

*ISCJB **22** 17:28:49.6±0.6, 55°.20S±0°.09×28°.1W±0°.2, h10km, mb4.4/8, MS2.8/1, Error ellipse: s-maj=13.4km s-min=12.2km az=153.8*
*IDC **22** 17:28:50.0±0.8, 55°.32S×28°.15W, h0km, mb4.2/5, mb1 4.2/7, mb1mx3.9/35, mbtmp4.1/7, ML4.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=27.8km s-min=24.7km az=35.0*
*NEIC **22** 17:28:51.6±0.4, 55°.26S×28°.11W, h10km, mb5.0/3, Error ellipse: s-maj=11.5km s-min=10.8km az=119.0*
ISC 22 17:28:51.6±0.7, 55°.2S±0°.1×28°.28W±0°.08, h10km, n21, σ1§30/21, mb4.4/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.85 278**		*e*Pn	**Pn**	**17 30 06.1**	**+1.6**
HOPE				*e*Sn	**Sn**	**17 30 57.3**	**-3.3**
VNA3	**Neumayer Olymp**	**17.97 160**		P	**P**	**17 33 03.2**	**+1.5**
SNAA	**Sanae**	**19.74 156**		P	**P**	**17 33 21.1**	**0.0**
SNAA	**Sanae**	**19.74 156**		P	**P**	**17 33 19.6**	**-1.5**
	0.7nm,0.3s,baz=297,slow=11,SNR=39						
SNAA	**Sanae**	**19.74 156**		*e*P	**P**	**17 33 20.9**	**-0.3**
	3.8nm,0.8s						
PMSA	**Palmer Station**	**19.99 227**		P	**P**	**17 33 22.6**	**-1.2**
	0.3nm,0.3s,baz=117,slow=11,SNR=2.5						
PMSA				LR	LR	17 40 02.4	
	comp=Z,51nm,21.9s,baz=70,slow=34						
TRIS	**Tristan da Cun**	**21.18 38**		*e*P	**P**	**17 33 36.0**	**-0.8**
	138nm,1.2s						
QSPA	**South Pole Qui**	**35.02 180**		*e*P	**P**	**17 35 44.4**	**+0.4**
CPUP	**Villa Florida**	**35.80 312**		P	**P**	**17 35 51.3**	**+0.4**
	2.4nm,0.8s,baz=164,slow=8.1,SNR=3.5						
BOSA	**Boshof**	**46.38 78**		P	**P**	**17 37 17.2**	**-0.8**
	3.2nm,0.9s,baz=220,slow=3.7,SNR=3.6						
LPAZ	**La Paz**	**49.40 306**		P	**P**	**17 37 42.9**	**+0.8**
	1.1nm,0.5s,baz=172,slow=2.4,SNR=5.3						
LPAZ	**La Paz**	**49.40 306**		*e*P	**P**	**17 37 44.1**	**+2.1**
TOA0	**Torodi Ar. Sit**	**72.65 31**		*e*P	**P**	**17 40 18.0**	**-1.2**
	12nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.65 31**		P	**P**	**17 40 18.9**	**-0.4**
	2.6nm,0.9s,baz=202,slow=6.4,SNR=10						
TOA1	**Torodi Ar. Sit**	**72.66 31**		*e*P	**P**	**17 40 18.9**	**-0.4**
	27nm,2.0s						
ASAR	**Alice Springs**	**99.96 163**		P	**Pdif**	**17 42 35.6**	**-1.2**
	0.2nm,0.8s,baz=184,slow=4.6,SNR=3.6						
INK	**Inuvik**	**144.77 322**		PKP	PKPbc	17 48 27.7	+1.7
	1.8nm,0.7s,baz=1.2,slow=6.5,SNR=4.3						
ILAR	**Eielson Array**	**149.10 313**		PKPbc	**PKPbc**	**17 48 39.1**	**+0.6**
	1.4nm,0.6s,baz=124,slow=2.2,SNR=23						
ILB	**Eielson Array**	**149.10 313**		*e*PKPbc	**PKPbc**	**17 48 38.6**	**+0.1**
SONA0	**Songino Array**	**151.29 86**		*e*PKPbc	**PKPbc**	**17 48 45.1**	**+0.6**
SONM	**Songino Array**	**151.29 86**		PKPbc	**PKPbc**	**17 48 45.1**	**+0.6**
	0.8nm,0.6s,baz=222,slow=2.5,SNR=8.4						

MEX 22 17:39:54.1±0.8, 16°.84N×93°.92W, h115km±44km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.31 149**		*e*P	Pn	17 40 17.7	-1.4
PCIG				*e*S	Sn	17 40 36.4	-1.6
CCIG	**Comitan**	**1.80 108**		*e*P	Pn	17 40 23.9	-1.1
CCIG				*e*S	Sn	17 40 47.2	-1.3
HUIG	**Huatulco**	**2.35 243**		*e*P	Pn	17 40 29.4	-2.4
HUIG				*e*S	Sn	17 40 59.7	-1.0
VHO	**Vista Hermosa**	**2.70 275**		*e*P	Pn	17 40 34.6	-1.9
VHO				*e*S	Sn	17 41 07.0	-2.2
PNIG	**Pinotepa**	**4.06 264**		*e*P	Pn	17 40 53.2	-1.2
PNIG				*e*S	Sn	17 41 41.1	0.0

IDC 22 17:46:45.9±1.3, 9°.03S×157°.68E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/19, Error ellipse: s-maj=35.7km s-min=27.1km az=171.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.27 100**		Pn	Pn	17 47 24.7	-0.1
	12nm,0.3s,baz=248,slow=9.7,SNR=8.4						
HNR				Sn	Sg	17 47 59.9	+0.8
	19nm,0.3s,baz=246,slow=20,SNR=5.3						
HNR				LR	LR	17 48 09.5	
	comp=Z,104nm,18.8s,baz=310,slow=37						
DZM	**Mont Dzumac**	**15.47 148**		LR	LR	17 55 03.2	
	comp=Z,59nm,19.6s,baz=24,slow=32						
WRA	**Warramunga Arr**	**25.03 242**		P	P	17 52 12.3	+0.3
	1.4nm,0.7s,baz=68,slow=9.7,SNR=10.0						
ASAR	**Alice Springs**	**27.00 235**		P	P	17 52 28.9	-0.9
	0.5nm,1.0s,baz=64,slow=10.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**64.05 296**		P	P	17 57 22.5	+0.4
	1.1nm,1.0s,baz=97,slow=5.3,SNR=6.9						
SONM	**Songino Array**	**72.48 327**		P	P	17 58 14.6	0.0
	0.3nm,0.6s,baz=125,slow=7.2,SNR=2.4						

WEL 22 18:50:58.1±0.3, 38°.13S×175°.88E, h169km±2km, ML3.5/23, 2C-1D, Error ellipse: s-maj=2.8km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.78 116**		PN	Pn	18 51 23.4	+0.3
MUGZ				SN	Sn	18 51 42.3	-0.2
MRHZ	**Matea Rd**	**0.82 149**		PN	Pn	18 51 23.4	-0.1
MRHZ				SN	Sn	18 51 43.0	-0.2
MRHZ				AML	AML	18 51 45.1	
URZ	**Urewera**	**0.98 98**		PN	Pn	18 51 24.3	-0.2
URZ				SN	Sn	18 51 44.7	-0.2
RTZ	**Ruatahuna**	**0.99 120**		⇑PN	Pn	18 51 24.8	+0.1
RTZ				SN	Sn	18 51 45.5	+0.2
TWVZ	**Taurewa**	**1.00 200**		PN	Pn	18 51 25.0	+0.2
TWVZ				SN	Sn	18 51 45.6	0.0
BKZ	**Black Stump Fm**	**1.14 155**		⇑PN	Pn	18 51 25.7	-0.2
BKZ				SN	Sn	18 51 46.4	-1.1
TUVZ	**Tukino**	**1.15 189**		PN	Pn	18 51 26.2	+0.1
FWVZ	**Far West T-bar**	**1.15 193**		PN	Pn	18 51 26.3	+0.1
WHVZ	**Whangaehu Hut**	**1.17 191**		PN	Pn	18 51 26.4	+0.1
NMHZ	**Naumai**	**1.21 143**		PN	Pn	18 51 27.3	+0.8
NMHZ				AML	AML	18 51 51.0	
NMHZ				AML	AML	18 51 51.5	
WNVZ	**Wahianoa**	**1.21 190**		⇓PN	Pn	18 51 26.5	-0.1
MOVZ	**Moawhango**	**1.28 184**		PN	Pn	18 51 26.5	-0.6
MTVZ	**Mangateitei**	**1.29 194**		PN	Pn	18 51 27.3	0.0
MWZ	**Matawai**	**1.31 99**		PN	Pn	18 51 27.5	+0.1
MWZ				AML	AML	18 51 50.5	
MWZ				AML	AML	18 51 50.8	
BHHZ	**Black Hill Sta**	**1.36 174**		PN	Pn	18 51 27.4	-0.5
BHHZ				AML	AML	18 51 53.7	
WHHZ	**Waihua**	**1.42 132**		PN	Pn	18 51 28.7	+0.3
WHHZ				AML	AML	18 51 57.5	
ARHZ	**Aropaoanui**	**1.43 143**		PN	Pn	18 51 28.7	+0.3
ARHZ				AML	AML	18 51 51.9	
ARHZ				AML	AML	18 51 52.6	
RUGZ	**Raukumara Rang**	**1.43 84**		PN	Pn	18 51 28.1	-0.5
MCHZ	**McNeill Hill**	**1.46 154**		PN	Pn	18 51 29.2	+0.4
MCHZ				AML	AML	18 51 54.5	
HAZ	**Te Kaha**	**1.55 77**		PN	Pn	18 51 29.7	+0.1
KRHZ	**Kereru**	**1.56 166**		PN	Pn	18 51 29.5	-0.3
KRHZ				AML	AML	18 51 54.7	
KRHZ				AML	AML	18 51 56.0	
RIGZ	**Rimuhau**	**1.59 112**		PN	Pn	18 51 29.7	-0.4
RIGZ				AML	AML	18 51 56.2	
RIGZ				AML	AML	18 51 57.2	
TWGZ	**Tauwhareparae**	**1.66 92**		PN	Pn	18 51 31.3	+0.5
TWGZ				AML	AML	18 51 59.4	
TWGZ				AML	AML	18 51 59.7	
KNZ	**Kokohu**	**1.66 123**		PN	Pn	18 51 30.6	-0.1
PKGZ	**Pakihiroa**	**1.75 83**		PN	Pn	18 51 32.0	+0.2
WAZ	**Wanganui**	**1.77 203**		PN	Pn	18 51 31.4	-0.4
CKHZ	**Cape Kidnapper**	**1.79 149**		PN	Pn	18 51 32.0	-0.1
PNHZ	**Pukenui**	**1.80 172**		PN	Pn	18 51 31.3	-0.9
PNHZ				AML	AML	18 51 59.0	
KAHZ	**Kahuranaki**	**1.83 155**		PN	Pn	18 51 32.4	-0.3
CNGZ	**Carnagh Statio**	**1.86 102**		PN	Pn	18 51 33.9	+1.0
MHGZ	**Mahia Peninsul**	**1.89 123**		PN	Pn	18 51 33.5	+0.3
TSZ	**Takapari Road**	**1.93 178**		PN	Pn	18 51 32.5	-1.1
WPHZ	**Waipukurau**	**1.98 167**		PN	Pn	18 51 33.2	-0.9
MXZ	**Matakaoa Point**	**2.00 74**		PN	Pn	18 51 35.0	+0.6
WMGZ	**Waiomatatini S**	**2.03 82**		PN	Pn	18 51 34.8	+0.1
PXZ	**Pawanui**	**2.04 158**		PN	Pn	18 51 34.2	-0.7
PXZ				AML	AML	18 52 04.0	
OHWZ	**Ohakea**	**2.12 192**		PN	Pn	18 51 34.9	-0.7
DVHZ	**Dannevirke**	**2.18 174**		PN	Pn	18 51 34.8	-1.6
DVHZ				AML	AML	18 52 05.7	
DVHZ				AML	AML	18 52 06.6	
PRHZ	**Porangahau**	**2.21 165**		PN	Pn	18 51 35.7	-1.1
PRHZ				AML	AML	18 52 07.2	
PRHZ				AML	AML	18 52 07.4	
POWZ	**Post Office Ro**	**2.26 182**		PN	Pn	18 51 35.6	-1.7
POWZ				AML	AML	18 52 13.0	
ANWZ	**Angora Road**	**2.37 169**		PN	Pn	18 51 35.0	-3.6
ANWZ				AML	AML	18 52 09.1	
ANWZ				AML	AML	18 52 09.8	
PRWZ	**Pori Road**	**2.42 178**		PN	Pn	18 51 37.6	-1.6
PRWZ				AML	AML	18 52 10.9	
MRZ	**Mangatainoka R**	**2.54 185**		PN	Pn	18 51 38.4	-2.2
MRZ				AML	AML	18 52 11.5	
MRZ				AML	AML	18 52 11.6	
BFZ	**Birch Farm**	**2.56 174**		PN	Pn	18 51 38.9	-2.0
TIWZ	**Tintock**	**2.64 180**		PN	Pn	18 51 39.8	-2.0
TIWZ				AML	AML	18 52 12.2	
TIWZ				AML	AML	18 52 12.9	
OGWZ	**Otaki Gorge**	**2.74 191**		PN	Pn	18 51 40.7	-2.2
OGWZ				AML	AML	18 52 13.5	
OGWZ				AML	AML	18 52 17.9	
HOWZ	**Holdsworth Sta**	**2.78 186**		PN	Pn	18 51 40.9	-2.6
KIW	**Kapiti Island**	**2.83 195**		PN	Pn	18 51 41.4	-2.6
TMWZ	**Te Maipa**	**2.97 180**		PN	Pn	18 51 43.2	-2.6
TMWZ				AML	AML	18 52 22.1	
MTW	**Mount Morrison**	**3.04 185**		PN	Pn	18 51 43.5	-3.1
CAW	**Cannon Point**	**3.04 192**		PN	Pn	18 51 43.8	-2.8
DUWZ	**D'Urville Isla**	**3.07 209**		PN	Pn	18 51 44.3	-2.8
TRWZ	**Traveller**	**3.27 183**		PN	Pn	18 51 46.4	-3.1
TCW	**Tory Channel**	**3.31 201**		PN	Pn	18 51 47.0	-3.1
TCW				AML	AML	18 52 27.5	
MSWZ	**Moikau Station**	**3.32 188**		PN	Pn	18 51 46.7	-3.4
PLWZ	**Palliser**	**3.47 188**		PN	Pn	18 51 48.3	-3.8
NNZ	**Nelson**	**3.64 211**		PN	Pn	18 51 50.6	-3.5
QRZ	**Quartz Range**	**3.74 223**		PN	Pn	18 51 51.7	-3.7
THZ	**Tophouse**	**4.29 211**		PN	Pn	18 51 59.4	-3.1

IDC 22 19:24:39.7±2.1, 6.73S×128°.87E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/50, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=110.5km s-min=27.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.73 195**		Pn	Pn	19 27 29.4	+0.9
	0.1nm,0.3s,baz=16,slow=12,SNR=2.3						
FITZ				Sn	Sn	19 29 23.9	-16
	0.2nm,0.3s,baz=132,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**14.17 159**		Pn	Pn	19 28 02.0	+0.2
	0.1nm,0.3s,baz=332,slow=14,SNR=1.9						
WRA				Sn	Sn	19 30 23.7	-16
	0.4nm,0.3s,baz=330,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**17.52 164**		P	Pn	19 28 44.7	-1.0
	0.1nm,0.3s,baz=340,slow=11,SNR=4.7						
ASAR				S	Sn	19 31 43.8	-18
	0.1nm,0.3s,baz=341,slow=25,SNR=1.8						
MKAR	**Makanchi Array**	**67.39 327**		P	P	19 35 37.5	+0.5
	0.3nm,0.5s,baz=118,slow=5.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**71.70 329**		P	P	19 36 03.0	-0.4
	0.3nm,0.7s,baz=139,slow=5.5,SNR=3.2						

DHMR 22 19:28:37.7±0.8, 12°.04N×44°.32E, h14km±13km, ML3.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.98 42**		*i* P	Pb	19 28 55.3	-1.1
ADEN				*i* S	Sg	19 29 09.9	+0.4
ADEN				AML	AML	19 29 10.3	
	comp=E,3μm,0.3s						
UDYN	**Al 'Udayn**	**1.94 350**		*i* P	Pb	19 29 12.0	-1.0
UDYN				*i* S	Sb	19 29 38.0	+0.7
UDYN				AML	AML	19 29 43.7	
	comp=E,2μm,0.5s						
HAJJ	**Hajjah**	**3.70 349**		*i* S	Sb	19 30 23.6	-4.3

IDC 22 19:30:34.9±2.7, 58°.78S×148°.34E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/33, mbtmp3.6/4, ML2.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/29, Error ellipse: s-maj=192.5km s-min=23.5km az=80.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.38 171**		P	P	19 35 01.9	+0.1
	0.0nm,0.3s,baz=339,slow=12,SNR=3.9						
VNDA				LR	LR	19 41 21.7	
	comp=Z,59nm,18.0s,baz=347,slow=33						
MAW	**Mawson**	**36.47 220**		LR	LR	19 51 45.3	
	comp=Z,46nm,19.2s,baz=63,slow=35						
ASAR	**Alice Springs**	**36.56 337**		P	P	19 37 42.3	+0.1
	0.7nm,0.7s,baz=163,slow=9.5,SNR=13						
WRA	**Warramunga Arr**	**40.10 339**		P	P	19 38 11.8	-0.2
	0.4nm,0.5s,baz=166,slow=7.8,SNR=6.6						
SNAA	**Sanae**	**48.29 192**		P	P	19 39 17.0	-0.3
	1.6nm,1.1s,baz=174,slow=6.8,SNR=3.0						
H08S2	**Diego Garcia H**	**76.17 278**		T	T	21 06 36.0	
	baz=148,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**76.18 278**		T	T	21 06 32.9	
	baz=148,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**76.19 278**		T	T	21 06 28.8	
	baz=148,slow=76,SNR=14						

*IDC **22** 19:31:43.6±1.0, 28°.50S×176°.20W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/40, mbtmp3.8/6, MS3.1/3, Ms1 3.1/3, ms1mx2.7/29, Error ellipse: s-maj=42.4km s-min=26.8km az=158.0*
*NEIC **22** 19:31:47.5±0.6, 28°.97S×175°.96W, h35km, mb4.6/10, Error ellipse: s-maj=15.6km s-min=9.6km az=129.0*
ISC 22 19:31:48.5±0.7, 28°.78S±0°.10×176°.2W±0°.1, h36km, n40, σ1§55/32, mb4.2/14, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.60 253**		Pn	Pn	19 32 19.1	+4.8
	71nm,0.3s,baz=322,slow=20,SNR=8.0						
RAO				Sn	Sn	19 32 42.4	+8.6
	330nm,0.3s,baz=86,slow=22,SNR=10						
RAO	**Raoul Island**	**1.60 253**		*e*Pn	Pn	19 32 18.8	+4.5
RAO				*e*Sn	**Sn**	**19 32 35.9**	**+2.1**
URZ	**Urewera**	**10.99 209**		Pn	**Pn**	**19 34 21.7**	**-1.4**
	0.5nm,0.3s,baz=181,slow=22,SNR=1.1						
URZ				Sn	**Sn**	**19 36 23.4**	**-1.3**
	1.0nm,0.3s,baz=228,slow=24,SNR=9.4						
URZ				LR	LR	19 38 31.4	
	comp=Z,62nm,20.1s,baz=16,slow=36						
URZ	**Urewera**	**10.99 209**		*e*Pn	**Pn**	**19 34 20.8**	**-2.3**
URZ				*e*Sn	**Sn**	**19 36 23.4**	**-1.3**
BFZ	**Birch Farm**	**13.40 206**		*e*Pn	**Pn**	**19 34 53.7**	**-2.4**
SNZO	**South Karori**	**14.55 208**		*e*Pn	**Pn**	**19 35 08.9**	**-2.9**
THZ	**Tophouse**	**15.71 212**		*e*Pn	**Pn**	**19 35 25.3**	**-1.8**
	36nm,1.4s						
KHZ	**Kahutara**	**15.96 209**		*e*Pn	**Pn**	**19 35 29.2**	**-1.0**
	30nm,1.1s						
DZM	**Mont Dzumac**	**17.06 289**		LR	LR	19 40 57.

FIA0	FINESS Array S	144.14	342	*e*PKPdf	PKPdf	19 51 18.1	-1.5
FINES	FINESS Array B	144.14	342	PKP	PKPdf	19 51 18.1	-1.5
	4.7nm,0.8s,baz=18,slow=4.8,SNR=10						
HFS	Hagfors	147.94	351	PKPbc	PKPab	19 51 29.5	-2.4
	2.1nm,0.8s,baz=3.8,slow=4.3,SNR=1.9						
AKASG	Malin Array Be	150.92	326	PKPbc	PKPbc	19 51 36.9	-0.1
	3.0nm,0.7s,baz=46,slow=3.3,SNR=4.1						
TORD	Torodi Ar. Bea	164.32	172	PKPab	PKPab	19 52 44.3	+1.5
	0.9nm,0.8s,baz=184,slow=4.0,SNR=5.3						
TOA1	Torodi Ar. Sit	164.32	172	*e*PKPab	PKPab	19 52 44.3	+1.4

OMAN ***22*** *19:34:45.9, 26°.86N×54°.06E, h18km*
TEH ***22*** *19:34:45.9, 26°.86N×54°.06E, h18km, ML3.0*
ISCJB ***22*** *19:34:47.1±0.7, 26°.92N±0°.06×54°.2E±0°.1, h10km, Error ellipse: s-maj=16.1km s-min=3.5km az=150.9*
DSN ***22*** *19:34:48.8±1.5, 26°.91N×54°.27E, h12km, ML3.4/7, Error ellipse: s-maj=19.5km s-min=5.6km az=0.0*
CSEM ***22*** *19:34:48.6±0.2, 26°.87N×54°.12E, h15km, ML3.0, Error ellipse: s-maj=9.5km s-min=2.2km az=62.0*

ISC 22 19:34:48.2±1.2, 26°.90N±0°.05×54°.20E±0°.09, h10km, n40, σ0^{s}94/51, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	Jahrom	1.70	341	*e*Pn	Pn	19 35 17.6	-0.4
JHRM	Jahrom	1.70	341	*e*Pn	Pn	19 35 17.6	-0.4
BANOM	Banah	2.12	117	*e*P	Pn	19 35 23.5	-0.2
	SNR=17						
BANOM				S	Sn	19 35 49.2	-0.9
BANOM	Banah	2.12	117	Pb	Pn	19 35 23.7	0.0
	SNR=16						
BANOM				S	Sn	19 35 49.2	-0.9
BANOM	Banah	2.12	117	Pb	Pn	19 35 23.7	0.0
	SNR=16						
BANOM	Banah	2.12	117	P	Pn	19 35 23.7	0.0
	SNR=16						
NAZ	Nazwa, Dubai	2.31	145	P	Pn	19 35 26.9	+0.5
NAZ	Nazwa, Dubai	2.31	145	P	Pn	19 35 26.9	+0.5
NAZ	Nazwa, Dubai	2.31	145	Pb	Pn	19 35 27.3	+0.9
	SNR=6.0						
NAZ				S	Sn	19 35 55.8	+1.0
NAZ	Nazwa, Dubai	2.31	145	Pb	Pn	19 35 27.3	+0.9
	SNR=6.0						
NAZ				Sn	Sn	19 35 55.8	+1.0
NAZ	Nazwa, Dubai	2.31	145	P	Pn	19 35 27.3	+0.9
	SNR=6.0						
NAZ				S	Sn	19 35 55.8	+1.0
FAQ	Al Faqa, Dubai	2.48	149	P	Pn	19 35 28.8	+0.1
FAQ	Al Faqa, Dubai	2.48	149	P	Pn	19 35 28.8	+0.1
KHSK	Kohestak	2.55	92	*e*Pn	Pn	19 35 30.5	+0.9
KHSK	Kohestak	2.55	92	*e*Pn	Pn	19 35 30.5	+0.9
UOSS	Minazif	2.65	137	P	Pn	19 35 30.9	-0.1
	SNR=13						
UOSS				S	Sn	19 36 03.7	+0.5
UOSS	Minazif	2.65	137	pPn	Pn	19 35 30.9	-0.1
	SNR=13						
UOSS				Sn	Sn	19 36 03.7	+0.5
UOSS	Minazif	2.65	137	P	Pn	19 35 30.9	-0.1
	SNR=13						
UOSS				S	Sn	19 36 03.7	+0.5
ISRV	Sarvestan	2.66	339	*e*Pn	Pn	19 35 31.1	-0.3
ISRV				*e*AMB	AMB	19 36 27.5	
	comp=Z,1μm,0.0s						
ISRV	Sarvestan	2.66	339	*e*Pn	Pn	19 35 31.1	-0.3
HATD	Hatta, Dubai	2.70	139	P	Pn	19 35 31.6	-0.1
HATD	Hatta, Dubai	2.70	139	P	Pn	19 35 31.6	-0.1
ASHO	Ashiyiah	2.77	142	*e*P	Pn	19 35 32.9	+0.2
	SNR=26						
ASHO	Ashiyiah	2.77	142	P	Pn	19 35 32.9	+0.2
	SNR=26						
ASHO				S	Sn	19 36 06.1	-0.1
ASHO	Ashiyiah	2.77	142	pPn	Pn	19 35 32.9	+0.2
	SNR=5.4						
ASHO				Sn	Sn	19 36 06.0	-0.1
ASHO	Ashiyiah	2.77	142	P	Pn	19 35 32.9	+0.2
	SNR=5.4						
ASHO				S	Sn	19 36 06.0	-0.1
IPAR	Pars	3.11	341	*e*Sg	Sg	19 36 28.7	+0.6
IPAR				*e*AMB	AMB	19 36 41.8	
	comp=Z,516nm,0.3s						
IPAR	Pars	3.11	341	*e*Sg	Sg	19 36 28.7	+0.6
IMEH	Mehriz	4.49	4	*e*Pn	Pn	19 35 57.7	+1.1
IMEH				*e*AMB	AMB	19 37 15.6	
	comp=Z,194nm,0.3s						
IMEH	Mehriz	4.49	4	*e*Pn	Pn	19 35 57.7	+1.1
IBAF	Bafgh	4.83	14	*e*AMB	AMB	19 36 08.5	
	comp=Z,112nm,0.1s						
IBAF				*e*Pn	Pn	19 36 01.7	+0.6
ISAD	Sadrabad	5.02	355	*e*AMB	AMB	19 36 12.2	
	comp=Z,122nm,0.1s						
ISAD				*e*Pn	Pn	19 36 04.1	+0.2
IRAM	Ramesheh	5.15	342	*e*Pn	Pn	19 36 05.0	-0.6
IRAM				*e*AMB	AMB	19 37 18.7	
	comp=Z,83nm,0.2s						
IRAM	Ramesheh	5.15	342	*e*Pn	Pn	19 36 05.0	-0.6
WSAR	Wadi Sarin	5.42	131	P	Pn	19 36 09.3	+0.2
	SNR=20						
WSAR	Wadi Sarin	5.42	131	pPn	Pn	19 36 09.3	+0.2
	SNR=20						
WSAR				Sn	Sn	19 37 07.9	-3.7
WSAR	Wadi Sarin	5.42	131	P	Pn	19 36 09.3	+0.2
	SNR=20						
WSAR				S	Sn	19 37 07.9	-3.7
IZEF	Zefreh	6.20	345	*e*Pn	Pn	19 36 19.6	-0.4
IZEF				*e*AMB	AMB	19 37 31.7	
	comp=Z,52nm,0.1s						
IPIR	Pirpir	6.45	334	*e*AMB	AMB	19 36 58.1	
	comp=Z,78nm,0.2s						
IKLH	Kolahrood	6.79	341	*e*AMB	AMB	19 36 39.0	
	comp=Z,45nm,0.1s						

IDC ***22*** *19:37:13.6±6.8, 36°.63N×71°.81E, h126km±33km, mb3.6/6, mb1 3.5/13, mb1mx3.1/77, mbtmp3.9/13, Error ellipse: s-maj=84.2km s-min=20.3km az=164.0*
ISCJB ***22*** *19:37:15.8±0.5, 37°.00N±0°.04×71°.88E±0°.07, h142km, mb3.8/6, Error ellipse: s-maj=8.6km s-min=4.3km az=149.0*
NNC ***22*** *19:37:23.0±1.6, 37°.46N×71°.71E, h160km±16km, mb3.0, mpv3.9, Error ellipse: s-maj=13.8km s-min=9.9km az=16.0*

ISC 22 19:37:16.5±0.8, 37°.02N±0°.07×71°.72E±0°.07, h142km, n32, σ2^{s}01/40, mb3.8/6, 9C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	Manas	5.49	6	⇑P	Pn	19 38 37.7	+1.2
	23nm,0.3s						
MNAS				⇑S	Sn	19 39 36.4	-2.4
	123nm,0.7s						
AAK	Ala-Archa	6.00	20	P	Pn	19 38 44.8	+1.6
	4.1nm,0.3s,baz=155,slow=6.6,SNR=42						
AAK				S	Sn	19 39 48.9	-2.1
	2.2nm,0.3s,baz=106,slow=22,SNR=4.8						
AAK	Ala-Archa	6.00	20	⇓P	Pn	19 38 44.6	+1.3
	4.2nm,0.4s						
AAK				⇑S	Sn	19 39 48.6	-2.3
	16nm,0.6s						
KK31	Karatay Array	6.14	352	⇑P	Pn	19 38 46.2	+1.2
	10.0nm,0.5s,baz=176,slow=12,SNR=110						
KK31				⇓S	Sn	19 39 51.4	-2.8
	30nm,0.5s,baz=179,slow=17,SNR=27						
TKM2	Tokmak 2	6.60	26	⇑P	Pn	19 38 51.5	+0.2
	2.1nm,0.6s						
TKM2				⇑S	Sn	19 40 04.3	-1.1
	6.7nm,0.8s						
GEYT	Alibeck	10.85	279	P	Pn	19 39 48.2	+0.2
	0.1nm,0.3s,baz=116,slow=10,SNR=1.9						
GEYT				S	Sn	19 41 45.1	-2.7
	0.4nm,0.3s,baz=114,slow=24,SNR=2.1						
MKAR	Makanchi Array	12.53	36	P	Pn	19 40 12.1	+2.3
	0.1nm,0.3s,baz=218,slow=12,SNR=2.5						
PYUN	Piuthan	13.01	130	*e*P	Pn	19 40 13.4	-2.9
	6.3nm,0.4s						
KOLN	Koldanda	13.62	129	*e*P	Pn	19 40 21.6	-2.5
	8.8nm,0.6s						
GKN	Gorkha	14.12	126	*e*P	Pn	19 40 28.9	-1.5
	6.3nm,0.3s						
GKN				*e*S	Sn	19 42 52.9	-14
KURBB	Kurchatov Arra	14.45	18	P	P	19 40 37.3	+0.4
	0.1nm,0.3s,baz=205,slow=11,SNR=12						
KURBB	Kurchatov Arra	14.45	18	⇑P	P	19 40 35.8	-1.1
	1.2nm,0.5s						

KKN	Kakani	14.68	125	*e*P	Pn	19 40 34.8	-2.7
	4.1nm,0.4s						
DMN	Daman	14.69	126	*e*P	Pn	19 40 36.0	-1.7
	7.9nm,0.6s						
PKIN	Phulchoki	14.90	125	*e*P	Pn	19 40 39.0	-1.3
	5.1nm,0.5s						
AB31	Akbulak array	14.92	329	P	Pn	19 40 42.0	+1.8
	0.4nm,0.2s,baz=133,slow=15,SNR=21						
AB31				S	Sn	19 43 21.7	-3.9
	2.1nm,0.5s,baz=144,slow=23,SNR=14						
GUN	Gumba	15.00	123	*e*P	Pn	19 40 39.3	-2.3
JIRN	Jiri	15.37	123	*e*P	Pn	19 40 45.0	-1.3
	60nm,0.4s						
BVAR	Borovoye Array	16.03	357	P	P	19 40 57.1	+2.6
	0.4nm,0.3s,baz=183,slow=9.5,SNR=3.9						
RAMN	Ramite	16.11	124	*e*P	Pn	19 40 54.1	-1.2
	4.1nm,0.3s						
TAPN	Taplejung	16.60	121	*e*P	P	19 41 01.3	0.0
	3.1nm,0.3s						
AKTO	Aktyubinsk	16.63	328	P	Pn	19 41 03.5	+2.4
	0.4nm,0.3s,baz=133,slow=9.0,SNR=4.2						
AKTO	Aktyubinsk	16.63	328	⇑P	Pn	19 41 03.5	+2.4
	4.9nm,1.1s						
AKTO				⇓S	S	19 44 02.8	-3.7
	4.3nm,1.1s						
ODAN	Odare	16.70	123	*e*P	P	19 41 01.2	-1.1
	6.1nm,0.7s						
ZAA0	Zalesovo Array	19.20	24	⇑P	P	19 41 29.6	+0.5
	0.6nm,0.8s						
ZALV	Zalesovo Beam	19.20	24	P	P	19 41 29.9	+0.7
	0.5nm,0.3s,baz=223,slow=10,SNR=15						
FINES	FINESS Array B	37.38	326	P	P	19 44 17.3	+2.2
	3.4nm,0.9s,baz=100,slow=11,SNR=2.1						
ARCES	ARCESS Array B	40.89	337	P	P	19 44 45.7	+1.6
	1.6nm,0.9s,baz=99,slow=7.5,SNR=1.1						
HFS	Hagfors	43.02	322	P	P	19 45 03.3	+1.8
	1.5nm,0.5s,baz=101,slow=12,SNR=2.3						
NOA	NORSAR Array B	44.31	323	P	P	19 45 13.5	+1.5
	0.5nm,0.5s,baz=95,slow=7.7,SNR=1.5						
TIXI	Tiksi	45.07	22	P	P	19 45 18.4	+0.7
	1.7nm,0.3s,baz=293,slow=6.1,SNR=11						
INK	Inuvik	73.30	10	P	P	19 48 33.1	+1.2
	0.5nm,0.4s,baz=348,slow=9.3,SNR=1.3						

ISCJB ***22*** *19:41:37.3±2.0, 14°.4N±0°.2×145°.8E±0°.3, h100km, mb3.6/8, Error ellipse: s-maj=45.0km s-min=11.1km az=32.3*
IDC ***22*** *19:41:38.9±2.0, 14°.23N×145°.75E, h103km±32km, mb3.4/8, mb1 3.5/8, mb1mx3.2/69, mbtmp3.8/8, Error ellipse: s-maj=63.7km s-min=34.5km az=176.0*

ISC 22 19:41:38.8±2.2, 14°.3N±0°.2×145°.8E±0°.3, h100km, n12, σ0^{s}69/10, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.15	232	P	Pn	19 42 01.6	+0.7
	443nm,0.3s,baz=116,slow=3.7,SNR=406						
GUMO				S	Sn	19 42 16.5	-1.0
	431nm,0.3s,baz=339,slow=22,SNR=23						
H11S3	WAKE ISLAND Hy	20.46	75	T	T	20 07 49.4	
	baz=263,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	20.48	75	T	T	20 07 50.4	
	baz=263,slow=74,SNR=11						
H11S2	WAKE ISLAND Hy	20.48	75	T	T	20 07 41.9	
	baz=263,slow=74,SNR=6.6						
MJAR	Matsushiro Arr	23.18	344	P	P	19 46 36.0	-0.9
	0.6nm,0.5s,baz=166,slow=10,SNR=4.9						
KSRS	Korea Array	28.02	329	P	P	19 47 20.7	+0.2
	1.0nm,0.6s,baz=143,slow=9.0,SNR=4.9						
SONM	Songino Array	46.69	324	P	P	19 49 58.4	+0.7
	0.9nm,0.6s,baz=133,slow=8.3,SNR=6.8						
ZALV	Zalesovo Beam	61.59	324	P	P	19 51 45.1	-0.5
	0.5nm,0.5s,baz=103,slow=6.2,SNR=2.1						
MKAR	Makanchi Array	61.62	316	P	P	19 51 45.7	-0.3
	0.3nm,0.5s,baz=85,slow=8.6,SNR=5.1						
KURBB	Kurchatov Arra	64.68	319	P	P	19 52 05.8	-0.3
	0.9nm,0.7s,baz=101,slow=7.2,SNR=7.9						
ILAR	Eielson Array	67.55	25	P	P	19 52 24.1	-0.2
	0.8nm,0.5s,baz=249,slow=5.6,SNR=20						
BVAR	Borovoye Array	69.94	322	P	P	19 52 39.3	0.0
	0.7nm,0.7s,baz=90,slow=8.6,SNR=4.2						

IDC ***22*** *19:45:32.3±0.7, 2°.45N×128°.67E, h0km, mb3.8/15, mb1 3.9/15, mb1mx3.7/57, mbtmp3.8/15, Error ellipse: s-maj=36.0km s-min=14.2km az=80.0*
ISCJB ***22*** *19:45:35.6±0.3, 2°.44N±0°.04×128°.81E±0°.06, h33km, mb4.0/24, Error ellipse: s-maj=9.1km s-min=6.1km az=178.6*
DJA ***22*** *19:45:39.3±1.6, 2°N±11°×12°9E±1°6, h88km±32km, M4.7/4, mB4.9/2, mb4.8/3, MLv4.7/4, Mw(mB)4.2/2*
NEIC ***22*** *19:45:43.4±1.2, 2°.31N×128°.60E, h96km±11km, mb4.3/12, Error ellipse: s-maj=14.0km s-min=5.7km az=79.0*

ISC 22 19:45:37.6±0.6, 2°.41N±0°.06×128°.59E±0°.08, h35km, n49, σ1^{s}72/44, mb4.0/24, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	3.22	200	P	Pn	19 46 28.6	+2.9
SGSI	Sangihe	3.31	293	P	Pn	19 46 30.6	+3.7
KMSI	Cibinong	4.96	248	P	Pn	19 46 53.0	+3.4
DAV	Davao City (W)	5.51	327	*e*Pn	Pn	19 47 07.0	+10
DAV				*e*Sn	Sn	19 47 57.2	-2.3
LUWI	Luwuk	6.75	240	*e*Pn	Pn	19 47 17.9	+3.6
LUWI				*e*Sn	Sn	19 48 26.0	-4.1
MRSI	Marisa	6.92	254	P	Pn	19 47 20.0	+3.4
MYLDM	Lahad Datu	10.44	286	*e*Pn	Pn	19 48 10.2	+5.3
MYLDM				*e*Sn	Sn	19 49 56.1	-4.5
FITZ	Fitzroy Crossi	20.59	188	P	P	19 50 13.1	-0.7
	1.1nm,0.8s,baz=10,slow=11,SNR=1.4						
FITZ	Fitzroy Crossi	20.59	188	*e*P	P	19 50 13.5	-0.3
	29nm,2.0s						
TPUB	Ta-pu	22.15	340	*e*P	P	19 50 30.8	+0.2
	115nm,1.8s						
WRAB	Tennant Creek	22.91	166	*e*P	P	19 50 38.3	-0.3
	8.7nm,1.3s						
WR1	Warramunga Arr	22.92	166	*e*P	P	19 50 38.8	+0.1
	7.1nm,1.1s						
WRA	Warramunga Arr	22.92	166	P	P	19 50 38.8	+0.1
	1.6nm,0.6s,baz=342,slow=10,SNR=11						
WB2	Warramunga Arr	22.92	166	*e*P	P	19 50 37.3	-1.4
	4.5nm,0.9s						
CISI	Cisompet, Garu	22.97	244	*e*P	P	19 50 39.0	-0.4
	23nm,1.1s						
YHNB	Yeheng	23.20	343	*e*P	P	19 50 43.0	+1.4
	92nm,1.7s						
AS31	Alice Springs	26.43	169	*e*P	P	19 51 10.2	-1.2
	1.1nm,1.1s						
ASAR	Alice Springs	26.43	169	P	P	19 51 11.8	+0.5
	0.3nm,0.5s,baz=343,slow=7.2,SNR=7.5						
CMAR	Chiang Mai Arr	33.14	301	P	P	19 52 12.3	+1.5
	0.2nm,0.7s,baz=129,slow=7.8,SNR=4.9						
KS15	Wonju Array Si	34.87	359	*e*P	P	19 52 27.3	+1.7
KSAR	Wonju Array Be	34.87	359	P	P	19 52 26.3	+0.7
KSRS	Korea Array	34.88	359	P	P	19 52 26.3	+0.6
	0.8nm,0.6s,baz=173,slow=8.8,SNR=5.4						
MAJO	Matsushiro	35.10	14	*e*P	P	19 52 27.4	-0.3
	16nm,1.4s						
MJAR	Matsushiro Arr	35.10	14	P	P	19 52 26.4	-1.3
	0.7nm,0.5s,baz=192,slow=9.1,SNR=9.9						
MJB9	Matsu-Tunnel	35.11	14	*e*P	P	19 52 27.4	-0.3
	3.9nm,1.4s						
BBOO	Buckleboo	35.74	169	*e*P	P	19 52 33.1	0.0
	68nm,1.9s						
STKA	Stephens Creek	36.27	161	P	P	19 52 37.7	0.0
	1.0nm,0.4s,baz=339,slow=9.1,SNR=4.0						
STKA	Stephens Creek	36.27	161	*e*P	P	19 52 37.7	0.0
	5.5nm,1.9s						
H11S3	WAKE ISLAND Hy	40.59	64	T	T	20 36 42.9	
	baz=241,SNR=12						
H11S2	WAKE ISLAND Hy	40.61	64	T	T	20 36 41.2	
	baz=241,SNR=5.6						
H11S1	WAKE ISLAND Hy	40.61	64	T	T	20 36 40.1	
	baz=241,SNR=6.0						
H11N1	WAKE ISLAND Hy	41.17	62	T	T	20 37 23.1	
	baz=250,slow=75,SNR=26						
H11N2	WAKE ISLAND Hy	41.19	62	T	T	20 37 23.5	
	baz=250,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy	41.19	62	T	T	20 37 24.1	
	baz=250,slow=75,SNR=19						
USRK	Ussuriysk Ar.	41.72	4	P	P	19 53 23.9	+0.7
	2.1nm,0.7s,baz=103,slow=2.5,SNR=4.4						
SONA0	Songino Array	49.14	340	*e*P	P	19 54 22.5	+0.4
SONM	Songino Array	49.14	340	P	P	19 54 22.5	+0.4
	0.3nm,0.4s,baz=106,slow=3.1,SNR=2.3						

MK32	Makanchi Array	59.69	325	*e*P	P	19 55 38.7	0.0
MKAR	Makanchi Array	59.69	325	P	P	19 55 38.7	0.0
	0.3nm,0.4s,baz=115,slow=9.0,SNR=9.4						
KURBB	Kurchatov Arra	63.85	327	P	P	19 56 06.0	-0.5
	0.3nm,0.3s,baz=128,slow=5.9,SNR=5.7						
KURK	Kurchatov	63.85	327	*e*P	P	19 56 06.0	-0.5
TIXI	Tiksi	69.14	0	P	P	19 56 39.7	-0.2
	1.3nm,0.3s,baz=183,slow=5.3,SNR=5.8						
ILAR	Eielson Array	85.49	25	P	P	19 58 11.1	-0.6
	0.2nm,0.5s,baz=254,slow=6.2,SNR=6.3						
ARA0	ARCESS Array S	92.32	340	*e*P	P	19 58 43.2	-0.7
ARCES	ARCESS Array B	92.32	340	P	P	19 58 43.2	-0.7
	0.9nm,0.5s,baz=79,slow=6.3,SNR=6.3						
FIA0	FINESS Array S	93.86	332	*e*P	P	19 58 50.6	-0.6
FINES	FINESS Array B	93.86	332	P	P	19 58 50.6	-0.6
	1.7nm,0.8s,baz=160,slow=17,SNR=1.3						
TORD	Torodi Ar. Bea	125.09	288	PKP	PKPdf	20 04 34.2	-1.2
	0.4nm,0.7s,baz=82,slow=2.4,SNR=2.5						
TOA1	Torodi Ar. Sit	125.09	288	*e*PKPdf	PKPdf	20 04 34.2	-1.2

ISCJB ***22*** *19:47:07.2±0.6, 27°.94N±0°.05×54°.32E±0°.06, h17km, mb3.7/8, Error ellipse: s-maj=9.8km s-min=5.3km az=136.7*
TEH ***22*** *19:47:07.3, 28°.07N×54°.30E, h18km, ML3.2*
CSEM ***22*** *19:47:09.4±0.4, 28°.06N×54°.33E, h15km, ML3.2, Error ellipse: s-maj=12.4km s-min=6.6km az=20.0*
IDC ***22*** *19:47:14.4±3.4, 27°.94N×54°.49E, h80km±40km, mb3.4/9, mb1 3.5/11, mb1mx3.2/57, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=22.0km s-min=18.8km az=13.0*

ISC 22 19:47:09.0±0.8, 28°.06N±0°.06×54°.37E±0°.05, h17km, n42, σ1^{s}39/43, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.25	281	*e*Pg	Pb	19 47 33.1	+1.0
ISRV	Sarvestan	1.72	320	*e*Pn	Pn	19 47 39.4	+1.0
ISRV				*e*AMB	AMB	19 48 18.8	
	comp=Z,3μm,0.4s						
ISRV	Sarvestan	1.72	320	*e*Pn	Pn	19 47 39.4	+1.0
IPAR	Pars	2.12	327	*e*Pn	Pn	19 47 45.1	+1.2
IPAR				*e*AMB	AMB	19 48 29.9	
	comp=Z,2μm,0.4s						
IPAR	Pars	2.12	327	*e*Pn	Pn	19 47 45.1	+1.2
NGRK	Negar Kerman	2.60	52	*e*Pn	Pn	19 47 50.5	-0.1
NGRK	Negar Kerman	2.60	52	*e*Pn	Pn	19 47 50.5	-0.1
KHSK	Kohestak	2.71	118	*e*Pn	Pn	19 47 53.5	+1.7
KHSK	Kohestak	2.71	118	*e*Pn	Pn	19 47 53.5	+1.7
KRBR	Kerman	2.83	47	*e*Pn	Pn	19 47 54.3	+0.6
KRBR				*e*Sg	Sb	19 48 33.9	0.0
TVBK	TV Kerman	2.84	47	*e*Pn	Pn	19 47 56.7	+2.9
TVBK	TV Kerman	2.84	47	*e*Pn	Pn	19 47 56.7	+2.9
KHGB	Koh Gabri	2.95	38	*e*Pn	Pn	19 47 56.3	+1.0
KHGB	Koh Gabri	2.95	38	*e*Pn	Pn	19 47 56.3	+1.0
CHMN	Cheshme madani	3.30	56	*e*Pn	Pn	19 48 02.6	+2.4
CHMN	Cheshme madani	3.30	56	*e*Pn	Pn	19 48 02.6	+2.4
IMEH	Mehriz	3.33	4	*e*Pn	Pn	19 48 01.6	+1.2
IMEH				*e*AMB	AMB	19 48 46.6	
	comp=Z,452nm,0.3s						
IMEH	Mehriz	3.33	4	*e*Pn	Pn	19 48 01.6	+1.2
IBAF	Bafgh	3.67	16	*e*AMB	AMB	19 48 18.1	
	comp=Z,687nm,0.2s						
IBAF				*e*Pn	Pn	19 48 05.8	+0.7
ISAD	Sadrabad	3.89	351	*e*AMB	AMB	19 48 18.2	
	comp=Z,410nm,0.2s						
ISAD				*e*Pn	Pn	19 48 09.5	+1.3
IRAM	Ramesheh	4.12	336	*e*Pn	Pn	19 48 12.1	+0.8
IRAM				*e*AMB	AMB	19 48 35.3	
	comp=Z,240nm,0.3s						
IRAM	Ramesheh	4.12	336	*e*Pn	Pn	19 48 12.1	+0.8
ICHK	Chekchek	4.17	0	*e*AMB	AMB	19 48 26.3	
	comp=Z,549nm,0.3s						
IGAR	Gharneh	4.78	336	*e*Pn	Pn	19 48 21.1	+0.7
IGAR				*e*AMB	AMB	19 48 43.9	
	comp=Z,195nm,0.2s						
IZEF	Zefreh	5.13	340	*e*Pn	Pn	19 48 24.4	-0.9
IZEF				*e*AMB	AMB	19 48 52.6	
	comp=Z,158nm,0.4s						
IZEF	Zefreh	5.13	340	*e*Pn	Pn	19 48 24.4	-0.9
IPIR	Pirpir	5.50	328	*e*Pn	Pn	19 48 30.6	+0.2
IPIR				*e*AMB	AMB	19 49 38.8	
	comp=Z,179nm,0.3s						
IPIR	Pirpir	5.50	328	*e*Pn	Pn	19 48 30.6	+0.2
IKLH	Kolahrood	5.77	336	*e*Pn	Pn	19 48 34.5	+0.5
IKLH				*e*AMB	AMB	19 49 00.5	
	comp=Z,82nm,0.2s						
IKLH	Kolahrood	5.77	336	*e*Pn	Pn	19 48 34.5	+0.5
CHBR	Chabahar	5.98	113	*e*Pn	Pn	19 48 37.0	+0.2
WSAR	Wadi Sarin	6.15	140	P	Pn	19 48 40.4	+1.3
	comp=Z,0.9nm,0.3s,baz=347,slow=7.7,SNR=3.3						
WSAR				S	Sn	19 49 48.0	-1.0
	comp=Z,0.8nm,0.3s,baz=254,slow=22,SNR=1.9						
KBZ	Khabaz	18.16	332	P	P	19 51 22.8	+2.4
	comp=Z,0.0nm,0.3s,baz=90,slow=4.0,SNR=2.6						
BRTR	Keskin Array B	20.72	309	P	P	19 51 50.8	+2.0
	comp=Z,1.1nm,0.6s,baz=131,slow=12,SNR=7.1						
A

CTAO	Charters Tower	14.99 198	*e*Pn		Pn	19 52 37.8 +1.0
	21nm,1.1s					
EIDS	Eidsvold	19.45 180	*e*P		P	19 53 31.5 +0.7
	51nm,1.5s					
MTN	Manton Dam	21.00 249	*e*P		P	19 53 49.0 +1.2
	69nm,1.5s					
WRAB	Tennant Creek	21.58 228	*e*P		P	19 53 53.8 -0.2
	21nm,0.8s					
WB2	Warramunga Arr	21.59 228	*e*P		P	19 53 53.9 -0.1
	21nm,0.7s					
WR1	Warramunga Arr	21.60 228	*e*P		P	19 53 53.8 -0.4
	25nm,0.6s					
WR1			*e*S		S	19 57 54.7 +3.4
WR1			*e*			20 02 22.9
WRA	Warramunga Arr	21.60 228	P		P	19 53 53.8 -0.4
	9.0nm,0.6s,baz=53,slow=11,SNR=64					
WRA			PcP		PcP	19 57 54.7 -0.4
	2.3nm,0.8s,baz=48,slow=2.0,SNR=4.8					
WRA			LR		LR	20 02 22.9
	comp=Z,233nm,20.9s,baz=40,slow=37					
DZM	Mont Dzumac	21.86 139	P		P	19 53 58.2 +1.1
	7.6nm,0.8s,baz=211,slow=4.4,SNR=6.0					
DZM			LR		LR	20 01 44.7
	comp=Z,452nm,19.0s,baz=21,slow=35					
DZM	Mont Dzumac	21.86 139	*e*P		P	19 53 58.3 +1.3
	27nm,1.2s					
AS31	Alice Springs	24.34 221	*e*P		P	19 54 22.2 +0.4
	7.2nm,0.9s					
ASAR	Alice Springs	24.34 221	P		P	19 54 21.9 +0.1
	9.7nm,0.7s,baz=57,slow=8.9,SNR=102					
ASAR			ScP		ScP	20 01 37.9 +1.7
	0.7nm,0.7s,baz=50,slow=2.7,SNR=6.5					
ASAR			LR		LR	20 03 55.8
	comp=Z,292nm,20.1s,baz=66,slow=36					
STKA	Stephens Creek	27.45 198	P		P	19 54 49.6 -0.1
	2.9nm,0.5s,baz=3.5,slow=7.6,SNR=12					
STKA			LR		LR	20 06 19.5
	comp=Z,289nm,18.6s,baz=26,slow=38					
STKA	Stephens Creek	27.45 198	*e*P		P	19 54 50.5 +0.7
	2.3nm,0.9s					
FITZ	Fitzroy Crossi	27.79 242	P		P	19 54 52.7 -0.2
	5.0nm,0.6s,baz=48,slow=8.6,SNR=12					
FITZ			LR		LR	20 07 10.6
	comp=Z,271nm,18.7s,baz=44,slow=39					
FITZ	Fitzroy Crossi	27.79 242	*e*P		P	19 54 52.8 -0.2
	10nm,0.8s					
JAGI	Jajag, Banyuwa	36.86 264	*e*P		P	19 56 10.4 -2.0
	94nm,2.0s					
RPZ	Rata Peaks	41.59 158	LR		LR	20 13 18.5
	comp=Z,334nm,18.5s,baz=325,slow=35					
CISI	Cisompet, Garu	43.13 265	*e*P		P	19 57 03.2 -1.3
	28nm,0.8s					
JNU	Nakatsue	43.27 335	P		P	19 57 06.2 +0.9
	7.1nm,0.7s,baz=224,slow=2.8,SNR=8.8					
JNU	Nakatsue	43.27 335	*e*P		P	19 57 04.9 -0.4
	11nm,0.7s					
KSRS	Korea Array	48.22 335	P		P	19 57 45.0 +0.8
	1.7nm,0.8s,baz=153,slow=7.3,SNR=5.4					
KSAR	Wonju Array Be	48.22 335	P		P	19 57 45.0 +0.8
NJ2	Nanjing	48.66 323	*e*P		P	19 57 51.3 +3.6
NJ2			pmax		pmax	
	comp=Z,22nm,0.5s					
USRK	Ussuriysk Ar.	52.72 343	P		P	19 58 17.6 -0.5
	0.9nm,0.6s,baz=103,slow=8.4,SNR=4.3					
ENH	Enshi	53.71 314	*e*P		P	19 58 25.8 +0.1
	12nm,1.2s					
BJI	Beijing	55.88 328	P		P	19 58 42.8 +1.6
BJI			pmax		pmax	
	comp=Z,9.0nm,0.6s					
KMI	Kunming	56.26 305	P		P	19 58 46.8 +2.3
KMI			pP		pP	19 58 59.0 +2.2
KMI			sP		sP	19 59 05.9 +4.1
KMI			pmax		pmax	
	comp=Z,6.0nm,0.9s					
KMI			LR		LR	
	comp=N,130nm,18.1s					
KMI			LR		LR	
	comp=E,92nm,22.5s					
XAN	Xi'an	56.29 318	P		P	19 58 44.3 0.0
XAN			pP		pP	19 58 56.8 +0.2
XAN			S		S	20 06 27.3 -4.2
XAN			pmax		pmax	
	comp=Z,7.0nm,0.6s					
XAN			LR		LR	
	comp=N,43nm,15.1s					
XAN			LR		LR	
	comp=E,92nm,14.4s					
XAN			LR		LR	
	comp=Z,150nm,21.9s					
CMAR	Chiang Mai Arr	56.89 296	P		P	19 58 48.2 -0.6
	0.2nm,0.5s,baz=110,slow=7.0,SNR=2.5					
CMAR			LR		LR	20 23 28.0
	comp=Z,26nm,18.9s,baz=110,slow=36					
KLR	Kul'dur	57.39 345	LR		LR	20 22 37.5
	comp=Z,5.7nm,18.3s,slow=35					
CD2	Chengdu	58.21 312	*e*P		P	19 58 57.0 -1.0
CD2			S		S	20 06 55.5 -1.5
CD2			SS		SS	20 10 49.0 -0.5
CD2			pmax		pmax	
	comp=Z,10.0nm,0.5s					
CD2			pmax		pmax	
	comp=Z,120nm,5.0s					
CD2			LR		LR	
	comp=N,230nm,19.9s					
CD2			LR		LR	
	comp=E,190nm,20.9s					
CD2			LR		LR	
	comp=Z,160nm,21.8s					
PETK	Petropavlovsk-	58.96 5	P		P	19 59 01.4 -1.3
	3.0nm,0.5s,baz=160,slow=5.2,SNR=7.1					
PETK			LR		LR	20 20 47.5
	comp=Z,80nm,21.4s,baz=179,slow=32					
PEA1	Petropavlovsk-	58.96 5	*e*P		P	19 59 01.4 -1.3
PEA1			*e*PKKPdf		PKKPdf	20 20 47.5 +27
HHC	Hu-ho-hao-te	58.97 326	*e*P		P	19 59 05.5 +2.4
HHC			pP		sP	19 59 18.3 -2.1
HHC			sP		pP	19 59 23.5 +8.0
HHC			S		S	20 07 06.8 +0.2
HHC			pmax		pmax	
	comp=Z,14nm,1.2s					
HHC			pmax		pmax	
	comp=Z,86nm,7.9s					
HHC			LR		LR	
	comp=N,160nm,18.7s					
HHC			LR		LR	
	comp=Z,140nm,22.4s					
LZH	Lanzhou	60.87 317	*e*P		P	19 59 17.9 +1.5
LZH			pP		pP	19 59 27.0 -1.8
LZH			sP		sP	19 59 30.9 -2.8
LZH			pmax		pmax	
	comp=Z,14nm,1.2s					
LZH			pmax		pmax	
	comp=Z,56nm,4.3s					
LZH			LR		LR	
	comp=N,96nm,10.9s					
LZH			LR		LR	
	comp=E,90nm,11.4s					
LZH			LR		LR	
	comp=Z,95nm,14.6s					
GTA	Gaotai	65.34 318	*e*P		P	19 59 46.8 +0.9
GTA			pP		pP	20 00 00.3 +1.9
GTA			sP		sP	20 00 05.3 +1.9
GTA			S		S	20 08 27.1 0.0
GTA			pmax		pmax	
	comp=Z,3.0nm,1.0s					
GTA			pmax		pmax	
	comp=Z,34nm,5.0s					
GTA			LR		LR	
	comp=N,68nm,18.1s					
GTA			LR		LR	
	comp=E,67nm,16.2s					
GTA			LR		LR	
	comp=Z,120nm,16.6s					
SONA0	Songino Array	66.35 329	*e*P		P	19 59 52.3 +0.1
SONA0			*e*P'P'df		P'P'df	20 28 18.8 -5.6
SONM	Songino Array	66.35 329	P		P	19 59 52.3 +0.1
	1.0nm,0.6s,baz=142,slow=6.5,SNR=6.8					
SONM			LR		LR	20 28 18.7
	comp=Z,104nm,21.2s,baz=153,slow=36					
VNDA	Vanda	71.88 178	P		P	20 00 25.8 -0.1
	0.5nm,0.7s,baz=321,slow=8.1,SNR=3.1					
VNDA	Vanda	71.88 178	*e*P		P	20 00 25.1 -0.8
WMQ	Urumqi	75.42 318	P		P	20 00 47.8 +0.5
WMQ			pP		PcP	20 01 01.8 +1.5
WMQ			sP		sP	20 01 08.9 +3.9
WMQ			pmax		pmax	
	comp=Z,7.0nm,0.6s					
WMQ			pmax		pmax	
	comp=Z,110nm,4.1s					
WMQ			LR		LR	
	comp=N,58nm,17.3s					
WMQ			LR		LR	
	comp=E,84nm,24.5s					
MK32	Makanchi Array	80.06 319	*e*P		P	20 01 13.1 0.0
MKAR	Makanchi Array	80.06 319	P		P	20 01 13.1 0.0
	0.4nm,0.5s,baz=114,slow=5.5,SNR=4.6					
ZALV	Zalesovo Beam	81.12 327	P		P	20 01 17.6 -1.0
	1.2nm,0.7s,baz=101,slow=3.9,SNR=6.3					
ZAA1	Zalesovo Array	81.12 327	*e*P		P	20 01 17.6 -1.0
KSH	Kashi	82.40 311	*e*P		P	20 01 27.0 +1.2
KSH			pP		pP	20 01 39.5 +0.8
KSH			sP		sP	20 01 44.8 +1.3
KSH			PP		PP	20 04 41.8 +6.6
KSH			S		S	20 11 36.3 -2.8
KSH			SS		SS	20 17 03.3 +2.5
KSH			pmax		pmax	
	comp=Z,14nm,1.2s					
KSH			pmax		pmax	
	comp=Z,77nm,6.0s					
KSH			LR		LR	
	comp=N,72nm,6.1s					
KSH			LR		LR	
	comp=E,77nm,7.1s					
KSH			LR		LR	
	comp=Z,110nm,6.8s					
KURBB	Kurchatov Arra	83.62 322	P		P	20 01 30.8 -0.9
	0.6nm,0.6s,baz=105,slow=4.0,SNR=6.1					
ILAR	Eielson Array	83.69 22	P		P	20 01 29.6 -2.1
	1.7nm,0.6s,baz=247,slow=5.2,SNR=29					
ILB	Eielson Array	83.69 22	*e*P		P	20 01 29.4 -2.3
QSPA	South Pole Qui	84.15 180	*e*P		P	20 01 34.7 +0.5
AAK	Ala-Archa	84.22 314	P		P	20 01 34.2 -0.9
	0.6nm,0.5s,baz=166,slow=10,SNR=4.0					
KKAR	Karatay Array	87.18 314	*e*P		P	20 01 48.8 -0.8
	19nm,1.0s					
BVAR	Borovoye Array	89.11 323	P		P	20 01 58.0 -0.5
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.8					
GCRM	Castle Rock Sp	90.54 51	*e*P		P	20 02 05.4 -0.2
HUMO	Hull Mountain	90.83 47	*e*P		P	20 02 08.3 +1.5
	12nm,1.1s					
ORV	Oroville	91.57 51	*e*P		P	20 02 11.1 +0.8
	3.0nm,1.0s					
AFDM	Forest Hills D	91.91 51	*e*P		P	20 02 12.9 +1.0
	6.3nm,1.1s					
SYO	Syowa Base	92.19 200	‖*e*P		P	20 02 12.4 -0.1
LLLB	Lillooet	92.48 40	*e*P		P	20 02 12.6 -1.7
	84nm,1.9s					
MOD	Modoc Plateau	92.71 48	*e*P		P	20 02 16.0 +0.3
	6.9nm,1.1s					
PNTR	Pine Nut	92.99 51	*e*P		P	20 02 18.8 +1.6
	7.4nm,0.9s					
PAHR	Pah Rah Range	93.21 51	*e*P		P	20 02 19.0 +0.9
	4.0nm,0.9s					
MWC	Mount Wilson	93.83 56	*e*P		P	20 02 21.1 -0.1
	12nm,1.0s					
DAC	Darwin (Calif)	94.36 54	*e*P		P	20 02 24.8 +1.3
	6.3nm,0.9s					
GSC	Goldstone, Bar	94.93 55	*e*P		P	20 02 26.7 +0.7
	6.6nm,1.3s					
PFO	Pinyon Flats O	95.11 57	P		P	20 02 28.2 +1.3
	2.7nm,0.8s,baz=290,slow=5.7,SNR=4.7					
PFO	Pinyon Flats O	95.11 57	*e*P		P	20 02 28.2 +1.3
	6.7nm,1.4s					
TPNV	Topopah Spring	95.48 54	*e*P		P	20 02 29.1 +0.6
	5.4nm,0.9s					
R11A	Troy Canyon, C	96.08 52	*e*P		P	20 02 32.4 +1.1
	3.4nm,1.2s					
SHPR	Sheep Range	96.33 54	*e*P		P	20 02 34.4 +1.9
	4.7nm,1.1s					
BR101	Keskin Array S	114.79 311	*e*PKiKP		PKiKP	20 07 44.2 -0.1
BRTR	Keskin Array B	114.79 311	PKP		PKPdf	20 07 44.2 -0.1
	0.7nm,0.8s,baz=132,slow=2.1,SNR=4.4					
KHC	Kasperske Hory	123.97 328	*e*PKPdf		PKPdf	20 08 01.5 0.0
KHC			*ex*		x	20 08 10.8
GEC2	GERESS Array S	124.07 327	*e*PKPdf		PKPdf	20 08 01.4 -0.4
GERES	GERESS Array B	124.07 327	PKP		PKPdf	20 08 01.7 -0.1
	0.7nm,0.7s,baz=90,slow=2.7,SNR=8.2					
LPAZ	La Paz	135.31 120	PKP		PKPdf	20 08 25.6 +0.9
	1.0nm,0.8s,baz=126,slow=2.0,SNR=5.1					
LPAZ	La Paz	135.31 120	*e*PKPdf		PKPdf	20 08 21.8 -2.9
PTGA	Pitinga	148.19 101	*e*PKPbc		PKPbc	20 08 50.7 +0.5
TOA0	Torodi Ar. Sit	149.09 286	*e*PKPbc		PKPbc	20 08 51.9 -0.5
TORD	Torodi Ar. Bea	149.09 286	PKPbc		PKPbc	20 08 51.9 -0.6
	13nm,0.7s,baz=54,slow=2.3,SNR=88					
TOA1	Torodi Ar. Sit	149.09 286	*e*PKPbc		PKPbc	20 08 51.9 -0.6
BDFB	Brasilia	151.41 138	PKPbc		PKPbc	20 08 58.4 +0.3
	1.2nm,0.6s,baz=42,slow=1.6,SNR=2.3					

IDC ***22*** *20:03:30.8±1.1, 11°.60N×44°.27E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/51, mbtmp3.8/12, ML3.2/2, Error ellipse: s-maj=29.8km s-min=16.9km az=167.0*
ISCJB ***22*** *20:03:31.7±0.5, 11°.84N±0°.06×44°.25E±0°.06, h10km, mb4.1/24, Error ellipse: s-maj=9.0km s-min=7.4km az=139.2*
CSEM ***22*** *20:03:32.7, 11°.68N×44°.25E, h10km, mb4.3/17*
NEIC ***22*** *20:03:32.7±0.6, 11°.68N×44°.25E, h10km, mb4.3/17, Error ellipse: s-maj=13.2km s-min=8.6km az=146.0*
ISC 22 20:03:33.1±0.6, 11°.81N±0°.06×44°.18E±0°.08, h10km, n67, σ1§82/67, mb4.1/24, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.34	258	Pn	Pn	20 03 56.0	-1.9
	6.5nm,0.3s,baz=63,slow=9.7,SNR=16						
UDYN	Al 'Udayn	2.16	354	*i* P	Pn	20 04 07.5	-1.8
UDYN				*e*		20 04 07.7	
	baz=184,slow=9.3						
UDYN				*i* S	Sn	20 04 34.0	-2.1
UDYN				AML	AML	20 04 56.2	
	comp=E,7μm,0.6s						
DAMY	Dhamar	2.75	4	*e*Pn	Pn	20 04 16.1	-1.5
DAMY	Dhamar	2.75	4	*e*Pn	Pn	20 04 16.1	-1.5
HAJJ	Hajjah	3.91	352	*i* P	Pn	20 04 32.3	-1.1
HAJJ				*i* S	Sb	20 05 28.0	-1.7
HAJJ				AML	AML	20 05 46.2	
	comp=Z,4μm,0.8s						
FURI	Furi	6.14	242	*e*Pn	Pn	20 05 05.1	+0.9
FURI	Furi	6.14	242	*e*Pn	Pn	20 05 05.1	+0.9
RAYN	Ar Rayn	11.72	6	*e*Pn	Pn	20 06 21.4	+0.9
RAYN	Ar Rayn	11.72	6	*e*Pn	Pn	20 06 21.4	+0.9
KMBO	Kilima Mbogo	14.58	209	Pn	Pn	20 06 55.2	-4.6
	comp=Z,0.1nm,0.3s,baz=74,slow=19,SNR=1.3						
KMBO	Kilima Mbogo	14.58	209	*e*Pn	Pn	20 06 55.6	-4.2
KMBO	Kilima Mbogo	14.58	209	*e*Pn	Pn	20 06 55.6	-4.2
UOSS	Minazif	17.33	39	*e*Pn	Pn	20 07 34.4	-0.8
	comp=Z,12nm,1.1s						
UOSS	Minazif	17.33	39	*e*Pn	Pn	20 07 34.4	-0.8
	comp=Z,12nm,1.1s						
WSAR	Wadi Sarin	17.84	49	P	Pn	20 07 41.4	-0.2
	comp=Z,0.1nm,0.3s,baz=254,slow=4.9,SNR=4.5						
BR131	Keskin Array S	29.33	343	*e*P	P	20 09 39.3	+3.1
BR131	Keskin Array S	29.33	343	*e*P	P	20 09 39.3	+3.1
BRTR	Keskin Array B	29.33	343	P	P	20 09 38.3	+2.1
	comp=Z,1.4nm,0.8s,baz=151,slow=11,SNR=8.5						
BR101	Keskin Array S	29.33	343	*e*P	P	20 09 38.3	+2.1
BR101	Keskin Array S	29.33	343	*e*P	P	20 09 38.3	+2.1
ILGA	Ilgaz	30.55	344	*e*P	P	20 09 52.0	+4.9
	comp=Z,4.3nm,0.8s						
TAM	Tamanrasset	38.38	292	*e*P	P	20 10 55.6	+0.6
	comp=Z,4.4nm,1.8s						
TAM	Tamanrasset	38.38	292	*e*P	P	20 10 55.6	+0.6
	comp=Z,4.4nm,1.8s						
ABKAR	Akbulak array	39.56	16	*e*P	P	20 11 04.3	0.0
	comp=Z,15nm,0.9s						
ABKAR	Akbulak array	39.56	16	*e*P	P	20 11 04.3	0.0
	comp=Z,15nm,0.9s						
AAK	Ala-Archa	40.45	35	*e*P	P	20 11 14.0	+1.9
	comp=Z,2.1nm,1.1s						
AAK	Ala-Archa	40.45	35	*e*P	P	20 11 14.0	+1.9
	comp=Z,2.1nm,1.1s						
KIEV	Kiev	40.67	345	*e*P	P	20 11 16.7	+3.2
	comp=Z,3.6nm,1.0s						
KIEV	Kiev	40.67	345	*e*P	P	20 11 16.7	+3.2
	comp=Z,3.6nm,1.0s						
AKBB	Malin Array Si	40.67	345	*e*P	P	20 11 15.4	+1.9
	comp=Z,4.2nm,1.0s						
AKBB	Malin Array Si	40.67	345	*e*P	P	20 11 15.4	+1.9
	comp=Z,4.2nm,1.0s						
PSZ	Piszkesteto	41.34	335	*e*P	P	20 11 18.6	-0.6
	comp=Z,2.1nm,0.9s						
PSZ	Piszkesteto	41.34	335	*e*P	P	20 11 18.6	-0.6
	comp=Z,2.1nm,0.9s						
TORD	Torodi Ar. Bea	41.47	277	P	P	20 11 22.1	+1.4
	comp=Z,0.7nm,1.0s,baz=95,slow=6.4,SNR=2.5						
TOA1	Torodi Ar. Sit	41.47	277	*e*P	P	20 11 22.1	+1.4
	comp=Z,6.9nm,1.3s						
TOA1	Torodi Ar. Sit	41.47	277	*e*P	P	20 11 22.1	+1.4
	comp=Z,6.9nm,1.3s						
GEC2	GERESS Array S	44.76	332	*e*P	P	20 11 46.6	-0.3
	comp=Z,3.8nm,1.1s						
GEC2	GERESS Array S	44.76	332	*e*P	P	20 11 46.6	-0.3
	comp=Z,3.8nm,1.1s						
GERES	GERESS Array B	44.76	332	P	P	20 11 48.2	+1.3
	comp=Z,0.7nm,0.7s,baz=128,slow=8.6,SNR=6.2						
ARU	Arti	45.90	11	*e*P	P	20 11 53.0	-2.6
	comp=Z,19nm,2.0s						
ARU	Arti	45.90	11	*e*P	P	20 11 53.0	-2.6
	comp=Z,19nm,2.0s						
BRVK	Borovoye	46.15	22	*e*P	P	20 11 57.5	-0.2
	comp=Z,6.1nm,1.9s						
BRVK	Borovoye	46.15	22	*e*P	P	20 11 57.5	-0.2
	comp=Z,6.1nm,1.9s						
BVAR	Borovoye Array	46.16	22	P	P	20 11 58.1	+0.3
	comp=Z,1.3nm,0.7s,baz=226,slow=5.6,SNR=9.6						
MK31	Makanchi Array	47.39	35	*e*P	P	20 12 13.0	+5.5
MK32	Makanchi Array	47.39	35	*e*P	P	20 12 07.1	-0.5
MK32	Makanchi Array	47.39	35	*e*P	P	20 12 07.0	-0.5
MKAR	Makanchi Array	47.39	35	P	P	20 12 07.0	-0.5
	comp=Z,1.5nm,0.8s,baz=224,slow=8.5,SNR=5.3						
MKAR	Makanchi Array	47.39	35	*e*P	P	20 12 11.9	+4.3
	comp=Z,26nm,1.0s						
KURK	Kurchatov	47.91	29	*e*P	P	20 12 13.3	+1.8
	comp=Z,12nm,1.8s						
KURK	Kurchatov	47.91	29	*e*P	P	20 12 13.3	+1.8
	comp=Z,12nm,1.8s						
ESDC	Sonseca Array	50.69	312	P	P	20 12 34.3	+1.3
	comp=Z,0.7nm,0.7s,baz=341,slow=30,SNR=4.7						
ESLA	Sonseca Array	50.69	312	*e*P	P	20 12 32.7	-0.4
	comp=Z,22nm,1.8s						
ESLA	Sonseca Array	50.69	312	*e*P	P	20 12 32.6	-0.4
	comp=Z,22nm,1.8s						
ZAA0	Zalesovo Array	52.90	29	*e*P	P	20 12 48.8	-0.4
	comp=Z,2.3nm,0.9s						
ZAA0	Zalesovo Array	52.90	29	*e*P	P	20 12 48.8	-0.4
	comp=Z,2.3nm,0.9s						
ZALV	Zalesovo Beam	52.90	29	P	P	20 12 48.2	-1.0
	comp=Z,2.1nm,0.7s,baz=232,slow=7.7,SNR=9.9						
ZAA1	Zalesovo Array	52.90	29	*e*P	P	20 12 48.2	-1.0
ZAA1	Zalesovo Array	52.90	29	*e*P	P	20 12 48.2	-1.0
CM31	Chiang Mai Arr	53.11	76	*e*P	P	20 12 50.7	-0.7
CM31	Chiang Mai Arr	53.11	76	*e*P	P	20 12 50.7	-0.7
CMAR	Chiang Mai Arr	53.11	76	P	P	20 12 50.5	-0.8
	comp=Z,1.9nm,0.9s,baz=272,slow=8.1,SNR=14						
KULM	Kulim	56.14	92	*e*P	P	20 13 14.9	+1.5
	comp=Z,12nm,1.5s						
KULM	Kulim	56.14	92	*e*P	P	20 13 14.9	+1.5
	comp=Z,12nm,1.5s						
SONA0	Songino Array	62.76	42	*e*P	P	20 13 58.7	-0.1
SONM	Songino Array	62.76	42	P	P	20 13 58.7	-0.1
	comp=Z,1.0nm,0.7s,baz=245,slow=6.9,SNR=8.4						
ASAR	Alice Springs	94.40	113	P	P	20 16 53.9	0.0
	comp=Z,0.3nm,0.9s,baz=290,slow=4.8,SNR=2.0						

ISCJB ***22*** *20:03:44.5±0.4, 11°.83N±0°.05×44°.25E±0°.05, h4km, mb4.5/51, MS3.2/2, Error ellipse: s-maj=7.8km s-min=6.8km az=176.6*
IDC ***22*** *20:03:45.6±0.9, 11°.79N×44°.23E, h0km, mb4.0/14, mb1 4.1/17, mb1mx3.9/53, mbtmp4.0/17, ML3.6/3, MS3.2/2, Ms1 3.2/2, ms1mx3.0/10, Error ellipse: s-maj=22.0km s-min=11.1km az=160.0*
GCMT ***22*** *20:03:46.9±0.4, 11°.95N×44°.56E, h14km±1km, MW4.7/65, Moment Tensor Solution. s12,c16; s65,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.52±.14; Mθθ1.14±.09; Mφφ0.37±.09; Mrθ0.17±.16; Mφφ-0.06±.05; Mθr-0.54±.24; Best double couple: M0 1.41700×10^16 NP1:φs291.00000°, δ52.00000°, λ-72.00000°. NP2: φs83.00000°, δ42.00000°, λ-111.00000°. Principal axes: T 1.1650, Plg5.0000°, Azm8.0000°; N 0.5000, Plg14.0000°, Azm99.0000°; P -1.6700, Plg75.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *20:03:46.9±0.3, 11°.77N×44°.19E, h10km, mb4.7/40 Error ellipse: s-maj=6.6km s-min=6.3km az=186.0*
ISC 22 20:03:46.5±0.5, 11°.88N±0°.07×44°.21E±0°.07, h4km, n87, σ1§16/86, mb4.5/51, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.38	255	Pn	Pn	20 04 11.1	-1.6
	475nm,0.3s,baz=360,slow=2.4,SNR=20						
ATD				Lg	Lg	20 04 30.3	
	1μm,0.3s,baz=122,slow=22,SNR=9.4						
ATD	Arta Tunnel	1.38	255	Pn	Pn	20 04 11.1	-1.6
ATD				Lg	Lg	20 04 30.3	
DAMY	Dhamar	2.68	4	*e*Pn	Pb	20 04 33.1	-2.2
FURI	Furi	6.20	242	*e*Pn	Pn	20 05 22.9	+3.7
RAYN	Ar Rayn	11.64	6	*e*Pn	Pn	20 06 36.5	+2.9
KMBO	Kilima Mbogo	14.66	209	Pn	Pn	20 07 13.3	-1.8
	0.2nm,0.3s,baz=28,slow=17,SNR=4.2						
KMBO				Lg	Lg	20 11 27.4	
	0.2nm,0.3s,baz=69,slow=16,SNR=6.4						
KMBO	Kilima Mbogo	14.66	209	*e*Pn	Pn	20 07 11.4	-3.7
KMBO				Lg	Lg	20 11 27.4	
UOSS	Minazif	17.25	39	*e*Pn	Pn	20 07 45.9	-2.6
	29nm,0.9s						
WSAR	Wadi Sarin	17.77	49	P	Pn	20 07 54.4	-0.6
	0.2nm,0.3s,baz=257,slow=16,SNR=7.6						
WSAR	Wadi Sarin	17.77	49	P	Pn	20 07 54.4	-0.6
EIL	Elat	19.68	335	P	Pn	20 08 17.5	-0.6
	0.3nm,0.3s,baz=160,slow=15,SNR=1.9						
EIL				Lg	Lg	20 14 06.7	
	0.0nm,0.3s,baz=90,slow=20,SNR=1.8						
EIL	Elat	19.68	335	P	Pn	20 08 17.5	-0.6
EIL				Lg	Lg	20 14 06.7	
MSEY	Mahe Island	19.90	145	*e*P	P	20 08 19.8	+0.4
	175nm,1.8s						
ASF	Jabal al Asfar	21.29	343	P	P	20 08 35.4	+1.1
	2.2nm,0.8s,baz=272,slow=13,SNR=3.2						
ASF				Lg	Lg	20 14 57.6	
	0.7nm,0.5s,baz=80,slow=20,SNR=4.0						
ASF	Jabal al Asfar	21.29	343	P	P	20 08 35.4	+1.1
ASF				Lg	Lg	20 14 57.6	
MARD	Mardin	25.51	354	*e*P	P	20 09 18.5	+2.3
	26nm,1.5s						
AKAS	Kas	27.60	334	*e*P	P	20 09 31.1	-4.1
	12nm,1.2s						
GNI	Garni	28.16	1	*e*P	P	20 09 38.0	-2.2
	10nm,1.1s						
GEYT	Alibeck	28.77	23	P	P

AKBB	Malin Array Si	40.61	345	*e*P	P	20 11 26.8	-0.5
	18nm,1.8s						
PSZ	Piszkesteto	41.29	335	*e*P	P	20 11 32.5	-0.6
	15nm,1.5s						
TORD	Torodi Ar. Bea	41.49	276	P	P	20 11 35.2	+0.1
	1.8nm,1.1s,baz=92,slow=8.6,SNR=4.0						
TORD	Torodi Ar. Bea	41.49	276	P	P	20 11 35.2	+0.1
TOA1	Torodi Ar. Sit	41.49	276	*e*P	P	20 11 35.2	+0.1
	5.1nm,1.2s						
MORC	Moravsky Berou	43.71	335	*e*P	P	20 11 54.1	+1.4
	48nm,1.8s						
GEC2	GERESS Array S	44.71	332	*e*P	P	20 12 00.6	-0.3
	21nm,1.7s						
GERES	GERESS Array B	44.71	332	P	P	20 12 00.8	-0.1
	1.0nm,0.7s,baz=132,slow=7.4,SNR=7.8						
GERES	GERESS Array B	44.71	332	P	P	20 12 00.8	-0.1
KHC	Kasperske Hory	44.97	332	*e*P	P	20 12 04.0	+1.2
	5.5nm,1.8s						
ARU	Arti	45.82	11	*e*P	P	20 12 08.1	-1.3
	12nm,1.5s						
BRVK	Borovoye	46.07	22	*e*P	P	20 12 12.2	+0.8
	6.0nm,1.0s						
BVAR	Borovoye Array	46.08	22	P	P	20 12 11.6	+0.1
	1.8nm,0.7s,baz=213,slow=7.9,SNR=11						
BVAR	Borovoye Array	46.08	22	P	P	20 12 11.6	+0.1
CLL	Collm	46.78	333	*e*P	P	20 12 16.2	-0.9
	19nm,2.0s						
STU	Stuttgart	46.86	329	*e*P	P	20 12 18.2	+0.4
	7.4nm,0.9s						
MAKZ	Makanchi	47.14	35	*e*P	P	20 12 19.4	-0.6
	18nm,1.4s						
MK31	Makanchi Array	47.31	35	*e*P	P	20 12 21.5	+0.2
MK32	Makanchi Array	47.31	35	*e*P	P	20 12 21.1	-0.2
MKAR	Makanchi Array	47.31	35	P	P	20 12 21.1	-0.2
	3.2nm,0.9s,baz=224,slow=6.1,SNR=7.1						
MKAR	Makanchi Array	47.31	35	P	P	20 12 21.1	-0.2
KURK	Kurchatov	47.83	29	*e*P	P	20 12 26.1	+0.8
	7.9nm,1.1s						
WLF	Walferdange	48.98	328	*e*P	P	20 12 31.7	-2.4
	44nm,1.7s						
SUR	Sutherland	49.38	206	*e*P	P	20 12 37.3	-0.3
	99nm,1.7s						
ESDC	Sonseca Array	50.66	312	P	P	20 12 47.9	+0.7
	0.9nm,0.7s,baz=88,slow=7.1,SNR=7.7						
ESLA	Sonseca Array	50.66	312	*e*P	P	20 12 47.9	+0.6
	23nm,1.9s						
PAB	San Pablo	50.90	312	*e*P	P	20 12 49.4	+0.3
	13nm,1.3s						
ZAA0	Zalesovo Array	52.82	29	*e*P	P	20 13 02.6	-0.4
	6.8nm,1.0s						
ZALV	Zalesovo Beam	52.82	29	P	P	20 13 02.9	-0.2
	3.6nm,0.8s,baz=237,slow=7.0,SNR=10						
ZALV	Zalesovo Beam	52.82	29	P	P	20 13 02.9	-0.2
ZAA1	Zalesovo Array	52.83	29	*e*P	P	20 13 02.9	-0.2
CHTO	Chiang Mai	53.06	75	*e*P	P	20 13 03.7	-1.7
	6.8nm,1.5s						
CM31	Chiang Mai Arr	53.07	76	*e*P	P	20 13 06.3	+0.9
CMAR	Chiang Mai Arr	53.07	76	P	P	20 13 04.9	-0.5
	6.2nm,1.0s,baz=274,slow=7.6,SNR=22						
CMAR	Chiang Mai Arr	53.07	76	P	P	20 13 04.9	-0.5
PSI	Prapat	54.92	95	*e*P	P	20 13 18.5	-0.7
	6.3nm,1.1s						
NC204	NORSAR Array S	54.99	341	*e*P	P	20 13 18.5	-0.3
KULM	Kulim	56.11	92	*e*P	P	20 13 27.6	0.0
	14nm,1.2s						
LVZ	Lovozero	56.31	356	*e*P	P	20 13 28.1	-0.1
	94nm,1.7s						
SONA0	Songino Array	62.68	42	*e*P	P	20 14 13.0	+0.4
SONM	Songino Array	62.68	42	P	P	20 14 13.0	+0.4
	2.5nm,0.9s,baz=240,slow=6.8,SNR=12						
SONM	Songino Array	62.68	42	P	P	20 14 13.0	+0.4
ENH	Enshi	62.82	62	*e*P	P	20 14 13.0	-0.8
	30nm,1.8s						
NRIK	Noril'sk	63.65	16	P	P	20 14 19.2	+0.7
	2.2nm,0.5s,baz=185,slow=4.6,SNR=4.2						
MYLDM	Lahad Datu	73.60	88	*e*P	P	20 15 21.9	+0.2
	19nm,1.4s						
TIXI	Tiksi	77.12	19	*e*P	P	20 15 41.2	+0.4
	9.7nm,1.4s						
KSRS	Korea Array	77.92	54	LR	LR	20 53 45.5	
	comp=Z,11nm,19.0s,baz=295,slow=38						
MDJ	Mudanjiang	78.49	47	*e*P	P	20 15 50.2	+1.1
	34nm,1.9s						
ASAR	Alice Springs	94.41	113	P	P	20 17 08.0	-0.4
	0.6nm,0.9s,baz=293,slow=4.7,SNR=4.7						
ASAR	Alice Springs	94.41	113	P	P	20 17 08.0	-0.4

*ISCJB **22** 20:15:51.3±0.3, 39°.22N±0°.05×135°.81E±0°.05, h350km, mb3.3/7, Error ellipse: s-maj=7.1km s-min=5.2km az=22.3*
*JMA **22** 20:15:51.9±0.3, 39°.06N×136°.11E, h376km, M3.4*
*IDC **22** 20:15:51.8±0.7, 39°.23N×135°.91E, h343km±11km, mb3.1/7, mb1 3.2/12, mb1mx3.0/38, mbtmp3.8/12, Error ellipse: s-maj=15.6km s-min=12.7km az=124.0*

ISC 22 20:15:51.7±0.7, 39°.25N±0°.06×136°.02E±0°.07, h350km, n36, σ1§55/42, mb3.1/7, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	Suzu	2.08	149	P	Pn	20 16 45.2	+1.5
JSZ				*e*S	S	20 17 27.7	+2.4
JSD	Sado	2.13	124	P	Pn	20 16 45.2	+1.2
JAW	Awa shima	2.64	106	P	Pn	20 16 50.1	+2.2
MAT	Matsushiro	3.21	147	P	Pn	20 16 54.0	+0.9
MJAR	Matsushiro Arr	3.21	147	P	Pn	20 16 54.5	+1.4
	1.0nm,0.3s,baz=334,slow=13,SNR=25						
MJAR				S	S	20 17 42.8	+0.3
	0.8nm,0.3s,baz=318,slow=25,SNR=4.4						
JYK	Kaneyama	3.39	94	P	Pn	20 16 56.8	+2.1
JRY	Ryogami san	3.95	144	P	Pn	20 16 59.4	-0.9
JRY				*e*S	S	20 17 54.7	-0.9
JMK	Ichinoseki	4.05	93	P	Pn	20 17 02.9	+1.7
JOT	Ohata	4.39	59	P	Pn	20 17 07.4	+2.7
JKB	Kayabe	4.64	54	P	Pn	20 17 10.0	+2.7
JIE	Ise	4.88	173	P	Pn	20 17 10.1	0.0
USRK	Ussuriysk Ar.	5.79	330	P	Pn	20 17 20.8	+0.8
	0.8nm,0.3s,baz=150,slow=13,SNR=12						
BSO1	Boso 1	6.06	138	P	Pn	20 17 22.5	-0.2
BSO1				*e*S	S	20 18 33.9	-2.7
JCH	Churui	6.50	56	P	Pn	20 17 29.6	+1.5
JCH				*e*S	S	20 18 43.0	-3.4
KSRS	Korea Array	6.61	257	P	Pn	20 17 29.2	-0.3
	0.4nm,0.3s,baz=70,slow=12,SNR=9.4						
ASAJ	Asahikawa	6.92	43	P	Pn	20 17 34.9	+1.9
	3.2nm,0.3s,baz=225,slow=12,SNR=32						
ASAJ				S	S	20 18 52.8	-2.5
	3.1nm,0.3s,baz=65,slow=30,SNR=9.4						
JNU	Nakatsue	7.39	216	P	Pn	20 17 38.1	-0.7
	0.7nm,0.3s,baz=28,slow=4.7,SNR=9.2						
SONM	Songino Array	23.02	302	P	P	20 20 26.9	-0.2
	4.5nm,0.6s,baz=109,slow=9.1,SNR=45						
CMAR	Chiang Mai Arr	38.16	248	P	P	20 22 38.5	-0.3
	0.5nm,0.5s,baz=39,slow=7.2,SNR=5.9						
MKAR	Makanchi Array	39.34	299	P	P	20 22 47.6	-0.6
	0.7nm,0.6s,baz=80,slow=9.3,SNR=8.3						
TAPN	Taplejung	41.64	268	*e*P	P	20 23 06.6	-0.8
	3.7nm,0.4s						
ODAN	Odare	42.13	268	*e*P	P	20 23 10.3	-1.0
	3.4nm,0.4s						
JIRN	Jiri	42.67	270	*e*P	P	20 23 14.8	-1.0
	34nm,0.3s						
RAMN	Ramite	42.70	269	*e*P	P	20 23 14.4	-1.4
	14nm,0.7s						
GUN	Gumba	42.79	270	*e*P	P	20 23 15.6	-1.1
KKN	Kakani	43.32	271	*e*P	P	20 23 19.7	-1.0
	18nm,0.8s						
PKIN	Phulchoki	43.33	270	*e*P	P	20 23 20.0	-0.8
	7.7nm,0.6s						
DMN	Daman	43.54	270	*e*P	P	20 23 21.5	-1.0
	2.5nm,0.3s						
GKN	Gorkha	43.71	271	*e*P	P	20 23 22.3	-1.5
	6.4nm,0.6s						
DANN	Dangsing	44.23	272	*e*P	P	20 23 27.0	-1.0
	1.0nm,0.6s						
KOLN	Koldanda	44.63	272	*e*P	P	20 23 29.9	-1.1
	2.9nm,0.3s						
PYUN	Piuthan	44.95	272	*e*P	P	20 23 32.7	-0.8
	4.7nm,0.4s						
ILAR	Eielson Array	49.93	33	P	P	20 24 12.9	+2.2
	0.6nm,0.7s,baz=257,slow=5.5,SNR=8.0						
WRA	Warramunga Arr	58.90	182	P	P	20 25 15.0	-0.1
	0.1nm,0.3s,baz=356,slow=7.0,SNR=1.7						
ARCES	ARCESS Array B	60.39	338	P	P	20 25 25.0	+0.5
	1.9nm,1.0s,baz=47,slow=7.9,SNR=1.0						
FINES	FINESS Array B	64.83	330	P	P	20 25 54.0	+0.4
	1.5nm,0.8s,baz=66,slow=6.5,SNR=5.3						

IDC 22 20:29:32.3±6.7, 30°.51S×178°.75W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.3/2, Error ellipse: s-maj=263.2km s-min=65.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.46	267	P	P	20 37 28.8	-0.5
	0.1nm,0.4s,baz=101,slow=7.9,SNR=1.3						
WRA	Warramunga Arr	43.46	273	P	P	20 37 37.6	+0.3
	0.4nm,0.4s,baz=113,slow=7.9,SNR=4.4						
FINES	FINESS Array B	145.02	339	PKPbc	PKPbc	20 49 09.2	-0.9
	1.4nm,0.8s,baz=33,slow=5.3,SNR=1.3						

WEL 22 20:36:35.9±0.6, 35°.85S×177°.23E, h33km, ML3.5/4, Error ellipse: s-maj=5.6km s-min=4.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.91	153	P*	Pn	20 37 05.5	-0.6
MXZ				S*	Sn	20 37 29.0	-0.1
HAZ	Te Kaha	1.95	167	P*	Pn	20 37 06.6	-0.1
HAZ				S*	Sn	20 37 28.8	-1.3
RUGZ	Raukumara Rang	2.14	170	P*	Pn	20 37 09.0	-0.4
RUGZ				S*	Sn	20 37 32.1	-2.8
URZ	Urewera	2.40	182	P*	Pn	20 37 12.3	-0.7
URZ				S*	Sn	20 37 40.1	-1.1
MWZ	Matawai	2.49	175	P*	Pn	20 37 13.5	-0.7
MWZ				S*	Sn	20 37 42.4	-1.0
MUGZ	Murupara	2.64	188	P*	Pn	20 37 16.6	+0.3

*ISCJB **22** 20:49:12.0±0.9, 24°.24S±0°.03×64°.13W±0°.04, h1km±5km, mb4.6/38, Error ellipse: s-maj=6.1km s-min=5.2km az=35.2*
*IDC **22** 20:49:13.2±1.0, 24°.28S×64°.30W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.2/28, mbtmp4.3/10, ML4.4/3, MS2.9/2, Ms1 3.0/2, ms1mx2.7/30, Error ellipse: s-maj=26.3km s-min=17.4km az=39.0*
*SCB **22** 20:49:14.7±1.4, 23°.73S×63°.26W, h60km, Ml4.6/1, Error ellipse: s-maj=82.9km s-min=29.7km az=49.0*
*SJA **22** 20:49:15.3±0.9, 24°.20S×64°.38W, h18km±4km, ML4.1, MW4.3*
*NEIC **22** 20:49:18.4±1.7, 24°.13S×64°.13W, h31km±11km, mb4.6/33, MD4.3(SJA), Error ellipse: s-maj=9.8km s-min=6.4km az=214.0*
NEIC Felt [III] at Salta and San Salvador de Jujuy.

ISC 22 20:49:14.2±1.7, 24°.22S±0°.05×64°.24W±0°.06, h5km±10km, n73, σ1§41/83, mb4.6/38, 1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTB	Santa Barbara	0.34	324	*e*P	Pg	20 49 21.2	+0.4
AZAP	Zapla	0.76	270	*i* P	Pg	20 49 28.3	-0.4
AZAP				*e*S	Sg	20 49 37.9	-0.7
AZAP				IAML		20 49 47.5	
	comp=Z,5μm,0.6s						
SLA	San Lorenzo	1.26	246	*i* P	Pg	20 49 38.0	-0.3
SLA				*e*S	Sg	20 49 53.6	-1.0
SLA				IAML		20 49 54.8	
	comp=Z,5μm,0.3s						
HJA	Humahuaca	1.48	313	*e*P	Pn	20 49 42.2	+0.5
HJA				*e*S	Sn	20 50 02.0	+0.4
HJA				IAML		20 50 06.3	
	comp=Z,7μm,0.3s						
YJA	Yavi	2.35	330	*e*P	Pn	20 49 55.8	+2.0
YJA				*e*S	Sn	20 50 24.8	+1.5
YJA				IAML		20 50 30.1	
	comp=Z,864nm,0.5s						
FSA	Cafayete	2.46	220	*e*P	Pn	20 49 56.5	+1.5
FSA				*e*S	Sb	20 50 28.3	-1.3
MOCB	Mochara	3.23	336	*e*Pn	Pn	20 50 08.0	+2.1
MOCB				*e*Sn	Sn	20 50 46.0	+1.0
	comp=Z,485nm,0.4s						
LVC	Limon Verde	4.58	290	*e*Pn	Pn	20 50 26.5	+2.1
PB01	IPOC Station P	5.79	302	*e*Pn	Pn	20 50 41.8	+1.0
CPUP	Villa Florida	6.60	110	Pn	Pn	20 50 52.0	+0.3
	comp=Z,1.7nm,0.3s,baz=277,slow=11,SNR=26						
CPUP				Pg	Pg	20 51 20.6	+0.1
	comp=Z,12nm,0.3s,baz=291,slow=13,SNR=12						
CPUP				Lg	Lg	20 52 45.7	
	comp=Z,16nm,0.3s,baz=24,slow=20,SNR=3.4						
CPUP				LR	LR	20 53 26.6	
	comp=Z,93nm,21.0s,baz=248,slow=38						
CPUP	Villa Florida	6.60	110	*e*Pn	Pn	20 50 52.5	+0.7
CPUP				*e*		20 51 20.6	
PB11	IPOC Station P	6.71	310	*e*Pn	Pn	20 50 55.9	+2.4
MNMC	Minye Minye	7.11	314	*e*Pn	Pn	20 51 02.1	+3.1
BBOJ	La Paz, Jacaqu	8.11	332	*e*Pn	Pn	20 51 16.5	+3.5
BBOE	La Paz, Chanca	8.16	334	*e*Pn	Pn	20 51 16.3	+2.4
LPAZ	La Paz	8.70	334	Pn	Pn	20 51 23.1	+1.9
	comp=Z,1.1nm,0.3s,baz=179,slow=7.4,SNR=29						
LPAZ				Sn	Sn	20 52 57.6	-2.4
	comp=Z,1.7nm,0.3s,baz=6.0,slow=23,SNR=7.1						
LPAZ				LR	LR	20 55 17.1	
	comp=Z,103nm,21.5s,baz=261,slow=42						
LPAZ	La Paz	8.70	334	*e*Pn	Pn	20 51 23.0	+1.8
LPAZ				*e*Sn	Sn	20 52 57.6	-2.4
LPAZ	La Paz	8.70	334	*e*Pn	Pn	20 51 23.2	+1.9
LPAZ				*e*Sn	Sn	20 52 57.2	-2.8
SIV	San Ignacio	8.71	21	Pn	Pn	20 51 21.1	+0.1
	comp=Z,8.8nm,0.3s,baz=212,slow=12,SNR=74						
SIV				Sn	Sn	20 52 57.2	-2.4
	comp=Z,2.6nm,0.3s,baz=192,slow=23,SNR=1.8						
SIV				Lg	Lg	20 53 52.0	
	comp=Z,4.1nm,0.3s,baz=224,slow=21,SNR=1.6						
BBOB	La Paz, Bander	8.83	335	*e*Pn	Pn	20 51 24.4	+1.4
SAML	Samuel	15.22	4	*e*Pn	Pn	20 52 47.1	-2.8
	comp=Z,8.2nm,0.4s						
ATAH	Atahualpa	21.75	319	P	P	20 54 07.2	+0.1
	comp=Z,4.2nm,0.7s,baz=110,slow=12,SNR=2.2						
PTGA	Pitinga	23.72	11	P	P	20 54 27.0	-0.1
	comp=Z,2.7nm,0.8s,baz=160,slow=12,SNR=2.7						
OTAV	Otavalo	27.95	328	*e*P	P	20 55 06.3	+0.1
	comp=Z,8.1nm,1.5s						
PMSA	Palmer Station	40.55	180	*e*P	P	20 56 55.9	+1.8
	comp=Z,38nm,0.6s						
WVT	Waverly	64.03	339	*e*P	P	20 59 46.8	-2.0
	comp=Z,4.7nm,0.9s						
TXAR	Lajitas Array	65.36	322	P	P	20 59 57.5	-0.3
	comp=Z,0.8nm,0.7s,baz=152,slow=8.2,SNR=10						
DBIC	Dimbokro	65.49	70	P	P	20 59 59.2	+0.4
	comp=Z,8.1nm,0.9s,baz=213,slow=6.5,SNR=9.4						
DBIC	Dimbokro	65.49	70	*e*P	P	20 59 59.2	+0.4
	comp=Z,56nm,2.0s						
QSPA	South Pole Qui	65.98	180	*e*P	P	21 00 01.7	+0.4
MNTX	Cornudas Mount	68.12	323	*e*P	P	21 00 14.3	-0.9
	comp=Z,3.4nm,0.8s						
MSTX	Muleshoe	68.49	326	*e*P	P	21 00 17.4	-0.3
	comp=Z,12nm,1.1s						
BNM	Barren Site	70.66	324	*e*P	P	21 00 30.1	-1.1
ANMO	Albuquerque	71.17	324	*e*P	P	21 00 34.5	+0.3
	comp=Z,4.1nm,1.0s						
T25A	Trinidad	71.81	327	*e*P	P	21 00 37.6	-0.4
	comp=Z,3.4nm,0.8s						
SYO	Syowa Base	72.42	158	*e*P	P	21 00 41.0	0.0
SDCO	Great Sand Dun	72.82	327	*e*P	P	21 00 44.7	+0.5
	comp=Z,3.6nm,0.8s						
X16A	Lo Mia Camp, P	73.55	321	*e*P	P	21 00 49.3	+0.9
	comp=Z,3.9nm,1.0s						
ECSD	EROS Data Cent	73.87	336	*e*P	P	21 00 49.2	-0.7
	comp=Z,8.9nm,1.5s						
MVCO	Mesa Verde	73.96	325	*e*P	P	21 00 50.0	-0.8
	comp=Z,13nm,1.4s						
Y14A	Wickenburg	74.12	319	*e*P	P	21 00 51.6	0.0
	comp=Z,45nm,1.5s						
WUAZ	Wupatki	74.30	322	*e*P	P	21 00 53.6	+0.9
	comp=Z,6.8nm,1.0s						
TOA1	Torodi Ar. Sit	74.31	67	*e*P	P	21 00 52.9	-0.2
	comp=Z,10nm,0.6s						
TORD	Torodi Ar. Bea	74.31	67	P	P	21 00 52.9	-0.2
	comp=Z,9.3nm,0.7s,baz=254,slow=6.0,SNR=92						
ISCO	Idaho Springs	74.47	328	*e*P	P	21 00 54.3	+0.5
	comp=Z,3.4nm,0.9s						
PV01	Paradox Valley	74.69	325	*e*P	P	21 00 55.3	+0.2
Y12C	Blythe	74.91	318	*e*P	P	21 00 56.1	0.0
	comp=Z,3.8nm,0.9s						
W13A	Hualapai Mount	75.45	320	*e*P	P	21 00 58.7	-0.8
	comp=Z,2.1nm,0.8s						
U15A	North Rim	75.47	322	*e*P	P	21 01 00.6	+1.0
	comp=Z,5.2nm,0.9s						
KNB	Kanab	76.18	322	*e*P	P	21 01 04.8	+1.2
	comp=Z,12nm,0.9s						
LCMT	Little Creek M	76.42	322	*e*P	P	21 01 05.9	+1.1
	comp=Z,2.6nm,0.7s						
SRU	San Rafael Swe	76.44	325	*e*P	P	21 01 04.8	-0.2
	comp=Z,8.8nm,0.7s						
MTPU	Mount Pierson	76.56	323	*e*P	P	21 01 06.0	0.0
P17A	Butcher Ranch,	76.82	325	*e*P	P	21 01 06.5	-0.6
	comp=Z,9.2nm,1.0s						
CCUT	Cedar City	76.86	322	*e*P	P	21 01 09.2	+1.7
	comp=Z,6.6nm,0.9s						
MSU	Marysvale	76.89	323	*e*P	P	21 01 09.1	+1.5
TMUT	Trail Mountain	76.94	324	*e*P	P	21 01 04.1	-3.9
	comp=Z,7.6nm,0.6s						
TPNV	Topopah Spring	78.11	320	*e*P	P	21 01 15.0	+0.6
	comp=Z,6.3nm,1.0s						
BOSA	Boshof	78.38	116	P	P	21 01 16.0	-0.2
	comp=Z,2.8nm,0.7s,baz=287,slow=1.6,SNR=6.0						
DUG	Dugway, Tooele	78.44	324	*e*P	P	21 01 13.2	-3.0
	comp=Z,4.1nm,0.9s						
R11A	Troy Canyon, C	78.68	321	*e*P	P	21 01 17.5	-0.1
	comp=Z,2.9nm,0.9s						
WAKR	Walker	81.03	319	*e*P	P	21 01 31.2	+0.9
	comp=Z,3.0nm,1.0s						
PNTR	Pine Nut	81.51	320	*e*P	P	21 01 33.7	+0.8
	comp=Z,8.7nm,0.8s						
HLID	Hailey	81.67	326	*e*P	P	21 01 34.6	+1.0
	comp=Z,5.8nm,0.9s						
MCMT	McKenzie Canyo	81.78	327	*e*P	P	21 01 34.5	+0.2
PAHR	Pah Rah Range	81.78	320	*e*P	P	21 01 35.5	+1.3
	comp=Z,6.1nm,0.9s						
ESDC	Sonseca Array	84.84	42	P	P	21 01 50.7	+0.8
	comp=Z,1.0nm,0.9s,baz=235,slow=5.6,SNR=4.8						
ASAR	Alice Springs	129.25	202	PKP	PKPdf	21 08 23.6	-0.7
	comp=Z,0.8nm,0.6s,baz=134,slow=2.1,SNR=9.1						
AS31	Alice Springs	129.25	202	*e*PKPdf	PKPdf	21 08 23.6	-0.7
WR1	Warramunga Arr	132.52	204	*e*PKPdf	PKPdf	21 08 30.2	-0.4
WRA	Warramunga Arr	132.52	204	PKP	PKPdf	21 08 30.2	-0.4
	comp=Z,1.1nm,0.8s,baz=177,slow=2.4,SNR=2.2						
MK32	Makanchi Array	145.05	41	*e*PKPbc	PKPbc	21 08 52.1	+0.1
MKAR	Makanchi Array	145.05	41	PKPbc	PKPbc	21 08 52.1	+0.1
	comp=Z,3.4nm,0.8s,baz=310,slow=2.2,SNR=9.8						

IDC 22 20:54:52.6±2.2, 11°.13N×44°.28E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/48, mbtmp3.5/5, Error ellipse: s-maj=55.5km s-min=14.5km az=2.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.46	286	Pn	Pn	20 55 19.1	-1.1
	62nm,0.3s,baz=8.3,slow=3.4,SNR=80						
ATD				Lg	Lg	20 55 38.5	
	154nm,0.3s,baz=287,slow=23,SNR=11						
BRTR	Keskin Array B	30.00	343	P	P	21 01 03.6	+0.4
	0.4nm,0.7s,baz=134,slow=8.3,SNR=3.1						
TORD	Torodi Ar. Bea	41.64	277	P	P	21 02 44.9	+1.8
	0.6nm,1.0s,baz=81,slow=9.2,SNR=3.0						
BVAR	Borovoye Array	46.75	21	P	P	21 03 23.5	0.0
	0.5nm,0.6s,baz=225,slow=4.0,SNR=3.5						
MKAR	Makanchi Array	47.88	35	P	P	21 03 32.7	+0.2
	0.7nm,0.7s,baz=278,slow=4.2,SNR=3.4						
CMAR	Chiang Mai Arr	53.19	75	P	P	21 04 11.6	-1.5
	0.4nm,0.6s,baz=270,slow=8.2,SNR=2.6						

*ISCJB **22** 20:58:47.3±0.8, 11°.9N±0°.1×44°.3E±0°.1, h4km, mb3.5/9, MS3.1/2, Error ellipse: s-maj=21.2km s-min=11.3km az=139.8*
*IDC **22** 20:58:48.6±1.1, 11°.89N×44°.21E, h0km, mb3.5/9, mb1 3.6/10, mb1mx3.3/52, mbtmp3.5/10, ML2.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=31.4km s-min=11.4km az=154.0*

ISC 22 20:58:49.1±0.9, 11°.9N±0°.1×44°.2E±0°.1, h4km, n16, σ1§13/11, mb3.6/9, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.35	256	Pn	Pn	20 59 14.0	-0.8
	98nm,0.3s,baz=228,slow=7.2,SNR=17						
ATD				Lg	Lg	20 59 33.0	
	473nm,0.3s,baz=194,slow=22,SNR=24						
KMBO	Kilima Mbogo	14.63	209	Pn	Pn	21 02 17.3	-0.1
	0.0nm,0.3s,baz=30,slow=20,SNR=2.6						
KMBO				Lg	Lg	21 06 33.4	
	0.4nm,0.3s,baz=162,slow=7.5,SNR=3.4						
KMBO				LR	LR	21 07 51.3	
	comp=Z,118nm,19.1s,baz=100,slow=37						
WSAR	Wadi Sarin	17.80	49	LR	LR	21 10 24.6	
	comp=Z,49nm,19.6s,baz=233,slow=39						
EIL	Elat	19.68	336	Lg	Lg	21 09 09.2	
	baz=288,slow=21,SNR=1.1						
ASF	Jabal al Asfar	21.29	343	Lg	Lg	21 10 00.9	
	0.6nm,0.4s,baz=160,slow=22,SNR=1.5						
BRTR	Keskin Array B	29.27	343	P	P	21 04 52.6	-0.1
	1.1nm,1.0s,baz=156,slow=12,SNR=4.9						
LSZ	Lusaka	31.28	211	LR	LR	21 17 37.8	
	comp=Z,38nm,18.2s,baz=358,slow=36						
AKTO	Aktyubinsk	40.10	14	LR	LR	21 24 27.5	
	comp=Z,21nm,18.1s,baz=216,slow=38						
TORD	Torodi Ar. Bea	41.

comp=N,103nm,0.1s
KHET AML AML 21 10 17.2
comp=E,127nm,0.4s
PYUN Piuthan 7.75 128 *e*Pn **Pn 21 09 34.7 +0.6**
PYUN *e*Sn **Sn 21 11 00.7 +0.1**
comp=E,111nm,0.4s
KOLN Koldanda 8.37 127 *e*Pn **Pn 21 09 43.7 +1.1**
KOLN *e*Sn **Sn 21 11 16.3 +0.4**
comp=E,42nm,0.4s
GKN Gorkha 8.95 122 *e*Pn **Pn 21 09 50.8 +0.4**
GKN *e*Sn **Sn 21 11 28.2 -1.8**
comp=E,60nm,0.3s
DMN Daman 9.51 122 *e*Pn **Pn 21 09 58.0 -0.3**
DMN *e*Sn **Sn 21 11 42.4 -1.7**
comp=E,25nm,0.3s
KKN Kakani 9.53 121 *e*Pn **Pn 21 09 58.7 +0.2**
KKN *e*Sn **Sn 21 11 43.2 -1.2**
comp=E,43nm,0.5s
AAK Ala-Archa 9.66 353 Pn **Pn 21 10 01.1 +0.9**
comp=E,0.3nm,0.3s,baz=224,slow=7.2,SNR=9.3
AAK Sn **Sn 21 11 47.5 +0.2**
comp=E,0.3nm,0.3s,baz=201,slow=24,SNR=2.2
AAK LR LR 21 14 23.2
comp=E,39nm,21.9s,baz=182,slow=42
AAK Ala-Archa 9.66 353 ⇑Pg **Pn 21 10 01.4 +1.3**
comp=E,4.6nm,0.8s
AAK ⇑Lg Lg 21 11 47.2
comp=E,13nm,1.0s
AAK Ala-Archa 9.66 353 *e*Pn **Pn 21 10 00.2 0.0**
comp=E,4.2nm,0.7s
AAK Sn **Sn 21 11 47.5 +0.2**
PKIN Phulchoki 9.74 122 *e*Pn **Pn 21 10 01.1 -0.3**
PKIN *e*Sn **Sn 21 11 47.9 -1.7**
comp=E,37nm,0.3s
PKI Pulchoki 9.75 122 *e*Pn **Pn 21 10 00.9 -0.7**
PKI *e*Sn **Sn 21 11 48.8 -1.2**
MNAS Manas 9.84 344 ⇓Pg **Pn 21 10 02.5 -0.1**
comp=E,2.6nm,0.7s
MNAS ⇑Lg Lg 21 11 49.0
comp=E,14nm,0.9s
TKM2 Tokmak 2 9.87 358 ⇓Pg **Pn 21 10 04.4 +1.4**
comp=E,2.2nm,0.6s
TKM2 ⇑Lg Lg 21 11 54.9
comp=E,14nm,1.2s
GUN Gumba 9.90 119 *e*Pn **Pn 21 10 04.0 +0.3**
GUN *e*Sn **Sn 21 11 52.2 -1.5**
comp=E,14nm,0.2s
JIRN Jiri 10.27 119 *e*Pn **Pn 21 10 08.6 -0.1**
JIRN *e*Sn **Sn 21 12 00.0 -2.7**
comp=E,315nm,0.3s
KKAR Karatay Array 10.95 338 *e*Pn **Pn 21 10 16.2 -1.4**
comp=E,1.9nm,0.4s
RAMN Ramite 10.97 121 *e*Pn **Pn 21 10 17.5 -0.8**
RAMN *e*Sn **Sn 21 12 16.9 -2.9**
comp=E,40nm,0.3s
TAPN Taplejung 11.57 116 *e*Pn **Pn 21 10 25.5 -1.0**
TAPN *e*Sn **Sn 21 12 30.9 -3.6**
comp=E,32nm,0.7s
ODAN Odare 11.60 119 *e*Pn **Pn 21 10 26.0 -0.8**
ODAN *e*Sn **Sn 21 12 32.5 -2.7**
comp=E,24nm,0.4s
LSA Lhasa 13.32 100 *e*Pn **Pn 21 10 51.1 +0.5**
comp=E,5.0nm,0.9s
MKAR Makanchi Array 14.54 17 Pn **Pn 21 11 07.1 +0.5**
comp=E,0.3nm,0.3s,baz=191,slow=13,SNR=8.1
MKAR Sn **Sn 21 13 43.1 -3.2**
comp=E,0.2nm,0.3s,baz=254,slow=22,SNR=3.5
HYB Hyderabad 15.72 171 *i* P **P 21 11 29.0 +3.2**
HYB *e*S **Sn 21 14 05.0 -11**
KURBB Kurchatov Arra 17.66 5 P **Pn 21 11 44.4 -2.0**
comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=12
KURK Kurchatov 17.76 5 *e*Pn **Pn 21 11 46.2 -1.4**
ABKAR Abkulak array 20.17 328 *e*P **P 21 12 14.0 -0.4**
comp=E,1.4nm,0.6s
BVAR Borovoye Array 20.38 350 P **P 21 12 17.4 +0.6**
comp=E,4.7nm,0.6s,baz=155,slow=11,SNR=25
BRVK Borovoye 20.43 350 *e*P **P 21 12 17.7 +0.4**
comp=E,29nm,0.9s
ZALV Zalesovo Beam 21.81 14 P **P 21 12 31.6 -0.5**
comp=E,1.8nm,0.5s,baz=212,slow=10,SNR=9.0
AKTO Aktyubinsk 21.88 328 P **P 21 12 31.4 -1.5**
comp=E,2.0nm,0.4s,baz=120,slow=9.7,SNR=11
CMAR Chiang Mai Arr 25.14 120 P **P 21 13 06.2 +1.2**
comp=E,1.6nm,0.8s,baz=309,slow=10,SNR=15
ARU Arti 26.32 338 P **P 21 13 16.0 +0.6**
comp=E,2.4nm,0.7s,baz=162,slow=3.2,SNR=6.5
ARU Arti 26.32 338 *e*P **P 21 13 15.6 +0.2**
comp=E,4.4nm,0.8s
SONM Songino Array 27.20 48 P **P 21 13 26.0 +2.4**
comp=E,0.9nm,0.7s,baz=246,slow=8.9,SNR=7.1
KVAR Kislovodsk Arr 28.11 303 LR LR 21 28 45.1
comp=E,38nm,19.4s,baz=131,slow=45
AKASG Malin Array Be 38.35 312 P **P 21 14 59.4 -1.1**
comp=E,0.2nm,0.3s,baz=103,slow=9.2,SNR=4.7
KSRS Korea Array 42.15 69 LR LR 21 35 52.6
comp=E,11nm,18.4s,baz=225,slow=40
FINES FINESS Array B 42.65 327 P **P 21 15 34.1 -1.7**
comp=E,2.3nm,0.9s,baz=99,slow=10.0,SNR=4.2
ARCES ARCESS Array B 45.91 338 P **P 21 16 02.5 +0.7**
comp=E,4.0nm,0.9s,baz=97,slow=9.9,SNR=6.2
TIXI Tiksi 47.50 20 P **P 21 16 16.3 +2.0**
comp=E,0.8nm,0.6s,baz=281,slow=2.0,SNR=4.1
NOA NORSAR Array B 49.62 325 P **P 21 16 30.6 -0.2**
comp=E,1.2nm,0.9s,baz=102,slow=6.9,SNR=3.2
ESDC Sonseca Array 62.77 301 P **P 21 18 04.7 -0.3**
comp=E,0.3nm,0.5s,baz=64,slow=8.4,SNR=4.2
TORD Torodi Ar. Bea 69.92 273 P **P 21 18 49.1 -1.9**
comp=E,1.0nm,0.5s,baz=47,slow=5.6,SNR=21
SFJD Kangerlussuaq 72.43 341 LR LR 21 52 51.3
comp=E,71nm,18.2s,baz=128,slow=37
COLD Coldfoot 74.11 17 *e*P **P 21 19 16.3 +1.0**
comp=E,1.6nm,0.7s
WRA Warramunga Arr 76.62 125 P **P 21 19 30.5 +0.2**
comp=E,0.7nm,0.5s,baz=323,slow=6.1,SNR=11
ILAR Eielson Array 76.89 17 P **P 21 19 32.4 +1.1**
comp=E,0.5nm,0.6s,baz=303,slow=4.9,SNR=7.0
ASAR Alice Springs 78.86 128 P **P 21 19 43.2 +0.4**
comp=E,0.6nm,0.6s,baz=322,slow=5.3,SNR=8.2
FRB Frobisher Bay 79.54 345 LR LR 21 59 56.8
comp=E,19nm,18.1s,baz=122,slow=39
STKA Stephens Creek 89.39 129 P **P 21 20 36.6 +0.6**
comp=E,1.2nm,0.7s,baz=294,slow=10.0,SNR=2.6

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*ISCJB **22** 21:08:07.4±0.8, 11°.96N±0°.07×44°.21E±0°.09, h4km, mb3.6/8, MS3.1/1, Error ellipse: s-maj=12.8km s-min=10.4km az=12.4*
*IDC **22** 21:08:08.4±1.4, 11°.91N×44°.18E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.5/49, mbtmp3.7/9, ML3.3/1, MS3.1/2, Ms1 3.0/2, ms1mx2.5/52, Error ellipse: s-maj=42.0km s-min=11.9km az=157.0*
ISC 22 21:08:09.1±1.0, 11°.97N±0°.08×44°.1E±0°.1, h4km, n16, σ1§16/14, mb3.7/8, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.25**	**259**	Pn	Pn	**Pn**	**21 08 33.5**	**-1.2**
	74nm,0.3s,baz=49,slow=3.4,SNR=56							
ATD				Lg	Lg	Lg	21 08 52.6	
	957nm,0.3s,baz=210,slow=20,SNR=43							
UDYN	**Al 'Udayn**	**1.99**	**355**	*i* P		**Pn**	**21 08 42.1**	**-1.6**
UDYN				*e*			21 08 42.5	
	baz=190,slow=14							
UDYN				*i* S		**Sb**	**21 09 11.6**	**+0.3**
UDYN				AML		AML	21 09 17.4	
	comp=E,6μm,0.5s							
HAJJ	**Hajjah**	**3.74**	**352**	*i* P		**Pn**	**21 09 08.0**	**+0.1**
HAJJ				*i* S		**Sn**	**21 09 51.7**	**-0.9**
KMBO	**Kilima Mbogo**	**14.70**	**208**	Lg		Lg	21 15 46.4	
	comp=E,0.2nm,0.3s,baz=104,slow=16,SNR=3.9							
WSAR	**Wadi Sarin**	**17.77**	**49**	P		**Pn**	**21 12 16.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=255,slow=7.9,SNR=2.8							
EIL	**Elat**	**19.57**	**335**	LR		LR	21 18 52.5	
	comp=E,42nm,21.9s,baz=290,slow=33							
ASF	**Jabal al Asfar**	**21.18**	**343**	Lg		Lg	21 19 15.0	
	comp=E,0.5nm,0.4s,baz=254,slow=23,SNR=1.4							
BRTR	**Keskin Array B**	**29.16**	**343**	P		**P**	**21 14 13.3**	**+1.6**
	comp=E,0.7nm,0.8s,baz=165,slow=11,SNR=2.8							
KBZ	**Khabaz**	**31.66**	**358**	LR		LR	21 28 18.3	
	comp=E,40nm,19.1s,baz=156,slow=38							
TORD	**Torodi Ar. Bea**	**41.41**	**276**	P		**P**	**21 15 58.3**	**+1.2**
	comp=E,0.5nm,0.9s,baz=87,slow=6.3,SNR=2.9							
GERES	**GERESS Array B**	**44.60**	**332**	P		**P**	**21 16 21.3**	**-1.3**
	comp=E,0.4nm,0.7s,baz=134,slow=9.7,SNR=3.3							
BVAR	**Borovoye Array**	**46.02**	**22**	P		**P**	**21 16 34.7**	**+0.9**
	comp=E,0.8nm,0.7s,baz=215,slow=7.2,SNR=4.4							
KURBB	**Kurchatov Arra**	**47.68**	**29**	P		**P**	**21 16 46.0**	**-0.8**
	comp=E,0.7nm,1.0s,baz=230,slow=8.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**52.78**	**29**	P		**P**	**21 17 24.8**	**-0.5**
	comp=E,0.5nm,0.6s,baz=236,slow=10,SNR=1.8							
CMAR	**Chiang Mai Arr**	**53.12**	**76**	P		**P**	**21 17 27.9**	**-0.5**
	comp=E,2.0nm,1.0s,baz=274,slow=8.6,SNR=9.7							
SONM	**Songino Array**	**62.66**	**42**	P		**P**	**21 18 36.4**	**+1.2**
	comp=E,0.7nm,0.8s,baz=245,slow=8.0,SNR=4.2							

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*IDC **22** 21:14:39.2±1.7, 11°.48N×44°.18E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/43, mbtmp3.8/11, ML3.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/48, Error ellipse: s-maj=44.4km s-min=12.1km az=171.0*
*ISCJB **22** 21:14:40.4±0.8, 11°.77N±0°.07×44°.13E±0°.09, h10km, mb3.8/10, MS3.1/1, Error ellipse: s-maj=12.5km s-min=10.3km az=20.4*
ISC 22 21:14:41.9±1.0, 11°.77N±0°.10×44°.1E±0°.1, h10km, n18, σ1§59/15, mb3.9/10, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.25**	**259**	Pn		**Pn**	**21 15 04.3**	**-1.2**
	184nm,0.3s,baz=222,slow=1.7,SNR=26							
ATD				Lg		Lg	21 15 22.1	
	174nm,0.3s,baz=249,slow=22,SNR=5.2							
UDYN	**Al 'Udayn**	**2.19**	**357**	*i* P		Pn	21 15 13.2	-5.3
UDYN				*e*			21 15 13.3	
	baz=201,slow=9.3							
UDYN				*i* S		**Sn**	**21 15 42.1**	**-3.6**
UDYN				AML		AML	21 15 47.0	
	comp=E,1μm,0.5s							
HAJJ	**Hajjah**	**3.93**	**353**	*i* P		**Pn**	**21 15 41.6**	**-0.9**
HAJJ				*i* S		**Sn**	**21 16 30.8**	**+1.9**
KMBO	**Kilima Mbogo**	**14.51**	**208**	Lg		Lg	21 22 11.6	
	comp=E,0.1nm,0.3s,baz=248,slow=24,SNR=1.4							
KMBO				LR		LR	21 23 06.4	
	comp=E,92nm,21.4s,baz=98,slow=36							
WSAR	**Wadi Sarin**	**17.93**	**49**	P		**P**	**21 18 52.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=204,slow=6.6,SNR=4.5							
WSAR				LR		LR	21 26 13.8	
	comp=E,72nm,18.6s,baz=241,slow=38							
EIL	**Elat**	**19.74**	**336**	Lg		Lg	21 25 13.7	
	comp=E,2.0nm,0.8s,baz=269,slow=23,SNR=1.4							
ASF	**Jabal al Asfar**	**21.36**	**343**	Lg		Lg	21 25 56.2	
	comp=E,1.1nm,0.7s,baz=194,slow=23,SNR=1.6							
GEYT	**Alibeck**	**28.91**	**23**	LR		LR	21 33 54.4	
	comp=E,53nm,20.0s,baz=315,slow=40							
BRTR	**Keskin Array B**	**29.34**	**343**	P		**P**	**21 20 45.1**	**+0.1**
	comp=E,1.2nm,0.8s,baz=159,slow=10,SNR=7.8							
TORD	**Torodi Ar. Bea**	**41.40**	**277**	P		**P**	**21 22 29.1**	**+0.3**
	comp=E,0.7nm,1.0s,baz=130,slow=2.3,SNR=3.9							
GERES	**GERESS Array B**	**44.75**	**332**	P		**P**	**21 22 56.2**	**+0.6**
	comp=E,0.4nm,0.7s,baz=123,slow=4.9,SNR=5.9							
BVAR	**Borovoye Array**	**46.22**	**22**	P		**P**	**21 23 09.4**	**+2.3**
	comp=E,1.3nm,0.8s,baz=257,slow=2.6,SNR=6.4							
MKAR	**Makanchi Array**	**47.46**	**35**	P		**P**	**21 23 17.7**	**+0.8**
	comp=E,1.4nm,0.9s,baz=217,slow=7.4,SNR=4.8							
KURBB	**Kurchatov Arra**	**47.87**	**29**	P		**P**	**21 23 21.2**	**+1.2**
	comp=E,1.1nm,0.9s,baz=230,slow=7.8,SNR=7.4							
ESDC	**Sonseca Array**	**50.66**	**312**	P		**P**	**21 23 42.3**	**+0.7**
	comp=E,0.7nm,1.0s,baz=93,slow=6.2,SNR=5.1							
ZALV	**Zalesovo Beam**	**52.97**	**29**	P		**P**	**21 23 58.4**	**-0.1**
	comp=E,0.5nm,0.4s,baz=260,slow=7.4,SNR=4.5							
CMAR	**Chiang Mai Arr**	**53.20**	**76**	P		**P**	**21 23 59.2**	**-1.6**
	comp=E,1.9nm,0.9s,baz=271,slow=8.6,SNR=12							
SONM	**Songino Array**	**62.83**	**42**	P		**P**	**21 25 07.7**	**-0.4**
	comp=E,1.3nm,0.8s,baz=233,slow=7.7,SNR=9.9							

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*IDC **22** 21:14:59.5±0.9, 32°.82N×75°.69E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.5/43, mbtmp3.6/12, ML3.2/2, Error ellipse: s-maj=26.3km s-min=18.5km az=56.0*
*NDI **22** 21:15:00.4±2.5, 33°.15N×75°.41E, h17km±21km, ML3.4*
*ISCJB **22** 21:15:01.0±0.5, 33°.00N±0°.04×75°.54E±0°.09, h16km, mb3.4/9, Error ellipse: s-maj=12.0km s-min=4.0km az=156.8*
*NNC **22** 21:15:53.4±8.0, 36°.80N×75°.13E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=92.7km s-min=66.1km az=87.0*
ISC 22 21:15:02.5±0.7, 32°.96N±0°.05×75°.54E±0°.10, h16km, n25, σ1§72/28, mb3.5/9, 5C-3D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PONG	**Pong**	**1.06**	**161**	*e*P		**Pg**	**21 15 23.0**	**0.0**
PONG				*e*S		**Sn**	**21 15 42.0**	**+4.9**
BHK	**Bhakra**	**1.71**	**154**	*e*P		**Pn**	**21 15 30.0**	**-1.6**
BHK				*e*S		**Sn**	**21 15 53.2**	**0.0**
SDNR	**Sundarnagar**	**1.89**	**140**	*e*P		**Pn**	**21 15 35.0**	**+0.8**
SDNR				*e*S		**Sb**	**21 15 59.0**	**-1.1**
JOSI	**Joshimath**	**4.18**	**124**	*e*P		**Pn**	**21 16 06.9**	**+1.1**
JOSI				*e*S		**Sn**	**21 16 55.4**	**+1.1**
JOSI				AML		AML	21 16 56.3	
	comp=E,154nm,0.7s							
JOSI				AML		AML	21 16 56.9	
	comp=N,216nm,0.9s							
NDI	**New Delhi**	**4.50**	**161**	*e*x		**Sb**	**21 17 16.0**	**+0.9**
KHET	**Khetri**	**4.88**	**177**	*e*S		**Sn**	**21 17 10.9**	**-0.5**
KHET				AML		AML	21 17 39.3	
	comp=N,40nm,0.1s							
KHET				AML		AML	21 17 39.4	
	comp=E,45nm,0.3s							
AAK	**Ala-Archa**	**9.70**	**355**	Pn		**Pn**	**21 17 24.8**	**+3.3**
	comp=E,0.3nm,0.3s,baz=149,slow=9.8,SNR=2.2							
AAK				Sn		**Sn**	**21 19 09.5**	**-0.7**
	comp=E,0.5nm,0.3s,baz=349,slow=16,SNR=5.6							
AAK	**Ala-Archa**	**9.70**	**355**	⇑Lg		Lg	21 19 01.0	
	comp=E,5.8nm,0.9s							
MNAS	**Manas**	**9.81**	**347**	⇓Pn		**Pn**	**21 17 24.3**	**+1.3**
	comp=E,0.8nm,0.4s							
MNAS				⇑Lg		Lg	21 19 07.8	
	comp=E,6.3nm,0.8s							
TKM2	**Tokmak 2**	**9.94**	**0**	⇑Pn		**Pn**	**21 17 27.0**	**+2.1**
	comp=E,2.8nm,1.1s							
TKM2				⇓Lg		Lg	21 19 10.4	
	comp=E,7.5nm,1.0s							
KK31	**Karatay Array**	**10.87**	**340**	⇑Pn		**Pn**	**21 17 38.7**	**+1.2**
	comp=E,0.5nm,0.5s,baz=137,slow=10,SNR=4.7							
KK31				⇓Pg			21 18 03.1	
	comp=E,0.9nm,0.5s,baz=141,slow=13							
KK31				⇑Lg		Lg	21 19 39.3	
	comp=E,1.0nm,0.3s,baz=152,slow=23,SNR=8.8							
MKAR	**Makanchi Array**	**14.75**	**18**	Pn		**Pn**	**21 18 30.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=203,slow=14,SNR=1.3							
KURBB	**Kurchatov Arra**	**17.79**	**6**	P		**Pn**	**21 19 06.3**	**-2.9**
	comp=E,0.0nm,0.3s,baz=195,slow=10,SNR=4.2							
AB31	**Akbulak array**	**20.01**	**329**	P		Pn	21 19 35.9	-0.3
	comp=E,0.3nm,0.4s,baz=136,slow=11,SNR=4.5							
BVA0	**Borovoye Array**	**20.40**	**351**	P		**P**	**21 19 39.2**	**+0.7**
	comp=E,1.3nm,0.6s,baz=157,slow=10.0,SNR=8.3							
BVAR	**Borovoye Array**	**20.40**	**351**	P		**P**	**21 19 39.6**	**+1.0**
	comp=E,1.1nm,0.5s,baz=161,slow=9.9,SNR=11							
AKTO	**Aktyubinsk**	**21.73**	**329**	P		**P**	**21 19 54.8**	**+1.9**
	comp=E,0.9nm,0.4s,baz=120,slow=10.0,SNR=7.3							
ZALV	**Zalesovo Beam**	**22.00**	**15**	P		**P**	**21 19 56.8**	**+1.0**
	comp=E,0.8nm,0.3s,baz=212,slow=9.9,SNR=5.3							
CMAR	**Chiang Mai Arr**	**25.48**	**119**	P		**P**	**21 20 28.8**	**-1.3**
	comp=E,0.5nm,0.6s,baz=314,slow=9.7,SNR=5.2							
SONM	**Songino Array**	**27.57**	**48**	P		**P**	**21 20 47.5**	**-1.4**
	comp=E,0.1nm,0.3s,baz=224,slow=8.0,SNR=2.1							
NOA	**NORSAR Array B**	**49.44**	**325**	P		**P**	**21 23 52.3**	**+0.8**
	comp=E,0.5nm,0.6s,baz=135,slow=5.1,SNR=1.6							
TORD	**Torodi Ar. Bea**	**69.50**	**273**	P		**P**	**21 26 11.0**	**+0.3**
	comp=E,0.7nm,0.7s,baz=49,slow=5.7,SNR=14							
WRA	**Warramunga Arr**	**76.93**	**124**	P		**P**	**21 26 53.0**	**-1.4**
	comp=E,0.3nm,0.6s,baz=322,slow=6.2,SNR=2.4							
ILAR	**Eielson Array**	**77.10**	**17**	P		**P**	**21 26 53.9**	**-0.9**
	comp=E,0.2nm,0.5s,baz=309,slow=4.9,SNR=4.8							
ASAR	**Alice Springs**	**79.15**	**127**	P		**P**	**21 27 05.3**	**-1.4**
	comp=E,0.3nm,0.7s,baz=314,slow=5.1,SNR=4.3							

IDC 22 21:27:18.9±2.8, 11°.24N×44°.08E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/47, mbtmp3.5/3, Error ellipse: s-maj=81.5km s-min=15.0km az=4.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.25**	**284**	Pn		Pb	21 27 43.4	0.0
	141nm,0.3s,baz=269,slow=19,SNR=11							
ATD				Lg		Lg	21 27 59.7	
	171nm,0.3s,baz=127,slow=21,SNR=5.7							
BRTR	**Keskin Array B**	**29.85**	**344**	P		P	21 33 27.6	-0.6
	0.4nm,0.8s,baz=155,slow=14,SNR=2.7							
CMAR	**Chiang Mai Arr**	**53.35**	**75**	P		P	21 36 40.2	-0.3
	0.7nm,0.7s,baz=270,slow=9.7,SNR=4.0							
SONM	**Songino Array**	**63.24**	**42**	P		P	21 37 50.2	+0.7
	0.4nm,0.8s,baz=249,slow=7.6,SNR=3.1							

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*DHMR **22** 21:30:37.9±1.2, 11°.95N×44°.00E, h5km±20km, ML4.6*
*BJI **22** 21:30:38.8, 11°.89N×43°.79E, h10km, mb4.5/31, mB4.8/22, Ms4.6/14, Ms7 4.3/8*
*ISCJB **22** 21:30:40.2±0.3, 11°.91N±0°.04×44°.13E±0°.04, h4km, mb4.5/82, MS3.9/41, Error ellipse: s-maj=5.2km s-min=5.0km az=149.3*
*MOS **22** 21:30:40.8±1.2, 11°.91N×44°.26E, h10km, mb4.9/38, Error ellipse: s-maj=10.6km s-min=4.8km az=102.4*
*IDC **22** 21:30:40.1±0.8, 11°.73N×44°.14E, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.0/47, mbtmp4.1/20, ML3.5/3, MS3.9/38, Ms1 3.9/38, ms1mx3.8/48, Error ellipse: s-maj=18.3km s-min=10.9km az=163.0*
*OMAN **22** 21:30:40.5±99.0, 11°.48N×44°.10E, h10km, Error ellipse: s-maj=52.2km s-min=7.9km az=24.0*
*CSEM **22** 21:30:41.7±0.2, 11°.92N×44°.16E, h2km, mb4.7/46, Error ellipse: s-maj=7.8km s-min=7.5km az=53.0*
*GCMT **22** 21:30:42.5±0.3, 12°.02N×44°.26E, h12km, MW4.8/70, Moment Tensor Solution. s14,c15; s70,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.42±.06; Mθθ1.25±.05; Mφφ0.16±.06; Mrθ0.72±.18; Mrφ-0.49±.05; Mθf-0.74±.26; Best double couple: M0 1.76200×10¹⁶ NP1:φs305.00000°, δ63.00000°, λ-77.00000°. NP2: φs98.00000°, δ30.00000°, λ-114.00000°. Principal axes: T 1.7290, Plg17.0000°, Azm26.0000°; N 0.0630, Plg11.0000°, Azm119.0000°; P -1.7950, Plg69.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 21:30:42.5±0.3, 11°.87N×44°.11E, h10km, mb4.8/43 Error ellipse: s-maj=7.2km s-min=6.9km az=61.0*
ISC 22 21:30:41.9±0.4, 11°.92N±0°.05×44°.10E±0°.06, h4km, n270, σ1§22/254, mb4.6/82, MS3.8/42, 3C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.21**	**45**	*i* P		Pg	21 31 00.9	-4.2
ADEN				*i* S		**Sg**	**21 31 19.6**	**-1.2**
ADEN				AML		AML	21 31 22.9	
	comp=N,13μm,0.4s							
ADEN	**Aden**	**1.21**	**45**	*i* S		**Sg**	**21 31 19.6**	**-1.2**
	comp=N,7μm,0.4s							
ATD	**Arta Tunnel**	**1.29**	**253**	Pn		Pn	21 31 03.7	-3.1
	comp=N,422nm,0.3s,baz=26,slow=2.6,SNR=26							
ATD				Lg		Lg	21 31 21.6	
	comp=N,712nm,0.3s,baz=62,slow=22,SNR=7.4							
UDYN	**Al 'Udayn**	**2.04**	**356**	*i* P		Pn	21 31 14.2	-3.0
UDYN				*i* S		**Sn**	**21 31 41.0**	**-2.3**
DHBB	**Dhamar BB**	**2.65**	**6**	*i* P		**Pn**	**21 31 24.1**	**-1.6**
DHBB	**Dhamar BB**	**2.65**	**6**	*i* P		**Pn**	**21 31 24.1**	**-1.6**
DAMY	**Dhamar**	**2.65**	**6**	*e*Pn		**Pn**	**21 31 25.5**	**-0.3**
DAMY	**Dhamar**	**2.65**	**6**	*e*Pn		**Pn**	**21 31 25.4**	**-0.3**
HAJJ	**Hajjah**	**3.79**	**353**	*i* P		Pn	21 31 38.4	-3.0
HAJJ				*i* S		**Sn**	**21 32 27.0**	**+0.6**
RAYN	**Ar Rayn**	**11.62**	**6**	*e*Pn		Pn	21 33 24.6	-4.1
RAYN	**Ar Rayn**	**11.62**	**6**	*e*Pn		Pn	21 33 24.6	-4.1
KMBO	**Kilima Mbogo**	**14.64**	**208**	Pn		Pn	21 34 07.5	-2.8
	comp=N,0.1nm,0.3s,baz=32,slow=15,SNR=4.7							
KMBO				Lg		Lg	21 38 22.0	
	comp=N,0.3nm,0.3s,baz=122,slow=19,SNR=3.8							
KMBO				LR		LR	21 39 40.1	
	comp=N,1μm,19.7s,baz=28,slow=37							
KMBO	**Kilima Mbogo**	**14.64**	**208**	*e*P		**Pn**	**21 34 09.3**	**-0.9**
KMBO	**Kilima Mbogo**	**14.64**	**208**	*e*Pn		**Pn**	**21 34 09.3**	**-0.9**
KMBO	**Kilima Mbogo**	**14.64**	**208**	*e*Pn		**Pn**	**21 34 09.3**	**-0.9**
ASHO	**Ashiyiah**	**17.01**	**40**	P		**Pn**	**21 34 41.4**	**+0.5**
	SNR=5.1							
ASHO	**Ashiyiah**	**17.01**	**40**	P		**Pn**	**21 34 41.4**	**+0.5**
	SNR=5.1							
ASHO	**Ashiyiah**	**17.01**	**40**	Pn		**Pn**	**21 34 41.4**	**+0.5**
	SNR=5.1							
HATD	**Hatta, Dubai**	**17.16**	**40**	P		**Pn**	**21 34 44.8**	**+2.0**
	SNR=6.2							
HATD	**Hatta, Dubai**	**17.16**	**40**	P		**Pn**	**21 34 44.8**	**+2.0**
	SNR=6.2							
HATD	**Hatta, Dubai**	**17.16**	**40**	P		**Pn**	**21 34 44.8**	**+2.0**
	SNR=6.2							
UOSS	**Minazif**	**17.29**	**40**	*e*Pn		**Pn**	**21 34 43.4**	**-1.0**
	comp=N,41nm,1.1s							
UOSS	**Minazif**	**17.29**	**40**	*e*Pn		**Pn**	**21 34 43.4**	**-1.0**
	comp=N,41nm,1.1s							
BIDO	**Bidbid**	**17.63**	**47**	P		**P**	**21 34 51.5**	**+1.8**
	SNR=5.3							
BIDO	**Bidbid**	**17.63**	**47**	Pn		**P**	**21 34 51.5**	**+1.8**
	SNR=5.3							
WSAR	**Wadi Sarin**	**17.83**	**49**	P		**Pn**	**21 34 49.5**	**-1.6**
	comp=N,0.1nm,0.3s,baz=258,slow=12,SNR=8.5							
WSAR				LR		LR	21 42 15.8	
	comp=N,692nm,19.3s,baz=250,slow=39							
EIL	**Elat**	**19.61**	**336**	P		**P**	**21 35 13.8**	**+2.5**
	comp=N,0.4nm,0.3s,baz=264,slow=6.3,SNR=4.7							
EIL				Lg		Lg	21 41 15.8	
	comp=N,0.1nm,0.3s,baz=299,slow=23,SNR=1.8							
EIL				LR		LR	21 41 21.5	
	comp=N,326nm,20.7s,baz=183,slow=32							
MSEY	**Mahe Island**	**19.99**	**145**	*e*P		**P**	**21 35 14.1**	**-1.6**
MSEY

BRTR LR LR 21 48 35.3
comp=Z,208nm,21.0s,baz=142,slow=37
ARTV Artvin 29.21 357 *e*P **P 21 36 45.7 +0.7**
comp=Z,11nm,1.6s
ARTV Artvin 29.21 357 *e*P **P 21 36 45.7 +0.7**
comp=Z,11nm,1.6s
BR231 Keskin MP Arra 29.56 342 *e*P **P 21 36 49.3 +1.3**
BR231 Keskin MP Arra 29.56 342 *e*P **P 21 36 49.3 +1.3**
ANTO Ankara 29.58 342 *e*P **P 21 36 46.2 -1.9**
ANTO pmax pmax
comp=Z,40nm,1.6s
ANTO Ankara 29.58 342 *e*P **P 21 36 46.2 -1.9**
comp=Z,40nm,1.6s
ANTO Ankara 29.58 342 *e*P **P 21 36 46.2 -1.9**
comp=Z,40nm,1.6s
NEY Neytrino 31.24 358 *e*P **P 21 37 03.0 +0.2**
NEY Neytrino 31.24 358 *e*P **P 21 37 03.0 +0.2**
NCK Nalchik 31.46 359 *e*P **P 21 37 03.4 -1.2**
NCK pmax pmax
comp=Z,4.0nm,1.4s
NCK Nalchik 31.46 359 *e*P **P 21 37 03.4 -1.2**
comp=Z,4.0nm,1.4s
KBZ Khabaz 31.71 358 P **P 21 37 07.4 +0.7**
comp=Z,1.4nm,0.9s,baz=185,slow=10,SNR=5.3
KBZ LR LR 21 50 29.2
comp=Z,235nm,18.7s,baz=179,slow=37
SOC Sochi 31.77 354 *e*P **P 21 37 05.6 -1.7**
SOC *i*S **S 21 42 16.1 -1.9**
SOC *e*SS **SnSn 21 44 08.5 +3.7**
SOC pmax pmax
comp=Z,28nm,0.8s
SOC MLR MLR
comp=Z,485nm,13.0s
SOC Sochi 31.77 354 *e*P **P 21 37 05.6 -1.7**
comp=Z,28nm,0.8s
KIV Kislovodsk 31.94 358⇑ *e*P **P 21 37 08.1 -0.8**
KIV *e* 21 38 15.9
KIV *e*S **S 21 42 20.4 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=Z,166nm,18.0s
KIV Kislovodsk 31.94 358 *e*P **P 21 37 09.0 +0.1**
comp=Z,24nm,1.5s
KIV Kislovodsk 31.94 358 *e*P **P 21 37 09.0 +0.1**
comp=Z,24nm,1.5s
KIV Kislovodsk 31.94 358 P **P 21 37 11.2 +2.2**
SNR=5.1
KIV Kislovodsk 31.94 358 pP **P 21 37 11.2 +2.2**
SNR=5.1
KVAR Kislovodsk Arr 31.94 358 LR LR 21 51 07.1
comp=Z,203nm,20.7s,slow=38
KBL Kabul 31.96 41 *e*P **P 21 37 10.9 +1.6**
KBL pmax pmax
comp=Z,14nm,1.8s
KBL Kabul 31.96 41 *e*P **P 21 37 10.9 +1.6**
comp=Z,14nm,1.8s
KBL Kabul 31.96 41 *e*P **P 21 37 10.9 +1.6**
comp=Z,14nm,1.8s
TIRR Tirgusor 35.12 340 *e*P **P 21 37 34.8 -1.6**
TIRR pmax pmax
comp=Z,43nm,1.5s
TIRR Tirgusor 35.12 340 *e*P **P 21 37 34.8 -1.6**
comp=Z,43nm,1.5s
TIRR Tirgusor 35.12 340 *e*P **P 21 37 34.8 -1.6**
comp=Z,43nm,1.5s
VTS Vitosha 35.55 333 *e*P **P 21 37 41.7 +1.3**
VTS pmax pmax
comp=Z,28nm,1.8s
VTS Vitosha 35.55 333 *e*P **P 21 37 41.7 +1.3**
comp=Z,28nm,1.8s
VTS Vitosha 35.55 333 *e*P **P 21 37 41.7 +1.3**
comp=Z,28nm,1.8s
CFR Carcaliu 35.84 341 P **P 21 37 44.3 +1.6**
CFR pmax pmax
comp=Z,16nm,1.7s
CFR Carcaliu 35.84 341 P **P 21 37 44.3 +1.6**
comp=Z,16nm,1.7s
TIR Tirane 36.20 328 *e*P **P 21 37 46.9 +1.1**
TIR pmax pmax
comp=Z,38nm,1.4s
TIR Tirane 36.20 328 *e*P **P 21 37 46.9 +1.1**
comp=Z,38nm,1.4s
TIR Tirane 36.20 328 *e*P **P 21 37 46.9 +1.1**
comp=Z,38nm,1.4s
VOIR 37.15 338 P **P 21 37 55.9 +2.0**
VOIR pmax pmax
comp=Z,7.0nm,1.6s
VOIR 37.15 338 P **P 21 37 55.9 +2.0**
comp=Z,7.0nm,1.6s
KIS Kishinev 37.27 343 *e*P **P 21 37 54.0 -0.8**
KIS Kishinev 37.27 343 *e*P **P 21 37 54.0 -0.8**
KIS *e* 21 38 03.0
KIS Kishinev 37.27 343 *e*P **P 21 37 54.0 -0.8**
CLTB Caltabellotta 37.63 318 *e*P **P 21 37 56.8 -1.4**
comp=Z,34nm,1.4s
CLTB Caltabellotta 37.63 318 *e*P **P 21 37 56.8 -1.4**
comp=Z,34nm,1.4s
TAM Tamanrasset 38.27 292 *e*P **P 21 38 04.0 +0.2**
TAM pmax pmax
comp=Z,16nm,1.6s
TAM Tamanrasset 38.27 292 *e*P **P 21 38 04.0 +0.2**
comp=Z,16nm,1.6s
TAM Tamanrasset 38.27 292 *e*P **P 21 38 04.0 +0.2**
comp=Z,16nm,1.6s
BUR08 Bucovina Ar. S 38.98 340 *e*P **P 21 38 09.4 0.0**
BUR08 Bucovina Ar. S 38.98 340 *e*P **P 21 38 09.4 0.0**
DRGR 39.17 337 P **P 21 38 12.9 +1.9**
DRGR pmax pmax
comp=Z,15nm,1.8s
MNAS Manas 39.20 34 P **P 21 38 14.3 +2.9**
MNAS pmax pmax
comp=Z,3.0nm,1.9s
KSH Kashi 39.38 40 P P 21 38 08.8 -4.1
KSH pP pP 21 38 12.6 -1.5
KSH sP sP 21 38 15.8 +1.2
KSH PP **PP 21 39 42.8 -0.3**
KSH PcP **PcP 21 40 18.6 -2.7**
KSH S S 21 44 05.0 -10
KSH pmax pmax
comp=Z,15nm,1.8s
KSH pmax pmax
comp=Z,99nm,4.8s
KSH LR LR
comp=Z,180nm,8.3s
KSH LR LR
comp=Z,140nm,7.7s
ABKAR Akbulak array 39.47 16 *e*P **P 21 38 13.0 -0.3**
comp=Z,34nm,1.0s
ABKAR Akbulak array 39.47 16 *e*P **P 21 38 13.0 -0.3**
comp=Z,34nm,1.0s
BLY Banja Luka 40.02 330 *e*P **P 21 38 18.4 +0.4**
comp=Z,9.1nm,1.2s
BLY Banja Luka 40.02 330 *e*P **P 21 38 18.4 +0.4**
comp=Z,9.1nm,1.2s
AKTO Aktyubinsk 40.07 14 LR LR 21 58 08.4
comp=Z,339nm,18.2s,baz=197,slow=41
AQU L'Aquila 40.40 324 *e*P **P 21 38 22.1 +0.8**
AQU pmax pmax
comp=Z,22nm,1.3s
AQU L'Aquila 40.40 324 *e*P **P 21 38 22.1 +0.8**
comp=Z,22nm,1.3s
AQU L'Aquila 40.40 324 *e*P **P 21 38 22.1 +0.8**
comp=Z,22nm,1.3s
AAK Ala-Archa 40.40 35 LR LR 21 57 27.3
comp=Z,139nm,20.7s,baz=234,slow=40
AAK Ala-Archa 40.40 35 *e*P **P 21 38 20.4 -1.0**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 40.40 35 *e*P **P 21 38 22.9 +1.5**
comp=Z,4.1nm,1.0s
AAK Ala-Archa 40.40 35 *e*P **P 21 38 22.9 +1.5**
comp=Z,4.1nm,1.0s
TSUM Tsumeb 40.49 221 LR LR 21 55 53.2
comp=Z,527nm,18.4s,baz=102,slow=38
KIEV Kiev 40.54 345 *e*P **P 21 38 21.8 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,1.5s
KIEV Kiev 40.54 345 *e*P **P 21 38 22.0 -0.2**
comp=Z,24nm,1.7s
KIEV Kiev 40.54 345 *e*P **P 21 38 22.0 -0.2**
comp=Z,24nm,1.7s
AKASG Malin Array Be 40.55 345 P **P 21 38 21.5 -0.7**
comp=Z,0.2nm,0.2s,baz=165,slow=7.2,SNR=11
AKASG LR LR 21 57 28.7
comp=Z,100nm,19.7s,baz=130,slow=40
AKBB Malin Array Si 40.55 345 *e*P **P 21 38 21.8 -0.4**
AKBB pmax pmax
comp=Z,27nm,1.8s
AKBB Malin Array Si 40.55 345 *e*P **P 21 38 21.8 -0.4**
comp=Z,27nm,1.8s
AKBB Malin Array Si 40.55 345 *e*P **P 21 38 21.8 -0.4**
comp=Z,27nm,1.8s
FRU Bishkek 40.60 35 *e*P **P 21 38 24.0 +1.1**
LBTB Lobatse 40.91 206 LR LR 21 55 06.1
comp=Z,233nm,18.0s,baz=42,slow=36
VSL Villasalto 41.20 318 *e*P **P 21 38 28.2 +0.3**
comp=Z,32nm,1.3s
VSL Villasalto 41.20 318 *e*P **P 21 38 28.2 +0.3**
comp=Z,32nm,1.3s
PSZ Piszkesteto 41.21 335 *e*P **P 21 38 28.4 +0.5**
PSZ pmax pmax
comp=Z,32nm,1.8s
PSZ Piszkesteto 41.21 335 *e*P **P 21 38 28.4 +0.5**
comp=Z,32nm,1.8s
PSZ Piszkesteto 41.21 335 *e*P **P 21 38 28.4 +0.5**
comp=Z,32nm,1.8s
TOA0 Torodi Ar. Sit 41.38 276 *e*P **P 21 38 30.3 +0.6**
comp=Z,36nm,1.9s
TOA0 Torodi Ar. Sit 41.38 276 *e*P **P 21 38 30.3 +0.6**
comp=Z,36nm,1.9s
TORD Torodi Ar. Bea 41.38 276 P **P 21 38 29.0 -0.6**
comp=Z,1.0nm,0.7s,baz=91,slow=6.9,SNR=9.9
TORD LR LR 21 55 15.8
comp=Z,106nm,20.0s,baz=160,slow=36
CRVS Cervenica-Dubn 41.39 337 *e*P **P 21 38 30.5 +1.2**
CRVS Cervenica-Dubn 41.39 337 *e*P **P 21 38 30.5 +1.2**
CRVS Cervenica-Dubn 41.39 337 *e*P **P 21 38 30.5 +1.2**
KWP Kalwaria Pacla 41.54 339 P **P 21 38 30.8 +0.3**
STHS Stebnicka Huta 41.89 338 *e*P **P 21 38 36.1 +2.7**
STHS pmax pmax
comp=Z,11nm,1.9s
STHS Stebnicka Huta 41.89 338 *e*P **P 21 38 36.1 +2.7**
comp=Z,10nm,1.9s
STHS Stebnicka Huta 41.89 338 *e*P **P 21 38 36.1 +2.7**
comp=Z,10nm,1.9s
VYHS Vyhne 42.10 335 *e*P **P 21 38 35.7 +0.6**
VYHS pmax pmax
comp=Z,19nm,1.9s
VYHS Vyhne 42.10 335 *e*P **P 21 38 35.7 +0.6**
comp=Z,18nm,1.9s
VYHS Vyhne 42.10 335 *e*P **P 21 38 35.7 +0.6**
OKC Ostrava-Krasne 43.43 336 *e*P **P 21 38 46.1 +0.2**
OKC Ostrava-Krasne 43.43 336 *e*P **P 21 38 46.1 +0.2**
OKC Ostrava-Krasne 43.43 336 P **P 21 38 46.1 +0.2**
OBN Obninsk 43.50 354⇑ *e*P **P 21 38 46.3 +0.1**
OBN *e* 21 40 32.1
OBN *e*S S 21 45 08.3 -7.1
OBN pmax pmax
comp=Z,9.0nm,1.7s
OBN MLR MLR
comp=Z,120nm,15.0s
MORC Moravsky Berou 43.63 335 *e*P **P 21 38 48.0 +0.5**
MORC pmax pmax
comp=Z,98nm,1.7s
MORC Moravsky Berou 43.63 335 *e*P **P 21 38 48.0 +0.5**
comp=Z,98nm,1.7s
MORC Moravsky Berou 43.63 335 *e*P **P 21 38 48.0 +0.5**
comp=Z,98nm,1.7s
MOS Moscow 44.01 355 *e*P **P 21 38 52.3 +1.9**
MOS *e* 21 40 38.7
MOS *e* 21 41 13.7
TREC Trest 44.14 333 P **P 21 38 53.5 +1.9**
TREC pmax pmax
comp=Z,6.0nm,1.8s
BOSA Boshof 44.23 204 LR LR 21 57 45.8
comp=Z,412nm,18.5s,baz=30,slow=37
DPC Dobruska-Polom 44.58 335 *e*P **P 21 38 56.1 +1.0**
DPC Dobruska-Polom 44.58 335 *e*P **P 21 38 56.1 +1.0**
DPC Dobruska-Polom 44.58 335 P **P 21 38 56.1 +1.0**
GEC2 GERESS Array S 44.63 332 *e*P **P 21 38 55.9 +0.3**
GEC2 pmax pmax
comp=Z,35nm,1.8s
GEC2 GERESS Array S 44.63 332 *e*P **P 21 38 55.8 +0.3**
comp=Z,35nm,1.8s
GEC2 GERESS Array S 44.63 332 *e*P **P 21 38 55.9 +0.3**
comp=Z,35nm,1.8s
GERES GERESS Array B 44.63 332 P **P 21 38 54.7 -0.9**
comp=Z,1.4nm,0.7s,baz=132,slow=8.0,SNR=15
UPC Upice 44.83 335 *e*P **P 21 38 57.9 +0.8**
UPC Upice 44.83 335 *e*P **P 21 38 57.9 +0.8**
UPC Upice 44.83 335 P **P 21 38 57.9 +0.8**
KHC Kasperske Hory 44.89 332 *e*P **P 21 38 57.2 -0.4**
KHC *ex* x 21 39 07.0
KHC Kasperske Hory 44.89 332 *e*P **P 21 38 56.6 -1.0**
KHC pmax pmax
comp=Z,11nm,1.8s
KHC Kasperske Hory 44.89 332 P **P 21 38 57.2 -0.4**
KHC Kasperske Hory 44.89 332 *e*P **P 21 38 56.5 -1.0**
comp=Z,11nm,1.8s
GOPC GO Pecny, Ondr 44.91 333 *e*P **P 21 38 58.2 +0.5**
GOPC GO Pecny, Ondr 44.91 333 *e*P **P 21 38 58.2 +0.5**
GOPC GO Pecny, Ondr 44.91 333 P **P 21 38 58.2 +0.5**
KSP Ksiaz 44.97 335 P **P 21 39 00.0 +1.9**
KSP pmax pmax
comp=Z,14nm,1.0s
PRU Pruhonice 45.07 333 *e*P **P 21 38 58.9 -0.1**
PRU Pruhonice 45.07 333 *e*P **P 21 38 58.9 -0.1**
PRU Pruhonice 45.07 333 P **P 21 38 58.9 -0.1**
SUW Suwalki 45.15 343 P **P 21 38 59.3 -0.3**
SUW pmax pmax
comp=Z,16nm,1.0s
TUE Stuetta 45.25 326 *e*P **P 21 38 59.0 -1.7**
comp=Z,7.2nm,1.3s
TUE Stuetta 45.25 326 *e*P **P 21 38 59.0 -1.7**
comp=Z,7.2nm,1.3s
PVCC Panska Ves 45.45 334 *e*P **P 21 39 02.0 0.0**
PVCC Panska Ves 45.45 334 *e*P **P 21 39 02.0 0.0**
PVCC Panska Ves 45.45 334 P **P 21 39 02.0 0.0**
ARU Arti 45.80 11 LR LR 22 01 38.0
comp=Z,125nm,20.7s,baz=197,slow=40
ARU Arti 45.80 11 *d i*P **P 21 39 03.3 -1.4**
ARU 21 40 35.3
ARU 21 40 49.5
ARU S **S 21 45 46.2 -2.7**
ARU SS **ScS 21 49 06.5 +5.0**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 45.80 11 *e*P **P 21 39 03.5 -1.1**
comp=Z,30nm,2.0s
ARU Arti 45.80 11 *e*P **P 21 39 03.5 -1.1**
comp=Z,30nm,2.0s
BNI Bardonecchia 45.92 323 *e*P **P 21 39 06.0 0.0**
BNI pmax pmax
comp=Z,10.0nm,1.2s
BNI Bardonecchia 45.92 323 *e*P **P 21 39 05.9 0.0**
comp=Z,9.7nm,1.2s
BNI Bardonecchia 45.92 323 *e*P **P 21 39 06.0 0.0**
comp=Z,9.7nm,1.2s
BRG Berggiesshubel 45.98 334 *e*P **P 21 39 05.7 -0.5**
comp=Z,8.6nm,1.3s
BRG Berggiesshubel 45.98 334 *e*P **P 21 39 05.7 -0.5**
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 46.07 22 *e*P **P 21 39 07.1 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 46.07 22 *e*P **P 21 39 07.8 +0.9**
comp=Z,23nm,1.8s
BRVK Borovoye 46.07 22 *e*P **P 21 39 07.8 +0.9**
comp=Z,23nm,1.8s
BVAR Borovoye Array 46.08 22 LR LR 22 02 48.3
comp=Z,270nm,18.0s,baz=250,slow=42
CLL Collm 46.70 334 *e*P **P 21 39 12.4 +0.5**
CLL pmax pmax
comp=Z,19nm,1.6s
CLL Collm 46.70 334 *e*P **P 21 39 12.4 +0.5**
comp=Z,19nm,1.6s
CLL Collm 46.70 334 *i*P **P 21 39 10.8 -1.0**
comp=Z,27nm,1.8s
CLL Collm 46.70 334 *e*P **P 21 39 12.3 +0.5**
comp=Z,19nm,1.6s
BFO Black Forest 46.94 328 *i*P **P 21 39 14.6 +0.8**
MKAR Makanchi Array 47.34 35 P **P 21 39 15.5 -1.4**
comp=Z,3.0nm,0.9s,baz=233,slow=7.4,SNR=6.7
MKAR LR LR 22 01 52.2
comp=Z,101nm,19.2s,baz=236,slow=39
KURK Kurchatov 47.85 29 *e*P **P 21 39 20.1 -0.7**
KURK pmax pmax
comp=Z,27nm,1.4s
KURK Kurchatov 47.85 29 *e*P **P 21 39 21.2 +0.4**
comp=Z,19nm,1.5s
KURK Kurchatov 47.85 29 *e*P **P 21 39 21.2 +0.4**
comp=Z,19nm,1.5s
KURK Kurchatov 47.85 29 P **P 21 39 21.7 +0.9**
SNR=6.3
KURK P **P 21 39 21.7 +0.9**
SNR=6.3
KURK Kurchatov 47.85 29 P **P 21 39 21.7 +0.9**
SNR=6.3
DBIC Dimbokro 48.55 268 LR LR 21 58 33.7
comp=Z,76nm,20.4s,baz=63,slow=34
WLF Walferdange 48.89 328 *e*P **P 21 39 28.7 -0.2**
WLF pmax pmax
comp=Z,28nm,1.4s
WLF Walferdange 48.89 328 *e*P **P 21 39 28.7 -0.2**
comp=Z,28nm,1.4s
WLF Walferdange 48.89 328 *e*P **P 21 39 28.7 -0.2**
comp=Z,28nm,1.4s
KLMR Klimovskoe 48.96 357 *e*P **P 21 39 28.3 -0.9**
KLMR pmax pmax
comp=Z,20nm,1.5s
WMQ Urumqi 49.10 41 P **P 21 39 31.8 +1.1**
WMQ pP sP 21 39 36.0 +3.5
WMQ sP pP 21 39 41.3 +9.3
WMQ PcP **PcP 21 40 56.5 +2.2**
WMQ SS SS 21 50 03.3 -4.3
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,48nm,3.7s
SUR Sutherland 49.36 206 LR LR 22 00 50.8
comp=Z,26nm,19.8s,baz=42,slow=37
ESDC Sonseca Array 50.56 312 P **P 21 39 41.8 -0.1**
comp=Z,2.3nm,1.0s,baz=103,slow=7.1,SNR=11
ESLA Sonseca Array 50.56 312 *e*P **P 21 39 43.0 +1.1**
comp=Z,24nm,1.5s
ESLA Sonseca Array 50.56 312 *e*P **P 21 39 43.0 +1.1**
comp=Z,24nm,1.5s
PAB San Pablo 50.80 312 *e*P **P 21 39 44.8 +1.1**
PAB pmax pmax
comp=Z,31nm,1.5s
PAB San Pablo 50.80 312 *e*P **P 21 39 44.8 +1.1**
comp=Z,31nm,1.5s
PAB San Pablo 50.80 312 *e*P **P 21 39 44.8 +1.1**
comp=Z,31nm,1.5s
FINES FINESS Array B 51.16 349 LR LR 22 03 27.7
comp=Z,90nm,19.4s,baz=126,slow=38
NVS Novosibirsk 52.66 27⇑ *i*P **P 21 39 57.0 -0.2**
NVS pmax pmax
comp=Z,19nm,1.8s
NVS pmax pmax
comp=N,4.0nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.7s
ZAA0 Zalesovo Array 52.84 29 *e*P **P 21 39 57.8 -0.8**
ZAA0 Zalesovo Array 52.84 29 *e*P **P 21 39 57.8 -0.8**
ZALV Zalesovo Beam 52.84 29 P **P 21 39 56.7 -1.8**
comp=E,2.8nm,0.7s,baz=238,slow=7.9,SNR=9.3
ZALV LR LR 22 05 50.4
comp=E,543nm,18.1s,baz=250,slow=40
HFS Hagfors 53.12 342 LR LR 22 03 54.6
comp=E,77nm,19.2s,baz=129,slow=37
CHTO Chiang Mai 53.16 75 *e*P **P 21 40 00.8 -0.7**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 53.16 75 *e*P **P 21 40 00.8 -0.7**
comp=Z,2.1nm,0.9s
CHTO Chiang Mai 53.16 75 *e*P **P 21 40 00.8 -0.7**
comp=Z,2.1nm,0.9s
CM31 Chiang Mai Arr 53.16 76 *e*P **P 21 40 03.3 +1.8**
CM31 Chiang Mai Arr 53.16 76 *e*P **P 21 40 03.3 +1.8**
CMAR Chiang Mai Arr 53.16 76 P **P 21 40 00.1 -1.4**
comp=Z,7.2nm,0.9s,baz=275,slow=8.1,SNR=28
CMAR LR LR 22 00 09.9
comp=Z,16nm,21.2s,baz=288,slow=33
NOA NORSAR Array B 54.60 341 LR LR 22 04 49.5
comp=Z,59nm,19.8s,baz=135,slow=37
GTA Gaotai 56.16 50 *e*P **P 21 40 23.3 +0.2**
GTA pP sP 21 40 27.8 +2.9
GTA sP pP 21 40 30.3 +5.9
GTA S **S 21 48 13.9 +0.6**
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA pmax pmax
comp=Z,92nm,5.7s
GTA LR LR
comp=Z,81nm,16.6s
GTA LR LR
comp=Z,86nm,17.1s
KMI Kunming 56.74 68 P **P 21 40 25.5 -2.1**
KMI pmax pmax
comp=Z,6.0nm,1.1s
CD2 Chengdu 58.00 61 *e*P **P 21 40 36.3 +0.1**
LZH Lanzhou 58.68 55 *e*P **P 21 40 42.9 +1.9**
LZH pP sP 21 40 45.8 +3.0
LZH sP pP 21 40 46.9 +4.6
LZH pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 58.78 352 LR LR 22 09 50.3
comp=Z,54nm,19.6s,baz=166,slow=40
TLY Talaya 62.00 37 LR LR 22 13 51.1
comp=Z,20nm,20.4s,baz=225,slow=42
XAN Xi'an 62.60 58 P **P 21 41 07.0 -0.7**
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=Z,67nm,13.2s
XAN LR LR
comp=Z,42nm,14.9s
XAN LR LR
comp=Z,98nm,12.4s
SONM Songino Array 62.72 42 P **P 21 41 07.7 -0.7**
comp=Z,3.2nm,1.0s,baz=245,slow=7.5,SNR=16
SONM LR LR 22 11 51.5
comp=Z,102nm,19.9s,baz=269,slow=39
ULN Ulaanbaatar 63.16 42 *e*P P 21 41 08.3 -3.0
ULN pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 63.16 42 *e*P **P 21 41 11.4 +0.1**
comp=Z,3.6nm,1.1s
ULN Ulaanbaatar 63.16 42 *e*P **P 21 41 11.4 +0.1**
comp=Z,3.6nm,1.1s
QIZ Qiongzhong 63.45 75 P **P 21 41 14.3 +0.8**
QIZ S **S 21 49 48.8 +1.2**
NRIK Noril'sk 63.64 16 LR LR 22 13 43.5
comp=Z,285nm,18.9s,baz=228,slow=40
HHC Hu-ho-hao-te 65.27 50 *e*P **P 21 41 26.3 +1.1**
HHC PcP **PcP 21 41 58.4 +0.8**
HHC ScP 21 45 59.8
HHC PcS 21 46 01.3
HHC S **S 21 50 07.6 -2.1**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,65nm,7.1s
HHC LR LR
comp=Z,160nm,22.4s
BOD Bodaibo 69.31 32 *e*P P 21 41 47.1 -3.2
BOD pmax pmax
comp=Z,11nm,1.9s
NJ2 Nanjing 70.91 60 *e*P **P 21 42 01.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 71.69 42 *e*P **P 21 42 04.3 -0.9**
HIA pmax pmax
comp=Z,5.0nm,1.1s
CN2 Changchun 75.63 48 *e*P **P 21 42 28.3 -0.1**
KAPI Kappang 77.06 98 LR LR 22 14 01.9
comp=Z,2μm,20.4s,baz=104,slow=34
TIXI Tiksi 77.12 19 *e*P **P 21 42 35.3 -0.9**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
TIXI Tiksi 77.12 19 *e*P **P 21 42 35.8 -0.4**
comp=Z,4.1nm,1.1s
TIXI Tiksi 77.12 19 *e*P **P 21 42 35.9 -0.4**
comp=Z,4.1nm,1.1s
YAK Yakutsk 77.49 29 *e*P **P 21 42 37.2 -1.3**
YAK pmax pmax
comp=Z,60nm,1.0s
KSRS Korea Array 77.99 54 LR LR 22 22 46.1
comp=Z,24nm,18.0s,baz=301,slow=40
KLR Kul'dur 79.55 42 LR LR 22 23 35.6
comp=Z,12nm,18.5s,baz=260,slow=40
USRK Ussuriysk Ar. 80.30 47 P **P 21 42 54.2 -0.1**
comp=Z,0.7nm,0.5s,baz=338,slow=1.0,SNR=4.7
MAW Mawson 80.47 173 P **P 21 42 55.1 +0.6**
comp=Z,2.1nm,1.0s,baz=312,slow=12,SNR=3.9

MAW LR LR 22 13 29.5
comp=Z,122nm,21.6s,baz=52,slow=32
FITZ Fitzroy Crossi 85.78 109 *eP* **P 21 43 24.2 +1.1**
FITZ Fitzroy Crossi 85.78 109 *eP* **P 21 43 24.2 +1.1**
MJAR Matsushiro Arr 86.26 54 LR LR 22 27 20.3
comp=Z,13nm,18.5s,baz=340,slow=39
SNAA Sanae 89.04 193 *eP* **P 21 43 39.2 +1.4**
SNAA pmax pmax
comp=Z,11nm,1.6s
SNAA Sanae 89.04 193 *eP* **P 21 43 39.2 +1.4**
comp=Z,10nm,1.6s
SNAA Sanae 89.04 193 *eP* **P 21 43 39.2 +1.4**
comp=Z,10nm,1.6s
PETK Petropavlovsk- 94.15 34 LR LR 22 31 44.8
comp=Z,103nm,18.0s,baz=303,slow=39
WRA Warramunga Arr 94.21 109 P **P 21 44 02.9 0.0**
comp=Z,0.6nm,0.8s,baz=284,slow=6.8,SNR=4.0
ASAR Alice Springs 94.52 113 P **P 21 44 03.3 -0.9**
comp=Z,1.1nm,1.0s,baz=283,slow=2.2,SNR=6.0
ASAR LR LR 22 23 43.8
comp=Z,36nm,18.3s,baz=270,slow=34
BCIP Isla Barro Col 120.47 288 *e*PKIKP **PKPdf 21 49 34.3 -1.5**
BCIP Isla Barro Col 120.47 288 *e*PKPdf **PKPdf 21 49 34.4 -1.5**
SMCO Snowmass 122.46 334 *e*PKIKP **PKPdf 21 49 40.0 +0.4**
SMCO Snowmass 122.46 334 *e*PKPdf **PKPdf 21 49 40.0 +0.4**
TXAR Lajitas Array 128.53 323 PKP **PKPdf 21 49 50.4 -0.7**
comp=Z,0.4nm,0.9s,baz=100,slow=1.4,SNR=4.4

*MEX **22** 21:32:57.4±0.6, 33°.28N×116°.73W, h16km±999km, MD3.6*
*ISCJB **22** 21:32:58.8±0.3, 32°.96N±0°.02×116°.38W±0°.02, h22km±3km, Error ellipse: s-maj=3.3km s-min=3.1km az=161.3*
*NEIC **22** 21:32:59.0±0.0, 33°.00N×116°.40W, h9km, ML3.0(PAS), After PAS.*
NEIC Felt at Alpine, Carlsbad, Julian, Lemon Grove, Pine Valley, Poway, San Diego and Valley Center.
ISC 22 21:32:58.1±0.8, **32°.93N**±0°.02×**116°.36W**±0°.02, **h17**km±5km, **n34**, σ1°52/65, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.06**	**235**	P	**Pg**	**21 33 02.1**	**+0.6**
	baz=9.7,SNR=1000						
MONP2				S	**Sg**	**21 33 04.0**	**+0.2**
	baz=9.7						
IKP	**In-Ko-Pah, Jac**	**0.35**	**142**	P	**Pn**	**21 33 07.2**	**-1.3**
	baz=325,SNR=379						
IKP				S	**Sb**	**21 33 12.7**	**+1.6**
	baz=325						
SWSC	**Sam W. Stewart**	**0.47**	**88**	P	**Pn**	**21 33 08.6**	**-1.5**
	baz=276,SNR=132						
SWSC				S	**Sb**	**21 33 15.3**	**+0.6**
	baz=276						
TJIG	**Tijuana**	**0.56**	**208**	*e*P	**Pn**	**21 33 10.7**	**-0.6**
TJIG				*e*S	**Sb**	**21 33 18.4**	**+1.3**
109C	**Camp Elliot, M**	**0.63**	**267**	P	**Pb**	**21 33 10.4**	**-0.2**
	baz=80,SNR=63						
109C				S	**Sb**	**21 33 18.4**	**-0.7**
	baz=80						
CBX	**Cerro Bola**	**0.66**	**203**	*e*P	**Pn**	**21 33 12.5**	**-0.3**
CBX				*e*S	**Sn**	**21 33 22.6**	**-0.4**
PFO	**Pinyon Flats O**	**0.69**	**353**	P	**Pg**	**21 33 10.6**	**-1.0**
	baz=175,SNR=96						
PFO				S	**Sg**	**21 33 18.6**	**-2.2**
	baz=175						
PFO	**Pinyon Flats O**	**0.69**	**353**	*e*Pg	**Pg**	**21 33 10.7**	**-1.0**
PFO				*e*Sg	**Sg**	**21 33 18.4**	**-2.4**
MURC	**Murrieta**	**0.97**	**314**	P	**Pg**	**21 33 15.7**	**-1.2**
	baz=132,SNR=29						
MURC				S	**Sg**	**21 33 27.8**	**-1.8**
	baz=132						
BC3	**Big Chuckawall**	**1.05**	**46**	P	**Pg**	**21 33 17.2**	**-1.2**
	baz=230,SNR=77						
BC3				S	**Sg**	**21 33 29.9**	**-2.3**
	baz=230						
BELC	**Belle Mtn. Jos**	**1.11**	**16**	P	**Pg**	**21 33 18.1**	**-1.6**
	baz=199,SNR=74						
BELC				S	**Sg**	**21 33 32.3**	**-1.9**
	baz=199						
GLA	**Glamis**	**1.30**	**84**	P	**Pg**	**21 33 21.3**	**-1.8**
	baz=268,SNR=69						
BBRC	**Big Bear Solar**	**1.41**	**341**	Pg	**Pn**	**21 33 23.8**	**+0.6**
	baz=161						
BBRC				S	**Sn**	**21 33 40.3**	**-1.2**
	baz=161						
IRM	**Iron Mountain**	**1.59**	**39**	P	**Pn**	**21 33 25.1**	**-0.5**
	baz=222,SNR=52						
IRM				S	**Sn**	**21 33 45.2**	**-0.6**
	baz=222						
BFSC	**Mount Baldy Ra**	**1.70**	**321**	Sb	**Sn**	**21 33 49.2**	**+0.8**
	baz=140						
Y12C	**Blythe**	**1.74**	**61**	Pb	**Pb**	**21 33 29.3**	**-0.3**
	baz=245,SNR=6.7						
Y12C				Sb	**Sg**	**21 33 52.8**	**-1.4**
	baz=245						
CIS	**Catalina Islan**	**1.79**	**286**	Pb	**Pb**	**21 33 29.8**	**-0.6**
	baz=103						
FMP	**Fort Macarthur**	**1.80**	**296**	S	**Sn**	**21 33 50.7**	**0.0**
	baz=114						
SCI2	**San Clemente I**	**1.84**	**272**	P	**Pn**	**21 33 28.8**	**0.0**
	baz=89						
SCI2				S	**Sn**	**21 33 52.1**	**+0.4**
	baz=89						
HEC	**Hector,Ludlow**	**1.90**	**1**	Pg	**Pg**	**21 33 33.2**	**-1.3**
	baz=182						
HEC				Sb	**Sn**	**21 33 55.9**	**+2.5**
	baz=182						
GMRC	**Granite Mounta**	**1.94**	**17**	P	**Pn**	**21 33 30.0**	**-0.4**
	baz=199,SNR=17						
GMRC				Sb	**Sb**	**21 33 57.6**	**+0.5**
	baz=199						
PASC	**Pasadena Art C**	**1.96**	**310**	*e*Pn	**Pn**	**21 33 30.0**	**-0.6**
PASC				*e*Sn	**Sn**	**21 33 55.7**	**+0.8**
PASC				*e*Sb	**Sb**	**21 33 57.9**	**+0.3**
PASC				*e*Sg	**Sg**	**21 34 00.9**	**-0.4**
SPIG	**San Pedro Mart**	**2.03**	**158**	*e*P	**Pg**	**21 33 34.5**	**-2.5**
SPIG				*e*S	**Sg**	**21 34 03.5**	**+0.1**
SPIG				*e*S	**Sb**	**21 34 04.0**	**+4.3**
DECC	**Green Verdugo**	**2.11**	**309**	Sb	**Sb**	**21 34 02.5**	**+0.6**
	baz=128						
NEE2	**Needles Airpor**	**2.34**	**38**	Sb	**Sb**	**21 34 09.8**	**+1.4**
	baz=220						
EDW2	**Edwards Air Fo**	**2.37**	**326**	Pb	**Pb**	**21 33 39.6**	**-0.8**
	baz=144						
EDW2				Sb	**Sb**	**21 34 09.7**	**+0.2**
	baz=144						
TUQ	**Turquoise Moun**	**2.53**	**8**	Sb	**Sb**	**21 34 15.3**	**+1.4**
	baz=189						
OSI	**Osito Audit: C**	**2.59**	**311**	S	**Sn**	**21 34 10.9**	**+0.6**
	baz=129						
LRMC	**Laurel Mtn Rad**	**2.77**	**337**	Sb	**Sb**	**21 34 22.4**	**+1.4**
	baz=156						
DAC	**Darwin (Calif)**	**3.49**	**343**	*e*Pn	**Pn**	**21 33 52.2**	**+0.4**
DAC				*e*Pb	**Pb**	**21 33 59.5**	**-0.1**
DAC				*e*Sn	**Sn**	**21 34 33.9**	**+1.0**
DAC				*e*Sg	**Sb**	**21 34 46.8**	**+5.0**
TUC	**Tucson**	**4.75**	**96**	*e*Pn	**Pn**	**21 34 10.9**	**+1.9**
TUC				*e*Pg	**Pg**	**21 34 29.4**	**+0.4**
TUC				*e*Sn	**Sn**	**21 35 01.2**	**-2.5**
WUAZ	**Wupatki**	**4.87**	**57**	*e*Pn	**Pn**	**21 34 12.6**	**+1.8**
WUAZ				*e*Pg	**Pg**	**21 34 33.2**	**+1.8**
WUAZ				*e*Sb	**Sb**	**21 35 24.0**	**+2.5**
SAO	**San Andreas Ge**	**5.67**	**314**	*e*Pn	**Pn**	**21 34 21.9**	**+0.4**
SAO				*e*Pb	**Pb**	**21 34 36.7**	**+0.2**
MOD	**Modoc Plateau**	**9.49**	**342**	*e*Pn	**Pn**	**21 35 15.7**	**+1.6**

*NIED **22** 21:35:00.37°.00N×140°.60E, h5km, Mw3.4 Best double couple: M0=1.42000×10^14 NP1:φs=72.00000°, δ30.00000°, λ-84.00000°. NP2:φs=245.00000°, δ60.00000°, λ-94.00000°.*
*IDC **22** 21:35:23.5±2.1, 36°.85N×140°.75E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/53, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=43.3km s-min=27.2km az=41.0*
*ISCJB **22** 21:35:24.7±0.5, 37°.01N±0°.03×140°.70E±0°.05, h15km±6km, mb3.7/3, Error ellipse: s-maj=7.0km s-min=4.5km az=19.8*
*JMA **22** 21:35:25.1, 37°.03N×140°.60E, h7km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=274.00000°, δ67.00000°, λ-73.00000°. NP2:φs=55.00000°, δ29.00000°, λ-125.00000°. Principal axes: T Plg20.0000°, Azm351.0000°; N Plg16.0000°, Azm87.0000°; P Plg64.0000°, Azm213.0000°;*
JMA Felt II J1.
ISC 22 21:35:24.8±1.0, **37°.00N**±0°.05×**140°.65E**±0°.04, **h10**km±8km, **n20**, σ0°94/23, **mb3.6/3, 6C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.16**	**50**	⇓P	**Pg**	**21 35 28.8**	**+0.5**
ONAJ				S	**Sg**	**21 35 31.5**	**+0.7**
JHO	**Hitachi**	**0.39**	**189**	⇑P	**Pb**	**21 35 33.1**	**-0.8**
JHO				*e*S	**Sb**	**21 35 38.6**	**-1.4**
JFK	**Kawauchi**	**0.41**	**27**	⇑P	**Pg**	**21 35 32.8**	**-0.1**
JFK				*e*S	**Sg**	**21 35 38.5**	**+0.2**
JFT	**Otama**	**0.57**	**335**	⇑P	**Pg**	**21 35 35.6**	**-0.4**
JFT				S	**Sg**	**21 35 43.0**	**-0.5**
JSB	**Shiboa**	**0.58**	**267**	⇓P	**Pg**	**21 35 36.5**	**+0.4**
JSB				S	**Sg**	**21 35 44.3**	**+0.6**
JYT	**Yasato**	**0.85**	**205**	⇑P	**Pb**	**21 35 41.1**	**-0.6**
JYT				S	**Sb**	**21 35 52.3**	**-0.9**
JFY	**Yanaizu**	**0.85**	**299**	⇑P	**Pg**	**21 35 40.6**	**-0.7**
JFY				S	**Sg**	**21 35 51.1**	**-1.3**
JMM	**Marumori**	**0.87**	**8**	⇑P	**Pg**	**21 35 40.7**	**-0.9**
JMM				S	**Sg**	**21 35 52.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.01**	**258**	Pn	**Pn**	**21 35 59.4**	**+0.6**
	18nm,0.3s,baz=80,slow=14,SNR=147						
MJAR				Sn	**Sn**	**21 36 26.1**	**+2.0**
	21nm,0.3s,baz=87,slow=26,SNR=17						
MAT	**Matsushiro**	**2.01**	**258**	P	**Pn**	**21 35 59.8**	**+0.9**
MAT				S	**Sb**	**21 36 26.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.74**	**320**	Pn	Pn	21 37 51.5	+6.4
	0.1nm,0.3s,baz=134,slow=14,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	22 11 10.4	
	baz=312,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	22 11 09.2	
	baz=312,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	22 11 11.8	
	baz=312,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	22 12 04.6	
	baz=314,slow=75,SNR=107						
H11S3	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	22 12 03.3	
	baz=314,slow=75,SNR=89						
H11S2	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	22 12 04.8	
	baz=314,slow=75,SNR=87						
ZALV	**Zalesovo Beam**	**41.48**	**312**	P	**P**	**21 43 13.1**	**+1.3**
	0.5nm,0.5s,baz=103,slow=6.5,SNR=2.1						
WRA	**Warramunga Arr**	**56.95**	**187**	P	**P**	**21 45 09.5**	**-0.9**
	1.4nm,0.9s,baz=4.0,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**60.67**	**187**	P	**P**	**21 45 35.6**	**-0.6**
	0.4nm,0.8s,baz=13,slow=8.8,SNR=5.0						

*ISCJB **22** 22:00:14.0±0.7, 50°.28N±0°.04×18°.83E±0°.04, h0km, Error ellipse: s-maj=5.8km s-min=3.1km az=16.1*
*CSEM **22** 22:00:14.9±0.3, 50°.28N×18°.87E, h2km, ML2.5/5, Error ellipse: s-maj=5.6km s-min=3.0km az=12.0*
*IPEC **22** 22:00:15.3±0.2, 50°.27N×18°.91E, h0km±1km, ML1.7/3, Error ellipse: s-maj=2.6km s-min=1.1km az=168.0*
*PRU **22** 22:00:15.6, 50°.24N×18°.85E, h0km*
ISC 22 22:00:14.9±0.9, **50°.19N**±0°.04×**18°.86E**±0°.02, **h0**km, **n25**, σ0°59/39, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.58**	**233**	*e*PG	**Pb**	**22 00 28.0**	**+0.1**
OKC				*e*SG	**Sg**	**22 00 34.7**	**+1.2**
	comp=Z,11nm,0.6s						
OKC	**Ostrava-Krasne**	**0.58**	**233**	Pg	**Pb**	**22 00 28.0**	**+0.1**
OKC				Sg	**Sg**	**22 00 34.7**	**+1.2**
	11nm,0.6s						
OJC	**Ojcow**	**0.60**	**87**	*e*Pg	**Pg**	**22 00 26.2**	**-0.2**
OJC				*e*Sg	**Sg**	**22 00 34.2**	**0.0**
OJC	**Ojcow**	**0.60**	**87**	*e*Pg	**Pg**	**22 00 26.2**	**-0.2**
OJC				*e*Sg	**Sg**	**22 00 34.2**	**0.0**
MORC	**Moravsky Berou**	**0.95**	**245**	*e*Pg	**Pb**	**22 00 34.4**	**+0.2**
MORC				*e*Sg	**Sb**	**22 00 46.9**	**-0.4**
	8.0nm,0.2s,baz=60						
LANS	**Liptovska Anna**	**1.11**	**159**	*e*Pg	**Pn**	**22 00 37.9**	**+0.2**
LANS				*e*Sg	**Sn**	**22 00 53.5**	**-0.2**
LANS	**Liptovska Anna**	**1.11**	**159**	*e*PG	**Pn**	**22 00 37.9**	**+0.2**
LANS				*e*SG	**Sn**	**22 00 53.5**	**-0.2**
LANS				*e*		22 22 24.3	
KRLC	**Kraliky**	**1.34**	**266**	*e*PG	**Pg**	**22 00 40.3**	**-0.3**
KRLC				*e*SG	**Sg**	**22 00 58.3**	**+0.2**
KRLC	**Kraliky**	**1.34**	**266**	Pg	**Pg**	**22 00 40.3**	**-0.3**
KRLC				Sg	**Sg**	**22 00 58.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.64**	**277**	*e*PG	**Pn**	**22 00 45.2**	**+0.2**
DPC				*e*SG	**Sb**	**22 01 07.4**	**+0.2**
	comp=Z,5.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.64**	**277**	Pg	**Pn**	**22 00 45.2**	**+0.2**
DPC				Sg	**Sb**	**22 01 07.4**	**+0.2**
	5.1nm,0.3s						
VYHS	**Vyhne**	**1.70**	**181**	*e*Sn	**Sb**	**22 01 09.0**	**+0.2**
VYHS	**Vyhne**	**1.70**	**181**	*e*SN	**Sb**	**22 01 09.0**	**+0.2**
VYHS				*e*		22 22 26.7	
VRAC	**Vranov**	**1.72**	**240**	*e*Pn	**Pb**	**22 00 47.2**	**-0.1**
VRAC				*e*Sg	**Sg**	**22 01 10.7**	**+0.7**
	8.4nm,0.3s,baz=56						
KSP	**Ksiaz**	**1.77**	**293**	*e*Pg	**Pg**	**22 00 48.8**	**0.0**
KSP				*e*Sg	**Sg**	**22 01 12.2**	**+0.6**
KSP	**Ksiaz**	**1.77**	**293**	*e*Pg	**Pg**	**22 00 48.8**	**0.0**
KSP				*e*Sg	**Sg**	**22 01 12.2**	**+0.6**
UPC	**Upice**	**1.85**	**281**	*e*SG	**Sg**	**22 01 14.7**	**+0.3**
UPC	**Upice**	**1.85**	**281**	Sg	**Sg**	**22 01 14.7**	**+0.3**
KRUC	**Moravsky**	**1.96**	**236**	*e*Sn	**Sg**	**22 01 17.8**	**-0.1**
	3.3nm,0.3s,baz=53						
GOPC	**GO Pecny, Ondr**	**2.64**	**266**	*e*SG	**Sg**	**22 01 39.1**	**-0.6**
GOPC	**GO Pecny, Ondr**	**2.64**	**266**	Sg	**Sg**	**22 01 39.1**	**-0.6**
PRU	**Pruhonice**	**2.79**	**268**	*e*SG	**Sg**	**22 01 43.4**	**-1.1**
PRU	**Pruhonice**	**2.79**	**268**	Sg	**Sg**	**22 01 43.4**	**-1.1**
BRG	**Berggiesshubel**	**3.21**	**284**	SG	**Sg**	**22 01 58.8**	**+0.7**
	1.3nm,0.5s						
KHC	**Kasperske Hory**	**3.59**	**255**	*e*SG	**Sg**	**22 02 08.4**	**-1.9**
	comp=Z,2.9nm,0.4s						

*DHMR **22** 22:08:00.6±1.2, 11°.89N×44°.24E, h9km±19km, ML4.7*
*ISCJB **22** 22:08:06.1±0.7, 11°.97N±0°.07×44°.13E±0°.09, h4km, mb4.0/11, Error ellipse: s-maj=12.1km s-min=9.5km az=9.4*
*IDC **22** 22:08:06.1±1.2, 11°.71N×44°.20E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/46, mbtmp4.0/11, ML3.3/2, Error ellipse: s-maj=32.2km s-min=11.7km az=163.0*
*NEIC **22** 22:08:07.3±0.6, 11°.67N×44°.16E, h10km, mb4.0/2, Error ellipse: s-maj=16.5km s-min=8.9km az=144.0*
ISC 22 22:08:07.7±0.8, **12°.08N**±0°.08×**44°.27E**±0°.09, **h4**km, **n18**, σ2°55/20, **mb4.0/11, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.98**	**45**	*i* P	**Pg**	**22 08 22.3**	**-4.3**
ADEN				*i* S	**Sg**	**22 08 37.5**	**-1.8**
ADEN				AML	AML	22 09 07.3	
	comp=E,20μm,0.5s						
ATD	**Arta Tunnel**	**1.50**	**249**	Pn	**Pn**	**22 08 30.7**	**-4.7**
	comp=E,336nm,0.3s,baz=279,slow=23,SNR=13						
ATD				Lg	Lg	22 08 50.1	
	comp=E,636nm,0.3s,baz=188,slow=22,SNR=7.0						
UDYN	**Al 'Udayn**	**1.90**	**351**	*i* P	**Pn**	**22 08 37.0**	**-4.0**
UDYN				*i* S	**Sn**	**22 09 05.7**	**+0.1**
HAJJ	**Hajjah**	**3.66**	**350**	*i* P	**Pn**	**22 09 01.9**	**-3.4**
HAJJ				*i* S	**Sn**	**22 09 51.1**	**+2.0**
KMBO	**Kilima Mbogo**	**14.86**	**208**	Pn	Pn	22 11 31.8	-7.2
	comp=E,0.1nm,0.3s,baz=160,slow=17,SNR=3.8						
WSAR	**Wadi Sarin**	**17.60**	**49**	P	**P**	**22 12 15.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=250,slow=5.6,SNR=7.0						
BRTR	**Keskin Array B**	**29.10**	**343**	P	**P**	**22 14 11.7**	**+2.0**
	comp=E,2.6nm,1.0s,baz=156,slow=9.2,SNR=12						
ABKAR	**Akbulak array**	**39.27**	**16**	*e*P	**P**	**22 15 39.4**	**+2.0**
	comp=E,4.7nm,1.0s						
AKTO	**Aktyubinsk**	**39.88**	**14**	P	**P**	**22 15 45.6**	**+3.2**
	comp=E,0.5nm,0.4s,baz=188,slow=6.4,SNR=4.3						
AAK	**Ala-Archa**	**40.18**	**35**	*e*P	**P**	**22 15 48.0**	**+2.7**
	comp=E,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**41.53**	**276**	P	**P**	**22 15 55.5**	**-1.1**
	comp=E,1.4nm,1.0s,baz=93,slow=8.6,SNR=7.1						
GERES	**GERESS Array B**	**44.57**	**331**	P	**P**	**22 16 20.6**	**-0.2**
	comp=E,0.7nm,0.7s,baz=133,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**47.12**	**35**	P	**P**	**22 16 43.2**	**+2.2**
	comp=E,3.2nm,0.9s,baz=234,slow=8.3,SNR=8.3						
ESDC	**Sonseca Array**	**50.58**	**312**	P	**P**	**22 17 08.3**	**+0.5**
	comp=E,1.2nm,0.8s,baz=109,slow=7.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**52.62**	**29**	P	**P**	**22 17 23.6**	**+0.9**
	comp=E,2.5nm,0.9s,baz=238,slow=8.1,SNR=9.3						
CMAR	**Chiang Mai Arr**	**52.96**	**76**	P	**P**	**22 17 25.9**	**+0.1**
	comp=E,3.8nm,0.9s,baz=268,slow=8.5,SNR=22						
SONM	**Songino Array**	**62.50**	**42**	P	**P**	**22 18 33.7**	**+1.1**
	comp=E,1.7nm,0.8s,baz=248,slow=6.6,SNR=13						
TXAR	**Lajitas Array**	**128.50**	**324**	PKP	**PKPdf**	**22 27 17.6**	**+0.8**
	comp=E,0.3nm,0.8s,baz=264,slow=1.3,SNR=4.6						

*ISCJB **22** 22:08:23.1±0.8, 11°.5N±0°.1×44°.3E±0°.1, h10km, mb3.9/11, Error ellipse: s-maj=17.5km s-min=12.9km az=43.9*
*IDC **22** 22:08:23.9±1.1, 11°.58N×44°.27E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.8/46, mbtmp4.0/13, ML3.6/2, Error ellipse: s-maj=25.3km s-min=19.6km az=162.0*
ISC 22 22:08:25.1±0.9, **11°.6N**±0°.1×**44°.3E**±0°.1, **h10**km, **n16**, σ0°97/14, **mb3.9/11, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.40**	**269**	Lg	Lg	22 09 09.1	
	392nm,0.3s,baz=276,slow=20,SNR=3.9						
KMBO	**Kilima Mbogo**	**14.40**	**209**	Pn	**Pn**	**22 11 48.8**	**-0.6**
	0.3nm,0.3s,baz=47,slow=18,SNR=3.5						
KMBO				Lg	Lg	22 15 59.6	
	0.1nm,0.3s,baz=99,slow=20,SNR=6.4						
WSAR	**Wadi Sarin**	**17.95**	**48**	P	**Pn**	**22 12 33.8**	**-1.1**
	0.2nm,0.3s,baz=232,slow=3.5,SNR=5.4						
EIL	**Elat**	**20.01**	**336**	Lg	Lg	22 18 54.0	
	0.2nm,0.3s,baz=78,slow=22,SNR=2.6						
ASF	**Jabal al Asfar**	**21.62**	**343**	P	**P**	**22 13 16.5**	**+1.0**
	2.2nm,0.8s,baz=80,slow=6.9,SNR=4.0						
ASF				Lg	Lg	22 19 43.1	
	4.1nm,1.1s,baz=258,slow=7.2,SNR=3.2						
MMAI	**Mount Meron Ar**	**22.86**	**341**	P	**P**	**22 13 30.1**	**+1.2**
	5.9nm,1.1s,baz=101,slow=4.3,SNR=4.6						
BRTR	**Keskin Array B**	**29.60**	**343**	P	**P**	**22 14 30.9**	**+0.3**
	1.5nm,0.8s,baz=157,slow=11,SNR=6.3						
AKASG	**Malin Array Be**	**40.94**	**345**	P	**P**	**22 16 07.4**	**-0.3**
	0.3nm,0.4s,baz=153,slow=7.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**41.59**	**277**	P	**P**	**22 16 14.0**	**+0.4**
	2.0nm,1.0s,baz=88,slow=6.8,SNR=6.5						
GERES	**GERESS Array B**	**45.03**	**332**	P	**P**	**22 16 39.6**	**-1.4**
	1.1nm,0.8s,baz=139,slow=7.1,SNR=6.8						
MKAR	**Makanchi Array**	**47.54**	**35**	P	**P**	**22 17 00.8**	**0.0**
	3.7nm,0.8s,baz=224,slow=6.8,SNR=8.5						
ESDC	**Sonseca Array**	**50.93**	**312**	P	**P**	**22 17 27.0**	**+0.1**
	0.7nm,0.7s,baz=104,slow=7.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**53.08**	**29**	P	**P**	**22 17 41.7**	**-0.9**
	3.8nm,0.9s,baz=232,slow=7.6,SNR=9.7						
CMAR	**Chiang Mai Arr**	**53.09**	**76**	P	**P**	**22 17 44.2**	**+1.0**
	1.7nm,0.4s,baz=273,slow=7.8,SNR=7.7						
SONM	**Songino Array**	**62.89**	**42**	P	**P**	**22 18 51.9**	**+0.3**
	2.2nm,0.8s,baz=243,slow=7.1,SNR=11						
TXAR	**Lajitas Array**	**128.92**	**323**	PKP	**PKPdf**	**22 27 35.5**	**+1.5**
	0.3nm,0.9s,baz=46,slow=2.6,SNR=2.6						

*ISCJB **22** 22:15:46.3±1.1, 14°.41S±0°.08×167°.2E±0°.2, h170km, mb3.7/6, Error ellipse: s-maj=26.5km s-min=11.6km az=177.4*
*IDC **22** 22:15:48.9±4.3, 14°.51S×167°.27E, h181km±39km, mb3.5/7, mb1 3.7/8, mb1mx3.5/30, mbtmp4.1/8, Error ellipse: s-maj=29.6km s-min=24.1km az=0.0*
ISC 22 22:15:47.7±1.1, **14°.45S**±0°.10×**167°.3E**±0°.2, **h170**km, **n10**, σ0°93/11, **mb3.8/6, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.63**	**186**	P	**Pn**	**22 17 36.5**	**+0.3**
	5.3nm,0.3s,baz=127,slow=22,SNR=17						
DZM				S	**Sn**	**22 19 01.9**	**+0.1**
	0.2nm,0.3s,baz=315,slow=22,SNR=1.3						
CTA	**Charters Tower**	**20.89**	**251**	P	**P**	**22 20 18.2**	**+1.4**
	2.4nm,0.2s,baz=85,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**29.22**	**229**	P	**P**	**22 21 34.0**	**+0.4**
	2.1nm,0.5s,baz=49,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**31.95**	**255**	P	**P**	**22 21 56.4**	**-1.4**
	0.8nm,0.4s,baz=85,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**22 22 04.0**	**-1.4**
	1.7nm,0.5s,baz=77,slow=9.1,SNR=50						
VNDA	**Vanda**	**63.14**	**181**	P	**P**	**22 25 56.3**	**-0.5**
	1.0nm,0.7s,baz=359,slow=7.1,SNR=5.9						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**22 27 50.9**	**+0.6**
	0.2nm,0.4s,baz=125,slow=9.0,SNR=1.9						
ILAR	**Eielson Array**	**86.24**	**18**	P	**P**	**22 28 09.5**	**-0.1**
	0.6nm,0.7s,baz=244,slow=4.8,SNR=6.7						
ARCES	**ARCESS Array B**	**120.00**	**345**	PKP	**PKPdf**	**22 34 17.4**	**-0.1**
	2.7nm,0.9s,baz=64,slow=1.8,SNR=16						
FINES	**FINESS Array B**	**125.48**	**338**	PKP	**PKPdf**	**22 34 28.6**	**+0.5**
	0.9nm,0.6s,baz=36,slow=12,SNR=1.6						

*ISCJB **22** 22:21:29.9±0.6, 51°.50N±0°.03×16°.20E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.6km az=16.6*
*CSEM **22** 22:21:31.4±0.3, 51°.51N×16°.15E, h2km, ML3.1/12, Error ellipse: s-maj=5.2km s-min=3.7km az=3.0*
*PRU **22** 22:21:32.7, 51°.49N×16°.13E, h0km*
*WAR **22** 22:21:32.4, 51°.51

MORC	**Moravsky Berou**	**2.01 153**	*e*Pn	**Pn**	**22 22 05.5**	**-0.3**
MORC			*e*Sg	**Sb**	**22 22 33.5**	**-0.1**
OKC	**Ostrava-Krasne**	**2.15 143**	*e*PG	**Pb**	**22 22 11.0**	**+0.5**
OKC			*e*SG	**Sb**	**22 22 38.3**	**+0.6**
OKC	**Ostrava-Krasne**	**2.15 143**	Pg	**Pb**	**22 22 11.0**	**+0.5**
OKC			Sg	**Sb**	**22 22 38.3**	**+0.6**
VRAC	**Vranov**	**2.29 173**	*e*Pn	**Pn**	**22 22 10.0**	**+0.4**
VRAC			*e*Sg	**Sb**	**22 22 42.4**	**+0.8**
TREC	**Trest**	**2.32 191**	*e*PN	**Pn**	**22 22 11.3**	**+1.2**
TREC			*e*PG	**Pb**	**22 22 14.0**	**+0.6**
TREC	**Trest**	**2.32 191**	Pn	**Pn**	**22 22 11.3**	**+1.2**
TREC	**Trest**	**2.32 191**	Pg	**Pb**	**22 22 14.0**	**+0.6**
OJC	**Ojcow**	**2.68 119**	*e*Pg	**Pg**	**22 22 22.0**	**0.0**
OJC			*e*Sg	**Sg**	**22 22 57.6**	**+0.9**
OJC	**Ojcow**	**2.68 119**	*e*Pg	**Pg**	**22 22 22.0**	**0.0**
OJC			*e*Sg	**Sg**	**22 22 57.6**	**+0.9**
OJC	**Ojcow**	**2.68 119**	*e*Pg	**Pg**	**22 22 22.0**	**0.0**
OJC			*e*Sg	**Sg**	**22 22 57.6**	**+0.9**
NKC	**Novy Kostel**	**2.70 242**	*e*PN	**Pn**	**22 22 16.1**	**+0.7**
NKC			*e*PG	**Pg**	**22 22 22.2**	**-0.2**
NKC			*e*SG	**Sg**	**22 22 58.3**	**+0.9**
	comp=Z,30nm,0.7s					
NKC	**Novy Kostel**	**2.70 242**	Pn	**Pn**	**22 22 16.1**	**+0.7**
NKC	**Novy Kostel**	**2.70 242**	Pg	**Pg**	**22 22 22.2**	**-0.2**
NKC			Sg	**Sg**	**22 22 58.3**	**+0.9**
	comp=Z,30nm,0.7s					
KHC	**Kasperske Hory**	**2.95 215**	*e*PN	**Pn**	**22 22 18.8**	**0.0**
KHC			*e*PG	**Pb**	**22 22 24.9**	**+0.8**
KHC			*e*SG	**Sg**	**22 23 03.3**	**-2.1**
	comp=Z,5.4nm,0.2s					
KHC	**Kasperske Hory**	**2.95 215**	Pn	**Pn**	**22 22 18.8**	**0.0**
KHC	**Kasperske Hory**	**2.95 215**	Pg	**Pb**	**22 22 24.9**	**+0.8**
KHC			Sg	**Sg**	**22 23 03.3**	**-2.1**
	comp=Z,5.4nm,0.2s					
SMOL	**Smolenice**	**3.17 164**	*e*Sg	**Sg**	**22 23 13.2**	**+0.6**
SMOL	**Smolenice**	**3.17 164**	*e*SG	**Sg**	**22 23 13.2**	**+0.6**
LANS	**Liptovska Anna**	**3.23 138**	*e*Pg	**Pg**	**22 22 31.4**	**-1.0**
LANS			*e*Sg	**Sg**	**22 23 12.4**	**-1.8**
LANS	**Liptovska Anna**	**3.23 138**	*e*PG	**Pg**	**22 22 31.4**	**-1.0**
LANS			*e*SG	**Sg**	**22 23 12.4**	**-1.8**
LANS			*e*		22 57 07.8	
VYHS	**Vyhne**	**3.54 150**	*e*Pg	**Pg**	**22 22 37.4**	**-1.0**
VYHS	**Vyhne**	**3.54 150**	*e*PG	**Pg**	**22 22 37.4**	**-1.0**
VYHS			*e*SG	**Sg**	**22 23 24.8**	**+0.6**
BSD	**Bornholm Skovb**	**3.62 349**	*i* P	**Pn**	**22 22 28.2**	**+0.3**
BSD			*i* S	**Sn**	**22 23 07.4**	**-3.9**
BSD	**Bornholm Skovb**	**3.62 349**	*i* P	**Pn**	**22 22 28.2**	**+0.3**
CONA	**Conrad Observa**	**3.66 183**	Pn	**Pn**	**22 22 29.8**	**+1.3**
	comp=Z,0.7nm,0.2s					
CONA			Sg	**Sg**	**22 23 25.5**	**-2.6**
	comp=Z,6.9nm,0.5s					
STHS	**Stebnicka Huta**	**3.90 122**	*e*Pg	**Pg**	**22 22 45.4**	**0.0**
STHS			*e*Sg	**Sg**	**22 23 35.5**	**-0.5**
STHS	**Stebnicka Huta**	**3.90 122**	*e*PG	**Pg**	**22 22 45.4**	**0.0**
STHS			*e*SG	**Sg**	**22 23 35.5**	**-0.5**
STHS			*e*LG	Lg	22 23 45.5	
STHS			*e*		22 57 17.3	
MOA	**Molln**	**3.93 199**	Pn	**Pn**	**22 22 32.9**	**+0.7**
MOA			Sg	**Sg**	**22 23 35.2**	**-1.5**
	comp=Z,2.7nm,0.3s					
KECS	**Kecovo**	**4.17 136**	*e*Pg	**Pg**	**22 22 51.3**	**+0.8**
KECS	**Kecovo**	**4.17 136**	*e*PG	**Pg**	**22 22 51.3**	**+0.8**
KECS			*e*		22 57 20.2	
ARSA	**Arzberg**	**4.35 186**	Pn	**Pn**	**22 22 40.1**	**+2.1**
	comp=Z,0.4nm,0.2s					
ARSA			Sg	**Sg**	**22 23 48.9**	**-1.4**
	comp=Z,5.2nm,0.5s					
KBA	**Koelnbreinsper**	**4.86 203**	Pn	**Pn**	**22 22 46.1**	**+0.9**
	comp=Z,0.4nm,0.2s					
KBA			Sg	**Sg**	**22 24 03.5**	**-3.2**
	comp=Z,0.6nm,0.2s					

MOS ***22*** *22:56:13.7±0.9,51°.65N×16°.12E,h4km,mb4.0/3,Error ellipse: s-maj=7.1km s-min=3.8km az=84.5*
ISCJB ***22*** *22:56:13.5±0.2,51°.54N±0°.01×16°.15E±0°.02,h0km, mb3.7/5,MS2.8/3,Error ellipse: s-maj=2.1km s-min=1.7km az=14.3*
IPEC ***22*** *22:56:14.9±0.3,51°.57N×16°.16E,h0km,ML3.2/3,Error ellipse: s-maj=3.1km s-min=1.7km az=72.0*
LDG ***22*** *22:56:15.8±0.2,51°.63N×16°.28E,h1km,Ml4.0/15,Error ellipse: s-maj=5.4km s-min=2.4km az=4.0,Suspected Mining induced.*
CSEM ***22*** *22:56:15.3±0.1,51°.54N×16°.13E,h0km,ML3.9/26,Ms3.5, Error ellipse: s-maj=2.1km s-min=1.9km az=176.0*
STR ***22*** *22:56:15.4±0.5,51°.59N×16°.13E,h5km,Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BNS ***22*** *22:56:15.2±0.7,51°.55N×16°.10E,h10km,ML3.2*
IDC ***22*** *22:56:16.4±0.6,51°.50N×16°.02E,h0km,mb3.8/3, mb1 3.6/11,mb1mx3.4/50,mbtmp3.6/11,ML3.2/8,MS2.9/3, Ms1 2.9/3,ms1mx2.2/44,Error ellipse: s-maj=10.3km s-min=5.8km az=109.0*
WAR ***22*** *22:56:16.8,51°.51N×16°.12E,h1km,Mw3.1*
PRU ***22*** *22:56:16.6,51°.50N×16°.11E,h0km,Felt In Harrachov*
BGR ***22*** *22:56:17.0±0.4,51°.50N×16°.15E,h1km,ML3.7/7,Error ellipse: s-maj=4.4km s-min=3.3km az=23.0*
UPP ***22*** *22:56:19.9±3.0,51°.79N×15°.74E,h0km,ML2.2*
VIE ***22*** *22:56:21.2±0.5,51°.15N×16°.00E,h0km,mb3.0/18, ML3.0/18,Ms3.5/2,Error ellipse: s-maj=4.2km s-min=4.0km az=2.0,Suspected Mining induced.*

ISC 22 22:56:14.7±0.5,51°.56N±0°.02×16°.14E±0°.02,h0km,n271, σ1°47/371,mb3.8/5,MS2.5/3,5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*i* Pg	**Pg**	**22 56 29.5**	**+0.9**
KSP				*e*Sg	**Sg**	**22 56 38.5**	**+0.6**
KSP				*e*		22 56 41.6	
KSP	**Ksiaz**	**0.72**	**172**	⇓*i*P	**Pg**	**22 56 29.5**	**+0.9**
KSP				*e*		22 56 41.6	
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**22 56 29.5**	**+0.9**
	SNR=82						
KSP	**Ksiaz**	**0.72**	**172**	*i* P	**Pg**	**22 56 29.5**	**+0.9**
KSP				*e*Sg	**Sg**	**22 56 38.5**	**+0.6**
KSP				*e*S	**Sb**	**22 56 41.6**	**+1.0**
KSP	**Ksiaz**	**0.72**	**172**	*i* Pg	**Pg**	**22 56 29.5**	**+0.9**
KSP				*e*Sg	**Sg**	**22 56 38.5**	**+0.6**
KSP				*e*		22 56 41.6	
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**22 56 35.4**	**+0.5**
UPC				*e*SG	**Sg**	**22 56 48.9**	**+0.3**
	comp=Z,453nm,0.3s						
UPC	**Upice**	**1.06**	**184**	*e*P	**Pg**	**22 56 35.4**	**+0.5**
UPC				*e*		22 56 48.9	
UPC				smax	smax		
	comp=N,453nm,0.3s						
UPC	**Upice**	**1.06**	**184**	Pg	**Pg**	**22 56 35.4**	**+0.5**
UPC				Sg	**Sg**	**22 56 48.9**	**+0.3**
	comp=N,453nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*PG	**Pg**	**22 56 38.3**	**+0.3**
DPC				*e*SG	**Sg**	**22 56 53.6**	**-0.1**
	comp=N,231nm,0.6s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*P	**Pg**	**22 56 38.3**	**+0.3**
DPC				*e*		22 56 53.6	
DPC				smax	smax		
	comp=N,231nm,0.6s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*Pg	**Pg**	**22 56 38.4**	**+0.3**
	SNR=130						
DPC	**Dobruska-Polom**	**1.22**	**175**	Pg	**Pg**	**22 56 38.4**	**+0.4**
	SNR=130						
DPC				Sg	**Sg**	**22 56 53.6**	**-0.1**
	comp=N,231nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**22 56 42.2**	**+0.1**
PVCC				*e*SG	**Sn**	**22 57 01.3**	**-0.2**
	comp=N,516nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*P	**Pg**	**22 56 42.2**	**+0.1**
PVCC				*e*		22 57 01.3	
PVCC				smax	smax		
	comp=N,516nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pn	**Pb**	**22 56 42.7**	**+0.4**
	SNR=26						
PVCC				*e*Pg	**Pg**	**22 56 43.6**	**+1.4**
	SNR=199						
PVCC	**Panska Ves**	**1.43**	**224**	Pg	**Pg**	**22 56 42.2**	**+0.1**
PVCC	**Panska Ves**	**1.43**	**224**	Pn	**Pb**	**22 56 42.7**	**+0.4**
	SNR=26						
PVCC				Sg	**Sn**	**22 57 01.3**	**-0.2**
	comp=N,516nm,0.6s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pg**	**22 56 43.6**	**+0.1**
KRLC				*e*SG	**Sg**	**22 57 04.0**	**-0.2**
KRLC	**Kraliky**	**1.54**	**164**	*e*P	**Pn**	**22 56 43.6**	**+0.1**
KRLC				*e*		22 57 04.0	
KRLC	**Kraliky**	**1.54**	**164**	Pg	**Pn**	**22 56 43.6**	**+0.1**
KRLC				Sg	**Sg**	**22 57 04.0**	**-0.2**
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pn**	**22 56 43.3**	**-0.2**
BRG				PG	**Pg**	**22 56 45.3**	**+1.0**
BRG				SG	**Sn**	**22 57 05.6**	**+1.4**
	comp=N,240nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**244**	P	**Pn**	**22 56 43.3**	**-0.2**
BRG						22 57 05.6	
BRG				smax	smax		
	comp=N,240nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pn	**Pn**	**22 56 43.7**	**+0.2**
	SNR=3.9						
BRG				*e*Pg	**Pg**	**22 56 45.1**	**+0.8**
	SNR=76						
BRG				*e*Sg	**Sn**	**22 57 05.3**	**+1.1**
	SNR=6.5						
BRG	**Berggiesshubel**	**1.54**	**244**	P	**Pn**	**22 56 43.3**	**-0.2**
BRG	**Berggiesshubel**	**1.54**	**244**	Pn	**Pn**	**22 56 43.7**	**+0.2**
	SNR=3.9						
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**22 56 45.1**	**+0.8**
	SNR=76						
BRG				Sg	**Sn**	**22 57 05.3**	**+1.1**
	SNR=6.5						
BRG				S	**Sn**	**22 57 05.6**	**+1.4**
	comp=N,240nm,0.5s						
RUE	**Ruedersdorf**	**1.73**	**303**	*e*Pn	**Pb**	**22 56 46.8**	**-0.5**
	SNR=3.0						
RUE				*e*Sg	**Sg**	**22 57 13.1**	**+3.0**
	SNR=4.9						
RUE	**Ruedersdorf**	**1.73**	**303**	Pn	**Pb**	**22 56 46.8**	**-0.5**
	SNR=3.0						
RUE				Sg	**Sg**	**22 57 13.1**	**+3.0**
	SNR=4.9						
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pn	**Pg**	**22 56 51.3**	**+1.3**
GKP				*e*Sn	**Sg**	**22 57 18.6**	**+4.8**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*P	**Pg**	**22 56 51.3**	**+1.3**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pn	**Pg**	**22 56 51.3**	**+1.3**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pn	**Pg**	**22 56 51.3**	**+1.3**
GKP				*e*Sn	**Sg**	**22 57 18.6**	**+4.8**
PRA	**Prague**	**1.84**	**217**	*e*PN	**Pn**	**22 56 47.9**	**+0.3**
PRA				*e*SG	**Sb**	**22 57 12.5**	**-0.3**
	comp=N,188nm,0.6s						
PRA	**Prague**	**1.84**	**217**	*e*P	**Pn**	**22 56 47.9**	**+0.3**
PRA				*e*		22 57 12.5	
PRA				smax	smax		
	comp=N,188nm,0.6s						
PRA	**Prague**	**1.84**	**217**	Pn	**Pn**	**22 56 47.9**	**+0.3**
PRA				Sg	**Sb**	**22 57 12.5**	**-0.3**
	comp=N,188nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PN	**Pn**	**22 56 47.8**	**0.0**
GOPC				*e*PG	**Pg**	**22 56 50.2**	**-0.1**
GOPC				*e*SG	**Sg**	**22 57 14.0**	**-0.4**
	comp=N,139nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*P	**Pn**	**22 56 47.8**	**0.0**
GOPC				*e*		22 57 14.0	
GOPC				smax	smax		
	comp=N,139nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pn	**Pn**	**22 56 47.8**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pg	**Pg**	**22 56 50.2**	**-0.1**
GOPC				Sg	**Sg**	**22 57 14.0**	**-0.4**
	comp=N,139nm,0.6s						
FBE	**Freiberg**	**1.86**	**251**	*e*Pn	**Pn**	**22 56 48.2**	**+0.3**
	SNR=2.7						
FBE				*e*Sg	**Sg**	**22 57 15.4**	**+0.8**
	SNR=2.9						
FBE	**Freiberg**	**1.86**	**251**	Pn	**Pn**	**22 56 48.2**	**+0.3**
	SNR=2.7						
FBE				Sg	**Sg**	**22 57 15.4**	**+0.8**
	SNR=2.9						
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pb**	**22 56 50.1**	**+0.3**
PRU				*e*SG	**Sg**	**22 57 14.4**	**-0.4**
	comp=N,201nm,0.6s						
PRU	**Pruhonice**	**1.87**	**213**	*e*P	**Pb**	**22 56 50.1**	**+0.3**
PRU				*e*		22 57 14.4	
PRU				smax	smax		
	comp=N,201nm,0.6s						
PRU	**Pruhonice**	**1.87**	**213**	*e*Pn	**Pn**	**22 56 48.3**	**+0.3**
	SNR=13						
PRU	**Pruhonice**	**1.87**	**213**	Pn	**Pn**	**22 56 48.3**	**+0.3**
	SNR=13						
PRU	**Pruhonice**	**1.87**	**213**	Pg	**Pb**	**22 56 50.1**	**+0.3**
PRU				Sg	**Sg**	**22 57 14.4**	**-0.4**
	comp=N,201nm,0.6s						
RAC	**Raciborz**	**1.97**	**138**	*e*P	**Pn**	**22 56 49.0**	**-0.3**
RAC				*e*		22 57 19.2	
RAC	**Raciborz**	**1.97**	**138**	*e*P	**Pn**	**22 56 49.0**	**-0.3**
RAC	**Raciborz**	**1.97**	**138**	*e*Pg	**Pg**	**22 56 52.5**	**+0.1**
RAC				*e*S	**Sg**	**22 57 19.2**	**+1.3**
CLL	**Collm**	**1.98**	**264**	*i* P	**Pn**	**22 56 49.6**	**+0.1**
CLL				*e*		22 57 19.0	
CLL				pmax	pmax		
	comp=Z,27nm,0.6s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**22 56 49.7**	**+0.1**
	SNR=5.0						
CLL				*e*Sg	**Sg**	**22 57 18.9**	**+0.6**
	SNR=3.0						
CLL	**Collm**	**1.98**	**264**	Pn	**Pn**	**22 56 49.7**	**+0.2**
	SNR=5.0						
CLL				Sg	**Sg**	**22 57 18.9**	**+0.6**
	SNR=3.0						
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**22 56 49.6**	**+0.2**
	comp=Z,27nm,0.6s						
CLL				*i* Pg	**Pg**	**22 56 53.2**	**+0.5**
CLL				*i*		22 56 56.1	
CLL				*e*Sg	**Sg**	**22 57 19.0**	**+0.7**
	comp=Z,301nm,0.7s						
MORC	**Moravsky Berou**	**2.00**	**153**	P	**Pn**	**22 56 49.6**	**-0.1**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**22 56 49.8**	**+0.1**
	SNR=90						
MORC	**Moravsky Berou**	**2.00**	**153**	Pn	**Pn**	**22 56 49.8**	**+0.1**
	SNR=90						
MORC				*e*Sg	**Sb**	**22 57 17.5**	**+0.2**
	comp=Z,155nm,0.6s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PG	**Pg**	**22 56 55.8**	**0.0**
OKC				*e*SG	**Sb**	**22 57 22.7**	**+1.2**
	comp=Z,219nm,0.7s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*P	**Pg**	**22 56 55.8**	**0.0**
OKC				*e*		22 57 22.7	
OKC				smax	smax		
	comp=N,219nm,0.7s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*Pn	**Pn**	**22 56 51.9**	**+0.2**
	SNR=7.1						
OKC	**Ostrava-Krasne**	**2.14**	**143**	Pn	**Pn**	**22 56 51.9**	**+0.2**
	SNR=7.1						
OKC	**Ostrava-Krasne**	**2.14**	**143**	Pg	**Pg**	**22 56 55.8**	**0.0**
OKC				Sg	**Sb**	**22 57 22.7**	**+1.2**
	comp=N,219nm,0.7s						
VRAC	**Vranov**	**2.27**	**173**	Pn	**Pn**	**22 56 54.1**	**+0.6**
	comp=N,3.5nm,0.3s,baz=337,slow=12,SNR=37						
VRAC				Pg	**Pg**	**22 56 58.0**	**-0.2**
	comp=N,8.1nm,0.3s,baz=349,slow=16,SNR=36						
VRAC				Lg	Lg	22 57 26.5	
	comp=N,13nm,0.3s,baz=75,slow=23,SNR=14						
VRAC	**Vranov**	**2.27**	**173**	*e*Pn	**Pn**	**22 56 54.0**	**+0.5**
VRAC				*e*Sg	**Sb**	**22 57 26.2**	**+1.0**
	comp=N,113nm,0.6s						
TREC	**Trest**	**2.31**	**191**	*e*PG	**Pg**	**22 56 58.5**	**-0.4**
TREC				*e*SG	**Sg**	**22 57 28.0**	**-0.7**
TREC	**Trest**	**2.31**	**191**	*e*P	**Pg**	**22 56 58.5**	**-0.4**
TREC				*e*		22 57 28.0	
TREC	**Trest**	**2.31**	**191**	Pg	**Pg**	**22 56 58.5**	**-0.4**
TREC				Sg	**Sg**	**22 57 28.0**	**-0.7**
KRUC	**Moravsky**	**2.51**	**176**	P	**Pn**	**22 56 57.5**	**+0.8**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**22 56 58.1**	**+1.4**
	SNR=7.6						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**22 56 57.0**	**+0.3**
KRUC	**Moravsky**	**2.51**	**176**	P	**Pn**	**22 56 57.5**	**+0.8**
KRUC				*e*Sg	**Sb**	**22 57 33.6**	**+1.7**
	comp=N,93nm,0.7s						
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**22 56 59.7**	**+0.8**
	SNR=5.6						
WERD	**Werda**	**2.67**	**247**	Pn	**Pn**	**22 56 59.7**	**+0.8**
	SNR=5.6						
OJC	**Ojcow**	**2.68**	**119**	*e*Pn	**Pn**	**22 56 57.9**	**-1.1**
OJC				*e*Pg	**Pg**	**22 57 06.3**	**+0.3**
OJC				*e*Sg	**Sg**	**22 57 41.9**	**+1.3**
OJC	**Ojcow**	**2.68**	**119**	*e*P	**Pn**	**22 56 57.9**	**-1.1**
OJC				*e*		22 57 41.9	
OJC	**Ojcow**	**2.68**	**119**	*e*Pn	**Pn**	**22 56 57.9**	**-1.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn	**Pn**	**22 56 57.9**	**-1.1**
OJC				*e*Pg	**Pg**	**22 57 06.3**	**+0.3**
OJC				*e*Sg	**Sg**	**22 57 41.9**	**+1.3**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**22 57 00.0**	**+0.8**
NKC				*e*PG	**Pg**	**22 57 06.4**	**+0.2**
NKC				*e*SG	**Sg**	**22 57 41.5**	**+0.4**
	comp=N,244nm,0.6s						
NKC	**Novy Kostel**	**2.69**	**242**	*e*P	**Pn**	**22 57 00.0**	**+0.8**
NKC				*e*		22 57 41.5	
NKC				smax	smax		
	comp=N,244nm,0.6s						
NKC	**Novy Kostel**	**2.69**	**242**	*e*Pn	**Pn**	**22 57 00.3**	**+1.1**
	SNR=15						
NKC				*e*Sg	**Sg**	**22 57 43.8**	**+2.7**
	SNR=3.6						
NKC	**Novy Kostel**	**2.69**	**242**	Pn	**Pn**	**22 57 00.0**	**+0.8**
WERN	**Wernitzgruen**	**2.70**	**243**	*e*Pn	**Pn**	**22 57 00.7**	**+1.3**
	SNR=11						
WERN	**Wernitzgruen**	**2.70**	**243**	Pn	**Pn**	**22 57 00.7**	**+1.3**
	SNR=11						
PLN	**Plauen**	**2.74**	**248**	P	**Pn**	**22 57 00.6**	**+0.7**
PLN	**Plauen**	**2.74**	**248**	*e*Pn	**Pn**	**22 57 00.6**	**+0.7**
	SNR=5.4						
PLN	**Plauen**	**2.74**	**248**	Pn	**Pn**	**22 57 00.6**	**+0.7**
	SNR=5.4						
NEUB	**Neuenburg**	**2.76**	**264**	*e*Sg	**Sg**	**22 57 44.9**	**+1.6**
	SNR=5.5						
NEUB	**Neuenburg**	**2.76**	**264**	Sg	**Sg**	**22 57 44.9**	**+1.6**
	SNR=5.5						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**22 57 02.8**	**+0.2**
KHC				*e*PG	**Pb**	**22 57 09.3**	**+1.4**
KHC				*e*SN	**Sn**	**22 57 37.6**	**-1.0**
KHC				*e*SG	**Sg**	**22 57 46.8**	**-2.1**
	comp=N,40nm,0.4s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*P	**Pn**	**22 57 02.8**	**+0.2**
KHC				*e*		22 57 37.6	
KHC	**Kasperske Hory**	**2.93**	**215**	*e*Pn	**Pn**	**22 57 03.1**	**+0.5**
	SNR=20						
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**22 57 03.1**	**+0.5**
	SNR=20						
MOX	**Moxa**	**3.00**	**254**	P	**Pn**	**22 57 00.4**	**-3.1**
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**22 57 04.1**	**+0.6**
	SNR=8.3						
MOX				*e*Sg	**Sg**	**22 57 52.4**	**+1.5**
	SNR=4.8						
MOX	**Moxa**	**3.00**	**254**	P	**Pn**	**22 57 00.4**	**-3.1**
MOX	**Moxa**	**3.00**	**254**	Pn	**Pn**	**22 57 04.1**	**+0.6**
	SNR=8.3						
MOX				Sg	**Sg**	**22 57 52.4**	**+1.5**
	SNR=4.8						
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**22 57 04.5**	**+0.9**
	SNR=19						
MANZ	**Manzenberg**	**3.01**	**240**	Pn	**Pn**	**22 57 04.5**	**+0.9**
	SNR=19						
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**22 57 05.3**	**+0.7**
	SNR=24						
ROTZ	**Rotzenmuhle**	**3.08**	**236**	Pn	**Pn**	**22 57 05.3**	**+0.7**
	SNR=24						
GEC2	**GERESS Array S**	**3.14**	**211**	P	**Pn**	**22 57 06.2**	**+0.7**
GEC2				S	**Sg**	**22 57 53.9**	**-1.5**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**22 57 06.2**	**+0.7**
	SNR=18						
GEC2				*e*Sg	**Sg**	**22 57 54.0**	**-1.5**
	SNR=2.7						
GEC2	**GERESS Array S**	**3.14**	**211**	Pn	**Pn**	**22 57 06.2**	**+0.7**
	SNR=18						
GEC2				Sg	**Sg**	**22 57 54.0**	**-1.5**
	SNR=2.7						
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**22 57 05.8**	**+0.4**
	comp=N,3.7nm,0.3s,baz=33,slow=12,SNR=136						
GERES				Pg	**Pb**	**22 57 12.6**	**+1.2**
	comp=N,6.9nm,0.3s,baz=30,slow=16,SNR=73						
GERES				Sn	**Sn**	**22 57 41.1**	**-2.5**
	comp=N,4.7nm,0.3s,baz=24,slow=26,SNR=7.1						
GERES				Lg	Lg	22 57 54.0	
	comp=N,10.0nm,0.3s,baz=28,slow=27,SNR=8.4						
SMOL	**Smolenice**	**3.16**	**164**	*e*P	**Pn**	**22 57 07.8**	**+2.1**
SMOL	**Smolenice**	**3.16**	**164**	*e*P	**Pn**	**22 57 07.8**	**+2.1**
SMOL	**Smolenice**	**3.16**	**164**	*e*Pg	**Pg**	**22 57 15.5**	**+0.3**
SMOL				*e*Sg	**Sg**	**22 57 57.4**	**+1.2**
SMOL	**Smolenice**	**3.16**	**164**	*e*PG	**Pg**	**22 57 15.5**	**+0.3**
SMOL				*e*SG	**Sg**	**22 57 57.4**	**+1.2**
SMOL	**Smolenice**	**3.16**	**164**	*e*	**Pn**	**22 57 07.8**	**+2.1**
WET	**Wettzell**	**3.20**	**222**	P	**Pn**	**22 57 06.7**	**+0.5**
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**22 57 06.7**	**+0.5**
	SNR=30						
WET	**Wettzell**	**3.20**	**222**	Pn	**Pn**	**22 57 06.7**	**+0.5**
	SNR=30						
LANS	**Liptovska Anna**	**3.22**	**137**	*e*Pg	**Pg**	**22 57 17.5**	**+1.2**
LANS				*e*Sg	**Sg**	**22 57 58.7**	**+0.7**
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**22 57 17.5**	**+1.2**
LANS				*e*SG	**Sg**	**22 57 58.7**	**+0.7**
NIE	**Niedzica**	**3.41**	**127**	*e*Pn	**Pn**	**22 57 10.5**	**+1.3**
NIE				*e*Pg	**Pg**	**22 57 20.4**	**+0.3**
NIE				*e*Sg	**Sg**	**22 58 06.1**	**+1.8**
NIE	**Niedzica**	**3.41**	**127**	*e*P	**Pn**	**22 57 10.5**	**+1.3**
NIE	**Niedzica**	**3.41**	**127**	*e*Pn	**Pn**	**22 57 10.5**	**+1.3**

KWP	Kalwaria Pacla	4.61	112	*e*Pn	Pg	22 57 41.0	-2.0
FUR	Furstenfeldbru	4.63	225	P	Pn	22 57 27.0	+1.1
FUR	Furstenfeldbru	4.63	225	P	Pn	22 57 27.0	+1.1
BLEU	Blekinge	4.76	358	P	Pn	22 57 28.4	+0.8
BLEU	Blekinge	4.76	358	P	Pn	22 57 28.4	+0.8
KBA	Koelnbreinsper	4.84	203	P	Pn	22 57 30.1	+1.1
KBA	Koelnbreinsper	4.84	203	Pn	Pn	22 57 30.1	+1.1
	comp=N,8.0nm,0.4s,SNR=16						
KBA				Sg	Sg	22 58 48.9	-1.3
	comp=N,48nm,0.8s						
UZH	Uzhgorod	4.93	124	*e*P	Pn	22 57 33.1	+3.2
UZH				*e*S	Sn	22 58 30.7	+3.1
UZH				smax	smax		
	comp=N,30nm,1.0s						
UZH				smax	smax		
	comp=Z,30nm,1.0s						
UZH	Uzhgorod	4.93	124	*e*P	Pn	22 57 33.1	+3.2
UZH				*e*S	Sn	22 58 30.7	+3.1
SOKA	Soboth	4.94	189	Pn	Pn	22 57 32.0	+1.8
	comp=Z,2.6nm,0.5s						
SOKA				Sg	Sg	22 58 51.2	-2.1
	comp=Z,11nm,0.5s						
PERS	Pernice	4.97	188	*i* Pn	Pn	22 57 31.9	+1.2
PERS	Pernice	4.97	188	*i* Pn	Pn	22 57 31.9	+1.2
TNS	Taunus Mts	5.05	258	P	Pn	22 57 32.1	+0.4
TNS				pmax	pmax		
	comp=Z,23nm,0.7s						
TNS	Taunus Mts	5.05	258	P	Pn	22 57 32.1	+0.4
	comp=Z,23nm,0.7s						
TOD	Tromm	5.07	250	P	Pn	22 57 31.8	-0.1
TOD				S	Sn	22 58 35.5	+4.4
DEL	Delary	5.10	346	P	Pn	22 57 32.4	+0.1
DEL				S	Sn	22 58 29.1	-2.7
DEL	Delary	5.10	346	P	Pn	22 57 32.4	+0.1
KOGS	Kog	5.12	179	*e*Pn	Pn	22 57 34.5	+2.0
KOGS	Kog	5.12	179	*e*Pn	Pn	22 57 34.5	+2.0
OBKA	Obir	5.16	192	Pn	Pn	22 57 34.0	+0.7
	comp=Z,2.8nm,0.7s						
WATA	Walderalm	5.17	217	Pn	Pn	22 57 34.8	+1.4
	comp=Z,6.9nm,0.4s,SNR=22						
WATA				Sg	Sg	22 58 59.8	-0.9
	comp=Z,21nm,0.7s						
MYKA	Terra Mystica	5.20	199	Sg	Sg	22 58 58.5	-3.2
	comp=Z,14nm,0.7s						
WTTA	Wattenberg	5.21	216	Pn	Pn	22 57 35.7	+1.7
	comp=Z,1.8nm,0.2s,SNR=5.7						
WTTA				Sg	Sg	22 59 02.8	+0.9
	comp=Z,25nm,0.8s						
LVV	L'vov	5.31	106	*e*P	Pn	22 57 38.3	+3.1
LVV				*e*S	Sn	22 58 39.6	+2.6
LVV	L'vov	5.31	106	*e*P	Pn	22 57 38.3	+3.1
LVV				*e*S	Sn	22 58 39.6	+2.6
MOTA	Moosalm	5.35	220	Pn	Pn	22 57 36.3	+0.4
	comp=Z,3.6nm,0.3s						
MOTA				Sg	Sg	22 59 04.8	-1.6
	comp=Z,24nm,0.6s						
ABTA	Abfaltersbach	5.37	208	Pn	Pn	22 57 37.8	+1.6
	comp=Z,2.2nm,0.3s,SNR=10						
ABTA				Sg	Sg	22 59 05.2	-2.0
	comp=Z,26nm,0.8s						
RETA	Reutte	5.37	223	Pn	Pn	22 57 36.6	+0.4
	comp=Z,2.7nm,0.2s						
RETA				Sg	Sg	22 59 05.2	-2.0
	comp=Z,31nm,0.9s						
TRPA	Tarpa	5.38	127	*e*Pn	Pn	22 57 37.3	+1.2
TRPA	Tarpa	5.38	127	*ex*	Pn	22 57 37.3	+1.2
VXJU	Vaexsjoe	5.42	353	P	Pn	22 57 37.4	+0.7
VXJU				S	Sn	22 58 35.9	-3.8
VXJU	Vaexsjoe	5.42	353	P	Pn	22 57 37.4	+0.7
KOE	Koeppel	5.43	261	*e*Pn	Pn	22 57 34.9	-2.0
HOBG	Hohbusch	5.56	267	*e*Pn	Pn	22 57 36.6	-2.0
OSKU	Oskarshamn	5.65	360	P	Pn	22 57 40.7	+0.9
OSKU	Oskarshamn	5.65	360	P	Pn	22 57 40.7	+0.9
BGG	Burgeitz	5.74	260	*e*Pn	Pn	22 57 39.0	-2.0
BGG				*e*Sn	Sn	22 58 42.3	-5.2
	comp=Z,7.4nm,1.6s						
LAUG	Laupendahl	5.75	272	*e*Pn	Pn	22 57 38.9	-2.4
FETA	Feichten	5.76	220	Pn	Pn	22 57 42.7	+1.2
	comp=Z,0.9nm,0.2s						
FETA				Sg	Sg	22 59 18.5	-1.1
	comp=Z,9.9nm,0.7s						
BYXU	Byxelkrok	5.76	5	P	Pn	22 57 42.7	+1.3
BYXU	Byxelkrok	5.76	5	P	Pn	22 57 42.7	+1.3
FABU	Falkenberg	5.81	341	P	Pn	22 57 42.1	+0.1
FABU				S	Sn	22 58 45.0	-4.3
FABU	Falkenberg	5.81	341	P	Pn	22 57 42.1	+0.1
VISS	Visnje	5.83	189	*i* Pn	Pn	22 57 43.8	+1.5
VISS	Visnje	5.83	189	*i* Pn	Pn	22 57 43.8	+1.5
SPAK	Spaichingen-Ko	5.88	237	P	Pn	22 57 42.9	-0.3
DAVA	Damuels	5.91	226	Pn	Pn	22 57 44.0	+0.3
	comp=Z,2.0nm,0.2s						
DAVA				Sg	Sg	22 59 25.7	+1.1
	comp=Z,23nm,0.7s						
STB	Steinbach	5.94	264	*e*Pn	Pn	22 57 41.8	-2.1
EKSU	Eksjoe	6.05	356	P	Pn	22 57 46.1	+0.8
EKSU	Eksjoe	6.05	356	P	Pn	22 57 46.1	+0.8
RUP	Ruppelstein	6.07	256	P	Pn	22 57 45.7	0.0
BOJS	Bojanci	6.09	186	*i* Pn	Pn	22 57 47.3	+1.4
BOJS	Bojanci	6.09	186	*i* Pn	Pn	22 57 47.3	+1.4
HILG	Hillesheim	6.12	262	*e*Pn	Pn	22 57 43.3	-3.0
DAVOX	Davos/Dischmat	6.30	223	Pn	Pn	22 57 50.4	+1.4
	comp=Z,0.6nm,0.3s,baz=50,slow=3.2,SNR=12						
DAVOX				Lg	Lg	22 59 35.6	
	comp=Z,0.8nm,0.3s,baz=217,slow=22,SNR=3.5						
DRGR		6.43	135	P	Pn	22 57 53.7	+3.1
DRGR				pmax	pmax		
	comp=Z,18nm,0.7s						
CDF	Champ du Feu	6.53	245	*e*Pn	Pn	22 57 52.5	+0.5
CDF				*e*Sg	Sg	22 59 44.0	-0.2
	comp=Z,84nm,1.0s						
CDF	Champ du Feu	6.53	245	*e*Pn	Pn	22 57 52.5	+0.5
CDF				*e*Sg	Sg	22 59 44.0	-0.2
	comp=Z,42nm,1.0s						
LNKU	Linkoeping	6.69	357	P	Pn	22 57 54.8	+0.7
LNKU	Linkoeping	6.69	357	P	Pn	22 57 54.8	+0.7
HINF	Hinteralfeld	7.09	242	*e*Sg	Sg	23 00 01.5	-0.9
	comp=Z,42nm,0.8s						
HINF	Hinteralfeld	7.09	242	*e*Sg	Sg	23 00 01.5	-0.9
	comp=Z,21nm,0.8s						
NACGM	Naroch	7.21	58	*e*	Sb	22 59 47.0	-0.2
HAU	Haudompre	7.27	245	*e*Sg	Sg	23 00 06.1	-1.9
	comp=Z,43nm,0.8s						
GIVF	Givet	7.32	263	*e*Sg	Sg	23 00 06.9	-2.6
	comp=Z,58nm,1.1s						
PAGF	Fort de Pagny	7.35	250	*e*Pn	Pn	22 58 02.5	-0.7
	baz=55						
PAGF				*e*Sg	Sg	23 00 08.4	-2.2
	comp=Z,16nm,1.0s						
PAGF	Fort de Pagny	7.35	250	*e*Pn	Pn	22 58 02.5	-0.7
BAIF	Baives	7.71	263	*e*Sg	Sg	23 00 18.7	-3.4
	comp=Z,48nm,1.1s						
CABF	La Chapelle	8.25	237	*e*Sg	Sg	23 00 37.8	-1.6
	comp=Z,44nm,0.9s						
CABF	La Chapelle	8.25	237	*e*Sg	Sg	23 00 37.8	-1.6
	comp=Z,22nm,0.9s						
KIEV	Kiev	8.27	91	*e*P	Pn	22 58 15.1	-0.7
KIEV	Kiev	8.27	91	*e*P	Pn	22 58 15.1	-0.7
AKASG	Malin Array Be	8.28	91	Pn	Pn	22 58 15.5	-0.4
	comp=Z,1.5nm,0.3s,baz=279,slow=12,SNR=9.7						
AKASG				Sn	Sn	22 59 46.6	-3.4
	comp=Z,1.1nm,0.3s,baz=267,slow=24,SNR=4.2						
AKASG				Lg	Lg	23 00 42.9	
	comp=Z,0.4nm,0.3s,baz=278,slow=29,SNR=1.8						
AKASG	Malin Array Be	8.28	91	*e*P	Pn	22 58 17.4	+1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	8.28	91	*e*P	Pn	22 58 17.4	+1.5
	comp=Z,2.0nm,0.3s						
LPL	La Plagne	8.69	230	*e*Pn	Pn	22 58 22.7	+0.9
LPL				*e*Sg	Sg	23 00 50.7	-2.8
	comp=Z,20nm,1.1s						
LPL	La Plagne	8.69	230	*e*Pn	Pn	22 58 22.7	+0.9
LPG	La Plagne	8.69	229	*e*Pn	Pn	22 58 22.8	+0.9
LPG				*e*Sg	Sg	23 00 52.4	-1.3
	comp=Z,33nm,1.2s						
LPG	La Plagne	8.69	229	*e*Pn	Pn	22 58 22.8	+0.9
LPG				*e*Sg	Sg	23 00 52.4	-1.3
	comp=Z,17nm,1.2s						
HFS	Hagfors	8.70	352	Pn	Pn	22 58 22.2	+0.5
	comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=1.5						
HFS				Sn	Sn	22 59 57.0	-3.4
	comp=Z,0.2nm,0.3s,baz=180,slow=30,SNR=1.8						
LOR	Lormes	9.08	247	*e*Pn	Pn	22 58 26.4	-0.6
	baz=69						
LOR				*e*Sg	Sn	23 01 03.0	+53
	comp=Z,18nm,0.9s						
LOR	Lormes	9.08	247	*e*Pn	Pn	22 58 26.4	-0.6
LOR				*e*Sg	Sn	23 01 03.0	+53
	comp=Z,9.2nm,0.9s						
MBDF	Montbardon	9.27	226	*e*Pn	Pn	22 58 29.3	-0.3
MBDF				*e*Sg	Sn	23 01 09.5	+55
	comp=Z,17nm,1.1s						
MBDF	Montbardon	9.27	226	*e*Pn	Pn	22 58 29.3	-0.3
SSF	Saint Saulge	9.40	246	*e*Sg	Sn	23 01 12.5	+55
	comp=Z,21nm,0.9s						
SMF	Signal de Mont	9.45	243	*e*Sg	Sn	23 01 15.7	+57
	comp=Z,13nm,0.7s						
AVF	Avril sur Loir	9.64	245	*e*Sg	Sn	23 01 19.0	+56
	comp=Z,38nm,1.3s						
SBF	Sospel	9.68	221	*e*Pn	Pn	22 58 35.5	+0.3
SBF	Sospel	9.68	221	*e*Pn	Pn	22 58 35.5	+0.3
NOA	NORSAR Array B	9.89	346	Pn	Pn	22 58 36.8	-1.2
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=2.4						
BGF	Bois d'Agland	10.05	245	*e*Pn	Pn	22 58 39.6	-0.7
BGF	Bois d'Agland	10.05	245	*e*Pn	Pn	22 58 39.6	-0.7
FRF	La Foret Royal	10.25	222	*e*Pn	Pn	22 58 43.9	+0.9
FRF	La Foret Royal	10.25	222	*e*Pn	Pn	22 58 43.9	+0.9
LMR	La Mourre	10.49	222	*e*Pn	Pn	22 58 46.9	+0.6
LMR	La Mourre	10.49	222	*e*Pn	Pn	22 58 46.9	+0.6
FINES	FINESS Array B	11.31	25	Pn	Pn	22 58 56.1	-1.3
	comp=Z,0.3nm,0.3s,baz=200,slow=11,SNR=12						
FINES				Sn	Sn	23 00 57.8	-6.6
	comp=Z,0.2nm,0.3s,baz=204,slow=19,SNR=1.6						
FINES	FINESS Array B	11.31	25	*e*P	Pn	22 58 57.5	+0.1
FINES	FINESS Array B	11.31	25	*e*P	Pn	22 58 57.5	+0.1
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	22 59 05.1	-3.1
	baz=105,slow=13,SNR=4.4						
OBN	Obninsk	12.71	66	⇓*e*P	Pn	22 59 17.2	+0.8
OBN				*e*S	Sn	23 01 40.3	+1.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,28nm,16.0s						
OBN	Obninsk	12.71	66	*e*P	Pn	22 59 17.2	+0.8
	comp=Z,28nm,16.0s						
ARCES	ARCESS Array B	18.57	10	Pn	P	23 00 30.8	-2.1
	comp=Z,0.2nm,0.3s,baz=198,slow=11,SNR=9.8						
KIV	Kislovodsk	19.32	103	⇓*e*P	P	23 00 40.8	-0.6
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,13nm,14.0s						
KIV	Kislovodsk	19.32	103	*e*P	P	23 00 40.8	-0.6
	comp=Z,13nm,14.0s						
MMAI	Mount Meron Ar	23.25	135	LR	LR	23 11 39.1	
	comp=Z,17nm,18.2s,baz=60,slow=40						
ASF	Jabal al Asfar	24.63	134	LR	LR	23 13 11.4	
	comp=Z,102nm,21.9s,baz=175,slow=41						
ARU	Arti	25.10	62	P	P	23 01 41.8	+1.1
	comp=Z,1.6nm,0.6s,baz=275,slow=12,SNR=2.5						
EIL	Elat	25.97	140	LR	LR	23 15 27.3	
	comp=Z,14nm,21.0s,baz=0.0,slow=44						
AKTK	Aktyubinsk	26.12	76	P	P	23 01 51.1	+1.0
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	26.12	76	P	P	23 01 51.1	+1.0
	comp=Z,1.2nm,0.6s,baz=295,slow=11,SNR=4.5						
TORD	Torodi Ar. Bea	40.05	202	P	P	23 03 52.0	+0.4
	comp=Z,0.7nm,0.8s,baz=5.3,slow=7.8,SNR=4.4						
SONM	Songino Array	54.87	55	P	P	23 05 46.3	-0.4
	comp=Z,0.5nm,0.7s,baz=317,slow=5.9,SNR=2.1						

CSEM ***22*** *22:57:33.1, 51.°45N×16.°13E, h0km*

PRU 22 22:57:31.6, 51.°50N×16.°14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	172	*e*Pg	Pg	22 57 43.9	-0.4
KSP				*e*Sg	Sg	22 57 53.1	+0.2
KSP	Ksiaz	0.67	172	*e*Pg	Pg	22 57 43.9	-0.4
KSP				*e*Sg	Sg	22 57 53.1	+0.2
UPC	Upice	1.00	185	*e*PG	Pg	22 57 50.1	-0.6
UPC				*e*SG	Sg	22 58 03.0	-0.6
	comp=Z,61nm,0.4s						
UPC	Upice	1.00	185	Pg	Pg	22 57 50.1	-0.6
UPC				Sg	Sg	22 58 03.0	-0.6
	61nm,0.4s						
DPC	Dobruska-Polom	1.16	174	*e*PG	Pg	22 57 53.6	-0.1
DPC				*e*SG	Sg	22 58 08.2	-0.5
	comp=Z,34nm,0.3s						
DPC	Dobruska-Polom	1.16	174	Pg	Pg	22 57 53.6	-0.1
DPC				Sg	Sg	22 58 08.2	-0.5
	34nm,0.3s						
PVCC	Panska Ves	1.39	226	*e*PG	Pg	22 57 57.1	-1.1
PVCC				*e*SG	Sg	22 58 16.0	-0.2
	comp=Z,102nm,0.2s						
PVCC	Panska Ves	1.39	226	Pg	Pg	22 57 57.1	-1.1
PVCC				Sg	Sg	22 58 16.0	-0.2
	102nm,0.2s						
KRLC	Kraliky	1.48	164	*e*PG	Pn	22 57 58.9	-0.7
KRLC				*e*SG	Sg	22 58 18.7	-0.5
KRLC	Kraliky	1.48	164	Pg	Pn	22 57 58.9	-0.7
KRLC				Sg	Sg	22 58 18.7	-0.5
BRG	Berggiesshubel	1.52	246	SG	Sg	22 58 20.0	-0.4
	46nm,0.3s						
PRU	Pruhonice	1.82	214	*e*SG	Sg	22 58 30.1	0.0
	comp=Z,21nm,0.2s						
PRU	Pruhonice	1.82	214	Sg	Sg	22 58 30.1	0.0
	21nm,0.2s						
CLL	Collm	1.97	266	*e*Pg	Pn	22 58 07.0	+0.7
CLL				*i* Sg	Sg	22 58 34.3	-0.7
NKC	Novy Kostel	2.66	243	*e*SG	Sg	22 58 56.5	-0.5
NKC	Novy Kostel	2.66	243	Sg	Sg	22 58 56.5	-0.5
KHC	Kasperske Hory	2.88	216	*e*SG	Sg	22 59 03.0	-1.2
	comp=Z,12nm,0.4s						
KHC	Kasperske Hory	2.88	216	Sg	Sg	22 59 03.0	-1.2
	12nm,0.4s						

KRNET ***22*** *23:17:35.6±0.1, 43.°13N×76.°87E, h21km, mb3.5*
IASPEI ***22*** *23:17:36.2±0.8, 43.°15N±0.°03×76.°88E±0.°02, h16km±5km, Error ellipse: s-maj=4.0km s-min=2.8km az=161.8, GT5 selection from ISC bulletin GT5 identified by Bond˘jr and McLaughlin (2009) selection criteria Bond˘jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***22*** *23:17:36.9±0.3, 43.°17N±0.°02×76.°89E±0.°02, h11km±2km, Error ellipse: s-maj=3.6km s-min=2.1km az=160.7*
SOME ***22*** *23:17:36.6, 43.°17N×76.°85E, h15km*
NNC ***22*** *23:17:36.5±0.3, 43.°14N×76.°84E, h2km±2km, mb3.7, mpv3.4, Error ellipse: s-maj=8.4km s-min=2.0km az=167.0*

ISC 22 23:17:36.5±0.8, 43.°14N±0.°02×76.°88E±0.°02, h15km±4km, n42, σ0.°80/78, 34C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	Alma-Ata	0.07	23	*e*P	Pg	23 17 39.4	-0.2
	2μm,0.1s						
AAA				*e*S	Sg	23 17 41.4	-0.3
	11μm,0.1s						
KNDC	Almaty	0.10	41	⇑P	Pg	23 17 39.6	-0.3
KNDC				⇑S	Sg	23 17 42.0	-0.1
TNSS	Tian-Shan	0.12	153	*e*P	Pg	23 17 40.4	0.0
	261nm,0.1s						
TNSS				*e*S	Sg	23 17 43.0	+0.1
	2μm,0.2s						
MDOK	Medeo	0.13	80	⇑P	Pg	23 17 39.9	-0.4
MDOK				⇓S	Sg	23 17 42.4	-0.4
MDOK	Medeo	0.13	80	*e*P	Pg	23 17 39.9	-0.4
	5μm,0.1s						
MDOK				*e*S	Sg	23 17 42.4	-0.4
	3μm,0.1s						
KOTS	Kotyrbulak	0.20	62	*e*P	Pg	23 17 41.2	0.0
KOTS				*e*S	Sg	23 17 44.5	+0.1
IZV	Izvestkoviy	0.22	241	*e*P	Pb	23 17 41.9	-0.4
	398nm,0.1s						
IZV				*e*S	Sb	23 17 45.7	-0.5
	1μm,0.1s						
MTBS	Maitube	0.33	268	*e*P	Pg	23 17 43.2	-0.1
	108nm,0.1s						
MTBS				*e*S	Sg	23 17 48.0	0.0
	583nm,0.1s						
KTBS	Karatobe	0.59	346	*e*P	Pg	23 17 47.7	-0.4
KTBS				*e*S	Sg	23 17 55.6	-0.3
KST	Kastek	0.68	262	⇓*i*P	Pg	23 17 49.4	-0.4
	23nm,0.2s						
KST				⇑*i*S	Sb	23 17 58.8	-0.5
	421nm,0.8s						
ANVS	Anan'yevo	0.68	121	⇓*i*P	Pg	23 17 49.5	-0.4
	baz=121						
ANVS				⇓*i*S	Sg	23 17 58.1	-0.8
	baz=121						
CHKK	Chushkaly	0.72	7	*e*P	Pg	23 17 50.0	-0.5
	53nm,0.2s						
CHKK				*e*S	Sg	23 17 59.5	-0.5
	393nm,0.1s						
DGS	Degeres	0.81	278	*e*P	Pg	23 17 51.7	-0.6
	190nm,0.3s						
DGS				*e*S	Sb	23 18 02.8	-0.5
	576nm,0.2s						
KUU	Kurty	0.85	333	*e*P	Pb	23 17 51.7	-1.2
	24nm,0.2s						
KUU				*e*S	Sg	23 18 02.4	-1.7
	144nm,0.3s						
BOOM	Boomskoye usch	0.95	227	⇑*i*P	Pb	23 17 54.3	-0.4
	baz=227						
BOOM				⇑*i*S	Sg	23 18 06.8	-0.5
	baz=227						
TKM2	Tokmak 2	0.96	257	⇑*i*P	Pb	23 17 54.3	-0.7
	baz=258						
TKM2				⇑*i*S	Sg	23 18 07.5	-0.3
	baz=258						
TKM2	Tokmak 2	0.96	257	⇑P	Pb	23 17 54.5	-0.6
	26nm,0.2s						
TKM2				⇑S	Sg	23 18 07.7	-0.1
	94nm,0.2s						
KURS	Kuram	1.01	69	*e*P	Pb	23 17 54.9	-0.8
KURS				*e*S	Sb	23 18 08.4	-0.3
ULHL	Ulahol	1.01	208	⇓*i*P	Pb	23 17 55.4	-0.4
	baz=208						
ULHL				⇓*i*S	Sb	23 18 08.8	-0.2
	baz=208						
SATY	Saty	1.12	94	*e*P	Pb	23 17 57.3	-0.4
	54nm,0.1s						
SATY				*e*S	Sb	23 18 12.1	-0.1
	905nm,0.2s						
ZHN	Zhinishke	1.14	88	*e*P	Pn	23 17 57.1	-1.0
	24nm,0.1s						
ZHN				*e*S	Sb	23 18 12.0	-0.7
	899nm,0.2s						
ARXS	Arharly	1.27	32	*e*P	Pn	23 17 59.7	-0.2
	187nm,0.2s						
ARXS				*e*S	Sb	23 18 16.3	-0.2
	129nm,0.1s						
MNBS	Baschi	1.45	49	*e*P	Pn	23 18 02.7	+0.4
	151nm,0.2s						
MNBS				*e*S	Sn	23 18 21.6	+0.5
	371nm,0.3s						
KBK	Karagaybulak	1.50	252	⇑*i*P	Pb	23 18 03.6	-0.5
	baz=252						
KBK				⇑*i*S	Sg	23 18 23.9	-0.9
	baz=252						
CHMS	Chumysh	1.56	265	⇑*i*P	Pb	23 18 04.4	-0.7
	baz=266						
CHMS				⇑*i*S	Sb	23 18 25.0	+0.3
	baz=266						
UZB	Uzynbulak	1.57	89	*e*P	Pn	23 18 04.9	+0.9
	24nm,0.1s						
UZB				*e*S	Sb	23 18 25.2	+0.1
	264nm,0.1s						
FRU1	Bishkek	1.68	259	⇑*i*P	Pg	23 18 07.8	-1.0
	baz=260						
FRU1				⇑*i*S	Sg	23 18 29.7	-0.9
	baz=260						
USP	Ospenovka	1.74	275	⇓*i*P	Pb	23 18 07.2	-1.0
	baz=275						
USP				⇓*i*S	Sb	23 18 30.4	+0.5
	baz=275						
AAK	Ala-Archa	1.82	255	⇑*i*P	Pb	23 18 09.2	-0.4
	baz=255						
AAK				⇑*i*S	Sb	23 18 33.0	+0.7
	baz=255						
AAK	Ala-Archa	1.82	255	⇑P	Pb	23 18 09.4	-0.2
	16nm,0.3s						
AAK				⇓S	Sg	23 18 33.7	-1.4
	64nm,0.5s						
PDGK	Podgornoye	1.92	83	⇓*i*P	Pb	23 18 10.4	-0.9
	baz=83						
PDGK				⇓*i*S	Sb	23 18 35.6	+0.5
	baz=83						
PDGK	Podgornoye	1.92	83	⇑Pn	Pb	23 18 10.4	-0.9
	26nm,0.5s						
PDGK				⇑Lg	Lg	23 18 36.7	
	126nm,0.5s						
UCH	Uchtor	1.97	243	⇑*i*P	Pb	23 18 10.8	-1.5
	baz=243						
UCH				⇑*i*S	Sb	23 18 37.2	+0.5
	baz=243						
ARLS	Aral	2.28	237	⇑*i*P	Pb	23 18 16.7	-0.7
	baz=237						
ARLS				⇑*i*S	Sb	23 18 45.0	-0.5
	baz=237						
EKS2	Erkin-Say	2.33	259	⇑*i*P	Pb	23 18 16.7	-1.5
	baz=260						
EKS2				⇑*i*S	Sb	23 18 46.6	-0.2
	baz=260						
DJR	Jarkent	2.42	60	*e*P	Pb	23 18 19.4	-0.4
	18nm,0.1s						
DJR				*e*S	Sb	23 18 50.6	+1.1
	141nm,0.2s						
AML	Almayashu	2.56	248	⇑*i*P	Pb	23 18 20.2	-2.1
	baz=248						
AML				⇑*i*S	Sb	23 18 53.3	-0.3
	baz=248						
MNAS	Manas	3.28	260	Pn	Pn	23 18 29.6	+2.1
MNAS				⇓Pg	Pb	23 18 35.4	+0.9
	3.8nm,0.6s						
MNAS				⇓Lg	Lg	23 19 19.3	
	22nm,0.6s						
KK31	Karatay Array	4.66	272	⇑Pg	Pb	23 18 59.9	+2.0
	1.0nm,0.3s,baz=86,slow=15,SNR=9.5						
KK31				⇑Lg	Lg	23 20 03.2	
	4.2nm,0.3s,baz=90,slow=28,SNR=15						
MK31	Makanchi Array	5.30	45	⇑Pn	Pn	23 18 56.5	+1.4
	0.7nm,0.2s,baz=222,slow=15,SNR=52						
MK31				⇑Sn	Sn	23 19 57.6	+1.7
	1.2nm,0.4s,baz=221,slow=25,SNR=4.3						
MK31			

n34,σ0°49/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=291	**0.34**	**290**	*i* P	**Pg**	**23 59 25.8**	**-0.7**
TWC	baz=291			*i* S	**Sg**	**23 59 31.1**	**-0.2**
ENA	**Nanau** baz=258	**0.42**	**261**	*i* P	**Pg**	**23 59 27.7**	**-0.3**
ENA	baz=258			S	**Sb**	**23 59 34.3**	**-0.3**
EGS	baz=330	**0.43**	**325**	P	**Pg**	**23 59 28.0**	**-0.1**
EGS	baz=330			S	**Sb**	**23 59 34.6**	**0.0**
TWE	**Neicheng** baz=296	**0.54**	**295**	*i* P	**Pg**	**23 59 29.8**	**-0.3**
TWE	baz=296			S	**Sb**	**23 59 37.6**	**-0.1**
TWB1	**Santiao Chiao** baz=343	**0.55**	**339**	P	**Pb**	**23 59 30.5**	**-0.1**
TWB1	baz=343			*e*S	**Sb**	**23 59 39.0**	**+0.9**
ENTT	**Nioudou** baz=284	**0.60**	**284**	*e*P	**Pb**	**23 59 30.8**	**-0.5**
ENTT	baz=284			*e*S	**Sg**	**23 59 40.0**	**+0.9**
JYNG	**Yonagunijimaku**	**0.68**	**94**	P	**Pb**	**23 59 32.7**	**-0.1**
JYNG				*e*S	**Sg**	**23 59 42.3**	**+0.6**
NWF	**Wu-fen Shan** baz=328	**0.69**	**326**	P	**Pn**	**23 59 33.9**	**-0.6**
NWF	baz=328			*i* S	**Sg**	**23 59 42.9**	**+0.8**
TWD	**Chiawan** baz=230	**0.69**	**233**	*e*P	**Pg**	**23 59 33.0**	**+0.1**
TWD	baz=230			S	**Sg**	**23 59 42.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.74**	**92**	P	**Pb**	**23 59 33.7**	**-0.1**
YOJ				S	**Sg**	**23 59 44.1**	**+0.5**
TWA	**Mucha** baz=312	**0.74**	**311**	*e*P	**Pb**	**23 59 33.8**	**-0.1**
TWA	baz=312			S	**Sg**	**23 59 44.2**	**+0.4**
NNS	**Nan Shan** baz=264	**0.76**	**266**	P	**Pb**	**23 59 33.8**	**-0.4**
NNS	baz=264			*e*S	**Sb**	**23 59 43.6**	**-0.7**
NSK	**Sanguang** baz=283	**0.79**	**283**	*i* P	**Pb**	**23 59 34.6**	**-0.1**
NSK	baz=283			S	**Sg**	**23 59 45.4**	**+0.1**
WHF	**Hehuan Shan** baz=246	**0.92**	**248**	P	**Pb**	**23 59 37.0**	**-0.2**
WHF	baz=246			S	**Sg**	**23 59 49.3**	**-0.3**
TWS1	**Kuangyinshan** baz=311	**0.93**	**310**	*e*P	**Pg**	**23 59 37.8**	**+0.3**
TWS1	baz=311			*e*S	**Sn**	**23 59 51.1**	**+0.4**
TWY	**Chenhua** baz=326	**0.95**	**325**	*e*P	**Pg**	**23 59 38.0**	**+0.2**
TWY	baz=326			S	**Sn**	**23 59 51.0**	**-0.2**
TWT	**Tachien** baz=254	**0.97**	**256**	*e*P	**Pg**	**23 59 38.3**	**+0.2**
TWT	baz=254			*e*S	**Sn**	**23 59 51.6**	**-0.2**
ESL	**Shilin** baz=223	**0.98**	**226**	*e*P	**Pg**	**23 59 39.0**	**+0.7**
ESL	baz=223			*e*S	**Sn**	**23 59 52.0**	**+0.3**
NSTT	**Nanjuang** baz=276	**1.10**	**277**	*e*P	**Pg**	**23 59 40.7**	**0.0**
NSTT	baz=276			*e*S	**Sg**	**23 59 55.8**	**+0.7**
PCYT	**Pengchaiyu** baz=356	**1.14**	**354**	*e*P	**Pg**	**23 59 41.6**	**+0.2**
PCYT	baz=356			*e*S	**Sg**	**23 59 57.2**	**+0.9**
WDT	**Danda** baz=231	**1.22**	**233**	*e*P	**Pg**	**23 59 43.4**	**+0.4**
WDT	baz=231			*e*S	**Sg**	**00 00 00.2**	**+1.2**
EHY	**Hungye** baz=217	**1.27**	**219**	*e*P	**Pg**	**23 59 44.0**	**+0.1**
EHY	baz=217			*e*S	**Sg**	**00 00 01.4**	**+0.9**
TWQ1	**Liyutan** baz=262	**1.31**	**264**	*e*P	**Pg**	**23 59 44.2**	**-0.5**
TWQ1	baz=262			*e*S	**Sg**	**00 00 02.0**	**+0.2**
SMLT	**Sun Moon Lake** baz=241	**1.33**	**243**	*e*P	**Pg**	**23 59 45.2**	**0.0**
SMLT	baz=241			*e*S	**Sg**	**00 00 02.9**	**+0.3**
TYC	**Yuchr** baz=243	**1.36**	**245**	*e*P	**Pb**	**23 59 44.6**	**+0.1**
TYC	baz=243			*e*S	**Sb**	**00 00 02.0**	**+0.4**
IRIF	**Iriomote-Funau**	**1.40**	**96**	P	**Pn**	**23 59 43.0**	**-1.2**
TWF1	**Yuli** baz=214	**1.41**	**216**	*e*P	**Pb**	**23 59 45.0**	**-0.3**
TWF1	baz=214			*e*S	**Sg**	**00 00 03.9**	**-0.9**
YUS	**Yu-Shan** baz=227	**1.52**	**229**	*e*P	**Pb**	**23 59 47.3**	**-0.1**
YUS	baz=227			*e*S	**Sb**	**00 00 07.0**	**+0.4**
HATJ	**Hateruma jima**	**1.53**	**106**	*e*S	**Sn**	**00 00 05.1**	**-0.3**
CHN5	**Tsauling** baz=236	**1.66**	**238**	*e*P	**Pb**	**23 59 49.2**	**-0.3**
CHN5	baz=236			*e*S	**Sb**	**00 00 10.1**	**0.0**
JKRS	**Kuro-shima**	**1.67**	**98**	P	**Pn**	**23 59 48.2**	**+0.4**
JKRS				*e*S	**Sn**	**00 00 08.5**	**-0.4**
JIJ	**Ishigaki jima**	**1.77**	**94**	P	**Pn**	**23 59 48.8**	**-0.5**
CHN4	**Tsaushan** baz=231	**1.86**	**233**	*e*P	**Pn**	**23 59 50.9**	**+0.4**
CHN4	baz=231			*e*S	**Sb**	**00 00 16.3**	**+0.3**
JISG	**Ishigakijimahi**	**1.92**	**87**	P	**Pn**	**23 59 50.7**	**-0.6**

JMA 23 00:02:31.7±0.1, 29°.42N×131°.27E, h54km±5km, M2.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.05**	**321**	P	Pn	00 02 50.3	+0.1
JYAK				S	Sn	00 03 04.5	+0.6
JTN	**Tanegashima 3**	**1.26**	**349**	P	Pn	00 02 53.3	+0.3
JTN				S	Sn	00 03 08.8	-0.1
JNN	**Nakanoshima**	**1.28**	**289**	P	Pn	00 02 53.9	+0.5
JNN				S	Sn	00 03 10.2	+0.6
JKC	**Kuchinoerabu**	**1.40**	**318**	P	Pn	00 02 55.5	+0.7
JTSR	**Tashiro 2**	**1.77**	**350**	P	Pn	00 03 00.7	+0.8
JTSR				S	Sn	00 03 22.4	+1.1
JAM	**Amami Oshima**	**1.77**	**236**	P	Pn	00 03 00.5	+0.5
JAM				S	Sn	00 03 21.5	+0.1
JTAJ	**Takarajima**	**1.82**	**262**	P	Pn	00 03 01.8	+1.1
JNAR	**Kushima--Naru**	**2.10**	**0**	P	Pn	00 03 05.8	+1.4
JAMN	**Amaminishikomi**	**2.18**	**238**	P	Pn	00 03 06.5	+1.0
JAMN				*e*S	Sn	00 03 32.3	+0.9
JTK	**Tokunoshima**	**2.61**	**232**	P	Pn	00 03 12.3	+0.9
JTK				S	Sn	00 03 43.0	+1.1
JSJ	**Shimokoshiki**	**2.62**	**330**	P	Pn	00 03 11.5	-0.1
JOKE	**Okinoerabujima**	**3.14**	**230**	P	Pn	00 03 19.2	+0.5

JMA 23 00:04:02.5, 37°.24N×140°.92E, h6km±1km, M2.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.13**	**344**	P	Pg	00 04 05.3	0.0
JFK				S	Sg	00 04 07.4	+0.3
ONAJ	**Iwakimizuishiy**	**0.17**	**215**	P	Pg	00 04 06.0	+0.1
JFT	**Otama**	**0.54**	**301**	P	Pg	00 04 13.2	+0.3
JFT				S	Sg	00 04 20.7	+0.7
JMM	**Marumori**	**0.63**	**351**	P	Pg	00 04 14.4	-0.3
JMM				S	Sg	00 04 23.0	+0.1
JHO	**Hitachi**	**0.69**	**204**	P	Pg	00 04 15.4	-0.3
JHO				S	Sg	00 04 25.6	+0.9
JSB	**Shiboa**	**0.84**	**252**	P	Pb	00 04 19.2	-0.4
MAT	**Matsushiro**	**2.28**	**253**	P	Pb	00 04 42.5	-1.6
MAT				S	Sb	00 05 12.3	-0.3

MEX 23 00:18:30.5±0.5, 17°.25N×100°.18W, h48km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**203**	*e*P	Pn	00 18 37.1	-1.7
CAIG				*e*S	Sn	00 18 42.9	-1.8
ACX	**Acapulco**	**0.49**	**141**	*e*P	Pn	00 18 38.1	-3.4
ACX				*e*S	Sn	00 18 47.4	-2.0
MEIG	**Mezcala**	**0.85**	**38**	*e*P	Pn	00 18 44.4	-1.9
MEIG				*e*S	Sn	00 18 55.6	-2.2
ARIG	**Puente Sto Nin**	**1.03**	**351**	*e*P	Pn	00 18 46.9	-1.8
ARIG				*e*S	Sn	00 18 60.0	-2.1
ZIIG	**Zihuatanejo**	**1.28**	**286**	*e*P	Pn	00 18 50.6	-1.4
ZIIG				*e*S	Sn	00 19 06.0	-2.0
PLIG	**Platanillo**	**1.30**	**29**	*e*P	Pn	00 18 51.1	-1.3
PLIG				*e*S	Sn	00 19 07.8	-0.9

ISCJB ***23*** *00:26:03.0±0.5, 4°.02S±0°.04×129°.35E±0°.05, h36km, mb3.9/6, MS3.0/2, Error ellipse: s-maj=7.3km s-min=4.9km az=150.2*
DJA ***23*** *00:26:02.8±0.5, 4°S±4°×12°9E±°, h12km±4km, M4.7/6, mB5.6/2, mb5.7/2, MLv4.3/6, Mw(mB)5.1/2*
IDC ***23*** *00:26:09.6±4.4, 4°.13S×129°.20E, h75km±42km, mb3.6/6, mb1 3.8/8, mb1mx3.5/45, mbtmp3.9/8, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=42.0km s-min=11.1km az=69.0*

ISC 23 00:26:05.0±0.7, 4°.03S±0°.05×129°.32E±0°.05, h36km, n17, σ1§65/21, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.76**	**130**	P	**Pn**	**00 26 17.9**	**-1.3**
MSAI	**Masohi**	**0.79**	**330**	P	**Pn**	**00 26 16.8**	**-2.8**
MSAI				S	**Sn**	**00 26 26.8**	**-3.4**
AAI	**Ambon**	**1.18**	**287**	P	**Pn**	**00 26 23.6**	**-1.4**
NLAI	**Namlea**	**2.35**	**289**	P	Pn	00 26 45.6	+4.4
LBMI	**Labuha**	**3.83**	**332**	P	**Pn**	**00 27 02.2**	**+0.7**
SANI	**Sanana**	**3.87**	**300**	P	**Pn**	**00 27 03.3**	**+1.3**
SANI				S	**Sn**	**00 27 45.9**	**-0.3**
RKPI	**Ransiki, Papua**	**5.46**	**63**	P	**Pn**	**00 27 24.4**	**+0.6**
RKPI				S	**Sn**	**00 28 24.2**	**-1.2**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=22,slow=9.1,SNR=3.4	**14.44**	**194**	P	**Pn**	**00 29 27.1**	**+0.1**
FITZ	baz=114,slow=20,SNR=1.8			S	**Sn**	**00 32 05.7**	**-0.2**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=345,slow=13,SNR=14	**16.55**	**163**	P	**Pn**	**00 29 51.5**	**-3.1**
WRA	0.2nm,0.3s,baz=352,slow=22,SNR=4.3			S	**Sn**	**00 32 56.1**	**-1.3**
ASAR	**Alice Springs** 1.0nm,0.3s,baz=348,slow=11,SNR=67	**20.02**	**168**	P	**P**	**00 30 35.7**	**+0.8**
ASAR	0.0nm,0.3s,baz=352,slow=26,SNR=2.7			S	**S**	**00 34 16.8**	**-1.3**
CTA	**Charters Tower** 6.9nm,0.9s,baz=318,slow=11,SNR=4.6	**22.95**	**135**	P	**P**	**00 31 08.9**	**+2.5**
CTA	comp=Z,258nm,20.9s,baz=83,slow=40			LR	LR	00 41 19.5	
STKA	**Stephens Creek** 1.0nm,0.6s,baz=338,slow=11,SNR=2.6	**30.00**	**159**	P	**P**	**00 32 10.7**	**+0.3**
CMAR	**Chiang Mai Arr** 1.6nm,0.5s,baz=133,slow=7.3,SNR=6.1	**37.36**	**308**	P	**P**	**00 33 16.0**	**+1.5**
KSRS	**Korea Array** comp=Z,4.0nm,19.9s,baz=65,slow=37	**41.29**	**358**	LR	LR	00 51 44.2	
SONM	**Songino Array** 0.3nm,0.8s,baz=176,slow=7.8,SNR=2.4	**55.43**	**341**	P	**P**	**00 35 36.5**	**+0.4**
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=111,slow=8.3,SNR=10	**65.39**	**326**	P	**P**	**00 36 44.1**	**+0.1**
KURBB	**Kurchatov Arra** 1.2nm,0.8s,baz=123,slow=6.2,SNR=10	**69.64**	**328**	P	**P**	**00 37 10.9**	**+0.1**

OMAN ***23*** *00:31:17.9, 28°.03N×54°.26E, h22km*
DSN ***23*** *00:31:18.5±1.0, 28°.32N×54°.45E, h12km, ML4.0/9, Error ellipse: s-maj=21.6km s-min=7.0km az=43.0*
NEIC ***23*** *00:31:18.0±0.0, 28°.06N×54°.29E, h22km, mb4.3/19, MN3.9(TEH), After TEH.*
TEH ***23*** *00:31:18.2, 28°.06N×54°.29E, h22km, ML3.9*
THR ***23*** *00:31:19.5±0.8, 28°.10N×54°.51E, h14km±14km, ML3.9*
MOS ***23*** *00:31:19.1±1.3, 27°.91N×54°.30E, h33km, mb4.4/26, Error ellipse: s-maj=9.8km s-min=5.5km az=113.4*
CSEM ***23*** *00:31:20.5±0.1, 28°.08N×54°.20E, h20km, mb4.3/17, Error ellipse: s-maj=6.4km s-min=4.5km az=48.0*
IDC ***23*** *00:31:21.1±0.8, 28°.07N×54°.30E, h31km±5km, mb3.9/28, mb1 3.9/34, mb1mx3.9/54, mbtmp4.0/34, ML3.6/5, MS2.9/5, Ms1 2.9/5, ms1mx2.5/49, Error ellipse: s-maj=13.3km s-min=11.1km az=9.0*

ISC 23 00:31:19.7±0.5, 28°.04N±0°.03×54°.39E±0°.03, h19km±1km, h19km:pP-P, n238, σ1§93/257, mb4.1/51, MS2.9/6, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.85**	**303**	*e*Pg	**Pb**	**00 31 34.9**	**-1.1**
JHRM	**Jahrom**	**0.85**	**303**	*e*Pg	**Pb**	**00 31 34.9**	**-1.1**
GHIR	**Ghir-Karzin**	**1.26**	**282**	*e*Pg	**Pg**	**00 31 44.6**	**+0.4**
GHIR	comp=E,2μm,0.8s			AML	AML	00 32 08.5	
GHIR	**Ghir-Karzin**	**1.26**	**282**	*e*Pg	**Pg**	**00 31 44.6**	**+0.4**
ISRV	**Sarvestan**	**1.75**	**320**	*e*Pn	**Pn**	**00 31 50.3**	**+1.0**
ISRV	comp=Z,15μm,0.4s			*e*AMB	AMB	00 32 28.4	
ISRV	**Sarvestan**	**1.75**	**320**	*e*Pn	**Pn**	**00 31 50.3**	**+1.0**
NGRK	**Negar Kerman**	**2.60**	**51**	*e*Pn	**Pn**	**00 32 02.0**	**+0.8**
NGRK	**Negar Kerman**	**2.60**	**51**	*e*Pn	**Pn**	**00 32 02.0**	**+0.8**
KHSK	**Kohestak**	**2.69**	**118**	*e*Pn	**Pn**	**00 32 03.8**	**+1.8**
KHSK	**Kohestak**	**2.69**	**118**	*e*Pn	**Pn**	**00 32 03.8**	**+1.8**
BANOM	**Banah**	**2.71**	**141**	P	**Pb**	**00 32 05.0**	**-2.6**
BANOM				S	**Sb**	**00 32 40.5**	**0.0**
BANOM	**Banah** SNR=5.0	**2.71**	**141**	P	**Pb**	**00 32 05.1**	**-2.5**
BANOM				S	**Sb**	**00 32 40.5**	**0.0**
BANOM	**Banah** SNR=5.0	**2.71**	**141**	pPn	**Pb**	**00 32 05.1**	**-2.5**
BANOM	**Banah** SNR=5.0	**2.71**	**141**	pPn	**Pb**	**00 32 05.1**	**-2.5**
BANOM	**Banah** SNR=5.0	**2.71**	**141**	P	**Pb**	**00 32 05.1**	**-2.5**
KRBR	**Kerman**	**2.84**	**46**	*e*Pn	**Pn**	**00 32 05.4**	**+1.1**
KRBR				*e*Sg	**Sb**	**00 32 44.6**	**+0.1**
KRBR	comp=E,349nm,0.2s			AML	AML	00 32 45.2	
KRBR	comp=N,379nm,0.6s			AML	AML	00 32 46.1	
KRBR	**Kerman**	**2.84**	**46**	*e*Pn	**Pn**	**00 32 05.4**	**+1.1**
TVBK	**TV Kerman**	**2.84**	**46**	*e*Pn	**Pn**	**00 32 06.8**	**+2.4**
TVBK	**TV Kerman**	**2.84**	**46**	*e*Pn	**Pn**	**00 32 06.8**	**+2.4**
KHGB	**Koh Gabri**	**2.96**	**38**	*e*Pn	**Pn**	**00 32 07.4**	**+1.5**
KHGB	**Koh Gabri**	**2.96**	**38**	*e*Pn	**Pn**	**00 32 07.4**	**+1.5**
MSFE	**Esma-Masafi** SNR=11	**3.10**	**149**	P	**Pb**	**00 32 11.0**	**-3.3**
NAZ	**Nazwa, Dubai** SNR=9.1	**3.24**	**159**	*i* P	**Pb**	**00 32 13.5**	**-3.2**
NAZ	**Nazwa, Dubai** SNR=9.1	**3.24**	**159**	P	**Pb**	**00 32 13.5**	**-3.2**
NAZ	**Nazwa, Dubai** SNR=9.1	**3.24**	**159**	pPn	**Pb**	**00 32 13.5**	**-3.2**
NAZ	**Nazwa, Dubai** SNR=9.1	**3.24**	**159**	pPn	**Pb**	**00 32 13.5**	**-3.2**
NAZ	**Nazwa, Dubai** SNR=9.1	**3.24**	**159**	P	**Pb**	**00 32 13.5**	**-3.2**
CHMN	**Cheshme madani**	**3.30**	**56**	*e*Pn	**Pn**	**00 32 13.7**	**+2.9**
CHMN	**Cheshme madani**	**3.30**	**56**	*e*Pn	**Pn**	**00 32 13.7**	**+2.9**
IMEH	**Mehriz**	**3.35**	**3**	*e*Pn	**Pn**	**00 32 12.3**	**+1.0**
IMEH	comp=Z,2μm,0.2s			*e*AMB	AMB	00 32 57.5	
IMEH	**Mehriz**	**3.35**	**3**	*e*Pn	**Pn**	**00 32 12.3**	**+1.0**
FAQ	**Al Faqa, Dubai** SNR=30	**3.45**	**162**	*i* P	**Pn**	**00 32 15.7**	**+3.2**
FAQ	**Al Faqa, Dubai** SNR=30	**3.45**	**162**	P	**Pn**	**00 32 15.7**	**+3.2**
FAQ	**Al Faqa, Dubai** SNR=30	**3.45**	**162**	pPn	**Pn**	**00 32 16.0**	**+3.5**
FAQ	**Al Faqa, Dubai** SNR=30	**3.45**	**162**	pPn	**Pn**	**00 32 16.0**	**+3.5**
FAQ	**Al Faqa, Dubai** SNR=30	**3.45**	**162**	P	**Pn**	**00 32 16.0**	**+3.5**
UOSS	**Minazif** SNR=28	**3.48**	**152**	P	**Pn**	**00 32 15.8**	**+2.9**
UOSS	**Minazif**	**3.48**	**152**	*e*Pn	**Pn**	**00 32 15.6**	**+2.7**
UOSS	**Minazif** SNR=28	**3.48**	**152**	pPn	**Pn**	**00 32 15.8**	**+2.9**
UOSS	**Minazif** SNR=28	**3.48**	**152**	pPn	**Pn**	**00 32 15.8**	**+2.9**
UOSS	**Minazif** SNR=28	**3.48**	**152**	P	**Pn**	**00 32 15.8**	**+2.9**
HATD	**Hatta, Dubai** SNR=8.2	**3.56**	**154**	*i* P	**Pn**	**00 32 17.3**	**+3.3**
HATD	**Hatta, Dubai** SNR=8.2	**3.56**	**154**	P	**Pn**	**00 32 17.3**	**+3.3**
HATD	**Hatta, Dubai** SNR=8.4	**3.56**	**154**	pPn	**Pn**	**00 32 17.8**	**+3.8**
HATD	**Hatta, Dubai** SNR=8.4	**3.56**	**154**	pPn	**Pn**	**00 32 17.8**	**+3.8**
HATD	**Hatta, Dubai** SNR=8.4	**3.56**	**154**	P	**Pn**	**00 32 17.8**	**+3.8**
ASHO	**Ashiyiah** SNR=31	**3.66**	**155**	*i* P	**Pn**	**00 32 18.0**	**+2.7**
ASHO	**Ashiyiah** SNR=39	**3.66**	**155**	P	**Pn**	**00 32 18.3**	**+2.9**
ASHO	**Ashiyiah** SNR=31	**3.66**	**155**	pPn	**Pn**	**00 32 18.3**	**+2.9**
ASHO	SNR=39			pPn	**Pn**	**00 32 18.3**	**+2.9**
ASHO	**Ashiyiah** SNR=31	**3.66**	**155**	pPn	**Pn**	**00 32 18.3**	**+2.9**
ASHO	SNR=39			pPn	**Pn**	**00 32 18.3**	**+2.9**
ASHO	**Ashiyiah** SNR=31	**3.66**	**155**	P	**Pn**	**00 32 18.3**	**+2.9**
ASHO	SNR=39			P	Pb	00 32 18.3	-5.5
IBAF	**Bafgh** comp=Z,2μm,0.2s	**3.69**	**16**	*e*AMB	AMB	00 32 26.1	
ISAD	**Sadrabad** comp=Z,2μm,0.4s	**3.91**	**351**	*e*Pn	**Pn**	**00 32 20.5**	**+1.4**
ISAD				*e*AMB	AMB	00 32 36.1	
ISAD	**Sadrabad**	**3.91**	**351**	*e*Pn	**Pn**	**00 32 20.5**	**+1.4**
IRAM	**Ramesheh** comp=Z,929nm,0.3s	**4.14**	**336**	*e*Pn	**Pn**	**00 32 22.6**	**+0.4**
IRAM				*e*AMB	AMB	00 32 48.4	
IRAM	**Ramesheh**	**4.14**	**336**	*e*Pn	**Pn**	**00 32 22.6**	**+0.4**
ICHK	**Chekchek** comp=Z,2μm,0.3s	**4.19**	**0**	*e*Pn	**Pn**	**00 32 23.5**	**+0.6**
ICHK				*e*AMB	AMB	00 32 37.5	
ICHK	**Chekchek**	**4.19**	**0**	*e*Pn	**Pn**	**00 32 23.5**	**+0.6**
SLWS		**4.66**	**227**	S	**Sn**	**00 33 27.0**	**+4.4**
SLWS				P	**Pn**	**00 32 31.6**	**+2.5**
IGAR	**Gharneh** comp=Z,697nm,0.2s	**4.80**	**336**	*e*Pn	**Pn**	**00 32 32.0**	**+0.7**
IGAR				*e*AMB	AMB	00 32 36.9	
BOQSS		**4.97**	**245**	S	**Sn**	**00 33 30.5**	**+0.2**
BOQSS				P	**Pn**	**00 32 36.0**	**+2.6**
BTHS		**5.09**	**220**	S	**Sn**	**00 33 36.2**	**+2.8**
BTHS				P	**Pn**	**00 32 37.1**	**+2.0**
IZEF	**Zefreh** comp=Z,483nm,0.3s	**5.16**	**340**	*e*Pn	**Pn**	**00 32 35.6**	**-0.6**
IZEF				*e*AMB	AMB	00 33 04.2	
IZEF	**Zefreh**	**5.16**	**340**	*e*Pn	**Pn**	**00 32 35.6**	**-0.6**
IPIR	**Pirpir** comp=Z,738nm,0.2s	**5.53**	**328**	*e*Pn	**Pn**	**00 32 41.4**	**+0.1**
IPIR				*e*AMB	AMB	00 33 51.3	
IPIR	**Pirpir**	**5.53**	**328**	*e*Pn	**Pn**	**00 32 41.4**	**+0.1**
KFJS		**5.70**	**273**	P	**Pn**	**00 32 45.1**	**+1.7**
IKLH	**Kolahrood** comp=Z,368nm,0.1s	**5.79**	**336**	*e*Pn	**Pn**	**00 32 44.6**	**-0.3**
IKLH				*e*AMB	AMB	00 32 52.5	
IKLH	**Kolahrood**	**5.79**	**336**	*e*Pn	**Pn**	**00 32 44.6**	**-0.3**
CHBR	**Chabahar** comp=E,40nm,0.4s	**5.96**	**113**	*e*Pn	**Pn**	**00 32 48.4**	**+1.3**
CHBR				AML	AML	00 32 53.4	
CHBR	comp=N,67nm,0.6s			AML	AML	00 32 55.7	
CHBR	**Chabahar**	**5.96**	**113**	*e*Pn	**Pn**	**00 32 48.3**	**+1.3**
WSAR	**Wadi Sarin** comp=N,3.1nm,0.3s,baz=312,slow=5.1,SNR=93	**6.12**	**140**	Pn	**Pn**	**00 32 51.4**	**+2.1**
WSAR	comp=N,2.1nm,0.3s,baz=288,slow=20,SNR=2.9			Sn	**Sn**	**00 33 59.5**	**+0.8**
IDAH	**Dahanechah** comp=Z,232nm,0.2s	**6.66**	**44**	*e*AMB	AMB	00 33 33.4	
IVRN	**Varamin** comp=E,402nm,0.2s	**7.30**	**343**	*e*AMB	AMB	00 33 09.3	
IVRN				*e*Pn	**Pn**	**00 33 05.7**	**+0.3**
IANJ	**Anjilo** comp=Z,381nm,0.2s	**7.42**	**357**	*e*AMB	AMB	00 33 11.0	
IANJ				*e*Pn	**Pn**	**00 33 07.9**	**+0.7**
IFIR	**Firoozkooh**	**7.71**	**350**	*e*Pn	**Pn**	**00 33 11.9**	**+0.7**
IFIR	comp=Z,132nm,0.2s			*e*AMB	AMB	00 33 18.6	
IFIR	**Firoozkooh**	**7.71**	**350**	*e*Pn	**Pn**	**00 33 11.9**	**+0.7**
IDMV	**Damavand** comp=Z,133nm,0.2s	**7.78**	**346**	*e*Pn	**Pn**	**00 33 12.5**	**+0.3**
IDMV				*e*AMB	AMB	00 33 17.5	
IDMV	**Damavand**	**7.78**	**346**	*e*Pn	**Pn**	**00 33 12.5**	**+0.3**
ISHM	**Shahmirzad** comp=Z,182nm,0.2s	**7.80**	**353**	*e*Pn	**Pn**	**00 33 13.4**	**+0.9**
ISHM				*e*AMB	AMB	00 33 29.5	
IAFJ	**Afjeh** comp=Z,325nm,0.2s	**8.12**	**344**	*e*AMB	AMB	00 33 23.1	
IRAZ	**Razeghan** comp=Z,190nm,0.2s	**8.27**	**334**	*e*Pn	**Pn**	**00 33 17.4**	**-1.4**
IRAZ				*e*AMB	AMB	00 33 28.3	
IRAZ	**Razeghan**	**8.27**	**334**	*e*Pn	**Pn**	**00 33 17.4**	**-1.4**
RAYN	**Ar Rayn**	**9.18**	**243**	*e*Pn	**Pn**	**00 33 30.3**	**-1.0**
RAYN	**Ar Rayn**	**9.18**	**243**	*e*Pn	**Pn**	**00 33 30.3**	**-1.0**
GEYT	**Alibeck** comp=Z,0.1nm,0.3s,baz=206,slow=6.4,SNR=3.7	**10.35**	**17**	Pn	**Pn**	**00 33 49.2**	**+2.0**
GEYT	comp=Z,72nm,18.6s,baz=200,slow=41			LR	LR	00 38 27.2	
GNI	**Garni** comp=Z,0.2nm,0.3s,baz=137,slow=18,SNR=3.2	**14.47**	**329**	Pn	**Pn**	**00 34 46.2**	**+2.5**
GNI	**Garni** comp=Z,12nm,0.9s	**14.47**	**329**	*e*P	**Pn**	**00 34 44.5**	**+0.8**
GNI				pmax	pmax		
GNI	**Garni**	**14.47**	**329**	*e*Pn	**Pn**	**00 34 46.0**	**+2.3**
GNI	**Garni**	**14.47**	**329**	*e*Pn	**Pn**	**00 34 46.0**	**+2.3**
GNI	**Garni** SNR=5.0	**14.47**	**329**	pP	**P**	**00 34 54.5**	**+4.1**
GNI	**Garni** SNR=5.0	**14.47**	**329**	pP	**P**	**00 34 54.5**	**+4.1**
GNI	**Garni** SNR=5.0	**14.47**	**329**	P	**P**	**00 34 54.5**	**+4.1**
MARD	**Mardin**	**14.71**	**312**	*e*Pn	**Pn**	**00 34 44.9**	**-2.1**
MARD	**Mardin**	**14.71**	**312**	*e*Pn	**Pn**	**00 34 44.9**	**-2.1**
ASF	**Jabal al Asfar** comp=Z,0.3nm,0.3s,baz=54,slow=6.0,SNR=2.8	**15.69**	**289**	Pn	**Pn**	**00 34 58.2**	**-1.7**
DAMY	**Dhamar** comp=Z,13nm,0.7s	**16.30**	**217**	*e*Pn	**Pn**	**00 35 05.1**	**-3.0**
DAMY	**Dhamar** comp=Z,13nm,0.7s	**16.30**	**217**	*e*Pn	**Pn**	**00 35 05.0**	**-3.0**
KOPT	**Kop Dagi** comp=Z,6.3nm,0.8s	**16.57**	**320**	*e*Pn	**Pn**	**00 35 09.7**	**-1.6**
KOPT	**Kop Dagi** comp=Z,6.3nm,0.8s	**16.57**	**320**	*e*Pn	**Pn**	**00 35 09.7**	**-1.6**
ARTV	**Artvin** comp=Z,7.1nm,1.0s	**16.63**	**325**	*e*Pn	**P**	**00 35 14.5**	**+0.2**
ARTV	**Artvin** comp=Z,7.1nm,1.0s	**16.63**	**325**	*e*Pn	**P**	**00 35 14.5**	**+0.2**
ZEI	**Tsey** comp=Z,10.0nm,0.9s	**17.00**	**333**	*e*P	**Pn**	**00 35 17.0**	**+0.4**
ZEI				pmax	pmax		
MMAI	**Mount Meron Ar** comp=Z,0.3nm,0.3s,baz=96,slow=15

KIV Kislovodsk 18.46 332 *eP* **Pn 00 35 35.2 +0.7**
comp=Z,15nm,14.0s
KIV Kislovodsk 18.46 332 *eP* **Pn 00 35 35.5 +0.9**
comp=Z,11nm,0.8s
TOKA Tokat 19.19 314 *eP* **P 00 35 41.8 -0.6**
comp=Z,6.2nm,0.4s
TOKA Tokat 19.19 314 *eP* **P 00 35 41.8 -0.6**
comp=Z,6.2nm,0.4s
CSS Mathiatis 19.22 296 *eP* **P 00 35 42.3 -0.4**
comp=Z,4.1nm,1.3s
CSS Mathiatis 19.22 296 *eP* **P 00 35 42.3 -0.4**
comp=Z,4.1nm,1.3s
KKAR Karatay Array 19.89 37 *eP* **Pn 00 35 50.9 -0.8**
KKAR pmax pmax
comp=Z,24nm,0.6s
KKAR Karatay Array 19.89 37 *eP* **Pn 00 35 50.9 -0.8**
comp=Z,24nm,0.6s
KKAR Karatay Array 19.89 37 *eP* **Pn 00 35 50.9 -0.8**
comp=Z,24nm,0.6s
BR131 Keskin Array S 20.75 310 *eP* **P 00 35 59.8 +0.3**
BR131 Keskin Array S 20.75 310 *eP* **P 00 35 59.8 +0.3**
BRTR Keskin Array B 20.75 310 P **P 00 35 59.8 +0.3**
comp=Z,5.0nm,0.7s,baz=129,slow=13,SNR=24
KSH Kashi 21.23 52 *eP* **P 00 36 01.6 -3.0**
KSH pP pP 00 36 05.8 -4.2
KSH sP sP 00 36 09.3 -3.1
KSH PP **PnPn 00 36 24.6 +0.4**
KSH S S 00 39 47.3 -13
KSH PcP **PcP 00 40 08.5 -1.0**
KSH SS **SnSn 00 40 19.4 -2.8**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,61nm,4.9s
KSH LR LR
comp=N,86nm,7.2s
KSH LR LR
comp=E,76nm,4.4s
KSH LR LR
comp=Z,94nm,5.2s
ANTO Ankara 21.39 309 *eP* **P 00 36 06.9 +0.5**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ANTO Ankara 21.39 309 *eP* **P 00 36 06.8 +0.5**
comp=Z,6.9nm,0.8s
ANTO Ankara 21.39 309 *eP* **P 00 36 06.8 +0.5**
comp=Z,6.9nm,0.8s
ABKAR Akbulak array 21.61 10 *eP* **P 00 36 08.4 -0.1**
comp=Z,27nm,0.8s
ABKAR Akbulak array 21.61 10 *eP* **P 00 36 08.4 -0.1**
comp=Z,27nm,0.8s
AAK Ala-Archa 21.86 43 P **P 00 36 12.8 +1.4**
comp=Z,1.4nm,0.8s,baz=190,slow=12,SNR=3.0
AAK LR LR 00 46 52.2
comp=Z,18nm,18.1s,baz=238,slow=42
AAK Ala-Archa 21.86 43 *eP* **P 00 36 14.3 +2.9**
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 21.86 43 *eP* **P 00 36 14.3 +2.9**
comp=Z,6.0nm,1.1s
AAK Ala-Archa 21.86 43 *eP* **P 00 36 15.1 +3.7**
comp=Z,3.1nm,0.8s
AKTK Aktyubinsk 22.54 6 P **P 00 36 18.8 +0.4**
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 22.54 6 P **P 00 36 18.8 +0.3**
comp=Z,1.9nm,0.5s,baz=179,slow=12,SNR=7.1
IDI Anoyia 26.07 294 P **P 00 36 52.5 +0.4**
comp=Z,14nm,0.8s,baz=94,slow=11,SNR=8.3
BRVK Borovoye 27.63 21 *eP* **P 00 37 07.6 +1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 27.63 21 *eP* **P 00 37 07.6 +1.7**
comp=Z,4.0nm,0.9s
BRVK Borovoye 27.63 21 *eP* **P 00 37 08.5 +2.5**
comp=Z,2.2nm,0.7s
BVAR Borovoye Array 27.64 21 P **P 00 37 06.0 0.0**
comp=Z,2.7nm,0.7s,baz=207,slow=8.2,SNR=12
BVAR pP **sP 00 37 16.2 +2.1**
comp=Z,1.8nm,0.6s,baz=189,slow=8.7,SNR=5.9
MK31 Makanchi Array 28.78 42 *eP* **P 00 37 19.9 +3.6**
MK31 Makanchi Array 28.78 42 *eP* **P 00 37 19.9 +3.6**
MK31 Makanchi Array 28.78 42 *eP* **P 00 37 19.9 +3.6**
MKAR Makanchi Array 28.78 42 P **P 00 37 16.5 +0.2**
comp=Z,0.7nm,0.6s,baz=230,slow=10,SNR=6.0
MKAR Makanchi Array 28.78 42 *eP* **P 00 37 19.1 +2.8**
comp=Z,40nm,1.3s
MKAR Makanchi Array 28.78 42 *eP* **P 00 37 19.1 +2.8**
comp=Z,40nm,1.3s
KURBB Kurchatov Array 29.04 32 P **P 00 37 18.6 +0.1**
comp=Z,2.3nm,0.8s,baz=232,slow=8.3,SNR=16
KURK Kurchatov 29.15 32 *eP* **P 00 37 21.0 +1.5**
KURK pmax pmax
comp=Z,13nm,1.0s
AKASG Malin Array Be 29.59 327 P **P 00 37 21.2 -2.2**
comp=Z,1.2nm,0.5s,baz=136,slow=8.5,SNR=7.2
AKBB Malin Array Si 29.59 327 *eP* **P 00 37 24.8 +1.4**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 29.59 327 *eP* **P 00 37 24.8 +1.4**
comp=Z,3.7nm,0.7s
AKBB Malin Array Si 29.59 327 *eP* **P 00 37 24.8 +1.4**
comp=Z,3.7nm,0.7s
KIEV Kiev 29.59 327 *eP* **P 00 37 24.0 +0.6**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 29.59 327 *eP* **P 00 37 24.7 +1.3**
comp=Z,5.8nm,1.1s
KIEV Kiev 29.59 327 *eP* **P 00 37 24.7 +1.3**
comp=Z,5.8nm,1.1s
BUR08 Bucovina Ar. S 29.97 319 *eP* **P 00 37 27.4 +0.5**
BUR08 Bucovina Ar. S 29.97 319 *eP* **P 00 37 27.4 +0.5**
OBN Obninsk 29.98 339¶ *eP* **P 00 37 28.6 +1.9**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,25nm,15.0s
OBN Obninsk 29.98 339 *eP* **P 00 37 28.6 +1.9**
comp=Z,16nm,0.5s
OBN Obninsk 29.98 339 *eP* **P 00 37 28.6 +1.9**
comp=Z,16nm,0.5s
WMQ Urumqi 30.98 51 P **P 00 37 40.4 +4.5**
WMQ pP sP 00 37 44.3 +0.3
WMQ sP pP 00 37 47.3 +5.7
WMQ PP **PP 00 38 46.5 +0.7**
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,42nm,4.5s
WMQ LR LR
comp=N,29nm,17.3s
WMQ LR LR
comp=E,24nm,23.9s
WMQ LR LR
comp=Z,26nm,26.7s
TIR Tirane 31.12 304 *eP* **P 00 37 37.1 0.0**
TIR pmax pmax
comp=Z,90nm,2.0s
TIR Tirane 31.12 304 *eP* **P 00 37 37.1 0.0**
comp=Z,90nm,2.0s
TIR Tirane 31.12 304 *eP* **P 00 37 37.1 0.0**
comp=Z,90nm,2.0s
BEO Beograd 31.73 311 *eP* **P 00 37 42.3 -0.1**
BEO Beograd 31.73 311 *eP* **P 00 37 42.3 -0.1**
CEL Celeste 33.60 298 *eP* **P 00 37 58.3 -0.6**
comp=Z,10.0nm,0.7s
CEL Celeste 33.60 298 *eP* **P 00 37 58.3 -0.6**
comp=Z,10.0nm,0.7s
LANS Liptovska Anna 34.05 318 *eP* **P 00 38 05.4 +2.7**
LANS Liptovska Anna 34.05 318 *eP* **P 00 38 05.4 +2.7**
ZAA0 Zalesovo Array 34.14 32 *eP* **P 00 38 03.0 -0.3**
ZAA0 Zalesovo Array 34.14 32 *eP* **P 00 38 03.0 -0.3**
ZALV Zalesovo Beam 34.14 32 P **P 00 38 02.7 -0.6**
comp=Z,6.2nm,0.6s,baz=241,slow=9.4,SNR=16
ZALV LR LR 00 54 12.3
comp=Z,28nm,20.6s,baz=93,slow=40
VYHS Vyhne 34.16 316 *eP* **P 00 38 05.8 +2.2**
VYHS Vyhne 34.16 316 *eP* **P 00 38 05.8 +2.2**
KLMR Klimovskoe 34.31 347 *eP* **P 00 38 03.7 -1.0**
KLMR pmax pmax
comp=Z,8.0nm,1.5s
VRAC Vranov 35.84 317 P **P 00 38 15.6 -2.5**
comp=Z,3.4nm,0.8s,baz=118,slow=5.3,SNR=3.9
KRLC Kraliky 36.02 318 *eP* **P 00 38 18.1 -1.6**
KRLC Kraliky 36.02 318 *eP* **P 00 38 18.1 -1.6**
KRLC Kraliky 36.02 318 P **P 00 38 18.1 -1.6**
DPC Dobruska-Polom 36.40 318 *eP* **P 00 38 21.9 -1.0**
DPC *eP*P **pP 00 38 24.7 -4.0**
DPC Dobruska-Polom 36.40 318 *eP* **P 00 38 21.9 -1.0**
DPC Dobruska-Polom 36.40 318 P **P 00 38 21.9 -1.0**
GERES GERESS Array B 37.46 315 P **P 00 38 29.4 -2.6**
comp=Z,0.5nm,0.5s,baz=89,slow=8.3,SNR=7.5
KHC Kasperske Hory 37.63 315 *eP* **P 00 38 32.2 -1.1**
KHC *eP*P **pP 00 38 34.9 -4.2**
KHC Kasperske Hory 37.63 315 *eP* **P 00 38 32.2 -1.1**
KHC Kasperske Hory 37.63 315 P **P 00 38 32.2 -1.1**
WTTA Wattenberg 38.33 312 *i* pP **P 00 38 39.2 -0.3**
comp=Z,2.0nm,0.5s
FINES FINESS Array B 38.37 338 P **P 00 38 38.4 -0.9**
comp=Z,4.0nm,0.5s,baz=141,slow=10,SNR=20
WATA Walderalm 38.39 312 *i* P **P 00 38 38.5 -1.4**
comp=Z,1.4nm,0.5s
WATA Walderalm 38.39 312 P **P 00 38 38.5 -1.4**
comp=Z,1.4nm,0.5s
SQTA Sankt Quirin 38.60 312 *i* P **P 00 38 40.0 -1.7**
comp=Z,0.1nm,0.4s
SQTA Sankt Quirin 38.60 312 P **P 00 38 40.0 -1.7**
comp=Z,0.1nm,0.4s
MOTA Moosalm 38.70 312 *i* P **P 00 38 40.8 -1.8**
comp=Z,1.1nm,0.6s
MOTA Moosalm 38.70 312 P **P 00 38 40.8 -1.8**
comp=Z,1.1nm,0.6s
CLL Collm 38.71 318 *eP* **P 00 38 41.0 -1.4**
CLL Collm 38.71 318 *eP* **P 00 38 41.0 -1.4**
CLL *i* 00 38 44.4
CLL *e*PPP PPP 00 40 28.0
CLL *ep*PPP 00 40 34.0
FETA Feichten 38.87 311 *eP* **P 00 38 42.9 -1.1**
comp=Z,2.9nm,0.6s
FETA Feichten 38.87 311 P **P 00 38 42.9 -1.1**
comp=Z,2.9nm,0.6s
RETA Reutte 38.96 312 *i* P **P 00 38 42.4 -2.2**
comp=Z,1.3nm,0.6s
RETA Reutte 38.96 312 P **P 00 38 42.4 -2.2**
comp=Z,1.3nm,0.6s
DAVOX Davos/Dischmat 39.39 311 P **P 00 38 47.5 -0.8**
comp=Z,2.1nm,0.6s,baz=90,slow=2.3,SNR=6.4
DAVA Damuels 39.50 311 *i* P **P 00 38 47.6 -1.6**
comp=Z,4.9nm,0.5s
DAVA Damuels 39.50 311 P **P 00 38 47.6 -1.6**
comp=Z,4.9nm,0.5s
CHTO Chiang Mai 41.71 93 *eP* **P 00 39 05.8 -1.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 41.71 93 *eP* **P 00 39 05.8 -1.8**
comp=Z,5.0nm,0.8s
CM31 Chiang Mai Arr 41.84 93 *eP* **P 00 39 11.4 +2.7**
CM31 Chiang Mai Arr 41.84 93 *eP* **P 00 39 11.4 +2.7**
CMAR Chiang Mai Arr 41.84 93 P **P 00 39 09.8 +1.1**
comp=Z,2.2nm,0.8s,baz=287,slow=8.7,SNR=11
CMAR LR LR 00 58 47.2
comp=Z,8.6nm,18.5s,baz=220,slow=39
HFS Hagfors 42.25 331 P **P 00 39 10.5 -1.0**
comp=Z,2.3nm,0.6s,baz=120,slow=8.5,SNR=9.9
NB2 NORSAR Subarra 43.76 331 P **P 00 39 22.2 -1.6**
comp=Z,2.1nm,0.8s,baz=123,slow=9.3
NB2 NORSAR Subarra 43.76 331 P **P 00 39 22.2 -1.6**
comp=Z,2.1nm,0.8s,SNR=3.7
NOA NORSAR Array B 43.76 331 P **P 00 39 22.2 -1.6**
comp=Z,1.1nm,0.7s,baz=119,slow=7.6,SNR=4.0
SONM Songino Array 44.59 49 P **P 00 39 30.0 -0.8**
comp=Z,0.6nm,0.7s,baz=276,slow=8.9,SNR=2.7
SONM Songino Array 44.59 49 P **P 00 39 30.0 -0.8**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 44.59 49 P **P 00 39 30.0 -0.8**
ARCES ARCESS Array B 44.77 346 P **P 00 39 30.7 -1.0**
comp=Z,1.6nm,0.6s,baz=143,slow=10,SNR=13
NRIK Noril'sk 45.59 16 P **P 00 39 38.2 -0.1**
comp=Z,1.5nm,0.7s,baz=230,slow=7.9,SNR=2.3
NRIK LR LR 01 02 49.3
comp=Z,15nm,18.2s,baz=77,slow=41
HHC Hu-ho-hao-te 48.07 59 *eP* **P 00 40 00.6 +2.4**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,74nm,4.1s
ESDC Sonseca Array 49.06 300 P **P 00 40 04.9 -0.8**
comp=Z,0.3nm,0.4s,baz=76,slow=7.5,SNR=10
EKA Eskdalemuir Ar 49.10 320 P **P 00 40 03.9 -1.8**
comp=Z,0.4nm,0.3s,baz=96,slow=7.2,SNR=5.3
EKA Eskdalemuir Ar 49.10 320 P **P 00 40 03.9 -1.8**
EKA pmax pmax
comp=Z,1.0nm,0.3s
TOA0 Torodi Ar. Sit 51.13 264 *eP* **P 00 40 20.8 -0.9**
comp=Z,5.8nm,0.6s
TOA0 Torodi Ar. Sit 51.13 264 *eP* **P 00 40 20.8 -0.9**
comp=Z,5.8nm,0.6s
TORD Torodi Ar. Bea 51.13 264 P **P 00 40 20.7 -1.0**
comp=Z,5.0nm,0.6s,baz=60,slow=8.0,SNR=81
SPITS Spitsbergen Ar 53.05 351 P **P 00 40 35.8 +0.7**
comp=Z,3.8nm,0.6s,baz=108,slow=12,SNR=4.6
DBIC Dimbokro 59.81 261 P **P 00 41 23.5 -0.7**
comp=Z,2.1nm,0.8s,baz=35,slow=10.0,SNR=4.1
KSAR Wonju Array Be 61.12 61 P **P 00 41 31.9 -0.9**
KSAR *PP **sP 00 41 41.1 -0.1**
KSAR Wonju Array Be 61.12 61 P **P 00 41 31.9 -0.9**
KSAR pP **sP 00 41 41.1 -0.1**
KSAR Wonju Array Be 61.12 61 P **P 00 41 31.9 -0.9**
KSAR pP **sP 00 41 41.1 -0.1**
KSRS Korea Array 61.15 61 P **P 00 41 31.9 -1.1**
comp=Z,2.8nm,0.7s,baz=119,slow=39,SNR=5.3
KSRS pP **sP 00 41 41.1 -0.2**
comp=Z,0.6nm,0.5s,baz=277,slow=6.8,SNR=3.0
BOSA Boshof 62.87 209 P **P 00 41 44.6 -0.1**
comp=Z,2.4nm,0.7s,baz=29,slow=5.1,SNR=7.6
ILAR Eielson Array 86.02 9 P **P 00 43 57.9 -0.8**
comp=Z,0.2nm,0.6s,baz=321,slow=3.5,SNR=4.4
WRA Warramunga Arr 90.77 112 P **P 00 44 21.4 -0.6**
comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=4.5
WRA pP **sP 00 44 32.3 +1.8**
comp=Z,0.5nm,0.6s,baz=318,slow=4.0,SNR=2.8
ASAR Alice Springs 92.24 116 P **P 00 44 28.5 -0.3**
comp=Z,0.3nm,0.4s,baz=303,slow=4.8,SNR=4.8
ASAR pP **sP 00 44 37.8 +0.5**
comp=Z,0.2nm,0.4s,baz=305,slow=4.7,SNR=3.4

CSEM ***23*** *00:34:17.7±0.2, 38°.51N×40°.61E, h10km, MD2.8, Error ellipse: s-maj=7.0km s-min=4.8km az=54.0*
ISK ***23*** *00:34:17.2, 38°.52N×40°.63E, h7km, MD2.8*
DDA ***23*** *00:34:22.5, 38°.54N×41°.13E, h7km, Md2.7*
ISC 23 00:34:17.9±1.1, 38°.52N±0°.03×40°.62E±0°.03, h7km±13km, n21, σ0=54/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BINT	**Bingol**	**0.37**	**344**	*e*Pg		**Pb**	**00 34 26.9**	**-0.1**
BINT				*e*Sg		**Sb**	**00 34 34.1**	**+1.0**
BNGB	**Bing^¶l**	**0.48**	**5**	*e*PG		**Pg**	**00 34 26.9**	**-0.3**
BNGB				*e*SG		**Sg**	**00 34 34.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**0.58**	**129**	*e*PG		**Pg**	**00 34 29.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.58**	**129**	*i* P		**Pg**	**00 34 29.5**	**+0.4**
SVAN				*i* S		**Sg**	**00 34 37.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.58**	**129**	*e*Pg		**Pg**	**00 34 29.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.58**	**129**	P		**Pg**	**00 34 29.5**	**+0.4**
SVAN				S		**Sg**	**00 34 37.3**	**+0.6**
BNGL	**BINGOL**	**0.60**	**43**	*i* P		**Pb**	**00 34 30.7**	**-0.1**
BNGL				*i* S		**Sg**	**00 34 37.6**	**+0.2**
BTMN	**Batman**	**0.81**	**141**	*i* P		**Pb**	**00 34 33.7**	**-0.6**
BTMN				*i* S		**Sb**	**00 34 45.4**	**0.0**
BTMN	**Batman**	**0.81**	**141**	P		**Pb**	**00 34 33.7**	**-0.6**
BTMN				S		**Sb**	**00 34 45.4**	**0.0**
VRTB	**Varto-Mus**	**0.92**	**45**	*e*PG		**Pg**	**00 34 34.8**	**-0.7**
VRTB	**Varto-Mus**	**0.92**	**45**	*e*Pg		**Pg**	**00 34 34.8**	**-0.7**
YEDI	**Yedisu-Bingol**	**0.92**	**356**	*e*PG		**Pg**	**00 34 34.8**	**-0.9**
YEDI	**Yedisu-Bingol**	**0.92**	**356**	*e*Pg		**Pg**	**00 34 34.8**	**-0.9**
PTK	**Pertek**	**1.03**	**292**	*e*PG		**Pg**	**00 34 37.8**	**0.0**
PTK	**Pertek**	**1.03**	**292**	*e*Pg		**Pg**	**00 34 37.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.04**	**263**	*e*PG		**Pg**	**00 34 37.5**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.04**	**263**	*e*Pg		**Pg**	**00 34 37.5**	**-0.5**
MAZI	**Mazidag**	**1.06**	**188**	*e*PG		**Pg**	**00 34 37.8**	**-0.6**
MAZI	**Mazidag**	**1.06**	**188**	*e*Pg		**Pg**	**00 34 37.8**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.44**	**33**	*e*PN		**Pn**	**00 34 58.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.44**	**33**	*e*Pn		**Pn**	**00 34 58.6**	**+0.2**

IDC ***23*** *00:57:38.1±1.6, 29°.40S×176°.07W, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/28, mbtmp4.1/5, ML4.0/2, MS3.3/6, Ms1 3.3/6, ms1mx2.8/28, Error ellipse: s-maj=37.1km s-min=27.6km az=9.0*

ISCJB ***23*** *00:57:40.2±0.6, 29°.64S±0°.06×176°.08W±0°.07, h21km, mb4.5/11, MS3.3/4, Error ellipse: s-maj=10.0km s-min=7.9km az=44.0*
NEIC ***23*** *00:57:43.9±0.5, 29°.53S×176°.12W, h35km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=9.4km az=135.0*
ISC 23 00:57:42.4±0.7, 29°.52S±0°.09×176°.17W±0°.08, h21km, n23, σ0=90/21, mb4.4/11, MS3.3/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
RAO	**Raoul Island**	**1.55**	**280**	Pn		**Pb**	**00 58 09.5**	**-0.8**
	331nm,0.3s,baz=91,slow=7.8,SNR=35							
RAO				Sn		**Sb**	**00 58 29.5**	**0.0**
	451nm,0.3s,baz=24,slow=21,SNR=8.0							
URZ	**Urewera**	**10.35**	**211**	Pn		**Pn**	**01 00 08.3**	**-1.2**
	0.6nm,0.3s,baz=320,slow=5.7,SNR=3.9							
URZ				Sn		**Sn**	**01 02 04.6**	**-0.3**
	3.7nm,0.3s,baz=68,slow=22,SNR=15							
AFI	**Afiamalu**	**16.06**	**16**	Pn		**Pn**	**01 01 26.2**	**-0.9**
	11nm,0.8s							
RAR	**Rarotonga**	**16.96**	**65**	LR		LR	01 08 26.8	
	comp=Z,64nm,18.1s,baz=250,slow=38							
RAR	**Rarotonga**	**16.96**	**65**	Pn		**Pn**	**01 01 37.8**	**-0.6**
DZM	**Mont Dzumac**	**17.31**	**291**	LR		LR	01 07 10.0	
	comp=Z,82nm,20.5s,baz=140,slow=33							
RPZ	**Rata Peaks**	**17.46**	**212**	P		**Pn**	**01 01 44.5**	**0.0**
	0.9nm,0.3s,baz=238,slow=10,SNR=3.0							
RPZ				S		Sn	01 04 45.8	-12
	0.7nm,0.3s,baz=205,slow=21,SNR=2.4							
PPT	**Papeete**	**27.06**	**70**	LR		LR	01 12 57.2	
	comp=Z,60nm,18.5s,baz=162,slow=34							
HNR	**Honiara**	**29.99**	**307**	*eP*		**P**	**01 03 50.8**	**+1.2**
	9.5nm,0.5s							
CTA	**Charters Tower**	**35.25**	**277**	LR		LR	01 15 14.6	
	comp=Z,142nm,21.7s,slow=30							
STKA	**Stephens Creek**	**36.23**	**255**	P		**P**	**01 04 44.4**	**+0.5**
	1.4nm,0.6s,baz=112,slow=9.4,SNR=3.7							
STKA				LR		LR	01 19 52.0	
	comp=Z,23nm,18.2s,baz=25,slow=37							
PMG	**Port Moresby**	**39.70**	**293**	*eP*		**P**	**01 05 14.1**	**+0.7**
	2.3nm,0.3s							
ASAR	**Alice Springs**	**44.75**	**265**	P		**P**	**01 05 54.2**	**-0.4**
	0.6nm,0.5s,baz=102,slow=8.3,SNR=9.6							
ASAR				LR		LR	01 23 08.8	
	comp=Z,45nm,21.6s,baz=107,slow=34							
WRAB	**Tennant Creek**	**45.66**	**270**	*eP*		**P**	**01 06 02.0**	**+0.2**
	1.1nm,0.8s							
WRA	**Warramunga Arr**	**45.67**	**270**	P		**P**	**01 06 00.3**	**-1.5**
	2.1nm,0.8s,baz=109,slow=8.1,SNR=8.1							
GUMO	**Guam**	**57.01**	**313**	*eP*		**P**	**01 07 27.4**	**+0.7**
	67nm,1.1s							
QSPA	**South Pole Qui**	**60.59**	**180**	*eP**		**P**	**01 07 52.3**	**+1.1**
	4.8nm,0.8s							
COCO	**West Island**	**81.52**	**261**	*eP*		**P**	**01 09 59.4**	**+0.7**
	72nm,0.8s							
ANMO	**Albuquerque**	**91.79**	**50**	*eP*		**P**	**01 10 48.9**	**0.0**
	0.3nm,0.5s							
BJT	**Baijiatuau**	**93.42**	**315**	*eP*		**P**	**01 10 56.4**	**+0.4**
	1.5nm,0.3s							
FINES	**FINESS Array B**	**144.84**	**342**	PKP		**PKPab**	**01 17 15.2**	**-0.8**
	1.8nm,0.9s,baz=64,slow=4.4,SNR=6.5							
AKASG	**Malin Array Be**	**151.53**	**325**	PKPab		**PKPab**	**01 17 41.1**	**-1.9**
	0.5nm,0.4s,baz=56,slow=3.9,SNR=5.4							
TORD	**Torodi Ar. Bea**	**163.59**	**173**	PKPab		**PKPab**	**01 18 36.2**	**+0.5**
	0.7nm,0.8s,baz=208,slow=3.5,SNR=3.9							

ATH ***23*** *01:03:42.8, 37°.71N×25°.84E, h30km±2km, ML2.6/6, Error ellipse: s-maj=2.3km s-min=1.1km az=86.0*
CSEM ***23*** *01:03:43.5±0.2, 37°.70N×25°.77E, h10km, ML2.6, Error ellipse: s-maj=2.5km s-min=4.1km az=142.0*
DDA ***23*** *01:03:43.4, 37°.70N×25°.84E, h5km, Ml2.8*
ISC 23 01:03:43.1±1.1, 37°.70N±0°.02×25°.80E±0°.02, h9km±10km, n76, σ0=81/100, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
APE	**Apeiranthos**	**0.67**	**199**	P		**Pg**	**01 03 55.6**	**-0.5**
APE				S		**Sb**	**01 04 07.2**	**+0.8**
APE				AML		AML	01 04 09.3	
	comp=N,731μm,0.2s							
APE				AML		AML	01 04 10.0	
	comp=E,476μm,0.3s							
APE	**Apeiranthos**	**0.67**	**199**	P		**Pg**	**01 03 55.6**	**-0.5**
CHOS	**Chios island**	**0.71**	**16**	P		**Pb**	**01 03 57.9**	**+0.1**
CHOS				S		**Sg**	**01 04 05.8**	**-0.4**
CHOS				AML		AML	01 04 12.7	
	comp=E,2212μm,0.3s							
CHOS				AML		AML	01 04 14.8	
	comp=N,818μm,0.4s							
CHOS	**Chios island**	**0.71**	**16**	P		**Pb**	**01 03 57.9**	**+0.1**
CHOS				S		**Sg**	**01 04 05.8**	**-0.4**
ZEV	**˜zmir**	**0.77**	**46**	*i* P		**Pg**	**01 03 57.9**	**-0.1**
URLA	**Izmir**	**0.91**	**43**	*i* P		**Pg**	**01 04 00.6**	**0.0**
URLA				*i* S		**Sn**	**01 04 14.4**	**-0.9**
URLA	**Izmir**	**0.91**	**43**	P		**Pg**	**01 04 00.6**	**0.0**
URLA				S		**Sn**	**01 04 14.4**	**-0.9**
DGB	**˜zmir**	**0.92**	**68**	*i* P		**Pg**	**01 04 00.1**	**-0.8**
DGB				*i* S		**Sb**	**01 04 13.3**	**-0.3**
KARY	**Karystos**	**1.13**	**287**	P		**Pb**	**01 04 05.0**	**+0.2**
KARY				S		**Sb**	**01 04 20.2**	**+0.6**
KARY				AML		AML	01 04 22.0	
	comp=E,792μm,0.2s							
KARY				AML		AML	01 04 22.2	
	comp=N,482μm,0.1s							
KARY	**Karystos**	**1.13**	**287**	P		**Pb**	**01 04 05.0**	**+0.2**
KARY				S		**Sb**	**01 04 20.2**	**+0.6**
GCAM	**G?zelcaml?**	**1.14**	**90**	*i* P		**Pg**	**01 04 04.8**	**-0.1**
GCAM				*i* S		**Sn**	**01 04 21.9**	**+1.0**
GCAM	**G?zelcaml?**	**1.14**	**90**	P		**Pg**	**01 04 04.8**	**-0.1**
GCAM				S		**Sn**	**01 04 21.9**	**+1.0**
SERI	**Serifos**	**1.18**	**243**	P		**Pb**	**01 04 05.1**	**-0.6**
SERI				S		**Sb**	**01 04 20.2**	**-0.8**
SERI	**Serifos**	**1.18**	**243**	P		**Pb**	**01 04 05.1**	**-0.6**
SERI				S		**Sb**	**01 04 20.2**	**-0.8**
THR2	**Thira island,**	**1.29**	**193**	P		**Pn**	**01 04 07.0**	**-0.3**
THR2	**Thira island,**	**1.29**	**193**	P		**Pn**	**01 04 07.0**	**-0.3**
THR7	**Fira-Santorini**	**1.31**	**193**	P		**Pn**	**01 04 07.9**	**+0.3**
THR7	**Fira-Santorini**	**1.31**	**193**	P		**Pn**	**01 04 07.9**	**+0.3**
THR3	**Thira Island,**	**1.33**	**194**	P		**Pn**	**01 04 06.0**	**-1.9**
THR3	**Thira Island,**	**1.33**	**194**	P		**Pn**	**01 04 06.0**	**-1.9**
THR5	**Thira Island,**	**1.33**	**196**	P		**Pn**	**01 04 06.8**	**-1.1**
THR5	**Thira Island,**	**1.33**	**196**	P		**Pn**	**01 04 06.8**	**-1.1**
SAP1	**Santorini-Akro**	**1.38**	**194**	P		**Pn**	**01 04 08.5**	**0.0**
SAP1	**Santorini-Akro**	**1.38**	**194**	P		**Pn**	**01 04 08.5**	**0.0**
THR6	**Thira Island,**	**1.38**	**194**	P		**Pn**	**01 04 08.1**	**-0.5**
THR6	**Thira Island,**	**1.38**	**194**	P		**Pn**	**01 04 08.1**	**-0.5**
BDRM	**Kayabasi**	**1.46**	**115**	*i* P		**Pg**	**01 04 10.7**	**-0.4**
BDRM				*i* S		**Sg**	**01 04 30.6**	**+0.6**
BDRM	**Kayabasi**	**1.46**	**115**	P		**Pg**	**01 04 10.7**	**-0.4**
BDRM				S		**Sg**	**01 04 30.6**	**+0.6**
MHLA	**Plaka, Milos I**	**1.46**	**229**	P		**Pb**	**01 04 10.9**	**+0.5**
MHLA	**Plaka, Milos I**	**1.46**	**229**	P		**Pb**	**01 04 10.9**	**+0.5**
MHLO	**Agia Marina, M**	**1.51**	**228**	P		**Pb**	**01 04 11.8**	**+0.5**
MHLO	**Agia Marina, M**	**1.51**	**228**	P		**Pb**	**01 04 11.8**	**+0.5**
SIGR	**SIGRI**	**1.51**	**2**	P		**Pn**	**01 04 08.8**	**-1.4**
SIGR	**SIGRI**	**1.51**	**2**	P		**Pn**	**01 04 08.9**	**-1.4**
PTL	**Penteli**	**1.57**	**283**	P		**Pn**	**01 04 11.3**	**+0.1**
PTL	**Penteli**	**1.57**	**283**	P		**Pn**	**01 04 11.3**	**+0.1**
PRK	**Paraskevi**	**1.58**	**13**	P		**Pn**	**01 04 09.8**	**-1.6**
PRK	**Paraskevi**	**1.58**	**13**	P		**Pn**	**01 04 09.8**	**-1.6**
VLY	**Voula,Athens**	**1.60**	**276**	P		**Pn**	**01 04 11.5**	**0.0**
VLY				S		**Sn**	**01 04 32.2**	**-0.1**
VLY				AML		AML	01 04 35.8	
	comp=E,452μm,0.4s							
VLY				AML		AML	01 04 36.9	
	comp=N,560μm,0.4s							
VLY	**Voula,Athens

AYVA Ayvalik 1.75 23 *i* P **Pg 01 04 16.6 0.0**
AYVA *i* S **Sg 01 04 40.0 +0.7**
AYVA Ayvalik 1.75 23 P **Pg 01 04 16.6 0.0**
AYVA S **Sg 01 04 40.0 +0.7**
AKHS Akhisar 1.97 53 *i* P **Pg 01 04 22.0 +1.1**
AKHS Akhisar 1.97 53 P **Pg 01 04 22.0 +1.1**
DID Didima 2.05 265 P **Pn 01 04 17.2 -0.6**
DID AML AML 01 04 52.7
comp=E,149μm,0.4s
DID AML AML 01 04 53.4
comp=N,212μm,0.5s
DID Didima 2.05 265 P **Pn 01 04 17.2 -0.6**
LIA Limnos Island 2.24 348 P **Pn 01 04 19.9 -0.5**
LIA Limnos Island 2.24 348 P **Pn 01 04 19.9 -0.5**
LTK Loutraki 2.27 279 P **Pn 01 04 20.9 +0.1**
LTK Loutraki 2.27 279 P **Pn 01 04 20.9 +0.1**
MANT Manisa 2.31 69 *i* P **Pg 01 04 27.2 -0.3**
MANT *i* S **Sb 01 04 54.7 +0.8**
MANT Manisa 2.31 69 P **Pg 01 04 27.2 -0.3**
MANT S **Sb 01 04 54.7 +0.8**
PROD Prodromos 2.36 284 P **Pn 01 04 22.6 +0.6**
PROD Prodromos 2.36 284 P **Pn 01 04 22.6 +0.6**
TURN Turunc 2.38 109 *i* P **Pn 01 04 23.1 +0.8**
TURN *i* S **Sb 01 04 53.6 -2.1**
TURN Turunc 2.38 109 P **Pn 01 04 23.1 +0.8**
TURN S **Sb 01 04 53.6 -2.1**
NPS Neapolis 2.44 184 P **Pn 01 04 22.9 -0.3**
NPS Neapolis 2.44 184 P **Pn 01 04 22.9 -0.3**
VLI Veliai 2.49 248 P **Pn 01 04 22.8 -1.0**
VLI Veliai 2.49 248 P **Pn 01 04 22.8 -1.0**
IDI Anoyia 2.52 197 P **Pn 01 04 22.9 -1.4**
IDI Anoyia 2.52 197 P **Pn 01 04 22.9 -1.4**
LAST Lasithi 2.55 186 P **Pn 01 04 26.4 +1.7**
LAST Lasithi 2.55 186 P **Pn 01 04 26.4 +1.7**
DSF Desfina 2.68 286 P **Pn 01 04 27.8 +1.3**
DSF Desfina 2.68 286 P **Pn 01 04 27.8 +1.3**
GUR Goura 2.75 276 P **Pn 01 04 28.0 +0.5**
GUR Goura 2.75 276 P **Pn 01 04 28.0 +0.5**

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*OMAN **23** 01:23:49.8, 28°.02N×54°.26E, h18km*
*TEH **23** 01:23:50.3, 28°.03N×54°.27E, h22km, ML3.4*
*THR **23** 01:23:50.4±0.3, 28°.14N×54°.57E, h15km, ML3.5*
*ISCJB **23** 01:23:51.2±0.3, 28°.06N±0°.03×54°.20E±0°.05, h17km, mb3.7/18, Error ellipse: s-maj=6.8km s-min=3.6km az=150.8*
*DSN **23** 01:23:52.4±1.3, 28°.25N×54°.59E, h12km, ML3.5/8, Error ellipse: s-maj=26.6km s-min=8.3km az=42.0*
*CSEM **23** 01:23:53.8±0.2, 28°.11N×54°.32E, h20km, ML3.4, Error ellipse: s-maj=6.3km s-min=3.5km az=62.0*
*IDC **23** 01:23:55.2±2.3, 27°.92N×54°.23E, h50km±23km, mb3.5/19, mb1 3.6/22, mb1mx3.5/51, mbtmp3.7/22, ML3.7/3, Error ellipse: s-maj=15.8km s-min=11.4km az=28.0*
ISC 23 01:23:52.2±0.5, 28°.08N±0°.05×54°.31E±0°.05, h17km, n80, σ1§47/87, mb3.8/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.78**	**303**	*e*Pg	**Pb**	**01 24 07.3**	**0.0**
JHRM	**Jahrom**	**0.78**	**303**	*e*Pg	**Pb**	**01 24 07.3**	**0.0**
GHIR	**Ghir-Karzin**	**1.19**	**280**	*e*Pg	**Pg**	**01 24 16.5**	**+1.2**
GHIR				AML	AML	01 24 42.6	
	comp=E,1μm,0.8s						
GHIR	**Ghir-Karzin**	**1.19**	**280**	*e*Pg	**Pg**	**01 24 16.5**	**+1.2**
ISRV	**Sarvestan**	**1.67**	**321**	*e*Pg	**Pb**	**01 24 23.1**	**+0.3**
ISRV				*e*AMB	AMB	01 24 54.6	
	comp=Z,4μm,0.3s						
ISRV	**Sarvestan**	**1.67**	**321**	*e*Pg	**Pb**	**01 24 23.1**	**+0.3**
NGRK	**Negar Kerman**	**2.63**	**53**	*e*Pn	**Pn**	**01 24 34.2**	**-0.1**
NGRK	**Negar Kerman**	**2.63**	**53**	*e*Pn	**Pn**	**01 24 34.2**	**-0.1**
KHSK	**Kohestak**	**2.77**	**118**	*e*Pn	**Pn**	**01 24 36.0**	**+0.2**
KHSK	**Kohestak**	**2.77**	**118**	*e*Pn	**Pn**	**01 24 36.0**	**+0.2**
BANOM	**Banah**	**2.78**	**140**	*e*P	**Pn**	**01 24 36.9**	**+0.8**
	SNR=8.3						
BANOM				S	**Sn**	**01 25 11.1**	**+1.8**
BANOM	**Banah**	**2.78**	**140**	P	**Pn**	**01 24 36.9**	**+0.8**
	SNR=8.3						
BANOM				S	**Sn**	**01 25 11.1**	**+1.8**
BANOM	**Banah**	**2.78**	**140**	pPn	**Pn**	**01 24 37.7**	**+1.6**
	SNR=9.6						
BANOM	**Banah**	**2.78**	**140**	P	**Pn**	**01 24 37.7**	**+1.6**
	SNR=9.6						
KRBR	**Kerman**	**2.86**	**48**	*e*Pg	**Pn**	**01 24 38.6**	**+1.3**
KRBR				AML	AML	01 25 27.7	
	comp=E,148nm,0.1s						
KRBR	**Kerman**	**2.86**	**48**	*e*Pg	**Pn**	**01 24 38.7**	**+1.3**
TVBK	**TV Kerman**	**2.86**	**48**	*e*Pn	**Pn**	**01 24 39.4**	**+2.0**
TVBK	**TV Kerman**	**2.86**	**48**	*e*Pn	**Pn**	**01 24 39.4**	**+2.0**
KHGB	**Koh Gabri**	**2.97**	**39**	*e*Pn	**Pn**	**01 24 39.7**	**+0.9**
KHGB	**Koh Gabri**	**2.97**	**39**	*e*Pn	**Pn**	**01 24 39.7**	**+0.9**
MSFE	**Esma-Masafi**	**3.17**	**148**	P	**Pn**	**01 24 43.2**	**+1.8**
	SNR=8.8						
NAZ	**Nazwa, Dubai**	**3.31**	**158**	P	**Pn**	**01 24 45.8**	**+2.6**
NAZ	**Nazwa, Dubai**	**3.31**	**158**	P	**Pn**	**01 24 45.8**	**+2.6**
IMEH	**Mehriz**	**3.31**	**4**	*e*Pn	**Pn**	**01 24 44.9**	**+1.4**
IMEH				*e*AMB	AMB	01 25 35.9	
	comp=Z,549nm,0.2s						
IMEH	**Mehriz**	**3.31**	**4**	*e*Pn	**Pn**	**01 24 44.9**	**+1.4**
CHMN	**Cheshme madani**	**3.34**	**57**	*e*Pn	**Pn**	**01 24 46.0**	**+2.0**
CHMN	**Cheshme madani**	**3.34**	**57**	*e*Pn	**Pn**	**01 24 46.0**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.51**	**161**	*i* P	**Pn**	**01 24 48.1**	**+2.1**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**3.51**	**161**	P	**Pn**	**01 24 48.1**	**+2.1**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**3.51**	**161**	pPn	**Pn**	**01 24 48.1**	**+2.1**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**3.51**	**161**	P	**Pn**	**01 24 48.1**	**+2.1**
	SNR=19						
UOSS	**Minazif**	**3.55**	**151**	P	**Pn**	**01 24 47.8**	**+1.2**
	SNR=10						
HATD	**Hatta, Dubai**	**3.63**	**153**	*i* P	**Pn**	**01 24 49.5**	**+1.9**
	SNR=7.5						
HATD	**Hatta, Dubai**	**3.63**	**153**	P	**Pn**	**01 24 49.5**	**+1.9**
	SNR=7.5						
HATD	**Hatta, Dubai**	**3.63**	**153**	pPn	**Pn**	**01 24 49.9**	**+2.2**
	SNR=5.1						
HATD	**Hatta, Dubai**	**3.63**	**153**	P	**Pn**	**01 24 49.9**	**+2.2**
	SNR=5.1						
IBAF	**Bafgh**	**3.66**	**17**	*e*Pn	**Pn**	**01 24 48.9**	**+0.6**
IBAF				*e*AMB	AMB	01 25 34.8	
	comp=Z,677nm,0.1s						
IBAF	**Bafgh**	**3.66**	**17**	*e*Pn	**Pn**	**01 24 48.9**	**+0.6**
ASHO	**Ashiyiah**	**3.73**	**155**	*i* P	**Pn**	**01 24 50.3**	**+1.2**
	SNR=54						
ASHO	**Ashiyiah**	**3.73**	**155**	P	**Pn**	**01 24 50.3**	**+1.2**
	SNR=54						
ASHO	**Ashiyiah**	**3.73**	**155**	pPn	**Pn**	**01 24 50.5**	**+1.4**
	SNR=54						
ASHO	**Ashiyiah**	**3.73**	**155**	P	**Pn**	**01 24 50.5**	**+1.4**
	SNR=54						
ISAD	**Sadrabad**	**3.86**	**352**	*e*Pn	**Pn**	**01 24 52.8**	**+1.7**
ISAD				*e*AMB	AMB	01 25 16.5	
	comp=Z,493nm,0.3s						
ISAD				*e*Sn	**Sn**	**01 25 37.6**	**+1.4**
ISAD	**Sadrabad**	**3.86**	**352**	*e*Pn	**Pn**	**01 24 52.8**	**+1.7**
ISAD				*e*Sn	**Sn**	**01 25 37.6**	**+1.4**
IRAM	**Ramesheh**	**4.08**	**336**	*e*Pn	**Pn**	**01 24 55.0**	**+1.0**
IRAM				*e*AMB	AMB	01 25 47.1	
	comp=Z,378nm,0.2s						
IRAM	**Ramesheh**	**4.08**	**336**	*e*Pn	**Pn**	**01 24 55.0**	**+1.0**
ICHK	**Chekchek**	**4.15**	**1**	*e*Pn	**Pn**	**01 24 56.2**	**+1.1**
ICHK				*e*AMB	AMB	01 25 24.5	
	comp=Z,378nm,0.3s						
ICHK	**Chekchek**	**4.15**	**1**	*e*Pn	**Pn**	**01 24 56.2**	**+1.1**
IGAR	**Gharneh**	**4.74**	**336**	*e*AMB	AMB	01 25 32.9	
	comp=Z,307nm,0.2s						
IGAR				*e*Pn	**Pn**	**01 25 04.2**	**+1.1**
IZEF	**Zefreh**	**5.10**	**341**	*e*AMB	AMB	01 25 44.6	
	comp=Z,127nm,0.2s						
IZEF				*e*Pn	**Pn**	**01 25 07.8**	**-0.3**
IPIR	**Pirpir**	**5.46**	**328**	*e*Pn	**Pn**	**01 25 13.4**	**+0.3**
IPIR				*e*Sn	**Sn**	**01 26 15.6**	**-0.1**
IPIR				*e*AMB	AMB	01 26 28.5	
	comp=Z,273nm,0.2s						
IPIR	**Pirpir**	**5.46**	**328**	*e*Pn	**Pn**	**01 25 13.4**	**+0.3**
IPIR				*e*Sn	**Sn**	**01 26 15.6**	**-0.1**
IKLH	**Kolahrood**	**5.73**	**336**	*e*Pn	**Pn**	**01 25 17.8**	**+1.0**
IKLH				*e*AMB	AMB	01 25 46.2	
	comp=Z,161nm,0.3s						
IKLH	**Kolahrood**	**5.73**	**336**	*e*Pn	**Pn**	**01 25 17.8**	**+1.0**
CHBR	**Chabahar**	**6.04**	**113**	*e*Pn	**Pn**	**01 25 18.8**	**-2.0**
CHBR	**Chabahar**	**6.04**	**113**	*e*Pn	**Pn**	**01 25 18.8**	**-2.0**
QAM	**Ghamsar**	**6.18**	**337**	*e*Pn	**Pn**	**01 25 23.8**	**+0.9**
QAM				*e*AMB	AMB	01 26 37.3	
	comp=Z,196nm,0.2s						
QAM	**Ghamsar**	**6.18**	**337**	*e*Pn	**Pn**	**01 25 23.8**	**+0.9**
WSAR	**Wadi Sarin**	**6.20**	**140**	P	**Pn**	**01 25 23.6**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=319,slow=3.4,SNR=52						
WSAR				S	**Sn**	**01 26 31.3**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=216,slow=19,SNR=3.4						
GEYT	**Alibeck**	**10.33**	**17**	P	**Pn**	**01 26 22.1**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=202,slow=6.2,SNR=2.9						
MMAI	**Mount Meron Ar**	**17.01**	**291**	P	**Pn**	**01 27 50.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=88,slow=17,SNR=4.2						
BRTR	**Keskin Array B**	**20.67**	**310**	P	**P**	**01 28 30.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=129,slow=13,SNR=14						
AAK	**Ala-Archa**	**21.87**	**43**	P	**P**	**01 28 47.4**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=1.6						
AKTO	**Aktyubinsk**	**22.50**	**6**	P	**P**	**01 28 53.8**	**+2.9**
	comp=Z,1.1nm,0.6s,baz=158,slow=14,SNR=3.7						
IDI	**Anoyia**	**25.99**	**299**	P	**P**	**01 29 24.6**	**+0.3**
	comp=Z,8.5nm,1.0s,baz=90,slow=3.0,SNR=2.4						
BVAR	**Borovoye Array**	**27.62**	**21**	P	**P**	**01 29 40.3**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=216,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**28.79**	**42**	P	**P**	**01 29 49.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=230,slow=9.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**29.04**	**33**	P	**P**	**01 29 53.3**	**+1.9**
	comp=Z,0.4nm,0.2s,baz=232,slow=8.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**34.14**	**32**	P	**P**	**01 30 35.4**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=248,slow=8.1,SNR=6.2						
GERES	**GERESS Array B**	**37.38**	**315**	P	**P**	**01 31 02.9**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=110,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**38.31**	**338**	P	**P**	**01 31 10.9**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=143,slow=9.7,SNR=15						
CMAR	**Chiang Mai Arr**	**41.91**	**93**	P	**P**	**01 31 41.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=287,slow=9.3,SNR=3.9						
NOA	**NORSAR Array B**	**43.69**	**331**	P	**P**	**01 31 54.0**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=110,slow=7.8,SNR=3.2						
SONM	**Songino Array**	**44.61**	**49**	P	**P**	**01 32 04.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=289,slow=10,SNR=2.0						
ARCES	**ARCESS Array B**	**44.71**	**346**	P	**P**	**01 32 03.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=145,slow=9.5,SNR=10						
ESDC	**Sonseca Array**	**48.98**	**300**	P	**P**	**01 32 36.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=65,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**51.07**	**264**	P	**P**	**01 32 53.0**	**-1.0**
	comp=Z.2.1nm,0.6s,baz=59,slow=8.2,SNR=26						
KSRS	**Korea Array**	**61.19**	**61**	P	**P**	**01 34 04.4**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=250,slow=6.2,SNR=3.8						
WRA	**Warramunga Arr**	**90.85**	**112**	P	**P**	**01 36 53.8**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=297,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**92.32**	**116**	P	**P**	**01 37 00.8**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=295,slow=4.3,SNR=3.2						

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*IDC **23** 01:28:47.4±0.6, 36°.69N×69°.45E, h0km, mb4.0/25, mb1 4.2/31, mb1mx4.1/56, mbtmp4.1/31, ML3.8/6, MS3.2/10, Ms1 3.2/10, ms1mx2.9/55, Error ellipse: s-maj=12.4km s-min=10.9km az=9.0*
*ISCJB **23** 01:28:47.6±0.3, 36°.80N±0°.03×69°.49E±0°.04, h10km, mb4.1/39, MS3.4/12, Error ellipse: s-maj=4.3km s-min=3.6km az=165.4*
*NNC **23** 01:28:50.0±2.8, 37°.05N×69°.13E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=23.7km s-min=17.0km az=157.0*
*BJI **23** 01:28:52.0, 37°.13N×69°.43E, h26km, mb4.3/15, mB4.5/13, ML4.5/1, Ms4.0/11, Ms7 3.8/10*
*MOS **23** 01:28:52.3±1.3, 36°.94N×69°.47E, h41km, mb4.4/28, Error ellipse: s-maj=8.6km s-min=5.2km az=80.9*
*NEIC **23** 01:28:54.0±1.0, 36°.89N×69°.45E, h42km±10km, mb4.3/14, Error ellipse: s-maj=8.5km s-min=7.2km az=184.0*
ISC 23 01:28:48.3±0.3, 36°.73N±0°.03×69°.43E±0°.04, h10km, n133, σ2§51/138, mb4.2/40, MS3.3/12, 14C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.21**	**188**	*e*PN	**Pg**	**01 29 31.9**	**+1.3**
KBL	**Kabul**	**2.21**	**188**	*e*Pn	**Pg**	**01 29 31.9**	**+1.3**
CEP	**Cherat**	**3.54**	**144**	P	**Pb**	**01 29 51.7**	**+0.6**
CEP				S	**Sg**	**01 30 45.0**	**+3.1**
THW	**Thamme Wali**	**4.36**	**153**	P	Pb	01 30 00.6	-4.4
CHCP	**Chirah Chowk**	**4.38**	**133**	P	**Pb**	**01 30 02.0**	**-3.5**
SARP	**Sargodha**	**5.49**	**152**	P	Pn	01 30 15.4	+5.2
KSH	**Kashi**	**5.86**	**60**	Pn	**Pn**	**01 30 13.9**	**-1.4**
KSH				Sn	Sn	01 31 13.3	-9.3
KSH				smax	smax		
	comp=N,490nm,0.9s						
KSH				smax	smax		
	comp=E,560nm,0.9s						
MNAS	**Manas**	**6.22**	**21**	⇑Pn	**Pn**	**01 30 21.9**	**+1.6**
	12nm,0.4s						
MNAS				⇓Sn	**Sn**	**01 31 30.9**	**-0.7**
	31nm,0.5s						
MNAS				⇑Lg	Lg	01 32 04.5	
	46nm,0.5s						
MNAS	**Manas**	**6.22**	**21**	PN	Pb	01 30 29.1	-7.7
MNAS				S	**Sn**	**01 31 30.9**	**-0.7**
MNAS				pmax	pmax		
	comp=Z,13nm,0.4s						
MNAS				smax	smax		
	comp=N,31nm,0.5s						
KK31	**Karatay Array**	**6.42**	**7**	⇓Pn	**Pn**	**01 30 24.4**	**+1.5**
	comp=N,14nm,0.5s,baz=188,slow=13,SNR=6.2						
KK31				⇑Sn	**Sn**	**01 31 38.8**	**+2.5**
	comp=N,26nm,0.5s,baz=120,slow=47,SNR=3.6						
KK31				⇑Lg	Lg	01 32 10.2	
	comp=N,41nm,0.4s,baz=200,slow=29,SNR=4.2						
KK31	**Karatay Array**	**6.42**	**7**	PN	**Pn**	**01 30 24.4**	**+1.5**
KK31				S	**Sn**	**01 31 38.8**	**+2.5**
KK31				pmax	pmax		
	comp=Z,15nm,0.5s						
KK31				smax	smax		
	comp=N,26nm,0.5s						
KKAR	**Karatay Array**	**6.42**	**7**	*e*PN	**Pn**	**01 30 24.3**	**+1.4**
KKAR	**Karatay Array**	**6.42**	**7**	*e*Pn	**Pn**	**01 30 24.3**	**+1.4**
THN	**Thein Dam**	**6.72**	**128**	*e*P	**Pn**	**01 30 30.2**	**+3.1**
THN				*e*x	x	01 32 30.0	
AAK	**Ala-Archa**	**7.08**	**32**	Pn	**Pn**	**01 30 34.3**	**+2.2**
	comp=N,5.9nm,0.3s,baz=204,slow=9.2,SNR=181						
AAK				Sn	**Sn**	**01 31 51.8**	**-0.8**
	comp=N,4.0nm,0.3s,baz=197,slow=19,SNR=5.7						
AAK				Lg	Lg	01 32 30.5	
	comp=N,3.9nm,0.3s,baz=294,slow=5.8,SNR=6.6						
AAK	**Ala-Archa**	**7.08**	**32**	⇑Pn	**Pn**	**01 30 34.5**	**+2.4**
	comp=N,54nm,0.7s						
AAK				⇓Sn	**Sn**	**01 31 53.0**	**+0.4**
	comp=N,33nm,0.6s						
AAK				⇓Lg	Lg	01 32 29.3	
	comp=N,49nm,0.8s						
PONG	**Pong**	**7.19**	**130**	*e*x	Pg	01 31 11.0	+5.0
PONG				*e*S	**Sn**	**01 31 52.0**	**-3.2**
DHRM	**DHARAMSHALA**	**7.22**	**126**	*e*P	Pn	01 30 38.6	+4.5
DHRM				*e*S	**Sn**	**01 31 55.3**	**-0.9**
DHRM				AML	AML	01 32 18.4	
	comp=N,122nm,0.1s						
DHRM				AML	AML	01 32 25.7	
	comp=E,147nm,0.8s						
FRU	**Bishkek**	**7.29**	**32**	*e*PN	**Pn**	**01 30 36.5**	**+1.7**
FRU				*e*S	**Sn**	**01 31 58.0**	**+0.4**
FRU				smax	smax		
	comp=E,530nm,1.9s						
TKM2	**Tokmak 2**	**7.79**	**36**	⇑Pn	**Pn**	**01 30 43.7**	**+1.8**
	comp=E,24nm,0.6s						
TKM2				⇑Sn	**Sn**	**01 32 11.5**	**+1.2**
	comp=E,32nm,0.7s						
TKM2				⇑Lg	Lg	01 32 50.4	
	comp=E,20nm,0.7s						
TKM2	**Tokmak 2**	**7.79**	**36**	P	**Pn**	**01 30 43.7**	**+1.8**
TKM2				S	**Sn**	**01 32 11.5**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,24nm,0.6s						
TKM2				smax	smax		
	comp=N,32nm,0.7s						
BHK	**Bhakra**	**7.85**	**130**	*e*S	**Sn**	**01 32 09.0**	**-2.5**
SDNR	**Sundarnagar**	**8.14**	**128**	*e*x	Pb	01 31 04.0	-5.4
SMLA	**Simla**	**8.51**	**129**	*e*P	Pn	01 30 55.3	+3.6
SMLA				*e*S	**Sn**	**01 32 23.5**	**-4.3**
SMLA				AML	AML	01 33 36.7	
	comp=N,69nm,0.6s						
SMLA				AML	AML	01 33 43.3	
	comp=E,111nm,0.4s						
GEYT	**Alibeck**	**9.09**	**281**	Pn	**Pn**	**01 30 59.2**	**-0.4**
	comp=E,2.1nm,0.3s,baz=87,slow=8.9,SNR=24						
GEYT				Sn	**Sn**	**01 32 38.0**	**-4.1**
	comp=E,1.7nm,0.3s,baz=123,slow=34,SNR=6.4						
GEYT				LR	LR	01 35 05.1	
	comp=E,118nm,21.4s,baz=100,slow=41						
DDI	**Dehra Dun**	**9.62**	**129**	*e*x	**Sn**	**01 32 49.6**	**-5.5**
DDI				AML	AML	01 34 59.6	
	comp=N,166nm,0.2s						
DDI				AML	AML	01 34 59.7	
	comp=E,168nm,0.4s						
PDGK	**Podgornoye**	**10.14**	**46**	⇓Pn	**Pn**	**01 31 14.1**	**+0.1**
	comp=E,5.3nm,0.7s						
PDGK				⇓Lg	Lg	01 34 11.9	
	comp=E,13nm,0.8s						
PDGK	**Podgornoye**	**10.14**	**46**	P	**Pn**	**01 31 14.1**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**13.88**	**40**	*e*P	**Pn**	**01 32 05.7**	**+0.6**
MK31	**Makanchi Array**	**13.88**	**40**	*e*Pn	**Pn**	**01 32 05.7**	**+0.6**
MKAR	**Makanchi Array**	**13.88**	**40**	Pn	**Pn**	**01 32 04.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=16						
MKAR				Lg	Lg	01 36 13.7	
	comp=Z,0.1nm,0.3s,baz=250,slow=25,SNR=2.2						
MKAR	**Makanchi Array**	**13.88**	**40**	*e*P	**Pn**	**01 32 06.3**	**+1.2**
MKAR	**Makanchi Array**	**13.88**	**40**	*e*Pn	**Pn**	**01 32 06.2**	**+1.2**
MKAR				Lg	Lg	01 36 13.7	
AB31	**Akbulak array**	**14.30**	**334**	Pn	**Pn**	**01 32 07.3**	**-3.4**
	comp=Z,9.7nm,0.7s,baz=152,slow=12,SNR=142						
AB31				⇑Sn	Sn	01 34 38.5	-11
	comp=Z,5.0nm,0.6s,baz=148,slow=26,SNR=5.5						
AB31	**Akbulak array**	**14.30**	**334**	P	**Pn**	**01 32 07.4**	**-3.4**
AB31				S	Sn	01 34 38.5	-11
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AB31				smax	smax		
	comp=Z,5.0nm,0.6s						
ABKAR	**Akbulak array**	**14.30**	**334**	*e*Pn	**Pn**	**01 32 07.8**	**-2.9**
ABKAR				*e*Sn	**Sn**	**01 34 41.4**	**-7.9**
PYUN	**Piuthan**	**14.31**	**123**	*e*P	**Pn**	**01 32 10.1**	**-1.1**
KOLN	**Koldanda**	**14.94**	**123**	*e*P	**Pn**	**01 32 18.4**	**-1.3**
BHPL	**Bhopal**	**15.11**	**151**	*e*P	**P**	**01 32 23.7**	**-3.4**
BHPL				*e*S	**Sn**	**01 35 14.7**	**+5.3**
BHPL				AML	AML	01 37 52.8	
	comp=N,6.7nm,0.1s						
BHPL				AML	AML	01 37 53.5	
	comp=E,6.0nm,0.1s						
KURBB	**Kurchatov Arra**	**15.35**	**22**	Pn	**Pn**	**01 32 21.8**	**-3.1**
	comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=10						
KURBB				Lg	Lg	01 36 56.4	
	comp=E,0.1nm,0.3s,baz=228,slow=33,SNR=4.6						
KURK	**Kurchatov**	**15.46**	**22**	*e*P	**Pn**	**01 32 23.9**	**-2.4**
KURK				pmax	pmax		
	comp=Z,20nm,1.7s						
KURK	**Kurchatov**	**15.46**	**22**	*e*Pn	**Pn**	**01 32 23.9**	**-2.4**
	comp=Z,20nm,1.7s						
KURK				Lg	Lg	01 36 56.4	
GKN	**Gorkha**	**15.50**	**120**	*e*P	**Pn**	**01 32 25.8**	**-1.4**
	comp=Z,73nm,0.8s						
WMQ	**Urumqi**	**15.62**	**57**	P	**P**	**01 32 30.6**	**-2.2**
WMQ				pP	sP	01 32 39.4	+2.5
WMQ				PP	**PnPn**	**01 32 43.3**	**+6.5**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.3s						
WMQ				LR	LR		
	comp=Z,410nm,6.5s						
WMQ				LR	LR		
	comp=Z,210nm,4.9s						
AKTO	**Aktyubinsk**	**15.98**	**333**	Pn	**Pn**	**01 32 31.2**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=150,slow=14,SNR=22						
AKTO	**Aktyubinsk**	**15.98**	**333**	⇑Pn	**Pn**	**01 32 30.3**	**-2.7**
	comp=Z,6.1nm,0.7s						
AKTO				⇑Sn	**Sn**	**01 35 24.7**	**-5.4**
	comp=Z,7.0nm,0.7s						
DMN	**Daman**	**16.07**	**120**	*e*P	**Pn**	**01 32 32.8**	**-1.8**
KKN	**Kakani**	**16.08**	**119**	*e*P	**Pn**	**01 32 33.4**	**-1.3**
	comp=Z,63nm,0.7s						
PKIN	**Phulchoki**	**16.29**	**120**	*e*P	**Pn**	**01 32 36.1**	**-1.4**
	comp=Z,28nm,0.5s						
PKI	**Pulchoki**	**16.31**	**120**	*e*P	**Pn**	**01 32 36.5**	**-1.2**
	comp=Z,53nm,0.6s						
BVA0	**Borovoye Array**	**16.31**	**2**	⇓Pn	**Pn**	**01 32 35.5**	**-1.8**
	comp=Z,5.3nm,0.6s,baz=171,slow=9.9,SNR=16						
BVA0				⇑Sn	**Sn**	**01 35 34.0**	**-4.2**
	comp=Z,5.1nm,1.0s,baz=141,slow=18,SNR=5.4						
BVA0	**Borovoye Array**	**16.31**	**2**	P	**Pn**	**01 32 35.5**	**-1.8**
BVA0				S	**Sn**	**01 35 34.0**	**-4.2**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVA0				smax	smax		
	comp=Z,5.0nm,1.0s						
BVAR	**Borovoye Array**	**16.31**	**2**	Pn	**Pn**	**01 32 34.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=12					

GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,70nm,4.7s						
GTA				LR	LR		
	comp=Z,160nm,12.4s						
GTA				LR	LR		
	comp=Z,260nm,10.9s						
GTA				LR	LR		
	comp=Z,220nm,14.3s						
RAYN	**Ar Rayn**	**24.45**	**244**	*e*P	**P**	**01 34 09.6**	**+2.2**
	comp=Z,14nm,1.3s						
MOY	**Mondy**	**26.85**	**46**	*e*P	**P**	**01 34 32.2**	**+3.2**
ZAK	**Zakamensk**	**27.80**	**50**	*e*P	**P**	**01 34 41.6**	**+4.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MMAI	**Mount Meron Ar**	**28.08**	**273**	LR	LR	01 48 28.1	
	comp=Z,28nm,18.5s,baz=240,slow=42						
BR131	**Keskin Array S**	**28.16**	**287**	*e*P	**P**	**01 34 43.4**	**+2.5**
BRTR	**Keskin Array B**	**28.16**	**287**	P	**P**	**01 34 42.6**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=92,slow=8.0,SNR=17						
BRTR				LR	LR	01 48 36.3	
	comp=Z,16nm,20.5s,baz=117,slow=42						
TLY	**Talaya**	**28.41**	**47**	LR	LR	01 47 00.5	
	comp=Z,49nm,18.1s,baz=172,slow=38						
OBN	**Obninsk**	**28.95**	**320**	LR	LR	01 47 37.2	
	comp=Z,25nm,19.7s,baz=86,slow=39						
SONM	**Songino Array**	**29.25**	**56**	P	**P**	**01 34 51.4**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=248,slow=10,SNR=16						
SONM				LR	LR	01 47 42.6	
	comp=Z,182nm,21.2s,baz=270,slow=39						
SONM	**Songino Array**	**29.25**	**56**	P	**P**	**01 34 51.4**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,182nm,21.2s						
ULN	**Ulaanbaatar**	**29.69**	**56**	*e*P	**P**	**01 34 56.0**	**+1.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**29.69**	**56**	*e*P	**P**	**01 34 56.0**	**+1.6**
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.68**	**117**	P	**P**	**01 35 13.7**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=301,slow=7.8,SNR=7.8						
AKASG	**Malin Array Be**	**31.82**	**309**	P	**P**	**01 35 14.0**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=84,slow=7.3,SNR=5.3						
AKASG	**Malin Array Be**	**31.82**	**309**	P	**P**	**01 35 14.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**32.87**	**70**	*e*P	**P**	**01 35 24.4**	**+2.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,54nm,5.6s						
NRIK	**Noril'sk**	**34.14**	**11**	P	**P**	**01 35 34.5**	**+1.5**
	comp=Z,3.7nm,0.8s,baz=204,slow=6.6,SNR=5.4						
BOD	**Bodaibo**	**35.98**	**40**	*e*P	**P**	**01 35 49.6**	**+0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**36.59**	**326**	P	**P**	**01 35 56.0**	**+1.8**
	comp=Z,3.2nm,0.8s,baz=150,slow=9.3,SNR=4.1						
FINES				LR	LR	01 51 45.4	
	comp=Z,38nm,21.6s,baz=112,slow=38						
PSZ	**Piszkesteto**	**37.69**	**303**	*e*P	**P**	**01 36 03.7**	**-0.2**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PSZ	**Piszkesteto**	**37.69**	**303**	*e*P	**P**	**01 36 03.7**	**-0.2**
	comp=Z,2.3nm,0.7s						
VYHS	**Vyhne**	**38.39**	**304**	*e*P	P	01 36 17.9	+8.3
VYHS	**Vyhne**	**38.39**	**304**	*e*P	P	01 36 17.9	+8.3
MORC	**Moravsky Berou**	**39.21**	**306**	*e*P	**P**	**01 36 16.9**	**+0.4**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MORC	**Moravsky Berou**	**39.21**	**306**	*e*P	**P**	**01 36 16.9**	**+0.4**
	comp=Z,4.3nm,0.6s						
ARCES	**ARCESS Array B**	**40.46**	**338**	P	**P**	**01 36 28.0**	**+1.4**
	comp=Z,4.8nm,0.9s,baz=98,slow=6.6,SNR=5.7						
ARCES	**ARCESS Array B**	**40.46**	**338**	P	**P**	**01 36 28.0**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CUC	**Castrocucco**	**41.64**	**291**	*e*P	**P**	**01 36 38.9**	**+2.1**
	comp=Z,5.2nm,0.9s						
GERES	**GERESS Array B**	**41.77**	**305**	P	**P**	**01 36 39.8**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=104,slow=8.4,SNR=4.5						
CN2	**Changchun**	**42.62**	**62**	*e*P	**P**	**01 36 48.1**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
PSI	**Prapat**	**43.33**	**134**	P	**P**	**01 36 52.2**	**+1.4**
	comp=Z,2.7nm,0.3s,baz=312,slow=15,SNR=4.9						
NB2	**NORSAR Subarra**	**43.44**	**323**	P	**P**	**01 36 51.9**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**43.44**	**323**	P	**P**	**01 36 51.7**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=97,slow=8.1,SNR=4.9						
NOA				LR	LR	01 56 34.0	
	comp=Z,44nm,20.6s,baz=105,slow=38						
YAK	**Yakutsk**	**44.52**	**36**	P	**P**	**01 37 00.3**	**+0.6**
	comp=Z,14nm,0.5s,baz=264,slow=1.7,SNR=5.0						
YAK	**Yakutsk**	**44.52**	**36**	*e*P	**P**	**01 37 00.3**	**+0.6**
	comp=Z,21nm,0.7s						
KLR	**Kul'dur**	**46.03**	**54**	P	**P**	**01 37 13.4**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=268,slow=6.3,SNR=8.2						
TIXI	**Tiksi**	**46.04**	**22**	*e*P	**P**	**01 37 12.2**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIXI	**Tiksi**	**46.04**	**22**	*e*P	**P**	**01 37 12.2**	**+0.6**
	comp=Z,6.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.16**	**61**	P	**P**	**01 37 21.9**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=296,slow=7.4,SNR=7.4						
MAJO	**Matsushiro**	**54.04**	**68**	*e*P	**P**	**01 38 13.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAJO	**Matsushiro**	**54.04**	**68**	*e*P	**P**	**01 38 13.7**	**+0.8**
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**54.04**	**68**	P	**P**	**01 38 13.5**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=299,slow=10,SNR=5.9						
ESDC	**Sonseca Array**	**56.23**	**297**	P	**P**	**01 38 30.0**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=92,slow=15,SNR=4.5						
TORD	**Torodi Ar. Bea**	**64.46**	**268**	P	**P**	**01 39 25.5**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=54,slow=6.2,SNR=7.0						
INK	**Inuvik**	**73.88**	**9**	P	**P**	**01 40 23.8**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=345,slow=3.9,SNR=5.1						
ILAR	**Eielson Array**	**74.90**	**15**	P	**P**	**01 40 29.7**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=317,slow=5.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**76.05**	**125**	P	**P**	**01 40 36.5**	**+0.4**
	comp=Z,2.8nm,1.0s,baz=294,slow=1.4,SNR=3.2						
BOSA	**Boshof**	**77.12**	**219**	P	**P**	**01 40 42.5**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=40,slow=17,SNR=2.2						
YKA	**Yellowknife Ar**	**81.07**	**2**	P	**P**	**01 41 04.4**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=294,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**83.19**	**121**	P	**P**	**01 41 14.5**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=331,slow=5.1,SNR=5.1						
ASAR	**Alice Springs**	**85.42**	**124**	P	**P**	**01 41 26.1**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=319,slow=5.3,SNR=5.9						

*IDC **23** 01:31:42.8±0.7, 4°.65S×100°.63E, h0km, mb4.1/23, mb1 4.2/24, mb1mx4.0/56, mbtmp4.1/24, ML4.0/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/38, Error ellipse: s-maj=23.5km s-min=11.2km az=54.0*

*ISCJB **23** 01:31:46.0±0.4, 4°.57S±0°.04×100°.68E±0°.04, h33km, mb4.2/35, MS3.8/10, Error ellipse: s-maj=7.1km s-min=3.6km az=38.7*

*NEIC **23** 01:31:46.5±2.4, 4°.61S×100°.69E, h25km±15km, mb4.5/13, Error ellipse: s-maj=11.6km s-min=4.2km az=47.0*

*DJA **23** 01:31:46.7±0.5, 5°.5S±4°.×10°.1E±°, h68km±18km, M4.7/13, mb4.6/6, mB5.4/5, MLv4.7/13, Mw(mB)4.8/5*

ISC 23 01:31:47.5±0.6, 4°.68S±0°.07×100°.66E±0°.07, h35km, n76, σ2°.12/81, mb4.4/35, MS3.8/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**2.01**	**341**	P	**Pn**	**01 32 17.4**	**-1.7**
PPSI				S	**Sn**	**01 32 41.4**	**-1.6**
MASI	**Maura Aman, Be**	**2.20**	**46**	P	**Pn**	**01 32 19.7**	**-2.0**
MNAI	**Manna**	**2.32**	**82**	P	**Pn**	**01 32 22.3**	**-0.9**
MNAI	**Manna**	**2.32**	**82**	*e*Pn	**Pn**	**01 32 21.9**	**-1.3**
LHSI	**Lahat**	**2.98**	**74**	P	**Pn**	**01 32 32.5**	**+0.1**
LHSI				S	**Sn**	**01 33 06.5**	**-0.5**
LWLI	**Liwa**	**3.41**	**96**	P	**Pn**	**01 32 38.3**	**0.0**
MDSI	**Maura Dua**	**3.52**	**87**	P	**Pn**	**01 32 39.0**	**-0.7**
MDSI				S	**Sn**	**01 33 19.5**	**-0.7**
SISI	**Saibi**	**3.68**	**335**	P	**Pn**	**01 32 40.4**	**-1.6**
SISI				S	**Sn**	**01 33 20.9**	**-3.4**
PDSI	**Padang**	**3.75**	**357**	P	**Pn**	**01 32 40.7**	**-2.3**
PDSI				S	**Sn**	**01 33 22.4**	**-3.6**
KASI	**Kota Agung**	**3.92**	**102**	P	**Pn**	**01 32 44.3**	**-0.9**
KASI				S	**Sn**	**01 33 25.5**	**-4.5**
KLSI		**4.06**	**90**	P	**Pn**	**01 32 47.2**	**0.0**
CGJI	**Cibinong**	**5.37**	**111**	P	**Pn**	**01 33 03.1**	**-2.1**
CGJI				S	**Sn**	**01 33 58.2**	**-7.6**
DBJI	**Dramaga**	**6.34**	**107**	P	**Pn**	**01 33 21.1**	**+2.5**
CNJI	**Cibinong**	**6.95**	**112**	P	**Pn**	**01 33 24.2**	**-2.7**
PSI	**Prapat**	**7.63**	**347**	Pn	**Pn**	**01 33 33.6**	**-2.9**
	2.2nm,0.3s,baz=158,slow=13,SNR=4.7						
PSI				Sn	**Sn**	**01 35 04.2**	**+2.4**
	0.8nm,0.3s,baz=193,slow=18,SNR=2.1						
CISI	**Cisompet, Garu**	**7.67**	**112**	P	**Pn**	**01 33 34.6**	**-2.3**
TPTI		**8.62**	**336**	P	**Pn**	**01 33 50.0**	**+0.1**
	42nm,0.7s,731nm						
TPTI				S	**Sn**	**01 35 19.4**	**-6.6**
	42nm,0.7s,731nm						
KCSI	**Kotacane, Aceh**	**8.65**	**340**	P	**Pn**	**01 33 49.9**	**-0.4**
KCSI				S	**Sn**	**01 35 18.8**	**-7.8**
IPM	**Ipoh**	**9.11**	**2**	*e*Pn	**Pn**	**01 33 57.0**	**+0.4**
MLSI	**Meulaboh, Aceh**	**9.85**	**334**	P	**Pn**	**01 34 07.2**	**+0.4**
	76nm,0.8s,3μm						
MLSI				S	**Sn**	**01 35 52.2**	**-4.1**
	76nm,0.8s,3μm						
KULM	**Kulim**	**9.91**	**360**	*e*Pn	**Pn**	**01 34 06.3**	**-1.2**
	8.3nm,0.8s						
KKM	**Kota Kinabalu**	**18.84**	**56**	*e*P	**P**	**01 36 03.8**	**-1.0**
	29nm,1.1s						
PCI	**Palu**	**19.52**	**79**	P	**Pn**	**01 36 14.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**23.06**	**356**	P	**P**	**01 36 49.6**	**-0.5**
	3.6nm,0.6s,baz=184,slow=9.4,SNR=16						
CMAR				S	**S**	**01 41 02.6**	**+3.9**
	0.5nm,0.2s,baz=164,slow=16,SNR=2.4						
CMAR				LR	LR	01 47 27.8	
	comp=Z,405nm,18.0s,baz=182,slow=41						
PALK	**Pallekele**	**23.18**	**301**	LR	LR	01 43 41.9	
	comp=Z,153nm,20.2s,baz=116,slow=31						
CHTO	**Chiang Mai**	**23.41**	**356**	*e*P	**P**	**01 36 53.5**	**-0.1**
	3.2nm,0.6s						
SOEI	**Soe**	**23.95**	**103**	*e*P	**P**	**01 36 59.0**	**+0.1**
MBWA	**Marble Bar**	**24.72**	**133**	*e*P	**P**	**01 37 06.7**	**+0.9**
	36nm,1.2s						
QIZ	**Qiongzhong**	**25.24**	**21**	P	**P**	**01 37 09.6**	**-0.9**
QIZ				S	**S**	**01 41 39.5**	**+5.6**
QIZ				pmax	pmax		
	comp=Z,140nm,5.0s						
QIZ				LR	LR		
	comp=N,590nm,11.6s						
QIZ				LR	LR		
	comp=E,1μm,12.8s						
QIZ				LR	LR		
	comp=Z,710nm,14.9s						
FITZ	**Fitzroy Crossi**	**27.83**	**121**	P	**P**	**01 37 34.4**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=274,slow=5.7,SNR=8.7						
H08S2	**Diego Garcia H**	**28.15**	**263**	T	T	02 07 46.5	
	baz=84,slow=75,SNR=319						
H08S3	**Diego Garcia H**	**28.16**	**263**	T	T	02 07 26.1	
	baz=84,slow=75,SNR=307						
H08S1	**Diego Carcia H**	**28.17**	**263**	T	T	02 07 48.2	
	baz=84,slow=75,SNR=313						
WRA	**Warramunga Arr**	**36.12**	**118**	P	**P**	**01 38 46.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=303,slow=8.8,SNR=16						
WRA				LR	LR	01 55 39.7	
	comp=Z,86nm,18.9s,baz=275,slow=40						
WRAB	**Tennant Creek**	**36.13**	**118**	*e*P	**P**	**01 38 46.9**	**+0.3**
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**37.19**	**124**	P	**P**	**01 38 56.2**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=298,slow=7.8,SNR=42						
ASAR				LR	LR	01 55 39.5	
	comp=Z,202nm,20.8s,baz=306,slow=39						
STKA	**Stephens Creek**	**46.91**	**130**	P	**P**	**01 40 15.8**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=300,slow=9.9,SNR=4.6						
CTA	**Charters Tower**	**46.91**	**113**	P	**P**	**01 40 16.4**	**+1.3**
	comp=Z,4.9nm,1.0s,baz=306,slow=12,SNR=2.5						
CTAO	**Charters Tower**	**46.91**	**113**	*e*P	**P**	**01 40 15.8**	**+0.8**
	comp=Z,105nm,1.2s						
KSAR	**Wonju Array Be**	**48.98**	**29**	P	**P**	**01 40 31.7**	**+0.9**
KSRS	**Korea Array**	**49.01**	**29**	P	**P**	**01 40 31.7**	**+0.7**
	comp=Z,4.6nm,1.2s,baz=210,slow=9.7,SNR=7.0						
SONM	**Songino Array**	**52.54**	**5**	P	**P**	**01 40 58.7**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=188,slow=9.3,SNR=23						
ULN	**Ulaanbaatar**	**52.63**	**5**	*e*P	**P**	**01 40 58.7**	**+0.4**
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**53.77**	**344**	P	**P**	**01 41 06.9**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=152,slow=8.0,SNR=10						
MAJO	**Matsushiro**	**53.97**	**37**	*e*P	**P**	**01 41 07.3**	**-0.8**
	comp=Z,3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**53.97**	**37**	P	**P**	**01 41 07.5**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=198,slow=7.9,SNR=5.1						
USRK	**Ussuriysk Ar.**	**56.22**	**27**	P	**P**	**01 41 24.6**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=230,slow=6.3,SNR=15						
GEYT	**Alibeck**	**57.92**	**321**	P	**P**	**01 41 37.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=122,slow=5.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**58.29**	**344**	P	**P**	**01 41 39.2**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=157,slow=6.6,SNR=5.2						
KURK	**Kurchatov**	**58.35**	**344**	P	**P**	**01 41 39.2**	**+0.1**
ZALV	**Zalesovo Beam**	**59.91**	**349**	P	**P**	**01 41 50.2**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=190,slow=3.9,SNR=17						
KLR	**Kul'dur**	**60.12**	**23**	P	**P**	**01 41 51.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=244,slow=7.0,SNR=8.0						
RAYN	**Ar Rayn**	**60.62**	**300**	*e*P	**P**	**01 41 56.4**	**+1.0**
	comp=Z,3.3nm,1.1s						
BVAR	**Borovoye Array**	**62.91**	**340**	P	**P**	**01 42 10.1**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=138,slow=9.6,SNR=4.1						
BRVK	**Borovoye**	**62.98**	**340**	*e*P	**P**	**01 42 10.0**	**-0.6**
	comp=Z,6.6nm,1.0s						
KMBO	**Kilima Mbogo**	**63.40**	**271**	LR	LR	02 05 12.6	
	comp=Z,24nm,18.7s,baz=88,slow=32						
ABKAR	**Akbulak array**	**64.30**	**332**	*e*P	**P**	**01 42 19.2**	**-0.1**
	comp=Z,4.7nm,0.6s						
AKTO	**Aktyubinsk**	**66.01**	**332**	P	**P**	**01 42 30.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=59,slow=5.9,SNR=2.6						
MAW	**Mawson**	**67.86**	**195**	LR	LR	02 05 31.3	
	comp=Z,127nm,21.7s,baz=60,slow=30						
ARU	**Arti**	**69.91**	**337**	*e*P	**P**	**01 42 54.0**	**-0.9**
	comp=Z,1.9nm,0.5s						
ASF	**Jabal al Asfar**	**70.69**	**306**	P	**P**	**01 43 01.1**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=101,slow=16,SNR=1.6						
KBZ	**Khabaz**	**70.75**	**320**	P	**P**	**01 43 00.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=89,slow=5.2,SNR=4.7						
CSS	**Mathiatis**	**74.38**	**308**	*e*P	**P**	**01 43 21.9**	**-0.3**
	comp=Z,6.0nm,1.3s						
NRIK	**Noril'sk**	**74.41**	**355**	P	**P**	**01 43 21.6**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=181,slow=7.5,SNR=4.3						
BOSA	**Boshof**	**74.96**	**242**	LR	LR	02 09 46.1	
	comp=Z,60nm,18.5s,baz=61,slow=30						
BRTR	**Keskin Array B**	**75.61**	**313**	P	**P**	**01 43 29.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=134,slow=11,SNR=5.0						
BRTR				LR	LR	02 19 41.0	
	comp=Z,34nm,18.1s,baz=110,slow=38						
AKASG	**Malin Array Be**	**82.00**	**323**	P	**P**	**01 44 04.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=90,slow=4.6,SNR=2.8						
FINES	**FINESS Array B**	**86.78**	**332**	P	**P**	**01 44 28.4**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=130,slow=10,SNR=3.4						
PSZ	**Piszkesteto**	**87.27**	**318**	*e*P	**P**	**01 44 30.6**	**-0.2**
	comp=Z,2.5nm,0.9s						
MORC	**Moravsky Berou**	**89.10**	**320**	*e*P	**P**	**01 44 39.7**	**+0.3**
	comp=Z,6.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**99.76**	**282**	LR	LR	02 29 19.0	
	comp=Z,8.7nm,19.9s,baz=60,slow=35						
AMTX	**Amarillo**	**143.52**	**32**	*e*PKPdf	**PKPdf**	**01 51 18.2**	**-1.1**
WMOK	**Wichita Mounta**	**145.09**	**29**	*e*PKPdf	**PKPbc**	**01 51 20.9**	**-0.5**
TXAR	**Lajitas Array**	**146.37**	**40**	PKPbc	**PKPab**	**01 51 26.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=288,slow=1.5,SNR=21						
JCT	**Junction City**	**147.90**	**35**	*e*PKPbc	**PKPbc**	**01 51 30.2**	**+0.4**
HKT	**Hockley**	**150.43**	**30**	*e*PKPdf	**PKPdf**	**01 51 30.8**	**+0.1**

*NEIC **23** 01:33:42.9±9.6, 4°.85S×100°.41E, h10km±58km, mb4.2/4, Error ellipse: s-maj=32.2km s-min=8.6km az=46.0*

*ISCJB **23** 01:33:44.4±0.9, 4°.8S±0°.1×100°.4E±0°.2, h33km, mb4.1/11, MS3.8/4, Error ellipse: s-maj=28.0km s-min=11.5km az=137.0*

*IDC **23** 01:33:45.8±4.2, 4°.06S×101°.49E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/49, mbtmp3.8/5, MS3.8/4, Ms1 3.8/4, ms1mx3.3/39, Error ellipse: s-maj=181.8km s-min=23.9km az=54.0*

ISC 23 01:33:46.6±1.2, 4°.7S±0°.2×100°.6E±0°.2, h35km, n16, σ1°.46/13, mb4.0/11, MS3.8/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.92**	**0**	*e*Pn	**Pn**	**01 36 07.5**	**+0.8**
LUWI	**Luwuk**	**22.46**	**81**	*e*P	**P**	**01 38 44.6**	**+1.6**
SOEI	**Soe**	**24.03**	**103**	*e*P	**P**	**01 38 59.9**	**+1.1**
	22nm,1.0s						
WRA	**Warramunga Arr**	**36.20**	**118**	P	**P**	**01 40 46.5**	**+0.2**
	0.9nm,0.8s,baz=303,slow=9.1,SNR=3.3						
WRAB	**Tennant Creek**	**36.20**	**118**	*e*P	**P**	**01 40 46.3**	**-0.1**
	3.0nm,0.8s						
ASAR	**Alice Springs**	**37.26**	**124**	P	**P**	**01 40 55.5**	**+0.1**
	0.5nm,0.6s,baz=295,slow=8.0,SNR=4.6						
SONM	**Songino Array**	**52.55**	**5**	P	**P**	**01 42 57.0**	**+0.2**
	0.8nm,0.6s,baz=183,slow=9.5,SNR=3.0						
MKAR	**Makanchi Array**	**53.76**	**345**	P	**P**	**01 43 06.6**	**+1.1**
	0.4nm,0.4s,baz=157,slow=9.2,SNR=3.3						
MKAR				LR	LR	02 08 03.9	
	comp=Z,49nm,19.7s,baz=164,slow=38						
MAJO	**Matsushiro**	**54.02**	**37**	*e*P	**P**	**01 43 04.1**	**-3.5**
	2.7nm,0.4s						
GEYT	**Alibeck**	**57.87**	**321**	LR	LR	02 10 25.1	
	comp=Z,88nm,19.0s,baz=140,slow=38						
KURK	**Kurchatov**	**58.33**	**344**	*e*P	**P**	**01 43 39.2**	**+1.1**
	8.5nm,0.8s						
ZALV	**Zalesovo Beam**	**59.90**	**349**	P	**P**	**01 43 50.1**	**+1.2**
	0.6nm,0.5s,baz=177,slow=5.8,SNR=3.0						
RAYN	**Ar Rayn**	**60.55**	**300**	*e*P	**P**	**01 43 53.8**	**-0.2**
	0.5nm,0.4s						
ABKAR	**Akbulak array**	**64.26**	**332**	*e*P	**P**	**01 44 17.7**	**-0.6**
	0.8nm,0.5s						
RPZ	**Rata Peaks**	**72.70**	**134**	LR	LR	02 12 40.5	
	comp=Z,94nm,21.0s,baz=88,slow=32						
VNDA	**Vanda**	**79.43**	**169**	LR	LR	02 20 05.1	

*NNC **23** 01:38:57.6±3.6, 37°.79N×71°.49E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=33.0km s-min=22.0km az=145.0*

ISC 23 01:38:50.4±1.3, 37°.06N±0°.08×71°.6E±0°.1, h106km, n6, σ2°.45/11, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.46**	**7**	⇑P	**Pn**	**01 40 11.8**	**+2.3**
	1.8nm,0.3s						
MNAS				⇓S	**Sn**	**01 41 07.9**	**-3.2**
	13nm,0.4s						
THN	**Thein Dam**	**5.71**	**143**	*e*P	**Pn**	**01 40 13.0**	**+0.3**
THN				*e*S	**Sn**	**01 41 14.8**	**-2.1**
AAK	**Ala-Archa**	**5.99**	**21**	⇓P	**Pn**	**01 40 18.7**	**+2.0**
	6.3nm,0.5s						
AAK				⇓S	**Sn**	**01 41 22.0**	**-1.9**
	11nm,0.6s						
KK31	**Karatay Array**	**6.10**	**352**	P	**Pn**	**01 40 20.1**	**+2.1**
	3.0nm,0.3s,baz=178,slow=13,SNR=105						
KK31				⇑S	**Sn**	**01 41 22.9**	**-3.5**
	3.1nm,0.2s,baz=172,slow=22,SNR=4.2						
TKM2	**Tokmak 2**	**6.60**	**26**	⇑P	**Pn**	**01 40 26.8**	**+1.8**
	7.1nm,0.6s						
TKM2				⇓S	**Sn**	**01 41 39.0**	**+0.2**
	2.6nm,0.6s						
AB31	**Akbulak array**	**14.86**	**329**	⇓P	**P**	**01 42 17.9**	**0.0**
	6.5nm,0.8s,baz=122,slow=6.9,SNR=8.9						

IDC 23 01:47:57.6±4.4, 4°.78S×100°.69E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.4/47, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/49, Error ellipse: s-maj=165.3km s-min=19.3km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.15**	**356**	P	P	01 53 05.0	-0.8
	0.8nm,0.3s,baz=171,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.75**	**121**	P	P	01 53 47.1	-1.2
	0.9nm,0.8s,baz=349,slow=10,SNR=2.1						
H08S2	**Diego Garcia H**	**28.17**	**263**	T	T	02 23 13.5	
	baz=89						
H08S3	**Diego Garcia H**	**28.18**	**263**	T	T	02 23 12.3	
	baz=89						
H08S1	**Diego Carcia H**	**28.19**	**263**	T	T	02 23 14.8	
	baz=89						
WRA	**Warramunga Arr**	**36.05**	**118**	P	P	01 55 02.0	+0

HNR *e*S Sn 02 02 51.0 -10
HNR Honiara 4.60 287 *e*Pn **Pn 02 02 07.8 -0.1**
HNR Sn **Sn 02 03 00.5 -0.1**
DZM Mont Dzumac 11.36 170 Pn **Pn 02 03 43.1 +2.4**
3.0nm,0.3s,baz=349,slow=9.7,SNR=40
DZM Sn **Sn 02 05 43.3 -3.8**
0.2nm,0.3s,baz=137,slow=19,SNR=1.9
DZM Mont Dzumac 11.36 170 *e*Pn **Pn 02 03 42.9 +2.2**
11nm,0.5s
DZM Sn **Sn 02 05 43.3 -3.8**
PMG Port Moresby 17.04 273 *e*Pn **Pn 02 04 55.3 -1.4**
CTA Charters Tower 19.76 240 P **P 02 05 29.3 +1.1**
0.4nm,0.3s,baz=68,slow=14,SNR=4.2
CTA S **S 02 09 13.4 +3.5**
0.2nm,0.3s,baz=323,slow=20,SNR=2.2
CTAO Charters Tower 19.76 240 *e*P **P 02 05 29.6 +1.4**
41nm,0.7s
AFI Afiamalu 23.46 100 LR LR 02 12 43.8
comp=Z,69nm,20.6s,baz=102,slow=30
H11S2 WAKE ISLAND Hy 29.21 4 T T 02 37 26.1
baz=184,slow=76,SNR=33
H11S3 WAKE ISLAND Hy 29.21 4 T T 02 37 26.3
baz=184,slow=76,SNR=41
H11S1 WAKE ISLAND Hy 29.23 4 T T 02 37 27.4
baz=184,slow=76,SNR=50
STKA Stephens Creek 29.72 222 P **P 02 07 05.0 +0.8**
1.5nm,0.8s,baz=40,slow=13,SNR=3.2
WRAB Tennant Creek 30.32 249 *e*P **P 02 07 08.6 -1.1**
1.9nm,0.7s
WRA Warramunga Arr 30.33 249 P **P 02 07 08.0 -1.9**
2.2nm,0.9s,baz=79,slow=9.4,SNR=4.5
WRA LR LR 02 18 52.3
comp=Z,56nm,18.6s,baz=315,slow=36
H11N1 WAKE ISLAND Hy 30.44 5 T T 02 38 50.7
baz=184,slow=76,SNR=32
H11N3 WAKE ISLAND Hy 30.44 5 T T 02 38 54.7
baz=184,slow=76,SNR=37
H11N2 WAKE ISLAND Hy 30.46 5 T T 02 38 59.9
baz=184,slow=76,SNR=40
ASAR Alice Springs 31.73 242 P **P 02 07 20.5 -1.7**
0.3nm,0.4s,baz=68,slow=10,SNR=4.4
BBOO Buckleboo 34.03 226 *e*P **P 02 07 42.3 +0.1**
7.5nm,0.9s
KKM Kota Kinabalu 50.81 287 *e*P **P 02 09 58.5 -0.5**
VNDA Vanda 66.70 181 P **P 02 11 50.0 +1.7**
0.3nm,0.8s,baz=352,slow=4.8,SNR=2.6
ULN Ulaanbaatar 77.35 324 *e*P **P 02 12 52.3 -0.5**
3.5nm,1.0s
SONM Songino Array 77.71 324 P **P 02 12 55.8 +1.0**
0.2nm,0.5s,baz=146,slow=5.8,SNR=2.4
ILAR Eielson Array 83.72 19 P **P 02 13 26.1 -0.3**
0.8nm,0.7s,baz=240,slow=5.5,SNR=4.8

IDC 23 02:02:09.6±1.5,28.°21S×175.°93W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/35,mbtmp3.7/4,ML4.1/1,Error ellipse: s-maj=56.8km s-min=33.5km az=163.0, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.03 239 Pn Pb 02 02 46.8 -0.6
64nm,0.3s,baz=43,slow=18,SNR=3.8
RAO Sn Sn 02 03 09.5 -1.6
136nm,0.3s,baz=73,slow=20,SNR=4
STKA Stephens Creek 36.78 254 P P 02 09 19.7 +0.6
1.9nm,1.0s,baz=100,slow=11,SNR=2.2
ASAR Alice Springs 45.09 264 P P 02 10 26.4 -1.3
0.3nm,0.5s,baz=100,slow=7.5,SNR=6.1
ASAR PcP PcP 02 12 08.7 +0.1
0.4nm,0.7s,baz=98,slow=2.8,SNR=3.2
WRA Warramunga Arr 45.88 269 P P 02 10 32.9 -1.3
0.5nm,0.4s,baz=108,slow=7.9,SNR=8.7
FINES FINESS Array B 143.67 342 PKP PKPbc 02 21 44.3 +1.0
0.8nm,0.6s,baz=91,slow=3.1,SNR=6.3
AKASG Malin Array Be 150.57 327 PKPbc PKPbc 02 22 04.1 +1.0
0.3nm,0.3s,baz=44,slow=2.5,SNR=4.1
TORD Torodi Ar. Bea 164.85 171 PKPab PKPab 02 23 10.8 -1.2
0.7nm,1.0s,baz=172,slow=4.2,SNR=3.1

*IDC **23** 02:13:51.8±0.7,51.°54N×173.°50W,h0km,mb4.2/29, mb1 4.3/31,mb1mx4.1/76,mbtmp4.2/31,ML4.0/2,Error ellipse: s-maj=20.3km s-min=12.9km az=168.0*
*ISCJB **23** 02:13:56.2±0.4,51.°64N±0.°07×173.°51W±0.°05,h37km, mb4.3/53,MS3.9/1,Error ellipse: s-maj=10.0km s-min=4.1km az=169.4*
*NEIC **23** 02:13:57.5±1.0,51.°59N×173.°51W,h35km±8km,mb4.2/37, Error ellipse: s-maj=11.2km s-min=5.1km az=176.0*
ISC 23 02:13:57.6±0.7,51.°5N±0.°1×173.°47W±0.°05,h37km,n97, σ1§36/98,mb4.2/53,Andreanof Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATKA Atka Island 0.82 327 *e*Pn **Pn 02 14 11.8 -0.8**
ADK Adak 2.04 282 *e*Pn **Pn 02 14 28.9 -0.4**
ADK *e*Sn **Sn 02 14 51.2 -2.2**
NIKH Nikolski High 3.19 61 *e*Pn **Pn 02 14 45.2 +0.1**
UNV Unalaska Valle 4.84 58 *e*Pn **Pn 02 15 09.2 +1.5**
KDAK Kodiak Island 13.59 54 Pn **Pn 02 17 04.4 -3.1**
0.6nm,0.3s,baz=230,slow=5.9,SNR=11
TT01 Tatalina 14.75 33 *e*Pn **Pn 02 17 25.4 +2.1**
TTA Tatalina 14.77 33 *e*Pn **Pn 02 17 20.9 -2.7**
CNPM China Poot 14.87 49 *e*Pn **Pn 02 17 24.5 -0.4**
SEW Seward 15.92 48 *e*Pn **Pn 02 17 36.4 -2.1**
91nm,1.9s
CAST Castle Rocks 16.46 35 *e*Pn **P 02 17 49.4 +1.7**
18nm,1.4s
KTH Kantishna Hill 16.96 36 *e*Pn **P 02 17 52.7 -0.6**
30nm,1.4s
BPAW Bear Paw Mtn. 17.25 34 *e*Pn **P 02 17 56.7 +0.1**
6.7nm,0.8s
FID Port Fidalgo 17.53 48 *e*Pn **Pn 02 17 56.5 -2.2**
62nm,1.6s
SCM Sheep Creek Mo 17.55 44 *e*Pn **Pn 02 17 57.8 -1.4**
12nm,0.9s
PETK Petropavlovsk- 17.65 287 P **Pn 02 17 59.4 -0.9**
0.4nm,0.3s,baz=91,slow=14,SNR=6.4
RND Reindeer 17.66 38 *e*Pn **Pn 02 17 59.4 -1.0**
8.0nm,0.9s
MCK McKinley 17.80 37 *e*Pn **Pn 02 18 01.1 -1.0**
MLY Manley 17.91 32 *e*Pn **P 02 18 04.7 +0.9**
30nm,1.8s
KLU Klutina 18.04 46 *e*Pn **Pn 02 18 04.1 -1.1**
16nm,1.3s
DHY Denali Highway 18.08 40 *e*Pn **Pn 02 18 04.7 -1.0**
23nm,1.8s
WRH Wood River Hil 18.51 36 *e*P **P 02 18 10.1 -0.2**
32nm,1.8s
CCB Clear Creek Bu 18.70 36 *e*P **P 02 18 10.9 -1.6**
25nm,1.5s
COLA College 18.81 35 *e*P **P 02 18 13.0 -0.6**
4.0nm,0.8s
PAX Paxson 18.81 42 *e*P **Pn 02 18 14.8 +0.3**
1.9nm,0.5s
HDA Harding Lake 18.90 37 *e*P **P 02 18 13.9 -0.7**
7.9nm,0.5s
ILAR Eielson Array 19.11 36 P **P 02 18 14.7 -2.2**
0.7nm,0.3s,baz=228,slow=9.2,SNR=62
ILB Eielson Array 19.11 36 *e*P **P 02 18 15.4 -1.5**
DOT Dot Lake 19.67 41 *e*P **P 02 18 22.9 -0.3**
11nm,0.7s
EGAK Eagle 21.29 39 *e*P **P 02 18 40.4 -0.2**
23nm,0.8s
DAWY Dawson 21.75 42 *e*P **P 02 18 44.8 -0.7**
5.9nm,1.0s
INK Inuvik 25.46 34 P **P 02 19 21.1 -0.4**
5.0nm,0.8s,baz=246,slow=6.4,SNR=17
DLBC Dease Lake 25.49 57 P **P 02 19 24.1 +2.0**
5.5nm,0.9s,baz=287,slow=9.5,SNR=6.2
TIXI Tiksi 32.17 330 P **P 02 20 20.9 -0.4**
0.8nm,0.2s,baz=117,slow=14,SNR=3.1
YKA Yellowknife Ar 32.70 47 P **P 02 20 25.7 -0.2**
1.1nm,0.8s,baz=276,slow=9.2,SNR=4.1
B08A Colville Reser 34.32 73 *e*P **P 02 20 40.0 -0.4**
3.9nm,0.9s
KLR Kul'dur 34.33 288 P **P 02 20 38.8 -1.5**
0.1nm,0.5s,baz=62,slow=11,SNR=4.6
HAWA Hanford 35.10 77 *e*P **P 02 20 48.6 +1.5**
5.1nm,0.8s
H11N2 WAKE ISLAND Hy 35.28 213 T T 02 58 58.8
baz=21
H11N3 WAKE ISLAND Hy 35.28 213 T T 02 59 19.9
baz=21,slow=74
H11N1 WAKE ISLAND Hy 35.29 213 T T 02 59 24.4
baz=21,slow=74

NEW Newport 35.68 72 P **P 02 20 52.9 +0.8**
3.8nm,0.9s,baz=296,slow=6.3,SNR=6.6
NEW Newport 35.68 72 *e*P **P 02 20 53.2 +1.1**
4.4nm,0.9s
H11S1 WAKE ISLAND Hy 36.48 213 T T 03 00 17.5
baz=17
H11S2 WAKE ISLAND Hy 36.49 213 T T 03 00 33.7
baz=17,slow=74
H11S3 WAKE ISLAND Hy 36.49 213 T T 03 00 52.0
baz=17,slow=74
USRK Ussuriysk Ar. 36.57 280 P **P 02 20 58.1 -1.5**
4.0nm,0.7s,baz=77,slow=6.2,SNR=6.2
BSMT Bassoo Peak 37.26 72 *e*P **P 02 21 05.2 -0.5**
WVOR Wild Horse Val 37.69 82 *e*P **P 02 21 10.7 +1.4**
25nm,1.0s
EGMT Eagleton 40.14 69 *e*P **P 02 21 30.5 +0.7**
10nm,0.8s
YHH Holmes Hill 41.16 74 *e*P **P 02 21 39.6 +1.2**
3.8nm,0.9s
IMW Indian Meadow 41.60 75 *e*P **P 02 21 42.6 +0.6**
4.2nm,0.5s
FXWY Fox Creek 41.69 75 *e*P **P 02 21 42.7 0.0**
2.8nm,0.8s
LOHW Long Hollow 41.96 75 *e*P **P 02 21 42.4 -2.5**
1.6nm,0.6s
KSRS Korea Array 42.96 275 P **P 02 21 53.2 +0.4**
2.6nm,0.9s,baz=63,slow=8.6,SNR=7.7
KSAR Wonju Array Be 42.99 275 P **P 02 21 53.2 +0.2**
BW06 Boulder Array 43.06 76 *e*P **P 02 21 55.2 +1.3**
4.2nm,0.9s
PD31 Pinedale Array 43.06 76 *e*P **P 02 21 54.9 +1.0**
PDAR Pinedale Array 43.06 76 P **P 02 21 53.8 -0.1**
1.1nm,0.6s,baz=274,slow=4.4,SNR=8.9
ISCO Idaho Springs 47.22 76 *e*P **P 02 22 27.9 +1.0**
2.4nm,0.6s
AGMN Agassiz Nation 47.88 62 *e*P **P 02 22 30.6 -1.0**
10nm,1.0s
SONM Songino Array 49.53 299 P **P 02 22 44.7 +0.2**
1.7nm,0.7s,baz=54,slow=7.3,SNR=9.6
ANMO Albuquerque 49.78 82 *e*P **P 02 22 46.0 -0.7**
2.2nm,0.9s
SPITS Spitsbergen Ar 50.43 357 P **P 02 22 51.5 +0.7**
12nm,1.0s,baz=60,slow=8.5,SNR=4.0
HHC Hu-ho-hao-te 50.83 289 *e*P **P 02 22 55.4 +1.0**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,49nm,2.9s
TXAR Lajitas Array 55.32 85 P **P 02 23 27.0 -0.6**
comp=Z,0.6nm,0.8s,baz=300,slow=3.6,SNR=5.7
ARCES ARCESS Array B 58.46 352 P **P 02 23 48.1 -1.0**
comp=Z,1.6nm,0.7s,baz=9.0,slow=7.6,SNR=6.5
ARCES PcP **PcP 02 24 39.1 -0.3**
comp=Z,3.7nm,0.9s,baz=18,slow=5.1,SNR=4.7
KURK Kurchatov 61.28 316 *e*P **P 02 24 08.2 -0.5**
comp=Z,10nm,0.4s
KURBB Kurchatov Arra 61.39 316 P **P 02 24 09.2 -0.2**
comp=Z,1.4nm,0.6s,baz=43,slow=7.0,SNR=8.1
WMQ Urumqi 62.02 306 P **P 02 24 15.8 +1.9**
WMQ pP sP 02 24 27.5 -1.9
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,94nm,5.5s
WMQ LR LR
comp=N,110nm,26.5s
WMQ LR LR
comp=E,90nm,24.5s
WMQ LR LR
comp=Z,57nm,20.5s
MKAR Makanchi Array 62.50 311 P **P 02 24 16.1 -0.9**
comp=Z,1.2nm,0.6s,baz=52,slow=6.2,SNR=5.3
BVAR Borovoye Array 62.88 322 P **P 02 24 19.3 -0.1**
comp=Z,2.2nm,0.5s,baz=56,slow=6.2,SNR=12
BRVK Borovoye 62.89 323 *e*P **P 02 24 18.6 -0.9**
comp=Z,6.3nm,0.6s
ARU Arti 64.17 331 P **P 02 24 27.3 -0.6**
comp=Z,1.9nm,0.4s,baz=37,slow=3.2,SNR=5.7
ARU Arti 64.17 331 *e*P **P 02 24 27.3 -0.6**
comp=Z,2.8nm,0.5s
FINES FINESS Array B 66.31 350 P **P 02 24 40.5 -1.1**
comp=Z,1.7nm,0.7s,baz=11,slow=8.3,SNR=7.0
NOA NORSAR Array B 67.73 358 P **P 02 24 50.6 -0.2**
comp=Z,1.0nm,0.9s,baz=4.9,slow=6.2,SNR=2.8
HFS Hagfors 68.55 356 P **P 02 24 54.2 -1.6**
comp=Z,2.2nm,0.9s,baz=79,slow=7.5,SNR=6.2
AAK Ala-Archa 69.27 313 P **P 02 25 01.0 +0.1**
comp=Z,3.4nm,0.6s,baz=98,slow=4.8,SNR=14
AAK Ala-Archa 69.27 313 *e*P **P 02 25 01.3 +0.5**
comp=Z,6.7nm,1.1s
AKTO Aktyubinsk 69.42 328 P **P 02 25 01.1 -0.4**
comp=Z,4.5nm,0.6s,baz=57,slow=7.3,SNR=20
ABKAR Akbulak array 69.77 326 *e*P **P 02 25 03.0 -0.6**
comp=Z,3.7nm,0.8s
LSA Lhasa 70.50 293 *e*P **P 02 25 10.6 +1.7**
comp=Z,12nm,0.5s
KKAR Karatay Array 70.68 316 *e*P **P 02 25 08.9 -0.4**
comp=Z,1.0nm,0.6s
KSH Kashi 71.03 310 P **P 02 25 15.4 +3.8**
KSH pP sP 02 25 28.4 +1.2
KSH sP PcP 02 25 33.3 +1.5
KSH *e*PcP pP 02 25 34.0 +11
KSH PP **PP 02 27 55.1 +6.3**
KSH S **S 02 34 26.3 +1.3**
KSH sS pS 02 34 38.3 -0.7
KSH SKS **SKSac 02 35 09.3 -2.0**
KSH ScS **ScS 02 35 12.9 +0.1**
KSH Kashi 71.03 310 SS SS 02 39 02.4 +4.8
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,68nm,4.9s
KSH LR LR
comp=N,46nm,7.1s
KSH LR LR
comp=E,81nm,6.1s
KSH LR LR
comp=Z,120nm,6.3s
CMAR Chiang Mai Arr 74.30 280 P **P 02 25 31.6 +0.4**
comp=Z,2.5nm,0.3s,baz=37,slow=6.1,SNR=4.6
AKASG Malin Array Be 76.35 345 P **P 02 25 41.3 -1.1**
comp=Z,0.8nm,0.4s,baz=10,slow=5.7,SNR=3.9
DPC Dobruska-Polom 78.17 354 *e*P **P 02 25 52.7 0.0**
DPC *e*pP **pP 02 26 06.0 +1.9**
KHC Kasperske Hory 79.55 355 *e*P **P 02 26 00.6 +0.3**
KHC *e*pP **pP 02 26 12.4 +0.6**
GERES GERESS Array B 79.83 355 P **P 02 26 01.6 -0.3**
comp=Z,0.5nm,0.5s,baz=13,slow=8.4,SNR=5.3
KBZ Khabaz 80.03 334 P **P 02 26 03.2 +0.3**
comp=Z,2.2nm,0.8s,baz=73,slow=4.4,SNR=6.0
GEYT Alibeck 80.16 321 P **P 02 26 04.0 +0.2**
comp=Z,2.6nm,0.8s,baz=343,slow=4.5,SNR=6.8
WRA Warramunga Arr 84.52 228 P **P 02 26 25.3 -1.2**
comp=Z,0.2nm,0.5s,baz=34,slow=6.2,SNR=3.1
BRTR Keskin Array B 86.10 339 P **P 02 26 35.2 +0.6**
comp=Z,1.0nm,0.7s,baz=17,slow=3.5,SNR=6.1
ASAR Alice Springs 87.93 227 P **P 02 26 43.0 -0.4**
comp=Z,0.8nm,0.8s,baz=29,slow=5.1,SNR=8.2
ESDC Sonseca Array 88.72 8 P **P 02 26 46.2 -0.8**
comp=Z,0.8nm,0.9s,baz=330,slow=4.4,SNR=3.8
MAW Mawson 148.64 218 PKPbc **PKPbc 02 33 39.2 +0.1**
comp=Z,2.0nm,0.9s,baz=74,slow=5.9,SNR=4.7

*IDC **23** 02:14:29.8±3.8,51.°55N×173.°59W,h0km,mb4.3/10, mb1 4.3/12,mb1mx3.9/78,mbtmp4.2/12,ML4.0/2,MS3.5/2, Ms1 3.5/2,ms1mx2.9/44,Error ellipse: s-maj=100.0km s-min=22.4km az=168.0*
*NEIC **23** 02:14:30.2±5.5,51.°43N×173.°43W,h8km±31km,mb4.6/7, Error ellipse: s-maj=40.0km s-min=8.9km az=170.0*
*ISCJB **23** 02:14:34.2±1.8,51.°7N±0.°3×173.°5W±0.°2,h37km,mb4.4/17, MS3.5/1,Error ellipse: s-maj=47.8km s-min=9.5km az=166.8*
ISC 23 02:14:35.0±1.9,51.°6N±0.°4×173.°4W±0.°1,h37km,n35, σ1§12/37,mb4.3/17,Andreanof Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
UNV Unalaska Valle 4.76 59 *e*Pn **Pn 02 15 41.8 -2.2**
SEW Seward 15.84 48 *e*Pn **Pn 02 18 15.2 +0.3**
PETK Petropavlovsk- 17.70 286 P **Pn 02 18 37.5 -0.8**
0.3nm,0.3s,baz=93,slow=13,SNR=2.7
PETK LR LR 02 25 03.5
comp=Z,128nm,18.8s,baz=96,slow=36
PETK Petropavlovsk- 17.70 286 P **Pn 02 18 37.5 -0.8**
ILAR Eielson Array 19.03 36 P **Pn 02 18 54.8 +0.3**
1.1nm,0.3s,baz=226,slow=9.0,SNR=12
ILAR Eielson Array 19.03 36 P **Pn 02 18 54.8 +0.3**
DOT Dot Lake 19.60 41 *e*P **Pn 02 19 00.4 -0.8**
7.6nm,0.4s
EGAK Eagle 21.22 39 *e*P **P 02 19 16.8 -0.3**
20nm,0.7s
INK Inuvik 25.39 34 P **P 02 19 59.0 +0.7**
3.4nm,0.6s,baz=249,slow=11,SNR=5.5
INK Inuvik 25.39 34 P **P 02 19 59.0 +0.7**
DLBC Dease Lake 25.41 57 P **P 02 20 00.2 +1.5**
8.9nm,1.0s,baz=244,slow=10,SNR=5.7
DLBC Dease Lake 25.41 57 P **P 02 20 00.2 +1.5**
NEW Newport 35.60 73 LR LR 02 35 46.6
comp=Z,71nm,18.6s,baz=323,slow=36
AGMN Agassiz Nation 47.80 62 *e*P **P 02 23 08.2 -0.1**
9.9nm,0.9s
SONM Songino Array 49.57 299 P **P 02 23 21.6 -0.6**
0.7nm,0.4s,baz=69,slow=4.4,SNR=5.1
SONM Songino Array 49.57 299 P **P 02 23 21.6 -0.6**
ARCES ARCESS Array B 58.43 352 P **P 02 24 26.1 -0.2**
2.7nm,0.9s,baz=359,slow=9.0,SNR=3.7
ARCES PcP **PcP 02 25 16.5 -0.1**
3.1nm,1.1s,baz=23,slow=4.9,SNR=3.5
ARCES ARCESS Array B 58.43 352 P **P 02 24 26.1 -0.2**
ARCES PcP **PcP 02 25 16.5 -0.1**
KURK Kurchatov 61.30 316 *e*P **P 02 24 45.7 -0.5**
13nm,0.6s
MKAR Makanchi Array 62.52 311 P **P 02 24 53.6 -1.0**
0.7nm,0.4s,baz=49,slow=6.5,SNR=5.0
MKAR Makanchi Array 62.52 311 P **P 02 24 53.6 -1.0**
BVAR Borovoye Array 62.88 323 P **P 02 24 56.7 -0.1**
1.8nm,0.5s,baz=55,slow=6.3,SNR=5.4
BVAR Borovoye Array 62.88 323 P **P 02 24 56.7 -0.1**
AAK Ala-Archa 69.29 313 P **P 02 25 38.4 +0.1**
4.8nm,0.8s,baz=334,slow=2.7,SNR=4.6
AAK Ala-Archa 69.29 313 *e*P **P 02 25 38.0 -0.3**
6.3nm,1.0s
AKTO Aktyubinsk 69.42 328 P **P 02 25 39.2 +0.4**
4.9nm,0.8s,baz=19,slow=5.9,SNR=6.1
AKTO Aktyubinsk 69.42 328 P **P 02 25 39.2 +0.4**
ABKAR Akbulak array 69.77 326 *e*P **P 02 25 40.5 -0.5**
1.7nm,0.6s
LSA Lhasa 70.54 293 *e*P **P 02 25 46.7 +0.1**
7.7nm,0.7s
KKAR Karatay Array 70.69 316 *e*P **P 02 25 45.9 -0.9**
1.5nm,0.6s
KSH Kashi 71.05 310 *e*P **P 02 25 52.4 +3.3**
KSH pP pP 02 26 00.3 -0.2
KSH sP sP 02 26 03.1 -1.6
KSH PcP **PcP 02 26 06.4 -2.8**
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,83nm,4.9s
CLL Collm 77.36 356 *e*P **P 02 26 28.0 +2.5**
GEYT Alibeck 80.17 321 P **P 02 26 41.3 +0.1**
comp=Z,2.9nm,0.9s,baz=328,slow=5.3,SNR=4.6
BRTR Keskin Array B 86.08 339 P **P 02 27 12.4 +0.6**
comp=Z,0.8nm,0.7s,baz=87,slow=2.6,SNR=4.1
BRTR Keskin Array B 86.08 339 P **P 02 27 12.4 +0.6**

*IDC **23** 02:36:14.5±1.2,51.°62N×173.°52W,h0km,mb3.9/16, mb1 4.1/17,mb1mx3.9/46,mbtmp3.9/17,ML4.3/1,MS3.2/4, Ms1 3.3/4,ms1mx2.7/45,Error ellipse: s-maj=38.7km s-min=15.8km az=176.0*
*NEIC **23** 02:36:18.0±0.0,51.°42N×173.°66W,h4km,mb4.2/10,After AEIC.*
ISC 23 02:36:15.9±1.9,51.°34N±0.°07×173.°55W±0.°05, h13km±10km,n60,σ1§49/57,mb4.1/27,MS3.2/3,Andreanof Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATKA Atka Island 0.96 336 P **Pg 02 36 34.1 -0.2**
ATKA S **Sg 02 36 44.7 -2.1**
KOFP Korovin Flat P 1.00 340 P **Pb 02 36 35.9 +0.8**
KOSE Korovin Southe 1.06 343 P **Pb 02 36 37.0 +1.0**
KOSE S **Sb 02 36 50.1 +0.4**
KOKL Mount Kliuchef 1.07 338 P **Pg 02 36 36.9 +0.4**
KOKV Korovin Volcan 1.09 340 P **Pn 02 36 38.8 +1.8**
KOKV S **Sn 02 36 54.2 +2.3**
KONE Korovin Northe 1.12 342 P **Pg 02 36 37.6 +0.2**
KONE S **Sn 02 36 54.6 +2.2**
GSCK Great Sitkin C 1.76 294 P **Pn 02 36 47.4 +1.4**
GSTD Great Sitkin T 1.77 295 P **Pn 02 36 47.3 +1.1**
GSTD S **Sn 02 37 07.4 -1.1**
ETKA Kagalaska Isla 1.86 288 P **Pn 02 36 48.7 +1.4**
ADAG Mount Adagdak 2.01 290 P **Pn 02 36 51.7 +2.3**
ADK Adak 2.03 287 P **Pn 02 36 50.9 +1.3**
ADK S **Sn 02 37 16.5 +1.7**
TAFP Tanaga Falls P 2.82 283 P **Pn 02 37 02.9 +2.3**
TAFP S **Sn 02 37 37.6 +3.3**
UNV Unalaska Valle 4.98 57 *e*Pn Pn 02 37 27.6 -2.6
UNV *e*Pg **Pb 02 37 45.0 +2.2**
UNV *e*Sg **Sb 02 38 45.2 +2.7**
KDAK Kodiak Island 13.74 54 Pn Pn 02 39 27.3 -2.7
0.4nm,0.3s,baz=278,slow=7.8,SNR=5.6
SEW Seward 16.09 48 *e*Pn **Pn 02 39 58.4 -3.0**
KTH Kantishna Hill 17.14 36 *e*P **Pn 02 40 15.3 +0.5**
42nm,1.8s
BPAW Bear Paw Mtn. 17.44 34 *e*P **Pn 02 40 19.1 +0.6**
0.9nm,1.1s
PETK Petropavlovsk- 17.65 287 LR LR 02 46 25.1
comp=Z,44nm,20.1s,baz=104,slow=35
MCK McKinley 17.98 37 *e*Pn **Pn 02 40 23.3 -1.9**
PAX Paxson 18.99 41 *e*P **P 02 40 35.5 -1.4**
1.5nm,0.5s
COLA College 19.00 35 *e*P **P 02 40 33.9 -2.9**
3.1nm,0.8s
ILAR Eielson Array 19.29 36 P **P 02 40 36.9 -3.1**
0.4nm,0.3s,baz=226,slow=9.0,SNR=46
DOT Dot Lake 19.85 40 *e*P **P 02 40 44.9 -1.3**
10nm,0.7s
EGAK Eagle 21.47 39 *e*P **P 02 41 02.2 -1.4**
13nm,0.8s
MA2 Magadan 21.61 306 LR LR 02 49 16.9
comp=Z,51nm,18.2s,baz=92,slow=36
DLBC Dease Lake 25.64 57 P **P 02 41 46.2 +1.4**
4.4nm,1.0s,baz=239,slow=7.7,SNR=5.0
INK Inuvik 25.64 34 P **P 02 41 43.3 -1.3**
1.7nm,0.5s,baz=283,slow=13,SNR=7.0
H11N2 WAKE ISLAND Hy 35.09 213 T T 03 21 12.5
baz=21,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 35.10 213 T T 03 21 12.2
baz=21,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 35.11 213 T T 03 21 13.7
baz=21,slow=76,SNR=10
NEW Newport 35.79 72 P **P 02 43 15.4 +0.9**
1.1nm,0.6s,baz=291,slow=8.6,SNR=3.8
H11S1 WAKE ISLAND Hy 36.29 213 T T 03 22 35.2
baz=20,slow=76,SNR=41
H11S2 WAKE ISLAND Hy 36.31 213 T T 03 22 36.4
baz=20,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 36.31 213 T T 03 22 40.4
baz=20,slow=76,SNR=19
USRK Ussuriysk Ar. 36.55 281 P **P 02 43 20.6 -0.3**
2.9nm,0.7s,baz=54,slow=10,SNR=4.8
WVOR Wild Horse Val 37.77 82 *e*P **P 02 43 31.4 -0.1**
1.7nm,0.8s
EGMT Eagleton 40.26 69 *e*P **P 02 43 52.4 +0.2**
5.1nm,0.7s
KSRS Korea Array 42.92 275 P **P 02 44 14.9 +0.9**
1.8nm,0.9s,baz=55,slow=8.2,SNR=5.1
KSAR Wonju Array Be 42.96 275 P **P 02 44 14.9 +0.6**
PDAR Pinedale Array 43.16 75 P **P 02 44 16.1 -0.1**
0.4nm,0.4s,baz=296,slow=4.0,SNR=6.7
AGMN Agassiz Nation 48.01 61 *e*P **P 02 44 53.2 -1.0**
5.6nm,0.9s
SONM Songino Array 49.57 299 P **P 02 45 06.8 +0.5**
1.2nm,0.7s,baz=52,slow=8.2,SNR=6.0
SPITS Spitsbergen Ar 50.61 357 LR LR 03 05 23.3
comp=Z,24nm,18.4s,baz=165,slow=35
TXAR Lajitas Array 55.39 85 P **P 02 45 48.6 -1.1**
0.3nm,0.9s,baz=318,slow=1.2,SNR=4.2
TXAR LR LR 03 09 00.9
comp=Z,49nm,18.6s,baz=0.0,slow=36
KURK Kurchatov 61.38 316 *e*P **P 02 46 30.2 -0.8**
12nm,0.5s
MKAR Makanchi Array 62.59 311 P **P 02 46 38.3 -0.9**
0.7nm,0.6s,baz=51,slow=9.4,SNR=3.1
BVAR Borovoye Array 62.99 322 P **P 02 46 41.4 -0.4**
1.2nm,0.5s,baz=53,slow=7.6,SNR=6.8
BRVK Borovoye 63.00 323 *e*P **P 02 46 41.4 -0.5**
3.2nm,0.6s

ARU	Arti	64.31	331	eP	P	02 46 49.8 -0.7
	2.3nm,0.7s					
FINES	FINESS Array B	66.48	350	P	P	02 47 03.1 -1.4
	1.8nm,0.9s,baz=12,slow=3.4,SNR=2.9					
AAK	Ala-Archa	69.36	313	eP	P	02 47 23.9 +0.8
	3.9nm,1.0s					
ABKAR	Akbulak array	69.89	326	eP	P	02 47 25.6 -0.4
	2.0nm,0.8s					
LSA	Lhasa	70.52	293	eP	P	02 47 30.2 -0.6
KKAR	Karatay Array	70.78	316	eP	P	02 47 31.4 -0.2
	0.8nm,0.7s					
CMAR	Chiang Mai Arr	74.28	280	P	P	02 47 53.7 +0.9
	0.7nm,0.3s,baz=11,slow=6.7,SNR=4.3					
AKASG	Malin Array Be	76.51	345	P	P	02 48 03.8 -1.3
	0.5nm,0.4s,baz=15,slow=6.3,SNR=2.8					
GERES	GERESS Array B	80.01	355	P	P	02 48 23.8 -0.8
	0.3nm,0.7s,baz=15,slow=5.5,SNR=5.3					
KBZ	Khabaz	80.18	334	P	P	02 48 25.6 +0.1
	1.8nm,0.8s,baz=51,slow=13,SNR=5.0					
GEYT	Alibeck	80.27	321	P	P	02 48 25.4 -0.7
	1.0nm,0.4s,baz=14,slow=1.8,SNR=4.1					
BRTR	Keskin Array B	86.25	339	P	P	02 48 58.0 +0.8
	0.7nm,0.8s,baz=3.3,slow=5.9,SNR=4.1					

WEL 23 02:49:50.9±0.6, 35°.61S×178°.43E, h210km±9km, ML3.5/5, 1D, Error ellipse: s-maj=10.3km s-min=8.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.95	183	PN	Pn	02 50 29.5	-0.2
MXZ				SN	S	02 50 59.1	-0.6
HAZ	Te Kaha	2.21	193	PN	Pn	02 50 32.4	+0.2
WMGZ	Waiomatatini S	2.21	180	PN	Pn	02 50 32.8	+0.5
WMGZ				AML	AML	02 51 07.3	
WMGZ				AML	AML	02 51 07.9	
PKGZ	Pakihiroa	2.29	187	PN	Pn	02 50 33.3	+0.1
PKGZ				AML	AML	02 51 09.2	
PKGZ				AML	AML	02 51 10.0	
RUGZ	Raukumara Rang	2.43	194	PN	Pn	02 50 34.8	+0.1
PUZ	Puketiti	2.46	183	PN	Pn	02 50 34.7	-0.3
PUZ				SN	S	02 51 09.8	+0.5
TWGZ	Tauwhareparae	2.59	188	PN	Pn	02 50 37.3	+0.8
TWGZ				AML	AML	02 51 16.1	
TWGZ				AML	AML	02 51 18.2	
MWZ	Matawai	2.81	195	PN	Pn	02 50 39.5	+0.5
URZ	Urewera	2.85	201	PN	Pn	02 50 39.6	+0.3
TKGZ	Te Karaka	2.86	189	PN	Pn	02 50 39.7	+0.2
TKGZ				AML	AML	02 51 20.1	
TKGZ				AML	AML	02 51 20.4	
TARZ	Mount Tarawera	3.04	210	PN	Pn	02 50 42.9	+1.3
RIGZ	Rimuhau	3.14	190	PN	Pn	02 50 42.5	-0.1
RIGZ				AML	AML	02 51 25.4	
MUGZ	Murupara	3.16	204	‖PN	Pn	02 50 43.4	+0.5
SNGZ	Shannon Statio	3.29	195	PN	Pn	02 50 44.7	+0.3
PRGZ	Paritu Road	3.34	187	PN	Pn	02 50 44.8	-0.2
KNZ	Kokohu	3.46	190	PN	Pn	02 50 45.9	-0.5
MHGZ	Mahia Peninsul	3.56	187	PN	Pn	02 50 47.5	-0.2
MRHZ	Matea Rd	3.60	206	PN	Pn	02 50 48.7	+0.5
NMHZ	Naumai	3.71	200	PN	Pn	02 50 50.0	+0.4
ARHZ	Aropaoanui	3.82	197	PN	Pn	02 50 50.8	-0.1
MCHZ	McNeill Hill	4.07	199	PN	Pn	02 50 54.2	+0.4
KWHZ	Kaweka Forest	4.13	202	PN	Pn	02 50 54.7	0.0
BHHZ	Black Hill Sta	4.31	205	PN	Pn	02 50 56.7	-0.2
WNVZ	Wahianoa	4.34	210	PN	Pn	02 50 57.8	+0.4
KRHZ	Kereru	4.35	201	PN	Pn	02 50 56.9	-0.4
KAHZ	Kahuranaki	4.36	196	PN	Pn	02 50 56.9	-0.5
PXZ	Pawanui	4.59	195	PN	Pn	02 50 59.0	-1.3
PNHZ	Pukenui	4.65	202	PN	Pn	02 51 00.0	-1.1
BFZ	Birch Farm	5.35	198	PN	Pn	02 51 08.6	-1.4
OGWZ	Otaki Gorge	5.80	205	PN	Pn	02 51 13.8	-1.9
TMWZ	Te Maipa	5.84	199	PN	Pn	02 51 14.5	-1.8
KIW	Kapiti Island	5.93	207	PN	Pn	02 51 15.2	-2.1
CAW	Cannon Point	6.09	205	PN	Pn	02 51 17.3	-2.2
DUWZ	D'Urville Isla	6.28	213	PN	Pn	02 51 20.0	-1.9
PLWZ	Palliser	6.45	202	PN	Pn	02 51 21.5	-2.6

*IDC **23** 03:23:06.5±1.5, 17°.81N×81°.50W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/28, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/38, Error ellipse: s-maj=43.0km s-min=33.5km az=21.0*

*NEIC **23** 03:23:08.2±0.6, 17°.76N×81°.51W, h10km, mb4.1/14, Error ellipse: s-maj=11.8km s-min=6.5km az=20.0*

*ISCJB **23** 03:23:09.6±0.6, 17°.79N±0°.07×81°.47W±0°.05, h33km, mb3.9/12, MS3.3/1, Error ellipse: s-maj=10.5km s-min=5.9km az=16.1*

ISC 23 03:23:10.9±0.9, 17.7N±0°.1×81°.58W±0°.07, h35km, n163, σ0°68/154, mb4.0/12, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	Mount Denham	3.88	82	ePn	Pn	03 24 06.7	-1.5
MTDJ				eSn	Sn	03 24 54.0	+1.3
GTBY	Guantanamo Bay	6.51	69	ePn	Pn	03 24 42.5	-1.8
TEIG	Tepich	6.82	293	ePn	Pn	03 24 46.5	-2.0
SDDR	Presa de Saban	9.85	81	ePn	Pn	03 25 29.9	-0.3
	30nm,0.7s						
Y47A	UCPARC, Winfie	17.09	342	P	Pn	03 27 07.0	0.0
	baz=159						
OTAV	Otavalo	17.62	170	ePn	P	03 27 14.9	-0.1
HKT	Hockley	17.83	316	ePn	P	03 27 17.0	+0.3
637A	Eagle Lake	17.85	314	P	P	03 27 17.3	+0.3
	baz=128						
736A	Circle Diamond	18.09	311	P	P	03 27 20.5	+1.0
	baz=125						
034A	Hebbronville	18.34	304	P	Pn	03 27 23.5	+0.9
	baz=117						
636A	Smothers Creek	18.38	312	P	Pn	03 27 23.8	+0.8
	baz=126						
636A	Smothers Creek	18.38	312	ePn	Pn	03 27 24.3	+1.2
	20nm,0.8s						
934A	Benavides	18.46	305	P	Pn	03 27 24.2	+0.1
	baz=118						
W45A	Hickory Valley	18.66	340	P	Pn	03 27 26.7	+0.3
	baz=157						
139A	Bunkhouse Ranc	18.87	325	P	Pn	03 27 29.7	+0.8
	baz=139						
Y41A	Eaglette Beard	18.91	331	P	Pn	03 27 29.2	-0.1
	baz=146						
WLAR	White Oak Lake	18.99	329	eP	Pn	03 27 30.1	-0.2
	20nm,1.0s						
933A	Laredo	19.06	304	P	Pn	03 27 31.8	+0.5
	baz=117						
Z39A	Irene McRaven,	19.18	326	P	Pn	03 27 32.4	-0.3
	baz=141						
Y40A	Okolona	19.33	329	P	Pn	03 27 33.9	-0.6
	baz=144						
336A	Riesel	19.43	317	P	Pn	03 27 35.4	-0.2
	baz=131						
833A	Chaparral WMA,	19.49	306	P	Pn	03 27 36.0	-0.5
	baz=119,SNR=7.6						
X40A	Basin Creek Fa	19.51	331	P	Pn	03 27 36.3	-0.3
	baz=146						
W42A	Bald Knob	19.61	335	P	Pn	03 27 37.5	-0.3
	baz=150						
W41B	Gary Mavity, V	19.83	333	P	Pn	03 27 39.9	-0.5
	baz=148						
MIAR	Mount Ida	19.91	330	P	Pn	03 27 40.5	-0.8
	baz=144						
MIAR	Mount Ida	19.91	330	eP	P	03 27 39.7	+0.2
	6.1nm,1.1s						
WHAR	Wooly Hollow	19.95	334	eP	P	03 27 39.2	-0.7
	6.6nm,1.0s						
X301	Greenbrier Sit	19.95	333	eP	Pn	03 27 40.5	-1.3
	7.1nm,0.9s						
JSRW	J. Sargeant Re	20.18	9	eP	P	03 27 41.7	-0.7
W40A	Ferguson Farm,	20.20	332	P	Pn	03 27 43.4	-1.4
	baz=146						
V41A	Mountainview	20.32	335	P	Pn	03 27 44.6	-1.5
	baz=150,SNR=6.1						
U42A	Revenden	20.45	337	P	P	03 27 45.7	+0.4
	baz=153						
V40A	Witts Springs	20.61	333	P	Pn	03 27 48.3	-1.3
	baz=148						
X38A	Whitesboro	20.63	328	P	Pn	03 27 48.8	-1.0
	baz=142						
U41A	Viola	20.70	336	P	Pn	03 27 49.3	-1.4
	baz=151						
T43A	Greenville	20.78	340	P	Pn	03 27 50.1	-1.4
	baz=156						
X37A	Clayton	20.85	326	P	Pn	03 27 50.7	-1.6
	baz=140						
WCI	Wyandotte Cave	20.87	350	eP	P	03 27 49.6	-0.3
	43nm,0.9s						
JCT	Junction City	20.91	311	P	Pn	03 27 51.6	-1.5
	baz=123						
JCT	Junction City	20.91	311	eP	Pn	03 27 51.7	-1.5
	6.5nm,0.9s						
V39A	Pettigrew	21.00	332	P	P	03 27 52.0	+0.6
	baz=146,SNR=7.4						
U40A	Yellville	21.09	334	P	P	03 27 52.7	+0.3
	baz=149,SNR=10						
S43A	Fulton Ridge,	21.16	341	P	P	03 27 53.5	+0.5
	baz=157						
T41A	Mountain View	21.26	337	P	P	03 27 54.6	+0.4
	baz=152,SNR=11						
V38A	Canehill	21.37	330	P	P	03 27 55.9	+0.5
	baz=144						
U39A	Green Forest	21.38	333	P	P	03 27 55.7	+0.2
	baz=147,SNR=10						
S42A	Caledonia	21.57	340	P	P	03 27 57.8	+0.4
	baz=155						
T40A	Mansfield	21.64	336	P	P	03 27 58.6	+0.4
	baz=150						
W36A	Wetumka	21.72	326	P	P	03 27 59.7	+0.6
	baz=139						
S41A	Jillco Farms,	21.74	338	P	P	03 27 59.1	-0.2
	baz=153						
V37A	Hulbert	21.74	329	P	P	03 27 59.4	+0.1
	baz=143						
R43A	Red Bud	21.77	342	P	P	03 28 00.1	+0.6
	baz=158						
U38A	Gravette	21.84	331	P	P	03 28 00.5	+0.2
	baz=145						
T39A	Clever	21.88	334	P	P	03 28 01.2	+0.4
	baz=148,SNR=9.3						
CCM	Cathedral Cave	21.98	339	eP	P	03 28 00.7	-1.2
	11nm,1.0s						
S40A	Lenoon	22.03	336	P	P	03 28 02.6	+0.2
	baz=151						
R42A	Luebbering	22.04	340	P	P	03 28 03.3	+0.8
	baz=156						
V36A	Jenks	22.07	328	P	P	03 28 03.7	+0.9
	baz=141						
W35A	Tecumseh	22.08	325	P	P	03 28 03.4	+0.4
	baz=138						
TUL1	Leonard	22.09	328	P	P	03 28 02.5	-0.5
	baz=141						
P47A	Martinsville	22.09	350	P	P	03 28 03.0	0.0
	baz=168						
Q44A	Meyer Farm, Va	22.10	344	P	P	03 28 03.0	-0.1
	baz=161						
U37A	Salina	22.15	330	P	P	03 28 03.6	-0.1
	baz=144						
R41A	Rosebud	22.24	339	P	P	03 28 04.4	-0.3
	baz=154						
T38A	Diamond	22.29	332	P	P	03 28 05.2	0.0
	baz=146						
S39A	Bolivar	22.43	335	P	P	03 28 05.9	-0.8
	baz=149						
Q42A	Golden Eagle	22.53	342	P	P	03 28 08.3	+0.5
	baz=157						
P44A	Sand Creek, Wi	22.54	346	P	P	03 28 08.3	+0.5
	baz=162						
R40A	Maddies Statio	22.55	338	P	P	03 28 07.8	-0.2
	baz=152						
S38A	Stockton	22.62	334	P	P	03 28 08.6	-0.1
	baz=148						
T37A	Cheneyville 18	22.64	331	P	P	03 28 09.1	+0.2
	baz=145,SNR=6.4						
Q41A	Truxton	22.79	340	P	P	03 28 11.0	+0.5
	baz=156						
O47A	Sheridan	22.81	351	P	P	03 28 11.1	+0.4
	baz=168						
R39A	Chumby, Stover	22.86	336	P	P	03 28 11.7	+0.5
	baz=151						
T36A	Boggs Farm, Ca	23.04	330	P	P	03 28 13.4	+0.3
	baz=143						
R38A	Fenwick Farm,	23.09	335	P	P	03 28 14.3	+0.8
	baz=149						
Q40A	Laux Farm, Aux	23.11	339	P	P	03 28 13.6	-0.2
	baz=154						
S37A	Fort Scott	23.12	332	P	P	03 28 13.8	-0.1
	baz=146,SNR=8.2						
O44A	Mansfield	23.16	346	P	P	03 28 13.9	-0.3
	baz=163						
TXAR	Lajitas Array	23.29	304	P	P	03 28 17.3	+1.6
	4.1nm,0.9s,baz=123,slow=9.8,SNR=28						
TX31	Lajitas Ar. Si	23.29	304	eP	P	03 28 17.4	+1.6
S36A	Lake Cedric, C	23.44	331	P	P	03 28 17.2	+0.2
	baz=144						
N46A	Monticello	23.54	350	P	P	03 28 17.9	-0.1
	baz=168						
P40A	Paris	23.58	339	P	P	03 28 18.1	-0.2
	baz=154						
R37A	Teagarden Farm	23.59	333	P	P	03 28 19.1	+0.7
	baz=147,SNR=5.1						
Q38A	Cooks Store, C	23.64	336	P	P	03 28 19.2	+0.2
	baz=150						
T34A	McClaskey Farm	23.66	328	P	P	03 28 19.1	-0.1
	baz=140						
S35A	Otter Creek Ra	23.75	330	P	P	03 28 20.8	+0.8
	baz=143						
P39B	Salisbury	23.79	338	P	P	03 28 20.2	-0.1
	baz=153						
R36A	Gordon, Harris	23.89	332	P	P	03 28 21.4	0.0
	baz=145,SNR=5.5						
Q37A	Longview Farm,	23.90	335	P	P	03 28 21.6	+0.2
	baz=148						
O40A	La Belle	24.06	340	P	P	03 28 23.1	+0.3
	baz=155						
S34A	Willow Spring	24.15	329	P	P	03 28 24.0	+0.3
	baz=141						
N42A	Yates City	24.18	344	P	P	03 28 24.0	+0.1
	baz=160						
P38A	Dawn	24.19	337	P	P	03 28 24.3	+0.2
	baz=151,SNR=6.6						
O39A	Kirksville	24.40	339	P	P	03 28 26.4	+0.4
	baz=154						
Q36A	Arnold C. Orve	24.40	333	P	P	03 28 26.0	0.0
	baz=146						
P37A	Lathrop	24.47	336	P	P	03 28 27.4	+0.7
	baz=149						
Q35A	Mercer Eighty,	24.57	332	P	P	03 28 28.1	+0.6
	baz=145						
O38A	Galt	24.60	338	P	P	03 28 27.7	-0.2
	baz=152						
N40A	Mertquake, Sal	24.66	342	P	P	03 28 28.8	+0.4
	baz=156						
R34A	Isabella, Hill	24.68	329	P	P	03 28 29.2	+0.6
	baz=142						
AMTX	Amarillo	24.77	318	P	P	03 28 30.5	+0.9
	baz=128						
AMTX	Amarillo	24.77	318	eP	P	03 28 30.9	+1.4
	5.3nm,0.9s						
P36A	Good Intent, A	24.84	334	P	P	03 28 30.8	+0.8
	baz=148						
O37A	Wolven Farm, M	24.89	337	P	P	03 28 30.9	+0.4
	baz=150						
N39A	Derby Farms, D	24.94	340	P	P	03 28 31.4	+0.4
	baz=154						
MSTX	Muleshoe	24.95	315	eP	P	03 28 32.0	+0.8
	6.3nm,1.0s						
Q34A	Chapman	25.03	331	P	P	03 28 32.0	+0.2
	baz=143						
P35A	Duane Minner,	25.11	333	P	P	03 28 32.5	0.0
	baz=146						
N38A	Joes South For	25.11	339	P	P	03 28 32.4	-0.1
	baz=153						
M40A	Post Highland	25.12	342	P	P	03 28 32.1	-0.4
	baz=157						
O36A	Bolckow	25.18	335	P	P	03 28 33.5	+0.5
	baz=149						
M39A	Webster	25.39	341	P	P	03 28 34.7	-0.2
	baz=156						
N37A	Lee Faris, Mou	25.43	337	P	P	03 28 35.8	+0.5
	baz=151						
L41A	Preston	25.47	344	P	P	03 28 35.8	+0.2
	baz=160						
P34A	Walnut Farm, R	25.48	332	P	P	03 28 36.1	+0.2
	baz=144,SNR=7.9						
L40A	Anamosa	25.65	343	P	P	03 28 37.9	+0.6
	baz=158						
MNTX	Cornudas Mount	25.66	307	P	P	03 28 37.9	+0.4
	baz=117						
MNTX	Cornudas Mount	25.66	307	eP	P	03 28 37.2	-0.4
	1.3nm,0.8s						
M38A	Pleasantville	25.66	340	P	P	03 28 37.9	+0.5
	baz=154						
N36A	Muff Farm, Cla	25.76	336	P	P	03 28 38.4	+0.1
	baz=149						
L39A	Vinton	25.92	342	P	P	03 28 40.1	+0.3
	baz=157						
M37A	Trindle Farm,	25.94	338	P	P	03 28 40.9	+0.9
	baz=152						
O34A	Beatrice	25.94	333	P	P	03 28 40.6	+0.6
	baz=145						
L38A	Oak Wood Farm,	26.23	341	P	P	03 28 42.7	+0.1
	baz=155						
K39A	Oelwein	26.43	343	P	P	03 28 44.5	+0.2
	baz=157						
I42A	Draeger Farm,	26.84	348	P	P	03 28 47.7	-0.3
	baz=164						
J39A	Decorah	26.96	344	P	P	03 28 49.0	-0.2
	baz=158						
K37A	Belmond	27.01	340	P	P	03 28 49.5	-0.1
	baz=154						
J37A	Redenius Farm,	27.48	341	P	P	03 28 53.9	+0.2
	baz=154						
E45A	Wooded Hills,	28.73	355	P	P	03 29 06.5	+1.5
	baz=173						
SDCO	Great Sand Dun	28.96	318	P	P	03 29 08.0	+0.6
	baz=127						
SDCO	Great Sand Dun	28.96	318	eP	P	03 29 08.3	+0.8
	2.4nm,1.4s						
F38A	Pierce - Schro	29.45	345	P	P	03 29 11.2	-0.1
	baz=160						
F36A	Milaca	29.79	343	P	P	03 29 14.1	-0.3
	baz=156,SNR=8.3						
E36A	McGregor	30.32	344	P	P	03 29 18.8	-0.2
	baz=157						
E35A	Pequot Lakes	30.68	343	P	P	03 29 22.3	+0.2
	baz=155						
D37A	Cotton	30.71	345	P	P	03 29 22.5	0.0
	baz=159						
D35A	Remer	31.05	343	P	P	03 29 25.2	-0.3
	baz=156						
C35A	Jirik Farms, M	31.60	344	P	P	03 29 30.4	0.0
	baz=157						
WUAZ	Wupatki	31.83	310	P	P	03 29 34.0	+1.3
	baz=116						
WUAZ	Wupatki	31.83	310	eP	P	03 29 34.9	+2.2
	4.0nm,1.0s						
B33A	Robert and Kas	32.57	343	P	P	03 29 38.2	-0.6
	baz=154						
AGMN	Agassiz Nation	32.67	342	P	P	03 29 39.1	-0.6
	baz=154						
B32A	Ashes, Strandq	32.96	342	P	P	03 29 41.2	-1.0
	baz=153						
A33A	Warroad	33.12	343	P	P	03 29 43.6	0.0
	baz=155						
A32A	Rocking H Ranc	33.41	342	P	P	03 29 45.8	-0.3
	baz=154						
ULM	Lac du Bonnet	34.44	344	P	P	03 29 53.9	-1.2
	3.6nm,0.7s,baz=169,slow=5.2,SNR=4.1						
PDAR	Pinedale Array	34.48	322	P	P	03 29 56.8	+1.0
	0.7nm,0.9s,baz=117,slow=8.2,SNR=4.9						
BW06	Boulder Array	34.48	322	P	P	03 29 57.3	+1.5
	baz=128						
DUG	Dugway, Tooele	35.06	316	P	P	03 30 01.8	+1.1
	baz=121						
DUG	Dugway, Tooele	35.06	316	eP	P	03 30 02.0	+1.3
	1.7nm,0.9s						
TPNV	Topopah Spring	36.01	309	P	P	03 30 10.3	+1.3
	baz=113						
R11A	Troy Canyon, C	36.10	312	P	P	03 30 10.1	+0.4
	baz=115						
GRAC	Grapevine Rang	36.86	309	P	P	03 30 16.6	+0.5
	baz=112						
HLID	Hailey	37.84	320	P	P	03 30 25.2	+0.7
	baz=122						
SFJD	Kangerlussuaq	53.19	15	LR	LR	03 55 27.7	
	comp=Z,30nm,21.6s,baz=16,slow=37						
ILAR	Eielson Array	63.66	334	P	P	03 33 38.1	-0.3
	0.2nm,0.7s,baz=104,slow=3.8,SNR=3.6						
ESDC	Sonseca Array	69.52	54	P	P	03 34 17.4	+1.1
	0.6nm,0.7s,baz=280,slow=5.1,SNR=5.2						
WRA	Warramunga Arr	145.97	260	PKPbc	PKPab	03 42 48.1	-0.2
	1.2nm,0.8s,baz=80,slow=3.4,SNR=11						
ASAR	Alice Springs	146.34	254	PKPbc	PKPab	03 42 49.3	-0.3
	1.2nm,1.0s,baz=103,slow=2.9,SNR=5.4						

*IDC **23** 03:26:22.1±0.4, 7°.69N×134°.78E, h0km, mb5.0/28, mb1 5.1/30, mb1mx5.1/37, mbtmp5.1/30, ML5.4/2, MS4.6/32, Ms1 4.6/32, ms1mx4.4/41, Error ellipse: s-maj=18.5km s-min=10.1km az=82.0*

*ISCJB **23** 03:26:25.5±0.7, 7°.71N±0°.02×134°.73E±0°.02, h30km±5km, mb5.3/262, MS4.7/182, Error ellipse: s-maj=3.4km s-min=3.2km az=1.1*

*BJI **23** 03:26:26.8, 7°.87N×134°.87E, h35km, mb5.4/83, mB5.3/62, Ms4.9/83, MS7 4.7/73*

*MOS **23** 03:26:26.4±1.1, 7°.76N×134°.72E, h38km, mb5.6/80, MS4.7/49, Error ellipse: s-maj=7.6km s-min=4.3km az=108.0*

*NEIC **23** 03:26:28.1±0.7, 7°.71N×134°.71E, h38km±6km, mb5.3/144, MS4.8/118, Error ellipse: s-maj=3.9km s-min=3.0km az=94.0*

NEIC Felt [V] at Airai and [IV] at Koror. Also felt at Chol and Meyungs.

*GCMT **23** 03:26:28.1±0.1, 7°.76N×134°.68E, h17km, MW5.3/115, Moment Tensor Solution. s96,c156; s115,c217; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.02; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$-0.91±.01; $M_{r\theta}$0.31±.04; $M_{\theta\phi}$-0.43±.01; $M_{\phi r}$-0.18±.03; Best double couple: $M_0$1.01400×10^{17} NP1,ϕ_s174.00000°, δ54.00000°, λ54.00000°. NP2,ϕ_s45.00000°, δ49.00000°, λ129.00000°. Principal axes: T 0.9550, Plg62.0000°, Azm23.0000°; N 0.1190, Plg28.0000°, Azm198.0000°; P -1.0740, Plg2.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **23** 03:26:30.9±0.4, 8°.N±2°×13°.5E±°, h47km±4km, M5.2/43, mb5.2/43, mB5.6/29, Mw(mB)5.2/29*

ISC 23 03:26:27.4±0.4, 7.75N±0°.03×134.70E±0°.03, h32km±2km, h32km:pP-P, n946, σ1°69/943, mb5.4/256, MS4.8/183, 31C-13D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I39PW	PALAU INFRASON	0.26	216	Pg	Pb	03 26 31.7	-2.9
	baz=68,slow=166						
I39PW				Lg	Lg	03 26 35.9	
	baz=68,slow=166						
BIPH	Bislig	8.27	274	‖iP	Pn	03 28 22.1	-3.1
BIPH				eS	Pn	03 28 29.0	+3.8
MATI	Mati	8.41	265	eP	Pn	03 28 23.6	-3.5
MATI				eS	Sn	03 29 56.2	-4.9
BAKI	Biak	8.99	171	P	Pn	03 28 35.3	+0.3
	385nm,1.0s,4μm						
BUKP	Musuan	9.55	271	eP	Pn	03 28 38.6	-4.2
BUKP				eS	Sn	03 30 25.1	-4.0
BESP	Borongan	9.90	293	eP	Pn	03 28 47.0	-0.6
BESP				eS	Sn	03 30 14.2	-24
SGSI	Sangihe	9.98	247	P	Pn	03 28 52.4	+3.8
	481nm,0.5s,6μm						
SGSI				S	Sn	03 30 38.0	-1.6
	481nm,0.5s,6μm						
MSLP	Maasin	10.01	284	eP	Pn	03 28 46.2	-2.8
MSLP				eS	Sn	03 30 23.0	-17
PLP	Palo	10.17	290	‖eP	Pn	03 28 48.0	-3.3
SMPI	Sarmi	10.46	157	P	Pn	03 28 56.5	+1.2
OCLP	Ormoc	10.48	289	eP	Pn	03 28 54.2	-1.4
LLP	Lapu-Lapu	10.91	284	‖eP	Pn	03 29 04.0	+2.7
LLP				eS	Sn	03 30 55.0	-7.4
CNP	Cataman	10.96	296	eP	Pn	03 28 58.5	-3.5
CNP				eS	Sn	03 30 59.1	-4.4
LBMI	Labuha	11.00	221	P	Pn	03 29 06.3	+3.7
	347nm,1.2s,4μm						
GUMO	Guam	11.55	59	Pn	Pn	03 29 09.1	-1.1
	5.6nm,0.3s,baz=207,slow=11,SNR=4.1						
GUMO				Sn	Sn	03 31 11.0	-7.2
	3.3nm,0.3s,baz=196,slow=19,SNR=3.0						
GUMO				LR	LR	03 33 02.

GENI			S	Sn	03 31 19.5	-0.5
JAY	**Jayapura**	**11.82 149**	P	**Pn**	**03 29 14.7**	**+0.8**
	comp=Z,308nm,1.1s,comp=Z,7μm					
JAY			S	**Sn**	**03 31 21.3**	**-3.5**
	comp=Z,308nm,1.1s,comp=Z,7μm					
PVCP	**Virac**	**11.88 300**	*e*P	**Pn**	**03 29 11.3**	**-3.4**
PVCP			*e*S	**Sn**	**03 31 19.6**	**-6.7**
RCP	**Roxas**	**12.38 289**⇑	*e*P	**Pn**	**03 29 19.8**	**-1.8**
MSAI	**Masohi**	**12.43 208**	P	**Pn**	**03 29 26.4**	**+4.2**
KMSI	**Cibinong**	**12.84 237**	P	**Pn**	**03 29 30.5**	**+2.7**
	comp=Z,463nm,1.1s					
KMSI			S	**Sn**	**03 31 47.5**	**-2.3**
	comp=Z,463nm,1.1s					
JAP	**San Jose, Anti**	**12.94 284**⇓	*e*P	**Pn**	**03 29 31.0**	**+1.9**
SANI	**Sanana**	**13.05 222**	P	**Pn**	**03 29 30.0**	**-0.6**
	comp=Z,70nm,0.9s,comp=Z,1μm					
SANI			S	**Sn**	**03 31 48.6**	**-6.2**
	comp=Z,70nm,0.9s,comp=Z,1μm					
AAI	**Ambon**	**13.08 210**	P	**Pn**	**03 29 30.4**	**-0.7**
NLAI	**Namlea**	**13.29 215**	P	**Pn**	**03 29 31.3**	**-2.6**
MRSI	**Marisa**	**14.63 241**	P	**Pn**	**03 29 50.6**	**-1.6**
MRSI			S	**Sn**	**03 32 30.0**	**-3.3**
LUWI	**Luwuk**	**14.76 234**	P	**Pn**	**03 29 54.6**	**+0.6**
TGY	**Tagaytay City**	**14.91 296**	Pn	**Pn**	**03 29 56.8**	**+0.7**
	comp=Z,84nm,0.3s,baz=190,slow=17,SNR=4.3					
APSI	**Ampana**	**15.60 237**	P	**Pn**	**03 30 05.7**	**+0.6**
APSI			S	**Sn**	**03 33 00.4**	**+3.3**
MANU	**Manus Island**	**15.94 127**	*e*Pn	**P**	**03 30 13.6**	**+0.8**
	comp=Z,281nm,1.5s					
MYLDM	**Lahad Datu**	**16.30 262**	*e*Pn	**P**	**03 30 17.6**	**+0.8**
	comp=Z,429nm,1.4s					
MYLDM	**Lahad Datu**	**16.30 262**	⇑P	**P**	**03 30 18.0**	**+1.3**
MPSI	**Mapaga**	**16.49 244**	P	**Pn**	**03 30 17.9**	**+1.4**
	comp=Z,104nm,1.0s,comp=Z,2μm					
KDI	**Kendari**	**16.75 226**	P	**Pn**	**03 30 18.1**	**-1.6**
	comp=Z,88nm,1.8s,comp=Z,3μm					
TSM	**Tawau**	**17.08 259**	⇓P	**P**	**03 30 26.6**	**+1.2**
PCI	**Palu**	**17.14 241**	P	**Pn**	**03 30 24.8**	**+0.2**
	comp=Z,188nm,1.3s,comp=Z,2μm					
PCI	**Palu**	**17.14 241**	P	**P**	**03 30 26.3**	**+0.3**
PCI			pmax	pmax		
	comp=Z,188nm,1.3s					
KDM	**Kudat**	**17.74 269**	⇑P	**P**	**03 30 35.7**	**+3.0**
BBSI	**Bau Bau**	**17.87 223**	P	**P**	**03 30 35.6**	**+1.5**
TTSI	**Tana Toraja**	**18.31 235**	P	**Pn**	**03 30 40.5**	**+1.4**
	comp=Z,119nm,1.1s,comp=Z,3μm					
KKM	**Kota Kinabalu**	**18.43 266**	*e*P	**Pn**	**03 30 42.0**	**+1.4**
	comp=Z,126nm,1.1s					
KKM	**Kota Kinabalu**	**18.43 266**	⇑P	**Pn**	**03 30 42.7**	**+2.0**
SPSI	**Sidrap Palu**	**18.90 233**	P	**Pn**	**03 30 47.0**	**+0.7**
	comp=Z,81nm,1.3s					
BNSI	**Bone**	**18.91 231**	P	**Pn**	**03 30 47.1**	**+0.7**
KAPI	**Kappang**	**19.57 230**	*e*P	**P**	**03 30 53.7**	**+0.8**
	comp=Z,101nm,1.3s					
KAPI	**Kappang**	**19.57 230**	P	**Pn**	**03 30 55.0**	**+0.7**
	SNR=14					
KAPI	**Kappang**	**19.57 230**	Pn	**Pn**	**03 30 55.0**	**+0.7**
	SNR=14					
BSSI	**Bau Bau, Buton**	**19.78 226**	P	**P**	**03 30 55.2**	**+0.1**
TWG	**Pinlang**	**19.91 320**	*e*P	**Pn**	**03 31 00.1**	**+1.9**
	comp=Z,3μm,1.8s					
JOW	**Kunigami**	**19.94 343**	*e*P	**Pn**	**03 30 58.4**	**-0.2**
	comp=Z,237nm,1.4s					
YOJ	**Yonaguni jima**	**20.04 327**	*e*P	Pn	03 31 00.4	+0.7
YOJ			pmax	pmax		
	comp=Z,322nm,1.4s					
YOJ	**Yonaguni jima**	**20.04 327**	*e*P	Pn	03 31 00.4	+0.7
	comp=Z,322nm,1.4s					
YULB	**Yu-li**	**20.19 322**	*e*P	Pn	03 31 01.1	-0.4
	comp=Z,740nm,1.4s					
SOEI	**Soe**	**20.25 211**	P	**P**	**03 30 57.6**	**-2.8**
SOEI	**Soe**	**20.25 211**	*e*P	**P**	**03 30 59.7**	**-0.7**
	comp=Z,357nm,0.9s					
MMRI	**Maumere**	**20.47 218**	P	**P**	**03 31 01.1**	**-1.5**
MMRI	**Maumere**	**20.47 218**	*e*P	**P**	**03 31 02.7**	**+0.1**
	comp=Z,794nm,1.5s					
CBIJ	**Chichi jima**	**20.51 19**	*e*P	**P**	**03 31 02.5**	**-0.5**
	comp=Z,169nm,1.1s					
TPUB	**Ta-pu**	**20.54 320**	*e*P	**P**	**03 31 02.8**	**-0.5**
	comp=Z,276nm,1.3s					
NACB	**Ninganchiao**	**20.60 324**	*e*P	Pn	03 31 05.3	-1.0
	comp=Z,553nm,1.3s					
SSLB	**Suanglung**	**20.69 322**	*e*P	**P**	**03 31 06.3**	**+1.3**
	comp=Z,136nm,0.9s					
MTN	**Manton Dam**	**20.76 190**	P	**P**	**03 31 06.7**	**+1.0**
	baz=21,SNR=4.3					
MTN	**Manton Dam**	**20.76 190**	*e*P	Pn	03 31 08.1	-0.2
	comp=Z,269nm,1.4s					
EDFI	**Ende, Flores**	**20.90 219**	P	**P**	**03 31 07.5**	**+0.2**
PMG	**Port Moresby**	**21.08 144**	P	**P**	**03 31 08.7**	**-0.5**
	comp=Z,28nm,0.7s,baz=355,slow=6.2,SNR=4.9					
PMG			LR	LR	03 39 25.8	
	comp=Z,2μm,18.2s,baz=334,slow=37					
PMG	**Port Moresby**	**21.08 144**	*i* P	**P**	**03 31 07.6**	**-1.6**
PMG			pmax	pmax		
	comp=Z,565nm,1.7s					
PMG	**Port Moresby**	**21.08 144**	*e*P	**P**	**03 31 08.6**	**-0.5**
	comp=Z,54nm,0.9s					
YHNB	**Yeheng**	**21.11 324**	*e*P	**P**	**03 31 10.9**	**+1.4**
	comp=Z,562nm,1.3s					
YHNB			LR	LR		
	comp=Z,2μm,20.0s					
TATO	**Taipei**	**21.28 325**	*e*P	**P**	**03 31 12.1**	**+0.8**
	comp=Z,200nm,0.8s					
TATO			LR	LR		
	comp=Z,2μm,20.0s					
TATO	**Taipei**	**21.28 325**	P	**P**	**03 31 13.9**	**+2.6**
	SNR=6.7					
TATO			P	**P**	**03 31 13.9**	**+2.6**
	SNR=6.7					
TATO	**Taipei**	**21.28 325**	P	**P**	**03 31 13.9**	**+2.6**
	SNR=6.7					
MTKI	**Muara Teweh, K**	**21.55 247**	P	**P**	**03 31 16.8**	**+2.5**
SBUM	**Sibu**	**23.00 258**	*e*P	**P**	**03 31 31.9**	**+2.2**
	comp=Z,246nm,1.3s					
SBUM	**Sibu**	**23.00 258**	⇓P	**P**	**03 31 32.6**	**+2.9**
QZH	**Quanzhou**	**23.01 320**⇑	*i* P	**P**	**03 31 28.6**	**-1.1**
QZH			S	**S**	**03 35 37.6**	**-0.6**
QZH			pmax	pmax		
	comp=Z,120nm,0.8s					
QZH			pmax	pmax		
	comp=Z,1μm,3.2s					
QZH			LR	LR		
	comp=Z,2μm,12.4s					
QZH			LR	LR		
	comp=Z,1μm,15.4s					
QZH			LR	LR		
	comp=Z,3μm,17.3s					
COEN	**Coen**	**23.14 159**	P	**P**	**03 31 30.5**	**-0.6**
	baz=23,SNR=4.9					
COEN	**Coen**	**23.14 159**	*e*P	**P**	**03 31 30.3**	**-0.8**
	comp=Z,181nm,1.3s					
PLAI	**Plampang**	**23.57 226**	P	**P**	**03 31 32.5**	**-2.9**
KNRA	**Kununurra**	**24.00 194**	P	**P**	**03 31 38.6**	**-0.7**
	baz=24,SNR=14					
TWSI	**Taliwang, Sumb**	**24.16 228**	P	**P**	**03 31 41.9**	**+1.0**
	comp=Z,29nm,1.1s,comp=Z,968nm					
STKI	**Sintang**	**24.38 253**	P	**P**	**03 31 44.2**	**+1.3**
KSM	**Kuching**	**25.09 257**	*e*P	**P**	**03 31 50.8**	**+1.4**
	comp=Z,116nm,1.2s					
KSM			LR	LR		
	comp=Z,1μm,22.0s					
KSM	**Kuching**	**25.09 257**	⇑P	**P**	**03 31 51.6**	**+2.2**
KMMI	**Kalianget**	**25.37 235**	P	**P**	**03 31 54.1**	**+2.2**
JNU	**Nakatsue**	**25.50 353**	P	**P**	**03 31 53.2**	**+0.2**
	comp=Z,163nm,0.9s,baz=181,slow=2.2,SNR=61					
JNU			LR	LR	03 42 13.9	
	comp=Z,5.6nm,18.2s,baz=166,slow=37					
JNU	**Nakatsue**	**25.50 353**	*e*P	**P**	**03 31 53.0**	**+0.1**
	comp=Z,80nm,1.0s					
IGBI	**Denpasar**	**25.50 230**	P	**P**	**03 31 52.5**	**-0.6**
GZH	**Guangzhou**	**25.57 309**	P	**P**	**03 31 55.4**	**+1.8**
GZH			S	**S**	**03 36 19.8**	**+0.3**
GZH			pmax	pmax		
	comp=Z,1μm,7.6s					
JAGI	**Jajag, Banyuwa**	**26.06 232**	P	**P**	**03 31 56.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**26.06 232**	*e*P	**P**	**03 31 56.3**	**-1.8**
	comp=Z,78nm,0.9s					
SSE	**Sheshan**	**26.44 333**	P	**P**	**03 32 02.4**	**+0.9**
SSE			S	**S**	**03 36 36.8**	**+3.6**
SSE			pmax	pmax		
	comp=Z,48nm,0.7s					
SSE			pmax	pmax		
	comp=Z,270nm,6.1s					
SSE			LR	LR		
	comp=Z,600nm,17.0s					
SSE			LR	LR		
	comp=Z,1μm,17.0s					
SSE			LR	LR		
	comp=Z,1μm,19.4s					
QIZ	**Qiongzhong**	**26.61 297**	*e*P	**P**	**03 32 04.7**	**+1.5**
	comp=Z,147nm,1.4s					
QIZ			LR	LR		
	comp=Z,891nm,19.0s					
FITZ	**Fitzroy Crossi**	**27.20 199**	P	**P**	**03 32 07.1**	**-1.2**
	comp=Z,33nm,1.1s,baz=28,slow=9.3,SNR=56					
FITZ	**Fitzroy Crossi**	**27.20 199**	P	**P**	**03 32 07.1**	**-1.2**
	baz=27,SNR=18					
MTSU	**Mount Surprise**	**27.41 160**	P	**P**	**03 32 10.9**	**+0.6**
	baz=27,SNR=4.7					
WRAB	**Tennant Creek**	**27.51 181**	*i* P	**P**	**03 32 10.1**	**-1.0**
WRAB			pmax	pmax		
	comp=Z,160nm,2.5s					
WRAB	**Tennant Creek**	**27.51 181**	*e*P	**P**	**03 32 10.2**	**-0.9**
	comp=Z,40nm,1.0s					
WRAB			LR	LR		
	comp=Z,1μm,20.0s					
WB2	**Warramunga Arr**	**27.52 181**	*e*P	**P**	**03 32 14.6**	**+3.4**
	comp=Z,31nm,1.0s					
WRA	**Warramunga Arr**	**27.52 181**	P	**P**	**03 32 09.6**	**-1.6**
	comp=Z,17nm,0.8s,baz=360,slow=10,SNR=23					
WRA			LR	LR	03 44 01.3	
	comp=Z,1μm,18.4s,baz=0.0,slow=39					
INU	**Inuyama**	**27.55 4**	*e*P	**P**	**03 32 11.0**	**-0.4**
	comp=Z,45nm,1.0s					
UWJI	**Ujung Watu**	**27.56 240**	P	**P**	**03 32 13.0**	**+1.3**
NJ2	**Nanjing**	**28.33 331**	*e*P	**P**	**03 32 19.0**	**+0.6**
NJ2			pmax	pmax		
	comp=Z,40nm,1.0s					
QIS	**Mount Isa**	**28.54 170**	P	**P**	**03 32 19.7**	**-0.7**
	baz=28,SNR=6.5					
UGM	**Wanagama**	**28.69 238**	P	**P**	**03 32 22.5**	**+0.7**
UGM	**Wanagama**	**28.69 238**	*e*P	**P**	**03 32 22.2**	**+0.4**
	comp=Z,221nm,1.1s					
UGM	**Wanagama**	**28.69 238**	⇓P	**P**	**03 32 22.1**	**+0.4**
MJAR	**Matsushiro Arr**	**28.84 6**	P	**P**	**03 32 21.8**	**-1.1**
	comp=Z,3.4nm,0.8s,baz=179,slow=9.6,SNR=9.3					
MJAR			PcP	**PcP**	**03 35 32.3**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=173,slow=3.1,SNR=11					
MJAR			LR	LR	03 41 48.0	
	comp=Z,2μm,20.6s,baz=195,slow=32					
MAJO	**Matsushiro**	**28.84 6**	*e*P	**P**	**03 32 22.2**	**-0.7**
MAJO			pmax	pmax		
	comp=Z,60nm,1.1s					
MAJO	**Matsushiro**	**28.84 6**	*e*P	**P**	**03 32 22.6**	**-0.3**
	comp=Z,7.7nm,0.8s					
MAJO			LR	LR		
	comp=Z,2μm,20.0s					
MAT	**Matsushiro**	**28.84 6**	P	**P**	**03 32 20.7**	**-2.2**
MAT			*e*S	**S**	**03 37 16.6**	**+5.6**
UBPT	**Khong Chiam**	**29.58 287**	P	P	03 32 36.4	+6.7
	comp=Z,50nm,1.3s,comp=Z,910nm					
WHN	**Wuhan**	**29.62 323**	⇓P	**P**	**03 32 31.8**	**+1.9**
WHN			pmax	pmax		
	comp=Z,210nm,1.6s					
WHN			LR	LR		
	comp=Z,5μm,17.6s					
WHN			LR	LR		
	comp=Z,2μm,17.6s					
WHN			LR	LR		
	comp=Z,4μm,17.1s					
CTA	**Charters Tower**	**29.90 158**	P	**P**	**03 32 34.8**	**+2.3**
	comp=Z,6.5nm,0.9s,baz=355,slow=14,SNR=4.1					
CTA			LR	LR	03 44 50.0	
	comp=Z,1μm,19.0s,baz=342,slow=37					
CTA	**Charters Tower**	**29.90 158**	P	**P**	**03 32 34.8**	**+2.3**
CTA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
CTA			MLR	MLR		
	comp=Z,1μm,19.0s					
CTAO	**Charters Tower**	**29.90 158**	*e*P	**P**	**03 32 32.5**	**0.0**
CTAO			pmax	pmax		
	comp=Z,169nm,1.4s					
CTAO			MLR	MLR		
	comp=Z,2μm,21.0s					
CTAO	**Charters Tower**	**29.90 158**	*e*P	**P**	**03 32 32.5**	**0.0**
	comp=Z,169nm,1.4s					
CTAO			LR	LR		
	comp=Z,2μm,21.0s					
KSAR	**Wonju Array Be**	**30.20 349**	P	**P**	**03 32 34.9**	**0.0**
KSAR					03 35 36.2	
KSAR	**Wonju Array Be**	**30.20 349**	P	**P**	**03 32 34.9**	**0.0**
KSAR			PcP	**PcP**	**03 35 36.2**	**+0.7**
KSRS	**Korea Array**	**30.21 349**	P	**P**	**03 32 34.9**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=173,slow=11,SNR=19					
KSRS			PcP	**PcP**	**03 35 36.2**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=180,slow=2.6,SNR=6.5					
KSRS			LR	LR	03 43 26.5	
	comp=Z,508nm,20.4s,baz=172,slow=34					
CMJI	**Cimerak**	**30.38 240**	P	**P**	**03 32 35.3**	**-1.5**
HNR	**Honiara**	**30.39 124**	PFAKE		03 32 50.0	+13
HNR			LR	LR		
	comp=Z,2μm,21.0s					
INCN	**Inchon**	**30.50 347**	*e*P	**P**	**03 32 37.7**	**+0.1**
	comp=Z,65nm,1.1s					
INCN			LR	LR		
	comp=Z,1μm,20.0s					
PANO	**Nakornpanom**	**30.79 291**	P	P	03 32 46.5	+6.1
	comp=Z,31nm,1.2s					
CISI	**Cisompet, Garu**	**30.82 241**	P	**P**	**03 32 39.7**	**-1.0**
CISI	**Cisompet, Garu**	**30.82 241**	*e*P	**P**	**03 32 39.1**	**-1.6**
	comp=Z,119nm,0.6s					
TPRI	**Tanjung Pinang**	**30.83 259**	P	**P**	**03 32 40.2**	**-0.5**
CBJI	**Citeko**	**31.14 244**	P	**P**	**03 32 40.8**	**-2.7**
TNG	**Tangerang**	**31.21 244**	P	**P**	**03 32 45.3**	**+1.2**
AS31	**Alice Springs**	**31.23 181**	*e*P	**P**	**03 32 43.9**	**-0.2**
	comp=Z,4.7nm,0.8s					
ASAR	**Alice Springs**	**31.23 181**	P	**P**	**03 32 43.0**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=11,slow=8.9,SNR=20					
ASAR			PcP	**PcP**	**03 35 38.5**	**0.0**
	comp=Z,1.7nm,0.6s,baz=352,slow=2.5,SNR=4.8					
ASAR			LR	LR	03 46 00.7	
	comp=Z,1μm,18.1s,baz=357,slow=38					
ASAR	**Alice Springs**	**31.23 181**	P	**P**	**03 32 43.0**	**-1.2**
ASAR					03 35 38.5	
ASAR			pmax	pmax		
	comp=Z,3.0nm,0.6s					
ASAR			MLR	MLR		
	comp=Z,1μm,18.1s					
DBJI	**Dramaga**	**31.29 244**	P	**P**	**03 32 44.9**	**+0.1**
MYKOM	**Kota Tinggi**	**31.29 261**	*e*P	**P**	**03 32 45.8**	**+0.9**
	comp=Z,38nm,1.2s					
MYKOM	**Kota Tinggi**	**31.29 261**	⇑P	**P**	**03 32 46.4**	**+1.6**
CNJI	**Cibinong**	**31.30 242**	P	**P**	**03 32 43.7**	**-1.2**
SKNT	**Sakolnakorn**	**31.34 290**	P	**P**	**03 32 46.8**	**+1.6**
	comp=Z,39nm,2.1s					
KTGM	**Kuala Trengganu**	**31.45 268**	⇑P	**P**	**03 32 48.2**	**+1.9**
SKJI	**Sukabumi**	**31.66 243**	P	**P**	**03 32 48.7**	**+0.6**
PMBI	**Palembang**	**31.69 252**	P	**P**	**03 32 50.6**	**+2.3**
KGM	**Kluang**	**31.77 261**	⇑P	**P**	**03 32 50.1**	**+1.0**
BLSI	**Bandar Lampung**	**32.14 247**	P	**P**	**03 32 53.1**	**+0.7**
CGJI	**Cibinong**	**32.26 245**	P	**P**	**03 32 52.4**	**-0.9**
MBWA	**Marble Bar**	**32.27 207**	*e*P	**P**	**03 32 51.7**	**-1.6**
	comp=Z,97nm,1.1s					
MBWA			LR	LR		
	comp=Z,694nm,19.0s					
KHON	**Khomkaen**	**32.28 288**	P	**P**	**03 32 56.2**	**+2.6**
	comp=Z,17nm,1.2s,comp=Z,2μm					
KLSI		**32.35 249**	P	**P**	**03 32 54.7**	**+0.5**
	comp=Z,99nm,1.3s,comp=Z,1μm					
GYA	**Guiyang**	**32.49 308**⇑	*i* P	**P**	**03 32 57.4**	**+2.0**
GYA			pP	sP	03 33 12.6	+3.9
GYA			PP	**PP**	**03 34 08.0**	**-1.2**
GYA			PcP	**PcP**	**03 35 44.4**	**+2.3**
GYA			S	**S**	**03 38 09.8**	**+1.2**
GYA			ScP	**ScP**	**03 39 21.3**	**-2.4**
GYA			SS	**SnSn**	**03 40 08.0**	**+4.4**
GYA			pmax	pmax		
	comp=Z,30nm,1.1s					
GYA			pmax	pmax		
	comp=Z,140nm,5.2s					
GYA			LR	LR		
	comp=Z,830nm,17.6s					
GYA			LR	LR		
	comp=Z,780nm,17.8s					
GYA			LR	LR		
	comp=Z,870nm,17.4s					
ENH	**Enshi**	**32.56 317**	*e*P	**P**	**03 32 56.9**	**+1.0**
	comp=Z,126nm,1.5s					
ENH			LR	LR		
	comp=Z,1μm,20.0s					
TIA	**Tai'an**	**32.56 333**⇑	P	**P**	**03 32 56.0**	**+0.2**
TIA			PP	**PnPn**	**03 34 04.5**	**+0.6**
TIA			S	**S**	**03 38 11.3**	**+2.0**
TIA			pmax	pmax		
	comp=Z,40nm,1.5s					
TIA			pmax	pmax		
	comp=Z,380nm,11.0s					
TIA			LR	LR		
	comp=Z,1μm,21.4s					
TIA			LR	LR		
	comp=Z,810nm,22.0s					
TIA			LR	LR		
	comp=Z,1μm,21.0s					
SRAK	**Srakaew**	**32.65 284**	P	**P**	**03 32 56.8**	**+0.1**
	comp=Z,42nm,1.0s,comp=Z,586nm					
MDSI	**Maura Dua**	**32.79 249**	P	**P**	**03 32 58.5**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**32.87 68**	T	T	04 07 42.2	
	baz=255,slow=75,SNR=73					
H11S1	**WAKE ISLAND Hy**	**32.89 68**	T	T	04 07 50.2	
	baz=255,slow=75,SNR=55					
H11S2	**WAKE ISLAND Hy**	**32.89 68**	T	T	04 07 43.8	
	baz=255,slow=75,SNR=86					
KASI	**Kota Agung**	**32.89 247**	P	**P**	**03 32 58.7**	**-0.2**
	comp=Z,177nm,1.0s,comp=Z,2μm					
CHAI	**Chaiyaphum**	**32.99 287**	P	**P**	**03 33 00.9**	**+1.1**
	comp=Z,9.4nm,1.4s,comp=Z,2μm					
LWLI	**Liwa**	**33.10 248**	P	**P**	**03 33 01.1**	**+0.3**
LHSI	**Lahat**	**33.16 251**	P	**P**	**03 33 01.7**	**+0.4**
WRKA	**Warakurna**	**33.18 191**	P	**P**	**03 33 00.6**	**-0.7**
	baz=33,SNR=19					
DL2	**Dalian**	**33.18 341**	P	**P**	**03 33 02.3**	**+1.2**
DL2			pP	**sP**	**03 33 16.1**	**+1.7**
DL2			*e*S	**S**	**03 38 17.8**	**-1.0**
DL2			pmax	pmax		
	comp=Z,100nm,0.7s					
DL2			pmax	pmax		
	comp=Z,370nm,4.2s					
DL2			LR	LR		
	comp=Z,860nm,15.5s					
DL2			LR	LR		
	comp=Z,1μm,15.7s					
FRIM	**Kepong**	**33.22 264**⇑	P	**P**	**03 33 03.0**	**+1.2**
RGRI	**Rengat**	**33.26 257**	P	**P**	**03 33 03.3**	**+1.2**
NAYO	**Nakonayok**	**33.38 284**	P	**P**	**03 33 04.7**	**+1.6**
	comp=Z,41nm,1.6s,comp=Z,1μm					
H11N1	**WAKE ISLAND Hy**	**33.38 66**	T	T	04 08 07.6	
	baz=254,slow=75,SNR=105					
H11N2	**WAKE ISLAND Hy**	**33.39 66**	T	T	04 08 16.7	
	baz=254,slow=75,SNR=111					
H11N3	**WAKE ISLAND Hy**	**33.40 66**	T	T	04 08 08.9	
	baz=254,slow=75,SNR=99					
IPM	**Ipoh**	**33.63 266**	*e*P	**P**	**03 33 06.1**	**+0.6**
	comp=Z,87nm,1.5s					
IPM	**Ipoh**	**33.63 266**⇑	P	**P**	**03 33 06.7**	**+1.3**
SKLT	**Songkhla**	**33.79 271**	P	P	03 33 12.8	+6.0
	comp=Z,57nm,1.4s,comp=Z,926nm					
MNAI	**Manna**	**33.88 250**	P	**P**	**03 33 06.5**	**-1.0**
MNAI	**Manna**	**33.88 250**	*e*P	**P**	**03 33 07.3**	**-0.3**
	comp=Z,326nm,1.1s					
KULM	**Kulim**	**33.91 268**	*e*P	**P**	**03 33 08.1**	**+0.3**
	comp=Z,29nm,1.0s					
KULM			LR	LR		
	comp=Z,420nm,20.0s					
KULM	**Kulim**	**33.91 268**⇓	P	**P**	**03 33 09.0**	**+1.2**
PBKT	**Sadao Pong**	**34.07 288**	P	**P**	**03 33 10.6**	**+1.4**
	comp=Z,45nm,2.0s,comp=Z,1μm					
XMIS	**Christmas Isla**	**34.12 238**	*e*P	**P**	**03 33 08.3**	**-1.3**
	comp=Z,75nm,0.8s					
MASI	**Maura Aman, Be**	**34.15 253**	P	**P**	**03 33 11.0**	**+1.1**
	comp=Z,146nm,1.7s,comp=Z,2μm					
BKNI	**Bangkinang**	**34.35 259**	P	**P**	**03 33 10.0**	**-1.7**
TRTT	**Trang**	**34.68 273**	P	**P**	**03 33 16.1**	**+1.6**
	comp=Z,44nm,1.4s,comp=Z,879nm					
UTTA	**Uttaradit**	**34.70 290**	P	**P**	**03 33 15.9**	**+1.3**
	comp=Z,11nm,1.5s,comp=Z,137nm					
NANT	**Nan**	**34.80 292**	P	**P**	**03 33 16.3**	**+0.8**
	comp=Z,9.9nm,1.2s					
MSHR	**Mys Shultsa**	**34.84 355***c*	*i* P	**P**	**03 33 15.9**	**+0.5**
PHET	**Kaeng Krachan**	**34.86 281**	P	**P**	**03 33 18.2**	**+2.2**
	comp=Z,18nm,1.1s,comp=Z,152nm					
ERM	**Erimo**	**34.94 11**	PFAKE		03 33 30.0	+14
ERM			LR	LR		
	comp=Z,1μm,20.0s					
KMI	**Kunming**	**35.05 303**⇑	P	**P**	**03 33 20.1**	**+2.3**
KMI			pP	sP	03 33 35.1	+4.0
KMI			PP	**PP**	**03 34 37.1**	**-0.5**
KMI			S	**S**	**03 38 45.4**	**-3.0**
KMI			pmax	pmax		
	comp=Z,27nm,1.1s					
KMI			pmax	pmax		
	comp=Z,160nm,3.1s					
KMI			LR	LR		
	comp=Z,510nm,15.9s					
KMI			LR	LR		
	comp=Z,570nm,17.4s					
KMI			LR	LR		
	comp=Z,650nm,15.9s					
KRAB	**Krabi**	**35.16 273**	P	**P**	**03 33 20.1**	**+1.5**
	comp=Z,32nm,0.7s,comp=Z,5μm					
PDSI	**Padang**	**35.21 257**	P	**P**	**03 33 15.8**	**-3.3**
VLA	**Vladivostok**	**35.32 356**	*e*P	**P**	**03 33 20.4**	**+0.8**
VLA			pmax	pmax		
	comp=Z,23nm,1.1s					
SNY	**Shenyang**	**35.34 346**⇑	P	**P**	**03 33 20.8**	**+1.0**
SNY			S	S	03 38 41.8	-10
SNY			sS	**sS**	**03 39 06.8**	**-0.8**
SNY			pmax	pmax		
	comp=Z,24nm,1.2s					
SNY			pmax	pmax		
	comp=Z,540nm,12.1s					
SNY			LR	LR		
	comp=Z,1μm,16.4s					
SNY			LR	LR		
	comp=Z,700nm,16.4s					
SNY			LR	LR		
	comp=Z,2μm,17.4s					
UTHA	**Uthaitani**	**35.35 286**	P	P	03 33 27.5	+7.3
	comp=Z,4.4nm,1.7s,comp=Z,96nm					
XAN	**Xi'an**	**35.35 321**	P	**P**	**03 33 20.8**	**+0.7**
XAN			pP	sP	03 33 35.6	+2.2
XAN			PP	**PP**	**03 34 41.9**	**+1.2**
XAN			S	**S**	**03 38 48.5**	**-4.0**
XAN			pmax	pmax		
	comp=Z,100nm,0.9s					
XAN			pmax	pmax		
	comp=Z,390nm,11.2s					
XAN			LR	LR		
	comp=Z,840nm,15.3s					
XAN			LR	LR		
	comp=Z,630nm,17.4s					
XAN			LR	LR		
	comp=Z,2μm,16.3s					
QLP	**Quilpie**	**35.35 165**	P	**P**	**03 33 19.7**	**-0.4**
	baz=35,SNR=22					
SRDT	**SRDT**	**35.50 284**	P	**P**	**03 33 23.4**	**+1.9**
	comp=Z,112nm,1.8s					
SURT	**Suratani**	**35.54 275**

BJT LR LR
comp=Z,2μm,19.0s
BJI Beijing 36.18 336 P **P** **03 33 27.3 +0.3**
BJI S **S** **03 39 07.8 +2.9**
BJI pmax pmax
comp=Z,70nm,1.3s
BJI pmax pmax
comp=Z,440nm,3.5s
BJI LR LR
comp=Z,2μm,17.9s
BJI LR LR
comp=Z,660nm,24.1s
BJI LR LR
comp=Z,1μm,18.5s
GIRL Giralia 36.25 213 P **P** **03 33 28.4 +0.7**
baz=36,SNR=5.3
CMAR Chiang Mai Arr 36.35 291 P **P** **03 33 30.2 +1.4**
comp=Z,22nm,1.0s,baz=102,slow=6.7,SNR=78
CMAR PcP **PcP** **03 35 54.2 +1.1**
comp=Z,2.9nm,0.3s,baz=78,slow=2.6,SNR=4.5
CMAR LR LR 03 48 18.8
comp=Z,347nm,20.2s,baz=93,slow=36
USRK Ussuriysk Ar. 36.39 357 P **P** **03 33 28.9 +0.1**
comp=Z,9.9nm,0.7s,baz=173,slow=8.7,SNR=15
USRK LR LR 03 46 45.1
comp=Z,1μm,19.5s,baz=163,slow=34
CHTO Chiang Mai 36.42 291 P **P** **03 33 30.5 +1.0**
comp=Z,144nm,1.6s,comp=Z,2μm
CHTO Chiang Mai 36.42 291 *e*P **P** **03 33 30.4 +1.0**
CHTO pmax pmax
comp=Z,61nm,1.4s
CHTO MLR MLR
comp=Z,641nm,22.0s
CHTO Chiang Mai 36.42 291 *e*P **P** **03 33 30.4 +1.0**
comp=Z,61nm,1.4s
CHTO LR LR
comp=Z,641nm,22.0s
CHTO Chiang Mai 36.42 291 P **P** **03 33 30.4 +1.0**
SNR=24
CHTO Chiang Mai 36.42 291 P **P** **03 33 30.4 +1.0**
SNR=24
EIDS Eidsvold 36.57 155 P **P** **03 33 29.0 -1.6**
baz=37,SNR=3.3
EIDS Eidsvold 36.57 155 *e*P **P** **03 33 30.2 -0.3**
comp=Z,49nm,1.4s
SISI Saibi 36.64 257 P **P** **03 33 30.5 -0.8**
comp=Z,124nm,0.8s
CN2 Changchun 36.82 349 *e*P **P** **03 33 32.8 +0.4**
CN2 PcP **PcP** **03 35 54.5 +0.5**
CN2 *e*S **S** **03 39 13.3 -1.3**
CN2 SS **SnSn** **03 41 45.5 -2.3**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,1μm,18.0s
ASAJ Asahikawa 36.88 9 P **P** **03 33 33.5 +0.6**
comp=Z,16nm,0.7s,baz=263,slow=16,SNR=3.6
CD2 Chengdu 36.97 313 P **P** **03 33 34.8 +0.8**
CD2 pP pP 03 33 44.8 +1.4
CD2 sP sP 03 33 49.3 +2.0
CD2 S **S** **03 39 19.0 +1.6**
CD2 sS sS 03 39 36.3 +3.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.2s
CD2 LR LR
comp=Z,2μm,21.4s
CD2 LR LR
comp=Z,970nm,16.4s
CD2 LR LR
comp=Z,1μm,13.9s
KCSI Kotacane, Aceh 36.98 266 P **P** **03 33 34.3 +0.1**
MDJ Mudanjiang 37.00 354 P **P** **03 33 34.6 +0.7**
MDJ pP sP 03 33 47.3 0.0
MDJ sP pP 03 33 52.8 +9.4
MDJ PP **PP** **03 34 58.8 +0.2**
MDJ PcP **PcP** **03 35 55.1 +0.6**
MDJ S **S** **03 39 13.3 -4.0**
MDJ ScP **ScP** **03 39 37.4 -1.9**
MDJ PcS **PcS** **03 39 43.3 +0.7**
MDJ pmax pmax
comp=Z,61nm,1.4s
MDJ pmax pmax
comp=Z,280nm,9.3s
MDJ LR LR
comp=Z,470nm,15.1s
MDJ LR LR
comp=Z,280nm,20.1s
MDJ LR LR
comp=Z,570nm,15.1s
MDJ Mudanjiang 37.00 354 *e*P **P** **03 33 34.4 +0.5**
comp=Z,75nm,1.2s
MDJ LR LR
comp=Z,554nm,19.0s
YUK Yuzh-Kuril'sk 37.44 13*c i*P **P** **03 33 38.9 +1.2**
YUK *i* S **S** **03 39 22.7 -1.3**
YUK pmax pmax
comp=N,226nm,1.0s
YUK pmax pmax
comp=E,266nm,1.5s
YUK pmax pmax
comp=Z,556nm,1.4s
YUK MLR MLR
comp=Z,425nm,18.0s
YUK MLR MLR
comp=N,583nm,13.0s
TPTI 37.60 265 P **P** **03 33 39.8 +0.3**
comp=N,43nm,1.3s,comp=N,875nm
MLSI Meulaboh, Aceh 38.23 267 P **P** **03 33 44.2 -0.6**
FORT Forrest 38.83 189 P **P** **03 33 49.2 -0.3**
baz=39,SNR=11
FORT Forrest 38.83 189 *e*P **P** **03 33 48.2 -1.3**
comp=N,2μm,0.9s
HHC Hu-ho-hao-te 38.87 332 *e*P **P** **03 33 50.8 +0.8**
HHC pP sP 03 34 01.8 -1.6
HHC sP pP 03 34 06.6 +7.1
HHC PP **PnPn** **03 35 23.8 +2.0**
HHC S **S** **03 39 42.5 -3.6**
HHC pmax pmax
comp=N,44nm,1.1s
HHC pmax pmax
comp=N,250nm,4.9s
HHC LR LR
comp=N,640nm,14.5s
HHC LR LR
comp=N,1μm,20.6s
HHC LR LR
comp=N,880nm,17.7s
BTO Baotou 39.43 330 *e*P **P** **03 33 55.3 +0.7**
YSS Yuzh-Sakhalins 39.67 9*c i*P **P** **03 33 56.9 +0.5**
YSS *e* 03 34 07.6
YSS *e* 03 35 26.8
YSS *e* 03 36 05.1
YSS *e*S **S** **03 39 57.3 -0.3**
YSS *e*SS **SS** **03 42 47.0 -6.8**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS MLR MLR
comp=Z,1μm,16.4s
YSS Yuzh-Sakhalins 39.67 9 *e*P **P** **03 33 56.6 +0.3**
comp=Z,80nm,1.1s
YSS LR LR
comp=Z,739nm,21.0s
LZH Lanzhou 39.86 320 *e*P **P** **03 34 00.5 +2.1**
LZH pP sP 03 34 14.4 +2.6
LZH PcP **PcP** **03 36 05.6 +1.7**
LZH *e*S **S** **03 40 00.0 -1.2**
LZH pmax pmax
comp=Z,180nm,1.3s
LZH pmax pmax
comp=Z,440nm,4.2s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,2μm,14.8s
STKA Stephens Creek 39.95 171 P **P** **03 33 57.5 -1.4**
comp=Z,20nm,0.9s,baz=346,slow=8.1,SNR=14

STKA LR LR 03 52 24.9
comp=Z,982nm,18.1s,baz=1.2,slow=39
STKA Stephens Creek 39.95 171 P **P** **03 33 57.9 -0.9**
baz=40,SNR=9.0
STKA Stephens Creek 39.95 171 *e*P **P** **03 33 58.0 -0.9**
comp=Z,8.3nm,1.1s
BBOO Buckleboo 40.35 178 P **P** **03 34 01.1 -1.1**
baz=40,SNR=11
BBOO Buckleboo 40.35 178 *e*P **P** **03 34 02.0 -0.2**
comp=Z,34nm,1.3s
CMBY CAMPBELL BAY 40.43 272 *e*P **P** **03 34 03.3 +0.1**
CMSA Cobar Meteorol 40.45 165 P **P** **03 34 03.7 +0.7**
baz=40,SNR=38
HABR Khabarovsk 40.59 0 *e*P **P** **03 34 02.1 -1.8**
HABR *e**PP **sP** **03 34 17.4 0.0**
HABR *e* 03 35 36.9
HABR *e* 03 36 02.8
HABR *e*PPP PPP 03 36 04.6
HABR *e*S **S** **03 40 08.2 -3.1**
HABR *e*SS **SS** **03 43 12.0 -0.1**
HABR *e*SSS SSS 03 43 38.9
HABR *e* 03 44 01.5
HABR pmax pmax
comp=N,62nm,1.3s
HABR pmax pmax
comp=E,29nm,1.3s
HABR pmax pmax
comp=Z,191nm,1.3s
HABR pmax pmax
comp=Z,466nm,1.6s
HABR MLR MLR
comp=Z,426nm,15.0s
MORW Morawa 40.78 205 P **P** **03 34 05.6 -0.2**
baz=41,SNR=5.1
HTT Hallett 41.14 175 P **P** **03 34 09.1 +0.3**
baz=41,SNR=5.5
ARMA Armidale 41.28 158 P **P** **03 34 10.7 +0.8**
baz=41,SNR=6.0
ARMA Armidale 41.28 158 *e*P **P** **03 34 10.8 +0.8**
comp=Z,32nm,1.2s
DGPR DIGLIPUR 41.39 281 *e*P **P** **03 34 10.6 -0.4**
DGPR AMB AMB 03 34 12.7
comp=Z,16nm,0.3s
KLR Kul'dur 41.42 357 P **P** **03 34 12.1 +1.3**
comp=Z,7.4nm,1.2s,baz=175,slow=6.2,SNR=57
KLR LR LR 03 48 51.6
comp=Z,92nm,21.8s,baz=160,slow=32
PBA Port Blair 41.51 279 *e*P P 03 34 11.2 -0.9
BLDU Ballidu 41.87 204 P **P** **03 34 13.7 -0.9**
baz=42,SNR=19
KLBR Kellerberrin 42.34 202 P **P** **03 34 17.6 -0.9**
baz=42,SNR=10
DZM Mont Dzumac 42.97 134 *e*LR LR 03 46 27.3
comp=Z,2μm,23.2s
HIA Hailar 43.25 346*c i*P **P** **03 34 26.9 +1.2**
HIA pmax pmax
comp=Z,60nm,1.2s
HIA Hailar 43.25 346 *e*P **P** **03 34 27.0 +1.2**
comp=Z,219nm,1.7s
HIA LR LR
comp=Z,389nm,19.0s
TYV Tymovskoe 43.49 7 *e*P **P** **03 34 27.0 -0.6**
TYV *e*S **S** **03 40 50.4 -3.6**
TYV pmax pmax
comp=Z,500nm,3.7s
TYV pmax pmax
comp=Z,21nm,1.3s
TYV smax smax
comp=E,800nm,16.0s
TYV MLR MLR
comp=Z,900nm,20.0s
NWAO Narrogin (SRO) 43.73 201 P **P** **03 34 30.5 +0.7**
baz=44,SNR=5.2
NWAO P **P** **03 34 30.5 +0.7**
baz=44,SNR=5.2
NWAO Narrogin (SRO) 43.73 201 *e*P **P** **03 34 30.1 +0.3**
NWAO pmax pmax
comp=Z,428nm,1.4s
NWAO MLR MLR
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 43.73 201 *e*P **P** **03 34 30.1 +0.3**
comp=Z,428nm,1.4s
NWAO LR LR
comp=Z,1μm,19.0s
GTA Gaotai 44.41 321 ⇑P **P** **03 34 36.5 +1.2**
GTA pP sP 03 34 52.0 +3.2
GTA PcP **PP** **03 36 19.8 +0.5**
GTA PP PcP 03 36 26.8 +8.0
GTA S **S** **03 41 07.9 -0.2**
GTA SS **SS** **03 44 20.3 -7.6**
GTA pmax pmax
comp=Z,83nm,1.3s
GTA pmax pmax
comp=Z,400nm,5.8s
GTA LR LR
comp=Z,350nm,16.6s
GTA LR LR
comp=Z,620nm,16.2s
GTA LR LR
comp=Z,740nm,16.6s
SHL Shillong 44.44 299 *e*P **P** **03 34 36.4 +0.5**
SHL AMB AMB 03 34 43.4
comp=Z,51nm,1.0s
ARPS Mount Arapiles 44.78 172 P **P** **03 34 38.2 +0.1**
baz=45,SNR=10
CAN Canberra 44.91 163 *e*P **P** **03 34 40.1 +0.8**
CAN pmax pmax
comp=Z,29nm,1.3s
CAN MLR MLR
comp=Z,1μm,22.0s
CAN Canberra 44.91 163 *e*P **P** **03 34 40.0 +0.8**
comp=Z,29nm,1.3s
CAN LR LR
comp=Z,1μm,22.0s
CNB Canberra Magne 45.01 163 P **P** **03 34 40.9 +0.8**
baz=45,SNR=12
NKL Nikolayevsk 45.53 5 *i* P **P** **03 34 46.0 +2.2**
NKL *e* 03 41 34.0
NKL pmax pmax
comp=N,60nm,0.9s
NKL pmax pmax
comp=E,60nm,0.9s
NKL pmax pmax
comp=Z,280nm,0.9s
NKL MLR MLR
comp=Z,1μm,15.0s
TOO Toolangi 46.20 168 P **P** **03 34 50.5 +1.2**
baz=46,SNR=14
LSA Lhasa 46.30 304 P **P** **03 34 53.1 +2.2**
LSA pmax pmax
comp=Z,50nm,1.0s
LSA Lhasa 46.30 304 *e*P **P** **03 34 52.8 +1.9**
LSA pmax pmax
comp=Z,64nm,1.0s
LSA MLR MLR
comp=Z,293nm,19.0s
LSA Lhasa 46.30 304 *e*P **P** **03 34 52.8 +1.9**
comp=Z,64nm,1.0s
LSA LR LR
comp=Z,293nm,19.0s
ULN Ulaanbaatar 46.36 334*c i*P **P** **03 34 51.4 +0.7**
ULN pmax pmax
comp=Z,110nm,1.7s
ULN Ulaanbaatar 46.36 334 *e*P **P** **03 34 51.8 +1.0**
comp=Z,45nm,0.8s
ULN *e*PcP **PcP** **03 36 25.2 -0.3**
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 46.36 334 P **P** **03 34 51.9 +1.2**
SNR=25
ULN P **P** **03 34 51.9 +1.2**
SNR=25
ULN Ulaanbaatar 46.36 334 P **P** **03 34 51.9 +1.2**
SNR=25
SONM Songino Array 46.62 334 P **P** **03 34 53.8 +1.1**
comp=Z,56nm,0.7s,baz=149,slow=8.8,SNR=289
SONM PcP **PcP** **03 36 26.2 -0.1**
comp=Z,14nm,0.7s,baz=153,slow=3.7,SNR=7.5
SONM LR LR 03 55 04.2
comp=Z,1μm,20.0s,baz=141,slow=37
FUNA Funafuti 47.20 109 PFAKE 03 35 10.0 +12
FUNA LR LR
comp=Z,3μm,19.0s
CIT Chita 47.44 342 *e*P **P** **03 35 01.0 +2.1**
CIT pmax pmax
comp=Z,160nm,1.3s
TAPN Taplejung 48.51 300 *e*P **P** **03 35 09.5 +1.5**

comp=Z,335nm,1.2s
ODAN Odare 48.67 299 *e*P **P** **03 35 10.4 +1.3**
comp=Z,322nm,1.1s
BWNR Bhubaneshwar 48.87 290 *e*P **P** **03 35 09.8 -0.6**
BWNR AMB AMB 03 35 10.3
comp=Z,45nm,0.9s
PETK Petropavlovsk- 48.94 18 P **P** **03 35 10.6 +0.1**
comp=Z,15nm,0.9s,baz=270,slow=0.4,SNR=8.7
PETK PcP **PcP** **03 36 33.8 -0.5**
comp=Z,4.1nm,0.7s,baz=160,slow=2.6,SNR=4.8
PETK LR LR 03 52 50.1
comp=Z,495nm,21.8s,baz=202,slow=32
PET Petropavlovsk 49.17 19 *e*P **P** **03 35 16.1 +3.9**
PET *e*S **S** **03 42 19.4 +3.9**
PET pmax pmax
comp=Z,200nm,15.0s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,700nm,19.0s
PET Petropavlovsk 49.17 19 PFAKE 03 35 20.0 +7.8
PET LR LR
comp=Z,943nm,20.0s
BOK Bokaro 49.35 295 *e*P **P** **03 35 15.4 +1.3**
RAMN Ramite 49.38 299 *e*P **P** **03 35 16.0 +1.5**
comp=Z,302nm,1.1s
CLNS Chul'man 49.57 353 *e*P **P** **03 35 15.0 -0.2**
CLNS pmax pmax
comp=N,21nm,1.3s
CLNS pmax pmax
comp=Z,25nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.1s
ZAK Zakamensk 49.89 334 *e*P **P** **03 35 17.6 -0.3**
ZAK *e* 03 36 33.1
ZAK pmax pmax
comp=Z,18nm,1.7s
JIRN Jiri 49.90 300 *e*P **P** **03 35 20.0 +1.3**
comp=Z,418nm,1.2s
GUN Gumba 50.23 300 *e*P **P** **03 35 22.5 +1.4**
comp=Z,445nm,1.1s
PKI Pulchoki 50.55 299 *e*P **P** **03 35 24.3 +0.7**
PKIN Phulchoki 50.56 299 *e*P **P** **03 35 24.4 +0.8**
TLY Talaya 50.70 335 LR LR 03 57 34.8
comp=Z,878nm,19.6s,baz=130,slow=37
TLY Talaya 50.70 335 *e*P **P** **03 35 25.5 +1.6**
TLY *e* 03 37 28.4
TLY *e*S S 03 42 53.8 +17
TLY pmax pmax
comp=Z,18nm,0.8s
TLY MLR MLR
comp=Z,786nm,18.0s
TLY Talaya 50.70 335 P **P** **03 35 25.0 +1.1**
SNR=5.3
TLY Talaya 50.70 335 P **P** **03 35 25.0 +1.1**
SNR=5.3
KKN Kakani 50.71 300 *e*P **P** **03 35 25.7 +1.0**
comp=Z,172nm,1.0s
DMN Daman 50.82 299 *e*P **P** **03 35 26.7 +1.2**
comp=Z,234nm,1.2s
IRK Irkutsk 50.88 336 *e*P **P** **03 35 24.5 -0.7**
IRK pmax pmax
comp=Z,125nm,2.5s
VIS Vishakhapatnam 50.94 286 *e*P **P** **03 35 27.4 +1.2**
VIS AMB AMB 03 35 28.1
comp=Z,49nm,0.3s
GKN Gorkha 51.32 300 *e*P **P** **03 35 30.2 +1.1**
comp=Z,308nm,1.4s
TAU Tasmania Unive 51.71 168 PFAKE 03 35 40.0 +8.5
TAU LR LR
comp=Z,2μm,20.0s
MOY Mondy 51.82 334 *e*P **P** **03 35 33.5 +1.1**
MOY pmax pmax
comp=Z,108nm,2.2s
DANN Dangsing 52.15 300 *e*P **P** **03 35 36.6 +1.1**
KOLN Koldanda 52.16 299 *e*P **P** **03 35 37.0 +1.5**
comp=Z,298nm,0.9s
BOD Bodaibo 52.47 346 *e*P **P** **03 35 37.3 +0.4**
BOD pmax pmax
comp=Z,36nm,1.8s
PYUN Piuthan 52.76 299 *e*P **P** **03 35 41.5 +1.6**
comp=Z,633nm,1.0s
MA2 Magadan 53.14 10 LR LR 03 56 57.1
comp=Z,523nm,19.5s,baz=198,slow=34
MA2 Magadan 53.14 10 *i* P **P** **03 35 41.5 -0.4**
PALK Pallekele 53.51 273 *i* P **P** **03 35 46.4 +1.0**
PALK Pallekele 53.51 273 *e*P **P** **03 35 44.4 -1.0**
comp=Z,57nm,1.5s
MDRS Chennai 53.74 280 *e*P **P** **03 35 48.1 +1.0**
MDRS AMB AMB 03 35 48.6
comp=Z,28nm,1.0s
MDRS *ex* x 04 00 24.8
YAK Yakutsk 54.30 357 LR LR 03 57 46.4
comp=Z,801nm,19.7s,baz=106,slow=35
YAK Yakutsk 54.30 357 *e*P **P** **03 35 50.4 +0.1**
YAK *e* 03 37 58.2
YAK *e*S **S** **03 43 32.9 +7.1**
YAK *e*S S 03 43 40.0 +14
YAK *e* 03 45 36.4
YAK pmax pmax
comp=Z,79nm,1.0s
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,18nm,0.8s
YAK smax smax
comp=N,108nm,3.8s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,993nm,18.0s
YAK MLR MLR
comp=E,348nm,16.0s
YAK Yakutsk 54.30 357 *e*P **P** **03 35 50.3 0.0**
comp=E,167nm,1.3s
WMQ Urumqi 54.44 319 P **P** **03 35 53.6 +1.8**
WMQ pP pP 03 36 01.9 +0.3
WMQ sP sP 03 36 09.3 +3.8
WMQ PcP **PcP** **03 36 55.8 +0.6**
WMQ PP **PP** **03 37 58.3 +4.1**
WMQ S **S** **03 43 32.3 +3.8**
WMQ sS sS 03 43 42.5 -2.1
WMQ ScS **ScS** **03 45 41.0 +2.1**
WMQ pmax pmax
comp=E,210nm,0.9s
WMQ pmax pmax
comp=E,630nm,3.7s
NGP Nagpur 55.25 290 *e*P **P** **03 35 58.6 +0.7**
HYB Hyderabad 55.47 286 *i* P **P** **03 36 00.0 +0.4**
HYB *e* 03 36 05.0
HYB Hyderabad 55.47 286 *e*P **P** **03 36 00.1 +0.4**
HYB AMB AMB 03 36 00.6
comp=Z,32nm,1.0s
SEY Seymchan 56.56 10 LR LR 03 58 54.0
comp=Z,611nm,20.3s,baz=154,slow=34
BHPL Bhopal 56.96 293 *e*P **P** **03 36 10.7 +0.6**
BHPL AMB AMB 03 36 16.4
comp=Z,53nm,1.4s
DDI Dehra Dun 57.43 301 *e*P **P** **03 36 14.9 +1.5**
DDI AMB AMB 03 36 15.3
comp=Z,204nm,1.0s
ZSN Zaisan 57.85 322 *e*P **P** **03 36 16.2 +0.2**
ZSN LRM MLR 04 03 57.4
comp=Z,59nm,14.7s
SMLA Simla 58.33 302 *e*P **P** **03 36 20.8 +1.2**
SMLA AMB AMB 03 36 21.2
comp=Z,85nm,1.1s
MK31 Makanchi Array 59.16 321 P **P** **03 36 26.2 +1.0**
MK31 pmax pmax
comp=Z,80nm,0.7s
MK31 Makanchi Array 59.16 321 *e*P **P** **03 36 26.4 +1.1**
MKAR Makanchi Array 59.16 321 P **P** **03 36 26.4 +1.2**
comp=Z,114nm,0.7s,baz=107,slow=8.7,SNR=471
MKAR LR LR 04 03 22.2
comp=Z,280nm,19.4s,baz=102,slow=38
MKAR Makanchi Array 59.16 321 P **P** **03 36 26.4 +1.2**
MKAR pmax pmax
comp=Z,113nm,0.7s
MKAR MLR MLR
comp=Z,280nm,19.4s
MKAR Makanchi Array 59.16 321 *e*P **P** **03 36 26.4 +1.2**
comp=Z,634nm,0.6s
ADK Adak 59.26 33 PFAKE 03 36 40.0 +14
ADK LR LR

comp=Z,737nm,19.0s
DHRM DHARAMSHALA 59.26 303 *e*P **P 03 36 27.1 +0.7**
DHRM AMB AMB 03 36 27.7
comp=Z,119nm,3.6s
MAKZ Makanchi 59.37 321 *e*P **P 03 36 26.2 -0.4**
MAKZ pmax pmax
comp=Z,167nm,1.1s
MAKZ Makanchi 59.37 321 *e*P **P 03 36 26.2 -0.4**
comp=Z,166nm,1.1s
SHLS Shalkode 59.69 316 *i* P **P 03 36 25.5 -3.6**
comp=Z,593nm,0.5s
SHLS *e*S **S 03 44 31.9 -5.9**
PDGK Podgornoye 59.73 316 *i* P **P 03 36 29.8 +0.5**
PDGK pmax pmax
comp=Z,122nm,1.2s
THN Thein Dam 59.78 303 *e*P **P 03 36 28.0 -1.7**
GOA Goa 59.96 283 *e*P **P 03 36 31.4 +0.2**
GOA AMB AMB 03 36 46.9
comp=Z,27nm,0.7s
POO Poona 59.98 287 *e*P **P 03 36 30.1 -1.2**
ZHN Zhinishke 60.40 316 *i* P **P 03 36 32.4 -1.5**
BKZ Black Stump Fm 60.65 144 *e*P **P 03 36 35.5 0.0**
comp=Z,32nm,1.2s
LTZ Lake Taylor 60.81 149 *e*P **P 03 36 41.1 +4.6**
comp=Z,50nm,1.5s
RPZ Rata Peaks 60.89 151 *e*P **P 03 36 37.1 +0.1**
comp=Z,32nm,1.0s
ZAA0 Zalesovo Array 60.96 329 *e*P **P 03 36 37.2 -0.1**
ZALV Zalesovo Beam 60.96 329 P **P 03 36 37.2 -0.2**
comp=Z,37nm,0.6s,baz=116,slow=5.8,SNR=135
ZALV LR LR 04 03 19.7
comp=Z,865nm,20.2s,baz=76,slow=36
ZALV PKP2bc 04 06 04.3
comp=Z,1.5nm,0.7s,baz=300,slow=2.9,SNR=4.8
TDK Taldyqorghan 61.02 318 *e*P **P 03 36 36.5 -1.5**
comp=Z,964nm,1.1s
SNZO South Karori 61.06 146 PFAKE 03 36 50.0 +12
SNZO LR LR
comp=Z,505nm,20.0s
KSH Kashi 61.13 311 P **P 03 36 42.1 +3.1**
KSH pP sP 03 36 58.1 +5.4
KSH PcP **PcP 03 37 24.1 +2.4**
KSH PP **PP 03 38 59.8 +6.0**
KSH PcS **PcS 03 41 22.5 -2.1**
KSH S **S 03 44 54.3 -2.1**
KSH sS sS 03 45 20.1 +7.3
KSH ScS **SKKSac 03 46 21.0 -7.2**
KSH SS **SS 03 48 57.8 +1.1**
KSH pmax pmax
comp=Z,110nm,0.9s
KSH pmax pmax
comp=Z,220nm,5.2s
KSH LR LR
comp=Z,160nm,12.7s
KSH LR LR
comp=Z,200nm,10.5s
KSH LR LR
comp=Z,300nm,14.1s
MDOK Medeo 61.37 315 *i* P **P 03 36 39.0 -1.5**
comp=Z,837nm,0.9s
MDOK *i* S **S 03 44 56.6 -2.7**
MDOK LRM MLR 04 05 53.5
comp=Z,161nm,18.8s
BFZ Birch Farm 61.50 145 *e*P **P 03 36 41.7 +0.5**
comp=Z,27nm,0.8s
SEM Semipalatinsk 61.87 324 *e*P **P 03 36 42.2 -1.6**
comp=Z,363nm,1.2s
SEM LRM MLR 04 06 37.7
comp=Z,272nm,17.5s
KUU Kurty 62.08 316 *i* P **P 03 36 43.8 -1.3**
KUU *e*S **S 03 45 05.5 -2.5**
KUU LRM MLR 04 05 57.3
comp=Z,67nm,14.4s
NVS Novosibirsk 62.20 329⇓ *i* P **P 03 36 46.3 +0.6**
NVS pmax pmax
comp=Z,73nm,1.3s
NVS pmax pmax
comp=N,27nm,1.0s
NVS pmax pmax
comp=E,48nm,1.4s
KURK Kurchatov 62.94 324 *e*P **P 03 36 51.1 +0.4**
KURK MLR MLR
comp=Z,1μm,19.0s
KURK Kurchatov 62.94 324 *e*P **P 03 36 51.1 +0.4**
comp=Z,1μm,0.9s
KURK LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 62.94 324 P **P 03 36 51.4 +0.7**
SNR=106
KURK P **P 03 36 51.4 +0.7**
SNR=106
KURK Kurchatov 62.94 324 P **P 03 36 51.4 +0.7**
SNR=106
FRU Bishkek 62.98 314⇑ *e*P **P 03 36 52.0 +0.8**
FRU *e* 03 37 28.0
FRU pmax pmax
comp=Z,110nm,2.0s
AAK Ala-Archa 63.02 314*c* *i*P **P 03 36 52.9 +1.3**
AAK pmax pmax
comp=Z,43nm,1.0s
AAK Ala-Archa 63.02 314 *e*P **P 03 36 52.7 +1.0**
comp=Z,15nm,0.6s
AAK LR LR
comp=Z,411nm,19.0s
AAK Ala-Archa 63.02 314 P **P 03 36 52.9 +1.3**
SNR=22
AAK P **P 03 36 52.9 +1.3**
SNR=22
AAK Ala-Archa 63.02 314 P **P 03 36 52.9 +1.3**
SNR=22
BILL Bilibino 63.79 13*c* *i*P **P 03 36 56.2 +0.2**
BILL *i* 03 37 05.7
BILL *e* 03 39 15.4
BILL pmax pmax
comp=Z,62nm,2.5s
TIXI Tiksi 63.94 358 LR LR 04 03 50.4
comp=Z,1μm,19.7s,baz=92,slow=35
TIXI Tiksi 63.94 358*c* *i*P **P 03 36 56.5 -0.4**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 63.94 358 *e*P **P 03 36 56.2 -0.8**
comp=Z,13nm,0.7s
BHJ Bhuj 64.08 292 *e*P **P 03 37 00.6 +1.8**
BHJ AMB AMB 03 37 00.9
comp=Z,119nm,0.7s
MNAS Manas 64.41 313 P **P 03 37 02.2 +1.4**
MNAS pmax pmax
comp=Z,125nm,1.6s
KBL Kabul 65.62 304 *e*P **P 03 37 09.4 +0.5**
KBL pmax pmax
comp=Z,42nm,1.0s
KBL Kabul 65.62 304 *e*P **P 03 37 09.4 +0.5**
comp=Z,42nm,1.0s
KK31 Karatay Array 65.97 314 *i* P **P 03 37 11.4 +0.6**
KK31 pmax pmax
comp=Z,29nm,0.7s
KKAR Karatay Array 65.97 314 *e*P **P 03 37 11.5 +0.7**
KKAR pmax pmax
comp=Z,37nm,0.6s
KKAR Karatay Array 65.97 314 *e*P **P 03 37 11.5 +0.7**
comp=Z,37nm,0.6s
IUG Iuzhnay 66.12 313 *i* P **P 03 37 10.2 -1.6**
comp=Z,535nm,0.8s
IUG *e*S **S 03 45 55.4 -3.0**
BRZS Berezniki 66.27 321 *i* P **P 03 37 11.2 -1.3**
comp=Z,135nm,0.8s
BRZS *e*S **S 03 45 57.7 -2.1**
BRLS Borolday 66.44 314 *e*P **P 03 37 12.9 -0.9**
comp=Z,46nm,1.2s
BRLS *e*S **S 03 46 00.7 -1.5**
BRLS LRM MLR 04 09 04.0
comp=Z,194nm,15.8s
BVA0 Borovoye Array 68.52 324 P **P 03 37 26.9 +0.2**
BVA0 pmax pmax
comp=Z,98nm,0.8s
BRVK Borovoye 68.59 324 *e*P **P 03 37 27.5 +0.4**
BRVK MLR MLR
comp=Z,266nm,19.0s
BRVK Borovoye 68.59 324 *e*P **P 03 37 27.5 +0.4**
comp=Z,364nm,0.8s
BRVK LR LR
comp=Z,266nm,19.0s
BRVK Borovoye 68.59 324 P **P 03 37 27.8 +0.7**
SNR=65
BRVK P **P 03 37 27.8 +0.7**
SNR=65
BRVK Borovoye 68.59 324 P **P 03 37 27.8 +0.7**
SNR=65
NRIK Noril'sk 68.63 344 P **P 03 37 26.6 -0.4**
comp=Z,30nm,1.0s,baz=127,slow=6.6,SNR=28
NRIK LR LR 04 09 28.8
comp=Z,511nm,18.9s,baz=118,slow=38
SVW2 Sparrevohn 73.51 28 *e*P **P 03 37 58.0 +1.2**
comp=Z,28nm,1.4s
TT01 Tatalina 73.77 26 *e*P **P 03 37 59.1 +0.8**
AB31 Akbulak array 74.23 319 *i* P **P 03 38 01.5 +0.3**
AB31 pmax pmax
comp=Z,81nm,1.1s
ABKAR Akbulak array 74.23 319 *e*P **P 03 38 01.4 +0.1**
comp=Z,47nm,0.8s
KDAK Kodiak Island 74.29 32 *e*P **P 03 38 01.4 0.0**
KDAK pmax pmax
comp=Z,130nm,1.8s
KDAK MLR MLR
comp=Z,410nm,21.0s
KDAK Kodiak Island 74.29 32 *e*P **P 03 38 01.4 0.0**
comp=Z,130nm,1.8s
KDAK LR LR
comp=Z,410nm,21.0s
BIDO Bidbid 74.67 292 P **P 03 38 05.3 +1.0**
SNR=9.1
BIDO Bidbid 74.67 292 P **P 03 38 05.3 +1.0**
SNR=9.1
GEYT Alibeck 74.71 307 P **P 03 38 05.7 +1.3**
comp=Z,25nm,0.8s,baz=107,slow=1.5,SNR=55
GEYT LR LR 04 13 59.4
comp=Z,318nm,20.0s,baz=55,slow=38
RSO Redoubt South 74.72 29 *e*P **P 03 38 04.2 +0.1**
SVE Sverdlovsk 74.85 327*d* *i*P **P 03 38 05.0 +0.4**
SVE pmax pmax
comp=Z,105nm,1.4s
CNPM China Poot 75.29 30 *e*P **P 03 38 07.7 +0.5**
comp=Z,51nm,1.2s
BRLK Bradley Lake 75.51 30 *e*P **P 03 38 08.5 +0.1**
comp=Z,82nm,1.6s
CAST Castle Rocks 75.62 26 *e*P **P 03 38 09.6 +0.6**
comp=Z,84nm,2.0s
SUA Susitna One 75.87 29 *e*P **P 03 38 10.5 0.0**
comp=Z,24nm,1.0s
ARU Arti 75.92 326*c* *i*P **P 03 38 10.4 -0.4**
ARU *PP **sP 03 38 26.2 +1.5**
ARU S **S 03 47 49.7 -1.6**
ARU SS **SS 03 52 39.4 -4.5**
ARU pmax pmax
comp=Z,75nm,1.0s
ARU MLR MLR
comp=Z,513nm,20.0s
ARU Arti 75.92 326 *e*P **P 03 38 10.1 -0.7**
comp=Z,47nm,0.6s
ARU LR LR
comp=Z,447nm,20.0s
BPAW Bear Paw Mtn. 76.23 26 *e*P **P 03 38 12.7 +0.1**
comp=Z,6.6nm,1.3s
BANOM Banah 76.25 295 *i* P **P 03 38 14.8 +1.4**
SNR=8.5
SEW Seward 76.28 30 *e*P **P 03 38 13.1 +0.4**
comp=Z,40nm,1.2s
RC01 Rabbit Creek A 76.28 29 *e*P **P 03 38 12.3 -0.5**
comp=Z,11nm,0.7s
UOSS Minazif 76.38 294 *e*P **P 03 38 14.9 +0.9**
comp=Z,29nm,0.8s
TRF Thorofare Moun 76.42 27 *e*P **P 03 38 13.3 -0.5**
comp=Z,16nm,1.0s
HATD Hatta, Dubai 76.45 294 *i* P **P 03 38 15.4 +1.0**
SNR=20
HATD Hatta, Dubai 76.45 294 P **P 03 38 15.3 +0.8**
SNR=12
HATD P **P 03 38 15.3 +0.8**
SNR=12
HATD Hatta, Dubai 76.45 294 P **P 03 38 15.3 +0.8**
SNR=12
MLY Manley 76.51 25 *e*P **P 03 38 14.8 +0.7**
comp=Z,18nm,1.0s
ASHO Ashiyiah 76.52 293 *i* P **P 03 38 15.2 +0.3**
SNR=13
ASHO Ashiyiah 76.52 293 P **P 03 38 16.7 +1.7**
SNR=10.0
ASHO Ashiyiah 76.52 293 P **P 03 38 16.7 +1.7**
SNR=10.0
PMR Palmer 76.65 29 *e*P **P 03 38 14.4 -0.5**
PMR pmax pmax
comp=Z,16nm,0.8s
PMR Palmer 76.65 29 *e*P **P 03 38 14.4 -0.5**
comp=Z,16nm,0.8s
NAZ Nazwa, Dubai 76.87 294 *i* P **P 03 38 17.5 +0.7**
SNR=14
NAZ Nazwa, Dubai 76.87 294 P **P 03 38 17.7 +0.9**
SNR=7.5
NAZ P **P 03 38 17.7 +0.9**
SNR=7.5
NAZ Nazwa, Dubai 76.87 294 P **P 03 38 17.7 +0.9**
SNR=7.5
FAQ Al Faqa, Dubai 76.94 294 *i* P **P 03 38 17.9 +0.7**
SNR=7.0
RND Reindeer 77.05 27 *e*P **P 03 38 16.6 -0.6**
RND pmax pmax
comp=Z,31nm,1.2s
RND Reindeer 77.05 27 *e*P **P 03 38 16.6 -0.6**
comp=Z,31nm,1.2s
SML Sawmill 77.06 28 *e*P **P 03 38 16.9 -0.3**
SML pmax pmax
comp=Z,10.0nm,1.1s
SML Sawmill 77.06 28 *e*P **P 03 38 16.9 -0.3**
comp=Z,9.5nm,1.1s
MCK McKinley 77.06 26 *e*P **P 03 38 16.7 -0.5**
MCK pmax pmax
comp=Z,74nm,1.4s
MCK McKinley 77.06 26 *e*P **P 03 38 16.7 -0.5**
comp=Z,74nm,1.4s
COLD Coldfoot 77.14 23 *e*P **P 03 38 18.1 +0.5**
comp=Z,31nm,1.1s
SOKR Solikamsk 77.24 329*c* *i*P **P 03 38 16.2 -2.0**
SOKR pmax pmax
comp=Z,67nm,1.1s
SCM Sheep Creek Mo 77.53 28 *e*P **P 03 38 20.4 +0.4**
SCM pmax pmax
comp=Z,44nm,1.0s
SCM Sheep Creek Mo 77.53 28 *e*P **P 03 38 20.4 +0.4**
comp=Z,44nm,1.0s
WRH Wood River Hil 77.54 26 *e*P **P 03 38 19.8 0.0**
comp=Z,43nm,1.4s
MDM Murphy Dome 77.55 25 *e*P **P 03 38 20.0 +0.1**
comp=Z,10.0nm,1.0s
TOLK Toolik Lake Re 77.64 21 P **P 03 38 20.6 +0.2**
baz=260
DHY Denali Highway 77.67 27 *e*P **P 03 38 21.4 +0.7**
comp=Z,50nm,1.6s
CCB Clear Creek Bu 77.69 25 *e*P **P 03 38 20.2 -0.4**
comp=Z,27nm,1.1s
COLA College 77.70 25 *e*P **P 03 38 19.5 -1.2**
COLA pmax pmax
comp=Z,17nm,1.3s
COLA MLR MLR
comp=Z,269nm,20.0s
COLA College 77.70 25 *e*P **P 03 38 19.5 -1.2**
comp=Z,17nm,1.3s
COLA LR LR
comp=Z,269nm,20.0s
ILAR Eielson Array 78.09 25 P **P 03 38 21.8 -1.1**
comp=Z,6.6nm,0.8s,baz=242,slow=5.7,SNR=45
ILAR LR LR 04 09 55.8
comp=Z,228nm,20.3s,baz=265,slow=34
ILB Eielson Array 78.09 25 *e*P **P 03 38 21.9 -1.0**
KLU Klutina 78.16 29 *e*P **P 03 38 24.4 +0.9**
comp=Z,18nm,1.0s
DIV Divide 78.20 29 *e*P **P 03 38 24.2 +0.6**
comp=Z,46nm,1.2s
PAX Paxson 78.52 27 *e*P **P 03 38 25.3 -0.1**
PAX pmax pmax
comp=Z,19nm,1.2s
PAX Paxson 78.52 27 *e*P **P 03 38 25.2 -0.1**
comp=Z,18nm,1.2s
HARP HAARP 78.61 28 *e*P **P 03 38 26.8 +0.9**
comp=Z,88nm,1.6s
BMRM Bremner River 78.75 29 *e*P **P 03 38 26.8 +0.1**
comp=Z,24nm,1.0s
PPT Papeete 78.87 110 LR LR 04 08 07.3
comp=Z,210nm,20.8s,baz=314,slow=32
PPT2 Papeete2 78.88 110 *e*S **S 03 48 24.9 +0.1**
comp=Z,279nm,30.5s
PPT2 *e*SS **SS 03 53 32.7 +2.2**
comp=Z,257nm,27.0s
PPT2 *e*LR LR 04 03 07.4
comp=Z,678nm,30.8s
PPT2 Papeete2 78.88 110 *e*T T 05 04 52.9
comp=Z,9.4nm,0.3s
PAE Paea 78.89 110 *e*T T 05 04 53.0
comp=Z,4.1nm,0.2s
FYU Fort Yukon 78.98 24 *e*P **P 03 38 29.4 +1.7**
comp=Z,82nm,1.3s
TIAR Tiarei 79.09 110 *e*T T 05 05 07.6
comp=Z,6.8nm,0.2s
DOT Dot Lake 79.21 27 *e*P **P 03 38 28.7 -0.4**
comp=Z,46nm,1.0s
TVO Taravao 79.22 110 *e*T T 05 05 17.6
comp=Z,1.5nm,0.3s
MENT Mentasta 79.31 27 *e*P **P 03 38 30.3 +0.6**
comp=Z,16nm,0.9s
CRQM Cirque 79.45 30 *e*P **P 03 38 31.8 +1.1**
comp=Z,54nm,1.4s
MSEY Mahe Island 79.99 264 PFAKE 03 38 50.0 +16
MSEY LR LR
comp=Z,197nm,21.0s
TBI Tubuai 80.21 115 *e*S **S 03 48 40.0 +1.4**
comp=Z,795nm,33.0s
TBI *e*SS **SS 03 53 51.8 +1.7**
comp=Z,255nm,28.8s
TBI *e*LR LR 04 03 35.2
comp=Z,659nm,33.0s
EGAK Eagle 80.54 26 *e*P **P 03 38 36.5 +0.3**
comp=Z,9.7nm,1.1s
EGAK LR LR
comp=Z,361nm,21.0s
DAWY Dawson 81.30 26 *e*P **P 03 38 41.1 +0.8**
comp=Z,27nm,1.0s
HYT Haines Junctio 82.22 30 *e*P **P 03 38 46.9 +1.5**
comp=Z,23nm,1.0s
MAK Makhachkala 82.73 312 *e*P **P 03 38 51.7 +3.5**
MAK *e*PPP PPP 03 43 45.7
MAK *e*S **S 03 49 10.1 +6.0**
MAK *e*SS **SS 03 54 34.4 +7.8**
MAK pmax pmax
comp=Z,66nm,1.4s
SKAG Skagway 83.37 31 *e*P **P 03 38 52.4 +1.2**
comp=Z,25nm,1.0s
WHY Whitehorse 83.51 30 *e*P **P 03 38 53.6 +1.6**
comp=Z,21nm,0.9s
INK Inuvik 83.52 22 P **P 03 38 51.8 0.0**
comp=Z,50nm,1.1s,baz=277,slow=6.0,SNR=30
GROC Groznyy 83.96 313 *e*P **P 03 38 54.8 +0.2**
GROC *e*PP **pP 03 39 05.4 +0.5**
GROC *e*SP **sP 03 39 08.7 +0.1**
GROC S **S 03 49 10.6 -6.0**
GROC pmax pmax
comp=Z,131nm,1.4s
GNI Garni 85.04 310 *i* P **P 03 39 01.6 +1.2**
SNR=6.6
GNI Garni 85.04 310*c* *i*P **P 03 39 01.6 +1.2**
GNI pmax pmax
comp=Z,218nm,1.7s
GNI Garni 85.04 310 *e*P **P 03 39 01.1 +0.7**
comp=Z,318nm,1.3s
GNI LR LR
comp=Z,254nm,20.0s
GNI Garni 85.04 310 P **P 03 39 01.4 +1.1**
SNR=13
GNI Garni 85.04 310 PcP **P 03 39 01.4 +1.1**
SNR=13
ZEI Tsey 85.39 312 *e*P **P 03 38 59.6 -2.5**
ZEI pmax pmax
comp=Z,54nm,1.4s
NCK Nalchik 85.53 313 *e*P **P 03 39 02.4 -0.2**
NCK pmax pmax
comp=Z,43nm,1.2s
GOF Gofitskoye 85.75 315⇑ *e*P **P 03 39 04.8 +1.2**
GOF pmax pmax
comp=Z,67nm,1.2s
KLMR Klimovskoe 85.82 331 *e*P **P 03 39 01.6 -1.9**
KLMR *e*S **SKSac 03 49 21.5 -5.2**
KLMR *e*SS **SS 03 55 12.6 +1.4**
KLMR pmax pmax
comp=Z,53nm,1.1s
AKH Akhalkalaki 85.84 311 P **P 03 39 05.5 +1.1**
AKH Akhalkalaki 85.84 311 P **P 03 39 05.4 +1.1**
TMCR Tamitsa 85.99 334 *e*P **P 03 39 03.2 -1.1**
TMCR pmax pmax
comp=Z,47nm,0.8s
KBZ Khabaz 86.01 313 P **P 03 39 04.9 +0.1**
comp=Z,25nm,1.1s,baz=74,slow=3.0,SNR=26
KBZ LR LR 04 22 13.3
comp=Z,177nm,19.6s,baz=68,slow=39
KIV Kislovodsk 86.13 314 *i* P **P 03 39 06.6 +1.0**
SNR=9.7
KIV Kislovodsk 86.13 314 *e*P **P 03 39 05.6 0.0**
KIV pmax pmax
comp=Z,38nm,0.8s
KIV MLR MLR
comp=Z,220nm,19.0s
KIV Kislovodsk 86.13 314 *e*P **P 03 39 05.6 0.0**
comp=Z,38nm,0.8s
KIV LR LR
comp=Z,220nm,19.0s
KIV Kislovodsk 86.13 314 P **P 03 39 07.2 +1.6**
SNR=10
KIV P **P 03 39 07.2 +1.6**
SNR=10
KIV Kislovodsk 86.13 314 PcP **P 03 39 07.2 +1.6**
SNR=10
NEY Neytrino 86.19 313 *e*P **P 03 39 06.4 +0.4**
NEY pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 86.22 293 *e*P **P 03 39 06.7 +0.3**
comp=Z,76nm,1.2s
RAYN LR LR
comp=Z,154nm,20.0s
TAOE Nuku Hiva Isla 86.43 99 *e*S **S 03 49 40.9 -1.2**
comp=Z,136nm,26.0s
TAOE Nuku Hiva Isla 86.43 99 *e*LR LR 04 06 23.5
comp=Z,674nm,30.0s
TAOE Nuku Hiva Isla 86.43 99 *e*T T 05 14 10.0
comp=Z,23nm,0.2s
VNDA Vanda 86.50 174 P **P 03 39 05.7 -0.8**
comp=Z,2.9nm,0.8s,baz=316,slow=5.6,SNR=16
VNDA LR LR 04 16 01.5
comp=Z,842nm,21.6s,baz=354,slow=34
VNDA Vanda 86.50 174 *e*P **P 03 39 06.5 0.0**
comp=Z,8.8nm,1.1s
LVZ Lovozero 86.65 338 *i* P **P 03 39 05.9 -1.7**
LVZ pmax pmax
comp=Z,51nm,2.5s
ARTV Artvin 87.04 311 *e*P **P 03 39 10.9 +0.6**
APA Apatity 87.18 338⇑ *i*P **P 03 39 08.6 -1.5**
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,800nm,23.0s
SBA Scott Base 87.30 174 *e*P **P 03 39 11.5 +1.1**
SBA pmax pmax
comp=Z,14nm,1.4s
SBA Scott Base 87.30 174 *e*P **P 03 39 11.5 +1.1**
comp=Z,14nm,1.4s
LPSR Galich'ya Gora 87.40 323 *e*P **P 03 39 10.5 -1.0**
LPSR pmax pmax
comp=Z,30nm,0.9s
MOS Moscow 87.63 326 *e*P **P 03 39 10.5 -2.0**
MOS pmax pmax
comp=Z,48nm,1.0s
SPA0 Spitsbergen Ar 88.05 350 *e*P **P 03 39 14.8 +0.6**
SOC Sochi 88.31 314 *e*P **P 03 39 12.0 -4.0**
SOC *e* 03 42 45.8
SOC *e*PPP PPP 03 44 47.8
SOC *e*S **SKSac 03 49 33.5 -9.3**
SOC *e*SS **SS 03 55 43.8 -4.8**
SOC *e*SSS SSS 03 59 23.2
OBN Obninsk 88.34 325*c* *i*P **P 03 39 14.5 -1.3**
OBN *e* 03 42 44.8
OBN *e*S **SKSac 03 49 46.5 +4.2**
OBN pmax pmax
comp=Z,53nm,1.7s
OBN MLR MLR
comp=Z,386nm,20.0s
OBN Obninsk 88.34 325 *e*P **P 03 39 14.0 -1.8**
comp=Z,9.8nm,0.5s
OBN LR LR
comp=Z,542nm,19.0s
DAMY Dhamar 88.38 284 *e*P **P 03 39 18.0 +0.7**
comp=Z,11nm,0.8s
KBS Kingsbay 88.41 351 *i* P **P 03 39 15.5 -0.3**
KBS pmax pmax

comp=Z,131nm,1.3s
KBS Kingsbay 88.41 351 PFAKE 03 39 30.0 +14
KBS LR LR
comp=Z,577nm,19.0s
MARD Mardin 88.47 307 *e*P **P** **03 39 17.5 +0.4**
comp=Z,36nm,1.6s
KEV Kevo 88.82 341 *e*P **P** **03 39 17.0 -0.8**
KEV pmax pmax
comp=Z,113nm,1.8s
KEV Kevo 88.82 341 *e*P **P** **03 39 17.0 -0.8**
comp=Z,113nm,1.8s
JOF Joensuu 89.20 334 P **P** **03 39 19.3 -0.5**
JOF pmax pmax
comp=Z,58nm,1.0s
MSF Maaselka 89.30 337 P **P** **03 39 19.2 -1.0**
ARCES ARCESS Array B 89.39 341 P **P** **03 39 19.6 -1.0**
comp=Z,40nm,0.7s,baz=77,slow=6.5,SNR=158
ARE0 ARCESS Array S 89.39 341 *e*P **P** **03 39 19.7 -0.9**
comp=Z,102nm,1.1s
ANN Anapa 89.73 315 *e*P **P** **03 39 18.4 -4.2**
ANN *e**PP **sP** **03 39 36.7 0.0**
ANN *e* 03 42 53.3
ANN *e*S **SKSac** **03 49 42.5 -8.5**
ANN *e*SS **SS** **03 56 10.9 +1.9**
ANN pmax pmax
comp=Z,89nm,1.5s
SGF Sodankyl 89.76 338 P **P** **03 39 21.7 -0.6**
MAW Mawson 90.30 201 LR LR 04 17 11.0
comp=Z,204nm,18.2s,baz=62,slow=34
OUL Oulu 90.80 336 P **P** **03 39 25.1 -2.1**
OUL pmax pmax
comp=Z,88nm,1.5s
SUF Sumiainen 91.52 334 P **P** **03 39 29.3 -1.3**
SUF pmax pmax
comp=Z,116nm,1.1s
FIA1 FINESS Array S 91.98 333 *e*P **P** **03 39 31.4 -1.4**
comp=Z,18nm,0.6s
FINES FINESS Array B 91.99 333 P **P** **03 39 31.4 -1.4**
comp=Z,16nm,0.6s,baz=71,slow=5.3,SNR=111
FINES LR LR 04 24 00.1
comp=Z,432nm,19.8s,baz=72,slow=38
SIM Simferopol' 92.01 316*d i*P **P** **03 39 29.9 -3.4**
SIM pmax pmax
comp=Z,24nm,1.0s
E03A Lebam 92.42 43 *e*P **P** **03 39 36.7 +1.6**
comp=Z,55nm,1.1s
LLLB Lillooet 92.48 38 *e*P **P** **03 39 36.1 +0.7**
comp=Z,19nm,1.3s
YKA Yellowknife Ar 92.52 26 P **P** **03 39 35.1 -0.1**
comp=Z,2.9nm,0.6s,baz=295,slow=4.6,SNR=5.3
YKA LR LR 04 17 37.1
comp=Z,18nm,21.3s,baz=0.0,slow=33
VSU Vasula 92.68 330 *i* P **P** **03 39 35.0 -1.0**
VSU pmax pmax
comp=Z,86nm,1.3s
VAF Ylistaro 92.88 335 P **P** **03 39 36.0 -0.8**
VAF pmax pmax
comp=Z,52nm,1.3s
B05A Bryant 92.96 41 P **P** **03 39 36.8 -0.8**
baz=285
I03D Drain, OR 93.25 45 P **P** **03 39 39.2 +0.3**
baz=284
F04A Amboy 93.34 43 *e*P **P** **03 39 40.2 +0.8**
comp=Z,30nm,1.1s
L02D Cave Junction, 93.43 47 P **P** **03 39 40.6 +0.6**
baz=284
BR131 Keskin Array S 93.52 311 *e*P **P** **03 39 39.4 -1.1**
BRTR Keskin Array B 93.52 311 P **P** **03 39 39.1 -1.5**
comp=Z,2.2nm,0.7s,baz=113,slow=4.6,SNR=18
BRTR PP **PP** **03 43 30.9 +5.7**
comp=Z,3.3nm,1.1s,baz=69,slow=7.9,SNR=5.7
BRTR LR LR 04 23 15.9
comp=Z,39nm,21.2s,baz=54,slow=36
AKASG Malin Array Be 93.72 322 P **P** **03 39 39.0 -2.0**
comp=Z,2.7nm,0.7s,baz=57,slow=4.4,SNR=14
AKASG PP **PP** **03 43 27.7 +1.6**
comp=Z,1.4nm,0.7s,baz=65,slow=8.2,SNR=4.4
AKASG LR LR 04 22 40.9
comp=Z,139nm,21.6s,baz=60,slow=36
AKBB Malin Array Si 93.72 322 *e*P **P** **03 39 39.4 -1.6**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 93.72 322 *e*P **P** **03 39 39.4 -1.6**
comp=Z,6.5nm,0.9s
KIEV Kiev 93.73 322 *e*P **P** **03 39 38.7 -2.3**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
KIEV Kiev 93.73 322 *e*P **P** **03 39 39.4 -1.6**
comp=Z,6.7nm,0.9s
KIEV LR LR
comp=Z,321nm,19.0s
HUMO Hull Mountain 93.79 46 *e*P **P** **03 39 42.7 +1.1**
comp=Z,8.2nm,0.9s
KIPM Iron Peak 94.07 49 *e*P **P** **03 39 43.3 +0.2**
ANTO Ankara 94.12 311 PFAKE 03 39 50.0 +6.8
ANTO LR LR
comp=Z,163nm,20.0s
LTY Liberty 94.16 41 *e*P **P** **03 39 43.5 +0.3**
comp=Z,11nm,1.2s
J04D Umpqua Nationa 94.23 46 P **P** **03 39 43.8 -0.1**
baz=285
G05D Wamic, OR 94.27 43 P **P** **03 39 43.7 0.0**
baz=285
I05D Terrebonne, OR 94.49 44 P **P** **03 39 45.2 +0.4**
baz=285
K04D Chiloquin, OR 94.64 46 P **P** **03 39 45.9 +0.3**
baz=285
B08A Colville Reser 94.71 40 *e*P **P** **03 39 45.8 +0.1**
comp=Z,8.6nm,0.8s
M04C Macdoel 94.80 47 P **P** **03 39 46.4 0.0**
baz=285
CSS Mathiatis 94.82 306 *e*P **P** **03 39 45.2 -1.3**
comp=Z,3.3nm,1.0s
J05D Fort Rock, OR 94.84 45 P **P** **03 39 46.6 0.0**
baz=285
E07A Sunnyside 94.89 42 *e*P **P** **03 39 46.8 +0.3**
comp=Z,14nm,1.3s
HAWA Hanford 95.15 42 *e*P **P** **03 39 48.6 +0.9**
comp=Z,10nm,0.9s
HAWA LR LR
comp=Z,243nm,20.0s
O03D Paynes Creek 95.20 48 P **P** **03 39 48.0 -0.2**
baz=285
D08A Wollman Farm, 95.36 41 *e*P **P** **03 39 49.3 +0.7**
comp=Z,12nm,1.0s
C09A Chrisman Ranch 95.55 40 *e*P **P** **03 39 50.1 +0.6**
comp=Z,25nm,1.8s
ORV Oroville 95.61 49 *e*P **P** **03 39 50.0 0.0**
ORV pmax pmax
comp=Z,8.0nm,1.0s
ORV Oroville 95.61 49 *e*P **P** **03 39 50.0 0.0**
comp=Z,7.9nm,1.0s
MOD Modoc Plateau 95.87 46 *e*P **P** **03 39 51.1 -0.2**
comp=Z,6.3nm,1.0s
E09A Wood Farm, Sta 96.03 42 *e*P **P** **03 39 52.5 +0.8**
comp=Z,17nm,1.3s
SUW Suwalki 96.11 326 *e*P **P** **03 39 50.8 -1.1**
SUW Suwalki 96.11 326 *e*P **P** **03 39 50.8 -1.1**
NEW Newport 96.14 40 P **P** **03 39 51.5 -0.8**
baz=289
NEW Newport 96.14 40 *e*P **P** **03 39 51.7 -0.5**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW MLR MLR
comp=Z,308nm,19.0s
NEW Newport 96.14 40 *e*P **P** **03 39 51.7 -0.5**
comp=Z,5.0nm,0.9s
NEW LR LR
comp=Z,308nm,19.0s
AFDM Forest Hills D 96.17 49 *e*P **P** **03 39 53.2 +0.7**
comp=Z,8.1nm,1.0s
BEKR Beckworth 96.38 48 *e*P **P** **03 39 54.1 +0.5**
comp=Z,13nm,1.1s
VRI Vrincioaia 96.77 318 P **P** **03 39 55.8 +0.7**
VRI pmax pmax
comp=Z,124nm,1.3s
CMB Columbia Colle 96.85 50 *e*P **P** **03 39 55.7 0.0**
CMB pmax pmax
comp=Z,65nm,1.0s
CMB Columbia Colle 96.85 50 *e*P **P** **03 39 55.7 0.0**
comp=Z,65nm,1.0s
WVOR Wild Horse Val 96.91 46 P **P** **03 39 56.5 +0.5**
WVOR pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 96.91 46 *e*P **P** **03 39 55.9 0.0**
comp=Z,2.6nm,0.8s
WVOR LR LR
comp=Z,260nm,19.0s
BMO Blue Mountains 97.10 43 *e*P **P** **03 39 56.8 +0.1**
BMO pmax pmax
comp=Z,8.0nm,1.3s
BMO MLR MLR
comp=Z,247nm,22.0s
BMO Blue Mountains 97.10 43 *e*P **P** **03 39 56.8 +0.1**
comp=Z,7.5nm,1.3s
BMO LR LR
comp=Z,247nm,22.0s
PAHR Pah Rah Range 97.15 48 *e*P Pdif 03 39 57.7 +0.5
comp=Z,8.8nm,1.1s
PNTR Pine Nut 97.16 49 *e*P Pdif 03 39 58.4 +1.0
comp=Z,15nm,1.0s
BUR08 Bucovina Ar. S 97.19 320 *e*P **P** **03 39 56.7 -0.4**
WAKR Walker 97.44 50 *e*P Pdif 03 39 59.7 +1.0
comp=Z,6.3nm,0.8s
YERR Yerington 97.45 49 *e*P Pdif 03 39 59.4 +0.7
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 97.53 270 P **P** **03 39 59.4 -0.1**
comp=Z,0.8nm,0.3s,baz=90,slow=19,SNR=3.1
KMBO LR LR 04 28 59.6
comp=Z,122nm,18.1s,baz=80,slow=38
QSPA South Pole Qui 97.62 180 PFAKE 03 40 10.0 +11
QSPA LR LR
comp=Z,635nm,21.0s
BSMT Bassoo Peak 97.75 40 *e*P Pdif 03 40 00.5 +0.7
WALA Waterton Lakes 97.87 38 *e*P Pdif 03 40 01.3 +1.1
comp=Z,9.3nm,0.9s
PTCN Pitcairn Islan 97.93 114 PFAKE 03 40 10.0 +9.2
PTCN LR LR
comp=Z,2μm,22.0s
PKM Mcpherson Peak 98.12 53 P **P** **03 40 01.3 -0.3**
baz=285
MLAC Mammoth, Mammo 98.14 50 P Pdif 03 40 02.1 +0.3
baz=286
MFID Camas Ranch 98.57 44 *e*P **P** **03 40 03.5 +0.1**
comp=Z,5.1nm,1.0s
NB2 NORSAR Subarra 98.58 336 P **P** **03 40 01.2 -1.7**
comp=Z,1.8nm,0.8s,baz=63,slow=5.1
NOA NORSAR Array B 98.58 336 P **P** **03 40 01.1 -1.8**
comp=Z,4.0nm,0.9s,baz=60,slow=4.4,SNR=5.5
NOA LR LR 04 28 15.6
comp=Z,281nm,18.9s,baz=55,slow=38
NOA NORSAR Array B 98.58 336 P **P** **03 40 01.1 -1.8**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,281nm,19.0s
UZH Uzhgorod 98.65 322μ *e*P **P** **03 40 02.7 -0.8**
UZH *e* 03 40 13.3
UZH *e* 03 40 19.7
SLMT Seeley Lake 98.79 40 *e*P **P** **03 40 04.4 +0.1**
STHS Stebnicka Huta 98.99 323 *e*P **Pdif** **03 40 05.2 +0.2**
STHS Stebnicka Huta 98.99 323 *e*PDIFF **Pdif** **03 40 05.2 +0.2**
CWC Cottonwood Cre 99.05 51 P **Pdif** **03 40 05.2 -0.6**
baz=287
CRVS Cervenica-Dubn 99.06 322 *e*P **Pdif** **03 40 04.6 -0.7**
CRVS Cervenica-Dubn 99.06 322 *e*PDIFF **Pdif** **03 40 04.6 -0.7**
GRAC Grapevine Rang 99.44 51 P **Pdif** **03 40 07.7 +0.3**
baz=287
HLID Hailey 99.49 44 P **Pdif** **03 40 07.6 0.0**
baz=290
HLID Hailey 99.49 44 *e*P **Pdif** **03 40 07.7 +0.1**
comp=Z,1.0nm,0.8s
HLID LR LR
comp=Z,231nm,19.0s
MPMC Manual Prospec 99.62 51 P **Pdif** **03 40 08.2 -0.2**
baz=287
LRMC Laurel Mtn Rad 99.64 52 P **Pdif** **03 40 09.2 +0.9**
baz=287
KECS Kecovo 99.82 322 *e*P **Pdif** **03 40 08.5 -0.2**
KECS Kecovo 99.82 322 *e*PDIFF **Pdif** **03 40 08.5 -0.2**
FURC Furnace Creek, 99.98 51 P **Pdif** **03 40 10.3 +0.6**
baz=287
TPNV Topopah Spring 100.31 50 P **Pdif** **03 40 11.5 +0.1**
baz=288
TPNV Topopah Spring 100.31 50 *e*P **Pdif** **03 40 11.9 +0.5**
TPNV Topopah Spring 100.31 50 *e*Pdif **Pdif** **03 40 11.9 +0.5**
GSC Goldstone, Bar 100.37 52 P **Pdif** **03 40 11.3 -0.3**
baz=287
R11A Troy Canyon, C 100.38 49 P **Pdif** **03 40 11.8 +0.1**
baz=288
PSZ Piszkesteto 100.41 322 *e*P **Pdif** **03 40 10.8 -0.6**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ MLR MLR
comp=Z,398nm,21.0s
PSZ Piszkesteto 100.41 322 *e*Pdif **Pdif** **03 40 10.8 -0.6**
comp=Z,5.3nm,1.0s
PSZ LR LR
comp=Z,398nm,21.0s
BOZ Bozeman (W) 100.60 41 P **Pdif** **03 40 12.2 -0.3**
baz=293
BOZ Bozeman (W) 100.60 41 PFAKE 03 40 20.0 +7.5
BOZ LR LR
comp=Z,288nm,20.0s
SANT Santorini 100.64 309 PFAKE 03 40 20.0 +7.3
SANT LR LR
comp=Z,91nm,21.0s
OKC Ostrava-Krasne 100.65 324 *e*PDIFF **Pdif** **03 40 11.8 -0.6**
OKC AMS AMS 04 35 20.0
comp=Z,500nm,15.3s
OKC Ostrava-Krasne 100.65 324 *e*P **Pdif** **03 40 11.8 -0.6**
OKC MLR MLR
comp=Z,500nm,15.3s
VYHS Vyhne 100.81 322 *e*P **Pdif** **03 40 12.4 -0.7**
VYHS Vyhne 100.81 322 *e*PDIFF **Pdif** **03 40 12.4 -0.7**
EGMT Eagleton 100.81 38 PFAKE 03 40 20.0 +6.7
EGMT LR LR
comp=Z,303nm,21.0s
TUQ Turquoise Moun 101.02 52 P **Pdif** **03 40 14.9 +0.4**
baz=288
MORC Moravsky Berou 101.03 324 *e*P **Pdif** **03 40 13.3 -0.8**
MORC Moravsky Berou 101.03 324 *e*Pdif **Pdif** **03 40 13.3 -0.8**
PFO Pinyon Flats O 101.14 54 PFAKE 03 40 30.0 +15
PFO LR LR
comp=Z,241nm,19.0s
SHPR Sheep Range 101.28 50 *e*Pdif **Pdif** **03 40 17.0 +1.3**
MONP2 Monument Peak 101.38 54 P **Pdif** **03 40 16.8 +0.5**
baz=287
GMRC Granite Mounta 101.43 52 P **Pdif** **03 40 17.4 +1.1**
baz=288
DPC Dobruska-Polom 101.48 325 *e*PDIFF **Pdif** **03 40 15.6 -0.5**
DPC AMS AMS 04 29 50.0
comp=Z,400nm,19.0s
UPC Upice 101.58 325 *e*PDIFF **Pdif** **03 40 15.4 -1.1**
UPC AMS AMS 04 30 00.0
comp=Z,500nm,19.3s
UPC Upice 101.58 325 *e*P **Pdif** **03 40 15.4 -1.1**
UPC MLR MLR
comp=Z,500nm,19.3s
IMW Indian Meadow 101.71 42 *e*Pdif **Pdif** **03 40 18.5 +0.9**
comp=Z,2.8nm,1.0s
DUG Dugway, Tooele 101.78 46 P **Pdif** **03 40 17.8 -0.1**
baz=291
DUG Dugway, Tooele 101.78 46 *e*P **Pdif** **03 40 18.2 +0.3**
DUG MLR MLR
comp=Z,228nm,20.0s
DUG Dugway, Tooele 101.78 46 *e*Pdif **Pdif** **03 40 18.1 +0.3**
DUG LR LR
comp=Z,228nm,20.0s
LKWY Lake 101.81 41 PFAKE 03 40 30.0 +12
LKWY LR LR
comp=Z,319nm,20.0s
MOOW Moose Ponds 101.90 42 *e*Pdif **Pdif** **03 40 18.6 +0.2**
FFC Flin Flon 101.93 30 PFAKE 03 40 30.0 +12
FFC LR LR
comp=Z,374nm,22.0s
HWUT Hardware Ranch 102.15 45 PFAKE 03 40 30.0 +10
HWUT LR LR
comp=Z,249nm,21.0s
RLMT Red Lodge 102.32 41 PFAKE 03 40 30.0 +10
RLMT LR LR
comp=Z,234nm,20.0s
PVCC Panska Ves 102.38 326 AMS AMS 04 30 40.0
comp=Z,700nm,22.6s
TREC Trest 102.44 324 AMS AMS 04 30 10.0
comp=Z,300nm,21.0s
GOPC GO Pecny, Ondr 102.55 325 AMS AMS 04 30 50.0
comp=Z,400nm,17.9s
BRG Berggiesshubel 102.56 326 *e*P **Pdif** **03 40 19.5 -1.4**
comp=Z,10.0nm,1.4s
comp=N,479nm,14.3s
comp=E,453nm,19.0s
comp=Z,851nm,16.1s
BRG Berggiesshubel 102.56 326 *e*P **Pdif** **03 40 19.5 -1.4**
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG MLR MLR
comp=N,479nm,14.3s
BRG MLR MLR
comp=E,453nm,19.0s
BRG MLR MLR
comp=Z,851nm,16.1s
PRU Pruhonice 102.66 325 *e*PDIFF **Pdif** **03 40 20.1 -1.2**
PRU AMS AMS 04 30 50.0
comp=Z,500nm,22.7s
PRU Pruhonice 102.66 325 *e*P **Pdif** **03 40 20.1 -1.2**
PRU MLR MLR
comp=Z,500nm,22.7s
CONA Conrad Observa 102.85 323 *i* Pdiff **Pdif** **03 40 22.4 +0.1**
comp=Z,6.8nm,1.3s
CLL Collm 102.86 327 *e*P **Pdif** **03 40 20.0 -2.2**
CLL *e* 03 44 33.0
CLL Collm 102.86 327 *e*Pdif **Pdif** **03 40 20.0 -2.2**
CLL *i* 03 44 02.7
comp=Z,15nm,1.5s
CLL *e*PP **PP** **03 44 33.0 -2.9**
CLL *e*SP SP 03 53 35.0 -4.8
CLL Lm MLR 04 35 00.0
comp=N,300nm,18.2s
CLL Lm MLR 04 35 00.0
comp=E,400nm,19.0s
TIR Tirane 103.02 315 PFAKE 03 40 30.0 +6.9
TIR LR LR
comp=Z,356nm,21.0s
BW06 Boulder Array 103.08 43 PFAKE 03 40 40.0 +16
BW06 LR LR
comp=Z,270nm,19.0s
PDAR Pinedale Array 103.08 43 Pdiff **Pdif** **03 40 23.7 0.0**
comp=Z,0.6nm,0.8s,baz=304,slow=2.7,SNR=4.0
PDAR PP **PP** **03 44 35.6 -2.5**
comp=Z,0.4nm,0.8s,baz=286,slow=6.5,SNR=3.7
U15A North Rim 103.49 50 *e*Pdif **Pdif** **03 40 26.9 +1.2**
LAO LASA Array 103.56 38 PFAKE 03 40 40.0 +15
LAO LR LR
comp=Z,368nm,19.0s
KHC Kasperske Hory 103.62 325 *e*PDIFF **Pdif** **03 40 23.6 -2.1**
KHC *ex* x 03 44 03.5
KHC AMS AMS 04 31 20.0
comp=Z,500nm,15.9s
KHC Kasperske Hory 103.62 325 *e*P **Pdif** **03 40 23.6 -2.1**
KHC MLR MLR
comp=Z,500nm,15.9s
GERES GERESS Array B 103.69 324 Pdiff **Pdif** **03 40 25.1 -0.9**
comp=Z,1.3nm,0.7s,baz=44,slow=4.4,SNR=14
GERES PP **PKiKP** **03 44 44.5 +0.3**
comp=Z,0.8nm,0.8s,baz=69,slow=6.8,SNR=3.8
GERES PKKPbc **PKKPbc** **03 56 16.9 -2.4**
comp=Z,0.2nm,0.4s,baz=224,slow=3.7,SNR=3.8
NKC Novy Kostel 103.71 326 AMS AMS 04 32 10.0
comp=Z,800nm,20.8s
MOA Molln 103.84 323 *i* Pdiff **Pdif** **03 40 26.7 +0.1**
comp=Z,8.2nm,1.7s
SOKA Soboth 103.92 322 *e*Pdiff **Pdif** **03 40 22.0 -5.1**
comp=Z,4.4nm,1.0s
OBKA Obir 104.30 322 *e*Pdiff **Pdif** **03 40 28.3 -0.5**
comp=Z,12nm,1.5s
WUAZ Wupatki 104.50 50 PFAKE 03 40 40.0 +10
WUAZ LR LR
comp=Z,244nm,21.0s
KBA Koelnbreinsper 104.76 323 *i* Pdiff **Pdif** **03 40 30.8 -0.2**
comp=Z,5.1nm,0.9s
ABTA Abfaltersbach 105.42 323 *i* Pdiff **Pdif** **03 40 32.7 -1.0**
comp=Z,8.2nm,1.2s
WATA Walderalm 105.68 324 *i* Pdiff **Pdif** **03 40 34.5 -0.4**
comp=Z,4.0nm,1.0s
WTTA Wattenberg 105.68 324 *i* Pdiff **Pdif** **03 40 34.2 -0.8**
comp=Z,7.2nm,1.1s
MOTA Moosalm 105.95 324 *e*Pdiff **Pdif** **03 40 35.8 -0.3**
comp=Z,0.3nm,0.3s
MVCO Mesa Verde 106.03 48 PFAKE 03 45 00.0
MVCO LR LR
comp=Z,274nm,19.0s
TUC Tucson 106.08 53 PFAKE 03 45 00.0
TUC LR LR
comp=Z,248nm,20.0s
FETA Feichten 106.33 324 *i* Pdiff **Pdif** **03 40 37.6 -0.3**
comp=Z,6.4nm,1.3s
CUC Castrocucco 106.38 315 PFAKE 03 45 00.0
CUC LR LR
comp=Z,134nm,19.0s
DAVA Damuels 106.69 324 Pdiff **Pdif** **03 40 39.0 -0.5**
comp=Z,6.8nm,1.3s
AQU L'Aquila 106.96 319 PFAKE 03 45 00.0
AQU LR LR
comp=Z,326nm,19.0s
BFO Black Forest 107.00 326 PFAKE 03 45 00.0
BFO LR LR
comp=Z,496nm,19.0s
ISCO Idaho Springs 107.02 44 PFAKE 03 45 00.0
ISCO LR LR
comp=Z,235nm,19.0s
CEL Celeste 107.06 314 PFAKE 03 45 00.0
CEL LR LR
comp=Z,333nm,20.0s
WLF Walferdange 107.43 328 PFAKE 03 45 00.0
WLF LR LR
comp=Z,553nm,19.0s
TUE Stuetta 107.43 324 PFAKE 03 45 00.0
TUE LR LR
comp=Z,698nm,20.0s
ECH Echery 107.72 326 PFAKE 03 45 00.0
ECH LR LR
comp=Z,312nm,20.0s
LSZ Lusaka 107.87 256 *e*PKP **PKiKP** **03 44 53.2 +0.4**
LSZ LR LR
comp=Z,483nm,20.0s
SDCO Great Sand Dun 107.98 46 PFAKE 03 45 00.0
SDCO LR LR
comp=Z,297nm,20.0s
VLC Villacollemand 108.01 321 PFAKE 03 45 00.0
VLC LR LR
comp=Z,409nm,20.0s
ANMO Albuquerque 108.44 49 PFAKE 03 45 10.0
ANMO LR LR
comp=Z,183nm,20.0s
AGMN Agassiz Nation 108.70 33 PFAKE 03 45 00.0
AGMN LR LR
comp=Z,435nm,20.0s
OGNE Ogallala 108.93 42 PFAKE 03 45 10.0
OGNE LR LR
comp=Z,223nm,22.0s
WDD Wied Dalam 109.07 312 PFAKE 03 45 10.0
WDD LR LR
comp=Z,163nm,20.0s
CLTB Caltabellotta 109.26 314 PFAKE 03 45 10.0
CLTB LR LR
comp=Z,126nm,19.0s
BNI Bardonecchia 109.77 324 PFAKE 03 45 10.0
BNI LR LR
comp=Z,837nm,19.0s
MNTX Cornudas Mount 110.57 52 P **PKiKP** **03 44 57.9 +0.5**
baz=294
MNTX Cornudas Mount 110.57 52 PFAKE 03 45 10.0
MNTX LR LR
comp=Z,183nm,19.0s
SSB Saint Sauveur 110.88 325 PFAKE 03 45 10.0
SSB LR LR
comp=Z,302nm,19.0s
ECSD EROS Data Cent 110.90 37 PFAKE 03 45 10.0
ECSD LR LR
comp=Z,380nm,20.0s
SNAA Sanae 111.00 193 *e*PKIKP **PKiKP** **03 44 55.5 -1.6**
SNAA Sanae 111.00 193 *e*PKP **PKiKP** **03 44 55.5 -1.6**
VSL Villasalto 111.01 317 PFAKE 03 45 10.0
VSL LR LR
comp=Z,184nm,20.0s
EYMN Ely 111.23 31 PFAKE 03 45 10.0
EYMN LR LR
comp=Z,293nm,20.0s
O33A Hebron 112.29 41 P **PKiKP** **03 44 59.4 -1.0**
baz=302
C40A Isle Royale Na 112.44 30 P **PKiKP** **03 45 00.6 +0.2**
baz=312
E39A Mellen 112.73 32 P **PKiKP** **03 44 59.5 -1.5**
baz=310
TXAR Lajitas Array 112.86 54 PKiKP **PKiKP** **03 45 01.0 -0.9**
comp=Z,0.7nm,0.7s,baz=232,slow=1.0,SNR=6.5
J37A Redenius Farm, 112.96 36 P **PKiKP** **03 45 00.7 -0.9**
baz=307

P34A	Walnut Farm, R	113.07	41	P	PKiKP	03 45 01.6	-0.3
	baz=303						
KSU1	Kansas State U	113.45	41	PFAKE		03 45 10.0	
KSU1				LR	LR		
	comp=Z,326nm,21.0s						
G40A	Rib Lake	113.63	33	P	PKiKP	03 45 02.0	-0.8
	baz=310						
M37A	Trindle Farm,	113.78	38	P	PKiKP	03 45 02.3	-0.9
	baz=306						
H40A	Chili	113.95	34	P	PKiKP	03 45 02.8	-0.6
	baz=310						
SCIA	State Center	114.00	37	PFAKE		03 45 20.0	
SCIA				LR	LR		
	comp=Z,317nm,22.0s						
J39A	Decorah	114.02	35	P	PKiKP	03 45 02.5	-1.1
	baz=308						
WMOK	Wichita Mounta	114.19	47	PFAKE		03 45 20.0	+16
WMOK				LR	LR		
	comp=Z,192nm,19.0s						
Q36A	Arnold C. Orve	114.27	41	P	PKPdf	03 45 03.3	-0.9
	baz=304						
M38A	Pleasantville	114.30	38	P	PKPdf	03 45 03.4	-0.8
	baz=306						
S35A	Otter Creek Ra	114.40	43	P	PKPdf	03 45 04.3	-0.2
	baz=302						
O37A	Wolven Farm, M	114.44	39	P	PKPdf	03 45 03.8	-0.7
	baz=305						
J40A	Soldiers Grove	114.53	35	P	PKPdf	03 45 03.1	-1.5
	baz=309						
L39A	Vinton	114.59	37	P	PKPdf	03 45 04.2	-0.5
	baz=308						
G42A	Mountain	114.60	32	P	PKPdf	03 45 03.5	-1.1
	baz=312						
P37A	Lathrop	114.64	40	P	PKPdf	03 45 04.2	-0.7
	baz=305						
T35A	Sooner Cattle	114.67	43	P	PKPdf	03 45 04.7	-0.4
	baz=302						
K40A	Colesburg	114.74	36	P	PKPdf	03 45 04.2	-0.8
	baz=309						
U35A	Pawnee	114.81	44	P	PKPdf	03 45 05.2	-0.1
	baz=302						
S36A	Lake Cedric, C	114.86	42	P	PKPdf	03 45 05.2	-0.2
	baz=303						
M39A	Webster	114.88	37	P	PKPdf	03 45 04.9	-0.4
	baz=307						
T36A	Boggs Farm, Ca	115.03	43	P	PKPdf	03 45 05.4	-0.3
	baz=302						
R37A	Teagarden Farm	115.04	41	P	PKPdf	03 45 05.0	-0.7
	baz=304						
V35A	Meyer Ranch, C	115.05	45	P	PKPdf	03 45 05.0	-0.8
	baz=301						
L40A	Anamosa	115.08	36	P	PKPdf	03 45 04.6	-1.1
	baz=308						
JFWS	Jewell Farm	115.11	35	PFAKE		03 45 20.0	+14
JFWS				LR	LR		
	comp=Z,415nm,20.0s						
P38A	Dawn	115.14	40	P	PKPdf	03 45 05.0	-0.8
	baz=305						
I42A	Draeger Farm,	115.23	33	P	PKPdf	03 45 04.9	-1.0
	baz=311						
K41A	Shullsburg	115.28	35	P	PKPdf	03 45 05.0	-1.1
	baz=309						
M40A	Post Highland	115.32	37	P	PKPdf	03 45 05.3	-0.8
	baz=308						
W35A	Tecumseh	115.34	45	P	PKPdf	03 45 06.0	-0.4
	baz=301						
S37A	Fort Scott	115.35	42	P	PKPdf	03 45 05.1	-1.2
	baz=304						
O39A	Kirksville	115.38	38	P	PKPdf	03 45 06.0	-0.3
	baz=306						
JCT	Junction City	115.42	51	P	PKPdf	03 45 06.6	-0.1
	baz=297						
JCT	Junction City	115.42	51	*e*PKIKP	PKPdf	03 45 06.4	-0.3
JCT				MLR	MLR		
	comp=Z,192nm,19.0s						
JCT	Junction City	115.42	51	*e*PKPdf	PKPdf	03 45 06.4	-0.3
JCT				LR	LR		
	comp=Z,192nm,19.0s						
N40A	Mertquake, Sal	115.59	37	P	PKPdf	03 45 06.1	-0.5
	baz=308						
T37A	Cheneyville 18	115.64	42	P	PKPdf	03 45 06.1	-0.8
	baz=303						
K42A	Prairie Point,	115.71	35	P	PKPdf	03 45 05.8	-1.1
	baz=310						
R38A	Fenwick Farm,	115.72	41	P	PKPdf	03 45 05.8	-1.2
	baz=304						
Q39A	Willow Grove F	115.82	40	P	PKPdf	03 45 06.6	-0.6
	baz=306						
O40A	La Belle	115.88	38	P	PKPdf	03 45 06.7	-0.6
	baz=307						
X36A	Centrahoma	116.00	46	P	PKPdf	03 45 07.1	-0.5
	baz=301						
S38A	Stockton	116.03	42	P	PKPdf	03 45 06.8	-0.8
	baz=304						
T38A	Diamond	116.11	42	P	PKPdf	03 45 07.1	-0.7
	baz=304						
P40A	Paris	116.12	39	P	PKPdf	03 45 07.0	-0.7
	baz=307						
N41A	Harden Midland	116.14	37	P	PKPdf	03 45 06.3	-1.4
	baz=308						
V37A	Hulbert	116.16	44	P	PKPdf	03 45 07.4	-0.5
	baz=302						
R39A	Chumby, Stover	116.20	40	P	PKPdf	03 45 07.5	-0.5
	baz=305						
W37B	Quinton	116.35	45	P	PKPdf	03 45 07.6	-0.7
	baz=302						
U38A	Gravette	116.37	43	P	PKPdf	03 45 07.6	-0.7
	baz=303						
S39A	Bolivar	116.38	41	P	PKPdf	03 45 07.6	-0.6
	baz=305						
Y36A	Durant	116.39	46	P	PKPdf	03 45 08.3	-0.1
	baz=301						
Q40A	Laux Farm, Aux	116.42	39	P	PKPdf	03 45 07.7	-0.6
	baz=306						
O41A	Passleys Farm,	116.48	38	P	PKPdf	03 45 07.6	-0.8
	baz=308						
Z36A	Blue Ridge	116.61	47	P	PKPdf	03 45 08.7	-0.2
	baz=300						
V38A	Canehill	116.67	43	P	PKPdf	03 45 08.4	-0.6
	baz=303						
833A	Chaparral WMA,	116.69	53	P	PKPdf	03 45 09.0	-0.1
	baz=296						
R40A	Maddies Statio	116.71	40	P	PKPdf	03 45 08.0	-0.9
	baz=306						
T39A	Clever	116.72	42	P	PKPdf	03 45 08.3	-0.7
	baz=304						
HHAR	Hobbs	116.76	43	*e*PKPdf	PKPdf	03 45 08.8	-0.3
Y37A	Hugo	116.83	46	P	PKPdf	03 45 08.0	-1.3
	baz=301						
GLMI	Grayling	116.84	30	PFAKE		03 45 20.0	+11
GLMI				LR	LR		
	comp=Z,244nm,20.0s						
S40A	Lebanon	116.96	41	P	PKPdf	03 45 08.4	-1.1
	baz=305						
Q41A	Truxton	116.97	39	P	PKPdf	03 45 08.5	-0.9
	baz=307						
U39A	Green Forest	117.01	42	P	PKPdf	03 45 08.6	-1.0
	baz=304						
X38A	Whitesboro	117.02	45	P	PKPdf	03 45 09.2	-0.4
	baz=302						
W38A	Poteau	117.02	44	P	PKPdf	03 45 09.2	-0.4
	baz=303						
P42A	Winchester	117.14	38	P	PKPdf	03 45 09.4	-0.3
	baz=308						
HDIL	Hopedale	117.16	36	P	PKPdf	03 45 09.1	-0.6
	baz=309						
HDIL	Hopedale	117.16	36	PFAKE		03 45 20.0	+10
HDIL				LR	LR		
	comp=Z,335nm,21.0s						
V39A	Pettigrew	117.20	43	P	PKPdf	03 45 09.1	-0.9
	baz=304						
T40A	Mansfield	117.21	41	P	PKPdf	03 45 09.1	-0.8
	baz=305						
R41A	Rosebud	117.27	40	P	PKPdf	03 45 09.5	-0.5
	baz=307						
U40A	Yellville	117.44	42	P	PKPdf	03 45 09.4	-1.0
	baz=305						
S41A	Jillco Farms,	117.46	40	P	PKPdf	03 45 09.4	-1.0
	baz=306						
W39A	Magazine	117.46	44	P	PKPdf	03 45 09.6	-0.8
	baz=303						
Y38A	Idabel	117.48	45	P	PKPdf	03 45 09.5	-1.0
	baz=302						
CCM	Cathedral Cave	117.50	40	*e*PKIKP	PKPdf	03 45 09.8	-0.6
CCM	Cathedral Cave	117.50	40	*e*PKPdf	PKPdf	03 45 09.8	-0.6
P43A	Skaggs, Pawnee	117.60	37	P	PKPdf	03 45 10.1	-0.5
	baz=309						
X39A	Fountain Ranch	117.61	45	P	PKPdf	03 45 10.3	-0.5
	baz=303						
R42A	Luebbering	117.65	39	P	PKPdf	03 45 09.9	-0.8
	baz=307						
934A	Benavides	117.70	53	P	PKPdf	03 45 11.2	+0.1
	baz=296						
T41A	Mountain View	117.77	41	P	PKPdf	03 45 10.0	-1.0
	baz=306						
V40A	Witts Springs	117.77	43	P	PKPdf	03 45 09.9	-1.2
	baz=304						
034A	Hebbronville	117.81	54	P	PKPdf	03 45 12.3	+1.0
	baz=296						
Q43A	New Douglas	117.93	38	P	PKPdf	03 45 11.0	-0.2
	baz=308						
MIAR	Mount Ida	117.96	44	P	PKPdf	03 45 11.7	+0.3
	baz=303						
MIAR	Mount Ida	117.96	44	*e*P	Pdif	03 41 31.1	+1.4
MIAR				*e*		03 45 11.9	
MIAR				MLR	MLR		
	comp=Z,317nm,22.0s						
MIAR	Mount Ida	117.96	44	*e*Pdif	Pdif	03 41 31.1	+1.4
MIAR				*e*PKPdf	PKiKP	03 45 11.9	+0.5
MIAR				LR	LR		
	comp=Z,317nm,22.0s						
S42A	Caledonia	117.96	40	P	PKPdf	03 45 10.9	-0.4
	baz=307						
636A	Smothers Creek	117.99	51	P	PKPdf	03 45 12.6	+1.0
	baz=298						
U41A	Viola	118.07	42	P	PKPdf	03 45 11.2	-0.4
	baz=305						
R43A	Red Bud	118.19	39	P	PKPdf	03 45 11.2	-0.5
	baz=308						
KVTX	Kingsville	118.22	53	PFAKE		03 45 20.0	+7.9
KVTX				LR	LR		
	comp=Z,309nm,20.0s						
V41A	Mountainview	118.23	42	P	PKPdf	03 45 10.9	-1.0
	baz=305						
P44A	Sand Creek, Wi	118.25	37	P	PKPdf	03 45 11.2	-0.6
	baz=310						
Q44A	Meyer Farm, Va	118.37	38	P	PKPdf	03 45 11.0	-1.0
	baz=309						
338A	Crockett	118.39	48	P	PKPdf	03 45 12.4	+0.1
	baz=300						
Y40A	Okolona	118.45	45	P	PKPdf	03 45 12.3	0.0
	baz=303						
U42A	Revenden	118.51	41	P	PKPdf	03 45 11.6	-0.8
	baz=306						
NATX	Nacogdoches	118.66	47	PFAKE		03 45 20.0	+7.2
NATX				LR	LR		
	comp=Z,165nm,20.0s						
T43A	Greenville	118.69	40	P	PKPdf	03 45 11.8	-0.9
	baz=307						
X41A	Kaden, Bauxite	118.72	44	P	PKPdf	03 45 11.9	-1.0
	baz=304						
V42A	Cord	118.73	42	P	PKPdf	03 45 11.9	-1.0
	baz=306						
WLAR	White Oak Lake	118.75	45	*e*PKPdf	PKPdf	03 45 13.5	+0.6
PBMO	Poplar Bluff	118.78	40	*e*PKPdf	PKPdf	03 45 12.3	-0.7
OLIL	Olney	119.03	37	*e*PKPdf	PKPdf	03 45 13.4	+0.1
AAM	Ann Arbor	119.12	32	PFAKE		03 45 30.0	+17
AAM				LR	LR		
	comp=Z,303nm,19.0s						
O47A	Sheridan	119.17	35	P	PKPdf	03 45 13.0	-0.6
	baz=312						
Z41A	Richland Creek	119.20	45	P	PKPdf	03 45 13.3	-0.5
	baz=303						
ESDC	Sonseca Array	119.28	324	PKP	PKPdf	03 45 13.8	-0.1
	comp=Z,0.7nm,0.6s,baz=9.3,slow=2.9,SNR=9.1						
ESDC				PP	PP	03 46 34.0	-0.2
	comp=Z,1.8nm,0.9s,baz=47,slow=8.2,SNR=6.0						
SADO	Sadowa	119.49	27	PKP	PKPdf	03 45 13.1	-1.0
	comp=Z,5.4nm,0.8s,baz=319,slow=3.2,SNR=4.9						
PAB	San Pablo	119.59	324	PFAKE		03 45 30.0	+15
PAB				LR	LR		
	comp=Z,335nm,20.0s						
BLO	Bloomington	119.68	36	*e*PKiKP	PKPdf	03 45 14.6	0.0
BLO	Bloomington	119.68	36	*e*PKPdf	PKPdf	03 45 14.6	0.0
440A	Kirbyville	119.70	48	P	PKPdf	03 45 15.3	+0.5
	baz=301						
341A	Kurthwood	119.97	47	P	PKPdf	03 45 15.3	-0.1
	baz=302						
MVO	Moncorvo	119.98	327	*e*LR	LR	04 24 19.6	
	comp=Z,426nm,20.0s						
POLO	Lamas de Olo	120.23	328	*e*PKPdf	PKPdf	03 45 16.5	+0.8
POLO	Lamas de Olo	120.23	328	*e*LR	LR	04 24 19.6	
	comp=Z,267nm,20.0s						
V45A	Humboldt	120.36	41	P	PKPdf	03 45 14.1	-1.8
	baz=308						
WCI	Wyandotte Cave	120.44	37	*e*PKiKP	PKPdf	03 45 15.4	-0.7
WCI	Wyandotte Cave	120.44	37	*e*PKPdf	PKPdf	03 45 15.4	-0.7
143A	Socs Landing,	120.48	45	P	PKPdf	03 45 15.8	-0.5
	baz=304						
342A	Flagon Creek P	120.56	47	P	PKPdf	03 45 16.0	-0.5
	baz=303						
W45A	Hickory Valley	120.56	41	P	PKPdf	03 45 16.2	-0.2
	baz=307						
OXF	Oxford	120.80	42	*e*PKiKP	PKPdf	03 45 16.3	-0.6
OXF	Oxford	120.80	42	*e*PKPdf	PKPdf	03 45 16.3	-0.6
PTO	Porto	120.83	328	*e*PKPdf	PKPdf	03 45 17.5	+0.8
WVT	Waverly	120.84	40	*e*PKiKP	PKPdf	03 45 16.5	-0.4
WVT	Waverly	120.84	40	*e*PKPdf	PKPdf	03 45 16.5	-0.4
ACSO	Alum Creek Sta	120.95	33	*e*PKPdf	PKPdf	03 45 16.7	-0.3
ACSO				LR	LR		
	comp=Z,267nm,22.0s						
Y45A	Yeager Farm, C	121.09	43	P	PKPdf	03 45 17.1	-0.4
	baz=306						
PCBR	Castelo Branco	121.15	327	*e*PKPdf	PKPdf	03 45 18.3	+0.9
244A	Avery, Jackson	121.36	45	P	PKPdf	03 45 17.5	-0.5
	baz=304						
PLAL	Pickwick Lake	121.39	41	*e*PKPdf	PKPdf	03 45 17.1	-0.9
PMRV	Marv??o	121.39	326	*e*PKPdf	PKPdf	03 45 18.2	+0.3
Y46A	Houston	121.54	42	P	PKPdf	03 45 17.5	-0.8
	baz=307						
PCAS	Casmilo, Conde	121.55	327	*e*LR	LR	04 25 14.2	
	comp=Z,541nm,20.0s						
LONY	Lake Ozonia	121.57	24	PFAKE		03 45 30.0	+12
LONY				LR	LR		
	comp=Z,269nm,19.0s						
344A	Westbrook Farm	121.66	46	P	PKPdf	03 45 18.7	+0.1
	baz=304						
M54A	Oil Creek Stat	121.73	30	P	PKPdf	03 45 17.5	-1.0
	baz=319						
TAM	Tamanrasset	121.75	303	PFAKE		03 45 30.0	+11
TAM				LR	LR		
	comp=Z,136nm,19.0s						
PTOM	Tomar	121.82	327	*e*PKPdf	PKPdf	03 45 19.9	+1.2
PESTR	Estremoz	121.89	326	*e*LR	LR	04 25 20.3	
	comp=Z,256nm,20.0s						
N54A	Moraine State	121.98	31	P	PKPdf	03 45 18.3	-0.7
	baz=318						
PBAR	Barrancos	122.06	325	*e*LR	LR	04 25 26.4	
	comp=Z,370nm,20.0s						
PMTG	Montargil	122.11	326	*e*PKPdf	PKPdf	03 45 19.6	+0.4
Y47A	UCPARC, Winfie	122.20	42	P	PKPdf	03 45 19.1	-0.5
	baz=308						
EVO	Evora	122.37	326	*e*PKPdf	PKPdf	03 45 20.9	+1.1
SWET	Sewanee	122.61	39	*e*PKPdf	PKPdf	03 45 19.6	-0.8
PBEJ	Beja	122.64	325	*e*PKPdf	PKPdf	03 45 21.2	+0.9
Z48A	Northport	122.71	42	P	PKPdf	03 45 19.6	-1.0
	baz=308						
PMAFR	Mafra	122.76	327	*e*LR	LR	04 25 38.5	
	comp=Z,390nm,20.0s						
BINY	Binghamton	122.93	27	PFAKE		03 45 30.0	+9.2
BINY				LR	LR		
	comp=Z,270nm,20.0s						
PNCL	Nicolau / Gran	122.95	326	*e*PKPdf	PKPdf	03 45 21.9	+1.0
PNCL	Nicolau / Gran	122.95	326	*e*LR	LR	04 26 51.4	
	comp=Z,360nm,22.0s						
PVAQ	Vaqueiros	122.98	325	*e*LR	LR	04 24 56.0	
	comp=Z,210nm,18.0s						
PKME	Peaks-Kenny Pk	123.00	20	PFAKE		03 45 30.0	+9.2
PKME				LR	LR		
	comp=Z,218nm,20.0s						
PCVE	Castro Verde	123.01	325	*e*PKPdf	PKPdf	03 45 22.2	+1.2
PCVE	Castro Verde	123.01	325	*e*LR	LR	04 25 26.4	
	comp=Z,245nm,18.0s						
O56A	Blue Knob Stat	123.22	30	P	PKPdf	03 45 21.1	-0.4
	baz=320						
347A	Saraland	123.22	44	P	PKPdf	03 45 21.4	-0.2
	baz=306						
SSPA	Standing Stone	123.27	29	*e*PKPdf	PKPdf	03 45 21.4	-0.1
LRAL	Lakeview Retre	123.29	42	*e*PKPdf	PKPdf	03 45 21.1	-0.6
248A	Dixon Mills	123.36	43	P	PKPdf	03 45 21.8	0.0
	baz=307						
MORF	Marmelete	123.58	325	*e*PKPdf	PKPdf	03 45 23.5	+1.3
TKL	Tuckaleechee C	123.65	37	PKP	PKPdf	03 45 22.2	-0.1
	comp=Z,19nm,0.8s,baz=255,slow=3.0,SNR=19						
N59A	State Game Lan	124.05	28	P	PKPdf	03 45 22.1	-0.9
	baz=323						
BRAL	Brewton	124.39	44	PFAKE		03 45 40.0	+16
BRAL				LR	LR		
	comp=Z,293nm,19.0s						
ODNJ	Ogdensburg	124.44	27	*e*PKPdf	PKPdf	03 45 23.6	0.0
MVL	Millersville	124.50	29	*e*PKPdf	PKPdf	03 45 24.1	+0.3
BLA	Blacksburg	124.51	34	*e*PKIKP	PKPdf	03 45 23.3	-0.7
BLA				MLR	MLR		
	comp=Z,207nm,21.0s						
BLA	Blacksburg	124.51	34	*e*PKPdf	PKPdf	03 45 23.3	-0.7
BLA				LR	LR		
	comp=Z,207nm,21.0s						
SDMD	Soldier's Deli	124.72	30	*e*PKPdf	PKPdf	03 45 24.6	+0.3
RTC	Rabat Centre	124.78	321	PFAKE		03 45 40.0	+15
RTC				LR	LR		
	comp=Z,590nm,21.0s						
PSUB	Penn St. - Bra	124.98	28	*e*PKPdf	PKPdf	03 45 24.6	-0.1
IP04	Greensprings	125.10	31	*e*PKPdf	PKPdf	03 45 25.4	+0.4
CMIG	Matias Romero	125.12	63	PKP	PKPdf	03 45 25.3	-0.3
	comp=Z,6.8nm,0.8s,baz=288,slow=1.9,SNR=6.4						
IP03	Louisa	125.20	31	*e*PKPdf	PKPdf	03 45 25.1	-0.1
IP07	Quail	125.27	32	*e*PKPdf	PKPdf	03 45 25.7	+0.3
IP06	Yanceyville	125.28	32	*e*PKPdf	PKPdf	03 45 25.3	0.0
GOGA	Godfrey	125.33	39	*e*PKIKP	PKPdf	03 45 25.8	+0.2
GOGA				MLR	MLR		
	comp=Z,277nm,21.0s						
GOGA	Godfrey	125.33	39	*e*PKPdf	PKPdf	03 45 25.8	+0.2
GOGA				LR	LR		
	comp=Z,277nm,21.0s						
CBN	Corbin Frederi	125.39	31	*e*PKPdf	PKPdf	03 45 25.6	0.0
CBN				LR	LR		
	comp=Z,321nm,21.0s						
KMSC	Kings Mountain	125.45	36	P	PKPdf	03 45 25.8	0.0
	baz=314						
KMSC	Kings Mountain	125.45	36	*e*PKPdf	PKPdf	03 45 25.9	0.0
IP05	Hopewell Churc	125.47	31	*e*PKPdf	PKPdf	03 45 25.8	0.0
JSRW	J. Sargeant Re	125.51	32	*e*PKPdf	PKPdf	03 45 25.8	0.0
JSC	Jenkinsville	126.09	37	*e*PKIKP	PKPdf	03 45 27.8	+0.8
JSC	Jenkinsville	126.09	37	*e*PKPdf	PKPdf	03 45 27.8	+0.8
TIGA	Tifton	126.54	41	P	PKPdf	03 45 28.0	0.0
	baz=310						
CNNC	Cliffs of the	127.34	34	PFAKE		03 45 40.0	+11
CNNC				LR	LR		
	comp=Z,269nm,19.0s						
NHSC	New Hope	127.56	37	PFAKE		03 45 40.0	+10
NHSC				LR	LR		
	comp=Z,255nm,21.0s						
TORD	Torodi Ar. Bea	128.92	294	PKP	PKPdf	03 45 32.6	-0.3
	comp=Z,5.5nm,0.8s,baz=58,slow=1.7,SNR=28						
TORD				PP	PP	03 47 35.5	-4.5
	comp=Z,3.4nm,1.2s,baz=53,slow=4.9,SNR=3.7						
JTS	JuntasAbangare	136.64	66	*e*PKIKP	PKPdf	03 45 47.4	-0.1
JTS	JuntasAbangare	136.64	66	*e*PKPdf	PKPdf	03 45 47.4	-0.1
KIC	Kosan Boka	137.19	288	*e*PKIKP	PKPdf	03 45 49.8	+1.3
	comp=Z,17nm,0.7s						
DBIC	Dimbokro	137.20	288	PKP	PKPdf	03 45 46.1	-2.4
	comp=Z,5.6nm,0.7s,baz=18,slow=4.6,SNR=7.3						
TIC	Toumodi	137.36	289	*e*PKIKP	PKPdf	03 45 49.9	+1.0
LIC	Lamto	137.50	288	*e*PKIKP	PKPdf	03 45 50.2	+1.1
	comp=Z,50nm,1.2s						
GTBY	Guantanamo Bay	139.78	46	PFAKE		03 46 00.0	+6.9
GTBY				LR	LR		
	comp=Z,183nm,21.0s						
PLCA	Paso Flores	140.19	150	PKP	PKPdf	03 45 53.6	+0.2
	comp=Z,3.6nm,0.7s,baz=269,slow=3.6,SNR=6.0						
SDDR	Presa de Saban	143.10	44	PFAKE		03 46 10.0	+11
SDDR				LR	LR		
	comp=Z,197nm,19.0s						
ROC1	El Roble	145.39	140	*e*PKPbc	PKPbc	03 46 03.1	+0.2
MOTC	Monteria, Cord	145.57	62	*e*P	PKPdf	03 46 02.8	-0.7
OTAV	Otavalo	146.01	78	*e*P	PKPbc	03 46 05.8	+0.2
OTAV	Otavalo	146.01	78	*e*PKPdf	PKPbc	03 46 05.7	0.0
OTAV				LR	LR		
	comp=Z,180nm,19.0s						
IDE	Isla Desecheo	146.04	40	*e*PKPdf	PKPbc	03 46 05.3	+0.3
AGP	Aguadilla	146.24	39	*e*PKPdf	PKPbc	03 46 05.8	+0.2
TRQA	Tornquist	146.26	156	*e*PKPbc	PKPdf	03 46 04.8	+0.8
MPR	Mayaguez	146.38	40	*e*PKPdf	PKPbc	03 46 05.9	-0.1
CMBC	Cumbal	146.44	77	*e*P	PKPab	03 46 07.7	-0.2
PLMC	San Jos¨ del	146.63	69	*e*P	PKPab	03 46 15.4	+7.3
HELC	Santa Helena	146.82	66	*e*P	PKPdf	03 46 07.0	+0.8
HELC	Santa Helena	146.82	66	*e*PKPdf	PKPbc	03 46 07.8	-0.1
CELP	Cerrillos	146.84	39	*e*PKPdf	PKPdf	03 46 06.5	+0.9
POPC	Popayan, Colom	147.07	73	*e*P	PKPdf	03 46 07.5	+1.1
SJG	San Juan	147.08	39	*e*PKP2	PKPbc	03 46 08.0	0.0
SJG				MLR	MLR		
	comp=Z,154nm,19.0s						
SJG	San Juan	147.08	39	*e*PKPbc	PKPbc	03 46 08.0	0.0
SJG				LR	LR		
	comp=Z,154nm,19.0s						
CBYP	Canovanas	147.14	38	*e*PKPdf	PKPdf	03 46 07.4	+1.2
GUYC	Guyana, Colomb	147.33	68	*e*P	PKPbc	03 46 09.7	+0.2
NORC	Norcasia	147.67	67	*e*P	PKPdf	03 46 08.5	+1.4
ABVI	Anegada Island	147.68	35	*e*PKPbc	PKPbc	03 46 09.9	+0.2
OCAC	Ocana	147.87	61	*e*P	PKPdf	03 46 08.5	+0.9
BRRC	Barranca, Sant	148.05	63	*e*P	PKPbc	03 46 10.1	-0.8
LCO	Las Campanas	148.07	135	*e*PKPbc	PKPbc	03 46 10.9	0.0
CDVI	St. Croix	148.19	37	*e*PKPdf	PKPbc	03 46 10.6	-0.5
PRAC	Prado	148.36	70	*e*P	PKPbc	03 46 11.4	-0.3
PRAC	Prado	148.36	70	*e*PKPbc	PKPbc	03 46 11.8	+0.1
ROSC	El Rosal	148.46	68	PKPbc	PKPbc	03 46 12.3	-0.2
	comp=Z,9.8nm,0.6s,baz=245,slow=20,SNR=9.9						
ROSC	El Rosal	148.46	68	*e*P	PKPbc	03 46 12.3	-0.2
ROSC	El Rosal	148.46	68	*e*PKPbc	PKPbc	03 46 12.7	+0.2
GIRC	Giron, Santand	148.53	63	*e*P	PKPbc	03 46 12.0	-0.3
NNA	Nana	148.65	100	*e*PKIKP	PKPdf	03 46 09.9	+1.2
NNA	Nana	148.65	100	*e*PKPdf	PKPdf	03 46 09.9	+1.2
BARC	Barichara	148.75	64	*e*P	PKPbc	03 46 13.0	0.0
PAMC	Pamplona, Colo	148.84	62	*e*P	PKPbc	03 46 13.1	-0.4
SMRT	St. Maarten	148.94	34	*e*PKPdf	PKPdf	03 46 09.6	+0.6
RUSC	La Rusia	149.15	65	*e*P	PKPbc	03 46 12.8	-1.5
RUSC	La

*SKHL **23** 03:29:35.5±0.9, 42°.29N×144°.82E, h39km±6km, mb4.5/2*
ISC 23 03:29:33.6±1.8, 42°.42N±0°.08×144°.76E±0°.06, h11km±13km, n12, σ1§27/19, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.58**	**355**	⇓P	**Pn**	**03 29 46.8**	**-1.1**
JAK				*e*S	**Sb**	**03 29 55.8**	**+1.7**
JOB	**Onbets**	**0.84**	**306**	⇓P	**Pb**	**03 29 50.6**	**+0.3**
JOB				*e*S	**Sg**	**03 30 02.2**	**+1.4**
JCH	**Churui**	**1.05**	**281**	P	**Pb**	**03 29 53.9**	**0.0**
JCH				*e*S	**Sg**	**03 30 07.3**	**-0.3**
MYR	**Moyori**	**1.10**	**264**	*e*P	**Pg**	**03 29 54.6**	**-0.3**
JAR	**Ashorobuto**	**1.14**	**321**	⇓P	**Pn**	**03 29 54.6**	**-1.0**
JNK	**Nakash**	**1.17**	**358**	⇓P	**Pn**	**03 29 54.9**	**-1.1**
JNK				*e*S	**Sb**	**03 30 09.1**	**-1.9**
NEM2	**Nemuro 2**	**1.19**	**37**	P	**Pg**	**03 29 55.7**	**-0.8**
JEM	**Erimo**	**1.26**	**252**	P	**Pg**	**03 29 57.3**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.80**	**26**	*e*P	**Pn**	**03 30 04.6**	**-0.1**
YUK				AMB	AMB	03 30 06.8	
	200nm,0.3s						
YUK				*i* S	**Sn**	**03 30 26.6**	**-1.0**
YUK				A	A	03 30 30.5	
	520nm,0.3s						
YUK				A	A	03 30 30.5	
	320nm,0.3s						
SHO	**Shikotan**	**2.10**	**45**	*e*P	**Pn**	**03 30 08.8**	**+0.1**
SHO				AMB	AMB	03 30 14.0	
	50nm,0.4s						
SHO				*i* S	**Sn**	**03 30 34.3**	**-0.5**
SHO				A	A	03 30 37.1	
	230nm,0.3s						
KUR	**Kuril'sk**	**3.60**	**38**	*e*P	**Pn**	**03 30 31.2**	**+1.8**
KUR				*i* S	**Sn**	**03 31 12.2**	**+0.3**
KUR				A	A	03 31 17.8	
	120nm,0.5s						
KUR				A	A	03 31 17.8	
	34nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.76**	**343**	*e*P	**Pn**	**03 30 47.8**	**+2.5**

*NIED **23** 03:35:00, 33°.80N×135°.00E, h41km, Mw4.2 Best double couple: M0:2.25000×10^15 NP1:φ=307.00000°, δ=35.00000°, λ=-23.00000°. NP2:φ=56.00000°, δ=77.00000°, λ=-123.00000°.*
JMA 23 03:35:28.3, 33°.83N×134°.98E, h13km±1km, M3.7, 1C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.31**	**86**	⇓P	Pg	03 35 34.6	-0.1
JWM				S	Sg	03 35 38.8	-0.2
JAI	**Aioi**	**0.44**	**265**	⇓P	Pg	03 35 37.0	-0.1
JAI				S	Sg	03 35 42.8	-0.2
JAJ2	**Tsuna**	**0.59**	**352**	⇑P	Pg	03 35 40.0	+0.1
JAJ2				S	Sg	03 35 47.9	+0.1
JWY	**Kouya**	**0.64**	**53**	⇓P	Pg	03 35 40.5	-0.3
JWY				S	Sg	03 35 48.9	-0.4
JWZ	**Kozaga**	**0.68**	**116**	⇓P	Pg	03 35 40.8	-0.8
JWZ				S	Sg	03 35 50.2	-0.4
JMN	**Monobe**	**0.92**	**264**	S	Sg	03 35 57.7	-0.5
JHE	**Heguri**	**1.01**	**35**	S	Sb	03 36 00.7	-0.1
JJS	**Sakaide**	**1.03**	**302**	S	Sb	03 36 00.7	-0.6
MAT	**Matsushiro**	**3.78**	**43**	P	Pn	03 36 26.1	-0.2
MAT				*e*S	Sn	03 37 08.8	-1.9

*KRSC **23** 03:47:24.3±1.1, 53°.31N×162°.10E, h41km±19km, ML4.6*
*MOS **23** 03:47:27.9±1.1, 53°.37N×161°.85E, h42km, mb4.8/55, Error ellipse: s-maj=6.2km s-min=3.6km az=96.5*
*ISCJB **23** 03:47:28.0±0.6, 53°.38N±0°.03×161°.88E±0°.06, h42km±3km, mb4.5/97, MS4.0/7, Error ellipse: s-maj=7.9km s-min=3.4km az=40.4*
*NEIC **23** 03:47:30.0±1.0, 53°.50N×161°.63E, h42km±7km, mb4.7/20, Error ellipse: s-maj=12.0km s-min=7.7km az=134.0*
*IDC **23** 03:47:30.2±0.7, 53°.54N×161°.62E, h43km±4km, mb4.1/32, mb1 4.2/36, mb1mx4.1/56, mbtmp4.3/36, ML3.8/4, MS3.8/5, Ms1 3.9/5, ms1mx3.3/40, Error ellipse: s-maj=15.5km s-min=10.7km az=144.0*
ISC 23 03:47:28.1±0.5, 53°.47N±0°.04×161°.72E±0°.04, h28km±2km, h28km:pP-P, n285, σ1§62/332, mb4.6/98, MS4.1/7, 19C-9D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.08**	**251**	PN	**Pn**	**03 47 47.3**	**0.0**
SPN				S	**Sb**	**03 48 02.7**	**+0.8**
SPN	**Mys Shipunski**	**1.08**	**251**	*e*P	**Pn**	**03 47 47.3**	**0.0**
SPN				*e*S	**Sb**	**03 48 02.7**	**+0.8**
MKZ	**Mys Kozlova**	**1.09**	**0**	PN	**Pn**	**03 47 47.1**	**-0.4**
MKZ				S	**Sb**	**03 48 03.1**	**+0.9**
MKZ	**Mys Kozlova**	**1.09**	**0**	*e*P	**Pn**	**03 47 47.1**	**-0.4**
MKZ				*e*S	**Sb**	**03 48 03.1**	**+0.9**
NLC	**Nalytchevo**	**1.45**	**259**	PN	**Pn**	**03 47 53.0**	**+0.6**
NLC				S	**Sb**	**03 48 13.1**	**+0.6**
NLC	**Nalytchevo**	**1.45**	**259**	*e*P	**Pn**	**03 47 53.0**	**+0.6**
NLC				*e*S	**Sb**	**03 48 13.1**	**+0.6**
KII	**Karymskiy**	**1.46**	**294**	PN	**Pn**	**03 47 53.4**	**+0.7**
KII	**Karymskiy**	**1.46**	**294**	*e*P	**Pn**	**03 47 53.4**	**+0.7**
SDLR	**Sedlovina**	**1.71**	**265**	PN	**Pn**	**03 47 57.0**	**+0.9**
SDLR	**Sedlovina**	**1.71**	**265**	*e*P	**Pn**	**03 47 57.0**	**+0.9**
UGLR	**Uglovaya**	**1.75**	**263**	PN	**Pn**	**03 47 58.0**	**+1.3**
UGLR				S	**Sb**	**03 48 21.5**	**+0.3**
UGLR	**Uglovaya**	**1.75**	**263**	*e*P	**Pn**	**03 47 58.0**	**+1.3**
UGLR				*e*S	**Sb**	**03 48 21.5**	**+0.3**
KRER	**Koryakskii**	**1.78**	**266**	PN	**Pn**	**03 47 58.6**	**+1.4**
KRER				S	**Sb**	**03 48 22.0**	**-0.2**
KRER	**Koryakskii**	**1.78**	**266**	*e*P	**Pn**	**03 47 58.6**	**+1.4**
KRER				*e*S	**Sb**	**03 48 22.0**	**-0.2**
AVH	**Avacha**	**1.80**	**265**	PN	**Pn**	**03 47 58.6**	**+1.4**
AVH	**Avacha**	**1.80**	**265**	*e*P	**Pn**	**03 47 58.6**	**+1.4**
AVH				*e*P	**Pn**	**03 47 58.7**	**+1.5**
DALK	**Dalny**	**1.83**	**257**	PN	**Pn**	**03 47 58.4**	**+0.8**
DALK				S	**Sb**	**03 48 22.3**	**-1.1**
DALK	**Dalny**	**1.83**	**257**	*e*P	**Pn**	**03 47 58.4**	**+0.8**
DALK				*e*S	**Sb**	**03 48 22.3**	**-1.1**
KRX	**Arik**	**1.84**	**268**	PN	**Pn**	**03 47 59.0**	**+1.1**
KRX	**Arik**	**1.84**	**268**	*e*P	**Pn**	**03 47 59.0**	**+1.1**
KZV	**Kizimen**	**1.85**	**334**	PN	**Pn**	**03 47 59.3**	**+1.2**
KZV				S	**Sb**	**03 48 23.9**	**-0.2**
KZV	**Kizimen**	**1.85**	**334**	*e*P	**Pn**	**03 47 59.3**	**+1.2**
KZV				*e*S	**Sb**	**03 48 23.9**	**-0.2**
KOK	**Koryaka**	**1.85**	**266**	PN	**Pn**	**03 47 59.4**	**+1.4**
KOK	**Koryaka**	**1.85**	**266**	*e*P	**Pn**	**03 47 59.4**	**+1.4**
PET	**Petropavlovsk**	**1.89**	**258**	*e*PN	**Pn**	**03 47 59.6**	**+1.1**
PET				*e*S	**Sb**	**03 48 26.6**	**+1.5**
PET				pmax	pmax		
	comp=Z,256nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET	**Petropavlovsk**	**1.89**	**258**	*e*P	**Pn**	**03 47 59.2**	**+0.7**
PET				*e*S	**Sb**	**03 48 23.8**	**-1.3**
PET	**Petropavlovsk**	**1.89**	**258**	*e*Pn	**Pn**	**03 47 58.6**	**+0.1**
TUMD	**Tumrok D**	**1.90**	**337**	*e*P	**Pn**	**03 47 59.4**	**+0.7**
TUMD				*e*S	**Sn**	**03 48 23.6**	**+1.9**
INSR	**Institute**	**1.91**	**259**	PN	**Pn**	**03 47 59.2**	**+0.5**
INSR				S	**Sn**	**03 48 24.2**	**+2.4**
INSR	**Institute**	**1.91**	**259**	*e*P	**Pn**	**03 47 59.2**	**+0.5**
INSR				*e*S	**Sn**	**03 48 24.2**	**+2.4**
TUMR	**Tumrok**	**2.04**	**334**	PN	**Pn**	**03 48 02.3**	**+1.7**
TUMR	**Tumrok**	**2.04**	**334**	*e*P	**Pn**	**03 48 02.3**	**+1.7**
RUS	**Russkaya**	**2.20**	**243**	PN	**Pn**	**03 48 02.9**	**+0.3**
RUS	**Russkaya**	**2.20**	**243**	*e*P	**Pn**	**03 48 02.9**	**+0.3**
RUS				*e*P	**Pn**	**03 48 03.2**	**+0.6**
KRMR	**Karymshinskiy**	**2.25**	**255**	PN	**Pn**	**03 48 05.0**	**+1.6**
KRMR	**Karymshinskiy**	**2.25**	**255**	*e*P	**Pn**	**03 48 05.0**	**+1.6**
GNL	**Ganaly**	**2.26**	**277**	PN	**Pn**	**03 48 06.1**	**+2.4**
GNL	**Ganaly**	**2.26**	**277**	*e*P	**Pn**	**03 48 06.1**	**+2.4**
MTVR	**Mutnovka**	**2.35**	**247**	PN	**Pn**	**03 48 06.0**	**+1.1**
MTVR	**Mutnovka**	**2.35**	**247**	*e*P	**Pn**	**03 48 06.0**	**+1.1**
GRL	**Gorelyy**	**2.38**	**249**	PN	**Pn**	**03 48 06.1**	**+0.7**
GRL	**Gorelyy**	**2.38**	**249**	*e*P	**Pn**	**03 48 06.1**	**+0.7**
PETK	**Petropavlovsk-**	**2.44**	**263**	P	**Pn**	**03 48 07.9**	**+1.9**
	comp=E,59nm,0.3s,baz=86,slow=19,SNR=673						
PETK				S	**Sb**	**03 48 39.0**	**-1.8**
	comp=E,57nm,0.3s,baz=95,slow=16,SNR=8.1						
KMNR	**Kamenistaya**	**2.45**	**340**	PN	**Pn**	**03 48 08.7**	**+2.4**
KMNR	**Kamenistaya**	**2.45**	**340**	*e*P	**Pn**	**03 48 08.7**	**+2.4**
ASAK	**Asacha**	**2.55**	**246**	PN	**Pn**	**03 48 09.2**	**+1.6**
ASAK	**Asacha**	**2.55**	**246**	*e*P	**Pn**	**03 48 09.2**	**+1.6**
BZMR	**Bezymyannaya**	**2.58**	**344**	PN	**Pn**	**03 48 10.2**	**+2.2**
BZMR	**Bezymyannaya**	**2.58**	**344**	*e*P	**Pn**	**03 48 10.2**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.60**	**345**	PN	**Pn**	**03 48 10.6**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.60**	**345**	*e*P	**Pn**	**03 48 10.6**	**+2.2**
ZLN	**Zelenaya**	**2.61**	**349**	PN	**Pn**	**03 48 10.5**	**+2.0**
ZLN	**Zelenaya**	**2.61**	**349**	*e*P	**Pn**	**03 48 10.5**	**+2.0**
KIRR	**Kirishev**	**2.62**	**343**	PN	**Pn**	**03 48 10.9**	**+2.3**
KIRR	**Kirishev**	**2.62**	**343**	*e*P	**Pn**	**03 48 10.9**	**+2.3**
KPT	**Kopyto**	**2.65**	**342**	PN	**Pn**	**03 48 11.1**	**+2.1**
KPT	**Kopyto**	**2.65**	**342**	*e*P	**Pn**	**03 48 11.1**	**+2.1**
LGNR	**Loginova**	**2.69**	**348**	PN	**Pn**	**03 48 11.8**	**+2.1**
LGNR	**Loginova**	**2.69**	**348**	*e*P	**Pn**	**03 48 11.8**	**+2.1**
CIRR	**Tsirk**	**2.71**	**348**	PN	**Pn**	**03 48 12.7**	**+2.8**
CIRR	**Tsirk**	**2.71**	**348**	*e*P	**Pn**	**03 48 12.7**	**+2.8**
APC	**Apacha**	**2.79**	**261**	PN	**Pn**	**03 48 13.4**	**+2.5**
APC				S	**Sb**	**03 48 48.8**	**-2.2**
APC	**Apacha**	**2.79**	**261**	*e*P	**Pn**	**03 48 13.4**	**+2.5**
APC				*e*S	**Sb**	**03 48 48.8**	**-2.2**
KOZ	**Kozyrevsk**	**2.81**	**338**	PN	**Pn**	**03 48 13.3**	**+2.2**
KOZ	**Kozyrevsk**	**2.81**	**338**	*e*P	**Pn**	**03 48 13.3**	**+2.2**
KBTR	**Krutoberegovo**	**2.82**	**13**	PN	**Pn**	**03 48 11.6**	**+0.4**
KBTR	**Krutoberegovo**	**2.82**	**13**	*e*P	**Pn**	**03 48 11.6**	**+0.4**
KRSR	**Krestovskiy**	**2.84**	**347**	PN	**Pn**	**03 48 13.2**	**+1.6**
KRSR	**Krestovskiy**	**2.84**	**347**	*e*P	**Pn**	**03 48 13.2**	**+1.6**
KBG	**Krutoberegovo**	**2.85**	**11**	PN	**Pn**	**03 48 14.1**	**+2.4**
KBG	**Krutoberegovo**	**2.85**	**11**	*e*P	**Pn**	**03 48 14.1**	**+2.4**
KLY	**Klyuchi**	**2.92**	**348**	PN	**Pn**	**03 48 14.3**	**+1.7**
KLY	**Klyuchi**	**2.92**	**348**	*e*P	**Pn**	**03 48 14.3**	**+1.7**
ESO	**Esso**	**3.02**	**326**	PN	**Pn**	**03 48 16.2**	**+2.2**
ESO	**Esso**	**3.02**	**326**	*e*P	**Pn**	**03 48 16.2**	**+2.2**
BKI	**Bering**	**3.04**	**53**	PN	**Pn**	**03 48 11.5**	**-2.7**
BKI	**Bering**	**3.04**	**53**	*e*P	**Pn**	**03 48 11.5**	**-2.7**
BKI				*e*S	**Sn**	**03 48 43.5**	**-6.1**
SRKR	**Sorokina**	**3.21**	**355**	PN	**Pn**	**03 48 18.6**	**+1.9**
SRKR	**Sorokina**	**3.21**	**355**	*e*P	**Pn**	**03 48 18.6**	**+1.9**
SKR	**Severo-Kuril's**	**4.44**	**233**	*e*PN	**Pn**	**03 48 33.2**	**-0.2**
MA2	**Magadan**	**8.60**	**320**	P	**Pn**	**03 49 33.9**	**+3.3**
	comp=E,0.7nm,0.3s,baz=112,slow=11,SNR=9.3						
MA2	**Magadan**	**8.60**	**320**	*i* PN	**Pn**	**03 49 30.8**	**+0.3**
UGL	**Uglegorsk**	**13.05**	**258**	*e*PN	**Pn**	**03 50 27.8**	**-3.6**
BILL	**Bilibino**	**14.78**	**7**	⇑*i*P	**Pn**	**03 50 57.1**	**+2.2**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,314nm,18.0s						
ASAJ	**Asahikawa**	**15.65**	**241**	P	**Pn**	**03 51 06.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=67,slow=13,SNR=8.0						
HABR	**Khabarovsk**	**17.47**	**264**	*e*P	P	03 51 38.3	+7.9
HABR				*e*S	**Sn**	**03 54 33.9**	**-9.0**
HABR				pmax	pmax		
	comp=N,16nm,0.8s						
HABR				pmax	pmax		
	comp=E,15nm,1.6s						
HABR				pmax	pmax		
	comp=Z,19nm,1.6s						
HABR				MLR	MLR		
	comp=Z,274nm,14.0s						
YAK	**Yakutsk**	**18.94**	**310**	P	**P**	**03 51 46.0**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=75,slow=5.0,SNR=6.5						
YAK	**Yakutsk**	**18.94**	**310**	*e*P	**P**	**03 51 45.2**	**-1.3**
YAK				*e*S	Sn	03 55 06.3	-12
YAK				*e*S	**S**	**03 55 10.3**	**-9.4**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				smax	smax		
	comp=E,17nm,1.7s						
YAK				smax	smax		
	comp=N,27nm,2.2s						
YAK				MLR	MLR		
	comp=Z,887nm,17.0s						
YAK				MLR	MLR		
	comp=N,950nm,15.0s						
YAK				MLR	MLR		
	comp=E,341nm,15.0s						
YAK	**Yakutsk**	**18.94**	**310**	*e*Pn	**P**	**03 51 43.5**	**-3.0**
	comp=E,45nm,0.6s						
KLR	**Kul'dur**	**19.11**	**269**	P	**Pn**	**03 51 49.3**	**-0.2**
	comp=E,0.1nm,0.3s,baz=62,slow=12,SNR=27						
CLNS	**Chul'man**	**21.14**	**294**	*e*P	**P**	**03 52 11.4**	**+0.9**
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**21.51**	**257**	P	**P**	**03 52 15.2**	**+0.7**
	comp=N,6.0nm,0.8s,baz=58,slow=14,SNR=9.2						
VLA	**Vladivostok**	**22.22**	**254**	⇓*e*P	**P**	**03 52 20.0**	**-2.2**
VLA				*e**PP	**pP**	**03 52 28.9**	**-0.9**
VLA				pmax	pmax		
	comp=Z,18nm,0.7s						
TIXI	**Tiksi**	**23.16**	**334**	P	**P**	**03 52 30.7**	**-1.1**
	comp=Z,4.0nm,0.4s,baz=119,slow=10,SNR=13						
TIXI	**Tiksi**	**23.16**	**334**	*i* P	**P**	**03 52 29.2**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	**Tiksi**	**23.16**	**334**	*e*P	**P**	**03 52 30.9**	**-0.9**
	comp=Z,7.4nm,0.8s						
MJAR	**Matsushiro Arr**	**23.55**	**234**	P	**P**	**03 52 36.5**	**+0.6**
	comp=Z,7.8nm,0.7s,baz=26,slow=8.9,SNR=23						
MAJO	**Matsushiro**	**23.55**	**234**	*e*P	**P**	**03 52 35.8**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,114nm,0.9s						
MAJO	**Matsushiro**	**23.55**	**234**	*e*P	**P**	**03 52 37.3**	**+1.4**
	comp=Z,21nm,0.5s						
MAT	**Matsushiro**	**23.55**	**234**	P	**P**	**03 52 35.8**	**-0.1**
KDAK	**Kodiak Island**	**25.77**	**62**	P	**P**	**03 52 56.8**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=321,slow=14,SNR=3.1						
HIA	**Hailar**	**26.25**	**278**	*e*P	**P**	**03 52 59.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,14nm,1.0s						
BOD	**Bodaibo**	**26.82**	**299**	*e*P	**P**	**03 53 02.3**	**-3.3**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MCK	**McKinley**	**26.98**	**48**	*e*P	pP	03 53 18.8	+3.6
COLA	**College**	**27.45**	**46**	*e*P	**P**	**03 53 09.2**	**-1.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**27.86**	**46**	P	**P**	**03 53 14.0**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=260,slow=7.8,SNR=19						
KSRS	**Korea Array**	**28.26**	**249**	P	**P**	**03 53 19.3**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=40,slow=9.9,SNR=12						
KSRS				LR	LR	04 04 23.8	
	comp=Z,151nm,18.5s,baz=60,slow=36						
KSRS	**Korea Array**	**28.26**	**249**	P	**P**	**03 53 19.3**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,151nm,18.5s						
KSAR	**Wonju Array Be**	**28.29**	**249**	P	**P**	**03 53 19.3**	**+0.4**
KSAR	**Wonju Array Be**	**28.29**	**249**	P	**P**	**03 53 19.3**	**+0.4**
INK	**Inuvik**	**32.98**	**38**	P	**P**	**03 53 59.9**	**0.0**
	comp=Z,2.1nm,1.0s,baz=301,slow=4.4,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**33.91**	**171**	T	T	04 31 18.5	
	baz=354,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**33.92**	**171**	T	T	04 31 18.5	
	baz=354,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.93**	**171**	T	T	04 31 16.2	
	baz=354,slow=76,SNR=12						
SONM	**Songino Array**	**34.76**	**284**	P	**P**	**03 54 14.9**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=61,slow=7.8,SNR=15						
SONM				PcP	**PcP**	**03 56 49.5**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=42,slow=2.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.39**	**303**	pP	pP	03 55 38.0	+1.9
	comp=Z,1.2nm,0.5s,baz=65,slow=6.3,SNR=3.1						
GTA	**Gaotai**	**43.53**	**277**	*e*P	P	03 55 41.8	+13
GTA				pP	sP	03 55 47.4	+6.4
GTA				sP	pP	03 55 50.5	+13
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NVS	**Novosibirsk**	**43.70**	**305**	*e*P	**P**	**03 55 29.0**	**-1.2**
NVS				pmax	pmax		
	comp=Z,13nm,1.7s						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
SPITS	**Spitsbergen Ar**	**46.93**	**351**	P	**P**	**03 55 55.5**	**+0.1**
	comp=E,13nm,0.5s,baz=55,slow=7.6,SNR=13						
SPITS	**Spitsbergen Ar**	**46.93**	**351**	P	**P**	**03 55 55.5**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,14nm,0.5s						
KURK	**Kurchatov**	**48.36**	**302**	*i* P	**P**	**03 56 05.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,13nm,0.6s						
KURK	**Kurchatov**	**48.36**	**302**	*e*P	**P**	**03 56 04.4**	**-2.4**
	comp=Z,31nm,0.5s						
MKAR	**Makanchi Array**	**48.87**	**296**	P	**P**	**03 56 08.6**	**-2.3**
	comp=Z,1.4nm,0.5s,baz=57,slow=6.6,SNR=10.0						
BVAR	**Borovoye Array**	**50.92**	**309**	P	**P**	**03 56 24.1**	**-2.2**
	comp=Z,1.9nm,0.5s,baz=56,slow=8.5,SNR=14						
BRVK	**Borovoye**	**50.94**	**309**	*i* P	**P**	**03 56 25.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**50.94**	**309**	*e*P	**P**	**03 56 25.8**	**-0.8**
	comp=Z,5.2nm,0.3s						
MOD	**Modoc Plateau**	**51.22**	**69**	*e*P	pP	03 56 42.4	+4.8
ARCES	**ARCESS Array B**	**53.23**	**342**	P	**P**	**03 56 41.5**	**-1.9**
	comp=Z,5.2nm,0.9s,baz=34,slow=8.8,SNR=7.2						
SUMG	**Summit**	**53.47**	**7**	*i* P	**P**	**03 56 46.5**	**+1.0**
	comp=Z,22nm,1.2s						
SUMG	**Summit**	**53.47**	**7**	*e*P	**P**	**03 56 46.1**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,17nm,1.1s						
SUMG	**Summit**	**53.47**	**7**	*e*P	**P**	**03 56 46.1**	**+0.6**
	comp=Z,17nm,1.1s						
ARU	**Arti**	**53.78**	**318**	P	**P**	**03 56 45.9**	**-1.6**
	comp=Z,6.6nm,0.6s,baz=38,slow=2.7,SNR=13						
ARU				pP	**sP**	**03 56 59.1**	**-0.4**
	comp=Z,7.2nm,0.4s,baz=76,slow=8.4,SNR=6.1						
ARU	**Arti**	**53.78**	**318**	*d i*P	**P**	**03 56 45.7**	**-1.8**
ARU						03 57 54.0	
ARU				S	**S**	**04 04 15.2**	**-4.6**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**53.78**	**318**	*e*P	**P**	**03 56 46.5**	**-0.9**
	comp=Z,5.7nm,0.6s						
ARU				pP	**sP**	**03 56 59.1**	**-0.4**
IMW	**Indian Meadow**	**54.98**	**62**	*e*P	pP	03 57 08.8	+3.3
MSF	**Maaselka**	**55.62**	**339**	P	**P**	**03 57 00.9**	**+0.2**
MSF				pmax	pmax		
	comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**55.78**	**297**	*e*P	**P**	**03 57 00.8**	**-1.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**55.78**	**297**	*e*P	**P**	**03 57 01.9**	**-0.5**
	comp=Z,2.2nm,0.7s						
PDAR	**Pinedale Array**	**56.49**	**62**	P	**P**	**03 57 08.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=290,slow=4.1,SNR=3.7						
PDAR				LR	LR	04 21 05.8	
	comp=Z,158nm,19.9s,baz=319,slow=36						
DUG	**Dugway, Tooele**	**56.53**	**66**	P	**P**	**03 57 11.6**	**+3.8**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OUL	**Oulu**	**57.01**	**339**	P	**P**	**03 57 09.4**	**-1.2**
KLMR	**Klimovskoe**	**57.11**	**330**	*e*P	**P**	**03 57 10.9**	**-0.5**
KLMR				*e*		03 58 07.2	
KLMR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH	**Kashi**	**57.16**	**293**	*e*P	**P**	**03 57 15.3**	**+3.1**
KSH				pP	pP	03 57 20.0	-0.9
KSH				sP	sP	03 57 22.4	-1.8
KSH				PcP	**PcP**	**03 58 10.1**	**+3.5**
KSH				PP	**PP**	**03 59 23.3**	**+4.4**
KSH				PcS	**PcS**	**04 02 11.8**	**+4.1**
KSH				S	**S**	**04 05 05.0**	**-0.6**
KSH				ScS	**ScS**	**04 07 01.8**	**+2.4**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,61nm,4.9s						
KSH				LR	LR		
	comp=N,98nm,8.1s						
KSH				LR	LR		
	comp=E,220nm,13.3s						
KSH				LR	LR		
	comp=Z,200nm,12.2s						
JOF	**Joensuu**	**57.63**	**336**	P	**P**	**03 57 16.0**	**+1.0**
JOF				pmax	pmax		
	comp=Z,20nm,2.5s						
ABKAR	**Akbulak array**	**58.29**	**311**	*e*P	**P**	**03 57 18.5**	**-1.3**
	comp=Z,1.5nm,0.5s						
CHTO	**Chiang Mai**	**58.93**	**260**	*e*P	**P**	**03 57 25.6**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**58.93**	**260**	*e*P	**P**	**03 57 25.6**	**+0.9**
	comp=Z,13nm,0.9s						
TAPN	**Taplejung**	**59.15**	**275**	*e*P	**P**	**03 57 26.8**	**+0.3**
	comp=Z,12nm,0.4s						
CMAR	**Chiang Mai Arr**	**59.21**

NEY pmax pmax
comp=Z,1.0nm,0.9s
EKA Eskdalemuir Ar 70.85 351 P P 03 58 42.5 +0.8
comp=Z,1.6nm,0.7s,baz=19,slow=4.6,SNR=5.3
EKA Eskdalemuir Ar 70.85 351 P P 03 58 42.5 +0.8
EKA pmax pmax
comp=Z,1.0nm,0.6s
ANN Anapa 71.15 322 *e*P **P 03 58 40.1 -3.6**
ANN *e**PP **pP** 03 58 51.6 -1.0
ANN *e*S S 04 07 48.7 -10
ANN pmax pmax
comp=Z,51nm,1.1s
SORM Soroca 71.33 329⇑*i*P **P 03 58 44.5 -0.2**
SORM Soroca 71.33 329⇑P **P 03 58 44.5 -0.2**
KSP Ksiaz 72.07 338 P **P 03 58 50.1 +0.9**
KSP pmax pmax
comp=Z,12nm,0.8s
GNI Garni 72.12 314 P **P 03 58 50.6 +0.7**
comp=Z,5.5nm,0.6s,baz=209,slow=12,SNR=3.8
GNI Garni 72.12 314 *e*P **P 03 58 48.1 -1.8**
GNI Garni 72.12 314 *e*P **P 03 58 48.1 -1.8**
STHS Stebnicka Huta 72.19 334 *e*P **P 03 58 51.4 +1.5**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 72.19 334 *e*P **P 03 58 51.4 +1.5**
CLL Collm 72.34 340 *i*P **P 03 58 51.1 +0.3**
CLL *i* 03 59 03.2
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 72.34 340 *i*P **P 03 58 51.1 +0.3**
comp=Z,11nm,1.0s
CLL *i*pP **sP 03 59 03.2 +0.2**
comp=Z,11nm,0.9s
UPC Upice 72.45 338 *e*P **P 03 58 52.1 +0.6**
UPC *e*pP **sP 03 59 04.4 +0.7**
UPC Upice 72.45 338 *e*P **P 03 58 52.1 +0.6**
UPC *e* 03 59 04.4
DPC Dobruska-Polom 72.53 338 *e*P **P 03 58 53.1 +1.1**
DPC *e*pP **sP 03 59 04.9 +0.7**
DPC Dobruska-Polom 72.53 338 *e*P **P 03 58 53.1 +1.1**
DPC *e* 03 59 04.9
BRG Berggiesshubel 72.56 339 P **P 03 58 53.6 +1.5**
BRG pmax pmax
comp=Z,7.0nm,1.0s
OKC Ostrava-Krasne 72.58 336 *e*P **P 03 58 53.0 +0.8**
OKC *e*pP **sP 03 59 05.1 +0.7**
OKC Ostrava-Krasne 72.58 336 *e*P **P 03 58 53.0 +0.8**
OKC *e* 03 59 05.1
BURAR Bucovina Array 72.73 331⇑*i*P **P 03 58 53.7 +0.4**
BURAR Bucovina Array 72.73 331⇑P **P 03 58 53.7 +0.4**
PVCC Panska Ves 72.75 339 *e*P **P 03 58 55.2 +2.0**
PVCC *e*pP **sP 03 59 06.3 +0.9**
PVCC Panska Ves 72.75 339 *e*P **P 03 58 55.2 +2.0**
PVCC *e* 03 59 06.3
MORC Moravsky Berou 72.78 337⇓*i*P **P 03 58 54.7 +1.2**
MORC Moravsky Berou 72.78 337 *e*P **P 03 58 54.3 +0.8**
MORC *e**PP **sP 03 59 05.9 +0.2**
MORC pmax pmax
comp=Z,24nm,0.8s
MORC Moravsky Berou 72.78 337 *e*P **P 03 58 54.3 +0.8**
comp=Z,24nm,0.8s
MORC *e*pP **sP 03 59 05.8 +0.2**
LANS Liptovska Anna 72.89 335 *e*P **P 03 58 55.8 +1.7**
LANS *e* 03 59 07.5
LANS Liptovska Anna 72.89 335 *e*P **P 03 58 55.8 +1.7**
LANS *e* 03 59 07.5
KECS Kecovo 73.25 334 *e*P **P 03 58 57.3 +1.1**
KECS *e* 03 59 09.1
KECS pmax pmax
comp=Z,9.0nm,2.1s
KECS Kecovo 73.25 334 *e*P **P 03 58 57.3 +1.1**
KECS *e* 03 59 09.1
MOX Moxa 73.25 341 P **P 03 58 58.7 +2.5**
MOX pmax pmax
comp=Z,11nm,1.0s
PRU Pruhonice 73.27 339 *e*P **P 03 58 57.4 +1.1**
PRU *e*pP **sP 03 59 09.2 +0.7**
PRU Pruhonice 73.27 339 *e*P **P 03 58 57.4 +1.1**
PRU *e* 03 59 09.2
GOPC GO Pecny, Ondr 73.28 338 *e*P **P 03 58 57.1 +0.7**
GOPC *e*pP **sP 03 59 09.4 +0.8**
GOPC GO Pecny, Ondr 73.28 338 *e*P **P 03 58 57.1 +0.7**
GOPC *e* 03 59 09.4
VRAC Vranov 73.44 337 P **P 03 58 58.3 +0.9**
comp=Z,5.0nm,0.8s,baz=27,slow=5.4,SNR=6.6
NKC Novy Kostel 73.48 340 *e*P **P 03 58 59.6 +2.0**
NKC *e*pP **sP 03 59 10.3 +0.5**
NKC Novy Kostel 73.48 340 *e*P **P 03 58 59.6 +2.0**
NKC *e* 03 59 10.3
VYHS Vyhne 73.66 335 *e*P **P 03 58 59.6 +1.0**
VYHS *e* 03 59 11.4
VYHS Vyhne 73.66 335 *e*P **P 03 58 59.6 +1.0**
VYHS *e* 03 59 11.4
TREC Trest 73.71 338 P **P 03 59 00.9 +2.0**
TREC pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 73.92 334⇑*i*P **P 03 59 01.3 +1.0**
PSZ Piszkesteto 73.92 334 *e*P **P 03 59 00.6 +0.3**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 73.92 334 *e*P **P 03 59 00.6 +0.3**
comp=Z,3.6nm,0.8s
SMOL Smolenice 73.98 336 P **P 03 59 00.1 -0.4**
SMOL pmax pmax
comp=Z,20nm,0.7s
CJR Cluj-Napoca 74.02 331⇑*i*P **P 03 59 02.0 +1.2**
CJR Cluj-Napoca 74.02 331⇑P **P 03 59 02.0 +1.2**
CFR Carcaliu 74.03 328⇓*i*P **P 03 59 02.1 +1.3**
CFR Carcaliu 74.03 328⇓P **P 03 59 02.1 +1.3**
DRGR 74.20 332⇑*i*P **P 03 59 02.4 +0.5**
DRGR 74.20 332⇑P **P 03 59 02.4 +0.5**
GRF Grafenberg Arr 74.24 341 P **P 03 59 03.4 +1.4**
GRF pmax pmax
comp=Z,18nm,1.4s
GRFO Grafenberg 74.24 341 *e*P **P 03 59 03.3 +1.3**
GRFO pmax pmax
comp=Z,10.0nm,0.9s
GRFO Grafenberg 74.24 341 *e*P **P 03 59 03.3 +1.3**
comp=Z,10nm,0.9s
KHC Kasperske Hory 74.28 339 *e*P **P 03 59 03.1 +0.7**
KHC *e*pP **sP 03 59 15.5 +0.9**
KHC Kasperske Hory 74.28 339 *e*P **P 03 59 03.0 +0.7**
KHC *e**PP **sP 03 59 15.4 +0.9**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 74.28 339 *e*P **P 03 59 03.0 +0.7**
comp=Z,2.6nm,0.9s
KHC *e*pP **sP 03 59 15.4 +0.9**
MEM Membach 74.30 344 P **P 03 59 03.6 +1.2**
MEM Membach 74.30 344 P **P 03 59 02.8 +0.5**
MEM pmax pmax
comp=Z,21nm,0.9s
WET Wettzell 74.42 339 P **P 03 59 05.0 +1.9**
WET pmax pmax
comp=Z,10.0nm,0.9s
MLR Muntele Rosu 74.43 329⇓*i*P **P 03 59 04.5 +1.1**
MLR Muntele Rosu 74.43 329⇓P **P 03 59 04.5 +1.1**
GERES GERESS Array B 74.53 339 P **P 03 59 04.4 +0.6**
comp=Z,2.7nm,0.7s,baz=35,slow=5.4,SNR=23
GERES pP **sP 03 59 16.6 +0.6**
comp=Z,2.4nm,0.5s,baz=30,slow=6.2,SNR=14
VOIR 74.75 330⇓*i*P **P 03 59 06.5 +1.4**
VOIR 74.75 330⇓P **P 03 59 06.5 +1.4**
CONA Conrad Observa 74.90 337 *i*P **P 03 59 07.2 +1.2**
comp=Z,4.6nm,0.7s
ARR Arges 74.94 330⇑*i*P **P 03 59 07.4 +1.2**
SIRR Siria 74.97 333⇑*i*P **P 03 59 07.0 +0.7**
DZM Mont Dzumac 75.33 175 LR LR 04 29 46.1
comp=Z,24nm,18.4s,baz=200,slow=34
MOA Molln 75.34 338 *i*P **P 03 59 09.3 +0.8**
comp=Z,5.1nm,1.4s
GZR Gura Zlata 75.45 331⇑*i*P **P 03 59 09.6 +0.4**
GZR Gura Zlata 75.45 331⇑P **P 03 59 09.6 +0.4**
ARSA Arzberg 75.62 337 *i*P **P 03 59 11.2 +1.1**
comp=Z,8.4nm,1.4s
SOKA Soboth 76.27 337 *i*P **P 03 59 14.9 +1.0**
comp=Z,3.2nm,0.6s
KBA Koelnbreinsper 76.28 338 P **P 03 59 16.2 +2.2**
KBA pmax pmax
comp=Z,23nm,0.9s
KBA Koelnbreinsper 76.28 338 *i*P **P 03 59 15.6 +1.6**
comp=Z,14nm,0.7s
MDVR Moldovita 76.32 332⇑*i*P P 03 59 26.1 +12
WATA Walderalm 76.41 340 *i*P **P 03 59 15.1 +0.3**
comp=Z,9.8nm,1.3s
RETA Reutte 76.44 340 *i*P **P 03 59 16.1 +1.4**
comp=Z,6.2nm,1.0s
WTTA Wattenberg 76.47 340 *i*P **P 03 59 16.6 +1.6**
comp=Z,5.3nm,0.8s
MOTA Moosalm 76.50 340 *i*P **P 03 59 16.3 +1.1**
comp=Z,3.5nm,0.8s
OBKA Obir 76.54 337 *i*P **P 03 59 16.8 +1.4**
comp=Z,9.6nm,0.8s
ABTA Abfaltersbach 76.77 339 *i*P **P 03 59 17.5 +0.8**
comp=Z,8.2nm,1.0s
DAVA Damuels 76.80 341 *i*P P 03 59 12.0 -4.9
comp=Z,5.4nm,1.3s
WRAB Tennant Creek 76.83 206 *i*P **P 03 59 17.2 +0.2**
WRAB pmax pmax
comp=Z,30nm,2.5s
WRA Warramunga Arr 76.84 206 P **P 03 59 16.5 -0.6**
comp=Z,0.6nm,0.6s,baz=20,slow=5.9,SNR=6.9
FETA Feichten 76.89 340 *i*P **P 03 59 18.7 +1.3**
comp=Z,7.1nm,0.9s
BRTR Keskin Array B 76.94 321 P **P 03 59 17.7 -0.2**
comp=Z,2.2nm,0.9s,baz=73,slow=4.1,SNR=8.5
DAVOX Davos/Dischmat 77.29 341 P **P 03 59 19.2 -0.5**
comp=Z,2.8nm,0.8s,baz=8.1,slow=7.1,SNR=2.5
TUE Stuetta 77.69 341 *e*P **P 03 59 23.0 +1.0**
comp=Z,10.0nm,0.7s
TUE *e*pP **sP 03 59 35.5 +1.3**
VTS Vitosha 77.89 330⇑*i*P **P 03 59 22.2 -0.9**
VTS Vitosha 77.89 330⇑P **P 03 59 22.2 -0.9**
KNT Kendrikon 79.29 330 P **P 03 59 33.0 +2.3**
KNT pmax pmax
comp=Z,13nm,1.7s
HCY Herceg Novi 79.36 333 P **P 03 59 31.1 +0.1**
BNI Bardonecchia 79.56 342 *e*P **P 03 59 33.8 +1.6**
BNI pmax pmax
comp=Z,4.0nm,0.7s
BNI Bardonecchia 79.56 342 *e*P **P 03 59 33.8 +1.6**
comp=Z,4.4nm,0.7s
GRG Griva 79.63 330 P **P 03 59 33.4 +0.9**
GRG pmax pmax
comp=Z,40nm,1.1s
ASAR Alice Springs 80.51 206 P **P 03 59 37.5 +0.2**
comp=Z,0.7nm,0.6s,baz=17,slow=5.4,SNR=11
AQU L'Aquila 80.74 337 *e*P **P 03 59 40.4 +1.9**
AQU pmax pmax
comp=Z,8.0nm,0.8s
AQU L'Aquila 80.74 337 *e*P **P 03 59 40.4 +1.9**
comp=Z,8.3nm,0.8s
RAYN Ar Rayn 85.66 304 *e*P **P 04 00 03.3 -0.9**
comp=Z,3.3nm,0.8s
RAYN *e*pP **sP 04 00 15.9 -0.6**
ESDC Sonseca Array 86.41 349 P **P 04 00 07.7 0.0**
comp=Z,0.7nm,0.6s,baz=360,slow=5.2,SNR=9.6
ESDC pP **sP 04 00 20.6 +0.5**
comp=Z,0.9nm,0.5s,baz=360,slow=5.0,SNR=6.9
ESDC LR LR 04 42 18.4
comp=Z,109nm,18.9s,baz=5.0,slow=38
KEST Kesra 87.99 338 P **P 04 00 15.8 +0.4**
comp=Z,1.9nm,0.9s,baz=350,slow=6.1,SNR=4.0
TORD Torodi Ar. Bea 111.48 339 PP PP 04 06 37.8 -1.9
comp=Z,0.4nm,1.0s,baz=9.2,slow=7.7,SNR=4.3
VNDA Vanda 130.72 180 PKP **PKPdf 04 06 33.7 -0.9**
comp=Z,0.4nm,0.7s,baz=42,slow=2.2,SNR=2.8

CSEM ***23*** *03:56:36.9, 39°.17N×29°.09E, h7km, MD2.4, Suspected Mining explosion.*
DDA 23 03:56:36.9, 39°.17N×29°.09E, h7km, Md2.4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.31**	**104**	*i* P	Pg	03 56 43.2	+0.1
GDZ				*i* S	Sg	03 56 48.3	+1.1
GDZ	**Gediz**	**0.31**	**104**	P	Pg	03 56 43.2	+0.1
GDZ				S	Sg	03 56 48.3	+1.1
DEMI	**Demirci**	**0.32**	**247**	*i* P	Pg	03 56 43.5	+0.3
DEMI	**Demirci**	**0.32**	**247**	P	Pg	03 56 43.5	+0.3
MANT	**Manisa**	**0.79**	**212**	*i* P	Pg	03 56 52.2	0.0
MANT	**Manisa**	**0.79**	**212**	P	Pg	03 56 52.2	0.0
KHAL	**Karahalli**	**0.85**	**158**	*i* P	Pg	03 56 53.5	+0.1
KHAL				*i* S	Sg	03 57 03.5	-0.9
KHAL	**Karahalli**	**0.85**	**158**	P	Pg	03 56 53.5	+0.2
KHAL				S	Sg	03 57 03.5	-0.9

IDC 23 04:19:17.0±1.5, 14°.12N×145°.70E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/44, mbtmp3.6/4, Error ellipse: s-maj=63.9km s-min=29.4km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.64**	**199**	P	P	04 26 16.8	-0.1
0.4nm,0.8s,baz=18,slow=8.8,SNR=3.4							
KURBB	**Kurchatov Arra**	**64.75**	**320**	P	P	04 29 57.9	+0.7
0.3nm,0.5s,baz=98,slow=7.4,SNR=3.8							
ILAR	**Eielson Array**	**67.75**	**25**	P	P	04 30 16.3	+0.1
0.1nm,0.4s,baz=257,slow=5.6,SNR=4.4							
FINES	**FINESS Array B**	**91.03**	**335**	P	P	04 32 22.0	-1.0
1.4nm,0.8s,baz=58,slow=3.4,SNR=7.5							

IDC ***23*** *04:22:29.1±3.1, 19°.08S×169°.63E, h276km±31km, mb3.6/6, mb1 3.7/7, mb1mx3.4/26, mbtmp4.2/7, Error ellipse: s-maj=62.1km s-min=24.7km az=151.0*
ISC 23 04:22:26.7±1.8, 19°.05±0°.3×169°.6E±0°.3, h246km, n9, σ1§74/11, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.30**	**223**	P	**Pn**	**04 23 36.7**	**+2.8**
2.3nm,0.3s,baz=158,slow=23,SNR=19							
DZM				S	**S**	**04 24 24.2**	**-3.1**
3.9nm,0.3s,baz=70,slow=21,SNR=3.0							
CTA	**Charters Tower**	**22.05**	**263**	P	**P**	**04 27 01.9**	**+0.3**
3.5nm,0.7s,baz=82,slow=15,SNR=3.4							
STKA	**Stephens Creek**	**28.30**	**237**	P	**P**	**04 27 57.6**	**-0.1**
5.0nm,0.7s,baz=64,slow=8.9,SNR=15							
WRA	**Warramunga Arr**	**33.24**	**262**	P	**P**	**04 28 40.2**	**-0.9**
1.2nm,0.6s,baz=82,slow=5.9,SNR=16							
ASAR	**Alice Springs**	**33.54**	**256**	P	**P**	**04 28 43.2**	**-0.5**
9.4nm,0.5s,baz=82,slow=9.2,SNR=217							
ASAR				pP	**pP**	**04 29 34.0**	**+1.0**
1.2nm,0.7s,baz=84,slow=9.1,SNR=3.1							
SONM	**Songino Array**	**87.21**	**323**	P	**P**	**04 34 46.3**	**+1.0**
0.3nm,0.4s,baz=118,slow=5.5,SNR=3.2							
ILAR	**Eielson Array**	**89.85**	**17**	P	**P**	**04 34 56.3**	**-0.8**
0.4nm,0.6s,baz=233,slow=5.3,SNR=8.5							
ARCES	**ARCESS Array B**	**124.88**	**345**	PKP	**PKPdf**	**04 40 55.1**	**-1.6**
2.2nm,0.9s,baz=50,slow=1.4,SNR=6.1							
GERES	**GERESS Array B**	**144.41**	**332**	PKP	**PKPab**	**04 41 32.4**	**-0.1**
0.8nm,0.6s,baz=27,slow=3.8,SNR=9.7							

ISK ***23*** *04:40:51.2, 39°.09N×29°.11E, h10km, MD2.6*
ISCJB ***23*** *04:40:52.1±0.4, 39°.11N±0°.02×29°.07E±0°.04, h9km±3km, Error ellipse: s-maj=5.1km s-min=3.7km az=31.5*
CSEM ***23*** *04:40:52.0±0.1, 39°.11N×29°.06E, h10km, MD2.6, Error ellipse: s-maj=2.0km s-min=1.3km az=109.0*
DDA ***23*** *04:40:52.1, 39°.11N×29°.04E, h7km, Md2.6*
ISC 23 04:40:52.2±0.8, 39°.11N±0°.02×29°.07E±0°.02, h10km±5km, n37, σ0§41/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.07**	**248**	PG	**Pg**	**04 40 54.5**	**0.0**
SIMA				SG	**Sg**	**04 40 56.2**	**-0.1**
SIMA	**Simav-Kutahya**	**0.07**	**248**	*i* Pg	**Pg**	**04 40 54.6**	**0.0**
SIMA				*i* Sg	**Sg**	**04 40 56.3**	**-0.1**
DEMI	**Demirci**	**0.28**	**256**	*i* P	**Pg**	**04 40 58.2**	**+0.2**
DEMI				*i* S	**Sg**	**04 41 02.4**	**+0.5**
DEMI	**Demirci**	**0.28**	**256**	P	**Pg**	**04 40 58.2**	**+0.2**
DEMI				S	**Sg**	**04 41 02.3**	**+0.5**
GDZ	**Gediz**	**0.32**	**94**	*i* P	**Pg**	**04 40 59.1**	**+0.3**
GDZ				*i* S	**Sg**	**04 41 03.6**	**+0.5**
GDZ	**Gediz**	**0.32**	**94**	P	**Pg**	**04 40 59.1**	**+0.3**
GDZ				S	**Sg**	**04 41 03.6**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**42**	PG	**Pg**	**04 41 00.7**	**-0.5**
TVSB				SG	**Sg**	**04 41 07.1**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**42**	*i* Pg	**Pg**	**04 41 00.7**	**-0.5**
TVSB				*i* Sg	**Sg**	**04 41 07.1**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**04 41 04.6**	**-0.7**
KULA				*e*SG	**Sg**	**04 41 14.3**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**04 41 04.6**	**-0.7**
KULA				*e*Sg	**Sg**	**04 41 14.3**	**+0.1**
MANT	**Manisa**	**0.73**	**213**	*i* P	**Pg**	**04 41 06.5**	**0.0**
MANT				*i* S	**Sg**	**04 41 16.2**	**+0.1**
MANT	**Manisa**	**0.73**	**213**	P	**Pg**	**04 41 06.5**	**0.0**
MANT				S	**Sg**	**04 41 16.2**	**+0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**04 41 08.2**	**-0.2**
KHAL				*i* S	**Sb**	**04 41 18.9**	**-0.5**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pb**	**04 41 08.2**	**-0.2**
KHAL				S	**Sb**	**04 41 18.9**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG	**Pg**	**04 41 09.9**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg	**Pg**	**04 41 09.9**	**-0.5**
BALB	**Balikesir**	**1.06**	**300**	*e*PN	**Pn**	**04 41 12.6**	**-0.5**
BALB	**Balikesir**	**1.06**	**300**	*e*Pn	**Pn**	**04 41 12.6**	**-0.5**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pb**	**04 41 13.8**	**-0.4**
IGD				*i* S	**Sn**	**04 41 31.4**	**+1.2**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*PN	**Pn**	**04 41 15.3**	**-0.3**
CAVI				*e*SN	**Sn**	**04 41 32.9**	**+0.4**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn	**Pn**	**04 41 15.4**	**-0.3**
CAVI				*e*Sn	**Sn**	**04 41 32.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pn**	**04 41 15.3**	**-0.5**
MDNY				*e*SN	**Sn**	**04 41 33.7**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pn**	**04 41 15.4**	**-0.5**
MDNY				*e*Sn	**Sn**	**04 41 33.7**	**+0.8**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pn**	**04 41 15.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pn**	**04 41 15.9**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN	**Pn**	**04 41 17.9**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn	**Pn**	**04 41 17.9**	**-0.1**
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pn**	**04 41 18.8**	**+0.2**
ARMT				*e*SN	**Sb**	**04 41 38.4**	**+0.3**
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pn**	**04 41 18.8**	**+0.2**
ARMT				*e*Sn	**Sb**	**04 41 38.4**	**+0.3**
YLV	**Yalova**	**1.47**	**9**	*e*PN	**Pn**	**04 41 18.6**	**-0.2**
YLV	**Yalova**	**1.47**	**9**	*e*Pn	**Pn**	**04 41 18.6**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**1.53**	**355**	*e*PN	**Pn**	**04 41 19.6**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.53**	**355**	*e*Pn	**Pn**	**04 41 19.6**	**+0.2**
EDC	**Edincik**	**1.54**	**323**	*e*PN	**Pn**	**04 41 19.9**	**+0.2**
EDC	**Edincik**	**1.54**	**323**	*e*Pn	**Pn**	**04 41 19.9**	**+0.2**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**04 41 22.6**	**+0.2**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**04 41 22.6**	**+0.2**

ISCJB ***23*** *04:43:19.7±0.6, 52°.64N±0°.09×178°.56E±0°.06, h33km, mb3.2/5, Error ellipse: s-maj=13.2km s-min=5.0km az=10.6*
NEIC ***23*** *04:43:20.8±0.0, 52°.29N×178°.54E, h40km, ML3.4(AEIC), After AEIC.*
IDC ***23*** *04:43:27.6±11.0, 52°.61N×177°.93E, h170km±117km, mb2.8/5, mb1 3.2/7, mb1mx3.0/43, mbtmp3.5/7, Error ellipse: s-maj=129.4km s-min=17.5km az=155.0*
ISC 23 04:43:20.0±0.9, 52°.6N±0°.1×178°.59E±0°.05, h35km, n23, σ1§82/20, mb3.4/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.83**	**116**	P	**Pn**	**04 43 49.5**	**+0.6**
GAEA	**Gareloi East**	**1.84**	**116**	P	**Pn**	**04 43 49.8**	**+0.8**
GAEA				S	**Sn**	**04 44 10.6**	**-0.3**
TAFP	**Tanaga Falls P**	**2.22**	**107**	P	**Pn**	**04 43 55.7**	**+1.4**
TAFP				S	**Sn**	**04 44 22.0**	**+1.5**
TAFL	**Tanaga Flats**	**2.33**	**110**	P	**Pn**	**04 43 56.7**	**+1.1**
TAPA	**Tanaga Point A**	**2.35**	**108**	P	**Pn**	**04 43 57.3**	**+1.3**
KIKV	**Kanaga Island**	**2.71**	**104**	P	**Pn**	**04 44 02.6**	**+1.6**
SMY	**Shemya**	**2.74**	**274**	P	**Pn**	**04 44 02.1**	**+0.8**
SMY				S	**Sn**	**04 44 35.6**	**+2.5**
ADK	**Adak**	**3.00**	**102**	P	**Pn**	**04 44 06.4**	**+1.6**
ADK				S	**Sn**	**04 44 42.2**	**+2.7**
ADAG	**Mount Adagdak**	**3.02**	**100**	P	**Pn**	**04 44 07.6**	**+2.4**
ETKA	**Kagalaska Isla**	**3.17**	**102**	P	**Pn**	**04 44 09.0**	**+1.8**
PETK	**Petropavlovsk-**	**12.63**	**281**	P	**Pn**	**04 46 17.6**	**+0.7**
0.3nm,0.3s,baz=87,slow=12,SNR=6.0							
KDAK	**Kodiak Island**	**17.17**	**61**	P	**Pn**	**04 47 18.0**	**+1.2**
0.6nm,0.3s,baz=274,slow=5.1,SNR=24							
KDAK				S	**Sn**	**04 50 27.5**	**+1.1**
0.1nm,0.3s,baz=345,slow=20,SNR=1.7							
ILAR	**Eielson Array**	**21.35**	**42**	P	**P**	**04 48 03.3**	**-0.4**
0.2nm,0.6s,baz=235,slow=8.9,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**34.05**	**200**	T	T	05 25 27.2	
baz=11,slow=76,SNR=18							
H11N3	**WAKE ISLAND Hy**	**34.06**	**200**	T	T	05 25 29.9	
baz=11,slow=76,SNR=19							
H11N1	**WAKE ISLAND Hy**	**34.07**	**200**	T	T	05 25 27.2	
baz=11,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	**35.28**	**200**	T	T	05 27 00.1	
baz=10,slow=76							
H11S3	**WAKE ISLAND Hy**	**35.30**	**200**	T	T	05 26 53.4	
baz=10,slow=76							
H11S2	**WAKE ISLAND Hy**	**35.30**	**200**	T	T	05 26 58.7	
baz=10,slow=76							
PDAR	**Pinedale Array**	**47.46**	**72**	P	**P**	**04 51 48.1**	**-3.2**
0.2nm,0.5s,baz=308,slow=3.3,SNR=4.1							
TXAR	**Lajitas Array**	**60.05**	**80**	P	**P**	**04 53 20.8**	**-2.6**
0.2nm,0.5s,baz=303,slow=5.0,SNR=4.9							
WRA	**Warramunga Arr**	**81.82**	**222**	P	P	04 55 25.5	-10
0.3nm,0.7s,baz=33,slow=6.0,SNR=3.5							
ASAR	**Alice Springs**	**85.34**	**220**	P	P	04 55 43.8	-9.4
0.2nm,0.6s,baz=30,slow=5.7,SNR=3.2							

NNC 23 04:58:48.4±3.9, 37°.09N×69°.14E, h0km, mb3.8, mpv3.5, 7C-4D, Error ellipse: s-maj=40.0km s-min=24.4km az=136.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.98**	**25**	⇓P*n*	P*n*	05 00 19.2	+0.9
1.1nm,0.4s							
MNAS				⇓S*n*	S*n*	05 01 27.5	-0.1
4.5nm,0.6s							
MNAS				⇑L*g*	L*g*	05 02 02.3	
6.9nm,0.6s							
KK31	**Karatay Array**	**6.10**	**10**	⇑P*n*	P*n*	05 00 21.8	+2.0
1.1nm,0.4s,baz=182,slow=10,SNR=28							
KK31				⇑S*n*	S*n*	05 01 31.9	+1.6
4.0nm,0.5s							
KK31				⇑L*g*	L*g*	05 02 07.3	
3.0nm,0.4s,baz=192,slow=27,SNR=4.5							
AAK	**Ala-Archa**	**6.90**	**35**	⇑P*n*	P*n*	05 00 31.7	+0.7
4.5nm,0.6s							
AAK				⇑S*n*	S*n*	05 01 49.8	-0.5
8.3nm,0.9s							
AAK				⇑L*g*	L*g*	05 02 27.3	
5.8nm,0.7s							
AB31	**Akbulak array**	**13.87**	**334**	⇓P	P*n*	05 02 04.8	-1.4
0.8nm,0.3s,baz=155,slow=13,SNR=32							
AKTO	**Aktyubinsk**	**15.54**	**333**	⇓P	P*n*	05 02 25.2	-3.6
0.6nm,0.6s							

KRNET ***23*** *05:01:47.5±0.1, 42°.98N×78°.41E, h21km, mb2.7*
SOME ***23*** *05:01:48.7, 43°.12N×78°.32E, h10km*
ISC 23 05:01:48.6±1.0, 43°.12N±0°.03×78°.27E±0°.02, h4km±9km, n24, σ1§08/48, 18C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.12**	**122**	⇓*i*P	**Pg**	**05 01 51.3**	**+0.2**
3μm,0.1s							
SATY				*e*S	**Sg**	**05 01 53.5**	**+0.7**
7μm,0.1s							
ZHN	**Zhinishke**	**0.13**	**71**	*e*P	**Pg**	**05 01 51.3**	**0.0**
907nm,0.1s							
ZHN				*e*S	**Sg**	**05 01 53.5**	**+0.4**
2μm,0.1s							
KURS	**Kuram**	**0.37**	**349**	*e*P	**Pg**	**05 01 56.3**	**+0.5**
KURS				*e*S	**Sg**	**05 02 01.5**	**+0.8**
ANVS	**Anan'yevo**	**0.56**	**232**	⇑*e*P	**Pg**	**05 01 59.1**	**-0.2**
baz=251							
ANVS				⇑*i*S	**Sg**	**05 02 07.3**	**+0.8**
baz=

	7.3nm,0.1s							
TNSS				*e*S		**Sg**	**05 02 20.2**	**+0.4**
	27nm,0.2s							
ARXS	**Arharly**	**1.13**	**344**	*e*P		**Pg**	**05 02 10.3**	**-0.1**
	18nm,0.2s							
ARXS				*e*S		**Sg**	**05 02 25.2**	**+0.1**
	27nm,0.2s							
CHKK	**Chushkaly**	**1.18**	**309**	*e*P		**Pg**	**05 02 11.2**	**0.0**
	11nm,0.2s							
CHKK				*e*S		**Sb**	**05 02 27.0**	**-0.3**
	89nm,0.3s							
IZV	**Izvestkoviy**	**1.21**	**266**	*e*P		**Pb**	**05 02 12.1**	**-0.2**
	7.8nm,0.2s							
IZV				*e*S		**Sb**	**05 02 28.4**	**0.0**
	33nm,0.3s							
KTBS	**Karatobe**	**1.29**	**298**	*e*P		**Pn**	**05 02 13.2**	**-0.4**
KTBS				*e*S		**Sb**	**05 02 30.6**	**0.0**
DJR	**Jarkent**	**1.64**	**42**	*e*P		**Pn**	**05 02 18.1**	**-0.2**
	8.0nm,0.1s							
DJR				*e*S		**Sn**	**05 02 39.3**	**-0.6**
	40nm,0.2s							
KST	**Kastek**	**1.69**	**268**	⇓*i*P		**Pb**	**05 02 20.4**	**0.0**
	3.0nm,0.3s							
KST				⇑*i*S		**Sg**	**05 02 43.1**	**+0.2**
	13nm,0.8s							
ULHL	**Ulahol**	**1.73**	**240**	⇑*i*P		**Pn**	**05 02 19.9**	**+0.2**
	baz=246							
ULHL				⇑*i*S		**Sb**	**05 02 43.3**	**0.0**
	baz=246							
BOOM	**Boomskoye usch**	**1.82**	**250**	⇓*e*P		**Pn**	**05 02 21.6**	**+0.6**
	baz=256							
BOOM				⇓*i*S		**Sg**	**05 02 46.8**	**-0.4**
	baz=256							
DGS	**Degeres**	**1.83**	**275**	*e*P		**Pb**	**05 02 22.6**	**-0.1**
	8.3nm,0.3s							
DGS				*e*S		**Sg**	**05 02 47.0**	**-0.3**
	34nm,0.3s							
TKM2	**Tokmak 2**	**1.97**	**265**	⇑*i*P		**Pb**	**05 02 24.5**	**-0.7**
	baz=269							
TKM2				⇑*i*S		**Sg**	**05 02 51.4**	**-0.4**
	baz=269							
KAPS	**Kapalarasan**	**2.30**	**20**	*e*P		**Pb**	**05 02 30.5**	**-0.2**
	2.7nm,0.2s							
KAPS				*e*S		**Sb**	**05 02 59.5**	**0.0**
	19nm,0.3s							
KBK	**Karagaybulak**	**2.48**	**260**	⇑*i*P		**Pn**	**05 02 31.3**	**+1.3**
	baz=264							
KBK				⇑*i*S		**Sb**	**05 03 03.4**	**-1.5**
	baz=264							
CHMS	**Chumysh**	**2.58**	**268**	⇑*i*P		**Pn**	**05 02 32.9**	**+1.7**
	baz=272							
CHMS				⇑*i*S		**Sb**	**05 03 06.1**	**-1.4**
	baz=272							
USP	**Ospenovka**	**2.76**	**274**	⇑*i*P		**Pn**	**05 02 35.5**	**+1.8**
	baz=277							
USP				⇑*i*S		**Sb**	**05 03 10.6**	**-2.1**
	baz=277							
AAK	**Ala-Archa**	**2.81**	**261**	⇑*i*P		**Pn**	**05 02 35.9**	**+1.3**
	baz=265							
AAK				⇑*i*S		**Sb**	**05 03 11.6**	**-2.8**
	baz=265							

IDC 23 05:17:35.3±2.4, 2°24'N×67°07'E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.5/57, mbtmp4.0/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/46, Error ellipse: s-maj=99.1km s-min=27.7km az=53.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**9.37**	**155**	T	T	05 30 02.3	
	baz=333,slow=76,SNR=414						
H08N3	**Diego Garcia H**	**9.38**	**155**	T	T	05 30 05.7	
	baz=333,slow=76,SNR=452						
H08N1	**Diego Garcia H**	**9.39**	**155**	T	T	05 29 58.9	
	baz=333,slow=76,SNR=511						
PALK	**Pallekele**	**14.47**	**69**	LR	LR	05 25 36.1	
	comp=Z,223nm,19.6s,baz=296,slow=33						
BOSA	**Boshof**	**50.49**	**229**	LR	LR	05 45 42.4	
	comp=Z,46nm,19.2s,baz=37,slow=33						
ZALV	**Zalesovo Beam**	**53.57**	**13**	P	P	05 26 57.8	-0.1
	0.7nm,0.4s,baz=215,slow=6.7,SNR=2.5						
WRA	**Warramunga Arr**	**69.50**	**112**	P	P	05 28 46.4	0.0
	0.9nm,0.8s,baz=290,slow=5.6,SNR=3.4						
ASAR	**Alice Springs**	**69.82**	**116**	P	P	05 28 48.4	+0.1
	0.7nm,0.8s,baz=286,slow=6.6,SNR=4.9						
HFS	**Hagfors**	**70.61**	**335**	P	P	05 28 52.4	0.0
	2.1nm,0.7s,baz=126,slow=11,SNR=3.2						

*BJI **23** 05:17:38.2, 8°69S×105°03E, h27km, mb4.8/52, mB5.1/38, Ms4.8/42, Ms7 4.6/39*
*IDC **23** 05:17:41.1±0.5, 7°92S×105°02E, h0km, mb4.4/25, mb1 4.4/25, mb1mx4.3/53, mbtmp4.4/25, MS4.0/22, Ms1 4.0/22, ms1mx3.8/42, Error ellipse: s-maj=19.7km s-min=11.8km az=60.0*
*ISCJB **23** 05:17:41.4±1.1, 8°07S±0°03×104°93E±0°03, h14km±7km, mb4.6/72, MS4.2/34, Error ellipse: s-maj=5.0km s-min=4.0km az=36.4*
*NEIC **23** 05:17:42.4±0.2, 8°04S×104°89E, h10km, mb4.8/18, Error ellipse: s-maj=6.4km s-min=4.4km az=54.0*
*MOS **23** 05:17:44.3±1.0, 7°84S×105°20E, h33km, mb5.0/21, Error ellipse: s-maj=15.5km s-min=7.4km az=107.2*
*DJA **23** 05:17:44.8±0.8, 8°S±2°×10°5E±°, h12km±6km, M4.7/13, mb4.8/11, mB5.3/5, MLv4.7/13, Mw(mB)4.7/5*
ISC 23 05:17:45.1±0.8, 8°08S±0°04×104°89E±0°04, h31km±5km, n318, σ1°60/329, mb4.7/72, MS4.2/34, 5C-3D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.66**	**29**	P	**Pn**	**05 18 10.3**	**-1.8**
CGJI				S	**Sn**	**05 18 29.7**	**-2.7**
SKJI	**Sukabumi**	**1.97**	**57**	P	**Pn**	**05 18 14.5**	**-1.8**
SKJI				S	**Sn**	**05 18 40.3**	**+0.3**
SBJI	**Serang**	**2.31**	**32**	P	**Pn**	**05 18 19.9**	**-1.1**
CNJI	**Cibinong**	**2.35**	**71**	P	**Pn**	**05 18 19.8**	**-1.8**
CNJI				S	**Sn**	**05 18 46.2**	**-3.1**
DBJI	**Dramaga**	**2.39**	**51**	P	**Pn**	**05 18 21.5**	**-0.7**
XMIS	**Christmas Isla**	**2.50**	**163**	*e*Pn	**Pn**	**05 18 20.2**	**-3.4**
XMIS				*e*Sn	**Sn**	**05 18 48.0**	**-5.1**
CBJI	**Citeko**	**2.55**	**50**	P	**Pn**	**05 18 22.4**	**-2.0**
KASI	**Kota Agung**	**2.57**	**351**	P	**Pn**	**05 18 23.1**	**-1.6**
KASI				S	**Sn**	**05 18 54.0**	**-0.9**
BLSI	**Bandar Lampung**	**2.72**	**7**	P	**Pn**	**05 18 26.8**	**+0.1**
CISI	**Cisompet, Garu**	**2.94**	**80**	P	**Pn**	**05 18 28.6**	**-1.2**
CISI				S	**Sn**	**05 19 02.7**	**-1.5**
CISI	**Cisompet, Garu**	**2.94**	**80**	*e*Pn	**Pn**	**05 18 28.9**	**-0.9**
CISI				*e*Sn	**Sn**	**05 19 01.9**	**-2.3**
LWLI	**Liwa**	**3.16**	**345**	P	**Pn**	**05 18 31.2**	**-1.6**
LWLI				S	**Sn**	**05 19 10.4**	**+0.9**
KLSI		**3.38**	**357**	P	**Pn**	**05 18 35.0**	**-0.7**
CMJI	**Cimerak**	**3.54**	**85**	P	**Pn**	**05 18 36.0**	**-1.9**
MDSI	**Maura Dua**	**3.64**	**349**	P	**Pn**	**05 18 38.4**	**-1.0**
MNAI	**Manna**	**4.17**	**332**	P	**Pn**	**05 18 44.6**	**-2.1**
MNAI	**Manna**	**4.17**	**332**	*e*Pn	**Pn**	**05 18 45.5**	**-1.2**
MNAI				*e*Sn	**Sn**	**05 19 32.3**	**-2.1**
LHSI	**Lahat**	**4.44**	**342**	P	**Pn**	**05 18 50.1**	**-0.3**
MASI	**Maura Aman, Be**	**5.57**	**332**	P	**Pn**	**05 19 08.1**	**+2.1**
	219nm,1.0s,5μm1.7nm						
UGM	**Wanagama**	**5.58**	**89**	P	**Pn**	**05 19 05.9**	**-0.2**
UGM	**Wanagama**	**5.58**	**89**	*e*Pn	**Pn**	**05 19 06.2**	**+0.1**
RGRI	**Rengat**	**8.10**	**342**	P	Pn	05 19 47.1	+6.5
PDSI	**Padang**	**8.38**	**328**	P	Pn	05 19 55.5	+11
COCO	**West Island**	**8.92**	**242**	*e*P	**Pn**	**05 19 52.0**	**+0.1**
COCO	**West Island**	**8.92**	**242**	*e*Pn	**Pn**	**05 19 52.0**	**+0.1**
BKNI	**Bangkinang**	**9.20**	**335**	*e*Pn	**Pn**	**05 19 53.4**	**-2.4**
MYKOM	**Kota Tinggi**	**9.86**	**354**	*e*Pn	**Pn**	**05 20 04.3**	**-0.6**
IGBI	**Denpasar**	**10.17**	**95**	P	**Pn**	**05 20 11.7**	**+2.6**
	275nm,0.8s						
KSM	**Kuching**	**10.92**	**30**	*e*Pn	**Pn**	**05 20 19.9**	**+0.5**
TWSI	**Taliwang, Sumb**	**11.88**	**94**	P	**Pn**	**05 20 33.2**	**+0.7**
PLAI	**Plampang**	**12.77**	**94**	P	**Pn**	**05 20 43.2**	**-1.4**
IPM	**Ipoh**	**13.06**	**343**	*e*Pn	**Pn**	**05 20 46.3**	**-2.4**
KULM	**Kulim**	**13.94**	**342**	*e*Pn	**Pn**	**05 21 00.6**	**-0.1**
KAPI	**Kappang**	**15.07**	**79**	*e*Pn	**Pn**	**05 21 16.8**	**+0.8**
	535nm,1.3s						
SPSI	**Sidrap Palu**	**15.35**	**75**	P	**P**	**05 21 22.8**	**-1.2**
BNSI	**Bone**	**15.56**	**77**	P	P	05 21 36.2	+10
EDFI	**Ende, Flores**	**16.63**	**93**	P	**Pn**	**05 21 33.9**	**-2.3**
MPSI	**Mapaga**	**17.14**	**61**	P	**P**	**05 21 43.5**	**-0.4**
MMRI	**Maumere**	**17.17**	**93**	P	**P**	**05 21 44.3**	**0.0**
MMRI	**Maumere**	**17.17**	**93**	*e*Pn	**P**	**05 21 43.5**	**-0.8**
	80nm,1.0s						
BBSI	**Bau Bau**	**17.74**	**83**	P	**Pn**	**05 21 46.3**	**-3.7**
KKM	**Kota Kinabalu**	**18.01**	**39**	*e*P	**Pn**	**05 21 52.2**	**-1.2**
	25nm,0.7s						
MYLDM	**Lahad Datu**	**18.92**	**46**	*e*P	**Pn**	**05 22 04.1**	**-0.2**
	152nm,1.5s						
LUWI	**Luwuk**	**19.14**	**69**	*e*P	**P**	**05 22 05.8**	**-0.1**
	61nm,1.0s						
SOEI	**Soe**	**19.21**	**96**	P	**Pn**	**05 22 10.3**	**+2.3**
SOEI	**Soe**	**19.21**	**96**	*e*P	**Pn**	**05 22 07.8**	**-0.2**
	153nm,1.0s						
SOEI				*e*Sn	**S**	**05 25 43.1**	**0.0**
MBWA	**Marble Bar**	**19.34**	**134**	*e*P	**P**	**05 22 08.8**	**+0.7**
	86nm,1.1s						
SANI	**Sanana**	**21.84**	**75**	P	**P**	**05 22 38.3**	**+3.0**
SRAK	**Srakaew**	**22.13**	**353**	P	**P**	**05 22 40.4**	**+2.1**
	26nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.50**	**118**	P	**P**	**05 22 42.6**	**+0.3**
	4.5nm,0.7s,baz=292,slow=5.1,SNR=10						
FITZ				LR	LR	05 31 17.6	
	comp=Z,258nm,19.7s,baz=312,slow=36						
FITZ	**Fitzroy Crossi**	**22.50**	**118**	*e*P	**P**	**05 22 42.0**	**-0.3**
	26nm,1.1s						
NAYO	**Nakonayok**	**22.53**	**351**	P	**P**	**05 22 42.2**	**-0.4**
	18nm,1.8s						
NLAI	**Namlea**	**22.61**	**79**	P	**P**	**05 22 44.6**	**+1.1**
	56nm,0.8s,739nm						
CHAI	**Chaiyaphum**	**24.00**	**353**	P	**P**	**05 22 57.7**	**+0.4**
	11nm,0.8s						
UTHA	**Uthaitani**	**24.10**	**347**	P	**P**	**05 23 00.5**	**+2.3**
	2.9nm,1.1s						
PBKT	**Sadao Pong**	**24.80**	**351**	P	**P**	**05 23 04.8**	**+0.3**
	17nm,0.9s,437nm						
SKNT	**Sakolnakorn**	**24.91**	**358**	P	**P**	**05 23 06.9**	**+1.3**
	30nm,0.9s,2μm						
PANO	**Nakornpanom**	**25.07**	**359**	P	**P**	**05 23 08.1**	**+1.1**
	24nm,1.4s						
UTTA	**Uttaradit**	**26.02**	**351**	P	**P**	**05 23 16.3**	**+0.7**
	4.0nm,1.0s,46nm						
CM31	**Chiang Mai Arr**	**27.02**	**347**	*e*P	**P**	**05 23 24.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.02**	**347**	P	**P**	**05 23 23.5**	**-1.1**
	5.6nm,0.8s,baz=184,slow=8.0,SNR=46						
TGY	**Tagaytay City**	**27.19**	**36**	LR	LR	05 35 30.8	
	comp=Z,259nm,19.5s,baz=303,slow=40						
NWAO	**Narrogin (SRO)**	**27.24**	**157**	LR	LR	05 35 56.2	
	comp=Z,678nm,18.1s,baz=215,slow=40						
CHTO	**Chiang Mai**	**27.36**	**348**	P	**P**	**05 23 27.8**	**0.0**
	75nm,1.3s,959nm						
CHTO	**Chiang Mai**	**27.36**	**348**	*e*P	**P**	**05 23 27.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,23nm,1.2s						
CHTO	**Chiang Mai**	**27.36**	**348**	*e*P	**P**	**05 23 27.7**	**0.0**
	comp=Z,23nm,1.2s						
QIZ	**Qiongzhong**	**27.38**	**10**	P	**P**	**05 23 29.8**	**+1.9**
QIZ				S	**S**	**05 28 10.5**	**+4.4**
QIZ				sS	**sS**	**05 28 22.8**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,100nm,3.6s						
QIZ				LR	LR		
	comp=Z,1μm,18.6s						
QIZ				LR	LR		
	comp=Z,1μm,16.4s						
PALK	**Pallekele**	**28.54**	**302**	*e*P	**P**	**05 23 35.6**	**-2.8**
PALK				pmax	pmax		
	comp=Z,22nm,1.5s						
PALK	**Pallekele**	**28.54**	**302**	*e*P	**P**	**05 23 35.6**	**-2.8**
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**30.84**	**116**	P	**P**	**05 23 59.2**	**+0.5**
	comp=Z,12nm,1.2s,baz=288,slow=10,SNR=14						
WRA				LR	LR	05 36 41.8	
	comp=Z,248nm,21.4s,baz=290,slow=37						
WRAB	**Tennant Creek**	**30.85**	**116**	*e*P	**P**	**05 23 56.6**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**30.85**	**116**	*e*P	**P**	**05 23 58.0**	**-0.8**
	comp=Z,13nm,1.0s						
WB2	**Warramunga Arr**	**30.86**	**116**	*e*P	**P**	**05 23 58.4**	**-0.5**
	comp=Z,40nm,1.8s						
AS31	**Alice Springs**	**31.82**	**122**	*e*P	**P**	**05 24 06.8**	**-0.5**
AS31				*e*pP	**pP**	**05 24 14.0**	**-2.4**
ASAR	**Alice Springs**	**31.82**	**122**	P	**P**	**05 24 07.5**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=291,slow=8.2,SNR=16						
ASAR				PcP	**PcP**	**05 26 57.3**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=304,slow=2.1,SNR=2.5						
ASAR				LR	LR	05 39 13.9	
	comp=Z,338nm,19.1s,baz=302,slow=41						
H08S2	**Diego Garcia H**	**32.09**	**268**	T	T	05 58 43.3	
	baz=90,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**32.10**	**269**	T	T	05 58 39.6	
	baz=90,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**32.11**	**268**	T	T	05 58 43.3	
	baz=90,slow=75,SNR=13						
KMI	**Kunming**	**33.07**	**356**	P	**P**	**05 24 21.0**	**+2.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=Z,890nm,13.8s						
KMI				LR	LR		
	comp=Z,700nm,14.8s						
KMI				LR	LR		
	comp=Z,830nm,13.2s						
ENH	**Enshi**	**38.39**	**6**	*e*P	**P**	**05 25 03.2**	**-0.5**
	comp=Z,8.8nm,0.3s						
ENH				*e*PcP	**PcP**	**05 27 15.7**	**-1.3**
CD2	**Chengdu**	**38.79**	**358**	*e*P	**P**	**05 25 08.5**	**+1.4**
TAPN	**Taplejung**	**38.96**	**335**	*e*P	**P**	**05 25 10.1**	**+1.2**
	comp=Z,100nm,1.4s						
RAMN	**Ramite**	**39.08**	**334**	*e*P	**P**	**05 25 10.9**	**+1.0**
	comp=Z,76nm,1.3s						
WHN	**Wuhan**	**39.47**	**13**	⇑P	**P**	**05 25 12.8**	**+0.1**
WHN				S	**S**	**05 31 18.1**	**+5.3**
WHN				LR	LR		
	comp=Z,560nm,11.3s						
WHN				LR	LR		
	comp=Z,890nm,11.9s						
WHN				LR	LR		
	comp=Z,980nm,15.8s						
LSA	**Lhasa**	**39.83**	**341**	P	**P**	**05 25 17.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,21nm,1.6s						
LSA	**Lhasa**	**39.83**	**341**	*e*P	**P**	**05 25 17.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,34nm,1.3s						
LSA	**Lhasa**	**39.83**	**341**	*e*P	**P**	**05 25 17.4**	**+1.1**
	comp=Z,34nm,1.3s						
JIRN	**Jiri**	**39.88**	**334**	*e*P	**P**	**05 25 17.8**	**+1.2**
PKIN	**Phulchoki**	**40.16**	**333**	*e*P	**P**	**05 25 19.2**	**+0.3**
GUN	**Gumba**	**40.23**	**333**	*e*P	**P**	**05 25 20.6**	**+1.0**
DMN	**Daman**	**40.32**	**332**	*e*P	**P**	**05 25 20.9**	**+0.7**
KKN	**Kakani**	**40.40**	**333**	*e*P	**P**	**05 25 21.4**	**+0.6**
GKN	**Gorkha**	**40.87**	**332**	*e*P	**P**	**05 25 25.5**	**+0.9**
KOLN	**Koldanda**	**41.17**	**331**	*e*P	**P**	**05 25 28.1**	**+1.0**
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**41.51**	**130**	P	**P**	**05 25 31.0**	**+1.3**
	comp=Z,5.0nm,0.7s,baz=297,slow=9.6,SNR=11						
STKA				LR	LR	05 45 16.4	
	comp=Z,268nm,18.2s,baz=293,slow=40						
STKA	**Stephens Creek**	**41.51**	**130**	*e*P	**P**	**05 25 31.1**	**+1.3**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**41.51**	**130**	*e*P	**P**	**05 25 31.1**	**+1.3**
	comp=Z,1.6nm,0.9s						
DANN	**Dangsing**	**41.58**	**331**	*e*P	**P**	**05 25 31.8**	**+1.2**
PYUN	**Piuthan**	**41.74**	**330**	*e*P	**P**	**05 25 32.9**	**+1.1**
	comp=Z,77nm,1.1s						
XAN	**Xi'an**	**42.07**	**5**	P	**P**	**05 25 33.6**	**-0.6**
XAN				pP	pP	05 25 41.5	-1.9
XAN				pmax	pmax		
	comp=Z,41nm,1.1s						
XAN				pmax	pmax		
	comp=Z,90nm,5.4s						
XAN				LR	LR		
	comp=Z,400nm,15.0s						
XAN				LR	LR		
	comp=Z,610nm,14.8s						
XAN				LR	LR		
	comp=Z,1μm,15.3s						
NJ2	**Nanjing**	**42.08**	**18**	*e*P	**P**	**05 25 34.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH	**Lanzhou**	**43.95**	**359**	*e*P	**P**	**05 25 50.0**	**+0.5**
LZH				pP	sP	05 25 58.3	-4.2
LZH				sP	pP	05 26 01.4	+2.6
LZH				PP	**PcP**	**05 27 36.0**	**+0.9**
LZH				*e*S	**S**	**05 32 21.6**	**+2.2**
LZH				sS	sS	05 32 36.0	+1.3
LZH				SS	**SS**	**05 35 30.1**	**-6.8**
LZH				pmax	pmax		
	comp=Z,54nm,1.1s						
LZH				pmax	pmax		
	comp=Z,200nm,4.9s						
LZH				LR	LR		
	comp=Z,820nm,16.2s						
LZH				LR	LR		
	comp=Z,480nm,14.7s						
LZH				LR	LR		
	comp=Z,900nm,16.4s						
TIA	**Tai'an**	**45.54**	**14**	⇑P	**P**	**05 26 01.1**	**-0.9**
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
TIA				LR	LR		
	comp=Z,540nm,14.0s						
TIA				LR	LR		
	comp=Z,680nm,15.0s						
TIA				LR	LR		
	comp=Z,780nm,13.0s						
GTA	**Gaotai**	**47.49**	**355**	*e*P	**P**	**05 26 18.1**	**+0.7**
GTA				pP	pP	05 26 25.3	-1.5
GTA				sP	sP	05 26 28.4	-2.1
GTA				S	**S**	**05 33 12.9**	**+2.7**
GTA				sS	sS	05 33 24.9	-0.7
GTA				SS	**SS**	**05 36 36.0**	**-2.6**
GTA				pmax	pmax		
	comp=Z,22nm,1.6s						
GTA				pmax	pmax		
	comp=Z,91nm,4.6s						
GTA				LR	LR		
	comp=Z,460nm,15.2s						
GTA				LR	LR		
	comp=Z,570nm,18.5s						
GTA				LR	LR		
	comp=Z,500nm,14.7s						
JNU	**Nakatsue**	**47.86**	**30**	P	**P**	**05 26 19.4**	**-0.9**
	comp=Z,6.6nm,0.9s,baz=240,slow=4.4,SNR=2.8						
BTO	**Baotou**	**48.68**	**5**	*e*P	**P**	**05 26 25.8**	**-0.8**
BJT	**Baijiatuau**	**48.98**	**11**	*e*P	**P**	**05 26 28.2**	**-0.6**
BJT				pmax	pmax		
	comp=Z,36nm,1.2s						
BJT	**Baijiatuau**	**48.98**	**11**	*e*P	**P**	**05 26 28.2**	**-0.6**
	comp=Z,36nm,1.2s						
BJI	**Beijing**	**49.01**	**11**	P	**P**	**05 26 28.8**	**-0.1**
BJI				S	**S**	**05 33 37.4**	**+6.0**
BJI				pmax	pmax		
	comp=Z,26nm,1.3s						
BJI				pmax	pmax		
	comp=Z,160nm,3.9s						
BJI				LR	LR		
	comp=Z,390nm,18.7s						
BJI				LR	LR		
	comp=Z,490nm,16.6s						
HHC	**Hu-ho-hao-te**	**49.08**	**7**	*e*P	**P**	**05 26 29.6**	**0.0**
HHC				PP	**PP**	**05 28 29.3**	**+5.7**
HHC				S	**S**	**05 33 34.3**	**+1.7**
HHC				SS	**SS**	**05 37 03.9**	**-0.4**
HHC				pmax	pmax		
	comp=Z,27nm,1.3s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=Z,620nm,12.7s						
HHC				LR	LR		
	comp=Z,450nm,13.7s						
HHC				LR	LR		
	comp=Z,470nm,12.4s						
KSAR	**Wonju Array Be**	**50.14**	**24**	P	**P**	**05 26 36.8**	**-0.8**
KSAR	**Wonju Array Be**	**50.14**	**24**	P	**P**	**05 26 36.8**	**-0.8**
KSRS	**Korea Array**	**50.16**	**24**	P	**P**	**05 26 36.8**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=199,slow=8.6,SNR=14						
KSRS				LR	LR	05 47 59.0	
	comp=Z,77nm,21.0s,baz=232,slow=36						
WMQ	**Urumqi**	**53.96**	**345**	P	**P**	**05 27 07.6**	**+1.5**
WMQ				pP	pP	05 27 12.0	-3.6
WMQ				sP	sP	05 27 18.5	-0.8
WMQ				pmax	pmax		
	comp=Z,29nm,1.1s						
WMQ				LR	LR		
	comp=Z,160nm,20.9s						
WMQ				LR	LR		
	comp=Z,240nm,20.9s						
WMQ				LR	LR		
	comp=Z,140nm,24.3s						
MJAR	**Matsushiro Arr**	**54.30**	**33**	P	**P**	**05 27 05.2**	**-3.4**
	comp=Z,2.8nm,1.0s,baz=195,slow=7.8,SNR=5.1						
MJAR				LR	LR	05 51 34.8	
	comp=Z,54nm,19.4s,baz=245,slow=38						
KSH	**Kashi**	**54.42**	**333**	P	**P**	**05 27 08.5**	**-1.1**
KSH				pP	pP	05 27 15.5	-3.5
KSH				sP	sP	05 27 19.8	-2.9
KSH				PcP	**PcP**	**05 28 12.6**	**-0.4**
KSH				*e*PP	**PP**	**05 29 12.8**	**+0.8**
KSH				PcS	**PcS**	**05 32 07.8**	**-4.8**
KSH				S	**S**	**05 34 41.8**	**-4.4**
KSH				ScS	**ScS**	**05 36 49.9**	**-6.9**
KSH				SS	**SS**	**05 38 26.3**	**-2.8**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,62nm,4.3s						
KSH				LR	LR		
	comp=Z,110nm,5.6s						
KSH				LR	LR		
	comp=Z,88nm,5.4s						
KSH				LR	LR		
	comp=Z,290nm,16.3s						
CN2	**Changchun**	**54.90**	**18**	*e*P	**P**	**05 27 12.8**	**0.0**
CN2				*e*sP	sP	05 27 23.8	-2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
SONM	**Songino Array**	**55.69**	**1**	P	**P**	**05 27 19.3**	**+0.7**
	comp=Z,7.2nm,1.1s,baz=174,slow=7.9,SNR=30						
SONM				LR	LR	05 52 45.2	
	comp=Z,292nm,20.8s,baz=174,slow=38						
ULN	**Ulaanbaatar**	**55.74**	**2**	*e*P	**P**	**05 27 17.6**	**-1.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**55.74**	**2**	*e*P	**P**	**05 27 17.6**	**-1.3**
	comp=Z,9.8nm,1.1s						
USRK	**Ussuriysk Ar.**	**57.52**	**23**	P	**P**	**05 27 30.3**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=250,slow=3.9,SNR=6.6	

comp=Z,1.2nm,0.5s,baz=155,slow=4.9,SNR=5.1
GEYT LR LR 05 58 05.3
comp=Z,171nm,20.5s,baz=150,slow=38
ZAA0 Zalesovo Array 64.08 347 *e*P **P 05 28 16.4 +0.5**
ZALV Zalesovo Beam 64.08 347 P **P 05 28 16.3 +0.4**
comp=Z,5.3nm,0.3s,baz=152,slow=4.4,SNR=27
NVS Novosibirsk 65.27 346 ‖ *i P* **P 05 28 24.2 +0.5**
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s
MAW Mawson 65.74 196 P **P 05 28 28.8 +2.2**
comp=Z,5.2nm,1.1s,baz=64,slow=9.0,SNR=6.9
MAW LR LR 05 49 20.5
comp=Z,118nm,22.0s,baz=60,slow=29
BOD Bodaibo 66.10 5 *e*P **P 05 28 26.3 -2.7**
BOD pmax pmax
comp=Z,14nm,1.4s
RPZ Rata Peaks 67.27 134 LR LR 05 59 12.8
comp=Z,217nm,19.5s,baz=279,slow=37
BVAR Borovoye Array 67.57 338 P **P 05 28 38.6 +0.1**
comp=Z,2.4nm,0.7s,baz=140,slow=7.4,SNR=9.5
BRVK Borovoye 67.63 338 *i* P **P 05 28 38.8 -0.1**
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK Borovoye 67.63 338 *e*P **P 05 28 38.1 -0.7**
comp=Z,7.4nm,1.0s
ABKAR Akbulak array 69.29 330 *e*P **P 05 28 50.0 +0.7**
comp=Z,65nm,0.6s
AKTO Aktyubinsk 71.01 330 P **P 05 29 00.3 +0.5**
comp=Z,1.4nm,0.4s,baz=108,slow=9.6,SNR=2.5
URZ Urewera 71.08 128 LR LR 06 03 05.5
comp=Z,296nm,18.6s,baz=288,slow=38
YAK Yakutsk 72.51 12 *e*P **P 05 29 07.8 -0.7**
YAK *e* 05 29 18.8
YAK pmax pmax
comp=Z,44nm,1.5s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
SYO Syowa Base 73.78 200‖ *e*P **P 05 29 17.2 +1.2**
SYO Syowa Base 73.78 200‖ *e*pP **P 05 29 20.0 +4.0**
SVE Sverdlovsk 74.15 336‖ *e*P **P 05 29 20.0 +1.7**
SVE pmax pmax
comp=Z,27nm,1.2s
ARU Arti 74.71 335 *d i*P **P 05 29 21.8 +0.1**
ARU 05 32 05.7
ARU S **S 05 38 56.7 +1.0**
ARU SS **SS 05 43 36.7 -7.1**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 74.71 335 *e*P **P 05 29 21.7 +0.1**
comp=Z,17nm,1.2s
ZEI Tsey 74.99 318 *e*P **P 05 29 23.9 0.0**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 75.30 169 P **P 05 29 26.6 +1.8**
comp=Z,3.1nm,1.1s,baz=305,slow=6.6,SNR=11
VNDA LR LR 06 00 04.2
comp=Z,77nm,18.6s,baz=298,slow=34
PETK Petropavlovsk- 75.56 30 P **P 05 29 26.0 -0.6**
comp=Z,4.4nm,1.0s,baz=216,slow=5.2,SNR=3.0
PETK LR LR 06 05 49.8
comp=Z,40nm,18.4s,baz=268,slow=38
NEY Neytrino 75.97 318 *e*P **P 05 29 29.9 +0.5**
NEY pmax pmax
comp=Z,1.0nm,1.1s
KBZ Khabaz 76.06 319 P **P 05 29 30.8 +1.1**
comp=Z,2.9nm,0.9s,baz=116,slow=3.9,SNR=6.4
KVAR Kislovodsk Arr 76.30 319 LR LR 06 07 40.1
comp=Z,32nm,18.1s,baz=63,slow=39
SBA Scott Base 76.38 169 *e*P **P 05 29 32.8 +1.8**
SBA pmax pmax
comp=Z,8.0nm,1.2s
SBA Scott Base 76.38 169 *e*P **P 05 29 32.8 +1.8**
comp=Z,8.1nm,1.2s
MA2 Magadan 76.67 22 P **P 05 29 32.2 -0.5**
comp=Z,16nm,1.0s,baz=143,slow=5.1,SNR=4.0
MA2 Magadan 76.67 22 *i* P **P 05 29 30.3 -2.5**
BOSA Boshof 77.10 243 P **P 05 29 38.4 +2.2**
comp=Z,1.1nm,0.7s,baz=131,slow=9.3,SNR=4.8
NRIK Noril'sk 78.18 354 P **P 05 29 40.9 -0.2**
comp=Z,6.3nm,0.7s,baz=178,slow=3.1,SNR=5.1
NRIK LR LR 06 08 22.0
comp=Z,248nm,18.3s,baz=157,slow=39
BRTR Keskin Array B 81.00 312 P **P 05 29 57.6 +0.4**
comp=Z,1.9nm,0.9s,baz=126,slow=6.3,SNR=6.4
BRTR LR LR 06 08 12.5
comp=Z,88nm,19.1s,baz=108,slow=37
TIXI Tiksi 81.14 7 *i* P **P 05 29 55.7 -1.3**
TIXI pmax pmax
comp=Z,14nm,2.5s
TIXI Tiksi 81.14 7 *e*P **P 05 29 56.6 -0.5**
comp=Z,4.6nm,0.6s
QSPA South Pole Qui 81.91 180 *e*P **P 05 30 02.9 +1.3**
comp=Z,56nm,1.1s
LPSR Galich'ya Gora 82.22 326 *e*P **P 05 30 03.2 0.0**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 84.50 328 *e*P **P 05 30 15.7 +0.9**
OBN pmax pmax
comp=Z,8.0nm,0.9s
KLMR Klimovskoe 85.40 333 *e*P **P 05 30 18.9 -0.3**
AKASG Malin Array Be 87.25 322 P **P 05 30 29.3 +0.8**
comp=Z,0.3nm,0.3s,baz=97,slow=3.8,SNR=3.7
AKASG LR LR 06 14 56.9
comp=Z,46nm,20.0s,baz=65,slow=39
SNAA Sanae 87.87 198 *e*P **P 05 30 32.6 +1.3**
SNAA Sanae 87.87 198 *e*P **P 05 30 32.1 +0.8**
comp=Z,515nm,1.1s
FINES FINESS Array B 91.73 332 P **P 05 30 49.8 +0.4**
comp=Z,1.9nm,0.9s,baz=116,slow=6.3,SNR=2.0
FINES LR LR 06 17 04.5
comp=Z,54nm,18.6s,baz=108,slow=39
KECS Kecovo 92.30 318 *e*P **P 05 30 53.7 +1.4**
KECS Kecovo 92.30 318 *e*P **P 05 30 53.6 +1.3**
ARCES ARCESS Array B 93.82 340 LR LR 06 17 50.5
comp=Z,80nm,19.2s,baz=104,slow=38
PDAR Pinedale Array 134.09 35 PKP **PKPdf 05 36 59.8 -0.3**
comp=Z,0.2nm,0.7s,baz=0.0,slow=3.6,SNR=2.5
ANMO Albuquerque 140.75 42 *i* PKIKP **PKPdf 05 37 10.6 -2.0**
N40A Mertquake, Sal 144.20 22 P PKPbc 05 37 16.6 +0.2
baz=331
P37A Lathrop 144.20 26 P PKPbc 05 37 16.8 +0.3
baz=326
O39A Kirksville 144.38 23 P PKPbc 05 37 17.4 +0.4
baz=330
P38A Dawn 144.52 25 P PKPbc 05 37 17.8 +0.3
baz=328
N41A Harden Midland 144.61 21 P **PKPab 05 37 17.6 +0.1**
baz=332
R36A Gordon, Harris 144.71 28 P **PKPab 05 37 18.2 +0.2**
baz=324
O40A La Belle 144.75 23 P PKPbc 05 37 18.3 +0.2
baz=330
N42A Yates City 144.79 20 P **PKPab 05 37 18.2 0.0**
baz=334
S35A Otter Creek Ra 144.83 30 P PKPbc 05 37 18.8 +0.2
baz=322
T34A McClaskey Farm 144.90 32 P PKPbc 05 37 19.1 +0.3
baz=320
M44A Midewin, Midew 144.90 17 P PKPbc 05 37 18.9 +0.3
baz=337
P39B Salisbury 144.95 24 P **PKPab 05 37 19.0 +0.2**
baz=329
R37A Teagarden Farm 145.03 28 P **PKPab 05 37 19.2 0.0**
baz=324
Q38A Cooks Store, C 145.04 26 P **PKPab 05 37 19.2 +0.1**
baz=327
O41A Passleys Farm, 145.13 21 P **PKPbc 05 37 19.5 +0.1**
baz=332,SNR=6.4
S36A Lake Cedric, C 145.15 29 P **PKPab 05 37 20.0 +0.4**
baz=323,SNR=5.8
P40A Paris 145.20 23 P **PKPdf 05 37 20.1 +0.1**
baz=330
Q39A Willow Grove F 145.24 25 P **PKPdf 05 37 20.3 +0.2**
baz=328,SNR=8.1
HDIL Hopedale 145.28 19 P **PKPab 05 37 20.2 +0.2**
baz=335
T35A Sooner Cattle 145.33 31 P **PKPdf 05 37 20.7 +0.3**
baz=321,SNR=5.2
O42A Bath 145.34 20 P **PKPdf 05 37 20.6 +0.3**
baz=333
N44A Piper City 145.42 18 P **PKPab 05 37 20.6 +0.2**
baz=337
P41A Barry, Barry 145.45 22 P **PKPdf 05 37 20.7 +0.3**
baz=332,SNR=6.9
S37A Fort Scott 145.48 28 P **PKPab 05 37 21.0 +0.1**
baz=324,SNR=6.6
O43A Sugar Creek Fa 145.52 19 P **PKPab 05 37 21.1 +0.2**
baz=335
T36A Boggs Farm, Ca 145.53 30 P **PKPab 05 37 21.4 +0.4**
baz=322,SNR=5.2
N45A Kentland 145.56 17 P **PKPab 05 37 21.3 +0.4**
baz=338
R38A Fenwick Farm, 145.56 27 P **PKPab 05 37 21.5 +0.4**
baz=326,SNR=6.1
U35A Pawnee 145.63 32 P **PKPab 05 37 21.9 +0.5**
baz=320,SNR=9.8
Q40A Laux Farm, Aux 145.65 24 P **PKPab 05 37 21.7 +0.3**
baz=329
WMOK Wichita Mounta 145.70 36 P **PKPab 05 37 22.0 +0.2**
baz=315
N46A Monticello 145.73 16 P **PKPab 05 37 22.0 +0.3**
baz=339,SNR=5.8
P42A Winchester 145.79 21 P **PKPbc 05 37 21.7 +0.2**
baz=333,SNR=5.8
R39A Chumby, Stover 145.83 26 P **PKPbc 05 37 22.0 +0.3**
baz=327,SNR=8.2
TXAR Lajitas Array 145.84 48 PKPbc **PKPdf 05 37 21.4 -0.2**
comp=Z,6.0nm,0.9s,baz=314,slow=2.2,SNR=33
O44A Mansfield 145.91 18 P **PKPbc 05 37 22.1 +0.2**
baz=336
T37A Cheneyville 18 145.95 29 P **PKPbc 05 37 22.5 +0.4**
baz=323
S38A Stockton 146.01 27 P **PKPbc 05 37 22.2 -0.1**
baz=325,SNR=5.6
BINY Binghamton 146.01 1 *e*PKPbc **PKPdf 05 37 22.0 +0.6**
Q41A Truxton 146.01 23 P **PKPbc 05 37 22.6 +0.3**
baz=331
P43A Skaggs, Pawnee 146.03 20 P **PKPbc 05 37 22.4 +0.2**
baz=334
V35A Meyer Ranch, C 146.04 33 P **PKPab 05 37 23.1 +0.1**
baz=319
O45A Potomac 146.05 17 P **PKPab 05 37 22.9 +0.1**
baz=337
SFIN Lafayette 146.11 17 P **PKPab 05 37 23.1 +0.1**
baz=338
U36A Oologah 146.13 31 P **PKPbc 05 37 23.1 +0.4**
baz=321
R40A Maddies Statio 146.17 25 P **PKPbc 05 37 23.1 +0.3**
baz=328,SNR=11
S39A Bolivar 146.22 26 P **PKPbc 05 37 23.0 +0.1**
baz=326,SNR=7.6
Q42A Golden Eagle 146.31 22 P **PKPbc 05 37 23.4 +0.3**
baz=332
T38A Diamond 146.32 28 P **PKPbc 05 37 23.5 +0.3**
baz=324
U37A Salina 146.43 30 P **PKPbc 05 37 23.9 +0.3**
baz=322
M54A Oil Creek Stat 146.47 6 P **PKPbc 05 37 23.8 +0.3**
baz=352
TUL1 Leonard 146.47 31 P **PKPbc 05 37 24.2 +0.5**
baz=321
W35A Tecumseh 146.47 33 P **PKPab 05 37 24.4 -0.3**
baz=318
P44A Sand Creek, Wi 146.48 19 P **PKPab 05 37 24.3 -0.2**
baz=335
V36A Jenks 146.49 32 P **PKPab 05 37 24.4 -0.3**
baz=320
O47A Sheridan 146.49 15 P **PKPbc 05 37 24.2 +0.6**
baz=340
R41A Rosebud 146.52 24 P **PKPbc 05 37 24.3 +0.5**
baz=330
Q43A New Douglas 146.59 21 P **PKPbc 05 37 24.2 +0.3**
baz=333
ABTX Abilene, Hawle 146.63 40 P **PKPbc 05 37 25.0 +0.7**
baz=312
ABTX Abilene, Hawle 146.63 40 *e*PKPbc **PKPab 05 37 26.2 +0.8**
S40A Lebanon 146.66 26 P **PKPbc 05 37 24.6 +0.4**
baz=328,SNR=7.0
T39A Clever 146.75 27 P **PKPbc 05 37 24.9 +0.4**
baz=326,SNR=6.9
U38A Gravette 146.75 29 P **PKPbc 05 37 25.0 +0.4**
baz=324
R42A Luebbering 146.77 23 P **PKPbc 05 37 25.0 +0.5**
baz=331
CCM Cathedral Cave 146.79 24 *e*PKP2 **PKPbc 05 37 24.8 +0.2**
CCM Cathedral Cave 146.79 24 *e*PKPbc **PKPbc 05 37 24.8 +0.2**
V37A Hulbert 146.82 31 P **PKPbc 05 37 25.2 +0.5**
baz=322
W36A Wetumka 146.83 33 P **PKPbc 05 37 25.3 +0.5**
baz=320
Q44A Meyer Farm, Va 146.86 20 P **PKPbc 05 37 25.2 +0.5**
baz=334
N54A Moraine State 146.97 7 P **PKPbc 05 37 25.4 +0.4**
baz=351
X35A Drake 146.98 34 P **PKPbc 05 37 25.9 +0.7**
baz=318
S41A Jillco Farms, 146.99 25 P **PKPbc 05 37 25.6 +0.4**
baz=329,SNR=15
T40A Mansfield 147.03 26 P **PKPbc 05 37 25.4 +0.2**
baz=327,SNR=6.9
R43A Red Bud 147.10 22 P **PKPbc 05 37 25.8 +0.4**
baz=332
P47A Mainsville 147.17 16 P **PKPbc 05 37 26.0 +0.4**
baz=339
X36A Centrahoma 147.19 33 P **PKPbc 05 37 26.4 +0.6**
baz=319
V38A Canehill 147.20 30 P **PKPbc 05 37 26.1 +0.3**
baz=323
S42A Caledonia 147.21 23 P **PKPbc 05 37 26.1 +0.3**
baz=330
ACSO Alum Creek Sta 147.22 11 *e*PKPbc **PKPbc 05 37 26.5 +0.8**
U39A Green Forest 147.23 28 P **PKPbc 05 37 26.1 +0.2**
baz=325
W37B Quinton 147.25 32 P **PKPbc 05 37 26.6 +0.6**
baz=321
N59A State Game Lan 147.30 1 P **PKPbc 05 37 26.1 +0.1**
baz=359
R44A Waltonville 147.43 21 P **PKPbc 05 37 26.9 +0.6**
baz=334
T41A Mountain View 147.44 25 P **PKPbc 05 37 26.9 +0.5**
baz=328,SNR=6.5
U40A Yellville 147.54 27 P **PKPbc 05 37 26.8 +0.1**
baz=326,SNR=5.4
V39A Pettigrew 147.59 29 P **PKPbc 05 37 27.0 0.0**
baz=324
X37A Clayton 147.71 32 P **PKPbc 05 37 27.3 0.0**
baz=320
W38A Poteau 147.78 31 P **PKPbc 05 37 28.2 +0.8**
baz=322
O56A Blue Knob Stat 147.80 5 P **PKPbc 05 37 27.9 +0.5**
baz=354
S44A Carbondale 147.86 21 P **PKPbc 05 37 28.3 +0.8**
baz=333
JCT Junction City 147.91 43 P **PKPbc 05 37 28.9 +1.0**
baz=309
JCT Junction City 147.91 43 *e*PKP2 **PKPbc 05 37 29.3 +1.4**
JCT Junction City 147.91 43 *e*PKPbc **PKPbc 05 37 29.3 +1.4**
X38A Whitesboro 147.93 32 P **PKPbc 05 37 28.5 +0.7**
baz=321
U41A Viola 147.96 26 P **PKPbc 05 37 28.5 +0.6**
baz=328
V40A Witts Springs 148.01 28 P **PKPbc 05 37 28.4 +0.4**
baz=326
T43A Greenville 148.01 23 P **PKPbc 05 37 28.4 +0.5**
baz=331
W39A Magazine 148.04 30 P **PKPbc 05 37 28.8 +0.7**
baz=323
S45A Carrier Mills 148.11 20 P **PKPbc 05 37 28.7 +0.5**
baz=334
U42A Revenden 148.25 25 P **PKPbc 05 37 29.2 +0.6**
baz=329
V41A Mountainview 148.33 27 P **PKPbc 05 37 29.1 +0.2**
baz=327
WCI Wyandotte Cave 148.33 17 *e*PKP2 **PKPbc 05 37 29.3 +0.5**
WCI Wyandotte Cave 148.33 17 *e*PKPbc **PKPbc 05 37 29.3 +0.5**
WHTX Lake Whitney, 148.41 38 P **PKPbc 05 37 30.7 +1.5**
baz=314
WHTX Lake Whitney, 148.41 38 *e*PKPbc **PKPab 05 37 31.2 -1.2**
X39A Fountain Ranch 148.42 31 P **PKPbc 05 37 29.4 +0.3**
baz=322
Z37A Pogue Cattle C 148.62 34 P **PKPbc 05 37 29.2 -0.5**
baz=318
V42A Cord 148.65 26 P **PKPbc 05 37 30.3 +0.7**
baz=328
MIAR Mount Ida 148.66 30 P **PKPbc 05 37 30.9 +1.2**
baz=323
MIAR Mount Ida 148.66 30 *e*PKP2 **PKPbc 05 37 30.8 +1.0**
MIAR Mount Ida 148.66 30 *e*PKPbc **PKPbc 05 37 30.8 +1.0**
U44A Portageville 148.75 23 P **PKPbc 05 37 30.5 +0.6**
baz=331
Z38A Mt. Pleasant 148.93 34 P **PKPbc 05 37 31.1 +0.6**
baz=320
236A Katherine and 148.97 37 P **PKPbc 05 37 31.7 +1.1**
baz=316
137A Heron Place, G 148.99 35 P **PKPbc 05 37 31.6 +1.0**
baz=318
X40A Basin Creek Fa 149.07 29 P **PKPbc 05 37 32.0 +1.2**
baz=324
138A Matatall Enter 149.32 34 P **PKPbc 05 37 33.3 +1.9**
baz=319
237A Washetta, Mont 149.39 36 P **PKPbc 05 37 33.6 +1.9**
baz=317
833A Chaparral WMA, 149.50 46 P **PKPbc 05 37 33.9 +1.8**
baz=307
Y41A Eaglette Beard 149.67 30 P **PKPbc 05 37 34.0 +1.7**
baz=324
Z40A Long Farm, Mag 149.77 31 P **PKPbc 05 37 34.7 +2.2**
baz=322
337A Centerville 149.84 37 P **PKPbc 05 37 35.2 +2.4**
baz=316
933A Laredo 150.00 47 P **PKPbc 05 37 35.7 +2.4**
baz=306
338A Crockett 150.15 36 P **PKPbc 05 37 36.3 +2.8**
baz=317
735A Kenedy 150.27 43 P **PKPab 05 37 37.5 -2.5**
baz=310
636A Smothers Creek 150.37 41 P **PKPab 05 37 37.9 -2.5**
baz=312
438A Sam Houston St 150.49 37 P **PKPab 05 37 38.7 -2.2**
baz=316
OXF Oxford 150.59 25 *e*PKIKP **PKPbc 05 37 35.9 +1.4**
OXF Oxford 150.59 25 *e*PKPbc **PKPbc 05 37 35.9 +1.4**
HKT Hockley 150.83 39 *e*PKIKP **PKPbc 05 37 37.0 +1.9**
HKT Hockley 150.83 39 *e*PKPbc **PKPbc 05 37 37.0 +1.9**
035A Encino 151.25 46 P **PKPab 05 37 40.4 -3.7**
baz=307
738A Farr-Stevens R 151.71 40 P **PKPab 05 37 43.8 -2.2**
baz=313
Y47A UCPARC, Winfie 151.74 23 P **PKPab 05 37 42.4 -3.6**
baz=333

PGC 23 05:18:25.7±0.0, 62°.39N×124°.60W, h1km, ML3.6/6, 187km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.60**	**167**	Pn	Pn	05 19 21.5	-1.0
FNBB				Sn	Sn	05 20 02.9	-2.7
YKW3	**Yellowknife Ar**	**4.63**	**83**	Pn	Pn	05 19 35.5	-1.3
YKW3				Sn	Sn	05 20 26.9	-4.2
YKW3				Sg	Sb	05 20 48.7	+4.7
YKW1	**Yellowknife Ar**	**4.69**	**84**	Pn	Pn	05 19 36.7	-0.7
YKW1				Sn	Sn	05 20 29.3	-3.1
YKW1				Sg	Sb	05 20 50.1	+4.7
DLBC	**Dease Lake**	**4.79**	**217**	Pn	Pn	05 19 38.7	-0.3
DLBC				Sn	Sn	05 20 33.5	-1.7
DLBC				Sg	Sb	05 20 53.9	+5.4
DHRN	**Dharma Camp**	**5.15**	**23**	Pn	Pn	05 19 42.9	-0.9
DHRN				Sn	Sn	05 20 39.6	-4.1
WHY	**Whitehorse**	**5.22**	**255**	Pn	Pn	05 19 43.8	-1.1
WHY				Sg	Sg	05 21 07.4	-5.8
HILA	**High Level**	**5.37**	**132**	Pn	Pn	05 19 45.8	-1.0
HILA				Sn	Sn	05 20 43.3	-5.9
SMPN	**Simpson Lake**	**5.91**	**353**	Pn	Pn	05 19 52.5	-1.8
HYT	**Haines Junctio**	**6.36**	**261**	Pn	Pn	05 19 59.5	-1.0
HYT				Sg	Sg	05 21 42.1	-7.4
YUK5	**Granite Creek**	**6.42**	**265**	Pn	Pn	05 20 00.5	-0.9
YUK5				Sg	Sg	05 21 44.6	-7.1
PLBC	**Pleasant Camp**	**6.45**	**248**	Sg	Sg	05 21 45.7	-6.8
FSMA	**Fort Smith**	**6.63**	**106**	Pn	Pn	05 20 02.9	-1.2
FSMA				Sn	Sn	05 21 14.1	-6.1
YUK6	**Outpost Mounta**	**6.71**	**264**	Pn	Pn	05 20 04.5	-1.1
YUK6				Sg	Sg	05 21 54.5	-6.5
YUK7	**Dusty Glacier**	**6.75**	**260**	Pn	Pn	05 20 05.5	-0.5
YUK7				Sg	Sg	05 21 54.8	-7.6
KUKN	**Kugluktuk,NWT**	**6.76**	**32**	Pn	Pn	05 20 04.5	-1.5
DAWY	**Dawson**	**6.89**	**291**	Pn	Pn	05 20 06.0	-1.8
INK	**Inuvik**	**7.01**	**332**	Pn	Pn	05 20 07.5	-1.8
INK				Sn	Sn	05 21 22.3	-7.2
YUK1	**Sand Pete Hill**	**7.44**	**275**	Sg	Sg	05 22 16.4	-7.9
YUK3	**Moose Creek**	**7.47**	**272**	Sg	Sg	05 22 18.4	-7.0
YUK2	**White River**	**7.65**	**273**	Sg	Sg	05 22 23.3	-7.7

IDC 23 05:23:47.8±6.8, 27°.47S×176°.33W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/20, mbtmp3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/13, Error ellipse: s-maj=306.8km s-min=105.1km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.82**	**263**	P	P	05 32 03.4	-0.5
	0.2nm,0.7s,baz=105,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**45.55**	**268**	P	P	05 32 10.0	+0.3
	0.4nm,0.5s,baz=109,slow=7.9,SNR=5.0						
FITZ	**Fitzroy Crossi**	**53.91**	**267**	LR	LR	05 55 05.2	
	comp=Z,56nm,18.4s,slow=35						
FINES	**FINESS Array B**	**142.85**	**342**	PKP	PKPdf	05 43 22.0	-0.7
	2.1nm,1.0s,baz=20,slow=4.4,SNR=4.2						

*IDC **23** 05:28:17.6±0.9, 34°.10N×25°.17E, h0km, mb3.9/11, mb1 4.1/17, mb1mx3.9/46, mbtmp4.0/17, ML4.0/6, MS2.9/3, Ms1 2.9/3, ms1mx2.6/32, Error ellipse: s-maj=17.5km s-min=16.2km az=3.0*
*CSEM **23** 05:28:19.7±0.2, 34°.00N×25°.14E, h10km, ML3.4, Error ellipse: s-maj=6.0km s-min=3.6km az=49.0*
*THE **23** 05:28:19.8, 33°.99N×25°.15E, h0km±2km, ML3.5/7, Error ellipse: s-maj=6.3km s-min=1.4km az=174.0*
*ISCJB **23** 05:28:20.9±0.4, 33°.95N±0°.03×25°.26E±0°.03, h44km±6km, mb3.8/11, MS2.8/2, Error ellipse: s-maj=5.8km s-min=3.5km az=44.8*
*HLW **23** 05:28:21.9, 33°.97N×25°.54E, h11km±5km, Md3.5, Ml3.6*
*ATH **23** 05:28:21.3, 34°.09N×25°.11E, h32km±9km, ML3.4/5, Error ellipse: s-maj=10.1km s-min=2.2km az=174.0*
*GII **23** 05:28:30.2±0.1, 33°.86N×25°.93E, h32km, MD3.5/2*
*DDA **23** 05:29:01.5, 36°.35N×28°.05E, h19km, Ml3.0*

ISC 23 05:28:22.2±0.9, 33°.99N±0°.03×25°.29E±0°.04, h36km±1km, n148, σ1°.79/171, mb3.8/11, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.10**	**339**	P	**Pn**	**05 28 40.0**	**-1.0**
SIVA				S	**Sn**	**05 28 56.4**	**+1.4**
SIVA	**Sivas**	**1.10**	**339**	P	**Pn**	**05 28 40.1**	**-0.9**
SIVA				S	**Sn**	**05 28 53.2**	**-1.7**
SIVA				AML	AML	05 29 09.5	
	comp=N,8869μm,0.6s						
SIVA				AML	AML	05 29 12.9	
	comp=E,13692μm,0.6s						
SIVA	**Sivas**	**1.10**	**339**	P	**Pn**	**05 28 40.0**	**-1.0**
SIVA				S	**Sn**	**05 28 53.2**	**-1.7**
LAST	**Lasithi**	**1.18**	**8**	P	**Pn**	**05 28 42.7**	**+0.5**
LAST				S	**Sn**	**05 28 59.4**	**+2.3**
LAST	**Lasithi**	**1.18**	**8**	P	**Pn**	**05 28 43.1**	**+0.9**
LAST				AML	AML	05 29 10.3	
	comp=E,1497μm,0.7s						
LAST				AML	AML	05 29 15.0	
	comp=N,2546μm,1.0s						
LAST	**Lasithi**	**1.18**	**8**	P	**Pn**	**05 28 42.7**	**+0.5**
LAST				S	**Sn**	**05 28 59.4**	**+2.3**
NPS	**Neapolis**	**1.30**	**12**	P	**Pn**	**05 28 44.7**	**+0.9**
NPS				S	**Sn**	**05 29 02.1**	**+2.2**
NPS	**Neapolis**	**1.30**	**12**	P	**Pn**	**05 28 45.7**	**+1.9**
NPS	**Neapolis**	**1.30**	**12**	P	**Pn**	**05 28 44.7**	**+0.9**
NPS				S	**Sn**	**05 29 02.1**	**+2.2**
GVD	**Gavdhos**	**1.30**	**311**	P	**Pn**	**05 28 43.1**	**-0.8**
GVD				S	**Sn**	**05 29 00.7**	**+0.6**
GVD	**Gavdhos**	**1.30**	**311**	P	**Pn**	**05 28 41.6**	**-2.3**
GVD				S	**Sn**	**05 28 58.4**	**-1.7**
GVD				AML	AML	05 29 12.4	
	comp=N,3571μm,0.7s						
GVD				AML	AML	05 29 17.8	
	comp=E,4607μm,0.5s						
GVD	**Gavdhos**	**1.30**	**311**	P	**Pn**	**05 28 43.1**	**-0.8**
GVD				S	**Sn**	**05 28 58.4**	**-1.7**
IDI	**Anoyia**	**1.33**	**346**	Pn	**Pn**	**05 28 43.6**	**-0.8**
	comp=E,38nm,0.3s,baz=175,slow=13,SNR=129						
IDI				Sn	**Sn**	**05 29 01.8**	**+0.9**

comp=E,67nm,0.3s,baz=273,slow=19,SNR=9.0
IDI LR LR 05 29 32.0
comp=E,359nm,21.6s,baz=93,slow=62
IDI Anoyia 1.33 346 P **Pn 05 28 43.9 -0.4**
IDI Anoyia 1.33 346 P **Pn 05 28 44.0 -0.4**
IDI Anoyia 1.33 346 P **Pn 05 28 44.0 -0.4**
ZKR Zakros 1.36 34 P **Pn 05 28 46.6 +2.0**
ZKR S **Sn 05 29 06.7 +5.3**
ZKR Zakros 1.36 34 P **Pn 05 28 45.6 +1.0**
ZKR AML AML 05 29 18.6
comp=N,638μm,0.5s
ZKR AML AML 05 29 24.6
comp=E,1734μm,0.8s
ZKR Zakros 1.36 34 P **Pn 05 28 45.6 +1.0**
ZKR S **Sn 05 29 06.7 +5.3**
VAM Vamos 1.67 328 P **Pn 05 28 48.5 -0.5**
VAM S **Sn 05 29 10.6 +1.4**
VAM Vamos 1.67 328 P **Pn 05 28 49.1 +0.2**
VAM AML AML 05 29 25.2
comp=E,2097μm,0.8s
VAM AML AML 05 29 27.0
comp=N,1429μm,1.2s
VAM Vamos 1.67 328 P **Pn 05 28 48.5 -0.5**
VAM S **Sn 05 29 10.6 +1.4**
IMMV Iera Moni Meta 1.82 324 P **Pn 05 28 50.6 -0.4**
IMMV S **Sn 05 29 13.8 +1.0**
IMMV Iera Moni Meta 1.82 324 P **Pn 05 28 51.1 +0.1**
IMMV Iera Moni Meta 1.82 324 P **Pn 05 28 50.6 -0.4**
IMMV S **Sn 05 29 13.8 +1.0**
KARP Karpathos 2.19 44 P **Pn 05 28 58.9 +2.8**
KARP Karpathos 2.19 44 P **Pn 05 28 59.7 +3.6**
KARP Karpathos 2.19 44 P **Pn 05 28 58.9 +2.8**
THR6 Thira Island, 2.36 2 P **Pn 05 28 57.8 -0.6**
THR6 Thira Island, 2.36 2 P **Pn 05 28 56.9 -1.5**
THR6 Thira Island, 2.36 2 P **Pn 05 28 57.8 -0.6**
SANT Santorini 2.38 3 P **Pn 05 28 57.3 -1.4**
SANT Santorini 2.38 3 P **Pn 05 28 57.3 -1.4**
THR3 Thira Island, 2.41 2 P **Pn 05 28 59.0 -0.1**
THR3 Thira Island, 2.41 2 P **Pn 05 28 57.8 -1.3**
THR3 Thira Island, 2.41 2 P **Pn 05 28 59.0 -0.1**
THR5 Thira Island, 2.42 1 P **Pn 05 28 59.0 -0.2**
THR5 Thira Island, 2.42 1 P **Pn 05 28 58.3 -1.0**
THR5 Thira Island, 2.42 1 P **Pn 05 28 59.0 -0.2**
SLUM Salum 2.49 182 P **Pn 05 29 02.6 +2.4**
baz=187
SLUM AMP 05 29 00.0
comp=N,430μm,0.3s,logA/T=6.2,baz=187
SLUM S **Sn 05 29 32.0 +2.6**
baz=187
SLUM Salum 2.49 182 P **Pn 05 29 02.7 +2.4**
SLUM S **Sn 05 29 32.0 +2.6**
MHLO Agia Marina, M 2.79 345 P **Pn 05 29 03.3 -1.0**
MHLO Agia Marina, M 2.79 345 P **Pn 05 29 02.3 -2.0**
MHLO Agia Marina, M 2.79 345 P **Pn 05 29 03.3 -1.0**
APE Apeiranthos 3.08 4 P **Pn 05 29 06.4 -1.9**
APE Apeiranthos 3.08 4 P **Pn 05 29 06.4 -1.9**
DAT Datca 3.31 34 *i* P **Pn 05 29 12.7 +1.1**
DAT Datca 3.31 34 P **Pn 05 29 12.7 +1.1**
VLI Veliai 3.33 325 P **Pn 05 29 09.7 -2.0**
VLI Veliai 3.33 325 P **Pn 05 29 09.7 -2.0**
DID Didima 3.88 335 P **Pn 05 29 17.4 -2.0**
DID Didima 3.88 335 P **Pn 05 29 17.4 -2.0**
DALY Dalyan (Mu¨la 3.94 43 *i* P **Pn 05 29 22.3 +2.2**
DALY Dalyan (Mu¨la 3.94 43 P **Pn 05 29 22.3 +2.2**
TURN Turunc 3.95 42 *i* P **Pn 05 29 17.0 -3.2**
TURN Turunc 3.95 42 P **Pn 05 29 17.0 -3.2**
FETY Fethiye 4.07 49 P **Pn 05 29 22.6 +0.6**
FETY Fethiye 4.07 49 P **Pn 05 29 22.6 +0.6**
PYL PYLOS 4.10 316 P **Pn 05 29 20.6 -1.7**
PYL PYLOS 4.10 316 P **Pn 05 29 20.6 -1.7**
KSL Kastellorizon 4.13 57 P **Pn 05 29 24.3 +1.6**
AKAS Kas 4.18 56 *i* P **Pn 05 29 25.0 +1.4**
AKAS Kas 4.18 56 P **Pn 05 29 25.0 +1.4**
AYDN Tasoluk 4.22 29 *i* P **Pn 05 29 25.9 +1.8**
AYDN Tasoluk 4.22 29 P **Pn 05 29 25.9 +1.8**
TAVA DENIZLI_Tavas 4.55 39 *i* P **Pn 05 29 30.8 +2.2**
TAVA DENIZLI_Tavas 4.55 39 P **Pn 05 29 30.8 +2.2**
AMT Artemida-Makis 4.58 322 P **Pn 05 29 28.4 -0.5**
AMT Artemida-Makis 4.58 322 P **Pn 05 29 28.4 -0.5**
GUR Goura 4.61 330 P **Pn 05 29 27.8 -1.6**
GUR Goura 4.61 330 P **Pn 05 29 27.8 -1.6**
SWA2 4.74 178 P **Pn 05 29 33.4 +2.4**
baz=181
SWA2 S **Sn 05 30 25.4 +0.7**
baz=181
SWA2 4.74 178 P **Pn 05 29 33.4 +2.4**
SWA2 S **Sn 05 30 25.4 +0.7**
GOLH Golhisar 4.75 46 *i* P **Pn 05 29 33.5 +2.1**
GOLH Golhisar 4.75 46 P **Pn 05 29 33.5 +2.1**
DNZL Cakiroluk 4.79 39 *i* P **Pn 05 29 35.4 +3.4**
DNZL Cakiroluk 4.79 39 P **Pn 05 29 35.3 +3.4**
KORT Korkueli 5.10 53 *i* P **Pn 05 29 38.0 +1.8**
KORT Korkueli 5.10 53 P **Pn 05 29 38.0 +1.8**
KHAL Karahalli 5.54 37 *i* P **Pn 05 29 40.9 -1.3**
DOGA KONYA_Doganhis 6.60 50 *i* P **Pn 05 29 56.7 -0.1**
CSS Mathiatis 6.71 79 Pn **Pn 05 29 59.7 +1.5**
CSS Mathiatis 6.71 79 Pn **Pn 05 29 59.7 +1.5**
HFRF Wahat Farafira 7.30 158 P **Pn 05 30 08.0 +1.7**
baz=159
HFRF S **Sn 05 31 25.7 -2.2**
baz=159
HFRF Wahat Farafira 7.30 158 P **Pn 05 30 08.0 +1.7**
SLTI Sal'it 8.36 99 Pn **Pn 05 30 22.0 +1.1**
SLTI Sn **Sn 05 31 50.4 -3.7**
SLTI Sal'it 8.36 99 Pn **Pn 05 30 22.0 +1.1**
HNKL Nakhl 8.42 116 P **Pn 05 30 22.3 +0.6**
baz=117
HNKL S **Sn 05 31 50.7 -4.8**
baz=117
HNKL Nakhl 8.42 116 P **Pn 05 30 22.3 +0.6**
AMAZ Amatzia 8.47 104 Pn **Pn 05 30 24.0 +1.6**
AMAZ Amatzia 8.47 104 Pn **Pn 05 30 24.0 +1.6**
MMAI Mount Meron Ar 8.50 94 Pn **Pn 05 30 24.4 +1.5**
comp=N,1.6nm,0.3s,baz=269,slow=13,SNR=4.0
MMAI Sn **Sn 05 31 54.7 -2.9**
comp=N,2.7nm,0.3s,baz=273,slow=27,SNR=3.5
MMLI Mount Malkishu 8.63 98 Pn **Pn 05 30 25.8 +1.2**
MMLI Mount Malkishu 8.63 98 Pn **Pn 05 30 25.8 +1.2**
KSDI Kefar Szold 8.69 92 Pn **Pn 05 30 25.2 -0.1**
KSDI Kefar Szold 8.69 92 Pn **Pn 05 30 25.2 -0.1**
HMDT Nahal Hemdat 8.76 99 Pn **Pn 05 30 27.4 +1.1**
HMDT Nahal Hemdat 8.76 99 Pn **Pn 05 30 27.4 +1.1**
DSI Dead Sea 8.83 103 Pn **Pn 05 30 28.4 +1.1**
DSI Dead Sea 8.83 103 Pn **Pn 05 30 28.4 +1.1**
MZDA Masada 8.90 105 Pn **Pn 05 30 29.3 +1.1**
MZDA Sn **Sn 05 32 03.3 -3.9**
MZDA Masada 8.90 105 Pn **Pn 05 30 29.3 +1.1**
PRNI Paran 9.00 111 Pn **Pn 05 30 31.1 +1.5**
PRNI Sn **Sn 05 32 05.0 -4.7**
PRNI Paran 9.00 111 Pn **Pn 05 30 31.1 +1.5**
HRFI Mount Harif 9.16 113 Pn **Pn 05 30 33.5 +1.6**
HRFI Mount Harif 9.16 113 Pn **Pn 05 30 33.5 +1.6**
MBRI Mt Berech 9.19 114 Pn **Pn 05 30 34.0 +1.7**
MBRI Sn **Sn 05 32 10.6 -3.8**
MBRI Mt Berech 9.19 114 Pn **Pn 05 30 34.0 +1.7**
EIL Elat 9.28 115 Pn **Pn 05 30 34.8 +1.4**
comp=N,1.9nm,0.3s,baz=269,slow=23,SNR=23
EIL Sn **Sn 05 32 14.7 -1.8**
comp=N,0.8nm,0.3s,baz=343,slow=18,SNR=3.6
EIL Elat 9.28 115 Pn **Pn 05 30 34.7 +1.3**
EIL Elat 9.28 115 Pn **Pn 05 30 34.7 +1.3**
VAE Valguarnera 9.50 295 Pn **Pn 05 30 38.0 +1.5**
comp=N,0.9nm,0.3s,baz=94,slow=13,SNR=2.5
VAE Sn Sn 05 32 08.4 -14
comp=N,0.3nm,0.3s,baz=145,slow=18,SNR=2.0
STON Ston 10.67 328 *e*Pn Pn 05 30 47.1 -5.3
STON Sn Sn 05 32 36.0 -15
UDBI Udbina 12.84 328 *e*Pn Pn 05 31 17.2 -4.9
NVLJ Novalja 13.28 326 *e*Pn Pn 05 31 22.4 -5.6
NVLJ Sn Sn 05 33 39.8 -14
SOKA Soboth 14.87 331 *i* P **P 05 31 54.9 -0.2**
comp=N,7.0nm,1.4s
SOKA Soboth 14.87 331 P **P 05 31 54.9 -0.2**
comp=N,7.0nm,1.4s
OBKA Obir 14.93 330 *i* pP P 05 32 04.0 +8.2
comp=N,9.7nm,1.3s
KBA Koelnbreinsper 15.89 329 *i* P **P 05 32 07.8 +1.3**
comp=N,5.4nm,0.9s
KBA Koelnbreinsper 15.89 329 P **P 05 32 07.8 +1.3**
comp=N,5.4nm,0.9s
ABTA Abfaltersbach 16.01 327 *i* P **P 05 32 06.9 -0.8**
comp=N,7.6nm,0.8s
ABTA Abfaltersbach 16.01 327 P **P 05 32 06.9 -0.8**
comp=N,7.6nm,0.8s
MOA Molln 16.13 332 *i* Pn **P 05 32 08.3 -0.7**
comp=N,2.5nm,0.5s
MOA Molln 16.13 332 P **P 05 32 08.3 -0.7**
comp=N,2.5nm,0.5s
VRAC Vranov 16.61 340 Pn **P 05 32 13.8 -0.5**
comp=N,0.1nm,0.3s,baz=167,slow=12,SNR=5.1
GNI Garni 16.68 63 LR LR 05 40 39.0
comp=N,41nm,18.8s,baz=241,slow=44
KBZ Khabaz 16.78 49 Pn **P 05 32 18.2 +2.0**
comp=N,0.1nm,0.3s,baz=241,slow=10,SNR=5.3
WATA Walderalm 16.87 326 *i* Pn **Pn 05 32 15.6 0.0**
comp=N,6.7nm,1.0s
WATA Walderalm 16.87 326 P **Pn 05 32 15.6 0.0**
comp=N,6.7nm,1.0s
AKASG Malin Array Be 16.95 9 Pn **Pn 05 32 15.8 -0.5**
comp=N,2.2nm,0.3s,baz=194,slow=9.7,SNR=9.3
FETA Feichten 17.05 324 *i* P **P 05 32 20.7 +1.4**
comp=N,7.1nm,1.3s
FETA Feichten 17.05 324 P **P 05 32 20.7 +1.4**
comp=N,7.1nm,1.3s
GERES GERESS Array B 17.17 333 Pn **Pn 05 32 19.5 +0.3**
comp=N,0.3nm,0.3s,baz=146,slow=12,SNR=44
RETA Reutte 17.36 325 *i* Pn **Pn 05 32 20.5 -1.1**
comp=N,6.2nm,1.6s
RETA Reutte 17.36 325 P **Pn 05 32 20.5 -1.1**
comp=N,6.2nm,1.6s
KHC Kasperske Hory 17.45 334 *e*P **P 05 32 23.5 -0.1**
ESDC Sonseca Array 24.03 292 P **P 05 33 32.9 -0.9**
comp=N,0.7nm,0.5s,baz=82,slow=9.1,SNR=7.7
MDT Midelt 24.95 276 P **P 05 33 42.6 +0.3**
comp=N,1.6nm,0.8s,baz=87,slow=12,SNR=4.6
FINES FINESS Array B 27.47 1 P **P 05 34 02.4 -2.2**
comp=N,0.7nm,0.3s,baz=167,slow=12,SNR=12
FINES LR LR 05 47 25.6
comp=N,38nm,18.1s,baz=223,slow=42
NOA NORSAR Array B 28.55 346 P **P 05 34 11.9 -2.4**
comp=N,1.3nm,1.0s,baz=147,slow=9.1,SNR=3.3
NOA LR LR 05 45 15.5
comp=N,14nm,20.8s,baz=315,slow=36
EKA Eskdalemuir Ar 29.06 326 P **P 05 34 17.3 -1.5**
comp=N,1.7nm,0.8s,baz=122,slow=10,SNR=3.5
TORD Torodi Ar. Bea 29.83 232 P **P 05 34 27.1 +1.1**
comp=N,2.0nm,0.6s,baz=33,slow=8.8,SNR=16
ARCES ARCESS Array B 35.60 0 P **P 05 35 13.7 -2.1**
comp=N,2.2nm,0.9s,baz=184,slow=9.2,SNR=7.3
MKAR Makanchi Array 44.34 56 P **P 05 36 30.0 +1.3**
comp=N,1.9nm,0.6s,baz=289,slow=5.7,SNR=7.2
ZALV Zalesovo Beam 45.74 45 P **P 05 36 40.1 +0.4**
comp=N,2.1nm,0.5s,baz=269,slow=9.2,SNR=5.3
SONM Songino Array 60.15 50 P **P 05 38 27.4 +1.2**
comp=N,0.9nm,0.6s,baz=297,slow=9.5,SNR=5.8
ILAR Eielson Array 81.37 357 P **P 05 40 35.5 +0.8**
comp=N,0.2nm,0.5s,baz=340,slow=5.1,SNR=4.6
DZM Mont Dzumac 143.91 81 *e*LR LR 05 46 00.4
comp=N,208nm,21.8s

ISCJB ***23*** *05:38:02.3±0.9, 11°.78N±0°.07×44°.26E±0°.06, h4km, mb3.6/6, Error ellipse: s-maj=11.3km s-min=6.5km az=137.5*
IDC ***23*** *05:38:03.3±1.6, 11°.65N×44°.17E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/33, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/45, Error ellipse: s-maj=46.4km s-min=16.6km az=168.0*
DHMR ***23*** *05:38:05.6±1.6, 12°.03N×44°.24E, h6km±26km, ML4.2*
ISC 23 05:38:04.0±1.1,**11°.81N**±0°.09×**44°.24E**±0°.08,**h4km**,**n11**, σ1**9**66/14,**mb3.7**/6,**Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.20**	**37**	*i* P	**Pg**		**05 38 25.2**	**-1.9**
ADEN				*i* S	**Sg**		**05 38 39.6**	**-3.1**
ADEN				AML	AML		05 38 48.2	
comp=E,6μm,0.3s								
ATD	**Arta Tunnel**	**1.39**	**259**	Pn	**Pn**		**05 38 28.7**	**-1.5**
comp=E,75nm,0.3s,baz=43,slow=14,SNR=60								
ATD				Sn	**Sg**		**05 38 46.9**	**-1.8**
comp=E,121nm,0.3s,baz=90,slow=20,SNR=36								
UDYN	**Al 'Udayn**	**2.16**	**353**	*i* P	**Pn**		**05 38 40.9**	**0.0**
UDYN				*i* S	**Sn**		**05 39 07.0**	**-1.2**
HAJJ	**Hajjah**	**3.92**	**351**	*i* P	**Pn**		**05 39 05.1**	**0.0**
HAJJ				*i* S	**Sn**		**05 39 53.8**	**+2.2**
KMBO	**Kilima Mbogo**	**14.61**	**209**	Lg	Lg		05 45 28.3	
comp=E,0.6nm,0.3s,baz=80,slow=12,SNR=6.3								
KMBO				LR	LR		05 47 05.2	
comp=E,180nm,19.1s,baz=16,slow=38								
BRTR	**Keskin Array B**	**29.35**	**343**	P	**P**		**05 44 09.9**	**+1.8**
comp=E,0.9nm,0.8s,baz=160,slow=9.0,SNR=4.0								
TORD	**Torodi Ar. Bea**	**41.53**	**277**	P	**P**		**05 45 52.9**	**0.0**
comp=E,0.5nm,0.9s,baz=88,slow=10,SNR=3.6								
GERES	**GERESS Array B**	**44.79**	**332**	P	**P**		**05 46 19.0**	**+0.1**
comp=E,0.5nm,0.8s,baz=137,slow=7.4,SNR=4.6								
ZALV	**Zalesovo Beam**	**52.87**	**29**	P	**P**		**05 47 21.5**	**+0.7**
comp=E,0.8nm,0.6s,baz=235,slow=5.1,SNR=3.2								
CMAR	**Chiang Mai Arr**	**53.06**	**76**	P	**P**		**05 47 23.4**	**+0.6**
comp=E,1.7nm,0.3s,baz=268,slow=8.8,SNR=12								
SONM	**Songino Array**	**62.72**	**42**	P	**P**		**05 48 31.6**	**+1.2**
comp=E,0.2nm,0.4s,baz=243,slow=6.5,SNR=6.1								

ATH ***23*** *05:43:40.8, 41°.63N×24°.60E, h21km±1km, ML2.1/4, Error ellipse: s-maj=3.0km s-min=0.9km az=187.0*
BEO ***23*** *05:43:40.6±0.9, 41°.61N×24°.64E, h0km, M2.3/5*
THE ***23*** *05:43:41.4, 41°.63N×24°.58E, h4km±1km, ML2.5/10, Error ellipse: s-maj=1.4km s-min=0.5km az=189.0*
CSEM ***23*** *05:43:41.0±0.1, 41°.64N×24°.60E, h2km, ML2.3, Error ellipse: s-maj=2.7km s-min=2.2km az=68.0*
ISC 23 05:43:41.0±1.1,**41°.63N**±0°.02×**24°.58E**±0°.02,**h5km**±10km, **n68**, σ0**°88**/108,**5C-8D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.48**	**11**	*i* Pg	**Pg**		**05 43 50.0**	**-0.3**
PLD	**Plovdiv**	**0.48**	**11**	*i* Pg	**Pg**		**05 43 50.0**	**-0.3**
NVR	**Nevrokopi**	**0.61**	**243**	P	**Pg**		**05 43 52.7**	**0.0**
NVR				S	**Sg**		**05 44 01.3**	**+0.7**
NVR	**Nevrokopi**	**0.61**	**243**	P	**Pg**		**05 43 52.5**	**-0.2**
NVR				S	**Sg**		**05 44 00.8**	**+0.2**
NVR				AML	AML		05 44 01.8	
comp=E,271μm,0.2s								
NVR				AML	AML		05 44 02.0	
comp=N,502μm,0.2s								
NVR	**Nevrokopi**	**0.61**	**243**	P	**Pg**		**05 43 52.7**	**0.0**
NVR				S	**Sg**		**05 44 01.3**	**+0.7**
KAVA	**Kavala**	**0.64**	**185**	P	**Pg**		**05 43 53.5**	**+0.4**
KAVA				S	**Sb**		**05 44 02.7**	**-0.9**
KAVA	**Kavala**	**0.64**	**185**	P	**Pg**		**05 43 53.6**	**+0.5**
KAVA				S	**Sb**		**05 44 03.2**	**-0.4**
KAVA				AML	AML		05 44 05.2	
comp=E,385μm,0.2s								
KAVA				AML	AML		05 44 08.6	
comp=N,377μm,0.2s								
KAVA	**Kavala**	**0.64**	**185**	P	**Pg**		**05 43 53.7**	**+0.5**
KAVA				S	**Sb**		**05 44 02.7**	**-0.9**
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**		**05 43 57.4**	**-0.2**
RDO				S	**Sb**		**05 44 10.2**	**-0.1**
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**		**05 43 57.7**	**+0.1**
RDO				S	**Sg**		**05 44 08.5**	**-0.3**
RDO	**Rodhopi**	**0.87**	**124**	P	**Pg**		**05 43 57.7**	**+0.1**
RDO				S	**Sg**		**05 44 08.5**	**-0.3**
SRS	**Serrai**	**0.91**	**236**	P	**Pb**		**05 43 58.9**	**-0.2**
SRS				S	**Sb**		**05 44 11.4**	**-0.1**
SRS	**Serrai**	**0.91**	**236**	P	**Pn**		**05 43 59.4**	**-0.9**
SRS				S	**Sb**		**05 44 11.3**	**-0.1**
SRS				AML	AML		05 44 17.0	
comp=E,546μm,0.5s								
SRS				AML	AML		05 44 17.2	
comp=N,413μm,0.2s								
SRS	**Serrai**	**0.91**	**236**	P	**Pb**		**05 43 58.9**	**-0.2**
SRS				S	**Sb**		**05 44 11.3**	**-0.1**
SOH	**Sokhos**	**1.23**	**229**	P	**Pg**		**05 44 05.1**	**+0.6**
SOH				S	**Sn**		**05 44 21.5**	**-0.3**
SOH	**Sokhos**	**1.23**	**229**	P	**Pg**		**05 44 05.9**	**+1.4**
SOH				S	**Sn**		**05 44 21.1**	**-0.7**
SOH	**Sokhos**	**1.23**	**229**	P	**Pg**		**05 44 05.1**	**+0.6**
SOH				S	**Sn**		**05 44 21.5**	**-0.3**
ALN	**Alexandroupoli**	**1.32**	**123**	P	**Pg**		**05 44 06.1**	**-0.2**
ALN				S	**Sg**		**05 44 23.7**	**+0.2**
ALN	**Alexandroupoli**	**1.32**	**123**	P	**Pg**		**05 44 06.3**	**0.0**
ALN				S	**Sg**		**05 44 23.3**	**-0.2**
ALN				AML	AML		05 44 28.1	
comp=N,87μm,0.4s								
ALN				AML	AML		05 44 30.0	
comp=E,117μm,0.7s								
ALN	**Alexandroupoli**	**1.32**	**123**	P	**Pg**		**05 44 06.1**	**-0.2**
ALN				S	**Sg**		**05 44 23.3**	**-0.2**
KNT	**Kendrikon**	**1.35**	**250**	P	**Pb**		**05 44 06.4**	**-0.3**
KNT				S	**Sg**		**05 44 24.9**	**+0.5**
KNT	**Kendrikon**	**1.35**	**250**	P	**Pb**		**05 44 06.3**	**-0.3**
KNT	**Kendrikon**	**1.35**	**250**	P	**Pb**		**05 44 06.4**	**-0.3**
KNT				S	**Sg**		**05 44 24.9**	**+0.5**
SMTH	**Samothraki Isl**	**1.36**	**148**	P	**Pg**		**05 44 06.9**	**-0.2**
SMTH				S	**Sg**		**05 44 25.9**	**+1.2**
SMTH	**Samothraki Isl**	**1.36**	**148**	P	**Pg**		**05 44 07.3**	**+0.2**
SMTH				S	**Sg**		**05 44 25.5**	**+0.8**
SMTH	**Samothraki Isl**	**1.36**	**148**	P	**Pg**		**05 44 06.9**	**-0.2**
SMTH				S	**Sg**		**05 44 25.5**	**+0.8**
OUR	**Ouranopolis**	**1.37**	**200**	P	**Pn**		**05 44 06.5**	**-0.2**
OUR				S	**Sg**		**05 44 26.4**	**+1.4**
OUR	**Ouranopolis**	**1.37**	**200**	P	**Pn**		**05 44 06.3**	**-0.4**
OUR	**Ouranopolis**	**1.37**	**200**	P	**Pn**		**05 44 06.5**	**-0.2**
OUR				S	**Sg**		**05 44 26.4**	**+1.4**
VTS	**Vitosha**	**1.40**	**314**	P	**Pn**		**05 44 06.3**	**-1.0**
VTS				S	**Sg**		**05 44 26.9**	**+0.8**
VTS	**Vitosha**	**1.40**	**314**	*e*Pg	**Pn**		**05 44 06.3**	**-1.0**
VTS				*e*Sg	**Sg**		**05 44 27.7**	**+1.6**
VTS	**Vitosha**	**1.40**	**314**	⇑*i*P	**Pn**		**05 44 06.5**	**-0.8**
VTS				S	**Sg**		**05 44 26.9**	**+0.8**
VTS	**Vitosha**	**1.40**	**314**	P	**Pn**		**05 44 06.3**	**-1.0**
VTS				S	**Sg**		**05 44 26.9**	**+0.8**
VTS				*e*Sg	**Sg**		**05 44 27.7**	**+1.6**
ENEZ	**Enez**	**1.48**	**126**	P	**Pb**		**05 44 08.6**	**-0.4**
ENEZ				S	**Sg**		**05 44 29.4**	**+0.8**
ENEZ	**Enez**	**1.48**	**126**	P	**Pb**		**05 44 08.6**	**-0.4**
ENEZ				S	**Sg**		**05 44 29.4**	**+0.8**
PLG	**Polygyros**	**1.52**	**215**	P	**Pn**		**05 44 08.6**	**-0.2**
PLG				S	**Sg**		**05 44 30.5**	**+0.7**
PLG	**Polygyros**	**1.52**	**215**	P	**Pb**		**05 44 09.2**	**-0.5**
PLG	**Polygyros**	**1.52**	**215**	P	**Pb**		**05 44 09.2**	**-0.5**
PLG				S	**Sg**		**05 44 30.5**	**+0.7**
HORT	**Hortiatis**	**1.52**	**228**	P	**Pg**		**05 44 09.9**	**-0.2**
HORT	**Hortiatis**	**1.52**	**228**	P	**Pg**		**05 44 09.9**	**-0.2**
EDRB	**Edirne**	**1.63**	**82**	P	**Pn**		**05 44 09.8**	**-0.5**
EDRB	**Edirne**	**1.63**	**82**	P	**Pn**		**05 44 09.8**	**-0.5**
GRG	**Griva**	**1.78**	**248**	P	**Pb**		**05 44 12.8**	**-1.2**
GRG	**Griva**	**1.78**	**248**	P	**Pb**		**05 44 12.8**	**-1.2**
LIA	**Limnos Island**	**1.79**	**165**	P	**Pn**		**05 44 11.9**	**-0.5**
LIA	**Limnos Island**	**1.79**	**165**	P	**Pn**		**05 44 11.9**	**-0.5**
PAIG	**Paliouri**	**1.83**	**202**	P	**Pn**		**05 44 12.3**	**-0.8**
PAIG	**Paliouri**	**1.83**	**202**	P	**Pn**		**05 44 12.6**	**-0.5**
PAIG	**Paliouri**	**1.83**	**202**	P	**Pn**		**05 44 12.6**	**-0.5**
ZAPS	**Zavoj**	**2.19**	**319**	*e*Pn	**Pb**		**05 44 20.2**	**-0.8**
ZAPS				*e*Sn	**Sb**		**05 44 46.9**	**-1.5**
BARS	**Barje**	**2.37**	**301**	*e*Pn	**Pn**		**05 44 21.0**	**+0.5**
BARS				*e*Sn	**Sb**		**05 44 52.2**	**-1.5**
BARS	**Barje**	**2.37**	**301**	*e*Pn	**Pn**		**05 44 21.0**	**+0.5**
BARS				*e*Sn	**Sb**		**05 44 52.2**	**-1.5**
ZAGS	**Zajecar**	**2.79**	**322**	*e*Pn	**Pn**		**05 44 25.6**	**-0.6**
ZAGS				*e*Sg	**Sg**		**05 45 08.7**	**-1.7**
ZAGS	**Zajecar**	**2.79**	**322**	*e*Pn	**Pn**		**05 44 25.6**	**-0.6**
ZAGS				*e*Sg	**Sg**		**05 45 08.7**	**-1.7**
BOVS	**Bovan**	**2.92**	**314**	*e*Pn	**Pn**		**05 44 28.4**	**+0.4**
BOVS	**Bovan**	**2.92**	**314**	*e*Pn	**Pn**		**05 44 28.4**	**+0.4**
ARR	**Arges**	**3.74**	**1**	⇓*i*P	**Pn**		**05 44 40.3**	**+1.0**
ARR	**Arges**	**3.74**	**1**	⇓*i*P	**Pn**		**05 44 40.3**	**+1.0**
VOIR		**3.82**	**5**	⇑*i*P	**Pn**		**05 44 41.7**	**+1.2**
VOIR		**3.82**	**5**	⇑*i*P	**Pn**		**05 44 41.7**	**+1.2**
GZR	**Gura Zlata**	**3.98**	**341**	⇓*i*P	**Pn**		**05 44 43.6**	**+0.9**
GZR	**Gura Zlata**	**3.98**	**341**	⇓*i*P	**Pn**		**05 44 43.6**	**+0.9**
MLR	**Muntele Rosu**	**3.98**	**14**	⇓*i*P	**Pn**		**05 44 43.3**	**+0.5**
MLR	**Muntele Rosu**	**3.98**	**14**	⇓*i*P	**Pn**		**05 44 43.3**	**+0.5**
BZS	**Buzias**	**4.53**	**333**	⇓*i*P	**Pn**		**05 44 50.0**	**-0.1**
BZS	**Buzias**	**4.53**	**333**	⇓*i*P	**Pn**		**05 44 50.0**	**-0.1**
SIRR	**Siria**	**5.09**	**337**	⇑*i*P	**Pn**		**05 44 58.2**	**+0.3**
SIRR				S	**Sn**		**05 46 01.9**	**+4.8**
SIRR	**Siria**	**5.09**	**337**	⇑*i*P	**Pn**		**05 44 58.2**	**+0.3**

IDC ***23*** *05:53:46.6±1.2, 34°.12N×25°.16E, h0km, mb3.9/7, mb1 3.8/10, mb1mx3.6/46, mbtmp3.8/10, ML3.9/3, Error ellipse: s-maj=23.0km s-min=18.9km az=73.0*
CSEM ***23*** *05:53:50.4±0.5, 34°.07N×25°.10E, h15km, ML3.2, Error ellipse: s-maj=11.5km s-min=5.9km az=16.0*
THE ***23*** *05:53:52.2, 34°.13N×25°.06E, h13km±3km, ML3.0/6, Error ellipse: s-maj=4.3km s-min=0.8km az=182.0*
ATH ***23*** *05:53:53.0, 34°.23N×25°.10E, h40km±4km, ML3.2/2, Error ellipse: s-maj=8.2km s-min=2.2km az=3.0*
DDA ***23*** *05:54:34.0, 36°.56N×28°.00E, h8km, Ml2.5*
ISC 23 05:53:49.7±1.6,**34°.06N**±0°.06×**25°.11E**±0°.04,**h17km**±7km, **n59**, σ1**°10**/66,**mb3.9**/7,**Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.98**	**346**	P	**Pg**		**05 54 08.9**	**+0.1**
SIVA				S	**Sb**		**05 54 22.3**	**+1.3**
SIVA	**Sivas**	**0.98**	**346**	P	**Pg**		**05 54 08.7**	**-0.1**
SIVA				S	**Sg**		**05 54 21.6**	**-0.1**
SIVA				AML	AML		05 54 37.6	
comp=E,3640μm,0.8s								
SIVA				AML	AML		05 54 38.0	
comp=N,3376μm,0.5s								
SIVA	**Sivas**	**0.98**	**346**	P	**Pg**		**05 54 08.9**	**+0.1**
SIVA				S	**Sg**		**05 54 21.6**	**-0.1**
LAST	**Lasithi**	**1.14**	**16**	P	**Pg**		**05 54 11.7**	**0.0**
LAST				S	**Sg**		**05 54 26.9**	**+0.3**
LAST	**Lasithi**	**1.14**	**16**	P	**Pg**		**05 54 11.7**	**0.0**
LAST	**Lasithi**	**1.14**	**16**	P	**Pg**		**05 54 11.7**	**0.0**
LAST				S	**Sg**		**05 54 26.9**	**+0.3**
GVD	**Gavdhos**	**1.14**	**313**	P	**Pg**		**05 54 11.8**	**0.0**
GVD				S	**Sg**		**05 54 26.3**	**-0.5**
GVD	**Gavdhos**	**1.14**	**313**	P	**Pb**		**05 54 13.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**5.18**	**54**	*i* P	**Pn**	**05 55 09.4**	**+2.8**
KORT	**Korkueli**	**5.18**	**54**	P	**Pn**	**05 55 09.4**	**+2.8**
KHAL	**Karahalli**	**5.57**	**38**	*i* P	**Pn**	**05 55 10.5**	**-1.4**
MMAI	**Mount Meron Ar**	**8.66**	**94**	Pn	Pn	05 55 52.0	-2.3
	comp=N,0.9nm,0.3s,baz=267,slow=9.7,SNR=2.6						
EIL	**Elat**	**9.45**	**115**	Pn	Pn	05 56 03.5	-1.5
	comp=N,0.9nm,0.3s,baz=286,slow=18,SNR=7.8						
EIL				Sn	Sn	05 57 41.8	-9.1
	comp=N,0.3nm,0.3s,baz=248,slow=19,SNR=3.2						
STON	**Ston**	**10.53**	**329**	*e*Pn	Pn	05 56 16.4	-3.4
STON				Sn	Sn	05 58 06.1	-11
UDBI	**Udbina**	**12.70**	**328**	*e*Pn	Pn	05 56 46.7	-2.8
NVLJ	**Novalja**	**13.13**	**326**	*e*Pn	Pn	05 56 51.6	-3.7
AKASG	**Malin Array Be**	**16.90**	**9**	Pn	**Pn**	**05 57 44.3**	**-1.0**
	comp=N,0.7nm,0.3s,baz=199,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**27.40**	**1**	P	**P**	**05 59 31.1**	**-2.9**
	comp=N,4.4nm,1.1s,baz=176,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**29.76**	**231**	P	**P**	**05 59 55.9**	**+0.4**
	comp=N,0.8nm,0.4s,baz=36,slow=8.2,SNR=10						
ARCES	**ARCESS Array B**	**35.52**	**0**	P	P	06 00 42.6	-2.8
	comp=N,3.0nm,1.0s,baz=191,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**41.85**	**50**	P	**P**	**06 01 37.7**	**-1.0**
	comp=N,0.5nm,0.5s,baz=280,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**44.42**	**56**	P	**P**	**06 01 59.1**	**-0.5**
	comp=N,0.9nm,0.5s,baz=275,slow=7.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**45.80**	**45**	P	**P**	**06 02 09.1**	**-1.2**
	comp=N,0.7nm,0.4s,baz=267,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**60.22**	**50**	P	**P**	**06 03 56.8**	**-0.1**
	comp=N,0.5nm,0.6s,baz=281,slow=7.4,SNR=2.5						

*VIE **23** 05:56:33.4±0.8, 51°.69N×15°.76E, h0km, mb2.4/4, ML2.5/6, Error ellipse: s-maj=6.1km s-min=3.6km az=12.0, Suspected Mining induced.*
*ISCJB **23** 05:56:39.9±0.6, 51°.55N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.8km az=5.7*
*CSEM **23** 05:56:42.2±0.5, 51°.51N×16°.08E, h2km, ML3.1/9, Error ellipse: s-maj=8.0km s-min=4.3km az=173.0, Suspected Mining induced.*
*IDC **23** 05:56:44.2±1.1, 51°.45N×15°.95E, h0km, mb1 3.1/4, mb1mx3.0/46, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=16.0km s-min=8.7km az=126.0*

ISC 23 05:56:42.0±0.9, 51°.55N±0°.04×16°.08E±0°.02, h0km, n46, σ0 77/79, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**169**	*i* Pg	**Pg**	**05 56 56.3**	**+0.7**
KSP				*e*Sg	**Sg**	**05 57 06.1**	**+1.2**
KSP	**Ksiaz**	**0.71**	**169**	⇓*i* Pg	**Pg**	**05 56 56.3**	**+0.7**
KSP				*e*Sg	**Sg**	**05 57 06.1**	**+1.2**
KSP	**Ksiaz**	**0.71**	**169**	*i* Pg	**Pg**	**05 56 56.3**	**+0.7**
KSP				*e*Sg	**Sg**	**05 57 06.1**	**+1.2**
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**05 57 01.9**	**+0.1**
UPC				*e*SG	**Sg**	**05 57 15.9**	**+0.6**
	comp=Z,56nm,0.2s						
UPC	**Upice**	**1.04**	**182**	Pg	**Pg**	**05 57 01.9**	**+0.1**
UPC				Sg	**Sg**	**05 57 15.9**	**+0.6**
	56nm,0.2s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**05 57 05.1**	**+0.1**
DPC				*e*SG	**Sg**	**05 57 20.8**	**+0.2**
	comp=Z,21nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**173**	Pg	**Pg**	**05 57 05.1**	**+0.1**
DPC				Sg	**Sg**	**05 57 20.8**	**+0.2**
	21nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pb**	**05 57 09.4**	**+0.5**
PVCC				*e*SG	**Sn**	**05 57 28.2**	**+0.4**
	comp=Z,125nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**224**	Pg	**Pb**	**05 57 09.4**	**+0.5**
PVCC				Sg	**Sn**	**05 57 28.2**	**+0.4**
	125nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**244**	PG	**Pg**	**05 57 11.1**	**+0.4**
BRG				SG	**Sn**	**05 57 31.7**	**+1.3**
	91nm,0.6s						
KRLC	**Kraliky**	**1.54**	**163**	*e*PG	**Pn**	**05 57 10.5**	**-0.2**
KRLC				*e*SG	**Sg**	**05 57 30.6**	**-0.7**
KRLC	**Kraliky**	**1.54**	**163**	Pg	**Pn**	**05 57 10.5**	**-0.2**
KRLC				Sg	**Sg**	**05 57 30.6**	**-0.7**
GOPC	**GO Pecny, Ondr**	**1.83**	**207**	*e*PN	**Pn**	**05 57 14.8**	**+0.2**
GOPC				*e*PG	**Pb**	**05 57 16.4**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.83**	**207**	Pn	**Pn**	**05 57 14.8**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.83**	**207**	Pg	**Pb**	**05 57 16.4**	**+0.1**
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pn**	**05 57 15.2**	**+0.4**
PRU				*e*SG	**Sg**	**05 57 41.0**	**0.0**
	comp=Z,36nm,0.6s						
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pn**	**05 57 15.2**	**+0.4**
PRU				Sg	**Sg**	**05 57 41.0**	**0.0**
	36nm,0.6s						
CLL	**Collm**	**1.94**	**264**	*e*Pn	**Pn**	**05 57 16.0**	**-0.2**
CLL				*e*Pg	**Pg**	**05 57 19.0**	**-0.2**
CLL				*e*		05 57 23.0	
CLL				*e*Sg	**Sg**	**05 57 44.0**	**-0.3**
	comp=Z,23nm,0.3s						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**05 57 16.5**	**-0.5**
MORC				*e*Sg	**Sg**	**05 57 45.5**	**-0.6**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**05 57 21.9**	**+0.1**
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pb**	**05 57 21.9**	**+0.1**
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**05 57 21.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=356,slow=16,SNR=14						
VRAC				Sn	**Sn**	**05 57 49.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=270,slow=20,SNR=2.9						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	**05 57 20.9**	**+0.3**
VRAC				*e*Sg	**Sb**	**05 57 51.3**	**-0.9**
NKC	**Novy Kostel**	**2.65**	**242**	*e*SG	**Sg**	**05 58 07.2**	**+0.2**
NKC	**Novy Kostel**	**2.65**	**242**	Sg	**Sg**	**05 58 07.2**	**+0.2**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**05 57 33.5**	**-0.2**
OJC				*e*Sg	**Sg**	**05 58 08.7**	**0.0**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**05 57 33.5**	**-0.2**
OJC				*e*Sg	**Sg**	**05 58 08.7**	**0.0**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**05 57 33.5**	**-0.2**
OJC				*e*Sg	**Sg**	**05 58 08.7**	**0.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**05 57 29.5**	**+0.1**
KHC				*e*PG	**Pb**	**05 57 35.8**	**+1.3**
KHC				*e*SG	**Sg**	**05 58 13.6**	**-1.5**
	comp=Z,8.9nm,0.6s						
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**05 57 29.5**	**+0.1**
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**05 57 32.3**	**0.0**
	comp=Z,0.7nm,0.3s,baz=30,slow=13,SNR=30						
GERES				Pg	**Pb**	**05 57 39.2**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=27,slow=16,SNR=26						
GERES				Sn	**Sn**	**05 58 09.2**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=30,slow=26,SNR=5.9						
GERES				Lg	Lg	05 58 19.1	
	comp=Z,3.4nm,0.3s,baz=29,slow=27,SNR=13						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*Pg	**Pg**	**05 57 42.3**	**-1.6**
LANS				*e*Sg	**Sg**	**05 58 25.9**	**+0.2**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*	**Pn**	**05 57 34.9**	**+0.9**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**05 57 42.3**	**-1.6**
LANS				*e*SG	**Sg**	**05 58 25.9**	**+0.2**
VYHS	**Vyhne**	**3.53**	**149**	*e*Pg	**Pg**	**05 57 49.6**	**0.0**
VYHS				*e*Sg	**Sg**	**05 58 33.6**	**-1.8**
VYHS	**Vyhne**	**3.53**	**149**	*e*	**Pn**	**05 57 37.5**	**-0.6**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**05 57 49.6**	**0.0**
VYHS				*e*SG	**Sg**	**05 58 33.5**	**-1.8**
CONA	**Conrad Observa**	**3.62**	**182**	Sg	**Sg**	**05 58 38.6**	**+0.3**
	comp=Z,4.3nm,0.3s						
MOA	**Molln**	**3.88**	**198**	Sg	**Sg**	**05 58 45.0**	**-1.6**
	comp=Z,2.9nm,0.2s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pg**	**05 57 58.6**	**+1.5**
STHS				*e*Sg	**Sg**	**05 58 49.3**	**+1.4**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*	**Pn**	**05 57 43.2**	**-0.2**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pg**	**05 57 58.6**	**+1.5**
STHS				*e*SG	**Sg**	**05 58 49.3**	**+1.4**
STHS				*e*LG	Lg	05 59 01.3	
ARSA	**Arzberg**	**4.31**	**185**	Sg	**Sg**	**05 58 59.1**	**-1.4**
	comp=Z,2.6nm,0.4s						
KBA	**Koelnbreinsper**	**4.81**	**203**	Sg	**Sg**	**05 59 16.3**	**-0.3**
	comp=Z,1.7nm,0.3s						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**05 58 43.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=278,slow=12,SNR=2.2						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**05 59 24.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=9.9,SNR=2.4						

*IDC **23** 05:57:15.2±1.1, 8°.73S×158°.10E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/32, mbtmp4.1/7, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/38, Error ellipse: s-maj=28.0km s-min=19.2km az=173.0*
*ISCJB **23** 05:57:17.3±0.9, 8°.7S±0°.1×158°.00E±0°.07, h23km, mb3.8/6, Error ellipse: s-maj=21.0km s-min=9.2km az=6.0*

ISC 23 05:57:18.5±1.0, 8°.8S±0°.2×158°.16E±0°.08, h23km, n13, σ1 24/10, mb4.0/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.89**	**110**	Pn	**Pn**	**05 57 48.8**	**-0.5**
	52nm,0.3s,baz=236,slow=3.6,SNR=27						
HNR				Sn	**Sb**	**05 58 16.8**	**+1.5**
	630nm,0.3s,baz=65,slow=24,SNR=16						
HNR				LR	LR	05 58 19.5	
	comp=Z,182nm,18.9s,baz=296,slow=33						
HNR	**Honiara**	**1.89**	**110**	*e*P	**Pn**	**05 57 47.0**	**-2.3**
PMG	**Port Moresby**	**10.88**	**266**	LR	LR	06 03 29.9	
	comp=Z,160nm,18.4s,baz=148,slow=35						
CTA	**Charters Tower**	**16.09**	**224**	Pn	**Pn**	**06 01 04.2**	**+0.8**
	0.2nm,0.3s,baz=54,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**25.57**	**242**	P	**P**	**06 02 45.9**	**-0.1**
	3.6nm,0.8s,baz=66,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**27.53**	**235**	P	**P**	**06 03 02.6**	**-1.1**
	1.2nm,0.9s,baz=67,slow=9.1,SNR=7.8						
STKA	**Stephens Creek**	**27.66**	**211**	P	**P**	**06 03 05.4**	**+0.7**
	3.7nm,0.7s,baz=52,slow=12,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**28.37**	**17**	T	T	06 31 44.1	
	baz=199						
H11S2	**WAKE ISLAND Hy**	**28.37**	**17**	T	T	06 31 56.8	
	baz=199						
H11S1	**WAKE ISLAND Hy**	**28.39**	**17**	T	T	06 31 53.6	
	baz=199						
FITZ	**Fitzroy Crossi**	**32.91**	**250**	P	**P**	**06 03 50.7**	**-0.6**
	1.7nm,0.8s,baz=73,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**64.37**	**295**	P	**P**	**06 07 53.6**	**+0.5**
	0.5nm,0.3s,baz=133,slow=5.2,SNR=3.3						
ILAR	**Eielson Array**	**83.90**	**21**	P	**P**	**06 09 46.7**	**+0.5**
	0.3nm,0.6s,baz=241,slow=5.3,SNR=5.0						

IDC 23 05:59:09.2±13.0, 17°.97S×167°.06E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/32, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=229.9km s-min=36.3km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.12**	**188**	Pn	Pn	06 00 13.1	-0.4
	5.0nm,0.3s,baz=24,slow=12,SNR=28						
DZM				Sn	Sn	06 01 02.8	+0.3
	6.2nm,0.3s,baz=143,slow=23,SNR=11						
STKA	**Stephens Creek**	**26.84**	**234**	P	P	06 04 52.5	+1.0
	1.6nm,0.7s,baz=63,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**30.99**	**261**	P	P	06 05 27.6	-1.0
	0.8nm,1.0s,baz=90,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**31.46**	**254**	P	P	06 05 32.6	-0.1
	1.4nm,0.8s,baz=82,slow=8.7,SNR=9.8						
FITZ	**Fitzroy Crossi**	**39.33**	**263**	P	P	06 06 40.8	+0.4
	2.6nm,1.0s,baz=90,slow=9.1,SNR=3.9						

IDC 23 06:10:44.2±6.7, 15°.34S×172°.85W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/24, mbtmp3.6/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/29, Error ellipse: s-maj=313.3km s-min=23.1km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.77**	**36**	Pn	Pn	06 11 13.9	-2.2
	42nm,0.3s,baz=40,slow=2.2,SNR=29						
AFI				Sn	Sn	06 11 32.1	-7.2
	210nm,0.3s,baz=61,slow=19,SNR=23						
AFI				LR	LR	06 11 43.5	
	comp=Z,207nm,18.0s,baz=230,slow=34						
RAR	**Rarotonga**	**13.72**	**117**	LR	LR	06 17 58.8	
	comp=Z,110nm,19.8s,baz=300,slow=32						
DZM	**Mont Dzumac**	**20.71**	**248**	LR	LR	06 21 39.9	
	comp=Z,149nm,19.6s,baz=162,slow=32						
DZM	**Mont Dzumac**	**20.71**	**248**	*e*LR	LR	06 21 03.6	
	225nm,24.9s						
PPT	**Papeete**	**22.43**	**99**	LR	LR	06 22 48.3	
	comp=Z,90nm,19.0s,baz=231,slow=32						
PPT2	**Papeete2**	**22.43**	**99**	*e*LQ	LQ	06 20 15.9	
	226nm,24.5s						
PPT2				*e*LR	LR	06 21 12.5	
	168nm,24.8s						
TBI	**Tubuai**	**23.44**	**113**	*e*LR	LR	06 21 45.9	
	231nm,26.8s						
WRA	**Warramunga Arr**	**50.37**	**257**	P	P	06 19 42.4	-1.1
	0.2nm,0.5s,baz=92,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**50.63**	**252**	P	P	06 19 44.6	-0.9
	1.1nm,0.6s,baz=87,slow=8.4,SNR=20						
ASAR				LR	LR	06 39 06.2	
	comp=Z,86nm,22.0s,baz=61,slow=34						
MJAR	**Matsushiro Arr**	**69.24**	**320**	LR	LR	06 46 42.7	
	comp=Z,23nm,21.1s,baz=110,slow=31						
LPIG	**La Paz**	**72.56**	**58**	LR	LR	06 49 06.7	
	comp=Z,62nm,18.6s,baz=254,slow=32						
KSRS	**Korea Array**	**76.49**	**315**	LR	LR	06 51 22.9	
	comp=Z,12nm,21.4s,baz=130,slow=32						
PDAR	**Pinedale Array**	**81.87**	**42**	LR	LR	06 54 05.4	
	comp=Z,36nm,19.5s,baz=330,slow=32						
ILAR	**Eielson Array**	**82.29**	**11**	P	P	06 23 07.2	+0.1
	0.3nm,0.8s,baz=224,slow=5.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**93.10**	**288**	LR	LR	06 59 18.1	
	comp=Z,3.8nm,20.6s,baz=345,slow=31						
GERES	**GERESS Array B**	**146.16**	**352**	PKPbc	PKPab	06 30 27.3	+0.1
	0.2nm,0.5s,baz=355,slow=4.2,SNR=3.3						
BRTR	**Keskin Array B**	**146.44**	**322**	PKPbc	PKPab	06 30 28.7	+0.1
	1.4nm,0.8s,baz=58,slow=2.0,SNR=5.5						

MEX 23 06:12:30.6±0.7, 16°.67N×101°.97W, h17km±75km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.04**	**27**	*e*P	Pb	06 12 46.6	-3.6
ZIIG				*e*S	Sb	06 12 58.2	-5.3
CAIG	**El Cayaco**	**1.67**	**77**	*e*P	Pn	06 12 55.9	-3.1
CAIG				*e*S	Sn	06 13 13.7	-6.4
ARIG	**Puente Sto Nin**	**2.22**	**44**	*e*P	Pn	06 13 04.3	-2.4
ARIG				*e*S	Sn	06 13 30.2	-3.5
MEIG	**Mezcala**	**2.56**	**61**	*e*P	Pn	06 13 08.9	-2.5
PLIG	**Platanillo**	**2.91**	**54**	*e*P	Pn	06 13 07.6	-8.6
PLIG				*e*S	Sn	06 13 47.6	-3.1

TRN 23 06:22:40.5, 17°.31N×62°.14W, h20km, MD3.5, 3C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.38**	**135**	⇓*i* P	Pn	06 22 50.1	-0.7
BPA	**Boggy Peak**	**0.38**	**135**	*e*	Pn	06 22 54.6	+3.8
BPA				*e*S	Sn	06 22 56.6	-0.9
NEV	**Hard Times**	**0.45**	**247**	*e*P	Pn	06 22 52.4	+0.6
NEV				*e*S	Sn	06 22 59.3	0.0
ANWB	**Willy Bob**	**0.49**	**43**	*e*P	Pn	06 22 52.4	+0.1
ANWB				*e*S	Sn	06 23 01.0	+0.8
SKI	**Saint Kitts**	**0.58**	**272**	⇑*i* P	Pn	06 22 54.0	+0.5
SKI	**Saint Kitts**	**0.58**	**272**	*e*	Pn	06 23 02.1	+8.6
SKI				*e*S	Sn	06 23 03.3	+0.9
MLYT	**Lee's Yard**	**0.59**	**185**	*e*P	Pn	06 22 54.1	+0.4
MLYT	**Lee's Yard**	**0.59**	**185**	*e*	Pn	06 23 00.1	+6.3
MLYT				*e*S	Sn	06 23 05.1	+2.3
SEUS	**St. Eustatius**	**0.83**	**283**	*e*P	Pn	06 22 58.5	+1.6
SEUS				*e*S	Sn	06 23 10.3	+1.7
SEG	**Port Louis**	**1.09**	**146**	⇑*i* P	Pb	06 23 01.5	+0.9
SABA	**Saba**	**1.10**	**286**	*e*P	Pb	06 23 03.4	+2.5
SABA				*e*S	Sn	06 23 18.7	+3.3
SMRT	**St. Maarten**	**1.16**	**309**	*e*P	Pb	06 23 04.0	+2.2
SMRT				*e*S	Sn	06 23 19.9	+3.1
LZG	**Guadaloupe-1**	**1.22**	**163**	⇑*e*P	Pb	06 23 03.5	+0.7
SSG	**Sans Toucher**	**1.29**	**160**	*e*P	Pb	06 23 04.7	+0.5
TBG	**Guadaloupe-3**	**1.53**	**162**	*e*P	Pb	06 23 08.5	+0.4
TBG				*e*S	Sb	06 23 28.2	+1.2
MGG	**Marie-Galante**	**1.59**	**150**	*e*P	Pb	06 23 09.9	+0.7
MGG				*e*S	Sb	06 23 30.2	+1.3
BBL	**Barber's Block**	**1.89**	**160**	*e*P	Pb	06 23 13.4	-0.9
BBL				*e*S	Sb	06 23 37.7	+0.3
DWS	**Wesley**	**1.91**	**155**	*e*P	Pb	06 23 14.0	-0.5
DWS				*e*S	Sb	06 23 38.6	+0.7
DLPL	**La Plaine**	**2.15**	**156**	*e*S	Sb	06 23 44.0	-0.9

IDC 23 06:34:11.3±2.3, 2°.22N×127°.74E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/45, mbtmp3.4/3, Error ellipse: s-maj=187.3km s-min=24.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**164**	P	P	06 39 17.2	-0.3
	0.7nm,0.5s,baz=342,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.42**	**167**	P	P	06 39 48.6	-1.3
	0.2nm,0.4s,baz=352,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**59.36**	**325**	P	P	06 44 16.4	+0.9
	0.4nm,0.5s,baz=118,slow=7.0,SNR=3.6						

*IDC **23** 06:45:22.7±1.1, 2°.84S×139°.34E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/40, mbtmp3.8/7, ML3.7/1, MS3.3/6, Ms1 3.3/6, ms1mx2.8/30, Error ellipse: s-maj=50.1km s-min=14.9km az=97.0*
*ISCJB **23** 06:45:24.8±0.5, 2°.87S±0°.05×139°.33E±0°.05, h35km, mb3.8/5, MS3.2/5, Error ellipse: s-maj=7.3km s-min=6.9km az=141.3*
*DJA **23** 06:45:25.5±1.2, 3°.S±14°.×13°.9E±°, h26km±13km, M4.2/4, MLv4.2/4*

ISC 23 06:45:26.4±0.8, 2°.91S±0°.08×139°.34E±0°.06, h35km, n15, σ2 84/14, mb3.8/5, MS3.3/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.89**	**69**	P	**Pn**	**06 45 40.8**	**-1.6**
SMPI	**Sarmi**	**1.11**	**325**	P	**Pn**	**06 45 42.4**	**-3.0**
SMPI				S	**Sn**	**06 45 56.7**	**-2.7**
JAY	**Jayapura**	**1.42**	**74**	P	**Pn**	**06 45 47.3**	**-2.4**
JAY				S	**Sn**	**06 46 05.2**	**-2.1**
BAKI	**Biak**	**3.65**	**298**	P	**Pn**	**06 46 20.1**	**-0.3**
GUMO	**Guam**	**17.28**	**18**	LR	LR	06 56 27.8	
	comp=Z,42nm,19.0s,baz=220,slow=39						
WRA	**Warramunga Arr**	**17.62**	**196**	P	**P**	**06 49 29.9**	**-0.1**
	0.3nm,0.3s,baz=18,slow=12,SNR=9.6						
WRA				S	**Sn**	**06 52 41.2**	**-3.4**
	0.1nm,0.3s,baz=12,slow=22,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.21**	**221**	P	Pn	06 49 59.5	-0.9
	1.3nm,0.6s,baz=37,slow=10,SNR=3.9						
FITZ				S	**S**	**06 53 38.3**	**-5.1**
	2.2nm,0.7s,baz=170,slow=11,SNR=4.0						
FITZ				LR	LR	06 58 30.9	
	comp=Z,101nm,20.7s,baz=48,slow=39						
ASAR	**Alice Springs**	**21.30**	**194**	P	**P**	**06 50 12.4**	**+2.3**
	1.9nm,0.5s,baz=23,slow=9.6,SNR=26						
ASAR				S	Sn	06 54 10.9	-2.4
	1.2nm,0.9s,baz=12,slow=29,SNR=4.3						
ASAR				LR	LR	06 59 04.8	
	comp=Z,122nm,18.1s,baz=22,slow=38						
STKA	**Stephens Creek**	**28.89**	**176**	LR	LR	07 04 16.4	
	comp=Z,75nm,18.4s,baz=26,slow=39						
DZM	**Mont Dzumac**	**32.49**	**128**	LR	LR	07 04 07.9	
	comp=Z,53nm,18.6s,baz=234,slow=35						
PETK	**Petropavlovsk-**	**57.91**	**13**	LR	LR	07 17 45.5	
	comp=Z,13nm,21.2s,baz=127,slow=34						
MKAR	**Makanchi Array**	**70.33**	**322**	P	**P**	**06 56 37.3**	**+0.7**
	0.7nm,0.7s,baz=104,slow=7.9,SNR=4.1						
VNDA	**Vanda**	**75.53**	**175**	P	**P**	**06 57 09.3**	**+2.5**
	0.7nm,0.5s,baz=326,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**79.83**	**325**	P	**P**	**06 57 34.2**	**+3.0**
	0.5nm,0.5s,baz=110,slow=6.6,SNR=3.6						
ILAR	**Eielson Array**	**85.75**	**24**	P	**P**	**06 58 02.5**	**+0.9**
	0.9nm,1.0s,baz=262,slow=5.4,SNR=6.2						

*NIED **23** 06:47:00, 39°.60N×143°.80E, h14km, Mw3.4 Best double couple: M0 1.30000×10^14 NP1:φs 182.00000°, δ41.00000°, λ76.00000°. NP2:φs 19.00000°, δ50.00000°, λ102.00000°.*

JMA 23 06:47:29.6±0.1, 39°.61N×143°.85E, h22km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.57**	**283**	P	Pn	06 47 56.6	+0.5
JTH				*e*S	Sn	06 48 16.1	+0.4
MIYJ	**Miyakonagasawa**	**1.57**	**269**	P	Pn	06 47 56.8	+0.7
MIYJ				*e*S	Sn	06 48 16.0	+0.2
OFUJ	**Ofunato**	**1.77**	**253**	P	Pn	06 47 59.6	+0.7
JANG	**Nango**	**1.95**	**294**	P	Pn	06 48 02.2	+0.8
JOM	**Ohasama**	**1.98**	**267**	P	Pn	06 48 03.1	+1.3
JMK	**Ichinoseki**	**2.14**	**253**	P	Pn	06 48 04.9	+0.9
JRG	**Rokugo**	**2.50**	**266**	P	Pn	06 48 10.4	+1.5
JOU	**Okura**	**2.78**	**244**	P	Pn	06 48 14.0	+1.2
JOU				S	Sn	06 48 45.8	+0.2
JYK	**Kaneyama**	**2.80**	**257**	P	Pn	06 48 14.8	+1.8
JFT	**Otama**	**3.46**	**234**	P	Pn	06 48 23.4	+1.3
JFT				*e*S	Sn	06 49 01.7	-0.7

*KRNET **23** 07:00:11.5±0.1, 41°.11N×71°.08E, h20km, mb2.2*
*NNC **23** 07:00:16.2±8.4, 41°.26N×71°.04E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=71

WRA			Sn	Sn	07 11 58.6	-14
	0.3nm,0.3s,baz=359,slow=23,SNR=4.8					
ASAR	**Alice Springs**	**19.20 178**	P	Pn	07 10 05.8	0.0
	0.2nm,0.3s,baz=356,slow=11,SNR=7.2					
MKAR	**Makanchi Array**	**67.83 325**	P	P	07 16 39.4	0.0
	0.9nm,0.4s,baz=119,slow=7.4,SNR=13					

*JMA **23** 07:23:55.5±0.2, 25°.00N×122°.18E, h158km±2km, M2.4*
*ISCJB **23** 07:23:56.7±1.0, 25°.05N±0°.08×122°.25E±0°.03, h150km±7km, Error ellipse: s-maj=13.6km s-min=4.6km az=174.7*
*TAP **23** 07:23:56.3, 25°.16N×122°.16E, h158km, ML3.2, C*
ISC 23 07:23:55.1±2.7, **25°.1N**±0°.1×**122°.23E**±0°.04, **h164**km±15km, **n24**, σ0s**76/43**, **1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**247**	*e*P	**Pn**	**07 24 17.8**	**+0.7**
	baz=218						
EGS		**0.37**	**226**	*e*S	**Sn**	**07 24 34.4**	**-0.2**
	baz=206						
NWF	**Wu-fen Shan**	**0.41**	**266**	*e*P	**Pn**	**07 24 18.4**	**+0.7**
	baz=256						
NWF				*e*S	**Sn**	**07 24 33.9**	**-1.1**
	baz=256						
TWC	**Suao**	**0.60**	**215**	*e*P	**Pn**	**07 24 19.5**	**+1.0**
	baz=204						
TWC				*e*S	**Sn**	**07 24 35.6**	**-0.8**
	baz=204						
ENTT	**Nioudou**	**0.76**	**233**	P	**Pn**	**07 24 20.4**	**+1.0**
	baz=227						
ENTT				*e*S	**Sn**	**07 24 38.4**	**+0.3**
	baz=227						
ENA	**Nanau**	**0.80**	**213**	*e*P	**Pn**	**07 24 21.6**	**+1.8**
	baz=201						
ENA				*e*S	**Sn**	**07 24 39.1**	**+0.4**
	baz=201						
NSK	**Sanguang**	**0.90**	**242**	⇓P	**Pn**	**07 24 20.8**	**+0.3**
	baz=237						
NSK				*e*S	**Sn**	**07 24 39.1**	**-0.8**
	baz=237						
YOJ	**Yonaguni jima**	**0.96**	**132**	P	**Pn**	**07 24 20.7**	**-0.1**
NNS	**Nan Shan**	**1.02**	**230**	P	**Pn**	**07 24 21.8**	**+0.3**
	baz=220						
NNS				*e*S	**Sn**	**07 24 41.3**	**-0.5**
	baz=220						
TWD	**Chiawan**	**1.17**	**210**	*e*P	**Pn**	**07 24 23.0**	**+0.4**
	baz=214						
TWD				*e*S	**Sn**	**07 24 42.6**	**-1.1**
	baz=214						
NSTT	**Nanjuang**	**1.21**	**247**	*i*P	**Pn**	**07 24 23.3**	**+0.3**
	baz=244						
NSTT				*i*S	**Sn**	**07 24 43.4**	**-0.9**
	baz=244						
TWT	**Tachien**	**1.28**	**229**	*e*P	**Pn**	**07 24 24.7**	**+0.9**
	baz=221						
TWT				*e*S	**Sn**	**07 24 45.5**	**-0.3**
	baz=221						
WHF	**Hehuan Shan**	**1.29**	**223**	P	**Pn**	**07 24 24.8**	**+0.6**
	baz=217						
WHF				*e*S	**Sn**	**07 24 46.1**	**-0.5**
	baz=217						
NSY	**Sanyi**	**1.50**	**243**	P	**Pn**	**07 24 26.2**	**+0.4**
	baz=246						
NSY				*e*S	**Sn**	**07 24 47.5**	**-1.8**
	baz=246						
IRIF	**Iriomote-Funau**	**1.57**	**119**	P	**Pn**	**07 24 26.3**	**-0.1**
IRIF				*e*S	**Sn**	**07 24 49.8**	**-0.6**
WDT	**Danda**	**1.67**	**217**	*e*P	**Pn**	**07 24 28.7**	**+0.8**
	baz=210						
WDT				*e*S	**Sn**	**07 24 52.8**	**-0.3**
	baz=210						
TYC	**Yuchr**	**1.73**	**227**	*e*P	**Pn**	**07 24 28.6**	**+0.5**
	baz=231						
TYC				*e*S	**Sn**	**07 24 52.5**	**-1.0**
	baz=231						
HATJ	**Hateruma jima**	**1.77**	**126**	P	**Pn**	**07 24 29.0**	**+0.4**
HATJ				S	**Sn**	**07 24 54.3**	**-0.1**
JKRS	**Kuro-shima**	**1.84**	**118**	P	**Pn**	**07 24 29.6**	**+0.4**
JKRS				S	**Sn**	**07 24 55.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.89**	**112**	P	**Pn**	**07 24 30.0**	**+0.2**
JIJ				S	**Sn**	**07 24 55.7**	**-0.9**
JISG	**Ishigakijimahi**	**1.96**	**105**	S	**Sn**	**07 24 57.5**	**-0.5**
YUS	**Yu-Shan**	**1.98**	**216**	*e*P	**Pn**	**07 24 31.7**	**+0.3**
	baz=208						
CHN5	**Tsauling**	**2.06**	**224**	*e*P	**Pn**	**07 24 32.8**	**+1.0**
	baz=223						
CHN5				*e*S	**Sn**	**07 24 59.6**	**-0.7**
	baz=223						
JTJ	**Tarama**	**2.29**	**101**	P	**Pn**	**07 24 34.9**	**+0.5**
JTJ				S	**Sn**	**07 25 05.0**	**+0.1**

IDC 23 07:26:44.6±1.8, **6°.78S×129°.64E, h0**km, **mb3.8**/2, **mb1 3.7**/5, **mb1mx3.4**/36, **mbtmp3.6**/5, **ML3.2**/3, **Error ellipse: s-maj=64.0km s-min=25.3km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.91**	**199**	Pn	Pn	07 29 36.5	+0.7
	0.1nm,0.3s,baz=11,slow=10,SNR=2.2						
FITZ				Sn	Sn	07 31 50.8	+1.3
	0.1nm,0.3s,baz=279,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**13.86**	**161**	Pn	Pn	07 30 01.5	-1.0
	0.1nm,0.3s,baz=334,slow=15,SNR=5.2						
WRA				Sn	Sn	07 32 34.2	-3.0
	0.2nm,0.3s,baz=341,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	07 30 46.0	-1.6
	0.1nm,0.3s,baz=352,slow=12,SNR=3.4						
ASAR				S	Sn	07 33 55.8	-4.9
	baz=329,slow=18,SNR=4.1						
STKA	**Stephens Creek**	**27.35**	**157**	P	P	07 32 32.1	+0.5
	0.8nm,0.7s,baz=322,slow=12,SNR=2.0						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	07 37 44.7	-0.1
	1.2nm,1.0s,baz=138,slow=6.7,SNR=3.8						

DHMR 23 07:47:45.1±1.5, **12°.04N×44°.06E, h8**km±19km, **ML3.5, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.16**	**51**	*i*P	Pn	07 48 07.9	+0.3
ADEN				*e*		07 48 08.2	
	baz=165,slow=6.5						
ADEN				*i*S	Sn	07 48 23.6	+0.1
ADEN				AML	AML	07 48 32.6	
	comp=N,756nm,0.5s						
ADEN	**Aden**	**1.16**	**51**	*i*P	Pb	07 48 07.2	-0.1
ADEN				*i*S	Sb	07 48 22.7	+0.2
ADEN				AML	AML	07 48 30.8	
	comp=E,908nm,0.3s						
TRBA	**At Turbah**	**1.19**	**2**	*i*P	Pg	07 48 07.3	-0.7
TRBA				*i*S	Sn	07 48 24.3	-0.3
BDHA	**Al Bayda'**	**2.42**	**37**	*i*P	Pb	07 48 29.5	+0.5
BDHA				*i*S	Sb	07 49 00.8	+1.7
BDHA	**Al Bayda'**	**2.42**	**37**	*i*P	Pn	07 48 26.4	+1.3
BDHA				*i*S	Sb	07 49 00.6	+1.6

MEX 23 07:50:22.4±0.7, **16°.73N×94°.56W, h155**km±21km, **MD4.3, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.64**	**128**	*e*P	Pn	07 50 53.0	-0.8
PCIG				*e*S	Sn	07 51 15.7	-2.1
HUIG	**Huatulco**	**1.77**	**238**	*e*P	Pn	07 50 53.1	-2.1
HUIG				*e*S	Sn	07 51 18.8	-1.7
VHO	**Vista Hermosa**	**2.11**	**280**	*e*P	Pn	07 50 58.9	-0.4
VHO				*e*S	Sn	07 51 25.5	-2.3
CCIG	**Comitan**	**2.36**	**100**	*e*P	Pn	07 51 01.1	-1.1
CCIG				*e*S	Sn	07 51 29.8	-3.2
PNIG	**Pinotepa**	**3.44**	**265**	*e*P	Pn	07 51 13.9	-1.7
PNIG				*e*S	Sn	07 51 53.9	-3.0

*IDC **23** 07:52:27.9±0.9, 3°.02S×142°.50E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/35, mbtmp4.0/11, ML4.1/1, MS2.9/7, Ms1 2.9/7, ms1mx2.7/28, Error ellipse: s-maj=36.0km s-min=17.2km az=92.0*
*ISCJB **23** 07:52:30.7±0.8, 3°.09S±0°.09×142°.4E±0°.2, h27km, mb4.0/11, MS2.9/4, Error ellipse: s-maj=28.4km s-min=12.0km az=5.1*
*NEIC **23** 07:52:33.5±0.5, 3°.10S×142°.40E, h35km, mb4.1/1, Error ellipse: s-maj=21.0km s-min=10.2km az=96.0*
ISC 23 07:52:32.3±0.8, **3°.1S**±0°.1×**142°.5E**±0°.2, **h27**km, **n26**, σ0s**76/16**, **mb4.0/11**, **MS2.9/4**, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.71**	**8**	LR	LR	08 02 19.2	
	comp=Z,17nm,18.0s,baz=168,slow=36						
HNR	**Honiara**	**18.49**	**111**	LR	LR	08 02 13.7	
	comp=Z,23nm,21.4s,baz=98,slow=32						
WRAB	**Tennant Creek**	**18.54**	**205**	*e*P	**P**	**07 56 45.9**	**-1.1**
	10nm,0.8s						
WRA	**Warramunga Arr**	**18.55**	**205**	P	**P**	**07 56 45.9**	**-1.3**
	0.6nm,0.3s,baz=28,slow=12,SNR=24						
WRA				LR	LR	08 04 30.1	
	comp=Z,47nm,18.8s,baz=30,slow=39						
ASAR	**Alice Springs**	**22.09**	**201**	P	**P**	**07 57 25.1**	**-0.5**
	2.5nm,0.7s,baz=28,slow=9.6,SNR=24						
ASAR				LR	LR	08 06 33.9	
	comp=Z,67nm,20.2s,baz=32,slow=38						
FITZ	**Fitzroy Crossi**	**22.25**	**227**	P	**P**	**07 57 27.4**	**+0.2**
	4.7nm,0.8s,baz=34,slow=12,SNR=7.7						
FITZ				LR	LR	08 06 16.6	
	comp=Z,34nm,18.9s,baz=45,slow=37						
STKA	**Stephens Creek**	**28.68**	**182**	P	**P**	**07 58 26.9**	**-0.2**
	3.0nm,0.9s,baz=6.6,slow=8.0,SNR=6.1						
H11S3	**WAKE ISLAND Hy 32.07**	**47**		T	T	08 32 44.0	
	baz=229,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy 32.08**	**47**		T	T	08 32 54.4	
	baz=229,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hy 32.08**	**47**		T	T	08 32 41.7	
	baz=229,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy 32.99**	**46**		T	T	08 33 55.6	
	baz=230,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy 33.01**	**46**		T	T	08 33 57.2	
	baz=230,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 33.01**	**46**		T	T	08 33 57.1	
	baz=230,slow=75,SNR=13						
KSRS	**Korea Array**	**42.51**	**343**	LR	LR	08 15 20.0	
	comp=Z,16nm,21.2s,baz=78,slow=32						
CMAR	**Chiang Mai Arr**	**47.88**	**298**	P	**P**	**08 01 08.6**	**+0.2**
	0.3nm,0.3s,baz=123,slow=6.6,SNR=3.6						
SONM	**Songino Array**	**59.69**	**333**	LR	LR	08 27 48.6	
	comp=Z,10.0nm,20.1s,baz=72,slow=36						
MKAR	**Makanchi Array**	**72.38**	**321**	P	**P**	**08 03 55.7**	**-0.3**
	1.1nm,0.8s,baz=117,slow=6.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**74.15**	**329**	P	**P**	**08 04 05.9**	**-0.3**
	0.8nm,0.4s,baz=134,slow=8.5,SNR=3.6						
VNDA	**Vanda**	**75.13**	**176**	P	**P**	**08 04 12.0**	**+0.5**
	0.8nm,0.8s,baz=333,slow=7.3,SNR=7.5						
NRIK	**Noril'sk**	**81.13**	**343**	P	**P**	**08 04 44.7**	**-0.2**
	1.4nm,0.7s,baz=23,slow=7.7,SNR=2.8						
MAW	**Mawson**	**83.21**	**202**	P	**P**	**08 04 56.5**	**+0.7**
	0.8nm,0.9s,baz=78,slow=9.3,SNR=2.6						
ILAR	**Eielson Array**	**84.62**	**24**	P	**P**	**08 05 02.7**	**-0.4**
	1.0nm,0.8s,baz=261,slow=4.5,SNR=10						
QSPA	**South Pole Qui**	**86.89**	**180**	*e*P	**P**	**08 05 14.7**	**+0.2**
	9.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**139.94**	**287**	PKP	**PKPdf**	**08 12 00.8**	**+1.6**
	0.9nm,1.1s,baz=46,slow=4.2,SNR=3.6						
LPAZ	**La Paz**	**144.17**	**123**	PKP	**PKPdf**	**08 12 07.4**	**-0.1**
	1.1nm,0.6s,baz=250,slow=3.1,SNR=8.0						
DBIC	**Dimbokro**	**147.24**	**278**	PKPbc	**PKPbc**	**08 12 13.5**	**-0.8**
	1.9nm,0.5s,baz=31,slow=4.3,SNR=5.1						

*ISCJB **23** 07:57:27.3±1.1, 4°.7S±0°.2×152°.2E±0°.2, h55km, mb3.9/5, Error ellipse: s-maj=41.3km s-min=11.1km az=39.4*
*IDC **23** 07:57:33.8±1.3, 4°.89S×152°.31E, h106km±8km, mb3.7/5, mb1 3.9/6, mb1mx3.5/41, mbtmp4.0/6, Error ellipse: s-maj=42.7km s-min=16.0km az=126.0*
ISC 23 07:57:28.5±1.5, **4°.7S**±0°.2×**152°.4E**±0°.3, **h55**km, **n8**, σ1s**43/11**, **mb3.9/4**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.98**	**228**	P	Pn	07 59 12.8	+4.6
	1.2nm,0.3s,baz=330,slow=20,SNR=3.4						
PMG				S	**Sn**	**08 00 25.7**	**-0.5**
	3.3nm,0.3s,baz=144,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**23.20**	**228**	P	**P**	**08 02 29.3**	**-1.5**
	3.5nm,0.5s,baz=52,slow=9.8,SNR=17						
WRA				pP	**sP**	**08 02 52.9**	**+2.5**
	2.1nm,0.6s,baz=52,slow=9.6,SNR=3.6						
ASAR	**Alice Springs**	**25.94**	**222**	P	**P**	**08 02 55.3**	**-0.7**
	1.2nm,0.6s,baz=54,slow=8.7,SNR=10						
ASAR				pP	**sP**	**08 03 17.9**	**+1.7**
	3.1nm,1.0s,baz=55,slow=9.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**57.47**	**295**	P	**P**	**08 07 12.9**	**+0.5**
	baz=119,slow=5.6						
SONM	**Songino Array**	**66.03**	**328**	P	**P**	**08 08 09.7**	**+0.1**
	0.7nm,0.4s,baz=110,slow=4.2,SNR=5.5						
ILAR	**Eielson Array**	**82.23**	**22**	P	**P**	**08 09 43.5**	**-0.1**
	0.8nm,0.7s,baz=250,slow=4.8,SNR=12						
PDAR	**Pinedale Array**	**99.09**	**48**	P	**Pdif**	**08 11 05.2**	**+1.0**
	0.3nm,0.6s,baz=292,slow=0.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.89**	**288**	PKPbc	**PKPbc**	**08 17 12.1**	**-1.6**
	1.7nm,0.8s,baz=75,slow=3.2,SNR=10.0						
TORD				pPKPbc	**sPKPab**	**08 17 40.6**	**-0.7**
	1.0nm,0.7s,baz=59,slow=2.5,SNR=3.7						

*NEIC **23** 07:58:35.0±0.0, 35°.51N×97°.39W, h3km, MD2.8(TUL), After TUL.*
NEIC Felt [III] at Oklahoma City. Also felt at Spencer.
ISC 23 07:58:34.7±1.1, **35°.53N**±0°.02×**97°.39W**±0°.02, **h7**km±10km, **n48**, σ1s**19/73**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V35A	**Meyer Ranch, C**	**0.51**	**63**	P	**Pg**	**07 58 45.0**	**+0.5**
	baz=241,SNR=19						
V35A				S	**Sg**	**07 58 52.3**	**+1.1**
	baz=241						
W35A	**Tecumseh**	**0.56**	**132**	P	**Pg**	**07 58 46.0**	**+0.3**
	baz=310,SNR=73						
W35A				S	**Sg**	**07 58 53.5**	**+0.6**
	baz=310						
U35A	**Pawnee**	**0.99**	**32**	P	**Pg**	**07 58 53.8**	**-0.1**
	baz=212,SNR=41						
U35A				S	**Sg**	**07 59 07.4**	**+0.7**
	baz=212						
W36A	**Wetumka**	**1.03**	**112**	P	**Pg**	**07 58 54.3**	**-0.1**
	baz=292,SNR=80						
W36A				S	**Sg**	**07 59 08.1**	**+0.3**
	baz=292						
X35A	**Drake**	**1.18**	**163**	P	**Pb**	**07 58 56.5**	**-0.8**
	baz=343						
X35A				S	**Sg**	**07 59 12.4**	**-0.2**
	baz=343						
V36A	**Jenks**	**1.21**	**77**	P	**Pn**	**07 58 56.8**	**-1.1**
	baz=257,SNR=84						
V36A				S	**Sb**	**07 59 13.7**	**+0.1**
	baz=257						
X36A	**Centrahoma**	**1.28**	**138**	P	**Pn**	**07 58 58.7**	**-0.3**
	baz=318,SNR=33						
X36A				S	**Sn**	**07 59 15.9**	**-0.5**
	baz=318						
TUL1	**Leonard**	**1.35**	**73**	P	**Pn**	**07 58 59.3**	**-0.6**
	baz=253,SNR=59						
TUL1				S	**Sn**	**07 59 18.2**	**0.0**
	baz=253						
TUL1	**Leonard**	**1.35**	**73**	*e*Pn	**Pn**	**07 58 59.4**	**-0.6**
TUL1				*e*Sn	**Sb**	**07 59 16.9**	**-1.0**
WMOK	**Wichita Mounta**	**1.39**	**236**	P	**Pn**	**07 59 00.5**	**+0.1**
	baz=55						
WMOK				S	**Sg**	**07 59 19.2**	**-0.1**
	baz=55						
WMOK	**Wichita Mounta**	**1.39**	**236**	*e*Pn	**Pn**	**07 59 00.6**	**+0.1**
WMOK				*e*Sn	**Sg**	**07 59 19.0**	**-0.3**
T34A	**McClaskey Farm**	**1.50**	**6**	P	**Pb**	**07 59 03.0**	**+0.2**
	baz=186,SNR=30						
T34A				S	**Sg**	**07 59 23.3**	**+0.4**
	baz=186						
T35A	**Sooner Cattle**	**1.56**	**27**	P	**Pn**	**07 59 03.5**	**+0.7**
	baz=207,SNR=30						
T35A				S	**Sb**	**07 59 24.9**	**+1.2**
	baz=207						
U32A	**Winter Ranch,**	**1.56**	**303**	P	**Pb**	**07 59 04.0**	**+0.1**
	baz=123						
U32A				Sb	**Sg**	**07 59 26.0**	**+1.2**
	baz=123						
U36A	**Oologah**	**1.60**	**57**	S	**Sb**	**07 59 25.5**	**+0.7**
	baz=237						
Y35A	**Marietta**	**1.65**	**170**	P	**Pb**	**07 59 05.1**	**-0.2**
	baz=350,SNR=41						
Y35A				Sb	**Sg**	**07 59 28.5**	**+0.9**
	baz=350						
W37B	**Quinton**	**1.65**	**103**	P	**Pb**	**07 59 04.8**	**-0.6**
	baz=284,SNR=71						
W37B				S	**Sg**	**07 59 27.4**	**-0.3**
	baz=284						
V37A	**Hulbert**	**1.86**	**78**	P	**Pn**	**07 59 07.9**	**+0.9**
	baz=259,SNR=125						
V37A				S	**Sb**	**07 59 32.9**	**+0.4**
	baz=259						
Y36A	**Durant**	**1.86**	**150**	S	**Sb**	**07 59 32.8**	**+0.3**
	baz=331						
X37A	**Clayton**	**1.90**	**119**	P	**Pb**	**07 59 08.6**	**-1.1**
	baz=300,SNR=56						
X37A				S	**Sb**	**07 59 34.0**	**+0.4**
	baz=300						
T36A	**Boggs Farm, Ca**	**1.96**	**38**	P	**Pb**	**07 59 09.8**	**-0.8**
	baz=219,SNR=38						
U37A	**Salina**	**2.04**	**64**	P	**Pn**	**07 59 10.6**	**+1.2**
	baz=245,SNR=15						
Y37A	**Hugo**	**2.12**	**136**	P	**Pb**	**07 59 12.1**	**-1.4**
	baz=317						
Y37A				Sb	**Sg**	**07 59 42.4**	**-0.6**
	baz=317						
S34A	**Willow Spring**	**2.18**	**6**	P	**Pn**	**07 59 13.0**	**+1.7**
	baz=186						
S34A				S	**Sb**	**07 59 41.4**	**-0.2**
	baz=186						
X38A	**Whitesboro**	**2.27**	**112**	P	**Pn**	**07 59 13.8**	**+1.2**
	baz=293,SNR=62						
S35A	**Otter Creek Ra**	**2.31**	**22**	P	**Pn**	**07 59 14.2**	**+1.0**
	baz=202,SNR=12						
W38A	**Poteau**	**2.39**	**100**	P	**Pn**	**07 59 15.3**	**+1.0**
	baz=282,SNR=10.0						
V38A	**Canehill**	**2.45**	**81**	P	**Pn**	**07 59 16.0**	**+0.9**
	baz=263,SNR=35						
S36A	**Lake Cedric, C**	**2.62**	**33**	P	**Pn**	**07 59 18.7**	**+1.2**
	baz=214						
R34A	**Isabella, Hill**	**2.77**	**2**	P	**Pn**	**07 59 20.9**	**+1.4**
	baz=182,SNR=8.7						
X39A	**Fountain Ranch**	**2.87**	**110**	P	**Pn**	**07 59 22.0**	**+1.1**
	baz=291,SNR=14						
W39A	**Magazine**	**2.96**	**95**	P	**Pn**	**07 59 23.2**	**+1.0**
	baz=277						
S37A	**Fort Scott**	**3.03**	**42**	P	**Pn**	**07 59 24.2**	**+1.1**
	baz=223,SNR=6.4						
V39A	**Pettigrew**	**3.06**	**83**	P	**Pn**	**07 59 24.3**	**+0.7**
	baz=265,SNR=7.0						
R36A	**Gordon, Harris**	**3.17**	**28**	P	**Pn**	**07 59 26.0**	**+1.0**
	baz=209,SNR=12						
MIAR	**Mount Ida**	**3.28**	**106**	P	**Pn**	**07 59 27.7**	**+1.3**
	baz=288,SNR=24						
MIAR	**Mount Ida**	**3.28**	**106**	*e*Pn	**Pn**	**07 59 27.9**	**+1.4**
MIAR				*e*Sg	**Sg**	**08 00 16.8**	**-3.3**
Q34A	**Chapman**	**3.40**	**6**	P	**Pn**	**07 59 29.5**	**+1.3**
	baz=186,SNR=7.0						
ABTX	**Abilene, Hawle**	**3.45**	**213**	Pn	**Pn**	**07 59 29.8**	**+0.9**
WHTX	**Lake Whitney,**	**3.53**	**181**	*e*Pn	**Pn**	**07 59 31.7**	**+1.8**
AMTX	**Amarillo**	**3.57**	**261**	*e*Pn	**Pn**	**07 59 30.3**	**-0.3**
AMTX				*e*Sg	**Sg**	**08 00 27.2**	**-2.2**
KSU1	**Kansas State U**	**3.62**	**10**	*e*Pn	**Pn**	**07 59 29.3**	**-1.8**
KSU1				*e*Sg	**Sg**	**08 00 28.8**	**-2.2**
V40A	**Witts Springs**	**3.73**	**84**	P	**Pn**	**07 59 33.5**	**+0.8**
	baz=267,SNR=8.0						
P34A	**Walnut Farm, R**	**4.04**	**6**	P	**Pn**	**07 59 38.3**	**+1.5**
	baz=186,SNR=14						
W41B	**Gary Mavity, V**	**4.22**	**93**	P	**Pn**	**07 59 40.5**	**+1.2**
	baz=276,SNR=10						
NATX	**Nacogdoches**	**4.39**	**148**	*e*Pn	**Pn**	**07 59 43.0**	**+1.2**
JCT	**Junction City**	**5.43**	**203**	Pn	**Pn**	**07 59 57.2**	**+1.1**
JCT				*e*Sg	**Sg**	**08 01 31.7**	**+2.7**
ANMO	**Albuquerque**	**7.44**	**268**	Pn	**Pn**	**08 00 23.1**	**-0.8**
ANMO				*e*Sg	**Sg**	**08 02 29.8**	**-3.9**

*IDC **23** 07:58:47.6±1.0, 9°.30S×119°.34E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.7/42, mbtmp4.0/7, ML3.7/2, Error ellipse: s-maj=61.9km s-min=18.8km az=68.0*
*ISCJB **23** 07:58:53.9±0.5, 9°.74S±0°.05×119°.15E±0°.03, h46km, mb4.1/5, Error ellipse: s-maj=7.4km s-min=3.8km az=2.9*
*NEIC **23** 07:58:53.0±1.3, 9°.81S×118°.87E, h51km±14km, mb4.1/1, Error ellipse: s-maj=17.2km s-min=9.0km az=77.0*
*DJA **23** 07:58:56.3±0.9, 10°.S±3°.×11°.9E±°, h26km±8km, M4.5/7, mB4.8/1, mb4.5/3, MLv4.5/7, Mw(mB)4.1/1*
ISC 23 07:58:54.7±0.7, **9°.63S**±0°.05×**119°.12E**±0°.03, **h46**km, **n29**, σ2s**41/35**, **mb4.1/5**, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.55**	**112**	P	**Pn**	**07 59 21.3**	**+1.4**
BASI				S	**Sn**	**07 59 43.8**	**+5.0**
TWSI	**Taliwang, Sumb**	**2.38**	**292**	P	**Pn**	**07 59 33.1**	**+1.7**
TWSI				S	**Sn**	**08 00 01.7**	**+2.3**
EDFI	**Ende, Flores**	**2.68**	**71**	P	**Pn**	**07 59 35.7**	**+0.2**
EDFI				S	**Sn**	**08 00 06.1**	**-0.7**
MMRI	**Maumere**	**3.23**	**72**	*e*Pn	**Pn**	**07 59 44.1**	**+1.1**
MMRI				*e*Sn	**Sn**	**08 00 23.9**	**+3.6**
BSSI	**Bau Bau, Buton**	**3.72**	**21**	P	**Pn**	**07 59 51.2**	**+1.5**
BSSI				S	**Sn**	**08 00 34.3**	**+2.0**
DNP	**Denpasar**	**3.98**	**283**	P	**Pn**	**07 59 55.2**	**+1.9**
DNP				S	**Sn**	**08 00 42.7**	**+4.0**
IGBI	**Denpasar**	**4.01**	**281**	P	**Pn**	**07 59 56.0**	**+2.3**
IGBI				S	**Sn**	**08 00 38.8**	**-0.6**
SRBI	**Singaraja**	**4.16**	**291**	P	**Pn**	**07 59 58.2**	**+2.5**
SRBI				S	**Sn**	**08 00 45.7**	**+2.6**
BKSI	**Bulukumba**	**4.39**	**13**	P	**Pn**	**08 00 00.6**	**+1.7**
KAPI	**Kappang**	**4.62**	**8**	*e*Pn	**Pn**	**08 00 04.2**	**+2.0**
KAPI				*e*Sn	**Sn**	**08 00 54.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.04**	**283**	P	**Pn**	**08 00 09.3**	**+1.4**
JAGI				S	**Sn**	**08 01 06.4**	**+1.4**
SOEI	**Soe**	**5.07**	**92**	P	**Pn**	**08 00 11.4**	**+3.0**
SOEI	**Soe**	**5.07**	**92**	*e*Pn	**Pn**	**08 00 10.9**	**+2.5**
	69nm,0.8s						
BNSI	**Bone**	**5.28**	**11**	P	**Pn**	**08 00 14.3**	**+3.1**
	41nm,0.5s,904nm						
SPSI	**Sidrap Palu**	**5.66**	**7**	P	**Pn**	**08 00 20.3**	**+3.9**
	26nm,0.5s						
KMMI	**Kalianget**	**5.71**	**296**	P	**Pn**	**08 00 20

	comp=Z,655nm,0.1s					
BRRC			eS	Sn	08 04 07.1	-0.4
RUSC	**La Rusia**	**0.92 179**	‖ iP	Pn	08 03 52.3	-0.7
RUSC			eS	Sn	08 04 11.3	-0.4
RUSC			i		08 04 12.3	
	comp=Z,181nm,0.3s					
OCAC	**Ocana**	**1.43 351**	eP	Pn	08 03 56.7	-0.7
OCAC			eS	Sn	08 04 19.0	-0.5
OCAC			i		08 04 23.7	
	comp=Z,369nm,0.4s					
YOPC	**Yopal, Colombi**	**1.60 155**	i P	Pn	08 03 59.1	0.0
YOPC			eS	Sn	08 04 22.2	-0.4
YOPC			i		08 04 24.1	
	comp=Z,183nm,0.3s					
ZARC	**Zaragoza, Cauc**	**1.87 291**	eP	Pn	08 04 01.2	-0.7
ZARC			eS	Sn	08 04 27.1	-0.5
NORC	**Norcasia**	**2.15 235**	eP	Pn	08 04 04.2	-1.1
NORC			eS	Sn	08 04 33.4	-0.3
ROSC	**El Rosal**	**2.31 212**	‖ iP	Pn	08 04 08.1	+0.5
ROSC			eS	Sn	08 04 37.5	0.0
ROSC			i		08 04 42.5	
	comp=Z,336nm,0.5s					
HELC	**Santa Helena**	**2.49 256**	eP	Pn	08 04 09.0	-0.7
HELC			eS	Sn	08 04 41.3	-0.1
HELC			i		08 04 48.5	
	comp=Z,211nm,0.4s					
VILC	**Villavicencio,**	**2.75 192**	eP	Pn	08 04 11.8	-0.9
VILC			eS	Sn	08 04 46.0	-1.0
VILC			i		08 04 49.5	
	comp=Z,103nm,0.3s					
GUYC	**Guyana, Colomb**	**2.77 235**	eP	Pn	08 04 12.9	-0.4
GUYC			eS	Sn	08 04 47.9	0.0
GUYC			i		08 04 54.7	
	comp=Z,250nm,0.6s					
DBBC	**Dabeiba**	**3.09 274**	eP	Pn	08 04 16.2	-0.7
DBBC			eS	Sn	08 04 54.1	-0.4
TOLC	**Tolima**	**3.13 225**	eP	Pn	08 04 17.7	0.0
TOLC			eS	Sn	08 04 55.7	0.0
PRAC	**Prado**	**3.56 210**	eP	Pn	08 04 21.9	-1.1
PRAC			eS	Sn	08 05 04.8	-0.4
GUVC	**San Jose del G**	**4.27 174**	eP	Pn	08 04 31.2	-1.0
GUVC			eS	Sn	08 05 20.7	-1.2

MEX 23 08:17:53.6±0.5, 17°.12N×99°.60W, h36km±14km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.35**	**225**	eP	Pn	08 17 59.7	-2.4
ACX				eS	Sn	08 18 07.1	-1.6
CAIG	**El Cayaco**	**0.64**	**264**	eP	Pn	08 18 04.7	-1.6
CAIG				eS	Sn	08 18 13.4	-1.9
MEIG	**Mezcala**	**0.80**	**359**	eP	Pn	08 18 06.7	-1.8
MEIG				eS	Sn	08 18 17.0	-2.3
PLIG	**Platanillo**	**1.27**	**4**	eP	Pn	08 18 13.5	-1.4
PLIG				eS	Sn	08 18 28.9	-1.9
ARIG	**Puente Sto Nin**	**1.36**	**328**	eP	Pn	08 18 14.3	-1.8
ARIG				eS	Sn	08 18 30.1	-2.8

KRSC 23 08:22:45.7±1.9, 49°.64N×157°.29E, h45km±31km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.29**	**325**	eP	Pn	08 23 06.9	-0.4
ASAK	**Asacha**	**2.78**	**8**	eP	Pn	08 23 31.2	+3.4
RUS	**Russkaya**	**2.91**	**15**	eP	Pn	08 23 32.6	+3.2
RUS				eS	Sn	08 24 06.2	+3.2
MTVR	**Mutnovka**	**2.91**	**11**	eP	Pn	08 23 32.9	+3.3
KRMR	**Karymshinskiy**	**3.24**	**9**	eP	Pn	08 23 38.6	+4.6
DALK	**Dalny**	**3.52**	**15**	eP	Pn	08 23 41.6	+3.7
DALK				eS	Sn	08 24 23.1	+4.9
UGLR	**Uglovaya**	**3.70**	**14**	eP	Pn	08 23 44.9	+4.4
AVH	**Avacha**	**3.75**	**13**	eP	Pn	08 23 45.7	+4.7
SDLR	**Sedlovina**	**3.78**	**15**	eP	Pn	08 23 45.2	+3.6
KRX	**Arik**	**3.82**	**12**	eP	Pn	08 23 46.6	+4.4
SPN	**Mys Shipunski**	**3.87**	**25**	eP	Pn	08 23 46.9	+4.3
SPN				eS	Sn	08 24 31.3	+4.6
GNL	**Ganaly**	**4.08**	**5**	eP	Pn	08 23 49.5	+3.8
KBTR	**Krutoberegovo**	**7.38**	**25**	eP	Pn	08 24 33.7	+2.9

*IDC **23** 08:26:51.9±0.5, 3°.11S×142°.43E, h0km, mb4.3/20, mb1 4.5/24, mb1mx4.5/37, mbtmp4.4/24, ML4.1/2, MS3.5/19, Ms1 3.5/19, ms1mx3.3/45, Error ellipse: s-maj=20.3km s-min=10.8km az=74.0*
*ISCJB **23** 08:26:54.7±0.2, 3°.12S±0°.03×142°.41E±0°.03, h27km, mb4.7/62, MS3.6/17, Error ellipse: s-maj=4.4km s-min=3.9km az=170.2*
*NEIC **23** 08:26:58.2±0.7, 3°.11S×142°.35E, h44km±6km, mb4.8/36, Error ellipse: s-maj=5.1km s-min=4.8km az=172.0*
*DJA **23** 08:26:58.6±1.9, 3°.5±7°.7×14°.2E±°, h12km±13km, M4.6/10, mb4.8/10, mB5.0/3, MLv4.5/1, Mw(mB)4.4/3*
*BJI **23** 08:26:58.9, 2°.65S×142°.31E, h29km, mb4.6/28, mB4.8/19, Ms4.4/11, Ms7 4.2/9*
ISC 23 08:26:56.6±0.3, 3°.19S±0°.05×142°.43E±0°.04, h27km, n145, σ1§76/138, mb4.8/62, MS3.6/18, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.85**	**291**	P	**Pn**	**08 27 23.4**	**-3.3**
JAY				S	**Sb**	**08 27 53.2**	**+0.6**
GENI	**Genyem**	**2.34**	**285**	P	**Pn**	**08 27 32.4**	**-0.9**
GENI				S	**Sn**	**08 28 01.1**	**-0.1**
SMPI	**Sarmi**	**3.91**	**288**	P	**Pn**	**08 27 54.7**	**-0.2**
MANU	**Manus Island**	**5.06**	**77**	eP	**Pn**	**08 28 11.5**	**+0.7**
BAKI	**Biak**	**6.62**	**287**	P	**Pn**	**08 28 34.2**	**+1.9**
PMG	**Port Moresby**	**7.76**	**143**	Pn	**Pn**	**08 28 47.6**	**-0.3**
	1.9nm,0.3s,baz=311,slow=4.9,SNR=7.1						
PMG				LR	LR	08 32 12.3	
	comp=Z,434nm,18.5s,baz=360,slow=41						
PMG	**Port Moresby**	**7.76**	**143**	ePn	**Pn**	**08 28 50.6**	**+2.7**
RABL	**Rabaul**	**9.76**	**96**	ePn	**Pn**	**08 29 20.1**	**+4.7**
FAKI	**Fak Fak**	**10.17**	**271**	ePn	**Pn**	**08 29 20.1**	**-0.9**
	14nm,0.8s						
COEN	**Coen**	**10.73**	**176**	P	**Pn**	**08 29 32.6**	**+4.0**
	baz=11,SNR=6.7						
COEN	**Coen**	**10.73**	**176**	ePn	**Pn**	**08 29 29.4**	**+0.8**
SAUI	**Saumlaki**	**12.06**	**246**	ePn	**Pn**	**08 29 46.8**	**-0.1**
MTN	**Manton Dam**	**14.73**	**229**	ePn	**Pn**	**08 30 22.4**	**-0.9**
MTN				eSn	**Sn**	**08 33 05.3**	**-0.5**
MTSU	**Mount Surprise**	**14.97**	**173**	P	**P**	**08 30 31.2**	**-0.7**
	baz=15,SNR=7.1						
LBMI	**Labuha**	**15.14**	**279**	P	**P**	**08 30 36.0**	**+2.3**
CTA	**Charters Tower**	**17.21**	**168**	P	**P**	**08 30 56.9**	**+0.3**
	0.3nm,0.3s,baz=2.5,slow=12,SNR=5.5						
CTA				LR	LR	08 37 51.9	
	comp=Z,370nm,21.8s,baz=352,slow=38						
CTAO	**Charters Tower**	**17.21**	**168**	ePn	**Pn**	**08 30 53.2**	**-2.0**
	27nm,1.4s						
QIS	**Mount Isa**	**17.48**	**189**	P	**P**	**08 30 59.8**	**+0.1**
	baz=18,SNR=10						
WRAB	**Tennant Creek**	**18.42**	**205**	eP	**Pn**	**08 31 10.3**	**+0.1**
	31nm,0.6s						
WB2	**Warramunga Arr**	**18.43**	**205**	eP	**Pn**	**08 31 10.5**	**+0.2**
	42nm,1.0s						
WRA	**Warramunga Arr**	**18.43**	**205**	P	**P**	**08 31 08.9**	**-1.2**
	0.9nm,0.3s,baz=26,slow=12,SNR=25						
WRA				S	**Sn**	**08 34 34.1**	**-1.5**
	0.1nm,0.3s,baz=30,slow=20,SNR=3.4						
WRA				LR	LR	08 39 06.4	
	comp=Z,121nm,19.1s,baz=25,slow=40						
HNR	**Honiara**	**18.47**	**110**	P	**P**	**08 31 11.1**	**+0.5**
	16nm,0.3s,baz=224,slow=1.9,SNR=11						
HNR				LR	LR	08 37 47.2	
	comp=Z,71nm,21.2s,baz=274,slow=35						
HNR	**Honiara**	**18.47**	**110**	eP	**Pn**	**08 31 11.7**	**+0.8**
	234nm,0.8s						
HNR	**Honiara**	**18.47**	**110**	eS	**P**	**08 31 11.0**	**+0.4**
SOEI	**Soe**	**19.18**	**249**	eP	**P**	**08 31 17.6**	**-1.0**
	83nm,0.9s						
LUWI	**Luwuk**	**19.76**	**276**	eP	**P**	**08 31 24.2**	**-0.6**
	55nm,0.8s						
MRSI	**Marisa**	**20.80**	**280**	P	Pn	08 31 38.9	+0.2
	28nm,0.7s,851nm						
APSI	**Ampana**	**20.89**	**276**	P	Pn	08 31 39.2	-0.5
AS31	**Alice Springs**	**21.96**	**201**	eP	**P**	**08 31 48.4**	**-0.2**
	6.1nm,0.9s						
ASAR	**Alice Springs**	**21.96**	**201**	P	**P**	**08 31 48.2**	**-0.3**
	8.2nm,0.8s,baz=32,slow=9.7,SNR=61						
ASAR				S	**S**	**08 35 46.5**	**-3.4**
	1.7nm,1.0s,baz=26,slow=26,SNR=2.8						
ASAR				LR	LR	08 41 07.3	
	comp=Z,221nm,19.1s,baz=26,slow=39						
BSSI	**Bau Bau, Buton**	**22.06**	**262**	P	P	08 32 00.1	+10
FITZ	**Fitzroy Crossi**	**22.15**	**227**	P	**P**	**08 31 49.7**	**-0.8**
	19nm,0.9s,baz=56,slow=7.6,SNR=18						
FITZ	**Fitzroy Crossi**	**22.15**	**227**	P	**P**	**08 31 49.8**	**-0.7**
	baz=22,SNR=10						
FITZ	**Fitzroy Crossi**	**22.15**	**227**	eP	**P**	**08 31 52.2**	**+1.7**
BNSI	**Bone**	**22.31**	**266**	P	**P**	**08 31 56.1**	**+3.8**
	29nm,0.9s						
TTSI	**Tana Toraja**	**22.58**	**270**	P	**P**	**08 31 58.8**	**+3.6**
SPSI	**Sidrap Palu**	**22.63**	**267**	P	P	08 32 05.4	+10
PCI	**Palu**	**22.69**	**275**	P	**P**	**08 32 01.5**	**+5.0**
KAPI	**Kappang**	**22.70**	**265**	eP	**P**	**08 31 54.8**	**-1.7**
	234nm,0.9s						
MPSI	**Mapaga**	**22.80**	**278**	P	**P**	**08 31 59.3**	**+1.8**
	15nm,0.8s,359nm						
QLP	**Quilpie**	**23.32**	**176**	P	**P**	**08 32 03.4**	**+0.7**
	baz=24,SNR=5.3						
EIDS	**Eidsvold**	**23.57**	**160**	P	**P**	**08 32 06.9**	**+1.7**
	baz=24						
EIDS	**Eidsvold**	**23.57**	**160**	eP	**P**	**08 32 06.5**	**+1.4**
	49nm,0.8s						
RMQ	**Roma**	**23.95**	**166**	P	**P**	**08 32 10.9**	**+2.1**
	baz=24,SNR=16						
MYLDM	**Lahad Datu**	**25.31**	**289**	eP	**P**	**08 32 19.9**	**-1.4**
	73nm,1.3s						
KKM	**Kota Kinabalu**	**27.74**	**289**	eP	**P**	**08 32 39.8**	**-3.6**
	18nm,1.1s						
KWAJ	**Kwajalein Atol**	**27.79**	**64**	eP	**P**	**08 32 43.3**	**-0.4**
	379nm,1.4s						
CMSA	**Cobar Meteorol**	**28.37**	**174**	P	**P**	**08 32 50.1**	**+1.4**
	baz=29,SNR=13						
MBWA	**Marble Bar**	**28.41**	**229**	eP	**P**	**08 32 50.0**	**+0.9**
	20nm,1.2s						
ARMA	**Armidale**	**28.45**	**163**	P	**P**	**08 32 51.0**	**+1.4**
	baz=29,SNR=5.0						
ARMA	**Armidale**	**28.45**	**163**	eP	**P**	**08 32 50.7**	**+1.2**
	8.8nm,0.9s						
STKA	**Stephens Creek**	**28.55**	**181**	P	**P**	**08 32 50.7**	**+0.4**
	8.5nm,0.8s,baz=359,slow=9.1,SNR=16						
STKA				LR	LR	08 45 41.6	
	comp=Z,317nm,18.2s,baz=15,slow=40						
STKA	**Stephens Creek**	**28.55**	**181**	P	**P**	**08 32 51.0**	**+0.7**
	baz=29,SNR=12						
STKA	**Stephens Creek**	**28.55**	**181**	eP	**P**	**08 32 50.7**	**+0.4**
	1.9nm,0.8s						
JAGI	**Jajag, Banyuwa**	**28.61**	**258**	eP	**P**	**08 32 50.8**	**-0.2**
	59nm,1.4s						
DZM	**Mont Dzumac**	**29.93**	**131**	P	**P**	**08 33 02.5**	**-0.2**
	11nm,0.8s,baz=304,slow=15,SNR=5.9						
BBOO	**Buckleboo**	**30.07**	**191**	P	**P**	**08 33 04.1**	**+0.4**
	baz=30,SNR=5.8						
HTT	**Hallett**	**30.27**	**186**	P	**P**	**08 33 06.0**	**+0.5**
	baz=30,SNR=8.8						
FORT	**Forrest**	**30.62**	**205**	eP	**P**	**08 33 09.6**	**+0.9**
	498nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**32.17**	**47**	T	T	09 07 03.8	
	baz=229,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**32.18**	**47**	T	T	09 07 05.3	
	baz=229,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**32.19**	**47**	T	T	09 07 05.6	
	baz=229,slow=75,SNR=27						
CAN	**Canberra**	**32.55**	**170**	eP	**P**	**08 33 27.9**	**+2.2**
	12nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**33.10**	**46**	T	T	09 08 22.7	
	baz=230,slow=76,SNR=39						
H11N2	**WAKE ISLAND Hy**	**33.11**	**46**	T	T	09 08 24.0	
	baz=230,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**33.12**	**46**	T	T	09 08 24.0	
	baz=230,slow=76,SNR=29						
ARPS	**Mount Arapiles**	**33.42**	**181**	P	**P**	**08 33 34.5**	**+1.4**
	baz=34,SNR=22						
TOO	**Toolangi**	**34.33**	**176**	P	**P**	**08 33 43.8**	**+2.6**
	baz=35,SNR=7.4						
QIZ	**Qiongzhong**	**38.93**	**306**	P	**P**	**08 34 20.8**	**+0.3**
QIZ				S	**S**	**08 40 18.6**	**+1.0**
MJAR	**Matsushiro Arr**	**39.72**	**355**	P	**P**	**08 34 26.1**	**-0.8**
	1.2nm,0.9s,baz=191,slow=9.5,SNR=3.6						
MJAR				LR	LR	08 48 53.6	
	comp=Z,51nm,21.0s,baz=200,slow=33						
NJ2	**Nanjing**	**41.59**	**329**	eP	**P**	**08 34 40.4**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KSAR	**Wonju Array Be**	**42.63**	**343**	P	**P**	**08 34 50.5**	**-0.2**
KSRS	**Korea Array**	**42.63**	**343**	P	**P**	**08 34 50.5**	**-0.2**
	0.8nm,0.6s,baz=142,slow=10,SNR=5.7						
KSRS				LR	LR	08 50 51.7	
	comp=Z,46nm,20.8s,baz=159,slow=34						
PSI	**Prapat**	**43.89**	**277**	LR	LR	08 56 02.4	
	comp=Z,42nm,21.2s,slow=40						
PSI	**Prapat**	**43.89**	**277**	eP	**P**	**08 34 59.7**	**-1.8**
	17nm,1.1s						
KCSI	**Kotacane, Aceh**	**45.13**	**278**	P	**P**	**08 35 14.3**	**+3.0**
URZ	**Urewera**	**47.12**	**142**	P	**P**	**08 35 27.2**	**+0.6**
	4.9nm,0.5s,baz=272,slow=7.8,SNR=14						
BKZ	**Black Stump Fm**	**47.33**	**144**	eP	**P**	**08 35 28.8**	**+0.6**
	21nm,0.8s						
RPZ	**Rata Peaks**	**47.66**	**152**	P	**P**	**08 35 30.7**	**0.0**
	15nm,0.8s,baz=146,slow=2.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**47.92**	**298**	P	**P**	**08 35 32.4**	**-0.7**
	1.1nm,0.3s,baz=117,slow=5.5,SNR=3.4						
CMAR				LR	LR	08 53 53.2	
	comp=Z,14nm,21.5s,baz=125,slow=34						
USRK	**Ussuriysk Ar.**	**48.10**	**350**	P	**P**	**08 35 32.5**	**-1.5**
	1.9nm,0.7s,baz=181,slow=10,SNR=5.1						
USRK				LR	LR	08 52 26.2	
	comp=Z,64nm,19.8s,baz=170,slow=32						
XAN	**Xi'an**	**48.66**	**322**	P	**P**	**08 35 40.8**	**+2.2**
XAN				pP	pP	08 35 46.3	-0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=N,37nm,11.9s						
XAN				LR	LR		
	comp=E,60nm,12.4s						
XAN				LR	LR		
	comp=Z,110nm,14.6s						
CN2	**Changchun**	**49.21**	**344**	eP	**P**	**08 35 43.3**	**+0.7**
CD2	**Chengdu**	**50.08**	**316**	eP	**P**	**08 35 47.6**	**-1.9**
HHC	**Hu-ho-hao-te**	**52.11**	**330**	eP	**P**	**08 36 05.8**	**+1.1**
HHC				S	**S**	**08 43 26.9**	**-0.4**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,69nm,4.3s						
HHC				LR	LR		
	comp=N,300nm,16.0s						
HHC				LR	LR		
	comp=E,350nm,13.6s						
HHC				LR	LR		
	comp=Z,360nm,11.6s						
LZH	**Lanzhou**	**53.15**	**321**	eP	**P**	**08 36 15.1**	**+2.6**
LZH				pP	sP	08 36 23.3	-0.8
LZH				sP	pP	08 36 26.6	+5.8
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.5s						
PETK	**Petropavlovsk-**	**57.55**	**11**	P	**P**	**08 36 42.5**	**-1.1**
	2.8nm,0.9s,baz=139,slow=6.1,SNR=5.6						
PETK				LR	LR	09 00 28.6	
	comp=Z,21nm,20.5s,baz=202,slow=35						
GTA	**Gaotai**	**57.70**	**322**	eP	**P**	**08 36 48.9**	**+3.7**
GTA				pP	sP	08 36 56.3	-0.5
GTA				sP	pP	08 37 00.0	+6.4
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
RAR	**Rarotonga**	**58.91**	**113**	LR	LR	09 00 50.4	
	comp=Z,37nm,18.4s,baz=248,slow=35						
SONM	**Songino Array**	**59.79**	**333**	P	**P**	**08 36 58.4**	**-1.2**
	0.5nm,0.8s,baz=116,slow=6.6,SNR=3.4						
SONM				LR	LR	09 02 49.1	
	comp=Z,51nm,18.8s,baz=84,slow=36						
MA2	**Magadan**	**62.92**	**5**	LR	LR	09 01 52.4	
	comp=Z,25nm,21.3s,baz=185,slow=33						
YAK	**Yakutsk**	**65.77**	**353**	LR	LR	09 04 17.7	
	comp=Z,40nm,20.1s,baz=270,slow=34						
WMQ	**Urumqi**	**67.72**	**320**	P	**P**	**08 37 51.0**	**-0.9**
WMQ				pP	pP	08 37 57.8	-2.6
WMQ				sP	sP	08 38 04.8	+1.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,58nm,4.3s						
WMQ				LR	LR		
	comp=N,23nm,19.7s						
WMQ				LR	LR		
	comp=E,67nm,30.1s						
MK31	**Makanchi Array**	**72.46**	**321**	eP	**P**	**08 38 20.9**	**0.0**
MKAR	**Makanchi Array**	**72.46**	**321**	P	**P**	**08 38 20.4**	**-0.5**
	1.6nm,0.8s,baz=99,slow=8.0,SNR=7.0						
MKAR	**Makanchi Array**	**72.46**	**321**	eP	**P**	**08 38 20.9**	**0.0**
	29nm,0.9s						
KSH	**Kashi**	**74.13**	**313**	eP	P	08 38 36.4	+5.4
KSH				pP	sP	08 38 44.3	+1.5
KSH				sP	PcP	08 38 48.3	+2.3
KSH				PcP	pP	08 38 51.4	+12
KSH				PP	**PP**	**08 41 24.1**	**+7.3**
KSH				S	**S**	**08 48 09.8**	**+7.1**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,68nm,5.8s						
KSH				LR	LR		
	comp=N,47nm,7.0s						
KSH				LR	LR		
	comp=E,68nm,6.3s						
KSH				LR	LR		
	comp=Z,48nm,8.2s						
ZAA0	**Zalesovo Array**	**74.24**	**329**	eP	**P**	**08 38 29.2**	**-1.9**
ZALV	**Zalesovo Beam**	**74.24**	**329**	P	**P**	**08 38 30.4**	**-0.8**
	2.9nm,0.8s,baz=107,slow=5.0,SNR=8.9						
ZALV				LR	LR	09 09 33.3	
	comp=Z,32nm,21.3s,baz=70,slow=34						
VNDA	**Vanda**	**75.00**	**176**	P	**P**	**08 38 34.8**	**-0.4**
	2.3nm,0.8s,baz=334,slow=7.5,SNR=13						
VNDA				LR	LR	09 11 03.1	
	comp=Z,54nm,18.5s,baz=336,slow=35						
VNDA	**Vanda**	**75.00**	**176**	eP	**P**	**08 38 35.5**	**+0.3**
	11nm,1.5s						
AAK	**Ala-Archa**	**76.15**	**315**	P	**P**	**08 38 42.2**	**-0.4**
	3.0nm,1.0s						
KURK	**Kurchatov**	**76.26**	**324**	eP	**P**	**08 38 42.4**	**-0.5**
	5.7nm,1.2s						
KKAR	**Karatay Array**	**79.09**	**315**	eP	**P**	**08 38 57.9**	**-0.9**
CNPM	**China Poot**	**80.98**	**28**	eP	**P**	**08 39 08.4**	**-0.3**
	67nm,1.8s						
NRIK	**Noril'sk**	**81.24**	**343**	P	**P**	**08 39 09.1**	**-0.8**
	4.3nm,0.8s,baz=126,slow=2.5,SNR=7.0						
NRIK				LR	LR	09 12 48.8	
	comp=Z,42nm,21.9s,baz=67,slow=34						
BVAR	**Borovoye Array**	**81.84**	**325**	P	**P**	**08 39 13.0**	**-0.4**
	4.6nm,0.8s,baz=120,slow=5.8,SNR=12						
BRVK	**Borovoye**	**81.91**	**325**	eP	**P**	**08 39 13.6**	**-0.2**
	8.8nm,0.9s						
CAST	**Castle Rocks**	**82.12**	**24**	eP	**P**	**08 39 14.3**	**-0.3**
	14nm,1.7s						
RC01	**Rabbit Creek A**	**82.25**	**27**	eP	**P**	**08 39 13.3**	**-2.0**
	11nm,1.0s						
PMR	**Palmer**	**82.70**	**27**	eP	**P**	**08 39 16.5**	**-1.2**
	38nm,1.9s						
MAW	**Mawson**	**83.09**	**202**	P	**P**	**08 39 19.6**	**+0.1**
	2.2nm,0.8s,baz=75,slow=8.8,SNR=6.1						
SML	**Sawmill**	**83.14**	**27**	eP	**P**	**08 39 19.6**	**-0.4**
	11nm,0.9s						
MLY	**Manley**	**83.30**	**23**	eP	**P**	**08 39 19.7**	**-1.1**
	11nm,1.5s						
RND	**Reindeer**	**83.47**	**25**	eP	**P**	**08 39 19.1**	**-2.6**
	9.2nm,0.9s						
MCK	**McKinley**	**83.55**	**25**	eP	**P**	**08 39 20.4**	**-1.6**
	13nm,1.1s						
DHY	**Denali Highway**	**83.98**	**26**	eP	**P**	**08 39 23.8**	**-0.7**
	7.7nm,1.0s						
DIV	**Divide**	**84.08**	**28**	eP	**P**	**08 39 25.3**	**+0.4**
	7.6nm,0.8s						
WRH	**Wood River Hil**	**84.15**	**24**	eP	**P**	**08 39 23.5**	**-1.5**
	7.8nm,1.1s						
CCB	**Clear Creek Bu**	**84.33**	**24**	eP	**P**	**08 39 24.2**	**-1.8**
	3.9nm,0.9s						
ILAR	**Eielson Array**	**84.74**	**24**	P	**P**	**08 39 25.6**	**-2.4**
	4.2nm,0.9s,baz=259,slow=4.9,SNR=27						
ILB	**Eielson Array**	**84.74**	**24**	eP	**P**	**08 39 26.4**	**-1.7**
DOT	**Dot Lake**	**85.58**	**25**	eP	**P**	**08 39 31.7**	**-0.7**
	17nm,1.0s						
QSPA	**South Pole Qui**	**86.76**	**180**	eP	**P**	**08 39 38.0**	**-0.2**
	28nm,0.7s						
EGAK	**Eagle**	**87.10**	**25**	eP	**P**	**08 39 38.9**	**-0.8**
	14nm,1.4s						
GEYT	**Alibeck**	**87.46**	**308**	P	**P**	**08 39 41.2**	**-0.9**
	1.0nm,0.6s,baz=34,slow=10,SNR=2.6						
ABKAR	**Akbulak array**	**87.49**	**319**	eP	**P**	**08 39 40.3**	**-1.7**
	35nm,1.5s						
DAWY	**Dawson**	**87.69**	**26**	eP	**P**	**08 39 42.3**	**-0.4**
	7.8nm,1.0s						
PLCA	**Paso Flores**	**126.91**	**149**	PKP	**PKPdf**	**08 45 58.1**	**-0.5**
	1.7nm,0.7s,baz=311,slow=2.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**139.96**	**287**	PKP	**PKPdf**	**08 46 22.2**	**-1.4**
	0.8nm,0.9s,baz=28,slow=3.4,SNR=2.5						
HELC	**Santa Helena**	**142.06**	**84**	eP	**PKPdf**	**08 46 27.0**	**-0.9**
ROSC	**El Rosal**	**143.30**	**86**	PKP	PKPbc	08 46 28.0	+0.7
	5.0nm,0.8s,baz=72,slow=11,SNR=5.2						
OCAC	**Ocana**	**144.09**	**80**	eP	**PKPab**	**08 46 29.0**	**+0.3**
LPAZ	**La Paz**	**144.12**	**124**	PKP	PKPbc	08 46 30.6	+0.8
	3.6nm,0.6s,baz=248,slow=4.1,SNR=21						
GIRC	**Giron, Santand**	**144.32**	**82**	eP	**PKPab**	**08 46 29.2**	**-0.4**
BARC	**Barichara**	**144.36**	**83**	eP	**PKPab**	**08 46 29.4**	**-0.5**
RUSC	**La Rusia**	**144.50**	**84**	eP	**PKPab**	**08 46 29.8**	**-0.9**
PAMC	**Pamplona, Colo**	**144.78**	**82**	eP	**PKPab**	**08 46 30.2**	**-1.5**
CPUP	**Villa Florida**	**144.98**	**148**	PKPbc	**PKPab**	**08 46 29.6**	**-1.8**
	2.9nm,0.7s,baz=313,slow=2.0,SNR=5.0						
KIC	**Kosan Boka**	**147.14**	**277**	eP	**PKPab**	**08 46 39.5**	**-0.6**
	16nm,0.8s						
DBIC	**Dimbokro**	**147.23**	**277**	PKPbc	**PKPb

JOW	Kunigami	3.90	237	P	Pn	08 46 38.9 -1.0
JOW				eS	Sn	08 47 22.8 -1.7
JOW	Kunigami	3.90	237	ePn	Pn	08 46 39.0 -1.0
JOW				eSn	Sn	08 47 22.3 -2.2
JIH	Iheya	4.03	242	P	Pn	08 46 40.5 -1.1
JIH				eS	Sn	08 47 24.4 -3.1
JNU	Nakatsue	4.19	348	P	Pn	08 46 44.1 +0.3
	10nm,0.3s,baz=116,slow=1.7,SNR=118					
JNU				S	Sn	08 47 29.8 -1.7
	15nm,0.3s,baz=224,slow=19,SNR=11					
JNU	Nakatsue	4.19	348	P	Pn	08 46 44.1 +0.3
JNU				eSn	Sn	08 47 29.7 -1.8
JNU				S	Sn	08 47 29.8 -1.7
JNA	Nagahama	4.55	6	P	Pn	08 46 43.6 -5.1
JAGN	Aguni-jima	4.81	241	P	Pn	08 46 51.1 -1.2
JAGN				S	Sn	08 47 44.8 -2.0
JMN	Monobe	4.98	19	P	Pn	08 46 54.7 0.0
JHJ	Hachijo jima 2	7.87	57	P	Pn	08 47 35.8 +1.4
	22nm,0.3s,baz=357,slow=22,SNR=15					
JHJ2	Mitsune	7.89	57	ePn	Pn	08 47 36.1 +1.5
JHJ2				eSn	Sn	08 49 02.4 -0.2
KSRS	Korea Array	9.05	339	P	Pn	08 47 51.7 +1.2
	0.4nm,0.3s,baz=159,slow=14,SNR=7.5					
KSAR	Wonju Array Be	9.06	339	P	Pn	08 47 51.7 +1.2
MAJO	Matsushiro	9.17	34	Pn	Pn	08 47 52.1 0.0
MJAR	Matsushiro Arr	9.17	34	P	Pn	08 47 53.2 +1.1
	0.6nm,0.3s,baz=206,slow=12,SNR=7.2					
GUMO	Guam	19.49	139	LR	LR	08 56 37.8
	comp=Z,31nm,19.2s,baz=347,slow=33					
ENH	Enshi	19.55	279	eP	P	08 50 04.0 -2.3
	4.4nm,0.6s					
YSS	Yuzh-Sakhalins	19.80	22	P	Pn	08 50 10.3 -0.3
	110nm,2.0s					
KLR	Kul'dur	20.18	360	P	Pn	08 50 15.4 +0.2
	0.2nm,0.6s,baz=213,slow=4.5,SNR=7.7					
SONM	Songino Array	27.24	321	P	P	08 51 22.9 +0.6
	0.3nm,0.4s,baz=140,slow=8.0,SNR=2.8					
ZALV	Zalesovo Beam	42.13	320	P	P	08 53 29.9 -0.1
	0.3nm,0.3s,baz=109,slow=7.8,SNR=2.4					
MKAR	Makanchi Array	42.24	309	P	P	08 53 32.2 +1.1
	2.1nm,0.7s,baz=95,slow=9.9,SNR=9.4					
KURK	Kurchatov	45.16	314	P	P	08 53 55.5 +1.1
KURBB	Kurchatov Arra	45.20	314	P	P	08 53 55.5 +0.7
	0.4nm,0.4s,baz=92,slow=8.4,SNR=4.0					
FITZ	Fitzroy Crossi	47.24	188	P	P	08 54 12.2 +1.2
	1.7nm,0.7s,baz=18,slow=6.9,SNR=5.1					
NRIK	Noril'sk	47.67	340	P	P	08 54 11.8 -2.1
	1.7nm,0.4s,baz=45,slow=2.9,SNR=2.6					
WRA	Warramunga Arr	48.73	177	P	P	08 54 23.2 +0.6
	0.3nm,0.6s,baz=356,slow=8.4,SNR=5.9					
WRA				LR	LR	09 14 58.9
	comp=Z,23nm,21.7s,baz=180,slow=36					
ASAR	Alice Springs	52.42	178	P	P	08 54 51.9 +1.5
	1.0nm,0.6s,baz=12,slow=13,SNR=32					
ABKAR	Akbulak array	57.18	312	eP	P	08 55 25.2 +0.6
	1.3nm,0.8s					
ILAR	Eielson Array	60.42	29	P	P	08 55 46.5 -0.4
	0.7nm,0.8s,baz=272,slow=6.3,SNR=6.4					
STKA	Stephens Creek	61.26	171	P	P	08 55 54.2 +1.4
	2.1nm,0.7s,baz=319,slow=8.5,SNR=4.6					
INK	Inuvik	65.03	24	P	P	08 56 17.8 +0.4
	1.5nm,0.8s,baz=352,slow=13,SNR=4.6					
KBZ	Khabaz	69.93	309	P	P	08 56 50.3 +1.5
	1.6nm,0.8s,baz=133,slow=3.9,SNR=5.3					
FINES	FINESS Array B	72.05	331	P	P	08 57 01.4 +0.1
	1.3nm,0.4s,baz=66,slow=5.3,SNR=23					
FINES				LR	LR	09 30 03.5
	comp=Z,61nm,18.2s,baz=61,slow=37					
AKASG	Malin Array Be	75.53	320	P	P	08 57 22.0 +0.1
	1.0nm,0.5s,baz=57,slow=6.3,SNR=4.0					
HFS	Hagfors	77.85	333	LR	LR	09 33 46.0
	comp=Z,34nm,19.1s,baz=65,slow=37					
CLL	Collm	83.70	326	*i* P	P	08 58 07.0 +0.7
	comp=Z,6.0nm,0.5s					
TORD	Torodi Ar. Bea	116.23	304	PKP	PKPdf	09 04 20.4 -1.1
	comp=Z,0.3nm,0.8s,baz=17,slow=3.3,SNR=2.9					

DJA 23 08:46:35.3±1.0, 8°S±13°×10°5E±°, h81km±25km, M3.8/7, mb4.3/1, MLv3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	1.21	24	P	Pn	08 46 56.7	-0.3
CGJI				S	Sn	08 47 14.0	+0.8
CNJI	Cibinong	1.97	78	P	Pn	08 47 06.7	-0.1
CNJI				S	Sn	08 47 30.7	-0.1
KASI	Kota Agung	2.29	342	P	Pn	08 47 10.4	-0.7
KASI				S	Sn	08 47 39.8	+1.3
CISI	Cisompet, Garu	2.61	87	P	Pn	08 47 14.7	-0.7
CMJI	Cimerak	3.23	91	P	Pn	08 47 24.8	+1.0
CMJI				S	Sn	08 48 01.9	+0.7
MDSI	Maura Dua	3.37	343	P	Pn	08 47 25.3	-0.4
MNAI	Manna	4.01	326	P	Pn	08 47 32.2	-2.2
UGM	Wanagama	5.29	92	P	Pn	08 47 52.6	+0.7
UGM				S	Sn	08 48 51.5	0.0

IDC 23 08:48:17.8±5.4, 21°38S×178°17W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/33, mbtmp4.1/3, Error ellipse: s-maj=248.3km s-min=86.1km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.26	266	P	P	08 54 59.0	+1.9
	2.8nm,0.4s,baz=102,slow=9.1,SNR=6.2						
ASAR	Alice Springs	44.17	258	P	P	08 56 27.9	-0.8
	1.5nm,0.8s,baz=94,slow=8.3,SNR=12						
WRA	Warramunga Arr	44.33	263	P	P	08 56 29.0	-1.0
	0.5nm,0.3s,baz=96,slow=8.1,SNR=14						
AKASG	Malin Array Be	143.70	330	PKP	PKPdf	09 07 54.6	0.0
	0.4nm,0.4s,baz=46,slow=4.2,SNR=6.8						

*IDC **23** 08:56:49.1±2.8, 24°56N×61°79E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.4/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/50, Error ellipse: s-maj=62.6km s-min=23.0km az=141.0*

*ISCJB **23** 08:56:51.4±1.0, 24°8N±0°1×61°44E±0°08, h10km, mb3.5/7, Error ellipse: s-maj=17.0km s-min=7.7km az=151.9*

*CSEM **23** 08:56:57.9±1.2, 24°72N×61°14E, h10km, ML3.6, Error ellipse: s-maj=42.2km s-min=24.9km az=17.0*

*OMAN **23** 08:56:58.2±0.1, 24°64N×61°11E, h14km±1km, Error ellipse: s-maj=13.1km s-min=1.5km az=248.0*

*DSN **23** 08:57:02.7±1.7, 24°63N×60°81E, h15km, ML3.6/7, Error ellipse: s-maj=30.8km s-min=11.4km az=35.0*

ISC 23 08:56:52.6±1.3, 24°8N±0°1×61°46E±0°10, h10km, n25, σ1§55/26, mb3.6/7, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	2.99	240	Pn	Pn	08 57 41.2	+1.1
	4.7nm,0.3s,baz=126,slow=3.3,SNR=141						
WSAR				Sn	Sn	08 58 14.8	-1.3
	22nm,0.3s,baz=261,slow=22,SNR=22						
UOSS	Minazif	4.78	273	P	Pn	08 58 05.3	+0.6
UOSS	Minazif	4.78	273	P	Pn	08 58 05.5	+0.8
UOSS				S	Sn	08 58 58.2	-2.0
UOSS	Minazif	4.78	273	P	Pn	08 58 05.3	+0.6
UOSS				S	Sn	08 58 58.2	-2.0
BANOM	Banah	4.81	285	P	Pn	08 58 06.9	+1.7
BANOM	Banah	4.81	285	P	Pn	08 58 06.7	+1.5
	SNR=16						
BANOM	Banah	4.81	285	P	Pn	08 58 06.9	+1.7
BANOM				S	Sn	08 58 59.7	-1.4
BANOM	Banah	4.81	285	P	Pn	08 58 06.7	+1.5
	SNR=16						
BANOM				S	Sn	08 58 59.7	-1.4
HATD	Hatta, Dubai	4.84	272	P	Pn	08 58 06.9	+1.4
HATD	Hatta, Dubai	4.84	272	P	Pn	08 58 06.9	+1.4
ASHO	Ashiyiah	4.91	270	P	Pn	08 58 07.8	+1.2
ASHO	Ashiyiah	4.91	270	P	Pn	08 58 07.8	+1.2
FAQ	Al Faqa, Dubai	5.33	271	P	Pn	08 58 14.7	+2.4
FAQ	Al Faqa, Dubai	5.33	271	P	Pn	08 58 14.7	+2.4
GEYT	Alibeck	13.45	349	LR	LR	09 05 17.4	
	comp=Z,12nm,19.8s,baz=165,slow=37						
KBZ	Khabaz	24.27	326	P	P	09 02 12.1	+2.2
	2.0nm,0.7s,baz=180,slow=5.1,SNR=6.5						
AKTO	Aktyubinsk	25.78	355	P	P	09 02 24.2	+0.7
	1.5nm,0.6s,baz=162,slow=13,SNR=7.0						
MKAR	Makanchi Array	27.58	32	P	P	09 02 38.5	-1.4
	0.7nm,0.6s,baz=210,slow=9.7,SNR=4.3						
KURBB	Kurchatov Arra	29.01	23	P	P	09 02 50.9	-1.5
	0.5nm,0.5s,baz=221,slow=8.1,SNR=3.5						
H08N2	Diego Garcia H	32.25	162	T	T	09 37 34.7	
	baz=344,slow=75,SNR=236						
H08N3	Diego Garcia H	32.27	162	T	T	09 37 37.4	
	baz=344,slow=75,SNR=153						
H08N1	Diego Carcia H	32.27	162	T	T	09 37 37.3	
	baz=344,slow=75,SNR=268						
FINES	FINESS Array B	43.84	336	P	P	09 04 57.6	-1.0
	0.7nm,0.7s,baz=141,slow=7.1,SNR=3.5						
GERES	GERESS Array B	44.25	316	P	P	09 05 02.7	+0.4
	0.3nm,0.6s,baz=105,slow=7.4,SNR=2.6						
TORD	Torodi Ar. Bea	57.31	270	P	P	09 06 41.0	-0.1
	0.5nm,0.6s,baz=60,slow=7.0,SNR=3.5						

IDC 23 09:00:44.5±7.5, 18°31S×179°33W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/35, mbtmp3.6/2, Error ellipse: s-maj=351.1km s-min=112.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.70	260	P	P	09 08 51.6	-0.1
	0.3nm,0.3s,baz=96,slow=7.9,SNR=8.4						
ASAR	Alice Springs	43.84	255	P	P	09 08 52.6	-0.2
	0.4nm,0.5s,baz=86,slow=8.0,SNR=7.9						
AKASG	Malin Array Be	140.50	331	PKP	PKPdf	09 20 15.0	-0.7
	0.4nm,0.3s,baz=48,slow=5.8,SNR=3.4						

*NIED **23** 09:08:00.35°70N×140°10E, h56km, Mw3.7 Best double couple: M0:3.65000×10^14 NP1:φ=160.00000°, δ=33.00000°, λ=31.00000°. NP2:φ=43.00000°, δ=74.00000°, λ=120.00000°.*

*ISCJB **23** 09:08:42.8±0.6, 35°58N±0°05×140°08E±0°08, h82km±5km, mb3.8/5, Error ellipse: s-maj=12.6km s-min=6.3km az=144.9*

*IDC **23** 09:08:42.4±2.3, 35°59N×140°28E, h63km±18km, mb3.6/5, mb1 3.6/8, mb1mx3.3/67, mbtmp3.8/8, MS2.4/1, Ms1 2.4/1, ms1mx2.0/39, Error ellipse: s-maj=28.8km s-min=7.1km az=67.0*

*JMA **23** 09:08:43.5±0.2, 35°68N×140°08E, h65km±2km, M3.2 Broadband fault plane solution: P waves. NP1: φ=13.00000°, δ=70.00000°, λ=85.00000°. NP2:φ=207.00000°, δ=21.00000°, λ=103.00000°. Principal axes: T Plg65.0000°, Azm275.0000°; N Plg5.0000°, Azm15.0000°; P Plg25.0000°, Azm107.0000°;*

JMA Felt I J1.

ISC 23 09:08:44.1±0.9, 35°61N±0°07×140°06E±0°08, h75km±8km, n22, σ1§29/22, mb3.8/5, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.22	149	⇑P	Pn	09 08 54.6	-0.8
I30JP	ISUMI INFRASON	0.36	145	P	Pn	09 08 55.7	-0.6
	baz=300,slow=98						
I30JP				S	Sn	09 09 07.1	+1.9
	baz=194,slow=280						
JOD2	Odawara 2	0.87	247	⇓P	Pn	09 09 00.3	-1.0
JOD2				S	Sn	09 09 12.5	-1.6
BSO3	Boso 3	0.88	155	⇑P	Pn	09 09 00.3	-0.9
BSO3				S	Sn	09 09 13.8	-0.1
JAG	Ashikaga	0.95	329	⇓P	Pn	09 09 00.8	-1.5
JRY	Ryogami san	1.03	294	⇓P	Pn	09 09 02.7	-0.6
MJAR	Matsushiro Arr	1.77	302	P	Pn	09 09 12.1	-0.7
	24nm,0.3s,baz=131,slow=15,SNR=159						
MJAR				LR	LR	09 09 29.0	
	comp=Z,22nm,21.7s,baz=165,slow=25						
MJAR				S	Sn	09 09 35.8	+1.2
	16nm,0.3s,baz=189,slow=19,SNR=8.7						
MAT	Matsushiro	1.77	302	P	Pn	09 09 12.4	-0.4
MAT				eS	Sn	09 09 34.1	-0.5
JHJ	Hachijo jima 2	2.49	185	P	Pn	09 09 21.9	-0.5
	43nm,0.3s,baz=146,slow=23,SNR=27						
JHJ				S	Sn	09 09 50.3	-1.6
	66nm,0.3s,baz=224,slow=22,SNR=11						
ASAJ	Asahikawa	8.72	12	P	Pn	09 10 45.5	-1.8
	0.4nm,0.3s,baz=192,slow=12,SNR=6.1						
KSRS	Korea Array	9.94	284	P	Pn	09 11 07.0	+2.9
	0.1nm,0.3s,baz=95,slow=15,SNR=3.9						
KSRS				LR	LR	09 14 39.1	
	comp=Z,22nm,19.9s,baz=114,slow=35						
H11N2	WAKE ISLAND Hy	28.42	117	T	T	09 44 24.0	
	baz=308,slow=75,SNR=9.6						
H11N1	WAKE ISLAND Hy	28.43	117	T	T	09 44 02.7	
	baz=308,slow=75,SNR=9.9						
H11N3	WAKE ISLAND Hy	28.44	117	T	T	09 44 24.8	
	baz=308,slow=75,SNR=7.3						
H11S1	WAKE ISLAND Hy	29.07	119	T	T	09 44 39.0	
	baz=312,slow=76,SNR=7.4						
H11S3	WAKE ISLAND Hy	29.07	119	T	T	09 44 51.6	
	baz=312,slow=76,SNR=4.2						
H11S2	WAKE ISLAND Hy	29.08	119	T	T	09 44 44.7	
	baz=312,slow=76,SNR=5.5						
MKAR	Makanchi Array	43.97	303	P	P	09 16 44.5	+0.8
	0.7nm,0.4s,baz=85,slow=9.9,SNR=6.2						
KURBB	Kurchatov Arra	46.03	309	P	P	09 17 00.2	+0.2
	0.9nm,0.5s,baz=83,slow=7.6,SNR=4.1						
WRA	Warramunga Arr	55.51	187	P	P	09 18 11.2	-0.2
	0.4nm,0.4s,baz=1.6,slow=7.6,SNR=6.8						
ASAR	Alice Springs	59.24	187	P	P	09 18 38.1	+0.5
	0.4nm,0.8s,baz=8.2,slow=7.8,SNR=3.3						
FINES	FINESS Array B	69.56	332	P	P	09 19 44.3	-0.3
	2.3nm,1.0s,baz=35,slow=7.0,SNR=6.2						

*NIED **23** 09:18:00.27°80N×127°00E, h190km, Mw4.3 Best double couple: M0:3.24000×10^15 NP1:φ=222.00000°, δ=25.00000°, λ=-96.00000°. NP2:φ=48.00000°, δ=65.00000°, λ=-87.00000°.*

*ISCJB **23** 09:18:47.5±0.2, 27°73N±0°03×126°93E±0°03, h185km±2km, mb4.3/96, Error ellipse: s-maj=5.8km s-min=2.9km az=145.2*

*NEIC **23** 09:18:48.8±0.6, 27°80N×126°93E, h178km±6km, mb4.5/69, Error ellipse: s-maj=7.1km s-min=6.0km az=148.0*

*JMA **23** 09:18:50.7±0.2, 27°81N×127°01E, h163km, M4.4*

*IDC **23** 09:18:52.5±1.9, 27°88N×126°92E, h219km±18km, mb3.7/26, mb1 3.7/30, mb1mx3.6/73, mbtmp4.2/30, Error ellipse: s-maj=13.0km s-min=8.8km az=79.0*

ISC 23 09:18:49.0±0.5, 27°76N±0°04×126°94E±0°03, h182km±5km, n157, σ1§72/198, mb4.4/96, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	1.17	128	P	Pn	09 19 18.6	+0.4
JIH				S	Sn	09 19 39.6	-1.0
JAGN	Aguni-jima	1.20	167	P	Pn	09 19 18.9	+0.5
JAGN				S	Sn	09 19 41.3	+0.1
JKE	Kume jima 2	1.44	185	P	Pn	09 19 20.9	+0.4
JKE				S	Sn	09 19 45.0	+0.1
JOKE	Okinoerabujima	1.50	105	P	Pn	09 19 21.2	+0.1
JOKE				S	Sn	09 19 43.9	-2.1
JOW	Kunigami	1.51	128	P	Pn	09 19 21.5	+0.3
JOW				S	Sn	09 19 44.2	-1.9
JOW	Kunigami	1.51	128	ePn	Pn	09 19 21.4	+0.3
JOW				eSn	Sn	09 19 45.0	-1.1
JNTH	Nagotoyohara	1.57	142	P	Pn	09 19 22.4	+0.6
JNTH				S	Sn	09 19 45.7	-1.4
JJT2	Tamagusuku 2	1.77	156	P	Pn	09 19 25.0	+1.2
JTK	Tokunoshima	1.78	89	P	Pn	09 19 23.7	-0.2
JTK				S	Sn	09 19 48.6	-2.3
JAMN	Amaminishikomi	2.04	76	P	Pn	09 19 26.2	-0.3
JAMN				S	Sn	09 19 53.7	-2.0
JTAJ	Takarajima	2.43	55	P	Pn	09 19 31.4	+0.5
JAM	Amami Oshima	2.44	74	P	Pn	09 19 30.8	-0.3
JAM				S	Sn	09 20 01.3	-2.5
JZK	Kikaishima	2.74	78	P	Pn	09 19 35.2	+0.6
JZK				S	Sn	09 20 08.7	-1.3
JIKM	Ikemajima	3.21	209	P	Pn	09 19 40.0	-0.3
JIKM				S	Sn	09 20 18.3	-2.0
JMJ	Miyako jima 2	3.28	207	P	Pn	09 19 40.9	-0.3
JMJ				S	Sn	09 20 20.5	-1.5
JOGS	Gusukube	3.29	205	P	Pn	09 19 40.8	-0.5
JOGS				S	Sn	09 20 21.4	-0.7
JIRB	Irabujima	3.32	209	P	Pn	09 19 41.1	-0.6
JIRB				S	Sn	09 20 20.2	-2.6
JTJ	Tarama	3.70	213	P	Pn	09 19 45.7	-0.7
JTJ				S	Sn	09 20 28.4	-2.8
JISG	Ishigakijimahi	3.94	217	P	Pn	09 19 48.4	-1.1
JISG				S	Sn	09 20 33.7	-3.1
JIJ	Ishigaki jima	4.21	217	P	Pn	09 19 51.2	-1.7
JIJ				S	Sn	09 20 38.3	-4.7
JMZ	Minamidaito 2	4.29	116	P	Pn	09 19 53.3	-0.5
JMZ				S	Sn	09 20 40.3	-4.3
JKRS	Kuro-shima	4.39	218	P	Pn	09 19 53.5	-1.6
JKRS				S	Sn	09 20 43.6	-3.3
IRIF	Iriomote-Funau	4.47	221	P	Pn	09 19 54.5	-1.6
IRIF				S	Sn	09 20 45.6	-3.2
HATJ	Hateruma jima	4.64	218	P	Pn	09 19 57.0	-1.4
HATJ				S	Sn	09 20 50.6	-2.3
YOJ	Yonaguni jima	4.82	228	P	Pn	09 20 00.4	-0.3
YOJ	Yonaguni jima	4.82	228	ePn	Pn	09 20 00.9	+0.2
JYNG	Yonagunijimaku	4.87	228	P	Pn	09 20 01.1	-0.3
JYNG				S	Sn	09 20 57.5	-0.7
YHNB	Yeheng	5.87	240	ePn	Pn	09 20 16.8	+2.4
YHNB				eSn	Sn	09 21 25.0	+3.4
NACB	Ninganchiao	5.99	235	ePn	Pn	09 20 15.5	-0.4
JNU	Nakatsue	6.33	32	P	Pn	09 20 22.7	+2.3
	0.4nm,0.3s,baz=194,slow=11,SNR=8.0						
SSLB	Suanglung	6.69	235	ePn	Pn	09 20 23.5	-1.7
YULB	Yu-li	6.70	231	ePn	Pn	09 20 22.6	-2.6
TPUB	Ta-pu	7.22	233	ePn	Pn	09 20 30.5	-1.6
NJ2	Nanjing	8.22	303	eP	Pn	09 20 45.3	+0.2
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	Korea Array	9.70	5	P	Pn	09 21 06.2	+1.8
	comp=Z,0.3nm,0.3s,baz=183,slow=13,SNR=11						
MJAR	Matsushiro Arr	12.95	45	P	Pn	09 21 47.5	+1.1
	comp=Z,0.1nm,0.3s,baz=224,slow=11,SNR=2.9						
BJT	Baijiatuau	15.13	327	ePn	P	09 22 13.2	-1.2
	comp=Z,15nm,0.7s						
ENH	Enshi	15.47	283	ePn	P	09 22 20.2	+1.9
	comp=Z,15nm,0.9s						
CN2	Changchun	16.05	356	eP	P	09 22 26.3	+1.8
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
XAN	Xi'an	16.67	296	P	Pn	09 22 32.8	+0.5
XAN				sP	sP	09 23 22.0	-2.7
XAN				pmax	pmax		
	comp=Z,32nm,0.5s						
USRK	Ussuriysk Ar.	16.90	13	P	Pn	09 22 34.0	-0.8
	comp=Z,0.2nm,0.3s,baz=190,slow=9.3,SNR=6.1						
GYA	Guiyang	18.10	271	eP	Pn	09 22 47.9	-1.4
GYA				PP	pP	09 23 13.0	-4.5
GYA				sP	sP	09 23 38.6	-2.0
GYA				S	S	09 26 02.3	-3.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	Hu-ho-hao-te	18.18	320	eP	Pn	09 22 49.9	-0.2
HHC				pP	sP	09 23 44.8	+3.4
HHC				S	S	09 25 58.0	-8.6
HHC				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC				pmax	pmax		
	comp=Z,63nm,4.9s						
ASAJ	Asahikawa	20.61	34	P	P	09 23 14.9	+0.9
	comp=Z,2.4nm,0.3s,baz=300,slow=20,SNR=5.3						
ASAJ	Asahikawa	20.61	34	eP	P	09 23 14.4	+0.4
	comp=Z,22nm,1.2s						
LZH	Lanzhou	21.25	299	eP	P	09 23 22.5	+1.4
LZH				sP	sP	09 24 16.5	+1.2
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
KKM	Kota Kinabalu	23.88	207	eP	P	09 23 51.0	+4.8
	comp=Z,10nm,1.1s						
GTA	Gaotai	25.31	304	eP	P	09 23 58.5	-0.5
GTA				pP	pP	09 24 35.5	-0.2
GTA				sP	sP	09 24 54.3	-2.8
GTA				S	S	09 28 11.1	-0.4
GTA				sS	sS	09 29 13.6	-3.8
GTA				SS	SnSn	09 29 32.0	+5.5
GTA				pmax	pmax		
	comp=Z,29nm,0.7s						
GTA				pmax	pmax		
	comp=Z,50nm,4.1s						
ULN	Ulaanbaatar	25.35	328	eP	P	09 24 01.6	+2.3
	comp=Z,10nm,0.6s						
SONM	Songino Array	25.65	327	P	P	09 24 01.5	-0.4
	comp=Z,17nm,0.8s,baz=140,slow=10,SNR=62						
SONM				pP	pP	09 24 41.7	+2.9
	comp=Z,1.7nm,0.7s,baz=146,slow=12,SNR=3.7						
SONM				PcP	PcP	09 27 27.6	0.0
	comp=Z,1.1nm,0.6s,baz=160,slow=2.7,SNR=4.7						
CMAR	Chiang Mai Arr	27.31	256	P	P	09 24 17.6	+0.6
	comp=Z,1.2nm,0.6s,baz=69,slow=7.8,SNR=5.8						
IPM	Ipoh	33.84	231	eP	P	09 25 15.9	+1.6
	comp=Z,5.6nm,0.6s						
WMQ	Urumqi	35.27	308	P	P	09 25 25.8	-0.6
WMQ				pP	pP	09 25 56.6	-7.9
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,67nm,4.7s						
WMQ				LR	LR		
	comp=N,15nm,16.7s						
WMQ				LR	LR		
	comp=E,73nm,39.3s						
WMQ				LR	LR		
	comp=Z,11nm,20.3s						
GSI	Gunungsitoli	38.50	232	eP	P	09 25 53.8	0.0
	comp=Z,26nm,0.9s						
SEY	Seymchan	38.91	18	P	P	09 25 55.4	-1.3
	comp=Z,0.5nm,0.2s,baz=61,slow=19,SNR=2.8						
MK31	Makanchi Array	39.66	311	eP	P	09 26 03.5	+0.3
MKAR	Makanchi Array	39.66	311	P	P	09 26 02.8	-0.4
	comp=Z,5.4nm,0.6s,baz=98,slow=11,SNR=13						
MKAR	Makanchi Array	39.66	311	eP	P	09 26 03.5	+0.3
	comp=Z,37nm,0.6s						
ZAA0	Zalesovo Array	40.34	322	eP	P	09 26 08.2	-0.4
ZALV	Zalesovo Beam	40.34	322	P	P	09 26 07.5	-1.0
	comp=Z,2.4nm,0.5s,baz=110,slow=8.7,SNR=5.0						
KURBB	Kurchatov Arra	42.95	316	P	P	09 26 28.2	-1.7
	comp=Z,3.0nm,0.8s,baz=102,slow=8.8,SNR=6.1						
KSH	Kashi	43.50	299	eP	P	09 26 38.6	+4.0
KSH				pP	pP	09 27 17.6	+3.5
KSH				esP	sP	09 27 36.6	+2.1
KSH				PcP	PcP	09 28 21.9	+2.7
KSH				PP	PP	09 28 26.1	+6.7
KSH				PcS	PcS	09 32 14.1	+1.8
KSH				S	S	09 32 53.5	+3.9

SVW2	Sparrevohn	60.11	33	eP		P	09 28 37.2 +0.3
	comp=Z,3.5nm,0.6s						
STKA	Stephens Creek	60.93	166	P		P	09 28 42.5 -0.1
	comp=Z,1.5nm,0.5s,baz=358,slow=7.6,SNR=3.9						
STKA	Stephens Creek	60.93	166	eP		P	09 28 42.8 +0.2
	comp=Z,0.4nm,0.8s						
RSO	Redoubt South	61.55	34	eP		P	09 28 46.0 -0.9
CAST	Castle Rocks	61.56	30	eP		P	09 28 46.6 0.0
	comp=Z,4.3nm,1.0s						
PPLA	Purkeypile	61.56	31	eP		P	09 28 46.9 +0.1
	comp=Z,7.7nm,1.4s						
OHAK	Old Harbor	61.68	37	eP		P	09 28 46.9 -0.6
	comp=Z,10nm,1.1s						
SPU	Mount Spurr	61.81	33	eP		P	09 28 48.5 +0.2
BPAW	Bear Paw Mtn.	61.97	30	eP		P	09 28 49.5 +0.1
	comp=Z,6.1nm,1.4s						
KDAK	Kodiak Island	61.98	37	eP		P	09 28 48.7 -0.8
	comp=Z,4.6nm,0.6s						
MLY	Manley	61.98	28	eP		P	09 28 49.7 +0.2
	comp=Z,2.9nm,0.6s						
SUA	Susitna One	62.40	32	eP		P	09 28 52.2 -0.2
	comp=Z,12nm,0.9s						
CNPM	China Poot	62.43	35	eP		P	09 28 51.9 -0.6
	comp=Z,7.3nm,1.3s						
DZM	Mont Dzumac	62.54	138	eP		P	09 28 54.7 +0.9
	comp=Z,16nm,1.0s						
BRLK	Bradley Lake	62.57	34	eP		P	09 28 52.0 -1.4
	comp=Z,14nm,1.1s						
MCK	McKinley	62.92	30	eP		P	09 28 54.3 -1.4
	comp=Z,3.6nm,0.6s						
RC01	Rabbit Creek A	62.94	33	eP		P	09 28 55.4 -0.4
	comp=Z,13nm,1.5s						
RND	Reindeer	63.00	30	eP		P	09 28 55.6 -0.7
	comp=Z,10nm,0.5s						
MDM	Murphy Dome	63.05	28	eP		P	09 28 56.6 +0.1
	comp=Z,7.7nm,0.7s						
PMR	Palmer	63.15	32	eP		P	09 28 56.2 -0.9
	comp=Z,10.0nm,1.4s						
WRH	Wood River Hil	63.18	29	eP		P	09 28 58.7 +1.4
	comp=Z,8.7nm,1.4s						
SEW	Seward	63.23	34	eP		P	09 28 56.5 -1.2
	comp=Z,21nm,1.5s						
CCB	Clear Creek Bu	63.27	29	eP		P	09 28 57.5 -0.4
	comp=Z,1.6nm,0.5s						
ILAR	Eielson Array	63.64	29	P		P	09 28 58.8 -1.6
	comp=Z,0.5nm,0.5s,baz=250,slow=4.3,SNR=17						
ILB	Eielson Array	63.64	29	eP		P	09 28 59.8 -0.6
DHY	Denali Highway	63.71	30	eP		P	09 29 00.2 -0.8
	comp=Z,5.8nm,1.3s						
SCM	Sheep Creek Mo	63.95	32	eP		P	09 29 02.3 -0.2
	comp=Z,16nm,1.1s						
FYU	Fort Yukon	64.02	26	eP		P	09 29 03.4 +0.7
	comp=Z,4.7nm,1.1s						
FID	Port Fidalgo	64.56	33	eP		P	09 29 05.7 -0.7
	comp=Z,15nm,1.2s						
PAX	Paxson	64.59	30	eP		P	09 29 07.3 +0.7
	comp=Z,1.8nm,0.7s						
KLU	Klutina	64.68	32	eP		P	09 29 07.3 0.0
	comp=Z,7.2nm,1.2s						
DIV	Divide	64.82	32	eP		P	09 29 08.3 +0.1
	comp=Z,5.0nm,0.8s						
HARP	HAARP	64.84	31	eP		P	09 29 08.0 -0.2
	comp=Z,20nm,1.3s						
EYAK	Cordova Ski Ar	64.96	33	eP		P	09 29 08.7 -0.2
	comp=Z,16nm,1.4s						
DOT	Dot Lake	65.07	29	eP		P	09 29 08.9 -0.8
	comp=Z,11nm,0.7s						
MENT	Mentasta	65.38	30	eP		P	09 29 11.8 +0.2
	comp=Z,4.9nm,0.6s						
BMRM	Bremner River	65.41	32	eP		P	09 29 11.5 -0.4
	comp=Z,20nm,1.4s						
RAGM	Ragged Mountai	65.51	33	eP		P	09 29 13.0 +0.4
	comp=Z,17nm,1.1s						
EGAK	Eagle	66.05	28	eP		P	09 29 15.5 -0.4
	comp=Z,5.6nm,1.0s						
BALM	Baldy	66.46	32	eP		P	09 29 18.2 -0.5
	comp=Z,8.8nm,1.2s						
DAWY	Dawson	66.97	28	eP		P	09 29 21.4 -0.4
	comp=Z,8.2nm,1.5s						
KBZ	Khabaz	67.30	309	P		P	09 29 24.0 -0.2
	comp=Z,3.4nm,0.8s,baz=75,slow=4.2,SNR=4.2						
INK	Inuvik	67.94	23	P		P	09 29 27.3 -0.4
	comp=Z,1.4nm,0.7s,baz=291,slow=6.8,SNR=6.6						
ARCES	ARCESS Array B	68.16	338	P		P	09 29 27.3 -1.9
	comp=Z,4.0nm,1.0s,baz=60,slow=7.6,SNR=3.2						
ARCES				PcP		PcP	09 29 51.6 -2.1
	comp=Z,0.9nm,0.4s,baz=79,slow=4.8,SNR=7.4						
HYT	Haines Junctio	68.79	32	eP		P	09 29 33.8 +0.5
	comp=Z,5.2nm,0.9s						
WHY	Whitehorse	70.05	31	eP		P	09 29 41.6 +0.5
	comp=Z,4.7nm,0.7s						
FIA1	FINESS Array S	70.97	330	eP		P	09 29 44.9 -1.5
	comp=Z,13nm,1.4s						
FINES	FINESS Array B	70.97	330	P		P	09 29 45.0 -1.4
	comp=Z,1.5nm,0.7s,baz=65,slow=6.0,SNR=5.2						
AKASG	Malin Array Be	73.62	319	P		P	09 30 00.1 -2.3
	comp=Z,1.2nm,0.4s,baz=58,slow=6.6,SNR=4.7						
AKBB	Malin Array Si	73.62	319	eP		P	09 30 00.7 -1.6
	comp=Z,2.2nm,0.8s						
KIEV	Kiev	73.64	319	eP		P	09 30 00.6 -1.8
	comp=Z,2.2nm,0.8s						
BR131	Keskin Array S	75.19	307	eP		P	09 30 11.4 -0.4
BRTR	Keskin Array B	75.19	307	P		P	09 30 10.8 -1.0
	comp=Z,2.1nm,0.6s,baz=106,slow=4.2,SNR=9.1						
CSS	Mathiatis	77.38	303	eP		P	09 30 23.6 -0.5
	comp=Z,1.4nm,0.7s						
NOA	NORSAR Array B	77.44	333	P		P	09 30 21.1 -2.8
	comp=Z,1.4nm,0.8s,baz=51,slow=5.6,SNR=2.7						
YKA	Yellowknife Ar	77.62	25	P		P	09 30 24.2 -0.6
	comp=Z,2.1nm,0.6s,baz=306,slow=5.3,SNR=5.4						
STHS	Stebnicka Huta	78.80	320	eP		P	09 30 29.6 -2.0
VYHS	Vyhne	80.63	320	eP		P	09 30 40.9 -0.5
GERES	GERESS Array B	83.29	322	P		P	09 30 54.7 -0.7
	comp=Z,0.5nm,0.7s,baz=42,slow=6.6,SNR=3.0						
F04A	Amboy	83.47	41	eP		P	09 30 56.8 +0.5
	comp=Z,9.3nm,1.1s						
DAVOX	Davos/Dischmat	86.59	322	P		P	09 31 11.3 -0.7
	comp=Z,1.4nm,0.6s,baz=317,slow=8.0,SNR=5.4						
SLMT	Seeley Lake	87.64	36	eP		P	09 31 17.4 +0.4
FFC	Flin Flon	87.73	26	eP		P	09 31 16.4 -0.6
	comp=Z,10nm,1.2s						
BEKR	Beckworth	88.13	45	eP		P	09 31 19.6 +0.1
	comp=Z,1.8nm,0.9s						
PAHR	Pah Rah Range	88.84	45	eP		P	09 31 22.9 +0.1
	comp=Z,1.8nm,0.9s						
HRY	Holter Researc	88.85	36	eP		P	09 31 23.5 +0.8
EGMT	Eagleton	89.04	34	eP		P	09 31 23.7 +0.3
	comp=Z,8.8nm,0.9s						
WAKR	Walker	89.50	46	eP		P	09 31 26.9 +0.9
	comp=Z,1.7nm,0.9s						
RLMT	Red Lodge	91.25	36	eP		P	09 31 34.5 +0.5
	comp=Z,3.8nm,1.0s						
FXWY	Fox Creek	91.30	38	eP		P	09 31 35.5 +1.2
	comp=Z,3.4nm,1.4s						
TPAW	Teton Pass	91.44	38	eP		P	09 31 35.8 +0.8
	comp=Z,11nm,1.5s						
HVU	Hansel Valley	91.53	40	eP		P	09 31 36.5 +1.2
	comp=Z,2.2nm,0.8s						
PDAR	Pinedale Array	92.68	38	P		P	09 31 40.5 -0.2
	comp=Z,1.2nm,0.8s,baz=94,slow=1.0,SNR=9.0						
MWC	Mount Wilson	92.92	49	eP		P	09 31 42.7 +0.8
	comp=Z,8.6nm,1.5s						
ULM	Lac du Bonnet	93.56	26	P		P	09 31 43.4 -0.9
	comp=Z,2.9nm,0.7s,baz=328,slow=10,SNR=4.1						
MSU	Marysvale	93.99	42	eP		P	09 31 48.3 +1.5
KNB	Kanab	94.56	44	eP		P	09 31 50.8 +1.4
	comp=Z,2.4nm,0.8s						
RSSD	Black Hills	94.61	34	eP		P	09 31 50.5 +1.0
	comp=Z,5.3nm,1.3s						
PHWY	Pilot Hill	95.90	37	eP		P	09 31 54.1 -1.4
	comp=Z,4.1nm,0.6s						
NNA	Nana	152.76	60	ePKPbc		PKPbc	09 38 24.7 -0.3
RCBR	Riachuelo	152.77	320	ePKPbc		PKPbc	09 38 24.9 -0.2

*KRNET **23** 09:19:40.5±0.1,39°.12N×71°.37E,mb4.1*
*IDC **23** 09:19:40.8±0.6,39°.27N×71°.74E,h0km,mb4.2/26,*
mb1 4.4/34,mb1mx4.2/66,mbtmp4.3/34,ML3.7/8,MS3.0/14,
Ms1 3.0/14,ms1mx2.8/50,Error ellipse: s-maj=12.3km
s-min=8.5km az=155.0
*NNC **23** 09:19:41.7±2.9,39°.25N×71°.53E,h0km,mb4.9,mpv4.5,*
Error ellipse: s-maj=26.2km s-min=17.6km az=169.0
*BJI **23** 09:19:45.7,39°.60N×71°.74E,h34km,mb4.6/22,mB4.5/13,*
ML4.3/4,Ms4.1/6,Ms7 4.1/2
*MOS **23** 09:19:46.2±1.0,39°.42N×71°.70E,h47km,mb4.6/35,Error*
ellipse: s-maj=7.4km s-min=5.1km az=93.6

*SOME **23** 09:19:46.2,39°.53N×71°.82E,h10km*
*NEIC **23** 09:19:48.3±0.8,39°.36N×71°.75E,h49km±7km,mb4.5/21,*
Error ellipse: s-maj=8.3km s-min=5.5km az=164.0
ISC 23 09:19:42.4±1.2,39°.41N±0°.03×71°.75E±0°.03,h5km±7km,
n202,σ2°18/234,mb4.4/73,MS3.0/11,42C-21D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.96	312	⇑iP	Pg	09 19 59.9	-1.0
	baz=336						
BTK				⇑iS	Sg	09 20 13.5	+0.1
	baz=336						
ARSB	Arslanbob	2.13	26	⇓eP	Pb	09 20 21.2	-0.4
	baz=28						
ARSB				⇓eS	Sg	09 20 50.8	-0.1
	baz=28						
ARK	Arkit	2.39	4	⇑eP	Pn	09 20 23.9	+1.5
	baz=10.0						
ARK				⇑eS	Sb	09 20 55.5	-0.4
	baz=10.0						
TOKL	Toktogul	2.67	18	⇓iP	Pn	09 20 28.7	+2.5
	baz=22						
TOKL				⇓eS	Sb	09 21 03.7	-0.1
	baz=22						
IUG	Iuzhnay	3.03	335	eP	Pg	09 20 39.7	-0.7
	446nm,0.5s						
IUG				eS	Sg	09 21 18.4	-1.3
	978nm,0.4s						
AML	Almayashu	3.10	28	⇓iP	Pn	09 20 34.9	+2.6
	baz=29						
AML				⇓iS	Sb	09 21 14.2	-2.2
	baz=29						
MNAS	Manas	3.13	10	⇓eP	Pn	09 20 34.6	+2.1
	baz=14						
MNAS				⇓eS	Sb	09 21 13.9	-3.2
	baz=14						
MNAS	Manas	3.13	10	⇑Pn	Pb	09 20 35.9	-2.7
	176nm,0.9s						
MNAS				⇑Sn	Sb	09 21 19.7	+2.7
	176nm,0.5s						
MNAS	Manas	3.13	10	PN	Pn	09 20 34.6	+2.1
MNAS						09 21 18.1	
MNAS				pmax	pmax		
	comp=Z,148nm,0.6s						
MNAS				smax	smax		
	comp=N,176nm,0.5s						
ARLS	Aral	3.14	38	⇑iP	Pn	09 20 34.6	+1.9
	baz=38						
ARLS				⇑iS	Sb	09 21 16.5	-0.9
	baz=38						
KSH	Kashi	3.27	87	P	Pn	09 20 33.8	-0.7
KSH				S	Sn	09 21 14.6	+0.7
KSH				smax	smax		
	comp=N,3μm,1.0s						
KSH				smax	smax		
	comp=N,3μm,0.8s						
CHM	Chimkent	3.33	331	eP	Pg	09 20 46.7	+0.5
	comp=N,190nm,0.3s						
CHM				eS	Sg	09 21 29.6	+0.2
	comp=N,590nm,0.4s						
DZA	Taraz	3.49	355	eP	Pg	09 20 48.5	-0.8
	comp=N,180nm,0.3s						
DZA				eS	Sg	09 21 34.2	-0.4
	comp=N,570nm,0.5s						
UCH	Uchtor	3.51	36	⇑iP	Pn	09 20 41.4	+3.3
	baz=37						
UCH				⇑iS	Sb	09 21 25.1	-3.4
	baz=37						
MRKS	Merke	3.51	18	eP	Pb	09 20 46.7	+1.6
	comp=N,79nm,0.5s						
MRKS				eS	Sb	09 21 29.9	+1.7
	comp=N,203nm,0.6s						
EKS2	Erkin-Say	3.59	25	⇑iP	Pn	09 20 41.6	+2.7
	baz=27						
EKS2				⇑iS	Sn	09 21 25.5	+3.7
	baz=27						
KK31	Karatay Array	3.81	346	Pn	Pn	09 20 43.6	+1.8
	comp=N,37nm,0.5s,baz=176,slow=13,SNR=619						
KK31				⇑Lg	Lg	09 21 44.3	
	comp=N,77nm,0.5s,baz=165,slow=29,SNR=4.9						
KK31	Karatay Array	3.81	346	iPN	Pn	09 20 43.5	+1.8
KK31				pmax	pmax		
	comp=Z,46nm,0.5s						
KKAR	Karatay Array	3.81	346	ePN	Pn	09 20 43.6	+1.9
KKAR	Karatay Array	3.81	346	ePn	Pn	09 20 43.6	+1.9
AAK	Ala-Archa	3.84	32	Pn	Pn	09 20 45.6	+3.4
	comp=Z,40nm,0.3s,baz=202,slow=4.6,SNR=174						
AAK				Sn	Sb	09 21 35.8	-1.7
	comp=Z,8.6nm,0.3s,baz=344,slow=19,SNR=4.1						
AAK				LR	LR	09 22 24.0	
	comp=Z,172nm,18.5s,baz=172,slow=41						
AAK	Ala-Archa	3.84	32	⇑iP	Pn	09 20 45.1	+2.8
	baz=33						
AAK				⇑iS	Sn	09 21 31.2	+3.3
	baz=33						
AAK	Ala-Archa	3.84	32	⇑Pn	Pn	09 20 46.1	+3.8
	comp=Z,70nm,0.5s						
AAK				⇑Sn	Sb	09 21 35.8	-1.7
	comp=Z,170nm,0.6s						
AAK	Ala-Archa	3.84	32	dePN	Pn	09 20 45.4	+3.1
AAK				pmax	pmax		
	comp=Z,235nm,0.6s						
KBK	Karagaybulak	4.05	36	⇓iP	Pn	09 20 48.6	+3.4
	baz=36						
KBK				⇓iS	Sn	09 21 37.7	+4.6
	baz=36						
FRU	Bishkek	4.05	31	ePN	Pn	09 20 48.5	+3.4
FRU				iS	Sb	09 21 43.0	-0.5
FRU				pmax	pmax		
	comp=Z,340nm,2.0s						
FRU				smax	smax		
	comp=N,700nm,1.9s						
BOOM	Boomskoye usch	4.42	45	⇓eP	Pn	09 20 52.8	+2.5
	baz=44						
BOOM				⇓eS	Sn	09 21 45.5	+3.2
	baz=44						
ULHL	Ulahol	4.43	49	⇑iP	Pn	09 20 53.0	+2.5
	baz=48						
ULHL				⇑iS	Sn	09 21 46.8	+4.1
	baz=48						
TKM2	Tokmak 2	4.55	38	⇑iP	Pn	09 20 54.7	+2.5
	baz=39						
TKM2				⇑iS	Sn	09 21 50.1	+4.5
	baz=39						
TKM2	Tokmak 2	4.55	38	⇑Pn	Pn	09 20 55.1	+2.9
	comp=N,59nm,0.7s						
TKM2				⇑Lg	Lg	09 22 09.9	
	comp=N,82nm,0.7s						
TKM2	Tokmak 2	4.55	38	iPN	Pn	09 20 55.1	+2.9
TKM2				pmax	pmax		
	comp=Z,59nm,0.6s						
DGS	Degeres	4.88	37	eP	Pb	09 21 12.7	+4.2
	comp=Z,94nm,0.7s						
DGS				eS	Sg	09 22 15.2	-4.0
	comp=Z,125nm,0.8s						
IZV	Izvestkoviy	5.16	44	eP	Pg	09 21 18.1	-3.1
	comp=Z,58nm,0.7s						
IZV				eS	Sg	09 22 24.1	-3.9
	comp=Z,113nm,0.7s						
KBL	Kabul	5.32	205	ePN	Pn	09 21 05.2	+2.5
KBL				e		09 22 10.8	
KBL	Kabul	5.32	205	ePn	Pn	09 21 05.2	+2.5
KBL				eSn	Sn	09 22 10.8	+6.3
TNSS	Tian-Shan	5.34	46	eP	Pg	09 21 21.7	-3.0
	comp=Z,53nm,0.8s						
TNSS				eS	Sg	09 22 30.5	-3.4
	comp=Z,63nm,0.7s						
AAA	Alma-Ata	5.44	44	ePN	Pb	09 21 21.8	+3.9
MDOK	Medeo	5.48	45	⇑Pn	Pn	09 21 06.3	+1.5
MDOK				⇑Lg	Lg	09 22 35.0	
KOTS	Kotyrbulak	5.56	45	eP	Pg	09 21 28.8	-0.1
KOTS				eS	Sg	09 22 42.8	+1.8
CEP	Cherat	5.58	179	P	Pn	09 21 09.4	+3.2
ANVS	Anan'yevo	5.60	51	⇑eP	Pn	09 21 09.0	+2.5
	baz=50						
ANVS				⇑eS	Sn	09 22 14.0	+2.6
	baz=50						
KTBS	Karatobe	5.67	39	eP	Pg	09 21 30.8	-0.3
KTBS				eS	Sg	09 22 45.4	+0.8
CHCP	Chirah Chowk	5.87	168	P	Pn	09 21 13.8	+3.7
KURS	Kuram	6.32	48	eP	Pg	09 21 41.5	-1.8
KURS				eS	Sg	09 23 04.0	-1.2
THW	Thamme Wali	6.60	180	P	Pn	09 21 23.5	+3.3
ARXS	Arharly	6.61	41	eP	Pg	09 21 46.7	-2.3
	comp=Z,30nm,0.7s						
ARXS				eS	Sg	09 23 13.4	-1.1
	comp=Z,46nm,0.5s						
MNBS	Baschi	6.82	45	eP	Pg	09 21 50.1	-2.9
	comp=Z,23nm,0.7s						
MNBS				eS	Sg	09 23 20.2	-1.1
	comp=Z,46nm,0.7s						
PDGK	Podgornoye	7.02	54	⇑eP	Pn	09 21 28.2	+2.3
	baz=53						
PDGK				⇑eS	Sn	09 22 46.7	+0.5
	baz=53						
PDGK	Podgornoye	7.02	54	⇑Pn	Pn	09 21 28.9	+3.0
	comp=Z,26nm,0.7s						
PDGK				⇓Lg	Lg	09 23 28.2	
	comp=Z,104nm,0.9s						
PDGK	Podgornoye	7.02	54	PN	Pn	09 21 28.4	+2.5
PDGK				pmax	pmax		
	comp=Z,26nm,0.7s						
MAKZ	Makanchi	10.51	42	⇓Lg	Lg	09 25 24.3	
	comp=Z,11nm,1.1s						
MAKZ	Makanchi	10.51	42	eP	Pn	09 22 20.5	+6.8
MAKZ	Makanchi	10.51	42	ePn	Pn	09 22 20.5	+6.8
MK31	Makanchi Array	10.66	43	Pn	Pn	09 22 19.2	+3.4
	comp=Z,9.7nm,0.8s,baz=238,slow=14,SNR=28						
MK31	Makanchi Array	10.66	43	iP	Pn	09 22 19.2	+3.4
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	Makanchi Array	10.66	43	ePn	Pn	09 22 19.5	+3.7
MKAR	Makanchi Array	10.66	43	Pn	Pn	09 22 19.3	+3.4
	comp=Z,0.4nm,0.3s,baz=231,slow=13,SNR=26						
MKAR				Lg	Lg	09 25 18.4	
	comp=Z,0.4nm,0.3s,baz=242,slow=31,SNR=3.6						
MKAR				LR	LR	09 26 48.8	
	comp=Z,42nm,19.5s,baz=215,slow=40						
GEYT	Alibeck	10.76	266	Pn	Pn	09 22 14.1	-3.0
	comp=Z,0.6nm,0.3s,baz=93,slow=9.1,SNR=8.6						
GEYT				Sn	Sn	09 24 16.0	-2.0
	comp=Z,1.3nm,0.3s,baz=72,slow=19,SNR=6.7						
GEYT				LR	LR	09 27 11.4	
	comp=Z,123nm,19.8s,baz=45,slow=42						
KURBB	Kurchatov Arra	12.19	21	Pn	Pn	09 22 35.5	-1.0
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=25						
KURBB				Lg	Lg	09 26 06.5	
	comp=Z,0.1nm,0.3s,baz=207,slow=30,SNR=4.5						
KURBB	Kurchatov Arra	12.19	21	⇑Lg	Lg	09 26 14.5	
	comp=Z,40nm,0.9s						
KURK	Kurchatov	12.30	21	⇑Lg	Lg	09 26 17.3	
	comp=Z,17nm,1.0s						
KURK	Kurchatov	12.30	21	c iP	Pn	09 22 36.7	-1.4
KURK				pmax	pmax		
	comp=Z,62nm,1.0s						
KURK	Kurchatov	12.30	21	ePn	Pn	09 22 36.8	-1.2
KURK				Lg	Lg	09 26 06.5	
WMQ	Urumqi	12.72	65	P	Pn	09 22 46.5	+2.5
WMQ				pP		09 22 51.3	
WMQ				PP	PnPn	09 22 59.5	+7.8
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,66nm,3.9s						
WMQ				LR	LR		
	comp=Z,230nm,5.1s						
WMQ				LR	LR		
	comp=Z,210nm,6.3s						
AB31	Akbulak array	12.95	323	⇑Pn	Pn	09 22 44.8	-2.3
	comp=Z,17nm,0.7s						
AB31				Sn	Sn	09 25 07.2	-4.3
	comp=Z,18nm,0.9s,baz=131,slow=24,SNR=6.3						
AB31	Akbulak array	12.95	323	P	Pn	09 22 44.7	-2.3
AB31				pmax	pmax		
	comp=Z,26nm,0.8s						
ABKAR	Akbulak array	12.95	323	ePn	Pn	09 22 45.0	-2.1
BVA0	Borovoye Array	13.65	357	Pn	Pn	09 22 54.5	-2.0
	comp=Z,6.8nm,1.1s,baz=164,slow=15,SNR=19						
BVA0				Sn	Sn	09 25 27.1	-1.4
	comp=Z,3.7nm,0.8s,baz=164,slow=24,SNR=3.8						
BVA0	Borovoye Array	13.65	357	P	Pn	09 22 54.5	-2.0
BVA0				S	Sn	09 25 27.8	-0.7
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BVA0				smax	smax		
	comp=Z,4.0nm,0.9s						
BVAR	Borovoye Array	13.65	357	Pn	Pn	09 22 54.6	-1.9
	comp=Z,0.5nm,0.3s,baz=163,slow=11,SNR=14						
BRVK	Borovoye	13.69	356	dePn	Pn	09 22 55.6	-1.5
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK	Borovoye	13.69	356	ePn	Pn	09 22 55.8	-1.3
PYUN	Piuthan	14.64	137	eP	Pn	09 23 05.9	-4.5
	comp=Z,30nm,0.5s						
AKTO	Aktyubinsk	14.67	323	Pn	Pn	09 23 09.8	-0.7
	comp=Z,1.1nm,0.3s,baz=132,slow=16,SNR=15						
AKTO				LR	LR	09 29 26.5	
	comp=Z,38nm,21.4s,baz=146,slow=40						
AKTO	Aktyubinsk	14.67	323	⇑Pn	Pn	09 23 10.5	0.0
	comp=Z,42nm,0.9s						
KOLN	Koldanda	15.23	136	eP	Pn	09 23 14.2	-4.1
	comp=Z,19nm,0.6s						
GKN	Gorkha	15.62	133	eP	Pn	09 23 19.3	-4.1
KKN	Kakani	16.15	132	eP	Pn	09 23 26.4	-3.9
PKIN	Phulchoki	16.38	132	eP	Pn	09 23 29.7	-3.6
	comp=Z,26nm,0.6s						
PKI	Pulchoki	16.39	132	eP	Pn	09 23 30.0	-3.5
	comp=Z,34nm,0.5s						
JIRN	Jiri	16.78	130	eP	Pn	09 23 34.1	-4.4
	comp=Z,143nm,0.5s						
ZAA0	Zalesovo Array	17.04	27	ePn	P	09 23 44.0	+0.8
ZALV	Zalesovo Beam	17.04	27	P	P	09 23 43.0	-0.2
	comp=Z,1.1nm,0.3s,baz=210,slow=12,SNR=22						
NVS	Novosibirsk	17.27	23	eP	P	09 23 45.5	-0.1
NVS				pmax	pmax		
	comp=N,17nm,1.0s						
NVS				pmax	pmax		
	comp=E,13nm,1.0s						
NVS				pmax	pmax		
	comp=Z,32nm,1.0s						
RAMN	Ramite	17.55	131	eP	Pn	09 23 42.9	-5.2
	comp=Z,43nm,0.6s						
ODAN	Odare	18.09	129	eP	Pn	09 23 49.7	-5.0
	comp=Z,22nm,0.5s						
SVE	Sverdlovsk	18.89	341	eP	P	09 24 04.1	+0.5
ARU	Arti	19.12	337	P	P	09 24 04.9	-1.2
	comp=Z,0.0nm,0.3s,baz=149,slow=7.1,SNR=14						
ARU				LR	LR	09 31 21.2	
	comp=Z,28nm,18.9s,baz=132,slow=36						
ARU	Arti	19.12	337	c iP	P	09 24 05.6	-0.5
ARU				S	Sn	09 27 38.1	-3.2
ARU				pmax	pmax		
	comp=Z,12nm,0.8s						
ARU	Arti	19.12	337	eP	P	09 24 06.

KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,20nm,14.0s
KIV Kislovodsk 22.11 291 *eP* **P 09 24 41.5 +2.8**
comp=Z,31nm,1.0s
SOKR Solikamsk 22.31 340⇑ *iP* **P 09 24 38.9 -1.6**
SOKR pmax pmax
comp=Z,19nm,1.0s
HYB Hyderabad 22.70 163 *i* P **P 09 24 47.0 +1.9**
ZAK Zakamensk 24.70 53 *eP* **P 09 25 04.1 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,0.8s
ANN Anapa 25.89 293 *eP* P 09 25 07.9 -7.2
ANN *e**PP sP 09 25 26.2 +9.0
ANN pmax pmax
comp=Z,41nm,1.2s
SONM Songino Array 26.28 60 P **P 09 25 18.8 0.0**
comp=Z,1.9nm,0.7s,baz=265,slow=9.3,SNR=5.9
SONM LR LR 09 36 42.1
comp=Z,69nm,19.2s,baz=248,slow=39
RAYN Ar Rayn 27.28 242 *eP* **P 09 25 31.4 +3.4**
comp=Z,4.2nm,1.0s
OBN Obninsk 28.19 316⇓ *eP* **P 09 25 37.5 +1.8**
OBN pmax pmax
comp=Z,12nm,0.7s
BR131 Keskin Array S 29.23 283 *eP* **P 09 25 46.1 +0.8**
BRTR Keskin Array B 29.23 283 P **P 09 25 45.6 +0.3**
comp=Z,4.3nm,1.0s,baz=91,slow=7.4,SNR=13
XAN Xi'an 30.13 88 P **P 09 25 52.3 -0.9**
XAN pP sP 09 26 04.6 +9.3
XAN pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 30.30 74 *eP* **P 09 25 56.1 +1.4**
HHC S **S 09 30 50.8 -4.4**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,58nm,4.9s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,1μm,17.3s
HHC LR LR
comp=Z,1μm,16.0s
NRIK Noril'sk 31.16 11 P **P 09 26 03.4 +1.5**
comp=Z,4.5nm,0.7s,baz=190,slow=7.0,SNR=4.2
CMAR Chiang Mai Arr 31.46 124 LR LR 09 40 57.5
comp=Z,14nm,21.5s,baz=335,slow=41
EIL Elat 31.64 264 LR LR 09 41 07.7
comp=Z,26nm,19.8s,baz=234,slow=41
AKASG Malin Array Be 31.67 305 P **P 09 26 05.8 -0.7**
comp=Z,0.7nm,0.4s,baz=79,slow=7.4,SNR=3.4
KIEV Kiev 31.68 305⇑ *eP* **P 09 26 06.0 -0.6**
KIEV pmax pmax
comp=Z,13nm,2.5s
BOD Bodaibo 32.75 42 *eP* **P 09 26 15.4 -0.6**
BOD pmax pmax
comp=Z,9.0nm,0.9s
JOF Joensuu 33.69 328 P **P 09 26 24.1 +0.1**
JOF pmax pmax
comp=Z,12nm,1.8s
HIA Hailar 35.18 58⇑ *eP* **P 09 26 38.8 +1.6**
HIA pmax pmax
comp=Z,5.0nm,0.4s
FIA1 FINESS Array S 35.44 324 *eP* **P 09 26 40.5 +1.3**
comp=Z,6.4nm,0.9s
FINES FINESS Array B 35.45 324 P **P 09 26 38.9 -0.4**
comp=Z,1.9nm,0.5s,baz=121,slow=8.1,SNR=14
FINES LR LR 09 41 51.2
comp=Z,44nm,18.1s,baz=91,slow=37
SUF Sumiainen 35.81 326 P **P 09 26 42.4 0.0**
MSF Maaselka 35.88 332 P **P 09 26 43.2 +0.3**
NIE Niedzica 37.42 303 P **P 09 26 56.7 +0.3**
NIE pmax pmax
comp=Z,3.0nm,1.2s
VAF Ylistaro 37.43 325 P **P 09 26 57.1 +1.0**
AGG Agios Georgios 37.90 286 *eP* **P 09 27 00.2 -0.3**
AGG pmax pmax
comp=Z,23nm,1.1s
AGG Agios Georgios 37.90 286 *eP* **P 09 27 00.2 -0.3**
comp=Z,22nm,1.1s
NJ2 Nanjing 38.59 86 *eP* **P 09 27 09.1 +2.8**
NJ2 pmax pmax
comp=Z,14nm,0.8s
ARCES ARCESS Array B 38.70 336 P **P 09 27 07.3 +0.4**
comp=Z,5.3nm,0.9s,baz=106,slow=8.9,SNR=9.9
ARCES ARCESS Array B 38.70 336 *eP* **P 09 27 07.5 +0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 39.17 304 P **P 09 27 11.0 -0.1**
CONA Conrad Observa 40.52 301 *iP* **P 09 27 22.9 +0.5**
comp=Z,4.8nm,0.4s
ARSA Arzberg 40.86 300 *iP* **P 09 27 25.1 0.0**
comp=Z,0.4nm,0.3s
HFS Hagfors 41.18 320 P **P 09 27 27.2 -0.4**
comp=Z,2.6nm,0.4s,baz=90,slow=12,SNR=24
YAK Yakutsk 41.28 37⇑ *eP* **P 09 27 27.9 -0.4**
YAK pmax pmax
comp=Z,7.0nm,0.6s
SOKA Soboth 41.30 299 *iP* **P 09 27 28.9 +0.1**
comp=Z,1.3nm,0.6s
BRG Berggiesshubel 41.34 306 P **P 09 27 29.1 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.2s
MOA Molln 41.59 301 *iP* **P 09 27 31.6 +0.5**
comp=Z,0.8nm,0.4s
OBKA Obir 41.66 299 *iP* **P 09 27 33.3 +1.6**
comp=Z,1.6nm,0.6s
GEC2 GERESS Array S 41.79 303 *eP* **P 09 27 34.2 +1.3**
GEC2 pmax pmax
comp=Z,10.0nm,1.5s
GEC2 GERESS Array S 41.79 303 *eP* **P 09 27 34.2 +1.3**
comp=Z,10nm,1.5s
GERES GERESS Array B 41.79 303 P **P 09 27 33.7 +0.8**
comp=Z,1.5nm,0.7s,baz=72,slow=9.4,SNR=12
GERES PcP **PcP 09 29 28.1 -0.8**
comp=Z,0.4nm,0.6s,baz=96,slow=6.1,SNR=3.5
KHC Kasperske Hory 41.83 303 *eP* **P 09 27 33.0 -0.1**
KHC *ex* x 09 27 40.0
KHC Kasperske Hory 41.83 303 *eP* **P 09 27 33.9 +0.8**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 41.83 303 *eP* **P 09 27 33.9 +0.8**
comp=Z,1.6nm,0.9s
CLL Collm 41.88 307 *eP* **P 09 27 36.0 +2.6**
CLL Collm 41.88 307 *e*(P) **P 09 27 36.0 +2.6**
CLL *ep*P sP 09 27 47.0 +12
WET Wettzell 42.28 303 P **P 09 27 36.8 +0.1**
NC602 NORSAR Array S 42.28 321 *eP* **P 09 27 37.5 +1.0**
KBA Koelnbreinsper 42.35 300 *iP* **P 09 27 38.8 +1.3**
comp=Z,0.9nm,0.3s
NC303 NORSAR Array S 42.38 321 *eP* **P 09 27 38.7 +1.4**
CUC Castrocucco 42.42 289 *eP* **P 09 27 39.1 +1.1**
comp=Z,4.7nm,0.8s
NB2 NORSAR Subarra 42.45 321 P **P 09 27 37.3 -0.7**
comp=Z,3.1nm,0.8s,baz=91,slow=8.6
NOA NORSAR Array B 42.45 321 P **P 09 27 37.2 -0.8**
comp=Z,0.4nm,0.4s,baz=105,slow=7.9,SNR=4.3
NOA LR LR 09 46 17.3
comp=Z,22nm,18.8s,baz=245,slow=38
TIXI Tiksi 42.86 23⇓ *iP* **P 09 27 40.5 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 42.86 23 *eP* **P 09 27 40.6 -0.5**
comp=Z,8.5nm,1.0s
CEL Celeste 42.92 287 *eP* **P 09 27 42.8 +0.7**
comp=Z,23nm,1.3s
ABTA Abfaltersbach 42.98 300 *iP* **P 09 27 43.3 +0.8**
comp=Z,1.6nm,0.5s
KSAR Wonju Array Be 43.42 74 P **P 09 27 46.9 +0.8**
KSAR Wonju Array Be 43.42 74 P **P 09 27 46.9 +0.8**
KSRS Korea Array 43.44 74 P **P 09 27 46.9 +0.6**
comp=Z,1.1nm,0.9s,baz=290,slow=4.6,SNR=4.4
KSRS LR LR 09 47 12.2
comp=Z,19nm,18.5s,baz=0.0,slow=38
WTTA Wattenberg 43.45 301 *iP* **P 09 27 45.9 -0.6**
comp=Z,3.9nm,0.6s
WATA Walderalm 43.48 301 *iP* **P 09 27 46.2 -0.4**
comp=Z,2.4nm,0.4s
MOTA Moosalm 43.79 301 *iP* **P 09 27 49.2 0.0**
comp=Z,1.7nm,0.6s
USRK Ussuriysk Ar. 44.29 63 LR LR 09 48 07.6
comp=Z,45nm,20.1s,baz=325,slow=38
FUORN Ofenpass-Fuorn 44.52 300 *eP* **P 09 27 57.0 +1.9**
comp=Z,4.6nm,1.0s
DAVA Damuels 44.61 301 *iP* **P 09 27 55.9 +0.1**
comp=Z,4.5nm,0.5s
DAVOX Davos/Dischmat 44.73 301 P **P 09 27 55.8 -0.9**
comp=Z,5.6nm,0.5s,baz=144,slow=4.5,SNR=16
TUE Stuetta 45.16 300 *eP* **P 09 28 02.0 +1.8**
comp=Z,5.3nm,1.0s
SENIN Lac Senin/Sane 46.56 301 *eP* **P 09 28 11.6 +0.4**
comp=Z,3.4nm,0.8s
BNI Bardonecchia 47.35 299 *eP* **P 09 28 17.3 0.0**
BNI pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 47.35 299 *eP* **P 09 28 17.3 0.0**
comp=Z,13nm,1.2s
JNU Nakatsue 47.36 78 P **P 09 28 18.5 +1.0**
comp=Z,2.5nm,0.7s,baz=333,slow=11,SNR=3.4
EKA Eskdalemuir Ar 50.64 314 P **P 09 28 43.2 +1.0**
comp=Z,2.7nm,0.8s,baz=71,slow=11,SNR=4.0
MAJO Matsushiro 51.39 71⇓ *eP* **P 09 28 51.7 +3.5**
MAJO pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 51.39 71 P **P 09 28 46.9 -1.3**
comp=Z,2.7nm,0.7s,baz=292,slow=9.8,SNR=9.8
SCO Scoresbysund 54.64 336 P **P 09 29 13.2 +1.6**
ESDC Sonseca Array 56.66 296 P **P 09 29 26.1 -0.6**
comp=Z,1.4nm,0.6s,baz=58,slow=7.3,SNR=8.9
MDT Midelt 60.34 290 P **P 09 29 52.0 -0.5**
comp=Z,2.1nm,1.1s,baz=27,slow=9.0,SNR=3.3
TOA0 Torodi Ar. Sit 66.40 268 *eP* **P 09 30 31.3 -1.5**
comp=Z,6.4nm,0.6s
TORD Torodi Ar. Bea 66.40 268 P **P 09 30 31.1 -1.6**
comp=Z,5.0nm,0.6s,baz=49,slow=5.6,SNR=65
COLD Coldfoot 69.01 16 *eP* **P 09 30 48.3 -0.2**
comp=Z,7.2nm,1.1s
INK Inuvik 70.94 10 P **P 09 31 00.3 0.0**
comp=Z,3.9nm,0.8s,baz=356,slow=6.4,SNR=16
TT01 Tatalina 71.11 21 *eP* **P 09 31 02.8 +1.4**
BPAW Bear Paw Mtn. 71.45 18 *eP* **P 09 31 03.7 +0.3**
comp=Z,5.7nm,1.2s
COLA College 71.52 17 *eP* **P 09 31 05.3 +1.5**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 71.52 17 *eP* **P 09 31 05.3 +1.5**
comp=Z,6.6nm,0.8s
ILAR Eielson Array 71.82 16 P **P 09 31 04.6 -1.1**
comp=Z,1.9nm,0.9s,baz=328,slow=3.9,SNR=14
BALM Baldy 76.11 16 *eP* **P 09 31 31.4 +0.5**
BALM pmax pmax
comp=Z,11nm,1.2s
BALM Baldy 76.11 16 *eP* **P 09 31 31.4 +0.5**
comp=Z,10nm,1.2s
KDAK Kodiak Island 76.29 23 *iP* **P 09 31 34.0 +2.2**
KDAK Kodiak Island 76.29 23 *eP* **P 09 31 33.1 +1.3**
comp=Z,25nm,1.4s
YKA Yellowknife Ar 78.31 3 P **P 09 31 42.6 -0.5**
comp=Z,1.9nm,0.5s,baz=352,slow=5.4,SNR=7.2
BOSA Boshof 80.35 220 P **P 09 31 54.5 -0.2**
comp=Z,2.0nm,0.8s,baz=29,slow=10,SNR=3.0
WRA Warramunga Arr 83.05 123 P **P 09 32 07.0 -2.1**
comp=Z,2.4nm,0.6s,baz=323,slow=4.9,SNR=21
ASAR Alice Springs 85.45 126 P **P 09 32 19.2 -2.1**
comp=Z,1.5nm,0.6s,baz=308,slow=4.5,SNR=25
GO05 HualaæØ 150.87 267 *e*PKPbc **PKPbc 09 39 35.1 -0.9**
PLCA Paso Flores 151.26 255 PKPbc **PKPbc 09 39 36.2 -0.6**
comp=Z,3.1nm,0.9s,baz=82,slow=6.1,SNR=4.6
PLCA Paso Flores 151.26 255 *e*PKPbc **PKPbc 09 39 36.6 -0.2**

*IDC **23** 09:20:12.2±5.3, 45°.47N×27°.64E, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.2/45, mbtmp3.5/4, ML3.3/3, MS3.4/2, Ms1 3.4/2, ms1mx2.2/45, Error ellipse: s-maj=73.5km s-min=11.6km az=153.0*
*ISCJB **23** 09:20:20.6±0.3, 45°.93N±0°.02×26°.95E±0°.03, h30km±2km, mb3.7/1, MS4.4/1, Error ellipse: s-maj=3.5km s-min=2.7km az=44.4*
*SIGU **23** 09:20:20.5, 45°.95N×26°.94E, h25km, mb2.9*
*CSEM **23** 09:20:20.5±0.1, 45°.92N×26°.97E, h22km±1km, MD3.3, Error ellipse: s-maj=3.2km s-min=2.4km az=145.0*
*BUC **23** 09:20:20.3±0.5, 45°.91N×26°.97E, h29km±6km, MD3.3/3, Error ellipse: s-maj=7.3km s-min=5.8km az=45.0*
ISC 23 09:20:20.6±0.8, 45°.92N±0°.02×26°.98E±0°.02, h29km±4km, n106, σ0§88/158, 52C-31D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODBI	**Odobesti**	**0.17**	**162⇑**	*iP*	**Pb**	**09 20 26.3**	**0.0**
ODBI				*i* S	**Sb**	**09 20 30.9**	**+0.8**
ODBI	**Odobesti**	**0.17**	**162⇑**	*iP*	**Pb**	**09 20 26.3**	**0.0**
ODBI	**Odobesti**	**0.17**	**162**	S	**Sb**	**09 20 30.9**	**+0.8**
ODBI	**Odobesti**	**0.17**	**162⇑**	*iP*	**Pb**	**09 20 26.3**	**0.0**
ODBI				*i* S	**Sb**	**09 20 30.9**	**+0.8**
VRI	**Vrincioaia**	**0.19**	**253⇑**	*iP*	**Pb**	**09 20 25.5**	**-1.0**
VRI				*i* S	**Sb**	**09 20 30.0**	**-0.6**
VRI	**Vrincioaia**	**0.19**	**253⇑**	*iP*	**Pb**	**09 20 25.5**	**-1.0**
VRI	**Vrincioaia**	**0.19**	**253**	S	**Sb**	**09 20 30.0**	**-0.6**
VRI	**Vrincioaia**	**0.19**	**253⇑**	*iP*	**Pb**	**09 20 25.5**	**-1.0**
VRI				*i* S	**Sb**	**09 20 30.0**	**-0.6**
PLOR	**Plostina**	**0.24**	**254⇑**	*iP*	**Pb**	**09 20 26.5**	**-0.7**
PLOR				*i* S	**Sb**	**09 20 31.8**	**+0.1**
PLOR	**Plostina**	**0.24**	**254⇑**	*iP*	**Pb**	**09 20 26.5**	**-0.7**
PLOR	**Plostina**	**0.24**	**254**	S	**Sb**	**09 20 31.8**	**+0.1**
PLOR	**Plostina**	**0.24**	**254⇑**	*iP*	**Pb**	**09 20 26.5**	**-0.7**
PLOR				*i* S	**Sb**	**09 20 31.8**	**+0.1**
PETR	**Petresti**	**0.26**	**139⇑**	*iP*	**Pb**	**09 20 27.4**	**0.0**
PETR				*i* S	**Sn**	**09 20 33.0**	**-0.6**
PETR	**Petresti**	**0.26**	**139⇑**	*iP*	**Pb**	**09 20 27.4**	**0.0**
PETR	**Petresti**	**0.26**	**139⇑**	*iP*	**Pb**	**09 20 27.4**	**0.0**
PETR				*i* S	**Sn**	**09 20 33.0**	**-0.6**
TESR	**Tescani**	**0.64**	**339⇑**	*iP*	**Pb**	**09 20 32.8**	**-0.4**
TESR				*i* S	**Sn**	**09 20 42.4**	**-0.5**
TESR	**Tescani**	**0.64**	**339⇑**	*iP*	**Pb**	**09 20 32.8**	**-0.4**
TESR	**Tescani**	**0.64**	**339⇑**	*iP*	**Pb**	**09 20 32.8**	**-0.4**
TESR				*i* S	**Sn**	**09 20 42.4**	**-0.5**
MLR	**Muntele Rosu**	**0.84**	**240**	Pg	**Pb**	**09 20 36.9**	**+0.2**
	4.7nm,0.3s,baz=308,slow=12,SNR=82						
MLR				Lg	Lg	09 20 50.1	
	8.5nm,0.3s,baz=182,slow=23,SNR=22						
MLR	**Muntele Rosu**	**0.84**	**240⇓**	*iP*	**Pn**	**09 20 36.7**	**0.0**
MLR				*i* S	**Sn**	**09 20 48.4**	**+0.2**
MLR	**Muntele Rosu**	**0.84**	**240⇓**	*iP*	**Pn**	**09 20 36.7**	**0.0**
MLR	**Muntele Rosu**	**0.84**	**240⇓**	*iP*	**Pn**	**09 20 36.7**	**0.0**
MLR				*i* S	**Sn**	**09 20 48.4**	**+0.2**
ISR	**Istrita**	**0.86**	**201⇑**	*iP*	**Pb**	**09 20 37.7**	**+0.7**
ISR				*i* S	**Sb**	**09 20 48.1**	**0.0**
ISR	**Istrita**	**0.86**	**201⇑**	*iP*	**Pb**	**09 20 37.7**	**+0.7**
ISR	**Istrita**	**0.86**	**201⇑**	*iP*	**Pb**	**09 20 37.7**	**+0.7**
ISR				*i* S	**Sb**	**09 20 48.1**	**0.0**
LEOM	**Leova**	**1.04**	**57⇑**	*iP*	**Pn**	**09 20 39.4**	**+0.2**
LEOM				*i* S	**Sb**	**09 20 53.5**	**+0.4**
LEOM	**Leova**	**1.04**	**57⇑**	*iP*	**Pn**	**09 20 39.4**	**+0.2**
LEOM	**Leova**	**1.04**	**57⇑**	*iP*	**Pn**	**09 20 39.4**	**+0.2**
LEOM				*i* S	**Sb**	**09 20 53.5**	**+0.4**
SECR		**1.09**	**216⇓**	*iP*	**Pn**	**09 20 40.4**	**+0.4**
SECR				*i* S	**Sb**	**09 20 55.2**	**+0.4**
SECR		**1.09**	**216⇓**	*iP*	**Pn**	**09 20 40.4**	**+0.4**
SECR		**1.09**	**216⇓**	*iP*	**Pn**	**09 20 40.4**	**+0.4**
SECR				*i* S	**Sb**	**09 20 55.2**	**+0.4**
DOPR	**Dopca**	**1.11**	**273⇑**	*iP*	**Pn**	**09 20 40.3**	**0.0**
DOPR				*i* S	**Sb**	**09 20 55.4**	**+0.1**
DOPR	**Dopca**	**1.11**	**273⇑**	*iP*	**Pn**	**09 20 40.3**	**0.0**
DOPR	**Dopca**	**1.11**	**273⇑**	*iP*	**Pn**	**09 20 40.3**	**0.0**
DOPR				*i* S	**Sb**	**09 20 55.4**	**+0.1**
JOSR	**Joseni**	**1.28**	**308⇓**	*iP*	Pn	09 20 37.8	-4.9
IAS	**Iasi**	**1.33**	**17⇓**	*iP*	**Pn**	**09 20 43.7**	**+0.4**
IAS				*i* S	**Sn**	**09 21 00.6**	**+0.5**
IAS	**Iasi**	**1.33**	**17⇓**	*iP*	**Pn**	**09 20 43.7**	**+0.4**
IAS	**Iasi**	**1.33**	**17⇓**	*iP*	**Pn**	**09 20 43.7**	**+0.4**
IAS				*i* S	**Sn**	**09 21 00.6**	**+0.5**
VOIR		**1.44**	**251⇓**	*iP*	**Pn**	**09 20 44.6**	**-0.2**
VOIR				*i* S	**Sn**	**09 21 02.9**	**+0.1**
VOIR		**1.44**	**251⇓**	*iP*	**Pn**	**09 20 44.6**	**-0.2**
VOIR		**1.44**	**251⇓**	*iP*	**Pn**	**09 20 44.6**	**-0.2**
VOIR				*i* S	**Sn**	**09 21 02.9**	**+0.1**
TLCR		**1.48**	**119⇑**	*iP*	**Pn**	**09 20 46.1**	**+0.8**
TLCR				*i* S	**Sb**	**09 21 05.0**	**-0.8**
TLCR		**1.48**	**119⇑**	*iP*	**Pn**	**09 20 46.1**	**+0.8**
TLCR		**1.48**	**119⇑**	*iP*	**Pn**	**09 20 46.1**	**+0.8**
TLCR				*i* S	**Sb**	**09 21 05.0**	**-0.8**
MTUR	**Matau**	**1.52**	**243⇓**	*iP*	**Pb**	**09 20 47.0**	**-1.1**
MTUR	**Matau**	**1.52**	**243⇓**	*iP*	**Pb**	**09 20 47.0**	**-1.1**
MTUR	**Matau**	**1.52**	**243⇓**	*iP*	**Pb**	**09 20 47.0**	**-1.1**
PRAR	**RASCA**	**1.53**	**340⇑**	*iP*	**Pn**	**09 20 47.0**	**+1.0**
PRAR	**RASCA**	**1.53**	**340⇑**	*iP*	**Pn**	**09 20 47.0**	**+1.0**
PRAR	**RASCA**	**1.53**	**340⇑**	*iP*	**Pn**	**09 20 47.0**	**+1.0**
MILM	**Milestii Mici**	**1.61**	**51⇓**	*iP*	**Pn**	**09 20 47.6**	**+0.5**
MILM				*i* S	**Sn**	**09 21 08.1**	**+1.2**
MILM	**Milestii Mici**	**1.61**	**51⇓**	*iP*	**Pn**	**09 20 47.6**	**+0.5**
MILM	**Milestii Mici**	**1.61**	**51⇓**	*iP*	**Pn**	**09 20 47.6**	**+0.5**
MILM				*i* S	**Sn**	**09 21 08.1**	**+1.2**
KIS	**Kishinev**	**1.67**	**49**	*eP*	**Pb**	**09 20 50.0**	**-0.6**
KIS				*i* S	**Sb**	**09 21 10.5**	**-0.6**
KIS	**Kishinev**	**1.67**	**49**	*iP*	**Pb**	**09 20 50.0**	**-0.6**
KIS				*e*S	**Sb**	**09 21 10.5**	**-0.6**
KIS				Sm		09 21 11.0	
KIS	**Kishinev**	**1.67**	**49**	*eP*	**Pb**	**09 20 50.0**	**-0.6**
KIS				*i* S	**Sb**	**09 21 10.5**	**-0.6**
BUC1	**Bucharest**	**1.71**	**204⇑**	*iP*	**Pn**	**09 20 48.9**	**+0.5**
BUC1	**Bucharest**	**1.71**	**204⇑**	*iP*	**Pn**	**09 20 48.9**	**+0.5**
BUC1	**Bucharest**	**1.71**	**204⇑**	*iP*	**Pn**	**09 20 48.9**	**+0.5**
ARR	**Arges**	**1.74**	**252⇑**	*iP*	**Pn**	**09 20 49.5**	**+0.6**
ARR				*i* S	**Sn**	**09 21 11.1**	**+1.0**
ARR	**Arges**	**1.74**	**252⇑**	*iP*	**Pn**	**09 20 49.5**	**+0.6**
ARR	**Arges**	**1.74**	**252⇑**	*iP*	**Pn**	**09 20 49.5**	**+0.6**
ARR				*i* S	**Sn**	**09 21 11.1**	**+1.0**
TIRR	**Tirgusor**	**1.78**	**145⇓**	*iP*	**Pn**	**09 20 48.6**	**-0.7**
TIRR				*i* S	**Sn**	**09 21 10.8**	**-0.2**
TIRR	**Tirgusor**	**1.78**	**145⇓**	*iP*	**Pn**	**09 20 48.6**	**-0.7**
TIRR	**Tirgusor**	**1.78**	**145⇓**	*iP*	**Pn**	**09 20 48.6**	**-0.7**
TIRR				*i* S	**Sn**	**09 21 10.8**	**-0.2**
HUMR	**Humele**	**1.98**	**226⇓**	*iP*	**Pn**	**09 20 53.2**	**+1.0**
HUMR				*i* S	**Sn**	**09 21 17.0**	**+0.9**
HUMR	**Humele**	**1.98**	**226⇓**	*iP*	**Pn**	**09 20 53.2**	**+1.0**
HUMR	**Humele**	**1.98**	**226⇓**	*iP*	**Pn**	**09 20 53.2**	**+1.0**
HUMR				*i* S	**Sn**	**09 21 17.0**	**+0.9**
BURAR	**Bucovina Array**	**2.08**	**325⇓**	*iP*	**Pn**	**09 20 55.4**	**+1.7**
BURAR	**Bucovina Array**	**2.08**	**325⇓**	*iP*	**Pn**	**09 20 55.4**	**+1.7**
BURAR	**Bucovina Array**	**2.08**	**325⇓**	*iP*	**Pn**	**09 20 55.4**	**+1.7**
LOT	**Lotru**	**2.30**	**259⇑**	*iP*	**Pn**	**09 20 57.2**	**+0.5**
LOT				*i* S	**Sn**	**09 21 24.8**	**+0.7**
LOT	**Lotru**	**2.30**	**259⇑**	*iP*	**Pn**	**09 20 57.2**	**+0.5**
LOT	**Lotru**	**2.30**	**259⇑**	*iP*	**Pn**	**09 20 57.2**	**+0.5**
LOT				*i* S	**Sn**	**09 21 24.8**	**+0.7**
SORM	**Soroca**	**2.41**	**22⇑**	*iP*	**Pn**	**09 20 57.4**	**-0.6**
SORM				*i* S	**Sn**	**09 21 26.8**	**+0.4**
SORM	**Soroca**	**2.41**	**22⇑**	*iP*	**Pn**	**09 20 57.4**	**-0.6**
SORM	**Soroca**	**2.41**	**22⇑**	*iP*	**Pn**	**09 20 57.4**	**-0.6**
SORM				*i* S	**Sn**	**09 21 26.8**	**+0.4**
CHRU	**Chernivtsi**	**2.49**	**343**	*e*S	**Sn**	**09 21 30.7**	**+2.2**
KMPD	**K-Podol'skiy**	**2.67**	**353**	*eP*	**Pn**	**09 21 02.8**	**+1.2**
KMPD				*e*S	**Sn**	**09 21 33.8**	**+0.9**
NDNU	**Novodnistrovsk**	**2.69**	**5**	*eP*	**Pn**	**09 21 03.3**	**+1.4**
NDNU				Pm		09 21 10.4	
NDNU				*e*S	**Sn**	**09 21 34.4**	**+1.0**
NDNU				Sm		09 21 45.2	
GZR	**Gura Zlata**	**3.00**	**261⇑**	*iP*	**Pn**	**09 21 07.0**	**+0.8**
GZR				*i* S	**Sn**	**09 21 41.1**	**-0.1**
GZR	**Gura Zlata**	**3.00**	**261⇑**	*iP*	**Pn**	**09 21 07.0**	**+0.8**
GZR	**Gura Zlata**	**3.00**	**261⇑**	*iP*	**Pn**	**09 21 07.0**	**+0.8**
GZR				*i* S	**Sn**	**09 21 41.1**	**-0.1**
DRGR		**3.08**	**288⇑**	*iP*	**Pn**	**09 21 07.7**	**+0.3**
DRGR				*i* S	**Sn**	**09 21 41.7**	**-1.6**
DRGR		**3.08**	**288⇑**	*iP*	**Pn**	**09 21 07.7**	**+0.3**
DRGR		**3.08**	**288⇑**	*iP*	**Pn**	**09 21 07.7**	**+0.3**
DRGR				*i* S	**Sn**	**09 21 41.7**	**-1.6**
HORU	**Horodok**	**3.32**	**354**	*eP*	**Pn**	**09 21 11.9**	**+1.4**
HORU				*e*S	**Sn**	**09 21 50.2**	**+1.2**
SIRR	**Siria**	**3.72**	**277⇓**	*iP*	**Pn**	**09 21 16.6**	**+0.5**
SIRR				*i* S	**Sn**	**09 21 56.9**	**-2.0**
SIRR	**Siria**	**3.72**	**277⇓**	*iP*	**Pn**	**09 21 16.6**	**+0.5**
SIRR	**Siria**	**3.72**	**277⇓**	*iP*	**Pn**	**09 21 16.6**	**+0.5**
BZS	**Buzias**	**3.77**	**267⇑**	*iP*	**Pn**	**09 21 17.9**	**+1.2**
BZS				*i* S	**Sn**	**09 21 58.5**	**-1.6**
BZS	**Buzias**	**3.77**	**267⇑**	*iP*	**Pn**	**09 21 17.9**	**+1.2**
BZS	**Buzias**	**3.77**	**267⇑**	*iP*	**Pn**	**09 21 17.9**	**+1.2**
BZS				*i* S	**Sn**	**09 21 58.5**	**-1.6**
MORS	**Morshin**	**3.83**	**328**	*eP*	**Pn**	**09 21 18.9**	**+1.3**
MORS				*e*S	**Sn**	**09 22 04.2**	**+2.5**
ZAGS	**Zajecar**	**3.98**	**240**	*e*Pn	**Pn**	**09 21 18.6**	**-1.0**
ZAPS	**Zavoj**	**4.08**	**231⇑**	*i*Pn	**Pn**	**09 21 22.0**	**+0.9**
BOVS	**Bovan**	**4.40**	**241**	*e*Pn	**Pn**	**09 21 26.0**	**+0.6**
AKASG	**Malin Array Be**	**5.01**	**17**	Pn	**Pn**	**09 21 33.2**	**-0.6**
	0.8nm,0.3s,baz=202,slow=13,SNR=3.6						
AKASG				Sn	**Sn**	**09 22 26.5**	**-4.2**
	3.3nm,0.3s,baz=190,slow=16,SNR=6.8						
AKASG				Lg	Lg	09 22 50.6	
	8.1nm,0.3s,baz=199,slow=30,SNR=12						
KECS	**Kecovo**	**5.12**	**302**	*e*Pn	**Pn**	**09 21 36.3**	**+1.1**
KECS				*e*Sn	**Sn**	**09 22 33.7**	**+0.4**
KECS	**Kecovo**	**5.12**	**302**	*e*PN	**Pn**	**09 21 36.3**	**+1.1**
KECS				*e*SN	**Sn**	**09 22 33.7**	**+0.4**
DAVOX	**Davos/Dischmat**	**11.86**	**280**	LR	LR	09 28 41.4	
	comp=Z,24nm,19.6s,baz=92,slow=41						
FINES	**FINESS Array B**	**15.56**	**358**	Pn	**Pn**	**09 23 59.1**	**+1.4**
	0.1nm,0.3s,baz=185,slow=11,SNR=3.5						
HFS	**Hagfors**	**16.28**	**336**	Pn	**Pn**	**09 24 06.2**	**-0.6**
	0.1nm,0.3s,baz=140,slow=16,SNR=3.0						
NOA	**NORSAR Array B**	**17.74**	**334**	P	**P**	**09 24 25.8**	**0.0**
	0.1nm,0.3s,baz=147,slow=12,SNR=3.0						
ARCES	**ARCESS Array B**	**23.69**	**359**	P	**P**	**09 25 28.6**	**-0.9**
	3.6nm,1.2s,baz=182,slow=9.0,SNR=3.6						
PSI	**Prapat**	**75.47**	**101**	LR	LR	10 09 44.8	
	comp=Z,196nm,21.2s,baz=357,slow=40						

TRN 23 09:28:25.3, 13°.26N×61°.43W, h152km, MD3.6, 1C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVB	**Belmont**	**0.17**	**85⇓**	*iP*	Pn	09 28 46.4	+0.6
SVB				*e*S	Sn	09 29 02.9	+1.6
SVV	**Soufriere Volc**	**0.21**	**74⇓**	*iP*	Pn	09 28 46.7	+0.9
SVV				*e*S	Sn	09 29 02.9	+1.5
SSV	**Crater Summit**	**0.24**	**73⇓**	*eP*	Pn	09 28 46.7	+0.7
SSV				*e*S	Sn	09 29 02.9	+1.2
MCLT	**Moule a Chique**	**0.65**	**46⇓**	*iP*	Pn	09 28 48.0	+0.3
MCLT				*e*S	Sn	09 29 04.4	-0.4
TRMF	**Trois Ilets**	**1.32**	**16**	*eP*	Pn	09

*IDC **23** 09:41:40.4±10.0, 8°.05S×123°.86E, h170km±80km, mb3.4/1, mb1 3.4/4, mb1mx3.1/39, mbtmp3.9/4, Error ellipse: s-maj=94.4km s-min=73.2km az=48.0*
*DJA **23** 09:41:41.8±0.5, 8°S±6°×12°3E±°, h242km±5km, M3.8/6, mB4.3/1, mb3.9/3, MLv3.7/6, Mw(mB)3.4/1*
*ISCJB **23** 09:41:42.9±0.9, 8°.31S±0°.07×123°.13E±0°.06, h200km, mb3.6/1, Error ellipse: s-maj=11.3km s-min=6.3km az=28.5*

ISC 23 09:41:43.2±1.1, 8°.36S±0°.08×123°.11E±0°.06, h200km, n12, σ3°52/19, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.91**	**252**	P	**Pn**	**09 42 13.9**	**+1.5**
MMRI				S	**Sn**	**09 42 43.0**	**+8.1**
EDFI	**Ende, Flores**	**1.46**	**254**	P	**Pn**	**09 42 18.1**	**+1.4**
EDFI				S	**Sn**	**09 42 48.3**	**+5.7**
SOEI	**Soe**	**1.80**	**141**	P	**Pn**	**09 42 23.8**	**+3.9**
SOEI				S	**Sn**	**09 42 54.0**	**+5.5**
WSI	**Waingapu**	**3.07**	**245**	S	**Sn**	**09 43 14.9**	**+1.8**
BASI	**Baing, Sumba**	**3.11**	**233**	P	**Pn**	**09 42 36.7**	**+2.5**
KDI	**Kendari**	**4.39**	**354**	P	**Pn**	**09 42 50.5**	**+0.5**
PLAI	**Plampang** 23nm,0.8s,580nm0.1nm	**5.29**	**265**	P	**Pn**	**09 43 00.0**	**-1.4**
PLAI				S	**Sn**	**09 44 02.5**	**-0.6**
TWSI	**Taliwang, Sumb** 13nm,1.7s,0.1nm	**6.17**	**266**	P	**Pn**	**09 43 11.7**	**-1.0**
TWSI				S	**Sn**	**09 44 24.4**	**+0.9**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=8.9,slow=10,SNR=3.7	**10.00**	**166**	P	**Pn**	**09 44 01.7**	**-0.8**
FITZ				S	**Sn**	**09 45 54.0**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=321,slow=12,SNR=22	**15.84**	**138**	P	**P**	**09 45 13.2**	**-2.3**
WRA				S	**S**	**09 48 06.6**	**-4.9**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=326,slow=12,SNR=30	**18.41**	**147**	P	**P**	**09 45 42.8**	**-0.8**
STKA	**Stephens Creek** 0.5nm,0.3s,baz=333,slow=6.8,SNR=3.6	**29.04**	**146**	P	**P**	**09 47 22.4**	**-2.5**

*IDC **23** 10:09:24.3±0.7, 4°.04N×126°.76E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/54, mbtmp4.0/11, MS2.7/1, Ms1 2.9/1, ms1mx2.4/68, Error ellipse: s-maj=53.6km s-min=13.5km az=77.0*
*ISCJB **23** 10:09:28.0±0.3, 4°.13N±0°.04×127°.01E±0°.05, h36km, mb4.2/24, MS2.6/1, Error ellipse: s-maj=7.0km s-min=5.7km az=2.4*
*NEIC **23** 10:09:29.7±0.4, 4°.19N×127°.15E, h35km, mb4.5/14, Error ellipse: s-maj=13.9km s-min=7.6km az=79.0*
*DJA **23** 10:09:29.9±1.2, 4°N±9°×12°7E±°, h10km, M4.5/6, mb4.7/4, mB5.1/4, MLv4.5/6, Mw(mB)4.4/4*

ISC 23 10:09:29.7±0.5, 4°.09N±0°.06×126°.96E±0°.07, h36km, n46, σ1°66/46, mb4.2/24, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.48**	**254**	P	**Pn**	**10 09 53.3**	**-0.6**
SGSI				S	**Sn**	**10 10 11.4**	**-0.6**
KMSI	**Cibinong**	**4.59**	**220**	P	**Pn**	**10 10 38.2**	**+1.6**
LBMI	**Labuha**	**4.73**	**173**	P	**Pn**	**10 10 40.5**	**+1.9**
LBMI				S	**Sn**	**10 11 37.0**	**+4.8**
MRSI	**Marisa** 54nm,0.5s,775nm0.5nm	**6.17**	**235**	P	**Pn**	**10 11 00.9**	**+2.6**
SANI	**Sanana**	**6.18**	**189**	P	**Pn**	**10 10 56.4**	**-2.1**
SANI				S	**Sn**	**10 12 02.2**	**-5.7**
LUWI	**Luwuk**	**6.60**	**219**	P	**Pn**	**10 11 05.6**	**+1.4**
LUWI	**Luwuk**	**6.60**	**219**	*e*Pn	Pn	10 11 10.5	+6.2
APSI	**Ampana**	**7.27**	**227**	P	Pn	10 11 19.1	+5.6
PLP	**Palo**	**7.29**	**345⇑**	*e*P	**Pn**	**10 11 16.1**	**+2.2**
MPSI	**Mapaga**	**7.98**	**242**	P	**Pn**	**10 11 24.5**	**+1.3**
FAKI	**Fak Fak**	**8.74**	**143**	*e*Pn	**Pn**	**10 11 34.5**	**+0.7**
KSM	**Kuching** 7.7nm,1.0s	**16.83**	**262**	*e*P	**P**	**10 13 25.7**	**+1.2**
FITZ	**Fitzroy Crossi** 2.0nm,0.6s,baz=343,slow=8.3,SNR=6.9	**22.09**	**183**	P	**P**	**10 14 20.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**22.09**	**183**	*e*P	**P**	**10 14 22.8**	**+0.8**
WRAB	**Tennant Creek** 10nm,0.9s	**24.96**	**163**	*e*P	**P**	**10 14 49.5**	**-0.5**
WRA	**Warramunga Arr** 6.3nm,0.9s,baz=343,slow=10,SNR=22	**24.96**	**163**	P	**P**	**10 14 49.5**	**-0.5**
WR1	**Warramunga Arr** 8.3nm,0.8s	**24.96**	**163**	*e*P	**P**	**10 14 49.5**	**-0.5**
WB2	**Warramunga Arr** 7.6nm,0.8s	**24.97**	**163**	*e*P	**P**	**10 14 49.5**	**-0.5**
CBIJ	**Chichi jima** 95nm,0.9s	**27.11**	**31**	*e*P	**P**	**10 15 08.5**	**-0.9**
AS31	**Alice Springs** 1.5nm,1.2s	**28.41**	**167**	*e*P	**P**	**10 15 21.2**	**+0.2**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=354,slow=8.0,SNR=14	**28.41**	**167**	P	**P**	**10 15 21.2**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,15nm,20.9s,baz=162,slow=37	**30.89**	**300**	LR	LR	10 28 15.2	
BBOO	**Buckleboo** 24nm,1.6s	**37.70**	**167**	*e*P	**P**	**10 16 42.1**	**+0.2**
STKA	**Stephens Creek** 2.7nm,0.6s,baz=333,slow=10,SNR=10	**38.39**	**160**	P	**P**	**10 16 47.6**	**-0.1**
STKA	**Stephens Creek** 1.9nm,1.3s	**38.39**	**160**	*e*P	**P**	**10 17 16.8**	**+1.9**
ARMA	**Armidale** 24nm,1.5s	**41.64**	**147**	*e*P	**P**	**10 17 16.8**	**+1.9**
KLR	**Kul'dur** 0.1nm,0.5s,baz=153,slow=6.8,SNR=2.4	**45.16**	**4**	P	**P**	**10 17 43.3**	**+0.5**
SONA0	**Songino Array** 3.0nm,1.4s	**47.03**	**341**	*e*P	**P**	**10 17 57.4**	**-0.4**
SONM	**Songino Array** 0.4nm,0.3s,baz=148,slow=8.5,SNR=2.7	**47.03**	**341**	P	**P**	**10 17 57.4**	**-0.4**
MK32	**Makanchi Array**	**57.39**	**325**	*e*P	**P**	**10 19 13.1**	**-1.6**
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=122,slow=8.4,SNR=6.6	**57.39**	**325**	P	**P**	**10 19 13.1**	**-1.6**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=145,slow=5.3,SNR=3.5	**60.37**	**333**	P	**P**	**10 19 36.4**	**+1.3**
ZAA1	**Zalesovo Array**	**60.37**	**333**	*e*P	**P**	**10 19 36.4**	**+1.3**
KURK	**Kurchatov** 3.4nm,0.6s	**61.56**	**327**	*e*P	**P**	**10 19 43.0**	**-0.3**
TIXI	**Tiksi** 0.9nm,0.2s,baz=151,slow=5.6,SNR=7.4	**67.48**	**1**	P	**P**	**10 20 23.3**	**+1.8**
HLP	**Hilina Pali**	**77.09**	**71**	*e*P	**P**	**10 21 18.2**	**-1.9**
KDAK	**Kodiak Island** 74nm,1.8s	**81.46**	**32**	*e*P	**P**	**10 21 43.9**	**+0.8**
BPAW	**Bear Paw Mtn.** 17nm,1.8s	**82.86**	**26**	*e*P	**P**	**10 21 51.2**	**+0.9**
MLY	**Manley** 24nm,2.0s	**83.06**	**25**	*e*P	**P**	**10 21 50.2**	**-1.2**
VNDA	**Vanda** 0.8nm,0.9s,baz=318,slow=7.9,SNR=3.3	**83.75**	**173**	P	**P**	**10 21 55.3**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=239,slow=5.3,SNR=4.7	**84.68**	**25**	P	**P**	**10 21 58.8**	**-0.8**
ILB	**Eielson Array**	**84.68**	**25**	*e*P	**P**	**10 21 58.8**	**-0.8**
FIA0	**FINESS Array S**	**91.62**	**332**	*e*P	**P**	**10 22 31.3**	**-1.6**
FINES	**FINESS Array B** 0.5nm,0.6s,baz=8.5,slow=11,SNR=4.4	**91.62**	**332**	P	**P**	**10 22 31.3**	**-1.5**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=48,slow=1.6,SNR=4.1	**123.02**	**288**	PKP	**PKPdf**	**10 28 23.0**	**-0.4**
TOA1	**Torodi Ar. Sit**	**123.02**	**288**	*e*PKPdf	**PKPdf**	**10 28 23.0**	**-0.4**

TRN 23 10:15:42.6, 10°.82N×62°.20W, h90km, MD3.7, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.46**	**105**	*e*P	Pn	10 15 57.1	0.0
TCE				*e*S	Sn	10 16 08.2	+0.4
TRN	**Trinidad (W)**	**0.80**	**102**	⇑*i*P	Pn	10 16 00.4	+0.3
TRN				*e*S	Sn	10 16 12.3	-0.9
TPP	**Pointe-a-Pierr**	**0.89**	**124**	*e*P	Pn	10 16 01.4	+0.4
TPP				*e*S	Sn	10 16 14.2	-0.6
TBH	**Brigand Hill**	**1.16**	**106**	*e*P	Pn	10 16 05.0	+0.8
TBH				*e*S	Sn	10 16 21.1	+0.6
TPR	**Prospect**	**1.45**	**75**	*e*P	Pn	10 16 07.8	+0.1
TPR				*e*S	Sn	10 16 27.0	+0.4
BOT	**Bacolet**	**1.50**	**76**	⇑*i*P	Pn	10 16 08.7	+0.4
BOT				*e*S	Sn	10 16 27.9	+0.1
TOSP	**Speyside**	**1.70**	**74**	*e*P	Pn	10 16 10.3	-0.7
TOSP				*e*S	Sn	10 16 31.2	-1.3
SVB	**Belmont**	**2.61**	**21**	*e*P	Pn	10 16 22.9	0.0
SVB				*e*S	Sn	10 16 53.1	-0.8
SVV	**Soufriere Volc**	**2.67**	**21**	*e*P	Pn	10 16 23.6	-0.1
SSV	**Crater Summit**	**2.68**	**21**	*e*P	Pn	10 16 24.5	+0.5

IDC 23 10:17:03.5±48.0, 15°.53S×172°.17W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/41, mbtmp3.9/3, Error ellipse: s-maj=939.2km s-min=189.5km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.5nm,0.7s,baz=96,slow=11,SNR=6.0	**45.00**	**240**	P	P	10 25 21.1	+0.1
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=92,slow=6.8,SNR=3.5	**50.97**	**257**	P	P	10 26 07.4	0.0
ASAR	**Alice Springs** 3.5nm,0.6s,baz=88,slow=8.3,SNR=90	**51.20**	**252**	P	P	10 26 08.8	-0.4

DJA 23 10:22:29.3±1.0, 1°S±17°×113°7E±°, h10km, M4.2/4, MLv4.2/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.82**	**246**	P	Pg	10 22 45.1	-0.1
SMPI	**Sarmi**	**2.16**	**121**	P	Pn	10 23 05.5	+0.1
SMPI				S	Sn	10 23 33.4	+1.1
JAY	**Jayapura**	**4.18**	**113**	P	Pn	10 23 32.9	-0.3

IDC 23 10:25:49.3±25.0, 4°.77N×125°.64E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/54, mbtmp3.6/4, Error ellipse: s-maj=437.4km s-min=106.2km az=146.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.7nm,0.4s,baz=12,slow=8.6	**22.72**	**180**	P	P	10 30 54.0	+1.0
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=338,slow=10,SNR=7.8	**26.00**	**161**	P	P	10 31 23.9	-0.3
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=7.0,SNR=9.7	**29.39**	**164**	P	P	10 31 54.0	-0.6
STKA	**Stephens Creek** 1.5nm,1.0s,baz=0.0,slow=10,SNR=2.2	**39.48**	**158**	P	P	10 33 21.7	0.0

*ISN **23** 10:28:35.6±0.3, 34°.83N×45°.29E, h0km, ML2.7*
*CSEM **23** 10:28:36.6±0.3, 34°.89N×45°.45E, h2km, ML2.7, Error ellipse: s-maj=13.6km s-min=5.5km az=31.0*

TEH 23 10:28:37.2, 34°.85N×45°.40E, h11km, ML2.7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.83**	**100**	*e*Pg	Pg	10 28 53.0	-0.2
IDHR				*e*AMB	AMB	10 29 16.2	
IDHR	**Dehrash** comp=Z,2μm,0.2s	**0.83**	**100**	*e*Pg	Pg	10 28 53.0	-0.2
IGHG	**Ghaleghazi**	**1.09**	**118**	*e*Pn	Pn	10 28 59.3	+0.5
IGHG				*e*AMB	AMB	10 29 25.9	
IGHG	**Ghaleghazi** comp=Z,1μm,0.3s	**1.09**	**118**	*e*Pn	Pn	10 28 59.3	+0.5
IVIS	**Veis**	**1.24**	**105**	*e*Pn	Pn	10 29 00.6	0.0
IVIS				*e*AMB	AMB	10 29 29.9	
IVIS	**Veis** comp=Z,772nm,0.2s	**1.24**	**105**	*e*Pn	Pn	10 29 00.6	0.0
IKFM	**Kafar-mosalman**	**2.42**	**122**	*e*Pn	Pn	10 29 17.0	+0.3
IKFM				*e*AMB	AMB	10 29 18.8	
IKFM	**Kafar-mosalman** comp=Z,99nm,0.1s	**2.42**	**122**	*e*Pn	Pn	10 29 17.0	+0.3
IKFM				*e*Sg	Sb	10 29 52.0	+1.3
ISHB	**Shabestar**	**3.43**	**3**	*e*Pn	Pn	10 29 28.8	-1.1
ISHB				*e*AMB	AMB	10 29 35.7	
IHRS	**Heris** comp=Z,222nm,0.2s	**3.71**	**20**	*e*Pn	Pn	10 29 34.7	0.0
IHRS				*e*AMB	AMB	10 30 51.0	
IHRS	**Heris** comp=N,194nm,0.2s	**3.71**	**20**	*e*Pn	Pn	10 29 34.7	0.0
IMRD	**Marand**	**3.87**	**4**	*e*Pn	Pn	10 29 36.2	-0.6
IMRD				*e*AMB	AMB	10 29 48.0	
IMRD	**Marand** comp=Z,200nm,0.1s	**3.87**	**4**	*e*Pn	Pn	10 29 36.2	-0.6
SHGR	**Shooshtar-Gavs**	**3.94**	**133**	*e*Pn	Pn	10 29 29.8	-7.9

MEX 23 10:31:11.7±0.7, 16°.77N×94°.85W, h117km±13km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**354**	*e*P	Pn	10 31 27.3	-1.1
CMIG				*e*S	Sn	10 31 38.6	-2.4
HUIG	**Huatulco**	**1.57**	**231**	*e*P	Pn	10 31 38.0	-1.7
HUIG				*e*S	Sn	10 31 59.6	-1.5
VHO	**Vista Hermosa**	**1.83**	**280**	*e*P	Pn	10 31 43.0	-0.1
VHO				*e*S	Sn	10 32 05.7	-1.4
PNIG	**Pinotepa**	**3.17**	**264**	*e*P	Pn	10 31 57.9	-2.3
PNIG				*e*S	Sn	10 32 33.1	-4.4

*ISCJB **23** 10:37:03.6±1.0, 33°.26N±0°.06×141°.09E±0°.08, h48km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=7.9km az=30.8*
*IDC **23** 10:37:04.4±1.6, 32°.67N×138°.98E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/84, mbtmp3.1/3, ML2.7/1, Error ellipse: s-maj=44.2km s-min=17.0km az=130.0*
*JMA **23** 10:37:04.7±0.1, 33°.33N×141°.00E, h60km, M2.7*

ISC 23 10:37:05.2±1.5, 33°.26N±0°.08×141°.0E±0°.1, h48km, n13, σ0°62/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.03**	**262**	P	**Pn**	**10 37 23.2**	**0.0**
JHJ2				*e*S	**Sn**	**10 37 36.7**	**+0.2**
JHCJ	**Hachijojimakas**	**1.05**	**260**	P	**Pn**	**10 37 23.3**	**-0.2**
JHCJ				*e*S	**Sn**	**10 37 37.2**	**+0.1**
JHJ	**Hachijo jima 2** 68nm,0.3s,baz=283,slow=7.5,SNR=146	**1.05**	**263**	Pn	**Pn**	**10 37 23.6**	**0.0**
JHJ				Sn	**Sn**	**10 37 36.6**	**-0.6**
BSO1	**Boso 1**	**1.39**	**358**	P	**Pn**	**10 37 27.5**	**-0.2**
JIM2	**Oshima 3**	**1.97**	**318**	P	**Pn**	**10 37 35.2**	**-0.9**
JIZS	**Izushimoda**	**2.30**	**310**	P	**Pn**	**10 37 40.7**	**0.0**
JOD2	**Odawara 2**	**2.56**	**322**	P	**Pn**	**10 37 43.7**	**-0.6**
SHZ3	**Shizuoka 3**	**2.95**	**308**	P	**Pn**	**10 37 50.6**	**+1.0**
JYN	**Shimob**	**3.03**	**318**	P	**Pn**	**10 37 51.4**	**+0.6**
JRY	**Ryogami san**	**3.26**	**328**	P	**Pn**	**10 37 54.4**	**+0.6**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=150,slow=13,SNR=4.9	**4.01**	**325**	Pn	**Pn**	**10 38 05.3**	**+1.2**
MJAR				Sn	**Sn**	**10 38 49.1**	**-0.8**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=137,slow=11,SNR=4.2	**53.29**	**188**	P	**P**	**10 46 19.2**	**-0.1**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=7.3,slow=6.9,SNR=5.0	**57.02**	**188**	P	**P**	**10 46 46.3**	**+0.1**

*AZER **23** 10:41:10.9±3.3, 38°.18N×42°.37E, h12km, Error ellipse: s-maj=41.4km s-min=21.4km az=147.0*
*NSSP **23** 10:41:17.5, 38°.68N×43°.22E, h10km, Ms7.2*
*ISN **23** 10:41:19.0±0.9, 38°.90N×43°.49E, h12km±64km, ML7.3*
*ATA **23** 10:41:20.7±0.9, 38°.71N×43°.44E, h18km±10km, MWW7.0*
*IDC **23** 10:41:21.0±0.2, 38°.73N×43°.48E, h0km, mb6.1/73, mb1 6.1/84, mb1mx6.1/85, mbtmp6.1/84, ML4.7/11, MS7.2/54, Ms1 7.2/54, ms1mx7.0/65, Error ellipse: s-maj=5.5km s-min=4.9km az=130.0*
*MOS **23** 10:41:20.3±1.4, 38°.66N×43°.44E, h10km, mb6.7/140, MS7.3/126, Error ellipse: s-maj=3.6km s-min=2.5km az=122.0 Broadband fault plane solution: P waves. $M_0$9.60000×10^{19} NP1:ϕ_s89.00000°, δ59.00000°, λ107.00000°. NP2:ϕ_s239.00000°, δ35.00000°, λ65.00000°. Principal axes: T Plg71.0000°, Azm38.0000°; N Plg14.0000°, Azm261.0000°; P Plg12.0000°, Azm167.0000°;*
*DDA **23** 10:41:20.8, 38°.69N×43°.47E, h19km, MI6.7*
*DSN **23** 10:41:21.6±0.5, 38°.62N×43°.38E, h7km, mb6.8/5, Ms7.5/8, Error ellipse: s-maj=11.3km s-min=5.7km az=70.0*
*NEIC **23** 10:41:21.6±0.0, 38°.85N×43°.84E, h13km, Moment Tensor Solution. s98 Moment tensor: Scale 10^{19}Nm; M_{rr}4.81; $M_{\theta\theta}$-5.16; $M_{\phi\phi}$0.35; $M_{r\theta}$0.08; $M_{\theta\phi}$-0.62; $M_{\phi r}$-2.45; Best double couple: $M_0$5.60000×10^{19} NP1:ϕ_s241.00000°, δ51.00000°, λ58.00000°. NP2:ϕ_s106.00000°, δ49.00000°, λ123.00000°. Principal axes: T 5.9000, Plg65.0000°, Azm85.0000°; N -0.6700, Plg24.0000°, Azm262.0000°; P -5.2300, Plg1.0000°, Azm353.0000°;*
*BJI **23** 10:41:21.7, 38°.90N×43°.45E, h20km, mb6.7/70, mB7.3/73, Ms7.4/95, Ms7 7.3/89*
*ISK **23** 10:41:21.0, 38°.75N×43°.43E, h5km, ML6.7, Mw7.2*
*GCMT **23** 10:41:22.9±0.1, 38°.64N×43°.40E, h12km, MWW7.1/155, Moment Tensor Solution. s155,c418; s149,c765; Duration: 9s0 Moment tensor: Scale 10^{19}Nm; M_{rr}5.27±.03; $M_{\theta\theta}$-5.86±.02; $M_{\phi\phi}$0.59±.02; $M_{r\theta}$2.13±.14; $M_{\theta\phi}$-0.61±.01; $M_{\phi r}$-1.78±.16; Best double couple: $M_0$6.27000×10^{19} NP1:ϕ_s103.00000°, δ58.00000°, λ112.00000°. NP2:ϕ_s246.00000°, δ38.00000°, λ60.00000°. Principal axes: T 6.2740, Plg69.0000°, Azm60.0000°; N -0.0080, Plg18.0000°, Azm271.0000°; P -6.2650, Plg10.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*GII **23** 10:41:22.0±0.0, 38°.86N×43°.48E, h1km, mb7.3/1*
*SFS **23** 10:41:22.0, 38°.86N×43°.48E, h10km, ML7.3*
*CSEM **23** 10:41:22.1±0.1, 38°.76N×43°.48E, h10km, mb6.8/99, Ms7.3, Mw7.2, Error ellipse: s-maj=2.0km s-min=1.5km az=179.0*
*PDA **23** 10:41:22.8, 38°.71N×43°.52E, h16km, mb6.9*
*NEIC **23** 10:41:23.2±0.1, 38°.72N×43°.51E, h18km, mb6.9/298, ME7.1, MS7.3/296, MW7.1, MW7.3, MWV7.1, ML6.6(ISK), Error ellipse: s-maj=2.3km s-min=1.5km az=175.0, Moment Tensor Solution. s85 Moment tensor: Scale 10^{19}Nm; M_{rr}5.59; $M_{\theta\theta}$-6.74; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.72; $M_{\theta\phi}$-0.35; $M_{\phi r}$-1.14; Best double couple: $M_0$6.40000×10^{19} NP1: ϕ_s101.00000°, δ43.00000°, λ109.00000°. NP2: ϕ_s255.00000°, δ50.00000°, λ73.00000°. Principal axes: T 5.8900, Plg76.0000°, Azm102.0000°; N 0.9100, Plg13.0000°, Azm266.0000°; P -6.8000, Plg4.0000°, Azm357.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s60.00000°, δ40.00000°, λ90.00000°. NP2: ϕ_s240.00000°, δ50.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm150.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm330.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 604 people killed, 2,608 injured, 40,000 displaced, 5,739 buildings destroyed and 4,882 damaged in the Ercis-Tabanli-Van area. Telecommunications, electricity and water services disrupted. Surface faulting and liquefaction observed. Felt [VIII] at Van; [VII] at Bitlis; [VI] at Tatvan; [V] at Dogubayazit and Kars; [IV] at Diyarbakir, Erzincan and Erzurum. Felt throughout eastern Turkey and as far west as Antioch, Kayseri and Samsun. Felt [VI] at Khvoy and [III] at Orumiyeh and Tabriz, Iran; [V] at Mosul and [IV] at Baghdad and Dahuk, Iraq; [IV] at Gyumri and Spitak and [III] at Yerevan, Armenia; [IV] at Barda and Ganca and [III] at Baku, Azerbaijan; [IV] at Batumi and [III] at Tbilisi, Georgia; [IV] at Aleppo and [III] at Damascus, Syria; [II] at Tel Aviv-Yafo, Israel and at Rostov, Russia. Felt in much of Armenia, Azerbaijan, Georgia, Syria, northwestern Iran and northern Iraq and in parts of Israel, Jordan, Lebanon and southwestern Russia.
*ISCJB **23** 10:41:23.1±0.3, 38°.70N±0°.01×43°.472E±0°.009, h29km±1km, mb6.6/608, MS7.3/502 Error ellipse: s-maj=1.7km s-min=1.2km az=9.8*
*TEH **23** 10:41:27.8, 38°.67N×43°.71E, h18km, ML7.1*
*NEIC **23** 10:41:44.5±0.0, 39°.45N×43°.35E, h16km, Moment Tensor Solution. s159 Moment tensor: Scale 10^{19}Nm; M_{rr}5.89; $M_{\theta\theta}$-6.13; $M_{\phi\phi}$0.24; $M_{r\theta}$7.73; $M_{\theta\phi}$-0.51; $M_{\phi r}$1.60; Best double couple: $M_0$9.90000×10^{19} NP1:ϕ_s272.00000°, δ19.00000°, λ101.00000°. NP2:ϕ_s80.00000°, δ71.00000°, λ86.00000°. Principal axes: T 9.8000, Plg63.0000°, Azm344.0000°; N 0.2000, Plg4.0000°, Azm81.0000°; P -10.0000, Plg2.0000°, Azm17.0000°;*

ISC 23 10:41:22.0±0.4, 38°.73N±0°.01×43°.45E±0°.01, h8km±2km, h8km:pP-P, n4074, σ1°72/4394, mb6.8/639, MS7.3/534, 461C-108D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.20**	**189**	⇓*i*P	**Pg**	**10 41 27.6**	**+1.4**
TVAN	**Van**	**0.20**	**189**	P	**Pg**	**10 41 27.6**	**+1.4**
TVAN	**Van**	**0.20**	**189**	P	**Pg**	**10 41 27.6**	**+1.4**
VMUR	**Van-Muradiye**	**0.28**	**21**	⇓*i*P	**Pg**	**10 41 28.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.28**	**21**	*i* P	**Pg**	**10 41 28.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.28**	**21**	*i* P	**Pg**	**10 41 28.0**	**+0.4**
GEVA	**Gevas**	**0.52**	**216**	⇓*i*P	**Pg**	**10 41 30.9**	**-1.2**
GEVA	**Gevas**	**0.52**	**216**	⇓*i*P	**Pg**	**10 41 30.9**	**-1.2**
GEVA	**Gevas**	**0.52**	**216**	P	**Pg**	**10 41 30.9**	**-1.2**
GEVA	**Gevas**	**0.52**	**216**	*e*Pg	**Pg**	**10 41 30.8**	**-1.2**
BASK	**Baskale_VAN**	**0.81**	**147**	⇓*i*P	**Pg**	**10 41 36.9**	**-0.7**
TUTA	**Tutak**	**0.83**	**324**	⇓*i*P	**Pg**	**10 41 37.3**	**-0.8**
TUTA	**Tutak**	**0.83**	**324**	⇓*i*P	**Pg**	**10 41 37.3**	**-0.8**
TUTA	**Tutak**	**0.83**	**324**	P	**Pg**	**10 41 37.3**	**-0.8**
TUTA	**Tutak**	**0.83**	**324**	*i* P	**Pg**	**10 41 37.3**	**-0.8**
DYDN	**Diyadin**	**0.83**	**13**	⇓*i*P	**Pg**	**10 41 37.5**	**-0.6**
DYDN				*e*		10 44 52.6	
DYDN	**Diyadin**	**0.83**	**13**	⇓*i*P	**Pg**	**10 41 37.3**	**-0.8**
DYDN	**Diyadin**	**0.83**	**13**	*i* P	**Pg**	**10 41 37.3**	**-0.8**
DYDN	**Diyadin**	**0.83**	**13**	*i* P	**Pg**	**10 41 37.3**	**-0.8**
AGRB	**Hanur-Agry**	**0.92**	**337**	PG	**Pg**	**10 41 38.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.92**	**337**	P	**Pg**	**10 41 38.8**	**-0.9**
AGRB	**Hanur-Agry**	**0.92**	**337**	P	**Pg**	**10 41 38.8**	**-0.9**
EKAR	**Karacoban**	**1.20**	**296**	⇓*i*P	**Pg**	**10 41 44.8**	**-0.2**
EKAR	**Karacoban**	**1.20**	**296**	⇓*i*P	**Pg**	**10 41 44.7**	**-0.4**
EKAR	**Karacoban**	**1.20**	**296**	P	**Pg**	**10 41 44.7**	**-0.4**
EKAR	**Karacoban**	**1.20**	**296**	*i* P	**Pg**	**10 41 44.7**	**-0.4**
EATA	**Eleskirt**	**1.35**	**327**	⇓*i*P	**Pn**	**10 41 46.9**	**-0.7**
EATA	**Eleskirt**	**1.35**	**327**	⇓*i*P	**Pn**	**10 41 46.9**	**-0.7**
EATA	**Eleskirt**	**1.35**	**327**	P	**Pn**	**10 41 46.9**	**-0.7**
EATA	**Eleskirt**	**1.35**	**327**	*i* P	**Pn**	**10 41 46.9**	**-0.7**
VNNZ	**Vanand**	**1.40**	**12**	⇓*i*P	**Pn**	**10 41 43.4**	**-4.7**
VNNZ	**Vanand**	**1.40**	**12**	⇓P	**Pn**	**10 41 43.4**	**-4.7**
VRNZ	**Vardanashen**	**1.44**	**23**	⇑*i*P	**Pn**	**10 41 43.8**	**-4.7**
VRNZ	**Vardanashen**	**1.

GNI				Lg	Lg	10 42 21.2	
GNI	**Garni**	**1.74**	**35**	*e*Pn	**Pn**	**10 41 52.6**	**-0.1**
GNI				Lg	Lg	10 42 21.2	
ISHB	**Shabestar**	**1.76**	**104**	*e*Pn	**Pb**	**10 41 54.5**	**-0.3**
ISHB				*e*AMB	AMB	10 42 09.4	
	comp=Z,2680μm,0.3s						
ISHB	**Shabestar**	**1.76**	**104**	Pn	**Pb**	**10 41 54.4**	**-0.3**
ISHB	**Shabestar**	**1.76**	**104**	Pn	**Pb**	**10 41 54.4**	**-0.3**
IMRD	**Marand**	**1.77**	**90**	*e*Pn	**Pb**	**10 41 54.7**	**-0.1**
IMRD				*e*AMB	AMB	10 42 33.7	
	comp=Z,7126μm,0.6s						
IMRD	**Marand**	**1.77**	**90**	*e*Pn	**Pb**	**10 41 54.7**	**-0.1**
IMRD	**Marand**	**1.77**	**90**	Pn	**Pb**	**10 41 54.7**	**-0.1**
AMBZ	**Amberd**	**1.77**	**21**	⇓*i*P	**Pn**	**10 41 49.0**	**-4.2**
HOMI	**Horasan**	**1.78**	**318**	⇑*i*P	**Pb**	**10 41 54.2**	**-0.8**
HOMI	**Horasan**	**1.78**	**318**	⇑*i*P	**Pb**	**10 41 54.0**	**+0.7**
HOMI	**Horasan**	**1.78**	**318**	*i* P	**Pn**	**10 41 54.0**	**+0.7**
HOMI	**Horasan**	**1.78**	**318**	*i* P	**Pn**	**10 41 54.0**	**+0.7**
BNGL	**BINGOL**	**1.81**	**278**	⇑*i*P	**Pn**	**10 41 53.6**	**-0.1**
BNGL	**BINGOL**	**1.81**	**278**	⇑*i*P	**Pn**	**10 41 53.9**	**+0.2**
BNGL	**BINGOL**	**1.81**	**278**	*i* P	**Pn**	**10 41 53.9**	**+0.2**
BNGL	**BINGOL**	**1.81**	**278**	*i* P	**Pn**	**10 41 53.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	PN	**Pn**	**10 41 55.0**	**+0.7**
SVAN				*e*SN	**Sb**	**10 42 19.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	⇑*i*P	**Pn**	**10 41 54.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	P	**Pn**	**10 41 54.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	*i* Pn	**Pn**	**10 41 55.0**	**+0.7**
SVAN				*e*Sn	**Sb**	**10 42 19.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	*i* P	**Pn**	**10 41 54.1**	**-0.1**
KAPZ	**Kaputan**	**1.86**	**31**	⇑*i*P	**Pn**	**10 41 50.3**	**-4.2**
KAPZ	**Kaputan**	**1.86**	**31**	⇑P	**Pn**	**10 41 50.3**	**-4.2**
LERZ	**Lernakert**	**1.88**	**12**	⇑*i*P	**Pg**	**10 42 02.5**	**+4.5**
BTMN	**Batman**	**1.91**	**245**	⇓*i*P	**Pn**	**10 41 55.4**	**+0.5**
BTMN				*i* S	**Sg**	**10 42 23.7**	**+0.4**
BTMN	**Batman**	**1.91**	**245**	P	**Pn**	**10 41 55.4**	**+0.5**
BTMN				S	**Sg**	**10 42 23.7**	**+0.4**
HARI	**Harich**	**1.92**	**13**	⇑*i*P	**Pg**	**10 42 00.3**	**+1.4**
EAK	**Akyaka**	**1.96**	**4**	⇑*i*P	**Pb**	**10 41 57.8**	**-0.3**
EAK	**Akyaka**	**1.96**	**4**	⇑*i*P	**Pb**	**10 41 57.6**	**-0.5**
EAK	**Akyaka**	**1.96**	**4**	P	**Pb**	**10 41 57.6**	**-0.5**
ERZM	**Erzurum**	**2.00**	**307**	⇑*i*P	**Pn**	**10 41 56.9**	**+0.5**
ERZM	**Erzurum**	**2.00**	**307**	*i* P	**Pn**	**10 41 57.3**	**+0.9**
ERZM	**Erzurum**	**2.00**	**307**	P	**Pn**	**10 41 57.3**	**+0.9**
ERZM	**Erzurum**	**2.00**	**307**	*i* P	**Pn**	**10 41 57.3**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*PN	**Pn**	**10 41 57.2**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*Pn	**Pn**	**10 41 57.2**	**+0.6**
GMRZ	**Gyumri**	**2.10**	**8**	⇑*i*P	**Pn**	**10 41 59.0**	**+1.3**
GYMZ	**Gyumri**	**2.10**	**8**	⇑*i*P	**Pg**	**10 42 03.7**	**+1.4**
ECAT	**Cat-ERZURUM**	**2.11**	**295**	⇑*i*P	**Pn**	**10 41 58.5**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.11**	**295**	⇑*i*P	**Pn**	**10 41 58.5**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.11**	**295**	P	**Pn**	**10 41 58.5**	**+0.6**
KAMZ	**Kamo**	**2.13**	**10**	⇑*i*P	**Pg**	**10 42 03.9**	**+1.0**
BNGB	**Bing¶ll**	**2.18**	**278**	*e*PN	**Pn**	**10 41 59.4**	**+0.7**
BNGB	**Bing¶ll**	**2.18**	**278**	Pn	**Pn**	**10 41 58.8**	**+0.1**
BNGB	**Bing¶ll**	**2.18**	**278**	Pn	**Pn**	**10 41 58.8**	**+0.1**
ITBZ	**Tabriz**	**2.18**	**102**	*e*Pn	**Pn**	**10 42 00.2**	**+1.4**
ITBZ				*e*AMB	AMB	10 43 04.3	
	comp=Z,1838μm,0.7s						
ITBZ	**Tabriz**	**2.18**	**102**	Pn	**Pn**	**10 42 00.1**	**+1.3**
ITBZ	**Tabriz**	**2.18**	**102**	Pn	**Pn**	**10 42 00.1**	**+1.3**
SPIZ	**Spitak**	**2.19**	**17**	⇑*i*P	**Pb**	**10 42 00.7**	**-1.3**
TSOZ	**Tsokhamarg**	**2.24**	**8**	⇑*i*P	**Pg**	**10 42 05.9**	**+0.9**
VADZ	**Vardenis**	**2.29**	**50**	*i* P	**Pb**	**10 42 04.0**	**+0.2**
VADZ				S	Sg	10 42 45.0	+9.4
VADZ	**Vardenis**	**2.29**	**50**	P	**Pb**	**10 42 04.0**	**+0.2**
VADZ				S	Sg	10 42 45.0	+9.4
BINT	**Bingol**	**2.31**	**275**	*e*Pn	**Pn**	**10 41 59.4**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*PN	**Pn**	**10 42 01.7**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*Pn	**Pn**	**10 42 01.7**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	Pn	**Pn**	**10 42 01.7**	**+0.3**
GRS	**Goris**	**2.37**	**70**	⇑*i*P	**Pb**	**10 42 05.0**	**-0.1**
GRS	**Goris**	**2.37**	**70**	⇑P	**Pb**	**10 42 05.0**	**-0.1**
CKLZ	**Chkalov**	**2.39**	**22**	⇑*i*P	**Pn**	**10 42 03.3**	**+1.6**
DDEM	**Demirkent**	**2.52**	**329**	⇑*i*P	**Pn**	**10 42 04.5**	**+1.0**
DDEM	**Demirkent**	**2.52**	**329**	P	**Pn**	**10 42 04.5**	**+1.0**
MARD	**Mardin**	**2.54**	**237**	⇓*i*P	**Pn**	**10 42 03.4**	**-0.3**
MARD	**Mardin**	**2.54**	**237**	*e*Pn	**Pn**	**10 42 03.5**	**-0.2**
MARD				*e*Sn	**Sg**	**10 42 42.0**	**-1.5**
MARD	**Mardin**	**2.54**	**237**	*e*Pn	**Pn**	**10 42 03.5**	**-0.2**
MARD				*e*Sn	**Sg**	**10 42 42.0**	**-1.5**
KOPT	**Kop Dagi**	**2.62**	**300**	⇑*i*P	**Pn**	**10 42 06.7**	**+1.7**
KOPT	**Kop Dagi**	**2.62**	**300**	⇑*i*P	**Pn**	**10 42 06.2**	**+1.2**
KOPT	**Kop Dagi**	**2.62**	**300**	*e*Pn	**Pn**	**10 42 05.9**	**+0.9**
KOPT	**Kop Dagi**	**2.62**	**300**	P	**Pn**	**10 42 06.2**	**+1.2**
KOPT	**Kop Dagi**	**2.62**	**300**	*e*Pn	**Pn**	**10 42 06.0**	**+0.9**
GDB	**GEDABAY**	**2.67**	**41**	⇑P	**Pn**	**10 42 07.0**	**+1.5**
	SNR=203						
GDB				⇑S	**Sg**	**10 42 47.9**	**+0.1**
GDB	**GEDABAY**	**2.67**	**41**	P	**Pn**	**10 42 07.0**	**+1.5**
	SNR=203						
GDB				S	**Sg**	**10 42 47.9**	**+0.1**
AKH	**Akhalkalaki**	**2.68**	**1**	*e*PN	**Pn**	**10 42 06.3**	**+0.7**
AKH	**Akhalkalaki**	**2.68**	**1**	P	**Pg**	**10 42 14.0**	**+0.6**
AKH	**Akhalkalaki**	**2.68**	**1**	⇓*i*P	**Pn**	**10 42 06.4**	**+0.7**
AKH	**Akhalkalaki**	**2.68**	**1**	P	**Pn**	**10 42 06.9**	**+1.3**
AKH				S	**Sg**	**10 42 48.9**	**+0.9**
AKH	**Akhalkalaki**	**2.68**	**1**	*e*Pn	**Pn**	**10 42 06.3**	**+0.7**
AKH				S	**Sg**	**10 42 48.9**	**+0.9**
AKH	**Akhalkalaki**	**2.68**	**1**	P	**Pn**	**10 42 06.9**	**+1.3**
AKH				S	**Sg**	**10 42 48.9**	**+0.9**
MAZI	**Mazidag**	**2.69**	**243**	*e*PN	**Pn**	**10 42 06.4**	**+0.7**
MAZI	**Mazidag**	**2.69**	**243**	*e*Pn	**Pn**	**10 42 06.4**	**+0.7**
MAZI	**Mazidag**	**2.69**	**243**	Pn	**Pn**	**10 42 06.4**	**+0.7**
ARTV	**Artvin**	**2.72**	**335**	⇑*i*P	**Pn**	**10 42 08.0**	**+1.8**
ARTV	**Artvin**	**2.72**	**335**	⇑*i*P	**Pn**	**10 42 07.2**	**+1.0**
ARTV	**Artvin**	**2.72**	**335**	*e*Pn	**Pn**	**10 42 07.0**	**+0.8**
ARTV	**Artvin**	**2.72**	**335**	*e*Pn	**Pn**	**10 42 07.0**	**+0.8**
DIYA	**Diyarbakir**	**2.74**	**254**	⇑*i*P	**Pn**	**10 42 06.3**	**-0.1**
DIYA	**Diyarbakir**	**2.74**	**254**	P	**Pn**	**10 42 06.3**	**-0.1**
KZR	**Kazreti**	**2.75**	**15**	P	**Pn**	**10 42 08.5**	**+1.9**
KZR	**Kazreti**	**2.75**	**15**	P	**Pn**	**10 42 08.4**	**+1.9**
KZR	**Kazreti**	**2.75**	**15**	P	**Pn**	**10 42 08.4**	**+1.9**
QZX	**Qazax, Azerbai**	**2.76**	**32**	⇓P	**Pn**	**10 42 08.6**	**+2.0**
	SNR=1127						
QZX				⇑S	**Sg**	**10 42 51.0**	**+0.4**
QZX	**Qazax, Azerbai**	**2.76**	**32**	P	**Pn**	**10 42 08.6**	**+2.0**
	SNR=1000						
QZX				S	**Sg**	**10 42 51.0**	**+0.4**
STKZ		**2.78**	**66**	⇓*i*P	**Sn**	**10 42 32.8**	**-8.1**
STKZ		**2.78**	**66**	⇓P	**Sn**	**10 42 32.8**	**-8.1**
IHRS	**Heris**	**2.85**	**97**	*e*Pn	**Pn**	**10 42 10.1**	**+2.0**
IHRS				*e*AMB	AMB	10 43 21.1	
	comp=Z,3901μm,0.9s						
IHRS	**Heris**	**2.85**	**97**	Pn	**Pn**	**10 42 10.0**	**+2.0**
IHRS	**Heris**	**2.85**	**97**	Pn	**Pn**	**10 42 10.0**	**+2.0**
KBSD	**Kabsdagh**	**2.87**	**234**	*e*P	**Pn**	**10 42 08.8**	**+0.6**
KBSD				AML	AML	10 42 59.5	
	comp=E,115μm,0.6s						
KBSD				AML	AML	10 43 19.1	
	comp=N,60μm,0.8s						
IBST	**Bostanabad**	**2.90**	**110**	*e*Pn	**Pn**	**10 42 09.6**	**+0.8**
IBST				*e*AMB	AMB	10 43 07.7	
	comp=Z,7μm,0.5s						
IBST	**Bostanabad**	**2.90**	**110**	Pn	**Pn**	**10 42 09.5**	**+0.8**
IBST	**Bostanabad**	**2.90**	**110**	Pn	**Pn**	**10 42 09.5**	**+0.8**
GANJ	**Ganja**	**2.93**	**48**	⇑P	**Pn**	**10 42 09.9**	**+0.9**
	SNR=31						
GANJ	**Ganja**	**2.93**	**48**	P	**Pn**	**10 42 09.9**	**+0.9**
	SNR=31						
DBOC	**Borcka**	**2.95**	**333**	⇑*i*P	**Pn**	**10 42 10.2**	**+0.9**
DBOC	**Borcka**	**2.95**	**333**	P	**Pn**	**10 42 10.2**	**+0.9**
ERZN	**Erzincan**	**3.02**	**288**	*e*PN	**Pn**	**10 42 11.5**	**+1.2**
ERZN	**Erzincan**	**3.02**	**288**	Pn	**Pb**	**10 42 13.5**	**-2.6**
ERZN	**Erzincan**	**3.02**	**288**	Pn	**Pb**	**10 42 13.5**	**-2.6**
TNCL	**Tunceli-Merkez**	**3.07**	**278**	⇑*i*P	**Pn**	**10 42 13.0**	**+2.0**
TNCL	**Tunceli-Merkez**	**3.07**	**278**	⇑*i*P	**Pn**	**10 42 10.4**	**-0.6**
TNCL				*i* S	**Sg**	**10 43 04.3**	**+3.7**
TNCL	**Tunceli-Merkez**	**3.07**	**278**	P	**Pn**	**10 42 10.4**	**-0.6**
TNCL				S	**Sg**	**10 43 04.3**	**+3.7**
EUZM	**Uzumlu**	**3.07**	**290**	⇑*i*P	**Pn**	**10 42 11.6**	**+0.6**
EUZM	**Uzumlu**	**3.07**	**290**	⇑*i*P	**Pn**	**10 42 11.7**	**+0.6**
EUZM				*i* S	**Sb**	**10 42 56.8**	**+2.1**
EUZM	**Uzumlu**	**3.07**	**290**	P	**Pn**	**10 42 11.7**	**+0.6**
EUZM				S	**Sb**	**10 42 56.8**	**+2.1**
DGRG	**David-gareji**	**3.09**	**28**	P	**Pb**	**10 42 14.5**	**-2.9**
DGRG	**David-gareji**	**3.09**	**28**	⇑*i*P	**Pb**	**10 42 15.3**	**-2.1**
DGRG	**David-gareji**	**3.09**	**28**	P	**Pb**	**10 42 14.5**	**-2.9**
DGRG	**David-gareji**	**3.09**	**28**	P	**Pn**	**10 42 13.7**	**+2.4**
DGRG				S	**Sg**	**10 43 05.6**	**+4.2**
DGRG	**David-gareji**	**3.09**	**28**	P	**Pb**	**10 42 14.5**	**-2.9**
DGRG				S	**Sg**	**10 43 05.6**	**+4.2**
TBLG	**Delisi**	**3.16**	**18**	*e*PN	**Pn**	**10 42 13.5**	**+1.4**
TBLG	**Delisi**	**3.16**	**18**	P	**Pn**	**10 42 14.0**	**+1.9**
TBLG	**Delisi**	**3.16**	**18**	P	**Pn**	**10 42 14.0**	**+1.9**
TBLG	**Delisi**	**3.16**	**18**	*e*Pn	**Pn**	**10 42 13.5**	**+1.4**
TBLG				S	**Sg**	**10 43 03.3**	**-0.1**
TBLG	**Delisi**	**3.16**	**18**	P	**Pn**	**10 42 14.0**	**+1.9**
TBLG				S	**Sg**	**10 43 03.3**	**-0.1**
PTK	**Pertek**	**3.17**	**274**	*e*PN	**Pn**	**10 42 13.6**	**+1.2**
PTK	**Pertek**	**3.17**	**274**	*e*Pn	**Pn**	**10 42 13.6**	**+1.2**
PTK	**Pertek**	**3.17**	**274**	Pn	**Pn**	**10 42 15.1**	**+2.6**
SEAG	**Tbilisi Sea**	**3.20**	**18**	P	**Pn**	**10 42 14.4**	**+1.6**
SEAG	**Tbilisi Sea**	**3.20**	**18**	P	**Pn**	**10 42 14.4**	**+1.6**
SEAG	**Tbilisi Sea**	**3.20**	**18**	P	**Pn**	**10 42 14.4**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	*e*PN	**Pn**	**10 42 14.8**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	Pn	**Pn**	**10 42 13.4**	**-0.3**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	Pn	**Pn**	**10 42 13.4**	**-0.3**
BRDA	**Brd**	**3.27**	**61**	⇑P	**Pn**	**10 42 16.3**	**+2.7**
	SNR=5543						
BRDA				⇑S	**Sg**	**10 43 06.7**	**-0.3**
BRDA	**Brd**	**3.27**	**61**	P	**Pn**	**10 42 16.3**	**+2.7**
	SNR=1000						
BRDA				S	**Sg**	**10 43 06.7**	**-0.3**
EZC	**Erzincan**	**3.34**	**289**	*e*Pn	**Pn**	**10 42 11.5**	**-3.2**
ISRB	**Sarab**	**3.44**	**104**	*e*Pn	**Pn**	**10 42 18.0**	**+1.8**
ISRB				*e*AMB	AMB	10 43 44.7	
	comp=Z,74μm,0.6s						
ISRB	**Sarab**	**3.44**	**104**	*e*Pn	**Pn**	**10 42 18.0**	**+1.8**
MNGR	**Mingechevir, A**	**3.47**	**53**	⇓P	**Pn**	**10 42 18.6**	**+2.3**
	SNR=69						
MNGR				⇓S	**Sb**	**10 43 08.3**	**+2.3**
MNGR	**Mingechevir, A**	**3.47**	**53**	P	**Pb**	**10 42 21.8**	**-1.9**
MNGR	**Mingechevir, A**	**3.47**	**53**	P	**Pn**	**10 42 18.6**	**+2.3**
	SNR=69						
MNGR				S	**Sb**	**10 43 08.3**	**+2.3**
ELZG	**Elazig**	**3.50**	**268**	⇑*i*P	**Pn**	**10 42 16.8**	**-0.2**
ELZG	**Elazig**	**3.50**	**268**	P	**Pn**	**10 42 16.8**	**-0.2**
KELT	**Kelkit**	**3.54**	**295**	⇑*i*P	**Pn**	**10 42 18.7**	**+1.1**
KELT	**Kelkit**	**3.54**	**295**	⇑*i*P	**Pn**	**10 42 18.4**	**+0.9**
KELT	**Kelkit**	**3.54**	**295**	P	**Pn**	**10 42 18.4**	**+0.9**
MACK	**Trabzon**	**3.59**	**309**	⇑*i*P	**Pn**	**10 42 20.6**	**+2.5**
MACK	**Trabzon**	**3.59**	**309**	P	**Pn**	**10 42 20.6**	**+2.5**
KTUT	**Trabzon**	**3.62**	**310**	*e*PN	**Pn**	**10 42 19.9**	**+1.5**
KTUT	**Trabzon**	**3.62**	**310**	*e*Pn	**Pn**	**10 42 19.9**	**+1.5**
KTUT	**Trabzon**	**3.62**	**310**	Pn	**Pn**	**10 42 19.9**	**+1.5**
ZRD	**Zardab**	**3.62**	**63**	⇓P	**Pn**	**10 42 22.2**	**+3.7**
ZRD	**Zardab**	**3.62**	**63**	P	**Pn**	**10 42 22.2**	**+3.7**
MZRK	**Al-Mazaregh**	**3.66**	**218**	AML	AML	10 43 30.6	
	comp=N,57μm,0.6s						
ZKTA	**Zakatala**	**3.79**	**39**	⇑P	**Pn**	**10 42 22.4**	**+1.6**
ZKTA				⇑S	**Sb**	**10 43 15.7**	**+0.4**
ZKTA	**Zakatala**	**3.79**	**39**	P	**Pb**	**10 42 25.8**	**-3.4**
ZKTA	**Zakatala**	**3.79**	**39**	P	**Pb**	**10 42 25.8**	**-3.4**
SEKA	**Sheki**	**3.80**	**48**	⇑P	**Pn**	**10 42 22.3**	**+1.3**
SEKA				⇑S	**Sg**	**10 43 20.8**	**-3.2**
SEKA	**Sheki**	**3.80**	**48**	P	**Pn**	**10 42 22.3**	**+1.3**
SEKA				S	**Sg**	**10 43 20.8**	**-3.2**
GUDG	**Gudauri**	**3.81**	**12**	P	**Pn**	**10 42 25.0**	**+3.7**
LRK	**Lerik**	**3.83**	**90**	⇑P	**Pn**	**10 42 21.8**	**+0.3**
LRK				⇓S	**Sb**	**10 43 16.9**	**+0.3**
LRK	**Lerik**	**3.83**	**90**	P	**Pn**	**10 42 21.8**	**+0.3**
LRK				S	**Sb**	**10 43 16.9**	**+0.3**
ONI	**Oni**	**3.86**	**0**	P	**Pn**	**10 42 24.1**	**+2.3**
ONI	**Oni**	**3.86**	**0**	P	**Pn**	**10 42 24.1**	**+2.3**
ONI	**Oni**	**3.86**	**0**	P	**Pn**	**10 42 24.1**	**+2.3**
ONI	**Oni**	**3.86**	**0**	P	**Pn**	**10 42 24.1**	**+2.3**
URFA	**Urfa**	**3.87**	**252**	*e*PN	**Pn**	**10 42 23.8**	**+1.8**
URFA	**Urfa**	**3.87**	**252**	*e*Pn	**Pn**	**10 42 23.8**	**+1.8**
URFA	**Urfa**	**3.87**	**252**	Pn	**Pn**	**10 42 23.8**	**+1.8**
GLBA	**Clilabad**	**3.89**	**81**	⇓P	**Pn**	**10 42 22.8**	**+0.7**
GLBA				⇓S	**Sb**	**10 43 19.4**	**+1.3**
GLBA	**Clilabad**	**3.89**	**81**	P	**Pn**	**10 42 22.8**	**+0.7**
GLBA				S	**Sb**	**10 43 19.4**	**+1.3**
KEMA	**Kemaliye**	**3.90**	**279**	⇑*i*P	**Pn**	**10 42 23.3**	**+0.9**
KEMA	**Kemaliye**	**3.90**	**279**	⇓*i*P	**Pn**	**10 42 24.8**	**+2.4**
KEMA				*i* S	Sg	10 43 39.8	+13
KEMA	**Kemaliye**	**3.90**	**279**	P	**Pn**	**10 42 24.8**	**+2.4**
KEMA				S	Sg	10 43 39.8	+13
KDMR	**Kurdemir**	**4.01**	**64**	⇓P	**Pn**	**10 42 26.2**	**+2.4**
KDMR				⇓P	**Pn**	**10 42 26.2**	**+2.4**
KDMR	**Kurdemir**	**4.01**	**64**	P	**Pn**	**10 42 26.2**	**+2.4**
SAAT	**Saatly**	**4.02**	**72**	⇓P	**Pn**	**10 42 24.5**	**+0.5**
SAAT				⇓S	**Sb**	**10 43 22.6**	**+0.7**
SAAT	**Saatly**	**4.02**	**72**	P	**Pn**	**10 42 24.5**	**+0.5**
SAAT				S	**Sb**	**10 43 22.6**	**+0.7**
QBL	**Gabala**	**4.04**	**55**	⇓P	**Pn**	**10 42 25.4**	**+1.1**
QBL				⇑S	**Sb**	**10 43 24.6**	**+2.1**
QBL	**Gabala**	**4.04**	**55**	P	**Pn**	**10 42 25.4**	**+1.1**
QBL				S	**Sb**	**10 43 24.6**	**+2.1**
ZEI	**Tsey**	**4.07**	**5**	*e*P	**Pn**	**10 42 23.9**	**-0.9**
DIGR	**Digorskoe uzhe**	**4.17**	**1**	⇑*e*P	**Pn**	**10 42 28.8**	**+2.7**
DIGR	**Digorskoe uzhe**	**4.17**	**1**	*e*P	**Pn**	**10 42 28.8**	**+2.7**
LKRN	**Lenkeran, Azer**	**4.17**	**89**	⇑P	**Pn**	**10 42 26.5**	**+0.5**
LKRN				⇑P	**Pn**	**10 42 26.5**	**+0.5**
LKRN				⇓S	**Sb**	**10 43 28.2**	**+2.0**
LKRN				⇓S	**Sb**	**10 43 28.2**	**+2.0**
LKRN	**Lenkeran, Azer**	**4.17**	**89**	P	**Pn**	**10 42 30.4**	**+4.4**
LKRN	**Lenkeran, Azer**	**4.17**	**89**	P	**Pn**	**10 42 26.5**	**+0.5**
LKRN				S	**Sb**	**10 43 28.2**	**+2.0**
ASTR	**Astara**	**4.19**	**91**	⇑P	**Pn**	**10 42 26.9**	**+0.7**
	comp=N,2μm,0.8s						
ASTR				⇑P	**Pn**	**10 42 26.9**	**+0.7**
	comp=N,2μm,0.8s						
ASTR				⇓S	**Sb**	**10 43 26.9**	**+0.2**
ASTR				⇓S	**Sb**	**10 43 26.9**	**+0.2**
ASTR	**Astara**	**4.19**	**91**	P	**Pn**	**10 42 26.9**	**+0.7**
	comp=N,2μm,0.8s						
ASTR				S	**Sb**	**10 43 26.9**	**+0.2**
IML	**Ismayilli**	**4.19**	**59**	⇑P	**Pn**	**10 42 27.3**	**+1.0**
IML				⇑P	**Pn**	**10 42 27.3**	**+1.0**
IML				⇓S	**Sb**	**10 43 28.2**	**+1.3**
IML				⇓S	**Sb**	**10 43 28.2**	**+1.3**
IML	**Ismayilli**	**4.19**	**59**	P	**Pn**	**10 42 27.3**	**+1.0**
IML				S	**Sb**	**10 43 28.2**	**+1.3**
SURC	**SANLIURFA_SURC**	**4.25**	**246**	⇓*i*P	**Pn**	**10 42 27.7**	**+0.5**
SURC	**SANLIURFA_SURC**	**4.25**	**246**	P	**Pn**	**10 42 27.7**	**+0.5**
ATAB	**Bozova**	**4.25**	**254**	⇓*i*P	**Pn**	**10 42 27.5**	**+0.3**
ATAB	**Bozova**	**4.25**	**254**	P	**Pn**	**10 42 27.5**	**+0.3**
AKT	**Akhty**	**4.28**	**49**	⇑*e*P	**Pn**	**10 42 30.2**	**+2.6**
AKT	**Akhty**	**4.28**	**49**	*e*P	**Pn**	**10 42 30.2**	**+2.6**
SUSE	**Susehri**	**4.32**	**292**	⇑*i*P	**Pn**	**10 42 29.6**	**+1.4**
SUSE	**Susehri**	**4.32**	**292**	P	**Pn**	**10 42 29.6**	**+1.4**
XNQ	**Khinaliq**	**4.35**	**54**	⇓P	**Pn**	**10 42 31.3**	**+2.5**
XNQ				⇓P	**Pn**	**10 42 31.3**	**+2.5**
XNQ				⇓S	**Sb**	**10 43 32.7**	**+1.0**
XNQ				⇓S	**Sb**	**10 43 32.7**	**+1.0**
XNQ	**Khinaliq**	**4.35**	**54**	P	**Pn**	**10 42 31.3**	**+2.5**
XNQ				S	**Sb**	**10 43 32.7**	**+1.0**
PQL	**Pirkuli**	**4.47**	**61**	⇑P	**Pn**	**10 42 32.2**	**+2.0**
PQL				⇑S	**Sb**	**10 43 34.9**	**0.0**
PQL	**Pirkuli**	**4.47**	**61**	P	**Pn**	**10 42 32.2**	**+2.0**
PQL				S	**Sb**	**10 43 34.9**	**0.0**
ALIB	**Äli-Bayra**	**4.48**	**72**	⇓P	**Pn**	**10 42 34.2**	**+3.9**
ALIB				⇓S	**Sb**	**10 43 34.8**	**-0.3**
ALIB	**Äli-Bayra**	**4.48**	**72**	P	**Pn**	**10 42 34.2**	**+3.9**
ALIB				S	**Sb**	**10 43 34.8**	**-0.3**
GNBR	**Gunib**	**4.53**	**35**	⇑*e*P	**Pn**	**10 42 35.6**	**+4.6**
GNBR				pmax	pmax		
	comp=Z,19nm,1.3s						
GNBR	**Gunib**	**4.53**	**35**	*e*P	**Pn**	**10 42 35.6**	**+4.6**
	comp=Z,19nm,1.3s						
NEY	**Neytrino**	**4.55**	**353**	*c*e*P	**Pn**	**10 42 33.7**	**+2.3**
NEY	**Neytrino**	**4.55**	**353**	*e*P	**Pn**	**10 42 33.7**	**+2.3**
GRSN	**GIRESUNGRSN**	**4.55**	**300**	*i* P	**Pn**	**10 42 34.6**	**+3.4**
GRSN	**GIRESUNGRSN**	**4.55**	**300**	P	**Pn**	**10 42 34.6**	**+3.4**
CUZAR	**Zara_SIVAS**	**4.55**	**287**	⇑*i*P	**Pn**	**10 42 33.0**	**+1.6**
CUZAR	**Zara_SIVAS**	**4.55**	**287**	P	**Pn**	**10 42 33.0**	**+1.6**
GBS	**Qobustan**	**4.61**	**65**	⇑P	**Pn**	**10 42 33.5**	**+1.4**
GBS				⇑S	**Sb**	**10 43 39.2**	**+0.3**
GBS	**Qobustan**	**4.61**	**65**	P	**Pn**	**10 42 33.5**	**+1.4**
GBS				S	**Sb**	**10 43 39.2**	**+0.3**
QSAR	**Qusar**	**4.62**	**51**	⇓P	**Pn**	**10 42 35.2**	**+2.9**
QSAR				⇑S	**Sb**	**10 43 38.5**	**-0.8**
QSAR	**Qusar**	**4.62**	**51**	P	**Pn**	**10 42 35.2**	**+2.9**
QSAR				S	**Sb**	**10 43 38.5**	**-0.8**
IDHR	**Dehrash**	**4.66**	**149**	*e*Pn	**Pn**	**10 42 34.1**	**+1.1**
IDHR				*e*AMB	AMB	10 44 10.1	
	comp=Z,1094μm,0.7s						
IDHR	**Dehrash**	**4.66**	**149**	*e*Pn	**Pn**	**10 42 34.1**	**+1.1**
DARE	**Darende-Malaty**	**4.67**	**270**	*e*PN	**Pn**	**10 42 34.9**	**+1.9**
DARE	**Darende-Malaty**	**4.67**	**270**	*e*Pn	**Pn**	**10 42 34.9**	**+1.9**
QUBA	**Quba, Azerbaij**	**4.68**	**54**	⇓P	**Pn**	**10 42 35.4**	**+2.4**
QUBA	**Quba, Azerbaij**	**4.68**	**54**	P	**Pn**	**10 42 35.4**	**+2.4**
CUKAN	**kangal_SIVAS**	**4.69**	**279**	⇑*i*P	**Pn**	**10 42 34.3**	**+1.0**
CUKAN	**kangal_SIVAS**	**4.69**	**279**	P	**Pn**	**10 42 34.3**	**+1.0**
ATGJ	**Altiaghaj**	**4.74**	**62**	⇑P	**Pn**	**10 42 37.3**	**+3.5**
ATGJ				⇓S	**Sb**	**10 43 42.0**	**-0.6**
ATGJ	**Altiaghaj**	**4.74**	**62**	P	**Pn**	**10 42 37.3**	**+3.5**
ATGJ				S	**Sb**	**10 43 42.0**	**-0.6**
ILIN	**Lien**	**4.74**

RTB *i* Sn **Sn** **10 44 02.0 -3.9**
SNR=5.0
CEYT Ceyhan 6.33 257 *e*PN **Pn** **10 42 58.8 +3.2**
CEYT Ceyhan 6.33 257 *e*Pn **Pn** **10 42 58.8 +3.2**
GOF Gofitskoye 6.33 357 ⇑*i*P **Pn** **10 42 58.1 +2.4**
GOF pmax pmax
comp=Z,2μm,0.9s
GOF Gofitskoye 6.33 357 *i* P **Pn** **10 42 58.1 +2.4**
comp=Z,2μm,0.9s
KFRA Kufra 6.37 239 *e*P **Pn** **10 42 58.4 +2.1**
KFRA AML AML 10 44 53.3
comp=E,38μm,0.8s
KFRA AML AML 10 44 57.5
comp=Z,27μm,0.7s
KFRA AML AML 10 45 10.6
comp=N,35μm,0.7s
YAHY KAYSERI_Yahyal 6.38 267 *i* P **Pn** **10 42 59.0 +2.5**
YAHY KAYSERI_Yahyal 6.38 267 P **Pn** **10 42 59.0 +2.5**
HAVZ Havza 6.39 294 *i* P Pn 10 43 02.1 +5.7
HAVZ Havza 6.39 294 P Pn 10 43 02.1 +5.6
YAYL Yayladag 6.43 248 *i* P **Pn** **10 42 55.1 -2.1**
YAYL Yayladag 6.43 248 P **Pn** **10 42 55.1 -2.1**
AKO Adana 6.44 261 *i* P **Pn** **10 42 59.2 +2.1**
YURE YUREGIR 6.47 255 *i* P **Pn** **10 43 01.1 +3.4**
YURE YUREGIR 6.47 255 P **Pn** **10 43 01.1 +3.4**
IMHD Mahdasht 6.51 116 *e*Pn **Pn** **10 43 00.0 +1.7**
IMHD *e*AMB AMB 10 45 33.7
comp=Z,79μm,1.1s
IMHD Mahdasht 6.51 116 *e*Pn **Pn** **10 43 00.0 +1.7**
RABH Abou Rabah 6.60 231 AML AML 10 45 07.1
comp=N,7μm,0.7s
RABH AML AML 10 45 09.7
comp=E,8μm,0.7s
ARNB Al Arnab 6.61 247 *e*P **Pn** **10 42 59.7 +0.1**
ARNB AML AML 10 45 05.9
comp=N,19μm,0.8s
ARNB AML AML 10 45 15.6
comp=E,19μm,0.7s
COAL Corum-Alaca 6.72 286 *i* P **Pn** **10 43 05.1 +4.0**
COAL Corum-Alaca 6.72 286 P **Pn** **10 43 05.1 +4.0**
ROOS tl_alroos 6.73 229 *e*P **Pn** **10 43 02.1 +0.8**
ROOS *e*S **Sn** **10 44 22.7 +4.5**
ROOS AML AML 10 45 11.9
comp=N,16μm,0.8s
ROOS AML AML 10 45 25.1
comp=E,19μm,0.8s
KRTS Karatas 6.76 254 *e*PN **Pn** **10 43 04.6 +3.1**
KRTS Karatas 6.76 254 *e*Pn **Pn** **10 43 04.6 +3.1**
BIDA Albida 6.81 239 *e*P **Pn** **10 43 02.9 +0.6**
BIDA *e*S **Sn** **10 44 22.1 +2.0**
BIDA AML AML 10 45 10.8
comp=N,26μm,0.7s
BIDA AML AML 10 45 12.8
comp=E,26μm,0.7s
DIKM Dikmen 6.91 298 *e*PN **Pn** **10 43 07.0 +3.3**
DIKM Dikmen 6.91 298 *e*Pn **Pn** **10 43 07.0 +3.3**
CTAK Corum_Osmancik 6.95 289 *i* P Pn 10 43 09.5 +5.2
CTAK Corum_Osmancik 6.95 289 P Pn 10 43 09.5 +5.2
CORM Corum 6.97 285 *e*PN **Pn** **10 43 07.4 +2.7**
CORM Corum 6.97 285 *e*Pn **Pn** **10 43 07.4 +2.7**
GULE Gulek 7.00 261 *i* P Pn 10 43 10.9 +5.9
GULE Gulek 7.00 261 P Pn 10 43 10.9 +5.9
HAWK Haweek 7.05 236 *e*P **Pn** **10 43 06.1 +0.5**
HAWK AML AML 10 45 22.9
comp=N,5μm,0.8s
HAWK AML AML 10 45 28.9
comp=E,6μm,0.7s
DED Mersin 7.07 258 *i* P **Pn** **10 43 08.9 +3.1**
BOYT Boyabat 7.08 295 *i* P Pn 10 43 11.8 +5.8
BOYT Boyabat 7.08 295 P Pn 10 43 11.8 +5.8
SNOP Sinop 7.10 300 *e*PN **Pn** **10 43 09.3 +3.1**
SNOP Sinop 7.10 300 *e*Pn **Pn** **10 43 09.3 +3.1**
SINO SINOP_Merkez 7.10 300 *i* P Pn 10 43 11.2 +5.0
SINO SINOP_Merkez 7.10 300 P Pn 10 43 11.2 +5.0
CDAG Cicekdag 7.11 280 *i* P **Pn** **10 43 10.0 +3.6**
CDAG Cicekdag 7.11 280 P **Pn** **10 43 10.0 +3.6**
IAFJ Afjeh 7.18 111 *e*Pn Pn 10 43 12.9 +5.2
IAFJ *e*AMB AMB 10 45 39.7
comp=Z,63μm,0.9s
IAFJ Afjeh 7.18 111 *e*Pn Pn 10 43 12.9 +5.2
FKH Fakeheh 7.22 234 *e*P **Pn** **10 43 08.7 +0.7**
MARH Ras Al Marh 7.32 232 *e*P **Pn** **10 43 10.7 +1.2**
MARH AML AML 10 45 28.0
comp=N,9μm,0.7s
MARH AML AML 10 45 32.1
comp=E,9μm,0.8s
KERG Konya-Eregli 7.47 263 *i* P **Pn** **10 43 14.8 +3.4**
KERG Konya-Eregli 7.47 263 P **Pn** **10 43 14.8 +3.4**
HWQ Hawqa 7.50 236 *e*P **Pn** **10 43 12.5 +0.7**
HWQ Hawqa 7.50 236 *e*P **Pn** **10 43 12.5 +0.7**
IDMV Damavand 7.54 112 *e*Pn **Pn** **10 43 16.4 +3.8**
IDMV *e*AMB AMB 10 46 05.8
comp=Z,69μm,1.0s
IDMV Damavand 7.54 112 *e*Pn **Pn** **10 43 16.4 +3.8**
ANN Anapa 7.55 325 ⇑*i*P **Pn** **10 43 14.4 +2.1**
ANN *e*S **Sn** **10 44 44.6 +6.5**
ANN Anapa 7.55 325 *i* P **Pn** **10 43 14.4 +2.1**
ANN *e*S **Sn** **10 44 44.6 +6.5**
BR131 Keskin Array S 7.68 281 *e*Pn **Pn** **10 43 16.5 +2.2**
BR131 Keskin Array S 7.68 281 *e*Pn **Pn** **10 43 16.6 +2.2**
BRTR Keskin Array B 7.68 281 Pn **Pn** **10 43 16.6 +2.3**
comp=Z,3.2nm,0.3s,baz=108,slow=13,SNR=120
BRTR Lg Lg 10 45 34.8
baz=60,slow=36,SNR=2.3
BRTR PKiKP **PKiKP** **10 57 56.5 +0.2**
baz=112,slow=2.0,SNR=5.3
KIZK Mersin 7.72 256 *i* P **Pn** **10 43 17.3 +2.6**
KIZK Mersin 7.72 256 P **Pn** **10 43 17.3 +2.6**
QASN Qassioun 7.78 230 *e*P **Pn** **10 43 16.7 +1.1**
QASN AML AML 10 45 54.6
comp=N,9μm,0.7s
QASN AML AML 10 46 07.3
comp=E,199μm,3.2s
KAST KASTAMONU 7.80 294 *i* P Pn 10 43 21.8 +6.0
KAST KASTAMONU 7.80 294 P Pn 10 43 21.8 +5.9
TOTH TOTAH 7.81 229 *e*P **Pn** **10 43 17.6 +1.5**
ILGA Ilgaz 7.83 290 *i* P **Pn** **10 43 19.5 +3.0**
ILGA Ilgaz 7.83 290 *e*Pn **Pn** **10 43 19.0 +2.5**
ILGA Ilgaz 7.83 290 P **Pn** **10 43 19.5 +3.0**
ILGA Ilgaz 7.83 290 *e*Pn **Pn** **10 43 19.0 +2.5**
BHL Bhannes 7.92 235 *e*P **Pn** **10 43 18.1 +0.5**
BHL Bhannes 7.92 235 *e*P **Pn** **10 43 18.1 +0.5**
BHL Bhannes 7.92 235 *e*P **Pn** **10 43 18.0 +0.5**
BHL Bhannes 7.92 235 *e*P **Pn** **10 43 18.1 +0.5**
NSR Nassriya 8.01 163 *e*Pn **Pn** **10 43 19.9 +1.1**
SNR=5.0
NSR *e*Sn **Sn** **10 44 44.0 -5.6**
SNR=5.0
BEYL Beirut 8.04 235 *e*P **Pn** **10 43 21.9 +2.7**
BEYL Beirut 8.04 235 *e*P **Pn** **10 43 21.9 +2.7**
BRBR Barbar 8.06 231 *e*P **Pn** **10 43 21.0 +1.4**
BRBR *e*S **Sn** **10 44 52.1 +1.0**
BBAL Bala 8.06 279 *i* P **Pn** **10 43 22.7 +3.1**
BBAL Bala 8.06 279 P **Pn** **10 43 22.7 +3.1**
RCY Rachaya 8.07 232 *e*P **Pn** **10 43 21.1 +1.4**
DQRL Deir Qamar 8.10 234 *e*P **Pn** **10 43 21.5 +1.4**
DQRL Deir Qamar 8.10 234 *e*P **Pn** **10 43 21.5 +1.4**
SALA Sala 8.11 224 *e*P **Pn** **10 43 21.7 +1.4**
SALA *e*S **Sn** **10 44 54.1 +1.7**
QRWL Qaraoun 8.13 233 *e*P **Pn** **10 43 22.0 +1.5**
QRWL Qaraoun 8.13 233 *e*P **Pn** **10 43 22.0 +1.5**
QAM Ghamsar 8.14 125 *e*Pn Pn 10 43 25.6 +4.9
QAM *e*AMB AMB 10 44 22.8
comp=Z,7μm,0.3s
KKUL Konya-Kulu 8.22 276 *i* P **Pn** **10 43 25.4 +3.7**
KKUL Konya-Kulu 8.22 276 P **Pn** **10 43 25.4 +3.7**
SHBL Chebaa 8.23 232 *e*P **Pn** **10 43 22.8 +0.9**
SHBL Chebaa 8.23 232 *e*P **Pn** **10 43 22.8 +0.9**
ANTO Ankara 8.34 281 *e*P **Pn** **10 43 25.7 +2.4**
ANTO Ankara 8.34 281 *e*Pn **Pn** **10 43 25.7 +2.4**
ANTO Ankara 8.34 281 *e*Pn **Pn** **10 43 25.7 +2.4**
BR231 Keskin MP Arra 8.35 281 *e*Pn Pn 10 43 29.0 +5.5
BR231 Keskin MP Arra 8.35 281 *e*Pn Pn 10 43 28.9 +5.4
KERU Kerch 8.38 324 *e*P Pn 10 43 30.9 +7.1
KERU Kerch 8.38 324 *e*P Pn 10 43 30.9 +7.1
KSDI Kefar Szold 8.39 231 Pn **Pn** **10 43 25.9 +2.0**
KSDI Kefar Szold 8.39 231 Pn **Pn** **10 43 25.9 +2.0**
PHNC Paralimni 8.41 247 P Pn 10 43 35.6 +11
KSHT Keshet 8.44 230 Pn **Pn** **10 43 26.7 +2.0**
KSHT Keshet 8.44 230 Pn **Pn** **10 43 26.7 +2.0**
ASF Jabal al Asfar 8.44 221 Pn **Pn** **10 43 24.5 -0.3**
comp=Z,12nm,0.3s,baz=3.6,slow=6.5,SNR=89
ASF Sn Sb 10 45 15.6 -14
comp=Z,25nm,0.3s,baz=342,slow=16,SNR=2.0
ASF Lg Lg 10 46 01.1
comp=Z,28nm,0.3s,baz=245,slow=24,SNR=35
ASF LR LR 10 47 19.1
comp=Z,2320μm,18.4s,baz=0.5,slow=42
ASF Jabal al Asfar 8.44 221 P **Pn** **10 43 24.5 -0.3**
ASF pmax pmax
comp=Z,12nm,0.3s
ASF MLR MLR
comp=Z,320μm,18.4s
MMA0B Mount Meron ar 8.66 231 Pn **Pn** **10 43 29.6 +1.8**
MMA0B Mount Meron ar 8.66 231 Pn **Pn** **10 43 29.6 +1.8**
MMAI Mount Meron Ar 8.66 231 Pn **Pn** **10 43 29.4 +1.6**
comp=Z,38nm,0.3s,baz=68,slow=14,SNR=73
MMAI Lg Lg 10 46 04.4
comp=Z,68nm,0.3s,baz=30,slow=17,SNR=4.4
MMAI LR LR 10 47 19.2
comp=Z,2952μm,20.8s,baz=45,slow=41
FEO Feodosiya 8.69 319 *e*P **Pn** **10 43 29.6 +1.6**
FEO *e*S **Sn** **10 45 08.9 +2.7**
FEO Feodosiya 8.69 319 *e*P **Pn** **10 43 29.6 +1.6**
FEO *e*S **Sn** **10 45 08.9 +2.7**
SUDU Sudak 8.81 317 *e*P **Pn** **10 43 30.5 +0.9**
SUDU *e*S **Sn** **10 45 10.4 +1.3**
SUDU Sudak 8.81 317 *e*P **Pn** **10 43 30.5 +0.9**
SUDU *e*S **Sn** **10 45 10.4 +1.3**
MAMC Mammari 8.92 250 P Pn 10 43 36.7 +5.4
CSS Mathiatis 8.94 248 P **Pn** **10 43 35.7 +4.2**
CSS Mathiatis 8.94 248 Pn **Pn** **10 43 34.5 +3.0**
CSS Mathiatis 8.94 248 *e*Pn **Pn** **10 43 32.0 +0.5**
CSS Mathiatis 8.94 248 P **Pn** **10 43 35.7 +4.2**
CSS Mathiatis 8.94 248 *e*Pn **Pn** **10 43 32.0 +0.5**
CSS Mathiatis 8.94 248 P Pn 10 43 39.8 +8.3
BLGI Bet Lehem HaGe 8.99 231 Pn **Pn** **10 43 34.8 +2.6**
BLGI Bet Lehem HaGe 8.99 231 Pn **Pn** **10 43 34.8 +2.6**
ALU Alushta 9.00 314 *e*P **Pn** **10 43 34.3 +2.0**
ALU *e*S **Sn** **10 45 16.8 +3.0**
ALU Alushta 9.00 314 *e*P **Pn** **10 43 34.3 +2.0**
ALU *e*S **Sn** **10 45 16.8 +3.0**
YAL Yalta 9.03 313⇓*e*P **Pn** **10 43 34.4 +1.8**
YAL *e*S **Sn** **10 45 19.0 +4.6**
YAL Yalta 9.03 313 *e*P **Pn** **10 43 34.4 +1.8**
YAL *e*S **Sn** **10 45 19.0 +4.6**
MMLI Mount Malkishu 9.06 229 Pn **Pn** **10 43 35.6 +2.4**
MMLI Mount Malkishu 9.06 229 Pn **Pn** **10 43 35.6 +2.4**
HMDT Nahal Hemdat 9.13 227 Pn **Pn** **10 43 35.6 +1.5**
HMDT Nahal Hemdat 9.13 227 Pn **Pn** **10 43 35.6 +1.5**
OFRI 'Ofer 9.19 231 Pn **Pn** **10 43 37.6 +2.6**
OFRI 'Ofer 9.19 231 Pn **Pn** **10 43 37.6 +2.6**
SIM Simferopol' 9.33 315*d i*P **Pn** **10 43 38.2 +1.4**
SIM S **Sn** **10 45 23.0 +1.1**
SIM pmax pmax
comp=Z,1.0nm,0.9s
SIM Simferopol' 9.33 315 *i* P **Pn** **10 43 38.2 +1.4**
comp=Z,1.0nm,0.9s
SIM S **Sn** **10 45 23.0 +1.1**
SEV Sevastopol' 9.34 312⇑*e*P **Pn** **10 43 36.8 -0.1**
SEV *e*S **Sn** **10 45 22.9 +0.7**
SEV Sevastopol' 9.34 312 *e*P **Pn** **10 43 36.8 -0.1**
SEV *e*S **Sn** **10 45 22.9 +0.7**
SZAC Souni 9.36 248 P **Pn** **10 43 40.2 +2.9**
ALFC Alefka 9.39 251 P **Pn** **10 43 42.0 +4.4**
AKMC Akamas 9.64 251 P Pn 10 43 46.2 +5.1
PPCY Paphos 9.69 250 P **Pn** **10 43 45.2 +3.4**
DSI Dead Sea 9.72 225 Pn **Pn** **10 43 44.8 +2.6**
DSI Dead Sea 9.72 225 Pn **Pn** **10 43 44.8 +2.6**
BOLV Bolvadin 9.77 274 *e*Pn **Pn** **10 43 46.3 +3.4**
BOLV Bolvadin 9.77 274 *e*Pn **Pn** **10 43 46.3 +3.4**
MZDA Masada 9.93 224 Pn **Pn** **10 43 47.5 +2.5**
MZDA Masada 9.93 224 Pn **Pn** **10 43 47.5 +2.5**
AMAZ Amatzia 10.01 227 Pn **Pn** **10 43 48.4 +2.2**
AMAZ Amatzia 10.01 227 Pn **Pn** **10 43 48.6 +2.4**
AMAZ Amatzia 10.01 227 Pn **Pn** **10 43 48.4 +2.2**
IRAM Ramesheh 10.05 131 *e*Pn **Pn** **10 43 50.0 +3.1**
IRAM *e*AMB AMB 10 45 20.8
comp=Z,16μm,0.8s
IRAM Ramesheh 10.05 131 *e*Pn **Pn** **10 43 50.0 +3.1**
ZFRI Zfri 10.62 222 Pn **Pn** **10 43 56.8 +2.3**
ZFRI Zfri 10.62 222 Pn **Pn** **10 43 56.8 +2.3**
RMNI Mount Ramon 10.81 224 Pn **Pn** **10 44 00.0 +2.8**
RMNI Mount Ramon 10.81 224 Pn **Pn** **10 44 00.0 +2.8**
HRFI Mount Harif 11.11 221 Pn **Pn** **10 44 02.2 +1.0**
HRFI Mount Harif 11.11 221 Pn **Pn** **10 44 02.2 +1.0**
KRMI Paran Flat 11.20 223 Pn **Pn** **10 44 05.2 +2.7**
KRMI Paran Flat 11.20 223 Pn **Pn** **10 44 05.2 +2.7**
AKAS Kas 11.28 262 *e*Pn **Pn** **10 44 05.0 +1.4**
AKAS Kas 11.28 262 *e*Pn **Pn** **10 44 05.0 +1.4**
ISK Istanbul-Kandi 11.30 286 P **Pn** **10 44 07.3 +3.6**
ISK Istanbul-Kandi 11.30 286 *e*P **Pn** **10 44 07.3 +3.6**
ISK Istanbul-Kandi 11.30 286 *e*Pn **Pn** **10 44 07.3 +3.6**
ISK Istanbul-Kandi 11.30 286 *e*Pn **Pn** **10 44 07.3 +3.6**
KSL Kastellorizon 11.32 261 P **Pn** **10 44 05.5 +1.4**
KSL Kastellorizon 11.32 261 *e*Pn **Pn** **10 44 05.5 +1.4**
MBRI Mt Berech 11.36 221 Pn **Pn** **10 44 07.7 +2.9**
MBRI Mt Berech 11.36 221 Pn **Pn** **10 44 07.7 +2.9**
MBH Mount Berech 11.36 221 Pn **Pn** **10 44 07.4 +2.6**
MBH Mount Berech 11.36 221 Pn **Pn** **10 44 07.4 +2.6**
EIL Elat 11.44 220 Pn **Pn** **10 44 08.7 +2.8**
comp=Z,1.5nm,0.3s,baz=17,slow=6.0,SNR=52
EIL Sn Sn 10 46 30.7 +17
comp=Z,8.6nm,0.3s,baz=346,slow=17,SNR=1.7
EIL Lg Lg 10 47 34.1
comp=Z,11nm,0.3s,baz=90,slow=24,SNR=120
EIL LR LR 10 49 05.2
comp=Z,1881μm,19.0s,baz=52,slow=40
EIL Elat 11.44 220 Pn **Pn** **10 44 07.6 +1.8**
EIL Elat 11.44 220 Pn **Pn** **10 44 07.6 +1.8**
EIL Sn Sn 10 46 30.7 +17
GEYT Alibeck 11.55 89 Pn **Pn** **10 44 06.0 -1.3**
comp=Z,1.8nm,0.3s,baz=289,slow=14,SNR=59
GEYT LR LR 10 49 37.8
comp=Z,329μm,20.6s,baz=275,slow=43
KULA Kula-Manisa 11.57 274 P **Pn** **10 44 10.4 +2.8**
KULA Kula-Manisa 11.57 274 *e*Pn **Pn** **10 44 10.4 +2.8**
KULA Kula-Manisa 11.57 274 *e*Pn **Pn** **10 44 10.4 +2.8**
FETY Fethiye 11.57 264 P **Pn** **10 44 10.0 +2.4**
FETY Fethiye 11.57 264 *e*Pn **Pn** **10 44 09.9 +2.4**
FETY Fethiye 11.57 264 *e*Pn **Pn** **10 44 09.9 +2.4**
MANT Manisa 11.65 273 *e*Pn **Pn** **10 44 12.1 +3.3**
MANT Manisa 11.65 273 *e*Pn **Pn** **10 44 12.1 +3.3**
ASHT Ashkhabad 11.76 89 P **Pn** **10 44 11.8 +1.7**
ASHT pmax pmax
comp=Z,7μm,1.6s
ASHT Ashkhabad 11.76 89 P **Pn** **10 44 11.8 +1.7**
comp=Z,7μm,1.6s
EFOR EFORIE 12.34 300⇑*i*P **Pn** **10 44 20.0 +2.1**
EFOR EFORIE 12.34 300⇑*i*P **Pn** **10 44 20.0 +2.1**
ARG Arkhangelos 12.43 263 P **Pn** **10 44 19.8 +0.6**
ARG Arkhangelos 12.43 263 *e*P **Pn** **10 44 19.8 +0.6**
ARG Arkhangelos 12.43 263 *e*P **Pn** **10 44 19.8 +0.6**
ARG Arkhangelos 12.43 263 *e*Pn **Pn** **10 44 19.8 +0.6**
PSN Preselentsi 12.51 298 P **Pn** **10 44 22.1 +1.8**
TIRR Tirgusor 12.62 302⇓*i*P **Pn** **10 44 22.0 +0.2**
TIRR Tirgusor 12.62 302 *e*P **Pn** **10 44 20.8 -1.0**
TIRR Tirgusor 12.62 302⇓*i*P **Pn** **10 44 22.0 +0.2**
TIRR Tirgusor 12.62 302 *e*Pn **Pn** **10 44 20.8 -1.0**
TLCR 12.65 305⇑*i*P **Pn** **10 44 23.0 +0.8**
TLCR 12.65 305⇑*i*P **Pn** **10 44 23.0 +0.8**
BODT Bodrum 12.86 268 P **Pn** **10 44 27.4 +2.3**
BODT Bodrum 12.86 268 *e*Pn **Pn** **10 44 27.4 +2.3**
BODT Bodrum 12.86 268 *e*Pn **Pn** **10 44 27.4 +2.3**
PRD Provadia 12.92 295 P **Pn** **10 44 28.2 +2.3**
HARR Harsova 13.03 302⇓*i*P **Pn** **10 44 28.6 +1.3**
HARR Harsova 13.03 302⇓*i*P **Pn** **10 44 28.6 +1.3**
NIS1 Nisyros Isl. 13.06 266 P **Pn** **10 44 30.1 +2.1**
NIS1 Nisyros Isl. 13.06 266 *e*Pn **Pn** **10 44 30.1 +2.1**
NIS1 Nisyros Isl. 13.06 266 *e*Pn **Pn** **10 44 30.1 +2.1**
CFR Carcaliu 13.08 304⇑*i*P **Pn** **10 44 28.7 +0.6**
CFR Carcaliu 13.08 304⇑*i*P **Pn** **10 44 28.7 +0.6**
NISR Nisiros 13.10 266 P **P** **10 44 34.7 -4.1**
NISR Nisiros 13.10 266 *e*Pn **P** **10 44 34.7 -4.1**
NISR Nisiros 13.10 266 *e*Pn **P** **10 44 34.7 -4.1**
EDRB Edirne 13.13 289 P **Pn** **10 44 30.6 +1.8**
EDRB Edirne 13.13 289 *e*Pn **Pn** **10 44 30.6 +1.8**
EDRB Edirne 13.13 289 *e*Pn **Pn** **10 44 30.6 +1.8**
VORR Voronezh 13.28 348⇑*i*P **Pn** **10 44 31.0 +0.2**
VORR pmax pmax
comp=Z,6μm,1.6s
VORR Voronezh 13.28 348 *i* P **Pn** **10 44 31.0 +0.2**
comp=Z,6μm,1.6s
EZN Ezine 13.31 280 P **Pn** **10 44 34.2 +2.9**
EZN Ezine 13.31 280 P **Pn** **10 44 34.2 +2.9**
JMB Yambol 13.35 292 P **Pn** **10 44 34.7 +3.0**
PRK Paraskevi 13.38 278 P **Pn** **10 44 34.7 +2.6**
PRK Paraskevi 13.38 278 *e*P **Pn** **10 44 34.7 +2.6**
PRK Paraskevi 13.38 278 *e*P **Pn** **10 44 34.7 +2.6**
PRK Paraskevi 13.38 278 *e*Pn **Pn** **10 44 34.7 +2.6**
KARP Karpathos 13.38 261 P **Pn** **10 44 31.9 -0.3**
KARP Karpathos 13.38 261 P **Pn** **10 44 31.9 -0.3**
KARP Karpathos 13.38 261 *e*Pn **Pn** **10 44 32.2 0.0**
KARP Karpathos 13.38 261 *e*Pn **Pn** **10 44 32.2 0.0**
AMRR Amara 13.39 301⇓*i*P **Pn** **10 44 33.5 +1.2**
AMRR Amara 13.39 301⇓*i*P **Pn** **10 44 33.5 +1.2**
ENEZ Enez 13.46 284 P **Pn** **10 44 35.3 +2.0**
ENEZ Enez 13.46 284 P **Pn** **10 44 35.3 +2.0**
KIS Kishinev 13.53 312⇑*i*P **Pn** **10 44 35.0 +0.8**
comp=Z,8μm,4.0s
KIS Kishinev 13.53 312 *i* PP **P** **10 44 45.0 +1.6**
comp=Z,15μm,3.4s
KIS *i* S **Sn** **10 47 05.0 +0.4**
KIS *i* SS SgSg 10 48 20.0 -16
KIS LRM MLR 10 53 08.0
comp=Z,1000μm,13.0s
KIS Kishinev 13.53 312α *i*P **Pn** **10 44 35.0 +0.8**
KIS *i* S **Sn** **10 47 05.0 +0.4**
KIS pmax pmax
comp=E,12μm,4.0s
KIS pmax pmax
comp=Z,8μm,4.0s
KIS MLR MLR
comp=Z,1000μm,13.0s
KIS Kishinev 13.53 312 *i* P **Pn** **10 44 35.0 +0.8**
KIS *i* S **Sn** **10 47 05.0 +0.4**
ALN Alexandroupoli 13.55 285 P **Pn** **10 44 36.4 +1.8**
ALN Alexandroupoli 13.55 285 *e*Pn **Pn** **10 44 36.4 +1.8**
ALN Alexandroupoli 13.55 285 *e*P **Pn** **10 44 36.4 +1.8**
ALN Alexandroupoli 13.55 285 *e*Pn **Pn** **10 44 36.4 +1.8**
LEOM Leova 13.60 310⇑*i*P **Pn** **10 44 35.0 -0.1**
LEOM Leova 13.60 310⇑*i*P **Pn** **10 44 35.0 -0.1**
CHOS Chios Island 13.62 274 P **Pn** **10 44 38.6 +3.0**
CHOS Chios island 13.62 274 *e*Pn **Pn** **10 44 38.6 +3.0**
CHOS Chios island 13.62 274 *e*Pn **Pn** **10 44 38.6 +3.0**
GADA Gvkgeada 13.64 282 P **Pn** **10 44 38.3 +2.5**
GADA Gvkgeada 13.64 282 *e*Pn **Pn** **10 44 38.3 +2.5**
GADA Gvkgeada 13.64 282 *e*Pn **Pn** **10 44 38.3 +2.5**
SIGR SIGRI 13.70 278 P **Pn** **10 44 38.0 +1.4**
SIGR SIGRI 13.70 278 *e*Pn **Pn** **10 44 38.0 +1.4**
SIGR SIGRI 13.70 278 *e*Pn **Pn** **10 44 38.0 +1.4**
PGOR Pogoanele 13.73 302⇓*i*P **Pn** **10 44 39.4 +2.4**
PGOR Pogoanele 13.73 302⇓*i*P **Pn** **10 44 39.4 +2.4**
PETR Petresti 13.89 305⇓*i*P **Pn** **10 44 40.4 +1.3**
PETR Petresti 13.89 305⇓*i*P **Pn** **10 44 40.4 +1.3**
GRER 13.91 304⇓*i*P **Pn** **10 44 41.8 +2.3**
GRER 13.91 304⇓*i*P **Pn** **10 44 41.8 +2.3**
SMTH Samothraki Isl 13.93 283 P **Pn** **10 44 41.7 +2.0**
SMTH Samothraki Isl 13.93 283 *e*Pn **Pn** **10 44 41.7 +2.0**
SMTH Samothraki Isl 13.93 283 *e*Pn **Pn** **10 44 41.7 +2.0**
RDO Rodhopi 13.95 286 P **Pn** **10 44 42.4 +2.4**
RDO Rodhopi 13.95 286 *e*Pn **Pn** **10 44 42.4 +2.4**
RDO Rodhopi 13.95 286 *e*Pn **Pn** **10 44 42.4 +2.4**
SZH Strazhica 13.98 294 P **Pn** **10 44 44.1 +3.7**
ODBI Odobesti 14.02 305⇑*i*P **Pn** **10 44 42.0 +1.2**
ODBI Odobesti 14.02 305⇑*i*P **Pn** **10 44 42.0 +1.2**
DIM Dimitrovgrad 14.05 289 P **Pn** **10 44 44.7 +3.4**
KDZ Kurdzhali 14.09 288 P **Pn** **10 44 45.0 +3.1**
ISR Istrita 14.10 302⇓*i*P **Pn** **10 44 44.2 +2.1**
ISR Istrita 14.10 302⇓*i*P **Pn** **10 44 44.2 +2.1**
SULR 14.14 300⇑*i*P **Pn** **10 44 43.7 +1.1**
SULR 14.14 300⇑*i*P **Pn** **10 44 43.7 +1.1**
LIA Limnos Island 14.19 280 P **Pn** **10 44 45.7 +2.4**
LIA Limnos Island 14.19 280 *e*Pn **Pn** **10 44 45.7 +2.4**
LIA Limnos Island 14.19 280 *e*Pn **Pn** **10 44 45.7 +2.4**
LPSR Galich'ya Gora 14.22 349⇑*i*P **Pn** **10 44 43.7 0.0**
LPSR *e*S **Sn** **10 47 25.7 +4.1**
LPSR pmax pmax
comp=Z,3μm,1.2s
LPSR smax smax
comp=E,9μm,6.4s
LPSR MLR MLR
comp=Z,1030μm,13.0s
APE Apeiranthos 14.25 269 P **Pn** **10 44 46.0 +1.9**
APE Apeiranthos 14.25 269⇓*i*P **P** **10 44 48.8 -2.8**
APE Apeiranthos 14.25 269*e e*P **Pn** **10 44 46.1 +1.9**
APE Apeiranthos 14.25 269 *e*Pn **Pn** **10 44 46.0 +1.9**
APE Apeiranthos 14.25 269⇓*i*P **P** **10 44 48.8 -2.8**
APE Apeiranthos 14.25 269 *e*Pn **Pn** **10 44 46.0 +1.9**
ZKR Zakros 14.25 261 P **Pn** **10 44 44.8 +0.7**
ZKR Zakros 14.25 261 *e*Pn **Pn** **10 44 44.8 +0.7**
ZKR Zakros 14.25 261 *e*Pn **Pn** **10 44 44.8 +0.7**
VRI Vrincioaia 14.27 305⇑*i*P **Pn** **10 44 44.9 +0.6**
VRI Vrincioaia 14.27 305⇑*i*P **Pn** **10 44 44.9 +0.6**
PLOR Plostina 14.31 305⇑*i*P **Pn** **10 44 45.5 +0.6**
PLOR Plostina 14.31 305⇑*i*P **Pn** **10 44 45.5 +0.6**
IAS Iasi 14.36 311⇑*i*P **Pn** **10 44 45.6 0.0**
IAS Iasi 14.36 311⇑*i*P **Pn** **10 44 45.6 0.0**
SECR 14.39 302⇓*i*P **Pn** **10 44 48.1 +2.1**
SECR 14.39 302⇓*i*P **Pn** **10 44 48.1 +2.1**
PVL Pavlikeni 14.39 294 P **Pn** **10 44 49.2 +3.1**
SORM Soroca 14.42 316⇓*i*P **Pn** **10 44 46.1 -0.3**
SORM Soroca 14.42 316⇓*i*P **Pn** **10 44 46.1 -0.3**
THR2 Thira island, 14.46 267 P **P** **10 44 50.6 -3.3**
THR2 Thira island, 14.46 267 *e*Pn **P** **10 44 50.6 -3.3**
THR2 Thira island, 14.46 267 *e*Pn **P** **10 44 50.6 -3.3**
SANT Santorini 14.46 266 P **Pn** **10 44 47.5 +0.3**
SANT Santorini 14.46 266 *e*Pn **Pn** **10 44 47.4 +0.3**
SANT Santorini 14.46 266 *e*Pn **Pn** **10 44 47.4 +0.3**
THR7 Fira-Santorini 14.48 266 P **P** **10 44 51.4 -2.7**
THR7 Fira-Santorini 14.48 266 P **P** **10 44 51.4 -2.7**
CMBO Columbo, Santo 14.48 267 P **Pn** **10 44 48.6 +1.3**
CMBO Columbo, Santo 14.48 267 P **Pn** **10 44 48.6 +1.3**
THT1 Athinios (Pele 14.48 266 P **Pn** **10 44 47.2 -0.1**
THT1 Athinios (Pele 14.48 266 P **Pn** **10 44 47.2 -0.1**
THR3 Thira Island, 14.50 266 P **P** **10 44 50.9 -3.4**
THR3 Thira Island, 14.50 266 *e*Pn **P** **10 44 50.9 -3.4**
THR3 Thira Island, 14.50 266 *e*Pn **P** **10 44 50.9 -3.4**
THR6 Thira Island, 14.52 266 P **P** **10 44 51.2 -3.3**
THR6 Thira Island, 14.52 266 *e*Pn **P** **10 44 51.2 -3.3**
THR6 Thira Island, 14.52 266 *e*Pn **P** **10 44 51.2 -3.3**
SAP1 Santorini-Akro 14.52 266 P **Pn** **10 44 48.0 +0.2**
THR5 Thira Island, 14.54 266 P **Pn** **10 44 50.7 +2.6**
THR5 Thira Island, 14.54 266 P **Pn** **10 44 50.7 +2.6**
TESR Tescani 14.59 308⇑*i*P **Pn** **10 44 48.2 -0.5**
TESR Tescani 14.59 308⇑*i*P **Pn** **10 44 48.2 -0.5**
RZN Rozhen 14.62 288 P **Pn** **10 44 52.3 +3.0**
MLR Muntele Rosu 14.63 303 Pn **Pn** **10 44 51.5 +2.1**
comp=Z,0.4nm,0.3s,baz=240,slow=11,SNR=59
MLR Sn **S** **10 47 43.4 -7.6**
comp=Z,0.1nm,0.3s,baz=347,slow=19,SNR=1.8
MLR Muntele Rosu 14.63 303⇓*i*P **Pn** **10 44 50.4 +1.0**
MLR Muntele Rosu 14.63 303 *e*Pn **Pn** **10 44 50.0 +0.6**
MLR Muntele Rosu 14.63 303 *e*Pn **Pn** **10 44 50.0 +0.6**
MLR Sn **S** **10 47 43.4 -7.6**
NPS Neapolis 14.67 262 P **Pn** **10 44 50.7 +0.9**
NPS Neapolis 14.67 262 *e*P **Pn** **10 44 50.7 +0.9**
NPS Neapolis 14.67 262 *e*P **Pn** **10 44 50.7 +0.9**
NPS Neapolis 14.67 262 *e*Pn **Pn** **10 44 50.7 +0.9**
PLD Plovdiv 14.67 289 P **Pn** **10 44 52.4 +2.6**
**KAVA Kavala

VOIR		15.20 302⇑	iP	Pn	10 44 58.3	+1.3
VOIR		15.20 302⇑	iP	Pn	10 44 58.3	+1.3
MHLO	Agia Marina, M	15.21 268	P	Pn	10 44 57.8	+0.6
MHLO	Agia Marina, M	15.21 268	P	Pn	10 44 57.8	+0.6
IDI	Anoyia	15.22 263	Pn	Pn	10 44 57.2	-0.1
	comp=Z,2.7nm,0.3s,baz=70,slow=10,SNR=43					
IDI			Sn	S	10 47 55.4	-7.7
	baz=204,slow=18,SNR=1.4					
IDI			PcP	PcP	10 50 05.1	+1.7
	comp=Z,3.0nm,0.3s,baz=89,slow=5.3,SNR=3.7					
IDI	Anoyia	15.22 263	P	Pn	10 44 56.8	-0.5
IDI	Anoyia	15.22 263	ePn	Pn	10 44 56.9	-0.4
	comp=Z,8μm,1.8s					
IDI			Sn	S	10 47 55.4	-7.7
IDI	Anoyia	15.22 263	ePn	Pn	10 44 56.9	-0.4
	comp=Z,8μm,1.8s					
IDI			Sn	S	10 47 55.4	-7.7
IDI			PcP	PcP	10 50 05.1	+1.7
NVR	Nevrokopi	15.23 286	P	Pn	10 44 58.9	+1.5
NVR	Nevrokopi	15.23 286	ePn	Pn	10 44 58.9	+1.5
NVR	Nevrokopi	15.23 286	ePn	Pn	10 44 58.9	+1.5
PRAR	RASCA	15.24 310⇑	iP	Pn	10 44 56.8	-0.6
PRAR	RASCA	15.24 310⇑	iP	Pn	10 44 56.8	-0.6
RAYN	Ar Rayn	15.26 173	ePn	Pn	10 44 52.3	-5.6
	comp=Z,3μm,1.3s					
RAYN	Ar Rayn	15.26 173	ePn	Pn	10 44 52.3	-5.6
	comp=Z,3μm,1.3s					
EREA	Eretria	15.27 275	P	Pn	10 44 59.9	+1.9
EREA	Eretria	15.27 275	P	Pn	10 44 59.9	+1.9
MMB	Musomiste	15.34 287	P	Pn	10 45 01.0	+2.1
PAIG	Paliouri	15.35 281	P	Pn	10 44 59.6	+0.7
PAIG	Paliouri	15.35 281	eP	Pn	10 44 59.6	+0.7
PAIG	Paliouri	15.35 281	eP	Pn	10 44 59.6	+0.7
PAIG	Paliouri	15.35 281	ePn	Pn	10 44 59.6	+0.7
SIVA	Sivas	15.37 262	P	Pn	10 45 00.2	+1.0
SIVA	Sivas	15.37 262	ePn	Pn	10 45 00.2	+1.0
SIVA	Sivas	15.37 262	ePn	Pn	10 45 00.2	+1.0
PTL	Penteli	15.37 274	P	Pn	10 45 00.7	+1.4
PTL	Penteli	15.37 274	ePn	Pn	10 45 00.7	+1.4
PTL	Penteli	15.37 274	ePn	Pn	10 45 00.7	+1.4
TMBK	Timbaki Herakl	15.38 262	P	Pn	10 45 00.6	+1.2
TMBK	Timbaki Herakl	15.38 262	P	Pn	10 45 00.6	+1.2
SRS	Serrai	15.42 285	P	Pn	10 45 01.4	+1.5
SRS	Serrai	15.42 285	eP	Pn	10 45 01.4	+1.5
SRS	Serrai	15.42 285	eP	Pn	10 45 01.4	+1.5
SRS	Serrai	15.42 285	ePn	Pn	10 45 01.4	+1.5
ATHU	Athens Univers	15.45 273	P	Pn	10 45 01.9	+1.6
ATHU	Athens Univers	15.45 273	ePn	Pn	10 45 01.9	+1.6
ATHU	Athens Univers	15.45 273	ePn	Pn	10 45 01.9	+1.6
ARR	Arges	15.45 301⇑	iP	Pn	10 45 01.2	+0.8
ARR	Arges	15.45 301⇑	iP	Pn	10 45 01.2	+0.8
VLY	Voula,Athens	15.46 273	P	Pn	10 45 01.4	+1.0
VLY	Voula,Athens	15.46 273	ePn	Pn	10 45 01.4	+1.0
VLY	Voula,Athens	15.46 273	ePn	Pn	10 45 01.4	+1.0
ATH	Athens Observa	15.50 273	P	Pn	10 45 02.9	+2.0
ATH	Athens Observa	15.50 273	eP	Pn	10 45 02.9	+2.0
ATH	Athens Observa	15.50 273	eP	Pn	10 45 02.9	+2.0
ATH	Athens Observa	15.50 273	ePn	Pn	10 45 02.9	+2.0
PLG	Polygyros	15.52 282	P	Pn	10 45 03.2	+2.0
PLG	Polygyros	15.52 282	eP	Pn	10 45 03.2	+2.0
PLG	Polygyros	15.52 282	eP	Pn	10 45 03.2	+2.0
PLG	Polygyros	15.52 282	ePn	Pn	10 45 03.2	+2.0
SKIA	Skiathos	15.55 278	P	Pn	10 45 03.2	+1.5
SKIA	Skiathos	15.55 278	P	Pn	10 45 03.2	+1.5
SOH	Sokhos	15.59 284	P	Pn	10 45 04.2	+2.0
SOH	Sokhos	15.59 284	eP	Pn	10 45 04.2	+2.0
SOH	Sokhos	15.59 284	eP	Pn	10 45 04.2	+2.0
SOH	Sokhos	15.59 284	ePn	Pn	10 45 04.2	+2.0
AKTO	Aktyubinsk	15.61 37	Pn	Pn	10 44 59.7	-2.6
	comp=Z,7.1nm,0.3s,baz=226,slow=12,SNR=112					
AKTO			Sn	Sn	10 47 54.8	-0.5
	baz=122,slow=15,SNR=1.5					
AKTO			LR	LR	10 52 49.6	
	comp=Z,1945μm,19.2s,baz=227,slow=44					
AKTO	Aktyubinsk	15.61 37	P	Pn	10 44 59.7	-2.6
AKTO					10 47 54.8	
AKTO			pmax	pmax		
	comp=Z,7.0nm,0.3s					
AKTO			MLR	MLR		
	comp=Z,945μm,19.2s					
AKASG	Malin Array Be	15.63 325	Pn	Pn	10 45 01.2	-1.4
	comp=Z,11nm,0.3s,baz=133,slow=12,SNR=333					
AKASG			PcP	PcP	10 50 04.0	+0.4
	comp=Z,3.4nm,0.3s,baz=83,slow=2.1,SNR=12					
AKASG			LR	LR	10 52 25.5	
	comp=Z,1023μm,18.5s,baz=125,slow=42					
AKASG			PKiKP	PKiKP	10 57 57.6	-0.1
	comp=Z,0.3nm,0.3s,baz=93,slow=0.5,SNR=6.4					
AKBB	Malin Array Si	15.63 325	eP	Pn	10 45 01.6	-1.0
AKBB			pmax	pmax		
	comp=Z,5μm,1.3s					
AKBB	Malin Array Si	15.63 325	eP	Pn	10 45 01.6	-1.0
	comp=Z,5μm,1.3s					
AKBB	Malin Array Si	15.63 325	ePn	Pn	10 45 01.6	-1.0
	comp=Z,5μm,1.3s					
KIEV	Kiev	15.63 325	c iP	Pn	10 45 01.1	-1.5
KIEV	Kiev	15.63 325	Pn	Pn	10 45 01.3	-1.3
	SNR=626					
KIEV	Kiev	15.63 325	ePn	Pn	10 45 01.3	-1.3
	comp=Z,5μm,1.3s					
VAM	Vamos	15.72 264	P	Pn	10 45 03.0	-0.8
VAM	Vamos	15.72 264	eP	Pn	10 45 03.0	-0.8
VAM	Vamos	15.72 264	eP	Pn	10 45 03.0	-0.8
VAM	Vamos	15.72 264	ePn	Pn	10 45 03.0	-0.8
CRAR	CRAIOVA	15.73 297⇑	iP	P	10 45 06.0	-1.9
CRAR	CRAIOVA	15.73 297⇑	iP	P	10 45 06.0	-1.9
NEO	Neokhori	15.73 278	P	Pn	10 45 05.3	+1.3
NEO	Neokhori	15.73 278	ePn	Pn	10 45 05.3	+1.3
NEO	Neokhori	15.73 278	ePn	Pn	10 45 05.3	+1.3
XOR	Xorichti	15.75 279	P	Pn	10 45 05.1	+0.9
XOR	Xorichti	15.75 279	ePn	Pn	10 45 05.1	+0.9
XOR	Xorichti	15.75 279	ePn	Pn	10 45 05.1	+0.9
HORT	Hortiatis	15.78 283	P	Pn	10 45 06.4	+1.7
HORT	Hortiatis	15.78 283	ePn	Pn	10 45 06.4	+1.7
HORT	Hortiatis	15.78 283	ePn	Pn	10 45 06.4	+1.7
SMIA	Simia	15.78 277	P	Pn	10 45 06.4	+1.8
SMIA	Simia	15.78 277	P	Pn	10 45 06.4	+1.8
AB31	Akbulak array	15.83 43	i P	Pn	10 45 04.4	-0.7
AB31			pmax	pmax		
	comp=Z,2μm,1.3s					
ABKAR	Akbulak array	15.83 43	ePn	Pn	10 45 02.7	-2.4
	comp=Z,9μm,1.2s					
ABKAR	Akbulak array	15.83 43	ePn	Pn	10 45 02.7	-2.4
	comp=Z,9μm,1.2s					
VTS	Vitosha	15.83 291	P	Pn	10 45 07.1	+1.7
VTS	Vitosha	15.83 291⇑	iP	P	10 45 07.5	-1.7
VTS	Vitosha	15.83 291	eP	P	10 45 07.3	-1.9
VTS	Vitosha	15.83 291	P	P	10 45 07.7	-1.5
VTS	Vitosha	15.83 291⇑	iP	P	10 45 07.5	-1.7
VTS	Vitosha	15.83 291	ePn	P	10 45 07.3	-1.9
	comp=Z,11μm,1.9s					
KKB	Krupnik	15.85 288	P	P	10 45 07.7	-1.6
IMMV	Iera Moni Meta	15.87 264	P	Pn	10 45 04.8	-1.0
IMMV	Iera Moni Meta	15.87 264	P	Pn	10 45 04.8	-1.0
THE	Thessaloniki	15.88 283	P	Pn	10 45 07.6	+1.7
THE	Thessaloniki	15.88 283	eP	Pn	10 45 07.6	+1.7
THE	Thessaloniki	15.88 283	eP	Pn	10 45 07.6	+1.7
THE	Thessaloniki	15.88 283	ePn	Pn	10 45 07.6	+1.7
FYTO	Fytoko, Volos	15.94 279	P	Pn	10 45 08.2	+1.5
FYTO	Fytoko, Volos	15.94 279	ePn	Pn	10 45 08.2	+1.5
FYTO	Fytoko, Volos	15.94 279	ePn	Pn	10 45 08.2	+1.5
KNT	Kendrikon	15.95 285	P	P	10 45 08.7	-1.7
KNT	Kendrikon	15.95 285	eP	P	10 45 08.7	-1.7
KNT	Kendrikon	15.95 285	eP	P	10 45 08.7	-1.7
KNT	Kendrikon	15.95 285	ePn	P	10 45 08.7	-1.7
DID	Didima	15.96 272	P	Pn	10 45 07.8	+0.9
DID	Didima	15.96 272	ePn	Pn	10 45 07.8	+0.9
DID	Didima	15.96 272	ePn	Pn	10 45 07.8	+0.9
BURAR	Bucovina Array	15.96 310⇑	iP	Pn	10 45 06.6	-0.4
LKR	Lokris	15.97 276	P	Pn	10 45 08.5	+1.5
LKR	Lokris	15.97 276	ePn	Pn	10 45 08.5	+1.5
LKR	Lokris	15.97 276	ePn	Pn	10 45 08.5	+1.5
BUR08	Bucovina Ar. S	15.98 310	ePn	Pn	10 45 06.3	-1.0
BUR08	Bucovina Ar. S	15.98 310	ePn	Pn	10 45 06.3	-1.0
GVD	Gavdhos	15.99 262	P	Pn	10 45 07.1	-0.2
GVD	Gavdhos	15.99 262	ePn	Pn	10 45 07.1	-0.2
GVD	Gavdhos	15.99 262	ePn	Pn	10 45 07.1	-0.2
LOT	Lotru	16.06 301⇑	iP	Pn	10 45 09.1	+0.9
LOT	Lotru	16.06 301⇑	iP	Pn	10 45 09.1	+0.9
LOUT	Loutraki	16.08 274	P	Pn	10 45 09.9	+1.5
LOUT	Loutraki	16.08 274	P	Pn	10 45 09.9	+1.5
LTK	Loutraki	16.08 274	P	Pn	10 45 09.3	+0.8
LTK	Loutraki	16.08 274	ePn	Pn	10 45 09.3	+0.8
LTK	Loutraki	16.08 274	ePn	Pn	10 45 09.3	+0.8
VAY	Valandovo	16.20 286	P	Pn	10 45 11.4	+1.5
VAY	Valandovo	16.20 286⇑	iP	P	10 45 11.8	-1.4
VAY	Valandovo	16.20 286	eP	Pn	10 45 11.4	+1.5
VAY	Valandovo	16.20 286⇑	iP	P	10 45 11.7	-1.4
VAY	Valandovo	16.20 286	ePn	Pn	10 45 11.4	+1.5
SRE	Strehaia	16.22 298⇓	iP	P	10 45 12.0	-1.4
SRE	Strehaia	16.22 298⇓	iP	P	10 45 12.0	-1.4
LIT	Litokhoron	16.25 281	P	Pn	10 45 11.2	+0.5
LIT	Litokhoron	16.25 281	eP	Pn	10 45 11.2	+0.5
LIT	Litokhoron	16.25 281	eP	Pn	10 45 11.2	+0.5
LIT	Litokhoron	16.25 281	ePn	Pn	10 45 11.2	+0.5
ARCR	ARCALIA	16.26 307⇑	iP	Pn	10 45 10.5	-0.2
ARCR	ARCALIA	16.26 307⇑	iP	Pn	10 45 10.5	-0.2
ANKY	Antikythira Is	16.28 266	P	Pn	10 45 09.2	-1.9
ANKY	Antikythira Is	16.28 266	ePn	Pn	10 45 09.2	-1.9
ANKY	Antikythira Is	16.28 266	ePn	Pn	10 45 09.2	-1.9
THAL	Thalero	16.31 274	P	Pn	10 45 12.5	+1.1
THAL	Thalero	16.31 274	P	Pn	10 45 12.5	+1.1
GRG	Griva	16.32 284	P	Pn	10 45 12.8	+1.3
GRG	Griva	16.32 284	eP	Pn	10 45 12.8	+1.3
GRG	Griva	16.32 284	eP	Pn	10 45 12.8	+1.3
GRG	Griva	16.32 284	ePn	Pn	10 45 12.8	+1.3
LRSO	Larissa Observ	16.35 280	P	P	10 45 15.5	+0.7
LRSO	Larissa Observ	16.35 280	P	P	10 45 15.5	+0.7
VLI	Veliai	16.35 269	P	Pn	10 45 10.6	-1.3
VLI	Veliai	16.35 269	ePn	Pn	10 45 10.6	-1.3
VLI	Veliai	16.35 269	ePn	Pn	10 45 10.6	-1.3
DSF	Desfina	16.37 275	P	Pn	10 45 12.2	0.0
DSF	Desfina	16.37 275	ePn	Pn	10 45 12.2	0.0
DSF	Desfina	16.37 275	ePn	Pn	10 45 12.2	0.0
KYTH	Kithira	16.38 268	P	Pn	10 45 11.4	-0.9
KYTH	Kithira	16.38 268	ePn	Pn	10 45 11.4	-0.9
KYTH	Kithira	16.38 268	ePn	Pn	10 45 11.4	-0.9
AGG	Agios Georgios	16.45 278	P	Pn	10 45 13.6	+0.4
AGG	Agios Georgios	16.45 278	eP	P	10 45 14.9	-1.1
AGG	Agios Georgios	16.45 278	eP	P	10 45 14.9	-1.1
AGG	Agios Georgios	16.45 278	ePn	P	10 45 14.9	-1.1
	comp=Z,31μm,1.9s					
KTI	Kastanea	16.53 282	P	Pn	10 45 15.6	+1.2
KTI	Kastanea	16.53 282	P	Pn	10 45 15.6	+1.2
SHME	Shamm	16.55 136	P	Pn	10 45 14.7	+0.1
	SNR=71					
GUR	Goura	16.58 274	P	P	10 45 16.3	-1.2
GUR	Goura	16.58 274	ePn	P	10 45 16.3	-1.2
GUR	Goura	16.58 274	ePn	P	10 45 16.3	-1.2
CJR	Cluj-Napoca	16.59 305⇓	iP	Pn	10 45 15.8	+0.8
CJR	Cluj-Napoca	16.59 305⇓	iP	Pn	10 45 15.8	+0.8
THL	Klokotos Trika	16.65 280	P	Pn	10 45 16.5	+0.8
THL	Klokotos Trika	16.65 280	P	Pn	10 45 16.5	+0.8
VLX	Vlachokerasia	16.65 272	P	Pn	10 45 16.6	+0.7
VLX	Vlachokerasia	16.65 272	ePn	Pn	10 45 16.6	+0.7
VLX	Vlachokerasia	16.65 272	ePn	Pn	10 45 16.6	+0.7
KALE	Kalithea	16.67 276	P	Pn	10 45 16.9	+0.8
KALE	Kalithea	16.67 276	ePn	Pn	10 45 16.9	+0.8
KALE	Kalithea	16.67 276	ePn	Pn	10 45 16.9	+0.8
DJES	Djerdap	16.70 298⇑	iP	P	10 45 17.5	-1.2
GZR	Gura Zlata	16.71 300⇓	iP	P	10 45 17.9	-1.0
GZR	Gura Zlata	16.71 300⇓	iP	P	10 45 17.9	-1.0
KLV	Kalavryta, Ach	16.71 274	P	Pn	10 45 17.5	+0.9
KLV	Kalavryta, Ach	16.71 274	ePn	Pn	10 45 17.5	+0.9
KLV	Kalavryta, Ach	16.71 274	ePn	Pn	10 45 17.5	+0.9
ZAGS	Zajecar	16.72 294⇑	iP	Pn	10 45 17.5	+0.9
SERG	Sergoula	16.73 276	P	P	10 45 18.0	-1.1
SERG	Sergoula	16.73 276	P	P	10 45 18.0	-1.1
BANOM	Banah	16.74 136	i Pn	Pn	10 45 15.8	-1.2
	SNR=281					
BANOM	Banah	16.74 136	i P	Pn	10 45 15.8	-1.2
	SNR=281					
BANOM	Banah	16.74 136	P	Pn	10 45 16.7	-0.3
	SNR=284					
BANOM	Banah	16.74 136	P	Pn	10 45 16.7	-0.3
	SNR=284					
BANOM	Banah	16.74 136	P	Pn	10 45 16.7	-0.3
	SNR=284					
KZN	Kozani	16.80 282	P	Pn	10 45 18.2	+0.5
KZN	Kozani	16.80 282	eP	Pn	10 45 18.2	+0.5
KZN	Kozani	16.80 282	eP	Pn	10 45 18.2	+0.5
KZN	Kozani	16.80 282	ePn	Pn	10 45 18.2	+0.5
ANX	Ano Chora	16.81 276	P	Pn	10 45 18.7	+0.8
ANX	Ano Chora	16.81 276	P	Pn	10 45 18.7	+0.8
LAKA	Lakka	16.82 275	P	Pn	10 45 18.9	+1.0
LAKA	Lakka	16.82 275	ePn	Pn	10 45 18.9	+1.0
LAKA	Lakka	16.82 275	ePn	Pn	10 45 18.9	+1.0
EFP	Efpalio	16.85 276	P	Pn	10 45 19.1	+0.9
EFP	Efpalio	16.85 276	P	Pn	10 45 19.1	+0.9
EVR	Evrytania	16.86 277	P	P	10 45 19.6	-1.1
EVR	Evrytania	16.86 277	ePn	P	10 45 19.6	-1.1
EVR	Evrytania	16.86 277	ePn	P	10 45 19.6	-1.1
BARS	Barje	16.88 291⇑	iP	P	10 45 21.1	+0.4
UPR	University Cam	16.96 275	P	P	10 45 23.9	+2.3
UPR	University Cam	16.96 275	P	P	10 45 23.9	+2.3
BMR	Baia Mare	17.03 308⇑	iP	Pn	10 45 20.2	-0.3
BMR	Baia Mare	17.03 308⇑	iP	Pn	10 45 20.2	-0.3
OBN	Obninsk	17.04 346	P	Pn	10 45 18.7	-1.7
	comp=Z,14nm,0.3s,baz=169,slow=8.3,SNR=118					
OBN			S	Sn	10 48 28.9	-0.9
	baz=180,slow=20					
OBN	Obninsk	17.04 346	c iP	Pn	10 45 18.6	-1.8
OBN			i S	Sn	10 48 30.1	+0.3
OBN			pmax	pmax		
	comp=Z,1μm,1.1s					
OBN			MLR	MLR		
	comp=Z,1426μm,17.0s					
OBN	Obninsk	17.04 346	ePn	Pn	10 45 19.0	-1.4
	comp=Z,5μm,1.1s					
OBN	Obninsk	17.04 346	ePn	Pn	10 45 19.0	-1.4
	comp=Z,5μm,1.1s					
OBN			S	Sn	10 48 28.9	-0.9
ITM	Ithomi	17.04 272	P	Pn	10 45 20.6	-0.1
ITM	Ithomi	17.04 272	ePn	Pn	10 45 20.6	-0.1
ITM	Ithomi	17.04 272	ePn	Pn	10 45 20.6	-0.1
BOVS	Bovan	17.07 294	i P	P	10 45 22.8	0.0
DRO	Drossia	17.07 274	P	P	10 45 22.3	-0.6
DRO	Drossia	17.07 274	P	P	10 45 22.3	-0.6
SKO	Skopje	17.08 288	P	P	10 45 23.3	+0.4
SKO	Skopje	17.08 288⇑	iP	P	10 45 23.4	+0.5
SKO	Skopje	17.08 288	eP	P	10 45 23.3	+0.4
SKO	Skopje	17.08 288	eP	P	10 45 23.3	+0.4
SKO	Skopje	17.08 288	ePn	P	10 45 23.3	+0.4
FNA	Florina	17.09 284	P	P	10 45 22.5	-0.6
FNA	Florina	17.09 284	eP	P	10 45 22.5	-0.6
FNA	Florina	17.09 284	eP	P	10 45 22.5	-0.6
FNA	Florina	17.09 284	ePn	P	10 45 22.5	-0.6
MSFE	Esma-Masafi	17.12 137	P	Pn	10 45 21.5	-0.2
	SNR=183					
PVO	Paravola	17.12 277	P	P	10 45 23.2	-0.2
PVO	Paravola	17.12 277	P	P	10 45 23.2	-0.2
KPRO	Kipourio	17.12 281	P	P	10 45 23.0	-0.5
KPRO	Kipourio	17.12 281	P	P	10 45 23.0	-0.5
BIA	Bitola	17.13 285	P	P	10 45 25.8	+2.2
BIA	Bitola	17.13 285	i P	P	10 45 25.7	+2.1
BIA	Bitola	17.13 285	i P	P	10 45 25.6	+2.1
BIA	Bitola	17.13 285	ePn	P	10 45 25.8	+2.2
AMT	Artemida-Makis	17.14 273	P	P	10 45 23.0	-0.7
AMT	Artemida-Makis	17.14 273	P	P	10 45 23.0	-0.7
NAZ	Nazwa, Dubai	17.16 139	i Pn	Pn	10 45 21.4	-0.8
	SNR=302					
NAZ	Nazwa, Dubai	17.16 139	i P	Pn	10 45 21.4	-0.8
	SNR=302					
NAZ	Nazwa, Dubai	17.16 139	P	Pn	10 45 23.0	+0.7
	SNR=217					
NAZ	Nazwa, Dubai	17.16 139	pPn	Pn	10 45 23.0	+0.7
	SNR=217					
NAZ	Nazwa, Dubai	17.16 139	P	Pn	10 45 23.0	+0.7
	SNR=217					
DRGR		17.19 305⇑	iP	Pn	10 45 23.2	+0.6
DRGR		17.19 305⇑	iP	Pn	10 45 23.2	+0.6
KRUS	Krusevo	17.19 286	i P	P	10 45 24.5	+0.2
KRUS	Krusevo	17.19 286	i P	P	10 45 24.5	+0.2
KUBS	Kucevo	17.23 296	i P	Pn	10 45 23.1	+0.1
LTBQ	Tobruq	17.24 253	i P	P	10 45 26.3	+1.5
	SNR=63					
LTBQ			eS	Sn	10 48 37.4	+2.2
	SNR=77					
RLS	Riolos of Patr	17.24 275	P	P	10 45 25.1	+0.4
RLS	Riolos of Patr	17.24 275	ePn	P	10 45 25.1	+0.4
RLS	Riolos of Patr	17.24 275	ePn	P	10 45 25.1	+0.4
PYL	PYLOS	17.25 271	P	Pn	10 45 21.6	-1.7
PYL	PYLOS	17.25 271	ePn	Pn	10 45 21.6	-1.7
PYL	PYLOS	17.25 271	ePn	Pn	10 45 21.6	-1.7
MDVR	Moldovita	17.29 297⇑	iP	P	10 45 25.5	+0.3
MDVR	Moldovita	17.29 297⇑	iP	P	10 45 25.5	+0.3
AXS	Araxos	17.29 275	P	P	10 45 25.4	+0.1
AXS	Araxos	17.29 275	P	P	10 45 25.4	+0.1
FAQ	Al Faqa, Dubai	17.33 140	i Pn	Pn	10 45 24.0	-0.4
	SNR=192					
FAQ	Al Faqa, Dubai	17.33 140	i P	Pn	10 45 24.0	-0.4
	SNR=192					
FAQ	Al Faqa, Dubai	17.33 140	P	Pn	10 45 24.6	+0.3
	SNR=216					
FAQ	Al Faqa, Dubai	17.33 140	Pn	Pn	10 45 24.6	+0.3
	SNR=216					
FAQ	Al Faqa, Dubai	17.33 140	P	Pn	10 45 24.6	+0.3
	SNR=216					
PDO	Prodromos	17.39 277	P	P	10 45 26.4	+0.1
PDO	Prodromos	17.39 277	P	P	10 45 26.4	+0.1
DSL	Palaion Diasel	17.39 278	P	Pn	10 45 25.5	+0.4
DSL	Palaion Diasel	17.39 278	ePn	Pn	10 45 25.5	+0.4
DSL	Palaion Diasel	17.39 278	ePn	Pn	10 45 25.5	+0.4
SELS	Selova	17.43 292⇑	iP	P	10 45 27.0	+0.2
MOS	Moscow	17.46 349	c iP	Pn	10 45 24.5	-1.2
MOS	Moscow	17.46 349	i P	Pn	10 45 24.5	-1.2
UOSS	Minazif	17.48 138	ePn	Pn	10 45 24.4	-1.8
	comp=Z,4μm,1.3s					
UOSS	Minazif	17.48 138	P	Pn	10 45 25.9	-0.3
	SNR=201					
UOSS	Minazif	17.48 138	ePn	Pn	10 45 24.4	-1.8
	comp=Z,4μm,1.3s					
SVIS	Svilajnac	17.53 296⇑	iP	P	10 45 27.7	-0.1
OHR	Ohrid	17.53 285⇑	iP	P	10 45 29.3	+1.3
OHR	Ohrid	17.53 285⇑	iP	P	10 45 29.2	+1.3
HATD	Hatta, Dubai	17.54 139	i Pn	Pn	10 45 27.0	0.0
	SNR=390					
HATD	Hatta, Dubai	17.54 139	i P	Pn	10 45 27.0	0.0
	SNR=390					
HATD	Hatta, Dubai	17.54 139	P	Pn	10 45 27.0	0.0
	SNR=390					
HATD	Hatta, Dubai	17.54 139	Pn	Pn	10 45 27.0	0.0
	SNR=397					
HATD	Hatta, Dubai	17.54 139	P	Pn	10 45 27.0	0.0
	SNR=397					
KBN	Korca	17.54 283	i P	P	10 45 28.6	+0.5
KBN	Korca	17.54 283	i P	P	10 45 28.6	+0.5
BZS	Buzias	17.55 300⇑	iP	P	10 45 27.6	-0.5
BZS	Buzias	17.55 300⇑	iP	P	10 45 27.6	-0.5
ASHO	Ashiyiah	17.61 139	i Pn	Pn	10 45 26.6	-1.4
	SNR=260					
ASHO	Ashiyiah	17.61 139	i P	Pn	10 45 26.6	-1.4
	SNR=260					
ASHO	Ashiyiah	17.61 139	P	Pn	10 45 27.7	-0.3
	SNR=446					
ASHO	Ashiyiah	17.61 139	Pn	Pn	10 45 27.7	-0.3
	SNR=446					
ASHO	Ashiyiah	17.61 139	P	Pn	10 45 27.7	-0.3
	SNR=446					
SIRR	Siria	17.71 302⇑	iP	P	10 45 30.3	+0.4
SIRR	Siria	17.71 302⇑	iP	P	10 45 30.3	+0.4
LVV	L'vov	17.73 315	eP	P	10 45 31.8	+1.8
LVV			eS	S	10 48 51.0	-3.0
LVV			MLR	MLR		
	comp=Z,550μm,15.0s					
LVV	L'vov	17.73 315	eP	P	10 45 31.8	+1.8
	comp=Z,50μm,15.0s					
LVV			eS	S	10 48 51.0	-3.0
LKD2	Lefkada island	17.77 277	P	Pn	10 45 29.8	0.0
LKD2	Lefkada island	17.77 277	ePn	Pn	10 45 29.8	0.0
LKD2	Lefkada island	17.77 277	ePn	Pn	10 45 29.8	0.0
TRPA	Tarpa	17.81 309⇑	ePn	Pn	10 45 30.1	0.0
PHP	Peshkopia	17.81 287	i P	P	10 45 32.2	+1.1
PHP	Peshkopia	17.81 287	i P	P	10 45 32.2	+1.1
GRUS	Gruza	17.82 294⇑	iP	P	10 45 32.2	+1.1
BANR	Banloc	17.82 299⇑	iP	P	10 45 32.1	+1.0
BANR	Banloc	17.82 299⇑	iP	P	10 45 32.1	+1.0
TIM	Timisoara	17.85 300⇓	iP	P	10 45 33.0	+1.6
TIM	Timisoara	17.85 300⇓	iP	P	10 45 33.0	+1.6
VLS	Valsamata	17.91 275	P	Pn	10 45 31.4	-0.1
VLS	Valsamata	17.91 275	eP	Pn	10 45 31.4	-0.1
VLS	Valsamata	17.91 275	eP	Pn	10 45 31.4	-0.1
VLS	Valsamata	17.91 275	ePn	Pn	10 45 31.4	-0.1
SGD	Sagiada	18.02 280	P	Pn	10 45 32.7	-0.1
SGD	Sagiada	18.02 280	P	Pn	10 45 32.7	-0.1
BCI	Bajram Curri	18.12 289	i P	P	10 45 37.0	+2.6
BCI	Bajram Curri	18.12 289	i P	P	10 45 37.0	+2

MICGM eSS SnSn 10 49 34.0 +3.0
MICGM eSSS SSS 10 49 43.0
MICGM eLR LR 10 52 03.0
MICGM LRM MLR 10 54 10.0
comp=E,501nm,16.0s
MICGM LRM MLR 10 54 20.0
comp=N,458nm,16.0s
MICGM LRM MLR 10 54 22.0
comp=Z,803nm,16.0s
MNK Minsk 18.99 331⇑ iP P 10 45 42.0 -1.8
MNK eS Sn 10 49 09.0 -8.1
MNK pmax pmax
comp=Z,3μm,1.0s
MNK pmax pmax
comp=N,2μm,1.0s
MNK pmax pmax
comp=E,2μm,1.0s
UPM Unac-Piva 19.04 291⇑ iP Pn 10 45 45.5 +0.1
UPM Unac-Piva 19.04 291⇑ iP Pn 10 45 45.5 +0.1
HAPS Han Pijesak,BI 19.11 294 eP P 10 45 43.9 -1.5
STHS Stebnicka Huta 19.13 311 eP P 10 45 45.8 +0.3
STHS pmax pmax
comp=Z,530nm,1.0s
STHS Stebnicka Huta 19.13 311 eP P 10 45 45.8 +0.3
comp=Z,530nm,1.0s
STHS Stebnicka Huta 19.13 311 eP P 10 45 45.8 +0.3
STHS eS S 10 49 35.5 +13
KECS Kecovo 19.21 308 eP Pn 10 45 47.7 +0.5
KECS pmax pmax
comp=Z,428nm,1.2s
KECS Kecovo 19.21 308 eP Pn 10 45 47.7 +0.5
comp=Z,428nm,1.2s
KECS Kecovo 19.21 308 eP Pn 10 45 47.6 +0.4
KECS eS S 10 49 39.0 +15
BRY Bratogost 19.28 290⇑ iP P 10 45 47.5 +0.2
BRY Bratogost 19.28 290⇑ iP P 10 45 47.3 0.0
HCY Herceg Novi 19.29 289⇑ iP P 10 45 46.5 -0.7
HCY Herceg Novi 19.29 289⇑ iP P 10 45 46.6 -0.7
PSZ Piszkesteto 19.38 306⇑ iP Pn 10 45 49.7 +0.4
PSZ Piszkesteto 19.38 306 eP Pn 10 45 49.8 +0.4
PSZ Piszkesteto 19.38 306⇑ iP Pn 10 45 49.7 +0.4
PSZ Piszkesteto 19.38 306⇑ eP Pn 10 45 49.7 +0.4
PSZ Piszkesteto 19.38 306 eP Pn 10 45 49.8 +0.4
comp=Z,15μm,1.9s
TREB Trebinje 19.41 290⇑ iP P 10 45 48.0 -0.6
NIE Niedzica 19.69 310 eP Pn 10 45 53.3 +0.3
NIE eS Sn 10 49 34.8 +0.6
NIE LMZ LR 10 56 10.2
comp=Z,760μm,16.9s
NIE Niedzica 19.69 310 eP Pn 10 45 53.3 +0.3
NIE eS Sn 10 49 34.8 +0.6
NIE MLR MLR
comp=Z,760μm,16.9s
NIE Niedzica 19.69 310 eP Pn 10 45 53.3 +0.3
comp=Z,60μm,16.9s
NIE eS Sn 10 49 34.8 +0.6
NACGM Naroch 19.71 331 eP P 10 45 49.0 -2.7
NACGM eS S 10 49 26.0 -8.0
NACGM Naroch 19.71 331 eP P 10 45 49.0 -2.7
BUD Budapest 19.80 304 P Pn 10 45 54.2 -0.1
BUD pmax pmax
comp=Z,4μm,1.9s
BUD Budapest 19.80 304 P Pn 10 45 54.2 -0.1
comp=Z,4μm,1.9s
BUD Budapest 19.80 304⇑ eP Pn 10 45 54.7 +0.4
DOB Doboj 19.80 296 eP P 10 45 52.5 -0.3
STON Ston 19.90 290 P P 10 45 53.1 -0.7
TAS Tashkent 19.93 74 eP Pn 10 45 58.3 +2.3
IDID Didziasalis 20.04 331 eP P 10 45 54.7 -0.5
IDID IAmb IAmb 10 45 59.0
comp=Z,650nm,1.1s
CGL1 Ceglie Messapi 20.06 284 iP P 10 45 56.4 +0.7
LANS Liptovska Anna 20.08 309 eP Pn 10 45 57.2 -0.5
LANS Liptovska Anna 20.08 309 eP Pn 10 45 57.2 -0.5
LANS Liptovska Anna 20.08 309 eP Pn 10 45 57.2 -0.5
LANS eS Sn 10 49 56.5 +13
FASA Fasano 20.14 284 iP P 10 45 57.2 +0.6
WSAR Wadi Sarin 20.15 136 P P 10 45 55.9 -0.9
comp=Z,403nm,1.2s,baz=333,slow=6.6,SNR=64
WSAR LR LR 10 54 57.0
comp=Z,785μm,20.8s,baz=332,slow=40
CHM Chimkent 20.18 71 iP P 10 45 55.1 -1.8
comp=Z,6μm,0.8s
TAR1 Taranto 20.21 283 iP P 10 45 56.2 -1.1
VYHS Vyhne 20.24 307 eP Pn 10 45 58.7 -0.8
VYHS pmax pmax
comp=Z,3μm,1.7s
VYHS Vyhne 20.24 307 eP Pn 10 45 58.7 -0.8
comp=Z,3μm,1.7s
VYHS Vyhne 20.24 307 eP Pn 10 45 58.7 -0.8
VYHS eS Sn 10 49 52.1 +4.7
VYHS eL L 10 55 55.9
IIGN Ignalina 20.26 331 eP P 10 45 57.3 -0.4
IIGN IAmb IAmb 10 46 11.8
comp=Z,4μm,1.6s
CSKK Cs˘‡kako 20.26 303⇑ eP Pn 10 45 59.2 -0.6
MASS Massafra 20.31 284 iP P 10 45 57.3 -1.1
OJC Ojcow 20.32 312 eP P 10 45 58.7 +0.3
OJC eS S 10 49 44.9 -1.4
OJC LMZ LR 10 54 24.7
comp=Z,434μm,23.5s
OJC Ojcow 20.32 312 eP P 10 45 58.7 +0.3
OJC eS S 10 49 44.9 -1.4
OJC MLR MLR
comp=Z,434μm,23.5s
OJC Ojcow 20.32 312 eP P 10 45 58.7 +0.3
comp=Z,34μm,23.5s
OJC eS S 10 49 44.9 -1.4
OJC Ojcow 20.32 312 eP P 10 45 58.2 -0.2
comp=Z,3μm,1.3s
ARU Arti 20.35 25 P P 10 45 58.6 -0.1
comp=Z,1μm,0.8s,baz=223,slow=7.0,SNR=174
ARU S S 10 49 43.5 -3.3
comp=Z,123nm,0.9s,baz=75,slow=20,SNR=1.7
ARU LR LR 10 55 33.2
comp=Z,599μm,20.1s,baz=216,slow=42
ARU Arti 20.35 25 iP P 10 45 58.3 -0.4
ARU 10 46 20.3
ARU S Sn 10 49 49.3 -0.7
ARU SS PcP 10 50 09.5 -1.9
ARU pmax pmax
comp=Z,7μm,1.7s
ARU pmax pmax
comp=Z,289μm,16.2s
ARU MLR MLR
comp=Z,1094μm,15.0s
ARU Arti 20.35 25 eP P 10 45 59.0 +0.3
comp=Z,8μm,1.4s
ARU S S 10 49 43.5 -3.3
ARU Arti 20.35 25 PcP PcP 10 50 09.5 -1.9
comp=Z,94μm,15.0s
ARU Arti 20.35 25 eP P 10 45 59.0 +0.3
comp=Z,8μm,1.4s
ARU S S 10 49 43.5 -3.3
BRLS Boroldoy 20.38 69 iP P 10 45 56.6 -2.5
comp=Z,469nm,0.7s
BRLS iS S 10 49 46.1 -1.5
BRLS LRM MLR 10 55 49.1
comp=Z,36μm,16.0s
BLY Banja Luka 20.45 296⇑ iP P 10 46 00.5 +0.6
BLY Banja Luka 20.45 296 eP P 10 46 00.6 +0.6
comp=Z,1μm,1.1s
BLY LR LR
comp=Z,705μm,18.0s
ISAL Salakas 20.46 331 eP P 10 45 59.4 -0.5
ISAL IAmb IAmb 10 46 14.2
comp=Z,3μm,1.6s
BAI Bari 20.49 285 iP P 10 45 59.3 -1.0
IUG Iuzhnay 20.49 72 iP P 10 45 58.7 -1.8
comp=Z,3μm,0.7s
IUG iS S 10 49 49.8 -0.2
IUG LR LR 10 53 49.6
comp=Z,124μm,15.0s
BEL Belsk 20.53 317 eP P 10 46 01.2 +0.5
BEL eS Sn 10 49 55.7 +1.4
BEL LMZ LR 10 54 02.8
comp=Z,620μm,24.8s
BEL Belsk 20.53 317 eP P 10 46 01.2 +0.5
BEL eS Sn 10 49 55.7 +1.4
BEL MLR MLR
comp=Z,620μm,24.8s
BEL Belsk 20.53 317 eP P 10 46 01.2 +0.5
comp=Z,20μm,24.8s
IZAR Zarasai 20.55 332 eP P 10 46 00.3 -0.5
IZAR IAmb IAmb 10 46 15.2
comp=Z,4μm,1.6s
LJBD Adjabya 20.58 255 iP P 10 46 01.0 -0.4
SNR=51
LJBD eS S 10 49 51.5 -0.2
SNR=53
SUW Suwalki 20.60 324 eP P 10 46 01.3 -0.1
SUW eS S 10 49 50.6 -1.2
SUW LMZ LR 10 53 37.3
comp=Z,392μm,24.4s
SUW Suwalki 20.60 324 eP P 10 46 01.3 -0.1
SUW eS S 10 49 50.6 -1.2
SUW MLR MLR
comp=Z,392μm,24.4s
SUW Suwalki 20.60 324 eP P 10 46 01.3 -0.1
comp=Z,92μm,24.4s
SUW eS S 10 49 50.6 -1.2
SG1 Sgolgore (BA) 20.65 284 iP P 10 46 01.2 -1.0
MRAK Mrakovica 20.69 296 eP Pn 10 46 05.3 +0.4
KK31 Karatay Array 20.88 69 iP P 10 46 04.9 +0.4
KK31 pmax pmax
comp=Z,6μm,1.4s
KK31 Karatay Array 20.88 69 iP P 10 46 04.9 +0.4
comp=Z,6μm,1.4s
KKAR Karatay Array 20.88 69 eP P 10 46 04.8 +0.2
KKAR Karatay Array 20.88 69 eP P 10 46 04.8 +0.2
comp=Z,10μm,1.1s
KKAR Karatay Array 20.88 69 eP P 10 46 04.8 +0.2
comp=Z,23μm,1.1s
KBL Kabul 20.94 94 eP Pn 10 46 07.3 -0.7
KBL pmax pmax
comp=Z,4μm,1.5s
KBL MLR MLR
comp=Z,457μm,20.0s
KBL Kabul 20.94 94 eP Pn 10 46 07.3 -0.7
comp=Z,4μm,1.5s
KBL Kabul 20.94 94 eP Pn 10 46 07.3 -0.7
comp=Z,4μm,1.5s
KBL LR LR
comp=Z,457μm,20.0s
CDT Castel del Mon 20.95 285 iP P 10 46 04.5 -0.9
BEHE Becsehely 21.03 300⇑ iP P 10 46 07.3 +1.1
BEHE Becsehely 21.03 300⇑ eP P 10 46 07.5 +1.3
SMOL Smolenice 21.13 306 eP P 10 46 09.3 +2.1
SMOL eS Sn 10 50 09.6 +0.7
SMOL Smolenice 21.13 306 eP P 10 46 09.3 +2.1
SMOL Smolenice 21.13 306 ePcP PcP 10 50 09.6 -3.4
SMOL Smolenice 21.13 306 eP P 10 46 09.3 +2.1
SMOL eS Sn 10 50 09.6 +0.7
OKC Ostrava-Krasne 21.14 310⇑ eP P 10 46 07.0 -0.3
OKC eS Sn 10 50 07.7 -1.3
OKC AMS AMS 10 57 40.0
comp=Z,650μm,11.3s
OKC Ostrava-Krasne 21.14 310 eP P 10 46 07.0 -0.3
OKC eS Sn 10 50 07.7 -1.3
OKC MLR MLR
comp=Z,650μm,11.3s
OKC Ostrava-Krasne 21.14 310 eP P 10 46 07.0 -0.3
comp=Z,50μm,11.3s
MS1 Monte Sant'Ang 21.18 287 iP P 10 46 06.9 -1.0
RAC Raciborz 21.21 311 eP P 10 46 08.5 +0.5
RAC eS S 10 50 04.8 +1.0
RAC MLR MLR
comp=N,1240μm,20.1s
RAC MLR MLR
comp=Z,812μm,17.0s
RAC MLR MLR
comp=E,940μm,20.3s
RAC Raciborz 21.21 311 eP P 10 46 08.5 +0.5
comp=E,1240μm,20.1s
RAC eS S 10 50 04.8 +1.0
comp=E,12μm,17.0s
SVE Sverdlovsk 21.37 26 diP P 10 46 09.9 +0.2
SVE iS S 10 50 06.2 -0.7
SVE pmax pmax
comp=Z,266μm,14.7s
SVE pmax pmax
comp=Z,7μm,1.5s
SVE MLR MLR
comp=E,1562μm,17.0s
SVE MLR MLR
comp=Z,1767μm,17.0s
SVE MLR MLR
comp=N,1002μm,16.0s
SVE Sverdlovsk 21.37 26 iP P 10 46 09.9 +0.2
comp=N,7μm,1.5s
SVE iS S 10 50 06.2 -0.7
comp=N,1002μm,16.0s
CUC Castrocucco 21.37 282 eP P 10 46 10.0 +0.1
comp=N,7μm,1.7s
CUC Castrocucco 21.37 282 eP P 10 46 10.0 +0.1
comp=N,7μm,1.7s
CUC LR LR
comp=Z,461μm,21.0s
KOGS Kog 21.38 300⇑ iP P 10 46 10.6 +0.6
comp=Z,74μm,4.1s
KOGS eS Sn 10 50 14.0 -1.0
comp=Z,512μm,10.7s
UDBI Udbina 21.43 295 P P 10 46 09.5 -1.1
ZAG Zagreb 21.45 298⇑ iP P 10 46 11.0 +0.3
SOP Sopron 21.46 303 P P 10 46 11.1 +0.4
SOP pmax pmax
comp=Z,2μm,1.1s
SOP Sopron 21.46 303 P P 10 46 11.1 +0.4
comp=Z,2μm,1.1s
SOP Sopron 21.46 303⇑ eP P 10 46 11.6 +0.9
DZA Taraz 21.47 70 iP P 10 46 09.5 -1.4
comp=Z,2μm,1.7s
MORC Moravsky Berou 21.48 309⇑ iP P 10 46 11.3 +0.3
MORC Moravsky Berou 21.48 309 eP P 10 46 11.4 +0.3
MORC Moravsky Berou 21.48 309⇑ iP P 10 46 11.3 +0.3
MORC Moravsky Berou 21.48 309 eP P 10 46 11.4 +0.3
comp=Z,16μm,1.8s
CEL Celeste 21.54 277 eP P 10 46 10.9 -0.9
comp=Z,9μm,1.8s
CEL Celeste 21.54 277 eP P 10 46 10.9 -0.9
comp=Z,9μm,1.8s
CEL LR LR
comp=Z,620μm,22.0s
OZLJ Ozalj 21.78 297 P P 10 46 14.6 +0.4
CRES Cresnjev 21.82 298⇑ iP P 10 46 14.8 +0.2
VRAC Vranov 21.90 308 P P 10 46 15.9 +0.3
comp=Z,306nm,0.8s,baz=106,slow=8.9,SNR=101
VRAC PcP PcP 10 50 16.3 +1.8
comp=Z,114nm,1.1s,baz=110,slow=5.7,SNR=4.1
VRAC LR LR 10 56 38.7
comp=Z,226μm,19.6s,baz=101,slow=42
VRAC Vranov 21.90 308 P P 10 46 15.9 +0.3
VRAC 10 50 16.3
VRAC pmax pmax
comp=Z,667nm,0.9s
VRAC MLR MLR
comp=Z,226μm,19.6s
VRAC Vranov 21.90 308 P P 10 46 15.9 +0.3
comp=Z,667nm,0.9s
VRAC Vranov 21.90 308 PcP PcP 10 50 16.3 +1.8
comp=Z,26μm,19.6s
BOJS Bojanci 21.91 297⇑ iP P 10 46 15.9 +0.3
comp=Z,82μm,5.0s
BOJS eS S 10 50 20.2 +2.4
comp=Z,865μm,12.2s
CONA Conrad Observa 21.97 304 iP P 10 46 16.7 +0.3
comp=Z,434nm,0.9s,SNR=618
CONA Conrad Observa 21.97 304 P P 10 46 16.7 +0.3
comp=Z,434nm,0.9s,SNR=618
ARSA Arzberg 22.04 302 iP P 10 46 17.4 +0.4
comp=Z,431nm,0.9s,SNR=338
ARSA Arzberg 22.04 302 P P 10 46 17.4 +0.4
comp=Z,431nm,0.9s,SNR=338
KRLC Kraliky 22.05 310⇑ iP P 10 46 16.7 -0.4
KRLC Kraliky 22.05 310⇑ iP P 10 46 16.7 -0.4
KRLC Kraliky 22.05 310 iP P 10 46 16.7 -0.4
NVLJ Novalja 22.07 294 P P 10 46 17.8 +0.5
PERS Pernice 22.19 300⇑ eP P 10 46 18.8 +0.1
comp=Z,93μm,6.7s
PERS eS S 10 50 23.9 +0.7
comp=Z,454μm,11.9s
SOKA Soboth 22.25 300 iP P 10 46 19.6 +0.2
comp=Z,333nm,0.9s,SNR=164
SOKA Soboth 22.25 300 P P 10 46 19.6 +0.2
comp=Z,333nm,0.9s,SNR=164
KLMR Klimovskoe 22.29 355 ciP P 10 46 17.8 -1.7
KLMR e 10 46 40.0
KLMR e 10 50 12.0
KLMR eS S 10 50 24.6 0.0
KLMR pmax pmax
comp=Z,5μm,0.5s
KLMR MLR MLR
comp=Z,202μm,14.0s
KLMR Klimovskoe 22.29 355 iP P 10 46 17.8 -1.7
comp=Z,5μm,0.5s
KLMR Klimovskoe 22.29 355 ePcP PcP 10 50 12.0 -3.0
KLMR eS S 10 50 24.6 0.0
comp=Z,2μm,14.0s
MNAS Manas 22.33 71 P P 10 46 20.4 +0.1
MNAS pmax pmax
comp=Z,4μm,1.9s
MNAS Manas 22.33 71 P P 10 46 20.4 +0.1
comp=Z,4μm,1.9s
DPC Dobruska-Polom 22.42 310⇑ iP P 10 46 20.7 -0.4
DPC eS S 10 50 33.6 +6.1
DPC AMS AMS 10 58 40.0
comp=Z,500μm,11.2s
DPC Dobruska-Polom 22.42 310⇑ iP P 10 46 20.7 -0.4
DPC MLR MLR
comp=Z,500μm,11.2s
DPC Dobruska-Polom 22.42 310 iP P 10 46 20.7 -0.4
comp=Z,100μm,11.2s
LJU Ljubljana 22.49 298⇑ eP P 10 46 21.9 +0.1
comp=Z,141μm,5.5s
LJU eS S 10 50 28.2 -0.6
comp=Z,943μm,12.8s
LJU Ljubljana 22.49 298⇑ iP P 10 46 22.3 +0.4
VSU Vasula 22.51 337 ciP P 10 46 20.8 -1.1
VSU MLR MLR
comp=Z,2521μm,16.0s
VSU Vasula 22.51 337 eP P 10 46 21.0 -0.9
SNR=34
VSU eS S 10 50 28.6 -0.2
SNR=36
CEY Cerknica 22.52 297⇑ iP P 10 46 22.1 -0.1
SOKR Solikamsk 22.55 18 ciP P 10 46 19.6 -2.7
SOKR S S 10 50 30.9 +1.4
SOKR pmax pmax
comp=Z,4μm,1.3s
SOKR pmax pmax
comp=Z,260μm,16.0s
SOKR MLR MLR
comp=Z,1207μm,18.0s
OBKA Obir 22.55 300 iP P 10 46 22.8 +0.2
comp=Z,210nm,0.9s,SNR=78
OBKA Obir 22.55 300 P P 10 46 22.8 +0.2
comp=Z,210nm,0.9s,SNR=78
TREC Trest 22.59 307⇑ iP P 10 46 23.0 +0.1
TREC eS S 10 50 32.7 +2.1
TREC AMS AMS 10 57 30.0
comp=Z,704μm,14.1s
TREC Trest 22.59 307⇑ iP P 10 46 23.0 +0.1
TREC eS S 10 50 32.7 +2.1
TREC MLR MLR
comp=Z,704μm,14.1s
TREC Trest 22.59 307 iP P 10 46 23.0 +0.1
comp=Z,4μm,14.1s
TREC eS S 10 50 32.7 +2.1
KSP Ksiaz 22.62 311 eP P 10 46 23.3 +0.1
KSP eS S 10 50 32.3 +1.3
KSP LMZ LR 10 55 56.6
comp=Z,408μm,22.2s
KSP Ksiaz 22.62 311 eP P 10 46 23.3 +0.1
KSP eS S 10 50 32.3 +1.3
KSP MLR MLR
comp=Z,408μm,22.2s
KSP Ksiaz 22.62 311 eP P 10 46 23.3 +0.1
comp=Z,8μm,22.2s
KSP eS S 10 50 32.3 +1.3
PUL Pulkovo 22.65 343 ceP P 10 46 23.3 -0.1
PUL MLR MLR
comp=Z,682μm,17.0s
PUL Pulkovo 22.65 343 eP P 10 46 23.3 -0.1
comp=Z,82μm,17.0s
PUL eS S 10 50 30.5 -0.9
SNR=36
UPC Upice 22.66 310⇑ iP P 10 46 23.3 -0.4
UPC eS S 10 50 34.9 +3.0
UPC AMS AMS 10 59 20.0
comp=Z,668μm,14.2s
UPC Upice 22.66 310⇑ iP P 10 46 23.3 -0.4
UPC eS S 10 50 34.9 +3.0
UPC MLR MLR
comp=Z,668μm,14.2s
UPC Upice 22.66 310 iP P 10 46 23.3 -0.4
comp=Z,68μm,14.2s
CRNS Crni Vrh 22.68 298 eP P 10 46 24.0 +0.1
comp=Z,165μm,5.8s
CRNS eS S 10 50 34.6 +2.2
VAE Valguarnera 22.84 276 P P 10 46 25.9 +0.2
comp=Z,152nm,0.9s,baz=350,slow=3.6,SNR=33
VAE S Sn 10 50 43.8 -6.4
comp=Z,74nm,1.0s,baz=208,slow=8.1,SNR=2.5
VAE LR LR 10 56 05.5
comp=Z,510μm,18.1s,baz=101,slow=39
HAJJ Hajjah 22.94 180⇑ eP P 10 46 28.2 +1.2
HAJJ AMb AMB 10 46 30.4
comp=Z,2μm,1.5s
HAJJ Hajjah 22.94 180⇑ eP P 10 46 28.2 +1.2
comp=Z,1μm,1.5s
TRI Trieste 22.97 297 eP P 10 46 26.9 0.0
TRI pmax pmax
comp=Z,6μm,1.6s
TRI Trieste 22.97 297 eP P 10 46 26.9 0.0
comp=Z,6μm,1.6s
TRI Trieste 22.97 297 eP P 10 46 26.9 0.0
comp=Z,6μm,1.6s
MOA Molln 23.00 303 iP P 10 46 27.3 +0.1
comp=Z,677nm,1.1s,SNR=571
MOA Molln 23.00 303 P P 10 46 27.3 +0.1
comp=Z,677nm,1.1s,SNR=571
AQU L'Aquila 23.06 289 eP P 10 46 27.6 -0.3
AQU pmax pmax
comp=Z,4μm,1.2s
AQU MLR MLR
comp=Z,1631μm,19.0s
AQU L'Aquila 23.06 289⇑ iP P 10 46 27.3 -0.6
AQU L'Aquila 23.06 289 eP P 10 46 27.6 -0.3
comp=Z,4μm,1.2s
AQU LR LR
comp=Z,1631μm,19.0s
CADS Cadrg 23.06 299⇑ eP P 10 46 27.5 -0.4
comp=Z,137μm,6.2s
CADS eS S 10 50 38.5 -0.5
GKP Gorka Klasztor 23.12 318 eP P 10 46 28.4 -0.1
GKP eS S 10 50 44.2 +4.4
GKP LMZ LR 10 56 52.6
comp=Z,736μm,22.0s
GKP Gorka Klasztor 23.12 318 eP P 10 46 28.3 -0.1
GKP eS S 10 50 44.2 +4.4
GKP MLR MLR
comp=Z,736μm,22.0s
GKP Gorka Klasztor 23.12 318 eP P 10 46 28.3 -0.1
comp=Z,36μm,22.0s
WDD Wied Dalam 23.15 272 eP P 10 46 27.1 -1.7
comp=Z,10μm,1.8s
WDD Wied Dalam 23.15 272 eP P 10 46 27.1 -1.7
comp=Z,12μm,1.8s
WDD LR LR
comp=Z,414μm,19.0s
MYKA Terra Mystica 23.19 300 iP P 10 46 29.1 -0.1
comp=Z,193nm,1.0s,SNR=141
MYKA Terra Mystica 23.19 300 P P 10 46 29.1 -0.1
comp=Z,193nm,1.0s,SNR=141
LSRT Sirt 23.20 259 iP P 10 46 28.7 -0.7
SNR=49
GOPC GO Pecny, Ondr 23.21 308⇑ iP P 10 46 28.7 -0.7
GOPC eS S 10 50 44.8 +3.4
GOPC AMS AMS 10 58 20.0
comp=Z,670μm,13.9s
GOPC GO Pecny, Ondr 23.21 308⇑ iP P 10 46 28.7 -0.7
GOPC eS S 10 50 44.8 +3.4
GOPC MLR MLR
comp=Z,670μm,13.9s
GOPC GO Pecny, Ondr 23.21 308 iP P 10 46 28.7 -0.7
comp=Z,70μm,13.9s
BRVK Borovoye 23.36 43 ciP P 10 46 30.6 -0.2
BRVK Borovoye 23.36 43 eP P 10 46 31.0 +0.2
comp=Z,7μm,1.6s
BRVK Borovoye 23.36 43 eP P 10 46 31.0 +0.2
comp=Z,7μm,1.6s
BRVK Borovoye 23.36 43 pP P 10 46 31.0 +0.2
SNR=2417
BRVK Borovoye 23.36 43 P P 10 46 31.0 +0.2
SNR=2417
PRU Pruhonice 23.38 308⇑ eP P 10 46 30.6 -0.5

PRU *e*S **S** **10 50 46.7 +2.5**
PRU AMS AMS 10 58 20.0
comp=Z,613µm,14.1s
PRU Pruhonice 23.38 308 *e*P **P** **10 46 30.6 -0.5**
PRU *e*S **S** **10 50 46.7 +2.5**
PRU MLR MLR
comp=Z,613µm,14.1s
PRU Pruhonice 23.38 308 *e*P **P** **10 46 30.6 -0.5**
comp=Z,13µm,14.1s
PRU *e*S **S** **10 50 46.7 +2.5**
BVA0 Borovoye Array 23.40 44 P **P** **10 46 30.4 -0.8**
BVA0 pmax pmax
comp=Z,5µm,1.7s
BVA0 Borovoye Array 23.40 44 P **P** **10 46 30.4 -0.8**
comp=Z,5µm,1.7s
BVAR Borovoye Array 23.40 44 P **P** **10 46 31.1 -0.1**
comp=Z,746nm,1.0s,baz=236,slow=6.9,SNR=183
BVAR PcP **PcP** **10 50 18.3 +0.8**
comp=Z,105nm,1.0s,baz=302,slow=4.4,SNR=3.8
BVAR S **S** **10 50 48.6 +4.1**
comp=Z,53nm,1.0s,baz=187,slow=17,SNR=2.6
BVAR LR LR 10 57 14.4
comp=Z,642µm,20.2s,baz=246,slow=41
BVAR P3KPbc 11 19 57.5
comp=Z,4.6nm,0.9s,baz=64,slow=5.0,SNR=7.9
SLIT Slitere, Latvi 23.41 331 *e*P **P** **10 46 30.0 -1.3**
SNR=33
SLIT *e*S **S** **10 50 44.9 +0.4**
SNR=29
KBA Koelnbreinsper 23.46 301 P **P** **10 46 32.6 +0.5**
KBA Koelnbreinsper 23.46 301 *i* pP **P** **10 46 32.3 +0.2**
comp=Z,525nm,0.9s,SNR=378
KBA Koelnbreinsper 23.46 301 P **P** **10 46 32.3 +0.2**
comp=Z,525nm,0.9s,SNR=378
PRA Prague 23.48 308⇑ *e*P **P** **10 46 31.9 -0.1**
PRA *e*S **S** **10 50 49.1 +3.4**
PRA AMS AMS 10 58 40.0
comp=Z,619µm,13.4s
PRA Prague 23.48 308 *e*P **P** **10 46 31.9 -0.1**
PRA *e*S **S** **10 50 49.1 +3.4**
PRA MLR MLR
comp=Z,619µm,13.4s
PRA Prague 23.48 308 *e*P **P** **10 46 31.9 -0.1**
comp=Z,19µm,13.4s
PRA *e*S **S** **10 50 49.1 +3.4**
PVCC Panska Ves 23.54 309⇑ *i*P **P** **10 46 32.2 -0.4**
PVCC *e*S **S** **10 50 50.5 +3.8**
PVCC AMS AMS 10 58 30.0
comp=Z,908µm,12.5s
PVCC Panska Ves 23.54 309⇑ *i*P **P** **10 46 32.2 -0.4**
PVCC *e*S **S** **10 50 50.5 +3.8**
PVCC MLR MLR
comp=Z,908µm,12.5s
PVCC Panska Ves 23.54 309 *i* P **P** **10 46 32.2 -0.4**
comp=Z,8µm,12.5s
PVCC *e*S **S** **10 50 50.5 +3.8**
BTLS Baital 23.55 65 *i* P **P** **10 46 31.4 -1.3**
comp=Z,6µm,0.9s
BTLS *i* S **S** **10 50 46.9 -0.1**
BTLS LRM MLR 10 57 42.7
comp=Z,240µm,16.8s
BRZS Berezniki 23.58 52 *i* P **P** **10 46 31.8 -1.3**
comp=Z,259nm,0.9s
GEC2 GERESS Array S 23.60 305 *e*P **P** **10 46 33.3 0.0**
GEC2 pmax pmax
comp=Z,8µm,1.9s
GEC2 GERESS Array S 23.60 305 *e*P **P** **10 46 33.3 0.0**
comp=Z,8µm,1.9s
GEC2 GERESS Array S 23.60 305 *e*P **P** **10 46 33.3 0.0**
comp=Z,8µm,1.9s
GERES GERESS Array B 23.60 305 P **P** **10 46 32.9 -0.5**
comp=Z,75nm,0.7s,baz=107,slow=8.5,SNR=135
GERES PcP **PcP** **10 50 19.6 +1.5**
comp=Z,75nm,1.0s,baz=142,slow=1.9,SNR=6.0
GERES S **S** **10 50 57.1 +9.2**
comp=Z,32nm,1.2s,baz=39,slow=28,SNR=1.8
GERES LR LR 10 57 21.4
comp=Z,383µm,21.7s,baz=108,slow=41
GERES P3KPbc 11 19 58.8
comp=Z,10nm,1.2s,baz=276,slow=0.9,SNR=13
MTSE Matsula 23.66 334 *e*P **P** **10 46 33.5 -0.2**
SNR=147
MTSE *e*S **S** **10 50 48.8 +0.4**
SNR=29
KHC Kasperske Hory 23.75 306⇑ *i*P **P** **10 46 34.3 -0.4**
KHC *e*S **S** **10 50 50.2 0.0**
KHC AMS AMS 10 58 00.0
comp=Z,592µm,12.9s
KHC Kasperske Hory 23.75 306 *e*P **P** **10 46 34.9 +0.2**
KHC pmax pmax
comp=Z,4µm,1.8s
KHC Kasperske Hory 23.75 306 P **P** **10 46 34.3 -0.4**
KHC S **S** **10 50 50.2 0.0**
KHC Kasperske Hory 23.75 306 *e*P **P** **10 46 34.9 +0.2**
comp=Z,4µm,1.8s
CLTB Caltabellotta 23.75 277 *e*P **P** **10 46 33.6 -1.4**
comp=Z,3µm,1.4s
CLTB Caltabellotta 23.75 277 *e*P **P** **10 46 33.6 -1.4**
comp=Z,3µm,1.4s
CLTB LR LR
comp=Z,425µm,19.0s
AAK Ala-Archa 23.80 71 P **P** **10 46 36.1 +0.7**
comp=Z,742nm,1.2s,baz=257,slow=8.2,SNR=113
AAK PcP **PcP** **10 50 20.3 +1.5**
comp=Z,165nm,0.9s,baz=218,slow=3.4,SNR=4.4
AAK LR LR 10 57 54.2
comp=Z,520µm,18.3s,baz=271,slow=42
AAK Ala-Archa 23.80 71 *e*P **P** **10 46 36.0 +0.6**
comp=Z,8µm,1.8s
AAK Ala-Archa 23.80 71 *e*P **P** **10 46 36.0 +0.6**
comp=Z,8µm,1.8s
AAK PcP **PcP** **10 50 20.3 +1.5**
AAK Ala-Archa 23.80 71 pP **P** **10 46 36.3 +0.9**
SNR=2122
AAK Ala-Archa 23.80 71 P **P** **10 46 36.3 +0.9**
SNR=2122
FRU Bishkek 23.88 70 *e*P **P** **10 46 37.0 +0.9**
FRU *i* 10 46 39.0
FRU *i* S **S** **10 50 49.0 -3.4**
FRU smax smax
comp=E,36µm,9.5s
FRU Bishkek 23.88 70 *e*P **P** **10 46 37.0 +0.9**
FRU *i* S **S** **10 50 49.0 -3.4**
ABTA Abfaltersbach 23.97 300 *i* P **P** **10 46 36.8 -0.2**
comp=E,293nm,0.9s,SNR=293
ABTA Abfaltersbach 23.97 300 P **P** **10 46 36.8 -0.2**
comp=E,293nm,0.9s,SNR=293
BRG Berggiesshubel 24.03 310⇑ *i*P **P** **10 46 37.2 -0.1**
comp=E,1µm,1.5s
BRG *i* PP PnPn 10 47 31.9 +26
comp=E,2µm,1.8s
BRG *i* PCP **PcP** **10 50 19.9 +1.1**
comp=E,693nm,1.7s
BRG S **S** **10 51 00.0 +5.5**
comp=N,614µm,13.5s
comp=E,428µm,12.5s
comp=Z,643µm,12.3s
BRG Berggiesshubel 24.03 310⇑ *i*P **P** **10 46 37.2 -0.1**
BRG *i* 10 50 19.9
BRG S **S** **10 51 00.0 +5.5**
BRG pmax pmax
comp=Z,1µm,1.5s
BRG MLR MLR
comp=N,614µm,13.5s
BRG MLR MLR
comp=E,428µm,12.5s
BRG MLR MLR
comp=Z,643µm,12.3s
BRG Berggiesshubel 24.03 310 *i* P **P** **10 46 37.2 -0.1**
comp=Z,1µm,1.5s
DAMY Dhamar 24.08 178 *e*P **P** **10 46 39.6 +1.2**
comp=Z,6µm,1.6s
DAMY Dhamar 24.08 178 *e*P **P** **10 46 39.6 +1.2**
comp=Z,6µm,1.6s
DHBB Dhamar BB 24.08 178⇑ *e*P **P** **10 46 39.3 +1.0**
DHBB AMb AMB 10 46 44.2
comp=Z,11µm,2.6s
DHBB *i* S **S** **10 51 00.2 +4.0**
WET Wettzell 24.20 305 P **P** **10 46 38.6 -0.4**
WET Wettzell 24.20 305 P **P** **10 46 38.6 -0.4**
MEF Metsahovi 24.64 337 *e*P **P** **10 46 42.4 -0.4**
SNR=152
WTTA Wattenberg 24.64 301 *i* P **P** **10 46 42.6 -0.6**
comp=Z,448nm,0.7s,SNR=111
WTTA Wattenberg 24.64 301 P **P** **10 46 42.6 -0.6**
comp=Z,448nm,0.7s,SNR=111

UDYN Al 'Udayn 24.67 179⇑ *e*P **P** **10 46 44.9 +1.3**
UDYN *i* S **S** **10 51 08.8 +3.3**
UDYN Al 'Udayn 24.67 179⇑ *e*P **P** **10 46 44.9 +1.3**
WATA Walderalm 24.69 301 *i* P **P** **10 46 42.9 -0.8**
comp=Z,796nm,0.9s,SNR=288
WATA Walderalm 24.69 301 P **P** **10 46 42.9 -0.8**
comp=Z,796nm,0.9s,SNR=288
CLL Collm 24.73 311 *e*P **P** **10 46 43.8 +0.1**
CLL pmax pmax
comp=Z,1µm,1.0s
CLL Collm 24.73 311 *e*P **P** **10 46 43.8 +0.1**
comp=Z,1µm,1.0s
CLL Collm 24.73 311 *i* P **P** **10 46 43.7 +0.1**
comp=Z,709nm,1.0s
CLL *i* Pmax 10 46 47.1
comp=Z,1µm,1.1s
CLL *e*Plp 10 46 48.0
comp=Z,70µm,30.0s
CLL *e*Pmax 10 46 51.0
CLL *e* 10 47 11.0
CLL *e*PPmax 10 47 21.0
CLL *e* 10 48 26.0
CLL *e*PcP **PcP** **10 50 22.0 +1.6**
comp=Z,426nm,1.4s
CLL *e*S **S** **10 51 10.0 +4.3**
comp=N,319µm,23.6s
CLL *e*S **S** **10 51 10.0 +4.3**
comp=E,488µm,19.5s
CLL *e*S **S** **10 51 10.0 +4.3**
comp=Z,461µm,22.5s
CLL *e*Lmax 10 59 18.0
CLL Collm 24.73 311 *e*P **P** **10 46 43.8 +0.1**
comp=Z,1µm,1.0s
BDHA Al Bayda' 24.73 175⇑ *e*P **P** **10 46 45.2 +1.0**
BDHA Al Bayda' 24.73 175⇑ *e*P **P** **10 46 45.2 +1.0**
NKC Novy Kostel 24.75 308⇑ *i*P **P** **10 46 44.0 +0.1**
NKC *e*S **S** **10 51 14.3 +8.2**
NKC AMS AMS 10 59 20.0
comp=Z,891µm,14.6s
NKC Novy Kostel 24.75 308⇑ *i*P **P** **10 46 44.0 +0.1**
NKC MLR MLR
comp=Z,891µm,14.6s
NKC Novy Kostel 24.75 308 *i* P **P** **10 46 44.0 +0.1**
comp=Z,91µm,14.6s
LJFR Jufra 24.78 256 *i* P **P** **10 46 44.7 +0.3**
SNR=41
MOTA Moosalm 25.01 301 *i* P **P** **10 46 45.4 -1.1**
comp=Z,727nm,0.7s,SNR=656
MOTA Moosalm 25.01 301 P **P** **10 46 45.4 -1.1**
comp=Z,727nm,0.7s,SNR=656
FIA1 FINESS Array S 25.16 340 *e*P **P** **10 46 46.9 -0.6**
comp=Z,2µm,1.3s
FIA1 FINESS Array S 25.16 340 *e*P **P** **10 46 46.9 -0.6**
comp=Z,2µm,1.3s
FINES FINESS Array B 25.16 340 P **P** **10 46 46.5 -0.9**
comp=Z,372nm,0.9s,baz=146,slow=11,SNR=166
FINES PcP **PcP** **10 50 22.4 +1.2**
comp=Z,109nm,1.0s,baz=197,slow=4.4,SNR=4.5
FINES S **S** **10 51 15.6 +3.1**
comp=Z,38nm,0.9s,baz=142,slow=28,SNR=2.4
FINES LR LR 10 58 14.1
comp=Z,844µm,18.6s,baz=142,slow=40
FINES P3KPbc 11 19 48.0
comp=Z,2.6nm,0.8s,baz=184,slow=2.2,SNR=3.9
KSH Kashi 25.18 78⇑ *i*P **P** **10 46 47.0 -1.0**
KSH pP sP 10 46 54.3 +3.0
KSH sP pP 10 46 56.3 +6.0
KSH PP **PnPn** **10 47 24.3 +2.5**
KSH *e*PcP **PcP** **10 50 23.9 +2.1**
KSH S **S** **10 51 09.1 -4.4**
KSH sS sS 10 51 19.1 +1.9
KSH pmax pmax
comp=Z,850nm,1.3s
KSH pmax pmax
comp=Z,66µm,5.9s
KSH LR LR
comp=Z,172µm,10.1s
KSH LR LR
comp=Z,187µm,10.0s
KSH LR LR
comp=Z,154µm,13.1s
BSD Bornholm Skovb 25.21 320⇑ *i*P **P** **10 46 46.7 -1.3**
comp=Z,2µm,1.4s
comp=Z,444µm,14.0s
BSD Bornholm Skovb 25.21 320⇑ *i*P **P** **10 46 46.7 -1.3**
BSD pmax pmax
comp=Z,2µm,1.4s
BSD MLR MLR
comp=Z,440µm,14.0s
BSD Bornholm Skovb 25.21 320⇑ *i*P **P** **10 46 46.7 -1.3**
SNR=28
BSD *e*S **S** **10 51 14.9 +1.6**
SNR=151
FETA Feichten 25.22 300 *i* P **P** **10 46 47.9 -0.5**
comp=Z,396nm,1.0s,SNR=149
FETA Feichten 25.22 300 P **P** **10 46 47.9 -0.5**
comp=Z,396nm,1.0s,SNR=149
VLC Villacollemand 25.26 293 *e*P **P** **10 46 48.8 +0.1**
comp=Z,4µm,1.7s
VLC Villacollemand 25.26 293 *e*P **P** **10 46 48.8 +0.1**
comp=Z,4µm,1.7s
RETA Reutte 25.26 301 *i* P **P** **10 46 47.7 -1.0**
comp=Z,201nm,0.6s,SNR=185
RETA Reutte 25.26 301 P **P** **10 46 47.7 -1.0**
comp=Z,201nm,0.6s,SNR=185
MOX Moxa 25.37 308 P **P** **10 46 48.9 -0.6**
MOX pmax pmax
comp=Z,623nm,1.4s
MOX Moxa 25.37 308 P **P** **10 46 48.9 -0.6**
comp=Z,623nm,1.4s
GRA1 Grafenberg Arr 25.38 306 P **P** **10 46 50.0 +0.4**
GRF Grafenberg Arr 25.38 306 P **P** **10 46 50.0 +0.4**
GRFO Grafenberg 25.38 306 *e*P **P** **10 46 50.0 +0.4**
GRFO pmax pmax
comp=Z,8µm,1.3s
GRFO Grafenberg 25.38 306 *e*P **P** **10 46 50.0 +0.4**
comp=Z,8µm,1.3s
GRFO Grafenberg 25.38 306 *e*P **P** **10 46 50.0 +0.4**
comp=Z,8µm,1.3s
TRBA At Turbah 25.40 178⇑ *e*P **P** **10 46 52.0 +1.7**
FUORN Ofenpass-Fuorn 25.49 299 *e*P **P** **10 46 51.1 +0.1**
comp=Z,2µm,1.4s
FUORN Ofenpass-Fuorn 25.49 299 *e*P **P** **10 46 51.1 +0.1**
comp=Z,2µm,1.4s
GHAR Gharyan 25.53 264 *i* P **P** **10 46 51.2 0.0**
SNR=41
AAA Alma-Ata 25.56 69 *i* P **P** **10 46 53.1 +1.7**
AAA Alma-Ata 25.56 69 *i* P **P** **10 46 53.1 +1.7**
MDOK Medeo 25.66 69 *i* P **P** **10 46 50.0 -2.4**
comp=Z,596nm,1.8s
MDOK *i* S **S** **10 51 19.9 -1.3**
MDOK LR LR 10 56 55.1
comp=Z,119µm,16.8s
TMCR Tamitsa 25.67 355 *e*P **P** **10 46 52.3 +0.2**
TMCR *e*S **S** **10 51 23.3 +2.8**
TMCR pmax pmax
comp=Z,3µm,1.5s
TMCR Tamitsa 25.67 355 *e*P **P** **10 46 52.3 +0.2**
comp=Z,3µm,1.5s
TMCR *e*S **S** **10 51 23.3 +2.8**
RGN Rugen 25.77 318 *e*P **P** **10 46 53.6 +0.5**
comp=Z,7µm,1.4s
RGN Rugen 25.77 318 *e*P **P** **10 46 53.6 +0.5**
comp=Z,7µm,1.4s
DAVOX Davos/Dischmat 25.77 299 P **P** **10 46 53.0 -0.4**
comp=Z,258nm,0.8s,baz=103,slow=6.9,SNR=113
DAVOX PcP **PcP** **10 50 24.3 +1.2**
comp=Z,119nm,1.0s,baz=76,slow=3.7,SNR=3.8
DAVOX S **S** **10 51 28.3 +5.4**
comp=Z,57nm,1.1s,baz=353,slow=17,SNR=2.1
DAVOX LR LR 10 58 15.7
comp=Z,395µm,21.1s,baz=93,slow=39
DAVA Damuels 25.83 300 *i* P **P** **10 46 53.1 -0.8**
comp=Z,281nm,0.8s,SNR=303
DAVA Damuels 25.83 300 P **P** **10 46 53.1 -0.8**
comp=Z,281nm,0.8s,SNR=303
RAF Rauma 26.09 336 *e*P **P** **10 46 55.0 -0.9**
SNR=28
RAF *e*S **S** **10 51 28.9 +1.8**
SNR=151
TUE Stuetta 26.11 298 *e*P **P** **10 46 56.1 -0.4**
comp=Z,2µm,1.7s
TUE Stuetta 26.11 298 *e*P **P** **10 46 56.1 -0.4**
comp=Z,2µm,1.7s
JMU Jammu 26.15 94 *ex* **P** **10 47 00.0 +3.2**
VSL Villasalto 26.36 283 *e*P **P** **10 46 58.4 -0.2**
comp=Z,3µm,1.5s

VSL Villasalto 26.36 283 *e*P **P** **10 46 58.4 -0.2**
VSL LR LR
comp=Z,788µm,21.0s
STU Stuttgart 26.50 303 *e*P **P** **10 46 59.0 -0.8**
STU pmax pmax
comp=Z,2µm,1.4s
STU Stuttgart 26.50 303 *e*P **P** **10 46 59.0 -0.8**
comp=Z,2µm,1.4s
STU Stuttgart 26.50 303 *e*P **P** **10 46 59.0 -0.8**
comp=Z,2µm,1.4s
TDK Taldygorghan 26.63 65 *i* P **P** **10 46 59.3 -1.8**
comp=Z,2µm,2.0s
TDK *i* S **S** **10 51 35.7 -0.5**
TDK LR LR 10 57 51.7
comp=Z,260µm,15.9s
SATY Saty 26.66 69 *i* P **P** **10 46 59.4 -2.0**
comp=Z,1µm,2.0s
SPAK Spaichingen-Ko 26.67 302⇑ *e*P **P** **10 47 00.5 -0.9**
ZHN Zhinishke 26.67 69 *i* P **P** **10 46 59.6 -2.0**
comp=Z,1µm,2.2s
LLD Lille Linde 26.68 319 *i* P **P** **10 47 01.6 +0.3**
comp=Z,5µm,1.6s
comp=Z,257µm,13.0s
LLD Lille Linde 26.68 319 *i* P **P** **10 47 01.6 +0.3**
LLD pmax pmax
comp=Z,5µm,1.6s
LLD MLR MLR
comp=Z,260µm,13.0s
LLD Lille Linde 26.68 319 *i* P **P** **10 47 01.6 +0.3**
SNR=28
COP Copenhagen 26.73 320⇑ *i*P **P** **10 47 02.2 +0.5**
COP *i* S **S** **10 51 35.7 -1.6**
comp=Z,259µm,14.0s
COP Copenhagen 26.73 320⇑ *i*P **P** **10 47 02.2 +0.5**
COP *i* S **S** **10 51 35.7 -1.6**
COP MLR MLR
comp=Z,260µm,14.0s
COP Copenhagen 26.73 320⇑ *i*P **P** **10 47 02.2 +0.5**
SNR=28
COP *i* S **S** **10 51 35.7 -1.6**
SNR=29
THN Thein Dam 26.90 94 *e*P **P** **10 47 02.0 -1.5**
TOD Tromm 26.90 305⇑ *e*P **P** **10 47 03.0 -0.4**
BFO Black Forest 27.00 302 *e*P **P** **10 47 03.2 -1.2**
BFO pmax pmax
comp=Z,1µm,1.4s
BFO Black Forest 27.00 302 *e*P **P** **10 47 03.2 -1.2**
comp=Z,1µm,1.4s
BFO Black Forest 27.00 302 *e*P **P** **10 47 03.1 -1.2**
comp=Z,1µm,1.4s
GID Gilleleje 27.05 320 *i* P **P** **10 47 07.1 +2.5**
SNR=28
ATD Arta Tunnel 27.09 181 P **P** **10 47 06.2 +0.8**
comp=Z,5.2nm,0.5s,baz=350,slow=5.9,SNR=16
ATD S **S** **10 51 52.1 +8.3**
comp=Z,5.4nm,0.4s,baz=270,slow=20,SNR=1.9
FELD Feldberg im Sc 27.16 301⇑ *e*P **P** **10 47 04.6 -1.3**
KEST Kesra 27.23 274 P **P** **10 47 06.6 0.0**
comp=Z,323nm,0.8s,baz=14,slow=4.3,SNR=84
KEST PcP **PcP** **10 50 28.3 +1.8**
comp=Z,123nm,1.0s,baz=306,slow=2.1,SNR=4.5
KEST S S 10 51 56.7 +11
comp=Z,100nm,1.4s,baz=14,slow=12,SNR=2.1
KEST Kesra 27.23 274 *e*P **P** **10 47 06.8 +0.2**
comp=Z,2µm,1.4s
KEST Kesra 27.23 274 *e*P **P** **10 47 06.8 +0.2**
comp=Z,2µm,1.4s
KEST PcP **PcP** **10 50 28.3 +1.8**
KEST S S 10 51 56.7 +11
KTD Kalmit 27.31 304⇑ *e*P **P** **10 47 06.6 -0.5**
KURBB Kurchatov Arra 27.38 53 P **P** **10 47 08.4 +0.8**
comp=Z,1µm,1.0s,baz=264,slow=9.4,SNR=259
KURBB PcP **PcP** **10 50 28.4 +1.9**
comp=Z,114nm,0.9s,baz=257,slow=3.4,SNR=5.3
KURBB S **S** **10 51 54.4 +6.7**
comp=Z,23nm,1.0s,baz=240,slow=24,SNR=2.5
KURBB P3KPbc 11 19 41.4
comp=Z,10nm,1.1s,baz=81,slow=3.7,SNR=21
KURBB PKP2ab 11 23 35.7
comp=Z,3.7nm,1.3s,baz=58,slow=3.9,SNR=4.5
STR Strasbourg 27.41 303 *e*P **P** **10 47 06.8 -1.1**
STR Strasbourg 27.41 303 *e*P **P** **10 47 06.8 -1.1**
SHLS Shalkode 27.42 69 *i* P **P** **10 47 09.2 +0.8**
comp=Z,395nm,0.8s
SHLS *e*S **S** **10 51 53.1 +4.1**
SHLS LRM MLR 10 59 43.6
comp=Z,15µm,10.2s
PDGK Podgornoye 27.44 69 *i* P **P** **10 47 09.0 +0.5**
PDGK pmax pmax
comp=Z,2µm,1.3s
PDGK Podgornoye 27.44 69 *i* P **P** **10 47 09.0 +0.5**
comp=Z,2µm,1.3s
LANF Langenberg 27.44 304⇑ *e*P **P** **10 47 07.1 -1.2**
LANF Langenberg 27.44 304 P **P** **10 47 07.2 -1.1**
LANF Langenberg 27.44 304 P **P** **10 47 07.2 -1.1**
REVF Revere 27.45 292⇑ *e*P **P** **10 47 07.9 -0.5**
REVF Revere 27.45 292⇑ *e*P **P** **10 47 07.9 -0.5**
KURK Kurchatov 27.45 53 *i* P **P** **10 47 09.0 +0.7**
KURK pmax pmax
comp=Z,10µm,1.2s
KURK MLR MLR
comp=Z,2209µm,17.0s
KURK Kurchatov 27.45 53 *i* P **P** **10 47 09.0 +0.7**
comp=Z,9µm,17.0s
KURK Kurchatov 27.45 53 PcP **PcP** **10 50 28.4 +1.8**
KURK Kurchatov 27.45 53 *e*P **P** **10 47 09.1 +0.8**
comp=Z,2µm,1.1s
KURK PcP **PcP** **10 50 28.4 +1.8**
KURK S **S** **10 51 54.4 +5.5**
KURK *e* 11 19 41.4
KURK P'P'ab **P'P'ab** **11 23 35.7 -7.5**
KURK LR LR
comp=Z,708µm,20.0s
KURK Kurchatov 27.45 53 P **P** **10 47 09.3 +1.0**
SNR=946
KURK Kurchatov 27.45 53 P **P** **10 47 09.3 +1.0**
SNR=946
LUCF Luceram 27.45 292 *e*P **P** **10 47 08.3 -0.3**
LUCF Luceram 27.45 292 *e*P **P** **10 47 08.3 -0.3**
SENIN Lac Senin/Sane 27.52 298 *e*P **P** **10 47 08.4 -0.9**
comp=Z,3µm,1.6s
SENIN Lac Senin/Sane 27.52 298 *e*P **P** **10 47 08.4 -0.9**
comp=Z,3µm,1.6s
MVIF Mont Vial 27.59 293⇑ *e*P **P** **10 47 09.8 -0.1**
MVIF Mont Vial 27.59 293⇑ *e*P **P** **10 47 09.8 -0.1**
JWA Jwalamukhi 27.60 94 *e*P **P** **10 47 08.0 -1.8**
CDF Champ du Feu 27.71 302 *e*P **P** **10 47 08.5 -2.3**
CDF pmax pmax
comp=Z,649nm,1.8s
CDF Champ du Feu 27.71 302 *e*P **P** **10 47 08.5 -2.3**
comp=Z,649nm,1.8s
MOF Molkenrain 27.74 301⇑ *e*P **P** **10 47 09.6 -1.5**
MOF Molkenrain 27.74 301⇑ *e*P **P** **10 47 09.6 -1.5**
ABH Alteburg 27.75 305⇑ *e*P **P** **10 47 11.0 0.0**
ECH Echery 27.76 302⇑ *e*P **P** **10 47 09.8 -1.4**
ECH Echery 27.76 302 *e*P **P** **10 47 10.0 -1.2**
ECH pmax pmax
comp=Z,1µm,1.8s
ECH Echery 27.76 302 *e*P **P** **10 47 10.0 -1.2**
comp=Z,1µm,1.8s
ECH Echery 27.76 302 *e*P **P** **10 47 10.0 -1.2**
comp=Z,1µm,1.8s
BHK Bhakra 27.84 95 *e*P **P** **10 47 09.8 -2.3**
LPG La Plagne 27.87 296 *e*P **P** **10 47 10.5 -2.0**
LPG pmax pmax
comp=Z,2µm,1.5s
LPG La Plagne 27.87 296 *e*P **P** **10 47 10.5 -2.0**
comp=Z,2µm,1.5s
LPL La Plagne 27.88 296 *e*P **P** **10 47 10.6 -1.9**
LPL pmax pmax
comp=Z,2µm,1.5s
LPL La Plagne 27.88 296 *e*P **P** **10 47 10.6 -1.9**
comp=Z,2µm,1.5s
LOMF Lomont 27.90 300⇑ *e*P **P** **10 47 11.8 -0.7**
LOMF Lomont 27.90 300⇑ *e*P **P** **10 47 11.8 -0.7**
BNI Bardonecchia 27.92 295 *e*P **P** **10 47 12.2 -0.5**
BNI pmax pmax
comp=Z,2µm,1.4s
BNI Bardonecchia 27.92 295 *e*P **P** **10 47 12.2 -0.5**
comp=Z,2µm,1.4s
BNI Bardonecchia 27.92 295 *e*P **P** **10 47 12.2 -0.5**
comp=Z,2µm,1.4s
HINF Hinteralfeld 27.93 301 *e*P **P** **10 47 10.4 -2.3**
HINF pmax pmax
comp=Z,247nm,1.4s

HINF Hinteralfeld 27.93 301 *eP* **P 10 47 10.4 -2.3**
comp=Z,247nm,1.4s
RSL Roselend 27.96 296⇑ *eP* **P 10 47 12.2 -0.9**
RSL Roselend 27.96 296⇑ *eP* **P 10 47 12.2 -0.9**
RUP Ruppelstein 28.03 305⇑ *eP* **P 10 47 13.0 -0.6**
SDNR Sundarnagar 28.24 94 *eP* **P 10 47 15.0 -0.6**
GDM Grand'Maison 28.31 295⇑ *eP* **P 10 47 15.4 -0.9**
GDM Grand'Maison 28.31 295⇑ *eP* **P 10 47 15.4 -0.9**
CABF La Chapelle 28.36 298 *eP* **P 10 47 15.1 -1.6**
CABF pmax pmax
comp=Z,4μm,1.6s
CABF La Chapelle 28.36 298 *eP* **P 10 47 15.1 -1.6**
comp=Z,4μm,1.6s
SEM Semipalatinsk 28.41 54 *i* P **P 10 47 15.6 -1.6**
comp=Z,551nm,0.7s
SEM *i* S **S 10 52 04.4 -0.1**
SEM LRM MLR 10 59 45.1
comp=Z,108μm,19.4s
HFS Hagfors 28.44 329 P **P 10 47 17.0 -0.1**
comp=Z,528nm,0.8s,baz=123,slow=7.2,SNR=159
HFS S **S 10 52 07.9 +3.6**
comp=Z,38nm,0.9s,baz=85,slow=35,SNR=1.8
HFS LR LR 11 00 27.8
comp=Z,574μm,19.4s,baz=124,slow=40
HFS Hagfors 28.44 329 P **P 10 47 17.0 -0.1**
CMAH Djebel Manchou 28.48 277 P **P 10 47 17.7 -0.1**
CMAH Djebel Manchou 28.48 277 P **P 10 47 17.7 -0.1**
ORIF Oris-en-Rattie 28.48 295 *eP* **P 10 47 15.5 -2.2**
ORIF pmax pmax
comp=Z,444nm,1.1s
ORIF Oris-en-Rattie 28.48 295 *eP* **P 10 47 15.5 -2.2**
comp=Z,444nm,1.1s
ABSA Djebel Ababsia 28.53 276 P **P 10 47 18.3 +0.1**
ABSA Djebel Ababsia 28.53 276 P **P 10 47 18.3 +0.1**
THEF They Montfort 28.54 302⇑ *eP* **P 10 47 16.0 -2.2**
THEF They Montfort 28.54 302⇑ *eP* **P 10 47 16.0 -2.2**
GRN Grenoble 28.58 295⇑ *eP* **P 10 47 16.9 -1.7**
GRN Grenoble 28.58 295⇑ *eP* **P 10 47 16.9 -1.7**
WLF Walferdange 28.61 305 P **P 10 47 18.3 -0.3**
WLF PCP **PcP 10 50 31.4 +1.9**
WLF Walferdange 28.61 305 *eP* **P 10 47 18.4 -0.3**
WLF pmax pmax
comp=Z,932nm,1.3s
WLF Walferdange 28.61 305 P **P 10 47 18.3 -0.3**
comp=Z,406nm,1.2s
WLF Walferdange 28.61 305 *eP* **P 10 47 18.4 -0.2**
comp=Z,932nm,1.3s
WTSB Winterswijk 28.63 310 *eP* **P 10 47 19.9 +1.2**
comp=Z,5μm,1.5s
MUD Monsted U'grnd 28.71 319 *i* P **P 10 47 20.1 +0.7**
comp=Z,3μm,1.7s
MUD *i* S **S 10 52 08.6 +0.1**
comp=Z,373μm,15.0s
MUD Monsted U'grnd 28.71 319 *i* P **P 10 47 20.1 +0.7**
MUD *i* S **S 10 52 08.6 +0.1**
MUD pmax pmax
comp=Z,3μm,1.7s
MUD MLR MLR
comp=Z,370μm,15.0s
MUD Monsted U'grnd 28.71 319 *i* P **P 10 47 20.1 +0.7**
comp=Z,3μm,1.7s
MUD *i* S **S 10 52 08.6 +0.1**
comp=Z,70μm,15.0s
MEM Membach 28.85 307 P **P 10 47 21.4 +0.7**
comp=Z,710nm,2.1s
MEM PCP **PcP 10 50 31.5 +1.4**
MEM Membach 28.85 307 P **P 10 47 21.4 +0.7**
comp=Z,710nm,2.1s
CAEH 'Ain El Ouahch 28.88 278 P **P 10 47 20.7 -0.6**
CAEH 'Ain El Ouahch 28.88 278 P **P 10 47 20.7 -0.6**
HGN Heimansgroeve 28.92 307 *eP* **P 10 47 22.3 +0.9**
comp=Z,4μm,1.8s
HGN *eS* S 10 52 22.3 +10
HGN *eL* L 11 00 17.2
comp=Z,303μm,21.9s
CKFL Kef-Lekhel 29.08 277 P **P 10 47 23.0 -0.2**
CKFL Kef-Lekhel 29.08 277 P **P 10 47 23.0 -0.2**
BEBN Eben Emael 29.08 307 P **P 10 47 23.6 +0.7**
comp=Z,423nm,2.4s
BEBN Eben Emael 29.08 307 P **P 10 47 23.6 +0.7**
comp=Z,423nm,2.4s
MAKZ Makanchi 29.18 61 *eP* **P 10 47 24.6 +0.8**
MAKZ pmax pmax
comp=Z,1μm,1.3s
MAKZ MLR MLR
comp=Z,730μm,18.0s
MAKZ Makanchi 29.18 61 *eP* **P 10 47 24.6 +0.8**
comp=Z,1μm,1.3s
MAKZ Makanchi 29.18 61 *eP* **P 10 47 24.6 +0.8**
comp=Z,1μm,1.3s
MAKZ LR LR
comp=Z,730μm,18.0s
BCLA Clavier 29.26 306 P **P 10 47 24.8 +0.3**
comp=Z,459nm,1.7s
BCLA PCP **PcP 10 50 32.7 +1.6**
BCLA Clavier 29.26 306 P **P 10 47 24.7 +0.3**
comp=Z,459nm,1.7s
CASM Ain Smara 29.30 277 P **P 10 47 26.8 +1.8**
CASM Ain Smara 29.30 277 P **P 10 47 26.8 +1.8**
VIVF Saint-Julien-l 29.34 295 *eP* **P 10 47 23.4 -1.9**
VIVF pmax pmax
comp=Z,2μm,1.8s
VIVF Saint-Julien-l 29.34 295 *eP* **P 10 47 23.4 -1.9**
comp=Z,2μm,1.8s
MK31 Makanchi Array 29.39 61 *i* P **P 10 47 26.2 +0.5**
MK31 pmax pmax
comp=Z,1μm,1.3s
MK31 Makanchi Array 29.39 61 *i* P **P 10 47 26.2 +0.5**
comp=Z,1μm,1.3s
MK31 Makanchi Array 29.39 61 *eP* **P 10 47 26.3 +0.5**
MKAR Makanchi Array 29.39 61 P **P 10 47 26.2 +0.6**
comp=Z,375nm,1.0s,baz=268,slow=7.1,SNR=162
MKAR S **S 10 52 26.2 +6.6**
comp=Z,26nm,1.0s,baz=245,slow=17,SNR=2.0
MKAR LR LR 11 01 16.0
comp=Z,685μm,18.2s,baz=265,slow=41
MKAR P3KPbc 11 19 32.5
comp=Z,14nm,0.9s,baz=86,slow=4.4,SNR=24
MKAR Makanchi Array 29.39 61 P **P 10 47 26.3 +0.6**
MKAR pmax pmax
comp=Z,371nm,1.0s
MKAR MLR MLR
comp=Z,685μm,18.2s
MKAR Makanchi Array 29.39 61 *eP* **P 10 47 26.3 +0.6**
comp=Z,3μm,1.1s
MKAR Makanchi Array 29.39 61 *eP* **P 10 47 26.3 +0.6**
comp=Z,3μm,1.1s
MKAR S **S 10 52 26.2 +6.6**
MKAR *e* 11 19 32.5
CTEI Djebel Teioual 29.42 276 P **P 10 47 25.8 -0.4**
CTEI Djebel Teioual 29.42 276 P **P 10 47 25.8 -0.4**
SSB Saint Sauveur 29.43 296⇑ *eP* **P 10 47 25.1 -1.0**
SSB Saint Sauveur 29.43 296 *eP* **P 10 47 24.8 -1.3**
SSB pmax pmax
comp=Z,2μm,1.5s
SSB Saint Sauveur 29.43 296⇑ *eP* **P 10 47 25.1 -1.0**
SSB Saint Sauveur 29.43 296 *eP* **P 10 47 24.8 -1.3**
comp=Z,2μm,1.5s
APA Apatity 29.43 352⇑ *iP* **P 10 47 24.4 -1.4**
APA *i* 10 48 19.1
APA *i* S **S 10 52 15.0 -4.7**
APA MLR MLR
comp=Z,1031μm,15.0s
APA Apatity 29.43 352 *i* P **P 10 47 24.4 -1.4**
GIVF Givet 29.52 305 *eP* **P 10 47 26.2 -0.5**
GIVF pmax pmax
comp=Z,218nm,0.8s
GIVF Givet 29.52 305 *eP* **P 10 47 26.2 -0.5**
comp=Z,218nm,0.8s
OSL Oslo 29.58 327 *eP* **P 10 47 26.4 -0.8**
OSL IVmB_BB 10 47 38.4
comp=Z,30μm,3.7s
OSL *eS* **S 10 52 22.6 +0.4**
OSL *eScS* **ScS 10 58 07.4 -0.8**
OSL IVMs_BB IVMs_BB 11 03 58.7
comp=Z,242μm,14.9s
OSL Oslo 29.58 327 *eP* **P 10 47 26.4 -0.8**
SNR=27
OSL *eS* **S 10 52 22.6 +0.4**
SNR=28
OSL *eScS* **ScS 10 58 07.4 -0.8**
SNR=8.0
DDI Dehra Dun 29.58 96 *eP* **P 10 47 26.2 -1.4**
DDI *ex* x 10 53 20.9

LVZ Lovozero 29.63 353 *c iP* **P 10 47 26.3 -1.3**
LVZ pmax pmax
comp=Z,994nm,1.8s
LVZ MLR MLR
comp=Z,565μm,17.0s
LVZ Lovozero 29.63 353 *eP* **P 10 47 26.7 -0.9**
comp=Z,948nm,1.3s
LVZ Lovozero 29.63 353 *eP* **P 10 47 26.7 -0.9**
comp=Z,948nm,1.3s
DOU Dourbes 29.66 305 P **P 10 47 27.9 -0.2**
comp=Z,257nm,1.4s
DOU PCP **PcP 10 50 32.9 +0.8**
DOU Dourbes 29.66 305 P **P 10 47 27.8 -0.2**
comp=Z,257nm,1.4s
NC602 NORSAR Array S 29.66 328 *eP* **P 10 47 28.3 +0.4**
NC602 *eS* **S 10 52 26.5 +3.0**
NC602 IVMs_BB IVMs_BB 11 00 43.2
comp=Z,199μm,19.5s
NC602 NORSAR Array S 29.66 328 *eP* **P 10 47 28.3 +0.4**
SNR=27
NC602 NORSAR Array S 29.66 328 *eP* **P 10 47 27.0 -0.9**
NDI New Delhi 29.68 99 *eP* **P 10 47 27.0 -1.4**
HOMB Homborsund 29.80 322 *eP* **P 10 47 27.2 -1.9**
HOMB IVmB_BB 10 47 40.6
comp=Z,36μm,3.4s
HOMB *eS* **S 10 52 29.6 +4.0**
HOMB IVMs_BB IVMs_BB 11 05 22.9
comp=Z,182μm,11.3s
HOMB Homborsund 29.80 322 *i* P **P 10 47 28.2 -0.9**
SNR=28
NC405 NORSAR Array S 29.80 329 *eP* **P 10 47 28.2 -1.0**
NC405 NORSAR Array S 29.80 329 *eP* **P 10 47 28.2 -1.0**
BAIF Baives 29.91 305 *eP* **P 10 47 29.7 -0.5**
BAIF pmax pmax
comp=Z,773nm,1.3s
BAIF Baives 29.91 305 *eP* **P 10 47 29.7 -0.5**
comp=Z,773nm,1.3s
UCC Uccle 29.91 307 P **P 10 47 30.9 +0.7**
UCC Uccle 29.91 307 P **P 10 47 30.9 +0.7**
SNF Seneffe 29.92 306 P **P 10 47 30.6 +0.4**
SNF PCP **PcP 10 50 34.1 +1.3**
SNF Seneffe 29.92 306 P **P 10 47 30.6 +0.4**
KONO Kongsberg 29.93 325 *c iP* **P 10 47 29.2 -1.1**
KONO pmax pmax
comp=Z,2μm,1.0s
KONO MLR MLR
comp=Z,2698μm,17.0s
KONO Kongsberg 29.93 325 *eP* **P 10 47 29.4 -0.9**
comp=Z,871nm,1.4s
KONO Kongsberg 29.93 325 *eP* **P 10 47 29.4 -0.9**
comp=Z,871nm,1.4s
NB201 NORSAR Array S 29.94 329 *eP* **P 10 47 29.1 -1.3**
NB201 NORSAR Array S 29.94 329 *eP* **P 10 47 29.1 -1.3**
NB2 NORSAR Subarra 29.97 329 P **P 10 47 29.4 -1.2**
comp=Z,4μm,2.5s,baz=124,slow=9.3
NB2 NORSAR Subarra 29.97 329 P **P 10 47 29.4 -1.2**
baz=124,slow=9.3
NB2 NORSAR Subarra 29.97 329 P **P 10 47 29.5 -1.2**
NB2 pmax pmax
comp=Z,2μm,1.8s
NB2 NORSAR Subarra 29.97 329 P **P 10 47 29.5 -1.2**
comp=Z,2μm,1.8s
NOA NORSAR Array B 29.97 329 P **P 10 47 29.4 -1.2**
comp=Z,102nm,0.8s,baz=125,slow=9.0,SNR=119
NOA PcP **PcP 10 50 33.3 +0.5**
comp=Z,105nm,0.9s,baz=104,slow=3.6,SNR=4.4
NOA S **S 10 52 35.1 +6.7**
comp=Z,17nm,1.1s,baz=131,slow=22,SNR=2.4
NOA LR LR 11 01 14.5
comp=Z,399μm,18.7s,baz=120,slow=40
NAO01 NORSAR Array S 29.99 328 *eP* **P 10 47 29.7 -1.1**
NAO01 NORSAR Array S 29.99 328 *eP* **P 10 47 29.7 -1.1**
NC303 NORSAR Array S 30.01 329 *eP* **P 10 47 30.0 -1.0**
NC303 NORSAR Array S 30.01 329 *eP* **P 10 47 30.0 -1.0**
PLDF La Plantade 30.06 297 *eP* **P 10 47 31.0 -0.7**
PLDF La Plantade 30.06 297 *eP* **P 10 47 31.0 -0.7**
CKHR Kef el Ahmar 30.13 277 P **P 10 47 34.3 +1.8**
CKHR Kef el Ahmar 30.13 277 P **P 10 47 34.3 +1.8**
NBO00 NORSAR Array S 30.14 328 *eP* **P 10 47 31.1 -1.0**
NBO00 NORSAR Array S 30.14 328 *eP* **P 10 47 31.1 -1.0**
SET Setif 30.16 277 P **P 10 47 33.0 +0.3**
SET Setif 30.16 277 P **P 10 47 33.0 +0.3**
MAHO Mahon 30.17 285 *i* P **P 10 47 31.9 -0.7**
AVF Avril sur Loir 30.25 299 *eP* **P 10 47 31.0 -2.3**
AVF pmax pmax
comp=Z,369nm,0.9s
AVF Avril sur Loir 30.25 299 *eP* **P 10 47 31.0 -2.3**
comp=Z,369nm,0.9s
NC204 NORSAR Array S 30.28 329 *eP* **P 10 47 32.3 -1.1**
NC204 NORSAR Array S 30.28 329 *eP* **P 10 47 32.3 -1.1**
LBL Lubilhac 30.34 295 *eP* **P 10 47 33.6 -0.6**
LBL Lubilhac 30.34 295 *eP* **P 10 47 33.6 -0.6**
AGO Saint Agoulin 30.40 297⇑ *eP* **P 10 47 34.3 -0.4**
AGO Saint Agoulin 30.40 297⇑ *eP* **P 10 47 34.3 -0.4**
SNART Snartemo 30.45 322 *eP* **P 10 47 35.1 +0.3**
SNART IVmB_BB 10 47 46.6
comp=Z,15μm,5.7s
SNART *eS* **S 10 52 37.4 +1.6**
SNART IVMs_BB IVMs_BB 11 05 04.8
comp=Z,103μm,12.0s
SNART Snartemo 30.45 322 *eP* **P 10 47 35.1 +0.3**
SNR=27
SNART *eS* **S 10 52 37.4 +1.6**
SNR=28
PYM Petit Puy Mans 30.50 296⇑ *eP* **P 10 47 35.1 -0.4**
PYM Petit Puy Mans 30.50 296⇑ *eP* **P 10 47 35.1 -0.4**
SJAF Saint Jean de 30.82 290⇑ *eP* **P 10 47 36.4 -1.9**
SJAF Saint Jean de 30.82 290⇑ *eP* **P 10 47 36.4 -1.9**
FRNF Fournols 30.82 296⇑ *eP* **P 10 47 38.2 -0.2**
FRNF Fournols 30.82 296⇑ *eP* **P 10 47 38.2 -0.2**
VERF Verneugheol 30.86 297⇑ *eP* **P 10 47 38.3 -0.5**
VERF Verneugheol 30.86 297⇑ *eP* **P 10 47 38.3 -0.5**
LRDF Laroque-de-Fa 31.02 291⇑ *eP* **P 10 47 38.9 -1.2**
LRDF Laroque-de-Fa 31.02 291⇑ *eP* **P 10 47 38.9 -1.2**
FILF Fillols 31.04 290⇑ *eP* **P 10 47 39.5 -0.9**
FILF Fillols 31.04 290⇑ *eP* **P 10 47 39.5 -0.9**
ATAF Djebel Tarf 31.13 277 P **P 10 47 40.3 -1.0**
ATAF Djebel Tarf 31.13 277 P **P 10 47 40.3 -1.0**
NVS Novosibirsk 31.14 46 *eP* **P 10 47 42.0 +1.0**
NVS *eS* **S 10 52 51.8 +5.1**
NVS pmax pmax
comp=Z,2μm,1.6s
NVS pmax pmax
comp=N,274nm,1.9s
NVS pmax pmax
comp=E,534nm,1.4s
NVS smax smax
comp=E,880nm,2.2s
NVS smax smax
comp=N,93nm,1.9s
NVS Novosibirsk 31.14 46 *eP* **P 10 47 42.0 +1.0**
comp=N,274nm,1.9s
ZSN Zaisan 31.16 60 *i* P **P 10 47 37.2 -4.2**
ZSN *i* S **S 10 52 42.7 -4.7**
CAF Calviac 31.19 295 *eP* **P 10 47 39.7 -2.0**
CAF pmax pmax
comp=Z,1μm,1.8s
CAF Calviac 31.19 295 *eP* **P 10 47 39.7 -2.0**
comp=Z,1μm,1.8s
BLS5 Blasjo 31.25 324⇑ *iP* **P 10 47 41.2 -0.8**
BLS5 IVmB_BB 10 47 54.4
comp=Z,30μm,4.8s
BLS5 *eS* **S 10 52 49.5 +1.0**
BLS5 IVMs_BB IVMs_BB 11 01 30.2
comp=Z,122μm,12.6s
BLS5 Blasjo 31.25 324⇑ *iP* **P 10 47 41.2 -0.8**
SNR=27
BLS5 *eS* **S 10 52 49.5 +1.0**
SNR=28
MENF Mencas 31.27 306⇑ *eP* **P 10 47 43.6 +1.4**
MENF Mencas 31.27 306⇑ *eP* **P 10 47 43.6 +1.4**
CARF Carcanieres 31.36 291⇑ *eP* **P 10 47 41.6 -1.6**
CARF Carcanieres 31.36 291⇑ *eP* **P 10 47 41.6 -1.6**
DOMB Dombas 31.38 329⇑ *iP* **P 10 47 42.5 -0.6**
DOMB *e* 10 53 00.6
DOMB IVMs_BB IVMs_BB 11 01 47.6
comp=Z,337μm,15.0s
DOMB Dombas 31.38 329⇑ *iP* **P 10 47 42.5 -0.6**
SNR=27
ODD1 Odda 31.38 325 *eP* **P 10 47 43.5 +0.3**
ODD1 IVmB_BB 10 47 55.7
comp=Z,40μm,3.5s
ODD1 IVMsBB 11 01 43.3
comp=Z,250μm,16.7s

ODD1 Odda 31.38 325 *eP* **P 10 47 43.5 +0.3**
SNR=27
STAV Stavanger 31.41 322 *eP* **P 10 47 42.1 -1.2**
STAV IVmB_BB 10 47 54.8
comp=Z,27μm,4.8s
STAV *e* 10 53 06.3
STAV IVMs_BB IVMs_BB 11 05 25.1
comp=Z,164μm,11.7s
STAV Stavanger 31.41 322 *eP* **P 10 47 42.1 -1.2**
SNR=27
TBLU Trondheim 31.59 332 *eP* **P 10 47 43.4 -1.4**
TBLU Trondheim 31.59 332 *eP* **P 10 47 43.4 -1.4**
SNR=27
PTH Pithoragarh 31.61 96 *eP* **P 10 47 44.2 -1.4**
KMY Karmoy 31.73 323 *eP* **P 10 47 45.8 -0.4**
KMY IVmB_BB 10 47 57.6
comp=Z,456nm,4.8s
KMY *eS* **S 10 52 54.5 -1.4**
KMY Karmoy 31.73 323 *eP* **P 10 47 45.8 -0.4**
SNR=27
KMY *eS* **S 10 52 54.5 -1.4**
SNR=28
ABA Alger-Bouzarea 31.83 279 P **P 10 47 45.4 -1.9**
ABA Alger-Bouzarea 31.83 279 P **P 10 47 45.4 -1.9**
ZAA0 Zalesovo Array 31.84 48 *eP* **P 10 47 46.8 -0.4**
ZAA0 Zalesovo Array 31.84 48 *eP* **P 10 47 46.8 -0.4**
ZALV Zalesovo Beam 31.84 48 P **P 10 47 46.8 -0.4**
comp=Z,160nm,0.9s,baz=264,slow=9.2,SNR=169
ZALV PcP **PcP 10 50 37.8 0.0**
comp=Z,72nm,0.9s,baz=280,slow=4.2,SNR=4.0
ZALV S **S 10 53 05.8 +8.1**
comp=Z,16nm,1.0s,baz=230,slow=20,SNR=1.9
ZALV LR LR 11 02 56.9
comp=Z,493μm,18.7s,baz=250,slow=41
ZALV P3KPbc 11 19 21.5
comp=Z,7.3nm,0.9s,baz=60,slow=3.5,SNR=10
SALF Salau 32.02 291⇑ *eP* **P 10 47 47.3 -1.7**
SALF Salau 32.02 291⇑ *eP* **P 10 47 47.3 -1.7**
EMHD Djebel Mahouad 32.06 278 P **P 10 47 45.8 -3.7**
EMHD Djebel Mahouad 32.06 278 P **P 10 47 45.8 -3.7**
MOR8 Moi Rana 32.09 338⇑ *iP* **P 10 47 47.5 -1.7**
MOR8 IVmB_BB 10 48 00.7
comp=Z,23μm,2.8s
MOR8 *eS* **S 10 53 03.6 +2.2**
MOR8 IVMs_BB IVMs_BB 11 02 06.8
comp=Z,468μm,14.3s
MOR8 Moi Rana 32.09 338⇑ *iP* **P 10 47 47.5 -1.7**
SNR=27
MOR8 *eS* **S 10 53 03.6 +2.2**
SNR=28
HYA Hoyanger 32.14 327 *eP* **P 10 47 50.0 +0.3**
HYA IVmB_BB 10 48 01.5
comp=Z,23μm,4.5s
HYA *eS* **S 10 53 03.6 +1.4**
HYA IVMs_BB IVMs_BB 11 05 26.6
comp=Z,177μm,13.6s
HYA Hoyanger 32.14 327 *eP* **P 10 47 50.0 +0.3**
SNR=27
HYA *eS* **S 10 53 03.6 +1.4**
SNR=28
BER Bergen 32.17 325 *eP* **P 10 47 46.9 -3.1**
BER *eS* **S 10 53 03.8 +1.1**
BER IVMs_BB IVMs_BB 11 02 09.0
comp=Z,265μm,14.5s
BER Bergen 32.17 325 *eP* **P 10 47 46.9 -3.1**
SNR=27
BER *eS* **S 10 53 03.8 +1.1**
SNR=28
BOM Bombay 32.23 119 *ex* P 10 47 41.1 -10
BOM *eS* **S 10 53 04.4 +0.1**
KTK1 Kautokeino 32.25 347 *eP* **P 10 47 49.4 -1.3**
KTK1 IVmB_BB 10 48 02.5
comp=Z,20μm,2.6s
KTK1 *eS* **S 10 53 03.8 -0.1**
KTK1 IVMs_BB IVMs_BB 11 01 20.0
comp=Z,421μm,14.3s
KTK1 Kautokeino 32.25 347 *eP* **P 10 47 49.4 -1.3**
SNR=27
KTK1 *eS* **S 10 53 03.8 -0.1**
SNR=28
ASK Askoy 32.28 325 *eP* **P 10 47 50.4 -0.5**
ASK *eS* **S 10 53 07.1 +2.7**
ASK IVMs_BB IVMs_BB 11 02 12.6
comp=Z,213μm,12.0s
AKN Aaknes 32.28 329⇑ *iP* **P 10 47 50.9 -0.1**
AKN *eS* **S 10 53 05.5 +1.0**
AKN IVMs_BB IVMs_BB 11 02 25.3
comp=Z,184μm,14.4s
AKN Aaknes 32.28 329⇑ *iP* **P 10 47 50.9 -0.1**
SNR=27
AKN *eS* **S 10 53 05.5 +1.0**
SNR=28
KEV Kevo 32.30 349 *eP* **P 10 47 50.6 -0.4**
KEV pmax pmax
comp=Z,2μm,1.9s
KEV MLR MLR
comp=Z,1036μm,18.0s
KEV Kevo 32.30 349 *eP* **P 10 47 50.6 -0.4**
comp=Z,2μm,1.9s
KEV Kevo 32.30 349 *eP* **P 10 47 50.6 -0.4**
comp=Z,2μm,1.9s
KEV LR LR
comp=Z,1036μm,18.0s
MELF Melles 32.32 291⇑ *eP* **P 10 47 51.7 0.0**
MELF Melles 32.32 291⇑ *eP* **P 10 47 51.7 0.0**
ARE0 ARCESS Array S 32.33 348⇑ *iP* **P 10 47 50.5 -0.8**
ARE0 *eS* **S 10 53 06.7 +1.6**
ARE0 IVMs_BB IVMs_BB 11 01 21.1
comp=Z,389μm,16.2s
ARE0 ARCESS Array S 32.33 348 *eP* **P 10 47 50.8 -0.5**
comp=Z,3μm,1.8s
ARE0 *eS* **S 10 53 06.7 +1.6**
SNR=28
ARE0 ARCESS Array S 32.33 348 *eP* **P 10 47 50.9 -0.5**
comp=Z,3μm,1.8s
ARCES ARCESS Array B 32.33 348 P **P 10 47 50.7 -0.7**
comp=Z,175nm,0.7s,baz=152,slow=8.1,SNR=154
ARCES PcP **PcP 10 50 39.7 +0.8**
comp=Z,124nm,0.9s,baz=129,slow=2.4,SNR=4.4
ARCES LR LR 11 01 42.5
comp=Z,855μm,18.5s,baz=155,slow=38
HMNX Herstmonceux 32.45 306⇑ *eP* **P 10 47 52.8 +0.2**
HMNX IAmb IAmb 10 47 55.4
comp=Z,665nm,0.8s
HMNX IAMs_20 IAMs_20 11 03 52.8
comp=Z,443μm,12.2s
HMNX Herstmonceux 32.45 306⇑ *eP* **P 10 47 52.8 +0.2**
WACR West Acre 32.49 310⇑ *eP* **P 10 47 52.2 -0.7**
WACR IAmb IAmb 10 47 55.6
comp=Z,3μm,0.9s
WACR IAMs_20 IAMs_20 11 05 29.5
comp=Z,339μm,13.6s
WACR West Acre 32.49 310⇑ *eP* **P 10 47 52.2 -0.7**
STOK Stokkvaagen 32.62 338 *eP* **P 10 47 53.8 0.0**
STOK IVmB_BB 10 48 05.8
comp=N,10μm,1.6s
STOK Stokkvaagen 32.62 338 *eP* **P 10 47 53.8 0.0**
SNR=27
RESF Ens 32.64 291⇑ *eP* **P 10 47 53.8 -0.7**
RESF Ens 32.64 291⇑ *eP* **P 10 47 53.8 -0.7**
KONS Konsvik 32.70 338 *eP* **P 10 47 53.4 -1.1**
KONS IVmB_BB 10 48 06.4
comp=Z,31μm,2.3s
KONS IVMs_BB IVMs_BB 11 02 28.2
comp=Z,362μm,14.0s
KONS Konsvik 32.70 338 *eP* **P 10 47 53.4 -1.1**
SNR=27
SUE Sulen 32.71 326 *eP* **P 10 47 53.9 -0.8**
SUE IVmB_BB 10 48 06.5
comp=Z,29μm,3.5s
SUE Sulen 32.71 326 *eP* **P 10 47 53.9 -0.8**
SNR=27
LABF Labassere 32.80 292 *eP* **P 10 47 56.1 +0.3**
LABF Labassere 32.80 292 *eP* **P 10 47 56.1 +0.3**
FOO Floro 32.83 327 *eP* **P 10 47 55.2 -0.5**
FOO IVmB_BB 10 48 07.7
comp=Z,30μm,4.5s
FOO *e* 10 53 30.7
FOO IVMs_BB IVMs_BB 11 05 48.8
comp=Z,194μm,12.7s
FOO Floro 32.83 327 *eP* **P 10 47 55.2 -0.5**
SNR=27
VIEF Viey 32.86 291⇑ *eP* **P 10 47 55.3 -1.1**
VIEF Viey 32.86 291⇑ *eP* **P 10 47 55.3 -1.1**
GRR Gorron 33.12 302 *eP* **P 10 47 56.7 -1.7**
GRR pmax pmax

comp=Z,1μm,1.2s
GRR Gorron 33.12 302 *e*P **P 10 47 56.7 -1.7**
comp=Z,1μm,1.2s
EBNR Beni Rached 33.13 279 P **P 10 47 57.6 -1.2**
EBNR Beni Rached 33.13 279 P **P 10 47 57.6 -1.2**
REYF Montagne du Re 33.13 292⇑ *e*P **P 10 47 57.1 -1.7**
REYF Montagne du Re 33.13 292⇑ *e*P **P 10 47 57.1 -1.7**
STEI Steigen 33.14 341 *e*P **P 10 47 57.8 -0.6**
STEI IVmB_BB 10 48 10.2
comp=Z,25μm,3.0s
STEI Steigen 33.14 341 *e*P **P 10 47 57.8 -0.6**
SNR=27
LMK Market Rasen 33.16 311⇑ *e*P **P 10 47 58.6 -0.2**
LMK IAmb IAmb 10 48 01.2
comp=Z,5μm,1.9s
LMK IAMs_20 IAMs_20 11 05 20.3
comp=Z,469μm,15.4s
LMK Market Rasen 33.16 311⇑ *e*P **P 10 47 58.6 -0.2**
ECHA Ech Chlef 33.30 279 P **P 10 48 00.0 -0.2**
ECHA Ech Chlef 33.30 279 P **P 10 48 00.0 -0.2**
WMQ Urumqi 33.34 67 P **P 10 48 01.4 +0.9**
WMQ pP sP 10 48 03.8 0.0
WMQ sP pP 10 48 08.9 +6.1
WMQ PP **PnPn 10 49 12.6 +1.8**
WMQ PcP **PcP 10 50 38.5 -3.8**
WMQ S **S 10 53 20.0 -1.4**
WMQ sS sS 10 53 28.9 +3.7
WMQ ScP **ScP 10 54 27.3 +0.3**
WMQ SS **SnSn 10 55 21.4 -0.3**
WMQ ScS **ScS 10 58 22.8 -4.9**
WMQ pmax pmax
comp=Z,2μm,1.7s
WMQ pmax pmax
comp=Z,40μm,6.9s
WMQ LR LR
comp=Z,193μm,21.5s
WMQ LR LR
comp=Z,104μm,16.1s
WMQ LR LR
comp=Z,145μm,20.5s
ATE Arette 33.36 292⇑ *e*P **P 10 47 58.9 -1.7**
ATE Arette 33.36 292⇑ *e*P **P 10 47 58.9 -1.7**
WOL Wolverton 33.47 307⇑ *e*P **P 10 48 00.6 -0.9**
WOL AMB AMB 10 48 12.9
comp=Z,4μm,1.7s
WOL IAMs_20 IAMs_20 11 04 41.6
comp=Z,448μm,12.4s
WOL Wolverton 33.47 307⇑ *e*P **P 10 48 00.6 -0.9**
ORDF Ordiarp 33.51 292⇑ *e*P **P 10 48 00.0 -1.9**
ORDF Ordiarp 33.51 292⇑ *e*P **P 10 48 00.0 -1.9**
EANR 'Ain N'Sour 33.57 279 P **P 10 48 02.2 -0.4**
EANR 'Ain N'Sour 33.57 279 P **P 10 48 02.2 -0.4**
LARF Larrau 33.57 292⇑ *e*P **P 10 48 01.4 -1.1**
LARF Larrau 33.57 292⇑ *e*P **P 10 48 01.4 -1.1**
ETRT Tiaret 33.59 278 P **P 10 48 03.8 +1.0**
ETRT Tiaret 33.59 278 P **P 10 48 03.8 +1.0**
HAMF Hammerfest 33.60 348 *e*P **P 10 48 00.1 -2.3**
HAMF IVmB_BB 10 48 14.3
comp=Z,24μm,4.1s
HAMF *e*S **S 10 53 25.5 +0.7**
HAMF IVMs_BB IVMs_BB 11 02 10.8
comp=Z,482μm,14.6s
HAMF Hammerfest 33.60 348 *e*P **P 10 48 00.1 -2.3**
SNR=27
HAMF *e*S **S 10 53 25.5 +0.7**
SNR=28
TRO Tromso 33.61 345 *e*P **P 10 48 04.5 +2.0**
TRO IVmB_BB 10 48 17.8
comp=Z,28μm,2.9s
TRO Tromso 33.61 345 *e*P **P 10 48 04.5 +2.0**
SNR=27
LOF Lofoten 33.72 340 *e*P **P 10 48 03.3 -0.2**
LOF IVmB_BB 10 48 14.6
comp=Z,24μm,2.6s
LOF *e* 10 49 17.5
LOF *e*S **S 10 53 29.3 +2.6**
LOF IVMs_BB IVMs_BB 11 03 00.7
comp=Z,321μm,12.9s
LOF Lofoten 33.72 340 *e*P **P 10 48 03.3 -0.2**
SNR=27
LOF *e*S **S 10 53 29.3 +2.6**
SNR=28
OSSF Osses 33.74 292 *e*P **P 10 48 01.6 -2.3**
OSSF Osses 33.74 292 *e*P **P 10 48 01.6 -2.3**
OKGL Djebel Kef Gue 33.89 279 P **P 10 48 07.0 +1.6**
OKGL Djebel Kef Gue 33.89 279 P **P 10 48 07.0 +1.6**
JQE Queens East 33.90 303 *e*P **P 10 48 04.9 -0.4**
JQE Queens East 33.90 303 *e*P **P 10 48 04.9 -0.4**
JRS Jersey 33.94 303 *e*P **P 10 48 05.7 +0.2**
JRS Jersey 33.94 303 *e*P **P 10 48 05.7 +0.2**
OJGS Djebel Guires 33.98 278 P **P 10 48 07.0 +0.8**
OJGS Djebel Guires 33.98 278 P **P 10 48 07.0 +0.8**
JSA Saint Aubin 33.99 303⇑ *e*P **P 10 48 05.4 -0.6**
JSA IAMs_20 IAMs_20 11 04 26.6
comp=Z,549μm,13.7s
JSA Saint Aubin 33.99 303⇑ *e*P **P 10 48 05.4 -0.6**
HPK Haverah Park 34.00 312⇑ *e*P **P 10 48 05.7 -0.3**
HPK IAmb IAmb 10 48 08.4
comp=Z,10μm,1.9s
HPK IAMs_20 IAMs_20 11 05 58.9
comp=Z,374μm,14.0s
HPK Haverah Park 34.00 312⇑ *e*P **P 10 48 05.7 -0.3**
LCP Cassop 34.03 313 *e*P **P 10 48 06.6 +0.3**
LCP Cassop 34.03 313 *e*P **P 10 48 06.6 +0.3**
LHO Holmfirth 34.08 311 *e*P **P 10 48 06.0 -0.8**
LHO Holmfirth 34.08 311 *e*P **P 10 48 06.0 -0.8**
STRD Stroud 34.09 308⇑ *e*P **P 10 48 06.3 -0.6**
STRD IAmb IAmb 10 48 08.7
comp=Z,1μm,1.0s
STRD IAMs_20 IAMs_20 11 05 58.7
comp=Z,374μm,18.9s
STRD Stroud 34.09 308⇑ *e*P **P 10 48 06.3 -0.6**
STNC Stoke 34.23 310⇑ *e*P **P 10 48 07.9 -0.2**
STNC IAMs_20 IAMs_20 11 05 57.4
comp=Z,428μm,16.5s
STNC Stoke 34.23 310⇑ *e*P **P 10 48 07.9 -0.2**
OJBR Djebel Berber 34.26 278 P **P 10 48 08.0 -0.7**
OJBR Djebel Berber 34.26 278 P **P 10 48 08.0 -0.7**
EDMD Edmundbyers 34.32 313⇑ *e*P **P 10 48 08.3 -0.5**
EDMD IAmb IAmb 10 48 16.8
comp=Z,1μm,1.0s
EDMD IAMs_20 IAMs_20 11 06 27.1
comp=Z,393μm,13.7s
EDMD Edmundbyers 34.32 313⇑ *e*P **P 10 48 08.3 -0.5**
OLDB Oldbury-Upon-S 34.32 307⇑ *e*P **P 10 48 08.5 -0.4**
OLDB IAmb IAmb 10 48 19.5
comp=Z,7μm,1.7s
OLDB IAMs_20 IAMs_20 11 06 05.6
comp=Z,366μm,15.0s
OLDB Oldbury-Upon-S 34.32 307⇑ *e*P **P 10 48 08.5 -0.4**
PYUN Piuthan 34.43 96 *e*P **P 10 48 10.6 +0.2**
comp=Z,6μm,1.4s
HGH Gray Hill 34.48 307 *e*P **P 10 48 09.7 -0.5**
HGH Gray Hill 34.48 307 *e*P **P 10 48 09.7 -0.5**
MONM Monmouth 34.49 308 *e*P **P 10 48 08.6 -1.8**
MONM IAmb IAmb 10 48 20.8
comp=Z,5μm,1.8s
MONM IAMs_20 IAMs_20 11 07 35.4
comp=Z,431μm,15.2s
MONM Monmouth 34.49 308 *e*P **P 10 48 08.6 -1.8**
HLM1 Long Mynd 34.59 309 *e*P **P 10 48 09.2 -2.0**
HLM1 IAMs_20 IAMs_20 11 06 53.2
comp=Z,446μm,15.7s
HLM1 Long Mynd 34.59 309 *e*P **P 10 48 09.2 -2.0**
MCH1 Michaelchurch 34.62 308 *e*P **P 10 48 10.0 -1.4**
MCH1 IAmb IAmb 10 48 22.0
comp=Z,4μm,1.4s
MCH1 IAMs_20 IAMs_20 11 06 25.0
comp=Z,361μm,20.1s
MCH1 Michaelchurch 34.62 308 *e*P **P 10 48 10.0 -1.4**
QUIF Quistinic 34.67 301 *e*P **P 10 48 10.2 -1.7**
QUIF pmax pmax
comp=Z,656nm,1.0s
QUIF Quistinic 34.67 301 *e*P **P 10 48 10.2 -1.7**
comp=Z,656nm,1.0s
JBP Jabalpur 34.70 106⇑ *e*P **P 10 48 11.7 -0.8**
JBP AMS AMS 11 04 25.8
comp=Z,618μm,19.0s
CART Cartagena 34.71 282 *i* P **P 10 48 11.1 -1.3**
CART *e*S **S 10 53 40.1 -2.5**
ODJA Bouhanifia 34.73 278 P **P 10 48 08.0 -4.7**
ODJA Bouhanifia 34.73 278 P **P 10 48 08.0 -4.7**
FOEL Foel Wylfa 34.81 309⇑ *e*P **P 10 48 13.2 +0.1**
FOEL IAmb IAmb 10 48 16.2
comp=Z,1μm,0.8s
FOEL IAMs_20 IAMs_20 11 05 44.1
comp=Z,304μm,17.2s
FOEL Foel Wylfa 34.81 309⇑ *e*P **P 10 48 13.2 +0.1**
ESY Stoneypath 34.87 315⇑ *e*P **P 10 48 13.0 -0.6**
ESY Stoneypath 34.87 315⇑ *e*P **P 10 48 13.0 -0.6**
USTO Oran 34.91 279 P **P 10 48 16.0 +1.9**
DANN Dangsing 34.91 95 *e*P **P 10 48 15.0 +0.4**
KESW Keswick, Cumbr 34.94 312⇑ *e*P **P 10 48 14.1 -0.1**
KESW IAmb IAmb 10 48 16.8
comp=Z,5μm,1.8s
KESW IAMs_20 IAMs_20 11 08 12.9
comp=Z,399μm,15.9s
KESW Keswick, Cumbr 34.94 312⇑ *e*P **P 10 48 14.1 -0.1**
DRUM Mains of Drumt 34.98 317⇑ *e*P **P 10 48 14.2 -0.3**
DRUM IAmb IAmb 10 48 17.9
comp=Z,1μm,0.8s
DRUM IAMs_20 IAMs_20 11 08 17.2
comp=Z,345μm,14.6s
DRUM Mains of Drumt 34.98 317⇑ *e*P **P 10 48 14.2 -0.3**
BBO1 Bothel 35.04 313 *e*P **P 10 48 14.9 -0.2**
BBO1 Bothel 35.04 313 *e*P **P 10 48 14.9 -0.2**
KOLN Koldanda 35.06 96 *e*P **P 10 48 16.0 +0.2**
comp=Z,10μm,1.8s
BHH Howats Hill 35.08 313⇑ *e*P **P 10 48 14.8 -0.6**
BHH Howats Hill 35.08 313⇑ *e*P **P 10 48 14.8 -0.6**
HEX Exmoor 35.08 306 *e*P **P 10 48 15.7 +0.3**
HEX Exmoor 35.08 306 *e*P **P 10 48 15.7 +0.3**
EKA Eskdalemuir Ar 35.08 314 P **P 10 48 14.8 -0.6**
comp=Z,470nm,0.6s,baz=106,slow=8.2,SNR=296
EKA PcP **PcP 10 50 48.5 +1.6**
comp=Z,169nm,0.9s,baz=100,slow=3.8,SNR=7.7
EKA S **S 10 53 52.2 +4.3**
comp=Z,4.4nm,0.9s,baz=111,slow=24,SNR=3.8
EKA Eskdalemuir Ar 35.08 314 P **P 10 48 14.8 -0.6**
EKA 10 50 48.5
EKA S **S 10 53 52.2 +4.3**
EKA pmax pmax
comp=Z,475nm,0.6s
EKA smax smax
comp=N,4.0nm,0.9s
EKA Eskdalemuir Ar 35.08 314 P **P 10 48 14.8 -0.6**
comp=N,475nm,0.6s
LLW Llanuwychllyn 35.09 309⇑ *e*P **P 10 48 15.3 -0.2**
LLW IAmb IAmb 10 48 26.6
comp=Z,15μm,1.5s
LLW Llanuwychllyn 35.09 309⇑ *e*P **P 10 48 15.3 -0.2**
ESK Eskdalemuir 35.10 314⇑ *e*P **P 10 48 14.9 -0.6**
ESK IAmb IAmb 10 48 17.7
comp=Z,704nm,0.8s
ESK IAMs_20 IAMs_20 11 07 08.5
comp=Z,482μm,15.1s
ESK Eskdalemuir 35.10 314 *e*P **P 10 48 14.3 -1.3**
ESK pmax pmax
comp=Z,773nm,0.8s
ESK Eskdalemuir 35.10 314⇑ *e*P **P 10 48 14.9 -0.6**
ESK Eskdalemuir 35.10 314 *e*P **P 10 48 14.3 -1.3**
comp=Z,773nm,0.8s
SAN1 Sandwick 35.11 322 *e*P **P 10 48 14.8 -0.7**
SAN1 Sandwick 35.11 322 *e*P **P 10 48 14.8 -0.7**
LRW Lerwick 35.11 322⇑ *e*P **P 10 48 14.9 -0.7**
LRW IAmb IAmb 10 48 26.3
comp=Z,6μm,2.3s
LRW IAMs_20 IAMs_20 11 10 08.5
comp=Z,301μm,14.0s
LRW Lerwick 35.11 322⇑ *e*P **P 10 48 14.9 -0.7**
DYA Yadsworthy 35.14 305⇑ *e*P **P 10 48 15.4 -0.6**
DYA IAmb IAmb 10 48 18.4
comp=Z,2μm,1.3s
DYA IAMs_20 IAMs_20 11 05 45.2
comp=Z,527μm,16.3s
DYA Yadsworthy 35.14 305⇑ *e*P **P 10 48 15.4 -0.6**
DYA Yadsworthy 35.14 305 *e*P **P 10 48 15.4 -0.6**
comp=Z,4μm,1.5s
EDI Edinburgh 35.18 315⇑ *e*P **P 10 48 15.8 -0.5**
EDI IAmb IAmb 10 48 19.0
comp=Z,7μm,1.8s
EDI IAMs_20 IAMs_20 11 05 22.8
comp=Z,324μm,18.4s
EDI Edinburgh 35.18 315⇑ *e*P **P 10 48 15.8 -0.5**
YEL1 Yell 35.19 323 *e*P **P 10 48 14.9 -1.4**
YEL1 Yell 35.19 323 *e*P **P 10 48 14.9 -1.4**
EDU Dundee 35.20 316 *e*P **P 10 48 15.4 -0.9**
EDU Dundee 35.20 316 *e*P **P 10 48 15.4 -0.9**
OTSS Djebel Tessala 35.24 278 P P 10 48 09.0 -8.2
OTSS Djebel Tessala 35.24 278 P P 10 48 09.0 -8.2
WPM1 Penmaenmawr 35.27 310⇑ *e*P **P 10 48 16.9 -0.2**
WPM1 Penmaenmawr 35.27 310⇑ *e*P **P 10 48 16.9 -0.2**
MME1 Meikle Cairn 35.31 317 *e*P **P 10 48 16.2 -1.2**
MME1 Meikle Cairn 35.31 317 *e*P **P 10 48 16.2 -1.2**
KLRI Killari 35.41 116 *e*P **P 10 48 17.7 -1.0**
KLRI IAmb IAmb 10 48 26.8
comp=Z,1μm,1.2s
KLRI *e*S **S 10 53 52.6 -1.2**
KLRI IVMs_BB IVMs_BB 11 05 22.0
comp=Z,255μm,16.6s
YLL Llanberis 35.42 310 *e*P **P 10 48 18.7 +0.4**
YLL Llanberis 35.42 310 *e*P **P 10 48 18.7 +0.4**
HTL Hartland 35.50 306⇑ *e*P **P 10 48 18.6 -0.5**
HTL IAmb IAmb 10 48 22.6
comp=Z,4μm,2.5s
HTL IAMs_20 IAMs_20 11 06 28.3
comp=Z,330μm,14.3s
HTL Hartland 35.50 306⇑ *e*P **P 10 48 18.6 -0.5**
WME Myndd Eilian 35.52 310 *e*P **P 10 48 18.2 -1.0**
WME Myndd Eilian 35.52 310 *e*P **P 10 48 18.2 -1.0**
MCD Coleburn Disti 35.52 318 *e*P **P 10 48 18.6 -0.6**
MCD Coleburn Disti 35.52 318 *e*P **P 10 48 18.6 -0.6**
WLF1 Llynfaes 35.56 310⇑ *e*P **P 10 48 18.8 -0.8**
WLF1 AMB AMB 10 48 29.6
comp=Z,2μm,6.2s
WLF1 IAMs_20 IAMs_20 11 09 19.0
comp=Z,658μm,13.5s
WLF1 Llynfaes 35.56 310⇑ *e*P **P 10 48 18.8 -0.8**
WPS Cemaes, Angles 35.63 310⇑ *e*P **P 10 48 20.0 -0.1**
WPS AMB AMB 10 48 31.7
comp=Z,2μm,1.7s
WPS IAMs_20 IAMs_20 11 06 13.0
comp=Z,395μm,18.0s
WPS Cemaes, Angles 35.63 310⇑ *e*P **P 10 48 20.0 -0.1**
MLA1 Latheron 35.73 319 *e*P **P 10 48 20.1 -0.8**
MLA1 Latheron 35.73 319 *e*P **P 10 48 20.1 -0.8**
UCM Universidad Co 35.73 288 *i* P **P 10 48 20.3 -0.9**
UCM *e*S S 10 53 42.9 -15
GKN Gorkha 35.76 95 *e*P **P 10 48 21.9 +0.1**
comp=Z,8μm,1.6s
WIM Isle of Man 35.80 312⇑ *e*P **P 10 48 20.9 -0.8**
WIM Isle of Man 35.80 312⇑ *e*P **P 10 48 20.9 -0.8**
EAB Aberfoyle 35.86 315⇑ *e*P **P 10 48 21.4 -0.7**
EAB Aberfoyle 35.86 315⇑ *e*P **P 10 48 21.4 -0.7**
PGBU Glenifferbraes 35.89 314⇑ *e*P **P 10 48 22.2 -0.1**
PGBU IAmb IAmb 10 48 24.9
comp=Z,6μm,1.8s
PGBU IAMs_20 IAMs_20 11 07 58.1
comp=Z,426μm,15.7s
PGBU Glenifferbraes 35.89 314⇑ *e*P **P 10 48 22.2 -0.1**
GAL1 Galloway 35.90 313 IAmb IAmb 10 48 28.8
comp=Z,1μm,1.9s
GAL1 IAMs_20 IAMs_20 11 09 24.6
comp=Z,187μm,13.5s
TAM Tamanrasset 35.96 255 *e*P **P 10 48 23.5 0.0**
TAM pmax pmax
comp=Z,3μm,1.9s
TAM MLR MLR
comp=Z,157μm,18.0s
TAM Tamanrasset 35.96 255 *e*P **P 10 48 23.5 0.0**
comp=Z,57μm,18.0s
TAM Tamanrasset 35.96 255 *e*P **P 10 48 23.5 0.0**
comp=Z,3μm,1.9s
TAM LR LR
comp=Z,157μm,18.0s
CCA1 Carnmenellis 35.97 305⇑ *e*P **P 10 48 22.4 -0.7**
CCA1 IAmb IAmb 10 48 26.6
comp=Z,8μm,1.8s
CCA1 IAMs_20 IAMs_20 11 05 48.2
comp=Z,349μm,12.6s
CCA1 Carnmenellis 35.97 305⇑ *e*P **P 10 48 22.4 -0.7**
BIGH Upper Bighouse 36.05 319 *e*P **P 10 48 22.2 -1.5**
BIGH IAmb IAmb 10 48 26.7
comp=Z,6μm,1.7s
BIGH IAMs_20 IAMs_20 11 07 13.2
comp=Z,706μm,17.5s
BIGH Upper Bighouse 36.05 319 *e*P **P 10 48 22.2 -1.5**
MDO Dochfour 36.08 317 *e*P **P 10 48 23.1 -0.9**
MDO Dochfour 36.08 317 *e*P **P 10 48 23.1 -0.9**
SRSP Sriramsagar 36.08 113 *e*P **P 10 48 22.8 -1.7**
SRSP IAmb IAmb 10 48 33.0
comp=Z,560nm,1.3s
SRSP *e*S **S 10 54 02.4 -1.7**
SRSP IVMs_BB IVMs_BB 11 05 36.2
comp=Z,192μm,16.2s
DMN Daman 36.31 95 *e*P **P 10 48 27.0 +0.4**
GUD Guadarrama 36.33 288 P **P 10 48 24.8 -1.7**
GUD Guadarrama 36.33 288 P **P 10 48 24.8 -1.7**
KKN Kakani 36.36 95 *e*P **P 10 48 27.1 +0.1**
ESDC Sonseca Array 36.41 287 P **P 10 48 25.6 -1.5**
comp=Z,232nm,0.7s,baz=67,slow=8.0,SNR=297
ESDC PcP **PcP 10 50 52.6 +1.3**
comp=Z,121nm,1.0s,baz=49,slow=3.3,SNR=9.9
ESDC S **S 10 54 13.4 +4.5**
comp=Z,0.3nm,0.3s,baz=53,slow=22,SNR=2.3
ESDC LR LR 11 04 17.2
comp=Z,223μm,20.5s,baz=75,slow=38
ESDC P3KPbc 11 19 04.5
comp=Z,1.6nm,0.8s,baz=263,slow=3.1,SNR=6.4
ESLA Sonseca Array 36.41 287 *e*P **P 10 48 25.9 -1.2**
comp=Z,2μm,1.6s
ESLA Sonseca Array 36.41 287 *e*P **P 10 48 25.9 -1.2**
comp=Z,2μm,1.6s
ESLA LR LR
comp=Z,289μm,20.0s
GMK Mull of Kintyr 36.46 313 *e*P **P 10 48 26.8 -0.4**
GMK Mull of Kintyr 36.46 313 *e*P **P 10 48 26.8 -0.4**
PKIN Phulchoki 36.55 95 *e*P **P 10 48 28.9 +0.2**
GMM Mts of Mourne 36.56 312 *e*P **P 10 48 27.6 -0.5**
GMM Mts of Mourne 36.56 312 *e*P **P 10 48 27.6 -0.5**
PKI Pulchoki 36.57 95 *e*P **P 10 48 29.0 +0.1**
KAC Achnashellach 36.59 317⇑ *e*P **P 10 48 27.6 -0.8**
KAC Achnashellach 36.59 317⇑ *e*P **P 10 48 27.5 -0.8**
KSB Sheil Bridge 36.61 317 *e*P **P 10 48 27.7 -0.8**
KSB Sheil Bridge 36.61 317 *e*P **P 10 48 27.7 -0.8**
RSC Scourie 36.67 319 *e*P **P 10 48 28.4 -0.6**
RSC Scourie 36.67 319 *e*P **P 10 48 28.4 -0.6**
GCL Cushendall 36.73 313⇑ *e*P **P 10 48 29.1 -0.5**
GCL Cushendall 36.73 313⇑ *e*P **P 10 48 29.1 -0.5**
PAB San Pablo 36.73 287 *e*P **P 10 48 28.6 -1.3**
PAB pmax pmax
comp=Z,1μm,1.4s
PAB MLR MLR
comp=Z,258μm,20.0s
PAB San Pablo 36.73 287 *e*P **P 10 48 28.6 -1.3**
comp=Z,58μm,20.0s
PAB San Pablo 36.73 287 *e*P **P 10 48 28.6 -1.3**
comp=Z,1μm,1.4s
PAB LR LR
comp=Z,258μm,20.0s
DSB Dublin 36.75 310 *e*P **P 10 48 29.6 -0.1**
comp=Z,754nm,1.2s
DSB Dublin 36.75 310 *e*P **P 10 48 29.6 -0.1**
comp=Z,754nm,1.2s
DSB LR LR
comp=Z,140μm,18.0s
KPL Plockton 36.75 317⇑ *e*P **P 10 48 29.1 -0.6**
KPL IAmb IAmb 10 48 32.8
comp=Z,3μm,2.0s
KPL IAMs_20 IAMs_20 11 08 58.9
comp=Z,356μm,13.4s
KPL Plockton 36.75 317⇑ *e*P **P 10 48 29.1 -0.6**
GUN Gumba 36.77 94 *e*P **P 10 48 31.1 +0.5**
RPR Rampur 36.81 112 *e*P **P 10 48 29.8 -0.9**
RPR IAmb IAmb 10 48 41.8
comp=Z,1μm,1.6s
RPR *e*S **S 10 54 15.8 +0.7**
RPR IVMs_BB IVMs_BB 11 05 50.7
comp=Z,214μm,15.5s
MELI Melilla 36.89 279 *e*P **P 10 48 27.4 -3.7**
MELI *e*S S 10 53 48.0 -28
RRR Rubha Reidh 36.92 318 *e*P **P 10 48 29.9 -1.2**
RRR Rubha Reidh 36.92 318 *e*P **P 10 48 29.9 -1.2**
IWEX Carrickbyrne, 36.96 308⇑ *e*P **P 10 48 31.2 -0.3**
IWEX Carrickbyrne, 36.96 308⇑ *e*P **P 10 48 31.2 -0.3**
HYBB Hyderabad (bro 37.22 115 *e*P **P 10 48 33.0 -1.1**
HYBB *e*pP **sP 10 48 38.2 +0.7**
HYBB IAmb IAmb 10 48 42.6
comp=Z,795nm,1.3s
HYBB *e*S **S 10 54 19.4 -2.2**
HYBB IVMs_BB IVMs_BB 11 06 14.3
comp=Z,138μm,15.5s
HYB Hyderabad 37.23 115⇑ *i*P **P 10 48 32.0 -2.2**
comp=Z,430nm,1.0s
HYB *e*PP **PnPn 10 50 04.0 +4.6**
HYB *e*S **S 10 54 20.0 -1.5**
HYB LR LR
comp=Z,220nm,16.0s
RRH Rhenigidale 37.39 318 *e*P **P 10 48 34.4 -0.7**
RRH Rhenigidale 37.39 318 *e*P **P 10 48 34.4 -0.7**
RAMN Ramite 37.79 95 *e*P **P 10 48 39.3 +0.1**
comp=Z,9μm,1.3s
RAMN Ramite 37.79 95 *e*P **P 10 48 39.5 +0.3**
MNGI Mangalore 37.84 124 *i* x P 10 48 48.8 +9.4
MNGI AMS AMS 11 06 36.8
comp=Z,187μm,18.6s
PBRG Braganca 37.98 291 *e*P **P 10 48 38.7 -1.7**
comp=Z,780nm,1.6s
PBRG Braganca 37.98 291 *e*PP PP 10 50 09.4 +2.4
PBRG Braganca 37.98 291 *e*P **P 10 48 38.7 -1.7**
comp=Z,780nm,1.6s
PBRG Braganca 37.98 291 *e*PP PP 10 50 09.4 +2.4
URV Uravakonda 38.02 119 *e*P **P 10 48 39.5 -1.4**
URV IAmb IAmb 10 48 49.3
comp=Z,865nm,1.2s
URV *e*S **S 10 54 31.0 -2.5**
URV IVMs_BB IVMs_BB 11 07 47.8
comp=Z,123μm,15.5s
NJS Nagarjunasagar 38.34 115 *e*P **P 10 48 41.6 -1.9**
NJS IAmb IAmb 10 48 52.6
comp=Z,560nm,1.3s
NJS *e*S **S 10 54 36.9 -1.4**
NJS IVMs_BB IVMs_BB 11 06 56.9
comp=Z,151μm,16.5s
MVO Moncorvo 38.34 290 *e*P **P 10 48 42.0 -1.4**
comp=Z,890nm,1.5s
MVO Moncorvo 38.34 290 *e*PP PP 10 50 13.2 +2.3
MVO *e*S **S 10 54 40.5 +2.4**
MVO *e*LR LR 10 57 43.1
comp=Z,220μm,18.0s
MVO Moncorvo 38.34 290 *e*P **P 10 48 42.0 -1.4**
comp=Z,890nm,1.5s
MVO Moncorvo 38.34 290 *e*PP PP 10 50 13.2 +2.3
MVO *e*S **S 10 54 40.5 +2.4**
SRLM Srisailam 38.35 116 *e*P **P 10 48 42.5 -1.2**
SRLM IAmb IAmb 10 48 52.4
comp=Z,951nm,1.3s
SRLM *e*S **S 10 54 36.9 -1.7**
SRLM IVMs_BB IVMs_BB 11 07 15.9
comp=Z,128μm,14.5s
ODAN Odare 38.45 95 *e*P **P 10 48 45.2 +0.4**
TAPN Taplejung 38.47 94 *e*P **P 10 48 45.3 +0.4**
IGLA Glengowla, Co 38.55 310⇑ *e*P **P 10 48 44.6 -0.3**
IGLA Glengowla, Co 38.55 310⇑ *e*P **P 10 48 44.6 -0.3**
NRIK Noril'sk 38.57 23 P **P 10 48 45.5 +0.6**
comp=Z,567nm,1.0s,baz=240,slow=8.1,SNR=227
NRIK PP **PnPn 10 50 24.2 +9.3**
comp=Z,63nm,0.9s,baz=246,slow=18,SNR=1.7
NRIK S **S 10 54 44.6 +3.8**
comp=Z,35nm,1.2s,baz=117,slow=2.3,SNR=2.0
NRIK LR LR 11 08 54.3
comp=Z,951μm,18.0s,baz=211,slow=43
ALJ Aljibe 38.58 282 *e*P **P 10 48 43.0 -2.4**
GIBL Gibalbin 38.72 283 *e*P **P 10 48 45.0 -1.7**
HOPEN Hopen 38.75 353⇑ *i*P **P 10 48 46.2 -0.2**
HOPEN IVmB_BB 10 48 48.8
comp=Z,11μm,2.1s
HOPEN *e* 10 50 14.3
HOPEN *i* 10 54 47.1
HOPEN IVMs_BB IVMs_BB 11 08 29.9
comp=Z,177μm,15.4s
HOPEN Hopen 38.75 353⇑ *i*P **P 10 48 46.2 -0.2**
SNR=26
PVRL Vila Real 38.81 290 *e*P **P 10 48 47.1 -0.3**
comp=Z,1μm,1.6s
PVRL Vila Real 38.81 290 *e*PP PP 10 50 16.5 +0.4
PVRL Vila Real 38.81 290 *e*P **P 10 48 47.1 -0.3**
comp=Z,1μm,1.6s
PVRL Vila Real 38.81 290 *e*PP PP 10 50 16.5 +0.4
POLO Lamas de Olo 38.85 291 *e*P **P 10 48 46.5 -1.3**
comp=Z,523nm,1.5s
POLO Lamas de Olo 38.85 291 *e*PP PP 10 50 18.4 +1.8
POLO Lamas de Olo 38.85 291 *e*P **P 10 48 46.5 -1.3**

	comp=Z,523nm,1.5s					
POLO	**Lamas de Olo**	**38.85 291**	*e*PP	PP	10 50 18.4	+1.8
MTE	**Manteigas**	**38.90 289**	*e*P	**P**	**10 48 47.2**	**-0.9**
	comp=Z,3μm,1.2s					
MTE	**Manteigas**	**38.90 289**	*e*PP	PP	10 50 21.1	+4.0
MTE			*e*S	**S**	**10 54 43.9**	**-2.7**
MTE			*e*LR	LR	10 58 31.8	
	comp=Z,288μm,18.0s					
MTE	**Manteigas**	**38.90 289**	*e*P	**P**	**10 48 47.3**	**-0.9**
	comp=Z,1μm,0.9s					
MTE			*e*S	**S**	**10 54 43.9**	**-2.7**
MTE	**Manteigas**	**38.90 289**	*e*P	**P**	**10 48 47.4**	**-0.8**
	comp=Z,1μm,0.9s					
MTE			LR	LR		
	comp=Z,343μm,19.0s					
CNIL	**Conil**	**38.94 282**	*e*P	**P**	**10 48 47.0**	**-1.4**
PCAB	**Cabril**	**38.94 291**	*e*P	**P**	**10 48 47.1**	**-1.3**
	comp=Z,904nm,1.6s					
PCAB	**Cabril**	**38.94 291**	*e*PP	PP	10 50 22.6	+5.1
PCAB	**Cabril**	**38.94 291**	*e*P	**P**	**10 48 47.1**	**-1.3**
	comp=Z,904nm,1.6s					
PCBR	**Castelo Branco**	**38.99 288**	*e*P	**P**	**10 48 47.5**	**-1.4**
	comp=Z,2μm,1.6s					
PCBR	**Castelo Branco**	**38.99 288**	*e*PP	PP	10 50 24.1	+6.0
PCBR	**Castelo Branco**	**38.99 288**	*e*P	**P**	**10 48 47.5**	**-1.4**
	comp=Z,2μm,1.6s					
PCBR	**Castelo Branco**	**38.99 288**	*e*PP	PP	10 50 24.1	+6.0
SFS	**San Fernando**	**39.02 283**	*e*P	**P**	**10 48 46.7**	**-2.4**
SFS			*e*S	S	10 54 09.8	-39
PMRV	**Marv??o**	**39.04 288**	*e*P	**P**	**10 48 48.0**	**-1.3**
	comp=Z,2μm,1.7s					
PMRV	**Marv??o**	**39.04 288**	*e*PP	PP	10 50 19.8	+1.2
PMRV			*e*S	**S**	**10 54 50.1**	**+1.5**
PMRV			*e*LR	LR	10 57 44.1	
	comp=Z,158μm,16.0s					
PMRV	**Marv??o**	**39.04 288**	*e*P	**P**	**10 48 48.0**	**-1.3**
	comp=Z,2μm,1.7s					
PMRV	**Marv??o**	**39.04 288**	*e*PP	PP	10 50 19.8	+1.2
PMRV			*e*S	**S**	**10 54 50.1**	**+1.5**
PGAV	**Gavieira, Arco**	**39.06 292**	*e*P	**P**	**10 48 48.8**	**-0.7**
	comp=Z,2μm,1.8s					
PGAV	**Gavieira, Arco**	**39.06 292**	*e*PP	PP	10 50 22.6	+3.7
PGAV			*e*S	**S**	**10 54 52.6**	**+3.6**
PGAV			*e*LR	LR	10 58 04.6	
	comp=Z,287μm,18.0s					
PGAV	**Gavieira, Arco**	**39.06 292**	*e*P	**P**	**10 48 48.8**	**-0.7**
	comp=Z,2μm,1.8s					
MDT	**Midelt**	**39.08 276**	P	**P**	**10 48 49.1**	**-0.8**
	comp=Z,186nm,1.0s,baz=76,slow=9.3,SNR=91					
MDT			PP	**PnPn**	**10 50 25.1**	**+3.4**
	comp=Z,29nm,1.0s,baz=90,slow=11,SNR=1.1					
MDT			PcP	**PcP**	**10 51 00.9**	**+1.2**
	comp=Z,83nm,1.1s,baz=60,slow=6.4,SNR=2.3					
PVIS	**Viseu**	**39.08 290**	*e*P	**P**	**10 48 48.6**	**-1.1**
	comp=Z,1μm,1.5s					
PVIS	**Viseu**	**39.08 290**	*e*PP	PP	10 50 25.7	+6.6
PVIS	**Viseu**	**39.08 290**	*e*P	**P**	**10 48 48.6**	**-1.1**
	comp=Z,1μm,1.5s					
VAL	**Valentia**	**39.10 308**	*e*P	**P**	**10 48 49.0**	**-0.6**
VAL	**Valentia**	**39.10 308** ‖	*i*PP	PP	10 50 31.9	+13
VAL			*e*S	**S**	**10 54 53.4**	**+4.3**
PBAR	**Barrancos**	**39.13 286**	*e*P	**P**	**10 48 48.4**	**-1.6**
	comp=Z,3μm,1.6s					
PBAR	**Barrancos**	**39.13 286**	*e*PP	PP	10 50 20.3	+0.8
PBAR	**Barrancos**	**39.13 286**	*e*P	**P**	**10 48 48.4**	**-1.6**
	comp=Z,3μm,1.6s					
PBAR	**Barrancos**	**39.13 286**	*e*PP	PP	10 50 20.3	+0.8
GTK	**Tadong**	**39.18 93**	*e*P	**P**	**10 48 50.3**	**-0.5**
GTK			AMB	AMB	10 48 56.2	
	comp=Z,3μm,1.6s					
ZFT	**Errachidia**	**39.18 275**	*i*P	**P**	**10 48 52.0**	**+1.2**
TSY	**Tnine Yamani**	**39.20 281**	*i*P	**P**	**10 48 51.0**	**+0.4**
PESTR	**Estremoz**	**39.34 287**	*e*P	**P**	**10 48 50.3**	**-1.5**
	comp=Z,2μm,1.3s					
PESTR	**Estremoz**	**39.34 287**	*e*PP	PP	10 50 22.6	+0.7
PESTR	**Estremoz**	**39.34 287**	*e*P	**P**	**10 48 50.3**	**-1.5**
	comp=Z,2μm,1.3s					
PESTR	**Estremoz**	**39.34 287**	*e*PP	PP	10 50 22.6	+0.7
PTO	**Porto**	**39.50 291**	*e*P	**P**	**10 48 53.1**	**+0.1**
	comp=Z,1μm,1.4s					
PTO	**Porto**	**39.50 291**	*e*P	**P**	**10 48 53.1**	**+0.1**
	comp=Z,1μm,1.4s					
PVM	**Polavaram**	**39.54 112**	*e*P	**P**	**10 48 52.7**	**-0.9**
PVM			IAmb	IAmb	10 49 03.0	
	comp=Z,606nm,1.3s					
PVM			*e*S	**S**	**10 54 54.9**	**-1.5**
PVM			IVMs_BB	IVMs_BB	11 07 25.2	
	comp=Z,234μm,16.7s					
COI	**Coimbra**	**39.59 289**	*e*P	**P**	**10 48 53.1**	**-0.7**
	comp=Z,3μm,1.6s					
COI	**Coimbra**	**39.59 289**	*e*PP	PP	10 50 26.9	+2.3
PCAS	**Casmilo, Conde**	**39.70 289**	*e*P	**P**	**10 48 53.9**	**-0.8**
	comp=Z,1μm,1.8s					
PCAS	**Casmilo, Conde**	**39.70 289**	*e*PP	PP	10 50 33.0	+7.3
PCAS	**Casmilo, Conde**	**39.70 289**	*e*P	**P**	**10 48 53.9**	**-0.8**
	comp=Z,1μm,1.8s					
PTOM	**Tomar**	**39.75 288**	*e*P	**P**	**10 48 54.1**	**-1.1**
	comp=Z,4μm,1.5s					
PTOM	**Tomar**	**39.75 288**	*e*PP	PP	10 50 35.3	+9.0
PTOM	**Tomar**	**39.75 288**	*e*P	**P**	**10 48 54.1**	**-1.1**
	comp=Z,4μm,1.5s					
EVO	**Evora**	**39.76 286**	*e*P	**P**	**10 48 53.8**	**-1.4**
	comp=Z,784nm,1.9s					
EVO	**Evora**	**39.76 286**	*e*PP	PP	10 50 28.3	+1.9
EVO	**Evora**	**39.76 286**	*e*P	**P**	**10 48 53.8**	**-1.4**
	comp=Z,784nm,1.9s					
EVO	**Evora**	**39.76 286**	*e*PP	PP	10 50 28.3	+1.9
PMTG	**Montargil**	**39.76 287**	*e*P	**P**	**10 48 53.8**	**-1.5**
	comp=Z,1μm,1.5s					
PMTG	**Montargil**	**39.76 287**	*e*PP	PP	10 50 32.1	+5.7
PMTG	**Montargil**	**39.76 287**	*e*P	**P**	**10 48 53.8**	**-1.5**
	comp=Z,1μm,1.5s					
PMTG	**Montargil**	**39.76 287**	*e*PP	PP	10 50 32.1	+5.7
PBEJ	**Beja**	**39.80 286**	*e*P	**P**	**10 48 54.2**	**-1.4**
	comp=Z,2μm,1.7s					
PBEJ	**Beja**	**39.80 286**	*e*PP	PP	10 50 34.0	+7.2
PBEJ	**Beja**	**39.80 286**	*e*P	**P**	**10 48 54.2**	**-1.4**
	comp=Z,2μm,1.7s					
PVAQ	**Vaqueiros**	**39.87 285**	*e*P	**P**	**10 48 54.8**	**-1.4**
	comp=Z,2μm,1.6s					
PVAQ	**Vaqueiros**	**39.87 285**	*e*PP	PP	10 50 30.7	+3.0
PVAQ			*e*S	**S**	**10 54 53.9**	**-7.2**
PVAQ			*e*LR	LR	10 58 29.2	
	comp=Z,123μm,18.0s					
PVAQ	**Vaqueiros**	**39.87 285**	*e*P	**P**	**10 48 54.8**	**-1.4**
	comp=Z,2μm,1.6s					
PVAQ	**Vaqueiros**	**39.87 285**	*e*PP	PP	10 50 30.7	+3.0
PVAQ			*e*S	**S**	**10 54 53.9**	**-7.2**
PCVE	**Castro Verde**	**40.05 285**	*e*P	**P**	**10 48 56.2**	**-1.5**
	comp=Z,2μm,1.6s					
PCVE	**Castro Verde**	**40.05 285**	*e*PP	PP	10 50 32.6	+3.0
PCVE	**Castro Verde**	**40.05 285**	*e*P	**P**	**10 48 56.2**	**-1.5**
	comp=Z,2μm,1.6s					
KMBO	**Kilima Mbogo**	**40.07 190**	P	**P**	**10 48 59.0**	**+0.8**
	comp=Z,37nm,1.1s,baz=1.0,slow=8.6,SNR=39					
KMBO			PP	**PnPn**	**10 50 38.8**	**+4.9**
	comp=Z,34nm,1.3s,baz=337,slow=7.7,SNR=1.3					
KMBO			PcP	**PcP**	**10 51 05.0**	**+1.9**
	comp=Z,60nm,1.1s,baz=360,slow=5.2,SNR=3.6					
KMBO			S	**S**	**10 55 08.9**	**+4.1**
	comp=Z,4.1nm,1.1s,baz=47,slow=19,SNR=2.2					
KMBO			LR	LR	11 04 21.0	
	comp=Z,700μm,19.3s,baz=342,slow=34					
KMBO			PKP2ab		11 22 35.5	
	comp=Z,0.7nm,0.3s,baz=89,slow=1.5,SNR=3.5					
KMBO	**Kilima Mbogo**	**40.07 190**	*e*P	**P**	**10 48 59.4**	**+1.1**
KMBO					10 50 38.8	
KMBO					10 51 05.0	
KMBO			S	**S**	**10 55 08.9**	**+4.1**
KMBO			pmax	pmax		
	comp=Z,705nm,1.7s					
KMBO	**Kilima Mbogo**	**40.07 190**	P	**P**	**10 48 59.2**	**+0.9**
KMBO	**Kilima Mbogo**	**40.07 190**	PcP	**PcP**	**10 51 05.0**	**+1.9**
KMBO	**Kilima Mbogo**	**40.07 190**	*e*P	**P**	**10 48 59.4**	**+1.1**
	comp=Z,705nm,1.7s					
KMBO			PP	**PnPn**	**10 50 38.8**	**+4.9**
KMBO			PcP	**PcP**	**10 51 05.0**	**+1.9**
KMBO			S	**S**	**10 55 08.9**	**+4.1**
KMBO			P'P'ab	**P'P'ab**	**11 22 35.5**	**+3.3**
LSA	**Lhasa**	**40.08 88**	P	**P**	**10 48 58.8**	**+0.2**
LSA			PP	**PnPn**	**10 50 38.0**	**+4.0**
LSA			S	S	10 54 54.3	-11
LSA			LR	LR		
	comp=Z,44μm,14.1s					
LSA			LR	LR		
	comp=Z,103μm,16.1s					
LSA			LR	LR		
	comp=Z,294μm,16.1s					
LSA	**Lhasa**	**40.08 88**	*e*P	**P**	**10 48 59.2**	**+0.6**
LSA			pmax	pmax		
	comp=Z,3μm,1.8s					
LSA			MLR	MLR		
	comp=Z,337μm,19.0s					
LSA	**Lhasa**	**40.08 88**	P	**P**	**10 48 58.8**	**+0.2**
LSA	**Lhasa**	**40.08 88**	*e*P	**P**	**10 48 59.2**	**+0.6**
	comp=Z,3μm,1.8s					
LSA			LR	LR		
	comp=Z,337μm,19.0s					
PBDV	**Barranco-do-Ve**	**40.09 284**	*e*P	**P**	**10 48 56.8**	**-1.2**
	comp=Z,2μm,1.6s					
PBDV	**Barranco-do-Ve**	**40.09 284**	*e*PP	PP	10 50 33.0	+3.0
PBDV	**Barranco-do-Ve**	**40.09 284**	*e*P	**P**	**10 48 56.8**	**-1.2**
	comp=Z,2μm,1.6s					
HSPB	**Hornsund (broa**	**40.24 351**	*e*P	**P**	**10 48 59.0**	**+0.3**
HSPB			*e*		10 50 29.7	
HSPB			*e*S	**S**	**10 55 07.9**	**+2.2**
HSPB			MLR	MLR		
	comp=Z,817μm,17.5s					
HSPB	**Hornsund (broa**	**40.24 351**	*e*P	**P**	**10 48 59.0**	**+0.3**
HSPB			*e*S	**S**	**10 55 07.9**	**+2.2**
	comp=Z,17μm,17.5s					
PNCL	**Nicolau / Gran**	**40.27 286**	*e*P	**P**	**10 48 58.5**	**-1.0**
	comp=Z,829nm,1.6s					
PNCL	**Nicolau / Gran**	**40.27 286**	*e*PP	PP	10 50 39.2	+7.2
PNCL	**Nicolau / Gran**	**40.27 286**	*e*P	**P**	**10 48 58.5**	**-1.0**
	comp=Z,829nm,1.6s					
NBI	**Nairobi**	**40.27 190**	*i*P	**PcP**	**10 51 06.8**	**+3.1**
NBI			IAmb	IAmb	10 51 07.2	
	comp=Z,369nm,1.2s					
KIB	**El Ksiba**	**40.28 277**	*i*P	**P**	**10 49 01.0**	**+1.2**
RTC	**Rabat Centre**	**40.38 279**	*e*P	**P**	**10 48 59.5**	**-0.9**
	comp=Z,2μm,1.2s					
RTC	**Rabat Centre**	**40.38 279**	*e*P	**P**	**10 48 59.5**	**-0.9**
	comp=Z,2μm,1.2s					
RTC			LR	LR		
	comp=Z,726μm,22.0s					
VIS	**Vishakhapatnam**	**40.48 110**	*i*P	**P**	**10 49 00.8**	**-0.7**
VIS			*ex*	x	10 53 48.8	
CHLP	**Challavanipeta**	**40.53 108**	*e*P	**P**	**10 49 00.8**	**-1.0**
CHLP			*e*pP	**sP**	**10 49 05.5**	**+0.4**
CHLP			IAmb	IAmb	10 49 10.0	
	comp=Z,667nm,1.2s					
CHLP			*e*S	**S**	**10 55 08.3**	**-3.0**
CHLP			IVMs_BB	IVMs_BB	11 08 04.9	
	comp=Z,103μm,14.9s					
LIS	**Lisbon**	**40.55 287**	*e*P	**P**	**10 49 01.2**	**-0.6**
LIS			*e*S	**S**	**10 55 11.0**	**-0.3**
LIS			AMS	AMS	11 08 32.5	
	comp=E,333μm,14.3s					
LIS	**Lisbon**	**40.55 287**	*e*P	**P**	**10 49 01.2**	**-0.6**
LIS			*e*S	**S**	**10 55 10.9**	**-0.3**
PMST	**Lisbon--Monsan**	**40.57 287**	*e*P	**P**	**10 49 01.7**	**-0.3**
	comp=E,4μm,1.4s					
PMST	**Lisbon--Monsan**	**40.57 287**	*e*PP	PP	10 50 41.0	+5.7
PMST	**Lisbon--Monsan**	**40.57 287**	*e*P	**P**	**10 49 01.7**	**-0.3**
	comp=E,4μm,1.4s					
PMST	**Lisbon--Monsan**	**40.57 287**	*e*PP	PP	10 50 41.0	+5.7
PMAFR	**Mafra**	**40.58 287**	*e*P	**P**	**10 49 01.3**	**-0.8**
	comp=E,2μm,1.5s					
PMAFR	**Mafra**	**40.58 287**	*e*PP	PP	10 50 41.3	+5.9
PMAFR	**Mafra**	**40.58 287**	*e*P	**P**	**10 49 01.3**	**-0.8**
	comp=E,2μm,1.5s					
PMAFR	**Mafra**	**40.58 287**	*e*PP	PP	10 50 41.3	+5.9
MORF	**Marmelete**	**40.61 285**	*e*P	**P**	**10 49 01.3**	**-1.2**
MORF			AMS	AMS	11 07 49.8	
	comp=N,198μm,17.8s					
MORF	**Marmelete**	**40.61 285**	*e*P	**P**	**10 49 00.8**	**-1.6**
	comp=N,1μm,1.7s					
MORF	**Marmelete**	**40.61 285**	*e*PP	PP	10 50 37.8	+2.0
MORF	**Marmelete**	**40.61 285**	*e*P	**P**	**10 49 01.2**	**-1.2**
MORF	**Marmelete**	**40.61 285**	*e*P	**P**	**10 49 01.2**	**-1.2**
MORF	**Marmelete**	**40.61 285**	*e*PP	PP	10 50 37.8	+2.0
PFVI	**Vila Bisbo**	**40.80 285**	*e*P	**P**	**10 49 02.9**	**-1.0**
	comp=N,2μm,1.7s					
PFVI	**Vila Bisbo**	**40.80 285**	*e*PP	PP	10 50 41.3	+3.5
PFVI	**Vila Bisbo**	**40.80 285**	*e*P	**P**	**10 49 02.9**	**-1.0**
	comp=N,2μm,1.7s					
PFVI	**Vila Bisbo**	**40.80 285**	*e*PP	PP	10 50 41.3	+3.5
PFVI	**Vila Bisbo**	**40.80 285**	*e*P	**P**	**10 49 02.7**	**-1.2**
	comp=N,3μm,1.6s					
PFVI			LR	LR		
	comp=Z,163μm,18.0s					
TZC	**Tazercounte**	**40.80 277**	*i*P	**P**	**10 49 04.0**	**-0.2**
DHUB	**DHUBRI**	**40.90 94**	*e*P	**P**	**10 49 02.7**	**-2.1**
SPB3	**Spitsbergen Ar**	**41.12 352**	*e*P	**P**	**10 49 05.9**	**-0.1**
SPB3	**Spitsbergen Ar**	**41.12 352**	*e*P	**P**	**10 49 05.9**	**-0.1**
SPA0	**Spitsbergen Ar**	**41.12 352**	*e*P	**P**	**10 49 06.1**	**0.0**
SPA0	**Spitsbergen Ar**	**41.12 352**	*e*P	**P**	**10 49 06.1**	**0.0**
SPITS	**Spitsbergen Ar**	**41.12 352**	P	**P**	**10 49 06.3**	**+0.2**
	comp=Z,433nm,1.1s,baz=148,slow=7.9,SNR=56					
SPITS			PcP	**PcP**	**10 51 07.5**	**+2.2**
	comp=Z,563nm,1.2s,baz=222,slow=1.9,SNR=4.0					
SPB4	**Spitsbergen Ar**	**41.13 352**	*e*P	**P**	**10 49 06.1**	**0.0**
SPB4	**Spitsbergen Ar**	**41.13 352**	*e*P	**P**	**10 49 06.1**	**0.0**
TURI	**Tura**	**41.40 94**	*ex*	P	10 49 02.6	-6.4
MOY	**Mondy**	**41.51 52**	*e*P	**P**	**10 49 10.5**	**+0.8**
MOY			pmax	pmax		
	comp=Z,3μm,3.4s					
MOY	**Mondy**	**41.51 52**	*e*P	**P**	**10 49 10.5**	**+0.8**
	comp=Z,3μm,3.4s					
JMIC	**Jan Mayen**	**41.70 337**	P	**P**	**10 49 11.2**	**+0.4**
	comp=Z,84nm,0.4s,baz=124,slow=9.4,SNR=7.1					
JMIC			PcP	**PcP**	**10 51 08.9**	**+1.7**
	comp=Z,120nm,0.7s,baz=134,slow=7.5,SNR=4.0					
JMIC			LR	LR	11 06 49.7	
	comp=Z,350μm,21.5s,baz=112,slow=37					
JMIC	**Jan Mayen**	**41.70 337** ⇑	*i*P	**P**	**10 49 10.0**	**-0.9**
JMIC			IVmB_BB		10 49 23.8	
	comp=Z,53μm,3.1s					
JMIC			*e*PP	**PP**	**10 50 47.7**	**+0.7**
JMIC			*e*S	**S**	**10 55 29.0**	**+1.5**
JMIC			IVMs_BB	IVMs_BB	11 07 32.3	
	comp=Z,126μm,15.0s					
JMIC	**Jan Mayen**	**41.70 337**	PcP	**PcP**	**10 51 08.9**	**+1.7**
JMIC			*e*S	**S**	**10 55 29.0**	**+1.5**
	SNR=27					
GUWA	**GUWAHATI**	**42.14 93**	*e*P	**P**	**10 49 14.2**	**-0.7**
KBS	**Kingsbay**	**42.25 351**	*e*P	**P**	**10 49 14.9**	**-0.4**
KBS			pmax	pmax		
	comp=Z,1μm,1.8s					
KBS	**Kingsbay**	**42.25 351** ⇑	*i*P	**P**	**10 49 15.4**	**+0.2**
	SNR=25					
KBS	**Kingsbay**	**42.25 351**	*e*P	**P**	**10 49 14.9**	**-0.4**
	comp=Z,1μm,1.8s					
OUK	**Oukaimeden**	**42.26 276**	*i*P	**P**	**10 49 15.0**	**-1.3**
TEZP	**TEZPUR**	**42.80 91**	*e*P	**P**	**10 49 19.6**	**-0.8**
CIA	**Chichaoua**	**42.80 277**	*i*P	**P**	**10 49 20.0**	**-0.4**
AGT	**Agartala**	**42.97 96**	*e*P	**P**	**10 49 20.6**	**-1.1**
AGT			AMB	AMB	10 49 25.2	
	comp=Z,3μm,1.6s					
ZAK	**Zakamensk**	**43.09 54**	*e*P	**P**	**10 49 23.8**	**+1.2**
ZAK			*e*		10 51 13.3	
ZAK			pmax	pmax		
	comp=Z,504nm,1.5s					
ZAK	**Zakamensk**	**43.09 54**	*e*P	**P**	**10 49 23.8**	**+1.2**
	comp=Z,504nm,1.5s					
ZAK	**Zakamensk**	**43.09 54**	*e*PcP	**PcP**	**10 51 13.3**	**+0.9**
TLY	**Talaya**	**43.15 52**	P	**P**	**10 49 23.9**	**+0.9**
	comp=Z,8.5nm,0.7s,baz=82,slow=14,SNR=3.6					
TLY			PcP	**PcP**	**10 51 14.8**	**+2.4**
	comp=Z,59nm,0.8s,baz=289,slow=6.1,SNR=4.5					
TLY			S	**S**	**10 55 56.9**	**+7.5**
	comp=Z,3.9nm,0.8s,baz=166,slow=4.2,SNR=1.8					
TLY			LR	LR	11 09 22.3	
	comp=Z,372μm,18.0s,baz=279,slow=39					
TLY	**Talaya**	**43.15 52**	*c*P	**P**	**10 49 24.2**	**+1.3**
TLY			*e*		10 51 13.1	
TLY			*e*S	S	10 55 58.8	+9.4
TLY			*e*SS	**SS**	**10 58 59.6**	**-2.0**
TLY			pmax	pmax		
	comp=Z,688nm,1.6s					
TLY			MLR	MLR		
	comp=Z,302μm,17.0s					
TLY	**Talaya**	**43.15 52**	*i*P	**P**	**10 49 24.2**	**+1.3**
	comp=Z,688nm,1.6s					
TLY	**Talaya**	**43.15 52**	*e*PcP	**PcP**	**10 51 13.1**	**+0.6**
TLY	**Talaya**	**43.15 52**	*e*P	**P**	**10 49 24.3**	**+1.4**
	comp=Z,660nm,1.2s					
TLY			PcP	**PcP**	**10 51 14.8**	**+2.4**
TLY			S	**S**	**10 55 57.0**	**+7.5**
GTA	**Gaotai**	**43.15 71** ⇑	P	**P**	**10 49 23.8**	**+0.6**
GTA			pP	sP	10 49 28.3	+1.8
GTA			sP	pP	10 49 30.8	+5.2
GTA			PP	**PP**	**10 51 07.0**	**+3.7**
GTA			PcS	**PcS**	**10 55 04.3**	**-1.1**
GTA			S	**S**	**10 55 50.1**	**+0.2**
GTA			sS	sS	10 55 58.8	+5.0
GTA			SS	**SS**	**10 58 58.8**	**-3.4**
GTA			pmax	pmax		
	comp=Z,37μm,10.0s					
GTA			LR	LR		
	comp=Z,297μm,22.3s					
GTA			LR	LR		
	comp=Z,246μm,21.9s					
GTA			LR	LR		
	comp=Z,160μm,21.4s					
ZIRO	**ZIRO**	**43.18 89**	*e*P	**P**	**10 49 22.6**	**-1.2**
ZIRO			AMB	AMB	10 49 26.7	
	comp=Z,2μm,1.1s					
ITAN	**ITANAGAR**	**43.26 90**	*e*P	**P**	**10 49 23.9**	**-0.2**
BELO	**BELONIA**	**43.45 96**	*e*P	**P**	**10 49 24.6**	**-1.1**
BELO			AMB	AMB	10 49 29.4	
IRK	**Irkutsk**	**43.46 51** ⇑	*i*P	**P**	**10 49 25.3**	**-0.2**
IRK			*e*		10 51 07.2	
IRK			pmax	pmax		
	comp=Z,4μm,2.7s					
IRK	**Irkutsk**	**43.46 51**	*i*P	**P**	**10 49 25.3**	**-0.2**
	comp=Z,4μm,2.7s					
AFS	**Agadir Fac de**	**43.86 276**	*i*P	**P**	**10 49 30.0**	**+1.1**
JORH	**JÖRHAT**	**43.87 90**	*e*P	**P**	**10 49 27.0**	**-2.0**
JORH			AMB	AMB	10 49 31.8	
	comp=Z,3μm,1.0s					
DIBR	**DIBRUGARH**	**44.04 89**	*e*P	**P**	**10 49 28.2**	**-2.1**
DIBR			AMB	AMB	10 49 33.3	
	comp=Z,2μm,1.4s					
YBT	**Youssef Ben Ta**	**44.11 275**	*i*P	**P**	**10 49 30.0**	**-0.9**
MOKO	**MOKOCHONG**	**44.28 91**	*e*P	**P**	**10 49 31.8**	**-0.7**
MOKO			AMB	AMB	10 49 35.6	
	comp=Z,2μm,1.6s					
IMP	**Imphal**	**44.58 93**	*e*P	**P**	**10 49 32.4**	**-2.4**
MSEY	**Mahe Island**	**44.60 163**	*i*P	**P**	**10 49 35.0**	**+0.1**
	SNR=75					
MSEY	**Mahe Island**	**44.60 163**	*i*P	**P**	**10 49 35.0**	**+0.1**
	SNR=75					
MSEY	**Mahe Island**	**44.60 163**	*e*P	**P**	**10 49 35.0**	**+0.1**
MSEY			pmax	pmax		
	comp=Z,2μm,1.4s					
MSEY	**Mahe Island**	**44.60 163**	*e*P	**P**	**10 49 35.0**	**+0.1**
	comp=Z,2μm,1.4s					
MSEY	**Mahe Island**	**44.60 163**	*e*P	**P**	**10 49 35.0**	**+0.1**
	comp=Z,2μm,1.4s					
MSEY	**Mahe Island**	**44.60 163**	P	**P**	**10 49 35.3**	**+0.4**
	SNR=76					
MSEY	**Mahe Island**	**44.60 163**	P	**P**	**10 49 35.3**	**+0.4**
	SNR=76					
TOA0	**Torodi Ar. Sit**	**44.83 247**	*e*P	**P**	**10 49 34.6**	**-2.2**
	comp=Z,2μm,1.6s					
TOA0	**Torodi Ar. Sit**	**44.83 247**	*e*P	**P**	**10 49 34.6**	**-2.2**
	comp=Z,2μm,1.6s					
TORD	**Torodi Ar. Bea**	**44.83 247**	P	**P**	**10 49 36.7**	**-0.1**
	comp=Z,594nm,1.1s,baz=59,slow=5.7,SNR=84					
TORD			PcP	**PcP**	**10 51 19.9**	**+1.2**
	comp=Z,118nm,1.2s,baz=26,slow=3.9,SNR=3.8					
TORD			LR	LR	11 10 55.8	
	comp=Z,220μm,20.5s,baz=30,slow=40					
TOB5	**Torodi Ar. Sit**	**44.83 247**	PFAKE		10 49 50.0	+13
TOB5			LR	LR		
	comp=Z,237μm,20.0s					
LKP	**Lekhapani**	**44.84 88**	*e*P	**P**	**10 49 34.1**	**-2.7**
BORG	**Borgarnes**	**45.10 327**	P	**P**	**10 49 40.1**	**+1.7**
	comp=Z,2μm,1.2s,baz=92,slow=4.1,SNR=23					
BORG			PcP	**PcP**	**10 51 20.6**	**+1.8**
	comp=Z,615nm,1.1s,baz=119,slow=6.5,SNR=3.9					
BORG	**Borgarnes**	**45.10 327**	*e*P	**P**	**10 49 40.5**	**+2.1**
BORG					10 51 20.6	
BORG			pmax	pmax		
	comp=Z,2μm,1.4s					
BORG	**Borgarnes**	**45.10 327**	*e*P	**P**	**10 49 40.5**	**+2.1**
	comp=Z,2μm,1.4s					
BORG	**Borgarnes**	**45.10 327**	*e*P	**P**	**10 49 40.5**	**+2.1**
	comp=Z,2μm,1.4s					
BORG			PcP	**PcP**	**10 51 20.6**	**+1.8**
SONM	**Songino Array**	**45.56 57**	P	**P**	**10 49 42.5**	**0.0**
	comp=Z,34nm,0.9s,baz=276,slow=10,SNR=127					
SONM			PcP	**PcP**	**10 51 22.4**	**+1.5**
	comp=Z,112nm,1.0s,baz=254,slow=2.7,SNR=12					
SONM			LR	LR	11 11 00.7	
	comp=Z,682μm,18.3s,baz=286,slow=39					
SONM			PKPPKP	P'P'df	11 20 53.3	-28
	comp=Z,4.2nm,1.1s,baz=18,slow=1.8,SNR=5.3					
SCO	**Scoresbysund**	**45.87 335** ⇑	*i*P	**P**	**10 49 45.7**	**+1.3**
	comp=Z,336μm,20.0s					
SCO	**Scoresbysund**	**45.87 335** ⇑	*i*P	**P**	**10 49 45.7**	**+1.3**
SCO			MLR	MLR		
	comp=Z,340μm,20.0s					
SCO	**Scoresbysund**	**45.87 335** ⇑	*i*P	**P**	**10 49 45.7**	**+1.3**
	SNR=24					
PALK	**Pallekele**	**45.90 123**	P	**P**	**10 49 42.9**	**-2.4**
	comp=Z,131nm,1.0s,baz=296,slow=8.2,SNR=45					
PALK			PcP	**PcP**

PMOZ	**Porto Moniz, M**	**48.78 283**	*e*P	**P**	**10 50 07.2 -0.5**
	comp=Z,1μm,1.6s				
PMOZ	**Porto Moniz, M**	**48.78 283**	*e*PP	PP	10 52 01.5 +0.8
PMOZ			*e*S	**S**	**10 57 17.4 +6.4**
CIT	**Chita**	**49.13 50**	*e*P	**P**	**10 50 11.7 +1.6**
CIT			*e*		10 51 31.0
CIT			pmax	pmax	
	comp=Z,3μm,2.5s				
CIT	**Chita**	**49.13 50**	*e*P	**P**	**10 50 11.7 +1.6**
	comp=Z,3μm,2.5s				
CIT	**Chita**	**49.13 50**	*e*PcP	**PcP**	**10 51 31.0 -2.4**
CD2	**Chengdu**	**49.35 80⇑**	*i*P	**P**	**10 50 11.9 -0.1**
CD2			pP	pP	10 50 14.6 +0.2
CD2			PP	**PP**	**10 52 05.8 -0.1**
CD2			PcS	**PcS**	**10 55 31.4 +0.1**
CD2			S	**S**	**10 57 18.5 -0.5**
CD2			pmax	pmax	
	comp=Z,800nm,1.1s				
CD2			pmax	pmax	
	comp=Z,59μm,11.1s				
CD2			LR	LR	
	comp=Z,251μm,26.8s				
CD2			LR	LR	
	comp=Z,197μm,28.3s				
CD2			LR	LR	
	comp=Z,206μm,19.9s				
BTO	**Baotou**	**50.16 65**	*e*P	**P**	**10 50 18.4 +0.3**
BTO			pmax	pmax	
	comp=Z,380nm,1.4s				
SUMG	**Summit**	**51.15 337⇑**	*i*P	**P**	**10 50 25.7 +0.2**
	comp=Z,3μm,1.6s				
	comp=Z,353μm,25.0s				
SUMG	**Summit**	**51.15 337⇑**	*i*P	**P**	**10 50 25.7 +0.2**
SUMG			pmax	pmax	
	comp=Z,3μm,1.6s				
SUMG			MLR	MLR	
	comp=Z,350μm,25.0s				
SUMG	**Summit**	**51.15 337**	*i* P	**P**	**10 50 25.7 +0.2**
	comp=Z,50μm,25.0s				
SUMG	**Summit**	**51.15 337**	*e*P	**P**	**10 50 25.6 +0.1**
	comp=Z,3μm,1.6s				
HHC	**Hu-ho-hao-te**	**51.16 65**	*e*P	**P**	**10 50 26.4 +0.7**
HHC			S	**S**	**10 57 43.5 -0.6**
HHC			pmax	pmax	
	comp=Z,27μm,4.3s				
HHC			LR	LR	
	comp=Z,296μm,21.1s				
CMAI	**Chiengmai2**	**51.18 95**	P	**P**	**10 50 24.4 -1.7**
	comp=Z,6μm,1.7s,comp=Z,131μm				
KMI	**Kunming**	**51.31 87**	P	**P**	**10 50 26.6 -0.5**
KMI			pP	sP	10 50 33.5 +3.0
KMI			sP	pP	10 50 36.9 +7.4
KMI			PP	**PP**	**10 52 28.9 +4.9**
KMI			S	**S**	**10 57 37.8 -8.9**
KMI			pmax	pmax	
	comp=Z,810nm,2.0s				
KMI			pmax	pmax	
	comp=Z,27μm,7.2s				
KMI			LR	LR	
	comp=Z,148μm,20.7s				
KMI			LR	LR	
	comp=Z,97μm,21.9s				
KMI			LR	LR	
	comp=Z,185μm,19.2s				
CHTO	**Chiang Mai**	**51.73 96**	P	**P**	**10 50 28.7 -1.4**
	comp=Z,7μm,0.8s,comp=Z,147μm				
CHTO	**Chiang Mai**	**51.73 96**	*e*P	**P**	**10 50 29.1 -1.0**
CHTO			pmax	pmax	
	comp=Z,2μm,1.8s				
CHTO			MLR	MLR	
	comp=Z,114μm,22.0s				
CHTO	**Chiang Mai**	**51.73 96**	P	**P**	**10 50 29.3 -0.8**
	SNR=687				
CHTO	**Chiang Mai**	**51.73 96**	*e*P	**P**	**10 50 29.1 -1.0**
	comp=Z,2μm,1.8s				
CHTO			LR	LR	
	comp=Z,114μm,22.0s				
CHTO	**Chiang Mai**	**51.73 96**	P	**P**	**10 50 29.3 -0.8**
	SNR=687				
CHTO	**Chiang Mai**	**51.73 96**	P	**P**	**10 50 29.3 -0.8**
	SNR=687				
XAN	**Xi'an**	**51.92 74**	P	**P**	**10 50 31.1 -0.3**
XAN			pmax	pmax	
	comp=Z,2μm,1.3s				
XAN			pmax	pmax	
	comp=Z,60μm,10.8s				
XAN			LR	LR	
	comp=Z,175μm,24.5s				
XAN			LR	LR	
	comp=Z,242μm,24.5s				
XAN			LR	LR	
	comp=Z,311μm,20.3s				
CM31	**Chiang Mai Arr**	**51.93 96**	*e*P	**P**	**10 50 30.6 -1.0**
CM31	**Chiang Mai Arr**	**51.93 96**	*e*P	**P**	**10 50 30.6 -1.0**
CMAR	**Chiang Mai Arr**	**51.93 96**	P	**P**	**10 50 30.6 -0.9**
	comp=Z,120nm,0.9s,baz=298,slow=8.7,SNR=181				
CMAR			PcP	**PcP**	**10 51 45.6 +1.4**
	comp=Z,83nm,1.0s,baz=300,slow=3.5,SNR=2.3				
CMAR			LR	LR	11 16 23.9
	comp=Z,142μm,20.9s,baz=286,slow=40				
CMAR	**Chiang Mai Arr**	**51.93 96**	P	**P**	**10 50 30.7 -0.9**
CMAR					10 51 45.6
CMAR			pmax	pmax	
	comp=Z,122nm,0.9s				
CMAR			MLR	MLR	
	comp=Z,142μm,21.0s				
CMAR	**Chiang Mai Arr**	**51.93 96**	P	**P**	**10 50 30.7 -0.9**
	comp=Z,122nm,0.9s				
TIXI	**Tiksi**	**52.35 24**	P	**P**	**10 50 33.6 -0.3**
	comp=Z,309nm,1.1s,baz=292,slow=5.8,SNR=175				
TIXI			PcP	**PcP**	**10 51 45.6 +0.7**
	comp=Z,127nm,1.0s,baz=296,slow=3.6,SNR=3.0				
TIXI			S	**S**	**10 58 06.2 +6.8**
	comp=Z,6.0nm,0.9s,baz=139,slow=20,SNR=1.6				
TIXI			LR	LR	11 16 38.8
	comp=Z,132μm,18.7s,baz=271,slow=40				
TIXI	**Tiksi**	**52.35 24**	*c i*P	**P**	**10 50 33.7 -0.3**
TIXI			pmax	pmax	
	comp=Z,1μm,1.5s				
TIXI			MLR	MLR	
	comp=Z,420μm,16.0s				
TIXI	**Tiksi**	**52.35 24**	*e*P	**P**	**10 50 33.9 -0.1**
	comp=Z,1μm,1.4s				
TIXI	**Tiksi**	**52.35 24**	*e*P	**P**	**10 50 33.9 -0.1**
	comp=Z,1μm,1.4s				
TIXI			PcP	**PcP**	**10 51 45.6 +0.7**
TIXI			S	**S**	**10 58 06.2 +6.8**
LAMP	**Lampang**	**52.43 96**	P	**P**	**10 50 34.7 -0.6**
	comp=Z,227nm,1.2s,comp=Z,3μm				
BART	**Pico Bartolome**	**52.69 292**	*e*P	**P**	**10 50 38.4 +1.3**
	comp=Z,2μm,1.6s				
BART	**Pico Bartolome**	**52.69 292**	*e*P	**P**	**10 50 38.4 +1.3**
	comp=Z,2μm,1.6s				
PCALD	**Caldeiras da R**	**52.92 292**	*e*P	**P**	**10 50 36.8 -1.9**
	comp=Z,1μm,2.0s				
PCALD	**Caldeiras da R**	**52.92 292**	*e*P	**P**	**10 50 36.8 -1.9**
	comp=Z,1μm,2.0s				
PSMN	**Pico do Norte,**	**52.93 291**	*e*P	**P**	**10 50 37.6 -1.2**
	comp=Z,2μm,1.8s				
PSMN	**Pico do Norte,**	**52.93 291**	*e*P	**P**	**10 50 37.6 -1.2**
	comp=Z,2μm,1.8s				
CMLA	**Cha da Macela**	**52.96 292**	*e*P	**P**	**10 50 38.7 -0.3**
CMLA			pmax	pmax	
	comp=Z,4μm,1.8s				
CMLA			MLR	MLR	
	comp=Z,181μm,21.0s				
CMLA	**Cha da Macela**	**52.96 292**	*e*P	**P**	**10 50 37.5 -1.5**
	comp=Z,4μm,1.6s				
CMLA	**Cha da Macela**	**52.96 292**	*e*P	**P**	**10 50 38.7 -0.3**
	comp=Z,81μm,21.0s				
CMLA	**Cha da Macela**	**52.96 292**	*e*P	**P**	**10 50 38.7 -0.3**
	comp=Z,4μm,1.8s				
CMLA			LR	LR	
	comp=Z,181μm,21.0s				
PSMA	**Santa Maria**	**52.98 291**	*e*P	**P**	**10 50 38.7 -0.5**
	comp=Z,2μm,1.7s				
TIY	**Taiyuan**	**52.99 68**	*e*P	**P**	**10 50 39.5 +0.2**
TIY			PP	**PP**	**10 52 44.6 +5.8**
TIY			S	**S**	**10 58 12.8 +3.6**
TIY			SS	**SS**	**11 01 46.0 -2.0**
TIY			pmax	pmax	
	comp=Z,730nm,1.4s				
TIY			pmax	pmax	
	comp=Z,22μm,4.8s				
TIY			LR	LR	
	comp=Z,155μm,17.1s				
TIY			LR	LR	
	comp=Z,86μm,15.1s				
PDA	**Ponta Delgada**	**53.06 292**	*e*P	**P**	**10 50 41.0 +1.2**
	comp=Z,3μm,1.6s				
PDA	**Ponta Delgada**	**53.06 292**	*e*P	**P**	**10 50 41.0 +1.2**
	comp=Z,3μm,1.6s				
PSET	**Sete Cidades**	**53.08 292**	*e*P	**P**	**10 50 38.4 -1.5**
	comp=Z,3μm,2.0s				
PSET	**Sete Cidades**	**53.08 292**	*e*P	**P**	**10 50 38.4 -1.5**
	comp=Z,3μm,2.0s				
DGAR	**Diego Garcia**	**53.23 143**	*c i*P	**P**	**10 50 39.0 -2.2**
DGAR	**Diego Garcia**	**53.23 143**	P	**P**	**10 50 41.5 +0.3**
	SNR=20				
DGAR	**Diego Garcia**	**53.23 143**	*e*P	**P**	**10 50 39.4 -1.8**
	comp=Z,2μm,1.3s				
DGAR			LR	LR	
	comp=Z,185μm,18.0s				
DGAR	**Diego Garcia**	**53.23 143**	P	**P**	**10 50 41.5 +0.3**
	SNR=20				
DGAR	**Diego Garcia**	**53.23 143**	P	**P**	**10 50 41.5 +0.3**
	SNR=20				
H08S3	**Diego Garcia H**	**53.44 143**	P	**P**	**10 50 39.8 -2.6**
	baz=332,slow=14,SNR=21				
H08S1	**Diego Carcia H**	**53.45 143**	P	**P**	**10 50 40.1 -2.3**
	baz=332,slow=14,SNR=22				
H08S2	**Diego Garcia H**	**53.46 143**	P	**P**	**10 50 39.8 -2.7**
	baz=332,slow=14,SNR=33				
UTTA	**Uttaradit**	**53.59 96**	P	**P**	**10 50 43.1 -0.8**
	comp=Z,129nm,0.9s,comp=Z,1μm				
HIA	**Hailar**	**53.69 52**	*c i*P	**P**	**10 50 44.5 +0.3**
HIA			pmax	pmax	
	comp=Z,2μm,2.0s				
HIA			MLR	MLR	
	comp=Z,292μm,18.0s				
HIA	**Hailar**	**53.69 52**	*i* P	**P**	**10 50 44.5 +0.3**
	comp=Z,92μm,18.0s				
HIA	**Hailar**	**53.69 52**	*e*P	**P**	**10 50 44.8 +0.5**
	comp=Z,980nm,1.2s				
GYA	**Guiyang**	**53.70 83⇑**	*i*P	**P**	**10 50 43.8 -0.9**
GYA			pP	sP	10 50 49.0 +0.9
GYA			PcP	**PcP**	**10 51 49.3 -1.7**
GYA			PP	**PP**	**10 52 47.4 +1.9**
GYA			ScP	**ScP**	**10 55 44.6 -4.5**
GYA			S	**S**	**10 58 12.6 -6.6**
GYA			SS	**SS**	**11 01 53.4 -6.2**
GYA			pmax	pmax	
	comp=Z,480nm,1.2s				
GYA			pmax	pmax	
	comp=Z,37μm,14.3s				
GYA			LR	LR	
	comp=Z,156μm,20.5s				
GYA			LR	LR	
	comp=Z,114μm,18.0s				
GYA			LR	LR	
	comp=Z,136μm,21.1s				
ADH	**Angra Heroismo**	**53.83 294**	*e*P	**P**	**10 50 45.2 -0.2**
	comp=Z,629nm,1.1s				
ADH	**Angra Heroismo**	**53.83 294**	*e*P	**P**	**10 50 45.2 -0.2**
	comp=Z,629nm,1.1s				
DBIC	**Dimbokro**	**53.94 247**	P	**P**	**10 50 46.3 -0.1**
	comp=Z,566nm,1.1s,baz=31,slow=9.3,SNR=74				
DBIC			PcP	**PcP**	**10 51 52.5 +0.7**
	comp=Z,94nm,0.9s,baz=45,slow=8.1,SNR=4.0				
DBIC			S	**S**	**10 58 22.1 -0.2**
	comp=Z,4.0nm,0.8s,baz=299,slow=19,SNR=1.7				
DBIC			LR	LR	11 16 19.3
	comp=Z,156μm,19.1s,baz=40,slow=39				
DBIC	**Dimbokro**	**53.94 247**	*e*P	**P**	**10 50 44.6 -1.8**
DBIC			IAmb	IAmb	10 50 47.3
	comp=Z,4μm,1.8s				
DBIC	**Dimbokro**	**53.94 247**	PcP	**PcP**	**10 51 52.5 +0.7**
DBIC			S	**S**	**10 58 22.1 -0.2**
	comp=Z,56μm,19.2s				
DBIC	**Dimbokro**	**53.94 247**	*e*P	**P**	**10 50 44.3 -2.1**
	comp=Z,4μm,1.8s				
DBIC			PcP	**PcP**	**10 51 52.5 +0.7**
DBIC			S	**S**	**10 58 22.1 -0.2**
ENH	**Enshi**	**54.03 78**	*e*P	**P**	**10 50 46.2 -0.8**
	comp=Z,2μm,1.4s				
ENH	**Enshi**	**54.03 78**	*e*P	**P**	**10 50 46.2 -0.8**
	comp=Z,2μm,1.4s				
ENH			LR	LR	
	comp=Z,116μm,18.0s				
KIC	**Kosan Boka**	**54.06 246**	*e*P	**P**	**10 50 45.3 -2.1**
	comp=Z,2μm,1.1s				
TIC	**Toumodi**	**54.07 247**	*e*P	**P**	**10 50 45.2 -2.2**
PGRA	**Graciosa**	**54.21 294**	*e*P	**P**	**10 50 47.6 -0.6**
	comp=Z,1μm,1.8s				
PGRA	**Graciosa**	**54.21 294**	*e*P	**P**	**10 50 47.6 -0.6**
	comp=Z,1μm,1.8s				
CLNS	**Chul'man**	**54.23 42**	*e*P	**P**	**10 50 48.1 0.0**
CLNS			*e*		10 51 51.5
CLNS			*e*		10 52 46.6
CLNS			*e*S	**S**	**10 58 25.1 -0.4**
CLNS			*e*SS	**SKiKP**	**11 01 59.9 +0.3**
CLNS			pmax	pmax	
	comp=N,133nm,1.6s				
CLNS			pmax	pmax	
	comp=Z,331nm,1.4s				
CLNS			pmax	pmax	
	comp=E,172nm,1.3s				
CLNS			pmax	pmax	
	comp=E,59nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,106nm,1.1s				
CLNS			pmax	pmax	
	comp=N,74nm,1.0s				
CLNS			smax	smax	
	comp=E,43μm,15.4s				
CLNS			smax	smax	
	comp=N,28μm,13.6s				
CLNS	**Chul'man**	**54.23 42**	*e*P	**P**	**10 50 48.1 0.0**
	comp=N,331nm,1.4s				
CLNS	**Chul'man**	**54.23 42**	*e*PcP	**PcP**	**10 51 51.5 -0.9**
CLNS			*e*S	**S**	**10 58 25.1 -0.4**
	comp=N,28μm,13.6s				
LIC	**Lamto**	**54.36 246**	*e*P	**P**	**10 50 47.4 -2.1**
	comp=N,5μm,1.5s				
PMAN	**Manadas**	**54.45 294**	*e*P	**P**	**10 50 51.3 +1.4**
	comp=N,1μm,1.6s				
PMAN	**Manadas**	**54.45 294**	*e*P	**P**	**10 50 51.3 +1.4**
	comp=N,1μm,1.6s				
SRDT	**SRDT**	**54.48 100**	P	**P**	**10 50 49.6 -0.8**
	comp=N,2μm,1.8s,comp=N,83μm				
ROSA	**Rosais**	**54.52 294**	*e*P	**P**	**10 50 51.3 +0.8**
	comp=N,1μm,1.7s				
ROSA	**Rosais**	**54.52 294**	*e*P	**P**	**10 50 51.0 +0.5**
	comp=N,2μm,1.5s				
ROSA	**Rosais**	**54.52 294**	*e*P	**P**	**10 50 51.0 +0.5**
	comp=N,2μm,1.5s				
ROSA			LR	LR	
	comp=Z,95μm,19.0s				
PBKT	**Sadao Pong**	**54.59 97**	P	**P**	**10 50 50.2 -1.0**
	comp=Z,936nm,1.9s,comp=Z,35μm				
PPNO	**Prainha do Nor**	**54.64 294**	*e*P	**P**	**10 50 52.6 +1.2**
	comp=Z,2μm,1.6s				
PPNO	**Prainha do Nor**	**54.64 294**	*e*P	**P**	**10 50 52.6 +1.2**
	comp=Z,2μm,1.6s				
BJI	**Beijing**	**54.72 64**	P	**P**	**10 50 51.5 -0.3**
BJI			SS	**SKiKP**	**11 02 09.1 +8.6**
BJI			pmax	pmax	
	comp=Z,720nm,2.0s				
BJI			LR	LR	
	comp=Z,318μm,20.9s				
BJI			LR	LR	
	comp=Z,162μm,25.0s				
BJI			LR	LR	
	comp=Z,125μm,27.8s				
BJT	**Baijiatuau**	**54.73 64**	*e*P	**P**	**10 50 51.9 0.0**
BJT			pmax	pmax	
	comp=Z,4μm,2.0s				
BJT			MLR	MLR	
	comp=Z,281μm,18.0s				
BJT	**Baijiatuau**	**54.73 64**	*e*P	**P**	**10 50 51.9 0.0**
	comp=Z,4μm,2.0s				
BJT	**Baijiatuau**	**54.73 64**	*e*P	**P**	**10 50 51.9 0.0**
	comp=Z,4μm,2.0s				
BJT			LR	LR	
	comp=Z,281μm,18.0s				
PICO	**Pico**	**54.74 294**	*e*P	**P**	**10 50 54.3 +2.2**
	comp=Z,1μm,1.6s				
PICO	**Pico**	**54.74 294**	*e*P	**P**	**10 50 54.3 +2.2**
	comp=Z,1μm,1.6s				
PCAN	**Candelaria**	**54.80 294**	*e*P	**P**	**10 50 53.5 +1.0**
	comp=Z,1μm,1.4s				
PCAN	**Candelaria**	**54.80 294**	*e*P	**P**	**10 50 53.5 +1.0**
	comp=Z,1μm,1.4s				
HOR	**Horta**	**54.88 294**	*e*P	**P**	**10 50 50.4 -2.6**
	comp=Z,2μm,1.5s				
HOR	**Horta**	**54.88 294**	*e*P	**P**	**10 50 50.4 -2.6**
	comp=Z,2μm,1.5s				
PCED	**Cedros**	**54.89 294**	*e*P	**P**	**10 50 55.1 +2.0**
	comp=Z,1μm,1.7s				
PCED	**Cedros**	**54.89 294**	*e*P	**P**	**10 50 55.1 +2.0**
	comp=Z,1μm,1.7s				
YAK	**Yakutsk**	**54.99 35**	P	**P**	**10 50 52.4 -1.0**
	comp=Z,438nm,0.8s,baz=257,slow=4.3,SNR=128				
YAK			S	**S**	**10 58 41.6 +6.2**
	comp=Z,4.7nm,0.3s,baz=349,slow=0.9,SNR=2.9				
YAK	**Yakutsk**	**54.99 35**	*c i*P	**P**	**10 50 52.0 -1.4**
YAK			*e*		10 52 03.2
YAK			*e*		10 52 54.8
YAK			*e*PPP	PPP	10 54 14.1
YAK			*e*S	**S**	**10 58 33.7 -1.7**
YAK			pmax	pmax	
	comp=Z,6μm,3.3s				
YAK			pmax	pmax	
	comp=N,1μm,3.3s				
YAK			pmax	pmax	
	comp=E,2μm,2.2s				
YAK			pmax	pmax	
	comp=Z,6μm,4.1s				
YAK			pmax	pmax	
	comp=N,2μm,4.7s				
YAK			pmax	pmax	
	comp=E,3μm,4.7s				
YAK			smax	smax	
	comp=N,27μm,12.9s				
YAK			smax	smax	
	comp=E,43μm,17.1s				
YAK			MLR	MLR	
	comp=Z,261μm,24.0s				
YAK			MLR	MLR	
	comp=E,114μm,24.0s				
YAK			MLR	MLR	
	comp=N,855μm,28.0s				
YAK	**Yakutsk**	**54.99 35**	*e*P	**P**	**10 50 52.3 -1.1**
	comp=N,860nm,1.0s				
YAK			*e*S	**S**	**10 58 33.7 -1.7**
	comp=N,855μm,28.0s				
YAK	**Yakutsk**	**54.99 35**	*e*P	**P**	**10 50 52.3 -1.1**
	comp=N,860nm,1.0s				
YAK			S	**S**	**10 58 41.6 +6.2**
LSZ	**Lusaka**	**55.59 198**	*i* P	**P**	**10 50 58.6 +0.3**
LSZ			IAmb	IAmb	10 51 05.2
	comp=Z,372nm,1.2s				
LSZ	**Lusaka**	**55.59 198**	P	**P**	**10 50 58.1 -0.3**
	comp=Z,307nm,1.3s,baz=20,slow=7.3,SNR=33				
LSZ			PcP	**PcP**	**10 51 60.0 +1.9**
	comp=Z,148nm,1.1s,baz=14,slow=4.2,SNR=4.1				
LSZ			S	**S**	**10 58 45.3 +0.8**
	comp=Z,4.2nm,1.0s,baz=31,slow=5.9,SNR=2.1				
LSZ	**Lusaka**	**55.59 198**	*e*P	**P**	**10 50 58.7 +0.3**
LSZ					10 52 00.0
LSZ			S	**S**	**10 58 45.3 +0.8**
LSZ			pmax	pmax	
	comp=Z,3μm,2.0s				
LSZ			MLR	MLR	
	comp=Z,247μm,18.0s				
LSZ	**Lusaka**	**55.59 198**	*e*P	**P**	**10 50 58.7 +0.3**
	comp=Z,3μm,2.0s				
LSZ	**Lusaka**	**55.59 198**	PcP	**PcP**	**10 52 00.0 +1.9**
	comp=Z,47μm,18.0s				
LSZ			S	**S**	**10 58 45.3 +0.8**
LSZ	**Lusaka**	**55.59 198**	*e*P	**P**	**10 50 58.7 +0.3**
	comp=Z,3μm,2.0s				
LSZ			PcP	**PcP**	**10 51 60.0 +1.9**
LSZ			S	**S**	**10 58 45.3 +0.8**
LSZ			LR	LR	
	comp=Z,247μm,18.0s				
PHET	**Kaeng Krachan**	**55.75 101**	P	**P**	**10 50 58.8 -0.8**
	comp=Z,320nm,1.0s,comp=Z,3μm				
NUUG	**Nuugaatsiaq**	**55.82 338⇑**	*i*P	**P**	**10 51 00.3 +1.0**
	SNR=22				
KULLO	**Kullorsuaq**	**55.83 341⇑**	*i*P	**P**	**10 50 58.9 -0.4**
KULLO			*i* S	**S**	**10 58 47.5 +1.2**
	comp=Z,274μm,18.0s				
KULLO	**Kullorsuaq**	**55.83 341⇑**	*i*P	**P**	**10 50 58.9 -0.4**
KULLO			*i* S	**S**	**10 58 47.5 +1.2**
KULLO			MLR	MLR	
	comp=Z,270μm,18.0s				
KULLO	**Kullorsuaq**	**55.83 341⇑**	*i*P	**P**	**10 50 58.9 -0.4**
	SNR=22				
KULLO			*i* S	**S**	**10 58 47.5 +1.2**
	SNR=24				
ILULI	**Ilulissat**	**55.95 335⇑**	*i*P	**P**	**10 50 59.7 -0.6**
	comp=Z,455μm,20.0s				
ILULI	**Ilulissat**	**55.95 335⇑**	*i*P	**P**	**10 50 59.7 -0.6**
ILULI			MLR	MLR	
	comp=Z,460μm,20.0s				
ILULI	**Ilulissat**	**55.95 335⇑**	*i*P	**P**	**10 50 59.7 -0.6**
	SNR=22				
H07N1	**FLORES T-PHASE**	**56.15 296**	*e*P	**P**	**10 51 00.2 -2.0**
KHON	**Khomkaen**	**56.17 96**	P	**P**	**10 51 01.6 -1.0**
	comp=Z,422nm,1.2s,comp=Z,4μm				
H07S1	**FLORES T-PHASE**	**56.35 296**	*e*P	**P**	**10 51 03.0 -0.6**
NRS	**Narsarsuaq**	**56.46 324⇑**	*i*P	**P**	**10 51 03.5 -0.5**
NRS			*i* S	**S**	**10 58 57.1 +2.1**
	comp=Z,234μm,15.0s				
NRS	**Narsarsuaq**	**56.46 324⇑**	*i*P	**P**	**10 51 03.5 -0.5**
NRS			*i* S	**S**	**10 58 57.1 +2.1**
NRS			MLR	MLR	
	comp=Z,230μm,15.0s				
NRS	**Narsarsuaq**	**56.46 324⇑**	*i*P	**P**	**10 51 03.5 -0.5**
	SNR=22				
NRS			*i* S	**S**	**10 58 57.1 +2.1**
SFJD	**Kangerlussuaq**	**56.55 332**	P	**P**	**10 51 04.7 +0.1**
	comp=Z,376nm,1.1s,baz=72,slow=8.1,SNR=45				
SFJD			S	**S**	**10 58 55.5 -0.6**
	comp=Z,8.4nm,0.8s,baz=11,slow=16,SNR=2.2				
SFJD	**Kangerlussuaq**	**56.55 332⇑**	*i*P	**P**	**10 51 03.5 -1.1**
SFJD			*i* S	**S**	**10 58 56.6 +0.5**
	comp=Z,194μm,18.0s				
SFJD	**Kangerlussuaq**	**56.55 332**	*e*P	**P**	**10 51 03.7 -0.9**
	comp=Z,2μm,1.6s				
SFJD			S	**S**	**10 58 55.5 -0.6**
SFJD			LR	LR	
	comp=Z,228μm,20.0s				
PATY	**Pattaya**	**56.69 101**	P	**P**	**10 51 06.2 -0.1**
	comp=Z,138nm,1.0s,comp=Z,3μm				
SKNT	**Sakolnakorn**	**56.70 95**	P	**P**	**10 51 04.7 -1.7**
	comp=Z,700nm,1.8s,comp=Z,28μm				
SRAK	**Srakaew**	**56.94 99**	P	**P**	**10 51 10.3 +2.2**
	comp=Z,3μm,0.9s,comp=Z,23μm				
TIA	**Tai'an**	**57.03 68**	⇑P	**P**	**10 51 08.3 -0.2**
TIA			PP	**PP**	**10 53 12.4 -2.5**
TIA			S	**S**	**10 59 09.3 +6.0**
TIA			pmax	pmax	
	comp=Z,1μm,1.6s				
TIA			pmax	pmax	
	comp=Z,63μm,12.0s				
TIA			LR	LR	
	comp=Z,315μm,19.0s				
TIA			LR	LR	
	comp=Z,110μm,18.0s				
TIA			LR	LR	
	comp=Z,231μm,17.0s				
PANO	**Nakornpanom**	**57.10 94**	P	**P**	**10 51 07.5 -1.6**
	comp=Z,671nm,1.3s,comp=Z,21μm				
OPO	**Ambohidratompo**	**57.10 176**	P	**P**	**10 51 09.9 +0.7**
	comp=Z,272nm,1.1s,baz=4.1,slow=11,SNR=29				
ABPO	**Ambohimpanom**	**57.55 176**	*e*P	**P**	**10 51 12.6 +0.3**
ABPO			pmax	pmax	
	comp=Z,974nm,1.3s				
ABPO			MLR	MLR	
	comp=Z,227μm,22.0s				
ABPO	**Ambohimpanom**	**57.55 176**	*e*P	**P**	**10 51 12.6 +0.3**
	comp=Z,27μm,22.0s				
ABPO	**Ambohimpanom**	**57.55 176**	*e*P	**P**	**10 51 12.6 +0.3**
	comp=Z,974nm,1.3s				
ABPO			LR	LR	
	comp=Z,227μm,22.0s				
TULEG	**Thule**	**57.57 345⇑**	*i*P	**P**	**10 51 10.8 -0.9**
	SNR=22				
WHN	**Wuhan**	**57.60 75**	⇑P	**P**	**10 51 12.3 -0.3**
WHN			S	**S**	**10 59 16.8 +5.9**
WHN			pmax	pmax	
	comp=Z,6μm,1.5s				
WHN			pmax	pmax	
	comp=Z,42μm,5.2s				
WHN			LR	LR	
	comp=Z,583μm,23.0s				
WHN			LR	LR	

comp=Z,334μm,18.7s
WHN LR LR
comp=Z,218μm,28.2s
SURT Suratani 57.60 106 P **P** **10 51 12.0 -0.8**
comp=Z,425nm,1.5s,comp=Z,9μm
BBTS Babate 57.62 263 P **P** **10 51 12.3 -0.6**
comp=Z,547nm,0.9s,baz=66,slow=1.1,SNR=33
BBTS S **S** **10 59 14.7 +3.2**
comp=Z,6.6nm,0.3s,baz=162,slow=3.2,SNR=2.6
IVI Ivigtut 57.69 325⇑ *i*P **P** **10 51 11.8 -0.9**
SNR=22
CHBT CHBT 57.92 100 P **P** **10 51 14.2 -0.8**
comp=Z,753nm,1.8s,comp=Z,95μm
PKDT Phuket 57.95 107 P **P** **10 51 15.0 -0.2**
comp=Z,1μm,2.0s,comp=Z,22μm
NUUK Nuuk 58.05 329⇑ *i*P **P** **10 51 14.5 -0.6**
SNR=22
KRAB Krabi 58.38 106 P **P** **10 51 19.4 +1.2**
comp=Z,201nm,1.0s,comp=Z,3μm
UBPT Khong Chiam 58.85 95 P **P** **10 51 21.1 -0.4**
comp=Z,691nm,0.8s,comp=Z,24μm
MLSI Meulaboh, Aceh 58.94 112 P **P** **10 51 17.9 -4.2**
TRTT Trang 59.00 106 P **P** **10 51 20.4 -2.1**
comp=Z,774nm,1.8s,comp=Z,24μm
DL2 Dalian 59.02 63⇑ *i*P **P** **10 51 21.6 -0.8**
DL2 PP **PP** **10 53 30.5 -2.0**
DL2 pmax pmax
comp=Z,3μm,1.3s
DL2 pmax pmax
comp=Z,32μm,7.7s
DL2 LR LR
comp=Z,197μm,17.5s
DL2 LR LR
comp=Z,120μm,16.3s
DL2 LR LR
comp=Z,237μm,18.0s
SNY Shenyang 59.06 59⇑ P **P** **10 51 21.3 -1.3**
SNY PP **PP** **10 53 32.0 -0.8**
SNY S **S** **10 59 32.1 +2.5**
SNY SS **SS** **11 03 24.6 +1.5**
SNY LR LR
comp=Z,126μm,18.2s
SNY LR LR
comp=Z,311μm,17.8s
SNY LR LR
comp=Z,504μm,18.2s
CN2 Changchun 59.43 56⇑ *i*P **P** **10 51 24.6 -0.6**
CN2 *e*pP sP 10 51 29.3 +0.8
CN2 PcP **PcP** **10 52 12.9 0.0**
CN2 PP **PP** **10 53 37.3 +1.2**
CN2 *e*S **S** **10 59 29.8 -4.6**
QIZ Qiongzhong 60.12 89 P **P** **10 51 29.3 -0.9**
QIZ S **S** **10 59 37.4 -6.5**
QIZ sS **sS** **10 59 50.9 +3.0**
QIZ ScS SKKSac 11 01 11.8 -10
QIZ SS **SS** **11 03 36.4 -4.3**
QIZ pmax pmax
comp=Z,440nm,1.9s
QIZ LR LR
comp=Z,120μm,19.9s
QIZ LR LR
comp=Z,120μm,18.4s
QIZ Qiongzhong 60.12 89 *e*P **P** **10 51 29.3 -0.9**
comp=Z,1μm,1.6s
QIZ Qiongzhong 60.12 89 *e*P **P** **10 51 29.3 -0.9**
comp=Z,1μm,1.6s
SNSI Sinabang, Aceh 60.16 113 P **P** **10 51 27.5 -3.0**
MRIV Mauritius Mete 60.18 165 *e*P **P** **10 51 29.7 -0.7**
MRIV Mauritius Mete 60.18 165 *e*P **P** **10 51 29.7 -0.7**
TPTI 60.19 112 P **P** **10 51 26.6 -4.1**
NJ2 Nanjing 60.24 71 *e*P **P** **10 51 30.4 -0.5**
NJ2 PP **PP** **10 53 44.9 +1.4**
NJ2 S **S** **10 59 47.8 +2.7**
NJ2 pmax pmax
comp=Z,1μm,1.0s
NJ2 pmax pmax
comp=Z,26μm,4.6s
NJ2 LR LR
comp=Z,214μm,22.2s
NJ2 LR LR
comp=Z,134μm,22.2s
NJ2 LR LR
comp=Z,217μm,19.0s
KCSI Kotacane, Aceh 60.44 111 P P 10 51 27.1 -5.4
comp=Z,577nm,1.4s,comp=Z,19μmcomp=Z,130μm
GZH Guangzhou 60.63 83 P **P** **10 51 33.0 -0.6**
GZH PP **PP** **10 53 51.0 +3.9**
GZH S **S** **10 59 50.8 +0.5**
GZH pmax pmax
comp=Z,94μm,12.6s
GZH LR LR
comp=Z,362μm,21.6s
RER Riviere de l'E 60.68 167 *e*P **P** **10 51 33.0 -0.9**
comp=Z,1μm,1.0s
RER Riviere de l'E 60.68 167 *e*P **P** **10 51 33.0 -0.9**
comp=Z,1μm,1.0s
KLR Kul'dur 60.94 49 P **P** **10 51 35.1 -0.3**
comp=Z,33nm,1.0s,baz=297,slow=7.1,SNR=166
TSI Tuntungan 61.03 111 P **P** **10 51 33.9 -2.6**
MCO Taipa Grande 61.31 84 P **P** **10 51 40.0 +1.7**
KULM Kulim 61.38 108 *e*P **P** **10 51 36.5 -2.4**
comp=Z,3μm,1.6s
KULM Kulim 61.38 108 *e*P **P** **10 51 36.5 -2.4**
comp=Z,3μm,1.6s
KULM LR LR
comp=Z,143μm,21.0s
KULM Kulim 61.38 108⇑⇑ P **P** **10 51 37.5 -1.4**
HKC Hong Kong Obse 61.70 83⇑⇑ P **P** **10 51 41.0 +0.1**
MDJ Mudanjiang 61.73 54 P **P** **10 51 39.9 -0.9**
MDJ pP sP 10 51 45.3 +1.1
MDJ sP pP 10 51 48.3 +5.1
MDJ PcP **PcP** **10 52 21.1 -1.0**
MDJ PP **PP** **10 53 54.8 -1.5**
MDJ S **S** **11 00 04.8 +1.0**
MDJ sS sS 11 00 14.1 +6.3
MDJ ScS **SKKSac** **11 01 31.3 -1.5**
MDJ pmax pmax
comp=Z,270nm,1.6s
MDJ pmax pmax
comp=Z,37μm,13.7s
MDJ LR LR
comp=Z,371μm,25.4s
MDJ LR LR
comp=Z,208μm,26.4s
MDJ LR LR
comp=Z,189μm,15.6s
MDJ Mudanjiang 61.73 54 *e*P **P** **10 51 39.8 -1.0**
comp=Z,1μm,1.6s
MDJ Mudanjiang 61.73 54 *e*P **P** **10 51 39.8 -1.0**
comp=Z,1μm,1.6s
MDJ LR LR
comp=Z,152μm,19.0s
PSI Prapat 61.77 111 P **P** **10 51 40.9 -0.7**
comp=Z,360nm,1.1s,baz=303,slow=7.1,SNR=89
PSI S **S** **11 00 03.1 -2.1**
comp=Z,2.0nm,0.4s,baz=346,slow=19,SNR=2.5
PSI PKPPKP **P'P'df** **11 20 50.2 -0.8**
comp=Z,1.6nm,0.2s,baz=219,slow=7.0,SNR=8.7
PSI LR LR 11 21 15.6
comp=Z,120μm,20.4s,baz=303,slow=39
PSI Prapat 61.77 111 *e*P **P** **10 51 39.0 -2.7**
comp=Z,3μm,1.5s
PSI S **S** **11 00 03.1 -2.1**
PSI P'P' 11 20 50.2
MSNA Messina 62.04 194 *e*P **P** **10 51 44.4 +1.3**
IPM Ipoh 62.20 108 *e*P **P** **10 51 41.8 -2.6**
comp=Z,3μm,1.5s
IPM Ipoh 62.20 108 *e*P **P** **10 51 41.8 -2.6**
comp=Z,3μm,1.5s
IPM LR LR
comp=Z,148μm,22.0s
IPM Ipoh 62.20 108⇓⇓ P **P** **10 51 42.4 -1.9**
SSE Sheshan 62.44 71 P **P** **10 51 44.6 -1.2**
SSE PP **PP** **10 54 03.6 +0.7**
SSE S **S** **11 00 11.9 -1.2**
SSE SS **SS** **11 04 20.3 +3.8**
SSE pmax pmax
comp=Z,33μm,12.3s
SSE LR LR
comp=Z,177μm,22.0s
SSE LR LR
comp=Z,119μm,22.1s
SSE LR LR
comp=Z,128μm,19.0s
TSUM Tsumeb 62.52 208 P **P** **10 51 45.5 -0.9**
comp=Z,68nm,1.2s,baz=15,slow=6.6,SNR=41
TSUM S **S** **11 00 18.1 +3.8**
comp=Z,2.2nm,0.7s,baz=270,slow=4.0,SNR=2.0
TSUM Tsumeb 62.52 208 *e*P **P** **10 51 45.5 -0.9**
comp=Z,735nm,1.6s
TSUM Tsumeb 62.52 208 *e*P **P** **10 51 45.5 -0.9**
comp=Z,735nm,1.6s
TSUM S **S** **11 00 18.1 +3.8**
TSUM LR LR
comp=Z,213μm,19.0s
SACV Santiago Islan 62.96 268 *e*P **P** **10 51 47.5 -2.0**
comp=Z,3μm,1.9s
SACV LR LR
comp=Z,54μm,22.0s
INCN Inchon 63.17 62 P **P** **10 51 50.1 -0.5**
SNR=130
INCN Inchon 63.17 62 *e*P **P** **10 51 49.8 -0.8**
comp=Z,1μm,1.2s
INCN LR LR
comp=Z,218μm,20.0s
INCN Inchon 63.17 62 pP **P** **10 51 50.1 -0.5**
SNR=130
INCN Inchon 63.17 62 P **P** **10 51 50.1 -0.5**
SNR=130
KTGM Kuala Trenggan 63.22 106⇓⇓ P **P** **10 51 49.6 -1.6**
HABR Khabarovsk 63.22 48*c i*P **P** **10 51 48.8 -1.9**
HABR *e**PP **sP** **10 51 53.7 -0.4**
HABR *e**SP **pP** **10 51 55.5 +2.3**
HABR *e* 10 52 25.2
HABR *e* 10 54 08.4
HABR *e*PPP PPP 10 55 36.8
HABR *e*S **S** **11 00 21.2 -1.2**
HABR *e* 11 01 41.2
HABR *e*SS **SS** **11 04 28.7 +0.8**
HABR pmax pmax
comp=N,105nm,2.3s
HABR pmax pmax
comp=E,247nm,2.3s
HABR pmax pmax
comp=Z,678nm,2.3s
HABR pmax pmax
comp=Z,19μm,4.9s
HABR MLR MLR
comp=E,299μm,19.0s
HABR MLR MLR
comp=N,199μm,17.0s
HABR MLR MLR
comp=Z,456μm,22.0s
HABR Khabarovsk 63.22 48 *i* P **P** **10 51 48.8 -1.9**
comp=Z,19μm,4.9s
HABR Khabarovsk 63.22 48 *e*PcP **PcP** **10 52 25.2 -2.9**
PBSI Pulau Batu 63.26 114 P **P** **10 51 49.6 -1.8**
comp=Z,1μm,1.7s,comp=Z,41μmcomp=Z,169μm
USRK Ussuriysk Ar. 63.44 54 P **P** **10 51 50.8 -1.4**
comp=Z,228nm,1.0s,baz=298,slow=5.2,SNR=185
USRK PKPPKP P'P'df 11 20 44.8 -10
comp=Z,2.5nm,0.9s,baz=49,slow=2.7,SNR=3.5
USRK LR LR 11 22 17.9
comp=Z,151μm,18.3s,baz=293,slow=39
RES Resolute Bay 63.55 349 P **P** **10 51 52.7 +0.2**
comp=Z,192nm,1.2s,baz=32,slow=6.4,SNR=55
RES PKPPKP P'P'df 11 20 45.7 -11
comp=Z,7.9nm,1.0s,baz=185,slow=9.6,SNR=3.7
RES LR LR 11 21 39.1
comp=Z,312μm,19.5s,baz=32,slow=38
QZH Quanzhou 63.68 78⇑ *i*P **P** **10 51 52.3 -1.8**
QZH PP **PP** **10 54 18.0 +4.0**
QZH S **S** **11 00 24.1 -4.7**
QZH pmax pmax
comp=Z,1μm,1.4s
QZH pmax pmax
comp=Z,50μm,11.7s
QZH LR LR
comp=Z,326μm,20.9s
QZH LR LR
comp=Z,155μm,16.4s
QZH LR LR
comp=Z,312μm,18.2s
MSHR Mys Shultsa 63.70 55*c i*P **P** **10 51 52.6 -1.4**
MSHR Mys Shultsa 63.70 55 *i* P **P** **10 51 52.6 -1.4**
VLA Vladivostok 63.90 55*c i*P **P** **10 51 53.7 -1.6**
VLA pmax pmax
comp=Z,983nm,1.6s
VLA MLR MLR
comp=Z,173μm,16.0s
VLA Vladivostok 63.90 55 *i* P **P** **10 51 53.7 -1.6**
comp=Z,73μm,16.0s
NKL Nikolayevsk 64.02 42 *i* P **P** **10 51 56.0 +0.1**
NKL *i* S S 11 00 46.0 +14
NKL pmax pmax
comp=N,570nm,1.5s
NKL pmax pmax
comp=E,780nm,1.5s
NKL pmax pmax
comp=Z,3μm,1.5s
NKL pmax pmax
comp=N,4μm,11.0s
NKL pmax pmax
comp=E,23μm,11.0s
NKL pmax pmax
comp=Z,48μm,12.0s
NKL Nikolayevsk 64.02 42 *i* P **P** **10 51 56.0 +0.1**
comp=Z,48μm,12.0s
SEY Seymchan 64.03 29 P **P** **10 51 56.5 +0.7**
comp=Z,994nm,1.0s,baz=286,slow=7.9,SNR=210
KS15 Wonju Array Si 64.05 62 *e*P **P** **10 51 55.5 -0.9**
KSAR Wonju Array Be 64.05 62 P **P** **10 51 55.7 -0.7**
KSAR S **S** **11 00 35.9 +2.7**
KSAR Wonju Array Be 64.05 62 P **P** **10 51 55.7 -0.7**
KSAR Wonju Array Be 64.05 62 P **P** **10 51 55.6 -0.7**
KSAR S **S** **11 00 35.9 +2.7**
KSAR P'P' 11 20 36.0
KSRS Korea Array 64.07 62 P **P** **10 51 55.6 -0.8**
comp=Z,503nm,0.9s,baz=289,slow=6.0,SNR=179
KSRS S **S** **11 00 35.9 +2.5**
comp=Z,1.5nm,1.0s,baz=280,slow=6.9,SNR=2.6
KSRS PKPPKP P'P'df 11 20 36.0 -17
comp=Z,1.5nm,0.9s,baz=161,slow=3.5,SNR=4.3
KSRS LR LR 11 23 30.4
comp=Z,165μm,18.2s,baz=302,slow=40
KSRS Korea Array 64.07 62 P **P** **10 51 55.7 -0.8**
KSRS S **S** **11 00 35.9 +2.5**
KSRS pmax pmax
comp=Z,509nm,1.0s
KSRS smax smax
comp=N,2.0nm,1.0s
KSRS Korea Array 64.07 62 P **P** **10 51 55.7 -0.8**
comp=N,509nm,1.0s
FRB Frobisher Bay 64.67 333 P **P** **10 51 59.1 -0.9**
comp=N,769nm,1.0s,baz=58,slow=7.1,SNR=64
SISI Saibi 64.72 114 P **P** **10 51 59.8 -1.2**
comp=N,1μm,1.8s,comp=N,32μmcomp=N,180μm
BKNI Bangkinang 65.00 111 P **P** **10 52 00.0 -2.8**
BKNI Bangkinang 65.00 111 *e*P **P** **10 52 00.1 -2.8**
comp=N,9μm,1.7s
BKNI LR LR
comp=Z,134μm,22.0s
BILL Bilibino 65.30 20*c i*P **P** **10 52 04.4 +0.3**
BILL *i* 10 54 33.5
BILL *i* PPP PPP 10 56 06.2
BILL pmax pmax
comp=Z,2μm,1.7s
BILL Bilibino 65.30 20 *i* P **P** **10 52 04.4 +0.3**
comp=Z,2μm,1.7s
MA2 Magadan 65.30 32 P **P** **10 52 04.3 +0.1**
comp=Z,496nm,0.9s,baz=306,slow=7.3,SNR=102
PDSI Padang 65.42 113 P P 10 51 59.5 -6.1
LBTB Lobatse 65.58 198 P **P** **10 52 06.2 -0.3**
comp=Z,167nm,0.9s,baz=16,slow=7.4,SNR=43
LBTB Lobatse 65.58 198 *e*P **P** **10 52 07.7 +1.3**
LBTB Lobatse 65.58 198 *e*P **P** **10 52 06.3 -0.1**
LBTB pmax pmax
comp=Z,721nm,1.3s
LBTB Lobatse 65.58 198 *e*P **P** **10 52 06.3 -0.1**
comp=Z,721nm,1.3s
LBTB Lobatse 65.58 198 *e*P **P** **10 52 06.3 -0.1**
comp=Z,721nm,1.3s
TATO Taipei 65.88 77 P **P** **10 52 08.6 +0.2**
SNR=27
TATO Taipei 65.88 77 *e*P **P** **10 52 08.9 +0.5**
comp=Z,43μm,1.4s
TATO LR LR
comp=Z,144μm,18.0s
TATO Taipei 65.88 77 pP **P** **10 52 08.6 +0.2**
SNR=27
TATO Taipei 65.88 77 P **P** **10 52 08.6 +0.2**
SNR=27
YHNB Yeheng 65.96 77 *e*P **P** **10 52 09.3 +0.3**
comp=Z,2μm,1.3s
YHNB LR LR
comp=Z,208μm,18.0s
MYKOM Kota Tinggi 66.08 108 *e*P **P** **10 52 07.8 -2.1**
comp=Z,994nm,1.3s
MYKOM LR LR
comp=Z,162μm,22.0s
SSLB Suanglung 66.12 78 *e*P **P** **10 52 10.6 +0.6**
comp=Z,2μm,1.6s
SSLB LR LR
comp=Z,121μm,19.0s
TPUB Ta-pu 66.13 79 *e*P **P** **10 52 10.3 +0.1**
comp=Z,3μm,1.5s
TPUB LR LR
comp=Z,141μm,19.0s
TYV Tymovskoe 66.25 43 *e*P **P** **10 52 11.5 +1.0**
TYV *e*S **S** **11 01 02.0 +2.2**
TYV pmax pmax
comp=Z,1μm,1.9s
TYV pmax pmax
comp=Z,31μm,7.7s
TYV smax smax
comp=N,37μm,10.3s
TYV MLR MLR
comp=N,160μm,23.0s
TYV Tymovskoe 66.25 43 *e*P **P** **10 52 11.5 +1.0**
comp=N,37μm,10.3s
ERPM east rand prop 66.28 195 *e*P **P** **10 52 10.3 -0.7**
ERPM IAmb IAmb 10 52 21.2
comp=Z,2μm,1.8s
PPSI Pulau Pagai 66.38 115 P **P** **10 52 11.9 +0.1**
NACB Ninganchiao 66.39 77 *e*P **P** **10 52 11.2 -0.6**
comp=Z,2μm,2.0s
NACB LR LR
comp=Z,213μm,21.0s
RGRI Rengat 66.40 111 P **P** **10 52 08.3 -3.6**
KLOF Kloof 66.42 195 *e*P **P** **10 52 10.7 -1.2**
WDLM Western Deep L 66.53 196 *e*P **P** **10 52 13.7 +1.1**
YULB Yu-li 66.59 78 *e*P **P** **10 52 12.8 -0.4**
comp=Z,1μm,1.4s
POGA Pongola 66.68 191 *i* P **P** **10 52 13.6 +0.2**
POGA IAmb IAmb 10 52 18.4
POGA Pongola 66.68 191 *e*P **P** **10 52 14.8 +1.5**
TWG Pinlang 66.74 79 *e*P **P** **10 52 14.7 +0.6**
comp=Z,8μm,1.5s
TWG LR LR
comp=Z,507μm,20.0s
PRYS Parys 67.03 196 *e*P **P** **10 52 15.9 +0.2**
TPRI Tanjung Pinang 67.16 108 P **P** **10 52 14.7 -2.1**
YOJ Yonaguni jima 67.31 76 PFAKE 10 52 30.0 +12
YOJ LR LR
comp=Z,138μm,18.0s
SWZ Schweizer 67.72 197 *e*P **P** **10 52 18.6 -1.5**
DSRI Dabo 68.13 109 P **P** **10 52 20.7 -2.2**
JMBI JAMBI 68.22 111 P **P** **10 52 21.3 -2.2**
MASI Maura Aman, Be 68.24 113 P **P** **10 52 21.7 -1.9**
comp=Z,3μm,1.4s,comp=Z,56μm
JNU Nakatsue 68.39 64 P **P** **10 52 23.2 -1.2**
comp=Z,189nm,0.9s,baz=351,slow=2.5,SNR=72
JNU Nakatsue 68.39 64 *e*P **P** **10 52 23.4 -1.0**
comp=Z,476nm,1.0s
JNU LR LR
comp=Z,700nm,21.0s
YSS Yuzh-Sakhalins 68.45 47*c i*P **P** **10 52 23.7 -0.8**
YSS *e* 10 52 46.1
YSS *e*PPP PPP 10 56 39.2
YSS *e*S **S** **11 01 26.1 -0.2**
YSS *e*PPS PPS 11 02 03.1
YSS pmax pmax
comp=Z,1μm,2.0s
YSS pmax pmax
comp=Z,32μm,6.8s
YSS pmax pmax
comp=N,8μm,6.3s
YSS pmax pmax
comp=E,12μm,5.7s
YSS smax smax
comp=N,17μm,14.3s
YSS MLR MLR
comp=E,265μm,17.7s
YSS MLR MLR
comp=Z,223μm,17.7s
YSS MLR MLR
comp=N,100μm,19.3s
YSS Yuzh-Sakhalins 68.45 47 *i* P **P** **10 52 23.7 -0.8**
comp=N,8μm,6.3s
YSS Yuzh-Sakhalins 68.45 47 *e*PcP **PcP** **10 52 46.1 -3.7**
YSS Yuzh-Sakhalins 68.45 47 *e*P **P** **10 52 24.3 -0.1**
comp=N,3μm,1.4s
YSS LR LR
comp=Z,149μm,18.0s
BOSA Boshof 69.12 197 *i* P **P** **10 52 27.9 -1.0**
BOSA IAML 10 52 31.7
BOSA Boshof 69.12 197 P **P** **10 52 27.8 -1.0**
comp=Z,222nm,1.1s,baz=13,slow=6.8,SNR=56
BOSA S **S** **11 01 35.6 +1.0**
comp=Z,5.2nm,1.1s,baz=285,slow=12,SNR=1.9
BOSA PKP2ab 11 20 41.1
comp=Z,37nm,1.2s,baz=203,slow=4.1,SNR=11
BOSA LR LR 11 23 11.6
comp=Z,231μm,18.0s,baz=16,slow=36
BOSA Boshof 69.12 197 *e*P **P** **10 52 28.7 -0.1**
BOSA Boshof 69.12 197 *e*P **P** **10 52 28.0 -0.8**
BOSA S **S** **11 01 35.6 +1.0**
BOSA pmax pmax
comp=Z,774nm,1.3s
BOSA Boshof 69.12 197 *e*P **P** **10 52 28.0 -0.8**
comp=Z,774nm,1.3s
BOSA Boshof 69.12 197 *e*P **P** **10 52 28.0 -0.8**
comp=Z,774nm,1.3s
BOSA S **S** **11 01 35.6 +1.0**
BOSA P'P'ab P'P'ab 11 20 41.1 +8.4
ABRA Dolores 69.38 84 *e*P **P** **10 52 31.7 +1.0**
SCHQ Schefferville 69.43 325 P **P** **10 52 29.6 -0.8**
comp=Z,255nm,1.0s,baz=55,slow=6.4,SNR=70
SCHQ S **S** **11 01 38.1 +0.4**
comp=Z,5.6nm,0.9s,baz=219,slow=17,SNR=2.3
SCHQ PKPPKP P'P'df 11 20 35.1 -11
comp=Z,16nm,1.0s,baz=305,slow=2.5,SNR=9.3
SCHQ LR LR 11 22 39.4
comp=Z,62μm,20.2s,baz=48,slow=36
SCHQ Schefferville 69.43 325 *e*P **P** **10 52 29.7 -0.7**
comp=Z,3μm,1.9s
SCHQ S **S** **11 01 38.1 +0.4**
SCHQ P'P' 11 20 35.1
MNAI Manna 69.59 114 *e*P **P** **10 52 29.4 -2.6**
comp=Z,6μm,1.9s
LHSI Lahat 69.64 113 P **P** **10 52 28.7 -3.5**
SCZP Santa Cruz 69.84 86 *e*P **P** **10 52 34.7 +1.2**
AUSN Aus 69.86 206 *e*P **P** **10 52 35.1 +1.6**
UPI Upington 69.89 201 *e*P **P** **10 52 32.5 -1.1**
UPI IAmb IAmb 10 52 43.2
comp=Z,1μm,1.7s
PMBI Palembang 69.93 111 P **P** **10 52 30.6 -3.4**
JOW Kunigami 69.96 71 *e*P **P** **10 52 32.3 -1.9**
comp=Z,2μm,1.4s
ASAJ Asahikawa 69.96 49 P **P** **10 52 33.1 -0.8**
comp=Z,174nm,0.9s,baz=304,slow=8.9,SNR=43
ASAJ Asahikawa 69.96 49 *e*P **P** **10 52 33.3 -0.6**
comp=Z,390nm,1.1s
ASAJ LR LR
comp=Z,1μm,20.0s
JKA Kamikawa-asahi 69.96 49 P **P** **10 52 33.1 -0.8**
comp=Z,174nm,0.9s
ARMS Ukamas 70.02 202 *e*P **P** **10 52 34.3 0.0**
SGCP Mt. Cagua 70.08 82 *e*P **P** **10 52 36.2 +1.3**
AUGR Augrabies 70.37 201 *e*P **P** **10 52 35.9 -0.6**
MDSI Maura Dua 70.56 113 P P 10 52 30.9 -7.0
comp=Z,488nm,1.6s,comp=Z,17μmcomp=Z,110μm
CAUP Cauayan 70.65 84 *e*P **P** **10 52 40.2 +1.7**
LWLI Liwa 70.84 113 P **P** **10 52 37.1 -2.6**
comp=Z,3μm,0.9s,comp=Z,25μm
ASCN Ascension 70.89 243 *e*P **P** **10 52 39.0 -0.9**
comp=Z,1μm,1.1s
ASCN LR LR
comp=Z,82μm,19.0s
H10N2 ASCENSION HYDR 70.91 243 P **P** **10 52 40.8 +1.1**
H10N1 ASCENSION HYDR 70.91 243 P **P** **10 52 40.4 +0.7**
H10N3 ASCENSION HYDR 70.92 243 P **P** **10 52 40.9 +1.1**
HVD Gariep Dam 70.98 196 *e*P **P** **10 52 40.7 +0.5**
COCO West Island 71.01 124 *e*P **P** **10 52 39.3 -1.3**
COCO pmax pmax
comp=Z,4μm,1.8s
COCO MLR MLR
comp=Z,149μm,20.0s

COCO West Island 71.01 124 *e*P **P 10 52 39.3 -1.3**
comp=Z,49µm,20.0s
COCO West Island 71.01 124 *e*P **P 10 52 39.3 -1.3**
comp=Z,4µm,1.8s
COCO LR LR
comp=Z,149µm,20.0s
KLSI 71.10 112 P P 10 52 34.5 -6.7
comp=Z,331nm,1.1s,comp=Z,16µmcomp=Z,92µm
KSM Kuching 71.15 104 *e*P **P 10 52 40.2 -1.3**
comp=Z,506nm,1.1s
KSM LR LR
comp=Z,93µm,21.0s
KSM Kuching 71.15 104 ⇑P **P 10 52 40.3 -1.3**
BALP Baler 71.16 85 *e*P **P 10 52 43.2 +1.6**
SHEL Horse Pasture 71.25 230 *e*P **P 10 52 41.9 -0.1**
SHEL pmax pmax
comp=Z,3µm,1.8s
SHEL MLR MLR
comp=Z,130µm,19.0s
SHEL Horse Pasture 71.25 230 *e*P **P 10 52 41.9 -0.1**
comp=Z,30µm,19.0s
SHEL Horse Pasture 71.25 230 *e*P **P 10 52 41.9 -0.1**
comp=Z,3µm,1.8s
SHEL LR LR
comp=Z,130µm,19.0s
LUBP Lubang 71.30 87 *e*P **P 10 52 42.1 -0.3**
INU Inuyama 71.39 59 *e*P **P 10 52 41.4 -1.4**
comp=Z,519nm,1.3s
INU LR LR
comp=Z,211µm,21.0s
KASI Kota Agung 71.50 113 P **P 10 52 41.0 -2.6**
comp=Z,1µm,1.4s,comp=Z,26µm
ERM Erimo 71.51 51 PFAKE 10 52 50.0 +6.7
ERM LR LR
comp=Z,176µm,18.0s
MJB9 Matsu-Tunnel 71.51 58 *e*P **P 10 52 42.3 -1.2**
comp=Z,545nm,1.5s
MJB9 LR LR
comp=Z,102µm,19.0s
MAJO Matsushiro 71.51 58*c i*P **P 10 52 41.9 -1.6**
MAJO Matsushiro 71.51 58 *i* P **P 10 52 41.9 -1.6**
MAJO Matsushiro 71.51 58 *e*P **P 10 52 42.2 -1.3**
comp=Z,2µm,1.5s
MAJO LR LR
comp=Z,376µm,19.0s
MAT Matsushiro 71.51 58 P **P 10 52 41.4 -2.1**
MAT S **S 11 02 05.2 +2.6**
MJAR Matsushiro Arr 71.51 58 P **P 10 52 42.3 -1.2**
comp=Z,483nm,1.1s,baz=301,slow=6.1,SNR=198
MJAR S **S 11 02 05.0 +2.3**
comp=Z,0.6nm,0.8s,baz=222,slow=2.2,SNR=2.7
MJAR PKP2bc 11 20 29.8
comp=Z,1.2nm,0.8s,baz=179,slow=2.5,SNR=6.0
MJAR LR LR 11 27 02.7
comp=Z,355µm,18.5s,baz=310,slow=38
TGY Tagaytay City 71.62 86 P **P 10 52 42.7 -1.8**
comp=Z,101nm,0.3s,baz=302,slow=3.2,SNR=22
H10S1 ASCENSION HYDR71.81 242 P **P 10 52 46.1 +1.0**
baz=33,slow=7.3,SNR=17
H10S2 ASCENSION HYDR71.82 242 P **P 10 52 46.9 +1.8**
baz=33,slow=7.3,SNR=16
H10S3 ASCENSION HYDR71.83 242 P **P 10 52 46.6 +1.4**
baz=33,slow=7.3,SNR=12
YUK Yuzh-Kuril'sk 71.92 48*c i*P **P 10 52 45.0 -0.8**
YUK *i* 10 53 00.7
YUK *i* S **S 11 02 07.6 +0.6**
YUK *i* 11 02 45.0
YUK pmax pmax
comp=Z,5µm,1.3s
YUK pmax pmax
comp=E,3µm,1.3s
YUK pmax pmax
comp=N,2µm,0.9s
YUK pmax pmax
comp=Z,22µm,6.0s
YUK MLR MLR
comp=Z,119µm,17.0s
YUK MLR MLR
comp=N,144µm,16.0s
YUK Yuzh-Kuril'sk 71.92 48 *i* P **P 10 52 45.0 -0.8**
comp=N,22µm,6.0s
YUK Yuzh-Kuril'sk 71.92 48 *i* PcP **PcP 10 53 00.7 -3.8**
BLSI Bandar Lampung 71.93 113 P **P 10 52 42.0 -4.2**
SBUM Sibu 71.98 102 *e*P **P 10 52 45.9 -0.6**
comp=N,2µm,1.4s
SBUM LR LR
comp=Z,93µm,22.0s
SBUM Sibu 71.98 102 ⇑P **P 10 52 46.2 -0.3**
BTM Bintulu 72.16 100 ⇓P **P 10 52 47.7 +0.1**
ENPP El Nido 72.17 90 *e*P **P 10 52 49.9 +2.3**
BUSP Coron 72.30 89 *e*P **P 10 52 50.0 +1.6**
PEA0B Petropavlovsk- 72.34 35 *e*P **P 10 52 46.2 -1.9**
comp=Z,1µm,1.3s
PEA0B LR LR
comp=Z,334µm,19.0s
PETK Petropavlovsk- 72.34 35 P **P 10 52 47.2 -1.0**
comp=Z,263nm,1.0s,baz=13,slow=1.8,SNR=120
PETK PP **PP 10 55 30.1 +1.8**
comp=Z,65nm,1.1s,baz=335,slow=2.5,SNR=4.0
PETK PKPPKP P'P'df 11 20 30.4 -10
comp=Z,13nm,1.1s,baz=73,slow=5.0,SNR=5.2
PETK LR LR 11 28 52.4
comp=Z,300µm,18.9s,baz=305,slow=39
KUR Kuril'sk 72.35 46*c i*P **P 10 52 47.3 -1.0**
KUR *i* 10 53 09.5
KUR *i* 10 55 34.3
KUR *i* S **S 11 02 14.0 +2.2**
KUR *i* 11 03 02.9
KUR pmax pmax
comp=Z,1µm,1.5s
KUR pmax pmax
comp=Z,26µm,12.5s
KUR Kuril'sk 72.35 46 *i* P **P 10 52 47.3 -1.0**
comp=Z,26µm,12.5s
KOMG Komaggas 72.35 204 *e*P **P 10 52 46.6 -1.8**
KOMG IAmb IAmb 10 52 58.9
comp=Z,1µm,1.6s
TOLK Toolik Lake Re 72.51 5 P **P 10 52 49.1 +0.2**
baz=349
BOAC Boac 72.71 86 *e*P **P 10 52 51.3 +0.4**
SJMP San Jose 72.74 88 *e*P **P 10 52 50.5 -0.6**
KKM Kota Kinabalu 72.81 96 *e*P **P 10 52 50.6 -1.0**
comp=Z,1µm,1.7s
KKM LR LR
comp=Z,86µm,20.0s
KKM Kota Kinabalu 72.81 96 ⇓P **P 10 52 50.6 -1.0**
PET Petropavlovsk 72.82 35*ce*P **P 10 52 49.1 -1.9**
PET *e* 10 55 34.0
PET *e*PPP PPP 10 57 18.5
PET *e*S **S 11 02 13.4 -3.6**
PET pmax pmax
comp=Z,320nm,1.9s
PET pmax pmax
comp=Z,35µm,16.0s
PET pmax pmax
comp=Z,33µm,14.4s
PET pmax pmax
comp=Z,13µm,16.7s
PET Petropavlovsk 72.82 35 *e*P **P 10 52 49.1 -1.9**
comp=Z,33µm,14.4s
PET Petropavlovsk 72.82 35 *e*P **P 10 52 48.5 -2.5**
comp=Z,1µm,1.9s
PET LR LR
comp=Z,185µm,19.0s
STKI Sintang 72.94 104 P **P 10 52 51.1 -1.2**
SBJI Serang 73.09 113 P P 10 52 48.1 -5.0
CGJI Cibinong 73.11 113 P **P 10 52 49.8 -3.4**
comp=Z,2µm,1.7s,comp=Z,37µmcomp=Z,131µm
SKR Severo-Kuril's 73.20 38 *e*P **P 10 52 52.0 -1.3**
SKR *i* 10 53 12.7
SKR *e*PPP PPP 10 57 23.1
SKR *e* 11 03 09.4
SKR pmax pmax
comp=Z,25µm,14.6s
SKR MLR MLR
comp=Z,185µm,21.0s
SKR MLR MLR
comp=Z,151µm,21.0s
SKR Severo-Kuril's 73.20 38 *e*P **P 10 52 52.0 -1.3**
comp=Z,25µm,14.6s
CVNA Calvinia 73.25 201 *e*P **P 10 52 51.7 -2.1**
CVNA IAmb IAmb 10 53 04.5
comp=Z,1µm,1.4s
INK Inuvik 73.26 359 P **P 10 52 52.2 -1.0**
comp=Z,316nm,1.1s,baz=11,slow=9.3,SNR=129
INK PKPPKP P'P'df 11 20 17.9 -22
comp=Z,2.6nm,1.0s,baz=161,slow=3.9,SNR=8.4
INK LR LR 11 28 18.1
comp=Z,188µm,20.7s,baz=360,slow=38
GRM Grahamstown 73.39 195 *i* P **P 10 52 55.1 +0.6**
GRM IAmb IAmb 10 53 05.0
GRM Grahamstown 73.39 195 *e*P **P 10 52 56.5 +2.1**
AUQP San Andres 73.44 86 *e*P **P 10 52 58.3 +3.0**
OTRP Odiongan 73.50 87 *e*P **P 10 52 53.5 -2.1**
SUR Sutherland 73.81 200 *i* P **P 10 52 57.0 -0.2**
SUR IAmb IAmb 10 53 05.4
SUR Sutherland 73.81 200 P **P 10 52 57.1 0.0**
comp=Z,3.8nm,0.6s,baz=34,slow=6.1,SNR=35
SUR Sutherland 73.81 200 *e*P **P 10 52 57.3 +0.1**
comp=Z,1µm,1.7s
SUR Sutherland 73.81 200 *e*P **P 10 52 57.3 +0.1**
comp=Z,1µm,1.7s
SUR LR LR
comp=Z,398µm,20.0s
SUR Sutherland 73.81 200 P **P 10 52 58.5 +1.4**
SNR=25
SUR Sutherland 73.81 200 P **P 10 52 58.5 +1.4**
SNR=25
DBJI Dramaga 73.83 112 P **P 10 52 53.6 -3.9**
COLD Coldfoot 73.86 5 *e*P **P 10 52 56.8 -0.1**
comp=Z,670nm,1.0s
COLD Coldfoot 73.86 5 *e*P **P 10 52 56.8 -0.1**
comp=Z,670nm,1.0s
COLD LR LR
comp=Z,174µm,21.0s
SKJI Sukabumi 74.00 113 P **P 10 52 54.8 -3.7**
LMN Caledonia Moun 74.07 316 *e*P **P 10 52 58.0 -0.5**
comp=Z,2µm,1.5s
LMN Caledonia Moun 74.07 316 *e*P **P 10 52 58.0 -0.5**
comp=Z,2µm,1.5s
LMN LR LR
comp=Z,171µm,20.0s
GAMB Gambell 74.09 15 *e*P **P 10 52 57.4 -0.9**
comp=Z,291nm,1.0s
GAMB Gambell 74.09 15 *e*P **P 10 52 57.4 -0.9**
comp=Z,291nm,1.0s
JAP San Jose, Anti 74.42 89⇓*e*P **P 10 53 03.5 +2.6**
PVCP Virac 74.43 85 *e*P **P 10 52 58.9 -2.2**
JHJ Hachijo jima 2 74.55 60 P **P 10 53 01.2 -0.3**
comp=Z,182nm,0.9s,baz=108,slow=20,SNR=5.5
RCP Roxas 74.55 87⇑*e*P **P 10 53 02.6 +0.9**
BUFB Buffelsbos 74.56 196 *e*P **P 10 53 03.2 +2.0**
BUFB IAmb IAmb 10 53 12.8
comp=Z,2µm,1.6s
JHJ2 Mitsune 74.58 60 *e*P **P 10 53 01.6 0.0**
comp=Z,362nm,1.0s
JHJ2 Mitsune 74.58 60 *e*P **P 10 53 01.6 0.0**
comp=Z,362nm,1.0s
CNJI Cibinong 74.62 113 P P 10 52 55.8 -6.3
LEM Lembang 74.64 112 P **P 10 53 03.6 +1.2**
comp=Z,13nm,0.5s,baz=313,slow=2.9,SNR=29
FYU Fort Yukon 74.82 4 *e*P **P 10 53 02.8 +0.4**
comp=Z,2µm,1.4s
FYU Fort Yukon 74.82 4 *e*P **P 10 53 02.8 +0.4**
comp=Z,2µm,1.4s
FYU LR LR
comp=Z,122µm,20.0s
PBKI Pangkalan Bun 74.89 106 P **P 10 53 01.6 -2.1**
MYLDM Lahad Datu 75.12 95 *e*P **P 10 53 05.0 0.0**
comp=Z,2µm,1.9s
MYLDM Lahad Datu 75.12 95 *e*P **P 10 53 05.0 0.0**
comp=Z,2µm,1.9s
MYLDM LR LR
comp=Z,96µm,21.0s
MYLDM Lahad Datu 75.12 95 ⇑P **P 10 53 05.8 +0.8**
CER Ceres 75.15 201 *e*P **P 10 53 06.2 +1.5**
CER IAmb IAmb 10 53 16.3
comp=Z,2µm,1.7s
PQI Presque Isle 75.24 318 *e*P **P 10 53 05.0 -0.3**
comp=Z,3µm,1.4s
PQI Presque Isle 75.24 318 *e*P **P 10 53 05.0 -0.3**
comp=Z,3µm,1.4s
CISI Cisompet, Garu 75.28 112 P P 10 53 00.4 -5.6
CISI Cisompet, Garu 75.28 112 *e*P **P 10 53 01.9 -4.1**
comp=Z,5µm,1.6s
CISI Cisompet, Garu 75.28 112 *e*P **P 10 53 01.9 -4.1**
comp=Z,5µm,1.6s
CISI LR LR
comp=Z,62µm,20.0s
CNP Catarman 75.48 86 *e*P **P 10 53 07.8 +0.7**
GGN Saint George 75.64 317 *e*P **P 10 53 07.2 -0.4**
comp=Z,2µm,1.4s
GGN Saint George 75.64 317 *e*P **P 10 53 07.2 -0.4**
comp=Z,2µm,1.4s
XMIS Christmas Isla 75.75 116 *e*P **P 10 53 06.2 -2.4**
comp=Z,496nm,1.2s
XMIS Christmas Isla 75.75 116 *e*P **P 10 53 06.2 -2.4**
comp=Z,496nm,1.2s
XMIS LR LR
comp=Z,71µm,22.0s
CMJI Cimerak 75.90 112 P **P 10 53 06.3 -3.1**
MLY Manley 75.98 6 *e*P **P 10 53 09.2 0.0**
comp=Z,2µm,1.6s
MLY Manley 75.98 6 *e*P **P 10 53 09.2 0.0**
comp=Z,2µm,1.6s
MLY LR LR
comp=Z,205µm,20.0s
ELIM Elim 76.19 200 *e*P **P 10 53 13.4 +2.7**
MTKI Muara Teweh, K 76.19 103 P **P 10 53 09.9 -1.3**
EMMW East Machias 76.24 317 *e*P **P 10 53 10.8 -0.2**
comp=Z,2µm,1.4s
EMMW East Machias 76.24 317 *e*P **P 10 53 10.8 -0.2**
comp=Z,2µm,1.4s
EMMW LR LR
comp=Z,252µm,21.0s
MDM Murphy Dome 76.24 5 *e*P **P 10 53 10.8 +0.1**
comp=Z,3µm,1.6s
MDM Murphy Dome 76.24 5 *e*P **P 10 53 10.8 +0.1**
comp=Z,3µm,1.6s
MDM LR LR
comp=Z,145µm,22.0s
LLP Lapu-Lapu 76.25 88⇑*e*P **P 10 53 10.2 -1.3**
LLP *e*S **S 11 02 59.8 +3.2**
SNPH Sibulan 76.27 89⇑*e*P **P 10 53 12.7 +1.0**
OCLP Ormoc 76.31 87 *e*P **P 10 53 11.8 0.0**
COLA College 76.35 5 *e*P **P 10 53 11.0 -0.2**
COLA pmax pmax
comp=Z,3µm,1.6s
COLA MLR MLR
comp=Z,150µm,21.0s
COLA College 76.35 5 *e*P **P 10 53 11.0 -0.2**
comp=Z,3µm,1.6s
COLA College 76.35 5 *e*P **P 10 53 11.0 -0.2**
comp=Z,3µm,1.6s
COLA LR LR
comp=Z,150µm,21.0s
ILAR Eielson Array 76.52 5 P **P 10 53 11.2 -1.0**
comp=Z,131nm,1.1s,baz=337,slow=3.4,SNR=308
ILAR PP **PP 10 55 56.6 -6.8**
comp=Z,8.5nm,0.9s,baz=346,slow=5.8,SNR=3.7
ILAR S S 11 03 08.9 +11
comp=Z,1.7nm,1.1s,baz=354,slow=7.3,SNR=2.7
ILAR PKKPbc **PKKPbc 11 12 20.9 -2.8**
comp=Z,5.3nm,0.9s,baz=203,slow=2.2,SNR=9.9
ILAR PKPPKP P'P'df 11 20 12.8 -21
comp=Z,7.5nm,1.2s,baz=222,slow=2.4,SNR=7.3
ILAR LR LR 11 28 26.5
comp=Z,157µm,21.7s,baz=342,slow=37
ILB Eielson Array 76.52 5 *e*P **P 10 53 11.4 -0.8**
ILB Eielson Array 76.52 5 *e*P **P 10 53 11.4 -0.8**
PLP Palo 76.53 86⇑*e*P P 10 53 07.4 -5.7
CCB Clear Creek Bu 76.58 5 *e*P **P 10 53 11.9 -0.6**
comp=Z,2µm,1.6s
CCB Clear Creek Bu 76.58 5 *e*P **P 10 53 11.9 -0.6**
comp=Z,2µm,1.6s
CCB LR LR
comp=Z,145µm,22.0s
BESP Borongan 76.63 86 *e*P **P 10 53 13.7 +0.1**
WRH Wood River Hil 76.73 5 *e*P **P 10 53 12.7 -0.7**
comp=Z,2µm,1.7s
WRH Wood River Hil 76.73 5 *e*P **P 10 53 12.7 -0.7**
comp=Z,2µm,1.7s
WRH LR LR
comp=Z,129µm,21.0s
EGAK Eagle 76.77 2 *e*P **P 10 53 13.1 -0.5**
comp=Z,1µm,1.1s
EGAK Eagle 76.77 2 *e*P **P 10 53 13.2 -0.5**
comp=Z,1µm,1.1s
UWJI Ujung Watu 76.81 109 P **P 10 53 13.1 -1.5**
PKME Peaks-Kenny Pk 76.84 318 *e*P **P 10 53 14.5 +0.1**
comp=Z,2µm,1.5s
PKME Peaks-Kenny Pk 76.84 318 *e*P **P 10 53 14.5 +0.1**
comp=Z,2µm,1.5s
SMRI Semarang 76.85 110 *e*P **P 10 53 13.3 -1.6**
comp=Z,1µm,1.9s
SMRI Semarang 76.85 110 *e*P **P 10 53 13.3 -1.6**
comp=Z,1µm,1.9s
SMRI LR LR
comp=Z,62µm,20.0s
HDA Harding Lake 76.87 5 *e*P **P 10 53 13.3 -1.0**
comp=Z,471nm,0.9s
HDA Harding Lake 76.87 5 *e*P **P 10 53 13.3 -1.0**
comp=Z,471nm,0.9s
HDA LR LR
comp=Z,175µm,22.0s
BPAW Bear Paw Mtn. 76.87 6 *e*P **P 10 53 13.5 -0.8**
comp=Z,2µm,1.4s
BPAW Bear Paw Mtn. 76.87 6 *e*P **P 10 53 13.5 -0.8**
comp=Z,2µm,1.4s
BPAW LR LR
comp=Z,215µm,20.0s
MSLP Maasin 77.06 87 *e*P **P 10 53 16.2 +0.1**
PAGZ Pagadian 77.29 90 *e*P **P 10 53 16.2 -1.2**
MCK McKinley 77.40 6 *e*P **P 10 53 16.5 -0.8**
MCK pmax pmax
comp=Z,2µm,1.5s
MCK MLR MLR
comp=Z,181µm,21.0s
MCK McKinley 77.40 6 *e*P **P 10 53 16.5 -0.8**
comp=Z,2µm,1.5s
MCK McKinley 77.40 6 *e*P **P 10 53 16.5 -0.8**
comp=Z,2µm,1.5s
MCK LR LR
comp=Z,181µm,21.0s
KTH Kantishna Hill 77.42 7 *e*P **P 10 53 17.4 0.0**
comp=Z,510nm,0.7s
KTH Kantishna Hill 77.42 7 *e*P **P 10 53 17.4 0.0**
comp=Z,510nm,0.7s
KTH LR LR
comp=Z,118µm,21.0s
CAST Castle Rocks 77.44 7 *e*P **P 10 53 17.0 -0.5**
comp=Z,2µm,1.1s
CAST Castle Rocks 77.44 7 *e*P **P 10 53 17.0 -0.5**
comp=Z,2µm,1.1s
CAST LR LR
comp=Z,182µm,21.0s
TTA Tatalina 77.49 9 *e*P **P 10 53 17.9 +0.1**
TTA pmax pmax
comp=Z,2µm,1.7s
TTA Tatalina 77.49 9 *e*P **P 10 53 17.9 +0.1**
comp=Z,2µm,1.7s
TTA Tatalina 77.49 9 *e*P **P 10 53 17.9 +0.1**
comp=Z,2µm,1.7s
UGM Wanagama 77.49 111 P **P 10 53 15.5 -3.0**
UGM Wanagama 77.49 111 *e*P **P 10 53 15.8 -2.7**
comp=Z,2µm,2.0s
UGM Wanagama 77.49 111 *e*P **P 10 53 15.8 -2.7**
comp=Z,2µm,2.0s
UGM LR LR
comp=Z,37µm,19.0s
WVL Waterville 77.50 318 *e*P **P 10 53 17.8 -0.3**
comp=Z,548nm,1.3s
WVL Waterville 77.50 318 *e*P **P 10 53 17.8 -0.3**
comp=Z,548nm,1.3s
WVL LR LR
comp=Z,171µm,19.0s
TT01 Tatalina 77.51 9 *e*P **P 10 53 17.7 -0.2**
TT01 Tatalina 77.51 9 *e*P **P 10 53 17.7 -0.2**
DAWY Dawson 77.52 1 *e*P **P 10 53 17.5 -0.5**
comp=Z,2µm,1.5s
DAWY Dawson 77.52 1 *e*P **P 10 53 17.5 -0.5**
comp=Z,2µm,1.5s
DAWY LR LR
comp=Z,97µm,20.0s
TRF Thorofare Moun 77.57 6 *e*P **P 10 53 17.3 -1.1**
comp=Z,3µm,1.9s
TRF Thorofare Moun 77.57 6 *e*P **P 10 53 17.3 -1.1**
comp=Z,3µm,1.9s
TRF LR LR
comp=Z,187µm,22.0s
YKA Yellowknife Ar 77.58 350 P **P 10 53 17.5 -0.7**
comp=Z,484nm,1.1s,baz=16,slow=5.8,SNR=155
YKA PKPPKP P'P'df 11 20 06.8 -25
comp=Z,6.6nm,1.1s,baz=160,slow=2.0,SNR=3.8
YKA LR LR 11 28 32.8
comp=Z,19µm,20.5s,baz=0.0,slow=36
BWJI Bawean 77.70 108 P **P 10 53 17.9 -1.7**
RND Reindeer 77.73 6 *e*P **P 10 53 17.7 -1.5**
RND pmax pmax
comp=Z,2µm,1.4s
RND Reindeer 77.73 6 *e*P **P 10 53 17.7 -1.5**
comp=Z,2µm,1.4s
RND Reindeer 77.73 6 *e*P **P 10 53 17.7 -1.5**
comp=Z,2µm,1.4s
SCPH Surigao 77.77 87 *e*P **P 10 53 19.3 -0.8**
DOT Dot Lake 77.79 3 *e*P **P 10 53 19.3 -0.1**
comp=Z,10µm,1.9s
DOT Dot Lake 77.79 3 *e*P **P 10 53 19.3 -0.1**
comp=Z,14µm,1.9s
PPLA Purkeypile 77.94 7 *e*P **P 10 53 19.7 -0.7**
comp=Z,2µm,1.6s
PPLA Purkeypile 77.94 7 *e*P **P 10 53 19.7 -0.7**
comp=Z,2µm,1.6s
PPLA LR LR
comp=Z,175µm,20.0s
DHY Denali Highway 78.17 5 *e*P **P 10 53 20.6 -1.1**
comp=Z,1µm,1.6s
DHY Denali Highway 78.17 5 *e*P **P 10 53 20.6 -1.1**
comp=Z,1µm,1.6s
DHY LR LR
comp=Z,195µm,21.0s
CTBH Cotabato--PC H 78.35 90⇑*e*P **P 10 53 22.1 -1.2**
PAX Paxson 78.39 4 *e*P **P 10 53 22.4 -0.5**
PAX pmax pmax
comp=Z,1µm,1.6s
PAX MLR MLR
comp=Z,145µm,22.0s
PAX Paxson 78.39 4 *e*P **P 10 53 22.4 -0.5**
comp=Z,1µm,1.6s
PAX Paxson 78.39 4 *e*P **P 10 53 22.4 -0.5**
comp=Z,1µm,1.6s
PAX LR LR
comp=Z,145µm,22.0s
MENT Mentasta 78.51 3 *e*P **P 10 53 23.5 0.0**
comp=Z,3µm,1.7s
MENT Mentasta 78.51 3 *e*P **P 10 53 23.5 0.0**
comp=Z,3µm,1.7s
BUKP Musuan 78.59 89 *e*P **P 10 53 23.8 -0.9**
TRQ Mont Tremblant 78.84 321 *e*P **P 10 53 25.1 -0.6**
TRQ Mont Tremblant 78.84 321 *e*P **P 10 53 25.1 -0.6**
VLDQ Val d'Or 78.86 324 *e*P **P 10 53 25.7 +0.2**
comp=Z,2µm,1.6s
VLDQ Val d'Or 78.86 324 *e*P **P 10 53 25.7 +0.2**
comp=Z,2µm,1.6s
LBNH Lisbon 78.91 319 *e*P **P 10 53 26.2 +0.2**
LBNH pmax pmax
comp=Z,3µm,1.7s
LBNH Lisbon 78.91 319 *e*P **P 10 53 26.2 +0.2**
comp=Z,3µm,1.7s
LBNH Lisbon 78.91 319 *e*P **P 10 53 26.2 +0.2**
comp=Z,3µm,1.7s
HARP HAARP 78.97 4 *e*P **P 10 53 26.1 +0.1**
comp=Z,3µm,1.4s
HARP HAARP 78.97 4 *e*P **P 10 53 26.1 +0.1**
comp=Z,3µm,1.4s
HARP LR LR
comp=Z,83µm,22.0s
MPSI Mapaga 79.23 98 P **P 10 53 27.6 -0.5**
comp=Z,697nm,1.6s,comp=Z,27µmcomp=Z,178µm
FFD Franklin Falls 79.30 318 *e*P **P 10 53 28.5 +0.4**
comp=Z,2µm,1.5s
FFD Franklin Falls 79.30 318 *e*P **P 10 53 28.5 +0.4**
comp=Z,2µm,1.5s
FFD LR LR
comp=Z,294µm,19.0s
SVW2 Sparrevohn 79.32 9 *e*P **P 10 53 28.2 +0.3**
comp=Z,2µm,1.4s
SVW2 Sparrevohn 79.32 9 *e*P **P 10 53 28.2 +0.3**
comp=Z,2µm,1.4s
FRNY Flat Rock 79.35 320 *e*P **P 10 53 27.8 -0.5**
comp=Z,1µm,1.4s
FRNY Flat Rock 79.35 320 *e*P **P 10 53 27.8 -0.5**
comp=Z,1µm,1.4s
SML Sawmill 79.36 6 *e*P **P 10 53 27.5 -0.6**
SML pmax pmax
comp=Z,815nm,0.8s
SML Sawmill 79.36 6 *e*P **P 10 53 27.5 -0.6**
comp=Z,815nm,0.8s
SML Sawmill 79.36 6 *e*P **P 10 53 27.4 -0.6**
comp=Z,815nm,0.8s

SMY	Shemya	79.36	28	eP	P	10 53 27.7	-0.5
SMY				pmax	pmax		
	comp=Z,2μm,1.5s						
SMY	Shemya	79.36	28	eP	P	10 53 27.7	-0.5
	comp=Z,2μm,1.5s						
SMY	Shemya	79.36	28	eP	P	10 53 27.6	-0.5
	comp=Z,2μm,1.5s						
SCM	Sheep Creek Mo	79.40	5	eP	P	10 53 28.2	-0.3
SCM				pmax	pmax		
	comp=Z,1μm,1.0s						
SCM	Sheep Creek Mo	79.40	5	eP	P	10 53 28.2	-0.3
	comp=Z,1μm,1.0s						
SCM	Sheep Creek Mo	79.40	5	eP	P	10 53 28.2	-0.3
	comp=Z,1μm,1.0s						
KMMI	Kalianget	79.46	108	P	P	10 53 28.3	-1.0
HNH	Hanover	79.47	318	eP	P	10 53 29.4	+0.4
	comp=Z,3μm,1.5s						
HNH	Hanover	79.47	318	eP	P	10 53 29.4	+0.4
	comp=Z,3μm,1.5s						
HNH				LR	LR		
	comp=Z,204μm,20.0s						
DAV	Davao City (W)	79.49	89	P	P	10 53 28.1	-1.5
	comp=Z,82nm,0.3s,baz=15,slow=3.2,SNR=16						
DAV	Davao City (W)	79.49	89	i P	P	10 53 26.5	-3.1
DAV	Davao City (W)	79.49	89	P	P	10 53 28.9	-0.7
	SNR=16						
DAV	Davao City (W)	79.49	89	P	P	10 53 28.9	-0.7
	SNR=16						
DAV	Davao City (W)	79.49	89	P	P	10 53 28.9	-0.7
	SNR=16						
SUA	Susitna One	79.49	7	eP	P	10 53 28.4	-0.6
	comp=Z,1μm,0.9s						
SUA	Susitna One	79.49	7	eP	P	10 53 28.4	-0.6
	comp=Z,1μm,0.9s						
PMR	Palmer	79.50	6	eP	P	10 53 28.2	-0.6
PMR				pmax	pmax		
	comp=Z,1μm,1.4s						
PMR	Palmer	79.50	6	eP	P	10 53 28.2	-0.6
	comp=Z,1μm,1.4s						
PMR	Palmer	79.50	6	eP	P	10 53 28.2	-0.6
	comp=Z,1μm,1.4s						
SPU	Mount Spurr	79.64	8	eP	P	10 53 28.2	-1.5
SPU	Mount Spurr	79.64	8	eP	P	10 53 28.2	-1.5
MDV	Middlebury	79.73	319	eP	P	10 53 30.3	-0.1
MDV	Middlebury	79.73	319	eP	P	10 53 30.3	-0.1
BCX	Boston College	79.83	317	eP	P	10 53 30.7	-0.3
	comp=Z,3μm,1.5s						
BCX	Boston College	79.83	317	eP	P	10 53 30.7	-0.3
	comp=Z,3μm,1.5s						
BCX				LR	LR		
	comp=Z,235μm,20.0s						
KLU	Klutina	79.84	5	eP	P	10 53 30.9	+0.1
	comp=Z,2μm,1.2s						
KLU	Klutina	79.84	5	eP	P	10 53 30.9	+0.1
	comp=Z,2μm,1.2s						
CBIJ	Chichi jima	79.84	64	eP	P	10 53 28.6	-2.7
	comp=Z,702nm,1.3s						
CBIJ	Chichi jima	79.84	64	eP	P	10 53 28.6	-2.7
	comp=Z,702nm,1.3s						
CBIJ				LR	LR		
	comp=Z,77μm,20.0s						
WES	Weston	79.88	317	eP	P	10 53 31.0	-0.3
WES				pmax	pmax		
	comp=Z,2μm,1.6s						
WES				MLR	MLR		
	comp=Z,150μm,19.0s						
WES	Weston	79.88	317	eP	P	10 53 31.0	-0.3
	comp=Z,2μm,1.6s						
WES	Weston	79.88	317	eP	P	10 53 30.9	-0.3
	comp=Z,2μm,1.6s						
WES				LR	LR		
	comp=Z,150μm,19.0s						
HRV	Adam Dziewonsk	79.92	317	eP	P	10 53 31.5	0.0
HRV				pmax	pmax		
	comp=Z,959nm,1.5s						
HRV				MLR	MLR		
	comp=Z,85μm,19.0s						
HRV	Adam Dziewonsk	79.92	317	eP	P	10 53 31.5	0.0
	comp=Z,959nm,1.5s						
HRV	Adam Dziewonsk	79.92	317	eP	P	10 53 31.4	0.0
	comp=Z,959nm,1.5s						
HRV				LR	LR		
	comp=Z,85μm,19.0s						
RC01	Rabbit Creek A	79.95	6	eP	P	10 53 30.7	-0.6
	comp=Z,911nm,1.0s						
RC01	Rabbit Creek A	79.95	6	eP	P	10 53 30.7	-0.6
	comp=Z,911nm,1.0s						
RC01				LR	LR		
	comp=Z,148μm,20.0s						
PCI	Palu	79.97	99	P	P	10 53 32.0	-0.1
	comp=Z,784nm,1.6s,comp=Z,29μmcomp=Z,185μm						
LONY	Lake Ozonia	80.00	320	eP	P	10 53 31.5	-0.4
	comp=Z,2μm,1.5s						
LONY	Lake Ozonia	80.00	320	eP	P	10 53 31.5	-0.4
	comp=Z,2μm,1.5s						
MATI	Mati	80.09	89	eP	P	10 53 31.5	-1.3
DIV	Divide	80.21	5	eP	P	10 53 32.6	-0.2
	comp=Z,2μm,1.1s						
DIV	Divide	80.21	5	eP	P	10 53 32.6	-0.2
	comp=Z,2μm,1.1s						
RSO	Redoubt South	80.27	8	eP	P	10 53 32.0	-1.3
RSO	Redoubt South	80.27	8	eP	P	10 53 32.0	-1.3
NCB	Newcomb	80.28	320	eP	P	10 53 33.1	-0.3
	comp=Z,5.5nm,1.4s						
NCB	Newcomb	80.28	320	eP	P	10 53 33.1	-0.3
	comp=Z,5.5nm,1.4s						
SPIA	Saint Paul Isl	80.32	18	eP	P	10 53 32.6	-0.7
	comp=Z,3μm,2.0s						
SPIA	Saint Paul Isl	80.32	18	eP	P	10 53 32.6	-0.7
	comp=Z,3μm,2.0s						
BRYW	Bryant College	80.32	317	eP	P	10 53 33.7	0.0
	comp=Z,2μm,1.5s						
BRYW	Bryant College	80.32	317	eP	P	10 53 33.7	0.0
	comp=Z,2μm,1.5s						
BRYW				LR	LR		
	comp=Z,186μm,21.0s						
GLI	Glacier Island	80.37	5	eP	P	10 53 33.0	-0.6
	comp=Z,421nm,0.9s						
GLI	Glacier Island	80.37	5	eP	P	10 53 33.0	-0.6
	comp=Z,421nm,0.9s						
GLI				LR	LR		
	comp=Z,153μm,21.0s						
ACCN	Adirondack Com	80.41	319	eP	P	10 53 34.0	-0.1
	comp=Z,2μm,1.5s						
ACCN	Adirondack Com	80.41	319	eP	P	10 53 34.0	-0.1
	comp=Z,2μm,1.5s						
BMRM	Bremner River	80.44	4	eP	P	10 53 33.5	-0.5
	comp=Z,702nm,1.4s						
BMRM	Bremner River	80.44	4	eP	P	10 53 33.5	-0.5
	comp=Z,702nm,1.4s						
BALM	Baldy	80.47	3	eP	P	10 53 34.3	0.0
BALM				pmax	pmax		
	comp=Z,3μm,1.5s						
BALM				MLR	MLR		
	comp=Z,70μm,21.0s						
BALM	Baldy	80.47	3	eP	P	10 53 34.3	0.0
	comp=Z,3μm,1.5s						
BALM	Baldy	80.47	3	eP	P	10 53 34.3	0.0
	comp=Z,3μm,1.5s						
BALM				LR	LR		
	comp=Z,70μm,21.0s						
QUA2	Belchertown	80.50	317	eP	P	10 53 34.6	0.0
	comp=Z,1μm,1.4s						
QUA2	Belchertown	80.50	317	eP	P	10 53 34.6	0.0
	comp=Z,1μm,1.4s						
QUA2				LR	LR		
	comp=Z,95μm,20.0s						
JAGI	Jajag, Banyuwa	80.53	109	P	P	10 53 30.1	-5.0
JAGI	Jajag, Banyuwa	80.53	109	eP	P	10 53 31.3	-3.8
	comp=Z,1μm,1.4s						
JAGI	Jajag, Banyuwa	80.53	109	eP	P	10 53 31.3	-3.8
	comp=Z,1μm,1.4s						
JAGI				LR	LR		
	comp=Z,51μm,22.0s						
FID	Port Fidalgo	80.54	5	eP	P	10 53 34.7	+0.2
	comp=Z,3μm,1.6s						
FID	Port Fidalgo	80.54	5	eP	P	10 53 34.7	+0.2
	comp=Z,3μm,1.6s						
FID				LR	LR		
	comp=Z,215μm,22.0s						
CRQM	Cirque	80.72	3	eP	P	10 53 35.4	-0.3
	comp=Z,3μm,1.4s						
CRQM	Cirque	80.72	3	eP	P	10 53 35.4	-0.3
	comp=Z,3μm,1.4s						
MRSI	Marisa	80.73	97	P	P	10 53 33.6	-2.6
	comp=Z,724nm,1.5s,comp=Z,24μmcomp=Z,147μm						
EYAK	Cordova Ski Ar	80.79	5	eP	P	10 53 36.0	+0.2
	comp=Z,2μm,1.2s						
EYAK	Cordova Ski Ar	80.79	5	eP	P	10 53 36.0	+0.2
	comp=Z,2μm,1.2s						
EYAK				LR	LR		
	comp=Z,211μm,22.0s						
HYT	Haines Junctio	80.79	0	eP	P	10 53 36.1	+0.1
	comp=Z,2μm,1.4s						
HYT	Haines Junctio	80.79	0	eP	P	10 53 36.1	+0.1
	comp=Z,2μm,1.4s						
TRY	Troy	80.87	318	eP	P	10 53 36.7	+0.1
	comp=Z,2μm,1.8s						
TRY	Troy	80.87	318	eP	P	10 53 36.7	+0.1
	comp=Z,2μm,1.8s						
TRY				LR	LR		
	comp=Z,188μm,20.0s						
PLVO	Plevna	80.92	322	eP	P	10 53 36.7	-0.1
	comp=Z,428nm,1.2s						
PLVO	Plevna	80.92	322	eP	P	10 53 36.7	-0.1
	comp=Z,428nm,1.2s						
PLVO				LR	LR		
	comp=Z,115μm,18.0s						
SEW	Seward	80.95	6	eP	P	10 53 36.1	-0.5
	comp=Z,2μm,1.3s						
SEW	Seward	80.95	6	eP	P	10 53 36.1	-0.5
	comp=Z,2μm,1.3s						
WHY	Whitehorse	80.95	359	eP	P	10 53 35.7	-1.2
	comp=Z,2μm,1.9s						
WHY	Whitehorse	80.95	359	eP	P	10 53 35.7	-1.2
	comp=Z,2μm,1.9s						
RAGM	Ragged Mountai	81.01	4	eP	P	10 53 37.3	+0.2
	comp=Z,3μm,1.6s						
RAGM	Ragged Mountai	81.01	4	eP	P	10 53 37.3	+0.2
	comp=Z,3μm,1.6s						
SRBI	Singaraja	81.07	108	P	P	10 53 34.6	-3.4
	comp=Z,436nm,1.8s,comp=Z,16μmcomp=Z,91μm						
BRLK	Bradley Lake	81.15	7	eP	P	10 53 37.0	-0.8
	comp=Z,2μm,1.4s						
BRLK	Bradley Lake	81.15	7	eP	P	10 53 37.0	-0.8
	comp=Z,2μm,1.4s						
BRLK				LR	LR		
	comp=Z,186μm,21.0s						
HOM	Homer	81.17	8	eP	P	10 53 36.9	-1.0
	comp=Z,2μm,1.1s						
HOM	Homer	81.17	8	eP	P	10 53 36.9	-1.0
	comp=Z,2μm,1.1s						
TTSI	Tana Toraja	81.31	101	P	P	10 53 37.7	-1.6
	comp=Z,474nm,2.1s,comp=Z,15μmcomp=Z,125μm						
CNPM	China Poot	81.35	8	eP	P	10 53 37.9	-1.0
	comp=Z,3μm,1.8s						
CNPM	China Poot	81.35	8	eP	P	10 53 37.9	-1.0
	comp=Z,3μm,1.8s						
CNPM				LR	LR		
	comp=Z,126μm,21.0s						
APSI	Ampana	81.37	98	P	P	10 53 38.7	-0.9
	comp=Z,1μm,1.8s,comp=Z,27μmcomp=Z,152μm						
DNP	Denpasar	81.45	108	P	P	10 53 38.0	-2.0
PCA	Pinnacle	81.48	2	eP	P	10 53 40.1	+0.5
	comp=Z,4μm,1.7s						
PCA	Pinnacle	81.48	2	eP	P	10 53 40.1	+0.5
	comp=Z,4μm,1.7s						
YLE	Yale	81.49	317	eP	P	10 53 39.4	-0.5
	comp=Z,1μm,1.4s						
YLE	Yale	81.49	317	eP	P	10 53 39.4	-0.5
	comp=Z,1μm,1.4s						
YLE				LR	LR		
	comp=Z,144μm,20.0s						
IGBI	Denpasar	81.50	108	P	P	10 53 37.9	-2.4
SGSI	Sangihe	81.53	92	P	P	10 53 38.0	-2.5
MID	Middleton Isla	81.86	5	eP	P	10 53 41.9	+0.4
MID				pmax	pmax		
	comp=Z,901nm,1.0s						
MID	Middleton Isla	81.86	5	eP	P	10 53 41.9	+0.4
	comp=Z,901nm,1.0s						
MID	Middleton Isla	81.86	5	eP	P	10 53 41.9	+0.4
	comp=Z,901nm,1.0s						
SADO	Sadowa	82.11	323	P	P	10 53 42.4	-0.8
	comp=Z,138nm,0.9s,baz=51,slow=5.1,SNR=69						
SADO	Sadowa	82.11	323	eP	P	10 53 42.8	-0.3
	comp=Z,1μm,1.4s						
SADO	Sadowa	82.11	323	eP	P	10 53 42.8	-0.3
	comp=Z,1μm,1.4s						
SADO				LR	LR		
	comp=Z,138μm,18.0s						
SKAG	Skagway	82.16	359	eP	P	10 53 43.0	-0.1
	comp=Z,1μm,1.5s						
SKAG	Skagway	82.16	359	eP	P	10 53 43.0	-0.1
	comp=Z,1μm,1.5s						
PAL	Palisades	82.23	317	eP	P	10 53 43.1	-0.7
PAL				pmax	pmax		
	comp=Z,1μm,1.4s						
PAL	Palisades	82.23	317	eP	P	10 53 43.1	-0.7
	comp=Z,1μm,1.4s						
PAL	Palisades	82.23	317	eP	P	10 53 43.1	-0.7
	comp=Z,1μm,1.4s						
KMSI	Cibinong	82.25	95	P	P	10 53 42.2	-2.1
FFC	Flin Flon	82.30	341	eP	P	10 53 43.5	-0.5
FFC				pmax	pmax		
	comp=Z,1μm,1.4s						
FFC				MLR	MLR		
	comp=Z,145μm,18.0s						
FFC	Flin Flon	82.30	341	eP	P	10 53 43.5	-0.5
	comp=Z,1μm,1.4s						
FFC	Flin Flon	82.30	341	eP	P	10 53 43.5	-0.5
	comp=Z,1μm,1.4s						
FFC				LR	LR		
	comp=Z,145μm,18.0s						
LUWI	Luwuk	82.32	98	P	P	10 53 40.7	-4.0
LUWI	Luwuk	82.32	98	eP	P	10 53 41.1	-3.6
	comp=Z,574nm,1.2s						
LUWI	Luwuk	82.32	98	eP	P	10 53 41.1	-3.6
	comp=Z,574nm,1.2s						
LUWI				LR	LR		
	comp=Z,50μm,22.0s						
BNSI	Bone	82.39	102	P	P	10 53 43.3	-1.7
	comp=Z,575nm,1.7s,comp=Z,32μmcomp=Z,161μm						
CPNY	Central Park	82.41	317	eP	P	10 53 44.2	-0.5
	comp=Z,1μm,1.4s						
CPNY	Central Park	82.41	317	eP	P	10 53 44.2	-0.5
	comp=Z,1μm,1.4s						
KAPI	Kappang	82.51	103	eP	P	10 53 44.2	-1.4
KAPI	Kappang	82.51	103	eP	P	10 53 44.2	-1.4
DHAK	Deception Hill	82.53	1	eP	P	10 53 45.0	-0.1
	comp=Z,1μm,1.2s						
DHAK	Deception Hill	82.53	1	eP	P	10 53 45.0	-0.1
	comp=Z,1μm,1.2s						
ODNJ	Ogdensburg	82.54	318	eP	P	10 53 45.1	-0.3
	comp=Z,1μm,1.4s						
ODNJ	Ogdensburg	82.54	318	eP	P	10 53 45.1	-0.3
	comp=Z,1μm,1.4s						
TWSI	Taliwang, Sumb	82.74	107	P	P	10 53 42.4	-4.4
BBSR	BB Station	82.77	306	eP	P	10 53 46.4	-0.4
	comp=Z,748nm,1.5s						
BBSR	BB Station	82.77	306	eP	P	10 53 46.4	-0.4
	comp=Z,748nm,1.5s						
BBSR				LR	LR		
	comp=Z,55μm,20.0s						
KDAK	Kodiak Island	82.91	9	P	P	10 53 46.8	-0.2
	comp=Z,604nm,0.7s,baz=18,slow=4.4,SNR=258						
KDAK	Kodiak Island	82.91	9	i P	P	10 53 46.5	-0.5
KDAK	Kodiak Island	82.91	9	eP	P	10 53 47.0	0.0
	comp=Z,6μm,1.8s						
KDAK	Kodiak Island	82.91	9	eP	P	10 53 47.0	0.0
	comp=Z,6μm,1.8s						
KDAK				LR	LR		
	comp=Z,177μm,21.0s						
MMNY	Mt. Morris Dam	83.03	321	eP	P	10 53 47.5	-0.5
MMNY	Mt. Morris Dam	83.03	321	eP	P	10 53 47.5	-0.5
DLBC	Dease Lake	83.04	357	P	P	10 53 48.1	+0.3
	comp=Z,505nm,1.2s,baz=357,slow=5.3,SNR=147						
DLBC				LR	LR	11 35 04.0	
	comp=Z,186μm,20.6s,baz=360,slow=39						
BESE	Bessie Mountai	83.04	359	eP	P	10 53 48.0	+0.2
	comp=Z,2μm,1.7s						
BESE	Bessie Mountai	83.04	359	eP	P	10 53 48.0	+0.2
	comp=Z,2μm,1.7s						
BESE				LR	LR		
	comp=Z,132μm,18.0s						
ADK	Adak	83.21	24	eP	P	10 53 46.2	-2.5
ADK				pmax	pmax		
	comp=Z,387nm,1.4s						
ADK				MLR	MLR		
	comp=Z,241μm,19.0s						
ADK	Adak	83.21	24	eP	P	10 53 46.2	-2.5
	comp=Z,387nm,1.4s						
ADK	Adak	83.21	24	eP	P	10 53 46.2	-2.5
	comp=Z,387nm,1.4s						
ADK				LR	LR		
	comp=Z,241μm,19.0s						
N59A	State Game Lan	83.27	318	P	P	10 53 48.9	-0.3
	baz=43						
N59A				S	S	11 04 11.6	+1.5
	baz=43						
BUF	Buffalo	83.35	321	eP	P	10 53 49.2	-0.4
BUF	Buffalo	83.35	321	eP	P	10 53 49.2	-0.4
OHAK	Old Harbor	83.37	9	eP	P	10 53 49.6	+0.2
	comp=Z,715nm,0.9s						
OHAK	Old Harbor	83.37	9	eP	P	10 53 49.6	+0.2
	comp=Z,715nm,0.9s						
OHAK				LR	LR		
	comp=Z,176μm,21.0s						
PLAI	Plampang	83.47	107	P	P	10 53 46.4	-4.2
CHGN	Chignik	83.53	12	eP	P	10 53 48.9	-1.3
	comp=Z,1μm,1.6s						
CHGN	Chignik	83.53	12	eP	P	10 53 48.9	-1.3
	comp=Z,1μm,1.6s						
CHGN				LR	LR		
	comp=Z,247μm,21.0s						
E45A	Wooded Hills,	83.61	327	P	P	10 53 50.9	0.0
	baz=38,SNR=249						
ATKA	Atka Island	83.69	22	eP	P	10 53 48.6	-2.5
	comp=Z,354nm,1.1s						
ATKA	Atka Island	83.69	22	eP	P	10 53 48.6	-2.5
	comp=Z,354nm,1.1s						
ATKA				LR	LR		
	comp=Z,111μm,20.0s						
E44A	Grand Marais A	83.72	328	P	P	10 53 51.5	+0.1
	baz=37,SNR=101						
BSSI	Bau Bau, Buton	83.79	103	P	P	10 53 48.0	-4.3
PSUB	Penn St. - Bra	83.82	317	eP	P	10 53 51.1	-1.0
	comp=Z,2μm,1.3s						
PSUB	Penn St. - Bra	83.82	317	eP	P	10 53 51.1	-1.0
	comp=Z,2μm,1.3s						
PSUB				LR	LR		
	comp=Z,142μm,20.0s						
F46A	Macinaw City C	83.89	326	P	P	10 53 51.6	-0.7
	baz=38,SNR=117						
FALS	False Pass	83.98	15	eP	P	10 53 51.3	-1.3
	comp=Z,1μm,1.8s						
FALS	False Pass	83.98	15	eP	P	10 53 51.3	-1.3
	comp=Z,1μm,1.8s						
FALS				LR	LR		
	comp=Z,207μm,20.0s						
C40A	Isle Royale Na	83.98	330	P	P	10 53 52.7	-0.1
	baz=35,SNR=50						
KDI	Kendari	84.04	100	P	P	10 53 52.0	-1.5
	comp=Z,1μm,1.6s,comp=Z,40μmcomp=Z,187μm						
SDPT	Sand Point	84.08	13	eP	P	10 53 51.8	-1.3
	comp=Z,2μm,1.8s						
SDPT	Sand Point	84.08	13	eP	P	10 53 51.8	-1.3
	comp=Z,2μm,1.8s						
SDPT				LR	LR		
	comp=Z,158μm,22.0s						
AKUT	Akutan	84.14	17	eP	P	10 53 52.4	-1.0
	comp=Z,354nm,0.9s						
AKUT	Akutan	84.14	17	eP	P	10 53 52.4	-1.0
	comp=Z,354nm,0.9s						
AKUT				LR	LR		
	comp=Z,125μm,19.0s						
MVL	Millersville	84.24	318	eP	P	10 53 53.6	-0.6
	comp=Z,1μm,1.4s						
MVL	Millersville	84.24	318	eP	P	10 53 53.6	-0.6
	comp=Z,1μm,1.4s						
UNV	Unalaska Valle	84.24	17	eP	P	10 53 52.6	-1.3
	comp=Z,233nm,1.1s						
UNV	Unalaska Valle	84.24	17	eP	P	10 53 52.6	-1.3
	comp=Z,233nm,1.1s						
UNV				LR	LR		
	comp=Z,142μm,19.0s						
F45A	CMU Biological	84.28	327	P	P	10 53 53.7	-0.6
	baz=38,SNR=96						
E43A	Lone Tree Farm	84.36	328	P	P	10 53 54.3	-0.4
	baz=37,SNR=203						
C39A	Grand Marais	84.44	331	P	P	10 53 54.2	-0.9
	baz=35						
ULM	Lac du Bonnet	84.44	335	P	P	10 53 54.0	-1.0
	comp=Z,248nm,0.9s,baz=32,slow=4.8,SNR=115						
ULM				S	S	11 04 20.1	-1.3
	comp=Z,2.9nm,0.8s,baz=155,slow=19,SNR=3.5						
ULM				PKKPbc	PKKPbc	11 12 04.5	-1.3
	comp=Z,5.4nm,1.0s,baz=265,slow=2.3,SNR=3.1						
ULM				LR	LR	11 32 37.8	
	comp=Z,131μm,19.0s,baz=33,slow=96						
ULM	Lac du Bonnet	84.44	335	eP	P	10 53 54.2	-0.8
ULM				S	S	11 04 20.1	-1.3
ULM				pmax	pmax		
	comp=Z,3μm,1.8s						
ULM	Lac du Bonnet	84.44	335	eP	P	10 53 54.2	-0.8
	comp=Z,3μm,1.8s						
ULM	Lac du Bonnet	84.44	335	eP	P	10 53 54.2	-0.8
	comp=Z,3μm,1.8s						
ULM				S	S	11 04 20.1	-1.3
ULM				PKKPbc	PKKPbc	11 12 04.5	-1.3
F44A	Big Bay de Noc	84.44	327	P	P	10 53 54.9	-0.3
	baz=37,SNR=425						
D41A	Chassel	84.44	329	P	P	10 53 54.8	-0.3
	baz=36,SNR=120						
NIKH	Nikolski High	84.47	19	PFAKE		10 54 00.0	+4.9
NIKH				LR	LR		
	comp=Z,104μm,21.0s						
ERPA	Erie	84.51	321	eP	P	10 53 54.3	-1.3
	comp=Z,4μm,1.4s						
ERPA	Erie	84.51	321	eP	P	10 53 54.3	-1.3
	comp=Z,4μm,1.4s						
ERPA				LR	LR		
	comp=Z,98μm,22.0s						
SSPA	Standing Stone	84.57	319	eP	P	10 53 55.3	-0.6
	comp=Z,3μm,1.4s						
SSPA	Standing Stone	84.57	319	eP	P	10 53 55.3	-0.6
	comp=Z,3μm,1.4s						
SSPA				LR	LR		
	comp=Z,121μm,20.0s						
GLMI	Grayling	84.57	326	eP	P	10 53 55.5	-0.4
	comp=Z,3μm,1.3s						
GLMI	Grayling	84.57	326	eP	P	10 53 55.5	-0.4
	comp=Z,3μm,1.3s						
GLMI				LR	LR		
	comp=Z,139μm,19.0s						
E42A	Champion	84.69	329	P	P	10 53 56.1	-0.3
	baz=36,SNR=172						
M54A	Oil Creek Stat	84.81	321	P	P	10 53 56.6	-0.5
	baz=41,SNR=297						
EYMN	Ely	84.85	331	P	P	10 53 56.8	-0.4
	baz=34,SNR=171						
EYMN	Ely	84.85	331	eP	P	10 53 56.8	-0.4
	comp=Z,2μm,1.4s						
EYMN	Ely	84.85	331	eP	P	10 53 56.8	-0.4
	comp=Z,2μm,1.4s						
EYMN				LR	LR		
	comp=Z,166μm,21.0s						
F43A	Flat Rock, Esc	84.87	328	P	P	10 53 57.2	-0.1
	baz=36,SNR=353						
SDMD	Soldier's Deli	84.93	318	eP	P	10 53 56.8	-0.9
	comp=Z,831nm,1.3s						
SDMD	Soldier's Deli	84.93	318	eP	P	10 53 56.8	-0.9
	comp=Z,831nm,1.3s						
ALLY	Alegheny Colle	84.94	321	eP	P	10 53 56.8	-1.0
	comp=Z,2μm,1.3s						
ALLY	Alegheny Colle	84.94	321	eP	P	10 53 56.8	-1.0
	comp=Z,2μm,1.3s						
C38A	Sawbill Land,	84.95	331	P	P	10 53 56.9	-0.8
	baz=34,SNR=69						
BBSI	Bau Bau	84.97	101	P	P	10 53 57.7	-0.5
E41A	Kenton	85.09	329	P	P	10 53 57.7	-0.7
	baz=35,SNR=238						
CRZF	Crozet Islands	85.11	174	eP	P	10 53 57.7	-0.4
	comp=Z,419nm,1.3s						
CRZF	Crozet Islands	85.11	174	eP	P	10 53 57.7	-0.4
	comp=Z,419nm,1.3s						
CRZF				LR	LR		
	comp=Z,64μm,20.0s						
WRAK	Wrangell Islan	85.15	358	eP	P	10 53 58.8	+0.3
	comp=Z,1μm,1.3s						
WRAK	Wrangell Islan	85.15	358	eP	P	10 53 58.8	+0.3
	comp=Z,1μm,1.3s						
WRAK				LR	LR		
	comp=Z,144μm,21.0s						
O56A	Blue Knob Stat	85.19	319	P	P	10 53 58.5	-0.5
	baz=42,SNR=265						
C37A	Embarrass

comp=Z,16nm,0.8s,baz=32,slow=7.4,SNR=3.4
RCBR S **S** **11 04 30.6 -1.1**
comp=Z,4.0nm,0.9s,baz=91,slow=17,SNR=2.4
RCBR Riachuelo 85.35 259 *eP* **P 10 54 00.0 -0.2**
comp=Z,814nm,1.6s
RCBR Riachuelo 85.35 259 *eP* **P 10 53 60.0 -0.2**
comp=Z,814nm,1.6s
RCBR PP **PP 10 57 19.3 +1.0**
RCBR S **S 11 04 30.6 -1.1**
RCBR LR LR
comp=Z,163µm,20.0s
N54A Moraine State 85.38 321 P **P 10 53 59.3 -0.7**
baz=41,SNR=223
A33A Warroad 85.40 334 P **P 10 53 59.2 -0.7**
baz=31,SNR=327
SANI Sanana 85.45 96 P **P 10 53 57.5 -3.2**
E40A Wakefield 85.48 330 P **P 10 53 59.9 -0.5**
baz=35,SNR=542
C36A Pine Crest Far 85.50 332 P **P 10 53 59.7 -0.7**
baz=33,SNR=214
B34A Aery, Baudette 85.53 334 P **P 10 53 59.8 -0.8**
baz=32,SNR=217
G43A Wallace 85.54 328 P **P 10 54 00.3 -0.4**
baz=36,SNR=108
F41A Three Lakes 85.74 329 P **P 10 54 01.3 -0.4**
baz=35,SNR=241
LBMI Labuha 85.75 94 P **P 10 53 59.6 -2.6**
comp=Z,725nm,1.7s,comp=Z,28µmcomp=Z,121µm
E39A Mellen 85.79 330 P **P 10 54 01.3 -0.6**
baz=34,SNR=418
A32A Rocking H Ranc 85.79 335 P **P 10 54 01.1 -0.7**
baz=30,SNR=363
D37A Cotton 85.85 332 P **P 10 54 01.6 -0.6**
baz=33,SNR=120
G42A Mountain 85.86 328 P **P 10 54 01.9 -0.4**
baz=36,SNR=127
WSI Waingapu 85.90 106 P **P 10 54 01.0 -1.8**
comp=Z,1µm,1.7s,comp=Z,43µmcomp=Z,113µm
C35A Jirik Farms, M 85.96 333 P **P 10 54 01.6 -1.2**
baz=32,SNR=152
E38A The Farm, Brul 85.99 331 P **P 10 54 02.0 -0.8**
baz=34,SNR=191
F40A Park Falls 86.00 330 P **P 10 54 02.1 -0.9**
baz=34,SNR=146
A31A Linda, St. Vin 86.01 335 P **P 10 54 02.2 -0.7**
baz=30,SNR=36
B33A Robert and Kas 86.04 334 P **P 10 54 02.3 -0.8**
baz=31,SNR=130
CBN Corbin Frederi 86.10 317 *eP* **P 10 54 02.5 -1.1**
comp=Z,571nm,1.1s
CBN Corbin Frederi 86.10 317 *eP* **P 10 54 02.5 -1.1**
comp=Z,571nm,1.1s
CBN LR LR
comp=Z,142µm,18.0s
D36A Goodland 86.11 332 P **P 10 54 02.8 -0.7**
baz=32,SNR=180
AGMN Agassiz Nation 86.11 334 P **P 10 54 02.6 -0.9**
baz=31,SNR=180
AGMN Agassiz Nation 86.11 334 *eP* **P 10 54 02.6 -0.9**
comp=Z,798nm,1.2s
AGMN Agassiz Nation 86.11 334 *eP* **P 10 54 02.6 -0.9**
comp=Z,798nm,1.2s
AGMN LR LR
comp=Z,276µm,20.0s
AAM Ann Arbor 86.11 324 *eP* **P 10 54 02.5 -1.1**
AAM pmax pmax
comp=Z,847nm,1.4s
AAM MLR MLR
comp=Z,125µm,20.0s
AAM Ann Arbor 86.11 324 *eP* **P 10 54 02.5 -1.1**
comp=Z,846nm,1.4s
AAM Ann Arbor 86.11 324 *eP* **P 10 54 02.5 -1.1**
comp=Z,846nm,1.4s
AAM LR LR
comp=Z,125µm,20.0s
CRAG Craig 86.12 358 *eP* **P 10 54 03.6 +0.3**
comp=Z,2µm,1.8s
CRAG Craig 86.12 358 *eP* **P 10 54 03.6 +0.3**
comp=Z,2µm,1.8s
G41A Antigo 86.20 329 P **P 10 54 02.9 -1.0**
baz=35,SNR=72
H43A Windswept, Lux 86.22 327 P **P 10 54 03.2 -0.8**
baz=36,SNR=37
SPFD Spotsylvania F 86.23 317 *eP* **P 10 54 03.1 -1.1**
SPFD Spotsylvania F 86.23 317 *eP* **P 10 54 03.1 -1.1**
SPFD LR LR
comp=Z,142µm,18.0s
B32A Ashes, Strandq 86.26 335 P **P 10 54 03.5 -0.7**
baz=30,SNR=648
PTRD Partlow Road 86.29 317 PFAKE 10 54 10.0 +5.5
PTRD LR LR
comp=Z,141µm,18.0s
MCWV Mont Chateau 86.29 320 *eP* **P 10 54 03.8 -0.7**
comp=Z,1µm,1.4s
MCWV Mont Chateau 86.29 320 *eP* **P 10 54 03.9 -0.7**
comp=Z,1µm,1.4s
MCWV LR LR
comp=Z,63µm,22.0s
F39A Loretta 86.31 330 P **P 10 54 03.8 -0.7**
baz=34,SNR=356
C34A RKJ Ranch, Bem 86.34 333 P **P 10 54 03.5 -1.0**
baz=31,SNR=148
E37A Wrenshall 86.34 331 P **P 10 54 04.3 -0.3**
baz=33,SNR=45
EDFI Ende, Flores 86.37 104 P **P 10 54 00.7 -4.6**
CVRD Centerville Ro 86.43 317 *eP* **P 10 54 03.9 -1.3**
comp=Z,682nm,1.5s
CVRD Centerville Ro 86.43 317 *eP* **P 10 54 03.9 -1.3**
comp=Z,682nm,1.5s
CVRD LR LR
comp=Z,135µm,19.0s
BASI Baing, Sumba 86.47 106 P **P 10 54 04.3 -1.3**
H42A Shiocton 86.50 328 P **P 10 54 05.0 -0.4**
baz=36,SNR=87
D35A Remer 86.52 332 P **P 10 54 04.6 -0.9**
baz=32,SNR=160
C33A Trail 86.55 334 P **P 10 54 04.9 -0.7**
baz=31,SNR=203
IP04 Greensprings 86.56 318 *eP* **P 10 54 04.9 -0.9**
comp=Z,1µm,1.7s
IP04 Greensprings 86.56 318 *eP* **P 10 54 04.9 -0.9**
comp=Z,1µm,1.7s
IP04 LR LR
comp=Z,136µm,21.0s
G40A Rib Lake 86.56 329 P **P 10 54 05.2 -0.6**
baz=34,SNR=405
IP01 Cuckoo 86.57 317 *eP* **P 10 54 04.7 -1.1**
comp=Z,866nm,1.4s
IP01 Cuckoo 86.57 317 *eP* **P 10 54 04.7 -1.1**
comp=Z,866nm,1.4s
IP01 LR LR
comp=Z,137µm,21.0s
IP03 Louisa 86.57 318 *eP* **P 10 54 04.8 -1.1**
comp=Z,670nm,1.5s
IP03 Louisa 86.57 318 *eP* **P 10 54 04.8 -1.1**
comp=Z,670nm,1.5s
IP03 LR LR
comp=Z,132µm,19.0s
IP05 Hopewell Churc 86.58 317 *eP* **P 10 54 04.8 -1.1**
comp=Z,1µm,1.6s
IP05 Hopewell Churc 86.58 317 *eP* **P 10 54 04.8 -1.1**
comp=Z,1µm,1.6s
IP05 LR LR
comp=Z,130µm,21.0s
B31A Greenbush Farm 86.60 335 P **P 10 54 05.1 -0.7**
baz=29,SNR=297
IP06 Yanceyville 86.62 317 *eP* **P 10 54 05.0 -1.1**
comp=Z,706nm,1.4s
IP06 Yanceyville 86.62 317 *eP* **P 10 54 05.0 -1.1**
comp=Z,706nm,1.4s
IP06 LR LR
comp=Z,135µm,19.0s
F38A Pierce - Schro 86.65 331 P **P 10 54 05.8 -0.3**
baz=33,SNR=425
URVA University of 86.65 317 *eP* **P 10 54 05.2 -1.1**
URVA University of 86.65 317 *eP* **P 10 54 05.2 -1.1**
IP07 Quail 86.66 317 *eP* **P 10 54 05.3 -1.0**
comp=Z,643nm,1.3s
IP07 Quail 86.66 317 *eP* **P 10 54 05.3 -1.0**
comp=Z,643nm,1.3s
E36A McGregor 86.70 332 P **P 10 54 06.0 -0.4**
baz=32,SNR=209
MMRI Maumere 86.71 104 P **P 10 54 02.5 -4.3**
MMRI Maumere 86.71 104 *eP* **P 10 54 02.9 -3.9**
comp=Z,2µm,1.7s
MMRI Maumere 86.71 104 *eP* **P 10 54 02.9 -3.9**
comp=Z,2µm,1.7s
MMRI LR LR
comp=Z,94µm,22.0s
JSRW J. Sargeant Re 86.74 317 *eP* **P 10 54 05.6 -1.2**
JSRW J. Sargeant Re 86.74 317 *eP* **P 10 54 05.5 -1.2**
C32A Crookston 86.75 334 P **P 10 54 05.9 -0.7**
baz=30,SNR=17
H41A Junction City 86.88 329 P **P 10 54 06.6 -0.7**
baz=35,SNR=69
D34A Park Rapids 86.92 333 P **P 10 54 06.4 -1.1**
baz=31,SNR=132
G39A Holcombe 86.93 330 P **P 10 54 06.8 -0.8**
baz=34,SNR=363
NLAI Namlea 87.06 96 P **P 10 54 07.3 -1.3**
E35A Pequot Lakes 87.09 332 P **P 10 54 07.6 -0.6**
baz=32,SNR=258
D33A AnnSam, Waubun 87.10 334 P **P 10 54 07.7 -0.7**
baz=31,SNR=154
F37A Hinrichs Farm, 87.13 331 P **P 10 54 08.2 -0.3**
baz=33,SNR=192
I42A Draeger Farm, 87.17 328 P **P 10 54 07.9 -0.8**
baz=35,SNR=75
H40A Chili 87.17 329 P **P 10 54 08.4 -0.3**
baz=34,SNR=201
C31A Landman Farms, 87.18 335 P **P 10 54 07.9 -0.8**
baz=29,SNR=230
G38A Ridgeland 87.30 330 P **P 10 54 08.5 -0.8**
baz=33,SNR=313
F36A Milaca 87.35 331 P **P 10 54 08.7 -0.8**
baz=32,SNR=268
J43A Natural Harves 87.37 327 P **P 10 54 08.6 -1.2**
baz=36,SNR=80
E34A Wadena 87.40 333 P **P 10 54 08.9 -0.9**
baz=31,SNR=25
ACSO Alum Creek Sta 87.40 322 *eP* **P 10 54 08.6 -1.3**
comp=Z,1µm,1.8s
ACSO Alum Creek Sta 87.40 322 *eP* **P 10 54 08.6 -1.3**
comp=Z,1µm,1.8s
ACSO LR LR
comp=Z,98µm,20.0s
I41A Arkdale 87.42 328 P **P 10 54 09.2 -0.7**
baz=35,SNR=59
H39A Augusta 87.48 330 P **P 10 54 09.7 -0.5**
baz=34,SNR=152
D32A Dogwood Acres, 87.51 334 P **P 10 54 09.0 -1.2**
baz=30,SNR=14
SPMN Marine on St. 87.62 331 P **P 10 54 10.0 -0.8**
baz=33,SNR=228
SPMN Marine on St. 87.62 331 *eP* **P 10 54 10.1 -0.8**
comp=Z,2µm,1.4s
SPMN Marine on St. 87.62 331 *eP* **P 10 54 10.2 -0.7**
comp=Z,2µm,1.4s
SPMN LR LR
comp=Z,92µm,21.0s
E33A Westby DABS, E 87.71 333 P **P 10 54 10.7 -0.6**
baz=30,SNR=96
J42A Columbus 87.72 327 P **P 10 54 09.9 -1.4**
baz=35,SNR=76
MDND Maddock 87.74 336 P **P 10 54 10.5 -0.9**
baz=28
MDND Maddock 87.74 336 *eP* **P 10 54 10.6 -0.8**
comp=Z,2µm,1.3s
MDND Maddock 87.74 336 *eP* **P 10 54 10.6 -0.8**
comp=Z,2µm,1.3s
MDND LR LR
comp=Z,164µm,21.0s
F35A Swanville 87.75 332 P **P 10 54 10.5 -0.9**
baz=32,SNR=84
D31A Mcclaflin, Tow 87.82 335 P **P 10 54 10.6 -1.2**
baz=29
I40A Norwalk 87.87 329 P **P 10 54 11.5 -0.6**
baz=34,SNR=86
H38A Maiden Rock 87.88 330 P **P 10 54 11.6 -0.6**
baz=33,SNR=97
K43A Burlington 87.88 327 P **P 10 54 11.0 -1.2**
baz=36,SNR=32
G36A St. Michael 87.97 331 P **P 10 54 11.9 -0.6**
baz=32,SNR=112
E32A Braaten, Kindr 88.00 334 P **P 10 54 12.0 -0.6**
baz=30,SNR=9.3
F34A Alexandria 88.05 332 P **P 10 54 12.0 -0.9**
baz=31,SNR=40
J41A Loganville 88.05 328 P **P 10 54 11.7 -1.3**
baz=34,SNR=155
L44A Lake County Fo 88.13 326 P **P 10 54 12.2 -1.2**
baz=36,SNR=12
VWCC Virginia Weste 88.18 318 *eP* **P 10 54 13.0 -0.7**
VWCC Virginia Weste 88.18 318 *eP* **P 10 54 13.0 -0.7**
AAI Ambon 88.19 96 P **P 10 54 11.6 -2.4**
H37A Dierke Farm, C 88.20 330 P **P 10 54 13.2 -0.5**
baz=33,SNR=138
K42A Prairie Point, 88.25 327 P **P 10 54 12.6 -1.4**
baz=35,SNR=43
G35A Watkins 88.26 332 P **P 10 54 13.2 -0.7**
baz=32,SNR=64
I39A Houston 88.26 329 P **P 10 54 12.9 -1.1**
baz=34,SNR=70
E31A Nome 88.31 334 P **P 10 54 13.2 -1.0**
baz=29,SNR=53
H02N1 VAN INLET T-PH 88.33 358 P **P 10 54 16.1 +1.9**
J40A Soldiers Grove 88.33 328 P **P 10 54 13.3 -1.0**
baz=34,SNR=71
H02S1 DAWSON INLET T 88.37 358 P **P 10 54 16.2 +1.9**
SNR=14
F33A 5 Mile Ranch, 88.38 333 P **P 10 54 13.8 -0.7**
baz=30,SNR=144
I38A Scanlan Farm, 88.43 330 P **P 10 54 13.8 -1.0**
baz=33,SNR=185
BLA Blacksburg 88.44 318 *eP* **P 10 54 13.9 -1.1**
BLA pmax pmax
comp=Z,965nm,1.8s
BLA MLR MLR
comp=Z,150µm,19.0s
BLA Blacksburg 88.44 318 *eP* **P 10 54 13.9 -1.1**
comp=Z,966nm,1.8s
BLA Blacksburg 88.44 318 *eP* **P 10 54 13.9 -1.1**
comp=Z,966nm,1.8s
BLA LR LR
comp=Z,150µm,19.0s
L43A Garden Prairie 88.48 327 P **P 10 54 14.0 -1.0**
baz=35,SNR=73
JFWS Jewell Farm 88.52 328 *eP* **P 10 54 13.7 -1.5**
JFWS pmax pmax
comp=Z,352nm,1.1s
JFWS MLR MLR
comp=Z,130µm,21.0s
JFWS Jewell Farm 88.52 328 *eP* **P 10 54 13.7 -1.5**
comp=Z,352nm,1.1s
JFWS Jewell Farm 88.52 328 *eP* **P 10 54 13.7 -1.5**
comp=Z,352nm,1.1s
JFWS LR LR
comp=Z,130µm,21.0s
MSAI Masohi 88.55 95 P **P 10 54 14.3 -1.4**
DGMT Dagmar 88.55 339 P **P 10 54 15.0 -0.3**
baz=25
DGMT Dagmar 88.55 339 *eP* **P 10 54 15.0 -0.3**
comp=Z,3µm,1.6s
DGMT Dagmar 88.55 339 *eP* **P 10 54 15.0 -0.3**
comp=Z,3µm,1.6s
DGMT LR LR
comp=Z,176µm,20.0s
CNNC Cliffs of the 88.57 316 *eP* **P 10 54 14.8 -0.8**
comp=Z,880nm,1.3s
CNNC Cliffs of the 88.57 316 *eP* **P 10 54 14.8 -0.8**
comp=Z,880nm,1.3s
CNNC LR LR
comp=Z,138µm,22.0s
H36A Jessenland, He 88.59 331 P **P 10 54 15.3 -0.2**
baz=32,SNR=155
N46A Monticello 88.64 325 P **P 10 54 14.5 -1.2**
baz=37,SNR=81
F32A Veblen 88.64 334 P **P 10 54 15.0 -0.7**
baz=30,SNR=28
G34A Benson 88.66 332 P **P 10 54 15.2 -0.6**
baz=31,SNR=86
J39A Decorah 88.77 329 P **P 10 54 15.0 -1.3**
baz=33,SNR=204
K41A Shullsburg 88.80 328 P **P 10 54 15.1 -1.4**
baz=34,SNR=32
M44A Midewin, Midew 88.83 326 P **P 10 54 15.5 -1.2**
baz=36
H35A Sunyside Ranc 88.83 332 P **P 10 54 16.3 -0.3**
baz=31,SNR=326
I37A Lemond, Waseca 88.87 330 P **P 10 54 16.5 -0.3**
baz=32,SNR=380
O47A Sheridan 88.91 324 P **P 10 54 15.4 -1.7**
baz=37
SOEI Soe 88.96 103 P **P 10 54 16.3 -1.5**
SOEI Soe 88.96 103 *eP* **P 10 54 15.4 -2.4**
comp=Z,1µm,1.3s
SOEI Soe 88.96 103 *eP* **P 10 54 15.4 -2.4**
comp=Z,1µm,1.3s
SOEI LR LR
comp=Z,56µm,22.0s
G33A Ortonville 88.99 333 P **P 10 54 16.6 -0.7**
baz=30,SNR=115
N45A Kentland 89.03 325 P **P 10 54 16.2 -1.4**
baz=36,SNR=27
F31A Hecla 89.04 334 P **P 10 54 16.7 -0.9**
baz=29,SNR=52
K40A Colesburg 89.07 328 P **P 10 54 16.5 -1.3**
baz=34,SNR=46
J38A Wedel Dairy, R 89.09 329 P **P 10 54 16.3 -1.6**
baz=33,SNR=101
I36A Fitzsimmons Fa 89.10 331 P **P 10 54 17.2 -0.7**
baz=32,SNR=107
BBB Bella Bella 89.16 355 P **P 10 54 19.6 +1.7**
comp=Z,198nm,1.1s,baz=302,slow=3.1,SNR=13
BBB LR LR 11 38 06.6
comp=Z,116µm,19.3s,baz=348,slow=38
H34A Spellman Lake, 89.20 332 P **P 10 54 18.1 -0.3**
baz=31,SNR=82
SFIN Lafayette 89.22 325 P **P 10 54 17.0 -1.5**
baz=36,SNR=62
SFIN Lafayette 89.22 325 *eP* **P 10 54 16.6 -1.9**
comp=Z,303nm,1.3s
SFIN Lafayette 89.22 325 *eP* **P 10 54 16.6 -1.9**
comp=Z,303nm,1.3s
SFIN LR LR
comp=Z,97µm,20.0s
G32A Webster 89.31 334 P **P 10 54 18.2 -0.6**
baz=29,SNR=38
L41A Preston 89.32 328 P **P 10 54 17.7 -1.3**
baz=34,SNR=104
N44A Piper City 89.34 325 P **P 10 54 17.8 -1.3**
baz=36,SNR=52
K39A Oelwein 89.37 329 P **P 10 54 17.4 -1.8**
baz=33,SNR=136
M42A Sheffield 89.52 327 P **P 10 54 18.7 -1.2**
baz=35,SNR=47
J37A Redenius Farm, 89.52 330 P **P 10 54 19.2 -0.7**
baz=32,SNR=195
H33A Prehn Over Nor 89.54 333 P **P 10 54 19.5 -0.5**
baz=30,SNR=124
P47A Martinsville 89.55 323 P **P 10 54 18.5 -1.6**
baz=37
G31A Conde 89.58 334 P **P 10 54 19.3 -0.8**
baz=29,SNR=23
O45A Potomac 89.60 325 P **P 10 54 19.2 -1.1**
baz=36,SNR=50
I35A Creekview Farm 89.61 331 P **P 10 54 19.4 -0.9**
baz=31,SNR=18
L40A Anamosa 89.63 328 P **P 10 54 18.9 -1.5**
baz=34,SNR=142
K38A Parkersburg 89.77 329 P **P 10 54 19.7 -1.4**
baz=33,SNR=91
I34A Hadley 89.77 332 P **P 10 54 20.6 -0.5**
baz=31,SNR=31
J36A Seneca 1, Swea 89.81 331 P **P 10 54 20.8 -0.5**
baz=32,SNR=334
L39A Vinton 89.90 329 P **P 10 54 20.5 -1.2**
baz=33,SNR=146
M41A Milan 89.92 327 P **P 10 54 20.3 -1.5**
baz=34,SNR=135
BLO Bloomington 89.92 323 *eP* **P 10 54 20.5 -1.3**
BLO pmax pmax
comp=Z,1µm,1.7s
BLO Bloomington 89.92 323 *eP* **P 10 54 20.5 -1.3**
comp=Z,1µm,1.7s
BLO Bloomington 89.92 323 *eP* **P 10 54 20.4 -1.3**
comp=Z,1µm,1.7s
H32A Carlson Farm, 89.94 333 P **P 10 54 21.2 -0.7**
baz=30,SNR=105
O44A Mansfield 90.02 325 P **P 10 54 21.2 -1.0**
baz=36,SNR=86
K37A Belmond 90.02 330 P **P 10 54 21.0 -1.2**
baz=32,SNR=178
BNDI Bandanaira 90.04 96 P **P 10 54 21.2 -1.5**
HDIL Hopedale 90.05 326 P **P 10 54 21.2 -1.2**
baz=35,SNR=140
HDIL Hopedale 90.05 326 *eP* **P 10 54 21.2 -1.2**
comp=Z,2µm,1.4s
HDIL Hopedale 90.05 326 *eP* **P 10 54 21.2 -1.2**
comp=Z,2µm,1.4s
HDIL LR LR
comp=Z,144µm,18.0s
LLLB Lillooet 90.11 351 *eP* **P 10 54 22.3 -0.2**
comp=Z,2µm,1.4s
LLLB Lillooet 90.11 351 *eP* **P 10 54 22.3 -0.2**
comp=Z,2µm,1.4s
LLLB LR LR
comp=Z,221µm,20.0s
I33A Coleman 90.11 333 P **P 10 54 21.9 -0.7**
baz=30,SNR=24
J35A Milford 90.11 331 P **P 10 54 21.5 -1.2**
baz=31,SNR=6.2
N42A Yates City 90.15 327 P **P 10 54 21.7 -1.1**
baz=34,SNR=227
L38A Oak Wood Farm, 90.27 329 P **P 10 54 22.0 -1.4**
baz=32,SNR=177
O43A Sugar Creek Fa 90.28 326 P **P 10 54 22.4 -1.1**
baz=35,SNR=65
GUMO Guam 90.30 72 P **P 10 54 24.9 +1.0**
comp=Z,49nm,0.9s,baz=217,slow=2.5,SNR=4.4
GUMO PP **PP 10 58 00.9 +3.3**
comp=Z,61nm,1.0s,baz=329,slow=2.2,SNR=3.5
GUMO LR LR 11 38 45.7
comp=Z,45µm,19.5s,baz=324,slow=38
M40A Post Highland 90.30 328 P **P 10 54 22.3 -1.3**
baz=34,SNR=95
ECSD EROS Data Cent 90.31 332 P **P 10 54 22.9 -0.7**
baz=30,SNR=240
ECSD EROS Data Cent 90.31 332 *eP* **P 10 54 23.0 -0.7**
comp=Z,793nm,1.4s
ECSD EROS Data Cent 90.31 332 *eP* **P 10 54 23.1 -0.6**
comp=Z,793nm,1.4s
ECSD LR LR
comp=Z,258µm,20.0s
WALA Waterton Lakes 90.32 345 *eP* **P 10 54 22.9 -0.8**
comp=Z,741nm,1.3s
WALA Waterton Lakes 90.32 345 *eP* **P 10 54 22.9 -0.8**
comp=Z,741nm,1.3s
WALA LR LR
comp=Z,150µm,18.0s
H31A Wolsey 90.33 334 P **P 10 54 22.7 -0.9**
baz=29,SNR=19
I32A Karley and Nic 90.36 333 P **P 10 54 23.1 -0.7**
baz=29,SNR=36
EGMT Eagleton 90.39 342 P **P 10 54 23.4 -0.6**
baz=21
EGMT Eagleton 90.39 342 *eP* **P 10 54 23.5 -0.5**
comp=Z,2µm,1.9s
EGMT Eagleton 90.39 342 *eP* **P 10 54 23.5 -0.5**
comp=Z,2µm,1.9s
EGMT LR LR
comp=Z,275µm,21.0s
K36A Gilmore City 90.44 330 P **P 10 54 23.3 -0.9**
baz=32,SNR=129
ANWB Willy Bob 90.46 293 *eP* **P 10 54 23.0 -1.6**
ANWB Willy Bob 90.46 293 *e* **PP 10 58 01.4 +2.7**
ANWB Willy Bob 90.46 293 *eP* **P 10 54 23.9 -0.7**
comp=Z,1µm,1.2s
ANWB Willy Bob 90.46 293 *eP* **P 10 54 23.9 -0.7**
comp=Z,1µm,1.2s
ANWB LR LR
comp=Z,42µm,20.0s
J34A George 90.46 332 P **P 10 54 23.4 -0.9**
baz=30,SNR=56
KMSC Kings Mountain 90.49 318 P **P 10 54 23.8 -0.8**
baz=40,SNR=122
KMSC Kings Mountain 90.49 318 *eP* **P 10 54 23.9 -0.7**
comp=Z,1µm,1.6s
KMSC Kings Mountain 90.49 318 *eP* **P 10 54 23.9 -0.7**
comp=Z,1µm,1.6s
KMSC LR LR
comp=Z,108µm,18.0s
M39A Webster 90.51 328 P **P 10 54 23.1 -1.4**
baz=33,SNR=107
SUSD Miller 90.52 334 P **P 10 54 23.6 -0.9**
baz=28,SNR=141
WCI Wyandotte Cave 90.56 323 *eP* **P 10 54 23.4 -1.4**
WCI pmax pmax
comp=Z,1µm,1.4s
WCI MLR MLR
comp=Z,169µm,22.0s
WCI Wyandotte Cave 90.56 323 *eP* **P 10 54 23.4 -1.4**
comp=Z,1µm,1.4s
WCI Wyandotte Cave 90.56 323 *eP* **P 10 54 23.4 -1.4**

comp=Z,1μm,1.4s
WCI LR LR
SCIA State Center 90.57 329 eP P 10 54 23.9 -0.9
comp=Z,169μm,22.0s
SCIA State Center 90.57 329 eP P 10 54 23.9 -0.9
comp=Z,1μm,1.3s
SCIA LR LR
comp=Z,130μm,19.0s
N41A Harden Midland 90.60 327 P P 10 54 23.5 -1.5
baz=34,SNR=134
L37A Phoenix Point, 90.61 330 P P 10 54 23.4 -1.6
baz=32,SNR=173
P44A Sand Creek, Wi 90.64 325 P P 10 54 24.0 -1.2
baz=35,SNR=124
K35A Storm Lake 90.67 331 P P 10 54 24.2 -1.1
baz=31,SNR=40
O42A Bath 90.69 326 P P 10 54 24.1 -1.3
baz=34,SNR=86
LAO LASA Array 90.73 340 P P 10 54 26.5 +1.0
baz=23
LAO LASA Array 90.73 340 eP P 10 54 26.2 +0.6
comp=Z,4μm,1.5s
LAO LASA Array 90.73 340 eP P 10 54 26.2 +0.6
comp=Z,4μm,1.5s
LAO LR LR
comp=Z,149μm,18.0s
I31A Royce, Wessing 90.74 334 P P 10 54 24.5 -1.1
baz=29,SNR=5.6
N40A Mertquake, Sal 90.76 328 P P 10 54 24.2 -1.6
baz=34,SNR=204
J33A Davis 90.80 332 P P 10 54 24.9 -0.9
baz=30,SNR=33
H05N1 Guadeloupe/Mar 90.81 292 P P 10 54 27.9 +1.6
SNR=8.6
DEG La Desirade 90.81 292 e P 10 54 27.0 +0.6
PAF Port-aux-Franc 90.84 163 PFAKE 10 54 30.0 +4.5
PAF LR LR
comp=Z,97μm,19.0s
FAKI Fak Fak 90.87 93 eP P 10 54 25.0 -1.6
comp=Z,434nm,1.2s
FAKI Fak Fak 90.87 93 eP P 10 54 25.0 -1.6
comp=Z,434nm,1.2s
P43A Skaggs, Pawnee 90.90 326 P P 10 54 25.5 -0.9
baz=35,SNR=70
BPA Boggy Peak 90.91 293 eP P 10 54 27.4 +0.6
BPA Boggy Peak 90.91 293 e PP 10 58 07.2 +4.8
M38A Pleasantville 90.98 329 P P 10 54 25.6 -1.1
baz=32,SNR=448
L36A Harm Buss Farm 90.98 330 P P 10 54 25.4 -1.4
baz=31,SNR=7.5
OLIL Olney 91.00 324 eP P 10 54 25.7 -1.1
comp=Z,2μm,1.4s
OLIL Olney 91.00 324 eP P 10 54 25.7 -1.1
comp=Z,2μm,1.4s
K34A Le Mars 91.03 331 P P 10 54 25.7 -1.2
baz=30,SNR=64
PNT Penticton 91.06 349 eP P 10 54 26.6 -0.4
PNT Penticton 91.06 349 eP P 10 54 26.6 -0.4
PNT Penticton 91.06 349 eP P 10 54 26.6 -0.4
J32A Parkston 91.07 333 P P 10 54 26.1 -1.1
baz=29,SNR=22
O41A Passleys Farm, 91.10 327 P P 10 54 26.0 -1.3
baz=34,SNR=207
JSC Jenkinsville 91.11 317 eP P 10 54 26.5 -0.9
JSC pmax pmax
comp=Z,573nm,1.3s
JSC MLR MLR
comp=Z,139μm,22.0s
JSC Jenkinsville 91.11 317 eP P 10 54 26.5 -0.9
comp=Z,572nm,1.3s
JSC Jenkinsville 91.11 317 eP P 10 54 26.5 -0.9
comp=Z,572nm,1.3s
JSC LR LR
comp=Z,139μm,22.0s
SMRT St. Maarten 91.13 294 eP P 10 54 26.4 -1.4
SMRT St. Maarten 91.13 294 e PP 10 58 06.8 +2.7
SMRT St. Maarten 91.13 294 eP P 10 54 27.1 -0.7
comp=Z,629nm,1.5s
SMRT St. Maarten 91.13 294 eP P 10 54 27.1 -0.7
comp=Z,629nm,1.5s
N39A Derby Farms, D 91.15 328 P P 10 54 26.6 -1.0
baz=33,SNR=330
MGG Marie-Galante 91.26 291 eP P 10 54 30.2 +1.9
TRIS Tristan da Cun 91.26 221 eP P 10 54 29.9 +2.1
comp=Z,689nm,1.4s
TRIS Tristan da Cun 91.26 221 eP P 10 54 29.9 +2.1
comp=Z,689nm,1.4s
TRIS LR LR
comp=Z,155μm,18.0s
Q44A Meyer Farm, Va 91.28 325 P P 10 54 27.0 -1.1
baz=35,SNR=158
P42A Winchester 91.31 326 P P 10 54 26.8 -1.4
baz=34,SNR=121
L35A Bielow Farm, R 91.31 331 P P 10 54 27.3 -0.9
baz=31,SNR=175
M37A Trindle Farm, 91.34 329 P P 10 54 27.5 -0.9
baz=32,SNR=95
GDHS Morne Mazeau, 91.35 292 eP P 10 54 28.3 -0.6
comp=Z,1μm,1.3s
GDHS Morne Mazeau, 91.35 292 eP P 10 54 28.3 -0.6
comp=Z,1μm,1.3s
GDHS LR LR
comp=Z,51μm,20.0s
TKL Tuckaleechee C 91.36 320 P P 10 54 27.9 -0.7
comp=Z,948nm,1.1s,baz=54,slow=4.7,SNR=158
TKL LR LR 11 37 56.0
comp=Z,104μm,18.6s,baz=54,slow=37
TKL Tuckaleechee C 91.36 320 eP P 10 54 28.0 -0.6
TKL pmax pmax
comp=Z,2μm,1.3s
TKL Tuckaleechee C 91.36 320 eP P 10 54 28.0 -0.6
comp=Z,2μm,1.3s
TKL Tuckaleechee C 91.36 320 eP P 10 54 28.0 -0.6
comp=Z,2μm,1.3s
SKI Saint Kitts 91.36 293 i P P 10 54 28.1 -0.7
SKI Saint Kitts 91.36 293 eP P 10 54 28.7 -0.2
SKI Saint Kitts 91.36 293 e PP 10 58 08.8 +2.8
SKI Saint Kitts 91.36 293 eP P 10 54 28.3 -0.6
SKI MLR MLR
comp=Z,177μm,21.0s
SKI Saint Kitts 91.36 293 eP P 10 54 28.2 -0.7
comp=Z,5μm,2.0s
SKI Saint Kitts 91.36 293 eP P 10 54 28.2 -0.6
comp=Z,5μm,2.0s
SKI LR LR
comp=Z,177μm,21.0s
MLYT Lee's Yard 91.37 293 eP P 10 54 28.2 -0.7
MLYT Lee's Yard 91.37 293 e PP 10 58 09.3 +3.2
NEV Hard Times 91.37 293 eP P 10 54 31.6 +2.7
BLMT Blacktail Moun 91.41 345 eP P 10 54 29.2 +0.3
BLMT Blacktail Moun 91.41 345 eP P 10 54 29.2 +0.3
USIN University of 91.42 323 eP P 10 54 27.3 -1.5
comp=Z,2μm,1.3s
USIN University of 91.42 323 eP P 10 54 27.3 -1.5
comp=Z,2μm,1.3s
USIN LR LR
comp=Z,104μm,20.0s
NHSC New Hope 91.42 316 eP P 10 54 28.3 -0.6
comp=Z,1μm,1.2s
NHSC New Hope 91.42 316 eP P 10 54 28.3 -0.6
comp=Z,1μm,1.2s
NHSC LR LR
comp=Z,174μm,22.0s
SEUS St. Eustatius 91.43 294 eP P 10 54 27.8 -1.4
SEUS St. Eustatius 91.43 294 e PP 10 58 10.7 +4.3
SEUS St. Eustatius 91.43 294 PFAKE 10 54 40.0 +11
SEUS LR LR
comp=Z,67μm,22.0s
K33A Hardington 91.43 332 P P 10 54 27.8 -1.1
baz=30,SNR=36
BG3 Lake Jocassee 91.44 319 eP P 10 54 28.5 -0.5
comp=Z,2μm,1.3s
BG3 Lake Jocassee 91.44 319 eP P 10 54 28.5 -0.5
comp=Z,2μm,1.3s
BG3 LR LR
comp=Z,144μm,20.0s
CSU Charleston Sou 91.45 315 eP P 10 54 29.6 +0.6
CSU Charleston Sou 91.45 315 eP P 10 54 29.6 +0.6
J31A Geddes 91.46 333 P P 10 54 27.9 -1.1
baz=29,SNR=34
YBMT Yellow Bay 91.48 345 eP P 10 54 29.8 +0.7
YBMT Yellow Bay 91.48 345 eP P 10 54 29.8 +0.7
DWS Wesley 91.48 291 eP P 10 54 28.2 -1.2
DWS Wesley 91.48 291 e PP 10 58 10.2 +3.3
O40A La Belle 91.52 327 P P 10 54 27.9 -1.3
baz=33,SNR=232
N38A Joes South For 91.52 329 P P 10 54 28.1 -1.1
baz=32,SNR=67
SABA Saba 91.53 294 eP P 10 54 28.6 -1.1
SABA Saba 91.53 294 eP P 10 54 29.2 -0.5
comp=Z,2μm,2.0s
SABA Saba 91.53 294 eP P 10 54 29.2 -0.5
comp=Z,2μm,2.0s
SABA LR LR
comp=Z,61μm,21.0s
TBG Guadaloupe-3 91.54 292 eP P 10 54 29.9 +0.2
P41A Barry, Barry 91.55 327 P P 10 54 27.9 -1.4
baz=34,SNR=133
Q43A New Douglas 91.55 325 P P 10 54 28.3 -1.1
baz=35,SNR=194
ABVI Anegada Island 91.57 295 eP P 10 54 29.8 0.0
comp=Z,1μm,1.9s
ABVI Anegada Island 91.57 295 eP P 10 54 29.8 0.0
comp=Z,1μm,1.9s
ABVI LR LR
comp=Z,52μm,21.0s
RGRS Roger Stewart 91.58 316 eP P 10 54 29.6 0.0
comp=Z,4μm,1.1s
RGRS Roger Stewart 91.58 316 eP P 10 54 29.6 0.0
comp=Z,4μm,1.1s
DLPL La Plaine 91.59 291 eP P 10 54 27.8 -2.2
DLPL La Plaine 91.59 291 eP PP 10 58 14.2 +6.4
M36A Felix, Anita 91.59 330 P P 10 54 28.2 -1.3
baz=31,SNR=89
BBL Barber's Block 91.62 291 eP P 10 54 31.5 +1.3
BBL Barber's Block 91.62 291 e PP 10 58 11.7 +3.6
BSMT Bassoo Peak 91.64 346 eP P 10 54 29.4 -0.5
BSMT Bassoo Peak 91.64 346 eP P 10 54 29.4 -0.5
JTMT Jette 91.64 345 eP P 10 54 29.4 -0.5
JTMT Jette 91.64 345 eP P 10 54 29.4 -0.5
NEW Newport 91.68 347 P P 10 54 29.9 0.0
comp=Z,301nm,1.0s,baz=22,slow=4.5,SNR=169
NEW LR LR 11 36 52.2
comp=Z,144μm,21.0s,baz=15,slow=36
NEW Newport 91.68 347 P P 10 54 29.7 -0.2
baz=15,SNR=399
NEW Newport 91.68 347 eP P 10 54 29.9 0.0
comp=Z,604nm,1.1s
NEW Newport 91.68 347 eP P 10 54 29.9 0.0
comp=Z,604nm,1.1s
HODGE Hodges 91.68 318 eP P 10 54 29.6 -0.5
comp=Z,1μm,1.4s
HODGE Hodges 91.68 318 eP P 10 54 29.6 -0.5
comp=Z,1μm,1.4s
O39A Kirksville 91.69 328 P P 10 54 28.9 -1.1
baz=33,SNR=105
BBSP Saint Philip 91.71 288 eP P 10 54 34.3 +3.8
K32A Verdigre 91.74 333 P P 10 54 29.0 -1.2
baz=29,SNR=64
L34A Svendsen Farm, 91.75 331 P P 10 54 28.9 -1.4
baz=30,SNR=66
BBGH Gun Hill 91.76 288 eP P 10 54 30.4 -0.4
BBGH Gun Hill 91.76 288 e PP 10 58 15.7 +6.4
BBGH Gun Hill 91.76 288 eP P 10 54 31.4 +0.6
comp=Z,4μm,2.1s
BBGH Gun Hill 91.76 288 eP P 10 54 31.4 +0.6
comp=Z,4μm,2.1s
BBGH LR LR
comp=Z,78μm,22.0s
SWMT Swartz Lake 91.81 345 eP P 10 54 30.2 -0.4
SWMT Swartz Lake 91.81 345 eP P 10 54 30.2 -0.4
R44A Waltonville 91.84 325 P P 10 54 29.7 -1.1
baz=35,SNR=337
H05S1 Guadeloupe/Mar 91.88 290 P P 10 54 32.9 +1.6
SNR=9.5
CPCT Cooper Cave 91.90 320 eP P 10 54 30.4 -0.7
comp=Z,1μm,1.3s
CPCT Cooper Cave 91.90 320 eP P 10 54 30.4 -0.7
comp=Z,1μm,1.3s
CPCT LR LR
comp=Z,161μm,22.0s
MBW Mount Baker 91.90 350 P P 10 54 29.5 -1.6
MBW Mount Baker 91.90 350 P P 10 54 29.5 -1.6
FDF Fort de France 91.91 290 eP P 10 54 30.8 -0.7
FDF pmax pmax
comp=Z,784nm,1.3s
FDF MLR MLR
comp=Z,39μm,21.0s
FDF Fort de France 91.91 290 eP P 10 54 30.8 -0.7
comp=Z,39μm,21.0s
FDF Fort de France 91.91 290 eP P 10 54 30.8 -0.7
comp=Z,784nm,1.3s
FDF LR LR
comp=Z,39μm,21.0s
L33A Hoskins 91.91 332 P P 10 54 29.8 -1.3
baz=30,SNR=30
M35A Neola 91.92 331 P P 10 54 30.0 -1.1
baz=31,SNR=74
N37A Lee Faris, Mou 91.94 329 P P 10 54 30.0 -1.2
baz=32,SNR=210
Q42A Golden Eagle 91.95 326 P P 10 54 30.0 -1.2
baz=34,SNR=157
B08A Colville Reser 91.95 349 eP P 10 54 30.5 -0.6
comp=Z,748nm,1.7s
B08A Colville Reser 91.95 349 eP P 10 54 30.5 -0.6
comp=Z,748nm,1.7s
SLMT Seeley Lake 91.97 345 eP P 10 54 30.9 -0.5
SLMT Seeley Lake 91.97 345 eP P 10 54 30.9 -0.5
SLM Saint Louis 92.04 325 eP P 10 54 30.7 -1.0
SLM pmax pmax
comp=Z,1μm,1.3s
SLM MLR MLR
comp=Z,126μm,20.0s
SLM Saint Louis 92.04 325 eP P 10 54 30.7 -1.0
comp=Z,1μm,1.3s
SLM Saint Louis 92.04 325 eP P 10 54 30.7 -1.0
comp=Z,1μm,1.3s
SLM LR LR
comp=Z,126μm,20.0s
K31A O'Neill 92.05 333 P P 10 54 30.9 -0.8
baz=29,SNR=56
A04D Lummi Island 92.07 351 P P 10 54 30.4 -1.2
baz=11,SNR=18
S45A Carrier Mills 92.08 324 P P 10 54 30.6 -1.2
baz=35,SNR=274
P40A Paris 92.09 327 P P 10 54 30.6 -1.3
baz=33,SNR=263
B06A Marblemount 92.11 350 eP P 10 54 30.5 -1.2
comp=Z,669nm,1.4s
B06A Marblemount 92.11 350 eP P 10 54 30.5 -1.2
comp=Z,669nm,1.4s
HRY Holter Researc 92.11 343 eP P 10 54 31.8 -0.2
HRY Holter Researc 92.11 343 eP P 10 54 31.8 -0.2
MCW Mount Constitu 92.12 351 P P 10 54 31.1 -0.8
MCW Mount Constitu 92.12 351 P P 10 54 31.1 -0.8
MCW Mount Constitu 92.12 351 P P 10 54 31.1 -0.8
RPW Rockport 92.18 350 eP P 10 54 30.8 -1.4
RPW Rockport 92.18 350 eP P 10 54 30.8 -1.4
O38A Galt 92.19 328 P P 10 54 31.1 -1.3
baz=32,SNR=64
N36A Muff Farm, Cla 92.19 330 P P 10 54 31.3 -1.1
baz=31,SNR=60
R43A Red Bud 92.20 325 P P 10 54 31.4 -1.0
baz=34,SNR=130
Q41A Truxton 92.22 326 P P 10 54 31.5 -1.0
baz=34,SNR=268
CHMT Chamberlain Mo 92.22 344 eP P 10 54 32.0 -0.7
CHMT Chamberlain Mo 92.22 344 eP P 10 54 32.0 -0.7
PGC Sidney 92.22 351 eP P 10 54 31.8 -0.5
comp=Z,446nm,1.1s
PGC Sidney 92.22 351 eP P 10 54 31.8 -0.5
comp=Z,446nm,1.1s
PGC LR LR
comp=Z,156μm,20.0s
M34A Aspy Farms, Fr 92.23 331 P P 10 54 31.4 -1.1
baz=30,SNR=133
C09A Chrisman Ranch 92.32 348 eP P 10 54 32.8 -0.1
comp=Z,1μm,1.8s
C09A Chrisman Ranch 92.32 348 eP P 10 54 32.8 -0.1
comp=Z,1μm,1.8s
L32A Elgin 92.32 332 P P 10 54 32.3 -0.7
baz=29,SNR=36
S44A Carbondale 92.37 324 P P 10 54 32.4 -0.9
baz=35,SNR=153
NLW Nelson Butte 92.37 349 eP P 10 54 33.6 +0.4
NLW Nelson Butte 92.37 349 eP P 10 54 33.6 +0.4
M33A Taylor Creek F 92.40 332 P P 10 54 32.6 -0.8
baz=30,SNR=146
MCLT Moule a Chique 92.42 290 eP P 10 54 32.5 -1.3
MCLT Moule a Chique 92.42 290 e PP 10 58 18.1 +3.7
P39B Salisbury 92.42 328 P P 10 54 32.2 -1.2
baz=33,SNR=144
O37A Wolven Farm, M 92.42 329 P P 10 54 32.1 -1.3
baz=32,SNR=85
N35A Tabor 92.42 330 P P 10 54 32.6 -0.8
baz=31,SNR=68
B05A Bryant 92.44 350 P P 10 54 32.4 -0.9
baz=11,SNR=134
RSSD Black Hills 92.45 337 P P 10 54 33.5 -0.3
baz=25
RSSD Black Hills 92.45 337 eP P 10 54 33.5 -0.3
RSSD pmax pmax
comp=Z,1μm,1.5s
RSSD MLR MLR
comp=Z,188μm,20.0s
RSSD Black Hills 92.45 337 eP P 10 54 33.5 -0.3
comp=Z,1μm,1.5s
RSSD Black Hills 92.45 337 eP P 10 54 33.5 -0.3
comp=Z,1μm,1.5s
RSSD LR LR
comp=Z,188μm,20.0s
MSO Missoula 92.45 345 P P 10 54 32.8 -0.7
baz=17,SNR=132
MSO Missoula 92.45 345 eP P 10 54 33.0 -0.6
comp=Z,524nm,1.4s
MSO Missoula 92.45 345 eP P 10 54 33.0 -0.6
comp=Z,524nm,1.4s
MSO LR LR
comp=Z,154μm,20.0s
JCW Jim Creek 92.48 350 eP P 10 54 32.6 -1.0
JCW Jim Creek 92.48 350 eP P 10 54 32.6 -1.0
CDVI St. Croix 92.53 295 eP P 10 54 33.6 -0.6
comp=Z,480nm,1.5s
CDVI St. Croix 92.53 295 eP P 10 54 33.6 -0.6
comp=Z,480nm,1.5s
Q40A Laux Farm, Aux 92.55 327 P P 10 54 33.2 -0.8
baz=33,SNR=428
R42A Luebbering 92.58 326 P P 10 54 33.0 -1.2
baz=34,SNR=124
SAW Saint Andrews 92.60 348 P P 10 54 34.2 0.0
SAW Saint Andrews 92.60 348 P P 10 54 34.1 0.0
C06D Leavenworth 92.61 350 P P 10 54 33.2 -0.9
baz=12,SNR=21
P38A Dawn 92.63 328 P P 10 54 33.3 -1.1
baz=32,SNR=119
WTV Waterville 92.69 349 eP P 10 54 33.8 -0.8
WTV Waterville 92.69 349 eP P 10 54 33.8 -0.8
N34A Lincoln 92.77 331 P P 10 54 33.8 -1.2
baz=30,SNR=82
O36A Bolckow 92.78 329 P P 10 54 33.9 -1.1
baz=31,SNR=74
SWET Sewanee 92.79 321 eP P 10 54 33.3 -1.9
comp=Z,549nm,1.4s
SWET Sewanee 92.79 321 eP P 10 54 33.3 -1.9
comp=Z,549nm,1.4s
SWET LR LR
comp=Z,114μm,19.0s
BAKI Biak 92.82 89 P P 10 54 36.2 +0.6
comp=Z,209nm,1.2s,comp=Z,9μm
R41A Rosebud 92.83 326 P P 10 54 34.1 -1.2
baz=34,SNR=222
ETW Entiat 92.84 349 eP P 10 54 34.3 -1.1
ETW Entiat 92.84 349 eP P 10 54 34.3 -1.1
S43A Fulton Ridge, 92.85 325 P P 10 54 34.2 -1.2
baz=34,SNR=59
SSV Crater Summit 92.85 289 eP P 10 54 34.3 -1.6
SVV Soufriere Volc 92.87 289 e P 10 54 36.5 +0.6
Q39A Willow Grove F 92.89 327 P P 10 54 34.3 -1.3
baz=33
BGNE Belgrade 92.89 332 P P 10 54 35.0 -0.6
baz=29,SNR=126
BGNE Belgrade 92.89 332 eP P 10 54 35.2 -0.4
comp=Z,2μm,1.1s
BGNE Belgrade 92.89 332 eP P 10 54 35.2 -0.4
comp=Z,2μm,1.1s
BGNE LR LR
comp=Z,265μm,20.0s
MBWA Marble Bar 92.89 115 eP P 10 54 33.5 -2.2
comp=Z,345nm,1.4s
MBWA Marble Bar 92.89 115 eP P 10 54 33.5 -2.2
comp=Z,345nm,1.4s
MBWA LR LR
comp=Z,93μm,22.0s
SVB Belmont 92.93 289 eP P 10 54 33.2 -3.0
SVB Belmont 92.93 289 e PP 10 58 20.6 +2.1
SVB Belmont 92.93 289 eP P 10 54 35.1 -1.0
comp=Z,553nm,1.1s
SVB Belmont 92.93 289 eP P 10 54 35.1 -1.0
comp=Z,553nm,1.1s
GOGA Godfrey 92.95 318 eP P 10 54 35.2 -0.8
GOGA pmax pmax
comp=Z,543nm,1.3s
GOGA MLR MLR
comp=Z,120μm,21.0s
GOGA Godfrey 92.95 318 eP P 10 54 35.2 -0.8
comp=Z,543nm,1.3s
GOGA Godfrey 92.95 318 eP P 10 54 35.2 -0.8
comp=Z,543nm,1.3s
GOGA LR LR
comp=Z,120μm,21.0s
CBYP Canovanas 92.95 296 eP P 10 54 35.2 -1.1
comp=Z,178nm,1.3s
CBYP Canovanas 92.95 296 eP P 10 54 35.2 -1.1
comp=Z,178nm,1.3s
CBYP LR LR
comp=Z,54μm,22.0s
CCM Cathedral Cave 92.97 326 eP P 10 54 34.7 -1.3
CCM pmax pmax
comp=Z,474nm,1.3s
CCM MLR MLR
comp=Z,133μm,18.0s
CCM Cathedral Cave 92.97 326 eP P 10 54 34.7 -1.3
comp=Z,474nm,1.3s
CCM Cathedral Cave 92.97 326 eP P 10 54 34.7 -1.3
comp=Z,474nm,1.3s
CCM LR LR
comp=Z,133μm,18.0s
WVT Waverly 92.98 322 eP P 10 54 34.1 -2.0
WVT pmax pmax
comp=Z,437nm,1.4s
WVT MLR MLR
comp=Z,182μm,19.0s
WVT Waverly 92.98 322 eP P 10 54 34.1 -2.0
comp=Z,437nm,1.4s
WVT Waverly 92.98 322 eP P 10 54 34.1 -2.0
comp=Z,437nm,1.4s
WVT LR LR
comp=Z,182μm,19.0s
RLMT Red Lodge 92.98 341 P P 10 54 34.7 -1.5
baz=21,SNR=311
RLMT Red Lodge 92.98 341 eP P 10 54 36.2 0.0
comp=Z,838nm,1.3s
RLMT Red Lodge 92.98 341 eP P 10 54 36.2 0.0
comp=Z,838nm,1.3s
RLMT LR LR
comp=Z,234μm,19.0s
P37A Lathrop 92.99 329 P P 10 54 34.7 -1.4
baz=32,SNR=106
S42A Caledonia 93.00 325 P P 10 54 34.9 -1.3
baz=34,SNR=194
T44A Benton 93.02 324 P P 10 54 35.1 -1.2
baz=35,SNR=34
O35A Humboldt 93.04 330 P P 10 54 35.0 -1.3
baz=31,SNR=40
LRM Limekiln Ridge 93.09 343 eP P 10 54 36.7 0.0
LRM Limekiln Ridge 93.09 343 eP P 10 54 36.7 0.0
BOZ Bozeman (W) 93.11 343 P P 10 54 36.3 -0.3
baz=19
BOZ Bozeman (W) 93.11 343 eP P 10 54 36.4 -0.3
BOZ pmax pmax
comp=Z,1μm,1.8s
BOZ MLR MLR
comp=Z,215μm,21.0s
BOZ Bozeman (W) 93.11 343 eP P 10 54 36.4 -0.3
comp=Z,1μm,1.8s
BOZ Bozeman (W) 93.11 343 eP P 10 54 36.4 -0.3
comp=Z,1μm,1.8s
BOZ LR LR
comp=Z,215μm,21.0s
D08A Wollman Farm, 93.15 348 eP P 10 54 36.5 -0.2
comp=Z,605nm,1.5s
D08A Wollman Farm, 93.15 348 eP P 10 54 36.5 -0.2
comp=Z,605nm,1.5s
SP2 Seward Park 2 93.15 350 eP P 10 54 37.2 +0.6
SP2 Seward Park 2 93.15 350 eP P 10 54 37.1 +0.6
R40A Maddies Statio 93.22 327 P P 10 54 35.9 -1.3
baz=33,SNR=204
GNW Green Mountain 93.22 351 eP P 10 54 37.1 +0.2
GNW Green Mountain 93.22 351 eP P 10 54 37.1 +0.2

N33A	J Bar K, Exete	93.22 331	P	P	10 54 36.1	-1.0
	baz=30,SNR=72					
LTY	Liberty	93.22 349	eP	P	10 54 35.9	-1.2
	comp=Z,160nm,1.1s					
LTY	Liberty	93.22 349	eP	P	10 54 35.9	-1.2
	comp=Z,160nm,1.1s					
Q38A	Cooks Store, C	93.22 328	P	P	10 54 36.1	-1.0
	baz=32,SNR=201					
U45A	Rockin P Farm,	93.24 323	P	P	10 54 36.1	-1.2
	baz=35,SNR=81					
SAUI	Saumlaki	93.26 98	PFAKE		10 54 50.0	+12
SAUI			LR	LR		
	comp=Z,40µm,20.0s					
SJG	San Juan	93.27 296	P	P	10 54 36.9	-0.7
	comp=Z,33nm,1.0s,baz=23,slow=4.4,SNR=20					
SJG			PP	PP	10 58 18.7	-2.2
	comp=Z,2.3nm,0.5s,baz=27,slow=16,SNR=2.3					
SJG			S	SKSac	11 05 11.0	-1.5
	comp=Z,0.9nm,0.4s,baz=217,slow=20,SNR=2.3					
SJG			PKKPbc	PKKPbc	11 11 45.7	+2.0
	comp=Z,5.2nm,0.7s,baz=316,slow=6.8,SNR=4.3					
SJG	San Juan	93.27 296	eP	P	10 54 36.8	-0.8
SJG					10 58 18.7	
SJG			S	SKSac	11 05 11.0	-1.5
SJG			pmax	pmax		
	comp=Z,582nm,1.9s					
SJG			MLR	MLR		
	comp=Z,43µm,22.0s					
SJG	San Juan	93.27 296	eP	P	10 54 35.7	-1.9
SJG	San Juan	93.27 296	eP	P	10 54 36.8	-0.8
	comp=Z,582nm,1.9s					
SJG	San Juan	93.27 296	eP	P	10 54 36.8	-0.8
	comp=Z,582nm,1.9s					
SJG			PP	PP	10 58 18.7	-2.2
SJG			S	SKSac	11 05 11.0	-1.5
SJG			PKKPbc	PKKPbc	11 11 45.7	+2.0
SJG			LR	LR		
	comp=Z,43µm,22.0s					
UTMT	University of	93.29 323	eP	P	10 54 36.2	-1.3
	comp=Z,2µm,1.1s					
UTMT	University of	93.29 323	eP	P	10 54 36.2	-1.3
	comp=Z,2µm,1.1s					
P36A	Good Intent, A	93.31 329	P	P	10 54 36.4	-1.2
	baz=31,SNR=93					
T43A	Greenville	93.34 325	P	P	10 54 36.6	-1.1
	baz=34,SNR=285					
O34A	Beatrice	93.41 331	P	P	10 54 37.0	-1.0
	baz=30,SNR=154					
PARMO	Parma	93.44 324	eP	P	10 54 37.3	-0.9
	comp=Z,673nm,1.0s					
PARMO	Parma	93.44 324	eP	P	10 54 37.3	-0.9
	comp=Z,673nm,1.0s					
PARMO			LR	LR		
	comp=Z,129µm,20.0s					
D05A	Enumclaw	93.48 350	eP	P	10 54 37.6	-0.5
	comp=Z,1µm,1.5s					
D05A	Enumclaw	93.48 350	eP	P	10 54 37.6	-0.5
	comp=Z,1µm,1.5s					
NLWA	Neilton Lookou	93.51 351	eP	P	10 54 38.5	+0.1
	comp=Z,414nm,1.2s					
NLWA	Neilton Lookou	93.51 351	eP	P	10 54 38.5	+0.1
	comp=Z,414nm,1.2s					
NLWA			LR	LR		
	comp=Z,163µm,20.0s					
U44B	Burton Farm, H	93.52 324	P	P	10 54 37.2	-1.3
	baz=35,SNR=61					
R39A	Chumby, Stover	93.53 327	P	P	10 54 37.5	-1.0
	baz=32,SNR=123					
U44A	Portageville	93.54 324	P	P	10 54 37.5	-1.2
	baz=35,SNR=46					
E09A	Wood Farm, Sta	93.55 347	eP	P	10 54 38.2	-0.3
	comp=Z,226nm,1.0s					
E09A	Wood Farm, Sta	93.55 347	eP	P	10 54 38.2	-0.3
	comp=Z,226nm,1.0s					
DLMT	Dillon	93.56 343	eP	P	10 54 38.4	-0.4
	comp=Z,552nm,1.4s					
DLMT	Dillon	93.56 343	eP	P	10 54 38.4	-0.4
	comp=Z,552nm,1.4s					
DLMT			LR	LR		
	comp=Z,177µm,19.0s					
S41A	Jillco Farms,	93.58 326	P	P	10 54 37.8	-1.1
	baz=33,SNR=217					
PVMO	Portageville	93.62 324	eP	P	10 54 38.2	-0.8
	comp=Z,1µm,1.0s					
PVMO	Portageville	93.62 324	eP	P	10 54 38.2	-0.8
	comp=Z,1µm,1.0s					
PVMO			LR	LR		
	comp=Z,143µm,20.0s					
Q37A	Longview Farm,	93.64 328	P	P	10 54 37.7	-1.4
	baz=32,SNR=39					
PBMO	Poplar Bluff	93.66 325	eP	P	10 54 37.9	-1.3
	comp=Z,699nm,1.3s					
PBMO	Poplar Bluff	93.66 325	eP	P	10 54 37.9	-1.3
	comp=Z,699nm,1.3s					
PBMO			LR	LR		
	comp=Z,130µm,19.0s					
TOSP	Speyside	93.67 287	eP	P	10 54 38.6	-0.9
TOSP	Speyside	93.67 287	e	PP	10 58 24.5	+0.2
YHH	Holmes Hill	93.69 342	eP	P	10 54 39.7	+0.1
	comp=Z,756nm,1.6s					
YHH	Holmes Hill	93.69 342	eP	P	10 54 39.7	+0.1
	comp=Z,756nm,1.6s					
P35A	Duane Minner,	93.71 330	P	P	10 54 38.2	-1.2
	baz=30,SNR=110					
YNR	Norris Junctio	93.72 342	eP	P	10 54 40.2	+0.6
	comp=Z,465nm,1.5s					
YNR	Norris Junctio	93.72 342	eP	P	10 54 40.2	+0.6
	comp=Z,465nm,1.5s					
AGP	Aguadilla	93.76 297	eP	P	10 54 38.9	-1.0
	comp=Z,812nm,1.4s					
AGP	Aguadilla	93.76 297	eP	P	10 54 38.9	-1.0
	comp=Z,812nm,1.4s					
E07A	Sunnyside	93.78 349	eP	P	10 54 39.8	+0.2
	comp=Z,190nm,1.2s					
E07A	Sunnyside	93.78 349	eP	P	10 54 39.8	+0.2
	comp=Z,190nm,1.2s					
QLMT	Earthquake Lak	93.79 342	eP	P	10 54 40.1	+0.2
QLMT	Earthquake Lak	93.79 342	eP	P	10 54 40.1	+0.2
LKWY	Lake	93.79 342	eP	P	10 54 41.2	+1.2
LKWY			pmax	pmax		
	comp=Z,657nm,1.5s					
LKWY			MLR	MLR		
	comp=Z,360µm,19.0s					
LKWY	Lake	93.79 342	eP	P	10 54 41.2	+1.2
	comp=Z,657nm,1.5s					
LKWY	Lake	93.79 342	eP	P	10 54 41.2	+1.2
	comp=Z,657nm,1.5s					
LKWY			LR	LR		
	comp=Z,360µm,19.0s					
YHB	Horse Butte	93.81 342	eP	P	10 54 40.3	+0.3
	comp=Z,982nm,1.9s					
YHB	Horse Butte	93.81 342	eP	P	10 54 40.3	+0.3
	comp=Z,982nm,1.9s					
YPM	Purple Mountai	93.82 342	eP	P	10 54 41.1	+1.0
YPM	Purple Mountai	93.82 342	eP	P	10 54 41.1	+1.0
V45A	Humboldt	93.83 323	P	P	10 54 38.5	-1.5
	baz=35,SNR=79					
YMR	Madison River	93.83 342	eP	P	10 54 40.5	+0.4
	comp=Z,780nm,1.5s					
YMR	Madison River	93.83 342	eP	P	10 54 40.5	+0.4
	comp=Z,780nm,1.5s					
O33A	Hebron	93.84 331	P	P	10 54 38.7	-1.3
	baz=29,SNR=92					
LON	Longmire	93.88 350	eP	P	10 54 39.3	-0.8
LON			pmax	pmax		
	comp=Z,409nm,1.5s					
LON	Longmire	93.88 350	eP	P	10 54 39.3	-0.8
	comp=Z,409nm,1.5s					
LON	Longmire	93.88 350	eP	P	10 54 39.3	-0.8
	comp=Z,409nm,1.5s					
MPR	Mayaguez	93.89 297	eP	P	10 54 39.6	-0.9
	comp=Z,463nm,1.9s					
MPR	Mayaguez	93.89 297	eP	P	10 54 39.6	-0.9
	comp=Z,463nm,1.9s					
MPR			LR	LR		
	comp=Z,37µm,22.0s					
BOT	Bacolet	93.89 288	eP	P	10 54 43.1	+2.6
HAWA	Hanford	93.89 348	eP	P	10 54 40.0	-0.1
	comp=Z,291nm,1.0s					
HAWA	Hanford	93.89 348	eP	P	10 54 40.0	-0.1
	comp=Z,291nm,1.0s					
HAWA			LR	LR		
	comp=Z,166µm,20.0s					
S40A	Lebanon	93.90 326	P	P	10 54 39.1	-1.2
	baz=33,SNR=220					
TPR	Prospect	93.93 288	eP	P	10 54 44.0	+3.2
GRGR	Grenville	93.97 289	PFAKE		10 54 50.0	+9.1
GRGR			LR	LR		
	comp=Z,23µm,20.0s					
Q36A	Arnold C. Orve	93.98 329	P	P	10 54 39.2	-1.4
	baz=31,SNR=43					
U43A	Rector	93.98 324	P	P	10 54 39.5	-1.2
	baz=34,SNR=39					
H17A	Grant Village	93.99 342	P	P	10 54 43.0	+2.1
	baz=20,SNR=80					
H17A	Grant Village	93.99 342	eP	P	10 54 42.6	+1.7
	comp=Z,592nm,1.3s					
H17A	Grant Village	93.99 342	eP	P	10 54 42.6	+1.7
	comp=Z,592nm,1.3s					
H17A			LR	LR		
	comp=Z,308µm,20.0s					
R38A	Fenwick Farm,	94.00 328	P	P	10 54 39.5	-1.2
	baz=32,SNR=118					
YFT	Old Faithful	94.00 342	eP	P	10 54 42.7	+1.7
	comp=Z,542nm,1.1s					
YFT	Old Faithful	94.00 342	eP	P	10 54 42.7	+1.7
	comp=Z,542nm,1.1s					
IDE	Isla Desecheo	94.01 297	eP	P	10 54 41.1	0.0
IDE	Isla Desecheo	94.01 297	eP	P	10 54 41.1	0.0
P34A	Walnut Farm, R	94.01 330	P	P	10 54 39.9	-0.9
	baz=30,SNR=217					
PLAL	Pickwick Lake	94.02 322	eP	P	10 54 38.7	-2.2
	comp=Z,787nm,1.4s					
PLAL	Pickwick Lake	94.02 322	eP	P	10 54 38.7	-2.2
	comp=Z,787nm,1.4s					
PLAL			LR	LR		
	comp=Z,102µm,18.0s					
T41A	Mountain View	94.04 326	P	P	10 54 39.9	-1.1
	baz=33,SNR=202					
MCMT	McKenzie Canyo	94.12 343	eP	P	10 54 41.0	-0.5
MCMT	McKenzie Canyo	94.12 343	eP	P	10 54 41.0	-0.5
YPP	Pitchstone Pla	94.17 342	eP	P	10 54 43.3	+1.5
	comp=Z,816nm,1.6s					
YPP	Pitchstone Pla	94.17 342	eP	P	10 54 43.3	+1.5
	comp=Z,816nm,1.6s					
S39A	Bolivar	94.17 327	P	P	10 54 40.1	-1.4
	baz=32,SNR=248					
V44A	Blytheville	94.19 324	P	P	10 54 40.3	-1.3
	baz=35,SNR=9.0					
R37A	Teagarden Farm	94.27 328	P	P	10 54 40.5	-1.5
	baz=31,SNR=14					
T40A	Mansfield	94.28 326	P	P	10 54 40.7	-1.4
	baz=33,SNR=84					
Q35A	Mercer Eighty,	94.30 329	P	P	10 54 40.5	-1.6
	baz=30,SNR=67					
E03A	Lebam	94.31 351	eP	P	10 54 41.0	-1.0
	comp=Z,760nm,1.0s					
E03A	Lebam	94.31 351	eP	P	10 54 41.0	-1.0
	comp=Z,760nm,1.0s					
KSU1	Kansas State U	94.31 330	P	P	10 54 40.8	-1.4
	baz=30,SNR=100					
KSU1	Kansas State U	94.31 330	eP	P	10 54 40.8	-1.4
	comp=Z,717nm,1.4s					
KSU1	Kansas State U	94.31 330	eP	P	10 54 40.8	-1.4
	comp=Z,717nm,1.4s					
KSU1			LR	LR		
	comp=Z,228µm,18.0s					
MCID	Moose Creek	94.33 342	eP	P	10 54 43.5	+1.1
MCID	Moose Creek	94.33 342	eP	P	10 54 43.5	+1.1
GRTK	Grand Turk	94.35 302	eP	P	10 54 41.8	-0.7
	comp=Z,386nm,1.1s					
GRTK	Grand Turk	94.35 302	eP	P	10 54 41.8	-0.7
	comp=Z,386nm,1.1s					
GRTK			LR	LR		
	comp=Z,73µm,22.0s					
U42A	Revenden	94.38 325	P	P	10 54 41.3	-1.1
	baz=34,SNR=250					
W45A	Hickory Valley	94.41 323	P	P	10 54 40.8	-1.9
	baz=35,SNR=50					
S38A	Stockton	94.47 327	P	P	10 54 41.3	-1.6
	baz=32,SNR=332					
V43A	Jonesboro	94.53 324	P	P	10 54 42.1	-1.0
	baz=34,SNR=32					
K22A	Casper	94.53 338	P	P	10 54 42.0	-1.2
	baz=23,SNR=201					
K22A	Casper	94.53 338	eP	P	10 54 42.1	-1.2
	comp=Z,1µm,1.4s					
K22A	Casper	94.53 338	eP	P	10 54 42.1	-1.2
	comp=Z,1µm,1.4s					
K22A			LR	LR		
	comp=Z,198µm,21.0s					
R36A	Gordon, Harris	94.54 329	P	P	10 54 41.7	-1.5
	baz=31,SNR=44					
TIGA	Tifton	94.55 317	P	P	10 54 42.2	-1.2
	baz=39,SNR=37					
TIGA	Tifton	94.55 317	eP	P	10 54 42.2	-1.2
	comp=Z,723nm,1.3s					
TIGA	Tifton	94.55 317	eP	P	10 54 42.2	-1.2
	comp=Z,723nm,1.3s					
TIGA			LR	LR		
	comp=Z,154µm,22.0s					
IMW	Indian Meadow	94.55 342	eP	P	10 54 44.2	+0.7
	comp=Z,669nm,1.5s					
IMW	Indian Meadow	94.55 342	eP	P	10 54 44.2	+0.7
	comp=Z,669nm,1.5s					
IMW			LR	LR		
	comp=Z,215µm,20.0s					
TBH	Brigand Hill	94.60 287	eP	P	10 54 46.3	+2.4
Q34A	Chapman	94.60 330	P	P	10 54 42.3	-1.2
	baz=30,SNR=68					
MOOW	Moose Ponds	94.64 342	eP	P	10 54 44.3	+0.4
	comp=Z,930nm,1.6s					
MOOW	Moose Ponds	94.64 342	eP	P	10 54 44.3	+0.4
	comp=Z,930nm,1.6s					
MOOW			LR	LR		
	comp=Z,264µm,21.0s					
OGNE	Ogallala	94.67 334	P	P	10 54 42.7	-1.1
	baz=26					
OGNE	Ogallala	94.67 334	eP	P	10 54 42.8	-1.1
	comp=Z,963nm,1.8s					
OGNE	Ogallala	94.67 334	eP	P	10 54 42.8	-1.1
	comp=Z,963nm,1.8s					
OGNE			LR	LR		
	comp=Z,160µm,19.0s					
U41A	Viola	94.69 325	P	P	10 54 42.7	-1.3
	baz=33,SNR=34					
F04D	Rainier, OR	94.70 351	P	P	10 54 43.4	-0.4
	baz=10,SNR=12					
W44A	Shelby Farms P	94.72 323	P	P	10 54 42.6	-1.4
	baz=35,SNR=19					
LOHW	Long Hollow	94.73 341	eP	P	10 54 44.6	+0.3
	comp=Z,968nm,1.6s					
LOHW	Long Hollow	94.73 341	eP	P	10 54 44.6	+0.3
	comp=Z,968nm,1.6s					
LOHW			LR	LR		
	comp=Z,219µm,20.0s					
TRN	Trinidad (W)	94.74 288	eP	P	10 54 47.4	+2.9
S37A	Fort Scott	94.75 328	P	P	10 54 42.4	-1.8
	baz=31,SNR=123					
T39A	Clever	94.76 327	P	P	10 54 42.6	-1.6
	baz=32,SNR=79					
F04A	Amboy	94.77 350	eP	P	10 54 43.7	-0.4
	comp=Z,344nm,1.3s					
F04A	Amboy	94.77 350	eP	P	10 54 43.7	-0.4
	comp=Z,344nm,1.3s					
HBAR	Harrisburg	94.77 324	eP	P	10 54 43.8	-0.5
	comp=Z,2µm,1.2s					
HBAR	Harrisburg	94.77 324	eP	P	10 54 43.8	-0.5
	comp=Z,2µm,1.2s					
HBAR			eS	S	11 05 53.6	-4.6
HBAR			LR	LR		
	comp=Z,129µm,20.0s					
Y47A	UCPARC, Winfie	94.78 321	P	P	10 54 42.4	-1.9
	baz=36,SNR=175					
MET	Memphis--Engin	94.79 323	eP	P	10 54 43.3	-1.1
	comp=Z,3µm,1.5s					
MET	Memphis--Engin	94.79 323	eP	P	10 54 43.3	-1.1
	comp=Z,3µm,1.5s					
MET			LR	LR		
	comp=Z,128µm,19.0s					
FXWY	Fox Creek	94.82 342	eP	P	10 54 45.4	+0.7
	comp=Z,604nm,1.5s					
FXWY	Fox Creek	94.82 342	eP	P	10 54 45.4	+0.7
	comp=Z,604nm,1.5s					
FXWY			LR	LR		
	comp=Z,233µm,21.0s					
R35A	Emporia Munici	94.82 329	P	P	10 54 42.8	-1.7
	baz=30,SNR=20					
V42A	Cord	94.90 325	P	P	10 54 43.7	-1.2
	baz=34,SNR=70					
SNOW	Snow King Moun	94.91 341	eP	P	10 54 45.7	+0.5
	comp=Z,768nm,1.5s					
SNOW	Snow King Moun	94.91 341	eP	P	10 54 45.7	+0.5
	comp=Z,768nm,1.5s					
SNOW			LR	LR		
	comp=Z,227µm,20.0s					
TPAW	Teton Pass	94.94 342	eP	P	10 54 45.7	+0.4
	comp=Z,1µm,1.6s					
TPAW	Teton Pass	94.94 342	eP	P	10 54 45.7	+0.4
	comp=Z,1µm,1.6s					
TPAW			LR	LR		
	comp=Z,237µm,21.0s					
TPP	Pointe-a-Pierr	94.99 287	eP	P	10 54 49.7	+4.1
BMO	Blue Mountains	95.01 346	eP	P	10 54 43.8	-1.6
BMO			pmax	pmax		
	comp=Z,258nm,1.5s					
BMO			MLR	MLR		
	comp=Z,140µm,19.0s					
BMO	Blue Mountains	95.01 346	eP	P	10 54 43.8	-1.6
	comp=Z,258nm,1.5s					
BMO	Blue Mountains	95.01 346	eP	P	10 54 43.8	-1.6
	comp=Z,258nm,1.5s					
BMO			LR	LR		
	comp=Z,140µm,19.0s					
REDW	Red Top Meadow	95.03 341	eP	P	10 54 46.0	+0.3
	comp=Z,1µm,1.5s					
REDW	Red Top Meadow	95.03 341	eP	P	10 54 46.0	+0.3
	comp=Z,1µm,1.5s					
REDW			LR	LR		
	comp=Z,241µm,20.0s					
OXF	Oxford	95.04 323	eP	P	10 54 43.4	-2.1
OXF			pmax	pmax		
	comp=Z,683nm,1.2s					
OXF			MLR	MLR		
	comp=Z,152µm,18.0s					
OXF	Oxford	95.04 323	eP	P	10 54 43.4	-2.1
	comp=Z,683nm,1.2s					
OXF	Oxford	95.04 323	eP	P	10 54 43.4	-2.1
	comp=Z,683nm,1.2s					
OXF			LR	LR		
	comp=Z,152µm,18.0s					
LRAL	Lakeview Retre	95.06 320	eP	P	10 54 44.1	-1.5
	comp=Z,974nm,1.4s					
LRAL	Lakeview Retre	95.06 320	eP	P	10 54 44.1	-1.5
	comp=Z,974nm,1.4s					
LRAL			LR	LR		
	comp=Z,127µm,21.0s					
Z48A	Northport	95.06 321	P	P	10 54 44.0	-1.7
	baz=36,SNR=116					
S36A	Lake Cedric, C	95.09 329	P	P	10 54 43.9	-1.8
	baz=31,SNR=111					
U40A	Yellville	95.09 326	P	P	10 54 44.2	-1.5
	baz=33,SNR=134					
X45A	UM Field Stati	95.11 323	P	P	10 54 44.1	-1.8
	baz=35,SNR=107					
T38A	Diamond	95.14 327	P	P	10 54 44.5	-1.5
	baz=32,SNR=276					
W43A	Forest City	95.18 324	P	P	10 54 45.1	-1.0
	baz=34,SNR=9.8					
G06A	Carlson Farm,	95.19 349	eP	P	10 54 45.5	-0.6
	comp=Z,222nm,1.3s					
G06A	Carlson Farm,	95.19 349	eP	P	10 54 45.5	-0.6
	comp=Z,222nm,1.3s					
VTHM	Trough	95.24 349	P	P	10 54 46.3	0.0
VTHM	Trough	95.24 349	P	P	10 54 46.3	0.0
FITZ	Fitzroy Crossi	95.24 109	P	P	10 54 45.9	-0.7
	comp=Z,25nm,0.8s,baz=335,slow=7.1,SNR=30					
FITZ			PP	PP	10 58 41.1	+4.2
	comp=Z,17nm,1.0s,baz=316,slow=6.9,SNR=3.7					
FITZ			LR	LR	11 43 06.0	
	comp=Z,23µm,18.3s,baz=305,slow=39					
FITZ	Fitzroy Crossi	95.24 109	eP	P	10 54 44.7	-1.9
FITZ	Fitzroy Crossi	95.24 109	eP	P	10 54 44.7	-1.9
FITZ			PP	PP	10 58 41.1	+4.2
R34A	Isabella, Hill	95.25 330	P	P	10 54 45.1	-1.4
	baz=30,SNR=147					
V41A	Mountainview	95.26 325	P	P	10 54 44.7	-1.8
	baz=33,SNR=75					
BW06	Boulder Array	95.26 340	P	P	10 54 45.7	-1.1
	baz=21					
BW06	Boulder Array	95.26 340	eP	P	10 54 45.8	-0.9
	comp=Z,348nm,1.5s					
BW06	Boulder Array	95.26 340	eP	P	10 54 45.8	-0.9
	comp=Z,348nm,1.5s					
BW06			LR	LR		
	comp=Z,193µm,19.0s					
PD31	Pinedale Array	95.26 340	eP	P	10 54 45.6	-1.1
PD31	Pinedale Array	95.26 340	eP	P	10 54 45.6	-1.1
PDAR	Pinedale Array	95.26 340	P	P	10 54 45.6	-1.1
	comp=Z,52nm,1.0s,baz=24,slow=2.0,SNR=176					
PDAR			PP	PP	10 58 36.2	+0.6
	comp=Z,27nm,1.1s,baz=20,slow=4.7,SNR=5.4					
PDAR			PKKPbc	PKKPbc	11 11 39.3	0.0
	comp=Z,5.5nm,0.7s,baz=177,slow=3.2,SNR=16					
PDAR			PKPPKP	P'P'df	11 19 29.6	-29
	comp=Z,0.9nm,0.9s,baz=112,slow=4.0,SNR=4.1					
PDAR			LR	LR	11 41 14.1	
	comp=Z,164µm,19.0s,baz=30,slow=38					
G05D	Wamic, OR	95.29 349	P	P	10 54 46.2	-0.3
	baz=12,SNR=30					
Y46A	Houston	95.29 322	P	P	10 54 44.8	-1.9
	baz=35,SNR=200					
T37A	Cheneyville 18	95.32 328	P	P	10 54 45.0	-1.8
	baz=31,SNR=68					
U39A	Green Forest	95.34 326	P	P	10 54 45.2	-1.7
	baz=32,SNR=199					
SMPI	Sarmi	95.35 88	P	P	10 54 46.8	-0.4
W42A	Bald Knob	95.40 324	P	P	10 54 45.7	-1.4
	baz=34,SNR=26					
X44A	Crenshaw	95.40 323	P	P	10 54 45.9	-1.3
	baz=34,SNR=40					
S35A	Otter Creek Ra	95.42 329	P	P	10 54 45.9	-1.4
	baz=30,SNR=123					
PHWY	Pilot Hill	95.45 337	eP	P	10 54 46.8	-0.9
	comp=Z,522nm,1.4s					
PHWY	Pilot Hill	95.45 337	eP	P	10 54 46.8	-0.9
	comp=Z,522nm,1.4s					
PHWY			LR	LR		
	comp=Z,151µm,20.0s					
Z47A	Carrollton	95.46 321	P	P	10 54 45.6	-1.9
	baz=36,SNR=121					
G04A	Mulino	95.49 350	eP	P	10 54 47.2	-0.2
G04A	Mulino	95.49 350	eP	P	10 54 47.2	-0.2
V40A	Witts Springs	95.54 326	P	P	10 54 46.3	-1.6
	baz=33,SNR=46					
G03D	McMinnville, O	95.59 351	P	P	10 54 47.7	-0.2
	baz=10,SNR=33					
RWWY	Rawlins	95.61 338	eP	P	10 54 47.7	-0.7
	comp=Z,645nm,1.5s					
RWWY	Rawlins	95.61 338	eP	P	10 54 47.7	-0.7
	comp=Z,645nm,1.5s					
RWWY			LR	LR		
	comp=Z,222µm,20.0s					
HHAR	Hobbs	95.62 327	eP	P	10 54 46.8	-1.4
	comp=Z,236nm,1.4s					
HHAR	Hobbs	95.62 327	eP	P	10 54 46.8	-1.4
	comp=Z,236nm,1.4s					
HHAR			LR	LR		
	comp=Z,145µm,19.0s					
Y45A	Yeager Farm, C	95.63 322	P	P	10 54 46.7	-1.5
	baz=35,SNR=158					
SDD	Santo Domingo	95.64 299	eP	P	10 54 47.9	-0.6
	comp=Z,412nm,1.2s					
SDD	Santo Domingo	95.64 299	eP	P	10 54 47.9	-0.6
	comp=Z,412nm,1.2s					
SDD			LR	LR		
	comp=Z,49µm,20.0s					
HLID	Hailey	95.67 344	P	P	10 54 47.7	-0.8
	baz=17					
HLID	Hailey	95.67 344	eP	P	10 54 47.8	-0.7
	comp=Z,96nm,1.3s					
HLID	Hailey	95.67 344	eP	P	10 54 47.8	-0.7
	comp=Z,96nm,1.3s					
HLID			LR	LR		
	comp=Z,128µm,19.0s					
U38A	Gravette	95.68 327	P	P	10 54 46.7	-1.8
	baz=32,SNR=205					
S34A	Willow Spring	95.72 330	P	P	10 54 47.2	-1.4
	baz=30,SNR=35					
X43A	Marvell	95.73 324	P	P	10 54 47.5	-1.1
	baz=34					
WHAR	Wooly Hollow	95.73 325	eP	P	10 54 47.2	-1.5
	comp=Z,514nm,1.7s					
WHAR	Wooly Hollow	95.73 325	eP	P	10 54 47.2	-1.5
	comp=Z,514nm,1.7s					
CBKS	Cedar Bluff	95.75 332	P	P	10 54 47.2	-1.6
	baz=28					
CBKS	Cedar Bluff	95.75 332	eP	P	10 54 47.8	-1.0
CBKS			pmax	pmax		
	comp=Z,889nm,1.2s					
CBKS			MLR	MLR		
	comp=Z,266µm,20.0s					
CBKS	Cedar Bluff	95.75 332	eP	P	10 54 47.8	-1.0

comp=Z,889nm,1.2s
CBKS Cedar Bluff 95.75 332 eP P 10 54 47.8 -1.0
comp=Z,889nm,1.2s
CBKS LR LR
comp=Z,266µm,20.0s
T36A Boggs Farm, Ca 95.78 328 P **P 10 54 47.2 -1.7**
baz=31,SNR=84
W41B Gary Mavity, V 95.81 325 P **P 10 54 47.3 -1.7**
baz=33,SNR=59
X301 Greenbrier Sit 95.82 325 eP **P 10 54 47.5 -1.6**
comp=Z,369nm,1.6s
X301 Greenbrier Sit 95.82 325 eP **P 10 54 47.5 -1.6**
comp=Z,369nm,1.6s
X301 LR LR
comp=Z,125µm,22.0s
V39A Pettigrew 95.87 326 P **P 10 54 47.6 -1.8**
baz=32,SNR=74
Y44A Strider, Charl 95.87 323 P **P 10 54 47.8 -1.6**
baz=34,SNR=16
Z46A Louisville 95.89 321 P **P 10 54 47.9 -1.6**
baz=35,SNR=44
DWPF Disney Wildern 95.92 313 eP **P 10 54 48.8 -0.8**
comp=Z,521nm,1.4s
DWPF Disney Wildern 95.92 313 eP **P 10 54 48.8 -0.8**
comp=Z,521nm,1.4s
DWPF LR LR
comp=Z,69µm,18.0s
N23A Red Feather La 95.97 337 P **P 10 54 49.3 -0.8**
baz=24
N23A Red Feather La 95.97 337 eP **P 10 54 49.5 -0.6**
comp=Z,352nm,1.3s
N23A Red Feather La 95.97 337 eP **P 10 54 49.5 -0.6**
comp=Z,352nm,1.3s
N23A LR LR
comp=Z,154µm,21.0s
147A Livingston 95.98 321 P **P 10 54 48.0 -1.9**
baz=36,SNR=101
U37A Salina 96.02 328 P **P 10 54 48.2 -1.8**
baz=31,SNR=144
X42A Stuttgart 96.04 324 P **P 10 54 48.4 -1.7**
baz=34,SNR=32
MFID Camas Ranch 96.11 345 eP **P 10 54 50.0 -0.4**
comp=Z,273nm,1.0s
MFID Camas Ranch 96.11 345 eP **P 10 54 50.0 -0.4**
comp=Z,273nm,1.0s
MFID LR LR
comp=Z,159µm,20.0s
Z45A Winona 96.11 322 P **P 10 54 48.7 -1.7**
baz=35,SNR=39
MTN Manton Dam 96.13 101 eP **P 10 54 48.4 -2.3**
comp=Z,298nm,1.4s
MTN Manton Dam 96.13 101 eP **P 10 54 48.4 -2.3**
comp=Z,298nm,1.4s
T35A Sooner Cattle 96.16 329 P **P 10 54 49.2 -1.4**
baz=30,SNR=62
W40A Ferguson Farm, 96.16 325 P **P 10 54 49.3 -1.3**
baz=33,SNR=39
I05D Terrebonne, OR 96.18 349 P **P 10 54 50.4 -0.2**
baz=12,SNR=37
V38A Canehill 96.18 327 P **P 10 54 48.8 -2.0**
baz=32,SNR=71
248A Dixon Mills 96.18 320 P **P 10 54 49.5 -1.3**
baz=36,SNR=118
UALR University of 96.19 325 eP **P 10 54 48.8 -1.9**
comp=Z,245nm,1.4s
UALR University of 96.19 325 eP **P 10 54 48.8 -1.9**
comp=Z,245nm,1.4s
COR Corvallis 96.21 351 eP **P 10 54 50.8 +0.1**
COR pmax pmax
comp=Z,859nm,1.5s
COR MLR MLR
comp=Z,117µm,21.0s
COR Corvallis 96.21 351 eP **P 10 54 50.8 +0.1**
comp=Z,859nm,1.5s
COR Corvallis 96.21 351 eP **P 10 54 50.8 +0.1**
comp=Z,859nm,1.5s
COR LR LR
comp=Z,117µm,21.0s
SDDR Presa de Saban 96.21 300 eP **P 10 54 50.3 -1.0**
SDDR Presa de Saban 96.21 300 eP **P 10 54 51.2 0.0**
comp=Z,417nm,1.4s
SDDR Presa de Saban 96.21 300 eP **P 10 54 51.1 0.0**
comp=Z,417nm,1.4s
SDDR LR LR
comp=Z,60µm,20.0s
Y43A Makayla and Ka 96.25 323 P **P 10 54 49.8 -1.3**
baz=34,SNR=5.5
U36A Oologah 96.29 328 P **P 10 54 49.5 -1.7**
baz=31,SNR=31
T34A McClaskey Farm 96.34 329 P **P 10 54 50.1 -1.4**
baz=30,SNR=138
146A Union 96.40 321 P **P 10 54 50.3 -1.5**
baz=35,SNR=178
BEI Bear River Ran 96.44 342 eP **P 10 54 52.9 +0.9**
BEI Bear River Ran 96.44 342 eP **P 10 54 52.9 +0.9**
BMUT Black Mountain 96.45 341 eP **P 10 54 52.8 +0.6**
BMUT Black Mountain 96.45 341 eP **P 10 54 52.8 +0.6**
W39A Magazine 96.47 326 P **P 10 54 50.1 -1.9**
baz=32,SNR=39
V37A Hulbert 96.47 327 P **P 10 54 50.0 -2.1**
baz=31,SNR=82
X41A Kaden, Bauxite 96.50 325 P **P 10 54 50.0 -2.2**
baz=33,SNR=10
Z44A Pea Ridge, Bel 96.54 323 P **P 10 54 50.5 -1.9**
baz=34,SNR=33
BRAL Brewton 96.58 319 eP **P 10 54 52.2 -0.4**
comp=Z,1µm,1.4s
KSCO Kaye Shedlock' 96.60 334 P **P 10 54 51.8 -1.0**
baz=26
KSCO Kaye Shedlock' 96.60 334 eP **P 10 54 51.9 -0.9**
comp=Z,553nm,1.4s
KSCO Kaye Shedlock' 96.60 334 eP **P 10 54 51.9 -0.9**
comp=Z,553nm,1.4s
KSCO LR LR
comp=Z,216µm,20.0s
CCAR Cane Creek 96.64 324 eP **P 10 54 51.9 -0.9**
comp=Z,423nm,1.2s
CCAR Cane Creek 96.64 324 eP **P 10 54 51.9 -0.9**
comp=Z,423nm,1.2s
X40A Basin Creek Fa 96.65 325 P **P 10 54 50.9 -1.9**
baz=33,SNR=36
247A Quitman 96.65 321 P **P 10 54 51.8 -1.2**
baz=36,SNR=118
Y42A Garnett, Star 96.71 324 P **P 10 54 52.0 -1.2**
baz=34,SNR=49
U35A Pawnee 96.72 329 P **P 10 54 52.1 -1.1**
baz=30,SNR=40
TUL1 Leonard 96.72 328 P **P 10 54 51.6 -1.6**
baz=31,SNR=161
TUL1 Leonard 96.72 328 eP **P 10 54 51.6 -1.6**
comp=Z,459nm,1.3s
TUL1 Leonard 96.72 328 eP **P 10 54 51.6 -1.6**
comp=Z,459nm,1.3s
TUL1 LR LR
comp=Z,123µm,18.0s
348A Jackson 96.81 320 P **P 10 54 53.2 -0.5**
baz=36,SNR=128
145A Houston Renfro 96.85 322 P **P 10 54 52.6 -1.3**
baz=35,SNR=66
GENI Genyem 96.86 88 P **P 10 54 51.7 -2.4**
HWUT Hardware Ranch 96.86 341 eP **P 10 54 53.7 -0.3**
comp=Z,991nm,1.8s
HWUT Hardware Ranch 96.86 341 eP **P 10 54 53.6 -0.3**
comp=Z,991nm,1.8s
ISCO Idaho Springs 96.87 336 P **P 10 54 53.4 -0.8**
baz=24
ISCO Idaho Springs 96.87 336 eP **P 10 54 53.2 -1.0**
ISCO pmax pmax
comp=Z,190nm,1.5s
ISCO MLR MLR
comp=Z,220µm,21.0s
ISCO Idaho Springs 96.87 336 eP **P 10 54 53.2 -1.0**
comp=Z,190nm,1.5s
ISCO Idaho Springs 96.87 336 eP **P 10 54 53.2 -1.0**
comp=Z,190nm,1.5s
ISCO LR LR
comp=Z,220µm,21.0s
V36A Jenks 96.89 328 P **P 10 54 52.3 -1.7**
baz=31,SNR=63
W38A Poteau 96.90 326 P **P 10 54 52.8 -1.2**
baz=32,SNR=72
MIAR Mount Ida 96.93 325 P **P 10 54 52.9 -1.2**
baz=32,SNR=110
MIAR Mount Ida 96.93 325 eP **P 10 54 53.1 -1.1**
MIAR pmax pmax
comp=Z,184nm,1.1s
MIAR MLR MLR
comp=Z,126µm,20.0s
MIAR Mount Ida 96.93 325 eP **P 10 54 53.1 -1.1**
comp=Z,26µm,20.0s
MIAR Mount Ida 96.93 325 eP **P 10 54 53.0 -1.1**
comp=Z,184nm,1.1s
MIAR LR LR
comp=Z,126µm,20.0s
246A Jackson Lee, B 96.94 321 P **P 10 54 53.2 -1.0**
baz=35,SNR=14
WVUT Wellsville 96.96 342 eP **P 10 54 55.1 +0.7**
WVUT Wellsville 96.96 342 eP **P 10 54 55.1 +0.7**
Z43A Armstrong Fami 96.98 323 P **P 10 54 52.8 -1.6**
baz=34,SNR=7.1
MTUT Morton Thiokol 96.98 342 eP **P 10 54 54.4 0.0**
MTUT Morton Thiokol 96.98 342 eP **P 10 54 54.4 0.0**
MCU Monte Cristo P 96.98 341 eP **P 10 54 54.4 -0.3**
MCU Monte Cristo P 96.98 341 eP **P 10 54 54.4 -0.3**
HVU Hansel Valley 96.99 342 eP **P 10 54 54.4 -0.1**
HVU pmax pmax
comp=Z,642nm,1.8s
HVU Hansel Valley 96.99 342 eP **P 10 54 54.4 -0.1**
comp=Z,642nm,1.8s
HVU Hansel Valley 96.99 342 eP **P 10 54 54.4 -0.1**
comp=Z,642nm,1.8s
LTU Little Mountai 97.04 342 eP **P 10 54 54.8 0.0**
LTU Little Mountai 97.04 342 eP Pdif 10 54 54.8 0.0
Y41A Eaglette Beard 97.05 324 P **P 10 54 53.7 -1.1**
baz=33,SNR=46
144A Alexander Plac 97.06 322 P **P 10 54 53.8 -1.0**
baz=34,SNR=5.3
I03D Drain, OR 97.09 350 P **P 10 54 54.4 -0.2**
baz=10,SNR=29
GZU Grizzly Peak 97.13 342 eP **P 10 54 54.9 -0.4**
GZU Grizzly Peak 97.13 342 eP **P 10 54 54.9 -0.4**
347A Saraland 97.14 320 P **P 10 54 54.9 -0.2**
baz=36,SNR=254
448A Bay Minette 97.18 319 P **P 10 54 54.8 -0.6**
baz=36,SNR=18
J05D Fort Rock, OR 97.19 349 P **P 10 54 54.9 -0.5**
baz=12,SNR=50
X39A Fountain Ranch 97.20 326 P **P 10 54 54.2 -1.1**
baz=32,SNR=51
JAY Jayapura 97.23 87 P **P 10 54 54.8 -1.0**
comp=Z,50nm,1.0s,baz=274,slow=4.6,SNR=16
JAY PP **PP 10 58 55.8 +3.6**
comp=Z,14nm,1.0s,baz=346,slow=3.0,SNR=6.1
JAY LR LR 11 44 51.8
comp=Z,15µm,20.1s,baz=296,slow=39
JAY Jayapura 97.23 87 P **P 10 54 55.8 -0.1**
comp=Z,795nm,1.9s,comp=Z,40µm
W37B Quinton 97.23 327 P **P 10 54 54.0 -1.6**
baz=31,SNR=34
Y40A Okolona 97.25 325 P **P 10 54 55.0 -0.6**
baz=33,SNR=23
Z42A Norrel Spur, H 97.25 324 P **P 10 54 54.6 -1.0**
baz=34,SNR=39
TCUT Toone Canyon 97.28 341 eP **P 10 54 55.7 -0.3**
comp=Z,1µm,1.7s
TCUT Toone Canyon 97.28 341 eP **P 10 54 55.7 -0.3**
comp=Z,1µm,1.7s
V35A Meyer Ranch, C 97.28 328 P **P 10 54 54.5 -1.3**
baz=30,SNR=38
245A Little AP, Sta 97.30 321 P **P 10 54 55.1 -0.7**
baz=35,SNR=18
O20A White River Ci 97.35 338 P **P 10 54 55.5 -0.7**
baz=22
O20A White River Ci 97.35 338 eP **P 10 54 55.5 -0.7**
comp=Z,347nm,1.5s
O20A White River Ci 97.35 338 eP **P 10 54 55.5 -0.7**
comp=Z,347nm,1.5s
O20A LR LR
comp=Z,248µm,20.0s
SPUT South Promonto 97.36 342 eP Pdif 10 54 56.3 0.0
comp=Z,829nm,1.7s
SPUT South Promonto 97.36 342 eP Pdif 10 54 56.3 0.0
comp=Z,829nm,1.7s
J04D Umpqua Nationa 97.36 349 P **P 10 54 55.7 -0.5**
baz=11,SNR=26
X38A Whitesboro 97.37 326 P **P 10 54 55.4 -0.8**
baz=32,SNR=82
WLAR White Oak Lake 97.44 325 PFAKE 10 55 10.0 +13
WLAR LR LR
comp=Z,117µm,19.0s
PCRV Puerto La Cruz 97.45 289 P **P 10 54 55.5 -1.4**
comp=Z,16nm,1.1s,baz=19,slow=16,SNR=3.1
VBMS Vicksburg 97.45 322 P **P 10 54 56.1 -0.4**
baz=34,SNR=38
VBMS Vicksburg 97.45 322 eP **P 10 54 55.8 -0.7**
comp=Z,903nm,1.4s
VBMS Vicksburg 97.45 322 eP **P 10 54 55.8 -0.7**
comp=Z,903nm,1.4s
VBMS LR LR
comp=Z,116µm,19.0s
143A Socs Landing, 97.47 323 P **P 10 54 55.7 -0.9**
baz=34,SNR=34
Q24A Divide 97.48 336 P **P 10 54 55.7 -1.3**
baz=24
Q24A Divide 97.48 336 eP **P 10 54 56.0 -1.0**
comp=Z,287nm,1.4s
Q24A Divide 97.48 336 eP **P 10 54 56.0 -1.0**
comp=Z,287nm,1.4s
Q24A LR LR
comp=Z,204µm,20.0s
W36A Wetumka 97.57 328 P **P 10 54 55.9 -1.1**
baz=31,SNR=19
WVOR Wild Horse Val 97.59 347 eP **P 10 54 56.8 -0.4**
WVOR pmax pmax
comp=Z,167nm,1.3s
WVOR MLR MLR
comp=Z,179µm,19.0s
WVOR Wild Horse Val 97.59 347 eP **P 10 54 56.8 -0.4**
comp=Z,167nm,1.3s
WVOR Wild Horse Val 97.59 347 eP **P 10 54 56.8 -0.4**
comp=Z,167nm,1.3s
WVOR LR LR
comp=Z,179µm,19.0s
U32A Winter Ranch, 97.61 330 P **P 10 54 56.4 -0.9**
baz=29
346A Big Creek Wild 97.61 321 P **P 10 54 57.0 -0.2**
baz=35,SNR=60
Z41A Richland Creek 97.66 324 P **P 10 54 56.5 -0.9**
baz=33,SNR=17
Y39A Lockesburg 97.67 326 P **P 10 54 56.3 -1.2**
baz=32,SNR=36
244A Avery, Jackson 97.67 322 P **P 10 54 56.9 -0.6**
baz=34,SNR=98
X37A Clayton 97.67 327 P **P 10 54 56.3 -1.3**
baz=31,SNR=70
447A Lucedale 97.69 320 P **P 10 54 57.3 -0.3**
baz=36,SNR=27
KLJ Keetly 97.74 341 eP **P 10 54 58.0 0.0**
KLJ Keetly 97.74 341 eP Pdif 10 54 58.0 0.0
CTU Camp Tracy 97.77 341 eP **P 10 54 57.5 -0.6**
comp=Z,100nm,1.0s
CTU Camp Tracy 97.77 341 eP **P 10 54 57.5 -0.6**
comp=Z,100nm,1.0s
JLU Jordanelle 97.78 341 eP **P 10 54 58.2 0.0**
comp=Z,311nm,1.5s
JLU Jordanelle 97.78 341 eP **P 10 54 58.2 0.0**
comp=Z,311nm,1.5s
W35A Tecumseh 97.83 328 P **P 10 54 56.9 -1.3**
baz=30
142A Monroe 97.85 323 P **P 10 54 57.7 -0.6**
baz=34,SNR=16
SMCO Snowmass 97.86 337 eP **P 10 54 58.1 -0.7**
comp=Z,228nm,1.6s
SMCO Snowmass 97.86 337 eP **P 10 54 58.1 -0.7**
comp=Z,228nm,1.6s
SMCO LR LR
comp=Z,214µm,22.0s
BGU Big Grassy Mou 97.86 342 eP **P 10 54 58.3 -0.2**
comp=Z,149nm,1.4s
BGU Big Grassy Mou 97.86 342 eP **P 10 54 58.3 -0.2**
comp=Z,149nm,1.4s
GMU Granite Mounta 97.88 341 eP **P 10 54 58.6 0.0**
GMU Granite Mounta 97.88 341 eP **P 10 54 58.6 0.0**
K04D Chiloquin, OR 97.92 349 P **P 10 54 58.5 -0.1**
baz=12,SNR=6.7
Z40A Long Farm, Mag 97.93 325 P **P 10 54 58.3 -0.4**
baz=33,SNR=14
345A Thompson Farm, 97.96 321 P **P 10 54 58.4 -0.5**
baz=35,SNR=20
Y38A Idabel 97.96 326 P **P 10 54 57.5 -1.3**
baz=32,SNR=25
KEBM Edson Butte 98.02 351 eP **P 10 54 58.8 -0.2**
comp=Z,564nm,1.2s
KEBM Edson Butte 98.02 351 eP **P 10 54 58.8 -0.2**
comp=Z,564nm,1.2s
KEBM LR LR
comp=Z,132µm,21.0s
446A Poplarville 98.05 320 P **P 10 54 59.0 -0.3**
baz=35,SNR=37
GTBY Guantanamo Bay 98.09 303 eP **P 10 54 59.3 -0.3**
comp=Z,410nm,1.6s
GTBY Guantanamo Bay 98.09 303 eP **P 10 54 59.3 -0.3**
comp=Z,410nm,1.6s
GTBY LR LR
comp=Z,61µm,21.0s
HUMO Hull Mountain 98.11 350 eP **P 10 54 59.2 -0.2**
comp=Z,446nm,1.8s
HUMO Hull Mountain 98.11 350 eP **P 10 54 59.1 -0.2**
comp=Z,446nm,1.8s
HUMO LR LR
comp=Z,133µm,21.0s
X36A Centrahoma 98.11 327 P **P 10 54 58.0 -1.4**
baz=30
344A Westbrook Farm 98.18 322 P **P 10 54 59.5 -0.3**
baz=34,SNR=40
243A Waterproof 98.19 323 P **P 10 54 58.9 -0.9**
baz=34,SNR=11
141A Papa Simpson, 98.25 324 P **P 10 54 59.6 -0.5**
baz=33
Z39A Irene McRaven, 98.30 325 P **P 10 54 59.7 -0.7**
baz=32,SNR=6.6
Y37A Hugo 98.30 327 P **P 10 54 59.7 -0.7**
baz=31,SNR=48
242A Grayson 98.36 323 P **P 10 55 00.1 -0.5**
baz=34,SNR=22
P18A Preston Nutter 98.38 340 eP **P 10 55 00.6 -0.4**
comp=Z,331nm,1.5s
P18A Preston Nutter 98.38 340 eP **P 10 55 00.6 -0.4**
comp=Z,331nm,1.5s
MPU Maple Canyon 98.38 341 eP **P 10 55 00.7 -0.2**
comp=Z,188nm,1.2s
MPU Maple Canyon 98.38 341 eP **P 10 55 00.7 -0.2**
comp=Z,188nm,1.2s
MOD Modoc Plateau 98.39 348 eP **P 10 55 00.6 -0.2**
comp=Z,184nm,1.3s
MOD Modoc Plateau 98.39 348 eP **P 10 55 00.7 -0.2**
comp=Z,184nm,1.3s
MOD LR LR
comp=Z,85µm,19.0s
DUG Dugway, Tooele 98.50 342 P **P 10 55 01.0 -0.3**
baz=18
DUG Dugway, Tooele 98.50 342 eP **P 10 55 01.3 -0.1**
DUG pmax pmax
comp=Z,481nm,1.5s
DUG MLR MLR
comp=Z,154µm,20.0s
DUG Dugway, Tooele 98.50 342 eP **P 10 55 01.2 -0.1**
comp=Z,481nm,1.5s
DUG Dugway, Tooele 98.50 342 eP **P 10 55 01.2 -0.1**
comp=Z,481nm,1.5s
DUG LR LR
comp=Z,154µm,20.0s
X35A Drake 98.52 328 P **P 10 54 60.0 -1.3**
baz=30
140A Cam and Jess, 98.53 324 P **P 10 55 01.2 -0.2**
baz=32,SNR=8.0
ELK Elko 98.54 344 P Pdif 10 55 02.6 +1.0
comp=Z,48nm,1.1s,baz=47,slow=4.2,SNR=150
ELK PP **PP 10 58 56.8 -4.2**
comp=Z,9.5nm,1.1s,baz=52,slow=8.2,SNR=4.0
ELK LR LR 11 42 48.6
comp=Z,143µm,18.1s,baz=59,slow=37
NLU North Lily Min 98.55 341 eP **P 10 55 01.6 0.0**
comp=Z,255nm,1.6s
NLU North Lily Min 98.55 341 eP Pdif 10 55 01.6 0.0
comp=Z,255nm,1.6s
445A Amite 98.58 321 P **P 10 55 01.1 -0.5**
baz=35,SNR=24
L02D Cave Junction, 98.63 350 P **P 10 55 01.5 -0.2**
baz=10,SNR=14
Z38A Mt. Pleasant 98.64 326 P **P 10 55 01.2 -0.7**
baz=32,SNR=10
P17A Butcher Ranch, 98.65 340 eP **P 10 55 01.3 -0.8**
comp=Z,315nm,1.7s
P17A Butcher Ranch, 98.65 340 eP **P 10 55 01.3 -0.8**
comp=Z,315nm,1.7s
Y36A Durant 98.65 327 P **P 10 55 00.6 -1.3**
baz=31
KBO Bosley Butte 98.66 351 eP **P 10 55 01.3 -0.6**
comp=Z,339nm,1.4s
KBO Bosley Butte 98.66 351 eP **P 10 55 01.3 -0.6**
comp=Z,339nm,1.4s
KBO LR LR
comp=Z,171µm,22.0s
546A Slidell 98.68 320 P Pdif 10 55 02.5 +0.4
baz=35,SNR=13
SDCO Great Sand Dun 98.71 336 P **P 10 55 01.0 -1.5**
baz=24
SDCO Great Sand Dun 98.71 336 eP **P 10 55 01.0 -1.5**
comp=Z,128nm,1.6s
SDCO Great Sand Dun 98.71 336 eP **P 10 55 01.0 -1.5**
comp=Z,128nm,1.6s
SDCO LR LR
comp=Z,189µm,19.0s
241A Mo Tay, Goldon 98.75 324 P **P 10 55 02.3 0.0**
baz=33,SNR=20
343A Vidalia 98.75 322 P **P 10 55 01.3 -1.1**
baz=34
M04C Macdoel 98.75 349 P **P 10 55 01.9 -0.5**
baz=12,SNR=11
444A Pine Grove 98.79 321 P **P 10 55 02.2 -0.4**
baz=34
NWAO Narrogin (SRO) 98.83 125 P **P 10 55 01.9 -0.6**
comp=Z,160nm,1.3s,baz=167,slow=5.2,SNR=12
NWAO PKKP **PKKPbc 11 11 31.6 +2.0**
comp=Z,8.5nm,0.3s,baz=3.2,slow=2.8,SNR=4.2
NWAO Narrogin (SRO) 98.83 125 eP **P 10 55 01.1 -1.4**
comp=Z,322nm,0.3s
NWAO PKKP **PKKPbc 11 11 31.6 +2.0**
NWAO LR LR
comp=Z,91µm,18.0s
139A Bunkhouse Ranc 98.87 325 P **P 10 55 02.0 -0.8**
baz=32,SNR=6.0
T25A Trinidad 98.90 335 P **P 10 55 02.0 -1.2**
baz=25
T25A Trinidad 98.90 335 eP **P 10 55 01.9 -1.3**
comp=Z,210nm,1.7s
T25A Trinidad 98.90 335 eP **P 10 55 01.9 -1.3**
comp=Z,210nm,1.7s
T25A LR LR
comp=Z,188µm,19.0s
YBH Yreka Blue Hor 98.93 350 LR LR 11 41 51.4
comp=Z,38µm,20.0s,baz=2.0,slow=37
YBH Yreka Blue Hor 98.93 350 PFAKE 10 55 10.0 +6.8
YBH LR LR
comp=Z,128µm,20.0s
SRU San Rafael Swe 98.94 340 eP **P 10 55 02.4 -1.0**
SRU pmax pmax
comp=Z,254nm,1.4s
SRU San Rafael Swe 98.94 340 eP **P 10 55 02.4 -1.0**
comp=Z,254nm,1.4s
SRU San Rafael Swe 98.94 340 eP **P 10 55 02.4 -1.0**
comp=Z,254nm,1.4s
TMUT Trail Mountain 98.94 340 eP **P 10 55 03.3 -0.2**
comp=Z,164nm,1.1s
TMUT Trail Mountain 98.94 340 eP **P 10 55 03.3 -0.2**
comp=Z,164nm,1.1s
WMOK Wichita Mounta 98.96 329 P **P 10 55 02.1 -1.2**
baz=29
WMOK Wichita Mounta 98.96 329 eP **P 10 55 02.4 -0.9**
WMOK pmax pmax
comp=Z,456nm,1.9s
WMOK MLR MLR
comp=Z,153µm,18.0s
WMOK Wichita Mounta 98.96 329 eP **P 10 55 02.4 -0.9**
comp=Z,456nm,1.9s
WMOK Wichita Mounta 98.96 329 eP **P 10 55 02.4 -0.9**
comp=Z,456nm,1.9s
WMOK LR LR
comp=Z,153µm,18.0s
Y35A Marietta 98.97 328 P **P 10 55 02.0 -1.3**
baz=30
Z37A Pogue Cattle C 98.97 326 P **P 10 55 02.5 -0.9**
baz=31,SNR=13
MHTCO State Highway 99.00 335 eP 10 55 02.7
comp=Z,262nm,1.4s
342A Flagon Creek P 99.01 323 P **Pdif 10 55 03.2 -0.4**
baz=33,SNR=33
SNO Snow College 99.01 341 eP **Pdif 10 55 04.2 +0.4**
SNO Snow College 99.01 341 eP **Pdif 10 55 04.2 +0.4**
PV09 Paradox Valley 99.12 339 eP **Pdif 10 55 04.2 -0.1**
PV09 Paradox Valley 99.12 339 eP **Pdif 10 55 04.2 -0.1**
240A Hunter Patters 99.12 324 P **Pdif 10 55 03.3 -0.7**

baz=32,SNR=5.6
S22A 4UR Ranch, Cre 99.13 337 P Pdif 10 55 03.4 -0.9
baz=23
S22A 4UR Ranch, Cre 99.13 337 *e*P **Pdif 10 55 03.7 -0.7**
comp=Z,236nm,1.6s
S22A 4UR Ranch, Cre 99.13 337 *e*P **Pdif 10 55 03.6 -0.7**
comp=Z,236nm,1.6s
S22A LR LR
comp=Z,254μm,20.0s
PV04 Paradox Valley 99.15 338 *e*P **Pdif 10 55 03.8 -0.5**
PV04 Paradox Valley 99.15 338 *e*P **Pdif 10 55 03.8 -0.5**
138A Matatall Enter 99.19 326 P **Pdif 10 55 03.9 -0.4**
baz=32
545A Edgard 99.22 321 P **Pdif 10 55 04.4 -0.1**
baz=35
443A Delano Plantat 99.25 322 P **Pdif 10 55 04.6 -0.1**
baz=34,SNR=11
BMN Battle Mountai 99.26 345 *e*P **Pdif 10 55 04.8 +0.1**
BMN pmax pmax
comp=Z,83nm,1.1s
BMN MLR MLR
comp=Z,116μm,20.0s
BMN Battle Mountai 99.26 345 *e*P **Pdif 10 55 04.8 +0.1**
comp=Z,83nm,1.1s
BMN Battle Mountai 99.26 345 *e*P **Pdif 10 55 04.8 +0.1**
comp=Z,83nm,1.1s
BMN LR LR
comp=Z,116μm,20.0s
Z36A Blue Ridge 99.26 327 P **Pdif 10 55 03.2 -1.5**
baz=31,SNR=21
646A Port Sulphur 99.26 320 P **Pdif 10 55 05.1 +0.4**
baz=35
M02C Callahan 99.28 350 P **Pdif 10 55 03.2 -1.5**
baz=11
Q16A Castle Valley 99.29 340 *e*P **Pdif 10 55 04.8 -0.1**
comp=Z,272nm,1.2s
Q16A Castle Valley 99.29 340 *e*P **Pdif 10 55 04.8 -0.1**
comp=Z,272nm,1.2s
PV01 Paradox Valley 99.30 338 *e*P **Pdif 10 55 04.7 -0.3**
PV01 Paradox Valley 99.30 338 *e*P **Pdif 10 55 04.7 -0.3**
KRMB Red Mountain 99.30 350 PFAKE 10 55 10.0 +5.2
KRMB LR LR
comp=Z,145μm,20.0s
341A Kurthwood 99.44 323 P **Pdif 10 55 04.8 -0.7**
baz=33,SNR=11
239A Gary 99.46 325 P **Pdif 10 55 05.1 -0.4**
baz=32,SNR=7.0
544A White Castle 99.49 321 P **Pdif 10 55 06.4 +0.7**
baz=34
PV05 Paradox Valley 99.50 338 *e*P **Pdif 10 55 05.9 -0.1**
PV05 Paradox Valley 99.50 338 *e*P **Pdif 10 55 05.9 -0.1**
137A Heron Place, G 99.54 326 P **Pdif 10 55 05.2 -0.7**
baz=31,SNR=18
442A Mamou 99.61 323 P **Pdif 10 55 06.4 +0.2**
baz=33,SNR=7.4
N02D Trinity Center 99.67 349 P **Pdif 10 55 05.9 -0.6**
baz=11
340A Bronson 99.70 324 P **Pdif 10 55 06.1 -0.6**
baz=32,SNR=5.5
645A Chauvin 99.75 320 P **Pdif 10 55 07.5 +0.7**
baz=35
238A Jacksonville 99.76 325 P **Pdif 10 55 06.5 -0.4**
baz=32,SNR=9.0
NATX Nacogdoches 99.76 325 P **Pdif 10 55 06.5 -0.5**
baz=32
NATX Nacogdoches 99.76 325 *e*P **Pdif 10 55 06.4 -0.5**
comp=Z,384nm,1.8s
NATX Nacogdoches 99.76 325 *e*P **Pdif 10 55 06.5 -0.5**
comp=Z,384nm,1.8s
NATX LR LR
comp=Z,143μm,19.0s
543A St. Martinvill 99.85 322 P **Pdif 10 55 07.7 +0.4**
baz=34
KHMM Horse Mountain 99.91 350 PFAKE 10 55 20.0 +12
KHMM LR LR
comp=Z,162μm,19.0s
MSU Marysvale 99.93 341 *e*P **Pdif 10 55 08.3 +0.5**
MSU Marysvale 99.93 341 *e*Pdif **Pdif 10 55 08.3 +0.5**
441A DeRidder 99.94 323 P **Pdif 10 55 08.0 +0.3**
baz=33,SNR=6.8
AMTX Amarillo 99.95 331 P **Pdif 10 55 06.5 -1.4**
baz=27
AMTX Amarillo 99.95 331 *e*Pdif **Pdif 10 55 06.2 -1.6**
AMTX LR LR
comp=Z,220μm,20.0s
136A Ennis 99.98 326 P **Pdif 10 55 06.6 -1.3**
baz=31,SNR=21
WDC Whiskeytown Da 100.03 349 PFAKE 10 55 20.0 +12
WDC LR LR
comp=Z,115μm,20.0s
237A Washetta, Mont 100.07 326 P **Pdif 10 55 08.0 -0.2**
baz=31,SNR=9.1
339A Huntington 100.08 324 P **Pdif 10 55 07.6 -0.7**
baz=32
MVCO Mesa Verde 100.13 338 P **Pdif 10 55 08.2 -0.6**
baz=22
MVCO Mesa Verde 100.13 338 *e*Pdif **Pdif 10 55 08.2 -0.6**
MVCO LR LR
comp=Z,148μm,20.0s
542A Morse 100.15 322 P **Pdif 10 55 08.9 +0.2**
baz=33
O03D Paynes Creek 100.20 349 P **Pdif 10 55 07.0 -1.8**
baz=12
440A Kirbyville 100.30 324 P **Pdif 10 55 08.9 -0.4**
baz=32,SNR=7.5
MTPU Mount Pierson 100.38 341 *e*Pdif **Pdif 10 55 10.7 +0.7**
BEKR Beckworth 100.39 347 PFAKE 10 55 20.0 +10
BEKR LR LR
comp=Z,98μm,20.0s
236A Katherine and 100.39 326 P **Pdif 10 55 09.3 -0.4**
baz=31,SNR=20
338A Crockett 100.40 325 P **Pdif 10 55 09.6 -0.1**
baz=32
541A Lake Charles 100.51 323 P **Pdif 10 55 10.0 -0.3**
baz=33
KMRM Mail Ridge 100.55 350 PFAKE 10 55 20.0 +10
KMRM LR LR
comp=Z,139μm,20.0s
439A Center Grove, 100.63 324 P **Pdif 10 55 10.6 -0.1**
baz=32
337A Centerville 100.69 325 P **Pdif 10 55 10.9 -0.2**
baz=31
BDFB Brasilia 100.73 259 P **Pdif 10 55 11.6 +0.1**
comp=Z,9.3nm,1.1s,baz=198,slow=3.5,SNR=11
BDFB PP **PP 10 59 15.5 -3.7**
comp=Z,32nm,1.1s,baz=214,slow=8.2,SNR=7.3
540A Vidor 100.76 323 P **Pdif 10 55 12.0 +0.6**
baz=32
WHTX Lake Whitney, 100.79 327 P **Pdif 10 55 10.0 -1.5**
baz=30,SNR=8.7
WHTX Lake Whitney, 100.79 327 *e*P **Pdif 10 55 10.0 -1.5**
comp=Z,106nm,1.3s
WHTX Lake Whitney, 100.79 327 *e*P **Pdif 10 55 10.0 -1.5**
comp=Z,106nm,1.3s
WHTX LR LR
comp=Z,172μm,19.0s
ORV Oroville 100.88 348 *e*P **Pdif 10 55 11.0 -0.7**
ORV MLR MLR
comp=Z,158μm,20.0s
ORV Oroville 100.88 348 *e*Pdif **Pdif 10 55 11.0 -0.7**
ORV LR LR
comp=Z,158μm,20.0s
MTDJ Mount Denham 100.89 304 *e*Pdif **Pdif 10 55 13.5 +1.2**
comp=Z,277nm,1.9s
MTDJ LR LR
comp=Z,60μm,22.0s
R11A Troy Canyon, C 100.91 343 P **Pdif 10 55 12.3 +0.1**
baz=16
R11A Troy Canyon, C 100.91 343 *e*Pdif **Pdif 10 55 12.3 +0.1**
R11A LR LR
comp=Z,149μm,20.0s
PTGA Pitinga 100.91 278 P **Pdif 10 55 12.6 +0.3**
comp=Z,17nm,1.1s,baz=52,slow=4.1,SNR=13
PTGA PP **PP 10 59 15.0 -5.2**
comp=Z,13nm,1.1s,baz=39,slow=9.2,SNR=4.2
PTGA Pitinga 100.91 278 P **Pdif 10 55 12.6 +0.3**
PTGA PP **PP 10 59 15.0 -5.2**
PTGA LR LR
comp=Z,57μm,20.0s
438A Sam Houston St 100.99 325 P **Pdif 10 55 11.5 -0.9**
baz=31,SNR=14
336A Riesel 101.05 326 P **Pdif 10 55 11.3 -1.4**
baz=30,SNR=5.5
KCPM Cahto Peak 101.06 350 PFAKE 10 55 20.0 +7.3
KCPM LR LR
comp=Z,140μm,18.0s
ABTX Abilene, Hawle 101.15 329 P **Pdif 10 55 11.5 -1.6**
baz=28,SNR=24
ABTX Abilene, Hawle 101.15 329 *e*Pdif **Pdif 10 55 11.8 -1.3**
comp=Z,164nm,1.6s
ABTX LR LR
comp=Z,197μm,22.0s
MSTX Muleshoe 101.17 332 P **Pdif 10 55 11.1 -2.1**
baz=26
MSTX Muleshoe 101.17 332 *e*Pdif **Pdif 10 55 11.2 -2.1**
comp=Z,86nm,1.3s
MSTX LR LR
comp=Z,262μm,20.0s
539A Cross D Ranch, 101.19 324 P **Pdif 10 55 13.1 -0.1**
baz=32
437A Phantom Ranch, 101.22 325 P **Pdif 10 55 11.9 -1.5**
baz=31
PMNB Patos De Minas 101.27 255 *i* **Pdif 10 55 11.7 -2.1**
PMNB *i* 10 55 30.0
PMNB *e* 10 58 36.0
PMNB *i* 10 59 22.8
PMNB *i* 10 59 28.4
PMNB *i* 10 59 39.5
PMNB *i* 11 00 16.8
PMNB *i* 11 01 28.7
PMNB *i* 11 05 47.4
PMNB *i* 11 13 35.3
PMNB *i* 11 19 36.6
PMNB *i* 11 21 34.7
PMNB *i* 11 28 24.4
PMNB *i* 11 31 32.2
AFDM Forest Hills D 101.39 348 *e*Pdif **Pdif 10 55 13.6 -0.5**
538A Harpers Horsep 101.44 325 P **Pdif 10 55 14.5 +0.1**
baz=32
WAKE Wake Island 101.54 54 PFAKE 10 55 20.0 +5.0
WAKE LR LR
comp=Z,49μm,21.0s
WAKR Walker 101.55 346 PFAKE 10 55 20.0 +5.0
WAKR LR LR
comp=Z,134μm,20.0s
436A Wall Ranch, Ga 101.56 326 P **Pdif 10 55 14.2 -0.8**
baz=31,SNR=6.5
ANMO Albuquerque 101.57 335 P **Pdif 10 55 15.5 +0.3**
comp=Z,23nm,1.1s,baz=244,slow=4.6,SNR=52
ANMO PP **PP 10 59 26.4 +2.3**
comp=Z,12nm,1.2s,baz=196,slow=7.4,SNR=4.0
ANMO Albuquerque 101.57 335 P **Pdif 10 55 14.5 -0.7**
baz=24
ANMO Albuquerque 101.57 335 *c i* P **Pdif 10 55 15.0 -0.2**
ANMO pmax pmax
comp=Z,71nm,1.5s
ANMO MLR MLR
comp=Z,144μm,19.0s
ANMO Albuquerque 101.57 335 *i* P **Pdif 10 55 15.0 -0.2**
comp=Z,44μm,19.0s
ANMO Albuquerque 101.57 335 *e*Pdif **Pdif 10 55 14.8 -0.4**
ANMO PP **PP 10 59 26.4 +2.3**
ANMO LR LR
comp=Z,154μm,19.0s
HOPS Hopland Field 101.67 349 *e*Pdif **Pdif 10 55 15.5 +0.3**
comp=Z,100nm,1.4s
HOPS LR LR
comp=Z,140μm,22.0s
URIC Uribia, Colomb 101.74 295 *e*P **Pdif 10 55 15.1 -0.9**
GDXM Geysers 101.81 349 PFAKE 10 55 30.0 +14
GDXM LR LR
comp=Z,161μm,20.0s
HKT Hockley 101.83 325 *e*P **Pdif 10 55 15.8 -0.2**
HKT pmax pmax
comp=Z,1μm,2.1s
HKT MLR MLR
comp=Z,147μm,18.0s
HKT Hockley 101.83 325 *e*Pdif **Pdif 10 55 15.8 -0.2**
comp=Z,1μm,2.1s
HKT LR LR
comp=Z,147μm,18.0s
435B Jarrell 101.89 326 P **Pdif 10 55 16.2 -0.2**
baz=30,SNR=7.5
U15A North Rim 101.93 340 *e*Pdif **Pdif 10 55 17.2 +0.4**
U15A LR LR
comp=Z,147μm,21.0s
537A Green Hill Far 101.94 325 P **Pdif 10 55 16.7 +0.1**
baz=31,SNR=9.1
638A Rosharon 102.10 324 P **Pdif 10 55 17.9 +0.6**
baz=32
CMB Columbia Colle 102.17 347 *e*P **Pdif 10 55 18.3 +0.7**
CMB pmax pmax
comp=Z,532nm,2.0s
CMB MLR MLR
comp=Z,107μm,20.0s
CMB Columbia Colle 102.17 347 *e*P **Pdif 10 55 18.3 +0.7**
comp=Z,7μm,20.0s
CMB Columbia Colle 102.17 347 *e*Pdif **Pdif 10 55 18.2 +0.7**
comp=Z,532nm,2.0s
CMB LR LR
comp=Z,107μm,20.0s
536A Bastrop 102.27 326 P **Pdif 10 55 17.2 -0.9**
baz=30,SNR=6.4
536A Bastrop 102.27 326 PFAKE 10 55 30.0 +12
536A LR LR
comp=Z,129μm,19.0s
MLAC Mammoth, Mammo 102.28 346 P **Pdif 10 55 19.1 +0.8**
baz=14,SNR=12
TPNV Topopah Spring 102.40 343 P **Pdif 10 55 18.6 -0.2**
baz=16,SNR=33
TPNV Topopah Spring 102.40 343 PFAKE 10 55 30.0 +11
TPNV LR LR
comp=Z,135μm,20.0s
W18A Petrified Fore 102.44 338 P **Pdif 10 55 18.9 -0.1**
baz=21
W18A Petrified Fore 102.44 338 PFAKE 10 55 30.0 +11
W18A LR LR
comp=Z,152μm,20.0s
637A Eagle Lake 102.49 325 P **Pdif 10 55 18.9 -0.2**
baz=31,SNR=6.5
Y22D IRIS PASSCAL I 102.52 335 P **Pdif 10 55 19.9 +0.5**
baz=23
Y22D IRIS PASSCAL I 102.52 335 PFAKE 10 55 30.0 +11
Y22D LR LR
comp=Z,125μm,20.0s
WUAZ Wupatki 102.54 339 P **Pdif 10 55 20.1 +0.6**
baz=20
WUAZ Wupatki 102.54 339 *e*Pdif **Pdif 10 55 20.5 +1.0**
comp=Z,184nm,1.4s
SHPR Sheep Range 102.57 342 PFAKE 10 55 30.0 +10
SHPR LR LR
comp=Z,126μm,19.0s
GRAC Grapevine Rang 102.60 344 P **Pdif 10 55 20.2 +0.7**
baz=15,SNR=18
738A Farr-Stevens R 102.69 324 P **Pdif 10 55 20.8 +0.9**
baz=32
TIN Tinemaha, Big 102.72 345 P **Pdif 10 55 20.8 +0.6**
baz=14
636A Smothers Creek 102.78 325 P **Pdif 10 55 21.0 +0.6**
baz=30,SNR=14
636A Smothers Creek 102.78 325 PFAKE 10 55 30.0 +10
636A LR LR
comp=Z,126μm,20.0s
WRA Warramunga Arr 102.87 105 P **Pdif 10 55 20.2 -0.6**
comp=Z,29nm,1.2s,baz=317,slow=3.9,SNR=48
WRA PP PP 10 59 27.0 -8.2
comp=Z,8.3nm,1.0s,baz=326,slow=6.5,SNR=3.8
WRA PKKPbc **PKKPbc 11 11 19.2 +1.6**
comp=Z,15nm,1.1s,baz=129,slow=2.6,SNR=11
WRA PKKP **PKKPdf 11 11 25.6 -0.1**
comp=Z,7.1nm,1.1s,baz=123,slow=2.5,SNR=5.5
WRA PKPPKP **P'P'df 11 19 38.6 +0.8**
comp=Z,4.6nm,1.1s,baz=120,slow=1.4,SNR=7.4
WRAB Tennant Creek 102.87 105 *c i* P **Pdif 10 55 18.6 -2.2**
WRAB *i* 10 59 33.8
WRAB MLR MLR
comp=Z,149μm,27.0s
WRAB Tennant Creek 102.87 105 *i* P **Pdif 10 55 18.6 -2.2**
comp=Z,49μm,27.0s
WRAB Tennant Creek 102.87 105 *e*Pdif **Pdif 10 55 19.5 -1.3**
comp=Z,88nm,1.4s
WB2 Warramunga Arr 102.88 105 *e*Pdif **Pdif 10 55 17.8 -3.1**
FURC Furnace Creek, 103.00 344 P **Pdif 10 55 22.5 +1.4**
baz=16,SNR=61
JCT Junction City 103.09 328 P **Pdif 10 55 21.5 -0.3**
baz=29,SNR=16
JCT Junction City 103.09 328 *e*P **Pdif 10 55 22.0 +0.2**
JCT pmax pmax
comp=Z,71nm,1.5s
JCT MLR MLR
comp=Z,144μm,20.0s
JCT Junction City 103.09 328 *e*Pdif **Pdif 10 55 22.0 +0.2**
comp=Z,71nm,1.5s
JCT LR LR
comp=Z,144μm,20.0s
737A Port Lavaca 103.11 324 P **Pdif 10 55 22.3 +0.4**
baz=31
736A Circle Diamond 103.23 325 P **Pdif 10 55 22.9 +0.6**
baz=31
736A Circle Diamond 103.23 325 PFAKE 10 55 30.0 +7.6
736A LR LR
comp=Z,110μm,18.0s
MIDW Midway 103.26 36 PFAKE 10 55 30.0 +7.5
MIDW LR LR
comp=Z,54μm,22.0s
CWC Cottonwood Cre 103.28 345 P **Pdif 10 55 23.7 +1.0**
baz=15
DAC Darwin (Calif) 103.34 344 *e*P **Pdif 10 55 24.8 +1.8**
DAC pmax pmax
comp=Z,43nm,1.4s
DAC MLR MLR
comp=Z,151μm,20.0s
DAC Darwin (Calif) 103.34 344 *e*Pdif **Pdif 10 55 24.8 +1.8**
comp=Z,43nm,1.4s
DAC LR LR
comp=Z,151μm,20.0s
SHOC Shoshone, Teco 103.41 343 P **Pdif 10 55 24.0 +0.9**
baz=16,SNR=26
MPMC Manual Prospec 103.53 344 P **Pdif 10 55 24.8 +0.9**
baz=15,SNR=28
SAO San Andreas Ge 103.60 348 *e*P **Pdif 10 55 25.1 +1.2**
SAO pmax pmax
comp=Z,17nm,1.1s
SAO MLR MLR
comp=Z,105μm,20.0s
SAO San Andreas Ge 103.60 348 *e*Pdif **Pdif 10 55 25.1 +1.2**
comp=Z,17nm,1.1s
SAO LR LR
comp=Z,105μm,20.0s
W13A Hualapai Mount 103.60 341 PFAKE 10 55 30.0 +5.8
W13A LR LR
comp=Z,188μm,19.0s
RCTC Rector, Farmer 103.64 346 P **Pdif 10 55 23.3 -0.8**
baz=14
735A Kenedy 103.65 326 P **Pdif 10 55 23.7 -0.5**
baz=30
735A Kenedy 103.65 326 PFAKE 10 55 30.0 +5.8
735A LR LR
comp=Z,142μm,19.0s
TUQ Turquoise Moun 103.78 343 P **Pdif 10 55 25.8 +0.9**
baz=16
LDFC Landfair 103.92 342 PFAKE 10 55 40.0 +14
LDFC LR LR
comp=Z,119μm,19.0s
PMPB Monarch Peak 104.02 347 PFAKE 10 55 40.0 +14
PMPB LR LR
comp=Z,133μm,20.0s
VES Vestal, Richgr 104.06 345 P **Pdif 10 55 26.2 +0.2**
baz=14,SNR=13
NEE2 Needles Airpor 104.10 342 P **Pdif 10 55 26.8 +0.7**
baz=17
GSC Goldstone, Bar 104.10 343 P **Pdif 10 55 26.9 +0.6**
baz=16,SNR=23
GSC Goldstone, Bar 104.10 343 PFAKE 10 55 40.0 +14
GSC LR LR
comp=Z,146μm,20.0s
ISA Isabella, Lake 104.11 345 P **Pdif 10 55 26.5 +0.2**
baz=14
ISA Isabella, Lake 104.11 345 PFAKE 10 55 40.0 +14
ISA LR LR
comp=Z,152μm,20.0s
LRMC Laurel Mtn Rad 104.12 344 P **Pdif 10 55 27.3 +0.9**
baz=15,SNR=18
835A Beeville 104.15 325 P **Pdif 10 55 27.6 +1.1**
baz=30
835A Beeville 104.15 325 PFAKE 10 55 40.0 +14
835A LR LR
comp=Z,111μm,19.0s
MNTX Cornudas Mount 104.16 333 P **Pdif 10 55 26.3 -0.2**
baz=25,SNR=90
MNTX Cornudas Mount 104.16 333 *e*Pdif **Pdif 10 55 25.6 -0.9**
MNTX LR LR
comp=Z,248μm,20.0s
121A Cookes Peak, D 104.22 335 P **Pdif 10 55 27.2 +0.2**
baz=23,SNR=52
121A Cookes Peak, D 104.22 335 *e*Pdif **Pdif 10 55 27.6 +0.6**
comp=Z,108nm,1.3s
GMRC Granite Mounta 104.33 342 P **Pdif 10 55 28.6 +1.2**
baz=17,SNR=18
BB19B Bebedouro 104.35 254 *e*P **Pdif 10 55 27.1 -0.3**
BB19B *i* 10 55 31.2
BB19B *i* 10 55 44.0
BB19B *i* 10 56 36.9
BB19B *i* 10 58 28.3
BB19B *i* 10 58 41.1
BB19B *i* 10 59 35.9
BB19B *i* 11 01 41.2
PAGB Antelope Grade 104.39 346 PFAKE 10 55 40.0 +13
PAGB LR LR
comp=Z,126μm,19.0s
PDMCI Parker Dam,Lak 104.42 341 P **Pdif 10 55 28.8 +1.3**
baz=18,SNR=24
HEC Hector,Ludlow 104.45 343 P **Pdif 10 55 28.8 +1.0**
baz=16
Y14A Wickenburg 104.47 340 PFAKE 10 55 40.0 +12
Y14A LR LR
comp=Z,634μm,20.0s
RRX Edison Barstow 104.56 343 P **Pdif 10 55 28.7 +0.4**
baz=16,SNR=5.0
936A North Padre Is 104.66 324 P **Pdif 10 55 29.3 +0.6**
baz=31
ARVC Arvin 104.70 345 P **Pdif 10 55 28.1 -0.7**
baz=14
FORT Forrest 104.72 118 PFAKE 10 55 40.0 +11
FORT LR LR
comp=Z,727μm,20.0s
AS31 Alice Springs 104.74 109 *e*Pdif **Pdif 10 55 27.4 -1.6**
AS31 LR LR
comp=Z,800nm,21.0s
ASAR Alice Springs 104.74 109 Pdiff **Pdif 10 55 28.5 -0.6**
comp=Z,5.0nm,0.9s,baz=311,slow=4.1,SNR=22
ASAR PKIKP **PKiKP 10 59 45.0 +0.4**
comp=Z,11nm,0.9s,baz=302,slow=1.9,SNR=9.4
ASAR PKKPbc **PKKPbc 11 11 13.2 +1.1**
comp=Z,2.6nm,0.7s,baz=119,slow=3.7,SNR=20
ASAR PKPPKP **P'P'df 11 19 34.0 +0.2**
comp=Z,6.6nm,1.2s,baz=142,slow=3.2,SNR=12
SMMC Simmler 104.75 346 P **Pdif 10 55 29.1 0.0**
baz=13
EDW2 Edwards Air Fo 104.77 344 P **Pdif 10 55 30.3 +1.1**
baz=15,SNR=20
833A Chaparral WMA, 104.80 327 P **Pdif 10 55 29.4 +0.1**
baz=29
IRM Iron Mountain 104.81 342 P **Pdif 10 55 30.6 +1.2**
baz=17,SNR=33
KVTX Kingsville 104.81 325 PFAKE 10 55 40.0 +11
KVTX LR LR
comp=Z,102μm,19.0s
SPB Sao Paulo 105.01 252 PFAKE 10 59 50.0
SPB LR LR
comp=Z,93μm,21.0s
Y12C Blythe 105.04 341 P **Pdif 10 55 31.7 +1.3**
baz=18,SNR=21
Y12C Blythe 105.04 341 PFAKE 10 59 50.0
Y12C LR LR
comp=Z,127μm,19.0s
934A Benavides 105.04 326 P **Pdif 10 55 30.7 +0.2**
baz=30
BBRC Big Bear Solar 105.13 343 P **Pdif 10 55 32.2 +1.1**
baz=16,SNR=5.9
PKM Mcpherson Peak 105.13 346 P **Pdif 10 55 32.3 +1.3**
baz=13,SNR=6.2
BELC Belle Mtn. Jos 105.17 342 P **Pdif 10 55 32.1 +1.0**
baz=16,SNR=16
OSI Osito Audit: C 105.18 345 P **Pdif 10 55 32.2 +1.1**
baz=14
PAMC Pamplona, Colo 105.24 293 *e*P **Pdif 10 55 30.8 -1.3**
PAMC Pamplona, Colo 105.24 293 *e*P **PKKPbc 11 11 15.6 +4.9**
SJCC San Jacinto, C 105.24 296 *e*P **Pdif 10 55 30.0 -1.6**
BFSC Mount Baldy Ra 105.31 344 P **Pdif 10 55 32.2 +0.5**
baz=15,SNR=14
BC3 Big Chuckawall 105.36 342 P **Pdif 10 55 32.9 +0.9**
baz=17,SNR=24
933A Laredo 105.37 326 P **Pdif 10 55 32.6 +0.7**
baz=29
TUC Tucson 105.37 338 P **Pdif 10 55 32.8 +0.9**
baz=20
TUC Tucson 105.37 338 *e*P **Pdif 10 55 32.9 +0.9**
TUC pmax pmax
comp=Z,89nm,1.5s

TUC MLR MLR
comp=Z,156μm,21.0s
TUC Tucson 105.37 338 *e*Pdif **Pdif 10 55 32.9 +0.9**
comp=Z,89nm,1.5s
TUC LR LR
comp=Z,156μm,21.0s
MWC Mount Wilson 105.41 344 PFAKE 11 00 00.0
MWC LR LR
comp=Z,125μm,20.0s
035A Encino 105.43 325 P **Pdif 10 55 33.3 +1.1**
baz=30
DECC Green Verdugo 105.44 344 P **Pdif 10 55 32.7 +0.5**
baz=15
PASC Pasadena Art C 105.49 344 PFAKE 11 00 00.0
PASC LR LR
comp=Z,145μm,20.0s
SBC Santa Barbara 105.54 346 P **Pdif 10 55 33.2 +0.7**
baz=14
034A Hebbronville 105.58 325 P **Pdif 10 55 33.4 +0.6**
baz=30
PFO Pinyon Flats O 105.64 343 Pdiff **Pdif 10 55 34.0 +0.8**
comp=Z,21nm,1.1s,baz=25,slow=4.2,SNR=42
PFO Pinyon Flats O 105.64 343 P **Pdif 10 55 34.3 +1.1**
baz=16,SNR=31
PFO Pinyon Flats O 105.64 343 P **Pdif 10 55 34.0 +0.8**
PFO pmax pmax
comp=Z,21nm,1.1s
PFO Pinyon Flats O 105.64 343 P **Pdif 10 55 34.0 +0.8**
comp=Z,21nm,1.1s
PFO Pinyon Flats O 105.64 343 *e*Pdif **Pdif 10 55 33.8 +0.6**
comp=Z,84nm,1.4s
PFO LR LR
comp=Z,163μm,20.0s
XPFO Piæon Flat 105.64 343 PFAKE 11 00 00.0
XPFO LR LR
comp=Z,174μm,21.0s
TXAR Lajitas Array 105.65 331 Pdiff **Pdif 10 55 32.5 -0.9**
comp=Z,10nm,1.2s,baz=46,slow=3.6,SNR=45
TXAR PKiKP **PKiKP 10 59 47.8 +1.4**
comp=Z,10nm,1.0s,baz=357,slow=2.3,SNR=4.8
TXAR PKKPbc **PKKPbc 11 11 09.8 +0.4**
comp=Z,4.0nm,1.0s,baz=190,slow=4.6,SNR=7.6
TXAR PKKPab **PKKPab 11 11 27.6 -2.5**
comp=Z,6.3nm,1.1s,baz=182,slow=6.3,SNR=5.8
TXAR PKPPKP P'P'df 11 19 13.8 -24
comp=Z,0.9nm,1.0s,baz=151,slow=4.1,SNR=4.0
BLG Laguna Peak, P 105.73 345 P **Pdif 10 55 33.9 +0.4**
baz=14
GIRC Giron, Santand 105.77 293 *e*P **PKKPbc 11 11 09.4 +0.8**
319A Douglas 105.77 336 PFAKE 11 00 00.0
319A LR LR
comp=Z,211μm,20.0s
113A Mohawk Valley, 105.78 340 PFAKE 11 00 00.0
113A LR LR
comp=Z,177μm,21.0s
GLA Glamis 105.78 341 P **Pdif 10 55 35.2 +1.4**
baz=17,SNR=14
GLA Glamis 105.78 341 PFAKE 11 00 00.0
GLA LR LR
comp=Z,130μm,19.0s
035Z Hargill 105.82 325 P **Pdif 10 55 34.3 +0.4**
baz=30
MURC Murrieta 105.83 343 P **Pdif 10 55 34.8 +0.9**
baz=16,SNR=9.7
TEIG Tepich 105.94 313 PFAKE 11 00 00.0
TEIG LR LR
comp=Z,92μm,22.0s
FMP Fort Macarthur 105.96 344 P **Pdif 10 55 34.9 +0.5**
baz=15
SCZ2 Santa Cruz Isl 105.96 345 P **Pdif 10 55 34.6 +0.1**
baz=14
BARC Barichara 106.09 292 *e*P **PKKPbc 11 11 09.0 +1.2**
BRRC Barranca, Sant 106.12 293 *e*P **Pdif 10 55 34.5 -1.0**
SWSC Sam W. Stewart 106.13 342 P **Pdif 10 55 35.9 +0.8**
baz=17,SNR=6.8
CIS Catalina Islan 106.28 344 P **Pdif 10 55 36.4 +0.4**
baz=15
214A Organ Pipe Nat 106.28 339 P **Pdif 10 55 36.4 +0.4**
baz=19,SNR=11
MONP2 Monument Peak 106.33 342 P **Pdif 10 55 37.4 +1.0**
baz=16
MOTC Monteria, Cord 106.36 296 *e*P **Pdif 10 55 37.0 +0.5**
MOTC Monteria, Cord 106.36 296 *e*P **PKKPbc 11 11 07.8 +1.1**
IKP In-Ko-Pah, Jac 106.48 342 P **Pdif 10 55 38.4 +1.5**
baz=16,SNR=5.8
109C Camp Elliot, M 106.49 343 P **Pdif 10 55 38.1 +1.3**
baz=16,SNR=5.8
RUSC La Rusia 106.50 292 *e*P **Pdif 10 55 34.5 -3.2**
RUSC La Rusia 106.50 292 *e*P **PKKPbc 11 11 07.0 +0.1**
PMG Port Moresby 106.51 89 Pdiff **Pdif 10 55 35.5 -1.6**
comp=Z,68nm,1.2s,baz=346,slow=5.8,SNR=8.7
PMG Port Moresby 106.51 89 *c i*P **Pdif 10 55 36.5 -0.6**
PMG Port Moresby 106.51 89 *i*P **Pdif 10 55 36.5 -0.6**
PMG Port Moresby 106.51 89 Pdif **Pdif 10 55 35.5 -1.6**
PMG LR LR
comp=Z,20μm,22.0s
BAR Barrett 106.59 343 PFAKE 11 00 00.0
BAR LR LR
comp=Z,95μm,19.0s
SNCC San Nicolas Is 106.66 345 P **Pdif 10 55 39.3 +1.7**
baz=14
SNCC San Nicolas Is 106.66 345 PFAKE 11 00 00.0
SNCC LR LR
comp=Z,144μm,20.0s
ZARC Zaragoza, Cauc 106.68 294 *e*P **Pdif 10 55 36.5 -1.4**
SCI2 San Clemente I 106.72 344 P **Pdif 10 55 39.8 +2.0**
baz=14
MAW Mawson 107.03 172 Pdiff **Pdif 10 55 37.4 -0.6**
comp=Z,9.3nm,1.2s,baz=43,slow=18,SNR=7.2
MAW PKiKP **PKiKP 10 59 48.8 +1.5**
comp=Z,19nm,0.8s,baz=309,slow=4.8,SNR=16
MAW PKKPbc **PKKPbc 11 11 06.7 +0.4**
comp=Z,19nm,1.1s,baz=208,slow=3.4,SNR=11
MAW Mawson 107.03 172 Pdif **Pdif 10 55 37.4 -0.6**
MAW PKiKP **PKiKP 10 59 48.8 +1.5**
MAW PKKPbc **PKKPbc 11 11 06.7 +0.4**
MAW LR LR
comp=Z,15μm,19.0s
RABL Rabaul 107.19 81 PFAKE 11 00 00.0
RABL LR LR
comp=Z,42μm,22.0s
SYO Syowa Base 107.46 181‖ *e*Pdif **Pdif 10 55 40.6 +0.7**
SYO Syowa Base 107.46 181‖ *i*pPKiKP pPKiKP 10 59 44.6 -6.1
SYO Syowa Base 107.46 181‖ *e*X **PKKPbc 11 11 03.6 -1.4**
CAPC Capurgana 107.64 297 *e*P **Pdif 10 55 41.9 -0.3**
CAPC Capurgana 107.64 297 *e*P **PKKPbc 11 11 04.5 +1.7**
NORC Norcasia 108.02 293 *e*P **PKKPbc 11 11 02.9 +1.2**
HELC Santa Helena 108.06 294 *e*P **Pdif 10 55 42.7 -1.8**
ROSC El Rosal 108.11 292 PKiKP **PKiKP 10 59 53.4 +1.8**
comp=Z,19nm,0.8s,baz=194,slow=4.2,SNR=7.5
ROSC El Rosal 108.11 292 *e*P **Pdif 10 55 42.7 -2.1**
HSIG 108.48 336 PFAKE 11 00 00.0
HSIG LR LR
comp=Z,196μm,20.0s
SAML Samuel 108.51 273 PFAKE 11 00 00.0
SAML LR LR
comp=Z,33μm,21.0s
HPIG 108.57 331 PFAKE 11 00 00.0
HPIG LR LR
comp=Z,197μm,20.0s
BCIP Isla Barro Col 108.98 299 *e*P **Pdif 10 55 47.9 -0.2**
PRAC Prado 109.29 291 *e*P **Pdif 10 55 48.9 -0.7**
KWAJ Kwajalein Atol 109.84 60 PFAKE 11 00 00.0
KWAJ LR LR
comp=Z,69μm,22.0s
SRIG Santa Rosalia 110.47 337 PFAKE 11 00 00.0
SRIG LR LR
comp=Z,210μm,21.0s
CNLB Canela 110.78 249 *e*P **Pdif 10 55 52.4 -3.4**
CNLB *i* 10 55 60.0
CNLB *i* 10 56 16.7
CNLB *i* 10 56 51.7
CNLB *i* 10 57 43.2
CNLB *i* 10 58 12.7
CNLB *i* 11 00 36.9
CNLB *i* 11 00 40.4
CNLB *i* 11 10 01.7
CNLB *i* 11 10 27.4
CNLB *i* 11 11 15.3
CNLB *i* 11 15 45.8
ZAIG Zacatecas 111.03 326 PFAKE 11 00 10.0
ZAIG LR LR
comp=Z,70μm,22.0s
SIV San Ignacio 111.05 266 Pdiff **Pdif 10 55 58.4 +1.1**
comp=Z,0.9nm,0.5s,baz=281,slow=5.2,SNR=2.6
SIV PKiKP **PKiKP 10 59 57.4 +0.9**
comp=Z,16nm,1.0s,baz=96,slow=3.5,SNR=11
SIV PP **PP 11 00 34.2 -1.1**
comp=Z,8.6nm,0.8s,baz=108,slow=8.4,SNR=7.1
SIV PKKPbc **PKKPbc 11 10 54.9 +2.8**
comp=Z,6.7nm,0.9s,baz=265,slow=2.9,SNR=8.3
HDC Heredia 111.23 303 PFAKE 11 00 10.0
HDC LR LR
comp=Z,53μm,21.0s
CCIG Comitan 111.28 314 PFAKE 11 00 10.0
CCIG LR LR
comp=Z,72μm,21.0s
FLOC Florencia 111.29 290 *e*P **PKKPbc 11 10 53.8 +2.7**
POPC Popayan, Colom 111.39 292 *e*P **Pdif 10 55 57.1 -2.1**
NVL N'lazarevskaya 111.54 191 *e*P **Pdif 10 55 59.8 +1.7**
NVL *e* 11 00 38.6
NVL *e*PPP PPP 11 02 59.7
NVL *e*SP SP 11 10 06.8 -0.9
NVL *e* 11 11 20.7
NVL *e*SS **SS 11 16 11.9 -0.6**
NVL *e*SSS SSS 11 20 22.7
NVL N'lazarevskaya 111.54 191 *e*P **Pdif 10 55 59.8 +1.7**
MIR Mirnyy 111.59 161‖ *i*P **Pdif 10 56 00.0 +1.6**
MIR *i* 11 00 35.0
MIR pmax pmax
comp=Z,4μm,11.0s
MIR Mirnyy 111.59 161 *i*P **Pdif 10 56 00.0 +1.6**
comp=Z,4μm,11.0s
CTA Charters Tower 112.07 99 PKiKP **PKiKP 10 59 59.7 +1.4**
comp=Z,35nm,1.0s,baz=292,slow=4.8,SNR=11
CTA PP **PP 11 00 38.9 -3.7**
comp=Z,14nm,1.0s,baz=281,slow=8.3,SNR=5.5
CTA PKKPbc **PKKPbc 11 10 50.0 +1.2**
comp=Z,24nm,1.0s,baz=238,slow=1.8,SNR=9.2
CTAO Charters Tower 112.07 99 PFAKE 11 00 10.0
CTAO LR LR
comp=Z,46μm,20.0s
CMIG Matias Romero 112.14 317 PKiKP **PKiKP 10 59 58.8 +0.1**
comp=Z,21nm,0.8s,baz=81,slow=2.1,SNR=20
CMIG PKKPbc **PKKPbc 11 10 49.7 +1.2**
comp=Z,4.3nm,0.8s,baz=280,slow=1.9,SNR=4.6
UNM Universidad Na 112.45 322 PFAKE 11 00 10.0
UNM LR LR
comp=Z,38μm,20.0s
LPIG La Paz 112.83 334 PKiKP **PKiKP 11 00 00.5 +0.7**
comp=Z,17nm,0.3s,baz=35,slow=2.8,SNR=5.9
LPIG PKKPbc **PKKPbc 11 10 47.7 +1.3**
comp=Z,10nm,0.8s,baz=80,slow=19,SNR=3.9
MOIG Morelia 113.11 324 PFAKE 11 00 10.0
MOIG LR LR
comp=Z,50μm,20.0s
MAPC Malpelo 113.89 297 *e*P **Pdif 10 56 08.2 -1.8**
CPUP Villa Florida 113.96 255 PKiKP **PKiKP 11 00 01.2 -0.5**
comp=Z,26nm,0.8s,baz=45,slow=3.0,SNR=32
CPUP PP **PP 11 00 55.5 -0.6**
comp=Z,48nm,1.2s,baz=74,slow=9.2,SNR=9.4
CPUP PKKPbc **PKKPbc 11 10 45.2 +2.8**
comp=Z,6.1nm,1.0s,baz=270,slow=4.8,SNR=4.7
OTAV Otavalo 114.25 291 *e*P **Pdif 10 56 11.5 -0.7**
OTAV Otavalo 114.25 291 *e*P **PKKPbc 11 10 44.0 +2.2**
OTAV Otavalo 114.25 291 PFAKE 11 00 10.0 +6.7
OTAV LR LR
comp=Z,37μm,22.0s
SNAA Sanae 114.84 195 P PKPdf 11 00 02.8 +0.7
SNAA Sanae 114.84 195 P **PKKPbc 11 10 45.9 +5.2**
SNAA Sanae 114.84 195 PKP PKPdf 11 00 03.1 +0.9
comp=Z,71nm,1.1s,baz=61,slow=0.8,SNR=50
SNAA PKKPbc **PKKPbc 11 10 40.1 -0.6**
comp=Z,6.8nm,1.0s,baz=211,slow=5.1,SNR=6.9
SNAA Sanae 114.84 195 *c i*PKIKP PKPdf 11 00 02.9 +0.7
SNAA Sanae 114.84 195 PKP PKPdf 11 00 03.1 +0.9
SNAA PKKPbc **PKKPbc 11 10 40.1 -0.6**
SNAA LR LR
comp=Z,110μm,19.0s
STKA Stephens Creek 114.95 112 PKP PKPdf 11 00 03.1 -0.4
comp=Z,29nm,0.8s,baz=316,slow=4.1,SNR=23
STKA PP **PP 11 00 59.2 -3.8**
comp=Z,27nm,1.1s,baz=298,slow=10,SNR=4.7
STKA PKKPbc **PKKPbc 11 10 39.3 +0.1**
comp=Z,6.3nm,0.8s,baz=105,slow=3.4,SNR=7.2
STKA Stephens Creek 114.95 112 PKP PKPdf 11 00 03.1 -0.4
STKA PP **PP 11 00 59.2 -3.8**
STKA PKKPbc **PKKPbc 11 10 39.3 +0.1**
STKA LR LR
comp=Z,17μm,22.0s
HOPE Hope Point 115.12 220 PFAKE 11 00 10.0 +6.9
HOPE LR LR
comp=Z,135μm,20.0s
VNA1 Neumayer--Stat 115.21 197 P **PKPdf 11 00 03.5 +0.7**
VNA1 Neumayer--Stat 115.21 197 P **PKKPbc 11 10 38.0 -1.2**
VNA2 Neumayer--Watz 115.22 196 P **PKPdf 11 00 03.8 +1.0**
baz=38,slow=3.3
VNA2 Neumayer--Watz 115.22 196 P **PKKPab 11 10 44.5 +3.9**
baz=244,slow=3.3
KEKH Kekaha 115.82 24 PFAKE 11 00 20.0 +14
KEKH LR LR
comp=Z,38μm,22.0s
VNA3 Neumayer Olymp 115.96 197 P **PKPdf 11 00 03.5 -0.7**
VNA3 Neumayer Olymp 115.96 197 P **PKKPbc 11 10 36.4 -0.3**
HNR Honiara 116.47 81 *e*P **PP 11 01 20.0 +6.4**
HNR Honiara 116.47 81 PFAKE 11 00 20.0 +13
HNR LR LR
comp=Z,28μm,20.0s
OPA Opana 116.62 22 PFAKE 11 00 20.0 +13
OPA LR LR
comp=Z,46μm,20.0s
LPAZ La Paz 116.74 270 PKP **PKPdf 11 00 08.2 +0.1**
comp=Z,32nm,0.9s,baz=50,slow=3.5,SNR=50
LPAZ PP **PP 11 01 13.6 -2.7**
comp=Z,54nm,1.3s,baz=36,slow=10,SNR=4.0
LPAZ PKKPab **PKKPab 11 10 37.0 -1.4**
comp=Z,11nm,0.9s,baz=321,slow=1.3,SNR=5.6
JOHN Johnston Islan 116.77 36 PFAKE 11 00 20.0 +12
JOHN LR LR
comp=Z,59μm,21.0s
KIP Kipapa 116.87 22 *c i*PKIKP **PKPdf 11 00 08.5 +0.9**
KIP Kipapa 116.87 22 PFAKE 11 00 20.0 +12
KIP LR LR
comp=Z,48μm,20.0s
HON Honolulu 116.97 22 PFAKE 11 00 20.0 +12
HON LR LR
comp=Z,48μm,20.0s
EIDS Eidsvold 118.68 101 *e*PKIKP **PKPdf 11 00 10.0 -0.9**
EIDS Eidsvold 118.68 101 *e*PKPdf **PKPdf 11 00 10.0 -0.9**
EIDS LR LR
comp=Z,44μm,19.0s
TARA Tarawa 118.85 62 PFAKE 11 00 20.0 +8.4
TARA LR LR
comp=Z,57μm,22.0s
HPAH Hawaii Prepara 118.86 21 PFAKE 11 00 20.0 +8.4
HPAH LR LR
comp=Z,79μm,20.0s
ATAH Atahualpa 119.10 285 PKP **PKPdf 11 00 14.1 +1.5**
comp=Z,31nm,0.9s,baz=95,slow=2.8,SNR=22
ATAH PP **PP 11 01 32.2 -0.1**
comp=Z,58nm,1.2s,baz=106,slow=7.9,SNR=4.0
ATAH PKKPab **PKKPab 11 10 28.6 -0.1**
comp=Z,5.6nm,0.7s,baz=191,slow=4.8,SNR=4.9
POHA Pohakuloa 119.16 21 PFAKE 11 00 20.0 +7.6
POHA LR LR
comp=Z,95μm,20.0s
MLOA Mauna Loa Obse 119.36 21 PFAKE 11 00 20.0 +7.0
MLOA LR LR
comp=Z,120μm,20.0s
UWE Uwekahuna 119.55 20 PFAKE 11 00 20.0 +7.0
UWE LR LR
comp=Z,112μm,20.0s
PB11 IPOC Station P 119.90 268 *e*PKIKP **PKPdf 11 00 12.4 -1.2**
PB11 IPOC Station P 119.90 268 *e*PKPdf **PKPdf 11 00 12.4 -1.2**
PB11 LR LR
comp=Z,63μm,19.0s
PB01 IPOC Station P 120.47 267 *e*PKIKP **PKPdf 11 00 14.1 -0.5**
PB01 IPOC Station P 120.47 267 *e*PKPdf **PKPdf 11 00 14.1 -0.5**
PB01 LR LR
comp=Z,64μm,22.0s
LVC Limon Verde 120.87 265 PKP **PKPdf 11 00 16.2 +0.5**
comp=Z,483nm,1.1s,baz=19,slow=0.9,SNR=57
LVC PP **PP 11 01 38.1 -6.5**
comp=Z,70nm,0.8s,baz=38,slow=4.8,SNR=1.9
LVC PKKPab **PKKPab 11 10 22.0 +2.2**
comp=Z,64nm,0.9s,baz=245,slow=4.7,SNR=11
LVC Limon Verde 120.87 265 *e*PKPdf **PKPdf 11 00 16.1 +0.5**
LVC PP **PP 11 01 38.1 -6.5**
LVC PKKPab **PKKPab 11 10 22.0 +2.2**
LVC LR LR
comp=Z,73μm,22.0s
NNA Nana 120.97 280 PKP **PKPdf 11 00 16.0 +0.4**
comp=Z,67nm,0.9s,baz=355,slow=2.7,SNR=23
NNA PKKPab **PKKPab 11 10 19.5 -0.4**
comp=Z,4.1nm,0.4s,baz=225,slow=2.9,SNR=6.6
NNA Nana 120.97 280 *e*PKIKP **PKPdf 11 00 15.8 +0.1**
NNA Nana 120.97 280 *e*PKPdf **PKPdf 11 00 15.8 +0.1**
NNA PKKPab **PKKPab 11 10 19.5 -0.4**
NNA LR LR
comp=Z,52μm,20.0s
ARMA Armidale 121.65 105 PFAKE 11 00 30.0 +13
ARMA LR LR
comp=Z,88μm,22.0s
PB04 IPOC Station P 121.69 266 *e*PKPdf **PKPdf 11 00 16.2 -0.8**
PB04 LR LR
comp=Z,42μm,19.0s
CAN Canberra 122.01 112 *e*PKIKP **PKPdf 11 00 15.0 -2.1**
CAN MLR MLR
comp=Z,81μm,22.0s
CAN Canberra 122.01 112 *e*PKIKP **PKPdf 11 00 15.0 -2.1**
CAN Canberra 122.01 112 *e*PKPdf **PKPdf 11 00 15.0 -2.1**
CAN LR LR
comp=Z,81μm,22.0s
PB10 IPOC Station P 122.63 265 PFAKE 11 00 30.0 +11
PB10 LR LR
comp=Z,76μm,22.0s
TRQA Tornquist 123.14 245 *e*PKIKP **PKPdf 11 00 17.8 -1.3**
TRQA Tornquist 123.14 245 *e*PKPdf **PKPdf 11 00 17.8 -1.3**
TRQA LR LR
comp=Z,92μm,21.0s
PAYG Puerto Ayora 123.23 300 PFAKE 11 00 30.0 +10
PAYG LR LR
comp=Z,22μm,22.0s
TAU Tasmania Unive 124.09 121 PFAKE 11 00 30.0 +9.3
TAU LR LR
comp=Z,45μm,20.0s
LCO Las Campanas 125.51 259 *e*PKIKP **PKPdf 11 00 23.5 -0.8**
LCO Las Campanas 125.51 259 *e*PKPdf **PKPdf 11 00 23.4 -0.8**
LCO LR LR
comp=Z,67μm,19.0s
EFI East Falkland 125.78 229 *e*PKIKP **PKPdf 11 00 24.1 +0.4**
EFI MLR MLR
comp=Z,90μm,21.0s
EFI East Falkland 125.78 229 *e*PKIKP **PKPdf 11 00 24.1 +0.4**
EFI East Falkland 125.78 229 *e*PKPdf **PKPdf 11 00 24.1 +0.4**
EFI LR LR
comp=Z,90μm,21.0s
CLCH Cerro Calan 127.40 254 *i*P **PKPdf 11 00 25.9 -1.6**
PEL Peldehue 127.40 255 *i*P **PKPdf 11 00 27.5 0.0**
ROCH El Roble 127.57 255 *i*P **PKPdf 11 00 27.8 -0.3**
ROC1 El Roble 127.57 255 *e*PKIKP **PKPdf 11 00 27.2 -0.8**
ROC1 El Roble 127.57 255 *e*PKPdf **PKPdf 11 00 27.2 -0.8**
ROC1 LR LR
comp=Z,400nm,19.0s
LHI Lord Howe Isla 127.80 103 PFAKE 11 00 40.0 +12
LHI LR LR
comp=Z,35μm,20.0s
QSPA South Pole Qui 128.56 180 *e*PKIKP **PKPdf 11 00 27.9 -0.7**
QSPA South Pole Qui 128.56 180 *e*PKPdf **PKPdf 11 00 27.9 -0.7**
QSPA LR LR
comp=Z,144μm,18.0s
DZM Mont Dzumac 128.90 88 PKP **PKPdf 11 00 32.0 +1.3**
comp=Z,178nm,1.1s,baz=68,slow=4.4,SNR=27
DZM Mont Dzumac 128.90 88 *e*PKIKP **PKPdf 11 00 31.8 +1.1**
comp=Z,663nm,1.4s
DZM Mont Dzumac 128.90 88 *e*PP PP 11 02 29.4 -8.6
comp=Z,20μm,25.7s
DZM Mont Dzumac 128.90 88 *e*LR LR 11 40 57.5
comp=Z,110μm,23.9s
DZM Mont Dzumac 128.90 88 PKIKP **PKPdf 11 00 32.0 +1.3**
DZM Mont Dzumac 128.90 88 PKP **PKPdf 11 00 32.0 +1.3**
DZM LR LR
comp=Z,34μm,20.0s
GO05 HualaæØ 129.12 253 *e*PKIKP **PKPdf 11 00 29.4 -1.3**
GO05 HualaæØ 129.12 253 *e*PKPdf **PKPdf 11 00 29.4 -1.3**
GO05 LR LR
comp=Z,106μm,21.0s
PLCA Paso Flores 130.30 246 PKhKP PKPpre 11 00 19.6
comp=Z,14nm,1.1s,baz=103,slow=2.0,SNR=12
PLCA PKP **PKiKP 11 00 33.3 -0.3**
comp=Z,228nm,1.1s,baz=243,slow=3.2,SNR=23
PLCA Paso Flores 130.30 246 PKHKP PKPpre 11 00 19.6
PLCA 11 00 33.3
PLCA pmax pmax
comp=Z,236nm,1.1s
PLCA Paso Flores 130.30 246 PKPpre PKPpre 11 00 19.6
PLCA *e*PKPdf **PKPdf 11 00 32.2 -0.6**
PMSA Palmer Station 131.59 213 PKP **PKPdf 11 00 34.4 +0.2**
comp=Z,29nm,0.7s,baz=46,slow=2.4,SNR=20
PMSA Palmer Station 131.59 213 *e*PKIKP **PKPdf 11 00 33.2 -1.1**
PMSA Palmer Station 131.59 213 *e*PKPdf **PKPdf 11 00 33.2 -1.1**
PMSA LR LR
comp=Z,63μm,21.0s
USHA Ushuaia 132.60 227 PKP **PKPdf 11 00 36.9 +0.4**
comp=Z,110nm,0.6s,baz=89,slow=4.8,SNR=14
VNDA Vanda 133.56 165 PKhKP PKPpre 11 00 29.5
comp=Z,2.3nm,0.9s,baz=286,slow=7.5,SNR=5.4
VNDA PKP **PKPdf 11 00 37.3 -0.4**
comp=Z,17nm,1.1s,baz=271,slow=4.9,SNR=18
VNDA PP **PP 11 03 05.2 -1.5**
comp=Z,52nm,1.4s,baz=256,slow=10,SNR=8.2
GO09 Cerro Castillo 134.31 232 PFAKE 11 00 50.0 +10
GO09 LR LR
comp=Z,71μm,20.0s
SBA Scott Base 134.42 166 *e*PKIKP **PKPdf 11 00 38.1 -1.3**
SBA MLR MLR
comp=Z,80μm,21.0s
SBA Scott Base 134.42 166 *e*PKIKP **PKPdf 11 00 38.1 -1.3**
SBA Scott Base 134.42 166 *e*PKPdf **PKPdf 11 00 38.1 -1.3**
SBA LR LR
comp=Z,80μm,21.0s
MCQ Macquarie Isla 134.63 132 PFAKE 11 00 50.0 +10
MCQ LR LR
comp=Z,38μm,18.0s
XMAS Kiritimati 135.09 30 PFAKE 11 00 50.0 +7.4
XMAS LR LR
comp=Z,59μm,21.0s
MSVF Nonsavu 135.41 75 *e*PKIKP **PKPdf 11 00 39.6 -3.4**
MSVF MLR MLR
comp=Z,45μm,19.0s
MSVF Nonsavu 135.41 75 *e*PKIKP **PKPdf 11 00 39.6 -3.4**
MSVF Nonsavu 135.41 75 *e*PKPdf **PKPdf 11 00 39.6 -3.4**
MSVF LR LR
comp=Z,45μm,19.0s
PYZ Puysegur Point 138.24 119 PFAKE 11 01 00.0 +13
PYZ LR LR
comp=Z,36μm,20.0s
WHZ Wether Hill Ro 139.06 119 PFAKE 11 01 00.0 +11
WHZ LR LR
comp=Z,42μm,21.0s
MLZ Mavora Lakes 139.08 118 *e*PKPdf **PKPdf 11 00 47.5 -1.4**
MLZ LR LR
comp=Z,62μm,21.0s
WKZ Wanaka 139.60 117 PFAKE 11 01 00.0 +10
WKZ LR LR
comp=Z,53μm,22.0s
FOZ Fox Glacier 139.90 115 PFAKE 11 01 00.0 +10
FOZ LR LR
comp=Z,62μm,20.0s
AFI Afiamalu 140.29 61 PKP **PKPdf 11 00 53.6 +1.5**
comp=Z,88nm,0.9s,baz=211,slow=12,SNR=7.4
AFI Afiamalu 140.29 61 PKIKP **PKPdf 11 00 53.6 +1.5**
AFI pmax pmax
comp=Z,96nm,1.0s
AFI Afiamalu 140.29 61 PKP **PKPdf 11 00 53.6 +1.5**
AFI LR LR
comp=Z,41μm,20.0s
LBZ Lake Benmore 140.34 116 *e*PKIKP **PKPdf 11 00 51.2 -0.1**
LBZ Lake Benmore 140.34 116 *e*PKPdf **PKPdf 11 00 51.2 -0.1**
OUZ Omahuta 140.41 101 PFAKE 11 01 00.0 +8.3
OUZ LR LR
comp=Z,57μm,22.0s
ODZ Otahua Downs 140.78 117 *e*PKIKP **PKPdf 11 00 49.2 -2.8**
ODZ Otahua Downs 140.78 117 *e*PKPdf **PKPdf 11 00 49.2 -2.8**
ODZ LR LR
comp=Z,46μm,18.0s
RPZ Rata Peaks 140.82 115 PKhKP PKPpre 11 00 46.0
comp=Z,28nm,1.0s,baz=202,slow=3.6,SNR=7.7
RPZ PP **PP 11 03 50.3 -2.9**
comp=Z,28nm,1.1s,baz=20,slow=5.2,SNR=3.1
RPZ Rata Peaks 140.82 115 *e*PKPpre PKPpre 11 00 47.3
RPZ PP **PP 11 03 50.3 -2.9**
RPZ LR LR
comp=Z,48μm,20.0s
OXZ Oxford 141.45 114 *e*PKPpre PKPpre 11 00 46.5

OXZ					LR	LR		
	comp=Z,54μm,22.0s							
LTZ	**Lake Taylor**	**141.51**	**113**	*e*PKPpre	PKPpre	11 00 47.7		
LTZ					LR	LR		
	comp=Z,77μm,22.0s							
THZ	**Tophouse**	**141.75**	**111**	*e*PKPpre	PKPpre	11 00 43.6		
THZ					LR	LR		
	comp=Z,53μm,22.0s							
CRLZ	**Canterbury Las**	**141.91**	**114**	*e*PKPpre	PKPpre	11 00 50.1		
CRLZ					LR	LR		
	comp=Z,41μm,19.0s							
MQZ	**McQueen's Vall**	**141.96**	**114**	*e*PKPpre	PKPpre	11 00 50.3		
MQZ					LR	LR		
	comp=Z,42μm,22.0s							
KHZ	**Kahutara**	**142.35**	**112**	PFAKE		11 01 00.0	+5.1	
KHZ					LR	LR		
	comp=Z,50μm,20.0s							
HIZ	**Hauiti**	**142.40**	**105**	*e*PKPpre	PKPpre	11 00 48.3		
HIZ					LR	LR		
	comp=Z,48μm,20.0s							
SNZO	**South Karori**	**142.97**	**110**	PFAKE		11 01 10.0	+14	
SNZO					LR	LR		
	comp=Z,39μm,20.0s							
BKZ	**Black Stump Fm**	**143.80**	**106**	*e*PKPpre	PKPpre	11 00 50.4		
BKZ					LR	LR		
	comp=Z,53μm,22.0s							
BFZ	**Birch Farm**	**143.97**	**108**	*e*PKPpre	PKPpre	11 00 52.7		
BFZ					LR	LR		
	comp=Z,42μm,22.0s							
URZ	**Urewera**	**144.03**	**104**	PKhKP	PKPpre	11 00 52.2		
	comp=Z,944nm,1.0s,baz=344,slow=2.3,SNR=66							
URZ				PKP	**PKPab**	**11 00 55.6**	**+0.2**	
	comp=Z,764nm,0.8s,baz=351,slow=3.6,SNR=200							
URZ	**Urewera**	**144.03**	**104**	*e*PKPpre	PKPpre	11 00 52.3		
URZ					LR	LR		
	comp=Z,63μm,20.0s							
RAO	**Raoul Island**	**144.68**	**87**	PKP	**PKPab**	**11 00 58.1**	**-0.1**	
	baz=225,slow=3.3							
RAO	**Raoul Island**	**144.68**	**87**	*e*PKIKP	**PKPab**	**11 00 55.6**	**-2.5**	
RAO	**Raoul Island**	**144.68**	**87**	*e*PKPdf	**PKPab**	**11 00 55.6**	**-2.5**	
RAO					LR	LR		
	comp=Z,38μm,21.0s							
MXZ	**Matakaoa Point**	**144.75**	**103**	*e*PKPdf	**PKPab**	**11 00 55.2**	**-2.9**	
MXZ					LR	LR		
	comp=Z,58μm,22.0s							
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*PKIKP	**PKPdf**	**11 01 10.0**	**+1.0**	
	comp=Z,3μm,1.6s							
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*PP	PP	11 04 50.9	+4.0	
	comp=Z,22μm,25.8s							
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*SS	SS	11 24 05.6	+2.0	
	comp=Z,40μm,38.2s							
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*LR	LR	11 51 06.0		
	comp=Z,110μm,21.8s							
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*PKIKP	**PKPdf**	**11 01 06.6**	**-2.4**	
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*PKPbc	**PKPbc**	**11 01 12.6**	**-1.4**	
TAOE	**Nuku Hiva Isla**	**150.08**	**7**	*e*PKPdf	**PKPdf**	**11 01 06.6**	**-2.4**	
TAOE				*e*PKPbc	**PKPbc**	**11 01 12.6**	**-1.4**	
TAOE				LR	LR			
	comp=Z,84μm,20.0s							
RAR	**Rarotonga**	**153.49**	**55**	PKP	**PKPdf**	**11 01 14.3**	**+0.5**	
	comp=Z,26nm,1.0s,baz=149,slow=2.4,SNR=3.2							
RAR				PKPbc	**PKiKP**	**11 01 22.6**	**+1.0**	
	comp=Z,199nm,1.2s,baz=246,slow=7.1,SNR=8.6							
RAR	**Rarotonga**	**153.49**	**55**	*e*PKIKP	**PKPdf**	**11 01 12.2**	**-1.6**	
RAR	**Rarotonga**	**153.49**	**55**	*e*PKPdf	**PKPdf**	**11 01 12.2**	**-1.6**	
RAR				PKPbc	**PKiKP**	**11 01 22.6**	**+1.0**	
RAR				LR	LR			
	comp=Z,44μm,21.0s							
RPN	**Rapa Nui**	**154.49**	**289**	PKP	**PKPdf**	**11 01 16.2**	**+1.2**	
	comp=Z,332nm,1.0s,baz=325,slow=4.9,SNR=14							
RPN	**Rapa Nui**	**154.49**	**289**	*e*PKIKP	**PKPdf**	**11 01 15.5**	**+0.5**	
RPN				MLR	MLR			
	comp=Z,83μm,21.0s							
RPN	**Rapa Nui**	**154.49**	**289**	*e*PKIKP	**PKPdf**	**11 01 15.5**	**+0.5**	
RPN	**Rapa Nui**	**154.49**	**289**	*e*PKPdf	**PKPdf**	**11 01 15.5**	**+0.5**	
RPN				LR	LR			
	comp=Z,83μm,21.0s							
PPT	**Papeete**	**156.04**	**32**	PKP	**PKPdf**	**11 01 18.6**	**+1.2**	
	comp=Z,212nm,1.2s,baz=17,slow=2.2,SNR=7.8							
PPT				PKPab	**PKPab**	**11 01 44.9**	**+0.3**	
	comp=Z,163nm,1.1s,baz=48,slow=6.0,SNR=5.8							
PPT	**Papeete**	**156.04**	**32**	*e*PKIKP	**PKPdf**	**11 01 19.3**	**+1.9**	
PPT	**Papeete**	**156.04**	**32**	*e*PKPdf	**PKPdf**	**11 01 19.3**	**+1.9**	
PPT				PKPab	**PKPab**	**11 01 44.9**	**+0.3**	
PPT2	**Papeete2**	**156.06**	**32**	*e*PKIKP	**PKPdf**	**11 01 18.2**	**+0.7**	
	comp=Z,348nm,1.4s							
PPT2	**Papeete2**	**156.06**	**32**	*e*PP	PP	11 05 07.6	-14	
	comp=Z,29μm,25.2s							
PPT2	**Papeete2**	**156.06**	**32**	*e*SS	SS	11 25 14.5	+4.5	
	comp=Z,40μm,27.5s							
PPT2	**Papeete2**	**156.06**	**32**	*e*LR	LR	11 53 48.2		
	comp=Z,105μm,23.5s							
PAE	**Paea**	**156.13**	**32**	*e*PKIKP	**PKPdf**	**11 01 18.0**	**+0.5**	
	comp=Z,67nm,1.4s							
TIAR	**Tiarei**	**156.13**	**31**	*e*PKIKP	**PKPdf**	**11 01 18.0**	**+0.5**	
	comp=Z,61nm,1.2s							
TVO	**Taravao**	**156.37**	**32**	*e*PKIKP	**PKPdf**	**11 01 18.6**	**+0.7**	
	comp=Z,166nm,1.5s							
TBI	**Tubuai**	**161.13**	**39**	*e*PKIKP	**PKPdf**	**11 01 23.7**	**+0.4**	
	comp=Z,658nm,1.3s							
TBI	**Tubuai**	**161.13**	**39**	*e*PP	PP	11 05 43.5	-5.5	
	comp=Z,29μm,27.2s							
TBI	**Tubuai**	**161.13**	**39**	*e*SS	SS	11 26 04.7	+0.7	
	comp=Z,38μm,27.8s							
TBI	**Tubuai**	**161.13**	**39**	*e*LR	LR	11 56 09.4		
	comp=Z,135μm,35.0s							
RKT	**Rikitea**	**164.38**	**355**	*e*PKIKP	**PKPdf**	**11 01 27.3**	**+0.8**	
	comp=Z,432nm,1.3s							
RKT	**Rikitea**	**164.38**	**355**	*e*PP	PP	11 06 01.8	-3.8	
	comp=Z,27μm,26.2s							
RKT	**Rikitea**	**164.38**	**355**	*e*SS	SS	11 26 35.8	-0.7	
	comp=Z,67μm,32.0s							
RKT	**Rikitea**	**164.38**	**355**	*e*LR	LR	11 57 28.9		
	comp=Z,118μm,37.8s							

NIED ***23*** *10:45:00,37°.20N×141°.20E,h23km,Mw3.3 Best double couple: M₀1.04000×10¹⁴ NP1:φ₀s104.00000°,δ29.00000°, λ-10.00000°. NP2:φ₀s203.00000°,δ85.00000°, λ-119.00000°.*

JMA 23 10:45:33.9±0.1,37°.23N×141°.19E,h34km±1km,M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.29**	**299**	P	Pn	10 45 41.2	-0.3
JFK				S	Sn	10 45 46.2	+0.4
ONAJ	**Iwakimizuishiy**	**0.34**	**248**	P	Pb	10 45 42.0	-0.3
ONAJ				S	Sn	10 45 47.5	-0.2
JMM	**Marumori**	**0.71**	**334**	P	Pn	10 45 47.0	-0.5
JMM				*e*S	Sn	10 45 56.6	-0.6
JFT	**Otama**	**0.74**	**293**	P	Pb	10 45 48.4	0.0
JFT				S	Sb	10 45 58.4	+0.1
JHO	**Hitachi**	**0.79**	**219**	P	Pn	10 45 47.8	-0.9
JHO				*e*S	Sn	10 45 57.8	-1.5
JSB	**Shiboa**	**1.05**	**256**	P	Pb	10 45 53.6	0.0
JSB				*e*S	Sb	10 46 07.7	+0.6
JFY	**Yanaizu**	**1.20**	**279**	P	Pb	10 45 55.3	-0.8
JFY				S	Sb	10 46 11.4	+0.1
JOU	**Okura**	**1.21**	**340**	P	Pn	10 45 55.1	+0.7
JOU				S	Sb	10 46 11.3	-0.3
JIO	**Ouri**	**1.23**	**6**	P	Pn	10 45 54.5	-0.2
JIO				S	Sn	10 46 09.7	-0.4
JYS	**Shirataka**	**1.33**	**318**	P	Pb	10 45 57.3	-1.1
JYS				S	Sb	10 46 15.3	+0.2
MAT	**Matsushiro**	**2.49**	**255**	P	Pn	10 46 13.9	+1.9
MAT				S	Sb	10 46 46.6	-1.6

IDC ***23*** *10:47:13.5±2.5,38°.64N×43°.48E,h0km,mb4.3/4, mb1 4.6/5,mb1mx4.1/77,mbtmp4.5/5,ML4.2/1,Error ellipse: s-maj=52.1km s-min=19.5km az=161.0*

ISC 23 10:47:15.5±1.5,38.7N±0°.2×43.5E±0°.1,h13km,n6,σ0.89/6, mb4.3/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.76**	**33**	Pn	**Pb**	**10 47 47.4**	**-0.4**
	117nm,0.3s,baz=356,slow=19,SNR=2.3						
GEYT	**Alibeck**	**11.52**	**89**	Pn	**Pn**	**10 49 59.5**	**-0.2**
	1.4nm,0.3s,baz=328,slow=5.3,SNR=4.2						
GERES	**GERESS Array B**	**23.66**	**305**	P	**P**	**10 52 26.9**	**+0.2**
	1.7nm,0.5s,baz=96,slow=8.0,SNR=4.1						
EKA	**Eskdalemuir Ar**	**35.14**	**314**	P	**P**	**10 54 08.7**	**+0.1**
	6.5nm,0.8s,baz=109,slow=8.3,SNR=3.7						
ESDC	**Sonseca Array**	**36.47**	**287**	P	**P**	**10 54 19.4**	**-0.9**
	1.1nm,0.5s,baz=77,slow=8.9,SNR=3.4						
KDAK	**Kodiak Island**	**82.96**	**9**	P	**P**	**10 59 41.0**	**+1.2**
	8.8nm,0.7s,baz=344,slow=2.3,SNR=6.4						

MOS ***23*** *10:48:12.4±1.2,38°.40N×43°.28E,h10km,mb5.4/23,Error ellipse: s-maj=7.8km s-min=6.4km az=94.8*
IDC ***23*** *10:48:12.5±0.8,38°.52N×43°.35E,h0km,mb4.9/22, mb1 4.9/23,mb1mx4.6/72,mbtmp4.9/23,ML4.1/1,Error ellipse: s-maj=17.6km s-min=11.4km az=164.0*
ISK ***23*** *10:48:14.7,38°.71N×43°.29E,h5km,ML5.1*
CSEM ***23*** *10:48:15.3±0.1,38°.71N×43°.35E,h10km,mb5.5/77,Error ellipse: s-maj=4.2km s-min=3.3km az=163.0*
DDA ***23*** *10:48:15.0,38°.72N×43°.37E,h12km,Ml4.6*
ISCJB ***23*** *10:48:16.0±0.5,38°.68N±0°.03×43°.38E±0°.03,h24km±3km, mb5.3/87,Error ellipse: s-maj=4.6km s-min=3.3km az=160.1*
AZER ***23*** *10:48:16.9±2.8,38°.42N×43°.33E,h6km,Error ellipse: s-maj=30.4km s-min=16.0km az=62.0*
NEIC ***23*** *10:48:17.4±0.0,38°.75N×43°.60E,h9km,mb5.6/61, ML5.4(ISK),After ISK.*

ISC 23 10:48:15.1±1.0,38°.72N±0°.01×43°.37E±0°.02,h8km±6km, n427,σ1.23/469,mb5.4/87,13C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.31**	**30**	*i* P	**Pg**	**10 48 20.1**	**-1.1**
VMUR				*i* S	**Sb**	**10 48 27.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.31**	**30**	P	**Pg**	**10 48 20.1**	**-1.1**
VMUR				S	**Sb**	**10 48 27.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.31**	**30**	P	**Pg**	**10 48 20.1**	**-1.1**
VMUR				S	**Sb**	**10 48 27.6**	**-0.7**
GEVA	**Gevas**	**0.48**	**211**	*i* P	**Pg**	**10 48 23.5**	**-0.9**
GEVA				*i* S	**Sg**	**10 48 31.0**	**+0.3**
GEVA	**Gevas**	**0.48**	**211**	P	**Pg**	**10 48 23.5**	**-0.9**
GEVA				S	**Sg**	**10 48 31.0**	**+0.3**
GEVA	**Gevas**	**0.48**	**211**	Pg	**Pg**	**10 48 23.6**	**-0.9**
GEVA				Sg	**Sg**	**10 48 29.0**	**-1.7**
TUTA	**Tutak**	**0.80**	**327**	*i* P	**Pg**	**10 48 29.8**	**-0.8**
TUTA				*i* S	**Sg**	**10 48 41.7**	**+0.6**
TUTA	**Tutak**	**0.80**	**327**	P	**Pg**	**10 48 29.8**	**-0.8**
TUTA				S	**Sg**	**10 48 41.7**	**+0.6**
TUTA	**Tutak**	**0.80**	**327**	P	**Pg**	**10 48 29.8**	**-0.8**
TUTA				S	**Sg**	**10 48 41.7**	**+0.6**
DYDN	**Diyadin**	**0.85**	**17**	*i* P	**Pg**	**10 48 31.3**	**-0.2**
DYDN				*i* S	**Sb**	**10 48 43.8**	**-0.3**
DYDN	**Diyadin**	**0.85**	**17**	P	**Pg**	**10 48 31.3**	**-0.2**
DYDN				S	**Sb**	**10 48 43.8**	**-0.3**
DYDN	**Diyadin**	**0.85**	**17**	P	**Pg**	**10 48 31.3**	**-0.2**
DYDN				S	**Sb**	**10 48 43.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**341**	*e*PG	**Pg**	**10 48 32.3**	**-0.1**
AGRB				*e*SG	**Sb**	**10 48 45.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**341**	Pg	**Pn**	**10 48 35.9**	**+1.6**
AGRB				*e*Sg	**Sb**	**10 48 45.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**341**	Pg	**Pn**	**10 48 35.9**	**+1.6**
EKAR	**Karacoban**	**1.15**	**298**	*i* P	**Pn**	**10 48 38.2**	**+0.5**
EKAR				*i* S	**Sn**	**10 48 54.6**	**+0.8**
EKAR	**Karacoban**	**1.15**	**298**	P	**Pn**	**10 48 38.2**	**+0.5**
EKAR				S	**Sn**	**10 48 54.6**	**+0.8**
EKAR	**Karacoban**	**1.15**	**298**	P	**Pn**	**10 48 38.2**	**+0.5**
EATA	**Eleskirt**	**1.33**	**329**	*i* P	**Pn**	**10 48 39.9**	**-0.3**
EATA				*i* S	**Sn**	**10 48 59.7**	**+1.4**
EATA	**Eleskirt**	**1.33**	**329**	P	**Pn**	**10 48 39.9**	**-0.3**
EATA				S	**Sn**	**10 48 59.7**	**+1.4**
EATA	**Eleskirt**	**1.33**	**329**	P	**Pn**	**10 48 39.9**	**-0.3**
SIRN	**S¨–rnak**	**1.44**	**212**	*i* P	**Pg**	**10 48 42.8**	**+0.1**
SIRN				*i* S	**Sg**	**10 49 02.8**	**+1.4**
SIRN	**S¨–rnak**	**1.44**	**212**	P	**Pg**	**10 48 42.8**	**+0.1**
SIRN				S	**Sg**	**10 49 02.8**	**+1.4**
SIRN	**S¨–rnak**	**1.44**	**212**	P	**Pg**	**10 48 42.8**	**+0.1**
CUKT	**Cukurca**	**1.49**	**173**	*e*PN	**Pb**	**10 48 42.7**	**-0.3**
CUKT	**Cukurca**	**1.49**	**173**	*i* P	**Pg**	**10 48 44.7**	**+1.1**
CUKT				*i* S	**Sg**	**10 49 06.9**	**+4.1**
CUKT	**Cukurca**	**1.49**	**173**	*e*Pn	**Pb**	**10 48 42.7**	**-0.3**
CUKT	**Cukurca**	**1.49**	**173**	P	**Pg**	**10 48 44.7**	**+1.1**
CUKT				Sn	**Sg**	**10 49 05.3**	**+2.4**
CUKT				S	**Sg**	**10 49 06.9**	**+4.1**
CUKT	**Cukurca**	**1.49**	**173**	Pn	**Pg**	**10 48 45.3**	**+1.7**
CUKT				Sn	**Sg**	**10 49 05.3**	**+2.4**
VRTB	**Varto-Mus**	**1.56**	**287**	*e*PN	**Pn**	**10 48 42.5**	**-0.7**
VRTB				*e*SN	**Sn**	**10 49 03.6**	**-0.1**
VRTB	**Varto-Mus**	**1.56**	**287**	*i* P	**Pb**	**10 48 44.0**	**-0.2**
VRTB	**Varto-Mus**	**1.56**	**287**	*e*Pn	**Pn**	**10 48 42.5**	**-0.7**
VRTB	**Varto-Mus**	**1.56**	**287**	P	**Pb**	**10 48 44.0**	**-0.2**
VRTB				*e*Sn	**Sn**	**10 49 03.6**	**-0.1**
VRTB	**Varto-Mus**	**1.56**	**287**	Pn	**Pg**	**10 48 48.0**	**+3.0**
DIGO	**Kars**	**1.69**	**0**	*i* P	**Pn**	**10 48 45.8**	**+0.7**
DIGO				*i* S	**Sg**	**10 49 11.2**	**+1.7**
DIGO	**Kars**	**1.69**	**0**	P	**Pn**	**10 48 45.8**	**+0.7**
DIGO				S	**Sg**	**10 49 11.1**	**+1.7**
DIGO	**Kars**	**1.69**	**0**	P	**Pn**	**10 48 45.8**	**+0.7**
DIGO				S	**Sg**	**10 49 11.2**	**+1.7**
NAX	**Nakhchivan**	**1.72**	**74**	⇑P	**Pb**	**10 48 46.9**	**-0.1**
	SNR=7.8						
NAX				⇑S	**Sg**	**10 49 12.6**	**+2.3**
NAX	**Nakhchivan**	**1.72**	**74**	P	**Pb**	**10 48 46.8**	**-0.1**
NAX	**Nakhchivan**	**1.72**	**74**	P	**Pb**	**10 48 46.9**	**-0.1**
	SNR=7.8						
NAX				S	**Sg**	**10 49 12.6**	**+2.3**
HOMI	**Horasan**	**1.74**	**320**	*i* P	**Pg**	**10 48 48.5**	**0.0**
HOMI	**Horasan**	**1.74**	**320**	P	**Pg**	**10 48 48.5**	**0.0**
HOMI	**Horasan**	**1.74**	**320**	P	**Pg**	**10 48 48.5**	**0.0**
BNGL	**BINGOL**	**1.75**	**278**	*i* P	**Pb**	**10 48 46.9**	**-0.7**
BNGL	**BINGOL**	**1.75**	**278**	P	**Pb**	**10 48 46.9**	**-0.7**
BNGL	**BINGOL**	**1.75**	**278**	P	**Pb**	**10 48 46.9**	**-0.7**
GNI	**Garni**	**1.77**	**36**	Pn	**Pb**	**10 48 48.6**	**+0.6**
	278nm,0.3s,baz=262,slow=7.8,SNR=5.5						
GNI				Lg	Lg	10 49 15.6	
	711nm,0.3s,baz=44,slow=17,SNR=5.8						
GNI	**Garni**	**1.77**	**36**	*e*Pn	**Pb**	**10 48 48.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*i* P	**Pb**	**10 48 48.0**	**-0.3**
SVAN				*i* S	**Sg**	**10 49 12.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	P	**Pb**	**10 48 48.0**	**-0.3**
SVAN				S	**Sg**	**10 49 12.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	P	**Pb**	**10 48 48.0**	**-0.3**
SVAN				S	**Sg**	**10 49 12.6**	**-0.3**
BTMN	**Batman**	**1.85**	**244**	*i* P	**Pn**	**10 48 48.1**	**+0.9**
BTMN				*i* S	**Sn**	**10 49 11.3**	**+0.4**
BTMN	**Batman**	**1.85**	**244**	P	**Pn**	**10 48 48.1**	**+0.9**
BTMN				S	**Sn**	**10 49 11.3**	**+0.4**
EAK	**Akyaka**	**1.97**	**5**	*i* P	**Pb**	**10 48 51.8**	**+0.5**
EAK				*i* S	**Sg**	**10 49 22.9**	**+4.6**
EAK	**Akyaka**	**1.97**	**5**	P	**Pb**	**10 48 51.8**	**+0.5**
EAK				S	**Sg**	**10 49 22.9**	**+4.6**
SENK	**Senkaya-Erzuru**	**2.00**	**337**	*e*PN	**Pn**	**10 48 49.9**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.00**	**337**	*e*Pn	**Pn**	**10 48 49.9**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.06**	**296**	*i* P	**Pb**	**10 48 53.4**	**+0.5**
ECAT				*i* S	**Sg**	**10 49 22.5**	**+1.2**
ECAT	**Cat-ERZURUM**	**2.06**	**296**	P	**Pb**	**10 48 53.4**	**+0.5**
ECAT				S	**Sg**	**10 49 22.5**	**+1.2**
BNGB	**Bing¨¶l**	**2.12**	**278**	*e*PN	**Pn**	**10 48 50.9**	**0.0**
BNGB	**Bing¨¶l**	**2.12**	**278**	Pn	**Pg**	**10 48 56.9**	**+1.2**
BNGB				Sn	**Sg**	**10 49 24.9**	**+1.7**
BINT	**Bingol**	**2.26**	**275**	P	**Pb**	**10 48 56.9**	**+0.7**
BINT				S	**Sb**	**10 49 24.9**	**+0.6**
BINT	**Bingol**	**2.26**	**275**	*e*Pn	**Pn**	**10 48 50.9**	**-2.0**
BINT	**Bingol**	**2.26**	**275**	P	**Pb**	**10 48 56.9**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.31**	**289**	*e*PN	**Pn**	**10 48 54.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.31**	**289**	*e*Pn	**Pn**	**10 48 54.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.31**	**289**	Pn	**Pg**	**10 48 59.1**	**-0.3**
MARD	**Mardin**	**2.48**	**236**	*e*Pn	**Pn**	**10 48 56.3**	**+0.3**
MARD	**Mardin**	**2.48**	**236**	*e*Pn	**Pn**	**10 48 56.3**	**+0.3**
DDEM	**Demirkent**	**2.50**	**331**	*i* P	**Pb**	**10 49 01.4**	**+1.1**
DDEM	**Demirkent**	**2.50**	**331**	P	**Pb**	**10 49 01.4**	**+1.1**
KOPT	**Kop Dagi**	**2.58**	**301**	*e*Pn	**Pg**	**10 49 03.7**	**-0.7**
MAZI	**Mazidag**	**2.63**	**242**	*e*PN	**Pn**	**10 48 57.6**	**-0.4**
MAZI	**Mazidag**	**2.63**	**242**	*e*Pn	**Pn**	**10 48 57.6**	**-0.4**
MAZI	**Mazidag**	**2.63**	**242**	Pn	**Pb**	**10 49 03.6**	**+1.0**
AKH	**Akhalkalaki**	**2.68**	**2**	*e*PN	**Pn**	**10 49 00.1**	**+1.3**
AKH	**Akhalkalaki**	**2.68**	**2**	P	**Pg**	**10 49 05.7**	**-0.9**
AKH	**Akhalkalaki**	**2.68**	**2**	P	**Pg**	**10 49 05.6**	**-0.9**
AKH	**Akhalkalaki**	**2.68**	**2**	*e*Pn	**Pn**	**10 49 00.1**	**+1.3**
ARTV	**Artvin**	**2.70**	**336**	*i* P	**Pb**	**10 49 04.6**	**+0.8**
ARTV	**Artvin**	**2.70**	**336**	P	**Pb**	**10 49 04.6**	**+0.8**
ARTV	**Artvin**	**2.70**	**336**	*e*Pn	**Pg**	**10 49 05.7**	**-1.1**
GDB	**GEDABAY**	**2.71**	**42**	⇑P	**Pb**	**10 49 04.2**	**+0.2**
GDB				⇑S	**Sg**	**10 49 41.1**	**-1.1**
GDB	**GEDABAY**	**2.71**	**42**	P	**Pb**	**10 49 04.2**	**+0.2**
KZR	**Kazreti**	**2.77**	**16**	P	**Pg**	**10 49 07.6**	**-0.6**
QZX	**Qazax, Azerbai**	**2.79**	**33**	⇑P	**Pb**	**10 49 05.3**	**+0.1**
QZX				⇓S	**Sg**	**10 49 44.9**	**+0.1**
QZX	**Qazax, Azerbai**	**2.79**	**33**	P	**Pb**	**10 49 05.3**	**+0.1**
ERZN	**Erzincan**	**2.96**	**288**	*e*PN	**Pn**	**10 49 02.9**	**+0.3**
ERZN	**Erzincan**	**2.96**	**288**	Pn	**Pb**	**10 49 08.5**	**+0.3**
GANJ	**Ganja**	**2.98**	**49**	⇑P	**Pb**	**10 49 07.3**	**-1.1**
GANJ				⇑S	**Sn**	**10 49 38.3**	**-0.3**
GANJ	**Ganja**	**2.98**	**49**	P	**Pb**	**10 49 07.3**	**-1.1**
GANJ	**Ganja**	**2.98**	**49**	P	**Pb**	**10 49 07.3**	**-1.1**
GANJ				S	**Sn**	**10 49 38.3**	**-0.3**
TNCL	**Tunceli-Merkez**	**3.01**	**279**	*i* P	**Pb**	**10 49 09.2**	**+0.2**
TNCL	**Tunceli-Merkez**	**3.01**	**279**	P	**Pb**	**10 49 09.2**	**+0.2**
PTK	**Pertek**	**3.11**	**274**	*e*PN	**Pn**	**10 49 05.3**	**+0.6**
PTK	**Pertek**	**3.11**	**274**	*e*Pn	**Pn**	**10 49 05.3**	**+0.6**
PTK	**Pertek**	**3.11**	**274**	Pn	**Pb**	**10 49 10.7**	**-0.1**
DGRG	**David-gareji**	**3.13**	**29**	P	**Pg**	**10 49 13.3**	**-1.7**
DGRG	**David-gareji**	**3.13**	**29**	P	**Pg**	**10 49 13.3**	**-1.7**
TBLG	**Delisi**	**3.18**	**19**	*e*PN	**Pn**	**10 49 07.5**	**+2.0**
TBLG	**Delisi**	**3.18**	**19**	P	**Pb**	**10 49 10.0**	**-1.9**
TBLG	**Delisi**	**3.18**	**19**	P	**Pb**	**10 49 09.9**	**-1.9**
TBLG	**Delisi**	**3.18**	**19**	*e*Pn	**Pn**	**10 49 07.5**	**+2.0**
TBLG	**Delisi**	**3.18**	**19**	P	**Pb**	**10 49 09.9**	**-1.9**
EZC	**Erzincan**	**3.29**	**289**	*e*Pn	**Pn**	**10 49 02.9**	**-4.1**
BRDA	**Brd**	**3.32**	**61**	⇓P	**Pb**	**10 49 12.1**	**-2.1**
BRDA	**Brd**	**3.32**	**61**	P	**Pb**	**10 49 12.1**	**-2.1**
KELT	**Kelkit**	**3.49**	**295**	*i* P	**Pb**	**10 49 19.1**	**+1.9**
KELT				*i* S	**Sg**	**10 50 07.9**	**+0.7**
KELT	**Kelkit**	**3.49**	**295**	P	**Pb**	**10 49 19.1**	**+1.9**
KELT				S	**Sg**	**10 50 07.9**	**+0.7**
KELT	**Kelkit**	**3.49**	**295**	P	**Pb**	**10 49 19.1**	**+1.9**
KELT				S	**Sg**	**10 50 07.9**	**+0.7**
MNGR	**Mingechevir, A**	**3.52**	**53**	⇑P	**Pn**	**10 49 13.7**	**+3.6**
MNGR	**Mingechevir, A**	**3.52**	**53**	P	**Pn**	**10 49 13.7**	**+3.6**
MNGR	**Mingechevir, A**	**3.52**	**53**	P	**Pn**	**10 49 13.7**	**+3.6**
KTUT	**Trabzon**	**3.58**	**310**	*e*PN	**Pn**	**10 49 12.4**	**+1.5**
KTUT	**Trabzon**	**3.58**	**310**	*e*Pn	**Pn**	**10 49 12.4**	**+1.5**
KTUT	**Trabzon**	**3.58**	**310**	Pn	**Pb**	**10 49 16.5**	**-2.1**
ZRD	**Zardab**	**3.68**	**64**	⇑P	**Pb**	**10 49 16.7**	**-3.7**
ZRD	**Zardab**	**3.68**	**64**	P	**Pb**	**10 49 16.7**	**-3.7**
ONI	**Oni**	**3.86**	**1**	P	**Pb**	**10 49 23.2**	**-0.3**
ONI	**Oni**	**3.86**	**1**	P	**Pb**	**10 49 23.2**	**-0.3**
LRK	**Lerik**	**3.89**	**90**	⇓P	**Pn**	**10 49 16.6**	**+1.3**
LRK	**Lerik**	**3.89**	**90**	P	**Pn**	**10 49 16.6**	**+1.3**
GLBA	**Cilalabad**	**3.95**	**81**	⇑P	**Pn**	**10 49 17.7**	**+1.7**
	SNR=8.4						
GLBA	**Cilalabad**	**3.95**	**81**	P	**Pn**	**10 49 17.7**	**+1.7**
	SNR=8.4						
LKRN	**Lenkeran, Azer**	**4.23**	**89**

comp=Z,13nm,0.8s,baz=129,slow=14,SNR=3.9
DAVOX Davos/Dischmat 25.73 299 P **P 10 53 46.0 -0.1**
DAVOX pmax pmax
comp=Z,13nm,0.8s
DAVOX Davos/Dischmat 25.73 299 *e*P **P 10 53 46.0 -0.1**
RGN Rugen 25.73 318 *e*P **P 10 53 47.9 +2.1**
comp=Z,598nm,1.5s
RGN Rugen 25.73 318 *e*P **P 10 53 47.9 +2.1**
comp=Z,598nm,1.5s
DAVA Damuels 25.78 300 *i*P **P 10 53 45.7 -0.9**
comp=Z,78nm,1.4s
DAVA Damuels 25.78 300 P **P 10 53 45.7 -0.9**
comp=Z,78nm,1.4s
TUE Stuetta 26.06 298 *e*P **P 10 53 49.5 +0.4**
comp=Z,272nm,1.5s
TUE Stuetta 26.06 298 *e*P **P 10 53 49.5 +0.4**
comp=Z,272nm,1.5s
VSL Villasalto 26.30 282 *e*P **P 10 53 50.9 -0.2**
comp=Z,82nm,1.5s
VSL Villasalto 26.30 282 *e*P **P 10 53 50.9 -0.2**
comp=Z,82nm,1.5s
VSL *e*S **S 10 58 28.9 +4.8**
KURBB Kurchatov Arra 27.42 53 P **P 10 54 02.0 +0.9**
comp=Z,18nm,0.7s,baz=261,slow=8.9,SNR=5.0
KURK Kurchatov 27.50 53 P **P 10 54 02.0 +0.2**
KURK pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 27.50 53 P **P 10 54 02.0 +0.2**
comp=Z,18nm,0.7s
KURK Kurchatov 27.50 53 *e*P **P 10 54 02.0 +0.2**
ECH Echery 27.72 302 *e*P **P 10 54 05.8 +2.0**
ECH pmax pmax
comp=Z,139nm,1.8s
ECH Echery 27.72 302 *e*P **P 10 54 05.8 +2.0**
comp=Z,139nm,1.8s
ECH Echery 27.72 302 *e*P **P 10 54 05.8 +2.0**
comp=Z,139nm,1.8s
BNI Bardonecchia 27.86 295 *e*P **P 10 54 05.8 +0.5**
BNI Bardonecchia 27.86 295 *e*P **P 10 54 05.8 +0.5**
BNI Bardonecchia 27.86 295 *e*P **P 10 54 05.8 +0.5**
HFS Hagfors 28.42 329 P **P 10 54 09.7 -0.1**
comp=Z,43nm,0.8s,baz=132,slow=9.9,SNR=12
MAKZ Makanchi 29.23 61 *e*P **P 10 54 17.8 +0.5**
MAKZ pmax pmax
comp=Z,762nm,1.8s
MAKZ Makanchi 29.23 61 *e*P **P 10 54 17.8 +0.5**
comp=Z,762nm,1.8s
MAKZ Makanchi 29.23 61 *e*P **P 10 54 17.8 +0.5**
comp=Z,762nm,1.8s
SSB Saint Sauveur 29.38 296 *e*P **P 10 54 18.7 +0.1**
SSB pmax pmax
comp=Z,25nm,1.3s
SSB Saint Sauveur 29.38 296 *e*P **P 10 54 18.7 +0.1**
comp=Z,25nm,1.3s
SSB Saint Sauveur 29.38 296 *e*P **P 10 54 18.7 +0.1**
comp=Z,25nm,1.3s
MK31 Makanchi Array 29.45 61 *e*P **P 10 54 19.6 +0.4**
MK31 Makanchi Array 29.45 61 *e*P **P 10 54 19.6 +0.4**
MK31 Makanchi Array 29.45 61 *e*P **P 10 54 19.6 +0.4**
MK32 Makanchi Array 29.45 61 *e*P **P 10 54 19.8 +0.6**
MK32 Makanchi Array 29.45 61 *e*P **P 10 54 19.8 +0.6**
MKAR Makanchi Array 29.45 61 P **P 10 54 19.8 +0.5**
comp=Z,9.2nm,1.0s,baz=278,slow=5.9,SNR=4.2
MKAR Makanchi Array 29.45 61 *e*P **P 10 54 20.1 +0.9**
MKAR pmax pmax
comp=Z,949nm,1.4s
MKAR Makanchi Array 29.45 61 *e*P **P 10 54 20.1 +0.9**
comp=Z,949nm,1.4s
MKAR Makanchi Array 29.45 61 *e*P **P 10 54 20.1 +0.9**
comp=Z,949nm,1.4s
KONO Kongsberg 29.90 326 *e*P **P 10 54 22.9 -0.1**
KONO pmax pmax
comp=Z,344nm,1.5s
KONO Kongsberg 29.90 326 *e*P **P 10 54 22.9 -0.1**
comp=Z,344nm,1.5s
KONO Kongsberg 29.90 326 *e*P **P 10 54 22.9 -0.1**
comp=Z,344nm,1.5s
NB200 NORSAR Array S 29.94 329 *e*P **P 10 54 22.2 -1.2**
NB200 NORSAR Array S 29.94 329 *e*P **P 10 54 22.2 -1.2**
NOA NORSAR Array B 29.94 329 P **P 10 54 22.2 -1.2**
comp=Z,12nm,0.9s,baz=112,slow=12,SNR=2.8
ZALV Zalesovo Beam 31.89 48 P **P 10 54 40.0 -0.6**
comp=Z,42nm,1.2s,baz=254,slow=7.9,SNR=2.8
ZAA1 Zalesovo Array 31.89 48 *e*P **P 10 54 40.0 -0.6**
ZAA1 Zalesovo Array 31.89 48 *e*P **P 10 54 40.0 -0.6**
KEV Kevo 32.30 349 *e*P **P 10 54 43.9 -0.1**
KEV pmax pmax
comp=Z,812nm,2.0s
KEV Kevo 32.30 349 *e*P **P 10 54 43.9 -0.1**
comp=Z,812nm,2.0s
KEV Kevo 32.30 349 *e*P **P 10 54 43.9 -0.1**
comp=Z,812nm,2.0s
ARA0 ARCESS Array S 32.32 348 *e*P **P 10 54 44.1 -0.2**
ARA0 ARCESS Array S 32.32 348 *e*P **P 10 54 44.1 -0.2**
ARCES ARCESS Array B 32.32 348 P **P 10 54 44.1 -0.2**
comp=Z,36nm,0.9s,baz=152,slow=8.0,SNR=8.9
ARE0 ARCESS Array S 32.32 348 *e*P **P 10 54 44.4 +0.1**
comp=Z,457nm,1.7s
ARE0 ARCESS Array S 32.32 348 *e*P **P 10 54 44.4 +0.1**
comp=Z,457nm,1.7s
EKA Eskdalemuir Ar 35.04 314 P **P 10 55 08.0 -0.1**
comp=Z,56nm,0.9s,baz=102,slow=9.0,SNR=18
EKA Eskdalemuir Ar 35.04 314 P **P 10 55 08.0 -0.1**
EKA pmax pmax
comp=Z,56nm,0.9s
EKA Eskdalemuir Ar 35.04 314 P **P 10 55 08.0 -0.1**
comp=Z,56nm,0.9s
ESK Eskdalemuir 35.06 314 *e*P **P 10 55 07.7 -0.6**
ESK pmax pmax
comp=Z,73nm,1.1s
ESK Eskdalemuir 35.06 314 *e*P **P 10 55 07.7 -0.6**
comp=Z,73nm,1.1s
ESK Eskdalemuir 35.06 314 *e*P **P 10 55 07.7 -0.6**
comp=Z,73nm,1.1s
ESDC Sonseca Array 36.36 287 P **P 10 55 18.5 -1.2**
comp=Z,16nm,0.9s,baz=67,slow=8.9,SNR=12
ESLA Sonseca Array 36.36 287 *e*P **P 10 55 19.0 -0.7**
comp=Z,86nm,1.8s
ESLA Sonseca Array 36.36 287 *e*P **P 10 55 19.0 -0.7**
comp=Z,86nm,1.8s
PAB San Pablo 36.68 287 *e*P **P 10 55 21.0 -1.5**
PAB pmax pmax
comp=Z,106nm,1.8s
PAB San Pablo 36.68 287 *e*P **P 10 55 21.0 -1.5**
comp=Z,106nm,1.8s
PAB San Pablo 36.68 287 *e*P **P 10 55 21.0 -1.5**
comp=Z,106nm,1.8s
DSB Dublin 36.71 310 *e*P **P 10 55 22.6 +0.2**
comp=Z,35nm,1.0s
DSB Dublin 36.71 310 *e*P **P 10 55 22.6 +0.2**
comp=Z,35nm,1.0s
MVO Moncorvo 38.28 290 *e*P **P 10 55 34.7 -1.3**
MVO Moncorvo 38.28 290 *e*P **P 10 55 34.7 -1.3**
MTE Manteigas 38.85 289 *e*P **P 10 55 40.0 -0.7**
MTE Manteigas 38.85 289 *e*P **P 10 55 40.3 -0.5**
comp=Z,46nm,1.0s
MTE Manteigas 38.85 289 *e*P **P 10 55 40.3 -0.5**
comp=Z,46nm,1.0s
PCBR Castelo Branco 38.94 288 *e*P **P 10 55 40.5 -0.9**
PCBR Castelo Branco 38.94 288 *e*P **P 10 55 40.5 -0.9**
PMRV Marv??o 38.99 288 *e*P **P 10 55 40.7 -1.2**
PMRV Marv??o 38.99 288 *e*P **P 10 55 40.7 -1.2**
PVIS Viseu 39.03 290 *e*P **P 10 55 41.4 -0.8**
PVIS Viseu 39.03 290 *e*P **P 10 55 41.4 -0.8**
PBAR Barrancos 39.07 286 *e*P **P 10 55 41.2 -1.4**
PBAR Barrancos 39.07 286 *e*P **P 10 55 41.2 -1.4**
PESTR Estremoz 39.29 287 *e*P **P 10 55 43.2 -1.2**
comp=Z,64nm,1.5s
PESTR Estremoz 39.29 287 *e*P **P 10 55 43.2 -1.2**
comp=Z,64nm,1.5s
PTOM Tomar 39.69 288 *e*P **P 10 55 47.3 -0.4**
comp=Z,99nm,1.5s
PTOM Tomar 39.69 288 *e*P **P 10 55 47.3 -0.4**
comp=Z,99nm,1.5s
PBEJ Beja 39.74 286 *e*P **P 10 55 46.9 -1.3**
PBEJ Beja 39.74 286 *e*P **P 10 55 46.9 -1.3**
PCVE Castro Verde 39.99 285 *e*P **P 10 55 49.2 -1.0**
PCVE Castro Verde 39.99 285 *e*P **P 10 55 49.2 -1.0**
PBDV Barranco-do-Ve 40.03 284 *e*P **P 10 55 49.4 -1.2**
PBDV Barranco-do-Ve 40.03 284 *e*P **P 10 55 49.4 -1.2**
SPA0 Spitsbergen Ar 41.12 352 *e*P **P 10 56 00.0 +0.9**
SPA0 Spitsbergen Ar 41.12 352 *e*P **P 10 56 00.0 +0.9**
SPITS Spitsbergen Ar 41.12 352 P **P 10 56 00.0 +0.9**
comp=Z,7.5nm,0.7s,baz=122,slow=10,SNR=4.3
KBS Kingsbay 42.24 351 *e*P **P 10 56 08.4 +0.2**
KBS pmax pmax
comp=Z,295nm,1.8s
KBS Kingsbay 42.24 351 *e*P **P 10 56 08.4 +0.2**
comp=Z,296nm,1.8s
KBS Kingsbay 42.24 351 *e*P **P 10 56 08.4 +0.2**
comp=Z,296nm,1.8s
TOA1 Torodi Ar. Sit 44.77 247 *e*P **P 10 56 27.6 -1.7**
comp=Z,60nm,1.4s
TOA1 Torodi Ar. Sit 44.77 247 *e*P **P 10 56 27.6 -1.7**
comp=Z,60nm,1.4s
TORD Torodi Ar. Bea 44.77 247 P **P 10 56 27.6 -1.7**
comp=Z,7.5nm,0.9s,baz=40,slow=9.5,SNR=4.4
SUMG Summit 51.13 337 *e*P **P 10 57 18.9 +0.5**
SUMG pmax pmax
comp=Z,122nm,1.6s
SUMG Summit 51.13 337 *e*P **P 10 57 18.9 +0.5**
comp=Z,122nm,1.6s
SUMG Summit 51.13 337 *e*P **P 10 57 18.9 +0.5**
comp=Z,122nm,1.6s
CHTO Chiang Mai 51.78 96 *e*P **P 10 57 22.9 -0.6**
CHTO pmax pmax
comp=Z,97nm,1.9s
CHTO Chiang Mai 51.78 96 *e*P **P 10 57 22.9 -0.6**
comp=Z,97nm,1.9s
CHTO Chiang Mai 51.78 96 *e*P **P 10 57 22.9 -0.6**
comp=Z,97nm,1.9s
CM31 Chiang Mai Arr 51.99 96 *e*P **P 10 57 21.9 -3.2**
CMAR Chiang Mai Arr 51.99 96 P **P 10 57 23.1 -1.9**
comp=Z,6.0nm,0.7s,baz=300,slow=8.1,SNR=5.9
KLR Kul'dur 60.99 49 P **P 10 58 27.9 -0.8**
comp=Z,0.5nm,0.9s,baz=231,slow=6.5,SNR=3.0
SEY Seymchan 64.06 29 P **P 10 58 49.6 +0.6**
comp=Z,22nm,1.1s,baz=218,slow=20,SNR=4.2
KS15 Wonju Array Si 64.11 62 *e*P **P 10 58 49.0 -0.8**
KS15 Wonju Array Si 64.11 62 *e*P **P 10 58 49.0 -0.8**
KSAR Wonju Array Be 64.11 62 P **P 10 58 49.0 -0.8**
KSAR Wonju Array Be 64.11 62 P **P 10 58 49.0 -0.8**
KSAR Wonju Array Be 64.11 62 P **P 10 58 49.0 -0.8**
KSRS Korea Array 64.13 62 P **P 10 58 49.0 -0.9**
comp=Z,6.5nm,0.9s,baz=290,slow=6.8,SNR=7.2
KSRS Korea Array 64.13 62 P **P 10 58 49.0 -0.9**
KSRS pmax pmax
comp=Z,7.0nm,0.9s
KSRS Korea Array 64.13 62 P **P 10 58 49.0 -0.9**
comp=Z,7.0nm,0.9s
JNU Nakatsue 68.45 64 P **P 10 59 17.0 -0.7**
comp=Z,9.2nm,0.9s,baz=39,slow=6.5,SNR=4.6
TOLK Toolik Lake Re 72.52 5 P **P 10 59 42.7 +0.7**
baz=349
LMN Caledonia Moun 74.04 316 *e*P **P 10 59 50.8 -0.5**
comp=Z,32nm,1.2s
LMN Caledonia Moun 74.04 316 *e*P **P 10 59 50.8 -0.5**
comp=Z,32nm,1.2s
PQI Presque Isle 75.21 318 *e*P **P 10 59 57.9 -0.2**
comp=Z,213nm,1.8s
PQI Presque Isle 75.21 318 *e*P **P 10 59 57.9 -0.2**
comp=Z,213nm,1.8s
GGN Saint George 75.61 317 *e*P **P 10 59 59.8 -0.6**
comp=Z,192nm,1.9s
GGN Saint George 75.61 317 *e*P **P 10 59 59.8 -0.6**
comp=Z,192nm,1.9s
MLY Manley 75.99 6 *e*P **P 11 00 02.0 -0.3**
comp=Z,136nm,2.0s
MLY Manley 75.99 6 *e*P **P 11 00 02.0 -0.3**
comp=Z,136nm,2.0s
MDM Murphy Dome 76.25 5 *e*P **P 11 00 04.0 +0.2**
comp=Z,92nm,1.8s
MDM Murphy Dome 76.25 5 *e*P **P 11 00 04.0 +0.2**
comp=Z,92nm,1.8s
ILAR Eielson Array 76.53 5 P **P 11 00 05.3 0.0**
comp=Z,2.2nm,1.0s,baz=305,slow=6.3,SNR=2.8
ILAR Eielson Array 76.53 5 P **P 11 00 05.3 0.0**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 76.53 5 P **P 11 00 05.3 0.0**
comp=Z,3.0nm,1.0s
ILB Eielson Array 76.53 5 *e*P **P 11 00 05.3 0.0**
ILB Eielson Array 76.53 5 *e*P **P 11 00 05.3 0.0**
CCB Clear Creek Bu 76.59 5 *e*P **P 11 00 05.2 -0.5**
comp=Z,86nm,1.9s
CCB Clear Creek Bu 76.59 5 *e*P **P 11 00 05.2 -0.5**
comp=Z,86nm,1.9s
EGAK Eagle 76.77 2 *e*P **P 11 00 07.2 +0.5**
comp=Z,82nm,1.6s
EGAK Eagle 76.77 2 *e*P **P 11 00 07.2 +0.5**
comp=Z,82nm,1.6s
HDA Harding Lake 76.88 5 *e*P **P 11 00 07.1 -0.2**
comp=Z,43nm,1.2s
HDA Harding Lake 76.88 5 *e*P **P 11 00 07.1 -0.2**
comp=Z,43nm,1.2s
BPAW Bear Paw Mtn. 76.88 6 *e*P **P 11 00 08.6 +1.2**
comp=Z,56nm,1.5s
BPAW Bear Paw Mtn. 76.88 6 *e*P **P 11 00 08.6 +1.2**
comp=Z,56nm,1.5s
CAST Castle Rocks 77.45 7 *e*P **P 11 00 10.2 -0.4**
comp=Z,75nm,1.5s
CAST Castle Rocks 77.45 7 *e*P **P 11 00 10.2 -0.4**
comp=Z,75nm,1.5s
DAWY Dawson 77.53 1 *e*P **P 11 00 10.6 -0.4**
comp=Z,115nm,1.8s
DAWY Dawson 77.53 1 *e*P **P 11 00 10.7 -0.4**
comp=Z,115nm,1.8s
YKA Yellowknife Ar 77.58 350 P **P 11 00 10.6 -0.6**
comp=Z,5.7nm,0.9s,baz=15,slow=5.8,SNR=3.8
YKB5 Yellowknife Ar 77.58 350 *e*P **P 11 00 10.6 -0.6**
YKB5 Yellowknife Ar 77.58 350 *e*P **P 11 00 10.6 -0.6**
DOT Dot Lake 77.80 3 *e*P **P 11 00 13.1 +0.6**
comp=Z,133nm,1.4s
DOT Dot Lake 77.80 3 *e*P **P 11 00 13.2 +0.6**
comp=Z,133nm,1.4s
MENT Mentasta 78.52 3 *e*P **P 11 00 16.6 0.0**
comp=Z,82nm,1.7s
MENT Mentasta 78.52 3 *e*P **P 11 00 16.6 0.0**
comp=Z,82nm,1.7s
TRQ Mont Tremblant 78.81 321 *e*P **P 11 00 18.5 0.0**
TRQ Mont Tremblant 78.81 321 *e*P **P 11 00 18.5 0.0**
VLDQ Val d'Or 78.83 324 *e*P **P 11 00 19.0 +0.6**
comp=Z,114nm,1.8s
VLDQ Val d'Or 78.83 324 *e*P **P 11 00 19.0 +0.6**
comp=Z,114nm,1.8s
LBNH Lisbon 78.88 319 *e*P **P 11 00 19.0 +0.2**
LBNH pmax pmax
comp=Z,73nm,1.4s
LBNH Lisbon 78.88 319 *e*P **P 11 00 19.0 +0.2**
comp=Z,73nm,1.4s
LBNH Lisbon 78.88 319 *e*P **P 11 00 19.0 +0.2**
comp=Z,73nm,1.4s
FRNY Flat Rock 79.31 320 *e*P **P 11 00 21.0 -0.2**
comp=Z,29nm,1.2s
FRNY Flat Rock 79.31 320 *e*P **P 11 00 21.0 -0.2**
comp=Z,29nm,1.2s
RC01 Rabbit Creek A 79.96 6 *e*P **P 11 00 24.7 +0.3**
comp=Z,109nm,1.7s
RC01 Rabbit Creek A 79.96 6 *e*P **P 11 00 24.7 +0.3**
comp=Z,109nm,1.7s
LONY Lake Ozonia 79.97 320 *e*P **P 11 00 25.0 +0.2**
comp=Z,55nm,1.3s
LONY Lake Ozonia 79.97 320 *e*P **P 11 00 25.0 +0.2**
comp=Z,55nm,1.3s
ACCN Adirondack Com 80.38 319 *e*P **P 11 00 27.3 +0.3**
comp=Z,28nm,1.0s
ACCN Adirondack Com 80.38 319 *e*P **P 11 00 27.3 +0.3**
comp=Z,28nm,1.0s
BALM Baldy 80.48 3 *e*P **P 11 00 27.3 0.0**
BALM pmax pmax
comp=Z,129nm,2.0s
BALM Baldy 80.48 3 *e*P **P 11 00 27.3 0.0**
comp=Z,129nm,2.0s
BALM Baldy 80.48 3 *e*P **P 11 00 27.3 0.0**
comp=Z,129nm,2.0s
HYT Haines Junctio 80.80 0 *e*P **P 11 00 29.8 +0.7**
comp=Z,139nm,1.9s
HYT Haines Junctio 80.80 0 *e*P **P 11 00 29.8 +0.7**
comp=Z,139nm,1.9s
WHY Whitehorse 80.96 359 *e*P **P 11 00 29.6 -0.3**
comp=Z,131nm,2.0s
WHY Whitehorse 80.96 359 *e*P **P 11 00 29.6 -0.3**
comp=Z,131nm,2.0s
FFC Flin Flon 82.29 341 *e*P **P 11 00 36.9 0.0**
FFC pmax pmax
comp=Z,150nm,1.9s
FFC Flin Flon 82.29 341 *e*P **P 11 00 36.9 0.0**
comp=Z,150nm,1.9s
FFC Flin Flon 82.29 341 *e*P **P 11 00 36.9 0.0**
comp=Z,150nm,1.9s
KDAK Kodiak Island 82.92 9 P **P 11 00 40.3 +0.2**
comp=Z,20nm,1.1s,baz=27,slow=2.3,SNR=5.5
KDAK Kodiak Island 82.92 9 *e*P **P 11 00 39.7 -0.4**
KDAK Kodiak Island 82.92 9 *e*P **P 11 00 39.7 -0.4**
MMNY Mt. Morris Dam 82.99 321 *e*P **P 11 00 40.6 -0.2**
MMNY Mt. Morris Dam 82.99 321 *e*P **P 11 00 40.6 -0.2**
N59A State Game Lan 83.23 318 P **P 11 00 42.2 0.0**
baz=43
OHAK Old Harbor 83.39 9 *e*P **P 11 00 42.6 +0.1**
comp=Z,161nm,2.0s
OHAK Old Harbor 83.39 9 *e*P **P 11 00 42.6 +0.1**
comp=Z,161nm,2.0s
E45A Wooded Hills, 83.58 327 P **P 11 00 43.9 +0.1**
baz=38
E44A Grand Marais A 83.69 328 P **P 11 00 44.4 +0.1**
baz=37
F46A Macinaw City C 83.86 326 P **P 11 00 45.0 -0.2**
baz=38
MVL Millersville 84.20 318 *e*P **P 11 00 47.0 -0.1**
comp=Z,50nm,1.6s
MVL Millersville 84.20 318 *e*P **P 11 00 47.0 -0.1**
comp=Z,50nm,1.6s
F45A CMU Biological 84.26 327 P **P 11 00 47.0 -0.2**
baz=38
E43A Lone Tree Farm 84.33 328 P **P 11 00 47.6 0.0**
baz=36
F44A Big Bay de Noc 84.41 327 P **P 11 00 48.3 +0.3**
baz=37
ULM Lac du Bonnet 84.42 335 P **P 11 00 47.0 -0.9**
comp=Z,12nm,1.1s,baz=79,slow=5.2,SNR=3.2
SSPA Standing Stone 84.53 319 *e*P **P 11 00 48.4 -0.3**
comp=Z,36nm,1.0s
SSPA Standing Stone 84.53 319 *e*P **P 11 00 48.4 -0.3**
comp=Z,36nm,1.0s
E42A Champion 84.67 329 P **P 11 00 49.3 0.0**
baz=36
M54A Oil Creek Stat 84.78 321 P **P 11 00 50.0 +0.1**
baz=41
F43A Flat Rock, Esc 84.84 328 P **P 11 00 49.8 -0.3**
baz=36
E41A Kenton 85.06 329 P **P 11 00 51.6 +0.3**
baz=35
O56A Blue Knob Stat 85.15 319 P **P 11 00 51.8 -0.2**
baz=42
C37A Embarrass 85.26 332 P **P 11 00 52.3 0.0**
baz=33
B35A Bob, Littlefor 85.29 333 P **P 11 00 52.6 +0.2**
baz=32
F42A Maple Grove Fa 85.30 328 P **P 11 00 52.8 +0.4**
baz=36
N54A Moraine State 85.35 321 P **P 11 00 53.6 +0.8**
baz=41
E40A Wakefield 85.45 330 P **P 11 00 53.7 +0.4**
baz=35
C36A Pine Crest Far 85.48 332 P **P 11 00 53.5 +0.2**
baz=33
B34A Aery, Baudette 85.51 333 P **P 11 00 53.0 -0.5**
baz=31
F41A Three Lakes 85.71 329 P **P 11 00 54.3 -0.3**
baz=35
E39A Mellen 85.76 330 P **P 11 00 54.9 +0.1**
baz=34
A32A Rocking H Ranc 85.77 335 P **P 11 00 54.5 -0.3**
baz=30
E38A The Farm, Brul 85.96 331 P **P 11 00 55.6 -0.2**
baz=34
B32A Ashes, Strandq 86.24 335 P **P 11 00 57.2 +0.1**
baz=30
IP06 Yanceyville 86.58 317 *e*P **P 11 00 58.1 -0.9**
comp=Z,26nm,1.2s
IP06 Yanceyville 86.58 317 *e*P **P 11 00 58.1 -0.9**
comp=Z,26nm,1.2s
D34A Park Rapids 86.90 333 P **P 11 01 00.1 -0.3**
baz=31
G39A Holcombe 86.91 330 P **P 11 01 00.2 -0.2**
baz=34
G38A Ridgeland 87.27 330 P **P 11 01 02.0 -0.2**
baz=33
F36A Milaca 87.33 331 P **P 11 01 02.1 -0.3**
baz=32
LAO LASA Array 90.72 340 *e*P **P 11 01 19.5 +1.0**
comp=Z,226nm,1.8s
LAO LASA Array 90.72 340 *e*P **P 11 01 19.5 +1.0**
comp=Z,226nm,1.8s
TKL Tuckaleechee C 91.32 320 *e*P **P 11 01 21.3 -0.2**
TKL pmax pmax
comp=Z,74nm,1.4s
TKL Tuckaleechee C 91.32 320 *e*P **P 11 01 21.3 -0.2**
comp=Z,74nm,1.4s
TKL Tuckaleechee C 91.32 320 *e*P **P 11 01 21.3 -0.2**
comp=Z,74nm,1.4s
HODGE Hodges 91.64 318 *e*P **P 11 01 22.9 -0.1**
comp=Z,119nm,1.9s
HODGE Hodges 91.64 318 *e*P **P 11 01 22.9 -0.1**
comp=Z,119nm,1.9s
NEW Newport 91.67 347 *e*P **P 11 01 23.3 +0.4**
NEW pmax pmax
comp=Z,98nm,2.0s
NEW Newport 91.67 347 *e*P **P 11 01 23.3 +0.4**
comp=Z,98nm,2.0s
NEW Newport 91.67 347 *e*P **P 11 01 23.3 +0.4**
comp=Z,98nm,2.0s
SLMT Seeley Lake 91.95 344 *e*P **P 11 01 24.7 +0.3**
SLMT Seeley Lake 91.95 344 *e*P **P 11 01 24.7 +0.3**
SYO Syowa Base 107.45 181 *e*P **Pdif 11 02 26.0 -6.9**
QSPA South Pole Qui 128.55 180 *e*PKIKP **PKPdf 11 07 20.3 -1.3**
QSPA South Pole Qui 128.55 180 *e*PKPdf **PKPdf 11 07 20.3 -1.3**
URZ Urewera 144.09 104 PKhKP PKPpre 11 07 46.0
comp=Z,27nm,1.0s,baz=24,slow=3.9,SNR=3.7
URZ PKP **PKPdf 11 07 50.6 -0.6**
comp=Z,28nm,1.0s,baz=335,slow=1.8,SNR=6.1
RAO Raoul Island 144.74 87 *e*PKIKP **PKPab 11 07 50.9 -0.5**
RAO Raoul Island 144.74 87 *e*PKPdf **PKPab 11 07 50.9 -0.5**

MOS ***23*** *10:52:02.7±1.3, 38°.60N×43°.32E, h10km, mb4.9/23, Error ellipse: s-maj=9.5km s-min=6.3km az=111.7*
IDC ***23*** *10:52:03.1±0.6, 38°.66N×43°.26E, h0km, mb4.6/21, mb1 4.7/23, mb1mx4.5/52, mbtmp4.7/23, ML3.3/3, Error ellipse: s-maj=14.1km s-min=9.2km az=159.0*
ISK ***23*** *10:52:03.9, 38°.82N×43°.34E, h5km, ML4.9*
ISCJB ***23*** *10:52:04.4±0.7, 38°.78N±0°.02×43°.36E±0°.03, h13km±4km, mb4.7/68, Error ellipse: s-maj=4.4km s-min=3.7km az=37.6*
CSEM ***23*** *10:52:05.3±0.1, 38°.80N×43°.31E, h10km, mb4.8/57, Error ellipse: s-maj=4.1km s-min=3.5km az=145.0*
DDA ***23*** *10:52:05.2, 38°.77N×43°.24E, h6km, Ml4.8*
NEIC ***23*** *10:52:05.0±0.0, 38°.76N×43°.25E, h7km, mb4.8/46, ML4.8(DDA), After DDA.*

ISC 23 10:52:05.5±1.0, 38°.78N±0°.02×43°.27E±0°.02, h10km±6km, n292, σ1°12/307, mb4.8/68, 3C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.31**	**48**	⇑*i*P	**Pg**	**10 52 11.5**	**-0.3**
VMUR				*i*S	**Sb**	**10 52 17.7**	**-0.8**
VMUR	**Van-Muradiye**	**0.31**	**48**	P	**Pg**	**10 52 11.5**	**-0.3**
VMUR				S	**Sb**	**10 52 17.7**	**-0.8**
GEVA	**Gevas**	**0.50**	**200**	⇓*i*P	**Pg**	**10 52 13.8**	**-1.5**
GEVA				*i*S	**Sg**	**10 52 21.8**	**0.0**
GEVA	**Gevas**	**0.50**	**200**	*e*Pg	**Pg**	**10 52 14.0**	**-1.2**
GEVA				S	**Sg**	**10 52 21.8**	**0.0**
GEVA	**Gevas**	**0.50**	**200**	*e*Pg	**Pg**	**10 52 14.0**	**-1.2**
TUTA	**Tutak**	**0.71**	**330**	*i*P	**Pg**	**10 52 18.8**	**-0.6**
TUTA				*i*S	**Sg**	**10 52 29.1**	**+0.4**
TUTA	**Tutak**	**0.71**	**330**	P	**Pg**	**10 52 18.8**	**-0.6**
TUTA				S	**Sg**	**10 52 29.1**	**+0.4**
AGRB	**Hanur-Agry**	**0.82**	**345**	*e*PG	**Pg**	**10 52 20.0**	**-1.4**
AGRB				*e*SG	**Sg**	**10 52 31.3**	**-0.8**
AGRB	**Hanur-Agry**	**0.82**	**345**	*e*Pg	**Pg**	**10 52 20.0**	**-1.4**
AGRB				*e*Sg	**Sg**	**10 52 31.3**	**-0.8**
EATA	**Eleskirt**	**1.24**	**331**	*i*P	**Pb**	**10 52 27.1**	**-2.1**
EATA				*i*S	**Sn**	**10 52 47.3**	**+1.2**
EATA	**Eleskirt**	**1.24**	**331**	P	**Pb**	**10 52 27.1**	**-2.1**
EATA				S	**Sn**	**10 52 47.3**	**+1.2**
SIRN	**S¨–rnak**	**1.45**	**208**	⇑*i*P	**Pb**	**10 52 32.5**	**-0.2**
SIRN				*i*S	**Sb**	**10 52 51.5**	**+0.2**
SIRN	**S¨–rnak**	**1.45**	**208**	P	**Pb**	**10 52 32.5**	**-0.2**
SIRN				S	**Sb**	**10 52 51.5**	**+0.2**
VRTB	**Varto-Mus**	**1.47**	**285**	*e*PN	**Pn**	**10 52 31.9**	**-0.3**
VRTB				*e*SN	**Sg**	**10 52 52.9**	**+0.2**
VRTB	**Varto-Mus**	**1.47**	**285**	*i*P	**Pb**	**10 52 33.0**	**0.0**
VRTB				*i*S	**Sg**	**10 52 56.1**	**+3.4**
VRTB	**Varto-Mus**	**1.47**	**285**	*e*Pn	**Pn**	**10 52 31.9**	**-0.3**
VRTB	**Varto-Mus**	**1.47**	**285**	P	**Pb**	**10 52 33.0**	**0.0**
VRTB				*e*Sn	**Sg**	**10 52 52.9**	**+0.2**
CUKT	**Cukurca**	**1.56**	**170**	*e*PN	**Pn**	**10 52 33.1**	**-0.3**

CUKT	Cukurca	1.56	170	*i* P	Pg	10 52 36.3	+1.0
CUKT	Cukurca	1.56	170	*e*Pn	Pn	10 52 33.1	-0.3
DIGO	Kars	1.63	3	*i* P	Pg	10 52 37.3	+0.5
BNGL	BINGOL	1.67	276	*i* P	Pb	10 52 36.4	0.0
BNGL				*i* S	Sg	10 52 59.8	+0.7
SVAN	Silvan-Diyarba	1.75	249	*e*PN	Pn	10 52 36.4	+0.4
SVAN	Silvan-Diyarba	1.75	249	*i* P	Pb	10 52 37.5	-0.2
SVAN				*i* S	Sg	10 53 01.2	-0.5
SVAN	Silvan-Diyarba	1.75	249	*e*Pn	Pn	10 52 36.4	+0.4
SVAN	Silvan-Diyarba	1.75	249	P	Pb	10 52 37.5	-0.2
SVAN				S	Sg	10 53 01.2	-0.5
GNI	Garni	1.78	39	Pn	Pb	10 52 38.4	+0.2
68nm,0.3s,baz=40,slow=17,SNR=2.7							
GNI				Lg	Lg	10 53 04.8	
217nm,0.3s,baz=194,slow=4.4,SNR=4.0							
GNI	Garni	1.78	39	*e*P	Pb	10 52 37.6	-0.7
GNI				*e*		10 53 04.8	
GNI	Garni	1.78	39	*e*P	Pb	10 52 37.6	-0.7
GNI	Garni	1.78	39	*e*Pn	Pb	10 52 37.6	-0.7
GNI				*e*Sn	Sg	10 53 04.8	+2.1
SENK	Senkaya-Erzuru	1.91	338	*e*PN	Pn	10 52 38.0	-0.4
SENK	Senkaya-Erzuru	1.91	338	*e*Pn	Pn	10 52 38.0	-0.4
ECAT	Cat-ERZURUM	1.97	295	*i* P	Pb	10 52 40.8	-0.8
ECAT				*i* S	Sg	10 53 10.8	+2.0
ECAT	Cat-ERZURUM	1.97	295	P	Pb	10 52 40.8	-0.8
BNGB	Bing¶ll	2.04	277	*e*PN	Pn	10 52 40.5	+0.5
BINT	Bingol	2.18	273	*e*Pn	Pn	10 52 40.5	-1.4
YEDI	Yedisu-Bingol	2.22	288	*e*PN	Pn	10 52 42.9	+0.3
YEDI	Yedisu-Bingol	2.22	288	*e*Pn	Pn	10 52 42.9	+0.3
MARD	Mardin	2.46	234	*e*Pn	Pb	10 52 49.9	+0.1
MARD	Mardin	2.46	234	*e*Pn	Pb	10 52 49.9	+0.1
KOPT	Kop Dagi	2.48	301	*e*Pn	Pb	10 52 51.6	+1.2
MAZI	Mazidag	2.59	240	*e*PN	Pn	10 52 48.4	+0.8
MAZI	Mazidag	2.59	240	*e*Pn	Pn	10 52 48.4	+0.8
ARTV	Artvin	2.61	337	*e*Pn	Pg	10 52 54.4	-1.2
ERZN	Erzincan	2.88	287	*e*PN	Pn	10 52 52.3	+0.7
PTK	Pertek	3.03	273	*e*PN	Pn	10 52 54.3	+0.5
PTK	Pertek	3.03	273	*e*Pn	Pn	10 52 54.3	+0.5
SVRC	Sivrice-ELAZID	3.14	264	*e*PN	Pn	10 52 56.1	+1.0
SVRC	Sivrice-ELAZID	3.14	264	*e*Pn	Pn	10 52 56.2	+1.0
EZC	Erzincan	3.19	289	*e*Pn	Pn	10 52 52.3	-3.6
KTUT	Trabzon	3.48	310	*e*PN	Pn	10 53 00.4	+0.7
KTUT	Trabzon	3.48	310	*e*Pn	Pn	10 53 00.4	+0.7
URFA	Urfa	3.76	251	*e*PN	Pn	10 53 05.1	+1.5
URFA	Urfa	3.76	251	*e*Pn	Pn	10 53 05.1	+1.5
ZEI	Tsey	4.03	7	*e*P	Pg	10 53 25.4	+2.7
ZEI				pmax	pmax		
comp=Z,75nm,0.7s							
BR101	Keskin Array S	7.54	280	*e*Pn	Pn	10 53 57.0	+1.4
BR101	Keskin Array S	7.54	280	*e*Pn	Pn	10 53 57.0	+1.4
BRTR	Keskin Array B	7.54	280	Pn	Pn	10 53 57.0	+1.4
comp=Z,0.2nm,0.3s,baz=121,slow=11,SNR=3.0							
BRTR	Keskin Array B	7.54	280	P	Pn	10 53 57.0	+1.4
BRTR	Keskin Array B	7.54	280	P	Pn	10 53 57.0	+1.4
MMAI	Mount Meron Ar	8.59	230	Pn	Pn	10 54 11.2	+1.1
comp=Z,3.4nm,0.3s,baz=70,slow=17,SNR=4.6							
IDI	Anoyia	15.09	262	Pn	Pn	10 55 39.3	+0.5
comp=Z,0.1nm,0.3s,baz=46,slow=16,SNR=2.2							
IDI	Anoyia	15.09	262	*e*Pn	Pn	10 55 39.3	+0.5
comp=Z,16nm,0.6s							
IDI	Anoyia	15.09	262	*e*Pn	Pn	10 55 39.3	+0.5
comp=Z,16nm,0.6s							
RAYN	Ar Rayn	15.33	172	*e*Pn	Pn	10 55 43.4	+1.3
RAYN	Ar Rayn	15.33	172	*e*Pn	Pn	10 55 43.4	+1.3
AKASG	Malin Array Be	15.51	325	Pn	Pn	10 55 45.3	+1.1
comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=5.8							
KIEV	Kiev	15.51	325	*e*P	Pn	10 55 45.0	+0.8
KIEV				pmax	pmax		
comp=Z,21nm,0.8s							
KIEV	Kiev	15.51	325	*e*Pn	Pn	10 55 45.0	+0.8
comp=Z,21nm,0.8s							
KIEV	Kiev	15.51	325	*e*Pn	Pn	10 55 45.0	+0.8
comp=Z,21nm,0.8s							
BUR08	Bucovina Ar. S	15.85	310	*e*Pn	P	10 55 53.3	+0.8
ABKAR	Akbulak array	15.88	43	*e*Pn	Pn	10 55 50.6	+1.6
comp=Z,175nm,1.0s							
ABKAR	Akbulak array	15.88	43	*e*Pn	Pn	10 55 50.6	+1.6
comp=Z,175nm,1.0s							
OBN	Obninsk	16.95	347⇑	*e*P	P	10 56 03.7	-0.8
OBN				pmax	pmax		
comp=Z,107nm,1.0s							
OBN	Obninsk	16.95	347	*e*P	P	10 56 03.7	-0.8
comp=Z,107nm,1.0s							
PSZ	Piszkesteto	19.24	306	*e*P	Pn	10 56 31.0	+0.1
PSZ	Piszkesteto	19.24	306	*e*P	Pn	10 56 31.0	+0.1
PSZ	Piszkesteto	19.24	306	*e*P	Pn	10 56 31.0	+0.1
WSAR	Wadi Sarin	20.28	135	P	P	10 56 41.4	0.0
comp=Z,41nm,1.1s,baz=249,slow=17,SNR=2.8							
ARU	Arti	20.36	25	P	Pn	10 56 43.5	-0.6
comp=Z,42nm,0.8s,baz=208,slow=8.7,SNR=5.5							
ARU	Arti	20.36	25	*e*P	Pn	10 56 43.5	-0.5
comp=Z,62nm,1.1s							
ARU	Arti	20.36	25	*e*P	Pn	10 56 43.5	-0.5
comp=Z,62nm,1.1s							
KKAR	Karatay Array	20.98	69	*e*P	P	10 56 49.4	+0.5
KKAR				pmax	pmax		
comp=Z,44nm,1.0s							
KKAR	Karatay Array	20.98	69	*e*P	P	10 56 49.4	+0.5
comp=Z,44nm,1.0s							
KKAR	Karatay Array	20.98	69	*e*P	P	10 56 49.4	+0.5
comp=Z,44nm,1.0s							
CUC	Castrocucco	21.23	282	*e*P	P	10 56 51.5	-0.1
comp=Z,7.8nm,0.8s							
CUC	Castrocucco	21.23	282	*e*P	P	10 56 51.5	-0.1
comp=Z,7.8nm,0.8s							
VRAC	Vranov	21.77	308	P	P	10 57 00.7	+3.5
comp=Z,21nm,1.0s,baz=116,slow=11,SNR=4.2							
CONA	Conrad Observa	21.83	304	*i* P	P	10 57 14.4	+16
comp=Z,70nm,1.3s							
SOKA	Soboth	22.11	300	*i* P	P	10 57 17.6	+17
comp=Z,49nm,1.7s							
BRVK	Borovoye	23.41	44	*e*P	P	10 57 15.3	+0.8
BRVK	Borovoye	23.41	44	*e*P	P	10 57 15.3	+0.8
BRVK	Borovoye	23.41	44	*e*P	P	10 57 15.3	+0.8
BVAR	Borovoye Array	23.46	44	P	P	10 57 15.5	+0.5
comp=Z,13nm,0.9s,baz=217,slow=1.5,SNR=3.5							
GEC2	GERESS Array S	23.46	305	*e*P	P	10 57 16.1	+1.0
GEC2	GERESS Array S	23.46	305	*e*P	P	10 57 16.1	+1.0
GEC2	GERESS Array S	23.46	305	*e*P	P	10 57 16.1	+1.0
GERES	GERESS Array B	23.46	305	P	P	10 57 16.5	+1.4
comp=Z,4.7nm,0.8s,baz=98,slow=9.6,SNR=6.3							
KHC	Kasperske Hory	23.61	306	*e*P	P	10 57 16.8	+0.3
KHC				pmax	pmax		
comp=Z,10.0nm,1.0s							
KHC	Kasperske Hory	23.61	306	*e*P	P	10 57 16.8	+0.3
comp=Z,9.9nm,1.0s							
KHC	Kasperske Hory	23.61	306	*e*P	P	10 57 16.8	+0.3
comp=Z,9.9nm,1.0s							
ABTA	Abfaltersbach	23.83	299	*i* P	P	10 57 19.2	+0.5
comp=Z,44nm,1.6s							
ABTA	Abfaltersbach	23.83	299	P	P	10 57 19.2	+0.5
comp=Z,44nm,1.6s							
AAK	Ala-Archa	23.91	71	*e*P	P	10 57 21.5	+1.9
AAK				pmax	pmax		
comp=Z,2.0nm,0.6s							
AAK	Ala-Archa	23.91	71	*e*P	P	10 57 21.5	+1.9
comp=Z,2.3nm,0.6s							
AAK	Ala-Archa	23.91	71	*e*P	P	10 57 21.5	+1.9
comp=Z,2.3nm,0.6s							
WTTA	Wattenberg	24.50	301	*i* P	P	10 57 25.2	+0.1
comp=Z,32nm,1.0s							
WTTA	Wattenberg	24.50	301	P	P	10 57 25.2	+0.1
comp=Z,32nm,1.0s							
WATA	Walderalm	24.55	301	*i* P	P	10 57 25.1	-0.4
comp=Z,38nm,1.1s							
WATA	Walderalm	24.55	301	P	P	10 57 25.1	-0.4
comp=Z,38nm,1.1s							
CLL	Collm	24.59	311	*e*P	P	10 57 26.9	+1.3
CLL	Collm	24.59	311	*e*P	P	10 57 26.9	+1.3
CLL	Collm	24.59	311	*i* P	P	10 57 24.8	-0.8
CLL	Collm	24.59	311	*e*P	P	10 57 26.9	+1.3
MOTA	Moosalm	24.87	301	*i* P	P	10 57 28.5	+0.1
comp=Z,48nm,0.8s							
MOTA	Moosalm	24.87	301	P	P	10 57 28.5	+0.1
comp=Z,48nm,0.8s							
FIA0	FINESS Array S	25.06	340	*e*P	P	10 57 29.9	+0.1
FIA0	FINESS Array S	25.06	340	*e*P	P	10 57 29.9	+0.1
FIA0	FINESS Array S	25.06	340	*e*P	P	10 57 29.9	+0.1
FINES	FINESS Array B	25.06	340	P	P	10 57 29.9	+0.1
comp=Z,36nm,1.0s,baz=148,slow=8.7,SNR=5.9							
FETA	Feichten	25.08	300	*i* P	P	10 57 29.3	-1.0
comp=Z,41nm,1.3s							
FETA	Feichten	25.08	300	P	P	10 57 29.3	-1.0
comp=Z,41nm,1.3s							
VLC	Villacollemand	25.12	293	*e*P	P	10 57 30.9	+0.4
comp=Z,8.2nm,0.8s							
VLC	Villacollemand	25.12	293	*e*P	P	10 57 30.9	+0.4
comp=Z,8.2nm,0.8s							
GRFO	Grafenberg	25.24	306	*e*P	P	10 57 32.5	+1.0
GRFO				pmax	pmax		
comp=Z,67nm,1.1s							
GRFO	Grafenberg	25.24	306	*e*P	P	10 57 32.5	+1.0
comp=Z,67nm,1.1s							
GRFO	Grafenberg	25.24	306	*e*P	P	10 57 32.5	+1.0
comp=Z,67nm,1.1s							
FUORN	Ofenpass-Fuorn	25.35	299	*e*P	P	10 57 33.7	+0.9
FUORN	Ofenpass-Fuorn	25.35	299	*e*P	P	10 57 33.7	+0.9
DAVOX	Davos/Dischmat	25.63	299	P	P	10 57 35.2	-0.1
comp=Z,10nm,0.9s,baz=108,slow=6.4,SNR=3.8							
DAVA	Damuels	25.69	300	*i* P	P	10 57 31.7	-4.1
comp=Z,56nm,1.2s							
VSL	Villasalto	26.21	282	*e*P	P	10 57 40.2	-0.3
comp=Z,7.1nm,0.8s							
VSL	Villasalto	26.21	282	*e*P	P	10 57 40.2	-0.3
comp=Z,7.1nm,0.8s							
KEST	Kesra	27.09	274	*e*P	P	10 57 49.3	+0.8
KEST	Kesra	27.09	274	*e*P	P	10 57 49.3	+0.8
SENIN	Lac Senin/Sane	27.37	298	*e*P	P	10 57 51.9	+0.8
SENIN	Lac Senin/Sane	27.37	298	*e*P	P	10 57 51.9	+0.8
KURBB	Kurchatov Arra	27.45	53	P	P	10 57 52.5	+1.0
comp=Z,12nm,0.8s,baz=262,slow=8.9,SNR=6.3							
KURK	Kurchatov	27.52	53	P	P	10 57 52.5	+0.4
KURK				pmax	pmax		
comp=Z,12nm,0.9s							
KURK	Kurchatov	27.52	53	P	P	10 57 52.5	+0.4
comp=Z,12nm,0.9s							
KURK	Kurchatov	27.52	53	*e*P	P	10 57 52.5	+0.4
BNI	Bardonecchia	27.77	295	*e*P	P	10 57 54.7	+0.1
BNI				pmax	pmax		
comp=Z,29nm,1.1s							
BNI	Bardonecchia	27.77	295	*e*P	P	10 57 54.7	+0.1
comp=Z,29nm,1.1s							
BNI	Bardonecchia	27.77	295	*e*P	P	10 57 54.7	+0.1
comp=Z,29nm,1.1s							
HFS	Hagfors	28.33	329	P	P	10 57 59.2	0.0
comp=Z,34nm,0.9s,baz=134,slow=8.3,SNR=7.5							
WLF	Walferdange	28.46	305	*e*P	P	10 58 01.5	+1.0
WLF	Walferdange	28.46	305	*e*P	P	10 58 01.5	+1.0
WLF	Walferdange	28.46	305	*e*P	P	10 58 01.5	+1.0
SSB	Saint Sauveur	29.28	295	*e*P	P	10 58 05.9	-2.0
SSB	Saint Sauveur	29.28	295	*e*P	P	10 58 05.9	-2.0
SSB	Saint Sauveur	29.28	295	*e*P	P	10 58 05.9	-2.0
MK31	Makanchi Array	29.48	61	*e*P	P	10 58 04.9	-4.8
MK31	Makanchi Array	29.48	61	*e*P	P	10 58 04.9	-4.8
MK32	Makanchi Array	29.48	61	*e*P	P	10 58 09.3	-0.4
MK32	Makanchi Array	29.48	61	*e*P	P	10 58 09.3	-0.4
MKAR	Makanchi Array	29.48	61	P	P	10 58 09.3	-0.3
comp=Z,3.9nm,0.7s,baz=267,slow=6.0,SNR=3.1							
MKAR	Makanchi Array	29.48	61	*e*P	P	10 58 05.0	-4.7
MKAR				pmax	pmax		
comp=Z,86nm,1.0s							
MKAR	Makanchi Array	29.48	61	*e*P	P	10 58 05.0	-4.7
comp=Z,86nm,1.0s							
NC602	NORSAR Array S	29.55	328	*e*P	P	10 58 09.6	-0.4
NC602	NORSAR Array S	29.55	328	*e*P	P	10 58 09.6	-0.4
LVZ	Lovozero	29.56	353	*e*P	P	10 58 10.3	+0.2
LVZ	Lovozero	29.56	353	*e*P	P	10 58 10.3	+0.2
LVZ	Lovozero	29.56	353	*e*P	P	10 58 10.3	+0.2
KONO	Kongsberg	29.81	325	*e*P	P	10 58 11.4	-1.0
KONO	Kongsberg	29.81	325	*e*P	P	10 58 11.4	-1.0
KONO	Kongsberg	29.81	325	*e*P	P	10 58 11.4	-1.0
NB200	NORSAR Array S	29.85	329	*e*P	P	10 58 12.1	-0.7
NB200	NORSAR Array S	29.85	329	*e*P	P	10 58 12.1	-0.7
NOA	NORSAR Array B	29.85	329	P	P	10 58 12.1	-0.7
comp=Z,6.1nm,0.8s,baz=126,slow=8.9,SNR=3.4							
NAO01	NORSAR Array S	29.88	328	*e*P	P	10 58 12.4	-0.6
NAO01	NORSAR Array S	29.88	328	*e*P	P	10 58 12.4	-0.6
NC303	NORSAR Array S	29.89	329	*e*P	P	10 58 12.9	-0.2
NC303	NORSAR Array S	29.89	329	*e*P	P	10 58 12.9	-0.2
NBO00	NORSAR Array S	30.02	328	*e*P	P	10 58 13.8	-0.5
NBO00	NORSAR Array S	30.02	328	*e*P	P	10 58 13.8	-0.5
ZALV	Zalesovo Beam	31.90	48	P	P	10 58 28.9	-2.0
comp=Z,2.4nm,0.7s,baz=266,slow=8.7,SNR=2.4							
ZAA1	Zalesovo Array	31.91	48	*e*P	P	10 58 28.9	-2.0
ZAA1	Zalesovo Array	31.91	48	*e*P	P	10 58 28.9	-2.0
KEV	Kevo	32.23	349	*e*P	P	10 58 33.8	+0.3
KEV	Kevo	32.23	349	*e*P	P	10 58 33.8	+0.3
KEV	Kevo	32.23	349	*e*P	P	10 58 33.8	+0.3
ARA0	ARCESS Array S	32.25	348	*e*P	P	10 58 32.8	-1.0
ARA0	ARCESS Array S	32.25	348	*e*P	P	10 58 32.8	-1.0
ARCES	ARCESS Array B	32.25	348	P	P	10 58 32.8	-1.0
comp=Z,20nm,0.9s,baz=168,slow=8.3,SNR=6.4							
ARE0	ARCESS Array S	32.25	348	*e*P	P	10 58 33.4	-0.4
ARE0	ARCESS Array S	32.25	348	*e*P	P	10 58 33.4	-0.4
EKA	Eskdalemuir Ar	34.94	314	P	P	10 58 56.5	-0.8
comp=Z,50nm,0.8s,baz=103,slow=9.0,SNR=32							
ESK	Eskdalemuir	34.97	314	*e*P	P	10 58 57.6	0.0
ESK				pmax	pmax		
comp=Z,40nm,0.8s							
ESK	Eskdalemuir	34.97	314	*e*P	P	10 58 57.6	0.0
comp=Z,40nm,0.8s							
ESK	Eskdalemuir	34.97	314	*e*P	P	10 58 57.6	0.0
comp=Z,40nm,0.8s							
ESDC	Sonseca Array	36.27	287	P	P	10 59 07.8	-1.2
comp=Z,11nm,0.9s,baz=70,slow=9.1,SNR=12							
ESLA	Sonseca Array	36.27	287	*e*P	P	10 59 08.2	-0.8
comp=Z,7.8nm,0.8s							
ESLA	Sonseca Array	36.27	287	*e*P	P	10 59 08.2	-0.8
comp=Z,7.8nm,0.8s							
PAB	San Pablo	36.59	287	*e*P	P	10 59 10.9	-0.9
PAB				pmax	pmax		
comp=Z,7.0nm,1.0s							
PAB	San Pablo	36.59	287	*e*P	P	10 59 10.9	-0.9
comp=Z,6.8nm,1.0s							
PAB	San Pablo	36.59	287	*e*P	P	10 59 10.9	-0.9
comp=Z,6.8nm,1.0s							
DSB	Dublin	36.61	310	*e*P	P	10 59 12.1	+0.4
comp=Z,31nm,0.9s							
DSB	Dublin	36.61	310	*e*P	P	10 59 12.1	+0.4
comp=Z,31nm,0.9s							
TOA1	Torodi Ar. Sit	44.72	247	*e*P	P	11 00 17.1	-2.0
comp=Z,7.7nm,0.9s							
TOA1	Torodi Ar. Sit	44.72	247	*e*P	P	11 00 17.1	-2.0
comp=Z,7.7nm,0.9s							
TORD	Torodi Ar. Bea	44.72	247	P	P	11 00 17.1	-2.0
comp=Z,5.4nm,1.0s,baz=38,slow=10,SNR=4.5							
SUMG	Summit	51.05	337	*e*P	P	11 01 08.6	+0.8
SUMG				pmax	pmax		
comp=Z,35nm,1.1s							
SUMG	Summit	51.05	337	*e*P	P	11 01 08.6	+0.8
comp=Z,35nm,1.1s							
SUMG	Summit	51.05	337	*e*P	P	11 01 08.6	+0.8
comp=Z,35nm,1.1s							
CMAR	Chiang Mai Arr	52.07	96	P	P	11 01 15.7	-0.1
comp=Z,4.0nm,0.9s,baz=297,slow=8.3,SNR=6.1							
DBIC	Dimbokro	53.83	246	P	P	11 01 27.0	-1.8
comp=Z,10nm,1.0s,baz=15,slow=7.3,SNR=3.0							
DBIC	Dimbokro	53.83	246	P	P	11 01 27.0	-1.8
DBIC				pmax	pmax		
comp=Z,10.0nm,1.0s							
DBIC	Dimbokro	53.83	246	*e*P	P	11 01 27.0	-1.8
comp=Z,10.0nm,0.9s							
YAK	Yakutsk	55.02	35	*e*P	P	11 01 37.6	+0.8
comp=Z,21nm,1.0s							
YAK	Yakutsk	55.02	35	*e*P	P	11 01 37.6	+0.8
comp=Z,21nm,1.0s							
NRS	Narsarsuaq	56.34	324	*e*P	P	11 01 46.4	+0.1
NRS				pmax	pmax		
comp=Z,45nm,1.0s							
NRS	Narsarsuaq	56.34	324	*e*P	P	11 01 46.4	+0.1
comp=Z,45nm,1.0s							
NRS	Narsarsuaq	56.34	324	*e*P	P	11 01 46.4	+0.1
comp=Z,45nm,1.0s							
KS15	Wonju Array Si	64.15	62	*e*P	P	11 02 39.9	-0.2
KS15	Wonju Array Si	64.15	62	*e*P	P	11 02 39.9	-0.2
KSAR	Wonju Array Be	64.15	62	P	P	11 02 39.4	-0.8
KSAR	Wonju Array Be	64.15	62	P	P	11 02 39.4	-0.8
KSAR	Wonju Array Be	64.15	62	P	P	11 02 39.4	-0.8
KSRS	Korea Array	64.17	62	P	P	11 02 39.4	-0.9
comp=Z,7.5nm,0.9s,baz=292,slow=6.3,SNR=11							
BOSA	Boshof	69.13	197	P	P	11 03 10.8	-1.2
comp=Z,2.4nm,0.6s,baz=25,slow=5.1,SNR=5.2							
BOSA	Boshof	69.13	197	P	P	11 03 10.8	-1.2
BOSA				pmax	pmax		
comp=Z,3.0nm,0.6s							
BOSA	Boshof	69.13	197	P	P	11 03 10.8	-1.2
comp=Z,3.0nm,0.6s							
BOSA	Boshof	69.13	197	*e*P	P	11 03 10.6	-1.4
comp=Z,14nm,1.0s							
MJAR	Matsushiro Arr	71.60	58	P	P	11 03 26.0	-1.1
comp=Z,4.5nm,1.0s,baz=312,slow=5.8,SNR=5.4							
MJAR	Matsushiro Arr	71.60	58	P	P	11 03 26.0	-1.1
MJAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MJAR	Matsushiro Arr	71.60	58	P	P	11 03 26.0	-1.1
comp=Z,3.0nm,0.9s							
COLD	Coldfoot	73.82	5	*e*P	P	11 03 39.8	0.0
comp=Z,16nm,1.2s							
COLD	Coldfoot	73.82	5	*e*P	P	11 03 39.8	0.0
comp=Z,16nm,1.2s							
SUR	Sutherland	73.82	200	*e*P	P	11 03 39.8	-0.5
comp=Z,2.3nm,0.6s							
SUR	Sutherland	73.82	200	*e*P	P	11 03 39.8	-0.5
comp=Z,2.3nm,0.6s							
MLY	Manley	75.94	6	*e*P	P	11 03 52.4	+0.3
comp=Z,3.7nm,0.8s							
MLY	Manley	75.94	6	*e*P	P	11 03 52.4	+0.3
comp=Z,3.7nm,0.8s							
MDM	Murphy Dome	76.20	5	*e*P	P	11 03 54.2	+0.6
comp=Z,8.0nm,1.2s							
MDM	Murphy Dome	76.20	5	*e*P	P	11 03 54.2	+0.6
comp=Z,8.0nm,1.2s							
ILAR	Eielson Array	76.47	4	P	P	11 03 54.1	-1.0
comp=Z,1.8nm,1.0s,baz=293,slow=4.4,SNR=3.4							
ILB	Eielson Array	76.47	4	*e*P	P	11 03 55.1	0.0
ILB	Eielson Array	76.47	4	*e*P	P	11 03 55.1	0.0
CCB	Clear Creek Bu	76.54	5	*e*P	P	11 03 55.4	-0.1
CCB	Clear Creek Bu	76.54	5	*e*P	P	11 03 55.4	-0.1
PKME	Peaks-Kenny Pk	76.71	318	*e*P	P	11 03 57.1	+0.3
comp=Z,15nm,1.0s							
PKME	Peaks-Kenny Pk	76.71	318	*e*P	P	11 03 57.1	+0.3
comp=Z,15nm,1.0s							
EGAK	Eagle	76.72	2	*e*P	P	11 03 57.2	+0.7
comp=Z,5.5nm,0.9s							
EGAK	Eagle	76.72	2	*e*P	P	11 03 57.2	+0.7
comp=Z,5.5nm,0.9s							
BPAW	Bear Paw Mtn.	76.83	6	*e*P	P	11 03 55.6	-1.6
comp=Z,3.6nm,1.0s							
BPAW	Bear Paw Mtn.	76.83	6	*e*P	P	11 03 55.6	-1.6
comp=Z,3.6nm,1.0s							
CAST	Castle Rocks	77.40	7	*e*P	P	11 03 59.4	-1.0
comp=Z,37nm,1.2s							
CAST	Castle Rocks	77.40	7	*e*P	P	11 03 59.4	-1.0
comp=Z,37nm,1.2s							
TTA	Tatalina	77.46	9	*e*P	P	11 04 01.9	+1.1
TTA				pmax	pmax		
comp=Z,9.0nm,1.2s							
TTA	Tatalina	77.46	9	*e*P	P	11 04 01.9	+1.1
comp=Z,8.8nm,1.2s							
TTA	Tatalina	77.46	9	*e*P	P	11 04 01.9	+1.1
comp=Z,8.8nm,1.2s							
DAWY	Dawson	77.47	1	*e*P	P	11 04 00.8	0.0
comp=Z,8.1nm,1.1s							
DAWY	Dawson	77.47	1	*e*P	P	11 04 00.8	0.0
comp=Z,8.1nm,1.1s							
TT01	Tatalina	77.48	9	*e*P	P	11 04 01.4	+0.6
TT01	Tatalina	77.48	9	*e*P	P	11 04 01.4	+0.6
RND	Reindeer	77.69	6	*e*P	P	11 04 01.4	-0.7
RND				pmax	pmax		
comp=Z,4.0nm,0.8s							
RND	Reindeer	77.69	6	*e*P	P	11 04 01.4	-0.7
comp=Z,4.0nm,0.8s							
RND	Reindeer	77.69	6	*e*P	P	11 04 01.4	-0.7
comp=Z,4.0nm,0.8s							
DOT	Dot Lake	77.74	3	*e*P	P	11 04 03.0	+0.7
comp=Z,27nm,1.1s							
DOT	Dot Lake	77.74	3	*e*P	P	11 04 03.0	+0.7
comp=Z,27nm,1.1s							
PPLA	Purkeypile	77.91	7	*e*P	P	11 04 02.8	-0.6
comp=Z,10nm,1.0s							
PPLA	Purkeypile	77.91	7	*e*P	P	11 04

ARCES	ARCESS Array B	32.51	349	P		P	10 59 23.6	0.0
	7.9nm,0.9s,baz=157,slow=9.8,SNR=2.7							
EKA	Eskdalemuir Ar	35.06	314	P		P	10 59 45.8	-0.2
	9.4nm,0.6s,baz=106,slow=8.3,SNR=6.4							
ESDC	Sonseca Array	36.25	287	P		P	10 59 56.3	-0.1
	1.8nm,0.6s,baz=69,slow=9.0,SNR=4.4							
CMAR	Chiang Mai Arr	52.15	96	P		P	11 02 04.2	+0.2
	7.5nm,0.6s,baz=300,slow=8.2,SNR=10							
TIXI	Tiksi	52.66	23	P		P	11 02 07.6	+0.6
	2.0nm,0.6s,baz=335,slow=7.3,SNR=2.4							
KSRS	Korea Array	64.40	61	P		P	11 03 28.8	-0.5
	7.5nm,0.8s,baz=291,slow=7.0,SNR=9.3							
JNU	Nakatsue	68.71	64	P		P	11 03 56.8	-0.3
	3.6nm,0.7s,baz=333,slow=4.7,SNR=3.3							
URZ	Urewera	144.21	104	PKhKP	PKPpre		11 12 25.2	
	17nm,0.8s,baz=290,slow=0.8,SNR=8.0							

IDC ***23*** *10:53:39.9±1.9, 38°.67N×43°.26E, 0km, mb4.3/7, mb1 4.4/7, mb1mx4.0/46, mbtmp4.3/7, Error ellipse: s-maj=37.8km s-min=17.2km az=155.0*
ISCJB ***23*** *10:53:41.7±0.5, 38°.72N±0°.03×43°.21E±0°.06, h21km±4km, mb4.3/13, Error ellipse: s-maj=7.9km s-min=5.6km az=8.3*
NEIC ***23*** *10:53:41.0±0.0, 38°.75N×43°.20E, h7km, mb4.4/8, After DDA.*
CSEM ***23*** *10:53:41.7±0.2, 38°.74N×43°.23E, h10km, mb4.6/6, Error ellipse: s-maj=6.8km s-min=5.0km az=93.0*
DDA ***23*** *10:53:41.7, 38°.74N×43°.20E, h7km, Md3.3*
ISC 23 10:53:42.1±1.0, 38°.74N±0°.03×43°.21E±0°.04, h10km±7km, n67, σ0°92/76, mb4.4/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.26	144	*i* P	Pg	10 53 47.6	+0.1
TVAN				*i* S	Sg	10 53 51.5	+0.3
TVAN	Van	0.26	144	P	Pg	10 53 47.6	+0.1
TVAN				S	Sg	10 53 51.5	+0.3
VMUR	Van-Muradiye	0.38	49	*i* P	Pg	10 53 48.4	-1.2
VMUR				*i* S	Sg	10 53 55.1	+0.5
VMUR	Van-Muradiye	0.38	49	P	Pg	10 53 48.4	-1.2
VMUR				S	Sg	10 53 55.1	+0.5
GEVA	Gevas	0.45	195	*i* P	Pg	10 53 50.0	-0.9
GEVA				*i* S	Sg	10 53 57.3	+0.5
GEVA	Gevas	0.45	195	P	Pg	10 53 50.0	-0.9
GEVA				S	Sg	10 53 57.3	+0.5
GEVA	Gevas	0.45	195	*e*Pg	Pg	10 53 50.0	-0.9
GEVA				*e*Sg	Sg	10 53 57.6	+0.9
TUTA	Tutak	0.73	335	*i* P	Pg	10 53 56.1	-0.1
TUTA				*i* S	Sb	10 54 06.7	-0.3
TUTA	Tutak	0.73	335	P	Pg	10 53 56.1	-0.1
TUTA				S	Sb	10 54 06.7	-0.3
GNI	Garni	1.84	40	Pn	Pb	10 54 14.7	-1.2
	170nm,0.3s,baz=347,slow=19,SNR=2.0						
GNI	Garni	1.84	40	*e*Pn	Pg	10 54 17.5	+0.1
GNI	Garni	1.84	40	*e*Pn	Pg	10 54 17.5	+0.1
ILGA	Ilgaz	7.65	291	*e*Pn	Pn	10 55 34.0	+0.3
ILGA	Ilgaz	7.65	291	*e*Pn	Pn	10 55 34.0	+0.3
RAYN	Ar Rayn	15.30	172	*e*Pn	Pn	10 57 19.2	+1.1
RAYN	Ar Rayn	15.30	172	*e*Pn	Pn	10 57 19.2	+1.1
AKBB	Malin Array Si	15.51	325	*e*Pn	P	10 57 26.3	+1.2
	6.7nm,0.8s						
KIEV	Kiev	15.52	325	*e*Pn	P	10 57 26.5	+1.3
	6.5nm,0.9s						
BUR08	Bucovina Ar. S	15.83	310	*e*Pn	P	10 57 30.7	+1.9
ARU	Arti	20.42	25	*e*P	P	10 58 19.6	+0.6
ARU	Arti	20.42	25	*e*P	P	10 58 19.6	+0.6
CUC	Castrocucco	21.19	282	*e*P	P	10 58 29.4	+1.8
CUC	Castrocucco	21.19	282	*e*P	P	10 58 29.4	+1.8
GEC2	GERESS Array S	23.44	305	*e*P	P	10 58 52.9	+1.6
GEC2	GERESS Array S	23.44	305	*e*P	P	10 58 52.9	+1.6
GERES	GERESS Array B	23.44	305	P	P	10 58 52.9	+1.6
	1.3nm,0.5s,baz=96,slow=9.0,SNR=3.6						
FIA0	FINESS Array S	25.08	340	*e*P	P	10 59 06.4	0.0
FIA0	FINESS Array S	25.08	340	*e*P	P	10 59 06.4	0.0
FIA1	FINESS Array S	25.08	340	*e*P	P	10 59 06.0	-0.4
FIA1	FINESS Array S	25.08	340	*e*P	P	10 59 06.0	-0.4
FINES	FINESS Array B	25.08	340	P	P	10 59 06.4	0.0
	18nm,1.1s,baz=139,slow=13,SNR=2.5						
FUORN	Ofenpass-Fuorn	25.32	299	*e*P	P	10 59 10.2	+1.1
FUORN	Ofenpass-Fuorn	25.32	299	*e*P	P	10 59 10.2	+1.1
TUE	Stuetta	25.94	298	*e*P	P	10 59 13.5	-1.1
TUE	Stuetta	25.94	298	*e*P	P	10 59 13.5	-1.1
KURBB	Kurchatov Arra	27.52	53	P	P	10 59 29.6	+1.1
	2.6nm,0.6s,baz=264,slow=9.0,SNR=2.9						
KURK	Kurchatov	27.59	53	*e*P	P	10 59 29.6	+0.4
KURK	Kurchatov	27.59	53	*e*P	P	10 59 29.6	+0.4
HFS	Hagfors	28.33	329	P	P	10 59 35.9	+0.2
	8.0nm,0.8s,baz=122,slow=14,SNR=2.6						
SSB	Saint Sauveur	29.25	295	*e*P	P	10 59 44.0	-0.1
SSB	Saint Sauveur	29.25	295	*e*P	P	10 59 44.0	-0.1
NB200	NORSAR Array S	29.86	329	*e*P	P	10 59 48.7	-0.6
NB200	NORSAR Array S	29.86	329	*e*P	P	10 59 48.7	-0.6
NOA	NORSAR Array B	29.86	329	P	P	10 59 48.7	-0.6
	3.8nm,1.1s,baz=122,slow=11,SNR=2.0						
NC303	NORSAR Array S	29.90	329	*e*P	P	10 59 48.9	-0.7
NC303	NORSAR Array S	29.90	329	*e*P	P	10 59 48.9	-0.7
EKA	Eskdalemuir Ar	34.93	314	P	P	11 00 34.0	+0.3
	7.2nm,0.7s,baz=107,slow=8.3,SNR=4.7						
EKA	Eskdalemuir Ar	34.93	314	*e*P	P	11 00 34.0	+0.3
ESK	Eskdalemuir	34.95	314	*e*P	P	11 00 33.9	0.0
	5.1nm,0.9s						
ESK	Eskdalemuir	34.95	314	*e*P	P	11 00 33.9	0.0
	5.1nm,0.9s						
ESLA	Sonseca Array	36.23	287	*e*P	P	11 00 44.3	-0.9
ESLA	Sonseca Array	36.23	287	*e*P	P	11 00 44.3	-0.9
PAB	San Pablo	36.55	287	*e*P	P	11 00 45.7	-2.2
	4.9nm,1.0s						
PAB	San Pablo	36.55	287	*e*P	P	11 00 45.7	-2.2
	4.9nm,1.0s						
TOA1	Torodi Ar. Sit	44.66	247	*e*P	P	11 01 53.8	-1.2
TOA1	Torodi Ar. Sit	44.66	247	*e*P	P	11 01 53.8	-1.2
TOA0	Torodi Ar. Sit	44.66	247	*e*P	P	11 01 53.8	-1.2
TOA0	Torodi Ar. Sit	44.66	247	*e*P	P	11 01 53.8	-1.2
TORD	Torodi Ar. Bea	44.66	247	P	P	11 01 53.8	-1.2
	1.0nm,0.5s,baz=34,slow=9.1,SNR=3.8						
PEA0B	Petropavlovsk-	72.43	35	*e*P	P	11 05 07.9	-0.3
	8.0nm,1.0s						
PEA0B	Petropavlovsk-	72.43	35	*e*P	P	11 05 08.0	-0.3
	8.0nm,1.0s						
DAWY	Dawson	77.51	1	*e*P	P	11 05 37.2	-0.3
	1.1nm,0.6s						
DAWY	Dawson	77.51	1	*e*P	P	11 05 37.2	-0.3
	1.1nm,0.6s						
FID	Port Fidalgo	80.54	5	*e*P	P	11 05 54.3	+0.2
	9.7nm,1.1s						
FID	Port Fidalgo	80.54	5	*e*P	P	11 05 54.3	+0.2
	9.7nm,1.1s						
KDAK	Kodiak Island	82.92	8	*e*P	P	11 06 07.1	+0.5
	9.9nm,1.0s						
KDAK	Kodiak Island	82.92	8	*e*P	P	11 06 07.1	+0.5
	9.9nm,1.0s						

NSSC ***23*** *10:56:28.1±1.5, 39°.17N×45°.22E, h0km±278km, ML5.0*
IDC ***23*** *10:56:46.5±0.4, 38°.64N×43°.34E, h0km, mb5.2/38, mb1 5.3/45, mb1mx5.2/52, mbtmp5.2/45, ML4.1/6, Error ellipse: s-maj=10.1km s-min=7.5km az=166.0*
BJI ***23*** *10:56:46.6, 38°.70N×43°.40E, h10km, mb5.2/49, mB5.1/5, Ms5.4/2*
DSN ***23*** *10:56:46.4±0.6, 38°.36N×42°.92E, h7km, mb5.4/1, Error ellipse: s-maj=17.4km s-min=4.2km az=65.0*
MOS ***23*** *10:56:47.2±1.2, 38°.75N×43°.38E, h10km, mb5.7/103, Error ellipse: s-maj=4.6km s-min=2.8km az=123.7*
ATA ***23*** *10:56:48.1±0.7, 38°.78N×43°.27E, h10km±15km, ML6.1, MW5.7*
ISK ***23*** *10:56:48.5, 38°.80N×43°.26E, h2km, ML5.4*
DDA ***23*** *10:56:48.4, 38°.78N×43°.36E, h20km, Ml5.8*
CSEM ***23*** *10:56:49.0±0.1, 38°.78N×43°.34E, h10km, mb5.6/99, Error ellipse: s-maj=2.4km s-min=1.6km az=178.0*
NEIC ***23*** *10:56:49.0±0.0, 38°.81N×43°.45E, h5km, mb5.6/207, ML5.5(ISK), After ISK.*
ISCJB ***23*** *10:56:49.8±0.3, 38°.72N±0°.01×43°.34E±0°.01, h29km±1km, mb5.5/316, MS5.6/2, Error ellipse: s-maj=2.3km s-min=1.4km az=177.3*
AZER ***23*** *10:56:49.8±0.3, 38°.68N×43°.33E, h19km±4km, Error ellipse: s-maj=4.5km s-min=1.1km az=63.0*
TEH ***23*** *10:56:51.7, 38°.82N×43°.43E, h18km, ML5.3*
ISC 23 10:56:50.5±0.2, 38°.75N±0°.01×43°.34E±0°.02, h21km±1km, n1763, σ1°26/1871, mb5.6/327, 122C-75D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.23	167	↓*i*P	Pb	10 56 56.1	-0.7
TVAN				*i* S	Sb	10 57 01.1	0.0
TVAN	Van	0.23	167	P	Pb	10 56 56.1	-0.7
TVAN				S	Sb	10 57 01.1	0.0
VMUR	Van-Muradiye	0.30	37	↓*i*P	Pb	10 56 55.0	-2.4
VMUR				*i* S	Sb	10 57 01.0	-1.1
VMUR	Van-Muradiye	0.30	37	P	Pb	10 56 55.0	-2.4
VMUR				S	Sb	10 57 01.0	-1.1
GEVA	Gevas	0.49	207	*e*P	Pb	10 56 58.0	-2.4
GEVA				IAML		10 57 11.8	
	comp=Z,213μm,0.4s						
GEVA	Gevas	0.49	207	↓*i*P	Pb	10 56 57.5	-2.9
GEVA				*i* S	Sb	10 57 06.9	-0.3
GEVA	Gevas	0.49	207	P	Pb	10 56 57.5	-2.9
GEVA				S	Sb	10 57 06.9	-0.3
GEVA	Gevas	0.49	207	*e*Pg	Pb	10 56 57.6	-2.9
TUTA	Tutak	0.77	328	*e*P	Pb	10 57 02.6	-2.7
TUTA				*e*S	Sb	10 57 13.3	-2.1
TUTA				IAML		10 57 15.5	
	comp=Z,132μm,0.6s						
TUTA	Tutak	0.77	328	↓*i*P	Pb	10 57 02.8	-2.5
TUTA				*i* S	Sb	10 57 14.0	-1.4
TUTA	Tutak	0.77	328	P	Pb	10 57 02.8	-2.5
TUTA				S	Sb	10 57 14.0	-1.4
DYDN	Diyadin	0.84	19	*e*P	Pb	10 57 04.6	-1.9
DYDN				IAML		10 57 33.1	
	comp=Z,14μm,0.6s						
DYDN	Diyadin	0.84	19	*i* P	Pb	10 57 04.2	-2.3
DYDN				*i* S	Sb	10 57 13.9	-3.5
DYDN	Diyadin	0.84	19	P	Pb	10 57 04.2	-2.3
DYDN				S	Sb	10 57 13.9	-3.5
AGRB	Hanur-Agry	0.87	342	*e*PG	Pb	10 57 04.9	-2.1
AGRB				*e*SG	Sb	10 57 16.7	-1.5
AGRB	Hanur-Agry	0.87	342	*e*Pg	Pb	10 57 04.9	-2.1
AGRB				*e*Sg	Sb	10 57 16.7	-1.5
AGRB	Hanur-Agry	0.87	342	Pg	Pb	10 57 05.7	-1.3
EKAR	Karacoban	1.11	297	*e*P	Pb	10 57 09.1	-2.1
EKAR				IAML		10 57 37.2	
	comp=Z,35μm,0.5s						
EKAR	Karacoban	1.11	297	↓*i*P	Pb	10 57 09.9	-1.3
EKAR				*i* S	Sn	10 57 29.3	+3.4
EKAR	Karacoban	1.11	297	P	Pb	10 57 09.9	-1.3
EKAR				S	Sn	10 57 29.3	+3.4
EATA	Eleskirt	1.29	330	*e*P	Pn	10 57 12.6	-1.0
EATA				IAML		10 57 38.2	
	comp=Z,15μm,0.7s						
EATA	Eleskirt	1.29	330	↓*i*P	Pn	10 57 12.3	-1.3
EATA				*i* S	Sn	10 57 30.3	-0.1
EATA	Eleskirt	1.29	330	P	Pn	10 57 12.3	-1.3
EATA				S	Sn	10 57 30.3	-0.1
SIRN	S¨–rnak	1.45	211	↓*i*P	Pn	10 57 15.5	0.0
SIRN				*i* S	Sb	10 57 37.1	+2.3
SIRN	S¨–rnak	1.45	211	P	Pn	10 57 15.5	0.0
SIRN				S	Sb	10 57 37.1	+2.3
CUKT	Cukurca	1.51	172	*e*PN	Pb	10 57 18.4	+0.5
CUKT	Cukurca	1.51	172	↓*i*P	Pb	10 57 17.6	-0.3
CUKT				*i* S	Sb	10 57 42.7	+6.0
CUKT	Cukurca	1.51	172	P	Pb	10 57 17.6	-0.3
CUKT	Cukurca	1.51	172	*e*Pn	Pb	10 57 18.4	+0.5
CUKT				S	Sb	10 57 42.7	+6.0
CUKT	Cukurca	1.51	172	Pn	Pb	10 57 19.2	+1.3
VRTB	Varto-Mus	1.52	286	*e*PN	Pn	10 57 16.1	-0.5
VRTB	Varto-Mus	1.52	286	⇑*i*P	Pn	10 57 16.6	0.0
VRTB				*i* S	Sb	10 57 40.9	+3.8
VRTB	Varto-Mus	1.52	286	*e*Pn	Pn	10 57 16.1	-0.5
VRTB	Varto-Mus	1.52	286	P	Pn	10 57 16.6	0.0
VRTB				S	Sb	10 57 40.9	+3.8
VRTB	Varto-Mus	1.52	286	Pn	Pb	10 57 19.5	+1.4
DIGO	Kars	1.66	1	*e*P	Pb	10 57 19.6	-0.9
DIGO				IAML		10 57 27.9	
	comp=Z,3μm,0.7s						
DIGO	Kars	1.66	1	⇑*i*P	Pn	10 57 18.4	-0.2
DIGO				*i* S	Sb	10 57 44.7	+3.6
DIGO	Kars	1.66	1	P	Pn	10 57 18.4	-0.2
DIGO				S	Sb	10 57 44.7	+3.6
HOMI	Horasan	1.71	320	↓*i*P	Pb	10 57 19.8	-1.4
HOMI				*i* S	Sb	10 57 46.3	+4.0
BNGL	BINGOL	1.72	277	*e*P	Pn	10 57 19.9	+0.4
BNGL				IAML		10 57 50.5	
	comp=Z,49μm,0.4s						
BNGL	BINGOL	1.72	277	⇑*i*P	Pn	10 57 19.8	+0.4
BNGL				*i* S	Sb	10 57 45.8	+3.0
NAX	Nakhchivan	1.73	75	⇑P	Pn	10 57 19.3	-0.1
NAX				⇑S	Sn	10 57 41.7	+0.8
NAX	Nakhchivan	1.73	75	P	Pn	10 57 19.3	-0.1
NAX				S	Sn	10 57 41.7	+0.8
GNI	Garni	1.77	37	Pn	Pn	10 57 21.0	+1.0
	comp=Z,584nm,0.3s,baz=220,slow=4.6,SNR=20						
GNI	Garni	1.77	37	*e*P	Pn	10 57 20.4	+0.4
GNI	Garni	1.77	37	*e*P	Pn	10 57 20.4	+0.4
GNI	Garni	1.77	37	Pn	Pn	10 57 21.0	+1.0
SVAN	Silvan-Diyarba	1.78	251	*e*PN	Pn	10 57 20.4	+0.3
SVAN				*e*SN	Sb	10 57 44.4	0.0
SVAN	Silvan-Diyarba	1.78	251	*i* P	Pn	10 57 19.8	-0.3
SVAN				*i* S	Sb	10 57 46.0	+1.6
SVAN	Silvan-Diyarba	1.78	251	P	Pn	10 57 19.8	-0.3
SVAN	Silvan-Diyarba	1.78	251	*e*Pn	Pn	10 57 20.4	+0.3
SVAN				*e*Sn	Sb	10 57 44.4	0.0
SVAN				S	Sb	10 57 46.0	+1.6
SVAN	Silvan-Diyarba	1.78	251	Pn	Pb	10 57 22.2	-0.2
BTMN	Batman	1.84	243	⇑*i*P	Pn	10 57 20.8	-0.1
BTMN				*i* S	Sb	10 57 47.7	+1.7
BTMN	Batman	1.84	243	P	Pn	10 57 20.8	-0.1
BTMN				S	Sb	10 57 47.7	+1.7
ISHB	Shabestar	1.85	104	*e*Pn	Pn	10 57 21.4	+0.3
ISHB				*e*AMB	AMB	10 57 29.1	
	comp=Z,4μm,0.3s						
ISHB	Shabestar	1.85	104	Pn	Pn	10 57 21.4	+0.3
ISHB	Shabestar	1.85	104	Pn	Pn	10 57 21.4	+0.3
IMRD	Marand	1.85	90	*e*Pn	Pn	10 57 21.5	+0.3
IMRD				*e*AMB	AMB	10 57 27.7	
	comp=Z,18μm,0.4s						
IMRD				*e*Sg	Sb	10 57 47.3	+0.9
IMRD	Marand	1.85	90	Pn	Pn	10 57 21.4	+0.3
IMRD				*e*Sg	Sb	10 57 47.3	+0.9
IMRD	Marand	1.85	90	Pn	Pn	10 57 21.4	+0.3
IMRD				Sg	Sb	10 57 47.3	+0.9
EAK	Akyaka	1.95	6	*i* P	Pn	10 57 26.0	+0.7
EAK				*i* S	Sb	10 57 56.1	+6.9
EAK	Akyaka	1.95	6	P	Pb	10 57 26.0	+0.7
EAK				S	Sb	10 57 56.1	+6.9
SENK	Senkaya-Erzuru	1.96	337	*e*PN	Pn	10 57 22.8	+0.1
SENK	Senkaya-Erzuru	1.96	337	*e*Pn	Pn	10 57 22.8	+0.1
ECAT	Cat-ERZURUM	2.03	296	*e*P	Pn	10 57 24.1	+0.5
ECAT				IAML		10 57 37.6	
	comp=Z,4μm,0.6s						
ECAT	Cat-ERZURUM	2.03	296	⇑*i*P	Pn	10 57 23.8	+0.2
ECAT				*i* S	Sb	10 57 53.3	+1.7
ECAT	Cat-ERZURUM	2.03	296	P	Pn	10 57 23.8	+0.2
ECAT				S	Sb	10 57 53.3	+1.7
BNGB	Bing¨¶l	2.09	277	*e*PN	Pn	10 57 24.5	+0.1
BNGB	Bing¨¶l	2.09	277	Pn	Pb	10 57 26.4	-1.3
BNGB	Bing¨¶l	2.09	277	Pn	Pb	10 57 26.4	-1.3
BINT	Bingol	2.23	274	*e*Pn	Pn	10 57 24.5	-1.8
ITBZ	Tabriz	2.26	102	*e*Pn	Pn	10 57 27.4	+0.6
ITBZ				*e*AMB	AMB	10 57 36.7	
	comp=Z,47μm,0.4s						
ITBZ	Tabriz	2.26	102	*e*Pn	Pn	10 57 27.4	+0.6
ITBZ	Tabriz	2.26	102	Pn	Pn	10 57 27.4	+0.6
YEDI	Yedisu-Bingol	2.28	288	*e*PN	Pn	10 57 27.6	+0.6
YEDI	Yedisu-Bingol	2.28	288	*e*Pn	Pn	10 57 27.6	+0.6
YEDI	Yedisu-Bingol	2.28	288	Pn	Pb	10 57 29.2	-1.8
DDEM	Demirkent	2.46	331	*i* P	Pn	10 57 29.9	+0.4
DDEM				*i* S	Sb	10 58 07.7	+3.6
DDEM	Demirkent	2.46	331	P	Pn	10 57 29.9	+0.4
DDEM				S	Sb	10 58 07.7	+3.6
MARD	Mardin	2.48	235	*i* P	Pn	10 57 29.5	-0.1
MARD				*i* S	Sn	10 58 00.9	+1.5
MARD	Mardin	2.48	235	*e*Pn	Pn	10 57 29.6	-0.1
MARD	Mardin	2.48	235	*e*Pn	Pn	10 57 29.6	-0.1
KOPT	Kop Dagi	2.54	301	*i* P	Pb	10 57 34.9	-0.5
KOPT	Kop Dagi	2.54	301	*i* P	Pb	10 57 35.0	-0.5
KOPT				*i* S	Sb	10 58 08.4	+2.0
KOPT	Kop Dagi	2.54	301	*e*Pn	Pb	10 57 34.7	-0.8
KOPT	Kop Dagi	2.54	301	P	Pb	10 57 35.0	-0.5
KOPT				S	Sb	10 58 08.4	+2.0
KOPT	Kop Dagi	2.54	301	*e*Pn	Pb	10 57 34.7	-0.8
MAZI	Mazidag	2.62	241	*e*PN	Pn	10 57 32.7	+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAZI	Mazidag	2.62	241	*e*Pn	Pn	10 57 32.7	+1.1
MAZI	Mazidag	2.62	241	Pn	Pb	10 57 34.2	-2.6
AKH	Akhalkalaki	2.66	2	*e*PN	Pn	10 57 33.5	+1.2
AKH	Akhalkalaki	2.66	2	P	Pb	10 57 37.1	-0.4
AKH	Akhalkalaki	2.66	2	⇑*i*P	Pb	10 57 36.0	-1.5
AKH	Akhalkalaki	2.66	2	P	Pb	10 57 37.1	-0.4
AKH	Akhalkalaki	2.66	2	*e*Pn	Pn	10 57 33.5	+1.2
AKH	Akhalkalaki	2.66	2	⇑*i*P	Pb	10 57 36.0	-1.5
DIYA	Diyarbakir	2.66	253	*i* P	Pn	10 57 32.9	+0.7
DIYA				*i* S	Sb	10 58 10.3	+0.6
DIYA	Diyarbakir	2.66	253	P	Pn	10 57 32.9	+0.7
DIYA				S	Sb	10 58 10.3	+0.6
ARTV	Artvin	2.66	336	*e*P	Pn	10 57 33.5	+1.1
ARTV				IAML		10 57 51.8	
	comp=Z,892nm,0.7s						
ARTV	Artvin	2.66	336	*i* P	Pn	10 57 32.9	+0.6
ARTV				*i* S	Sb	10 58 15.0	+5.1
ARTV	Artvin	2.66	336	P	Pn	10 57 32.9	+0.6
ARTV	Artvin	2.66	336	*e*Pn	Pn	10 57 33.4	+1.1
ARTV				S	Sb	10 58 15.0	+5.1
ARTV	Artvin	2.66	336	*e*Pn	Pn	10 57 33.4	+1.1
GDB	GEDABAY	2.71	43	↓P	Pn	10 57 33.4	+0.5
GDB				↓S	Sn	10 58 07.2	+2.0
GDB	GEDABAY	2.71	43	P	Pn	10 57 33.4	+0.5
GDB				S	Sn	10 58 07.2	+2.0
KZR	Kazreti	2.76	17	P	Pb	10 57 38.9	-0.1
QZX	Qazax, Azerbai	2.79	33	⇑P	Pn	10 57 34.3	+0.4
QZX				↓S	Sn	10 58 08.7	+1.9
QZX	Qazax, Azerbai	2.79	33	P	Pn	10 57 34.3	+0.4
QZX				S	Sn	10 58 08.7	+1.9
KBSD	Kabsdagh	2.82	233	*e*P	Pn	10 57 34.6	+0.3
KBSD				AML	AML	10 58 33.7	
	comp=E,17μm,0.6s						
KBSD				AML	AML	10 58 33.7	
	comp=N,16μm,0.7s						
ERZN	Erzincan	2.93	288	*e*PN	Pn	10 57 37.2	+1.2
ERZN	Erzincan	2.93	288	Pn	Pb	10 57 40.8	-1.3
ERZN	Erzincan	2.93	288	Pn	Pb	10 57 40.8	-1.3
IHRS	Heris	2.94	97	*e*Pn	Pn	10 57 37.1	+0.9
IHRS				*e*AMB	AMB	10 57 45.2	
	comp=Z,71μm,0.3s						
IHRS	Heris	2.94	97	Pn	Pn	10 57 37.0	+0.9
IHRS	Heris	2.94	97	Pn	Pn	10 57 37.0	+0.9
GANJ	Ganja	2.98	50	⇑P	Pn	10 57 38.2	+1.7
GANJ				⇑S	Sn	10 58 08.9	-2.8
GANJ	Ganja	2.98	50	P	Pn	10 57 38.2	+1.7
GANJ				S	Sn	10 58 08.9	-2.8
TNCL	Tunceli-Merkez	2.98	278	*i* P	Pn	10 57 37.9	+1.2
TNCL				*i* S	Sb	10 58 23.3	+4.3
TNCL	Tunceli-Merkez	2.98	278	P	Pn	10 57 37.8	+1.2
TNCL				S	Sb	10 58 23.3	+4.3
EUZM	Uzumlu	2.99	290	*i* P	Pb	10 57 41.8	-1.2
EUZM				*i* S	Sb	10 58 22.2	+3.1
EUZM	Uzumlu	2.99	290	P	Pb	10 57 41.8	-1.2
EUZM				S	Sb	10 58 22.2	+3.1
IBST	Bostanabad	2.99	109	*e*Pn	Pn	10 57 37.7	+0.9
IBST				*e*AMB	AMB	10 57 49.9	
	comp=Z,29μm,0.3s						
IBST	Bostanabad	2.99	109	Pn	Pn	10 57 37.6	+0.8
IBST	Bostanabad	2.99	109	Pn	Pn	10 57 37.6	+0.8
PTK	Pertek	3.09	274	*e*PN	Pn	10 57 39.0	+0.9
PTK	Pertek	3.09	274	*e*Pn	Pn	10 57 39.0	+0.9
PTK	Pertek	3.09	274	Pn	Pb	10 57 43.0	-1.8
TBLG	Delisi	3.17	19	*e*PN	Pn	10 57 40.1	+1.1
TBLG	Delisi	3.17	19	P	Pb	10 57 43.8	-2.2
TBLG	Delisi	3.17	19	P	Pb	10 57 43.8	-2.2
TBLG	Delisi	3.17	19	*e*Pn	Pn	10 57 40.1	+1.1
TBLG	Delisi	3.17	19	P	Pb	10 57 43.8	-2.2
SVRC	Sivrice-ELAZID	3.18	265	*e*PN	Pn	10 57 40.5	+1.1
SVRC	Sivrice-ELAZID	3.18	265	*e*Pn	Pn	10 57 40.6

ALIB ⇑S **Sn** **10 58 51.5 +1.1**
ALIB Äli-Bayra 4.55 73 P **Pn** **10 57 58.0 -0.1**
ALIB S **Sn** **10 58 51.5 +1.1**
DARE Darende-Malaty 4.59 270 *e*PN **Pn** **10 58 00.5 +1.8**
DARE Darende-Malaty 4.59 270 *e*Pn **Pn** **10 58 00.5 +1.8**
DARE Darende-Malaty 4.59 270 Pn Pn 10 58 03.2 +4.5
QSAR Qusar 4.68 52 ⇑P **Pn** **10 58 00.0 +0.2**
QSAR ⇓S **Sn** **10 58 55.2 +1.7**
QSAR Qusar 4.68 52 P **Pn** **10 58 00.0 +0.2**
QSAR S **Sn** **10 58 55.2 +1.7**
GBS Qobustan 4.68 66 ⇑P **Pn** **10 57 59.8 -0.1**
GBS ⇑S **Sn** **10 58 54.9 +1.3**
GBS Qobustan 4.68 66 P **Pn** **10 57 59.8 -0.1**
GBS S **Sn** **10 58 54.9 +1.3**
IDHR Dehrash 4.72 148 *e*Pn **Pn** **10 58 01.3 +0.6**
IDHR *e*AMB AMB 10 59 42.6
comp=Z,33µm,0.4s
IDHR Dehrash 4.72 148 *e*Pn **Pn** **10 58 01.3 +0.6**
IDHR Dehrash 4.72 148 Pn **Pn** **10 58 01.3 +0.6**
QUBA Quba, Azerbaij 4.73 55 ⇑P **Pn** **10 58 00.8 +0.2**
QUBA ⇓S **Sn** **10 58 56.7 +1.8**
QUBA Quba, Azerbaij 4.73 55 P **Pn** **10 58 00.8 +0.2**
QUBA S **Sn** **10 58 56.7 +1.8**
NCK Nalchik 4.75 2⇓*e*P **Pn** **10 58 02.6 +1.8**
NCK Nalchik 4.75 2 *e*P **Pn** **10 58 02.6 +1.8**
ATGJ Altiaghaj 4.80 62 ⇓P **Pn** **10 58 01.6 0.0**
ATGJ ⇑S **Sn** **10 58 58.0 +1.4**
ATGJ Altiaghaj 4.80 62 P **Pn** **10 58 01.6 0.0**
ATGJ S **Sn** **10 58 58.0 +1.4**
ILIN Lien 4.80 142 *e*Pn **Pn** **10 58 03.0 +1.2**
ILIN *e*AMB AMB 10 59 35.4
comp=Z,16µm,0.4s
ILIN Lien 4.80 142 Pn **Pn** **10 58 02.9 +1.2**
ILIN Lien 4.80 142 Pn **Pn** **10 58 02.9 +1.2**
GROC Groznyy 4.82 22 P **Pn** **10 58 06.1 +4.3**
GROC *e* 10 59 06.2
GROC pmax pmax
comp=Z,162nm,1.0s
GROC smax smax
comp=N,1µm,6.7s
GROC smax smax
comp=N,297nm,1.9s
GROC Groznyy 4.82 22 P **Pn** **10 58 06.1 +4.3**
comp=N,162nm,1.0s
SIZA Siyzn 4.87 60 ⇑P **Pn** **10 58 02.5 0.0**
SIZA Siyzn 4.87 60 P **Pn** **10 58 02.5 0.0**
RSDY Resadiye-TOKAT 4.93 291 *e*PN **Pn** **10 58 05.1 +1.8**
RSDY Resadiye-TOKAT 4.93 291 *e*Pn **Pn** **10 58 05.1 +1.8**
RSDY Resadiye-TOKAT 4.93 291 Pn Pb 10 58 09.2 -6.8
KBZ Khabaz 4.99 356 Pn **Pn** **10 58 07.0 +3.0**
comp=N,1.2nm,0.3s,baz=172,slow=7.7,SNR=6.8
KBZ Khabaz 4.99 356 P **Pn** **10 58 07.0 +3.0**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 4.99 356 P **Pn** **10 58 07.0 +3.0**
comp=Z,1.0nm,0.3s
SVSK Karacayir 5.05 285 *e*PN **Pn** **10 58 06.9 +1.9**
SVSK Karacayir 5.05 285 *e*Pn **Pn** **10 58 06.9 +1.9**
SVSK Karacayir 5.05 285 Pn Pb 10 58 11.2 -7.0
IVIS Veis 5.07 145 *e*Pn **Pn** **10 58 06.6 +1.2**
IVIS *e*AMB AMB 10 59 52.6
comp=Z,41µm,1.0s
IVIS Veis 5.07 145 Pn **Pn** **10 58 06.5 +1.2**
IVIS Veis 5.07 145 Pn **Pn** **10 58 06.5 +1.2**
IGHG Ghaleghazi 5.12 149 *e*Pn **Pn** **10 58 07.3 +1.1**
IGHG *e*AMB AMB 10 59 14.3
comp=Z,51µm,0.4s
IGHG Ghaleghazi 5.12 149 Pn **Pn** **10 58 07.2 +1.1**
IGHG Ghaleghazi 5.12 149 Pn **Pn** **10 58 07.2 +1.1**
GOBA Gobu 5.21 70 ⇓S **Sn** **10 59 07.7 +1.2**
GOBA Gobu 5.21 70 S **Sn** **10 59 07.7 +1.2**
KVAR Kislovodsk Arr 5.22 355 Pn **Pn** **10 58 10.9 +3.4**
baz=221,slow=4.5,SNR=8.0
KIV Kislovodsk 5.22 355 P **Pn** **10 58 10.6 +3.2**
KIV Kislovodsk 5.22 355 *e*P **Pn** **10 58 09.4 +1.9**
KIV pmax pmax
comp=Z,248nm,1.1s
KIV Kislovodsk 5.22 355 *e*Pn **Pn** **10 58 09.3 +1.9**
KIV Kislovodsk 5.22 355 *e*Pn **Pn** **10 58 09.3 +1.9**
KMRS Kahramanmaras 5.23 258 *e*PN **Pn** **10 58 09.8 +2.4**
KMRS Kahramanmaras 5.23 258 *e*Pn **Pn** **10 58 09.8 +2.4**
KMRS Kahramanmaras 5.23 258 Pn Pn 10 58 13.5 +6.1
MAK Makhachkala 5.26 36*c i*P **Pb** **10 58 18.9 -2.7**
MAK pmax pmax
comp=Z,79nm,0.8s
NDR Nardaran 5.45 68 ⇑S **Sn** **10 59 13.6 +1.3**
NDR Nardaran 5.45 68 S **Sn** **10 59 13.6 +1.3**
GALA Gala 5.52 70 ⇑P **Pn** **10 58 11.3 -0.1**
GALA ⇑S **Sn** **10 59 15.6 +1.4**
GALA Gala 5.52 70 P **Pn** **10 58 11.3 -0.1**
GALA S **Sn** **10 59 15.6 +1.4**
TOKA Tokat 5.53 289 *e*Pn **Pn** **10 58 13.3 +1.7**
TOKA Tokat 5.53 289 *e*Pn **Pn** **10 58 13.3 +1.7**
SOC Sochi 5.55 332 *e*P **Pn** **10 58 12.2 +0.4**
SOC *e* 10 59 13.4
SOC pmax pmax
comp=Z,156nm,0.9s
SOC Sochi 5.55 332 *e*P **Pn** **10 58 12.2 +0.4**
comp=Z,156nm,0.9s
SOC *e*S **Sn** **10 59 13.4 -1.5**
IKOM Komasi 5.67 142 *e*Pn **Pn** **10 58 15.1 +1.5**
IKOM *e*AMB AMB 11 00 27.5
comp=Z,27µm,0.6s
IKOM Komasi 5.67 142 *e*Pn **Pn** **10 58 15.1 +1.5**
IKOM Komasi 5.67 142 Pn **Pn** **10 58 15.1 +1.5**
GOF Gofitskoye 6.31 358⇓ *e*P **Pn** **10 58 25.1 +2.9**
GOF Gofitskoye 6.31 358 *e*P **Pn** **10 58 25.1 +2.9**
KFRA Kufra 6.31 238 *e*P **Pn** **10 58 24.0 +1.6**
KFRA *e*S **Sb** **10 59 47.5 -7.2**
KFRA AML AML 11 00 21.7
comp=E,7µm,0.6s
KFRA AML AML 11 00 26.5
comp=N,6µm,0.6s
ARNB Al Arnab 6.54 246 *e*P **Pn** **10 58 28.4 +2.9**
ARNB *e*S **Sb** **10 59 53.4 -7.9**
ARNB AML AML 11 00 31.8
comp=N,3µm,0.7s
ARNB AML AML 11 00 31.9
comp=E,3µm,0.8s
RABH Abou Rabah 6.55 231 *e*P **Pn** **10 58 26.1 +0.6**
RABH AML AML 11 00 29.1
comp=N,1µm,0.7s
RABH AML AML 11 00 36.8
comp=E,1µm,0.8s
ROOS tl_alroos 6.68 229 *e*P **Pn** **10 58 27.6 +0.2**
ROOS AML AML 11 00 39.6
comp=N,2µm,0.7s
ROOS AML AML 11 00 55.9
comp=E,2µm,0.7s
BIDA Albida 6.75 239 *e*P **Pn** **10 58 30.5 +2.2**
BIDA AML AML 11 00 42.6
comp=E,4µm,0.6s
BIDA AML AML 11 00 44.0
comp=N,4µm,0.7s
HAWK Haweek 6.99 235 *e*P **Pn** **10 58 32.8 +1.1**
HAWK AML AML 11 00 44.3
comp=N,616nm,0.6s
HAWK AML AML 11 00 49.1
comp=E,937nm,0.7s
MARH Ras Al Marh 7.26 232 *e*P **Pn** **10 58 36.1 +0.4**
MARH *e*S Sb 11 00 10.0 -12
MARH AML AML 11 00 52.4
comp=N,1µm,0.7s
MARH AML AML 11 00 57.6
comp=E,1µm,0.7s
BR131 Keskin Array S 7.59 280 *e*Pn **Pn** **10 58 42.3 +2.3**
BR131 Keskin Array S 7.59 280 *e*Pn **Pn** **10 58 42.4 +2.3**
BRTR Keskin Array B 7.59 280 Pn **Pn** **10 58 41.6 +1.7**
comp=E,0.8nm,0.3s,baz=109,slow=14,SNR=7.6
QASN Qassioun 7.73 230 *e*P **Pn** **10 58 42.4 +0.6**
QASN *e*S Sn 11 00 19.8 +11
QASN AML AML 11 01 18.7
comp=N,1µm,0.7s
QASN AML AML 11 01 25.1
comp=E,1µm,0.7s
ILGA Ilgaz 7.75 290 *e*Pn **Pn** **10 58 43.9 +1.7**
ILGA Ilgaz 7.75 290 *e*Pn **Pn** **10 58 43.9 +1.7**
TOTH TOTAH 7.76 228 *e*P **Pn** **10 58 43.5 +1.3**
TOTH *e*S Sn 11 00 20.3 +11
TOTH AML AML 11 01 11.2
comp=N,591nm,0.6s
TOTH AML AML 11 01 17.1
comp=E,512nm,0.7s

SHGR Shooshtar-Gavs 7.98 144 *e*Pn Sb 11 00 44.1 +1.4
BRBR Barbar 8.01 231 *e*P **Pn** **10 58 46.9 +1.1**
BRBR *e*S Sn 11 00 27.9 +12
BRBR AML AML 11 01 21.4
comp=N,466nm,0.7s
SALA Sala 8.07 224 *e*P **Pn** **10 58 46.9 +0.3**
SALA *e*S Sn 11 00 27.1 +10
SALA AML AML 11 01 19.3
comp=E,78nm,0.8s
ANTO Ankara 8.25 281 *e*Pn **Pn** **10 58 50.5 +1.5**
ANTO Ankara 8.25 281 *e*Pn **Pn** **10 58 50.5 +1.5**
BR231 Keskin MP Arra 8.26 281 *e*Pn **Pn** **10 58 51.1 +1.9**
BR231 Keskin MP Arra 8.26 281 *e*Pn **Pn** **10 58 51.1 +1.9**
ASF Jabal al Asfar 8.40 221 Pn **Pn** **10 58 52.0 +0.9**
comp=E,9.6nm,0.3s,baz=346,slow=12,SNR=9.1
ASF Lg Lg 11 01 10.0
comp=E,5.6nm,0.3s,baz=0.0,slow=20,SNR=2.3
TCHB Talchebab 8.53 227 *e*P **Pn** **10 58 54.5 +1.8**
TCHB *e*S Sn 11 00 38.2 +10
TCHB AML AML 11 01 48.9
comp=N,669nm,0.7s
TCHB AML AML 11 01 49.5
comp=E,354nm,0.7s
MMAI Mount Meron Ar 8.61 231 Pn **Pn** **10 58 56.3 +2.4**
comp=E,28nm,0.3s,baz=66,slow=15,SNR=18
MMAI Lg Lg 11 01 18.3
comp=E,4.7nm,0.3s,baz=27,slow=32,SNR=3.2
CSS Mathiatis 8.87 248 *e*Pn **Pn** **10 58 59.9 +2.5**
CSS Mathiatis 8.87 248 *e*Pn **Pn** **10 58 59.9 +2.5**
ALU Alushta 8.93 314 *e*P Pn 10 59 04.4 +6.3
YAL Yalta 8.95 313 *e*P Pn 10 59 04.0 +5.6
SIM Simferopol' 9.26 315 *e*P Pn 10 59 07.7 +5.1
SIM pmax pmax
comp=Z,84nm,0.9s
SEV Sevastopol' 9.27 312 *e*P Pn 10 59 12.0 +9.3
BOLV Bolvadin 9.68 274 *e*Pn Pn 10 59 14.1 +5.4
AKAS Kas 11.20 261 *e*Pn Pn 10 59 34.8 +5.4
EIL Elat 11.40 220 Pn **Pn** **10 59 34.2 +2.0**
comp=Z,1.1nm,0.3s,baz=42,slow=14,SNR=1.9
EIL Lg Lg 11 02 47.0
comp=Z,2.3nm,0.3s,baz=17,slow=14,SNR=3.4
MANT Manisa 11.57 273 *e*Pn **Pn** **10 59 37.5 +3.0**
MANT Manisa 11.57 273 *e*Pn **Pn** **10 59 37.5 +3.0**
GEYT Alibeck 11.64 89 Pn **Pn** **10 59 36.7 +1.4**
comp=Z,1.3nm,0.3s,baz=292,slow=12,SNR=5.7
TIRR Tirgusor 12.54 302 ⇑*i*P **Pn** **10 59 48.2 +0.7**
TIRR Tirgusor 12.54 302 *e*P **Pn** **10 59 47.3 -0.2**
TIRR Tirgusor 12.54 302 *e*P **Pn** **10 59 47.3 -0.2**
TIRR Tirgusor 12.54 302 *e*Pn **Pn** **10 59 47.3 -0.2**
TLCR 12.57 305 ⇑*i*P **Pn** **10 59 49.0 +1.1**
TLCR 12.57 305 ⇑*i*P **Pn** **10 59 49.0 +1.1**
HARR Harsova 12.94 302 ⇑*i*P **Pn** **10 59 54.3 +1.2**
HARR Harsova 12.94 302 ⇑*i*P **Pn** **10 59 54.3 +1.2**
CFR Carcaliu 13.00 304 ⇑*i*P **Pn** **10 59 54.5 +0.7**
CFR Carcaliu 13.00 304 P **Pn** **10 59 53.7 -0.1**
CFR pmax pmax
comp=Z,163nm,1.0s
CFR Carcaliu 13.00 304 P **Pn** **10 59 53.7 -0.1**
comp=Z,163nm,1.0s
VORR Voronezh 13.24 349 P **Pn** **10 59 58.0 +0.9**
VORR pmax pmax
comp=Z,600nm,1.6s
VORR Voronezh 13.24 349 P **Pn** **10 59 58.0 +0.9**
comp=Z,600nm,1.6s
KARP Karpathos 13.30 261 *e*Pn **Pn** **11 00 00.4 +2.4**
KARP Karpathos 13.30 261 *e*Pn **Pn** **11 00 00.4 +2.4**
LEOM Leova 13.52 310 ⇑*i*P **Pn** **11 00 01.1 +0.2**
PGOR Pogoanele 13.65 302 ⇓*i*P **Pn** **11 00 04.8 +2.1**
PETR Petresti 13.81 305 ⇑*i*P **Pn** **11 00 06.1 +1.3**
ODBI Odobesti 13.94 305 ⇑*i*P **Pn** **11 00 08.0 +1.4**
ISR Istrita 14.02 302 ⇑*i*P **Pn** **11 00 09.8 +2.0**
SULR 14.06 300 ⇑*i*P **Pn** **11 00 09.9 +1.6**
APE Apeiranthos 14.16 269 ⇓*i*P **Pn** **11 00 10.9 +1.1**
VRI Vrincioaia 14.19 305 ⇑*i*P **Pn** **11 00 11.0 +0.9**
LPSR Galich'ya Gora 14.19 349 *e*P **Pn** **11 00 10.1 +0.1**
LPSR pmax pmax
comp=Z,640nm,1.1s
PLOR Plostina 14.23 305 ⇓*i*P **Pn** **11 00 12.6 +1.9**
IAS Iasi 14.29 311 ⇓*i*P **Pn** **11 00 13.1 +1.7**
IAS Iasi 14.29 311 P **P** **11 00 19.2 +0.8**
IAS pmax pmax
comp=Z,409nm,1.0s
IAS Iasi 14.29 311 P **P** **11 00 19.2 +0.8**
comp=Z,409nm,1.0s
SECR 14.30 302 ⇓*i*P **Pn** **11 00 13.3 +1.6**
SORM Soroca 14.35 316 ⇑*i*P **Pn** **11 00 13.2 +1.0**
ZIMR 14.39 296 ⇓*i*P **Pn** **11 00 14.6 +1.8**
TESR Tescani 14.51 308 ⇑*i*P **Pn** **11 00 16.8 +2.3**
MLR Muntele Rosu 14.55 303 Pn **P** **11 00 19.0 -2.5**
comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=8.1
MLR Muntele Rosu 14.55 303 ⇓*i*P **Pn** **11 00 16.7 +1.6**
MLR Muntele Rosu 14.55 303 *e*Pn **Pn** **11 00 16.9 +1.8**
MLR Muntele Rosu 14.55 303 *e*Pn **Pn** **11 00 16.9 +1.8**
HUMR Humele 14.88 299 ⇓*i*P **Pn** **11 00 21.4 +1.9**
MTUR Matau 15.04 301 ⇑*i*P **Pn** **11 00 23.4 +1.7**
DOPR Dopca 15.09 304 ⇑*i*P **Pn** **11 00 22.8 +0.5**
VOIR 15.12 302 ⇓*i*P **Pn** **11 00 24.0 +1.3**
VOIR 15.12 302 P **P** **11 00 31.2 +3.4**
IDI Anoyia 15.14 263 Pn **Pn** **11 00 23.2 +0.1**
comp=Z,1.7nm,0.3s,baz=56,slow=11,SNR=15
IDI Anoyia 15.14 263 *e*Pn **Pn** **11 00 23.4 +0.4**
comp=Z,896nm,1.7s
IDI Anoyia 15.14 263 *e*Pn **Pn** **11 00 23.4 +0.4**
comp=Z,896nm,1.7s
PRAR RASCA 15.16 310 ⇑*i*P **Pn** **11 00 24.3 +1.1**
PAIG Paliouri 15.26 281 P **P** **11 00 27.2 -2.1**
PAIG pmax pmax
comp=Z,199nm,1.1s
PAIG Paliouri 15.26 281 P **P** **11 00 27.2 -2.1**
comp=Z,199nm,1.1s
RAYN Ar Rayn 15.29 172 *e*Pn **Pn** **11 00 21.1 -4.0**
comp=Z,749nm,1.9s
ARR Arges 15.37 301 ⇑*i*P **Pn** **11 00 27.4 +1.3**
SOH Sokhos 15.50 284 P **P** **11 00 29.6 -2.5**
AKASG Malin Array Be 15.57 325 Pn **Pn** **11 00 27.7 -0.8**
comp=Z,2.4nm,0.3s,baz=128,slow=12,SNR=51
AKBB Malin Array Si 15.57 325 *e*P **Pn** **11 00 28.5 0.0**
AKBB pmax pmax
comp=Z,385nm,1.1s
AKBB Malin Array Si 15.57 325 *e*Pn **Pn** **11 00 28.5 0.0**
comp=Z,385nm,1.1s
AKBB Malin Array Si 15.57 325 *e*Pn **Pn** **11 00 28.5 0.0**
comp=Z,385nm,1.1s
KIEV Kiev 15.57 325 ⇑*i*P **Pn** **11 00 28.1 -0.4**
KIEV Kiev 15.57 325 *e*Pn **Pn** **11 00 28.5 0.0**
comp=Z,381nm,1.1s
KIEV Kiev 15.57 325 *e*Pn **Pn** **11 00 28.5 0.0**
comp=Z,381nm,1.1s
AKTO Aktyubinsk 15.64 37 Pn **Pn** **11 00 29.0 -0.5**
baz=231,slow=6.3
AKTO Aktyubinsk 15.64 37 P **Pn** **11 00 29.0 -0.5**
AKTO Aktyubinsk 15.64 37 Pn **Pn** **11 00 29.0 -0.5**
CRAR CRAIOVA 15.64 297 ⇑*i*P **Pn** **11 00 30.0 +0.5**
VTS Vitosha 15.74 291 ⇑*i*P **Pn** **11 00 32.1 +1.1**
VTS Vitosha 15.74 291 *e*P **P** **11 00 33.4 -1.5**
VTS pmax pmax
comp=Z,216nm,1.1s
VTS Vitosha 15.74 291 *e*P **P** **11 00 33.4 -1.5**
comp=Z,216nm,1.1s
VTS Vitosha 15.74 291 *e*Pn **P** **11 00 33.4 -1.5**
comp=Z,216nm,1.1s
THE Thessaloniki 15.80 283 P **P** **11 00 34.4 -0.9**
THE Thessaloniki 15.80 283 P **P** **11 00 34.4 -0.9**
KNT Kendrikon 15.86 285 P **P** **11 00 34.1 -1.9**
KNT Kendrikon 15.86 285 P **P** **11 00 34.1 -1.9**
ABKAR Akbulak array 15.87 43 *e*Pn **Pn** **11 00 32.8 +0.4**
comp=Z,562nm,0.9s
ABKAR Akbulak array 15.87 43 *e*Pn **Pn** **11 00 32.8 +0.4**
comp=Z,562nm,0.9s
BURAR Bucovina Array 15.88 310 ⇑*i*P **Pn** **11 00 33.1 +0.4**
BURAR Bucovina Array 15.88 310 P **P** **11 00 38.3 +2.0**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **Pn** **11 00 33.8 +0.7**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **Pn** **11 00 33.8 +0.7**
LOT Lotru 15.97 301 ⇓*i*P **Pn** **11 00 34.5 +0.6**
VAY Valandovo 16.11 286 P **P** **11 00 42.8 +4.1**
LIT Litokhoron 16.17 281 P **P** **11 00 39.9 +0.5**
LIT Litokhoron 16.17 281 P **P** **11 00 39.9 +0.5**
ARCR ARCALIA 16.18 307 ⇓*i*P **Pn** **11 00 37.4 +0.9**
GRG Griva 16.23 284 P **P** **11 00 39.5 -0.6**
GRG Griva 16.23 284 P **P** **11 00 39.5 -0.6**
AGG Agios Georgios 16.36 278 *e*P **P** **11 00 40.8 -0.8**
AGG pmax pmax
comp=Z,282nm,1.0s

AGG Agios Georgios 16.36 278 *e*P **P** **11 00 40.8 -0.8**
comp=Z,282nm,1.0s
AGG Agios Georgios 16.36 278 *e*Pn **P** **11 00 40.8 -0.8**
comp=Z,282nm,1.0s
CJR Cluj-Napoca 16.52 305 ⇑*i*P **P** **11 00 42.5 -0.8**
GZR Gura Zlata 16.63 300 ⇑*i*P **Pn** **11 00 42.9 +0.7**
DEV Deva 16.69 302 ⇓*i*P **P** **11 00 44.5 -0.6**
DEV Deva 16.69 302 P **P** **11 00 45.9 +0.8**
DEV pmax pmax
comp=Z,243nm,1.5s
DEV Deva 16.69 302 P **P** **11 00 45.9 +0.8**
comp=Z,243nm,1.5s
BANOM Banah 16.81 136 *i*P **Pn** **11 00 42.5 -2.1**
SNR=6.8
BMR Baia Mare 16.96 308 ⇑*i*P **P** **11 00 46.9 -1.2**
BMR Baia Mare 16.96 308 P **Pn** **11 00 46.2 -0.1**
BMR pmax pmax
comp=Z,283nm,1.6s
BMR Baia Mare 16.96 308 P **Pn** **11 00 46.2 -0.1**
comp=Z,283nm,1.6s
SKO Skopje 16.99 288 *e*P **P** **11 00 47.7 -0.8**
SKO Skopje 16.99 288 P **P** **11 00 49.6 +1.1**
SKO pmax pmax
comp=Z,21nm,1.2s
SKO Skopje 16.99 288 P **P** **11 00 49.6 +1.1**
comp=Z,21nm,1.2s
OBN Obninsk 17.00 347 P **Pn** **11 00 45.2 -1.5**
comp=Z,4.3nm,0.3s,baz=172,slow=22,SNR=15
OBN Obninsk 17.00 347⇓*e*P **Pn** **11 00 45.1 -1.5**
OBN pmax pmax
comp=Z,883nm,1.1s
OBN Obninsk 17.00 347 *e*Pn **Pn** **11 00 45.0 -1.6**
comp=Z,707nm,1.0s
OBN Obninsk 17.00 347 *e*Pn **Pn** **11 00 45.0 -1.6**
comp=Z,707nm,1.0s
FNA Florina 17.00 284 P **P** **11 00 48.4 -0.3**
FNA Florina 17.00 284 P **P** **11 00 48.4 -0.3**
BIA Bitola 17.05 285 *e*P **P** **11 00 51.0 +1.8**
KRUS Krusevo 17.11 286 *e*P **P** **11 00 51.1 +1.2**
DRGR 17.11 305 ⇑*i*P **Pn** **11 00 48.7 +0.4**
DRGR 17.11 305 P **P** **11 00 49.5 -0.4**
DRGR 17.11 305 P **P** **11 00 49.5 -0.4**
MDVR Moldovita 17.20 297 ⇑*i*P **Pn** **11 00 49.6 +0.2**
NAZ Nazwa, Dubai 17.23 139 P **Pn** **11 00 47.6 -2.2**
FAQ Al Faqa, Dubai 17.40 140 P **Pn** **11 00 48.4 -3.5**
MOS Moscow 17.42 349 *e*P **Pn** **11 00 49.5 -2.5**
MOS pmax pmax
comp=Z,803nm,1.7s
OHR Ohrid 17.44 285 *e*P **Pn** **11 00 48.8 -3.6**
OHR Ohrid 17.44 285 P **P** **11 00 55.3 +1.7**
OHR pmax pmax
comp=Z,186nm,1.1s
OHR Ohrid 17.44 285 P **P** **11 00 55.3 +1.7**
comp=Z,186nm,1.1s
BZS Buzias 17.47 300 ⇓*i*P **P** **11 00 53.1 -0.7**
UOSS Minazif 17.55 138 *e*Pn **Pn** **11 00 52.4 -1.4**
comp=Z,306nm,1.1s
UOSS Minazif 17.55 138 *e*Pn **Pn** **11 00 52.4 -1.4**
comp=Z,306nm,1.1s
HATD Hatta, Dubai 17.61 138 P **Pn** **11 00 52.3 -2.2**
SIRR Siria 17.63 302 ⇓*i*P **P** **11 00 55.9 +0.4**
LVV L'vov 17.65 315 *e*P **P** **11 01 01.4 +5.6**
ASHO Ashiyiah 17.68 139 P **Pn** **11 00 52.0 -3.5**
BEO Beograd 18.07 297 *e*P **P** **11 01 00.7 +0.3**
BEO Beograd 18.07 297 *e*Pn **P** **11 01 00.7 +0.3**
UZH Uzhgorod 18.09 310 *e*P **P** **11 01 01.0 +0.4**
UZH Uzhgorod 18.09 310 *e*P **P** **11 01 01.0 +0.4**
PVY Plav 18.13 290 ⇓*i*P **Pn** **11 01 00.2 -0.8**
TIR Tirane 18.15 286 *e*P **Pn** **11 01 00.8 -0.3**
TIR pmax pmax
comp=Z,163nm,1.1s
TIR Tirane 18.15 286 *e*P **Pn** **11 01 00.8 -0.3**
comp=Z,163nm,1.1s
TIR Tirane 18.15 286 *e*Pn **Pn** **11 01 00.8 -0.3**
comp=Z,163nm,1.1s
BEY Berane 18.20 291 ⇓*i*P **P** **11 01 02.2 +0.2**
IVA Berane 18.20 291 ⇓*i*P **P** **11 01 02.1 +0.1**
KWP Kalwaria Pacla 18.30 313 *e*P **P** **11 01 02.9 0.0**
KWP Kalwaria Pacla 18.30 313 *e*P **P** **11 01 02.9 0.0**
KWP Kalwaria Pacla 18.30 313 *e*P **P** **11 01 02.9 0.0**
PLE Pljevlja 18.62 292 ⇓*i*P **Pn** **11 01 09.2 +2.3**
PLE Pljevlja 18.62 292 P **Pn** **11 01 08.7 +1.8**
PLE Pljevlja 18.62 292 P **Pn** **11 01 08.7 +1.8**
ULC Ulcinj 18.63 288 ⇓*i*P **Pn** **11 01 07.4 +0.5**
ULC Ulcinj 18.63 288 ⇓*i*P **Pn** **11 01 07.5 +0.5**
PDG Podgorica 18.64 289 ⇓*i*P **Pn** **11 01 07.0 0.0**
PDG Podgorica 18.64 289 ⇓*i*P **Pn** **11 01 07.3 +0.3**
TTG Podgorica 18.64 289 ⇓*i*P **Pn** **11 01 07.3 +0.3**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **11 01 07.8 0.0**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **11 01 07.8 0.0**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **11 01 07.8 0.0**
NKY Niksic 18.86 290 ⇓*i*P **Pn** **11 01 10.0 +0.2**
NKY Niksic 18.86 290 P **Pn** **11 01 10.7 +0.9**
NKY Niksic 18.86 290 ⇓*i*P **Pn** **11 01 10.0 +0.2**
BUM Brajici-Budva 18.90 289 ⇓*i*P **Pn** **11 01 09.7 -0.6**
BUM Brajici-Budva 18.90 289 ⇓*i*P **Pn** **11 01 09.8 -0.6**
MICGM Minsk 18.93 331 *e*P **P** **11 01 08.0 -1.7**
MICGM PM 11 01 10.0
comp=Z,0.6nm,1.5s
MICGM PM 11 01 10.0
comp=E,0.9nm,1.5s
MICGM PM 11 01 11.0
comp=N,0.3nm,1.5s
MNK Minsk 18.93 331 *e*P **P** **11 01 08.0 -1.7**
MNK pmax pmax
comp=E,850nm,1.5s
MNK pmax pmax
comp=Z,560nm,1.5s
MNK pmax pmax
comp=N,310nm,1.5s
UPM Unac-Piva 18.95 291 ⇓*i*P **Pn** **11 01 11.1 0.0**
UPM Unac-Piva 18.95 291 ⇓*i*P **Pn** **11 01 11.1 0.0**
STHS Stebnicka Huta 19.05 311 *e*P **Pn** **11 01 12.3 +0.3**
STHS pmax pmax
comp=Z,55nm,0.9s
STHS Stebnicka Huta 19.05 311 *e*P **Pn** **11 01 12.3 +0.3**
comp=Z,55nm,0.9s
STHS Stebnicka Huta 19.05 311 *e*P **Pn** **11 01 12.3 +0.3**
KECS Kecovo 19.13 308 *e*P **Pn** **11 01 12.8 -0.2**
KECS pmax pmax
comp=Z,41nm,1.0s
KECS Kecovo 19.13 308 *e*P **Pn** **11 01 12.8 -0.2**
comp=Z,41nm,1.0s
KECS Kecovo 19.13 308 *e*P **Pn** **11 01 12.8 -0.2**
BRY Bratogost 19.20 290 ⇓*i*P **P** **11 01 12.5 -0.5**
BRY Bratogost 19.20 290 P **Pn** **11 01 14.1 +0.1**
BRY Bratogost 19.20 290 ⇓*i*P **P** **11 01 12.5 -0.5**
HCY Herceg Novi 19.20 289 ⇓*i*P **P** **11 01 12.0 -0.8**
HCY Herceg Novi 19.20 289 P **Pn** **11 01 13.6 -0.3**
HCY Herceg Novi 19.20 289 ⇓*i*P **P** **11 01 12.1 -0.8**
PSZ Piszkesteto 19.30 306 ⇓*i*P **Pn** **11 01 15.5 +0.5**
PSZ Piszkesteto 19.30 306 *e*P **Pn** **11 01 15.5 +0.5**
PSZ pmax pmax
comp=Z,341nm,1.2s
PSZ Piszkesteto 19.30 306 *e*P **Pn** **11 01 15.5 +0.5**
comp=Z,341nm,1.2s
PSZ Piszkesteto 19.30 306 *e*P **Pn** **11 01 15.5 +0.5**
comp=Z,341nm,1.2s
NIE Niedzica 19.61 310 *e*P **Pn** **11 01 19.0 +0.3**
NIE Niedzica 19.61 310 *e*P **Pn** **11 01 19.0 +0.3**
BUD Budapest 19.72 304 P **Pn** **11 01 19.9 -0.1**
BUD pmax pmax
comp=Z,232nm,1.6s
BUD Budapest 19.72 304 P **Pn** **11 01 19.9 -0.1**
comp=Z,232nm,1.6s
LANS Liptovska Anna 20.01 309 *e*P **Pn** **11 01 23.0 -0.4**
LANS Liptovska Anna 20.01 309 *e*P **Pn** **11 01 23.0 -0.4**
LANS Liptovska Anna 20.01 309 *e*P **Pn** **11 01 23.0 -0.4**
VYHS Vyhne 20.16 307 *e*P Pn 11 01 24.7 -0.5
VYHS pmax pmax
comp=Z,146nm,1.2s
VYHS Vyhne 20.16 307 *e*P Pn 11 01 24.7 -0.5
comp=Z,146nm,1.2s
VYHS Vyhne 20.16 307 *e*P Pn 11 01 24.7 -0.5
CSKK Cs‡kako 20.18 303⇓*e*P Pn 11 01 25.2 -0.2
WSAR Wadi Sarin 20.22 135 P **P** **11 01 24.0 -0.1**
comp=Z,76nm,0.7s,baz=344,slow=4.9,SNR=15
WSAR Wadi Sarin 20.22 135 P **P** **11 01 24.0 -0.1**
OJC Ojcow 20.24 312 *e*P **P** **11 01 24.4 +0.2**
OJC pmax pmax
comp=Z,320nm,1.5s
OJC Ojcow 20.24 312 *e*P **P** **11 01 24.4 +0.2**
comp=Z,320nm,1.5s
OJC Ojcow 20.24 312 *e*P **P** **11 01 24.4 +0.2**

comp=Z,320nm,1.5s
CHM Chimkent 20.25 71 *i* P **P 11 01 22.0 -2.3**
comp=Z,2μm,0.5s
CHM *e*S **S 11 05 09.8 -0.7**
CHM LRM MLR 11 10 47.7
comp=Z,22μm,17.0s
BLY Banja Luka 20.37 296 *e*P Pn 11 01 26.5 -1.2
comp=Z,172nm,1.0s
BLY Banja Luka 20.37 296 *e*P Pn 11 01 26.5 -1.2
comp=Z,172nm,1.0s
ARU Arti 20.37 25 P **P 11 01 25.8 +0.3**
comp=Z,120nm,0.7s,baz=231,slow=5.7,SNR=30
ARU Arti 20.37 25*d i*P **P 11 01 25.6 +0.2**
ARU 11 01 41.8
ARU S Sn 11 05 18.0 +1.7
ARU SS **SnSn 11 05 38.1 +7.2**
ARU pmax pmax
comp=Z,427nm,1.2s
ARU Arti 20.37 25 *i* P **P 11 01 25.6 +0.2**
comp=Z,427nm,1.2s
ARU Arti 20.37 25 *e*P **P 11 01 26.0 +0.6**
comp=Z,670nm,1.3s
BRLS Boroldoy 20.45 69 *i* P **P 11 01 22.9 -3.6**
comp=Z,3μm,13.2s
BRLS LRM MLR 11 10 27.2
comp=Z,3μm,12.1s
BEL Belsk 20.46 317 *e*P Pn 11 01 27.2 -1.4
BEL Belsk 20.46 317 *e*P **P 11 01 27.2 +0.8**
BEL Belsk 20.46 317 *e*P **P 11 01 27.2 +0.8**
SUW Suwalki 20.54 325 *e*P Pn 11 01 28.2 -1.4
SUW Suwalki 20.54 325 *e*P Pn 11 01 28.2 -1.4
SUW Suwalki 20.54 325 *e*P Pn 11 01 28.2 -1.4
IUG Iuzhnay 20.56 72 *i* P **P 11 01 25.5 -2.3**
comp=Z,1μm,1.8s
IUG LRM MLR 11 11 14.2
comp=Z,26μm,13.4s
KKAR Karatay Array 20.95 69 *e*P **P 11 01 32.5 +0.6**
KKAR pmax pmax
comp=Z,1μm,0.7s
KKAR Karatay Array 20.95 69 *e*P **P 11 01 32.5 +0.6**
comp=Z,1μm,0.7s
KKAR Karatay Array 20.95 69 *e*P **P 11 01 32.5 +0.6**
comp=Z,1μm,0.7s
KBL Kabul 21.02 94 *e*P **P 11 01 33.9 +0.9**
KBL pmax pmax
comp=Z,155nm,1.2s
KBL Kabul 21.02 94 *e*P **P 11 01 33.8 +0.9**
comp=Z,155nm,1.2s
KBL Kabul 21.02 94 *e*P **P 11 01 33.9 +0.9**
comp=Z,155nm,1.2s
SMOL Smolenice 21.05 306 *e*P **P 11 01 35.1 +2.1**
SMOL Smolenice 21.05 306 *e*P **P 11 01 35.1 +2.1**
SMOL Smolenice 21.05 306 *e*P **P 11 01 35.0 +2.1**
OKC Ostrava-Krasne 21.06 310 *e*P **P 11 01 33.3 +0.3**
OKC Ostrava-Krasne 21.06 310 *e*P **P 11 01 33.3 +0.3**
OKC Ostrava-Krasne 21.06 310 *e*P **P 11 01 33.3 +0.3**
CUC Castrocucco 21.29 282 *e*P **P 11 01 36.5 +0.9**
comp=Z,135nm,1.2s
CUC Castrocucco 21.29 282 *e*P **P 11 01 36.5 +0.9**
comp=Z,135nm,1.2s
KOGS Kog 21.30 300 *e*P **P 11 01 37.0 +1.4**
SOP Sopron 21.38 303 P **P 11 01 37.2 +0.8**
SOP pmax pmax
comp=Z,403nm,2.5s
SOP Sopron 21.38 303 P **P 11 01 37.2 +0.8**
comp=Z,403nm,2.5s
SVE Sverdlovsk 21.39 27 *e*P **P 11 01 37.0 +0.6**
SVE pmax pmax
comp=Z,411nm,1.4s
SVE Sverdlovsk 21.39 27 *e*P **P 11 01 37.0 +0.6**
comp=Z,411nm,1.4s
MORC Moravsky Berou 21.41 309⇓*i* P **P 11 01 37.3 +0.6**
MORC Moravsky Berou 21.41 309 *e*P **P 11 01 37.4 +0.6**
MORC pmax pmax
comp=Z,352nm,1.1s
MORC Moravsky Berou 21.41 309 *e*P **P 11 01 37.4 +0.6**
comp=Z,352nm,1.1s
MORC Moravsky Berou 21.41 309 *e*P **P 11 01 37.4 +0.6**
comp=Z,352nm,1.1s
CEL Celeste 21.46 277 *e*P **P 11 01 35.8 -1.6**
comp=Z,134nm,1.1s
CEL Celeste 21.46 277 *e*P **P 11 01 35.8 -1.6**
comp=Z,134nm,1.1s
DZA Taraz 21.54 70 *i* P **P 11 01 36.1 -2.2**
DZA LRM MLR 11 11 24.3
comp=Z,24μm,15.0s
VRAC Vranov 21.83 308 P **P 11 01 42.8 +1.5**
comp=Z,131nm,1.0s,baz=108,slow=9.4,SNR=35
CONA Conrad Observa 21.89 304 *i* P **P 11 01 42.7 +0.6**
comp=Z,201nm,1.0s,SNR=15
ARSA Arzberg 21.96 302 *i* P **P 11 01 43.5 +0.8**
comp=Z,153nm,1.1s
KRLC Kraliky 21.97 310 *e*P **P 11 01 45.0 +2.2**
KRLC Kraliky 21.97 310 *e*P **P 11 01 45.0 +2.2**
KRLC Kraliky 21.97 310 *e*P **P 11 01 45.0 +2.2**
SOKA Soboth 22.17 300 *i* P **P 11 01 45.3 +0.2**
comp=Z,73nm,1.1s
KLMR Klimovskoe 22.26 355 *e*P **P 11 01 43.4 -2.3**
KLMR *e* 11 02 07.1
KLMR pmax pmax
comp=Z,760nm,1.5s
DPC Dobruska-Polom 22.34 310 *e*P **P 11 01 48.2 +1.4**
DPC Dobruska-Polom 22.34 310 *e*P **P 11 01 48.2 +1.4**
DPC Dobruska-Polom 22.34 310 *e*P **P 11 01 48.2 +1.4**
MNAS Manas 22.40 71 P **P 11 01 48.3 +0.7**
MNAS Manas 22.40 71 P **P 11 01 48.3 +0.7**
LJU Ljubljana 22.41 298 *e*P **P 11 01 48.1 +0.6**
VSU Vasula 22.46 337⇓*e*P **P 11 01 47.0 -0.9**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU Vasula 22.46 337 *e*P **P 11 01 47.0 -0.9**
comp=Z,1μm,1.0s
OBKA Obir 22.47 299 *i* P **P 11 01 48.2 0.0**
comp=Z,103nm,1.8s
TREC Trest 22.51 307 *e*P **P 11 01 49.2 +0.6**
TREC Trest 22.51 307 *e*P **P 11 01 49.2 +0.6**
TREC Trest 22.51 307 *e*P **P 11 01 49.2 +0.6**
KSP Ksiaz 22.54 311 *e*P **P 11 01 49.7 +0.8**
KSP Ksiaz 22.54 311 *e*P **P 11 01 49.7 +0.8**
KSP Ksiaz 22.54 311 *e*P **P 11 01 49.7 +0.8**
SOKR Solikamsk 22.56 18⇑*i*P **P 11 01 47.7 -1.2**
SOKR pmax pmax
comp=Z,343nm,1.5s
UPC Upice 22.59 310 *e*P **P 11 01 49.5 +0.1**
PUL Pulkovo 22.61 343⇑*e*P **P 11 01 49.0 -0.4**
PUL pmax pmax
comp=Z,385nm,1.1s
PUL Pulkovo 22.61 343 *e*P **P 11 01 49.0 -0.4**
comp=Z,385nm,1.1s
VAE Valguarnera 22.76 276 P **P 11 01 52.5 +1.1**
comp=Z,24nm,0.8s,baz=103,slow=7.5,SNR=4.0
TRI Trieste 22.89 297 *e*P **P 11 01 53.3 +0.7**
TRI pmax pmax
comp=Z,230nm,1.4s
TRI Trieste 22.89 297 *e*P **P 11 01 53.3 +0.7**
comp=Z,230nm,1.4s
TRI Trieste 22.89 297 *e*P **P 11 01 53.3 +0.7**
comp=Z,230nm,1.4s
MOA Molln 22.92 303 *i* P **P 11 01 53.1 +0.2**
comp=Z,149nm,1.1s,SNR=6.6
AQU L'Aquila 22.97 289 *e*P **P 11 01 52.9 -0.7**
AQU pmax pmax
comp=Z,352nm,1.1s
AQU L'Aquila 22.97 289 *e*P **P 11 01 52.9 -0.7**
comp=Z,352nm,1.1s
AQU L'Aquila 22.97 289 *e*P **P 11 01 52.9 -0.7**
comp=Z,352nm,1.1s
GKP Gorka Klasztor 23.05 318 *e*P **P 11 01 55.4 +1.2**
GKP Gorka Klasztor 23.05 318 *e*P **P 11 01 55.4 +1.2**
GKP Gorka Klasztor 23.05 318 *e*P **P 11 01 55.4 +1.2**
MYKA Terra Mystica 23.11 300 *i* P **P 11 01 55.3 +0.4**
comp=Z,38nm,1.0s
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 11 01 54.4 -0.7**
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 11 01 54.4 -0.7**
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 11 01 54.4 -0.7**
PRU Pruhonice 23.31 308 *e*P **P 11 01 56.8 0.0**
PRU Pruhonice 23.31 308 *e*P **P 11 01 56.8 0.0**
PRU Pruhonice 23.31 308 *e*P **P 11 01 56.8 0.0**
KBA Koelnbreinsper 23.38 301 P **P 11 01 58.2 +0.4**
KBA pmax pmax
comp=Z,217nm,2.8s
KBA Koelnbreinsper 23.38 301 *i* P **P 11 01 58.1 +0.3**
comp=Z,169nm,1.4s,SNR=12
KBA Koelnbreinsper 23.38 301 P **P 11 01 58.2 +0.4**
comp=Z,217nm,2.8s
PRA Prague 23.40 308 *e*P **P 11 01 58.4 +0.7**
PRA Prague 23.40 308 *e*P **P 11 01 58.4 +0.7**
PRA Prague 23.40 308 *e*P **P 11 01 58.4 +0.7**
BRVK Borovoye 23.40 44⇑*e*P **P 11 01 58.0 +0.3**
BRVK pmax pmax
comp=Z,404nm,1.2s
BRVK Borovoye 23.40 44 *e*P **P 11 01 58.0 +0.3**
comp=Z,404nm,1.2s
BRVK Borovoye 23.40 44 *e*P **P 11 01 58.5 +0.8**
comp=Z,215nm,1.3s
BVAR Borovoye Array 23.45 44 P **P 11 01 58.7 +0.6**
comp=Z,65nm,1.1s,baz=242,slow=6.2,SNR=24
PVCC Panska Ves 23.46 310 *e*P **P 11 01 57.8 -0.5**
PVCC Panska Ves 23.46 310 *e*P **P 11 01 57.8 -0.5**
PVCC Panska Ves 23.46 310 *e*P **P 11 01 57.8 -0.5**
GEC2 GERESS Array S 23.52 305 *e*P **P 11 01 59.9 +0.9**
GEC2 pmax pmax
comp=Z,155nm,1.4s
GEC2 GERESS Array S 23.52 305 *e*P **P 11 01 59.9 +0.9**
comp=Z,155nm,1.4s
GEC2 GERESS Array S 23.52 305 *e*P **P 11 01 59.9 +0.9**
comp=Z,155nm,1.4s
GERES GERESS Array B 23.52 305 P **P 11 01 59.0 0.0**
comp=Z,29nm,0.9s,baz=109,slow=5.6,SNR=40
GERES GERESS Array B 23.52 305 P **P 11 01 59.0 0.0**
GERES pmax pmax
comp=Z,29nm,0.9s
GERES GERESS Array B 23.52 305 P **P 11 01 59.0 0.0**
comp=Z,29nm,0.9s
BRZS Berezniki 23.64 52 *i* P **P 11 01 58.2 -1.8**
BRZS *e*S **S 11 06 13.7 +0.3**
BRZS LRM MLR 11 12 19.4
KHC Kasperske Hory 23.67 306 *e*P **P 11 02 00.4 0.0**
KHC Kasperske Hory 23.67 306 *e*P **P 11 02 00.3 -0.1**
KHC pmax pmax
comp=Z,106nm,1.2s
KHC Kasperske Hory 23.67 306 *e*P **P 11 02 00.3 -0.1**
comp=Z,106nm,1.2s
KHC Kasperske Hory 23.67 306 *e*P **P 11 02 00.3 -0.1**
comp=Z,106nm,1.2s
CLTB Caltabellotta 23.67 277 *e*P **P 11 02 00.3 -0.2**
comp=Z,127nm,1.1s
CLTB Caltabellotta 23.67 277 *e*P **P 11 02 00.3 -0.2**
comp=Z,127nm,1.1s
AAK Ala-Archa 23.87 71 P **P 11 02 03.9 +1.4**
comp=Z,29nm,1.0s,baz=227,slow=6.5,SNR=7.8
AAK Ala-Archa 23.87 71 *e*P **P 11 02 04.0 +1.4**
AAK pmax pmax
comp=Z,169nm,1.1s
AAK Ala-Archa 23.87 71 *e*P **P 11 02 04.0 +1.4**
comp=Z,169nm,1.1s
ABTA Abfaltersbach 23.89 300 *i* P **P 11 02 02.9 +0.3**
comp=Z,145nm,1.7s,SNR=6.5
BRG Berggiesshubel 23.95 310 *i* P **P 11 02 02.8 -0.2**
comp=Z,194nm,1.3s
BRG Berggiesshubel 23.95 310 *i* P **P 11 02 02.8 -0.2**
BRG pmax pmax
comp=Z,194nm,1.3s
BRG Berggiesshubel 23.95 310 *i* P **P 11 02 02.8 -0.2**
comp=Z,194nm,1.3s
WET Wettzell 24.12 305 P **P 11 02 04.4 -0.2**
WET Wettzell 24.12 305 P **P 11 02 04.4 -0.2**
WTTA Wattenberg 24.56 301 *i* P **P 11 02 08.9 0.0**
comp=Z,192nm,1.0s,SNR=16
WATA Walderalm 24.61 301 *i* P **P 11 02 09.0 -0.4**
comp=Z,227nm,1.1s,SNR=44
CLL Collm 24.65 311 *i* P **P 11 02 09.1 -0.3**
CLL pmax pmax
comp=Z,174nm,1.0s
CLL Collm 24.65 311 *i* P **P 11 02 09.1 -0.3**
comp=Z,174nm,1.0s
CLL Collm 24.65 311 *i* P **P 11 02 09.1 -0.3**
comp=Z,174nm,1.0s
CLL Collm 24.65 311 *e*P **P 11 02 09.8 +0.4**
comp=Z,134nm,0.9s
NKC Novy Kostel 24.67 308 *e*P **P 11 02 09.5 -0.1**
NKC Novy Kostel 24.67 308 *e*P **P 11 02 09.5 -0.1**
NKC Novy Kostel 24.67 308 *e*P **P 11 02 09.5 -0.1**
MOTA Moosalm 24.93 301 *i* P **P 11 02 12.1 -0.1**
comp=Z,309nm,0.9s,SNR=81
FINES FINESS Array B 25.11 340 P **P 11 02 13.1 -0.3**
comp=Z,164nm,1.0s,baz=140,slow=9.2,SNR=58
FIA1 FINESS Array S 25.11 340 *e*P **P 11 02 13.2 -0.2**
comp=Z,249nm,1.0s
FIA1 FINESS Array S 25.11 340 *e*P **P 11 02 13.2 -0.2**
comp=Z,249nm,1.0s
BSD Bornholm Skovb 25.14 320 *i* P **P 11 02 12.1 -1.7**
comp=Z,330nm,1.2s
BSD Bornholm Skovb 25.14 320 *i* P **P 11 02 12.1 -1.7**
BSD pmax pmax
comp=Z,330nm,1.2s
BSD Bornholm Skovb 25.14 320 *i* P **P 11 02 12.1 -1.7**
comp=Z,330nm,1.2s
FETA Feichten 25.14 300 *i* P **P 11 02 13.8 -0.3**
comp=Z,157nm,1.1s,SNR=13
VLC Villacollemand 25.18 293 *e*P **P 11 02 15.0 +0.7**
comp=Z,122nm,1.1s
VLC Villacollemand 25.18 293 *e*P **P 11 02 15.0 +0.7**
comp=Z,122nm,1.1s
RETA Reutte 25.18 301 *i* P **P 11 02 14.5 +0.1**
comp=Z,116nm,1.3s,SNR=6.8
KUU Kurty 25.21 68 *i* P **P 11 02 12.5 -2.1**
comp=Z,200nm,1.3s
KUU LRM MLR 11 13 15.6
comp=Z,23μm,15.2s
KSH Kashi 25.25 78 P **P 11 02 15.3 +0.1**
KSH sP sP 11 02 24.0 -0.2
KSH PP **PnPn 11 02 53.1 +3.4**
KSH PcP **PcP 11 05 50.8 +2.7**
KSH S **S 11 06 35.0 -4.8**
KSH sS pS 11 06 45.9 -0.9
KSH SS **SnSn 11 07 34.8 +3.9**
KSH PcS **PcS 11 09 29.8 +1.2**
KSH pmax pmax
comp=Z,870nm,2.8s
MOX Moxa 25.29 308 P **P 11 02 15.5 +0.2**
MOX pmax pmax
comp=Z,2μm,3.2s
MOX Moxa 25.29 308 P **P 11 02 15.5 +0.2**
comp=Z,2μm,3.2s
GRA1 Grafenberg Arr 25.30 306 P **P 11 02 16.1 +0.8**
comp=Z,529nm,1.4s
GRF Grafenberg Arr 25.30 306 P **P 11 02 16.1 +0.8**
GRF pmax pmax
comp=Z,529nm,1.4s
GRFO Grafenberg 25.30 306 *e*P **P 11 02 15.8 +0.5**
GRFO pmax pmax
comp=Z,607nm,1.3s
GRFO Grafenberg 25.30 306 *e*P **P 11 02 15.8 +0.5**
comp=Z,607nm,1.3s
GRFO Grafenberg 25.30 306 *e*P **P 11 02 15.8 +0.5**
comp=Z,607nm,1.3s
FUORN Ofenpass-Fuorn 25.41 299 *e*P **P 11 02 17.0 +0.3**
comp=Z,105nm,1.1s
FUORN Ofenpass-Fuorn 25.41 299 *e*P **P 11 02 17.0 +0.3**
comp=Z,105nm,1.1s
TMCR Tamitsa 25.65 355 *e*P **P 11 02 16.6 -1.7**
TMCR *e*S **S 11 06 45.8 +0.6**
TMCR pmax pmax
comp=Z,636nm,1.3s
TMCR Tamitsa 25.65 355 *e*P **P 11 02 16.6 -1.7**
comp=Z,636nm,1.3s
TMCR *e*S **S 11 06 45.8 +0.6**
DAVOX Davos/Dischmat 25.69 299 P **P 11 02 19.0 -0.2**
comp=Z,52nm,0.9s,baz=112,slow=7.4,SNR=20
DAVOX Davos/Dischmat 25.69 299 P **P 11 02 19.0 -0.2**
DAVOX pmax pmax
comp=Z,52nm,0.9s
DAVOX Davos/Dischmat 25.69 299 P **P 11 02 19.0 -0.2**
RGN Rugen 25.70 318 *e*P **P 11 02 19.5 +0.7**
comp=Z,415nm,1.1s
RGN Rugen 25.70 318 *e*P **P 11 02 19.5 +0.7**
comp=Z,415nm,1.1s
MDOK Medeo 25.73 69 *i* P **P 11 02 17.4 -2.1**
comp=Z,278nm,1.2s
MDOK *e*S **S 11 06 47.1 -0.2**
MDOK LRM MLR 11 13 18.0
comp=Z,40μm,15.2s
DAVA Damuels 25.75 300 *i* P **P 11 02 19.2 -0.4**
comp=Z,198nm,1.1s,SNR=9.4
TUE Stuetta 26.03 298 *e*P **P 11 02 22.5 +0.3**
comp=Z,91nm,1.4s
TUE Stuetta 26.03 298 *e*P **P 11 02 22.4 +0.3**
comp=Z,91nm,1.4s
PGF Pioggiola 26.22 289 *e*P **P 11 02 23.0 -0.9**
PGF pmax pmax
comp=Z,200nm,1.0s
PGF Pioggiola 26.22 289 *e*P **P 11 02 23.0 -0.9**
comp=Z,200nm,1.0s
VSL Villasalto 26.27 282 *e*P **P 11 02 24.2 -0.1**
comp=Z,83nm,0.9s
VSL Villasalto 26.27 282 *e*P **P 11 02 24.2 -0.1**
comp=Z,84nm,0.9s
STU Stuttgart 26.42 303 *e*P **P 11 02 24.9 -0.6**
STU pmax pmax
comp=Z,123nm,1.1s
STU Stuttgart 26.42 303 *e*P **P 11 02 24.9 -0.6**
comp=Z,123nm,1.1s
STU Stuttgart 26.42 303 *e*P **P 11 02 24.9 -0.6**
comp=Z,123nm,1.1s
SPAK Spaichingen-Ko 26.59 302⇑*e*P **P 11 02 26.6 -0.5**
COP Copenhagen 26.66 320 *i* P **P 11 02 27.9 +0.4**
comp=Z,133nm,0.9s
COP Copenhagen 26.66 320 *i* P **P 11 02 27.9 +0.4**
COP pmax pmax
comp=Z,130nm,0.9s
COP Copenhagen 26.66 320 *i* P **P 11 02 27.9 +0.4**
comp=Z,130nm,0.9s
SATY Saty 26.73 69 LRM MLR 11 13 56.9
comp=Z,20μm,11.0s
SLE Schleitheim 26.74 301 P **P 11 02 28.1 -0.3**
SLE Schleitheim 26.74 301 P **P 11 02 28.1 -0.3**
ZHN Zhinishke 26.74 69 *i* P **P 11 02 26.6 -2.0**
ZHN *e*S **S 11 07 02.9 -0.4**
ZHN LRM MLR 11 14 13.4
comp=Z,26μm,14.7s
TOD Tromm 26.82 305⇑*e*P **P 11 02 28.4 -0.7**
BFO Black Forest 26.92 302 *e*P **P 11 02 30.9 +0.8**
BFO pmax pmax
comp=Z,72nm,1.4s
BFO Black Forest 26.92 302 *e*P **P 11 02 30.9 +0.8**
comp=Z,72nm,1.4s
BFO Black Forest 26.92 302 *e*P **P 11 02 30.9 +0.8**
comp=Z,72nm,1.4s
FELD Feldberg im Sc 27.08 301 *e*P **P 11 02 30.9 -0.7**
KEST Kesra 27.14 274 P **P 11 02 32.1 -0.1**
comp=Z,46nm,0.9s,baz=320,slow=3.2,SNR=20
KEST Kesra 27.14 274 *e*P **P 11 02 32.4 +0.2**
comp=Z,78nm,1.1s
KEST Kesra 27.14 274 *e*P **P 11 02 32.4 +0.2**
comp=Z,78nm,1.1s
KTD Kalmit 27.23 304 *e*P **P 11 02 32.7 -0.1**
VAF Ylistaro 27.34 339 P **P 11 02 34.1 +0.5**
VAF Ylistaro 27.34 339 P **P 11 02 34.1 +0.5**
LANF Langenberg 27.36 304 *e*P **P 11 02 32.8 -1.1**
LANF Langenberg 27.36 304 *e*P **P 11 02 32.8 -1.1**
REVF Revere 27.36 292⇑*e*P **P 11 02 33.9 -0.2**
REVF Revere 27.36 292⇑*e*P **P 11 02 33.9 -0.2**
LUCF Luceram 27.37 292⇑*e*P **P 11 02 34.7 +0.5**
LUCF Luceram 27.37 292⇑*e*P **P 11 02 34.7 +0.5**
KURBB Kurchatov Arra 27.43 53 P **P 11 02 35.5 +0.9**
comp=Z,51nm,1.0s,baz=264,slow=9.1,SNR=36
SENIN Lac Senin/Sane 27.43 298 *e*P **P 11 02 34.7 -0.2**
comp=Z,58nm,0.9s
SENIN Lac Senin/Sane 27.43 298 *e*P **P 11 02 34.7 -0.2**
comp=Z,58nm,0.9s
KURK Kurchatov 27.50 53⇓*i*P **P 11 02 36.4 +1.2**
KURK pmax pmax
comp=Z,426nm,1.2s
KURK Kurchatov 27.50 53 *e*P **P 11 02 35.6 +0.4**
comp=Z,483nm,1.9s
KURK Kurchatov 27.50 53 *e*P **P 11 02 35.6 +0.4**
comp=Z,483nm,1.9s
PDGK Podgornoye 27.51 69 P **P 11 02 36.4 +0.9**
PDGK Podgornoye 27.51 69 P **P 11 02 36.4 +0.9**
MVIF Mont Vial 27.51 292⇑*e*P **P 11 02 35.8 +0.3**
MVIF Mont Vial 27.51 292⇑*e*P **P 11 02 35.8 +0.3**
ABH Alteburg 27.67 305 *e*P **P 11 02 37.5 +0.8**
ECH Echery 27.68 302 *e*P **P 11 02 35.9 -1.0**
ECH Echery 27.68 302 *e*P **P 11 02 36.5 -0.4**
ECH Echery 27.68 302 *e*P **P 11 02 35.9 -1.0**
ECH Echery 27.68 302 *e*P **P 11 02 36.5 -0.4**
LPG La Plagne 27.79 296 *e*P **P 11 02 37.2 -0.9**
LPG pmax pmax
comp=Z,88nm,1.1s
LPG La Plagne 27.79 296 *e*P **P 11 02 37.2 -0.9**
comp=Z,88nm,1.1s
LPL La Plagne 27.80 296 *e*P **P 11 02 37.2 -1.0**
LPL pmax pmax
comp=Z,58nm,1.0s
LPL La Plagne 27.80 296 *e*P **P 11 02 37.2 -1.0**
comp=Z,58nm,1.0s
BNI Bardonecchia 27.83 295 *e*P **P 11 02 38.4 0.0**
BNI pmax pmax
comp=Z,126nm,1.1s
BNI Bardonecchia 27.83 295 *e*P **P 11 02 38.4 0.0**
comp=Z,126nm,1.1s
BNI Bardonecchia 27.83 295 *e*P **P 11 02 38.4 0.0**
comp=Z,126nm,1.1s
HINF Hinteralfeld 27.84 301 *e*P **P 11 02 37.6 -0.8**
HINF pmax pmax
comp=Z,48nm,1.4s
HINF Hinteralfeld 27.84 301 *e*P **P 11 02 37.6 -0.8**
comp=Z,48nm,1.4s
BUG Bochum--Univer 28.15 309 P **P 11 02 42.1 +1.2**
BUG Bochum--Univer 28.15 309 P **P 11 02 42.1 +1.2**
OUL Oulu 28.28 344 P **P 11 02 40.7 -1.2**
OUL Oulu 28.28 344 P **P 11 02 40.7 -1.2**
CABF La Chapelle 28.28 298 *e*P **P 11 02 41.8 -0.5**
CABF pmax pmax
comp=Z,306nm,1.1s
CABF La Chapelle 28.28 298 *e*P **P 11 02 41.8 -0.5**
comp=Z,306nm,1.1s
HFS Hagfors 28.38 329 P **P 11 02 42.9 -0.1**
comp=Z,190nm,0.9s,baz=141,slow=9.3,SNR=86
CMAH Djebel Manchou 28.39 277 P **P 11 02 43.8 +0.4**
CMAH Djebel Manchou 28.39 277 P **P 11 02 43.8 +0.4**
ORIF Oris-en-Rattie 28.40 295 *e*P **P 11 02 42.3 -1.1**
ORIF pmax pmax
comp=Z,50nm,1.2s
ORIF Oris-en-Rattie 28.40 295 *e*P **P 11 02 42.3 -1.1**
comp=Z,50nm,1.2s
SEM Semipalatinsk 28.47 54 *i* P **P 11 02 41.8 -2.2**
comp=Z,263nm,1.1s
SEM *e*S **S 11 07 30.0 -0.5**
SEM LRM MLR 11 15 18.3
comp=Z,20μm,11.9s
WLF Walferdange 28.53 305 P **P 11 02 44.4 0.0**
WLF Walferdange 28.53 305 *e*P **P 11 02 44.9 +0.5**
WLF pmax pmax
comp=Z,87nm,1.1s
WLF Walferdange 28.53 305 *e*P **P 11 02 44.8 +0.5**
comp=Z,87nm,1.1s
WLF Walferdange 28.53 305 *e*P **P 11 02 44.9 +0.5**
comp=Z,87nm,1.1s
MUD Monsted U'grnd 28.64 319 *i* P **P 11 02 46.3 +1.1**
MUD Monsted U'grnd 28.64 319 *i* P **P 11 02 46.3 +1.1**
MUD Monsted U'grnd 28.64 319 *i* P **P 11 02 46.3 +1.1**
MEM Membach 28.77 307 P **P 11 02 47.0 +0.6**
MEM Membach 28.77 307 P **P 11 02 47.4 +0.9**
MEM Membach 28.77 307 P **P 11 02 47.4 +0.9**
CAEH 'Ain El Ouahch 28.80 278 P **P 11 02 47.1 +0.2**
CAEH 'Ain El Ouahch 28.80 278 P **P 11 02 47.1 +0.2**
WIT Witteveen 28.83 311 P **P 11 02 48.7 +1.8**
WIT Witteveen 28.83 311 P **P 11 02 48.7 +1.8**
CKFL Kef-Lekhel 29.00 277 P **P 11 02 48.9 +0.1**
CKFL Kef-Lekhel 29.00 277 P **P 11 02 48.9 +0.1**
BEBN Eben Emael 29.00 307 P **P 11 02 50.0 +1.4**
BCLA Clavier 29.18 306 P **P 11 02 50.4 +0.3**
CASM Ain Smara 29.21 277 P **P 11 02 51.2 +0.5**
CASM Ain Smara 29.21 277 P **P 11 02 51.2 +0.5**
MAKZ Makanchi 29.24 61 *e*P **P 11 02 51.7 +0.9**
MAKZ pmax pmax
comp=Z,273nm,1.9s
MAKZ Makanchi 29.24 61 *e*P **P 11 02 51.7 +0.9**
comp=Z,273nm,1.9s
MAKZ Makanchi 29.24 61 *e*P **P 11 02 51.7 +0.9**
comp=Z,272nm,1.9s
VIVF Saint-Julien-I 29.26 295 *e*P **P 11 02 49.5 -1.5**
VIVF pmax pmax
comp=Z,54nm,1.0s
VIVF Saint-Julien-I 29.26 295 *e*P **P 11 02 49.5 -1.5**
comp=Z,54nm,1.0s
CTEI Djebel Teioual 29.34 276 P **P 11 02 52.0 +0.2**
CTEI Djebel Teioual 29.34 276 P **P 11 02 52.0 +0.2**
SSB Saint Sauveur 29.34 295 *e*P **P 11 02 51.7 0.0**
SSB pmax pmax
comp=Z,62nm,1.3s
SSB Saint Sauveur 29.34 295 *e*P **P 11 02 51.7 0.0**
comp=Z,62nm,1.3s
SSB Saint Sauveur 29.34 295 *e*P **P 11 02 51.7 0.0**

comp=Z,62nm,1.3s
APA Apatity 29.40 352⇑ *i* P **P 11 02 50.5 -1.4**
APA *i* S **S 11 07 36.0 -8.3**
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,40µm,10.0s
APA Apatity 29.40 352 *i* P **P 11 02 50.5 -1.4**
comp=Z,52nm,1.0s
GIVF Givet 29.44 305 *eP* **P 11 02 53.2 +0.8**
GIVF pmax pmax
comp=Z,53nm,1.2s
GIVF Givet 29.44 305 *eP* **P 11 02 53.2 +0.8**
comp=Z,53nm,1.2s
MK31 Makanchi Array 29.46 61 *eP* **P 11 02 53.7 +1.0**
MK31 Makanchi Array 29.46 61 *eP* **P 11 02 53.7 +1.0**
MK31 Makanchi Array 29.46 61 *eP* **P 11 02 53.6 +1.0**
MKAR Makanchi Array 29.46 61 P **P 11 02 53.5 +0.9**
comp=Z,22nm,0.8s,baz=269,slow=6.8,SNR=25
MKAR Makanchi Array 29.46 61 *eP* **P 11 02 53.7 +1.0**
MKAR pmax pmax
comp=Z,134nm,0.9s
MKAR Makanchi Array 29.46 61 *eP* **P 11 02 53.7 +1.0**
comp=Z,134nm,0.9s
MKAR Makanchi Array 29.46 61 *eP* **P 11 02 53.6 +1.0**
comp=Z,134nm,0.9s
OSL Oslo 29.52 327 *eP* **P 11 02 52.8 -0.2**
OSL IAmb IAmb 11 02 53.9
comp=Z,285nm,0.9s
OSL Oslo 29.52 327 *eP* **P 11 02 52.8 -0.2**
SNR=28
DOU Dourbes 29.58 305 P **P 11 02 53.8 +0.1**
LVZ Lovozero 29.60 353 *eP* **P 11 02 54.0 +0.3**
LVZ pmax pmax
comp=Z,129nm,1.4s
LVZ Lovozero 29.60 353 *eP* **P 11 02 54.0 +0.3**
comp=Z,129nm,1.4s
LVZ Lovozero 29.60 353 *eP* **P 11 02 54.0 +0.3**
comp=Z,129nm,1.4s
NC602 NORSAR Array S 29.60 328 *eP* **P 11 02 53.3 -0.5**
NC602 NORSAR Array S 29.60 328 *eP* **P 11 02 53.3 -0.5**
SNR=28
NC602 NORSAR Array S 29.60 328 *eP* **P 11 02 53.4 -0.4**
NC405 NORSAR Array S 29.75 329 *eP* **P 11 02 54.7 -0.4**
NC405 NORSAR Array S 29.75 329 *eP* **P 11 02 54.7 -0.4**
BAIF Baives 29.83 305 *eP* **P 11 02 55.7 -0.2**
BAIF pmax pmax
comp=Z,47nm,1.0s
BAIF Baives 29.83 305 *eP* **P 11 02 55.7 -0.2**
comp=Z,47nm,1.0s
SNF Seneffe 29.84 306 P **P 11 02 56.8 +0.8**
KONO Kongsberg 29.87 325⇓ *eP* **P 11 02 55.8 -0.4**
KONO pmax pmax
comp=Z,1µm,2.5s
KONO Kongsberg 29.87 325 *eP* **P 11 02 55.7 -0.4**
comp=Z,73nm,1.1s
KONO Kongsberg 29.87 325 *eP* **P 11 02 55.7 -0.4**
comp=Z,73nm,1.1s
NB201 NORSAR Array S 29.88 329 *eP* **P 11 02 55.7 -0.6**
NB201 NORSAR Array S 29.88 329 *eP* **P 11 02 55.7 -0.6**
NB2 NORSAR Subarra 29.91 329 P **P 11 02 55.6 -0.9**
comp=Z,55nm,0.9s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.91 329 P **P 11 02 55.6 -0.9**
baz=125,slow=9.3
NB2 NORSAR Subarra 29.91 329 P **P 11 02 55.5 -0.9**
NB2 pmax pmax
comp=Z,11nm,0.6s
NB2 NORSAR Subarra 29.91 329 P **P 11 02 55.6 -0.9**
comp=Z,55nm,0.9s,SNR=1.3
NOA NORSAR Array B 29.91 329 P **P 11 02 55.8 -0.7**
comp=Z,51nm,1.0s,baz=126,slow=8.8,SNR=36
NOA NORSAR Array B 29.91 329 P **P 11 02 55.8 -0.7**
NOA pmax pmax
comp=Z,52nm,1.0s
NOA NORSAR Array B 29.91 329 P **P 11 02 55.8 -0.7**
comp=Z,52nm,1.0s
NAO01 NORSAR Array S 29.93 328 *eP* **P 11 02 56.2 -0.5**
NAO01 NORSAR Array S 29.93 328 *eP* **P 11 02 56.2 -0.5**
NC303 NORSAR Array S 29.95 329 *eP* **P 11 02 56.3 -0.5**
NC303 NORSAR Array S 29.95 329 *eP* **P 11 02 56.3 -0.5**
PLDF La Plantade 29.98 297 *eP* **P 11 02 56.8 -0.6**
PLDF La Plantade 29.98 297 *eP* **P 11 02 56.8 -0.6**
AVF Avril sur Loir 30.17 299 *eP* **P 11 02 57.7 -1.2**
AVF pmax pmax
comp=Z,72nm,0.9s
AVF Avril sur Loir 30.17 299 *eP* **P 11 02 57.7 -1.2**
comp=Z,72nm,0.9s
NC204 NORSAR Array S 30.22 329 *eP* **P 11 02 58.5 -0.8**
NC204 NORSAR Array S 30.22 329 *eP* **P 11 02 58.5 -0.8**
LBL Lubilhac 30.26 295 *eP* **P 11 02 59.5 -0.3**
LBL Lubilhac 30.26 295 *eP* **P 11 02 59.5 -0.3**
AGO Saint Agoulin 30.32 297 *eP* **P 11 03 00.1 -0.2**
AGO Saint Agoulin 30.32 297 *eP* **P 11 03 00.1 -0.2**
PYM Petit Puy Mans 30.41 296 *eP* **P 11 03 00.7 -0.5**
PYM Petit Puy Mans 30.41 296 *eP* **P 11 03 00.7 -0.5**
CAF Calviac 31.11 295 *eP* **P 11 03 06.4 -0.9**
CAF pmax pmax
comp=Z,43nm,1.0s
CAF Calviac 31.11 295 *eP* **P 11 03 06.4 -0.9**
comp=Z,43nm,1.0s
BLS5 Blasjo 31.19 324 *eP* **P 11 03 07.9 +0.1**
BLS5 Blasjo 31.19 324 *eP* **P 11 03 07.9 +0.1**
SNR=27
DOMB Dombas 31.32 329 *eP* **P 11 03 08.9 0.0**
DOMB Dombas 31.32 329 *eP* **P 11 03 08.9 0.0**
SNR=27
ODD1 Odda 31.32 325 *eP* **P 11 03 09.5 +0.5**
ODD1 IAmb IAmb 11 03 11.1
comp=Z,165nm,1.0s
ODD1 Odda 31.32 325 *eP* **P 11 03 09.5 +0.5**
SNR=27
ZALV Zalesovo Beam 31.89 48 P **P 11 03 14.2 +0.2**
comp=Z,5.7nm,0.6s,baz=261,slow=10,SNR=6.5
HYA Hoyanger 32.08 327 *eP* **P 11 03 16.0 +0.5**
HYA IAmb IAmb 11 03 17.4
comp=Z,68nm,0.9s
HYA Hoyanger 32.08 327 *eP* **P 11 03 16.0 +0.5**
SNR=27
BER Bergen 32.11 325 *eP* **P 11 03 16.6 +0.8**
BER Bergen 32.11 325 *eP* **P 11 03 16.6 +0.8**
SNR=27
KTK1 Kautokeino 32.22 347 *eP* **P 11 03 16.0 -0.7**
KTK1 Kautokeino 32.22 347 *eP* **P 11 03 16.0 -0.7**
SNR=27
AKN Aaknes 32.22 329 *eP* **P 11 03 17.6 +0.7**
AKN Aaknes 32.22 329 *eP* **P 11 03 17.6 +0.7**
SNR=27
ARCES ARCESS Array B 32.29 348 P **P 11 03 17.0 -0.4**
comp=Z,47nm,0.8s,baz=153,slow=9.5,SNR=42
WACR West Acre 32.41 310 *eP* **P 11 03 18.8 +0.2**
WACR IAmb IAmb 11 03 20.6
comp=Z,704nm,1.0s
WACR West Acre 32.41 310 *eP* **P 11 03 18.8 +0.2**
STOK Stokkvaagen 32.56 338 *eP* **P 11 03 19.7 -0.1**
STOK *eP* **P 11 03 19.8 +0.1**
STOK Stokkvaagen 32.56 338 *eP* **P 11 03 19.7 -0.1**
SNR=27
KONS Konsvik 32.65 338 *eP* **P 11 03 20.0 -0.5**
KONS Konsvik 32.65 338 *eP* **P 11 03 20.0 -0.5**
SNR=27
GRR Gorron 33.03 302 *eP* **P 11 03 22.6 -1.5**
GRR pmax pmax
comp=Z,141nm,1.0s
GRR Gorron 33.03 302 *eP* **P 11 03 22.6 -1.5**
comp=Z,141nm,1.0s
WOL Wolverton 33.39 307 *eP* **P 11 03 27.1 0.0**
WOL IAmb IAmb 11 03 28.6
comp=Z,286nm,0.9s
WOL Wolverton 33.39 307 *eP* **P 11 03 27.1 0.0**
WMQ Urumqi 33.41 67 P **P 11 03 29.3 +1.8**
WMQ pP pP 11 03 35.3 +1.4
WMQ sP sP 11 03 38.3 +1.7
WMQ pmax pmax
comp=Z,120nm,0.9s
HAMF Hammerfest 33.57 348 *eP* **P 11 03 29.3 +0.8**
HAMF Hammerfest 33.57 348 *eP* **P 11 03 29.3 +0.8**
SNR=27
TRO Tromso 33.57 345 *eP* **P 11 03 31.4 +2.9**
TRO Tromso 33.57 345 *eP* **P 11 03 31.4 +2.9**
SNR=27
HPK Haverah Park 33.92 312 *eP* **P 11 03 31.6 -0.2**
HPK IAmb IAmb 11 03 32.5
comp=Z,370nm,0.9s
HPK Haverah Park 33.92 312 *eP* **P 11 03 31.6 -0.2**
LHO Holmfirth 34.00 311⇑ *eP* **P 11 03 31.7 -0.8**

LHO Holmfirth 34.00 311⇑ *eP* **P 11 03 31.7 -0.8**
STRD Stroud 34.01 308 *eP* **P 11 03 32.2 -0.4**
STRD IAmb IAmb 11 03 33.6
comp=Z,366nm,0.9s
STRD Stroud 34.01 308 *eP* **P 11 03 32.2 -0.4**
OLDB Oldbury-Upon-S 34.24 307 *eP* **P 11 03 34.2 -0.3**
OLDB IAmb IAmb 11 03 35.6
comp=Z,277nm,0.8s
OLDB Oldbury-Upon-S 34.24 307 *eP* **P 11 03 34.2 -0.3**
EDMD Edmundbyers 34.25 313 *eP* **P 11 03 34.3 -0.3**
EDMD IAmb IAmb 11 03 35.7
comp=Z,213nm,0.9s
EDMD Edmundbyers 34.25 313 *eP* **P 11 03 34.3 -0.3**
HGH Gray Hill 34.40 307⇑ *eP* **P 11 03 35.4 -0.5**
HGH Gray Hill 34.40 307⇑ *eP* **P 11 03 35.4 -0.5**
MONM Monmouth 34.41 308 *eP* **P 11 03 35.3 -0.7**
MONM Monmouth 34.41 308 *eP* **P 11 03 35.3 -0.7**
HLM1 Long Mynd 34.51 309 *eP* **P 11 03 36.8 -0.1**
HLM1 IAmb IAmb 11 03 38.0
comp=Z,180nm,0.9s
HLM1 Long Mynd 34.51 309 *eP* **P 11 03 36.8 -0.1**
PYUN Piuthan 34.52 96 *eP* **P 11 03 38.4 +0.9**
comp=Z,175nm,0.9s
MCH1 Michaelchurch 34.54 308 *eP* **P 11 03 36.5 -0.7**
MCH1 Michaelchurch 34.54 308 *eP* **P 11 03 36.5 -0.7**
QUIF Quistinic 34.59 301 *eP* **P 11 03 36.2 -1.4**
QUIF pmax pmax
comp=Z,132nm,1.0s
QUIF Quistinic 34.59 301 *eP* **P 11 03 36.2 -1.4**
comp=Z,132nm,1.0s
FOEL Foel Wylfa 34.74 309 *eP* **P 11 03 38.3 -0.6**
FOEL Foel Wylfa 34.74 309 *eP* **P 11 03 38.3 -0.6**
ESY Stoneypath 34.79 315 *eP* **P 11 03 38.5 -0.8**
ESY Stoneypath 34.79 315 *eP* **P 11 03 38.5 -0.8**
KESW Keswick, Cumbr 34.87 312 *eP* **P 11 03 39.9 -0.1**
KESW IAmb IAmb 11 03 41.9
comp=Z,345nm,1.0s
KESW Keswick, Cumbr 34.87 312 *eP* **P 11 03 39.9 -0.1**
DRUM Mains of Drumt 34.91 317 *eP* **P 11 03 40.1 -0.2**
DRUM Mains of Drumt 34.91 317 *eP* **P 11 03 40.1 -0.2**
BBO1 Bothel 34.97 313⇑ *eP* **P 11 03 41.0 +0.2**
BBO1 Bothel 34.97 313⇑ *eP* **P 11 03 41.0 +0.2**
BHH Howats Hill 35.00 313⇑ *eP* **P 11 03 41.0 -0.1**
BHH Howats Hill 35.00 313⇑ *eP* **P 11 03 41.0 -0.1**
DANN Dangsing 35.00 95 *eP* **P 11 03 42.7 +0.9**
LLW Llanuwychllyn 35.01 309 *eP* **P 11 03 41.0 -0.2**
LLW Llanuwychllyn 35.01 309 *eP* **P 11 03 41.0 -0.2**
ESK Eskdalemuir 35.02 314 *eP* **P 11 03 40.6 -0.6**
ESK Eskdalemuir 35.02 314 *eP* **P 11 03 41.0 -0.3**
ESK pmax pmax
comp=Z,235nm,0.8s
ESK Eskdalemuir 35.02 314 *eP* **P 11 03 40.7 -0.6**
ESK Eskdalemuir 35.02 314 *eP* **P 11 03 41.0 -0.3**
comp=Z,235nm,0.8s
LRW Lerwick 35.04 322 *eP* **P 11 03 40.9 -0.5**
LRW Lerwick 35.04 322 *eP* **P 11 03 40.9 -0.5**
DYA Yadsworthy 35.06 305 *eP* **P 11 03 41.0 -0.7**
DYA Yadsworthy 35.06 305 *eP* **P 11 03 41.0 -0.7**
DYA Yadsworthy 35.06 305 *eP* **P 11 03 41.9 +0.2**
comp=Z,206nm,1.0s
EDU Dundee 35.12 316⇑ *eP* **P 11 03 41.5 -0.6**
EDU Dundee 35.12 316⇑ *eP* **P 11 03 41.5 -0.6**
KOLN Koldanda 35.15 96 *eP* **P 11 03 43.7 +0.8**
comp=Z,82nm,0.7s
WPM1 Penmaenmawr 35.19 310⇑ *eP* **P 11 03 42.7 -0.1**
WPM1 Penmaenmawr 35.19 310⇑ *eP* **P 11 03 42.7 -0.1**
MME1 Meikle Cairn 35.24 317⇑ *eP* **P 11 03 42.8 -0.4**
MME1 Meikle Cairn 35.24 317⇑ *eP* **P 11 03 42.8 -0.4**
YLL Llanberis 35.34 310 *eP* **P 11 03 43.4 -0.6**
YLL Llanberis 35.34 310 *eP* **P 11 03 43.4 -0.6**
WME Myndd Eilian 35.44 310⇑ *eP* **P 11 03 44.5 -0.4**
WME Myndd Eilian 35.44 310⇑ *eP* **P 11 03 44.5 -0.4**
MCD Coleburn Disti 35.45 318⇑ *eP* **P 11 03 44.6 -0.3**
MCD Coleburn Disti 35.45 318⇑ *eP* **P 11 03 44.7 -0.3**
WLF1 Llynfaes 35.49 310 *eP* **P 11 03 45.1 -0.2**
WLF1 Llynfaes 35.49 310 *eP* **P 11 03 45.1 -0.2**
KLRI Killari 35.49 116 *eP* **P 11 03 45.1 -0.6**
WPS Cemaes, Angles 35.56 310 *eP* **P 11 03 46.0 +0.1**
WPS Cemaes, Angles 35.56 310 *eP* **P 11 03 46.0 +0.1**
WIM Isle of Man 35.73 312⇑ *eP* **P 11 03 47.4 0.0**
WIM Isle of Man 35.73 312⇑ *eP* **P 11 03 47.4 0.0**
EAB Aberfoyle 35.79 315⇑ *eP* **P 11 03 47.4 -0.5**
EAB Aberfoyle 35.79 315⇑ *eP* **P 11 03 47.4 -0.5**
PGBU Glenifferbraes 35.82 314 *eP* **P 11 03 47.8 -0.3**
PGBU Glenifferbraes 35.82 314 *eP* **P 11 03 47.8 -0.3**
GKN Gorkha 35.85 95 *eP* **P 11 03 49.1 +0.2**
comp=Z,171nm,0.8s
TAM Tamanrasset 35.89 255 *eP* **P 11 03 49.9 +0.6**
TAM pmax pmax
comp=Z,225nm,1.7s
TAM Tamanrasset 35.89 255 *eP* **P 11 03 49.9 +0.6**
comp=Z,225nm,1.7s
TAM Tamanrasset 35.89 255 *eP* **P 11 03 49.9 +0.6**
comp=Z,225nm,1.7s
BIGH Upper Bighouse 35.98 319 *eP* **P 11 03 48.5 -1.0**
BIGH Upper Bighouse 35.98 319 *eP* **P 11 03 48.5 -1.0**
MDO Dochfour 36.01 317⇑ *eP* **P 11 03 48.9 -0.9**
MDO Dochfour 36.01 317⇑ *eP* **P 11 03 48.9 -0.9**
SRSP Sriramsagar 36.17 113 *eP* **P 11 03 50.3 -1.2**
ESDC Sonseca Array 36.33 287 P **P 11 03 51.4 -1.4**
comp=Z,53nm,0.9s,baz=66,slow=8.8,SNR=85
ESLA Sonseca Array 36.33 287 *eP* **P 11 03 51.8 -1.0**
comp=Z,82nm,1.0s
ESLA Sonseca Array 36.33 287 *eP* **P 11 03 51.8 -1.0**
comp=Z,82nm,1.0s
DMN Daman 36.40 95 *eP* **P 11 03 54.1 +0.4**
comp=Z,216nm,1.0s
KKN Kakani 36.45 95 *eP* **P 11 03 55.0 +0.9**
comp=Z,121nm,1.1s
GMM Mts of Mourne 36.48 312⇑ *eP* **P 11 03 53.6 -0.2**
GMM Mts of Mourne 36.48 312⇑ *eP* **P 11 03 53.6 -0.2**
KAC Achnashellach 36.52 317⇑ *eP* **P 11 03 53.3 -0.8**
KAC Achnashellach 36.52 317⇑ *eP* **P 11 03 53.3 -0.8**
KSB Sheil Bridge 36.54 317⇑ *eP* **P 11 03 53.5 -0.7**
KSB Sheil Bridge 36.54 317⇑ *eP* **P 11 03 53.5 -0.7**
RSC Scourie 36.60 319 *eP* **P 11 03 54.5 -0.2**
RSC Scourie 36.60 319 *eP* **P 11 03 54.5 -0.2**
PKIN Phulchoki 36.64 95 *eP* **P 11 03 56.1 +0.3**
comp=Z,118nm,1.0s
PAB San Pablo 36.65 287 *eP* **P 11 03 54.3 -1.2**
PAB pmax pmax
comp=Z,77nm,1.1s
PAB San Pablo 36.65 287 *eP* **P 11 03 54.3 -1.2**
comp=Z,77nm,1.1s
PAB San Pablo 36.65 287 *eP* **P 11 03 54.3 -1.2**
comp=Z,77nm,1.1s
PKI Pulchoki 36.65 95 *eP* **P 11 03 56.3 +0.3**
comp=Z,111nm,0.9s
GCL Cushendall 36.66 313 *eP* **P 11 03 55.1 -0.2**
GCL Cushendall 36.66 313 *eP* **P 11 03 55.2 -0.2**
DSB Dublin 36.67 310 *eP* **P 11 03 55.8 +0.4**
comp=Z,115nm,0.9s
DSB Dublin 36.67 310 *eP* **P 11 03 55.8 +0.4**
comp=Z,115nm,0.9s
KPL Plockton 36.68 317 *eP* **P 11 03 54.5 -1.0**
KPL Plockton 36.68 317 *eP* **P 11 03 54.5 -1.0**
RRR Rubha Reidh 36.85 318 *eP* **P 11 03 56.2 -0.6**
RRR Rubha Reidh 36.85 318 *eP* **P 11 03 56.2 -0.6**
GUN Gumba 36.86 94 *eP* **P 11 03 58.0 +0.3**
comp=Z,249nm,0.9s
RPR Rampur 36.90 112 *eP* **P 11 03 57.2 -0.5**
JIRN Jiri 37.22 94 *eP* **P 11 04 01.4 +0.6**
comp=Z,289nm,0.9s
HYBB Hyderabad (bro 37.31 115 *eP* **P 11 04 00.3 -0.9**
HYB Hyderabad 37.31 115 *i* P **P 11 04 01.0 -0.3**
RRH Rhenigidale 37.32 318⇑ *eP* **P 11 04 00.4 -0.5**
RRH Rhenigidale 37.32 318⇑ *eP* **P 11 04 00.4 -0.5**
RAMN Ramite 37.88 95 *eP* **P 11 04 06.5 +0.2**
comp=Z,275nm,1.0s
PBRG Braganca 37.90 291 *eP* **P 11 04 04.8 -1.3**
URV Uravakonda 38.10 119 *eP* **P 11 04 07.0 -1.0**
MVO Moncorvo 38.25 290 *eP* **P 11 04 08.2 -0.9**
comp=Z,61nm,1.1s
NJS Nagarjunasagar 38.42 115 *eP* **P 11 04 09.5 -1.1**
SRLM Srisailam 38.43 116 *eP* **P 11 04 09.5 -1.3**
ODAN Odare 38.54 94 *eP* **P 11 04 12.3 +0.5**
comp=Z,323nm,1.1s
TAPN Taplejung 38.55 94 *eP* **P 11 04 12.4 +0.4**
comp=Z,204nm,1.1s
NRIK Noril'sk 38.59 23 P **P 11 04 11.8 +0.4**
comp=Z,51nm,1.0s,baz=240,slow=5.3,SNR=13
PVRL Vila Real 38.73 290 *eP* **P 11 04 12.2 -0.9**
comp=Z,92nm,1.2s

POLO Lamas de Olo 38.76 291 *eP* **P 11 04 12.5 -0.9**
comp=Z,41nm,1.6s
MTE Manteigas 38.81 289 *eP* **P 11 04 13.2 -0.6**
MTE Manteigas 38.81 289 *eP* **P 11 04 13.3 -0.6**
comp=Z,128nm,0.9s
MTE Manteigas 38.81 289 *eP* **P 11 04 13.3 -0.6**
comp=Z,128nm,0.9s
PCAB Cabril 38.86 291 *eP* **P 11 04 13.4 -0.7**
comp=Z,92nm,2.5s
PCBR Castelo Branco 38.91 288 *eP* **P 11 04 13.7 -0.8**
comp=Z,109nm,1.2s
RCLA Racherla 38.92 117 *eP* **P 11 04 18.9 +4.1**
PMRV Marv??o 38.95 287 *eP* **P 11 04 14.3 -0.6**
comp=Z,104nm,1.8s
PGAV Gavieira, Arco 38.98 292 *eP* **P 11 04 14.8 -0.4**
comp=Z,118nm,1.2s
MDT Midelt 38.99 276 P **P 11 04 15.2 -0.3**
comp=Z,23nm,1.1s,baz=85,slow=9.4,SNR=15
PVIS Viseu 38.99 290 *eP* **P 11 04 14.7 -0.6**
comp=Z,112nm,1.2s
VAL Valentia 39.02 308 P **P 11 04 15.9 +0.6**
VAL pmax pmax
comp=Z,126nm,1.1s
VAL Valentia 39.02 308 P **P 11 04 15.9 +0.6**
comp=Z,126nm,1.1s
PBAR Barrancos 39.04 285 *eP* **P 11 04 14.4 -1.3**
PESTR Estremoz 39.26 287 *eP* **P 11 04 16.3 -1.2**
comp=Z,142nm,1.2s
ADKI Addanki 39.37 115 *eP* **P 11 04 22.6 +4.1**
PTO Porto 39.41 290 *eP* **P 11 04 18.3 -0.4**
comp=Z,153nm,1.6s
PCAS Casmilo, Conde 39.61 289 *eP* **P 11 04 20.0 -0.4**
comp=Z,98nm,1.9s
PVM Polavaram 39.62 112 *eP* **P 11 04 20.7 0.0**
PTOM Tomar 39.66 288 *eP* **P 11 04 20.2 -0.6**
comp=Z,242nm,1.2s
PMTG Montargil 39.68 287 *eP* **P 11 04 19.6 -1.3**
comp=Z,103nm,1.3s
PBEJ Beja 39.71 286 *eP* **P 11 04 20.5 -0.7**
comp=Z,76nm,1.2s
PVAQ Vaqueiros 39.79 285 *eP* **P 11 04 20.7 -1.2**
comp=Z,93nm,1.6s
PCVE Castro Verde 39.96 285 *eP* **P 11 04 22.1 -1.2**
comp=Z,108nm,1.4s
PBDV Barranco-do-Ve 40.00 284 *eP* **P 11 04 22.2 -1.5**
comp=Z,178nm,1.8s
LSA Lhasa 40.17 88 *eP* **P 11 04 26.8 +1.1**
LSA pmax pmax
comp=Z,45nm,0.7s
LSA Lhasa 40.17 88 *eP* **P 11 04 26.8 +1.1**
comp=Z,45nm,0.7s
LSA Lhasa 40.17 88 *eP* **P 11 04 26.8 +1.1**
comp=Z,45nm,0.7s
PNCL Nicolau / Gran 40.18 286 *eP* **P 11 04 24.6 -0.5**
CHLP Challavanipeta 40.62 108 *eP* **P 11 04 29.9 +0.9**
SKHT Srikalahasti 40.63 118 *eP* P 11 04 34.6 +5.6
PFVI Vila Bisbo 40.71 285 *eP* **P 11 04 28.4 -1.1**
comp=Z,211nm,1.7s
SPA0 Spitsbergen Ar 41.09 352 *eP* **P 11 04 31.3 -0.9**
SPA0 IAmb IAmb 11 04 34.0
comp=Z,235nm,1.3s
SPA0 Spitsbergen Ar 41.09 352 *eP* **P 11 04 31.3 -0.9**
SNR=25
SPA0 Spitsbergen Ar 41.09 352 *eP* **P 11 04 32.8 +0.6**
SPITS Spitsbergen Ar 41.09 352 P **P 11 04 32.4 +0.2**
comp=Z,61nm,0.9s,baz=126,slow=11,SNR=12
MOY Mondy 41.56 52 *eP* **P 11 04 38.3 +1.8**
MOY Mondy 41.56 52 *eP* **P 11 04 38.3 +1.8**
TLY Talaya 43.20 52 P **P 11 04 49.0 -0.7**
comp=Z,5.4nm,0.6s,baz=246,slow=4.3,SNR=8.6
TLY Talaya 43.20 52 *eP* **P 11 04 51.5 +1.8**
TLY pmax pmax
comp=Z,142nm,2.3s
GTA Gaotai 43.22 71 *eP* **P 11 04 51.0 +0.8**
GTA pP pP 11 04 56.6 -0.1
GTA sP sP 11 04 59.3 0.0
GTA pmax pmax
comp=Z,42nm,1.2s
TOA0 Torodi Ar. Sit 44.76 247 *eP* **P 11 05 01.1 -1.5**
comp=Z,92nm,1.3s
TOA0 Torodi Ar. Sit 44.76 247 *eP* **P 11 05 01.1 -1.5**
comp=Z,92nm,1.3s
TORD Torodi Ar. Bea 44.76 247 P **P 11 05 00.5 -2.1**
comp=Z,38nm,1.1s,baz=50,slow=7.4,SNR=19
SONM Songino Array 45.62 57 P **P 11 05 09.2 -0.1**
comp=Z,2.2nm,0.7s,baz=279,slow=9.7,SNR=3.3
SCO Scoresbysund 45.82 335 *i* P **P 11 05 12.1 +1.8**
SCO Scoresbysund 45.82 335 *i* P **P 11 05 12.1 +1.8**
SCO Scoresbysund 45.82 335 *i* P **P 11 05 12.1 +1.8**
PALK Pallekele 45.98 123 P P 11 05 07.8 -4.5
comp=Z,7.9nm,0.8s,baz=296,slow=12,SNR=5.3
ULN Ulaanbaatar 46.05 57⇓ *i* P **P 11 05 14.1 +1.4**
ULN pmax pmax
comp=Z,151nm,2.5s
ULN Ulaanbaatar 46.05 57 *eP* **P 11 05 14.0 +1.4**
comp=Z,65nm,1.2s
ULN Ulaanbaatar 46.05 57 *eP* **P 11 05 14.0 +1.4**
comp=Z,65nm,1.2s
DAG Danmarks Havn 46.28 344 *i* P **P 11 05 13.8 -0.1**
comp=Z,92nm,1.3s
DAG Danmarks Havn 46.28 344 *i* P **P 11 05 13.8 -0.1**
DAG pmax pmax
comp=Z,180nm,1.3s
LZH Lanzhou 47.36 73 *eP* **P 11 05 23.8 +0.7**
LZH pP pP 11 05 28.8 -0.9
LZH sP sP 11 05 30.3 -2.0
LZH PcP **PcP 11 06 56.8 +3.1**
LZH pmax pmax
comp=Z,78nm,1.1s
LZH pmax pmax
comp=Z,200nm,6.2s
PMPS Porto Santo 47.93 282 *eP* **P 11 05 26.8 -0.6**
BOD Bodaibo 48.31 43 *eP* **P 11 05 29.3 -0.6**
BOD pmax pmax
comp=Z,60nm,0.9s
BOD Bodaibo 48.31 43 *eP* **P 11 05 29.3 -0.6**
comp=Z,60nm,0.9s
PMAR Madeira 48.52 282 *eP* **P 11 05 32.0 -0.1**
CD2 Chengdu 49.43 80 P **P 11 05 38.0 -1.0**
CD2 S **S 11 12 44.9 -0.2**
CD2 pmax pmax
comp=Z,320nm,7.8s
SUMG Summit 51.10 337 *i* P **P 11 05 51.6 +0.2**
comp=Z,118nm,1.1s
SUMG Summit 51.10 337 *eP* **P 11 05 51.7 +0.3**
SUMG pmax pmax
comp=Z,125nm,1.1s
SUMG Summit 51.10 337 *eP* **P 11 05 51.7 +0.3**
comp=Z,125nm,1.1s
SUMG Summit 51.10 337 *eP* **P 11 05 51.7 +0.3**
comp=Z,125nm,1.1s
HHC Hu-ho-hao-te 51.23 65 *eP* **P 11 05 54.0 +1.4**
HHC sP pP 11 06 00.5 +1.3
HHC PP **PP 11 07 51.3 +2.0**
HHC S **S 11 13 11.8 +1.8**
HHC pmax pmax
comp=Z,53nm,1.1s
KMI Kunming 51.39 87 P **P 11 05 54.4 +0.3**
KMI pmax pmax
comp=Z,34nm,1.0s
CHTO Chiang Mai 51.81 96 P **P 11 05 57.5 +0.5**
comp=Z,3µm,1.0s
CHTO Chiang Mai 51.81 96 *eP* **P 11 05 56.5 -0.5**
CHTO pmax pmax
comp=Z,25nm,0.7s
CHTO Chiang Mai 51.81 96 *eP* **P 11 05 56.5 -0.5**
comp=Z,25nm,0.7s
CHTO Chiang Mai 51.81 96 *eP* **P 11 05 56.5 -0.5**
comp=Z,25nm,0.7s
XAN Xi'an 51.99 74 P **P 11 05 58.0 -0.3**
XAN pmax pmax
comp=Z,80nm,1.1s
CM31 Chiang Mai Arr 52.02 96 *eP* **P 11 05 59.3 +0.8**
CM31 Chiang Mai Arr 52.02 96 *eP* **P 11 05 59.4 +0.8**
CMAR Chiang Mai Arr 52.02 96 P **P 11 05 58.0 -0.6**
comp=Z,14nm,0.7s,baz=299,slow=8.2,SNR=48
TIXI Tiksi 52.37 23 P **P 11 06 00.4 0.0**
comp=Z,20nm,0.9s,baz=318,slow=5.0,SNR=22
TIXI Tiksi 52.37 23⇓ *eP* **P 11 06 00.9 +0.5**
TIXI pmax pmax
comp=Z,41nm,1.2s
TIXI Tiksi 52.37 23 *eP* **P 11 06 00.3 -0.1**
comp=Z,78nm,1.3s
TIXI Tiksi 52.37 23 *eP* **P 11 06 00.3 -0.1**
comp=Z,78nm,1.3s
LAMP Lampang 52.51 96 P **P 11 06 03.6 +1.4**

comp=Z,16nm,0.9s,comp=Z,239nm
NANT Nan 53.19 95 P P 11 06 08.5 +1.3
comp=Z,12nm,0.9s
UTTA Uttaradit 53.68 96 P P 11 06 11.7 +0.9
comp=Z,7.5nm,0.7s
HIA Hailar 53.74 52⇑ *i* P P 11 06 12.0 +1.0
HIA pmax pmax
comp=Z,55nm,1.3s
HIA Hailar 53.74 52 *e* P P 11 06 11.8 +0.9
comp=Z,54nm,1.2s
HIA Hailar 53.74 52 *e* P P 11 06 11.8 +0.9
comp=Z,54nm,1.2s
GYA Guiyang 53.78 83⇑ *i* P P 11 06 12.0 +0.4
GYA pP pP 11 06 18.0 -0.3
GYA PcP **PcP 11 07 19.3 +1.9**
GYA PP **PP 11 08 15.5 +2.9**
GYA ScP **ScP 11 11 14.0 -0.1**
GYA S **S 11 13 44.6 -0.6**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,160nm,6.3s
GYA LR LR
comp=Z,690nm,20.2s
GYA LR LR
comp=Z,560nm,18.8s
DBIC Dimbokro 53.87 246 P P 11 06 10.3 -1.9
comp=Z,44nm,1.0s,baz=28,slow=8.6,SNR=22
DBIC Dimbokro 53.87 246 *e* P P 11 06 10.7 -1.5
DBIC pmax pmax
comp=Z,68nm,1.0s
DBIC Dimbokro 53.87 246 *e* P P 11 06 10.7 -1.5
comp=Z,68nm,1.0s
DBIC Dimbokro 53.87 246 *e* P P 11 06 10.7 -1.5
comp=Z,68nm,1.0s
KIC Kosan Boka 54.00 246 *e* P P 11 06 11.3 -1.9
comp=Z,261nm,1.1s
TIC Toumodi 54.00 247 *e* P P 11 06 11.0 -2.2
ENH Enshi 54.11 78 *e* P P 11 06 13.9 0.0
comp=Z,107nm,1.5s
ENH Enshi 54.11 78 *e* P P 11 06 13.9 0.0
comp=Z,107nm,1.5s
LIC Lamto 54.30 246 *e* P P 11 06 13.3 -2.1
comp=Z,277nm,1.0s
SRDT SRDT 54.57 100 P P 11 06 21.1 +3.8
comp=Z,483nm,1.0s
PBKT Sadao Pong 54.68 97 P P 11 06 18.8 +0.7
comp=Z,542nm,1.4s
BJI Beijing 54.79 64 P P 11 06 18.4 -0.2
BJI pmax pmax
comp=Z,26nm,2.4s
YAK Yakutsk 55.02 35 *e* P P 11 06 19.5 -0.5
YAK pmax pmax
comp=Z,67nm,1.0s
YAK pmax pmax
comp=E,38nm,1.5s
YAK pmax pmax
comp=N,18nm,1.5s
YAK Yakutsk 55.02 35 *e* P P 11 06 19.4 -0.5
comp=N,65nm,0.9s
YAK Yakutsk 55.02 35 *e* P P 11 06 19.4 -0.5
comp=N,65nm,0.9s
LSZ Lusaka 55.58 198 *e* P P 11 06 26.1 +1.5
LSZ pmax pmax
comp=Z,40nm,1.3s
LSZ Lusaka 55.58 198 *e* P P 11 06 26.1 +1.5
comp=Z,40nm,1.3s
LSZ Lusaka 55.58 198 *e* P P 11 06 26.1 +1.5
comp=Z,40nm,1.3s
PHET Kaeng Krachan 55.84 101 P P 11 06 26.9 +0.4
comp=Z,20nm,0.7s,comp=Z,152nm
ILULI Ilulissat 55.90 335 *i* P P 11 06 25.7 -0.5
comp=Z,102nm,1.0s
ILULI Ilulissat 55.90 335 *i* P P 11 06 25.7 -0.5
ILULI pmax pmax
comp=Z,100nm,1.0s
KHON Khomkaen 56.26 96 P P 11 06 29.9 +0.4
comp=Z,28nm,1.0s,comp=Z,752nm
NRS Narsarsuaq 56.40 324 *i* P P 11 06 29.8 -0.1
comp=Z,95nm,1.0s
NRS Narsarsuaq 56.40 324 *i* P P 11 06 29.8 -0.1
NRS pmax pmax
comp=Z,95nm,1.0s
NRS Narsarsuaq 56.40 324 *i* P P 11 06 29.8 -0.1
comp=Z,95nm,1.0s
SFJD Kangerlussuaq 56.50 332 *i* P P 11 06 29.9 -0.6
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 56.50 332 *i* P P 11 06 29.9 -0.6
SFJD pmax pmax
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 56.50 332 *i* P P 11 06 29.9 -0.6
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 56.50 332 *e* P P 11 06 30.1 -0.4
comp=Z,86nm,1.1s
SKNT Sakolnakorn 56.79 94 P P 11 06 37.9 +4.6
SRAK Srakaew 57.03 99 P P 11 06 38.5 +3.5
comp=Z,198nm,0.7s,comp=Z,2µm
PANO Nakornpanom 57.18 94 P P 11 06 36.9 +0.9
comp=Z,498nm,1.5s
BBTS Babate 57.55 263 P P 11 06 38.4 -0.2
comp=Z,57nm,0.8s,baz=257,slow=2.4,SNR=5.5
ABPO Ambohimpanom 57.58 176 *e* P P 11 06 39.9 +1.1
ABPO pmax pmax
comp=Z,31nm,0.9s
ABPO Ambohimpanom 57.58 176 *e* P P 11 06 39.9 +1.1
comp=Z,31nm,0.9s
ABPO Ambohimpanom 57.58 176 *e* P P 11 06 39.9 +1.1
comp=Z,31nm,0.9s
WHN Wuhan 57.67 75 ⇓ P P 11 06 39.9 +0.5
WHN pmax pmax
comp=Z,110nm,1.2s
DL2 Dalian 59.09 63 P P 11 06 49.3 +0.2
DL2 pmax pmax
comp=Z,110nm,1.0s
TRTT Trang 59.09 106 P P 11 06 48.7 -0.7
comp=Z,843nm,2.0s
CN2 Changchun 59.49 56 *e* P P 11 06 51.3 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
QIZ Qiongzhong 60.20 89 P P 11 06 54.6 -2.5
QIZ S **S 11 15 07.3 -2.6**
NJ2 Nanjing 60.31 71 *e* P P 11 06 57.3 -0.4
NJ2 pmax pmax
comp=Z,45nm,1.4s
KCSI Kotacane, Aceh 60.53 111 P P 11 06 55.9 -3.4
comp=Z,18nm,0.7s
KULM Kulim 61.47 107 *e* P P 11 07 04.4 -1.3
comp=Z,43nm,1.2s
KULM Kulim 61.47 107 *e* P P 11 07 04.4 -1.3
comp=Z,43nm,1.2s
MDJ Mudanjiang 61.78 54 P P 11 07 06.1 -1.4
MDJ pP pP 11 07 11.3 -2.9
MDJ sP sP 11 07 14.8 -2.0
MDJ PcP **PcP 11 07 46.0 -2.5**
MDJ ScP **ScP 11 11 47.1 -1.9**
MDJ PcS **PcS 11 11 49.8 -1.6**
MDJ S **S 11 15 28.1 -1.3**
MDJ sS pS 11 15 37.8 +0.2
MDJ pmax pmax
comp=Z,19nm,1.8s
PSI Prapat 61.86 111 P P 11 07 06.4 -2.1
comp=Z,26nm,0.8s,baz=306,slow=7.9,SNR=9.3
PSI Prapat 61.86 111 *e* P P 11 07 07.4 -1.1
PSI pmax pmax
comp=Z,26nm,0.8s
PSI Prapat 61.86 111 *e* P P 11 07 07.4 -1.1
comp=Z,26nm,0.8s
IPM Ipoh 62.28 108 *e* P P 11 07 09.5 -1.7
comp=Z,104nm,1.6s
IPM Ipoh 62.28 108 *e* P P 11 07 09.5 -1.7
comp=Z,104nm,1.6s
INCN Inchon 63.23 62 *e* P P 11 07 16.3 -1.0
comp=Z,62nm,1.1s
INCN Inchon 63.23 62 *e* P P 11 07 16.3 -1.0
comp=Z,62nm,1.1s
USRK Ussuriysk Ar. 63.49 53 P P 11 07 18.4 -0.4
comp=Z,20nm,1.0s,baz=294,slow=4.3,SNR=17
MSHR Mys Shultsa 63.75 55⇑ *e* P P 11 07 19.9 -0.7
MSHR Mys Shultsa 63.75 55 *e* P P 11 07 19.9 -0.7
VLA Vladivostok 63.95 55⇑ *e* P P 11 07 21.4 -0.5
VLA Vladivostok 63.95 55 *e* P P 11 07 21.4 -0.5
SEY Seymchan 64.05 29⇑ *i* P P 11 07 23.2 +1.0
SEY Seymchan 64.05 29 *i* P P 11 07 23.2 +1.0
KS15 Wonju Array Si 64.12 62 *e* P P 11 07 23.2 +0.1
KS15 Wonju Array Si 64.12 62 *e* P P 11 07 23.2 +0.1
KSAR Wonju Array Be 64.12 62 P P 11 07 22.8 -0.3
KSAR Wonju Array Be 64.12 62 P P 11 07 22.8 -0.3
KSRS Korea Array 64.14 62 P P 11 07 22.8 -0.4
comp=Z,23nm,0.8s,baz=292,slow=6.0,SNR=52
KSRS Korea Array 64.14 62 P P 11 07 22.8 -0.4
KSRS pmax pmax
comp=Z,24nm,0.8s
KSRS Korea Array 64.14 62 P P 11 07 22.8 -0.4
comp=Z,24nm,0.8s
BKNI Bangkinang 65.08 111 P P 11 07 27.6 -2.1
BILL Bilibino 65.31 20⇑ *i* P P 11 07 30.4 0.0
BILL *i* 11 07 35.5
BILL pmax pmax
comp=Z,75nm,1.3s
BILL Bilibino 65.31 20 *i* P P 11 07 30.4 0.0
comp=Z,75nm,1.3s
MA2 Magadan 65.33 32⇓ *e* P P 11 07 31.1 +0.5
MA2 Magadan 65.33 32 *e* P P 11 07 31.1 +0.5
PDSI Padang 65.51 113 P P 11 07 29.4 -3.1
LBTB Lobatse 65.57 198 *e* P P 11 07 33.7 +1.1
LBTB pmax pmax
comp=Z,23nm,1.0s
LBTB Lobatse 65.57 198 *e* P P 11 07 33.7 +1.1
comp=Z,23nm,1.0s
LBTB Lobatse 65.57 198 *e* P P 11 07 33.7 +1.1
comp=Z,22nm,1.0s
WIN Windhoek 65.77 207 P P 11 07 33.7 -0.4
WIN pmax pmax
comp=Z,33nm,1.1s
WIN Windhoek 65.77 207 P P 11 07 33.7 -0.4
comp=Z,33nm,1.1s
YHNB Yeheng 66.03 77 *e* P P 11 07 36.1 +0.3
comp=Z,71nm,1.1s
YHNB Yeheng 66.03 77 *e* P P 11 07 36.1 +0.3
comp=Z,71nm,1.1s
MYKOM Kota Tinggi 66.17 108 *e* P P 11 07 35.5 -1.2
comp=Z,23nm,0.9s
MYKOM Kota Tinggi 66.17 108 *e* P P 11 07 35.5 -1.2
comp=Z,23nm,0.9s
TYV Tymovskoe 66.30 43 *e* P P 11 07 32.2 -4.8
TYV *e* 11 16 18.0
TYV pmax pmax
comp=Z,49nm,1.7s
MASI Maura Aman, Be 68.32 113 P P 11 07 49.4 -1.0
JNU Nakatsue 68.46 64 P P 11 07 51.0 0.0
comp=Z,11nm,0.7s,baz=273,slow=1.3,SNR=9.1
JNU Nakatsue 68.46 64 *e* P P 11 07 51.1 0.0
comp=Z,34nm,1.1s
JNU Nakatsue 68.46 64 *e* P P 11 07 51.1 0.0
comp=Z,34nm,1.1s
YSS Yuzh-Sakhalins 68.50 47 *e* P P 11 07 49.3 -1.7
YSS pmax pmax
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 68.50 47 *e* P P 11 07 49.3 -1.7
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 68.50 47 *e* P P 11 07 51.5 +0.5
comp=Z,106nm,1.3s
BOSA Boshof 69.11 197 P P 11 07 54.4 -0.6
comp=Z,18nm,1.0s,baz=4.9,slow=5.7,SNR=13
BOSA Boshof 69.11 197 *e* P P 11 07 54.8 -0.2
BOSA pmax pmax
comp=Z,74nm,1.4s
BOSA Boshof 69.11 197 *e* P P 11 07 54.8 -0.2
comp=Z,74nm,1.4s
BOSA Boshof 69.11 197 *e* P P 11 07 54.8 -0.2
comp=Z,74nm,1.4s
SCHQ Schefferville 69.36 325 P P 11 07 55.6 -0.7
comp=Z,26nm,0.8s,baz=49,slow=7.9,SNR=11
SCHQ Schefferville 69.36 325 *e* P P 11 07 56.2 -0.1
comp=Z,40nm,0.9s
SCHQ Schefferville 69.36 325 *e* P P 11 07 56.2 -0.1
comp=Z,40nm,0.9s
JOW Kunigami 70.03 71 *e* P P 11 08 00.5 -0.3
comp=Z,66nm,1.3s
JOW Kunigami 70.03 71 *e* P P 11 08 00.5 -0.3
comp=Z,66nm,1.3s
MDSI Maura Dua 70.64 113 P P 11 08 01.6 -3.1
comp=Z,21nm,2.2s
LWLI Liwa 70.92 113 P P 11 08 04.8 -1.7
KLSI 71.18 112 P P 11 08 05.0 -3.0
KSM Kuching 71.23 104 *e* P P 11 08 08.2 -0.1
comp=Z,14nm,1.0s
KSM Kuching 71.23 104 *e* P P 11 08 08.2 -0.1
comp=Z,14nm,1.0s
MJB9 Matsu-Tunnel 71.57 58 *e* P P 11 08 09.5 -0.6
comp=Z,15nm,1.4s
MJB9 Matsu-Tunnel 71.57 58 *e* P P 11 08 09.5 -0.6
comp=Z,15nm,1.4s
MAJO Matsushiro 71.57 58⇑ *e* P P 11 08 08.8 -1.3
MAJO pmax pmax
comp=Z,288nm,1.4s
MAJO Matsushiro 71.57 58 *e* P P 11 08 08.8 -1.3
comp=Z,288nm,1.4s
MAJO Matsushiro 71.57 58 *e* P P 11 08 09.4 -0.7
comp=Z,54nm,1.4s
MAT Matsushiro 71.57 58 P P 11 08 08.1 -2.0
MJAR Matsushiro Arr 71.57 58 P P 11 08 09.7 -0.4
comp=Z,24nm,1.1s,baz=307,slow=6.5,SNR=28
SBUM Sibu 72.06 102 *e* P P 11 08 13.4 +0.1
comp=Z,32nm,1.1s
SBUM Sibu 72.06 102 *e* P P 11 08 13.4 +0.1
comp=Z,32nm,1.1s
PETK Petropavlovsk- 72.37 35 P P 11 08 12.8 -1.8
comp=Z,17nm,1.0s,baz=264,slow=3.0,SNR=9.8
TOLK Toolik Lake Re 72.49 5 P P 11 08 16.1 +1.0
baz=349
COLD Coldfoot 73.84 5 *e* P P 11 08 23.9 +0.8
comp=Z,46nm,0.9s
COLD Coldfoot 73.84 5 *e* P P 11 08 23.9 +0.8
comp=Z,46nm,0.9s
LMN Caledonia Moun 74.00 316 *e* P P 11 08 24.2 -0.1
comp=Z,57nm,1.1s
LMN Caledonia Moun 74.00 316 *e* P P 11 08 24.2 -0.1
comp=Z,57nm,1.1s
FYU Fort Yukon 74.81 4 *e* P P 11 08 29.8 +1.2
comp=Z,119nm,1.4s
FYU Fort Yukon 74.81 4 *e* P P 11 08 29.8 +1.2
comp=Z,119nm,1.4s
PQI Presque Isle 75.17 318 *e* P P 11 08 31.2 +0.1
comp=Z,107nm,1.0s
PQI Presque Isle 75.17 318 *e* P P 11 08 31.2 +0.1
comp=Z,107nm,1.0s
CISI Cisompet, Garu 75.37 112 *e* P P 11 08 30.8 -1.9
comp=Z,248nm,1.8s
CISI Cisompet, Garu 75.37 112 *e* P P 11 08 30.8 -1.9
comp=Z,248nm,1.8s
GGN Saint George 75.57 317 *e* P P 11 08 33.6 +0.2
comp=Z,57nm,1.1s
GGN Saint George 75.57 317 *e* P P 11 08 33.6 +0.2
comp=Z,57nm,1.1s
MLY Manley 75.97 6 *e* P P 11 08 36.2 +0.8
comp=Z,44nm,1.0s
MLY Manley 75.97 6 *e* P P 11 08 36.1 +0.8
comp=Z,44nm,1.0s
MDM Murphy Dome 76.23 5 *e* P P 11 08 37.5 +0.6
comp=Z,156nm,1.5s
MDM Murphy Dome 76.23 5 *e* P P 11 08 37.5 +0.6
comp=Z,156nm,1.5s
COLA College 76.34 5 *e* P P 11 08 38.2 +0.8
COLA pmax pmax
comp=Z,63nm,0.8s
COLA College 76.34 5 *e* P P 11 08 38.2 +0.8
comp=Z,63nm,0.8s
COLA College 76.34 5 *e* P P 11 08 38.2 +0.8
comp=Z,63nm,0.8s
ILAR Eielson Array 76.50 4 P P 11 08 38.0 -0.4
comp=Z,5.7nm,0.8s,baz=338,slow=2.4,SNR=29
ILAR PP **PP 11 11 30.9 +1.3**
comp=Z,2.9nm,0.9s,baz=344,slow=6.8,SNR=4.5
ILAR Eielson Array 76.50 4 P P 11 08 38.0 -0.4
ILAR 11 11 31.0
ILAR pmax pmax
comp=Z,7.0nm,0.9s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 76.50 4 P P 11 08 38.0 -0.4
comp=Z,7.0nm,0.9s
ILAR Eielson Array 76.50 4 PP PP 11 11 31.0 +1.4
ILB Eielson Array 76.50 4 *e* P 11 08 38.3 -0.1
ILB Eielson Array 76.50 4 *e* P 11 08 38.3 -0.1
CCB Clear Creek Bu 76.57 5 *e* P 11 08 38.5 -0.3
comp=Z,121nm,1.6s
CCB Clear Creek Bu 76.57 5 *e* P 11 08 38.5 -0.3
comp=Z,121nm,1.6s
WRH Wood River Hil 76.72 5 *e* P 11 08 39.2 -0.4
comp=Z,18nm,0.8s
WRH Wood River Hil 76.72 5 *e* P 11 08 39.2 -0.4
comp=Z,18nm,0.8s
EGAK Eagle 76.75 2 *e* P P 11 08 40.2 +0.4
comp=Z,53nm,0.9s
EGAK Eagle 76.75 2 *e* P P 11 08 40.2 +0.4
comp=Z,53nm,0.9s
PKME Peaks-Kenny Pk 76.77 318 *e* P P 11 08 41.0 +0.8
comp=Z,74nm,1.3s
PKME Peaks-Kenny Pk 76.77 318 *e* P P 11 08 41.0 +0.8
comp=Z,74nm,1.3s
HDA Harding Lake 76.86 5 *e* P P 11 08 40.2 -0.2
comp=Z,45nm,0.8s
HDA Harding Lake 76.86 5 *e* P P 11 08 40.2 -0.2
comp=Z,45nm,0.8s
BPAW Bear Paw Mtn. 76.86 6 *e* P P 11 08 40.3 -0.2
comp=Z,61nm,1.1s
BPAW Bear Paw Mtn. 76.86 6 *e* P P 11 08 40.3 -0.2
comp=Z,61nm,1.1s
MCK McKinley 77.39 6 *e* P P 11 08 43.5 0.0
MCK pmax pmax
comp=Z,79nm,1.3s
MCK McKinley 77.39 6 *e* P P 11 08 43.5 0.0
comp=Z,79nm,1.3s
MCK McKinley 77.39 6 *e* P P 11 08 43.5 0.0
comp=Z,79nm,1.3s
CAST Castle Rocks 77.43 7 *e* P P 11 08 44.2 +0.5
comp=Z,108nm,1.0s
CAST Castle Rocks 77.43 7 *e* P P 11 08 44.2 +0.5
comp=Z,108nm,1.0s
TTA Tatalina 77.48 9 *e* P P 11 08 44.3 +0.3
TTA pmax pmax
comp=Z,85nm,1.6s
TTA Tatalina 77.48 9 *e* P P 11 08 44.3 +0.3
comp=Z,85nm,1.6s
TTA Tatalina 77.48 9 *e* P P 11 08 44.3 +0.3
comp=Z,85nm,1.6s
DAWY Dawson 77.50 1 *e* P P 11 08 44.1 0.0
comp=Z,55nm,0.9s
DAWY Dawson 77.50 1 *e* P P 11 08 44.1 0.0
comp=Z,55nm,0.9s
TT01 Tatalina 77.50 9 *e* P P 11 08 44.3 +0.3
TT01 Tatalina 77.50 9 *e* P P 11 08 44.3 +0.3
YKA Yellowknife Ar 77.55 350 P P 11 08 43.9 -0.3
comp=Z,16nm,0.8s,baz=6.2,slow=5.2,SNR=17
TRF Thorofare Moun 77.56 6 *e* P P 11 08 44.9 +0.3
comp=Z,133nm,1.8s
TRF Thorofare Moun 77.56 6 *e* P P 11 08 44.9 +0.3
comp=Z,133nm,1.8s
RND Reindeer 77.72 6 *e* P P 11 08 44.7 -0.7
RND pmax pmax
comp=Z,68nm,1.2s
RND Reindeer 77.72 6 *e* P P 11 08 44.7 -0.7
comp=Z,68nm,1.2s
RND Reindeer 77.72 6 *e* P P 11 08 44.7 -0.7
comp=Z,68nm,1.2s
DOT Dot Lake 77.77 3 *e* P P 11 08 45.9 +0.3
comp=Z,157nm,1.0s
DOT Dot Lake 77.77 3 *e* P P 11 08 45.9 +0.3
comp=Z,157nm,1.0s
PPLA Purkeypile 77.93 7 *e* P P 11 08 46.6 -0.1
comp=Z,32nm,0.9s
PPLA Purkeypile 77.93 7 *e* P P 11 08 46.6 -0.1
comp=Z,32nm,0.9s
DHY Denali Highway 78.16 5 *e* P P 11 08 47.7 -0.2
comp=Z,24nm,0.8s
DHY Denali Highway 78.16 5 *e* P P 11 08 47.7 -0.2
comp=Z,24nm,0.8s
PAX Paxson 78.38 4 *e* P P 11 08 49.9 +0.9
PAX pmax pmax
comp=Z,64nm,1.6s
PAX Paxson 78.38 4 *e* P P 11 08 49.9 +0.9
comp=Z,64nm,1.6s
PAX Paxson 78.38 4 *e* P P 11 08 49.9 +0.9
comp=Z,64nm,1.6s
MENT Mentasta 78.50 3 *e* P P 11 08 50.4 +0.8
comp=Z,50nm,0.7s
MENT Mentasta 78.50 3 *e* P P 11 08 50.4 +0.8
comp=Z,50nm,0.7s
TRQ Mont Tremblant 78.78 321 *e* P P 11 08 51.6 +0.1
TRQ Mont Tremblant 78.78 321 *e* P P 11 08 51.6 +0.1
VLDQ Val d'Or 78.79 324 *e* P P 11 08 52.3 +0.9
comp=Z,158nm,1.7s
VLDQ Val d'Or 78.79 324 *e* P P 11 08 52.3 +0.9
comp=Z,158nm,1.7s
LBNH Lisbon 78.84 319 *e* P P 11 08 52.9 +1.1
LBNH pmax pmax
comp=Z,57nm,1.1s
LBNH Lisbon 78.84 319 *e* P P 11 08 52.9 +1.1
comp=Z,57nm,1.1s
LBNH Lisbon 78.84 319 *e* P P 11 08 52.9 +1.1
comp=Z,57nm,1.1s
HARP HAARP 78.96 4 *e* P P 11 08 53.0 +0.9
comp=Z,176nm,1.5s
HARP HAARP 78.96 4 *e* P P 11 08 53.0 +0.9
comp=Z,176nm,1.5s
FFD Franklin Falls 79.23 318 *e* P P 11 08 54.3 +0.3
comp=Z,67nm,1.3s
FFD Franklin Falls 79.23 318 *e* P P 11 08 54.3 +0.3
comp=Z,67nm,1.3s
FRNY Flat Rock 79.28 320 *e* P P 11 08 54.3 +0.1
comp=Z,64nm,1.5s
FRNY Flat Rock 79.28 320 *e* P P 11 08 54.3 +0.1
comp=Z,64nm,1.5s
SVW2 Sparrevohn 79.31 9 *e* P P 11 08 54.6 +0.5
comp=Z,54nm,1.1s
SVW2 Sparrevohn 79.31 9 *e* P P 11 08 54.6 +0.5
comp=Z,54nm,1.1s
SML Sawmill 79.34 6 *e* P P 11 08 54.4 +0.1
SML pmax pmax
comp=Z,82nm,0.7s
SML Sawmill 79.34 6 *e* P P 11 08 54.3 +0.1
comp=Z,82nm,0.7s
SML Sawmill 79.34 6 *e* P P 11 08 54.4 +0.1
comp=Z,82nm,0.7s
SCM Sheep Creek Mo 79.39 5 *e* P P 11 08 55.3 +0.7
SCM pmax pmax
comp=Z,87nm,0.8s
SCM Sheep Creek Mo 79.39 5 *e* P P 11 08 55.3 +0.7
comp=Z,87nm,0.8s
SCM Sheep Creek Mo 79.39 5 *e* P P 11 08 55.3 +0.7
comp=Z,87nm,0.8s
HNH Hanover 79.40 318 *e* P P 11 08 55.1 +0.2
comp=Z,96nm,1.1s
HNH Hanover 79.40 318 *e* P P 11 08 55.1 +0.2
comp=Z,96nm,1.1s
SUA Susitna One 79.48 7 *e* P P 11 08 55.1 0.0
comp=Z,92nm,0.8s
SUA Susitna One 79.48 7 *e* P P 11 08 55.1 0.0
comp=Z,92nm,0.8s
PMR Palmer 79.49 6 *e* P P 11 08 55.0 0.0
PMR pmax pmax
comp=Z,61nm,1.1s
PMR Palmer 79.49 6 *e* P P 11 08 55.0 0.0
comp=Z,61nm,1.1s
PMR Palmer 79.49 6 *e* P P 11 08 55.0 0.0
comp=Z,61nm,1.1s
SPU Mount Spurr 79.63 8 *e* P P 11 08 55.5 -0.4
SPU Mount Spurr 79.63 8 *e* P P 11 08 55.5 -0.4
MDV Middlebury 79.66 319 *e* P P 11 08 56.8 +0.5
MDV Middlebury 79.66 319 *e* P P 11 08 56.8 +0.5
KLU Klutina 79.82 4 *e* P P 11 08 57.8 +0.8
comp=Z,82nm,0.9s
KLU Klutina 79.82 4 *e* P P 11 08 57.8 +0.8
comp=Z,82nm,0.9s
LONY Lake Ozonia 79.93 320 *e* P P 11 08 58.2 +0.4
comp=Z,53nm,1.1s
LONY Lake Ozonia 79.93 320 *e* P P 11 08 58.2 +0.4
comp=Z,53nm,1.1s
RC01 Rabbit Creek A 79.94 6 *e* P P 11 08 57.5 0.0
comp=Z,71nm,0.8s
RC01 Rabbit Creek A 79.94 6 *e* P P 11 08 57.5 0.0
comp=Z,71nm,0.8s
DIV Divide 80.19 4 *e* P P 11 08 59.2 +0.3
comp=Z,89nm,0.9s
DIV Divide 80.19 4 *e* P P 11 08 59.2 +0.3
comp=Z,89nm,0.9s
NCB Newcomb 80.21 319 *e* P P 11 08 59.6 +0.3
comp=Z,0.3nm,1.3s
NCB Newcomb 80.21 319 *e* P P 11 08 59.6 +0.3
comp=Z,0.3nm,1.3s
RSO Redoubt South 80.26 8 *e* P P 11 08 59.3 -0.2
RSO Redoubt South 80.26 8 *e* P P 11 08 59.3 -0.2
ACCN Adirondack Com 80.34 319 *e* P P 11 09 00.7 +0.7
comp=Z,75nm,1.3s
ACCN Adirondack Com 80.34 319 *e* P P 11 09 00.7 +0.7
comp=Z,75nm,1.3s
GLI Glacier Island 80.36 5 *e* P P 11 09 00.1 +0.4
comp=Z,27nm,0.8s

GLI	Glacier Island	80.36	5	eP	P	11 09 00.1	+0.4
	comp=Z,27nm,0.8s						
BMRM	Bremner River	80.42	4	eP	P	11 09 00.4	+0.3
	comp=Z,32nm,1.0s						
BMRM	Bremner River	80.42	4	eP	P	11 09 00.5	+0.3
	comp=Z,32nm,1.0s						
BALM	Baldy	80.46	3	eP	P	11 09 01.0	+0.6
BALM				pmax	pmax		
	comp=Z,76nm,1.0s						
BALM	Baldy	80.46	3	eP	P	11 09 01.0	+0.6
	comp=Z,76nm,1.0s						
BALM	Baldy	80.46	3	eP	P	11 09 01.0	+0.6
	comp=Z,76nm,1.0s						
FID	Port Fidalgo	80.53	5	eP	P	11 09 01.5	+0.8
	comp=Z,40nm,1.0s						
FID	Port Fidalgo	80.53	5	eP	P	11 09 01.5	+0.8
	comp=Z,40nm,1.0s						
JAGI	Jajag, Banyuwa	80.62	109	eP	P	11 09 00.6	-1.2
	comp=Z,30nm,0.8s						
JAGI	Jajag, Banyuwa	80.62	109	eP	P	11 09 00.6	-1.2
	comp=Z,30nm,0.8s						
CRQM	Cirque	80.70	3	eP	P	11 09 02.3	+0.5
	comp=Z,86nm,1.0s						
CRQM	Cirque	80.70	3	eP	P	11 09 02.3	+0.5
	comp=Z,86nm,1.0s						
EYAK	Cordova Ski Ar	80.77	5	eP	P	11 09 02.6	+0.7
	comp=Z,86nm,1.1s						
EYAK	Cordova Ski Ar	80.77	5	eP	P	11 09 02.6	+0.7
	comp=Z,86nm,1.1s						
HYT	Haines Junctio	80.78	0	eP	P	11 09 02.7	+0.5
	comp=Z,81nm,1.0s						
HYT	Haines Junctio	80.78	0	eP	P	11 09 02.6	+0.5
	comp=Z,81nm,1.0s						
PLVO	Plevna	80.86	322	eP	P	11 09 03.2	+0.5
	comp=Z,52nm,1.4s						
PLVO	Plevna	80.86	322	eP	P	11 09 03.2	+0.5
	comp=Z,52nm,1.4s						
WHY	Whitehorse	80.93	359	eP	P	11 09 02.6	-0.4
	comp=Z,131nm,2.0s						
WHY	Whitehorse	80.93	359	eP	P	11 09 02.6	-0.4
	comp=Z,131nm,2.0s						
SEW	Seward	80.94	6	eP	P	11 09 03.0	+0.2
	comp=Z,43nm,0.8s						
SEW	Seward	80.94	6	eP	P	11 09 03.0	+0.2
	comp=Z,43nm,0.8s						
RAGM	Ragged Mountai	81.00	4	eP	P	11 09 04.3	+1.1
	comp=Z,147nm,1.4s						
RAGM	Ragged Mountai	81.00	4	eP	P	11 09 04.3	+1.1
	comp=Z,147nm,1.4s						
BRLK	Bradley Lake	81.14	7	eP	P	11 09 03.6	-0.4
	comp=Z,72nm,1.3s						
BRLK	Bradley Lake	81.14	7	eP	P	11 09 03.6	-0.4
	comp=Z,72nm,1.3s						
HOM	Homer	81.17	8	eP	P	11 09 03.9	-0.1
	comp=Z,92nm,1.0s						
HOM	Homer	81.17	8	eP	P	11 09 03.9	-0.1
	comp=Z,92nm,1.0s						
CNPM	China Poot	81.34	7	eP	P	11 09 04.7	-0.4
	comp=Z,41nm,0.8s						
CNPM	China Poot	81.34	7	eP	P	11 09 04.7	-0.4
	comp=Z,41nm,0.8s						
FFC	Flin Flon	82.25	341	eP	P	11 09 10.2	+0.3
FFC				pmax	pmax		
	comp=Z,34nm,1.0s						
FFC	Flin Flon	82.25	341	eP	P	11 09 10.2	+0.3
	comp=Z,34nm,1.0s						
FFC	Flin Flon	82.25	341	eP	P	11 09 10.2	+0.3
	comp=Z,34nm,1.0s						
ODNJ	Ogdensburg	82.47	318	eP	P	11 09 11.7	+0.4
	comp=Z,48nm,1.3s						
ODNJ	Ogdensburg	82.47	318	eP	P	11 09 11.7	+0.4
	comp=Z,48nm,1.3s						
KAPI	Kappang	82.59	102	eP	P	11 09 11.6	-0.7
	comp=Z,84nm,1.4s						
KAPI	Kappang	82.59	102	eP	P	11 09 11.6	-0.7
	comp=Z,84nm,1.4s						
KDAK	Kodiak Island	82.90	9	i P	P	11 09 13.3	+0.1
KDAK	Kodiak Island	82.90	9	i P	P	11 09 13.3	+0.1
KDAK	Kodiak Island	82.90	9	eP	P	11 09 13.7	+0.5
	comp=Z,91nm,0.8s						
MMNY	Mt. Morris Dam	82.96	321	eP	P	11 09 13.9	+0.1
MMNY	Mt. Morris Dam	82.96	321	eP	P	11 09 13.9	+0.1
N59A	State Game Lan	83.20	318	P	P	11 09 15.3	+0.2
	baz=43						
BUF	Buffalo	83.28	321	eP	P	11 09 15.7	+0.2
BUF	Buffalo	83.28	321	eP	P	11 09 15.7	+0.2
OHAK	Old Harbor	83.37	9	eP	P	11 09 16.1	+0.5
	comp=Z,51nm,0.6s						
OHAK	Old Harbor	83.37	9	eP	P	11 09 16.1	+0.5
	comp=Z,51nm,0.6s						
E45A	Wooded Hills,	83.55	327	P	P	11 09 17.1	+0.4
	baz=38,SNR=11						
E44A	Grand Marais A	83.65	328	P	P	11 09 17.9	+0.6
	baz=37,SNR=7.0						
PSUB	Penn St. - Bra	83.75	317	eP	P	11 09 17.6	-0.3
	comp=Z,45nm,1.0s						
PSUB	Penn St. - Bra	83.75	317	eP	P	11 09 17.6	-0.3
	comp=Z,45nm,1.0s						
F46A	Macinaw City C	83.83	326	P	P	11 09 18.2	0.0
	baz=38						
C40A	Isle Royale Na	83.92	330	P	P	11 09 18.2	-0.4
	baz=35						
MVL	Millersville	84.17	318	eP	P	11 09 20.2	+0.1
	comp=Z,152nm,1.9s						
MVL	Millersville	84.17	318	eP	P	11 09 20.2	+0.1
	comp=Z,152nm,1.9s						
F45A	CMU Biological	84.22	327	P	P	11 09 20.2	0.0
	baz=38,SNR=5.6						
E43A	Lone Tree Farm	84.30	328	P	P	11 09 20.5	-0.1
	baz=37,SNR=12						
F44A	Big Bay de Noc	84.38	327	P	P	11 09 21.1	+0.1
	baz=37,SNR=22						
C39A	Grand Marais	84.38	331	P	P	11 09 20.5	-0.5
	baz=35						
D41A	Chassel	84.38	329	P	P	11 09 21.2	+0.1
	baz=36,SNR=6.4						
ULM	Lac du Bonnet	84.39	335	P	P	11 09 20.7	-0.3
	comp=Z,13nm,0.9s,baz=14,slow=3.8,SNR=7.1						
ULM	Lac du Bonnet	84.39	335	eP	P	11 09 20.8	-0.2
	comp=Z,126nm,1.8s						
ERPA	Erie	84.44	321	eP	P	11 09 21.4	0.0
	comp=Z,90nm,1.0s						
ERPA	Erie	84.44	321	eP	P	11 09 21.4	0.0
	comp=Z,90nm,1.0s						
GLMI	Grayling	84.51	326	eP	P	11 09 22.2	+0.5
	comp=Z,96nm,1.0s						
GLMI	Grayling	84.51	326	eP	P	11 09 22.2	+0.5
	comp=Z,96nm,1.0s						
E42A	Champion	84.63	329	P	P	11 09 22.2	-0.1
	baz=36,SNR=9.5						
M54A	Oil Creek Stat	84.74	321	P	P	11 09 23.1	+0.2
	baz=41						
EYMN	Ely	84.79	331	P	P	11 09 23.1	0.0
	baz=34,SNR=6.4						
EYMN	Ely	84.79	331	eP	P	11 09 23.3	+0.2
	comp=Z,67nm,1.3s						
EYMN	Ely	84.79	331	eP	P	11 09 23.3	+0.2
	comp=Z,67nm,1.3s						
F43A	Flat Rock, Esc	84.81	328	P	P	11 09 23.3	+0.1
	baz=36,SNR=14						
SDMD	Soldier's Deli	84.86	318	eP	P	11 09 23.3	-0.3
	comp=Z,26nm,1.1s						
SDMD	Soldier's Deli	84.86	318	eP	P	11 09 23.3	-0.3
	comp=Z,26nm,1.1s						
ALLY	Alegheny Colle	84.87	321	eP	P	11 09 23.4	-0.2
	comp=Z,63nm,0.9s						
ALLY	Alegheny Colle	84.87	321	eP	P	11 09 23.4	-0.2
	comp=Z,63nm,0.9s						
C38A	Sawbill Land.	84.90	331	P	P	11 09 23.1	-0.6
	baz=34						
E41A	Kenton	85.03	329	P	P	11 09 24.1	-0.2
	baz=35,SNR=11						
O56A	Blue Knob Stat	85.12	319	P	P	11 09 24.7	-0.2
	baz=42						
C37A	Embarrass	85.23	332	P	P	11 09 25.2	-0.1
	baz=33,SNR=12						
B35A	Bob, Littlefor	85.26	333	P	P	11 09 25.2	-0.2
	baz=32,SNR=6.3						
F42A	Maple Grove Fa	85.26	328	P	P	11 09 25.3	-0.2
	baz=36,SNR=5.9						
N54A	Moraine State	85.31	321	P	P	11 09 25.6	-0.3
	baz=41						
A33A	Warroad	85.35	334	P	P	11 09 25.6	-0.3
	baz=31,SNR=5.1						
E40A	Wakefield	85.42	330	P	P	11 09 26.1	-0.1
	baz=35,SNR=17						
C36A	Pine Crest Far	85.44	332	P	P	11 09 26.2	-0.2
	baz=33,SNR=12						
B34A	Aery, Baudette	85.48	333	P	P	11 09 26.1	-0.4
	baz=32,SNR=9.7						
G43A	Wallace	85.48	328	P	P	11 09 26.4	-0.2
	baz=36,SNR=5.5						
F41A	Three Lakes	85.68	329	P	P	11 09 27.5	-0.1
	baz=35,SNR=7.3						
E39A	Mellen	85.73	330	P	P	11 09 27.7	-0.1
	baz=34,SNR=14						
A32A	Rocking H Ranc	85.74	335	P	P	11 09 27.6	-0.2
	baz=30,SNR=16						
D37A	Cotton	85.80	331	P	P	11 09 27.8	-0.3
	baz=33,SNR=6.3						
G42A	Mountain	85.80	328	P	P	11 09 28.0	-0.2
	baz=36,SNR=9.6						
C35A	Jirik Farms, M	85.91	333	P	P	11 09 28.1	-0.5
	baz=32,SNR=8.6						
E38A	The Farm, Brul	85.93	331	P	P	11 09 28.5	-0.3
	baz=34,SNR=8.8						
F40A	Park Falls	85.94	329	P	P	11 09 28.4	-0.5
	baz=34,SNR=5.8						
A31A	Linda, St. Vin	85.95	335	P	P	11 09 28.6	-0.3
	baz=30						
B33A	Robert and Kas	85.99	334	P	P	11 09 28.6	-0.4
	baz=31						
CBN	Corbin Frederi	86.03	317	eP	P	11 09 28.6	-0.8
	comp=Z,25nm,0.9s						
CBN	Corbin Frederi	86.03	317	eP	P	11 09 28.6	-0.8
	comp=Z,25nm,0.9s						
AAM	Ann Arbor	86.05	324	eP	P	11 09 29.7	+0.3
AAM				pmax	pmax		
	comp=Z,36nm,1.2s						
AAM	Ann Arbor	86.05	324	eP	P	11 09 29.7	+0.3
	comp=Z,36nm,1.2s						
AAM	Ann Arbor	86.05	324	eP	P	11 09 29.7	+0.3
	comp=Z,36nm,1.2s						
D36A	Goodland	86.05	332	P	P	11 09 29.3	-0.1
	baz=32,SNR=9.3						
AGMN	Agassiz Nation	86.06	334	P	P	11 09 29.0	-0.4
	baz=31,SNR=9.4						
AGMN	Agassiz Nation	86.06	334	eP	P	11 09 29.3	-0.1
AGMN	Agassiz Nation	86.06	334	eP	P	11 09 29.3	-0.1
G41A	Antigo	86.14	329	P	P	11 09 29.1	-0.8
	baz=35						
H43A	Windswept, Lux	86.15	327	P	P	11 09 29.2	-0.8
	baz=36						
B32A	Ashes, Strandq	86.20	335	P	P	11 09 30.0	-0.1
	baz=30,SNR=26						
MCWV	Mont Chateau	86.22	320	eP	P	11 09 30.5	+0.1
	comp=Z,42nm,1.1s						
MCWV	Mont Chateau	86.22	320	eP	P	11 09 30.5	+0.1
	comp=Z,42nm,1.1s						
F39A	Loretta	86.25	330	P	P	11 09 30.2	-0.3
	baz=34,SNR=15						
C34A	RKJ Ranch, Bem	86.28	333	P	P	11 09 30.1	-0.4
	baz=31,SNR=7.0						
E37A	Wrenshall	86.28	331	P	P	11 09 30.4	-0.1
	baz=33						
CVRD	Centerville Ro	86.36	317	eP	P	11 09 30.6	-0.4
	comp=Z,77nm,1.8s						
CVRD	Centerville Ro	86.36	317	eP	P	11 09 30.6	-0.4
	comp=Z,77nm,1.8s						
H42A	Shiocton	86.44	328	P	P	11 09 31.2	-0.1
	baz=36						
D35A	Remer	86.46	332	P	P	11 09 30.9	-0.5
	baz=32,SNR=10						
C33A	Trail	86.49	334	P	P	11 09 31.1	-0.4
	baz=31,SNR=11						
IP03	Louisa	86.50	317	eP	P	11 09 31.8	0.0
	comp=Z,26nm,1.3s						
IP03	Louisa	86.50	317	eP	P	11 09 31.8	0.0
	comp=Z,26nm,1.3s						
G40A	Rib Lake	86.50	329	P	P	11 09 31.5	-0.1
	baz=34,SNR=16						
IP05	Hopewell Churc	86.51	317	eP	P	11 09 31.5	-0.3
	comp=Z,65nm,1.6s						
IP05	Hopewell Churc	86.51	317	eS	S	11 20 06.2	-0.8
IP05	Hopewell Churc	86.51	317	eP	P	11 09 31.5	-0.3
	comp=Z,65nm,1.6s						
IP05				eS	S	11 20 06.2	-0.8
B31A	Greenbush Farm	86.55	335	P	P	11 09 31.7	-0.1
	baz=29,SNR=12						
IP06	Yanceyville	86.55	317	eP	P	11 09 31.6	-0.4
	comp=Z,16nm,1.0s						
IP06	Yanceyville	86.55	317	eP	P	11 09 31.6	-0.4
	comp=Z,16nm,1.0s						
URVA	University of	86.58	317	eP	P	11 09 31.4	-0.7
URVA	University of	86.58	317	eP	P	11 09 31.4	-0.7
IP07	Quail	86.59	317	eP	P	11 09 32.0	-0.2
	comp=Z,20nm,1.1s						
IP07	Quail	86.59	317	eP	P	11 09 31.9	-0.2
	comp=Z,20nm,1.1s						
F38A	Pierce - Schro	86.59	331	P	P	11 09 32.1	0.0
	baz=33,SNR=17						
E36A	McGregor	86.64	332	P	P	11 09 32.3	-0.1
	baz=32,SNR=8.8						
JSRW	J. Sargeant Re	86.67	317	eP	P	11 09 32.3	-0.3
JSRW	J. Sargeant Re	86.67	317	eP	P	11 09 32.3	-0.3
JSRW				eS	S	11 20 05.3	-3.3
H41A	Junction City	86.82	328	P	P	11 09 32.7	-0.5
	baz=35						
D34A	Park Rapids	86.86	333	P	P	11 09 33.1	-0.3
	baz=31,SNR=6.1						
G39A	Holcombe	86.87	330	P	P	11 09 33.2	-0.3
	baz=34,SNR=15						
E35A	Pequot Lakes	87.03	332	P	P	11 09 33.8	-0.4
	baz=32,SNR=12						
D33A	AnnSam, Waubun	87.05	333	P	P	11 09 33.9	-0.4
	baz=31						
F37A	Hinrichs Farm,	87.07	331	P	P	11 09 34.2	-0.2
	baz=33,SNR=8.1						
I42A	Draeger Farm,	87.10	328	P	P	11 09 34.3	-0.3
	baz=35						
H40A	Chili	87.11	329	P	P	11 09 34.3	-0.3
	baz=34,SNR=6.0						
C31A	Landman Farms,	87.12	335	P	P	11 09 34.3	-0.3
	baz=29,SNR=12						
G38A	Ridgeland	87.24	330	P	P	11 09 34.8	-0.5
	baz=33,SNR=13						
F36A	Milaca	87.30	331	P	P	11 09 35.1	-0.4
	baz=32,SNR=9.5						
J43A	Natural Harves	87.31	327	P	P	11 09 35.0	-0.6
	baz=36						
E34A	Wadena	87.34	333	P	P	11 09 35.3	-0.4
	baz=31,SNR=6.5						
I41A	Arkdale	87.36	328	P	P	11 09 35.4	-0.5
	baz=35						
H39A	Augusta	87.42	329	P	P	11 09 35.8	-0.3
	baz=34,SNR=5.9						
SPMN	Marine on St.	87.56	331	P	P	11 09 36.5	-0.3
	baz=33,SNR=12						
SPMN	Marine on St.	87.56	331	eP	P	11 09 36.9	+0.1
	comp=Z,51nm,1.1s						
SPMN	Marine on St.	87.56	331	eP	P	11 09 36.9	+0.1
	comp=Z,51nm,1.1s						
E33A	Westby DABS, E	87.65	333	P	P	11 09 37.1	-0.1
	baz=30						
J42A	Columbus	87.66	327	P	P	11 09 36.8	-0.5
	baz=35						
MDND	Maddock	87.68	336	P	P	11 09 37.0	-0.3
	baz=28						
MDND	Maddock	87.68	336	eP	P	11 09 37.5	+0.2
	comp=Z,238nm,1.8s						
MDND	Maddock	87.68	336	eP	P	11 09 37.5	+0.2
	comp=Z,238nm,1.8s						
F35A	Swanville	87.69	332	P	P	11 09 36.9	-0.5
	baz=31						
I40A	Norwalk	87.81	329	P	P	11 09 37.5	-0.5
	baz=34						
H38A	Maiden Rock	87.82	330	P	P	11 09 37.7	-0.3
	baz=33						
G36A	St. Michael	87.91	331	P	P	11 09 38.3	-0.1
	baz=32,SNR=6.7						
F34A	Alexandria	87.99	332	P	P	11 09 38.0	-0.8
	baz=31						
J41A	Loganville	87.99	328	P	P	11 09 38.3	-0.6
	baz=34						
H37A	Dierke Farm, C	88.15	330	P	P	11 09 39.4	-0.2
	baz=32,SNR=8.1						
K42A	Prairie Point,	88.19	327	P	P	11 09 39.1	-0.8
	baz=35						
G35A	Watkins	88.20	332	P	P	11 09 39.2	-0.6
	baz=32						
I39A	Houston	88.20	329	P	P	11 09 39.4	-0.5
	baz=34						
E31A	Nome	88.25	334	P	P	11 09 39.3	-0.8
	baz=29						
J40A	Soldiers Grove	88.27	328	P	P	11 09 39.3	-0.9
	baz=34						
F33A	5 Mile Ranch,	88.32	333	P	P	11 09 40.3	-0.1
	baz=30,SNR=6.6						
I38A	Scanlan Farm,	88.37	330	P	P	11 09 40.5	-0.2
	baz=33,SNR=6.3						
L43A	Garden Prairie	88.42	327	P	P	11 09 40.3	-0.6
	baz=35						
DGMT	Dagmar	88.50	339	P	P	11 09 41.1	-0.1
	baz=25,SNR=7.9						
DGMT	Dagmar	88.50	339	eP	P	11 09 41.9	+0.7
	comp=Z,187nm,1.6s						
DGMT	Dagmar	88.50	339	eP	P	11 09 41.9	+0.7
	comp=Z,187nm,1.6s						
H36A	Jessenland, He	88.54	331	P	P	11 09 41.3	-0.1
	baz=32,SNR=7.2						
N46A	Monticello	88.57	325	P	P	11 09 40.7	-1.0
	baz=36						
F32A	Veblen	88.59	334	P	P	11 09 41.2	-0.4
	baz=30						
G34A	Benson	88.60	332	P	P	11 09 41.5	-0.2
	baz=31						
J39A	Decorah	88.71	329	P	P	11 09 41.9	-0.4
	baz=33,SNR=9.0						
K41A	Shullsburg	88.74	328	P	P	11 09 41.6	-0.8
	baz=34						
M44A	Midewin, Midew	88.76	326	P	P	11 09 41.5	-1.1
	baz=36						
H35A	Sunnyside Ranc	88.77	332	P	P	11 09 42.5	0.0
	baz=31,SNR=14						
I37A	Lemond, Waseca	88.81	330	P	P	11 09 42.7	-0.1
	baz=32,SNR=10.0						
O47A	Sheridan	88.84	324	P	P	11 09 41.8	-1.2
	baz=37						
G33A	Ortonville	88.93	333	P	P	11 09 43.1	-0.2
	baz=30,SNR=5.2						
N45A	Kentland	88.96	325	P	P	11 09 42.7	-0.8
	baz=36						
F31A	Hecla	88.99	334	P	P	11 09 42.8	-0.7
	baz=29						
K40A	Colesburg	89.01	328	P	P	11 09 42.8	-0.9
	baz=34						
J38A	Wedel Dairy, R	89.03	329	P	P	11 09 42.7	-1.1
	baz=33						
I36A	Fitzsimmons Fa	89.04	331	P	P	11 09 43.6	-0.2
	baz=32,SNR=6.4						
H34A	Spellman Lake,	89.15	332	P	P	11 09 44.0	-0.3
	baz=31,SNR=7.1						
SFIN	Lafayette	89.15	324	P	P	11 09 43.3	-1.1
	baz=36						
G32A	Webster	89.25	334	P	P	11 09 44.5	-0.4
	baz=29						
L41A	Preston	89.26	328	P	P	11 09 44.2	-0.6
	baz=34,SNR=5.1						
N44A	Piper City	89.28	325	P	P	11 09 43.7	-1.3
	baz=36						
K39A	Oelwein	89.31	329	P	P	11 09 44.2	-0.9
	baz=33,SNR=5.4						
M42A	Sheffield	89.45	327	P	P	11 09 44.8	-1.0
	baz=35						
J37A	Redenius Farm,	89.46	330	P	P	11 09 45.3	-0.5
	baz=32,SNR=7.8						
P47A	Martinsville	89.48	323	P	P	11 09 45.0	-1.0
	baz=37						
H33A	Prehn Over Nor	89.48	333	P	P	11 09 45.6	-0.3
	baz=30,SNR=5.3						
O45A	Potomac	89.54	325	P	P	11 09 45.0	-1.3
	baz=36						
L40A	Anamosa	89.57	328	P	P	11 09 45.0	-1.4
	baz=34						
K38A	Parkersburg	89.71	329	P	P	11 09 46.4	-0.6
	baz=33,SNR=5.3						
I34A	Hadley	89.72	332	P	P	11 09 45.7	-1.3
	baz=30						
J36A	Seneca 1, Swea	89.75	331	P	P	11 09 46.8	-0.4
	baz=32,SNR=17						
L39A	Vinton	89.84	328	P	P	11 09 46.6	-1.0
	baz=33						
M41A	Milan	89.85	327	P	P	11 09 46.7	-1.0
	baz=34						
H32A	Carlson Farm,	89.89	333	P	P	11 09 47.0	-0.8
	baz=29						
O44A	Mansfield	89.95	325	P	P	11 09 47.3	-0.8
	baz=35						
K37A	Belmond	89.96	330	P	P	11 09 47.8	-0.4
	baz=32,SNR=7.0						
HDIL	Hopedale	89.99	326	P	P	11 09 48.0	-0.3
	baz=35						
HDIL	Hopedale	89.99	326	eP	P	11 09 48.5	+0.2
	comp=Z,86nm,1.4s						
HDIL	Hopedale	89.99	326	eP	P	11 09 48.5	+0.2
	comp=Z,86nm,1.4s						
I33A	Coleman	90.05	332	P	P	11 09 48.2	-0.4
	baz=30						
LLLB	Lillooet	90.07	351	eP	P	11 09 48.2	-0.4
	comp=Z,67nm,1.2s						
LLLB	Lillooet	90.07	351	eP	P	11 09 48.1	-0.4
	comp=Z,67nm,1.2s						
N42A	Yates City	90.09	327	P	P	11 09 47.7	-1.1
	baz=34						
L38A	Oak Wood Farm,	90.21	329	P	P	11 09 48.4	-0.9
	baz=32,SNR=7.5						
O43A	Sugar Creek Fa	90.22	326	P	P	11 09 48.7	-0.7
	baz=35						
M40A	Post Highland	90.24	328	P	P	11 09 48.4	-1.1
	baz=34						
ECSD	EROS Data Cent	90.26	332	P	P	11 09 49.2	-0.3
	baz=30,SNR=6.6						
ECSD	EROS Data Cent	90.26	332	eP	P	11 09 49.6	0.0
	comp=Z,43nm,1.4s						
ECSD	EROS Data Cent	90.26	332	eP	P	11 09 49.6	0.0
	comp=Z,43nm,1.4s						
WALA	Waterton Lakes	90.28	345	eP	P	11 09 49.2	-0.5
	comp=Z,286nm,2.4s						
WALA	Waterton Lakes	90.28	345	eP	P	11 09 49.2	-0.5
	comp=Z,286nm,2.4s						
EGMT	Eagleton	90.35	342	P	P	11 09 49.3	-0.7
	baz=21						
EGMT	Eagleton	90.35	342	eP	P	11 09 50.3	+0.3
	comp=Z,162nm,1.9s						
EGMT	Eagleton	90.35	342	eP	P	11 09 50.3	+0.3
	comp=Z,162nm,1.9s						
K36A	Gilmore City	90.38	330	P	P	11 09 49.2	-0.9
	baz=32						
J34A	George	90.40	332	P	P	11 09 49.2	-1.0
	baz=30						
KMSC	Kings Mountain	90.42	318	P	P	11 09 49.9	-0.5
	baz=40						
KMSC	Kings Mountain	90.42	318	eP	P	11 09 49.2	-1.3
	comp=Z,12nm,0.8s						
KMSC	Kings Mountain	90.42	318	eP	P	11 09 49.2	-1.3
	comp=Z,12nm,0.8s						
M39A	Webster	90.45	328	P	P	11 09 49.2	-1.3
	baz=33						
SUSD	Miller	90.47	334	P	P	11 09 50.0	-0.5
	baz=28,SNR=11						
WCI	Wyandotte Cave	90.50	323	eP	P	11 09 50.1	-0.6
WCI				pmax	pmax		
	comp=Z,17nm,0.8s						
WCI	Wyandotte Cave	90.50	323	eP	P	11 09 50.1	-0.6
	comp=Z,17nm,0.8s						
WCI	Wyandotte Cave	90.50	323	eP	P	11 09 50.1	-0.6
	comp=Z,17nm,0.8s						
SCIA	State Center	90.51	329	eP	P	11 09 50.5	-0.3
	comp=Z,111nm,1.5s						
SCIA	State Center	90.51	329	eP	P	11 09 50.5	-0.3
	comp=Z,111nm,1.5s						
L37A	Phoenix Point,	90.55	330	P	P	11 09 50.4	-0.5
	baz=32,SNR=6.1						
P44A	Sand Creek, Wi	90.58	325	P	P	11 09 50.3	-0.8
	baz=35						
K35A	Storm Lake	90.61	331	P	P	11 09 50.3	-0.9
	baz=31						
O42A	Bath	90.63	326	P	P	11 09 50.

	comp=Z,63nm,1.1s					
OLIL	Olney	90.93	324	eP	P	11 09 52.3 -0.4
	comp=Z,63nm,1.1s					
K34A	Le Mars	90.97	331	P	P	11 09 52.0 -0.9
	baz=30					
J32A	Parkston	91.02	333	P	P	11 09 52.3 -0.8
	baz=29					
O41A	Passleys Farm,	91.04	327	P	P	11 09 52.6 -0.7
	baz=34,SNR=8.6					
JSC	Jenkinsville	91.04	317	eP	P	11 09 54.0 +0.7
JSC				pmax	pmax	
	comp=Z,21nm,1.2s					
JSC	Jenkinsville	91.04	317	eP	P	11 09 54.0 +0.7
	comp=Z,21nm,1.2s					
JSC	Jenkinsville	91.04	317	eP	P	11 09 54.0 +0.7
	comp=Z,21nm,1.2s					
N39A	Derby Farms, D	91.09	328	P	P	11 09 53.0 -0.5
	baz=33,SNR=14					
Q44A	Meyer Farm, Va	91.21	325	P	P	11 09 53.2 -0.8
	baz=35					
P42A	Winchester	91.25	326	P	P	11 09 53.1 -1.1
	baz=34					
L35A	Bielow Farm, R	91.25	331	P	P	11 09 53.6 -0.6
	baz=31,SNR=8.5					
M37A	Trindle Farm,	91.28	329	P	P	11 09 53.4 -0.9
	baz=32					
TKL	Tuckaleechee C	91.29	319	eP	P	11 09 54.6 +0.1
TKL				pmax	pmax	
	comp=Z,79nm,1.0s					
TKL	Tuckaleechee C	91.29	319	eP	P	11 09 54.6 +0.1
	comp=Z,79nm,1.0s					
TKL	Tuckaleechee C	91.29	319	eP	P	11 09 54.6 +0.1
	comp=Z,79nm,1.0s					
NHSC	New Hope	91.35	316	eP	P	11 09 55.0 +0.2
	comp=Z,88nm,1.4s					
NHSC	New Hope	91.35	316	eP	P	11 09 55.0 +0.2
	comp=Z,88nm,1.4s					
USIN	University of	91.35	323	eP	P	11 09 54.1 -0.6
	comp=Z,80nm,1.1s					
USIN	University of	91.35	323	eP	P	11 09 54.1 -0.6
	comp=Z,80nm,1.1s					
K33A	Hardington	91.38	332	P	P	11 09 54.1 -0.7
	baz=30					
J31A	Geddes	91.40	333	P	P	11 09 53.7 -1.2
	baz=28					
O40A	La Belle	91.46	327	P	P	11 09 54.3 -0.8
	baz=33					
N38A	Joes South For	91.46	329	P	P	11 09 54.1 -1.0
	baz=32					
P41A	Barry, Barry	91.48	327	P	P	11 09 54.5 -0.7
	baz=34					
Q43A	New Douglas	91.49	325	P	P	11 09 55.1 -0.2
	baz=35,SNR=6.1					
M36A	Felix, Anita	91.53	330	P	P	11 09 54.9 -0.6
	baz=31,SNR=5.5					
O39A	Kirksville	91.63	328	P	P	11 09 55.3 -0.7
	baz=33,SNR=7.5					
NEW	Newport	91.64	347	P	P	11 09 55.8 -0.1
	baz=15					
NEW	Newport	91.64	347	eP	P	11 09 56.9 +1.0
NEW				pmax	pmax	
	comp=Z,28nm,0.9s					
NEW	Newport	91.64	347	eP	P	11 09 56.9 +1.0
	comp=Z,28nm,0.9s					
NEW	Newport	91.64	347	eP	P	11 09 56.9 +1.0
	comp=Z,28nm,0.9s					
K32A	Verdigre	91.68	333	P	P	11 09 55.8 -0.4
	baz=29					
L34A	Svendsen Farm,	91.69	331	P	P	11 09 55.3 -1.0
	baz=30					
SWMT	Swartz Lake	91.77	345	eP	P	11 09 57.2 +0.5
SWMT	Swartz Lake	91.77	345	eP	P	11 09 57.2 +0.5
R44A	Waltonville	91.78	324	P	P	11 09 56.1 -0.6
	baz=35,SNR=7.9					
CPCT	Cooper Cave	91.83	320	eP	P	11 09 56.7 -0.3
	comp=Z,58nm,1.2s					
CPCT	Cooper Cave	91.83	320	eP	P	11 09 56.7 -0.3
	comp=Z,58nm,1.2s					
L33A	Hoskins	91.86	332	P	P	11 09 56.4 -0.6
	baz=30					
M35A	Neola	91.86	330	P	P	11 09 56.5 -0.6
	baz=31,SNR=5.1					
Q42A	Golden Eagle	91.88	326	P	P	11 09 56.8 -0.4
	baz=34,SNR=6.9					
N37A	Lee Faris, Mou	91.88	329	P	P	11 09 56.6 -0.6
	baz=32,SNR=8.7					
B08A	Colville Reser	91.91	349	eP	P	11 09 57.2 0.0
	comp=Z,27nm,1.4s					
B08A	Colville Reser	91.91	349	eP	P	11 09 57.2 0.0
	comp=Z,27nm,1.4s					
SLMT	Seeley Lake	91.92	344	eP	P	11 09 57.8 +0.4
SLMT	Seeley Lake	91.92	344	eP	P	11 09 57.9 +0.4
K31A	O'Neill	91.99	333	P	P	11 09 57.2 -0.4
	baz=28					
S45A	Carrier Mills	92.01	324	P	P	11 09 57.4 -0.4
	baz=35,SNR=11					
P40A	Paris	92.03	327	P	P	11 09 57.3 -0.5
	baz=33,SNR=8.2					
HRY	Holter Researc	92.06	343	eP	P	11 09 58.6 +0.6
HRY	Holter Researc	92.06	343	eP	P	11 09 58.6 +0.6
O38A	Galt	92.12	328	P	P	11 09 57.7 -0.6
	baz=32					
R43A	Red Bud	92.14	325	P	P	11 09 57.9 -0.4
	baz=34,SNR=6.9					
Q41A	Truxton	92.15	326	P	P	11 09 58.0 -0.4
	baz=34,SNR=12					
M34A	Aspy Farms, Fr	92.17	331	P	P	11 09 58.1 -0.4
	baz=30,SNR=5.3					
CHMT	Chamberlain Mo	92.18	344	eP	P	11 09 58.9 +0.2
CHMT	Chamberlain Mo	92.18	344	eP	P	11 09 58.9 +0.2
L32A	Elgin	92.27	332	P	P	11 09 58.8 -0.1
	baz=29					
S44A	Carbondale	92.31	324	P	P	11 09 58.8 -0.3
	baz=35,SNR=8.2					
M33A	Taylor Creek F	92.34	331	P	P	11 09 58.9 -0.4
	baz=30,SNR=5.8					
P39B	Salisbury	92.36	328	P	P	11 09 58.7 -0.7
	baz=33					
O37A	Wolven Farm, M	92.36	329	P	P	11 09 58.7 -0.7
	baz=32					
N35A	Tabor	92.36	330	P	P	11 09 58.9 -0.4
	baz=31					
RSSD	Black Hills	92.40	337	P	P	11 09 59.5 -0.2
	baz=25					
RSSD	Black Hills	92.40	337	eP	P	11 10 00.3 +0.6
RSSD				pmax	pmax	
	comp=Z,20nm,0.8s					
RSSD	Black Hills	92.40	337	eP	P	11 10 00.3 +0.6
	comp=Z,20nm,0.8s					
RSSD	Black Hills	92.40	337	eP	P	11 10 00.3 +0.6
	comp=Z,20nm,0.8s					
B05A	Bryant	92.40	350	P	P	11 09 58.6 -0.8
	baz=11					
MSO	Missoula	92.41	345	P	P	11 09 59.1 -0.5
	baz=17					
GCMT	Greycliff	92.42	341	eP	P	11 10 00.5 +0.8
GCMT	Greycliff	92.42	341	eP	P	11 10 00.5 +0.8
Q40A	Laux Farm, Aux	92.48	327	P	P	11 09 59.5 -0.4
	baz=33,SNR=13					
R42A	Luebbering	92.52	326	P	P	11 09 59.7 -0.4
	baz=34					
P38A	Dawn	92.57	328	P	P	11 09 59.7 -0.6
	baz=32,SNR=6.7					
N34A	Lincoln	92.72	331	P	P	11 10 00.5 -0.4
	baz=30,SNR=5.7					
SWET	Sewanee	92.72	321	eP	P	11 10 00.5 -0.7
	comp=Z,86nm,1.7s					
SWET	Sewanee	92.72	321	eP	P	11 10 00.5 -0.7
	comp=Z,86nm,1.7s					
O36A	Bolckow	92.72	329	P	P	11 09 59.9 -1.1
	baz=31					
R41A	Rosebud	92.76	326	P	P	11 10 00.6 -0.6
	baz=34,SNR=8.4					
S43A	Fulton Ridge,	92.78	325	P	P	11 10 00.8 -0.6
	baz=34,SNR=5.2					
Q39A	Willow Grove F	92.82	327	P	P	11 10 00.2 -1.3
	baz=32					
BGNE	Belgrade	92.84	332	P	P	11 10 01.3 -0.3
	baz=29,SNR=9.2					
BGNE	Belgrade	92.84	332	eP	P	11 10 01.9 +0.3
	comp=Z,107nm,1.0s					
BGNE	Belgrade	92.84	332	eP	P	11 10 01.9 +0.3
	comp=Z,107nm,1.0s					
P37A	Lathrop	92.93	329	P	P	11 10 01.3 -0.7
	baz=32					
RLMT	Red Lodge	92.94	341	P	P	11 10 02.6 +0.4
	baz=21					
RLMT	Red Lodge	92.94	341	eP	P	11 10 03.2 +1.0
	comp=Z,86nm,1.4s					
RLMT	Red Lodge	92.94	341	eP	P	11 10 03.2 +1.0
	comp=Z,86nm,1.4s					
S42A	Caledonia	92.94	325	P	P	11 10 01.4 -0.7
	baz=34,SNR=5.1					
T44A	Benton	92.96	324	P	P	11 10 01.3 -0.8
	baz=35					
O35A	Humboldt	92.98	330	P	P	11 10 01.1 -1.1
	baz=30					
BOZ	Bozeman (W)	93.07	343	P	P	11 10 02.1 -0.6
	baz=19					
R40A	Maddies Statio	93.15	327	P	P	11 10 02.3 -0.7
	baz=33,SNR=8.8					
N33A	J Bar K, Exete	93.16	331	P	P	11 10 02.5 -0.5
	baz=30					
Q38A	Cooks Store, C	93.16	328	P	P	11 10 02.2 -0.8
	baz=32,SNR=7.9					
U45A	Rockin P Farm,	93.18	323	P	P	11 10 02.0 -1.1
	baz=35					
P36A	Good Intent, A	93.25	329	P	P	11 10 03.0 -0.5
	baz=31					
T43A	Greenville	93.28	325	P	P	11 10 02.9 -0.8
	baz=34,SNR=10					
O34A	Beatrice	93.35	330	P	P	11 10 03.4 -0.5
	baz=30,SNR=6.7					
PARMO	Parma	93.38	324	eP	P	11 10 04.3 +0.2
	comp=Z,61nm,1.0s					
PARMO	Parma	93.38	324	eP	P	11 10 04.3 +0.2
	comp=Z,61nm,1.0s					
D05A	Enumclaw	93.44	350	eP	P	11 10 04.7 +0.5
	comp=Z,77nm,1.4s					
D05A	Enumclaw	93.44	350	eP	P	11 10 04.7 +0.5
	comp=Z,77nm,1.4s					
U44B	Burton Farm, H	93.46	324	P	P	11 10 03.2 -1.2
	baz=35					
R39A	Chumby, Stover	93.46	327	P	P	11 10 03.6 -0.9
	baz=32					
U44A	Portageville	93.48	324	P	P	11 10 04.1 -0.5
	baz=35					
E09A	Wood Farm, Sta	93.51	347	eP	P	11 10 05.0 +0.5
	comp=Z,32nm,1.4s					
E09A	Wood Farm, Sta	93.51	347	eP	P	11 10 05.0 +0.5
	comp=Z,32nm,1.4s					
S41A	Jillco Farms,	93.51	326	P	P	11 10 04.2 -0.5
	baz=33,SNR=9.1					
Q37A	Longview Farm,	93.58	328	P	P	11 10 03.9 -1.1
	baz=32					
PBMO	Poplar Bluff	93.59	324	eP	P	11 10 04.7 -0.4
	comp=Z,31nm,1.0s					
PBMO	Poplar Bluff	93.59	324	eP	P	11 10 04.7 -0.4
	comp=Z,31nm,1.0s					
P35A	Duane Minner,	93.65	330	P	P	11 10 04.8 -0.5
	baz=30,SNR=6.9					
V45A	Humboldt	93.76	323	P	P	11 10 04.9 -1.0
	baz=35					
O33A	Hebron	93.79	331	P	P	11 10 05.3 -0.7
	baz=29,SNR=6.0					
S40A	Lebanon	93.83	326	P	P	11 10 05.5 -0.7
	baz=33,SNR=8.1					
Q36A	Arnold C. Orve	93.92	329	P	P	11 10 05.4 -1.2
	baz=31					
U43A	Rector	93.92	324	P	P	11 10 05.9 -0.7
	baz=34					
R38A	Fenwick Farm,	93.94	328	P	P	11 10 05.7 -0.9
	baz=32,SNR=5.4					
H17A	Grant Village	93.95	342	P	P	11 10 05.5 -1.5
	baz=20					
H17A	Grant Village	93.95	342	eP	P	11 10 05.2 -1.7
	comp=Z,25nm,1.1s					
H17A	Grant Village	93.95	342	eP	P	11 10 05.2 -1.7
	comp=Z,25nm,1.1s					
P34A	Walnut Farm, R	93.95	330	P	P	11 10 06.1 -0.6
	baz=30,SNR=8.2					
PLAL	Pickwick Lake	93.95	322	eP	P	11 10 06.1 -0.7
	comp=Z,40nm,1.4s					
PLAL	Pickwick Lake	93.95	322	eP	P	11 10 06.1 -0.7
	comp=Z,40nm,1.4s					
T41A	Mountain View	93.97	326	P	P	11 10 06.1 -0.7
	baz=33,SNR=6.6					
S39A	Bolivar	94.11	327	P	P	11 10 06.4 -1.0
	baz=32,SNR=6.9					
R37A	Teagarden Farm	94.21	328	P	P	11 10 06.6 -1.3
	baz=31					
T40A	Mansfield	94.22	326	P	P	11 10 07.1 -0.8
	baz=33,SNR=5.3					
Q35A	Mercer Eighty,	94.24	329	P	P	11 10 06.9 -1.1
	baz=30					
KSU1	Kansas State U	94.25	330	P	P	11 10 07.2 -0.9
	baz=30					
E03A	Lebam	94.28	351	eP	P	11 10 08.8 +0.8
	comp=Z,42nm,0.9s					
E03A	Lebam	94.28	351	eP	P	11 10 08.8 +0.8
	comp=Z,42nm,0.9s					
U42A	Revenden	94.31	325	P	P	11 10 07.6 -0.8
	baz=34,SNR=8.0					
S38A	Stockton	94.41	327	P	P	11 10 07.9 -0.9
	baz=32,SNR=9.1					
TIGA	Tifton	94.47	317	P	P	11 10 08.5 -0.8
	baz=39					
K22A	Casper	94.48	338	P	P	11 10 08.3 -1.0
	baz=23					
K22A	Casper	94.48	338	eP	P	11 10 08.8 -0.5
	comp=Z,67nm,1.4s					
K22A	Casper	94.48	338	eP	P	11 10 08.8 -0.5
	comp=Z,67nm,1.4s					
R36A	Gordon, Harris	94.48	329	P	P	11 10 08.1 -1.0
	baz=31					
IMW	Indian Meadow	94.51	342	eP	P	11 10 11.0 +1.5
	comp=Z,84nm,1.8s					
IMW	Indian Meadow	94.51	342	eP	P	11 10 11.0 +1.5
	comp=Z,84nm,1.8s					
MOOW	Moose Ponds	94.60	341	eP	P	11 10 10.1 +0.2
	comp=Z,15nm,0.9s					
MOOW	Moose Ponds	94.60	341	eP	P	11 10 10.1 +0.2
	comp=Z,15nm,0.9s					
U41A	Viola	94.62	325	P	P	11 10 08.2 -1.7
	baz=33					
S37A	Fort Scott	94.68	328	P	P	11 10 08.6 -1.5
	baz=31					
LOHW	Long Hollow	94.69	341	eP	P	11 10 09.3 -1.0
	comp=Z,54nm,1.8s					
LOHW	Long Hollow	94.69	341	eP	P	11 10 09.3 -1.0
	comp=Z,54nm,1.8s					
T39A	Clever	94.69	327	P	P	11 10 08.8 -1.3
	baz=32					
Y47A	UCPARC, Winfie	94.72	321	P	P	11 10 09.3 -1.0
	baz=36,SNR=6.9					
FXWY	Fox Creek	94.77	342	eP	P	11 10 11.9 +1.2
	comp=Z,20nm,1.1s					
FXWY	Fox Creek	94.77	342	eP	P	11 10 11.9 +1.2
	comp=Z,20nm,1.1s					
V42A	Cord	94.83	325	P	P	11 10 09.9 -0.9
	baz=34					
SNOW	Snow King Moun	94.87	341	eP	P	11 10 12.6 +1.4
	comp=Z,30nm,1.0s					
SNOW	Snow King Moun	94.87	341	eP	P	11 10 12.6 +1.4
	comp=Z,30nm,1.0s					
TPAW	Teton Pass	94.89	342	eP	P	11 10 12.6 +1.3
	comp=Z,38nm,1.0s					
TPAW	Teton Pass	94.89	342	eP	P	11 10 12.6 +1.3
	comp=Z,38nm,1.0s					
BMO	Blue Mountains	94.97	346	eP	P	11 10 10.6 -0.8
BMO				pmax	pmax	
	comp=Z,24nm,1.6s					
BMO	Blue Mountains	94.97	346	eP	P	11 10 10.6 -0.8
	comp=Z,24nm,1.6s					
BMO	Blue Mountains	94.97	346	eP	P	11 10 10.6 -0.8
	comp=Z,24nm,1.6s					
OXF	Oxford	94.98	323	eP	P	11 10 10.6 -0.9
OXF				pmax	pmax	
	comp=Z,55nm,1.3s					
OXF	Oxford	94.98	323	eP	P	11 10 10.6 -0.9
	comp=Z,55nm,1.3s					
OXF	Oxford	94.98	323	eP	P	11 10 10.6 -0.9
	comp=Z,55nm,1.3s					
REDW	Red Top Meadow	94.99	341	eP	P	11 10 12.7 +1.0
	comp=Z,50nm,1.0s					
REDW	Red Top Meadow	94.99	341	eP	P	11 10 12.7 +1.0
	comp=Z,50nm,1.0s					
LRAL	Lakeview Retre	94.99	320	eP	P	11 10 10.8 -0.8
	comp=Z,65nm,1.5s					
LRAL	Lakeview Retre	94.99	320	eP	P	11 10 10.8 -0.8
	comp=Z,65nm,1.5s					
Z48A	Northport	94.99	321	P	P	11 10 10.2 -1.3
	baz=36					
U40A	Yellville	95.03	326	P	P	11 10 10.3 -1.4
	baz=33					
S36A	Lake Cedric, C	95.03	328	P	P	11 10 10.5 -1.1
	baz=31,SNR=5.6					
X45A	UM Field Stati	95.04	322	P	P	11 10 10.4 -1.4
	baz=35					
T38A	Diamond	95.08	327	P	P	11 10 10.8 -1.1
	baz=32,SNR=5.4					
V41A	Mountainview	95.19	325	P	P	11 10 11.4 -1.1
	baz=33					
R34A	Isabella, Hill	95.20	330	P	P	11 10 11.7 -0.7
	baz=30					
BW06	Boulder Array	95.21	340	P	P	11 10 11.6 -1.1
	baz=21					
PDAR	Pinedale Array	95.21	340	P	P	11 10 12.5 -0.2
	comp=Z,3.7nm,1.0s,baz=0.0,slow=1.5,SNR=7.2					
Y46A	Houston	95.22	322	P	P	11 10 11.2 -1.3
	baz=35,SNR=11					
T37A	Cheneyville 18	95.26	328	P	P	11 10 11.2 -1.5
	baz=31					
U39A	Green Forest	95.28	326	P	P	11 10 11.4 -1.4
	baz=32					
X44A	Crenshaw	95.33	323	P	P	11 10 12.1 -1.0
	baz=34					
S35A	Otter Creek Ra	95.36	329	P	P	11 10 12.3 -0.9
	baz=30					
Z47A	Carrollton	95.39	321	P	P	11 10 12.3 -1.1
	baz=36					
PHWY	Pilot Hill	95.40	337	eP	P	11 10 13.1 -0.5
	comp=Z,22nm,1.3s					
PHWY	Pilot Hill	95.40	337	eP	P	11 10 13.2 -0.5
	comp=Z,22nm,1.3s					
Y45A	Yeager Farm, C	95.57	322	P	P	11 10 13.1 -1.1
	baz=35					
U38A	Gravette	95.62	327	P	P	11 10 13.2 -1.2
	baz=32,SNR=6.0					
HLID	Hailey	95.63	344	P	P	11 10 13.8 -0.8
	baz=17					
CBKS	Cedar Bluff	95.70	332	P	P	11 10 13.6 -1.1
	baz=28					
CBKS	Cedar Bluff	95.70	332	eP	P	11 10 14.9 +0.2
CBKS				pmax	pmax	
	comp=Z,75nm,1.3s					
CBKS	Cedar Bluff	95.70	332	eP	P	11 10 14.9 +0.2
	comp=Z,75nm,1.3s					
CBKS	Cedar Bluff	95.70	332	eP	P	11 10 14.9 +0.2
	comp=Z,75nm,1.3s					
T36A	Boggs Farm, Ca	95.72	328	P	P	11 10 13.6 -1.2
	baz=31					
W41B	Gary Mavity, V	95.75	325	P	P	11 10 13.8 -1.1
	baz=33					
V39A	Pettigrew	95.81	326	P	P	11 10 13.5 -1.8
	baz=32					
Z46A	Louisville	95.82	321	P	P	11 10 14.2 -1.2
	baz=35					
147A	Livingston	95.91	321	P	P	11 10 14.9 -0.9
	baz=36					
N23A	Red Feather La	95.92	337	P	P	11 10 15.4 -0.6
	baz=24					
U37A	Salina	95.96	327	P	P	11 10 14.8 -1.1
	baz=31					
Z45A	Winona	96.04	322	P	P	11 10 14.8 -1.6
	baz=35					
MFID	Camas Ranch	96.06	345	eP	P	11 10 17.1 +0.6
	comp=Z,18nm,1.1s					
MFID	Camas Ranch	96.06	345	eP	P	11 10 17.1 +0.6
	comp=Z,18nm,1.1s					
T35A	Sooner Cattle	96.10	329	P	P	11 10 15.5 -1.1
	baz=30					
248A	Dixon Mills	96.11	320	P	P	11 10 16.5 -0.2
	baz=36,SNR=5.3					
V38A	Canehill	96.12	327	P	P	11 10 15.1 -1.5
	baz=32					
U36A	Oologah	96.23	328	P	P	11 10 15.9 -1.2
	baz=31					
T34A	McClaskey Farm	96.28	329	P	P	11 10 17.3 -0.1
	baz=30,SNR=6.4					
146A	Union	96.33	321	P	P	11 10 17.3 -0.4
	baz=35,SNR=6.8					
V37A	Hulbert	96.41	327	P	P	11 10 16.8 -1.2
	baz=31					
Z44A	Pea Ridge, Bel	96.47	322	P	P	11 10 17.5 -0.7
	baz=34					
KSCO	Kaye Shedlock'	96.55	334	P	P	11 10 17.6 -1.2
	baz=26					
247A	Quitman	96.58	321	P	P	11 10 18.7 -0.1
	baz=36,SNR=5.2					
U35A	Pawnee	96.66	329	P	P	11 10 18.8 -0.3
	baz=30					
TUL1	Leonard	96.66	328	P	P	11 10 18.9 -0.3
	baz=31,SNR=5.8					
TUL1	Leonard	96.66	328	eP	P	11 10 18.8 -0.3
	comp=Z,57nm,1.4s					
TUL1	Leonard	96.66	328	eP	P	11 10 18.8 -0.3
	comp=Z,57nm,1.4s					
348A	Jackson	96.74	320	P	P	11 10 19.5 -0.1
	baz=36,SNR=6.1					
145A	Houston Renfro	96.78	322	P	P	11 10 18.3 -1.4
	baz=35					
HWUT	Hardware Ranch	96.82	341	eP	P	11 10 20.4 +0.4
	comp=Z,56nm,1.8s					
HWUT	Hardware Ranch	96.82	341	eP	P	11 10 20.4 +0.4
	comp=Z,56nm,1.8s					
V36A	Jenks	96.83	328	P	P	11 10 18.7 -1.2
	baz=31					
MIAR	Mount Ida	96.87	325	P	P	11 10 19.3 -0.8
	baz=32					
347A	Saraland	97.08	320	P	Pdif	11 10 21.3 +0.2
	baz=36,SNR=6.3					
X39A	Fountain Ranch	97.13	326	P	P	11 10 20.3 -1.0
	baz=32					
J05D	Fort Rock, OR	97.16	349	P	P	11 10 20.8 -0.6
	baz=12					
W37B	Quinton	97.17	327	P	P	11 10 20.1 -1.3
	baz=31					
Y40A	Okolona	97.18	325	P	P	11 10 20.2 -1.3
	baz=32					
Z42A	Norrel Spur, H	97.19	324	P	P	11 10 20.3 -1.2
	baz=34					
V35A	Meyer Ranch, C	97.22	328	P	P	11 10 20.0 -1.7
	baz=30					
245A	Little AP, Sta	97.23	321	P	P	11 10 20.7 -1.1
	baz=35					
X38A	Whitesboro	97.31	326	P	P	11 10 21.0 -1.1
	baz=32					
J04D	Umpqua Nationa	97.33	349	P	P	11 10 20.8 -1.5
	baz=11					
W36A	Wetumka	97.50	328	P	P	11 10 21.1 -1.9
	baz=31					
U32A	Winter Ranch,	97.55	330	P	P	11 10 21.7 -1.5
	baz=29					
244A	Avery, Jackson	97.61	322	P	P	11 10 22.7 -0.8
	baz=34					
X37A	Clayton	97.61	327	P	P	11 10 22.5 -0.9
	baz=31					
Y38A	Idabel	97.90	326	P	P	11 10 23.4 -1.3
	baz=32					
344A	Westbrook Farm	98.11	322	P	P	11 10 24.9 -0.8
	baz=34					
DUG	Dugway, Tooele	98.46	342	P	P	11 10 26.4 -0.9
	baz=18					
DUG	Dugway, Tooele	98.46	342	P	P	11 10 27.0 -0.3
DUG	Dugway, Tooele	98.46	342	P	P	11 10 27.0 -0.3
WRA	Warramunga Arr	102.95	105	Pdiff	Pdif	11 10 50.8 +3.4
	comp=Z,1.4nm,0.9s,baz=311,slow=4.2,SNR=4.5					
ASAR	Alice Springs	104.83	108	Pdiff	Pdif	11 10 56.4 +0.7
	comp=Z,1.3nm,1.0s,baz=319,slow=3.7,SNR=3.3					
SWSC	Sam W. Stewart	106.08	342	P	Pdif	11 11 05.3 +4.1
	baz=17					
214A	Organ Pipe Nat	106.24	339	P	Pdif	11 11 05.6 +3.6
	baz=19					
MONP2	Monument Peak	106.28	342	P	Pdif	11 11 05.9 +3.6
	baz=16					
STKA	Stephens Creek	115.03	112	PKP	PKPdf	11 15 31.1 +1.3
	comp=Z,2.0nm,0.8s,baz=0.0,slow=5.1,SNR=3.2					
PLCA	Paso Flores	130.23	246	PKP	PKPdf	11 15 59.2 +0.5
	comp=Z,8.3nm,1.0s,baz=114,slow=7.1,SNR=5.3					
VNDA	Vanda	133.60	165	PKP	PKPdf	11 16 04.0 +0.1
	comp=Z,0.9nm,1.1s,baz=296,slow=3.0,SNR=2.3					
BKZ	Black Stump Fm	143.89	106	ePKPpre	PKPpre	11 16 21.4
BFZ	Birch Farm	144.06	108	ePKPdf	PKPab	11 16 21.4 -0.3
URZ	Urewera	144.12	104	PKhKP	PKPpre	11 16 19.5
	comp=Z,44nm,0.9s,baz=6.9,slow=3.3,SNR=30					

*AZER **23** 11:00:10.9s3.9,38°.05Nx43°.53E,h8km, Error ellipse: s-maj=41.3km s-min=24.4km az=62.0*
*IDC **23** 11:00:11.3s0.8,38°.63Nx43°.36E,h0km,mb4.5/13, mb1 4.5/14,mb1mx4.3/43,mbtmp4.5/14,ML3.8/1,Error ellipse: s-maj=18.1km s-min=12.1km az=140.0*

*NEIC **23** 11:00:14.3±0.4, 38°.59N×43°.52E, h10km, mb4.6/4, Error ellipse: s-maj=7.6km s-min=5.7km az=188.0*
*CSEM **23** 11:00:14.0±0.2, 38°.48N×43°.49E, h10km, ML4.9, Error ellipse: s-maj=8.7km s-min=5.3km az=168.0*
*TEH **23** 11:00:14.1, 38°.99N×43°.45E, h18km, ML4.9*
*ISCJB **23** 11:00:15.0±0.3, 38°.59N±0°.03×43°.61E±0°.03, h10km, mb4.6/18, Error ellipse: s-maj=4.1km s-min=2.9km az=173.7*
ISC 23 11:00:14.1±1.0, **38°.67N**±0°.02×**43°.52E**±0°.02, **h11**km±7km, **n185**, σ**2**§**15**/200, **mb4.7**/30, **9C-19D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.33**	**8**	*i* P	**Pg**	**11 00 19.1**	**-1.7**
VMUR				*i* S	**Sg**	**11 00 24.7**	**-0.5**
GEVA	**Gevas**	**0.51**	**226**	*i* P	**Pg**	**11 00 23.7**	**-0.3**
GEVA				*i* S	**Sb**	**11 00 32.8**	**+0.3**
GEVA	**Gevas**	**0.51**	**226**	*e*Pg	**Pg**	**11 00 23.9**	**-0.1**
GEVA				*e*Sg	**Sn**	**11 00 35.1**	**-1.1**
GEVA	**Gevas**	**0.51**	**226**	*e*Pg	**Pg**	**11 00 23.9**	**-0.1**
GEVA				*e*Sg	**Sn**	**11 00 35.1**	**-1.1**
BASK	**Baskale_VAN**	**0.72**	**148**	*i* P	**Pg**	**11 00 26.1**	**-2.1**
BASK				*i* S	**Sg**	**11 00 37.4**	**-0.3**
DYDN	**Diyadin**	**0.89**	**9**	*i* P	**Pg**	**11 00 28.7**	**-2.5**
CUKT	**Cukurca**	**1.42**	**177**	*i* P	**Pg**	**11 00 42.2**	**+0.8**
CUKT	**Cukurca**	**1.42**	**177**	P	**Pg**	**11 00 44.3**	**+2.9**
CUKT	**Cukurca**	**1.42**	**177**	P	**Pg**	**11 00 44.3**	**+2.9**
EATA	**Eleskirt**	**1.43**	**327**	*i* P	**Pn**	**11 00 40.7**	**+0.3**
EATA	**Eleskirt**	**1.43**	**327**	P	**Pb**	**11 00 41.1**	**+0.1**
EATA	**Eleskirt**	**1.43**	**327**	P	**Pb**	**11 00 41.1**	**+0.1**
SIRN	**S¨–rnak**	**1.46**	**217**	*i* P	**Pg**	**11 00 41.9**	**-0.2**
SIRN	**S¨–rnak**	**1.46**	**217**	P	**Pn**	**11 00 39.4**	**-1.0**
SIRN	**S¨–rnak**	**1.46**	**217**	P	**Pn**	**11 00 39.4**	**-1.0**
NAX	**Nakhchivan**	**1.62**	**71**	⇑P	**Pb**	**11 00 44.5**	**+0.3**
NAX				⇑S	**Sg**	**11 01 07.0**	**+0.6**
NAX	**Nakhchivan**	**1.62**	**71**	P	**Pb**	**11 00 44.5**	**+0.3**
NAX				S	**Sg**	**11 01 07.0**	**+0.6**
VRTB	**Varto-Mus**	**1.68**	**288**	*i* P	**Pb**	**11 00 45.4**	**+0.3**
VRTB	**Varto-Mus**	**1.68**	**288**	P	**Pb**	**11 00 44.8**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**288**	P	**Pb**	**11 00 44.8**	**-0.3**
ISHB	**Shabestar**	**1.69**	**102**	*e*Pn	**Pn**	**11 00 44.1**	**+0.3**
ISHB				*e*AMB	AMB	11 00 50.0	
	comp=Z,99μm,0.2s						
ISHB	**Shabestar**	**1.69**	**102**	Pn	**Pn**	**11 00 44.1**	**+0.3**
ISHB	**Shabestar**	**1.69**	**102**	Pn	**Pn**	**11 00 44.1**	**+0.3**
IMRD	**Marand**	**1.71**	**88**	*e*Pn	**Pn**	**11 00 44.7**	**+0.7**
IMRD				*e*Sg	**Sg**	**11 01 09.9**	**+0.7**
IMRD				*e*AMB	AMB	11 01 14.3	
	comp=Z,18μm,0.4s						
IMRD	**Marand**	**1.71**	**88**	*e*Pn	**Pn**	**11 00 44.7**	**+0.7**
IMRD				*e*Sg	**Sg**	**11 01 09.9**	**+0.7**
IMRD	**Marand**	**1.71**	**88**	Pn	**Pn**	**11 00 44.6**	**+0.6**
IMRD				Sg	**Sg**	**11 01 09.8**	**+0.6**
DIGO	**Kars**	**1.75**	**356**	P	**Pb**	**11 00 46.3**	**-0.1**
DIGO	**Kars**	**1.75**	**356**	P	**Pb**	**11 00 46.3**	**-0.1**
GNI	**Garni**	**1.76**	**32**	Pn	**Pb**	**11 00 46.1**	**-0.4**
	comp=Z,179nm,0.3s,baz=336,slow=12,SNR=7.9						
GNI				Lg	Lg	11 01 10.5	
	comp=Z,1μm,0.3s,baz=3.4,slow=5.4,SNR=12						
GNI	**Garni**	**1.76**	**32**	*e*Pn	**Pn**	**11 00 45.1**	**+0.4**
GNI				*e*Sn	**Sn**	**11 01 06.5**	**-0.6**
GNI	**Garni**	**1.76**	**32**	*e*Pn	**Pn**	**11 00 45.1**	**+0.4**
GNI				*e*Sn	**Sn**	**11 01 06.5**	**-0.6**
HOMI	**Horasan**	**1.86**	**318**	*i* P	**Pb**	**11 00 47.6**	**-0.6**
HOMI	**Horasan**	**1.86**	**318**	P	**Pb**	**11 00 48.2**	**0.0**
HOMI	**Horasan**	**1.86**	**318**	P	**Pb**	**11 00 48.2**	**0.0**
BNGL	**BINGOL**	**1.87**	**279**	*i* P	**Pb**	**11 00 48.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	*i* P	**Pn**	**11 00 47.6**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	P	**Pg**	**11 00 50.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	P	**Pg**	**11 00 50.2**	**-0.2**
BTMN	**Batman**	**1.93**	**247**	*i* P	**Pb**	**11 00 49.0**	**-0.3**
ITBZ	**Tabriz**	**2.11**	**101**	*e*Pn	**Pn**	**11 00 49.8**	**+0.2**
ITBZ				*e*AMB	AMB	11 01 56.0	
	comp=Z,61μm,0.6s						
ITBZ	**Tabriz**	**2.11**	**101**	*e*Pn	**Pn**	**11 00 49.8**	**+0.2**
ITBZ	**Tabriz**	**2.11**	**101**	Pn	**Pn**	**11 00 49.7**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.19**	**296**	*i* P	**Pg**	**11 00 55.2**	**-0.9**
ECAT	**Cat-ERZURUM**	**2.19**	**296**	P	**Pg**	**11 00 55.2**	**-0.9**
MARD	**Mardin**	**2.55**	**239**	*i* P	**Pn**	**11 00 57.6**	**+2.1**
DDEM	**Demirkent**	**2.61**	**329**	*i* P	**Pb**	**11 01 01.4**	**+0.6**
GDB	**GEDABAY**	**2.68**	**39**	⇓P	**Pb**	**11 01 02.6**	**+0.4**
GDB	**GEDABAY**	**2.68**	**39**	P	**Pb**	**11 01 02.6**	**+0.4**
KOPT	**Kop Dagi**	**2.70**	**301**	*i* P	**Pb**	**11 01 03.7**	**+1.1**
KOPT	**Kop Dagi**	**2.70**	**301**	P	**Pg**	**11 01 05.9**	**0.0**
KOPT	**Kop Dagi**	**2.70**	**301**	P	**Pg**	**11 01 05.9**	**0.0**
AKH	**Akhalkalaki**	**2.74**	**360**	P	**Pb**	**11 01 04.5**	**+1.2**
AKH	**Akhalkalaki**	**2.74**	**360**	P	**Pb**	**11 01 04.4**	**+1.2**
AKH	**Akhalkalaki**	**2.74**	**360**	P	**Pb**	**11 01 04.4**	**+1.2**
QZX	**Qazax, Azerbai**	**2.78**	**30**	⇓P	**Pb**	**11 01 02.7**	**-1.2**
QZX				⇑S	**Sg**	**11 01 44.9**	**+1.4**
QZX	**Qazax, Azerbai**	**2.78**	**30**	P	**Pb**	**11 01 02.7**	**-1.2**
QZX				S	**Sg**	**11 01 44.9**	**+1.4**
IHRS	**Heris**	**2.79**	**96**	*e*Pn	**Pn**	**11 00 59.8**	**+0.8**
IHRS				*e*AMB	AMB	11 01 30.7	
	comp=Z,48μm,0.4s						
IHRS	**Heris**	**2.79**	**96**	Pn	**Pn**	**11 00 59.7**	**+0.8**
IHRS	**Heris**	**2.79**	**96**	Pn	**Pn**	**11 00 59.7**	**+0.8**
ARTV	**Artvin**	**2.79**	**335**	*i* P	**Pb**	**11 01 03.1**	**-1.1**
ARTV	**Artvin**	**2.79**	**335**	P	**Pb**	**11 01 03.0**	**-1.2**
ARTV	**Artvin**	**2.79**	**335**	P	**Pb**	**11 01 03.0**	**-1.2**
KZR	**Kazreti**	**2.80**	**14**	P	**Pb**	**11 01 04.2**	**+0.1**
IBST	**Bostanabad**	**2.83**	**109**	*e*Pn	**Pn**	**11 01 00.5**	**+1.0**
IBST				*e*AMB	AMB	11 01 49.2	
	comp=Z,12μm,0.3s						
IBST	**Bostanabad**	**2.83**	**109**	Pn	**Pn**	**11 01 00.4**	**+1.0**
IBST	**Bostanabad**	**2.83**	**109**	Pn	**Pn**	**11 01 00.4**	**+1.0**
GANJ	**Ganja**	**2.93**	**47**	⇓P	**Pn**	**11 01 02.5**	**+1.8**
GANJ				⇓S	**Sg**	**11 01 48.4**	**+0.1**
GANJ	**Ganja**	**2.93**	**47**	P	**Pn**	**11 01 02.5**	**+1.8**
GANJ				S	**Sg**	**11 01 48.4**	**+0.1**
DBOC	**Borcka**	**3.03**	**333**	*i* P	**Pb**	**11 01 08.1**	**0.0**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pb**	**11 01 11.0**	**+1.3**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pb**	**11 01 11.0**	**+1.3**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pb**	**11 01 11.0**	**+1.3**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**11 01 09.9**	**-1.0**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**11 01 10.1**	**-0.9**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**11 01 10.1**	**-0.9**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**11 01 11.0**	**0.0**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**11 01 11.0**	**0.0**
SEAG	**Tbilisi Sea**	**3.25**	**17**	P	**Pb**	**11 01 11.6**	**-0.2**
BRDA	**Brd**	**3.25**	**60**	⇓P	**Pn**	**11 01 06.6**	**+1.5**
BRDA	**Brd**	**3.25**	**60**	P	**Pn**	**11 01 06.6**	**+1.5**
ISRB	**Sarab**	**3.37**	**103**	*e*AMB	AMB	11 01 46.0	
	comp=Z,19μm,0.3s						
ISRB				*e*Pn	**Pn**	**11 01 07.6**	**+0.7**
EZC	**Erzincan**	**3.41**	**290**	*e*Pn	**Pb**	**11 01 13.7**	**-0.9**
MNGR	**Mingechevir, A**	**3.46**	**51**	⇑P	**Pn**	**11 01 10.7**	**+2.7**
MNGR	**Mingechevir, A**	**3.46**	**51**	P	**Pn**	**11 01 10.6**	**+2.7**
ZRD	**Zardab**	**3.60**	**62**	⇓P	**Pn**	**11 01 11.3**	**+1.4**
ZRD	**Zardab**	**3.60**	**62**	P	**Pn**	**11 01 11.3**	**+1.4**
MACK	**Trabzon**	**3.67**	**309**	*i* P	**Pb**	**11 01 20.5**	**+1.5**
LRK	**Lerik**	**3.78**	**89**	⇑P	**Pn**	**11 01 09.2**	**-3.2**
LRK	**Lerik**	**3.78**	**89**	P	**Pn**	**11 01 09.2**	**-3.2**
SEKA	**Sheki**	**3.80**	**47**	⇓P	**Pn**	**11 01 16.1**	**+3.4**
SEKA	**Sheki**	**3.80**	**47**	P	**Pn**	**11 01 16.1**	**+3.4**
ZKTA	**Zakatala**	**3.80**	**38**	⇓P	**Pb**	**11 01 17.6**	**-3.7**
GLBA	**Cilalbad**	**3.84**	**80**	⇓P	**Pn**	**11 01 12.1**	**-1.1**
GLBA	**Cilalbad**	**3.84**	**80**	P	**Pn**	**11 01 12.1**	**-1.1**
ONI	**Oni**	**3.92**	**359**	P	**Pb**	**11 01 19.7**	**-3.5**
ONI	**Oni**	**3.92**	**359**	P	**Pb**	**11 01 25.1**	**+1.8**
QBL	**Gabala**	**4.03**	**54**	⇓P	**Pn**	**11 01 20.2**	**+4.4**
QBL	**Gabala**	**4.03**	**54**	P	**Pn**	**11 01 20.2**	**+4.4**
LKRN	**Lenkeran, Azer**	**4.12**	**88**	⇑P	**Pn**	**11 01 14.6**	**-2.3**
LKRN	**Lenkeran, Azer**	**4.12**	**88**	P	**Pn**	**11 01 14.6**	**-2.3**
ZEI	**Tsey**	**4.13**	**4**	*e*P	**Pb**	**11 01 28.2**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,320nm,0.9s						
ASTR	**Astara**	**4.13**	**90**	⇓P	**Pn**	**11 01 14.2**	**-3.0**
ASTR	**Astara**	**4.13**	**90**	P	**Pn**	**11 01 14.2**	**-3.0**
IML	**Ismayilli**	**4.18**	**58**	⇓P	**Pn**	**11 01 20.5**	**+2.7**
IML	**Ismayilli**	**4.18**	**58**	P	**Pn**	**11 01 20.5**	**+2.7**
XNQ	**Khinaliq**	**4.35**	**53**	⇓P	**Pn**	**11 01 23.2**	**+2.9**
XNQ	**Khinaliq**	**4.35**	**53**	P	**Pn**	**11 01 23.2**	**+2.9**
ALIB	**Äli-Bayra**	**4.45**	**71**	⇓P	**Pn**	**11 01 21.5**	**0.0**
ALIB	**Äli-Bayra**	**4.45**	**71**	P	**Pn**	**11 01 21.5**	**0.0**
PQL	**Pirkuli**	**4.45**	**60**	⇓P	**Pn**	**11 01 23.1**	**+1.4**
PQL	**Pirkuli**	**4.45**	**60**	P	**Pn**	**11 01 23.1**	**+1.4**
IDHR	**Dehrash**	**4.58**	**149**	*e*Pn	**Pn**	**11 01 26.6**	**+3.1**
IDHR				*e*AMB	AMB	11 02 15.7	
	comp=Z,7μm,0.4s						
IDHR	**Dehrash**	**4.58**	**149**	Pn	**Pn**	**11 01 26.6**	**+3.1**
IDHR	**Dehrash**	**4.58**	**149**	Pn	**Pn**	**11 01 26.6**	**+3.1**
GBS	**Qobustan**	**4.59**	**64**	⇓P	**Pn**	**11 01 24.4**	**+0.9**
GBS	**Qobustan**	**4.59**	**64**	P	**Pn**	**11 01 24.4**	**+0.9**
NEY	**Neytrino**	**4.62**	**353**	⇓*e*P	**Pg**	**11 01 44.1**	**+1.6**
NEY	**Neytrino**	**4.62**	**353**	*e*P	**Pg**	**11 01 44.1**	**+1.6**
QSAR	**Qusar**	**4.62**	**51**	⇑P	**Pn**	**11 01 26.5**	**+2.6**
QSAR	**Qusar**	**4.62**	**51**	P	**Pn**	**11 01 26.5**	**+2.6**
QUBA	**Quba, Azerbaij**	**4.67**	**53**	⇑P	**Pn**	**11 01 26.9**	**+2.3**
QUBA	**Quba, Azerbaij**	**4.67**	**53**	P	**Pn**	**11 01 26.9**	**+2.3**
ATGJ	**Altiaghaj**	**4.72**	**61**	⇓P	**Pn**	**11 01 26.3**	**+1.0**
ATGJ	**Altiaghaj**	**4.72**	**61**	P	**Pn**	**11 01 26.3**	**+1.0**
SIZA	**Siyzn**	**4.79**	**58**	⇓P	**Pn**	**11 01 27.3**	**+1.1**
SIZA	**Siyzn**	**4.79**	**58**	P	**Pn**	**11 01 27.3**	**+1.1**
GOBA	**Gobu**	**5.11**	**68**	⇑P	**Pn**	**11 01 31.6**	**+1.0**
GOBA	**Gobu**	**5.11**	**68**	P	**Pn**	**11 01 31.6**	**+1.0**
GEYT	**Alibeck**	**11.50**	**89**	Pn	Pn	11 03 04.0	+5.7
	comp=Z,0.6nm,0.3s,baz=294,slow=14,SNR=2.9						
AKASG	**Malin Array Be**	**15.71**	**325**	Pn	**Pn**	**11 03 51.7**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=142,slow=11,SNR=2.3						
ABKAR	**Akbulak array**	**15.84**	**43**	*e*P	**P**	**11 04 01.4**	**+0.7**
	comp=Z,31nm,0.8s						
ABKAR	**Akbulak array**	**15.84**	**43**	*e*P	**P**	**11 04 01.4**	**+0.7**
	comp=Z,31nm,0.8s						
ARU	**Arti**	**20.39**	**24**	P	**P**	**11 04 51.5**	**+0.8**
	comp=Z,13nm,0.8s,baz=146,slow=18,SNR=1.7						
KKAR	**Karatay Array**	**20.85**	**69**	*e*P	**P**	**11 04 56.7**	**+0.9**
	comp=Z,25nm,0.8s						
KKAR	**Karatay Array**	**20.85**	**69**	*e*P	**P**	**11 04 56.7**	**+0.9**
	comp=Z,25nm,0.8s						
OKC	**Ostrava-Krasne**	**21.22**	**310**	*e*P	**P**	**11 05 05.1**	**+5.3**
OKC				*ex*	x	11 05 18.3	
SVE	**Sverdlovsk**	**21.40**	**26**	*e*P	**P**	**11 05 08.0**	**+6.4**
SVE				pmax	pmax		
	comp=Z,191nm,1.4s						
CUC	**Castrococco**	**21.44**	**282**	*e*P	**P**	**11 05 02.8**	**+0.5**
	comp=Z,19nm,1.0s						
CUC	Castrococco	21.44	282	*e*P	P	11 05 02.8	+0.5
	comp=Z,19nm,1.0s						
CONA	**Conrad Observa**	**22.05**	**304**	*i* pP	**P**	**11 05 11.7**	**+2.9**
	comp=Z,46nm,1.3s						
SOKA	**Soboth**	**22.33**	**300**	*i* pP	**P**	**11 05 15.1**	**+3.3**
	comp=Z,36nm,1.8s						
DPC	**Dobruska-Polom**	**22.50**	**310**	*e*P	**P**	**11 05 18.7**	**+5.1**
OBKA	**Obir**	**22.63**	**300**	*i* pP	**P**	**11 05 17.6**	**+2.6**
	comp=Z,33nm,1.3s						
TREC	**Trest**	**22.67**	**307**	*e*P	**P**	**11 05 21.6**	**+6.3**
TREC	**Trest**	**22.67**	**307**	*e*P	**P**	**11 05 21.6**	**+6.3**
UPC	**Upice**	**22.75**	**310**	*e*P	**P**	**11 05 17.9**	**+1.8**
MOA	**Molln**	**23.08**	**303**	*i* pP	**P**	**11 05 25.5**	**+5.9**
	comp=Z,30nm,1.2s						
AQU	**L'Aquila**	**23.13**	**289**	*e*P	**P**	**11 05 20.4**	**+0.1**
AQU	**L'Aquila**	**23.13**	**289**	*e*P	**P**	**11 05 20.4**	**+0.1**
MYKA	**Terra Mystica**	**23.27**	**300**	*i* pP	**P**	**11 05 28.2**	**+6.7**
	comp=Z,14nm,1.3s						
GOPC	**GO Pecny, Ondr**	**23.29**	**308**	*e*P	**P**	**11 05 27.5**	**+5.7**
GOPC				*ex*	x	11 05 36.6	
BVAR	**Borovoye Array**	**23.41**	**43**	P	**P**	**11 05 24.2**	**+1.3**
	comp=Z,6.6nm,0.8s,baz=227,slow=9.7,SNR=3.5						
KBA	**Koelnbreinsper**	**23.54**	**301**	*i* pP	**P**	**11 05 29.6**	**+5.1**
	comp=Z,39nm,1.0s						
PVCC	**Panska Ves**	**23.62**	**310**	*e*P	**P**	**11 05 30.0**	**+5.0**
GERES	**GERESS Array B**	**23.68**	**305**	P	**P**	**11 05 26.7**	**+1.0**
	comp=Z,7.2nm,1.0s,baz=104,slow=8.2,SNR=5.0						
KHC	**Kasperske Hory**	**23.83**	**306**	*e*P	**P**	**11 05 28.6**	**+1.5**
KHC				*ex*	x	11 05 40.5	
ABTA	**Abfaltersbach**	**24.05**	**300**	*i* pP	**P**	**11 05 34.2**	**+4.9**
	comp=Z,27nm,1.0s						
WTTA	**Wattenberg**	**24.72**	**301**	*i* pP	**P**	**11 05 38.3**	**+2.8**
	comp=Z,23nm,1.0s						
WATA	**Walderalm**	**24.77**	**301**	*i* pP	**P**	**11 05 41.4**	**+5.5**
	comp=Z,24nm,0.9s						
CLL	**Collm**	**24.81**	**311**	*i* P	**P**	**11 05 36.9**	**+0.9**
NKC	**Novy Kostel**	**24.83**	**308**	*e*P	**P**	**11 05 37.5**	**+1.3**
MOTA	**Moosalm**	**25.09**	**301**	*i* pP	**P**	**11 05 43.5**	**+4.7**
	comp=Z,31nm,0.8s						
FETA	**Feichten**	**25.30**	**300**	*i* pP	**P**	**11 05 43.3**	**+2.6**
	comp=Z,36nm,1.4s						
RETA	**Reutte**	**25.34**	**301**	*i* pP	**P**	**11 05 45.9**	**+5.0**
	comp=Z,27nm,1.3s						
DAVA	**Damuels**	**25.91**	**300**	*i* P	**P**	**11 05 48.9**	**+2.7**
	comp=Z,41nm,1.1s						
KURBB	**Kurchatov Arra**	**27.37**	**53**	P	**P**	**11 05 59.8**	**+0.7**
	comp=Z,10nm,0.8s,baz=263,slow=9.0,SNR=7.5						
KURK	**Kurchatov**	**27.45**	**52**	*e*P	**P**	**11 06 00.5**	**+0.7**
	comp=Z,22nm,0.9s						
KURK	**Kurchatov**	**27.45**	**52**	*e*P	**P**	**11 06 00.5**	**+0.7**
	comp=Z,22nm,0.9s						
HFS	**Hagfors**	**28.52**	**329**	P	**P**	**11 06 07.0**	**-2.4**
	comp=Z,10.0nm,1.0s,baz=110,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**29.37**	**61**	P	**P**	**11 06 18.3**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=278,slow=9.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**31.84**	**48**	P	**P**	**11 06 39.2**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=239,slow=8.8,SNR=3.6						
EKA	**Eskdalemuir Ar**	**35.16**	**314**	P	**P**	**11 07 05.8**	**-1.9**
	baz=105,slow=8.2						
ESDC	**Sonseca Array**	**36.49**	**287**	P	**P**	**11 07 17.3**	**-2.0**
	comp=Z,4.1nm,0.9s,baz=65,slow=8.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**44.85**	**247**	P	**P**	**11 08 27.3**	**-1.3**
	comp=Z,13nm,1.2s,baz=34,slow=8.5,SNR=3.1						
BOD	**Bodaibo**	**48.27**	**43**	*e*P	**P**	**11 08 56.8**	**+1.9**
BOD				pmax	pmax		
	comp=Z,57nm,1.8s						
CMAR	**Chiang Mai Arr**	**51.87**	**96**	P	**P**	**11 09 21.7**	**-1.0**
	comp=Z,6.9nm,1.0s,baz=298,slow=8.3,SNR=4.7						
PSI	**Prapat**	**61.70**	**111**	P	**P**	**11 10 31.2**	**-1.4**
	comp=Z,4.0nm,0.5s,baz=262,slow=7.1,SNR=2.9						
USRK	**Ussuriysk Ar.**	**63.43**	**54**	P	**P**	**11 10 44.3**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=246,slow=11,SNR=2.6						
KSAR	**Wonju Array Be**	**64.03**	**62**	P	**P**	**11 10 46.9**	**-0.9**
KSAR	**Wonju Array Be**	**64.03**	**62**	P	**P**	**11 10 46.9**	**-0.9**
KSRS	**Korea Array**	**64.06**	**62**	P	**P**	**11 10 46.9**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=289,slow=6.9,SNR=5.9						
BOSA	**Boshof**	**69.07**	**197**	P	**P**	**11 11 19.2**	**-0.9**
	comp=Z,6.2nm,0.9s,baz=42,slow=10.0,SNR=4.0						
QSPA	**South Pole Qui**	**128.49**	**180**	*e*PKIKP	**PKPdf**	**11 19 19.6**	**-0.4**
QSPA	**South Pole Qui**	**128.49**	**180**	*e*PKPdf	**PKPdf**	**11 19 19.6**	**-0.4**
DZM	**Mont Dzumac**	**128.84**	**88**	PKP	**PKPdf**	**11 19 20.6**	**-1.4**
	comp=Z,11nm,1.0s,baz=224,slow=11,SNR=3.2						

*MOS **23** 11:00:26.3±1.5, 38°.36N×43°.07E, h10km, mb5.3/27, Error ellipse: s-maj=9.3km s-min=4.8km az=90.1*
*IDC **23** 11:00:27.1±0.9, 38°.56N×43°.08E, h0km, mb4.8/22, mb1 4.9/30, mb1mx4.7/50, mbtmp4.8/30, ML3.8/7, Error ellipse: s-maj=16.2km s-min=9.6km az=173.0*
*ISCJB **23** 11:00:28.5±0.3, 38°.64N±0°.03×43°.16E±0°.03, h15km, mb5.0/45, Error ellipse: s-maj=4.7km s-min=3.4km az=152.4*
*ISK **23** 11:00:28.0, 38°.70N×43°.05E, h4km, ML4.8*
*CSEM **23** 11:00:28.6±0.2, 38°.67N×43°.08E, h5km, mb5.0/34, Error ellipse: s-maj=5.9km s-min=4.6km az=149.0*
*DDA **23** 11:00:29.1, 38°.72N×43°.16E, h7km, Md2.9*
*NEIC **23** 11:00:29.1±0.5, 38°.60N×43°.10E, h10km, mb5.2/14, Error ellipse: s-maj=10.1km s-min=6.6km az=179.0*
ISC 23 11:00:29.9±0.4, **38°.63N**±0°.03×**43°.08E**±0°.03, **h15**km, **n204**, σ**1**§**65**/213, **mb5.1**/45, **11C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.32**	**184**	*i* P	**Pb**	**11 00 37.4**	**-0.1**
GEVA	**Gevas**	**0.32**	**184**	P	**Pb**	**11 00 37.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.52**	**47**	*i* P	**Pg**	**11 00 37.4**	**-2.9**
VMUR				*i* S	**Sg**	**11 00 44.2**	**-3.1**
VMUR	**Van-Muradiye**	**0.52**	**47**	P	**Pg**	**11 00 37.4**	**-2.9**
VMUR				S	**Sg**	**11 00 44.2**	**-3.1**
TUTA	**Tutak**	**0.80**	**345**	*i* P	**Pg**	**11 00 43.4**	**-2.1**
TUTA				*i* S	**Sg**	**11 00 54.1**	**-1.8**
TUTA	**Tutak**	**0.80**	**345**	P	**Pg**	**11 00 43.4**	**-2.1**
TUTA				S	**Sg**	**11 00 54.1**	**-1.8**
TUTA	**Tutak**	**0.80**	**345**	P	**Pg**	**11 00 43.4**	**-2.1**
AGRB	**Hanur-Agry**	**0.94**	**356**	*e*PG	**Pb**	**11 00 45.1**	**-3.0**
AGRB				*e*SG	**Sb**	**11 00 57.9**	**-2.6**
AGRB	**Hanur-Agry**	**0.94**	**356**	*e*Pg	**Pb**	**11 00 45.1**	**-3.0**
AGRB				*e*Sg	**Sb**	**11 00 57.9**	**-2.6**
VRTB	**Varto-Mus**	**1.38**	**293**	*e*PN	**Pn**	**11 00 54.5**	**-0.2**
VRTB	**Varto-Mus**	**1.38**	**293**	*e*Pn	**Pn**	**11 00 54.5**	**-0.2**
CUKT	**Cukurca**	**1.45**	**163**	*e*PN	**Pb**	**11 00 56.5**	**-0.1**
CUKT	**Cukurca**	**1.45**	**163**	*e*Pn	**Pb**	**11 00 56.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**253**	*e*PN	**Pn**	**11 00 57.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**253**	*e*Pn	**Pn**	**11 00 57.0**	**-0.1**
DIGO	**Kars**	**1.79**	**7**	*i* P	**Pn**	**11 01 00.7**	**+0.2**
DIGO	**Kars**	**1.79**	**7**	P	**Pn**	**11 01 00.7**	**+0.2**
BNGB	**Bing¨¶l**	**1.91**	**281**	*e*PN	**Pn**	**11 01 02.6**	**+0.5**
GNI	**Garni**	**1.98**	**40**	Pn	**Pb**	**11 01 05.2**	**-0.7**
	1μm,0.3s,baz=1.4,slow=5.5,SNR=9.5						
GNI				Lg	Lg	11 01 32.9	
	1μm,0.3s,baz=118,slow=22,SNR=9.4						
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*PN	**Pn**	**11 01 03.1**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*Pn	**Pn**	**11 01 03.1**	**-0.3**
BINT	**Bingol**	**2.04**	**278**	*e*Pn	**Pn**	**11 01 02.6**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.13**	**293**	*e*PN	**Pn**	**11 01 05.1**	**0.0**
YEDI	**Yedisu-Bingol**	**2.13**	**293**	*e*Pn	**Pn**	**11 01 05.1**	**0.0**
MAZI	**Mazidag**	**2.39**	**241**	*e*PN	**Pn**	**11 01 08.2**	**-0.4**
MAZI	**Mazidag**	**2.39**	**241**	*e*Pn	**Pn**	**11 01 08.2**	**-0.4**
ERZN	**Erzincan**	**2.78**	**291**	*e*PN	**Pn**	**11 01 13.7**	**-0.3**
AKH	**Akhalkalaki**	**2.79**	**6**	*e*PN	**Pn**	**11 01 14.2**	**0.0**
AKH	**Akhalkalaki**	**2.79**	**6**	*e*Pn	**Pn**	**11 01 14.2**	**0.0**
PTK	**Pertek**	**2.90**	**276**	*e*PN	**Pn**	**11 01 15.3**	**-0.4**
PTK	**Pertek**	**2.90**	**276**	*e*Pn	**Pn**	**11 01 15.3**	**-0.4**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*PN	**Pn**	**11 01 16.8**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*Pn	**Pn**	**11 01 16.8**	**+0.1**
TBLG	**Delisi**	**3.34**	**22

MDOK *i* LRM MLR 11 16 43.4
comp=Z,22μm,15.7s
VSL Villasalto 26.10 283 *e*P **P 11 06 01.9 -1.2**
comp=Z,29nm,1.2s
VSL Villasalto 26.10 283 *e*P **P 11 06 01.9 -1.2**
comp=Z,29nm,1.2s
KURBB Kurchatov Arra 27.66 53 P **P 11 06 17.3 +0.4**
comp=Z,38nm,0.7s,baz=263,slow=9.0,SNR=21
KURK Kurchatov 27.73 53⇑ *e*P **P 11 06 19.0 +1.4**
KURK pmax pmax
comp=Z,239nm,1.7s
KURK Kurchatov 27.73 53 *e*P **P 11 06 19.0 +1.4**
comp=Z,239nm,1.7s
KURK Kurchatov 27.73 53 *e*P **P 11 06 18.3 +0.7**
comp=Z,470nm,1.0s
HFS Hagfors 28.38 329 P **P 11 06 23.3 0.0**
comp=Z,34nm,0.9s,baz=164,slow=7.2,SNR=10.0
SEM Semipalatinsk 28.70 54 *e*P **P 11 06 24.7 -1.8**
comp=Z,279nm,1.4s
SEM *i* LRM MLR 11 18 45.4
comp=Z,26μm,16.8s
MKAR Makanchi Array 29.69 61 P **P 11 06 35.7 +0.6**
comp=Z,16nm,0.7s,baz=260,slow=8.0,SNR=14
LVZ Lovozero 29.69 354⇑ *e*P **P 11 06 36.8 +1.9**
LVZ pmax pmax
comp=Z,372nm,3.1s
LVZ Lovozero 29.69 354 *e*P **P 11 06 36.8 +1.9**
comp=Z,372nm,3.1s
NOA NORSAR Array B 29.90 329 P **P 11 06 35.9 -0.9**
comp=Z,2.9nm,0.6s,baz=125,slow=8.6,SNR=3.9
ZALV Zalesovo Beam 32.11 48 P **P 11 06 56.5 +0.2**
comp=Z,8.2nm,0.6s,baz=254,slow=8.6,SNR=6.4
ARCES ARCESS Array B 32.37 349 P **P 11 06 57.5 -0.9**
comp=Z,11nm,0.7s,baz=156,slow=8.4,SNR=12
EKA Eskdalemuir Ar 34.94 314 P **P 11 07 21.3 +0.4**
comp=Z,44nm,0.8s,baz=105,slow=8.3,SNR=9.0
ESK Eskdalemuir 34.96 314 *e*P **P 11 07 21.2 +0.1**
ESK pmax pmax
comp=Z,55nm,0.8s
ESK Eskdalemuir 34.96 314 *e*P **P 11 07 21.2 +0.1**
comp=Z,55nm,0.8s
ESK Eskdalemuir 34.96 314 *e*P **P 11 07 21.2 +0.1**
comp=Z,55nm,0.8s
ESDC Sonseca Array 36.17 287 P **P 11 07 31.0 -0.8**
comp=Z,14nm,1.0s,baz=66,slow=9.0,SNR=5.9
DSB Dublin 36.59 310 *e*P **P 11 07 36.1 +1.0**
comp=Z,26nm,0.8s
DSB Dublin 36.59 310 *e*P **P 11 07 36.1 +1.0**
comp=Z,26nm,0.8s
MVO Moncorvo 38.10 290 *e*P **P 11 07 48.1 -0.1**
MTE Manteigas 38.66 289 *e*P **P 11 07 54.2 +1.3**
NRIK Noril'sk 38.77 23 P **P 11 07 54.1 +0.8**
comp=Z,16nm,0.9s,baz=240,slow=8.1,SNR=4.0
PVIS Viseu 38.84 290 *e*P **P 11 07 56.1 +1.7**
PESTR Estremoz 39.10 287 *e*P **P 11 07 56.3 -0.2**
PTOM Tomar 39.51 288 *e*P **P 11 08 01.9 +2.0**
PBEJ Beja 39.55 286 *e*P **P 11 08 00.6 +0.3**
PVAQ Vaqueiros 39.62 285 *e*P **P 11 08 00.8 -0.1**
SPITS Spitsbergen Ar 41.18 352 P **P 11 08 12.0 -1.2**
comp=Z,14nm,0.8s,baz=144,slow=10,SNR=7.7
TLY Talaya 43.43 52 P **P 11 08 32.6 +0.7**
baz=250,slow=6.2,SNR=7.9
TORD Torodi Ar. Bea 44.53 247 P **P 11 08 42.7 +1.6**
comp=Z,8.3nm,1.1s,baz=50,slow=6.7,SNR=4.5
SONM Songino Array 45.85 57 P **P 11 08 51.6 +0.1**
comp=Z,2.5nm,0.6s,baz=279,slow=7.2,SNR=3.8
SONM Songino Array 45.85 57 P **P 11 08 51.6 +0.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 45.85 57 P **P 11 08 51.6 +0.1**
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 46.28 57⇑ *e*P **P 11 08 56.4 +1.5**
ULN pmax pmax
comp=Z,65nm,1.7s
ULN Ulaanbaatar 46.28 57 *e*P **P 11 08 55.7 +0.8**
comp=Z,15nm,0.8s
ULN Ulaanbaatar 46.28 57 *e*P **P 11 08 55.7 +0.8**
comp=Z,15nm,0.8s
SUMG Summit 51.12 337 *e*P **P 11 09 31.7 -0.3**
SUMG pmax pmax
comp=Z,29nm,1.1s
SUMG Summit 51.12 337 *e*P **P 11 09 31.7 -0.3**
comp=Z,29nm,1.1s
SUMG Summit 51.12 337 *e*P **P 11 09 31.7 -0.3**
comp=Z,29nm,1.1s
CMAR Chiang Mai Arr 52.20 96 P **P 11 09 39.4 -0.9**
comp=Z,6.6nm,0.8s,baz=297,slow=8.5,SNR=6.6
TIXI Tiksi 52.55 23 P **P 11 09 42.1 -0.1**
comp=Z,6.5nm,0.8s,baz=281,slow=7.3,SNR=4.2
HIA Hailar 53.97 52⇑ *e*P **P 11 09 53.6 +0.6**
HIA pmax pmax
comp=Z,42nm,1.7s
HIA Hailar 53.97 52 *e*P **P 11 09 53.6 +0.6**
comp=Z,42nm,1.7s
YAK Yakutsk 55.23 35 *e*P **P 11 10 06.1 +4.2**
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.1s
USRK Ussuriysk Ar. 63.72 53 P **P 11 10 59.6 -1.2**
comp=N,2.3nm,0.6s,baz=282,slow=3.7,SNR=5.1
SEY Seymchan 64.25 29⇓ *i*P **P 11 11 04.7 +0.8**
SEY Seymchan 64.25 29 *i*P **P 11 11 04.7 +0.8**
KSAR Wonju Array Be 64.35 62 P **P 11 11 04.3 -0.7**
KSAR Wonju Array Be 64.35 62 P **P 11 11 04.3 -0.7**
KSAR Wonju Array Be 64.35 62 P **P 11 11 04.3 -0.7**
KSRS Korea Array 64.37 62 P **P 11 11 04.3 -0.8**
comp=N,8.2nm,0.8s,baz=288,slow=6.9,SNR=9.3
BILL Bilibino 65.49 20⇑ *e*P **P 11 11 13.2 +1.3**
BILL pmax pmax
comp=Z,47nm,2.1s
BILL Bilibino 65.49 20 *e*P **P 11 11 13.2 +1.3**
comp=Z,47nm,2.1s
MA2 Magadan 65.53 32⇓ *e*P **P 11 11 12.6 +0.2**
MA2 Magadan 65.53 32 *e*P **P 11 11 12.6 +0.2**
YSS Yuzh-Sakhalins 68.72 46⇓ *e*P **P 11 11 32.6 -0.2**
YSS pmax pmax
comp=Z,52nm,1.4s
YSS Yuzh-Sakhalins 68.72 46 *e*P **P 11 11 32.6 -0.2**
comp=Z,52nm,1.4s
MJAR Matsushiro Arr 71.80 58 P **P 11 11 51.2 -0.7**
comp=Z,2.4nm,0.8s,baz=316,slow=4.6,SNR=4.2
TOLK Toolik Lake Re 72.62 5 P **P 11 11 55.9 -0.4**
baz=350
SUR Sutherland 73.63 200 *e*P **P 11 11 58.1 -4.6**
comp=Z,16nm,1.0s
COLA College 76.47 5 *e*P **P 11 12 18.2 -0.4**
COLA College 76.47 5 *e*P **P 11 12 18.2 -0.4**
COLA College 76.47 5 *e*P **P 11 12 18.2 -0.4**
BPAW Bear Paw Mtn. 77.00 6 *e*P **P 11 12 21.6 -0.1**
BPAW Bear Paw Mtn. 77.00 6 *e*P **P 11 12 21.6 -0.1**
MCK McKinley 77.53 5 *e*P **P 11 12 24.3 -0.3**
MCK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 77.53 5 *e*P **P 11 12 24.3 -0.3**
comp=Z,35nm,1.4s
MCK McKinley 77.53 5 *e*P **P 11 12 24.3 -0.3**
comp=Z,35nm,1.4s
YKA Yellowknife Ar 77.63 350 P **P 11 12 25.0 -0.1**
comp=Z,2.9nm,0.7s,baz=359,slow=5.4,SNR=4.5
YKA Yellowknife Ar 77.63 350 P **P 11 12 25.0 -0.1**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 77.63 350 P **P 11 12 25.0 -0.1**
comp=Z,3.0nm,0.7s
DOT Dot Lake 77.90 3 *e*P **P 11 12 27.4 +0.7**
DOT Dot Lake 77.90 3 *e*P **P 11 12 27.4 +0.7**
SML Sawmill 79.48 5 *e*P **P 11 12 35.1 -0.4**
SML Sawmill 79.48 5 *e*P **P 11 12 35.1 -0.4**
SML Sawmill 79.48 5 *e*P **P 11 12 35.0 -0.4**
PMR Palmer 79.63 6 *e*P **P 11 12 35.8 -0.4**
PMR pmax pmax
comp=Z,3.0nm,0.5s
PMR Palmer 79.63 6 *e*P **P 11 12 35.8 -0.4**
comp=Z,3.0nm,0.5s
PMR Palmer 79.63 6 *e*P **P 11 12 35.8 -0.4**
comp=Z,2.7nm,0.5s
DIV Divide 80.32 4 *e*P **P 11 12 39.9 -0.1**
comp=Z,26nm,1.0s
DIV Divide 80.32 4 *e*P **P 11 12 39.9 -0.1**
comp=Z,26nm,1.0s
KDAK Kodiak Island 83.05 8 *i*P **P 11 12 55.4 +1.0**
KDAK Kodiak Island 83.05 8 *e*P **P 11 12 54.7 +0.3**
KDAK Kodiak Island 83.05 8 *e*P **P 11 12 54.6 +0.3**

N59A State Game Lan 83.15 318 P **P 11 12 56.7 +1.4**
baz=44
E43A Lone Tree Farm 84.29 328 P **P 11 13 01.9 +0.9**
baz=37
F44A Big Bay de Noc 84.37 327 P **P 11 13 02.3 +0.9**
baz=37
E42A Champion 84.62 328 P **P 11 13 01.1 -1.7**
baz=36
M54A Oil Creek Stat 84.70 321 P **P 11 13 03.2 0.0**
baz=41
F43A Flat Rock, Esc 84.80 328 P **P 11 13 03.6 0.0**
baz=37
A33A Warroad 85.36 334 P **P 11 13 05.5 -0.9**
baz=31
E40A Wakefield 85.41 330 P **P 11 13 07.0 +0.3**
baz=35
E39A Mellen 85.73 330 P **P 11 13 07.8 -0.5**
baz=34
B32A Ashes, Strandq 86.22 334 P **P 11 13 08.6 -2.1**
baz=30
B31A Greenbush Farm 86.57 335 P **P 11 13 10.4 -1.9**
baz=30
E36A McGregor 86.65 331 P **P 11 13 11.9 -0.9**
baz=33
RSSD Black Hills 92.43 337 *e*P **P 11 13 40.2 -0.1**
RSSD pmax pmax
comp=Z,22nm,1.4s
RSSD Black Hills 92.43 337 *e*P **P 11 13 40.2 -0.1**
comp=Z,22nm,1.4s
RSSD Black Hills 92.43 337 *e*P **P 11 13 40.2 -0.1**
comp=Z,22nm,1.4s
SYO Syowa Base 107.36 181⇑ *e*Pdiff **Pdif 11 14 51.6 +5.5**
QSPA South Pole Qui 128.46 180 *e*PKIKP **PKPdf 11 19 34.7 -0.4**
QSPA South Pole Qui 128.46 180 *e*PKPdf **PKPdf 11 19 34.7 -0.4**

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*CSEM **23** 11:02:15.0, 12°.12N×44°.25E, h2km, ML3.5*
DHMR 23 11:02:15.0±2.0, 12°.12N×44°.25E, h3km±10km, ML3.5,
Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.11**	**353**	*i* P	Pg	11 02 34.7	-1.7
TRBA				*i* S	Sb	11 02 52.1	+0.1
TRBA				AML	AML	11 02 52.9	
	comp=E,928nm,0.6s						
UDYN	**Al 'Udayn**	**1.86**	**352**	*i* P	Pb	11 02 49.0	-0.7
UDYN				*i* S	Sg	11 03 15.3	+0.6
UDYN	**Al 'Udayn**	**1.86**	**352**	*i* P	Pb	11 02 49.0	-0.7
UDYN				*i* S	Sg	11 03 15.3	+0.6
BDHA	**Al Bayda'**	**2.25**	**35**	*i* P	Pb	11 02 55.7	-0.8
BDHA				*i* S	Sb	11 03 25.5	+0.6
BDHA				AML	AML	11 03 34.6	
	comp=N,398nm,0.9s						
BDHA	**Al Bayda'**	**2.25**	**35**	*i* P	Pb	11 02 55.7	-0.8
BDHA				*i* S	Sb	11 03 25.5	+0.7
DHBB	**Dhamar BB**	**2.44**	**3**	*i* S	Sg	11 03 32.0	-1.5
HAJJ	**Hajjah**	**3.61**	**350**	*i* S	Sb	11 04 00.1	-3.9
HAJJ	**Hajjah**	**3.61**	**350**	*i* S	Sb	11 04 00.1	-4.0

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*ISCJB **23** 11:05:40.3±2.2, 38°.7N±0°.2×44°.0E±0°.2, h6km, mb3.7/6,*
Error ellipse: s-maj=37.6km s-min=16.9km az=150.7
*IDC **23** 11:05:41.2±2.2, 38°.74N×43°.98E, h0km, mb3.8/6,*
mb1 3.9/6, mb1mx3.6/41, mbtmp3.8/6, Error ellipse:
s-maj=38.4km s-min=15.7km az=137.0
ISC 23 11:05:41.9±2.7, 38°.7N±0°.3×44°.0E±0°.2, h6km, n7, σ1§42/7,
mb3.8/6, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.54**	**21**	Pg	**Pb**	**11 06 10.6**	**-0.4**
	42nm,0.3s,baz=311,slow=6.5,SNR=4.4						
GNI				Lg	Lg	11 06 29.7	
	40nm,0.3s,baz=354,slow=10.0,SNR=6.5						
GERES	**GERESS Array B**	**23.97**	**305**	P	**P**	**11 10 56.5**	**-0.6**
	0.5nm,0.7s,baz=109,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**25.33**	**340**	P	**P**	**11 11 07.7**	**-1.5**
	4.4nm,1.1s,baz=158,slow=8.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**27.03**	**53**	P	**P**	**11 11 25.0**	**+0.4**
	0.8nm,0.7s,baz=249,slow=7.5,SNR=2.9						
HFS	**Hagfors**	**28.69**	**328**	P	**P**	**11 11 41.1**	**+1.7**
	3.3nm,0.8s,baz=126,slow=14,SNR=2.0						
EKA	**Eskdalemuir Ar**	**35.41**	**314**	P	**P**	**11 12 39.4**	**+1.0**
	1.6nm,0.5s,baz=109,slow=8.9,SNR=5.6						
ESDC	**Sonseca Array**	**36.84**	**287**	P	**P**	**11 12 49.7**	**-1.2**
	0.2nm,0.3s,baz=53,slow=9.3,SNR=2.2						

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*ISCJB **23** 11:06:12.5±1.6, 39°.4N±0°.2×43°.3E±0°.1, h16km, mb3.9/8,*
Error ellipse: s-maj=29.7km s-min=12.7km az=174.9
*IDC **23** 11:06:12.8±2.1, 39°.64N×43°.35E, h0km, mb4.0/8,*
mb1 4.1/9, mb1mx3.8/42, mbtmp4.0/9, ML2.4/1, Error
ellipse: s-maj=40.0km s-min=14.7km az=178.0
ISC 23 11:06:14.2±2.0, 39°.5N±0°.2×43°.4E±0°.1, h16km, n10,
σ0§85/10, mb3.9/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.21**	**57**	Pg	**Pg**	**11 06 36.9**	**-0.6**
	63nm,0.3s,baz=287,slow=19,SNR=3.5						
KBZ	**Khabaz**	**4.25**	**355**	Pn	**Pn**	**11 07 18.5**	**+0.4**
	0.2nm,0.3s,baz=236,slow=3.6,SNR=2.6						
GERES	**GERESS Array B**	**23.15**	**304**	P	**P**	**11 11 18.9**	**-0.9**
	0.7nm,0.6s,baz=105,slow=9.8,SNR=4.9						
FINES	**FINESS Array B**	**24.43**	**340**	P	**P**	**11 11 32.6**	**+0.8**
	4.7nm,0.8s,baz=153,slow=13,SNR=4.1						
KURBB	**Kurchatov Arra**	**26.93**	**54**	P	**P**	**11 11 55.7**	**+1.2**
	1.0nm,0.7s,baz=262,slow=9.1,SNR=5.1						
HFS	**Hagfors**	**27.78**	**328**	P	**P**	**11 12 02.7**	**+0.6**
	5.1nm,0.7s,baz=124,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**29.05**	**63**	P	**P**	**11 12 13.8**	**+0.2**
	1.1nm,0.7s,baz=258,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**31.57**	**348**	P	**P**	**11 12 35.5**	**0.0**
	1.5nm,0.6s,baz=157,slow=7.9,SNR=5.2						
EKA	**Eskdalemuir Ar**	**34.53**	**313**	P	**P**	**11 13 00.6**	**-0.9**
	6.2nm,0.6s,baz=106,slow=8.4,SNR=15						
ESDC	**Sonseca Array**	**36.18**	**286**	P	**P**	**11 13 16.4**	**+0.5**
	0.4nm,0.6s,baz=61,slow=9.3,SNR=2.9						

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*IDC **23** 11:07:31.7±1.2, 38°.50N×43°.22E, h0km, mb4.1/10,*
mb1 4.1/13, mb1mx3.8/45, mbtmp4.0/13, ML3.1/2, Error
ellipse: s-maj=21.1km s-min=14.1km az=146.0
*ISK **23** 11:07:33.7, 38°.75N×43°.23E, h10km, ML3.9*
*NEIC **23** 11:07:33.7±0.3, 38°.56N×43°.28E, h10km, mb4.5/16, Error*
ellipse: s-maj=6.8km s-min=6.3km az=154.0
*ISCJB **23** 11:07:33.3±0.9, 38°.70N±0°.03×43°.35E±0°.05, h12km±6km,*
mb4.3/22, Error ellipse: s-maj=6.5km s-min=5.2km
az=173.9
*CSEM **23** 11:07:34.4±0.2, 38°.69N×43°.26E, h10km, mb4.6/12, Error*
ellipse: s-maj=6.4km s-min=5.3km az=75.0
*DDA **23** 11:07:35.0, 38°.70N×43°.21E, h7km, Md2.6*
ISC 23 11:07:34.3±0.9, 38°.70N±0°.02×43°.30E±0°.03, h12km±6km,
n105, σ1§23/116, mb4.3/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.19**	**155**	*i* P	**Pg**	**11 07 39.9**	**+1.2**
TVAN	**Van**	**0.19**	**155**	P	**Pg**	**11 07 39.8**	**+1.2**
VMUR	**Van-Muradiye**	**0.35**	**36**	*i* S	**Sg**	**11 07 40.9**	**-5.4**
VMUR				*i* S	**Sb**	**11 07 48.0**	**-0.4**
VMUR	**Van-Muradiye**	**0.35**	**36**	S	**Sb**	**11 07 48.0**	**-0.4**
GEVA	**Gevas**	**0.43**	**206**	*e*Pg	**Pg**	**11 07 42.3**	**-0.7**
TUTA	**Tutak**	**0.79**	**332**	*i* P	**Pg**	**11 07 50.0**	**+0.3**
TUTA				*i* S	**Sg**	**11 08 00.2**	**+0.1**
TUTA	**Tutak**	**0.79**	**332**	P	**Pg**	**11 07 50.0**	**+0.3**
TUTA				S	**Sg**	**11 08 00.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.90**	**345**	*e*PG	**Pg**	**11 07 50.4**	**-1.4**
AGRB				*e*SG	**Sg**	**11 08 02.5**	**-1.1**
AGRB	**Hanur-Agry**	**0.90**	**345**	*e*Pg	**Pg**	**11 07 50.4**	**-1.4**
AGRB				*e*Sg	**Sg**	**11 08 02.5**	**-1.1**
EKAR	**Karacoban**	**1.11**	**300**	*i* P	**Pn**	**11 07 57.4**	**+1.5**
EKAR				*i* S	**Sn**	**11 08 15.5**	**+4.2**
EKAR	**Karacoban**	**1.11**	**300**	P	**Pn**	**11 07 57.4**	**+1.5**
EATA	**Eleskirt**	**1.32**	**332**	*i* P	**Pn**	**11 07 59.0**	**+0.1**
EATA				*i* S	**Sn**	**11 08 18.7**	**+2.1**
EATA	**Eleskirt**	**1.32**	**332**	P	**Pn**	**11 07 59.0**	**+0.1**
SIRN	**S¨–rnak**	**1.40**	**210**	*i* P	**Pb**	**11 08 00.2**	**-0.2**
SIRN	**S¨–rnak**	**1.40**	**210**	P	**Pb**	**11 08 00.2**	**-0.2**
CUKT	**Cukurca**	**1.47**	**170**	*e*PN	**Pg**	**11 08 01.9**	**-0.7**
CUKT				*e*SN	**Sg**	**11 08 22.2**	**+0.4**
CUKT	**Cukurca**	**1.47**	**170**	*i* P	**Pg**	**11 08 03.4**	**+0.8**
CUKT	**Cukurca**	**1.47**	**170**	*e*Pn	**Pg**	**11 08 01.9**	**-0.7**
CUKT	**Cukurca**	**1.47**	**170**	P	**Pg**	**11 08 03.4**	**+0.8**
CUKT				*e*Sn	**Sg**	**11 08 22.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.74**	**252**	*e*PN	**Pn**	**11 08 04.3**	**-0.1**
SVAN				*e*SN	**Sn**	**11 08 26.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.74**	**252**	*i* P	**Pb**	**11 08 06.0**	**-0.2**
SVAN				*i* S	**Sg**	**11 08 30.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.74**	**252**	*e*Pn	**Pn**	**11 08 04.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.74**	**252**	P	**Pb**	**11 08 06.1**	**-0.2**
SVAN				*e*Sn	**Sn**	**11 08 26.6**	**0.0**
GNI	**Garni**	**1.82**	**37**	Pn	**Pb**	**11 08 08.4**	**+0.6**
	67nm,0.3s,baz=166,slow=12,SNR=3.2						
GNI				Lg	Lg	11 08 37.4	
	82nm,0.3s,baz=334,slow=23,SNR=4.8						
GNI	**Garni**	**1.82**	**37**	*e*Pn	**Pg**	**11 08 09.0**	**-0.3**
GNI	**Garni**	**1.82**	**37**	*e*Pn	**Pg**	**11 08 09.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*PN	**Pn**	**11 08 07.7**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*Pn	**Pn**	**11 08 07.7**	**-0.4**
BNGB	**Bing¨¶l**	**2.07**	**279**	*e*PN	**Pn**	**11 08 08.7**	**-0.3**
BINT	**Bingol**	**2.21**	**275**	*e*Pn	**Pn**	**11 08 08.7**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.27**	**290**	*e*PN	**Pn**	**11 08 11.4**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.27**	**290**	*e*Pn	**Pn**	**11 08 11.4**	**-0.4**
MARD	**Mardin**	**2.43**	**236**	*e*Pn	**Pn**	**11 08 14.0**	**0.0**
MARD	**Mardin**	**2.43**	**236**	*e*Pn	**Pn**	**11 08 14.0**	**0.0**
ARTV	**Artvin**	**2.69**	**337**	*e*Pn	**Pb**	**11 08 23.6**	**+1.0**
KBZ	**Khabaz**	**5.03**	**357**	Pn	**Pn**	**11 08 52.6**	**+3.1**
	baz=288,slow=20,SNR=1.6						
AKASG	**Malin Array Be**	**15.59**	**325**	Pn	**Pn**	**11 11 13.9**	**+0.2**
	0.4nm,0.3s,baz=126,slow=12,SNR=2.6						
AKBB	**Malin Array Si**	**15.59**	**325**	*e*Pn	**Pn**	**11 11 15.3**	**+1.6**
	8.9nm,1.1s						
AKBB	**Malin Array Si**	**15.59**	**325**	*e*Pn	**Pn**	**11 11 15.3**	**+1.6**
	8.9nm,1.1s						
BUR08	**Bucovina Ar. S**	**15.91**	**310**	*e*Pn	**Pn**	**11 11 19.4**	**+1.3**
BUR08	**Bucovina Ar. S**	**15.91**	**310**	*e*Pn	**Pn**	**11 11 19.4**	**+1.3**
PSZ	**Piszkesteto**	**19.30**	**306**	*e*P	**P**	**11 11 59.9**	**+0.8**
	3.4nm,0.8s						
PSZ	**Piszkesteto**	**19.30**	**306**	*e*P	**P**	**11 11 59.9**	**+0.8**
	3.4nm,0.8s						
ARU	**Arti**	**20.42**	**25**	P	**P**	**11 12 12.3**	**+1.1**
	11nm,0.5s,baz=228,slow=8.1,SNR=11						
ARU	**Arti**	**20.42**	**25**	*e*P	**P**	**11 12 12.3**	**+1.1**
	14nm,0.7s						
ARU	**Arti**	**20.42**	**25**	*e*P	**P**	**11 12 12.3**	**+1.1**
	14nm,0.7s						
KKAR	**Karatay Array**	**20.99**	**69**	*e*P	**P**	**11 12 17.8**	**+0.3**
	66nm,0.9s						
KKAR	**Karatay Array**	**20.99**	**69**	*e*P	**P**	**11 12 17.8**	**+0.3**
	66nm,0.9s						
MORC	**Moravsky Berou**	**21.41**	**309**	*e*P	**P**	**11 12 22.5**	**+0.5**
MORC	**Moravsky Berou**	**21.41**	**309**	*e*P	**P**	**11 12 22.5**	**+0.5**
BVAR	**Borovoye Array**	**23.50**	**44**	P	**P**	**11 12 45.6**	**+1.7**
	2.8nm,1.0s,baz=224,slow=6.0,SNR=2.8						
GEC2	**GERESS Array S**	**23.52**	**305**	*e*P	**P**	**11 12 43.9**	**-0.3**
GEC2	**GERESS Array S**	**23.52**	**305**	*e*P	**P**	**11 12 43.9**	**-0.3**
GERES	**GERESS Array B**	**23.52**	**305**	P	**P**	**11 12 45.9**	**+1.6**
	0.5nm,0.5s,baz=105,slow=7.2,SNR=3.4						
CLL	**Collm**	**24.66**	**311**	*e*P	**P**	**11 12 56.0**	**+1.3**
FIA0	**FINESS Array S**	**25.14**	**340**	*e*P	**P**	**11 12 59.8**	**+0.8**
FIA0	**FINESS Array S**	**25.14**	**340**	*e*P	**P**	**11 12 59.8**	**+0.8**
FIA1	**FINESS Array S**	**25.14**	**340**	*e*P	**P**	**11 13 00.7**	**+1.7**
	1.2nm,0.6s						
FIA1	**FINESS Array S**	**25.14**	**340**	*e*P	**P**	**11 13 00.7**	**+1.7**
	1.2nm,0.6s						
FINES	**FINESS Array B**	**25.14**	**340**	P	**P**	**11 12 59.8**	**+0.8**
	5.4nm,0.9s,baz=142,slow=12,SNR=4.6						
KURBB	**Kurchatov Arra**	**27.48**	**53**	P	**P**	**11 13 21.7**	**+1.4**
	1.3nm,0.3s,baz=263,slow=8.9,SNR=4.2						
KURK	**Kurchatov**	**27.56**	**53**	*e*P	**P**	**11 13 21.6**	**+0.7**
KURK	**Kurchatov**	**27.56**	**53**	*e*P	**P**	**11 13 21.6**	**+0.7**
HFS	**Hagfors**	**28.41**	**329**	P	**P**	**11 13 29.1**	**+0.7**
	5.6nm,0.9s,baz=153,slow=13,SNR=3.3						
KONO	**Kongsberg**	**29.89**	**326**	*e*P	**P**	**11 13 42.0**	**+0.5**
	12nm,1.0s						
KONO	**Kongsberg**	**29.89**	**326**	*e*P	**P**	**11 13 42.0**	**+0.5**
	12nm,1.0s						
KEV	**Kevo**	**32.31**	**349**	*e*P	**P**	**11 14 03.9**	**+1.2**
KEV	**Kevo**	**32.31**	**349**	*e*P	**P**	**11 14 03.9**	**+1.2**
ARA0	**ARCESS Array S**	**32.33**	**348**	*e*P	**P**	**11 14 03.0**	**0.0**
ARA0	**ARCESS Array S**	**32.33**	**348**	*e*P	**P**	**11 14 03.0**	**0.0**
ARE0	**ARCESS Array S**	**32.33**	**348**	*e*P	**P**	**11 14 04.1**	**+1.1**
ARE0	**ARCESS Array S**	**32.33**	**348**	*e*P	**P**	**11 14 04.1**	**+1.1**
ARCES	**ARCESS Array B**	**32.33**	**348**	P	**P**	**11 14 03.0**	**0.0**
	2.8nm,0.7s,baz=148,slow=7.1,SNR=4.7						
EKA	**Eskdalemuir Ar**	**35.01**	**314**	P	**P**	**11 14 26.5**	**0.0**
	0.9nm,0.5s,baz=106,slow=8.2,SNR=7.6						
TOA1	**Torodi Ar. Sit**	**44.71**	**247**	*e*P	**P**	**11 15 45.0**	**-2.5**
TOA1	**Torodi Ar. Sit**	**44.71**	**247**	*e*P	**P**	**11 15 45.0**	**-2.5**
TORD	**Torodi Ar. Bea**	**44.71**	**247**	P	**P**	**11 15 45.0**	**-2.5**
	1.2nm,0.8s,baz=57,slow=5.3,SNR=2.5						
CM31	**Chiang Mai Arr**	**52.04**	**96**	*e*P	**P**	**11 16 43.5**	**-0.5**
CM31	**Chiang Mai Arr**	**52.04**	**96**	*e*P	**P**	**11 16 43.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**52.04**	**96**	P	**P**	**11 16 43.5**	**-0.5**
	1.3nm,0.8s,baz=299,slow=8.6,SNR=6.2						
GSI	**Gunungsitoli**	**61.91**	**113**	*e*P	**P**	**11 17 52.5**	**-1.5**
	26nm,0.8s						
GSI	**Gunungsitoli**	**61.91**	**113**	*e*P	**P**	**11 17 52.5**	**-1.5**
	26nm,0.8s						
BKNI	**Bangkinang**	**65.09**	**111**	*e*P	**P**	**11 18 14.7**	**-0.4**
	90nm,0.5s						
BKNI	**Bangkinang**	**65.09**	**111**	*e*P	**P**	**11 18 14.7**	**-0.4**
	90nm,0.5s						
MYKOM	**Kota Tinggi**	**66.18**	**108**	*e*P	**P**	**11 18 22.4**	**+0.3**
	3.0nm,0.8s						
MYKOM	**Kota Tinggi**	**66.18**	**108**	*e*P	**P**	**11 18 22.4**	**+0.3**
	3.0nm,0.8s						
CCB	**Clear Creek Bu**	**76.61**	**5**	*e*P	**P**	**11 19 24.7**	**+0.3**
	0.9nm,1.0s						
CCB	**Clear Creek Bu**	**76.61**	**5**	*e*P	**P**	**11 19 24.7**	**+0.3**
	0.9nm,1.0s						
EGAK	**Eagle**	**76.80**	**2**	*e*P	**P**	**11 19 25.9**	**+0.5**
	3.1nm,1.1s						
EGAK	**Eagle**	**76.80**	**2**	*e*P	**P**	**11 19 25.9**	**+0.5**
	3.1nm,1.1s						
HDA	**Harding Lake**	**76.91**	**5**	*e*P	**P**	**11 19 26.1**	**+0.1**
	2.7nm,1.0s						
HDA	**Harding Lake**	**76.91**	**5**	*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.20**	**161**	⇓*iP*	**Pg**	**11 10 59.1**	**+0.9**
TVAN				*i*S	**Sg**	**11 11 03.5**	**+2.3**
TVAN	**Van**	**0.20**	**161**	P	**Pg**	**11 10 59.1**	**+0.9**
VMUR	**Van-Muradiye**	**0.33**	**36**	*i* P	**Pg**	**11 10 59.4**	**-1.3**
GEVA	**Gevas**	**0.46**	**207**	*e*Pg	Pg	11 10 55.7	-7.3
TUTA	**Tutak**	**0.79**	**330**	*i* P	**Pg**	**11 11 07.8**	**-1.5**
AGRB	**Hanur-Agry**	**0.89**	**343**	*e*PG	**Pg**	**11 11 11.4**	**+0.1**
AGRB				*e*SG	**Sb**	**11 11 23.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.89**	**343**	*e*Pg	**Pg**	**11 11 11.4**	**+0.1**
AGRB				*e*Sg	**Sb**	**11 11 23.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.89**	**343**	*e*Pn	**Pg**	**11 11 08.2**	**-3.1**
AGRB				Sn	**Sg**	**11 11 23.2**	**+0.3**
EKAR	**Karacoban**	**1.12**	**299**	*i* P	Pg	11 11 00.7	-15
EATA	**Eleskirt**	**1.31**	**331**	⇓*iP*	**Pb**	**11 11 19.0**	**0.0**
EATA				*i* S	**Sn**	**11 11 37.5**	**+0.8**
EATA	**Eleskirt**	**1.31**	**331**	P	**Pb**	**11 11 19.0**	**0.0**
EATA				S	**Sn**	**11 11 37.5**	**+0.8**
SIRN	**S¨–rnak**	**1.42**	**211**	⇓*iP*	**Pn**	**11 11 19.7**	**-0.4**
SIRN	**S¨–rnak**	**1.42**	**211**	P	**Pn**	**11 11 19.7**	**-0.4**
CUKT	**Cukurca**	**1.49**	**171**	*e*PN	**Pg**	**11 11 24.4**	**+1.8**
CUKT				*e*SN	**Sg**	**11 11 45.6**	**+3.8**
CUKT	**Cukurca**	**1.49**	**171**	*i* P	Pn	11 11 09.2	-12
CUKT	**Cukurca**	**1.49**	**171**	*e*Pn	**Pg**	**11 11 24.4**	**+1.8**
CUKT	**Cukurca**	**1.49**	**171**	Pn	Pn	11 11 09.8	-11
CUKT				Sn	Sn	11 11 24.8	-16
VRTB	**Varto-Mus**	**1.52**	**287**	*e*PN	**Pg**	**11 11 23.4**	**+0.2**
VRTB	**Varto-Mus**	**1.52**	**287**	*i* P	**Pn**	**11 11 19.3**	**-2.3**
VRTB	**Varto-Mus**	**1.52**	**287**	*e*Pn	**Pg**	**11 11 23.4**	**+0.2**
VRTB	**Varto-Mus**	**1.52**	**287**	Pn	Pn	11 11 09.7	-12
VRTB				Sn	Sn	11 11 25.6	-16
DIGO	**Kars**	**1.69**	**1**	⇓*iP*	**Pb**	**11 11 25.2**	**-0.3**
DIGO	**Kars**	**1.69**	**1**	P	**Pb**	**11 11 25.2**	**-0.3**
BNGL	**BINGOL**	**1.71**	**278**	*i* P	Pn	11 11 10.0	-14
HOMI	**Horasan**	**1.72**	**321**	*i* P	**Pg**	**11 11 26.6**	**-0.4**
NAX	**Nakhchivan**	**1.75**	**74**	⇓P	**Pn**	**11 11 24.6**	**-0.2**
NAX				⇓S	**Sg**	**11 11 50.4**	**0.0**
NAX	**Nakhchivan**	**1.75**	**74**	P	**Pn**	**11 11 24.5**	**-0.2**
NAX	**Nakhchivan**	**1.75**	**74**	P	**Pn**	**11 11 24.6**	**-0.2**
NAX				S	**Sg**	**11 11 50.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*e*PN	**Pg**	**11 11 27.9**	**+0.1**
SVAN				*e*SN	**Sg**	**11 11 50.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*i* P	**Pb**	**11 11 25.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	P	**Pb**	**11 11 25.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*e*Pn	**Pg**	**11 11 27.9**	**+0.1**
SVAN				*e*Sn	**Sg**	**11 11 50.4**	**-0.2**
GNI	**Garni**	**1.80**	**37**	Pn	**Pb**	**11 11 26.6**	**-0.7**
	227nm,0.3s,baz=319,slow=4.8,SNR=14						
GNI				Lg	Lg	11 11 54.6	
	240nm,0.3s,baz=111,slow=22,SNR=8.5						
GNI	**Garni**	**1.80**	**37**	*d iP*	**Pn**	**11 11 25.6**	**+0.1**
GNI	**Garni**	**1.80**	**37**	*i* P	**Pn**	**11 11 25.6**	**+0.1**
GNI	**Garni**	**1.80**	**37**	*e*Pn	**Pn**	**11 11 26.0**	**+0.5**
GNI				*e*Lg	Lg	11 11 54.6	
GNI	**Garni**	**1.80**	**37**	*e*Pn	**Pn**	**11 11 26.0**	**+0.5**
GNI				*e*Lg	Lg	11 11 54.6	
BTMN	**Batman**	**1.81**	**244**	*i* P	Pn	11 11 12.1	-13
ISHB	**Shabestar**	**1.85**	**103**	*e*Pn	**Pn**	**11 11 25.5**	**-0.7**
ISHB				*e*AMB	AMB	11 11 54.8	
	comp=E,64μm,0.4s						
ISHB	**Shabestar**	**1.85**	**103**	Pn	**Pn**	**11 11 25.5**	**-0.7**
ISHB	**Shabestar**	**1.85**	**103**	Pn	**Pn**	**11 11 25.5**	**-0.7**
EAK	**Akyaka**	**1.98**	**6**	*i* P	**Pb**	**11 11 29.6**	**-0.7**
EAK	**Akyaka**	**1.98**	**6**	P	**Pb**	**11 11 29.6**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.99**	**338**	*e*PN	**Pb**	**11 11 29.9**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.99**	**338**	*e*Pn	**Pb**	**11 11 30.0**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.03**	**297**	*i* P	**Pg**	**11 11 32.4**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.03**	**297**	P	**Pg**	**11 11 32.4**	**-0.5**
BNGB	**Bing¶ll**	**2.08**	**278**	*e*PN	**Pb**	**11 11 32.0**	**-0.1**
BINT	**Bingol**	**2.22**	**275**	*e*Pn	**Pn**	**11 11 32.0**	**+0.8**
ITBZ	**Tabriz**	**2.27**	**101**	*e*Pn	**Pn**	**11 11 30.8**	**-1.1**
ITBZ				*e*AMB	AMB	11 11 38.6	
	comp=Z,10μm,0.3s						
ITBZ	**Tabriz**	**2.27**	**101**	*e*Pn	**Pn**	**11 11 30.8**	**-1.1**
ITBZ	**Tabriz**	**2.27**	**101**	Pn	**Pn**	**11 11 30.8**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.28**	**289**	*e*PN	**Pb**	**11 11 35.0**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.28**	**289**	*e*Pn	**Pb**	**11 11 35.0**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.28**	**289**	Pn	Pn	11 11 20.1	-12
MARD	**Mardin**	**2.45**	**236**	*i* P	**Pb**	**11 11 39.5**	**+1.2**
DDEM	**Demirkent**	**2.48**	**331**	*i* P	Pn	11 11 26.1	-8.7
KOPT	**Kop Dagi**	**2.54**	**302**	*e*Pn	Pn	11 11 26.8	-9.0
MAZI	**Mazidag**	**2.59**	**242**	*e*PN	**Pb**	**11 11 40.6**	**-0.2**
MAZI	**Mazidag**	**2.59**	**242**	*e*Pn	**Pb**	**11 11 40.6**	**-0.2**
MAZI	**Mazidag**	**2.59**	**242**	Pn	Pn	11 11 20.1	-16
ARTV	**Artvin**	**2.69**	**337**	*i* P	**Pb**	**11 11 43.9**	**+1.5**
ARTV	**Artvin**	**2.69**	**337**	*e*Pn	**Pn**	**11 11 39.2**	**+1.5**
ARTV	**Artvin**	**2.69**	**337**	*e*Pn	**Pn**	**11 11 39.2**	**+1.5**
AKH	**Akhalkalaki**	**2.69**	**3**	*e*PN	**Pb**	**11 11 40.3**	**-2.2**
AKH	**Akhalkalaki**	**2.69**	**3**	P	**Pg**	**11 11 45.3**	**-0.3**
AKH	**Akhalkalaki**	**2.69**	**3**	⇓*iP*	**Pn**	**11 11 38.5**	**+0.7**
AKH	**Akhalkalaki**	**2.69**	**3**	P	**Pn**	**11 11 38.4**	**+0.7**
AKH	**Akhalkalaki**	**2.69**	**3**	P	**Pn**	**11 11 38.4**	**+0.7**
AKH	**Akhalkalaki**	**2.69**	**3**	*e*Pn	**Pb**	**11 11 40.3**	**-2.2**
GDB	**GEDABAY**	**2.74**	**42**	⇑P	**Pn**	**11 11 39.6**	**+1.2**
GDB				⇑S	**Sb**	**11 12 17.2**	**+0.1**
GDB	**GEDABAY**	**2.74**	**42**	P	**Pn**	**11 11 39.6**	**+1.2**
GDB				S	**Sb**	**11 12 17.2**	**+0.1**
QZX	**Qazax, Azerbai**	**2.82**	**33**	⇓P	**Pn**	**11 11 40.5**	**+1.2**
QZX				⇑S	**Sb**	**11 12 19.0**	**-0.2**
QZX	**Qazax, Azerbai**	**2.82**	**33**	P	**Pn**	**11 11 40.5**	**+1.2**
QZX				S	**Sb**	**11 12 19.0**	**-0.2**
DBOC	**Borcka**	**2.92**	**335**	*i* P	**Pb**	**11 11 47.3**	**+1.1**
ERZN	**Erzincan**	**2.93**	**288**	*e*PN	**Pb**	**11 11 44.1**	**-2.4**
ERZN	**Erzincan**	**2.93**	**288**	Pn	Pn	11 11 29.2	-12
IHRS	**Heris**	**2.94**	**97**	*e*Pn	**Pn**	**11 11 40.6**	**-0.7**
IHRS				*e*Sg	**Sg**	**11 12 27.9**	**-0.8**
IHRS				*e*AMB	AMB	11 12 35.1	
	comp=Z,19μm,0.6s						
IHRS	**Heris**	**2.94**	**97**	*e*Pn	**Pn**	**11 11 40.6**	**-0.7**
IHRS				Sg	**Sg**	**11 12 27.8**	**-0.9**
IHRS	**Heris**	**2.94**	**97**	Pn	**Pn**	**11 11 40.5**	**-0.7**
IHRS				Sg	**Sg**	**11 12 27.8**	**-0.9**
IBST	**Bostanabad**	**2.99**	**109**	*e*Pn	**Pn**	**11 11 41.6**	**-0.3**
IBST				*e*AMB	AMB	11 11 51.4	
	comp=Z,4μm,0.2s						
IBST	**Bostanabad**	**2.99**	**109**	*e*Pn	**Pn**	**11 11 41.6**	**-0.3**
IBST	**Bostanabad**	**2.99**	**109**	Pn	**Pn**	**11 11 41.6**	**-0.3**
GANJ	**Ganja**	**3.01**	**49**	⇑P	**Pn**	**11 11 42.1**	**+0.2**
GANJ				⇑S	**Sb**	**11 12 23.5**	**-1.2**
GANJ	**Ganja**	**3.01**	**49**	P	**Pn**	**11 11 43.1**	**+1.2**
GANJ	**Ganja**	**3.01**	**49**	P	**Pn**	**11 11 42.1**	**+0.2**
GANJ				S	**Sb**	**11 12 23.5**	**-1.2**
PTK	**Pertek**	**3.08**	**274**	*e*PN	**Pb**	**11 11 46.7**	**-2.4**
PTK	**Pertek**	**3.08**	**274**	*e*Pn	**Pb**	**11 11 46.7**	**-2.4**
DGRG	**David-gareji**	**3.15**	**29**	P	**Pb**	**11 11 52.3**	**+2.1**
DGRG	**David-gareji**	**3.15**	**29**	P	**Pb**	**11 11 52.3**	**+2.1**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*PN	**Pb**	**11 11 47.7**	**-2.9**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*Pn	**Pb**	**11 11 47.7**	**-2.9**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	Pn	Pn	11 11 30.1	-14
TBLG	**Delisi**	**3.20**	**19**	*e*PN	**Pn**	**11 11 46.7**	**+2.2**
TBLG	**Delisi**	**3.20**	**19**	P	**Pb**	**11 11 51.6**	**+0.5**
TBLG	**Delisi**	**3.20**	**19**	P	**Pb**	**11 11 51.5**	**+0.5**
TBLG	**Delisi**	**3.20**	**19**	*e*Pn	**Pn**	**11 11 46.7**	**+2.2**
EZC	**Erzincan**	**3.25**	**290**	*e*Pn	**Pn**	**11 11 44.1**	**-1.3**
BRDA	**Brd**	**3.36**	**61**	⇓P	**Pn**	**11 11 47.2**	**+0.5**
BRDA				⇓S	**Sb**	**11 12 31.0**	**-3.7**
BRDA	**Brd**	**3.36**	**61**	P	**Pn**	**11 11 47.2**	**+0.5**
BRDA				S	**Sb**	**11 12 31.0**	**-3.7**
ISRB	**Sarab**	**3.53**	**103**	*e*Pn	**Pn**	**11 11 47.1**	**-2.2**
ISRB				*e*AMB	AMB	11 12 09.6	
	comp=Z,11μm,0.4s						
ISRB	**Sarab**	**3.53**	**103**	*e*Pn	**Pn**	**11 11 47.1**	**-2.2**
ISRB	**Sarab**	**3.53**	**103**	Pn	**Pn**	**11 11 47.1**	**-2.2**
KTUT	**Trabzon**	**3.55**	**311**	*e*PN	**Pn**	**11 11 52.7**	**+3.4**
KTUT	**Trabzon**	**3.55**	**311**	*e*Pn	**Pn**	**11 11 52.7**	**+3.4**
KTUT	**Trabzon**	**3.55**	**311**	Pn	Pn	11 11 40.8	-8.5
MNGR	**Mingechevir, A**	**3.55**	**54**	⇑P	**Pn**	**11 11 50.2**	**+0.8**
MNGR				⇓S	**Sb**	**11 12 36.3**	**-4.0**
MNGR	**Mingechevir, A**	**3.55**	**54**	P	**Pn**	**11 11 50.1**	**+0.8**
MNGR	**Mingechevir, A**	**3.55**	**54**	P	**Pn**	**11 11 50.1**	**+0.8**
MNGR				S	**Sb**	**11 12 36.3**	**-4.0**
ZRD	**Zardab**	**3.72**	**64**	⇑P	**Pn**	**11 11 52.0**	**+0.4**
ZRD				⇓S	**Sn**	**11 12 39.6**	**+4.1**
ZRD	**Zardab**	**3.72**	**64**	P	**Pn**	**11 11 52.0**	**+0.4**
ZRD				S	**Sn**	**11 12 39.6**	**+4.1**
URFA	**Urfa**	**3.77**	**252**	*e*PN	**Pb**	**11 11 56.8**	**-4.1**
URFA	**Urfa**	**3.77**	**252**	*e*Pn	**Pb**	**11 11 56.8**	**-4.1**
ZKTA	**Zakatala**	**3.86**	**40**	⇑P	**Pn**	**11 11 54.9**	**+1.2**
ZKTA				⇓S	**Sb**	**11 12 44.8**	**-4.3**
ZKTA	**Zakatala**	**3.86**	**40**	P	**Pn**	**11 11 54.8**	**+1.2**
ZKTA	**Zakatala**	**3.86**	**40**	P	**Pn**	**11 11 54.8**	**+1.2**
ONI	**Oni**	**3.87**	**1**	P	**Pn**	**11 11 57.3**	**+3.5**
ONI	**Oni**	**3.87**	**1**	P	**Pn**	**11 11 57.3**	**+3.5**
SEKA	**Sheki**	**3.88**	**49**	⇓P	**Pn**	**11 11 55.6**	**+1.7**
SEKA				⇓S	**Sb**	**11 12 46.2**	**-3.6**
SEKA	**Sheki**	**3.88**	**49**	P	**Pn**	**11 11 55.6**	**+1.7**
SEKA	**Sheki**	**3.88**	**49**	P	**Pn**	**11 11 55.6**	**+1.7**
LRK	**Lerik**	**3.93**	**90**	⇓P	**Pn**	**11 11 53.3**	**-1.4**
LRK				⇑S	**Sn**	**11 12 42.0**	**+1.0**
LRK	**Lerik**	**3.93**	**90**	P	**Pn**	**11 11 53.3**	**-1.4**
LRK				S	**Sn**	**11 12 42.0**	**+1.0**
GLBA	**Clilabad**	**3.99**	**81**	⇓P	**Pn**	**11 11 54.7**	**-0.6**
GLBA				⇓S	**Sn**	**11 12 44.6**	**+2.4**
GLBA	**Clilabad**	**3.99**	**81**	P	**Pn**	**11 11 54.7**	**-0.6**
GLBA				S	**Sn**	**11 12 44.6**	**+2.4**
ZEI	**Tsey**	**4.09**	**6**	*e*P	**Pn**	**11 12 00.3**	**+3.4**
ZEI				pmax	pmax		
	comp=Z,153nm,1.0s						
KDMR	**Kurdemir**	**4.11**	**65**	⇓P	**Pn**	**11 11 57.3**	**+0.3**
KDMR				⇓S	**Sn**	**11 12 49.1**	**+4.0**
KDMR	**Kurdemir**	**4.11**	**65**	P	**Pn**	**11 11 57.3**	**+0.3**
SAAT	**Saatly**	**4.12**	**72**	⇓P	**Pn**	**11 11 56.7**	**-0.4**
SAAT				⇑S	**Sn**	**11 12 48.2**	**+2.8**
SAAT	**Saatly**	**4.12**	**72**	P	**Pn**	**11 11 56.7**	**-0.4**
SAAT				S	**Sn**	**11 12 48.2**	**+2.8**
QBL	**Gabala**	**4.13**	**56**	⇑P	**Pn**	**11 11 57.9**	**+0.6**
QBL				⇑S	**Sn**	**11 12 50.3**	**+4.6**
QBL	**Gabala**	**4.13**	**56**	P	**Pn**	**11 11 57.9**	**+0.6**
QBL				S	**Sn**	**11 12 50.3**	**+4.6**
LKRN	**Lenkeran, Azer**	**4.27**	**88**	⇓P	**Pn**	**11 11 58.0**	**-1.2**
LKRN				⇑S	**Sn**	**11 12 50.7**	**+1.6**
LKRN	**Lenkeran, Azer**	**4.27**	**88**	P	**Pn**	**11 11 58.0**	**-1.2**
LKRN	**Lenkeran, Azer**	**4.27**	**88**	P	**Pn**	**11 11 58.0**	**-1.2**
LKRN				S	**Sn**	**11 12 50.7**	**+1.6**
IML	**Ismayilli**	**4.28**	**60**	⇑P	**Pn**	**11 11 59.9**	**+0.5**
IML				⇑S	**Sn**	**11 12 53.9**	**+4.4**
IML	**Ismayilli**	**4.28**	**60**	P	**Pn**	**11 11 59.9**	**+0.5**
ASTR	**Astara**	**4.29**	**90**	⇑P	**Pn**	**11 11 58.1**	**-1.3**
ASTR				⇓S	**Sn**	**11 12 50.9**	**+1.3**
ASTR	**Astara**	**4.29**	**90**	P	**Pn**	**11 11 58.1**	**-1.3**
ASTR				S	**Sn**	**11 12 50.9**	**+1.3**
XNQ	**Khinaliq**	**4.44**	**55**	⇓P	**Pn**	**11 12 02.3**	**+0.6**
XNQ				⇑S	**Sn**	**11 12 58.1**	**+4.5**
XNQ	**Khinaliq**	**4.44**	**55**	P	**Pn**	**11 12 02.3**	**+0.6**
NEY	**Neytrino**	**4.55**	**354**	⇓*eP*	**Pn**	**11 12 07.7**	**+4.5**
NEY	**Neytrino**	**4.55**	**354**	*e*P	**Pn**	**11 12 07.7**	**+4.5**
PQL	**Pirkuli**	**4.56**	**61**	⇓P	**Pn**	**11 12 03.6**	**+0.3**
PQL				⇑S	**Sn**	**11 13 00.4**	**+3.9**
PQL	**Pirkuli**	**4.56**	**61**	P	**Pn**	**11 12 03.6**	**+0.3**
PQL				S	**Sn**	**11 13 00.4**	**+3.9**
DARE	**Darende-Malaty**	**4.57**	**270**	*e*PN	**Pn**	**11 12 07.4**	**+3.9**
DARE	**Darende-Malaty**	**4.57**	**270**	*e*Pn	**Pn**	**11 12 07.4**	**+3.9**
ALIB	**Äli-Bayra**	**4.58**	**73**	⇓P	**Pn**	**11 12 03.3**	**-0.1**
ALIB				⇓S	**Sn**	**11 13 00.0**	**+3.3**
ALIB	**Äli-Bayra**	**4.58**	**73**	P	**Pn**	**11 12 03.3**	**-0.1**
ALIB				S	**Sn**	**11 13 00.0**	**+3.3**
GBS	**Qobustan**	**4.70**	**66**	⇓P	**Pn**	**11 12 05.4**	**+0.2**
GBS				⇑S	**Sn**	**11 13 03.8**	**+3.8**
GBS	**Qobustan**	**4.70**	**66**	P	**Pn**	**11 12 05.4**	**+0.2**
GBS				S	**Sn**	**11 13 03.8**	**+3.8**
QSAR	**Qusar**	**4.71**	**52**	⇑P	**Pn**	**11 12 06.0**	**+0.8**
QSAR				⇓S	**Sn**	**11 13 05.0**	**+5.0**
QSAR	**Qusar**	**4.71**	**52**	P	**Pn**	**11 12 06.0**	**+0.8**
IDHR	**Dehrash**	**4.71**	**148**	*e*Pn	**Pn**	**11 12 04.7**	**-0.7**
IDHR				*e*AMB	AMB	11 13 42.8	
	comp=Z,9μm,0.7s						
IDHR	**Dehrash**	**4.71**	**148**	Pn	**Pn**	**11 12 04.6**	**-0.8**
IDHR	**Dehrash**	**4.71**	**148**	Pn	**Pn**	**11 12 04.6**	**-0.8**
QUBA	**Quba, Azerbaij**	**4.76**	**55**	⇓P	**Pn**	**11 12 06.7**	**+0.7**
QUBA				⇓S	**Sn**	**11 13 06.0**	**+4.6**
QUBA	**Quba, Azerbaij**	**4.76**	**55**	P	**Pn**	**11 12 06.7**	**+0.7**
NCK	**Nalchik**	**4.78**	**2**	⇑*eP*	Pn	11 12 11.1	+4.9
NCK	**Nalchik**	**4.78**	**2**	*e*P	Pn	11 12 11.1	+4.9
ATGJ	**Altiaghaj**	**4.83**	**62**	⇓P	**Pn**	**11 12 07.3**	**+0.3**
ATGJ				⇑S	**Sn**	**11 13 07.2**	**+4.1**
ATGJ	**Altiaghaj**	**4.83**	**62**	P	**Pn**	**11 12 07.3**	**+0.3**
ATGJ				S	**Sn**	**11 13 07.2**	**+4.1**
GROC	**Groznyy**	**4.86**	**22**	*e*P	**Pb**	**11 12 18.1**	**-1.1**
GROC				pmax	pmax		
	comp=Z,54nm,0.9s						
SIZA	**Siyzn**	**4.89**	**59**	⇑P	**Pn**	**11 12 08.3**	**+0.4**
SIZA				⇓S	**Sn**	**11 13 09.0**	**+4.3**
SIZA	**Siyzn**	**4.89**	**59**	P	**Pn**	**11 12 08.3**	**+0.4**
SIZA				S	**Sn**	**11 13 09.0**	**+4.3**
RSDY	**Resadiye-TOKAT**	**4.93**	**292**	*e*PN	**Pn**	**11 12 12.5**	**+4.2**
RSDY	**Resadiye-TOKAT**	**4.93**	**292**	*e*Pn	**Pn**	**11 12 12.5**	**+4.2**
KBZ	**Khabaz**	**5.01**	**356**	Pn	Pn	11 12 14.5	+5.1
	comp=Z,0.2nm,0.3s,baz=187,slow=5.4,SNR=4.9						
KBZ				Pg	**Pg**	**11 12 27.2**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=186,slow=8.8,SNR=11						
GOBA	**Gobu**	**5.23**	**69**	⇓P	**Pn**	**11 12 12.4**	**0.0**
GOBA				⇓S	**Sn**	**11 13 15.9**	**+3.1**
GOBA	**Gobu**	**5.23**	**69**	P	**Pn**	**11 12 12.4**	**0.0**
GOBA				S	**Sn**	**11 13 15.9**	**+3.1**
KIV	**Kislovodsk**	**5.25**	**355**	*e*P	Pn	11 12 18.4	+5.6
KIV				pmax	pmax		
	comp=Z,42nm,1.0s						
KIV	**Kislovodsk**	**5.25**	**355**	Pn	**Pn**	**11 12 12.9**	**+0.1**
KIV	**Kislovodsk**	**5.25**	**355**	*e*P	Pn	11 12 18.4	+5.6
	comp=Z,42nm,1.0s						
KIV	**Kislovodsk**	**5.25**	**355**	Pn	**Pn**	**11 12 12.9**	**+0.1**
KVAR	**Kislovodsk Arr**	**5.25**	**355**	Pn	**Pn**	**11 12 16.6**	**+3.8**
	baz=319,slow=2.4,SNR=3.3						
MAK	**Makhachkala**	**5.29**	**35**	*e*P	**Pn**	**11 12 14.0**	**+0.8**
MAK				*e*S	**Sn**	**11 13 21.5**	**+7.2**
MAK				pmax	pmax		
	comp=Z,55nm,0.3s						
MAK				smax	smax		
	comp=N,48nm,0.3s						
MAK	**Makhachkala**	**5.29**	**35**	*e*P	**Pn**	**11 12 14.0**	**+0.8**
	comp=N,55nm,0.3s						
NDR	**Nardaran**	**5.47**	**68**	⇑P	**Pn**	**11 12 15.8**	**+0.1**
NDR				⇑S	**Sn**	**11 13 22.3**	**+3.6**
NDR	**Nardaran**	**5.47**	**68**	P	**Pn**	**11 12 15.8**	**+0.1**
GALA	**Gala**	**5.54**	**70**	⇓P	**Pn**	**11 12 16.7**	**0.0**
GALA				⇑S	**Sn**	**11 13 24.0**	**+3.4**
GALA	**Gala**	**5.54**	**70**	P	**Pn**	**11 12 16.7**	**0.0**
SOC	**Sochi**	**5.57**	**332**	*e*P	**Pn**	**11 12 19.3**	**+2.2**
SOC				*e*		11 13 24.6	
SOC				pmax	pmax		
	comp=Z,45nm,1.4s						
SOC	**Sochi**	**5.57**	**332**	*e*P	**Pn**	**11 12 19.3**	**+2.2**
	comp=Z,45nm,1.4s						
SOC				*e*S	**Sn**	**11 13 24.6**	**+3.4**
GOF	**Gofitskoye**	**6.34**	**358**	⇑*eP*	Pn	11 12 33.6	+6.0
GOF				pmax	pmax		
	comp=Z,59nm,0.9s						
BRTR	**Keskin Array B**	**7.58**	**281**	Pn	Pn	11 12 50.6	+5.7
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=2.7						
ANTO	**Ankara**	**8.24**	**281**	*e*Pn	Pn	11 12 41.5	-12
ASF	**Jabal al Asfar**	**8.37**	**221**	Lg	Lg	11 15 17.0	
	comp=Z,0.8nm,0.3s,baz=189,slow=19,SNR=2.2						
MMAI	**Mount Meron Ar**	**8.58**	**231**	Pn	**Pn**	**11 13 01.7**	**+3.2**
	comp=Z,4.2nm,0.3s,baz=65,slow=14,SNR=6.1						
MMAI				Lg	Lg	11 15 24.1	
	comp=Z,2.1nm,0.3s,baz=61,slow=15,SNR=3.0						
SIM	**Simferopol'**	**9.27**	**315**	P	**Pn**	**11 13 11.6**	**+3.8**
SIM				pmax	pmax		
	comp=Z,15nm,1.0s						
SIM	**Simferopol'**	**9.27**	**315**	P	**Pn**	**11 13 11.6**	**+3.8**
	comp=Z,15nm,1.0s						
EIL	**Elat**	**11.37**	**220**	Lg	Lg	11 16 55.9	
	comp=Z,0.3nm,0.3s,baz=29,slow=19,SNR=2.6						
GEYT	**Alibeck**	**11.65**	**89**	Pn	**Pn**	**11 13 42.1**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=306,slow=12,SNR=3.7						
CFR	**Carcaliu**	**13.01**	**305**	⇓*iP*	**P**	**11 14 11.3**	**+1.8**
CFR	**Carcaliu**	**13.01**	**305**	P	**Pn**	**11 14 00.6**	**+1.7**
CFR	**Carcaliu**	**13.01**	**305**	P	**Pn**	**11 14 00.6**	**+1.7**
VORR	**Voronezh**	**13.27**	**349**	*e*P	**Pn**	**11 14 05.0**	**+2.5**
VORR				pmax	pmax		
	comp=Z,350nm,1.4s						
VORR	**Voronezh**	**13.27**	**349**	*e*P	**Pn**	**11 14 05.0**	**+2.5**
	comp=Z,350nm,1.4s						
ISR	**Istrita**	**14.02**	**302**	P	**Pn**	**11 14 16.4**	**+3.5**
ISR	**Istrita**	**14.02**	**302**	P	**Pn**	**11 14 16.4**	**+3.5**
VRI	**Vrincioaia**	**14.19**	**306**	⇑*iP*	**P**	**11 14 25.0**	**+2.3**
LPSR	**Galich'ya Gora**	**14.21**	**349**	*e*P	**Pn**	**11 14 16.1**	**+0.7**
LPSR				pmax	pmax		
	comp=Z,110nm,1.2s						
PLOR	**Plostina**	**14.24**	**305**	⇓*iP*	**P**	**11 14 25.3**	**+2.1**
PLOR	**Plostina**	**14.24**	**305**	P	**P**	**11 14 25.3**	**+2.1**
PLOR	**Plostina**	**14.24**	**305**	P	**P**	**11 14 25.3**	**+2.1**
SORM	**Soroca**	**14.36**	**316**	⇑*iP*	**Pn**	**11 14 18.6**	**+1.2**
TESR	**Tescani**	**14.52**	**308**	⇑*iP*	**P**	**11 14 28.0**	**+1.7**
TESR	**Tescani**	**14.52**	**308**	⇑*iP*	**P**	**11 14 28.0**	**+1.7**
MLR	**Muntele Rosu**	**14.55**	**303**	Pn	**Pn**	**11 14 20.1**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=306,slow=14,SNR=2.6						
MLR	**Muntele Rosu**	**14.55**	**303**	⇑*iP*	**P**	**11 14 30.2**	**+3.4**
MLR	**Muntele Rosu**	**14.55**	**303**	⇑*iP*	**P**	**11 14 30.2**	**+3.4**
DOPR	**Dopca**	**15.09**	**304**	⇓*iP*	**P**	**11 14 35.7**	**+3.0**
DOPR	**Dopca**	**15.09**	**304**	⇓*iP*	**P**	**11 14 35.7**	**+3.0**
IDI	**Anoyia**	**15.12**	**263**	Pn	**Pn**	**11 14 30.0**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=79,slow=11,SNR=3.7						
IDI	**Anoyia**	**15.12**	**263**	*e*Pn	Pn	11 14 17.0	-11
VOIR		**15.12**	**302**	⇑*iP*	**P**	**11 14 36.9**	**+3.8**
VOIR		**15.12**	**302**	P	**P**	**11 14 36.8**	**+3.7**
VOIR		**15.12**	**302**	P	**P**	**11 14 36.8**	**+3.7**
PRAR	**RASCA**	**15.17**	**310**	⇑*iP*	**P**	**11 14 35.6**	**+2.1**
PRAR	**RASCA**	**15.17**	**310**

KLMR *e* 11 16 15.2
KLMR pmax pmax
comp=Z,288nm,1.3s
KLMR Klimovskoe 22.29 355 *e*P **P 11 15 51.4 +0.1**
comp=Z,288nm,1.3s
DPC Dobruska-Polom 22.35 310 *e*P **P 11 15 53.5 +1.3**
DPC Dobruska-Polom 22.35 310 *e*P **P 11 15 53.5 +1.3**
DPC Dobruska-Polom 22.35 310 *e*P **P 11 15 53.5 +1.3**
MNAS Manas 22.42 71 P **P 11 15 53.6 +0.5**
MNAS Manas 22.42 71 P **P 11 15 53.6 +0.5**
VSU Vasula 22.48 337⇓*e*P **P 11 15 52.9 -0.5**
VSU pmax pmax
comp=Z,211nm,1.7s
VSU Vasula 22.48 337 *e*P **P 11 15 52.9 -0.5**
comp=Z,211nm,1.7s
TREC Trest 22.52 307 *e*P **P 11 15 55.6 +1.6**
TREC *e*x x 11 16 05.8
TREC Trest 22.52 307 *e*P **P 11 15 55.6 +1.6**
TREC Trest 22.52 307 *e*P **P 11 15 55.6 +1.6**
KSP Ksiaz 22.55 311 *e*P **P 11 15 55.8 +1.5**
KSP Ksiaz 22.55 311 *e*P **P 11 15 55.8 +1.5**
KSP Ksiaz 22.55 311 *e*P **P 11 15 55.8 +1.5**
SOKR Solikamsk 22.59 18⇑*i*P **P 11 15 52.4 -2.1**
SOKR pmax pmax
comp=Z,36nm,1.5s
UPC Upice 22.60 310 *e*P **P 11 15 56.5 +1.7**
UPC Upice 22.60 310 *e*P **P 11 15 56.5 +1.7**
UPC Upice 22.60 310 *e*P **P 11 15 56.5 +1.7**
PUL Pulkovo 22.63 343⇓*e*P **P 11 15 56.1 +1.1**
PUL pmax pmax
comp=Z,30nm,0.6s
PUL Pulkovo 22.63 343 *e*P **P 11 15 56.1 +1.1**
comp=Z,30nm,0.6s
MOA Molln 22.92 303 *i*pP **P 11 15 59.7 +1.5**
comp=Z,22nm,1.4s
MOA Molln 22.92 303 P **P 11 15 59.7 +1.5**
comp=Z,22nm,1.4s
MYKA Terra Mystica 23.11 300 *i*pP **P 11 15 58.8 -1.5**
comp=Z,7.3nm,1.0s
GOPC GO Pecny, Ondr 23.14 308 *e*P **P 11 16 01.3 +0.8**
GOPC GO Pecny, Ondr 23.14 308 *e*P **P 11 16 01.3 +0.8**
GOPC GO Pecny, Ondr 23.14 308 *e*P **P 11 16 01.3 +0.8**
PRU Pruhonice 23.31 308 *e*P **P 11 16 03.5 +1.3**
PRU Pruhonice 23.31 308 *e*P **P 11 16 03.5 +1.3**
PRU Pruhonice 23.31 308 *e*P **P 11 16 03.5 +1.3**
KBA Koelnbreinsper 23.38 301 P **P 11 16 04.5 +1.4**
KBA Koelnbreinsper 23.38 301 *i*pP **P 11 16 04.0 +0.9**
comp=Z,25nm,1.2s
KBA Koelnbreinsper 23.38 301 P **P 11 16 04.5 +1.4**
BRVK Borovoye 23.43 43⇑*e*P **P 11 16 04.4 +1.0**
BRVK pmax pmax
comp=Z,160nm,2.5s
BRVK Borovoye 23.43 43 *e*P **P 11 16 04.4 +1.0**
comp=Z,160nm,2.5s
BRVK Borovoye 23.43 43 *e*P **P 11 16 03.5 +0.1**
comp=Z,102nm,1.9s
PVCC Panska Ves 23.47 310 *e*P **P 11 16 04.5 +0.8**
PVCC Panska Ves 23.47 310 *e*P **P 11 16 04.5 +0.8**
PVCC Panska Ves 23.47 310 *e*P **P 11 16 04.5 +0.8**
BVAR Borovoye Array 23.48 44 P **P 11 16 04.3 +0.5**
comp=Z,4.3nm,0.9s,baz=232,slow=9.2,SNR=7.2
GERES GERESS Array B 23.52 305 P **P 11 16 04.8 +0.3**
comp=Z,0.8nm,0.6s,baz=131,slow=6.1,SNR=8.4
KHC Kasperske Hory 23.67 306 *e*P **P 11 16 06.3 +0.5**
KHC *e*x x 11 16 14.2
KHC Kasperske Hory 23.67 306 P **P 11 16 06.3 +0.5**
KHC pmax pmax
comp=Z,38nm,1.7s
KHC Kasperske Hory 23.67 306 P **P 11 16 06.3 +0.5**
comp=Z,38nm,1.7s
KHC Kasperske Hory 23.67 306 *e*P P 11 15 55.6 -10
comp=Z,38nm,1.7s
AAK Ala-Archa 23.89 71 P **P 11 16 07.1 -1.1**
comp=Z,3.4nm,0.8s,baz=260,slow=14,SNR=3.5
AAK Ala-Archa 23.89 71⇑*e*P **P 11 16 09.3 +1.2**
AAK pmax pmax
comp=Z,71nm,1.8s
AAK Ala-Archa 23.89 71 *e*P **P 11 16 08.6 +0.5**
comp=Z,35nm,1.6s
AAK Ala-Archa 23.89 71 *e*P **P 11 16 08.6 +0.5**
comp=Z,35nm,1.6s
ABTA Abfaltersbach 23.89 300 *i*pP **P 11 16 08.5 +0.5**
comp=Z,18nm,1.4s
ABTA Abfaltersbach 23.89 300 P **P 11 16 08.5 +0.5**
comp=Z,18nm,1.4s
BRG Berggiesshubel 23.96 310 *i*P **P 11 16 08.2 -0.3**
comp=Z,32nm,1.5s
BRG *i*PCP **PcP 11 19 57.1 +6.6**
comp=Z,28nm,1.5s
BRG Berggiesshubel 23.96 310 *i*P **P 11 16 08.2 -0.3**
BRG *i* 11 19 57.1
BRG pmax pmax
comp=Z,32nm,1.5s
BRG Berggiesshubel 23.96 310 *i*P **P 11 16 08.2 -0.3**
comp=Z,32nm,1.5s
WET Wettzell 24.12 305 P **P 11 16 10.4 +0.3**
WET pmax pmax
comp=Z,40nm,2.9s
WET Wettzell 24.12 305 P **P 11 16 10.4 +0.3**
comp=Z,40nm,2.9s
WTTA Wattenberg 24.56 301 *i*pP **P 11 16 14.7 +0.4**
comp=Z,19nm,1.0s
WTTA Wattenberg 24.56 301 P **P 11 16 14.7 +0.4**
comp=Z,19nm,1.0s
WATA Walderalm 24.62 301 *i*pP **P 11 16 14.7 -0.1**
comp=Z,17nm,1.1s
WATA Walderalm 24.62 301 P **P 11 16 14.7 -0.1**
comp=Z,17nm,1.1s
CLL Collm 24.66 311 *i*P **P 11 16 15.0 +0.1**
CLL *i* 11 16 21.7
CLL pmax pmax
comp=Z,35nm,1.2s
CLL Collm 24.66 311 *i*P **P 11 16 15.0 +0.1**
comp=Z,35nm,1.2s
CLL Collm 24.66 311 *i*P **P 11 16 15.0 +0.1**
comp=Z,35nm,1.2s
CLL *i* 11 16 21.7
CLL *e* 11 16 40.0
CLL *e*PPP PPP 11 16 53.0
NKC Novy Kostel 24.67 308 *e*P **P 11 16 15.4 +0.3**
NKC *e*x x 11 16 21.1
NKC Novy Kostel 24.67 308 *e*P **P 11 16 15.4 +0.3**
NKC *e* 11 16 21.1
NKC Novy Kostel 24.67 308 *e*P **P 11 16 15.4 +0.3**
TKM2 Tokmak 2 24.70 70 *i*P **P 11 16 14.7 -0.9**
TKM2 pmax pmax
comp=Z,28nm,1.5s
TKM2 Tokmak 2 24.70 70 *i*P **P 11 16 14.7 -0.9**
comp=Z,28nm,1.5s
MOTA Moosalm 24.93 301 *i*pP **P 11 16 17.4 -0.2**
comp=Z,34nm,1.1s
MOTA Moosalm 24.93 301 P **P 11 16 17.4 -0.2**
comp=Z,34nm,1.1s
FIA0 FINESS Array S 25.14 340 *e*P **P 11 16 17.3 -1.8**
FIA0 FINESS Array S 25.14 340 *e*P **P 11 16 17.3 -1.8**
FIA1 FINESS Array S 25.14 340 *e*P **P 11 16 18.2 -0.9**
comp=Z,64nm,1.3s
FIA1 FINESS Array S 25.14 340 *e*P **P 11 16 18.2 -0.9**
comp=Z,64nm,1.3s
FINES FINESS Array B 25.14 340 P **P 11 16 17.3 -1.8**
comp=Z,12nm,0.9s,baz=141,slow=9.3,SNR=14
FETA Feichten 25.14 300 *i*pP **P 11 16 19.3 -0.2**
comp=Z,17nm,1.0s
FETA Feichten 25.14 300 P **P 11 16 19.3 -0.2**
comp=Z,17nm,1.0s
RETA Reutte 25.18 301 *i*pP **P 11 16 19.9 +0.1**
comp=Z,12nm,1.3s
RETA Reutte 25.18 301 P **P 11 16 19.9 +0.1**
comp=Z,12nm,1.3s
KSH Kashi 25.27 78 *e*P **P 11 16 19.4 -1.4**
KSH pP pP 11 16 23.9 +0.5
KSH sP sP 11 16 26.0 +1.5
KSH PP **PnPn 11 16 57.4 +2.4**
KSH PcP **PcP 11 19 53.1 -0.7**
KSH S **S 11 20 41.6 -5.1**
KSH SS **SnSn 11 21 41.0 +3.8**
KSH PcS **PcS 11 23 32.3 -2.0**
KSH pmax pmax
comp=Z,44nm,1.8s
MOX Moxa 25.30 308 P **P 11 16 20.6 -0.1**
MOX Moxa 25.30 308 P **P 11 16 20.6 -0.1**
TMCR Tamitsa 25.68 355 *e*P **P 11 16 23.2 -0.7**
TMCR *e*S **S 11 20 58.3 +6.1**
TMCR pmax pmax
comp=Z,32nm,0.8s

DAVOX Davos/Dischmat 25.69 299 P **P 11 16 22.3 -2.2**
comp=Z,2.8nm,0.7s,baz=316,slow=4.1,SNR=2.8
RGN Rugen 25.71 318 P P 11 16 15.4 -8.9
comp=Z,302nm,1.2s
DAVA Damuels 25.75 300 *i*pP **P 11 16 24.1 -0.9**
comp=Z,19nm,1.5s
DAVA Damuels 25.75 300 P **P 11 16 24.1 -0.9**
comp=Z,19nm,1.5s
SUF Sumiainen 26.20 342 P **P 11 16 28.8 +0.1**
STU Stuttgart 26.42 303 P **P 11 16 34.9 +4.0**
VAF Ylistaro 27.36 340 P **P 11 16 40.6 +1.4**
KURBB Kurchatov Arra 27.46 53 P **P 11 16 39.7 -0.5**
comp=Z,5.1nm,0.6s,baz=264,slow=9.0,SNR=16
PDGK Podgornoye 27.53 69 P **P 11 16 40.8 -0.3**
KURK Kurchatov 27.53 53⇑*e*P **P 11 16 41.5 +0.6**
KURK pmax pmax
comp=Z,130nm,1.7s
KURK Kurchatov 27.53 53 *e*P **P 11 16 39.7 -1.2**
BNI Bardonecchia 27.83 295 P **P 11 16 47.0 +3.2**
HFS Hagfors 28.40 329 P **P 11 16 48.2 -0.3**
comp=Z,34nm,1.1s,baz=141,slow=9.3,SNR=13
MAKZ Makanchi 29.27 61 *e*P **P 11 16 56.3 -0.1**
MAKZ pmax pmax
comp=Z,35nm,1.9s
MAKZ Makanchi 29.27 61 *e*P **P 11 16 56.3 -0.1**
comp=Z,35nm,1.9s
APA Apatity 29.43 352⇑*i*P **P 11 16 55.6 -2.0**
MK31 Makanchi Array 29.48 61 *i*P **P 11 16 58.6 +0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 29.48 61 *e*P **P 11 16 58.7 +0.4**
MK32 Makanchi Array 29.48 61 *e*P **P 11 16 58.4 0.0**
MKAR Makanchi Array 29.48 61 P **P 11 16 58.4 0.0**
comp=Z,1.3nm,0.6s,baz=268,slow=6.5,SNR=4.6
MKAR Makanchi Array 29.48 61 *e*P **P 11 16 59.0 +0.6**
comp=Z,25nm,1.0s
NC602 NORSAR Array S 29.62 328 *e*P **P 11 16 58.4 -1.0**
NB2 NORSAR Subarra 29.93 329 P **P 11 17 01.0 -1.1**
comp=Z,10nm,1.0s,baz=126,slow=9.3
NB2 NORSAR Subarra 29.93 329 P **P 11 17 01.0 -1.1**
comp=Z,10nm,1.0s,SNR=4.7
NB200 NORSAR Array S 29.93 329 *e*P **P 11 17 01.2 -0.9**
NOA NORSAR Array B 29.93 329 P **P 11 17 01.2 -0.9**
comp=Z,4.6nm,0.9s,baz=126,slow=8.8,SNR=5.0
ZALV Zalesovo Beam 31.92 48 P **P 11 17 17.9 -1.8**
comp=Z,1.2nm,0.6s,baz=267,slow=5.2,SNR=3.2
ZAA1 Zalesovo Array 31.92 48 *e*P **P 11 17 17.9 -1.8**
ARA0 ARCESS Array S 32.32 348 *e*P **P 11 17 21.3 -1.8**
ARCES ARCESS Array B 32.32 348 P **P 11 17 21.3 -1.8**
comp=Z,5.2nm,0.7s,baz=165,slow=9.9,SNR=10
WMQ Urumqi 33.43 67 P **P 11 17 34.6 +1.4**
WMQ pP sP 11 17 39.0 +2.0
WMQ sP pP 11 17 41.6 +5.7
WMQ pmax pmax
comp=Z,17nm,0.7s
PYUN Piuthan 34.53 96 *e*P **P 11 17 42.0 -1.0**
DANN Dangsing 35.01 95 *e*P **P 11 17 46.7 -0.6**
EKA Eskdalemuir Ar 35.01 314 P **P 11 17 46.4 -0.2**
comp=Z,16nm,0.9s,baz=100,slow=9.4,SNR=12
KOLN Koldanda 35.16 96 *e*P **P 11 17 47.2 -1.3**
GKN Gorkha 35.86 95 *e*P **P 11 17 53.3 -1.1**
comp=Z,26nm,0.7s
ESDC Sonseca Array 36.33 287 P **P 11 17 56.8 -1.4**
comp=Z,5.1nm,1.0s,baz=52,slow=8.2,SNR=8.7
DMN Daman 36.41 95 *e*P **P 11 17 58.4 -0.8**
KKN Kakani 36.46 95 *e*P **P 11 17 58.5 -1.1**
PKIN Phulchoki 36.65 95 *e*P **P 11 18 00.2 -1.1**
comp=Z,13nm,0.6s
PKI Pulchoki 36.66 95 *e*P **P 11 18 00.2 -1.3**
GUN Gumba 36.87 94 *e*P **P 11 18 02.2 -1.1**
comp=Z,95nm,1.1s
JIRN Jiri 37.23 94 *e*P **P 11 18 05.4 -1.0**
RAMN Ramite 37.89 95 *e*P **P 11 18 10.5 -1.3**
comp=Z,33nm,0.6s
ODAN Odare 38.55 94 *e*P **P 11 18 16.6 -0.8**
comp=Z,119nm,1.3s
TORD Torodi Ar. Bea 44.73 247 P **P 11 19 05.9 -2.0**
comp=Z,0.6nm,0.4s,baz=43,slow=8.9,SNR=6.5
SONM Songino Array 45.65 57 P **P 11 19 16.5 +1.5**
comp=Z,0.4nm,0.6s,baz=268,slow=10,SNR=2.9
ULN Ulaanbaatar 46.08 57⇑*e*P **P 11 19 21.4 +3.0**
ULN pmax pmax
comp=Z,14nm,1.2s
DAG Danmarks Havn 46.30 344 P **P 11 19 19.2 -0.3**
LZH Lanzhou 47.38 73 *e*P **P 11 19 29.4 +0.7**
LZH pP sP 11 19 33.3 +0.7
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,98nm,4.8s
BOD Bodaibo 48.34 43 *e*P P 11 19 29.9 -5.7
BOD pmax pmax
comp=Z,14nm,2.4s
CD2 Chengdu 49.45 80 *e*P **P 11 19 44.0 -0.6**
SUMG Summit 51.12 337 *e*P **P 11 19 55.8 -1.3**
SUMG pmax pmax
comp=Z,23nm,1.2s
SUMG Summit 51.12 337 *e*P **P 11 19 55.8 -1.3**
comp=Z,22nm,1.2s
HHC Hu-ho-hao-te 51.26 65 *e*P **P 11 19 57.0 -1.2**
HHC pmax pmax
comp=Z,50nm,1.9s
KMI Kunming 51.41 87 P **P 11 19 59.4 -0.3**
KMI pmax pmax
comp=Z,12nm,1.1s
XAN Xi'an 52.02 74 P **P 11 20 01.3 -2.6**
XAN pmax pmax
comp=Z,45nm,2.2s
CM31 Chiang Mai Arr 52.02 96 *e*P **P 11 20 02.4 -1.7**
CM31 Chiang Mai Arr 52.02 96 *e*P **P 11 20 02.4 -1.7**
CMAR Chiang Mai Arr 52.02 96 P **P 11 20 02.4 -1.7**
comp=Z,4.8nm,1.0s,baz=299,slow=7.8,SNR=17
TIXI Tiksi 52.40 23⇑*e*P **P 11 20 06.1 -0.1**
TIXI Tiksi 52.40 23 *e*P **P 11 20 06.1 -0.1**
CMLA Cha da Macela 52.87 292 *e*P P 11 19 59.8 -10
comp=Z,327nm,1.5s
YAK Yakutsk 55.05 35⇓*e*P **P 11 20 28.4 +2.7**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 55.05 35 *e*P **P 11 20 28.4 +2.7**
comp=Z,15nm,0.9s
CN2 Changchun 59.52 56 *e*P **P 11 21 00.8 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
QIZ Qiongzhong 60.22 89 P **P 11 21 02.5 -0.2**
NJ2 Nanjing 60.33 71 *e*P **P 11 21 04.3 +1.0**
NJ2 pmax pmax
comp=Z,78nm,1.4s
RER Riviere de l'E 60.69 167 *e*P P 11 21 00.4 -5.4
comp=Z,161nm,1.5s
KULM Kulim 61.47 107 *e*P P 11 21 01.1 -10
comp=Z,299nm,1.9s
KS15 Wonju Array Si 64.14 62 *e*P **P 11 21 28.0 -0.8**
KS15 Wonju Array Si 64.14 62 *e*P **P 11 21 28.0 -0.8**
KSRS Korea Array 64.16 62 P **P 11 21 27.4 -1.4**
comp=Z,3.2nm,1.0s,baz=294,slow=5.2,SNR=5.5
KSRS Korea Array 64.16 62 P **P 11 21 27.5 -1.4**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS Korea Array 64.16 62 P **P 11 21 27.5 -1.4**
comp=Z,4.0nm,1.0s
BILL Bilibino 65.34 20 *e*P **P 11 21 37.0 +0.9**
BILL pmax pmax
comp=Z,13nm,1.4s
BILL Bilibino 65.34 20 *e*P **P 11 21 37.0 +0.9**
comp=Z,13nm,1.4s
DAWY Dawson 77.53 1 *e*P **P 11 22 50.1 +0.3**
comp=Z,12nm,1.3s
DAWY Dawson 77.53 1 *e*P **P 11 22 50.1 +0.3**
comp=Z,12nm,1.3s
KDAK Kodiak Island 82.93 9 *i*P **P 11 23 18.6 -0.3**
KDAK Kodiak Island 82.93 9 *i*P **P 11 23 18.6 -0.3**
KDAK Kodiak Island 82.93 9 *e*P **P 11 23 18.4 -0.5**
comp=Z,41nm,1.6s
SSPA Standing Stone 84.51 319 *e*P P 11 23 18.0 -9.4
comp=Z,9.5nm,1.0s
CRAG Craig 86.13 358 *e*P **P 11 23 35.3 +0.1**
comp=Z,90nm,1.4s
CRAG Craig 86.13 358 *e*P **P 11 23 35.3 +0.1**
comp=Z,90nm,1.4s
SPMN Marine on St. 87.58 331 *e*P **P 11 23 41.2 -1.3**
comp=Z,20nm,1.4s
SPMN Marine on St. 87.58 331 *e*P **P 11 23 41.2 -1.3**
comp=Z,20nm,1.4s
D08A Wollman Farm, 93.14 348 *e*P **P 11 24 07.7 -0.7**
comp=Z,21nm,2.0s

D08A Wollman Farm, 93.14 348 *e*P **P 11 24 07.7 -0.7**
comp=Z,21nm,2.0s
SYO Syowa Base 107.45 181⇑*e*Pdiff **Pdif 11 25 03.6 -8.1**
BYL Byron's Ledge 119.61 20 *e*PKIKP **PKPdf 11 29 43.3 -1.6**
BYL Byron's Ledge 119.61 20 *e*PKPdf **PKPdf 11 29 43.4 -1.6**

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*CSEM **23** 11:10:56.2, 12.°05N×44.°25E, h2km, ML3.7*
DHMR 23 11:10:56.2±2.1, 12.°05N×44.°25E, h3km±10km, ML3.7, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.02**	**45**	*i*P		Pg		11 11 15.6	-0.2
ADEN				*i*S		Sb		11 11 30.3	0.0
ADEN				AML		AML		11 11 30.6	
	comp=E,2μm,0.4s								
ADEN	**Aden**	**1.02**	**45**	*i*P		Pg		11 11 15.6	-0.1
ADEN				*i*S		Sb		11 11 30.3	0.0
	comp=E,1μm,0.4s								
TRBA	**At Turbah**	**1.18**	**354**⇓	*i*P		Pg		11 11 18.7	-0.2
TRBA				*i*S		Sg		11 11 34.7	+0.4
TRBA				AML		AML		11 11 36.8	
	comp=E,1μm,0.6s								
UDYN	**Al 'Udayn**	**1.93**	**352**	*i*P		Pb		11 11 31.7	-0.4
UDYN				*i*S		Sg		11 11 58.7	+0.6
UDYN				AML		AML		11 12 04.1	
	comp=E,973nm,0.5s								
UDYN	**Al 'Udayn**	**1.93**	**352**	*i*P		Pb		11 11 31.7	-0.4
UDYN				*i*S		Sg		11 11 58.7	+0.5
	comp=E,486nm,0.5s								
BDHA	**Al Bayda'**	**2.31**	**34**	*i*P		Pn		11 11 36.1	+0.7
BDHA				*i*S		Sb		11 12 08.5	+0.9
BDHA				AML		AML		11 12 18.5	
	comp=N,560nm,0.8s								
BDHA	**Al Bayda'**	**2.31**	**34**	*i*P		Pn		11 11 36.1	+0.7
BDHA				*i*S		Sb		11 12 08.5	+0.9
	comp=N,280nm,0.8s								
DHBB	**Dhamar BB**	**2.51**	**3**	*i*P		Pn		11 11 39.5	+1.2
DHBB				*i*S		Sb		11 12 14.9	+1.3

IDC 23 11:14:19.9±10.0, 27.°85S×177.°00W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/25, mbtmp3.7/3, Error ellipse: s-maj=189.7km s-min=33.2km az=93.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**210**	Pn		Pn		11 14 49.7	0.0
	61nm,0.3s,baz=87,slow=8.7,SNR=8.5								
RAO				Sn		Sg		11 15 11.9	0.0
	129nm,0.3s,baz=110,slow=20,SNR=7.6								
STKA	**Stephens Creek**	**35.98**	**253**	P		P		11 21 22.7	+0.1
	2.0nm,1.0s,baz=139,slow=11,SNR=2.9								
ASAR	**Alice Springs**	**44.19**	**264**	P		P		11 22 30.4	-0.5
	0.2nm,0.5s,baz=106,slow=7.0,SNR=5.1								
WRA	**Warramunga Arr**	**44.95**	**269**	P		P		11 22 37.1	+0.1
	0.5nm,0.4s,baz=108,slow=7.8,SNR=8.5								

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*MOS **23** 11:16:23.9±1.6, 38.°21N×43.°26E, h15km, mb4.4/14, Error ellipse: s-maj=9.2km s-min=5.9km az=82.1*
*AZER **23** 11:16:24.7±1.6, 38.°07N×43.°39E, h15km±44km, Error ellipse: s-maj=46.2km s-min=13.4km az=56.0*
*IDC **23** 11:16:25.0±0.7, 38.°72N×43.°31E, h0km, mb4.0/15, mb1 4.0/19, mb1mx3.9/50, mbtmp3.9/19, ML3.3/4, Error ellipse: s-maj=15.4km s-min=9.9km az=163.0*
*DDA **23** 11:16:25.1, 38.°84N×43.°27E, h7km, Ml3.6*
*NEIC **23** 11:16:26.9±0.3, 38.°74N×43.°34E, h10km, mb4.7/21, Error ellipse: s-maj=5.7km s-min=4.5km az=187.0*
*CSEM **23** 11:16:26.7±0.2, 38.°52N×43.°35E, h10km, mb4.6/23, Error ellipse: s-maj=6.4km s-min=3.8km az=171.0*
*TEH **23** 11:16:29.4, 38.°77N×43.°49E, h18km, ML4.2*
ISC 23 11:16:26.6±0.9, 38.°72N±0.°02×43.°31E±0.°03, h11km±5km, n236, σ1.°68/254, mb4.4/28, 15C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.21**	**158**	*i*P		**Pg**		**11 16 31.9**	**+0.7**
TVAN				*i*S		**Sg**		**11 16 37.8**	**+3.6**
TVAN	**Van**	**0.21**	**158**	P		**Pg**		**11 16 31.9**	**+0.7**
TVAN	**Van**	**0.21**	**158**	P		**Pg**		**11 16 31.9**	**+0.7**
TVAN				S		**Sg**		**11 16 37.8**	**+3.6**
VMUR	**Van-Muradiye**	**0.34**	**37**	*i*P		**Pg**		**11 16 29.9**	**-3.6**
VMUR				*i*S		**Sg**		**11 16 35.7**	**-2.3**
VMUR	**Van-Muradiye**	**0.34**	**37**	P		**Pg**		**11 16 29.9**	**-3.6**
VMUR				S		**Sg**		**11 16 35.7**	**-2.3**
GEVA	**Gevas**	**0.45**	**206**	*i*P		**Pb**		**11 16 34.0**	**-2.8**
GEVA	**Gevas**	**0.45**	**206**	P		**Pb**		**11 16 34.0**	**-2.8**
GEVA	**Gevas**	**0.45**	**206**	*e*Pg		**Pb**		**11 16 34.5**	**-2.3**
GEVA	**Gevas**	**0.45**	**206**	*e*Pg		**Pb**		**11 16 34.5**	**-2.3**
TUTA	**Tutak**	**0.78**	**331**	*i*P		**Pg**		**11 16 38.7**	**-3.1**
TUTA	**Tutak**	**0.78**	**331**	P		**Pg**		**11 16 38.7**	**-3.1**
EATA	**Eleskirt**	**1.30**	**331**	*i*P		**Pn**		**11 16 47.6**	**-3.5**
EATA	**Eleskirt**	**1.30**	**331**	P		**Pn**		**11 16 47.6**	**-3.5**
CUKT	**Cukurca**	**1.49**	**171**	*i*P		**Pg**		**11 16 54.6**	**-0.7**
CUKT	**Cukurca**	**1.49**	**171**	P		**Pg**		**11 16 54.6**	**-0.7**
DIGO	**Kars**	**1.69**	**2**	*i*P		**Pn**		**11 16 55.5**	**-1.0**
DIGO	**Kars**	**1.69**	**2**	P		**Pn**		**11 16 55.5**	**-1.0**
BNGL	**BINGOL**	**1.70**	**278**	*i*P		**Pn**		**11 16 56.1**	**-0.4**
BNGL	**BINGOL**	**1.70**	**278**	P		**Pn**		**11 16 56.1**	**-0.4**
BNGL	**BINGOL**	**1.70**	**278**	P		**Pn**		**11 16 56.1**	**-0.4**
HOMI	**Horasan**	**1.71**	**321**	*i*P		**Pn**		**11 16 55.7**	**-1.0**
HOMI	**Horasan**	**1.71**	**321**	P		**Pn**		**11 16 55.7**	**-1.0**
HOMI	**Horasan**	**1.71**	**321**	P		**Pn**		**11 16 55.7**	**-1.0**
NAX	**Nakhchivan**	**1.76**	**74**	⇑P		**Pn**		**11 16 57.5**	**+0.2**
NAX				⇓S		**Sg**		**11 17 22.9**	**-0.5**
NAX	**Nakhchivan**	**1.76**	**74**	P		**Pn**		**11 16 57.5**	**+0.2**
NAX	**Nakhchivan**	**1.76**	**74**	P		**Pn**		**11 16 57.5**	**+0.2**
NAX				S		**Sg**		**11 17 22.9**	**-0.5**
GNI	**Garni**	**1.81**	**37**	Pn		**Pn**		**11 16 58.2**	**+0.3**
	81nm,0.3s,baz=179,slow=3.1,SNR=12								
GNI				Lg		Lg		11 17 25.6	
	61nm,0.3s,baz=274,slow=22,SNR=13								
GNI	**Garni**	**1.81**	**37**	*e*Pn		**Pb**		**11 17 00.1**	**+0.2**
GNI				*e*Sn		**Sg**		**11 17 25.6**	**+0.8**
GNI	**Garni**	**1.81**	**37**	*e*Pn		**Pb**		**11 17 00.1**	**+0.2**
GNI				*e*Sn		**Sg**		**11 17 25.6**	**+0.8**
ISHB	**Shabestar**	**1.86**	**103**	*e*Pn		**Pn**		**11 16 58.6**	**-0.2**
ISHB				*e*AMB		AMB		11 16 59.4	
	comp=Z,25μm,0.2s								
ISHB				*e*Sg		**Sb**		**11 17 24.0**	**-0.4**
ISHB	**Shabestar**	**1.86**	**103**	Pn		**Pn**		**11 16 58.9**	**+0.1**
ISHB				Sg		**Sb**		**11 17 23.9**	**-0.4**
ISHB	**Shabestar**	**1.86**	**103**	Pn		**Pn**		**11 16 58.9**	**+0.1**
ISHB				Sg		**Sb**		**11 17 23.9**	**-0.4**
IMRD	**Marand**	**1.87**	**89**	*e*Pn		**Pn**		**11 16 58.7**	**-0.1**
IMRD				*e*AMB		AMB		11 17 10.4	
	comp=Z,48μm,0.2s								
IMRD	**Marand**	**1.87**	**89**	Pn		**Pn**		**11 16 58.8**	**-0.1**
IMRD	**Marand**	**1.87**	**89**	Pn		**Pn**		**11 16 58.8**	**-0.1**
EAK	**Akyaka**	**1.98**	**7**	*i*P		**Pb**		**11 17 02.4**	**-0.4**
EAK	**Akyaka**	**1.98**	**7**	P		**Pb**		**11 17 02.4**	**-0.4**
ITBZ	**Tabriz**	**2.28**	**101**	*e*AMB		AMB		11 17 19.0	
	comp=Z,8μm,0.4s								
ITBZ				*e*Pn		**Pn**		**11 17 04.4**	**0.0**
MARD	**Mardin**	**2.44**	**236**	*e*Pn		**Pb**		**11 17 07.4**	**-3.3**
MARD	**Mardin**	**2.44**	**236**	*e*Pn		**Pb**		**11 17 07.4**	**-3.3**
KOPT	**Kop Dagi**	**2.54**	**302**	*e*Pn		**Pb**		**11 17 12.2**	**-0.1**
KOPT	**Kop Dagi**	**2.54**	**302**	*e*Pn		**Pb**		**11 17 12.2**	**-0.1**
ARTV	**Artvin**	**2.68**	**337**	*e*Pn		**Pb**		**11 17 13.9**	**-0.9**
ARTV	**Artvin**	**2.68**	**337**	*e*Pn		**Pb**		**11 17 13.9**	**-0.9**
AKH	**Akhalkalaki**	**2.69**	**3**	P		**Pb**		**11 17 16.5**	**+1.6**
AKH	**Akhalkalaki**	**2.69**	**3**	P		**Pb**		**11 17 16.5**	**+1.6**
AKH	**Akhalkalaki**	**2.69**	**3**	P		**Pb**		**11 17 16.5**	**+1.6**
GDB	**GEDABAY**	**2.75**	**43**	⇓P		**Pb**		**11 17 15.5**	**-0.4**
GDB				⇑S		**Sb**		**11 17 53.4**	**+3.8**
GDB	**GEDABAY**	**2.75**	**43**	P		**Pb**		**11 17 15.5**	**-0.4**
QZX	**Qazax, Azerbai**	**2.82**	**34**	⇑P		**Pb**		**11 17 16.5**	**-0.6**
	SNR=4.2								
QZX				⇓S		**Sg**		**11 17 56.1**	**-1.2**
QZX	**Qazax, Azerbai**	**2.82**	**34**	P		**Pb**		**11 17 16.5**	**-0.6**
	SNR=4.2								
IHRS	**Heris**	**2.96**	**97**	*e*Pn		**Pn**		**11 17 13.9**	**+0.1**
IHRS				*e*AMB		AMB		11 17 25.9	
	comp=Z,12μm,0.3s								
IHRS	**Heris**	**2.96**	**97**	Pn		**Pn**		**11 17 13.6**	**-0.2**
IHRS	**Heris**	**2.96**	**97**	Pn		**Pn**		**11 17 13.6**	**-0.2**
IBST	**Bostanabad**	**3.00**	**109**	*e*Pn		**Pn**		**11 17 14.5**	**+0.1**
IBST				*e*AMB		AMB		11 17 23.9	

comp=Z,2μm,0.2s
IBST Bostanabad 3.00 109 *e*Pn **Pn 11 17 14.5 +0.1**
IBST Bostanabad 3.00 109 Pn **Pn 11 17 14.5 +0.1**
GANJ Ganja 3.02 49 ⇓P **Pb 11 17 18.0 -2.5**
SNR=3.3
GANJ ⇓S **Sb 11 18 00.7 +3.4**
GANJ Ganja 3.02 49 P **Pb 11 17 17.9 -2.5**
GANJ Ganja 3.02 49 P **Pb 11 17 17.9 -2.5**
DGRG David-gareji 3.15 30 P **Pb 11 17 23.9 +1.2**
DGRG David-gareji 3.15 30 P **Pb 11 17 23.9 +1.2**
TBLG Delisi 3.20 20 P **Pb 11 17 24.0 +0.5**
TBLG Delisi 3.20 20 P **Pb 11 17 24.0 +0.5**
BRDA Brd 3.37 62 ⇓P **Pn 11 17 21.0 +1.8**
SNR=5.9
BRDA ⇑S **Sb 11 18 04.6 -2.7**
BRDA Brd 3.37 62 P **Pn 11 17 21.0 +1.8**
SNR=5.9
BRDA S **Sb 11 18 04.6 -2.7**
ISRB Sarab 3.54 103 *e*Pn **Pn 11 17 22.3 +0.4**
ISRB *e*AMB AMB 11 17 34.8
comp=Z,4μm,0.3s
ISRB Sarab 3.54 103 Pn **Pn 11 17 22.2 +0.4**
ISRB Sarab 3.54 103 Pn **Pn 11 17 22.2 +0.4**
MNGR Mingechevir, A 3.56 54 ⇑P **Pn 11 17 24.6 +2.8**
SNR=4.8
MNGR ⇓S **Sb 11 18 11.5 -1.4**
MNGR Mingechevir, A 3.56 54 P **Pn 11 17 24.6 +2.8**
MNGR Mingechevir, A 3.56 54 P **Pn 11 17 24.6 +2.8**
SNR=4.8
ZRD Zardab 3.73 64 ⇓P **Pn 11 17 25.2 +1.1**
SNR=3.7
ZRD ⇓S **Sn 11 18 12.8 +4.8**
ZRD Zardab 3.73 64 P **Pn 11 17 25.2 +1.1**
SNR=3.7
ZRD S **Sn 11 18 12.8 +4.8**
ZKTA Zakatala 3.86 40 ⇓P **Pn 11 17 30.4 +4.3**
SNR=8.3
ONI Oni 3.87 2 P **Pb 11 17 35.3 +0.4**
ONI Oni 3.87 2 P **Pb 11 17 35.3 +0.4**
SEKA Sheki 3.89 49 ⇑P **Pn 11 17 30.2 +3.8**
SNR=5.0
SEKA Sheki 3.89 49 P **Pn 11 17 30.2 +3.8**
SNR=5.0
LRK Lerik 3.94 90 ⇓P **Pn 11 17 24.6 -2.6**
SNR=4.9
LRK ⇓S **Sn 11 18 11.4 -2.1**
LRK Lerik 3.94 90 P **Pn 11 17 24.6 -2.6**
SNR=4.9
LRK S **Sn 11 18 11.4 -2.1**
GLBA Ciilabad 4.00 81 ⇓P **Pn 11 17 26.5 -1.4**
SNR=2.8
GLBA ⇑S **Sn 11 18 15.3 +0.6**
GLBA Ciilabad 4.00 81 P **Pn 11 17 26.5 -1.4**
SNR=2.8
GLBA S **Sn 11 18 15.3 +0.6**
ZEI Tsey 4.09 6 *e*P **Pb 11 17 41.3 +2.5**
ZEI pmax pmax
comp=Z,27nm,0.8s
QBL Gabala 4.13 56 ⇓P **Pn 11 17 31.8 +2.0**
SNR=4.3
QBL Gabala 4.13 56 P **Pn 11 17 31.8 +2.0**
SNR=4.3
LKRN Lenkeran, Azer 4.28 88 ⇑P **Pn 11 17 29.3 -2.4**
SNR=6.8
LKRN Lenkeran, Azer 4.28 88 P **Pn 11 17 29.3 -2.4**
SNR=6.8
IML Ismayilli 4.29 60 ⇑P **Pn 11 17 33.7 +1.8**
IML Ismayilli 4.29 60 P **Pn 11 17 33.7 +1.8**
ASTR Astara 4.30 90 ⇓P **Pn 11 17 29.0 -3.0**
SNR=5.7
ASTR Astara 4.30 90 P **Pn 11 17 29.0 -3.0**
SNR=5.7
XNQ Khinaliq 4.45 55 ⇑P **Pn 11 17 36.3 +2.0**
SNR=3.1
XNQ Khinaliq 4.45 55 P **Pn 11 17 36.3 +2.0**
SNR=3.1
PQL Pirkuli 4.57 61 ⇓P **Pn 11 17 37.1 +1.3**
PQL Pirkuli 4.57 61 P **Pn 11 17 37.1 +1.3**
ALIB Äli-Bayra 4.59 73 ⇑P **Pn 11 17 35.7 -0.3**
ALIB Äli-Bayra 4.59 73 P **Pn 11 17 35.7 -0.3**
GBS Qobustan 4.71 66 ⇑P **Pn 11 17 38.5 +0.8**
GBS Qobustan 4.71 66 P **Pn 11 17 38.5 +0.8**
QSAR Qusar 4.71 52 ⇑P **Pn 11 17 39.9 +2.1**
QSAR Qusar 4.71 52 P **Pn 11 17 39.9 +2.1**
QUBA Quba, Azerbaij 4.77 55 ⇑P **Pn 11 17 41.0 +2.4**
QUBA Quba, Azerbaij 4.77 55 P **Pn 11 17 41.0 +2.4**
ATGJ Altiaghaj 4.83 62 ⇓P **Pn 11 17 40.7 +1.2**
SNR=2.9
ATGJ Altiaghaj 4.83 62 P **Pn 11 17 40.7 +1.2**
SNR=2.9
SIZA Siyzn 4.90 60 ⇓P **Pn 11 17 42.6 +2.2**
SIZA Siyzn 4.90 60 P **Pn 11 17 42.6 +2.2**
KBZ Khabaz 5.01 357 Pg **Pb 11 17 53.9 -0.5**
comp=Z,0.0nm,0.3s,baz=172,slow=18,SNR=2.8
KIV Kislovodsk 5.25 355 *e*P **Pn 11 17 49.4 +4.2**
KIV Kislovodsk 5.25 355 *e*Pn **Pn 11 17 49.3 +4.2**
KIV Kislovodsk 5.25 355 *e*Pn **Pn 11 17 49.4 +4.2**
KVAR Kislovodsk Arr 5.25 355 Pg **Pg 11 18 04.0 -3.2**
baz=190,slow=4.5,SNR=4.6
BR101 Keskin Array S 7.57 281 *e*Pn **Pn 11 18 18.2 +1.0**
BR101 Keskin Array S 7.57 281 *e*Pn **Pn 11 18 18.2 +1.0**
BRTR Keskin Array B 7.57 281 Pn **Pn 11 18 18.2 +1.0**
comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=2.3
ASF Jabal al Asfar 8.37 221 Lg Lg 11 20 50.7
comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=2.6
MMAI Mount Meron Ar 8.58 231 Pn **Pn 11 18 30.4 -0.4**
comp=Z,2.0nm,0.3s,baz=39,slow=9.3,SNR=2.8
MMAI Lg Lg 11 20 59.4
comp=Z,0.8nm,0.3s,baz=80,slow=15,SNR=4.4
GEYT Alibeck 11.66 89 Pn **Pn 11 19 11.9 -1.1**
comp=Z,0.3nm,0.3s,baz=278,slow=13,SNR=5.9
SANT Santorini 14.36 266 *e*Pn **Pn 11 19 49.7 -0.2**
SANT Santorini 14.36 266 *e*Pn **Pn 11 19 49.7 -0.2**
RAYN Ar Rayn 15.27 172 *e*Pn **Pn 11 19 59.4 -2.9**
comp=Z,85nm,1.8s
RAYN Ar Rayn 15.27 172 *e*Pn **Pn 11 19 59.4 -2.9**
comp=Z,85nm,1.8s
AKASG Malin Array Be 15.58 325 Pn **P 11 20 08.8 -1.6**
comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=4.7
AKBB Malin Array Si 15.58 325 *e*P **P 11 20 08.8 -1.6**
AKBB pmax pmax
comp=Z,52nm,1.9s
AKBB Malin Array Si 15.58 325 *e*Pn **P 11 20 08.8 -1.6**
comp=Z,52nm,1.9s
AKBB Malin Array Si 15.58 325 *e*Pn **P 11 20 08.8 -1.6**
comp=Z,52nm,1.9s
AKTO Aktyubinsk 15.68 37 Pn **Pn 11 20 05.4 -2.1**
comp=Z,0.1nm,0.3s,baz=223,slow=16,SNR=2.9
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **P 11 20 13.1 -1.1**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **P 11 20 13.1 -1.1**
ABKAR Akbulak array 15.91 43 *e*Pn **Pn 11 20 08.8 -1.6**
comp=Z,69nm,1.1s
OBN Obninsk 17.02 347⇑ *e*P **P 11 20 27.9 +1.6**
OBN pmax pmax
comp=Z,70nm,2.1s
OBN Obninsk 17.02 347 *e*P **P 11 20 27.9 +1.6**
comp=Z,70nm,2.1s
OJC Ojcow 20.24 312 *e*P Pn 11 21 03.1 -0.7
OJC pmax pmax
comp=Z,32nm,1.6s
OJC Ojcow 20.24 312 *e*P Pn 11 21 03.1 -0.7
comp=Z,32nm,1.6s
OJC Ojcow 20.24 312 *e*P Pn 11 21 03.1 -0.6
comp=Z,32nm,1.6s
ARU Arti 20.40 25 P Pn 11 21 08.5 +2.9
ARU Arti 20.40 25 *e*P **P 11 21 05.0 +1.5**
comp=Z,26nm,1.1s
ARU Arti 20.40 25 *e*P **P 11 21 05.0 +1.5**
comp=Z,26nm,1.1s
KKAR Karatay Array 20.98 69 *e*P **P 11 21 09.8 -0.1**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 20.98 69 *e*P **P 11 21 09.8 -0.1**
comp=Z,12nm,0.6s
KKAR Karatay Array 20.98 69 *e*P **P 11 21 09.8 -0.1**
comp=Z,12nm,0.6s
CUC Castrocucco 21.27 282 *e*P **P 11 21 13.6 +0.6**
comp=Z,22nm,1.6s
CUC Castrocucco 21.27 282 *e*P **P 11 21 13.6 +0.6**
comp=Z,22nm,1.6s
VRAC Vranov 21.82 308 P **P 11 21 23.4 +4.5**
comp=Z,6.3nm,0.9s,baz=119,slow=10,SNR=5.1
BVAR Borovoye Array 23.48 44 P **P 11 21 37.4 +1.2**
comp=Z,2.5nm,0.9s,baz=237,slow=7.9,SNR=3.7
GEC2 GERESS Array S 23.51 305 *e*P **P 11 21 38.3 +1.6**
GEC2 pmax pmax
comp=Z,24nm,1.8s
GEC2 GERESS Array S 23.51 305 *e*P **P 11 21 38.3 +1.6**
comp=Z,24nm,1.8s
GEC2 GERESS Array S 23.51 305 *e*P **P 11 21 38.3 +1.6**
comp=Z,24nm,1.8s
GERES GERESS Array B 23.51 305 P **P 11 21 38.3 +1.6**
comp=Z,0.7nm,0.7s,baz=125,slow=5.1,SNR=2.4
AAK Ala-Archa 23.90 71 P **P 11 21 40.8 +0.2**
comp=Z,2.6nm,1.0s,baz=22,slow=11,SNR=2.6
AAK Ala-Archa 23.90 71 *e*P **P 11 21 41.0 +0.4**
AAK pmax pmax
comp=Z,21nm,1.6s
AAK Ala-Archa 23.90 71 *e*P **P 11 21 41.0 +0.4**
comp=Z,21nm,1.6s
AAK Ala-Archa 23.90 71 *e*P **P 11 21 41.0 +0.4**
comp=Z,21nm,1.6s
CLL Collm 24.65 311 *e*P **P 11 21 49.0 +1.8**
FIA0 FINESS Array S 25.13 340 *e*P **P 11 21 52.4 +1.0**
FIA0 FINESS Array S 25.13 340 *e*P **P 11 21 52.4 +1.0**
FIA0 FINESS Array S 25.13 340 *e*P **P 11 21 52.4 +1.0**
FINES FINESS Array B 25.13 340 P **P 11 21 52.4 +1.0**
comp=Z,3.0nm,1.0s,baz=126,slow=26,SNR=2.6
FINES FINESS Array B 25.13 340 P **P 11 21 52.4 +1.0**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 25.13 340 P **P 11 21 52.4 +1.0**
comp=Z,4.0nm,1.0s
SENIN Lac Senin/Sane 27.42 298 *e*P **P 11 22 15.4 +2.8**
comp=Z,8.2nm,1.3s
SENIN Lac Senin/Sane 27.42 298 *e*P **P 11 22 15.4 +2.8**
comp=Z,8.2nm,1.3s
KURBB Kurchatov Arra 27.47 53 P **P 11 22 13.7 +1.1**
comp=Z,4.8nm,0.6s,baz=263,slow=8.9,SNR=25
KURK Kurchatov 27.54 53 *e*P **P 11 22 14.1 +0.8**
KURK pmax pmax
comp=Z,11nm,1.1s
KURK Kurchatov 27.54 53 *e*P **P 11 22 14.1 +0.8**
comp=Z,11nm,1.1s
KURK Kurchatov 27.54 53 *e*P **P 11 22 14.1 +0.8**
comp=Z,11nm,1.1s
HFS Hagfors 28.39 329 P **P 11 22 22.0 +1.2**
comp=Z,1.6nm,0.7s,baz=106,slow=14,SNR=2.3
HFS Hagfors 28.39 329 P **P 11 22 22.0 +1.2**
HFS pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 28.39 329 P **P 11 22 22.0 +1.2**
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
MK31 Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
MK31 Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
MK32 Makanchi Array 29.49 61 *e*P **P 11 22 31.0 +0.2**
MK32 Makanchi Array 29.49 61 *e*P **P 11 22 30.9 +0.2**
MKAR Makanchi Array 29.49 61 P **P 11 22 30.9 +0.2**
comp=Z,0.7nm,0.5s,baz=263,slow=7.4,SNR=4.3
MKAR Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
MKAR pmax pmax
comp=Z,108nm,1.9s
MKAR Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
comp=Z,108nm,1.9s
MKAR Makanchi Array 29.49 61 *e*P **P 11 22 31.6 +0.8**
comp=Z,108nm,1.9s
NB200 NORSAR Array S 29.92 329 *e*P **P 11 22 34.5 +0.2**
NB200 NORSAR Array S 29.92 329 *e*P **P 11 22 34.5 +0.2**
NOA NORSAR Array B 29.92 329 P **P 11 22 34.5 +0.2**
comp=Z,0.6nm,0.7s,baz=98,slow=9.6,SNR=2.4
ZALV Zalesovo Beam 31.93 48 P **P 11 22 52.2 +0.1**
comp=Z,0.9nm,0.4s,baz=253,slow=10,SNR=2.6
ZAA1 Zalesovo Array 31.93 48 *e*P **P 11 22 52.2 +0.1**
ZAA1 Zalesovo Array 31.93 48 *e*P **P 11 22 52.2 +0.1**
PYUN Piuthan 34.54 96 *e*P **P 11 23 15.6 +0.1**
EKA Eskdalemuir Ar 35.00 314 P **P 11 23 17.3 -1.6**
comp=Z,1.5nm,0.7s,baz=106,slow=7.5,SNR=3.6
KOLN Kolianda 35.17 96 *e*P **P 11 23 20.7 -0.2**
GKN Gorkha 35.87 95 *e*P **P 11 23 26.7 -0.1**
comp=Z,20nm,0.6s
ESDC Sonseca Array 36.31 287 P **P 11 23 30.9 +0.4**
comp=Z,1.5nm,0.7s,baz=69,slow=9.8,SNR=7.1
ESLA Sonseca Array 36.31 287 *e*P **P 11 23 31.4 +0.9**
comp=Z,22nm,1.5s
ESLA Sonseca Array 36.31 287 *e*P **P 11 23 31.4 +0.9**
comp=Z,22nm,1.5s
DMN Daman 36.42 95 *e*P **P 11 23 31.7 0.0**
PKIN Phulchoki 36.66 95 *e*P **P 11 23 33.6 -0.2**
comp=Z,24nm,1.0s
PKI Pulchoki 36.67 95 *e*P **P 11 23 33.4 -0.5**
comp=Z,30nm,1.0s
GUN Gumba 36.88 94 *e*P **P 11 23 35.6 -0.1**
JIRN Jiri 37.24 94 *e*P **P 11 23 38.9 +0.1**
comp=Z,60nm,1.0s
RAMN Ramite 37.90 95 *e*P **P 11 23 44.0 -0.3**
comp=Z,35nm,0.7s
ODAN Odare 38.56 94 *e*P **P 11 23 51.0 +1.2**
comp=Z,48nm,1.0s
TAPN Taplejung 38.58 94 *e*P **P 11 23 50.1 +0.1**
TOA1 Torodi Ar. Sit 44.72 247 *e*P **P 11 24 39.9 -0.2**
comp=Z,12nm,1.6s
TOA1 Torodi Ar. Sit 44.72 247 *e*P **P 11 24 39.9 -0.2**
comp=Z,12nm,1.6s
TORD Torodi Ar. Bea 44.72 247 P **P 11 24 39.9 -0.2**
comp=Z,1.6nm,0.9s,baz=60,slow=7.4,SNR=2.8
CHTO Chiang Mai 51.83 96 *e*P **P 11 25 34.5 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 51.83 96 *e*P **P 11 25 34.5 -0.5**
comp=Z,5.1nm,0.9s
CHTO Chiang Mai 51.83 96 *e*P **P 11 25 34.5 -0.5**
comp=Z,5.1nm,0.9s
CM31 Chiang Mai Arr 52.04 96 *e*P **P 11 25 35.8 -0.7**
CM31 Chiang Mai Arr 52.04 96 *e*P **P 11 25 35.9 -0.7**
CMAR Chiang Mai Arr 52.04 96 P **P 11 25 35.9 -0.7**
comp=Z,2.9nm,0.8s,baz=297,slow=8.1,SNR=14
YAK Yakutsk 55.06 35 *e*P **P 11 25 59.5 +1.4**
YAK pmax pmax
comp=Z,17nm,0.4s
YAK Yakutsk 55.06 35 *e*P **P 11 25 59.5 +1.4**
comp=Z,17nm,0.4s
YAK Yakutsk 55.06 35 *e*P **P 11 25 59.5 +1.4**
comp=Z,17nm,0.4s
KS15 Wonju Array Si 64.15 62 *e*P **P 11 27 01.1 -0.1**
KS15 Wonju Array Si 64.15 62 *e*P **P 11 27 01.1 -0.1**
KSAR Wonju Array Be 64.15 62 P **P 11 27 01.1 -0.1**
KSAR Wonju Array Be 64.15 62 P **P 11 27 01.1 -0.1**
KSAR Wonju Array Be 64.15 62 P **P 11 27 01.1 -0.1**
KSRS Korea Array 64.17 62 P **P 11 27 01.1 -0.2**
comp=Z,2.1nm,0.9s,baz=264,slow=6.7,SNR=9.7
BOSA Boshof 69.08 197 P **P 11 27 32.9 +0.2**
comp=Z,2.6nm,0.9s,baz=22,slow=4.9,SNR=3.8
BOSA Boshof 69.08 197 P **P 11 27 32.9 +0.2**
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 69.08 197 P **P 11 27 32.9 +0.2**
comp=Z,2.0nm,0.6s
BOSA Boshof 69.08 197 *e*P **P 11 27 33.4 +0.7**
comp=Z,25nm,2.0s
MENT Mentasta 78.53 3 *e*P **P 11 28 28.1 +0.4**
comp=Z,18nm,1.6s
MENT Mentasta 78.53 3 *e*P **P 11 28 28.1 +0.4**
comp=Z,18nm,1.6s
HRV Adam Dziewonsk 79.85 317 *e*P **P 11 28 35.0 -0.2**
HRV pmax pmax
comp=Z,73nm,1.9s
HRV Adam Dziewonsk 79.85 317 *e*P **P 11 28 35.0 -0.2**
comp=Z,73nm,1.9s
HRV Adam Dziewonsk 79.85 317 *e*P **P 11 28 35.0 -0.2**
comp=Z,73nm,1.9s
CRQM Cirque 80.73 3 *e*P **P 11 28 40.5 +0.6**
comp=Z,77nm,2.0s
CRQM Cirque 80.73 3 *e*P **P 11 28 40.5 +0.6**
comp=Z,77nm,2.0s
MMNY Mt. Morris Dam 82.96 321 *e*P **P 11 28 52.3 +0.6**
MMNY Mt. Morris Dam 82.96 321 *e*P **P 11 28 52.4 +0.6**
CHGN Chignik 83.56 12 *e*P **P 11 28 53.8 -0.7**
comp=Z,175nm,1.9s
CHGN Chignik 83.56 12 *e*P **P 11 28 53.8 -0.7**
comp=Z,175nm,1.9s
TKL Tuckaleechee C 91.29 319 *e*P **P 11 29 34.2 +1.8**
TKL pmax pmax
comp=Z,25nm,1.6s
TKL Tuckaleechee C 91.29 319 *e*P **P 11 29 34.2 +1.8**
comp=Z,25nm,1.6s
TKL Tuckaleechee C 91.29 319 *e*P **P 11 29 34.2 +1.8**
comp=Z,25nm,1.6s

IDC ***23*** *11:18:33.0±1.7, 38°.74N×43°.42E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/53, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=35.1km s-min=18.0km az=163.0*
ISCJB ***23*** *11:18:33.2±1.2, 38°.8N±0°.2×43°.5E±0°.1, h13km, mb3.7/8, Error ellipse: s-maj=25.5km s-min=15.8km az=176.1*
ISC 23 11:18:35.0±1.5, 38°.6N±0°.2×43°.6E±0°.1, h13km, n14, σ3°63/13, **mb3.8/8, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.75**	**30**	Pn			**Pb**	**11 19 07.3**	**+0.4**
	45nm,0.3s,baz=104,slow=4.2,SNR=3.0								
AKASG	**Malin Array Be**	**15.77**	**324**	Pn			**Pn**	**11 22 14.0**	**-2.6**
	0.3nm,0.3s,baz=134,slow=11,SNR=1.8								
PRU	**Pruhonice**	**23.53**	**308**	*e*P			**P**	**11 23 51.8**	**+7.2**
PRA	**Prague**	**23.62**	**308**	*e*P			**P**	**11 23 52.3**	**+6.8**
GERES	**GERESS Array B**	**23.74**	**305**	P			**P**	**11 23 44.8**	**-2.0**
	1.1nm,0.4s,baz=97,slow=8.1,SNR=4.4								
KHC	**Kasperske Hory**	**23.89**	**306**	*e*P			**P**	**11 23 51.5**	**+3.3**
NKC	**Novy Kostel**	**24.89**	**308**	*e*P			P	11 23 46.0	-11
FINES	**FINESS Array B**	**25.28**	**340**	P			**P**	**11 23 58.7**	**-2.0**
	1.0nm,0.7s,baz=119,slow=11,SNR=2.1								
KURBB	**Kurchatov Arra**	**27.33**	**53**	P			**P**	**11 24 20.0**	**+0.6**
	1.3nm,0.6s,baz=262,slow=8.9,SNR=5.1								
HFS	**Hagfors**	**28.58**	**329**	P			**P**	**11 24 31.6**	**+1.2**
	2.3nm,0.7s,baz=144,slow=12,SNR=2.2								
MKAR	**Makanchi Array**	**29.33**	**61**	P			**P**	**11 24 36.9**	**-0.4**
	0.7nm,0.7s,baz=267,slow=7.2,SNR=1.7								
EKA	**Eskdalemuir Ar**	**35.22**	**314**	P			**P**	**11 25 26.3**	**-2.4**
	2.0nm,0.7s,baz=100,slow=8.0,SNR=2.9								
ESDC	**Sonseca Array**	**36.55**	**287**	P			**P**	**11 25 39.3**	**-1.1**
	1.2nm,0.8s,baz=52,slow=8.3,SNR=4.7								
TORD	**Torodi Ar. Bea**	**44.90**	**247**	P			**P**	**11 26 49.5**	**0.0**
	0.5nm,0.5s,baz=39,slow=6.1,SNR=2.5								

IDC ***23*** *11:19:02.1±0.8, 38°.62N×43°.48E, h0km, mb4.2/14, mb1 4.3/18, mb1mx4.0/58, mbtmp4.2/18, ML3.4/5, Error ellipse: s-maj=16.4km s-min=10.4km az=157.0*
ISCJB ***23*** *11:19:04.6±0.6, 38°.68N±0°.04×43°.58E±0°.05, h24km±3km, mb4.3/36, Error ellipse: s-maj=6.3km s-min=5.9km az=27.7*
NEIC ***23*** *11:19:04.5±0.8, 38°.69N×43°.57E, h11km±5km, mb4.5/22, ML4.2(DDA), Error ellipse: s-maj=6.6km s-min=6.0km az=147.0*
CSEM ***23*** *11:19:04.1±0.2, 38°.65N×43°.58E, h10km, mb4.5/21, Error ellipse: s-maj=7.3km s-min=5.7km az=177.0*
DDA ***23*** *11:19:06.1, 38°.76N×43°.41E, h7km, Ml4.2*
ISC 23 11:19:05.3±0.9, 38°.78N±0°.02×43°.53E±0°.04, h16km±6km, n124, σ1°46/129, **mb4.3/37, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**10**	*i* P			**Pg**	**11 19 08.6**	**-1.9**
VMUR				*i* S			**Sb**	**11 19 16.0**	**+1.2**
VMUR	**Van-Muradiye**	**0.21**	**10**	P			**Pg**	**11 19 08.6**	**-1.9**
VMUR				S			**Sb**	**11 19 16.0**	**+1.2**
TVAN	**Van**	**0.27**	**200**	*i* P			**Pg**	**11 19 11.0**	**-0.3**
TVAN				*i* S			**Sb**	**11 19 15.6**	**-0.6**
TVAN	**Van**	**0.27**	**200**	P			**Pg**	**11 19 11.0**	**-0.3**
TVAN				S			**Sb**	**11 19 15.6**	**-0.6**
TVAN	**Van**	**0.27**	**200**	P			**Pg**	**11 19 11.0**	**-0.3**
TVAN				S			**Sb**	**11 19 15.6**	**-0.6**
GEVA	**Gevas**	**0.59**	**218**	*i* P			**Pn**	**11 19 21.1**	**+1.9**
GEVA	**Gevas**	**0.59**	**218**	*e*Pg			**Pg**	**11 19 16.6**	**-0.5**
GEVA	**Gevas**	**0.59**	**218**	*e*Pg			**Pg**	**11 19 16.6**	**-0.5**
TUTA	**Tutak**	**0.83**	**319**	*i* P			**Pg**	**11 19 20.6**	**-1.0**
TUTA				*i* S			**Sg**	**11 19 32.5**	**-0.1**
TUTA	**Tutak**	**0.83**	**319**	P			**Pg**	**11 19 20.6**	**-1.0**
TUTA				S			**Sg**	**11 19 32.5**	**-0.1**
EATA	**Eleskirt**	**1.35**	**324**	*i* P			**Pn**	**11 19 29.9**	**+0.2**
EATA				*i* S			**Sg**	**11 19 51.3**	**+2.4**
EATA	**Eleskirt**	**1.35**	**324**	P			**Pn**	**11 19 29.9**	**+0.2**
EATA				S			**Sg**	**11 19 51.3**	**+2.4**
EATA	**Eleskirt**	**1.35**	**324**	P			**Pn**	**11 19 29.9**	**+0.2**
EATA				S			**Sg**	**11 19 51.3**	**+2.4**
GNI	**Garni**	**1.66**	**34**	Pn			**Pn**	**11 19 34.5**	**+0.6**
	84nm,0.3s,baz=153,slow=14,SNR=3.6								
GNI				Lg			Lg	11 20 01.7	
	96nm,0.3s,baz=342,slow=20,SNR=2.8								
GNI	**Garni**	**1.66**	**34**	*e*Pn			**Pb**	**11 19 35.2**	**-0.5**
GNI				*e*Sn			**Sg**	**11 20 01.7**	**+2.8**
GNI	**Garni**	**1.66**	**34**	*e*Pn			**Pb**	**11 19 35.2**	**-0.5**
GNI				*e*Sn			**Sg**	**11 20 01.7**	**+2.8**
KBZ	**Khabaz**	**4.97**	**355**	Pg			**Pg**	**11 20 37.7**	**-2.8**
	0.4nm,0.3s,baz=181,slow=12,SNR=4.3								
BR101	**Keskin Array S**	**7.73**	**280**	*e*Pn			**Pn**	**11 20 57.0**	**-0.2**
BR101	**Keskin Array S**	**7.73**	**280**	*e*Pn			**Pn**	**11 20 57.0**	**-0.2**
BRTR	**Keskin Array B**	**7.73**	**280**	Pn			**Pn**	**11 20 57.0**	**-0.2**
	0.1nm,0.3s,baz=114,slow=18,SNR=3.5								
GEYT	**Alibeck**	**11.49**	**90**	Pn			**Pn**	**11 21 49.6**	**+0.9**
	0.1nm,0.3s,baz=262,slow=10.0,SNR=2.7								
MLR	**Muntele Rosu**	**14.65**	**303**	Pn			**Pn**	**11 22 34.7**	**+2.8**
	0.1nm,0.3s,baz=98,slow=15,SNR=2.3								
RAYN	**Ar Rayn**	**15.30**	**173**	*e*Pn			**Pn**	**11 22 38.5**	**-2.2**
	16nm,0.8s								
RAYN	**Ar Rayn**	**15.30**	**173**	*e*Pn			**Pn**	**11 22 38.5**	**-2.2**
	16nm,0.8s								
AKTO	**Aktyubinsk**	**15.53**	**37**	Pn			**Pn**	**11 22 41.1**	**-2.4**
	0.1nm,0.3s,baz=219,slow=13,SNR=2.8								
AKASG	**Malin Array Be**	**15.63**	**324**	Pn			**Pn**	**11 22 45.2**	**+0.5**
	0.7nm,0.3s,baz=131,slow=12,SNR=4.0								
AKBB	**Malin Array Si**	**15.63**	**324**	*e*Pn			**P**	**11 22 47.2**	**-1.6**
	13nm,1.1s								
AKBB	**Malin Array Si**	**15.63**	**324**	*e*Pn			**P**	**11 22 47.2**	**-1.6**
	13nm,1.1s								
CRVS	**Cervenica-Dubn**	**18.80**	**310**	*e*P			**Pn**	**11 23 25.7**	**+1.3**
CRVS	**Cervenica-Dubn**	**18.80**	**310**	*e*P			**Pn**	**11 23 25.6**	**+1.2**
VYHS	**Vyhne**	**20.26**	**307**	*e*P			Pn	11 23 41.7	-0.2
VYHS	**Vyhne**	**20.26**	**307**	*e*P			Pn	11 23 41.7	-0.2
ARU	**Arti**	**20.28**	**25**	P			**P**	**11 23 40.8**	**+0.8**
	10nm,0.6s,baz=249,slow=14,SNR=3.8								
ARU	**Arti**	**20.28**	**25**	*e*P			Pn	11 23 41.5	-0.5
	27nm,1.1s								
ARU	**Arti**	**20.28**	**25**	*e*P			Pn	11 23 41.5	-0.5
	27nm,1.1s								
KKAR	**Karatay Array**	**20.80**	**69**	*e*P			**P**	**11 23 46.7**	**+0.9**
	83nm,0.8s								
KKAR	**Karatay Array**	**20.80**	**69**	*e*P			**P**	**11 23 46.7**	**+0.9**
	83nm,0.8s								
KBL	**Kabul**	**20.88**	**94**	*e*P			**P**	**11 23 46.1**	**-0.8**
	10nm,1.0s								
KBL	**Kabul**	**20.88**	**94**	*e*P			**P**	**11 23 46.1**	**-0.8**
	10nm,1.0s								
VRAC	**Vranov**	**21.92**	**307**	P			**P**	**11 24 00.8**	**+3.0**
	5.0nm,0.7s,baz=93,slow=9.7,SNR=5.0								
ARSA	**Arzberg**	**22.06**	**302**	*i* P			**P**	**11 23 59.5**	**+0.2**
	8.6nm,1.5s								
ARSA	**Arzberg**	**22.06**	**302**	P			**P**	**11 23 59.5**	**+0.2**
	8.6nm,1.5s								
KRLC	**Kraliky**	**22.06**	**309**	*e*P			**P**	**11 23 59.8**	**+0.4**
KRLC	**Kraliky**	**22.06**	**309**	P			**P**	**11 23 59.8**	**+0.4**
DPC	**Dobruska-Polom**	**22.44**	**310**	*e*P			**P**	**11 23 57.5**	**-5.9**
BVAR	**Borovoye Array**	**23.32**	**44**	P			**P**	**11 24 13.2**	**+0.7**
	3.1nm,0.9s,baz=245,slow=9.0,SNR=4.3								
PRU	**Pruhonice**	**23.40**	**308**	*e*P			**P**	**11 24 16.7**	**+3.4**
GEC2	**GERESS Array S**	**23.62**	**305**	*e*P			**P**	**11 24 16.6**	**+1.1**
	5.7nm,1.1s								
GEC2	**GERESS Array S**	**23.62**	**305**	*e*P			**P**	**11 24 16.6**	**+1.1**
	5.7nm,1.1s								
GERES	**GERESS Array B**	**23.62**	**305**	P			**P**	**11 24 16.6**	**+1.1**
	2.2nm,0.9s,baz=103,slow=7.1,SNR=3.7								
KHC	**Kasperske Hory**	**23.77**	**306**	*e*P		

FETA	Feichten	25.25	300	*e*pP	P	11 24 35.1	+4.5
	5.5nm,0.8s						
RETA	Reutte	25.29	301	*e*P	P	11 24 32.3	+1.4
RETA	Reutte	25.29	301	P	P	11 24 32.3	+1.4
DAVOX	Davos/Dischmat	25.80	299	P	P	11 24 35.8	+0.1
	5.4nm,0.8s,baz=114,slow=10.0,SNR=2.8						
DAVA	Damuels	25.86	300	*e*P	P	11 24 36.9	+0.7
	8.0nm,1.0s						
DAVA	Damuels	25.86	300	P	P	11 24 36.9	+0.7
	8.0nm,1.0s						
KURBB	Kurchatov Arra	27.30	53	P	P	11 24 50.1	+1.2
	6.2nm,0.8s,baz=264,slow=9.3,SNR=10						
KURK	Kurchatov	27.37	53	*e*P	P	11 24 50.8	+1.2
	11nm,1.0s						
KURK	Kurchatov	27.37	53	*e*P	P	11 24 50.8	+1.2
	11nm,1.0s						
HFS	Hagfors	28.43	328	P	P	11 25 04.2	+5.3
	2.4nm,0.7s,baz=122,slow=14,SNR=2.8						
MK32	Makanchi Array	29.32	61	*e*P	P	11 25 07.9	+0.9
MK32	Makanchi Array	29.32	61	*e*P	P	11 25 07.9	+0.9
MKAR	Makanchi Array	29.32	61	P	P	11 25 07.9	+0.9
	1.8nm,0.8s,baz=267,slow=9.8,SNR=3.4						
SSB	Saint Sauveur	29.46	295	*e*P	P	11 25 08.9	+0.6
	14nm,1.5s						
SSB	Saint Sauveur	29.46	295	*e*P	P	11 25 08.9	+0.6
	14nm,1.5s						
NC602	NORSAR Array S	29.66	328	*e*P	P	11 25 11.9	+2.1
NC602	NORSAR Array S	29.66	328	*e*P	P	11 25 11.8	+2.1
ZALV	Zalesovo Beam	31.76	48	P	P	11 25 28.7	+0.2
	1.3nm,0.4s,baz=272,slow=12,SNR=3.1						
ZAA1	Zalesovo Array	31.76	48	*e*P	P	11 25 28.7	+0.2
ZAA1	Zalesovo Array	31.76	48	*e*P	P	11 25 28.7	+0.2
EKA	Eskdalemuir Ar	35.09	314	P	P	11 25 56.9	-0.5
	4.0nm,0.8s,baz=108,slow=8.3,SNR=2.8						
ESDC	Sonseca Array	36.46	287	P	P	11 26 08.6	-0.8
	2.0nm,0.8s,baz=65,slow=8.7,SNR=5.1						
TOA1	Torodi Ar. Sit	44.90	247	*e*P	P	11 27 17.6	-1.7
	7.9nm,1.5s						
TOA1	Torodi Ar. Sit	44.90	247	*e*P	P	11 27 17.6	-1.7
	7.9nm,1.5s						
TORD	Torodi Ar. Bea	44.90	247	P	P	11 27 17.6	-1.8
	3.2nm,1.1s,baz=53,slow=8.8,SNR=3.9						
CMAR	Chiang Mai Arr	51.88	97	P	P	11 28 12.4	-0.7
	4.5nm,1.1s,baz=297,slow=8.1,SNR=7.6						
TULEG	Thule	57.54	345	*e*P	P	11 28 53.8	+0.5
	82nm,1.2s						
TULEG	Thule	57.54	345	*e*P	P	11 28 53.8	+0.5
	82nm,1.2s						
KSAR	Wonju Array Be	63.98	62	P	P	11 29 37.5	-0.3
KSAR	Wonju Array Be	63.98	62	P	P	11 29 37.5	-0.3
KSRS	Korea Array	64.00	62	P	P	11 29 37.5	-0.4
	3.9nm,0.8s,baz=277,slow=6.1,SNR=3.6						
BOSA	Boshof	69.18	197	P	P	11 30 10.2	-0.9
	3.7nm,0.8s,baz=0.5,slow=4.2,SNR=6.6						
COLD	Coldfoot	73.80	6	*e*P	P	11 30 39.3	+0.9
	5.4nm,1.2s						
COLD	Coldfoot	73.80	6	*e*P	P	11 30 39.3	+0.9
	5.4nm,1.2s						
SUR	Sutherland	73.88	200	*e*P	P	11 30 37.9	-1.5
	26nm,1.4s						
SUR	Sutherland	73.88	200	*e*P	P	11 30 37.9	-1.5
	26nm,1.4s						
CCB	Clear Creek Bu	76.53	5	*e*P	P	11 30 54.1	0.0
	1.7nm,1.2s						
CCB	Clear Creek Bu	76.53	5	*e*P	P	11 30 54.1	0.0
	1.7nm,1.2s						
TT01	Tatalina	77.45	9	*e*P	P	11 30 58.5	-0.9
TT01	Tatalina	77.45	9	*e*P	P	11 30 58.5	-0.9
DAWY	Dawson	77.47	1	*e*P	P	11 30 59.5	-0.1
	3.3nm,1.0s						
DAWY	Dawson	77.47	1	*e*P	P	11 30 59.5	-0.1
	3.3nm,1.0s						
MENT	Mentasta	78.46	3	*e*P	P	11 31 05.8	+0.7
	6.1nm,1.4s						
MENT	Mentasta	78.46	3	*e*P	P	11 31 05.8	+0.7
	6.1nm,1.4s						
SUA	Susitna One	79.43	7	*e*P	P	11 31 11.1	+0.6
	3.3nm,0.8s						
SUA	Susitna One	79.43	7	*e*P	P	11 31 11.1	+0.6
	3.3nm,0.8s						
RAGM	Ragged Mountai	80.96	4	*e*P	P	11 31 19.4	+0.7
	8.3nm,1.0s						
RAGM	Ragged Mountai	80.96	4	*e*P	P	11 31 19.4	+0.7
	8.3nm,1.0s						
FFC	Flin Flon	82.28	341	*e*P	P	11 31 25.9	+0.2
	5.2nm,1.0s						
FFC	Flin Flon	82.28	341	*e*P	P	11 31 25.9	+0.2
	5.2nm,1.0s						
KDAK	Kodiak Island	82.85	9	*e*P	P	11 31 29.2	+0.6
	22nm,1.4s						
KDAK	Kodiak Island	82.85	9	*e*P	P	11 31 29.2	+0.6
	22nm,1.4s						
OHAK	Old Harbor	83.31	9	*e*P	P	11 31 31.5	+0.6
	2.2nm,0.6s						
OHAK	Old Harbor	83.31	9	*e*P	P	11 31 31.6	+0.6
	2.2nm,0.6s						
TKL	Tuckaleechee C	91.36	320	P	P	11 32 09.8	-0.7
	3.0nm,0.8s,baz=90,slow=10,SNR=3.4						
TKL	Tuckaleechee C	91.36	320	*e*P	P	11 32 10.7	+0.3
	14nm,1.4s						
TKL	Tuckaleechee C	91.36	320	*e*P	P	11 32 10.7	+0.3
	14nm,1.4s						
TXAR	Lajitas Array	105.64	331	Pdiff	Pdif	11 33 14.7	-0.4
	0.1nm,0.8s,baz=26,slow=2.3,SNR=2.6						
URZ	Urewera	143.99	104	PKP	PKPab	11 38 37.4	+0.3
	5.5nm,0.8s,baz=309,slow=6.1,SNR=4.9						
URZ	Urewera	143.99	104	*e*PKPdf	PKPbc	11 38 38.3	+0.6

DDA ***23*** *11:27:14.7,38.°74N×43.°11E,h7km,Md2.6*
ISCJB ***23*** *11:27:15.7±0.5,38.°77N±0.°02×43.°11E±0.°02,h3km±3km, mb3.7/13,Error ellipse: s-maj=3.3km s-min=2.9km az=149.7*
ISK ***23*** *11:27:15.3,38.°80N×43.°11E,h5km,ML4.2*
IDC ***23*** *11:27:15.4±0.7,38.°56N×43.°19E,h21km±3km,mb3.7/14, mb1 3.7/17,mb1mx3.5/81,mbtmp3.7/17,ML3.4/3,Error ellipse: s-maj=15.0km s-min=9.2km az=164.0*
CSEM ***23*** *11:27:16.8±0.2,38.°74N×43.°04E,h5km,MD2.6,Error ellipse: s-maj=4.9km s-min=4.5km az=163.0*
TEH ***23*** *11:27:21.4,38.°71N×43.°33E,h18km,ML4.0*
AZER ***23*** *11:27:24.0±0.8,38.°71N×43.°66E,h12km,Error ellipse: s-maj=6.6km s-min=5.9km az=148.0*

ISC 23 11:27:16.4±0.4,**38.°74N**±0.°02×**43.°17E**±0.°02,**h14**km±2km, **n126**,σ2°**00**/177,**mb4.0**/13,**16C-18D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.29**	**139**	*i* P	**Pg**	**11 27 22.0**	**-0.6**
TVAN				*i* S	**Sg**	**11 27 27.2**	**+0.4**
TVAN	**Van**	**0.29**	**139**	P	**Pg**	**11 27 22.0**	**-0.6**
TVAN				S	**Sg**	**11 27 27.2**	**+0.4**
VMUR	**Van-Muradiye**	**0.40**	**52**	*i* P	**Pg**	**11 27 22.8**	**-1.8**
VMUR				*i* S	**Sg**	**11 27 29.3**	**-0.9**
GEVA	**Gevas**	**0.44**	**191**	*i* P	**Pg**	**11 27 22.4**	**-2.8**
GEVA				*i* S	**Sg**	**11 27 30.1**	**-1.1**
GEVA	**Gevas**	**0.44**	**191**	P	**Pg**	**11 27 22.4**	**-2.8**
GEVA				S	**Sg**	**11 27 30.1**	**-1.1**
TUTA	**Tutak**	**0.71**	**338**	*i* P	**Pg**	**11 27 27.9**	**-2.5**
TUTA				*i* S	**Sg**	**11 27 38.7**	**-1.1**
TUTA	**Tutak**	**0.71**	**338**	P	**Pg**	**11 27 27.9**	**-2.5**
TUTA				S	**Sg**	**11 27 38.7**	**-1.1**
AGRB	**Hanur-Agry**	**0.84**	**351**	*e*PG	**Pg**	**11 27 31.2**	**-1.6**
AGRB				*e*SG	**Sg**	**11 27 43.0**	**-0.9**
AGRB	**Hanur-Agry**	**0.84**	**351**	*e*Pg	**Pg**	**11 27 31.2**	**-1.6**
AGRB				*e*Sg	**Sg**	**11 27 43.0**	**-0.9**
EKAR	**Karacoban**	**1.00**	**301**	*i* P	**Pg**	**11 27 36.3**	**+0.5**
EKAR				*i* S	**Sn**	**11 27 55.8**	**+5.6**
EKAR	**Karacoban**	**1.00**	**301**	P	**Pg**	**11 27 36.3**	**+0.5**
EATA	**Eleskirt**	**1.23**	**335**	*i* P	**Pn**	**11 27 37.6**	**-1.9**
EATA				*i* S	**Sb**	**11 27 56.0**	**+0.5**
EATA	**Eleskirt**	**1.23**	**335**	P	**Pn**	**11 27 37.6**	**-1.9**
EATA				S	**Sb**	**11 27 56.0**	**+0.5**
SIRN	**S¨–rnak**	**1.38**	**206**	*i* P	**Pn**	**11 27 40.9**	**-0.4**
SIRN				*i* S	**Sn**	**11 27 59.1**	**-0.2**
SIRN	**S¨–rnak**	**1.38**	**206**	P	**Pn**	**11 27 40.9**	**-0.4**
SIRN				S	**Sn**	**11 27 59.1**	**-0.2**
VRTB	**Varto-Mus**	**1.40**	**288**	*e*PN	**Pn**	**11 27 42.0**	**+0.4**
VRTB	**Varto-Mus**	**1.40**	**288**	*e*Pn	**Pn**	**11 27 42.0**	**+0.4**
CUKT	**Cukurca**	**1.53**	**167**	*e*PN	**Pg**	**11 27 45.6**	**-0.3**
CUKT				*e*SN	**Sg**	**11 28 07.8**	**+1.9**
CUKT	**Cukurca**	**1.53**	**167**	*e*Pn	**Pg**	**11 27 45.6**	**-0.3**
CUKT				*e*Sn	**Sg**	**11 28 07.8**	**+1.9**
SVAN	**Silvan-Diyarba**	**1.65**	**250**	*e*PN	**Pn**	**11 27 45.2**	**+0.2**
SVAN				*e*SN	**Sb**	**11 28 08.7**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.65**	**250**	*e*Pn	**Pn**	**11 27 45.2**	**+0.2**
SVAN				*e*Sn	**Sb**	**11 28 08.7**	**+1.3**
DIGO	**Kars**	**1.68**	**5**	*i* P	**Pn**	**11 27 46.0**	**+0.5**
DIGO	**Kars**	**1.68**	**5**	P	**Pn**	**11 27 46.0**	**+0.5**
GNI	**Garni**	**1.86**	**40**	Pn	**Pn**	**11 27 49.3**	**+1.3**
	41nm,0.3s,baz=243,slow=2.3,SNR=6.3						
GNI				Sn	**Sg**	**11 28 15.9**	**-0.4**
	86nm,0.3s,baz=102,slow=10,SNR=3.5						
NAX	**Nakhchivan**	**1.87**	**76**	⇓P	**Pn**	**11 27 49.1**	**+1.2**
NAX				⇓S	**Sn**	**11 28 11.3**	**-0.1**
NAX	**Nakhchivan**	**1.87**	**76**	P	**Pn**	**11 27 49.2**	**+1.2**
NAX				S	**Sn**	**11 28 11.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.92**	**341**	*e*PN	**Pn**	**11 27 49.6**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.92**	**341**	*e*Pn	**Pn**	**11 27 49.6**	**+0.7**
BNGB	**Bing¶‖**	**1.96**	**278**	*e*PN	**Pn**	**11 27 50.0**	**+0.7**
EAK	**Akyaka**	**1.97**	**10**	*i* P	**Pb**	**11 27 52.6**	**+0.4**
EAK	**Akyaka**	**1.97**	**10**	P	**Pb**	**11 27 52.6**	**+0.4**
ISHB	**Shabestar**	**1.98**	**103**	*e*Pn	**Pb**	**11 27 52.4**	**+0.1**
ISHB				*e*AMB	AMB	11 27 56.2	
	comp=Z,14μm,0.2s						
IMRD	**Marand**	**1.98**	**90**	*e*Pn	**Pb**	**11 27 52.6**	**+0.2**
IMRD				*e*AMB	AMB	11 28 03.1	
	comp=Z,39μm,0.3s						
IMRD				*e*Sg	**Sg**	**11 28 19.7**	**-0.6**
IMRD	**Marand**	**1.98**	**90**	*e*Pn	**Pb**	**11 27 52.6**	**+0.2**
IMRD				*e*Sg	**Sg**	**11 28 19.7**	**-0.6**
BINT	**Bingol**	**2.10**	**274**	*e*Pn	**Pn**	**11 27 50.0**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.15**	**290**	*e*PN	**Pn**	**11 27 52.9**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.15**	**290**	*e*Pn	**Pn**	**11 27 52.9**	**+0.9**
ITBZ	**Tabriz**	**2.40**	**101**	*e*Pn	**Pb**	**11 27 58.2**	**-1.2**
ITBZ				*e*AMB	AMB	11 28 03.5	
	comp=Z,4μm,0.3s						
ITBZ	**Tabriz**	**2.40**	**101**	*e*Pn	**Pb**	**11 27 58.2**	**-1.2**
MAZI	**Mazidag**	**2.50**	**240**	*e*PN	**Pn**	**11 27 58.6**	**+1.9**
MAZI	**Mazidag**	**2.50**	**240**	*e*Pn	**Pn**	**11 27 58.6**	**+1.9**
AKH	**Akhalkalaki**	**2.67**	**5**	*e*PN	**Pn**	**11 27 59.9**	**+0.7**
AKH	**Akhalkalaki**	**2.67**	**5**	P	**Pb**	**11 28 04.8**	**+0.6**
AKH	**Akhalkalaki**	**2.67**	**5**	*e*Pn	**Pn**	**11 27 59.9**	**+0.7**
ERZN	**Erzincan**	**2.81**	**289**	*e*PN	**Pn**	**11 28 01.6**	**+0.7**
GDB	**GEDABAY**	**2.81**	**44**	⇑P	**Pb**	**11 28 06.9**	**+0.4**
GDB				⇓S	**Sb**	**11 28 38.3**	**-2.4**
GDB	**GEDABAY**	**2.81**	**44**	P	**Pb**	**11 28 06.9**	**+0.4**
GDB				S	**Sb**	**11 28 38.3**	**-2.4**
QZX	**Qazax, Azerbai**	**2.87**	**36**	⇓P	**Pb**	**11 28 07.5**	**+0.1**
QZX				⇓S	**Sb**	**11 28 40.3**	**-2.0**
QZX	**Qazax, Azerbai**	**2.87**	**36**	P	**Pb**	**11 28 07.5**	**+0.1**
QZX				S	**Sb**	**11 28 40.3**	**-2.0**
PTK	**Pertek**	**2.95**	**274**	*e*PN	**Pn**	**11 28 03.7**	**+0.7**
PTK	**Pertek**	**2.95**	**274**	*e*Pn	**Pn**	**11 28 03.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.05**	**264**	*e*PN	**Pn**	**11 28 05.7**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.05**	**264**	*e*Pn	**Pn**	**11 28 05.7**	**+1.4**
IHRS	**Heris**	**3.07**	**97**	*e*AMB	AMB	11 28 14.7	
	comp=Z,8μm,0.4s						
IHRS				*e*Pn	**Pn**	**11 28 07.0**	**+2.3**
GANJ	**Ganja**	**3.09**	**51**	⇑P	**Pb**	**11 28 09.5**	**-1.6**
GANJ				⇑S	**Sn**	**11 28 44.2**	**+2.8**
GANJ	**Ganja**	**3.09**	**51**	P	**Pb**	**11 28 09.5**	**-1.6**
GANJ				S	**Sn**	**11 28 44.2**	**+2.8**
IBST	**Bostanabad**	**3.11**	**108**	*e*AMB	AMB	11 28 17.2	
	comp=Z,3μm,0.4s						
IBST				*e*Pn	**Pn**	**11 28 07.8**	**+2.5**
EZC	**Erzincan**	**3.13**	**290**	*e*PN	**Pn**	**11 28 01.6**	**-3.8**
DGRG	**David-gareji**	**3.19**	**31**	P	**Pn**	**11 28 08.4**	**+2.3**
TBLG	**Delisi**	**3.22**	**21**	*e*PN	**Pn**	**11 28 07.8**	**+1.3**
TBLG	**Delisi**	**3.22**	**21**	P	**Pb**	**11 28 13.4**	**+0.1**
TBLG	**Delisi**	**3.22**	**21**	*e*Pn	**Pn**	**11 28 07.8**	**+1.3**
TBLG	**Delisi**	**3.22**	**21**	P	**Pb**	**11 28 13.4**	**+0.1**
BRDA	**Brd**	**3.46**	**63**	⇑P	**Pn**	**11 28 13.4**	**+3.7**
	SNR=2.8						
BRDA				⇓S	**Sn**	**11 28 51.8**	**+1.4**
BRDA	**Brd**	**3.46**	**63**	P	**Pn**	**11 28 13.4**	**+3.7**
	SNR=2.8						
BRDA				S	**Sn**	**11 28 51.8**	**+1.4**
MNGR	**Mingechevir, A**	**3.64**	**55**	⇓P	**Pn**	**11 28 16.6**	**+4.4**
	SNR=4.5						
MNGR				⇓S	**Sn**	**11 28 56.6**	**+1.7**
MNGR	**Mingechevir, A**	**3.64**	**55**	P	**Pn**	**11 28 16.6**	**+4.4**
	SNR=4.5						
MNGR				S	**Sn**	**11 28 56.6**	**+1.7**
ISRB	**Sarab**	**3.66**	**103**	*e*Pn	**Pn**	**11 28 15.2**	**+2.4**
ISRB				*e*AMB	AMB	11 28 28.1	
	comp=Z,4μm,0.3s						
ISRB	**Sarab**	**3.66**	**103**	*e*Pn	**Pn**	**11 28 15.2**	**+2.4**
URFA	**Urfa**	**3.67**	**251**	*e*PN	**Pn**	**11 28 14.9**	**+2.2**
URFA	**Urfa**	**3.67**	**251**	*e*Pn	**Pn**	**11 28 14.9**	**+2.2**
ZRD	**Zardab**	**3.82**	**65**	⇑P	**Pn**	**11 28 18.4**	**+3.7**
	SNR=4.7						
ZRD				⇑S	**Sn**	**11 29 00.1**	**+0.8**
ZRD	**Zardab**	**3.82**	**65**	P	**Pn**	**11 28 18.4**	**+3.7**
	SNR=4.7						
ZRD				S	**Sn**	**11 29 00.1**	**+0.8**
ONI	**Oni**	**3.85**	**3**	P	**Pb**	**11 28 26.5**	**+2.4**
ZKTA	**Zakatala**	**3.92**	**41**	⇑P	Pn	11 28 20.9	+4.7
SEKA	**Sheki**	**3.96**	**50**	⇓P	Pn	11 28 21.7	+5.0
SEKA				⇓S	**Sn**	**11 29 05.8**	**+2.8**
SEKA	**Sheki**	**3.96**	**50**	P	Pn	11 28 21.7	+5.0
SEKA				S	**Sn**	**11 29 05.8**	**+2.8**
LRK	**Lerik**	**4.05**	**90**	⇑P	**Pn**	**11 28 21.0**	**+2.9**
	SNR=5.1						
LRK				⇑S	**Sn**	**11 29 04.4**	**-0.9**
LRK	**Lerik**	**4.05**	**90**	P	**Pn**	**11 28 21.0**	**+2.9**
	SNR=5.1						
GLBA	**Cilabad**	**4.10**	**81**	⇑P	**Pn**	**11 28 21.4**	**+2.8**
	SNR=4.9						
GLBA				⇓S	**Sn**	**11 29 05.8**	**-0.6**
GLBA	**Cilabad**	**4.10**	**81**	P	**Pn**	**11 28 21.4**	**+2.8**
	SNR=4.9						
KDMR	**Kurdemir**	**4.21**	**66**	⇓S	**Sn**	**11 29 08.8**	**-0.2**
KDMR	**Kurdemir**	**4.21**	**66**	S	**Sn**	**11 29 08.8**	**-0.2**
QBL	**Gabala**	**4.21**	**57**	⇓P	**Pn**	**11 28 23.9**	**+3.6**
	SNR=4.2						
QBL				⇑S	**Sn**	**11 29 09.6**	**+0.3**
QBL	**Gabala**	**4.21**	**57**	P	**Pn**	**11 28 23.9**	**+3.6**
	SNR=4.2						
QBL				S	**Sn**	**11 29 09.6**	**+0.3**
IML	**Ismayilli**	**4.37**	**61**	⇓P	**Pn**	**11 28 25.8**	**+3.4**
IML	**Ismayilli**	**4.37**	**61**	P	**Pn**	**11 28 25.8**	**+3.4**
LKRN	**Lenkeran, Azer**	**4.39**	**89**	⇑P	**Pn**	**11 28 25.3**	**+2.7**
	SNR=6.2						
LKRN	**Lenkeran, Azer**	**4.39**	**89**	P	**Pn**	**11 28 25.3**	**+2.7**
	SNR=6.2						
ASTR	**Astara**	**4.41**	**91**	⇑P	**Pn**	**11 28 25.4**	**+2.6**
	SNR=5.8						
ASTR	**Astara**	**4.41**	**91**	P	**Pn**	**11 28 25.4**	**+2.6**
	SNR=5.8						
XNQ	**Khinaliq**	**4.53**	**56**	⇑P	**Pn**	**11 28 28.1**	**+3.4**
XNQ	**Khinaliq**	**4.53**	**56**	P	**Pn**	**11 28 28.1**	**+3.4**
PQL	**Pirkuli**	**4.66**	**62**	⇓P	**Pn**	**11 28 29.6**	**+3.2**
PQL	**Pirkuli**	**4.66**	**62**	P	**Pn**	**11 28 29.6**	**+3.2**
QSAR	**Qusar**	**4.79**	**53**	⇑P	**Pn**	**11 28 31.9**	**+3.8**
QSAR	**Qusar**	**4.79**	**53**	P	**Pn**	**11 28 31.9**	**+3.8**
GBS	**Qobustan**	**4.80**	**66**	⇓P	**Pn**	**11 28 31.0**	**+2.6**
GBS	**Qobustan**	**4.80**	**66**	P	**Pn**	**11 28 31.0**	**+2.6**
QUBA	**Quba, Azerbaij**	**4.85**	**56**	⇓P	**Pn**	**11 28 32.4**	**+3.4**
QUBA	**Quba, Azerbaij**	**4.85**	**56**	P	**Pn**	**11 28 32.4**	**+3.4**
ATGJ	**Altiaghaj**	**4.92**	**63**	⇓P	**Pn**	**11 28 32.7**	**+2.7**
ATGJ	**Altiaghaj**	**4.92**	**63**	P	**Pn**	**11 28 32.7**	**+2.7**
KBZ	**Khabaz**	**4.99**	**358**	Pg	**Pb**	**11 28 47.7**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=3.8						
SIZA	**Siyzn**	**4.99**	**60**	⇑P	**Pn**	**11 28 34.0**	**+3.1**
SIZA	**Siyzn**	**4.99**	**60**	P	**Pn**	**11 28 34.0**	**+3.1**
BRTR	**Keskin Array B**	**7.46**	**281**	Pn	**Pn**	**11 29 05.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=2.4						
ASF	**Jabal al Asfar**	**8.31**	**220**	Pn	**Pn**	**11 29 13.2**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=324,slow=19,SNR=2.6						
MMAI	**Mount Meron Ar**	**8.50**	**230**	Pn	**Pn**	**11 29 22.2**	**+3.1**
	comp=Z,1.2nm,0.3s,baz=52,slow=15,SNR=2.7						
AKASG	**Malin Array Be**	**15.49**	**325**	Pn	**Pn**	**11 30 54.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=3.2						
CRVS	**Cervenica-Dubn**	**18.60**	**310**	*e*PN	**P**	**11 31 33.8**	**+0.7**
VYHS	**Vyhne**	**20.05**	**307**	*e*PN	**P**	**11 31 50.0**	**+1.0**
ARU	**Arti**	**20.43**	**25**	P	**P**	**11 31 52.9**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=248,slow=9.6,SNR=3.6						
GERES	**GERESS Array B**	**23.41**	**305**	P	**P**	**11 32 25.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=119,slow=8.0,SNR=2.6						
GERES				pP	**sP**	**11 32 32.2**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=103,slow=9.7,SNR=4.2						
BVAR	**Borovoye Array**	**23.54**	**44**	P	**P**	**11 32 26.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=260,slow=5.7,SNR=3.2						
BVAR				sP	**sP**	**11 32 34.0**	**+1.8**
	comp=Z,2.8nm,1.1s,baz=232,slow=9.3,SNR=4.1						
FINES	**FINESS Array B**	**25.07**	**341**	P	**P**	**11 32 39.5**	**-0.6**
	comp=Z,5.4nm,1.1s,baz=134,slow=11,SNR=5.1						
FINES				pP	**pP**	**11 32 45.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=133,slow=16,SNR=2.4						
KURBB	**Kurchatov Arra**	**27.54**	**53**	P	**P**	**11 33 01.5**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=264,slow=9.2,SNR=4.6						
KURBB				pP	**pP**	**11 33 07.2**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=263,slow=8.9,SNR=11						
KURBB				sP	**sP**	**11 33 12.2**	**+3.5**
	comp=Z,2.6nm,0.7s,baz=263,slow=8.9,SNR=11						
HFS	**Hagfors**	**28.32**	**329**	P	**P**	**11 33 08.2**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=140,slow=11,SNR=4.7						
HFS				pP	**sP**	**11 33 14.9**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=133,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**29.58**	**61**	P	**P**	**11 33 21.0**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=269,slow=5.8,SNR=3.2						
MKAR				pP	**sP**	**11 33 26.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=284,slow=4.9,SNR=3.4						
NOA	**NORSAR Array B**	**29.84**	**329**	P	**P**	**11 33 21.1**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=134,slow=9.2,SNR=2.5						
ARCES	**ARCESS Array B**	**32.27**	**348**	P	**P**	**11 33 42.8**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=140,slow=4.0,SNR=5.6						
EKA	**Eskdalemuir Ar**	**34.91**	**314**	P	**P**	**11 34 06.5**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=108,slow=8.1,SNR=11						
EKA				pP	**pP**	**11 34 12.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=108,slow=8.1,SNR=3.6						
ESDC	**Sonseca Array**	**36.20**	**287**	P	**P**	**11 34 16.6**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=60,slow=8.9,SNR=3.8						
ESDC				pP	**sP**	**11 34 24.4**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=68,slow=9.1,SNR=8.8						
TORD	**Torodi Ar. Bea**	**44.63**	**247**	P	**P**	**11 35 26.0**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=47,slow=9.3,SNR=3.0						
TORD				pP	**pP**	**11 35 33.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=50,slow=8.9,SNR=9.6						
CMAR	**Chiang Mai Arr**	**52.15**	**96**	P	**P**	**11 36 24.5**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=302,slow=8.2,SNR=5.4						
CMAR				pP	**pP**	**11 36 29.5**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=296,slow=8.1,SNR=2.2						
KSRS	**Korea Array**	**64.26**	**62**	P	**P**	**11 37 49.4**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=302,slow=6.8,SNR=6.4						
KSRS				pP	**pP**	**11 37 54.1**	**-1.6**
	comp=Z,2.5nm,1.1s,baz=95,slow=28,SNR=2.9						
KSRS				sP	**sP**	**11 37 58.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=28,slow=22,SNR=2.7						

ISCJB ***23*** *11:28:56.8±1.0,31.°92N±0.°03×114.°93W±0.°08,h10km±8km, Error ellipse: s-maj=11.9km s-min=4.6km az=174.9*
MEX ***23*** *11:28:57.9±0.6,31.°89N×114.°79W,h3km±21km,MD3.8*
ECX ***23*** *11:28:58.2±0.5,31

TVAN			*i* S	Sb	11 32 52.6	+1.5
TVAN	**Van**	**0.25 183**	P	Pb	11 32 48.0	+1.0
TVAN			S	Sb	11 32 52.7	+1.5
TVAN	**Van**	**0.25 183**	P	Pb	11 32 48.2	+1.1
TVAN			S	Sb	11 32 52.6	+1.5
GEVA	**Gevas**	**0.55 212**	⇑*i*P	Pg	11 32 50.1	-1.8
GEVA	**Gevas**	**0.55 212**	⇑*i*P	Pg	11 32 50.0	-1.8
GEVA			*i* S	Sg	11 32 58.6	-0.6
GEVA	**Gevas**	**0.55 212**	P	Pg	11 32 50.3	-1.6
GEVA			S	Sg	11 32 58.6	-0.6
GEVA	**Gevas**	**0.55 212**	P	Pg	11 32 50.3	-1.6
GEVA			S	Sg	11 32 59.5	+0.3
TUTA	**Tutak**	**0.79 323**	*e*P	Pb	11 32 54.4	-1.7
TUTA			IAML		11 33 08.5	
comp=Z,71μm,0.3s						
TUTA	**Tutak**	**0.79 323**	⇓*i*P	Pb	11 32 54.7	-1.5
TUTA			*i* S	Sb	11 33 06.3	-0.4
TUTA	**Tutak**	**0.79 323**	P	Pb	11 32 54.5	-1.7
TUTA			S	Sb	11 33 06.6	0.0
TUTA	**Tutak**	**0.79 323**	P	Pb	11 32 54.5	-1.7
TUTA			S	Sb	11 33 06.6	0.0
DYDN	**Diyadin**	**0.79 15**	*e*P	Pb	11 32 55.8	-0.6
DYDN	**Diyadin**	**0.79 15**	⇑*i*P	Pb	11 32 55.2	-1.2
DYDN			*i* S	Sg	11 33 07.7	+0.7
DYDN	**Diyadin**	**0.79 15**	P	Pb	11 32 55.2	-1.2
DYDN			S	Sg	11 33 07.7	+0.7
DYDN	**Diyadin**	**0.79 15**	P	Pb	11 32 55.8	-0.6
DYDN			S	Sg	11 33 07.7	+0.7
BASK	**Baskale_VAN**	**0.85 148**	*e*P	Pb	11 32 55.9	-1.5
BASK			*e*S	Sn	11 33 10.9	+0.4
BASK			IAML		11 33 25.6	
comp=Z,35μm,0.4s						
BASK	**Baskale_VAN**	**0.85 148**	⇓*i*P	Pb	11 32 55.5	-1.9
BASK			*i* S	Sn	11 33 10.5	0.0
BASK	**Baskale_VAN**	**0.85 148**	P	Pb	11 32 55.5	-1.9
BASK			S	Sn	11 33 10.5	0.0
AGRB	**Hanur-Agry**	**0.87 337**	*e*PG	Pb	11 32 56.9	-0.7
AGRB			*e*SG	Sb	11 33 09.2	+0.2
AGRB	**Hanur-Agry**	**0.87 337**	*e*Pg	Pb	11 32 56.9	-0.7
AGRB			Sg	Sg	11 33 09.9	+0.6
AGRB	**Hanur-Agry**	**0.87 337**	Pg	Pb	11 32 56.9	-0.7
AGRB			Sg	Sg	11 33 09.9	+0.6
EKAR	**Karacoban**	**1.16 295**	*e*P	Pn	11 33 01.8	-0.8
EKAR	**Karacoban**	**1.16 295**	⇓*i*P	Pn	11 33 02.1	-0.5
EKAR			*i* S	Sg	11 33 24.7	+6.0
EKAR	**Karacoban**	**1.16 295**	P	Pn	11 33 02.1	-0.5
EKAR			S	Sg	11 33 24.7	+6.0
EKAR	**Karacoban**	**1.16 295**	P	Pn	11 33 02.4	-0.2
EKAR			S	Sg	11 33 24.7	+6.0
EATA	**Eleskirt**	**1.30 327**	*e*P	Pn	11 33 04.5	-0.1
EATA	**Eleskirt**	**1.30 327**	⇓*i*P	Pn	11 33 04.2	-0.4
EATA			*i* S	Sg	11 33 24.0	+0.8
EATA	**Eleskirt**	**1.30 327**	P	Pn	11 33 04.2	-0.4
EATA			S	Sg	11 33 24.0	+0.8
EATA	**Eleskirt**	**1.30 327**	P	Pn	11 33 03.9	-0.7
EATA			S	Sg	11 33 24.0	+0.8
SIRN	**S¨–rnak**	**1.51 212**	⇑*i*P	Pn	11 33 07.9	+0.7
SIRN			*i* S	Sb	11 33 28.7	+1.4
SIRN	**S¨–rnak**	**1.51 212**	P	Pn	11 33 07.9	+0.7
SIRN			S	Sb	11 33 28.7	+1.4
SIRN	**S¨–rnak**	**1.51 212**	P	Pb	11 33 08.7	+0.2
SIRN			S	Sg	11 33 32.1	+2.6
CUKT	**Cukurca**	**1.53 175**	*e*PN	Pg	11 33 11.1	+0.7
CUKT			*e*SN	Sg	11 33 33.0	+2.6
CUKT	**Cukurca**	**1.53 175**	⇑*i*P	Pb	11 33 09.6	+0.7
CUKT			*i* S	Sg	11 33 33.5	+3.0
CUKT	**Cukurca**	**1.53 175**	P	Pb	11 33 09.6	+0.7
CUKT	**Cukurca**	**1.53 175**	*e*Pn	Pg	11 33 11.1	+0.7
CUKT			Sn	Sg	11 33 33.1	+2.6
CUKT	**Cukurca**	**1.53 175**	Pn	Pg	11 33 11.1	+0.7
CUKT			Sn	Sg	11 33 33.1	+2.6
VRTB	**Varto-Mus**	**1.58 285**	*e*PN	Pn	11 33 09.3	+1.1
VRTB			*e*SN	Sb	11 33 30.6	+1.1
VRTB	**Varto-Mus**	**1.58 285**	⇓*i*P	Pn	11 33 08.1	-0.1
VRTB			*i* S	Sg	11 33 32.7	+0.7
VRTB	**Varto-Mus**	**1.58 285**	P	Pn	11 33 08.1	-0.1
VRTB	**Varto-Mus**	**1.58 285**	Pn	Pn	11 33 08.9	+0.6
VRTB			*e*Sn	Sb	11 33 30.6	+1.1
VRTB			S	Sg	11 33 32.7	+0.7
VRTB	**Varto-Mus**	**1.58 285**	Pn	Pn	11 33 08.8	+0.6
VRTB			S	Sg	11 33 33.7	+1.7
DIGO	**Kars**	**1.64 359**	*e*P	Pn	11 33 10.0	+0.9
DIGO			IAML		11 33 20.3	
comp=Z,4μm,0.4s						
DIGO	**Kars**	**1.64 359**	*i* P	Pb	11 33 10.4	-0.3
DIGO			*i* S	Sg	11 33 36.3	+2.6
DIGO	**Kars**	**1.64 359**	P	Pb	11 33 10.4	-0.3
DIGO			S	Sg	11 33 36.3	+2.6
DIGO	**Kars**	**1.64 359**	P	Pn	11 33 09.8	+0.7
NAX	**Nakhchivan**	**1.66 76**	⇓P	Pn	11 33 08.8	-0.5
NAX			⇑S	Sn	11 33 30.7	+0.4
NAX	**Nakhchivan**	**1.66 76**	P	Pn	11 33 08.8	-0.5
NAX			S	Sn	11 33 30.7	+0.4
GNI	**Garni**	**1.71 36**	Pn	Pb	11 33 11.4	-0.5
comp=Z,864nm,0.3s,baz=219,slow=3.6,SNR=81						
GNI			Lg	Lg	11 33 37.2	
comp=Z,2μm,0.3s,baz=52,slow=21,SNR=11						
GNI	**Garni**	**1.71 36**	*d*P	Pb	11 33 11.6	-0.3
HOMI	**Horasan**	**1.73 318**	*e*P	Pb	11 33 12.1	-0.2
HOMI			IAML		11 33 15.3	
comp=Z,15μm,0.5s						
HOMI			*e*S	Sg	11 33 38.8	+2.1
HOMI	**Horasan**	**1.73 318**	⇓*i*P	Pn	11 33 11.5	+1.2
HOMI			*i* S	Sg	11 33 39.6	+2.9
HOMI	**Horasan**	**1.73 318**	P	Pn	11 33 11.5	+1.2
HOMI			S	Sg	11 33 39.6	+2.9
HOMI	**Horasan**	**1.73 318**	P	Pn	11 33 11.5	+1.2
HOMI			S	Sg	11 33 39.6	+2.9
IMRD	**Marand**	**1.78 91**	*e*Pn	Pb	11 33 12.3	-1.0
IMRD			*e*AMB	AMB	11 33 14.5	
comp=Z,1095μm,0.4s						
IMRD			*e*Sg	Sg	11 33 38.1	-0.4
IMRD	**Marand**	**1.78 91**	Pn	Pb	11 33 12.2	-1.0
IMRD			Sg	Sg	11 33 38.0	-0.4
IMRD	**Marand**	**1.78 91**	Pn	Pb	11 33 12.2	-1.0
IMRD			Sg	Sg	11 33 38.0	-0.4
BNGL	**BINGOL**	**1.78 276**	*e*P	Pn	11 33 11.7	+0.6
BNGL			*e*S	Sg	11 33 38.0	-0.5
BNGL			IAML		11 33 50.3	
comp=Z,42μm,0.6s						
BNGL	**BINGOL**	**1.78 276**	⇓*i*P	Pn	11 33 11.3	+0.2
BNGL			*i* S	Sg	11 33 39.2	+0.7
ISHB	**Shabestar**	**1.79 105**	*e*Pn	Pn	11 33 12.2	+1.0
ISHB			*e*AMB	AMB	11 33 22.0	
comp=Z,14μm,0.3s						
ISHB	**Shabestar**	**1.79 105**	Pn	Pn	11 33 12.2	+1.0
ISHB	**Shabestar**	**1.79 105**	Pn	Pn	11 33 12.2	+1.0
SVAN	**Silvan-Diyarba**	**1.86 251**	*e*PN	Pn	11 33 13.3	+1.4
SVAN			*e*SN	Sb	11 33 38.1	+0.8
SVAN	**Silvan-Diyarba**	**1.86 251**	⇓*i*P	Pn	11 33 13.0	+1.1
SVAN			*i* S	Sb	11 33 37.1	-0.2
SVAN	**Silvan-Diyarba**	**1.86 251**	P	Pn	11 33 13.0	+1.1
SVAN	**Silvan-Diyarba**	**1.86 251**	*e*Pn	Pn	11 33 13.3	+1.4
SVAN			S	Sb	11 33 37.1	-0.2
SVAN			Sn	Sb	11 33 38.5	+1.2
SVAN	**Silvan-Diyarba**	**1.86 251**	Pn	Pb	11 33 14.5	+0.2
SVAN			Sn	Sb	11 33 38.5	+1.2
BTMN	**Batman**	**1.91 243**	⇑*i*P	Pn	11 33 13.3	+0.6
BTMN			*i* S	Sb	11 33 40.1	+1.2
BTMN	**Batman**	**1.91 243**	P	Pn	11 33 13.3	+0.6
BTMN			S	Sb	11 33 40.1	+1.2
EAK	**Akyaka**	**1.91 4**	*e*P	Pb	11 33 15.9	+0.5
EAK			IAML		11 33 32.1	
comp=Z,5μm,0.6s						
EAK	**Akyaka**	**1.91 4**	⇑*i*P	Pb	11 33 15.4	0.0
EAK			*i* S	Sg	11 33 50.6	+8.1
EAK	**Akyaka**	**1.91 4**	P	Pb	11 33 15.4	0.0
EAK			S	Sg	11 33 50.6	+8.1
ERZM	**Erzurum**	**1.95 306**	⇓*e*PN8	Pn	11 33 14.5	+1.0
SENK	**Senkaya-Erzuru**	**1.97 335**	*e*PN	Pn	11 33 15.3	+1.7
SENK	**Senkaya-Erzuru**	**1.97 335**	*e*Pn	Pn	11 33 15.3	+1.7
ECAT	**Cat-ERZURUM**	**2.08 294**	*e*P	Pb	11 33 17.3	-0.9
ECAT	**Cat-ERZURUM**	**2.08 294**	⇓*i*P	Pn	11 33 15.9	+0.8
ECAT			*i* S	Sg	11 33 47.8	0.0
ECAT	**Cat-ERZURUM**	**2.08 294**	P	Pn	11 33 15.9	+0.8
ECAT			S	Sg	11 33 47.8	0.0
BNGB	**Bing¶ll**	**2.15 277**	*e*PN	Pn	11 33 17.9	+1.8
BNGB	**Bing¶ll**	**2.15 277**	Pn	Pn	11 33 18.2	+2.1
BNGB	**Bing¶ll**	**2.15 277**	Pn	Pn	11 33 18.2	+2.1
ITBZ	**Tabriz**	**2.20 103**	*e*Pn	Pn	11 33 17.9	+1.1
ITBZ			*e*AMB	AMB	11 33 22.4	
comp=Z,57μm,0.4s						
ITBZ	**Tabriz**	**2.20 103**	Pn	Pn	11 33 17.8	+1.0
ITBZ	**Tabriz**	**2.20 103**	Pn	Pn	11 33 17.8	+1.0
BINT	**Bingol**	**2.29 273**	*e*Pn	Pn	11 33 17.9	-0.1
YEDI	**Yedisu-Bingol**	**2.34 287**	*e*PN	Pn	11 33 20.0	+1.4
YEDI	**Yedisu-Bingol**	**2.34 287**	*e*Pn	Pn	11 33 20.0	+1.4
YEDI	**Yedisu-Bingol**	**2.34 287**	Pn	Pn	11 33 21.1	+2.4
DDEM	**Demirkent**	**2.48 329**	*i* P	Pn	11 33 22.0	+1.5
DDEM			*i* S	Sg	11 33 58.6	-1.9
DDEM	**Demirkent**	**2.48 329**	P	Pn	11 33 22.0	+1.5
DDEM			S	Sg	11 33 58.6	-1.9
MARD	**Mardin**	**2.55 236**	⇑*i*P	Pn	11 33 21.4	-0.2
MARD			*i* S	Sn	11 33 51.1	-1.1
MARD	**Mardin**	**2.55 236**	*e*Pn	Pn	11 33 21.7	+0.2
MARD	**Mardin**	**2.55 236**	*e*Pn	Pn	11 33 21.7	+0.2
DAGI	**Agillar**	**2.58 334**	*i* P	Pn	11 33 23.4	+1.5
DAGI			*i* S	Sb	11 34 00.6	+2.5
KOPT	**Kop Dagi**	**2.58 300**	*e*P	Pb	11 33 25.4	-1.5
KOPT			IAML		11 33 38.3	
comp=Z,4μm,0.6s						
KOPT	**Kop Dagi**	**2.58 300**	*i* P	Pn	11 33 23.2	+1.0
KOPT			*i* S	Sg	11 34 04.0	0.0
KOPT	**Kop Dagi**	**2.58 300**	*e*Pn	Pn	11 33 22.7	+0.5
KOPT	**Kop Dagi**	**2.58 300**	P	Pn	11 33 23.2	+1.0
KOPT			S	Sg	11 34 04.0	0.0
KOPT	**Kop Dagi**	**2.58 300**	*e*Pn	Pn	11 33 22.7	+0.5
AKH	**Akhalkalaki**	**2.63 1**	*e*PN	Pn	11 33 25.2	+2.5
AKH	**Akhalkalaki**	**2.63 1**	P	Pn	11 33 24.2	+1.5
AKH	**Akhalkalaki**	**2.63 1**	⇑*i*P	Pn	11 33 24.9	+2.2
AKH	**Akhalkalaki**	**2.63 1**	P	Pn	11 33 24.2	+1.5
AKH	**Akhalkalaki**	**2.63 1**	P	Pn	11 33 24.2	+1.5
AKH	**Akhalkalaki**	**2.63 1**	*e*Pn	Pn	11 33 25.2	+2.5
GDB	**GEDABAY**	**2.65 42**	⇑P	Pn	11 33 22.9	0.0
GDB			⇓S	Sn	11 33 56.2	+1.6
GDB	**GEDABAY**	**2.65 42**	P	Pn	11 33 22.9	0.0
GDB			S	Sn	11 33 56.2	+1.6
ARTV	**Artvin**	**2.67 335**	*e*PN12	Pn	11 33 26.3	+3.0
ARTV			IAML		11 33 38.7	
comp=Z,977nm,0.6s						
ARTV	**Artvin**	**2.67 335**	*i* P	Pn	11 33 25.3	+2.1
ARTV			*i* S	Sb	11 34 04.0	+3.3
ARTV	**Artvin**	**2.67 335**	*e*Pn	Pn	11 33 24.4	+1.2
ARTV	**Artvin**	**2.67 335**	P	Pn	11 33 25.3	+2.1
ARTV			S	Sb	11 34 04.1	+3.3
ARTV	**Artvin**	**2.67 335**	*e*Pn	Pn	11 33 24.4	+1.2
MAZI	**Mazidag**	**2.69 242**	*e*PN	Pn	11 33 23.3	-0.2
MAZI	**Mazidag**	**2.69 242**	*e*Pn	Pn	11 33 23.3	-0.2
MAZI	**Mazidag**	**2.69 242**	Pn	Pn	11 33 26.4	+3.0
KZR	**Kazreti**	**2.71 16**	P	Pn	11 33 25.6	+1.9
QZX	**Qazax, Azerbai**	**2.73 33**	⇓P	Pn	11 33 23.8	-0.1
QZX			⇓S	Sn	11 33 57.8	+1.3
QZX	**Qazax, Azerbai**	**2.73 33**	P	Pn	11 33 23.8	-0.1
QZX			S	Sn	11 33 57.8	+1.3
DIYA	**Diyarbakir**	**2.73 253**	*i* P	Pn	11 33 24.6	+0.6
DIYA			*i* S	Sn	11 33 59.3	+2.6
DIYA	**Diyarbakir**	**2.73 253**	P	Pn	11 33 24.6	+0.6
DIYA			S	Sn	11 33 59.3	+2.6
IHRS	**Heris**	**2.87 98**	*e*Pn	Pn	11 33 27.4	+1.3
IHRS			*e*AMB	AMB	11 33 35.7	
comp=Z,90μm,0.4s						
IHRS	**Heris**	**2.87 98**	Pn	Pn	11 33 27.3	+1.2
IHRS	**Heris**	**2.87 98**	Pn	Pn	11 33 27.3	+1.2
DBOC	**Borcka**	**2.90 333**	*i* P	Pb	11 33 31.9	-0.2
DBOC			*i* S	Sg	11 34 11.7	-2.3
DBOC	**Borcka**	**2.90 333**	P	Pb	11 33 31.9	-0.2
DBOC			S	Sg	11 34 11.7	-2.3
GANJ	**Ganja**	**2.91 49**	⇑P	Pn	11 33 26.4	0.0
GANJ			⇓S	Sn	11 34 02.5	+1.5
GANJ	**Ganja**	**2.91 49**	P	Pn	11 33 26.4	0.0
GANJ			S	Sn	11 34 02.5	+1.5
IBST	**Bostanabad**	**2.93 110**	*e*Pn	Pn	11 33 28.6	+1.7
IBST			*e*AMB	AMB	11 33 36.6	
comp=Z,58μm,0.3s						
IBST	**Bostanabad**	**2.93 110**	*e*Pn	Pn	11 33 28.6	+1.7
IBST	**Bostanabad**	**2.93 110**	Pn	Pn	11 33 28.6	+1.7
ERZN	**Erzincan**	**2.99 287**	*e*PN	Pn	11 33 29.8	+2.2
ERZN	**Erzincan**	**2.99 287**	Pn	Pn	11 33 30.1	+2.5
ERZN	**Erzincan**	**2.99 287**	Pn	Pn	11 33 30.1	+2.5
EUZM	**Uzumlu**	**3.04 289**	*e*P	Pn	11 33 31.2	+2.9
EUZM	**Uzumlu**	**3.04 289**	*i* P	Pb	11 33 33.8	-0.8
EUZM			*i* S	Sg	11 34 18.4	-0.2
EUZM	**Uzumlu**	**3.04 289**	P	Pb	11 33 33.8	-0.8
EUZM			S	Sg	11 34 18.4	-0.2
TNCL	**Tunceli-Merkez**	**3.05 278**	*e*P	Pn	11 33 31.2	+2.9
TNCL	**Tunceli-Merkez**	**3.05 278**	*i* P	Pb	11 33 32.4	-2.3
TNCL			*i* S	Sg	11 34 21.2	+2.5
TNCL	**Tunceli-Merkez**	**3.05 278**	P	Pb	11 33 32.4	-2.3
TNCL			S	Sg	11 34 21.2	+2.5
DGRG	**David-gareji**	**3.06 29**	P	Pn	11 33 31.4	+2.9
DGRG	**David-gareji**	**3.06 29**	*e*PN12	Pn	11 33 31.7	+3.2
DGRG	**David-gareji**	**3.06 29**	P	Pn	11 33 31.4	+2.9
DGRG	**David-gareji**	**3.06 29**	P	Pn	11 33 31.4	+2.9
DGRG			S	Sg	11 34 24.3	+5.1
TBLG	**Delisi**	**3.12 18**	*e*PN	Pn	11 33 32.2	+3.0
TBLG	**Delisi**	**3.12 18**	P	Pn	11 33 31.1	+1.8
TBLG	**Delisi**	**3.12 18**	P	Pn	11 33 31.1	+1.8
TBLG	**Delisi**	**3.12 18**	*e*Pn	Pn	11 33 32.2	+3.0
TBLG			S	Sg	11 34 19.9	-1.1
PTK	**Pertek**	**3.15 273**	*e*PN	Pn	11 33 31.7	+1.8
PTK	**Pertek**	**3.15 273**	*e*Pn	Pn	11 33 31.7	+1.8
PTK	**Pertek**	**3.15 273**	Pn	Pn	11 33 32.1	+2.2
SEAG	**Tbilisi Sea**	**3.17 19**	P	Pn	11 33 32.4	+2.5
BRDA	**Brd**	**3.26 62**	⇑P	Pn	11 33 30.9	-0.3
BRDA			⇓S	Sn	11 34 10.8	+1.2
BRDA	**Brd**	**3.26 62**	P	Pn	11 33 30.9	-0.3
BRDA			S	Sn	11 34 10.8	+1.2
EZC	**Erzincan**	**3.31 288**	*e*Pn	Pn	11 33 29.8	-2.2
MNGR	**Mingechevir, A**	**3.45 54**	⇓P	Pn	11 33 33.7	-0.1
MNGR			⇑S	Sn	11 34 15.9	+1.6
MNGR	**Mingechevir, A**	**3.45 54**	P	Pn	11 33 33.7	-0.1
MNGR			S	Sn	11 34 15.9	+1.6
ISRB	**Sarab**	**3.47 105**	*e*Pn	Pn	11 33 36.4	+2.1
ISRB			*e*AMB	AMB	11 33 47.5	
comp=Z,44μm,0.4s						
ISRB	**Sarab**	**3.47 105**	Pn	Pn	11 33 36.3	+2.0
ISRB	**Sarab**	**3.47 105**	Pn	Pn	11 33 36.3	+2.0
ELZG	**Elazig**	**3.49 267**	*i* P	Pn	11 33 34.6	+0.1
ELZG			*i* S	Sg	11 34 30.6	-2.3
ELZG	**Elazig**	**3.49 267**	P	Pn	11 33 34.6	+0.1
ELZG			S	Sg	11 34 30.6	-2.3
KELT	**Kelkit**	**3.51 294**	*e*P	Pn	11 33 38.2	+3.5
KELT			IAML		11 33 55.5	
comp=Z,1μm,0.6s						
KELT	**Kelkit**	**3.51 294**	*i* P	Pb	11 33 42.5	-0.1
KELT			*i* S	Sg	11 34 33.4	-0.1
KELT	**Kelkit**	**3.51 294**	P	Pb	11 33 42.5	-0.1
KELT			S	Sg	11 34 33.4	-0.1
MACK	**Trabzon**	**3.55 309**	*i* P	Pb	11 33 44.3	+1.1
MACK			*i* S	Sg	11 34 32.2	-2.7
MACK	**Trabzon**	**3.55 309**	P	Pb	11 33 44.3	+1.1
MACK			S	Sg	11 34 32.2	-2.7
KTUT	**Trabzon**	**3.58 309**	*e*PN	Pn	11 33 37.8	+2.3
KTUT	**Trabzon**	**3.58 309**	*e*Pn	Pn	11 33 37.8	+2.3
KTUT	**Trabzon**	**3.58 309**	Pn	Pn	11 33 38.9	+3.4
ZRD	**Zardab**	**3.62 64**	⇓P	Pn	11 33 35.8	-0.3
ZRD			⇓S	Sn	11 34 19.6	+1.2
ZRD	**Zardab**	**3.62 64**	P	Pn	11 33 35.8	-0.3
ZRD			S	Sn	11 34 19.5	+1.2
REFA	**Refahiye_ERZ¨**	**3.68 281**	*e*PN12	Pn	11 33 41.1	+4.0
REFA	**Refahiye_ERZ¨**	**3.68 281**	*i* P	Pb	11 33 46.9	+1.4
REFA			*i* S	Sg	11 34 46.6	+7.5
REFA	**Refahiye_ERZ¨**	**3.68 281**	P	Pb	11 33 46.9	+1.4
REFA			S	Sg	11 34 46.6	+7.5
ZKTA	**Zakatala**	**3.76 40**	⇓P	Pn	11 33 38.2	+0.1
ZKTA			⇑S	Sn	11 34 23.6	+1.6
GUDG	**Gudauri**	**3.77 12**	P	Pn	11 33 42.3	+3.9
SEKA	**Sheki**	**3.78 49**	⇑P	Pn	11 33 39.1	+0.7
SEKA			⇑S	Sn	11 34 25.5	+3.0
SEKA	**Sheki**	**3.78 49**	P	Pn	11 33 39.1	+0.7
SEKA			S	Sn	11 34 25.5	+3.0
ONI	**Oni**	**3.81 0**	P	Pn	11 33 41.0	+2.1
ONI	**Oni**	**3.81 0**	P	Pn	11 33 40.9	+2.1
ONI	**Oni**	**3.81 0**	P	Pn	11 33 40.9	+2.1
LRK	**Lerik**	**3.85 90**	⇑P	Pn	11 33 38.5	-0.9
LRK			⇑S	Sn	11 34 24.5	+0.2
LRK	**Lerik**	**3.85 90**	P	Pn	11 33 38.5	-0.9
LRK			S	Sn	11 34 24.5	+0.2
URFA	**Urfa**	**3.87 251**	*e*PN	Pn	11 33 41.3	+1.7
URFA	**Urfa**	**3.87 251**	*e*Pn	Pn	11 33 41.3	+1.7
URFA	**Urfa**	**3.87 251**	Pn	Pn	11 33 43.2	+3.6
KEMA	**Kemaliye**	**3.87 279**	*e*PN12	Pn	11 33 42.7	+3.0
KEMA	**Kemaliye**	**3.87 279**	*i* P	Pb	11 33 49.0	+0.3
KEMA			*i* S	Sg	11 34 42.0	-3.2
KEMA	**Kemaliye**	**3.87 279**	P	Pb	11 33 49.0	+0.3
KEMA			S	Sg	11 34 42.0	-3.2
GLBA	**Clilabad**	**3.90 82**	⇓P	Pn	11 33 39.3	-0.6
GLBA			⇑S	Sn	11 34 25.8	+0.5
GLBA	**Clilabad**	**3.90 82**	P	Pn	11 33 39.3	-0.6
GLBA			S	Sn	11 34 25.8	+0.5
KDMR	**Kurdemir**	**4.01 65**	⇑P	Pn	11 33 41.1	-0.3
KDMR			⇓S	Sn	11 34 29.2	+1.2
KDMR	**Kurdemir**	**4.01 65**	P	Pn	11 33 41.1	-0.3
KDMR			S	Sn	11 34 29.2	+1.2
ZEI	**Tsey**	**4.02 5**	*e*P	Pn	11 33 43.9	+2.0
ZEI			pmax	pmax		
comp=Z,371nm,0.6s						
SAAT	**Saatly**	**4.03 73**	⇑P	Pn	11 33 40.8	-0.9
SAAT			⇓S	Sn	11 34 28.3	-0.1
SAAT	**Saatly**	**4.03 73**	P	Pn	11 33 40.8	-0.9
SAAT			S	Sn	11 34 28.3	-0.1
QBL	**Gabala**	**4.03 56**	⇓P	Pn	11 33 41.5	-0.3
QBL			⇑S	Sn	11 34 29.8	+1.2
QBL	**Gabala**	**4.03 56**	P	Pn	11 33 41.5	-0.3
QBL			S	Sn	11 34 29.8	+1.2
IML	**Ismayilli**	**4.18 60**	⇑P	Pn	11 33 43.6	-0.3
IML			⇓S	Sn	11 34 33.3	+0.9
IML	**Ismayilli**	**4.18 60**	P	Pn	11 33 43.6	-0.3
IML			S	Sn	11 34 33.3	+0.9
LKRN	**Lenkeran, Azer**	**4.19 89**	⇓P	Pn	11 33 43.1	-0.8
LKRN			⇑S	Sn	11 34 32.6	+0.2
LKRN	**Lenkeran, Azer**	**4.19 89**	P	Pn	11 33 43.1	-0.8
LKRN			S	Sn	11 34 32.6	+0.2
ASTR	**Astara**	**4.21 91**	⇑P	Pn	11 33 43.4	-0.8
ASTR			⇓S	Sn	11 34 33.3	+0.4
ASTR	**Astara**	**4.21 91**	P	Pn	11 33 43.4	-0.8
ASTR			S	Sn	11 34 33.3	+0.4
XNQ	**Khinaliq**	**4.34 55**	⇓P	Pn	11 33 45.9	-0.3
XNQ			⇑S	Sn	11 34 37.7	+1.2
XNQ	**Khinaliq**	**4.34 55**	P	Pn	11 33 45.9	-0.3
XNQ			S	Sn	11 34 37.7	+1.2
PQL	**Pirkuli**	**4.46 62**	⇑P	Pn	11 33 47.4	-0.4
PQL			⇓S	Sn	11 34 40.2	+0.8
PQL	**Pirkuli**	**4.46 62**	P	Pn	11 33 47.4	-0.4
PQL			S	Sn	11 34 40.2	+0.8
ALIB	**Äli-Bayra**	**4.48 73**	⇑P	Pn	11 33 47.5	-0.5
ALIB			⇓S	Sn	11 34 40.5	+0.8
ALIB	**Äli-Bayra**	**4.48 73**	P	Pn	11 33 47.5	-0.5
ALIB			S	Sn	11 34 40.5	+0.8
NEY	**Neytrino**	**4.50 353**	⇑*e*P	Pn	11 33 52.3	+3.9
NEY	**Neytrino**	**4.50 353**	*e*P	Pn	11 33 52.3	+3.9
GBS	**Qobustan**	**4.61 66**	⇓P	Pn	11 33 49.3	-0.4
GBS			⇑S	Sn	11 34 43.7	+0.8
GBS	**Qobustan**	**4.61 66**	P	Pn	11 33 49.3	-0.4
GBS			S	Sn	11 34 43.7	+0.8
QSAR	**Qusar**	**4.61 52**	⇑P	Pn	11 33 49.5	-0.2
QSAR			⇓S	Sn	11 34 44.1	+1.3
QSAR	**Qusar**	**4.61 52**	P	Pn	11 33 49.5	-0.2
QSAR			S	Sn	11 34 44.1	+1.3
DARE	**Darende-Malaty**	**4.65 269**	*e*PN	Pn	11 33 53.2	+2.

GOF pmax pmax
comp=Z,102nm,0.9s
KFRA Kufra 6.38 238 *e*P **Pn 11 34 15.2 +1.1**
KFRA *e*S **Sn 11 35 32.9 +6.3**
KFRA AML AML 11 36 21.4
comp=N,5μm,0.8s
KFRA AML AML 11 36 31.9
comp=E,5μm,0.8s
ARNB Al Arnab 6.61 246 *e*P **Pn 11 34 19.5 +2.1**
ARNB *e*S **Sn 11 35 39.1 +6.8**
ARNB AML AML 11 36 26.1
comp=N,2μm,0.8s
ARNB AML AML 11 36 36.2
comp=E,2μm,0.8s
RABH Abou Rabah 6.62 231 *e*P **Pn 11 34 18.2 +0.8**
RABH AML AML 11 36 27.0
comp=E,1μm,0.8s
RABH AML AML 11 36 29.0
comp=N,848nm,0.7s
ROOS tl_alroos 6.75 229 *e*P **Pn 11 34 20.2 +1.0**
ROOS *e*S **Sn 11 35 39.0 +3.3**
ROOS AML AML 11 36 26.4
comp=N,1μm,0.7s
ROOS AML AML 11 36 38.2
comp=E,2μm,0.7s
BIDA Albida 6.82 239 *e*P **Pn 11 34 20.3 +0.1**
BIDA AML AML 11 36 33.2
comp=N,3μm,0.7s
BIDA AML AML 11 36 36.3
comp=E,3μm,0.8s
HAWK Haweek 7.06 235 *e*P **Pn 11 34 23.3 -0.2**
HAWK *e*S **Sn 11 35 48.8 +5.4**
HAWK AML AML 11 36 37.8
comp=E,789nm,0.8s
HAWK AML AML 11 36 38.5
comp=N,612nm,0.9s
IAFJ Afjeh 7.22 111 *e*Pn **Pn 11 34 30.4 +4.5**
IAFJ *e*AMB AMB 11 36 53.7
comp=Z,27μm,1.2s
IAFJ Afjeh 7.22 111 Pn **Pn 11 34 26.4 +0.5**
IAFJ Afjeh 7.22 111 Pn **Pn 11 34 26.4 +0.5**
MARH Ras Al Marh 7.33 232 *e*P **Pn 11 34 28.1 +0.6**
MARH AML AML 11 36 47.6
comp=E,1μm,0.8s
MARH AML AML 11 36 59.9
comp=N,1μm,0.8s
ANN Anapa 7.50 325 *e*P **Pn 11 34 30.3 +0.9**
ANN *e*S **Sn 11 35 57.6 +3.7**
ANN pmax pmax
comp=Z,34nm,1.0s
ANN Anapa 7.50 325 *e*P **Pn 11 34 30.3 +0.9**
comp=Z,34nm,1.0s
HWQ Hawqa 7.51 236 *e*P **Pn 11 34 29.8 +0.2**
BR131 Keskin Array S 7.65 280 *e*Pn **Pn 11 34 34.6 +2.9**
BR131 Keskin Array S 7.65 280 *e*Pn **Pn 11 34 34.6 +2.9**
BRTR Keskin Array B 7.65 280 Pn **Pn 11 34 34.2 +2.6**
comp=Z,1.6nm,0.3s,baz=106,slow=14,SNR=35
BRTR Pg Pb 11 34 58.5 +5.3
comp=Z,1.6nm,0.3s,baz=110,slow=15,SNR=10
QASN Qassioun 7.80 230 *e*P **Pn 11 34 34.7 +1.1**
QASN *e*S **Sn 11 36 04.5 +3.0**
QASN AML AML 11 37 08.6
comp=N,874nm,0.7s
QASN AML AML 11 37 16.3
comp=E,1μm,0.8s
ILGA Ilgaz 7.80 290 *e*Pn **Pn 11 34 33.6 -0.2**
ILGA Ilgaz 7.80 290 *e*Pn **Pn 11 34 33.6 -0.2**
TOTH TOTAH 7.83 228 *e*P **Pn 11 34 35.0 +1.0**
TOTH *e*S **Sn 11 36 03.2 +1.0**
TOTH AML AML 11 37 02.4
comp=N,556nm,0.7s
TOTH AML AML 11 37 12.8
comp=E,490nm,0.9s
BHL Bhannes 7.93 235 *e*P **Pn 11 34 36.7 +1.3**
BEYL Beirut 8.06 235 *e*P Pn 11 34 47.4 +10
NSR Nassriya 8.06 163 *e*Pn **Pn 11 34 38.0 +0.9**
SNR=3.0
BRBR Barbar 8.08 231 *e*P **Pn 11 34 39.5 +2.0**
BRBR *e*S **Sn 11 36 11.7 +3.1**
BRBR AML AML 11 37 06.0
comp=E,589nm,0.8s
BRBR AML AML 11 37 24.6
comp=N,404nm,0.8s
RCY Rachaya 8.09 232 *e*P **Pn 11 34 38.6 +1.0**
DQRL Deir Qamar 8.11 234 *e*P **Pn 11 34 38.3 +0.3**
SALA Sala 8.13 224 *e*P **Pn 11 34 38.4 +0.1**
SALA *e*S **Sn 11 36 10.3 +0.4**
SALA AML AML 11 37 25.9
comp=N,392nm,0.7s
ANTO Ankara 8.31 281 *e*P **Pn 11 34 44.4 +3.8**
ANTO Ankara 8.31 281 *e*Pn **Pn 11 34 42.9 +2.3**
ANTO Ankara 8.31 281 PnPn Pn 11 34 45.6 +4.9
SNR=13
ANTO Ankara 8.31 281 *e*Pn **Pn 11 34 42.9 +2.3**
ANTO Ankara 8.31 281 PnPn Pn 11 34 45.6 +4.9
SNR=13
ANTO Ankara 8.31 281 pPn Pn 11 34 45.6 +4.9
SNR=13
ANTO Ankara 8.31 281 P Pn 11 34 45.6 +4.9
SNR=13
BR231 Keskin MP Arra 8.32 281 *e*Pn **Pn 11 34 44.2 +3.4**
BR231 Keskin MP Arra 8.32 281 *e*Pn **Pn 11 34 44.2 +3.4**
ASF Jabal al Asfar 8.47 221 Pn **Pn 11 34 43.2 +0.4**
comp=N,4.7nm,0.3s,baz=357,slow=6.5,SNR=31
ASF Lg Lg 11 37 11.0
comp=N,4.4nm,0.3s,baz=168,slow=20,SNR=3.2
TCHB Talchebab 8.59 227 *e*P **Pn 11 34 45.5 +1.0**
TCHB *e*S **Sn 11 36 23.2 +2.3**
TCHB AML AML 11 37 33.1
comp=N,635nm,0.8s
TCHB AML AML 11 37 40.7
comp=E,392nm,0.7s
MMAI Mount Meron Ar 8.68 231 Pn **Pn 11 34 47.5 +1.8**
comp=E,28nm,0.3s,baz=72,slow=16,SNR=52
MMAI Lg Lg 11 37 12.4
comp=E,6.2nm,0.3s,baz=51,slow=21,SNR=3.2
SUDU Sudak 8.76 317 *e*P **Pn 11 34 48.9 +2.2**
MAMC Mammari 8.92 249 P Pn 11 34 53.9 +4.9
CSS Mathiatis 8.94 248 P **Pn 11 34 51.8 +2.6**
CSS Mathiatis 8.94 248 *e*Pn **Pn 11 34 51.6 +2.4**
CSS Mathiatis 8.94 248 *e*Pn **Pn 11 34 51.6 +2.4**
ALU Alushta 8.96 314 *e*P Pn 11 34 59.5 +10
YAL Yalta 8.98 312 *e*P Pn 11 34 58.9 +9.2
SIM Simferopol' 9.28 315 *e*P Pn 11 35 00.0 +6.1
SIM S Sn 11 36 47.0 +9.2
SIM pmax pmax
comp=Z,304nm,1.7s
SIM smax smax
comp=N,66nm,1.0s
SIM smax smax
comp=E,76nm,1.0s
SEV Sevastopol' 9.30 311 *e*P Pn 11 35 00.2 +6.2
SZAC Souni 9.36 248 P **Pn 11 34 58.5 +3.5**
ALFC Alefka 9.39 251 P **Pn 11 34 56.8 +1.5**
AKMC Akamas 9.64 251 P Pn 11 35 03.7 +4.9
PPCY Paphos 9.69 250 P **Pn 11 34 59.3 -0.2**
BOLV Bolvadin 9.75 274 *e*Pn **Pn 11 35 03.9 +3.5**
BOLV Bolvadin 9.75 274 *e*Pn **Pn 11 35 03.9 +3.5**
AKAS Kas 11.27 261 *e*Pn Pn 11 35 27.3 +6.1
AKAS Kas 11.27 261 *e*Pn Pn 11 35 27.3 +6.1
ISK Istanbul-Kandi 11.27 286 P **Pn 11 35 24.4 +3.4**
ISK Istanbul-Kandi 11.27 286 P **Pn 11 35 24.4 +3.4**
ISK Istanbul-Kandi 11.27 286 P **Pn 11 35 24.4 +3.4**
ISK Istanbul-Kandi 11.27 286 P **Pn 11 35 24.4 +3.4**
KSL Kastellorizon 11.31 261 P **Pn 11 35 23.9 +2.3**
KSL Kastellorizon 11.31 261 P **Pn 11 35 23.9 +2.3**
KSL Kastellorizon 11.31 261 P **Pn 11 35 23.9 +2.3**
EIL Elat 11.47 220 Pn **Pn 11 35 24.7 +0.8**
comp=E,0.8nm,0.3s,baz=9.3,slow=5.6,SNR=17
EIL Lg Lg 11 38 40.0
comp=E,1.1nm,0.3s,baz=266,slow=23,SNR=8.5
KULA Kula-Manisa 11.55 273 P **Pn 11 35 29.7 +4.7**
KULA Kula-Manisa 11.55 273 P **Pn 11 35 29.7 +4.7**
KULA Kula-Manisa 11.55 273 P **Pn 11 35 29.7 +4.7**
FETY Fethiye 11.56 264 P **Pn 11 35 28.8 +3.7**
FETY Fethiye 11.56 264 P **Pn 11 35 28.8 +3.7**
FETY Fethiye 11.56 264 P **Pn 11 35 28.8 +3.7**
GEYT Alibeck 11.57 90 Pn **Pn 11 35 24.9 -0.3**
comp=E,1.0nm,0.3s,baz=299,slow=15,SNR=21
MANT Manisa 11.63 273 *e*Pn **Pn 11 35 28.5 +2.2**
MANT Manisa 11.63 273 *e*Pn **Pn 11 35 28.4 +2.2**
ARG Arkhangelos 12.42 263 P **Pn 11 35 39.3 +2.5**
ARG Arkhangelos 12.42 263 P **Pn 11 35 39.3 +2.5**
ARG Arkhangelos 12.42 263 P **Pn 11 35 39.3 +2.5**

ARG Arkhangelos 12.42 263 P **Pn 11 35 39.3 +2.5**
TIRR Tirgusor 12.58 302 ⇓ *i*P **Pn 11 35 40.8 +1.9**
TIRR Tirgusor 12.58 302 *e*P **Pn 11 35 40.3 +1.4**
TIRR Tirgusor 12.58 302 *e*Pn **Pn 11 35 40.3 +1.4**
TIRR Tirgusor 12.58 302 ⇓ *i*P **Pn 11 35 40.8 +1.9**
TIRR Tirgusor 12.58 302 *e*Pn **Pn 11 35 40.3 +1.4**
TLCR 12.61 305 ⇓ *i*P **Pn 11 35 41.4 +2.1**
TLCR 12.61 305 ⇓ *i*P **Pn 11 35 41.4 +2.1**
BODT Bodrum 12.84 267 P **Pn 11 35 44.8 +2.2**
BODT Bodrum 12.84 267 P **Pn 11 35 44.8 +2.2**
BODT Bodrum 12.84 267 P **Pn 11 35 44.8 +2.2**
CFR Carcaliu 13.04 304 ⇑ *i*P **Pn 11 35 47.3 +2.1**
CFR Carcaliu 13.04 304 ⇑ *i*P **Pn 11 35 47.3 +2.1**
NIS1 Nisyros Isl. 13.05 265 P **Pn 11 35 48.9 +3.4**
NIS1 Nisyros Isl. 13.05 265 P **Pn 11 35 48.9 +3.4**
NIS1 Nisyros Isl. 13.05 265 P **Pn 11 35 48.9 +3.4**
EDRB Edirne 13.10 289 P **Pn 11 35 49.1 +3.1**
EDRB Edirne 13.10 289 P **Pn 11 35 49.1 +3.1**
EDRB Edirne 13.10 289 P **Pn 11 35 49.1 +3.1**
VORR Voronezh 13.23 348 *e*P **Pn 11 35 50.0 +2.2**
VORR pmax pmax
comp=Z,400nm,2.0s
EZN Ezine 13.29 280 P **Pn 11 35 51.9 +3.3**
EZN Ezine 13.29 280 P **Pn 11 35 51.9 +3.3**
EZN Ezine 13.29 280 P **Pn 11 35 51.9 +3.3**
EZN Ezine 13.29 280 P **Pn 11 35 51.9 +3.3**
PRK Paraskevi 13.35 277 P **Pn 11 35 53.4 +3.9**
PRK Paraskevi 13.35 277 P **Pn 11 35 53.4 +3.9**
PRK Paraskevi 13.35 277 P **Pn 11 35 53.4 +3.9**
PRK Paraskevi 13.35 277 P **Pn 11 35 53.4 +3.9**
KARP Karpathos 13.37 261 P **Pn 11 35 52.2 +2.4**
KARP Karpathos 13.37 261 *e*Pn **Pn 11 35 52.4 +2.6**
KARP Karpathos 13.37 261 *e*Pn **Pn 11 35 52.4 +2.6**
ENEZ Enez 13.44 284 P **P 11 35 58.1 -1.8**
KIS Kishinev 13.48 312 ⇑ *i*P **Pn 11 35 54.0 +2.8**
comp=Z,200nm,1.0s
KIS Kishinev 13.48 312 ⇑ *i*P **Pn 11 35 54.0 +2.8**
KIS *i* 11 38 24.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS Kishinev 13.48 312 ⇑ *i*P **Pn 11 35 54.0 +2.8**
comp=Z,200nm,1.0s
ALN Alexandroupoli 13.53 284 P **P 11 35 58.8 -2.1**
ALN Alexandroupoli 13.53 284 P **P 11 35 58.8 -2.1**
ALN Alexandroupoli 13.53 284 P **P 11 35 58.8 -2.1**
ALN Alexandroupoli 13.53 284 P **P 11 35 58.8 -2.1**
LEOM Leova 13.55 309 ⇑ *i*P **Pn 11 35 54.4 +2.2**
LEOM Leova 13.55 309 ⇑ *i*P **Pn 11 35 54.4 +2.2**
CHOS Chios island 13.60 274 P **Pn 11 35 55.2 +2.2**
CHOS Chios island 13.60 274 P **Pn 11 35 55.2 +2.2**
CHOS Chios island 13.60 274 P **Pn 11 35 55.2 +2.2**
GADA Gvkgeada 13.61 281 P **Pn 11 35 57.8 +4.7**
GADA Gvkgeada 13.61 281 P **Pn 11 35 57.8 +4.7**
GADA Gvkgeada 13.61 281 P **Pn 11 35 57.8 +4.7**
SIGR SIGRI 13.68 277 P **P 11 36 02.3 -0.3**
SMTH Samothraki Isl 13.90 283 P **Pn 11 36 01.1 +4.1**
SMTH Samothraki Isl 13.90 283 P **Pn 11 36 01.1 +4.1**
SMTH Samothraki Isl 13.90 283 P **Pn 11 36 01.1 +4.1**
RDO Rodhopi 13.92 285 P **Pn 11 36 01.7 +4.4**
RDO Rodhopi 13.92 285 P **Pn 11 36 01.7 +4.4**
RDO Rodhopi 13.92 285 P **Pn 11 36 01.7 +4.4**
SZH Strazhica 13.94 294 P **P 11 36 07.8 +2.2**
ODBI Odobesti 13.97 305 ⇑ *i*P **Pn 11 36 00.5 +2.5**
ODBI Odobesti 13.97 305 ⇑ *i*P **Pn 11 36 00.5 +2.5**
DIM Dimitrovgrad 14.02 289 P **P 11 36 04.5 -1.9**
ISR Istrita 14.06 302 ⇑ *i*P **Pn 11 36 01.7 +2.5**
ISR Istrita 14.06 302 ⇑ *i*P **Pn 11 36 01.7 +2.5**
SULR 14.10 300 ⇓ *i*P **Pn 11 36 01.5 +1.8**
SULR 14.10 300 ⇓ *i*P **Pn 11 36 01.5 +1.8**
LIA Limnos Island 14.17 280 P **P 11 36 05.1 -3.0**
LIA Limnos Island 14.17 280 P **P 11 36 05.1 -3.0**
LIA Limnos Island 14.17 280 P **P 11 36 05.1 -3.0**
LPSR Galich'ya Gora 14.17 349 *e*P **Pn 11 36 01.3 +0.6**
LPSR pmax pmax
comp=Z,260nm,1.3s
VRI Vrincioaia 14.22 305 ⇓ *i*P **Pn 11 36 01.8 +0.4**
APE Apeiranthos 14.23 269 P **Pn 11 36 04.1 +2.5**
APE Apeiranthos 14.23 269 ⇑ *i*P **Pn 11 36 04.5 +2.9**
APE Apeiranthos 14.23 269 ⇑ *e*P **Pn 11 36 03.4 +1.8**
APE Apeiranthos 14.23 269 P **Pn 11 36 04.1 +2.5**
APE Apeiranthos 14.23 269 P **Pn 11 36 04.1 +2.5**
ZKR Zakros 14.24 260 P **Pn 11 36 02.9 +1.2**
ZKR Zakros 14.24 260 P **Pn 11 36 02.9 +1.2**
ZKR Zakros 14.24 260 P **Pn 11 36 02.9 +1.2**
PLOR Plostina 14.27 305 ⇓ *i*P **Pn 11 36 03.0 +0.9**
IAS Iasi 14.32 311 ⇑ *i*P **Pn 11 36 05.5 +2.8**
SECR 14.35 301 ⇓ *i*P **Pn 11 36 06.1 +3.0**
PVL Pavlikeni 14.36 294 P **P 11 36 13.8 +3.6**
SORM Soroca 14.38 315 ⇓ *i*P **Pn 11 36 04.9 +1.4**
SANT Santorini 14.45 266 P **P 11 36 12.9 +1.6**
SANT Santorini 14.45 266 *e*Pn **Pn 11 36 05.3 +0.7**
SANT Santorini 14.45 266 P **P 11 36 12.9 +1.6**
SANT Santorini 14.45 266 *e*Pn **Pn 11 36 05.3 +0.7**
THT1 Athinios (Pele 14.47 266 P **Pn 11 36 06.8 +2.0**
SAP1 Santorini-Akro 14.50 266 P **P 11 36 12.8 +1.0**
THR6 Thira Island, 14.50 266 P **P 11 36 10.5 -1.3**
THR6 Thira Island, 14.50 266 P **P 11 36 10.5 -1.3**
THR6 Thira Island, 14.50 266 P **P 11 36 10.5 -1.3**
THR5 Thira Island, 14.53 266 P **Pn 11 36 08.8 +3.2**
TESR Tescani 14.55 307 ⇑ *i*P **Pn 11 36 06.1 +0.3**
MLR Muntele Rosu 14.59 303 Pn **Pn 11 36 08.1 +1.6**
comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=17
MLR Muntele Rosu 14.59 303 ⇑ *i*P **Pn 11 36 08.7 +2.2**
MLR Muntele Rosu 14.59 303 *e*P **Pn 11 36 08.9 +2.4**
MLR Muntele Rosu 14.59 303 *e*Pn **Pn 11 36 08.9 +2.4**
MLR Muntele Rosu 14.59 303 *e*Pn **Pn 11 36 08.9 +2.4**
NPS Neapolis 14.65 262 P **Pn 11 36 09.5 +2.1**
NPS Neapolis 14.65 262 P **Pn 11 36 09.5 +2.1**
NPS Neapolis 14.65 262 P **Pn 11 36 09.5 +2.1**
NPS Neapolis 14.65 262 P **Pn 11 36 09.5 +2.1**
KAVA Kavala 14.69 285 P **Pn 11 36 10.1 +2.3**
KAVA Kavala 14.69 285 P **Pn 11 36 10.1 +2.3**
KAVA Kavala 14.69 285 P **Pn 11 36 10.1 +2.3**
LAST Lasithi 14.79 261 P **Pn 11 36 11.7 +2.4**
LAST Lasithi 14.79 261 P **Pn 11 36 11.7 +2.4**
LAST Lasithi 14.79 261 P **Pn 11 36 11.7 +2.4**
KARY Karystos 14.91 273 P **P 11 36 15.9 -0.5**
KARY Karystos 14.91 273 P **P 11 36 15.9 -0.5**
HUMR Humele 14.93 299 ⇑ *i*P **Pn 11 36 13.9 +2.9**
IACM Heraklion 15.06 262 P **Pn 11 36 14.0 +1.2**
MTUR Matau 15.08 301 ⇑ *i*P **Pn 11 36 14.7 +1.6**
OUR Ouranopolis 15.08 282 P **Pn 11 36 14.3 +1.3**
OUR Ouranopolis 15.08 282 P **Pn 11 36 14.3 +1.3**
OUR Ouranopolis 15.08 282 P **Pn 11 36 14.3 +1.3**
OUR Ouranopolis 15.08 282 P **Pn 11 36 14.3 +1.3**
PGB Panagyurishte 15.09 291 P **P 11 36 21.0 +2.6**
DOPR Dopca 15.12 304 ⇓ *i*P **Pn 11 36 15.1 +1.4**
VOIR 15.16 302 ⇓ *i*P **Pn 11 36 15.6 +1.4**
MHLO Agia Marina, M 15.20 268 P **P 11 36 20.5 +0.9**
MHLO Agia Marina, M 15.20 268 P **P 11 36 20.5 +0.9**
NVR Nevrokopi 15.20 286 P **P 11 36 17.9 -1.7**
NVR Nevrokopi 15.20 286 P **P 11 36 17.9 -1.7**
NVR Nevrokopi 15.20 286 P **P 11 36 17.9 -1.7**
IDI Anoyia 15.21 262 Pn **Pn 11 36 15.4 +0.6**
comp=Z,1.2nm,0.3s,baz=55,slow=11,SNR=39
IDI Anoyia 15.21 262 P **Pn 11 36 14.3 -0.5**
IDI Anoyia 15.21 262 *e*Pn **Pn 11 36 15.2 +0.4**
IDI Anoyia 15.21 262 *e*Pn **Pn 11 36 15.2 +0.4**
EREA Eretria 15.25 275 P **P 11 36 18.7 -1.5**
EREA Eretria 15.25 275 P **P 11 36 18.7 -1.5**
RAYN Ar Rayn 15.31 173 *e*Pn **Pn 11 36 11.3 -5.0**
comp=Z,481nm,1.2s
RAYN Ar Rayn 15.31 173 *e*Pn **Pn 11 36 11.3 -5.0**
comp=Z,481nm,1.2s
MMB Musomiste 15.31 287 P **P 11 36 23.1 +2.2**
PAIG Paliouri 15.32 281 P **Pn 11 36 18.5 +2.3**
PAIG Paliouri 15.32 281 P **Pn 11 36 18.5 +2.3**
PAIG Paliouri 15.32 281 P **Pn 11 36 18.5 +2.3**
PAIG Paliouri 15.32 281 P **Pn 11 36 18.5 +2.3**
PTL Penteli 15.35 273 P **Pn 11 36 18.5 +1.8**
PTL Penteli 15.35 273 P **Pn 11 36 18.5 +1.8**
PTL Penteli 15.35 273 P **Pn 11 36 18.5 +1.8**
SIVA Sivas 15.36 262 P **Pn 11 36 17.9 +1.2**
SIVA Sivas 15.36 262 P **Pn 11 36 17.9 +1.2**
SIVA Sivas 15.36 262 P **Pn 11 36 17.9 +1.2**
TMBK Timbaki Herakl 15.37 262 P **Pn 11 36 18.5 +1.6**
SRS Serrai 15.39 285 P **P 11 36 20.2 -1.5**
SRS Serrai 15.39 285 P **P 11 36 20.2 -1.5**
SRS Serrai 15.39 285 P **P 11 36 20.2 -1.5**
SRS Serrai 15.39 285 P **P 11 36 20.2 -1.5**

ARR Arges 15.41 301 ⇓ *i*P **P 11 36 20.7 -1.3**
ARR Arges 15.41 301 ⇓ *i*P **P 11 36 20.7 -1.3**
ATHU Athens Univers 15.43 273 P **Pn 11 36 19.6 +1.9**
ATHU Athens Univers 15.43 273 P **Pn 11 36 19.6 +1.9**
ATHU Athens Univers 15.43 273 P **Pn 11 36 19.6 +1.9**
VLY Voula,Athens 15.44 273 P **P 11 36 20.6 -1.7**
VLY Voula,Athens 15.44 273 P **P 11 36 20.6 -1.7**
VLY Voula,Athens 15.44 273 P **P 11 36 20.6 -1.7**
ATH Athens Observa 15.48 273 P **P 11 36 21.2 -1.5**
ATH Athens Observa 15.48 273 P **P 11 36 21.2 -1.5**
ATH Athens Observa 15.48 273 P **P 11 36 21.2 -1.5**
ATH Athens Observa 15.48 273 P **P 11 36 21.2 -1.5**
PLG Polygyros 15.49 282 P **Pn 11 36 21.1 +2.6**
PLG Polygyros 15.49 282 P **Pn 11 36 21.1 +2.6**
PLG Polygyros 15.49 282 P **Pn 11 36 21.1 +2.6**
PLG Polygyros 15.49 282 P **Pn 11 36 21.1 +2.6**
SKIA Skiathos 15.53 278 P **Pn 11 36 20.6 +1.6**
SOH Sokhos 15.56 284 P **Pn 11 36 21.6 +2.2**
SOH Sokhos 15.56 284 P **Pn 11 36 21.6 +2.2**
SOH Sokhos 15.56 284 P **Pn 11 36 21.6 +2.2**
SOH Sokhos 15.56 284 P **Pn 11 36 21.6 +2.2**
I31KZ AKTYUBINSK INF 15.57 37 *i* 13 05 20.0
baz=225,slow=322,SNR=0.7
AKTO Aktyubinsk 15.58 37 Pn **Pn 11 36 18.4 -1.2**
comp=Z,2.2nm,0.3s,baz=228,slow=12,SNR=47
AKTO Aktyubinsk 15.58 37 P **Pn 11 36 17.9 -1.7**
AKTO pmax pmax
comp=Z,341nm,1.3s
AKASG Malin Array Be 15.58 325 Pn **Pn 11 36 19.6 0.0**
comp=Z,2.4nm,0.3s,baz=132,slow=12,SNR=78
AKBB Malin Array Si 15.58 325 *e*P **Pn 11 36 19.4 -0.2**
AKBB pmax pmax
comp=Z,221nm,1.1s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn 11 36 19.4 -0.2**
comp=Z,221nm,1.1s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn 11 36 19.4 -0.2**
comp=Z,221nm,1.1s
KIEV Kiev 15.59 324 *d i*P **Pn 11 36 18.5 -1.1**
KIEV Kiev 15.59 324 *e*Pn **Pn 11 36 19.4 -0.2**
comp=Z,218nm,1.1s
CRAR CRAIOVA 15.69 297 ⇑ *i*P **P 11 36 24.0 -1.0**
CRAR CRAIOVA 15.69 297 ⇑ *i*P **P 11 36 24.0 -1.0**
VAM Vamos 15.71 264 P **P 11 36 24.9 -0.3**
VAM Vamos 15.71 264 P **P 11 36 24.9 -0.3**
VAM Vamos 15.71 264 P **P 11 36 24.9 -0.3**
VAM Vamos 15.71 264 P **P 11 36 24.9 -0.3**
NEO Neokhori 15.71 278 P **Pn 11 36 22.4 +1.1**
NEO Neokhori 15.71 278 P **Pn 11 36 22.4 +1.1**
NEO Neokhori 15.71 278 P **Pn 11 36 22.4 +1.1**
XOR Xorichti 15.73 279 P **Pn 11 36 24.0 +2.4**
XOR Xorichti 15.73 279 P **Pn 11 36 24.0 +2.4**
XOR Xorichti 15.73 279 P **Pn 11 36 24.0 +2.4**
HORT Hortiatis 15.75 283 P **P 11 36 25.4 -0.4**
HORT Hortiatis 15.75 283 P **P 11 36 25.4 -0.4**
HORT Hortiatis 15.75 283 P **P 11 36 25.4 -0.4**
SMIA Simia 15.76 277 P **Pn 11 36 23.7 +1.7**
VTS Vitosha 15.80 290 P **P 11 36 25.4 -1.0**
VTS Vitosha 15.80 290 ⇓ *i*P **Pn 11 36 24.9 +2.3**
VTS Vitosha 15.80 290 *e*P **P 11 36 25.7 -0.7**
VTS pmax pmax
comp=Z,543nm,1.4s
VTS Vitosha 15.80 290 P **P 11 36 27.9 +1.5**
VTS Vitosha 15.80 290 ⇓ *i*P **Pn 11 36 24.9 +2.3**
VTS Vitosha 15.80 290 *e*Pn **P 11 36 25.6 -0.7**
comp=Z,543nm,1.4s
VTS Vitosha 15.80 290 *e*Pn **P 11 36 25.6 -0.7**
comp=Z,543nm,1.4s
AB31 Akbulak array 15.80 43 *i* P **Pn 11 36 20.8 -1.7**
AB31 pmax pmax
comp=Z,72nm,0.8s
ABKAR Akbulak array 15.80 43 *e*Pn **Pn 11 36 20.8 -1.6**
comp=Z,585nm,0.8s
ABKAR Akbulak array 15.80 43 *e*Pn **Pn 11 36 20.8 -1.6**
comp=Z,585nm,0.8s
KKB Krupnik 15.82 288 P **P 11 36 25.9 -0.5**
THE Thessaloniki 15.86 283 P **P 11 36 26.4 -0.4**
THE Thessaloniki 15.86 283 P **P 11 36 26.4 -0.4**
THE Thessaloniki 15.86 283 P **P 11 36 26.4 -0.4**
THE Thessaloniki 15.86 283 P **P 11 36 26.4 -0.4**
IMMV Iera Moni Meta 15.86 264 P **Pn 11 36 23.7 +0.5**
KNT Kendrikon 15.92 285 P **Pn 11 36 26.0 +2.0**
KNT Kendrikon 15.92 285 P **Pn 11 36 26.0 +2.0**
KNT Kendrikon 15.92 285 P **Pn 11 36 26.0 +2.0**
KNT Kendrikon 15.92 285 P **Pn 11 36 26.0 +2.0**
BURAR Bucovina Array 15.92 310 ⇓ *i*P **Pn 11 36 25.9 +1.9**
BURAR Bucovina Array 15.92 310 ⇓ *i*P **Pn 11 36 25.9 +1.9**
FYTO Fytoko, Volos 15.92 279 P **Pn 11 36 25.7 +1.7**
FYTO Fytoko, Volos 15.92 279 P **Pn 11 36 25.7 +1.7**
FYTO Fytoko, Volos 15.92 279 P **Pn 11 36 25.7 +1.7**
DID Didima 15.94 272 P **P 11 36 27.1 -0.7**
DID Didima 15.94 272 P **P 11 36 27.1 -0.7**
DID Didima 15.94 272 P **P 11 36 27.1 -0.7**
BUR08 Bucovina Ar. S 15.94 310 *e*Pn **Pn 11 36 25.8 +1.4**
BUR08 Bucovina Ar. S 15.94 310 *e*Pn **Pn 11 36 25.8 +1.4**
LKR Lokris 15.95 276 P **Pn 11 36 26.3 +1.9**
LKR Lokris 15.95 276 P **Pn 11 36 26.3 +1.9**
LKR Lokris 15.95 276 P **Pn 11 36 26.3 +1.9**
GVD Gavdhos 15.98 262 P **Pn 11 36 24.8 0.0**
GVD Gavdhos 15.98 262 P **Pn 11 36 24.8 0.0**
GVD Gavdhos 15.98 262 P **Pn 11 36 24.8 0.0**
LOT Lotru 16.02 301 ⇓ *i*P **P 11 36 29.1 +0.4**
LOT Lotru 16.02 301 ⇓ *i*P **P 11 36 29.1 +0.4**
LOUT Loutraki 16.06 274 P **P 11 36 28.8 -0.3**
LOUT Loutraki 16.06 274 P **P 11 36 28.8 -0.3**
LTK Loutraki 16.06 274 P **P 11 36 28.6 -0.5**
LTK Loutraki 16.06 274 P **P 11 36 28.6 -0.5**
LTK Loutraki 16.06 274 P **P 11 36 28.6 -0.5**
VAY Valandovo 16.17 286 P **P 11 36 29.4 -0.9**
VAY Valandovo 16.17 286 *i* P **P 11 36 30.6 +0.3**
VAY Valandovo 16.17 286 P **P 11 36 29.4 -0.9**
VAY Valandovo 16.17 286 P **P 11 36 29.4 -0.9**
VAY Valandovo 16.17 286 P **P 11 36 29.4 -0.9**
ARCR ARCALIA 16.22 307 ⇑ *i*P **P 11 36 30.8 -0.1**
ARCR ARCALIA 16.22 307 ⇑ *i*P **P 11 36 30.8 -0.1**
LIT Litokhoron 16.23 281 P **P 11 36 32.5 +1.5**
LIT Litokhoron 16.23 281 P **P 11 36 32.5 +1.5**
LIT Litokhoron 16.23 281 P **P 11 36 32.5 +1.5**
LIT Litokhoron 16.23 281 P **P 11 36 32.5 +1.5**
ANKY Antikythira Is 16.27 266 P **Pn 11 36 29.4 +0.9**
ANKY Antikythira Is 16.27 266 P **Pn 11 36 29.4 +0.9**
ANKY Antikythira Is 16.27 266 P **Pn 11 36 29.4 +0.9**
GRG Griva 16.29 284 P **P 11 36 31.7 0.0**
GRG Griva 16.29 284 P **P 11 36 31.7 0.0**
GRG Griva 16.29 284 P **P 11 36 31.7 0.0**
GRG Griva 16.29 284 P **P 11 36 31.7 0.0**
THAL Thalero 16.29 274 P **P 11 36 32.0 +0.3**
THAL Thalero 16.29 274 P **P 11 36 32.0 +0.3**
VLI Veliai 16.34 269 P **P 11 36 32.2 0.0**
VLI Veliai 16.34 269 P **P 11 36 32.2 0.0**
VLI Veliai 16.34 269 P **P 11 36 32.2 0.0**
DSF Desfina 16.34 275 P **Pn 11 36 31.0 +1.5**
DSF Desfina 16.34 275 P **Pn 11 36 31.0 +1.5**
DSF Desfina 16.34 275 P **Pn 11 36 31.0 +1.5**
KYTH Kithira 16.36 268 P **Pn 11 36 31.2 +1.5**
KYTH Kithira 16.36 268 P **Pn 11 36 31.2 +1.5**
KYTH Kithira 16.36 268 P **Pn 11 36 31.2 +1.5**
AGG Agios Georgios 16.43 277 P **Pn 11 36 31.4 +0.9**
AGG Agios Georgios 16.43 277 *e*P **P 11 36 32.6 -0.6**
AGG pmax pmax
comp=Z,1μm,1.3s
AGG Agios Georgios 16.43 277 P **Pn 11 36 31.4 +0.9**
AGG Agios Georgios 16.43 277 *e*Pn **Pn 11 36 31.4 +0.9**
comp=Z,1μm,1.4s
KTI Kastanea 16.50 282 P **P 11 36 33.9 -0.3**
KTI Kastanea 16.50 282 P **P 11 36 33.9 -0.3**
CJR Cluj-Napoca 16.55 305 ⇑ *i*P **P 11 36 35.4 +0.8**
CJR Cluj-Napoca 16.55 305 ⇑ *i*P **P 11 36 35.4 +0.8**
GUR Goura 16.56 274 P **P 11 36 35.5 +0.7**
GUR Goura 16.56 274 P **P 11 36 35.5 +0.7**
GUR Goura 16.56 274 P **P 11 36 35.5 +0.7**
SHME Shamm 16.60 136 Pn **Pn 11 36 31.3 -1.5**
SNR=13
THL Klokotos Trika 16.62 279 P **Pn 11 36 34.1 +1.1**
THL Klokotos Trika 16.62 279 P **Pn 11 36 34.1 +1.1**
VLX Vlachokerasia 16.63 272 P **P 11 36 35.6 0.0**
VLX Vlachokerasia 16.63 272 P **P 11 36 35.6 0.0**
VLX Vlachokerasia 16.63 272 P **P 11 36 35.6 0.0**
KALE Kalithea 16.65 275 P **Pn 11 36 34.7 +1.3**
KALE Kalithea 16.65 275 P **Pn 11 36 34.7 +1.3**
KALE Kalithea 16.65 275 P **Pn 11 36 34.7 +1.3**
GZR Gura Zlata 16.67 300 ⇑ *i*P **P 11 36 36.8 +0.9**

GZR Gura Zlata 16.67 300⇑iP P 11 36 36.8 +0.9
ZAGS Zajecar 16.69 294⇑iP P 11 36 36.3 +0.2
KLV Kalavryta, Ach 16.69 274 P P 11 36 35.8 -0.4
KLV Kalavryta, Ach 16.69 274 P P 11 36 35.8 -0.4
KLV Kalavryta, Ach 16.69 274 P P 11 36 35.8 -0.4
SERG Sergoula 16.71 275 P Pn 11 36 35.5 +1.4
SERG Sergoula 16.71 275 P Pn 11 36 35.5 +1.4
DEV Deva 16.73 302⇑iP P 11 36 37.5 +1.0
DEV Deva 16.73 302⇑iP P 11 36 37.5 +1.0
KZN Kozani 16.77 282 P P 11 36 36.7 -0.4
KZN Kozani 16.77 282 P P 11 36 36.7 -0.4
KZN Kozani 16.77 282 P P 11 36 36.7 -0.4
KZN Kozani 16.77 282 P P 11 36 36.7 -0.4
BANOM Banah 16.79 136 iP Pn 11 36 33.5 -1.6
SNR=19
BANOM Banah 16.79 136 Pn Pn 11 36 33.7 -1.5
SNR=26
BANOM Banah 16.79 136 Pn Pn 11 36 33.7 -1.5
SNR=26
BANOM Banah 16.79 136 Pn Pn 11 36 33.7 -1.5
SNR=26
BANOM Banah 16.79 136 P Pn 11 36 33.7 -1.5
SNR=26
ANX Ano Chora 16.79 276 P P 11 36 36.9 -0.5
ANX Ano Chora 16.79 276 P P 11 36 36.9 -0.5
LAKA Lakka 16.80 275 P Pn 11 36 36.8 +1.6
LAKA Lakka 16.80 275 P Pn 11 36 36.8 +1.6
LAKA Lakka 16.80 275 P Pn 11 36 36.8 +1.6
EFP Efpalio 16.83 276 P P 11 36 39.2 +1.6
EFP Efpalio 16.83 276 P P 11 36 39.2 +1.6
EVR Evrytania 16.84 277 P P 11 36 37.8 -0.1
EVR Evrytania 16.84 277 P P 11 36 37.8 -0.1
EVR Evrytania 16.84 277 P P 11 36 37.8 -0.1
UPR University Cam 16.94 275 P P 11 36 43.6 +4.7
OBN Obninsk 16.99 346 P Pn 11 36 36.5 -0.9
comp=Z,6.1nm,0.3s,baz=168,slow=2.9,SNR=17
OBN Obninsk 16.99 346⇓eP Pn 11 36 36.5 -0.9
OBN pmax pmax
comp=Z,528nm,1.7s
OBN MLR MLR
comp=Z,19µm,16.0s
OBN Obninsk 16.99 346 ePn Pn 11 36 36.6 -0.8
comp=Z,394nm,1.1s
OBN Obninsk 16.99 346 ePn Pn 11 36 36.6 -0.8
comp=Z,394nm,1.1s
BMR Baia Mare 16.99 308⇑iP P 11 36 40.0 +0.6
BMR Baia Mare 16.99 308⇑iP P 11 36 40.0 +0.6
ITM Ithomi 17.02 271 P Pn 11 36 39.2 +1.1
ITM Ithomi 17.02 271 P Pn 11 36 39.2 +1.1
ITM Ithomi 17.02 271 P Pn 11 36 39.2 +1.1
BOVS Bovan 17.04 293⇑iP P 11 36 40.7 +0.8
SKO Skopje 17.05 288 P P 11 36 40.8 +0.7
SKO Skopje 17.05 288 iP P 11 36 42.4 +2.4
SKO Skopje 17.05 288 P P 11 36 40.8 +0.7
SKO Skopje 17.05 288 P P 11 36 40.8 +0.7
SKO Skopje 17.05 288 P P 11 36 40.8 +0.7
DRO Drossia 17.05 274 P P 11 36 41.7 +1.6
DRO Drossia 17.05 274 P P 11 36 41.7 +1.6
FNA Florina 17.06 284 P P 11 36 41.1 +0.8
FNA Florina 17.06 284 P P 11 36 41.1 +0.8
FNA Florina 17.06 284 P P 11 36 41.1 +0.8
FNA Florina 17.06 284 P P 11 36 41.1 +0.8
PVO Paravola 17.10 276 P P 11 36 41.9 +1.3
PVO Paravola 17.10 276 P P 11 36 41.9 +1.3
KPRO Kipourio 17.10 281 P Pn 11 36 39.5 +0.4
KPRO Kipourio 17.10 281 P Pn 11 36 39.5 +0.4
AMT Artemida-Makis 17.12 273 P P 11 36 41.0 0.0
AMT Artemida-Makis 17.12 273 P P 11 36 41.0 0.0
DRGR 17.15 305⇑iP P 11 36 42.0 +0.7
DRGR 17.15 305⇑iP P 11 36 42.0 +0.7
MSFE Esma-Masafi 17.16 137 Pn Pn 11 36 38.8 -1.1
SNR=14
KRUS Krusevo 17.16 286 iP P 11 36 42.4 +1.0
KRUS Krusevo 17.16 286 iP P 11 36 42.4 +1.0
KUBS Kucevo 17.20 296 iP P 11 36 41.8 +0.1
NAZ Nazwa, Dubai 17.21 139 iP Pn 11 36 39.7 -0.7
SNR=40
NAZ Nazwa, Dubai 17.21 139 Pn Pn 11 36 39.8 -0.7
SNR=24
NAZ Nazwa, Dubai 17.21 139 Pn Pn 11 36 39.8 -0.7
SNR=24
NAZ Nazwa, Dubai 17.21 139 Pn Pn 11 36 39.8 -0.7
SNR=24
NAZ Nazwa, Dubai 17.21 139 P Pn 11 36 39.8 -0.7
SNR=24
RLS Riolos of Patr 17.22 274 P P 11 36 43.0 +1.0
RLS Riolos of Patr 17.22 274 P P 11 36 43.0 +1.0
RLS Riolos of Patr 17.22 274 P P 11 36 43.0 +1.0
PYL PYLOS 17.23 271 P Pn 11 36 40.1 -0.5
PYL PYLOS 17.23 271 P Pn 11 36 40.1 -0.5
PYL PYLOS 17.23 271 P Pn 11 36 40.1 -0.5
MDVR Moldovita 17.25 297⇑iP P 11 36 44.1 +1.8
MDVR Moldovita 17.25 297⇑iP P 11 36 44.1 +1.8
AXS Araxos 17.27 275 P Pn 11 36 39.3 -1.8
PDO Prodromos 17.36 276 P P 11 36 44.1 +0.5
PDO Prodromos 17.36 276 P P 11 36 44.1 +0.5
FAQ Al Faqa, Dubai 17.38 140 iP Pn 11 36 42.0 -0.5
SNR=17
FAQ Al Faqa, Dubai 17.38 140 P Pn 11 36 42.1 -0.5
SNR=18
FAQ Al Faqa, Dubai 17.38 140 P Pn 11 36 42.1 -0.5
SNR=18
FAQ Al Faqa, Dubai 17.38 140 Pn Pn 11 36 42.1 -0.5
SNR=18
FAQ Al Faqa, Dubai 17.38 140 P Pn 11 36 42.1 -0.5
SNR=18
SELS Selova 17.40 292⇑iP P 11 36 44.9 +0.9
MOS Moscow 17.41 349 eP Pn 11 36 42.0 -0.7
MOS eS Sn 11 39 59.6 +3.7
MOS pmax pmax
comp=Z,413nm,1.5s
MOS pmax pmax
comp=N,310nm,1.1s
SVIS Svilajnac 17.49 295⇑iP P 11 36 45.9 +1.0
OHR Ohrid 17.50 285 iP P 11 36 46.8 +1.6
OHR Ohrid 17.50 285 iP P 11 36 46.7 +1.6
BZS Buzias 17.52 300⇑iP P 11 36 45.6 +0.4
BZS Buzias 17.52 300⇑iP P 11 36 45.6 +0.4
UOSS Minazif 17.52 138 ePn Pn 11 36 42.7 -1.7
comp=N,253nm,1.0s
UOSS Minazif 17.52 138 ePn Pn 11 36 42.7 -1.7
comp=N,253nm,1.0s
HATD Hatta, Dubai 17.58 139 iP Pn 11 36 43.8 -1.3
SNR=28
HATD Hatta, Dubai 17.58 139 Pn Pn 11 36 44.3 -0.8
SNR=22
HATD Hatta, Dubai 17.58 139 Pn Pn 11 36 44.3 -0.8
SNR=22
HATD Hatta, Dubai 17.58 139 Pn Pn 11 36 44.3 -0.8
SNR=22
HATD Hatta, Dubai 17.58 139 P Pn 11 36 44.3 -0.8
SNR=22
ASHO Ashiyiah 17.66 139 iP Pn 11 36 45.7 -0.4
SNR=48
ASHO Ashiyiah 17.66 139 Pn Pn 11 36 44.3 -1.8
SNR=30
ASHO Ashiyiah 17.66 139 Pn Pn 11 36 44.3 -1.8
SNR=30
ASHO Ashiyiah 17.66 139 Pn Pn 11 36 44.3 -1.8
SNR=30
ASHO Ashiyiah 17.66 139 P Pn 11 36 44.3 -1.8
SNR=30
SIRR Siria 17.67 302⇓iP P 11 36 48.5 +1.6
SIRR Siria 17.67 302⇓iP P 11 36 48.5 +1.6
LVV L'vov 17.68 315 eP P 11 36 48.9 +1.9
LVV eS Sn 11 40 01.2 -1.4
LVV MLR MLR
comp=Z,11µm,14.0s
LKD2 Lefkada island 17.75 277 P Pn 11 36 47.5 +0.4
LKD2 Lefkada island 17.75 277 P Pn 11 36 47.5 +0.4
LKD2 Lefkada island 17.75 277 P Pn 11 36 47.5 +0.4
TRPA Tarpa 17.77 308⇑ex P 11 36 48.4 +0.5
GRUS Gruza 17.78 294⇓iP P 11 36 50.3 +2.1
BANR Banloc 17.79 299⇑iP P 11 36 50.7 +2.6
BANR Banloc 17.79 299⇑iP P 11 36 50.7 +2.6
SGD Sagiada 17.99 280 P P 11 36 53.0 +2.5
SGD Sagiada 17.99 280 P P 11 36 53.0 +2.5
TRUS Trudelj 18.06 295⇑iP P 11 36 52.5 +1.3
BEO Beograd 18.12 297 eP P 11 36 53.8 +1.9
BEO Beograd 18.12 297 ePn P 11 36 53.8 +1.9
UZH Uzhgorod 18.12 310⇑iP Pn 11 36 51.0 -0.6
PVY Plav 18.18 290⇑iP P 11 36 54.3 +1.5
TIR Tirane 18.21 286 eP P 11 36 54.5 +1.7
TIR pmax pmax
comp=Z,540nm,1.4s
TIR Tirane 18.21 286 ePn P 11 36 54.3 +1.5
comp=Z,542nm,1.4s
TIR Tirane 18.21 286 ePn P 11 36 54.3 +1.5
comp=Z,542nm,1.4s
BEY Berane 18.26 290⇑iP P 11 36 55.2 +1.7
IVA Berane 18.26 290⇑iP P 11 36 55.1 +1.6
KEK Kerkira 18.32 280 P Pn 11 36 54.1 0.0
KEK Kerkira 18.32 280 P Pn 11 36 54.1 0.0
KEK Kerkira 18.32 280 P Pn 11 36 54.1 0.0
DIVS Divibare 18.33 294 P Pn 11 36 55.7 +1.4
DIVS Divibare 18.33 294⇑iP Pn 11 36 55.7 +1.4
KWP Kalwaria Pacla 18.33 313 eP Pn 11 36 55.4 +1.2
KWP Kalwaria Pacla 18.33 313 eP Pn 11 36 55.4 +1.2
KWP Kalwaria Pacla 18.33 313 eP Pn 11 36 55.4 +1.2
KOME Kolasin 18.53 290⇑iP Pn 11 36 57.5 +0.8
KOME Kolasin 18.53 290⇑iP Pn 11 36 57.5 +0.8
FGSL Fruska Gora 18.65 298⇑iP Pn 11 36 59.3 +1.2
FRGS Fruska Gora 18.65 298⇑iP Pn 11 36 59.2 +1.1
PLE Pljevlja 18.67 292⇑iP Pn 11 36 59.6 +1.2
PLE Pljevlja 18.67 292⇑iP Pn 11 36 59.7 +1.3
ULC Ulcinj 18.68 288⇑iP P 11 36 58.7 +0.6
ULC Ulcinj 18.68 288⇑iP P 11 36 58.7 +0.6
PDG Podgorica 18.69 289 P P 11 36 58.7 +0.5
PDG Podgorica 18.69 289⇓iP Pn 11 36 59.5 +1.0
PDG Podgorica 18.69 289⇑iP Pn 11 36 59.7 +1.1
TTG Podgorica 18.69 289⇑iP Pn 11 36 59.6 +1.0
TTG Podgorica 18.69 289 P P 11 36 58.7 +0.5
TTG Podgorica 18.69 289 P P 11 36 58.7 +0.5
TTG Podgorica 18.69 289 P P 11 36 58.7 +0.5
BBLS Lazići 18.72 293⇑iP Pn 11 36 59.9 +0.9
TEKS Tekeris 18.73 296 eP Pn 11 37 00.2 +1.1
DRME Dracevica, Mon 18.73 288⇑iP Pn 11 37 00.0 +0.9
DRME Dracevica, Mon 18.73 288⇑iP Pn 11 37 00.0 +0.9
CRVS Cervenica-Dubn 18.74 310 eP Pn 11 37 00.2 +1.1
CRVS Cervenica-Dubn 18.74 310 eP Pn 11 37 00.2 +1.1
NKY Niksic 18.91 290⇑iP Pn 11 37 01.9 +0.5
NKY Niksic 18.91 290⇑iP Pn 11 37 01.9 +0.5
MICGM Minsk 18.94 331 eP P 11 37 01.0 +0.2
MICGM PM 11 37 02.0
comp=Z,0.3nm,1.2s
MICGM PM 11 37 02.0
comp=E,0.4nm,1.5s
MNK Minsk 18.94 331 eP P 11 37 01.0 +0.2
MNK pmax pmax
comp=E,400nm,1.5s
MNK pmax pmax
comp=Z,300nm,1.2s
NKME Niksic 18.94 290 eP P 11 37 01.8 +0.9
NKME Niksic 18.94 290 eP P 11 37 01.8 +0.9
CEME Cevo 18.95 289⇑iP P 11 37 01.8 +0.7
CEME Cevo 18.95 289⇑iP P 11 37 01.8 +0.7
BUM Brajici-Budva 18.95 289⇑iP P 11 37 01.8 +0.6
BUM Brajici-Budva 18.95 289⇑iP P 11 37 01.8 +0.6
UPM Unac-Piva 19.01 291⇑iP Pn 11 37 03.2 +0.7
UPM Unac-Piva 19.01 291⇑iP Pn 11 37 03.3 +0.7
HAPS Han Pijesak,Bl 19.07 294 eP P 11 37 02.6 +0.1
STHS Stebnicka Huta 19.08 311 eP Pn 11 37 04.5 +1.2
STHS pmax pmax
comp=Z,66nm,1.2s
STHS Stebnicka Huta 19.08 311 eP Pn 11 37 04.5 +1.2
KECS Kecovo 19.17 308 eP Pn 11 37 04.7 +0.4
KECS pmax pmax
comp=Z,45nm,1.2s
KECS Kecovo 19.17 308 eP Pn 11 37 04.7 +0.4
BRY Bratogost 19.25 290⇑iP P 11 37 05.1 +0.6
BRY Bratogost 19.25 290 eP P 11 37 05.1 +0.6
HCY Herceg Novi 19.26 289⇑iP P 11 37 04.5 +0.1
HCY Herceg Novi 19.26 289⇑iP P 11 37 04.2 -0.2
PSZ Piszkesteto 19.34 306⇑iP Pn 11 37 07.3 +0.8
PSZ Piszkesteto 19.34 306 eP Pn 11 37 07.2 +0.8
PSZ pmax pmax
comp=Z,731nm,1.6s
PSZ Piszkesteto 19.34 306 eP Pn 11 37 07.2 +0.8
comp=Z,731nm,1.6s
PSZ Piszkesteto 19.34 306 eP Pn 11 37 07.2 +0.8
comp=Z,731nm,1.6s
TREB Trebinje 19.38 290 eP P 11 37 06.2 +0.5
NIE Niedzica 19.64 310 eP Pn 11 37 11.2 +1.1
NIE Niedzica 19.64 310 eP Pn 11 37 11.1 +1.1
NIE Niedzica 19.64 310 eP Pn 11 37 11.1 +1.1
NACGM Naroch 19.66 331 e P 11 37 09.0 +0.3
BIDO Bidbid 19.70 136 Pn P 11 37 10.0 +0.7
SNR=14
BIDO Bidbid 19.70 136 Pn P 11 37 10.0 +0.7
SNR=14
BIDO Bidbid 19.70 136 P P 11 37 10.0 +0.7
SNR=14
BIDO Bidbid 19.70 136 P P 11 37 10.0 +0.7
SNR=14
DOB Doboj 19.77 296⇑iP P 11 37 10.6 +0.7
IDID Didziasalis 19.98 331 eP P 11 37 12.8 +0.6
IDID IAmb IAmb 11 37 25.4
comp=Z,58nm,1.0s
CGL1 Ceglie Messapi 20.03 284 eP P 11 37 12.7 -0.1
LANS Liptovska Anna 20.04 309 eP Pn 11 37 15.2 +0.5
LANS Liptovska Anna 20.04 309 eP Pn 11 37 15.2 +0.5
FASA Fasano 20.11 284 eP P 11 37 13.3 -0.4
TAR1 Taranto 20.18 283 eP P 11 37 14.5 0.0
VYHS Vyhne 20.20 307 eP Pn 11 37 16.2 -0.4
VYHS pmax pmax
comp=Z,201nm,1.5s
VYHS Vyhne 20.20 307 eP Pn 11 37 16.1 -0.5
VYHS eS Sn 11 41 14.9 +12
WSAR Wadi Sarin 20.20 136 P P 11 37 13.9 -0.9
comp=Z,101nm,1.1s,baz=334,slow=10,SNR=24
IIGN Ignalina 20.21 331 eP P 11 37 15.4 +0.8
IIGN IAmb IAmb 11 37 21.5
comp=Z,112nm,1.1s
OJC Ojcow 20.27 312 eP P 11 37 16.5 +1.0
OJC Ojcow 20.27 312 eP P 11 37 16.3 +0.9
OJC pmax pmax
comp=Z,267nm,1.2s
OJC Ojcow 20.27 312 eP P 11 37 16.3 +0.9
comp=Z,266nm,1.2s
OJC Ojcow 20.27 312 eP P 11 37 16.3 +0.9
comp=Z,266nm,1.2s
MASS Massafra 20.28 284 eP P 11 37 15.6 0.0
ARU Arti 20.32 25 P P 11 37 16.6 +0.8
comp=Z,49nm,0.5s,baz=225,slow=5.1,SNR=73
ARU Arti 20.32 25c iP P 11 37 16.2 +0.4
ARU 11 37 31.8
ARU S Sn 11 41 05.8 -0.3
ARU SS SnSn 11 41 23.3 +2.7
ARU pmax pmax
comp=Z,108nm,0.8s
ARU Arti 20.32 25 eP P 11 37 16.8 +1.0
comp=Z,605nm,1.3s
ARU Arti 20.32 25 eP P 11 37 16.8 +1.0
comp=Z,605nm,1.3s
BRLS Boroldoy 20.38 70 eP P 11 37 14.6 -2.0
comp=Z,279nm,0.8s
BRLS eS S 11 41 03.0 -1.3
BRLS LRM MLR 11 46 24.7
comp=Z,436nm,12.9s
ISAL Salakas 20.41 331 eP P 11 37 17.7 +0.9
ISAL IAmb IAmb 11 37 21.8
comp=Z,61nm,1.0s
BLY Banja Luka 20.42 295 eP P 11 37 18.0 +1.0
comp=Z,150nm,1.1s
BLY Banja Luka 20.42 295 eP P 11 37 18.0 +1.0
comp=Z,150nm,1.1s
BAI Bari 20.46 285 iP P 11 37 17.4 -0.1
BEL Belsk 20.48 317 eP P 11 37 19.0 +1.4
BEL Belsk 20.48 317 eP P 11 37 19.0 +1.4
BEL Belsk 20.48 317 eP P 11 37 19.0 +1.4
IUG luzhnay 20.49 72 iP P 11 37 17.5 -0.5
comp=Z,3µm,1.0s
IUG iS S 11 41 07.8 +1.1
IUG LR LR 11 45 05.2
comp=Z,6µm,12.8s
IZAR Zarasai 20.50 332 eP P 11 37 18.8 +1.0
IZAR IAmb IAmb 11 37 31.7
comp=Z,163nm,1.0s
SUW Suwalki 20.55 324 eP P 11 37 19.8 +1.4
SUW Suwalki 20.55 324 eP P 11 37 19.8 +1.4
SUW Suwalki 20.55 324 eP P 11 37 19.8 +1.4
SG1 Sgolgore (BA) 20.62 284 iP P 11 37 19.0 -0.3
KK31 Karatay Array 20.87 69 iP P 11 37 22.9 +0.9
KK31 pmax pmax
comp=Z,323nm,1.0s
KKAR Karatay Array 20.87 69 eP P 11 37 23.0 +1.0
KKAR pmax pmax
comp=Z,3µm,1.3s
KKAR Karatay Array 20.87 69 eP P 11 37 23.0 +1.0
comp=Z,3µm,1.3s
KKAR Karatay Array 20.87 69 eP P 11 37 23.0 +1.0
comp=Z,3µm,1.3s
CDT Castel del Mon 20.92 285 eP P 11 37 22.2 -0.3
KBL Kabul 20.96 94 eP Pn 11 37 25.9 +0.1
KBL pmax pmax
comp=Z,207nm,1.1s
KBL Kabul 20.96 94 eP Pn 11 37 25.9 +0.1
comp=Z,207nm,1.1s
KBL Kabul 20.96 94 eP Pn 11 37 25.9 +0.1
comp=Z,207nm,1.1s
BEHE Becsehely 20.99 300⇑iP P 11 37 24.7 +1.5
SMOL Smolenice 21.09 306 eP P 11 37 27.4 +3.1
SMOL Smolenice 21.09 306 eP P 11 37 27.4 +3.1
OKC Ostrava-Krasne 21.10 310⇓iP P 11 37 25.4 +1.1
OKC Ostrava-Krasne 21.10 310 Pg P 11 37 25.4 +1.1
MS1 Monte Sant'Ang 21.15 287 iP P 11 37 24.8 -0.2
RAC Raciborz 21.16 310 eP P 11 37 26.3 +1.3
KOGS Kog 21.34 300 eP P 11 37 28.2 +1.2
KOGS Kog 21.34 300 P P 11 37 28.2 +1.2
CUC Castrocucco 21.35 282 eP P 11 37 27.5 +0.4
comp=Z,292nm,1.1s
CUC Castrocucco 21.35 282 eP P 11 37 27.5 +0.4
comp=Z,292nm,1.1s
ZAG Zagreb 21.41 298 eP P 11 37 29.1 +1.4
MORC Moravsky Berou 21.44 309⇑iP P 11 37 29.6 +1.5
MORC Moravsky Berou 21.44 309 eP P 11 37 29.0 +0.9
MORC pmax pmax
comp=Z,2µm,1.7s
MORC Moravsky Berou 21.44 309 eP P 11 37 28.8 +0.7
comp=Z,1µm,1.7s
MORC Moravsky Berou 21.44 309 eP P 11 37 28.8 +0.7
comp=Z,1µm,1.7s
CEL Celeste 21.52 277 eP P 11 37 28.1 -0.9
comp=Z,212nm,1.0s
CEL Celeste 21.52 277 eP P 11 37 28.1 -0.9
comp=Z,212nm,1.0s
CRES Cresnjev 21.78 298⇑iP P 11 37 32.0 +0.3
VRAC Vranov 21.86 308 P P 11 37 34.2 +1.7
comp=Z,199nm,1.0s,baz=106,slow=9.2,SNR=99
BOJS Bojanci 21.87 297 eP P 11 37 33.7 +1.0
BOJS Bojanci 21.87 297 eP P 11 37 33.7 +1.0
CONA Conrad Observa 21.93 304 P P 11 37 34.8 +1.4
comp=Z,235nm,1.2s,SNR=79
ARSA Arzberg 22.00 302 P P 11 37 35.6 +1.5
comp=Z,178nm,1.8s,SNR=58
KRLC Kraliky 22.00 310⇑eP P 11 37 34.7 +0.6
KRLC Kraliky 22.00 310 eP P 11 37 34.7 +0.6
KRLC Kraliky 22.00 310 P P 11 37 34.7 +0.6
SOKA Soboth 22.21 300 P P 11 37 37.1 +0.7
comp=Z,96nm,1.6s,SNR=35
KLMR Klimovskoe 22.24 355 eP P 11 37 36.1 -0.3
KLMR e 11 37 59.7
KLMR e 11 41 28.4
KLMR eS S 11 41 41.6 +1.4
KLMR pmax pmax
comp=Z,890nm,1.4s
MNAS Manas 22.33 71 P P 11 37 38.3 +0.5
MNAS pmax pmax
comp=Z,209nm,1.3s
DPC Dobruska-Polom 22.38 310 eP P 11 37 38.1 0.0
DPC Dobruska-Polom 22.38 310 eP P 11 37 38.1 0.0
DPC Dobruska-Polom 22.38 310 P P 11 37 38.1 0.0
LJU Ljubljana 22.45 298 eP P 11 37 39.3 +0.4
LJU Ljubljana 22.45 298⇑iP P 11 37 39.6 +0.7
VSU Vasula 22.46 337⇓eP P 11 37 38.6 -0.2
VSU pmax pmax
comp=Z,826nm,1.7s
VSU Vasula 22.46 337 eP P 11 37 39.0 +0.2
comp=Z,1µm,1.8s,SNR=28
CEY Cerknica 22.48 297 eP P 11 37 40.1 +0.8
SOKR Solikamsk 22.51 18⇓iP P 11 37 38.8 -0.5
SOKR pmax pmax
comp=Z,225nm,1.7s
OBKA Obir 22.51 299 P P 11 37 40.8 +1.1
comp=Z,96nm,1.4s,SNR=21
TREC Trest 22.55 307⇓eP P 11 37 41.0 +1.1
TREC Trest 22.55 307 eP P 11 37 41.0 +1.1
TREC Trest 22.55 307 P P 11 37 41.0 +1.1
MOZS Mozjanca 22.55 299 eP P 11 37 41.0 +1.0
MOZS Mozjanca 22.55 299 eP P 11 37 41.0 +1.0
KSP Ksiaz 22.57 311 eP P 11 37 40.7 +0.5
KSP Ksiaz 22.57 311 eP P 11 37 40.7 +0.5
KSP Ksiaz 22.57 311 eP P 11 37 40.7 +0.5
PUL Pulkovo 22.60 343⇓eP P 11 37 42.0 +1.7
PUL pmax pmax
comp=Z,160nm,1.3s
UPC Upice 22.62 310⇓iP P 11 37 41.4 +0.7
UPC Upice 22.62 310 Pg P 11 37 41.4 +0.7
VAE Valguarnera 22.82 276 P P 11 37 43.7 +0.7
comp=Z,100nm,0.9s,baz=143,slow=1.1,SNR=17
TRI Trieste 22.94 297 eP P 11 37 44.6 +0.6
TRI pmax pmax
comp=Z,410nm,1.5s
TRI Trieste 22.94 297 eP P 11 37 44.2 +0.2
comp=Z,413nm,1.5s
TRI Trieste 22.94 297 eP P 11 37 44.2 +0.2
comp=Z,413nm,1.5s
MOA Molln 22.96 303 P P 11 37 44.9 +0.6
comp=Z,210nm,1.1s,SNR=85
CADS Cadrg 23.02 298 eP P 11 37 45.2 +0.2
CADS Cadrg 23.02 298 eP P 11 37 45.2 +0.2
AQU L'Aquila 23.03 289 eP P 11 37 45.1 +0.1
AQU pmax pmax
comp=Z,638nm,1.1s
AQU L'Aquila 23.03 289⇑iP P 11 37 44.9 -0.2
AQU L'Aquila 23.03 289 eP P 11 37 45.1 +0.1
comp=Z,638nm,1.1s
GKP Gorka Klasztor 23.08 317 eP P 11 37 46.3 +0.9
GKP Gorka Klasztor 23.08 317 eP P 11 37 46.3 +0.9
GKP Gorka Klasztor 23.08 317 eP P 11 37 46.3 +0.9
WDD Wied Dalam 23.13 272 eP P 11 37 45.1 -1.0
comp=Z,509nm,1.2s
WDD Wied Dalam 23.13 272 eP P 11 37 45.1 -1.0
comp=Z,509nm,1.2s
MYKA Terra Mystica 23.15 299 P P 11 37 46.9 +0.6
comp=Z,56nm,1.2s,SNR=14
GOPC GO Pecny, Ondr 23.17 308 eP P 11 37 47.0 +0.6
GOPC GO Pecny, Ondr 23.17 308 eP P 11 37 47.0 +0.6
GOPC GO Pecny, Ondr 23.17 308 P P 11 37 47.0 +0.6
BRVK Borovoye 23.34 44⇑eP P 11 37 49.1 +1.0
BRVK pmax pmax
comp=Z,297nm,1.0s
BRVK Borovoye 23.34 44 eP P 11 37 49.4 +1.4
comp=Z,250nm,1.3s
BRVK Borovoye 23.34 44 eP P 11 37 49.4 +1.4
comp=Z,250nm,1.3s
BRVK Borovoye 23.34 44 P P 11 37 49.0 +1.0
SNR=69
BRVK Borovoye 23.34 44 P P 11 37 49.0 +1.0
SNR=69
BRVK Borovoye 23.34 44 P P 11 37 49.0 +1.0
SNR=69
BRVK P P 11 37 49.0 +1.0
SNR=69
PRU Pruhonice 23.34 308⇓iP P 11 37 49.1 +1.0
PRU Pruhonice 23.34 308⇓iP P 11 37 49.1 +1.0
PRU Pruhonice 23.34 308 Pg P 11 37 49.1 +1.0
SLIT Slitere, Latvi 23.36 331 eP P 11 37 47.2 -1.0
comp=Z,1µm,1.1s,SNR=28
BVA0 Borovoye Array 23.38 44 iP P 11 37 49.3 +0.9
BVA0 pmax pmax
comp=Z,344nm,1.8s
BVAR Borovoye Array 23.38 44 P P 11 37 49.5 +1.0
comp=Z,58nm,0.9s,baz=233,slow=7.2,SNR=60
KBA Koelnbreinsper 23.42 300 P P 11 37 49.9 +0.8
KBA pmax pmax
comp=Z,211nm,1.3s
KBA Koelnbreinsper 23.42 300 P P 11 37 50.0 +0.8
comp=Z,275nm,1.3s,SNR=95
PRA Prague 23.43 308⇓iP P 11 37 50.3 +1.3
PRA Prague 23.43 308 Pg P 11 37 50.3 +1.3
PVCC Panska Ves 23.49 309⇓iP P 11 37 50.7 +1.1
PVCC Panska Ves 23.49 309 Pg P 11 37 50.7 +1.1
BTLS Baital 23.54 65 iP P 11 37 49.9 -0.3
comp=Z,1µm,1.5s
GEC2 GERESS Array S 23.55 305 eP P 11 37 50.8 +0.5
GEC2 pmax pmax
comp=Z,467nm,1.6s
GEC2 GERESS Array S 23.55 305 eP P 11 37 50.8 +0.5
comp=Z,467nm,1.6s
GEC2 GERESS Array S 23.55 305 eP P 11 37 50.8 +0.5

comp=Z,467nm,1.6s
GERES **GERESS Array B** 23.55 305 P P 11 37 51.2 +0.9
comp=Z,42nm,1.0s,baz=113,slow=8.8,SNR=144
BRZS **Berezniki** 23.57 52 *i* P P 11 37 50.0 -0.3
comp=Z,51nm,1.3s
BRZS *e*S S 11 42 04.8 +1.2
BRZS LR LR 11 46 55.6
comp=Z,175nm,12.2s
MTSE **Matsula** 23.61 334 *e*P P 11 37 51.3 +0.7
SNR=152
KHC **Kasperske Hory** 23.70 306⇑ *i*P P 11 37 52.0 +0.3
KHC **Kasperske Hory** 23.70 306 P P 11 37 52.0 +0.3
KHC **Kasperske Hory** 23.70 306 *e*P P 11 37 52.4 +0.7
comp=Z,317nm,1.5s
CLTB **Caltabellotta** 23.73 277 *e*P P 11 37 51.6 -0.5
comp=Z,213nm,1.1s
CLTB **Caltabellotta** 23.73 277 *e*P P 11 37 51.6 -0.5
comp=Z,213nm,1.1s
AAK **Ala-Archa** 23.80 71 P P 11 37 53.9 +1.1
comp=Z,44nm,1.0s,baz=248,slow=10,SNR=37
AAK **Ala-Archa** 23.80 71 *e*P P 11 37 54.2 +1.4
AAK pmax pmax
comp=Z,639nm,1.6s
AAK **Ala-Archa** 23.80 71 *e*P P 11 37 54.2 +1.4
comp=Z,639nm,1.6s
AAK **Ala-Archa** 23.80 71 *e*P P 11 37 54.2 +1.4
comp=Z,639nm,1.6s
AAK **Ala-Archa** 23.80 71 P P 11 37 54.2 +1.4
SNR=113
AAK **Ala-Archa** 23.80 71 P P 11 37 54.2 +1.4
SNR=113
AAK **Ala-Archa** 23.80 71 P P 11 37 54.2 +1.4
SNR=113
FRU **Bishkek** 23.88 70 *e*P P 11 37 57.0 +3.5
FRU pmax pmax
comp=Z,2μm,2.0s
ABTA **Abfaltersbach** 23.94 299 P P 11 37 54.5 +0.5
comp=Z,172nm,1.4s,SNR=48
BRG **Berggiesshubel** 23.98 310⇑ *i*P P 11 37 54.7 +0.4
comp=Z,127nm,1.2s
BRG **Berggiesshubel** 23.98 310⇑ *i*P P 11 37 54.7 +0.4
BRG pmax pmax
comp=Z,127nm,1.2s
DAMY **Dhamar** 24.12 178 *e*P P 11 37 57.7 +1.5
comp=Z,364nm,1.4s
DAMY **Dhamar** 24.12 178 *e*P P 11 37 57.7 +1.5
comp=Z,364nm,1.4s
WET **Wettzell** 24.15 305 P P 11 37 56.0 0.0
WET pmax pmax
comp=Z,260nm,1.2s
MEF **Metsahovi** 24.59 337 *e*P P 11 37 59.4 -0.3
SNR=152
TKM2 **Tokmak 2** 24.60 70 *i* P P 11 38 02.2 +1.9
TKM2 pmax pmax
comp=Z,625nm,1.6s
WTTA **Wattenberg** 24.60 300 P P 11 38 00.3 0.0
comp=Z,204nm,1.0s,SNR=55
WATA **Walderalm** 24.66 301 P P 11 38 00.8 +0.1
comp=Z,323nm,1.1s,SNR=122
CLL **Collm** 24.68 310 *e*P P 11 38 01.1 +0.5
comp=Z,162nm,0.9s
CLL **Collm** 24.68 310⇑ *i*P P 11 38 01.2 +0.5
comp=Z,184nm,0.9s
CLL *e* 11 38 07.0
CLL *e*(PP) 11 38 29.0
CLL **Collm** 24.68 310 *e*P P 11 38 01.1 +0.5
comp=Z,162nm,0.9s
NKC **Novy Kostel** 24.70 308⇑ *i*P P 11 38 01.3 +0.4
NKC **Novy Kostel** 24.70 308⇑ *i*P P 11 38 01.3 +0.4
NKC **Novy Kostel** 24.70 308 P P 11 38 01.3 +0.4
MOTA **Moosalm** 24.97 301 P P 11 38 03.2 -0.4
comp=Z,380nm,1.1s,SNR=186
FIA1 **FINESS Array S** 25.11 340 *e*P P 11 38 04.1 -0.3
comp=Z,184nm,1.3s
FIA1 **FINESS Array S** 25.11 340 *e*P P 11 38 04.1 -0.3
comp=Z,184nm,1.3s
FINES **FINESS Array B** 25.11 340 P P 11 38 04.0 -0.4
comp=Z,26nm,0.8s,baz=144,slow=11,SNR=41
KUU **Kurty** 25.13 68 *i* P P 11 38 04.4 -0.5
comp=Z,683nm,1.0s
BSD **Bornholm Skovb** 25.16 320 *i* P P 11 38 04.2 -0.7
comp=Z,220nm,1.1s
BSD **Bornholm Skovb** 25.16 320 *i* P P 11 38 04.2 -0.7
BSD pmax pmax
comp=Z,220nm,1.1s
BSD **Bornholm Skovb** 25.16 320 *e*P P 11 38 03.5 -1.4
comp=Z,33nm,1.9s,SNR=152
KSH **Kashi** 25.18 78⇓ *i*P P 11 38 05.1 -0.4
KSH pP pP 11 38 11.4 +0.7
KSH sP sP 11 38 14.3 +1.4
KSH PP **PnPn** 11 38 44.3 +4.7
KSH PcP **PcP** 11 41 41.6 +2.6
KSH S **S** 11 42 25.3 -4.7
KSH SS **SnSn** 11 43 24.3 +4.0
KSH PcS **PcS** 11 45 20.8 +1.4
KSH pmax pmax
comp=Z,60nm,0.9s
KSH LR LR
comp=Z,12μm,15.8s
KSH LR LR
comp=Z,6μm,13.1s
KSH LR LR
comp=Z,6μm,17.9s
FETA **Feichten** 25.18 300 P P 11 38 05.4 -0.1
comp=Z,188nm,1.2s,SNR=68
RETA **Reutte** 25.22 301 P P 11 38 05.3 -0.4
comp=Z,142nm,1.3s,SNR=41
VLC **Villacollemand** 25.23 293 *e*P P 11 38 06.5 +0.8
comp=Z,120nm,1.0s
VLC **Villacollemand** 25.23 293 *e*P P 11 38 06.5 +0.8
comp=Z,120nm,1.0s
MOX **Moxa** 25.33 308 P P 11 38 06.8 +0.3
MOX pmax pmax
comp=Z,133nm,0.8s
GRF **Grafenberg Arr** 25.33 306 P P 11 38 07.6 +1.0
GRFO **Grafenberg** 25.34 306 *e*P P 11 38 07.6 +1.0
GRFO pmax pmax
comp=Z,871nm,1.4s
GRFO **Grafenberg** 25.34 306 *e*P P 11 38 07.6 +1.0
comp=Z,871nm,1.4s
GRFO **Grafenberg** 25.34 306 *e*P P 11 38 07.6 +1.0
comp=Z,871nm,1.4s
FUORN **Ofenpass-Fuorn** 25.46 299 *e*P P 11 38 08.3 +0.3
comp=Z,139nm,1.1s
FUORN **Ofenpass-Fuorn** 25.46 299 *e*P P 11 38 08.3 +0.3
comp=Z,139nm,1.1s
TMCR **Tamitsa** 25.62 355 *e*P P 11 38 07.3 -1.7
TMCR *e*S S 11 42 31.4 -4.8
TMCR pmax pmax
comp=Z,159nm,1.1s
MDOK **Medeo** 25.66 69 *i* P P 11 38 09.3 -0.5
comp=Z,207nm,0.8s
MDOK LRM MLR 11 48 59.5
comp=Z,10μm,15.8s
RGN **Rugen** 25.72 318 *e*P P 11 38 10.7 +0.7
comp=Z,521nm,1.2s
RGN **Rugen** 25.72 318 *e*P P 11 38 10.7 +0.7
comp=Z,521nm,1.2s
DAVOX **Davos/Dischmat** 25.74 299 P P 11 38 10.7 +0.1
comp=Z,108nm,1.0s,baz=108,slow=8.0,SNR=62
DAVA **Damuels** 25.79 300 P P 11 38 10.8 -0.2
comp=Z,341nm,1.2s,SNR=71
RAF **Rauma** 26.04 336 *e*P P 11 38 12.6 -0.2
comp=Z,128nm,1.6s,SNR=152
TUE **Stuetta** 26.07 298 *e*P P 11 38 13.0 -0.6
comp=Z,106nm,1.1s
TUE **Stuetta** 26.07 298 *e*P P 11 38 13.0 -0.6
comp=Z,106nm,1.1s
PGF **Pioggiola** 26.27 289 *e*P P 11 38 14.7 -0.6
PGF pmax pmax
comp=Z,516nm,1.1s
VSL **Villasalto** 26.33 282 *e*P P 11 38 15.8 0.0
comp=Z,400nm,1.3s
VSL **Villasalto** 26.33 282 *e*P P 11 38 15.8 0.0
comp=Z,400nm,1.3s
STU **Stuttgart** 26.46 303 *e*P P 11 38 16.0 -0.8
STU pmax pmax
comp=Z,203nm,1.1s
STU **Stuttgart** 26.46 303 *e*P P 11 38 16.0 -0.8
comp=Z,203nm,1.1s
STU **Stuttgart** 26.46 303 *e*P P 11 38 16.0 -0.8
comp=Z,203nm,1.1s
SPAK **Spaichingen-Ko** 26.63 302⇑ *e*P P 11 38 17.9 -0.6
SATY **Saty** 26.66 69 *i* P P 11 38 18.2 -0.6
comp=Z,564nm,1.6s
SATY *e*S S 11 42 53.6 +0.3
SATY LR LR 11 48 32.9
comp=Z,5μm,13.1s
COP **Copenhagen** 26.68 319 *i* P P 11 38 19.5 +0.8
comp=Z,159nm,1.1s
COP **Copenhagen** 26.68 319 *e*P P 11 38 19.5 +0.8
COP pmax pmax
comp=Z,160nm,1.1s
COP **Copenhagen** 26.68 319 *e*P P 11 38 19.5 +0.8
comp=Z,159nm,1.1s
TOD **Tromm** 26.85 305⇑ *e*P P 11 38 20.5 +0.1
THN **Thein Dam** 26.92 94 *ex* P 11 38 17.0 -4.1
BFO **Black Forest** 26.96 302 *i* P P 11 38 21.4 0.0
BFO **Black Forest** 26.96 302 *e*P P 11 38 20.9 -0.5
comp=Z,29nm,0.9s
BFO **Black Forest** 26.96 302 *e*P P 11 38 20.9 -0.5
comp=Z,29nm,0.9s
FELD **Feldberg im Sc** 27.12 301⇑ *e*P P 11 38 22.1 -0.9
ATD **Arta Tunnel** 27.14 181 P P 11 38 24.1 +0.8
comp=Z,4.6nm,0.3s,baz=325,slow=6.9,SNR=5.3
BHJ **Bhuj** 27.16 117 *e*P P 11 38 25.6 +2.3
BHJ AMB AMB 11 38 36.6
comp=Z,83nm,2.1s
KEST **Kesra** 27.20 274 P P 11 38 24.6 +0.8
comp=Z,133nm,0.9s,baz=341,slow=1.9,SNR=110
KEST **Kesra** 27.20 274 *e*P P 11 38 23.4 -0.3
comp=Z,181nm,1.0s
KEST **Kesra** 27.20 274 *e*P P 11 38 23.4 -0.3
comp=Z,181nm,1.0s
KTD **Kalmit** 27.27 304⇑ *e*P P 11 38 24.6 +0.5
SBF **Sospel** 27.36 292 *e*P P 11 38 24.9 -0.1
SBF pmax pmax
comp=Z,604nm,1.0s
KURBB **Kurchatov Arra** 27.36 53 P P 11 38 26.1 +1.2
comp=Z,41nm,0.6s,baz=261,slow=9.0,SNR=211
KURBB ScP ScP 11 45 22.9 -0.3
comp=Z,7.0nm,1.2s,baz=253,slow=2.9,SNR=4.8
MON **Monaco** 27.37 292 *e*P P 11 38 25.0 0.0
MON **Monaco** 27.37 292 *e*P P 11 38 25.0 0.0
LANF **Langenberg** 27.40 304⇑ *e*P P 11 38 24.8 -0.5
LANF **Langenberg** 27.40 304 P P 11 38 25.3 0.0
LANF **Langenberg** 27.40 304⇑ *e*P P 11 38 24.8 -0.5
REVF **Revere** 27.41 292⇑ *e*P P 11 38 25.8 +0.3
REVF **Revere** 27.41 292⇑ *e*P P 11 38 25.8 +0.3
LUCF **Luceram** 27.42 292 *e*P P 11 38 26.2 +0.6
LUCF **Luceram** 27.42 292 *e*P P 11 38 26.2 +0.6
SHLS **Shalkode** 27.42 69 *i* P P 11 38 27.6 +1.9
comp=Z,131nm,0.8s
SHLS LRM MLR 11 50 44.9
comp=Z,2μm,11.3s
KURK **Kurchatov** 27.43 53 *de*P P 11 38 26.8 +1.2
KURK pmax pmax
comp=Z,472nm,1.7s
KURK **Kurchatov** 27.43 53 *e*P P 11 38 26.7 +1.2
comp=Z,232nm,1.2s
KURK ScP ScP 11 45 23.0 -0.5
KURK **Kurchatov** 27.43 53 *e*P P 11 38 26.7 +1.2
comp=Z,232nm,1.2s
KURK ScP ScP 11 45 22.9 -0.5
KURK **Kurchatov** 27.43 53 P P 11 38 27.1 +1.5
SNR=59
KURK **Kurchatov** 27.43 53 P P 11 38 27.1 +1.5
SNR=59
KURK **Kurchatov** 27.43 53 P P 11 38 27.1 +1.5
SNR=59
KURK P P 11 38 27.1 +1.5
SNR=59
PDGK **Podgornoye** 27.43 69 *i* P P 11 38 26.0 +0.2
DHRM **DHARAMSHALA** 27.44 94 *e*P P 11 38 27.4 +1.4
DHRM AMB AMB 11 38 32.0
comp=Z,230nm,0.3s
SENIN **Lac Senin/Sane** 27.48 298 *e*P P 11 38 25.9 -0.4
comp=Z,170nm,1.3s
SENIN **Lac Senin/Sane** 27.48 298 *e*P P 11 38 25.9 -0.4
comp=Z,170nm,1.3s
MVIF **Mont Vial** 27.56 292⇑ *e*P P 11 38 27.6 +0.6
MVIF **Mont Vial** 27.56 292⇑ *e*P P 11 38 27.6 +0.6
ABH **Alteburg** 27.70 305⇑ *e*P P 11 38 29.0 +1.0
ECH **Echery** 27.72 302⇑ *e*P P 11 38 27.4 -0.8
ECH **Echery** 27.72 302 *e*P P 11 38 28.0 -0.2
ECH pmax pmax
comp=Z,120nm,1.4s
ECH **Echery** 27.72 302⇑ *e*P P 11 38 27.4 -0.8
ECH **Echery** 27.72 302 *e*P P 11 38 28.0 -0.2
comp=Z,120nm,1.4s
LPG **La Plagne** 27.83 296 *e*P P 11 38 28.9 -0.6
LPG pmax pmax
comp=Z,352nm,1.5s
LPL **La Plagne** 27.85 296 *e*P P 11 38 28.9 -0.7
LPL pmax pmax
comp=Z,377nm,1.7s
LOMF **Lomont** 27.86 300⇑ *e*P P 11 38 29.2 -0.4
LOMF **Lomont** 27.86 300 P P 11 38 29.7 +0.1
LOMF **Lomont** 27.86 300⇑ *e*P P 11 38 29.2 -0.4
BHK **Bhakra** 27.87 95 *e*P P 11 38 30.6 +0.9
BNI **Bardonecchia** 27.88 295 *e*P P 11 38 30.3 +0.5
BNI pmax pmax
comp=Z,165nm,1.1s
BNI **Bardonecchia** 27.88 295 *e*P P 11 38 30.3 +0.5
comp=Z,165nm,1.1s
BNI **Bardonecchia** 27.88 295 *e*P P 11 38 30.3 +0.5
comp=Z,165nm,1.1s
HINF **Hinteralfeld** 27.89 301 *e*P P 11 38 29.3 -0.4
HINF pmax pmax
comp=Z,45nm,1.4s
RSL **Roselend** 27.92 296⇑ *e*P P 11 38 29.4 -0.8
RSL **Roselend** 27.92 296⇑ *e*P P 11 38 29.4 -0.8
RUP **Ruppelstein** 27.99 305⇑ *e*P P 11 38 30.1 -0.5
HAU **Haudompre** 28.24 301 *e*P P 11 38 31.8 -1.1
HAU pmax pmax
comp=Z,86nm,1.7s
SDNR **Sundarnagar** 28.26 95 *e*P P 11 38 34.0 +0.8
GDM **Grand'Maison** 28.28 295⇑ *e*P P 11 38 32.5 -0.9
GDM **Grand'Maison** 28.28 295⇑ *e*P P 11 38 32.5 -0.9
CABF **La Chapelle** 28.33 298 *e*P P 11 38 33.4 -0.3
CABF pmax pmax
comp=Z,594nm,1.2s
HFS **Hagfors** 28.39 329 P P 11 38 34.2 +0.2
comp=Z,84nm,0.9s,baz=126,slow=7.3,SNR=70
SEM **Semipalatinsk** 28.40 54 *i* P P 11 38 33.6 -0.9
SEM *e*S S 11 43 21.3 +0.7
SEM LRM MLR 11 51 02.5
comp=Z,2μm,12.9s
ORIF **Oris-en-Rattie** 28.45 295 *e*P P 11 38 34.0 -0.8
ORIF pmax pmax
comp=Z,220nm,1.7s
CMAH **Djebel Manchou** 28.46 277 P P 11 38 35.3 +0.4
CMAH **Djebel Manchou** 28.46 277 P P 11 38 35.3 +0.4
THEF **They Montfort** 28.50 302⇑ *e*P P 11 38 34.3 -0.9
THEF **They Montfort** 28.50 302⇑ *e*P P 11 38 34.3 -0.9
ABSA **Djebel Ababsia** 28.51 276 P P 11 38 36.4 +1.0
ABSA **Djebel Ababsia** 28.51 276 P P 11 38 36.4 +1.0
GRN **Grenoble** 28.54 295⇑ *e*P P 11 38 34.9 -0.7
GRN **Grenoble** 28.54 295⇑ *e*P P 11 38 34.9 -0.7
WLF **Walferdange** 28.57 305 P P 11 38 36.3 +0.6
comp=Z,75nm,1.3s
WLF **Walferdange** 28.57 305 *e*P P 11 38 35.9 +0.2
WLF pmax pmax
comp=Z,122nm,1.1s
WLF **Walferdange** 28.57 305 P P 11 38 36.2 +0.6
comp=Z,75nm,1.3s
WLF **Walferdange** 28.57 305 *e*P P 11 38 35.9 +0.2
comp=Z,122nm,1.1s
SMLA **Simla** 28.57 95 *e*P P 11 38 37.1 +1.2
SMLA AMB AMB 11 38 41.6
comp=Z,186nm,1.4s
WTSB **Winterswijk** 28.58 310 *e*P P 11 38 37.4 +1.7
comp=Z,638nm,1.3s
WTSB **Winterswijk** 28.58 310 *e*P P 11 38 37.4 +1.7
comp=Z,638nm,1.3s
MUD **Monsted U'grnd** 28.66 319 *i* P P 11 38 37.8 +1.4
comp=Z,141nm,1.2s
MUD **Monsted U'grnd** 28.66 319 *i* P P 11 38 37.8 +1.4
MUD pmax pmax
comp=Z,140nm,1.2s
MUD **Monsted U'grnd** 28.66 319 *i* P P 11 38 37.8 +1.4
comp=Z,141nm,1.2s
MEM **Membach** 28.80 307 P P 11 38 39.0 +1.2
comp=Z,73nm,1.8s
MEM **Membach** 28.80 307 P P 11 38 39.2 +1.4
MEM **Membach** 28.80 307 P P 11 38 39.0 +1.2
comp=Z,73nm,1.8s
CAEH 'Ain El Ouahch 28.86 278 P P 11 38 39.0 +0.6
CAEH 'Ain El Ouahch 28.86 278 P P 11 38 39.0 +0.6
HGN **Heimansgroeve** 28.88 307 *e*P P 11 38 39.8 +1.4
comp=Z,337nm,1.3s
HGN **Heimansgroeve** 28.88 307 *e*P P 11 38 39.8 +1.4
comp=Z,337nm,1.3s
BEBN **Eben Emael** 29.04 307 P P 11 38 41.1 +1.3
BEBN **Eben Emael** 29.04 307 P P 11 38 41.1 +1.3
CKFL **Kef-Lekhel** 29.06 277 P P 11 38 40.9 +0.5
CKFL **Kef-Lekhel** 29.06 277 P P 11 38 40.9 +0.5
MAKZ **Makanchi** 29.17 61 *e*P P 11 38 42.2 +1.1
MAKZ pmax pmax
comp=Z,126nm,1.4s
MAKZ **Makanchi** 29.17 61 *e*P P 11 38 42.2 +1.1
comp=Z,126nm,1.4s
MAKZ **Makanchi** 29.17 61 *e*P P 11 38 42.2 +1.1
comp=Z,126nm,1.4s
BCLA **Clavier** 29.22 306 P P 11 38 42.6 +1.1
comp=Z,38nm,1.3s
BCLA **Clavier** 29.22 306 P P 11 38 42.5 +1.1
comp=Z,38nm,1.3s
CASM **Ain Smara** 29.28 277 P P 11 38 42.6 +0.4
CASM **Ain Smara** 29.28 277 P P 11 38 42.6 +0.4
VIVF **Saint-Julien-l** 29.31 295 *e*P P 11 38 41.2 -1.2
VIVF pmax pmax
comp=Z,112nm,1.2s
APA **Apatity** 29.38 352⇑ *i*P P 11 38 43.0 +0.3
APA *i* 11 39 46.0
APA *i* S S 11 43 32.0 -3.3
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,18μm,16.0s
MKAR **Makanchi Array** 29.38 61 P P 11 38 44.0 +1.0
comp=Z,20nm,0.9s,baz=269,slow=7.0,SNR=59
MKAR **Makanchi Array** 29.38 61 P P 11 38 44.0 +1.0
MKAR pmax pmax
comp=Z,20nm,0.9s
MKAR **Makanchi Array** 29.38 61 *e*P P 11 38 44.0 +1.0
comp=Z,323nm,1.4s
MKAR **Makanchi Array** 29.38 61 *e*P P 11 38 44.0 +1.0
comp=Z,323nm,1.4s
MK31 **Makanchi Array** 29.39 61 *i* P P 11 38 44.0 +1.0
MK31 pmax pmax
comp=Z,44nm,1.0s
MK31 **Makanchi Array** 29.39 61 *e*P P 11 38 44.0 +1.0
MK31 **Makanchi Array** 29.39 61 *e*P P 11 38 44.0 +1.0
SSB **Saint Sauveur** 29.39 295⇑ *e*P P 11 38 42.6 -0.6
SSB **Saint Sauveur** 29.39 295 *e*P P 11 38 42.5 -0.6
SSB pmax pmax
comp=Z,144nm,1.3s
SSB **Saint Sauveur** 29.39 295⇑ *e*P P 11 38 42.6 -0.6
SSB **Saint Sauveur** 29.39 295 *e*P P 11 38 42.5 -0.6
comp=Z,144nm,1.3s
CTEI **Djebel Teioual** 29.40 276 P P 11 38 43.9 +0.5
CTEI **Djebel Teioual** 29.40 276 P P 11 38 43.9 +0.5
GIVF **Givet** 29.48 305 *e*P P 11 38 44.8 +1.0
GIVF pmax pmax
comp=Z,66nm,1.2s
OSL **Oslo** 29.53 327 *e*P P 11 38 44.3 +0.2
OSL IAmb IAmb 11 38 45.5
comp=Z,202nm,1.1s
OSL **Oslo** 29.53 327 *e*P P 11 38 44.3 +0.2
SNR=28
LVZ **Lovozero** 29.58 353⇓ *e*P P 11 38 47.5 +3.0
LVZ pmax pmax
comp=Z,122nm,2.5s
LVZ **Lovozero** 29.58 353 *e*P P 11 38 45.7 +1.2
comp=Z,130nm,1.7s
LVZ **Lovozero** 29.58 353 *e*P P 11 38 45.7 +1.2
comp=Z,130nm,1.7s
DDI **Dehra Dun** 29.61 96 *e*P P 11 38 46.8 +1.7
DDI AMB AMB 11 38 48.0
comp=Z,135nm,2.6s
NC602 **NORSAR Array S** 29.62 328 *e*P P 11 38 44.9 0.0
NC602 **NORSAR Array S** 29.62 328 *e*P P 11 38 44.9 0.0
SNR=28
NC602 **NORSAR Array S** 29.62 328 *e*P P 11 38 45.2 +0.3
DOU **Dourbes** 29.62 305 P P 11 38 45.7 +0.7
comp=Z,26nm,1.2s
DOU **Dourbes** 29.62 305 P P 11 38 45.7 +0.7
comp=Z,26nm,1.2s
NDI **New Delhi** 29.71 100 *e*P P 11 38 47.0 +1.0
NC405 **NORSAR Array S** 29.75 329 *e*P P 11 38 46.2 +0.1
NC405 **NORSAR Array S** 29.75 329 *e*P P 11 38 46.1 +0.1
BAIF **Baives** 29.86 305 *e*P P 11 38 47.3 +0.1
BAIF pmax pmax
comp=Z,118nm,1.2s
UCC **Uccle** 29.87 307 P P 11 38 48.7 +1.5
UCC **Uccle** 29.87 307 P P 11 38 48.7 +1.5
SNF **Seneffe** 29.88 306 P P 11 38 48.7 +1.4
SNF **Seneffe** 29.88 306 P P 11 38 48.6 +1.4
KONO **Kongsberg** 29.88 325 *e*P P 11 38 47.2 0.0
KONO pmax pmax
comp=Z,50nm,1.0s
KONO **Kongsberg** 29.88 325 *e*P P 11 38 47.0 -0.2
comp=Z,50nm,1.0s
KONO **Kongsberg** 29.88 325 *e*P P 11 38 47.0 -0.2
comp=Z,50nm,1.0s
NB201 **NORSAR Array S** 29.89 329 *e*P P 11 38 47.1 -0.2
NB201 **NORSAR Array S** 29.89 329 *e*P P 11 38 47.1 -0.2
NB2 **NORSAR Subarra** 29.92 329 P P 11 38 46.7 -0.9
comp=Z,42nm,1.0s,baz=124,slow=9.3
NB2 **NORSAR Subarra** 29.92 329 P P 11 38 46.7 -0.9
baz=124,slow=9.3
NB2 **NORSAR Subarra** 29.92 329 P P 11 38 46.9 -0.7
NB2 **NORSAR Subarra** 29.92 329 P P 11 38 46.7 -0.9
SNR=28
NOA **NORSAR Array B** 29.92 329 P P 11 38 46.9 -0.7
comp=Z,16nm,0.9s,baz=125,slow=8.9,SNR=26
NAO01 **NORSAR Array S** 29.95 328 *e*P P 11 38 47.7 -0.1
NAO01 **NORSAR Array S** 29.95 328 *e*P P 11 38 47.7 -0.1
NC303 **NORSAR Array S** 29.96 329 *e*P P 11 38 47.8 -0.1
NC303 **NORSAR Array S** 29.96 329 *e*P P 11 38 47.8 -0.1
PLDF **La Plantade** 30.03 297 *e*P P 11 38 48.6 -0.2
PLDF **La Plantade** 30.03 297 *e*P P 11 38 48.6 -0.2
NBO00 **NORSAR Array S** 30.09 328 *e*P P 11 38 48.9 -0.2
NBO00 **NORSAR Array S** 30.09 328 *e*P P 11 38 48.9 -0.2
CKHR **Kef el Ahmar** 30.11 277 P P 11 38 50.5 +0.9
CKHR **Kef el Ahmar** 30.11 277 P P 11 38 50.5 +0.9
SET **Setif** 30.14 277 P P 11 38 53.0 +3.1
SET **Setif** 30.14 277 P P 11 38 53.0 +3.1
AVF **Avril sur Loir** 30.21 298 *e*P P 11 38 49.3 -1.0
AVF pmax pmax
comp=Z,113nm,1.0s
NC204 **NORSAR Array S** 30.23 329 *e*P P 11 38 50.0 -0.4
NC204 **NORSAR Array S** 30.23 329 *e*P P 11 38 50.0 -0.4
LBL **Lubilhac** 30.30 295 *e*P P 11 38 51.3 +0.1
LBL **Lubilhac** 30.30 295 *e*P P 11 38 51.3 +0.1
AGO **Saint Agoulin** 30.37 297⇑ *e*P P 11 38 52.0 +0.3
AGO **Saint Agoulin** 30.37 297⇑ *e*P P 11 38 52.0 +0.3
PYM **Petit Puy Mans** 30.46 296⇑ *e*P P 11 38 52.7 +0.1
PYM **Petit Puy Mans** 30.46 296⇑ *e*P P 11 38 52.7 +0.1
NVS **Novosibirsk** 31.12 46 *e*P P 11 38 59.1 +0.9
NVS pmax pmax
comp=Z,158nm,1.6s
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,53nm,1.4s
CAF **Calviac** 31.16 295 *e*P P 11 38 58.1 -0.6
CAF pmax pmax
comp=Z,80nm,1.2s
ZSN **Zaisan** 31.16 60 *i* P P 11 38 55.4 -3.3
ZSN *e*S S 11 43 59.4 -4.3
ZSN LRM MLR 11 52 58.4
comp=Z,2μm,13.1s
BLS5 **Blasjo** 31.20 324 *e*P P 11 38 58.6 -0.3
BLS5 IAmb IAmb 11 39 01.3
comp=Z,94nm,1.2s
BLS5 **Blasjo** 31.20 324 *e*P P 11 38 58.6 -0.3
SNR=28
MENF **Mencas** 31.23 306 *e*P P 11 39 01.3 +2.1
MENF **Mencas** 31.23 306 *e*P P 11 39 01.3 +2.1
DOMB **Dombas** 31.33 329 *e*P P 11 38 59.3 -0.7
DOMB IAmb IAmb 11 39 01.8
comp=Z,132nm,1.4s
DOMB **Dombas** 31.33 329 *e*P P 11 38 59.3 -0.7
SNR=28
ODD1 **Odda** 31.34 325 *e*P P 11 39 01.5 +1.4
ODD1 IAmb IAmb 11 39 07.2
comp=Z,125nm,1.2s
ODD1 **Odda** 31.34 325 *e*P P 11 39 01.5 +1.4
SNR=28
ZAA0 **Zalesovo Array** 31.82 48 *e*P P 11 39 04.8 +0.4
ZAA0 **Zalesovo Array** 31.82 48 *e*P P 11 39 04.8 +0.4
ZALV **Zalesovo Beam** 31.82 48 P P 11 39 04.6 +0.2
comp=Z,7.6nm,0.6s,baz=258,slow=10.0,SNR=18
SALF **Salau** 31.99 291⇑ *e*P P 11 39 04.9 -1.2

SALF	Salau	31.99 291⇑	eP	P	11 39 04.9	-1.2
BER	Bergen	32.12 325	eP	P	11 39 07.5	+0.6
BER			IAmb	IAmb	11 39 09.4	
	comp=Z,168nm,1.2s					
BER	Bergen	32.12 325	eP	P	11 39 07.5	+0.6
	SNR=27					
KTK1	Kautokeino	32.20 347	eP	P	11 39 07.2	-0.4
KTK1			IAmb	IAmb	11 39 13.5	
	comp=Z,350nm,2.3s					
KTK1	Kautokeino	32.20 347	eP	P	11 39 07.2	-0.4
	SNR=27					
AKN	Aaknes	32.23 329	eP	P	11 39 09.1	+1.2
AKN			IAmb	IAmb	11 39 17.8	
	comp=Z,121nm,1.1s					
AKN	Aaknes	32.23 329	eP	P	11 39 09.1	+1.2
	SNR=27					
KEV	Kevo	32.25 349	eP	P	11 39 08.5	+0.5
KEV			pmax	pmax		
	comp=Z,37nm,1.0s					
KEV	Kevo	32.25 349	eP	P	11 39 08.5	+0.5
	comp=Z,37nm,1.0s					
KEV	Kevo	32.25 349	eP	P	11 39 08.5	+0.5
	comp=Z,37nm,1.0s					
BOM	Bombay	32.27 120	ex	P	11 38 59.6	-9.0
BOM			AMB	AMB	11 39 11.7	
	comp=Z,100nm,0.3s					
ARCES	ARCESS Array B	32.28 348	P	P	11 39 08.2	-0.1
	comp=Z,20nm,0.7s,baz=155,slow=9.1,SNR=78					
ARE0	ARCESS Array S	32.28 348	eP	P	11 39 08.3	+0.1
ARE0			IAmb	IAmb	11 39 09.9	
	comp=Z,60nm,1.1s					
ARE0	ARCESS Array S	32.28 348	eP	P	11 39 08.3	+0.1
	SNR=27					
ARE0	ARCESS Array S	32.28 348	eP	P	11 39 08.6	+0.3
	comp=Z,132nm,1.5s					
WACR	West Acre	32.44 310	eP	P	11 39 10.4	+0.6
STOK	Stokkvaagen	32.56 338	eP	P	11 39 11.6	+0.9
STOK	Stokkvaagen	32.56 338	eP	P	11 39 11.6	+0.9
	SNR=27					
LDF	La Druitiere	32.59 302	eP	P	11 39 11.2	0.0
LDF			pmax	pmax		
	comp=Z,160nm,1.7s					
RESF	Ens	32.60 291⇑	eP	P	11 39 11.6	0.0
RESF	Ens	32.60 291⇑	eP	P	11 39 11.6	0.0
MFF	Saint Martin d	32.62 298	eP	P	11 39 10.3	-1.2
MFF			pmax	pmax		
	comp=Z,150nm,1.2s					
KONS	Konsvik	32.65 338	eP	P	11 39 11.5	0.0
KONS			IAmb	IAmb	11 39 18.0	
	comp=Z,188nm,1.5s					
KONS	Konsvik	32.65 338	eP	P	11 39 11.5	0.0
	SNR=27					
LABF	Labassere	32.77 292	eP	P	11 39 11.6	-1.3
LABF	Labassere	32.77 292	eP	P	11 39 11.6	-1.3
BHPL	Bhopal	32.78 108	eP	P	11 39 14.8	+1.6
BHPL			AMB	AMB	11 39 19.6	
	comp=Z,52nm,1.7s					
VIEF	Viey	32.82 291⇑	eP	P	11 39 13.2	-0.2
VIEF	Viey	32.82 291⇑	eP	P	11 39 13.2	-0.2
GRR	Gorron	33.08 301	eP	P	11 39 14.2	-1.3
GRR			pmax	pmax		
	comp=Z,268nm,1.2s					
POO	Poona	33.23 119	eP	P	11 39 18.2	+1.1
ATE	Arette	33.32 292	eP	P	11 39 16.8	-0.9
ATE	Arette	33.32 292	eP	P	11 39 16.8	-0.9
WMQ	Urumqi	33.33 67	P	P	11 39 19.4	+1.5
WMQ			pP	sP	11 39 25.8	+0.4
WMQ			pmax	pmax		
	comp=Z,68nm,1.5s					
WMQ			LR	LR		
	comp=Z,13μm,19.5s					
LARF	Larrau	33.54 292⇑	eP	P	11 39 19.5	-0.1
LARF	Larrau	33.54 292⇑	eP	P	11 39 19.5	-0.1
TRO	Tromso	33.56 345	eP	P	11 39 23.2	+3.8
TRO			IAmb	IAmb	11 39 29.3	
	comp=Z,188nm,1.5s					
OKGL	Djebel Kef Gue	33.87 279	P	P	11 39 33.0	+10
OKGL	Djebel Kef Gue	33.87 279	P	P	11 39 33.0	+10
OJGS	Djebel Guires	33.95 278	P	P	11 39 34.0	+11
OJGS	Djebel Guires	33.95 278	P	P	11 39 34.0	+11
LHO	Holmfirth	34.03 311	eP	P	11 39 23.2	-0.6
OJBR	Djebel Berber	34.24 278	P	P	11 39 35.0	+9.2
OJBR	Djebel Berber	34.24 278	P	P	11 39 35.0	+9.2
PYUN	Piuthan	34.45 96	eP	P	11 39 28.5	+0.6
	comp=Z,437nm,1.1s					
MCH1	Michaelchurch	34.58 308	eP	P	11 39 27.5	-1.0
QUIF	Quistinic	34.63 301	eP	P	11 39 28.8	-0.1
QUIF			pmax	pmax		
	comp=Z,202nm,1.1s					
ROSF	Rostrenen	34.69 301	eP	P	11 39 29.4	-0.1
ROSF			pmax	pmax		
	comp=Z,175nm,1.1s					
ODJA	Bouhanifia	34.70 278	P	P	11 39 32.0	+2.2
ODJA	Bouhanifia	34.70 278	P	P	11 39 32.0	+2.2
USTO	Oran	34.88 279	P	P	11 39 39.0	+7.7
KESW	Keswick, Cumbr	34.90 312	eP	P	11 39 30.6	-0.6
DANN	Dangsing	34.94 95	eP	P	11 39 33.1	+0.9
EKA	Eskdalemuir Ar	35.03 314	P	P	11 39 32.3	-0.1
	comp=Z,105nm,0.9s,baz=104,slow=8.5,SNR=85					
EKA			PcP	PcP	11 42 03.1	-0.9
	comp=Z,17nm,1.0s,baz=90,slow=4.2,SNR=5.1					
ESK	Eskdalemuir	35.05 314	eP	P	11 39 32.5	0.0
ESK			pmax	pmax		
	comp=Z,189nm,1.1s					
ESK	Eskdalemuir	35.05 314	eP	P	11 39 32.5	0.0
	comp=Z,189nm,1.1s					
ESK	Eskdalemuir	35.05 314	eP	P	11 39 32.5	0.0
	comp=Z,189nm,1.1s					
KOLN	Koldanda	35.09 96	eP	P	11 39 33.9	+0.5
	comp=Z,101nm,0.7s					
NGP	Nagpur	35.23 110	eP	P	11 39 35.7	+1.2
GOA	Goa	35.36 123	eP	P	11 39 38.0	+2.5
KLRI	Killari	35.45 116	eP	P	11 39 36.9	+0.5
OLHC	Oulhaca	35.71 279	P	P	11 39 33.0	-5.5
OLHC	Oulhaca	35.71 279	P	P	11 39 33.0	-5.5
GKN	Gorkha	35.78 95	eP	P	11 39 39.8	+0.5
	comp=Z,173nm,0.7s					
TAM	Tamanrasset	35.96 255	eP	P	11 39 41.5	+0.6
TAM			pmax	pmax		
	comp=Z,216nm,1.0s					
TAM	Tamanrasset	35.96 255	eP	P	11 39 41.5	+0.6
	comp=Z,216nm,1.0s					
TAM	Tamanrasset	35.96 255	eP	P	11 39 41.5	+0.6
	comp=Z,216nm,1.0s					
SRSP	Sriramsagar	36.12 113	eP	P	11 39 43.1	+1.0
GUD	Guadarrama	36.30 288	P	P	11 39 42.7	-0.9
GUD			pmax	pmax		
	comp=Z,356nm,0.9s					
DMN	Daman	36.33 95	eP	P	11 39 44.9	+0.7
	comp=Z,693nm,1.4s					
KKN	Kakani	36.38 95	eP	P	11 39 45.0	+0.5
ESDC	Sonseca Array	36.38 287	P	P	11 39 43.4	-0.9
	comp=Z,89nm,0.9s,baz=66,slow=8.9,SNR=227					
ESDC			PcP	PcP	11 42 08.1	-0.3
	comp=Z,9.9nm,1.0s,baz=58,slow=3.6,SNR=5.0					
ESLA	Sonseca Array	36.38 287	eP	P	11 39 43.5	-0.7
	comp=Z,172nm,1.0s					
ESLA	Sonseca Array	36.38 287	eP	P	11 39 43.5	-0.7
	comp=Z,172nm,1.0s					
PKIN	Phulchoki	36.58 95	eP	P	11 39 46.8	+0.6
	comp=Z,649nm,1.5s					
PKI	Pulchoki	36.59 95	eP	P	11 39 46.8	+0.4
	comp=Z,506nm,1.3s					
DSB	Dublin	36.70 310	eP	P	11 39 47.5	+0.8
	comp=Z,96nm,1.1s					
DSB	Dublin	36.70 310	eP	P	11 39 47.5	+0.8
	comp=Z,96nm,1.1s					
PAB	San Pablo	36.70 287	eP	P	11 39 46.2	-0.8
PAB			pmax	pmax		
	comp=Z,162nm,1.1s					
PAB	San Pablo	36.70 287	eP	P	11 39 46.2	-0.8
	comp=Z,162nm,1.1s					
PAB	San Pablo	36.70 287	eP	P	11 39 46.2	-0.8
	comp=Z,162nm,1.1s					
GUN	Gumba	36.79 94	eP	P	11 39 48.8	+0.6
	comp=Z,744nm,1.2s					
RPR	Rampur	36.85 112	eP	P	11 39 49.7	+1.4
JIRN	Jiri	37.15 94	eP	P	11 39 51.6	+0.3
	comp=Z,259nm,0.7s					
HYBB	Hyderabad (bro	37.26 115	eP	P	11 39 52.6	+0.8
HYB	Hyderabad	37.26 115	i P	P	11 39 53.0	+1.2
HYB	Hyderabad	37.26 115	eP	P	11 39 52.2	+0.4
RAMN	Ramite	37.81 95	eP	P	11 39 57.0	+0.3
	comp=Z,244nm,0.6s					
PBRG	Braganca	37.95 291	eP	P	11 39 55.8	-1.7
	comp=Z,122nm,1.4s					
PBRG	Braganca	37.95 291	eP	P	11 39 55.8	-1.7
	comp=Z,122nm,1.4s					
URV	Uravakonda	38.05 119	eP	P	11 39 58.9	+0.3
MVO	Moncorvo	38.30 290	eP	P	11 39 59.8	-0.7
	comp=Z,120nm,1.1s					
MVO	Moncorvo	38.30 290	eP	P	11 39 59.8	-0.7
	comp=Z,120nm,1.1s					
NJS	Nagarjunasagar	38.37 115	eP	P	11 40 01.8	+0.6
SRLM	Srisailam	38.39 116	eP	P	11 40 02.2	+0.9
ODAN	Odare	38.48 95	eP	P	11 40 03.1	+0.8
	comp=Z,1μm,1.5s					
TAPN	Taplejung	38.49 94	eP	P	11 40 03.0	+0.5
	comp=Z,326nm,1.1s					
NRIK	Noril'sk	38.53 23	P	P	11 40 03.4	+1.4
	comp=Z,20nm,0.8s,baz=235,slow=7.2,SNR=23					
POLO	Lamas de Olo	38.82 291	eP	P	11 40 04.4	-0.4
	comp=Z,102nm,1.4s					
POLO	Lamas de Olo	38.82 291	eP	P	11 40 04.4	-0.4
	comp=Z,102nm,1.4s					
MTE	Manteigas	38.87 289	eP	P	11 40 05.1	-0.2
	comp=Z,470nm,1.1s					
MTE	Manteigas	38.87 289	eP	P	11 40 05.1	-0.2
	comp=Z,470nm,1.1s					
MTE	Manteigas	38.87 289	eP	P	11 40 04.9	-0.3
	comp=Z,335nm,1.0s					
BOK	Bokaro	38.88 100	eP	P	11 40 06.0	+0.5
BOK			AMB	AMB	11 40 10.2	
	comp=Z,58nm,2.0s					
PCAB	Cabril	38.91 291	eP	P	11 40 05.6	+0.1
	comp=Z,179nm,1.2s					
PCAB	Cabril	38.91 291	eP	P	11 40 05.6	+0.1
	comp=Z,179nm,1.2s					
PCBR	Castelo Branco	38.96 288	eP	P	11 40 05.6	-0.4
	comp=Z,274nm,1.2s					
PCBR	Castelo Branco	38.96 288	eP	P	11 40 05.6	-0.4
	comp=Z,274nm,1.2s					
PMRV	Marv??o	39.01 287	eP	P	11 40 05.9	-0.5
	comp=Z,225nm,1.3s					
PMRV	Marv??o	39.01 287	eP	P	11 40 05.9	-0.5
	comp=Z,225nm,1.3s					
PGAV	Gavieira, Arco	39.03 292	eP	P	11 40 07.0	+0.4
	comp=Z,255nm,1.3s					
PGAV	Gavieira, Arco	39.03 292	eP	P	11 40 07.0	+0.4
	comp=Z,255nm,1.3s					
PVIS	Viseu	39.05 290	eP	P	11 40 06.7	0.0
	comp=Z,238nm,1.2s					
PVIS	Viseu	39.05 290	eP	P	11 40 06.7	0.0
	comp=Z,238nm,1.2s					
MDT	Midelt	39.06 276	P	P	11 40 07.0	0.0
	comp=Z,75nm,1.0s,baz=82,slow=10,SNR=82					
MDT	Midelt	39.06 276	P	P	11 40 07.0	0.0
PBAR	Barrancos	39.10 285	eP	P	11 40 06.4	-0.7
	comp=Z,430nm,1.3s					
PBAR	Barrancos	39.10 285	eP	P	11 40 06.4	-0.7
	comp=Z,430nm,1.3s					
ZFT	Errachidia	39.16 275	i P	P	11 40 08.0	+0.1
TSY	Tnine Yamani	39.18 281	i P	P	11 40 07.0	-0.8
PESTR	Estremoz	39.31 287	eP	P	11 40 08.1	-0.8
	comp=Z,336nm,1.1s					
PESTR	Estremoz	39.31 287	eP	P	11 40 08.1	-0.8
	comp=Z,336nm,1.1s					
COI	Coimbra	39.56 289	eP	P	11 40 11.6	+0.7
	comp=Z,420nm,1.4s					
PVM	Polavaram	39.57 112	eP	P	11 40 12.7	+1.5
PCAS	Casmilo, Conde	39.66 289	eP	P	11 40 11.7	-0.1
	comp=Z,170nm,1.7s					
PCAS	Casmilo, Conde	39.66 289	eP	P	11 40 11.7	-0.1
	comp=Z,170nm,1.7s					
EVO	Evora	39.73 286	eP	P	11 40 11.7	-0.7
	comp=Z,98nm,1.3s					
EVO	Evora	39.73 286	eP	P	11 40 11.7	-0.7
	comp=Z,98nm,1.3s					
PBEJ	Beja	39.77 286	eP	P	11 40 12.2	-0.5
	comp=Z,207nm,1.2s					
PBEJ	Beja	39.77 286	eP	P	11 40 12.2	-0.5
	comp=Z,207nm,1.2s					
PVAQ	Vaqueiros	39.84 285	eP	P	11 40 12.7	-0.6
	comp=Z,264nm,1.5s					
PVAQ	Vaqueiros	39.84 285	eP	P	11 40 12.7	-0.6
	comp=Z,264nm,1.5s					
PCVE	Castro Verde	40.02 285	eP	P	11 40 14.2	-0.6
	comp=Z,239nm,1.2s					
PCVE	Castro Verde	40.02 285	eP	P	11 40 14.2	-0.6
	comp=Z,239nm,1.2s					
PBDV	Barranco-do-Ve	40.06 284	eP	P	11 40 14.7	-0.4
	comp=Z,349nm,1.3s					
PBDV	Barranco-do-Ve	40.06 284	eP	P	11 40 14.7	-0.4
	comp=Z,349nm,1.3s					
LSA	Lhasa	40.10 88	eP	P	11 40 17.3	+1.2
LSA			pmax	pmax		
	comp=Z,43nm,0.7s					
LSA	Lhasa	40.10 88	eP	P	11 40 16.6	+0.5
	comp=Z,42nm,0.7s					
LSA	Lhasa	40.10 88	eP	P	11 40 16.6	+0.5
	comp=Z,42nm,0.7s					
KMBO	Kilima Mbogo	40.11 190	P	P	11 40 17.0	+1.0
	comp=Z,13nm,1.1s,baz=5.8,slow=8.8,SNR=24					
KMBO	Kilima Mbogo	40.11 190	P	P	11 40 17.0	+1.0
KMBO			pmax	pmax		
	comp=Z,13nm,1.1s					
KMBO	Kilima Mbogo	40.11 190	eP	P	11 40 14.6	-1.4
	comp=Z,52nm,1.4s					
KMBO	Kilima Mbogo	40.11 190	eP	P	11 40 14.6	-1.4
	comp=Z,52nm,1.4s					
PNCL	Nicolau / Gran	40.24 286	eP	P	11 40 16.4	-0.2
	comp=Z,10nm,0.9s					
PNCL	Nicolau / Gran	40.24 286	eP	P	11 40 16.4	-0.2
	comp=Z,10nm,0.9s					
KIB	El Ksiba	40.26 277	i P	P	11 40 17.0	+0.1
VIS	Vishakhapatnam	40.52 110	eP	P	11 40 20.7	+1.7
LIS	Lisbon	40.52 287	eP	P	11 40 18.4	-0.6
LIS			AMb	AMB	11 40 20.6	
	comp=Z,341nm,0.9s					
LIS	Lisbon	40.52 287	eP	P	11 40 19.8	+0.9
LIS	Lisbon	40.52 287	eP	P	11 40 18.3	-0.6
LIS			pmax	pmax		
	comp=Z,341nm,0.9s					
LIS	Lisbon	40.52 287	eP	P	11 40 19.8	+0.9
PMST	Lisbon--Monsan	40.54 287	eP	P	11 40 19.7	+0.6
	comp=Z,561nm,1.2s					
PMST	Lisbon--Monsan	40.54 287	eP	P	11 40 19.7	+0.6
	comp=Z,561nm,1.2s					
PMAFR	Mafra	40.55 287	eP	P	11 40 19.1	-0.1
	comp=Z,383nm,1.3s					
PMAFR	Mafra	40.55 287	eP	P	11 40 19.1	-0.1
	comp=Z,383nm,1.3s					
CHLP	Challavanipeta	40.56 108	eP	P	11 40 19.2	-0.3
MORF	Marmelete	40.58 285	eP	P	11 40 18.8	-0.7
MORF			AMb	AMB	11 40 20.9	
	comp=Z,144nm,1.8s					
MORF	Marmelete	40.58 285	eP	P	11 40 19.4	-0.1
	comp=Z,146nm,1.7s					
MORF	Marmelete	40.58 285	eP	P	11 40 18.8	-0.7
MORF			pmax	pmax		
	comp=Z,144nm,1.8s					
MORF	Marmelete	40.58 285	eP	P	11 40 19.4	-0.1
	comp=Z,146nm,1.7s					
PFVI	Vila Bisbo	40.77 285	eP	P	11 40 20.3	-0.7
	comp=Z,196nm,1.1s					
PFVI	Vila Bisbo	40.77 285	eP	P	11 40 20.3	-0.7
	comp=Z,196nm,1.1s					
TZC	Tazercounte	40.78 276	i P	P	11 40 21.0	-0.4
SPA0	Spitsbergen Ar	41.07 352	eP	P	11 40 23.2	+0.2
SPA0	Spitsbergen Ar	41.07 352	eP	P	11 40 23.2	+0.2
SPITS	Spitsbergen Ar	41.07 352	P	P	11 40 23.7	+0.7
	comp=Z,23nm,0.8s,baz=142,slow=11,SNR=9.5					
MDRS	Chennai	41.42 118	eP	P	11 40 29.5	+3.0
MOY	Mondy	41.49 53	eP	P	11 40 29.5	+2.6
MOY			pmax	pmax		
	comp=Z,140nm,1.9s					
OUK	Oukaimeden	42.23 276	i P	P	11 40 34.0	+0.5
TRD	Trivandrum	42.60 126	eP	P	11 40 37.4	+1.3
SHL	Shillong	42.62 93	eP	P	11 40 35.8	-0.7
CIA	Chichaoua	42.78 277	i P	P	11 40 38.0	+0.5
ZAK	Zakamensk	43.08 54	eP	P	11 40 41.0	+1.2
ZAK			e		11 42 26.1	
ZAK			pmax	pmax		
	comp=Z,38nm,1.8s					
ZAK			pmax	pmax		
	comp=Z,25nm,1.5s					
TLY	Talaya	43.13 52	eP	P	11 40 43.4	+3.3
TLY			pmax	pmax		
	comp=Z,110nm,2.0s					
GTA	Gaotai	43.15 71	eP	P	11 40 41.4	+0.8
GTA			pP	pP	11 40 47.3	+1.3
GTA			sP	sP	11 40 50.8	+2.6
GTA			PP	PcP	11 42 27.4	-2.6
GTA			pmax	pmax		
	comp=Z,15nm,0.7s					
IRK	Irkutsk	43.45 51	eP	P	11 40 43.7	+1.0
IRK			e		11 42 31.3	
IRK			pmax	pmax		
	comp=Z,276nm,2.0s					
MSEY	Mahe Island	44.65 163	i P	P	11 40 52.7	0.0
	SNR=6.2					
MSEY	Mahe Island	44.65 163	i P	P	11 40 54.1	+1.4
MSEY	Mahe Island	44.65 163	eP	P	11 40 53.0	+0.3
	comp=Z,3μm,1.9s					
MSEY	Mahe Island	44.65 163	eP	P	11 40 53.0	+0.3
	comp=Z,3μm,1.9s					
MSEY	Mahe Island	44.65 163	P	P	11 40 54.1	+1.4
	SNR=6.4					
MSEY	Mahe Island	44.65 163	P	P	11 40 54.1	+1.4
	SNR=6.4					
MSEY	Mahe Island	44.65 163	P	P	11 40 54.1	+1.4
	SNR=6.4					
TOA0	Torodi Ar. Sit	44.83 247	eP	P	11 40 52.8	-1.3
	comp=Z,341nm,1.2s					
TOA0	Torodi Ar. Sit	44.83 247	eP	P	11 40 52.8	-1.3
	comp=Z,341nm,1.2s					
TORD	Torodi Ar. Bea	44.83 247	P	P	11 40 52.5	-1.7
	comp=Z,144nm,1.0s,baz=43,slow=6.1,SNR=236					
TORD			PcP	PcP	11 42 35.3	-0.6
	comp=Z,8.0nm,1.1s,baz=44,slow=3.6,SNR=2.7					
SONM	Songino Array	45.55 57	P	P	11 41 00.4	+0.7
	comp=Z,2.7nm,0.6s,baz=288,slow=8.6,SNR=10.0					
SONM			PP	PP	11 42 45.2	-1.1
	comp=Z,3.3nm,0.8s,baz=266,slow=3.9,SNR=3.9					
SONM			ScP	ScP	11 46 30.8	+0.7
	comp=Z,0.5nm,0.5s,baz=249,slow=2.8,SNR=2.7					
SCO	Scoresbysund	45.82 335	i P	P	11 41 03.1	+1.8
	comp=Z,120nm,1.5s					
SCO	Scoresbysund	45.82 335	i P	P	11 41 03.1	+1.8
SCO			pmax	pmax		
	comp=Z,120nm,1.5s					
SCO	Scoresbysund	45.82 335	i P	P	11 41 03.1	+1.8
	comp=Z,121nm,1.5s					
PALK	Pallekele	45.94 123	P	P	11 41 02.5	-0.4
	comp=Z,18nm,1.0s,baz=296,slow=7.9,SNR=4.5					
PALK	Pallekele	45.94 123	P	P	11 41 03.1	+0.2
ULN	Ulaanbaatar	45.98 57⇑	eP	P	11 41 04.5	+1.4
ULN			pmax	pmax		
	comp=Z,88nm,1.7s					
ULN	Ulaanbaatar	45.98 57	eP	P	11 41 04.5	+1.4
	comp=Z,67nm,1.1s					
ULN	Ulaanbaatar	45.98 57	eP	P	11 41 04.5	+1.4
	comp=Z,68nm,1.1s					
ULN	Ulaanbaatar	45.98 57	P	P	11 41 04.0	+0.9
	SNR=45					
ULN	Ulaanbaatar	45.98 57	P	P	11 41 04.0	+0.9
	SNR=45					
ULN	Ulaanbaatar	45.98 57	P	P	11 41 04.0	+0.9
	SNR=45					
DAG	Danmarks Havn	46.27 344	i P	P	11 41 04.3	-0.5
	comp=Z,51nm,1.1s					
DAG	Danmarks Havn	46.27 344	i P	P	11 41 04.3	-0.5
DAG			pmax	pmax		
	comp=Z,65nm,1.1s					
LZH	Lanzhou	47.29 73	eP	P	11 41 15.1	+1.6
LZH			pP	sP	11 41 20.8	-0.3
LZH			sP	pP	11 41 23.3	+4.3
LZH			PcP	PcP	11 42 48.3	+3.8
LZH			pmax	pmax		
	comp=Z,120nm,1.1s					
LZH			pmax	pmax		
	comp=Z,490nm,4.8s					
PMPS	Porto Santo	47.99 282	eP	P	11 41 19.0	+0.2
PMPS	Porto Santo	47.99 282	eP	P	11 41 19.0	+0.2
BOD	Bodaibo	48.24 43	eP	P	11 41 20.4	0.0
BOD			pmax	pmax		
	comp=Z,80nm,1.5s					
PMAR	Madeira	48.58 282	eP	P	11 41 23.5	-0.1
	comp=Z,43nm,0.7s					
PMAR	Madeira	48.58 282	eP	P	11 41 23.5	-0.1
	comp=Z,43nm,0.7s					
CIT	Chita	49.11 50	eP	P	11 41 27.7	+0.4
CIT			e		11 41 38.6	
CD2	Chengdu	49.36 80	P	P	11 41 29.0	-0.4
CD2			S	S	11 48 35.6	+0.2
CD2			SS	SS	11 52 08.6	+1.7
CD2			pmax	pmax		
	comp=Z,50nm,0.9s					
CD2			pmax	pmax		
	comp=Z,400nm,9.0s					
DGPR	DIGLIPUR	50.53 106	eP	P	11 41 39.6	+1.2
SUMG	Summit	51.10 337	i P	P	11 41 42.8	+0.4
	comp=Z,96nm,1.1s					
SUMG	Summit	51.10 337	i P	P	11 41 42.8	+0.4
SUMG			pmax	pmax		
	comp=Z,96nm,1.1s					
SUMG	Summit	51.10 337	i P	P	11 41 42.8	+0.4
	comp=Z,96nm,1.1s					
SUMG	Summit	51.10 337	eP	P	11 41 43.0	+0.6
	comp=Z,120nm,1.2s					
HHC	Hu-ho-hao-te	51.16 65	eP	P	11 41 44.8	+1.8
HHC			pP	sP	11 41 50.3	-0.3
HHC			S	S	11 49 01.4	+1.0
HHC			pmax	pmax		
	comp=Z,42nm,1.2s					
HHC			LR	LR		
	comp=Z,8μm,12.3s					
CMAI	Chiengmai2	51.20 95	P	P	11 41 46.0	+2.4
	comp=Z,1μm,0.9s					
KMI	Kunming	51.32 87	P	P	11 41 45.5	+0.9
KMI			pP	sP	11 41 58.1	+5.9
KMI			pmax	pmax		
	comp=Z,37nm,1.5s					
CHTO	Chiang Mai	51.75 96	P	P	11 41 46.8	-0.8
	comp=Z,514nm,1.9s					
CHTO	Chiang Mai	51.75 96	eP	P	11 41 47.3	-0.3
CHTO			pmax	pmax		
	comp=Z,26nm,0.8s					
CHTO	Chiang Mai	51.75 96	eP	P	11 41 47.3	-0.3
	comp=Z,26nm,0.8s					
CHTO	Chiang Mai	51.75 96	eP	P	11 41 47.3	-0.3
	comp=Z,26nm,0.8s					
CHTO	Chiang Mai	51.75 96	P	P	11 41 47.2	-0.4
	SNR=22					
CHTO	Chiang Mai	51.75 96	P	P	11 41 47.2	-0.4
	SNR=22					
CHTO	Chiang Mai	51.75 96	P	P	11 41 47.2	-0.4
	SNR=22					
CHTO			P	P	11 41 47.2	-0.4
	SNR=22					
XAN	Xi'an	51.92 74	P	P	11 41 48.9	+0.1
XAN			pmax	pmax		
	comp=Z,140nm,1.1s					
CM31	Chiang Mai Arr	51.95 97	eP	P	11 41 48.8	-0.3
CM31	Chiang Mai Arr	51.95 97	eP	P	11 41 48.9	-0.3
CMAR	Chiang Mai Arr	51.95 97	P	P	11 41 48.5	-0.5
	comp=Z,17nm,0.8s,baz=299,slow=8.5,SNR=66					
TIXI	Tiksi	52.32 24	P	P	11 41 51.3	+0.3
	comp=Z,15nm,1.1s,baz=311,slow=5.6,SNR=18					
TIXI	Tiksi	52.32 24	ceP	P	11 41 51.2	+0.2
TIXI			pmax	pmax		
	comp=Z,33nm,1.2s					
TIXI	Tiksi	52.32 24	eP	P	11 41 51.8	+0.8
	comp=Z,107nm,1.6s					
TIXI	Tiksi	52.32 24	eP	P	11 41 51.8	+0.8
	comp=Z,107nm,1.6s					
LAMP	Lampang	52.45 96	P	P	11 41 53.3	+0.5
	comp=Z,14nm,1.1s,comp=Z,173nm					
NANT	Nan	53.12 95	P	P	11 41 57.3	-0.5
	comp=Z,8.1nm,0.7s					
UTTA	Uttaradit	53.61 96	P	P	11 42 01.7	+0.4
	comp=Z,7.6nm,1.2s					
HIA	Hailar	53.67 52⇑	eP	P	11 42 02.6

comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,160nm,6.5s
GYA LR LR
comp=Z,650nm,20.6s
GYA LR LR
comp=Z,540nm,18.9s
GYA LR LR
comp=Z,550nm,21.1s
DBIC Dimbokro 53.94 247 P **P 11 42 02.0 -1.7**
comp=Z,156nm,1.0s,baz=30,slow=8.9,SNR=79
DBIC Dimbokro 53.94 247 *e*P **P 11 42 02.9 -0.8**
DBIC pmax pmax
comp=Z,327nm,1.1s
DBIC Dimbokro 53.94 247 *e*P **P 11 42 02.9 -0.8**
comp=Z,327nm,1.1s
DBIC Dimbokro 53.94 247 *e*P **P 11 42 02.9 -0.8**
comp=Z,327nm,1.1s
UTHA Uthaitani 54.03 99 P **P 11 42 04.4 0.0**
comp=Z,19nm,0.9s,comp=Z,177nm
ENH Enshi 54.04 78 *e*P **P 11 42 04.5 +0.1**
comp=Z,90nm,1.3s
ENH Enshi 54.04 78 *e*P **P 11 42 04.5 +0.1**
comp=Z,90nm,1.3s
KIC Kosan Boka 54.07 246 *e*P **P 11 42 01.8 -2.9**
comp=Z,1µm,1.2s
TIC Toumodi 54.07 247 *e*P **P 11 42 02.2 -2.6**
CLNS Chul'man 54.21 42 *e*P **P 11 42 03.2 -2.1**
CLNS pmax pmax
comp=E,9.0nm,1.3s
CLNS pmax pmax
comp=N,7.0nm,1.4s
CLNS pmax pmax
comp=Z,14nm,1.0s
LIC Lamto 54.37 246 *e*P **P 11 42 03.9 -3.0**
comp=Z,1µm,1.2s
PBKT Sadao Pong 54.62 97 P **P 11 42 08.3 -0.4**
comp=Z,59nm,1.3s
BJI Beijing 54.72 64 P **P 11 42 10.6 +1.5**
BJI pmax pmax
comp=Z,38nm,2.0s
YAK Yakutsk 54.96 35 P **P 11 42 10.0 -0.6**
comp=Z,4.0nm,0.3s,baz=307,slow=1.5,SNR=8.3
YAK Yakutsk 54.96 35 *e*P **P 11 42 11.1 +0.6**
YAK *e* 11 43 12.0
YAK *e*PPP PPP 11 45 29.1
YAK *e*S **S 11 49 53.5 +2.2**
YAK *e* 11 51 54.6
YAK pmax pmax
comp=Z,40nm,1.3s
YAK pmax pmax
comp=E,22nm,1.4s
YAK pmax pmax
comp=N,11nm,1.1s
YAK smax smax
comp=N,20µm,15.1s
YAK smax smax
comp=E,7µm,15.2s
YAK MLR MLR
comp=Z,16µm,20.0s
YAK MLR MLR
comp=N,14µm,20.0s
YAK MLR MLR
comp=E,6µm,20.0s
YAK Yakutsk 54.96 35 *e*P **P 11 42 10.7 +0.2**
comp=E,38nm,0.8s
YAK Yakutsk 54.96 35 *e*P **P 11 42 10.7 +0.2**
comp=E,38nm,0.8s
LSZ Lusaka 55.63 198 P **P 11 42 16.1 +0.1**
comp=E,50nm,1.2s,baz=21,slow=5.9,SNR=36
LSZ Lusaka 55.63 198 *e*P **P 11 42 16.6 +0.6**
LSZ pmax pmax
comp=Z,200nm,1.5s
LSZ Lusaka 55.63 198 *e*P **P 11 42 15.5 -0.5**
comp=Z,204nm,1.5s
LSZ Lusaka 55.63 198 *e*P **P 11 42 15.5 -0.5**
comp=Z,204nm,1.5s
PHET Kaeng Krachan 55.78 101 P **P 11 42 16.9 -0.2**
comp=Z,19nm,0.9s,comp=Z,188nm
ILULI Ilulissat 55.90 335 *i*P **P 11 42 17.8 +0.6**
comp=Z,119nm,1.2s
ILULI Ilulissat 55.90 335 *i*P **P 11 42 17.8 +0.6**
ILULI pmax pmax
comp=Z,120nm,1.2s
ILULI Ilulissat 55.90 335 *i*P **P 11 42 17.9 +0.7**
SNR=22
KHON Khomkaen 56.19 96 P **P 11 42 20.2 +0.2**
comp=Z,24nm,1.0s
NAYO Nakonayok 56.23 99 P **P 11 42 20.2 -0.1**
comp=Z,60nm,0.8s
NRS Narsarsuaq 56.42 324 *i*P **P 11 42 21.4 +0.4**
comp=Z,114nm,1.0s
NRS Narsarsuaq 56.42 324 *i*P **P 11 42 21.4 +0.4**
NRS pmax pmax
comp=Z,110nm,1.0s
NRS Narsarsuaq 56.42 324 *i*P **P 11 42 21.4 +0.4**
SNR=22
SFJD Kangerlussuaq 56.51 332 P **P 11 42 20.8 -0.8**
comp=Z,42nm,1.1s,baz=48,slow=7.6,SNR=6.3
SFJD Kangerlussuaq 56.51 332 *i*P **P 11 42 21.2 -0.3**
SFJD Kangerlussuaq 56.51 332 *i*P **P 11 42 21.2 -0.3**
SFJD Kangerlussuaq 56.51 332 *i*P **P 11 42 21.3 -0.3**
SNR=22
SFJD Kangerlussuaq 56.51 332 *e*P **P 11 42 21.5 -0.1**
comp=Z,120nm,1.4s
SKNT Sakolnakorn 56.72 95 P **P 11 42 23.7 -0.1**
comp=Z,142nm,1.8s
SRAK Srakaew 56.97 99 P **P 11 42 28.3 +2.8**
comp=Z,180nm,0.9s,comp=Z,2µm
TIA Tai'an 57.02 68 *e*P **P 11 42 26.8 +1.1**
TIA pmax pmax
comp=Z,40nm,1.5s
PANO Nakornpanom 57.12 94 P **P 11 42 26.5 -0.1**
comp=Z,52nm,1.7s
OPO Ambohidratompo 57.15 176 P **P 11 42 28.0 +1.2**
comp=Z,38nm,1.1s,baz=168,slow=15,SNR=33
ABPO Ambohimpanom 57.60 176 *e*P **P 11 42 30.5 +0.5**
ABPO pmax pmax
comp=Z,161nm,1.2s
ABPO Ambohimpanom 57.60 176 *e*P **P 11 42 30.5 +0.5**
comp=Z,161nm,1.2s
ABPO Ambohimpanom 57.60 176 *e*P **P 11 42 30.5 +0.5**
comp=Z,161nm,1.2s
WHN Wuhan 57.60 75 ⇓P **P 11 42 30.5 +0.6**
BBTS Babate 57.61 263 P **P 11 42 30.4 +0.3**
comp=Z,204nm,0.9s,baz=46,slow=2.7,SNR=17
SURT Suratani 57.63 106 P **P 11 42 31.9 +1.6**
comp=Z,49nm,1.4s
IVI Ivigtut 57.64 325 *i*P **P 11 42 29.1 -0.6**
SNR=21
DL2 Dalian 59.02 63 P **P 11 42 40.1 +0.5**
DL2 pmax pmax
comp=Z,66nm,0.9s
TRTT Trang 59.03 106 P **P 11 42 39.2 -0.8**
comp=Z,67nm,2.5s
CN2 Changchun 59.42 56 *e*P **P 11 42 43.0 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 60.13 89 P **P 11 42 47.8 +0.2**
QIZ S **S 11 51 06.5 +6.1**
TPTI 60.22 112 P **P 11 42 47.7 -0.5**
comp=Z,39nm,0.8s
MRIV Mauritius Mete 60.23 165 *e*P **P 11 42 47.1 -1.0**
MRIV Mauritius Mete 60.23 165 *e*P **P 11 42 47.1 -1.0**
NJ2 Nanjing 60.24 71 *e*P **P 11 42 48.9 +0.7**
NJ2 pmax pmax
comp=Z,39nm,1.0s
KCSI Kotacane, Aceh 60.48 111 P **P 11 42 49.6 -0.4**
comp=Z,35nm,0.9s
KLR Kul'dur 60.92 49 P **P 11 42 52.9 +0.3**
comp=Z,1.7nm,1.1s,baz=304,slow=8.1,SNR=19
KULM Kulim 61.41 108 *e*P **P 11 42 55.3 -1.1**
comp=Z,98nm,1.5s
KULM Kulim 61.41 108 *e*P **P 11 42 55.3 -1.1**
comp=Z,98nm,1.5s
MDJ Mudanjiang 61.71 54 P **P 11 42 59.6 +1.6**
MDJ pmax pmax
comp=Z,16µm,13.1s
PSI Prapat 61.80 111 P **P 11 42 56.8 -2.3**
comp=Z,27nm,0.9s,baz=303,slow=7.1,SNR=28
IPM Ipoh 62.23 108 *e*P **P 11 42 59.7 -2.2**
comp=Z,48nm,0.9s
IPM Ipoh 62.23 108 *e*P **P 11 42 59.7 -2.2**
comp=Z,48nm,0.9s
IPM Ipoh 62.23 108 ⇓P **P 11 42 59.9 -2.0**
TSUM Tsumeb 62.55 208 P **P 11 43 03.5 -0.4**
comp=Z,14nm,1.0s,baz=28,slow=6.2,SNR=18
INCN Inchon 63.16 62 *e*P **P 11 43 07.6 -0.3**
comp=Z,54nm,1.1s
INCN Inchon 63.16 62 *e*P **P 11 43 07.6 -0.3**
comp=Z,54nm,1.1s
KTGM Kuala Trenggan 63.25 106 ⇑P **P 11 43 09.1 +0.5**
USRK Ussuriysk Ar. 63.42 54 P **P 11 43 09.5 +0.1**
comp=Z,16nm,1.0s,baz=293,slow=5.8,SNR=19
RES Resolute Bay 63.50 349 P **P 11 43 09.7 +0.2**
comp=Z,12nm,1.1s,baz=29,slow=5.0,SNR=8.0
VLA Vladivostok 63.88 55⇑*e*P **P 11 43 13.1 +0.6**
VLA pmax pmax
comp=Z,32nm,1.0s
SEY Seymchan 63.99 29 P **P 11 43 13.9 +1.0**
comp=Z,53nm,1.0s,baz=295,slow=6.1,SNR=37
SEY Seymchan 63.99 29⇑*e*P **P 11 43 13.8 +0.9**
KS15 Wonju Array Si 64.05 62 *e*P **P 11 43 13.8 +0.2**
KS15 Wonju Array Si 64.05 62 *e*P **P 11 43 13.8 +0.2**
KSAR Wonju Array Be 64.05 62 P **P 11 43 13.4 -0.2**
KSAR Wonju Array Be 64.05 62 P **P 11 43 13.4 -0.2**
KSAR Wonju Array Be 64.05 62 P **P 11 43 13.4 -0.2**
KSRS Korea Array 64.07 62 P **P 11 43 13.4 -0.4**
comp=Z,24nm,0.9s,baz=291,slow=6.1,SNR=47
KSRS Korea Array 64.07 62 P **P 11 43 13.4 -0.4**
KSRS pmax pmax
comp=Z,25nm,0.9s
FRB Frobisher Bay 64.62 333 P **P 11 43 16.7 -0.2**
comp=Z,96nm,1.1s,baz=45,slow=7.2,SNR=8.5
SISI Saibi 64.76 114 P **P 11 43 20.6 +2.0**
comp=Z,57nm,1.6s
BKNI Bangkinang 65.03 111 P **P 11 43 18.3 -2.0**
BKNI Bangkinang 65.03 111 *e*P **P 11 43 17.7 -2.6**
comp=Z,118nm,0.9s
BKNI Bangkinang 65.03 111 *e*P **P 11 43 17.7 -2.6**
comp=Z,118nm,0.9s
BILL Bilibino 65.26 20⇓*i*P **P 11 43 22.3 +1.2**
BILL pmax pmax
comp=Z,73nm,1.5s
BILL MLR MLR
comp=Z,12µm,17.0s
MA2 Magadan 65.27 32 P **P 11 43 22.3 +1.0**
comp=Z,24nm,1.1s,baz=321,slow=7.2,SNR=4.2
MA2 Magadan 65.27 32⇑*e*P **P 11 43 22.5 +1.2**
PDSI Padang 65.46 113 P **P 11 43 21.2 -1.9**
comp=Z,32nm,1.6s
KGM Kluang 65.57 108 ⇑P **P 11 43 23.6 -0.2**
LBTB Lobatse 65.62 198 P **P 11 43 24.2 +0.3**
comp=Z,33nm,1.0s,baz=7.4,slow=6.7,SNR=23
LBTB Lobatse 65.62 198 *e*P **P 11 43 24.7 +0.7**
LBTB pmax pmax
comp=Z,84nm,1.2s
LBTB Lobatse 65.62 198 *e*P **P 11 43 24.7 +0.7**
comp=Z,84nm,1.2s
LBTB Lobatse 65.62 198 *e*P **P 11 43 24.7 +0.7**
comp=Z,84nm,1.2s
YHNB Yeheng 65.96 77 *e*P **P 11 43 25.9 -0.5**
comp=Z,117nm,1.3s
YHNB Yeheng 65.96 77 *e*P **P 11 43 25.9 -0.5**
comp=Z,117nm,1.3s
MYKOM Kota Tinggi 66.11 108 *e*P **P 11 43 25.9 -1.4**
comp=Z,37nm,1.0s
MYKOM Kota Tinggi 66.11 108 *e*P **P 11 43 25.9 -1.4**
comp=Z,37nm,1.0s
MYKOM Kota Tinggi 66.11 108 ⇑P **P 11 43 26.9 -0.4**
TPUB Ta-pu 66.14 79 *e*P **P 11 43 28.9 +1.4**
comp=Z,48nm,1.0s
TPUB Ta-pu 66.14 79 *e*P **P 11 43 28.9 +1.4**
comp=Z,48nm,1.0s
TYV Tymovskoe 66.23 43 *e*P **P 11 43 27.5 -0.1**
TYV pmax pmax
comp=Z,34nm,1.3s
YULB Yu-li 66.60 78 *e*P **P 11 43 32.0 +1.5**
comp=Z,60nm,1.4s
YULB Yu-li 66.60 78 *e*P **P 11 43 32.0 +1.5**
comp=Z,60nm,1.4s
TWG Pinlang 66.75 79 *e*P **P 11 43 32.6 +1.2**
comp=Z,207nm,1.2s
TWG Pinlang 66.75 79 *e*P **P 11 43 32.6 +1.2**
comp=Z,207nm,1.2s
TPRI Tanjung Pinang 67.19 108 P **P 11 43 33.3 -0.9**
MASI Maura Aman, Be 68.27 113 P **P 11 43 39.9 -1.2**
JNU Nakatsue 68.39 64 P **P 11 43 41.5 -0.1**
comp=Z,15nm,0.8s,baz=258,slow=4.3,SNR=12
JNU Nakatsue 68.39 64 *e*P **P 11 43 42.0 +0.4**
comp=Z,24nm,0.9s
JNU Nakatsue 68.39 64 *e*P **P 11 43 42.0 +0.4**
comp=Z,24nm,0.9s
YSS Yuzh-Sakhalins 68.43 47⇓*i*P **P 11 43 42.7 +1.1**
YSS pmax pmax
comp=Z,40nm,1.3s
YSS Yuzh-Sakhalins 68.43 47 *e*P **P 11 43 41.7 +0.1**
comp=Z,286nm,1.9s
YSS Yuzh-Sakhalins 68.43 47 *e*P **P 11 43 41.7 +0.1**
comp=Z,286nm,1.9s
BOSA Boshof 69.16 197 P **P 11 43 45.8 -0.5**
comp=Z,34nm,0.9s,baz=7.7,slow=6.2,SNR=25
BOSA Boshof 69.16 197 *e*P **P 11 43 46.3 0.0**
BOSA pmax pmax
comp=Z,51nm,1.0s
BOSA Boshof 69.16 197 *e*P **P 11 43 46.3 0.0**
comp=Z,51nm,1.0s
BOSA Boshof 69.16 197 *e*P **P 11 43 46.3 0.0**
comp=Z,51nm,1.0s
SCHQ Schefferville 69.38 325 P **P 11 43 47.1 -0.2**
comp=Z,22nm,0.9s,baz=69,slow=6.9,SNR=8.5
SCHQ Schefferville 69.38 325 *e*P **P 11 43 47.2 -0.2**
comp=Z,55nm,1.1s
SCHQ Schefferville 69.38 325 *e*P **P 11 43 47.2 -0.2**
comp=Z,55nm,1.1s
LHSI Lahat 69.67 113 P **P 11 43 47.1 -2.6**
ASAJ Asahikawa 69.94 49 P **P 11 43 50.9 -0.1**
comp=Z,7.6nm,0.9s,baz=319,slow=9.3,SNR=2.5
JOW Kunigami 69.96 71 *e*P **P 11 43 51.8 +0.4**
comp=Z,159nm,1.7s
JOW Kunigami 69.96 71 *e*P **P 11 43 51.9 +0.4**
comp=Z,159nm,1.7s
MDSI Maura Dua 70.59 113 P **P 11 43 50.9 -4.5**
comp=Z,22nm,1.9s
LWLI Liwa 70.87 113 P **P 11 43 54.9 -2.3**
KLSI 71.13 112 P **P 11 43 54.2 -4.5**
comp=Z,27nm,1.9s
KSM Kuching 71.17 104 *e*P **P 11 43 58.3 -0.6**
comp=Z,21nm,1.0s
KSM Kuching 71.17 104 *e*P **P 11 43 58.4 -0.6**
comp=Z,21nm,1.0s
KSM Kuching 71.17 104 ⇑P **P 11 43 59.6 +0.6**
SHEL Horse Pasture 71.27 230 *i*P **P 11 44 00.3 +0.9**
MJB9 Matsu-Tunnel 71.50 58 *e*P **P 11 44 01.0 +0.3**
comp=Z,22nm,1.5s
MJB9 Matsu-Tunnel 71.50 58 *e*P **P 11 44 01.0 +0.3**
comp=Z,22nm,1.5s
MAJO Matsushiro 71.50 58⇓*i*P **P 11 44 00.0 -0.7**
MAJO pmax pmax
comp=Z,344nm,1.5s
MAJO Matsushiro 71.50 58 *e*P **P 11 44 01.0 +0.3**
comp=Z,85nm,1.5s
MAJO Matsushiro 71.50 58 *e*P **P 11 44 01.0 +0.3**
comp=Z,85nm,1.5s
MAT Matsushiro 71.50 58 P **P 11 43 57.9 -2.8**
MJAR Matsushiro Arr 71.50 58 P **P 11 44 00.7 0.0**
comp=Z,26nm,1.1s,baz=309,slow=6.7,SNR=29
MJAR Matsushiro Arr 71.50 58 P **P 11 44 00.7 0.0**
MJAR pmax pmax
comp=Z,25nm,1.1s
KASI Kota Agung 71.54 113 P **P 11 43 57.2 -3.9**
comp=Z,62nm,0.8s
SBUM Sibu 72.00 102 *e*P **P 11 44 03.9 -0.1**
comp=Z,43nm,1.1s
SBUM Sibu 72.00 102 *e*P **P 11 44 03.9 -0.1**
comp=Z,43nm,1.1s
SBUM Sibu 72.00 102 ⇑P **P 11 44 04.4 +0.4**
PEA0B Petropavlovsk- 72.31 35 *e*P **P 11 44 05.2 0.0**
comp=Z,43nm,1.1s
PEA0B Petropavlovsk- 72.31 35 *e*P **P 11 44 05.2 0.0**
comp=Z,43nm,1.1s
PETK Petropavlovsk- 72.31 35 P **P 11 44 04.7 -0.5**
comp=Z,14nm,1.0s,baz=336,slow=3.3,SNR=8.4
TOLK Toolik Lake Re 72.46 5 P **P 11 44 06.3 +0.4**
baz=350,SNR=12
STKI Sintang 72.97 104 P **P 11 44 09.1 -0.6**
CGJI Cibinong 73.14 113 P **P 11 44 08.3 -2.4**
INK Inuvik 73.21 359 P **P 11 44 09.8 -0.5**
comp=Z,33nm,1.2s,baz=357,slow=8.3,SNR=14
COLD Coldfoot 73.81 5 *e*P **P 11 44 14.5 +0.6**
comp=Z,59nm,1.4s
COLD Coldfoot 73.81 5 *e*P **P 11 44 14.5 +0.6**
comp=Z,59nm,1.4s
SUR Sutherland 73.85 200 P **P 11 44 14.9 +0.2**
comp=Z,1.4nm,0.9s,baz=1.6,slow=2.1,SNR=11
LMN Caledonia Moun 74.03 316 *e*P **P 11 44 15.8 +0.3**
comp=Z,85nm,1.1s
LMN Caledonia Moun 74.03 316 *e*P **P 11 44 15.8 +0.3**
comp=Z,85nm,1.1s
CNJI Cibinong 74.65 113 P P 11 44 14.7 -4.8
FYU Fort Yukon 74.77 4 *e*P **P 11 44 20.1 +0.7**
comp=Z,163nm,1.6s
FYU Fort Yukon 74.77 4 *e*P **P 11 44 20.1 +0.7**
comp=Z,163nm,1.6s
PBKI Pangkalan Bun 74.92 106 P **P 11 44 20.8 -0.3**
comp=Z,117nm,1.0s
PQI Presque Isle 75.20 318 *e*P **P 11 44 22.5 +0.3**
comp=Z,155nm,1.1s
PQI Presque Isle 75.20 318 *e*P **P 11 44 22.6 +0.3**
comp=Z,155nm,1.1s
CISI Cisompet, Garu 75.32 112 P **P 11 44 20.3 -3.1**
CISI Cisompet, Garu 75.32 112 *e*P **P 11 44 20.5 -3.0**
comp=Z,277nm,1.6s
CISI Cisompet, Garu 75.32 112 *e*P **P 11 44 20.5 -3.0**
comp=Z,277nm,1.6s
GGN Saint George 75.59 317 *e*P **P 11 44 24.8 +0.2**
comp=Z,86nm,1.1s
GGN Saint George 75.59 317 *e*P **P 11 44 24.8 +0.2**
comp=Z,86nm,1.1s
MLY Manley 75.93 6 *e*P **P 11 44 27.1 +0.8**
comp=Z,54nm,1.2s
MLY Manley 75.93 6 *e*P **P 11 44 27.1 +0.8**
comp=Z,54nm,1.2s
EMMW East Machias 76.19 317 *e*P **P 11 44 28.5 +0.5**
comp=Z,59nm,1.0s
EMMW East Machias 76.19 317 *e*P **P 11 44 28.5 +0.5**
comp=Z,59nm,1.0s
MDM Murphy Dome 76.20 5 *e*P **P 11 44 28.1 +0.4**
comp=Z,110nm,1.4s
MDM Murphy Dome 76.20 5 *e*P **P 11 44 28.1 +0.4**
comp=Z,110nm,1.4s
COLA College 76.31 5 *e*P **P 11 44 28.7 +0.5**
COLA pmax pmax
comp=Z,76nm,1.3s
COLA College 76.31 5 *e*P **P 11 44 28.7 +0.5**
comp=Z,76nm,1.3s
COLA College 76.31 5 *e*P **P 11 44 28.7 +0.5**
comp=Z,76nm,1.3s
ILAR Eielson Array 76.47 5 P **P 11 44 29.0 -0.2**
comp=Z,6.4nm,1.1s,baz=327,slow=3.1,SNR=33
ILAR PP **PP 11 47 21.0 +0.6**
comp=Z,1.8nm,0.9s,baz=342,slow=7.3,SNR=3.7
ILAR Eielson Array 76.47 5 P **P 11 44 29.0 -0.2**
ILAR 11 47 21.0
ILAR pmax pmax
comp=Z,6.0nm,1.1s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 76.47 5 P **P 11 44 29.0 -0.2**
ILAR Eielson Array 76.47 5 PP PP 11 47 21.0 +0.7
ILB Eielson Array 76.47 5 *e*P **P 11 44 29.4 +0.2**
ILB Eielson Array 76.47 5 *e*P **P 11 44 29.4 +0.2**
CCB Clear Creek Bu 76.53 5 *e*P **P 11 44 29.5 -0.1**
comp=Z,65nm,1.4s
CCB Clear Creek Bu 76.53 5 *e*P **P 11 44 29.5 -0.1**
comp=Z,65nm,1.4s
WRH Wood River Hil 76.69 5 *e*P **P 11 44 30.2 -0.2**
comp=Z,35nm,1.2s
WRH Wood River Hil 76.69 5 *e*P **P 11 44 30.2 -0.2**
comp=Z,35nm,1.2s
EGAK Eagle 76.72 2 *e*P **P 11 44 31.2 +0.6**
comp=Z,78nm,1.3s
EGAK Eagle 76.72 2 *e*P **P 11 44 31.2 +0.6**
comp=Z,78nm,1.3s
PKME Peaks-Kenny Pk 76.80 318 *e*P **P 11 44 32.0 +0.6**
comp=Z,70nm,1.2s
PKME Peaks-Kenny Pk 76.80 318 *e*P **P 11 44 32.0 +0.6**
comp=Z,70nm,1.2s
BPAW Bear Paw Mtn. 76.83 6 *e*P **P 11 44 31.3 0.0**
comp=Z,109nm,1.5s
BPAW Bear Paw Mtn. 76.83 6 *e*P **P 11 44 31.3 0.0**
comp=Z,109nm,1.5s
MCK McKinley 77.36 6 *e*P **P 11 44 34.4 +0.1**
MCK pmax pmax
comp=Z,90nm,1.4s
MCK McKinley 77.36 6 *e*P **P 11 44 34.4 +0.1**
comp=Z,90nm,1.4s
MCK McKinley 77.36 6 *e*P **P 11 44 34.4 +0.1**
comp=Z,90nm,1.4s
CAST Castle Rocks 77.40 7 *e*P **P 11 44 35.1 +0.6**
comp=Z,89nm,1.1s
CAST Castle Rocks 77.40 7 *e*P **P 11 44 35.1 +0.6**
comp=Z,89nm,1.1s
TTA Tatalina 77.44 9 *e*P **P 11 44 35.3 +0.5**
TTA pmax pmax
comp=Z,118nm,1.7s
TTA Tatalina 77.44 9 *e*P **P 11 44 35.3 +0.5**
comp=Z,118nm,1.7s
TTA Tatalina 77.44 9 *e*P **P 11 44 35.3 +0.5**
comp=Z,118nm,1.7s
TT01 Tatalina 77.47 9 *e*P **P 11 44 35.5 +0.6**
TT01 Tatalina 77.47 9 *e*P **P 11 44 35.5 +0.6**
DAWY Dawson 77.47 1 *e*P **P 11 44 35.2 +0.2**
comp=Z,80nm,1.3s
DAWY Dawson 77.47 1 *e*P **P 11 44 35.2 +0.2**
comp=Z,80nm,1.3s
TRF Thorofare Moun 77.53 6 *e*P **P 11 44 35.6 +0.2**
comp=Z,172nm,2.0s
TRF Thorofare Moun 77.53 6 *e*P **P 11 44 35.6 +0.2**
comp=Z,172nm,2.0s
YKA Yellowknife Ar 77.53 350 P **P 11 44 35.3 +0.1**
comp=Z,33nm,1.0s,baz=13,slow=6.0,SNR=22
RND Reindeer 77.69 6 *e*P **P 11 44 35.3 -0.9**
RND pmax pmax
comp=Z,63nm,1.3s
RND Reindeer 77.69 6 *e*P **P 11 44 35.3 -0.9**
comp=Z,63nm,1.3s
RND Reindeer 77.69 6 *e*P **P 11 44 35.3 -0.9**
comp=Z,63nm,1.3s
DOT Dot Lake 77.74 3 *e*P **P 11 44 36.9 +0.5**
comp=Z,312nm,1.4s
DOT Dot Lake 77.74 3 *e*P **P 11 44 36.9 +0.5**
comp=Z,312nm,1.4s
PPLA Purkeypile 77.90 7 *e*P **P 11 44 37.8 +0.3**
comp=Z,50nm,1.2s
PPLA Purkeypile 77.90 7 *e*P **P 11 44 37.8 +0.3**
comp=Z,50nm,1.2s
DHY Denali Highway 78.12 5 *e*P **P 11 44 39.0 +0.3**
comp=Z,38nm,1.2s
DHY Denali Highway 78.12 5 *e*P **P 11 44 39.0 +0.3**
comp=Z,38nm,1.2s
PAX Paxson 78.34 4 *e*P **P 11 44 40.1 +0.2**
PAX pmax pmax
comp=Z,46nm,1.4s
PAX Paxson 78.34 4 *e*P **P 11 44 40.1 +0.2**
comp=Z,46nm,1.4s
PAX Paxson 78.34 4 *e*P **P 11 44 40.1 +0.2**
comp=Z,46nm,1.4s
MENT Mentasta 78.47 3 *e*P **P 11 44 41.3 +0.8**
comp=Z,74nm,1.3s
MENT Mentasta 78.47 3 *e*P **P 11 44 41.3 +0.8**
comp=Z,74nm,1.3s
TRQ Mont Tremblant 78.80 321 *e*P **P 11 44 42.6 0.0**
TRQ Mont Tremblant 78.80 321 *e*P **P 11 44 42.6 0.0**
VLDQ Val d'Or 78.81 324 *e*P **P 11 44 43.7 +1.2**
comp=Z,143nm,1.5s
VLDQ Val d'Or 78.81 324 *e*P **P 11 44 43.7 +1.2**
comp=Z,143nm,1.5s
LBNH Lisbon 78.87 319 *e*P **P 11 44 43.8 +0.8**
LBNH pmax pmax
comp=Z,61nm,1.0s
LBNH Lisbon 78.87 319 *e*P **P 11 44 43.8 +0.8**
comp=Z,61nm,1.0s
LBNH Lisbon 78.87 319 *e*P **P 11 44 43.8 +0.8**
comp=Z,61nm,1.0s
HARP HAARP 78.92 4 *e*P **P 11 44 44.2 +1.2**
comp=Z,114nm,1.4s
HARP HAARP 78.92 4 *e*P **P 11 44 44.2 +1.2**
comp=Z,114nm,1.4s
MPSI Mapaga 79.25 98 P **P 11 44 45.9 +0.4**
comp=Z,36nm,1.6s
FFD Franklin Falls 79.26 318 *e*P **P 11 44 46.6 +1.5**
comp=Z,109nm,1.4s
FFD Franklin Falls 79.26 318 *e*P **P 11 44 46.6 +1.5**
comp=Z,109nm,1.4s
SVW2 Sparrevohn 79.27 9 *e*P **P 11 44 45.5 +0.6**
comp=Z,72nm,1.4s
SVW2 Sparrevohn 79.27 9 *e*P **P 11 44 45.5 +0.6**
comp=Z,72nm,1.4s
FRNY Flat Rock 79.30 320 *e*P **P 11 44 45.4 +0.1**
comp=Z,73nm,1.3s

FRNY	Flat Rock	79.30	320	eP		P	11 44 45.4 +0.1
	comp=Z,73nm,1.3s						
SML	Sawmill	79.31	6	eP		P	11 44 45.0 -0.1
SML					pmax	pmax	
	comp=Z,48nm,1.0s						
SML	Sawmill	79.31	6	eP		P	11 44 45.0 -0.1
	comp=Z,48nm,1.0s						
SML	Sawmill	79.31	6	eP		P	11 44 45.0 -0.1
	comp=Z,48nm,1.0s						
SCM	Sheep Creek Mo	79.36	5	eP		P	11 44 46.2 +0.8
SCM					pmax	pmax	
	comp=Z,128nm,1.3s						
SCM	Sheep Creek Mo	79.36	5	eP		P	11 44 46.2 +0.8
	comp=Z,128nm,1.3s						
SCM	Sheep Creek Mo	79.36	5	eP		P	11 44 46.2 +0.8
	comp=Z,128nm,1.3s						
HNH	Hanover	79.42	318	eP		P	11 44 46.9 +0.9
	comp=Z,127nm,1.1s						
HNH	Hanover	79.42	318	eP		P	11 44 46.9 +0.9
	comp=Z,127nm,1.1s						
SUA	Susitna One	79.44	7	eP		P	11 44 46.1 +0.2
	comp=Z,113nm,1.2s						
SUA	Susitna One	79.44	7	eP		P	11 44 46.1 +0.2
	comp=Z,113nm,1.2s						
PMR	Palmer	79.46	6	eP		P	11 44 45.9 +0.1
PMR					pmax	pmax	
	comp=Z,170nm,1.8s						
PMR	Palmer	79.46	6	eP		P	11 44 45.9 +0.1
	comp=Z,170nm,1.8s						
PMR	Palmer	79.46	6	eP		P	11 44 45.9 +0.1
	comp=Z,170nm,1.8s						
SPU	Mount Spurr	79.59	8	eP		P	11 44 46.6 -0.1
SPU	Mount Spurr	79.59	8	eP		P	11 44 46.6 -0.1
MDV	Middlebury	79.68	319	eP		P	11 44 48.0 +0.6
MDV	Middlebury	79.68	319	eP		P	11 44 48.0 +0.6
BCX	Boston College	79.79	317	eP		P	11 44 49.0 +1.0
	comp=Z,152nm,1.3s						
BCX	Boston College	79.79	317	eP		P	11 44 49.0 +1.0
	comp=Z,152nm,1.3s						
KLU	Klutina	79.79	5	eP		P	11 44 48.5 +0.7
	comp=Z,89nm,1.2s						
KLU	Klutina	79.79	5	eP		P	11 44 48.5 +0.7
	comp=Z,89nm,1.2s						
HRV	Adam Dziewonsk	79.88	317	eP		P	11 44 49.5 +1.0
HRV					pmax	pmax	
	comp=Z,56nm,1.3s						
HRV	Adam Dziewonsk	79.88	317	eP		P	11 44 49.5 +1.0
	comp=Z,56nm,1.3s						
HRV	Adam Dziewonsk	79.88	317	eP		P	11 44 49.5 +1.0
	comp=Z,56nm,1.3s						
RC01	Rabbit Creek A	79.91	6	eP		P	11 44 48.4 +0.1
	comp=Z,73nm,1.1s						
RC01	Rabbit Creek A	79.91	6	eP		P	11 44 48.4 +0.1
	comp=Z,73nm,1.1s						
LONY	Lake Ozonia	79.95	320	eP		P	11 44 49.0 +0.1
	comp=Z,86nm,1.1s						
LONY	Lake Ozonia	79.95	320	eP		P	11 44 49.0 +0.1
	comp=Z,86nm,1.1s						
DIV	Divide	80.16	5	eP		P	11 44 50.4 +0.6
	comp=Z,110nm,1.2s						
DIV	Divide	80.16	5	eP		P	11 44 50.4 +0.6
	comp=Z,110nm,1.2s						
RSO	Redoubt South	80.22	8	eP		P	11 44 50.3 0.0
RSO	Redoubt South	80.22	8	eP		P	11 44 50.4 0.0
NCB	Newcomb	80.23	320	eP		P	11 44 51.0 +0.6
	comp=Z,0.3nm,1.3s						
NCB	Newcomb	80.23	320	eP		P	11 44 51.0 +0.6
	comp=Z,0.3nm,1.3s						
BRYW	Bryant College	80.27	317	eP		P	11 44 51.5 +0.8
	comp=Z,114nm,1.3s						
BRYW	Bryant College	80.27	317	eP		P	11 44 51.5 +0.8
	comp=Z,114nm,1.3s						
GLI	Glacier Island	80.32	5	eP		P	11 44 51.2 +0.6
	comp=Z,40nm,1.1s						
GLI	Glacier Island	80.32	5	eP		P	11 44 51.2 +0.6
	comp=Z,40nm,1.1s						
ACCN	Adirondack Com	80.36	319	eP		P	11 44 51.8 +0.7
	comp=Z,93nm,1.1s						
ACCN	Adirondack Com	80.36	319	eP		P	11 44 51.8 +0.7
	comp=Z,93nm,1.1s						
BMRM	Bremner River	80.39	4	eP		P	11 44 51.6 +0.6
	comp=Z,40nm,1.2s						
BMRM	Bremner River	80.39	4	eP		P	11 44 51.6 +0.6
	comp=Z,40nm,1.2s						
BALM	Baldy	80.43	3	eP		P	11 44 52.0 +0.7
BALM					pmax	pmax	
	comp=Z,97nm,1.2s						
BALM	Baldy	80.43	3	eP		P	11 44 52.0 +0.7
	comp=Z,97nm,1.2s						
BALM	Baldy	80.43	3	eP		P	11 44 52.0 +0.7
	comp=Z,97nm,1.2s						
FID	Port Fidalgo	80.49	5	eP		P	11 44 52.4 +0.9
	comp=Z,144nm,1.5s						
FID	Port Fidalgo	80.49	5	eP		P	11 44 52.4 +0.9
	comp=Z,144nm,1.5s						
CRQM	Cirque	80.67	3	eP		P	11 44 53.4 +0.7
	comp=Z,130nm,1.2s						
CRQM	Cirque	80.67	3	eP		P	11 44 53.4 +0.7
	comp=Z,130nm,1.2s						
EYAK	Cordova Ski Ar	80.74	5	eP		P	11 44 54.1 +1.3
	comp=Z,101nm,1.2s						
EYAK	Cordova Ski Ar	80.74	5	eP		P	11 44 54.1 +1.3
	comp=Z,101nm,1.2s						
HYT	Haines Junctio	80.75	0	eP		P	11 44 53.7 +0.7
	comp=Z,101nm,1.2s						
HYT	Haines Junctio	80.75	0	eP		P	11 44 53.7 +0.7
	comp=Z,101nm,1.2s						
MRSI	Marisa	80.75	97	P		P	11 44 52.1 -1.5
	comp=Z,38nm,1.0s						
TRY	Troy	80.83	318	eP		P	11 44 53.8 +0.2
	comp=Z,99nm,1.4s						
TRY	Troy	80.83	318	eP		P	11 44 53.8 +0.2
	comp=Z,99nm,1.4s						
PLVO	Plevna	80.87	322	eP		P	11 44 54.0 +0.2
	comp=Z,59nm,1.4s						
PLVO	Plevna	80.87	322	eP		P	11 44 54.0 +0.2
	comp=Z,59nm,1.4s						
SEW	Seward	80.90	6	eP		P	11 44 54.2 +0.6
	comp=Z,98nm,1.4s						
SEW	Seward	80.90	6	eP		P	11 44 54.2 +0.6
	comp=Z,98nm,1.4s						
WHY	Whitehorse	80.91	359	eP		P	11 44 53.7 -0.2
	comp=Z,36nm,1.4s						
WHY	Whitehorse	80.91	359	eP		P	11 44 53.7 -0.2
	comp=Z,36nm,1.4s						
RAGM	Ragged Mountai	80.97	4	eP		P	11 44 54.7 +0.6
	comp=Z,112nm,1.3s						
RAGM	Ragged Mountai	80.97	4	eP		P	11 44 54.7 +0.6
	comp=Z,112nm,1.3s						
BRLK	Bradley Lake	81.10	7	eP		P	11 44 54.9 +0.1
	comp=Z,63nm,1.2s						
BRLK	Bradley Lake	81.10	7	eP		P	11 44 54.9 +0.1
	comp=Z,63nm,1.2s						
HOM	Homer	81.13	8	eP		P	11 44 56.2 +1.3
	comp=Z,114nm,1.2s						
HOM	Homer	81.13	8	eP		P	11 44 56.2 +1.3
	comp=Z,114nm,1.2s						
CNPM	China Poot	81.30	7	eP		P	11 44 55.9 +0.1
	comp=Z,70nm,1.2s						
CNPM	China Poot	81.30	7	eP		P	11 44 55.9 +0.1
	comp=Z,70nm,1.2s						
TTSI	Tana Toraja	81.33	101	P		P	11 45 01.9 +5.2
YLE	Yale	81.44	317	eP		P	11 44 56.0 -0.9
	comp=Z,81nm,1.1s						
YLE	Yale	81.44	317	eP		P	11 44 56.0 -0.9
	comp=Z,81nm,1.1s						
SADO	Sadowa	82.06	323	P		P	11 45 00.7 +0.6
	comp=Z,15nm,1.0s,baz=50,slow=5.1,SNR=9.6						
SADO	Sadowa	82.06	323	eP		P	11 45 00.6 +0.5
	comp=Z,113nm,1.7s						
SADO	Sadowa	82.06	323	eP		P	11 45 00.6 +0.5
	comp=Z,113nm,1.7s						
PAL	Palisades	82.18	317	eP		P	11 45 01.1 +0.3
PAL					pmax	pmax	
	comp=Z,113nm,1.6s						
PAL	Palisades	82.18	317	eP		P	11 45 01.1 +0.3
	comp=Z,113nm,1.6s						
PAL	Palisades	82.18	317	eP		P	11 45 01.1 +0.3
	comp=Z,113nm,1.6s						
FFC	Flin Flon	82.25	341	eP		P	11 45 01.0 +0.1
FFC					pmax	pmax	
	comp=Z,44nm,1.0s						
FFC	Flin Flon	82.25	341	eP		P	11 45 01.0 +0.1
	comp=Z,44nm,1.0s						
FFC	Flin Flon	82.25	341	eP		P	11 45 01.0 +0.1
	comp=Z,44nm,1.0s						
CPNY	Central Park	82.36	317	eP		P	11 45 02.9 +1.2
	comp=Z,95nm,1.4s						
CPNY	Central Park	82.36	317	eP		P	11 45 02.9 +1.2
	comp=Z,95nm,1.4s						
BNSI	Bone	82.42	102	P		P	11 45 00.0 -2.4
	comp=Z,32nm,1.4s						
ODNJ	Ogdensburg	82.49	318	eP		P	11 45 03.2 +0.7
	comp=Z,84nm,1.3s						
ODNJ	Ogdensburg	82.49	318	eP		P	11 45 03.2 +0.7
	comp=Z,84nm,1.3s						
KDAK	Kodiak Island	82.86	9	P		P	11 45 04.5 +0.5
	comp=Z,39nm,1.0s,baz=347,slow=3.1,SNR=30						
KDAK	Kodiak Island	82.86	9	i P		P	11 45 04.3 +0.3
KDAK	Kodiak Island	82.86	9	eP		P	11 45 04.5 +0.5
	comp=Z,98nm,1.2s						
KDAK	Kodiak Island	82.86	9	eP		P	11 45 04.5 +0.5
	comp=Z,98nm,1.2s						
MMNY	Mt. Morris Dam	82.98	321	eP		P	11 45 05.0 +0.1
MMNY	Mt. Morris Dam	82.98	321	eP		P	11 45 05.0 +0.1
DLBC	Dease Lake	82.99	357	P		P	11 45 05.5 +0.7
	comp=Z,29nm,1.1s,baz=18,slow=5.6,SNR=13						
N59A	State Game Lan	83.22	318	P		P	11 45 06.5 +0.2
	baz=43,SNR=30						
BUF	Buffalo	83.30	321	eP		P	11 45 07.0 +0.4
BUF	Buffalo	83.30	321	eP		P	11 45 07.0 +0.4
OHAK	Old Harbor	83.33	9	eP		P	11 45 07.2 +0.8
	comp=Z,153nm,1.5s						
OHAK	Old Harbor	83.33	9	eP		P	11 45 07.2 +0.8
	comp=Z,153nm,1.5s						
PLAI	Plampang	83.50	107	P		P	11 45 04.9 -3.1
E45A	Wooded Hills,	83.56	327	P		P	11 45 08.2 +0.3
	baz=38,SNR=19						
E44A	Grand Marais A	83.67	328	P		P	11 45 09.0 +0.6
	baz=37,SNR=10.0						
PSUB	Penn St. - Bra	83.77	317	eP		P	11 45 08.7 -0.4
	comp=Z,106nm,1.2s						
PSUB	Penn St. - Bra	83.77	317	eP		P	11 45 08.7 -0.4
	comp=Z,106nm,1.2s						
F46A	Macinaw City C	83.84	326	P		P	11 45 09.3 0.0
	baz=38,SNR=13						
C40A	Isle Royale Na	83.93	330	P		P	11 45 10.0 +0.3
	baz=35						
KDI	Kendari	84.06	100	P		P	11 45 11.3 +0.4
	comp=Z,56nm,1.2s						
MVL	Millersville	84.19	318	eP		P	11 45 11.3 +0.1
	comp=Z,76nm,1.2s						
MVL	Millersville	84.19	318	eP		P	11 45 11.3 +0.1
	comp=Z,76nm,1.2s						
F45A	CMU Biological	84.24	327	P		P	11 45 11.5 +0.2
	baz=38,SNR=7.7						
E43A	Lone Tree Farm	84.31	328	P		P	11 45 12.0 +0.3
	baz=37,SNR=17						
C39A	Grand Marais	84.39	331	P		P	11 45 11.5 -0.6
	baz=35						
ULM	Lac du Bonnet	84.39	335	P		P	11 45 11.3 -0.7
	comp=Z,24nm,1.0s,baz=58,slow=5.3,SNR=14						
ULM	Lac du Bonnet	84.39	335	eP		P	11 45 11.7 -0.3
ULM					pmax	pmax	
	comp=Z,74nm,1.4s						
ULM	Lac du Bonnet	84.39	335	eP		P	11 45 11.7 -0.3
	comp=Z,74nm,1.4s						
ULM	Lac du Bonnet	84.39	335	eP		P	11 45 11.7 -0.3
	comp=Z,74nm,1.4s						
F44A	Big Bay de Noc	84.39	327	P		P	11 45 12.3 +0.2
	baz=37,SNR=36						
D41A	Chassel	84.39	329	P		P	11 45 12.3 +0.2
	baz=36,SNR=8.7						
ERPA	Erie	84.46	321	eP		P	11 45 12.9 +0.3
	comp=Z,176nm,1.1s						
ERPA	Erie	84.46	321	eP		P	11 45 12.9 +0.3
	comp=Z,176nm,1.1s						
SSPA	Standing Stone	84.52	319	eP		P	11 45 13.0 +0.1
	comp=Z,156nm,1.1s						
SSPA	Standing Stone	84.52	319	eP		P	11 45 13.0 +0.1
	comp=Z,156nm,1.1s						
GLMI	Grayling	84.52	326	eP		P	11 45 13.3 +0.5
	comp=Z,177nm,1.1s						
GLMI	Grayling	84.52	326	eP		P	11 45 13.3 +0.5
	comp=Z,177nm,1.1s						
E42A	Champion	84.64	329	P		P	11 45 13.2 -0.2
	baz=36,SNR=21						
M54A	Oil Creek Stat	84.76	321	P		P	11 45 14.1 0.0
	baz=41,SNR=30						
EYMN	Ely	84.80	331	P		P	11 45 14.1 -0.1
	baz=34						
EYMN	Ely	84.80	331	eP		P	11 45 14.7 +0.5
	comp=Z,102nm,1.4s						
EYMN	Ely	84.80	331	eP		P	11 45 14.7 +0.5
	comp=Z,102nm,1.4s						
F43A	Flat Rock, Esc	84.82	328	P		P	11 45 14.3 +0.1
	baz=37,SNR=26						
SDMD	Soldier's Deli	84.88	318	eP		P	11 45 14.5 -0.2
	comp=Z,54nm,1.1s						
SDMD	Soldier's Deli	84.88	318	eP		P	11 45 14.5 -0.2
	comp=Z,54nm,1.1s						
ALLY	Alegheny Colle	84.89	321	eP		P	11 45 14.9 +0.2
	comp=Z,109nm,1.1s						
ALLY	Alegheny Colle	84.89	321	eP		P	11 45 14.9 +0.2
	comp=Z,109nm,1.1s						
C38A	Sawbill Land.	84.91	331	P		P	11 45 14.4 -0.3
	baz=34						
E41A	Kenton	85.04	329	P		P	11 45 15.2 -0.2
	baz=35,SNR=21						
O56A	Blue Knob Stat	85.14	319	P		P	11 45 16.0 -0.1
	baz=42,SNR=23						
C37A	Embarrass	85.24	332	P		P	11 45 16.5 +0.1
	baz=33,SNR=21						
B35A	Bob, Littlefor	85.26	333	P		P	11 45 16.0 -0.5
	baz=32,SNR=13						
F42A	Maple Grove Fa	85.28	328	P		P	11 45 16.4 -0.2
	baz=36,SNR=6.4						
N54A	Moraine State	85.33	321	P		P	11 45 16.7 -0.2
	baz=41,SNR=19						
RCBR	Riachuelo	85.35	259	P		P	11 45 17.8 +0.3
	comp=Z,38nm,1.1s,baz=346,slow=5.2,SNR=6.8						
RCBR	Riachuelo	85.35	259	eP		P	11 45 18.0 +0.6
	comp=Z,38nm,1.3s						
RCBR	Riachuelo	85.35	259	eP		P	11 45 18.0 +0.6
	comp=Z,38nm,1.3s						
A33A	Warroad	85.35	334	P		P	11 45 16.4 -0.5
	baz=31,SNR=30						
E40A	Wakefield	85.43	330	P		P	11 45 17.4 0.0
	baz=35,SNR=31						
C36A	Pine Crest Far	85.45	332	P		P	11 45 17.4 -0.1
	baz=33,SNR=19						
SANI	Sanana	85.47	96	P		P	11 45 16.0 -2.0
B34A	Aery, Baudette	85.48	334	P		P	11 45 17.2 -0.4
	baz=32,SNR=16						
G43A	Wallace	85.50	328	P		P	11 45 17.6 0.0
	baz=36,SNR=10						
F41A	Three Lakes	85.69	329	P		P	11 45 18.3 -0.4
	baz=35,SNR=19						
E39A	Mellen	85.74	330	P		P	11 45 19.0 +0.1
	baz=34,SNR=31						
A32A	Rocking H Ranc	85.74	335	P		P	11 45 18.6 -0.2
	baz=30,SNR=26						
D37A	Cotton	85.80	332	P		P	11 45 19.1 -0.1
	baz=33,SNR=10						
G42A	Mountain	85.81	328	P		P	11 45 19.0 -0.3
	baz=36,SNR=14						
C35A	Jirik Farms, M	85.91	333	P		P	11 45 18.9 -0.8
	baz=32,SNR=12						
E38A	The Farm, Brul	85.94	331	P		P	11 45 19.4 -0.5
	baz=34,SNR=13						
F40A	Park Falls	85.95	330	P		P	11 45 19.3 -0.6
	baz=35,SNR=12						
A31A	Linda, St. Vin	85.96	335	P		P	11 45 20.0 +0.1
	baz=30,SNR=5.3						
B33A	Robert and Kas	85.99	334	P		P	11 45 19.8 -0.3
	baz=31,SNR=9.3						
CBN	Corbin Frederi	86.05	317	eP		P	11 45 20.6 0.0
	comp=Z,59nm,1.0s						
CBN	Corbin Frederi	86.05	317	eP		P	11 45 20.6 0.0
	comp=Z,59nm,1.0s						
D36A	Goodland	86.06	332	P		P	11 45 20.2 -0.3
	baz=33,SNR=16						
AGMN	Agassiz Nation	86.06	334	P		P	11 45 19.9 -0.5
	baz=31						
AGMN	Agassiz Nation	86.06	334	eP		P	11 45 20.2 -0.2
	comp=Z,47nm,1.0s						
AGMN	Agassiz Nation	86.06	334	eP		P	11 45 20.2 -0.2
	comp=Z,47nm,1.0s						
G41A	Antigo	86.15	329	P		P	11 45 20.4 -0.6
	baz=35,SNR=6.0						
H43A	Windswept, Lux	86.17	327	P		P	11 45 19.8 -1.2
	baz=36						
B32A	Ashes, Strandq	86.21	335	P		P	11 45 20.9 -0.3
	baz=30,SNR=38						
MCWV	Mont Chateau	86.25	320	eP		P	11 45 21.5 0.0
	comp=Z,84nm,1.3s						
MCWV	Mont Chateau	86.25	320	eP		P	11 45 21.5 0.0
	comp=Z,84nm,1.3s						
F39A	Loretta	86.26	330	P		P	11 45 21.2 -0.3
	baz=34,SNR=22						
C34A	RKJ Ranch, Bem	86.29	333	P		P	11 45 21.0 -0.6
	baz=31,SNR=11						
CVRD	Centerville Ro	86.38	317	eP		P	11 45 22.0 -0.2
	comp=Z,34nm,1.3s						
CVRD	Centerville Ro	86.38	317	eP		P	11 45 22.0 -0.2
	comp=Z,34nm,1.3s						
H42A	Shiocton	86.45	328	P		P	11 45 22.3 -0.2
	baz=36,SNR=5.8						
D35A	Remer	86.47	332	P		P	11 45 22.0 -0.5
	baz=32,SNR=14						
BASI	Baing, Sumba	86.50	106	P		P	11 45 21.4 -1.6
C33A	Trail	86.50	334	P		P	11 45 22.3 -0.3
	baz=31,SNR=16						
G40A	Rib Lake	86.51	329	P		P	11 45 22.6 -0.2
	baz=34,SNR=24						
IP04	Greensprings	86.52	318	eP		P	11 45 22.6 -0.2
	comp=Z,63nm,1.6s						
IP04	Greensprings	86.52	318	eP		P	11 45 22.6 -0.2
	comp=Z,63nm,1.6s						
IP01	Cuckoo	86.52	317	eP		P	11 45 22.7 -0.2
	comp=Z,67nm,1.3s						
IP01	Cuckoo	86.52	317	eP		P	11 45 22.7 -0.2
	comp=Z,67nm,1.3s						
IP03	Louisa	86.53	318	eP		P	11 45 22.8 -0.1
	comp=Z,30nm,1.1s						
IP03	Louisa	86.53	318	eP		P	11 45 22.8 -0.1
	comp=Z,30nm,1.1s						
IP05	Hopewell Churc	86.53	317	eP		P	11 45 22.8 -0.1
	comp=Z,80nm,1.3s						
IP05	Hopewell Churc	86.53	317	eP		P	11 45 22.8 -0.1
	comp=Z,80nm,1.3s						
B31A	Greenbush Farm	86.55	335	P		P	11 45 22.8 -0.1
	baz=30,SNR=17						
IP06	Yanceyville	86.57	317	eP		P	11 45 23.0 -0.2
	comp=Z,47nm,1.2s						
IP06	Yanceyville	86.57	317	eP		P	11 45 22.9 -0.2
	comp=Z,47nm,1.2s						
F38A	Pierce - Schro	86.60	331	P		P	11 45 23.2 0.0
	baz=33,SNR=33						
URVA	University of	86.61	317	eP		P	11 45 23.2 -0.1
URVA	University of	86.61	317	eP		P	11 45 23.2 -0.1
IP07	Quail	86.61	317	eP		P	11 45 23.1 -0.2
	comp=Z,43nm,1.2s						
IP07	Quail	86.61	317	eP		P	11 45 23.1 -0.2
	comp=Z,43nm,1.2s						
E36A	McGregor	86.65	332	P		P	11 45 23.2 -0.2
	baz=32,SNR=14						
C32A	Crookston	86.70	334	P		P	11 45 22.7 -0.9
	baz=30						
JSRW	J. Sargeant Re	86.70	317	eP		P	11 45 23.2 -0.5
JSRW	J. Sargeant Re	86.70	317	eP		P	11 45 23.2 -0.5
H41A	Junction City	86.83	329	P		P	11 45 23.5 -0.8
	baz=35						
D34A	Park Rapids	86.87	333	P		P	11 45 23.9 -0.5
	baz=31,SNR=10						
G39A	Holcombe	86.88	330	P		P	11 45 24.1 -0.4
	baz=34,SNR=28						
E35A	Pequot Lakes	87.04	332	P		P	11 45 25.0 -0.3
	baz=32,SNR=16						
D33A	AnnSam, Waubun	87.05	334	P		P	11 45 24.7 -0.6
	baz=31,SNR=12						
F37A	Hinrichs Farm,	87.08	331	P		P	11 45 25.5 0.0
	baz=33,SNR=14						
I42A	Draeger Farm,	87.12	328	P		P	11 45 24.9 -0.8
	baz=35,SNR=8.2						
H40A	Chili	87.12	329	P		P	11 45 25.5 -0.2
	baz=34,SNR=11						
C31A	Landman Farms,	87.13	335	P		P	11 45 25.6 -0.1
	baz=29,SNR=18						
G38A	Ridgeland	87.25	330	P		P	11 45 25.8 -0.5
	baz=33,SNR=22						
F36A	Milaca	87.30	331	P		P	11 45 26.1 -0.5
	baz=32,SNR=20						
J43A	Natural Harves	87.32	327	P		P	11 45 25.6 -1.1
	baz=36						
E34A	Wadena	87.35	333	P		P	11 45 26.5 -0.3
	baz=31,SNR=12						
ACSO	Alum Creek Sta	87.36	322	eP		P	11 45 26.2 -0.7
	comp=Z,68nm,1.6s						
ACSO	Alum Creek Sta	87.36	322	eP		P	11 45 26.2 -0.7
	comp=Z,68nm,1.6s						
I41A	Arkdale	87.38	328	P		P	11 45 26.5 -0.5
	baz=35,SNR=6.3						
H39A	Augusta	87.43	330	P		P	11 45 27.0 -0.2
	baz=34,SNR=13						
SPMN	Marine on St.	87.57	331	P		P	11 45 27.5 -0.4
	baz=33,SNR=21						
SPMN	Marine on St.	87.57	331	eP		P	11 45 27.7 -0.1
	comp=Z,96nm,1.3s						
SPMN	Marine on St.	87.57	331	eP		P	11 45 27.7 -0.1
	comp=Z,96nm,1.3s						
E33A	Westby DABS, E	87.66	333	P		P	11 45 27.8 -0.4
	baz=31,SNR=5.2						
J42A	Columbus	87.67	327	P		P	11 45 27.3 -1.1
	baz=35						
MDND	Maddock	87.69	336	P		P	11 45 27.6 -0.7
	baz=28,SNR=7.1						
MDND	Maddock	87.69	336	eP		P	11 45 28.7 +0.3
	comp=Z,101nm,1.3s						
MDND	Maddock	87.69	336	eP		P	11 45 28.7 +0.3
	comp=Z,101nm,1.3s						
F35A	Swanville	87.69	332	P		P	11 45 27.5 -0.9
	baz=32,SNR=6.1						
I40A	Norwalk	87.82	329	P		P	11 45 28.6 -0.5
	baz=34,SNR=6.1						
H38A	Maiden Rock	87.83	330	P		P	11 45 28.4 -0.7
	baz=33						
K43A	Burlington	87.83	327	P		P	11 45 28.4 -0.8
	baz=36						
G36A	St. Michael	87.92	331	P		P	11 45 29.4 -0.1
	baz=32,SNR=14						
F34A	Alexandria	88.00	332	P		P	11 45 29.0 -0.9
	baz=31						
J41A	Loganville	88.00	328	P		P	11 45 29.0 -1.0
	baz=35						
H37A	Dierke Farm, C	88.16	330	P		P	11 45 30.8 +0.1
	baz=33,SNR=13						
K42A	Prairie Point,	88.21	327	P		P	11 45 30.2 -0.7
	baz=35						
G35A	Watkins	88.21	332	P		P	11 45 30.5 -0.4
	baz=32,SNR=6.4						
I39A	Houston	88.22	329	P		P	11 45 30.3 -0.7
	baz=34,SNR=6.2						
E31A	Nome	88.26	334	P		P	11 45 30.8 -0.3
	baz=29,SNR=5.6						
J40A	Soldiers Grove	88.28	328	P		P	11 45 30.6 -0.7
	baz=34,SNR=5.1						
F33A	5 Mile Ranch,	88.33	333	P		P	11 45 31.2 -0.3
	baz=30,SNR=12						
I38A	Scanlan Farm,	88.38	330	P		P	11 45 31.2 -0.5
	baz=33,SNR=16						
BLA	Blacksburg	88.39	318	eP		P	11 45 31.9 -0.1
BLA					pmax	pmax	
	comp=Z,20nm,1

K41A	Shullsburg	88.75	328	P	P	11 45	32.8 -0.7
	baz=34						
M44A	Midewin, Midew	88.78	326	P	P	11 45	33.1 -0.6
	baz=36						
H35A	Sunnyside Ranc	88.78	332	P	P	11 45	34.0 +0.4
	baz=31,SNR=26						
I37A	Lemond, Waseca	88.82	330	P	P	11 45	33.7 -0.1
	baz=32,SNR=29						
O47A	Sheridan	88.86	324	P	P	11 45	33.3 -0.8
	baz=37						
G33A	Ortonville	88.94	333	P	P	11 45	33.8 -0.5
	baz=30						
N45A	Kentland	88.98	325	P	P	11 45	33.2 -1.4
	baz=36						
F31A	Hecla	88.99	334	P	P	11 45	34.0 -0.5
	baz=29						
K40A	Colesburg	89.02	328	P	P	11 45	33.9 -0.9
	baz=34						
J38A	Wedel Dairy, R	89.04	329	P	P	11 45	34.2 -0.7
	baz=33,SNR=8.1						
I36A	Fitzsimmons Fa	89.05	331	P	P	11 45	34.8 -0.1
	baz=32,SNR=9.1						
H34A	Spellman Lake,	89.15	332	P	P	11 45	35.4 0.0
	baz=31,SNR=10						
G32A	Webster	89.26	334	P	P	11 45	34.7 -1.2
	baz=30						
L41A	Preston	89.27	328	P	P	11 45	35.3 -0.7
	baz=34,SNR=12						
K39A	Oelwein	89.32	329	P	P	11 45	35.3 -0.9
	baz=33,SNR=12						
M42A	Sheffield	89.47	327	P	P	11 45	36.2 -0.7
	baz=35						
J37A	Redenius Farm,	89.47	330	P	P	11 45	36.7 -0.2
	baz=32,SNR=12						
H33A	Prehn Over Nor	89.49	333	P	P	11 45	36.6 -0.4
	baz=30,SNR=7.1						
P47A	Martinsville	89.50	323	P	P	11 45	36.1 -1.0
	baz=37						
G31A	Conde	89.53	334	P	P	11 45	36.8 -0.3
	baz=29						
O45A	Potomac	89.56	325	P	P	11 45	36.4 -0.9
	baz=36,SNR=6.0						
L40A	Anamosa	89.58	328	P	P	11 45	36.6 -0.8
	baz=34,SNR=11						
I34A	Hadley	89.72	332	P	P	11 45	37.8 -0.3
	baz=31						
K38A	Parkersburg	89.72	329	P	P	11 45	37.5 -0.6
	baz=33						
J36A	Seneca 1, Swea	89.76	331	P	P	11 45	38.0 -0.2
	baz=32,SNR=25						
L39A	Vinton	89.85	329	P	P	11 45	37.8 -0.9
	baz=33,SNR=11						
M41A	Milan	89.87	327	P	P	11 45	37.9 -0.9
	baz=34,SNR=8.1						
BLO	Bloomington	89.87	323	eP	P	11 45	38.3 -0.5
BLO				pmax	pmax		
	comp=Z,47nm,1.4s						
BLO	Bloomington	89.87	323	eP	P	11 45	38.3 -0.5
	comp=Z,47nm,1.4s						
BLO	Bloomington	89.87	323	eP	P	11 45	38.3 -0.5
	comp=Z,47nm,1.4s						
H32A	Carlson Farm,	89.89	333	P	P	11 45	38.7 -0.2
	baz=30,SNR=8.4						
K37A	Belmond	89.97	330	P	P	11 45	38.8 -0.4
	baz=32,SNR=12						
O44A	Mansfield	89.97	325	P	P	11 45	38.8 -0.5
	baz=36						
HDIL	Hopedale	90.00	326	P	P	11 45	38.9 -0.5
	baz=35,SNR=12						
HDIL	Hopedale	90.00	326	eP	P	11 45	39.4 0.0
	comp=Z,113nm,1.4s						
HDIL	Hopedale	90.00	326	eP	P	11 45	39.4 0.0
	comp=Z,113nm,1.4s						
LLLB	Lilooet	90.06	351	eP	P	11 45	40.1 +0.5
	comp=Z,75nm,1.2s						
LLLB	Lilooet	90.06	351	eP	P	11 45	40.1 +0.5
	comp=Z,75nm,1.2s						
N42A	Yates City	90.10	327	P	P	11 45	39.4 -0.5
	baz=34,SNR=10						
L38A	Oak Wood Farm,	90.22	329	P	P	11 45	39.6 -0.8
	baz=33,SNR=12						
O43A	Sugar Creek Fa	90.23	326	P	P	11 45	39.9 -0.6
	baz=35,SNR=9.9						
M40A	Post Highland	90.25	328	P	P	11 45	39.7 -0.8
	baz=34,SNR=6.9						
ECSD	EROS Data Cent	90.26	332	P	P	11 45	40.1 -0.5
	baz=30,SNR=17						
ECSD	EROS Data Cent	90.26	332	eP	P	11 45	40.5 -0.1
	comp=Z,40nm,1.3s						
ECSD	EROS Data Cent	90.26	332	eP	P	11 45	40.5 -0.1
	comp=Z,40nm,1.3s						
WALA	Waterton Lakes	90.27	345	eP	P	11 45	40.4 -0.3
	comp=Z,41nm,1.2s						
WALA	Waterton Lakes	90.27	345	eP	P	11 45	40.4 -0.3
	comp=Z,41nm,1.2s						
EGMT	Eagleton	90.34	342	P	P	11 45	40.9 -0.1
	baz=21						
EGMT	Eagleton	90.34	342	eP	P	11 45	41.5 +0.5
	comp=Z,46nm,1.3s						
EGMT	Eagleton	90.34	342	eP	P	11 45	41.5 +0.5
	comp=Z,46nm,1.3s						
K36A	Gilmore City	90.39	330	P	P	11 45	40.8 -0.4
	baz=32,SNR=8.4						
J34A	George	90.41	332	P	P	11 45	41.0 -0.3
	baz=31						
ANWB	Willy Bob	90.42	293	eP	P	11 45	41.4 -0.3
	comp=Z,146nm,1.2s						
ANWB	Willy Bob	90.42	293	eP	P	11 45	41.4 -0.3
	comp=Z,146nm,1.2s						
KMSC	Kings Mountain	90.45	318	P	P	11 45	41.4 -0.1
	baz=40						
KMSC	Kings Mountain	90.45	318	eP	P	11 45	41.5 -0.1
	comp=Z,77nm,1.4s						
KMSC	Kings Mountain	90.45	318	eP	P	11 45	41.5 -0.1
	comp=Z,77nm,1.4s						
M39A	Webster	90.46	328	P	P	11 45	41.0 -0.5
	baz=33,SNR=8.1						
SUSD	Miller	90.47	334	P	P	11 45	41.7 +0.1
	baz=28,SNR=6.6						
WCI	Wyandotte Cave	90.52	323	eP	P	11 45	41.5 -0.4
WCI				pmax	pmax		
	comp=Z,74nm,1.4s						
WCI	Wyandotte Cave	90.52	323	eP	P	11 45	41.5 -0.4
	comp=Z,74nm,1.4s						
WCI	Wyandotte Cave	90.52	323	eP	P	11 45	41.5 -0.4
	comp=Z,74nm,1.4s						
SCIA	State Center	90.52	329	eP	P	11 45	41.9 +0.1
	comp=Z,80nm,1.1s						
SCIA	State Center	90.52	329	eP	P	11 45	41.9 +0.1
	comp=Z,80nm,1.1s						
N41A	Harden Midland	90.55	327	P	P	11 45	41.1 -0.8
	baz=34,SNR=18						
L37A	Phoenix Point,	90.56	330	P	P	11 45	41.4 -0.5
	baz=32						
P44A	Sand Creek, Wi	90.59	325	P	P	11 45	41.7 -0.5
	baz=35,SNR=14						
O42A	Bath	90.64	326	P	P	11 45	41.6 -0.8
	baz=34						
LAO	LASA Array	90.68	340	P	P	11 45	43.7 +1.2
	baz=23,SNR=38						
LAO	LASA Array	90.68	340	eP	P	11 45	43.9 +1.3
	comp=Z,103nm,1.0s						
LAO	LASA Array	90.68	340	eP	P	11 45	43.9 +1.3
	comp=Z,103nm,1.0s						
N40A	Mertquake, Sal	90.71	328	P	P	11 45	41.8 -0.9
	baz=34,SNR=6.0						
J33A	Davis	90.75	332	P	P	11 45	42.4 -0.5
	baz=30,SNR=6.1						
P43A	Skaggs, Pawnee	90.85	326	P	P	11 45	43.0 -0.4
	baz=35,SNR=10						
M38A	Pleasantville	90.93	329	P	P	11 45	43.3 -0.4
	baz=32,SNR=38						
L36A	Harm Buss Farm	90.93	330	P	P	11 45	43.2 -0.6
	baz=31						
OLIL	Olney	90.95	324	eP	P	11 45	43.2 -0.7
	comp=Z,105nm,1.1s						
OLIL	Olney	90.95	324	eP	P	11 45	43.2 -0.7
	comp=Z,105nm,1.1s						
K34A	Le Mars	90.98	331	P	P	11 45	43.6 -0.4
	baz=30,SNR=7.8						
J32A	Parkston	91.02	333	P	P	11 45	43.6 -0.6
	baz=29						
O41A	Passleys Farm,	91.05	327	P	P	11 45	43.6 -0.7
	baz=34,SNR=15						
JSC	Jenkinsville	91.07	317	eP	P	11 45	44.8 +0.3
JSC				pmax	pmax		
	comp=Z,35nm,1.1s						
JSC	Jenkinsville	91.07	317	eP	P	11 45	44.6 +0.1
	comp=Z,35nm,1.1s						
N39A	Derby Farms, D	91.10	328	P	P	11 45	44.3 -0.2
	baz=33,SNR=28						
Q44A	Meyer Farm, Va	91.23	325	P	P	11 45	44.6 -0.5
	baz=35,SNR=11						
P42A	Winchester	91.26	326	P	P	11 45	44.5 -0.7
	baz=34,SNR=10.0						
L35A	Bielow Farm, R	91.26	331	P	P	11 45	44.8 -0.5
	baz=31,SNR=11						
M37A	Trindle Farm,	91.29	329	P	P	11 45	44.9 -0.5
	baz=32,SNR=9.6						
TKL	Tuckaleechee C	91.31	320	P	P	11 45	45.6 -0.1
	comp=Z,88nm,1.1s,baz=96,slow=4.5,SNR=50						
TKL	Tuckaleechee C	91.31	320	eP	P	11 45	45.5 -0.1
	comp=Z,144nm,1.1s						
TKL	Tuckaleechee C	91.31	320	eP	P	11 45	45.5 -0.1
	comp=Z,144nm,1.1s						
GDHS	Morne Mazeau,	91.32	292	eP	P	11 45	45.3 -0.7
	comp=Z,85nm,1.1s						
GDHS	Morne Mazeau,	91.32	292	eP	P	11 45	45.3 -0.7
	comp=Z,85nm,1.1s						
USIN	University of	91.37	323	eP	P	11 45	45.4 -0.4
	comp=Z,158nm,1.3s						
USIN	University of	91.37	323	eP	P	11 45	45.4 -0.4
	comp=Z,158nm,1.3s						
NHSC	New Hope	91.38	316	eP	P	11 45	46.4 +0.5
	comp=Z,119nm,1.1s						
NHSC	New Hope	91.38	316	eP	P	11 45	46.4 +0.5
	comp=Z,119nm,1.1s						
K33A	Hardington	91.38	332	P	P	11 45	45.5 -0.3
	baz=30						
J31A	Geddes	91.41	333	P	P	11 45	45.5 -0.4
	baz=29						
N38A	Joes South For	91.47	329	P	P	11 45	45.6 -0.7
	baz=32						
O40A	La Belle	91.47	327	P	P	11 45	45.6 -0.6
	baz=33,SNR=12						
P41A	Barry, Barry	91.50	327	P	P	11 45	45.8 -0.5
	baz=34,SNR=9.7						
Q43A	New Douglas	91.50	325	P	P	11 45	46.1 -0.3
	baz=35,SNR=13						
RGRS	Roger Stewart	91.53	316	eP	P	11 45	47.0 +0.4
	comp=Z,330nm,0.8s						
RGRS	Roger Stewart	91.53	316	eP	P	11 45	47.0 +0.4
	comp=Z,330nm,0.8s						
M36A	Felix, Anita	91.54	330	P	P	11 45	46.3 -0.3
	baz=31,SNR=7.8						
BSMT	Bassoo Peak	91.59	346	eP	P	11 45	47.5 +0.6
BSMT	Bassoo Peak	91.59	346	eP	P	11 45	47.5 +0.6
JTMT	Jette	91.59	345	eP	P	11 45	47.2 +0.3
JTMT	Jette	91.59	345	eP	P	11 45	47.2 +0.3
NEW	Newport	91.63	347	P	P	11 45	47.5 +0.6
	comp=Z,23nm,1.0s,baz=358,slow=4.4,SNR=32						
NEW	Newport	91.63	347	P	P	11 45	47.2 +0.3
	baz=15,SNR=32						
NEW	Newport	91.63	347	eP	P	11 45	47.5 +0.6
	comp=Z,44nm,1.1s						
NEW	Newport	91.63	347	eP	P	11 45	47.5 +0.6
	comp=Z,44nm,1.1s						
O39A	Kirksville	91.64	328	P	P	11 45	46.5 -0.5
	baz=33,SNR=7.1						
K32A	Verdigre	91.69	333	P	P	11 45	46.8 -0.4
	baz=29,SNR=6.5						
L34A	Svendsen Farm,	91.70	331	P	P	11 45	46.6 -0.7
	baz=30,SNR=8.0						
SWMT	Swartz Lake	91.76	345	eP	P	11 45	48.1 +0.5
SWMT	Swartz Lake	91.76	345	eP	P	11 45	48.1 +0.5
R44A	Waltonville	91.79	324	P	P	11 45	47.3 -0.5
	baz=35,SNR=21						
CPCT	Cooper Cave	91.85	320	eP	P	11 45	47.9 -0.2
	comp=Z,102nm,1.2s						
CPCT	Cooper Cave	91.85	320	eP	P	11 45	47.9 -0.2
	comp=Z,102nm,1.2s						
L33A	Hoskins	91.86	332	P	P	11 45	47.7 -0.4
	baz=30,SNR=5.2						
M35A	Neola	91.87	331	P	P	11 45	47.5 -0.6
	baz=31,SNR=7.5						
N37A	Lee Faris, Mou	91.89	329	P	P	11 45	47.9 -0.4
	baz=32,SNR=9.9						
Q42A	Golden Eagle	91.90	326	P	P	11 45	47.7 -0.5
	baz=34,SNR=16						
B08A	Colville Reser	91.90	349	eP	P	11 45	48.4 +0.3
	comp=Z,22nm,1.4s						
B08A	Colville Reser	91.90	349	eP	P	11 45	48.4 +0.3
	comp=Z,22nm,1.4s						
SLMT	Seeley Lake	91.91	344	eP	P	11 45	48.6 +0.2
SLMT	Seeley Lake	91.91	344	eP	P	11 45	48.6 +0.2
K31A	O'Neill	92.00	333	P	P	11 45	48.2 -0.5
	baz=29						
S45A	Carrier Mills	92.03	324	P	P	11 45	48.4 -0.5
	baz=36,SNR=29						
P40A	Paris	92.04	327	P	P	11 45	48.4 -0.4
	baz=33,SNR=5.3						
B06A	Marblemount	92.06	350	eP	P	11 45	48.6 -0.1
	comp=Z,31nm,1.1s						
B06A	Marblemount	92.06	350	eP	P	11 45	48.6 -0.1
	comp=Z,31nm,1.1s						
HRY	Holter Researc	92.06	343	eP	P	11 45	49.5 +0.5
HRY	Holter Researc	92.06	343	eP	P	11 45	49.5 +0.5
O38A	Galt	92.14	328	P	P	11 45	48.9 -0.5
	baz=32,SNR=7.4						
N36A	Muff Farm, Cla	92.14	330	P	P	11 45	49.0 -0.4
	baz=31						
R43A	Red Bud	92.15	325	P	P	11 45	48.9 -0.5
	baz=35,SNR=11						
Q41A	Truxton	92.17	326	P	P	11 45	48.9 -0.6
	baz=34,SNR=31						
CHMT	Chamberlain Mo	92.17	344	eP	P	11 45	49.7 0.0
CHMT	Chamberlain Mo	92.17	344	eP	P	11 45	49.7 0.0
M34A	Aspy Farms, Fr	92.18	331	P	P	11 45	48.7 -0.8
	baz=30						
C09A	Chrisman Ranch	92.27	348	eP	P	11 45	50.7 +0.9
	comp=Z,11nm,1.1s						
C09A	Chrisman Ranch	92.27	348	eP	P	11 45	50.7 +0.9
	comp=Z,11nm,1.1s						
S44A	Carbondale	92.33	324	P	P	11 45	49.8 -0.4
	baz=35,SNR=30						
M33A	Taylor Creek F	92.35	332	P	P	11 45	49.8 -0.5
	baz=30,SNR=6.6						
O37A	Wolven Farm, M	92.37	329	P	P	11 45	50.0 -0.5
	baz=32,SNR=6.7						
P39B	Salisbury	92.37	328	P	P	11 45	50.2 -0.2
	baz=33,SNR=8.1						
N35A	Tabor	92.37	330	P	P	11 45	50.4 0.0
	baz=31,SNR=10						
B05A	Bryant	92.39	350	P	P	11 45	49.6 -0.7
	baz=11,SNR=10.0						
RSSD	Black Hills	92.40	337	P	P	11 45	50.7 -0.1
	baz=25						
RSSD	Black Hills	92.40	337	eP	P	11 45	51.1 +0.3
RSSD				pmax	pmax		
	comp=Z,68nm,1.4s						
RSSD	Black Hills	92.40	337	eP	P	11 45	51.1 +0.3
	comp=Z,68nm,1.4s						
RSSD	Black Hills	92.40	337	eP	P	11 45	51.1 +0.3
	comp=Z,68nm,1.4s						
MSO	Missoula	92.40	345	P	P	11 45	50.3 -0.3
	baz=18,SNR=10.0						
MSO	Missoula	92.40	345	eP	P	11 45	50.9 +0.3
	comp=Z,25nm,1.3s						
MSO	Missoula	92.40	345	eP	P	11 45	50.9 +0.3
	comp=Z,25nm,1.3s						
GCMT	Greycliff	92.41	342	eP	P	11 45	51.1 +0.4
GCMT	Greycliff	92.41	342	eP	P	11 45	51.1 +0.4
Q40A	Laux Farm, Aux	92.50	327	P	P	11 45	50.9 -0.2
	baz=33,SNR=32						
R42A	Luebbering	92.53	326	P	P	11 45	50.9 -0.3
	baz=34,SNR=6.2						
C06D	Leavenworth	92.56	350	P	P	11 45	50.7 -0.5
	baz=12						
P38A	Dawn	92.58	328	P	P	11 45	50.9 -0.5
	baz=32,SNR=14						
N34A	Lincoln	92.72	331	P	P	11 45	51.5 -0.5
	baz=30,SNR=5.3						
O36A	Bolckow	92.73	329	P	P	11 45	51.7 -0.4
	baz=31,SNR=6.1						
SWET	Sewanee	92.74	321	eP	P	11 45	51.4 -0.9
	comp=Z,35nm,1.2s						
SWET	Sewanee	92.74	321	eP	P	11 45	51.4 -0.9
	comp=Z,35nm,1.2s						
R41A	Rosebud	92.78	326	P	P	11 45	51.8 -0.6
	baz=34,SNR=22						
S43A	Fulton Ridge,	92.80	325	P	P	11 45	52.1 -0.3
	baz=34,SNR=8.8						
Q39A	Willow Grove F	92.83	327	P	P	11 45	52.3 -0.3
	baz=33						
BGNE	Belgrade	92.84	332	P	P	11 45	52.9 +0.3
	baz=29,SNR=16						
BGNE	Belgrade	92.84	332	eP	P	11 45	53.2 +0.6
	comp=Z,167nm,1.1s						
BGNE	Belgrade	92.84	332	eP	P	11 45	53.2 +0.6
	comp=Z,167nm,1.1s						
GOGA	Godfrey	92.90	318	eP	P	11 45	53.3 +0.3
GOGA				pmax	pmax		
	comp=Z,34nm,1.1s						
GOGA	Godfrey	92.90	318	eP	P	11 45	53.2 +0.3
	comp=Z,34nm,1.1s						
GOGA	Godfrey	92.90	318	eP	P	11 45	53.2 +0.3
	comp=Z,34nm,1.1s						
CCM	Cathedral Cave	92.92	326	eP	P	11 45	52.2 -0.8
CCM				pmax	pmax		
	comp=Z,28nm,1.1s						
CCM	Cathedral Cave	92.92	326	eP	P	11 45	52.2 -0.8
	comp=Z,28nm,1.1s						
CCM	Cathedral Cave	92.92	326	eP	P	11 45	52.2 -0.8
	comp=Z,28nm,1.1s						
MBWA	Marble Bar	92.93	115	eP	P	11 45	53.4 +0.3
	comp=Z,188nm,1.7s						
MBWA	Marble Bar	92.93	115	eP	P	11 45	53.4 +0.3
	comp=Z,188nm,1.7s						
WVT	Waverly	92.93	322	eP	P	11 45	51.6 -1.4
WVT				pmax	pmax		
	comp=Z,26nm,1.3s						
WVT	Waverly	92.93	322	eP	P	11 45	51.6 -1.4
	comp=Z,26nm,1.3s						
WVT	Waverly	92.93	322	eP	P	11 45	51.6 -1.4
	comp=Z,26nm,1.3s						
RLMT	Red Lodge	92.94	341	P	P	11 45	53.4 +0.2
	baz=21,SNR=24						
RLMT	Red Lodge	92.94	341	eP	P	11 45	54.0 +0.8
	comp=Z,48nm,1.2s						
RLMT	Red Lodge	92.94	341	eP	P	11 45	54.0 +0.8
	comp=Z,48nm,1.2s						
P37A	Lathrop	92.94	329	P	P	11 45	52.4 -0.7
	baz=32,SNR=8.1						
S42A	Caledonia	92.95	325	P	P	11 45	52.5 -0.7
	baz=34,SNR=16						
T44A	Benton	92.97	324	P	P	11 45	53.1 -0.1
	baz=35						
O35A	Humboldt	92.99	330	P	P	11 45	52.8 -0.5
	baz=31						
BOZ	Bozeman (W)	93.06	343	P	P	11 45	53.8 0.0
	baz=19,SNR=15						
BOZ	Bozeman (W)	93.06	343	eP	P	11 45	54.2 +0.5
BOZ				pmax	pmax		
	comp=Z,22nm,1.2s						
BOZ	Bozeman (W)	93.06	343	eP	P	11 45	54.2 +0.5
	comp=Z,22nm,1.2s						
BOZ	Bozeman (W)	93.06	343	eP	P	11 45	54.2 +0.5
	comp=Z,22nm,1.2s						
D08A	Wollman Farm,	93.10	348	eP	P	11 45	54.4 +0.7
	comp=Z,38nm,1.6s						
D08A	Wollman Farm,	93.10	348	eP	P	11 45	54.4 +0.7
	comp=Z,38nm,1.6s						
R40A	Maddies Statio	93.17	327	P	P	11 45	53.7 -0.5
	baz=33,SNR=24						
N33A	J Bar K, Exete	93.17	331	P	P	11 45	54.0 -0.1
	baz=30						
LTY	Liberty	93.17	349	eP	P	11 45	53.7 -0.4
	comp=Z,16nm,1.4s						
LTY	Liberty	93.17	349	eP	P	11 45	53.7 -0.4
	comp=Z,16nm,1.4s						
Q38A	Cooks Store, C	93.17	328	P	P	11 45	53.6 -0.6
	baz=32,SNR=17						
U45A	Rockin P Farm,	93.19	323	P	P	11 45	53.6 -0.6
	baz=35,SNR=14						
SJG	San Juan	93.23	296	P	P	11 45	54.1 -0.6
	comp=Z,3.8nm,0.8s,baz=350,slow=5.1,SNR=3.6						
UTMT	University of	93.25	323	eP	P	11 45	54.3 -0.2
	comp=Z,186nm,1.2s						
UTMT	University of	93.25	323	eP	P	11 45	54.3 -0.2
	comp=Z,186nm,1.2s						
P36A	Good Intent, A	93.26	329	P	P	11 45	54.3 -0.3
	baz=31						
T43A	Greenville	93.29	325	P	P	11 45	54.2 -0.5
	baz=34,SNR=20						
O34A	Beatrice	93.36	331	P	P	11 45	54.5 -0.5
	baz=30,SNR=14						
D05A	Enumclaw	93.43	350	eP	P	11 45	55.7 +0.6
	comp=Z,58nm,1.3s						
D05A	Enumclaw	93.43	350	eP	P	11 45	55.7 +0.6
	comp=Z,58nm,1.3s						
U44B	Burton Farm, H	93.47	324	P	P	11 45	54.9 -0.6
	baz=35						
R39A	Chumby, Stover	93.48	327	P	P	11 45	54.8 -0.8
	baz=33,SNR=8.4						
U44A	Portageville	93.50	324	P	P	11 45	55.3 -0.3
	baz=35						
E09A	Wood Farm, Sta	93.50	347	eP	P	11 45	56.2 +0.7
	comp=Z,20nm,1.2s						
E09A	Wood Farm, Sta	93.50	347	eP	P	11 45	56.2 +0.7
	comp=Z,20nm,1.2s						
DLMT	Dillon	93.51	343	eP	P	11 45	55.9 +0.1
	comp=Z,20nm,1.1s						
DLMT	Dillon	93.51	343	eP	P	11 45	55.9 +0.1
	comp=Z,20nm,1.1s						
S41A	Jillco Farms,	93.53	326	P	P	11 45	55.2 -0.6
	baz=34,SNR=16						
PBMO	Poplar Bluff	93.61	325	eP	P	11 45	55.5 -0.7
	comp=Z,49nm,1.1s						
PBMO	Poplar Bluff	93.61	325	eP	P	11 45	55.5 -0.7
	comp=Z,49nm,1.1s						
YHH	Holmes Hill	93.64	342	eP	P	11 45	57.4 +0.8
	comp=Z,21nm,1.2s						
YHH	Holmes Hill	93.64	342	eP	P	11 45	57.4 +0.8
	comp=Z,21nm,1.2s						
P35A	Duane Minner,	93.66	330	P	P	11 45	55.8 -0.6
	baz=31,SNR=10.0						
YNR	Norris Junctio	93.67	342	eP	P	11 45	57.5 +0.9
	comp=Z,15nm,1.2s						
YNR	Norris Junctio	93.67	342	eP	P	11 45	57.5 +0.9
	comp=Z,15nm,1.2s						
QLMT	Earthquake Lak	93.74	342	eP	P	11 45	57.8 +0.9
QLMT	Earthquake Lak	93.74	342	eP	P	11 45	57.8 +0.9
V45A	Humboldt	93.78	323	P	P	11 45	56.1 -0.8
	baz=35,SNR=8.8						
YMR	Madison River	93.78	342	eP	P	11 45	58.2 +1.1
	comp=Z,38nm,1.3s						
YMR	Madison River	93.78	342	eP	P	11 45	58.2 +1.1
	comp=Z,38nm,1.3s						
O33A	Hebron	93.80	331	P	P	11 45	56.1 -1.0
	baz=30,SNR=14						
LON	Longmire	93.83	350	eP	P	11 45	57.4 +0.3
LON				pmax	pmax		
	comp=Z,36nm,1.7s						
LON	Longmire	93.83	350	eP	P	11 45	57.4 +0.3
	comp=Z,36nm,1.7s						
LON	Longmire	93.83	350	eP	P	11 45	57.4 +0.3
	comp=Z,36nm,1.7s						
HAWA	Hanford	93.84	348	eP	P	11 45	58.0 +0.9
	comp=Z,22nm,1.1s						
HAWA	Hanford	93.84	348	eP	P	11 45	58.0 +0.9
	comp=Z,22nm,1.1s						
S40A	Lebanon	93.85	326	P	P	11 45	56.8 -0.5
	baz=33,SNR=19						
U43A	Rector	93.94	324	P	P	11 45	56.8 -0.9
	baz=34,SNR=6.2						
H17A	Grant Village	93.94

baz=32,SNR=21
R37A Teagarden Farm 94.22 328 P P 11 45 57.8 -1.2
baz=31,SNR=6.4
T40A Mansfield 94.23 326 P P 11 45 58.3 -0.7
baz=33,SNR=14
Q35A Mercer Eighty, 94.25 329 P P 11 45 58.1 -1.1
baz=31,SNR=7.3
E03A Lebam 94.26 351 eP P 11 45 59.3 +0.4
comp=Z,54nm,1.0s
E03A Lebam 94.26 351 eP P 11 45 59.3 +0.4
comp=Z,54nm,1.0s
U42A Revenden 94.33 325 P P 11 45 58.9 -0.6
baz=34,SNR=22
W45A Hickory Valley 94.36 323 P P 11 45 58.7 -1.0
baz=35
S38A Stockton 94.42 327 P P 11 45 59.1 -0.8
baz=32,SNR=28
K22A Casper 94.48 338 P P 11 45 59.5 -0.8
baz=23,SNR=17
K22A Casper 94.48 338 eP P 11 46 00.2 -0.1
comp=Z,54nm,1.3s
K22A Casper 94.48 338 eP P 11 46 00.1 -0.1
comp=Z,54nm,1.3s
V43A Jonesboro 94.48 324 P P 11 46 00.2 +0.1
baz=34
R36A Gordon, Harris 94.49 329 P P 11 45 59.5 -0.7
baz=31
IMW Indian Meadow 94.50 342 eP P 11 46 01.2 +0.6
comp=Z,30nm,1.4s
IMW Indian Meadow 94.50 342 eP P 11 46 01.2 +0.6
comp=Z,30nm,1.4s
TIGA Tifton 94.50 317 P P 11 45 59.9 -0.5
baz=39
TIGA Tifton 94.50 317 eP P 11 46 00.2 -0.2
comp=Z,33nm,1.1s
TIGA Tifton 94.50 317 eP P 11 46 00.2 -0.2
comp=Z,33nm,1.1s
Q34A Chapman 94.55 330 P P 11 46 00.0 -0.4
baz=30,SNR=8.4
MOOW Moose Ponds 94.59 342 eP P 11 46 01.9 +1.0
comp=Z,33nm,1.4s
MOOW Moose Ponds 94.59 342 eP P 11 46 01.9 +1.0
comp=Z,33nm,1.4s
LOHW Long Hollow 94.69 341 eP P 11 46 02.2 +0.9
comp=Z,39nm,1.4s
LOHW Long Hollow 94.69 341 eP P 11 46 02.1 +0.9
comp=Z,39nm,1.4s
S37A Fort Scott 94.70 328 P P 11 46 00.3 -0.8
baz=31,SNR=14
T39A Clever 94.71 327 P P 11 46 00.4 -0.8
baz=32,SNR=6.5
HBAR Harrisburg 94.72 324 eP P 11 46 01.4 +0.1
comp=Z,113nm,1.1s
HBAR Harrisburg 94.72 324 eP P 11 46 01.4 +0.1
comp=Z,113nm,1.1s
Y47A UCPARC, Winfie 94.73 321 P P 11 46 00.2 -1.2
baz=36,SNR=21
FXWY Fox Creek 94.77 342 eP P 11 46 02.9 +1.2
comp=Z,29nm,1.4s
FXWY Fox Creek 94.77 342 eP P 11 46 02.9 +1.2
comp=Z,29nm,1.4s
R35A Emporia Munici 94.77 329 P P 11 46 00.6 -1.0
baz=30
V42A Cord 94.85 325 P P 11 46 00.9 -1.0
baz=34,SNR=6.7
TPAW Teton Pass 94.89 342 eP P 11 46 03.9 +1.6
comp=Z,43nm,1.3s
TPAW Teton Pass 94.89 342 eP P 11 46 03.9 +1.6
comp=Z,43nm,1.3s
BMO Blue Mountains 94.96 346 eP P 11 46 01.8 -0.6
BMO pmax pmax
comp=Z,12nm,1.3s
BMO Blue Mountains 94.96 346 eP P 11 46 01.8 -0.6
comp=Z,12nm,1.3s
BMO Blue Mountains 94.96 346 eP P 11 46 01.8 -0.6
comp=Z,12nm,1.3s
REDW Red Top Meadow 94.98 341 eP P 11 46 03.6 +0.9
comp=Z,52nm,1.4s
REDW Red Top Meadow 94.98 341 eP P 11 46 03.6 +0.9
comp=Z,52nm,1.4s
OXF Oxford 94.99 323 eP P 11 46 01.4 -1.2
OXF pmax pmax
comp=Z,62nm,1.2s
OXF Oxford 94.99 323 eP P 11 46 01.4 -1.2
comp=Z,62nm,1.2s
OXF Oxford 94.99 323 eP P 11 46 01.4 -1.2
comp=Z,62nm,1.2s
LRAL Lakeview Retre 95.01 320 eP P 11 46 01.7 -1.0
comp=Z,76nm,1.4s
LRAL Lakeview Retre 95.01 320 eP P 11 46 01.7 -1.0
comp=Z,76nm,1.4s
Z48A Northport 95.01 321 P P 11 46 01.4 -1.3
baz=36,SNR=9.4
S36A Lake Cedric, C 95.04 329 P P 11 46 01.7 -1.1
baz=31,SNR=11
U40A Yellville 95.04 326 P P 11 46 01.8 -0.9
baz=33,SNR=12
X45A UM Field Stati 95.06 323 P P 11 46 01.6 -1.3
baz=35,SNR=12
T38A Diamond 95.09 327 P P 11 46 01.9 -1.1
baz=32,SNR=19
G06A Carlson Farm, 95.14 349 eP P 11 46 03.9 +0.7
comp=Z,40nm,1.8s
G06A Carlson Farm, 95.14 349 eP P 11 46 03.9 +0.7
comp=Z,40nm,1.8s
R34A Isabella, Hill 95.20 330 P P 11 46 02.6 -0.9
baz=30,SNR=11
BW06 Boulder Array 95.21 340 P P 11 46 03.0 -0.7
baz=21,SNR=9.3
BW06 Boulder Array 95.21 340 eP P 11 46 03.7 0.0
comp=Z,14nm,1.3s
BW06 Boulder Array 95.21 340 eP P 11 46 03.7 0.0
comp=Z,14nm,1.3s
PD31 Pinedale Array 95.21 340 eP P 11 46 03.7 0.0
PD31 Pinedale Array 95.21 340 eP P 11 46 03.7 0.0
PDAR Pinedale Array 95.21 340 P P 11 46 03.0 -0.7
comp=Z,4.2nm,1.0s,baz=29,slow=3.4,SNR=22
PDAR PP PP 11 49 48.8 -3.8
comp=Z,3.7nm,1.2s,baz=45,slow=10,SNR=3.1
V41A Mountainview 95.21 325 P P 11 46 02.4 -1.2
baz=33
Y46A Houston 95.24 322 P P 11 46 02.3 -1.4
baz=35,SNR=21
FITZ Fitzroy Crossi 95.27 109 P P 11 46 02.4 -1.5
comp=Z,5.2nm,0.8s,baz=195,slow=5.6,SNR=8.6
T37A Cheneyville 18 95.28 328 P P 11 46 02.8 -1.1
baz=31,SNR=6.6
U39A Green Forest 95.29 326 P P 11 46 03.0 -1.0
baz=32,SNR=16
W42A Bald Knob 95.35 324 P P 11 46 03.5 -0.7
baz=34
S35A Otter Creek Ra 95.37 329 P P 11 46 03.4 -0.9
baz=30,SNR=10
PHWY Pilot Hill 95.40 337 eP P 11 46 05.0 +0.3
comp=Z,24nm,1.2s
PHWY Pilot Hill 95.40 337 eP P 11 46 05.0 +0.3
comp=Z,24nm,1.2s
Z47A Carrollton 95.41 321 P P 11 46 03.6 -0.9
baz=36,SNR=12
V40A Witts Springs 95.49 326 P P 11 46 03.7 -1.2
baz=33
HHAR Hobbs 95.58 327 eP P 11 46 04.5 -0.7
comp=Z,16nm,1.2s
HHAR Hobbs 95.58 327 eP P 11 46 04.5 -0.7
comp=Z,16nm,1.2s
Y45A Yeager Farm, C 95.58 322 P P 11 46 04.6 -0.7
baz=35,SNR=13
HLID Hailey 95.62 344 P P 11 46 05.0 -0.5
baz=17,SNR=5.4
HLID Hailey 95.62 344 eP P 11 46 06.0 +0.5
comp=Z,4.0nm,1.0s
HLID Hailey 95.62 344 eP P 11 46 06.0 +0.5
comp=Z,4.0nm,1.0s
U38A Gravette 95.63 327 P P 11 46 04.4 -1.1
baz=32,SNR=18
S34A Willow Spring 95.67 330 P P 11 46 05.3 -0.4
baz=30,SNR=5.0
X43A Marvell 95.68 324 P P 11 46 05.0 -0.7
baz=34
WHAR Wooly Hollow 95.68 325 eP P 11 46 05.1 -0.6
comp=Z,26nm,1.5s
WHAR Wooly Hollow 95.68 325 eP P 11 46 05.0 -0.6
comp=Z,26nm,1.5s
CBKS Cedar Bluff 95.70 332 P P 11 46 04.9 -1.0
baz=28,SNR=8.9
CBKS Cedar Bluff 95.70 332 eP P 11 46 05.8 0.0
CBKS pmax pmax
comp=Z,61nm,1.2s
CBKS Cedar Bluff 95.70 332 eP P 11 46 05.8 0.0
comp=Z,61nm,1.2s
CBKS Cedar Bluff 95.70 332 eP P 11 46 05.8 0.0
comp=Z,61nm,1.2s
T36A Boggs Farm, Ca 95.73 328 P P 11 46 04.8 -1.1
baz=31,SNR=11
W41B Gary Mavity, V 95.76 325 P P 11 46 05.1 -0.9
baz=33
X301 Greenbrier Sit 95.78 325 eP P 11 46 05.4 -0.7
comp=Z,25nm,1.5s
X301 Greenbrier Sit 95.78 325 eP P 11 46 05.4 -0.7
comp=Z,25nm,1.5s
V39A Pettigrew 95.82 326 P P 11 46 05.2 -1.2
baz=32,SNR=6.6
Y44A Strider, Charl 95.82 323 P P 11 46 05.5 -0.9
baz=35
Z46A Louisville 95.84 321 P P 11 46 05.5 -1.0
baz=35
DWPF Disney Wildern 95.87 313 eP P 11 46 08.6 +2.0
comp=Z,2μm,2.0s
DWPF Disney Wildern 95.87 313 eP P 11 46 08.7 +2.0
comp=Z,2μm,2.0s
N23A Red Feather La 95.92 337 P P 11 46 06.0 -1.1
baz=24,SNR=8.9
N23A Red Feather La 95.92 337 eP P 11 46 06.9 -0.2
comp=Z,24nm,1.3s
N23A Red Feather La 95.92 337 eP P 11 46 06.9 -0.2
comp=Z,24nm,1.3s
147A Livingston 95.93 321 P P 11 46 05.5 -1.4
baz=36,SNR=9.9
U37A Salina 95.97 328 P P 11 46 05.8 -1.2
baz=31,SNR=10
X42A Stuttgart 96.00 324 P P 11 46 06.5 -0.6
baz=34
MFID Camas Ranch 96.06 345 eP P 11 46 08.0 +0.6
comp=Z,24nm,1.1s
MFID Camas Ranch 96.06 345 eP P 11 46 08.0 +0.6
comp=Z,24nm,1.1s
Z45A Winona 96.06 322 P P 11 46 07.0 -0.5
baz=35
T35A Sooner Cattle 96.11 329 P P 11 46 06.2 -1.4
baz=30,SNR=5.6
W40A Ferguson Farm, 96.11 325 P P 11 46 07.1 -0.5
baz=33
V38A Canehill 96.13 327 P P 11 46 06.2 -1.6
baz=32,SNR=6.9
248A Dixon Mills 96.14 320 P P 11 46 07.5 -0.3
baz=36
SDDR Presa de Saban 96.17 300 eP P 11 46 08.1 -0.2
comp=Z,30nm,1.3s
SDDR Presa de Saban 96.17 300 eP P 11 46 08.2 -0.2
comp=Z,30nm,1.3s
T34A McClaskey Farm 96.29 329 P P 11 46 07.9 -0.6
baz=30,SNR=14
146A Union 96.35 321 P P 11 46 08.0 -0.8
baz=35,SNR=16
W39A Magazine 96.42 326 P P 11 46 07.5 -1.6
baz=32
V37A Hulbert 96.42 327 P P 11 46 08.0 -1.1
baz=31,SNR=7.7
BRAL Brewton 96.53 319 eP P 11 46 10.6 +1.0
comp=Z,146nm,1.6s
KSCO Kaye Shedlock' 96.55 334 P P 11 46 09.2 -0.6
baz=26
X40A Basin Creek Fa 96.60 325 P P 11 46 09.2 -0.7
baz=33
247A Quitman 96.60 321 P P 11 46 09.4 -0.5
baz=36,SNR=10.0
Y42A Garnett, Star 96.66 324 P P 11 46 09.5 -0.6
baz=34
U35A Pawnee 96.67 329 P P 11 46 09.5 -0.7
baz=30,SNR=6.4
TUL1 Leonard 96.67 328 P P 11 46 09.5 -0.7
baz=31,SNR=12
TUL1 Leonard 96.67 328 eP P 11 46 09.8 -0.4
comp=Z,32nm,1.1s
TUL1 Leonard 96.67 328 eP P 11 46 09.8 -0.4
comp=Z,32nm,1.1s
348A Jackson 96.77 320 P P 11 46 10.8 +0.1
baz=36,SNR=9.3
145A Houston Renfro 96.80 322 P P 11 46 10.3 -0.5
baz=35
HWUT Hardware Ranch 96.81 341 eP P 11 46 11.5 +0.5
comp=Z,35nm,1.6s
HWUT Hardware Ranch 96.81 341 eP P 11 46 11.5 +0.5
comp=Z,35nm,1.6s
ISCO Idaho Springs 96.82 336 P P 11 46 10.5 -0.7
baz=24
ISCO Idaho Springs 96.82 336 eP P 11 46 11.4 +0.2
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 96.82 336 eP P 11 46 11.4 +0.2
comp=Z,6.2nm,1.4s
ISCO Idaho Springs 96.82 336 eP P 11 46 11.4 +0.2
comp=Z,6.2nm,1.4s
V36A Jenks 96.84 328 P P 11 46 10.4 -0.6
baz=31
W38A Poteau 96.85 326 P P 11 46 10.0 -1.0
baz=32,SNR=5.7
MIAR Mount Ida 96.88 325 P P 11 46 10.5 -0.7
baz=32,SNR=8.2
MIAR Mount Ida 96.88 325 eP P 11 46 10.9 -0.3
MIAR pmax pmax
comp=Z,14nm,1.1s
MIAR Mount Ida 96.88 325 eP P 11 46 10.9 -0.3
comp=Z,14nm,1.1s
MIAR Mount Ida 96.88 325 eP P 11 46 10.9 -0.3
comp=Z,14nm,1.1s
HVU Hansel Valley 96.94 342 eP P 11 46 11.8 +0.3
HVU pmax pmax
comp=Z,43nm,2.0s
HVU Hansel Valley 96.94 342 eP P 11 46 11.8 +0.3
comp=Z,43nm,2.0s
HVU Hansel Valley 96.94 342 eP P 11 46 11.8 +0.3
comp=Z,43nm,2.0s
I03D Drain, OR 97.04 350 P P 11 46 11.6 -0.1
baz=10
347A Saraland 97.10 320 P P 11 46 12.3 +0.1
baz=36,SNR=19
448A Bay Minette 97.13 319 P P 11 46 11.6 -0.7
baz=36
J05D Fort Rock, OR 97.14 349 P P 11 46 12.1 -0.3
baz=12
X39A Fountain Ranch 97.15 326 P P 11 46 11.2 -1.2
baz=32,SNR=5.4
W37B Quinton 97.18 327 P P 11 46 11.6 -0.9
baz=31
Y40A Okolona 97.20 325 P P 11 46 11.7 -0.9
baz=33
Z42A Norrel Spur, H 97.20 324 P P 11 46 12.1 -0.5
baz=34
TCUT Toone Canyon 97.23 341 eP P 11 46 13.0 0.0
comp=Z,22nm,1.1s
TCUT Toone Canyon 97.23 341 eP P 11 46 13.0 0.0
comp=Z,22nm,1.1s
V35A Meyer Ranch, C 97.23 328 P P 11 46 11.6 -1.1
baz=30
245A Little AP, Sta 97.25 321 P P 11 46 12.8 -0.1
baz=35,SNR=8.1
O20A White River Ci 97.30 338 P P 11 46 12.6 -0.6
baz=22,SNR=5.3
O20A White River Ci 97.30 338 eP Pdif 11 46 13.6 +0.3
comp=Z,29nm,1.7s
O20A White River Ci 97.30 338 eP Pdif 11 46 13.6 +0.3
comp=Z,29nm,1.7s
SPUT South Promonto 97.31 342 eP Pdif 11 46 13.7 +0.4
comp=Z,46nm,1.7s
SPUT South Promonto 97.31 342 eP Pdif 11 46 13.7 +0.4
comp=Z,46nm,1.7s
X38A Whitesboro 97.32 326 P P 11 46 12.8 -0.4
baz=32,SNR=9.0
Q24A Divide 97.43 336 P P 11 46 13.3 -0.7
baz=24
W36A Wetumka 97.52 328 P P 11 46 13.3 -0.7
baz=31
WVOR Wild Horse Val 97.54 347 eP Pdif 11 46 15.4 +1.2
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 97.54 347 eP P 11 46 14.5 +0.3
comp=Z,4.9nm,1.1s
WVOR Wild Horse Val 97.54 347 eP Pdif 11 46 14.5 +0.3
comp=Z,4.9nm,1.1s
U32A Winter Ranch, 97.56 330 P P 11 46 13.3 -1.0
baz=29
346A Big Creek Wild 97.57 321 P P 11 46 14.1 -0.2
baz=35
Y39A Lockesburg 97.62 325 P P 11 46 13.9 -0.6
baz=32
X37A Clayton 97.63 327 P P 11 46 13.7 -0.8
baz=31,SNR=8.2
244A Avery, Jackson 97.63 322 P P 11 46 14.5 0.0
baz=34,SNR=10
CTU Camp Tracy 97.72 341 eP P 11 46 15.3 +0.2
comp=Z,8.0nm,1.2s
CTU Camp Tracy 97.72 341 eP P 11 46 15.3 +0.2
comp=Z,8.0nm,1.2s
JLU Jordanelle 97.73 341 eP Pdif 11 46 15.9 +0.6
comp=Z,28nm,1.6s
JLU Jordanelle 97.73 341 eP Pdif 11 46 15.9 +0.6
comp=Z,28nm,1.6s
W35A Tecumseh 97.78 328 P P 11 46 14.6 -0.6
baz=30
SMCO Snowmass 97.81 337 eP P 11 46 16.0 +0.2
comp=Z,8.1nm,1.4s
SMCO Snowmass 97.81 337 eP P 11 46 16.0 +0.2
comp=Z,8.1nm,1.4s
BGU Big Grassy Mou 97.81 342 eP Pdif 11 46 16.5 +1.0
comp=Z,14nm,1.5s
BGU Big Grassy Mou 97.81 342 eP Pdif 11 46 16.5 +1.0
comp=Z,14nm,1.5s
446A Poplarville 98.00 320 P P 11 46 16.4 +0.2
baz=35
X36A Centrahoma 98.06 327 P P 11 46 15.8 -0.6
baz=31
344A Westbrook Farm 98.13 322 P P 11 46 17.0 +0.1
baz=34,SNR=6.3
Y37A Hugo 98.25 327 P P 11 46 17.0 -0.3
baz=31
242A Grayson 98.31 323 P P 11 46 17.6 0.0
baz=34
P18A Preston Nutter 98.33 340 eP P 11 46 17.8 -0.2
comp=Z,15nm,1.3s
P18A Preston Nutter 98.33 340 eP P 11 46 17.8 -0.2
comp=Z,15nm,1.3s
MPU Maple Canyon 98.33 341 eP Pdif 11 46 18.8 +0.9
comp=Z,5.9nm,1.1s
MPU Maple Canyon 98.33 341 eP Pdif 11 46 18.8 +1.0
comp=Z,5.9nm,1.1s
MOD Modoc Plateau 98.34 348 eP Pdif 11 46 18.9 +1.0
comp=Z,7.3nm,1.1s
MOD Modoc Plateau 98.34 348 eP Pdif 11 46 18.9 +1.0
comp=Z,7.3nm,1.1s
DUG Dugway, Tooele 98.45 342 P Pdif 11 46 18.7 +0.4
baz=19,SNR=14
DUG Dugway, Tooele 98.45 342 eP Pdif 11 46 19.1 +0.7
DUG pmax pmax
comp=Z,33nm,1.6s
DUG Dugway, Tooele 98.45 342 eP Pdif 11 46 19.1 +0.7
comp=Z,33nm,1.6s
DUG Dugway, Tooele 98.45 342 eP Pdif 11 46 19.1 +0.7
comp=Z,33nm,1.6s
X35A Drake 98.47 328 P P 11 46 17.8 -0.6
baz=30
ELK Elko 98.49 344 P Pdif 11 46 19.6 +1.0
comp=Z,3.5nm,1.1s,baz=76,slow=4.0,SNR=15
NLU North Lily Min 98.50 341 eP Pdif 11 46 19.1 +0.4
comp=Z,6.0nm,1.2s
NLU North Lily Min 98.50 341 eP Pdif 11 46 19.1 +0.5
comp=Z,6.0nm,1.2s
L02D Cave Junction, 98.58 350 P P 11 46 18.2 -0.5
baz=10
P17A Butcher Ranch, 98.60 340 eP Pdif 11 46 19.4 +0.3
comp=Z,8.4nm,1.3s
P17A Butcher Ranch, 98.60 340 eP P 11 46 19.4 +0.3
comp=Z,8.4nm,1.3s
Y36A Durant 98.61 327 P P 11 46 18.2 -0.8
baz=31
SDCO Great Sand Dun 98.66 336 P P 11 46 18.9 -0.6
baz=24
SDCO Great Sand Dun 98.66 336 eP P 11 46 18.9 -0.6
comp=Z,3.4nm,1.3s
SDCO Great Sand Dun 98.66 336 eP P 11 46 18.9 -0.6
comp=Z,3.4nm,1.3s
M04C Macdoel 98.70 349 P P 11 46 19.0 -0.4
baz=12
T25A Trinidad 98.85 334 P P 11 46 19.6 -0.6
baz=25
SRU San Rafael Swe 98.89 340 eP P 11 46 20.6 +0.2
SRU pmax pmax
comp=Z,11nm,1.1s
SRU San Rafael Swe 98.89 340 eP P 11 46 20.3 -0.1
comp=Z,11nm,1.2s
SRU San Rafael Swe 98.89 340 eP P 11 46 20.3 -0.1
comp=Z,11nm,1.2s
TMUT Trail Mountain 98.89 340 eP P 11 46 20.5 0.0
comp=Z,19nm,1.4s
TMUT Trail Mountain 98.89 340 eP P 11 46 20.6 0.0
comp=Z,19nm,1.4s
WMOK Wichita Mounta 98.91 329 P P 11 46 19.9 -0.4
baz=29
WMOK Wichita Mounta 98.91 329 eP P 11 46 20.1 -0.2
WMOK pmax pmax
comp=Z,33nm,1.8s
WMOK Wichita Mounta 98.91 329 eP P 11 46 20.1 -0.2
comp=Z,33nm,1.8s
WMOK Wichita Mounta 98.91 329 eP P 11 46 20.1 -0.2
comp=Z,33nm,1.8s
MHTCO State Highway 98.95 335 eP P 11 46 20.6 -0.1
comp=Z,8.8nm,1.0s
MHTCO State Highway 98.95 335 eP P 11 46 20.6 -0.1
comp=Z,8.8nm,1.0s
PV09 Paradox Valley 99.07 339 eP Pdif 11 46 22.2 +0.8
PV09 Paradox Valley 99.07 339 eP Pdif 11 46 22.2 +0.8
S22A 4UR Ranch, Cre 99.08 337 P Pdif 11 46 20.4 -0.9
baz=23,SNR=5.8
S22A 4UR Ranch, Cre 99.08 337 eP Pdif 11 46 21.9 +0.5
comp=Z,31nm,1.9s
S22A 4UR Ranch, Cre 99.08 337 eP Pdif 11 46 21.9 +0.5
comp=Z,31nm,1.9s
Q16A Castle Valley 99.24 340 eP Pdif 11 46 22.0 0.0
comp=Z,24nm,1.3s
Q16A Castle Valley 99.24 340 eP Pdif 11 46 22.0 0.0
comp=Z,24nm,1.3s
PV01 Paradox Valley 99.24 338 eP Pdif 11 46 22.5 +0.5
PV01 Paradox Valley 99.24 338 eP Pdif 11 46 22.5 +0.5
MSU Marysvale 99.88 341 eP Pdif 11 46 26.2 +1.3
MSU Marysvale 99.88 341 ePdif Pdif 11 46 26.2 +1.3
MVCO Mesa Verde 100.08 338 ePdif Pdif 11 46 26.1 +0.3
MTPU Mount Pierson 100.33 341 ePdif Pdif 11 46 28.0 +1.0
BDFB Brasilia 100.72 259 PP PP 11 50 31.2 -5.2
comp=Z,10nm,1.1s,baz=196,slow=12,SNR=5.0
R11A Troy Canyon, C 100.86 343 P Pdif 11 46 28.9 -0.3
baz=17
R11A Troy Canyon, C 100.86 343 ePdif Pdif 11 46 30.2 +1.0
PTGA Pitinga 100.89 278 PP PP 11 50 36.9 -0.5
comp=Z,10nm,1.0s,baz=47,slow=8.8,SNR=7.4
CCUT Cedar City 101.09 341 ePdif Pdif 11 46 31.3 +1.1
MSTX Muleshoe 101.12 332 P Pdif 11 46 29.5 -0.8
baz=26
ANMO Albuquerque 101.52 335 eP Pdif 11 46 31.3 -0.9
ANMO Albuquerque 101.52 335 ePdif Pdif 11 46 33.0 +0.8
U15A North Rim 101.88 340 ePdif Pdif 11 46 34.9 +1.0
WUAZ Wupatki 102.49 339 ePdif Pdif 11 46 36.8 +0.3
WRA Warramunga Arr 102.90 105 Pdiff Pdif 11 46 37.3 -0.9
comp=Z,0.4nm,0.6s,baz=318,slow=3.9,SNR=3.5
W13A Hualapai Mount 103.55 341 ePdif Pdif 11 46 42.3 +1.0
MNTX Cornudas Mount 104.11 333 P Pdif 11 46 42.8 -0.8
baz=25
MNTX Cornudas Mount 104.11 333 ePdif Pdif 11 46 43.2 -0.4
121A Cookes Peak, D 104.17 335 P Pdif 11 46 43.6 -0.4
baz=23
ASAR Alice Springs 104.77 109 Pdiff Pdif 11 46 45.6 -0.8
comp=Z,0.6nm,0.9s,baz=316,slow=4.9,SNR=5.2
ASAR PKIKP PKiKP 11 51 03.0 +1.1
comp=Z,1.2nm,1.0s,baz=314,slow=1.2,SNR=5.4
ASAR PKKPbc PKKPbc 12 02 29.6 +0.4
comp=Z,0.5nm,0.9s,baz=128,slow=3.8,SNR=7.1
PFO Pinyon Flats O 105.59 343 P Pdif 11 46 50.3 0.0
baz=16
TXAR Lajitas Array 105.60 330 Pdiff Pdif 11 46 50.5 +0.2
comp=Z,0.9nm,1.1s,baz=90,slow=0.9,SNR=4.3
TXAR PP PP 11 51 11.1 -0.4
comp=Z,2.1nm,1.1s,baz=23,slow=6.8,SNR=4.0
MURC Murrieta 105.78 343 P Pdif 11 46 51.5 +0.6
baz=16
CPUP Villa Florida 113.96 255 PP PP 11 52 10.2 -3.1
comp=Z,10nm,1.0s,baz=58,slow=6.9,SNR=8.3
SNAA Sanae 114.88 195 PKP PKPdf 11 51 17.9 -1.6
comp=Z,5.7nm,1.1s,baz=13,slow=3.9,SNR=4.7
STKA Stephens Creek 114.98 112 PKP PKPdf 11 51 19.6 -1.2
comp=Z,1.0nm,0.6s,baz=138,slow=3.3,SNR=4.2
LPAZ La Paz 116.72 270 PKP PKPdf 11 51 24.4 -0.9
comp=Z,2.6nm,1.0s,baz=8.4,slow=9.5,SNR=6.4
LPAZ PP PP 11 52 27.8 -5.7
comp=Z,5.3nm,1.1s,baz=43,slow=10,SNR=6.4

LVC	Limon Verde	120.86 265	PKP	PKPdf	11 51 33.1	+0.3
	comp=Z,37nm,1.1s,baz=93,slow=5.6,SNR=6.0					
LVC	Limon Verde	120.86 265	ePKIKP	PKPdf	11 51 32.1	-0.7
LVC	Limon Verde	120.86 265	ePKPdf	PKPdf	11 51 32.1	-0.7
QSPA	South Pole Qui	128.60 180	ePKIKP	PKPdf	11 51 44.8	-1.1
QSPA	South Pole Qui	128.60 180	ePKPdf	PKPdf	11 51 44.8	-1.1
PLCA	Paso Flores	130.30 246	PKP	PKPdf	11 51 50.1	+0.1
	comp=Z,22nm,1.1s,baz=102,slow=1.3,SNR=18					
PLCA	Paso Flores	130.30 246	ePKIKP	PKPdf	11 51 49.5	-0.5
PLCA	Paso Flores	130.30 246	ePKPdf	PKPdf	11 51 49.5	-0.5
VNDA	Vanda	133.61 165	PP	PP	11 54 20.6	-3.7
	comp=Z,7.3nm,1.3s,baz=263,slow=7.8,SNR=9.0					
SBA	Scott Base	134.47 166	ePKIKP	PKPdf	11 51 55.9	-0.7
SBA	Scott Base	134.47 166	ePKIKP	PKPdf	11 51 55.9	-0.7
SBA	Scott Base	134.47 166	ePKPdf	PKPdf	11 51 55.9	-0.7
BKZ	Black Stump Fm	143.83 106	ePKPpre	PKPpre	11 52 10.9	
RAR	Rarotonga	153.47 55	PKPab	PKPab	11 52 48.4	-2.5
	comp=Z,26nm,0.7s,baz=67,slow=2.8,SNR=4.0					

*IDC **23** 11:36:11.3±1.5, 38°.57N×43°.37E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/77, mbtmp4.1/5, Error ellipse: s-maj=32.0km s-min=17.2km az=140.0*
*ISCJB **23** 11:36:12.7±0.8, 38°.65N±0°.04×43°.64E±0°.06, h11km±5km, mb4.0/5, Error ellipse: s-maj=7.6km s-min=5.8km az=21.9*
*CSEM **23** 11:36:13.4, 38°.73N×43°.46E, h6km, MD2.9*
*DDA **23** 11:36:13.4, 38°.73N×43°.46E, h6km, Md2.9*
ISC 23 11:36:14.3±1.0, 38°.77N±0°.02×43°.49E±0°.04, h13km±7km, n25, σ1§44/42, mb4.1/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.23	16	*i* P	Pg	11 36 18.1	-1.3
VMUR				*i* S	Sb	11 36 25.1	+0.5
VMUR	Van-Muradiye	0.23	16	P	Pg	11 36 18.1	-1.3
VMUR				S	Sb	11 36 25.1	+0.5
TVAN	Van	0.25	196	*i* P	Pg	11 36 19.0	-0.7
TVAN				*i* S	Sb	11 36 27.0	+2.0
TVAN	Van	0.25	196	P	Pg	11 36 19.0	-0.7
TVAN				S	Sb	11 36 27.0	+2.0
GEVA	Gevas	0.57	217	*i* P	Pg	11 36 23.4	-2.0
GEVA				*i* S	Sg	11 36 32.1	-0.8
GEVA	Gevas	0.57	217	P	Pg	11 36 23.4	-2.0
GEVA				S	Sg	11 36 32.1	-0.8
DYDN	Diyadin	0.79	11	*i* P	Pg	11 36 27.9	-1.8
DYDN				*i* S	Sn	11 36 42.6	-0.5
DYDN	Diyadin	0.79	11	P	Pg	11 36 27.9	-1.8
DYDN				S	Sn	11 36 42.6	-0.5
TUTA	Tutak	0.82	321	*i* P	Pg	11 36 28.2	-2.1
TUTA				*i* S	Sb	11 36 42.1	+0.4
TUTA	Tutak	0.82	321	P	Pg	11 36 28.2	-2.1
TUTA				S	Sb	11 36 42.1	+0.4
EKAR	Karacoban	1.21	294	*i* P	Pn	11 36 37.1	0.0
EKAR				*i* S	Sg	11 36 56.9	+3.4
EKAR	Karacoban	1.21	294	P	Pn	11 36 37.1	0.0
EKAR				S	Sg	11 36 56.9	+3.4
EATA	Eleskirt	1.34	325	*i* P	Pn	11 36 38.9	-0.1
EATA				*i* S	Sg	11 36 59.2	+1.6
EATA	Eleskirt	1.34	325	P	Pn	11 36 38.9	-0.1
EATA				S	Sg	11 36 59.2	+1.6
DIGO	Kars	1.65	357	*i* P	Pb	11 36 44.9	+0.2
DIGO	Kars	1.65	357	P	Pb	11 36 44.9	+0.2
GNI	Garni	1.69	35	Pn	Pb	11 36 45.2	-0.1
	127nm,0.3s,baz=318,slow=4.6,SNR=2.3						
GNI				Lg	Lg	11 37 13.3	
	116nm,0.3s,baz=262,slow=22,SNR=8.5						
HOMI	Horasan	1.77	317	*i* P	Pn	11 36 45.2	+0.4
HOMI				*i* S	Sg	11 37 13.7	+2.4
ERZM	Erzurum	2.00	305	*i* P	Pb	11 36 50.3	-0.4
ERZM				*i* S	Sg	11 37 18.9	+0.2
ERZM	Erzurum	2.00	305	P	Pb	11 36 50.3	-0.4
ERZM				S	Sg	11 37 18.9	+0.2
KURBB	Kurchatov Arra	27.32	53	P	P	11 42 00.1	+1.6
	5.3nm,0.7s,baz=259,slow=8.5,SNR=3.7						
ZALV	Zalesovo Beam	31.79	48	P	P	11 42 39.3	+1.2
	0.7nm,0.4s,baz=254,slow=10,SNR=0.8						
EKA	Eskdalemuir Ar	35.08	314	P	P	11 43 06.7	0.0
	2.0nm,0.6s,baz=101,slow=7.4,SNR=1.3						
ESDC	Sonseca Array	36.44	287	P	P	11 43 17.5	-1.2
	1.2nm,0.7s,baz=65,slow=9.3,SNR=2.1						
CMAR	Chiang Mai Arr	51.90	97	P	P	11 45 22.5	-0.2
	1.9nm,0.8s,baz=297,slow=7.0,SNR=3.0						

*IDC **23** 11:38:56.4±0.8, 31°.88S×178°.18W, h0km, mb4.6/8, mb1 4.7/9, mb1mx4.3/38, mbtmp4.6/9, ML4.3/1, Error ellipse: s-maj=28.6km s-min=22.7km az=137.0*
*ISCJB **23** 11:38:59.0±0.5, 31°.98S±0°.03×178°.3W±0°.1, h24km, mb4.9/24, MS5.2/1, Error ellipse: s-maj=13.7km s-min=3.6km az=13.3*
*BJI **23** 11:39:01.6, 31°.60S×178°.18W, h34km, mb5.3/10, mB5.2/2, Ms7 5.2/1*
*NEIC **23** 11:39:02.8±1.0, 31°.98S×178°.22W, h42km±9km, mb4.9/16, Error ellipse: s-maj=12.3km s-min=8.5km az=117.0*
ISC 23 11:38:59.9±0.6, 32°.03S±0°.06×178°.0W±0°.1, h24km, n107, σ1§94/112, mb5.0/23, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.77	2	Pn	Pn	11 39 43.4	+0.6
	63nm,0.3s,baz=102,slow=20,SNR=4.6						
RAO				Sn	Sn	11 40 13.4	-2.1
	330nm,0.3s,baz=54,slow=20,SNR=7.4						
RAO	Raoul Island	2.77	2	*e*Pn	Pn	11 39 44.0	+1.2
RAO				*e*Sn	Sn	11 40 14.0	-1.5
MXZ	Matakaoa Point	6.29	208	*e*Pn	Pn	11 40 33.8	+2.6
MXZ	Matakaoa Point	6.29	208	PN	Pn	11 40 32.6	+1.5
MXZ				SN	Sn	11 41 44.0	+1.8
WMGZ	Waiomatatini S	6.47	206	PN	Pn	11 40 35.6	+2.0
WMGZ				SN	Sn	11 41 47.9	+1.2
PKGZ	Pakihiroa	6.66	208	PN	Pn	11 40 37.6	+1.3
HAZ	Te Kaha	6.67	210	PN	Pn	11 40 38.2	+1.8
PUZ	Puketiti	6.75	206	PN	Pn	11 40 38.6	+1.0
RUGZ	Raukumara Rang	6.89	210	PN	Pn	11 40 41.3	+1.7
TWGZ	Tauwhareparae	6.95	207	PN	Pn	11 40 42.6	+2.3
TWGZ				SN	Sn	11 41 59.9	+1.2
CNGZ	Carnagh Statio	7.14	205	PN	Pn	11 40 44.9	+2.1
TKGZ	Te Karaka	7.23	207	PN	Pn	11 40 47.9	+3.8
MWZ	Matawai	7.27	209	PN	Pn	11 40 45.1	+0.4
OPRZ	Ohinepanea	7.31	216	PN	Pn	11 40 47.7	+2.5
URZ	Urewera	7.38	211	Pn	Pn	11 40 46.1	0.0
	4.2nm,0.3s,baz=306,slow=3.2,SNR=46						
URZ				Sn	Sn	11 42 09.6	+0.5
	4.0nm,0.3s,baz=294,slow=5.0,SNR=8.6						
URZ	Urewera	7.38	211	*e*Pn	Pn	11 40 47.9	+1.7
URZ				*e*Sn	Sn	11 42 10.0	+0.9
URZ	Urewera	7.38	211	PN	Pn	11 40 46.2	0.0
RAGZ	Rawiri	7.45	209	PN	Pn	11 40 50.5	+3.3
RIGZ	Rimuhau	7.50	206	PN	Pn	11 40 48.9	+1.1
PRGZ	Paritu Road	7.64	205	PN	Pn	11 40 53.1	+3.3
OUZ	Omahuta	7.68	243	*e*Pn	Pn	11 40 54.5	+4.3
MUGZ	Murupara	7.71	212	PN	Pn	11 40 50.9	+0.2
SNGZ	Shannon Statio	7.72	208	PN	Pn	11 40 52.4	+1.5
RTZ	Ruatahuna	7.73	210	PN	Pn	11 40 52.0	+0.9
MRHZ	Matea Rd	8.16	212	PN	Pn	11 40 58.5	+1.5
NMHZ	Naumai	8.21	209	PN	Pn	11 40 58.3	+0.6
ARHZ	Aropaoanui	8.28	208	PN	Pn	11 40 58.7	+0.3
BKZ	Black Stump Fm	8.40	211	*e*Pn	Pn	11 41 01.5	+1.3
BKZ				*e*Sn	Sn	11 42 35.9	+1.6
BKZ	Black Stump Fm	8.40	211	PN	Pn	11 41 00.7	+0.5
MCHZ	McNeill Hill	8.55	209	PN	Pn	11 41 04.1	+1.9
KWHZ	Kaweka Forest	8.65	210	PN	Pn	11 41 03.7	+0.1
HIZ	Hauiti	8.70	220	*e*Pn	Pn	11 41 11.0	+6.8
KAHZ	Kahuranaki	8.78	207	PN	Pn	11 41 07.2	+1.8
KRHZ	Kereru	8.85	209	PN	Pn	11 41 07.5	+1.1
BHHZ	Black Hill Sta	8.86	211	PN	Pn	11 41 07.5	+1.0
WNVZ	Wahianoa	8.94	214	PN	Pn	11 41 09.6	+1.9
PXZ	Pawanui	8.99	206	PN	Pn	11 41 06.2	-2.0
PRHZ	Porangahau	9.28	206	PN	Pn	11 41 11.9	-0.3
TSZ	Takapari Road	9.37	210	PN	Pn	11 41 13.4	-0.1
BFZ	Birch Farm	9.79	207	*e*Pn	Pn	11 41 19.1	-0.1
BFZ	Birch Farm	9.79	207	PN	Pn	11 41 16.7	-2.4
MRZ	Mangatainoka R	10.04	209	PN	Pn	11 41 20.8	-1.8
CAW	Cannon Point	10.62	210	PN	Pn	11 41 28.5	-2.0
DUWZ	D'Urville Isla	10.89	214	PN	Pn	11 41 31.7	-2.6
THZ	Tophouse	12.12	214	*e*Pn	Pn	11 41 49.5	-1.6
THZ				*e*Sn	Sn	11 43 58.5	-6.9
KHZ	Kahutara	12.35	211	*e*Pn	Pn	11 41 51.3	-2.9
KHZ				*e*Sn	Sn	11 44 04.6	-6.4
OXZ	Oxford	13.74	212	*e*Pn	P	11 42 22.3	+0.8
MQZ	McQueen's Vall	13.77	210	*e*Pn	Pn	11 42 08.9	-4.7
RPZ	Rata Peaks	14.49	213	Sn	Sn	11 44 49.8	-14
	0.5nm,0.3s,baz=45,slow=16,SNR=5.5						
ODZ	Otahua Downs	15.71	211	*e*Pn	P	11 42 43.5	+0.1
	103nm,1.9s						
DCZ	Deep Cove	17.67	216	*e*Pn	P	11 43 04.9	-0.2
	70nm,1.6s						
PYZ	Puysegur Point	18.40	216	*e*P	P	11 43 11.9	-1.2
	209nm,1.5s						
ARMA	Armidale	25.96	265	*e*P	P	11 44 30.8	0.0
	12nm,1.3s						
EIDS	Eidsvold	27.84	276	*e*P	P	11 44 48.7	+1.1
	44nm,1.9s						
CTA	Charters Tower	34.07	282	P	P	11 45 42.5	-0.2
	12nm,0.7s,baz=113,slow=10,SNR=7.5						
CTAO	Charters Tower	34.07	282	*e*P	P	11 45 43.2	+0.6
	16nm,0.7s						
STKA	Stephens Creek	34.12	259	P	P	11 45 43.1	+0.2
	3.0nm,0.7s,baz=96,slow=12,SNR=7.6						
STKA	Stephens Creek	34.12	259	*e*P	P	11 45 43.7	+0.8
	4.1nm,1.8s						
BBOO	Buckleboo	38.53	256	*e*P	P	11 46 19.7	-0.9
	29nm,1.4s						
COEN	Coen	39.72	288	*e*P	P	11 46 30.3	-0.5
	43nm,1.4s						
AS31	Alice Springs	43.03	269	*e*P	P	11 46 56.7	-1.1
	3.7nm,0.5s						
ASAR	Alice Springs	43.03	269	P	P	11 46 56.1	-1.7
	8.8nm,0.6s,baz=106,slow=7.1,SNR=63						
WB2	Warramunga Arr	44.15	274	*e*P	P	11 47 05.5	-1.5
	21nm,0.6s						
WRAB	Tennant Creek	44.16	274	*e*P	P	11 47 05.4	-1.6
	17nm,0.6s						
WRA	Warramunga Arr	44.16	274	P	P	11 47 05.4	-1.6
	22nm,0.8s,baz=114,slow=7.7,SNR=128						
FORT	Forrest	45.63	257	*e*P	P	11 47 17.6	-1.0
	262nm,1.0s						
SBA	Scott Base	46.41	184	*e*P	P	11 47 33.0	+8.9
	30nm,1.9s						
VNDA	Vanda	46.48	186	*e*P	P	11 47 31.1	+6.6
	8.4nm,1.8s						
MTN	Manton Dam	50.23	280	*e*P	P	11 47 52.4	-1.9
	15nm,0.6s						
FITZ	Fitzroy Crossi	52.35	271	P	P	11 48 08.5	-1.8
	6.0nm,0.8s,baz=136,slow=8.3,SNR=3.6						
FITZ	Fitzroy Crossi	52.35	271	*e*P	P	11 48 09.3	-0.9
MAW	Mawson	70.78	201	P	P	11 50 14.6	+0.7
	3.1nm,0.8s,baz=137,slow=6.5,SNR=9.7						
SYO	Syowa Base	75.53	193	⇑*e*P	P	11 50 43.0	+1.1
SNAA	Sanae	76.53	178	P	P	11 50 55.8	+8.2
VNA3	Neumayer Olymp	76.68	176	P	P	11 50 57.5	+9.0
VNA2	Neumayer--Watz	77.12	177	P	P	11 51 00.0	+9.1
	baz=170,slow=4.9						
VNA1	Neumayer--Stat	77.35	177	P	P	11 51 01.5	+9.4
KSRS	Korea Array	85.57	320	P	P	11 51 35.8	-0.3
	0.8nm,0.7s,baz=138,slow=6.0,SNR=3.7						
KSAR	Wonju Array Be	85.59	320	P	P	11 51 35.8	-0.4
NJ2	Nanjing	87.29	311	*e*P	P	11 51 44.4	-0.2
NJ2				pmax	pmax		
	comp=Z,13nm,1.1s						
PETK	Petropavlovsk-	87.38	346	P	P	11 51 44.0	-0.6
	3.4nm,0.8s,baz=139,slow=11,SNR=3.6						
GYA	Guiyang	92.34	300	*e*P	P	11 52 08.9	+0.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RSO	Redoubt South	94.47	12	*e*P	P	11 52 16.6	-1.1
CRAG	Craig	95.24	24	*e*P	P	11 52 22.2	+1.1
	169nm,1.5s						
CD2	Chengdu	96.94	302	*e*P	P	11 52 29.0	-0.5
HHC	Hu-ho-hao-te	97.35	314	*e*P	Pdif	11 52 32.4	+1.1
HHC				S	S	12 03 53.3	-0.5
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				LR	LR		
	comp=Z,540nm,14.8s						
PHWY	Pilot Hill	98.94	47	*e*P	Pdif	11 52 39.2	+0.7
	14nm,0.8s						
WMQ	Urumqi	114.21	308	PKP	PKPdf	11 57 37.3	+0.1
MKAR	Makanchi Array	118.80	309	PKP	PKPdf	11 57 46.0	+0.1
	0.3nm,0.6s,baz=60,slow=3.4,SNR=2.4						
KSH	Kashi	121.04	300	*e*PKP	PKPdf	11 57 52.4	+1.8
KSH				sPKP		11 58 07.6	
KSH				PP	PP	11 59 27.8	+7.0
KSH				PKS	PKSdf	12 01 29.5	+2.2
KSH				SKS	SKSdf	12 05 01.1	0.0
KSH				SKKS	SKKSac	12 06 14.8	-3.7
KSH				AMB	AMB		
	comp=Z,6μm,14.1s						
KURK	Kurchatov	122.15	313	PKP	PKPdf	11 57 51.7	-0.4
KURBB	Kurchatov Arra	122.19	313	PKP	PKPdf	11 57 51.7	-0.5
	0.7nm,0.5s,baz=112,slow=1.9,SNR=6.2						
BVAR	Borovoye Array	127.55	315	PKP	PKPdf	11 58 02.5	0.0
	0.5nm,0.4s,baz=183,slow=3.0,SNR=4.3						
RAYN	Ar Rayn	140.78	269	*e*PKPdf	PKPdf	11 58 26.2	-1.9
OBN	Obninsk	146.48	324	PKPbc	PKPab	11 58 39.3	-0.2
	24nm,0.4s,baz=27,slow=6.8,SNR=3.4						
OBN	Obninsk	146.48	324	*e*PKPdf	PKPbc	11 58 38.4	-0.1
FIA1	FINESS Array S	146.66	339	*e*PKPdf	PKPbc	11 58 38.6	-0.2
FINES	FINESS Array B	146.66	339	PKPbc	PKPbc	11 58 38.4	-0.4
	6.0nm,0.6s,baz=48,slow=3.8,SNR=47						
NC303	NORSAR Array S	150.16	351	*e*PKPbc	PKPbc	11 58 48.8	+0.8
NB2	NORSAR Subarra	150.35	351	PKP	PKPbc	11 58 49.2	+0.7
	comp=Z,4.6nm,1.1s,baz=18,slow=3.0						
NOA	NORSAR Array B	150.35	351	PKPbc	PKPbc	11 58 48.6	0.0
	comp=Z,0.9nm,0.6s,baz=11,slow=3.8,SNR=4.0						
NOA				PKPab	sPKPdf	11 58 53.5	-0.6
	comp=Z,1.2nm,0.8s,baz=11,slow=2.3,SNR=4.8						
HFS	Hagfors	150.83	348	PKPbc	PKPbc	11 58 49.6	-0.1
	comp=Z,2.3nm,0.6s,baz=73,slow=5.0,SNR=9.1						
AKASG	Malin Array Be	152.56	321	PKPbc	PKPbc	11 58 51.5	-2.3
	comp=Z,0.7nm,0.5s,baz=58,slow=2.6,SNR=5.2						
BRTR	Keskin Array B	153.32	296	PKPbc	PKPbc	11 58 56.1	-0.1
	comp=Z,0.9nm,0.5s,baz=138,slow=2.6,SNR=3.4						
VYHS	Vyhne	159.20	327	*e*PKP	PKPab	11 59 35.5	+2.6
TORD	Torodi Ar. Bea	161.20	179	PKPab	PKPab	11 59 44.0	+1.7
	comp=Z,4.0nm,1.0s,baz=187,slow=3.3,SNR=5.1						
SSB	Saint Sauveur	166.62	352	*e*PKPdf	PKPdf	11 59 05.3	+2.2

*ISCJB **23** 11:40:41.9±0.6, 34°.53N±0°.03×24°.72E±0°.04, h23km±7km, Error ellipse: s-maj=5.7km s-min=5.2km az=158.1*
*CSEM **23** 11:40:43.3±0.2, 34°.59N×24°.72E, h20km, ML3.1, Error ellipse: s-maj=4.8km s-min=3.5km az=74.0*
*HLW **23** 11:40:44.0, 34°.59N×25°.16E, h24km±9km, Md3.8, Ml3.4*
*THE **23** 11:40:45.0, 34°.68N×24°.71E, h23km±1km, ML3.2/10, Error ellipse: s-maj=2.2km s-min=1.0km az=358.0*
*ATH **23** 11:40:45.2, 34°.83N×24°.74E, h38km±1km, ML3.1/6, Error ellipse: s-maj=3.0km s-min=1.2km az=348.0*
ISC 23 11:40:42.8±1.0, 34°.63N±0°.03×24°.74E±0°.02, h29km±10km, n56, σ1§11/87, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.40	9	P	Pn	11 40 52.1	-0.5
SIVA				S	Sn	11 40 58.9	-0.2
SIVA	Sivas	0.40	9	P	Pn	11 40 52.1	-0.5
SIVA				S	Sb	11 40 57.5	-0.1
SIVA				AML	AML	11 40 59.1	
	comp=E,54140μm,0.3s						
SIVA				AML	AML	11 40 59.6	
	comp=N,25539μm,0.4s						
SIVA	Sivas	0.40	9	P	Pn	11 40 52.1	-0.5
SIVA				S	Sb	11 40 57.5	-0.1
TMBK	Timbaki Herakl	0.45	3	P	Pn	11 40 52.7	-0.5
TMBK				S	Sn	11 41 00.2	-0.1
TMBK	Timbaki Herakl	0.45	3	P	Pn	11 40 52.7	-0.5
TMBK				S	Sn	11 41 00.2	-0.1
GVD	Gavdhos	0.58	292	P	Pn	11 40 56.2	+1.2
GVD				S	Sn	11 41 03.4	-0.1
GVD	Gavdhos	0.58	292	P	Pn	11 40 55.6	+0.6
GVD				S	Sn	11 41 06.2	+2.7
GVD				AML	AML	11 41 10.4	
	comp=E,8563μm,0.7s						
GVD				AML	AML	11 41 12.6	
	comp=N,8324μm,0.3s						
GVD	Gavdhos	0.58	292	P	Pn	11 40 55.6	+0.6
GVD				S	Sn	11 41 03.4	-0.1
IDI	Anoyia	0.67	11	P	Pb	11 40 55.9	-0.2
IDI				S	Sn	11 41 05.8	-0.2
IDI	Anoyia	0.67	11	P	Pn	11 40 56.5	+0.1
IDI				S	Sb	11 41 03.8	-1.4
IDI				AML	AML	11 41 06.4	
	comp=E,3596μm,0.7s						
IDI				AML	AML	11 41 08.8	
	comp=N,2563μm,0.8s						
IDI	Anoyia	0.67	11	P	Pn	11 40 56.5	+0.1
IDI				S	Sn	11 41 05.8	-0.2
IACM	Heraklion	0.73	22	P	Pn	11 40 57.3	+0.1
IACM				S	Sn	11 41 07.7	+0.4
IACM	Heraklion	0.73	22	P	Pn	11 40 57.5	+0.3
IACM				S	Sb	11 41 06.0	-0.8
IACM	Heraklion	0.73	22	P	Pn	11 40 57.5	+0.3
IACM				S	Sn	11 41 07.7	+0.4
LAST	Lasithi	0.81	49	P	Pn	11 40 59.5	+1.2
LAST				S	Sn	11 41 10.6	+1.2
LAST	Lasithi	0.81	49	P	Pn	11 40 59.4	+1.1
LAST				S	Sb	11 41 08.0	-1.1
LAST				AML	AML	11 41 15.5	
	comp=N,2736μm,0.5s						
LAST				AML	AML	11 41 15.7	
	comp=E,1229μm,0.6s						
LAST	Lasithi	0.81	49	P	Pn	11 40 59.5	+1.2
LAST				S	Sn	11 41 10.6	+1.2
VAM	Vamos	0.90	331	P	Pb	11 40 59.6	-0.2
VAM				S	Sn	11 41 12.4	+1.0
VAM	Vamos	0.90	331	P	Pb	11 40 59.5	-0.2
VAM				AML	AML	11 41 14.1	
	comp=E,2323μm,0.4s						
VAM				AML	AML	11 41 18.1	
	comp=N,2381μm,0.4s						
VAM	Vamos	0.90	331	P	Pb	11 40 59.6	-0.2
VAM				S	Sn	11 41 12.4	+1.0
NPS	Neapolis	0.96	48	P	Pn	11 41 02.2	+1.9
NPS				S	Sn	11 41 14.2	+1.2
NPS	Neapolis	0.96	48	P	Pn	11 41 02.7	+2.4
NPS				S	Sn	11 41 14.0	+1.0
NPS	Neapolis	0.96	48	P	Pn	11 41 02.2	+1.9
NPS				S	Sn	11 41 14.2	+1.2
IMMV	Iera Moni Meta	1.04	324	P	Pb	11 41 02.3	+0.1
IMMV				S	Sb	11 41 15.4	-0.1
IMMV	Iera Moni Meta	1.04	324	P	Pb	11 41 03.3	+1.1
IMMV				AML	AML	11 41 22.4	
	comp=N,1908μm,0.8s						
IMMV				AML	AML	11 41 27.1	
	comp=E,2775μm,0.5s						
IMMV	Iera Moni Meta	1.04	324	P	Pb	11 41 03.3	+1.1
IMMV				S	Sb	11 41 15.4	-0.1
ZKR	Zakros	1.31	68	P	Pb	11 41 07.7	+0.9
ZKR				S	Sb	11 41 24.1	+0.8
ZKR	Zakros	1.31	68	P	Pb	11 41 08.2	+1.4
ZKR	Zakros	1.31	68	P	Pb	11 41 07.7	+0.9
ANKY	Antikythira Is	1.71	317	P	Pb	11 41 12.5	-1.0
ANKY	Antikythira Is	1.71	317	P	Pb	11 41 12.5	-1.0
THR6	Thira Island,	1.81	17	P	Pn	11 41 13.1	+1.1
THR6	Thira Island,	1.81	17	P	Pb	11 41 14.5	-0.8
THR6	Thira Island,	1.81	17	P	Pb	11 41 14.5	-0.8
THR5	Thira Island,	1.86	15	P	Pn	11 41 13.7	+1.1
THR5	Thira Island,	1.86	15	P	Pn	11 41 13.4	+0.8
THR5	Thira Island,	1.86	15	P	Pn	11 41 13.7	+1.1
MHLO	Agia Marina, M	2.08	353	P	Pn	11 41 15.0	-0.7
KYTH	Kithira	2.14	320	P	Pb	11 41 19.0	-1.9
KARP	Karpathos	2.19	64	P	Pb	11 41 20.1	-1.7
KARP				S	Sb	11 41 46.6	-1.9
KARP	Karpathos	2.19	64	P	Pb	11 41 20.0	-1.7
KARP	Karpathos	2.19	64	P	Pb	11 41 20.0	-1.7
KARP				S	Sb	11 41 46.6	-1.9
VLI	Veliai	2.55	325	P	Pn	11 41 22.2	0.0
VLI	Veliai	2.55	325	P	Pn	11 41 22.2	0.0
SLUM	Salum	3.15	173	P	Pn	11 41 31.7	+1.3
	baz=179						
SLUM				AMP		11 42 00.0	
	comp=E,180μm,0.4s,logA/T=5.6,baz=179						
SLUM				S	Sn	11 42 06.5	-0.6
	baz=179						
SLUM	Salum	3.15	173	P	Pn	11 41 31.7	+1.3
SLUM				S	Sn	11 42 06.5	-0.6
SWA2		5.40	173	P	Pn	11 42 03.1	+1.7
	baz=177						
SWA2				S	Sn	11 43 00.8	-1.7
	baz=177						
SWA2		5.40	173	P	Pn	11 42 03.1	+1.7
SWA2				S	Sn	11 43 00.8	-1.7
GLL	Jalalah	7.76	129	P	Pn	11 42 32.8	-1.0
	baz=130						
HFRF	Wahat Farafira	8.06	157	P	Pn	11 42 38.5	+0.6
	baz=159						
HFRF	Wahat Farafira	8.06	157	P	Pn	11 42 38.5	+0.6
SUZ	Suez	8.35	123	P	Pn	11 42 40.9	-1.0
	baz=124						
GRB	Gharib	9.35	130	P	Pn	11 42 55.0	-0.6
	baz=132						
GRB	Gharib	9.35	130	P	Pn	11 42 55.0	-0.6
HHRG	Al Ghardaqah	10.58	132	P	Pn	11 43 14.4	+1

BRDA	Brd	3.48	60	P	Pb	11 45 23.3	-2.1
	SNR=3.0						
MNGR	Mingechevir, A	3.69	52	⇓P	Pb	11 45 27.4	-1.5
	SNR=4.9						
MNGR				⇑S	Sb	11 46 11.5	-2.1
ZRD	Zardab	3.83	62	⇑S	Sn	11 46 12.3	+4.7
ZRD	Zardab	3.83	62	S	Sn	11 46 12.3	+4.7
LRK	Lerik	3.99	87	⇓P	Pn	11 45 26.1	+1.1
	SNR=4.5						
LRK				⇑S	Sn	11 46 08.9	-2.8
LRK	Lerik	3.99	87	P	Pn	11 45 26.1	+1.1
	SNR=4.5						
LRK				S	Sn	11 46 08.9	-2.8
ZKTA	Zakatala	4.01	39	⇓P	Pb	11 45 34.0	-0.4
	SNR=4.7						
SEKA	Sheki	4.02	48	⇓P	Pb	11 45 33.4	-1.3
	SNR=4.4						
GLBA	Ciilabad	4.07	79	⇑P	Pn	11 45 28.2	+2.3
	SNR=3.1						
GLBA	Ciilabad	4.07	79	P	Pn	11 45 28.2	+2.3
	SNR=3.1						
QBL	Gabala	4.25	55	⇓P	Pb	11 45 34.8	-3.9
	SNR=5.4						
LKRN	Lenkeran, Azer	4.33	86	⇓P	Pn	11 45 30.6	+1.1
	SNR=4.7						
LKRN	Lenkeran, Azer	4.33	86	P	Pn	11 45 30.6	+1.1
	SNR=4.7						
ASTR	Astara	4.34	88	⇓P	Pn	11 45 30.6	+0.9
	SNR=4.1						
ASTR	Astara	4.34	88	P	Pn	11 45 30.6	+0.9
	SNR=4.1						
QUBA	Quba, Azerbaij	4.89	54	⇓P	Pn	11 45 43.6	+6.3
	SNR=4.0						
KBZ	Khabaz	5.16	357	Pn	Pn	11 45 45.2	+4.3
	0.2nm,0.3s,baz=156,slow=12,SNR=2.7						
KBZ				Pg	Pb	11 45 57.2	+3.2
	0.3nm,0.3s,baz=187,slow=13,SNR=8.3						
KBZ				Sn	Sn	11 46 45.0	+4.9
	0.2nm,0.3s,baz=188,slow=15,SNR=2.9						
KBZ	Khabaz	5.16	357	*e*Pn	Pn	11 45 45.2	+4.3
KBZ				*e*Pg	Pb	11 45 57.2	+3.2
KBZ				*e*Sn	Sn	11 46 45.0	+4.9
KIV	Kislovodsk	5.39	356	*e*Pn	Pn	11 45 47.1	+2.9
KVAR	Kislovodsk Arr	5.39	356	Pn	Pb	11 45 54.0	-4.1
	baz=231,slow=6.6,SNR=3.2						
BR101	Keskin Array S	7.56	282	*e*Pn	Pn	11 46 18.5	+4.5
BRTR	Keskin Array B	7.56	282	Pn	Pn	11 46 18.5	+4.5
	0.1nm,0.3s,baz=105,slow=13,SNR=5.6						
ILGA	Ilgaz	7.74	292	*e*Sn	Sn	11 47 41.8	-2.5
ILGA	Ilgaz	7.74	292	*e*Sn	Sn	11 47 41.8	-2.5
GEYT	Alibeck	11.71	89	Pn	Pn	11 47 15.1	+4.3
	0.2nm,0.3s,baz=289,slow=13,SNR=3.1						
IDI	Anoyia	15.04	263	*e*Pn	Pn	11 47 56.8	+0.4
	24nm,1.2s						
IDI	Anoyia	15.04	263	*e*Pn	Pn	11 47 56.8	+0.4
	24nm,1.2s						
RAYN	Ar Rayn	15.13	172	*e*Pn	Pn	11 47 55.2	-2.3
AKASG	Malin Array Be	15.67	325	Pn	Pn	11 48 04.4	0.0
	0.4nm,0.3s,baz=129,slow=12,SNR=4.8						
AKASG	Malin Array Be	15.67	325	Pn	Pn	11 48 04.4	0.0
AKBB	Malin Array Si	15.67	325	*e*Pn	Pn	11 48 05.1	+0.7
	9.5nm,1.0s						
AKBB	Malin Array Si	15.67	325	*e*Pn	Pn	11 48 05.1	+0.7
	9.5nm,1.0s						
AKTO	Aktyubinsk	15.82	37	Pn	Pn	11 48 06.0	-0.4
	0.1nm,0.3s,baz=225,slow=13,SNR=2.8						
AKTO	Aktyubinsk	15.82	37	*e*Pn	Pn	11 48 06.0	-0.4
AKTO	Aktyubinsk	15.82	37	*e*Pn	Pn	11 48 06.0	-0.4
BUR08	Bucovina Ar. S	15.97	310	*e*Pn	P	11 48 12.2	+0.3
PSZ	Piszkesteto	19.34	306	*e*P	Pn	11 48 50.9	+0.7
	14nm,1.3s						
PSZ	Piszkesteto	19.34	306	*e*P	Pn	11 48 50.9	+0.7
	14nm,1.3s						
ARU	Arti	20.56	25	P	P	11 49 01.9	-0.3
	3.2nm,0.4s,baz=234,slow=8.7,SNR=6.2						
ARU	Arti	20.56	25	*e*P	P	11 49 02.9	+0.8
	13nm,1.2s						
ARU	Arti	20.56	25	*e*P	P	11 49 02.9	+0.8
	13nm,1.2s						
KKAR	Karatay Array	21.07	69	*e*P	P	11 49 07.2	-0.7
	41nm,0.8s						
KKAR	Karatay Array	21.07	69	*e*P	P	11 49 07.2	-0.7
	41nm,0.8s						
VRAC	Vranov	21.88	308	P	P	11 49 17.5	+1.0
	2.3nm,0.7s,baz=68,slow=11,SNR=3.9						
VRAC	Vranov	21.88	308	*e*P	P	11 49 17.5	+1.0
DPC	Dobruska-Polom	22.40	310	*e*P	P	11 49 25.7	+3.5
GEC2	GERESS Array S	23.56	305	*e*P	P	11 49 34.2	0.0
	1.2nm,1.1s						
GEC2	GERESS Array S	23.56	305	*e*P	P	11 49 34.2	0.0
	1.2nm,1.1s						
GERES	GERESS Array B	23.56	305	P	P	11 49 34.2	0.0
	0.5nm,0.6s,baz=116,slow=8.9,SNR=4.4						
BVAR	Borovoye Array	23.62	43	P	P	11 49 32.6	-2.0
	0.6nm,0.6s,baz=263,slow=7.1,SNR=2.7						
BVAR	Borovoye Array	23.62	43	P	P	11 49 32.6	-2.0
KHC	Kasperske Hory	23.71	306	*e*P	P	11 49 36.3	+0.7
KHC				*ex*	x	11 50 11.5	
KHC	Kasperske Hory	23.71	306	P	P	11 49 36.3	+0.7
CLL	Collm	24.71	311	*e*P	P	11 49 46.0	+1.3
FIA0	FINESS Array S	25.25	341	*e*P	P	11 49 49.3	-0.2
FIA0	FINESS Array S	25.25	341	*e*P	P	11 49 49.3	-0.2
FINES	FINESS Array B	25.25	341	P	P	11 49 49.3	-0.2
	3.4nm,0.9s,baz=132,slow=11,SNR=5.0						
FINES	FINESS Array B	25.25	341	P	P	11 49 49.3	-0.2
SENIN	Lac Senin/Sane	27.45	298	*e*P	P	11 50 07.6	-2.3
	4.9nm,1.0s						
SENIN	Lac Senin/Sane	27.45	298	*e*P	P	11 50 07.5	-2.3
	4.9nm,1.0s						
KURBB	Kurchatov Arra	27.59	53	P	P	11 50 10.2	-0.6
	1.0nm,0.4s,baz=264,slow=9.0,SNR=4.3						
KURK	Kurchatov	27.67	52	*e*P	P	11 50 10.2	-1.2
KURK	Kurchatov	27.67	52	*e*P	P	11 50 10.2	-1.2
HFS	Hagfors	28.50	329	P	P	11 50 18.5	-0.2
	4.0nm,0.8s,baz=128,slow=9.3,SNR=3.7						
HFS	Hagfors	28.50	329	P	P	11 50 18.5	-0.2
EKA	Eskdalemuir Ar	35.07	314	P	P	11 51 17.2	+0.7
	4.9nm,0.9s,baz=106,slow=9.0,SNR=5.5						
EKA	Eskdalemuir Ar	35.07	314	*e*P	P	11 51 17.2	+0.7
ESDC	Sonseca Array	36.31	287	P	P	11 51 25.9	-1.5
	0.6nm,0.7s,baz=67,slow=7.6,SNR=4.4						
ESDC	Sonseca Array	36.31	287	*e*P	P	11 51 25.9	-1.5
TOA1	Torodi Ar. Sit	44.62	247	*e*P	P	11 52 35.6	-0.7
	12nm,1.5s						
TOA1	Torodi Ar. Sit	44.62	247	*e*P	P	11 52 35.6	-0.7
	12nm,1.5s						
TORD	Torodi Ar. Bea	44.62	247	P	P	11 52 35.6	-0.8
	0.8nm,0.9s,baz=43,slow=9.1,SNR=2.4						
CMAR	Chiang Mai Arr	52.07	96	P	P	11 53 33.5	-0.3
	1.7nm,0.9s,baz=291,slow=8.9,SNR=9.3						
BESE	Bessie Mountai	83.19	359	*e*P	P	11 56 49.7	0.0
	19nm,1.2s						
BESE	Bessie Mountai	83.19	359	*e*P	P	11 56 49.7	0.0
	19nm,1.2s						

*IDC **23** 11:45:08.0±1.2, 38°.54N×43°.15E, h0km, mb4.0/11, mb1 4.0/14, mb1mx3.8/48, mbtmp3.9/14, ML2.9/3, Error ellipse: s-maj=22.5km s-min=11.4km az=159.0*
*DDA **23** 11:45:08.8, 38°.67N×43°.12E, h8km, Md2.6*
*ISCJB **23** 11:45:09.0±0.7, 38°.67N±0°.03×43°.19E±0°.05, h12km±4km, mb4.0/14, Error ellipse: s-maj=6.5km s-min=5.5km az=4.5*
*CSEM **23** 11:45:09.3±0.2, 38°.68N×43°.19E, h2km, mb4.3/4, Error ellipse: s-maj=7.3km s-min=5.6km az=92.0*
*ISK **23** 11:45:11.7, 38°.80N×43°.07E, h28km, ML3.9*
*NEIC **23** 11:45:11.9±1.1, 38°.53N×43°.17E, h23km±9km, mb4.2/7, Error ellipse: s-maj=9.3km s-min=7.6km az=183.0*
ISC 23 11:45:09.7±1.1, 38°.69N±0°.02×43°.10E±0°.03, h4km±8km, n72, σ1°32/80, mb4.0/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.29	124	*i* P	Pg	11 45 15.2	-0.1
TVAN	Van	0.29	124	P	Pg	11 45 15.2	-0.1
GEVA	Gevas	0.38	185	*i* P	Pg	11 45 15.8	-1.2
GEVA	Gevas	0.38	185	P	Pg	11 45 15.8	-1.2
GEVA	Gevas	0.38	185	*e*Pg	Pg	11 45 17.4	+0.5
GEVA	Gevas	0.38	185	*e*Pg	Pg	11 45 17.4	+0.5
VMUR	Van-Muradiye	0.47	51	*i* P	Pg	11 45 17.4	-1.4
VMUR	Van-Muradiye	0.47	51	P	Pg	11 45 17.4	-1.4
TUTA	Tutak	0.75	343	*i* P	Pg	11 45 23.6	-0.4
TUTA				*i* S	Sg	11 45 34.7	+1.0
TUTA	Tutak	0.75	343	P	Pg	11 45 23.6	-0.4
TUTA				S	Sg	11 45 34.7	+1.0
AGRB	Hanur-Agry	0.89	355	*e*PG	Pg	11 45 26.6	-0.1
AGRB				*e*SG	Sg	11 45 38.4	+0.1
AGRB	Hanur-Agry	0.89	355	*e*Pg	Pg	11 45 26.7	-0.1
AGRB				*e*Sg	Sg	11 45 38.4	+0.1
DYDN	Diyadin	0.97	28	*i* P	Pg	11 45 27.7	-0.6
DYDN	Diyadin	0.97	28	P	Pg	11 45 27.7	-0.6
EKAR	Karacoban	0.99	305	*i* P	Pn	11 45 33.4	+2.8
EKAR	Karacoban	0.99	305	P	Pn	11 45 33.4	+2.8
EATA	Eleskirt	1.26	338	*i* P	Pg	11 45 33.8	-0.1
EATA	Eleskirt	1.26	338	P	Pg	11 45 33.8	-0.1
CUKT	Cukurca	1.49	164	*e*PN	Pg	11 45 38.9	+0.6
CUKT	Cukurca	1.49	164	*e*Pn	Pg	11 45 38.9	+0.6
SVAN	Silvan-Diyarba	1.59	251	*e*PN	Pb	11 45 39.2	-0.4
SVAN				*e*SN	Sn	11 45 58.4	-1.2
SVAN	Silvan-Diyarba	1.59	251	*e*Pn	Pb	11 45 39.2	-0.4
SVAN				*e*Sn	Sn	11 45 58.4	-1.2
BNGB	Bing˜¶l	1.92	280	*e*PN	Pn	11 45 42.7	-0.5
GNI	Garni	1.94	41	Pn	Pb	11 45 44.6	-1.0
	37nm,0.3s,baz=334,slow=20,SNR=3.9						
GNI				Sn	Sg	11 46 14.1	+2.2
	13nm,0.3s,baz=22,slow=24,SNR=2.6						
GNI	Garni	1.94	41	*e*Pn	Pg	11 45 46.9	+0.1
GNI				*e*Sn	Sg	11 46 14.1	+2.2
BINT	Bingol	2.05	276	*e*Pn	Pn	11 45 42.7	-2.4
KOPT	Kop Dagi	2.42	304	*e*Pn	Pb	11 45 52.2	-1.7
KOPT	Kop Dagi	2.42	304	*e*Pn	Pb	11 45 52.2	-1.7
ARTV	Artvin	2.65	341	*e*Pn	Pb	11 45 55.9	-1.9
ARTV	Artvin	2.65	341	*e*Pn	Pb	11 45 55.9	-1.9
BR101	Keskin Array S	7.42	281	*e*Pn	Pn	11 47 00.7	+1.8
BR101	Keskin Array S	7.42	281	*e*Pn	Pn	11 47 00.7	+1.8
BRTR	Keskin Array B	7.42	281	Pn	Pn	11 47 00.7	+1.8
	0.3nm,0.3s,baz=122,slow=19,SNR=3.3						
RAYN	Ar Rayn	15.26	172	*e*Pn	Pn	11 48 44.2	-1.8
RAYN	Ar Rayn	15.26	172	*e*Pn	Pn	11 48 44.2	-1.8
AKASG	Malin Array Be	15.51	325	Pn	Pn	11 48 47.1	-2.0
	0.3nm,0.3s,baz=134,slow=10,SNR=3.1						
AKBB	Malin Array Si	15.51	325	*e*Pn	Pn	11 48 49.5	+0.4
	9.5nm,1.0s						
AKBB	Malin Array Si	15.51	325	*e*Pn	Pn	11 48 49.5	+0.4
	9.5nm,1.0s						
AGG	Agios Georgios	16.19	278	*e*Pn	P	11 49 00.1	-1.2
	22nm,1.1s						
AGG	Agios Georgios	16.19	278	*e*Pn	P	11 49 00.1	-1.2
	22nm,1.1s						
ARU	Arti	20.50	25	P	P	11 49 48.2	-0.3
	3.5nm,0.4s,baz=209,slow=7.3,SNR=4.5						
ARU	Arti	20.50	25	*e*P	P	11 49 48.2	-0.3
	15nm,1.1s						
ARU	Arti	20.50	25	*e*P	P	11 49 48.2	-0.3
	15nm,1.1s						
VRAC	Vranov	21.71	308	P	P	11 50 02.9	+1.2
	2.2nm,0.4s,baz=87,slow=9.0,SNR=3.7						
GEC2	GERESS Array S	23.40	305	*e*P	P	11 50 20.0	+0.4
	4.3nm,1.1s						
GEC2	GERESS Array S	23.40	305	*e*P	P	11 50 20.0	+0.4
	4.3nm,1.1s						
GERES	GERESS Array B	23.40	305	P	P	11 50 20.0	+0.4
	0.4nm,0.6s,baz=110,slow=8.7,SNR=2.7						
BVAR	Borovoye Array	23.62	44	P	P	11 50 23.5	+1.9
	2.5nm,0.9s,baz=216,slow=7.1,SNR=3.7						
FIA0	FINESS Array S	25.11	341	*e*P	P	11 50 34.6	-0.6
FIA0	FINESS Array S	25.11	341	*e*P	P	11 50 34.6	-0.6
FINES	FINESS Array B	25.11	341	P	P	11 50 34.6	-0.6
	2.6nm,0.8s,baz=148,slow=13,SNR=3.3						
KURBB	Kurchatov Arra	27.61	53	P	P	11 50 56.6	-1.4
	2.9nm,0.9s,baz=262,slow=9.4,SNR=3.7						
KURK	Kurchatov	27.69	53	*e*P	P	11 50 56.6	-2.1
KURK	Kurchatov	27.69	53	*e*P	P	11 50 56.6	-2.1
HFS	Hagfors	28.34	329	P	P	11 51 04.2	-0.2
	7.4nm,0.9s,baz=155,slow=11,SNR=2.5						
NC602	NORSAR Array S	29.56	329	*e*P	P	11 51 16.6	+1.4
NC602	NORSAR Array S	29.56	329	*e*P	P	11 51 16.6	+1.4
MK32	Makanchi Array	29.65	61	*e*P	P	11 51 16.3	+0.1
MK32	Makanchi Array	29.65	61	*e*P	P	11 51 16.3	+0.1
MKAR	Makanchi Array	29.65	61	P	P	11 51 16.3	+0.1
	0.6nm,0.7s,baz=286,slow=5.4,SNR=2.7						
ARA0	ARCESS Array S	32.31	349	*e*P	P	11 51 40.5	+1.1
ARA0	ARCESS Array S	32.31	349	*e*P	P	11 51 40.5	+1.1
ARCES	ARCESS Array B	32.31	349	P	P	11 51 40.5	+1.1
	4.8nm,0.9s,baz=161,slow=9.0,SNR=5.5						
ESK	Eskdalemuir	34.93	314	*e*P	P	11 52 05.0	+2.6
	17nm,1.1s						
ESK	Eskdalemuir	34.93	314	*e*P	P	11 52 05.0	+2.6
	17nm,1.1s						
ESDC	Sonseca Array	36.17	287	P	P	11 52 13.9	+0.6
	0.8nm,0.6s,baz=71,slow=8.5,SNR=3.5						
TOA1	Torodi Ar. Sit	44.56	247	*e*P	P	11 53 21.7	-1.2
	2.5nm,0.9s						
TOA1	Torodi Ar. Sit	44.56	247	*e*P	P	11 53 21.7	-1.2
	2.5nm,0.9s						
TORD	Torodi Ar. Bea	44.56	247	P	P	11 53 21.7	-1.2
	1.3nm,0.9s,baz=46,slow=8.3,SNR=4.8						
CMAR	Chiang Mai Arr	52.19	96	P	P	11 54 19.9	-1.9
	0.9nm,0.3s,baz=301,slow=9.4,SNR=5.8						
CAST	Castle Rocks	77.51	7	*e*P	P	11 57 05.3	-0.8
	2.5nm,1.0s						
CAST	Castle Rocks	77.51	7	*e*P	P	11 57 05.3	-0.8
	2.5nm,1.0s						

*DDA **23** 11:47:23.8, 38°.78N×43°.34E, h7km, Md2.7*
*CSEM **23** 11:47:24.2±0.3, 38°.82N×43°.36E, h2km, MD2.7, Error ellipse: s-maj=7.6km s-min=4.6km az=85.0*
*ISK **23** 11:47:24.2, 38°.81N×43°.30E, h5km, ML3.5*
ISC 23 11:47:24.4±1.0, 38°.80N±0°.02×43°.33E±0°.03, h5km±11km, n37, σ0°71/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.27	45	*i* P	Pg	11 47 29.6	-0.1
VMUR				*i* S	Sg	11 47 34.1	+1.0
VMUR	Van-Muradiye	0.27	45	P	Pg	11 47 29.5	-0.1
VMUR				S	Sg	11 47 34.1	+1.0
TVAN	Van	0.28	168	*i* P	Pg	11 47 29.9	0.0
TVAN				*i* S	Sg	11 47 33.5	-0.1
TVAN	Van	0.28	168	P	Pg	11 47 29.9	0.0
TVAN				S	Sg	11 47 33.5	-0.1
GEVA	Gevas	0.54	204	*i* P	Pg	11 47 33.4	-1.3
GEVA				*i* S	Sg	11 47 42.1	+0.5
GEVA	Gevas	0.54	204	P	Pg	11 47 33.4	-1.3
GEVA				S	Sg	11 47 42.1	+0.5
TUTA	Tutak	0.72	326	*i* P	Pg	11 47 38.1	-0.1
TUTA				*i* S	Sb	11 47 49.0	-0.8
TUTA	Tutak	0.72	326	P	Pg	11 47 38.1	-0.1
TUTA				S	Sb	11 47 49.0	-0.8
DYDN	Diyadin	0.79	21	*i* P	Pg	11 47 37.7	-1.9
DYDN	Diyadin	0.79	21	P	Pg	11 47 37.7	-1.9
AGRB	Hanur-Agry	0.81	341	*e*PG	Pg	11 47 40.0	0.0
AGRB				*e*SG	Sb	11 47 51.9	-0.6
AGRB	Hanur-Agry	0.81	341	*e*Pg	Pg	11 47 40.0	0.0
AGRB				*e*Sg	Sb	11 47 51.9	-0.6
EKAR	Karacoban	1.08	295	*i* P	Pb	11 47 45.6	-0.1
EKAR	Karacoban	1.08	295	P	Pb	11 47 45.6	-0.1
EATA	Eleskirt	1.24	329	*i* P	Pg	11 47 47.9	-0.3
EATA				*i* S	Sn	11 48 07.2	+1.3
EATA	Eleskirt	1.24	329	P	Pg	11 47 47.9	-0.3
SIRN	S¨–rnak	1.49	209	*i* P	Pn	11 47 51.5	-0.3
SIRN				*i* S	Sg	11 48 13.5	+1.2
SIRN	S¨–rnak	1.49	209	P	Pn	11 47 51.5	-0.3
SIRN				S	Sg	11 48 13.5	+1.2
VRTB	Varto-Mus	1.50	284	*e*PN	Pb	11 47 52.5	-0.3
VRTB	Varto-Mus	1.50	284	*e*Pn	Pb	11 47 52.5	-0.3
CUKT	Cukurca	1.57	172	*e*PN	Pb	11 47 53.8	-0.1
CUKT				*e*SN	Sg	11 48 15.0	+0.2
CUKT	Cukurca	1.57	172	*i* P	Pg	11 47 55.0	+0.6
CUKT	Cukurca	1.57	172	*e*Pn	Pb	11 47 53.8	-0.1
CUKT	Cukurca	1.57	172	P	Pg	11 47 55.0	+0.6
CUKT				*e*Sn	Sg	11 48 15.0	+0.2
HOMI	Horasan	1.66	319	*i* P	Pb	11 47 55.6	+0.1
BNGL	BINGOL	1.71	276	*i* P	Pn	11 47 55.5	+0.6
BNGL				*i* S	Sg	11 48 20.5	+1.3
SVAN	Silvan-Diyarba	1.79	249	*e*PN	Pn	11 47 56.2	+0.2
SVAN	Silvan-Diyarba	1.79	249	*i* P	Pn	11 47 56.2	+0.2
SVAN				*i* S	Sg	11 48 22.0	0.0
SVAN	Silvan-Diyarba	1.79	249	P	Pn	11 47 56.2	+0.2
SVAN				S	Sg	11 48 22.0	0.0
BTMN	Batman	1.86	241	*i* P	Pb	11 47 58.6	-0.2
BTMN				*i* S	Sb	11 48 21.8	-0.6
BTMN	Batman	1.86	241	P	Pb	11 47 58.6	-0.2
BTMN				S	Sb	11 48 21.8	-0.6
ERZM	Erzurum	1.88	306	*i* P	Pb	11 47 59.4	+0.1
ERZM	Erzurum	1.88	306	P	Pb	11 47 59.4	+0.1
BNGB	Bing˜¶l	2.08	276	*e*PN	Pn	11 48 00.3	+0.4
BINT	Bingol	2.22	273	*e*Pn	Pn	11 48 00.3	-1.6
YEDI	Yedisu-Bingol	2.26	287	*e*PN	Pn	11 48 03.0	+0.6
YEDI	Yedisu-Bingol	2.26	287	*e*Pn	Pn	11 48 03.1	+0.6

IDC 23 11:50:13.4±3.1, 55°.48N×85°.35E, h0km, mb1 3.2/2, mb1mx3.1/56, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=29.6km s-min=18.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.57	192	*i*		11 59 25.0	
	baz=8.8,slow=326,SNR=48						
ZALV	Zalesovo Beam	1.57	192	Pn	Pn	11 50 41.3	-1.1
	1.8nm,0.3s,baz=13,slow=14,SNR=16						
ZALV				Lg	Lg	11 51 03.5	
	2.8nm,0.3s,baz=10,slow=28,SNR=23						
KURBB	Kurchatov Arra	6.37	223	Pn	Pn	11 51 48.3	-0.1
	0.1nm,0.3s,baz=42,slow=14,SNR=4.6						
BVAR	Borovoye Array	9.10	260	Pn	Pn	11 52 25.0	-0.9
	0.3nm,0.3s,baz=62,slow=14,SNR=3.7						
I34MN	SONGINO INFRAS	15.12	112	*i*		13 14 40.0	
	baz=312,slow=326,SNR=2.6						

*IDC **23** 11:54:53.1±0.8, 38°.61N×43°.53E, h0km, mb3.7/12, mb1 3.8/18, mb1mx3.6/48, mbtmp3.7/18, ML3.3/6, Error ellipse: s-maj=13.9km s-min=9.3km az=140.0*
*ISCJB **23** 11:54:54.2±0.5, 38°.66N±0°.04×43°.45E±0°.05, h13km, mb3.7/12, Error ellipse: s-maj=6.1km s-min=4.6km az=142.9*
*ISK **23** 11:54:56.1, 38°.73N×43°.20E, h9km, ML3.9*
*CSEM **23** 11:54:56.1, 38°.73N×43°.20E, h9km, ML3.9*
ISC 23 11:54:56.0±0.6, 38°.71N±0°.03×43°.37E±0°.06, h13km, n62, σ1°58/66, mb3.8/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.92	341	*e*PG	Pg	11 55 12.7	-1.0
AGRB				*e*SG	Sb	11 55 25.8	-0.2
AGRB	Hanur-Agry	0.92	341	*e*Pg	Pg	11 55 12.7	-1.0
AGRB				*e*Sg	Sb	11 55 25.8	-0.2
CUKT	Cukurca	1.47	173	*e*PN	Pb	11 55 24.3	+1.1
CUKT				*e*SN	Sg	11 55 44.6	+1.3
CUKT	Cukurca	1.47	173	*e*Pn	Pb	11 55 24.3	+1.1
CUKT				*e*Sn	Sg	11 55 44.6	+1.3
VRTB	Varto-Mus	1.56	287	*e*PN	Pn	11 55 23.0	-0.5
VRTB	Varto-Mus	1.56	287	*e*Pn	Pn	11 55 23.0	-0.5
GNI	Garni	1.79	36	Pn	Pn	11 55 26.3	-0.4
	85nm,0.3s,baz=285,slow=3.7,SNR=20						
GNI				Lg	Lg	11 55 52.1	
	192nm,0.3s,baz=341,slow=22,SNR=9.7						
SVAN	Silvan-Diyarba	1.79	253	*e*PN	Pn	11 55 26.5	-0.1
SVAN	Silvan-Diyarba	1.79	253	*e*Pn	Pn	11 55 26.5	-0.1
SENK	Senkaya-Erzuru	2.01	337	*e*PN	Pn	11 55 30.0	+0.2
SENK	Senkaya-Erzuru	2.01	337	*e*Pn	Pn	11 55 30.0	+0.2
BNGB	Bing˜¶l	2.12	279	*e*PN	Pn	11 55 30.8	-0.4
BINT	Bingol	2.26	275	*e*Pn	Pn	11 55 30.8	-2.3
YEDI	Yedisu-Bingol	2.32	289	*e*PN	Pn	11 55 33.9	-0.1
YEDI	Yedisu-Bingol	2.32	289	*e*Pn	Pn	11 55 33.9	-0.1
MAZI	Mazidag	2.62	243	*e*PN	Pn	11 55 38.2	+0.1
MAZI	Mazidag	2.62	243	*e*Pn	Pn	11 55 38.2	+0.1
AKH	Akhalkalaki	2.70	2	*e*PN	Pn	11 55 40.8	+1.5
AKH	Akhalkalaki	2.70	2	*e*Pn	Pn	11 55 40.8	+1.5
ERZN	Erzincan	2.97	288	*e*PN	Pn	11 55 42.9	0.0
PTK	Pertek	3.11	275	*e*PN	Pn	11 55 44.7	-0.3
PTK	Pertek	3.11	275	*e*Pn	Pn	11 55 44.7	-0.3
TBLG	Delisi	3.20	19	*e*PN	Pn	11 55 48.1	+2.2
TBLG	Delisi	3.20	19	P	Pn	11 55 42.2	-3.8
TBLG	Delisi	3.20	19	*e*Pn	Pn	11 55 48.2	+2.2
SVRC	Sivrice-ELAZID	3.20	265	*e*PN	Pn	11 55 46.4	+0.2
SVRC	Siv

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.29**	**157**	*i* P	**Pg**	**11 57 42.8**	**+0.4**
TVAN				*i* S	**Sg**	**11 57 47.4**	**+1.2**
TVAN	**Van**	**0.29**	**157**	P	**Pg**	**11 57 42.8**	**+0.4**
TVAN				S	**Sg**	**11 57 47.4**	**+1.2**
VMUR	**Van-Muradiye**	**0.31**	**51**	*i* P	**Pg**	**11 57 42.6**	**-0.2**
VMUR				*i* S	**Sb**	**11 57 48.5**	**-1.7**
VMUR	**Van-Muradiye**	**0.31**	**51**	P	**Pg**	**11 57 42.6**	**-0.2**
GEVA	**Gevas**	**0.51**	**199**	*i* P	**Pg**	**11 57 43.4**	**-3.1**
GEVA				*i* S	**Sg**	**11 57 52.7**	**-0.4**
TUTA	**Tutak**	**0.70**	**330**	*i* P	**Pg**	**11 57 50.0**	**-0.3**
TUTA				*i* S	**Sb**	**11 58 00.6**	**-0.9**
TUTA	**Tutak**	**0.70**	**330**	P	**Pg**	**11 57 50.0**	**-0.3**
TUTA				S	**Sb**	**11 58 00.6**	**-0.9**
AGRB	**Hanur-Agry**	**0.81**	**345**	*e*PG	**Pg**	**11 57 51.6**	**-0.7**
AGRB				*e*SG	**Sb**	**11 58 03.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.81**	**345**	*e*Pg	**Pg**	**11 57 51.6**	**-0.7**
AGRB				*e*Sg	**Sb**	**11 58 03.8**	**-0.7**
DYDN	**Diyadin**	**0.82**	**24**	*i* P	**Pg**	**11 57 51.6**	**-0.9**
DYDN				*i* S	**Sb**	**11 58 04.1**	**-0.7**
DYDN	**Diyadin**	**0.82**	**24**	P	**Pg**	**11 57 51.6**	**-0.9**
DYDN				S	**Sb**	**11 58 04.1**	**-0.7**
EATA	**Eleskirt**	**1.22**	**331**	*i* P	**Pg**	**11 57 60.0**	**-0.2**
EATA				*i* S	**Sn**	**11 58 18.4**	**+0.8**
EATA	**Eleskirt**	**1.22**	**331**	P	**Pg**	**11 58 00.0**	**-0.2**
EATA				S	**Sn**	**11 58 18.4**	**+0.8**
VRTB	**Varto-Mus**	**1.46**	**285**	*e*PN	**Pb**	**11 58 04.3**	**0.0**
VRTB	**Varto-Mus**	**1.46**	**285**	*e*Pn	**Pb**	**11 58 04.3**	**0.0**
CUKT	**Cukurca**	**1.57**	**170**	*e*PN	**Pb**	**11 58 05.8**	**-0.3**
CUKT	**Cukurca**	**1.57**	**170**	*e*Pn	**Pb**	**11 58 05.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.74**	**249**	*e*PN	**Pb**	**11 58 08.8**	**-0.3**
SVAN				*e*SN	**Sb**	**11 58 31.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.74**	**249**	*e*Pn	**Pb**	**11 58 08.8**	**-0.3**
SVAN				*e*Sn	**Sb**	**11 58 31.9**	**+0.7**
BNGB	**Bing¶ll**	**2.03**	**276**	*e*PN	**Pn**	**11 58 12.3**	**+0.9**
BINT	**Bingol**	**2.17**	**273**	*e*Pn	**Pn**	**11 58 12.4**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.21**	**288**	*e*PN	**Pn**	**11 58 15.4**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.21**	**288**	*e*Pn	**Pn**	**11 58 15.4**	**+1.3**

IDC 23 11:58:19.6±12.0, 20.°30S×178.°68W, h580km±120km, mb3.1/6, mb1 3.3/6, mb1mx2.9/38, mbtmp4.1/6, Error ellipse: s-maj=124.5km s-min=46.7km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.87**	**264**	P	P	12 04 07.9	+0.8
	4.6nm,0.4s,baz=96,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**37.30**	**244**	P	P	12 04 42.8	-0.8
	0.8nm,0.4s,baz=87,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**43.94**	**257**	P	P	12 05 36.1	-0.4
	1.8nm,0.6s,baz=90,slow=8.6,SNR=56						
ASAR				PcP	PcP	12 07 10.0	+0.6
	0.3nm,0.6s,baz=104,slow=3.4,SNR=4.9						
WRA	**Warramunga Arr**	**43.99**	**262**	P	P	12 05 36.5	-0.4
	1.2nm,0.3s,baz=96,slow=7.6,SNR=43						
FITZ	**Fitzroy Crossi**	**52.42**	**262**	P	P	12 06 39.4	0.0
	1.4nm,0.7s,baz=146,slow=3.6,SNR=2.3						
ILAR	**Eielson Array**	**88.27**	**13**	P	P	12 10 09.5	+0.1
	0.2nm,0.5s,baz=224,slow=6.3,SNR=5.4						
AKASG	**Malin Array Be**	**142.53**	**331**	PKP	PKPdf	12 16 45.3	-1.7
	1.2nm,0.4s,baz=41,slow=4.4,SNR=5.6						

IDC 23 12:01:01.6±9.0, 19.°60S×178.°54W, h616km±105km, mb2.8/5, mb1 3.1/5, mb1mx2.7/36, mbtmp3.8/5, Error ellipse: s-maj=98.8km s-min=35.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.22**	**261**	P	P	12 08 18.0	-0.3
	0.8nm,0.3s,baz=96,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**44.23**	**256**	P	P	12 08 17.9	-0.4
	1.5nm,0.5s,baz=89,slow=8.0,SNR=31						
ASAR				PcP	PcP	12 09 49.4	+0.4
	0.3nm,0.5s,baz=103,slow=4.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	**52.64**	**262**	P	P	12 09 20.9	+0.5
	0.6nm,0.6s,baz=97,slow=8.1,SNR=4.0						
TXAR	**Lajitas Array**	**87.01**	**58**	P	P	12 12 42.8	-0.5
	0.2nm,0.6s,baz=212,slow=6.4,SNR=3.4						
ILAR	**Eielson Array**	**87.56**	**13**	P	P	12 12 45.3	+0.4
	0.4nm,0.6s,baz=214,slow=5.8,SNR=10						
AKASG	**Malin Array Be**	**141.99**	**331**	PKP	PKPdf	12 19 21.9	-2.5
	0.3nm,0.4s,baz=38,slow=4.0,SNR=7.2						

MOS ***23*** *12:03:08.4±1.3, 38.°44N×43.°19E, h15km, mb4.5/23, Error ellipse: s-maj=8.2km s-min=5.0km az=106.5*
BJI ***23*** *12:03:08.9, 38.°60N×43.°30E, h20km, mb4.5/20, Ms5.0/3, Ms7 4.9/3*
DDA ***23*** *12:03:09.8, 38.°65N×43.°20E, h24km, Ml3.7*
IDC ***23*** *12:03:09.0±0.8, 38.°70N×43.°30E, h0km, mb4.0/15, mb1 4.0/19, mb1mx3.9/55, mbtmp4.0/19, ML3.1/4, Error ellipse: s-maj=15.9km s-min=10.6km az=175.0*
AZER ***23*** *12:03:10.2±1.1, 38.°60N×43.°31E, h18km±24km, Error ellipse: s-maj=26.7km s-min=4.7km az=69.0*
ISCJB ***23*** *12:03:10.4±0.4, 38.°66N±0.°02×43.°34E±0.°02, h21km±3km, mb4.4/51, MS5.0/2, Error ellipse: s-maj=3.3km s-min=1.9km az=170.7*
NEIC ***23*** *12:03:10.0±0.0, 38.°70N×43.°14E, h7km, mb4.7/26, ML4.6(DDA), After DDA.*
CSEM ***23*** *12:03:10.5±0.1, 38.°70N×43.°30E, h10km, mb4.5/34, Error ellipse: s-maj=3.8km s-min=2.3km az=177.0*
ISK ***23*** *12:03:10.0, 38.°79N×43.°15E, h5km, ML4.2*
TEH ***23*** *12:03:16.0, 38.°58N×43.°64E, h10km, ML4.2*
ISC 23 12:03:11.5±0.6, 38.°68N±0.°02×43.°27E±0.°02, h20km±2km, n354, σ1§38/419, mb4.5/52, 49C-34D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.18**	**144**	*i* P	**Pg**	**12 03 16.6**	**-0.1**
TVAN				*i* S	**Sg**	**12 03 21.1**	**+0.9**
TVAN	**Van**	**0.18**	**144**	P	**Pg**	**12 03 16.6**	**-0.1**
TVAN				S	**Sg**	**12 03 21.1**	**+0.9**
TVAN	**Van**	**0.18**	**144**	P	**Pb**	**12 03 13.2**	**-2.9**
TVAN				S	**Sg**	**12 03 20.5**	**+0.4**
VMUR	**Van-Muradiye**	**0.39**	**37**	*i* P	**Pg**	**12 03 17.1**	**-2.8**
VMUR				*i* S	**Sb**	**12 03 25.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.39**	**37**	P	**Pg**	**12 03 17.3**	**-2.6**
VMUR				S	**Sb**	**12 03 25.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.39**	**37**	P	**Pg**	**12 03 17.3**	**-2.6**
VMUR				S	**Sb**	**12 03 25.5**	**-0.1**
GEVA	**Gevas**	**0.40**	**204**	*i* P	**Pg**	**12 03 16.6**	**-3.5**
GEVA				*i* S	**Sg**	**12 03 22.5**	**-3.3**
GEVA	**Gevas**	**0.40**	**204**	P	**Pg**	**12 03 16.6**	**-3.5**
GEVA				S	**Sg**	**12 03 22.5**	**-3.3**
TUTA	**Tutak**	**0.80**	**334**	P	Pb	12 03 22.0	-5.0
TUTA	**Tutak**	**0.80**	**334**	P	Pb	12 03 22.0	-5.0
BASK	**Baskale_VAN**	**0.85**	**137**	*i* P	**Pb**	**12 03 26.2**	**-1.6**
BASK				*i* S	**Sg**	**12 03 39.4**	**-0.2**
BASK	**Baskale_VAN**	**0.85**	**137**	P	**Pb**	**12 03 26.2**	**-1.6**
BASK				S	**Sg**	**12 03 39.4**	**-0.2**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*PG	**Pb**	**12 03 25.9**	**-3.1**
AGRB				*e*SG	**Sb**	**12 03 38.7**	**-2.1**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*Pg	**Pb**	**12 03 25.9**	**-3.1**
AGRB				*e*Sg	**Sb**	**12 03 38.7**	**-2.1**
DYDN	**Diyadin**	**0.92**	**21**	*i* P	**Pb**	**12 03 27.7**	**-1.3**
DYDN				*i* S	**Sn**	**12 03 43.9**	**+1.4**
DYDN	**Diyadin**	**0.92**	**21**	P	**Pb**	**12 03 27.7**	**-1.3**
DYDN	**Diyadin**	**0.92**	**21**	P	**Pb**	**12 03 27.6**	**-1.3**
EKAR	**Karacoban**	**1.10**	**302**	*i* P	**Pb**	**12 03 31.5**	**-0.6**
EKAR				*i* S	**Sg**	**12 03 50.1**	**+2.6**
EKAR	**Karacoban**	**1.10**	**302**	P	**Pb**	**12 03 32.0**	**-0.1**
EKAR	**Karacoban**	**1.10**	**302**	P	**Pb**	**12 03 32.0**	**-0.1**
EATA	**Eleskirt**	**1.33**	**333**	*i* P	**Pn**	**12 03 33.5**	**-1.7**
EATA				*i* S	**Sn**	**12 03 50.1**	**-2.4**
EATA	**Eleskirt**	**1.33**	**333**	P	**Pn**	**12 03 33.5**	**-1.7**
EATA				S	**Sn**	**12 03 50.1**	**-2.4**
EATA	**Eleskirt**	**1.33**	**333**	P	**Pn**	**12 03 33.5**	**-1.7**
SIRN	**S¨¨rnak**	**1.36**	**210**	*i* P	**Pn**	**12 03 35.8**	**+0.3**
SIRN				*i* S	**Sn**	**12 03 52.8**	**-0.2**
SIRN	**S¨¨rnak**	**1.36**	**210**	P	**Pn**	**12 03 35.8**	**+0.3**
SIRN				S	**Sn**	**12 03 52.8**	**-0.2**
SIRN	**S¨¨rnak**	**1.36**	**210**	P	**Pn**	**12 03 35.8**	**+0.3**
CUKT	**Cukurca**	**1.46**	**169**	*e*PN	**Pg**	**12 03 40.5**	**+0.8**
CUKT	**Cukurca**	**1.46**	**169**	*e*Pn	**Pg**	**12 03 40.5**	**+0.8**
VRTB	**Varto-Mus**	**1.49**	**289**	*e*PN	**Pn**	**12 03 36.8**	**-0.6**
VRTB				*e*SN	**Sb**	**12 03 57.7**	**+0.4**
VRTB	**Varto-Mus**	**1.49**	**289**	*e*Pn	**Pn**	**12 03 36.8**	**-0.6**
VRTB				*e*Sn	**Sb**	**12 03 57.7**	**+0.4**
BNGL	**BINGOL**	**1.68**	**280**	*i* P	**Pn**	**12 03 39.7**	**-0.3**
BNGL	**BINGOL**	**1.68**	**280**	P	**Pn**	**12 03 39.7**	**-0.3**
BNGL	**BINGOL**	**1.68**	**280**	P	**Pn**	**12 03 39.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*e*PN	**Pn**	**12 03 40.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*i* P	**Pn**	**12 03 40.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*e*Pn	**Pn**	**12 03 40.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	P	**Pn**	**12 03 40.3**	**+0.1**
HOMI	**Horasan**	**1.73**	**323**	*i* P	**Pn**	**12 03 40.9**	**+0.2**
HOMI	**Horasan**	**1.73**	**323**	P	**Pn**	**12 03 40.9**	**+0.2**
HOMI	**Horasan**	**1.73**	**323**	P	**Pn**	**12 03 40.9**	**+0.2**
DIGO	**Kars**	**1.73**	**3**	*i* P	**Pn**	**12 03 41.5**	**+0.7**
DIGO	**Kars**	**1.73**	**3**	P	**Pn**	**12 03 41.5**	**+0.7**
DIGO	**Kars**	**1.73**	**3**	P	**Pn**	**12 03 41.5**	**+0.7**
BTMN	**Batman**	**1.76**	**244**	*i* P	**Pn**	**12 03 41.4**	**+0.4**
BTMN	**Batman**	**1.76**	**244**	P	**Pn**	**12 03 41.4**	**+0.4**
NAX	**Nakhchivan**	**1.81**	**73**	⇑P	**Pn**	**12 03 40.3**	**-1.3**
NAX				⇑S	**Sn**	**12 04 03.5**	**-0.5**
NAX	**Nakhchivan**	**1.81**	**73**	P	**Pn**	**12 03 40.3**	**-1.3**
NAX				S	**Sn**	**12 04 03.5**	**-0.5**
GNI	**Garni**	**1.86**	**37**	Pn	**Pb**	**12 03 43.8**	**-1.1**
	68nm,0.3s,baz=308,slow=9.5,SNR=15						
ISHB	**Shabestar**	**1.89**	**101**	*e*Pn	**Pn**	**12 03 43.7**	**+0.8**
ISHB				*e*AMB	AMB	12 04 29.4	
	comp=Z,42μm,0.3s						
ISHB	**Shabestar**	**1.89**	**101**	Pn	**Pn**	**12 03 43.7**	**+0.8**
ISHB	**Shabestar**	**1.89**	**101**	Pn	**Pn**	**12 03 43.7**	**+0.8**
IMRD	**Marand**	**1.91**	**88**	*e*Pn	**Pb**	**12 03 44.9**	**-0.8**
IMRD				*e*AMB	AMB	12 04 29.4	
	comp=Z,6μm,0.3s						
IMRD	**Marand**	**1.91**	**88**	*e*Pn	**Pb**	**12 03 44.9**	**-0.8**
IMRD	**Marand**	**1.91**	**88**	Pn	**Pb**	**12 03 44.9**	**-0.8**
ERZM	**Erzurum**	**1.92**	**310**	*i* P	**Pn**	**12 03 43.9**	**+0.6**
ERZM	**Erzurum**	**1.92**	**310**	P	**Pn**	**12 03 43.9**	**+0.6**
ERZM	**Erzurum**	**1.92**	**310**	P	**Pn**	**12 03 43.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*PN	**Pn**	**12 03 44.5**	**0.0**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*Pn	**Pn**	**12 03 44.6**	**0.0**
ECAT	**Cat-ERZURUM**	**2.01**	**298**	*i* P	**Pn**	**12 03 44.3**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.01**	**298**	P	**Pn**	**12 03 44.3**	**-0.2**
EAK	**Akyaka**	**2.02**	**7**	*i* P	**Pb**	**12 03 48.5**	**+0.8**
BNGB	**Bing¶ll**	**2.05**	**280**	*e*PN	**Pn**	**12 03 45.6**	**+0.7**
BINT	**Bingol**	**2.18**	**276**	*e*Pn	**Pn**	**12 03 45.6**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*PN	**Pn**	**12 03 47.9**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*Pn	**Pn**	**12 03 47.9**	**+0.1**
ITBZ	**Tabriz**	**2.30**	**100**	*e*Pn	**Pn**	**12 03 49.3**	**+0.8**
ITBZ				*e*AMB	AMB	12 04 47.7	
	comp=Z,9μm,0.4s						
ITBZ	**Tabriz**	**2.30**	**100**	*e*Pn	**Pn**	**12 03 49.3**	**+0.8**
ITBZ	**Tabriz**	**2.30**	**100**	Pn	**Pn**	**12 03 49.3**	**+0.8**
MARD	**Mardin**	**2.39**	**236**	*i* P	**Pn**	**12 03 51.7**	**+1.9**
MARD	**Mardin**	**2.39**	**236**	*e*Pn	**Pn**	**12 03 50.8**	**+1.1**
MARD	**Mardin**	**2.39**	**236**	*e*Pn	**Pn**	**12 03 50.8**	**+1.1**
DDEM	**Demirkent**	**2.50**	**333**	*i* P	**Pb**	**12 03 55.1**	**-0.8**
KOPT	**Kop Dagi**	**2.53**	**303**	*i* P	**Pb**	**12 03 55.9**	**-0.6**
KOPT	**Kop Dagi**	**2.53**	**303**	*e*Pn	**Pb**	**12 03 55.0**	**-1.4**
KOPT	**Kop Dagi**	**2.53**	**303**	*e*Pn	**Pb**	**12 03 55.0**	**-1.4**
MAZI	**Mazidag**	**2.54**	**242**	*e*PN	**Pn**	**12 03 53.5**	**+1.8**
MAZI	**Mazidag**	**2.54**	**242**	*e*Pn	**Pn**	**12 03 53.5**	**+1.8**
DAGI	**Agilar**	**2.61**	**337**	*i* P	**Pb**	**12 03 57.0**	**-0.7**
ARTV	**Artvin**	**2.71**	**338**	*i* P	**Pn**	**12 03 54.5**	**+0.4**
ARTV	**Artvin**	**2.71**	**338**	P	**Pn**	**12 03 54.5**	**+0.4**
ARTV	**Artvin**	**2.71**	**338**	*e*Pn	**Pn**	**12 03 54.5**	**+0.4**
AKH	**Akhalkalaki**	**2.73**	**4**	*e*PN	**Pn**	**12 03 55.9**	**+1.5**
AKH	**Akhalkalaki**	**2.73**	**4**	P	**Pb**	**12 04 00.2**	**+0.3**
AKH	**Akhalkalaki**	**2.73**	**4**	P	**Pb**	**12 04 00.1**	**+0.3**
AKH	**Akhalkalaki**	**2.73**	**4**	*e*Pn	**Pn**	**12 03 55.9**	**+1.5**
GDB	**GEDABAY**	**2.80**	**42**	⇓P	**Pn**	**12 03 55.0**	**-0.3**
GDB				⇓S	**Sn**	**12 04 30.0**	**+1.4**
GDB	**GEDABAY**	**2.80**	**42**	P	**Pn**	**12 03 55.0**	**-0.3**
GDB				S	**Sn**	**12 04 30.0**	**+1.4**
QZX	**Qazax, Azerbai**	**2.87**	**34**	⇓P	**Pn**	**12 03 56.0**	**-0.2**
QZX				⇑S	**Sn**	**12 04 31.7**	**+1.4**
QZX	**Qazax, Azerbai**	**2.87**	**34**	P	**Pn**	**12 03 56.0**	**-0.2**
QZX				S	**Sn**	**12 04 31.7**	**+1.4**
ERZN	**Erzincan**	**2.90**	**289**	*e*PN	**Pn**	**12 03 57.0**	**+0.3**
IHRS	**Heris**	**2.98**	**96**	*e*Pn	**Pn**	**12 03 59.4**	**+1.5**
IHRS				*e*AMB	AMB	12 04 51.4	
	comp=Z,7μm,0.2s						
IHRS	**Heris**	**2.98**	**96**	Pn	**Pn**	**12 03 59.3**	**+1.4**
IHRS	**Heris**	**2.98**	**96**	Pn	**Pn**	**12 03 59.3**	**+1.4**
IBST	**Bostanabad**	**3.02**	**108**	*e*Pn	**Pn**	**12 03 59.9**	**+1.5**
IBST				*e*AMB	AMB	12 04 52.3	
	comp=Z,5μm,0.4s						
IBST	**Bostanabad**	**3.02**	**108**	Pn	**Pn**	**12 03 59.8**	**+1.4**
IBST	**Bostanabad**	**3.02**	**108**	Pn	**Pn**	**12 03 59.8**	**+1.4**
PTK	**Pertek**	**3.04**	**275**	*e*PN	**Pn**	**12 03 59.0**	**+0.4**
PTK	**Pertek**	**3.04**	**275**	*e*Pn	**Pn**	**12 03 59.1**	**+0.4**
GANJ	**Ganja**	**3.07**	**49**	⇑P	**Pn**	**12 03 58.5**	**-0.4**
GANJ				⇓S	**Sn**	**12 04 36.1**	**+1.0**
GANJ	**Ganja**	**3.07**	**49**	P	**Pn**	**12 03 58.5**	**-0.4**
GANJ				S	**Sn**	**12 04 36.1**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.12**	**266**	*e*PN	**Pn**	**12 04 01.6**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.12**	**266**	*e*Pn	**Pn**	**12 04 01.6**	**+1.8**
EZC	**Erzincan**	**3.22**	**291**	*e*Pn	**Pn**	**12 03 57.0**	**-4.2**
TBLG	**Delisi**	**3.25**	**20**	*e*PN	**Pn**	**12 04 02.5**	**+1.1**
TBLG	**Delisi**	**3.25**	**20**	P	**Pb**	**12 04 08.6**	**+0.1**
TBLG	**Delisi**	**3.25**	**20**	P	**Pb**	**12 04 08.6**	**+0.1**
TBLG	**Delisi**	**3.25**	**20**	*e*Pn	**Pn**	**12 04 02.5**	**+1.1**
BRDA	**Brd**	**3.41**	**61**	⇓P	**Pn**	**12 04 02.7**	**-0.9**
BRDA				⇓S	**Sn**	**12 04 43.7**	**+0.2**
BRDA	**Brd**	**3.41**	**61**	P	**Pn**	**12 04 02.7**	**-0.9**
BRDA				S	**Sn**	**12 04 43.7**	**+0.2**
KTUT	**Trabzon**	**3.55**	**312**	*e*PN	**Pn**	**12 04 06.6**	**+1.2**
KTUT	**Trabzon**	**3.55**	**312**	*e*Pn	**Pn**	**12 04 06.6**	**+1.2**
ISRB	**Sarab**	**3.57**	**102**	*e*Sn	**Sn**	**12 04 44.4**	**-3.2**
ISRB				*e*Pn	**Pn**	**12 04 07.7**	**+1.8**
ISRB				*e*AMB	AMB	12 05 07.1	
	comp=Z,4μm,0.3s						
MNGR	**Mingechevir, A**	**3.61**	**53**	⇓P	**Pn**	**12 04 05.7**	**-0.6**
MNGR				⇓S	**Sn**	**12 04 49.1**	**+0.7**
MNGR	**Mingechevir, A**	**3.61**	**53**	P	**Pn**	**12 04 05.7**	**-0.6**
MNGR				S	**Sn**	**12 04 49.1**	**+0.7**
URFA	**Urfa**	**3.72**	**252**	*e*PN	**Pn**	**12 04 09.7**	**+1.7**
URFA	**Urfa**	**3.72**	**252**	*e*Pn	**Pn**	**12 04 09.7**	**+1.7**
ZRD	**Zardab**	**3.77**	**64**	⇓P	**Pn**	**12 04 07.6**	**-1.0**
ZRD				⇓S	**Sn**	**12 04 52.4**	**+0.1**
ZRD	**Zardab**	**3.77**	**64**	P	**Pn**	**12 04 07.6**	**-1.0**
ZRD				S	**Sn**	**12 04 52.4**	**+0.1**
ONI	**Oni**	**3.91**	**2**	P	**Pn**	**12 04 12.0**	**+1.5**
ONI	**Oni**	**3.91**	**2**	P	Pn	12 04 00.1	-10
ZKTA	**Zakatala**	**3.92**	**40**	⇑P	**Pn**	**12 04 10.3**	**-0.2**
ZKTA				⇑S	**Sn**	**12 04 57.5**	**+1.5**
SEKA	**Sheki**	**3.94**	**49**	⇑P	**Pn**	**12 04 11.1**	**+0.2**
SEKA				⇓S	**Sn**	**12 04 58.8**	**+2.2**
SEKA	**Sheki**	**3.94**	**49**	P	**Pn**	**12 04 11.1**	**+0.2**
SEKA				S	**Sn**	**12 04 58.8**	**+2.2**
LRK	**Lerik**	**3.97**	**89**	⇑P	**Pn**	**12 04 09.6**	**-1.9**
LRK				⇓S	**Sn**	**12 04 56.1**	**-1.4**
LRK	**Lerik**	**3.97**	**89**	P	**Pn**	**12 04 09.6**	**-1.9**
LRK				S	**Sn**	**12 04 56.1**	**-1.4**
GLBA	**Clilabad**	**4.03**	**80**	⇑P	**Pn**	**12 04 10.7**	**-1.5**
GLBA				⇓S	**Sn**	**12 04 58.2**	**-0.6**
GLBA	**Clilabad**	**4.03**	**80**	P	**Pn**	**12 04 10.7**	**-1.5**
GLBA				S	**Sn**	**12 04 58.2**	**-0.6**
ZEI	**Tsey**	**4.13**	**6**	*e*P	**Pn**	**12 04 15.3**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,37nm,0.9s						
KDMR	**Kurdemir**	**4.16**	**64**	⇓P	**Pn**	**12 04 12.9**	**-1.0**
KDMR				⇓S	**Sn**	**12 05 02.0**	**+0.1**
KDMR	**Kurdemir**	**4.16**	**64**	P	**Pn**	**12 04 12.9**	**-1.0**
KDMR				S	**Sn**	**12 05 02.0**	**+0.1**
SAAT	**Saatly**	**4.17**	**72**	⇓P	**Pn**	**12 04 12.4**	**-1.6**
SAAT				⇑S	**Sn**	**12 05 01.2**	**-1.0**
SAAT	**Saatly**	**4.17**	**72**	P	**Pn**	**12 04 12.4**	**-1.6**
SAAT				S	**Sn**	**12 05 01.2**	**-1.0**
QBL	**Gabala**	**4.18**	**56**	⇑P	**Pn**	**12 04 13.5**	**-0.8**
QBL				⇑S	**Sn**	**12 05 03.0**	**+0.4**
QBL	**Gabala**	**4.18**	**56**	P	**Pn**	**12 04 13.5**	**-0.8**
QBL				S	**Sn**	**12 05 03.0**	**+0.4**
LKRN	**Lenkeran, Azer**	**4.31**	**88**	⇑P	**Pn**	**12 04 14.3**	**-1.7**
LKRN				⇓S	**Sn**	**12 05 04.6**	**-1.0**
LKRN	**Lenkeran, Azer**	**4.31**	**88**	P	**Pn**	**12 04 14.3**	**-1.7**
LKRN				S	**Sn**	**12 05 04.6**	**-1.0**
ASTR	**Astara**	**4.33**	**90**	⇑P	**Pn**	**12 04 14.4**	**-1.8**
ASTR				⇑S	**Sn**	**12 05 04.9**	**-1.2**
ASTR	**Astara**	**4.33**	**90**	P	**Pn**	**12 04 14.4**	**-1.8**
ASTR				S	**Sn**	**12 05 04.9**	**-1.2**
IML	**Ismayilli**	**4.34**	**59**	⇑P	**Pn**	**12 04 15.4**	**-1.0**
IML				⇑S	**Sn**	**12 05 06.6**	**+0.2**
IML	**Ismayilli**	**4.34**	**59**	P	**Pn**	**12 04 15.4**	**-1.0**
IML				S	**Sn**	**12 05 06.6**	**+0.2**
XNQ	**Khinaliq**	**4.50**	**55**	⇑P	**Pn**	**12 04 17.8**	**-0.9**
XNQ				⇓S	**Sn**	**12 05 10.9**	**+0.3**
XNQ	**Khinaliq**	**4.50**	**55**	P	**Pn**	**12 04 17.8**	**-0.9**
XNQ				S	**Sn**	**12 05 10.9**	**+0.3**
DARE	**Darende-Malaty**	**4.53**	**270**	*e*PN	**Pn**	**12 04 21.3**	**+2.2**
DARE	**Darende-Malaty**	**4.53**	**270**	*e*Pn	**Pn**	**12 04 21.3**	**+2.2**
NEY	**Neytrino**	**4.58**	**355**	⇓*e*P	Pn	12 04 25.0	+5.1
PQL	**Pirkuli**	**4.61**	**61**	⇓P	**Pn**	**12 04 19.2**	**-1.1**
PQL				⇓S	**Sn**	**12 05 13.3**	**-0.1**
PQL	**Pirkuli**	**4.61**	**61**	P	**Pn**	**12 04 19.2**	**-1.1**
PQL				S	**Sn**	**12 05 13.3**	**-0.1**
ALIB	**Äli-Bayra**	**4.63**	**72**	⇑P	**Pn**	**12 04 19.1**	**-1.2**
ALIB				⇓S	**Sn**	**12 05 13.2**	**-0.3**
ALIB	**Äli-Bayra**	**4.63**	**72**	P	**Pn**	**12 04 19.1**	**-1.2**
ALIB				S	**Sn**	**12 05 13.2**	**-0.3**
IDHR	**Dehrash**	**4.70**	**147**	*e*Pn	**Pn**	**12 04 23.2**	**+1.7**
IDHR				*e*AMB	AMB	12 06 40.1	
	comp=Z,8μm,0.9s						
IDHR	**Dehrash**	**4.70**	**147**	*e*Pn	**Pn**	**12 04 23.2**	**+1.7**
IDHR	**Dehrash**	**4.70**	**147**	Pn	**Pn**	**12 04 23.2**	**+1.7**
GBS	**Qobustan**	**4.76**	**65**	⇑P	**Pn**	**12 04 21.0**	**-1.2**
GBS				⇑S	**Sn**	**12 05 16.7**	**-0.1**
GBS	**Qobustan**	**4.76**	**65**	P	**Pn**	**12 04 21.0**	**-1.2**
GBS				S	**Sn**	**12 05 16.7**	**-0.1**
QSAR	**Qusar**	**4.76**	**52**	⇑P	**Pn**	**12 04 21.5**	**-0.8**
QSAR				⇑S	**Sn**	**12 05 17.5**	**+0.6**
QSAR	**Qusar**	**4.76**	**52**	P	**Pn**	**12 04 21.5**	**-0.8**
QSAR				S	**Sn**	**12 05 17.5**	**+0.6**
NCK	**Nalchik**	**4.82**	**3**	⇑*e*P	**Pn**	**12 04 26.9**	**+3.9**
NCK	**Nalchik**	**4.82**	**3**	*e*

OJC	**Ojcow**	20.25	312	*e*P		Pn	12 07 47.0 -0.5
	comp=Z,48nm,2.0s						
OJC	**Ojcow**	20.25	312	*e*P		Pn	12 07 47.0 -0.4
	comp=Z,48nm,2.0s						
ARU	**Arti**	20.45	25	P		Pn	12 07 48.7 -1.0
	comp=Z,4.8nm,0.4s,baz=253,slow=5.6,SNR=8.3						
ARU	**Arti**	20.45	25	*d i*P		Pn	12 07 48.8 -1.0
ARU							12 08 06.2
ARU				S		Sn	12 11 41.6 +2.0
ARU				SS		**PcP**	**12 12 00.0 +1.0**
ARU				pmax		pmax	
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	20.45	25	*e*P		**P**	**12 07 48.2 +0.6**
	comp=Z,29nm,1.0s						
ARU	**Arti**	20.45	25	PcP		**PcP**	**12 12 00.0 +1.0**
ARU	**Arti**	20.45	25	*e*P		**P**	**12 07 48.2 +0.6**
	comp=Z,29nm,1.0s						
SUW	**Suwalki**	20.56	325	P		Pn	12 07 51.0 -0.1
SUW	**Suwalki**	20.56	325	P		Pn	12 07 51.0 -0.1
KKAR	**Karatay Array**	21.02	69	*e*P		**P**	**12 07 54.8 +0.9**
KKAR				pmax		pmax	
	comp=Z,113nm,0.8s						
KKAR	**Karatay Array**	21.02	69	*e*P		**P**	**12 07 54.8 +0.9**
	comp=Z,113nm,0.8s						
KKAR	**Karatay Array**	21.02	69	*e*P		**P**	**12 07 54.8 +0.9**
	comp=Z,113nm,0.8s						
KBL	**Kabul**	21.07	93	*e*P		**P**	**12 07 54.2 -0.5**
KBL				pmax		pmax	
	comp=Z,19nm,0.8s						
KBL	**Kabul**	21.07	93	*e*P		**P**	**12 07 54.2 -0.5**
	comp=Z,19nm,0.8s						
KBL	**Kabul**	21.07	93	*e*P		**P**	**12 07 54.2 -0.5**
	comp=Z,19nm,0.8s						
SOP	**Sopron**	21.37	304	P		**P**	**12 08 00.3 +2.7**
SOP				pmax		pmax	
	comp=Z,13nm,1.6s						
CONA	**Conrad Observa**	21.89	304	P		**P**	**12 08 03.9 +0.7**
	comp=Z,8.3nm,1.1s						
KLMR	**Klimovskoe**	22.32	355	*e*P		**P**	**12 08 07.0 -0.6**
KLMR				*e*			12 12 01.5
KLMR				pmax		pmax	
	comp=Z,23nm,1.0s						
KLMR	**Klimovskoe**	22.32	355	*e*P		**P**	**12 08 07.0 -0.6**
	comp=Z,23nm,1.0s						
KLMR	**Klimovskoe**	22.32	355	*e*PcP		**PcP**	**12 12 01.5 -1.0**
DPC	**Dobruska-Polom**	22.35	310	*e*P		**P**	**12 08 11.4 +3.3**
DPC	**Dobruska-Polom**	22.35	310	*e*P		**P**	**12 08 11.4 +3.3**
MNAS	**Manas**	22.47	71	P		**P**	**12 08 12.0 +2.3**
MNAS				pmax		pmax	
	comp=Z,6.0nm,1.1s						
VSU	**Vasula**	22.50	337	⫿*e*P		**P**	**12 08 11.4 +1.9**
VSU				pmax		pmax	
	comp=Z,40nm,1.0s						
VSU	**Vasula**	22.50	337	*e*P		**P**	**12 08 11.4 +1.9**
	comp=Z,40nm,1.0s						
UPC	**Upice**	22.59	310	*e*P		**P**	**12 08 12.2 +1.6**
UPC				*ex*		x	12 08 44.3
UPC	**Upice**	22.59	310	*e*P		**P**	**12 08 12.2 +1.6**
UPC				*e*			12 08 44.3
UPC	**Upice**	22.59	310	*e*P		**P**	**12 08 12.2 +1.6**
MOA	**Molln**	22.91	303	P		**P**	**12 08 12.7 -1.4**
	comp=Z,8.8nm,1.7s						
KBA	**Koelnbreinsper**	23.37	301	P		**P**	**12 08 20.2 +1.3**
	comp=Z,7.7nm,1.1s						
BRVK	**Borovoye**	23.49	43	⫿*e*P		**P**	**12 08 21.0 +1.2**
BRVK				pmax		pmax	
	comp=Z,23nm,1.1s						
BRVK	**Borovoye**	23.49	43	*e*P		**P**	**12 08 20.7 +0.9**
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	23.49	43	*e*P		**P**	**12 08 20.7 +0.9**
	comp=Z,11nm,1.1s						
GERES	**GERESS Array B**	23.51	305	P		**P**	**12 08 20.1 -0.1**
	comp=Z,0.6nm,0.7s,baz=106,slow=9.8,SNR=5.1						
BVAR	**Borovoye Array**	23.53	44	P		**P**	**12 08 20.7 +0.4**
	comp=Z,3.7nm,0.9s,baz=227,slow=10.0,SNR=11						
KHC	**Kasperske Hory**	23.66	306	*e*P		**P**	**12 08 23.9 +2.3**
KHC				*ex*		x	12 08 50.5
KHC	**Kasperske Hory**	23.66	306	*e*P		**P**	**12 08 20.9 -0.7**
KHC				pmax		pmax	
	comp=Z,18nm,1.9s						
KHC	**Kasperske Hory**	23.66	306	*e*P		**P**	**12 08 20.9 -0.7**
	comp=Z,18nm,1.9s						
KHC	**Kasperske Hory**	23.66	306	*e*P		**P**	**12 08 20.9 -0.7**
	comp=Z,18nm,1.9s						
ABTA	**Abfaltersbach**	23.88	300	P		**P**	**12 08 23.5 -0.2**
	comp=Z,7.3nm,1.5s						
AAK	**Ala-Archa**	23.94	70	P		**P**	**12 08 26.0 +1.5**
	comp=Z,1.1nm,0.5s,baz=252,slow=11,SNR=7.0						
AAK	**Ala-Archa**	23.94	70	⫿*i*P		**P**	**12 08 25.3 +0.8**
AAK				pmax		pmax	
	comp=Z,21nm,1.4s						
AAK	**Ala-Archa**	23.94	70	*e*P		**P**	**12 08 24.9 +0.4**
	comp=Z,19nm,1.4s						
AAK	**Ala-Archa**	23.94	70	*e*P		**P**	**12 08 24.9 +0.4**
	comp=Z,19nm,1.4s						
FRU	**Bishkek**	24.03	70	*e*P		**P**	**12 08 27.0 +1.8**
FRU	**Bishkek**	24.03	70	*e*P		**P**	**12 08 27.0 +1.8**
WTTA	**Wattenberg**	24.55	301	P		**P**	**12 08 29.2 -0.8**
	comp=Z,8.3nm,1.0s						
WATA	**Walderalm**	24.60	301	P		**P**	**12 08 31.1 +0.6**
	comp=Z,7.2nm,0.9s						
CLL	**Collm**	24.65	311	*e*(P)		**P**	**12 08 33.0 +2.3**
MOTA	**Moosalm**	24.92	301	P		**P**	**12 08 34.1 +0.8**
	comp=Z,12nm,0.7s						
FETA	**Feichten**	25.13	300	P		**P**	**12 08 35.2 0.0**
	comp=Z,7.9nm,1.0s						
FINES	**FINESS Array B**	25.16	340	P		**P**	**12 08 34.8 -0.4**
	comp=Z,1.9nm,0.7s,baz=147,slow=11,SNR=6.5						
GRFO	**Grafenberg**	25.29	306	*e*P		**P**	**12 08 36.8 +0.3**
GRFO				pmax		pmax	
	comp=Z,23nm,1.1s						
GRFO	**Grafenberg**	25.29	306	*e*P		**P**	**12 08 36.8 +0.3**
	comp=Z,23nm,1.1s						
GRFO	**Grafenberg**	25.29	306	*e*P		**P**	**12 08 36.8 +0.3**
	comp=Z,23nm,1.1s						
KSH	**Kashi**	25.32	78	P		**P**	**12 08 37.1 +0.1**
KSH				pP		pP	12 08 41.0 -2.0
KSH				sP		sP	12 08 43.1 -2.4
KSH				PP		**PnPn**	**12 09 14.5 +2.7**
KSH				*e*PcP		**PcP**	**12 12 12.8 +3.3**
KSH				S		**S**	**12 12 58.5 -3.7**
KSH				SS		**SnSn**	**12 13 57.0 +3.1**
KSH				PcS		**PcS**	**12 15 53.1 +3.0**
KSH				pmax		pmax	
	comp=Z,6.0nm,1.1s						
KSH				LR		LR	
	comp=Z,5μm,16.3s						
KSH				LR		LR	
	comp=Z,2μm,16.3s						
KSH				LR		LR	
	comp=Z,3μm,14.0s						
JOF	**Joensuu**	25.33	347	P		**P**	**12 08 38.6 +1.9**
JOF				pmax		pmax	
	comp=Z,14nm,2.8s						
JOF	**Joensuu**	25.33	347	P		**P**	**12 08 38.6 +1.9**
	comp=Z,14nm,2.8s						
DAVA	**Damuels**	25.74	300	P		**P**	**12 08 40.2 -0.6**
	comp=Z,4.6nm,1.1s						
VSL	**Villasalto**	26.23	283	*e*P		**P**	**12 08 45.0 -0.2**
	comp=Z,24nm,1.3s						
VSL	**Villasalto**	26.23	283	*e*P		**P**	**12 08 45.0 -0.2**
	comp=Z,24nm,1.3s						
KURBB	**Kurchatov Arra**	27.52	53	P		**P**	**12 08 57.6 +1.0**
	comp=Z,3.0nm,0.7s,baz=263,slow=9.0,SNR=21						
KURK	**Kurchatov**	27.59	53	⫿*i*P		**P**	**12 08 58.5 +1.3**
KURK				pmax		pmax	
	comp=Z,21nm,0.9s						
KURK	**Kurchatov**	27.59	53	*e*P		**P**	**12 08 58.0 +0.8**
	comp=Z,11nm,0.9s						
KURK	**Kurchatov**	27.59	53	*e*P		**P**	**12 08 58.0 +0.8**
	comp=Z,11nm,0.9s						
HFS	**Hagfors**	28.41	329	P		**P**	**12 09 04.5 0.0**
	comp=Z,3.9nm,0.9s,baz=168,slow=14,SNR=3.1						
MAKZ	**Makanchi**	29.32	61	*e*P		**P**	**12 09 13.8 +1.0**
MAKZ				pmax		pmax	
	comp=Z,15nm,1.5s						
MAKZ	**Makanchi**	29.32	61	*e*P		**P**	**12 09 13.8 +1.0**
	comp=Z,15nm,1.5s						
MAKZ	**Makanchi**	29.32	61	*e*P		**P**	**12 09 13.8 +1.0**
	comp=Z,15nm,1.5s						
MK31	**Makanchi Array**	29.54	61	*e*P		**P**	**12 09 15.8 +1.1**
MK31	**Makanchi Array**	29.54	61	*e*P		**P**	**12 09 15.8 +1.1**
MK31	**Makanchi Array**	29.54	61	*e*P		**P**	**12 09 15.8 +1.1**
MKAR	**Makanchi Array**	29.54	61	P		**P**	**12 09 15.7 +1.0**
	comp=Z,1.4nm,0.8s,baz=268,slow=6.4,SNR=6.7						
MKAR	**Makanchi Array**	29.54	61	*e*P		**P**	**12 09 15.7 +1.0**
	comp=Z,15nm,0.6s						
MKAR	**Makanchi Array**	29.54	61	*e*P		**P**	**12 09 15.7 +1.0**
	comp=Z,15nm,0.6s						
NC204	**NORSAR Array S**	30.25	329	*e*P		**P**	**12 09 20.5 -0.3**
NC204	**NORSAR Array S**	30.25	329	*e*P		**P**	**12 09 20.5 -0.3**
ZALV	**Zalesovo Beam**	31.98	48	P		**P**	**12 09 35.6 -0.5**
	comp=Z,0.7nm,0.5s,baz=297,slow=9.5,SNR=2.9						
ARCES	**ARCESS Array B**	32.35	348	P		**P**	**12 09 38.6 -0.6**
	comp=Z,3.5nm,1.0s,baz=141,slow=7.8,SNR=5.2						
WMQ	**Urumqi**	33.48	67	P		**P**	**12 09 51.1 +1.6**
WMQ				pP		pP	12 09 54.8 -0.7
WMQ				sP		sP	12 09 58.3 +0.3
WMQ				pmax		pmax	
	comp=Z,5.0nm,0.8s						
ESDC	**Sonseca Array**	36.30	287	P		**P**	**12 10 12.6 -1.2**
	comp=Z,0.3nm,0.4s,baz=67,slow=9.2,SNR=5.2						
PAB	**San Pablo**	36.62	287	*e*P		**P**	**12 10 15.9 -0.6**
PAB				pmax		pmax	
	comp=Z,38nm,1.7s						
PAB	**San Pablo**	36.62	287	*e*P		**P**	**12 10 15.9 -0.6**
	comp=Z,38nm,1.7s						
PAB	**San Pablo**	36.62	287	*e*P		**P**	**12 10 15.9 -0.6**
	comp=Z,38nm,1.7s						
GTA	**Gaotai**	43.30	70	*e*P		**P**	**12 11 10.5 -1.5**
GTA				pP		pP	12 11 15.0 -3.2
GTA				sP		sP	12 11 17.5 -3.2
GTA				pmax		pmax	
	comp=Z,6.0nm,0.7s						
TORD	**Torodi Ar. Bea**	44.68	247	P		**P**	**12 11 23.5 +0.2**
	comp=Z,0.9nm,0.8s,baz=54,slow=10.0,SNR=4.6						
LZH	**Lanzhou**	47.43	73	*e*P		P	12 11 52.8 +7.9
LZH				pP		sP	12 11 57.0 +3.4
LZH				sP		pP	12 11 59.3 +8.2
LZH				pmax		pmax	
	comp=Z,31nm,1.0s						
LZH				pmax		pmax	
	comp=Z,130nm,4.3s						
BOD	**Bodaibo**	48.40	43	*e*P		**P**	**12 11 51.9 0.0**
BOD				pmax		pmax	
	comp=Z,4.0nm,2.0s						
BOD	**Bodaibo**	48.40	43	*e*P		**P**	**12 11 51.9 0.0**
	comp=Z,4.0nm,2.0s						
CD2	**Chengdu**	49.49	80	*e*P		**P**	**12 12 00.5 -0.2**
HHC	**Hu-ho-hao-te**	51.31	65	*e*P		**P**	**12 12 14.6 +0.2**
HHC				S		**S**	**12 19 29.4 -3.1**
HHC				pmax		pmax	
	comp=Z,12nm,1.0s						
HHC				LR		LR	
	comp=Z,280nm,17.3s						
HHC				LR		LR	
	comp=Z,780nm,14.8s						
HHC				LR		LR	
	comp=Z,690nm,13.6s						
CHTO	**Chiang Mai**	51.86	96	*e*P		**P**	**12 12 18.5 -0.2**
CHTO				pmax		pmax	
	comp=Z,6.0nm,0.6s						
CHTO	**Chiang Mai**	51.86	96	*e*P		**P**	**12 12 18.5 -0.2**
	comp=Z,6.5nm,0.6s						
CHTO	**Chiang Mai**	51.86	96	*e*P		**P**	**12 12 18.5 -0.2**
	comp=Z,6.5nm,0.6s						
CMAR	**Chiang Mai Arr**	52.06	96	P		**P**	**12 12 19.8 -0.4**
	comp=Z,4.5nm,0.8s,baz=299,slow=8.5,SNR=32						
CN2	**Changchun**	59.58	56	*e*P		**P**	**12 13 09.6 -4.1**
NJ2	**Nanjing**	60.38	71	*e*P		**P**	**12 13 19.8 +0.4**
NJ2				pmax		pmax	
	comp=Z,11nm,0.8s						
KSAR	**Wonju Array Be**	64.20	62	P		**P**	**12 13 44.6 -0.3**
KSAR	**Wonju Array Be**	64.20	62	P		**P**	**12 13 44.6 -0.3**
KSAR	**Wonju Array Be**	64.20	62	P		**P**	**12 13 44.5 -0.3**
KSRS	**Korea Array**	64.22	62	P		**P**	**12 13 44.5 -0.5**
	comp=Z,2.9nm,0.6s,baz=290,slow=6.9,SNR=15						
BOSA	**Boshof**	69.03	197	*e*P		**P**	**12 14 15.5 -0.3**
BOSA				pmax		pmax	
	comp=Z,38nm,1.6s						
BOSA	**Boshof**	69.03	197	*e*P		**P**	**12 14 15.5 -0.3**
	comp=Z,38nm,1.6s						
BOSA	**Boshof**	69.03	197	*e*P		**P**	**12 14 15.5 -0.3**
	comp=Z,38nm,1.6s						
CCB	**Clear Creek Bu**	76.64	5	*e*P		**P**	**12 15 00.5 +0.1**
	comp=Z,14nm,1.8s						
CCB	**Clear Creek Bu**	76.64	5	*e*P		**P**	**12 15 00.5 +0.1**
	comp=Z,14nm,1.8s						
CAST	**Castle Rocks**	77.51	7	*e*P		**P**	**12 15 05.6 +0.2**
	comp=Z,24nm,2.0s						
CAST	**Castle Rocks**	77.51	7	*e*P		**P**	**12 15 05.6 +0.2**
	comp=Z,24nm,2.0s						
TT01	**Tatalina**	77.58	9	*e*P		**P**	**12 15 06.9 +1.2**
TT01	**Tatalina**	77.58	9	*e*P		**P**	**12 15 06.9 +1.2**
HARP	**HAARP**	79.03	4	*e*P		**P**	**12 15 16.0 +2.2**
	comp=Z,74nm,1.9s						
HARP	**HAARP**	79.03	4	*e*P		**P**	**12 15 16.0 +2.2**
	comp=Z,74nm,1.9s						
KDAK	**Kodiak Island**	82.98	8	*i*P		**P**	**12 15 35.3 +0.4**
KDAK	**Kodiak Island**	82.98	8	*i*P		**P**	**12 15 35.3 +0.4**
KDAK	**Kodiak Island**	82.98	8	*e*P		**P**	**12 15 35.4 +0.6**
	comp=Z,101nm,1.8s						
OHAK	**Old Harbor**	83.44	9	*e*P		**P**	**12 15 37.8 +0.5**
	comp=Z,92nm,1.8s						
OHAK	**Old Harbor**	83.44	9	*e*P		**P**	**12 15 37.8 +0.5**
	comp=Z,92nm,1.8s						
NHSC	**New Hope**	91.36	316	*e*P		**P**	**12 16 16.6 +0.5**
	comp=Z,69nm,1.5s						
NHSC	**New Hope**	91.36	316	*e*P		**P**	**12 16 16.6 +0.5**
	comp=Z,69nm,1.5s						
BOZ	**Bozeman (W)**	93.12	343	*e*P		**P**	**12 16 22.5 -1.7**
BOZ				pmax		pmax	
	comp=Z,2.0nm,0.8s						
BOZ	**Bozeman (W)**	93.12	343	*e*P		**P**	**12 16 22.5 -1.7**
	comp=Z,2.3nm,0.8s						
BOZ	**Bozeman (W)**	93.12	343	*e*P		**P**	**12 16 22.5 -1.7**
	comp=Z,2.3nm,0.8s						

*IDC **23** 12:03:37.8±1.6, 38°.89N×43°.19E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/51, mbtmp4.0/6, Error ellipse: s-maj=42.7km s-min=21.7km az=160.0*

ISC 23 12:03:39.6±1.3, 38°.7N±0°.2×43°.3E±0°.1, h13km, n10, σ1§68/10, mb4.1/7, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	1.86	36	Pn	**Pn**	12 04 10.8	**-0.5**
	72nm,0.3s,baz=326,slow=12,SNR=8.1						
VRI	**Vrincioaia**	14.24	306	⫿*i*P	**P**	12 07 07.4	**-0.8**
PLOR	**Plostina**	14.28	306	⫿*i*P	**P**	12 07 12.1	**+3.4**
KURBB	**Kurchatov Arra**	27.50	53	P	**P**	12 09 25.2	**-0.2**
	4.8nm,0.9s,baz=261,slow=9.2,SNR=7.9						
MKAR	**Makanchi Array**	29.51	61	P	**P**	12 09 45.3	**+1.8**
	2.4nm,1.0s,baz=258,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	31.96	48	P	**P**	12 10 04.1	**-0.9**
	1.3nm,0.6s,baz=264,slow=12,SNR=4.3						
ESDC	**Sonseca Array**	36.35	287	P	**P**	12 10 41.8	**-1.5**
	0.2nm,0.4s,baz=68,slow=9.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	52.01	96	P	**P**	12 12 48.8	**-0.1**
	0.3nm,0.4s,baz=311,slow=8.2,SNR=4.2						
XAN	**Xi'an**	52.03	74	P	**P**	12 12 48.3	**-0.6**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSRS	**Korea Array**	64.19	62	P	**P**	12 14 14.7	**+0.7**
	comp=Z,1.2nm,0.8s,baz=290,slow=7.4,SNR=4.5						

*ISCJB **23** 12:03:52.0±0.6, 38°.4N±0°.1×43°.57E±0°.09, h13km, mb3.9/9, Error ellipse: s-maj=15.6km s-min=8.8km az=161.6*
*IDC **23** 12:03:51.8±1.0, 38°.54N×43°.51E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.8/55, mbtmp4.0/13, ML3.5/3, Error ellipse: s-maj=22.0km s-min=11.6km az=151.0*

ISC 23 12:03:53.9±0.8, 38°.5N±0°.1×43°.56E±0°.08, h13km, n14, σ1§27/14, mb3.9/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	1.87	29	Pn	**Pn**	12 04 25.9	**+0.1**
	233nm,0.3s,baz=44,slow=20,SNR=4.5						
GNI				Lg	Lg	12 04 52.1	
	259nm,0.3s,baz=261,slow=23,SNR=3.4						
BRTR	**Keskin Array B**	7.81	282	Pn	**Pn**	12 05 49.5	**+2.2**
	0.4nm,0.3s,baz=97,slow=12,SNR=2.1						
ASF	**Jabal al Asfar**	8.35	223	Pn	**Pn**	12 05 55.6	**+1.0**
	0.8nm,0.3s,baz=23,slow=6.6,SNR=4.4						
GEYT	**Alibeck**	11.47	88	Pn	**Pn**	12 06 38.6	**+1.3**
	0.4nm,0.3s,baz=286,slow=16,SNR=3.9						
ARU	**Arti**	20.51	24	P	**P**	12 08 31.7	**+0.2**
	13nm,0.7s,baz=228,slow=8.8,SNR=3.6						
VRAC	**Vranov**	22.10	308	P	**P**	12 08 49.4	**+0.7**
	4.1nm,0.9s,baz=100,slow=12,SNR=1.4						
BVAR	**Borovoye Array**	23.50	43	P	**P**	12 09 04.9	**+1.7**
	2.6nm,0.8s,baz=236,slow=9.9,SNR=2.5						
GERES	**GERESS Array B**	23.79	305	P	**P**	12 09 05.1	**-1.2**
	1.7nm,1.0s,baz=111,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra**	27.43	52	P	**P**	12 09 39.1	**-0.1**
	3.5nm,0.6s,baz=261,slow=9.1,SNR=6.4						
MKAR	**Makanchi Array**	29.42	61	P	**P**	12 09 57.2	**+0.3**
	2.2nm,0.8s,baz=274,slow=5.7,SNR=2.6						
ZALV	**Zalesovo Beam**	31.92	48	P	**P**	12 10 18.9	**0.0**
	0.7nm,0.4s,baz=243,slow=9.5,SNR=1.8						
ESDC	**Sonseca Array**	36.56	287	P	**P**	12 10 57.2	**-2.2**
	0.9nm,0.5s,baz=64,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	44.83	247	P	**P**	12 12 07.1	**-0.7**
	3.8nm,1.2s,baz=47,slow=8.1,SNR=1.8						
CMAR	**Chiang Mai Arr**	51.82	96	P	**P**	12 13 01.6	**-0.2**
	0.8nm,0.7s,baz=292,slow=8.6,SNR=2.0						

*JMA **23** 12:04:46.7±0.1, 29°.97N×130°.81E, h31km±1km, M4.1*
*ISCJB **23** 12:04:47.1±0.5, 30°.02N±0°.04×130°.72E±0°.05, h52km±3km, mb4.6/55, Error ellipse: s-maj=7.6km s-min=4.9km az=41.4*
*NEIC **23** 12:04:49.7±0.6, 30°.04N×130°.66E, h59km±5km, mb4.9/36, Error ellipse: s-maj=5.9km s-min=4.8km az=123.0*
*IDC **23** 12:04:50.9±2.4, 30°.11N×130°.72E, h71km±22km, mb3.9/20, mb1 3.9/23, mb1mx3.8/64, mbtmp4.1/23, Error ellipse: s-maj=19.2km s-min=14.9km az=70.0*

ISC 23 12:04:47.8±1.1, 30°.01N±0°.06×130°.74E±0°.06, h41km±9km, n99, σ1§11/101, mb4.6/55, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	0.30	319	P	**Pn**	12 04 54.9	**-1.3**
JYAK				S	**Sn**	12 05 01.0	**-1.0**
JKC	**Kuchinoerabu**	0.65	314	P	**Pn**	12 05 00.6	**0.0**
JKC				*e*S	**Sn**	12 05 10.5	**+0.8**
JTN	**Tanegashima 3**	0.68	18	P	**Pn**	12 05 00.1	**-0.9**
JTN				*e*S	**Sn**	12 05 09.9	**-0.5**
JNN	**Nakanoshima**	0.77	258	P	**Pn**	12 05 02.2	**0.0**
JNN				*e*S	**Sn**	12 05 12.7	**+0.1**
JTSR	**Tashiro 2**	1.16	8	P	**Pn**	12 05 07.8	**+0.1**
JTSR				S	**Sn**	12 05 23.4	**+1.0**
JSU	**Suzuyama**	1.51	351	P	**Pn**	12 05 12.5	**+0.1**
JNAR	**Kushima--Naru**	1.58	17	P	**Pn**	12 05 13.8	**+0.5**
JTAJ	**Takarajima**	1.58	238	P	**Pn**	12 05 14.2	**+0.8**
JNU	**Nakatsue**	3.10	2	P	**Pn**	12 05 35.4	**+1.0**
	10nm,0.3s,baz=274,slow=2.3,SNR=87						
JNU	**Nakatsue**	3.10	2	*e*Pn	**Pn**	12 05 35.8	**+1.4**
JOW	**Kunigami**	3.84	215	*e*Pn	**Pn**	12 05 44.7	**+0.4**
INU	**Inuyama**	7.51	43	*e*Pn	**Pn**	12 06 36.6	**+1.9**
KS15	**Wonju Array Si**	7.78	343	*e*Pn	**Pn**	12 06 40.7	**+2.2**
KSAR	**Wonju Array Be**	7.78	343	P	**Pn**	12 06 40.7	**+2.2**
KSRS	**Korea Array**	7.79	343	P	**Pn**	12 06 40.7	**+2.2**
	0.7nm,0.3s,baz=163,slow=14,SNR=19						
MAJO	**Matsushiro**	9.03	42	*e*Pn	**Pn**	12 06 56.9	**+1.3**
MJAR	**Matsushiro Arr**	9.03	42	P	**Pn**	12 06 57.9	**+2.3**
	0.7nm,0.3s,baz=252,slow=22,SNR=6.8						
MJB9	**Matsu-Tunnel**	9.03	42	*e*Pn	**Pn**	12 06 56.7	**+1.1**
USRK	**Ussuriysk Ar.**	14.20	4	P	**P**	12 08 14.3	**+1.5**
	0.6nm,0.3s,baz=165,slow=10,SNR=9.0						
ENH	**Enshi**	18.38	276	*e*P	**P**	12 08 59.7	**+0.4**
	13nm,0.6s						
ULN	**Ulaanbaatar**	25.47	321	*e*P	**P**	12 10 11.2	**-0.9**
	12nm,1.5s						
SONA0	**Songino Array**	25.82	320	*e*P	**P**	12 10 13.3	**-1.9**
	3.6nm,0.8s						
SONM	**Songino Array**	25.82	320	P	**P**	12 10 13.3	**-1.9**
	3.8nm,0.7s,baz=143,slow=10,SNR=15						
GTA	**Gaotai**	26.98	299	*e*P	**P**	12 10 27.8	**+1.9**
GTA				pP	pP	12 10 32.0	-5.0
GTA				sP	sP	12 10 34.8	-7.2
CM31	**Chiang Mai Arr**	31.09	256	*e*P	**P**	12 11 02.5	**+0.1**
CMAR	**Chiang Mai Arr**	31.09	256	P	**P**	12 11 02.5	**+0.1**
	0.5nm,0.5s,baz=54,slow=7.6,SNR=4.4						
FAKI	**Fak Fak**	32.77	177	*e*P	**P**	12 11 17.6	**+0.5**
	17nm,1.0s						
LSA	**Lhasa**	34.22	280	*e*P	**P**	12 11 29.3	**-0.8**
	5.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	34.24	99	T	T	12 47 42.9	
	baz=297,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	34.24	99	T	T	12 47 49.2	
	baz=297,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	34.26	99	T	T	12 47 50.3	
	baz=297,slow=75,SNR=15						
SEY	**Seymchan**	35.77	17	P	**P**	12 11 43.3	**+0.7**
	2.2nm,0.7s,baz=207,slow=7.9,SNR=5.5						
KULM	**Kulim**	37.54	235	*e*P	**P**	12 11 59.4	**+1.3**
	27nm,1.5s						
ZAA0	**Zalesovo Array**	40.70	319	*e*P	**P**	12 12 23.5	**-0.7**
ZALV	**Zalesovo Beam**	40.70	319	P	**P**	12 12 23.7	**-0.5**
	1.

BMRM Bremner River 61.72 33 *eP* **P 12 15 01.5 -0.2**
27nm,1.6s
MENT Mentasta 61.75 31 *eP* **P 12 15 02.8 +1.0**
21nm,1.8s
ARA0 ARCESS Array S 67.31 338 *eP* **P 12 15 36.6 -1.4**
ARCES ARCESS Array B 67.31 338 P **P 12 15 36.6 -1.4**
2.9nm,0.9s,baz=60,slow=7.2,SNR=3.9
FIA0 FINESS Array S 70.67 330 *eP* **P 12 15 57.6 -1.3**
FINES FINESS Array B 70.67 330 P **P 12 15 57.6 -1.3**
1.8nm,0.6s,baz=62,slow=5.8,SNR=18
AKASG Malin Array Be 74.10 320 P **P 12 16 17.7 -1.8**
0.9nm,0.4s,baz=57,slow=6.4,SNR=4.4
AKBB Malin Array Si 74.10 320 *eP* **P 12 16 17.7 -1.9**
7.2nm,1.0s
BR101 Keskin Array S 76.46 308 *eP* **P 12 16 32.9 -0.7**
BRTR Keskin Array B 76.46 308 P **P 12 16 32.9 -0.7**
2.2nm,0.8s,baz=88,slow=4.1,SNR=5.2
HFS Hagfors 76.50 333 P **P 12 16 31.8 -1.4**
3.2nm,0.8s,baz=56,slow=11,SNR=3.6
NC405 NORSAR Array S 76.66 334 *eP* **P 12 16 32.8 -1.3**
NB201 NORSAR Array S 76.86 334 *eP* **P 12 16 34.2 -1.1**
NB200 NORSAR Array S 76.90 334 *eP* **P 12 16 34.2 -1.3**
NOA NORSAR Array B 76.90 334 P **P 12 16 34.2 -1.3**
1.6nm,0.8s,baz=50,slow=5.4,SNR=2.9
BUR08 Bucovina Ar. S 77.91 318 *eP* **P 12 16 41.2 -0.3**
BURAR Bucovina Array 77.91 318 ⇑*iP* **P 12 16 39.3 -2.2**
BURAR Bucovina Array 77.91 318 ⇓*iP* **P 12 16 40.8 -0.7**
MORC Moravsky Berou 80.94 323 *eP* **P 12 16 56.5 -1.4**
64nm,1.9s
CMB Columbia Colle 85.20 49 *eP* **P 12 17 20.6 +0.4**
7.7nm,1.8s
PD31 Pinedale Array 88.85 40 *eP* **P 12 17 36.6 -1.4**
PDAR Pinedale Array 88.85 40 P **P 12 17 38.7 +0.7**
0.4nm,0.8s,baz=90,slow=1.5,SNR=3.7
ULM Lac du Bonnet 90.06 28 *eP* **P 12 17 43.9 +0.8**
43nm,1.9s
TGUH Tegucigalpa,Un 122.90 45 *e*PKPdf **PKPdf 12 23 38.7 -1.5**
RCBR Riachuelo 152.85 330 *e*PKPdf **PKPdf 12 24 31.8 -2.3**

JMA 23 12:05:12.8±0.1, 38°33N×142°10E, h33km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.60**	**282**	P	Pn	12 05 24.7	-0.3
JIO				S	Sb	12 05 32.8	-0.6
OFUJ	**Ofunato**	**0.82**	**336**	P	Pn	12 05 27.9	-0.2
OFUJ				S	Sn	12 05 38.6	-0.5
JMK	**Ichinoseki**	**0.93**	**312**	P	Pn	12 05 29.8	+0.3
JMK				S	Sb	12 05 42.1	-0.4
JMM	**Marumori**	**1.13**	**246**	P	Pn	12 05 32.0	-0.3
JOU	**Okura**	**1.13**	**272**	P	Pn	12 05 32.9	+0.6
JOU				S	Sn	12 05 47.4	+0.7
JOM	**Ohasama**	**1.30**	**331**	P	Pn	12 05 35.6	+0.9
JOM				S	Sb	12 05 52.1	-1.1
JYK	**Kaneyama**	**1.48**	**294**	P	Pn	12 05 38.1	+0.9
JYS	**Shiratake**	**1.60**	**267**	P	Pn	12 05 40.0	+1.2
JFT	**Otama**	**1.61**	**240**	P	Pn	12 05 39.9	+0.9
JFT				S	Sn	12 05 58.9	+0.3

AZER ***23*** *12:13:01.3±0.4, 37°86N×43°53E, h5km, Error ellipse: s-maj=4.6km s-min=2.5km az=24.0*
IDC ***23*** *12:13:05.4±1.0, 38°58N×43°41E, h0km, mb3.9/15, mb1 4.0/19, mb1mx3.8/51, mbtmp3.9/19, ML4.5/3, Error ellipse: s-maj=18.5km s-min=13.7km az=171.0*
MOS ***23*** *12:13:06.3±1.9, 38°58N×43°58E, h10km, mb4.4/15, Error ellipse: s-maj=8.9km s-min=5.8km az=91.4*
ISK ***23*** *12:13:07.5, 38°78N×43°29E, h5km, ML3.8*
NEIC ***23*** *12:13:07.8±0.0, 38°79N×43°16E, h5km, mb4.5/42, ML3.8(ISK), ML3.9(DDA), After ISK.*
TEH ***23*** *12:13:07.4, 38°87N×43°44E, h2km, ML3.8*
CSEM ***23*** *12:13:07.3±0.1, 38°76N×43°41E, h5km, mb4.5/42, Error ellipse: s-maj=3.9km s-min=3.1km az=170.0*
DDA ***23*** *12:13:07.7, 38°79N×43°27E, h7km, Ml3.9*
ISCJB ***23*** *12:13:08.2±0.4, 38°74N±0°02×43°43E±0°02, h21km±3km, mb4.3/50, Error ellipse: s-maj=3.6km s-min=3.1km az=169.7*

ISC 23 12:13:08.0±0.8, 38°76N±0°01×43°40E±0°02, h13km±5km, n318, σ1$48/343, mb4.5/50, 24C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.23**	**178**	*iP*	**Pg**	**12 13 13.3**	**+0.1**
TVAN				*i*S	**Sg**	**12 13 17.6**	**+0.9**
TVAN	**Van**	**0.23**	**178**	P	**Pg**	**12 13 13.3**	**+0.1**
TVAN				S	**Sg**	**12 13 17.6**	**+0.9**
TVAN	**Van**	**0.23**	**178**	P	**Pg**	**12 13 13.3**	**+0.1**
TVAN				S	**Sg**	**12 13 17.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.26**	**31**	*iP*	**Pg**	**12 13 13.4**	**-0.3**
VMUR				*i*S	**Sb**	**12 13 19.7**	**+0.3**
VMUR	**Van-Muradiye**	**0.26**	**31**	P	**Pg**	**12 13 13.4**	**-0.3**
VMUR				S	**Sb**	**12 13 19.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.26**	**31**	P	**Pg**	**12 13 13.4**	**-0.3**
VMUR				S	**Sb**	**12 13 19.6**	**+0.3**
GEVA	**Gevas**	**0.52**	**211**	*iP*	**Pg**	**12 13 17.6**	**-0.8**
GEVA				*i*S	**Sg**	**12 13 23.4**	**-1.9**
GEVA	**Gevas**	**0.52**	**211**	P	**Pg**	**12 13 17.6**	**-0.8**
GEVA				S	**Sg**	**12 13 23.4**	**-1.9**
GEVA	**Gevas**	**0.52**	**211**	*eP*g	**Pg**	**12 13 17.6**	**-0.8**
GEVA				S	**Sg**	**12 13 23.4**	**-1.9**
TUTA	**Tutak**	**0.78**	**325**	*iP*	**Pg**	**12 13 21.3**	**-2.0**
TUTA				*i*S	**Sg**	**12 13 32.9**	**-0.7**
TUTA	**Tutak**	**0.78**	**325**	P	**Pg**	**12 13 21.3**	**-2.0**
TUTA				S	**Sg**	**12 13 32.9**	**-0.7**
TUTA	**Tutak**	**0.78**	**325**	P	**Pg**	**12 13 21.3**	**-2.0**
TUTA				S	**Sg**	**12 13 32.9**	**-0.7**
DYDN	**Diyadin**	**0.81**	**16**	*iP*	**Pg**	**12 13 23.2**	**-0.6**
DYDN	**Diyadin**	**0.81**	**16**	P	**Pg**	**12 13 23.2**	**-0.6**
DYDN	**Diyadin**	**0.81**	**16**	P	**Pg**	**12 13 23.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.87**	**339**	*e*PG	**Pb**	**12 13 23.4**	**-1.8**
AGRB				*e*SG	**Sg**	**12 13 35.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.87**	**339**	*e*Pg	**Pb**	**12 13 23.4**	**-1.8**
AGRB				Sg	**Sg**	**12 13 36.4**	**0.0**
AGRB	**Hanur-Agry**	**0.87**	**339**	Pg	**Pb**	**12 13 23.4**	**-1.8**
AGRB				Sg	**Sg**	**12 13 36.4**	**0.0**
EKAR	**Karacoban**	**1.15**	**296**	*iP*	**Pg**	**12 13 30.6**	**+0.4**
EKAR				*i*S	**Sn**	**12 13 47.0**	**+1.2**
EKAR	**Karacoban**	**1.15**	**296**	P	**Pg**	**12 13 30.6**	**+0.4**
EKAR				S	**Sn**	**12 13 47.0**	**+1.2**
EKAR	**Karacoban**	**1.15**	**296**	P	**Pg**	**12 13 30.6**	**+0.4**
EKAR				S	**Sn**	**12 13 47.0**	**+1.2**
EATA	**Eleskirt**	**1.30**	**328**	*iP*	**Pn**	**12 13 31.0**	**-1.3**
EATA				*i*S	**Sb**	**12 13 47.9**	**-1.6**
EATA	**Eleskirt**	**1.30**	**328**	P	**Pn**	**12 13 31.0**	**-1.3**
EATA				S	**Sb**	**12 13 47.8**	**-1.6**
EATA	**Eleskirt**	**1.30**	**328**	P	**Pn**	**12 13 31.0**	**-1.3**
EATA				S	**Sb**	**12 13 47.9**	**-1.6**
SIRN	**S¯-rnak**	**1.48**	**212**	*iP*	**Pb**	**12 13 35.9**	**+0.4**
SIRN				*i*S	**Sg**	**12 13 55.8**	**0.0**
SIRN	**S¯-rnak**	**1.48**	**212**	P	**Pb**	**12 13 35.9**	**+0.4**
SIRN				S	**Sg**	**12 13 55.8**	**0.0**
SIRN	**S¯-rnak**	**1.48**	**212**	P	**Pb**	**12 13 35.9**	**+0.4**
SIRN				S	**Sg**	**12 13 55.8**	**0.0**
CUKT	**Cukurca**	**1.52**	**174**	*e*PN	**Pb**	**12 13 36.5**	**+0.3**
CUKT				*e*SN	**Sg**	**12 13 57.1**	**+0.1**
CUKT	**Cukurca**	**1.52**	**174**	*iP*	**Pg**	**12 13 37.9**	**+0.7**
CUKT	**Cukurca**	**1.52**	**174**	*e*Pn	**Pb**	**12 13 36.5**	**+0.3**
CUKT				*e*Sn	**Sg**	**12 13 57.1**	**+0.1**
CUKT	**Cukurca**	**1.52**	**174**	Pn	**Pg**	**12 13 38.0**	**+0.7**
VRTB	**Varto-Mus**	**1.56**	**285**	*e*PN	**Pn**	**12 13 35.3**	**-0.4**
VRTB	**Varto-Mus**	**1.56**	**285**	*e*Pn	**Pn**	**12 13 35.3**	**-0.4**
VRTB	**Varto-Mus**	**1.56**	**285**	Pn	**Pn**	**12 13 35.0**	**-0.7**
DIGO	**Kars**	**1.65**	**359**	*iP*	**Pb**	**12 13 39.0**	**+0.5**
DIGO	**Kars**	**1.65**	**359**	P	**Pb**	**12 13 39.0**	**+0.5**
DIGO	**Kars**	**1.65**	**359**	P	**Pb**	**12 13 39.0**	**+0.5**
NAX	**Nakhchivan** SNR=28	**1.69**	**75**	⇓P	**Pn**	**12 13 36.3**	**-1.0**
NAX				⇓S	**Sg**	**12 14 02.6**	**+0.3**
NAX	**Nakhchivan** SNR=28	**1.69**	**75**	P	**Pn**	**12 13 36.3**	**-1.0**
NAX				S	**Sg**	**12 14 02.6**	**+0.3**
HOMI	**Horasan**	**1.73**	**318**	*iP*	**Pn**	**12 13 38.5**	**+0.5**
HOMI	**Horasan**	**1.73**	**318**	P	**Pn**	**12 13 38.5**	**+0.5**
HOMI	**Horasan**	**1.73**	**318**	P	**Pn**	**12 13 38.5**	**+0.5**
GNI	**Garni** 117nm,0.3s,baz=277,slow=3.3,SNR=29	**1.73**	**36**	Pn	**Pb**	**12 13 39.5**	**-0.4**
GNI	**Garni**	**1.73**	**36**	*e*Pn	**Pb**	**12 13 39.7**	**-0.1**
BNGL	**BINGOL**	**1.77**	**277**	*iP*	**Pn**	**12 13 38.9**	**+0.4**
BNGL	**BINGOL**	**1.77**	**277**	P	**Pn**	**12 13 38.9**	**+0.4**
IMRD	**Marand**	**1.80**	**91**	*e*Pn	**Pn**	**12 13 38.8**	**-0.2**
IMRD				*e*Sg	**Sn**	**12 14 02.8**	**+0.9**
IMRD				*e*AMB	AMB	12 14 12.6	
	comp=Z,19μm,0.3s						
IMRD	**Marand**	**1.80**	**91**	*e*Pn	**Pn**	**12 13 38.8**	**-0.2**
IMRD				*e*Sg	**Sn**	**12 14 02.8**	**+0.9**
ISHB	**Shabestar**	**1.81**	**105**	*e*Pn	**Pn**	**12 13 37.9**	**-1.2**
ISHB				*e*AMB	AMB	12 13 47.7	
	comp=Z,12μm,0.2s						
SVAN	**Silvan-Diyarba**	**1.83**	**251**	*e*PN	**Pn**	**12 13 39.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	*i*P	**Pn**	**12 13 39.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	P	**Pn**	**12 13 39.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	Pn	**Pn**	**12 13 39.2**	**-0.1**
BTMN	**Batman**	**1.89**	**243**	*iP*	**Pb**	**12 13 41.3**	**-1.1**
BTMN	**Batman**	**1.89**	**243**	P	**Pb**	**12 13 41.3**	**-1.1**
EAK	**Akyaka**	**1.93**	**5**	*iP*	**Pg**	**12 13 45.6**	**+0.6**
ERZM	**Erzurum**	**1.94**	**307**	*iP*	**Pb**	**12 13 42.9**	**-0.6**
ERZM	**Erzurum**	**1.94**	**307**	P	**Pb**	**12 13 42.9**	**-0.6**
ERZM	**Erzurum**	**1.94**	**307**	P	**Pb**	**12 13 42.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*PN	**Pn**	**12 13 41.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*Pn	**Pn**	**12 13 41.9**	**+0.6**
BNGB	**Bing¶ll**	**2.13**	**277**	*e*PN	**Pn**	**12 13 43.7**	**+0.3**
BNGB	**Bing¶ll**	**2.13**	**277**	Pn	**Pn**	**12 13 43.8**	**+0.3**
BNGB	**Bing¶ll**	**2.13**	**277**	Pn	**Pn**	**12 13 43.8**	**+0.3**
ITBZ	**Tabriz**	**2.22**	**103**	*e*Pn	**Pn**	**12 13 44.5**	**-0.3**
ITBZ				*e*AMB	AMB	12 13 57.5	
	comp=Z,3μm,0.3s						
ITBZ	**Tabriz**	**2.22**	**103**	*e*Pn	**Pn**	**12 13 44.5**	**-0.3**
BINT	**Bingol**	**2.27**	**274**	P	**Pn**	**12 13 43.7**	**-1.7**
BINT	**Bingol**	**2.27**	**274**	*e*Pn	**Pn**	**12 13 43.7**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.32**	**288**	*e*PN	**Pn**	**12 13 46.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.32**	**288**	*e*Pn	**Pn**	**12 13 46.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.32**	**288**	Pn	**Pn**	**12 13 46.3**	**+0.2**
MARD	**Mardin**	**2.52**	**236**	*e*Pn	**Pn**	**12 13 50.7**	**+1.8**
MARD	**Mardin**	**2.52**	**236**	*e*Pn	**Pn**	**12 13 50.6**	**+1.8**
KOPT	**Kop Dagi**	**2.57**	**300**	*e*Pn	**Pb**	**12 13 52.9**	**-1.3**
KOPT	**Kop Dagi**	**2.57**	**300**	*e*Pn	**Pb**	**12 13 52.9**	**-1.3**
AKH	**Akhalkalaki**	**2.65**	**2**	*e*PN	**Pn**	**12 13 51.9**	**+1.3**
AKH	**Akhalkalaki**	**2.65**	**2**	*e*Pn	**Pn**	**12 13 51.9**	**+1.3**
MAZI	**Mazidag**	**2.67**	**242**	*e*PN	**Pn**	**12 13 51.5**	**+0.7**
MAZI	**Mazidag**	**2.67**	**242**	*e*Pn	**Pn**	**12 13 51.5**	**+0.7**
MAZI	**Mazidag**	**2.67**	**242**	Pn	**Pn**	**12 13 50.5**	**-0.3**
ARTV	**Artvin**	**2.67**	**335**	*e*PN	**Pb**	**12 13 55.1**	**-0.7**
ARTV	**Artvin**	**2.67**	**335**	*e*Pn	**Pb**	**12 13 55.1**	**-0.7**
GDB	**GEDABAY** SNR=22	**2.67**	**42**	⇓P	**Pb**	**12 13 54.5**	**-1.3**
GDB				⇑S	**Sg**	**12 14 35.6**	**+1.8**
GDB	**GEDABAY** SNR=22	**2.67**	**42**	P	**Pb**	**12 13 54.5**	**-1.3**
QZX	**Qazax, Azerbai** SNR=19	**2.75**	**33**	⇓P	**Pb**	**12 13 56.7**	**-0.4**
QZX				⇓S	**Sg**	**12 14 39.0**	**+2.6**
IHRS	**Heris**	**2.89**	**98**	*e*Pn	**Pn**	**12 13 54.6**	**+0.6**
IHRS				*e*AMB	AMB	12 14 14.9	
	comp=Z,3μm,0.2s						
IHRS	**Heris**	**2.89**	**98**	*e*Pn	**Pn**	**12 13 54.6**	**+0.6**
GANJ	**Ganja** SNR=19	**2.94**	**49**	⇑P	**Pn**	**12 13 57.0**	**+2.5**
GANJ				⇑S	**Sg**	**12 14 40.2**	**-2.2**
GANJ	**Ganja** SNR=19	**2.94**	**49**	P	**Pn**	**12 13 57.0**	**+2.5**
IBST	**Bostanabad**	**2.95**	**110**	*e*Pn	**Pn**	**12 13 55.9**	**+1.1**
IBST				*e*AMB	AMB	12 14 18.3	
	comp=Z,1μm,0.4s						
IBST	**Bostanabad**	**2.95**	**110**	*e*Pn	**Pn**	**12 13 55.9**	**+1.1**
ERZN	**Erzincan**	**2.97**	**287**	*e*PN	**Pn**	**12 13 55.1**	**+0.1**
ERZN	**Erzincan**	**2.97**	**287**	Pn	**Pn**	**12 13 56.3**	**+1.3**
ERZN	**Erzincan**	**2.97**	**287**	Pn	**Pn**	**12 13 56.3**	**+1.3**
PTK	**Pertek**	**3.13**	**274**	*e*PN	**Pn**	**12 13 57.5**	**+0.2**
PTK	**Pertek**	**3.13**	**274**	*e*Pn	**Pn**	**12 13 57.5**	**+0.2**
PTK	**Pertek**	**3.13**	**274**	Pn	**Pn**	**12 13 57.4**	**+0.2**
TBLG	**Delisi**	**3.14**	**19**	*e*PN	**Pn**	**12 13 59.4**	**+2.2**
TBLG	**Delisi**	**3.14**	**19**	*e*Pn	**Pn**	**12 13 59.4**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.23**	**264**	*e*PN	**Pn**	**12 13 59.3**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.23**	**264**	*e*Pn	**Pn**	**12 13 59.3**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.23**	**264**	Pn	**Pn**	**12 13 59.3**	**+0.7**
EZC	**Erzincan**	**3.29**	**289**	*e*Pn	**Pn**	**12 13 55.1**	**-4.3**
ISRB	**Sarab**	**3.49**	**104**	*e*AMB	AMB	12 14 20.3	
	comp=Z,1μm,0.3s						
ISRB				*e*Pn	**Pn**	**12 14 03.3**	**+1.1**
KTUT	**Trabzon**	**3.57**	**310**	*e*PN	**Pn**	**12 14 04.3**	**+1.2**
KTUT	**Trabzon**	**3.57**	**310**	*e*Pn	**Pn**	**12 14 04.3**	**+1.2**
KTUT	**Trabzon**	**3.57**	**310**	Pn	**Pn**	**12 14 04.3**	**+1.2**
ZRD	**Zardab** SNR=6.4	**3.65**	**64**	⇑P	**Pn**	**12 14 04.0**	**-0.1**
ZRD	**Zardab** SNR=6.4	**3.65**	**64**	P	**Pn**	**12 14 04.0**	**-0.1**
ZKTA	**Zakatala** SNR=16	**3.79**	**40**	⇓P	**Pn**	**12 14 09.9**	**+3.7**
SEKA	**Sheki** SNR=15	**3.81**	**49**	⇓P	**Pn**	**12 14 09.5**	**+3.0**
SEKA				⇑S	**Sb**	**12 15 02.5**	**+1.3**
SEKA	**Sheki** SNR=15	**3.81**	**49**	P	**Pn**	**12 14 09.5**	**+3.0**
URFA	**Urfa**	**3.84**	**251**	*e*PN	**Pn**	**12 14 08.0**	**+1.0**
URFA	**Urfa**	**3.84**	**251**	*e*Pn	**Pn**	**12 14 08.0**	**+1.0**
URFA	**Urfa**	**3.84**	**251**	Pn	**Pn**	**12 14 08.0**	**+1.0**
LRK	**Lerik** SNR=6.4	**3.87**	**90**	⇑P	Pn	12 14 01.4	-6.0
LRK				⇓S	**Sn**	**12 14 48.0**	**-4.8**
LRK	**Lerik**	**3.87**	**90**	S	**Sn**	**12 14 48.0**	**-4.8**
GLBA	**Clilabad** SNR=4.9	**3.92**	**81**	⇑P	**Pn**	**12 14 04.0**	**-4.0**
GLBA				⇑S	**Sn**	**12 14 52.5**	**-1.3**
GLBA	**Clilabad** SNR=4.9	**3.92**	**81**	P	**Pn**	**12 14 04.0**	**-4.0**
GLBA				S	**Sn**	**12 14 52.5**	**-1.3**
ZEI	**Tsey**	**4.04**	**5**	*e*P	**Pn**	**12 14 12.1**	**+2.3**
ZEI				pmax	pmax		
	comp=Z,17nm,0.6s						
QBL	**Gabala** SNR=3.8	**4.05**	**56**	⇓P	**Pn**	**12 14 11.0**	**+1.2**
QBL	**Gabala** SNR=3.8	**4.05**	**56**	P	**Pn**	**12 14 11.0**	**+1.2**
IML	**Ismayilli** SNR=6.9	**4.21**	**60**	⇓P	**Pn**	**12 14 12.1**	**+0.1**
IML	**Ismayilli** SNR=6.9	**4.21**	**60**	P	**Pn**	**12 14 12.1**	**+0.1**
LKRN	**Lenkeran, Azer** SNR=4.4	**4.21**	**89**	⇑P	Pn	12 14 06.3	-5.6
LKRN				⇓S	**Sn**	**12 14 56.9**	**-4.0**
ASTR	**Astara** SNR=8.8	**4.23**	**91**	⇑P	Pn	12 14 06.0	-6.1
ASTR				⇓S	**Sn**	**12 14 56.4**	**-5.0**
XNQ	**Khinaliq** SNR=7.6	**4.37**	**55**	⇓P	**Pn**	**12 14 15.2**	**+0.9**
XNQ	**Khinaliq** SNR=7.6	**4.37**	**55**	P	**Pn**	**12 14 15.2**	**+0.9**
PQL	**Pirkuli** SNR=6.9	**4.49**	**62**	⇑P	**Pn**	**12 14 15.7**	**-0.2**
PQL				⇑S	**Sn**	**12 15 13.4**	**+5.4**
PQL	**Pirkuli** SNR=6.9	**4.49**	**62**	P	**Pn**	**12 14 15.7**	**-0.2**
QSAR	**Qusar** SNR=5.5	**4.63**	**52**	⇓P	**Pn**	**12 14 19.3**	**+1.5**
QSAR	**Qusar** SNR=5.5	**4.63**	**52**	P	**Pn**	**12 14 19.3**	**+1.5**
QUBA	**Quba, Azerbaij** SNR=6.7	**4.69**	**55**	⇑P	**Pn**	**12 14 19.8**	**+1.2**
QUBA	**Quba, Azerbaij** SNR=6.7	**4.69**	**55**	P	**Pn**	**12 14 19.8**	**+1.2**
IDHR	**Dehrash**	**4.71**	**148**	*e*Pn	**Pn**	**12 14 19.8**	**+0.8**
IDHR				*e*AMB	AMB	12 15 46.0	
	comp=Z,2μm,0.5s						
IDHR	**Dehrash**	**4.71**	**148**	*e*Pn	**Pn**	**12 14 19.8**	**+0.8**
ATGJ	**Altiaghaj** SNR=9.3	**4.75**	**62**	⇓P	**Pn**	**12 14 19.0**	**-0.5**
ATGJ	**Altiaghaj** SNR=9.3	**4.75**	**62**	P	**Pn**	**12 14 19.0**	**-0.5**
SIZA	**Siyzn** SNR=9.6	**4.82**	**60**	⇓P	**Pn**	**12 14 20.6**	**+0.2**
SIZA	**Siyzn** SNR=9.6	**4.82**	**60**	P	**Pn**	**12 14 20.6**	**+0.2**
KBZ	**Khabaz** comp=Z,0.2nm,0.3s,baz=176,slow=10,SNR=4.2	**4.98**	**356**	Pn	Pn	12 14 27.3	+4.9
KIV	**Kislovodsk**	**5.22**	**354**	*e*P	Pn	12 14 31.1	+5.3
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GOF	**Gofitskoye**	**6.30**	**358**	⇑*e*P	**Pb**	**12 14 56.5**	**-1.0**
BR101	**Keskin Array S**	**7.63**	**280**	*e*Pn	Pn	12 15 04.9	+5.8
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=3.5	**7.63**	**280**	Pn	Pn	12 15 04.9	+5.8
ASF	**Jabal al Asfar** comp=Z,0.4nm,0.3s,baz=182,slow=22,SNR=3.7	**8.44**	**221**	Pn	**Pn**	**12 15 13.0**	**+2.8**
ASF	**Jabal al Asfar**	**8.44**	**221**	P	**Pn**	**12 15 13.0**	**+2.8**
SORM	**Soroca**	**14.37**	**316**	⇑*iP*	**P**	**12 16 38.2**	**+0.1**
SORM	**Soroca**	**14.37**	**316**	⇑P	**P**	**12 16 38.2**	**+0.1**
SORM	**Soroca**	**14.37**	**316**	P	**P**	**12 16 38.2**	**+0.1**
MLR	**Muntele Rosu**	**14.58**	**303**	⇓*iP*	**P**	**12 16 44.3**	**+3.7**
MLR	**Muntele Rosu**	**14.58**	**303**	⇓*iP*	P	12 16 45.6	+5.0
MLR	**Muntele Rosu**	**14.58**	**303**	⇓P	**P**	**12 16 44.3**	**+3.7**
DOPR	**Dopca**	**15.12**	**304**	⇑*iP*	**P**	**12 16 49.8**	**+3.4**
VOIR		**15.15**	**302**	⇑*iP*	**P**	**12 16 49.7**	**+2.9**
VOIR		**15.15**	**302**	⇑P	**P**	**12 16 49.7**	**+2.9**
RAYN	**Ar Rayn**	**15.30**	**173**	*e*Pn	**Pn**	**12 16 40.2**	**-3.6**
	comp=Z,7.6nm,0.8s						
AKASG	**Malin Array Be** comp=Z,0.6nm,0.3s,baz=129,slow=12,SNR=6.4	**15.58**	**325**	Pn	**Pn**	**12 16 48.7**	**+1.4**
AKBB	**Malin Array Si**	**15.58**	**325**	*e*P	**Pn**	**12 16 48.7**	**+1.4**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si** comp=Z,3.6nm,0.8s	**15.58**	**325**	*e*Pn	**Pn**	**12 16 48.7**	**+1.4**
AKBB	**Malin Array Si** comp=Z,3.6nm,0.8s	**15.58**	**325**	*e*Pn	**Pn**	**12 16 48.7**	**+1.4**
AKTO	**Aktyubinsk** comp=Z,0.3nm,0.3s,baz=222,slow=10,SNR=7.3	**15.61**	**37**	Pn	**Pn**	**12 16 46.4**	**-1.2**
ABKAR	**Akbulak array** comp=Z,22nm,0.8s	**15.83**	**43**	*e*Pn	**P**	**12 16 52.9**	**-1.4**
ABKAR	**Akbulak array** comp=Z,22nm,0.8s	**15.83**	**43**	*e*Pn	**P**	**12 16 52.9**	**-1.4**
OBN	**Obninsk** comp=Z,14nm,0.3s,baz=182,slow=13,SNR=3.3	**16.99**	**346**	P	**P**	**12 17 07.4**	**+0.3**
OBN	**Obninsk**	**16.99**	**346**	*e*P	**P**	**12 17 06.7**	**-0.4**
OBN				pmax	pmax		
	comp=Z,49nm,1.7s						
KECS	**Kecovo**	**19.16**	**308**	*e*P	Pn	12 17 43.9	+12
KECS	**Kecovo**	**19.16**	**308**	*e*P	Pn	12 17 43.9	+12
VYHS	**Vyhne**	**20.19**	**307**	*e*P	Pn	12 17 49.5	+5.3
VYHS	**Vyhne**	**20.19**	**307**	*e*P	Pn	12 17 49.5	+5.3
ARU	**Arti** comp=Z,6.8nm,0.7s,baz=230,slow=5.6,SNR=12	**20.34**	**25**	P	**P**	**12 17 44.2**	**+0.4**
ARU	**Arti**	**20.34**	**25**	*d iP*	**P**	**12 17 44.7**	**+0.9**
ARU						12 18 01.0	
ARU				S	Sn	12 21 38.2	+3.6
ARU				SS	**PcP**	**12 21 58.3**	**+1.9**
ARU				pmax	pmax		
	comp=Z,22nm,1.2s						
ARU	**Arti** comp=Z,22nm,1.2s	**20.34**	**25**	*i P*	**P**	**12 17 44.7**	**+0.9**
ARU	**Arti**	**20.34**	**25**	PcP	**PcP**	**12 21 58.3**	**+1.9**
ARU	**Arti** comp=Z,35nm,1.4s	**20.34**	**25**	*e*P	Pn	12 17 45.0	-0.9
BLY	**Banja Luka** comp=Z,3.4nm,0.8s	**20.40**	**295**	*e*P	Pn	12 17 46.4	-0.3
BLY	**Banja Luka** comp=Z,3.4nm,0.8s	**20.40**	**295**	*e*P	Pn	12 17 46.4	-0.4
KKAR	**Karatay Array**	**20.90**	**69**	*e*P	**P**	**12 17 49.8**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,16nm,1.1s						
KKAR	**Karatay Array** comp=Z,16nm,1.1s	**20.90**	**69**	*e*P	**P**	**12 17 49.8**	**-0.3**
KKAR	**Karatay Array** comp=Z,16nm,1.1s	**20.90**	**69**	*e*P	**P**	**12 17 49.8**	**-0.3**
SVE	**Sverdlovsk**	**21.36**	**27**	*e*P	**P**	**12 17 58.4**	**+3.6**
SVE				pmax	pmax		
	comp=Z,15nm,1.2s						
DPC	**Dobruska-Polom**	**22.37**	**310**	*e*P	**P**	**12 18 11.5**	**+5.7**
DPC	**Dobruska-Polom**	**22.37**	**310**	*e*P	**P**	**12 18 11.5**	**+5.7**
UPC	**Upice**	**22.61**	**310**	*e*P	**P**	**12 18 14.3**	**+5.9**
UPC	**Upice**	**22.61**	**310**	*e*P	**P**	**12 18 14.3**	**+5.9**
BRVK	**Borovoye**	**23.36**	**43**	*ce*P	**P**	**12 18 19.3**	**+3.2**
BRVK				pmax	pmax		
	comp=Z,26nm,1.7s						

	comp=Z,7.2nm,1.3s											
IPM	Ipoh	62.24	108	eP		P			12 23 27.8	-2.1		
	comp=Z,7.2nm,1.3s											
INCN	Inchon	63.19	62	eP		P			12 23 35.0	-0.9		
	comp=Z,0.4nm,0.4s											
INCN	Inchon	63.19	62	eP		P			12 23 35.0	-0.9		
	comp=Z,0.4nm,0.4s											
MSHR	Mys Shultsa	63.71	55	ceP		P			12 23 39.2	0.0		
MSHR	Mys Shultsa	63.71	55	eP		P			12 23 39.2	0.0		
SEY	Seymchan	64.02	29	P		P			12 23 42.1	+1.2		
	comp=Z,2.9nm,0.7s,baz=304,slow=3.8,SNR=8.5											
KS15	Wonju Array Si	64.07	62	eP		P			12 23 41.4	-0.3		
KS15	Wonju Array Si	64.07	62	eP		P			12 23 41.4	-0.3		
KSAR	Wonju Array Be	64.07	62	P		P			12 23 41.4	-0.3		
KSAR	Wonju Array Be	64.07	62	P		P			12 23 41.4	-0.3		
KSAR	Wonju Array Be	64.07	62	P		P			12 23 41.4	-0.3		
KSRS	Korea Array	64.09	62	P		P			12 23 41.4	-0.4		
	comp=Z,1.1nm,0.8s,baz=290,slow=5.8,SNR=3.6											
MLY	Manley	75.95	6	eP		P			12 24 54.8	+0.6		
	comp=Z,8.9nm,1.4s											
MLY	Manley	75.95	6	eP		P			12 24 54.8	+0.6		
	comp=Z,8.9nm,1.4s											
MDM	Murphy Dome	76.21	5	eP		P			12 24 56.5	+0.8		
	comp=Z,3.3nm,1.2s											
MDM	Murphy Dome	76.21	5	eP		P			12 24 56.5	+0.8		
	comp=Z,3.3nm,1.2s											
ILAR	Eielson Array	76.48	5	P		P			12 24 57.0	-0.2		
	comp=Z,0.3nm,0.7s,baz=341,slow=4.3,SNR=4.1											
ILB	Eielson Array	76.48	5	eP		P			12 24 57.0	-0.2		
ILB	Eielson Array	76.48	5	eP		P			12 24 57.0	-0.2		
CCB	Clear Creek Bu	76.55	5	eP		P			12 24 57.3	-0.3		
	comp=Z,3.7nm,1.3s											
CCB	Clear Creek Bu	76.55	5	eP		P			12 24 57.3	-0.3		
	comp=Z,3.7nm,1.3s											
WRH	Wood River Hil	76.70	5	eP		P			12 24 58.4	0.0		
	comp=Z,4.1nm,1.2s											
WRH	Wood River Hil	76.70	5	eP		P			12 24 58.4	0.0		
	comp=Z,4.1nm,1.2s											
EGAK	Eagle	76.73	2	eP		P			12 24 59.0	+0.4		
	comp=Z,8.7nm,1.5s											
EGAK	Eagle	76.73	2	eP		P			12 24 59.0	+0.4		
	comp=Z,8.7nm,1.5s											
BPAW	Bear Paw Mtn.	76.84	6	eP		P			12 24 59.4	+0.1		
	comp=Z,6.1nm,1.4s											
BPAW	Bear Paw Mtn.	76.84	6	eP		P			12 24 59.4	+0.1		
	comp=Z,6.1nm,1.4s											
CAST	Castle Rocks	77.41	7	eP		P			12 25 02.8	+0.3		
	comp=Z,3.8nm,0.9s											
CAST	Castle Rocks	77.41	7	eP		P			12 25 02.8	+0.3		
	comp=Z,3.8nm,0.9s											
TT01	Tatalina	77.48	9	eP		P			12 25 03.8	+1.0		
TT01	Tatalina	77.48	9	eP		P			12 25 03.8	+1.0		
DAWY	Dawson	77.49	1	eP		P			12 25 03.1	+0.2		
	comp=Z,10nm,1.4s											
DAWY	Dawson	77.49	1	eP		P			12 25 03.1	+0.2		
	comp=Z,10nm,1.4s											
RND	Reindeer	77.70	6	eP		P			12 25 03.6	-0.6		
RND					pmax	pmax						
	comp=Z,3.0nm,1.3s											
RND	Reindeer	77.70	6	eP		P			12 25 03.6	-0.6		
	comp=Z,3.4nm,1.3s											
RND	Reindeer	77.70	6	eP		P			12 25 03.6	-0.6		
	comp=Z,3.4nm,1.3s											
DOT	Dot Lake	77.76	3	eP		P			12 25 05.2	+0.8		
	comp=Z,7.1nm,0.8s											
DOT	Dot Lake	77.76	3	eP		P			12 25 05.2	+0.8		
	comp=Z,7.1nm,0.8s											
PPLA	Purkeypile	77.91	7	eP		P			12 25 05.6	+0.2		
	comp=Z,8.4nm,1.3s											
PPLA	Purkeypile	77.91	7	eP		P			12 25 05.6	+0.2		
	comp=Z,8.4nm,1.3s											
DHY	Denali Highway	78.14	5	eP		P			12 25 06.9	+0.2		
	comp=Z,5.7nm,1.4s											
DHY	Denali Highway	78.14	5	eP		P			12 25 06.9	+0.2		
	comp=Z,5.7nm,1.4s											
MENT	Mentasta	78.48	3	eP		P			12 25 08.7	+0.2		
	comp=Z,4.6nm,1.1s											
MENT	Mentasta	78.48	3	eP		P			12 25 08.7	+0.2		
	comp=Z,4.6nm,1.1s											
SML	Sawmill	79.33	6	eP		P			12 25 12.5	-0.6		
SML					pmax	pmax						
	comp=Z,5.0nm,0.8s											
SML	Sawmill	79.33	6	eP		P			12 25 12.5	-0.6		
	comp=Z,5.3nm,0.8s											
SML	Sawmill	79.33	6	eP		P			12 25 12.5	-0.6		
	comp=Z,5.3nm,0.8s											
SCM	Sheep Creek Mo	79.38	5	eP		P			12 25 14.1	+0.7		
SCM					pmax	pmax						
	comp=Z,12nm,1.2s											
SCM	Sheep Creek Mo	79.38	5	eP		P			12 25 14.1	+0.7		
	comp=Z,12nm,1.2s											
SCM	Sheep Creek Mo	79.38	5	eP		P			12 25 14.1	+0.7		
	comp=Z,12nm,1.2s											
SUA	Susitna One	79.46	7	eP		P			12 25 14.0	+0.1		
	comp=Z,4.3nm,0.7s											
SUA	Susitna One	79.46	7	eP		P			12 25 14.0	+0.1		
	comp=Z,4.3nm,0.7s											
KLU	Klutina	79.81	5	eP		P			12 25 16.9	+1.1		
	comp=Z,9.9nm,1.2s											
KLU	Klutina	79.81	5	eP		P			12 25 16.9	+1.1		
	comp=Z,9.9nm,1.2s											
LONY	Lake Ozonia	79.95	320	eP		P			12 25 17.0	+0.2		
	comp=Z,6.9nm,1.3s											
LONY	Lake Ozonia	79.95	320	eP		P			12 25 17.0	+0.2		
	comp=Z,7.0nm,1.3s											
BALM	Baldy	80.44	3	eP		P			12 25 20.1	+0.8		
BALM					pmax	pmax						
	comp=Z,10.0nm,1.3s											
BALM	Baldy	80.44	3	eP		P			12 25 20.1	+0.8		
	comp=Z,10nm,1.3s											
BALM	Baldy	80.44	3	eP		P			12 25 20.1	+0.8		
	comp=Z,10nm,1.3s											
CRQM	Cirque	80.69	3	eP		P			12 25 21.3	+0.6		
	comp=Z,12nm,1.2s											
CRQM	Cirque	80.69	3	eP		P			12 25 21.3	+0.6		
	comp=Z,12nm,1.2s											
HYT	Haines Junctio	80.76	0	eP		P			12 25 21.6	+0.6		
	comp=Z,11nm,1.3s											
HYT	Haines Junctio	80.76	0	eP		P			12 25 21.6	+0.6		
	comp=Z,11nm,1.3s											
CNPM	China Poot	81.32	7	eP		P			12 25 24.5	+0.6		
	comp=Z,13nm,1.4s											
CNPM	China Poot	81.32	7	eP		P			12 25 24.5	+0.6		
	comp=Z,13nm,1.4s											
KDAK	Kodiak Island	82.88	9	ceP		P			12 25 32.5	+0.5		
KDAK	Kodiak Island	82.88	9	eP		P			12 25 32.5	+0.5		
KDAK	Kodiak Island	82.88	9	eP		P			12 25 31.7	-0.3		
	comp=Z,9.8nm,0.9s											
OHAK	Old Harbor	83.35	9	eP		P			12 25 34.7	+0.3		
	comp=Z,18nm,1.2s											
OHAK	Old Harbor	83.35	9	eP		P			12 25 34.7	+0.3		
	comp=Z,18nm,1.2s											
DGMT	Dagmar	88.50	339	eP		P			12 26 00.9	+0.7		
	comp=Z,8.4nm,1.1s											
DGMT	Dagmar	88.50	339	eP		P			12 26 00.9	+0.7		
	comp=Z,8.4nm,1.1s											
AIN	Ainahou	119.53	21	ePKIKP		PKPdf			12 31 56.4	-1.8		
AIN	Ainahou	119.53	21	ePKPdf		PKPdf			12 31 56.4	-1.8		
LHI	Lord Howe Isla	127.85	103	ePKIKP		PKPdf			12 32 14.0	+0.6		
LHI	Lord Howe Isla	127.85	103	ePKPdf		PKPdf			12 32 14.0	+0.6		
GO05	HualaæØ	129.10	253	ePKIKP		PKPdf			12 32 14.8	-0.9		
GO05	HualaæØ	129.10	253	ePKPdf		PKPdf			12 32 14.8	-0.9		
MXZ	Matakaoa Point	144.80	102	ePKIKP		PKPdf			12 32 45.3	+0.8		
MXZ	Matakaoa Point	144.80	102	ePKPdf		PKPdf			12 32 45.3	+0.8		
PPTF	Pamatai, Papee	156.06	32	ePKIKP		PKPdf			12 33 01.2	-1.4		
PPTF	Pamatai, Papee	156.06	32	ePKPdf		PKPdf			12 33 01.2	-1.4		

*KLM **23** 12:13:10.0,2.°71S×98.°66E,h33km,mb4.5*
*IDC **23** 12:13:20.1±0.7,1.°70S×99.°73E,h0km,mb4.2/20, mb1 4.3/21,mb1mx4.1/61,mbtmp4.2/21,ML3.7/1, Error ellipse: s-maj=25.4km s-min=13.5km az=66.0*
*ISCJB **23** 12:13:22.9±0.3,1.°76S±0.°03×99.°61E±0.°04,h30km, mb4.5/33,Error ellipse: s-maj=6.0km s-min=3.8km az=139.9*
*DJA **23** 12:13:24.5±0.3,2.°5S±3.°×10.°0E±.°,h10km,M4.5/18,mB5.9/1, mb4.7/8,MLv4.4/18,Mw(mB)5.5/1*
*NEIC **23** 12:13:25.4±0.8,1.°75S×99.°68E,h36km±6km,mb4.5/20, Error ellipse: s-maj=10.0km s-min=4.2km az=62.0*
ISC 23 12:13:24.6±0.4,**1.°74S**±0.°05×**99.°62E**±0.°06,**h30**km,**n99,** σ1♀**18**/98,**mb4.5**/33,**2C-4D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.66	308	P	Pb	12 13 37.0	-0.7
SISI				S	Sb	12 13 47.5	+0.8
PPSI	Pulau Pagai	1.09	159	P	Pn	12 13 43.7	-0.2
PDSI	Padang	1.18	46	P	Pn	12 13 44.2	-0.8
PDSI				S	Sn	12 13 59.4	-0.7
PBSI	Pulau Batu	2.14	321	P	Pb	12 14 01.1	-1.5
BKNI	Bangkinang	2.49	35	P	Pn	12 14 04.7	+1.6
BKNI	Bangkinang	2.49	35	ePn	Pn	12 14 03.7	+0.5
MASI	Maura Aman, Be	2.97	118	P	Pn	12 14 11.2	+1.5
RGRI	Rengat	3.05	63	P	Pn	12 14 12.4	+1.7
MNAI	Manna	4.23	128	ePn	Pn	12 14 27.3	+0.2
MNAI				eSn	Sn	12 15 14.5	-1.0
LHSI	Lahat	4.42	118	P	Pn	12 14 33.1	+3.5
PSI	Prapat	4.56	351	Pn	Pn	12 14 30.5	-1.2
	3.9nm,0.3s,baz=177,slow=11,SNR=14						
PSI	Prapat	4.56	351	ePn	Pn	12 14 30.7	-0.9
DSRI	Dabo	5.12	76	P	Pn	12 14 39.9	+0.7
KGM	Kluang	5.25	45	⇑P	Pn	12 14 42.9	+1.8
MDSI	Maura Dua	5.31	121	P	Pn	12 14 43.7	+1.8
FRIM	Kepong	5.33	22	⇓P	Pn	12 14 44.2	+2.0
MYKOM	Kota Tinggi	5.50	50	ePn	Pn	12 14 45.3	+0.9
MYKOM	Kota Tinggi	5.50	50	⇓P	Pn	12 14 46.4	+2.0
LWLI	Liwa	5.50	126	P	Pn	12 14 46.8	+2.1
	180nm,0.7s,0.9nm						
TPTI		5.53	334	P	Pn	12 14 47.3	+2.4
KCSI	Kotacane, Aceh	5.54	341	P	Pn	12 14 47.8	+2.8
	46nm,1.0s,0.3nm						
TPRI	Tanjung Pinang	5.57	62	P	Pn	12 14 47.7	+2.2
	101nm,0.5s,10μm0.6nm						
KLSI		5.89	120	P	Pn	12 14 51.8	+2.0
IPM	Ipoh	6.33	13	ePn	Pn	12 14 57.7	+1.7
IPM	Ipoh	6.33	13	⇓P	Pn	12 14 58.1	+2.1
KULM	Kulim	7.05	8	ePn	Pn	12 15 06.8	+0.9
KULM	Kulim	7.05	8	⇓P	Pn	12 15 07.3	+1.4
KTGM	Kuala Trenggan	7.85	27	⇑P	Pn	12 15 19.3	+2.6
CISI	Cisompet, Garu	10.01	126	ePn	Pn	12 15 44.0	-2.5
UGM	Wanagama	12.48	120	ePn	Pn	12 16 19.6	-0.6
JAGI	Jajag, Banyuwa	15.94	115	ePn	Pn	12 17 06.3	-0.6
	14nm,0.8s						
KKM	Kota Kinabalu	18.29	65	eP	Pn	12 17 37.2	+0.8
	28nm,1.1s						
CM31	Chiang Mai Arr	20.08	358	eP	P	12 17 55.0	-0.8
CMAR	Chiang Mai Arr	20.08	358	P	P	12 17 54.9	-0.8
	1.7nm,0.5s,baz=188,slow=10,SNR=14						
MYLDM	Lahad Datu	20.08	70	eP	Pn	12 17 57.4	-0.3
	21nm,1.4s						
MRSI	Marisa	22.43	85	P	P	12 18 28.6	+7.4
H08S2	Diego Garcia H	27.65	257	T	T	12 47 50.2	
	baz=80,slow=75,SNR=92						
H08S3	Diego Garcia H	27.66	257	T	T	12 47 48.5	
	baz=80,slow=75,SNR=70						
H08S1	Diego Garcia H	27.67	257	T	T	12 47 43.1	
	baz=80,slow=75,SNR=83						
FITZ	Fitzroy Crossi	30.28	124	eP	P	12 19 32.6	-0.6
ENH	Enshi	33.19	16	eP	P	12 19 56.8	-2.0
	7.4nm,0.4s						
WRA	Warramunga Arr	38.46	120	P	P	12 20 42.7	-1.4
	2.0nm,0.6s,baz=303,slow=9.1,SNR=22						
WRA				PcP	PcP	12 22 57.0	-0.1
	0.3nm,0.5s,baz=311,slow=2.6,SNR=4.9						
WR1	Warramunga Arr	38.46	120	eP	P	12 20 42.7	-1.4
	12nm,1.5s						
WR1				ePcP	PcP	12 22 57.0	-0.1
WRAB	Tennant Creek	38.46	120	eP	P	12 20 43.8	-0.3
	16nm,1.5s						
WB2	Warramunga Arr	38.47	120	eP	P	12 20 43.4	-0.8
	20nm,1.6s						
AS31	Alice Springs	39.72	126	eP	P	12 20 53.9	-0.8
	1.0nm,0.6s						
AS31				ePcP	PcP	12 23 01.2	+0.2
ASAR	Alice Springs	39.72	126	P	P	12 20 53.9	-0.8
	1.3nm,0.5s,baz=302,slow=8.4,SNR=38						
ASAR				PcP	PcP	12 23 01.2	+0.2
	0.9nm,0.8s,baz=306,slow=2.4,SNR=6.5						
BBOO	Buckleboo	46.10	136	eP	P	12 21 46.3	+0.1
	25nm,1.4s						
KS15	Wonju Array Si	46.96	31	eP	P	12 21 52.0	-0.8
KSAR	Wonju Array Be	46.96	31	P	P	12 21 52.0	-0.8
KSRS	Korea Array	46.99	31	P	P	12 21 52.0	-1.0
	1.7nm,0.6s,baz=227,slow=8.2,SNR=10						
STKA	Stephens Creek	49.61	132	P	P	12 22 13.5	0.0
	1.0nm,0.4s,baz=323,slow=6.0,SNR=4.9						
STKA	Stephens Creek	49.61	132	eP	P	12 22 13.5	0.0
	3.0nm,1.5s						
SONA0	Songino Array	49.72	6	eP	P	12 22 14.1	0.0
	2.7nm,1.0s						
SONM	Songino Array	49.72	6	P	P	12 22 14.1	0.0
	1.4nm,0.5s,baz=192,slow=10,SNR=10						
MK31	Makanchi Array	50.67	345	eP	P	12 22 21.6	+0.4
MK32	Makanchi Array	50.67	345	eP	P	12 22 21.5	+0.3
MKAR	Makanchi Array	50.67	345	P	P	12 22 21.5	+0.3
	1.7nm,0.3s,baz=162,slow=8.4,SNR=43						
MKAR	Makanchi Array	50.67	345	eP	P	12 22 21.6	+0.4
	22nm,0.8s						
USRK	Ussuriysk Ar.	54.11	28	P	P	12 22 46.0	-0.6
	3.4nm,0.6s,baz=256,slow=6.3,SNR=6.2						
KURBB	Kurchatov Arra	55.19	344	P	P	12 22 54.1	-0.3
	1.8nm,0.8s,baz=168,slow=6.5,SNR=19						
KURK	Kurchatov	55.25	344	eP	P	12 22 55.7	+0.9
	5.0nm,0.9s						
ZALV	Zalesovo Beam	56.84	350	P	P	12 23 06.2	0.0
	4.4nm,0.3s,baz=170,slow=6.5,SNR=4.0						
ZAA1	Zalesovo Array	56.84	350	eP	P	12 23 06.2	0.0
ASAJ	Asahikawa	59.62	35	P	P	12 23 26.1	+0.3
	2.8nm,0.5s,baz=258,slow=4.6,SNR=6.3						
ASAJ	Asahikawa	59.62	35	eP	P	12 23 26.1	+0.3
	49nm,1.5s						
BVAR	Borovoye Array	59.81	340	P	P	12 23 28.6	+1.7
	0.7nm,0.4s,baz=140,slow=11,SNR=6.2						
MAW	Mawson	70.44	194	P	P	12 24 37.3	+1.7
	1.9nm,0.7s,baz=48,slow=4.1,SNR=6.0						
MAW	Mawson	70.44	194	eP	P	12 24 37.3	+1.7
	0.6nm,0.8s						
BR101	Keskin Array S	72.86	313	eP	P	12 24 50.1	-0.9
BRTR	Keskin Array B	72.86	313	P	P	12 24 50.1	-0.9
	0.5nm,0.5s,baz=108,slow=9.3,SNR=2.6						
PETK	Petropavlovsk-	72.87	32	P	P	12 24 49.8	-0.8
	0.9nm,0.6s,baz=7.1,slow=0.9,SNR=4.7						
PEA1	Petropavlovsk-	72.87	32	eP	P	12 24 49.8	-0.8
MA2	Magadan	72.95	24	P	P	12 24 50.6	-0.3
	14nm,1.0s,baz=223,slow=5.2,SNR=4.8						
PET	Petropavlovsk	73.34	33	eP	P	12 24 52.9	-0.4
	174nm,1.9s						
SEY	Seymchan	75.53	22	P	P	12 25 05.6	-0.2
	1.3nm,0.5s,baz=260,slow=4.5,SNR=6.8						
TIXI	Tiksi	75.66	9	P	P	12 25 05.4	-1.0
	1.3nm,0.5s,baz=171,slow=3.1,SNR=8.5						
TIXI	Tiksi	75.66	9	eP	P	12 25 05.3	-1.1
	4.5nm,1.4s						
AKBB	Malin Array Si	79.04	322	eP	P	12 25 25.6	-0.3
	15nm,1.4s						
KIEV	Kiev	79.05	322	eP	P	12 25 25.6	-0.3
	13nm,1.4s						
BUR08	Bucovina Ar. S	80.83	319	eP	P	12 25 36.7	+1.0
SBA	Scott Base	83.59	169	eP	P	12 25 50.4	+0.9
	21nm,1.8s						
FIA0	FINESS Array S	83.70	332	eP	P	12 25 50.7	+0.4
FINES	FINESS Array B	83.70	332	P	P	12 25 50.7	+0.4
	1.6nm,0.7s,baz=122,slow=7.0,SNR=6.9						
ARA0	ARCESS Array S	86.10	340	eP	P	12 26 03.2	+1.0
ARCES	ARCESS Array B	86.10	340	P	P	12 26 03.2	+1.0
	1.3nm,0.6s,baz=92,slow=3.6,SNR=6.2						
CUC	Castrocucco	86.35	310	eP	P	12 26 05.0	+0.8
	5.8nm,1.1s						
QSPA	South Pole Qui	88.22	180	eP	P	12 26 13.6	+0.8
ATKA	Atka Island	89.02	38	eP	P	12 26 17.0	+0.4
	256nm,1.7s						
CPUP	Villa Florida	144.30	217	PKP	PKPbc	12 32 57.3	+0.5
	4.3nm,0.7s,baz=157,slow=2.6,SNR=9.8						
TX31	Lajitas Ar. Si	144.72	37	ePKPdf	PKPbc	12 32 58.6	+0.4
TXAR	Lajitas Array	144.72	37	PKP	PKPbc	12 32 58.5	+0.3
	0.9nm,0.4s,baz=216,slow=0.6,SNR=33						
WVT	Waverly	145.09	11	ePKPbc	PKPbc	12 32 58.2	-0.8
MIAR	Mount Ida	145.11	19	ePKPbc	PKPbc	12 32 59.1	-0.1
JCT	Junction City	146.00	31	ePKPdf	PKPab	12 33 02.6	0.0
TKL	Tuckaleechee C	146.10	5	ePKPdf	PKPdf	12 33 01.8	+0.4
CPCT	Cooper Cave	146.24	6	ePKPdf	PKPdf	12 33 02.0	+0.3
SWET	Sewanee	146.29	8	ePKPdf	PKPdf	12 33 02.0	+0.2
BG3	Lake Jocassee	146.83	4	ePKPbc	PKPbc	12 33 04.4	0.0

*AZER **23** 12:17:24.3±0.7,37.°76N×43.°04E,h5km,Error ellipse: s-maj=8.3km s-min=6.4km az=146.0*
*DDA **23** 12:17:33.8,38.°73N×43.°56E,h15km,Ml4.2*
*ISK **23** 12:17:33.3,38.°81N×43.°64E,h5km,ML3.9*

*IDC **23** 12:17:34.1±1.7,38.°79N×43.°57E,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.6/50,mbtmp3.7/11,ML3.6/2,Error ellipse: s-maj=25.8km s-min=17.1km az=8.0*
*CSEM **23** 12:17:35.6±0.2,38.°73N×43.°52E,h2km,ML4.2,Error ellipse: s-maj=5.4km s-min=4.2km az=166.0*
*TEH **23** 12:17:38.3,38.°88N×43.°75E,h18km,ML4.0*
ISC 23 12:17:35.1±0.8,**38.°74N**±0.°02×**43.°53E**±0.°02,**h9**km±5km, **n125,** σ1♀**88**/162,**mb3.7**/7,**21C-21D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.23	205	⇓iP	Pb	12 17 40.9	+1.1
TVAN				i S	Sg	12 17 45.9	+2.9
TVAN	Van	0.23	205	P	Pb	12 17 40.9	+1.1
TVAN				S	Sg	12 17 45.9	+2.9
VMUR	Van-Muradiye	0.25	7	⇓iP	Pg	12 17 38.8	-1.5
VMUR				i S	Sg	12 17 44.1	+0.4
GEVA	Gevas	0.56	221	⇑iP	Pg	12 17 44.2	-1.8
GEVA				i S	Sg	12 17 53.4	0.0
BASK	Baskale_VAN	0.78	151	⇑iP	Pg	12 17 47.8	-2.3
BASK				i S	Sg	12 17 59.2	-1.1
DYDN	Diyadin	0.81	9	⇓iP	Pg	12 17 49.2	-1.6
DYDN				i S	Sg	12 18 01.8	+0.4
TUTA	Tutak	0.87	320	⇑iP	Pg	12 17 50.0	-1.8
TUTA				i S	Sg	12 18 03.4	+0.3
AGRB	Hanur-Agry	0.94	334	ePG	Pg	12 17 51.4	-1.7
AGRB				eSG	Sb	12 18 05.7	-0.5
AGRB	Hanur-Agry	0.94	334	ePg	Pg	12 17 51.4	-1.7
AGRB				eSg	Sb	12 18 05.7	-0.5
HAKT	HAKKARI	1.19	173	⇓iP	Pb	12 17 53.9	-4.0
HAKT				i S	Sn	12 18 14.7	+0.2
EKAR	Karacoban	1.25	295	iP	Pg	12 17 59.2	0.0
EKAR				i S	Sn	12 18 17.6	+1.4
EKAR	Karacoban	1.25	295	P	Pg	12 17 59.2	0.0
EKAR				S	Sn	12 18 17.6	+1.4
EATA	Eleskirt	1.38	325	⇑iP	Pn	12 17 59.6	-1.3
EATA				i S	Sb	12 18 19.0	-0.2
CUKT	Cukurca	1.49	178	ePN	Pb	12 18 03.1	+0.1
CUKT				eSN	Sg	12 18 24.9	+2.0
CUKT	Cukurca	1.49	178	iP	Pn	12 18 02.5	+0.3
CUKT				i S	Sg	12 18 27.1	+4.2
CUKT	Cukurca	1.49	178	P	Pn	12 18 02.5	+0.3
CUKT	Cukurca	1.49	178	ePn	Pb	12 18 03.1	+0.1
CUKT				eSn	Sg	12 18 24.9	+2.0
SIRN	S¨–rnak	1.52	216	⇑iP	Pn	12 18 02.6	0.0
SIRN				i S	Sn	12 18 22.4	-0.2
SIRN	S¨–rnak	1.52	216	P	Pn	12 18 02.6	0.0
SIRN				S	Sn	12 18 22.4	-0.2
NAX	Nakhchivan	1.59	74	⇑P	Pn	12 18 03.4	-0.2
	SNR=21						
NAX				⇑S	Sg	12 18 27.7	+1.5
NAX	Nakhchivan	1.59	74	P	Pn	12 18 03.4	-0.2
	SNR=21						
NAX				S	Sg	12 18 27.7	+1.5
VRTB	Varto-Mus	1.67	285	ePN	Pb	12 18 06.0	-0.1
VRTB	Varto-Mus	1.67	285	ePn	Pb	12 18 06.0	-0.1
DIGO	Kars	1.68	356	⇑iP	Pn	12 18 04.7	-0.2
DIGO				i S	Sg	12 18 32.4	+3.3
DIGO	Kars	1.68	356	P	Pn	12 18 04.7	-0.2
GNI	Garni	1.69	33	Pn	Pn	12 18 05.4	+0.4
	63nm,0.3s,baz=334,slow=12,SNR=24						
ISHB	Shabestar	1.70	105	eAMB	AMB	12 18 10.9	
	comp=Z,22μm,0.4s						
ISHB				ePn	Pn	12 18 04.7	-0.5
ISHB				eSg	Sn	12 18 27.8	+0.6
IMRD	Marand	1.70	90	eAMB	AMB	12 18 36.0	
	comp=Z,48μm,0.4s						
IMRD				ePn	Pn	12 18 04.4	-0

SNR=8.1
LKRN S **Sn** **12 19 30.1 +3.9**
ASTR Astara 4.12 91 ⇓P **Pn** **12 18 34.5 -3.8**
SNR=5.0
ASTR ⇑S **Sn** **12 19 29.9 +3.3**
XNQ Khinaliq 4.30 54 ⇓P **Pn** **12 18 42.6 +1.8**
SNR=8.6
XNQ Khinaliq 4.30 54 P **Pn** **12 18 42.6 +1.8**
SNR=8.6
PQL Pirkuli 4.41 61 ⇑P **Pn** **12 18 44.0 +1.7**
SNR=5.4
PQL Pirkuli 4.41 61 P **Pn** **12 18 44.0 +1.7**
SNR=5.4
GBS Qobustan 4.55 65 ⇑P **Pn** **12 18 45.4 +1.2**
GBS Qobustan 4.55 65 P **Pn** **12 18 45.4 +1.2**
QSAR Qusar 4.57 51 ⇑P **Pn** **12 18 46.9 +2.5**
SNR=5.3
QSAR Qusar 4.57 51 P **Pn** **12 18 46.9 +2.5**
SNR=5.3
QUBA Quba, Azerbaij 4.62 54 ⇓P **Pn** **12 18 47.2 +2.1**
SNR=6.6
QUBA Quba, Azerbaij 4.62 54 P **Pn** **12 18 47.2 +2.1**
SNR=6.6
IDHR Dehrash 4.64 149 *e*Pn **Pn** **12 18 47.6 +2.1**
IDHR *e*AMB AMB 12 20 23.6
comp=Z,3μm,0.6s
IDHR Dehrash 4.64 149 *e*Pn **Pn** **12 18 47.6 +2.1**
ATGJ Altiaghaj 4.67 61 ⇓P **Pn** **12 18 47.6 +1.7**
ATGJ Altiaghaj 4.67 61 P **Pn** **12 18 47.6 +1.7**
DARE Darende-Malaty 4.74 270 *e*PN **Pn** **12 18 49.0 +2.2**
DARE Darende-Malaty 4.74 270 *e*Pn **Pn** **12 18 49.0 +2.2**
SIZA Siyzn 4.74 59 ⇓P **Pn** **12 18 49.3 +2.5**
SNR=6.7
SIZA Siyzn 4.74 59 P **Pn** **12 18 49.3 +2.5**
SNR=6.7
KBZ Khabaz 5.01 355 Pn **Pn** **12 18 53.6 +3.2**
comp=Z,0.1nm,0.3s,baz=177,slow=9.2,SNR=4.0
SVSK Karacayir 5.20 285 *e*PN **Pn** **12 18 55.9 +2.9**
SVSK Karacayir 5.20 285 *e*Pn **Pn** **12 18 55.9 +2.9**
BRTR Keskin Array B 7.74 280 Pn Pn 12 19 34.4 +6.3
comp=Z,0.1nm,0.3s,baz=101,slow=6.2,SNR=3.5
DOPR Dopca 15.22 304 ⇓*i*P **P** **12 21 12.7 -2.5**
VOIR 15.25 302 ⇑*i*P **P** **12 21 17.6 +2.0**
AKTO Aktyubinsk 15.56 37 Pn **Pn** **12 21 12.0 -2.6**
comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=6.1
AKASG Malin Array Be 15.66 324 Pn **Pn** **12 21 13.6 -2.3**
comp=Z,0.6nm,0.3s,baz=127,slow=11,SNR=4.2
BURAR Bucovina Array 16.01 310 ⇑*i*P **Pn** **12 21 19.9 -0.6**
CRVS Cervenica-Dubn 18.83 310 *e*P **Pn** **12 21 56.1 +0.6**
VYHS Vyhne 20.29 307 *e*P Pn 12 22 11.9 -1.1
ARU Arti 20.32 25 P **P** **12 22 11.5 +0.3**
comp=Z,2.3nm,0.4s,baz=222,slow=5.8,SNR=7.6
VRAC Vranov 21.95 308 P **P** **12 22 30.9 +1.9**
comp=Z,1.2nm,0.3s,baz=74,slow=12,SNR=3.6
DPC Dobruska-Polom 22.47 310 *e*P **P** **12 22 34.9 +0.4**
BVAR Borovoye Array 23.35 44 P **P** **12 22 43.9 +0.3**
comp=Z,0.5nm,0.5s,baz=235,slow=5.2,SNR=4.8
GERES GERESS Array B 23.65 305 P **P** **12 22 45.8 -0.9**
comp=Z,0.4nm,0.5s,baz=97,slow=11,SNR=5.7
KHC Kasperske Hory 23.80 306 *e*P **P** **12 22 47.2 -0.9**
KHC Kasperske Hory 23.80 306 *e*Sn **P** **12 22 47.4 -0.7**
FINES FINESS Array B 25.17 340 P **P** **12 23 00.1 -0.4**
comp=Z,0.5nm,0.6s,baz=137,slow=15,SNR=2.8
KURBB Kurchatov Arra 27.32 53 P **P** **12 23 19.9 -0.1**
comp=Z,2.9nm,0.7s,baz=262,slow=9.1,SNR=7.8
CMAR Chiang Mai Arr 51.87 97 P **P** **12 26 43.5 -0.5**
comp=Z,0.5nm,0.3s,baz=290,slow=7.8,SNR=4.4
KSRS Korea Array 64.01 62 P **P** **12 28 10.3 +1.3**
comp=Z,1.6nm,1.0s,baz=297,slow=5.3,SNR=4.6

*CSEM **23** 12:18:35.4, 38°.75N×43°.15E, h7km, MD2.8*
DDA 23 12:18:35.4, 38°.75N×43°.15E, h7km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.30**	**138**	*i* P	Pg	12 18 42.1	+0.7
TVAN				*i* S	Sg	12 18 46.1	+0.8
TVAN	**Van**	**0.30**	**138**	P	Pg	12 18 42.1	+0.7
TVAN				S	Sg	12 18 46.1	+0.7
VMUR	**Van-Muradiye**	**0.41**	**54**	*i* P	Pg	12 18 41.0	-2.4
VMUR	**Van-Muradiye**	**0.41**	**54**	P	Pg	12 18 41.0	-2.4
GEVA	**Gevas**	**0.44**	**189**	*i* P	Pg	12 18 44.1	+0.1
GEVA				*i* S	Sg	12 18 51.1	+1.2
GEVA	**Gevas**	**0.44**	**189**	P	Pg	12 18 44.1	+0.1
GEVA				S	Sg	12 18 51.1	+1.2
TUTA	**Tutak**	**0.70**	**338**	*i* P	Pg	12 18 49.3	+0.3
TUTA				*i* S	Sn	12 19 04.8	+1.6
TUTA	**Tutak**	**0.70**	**338**	P	Pg	12 18 49.3	+0.4
TUTA				S	Sn	12 19 04.8	+1.6
EATA	**Eleskirt**	**1.22**	**336**	*i* P	Pg	12 18 58.4	-0.5
EATA	**Eleskirt**	**1.22**	**336**	P	Pg	12 18 58.3	-0.6

*DDA **23** 12:20:00.7, 38°.74N×43°.51E, h21km, Ml4.0*
*ISK **23** 12:20:00.0, 38°.79N×43°.51E, h5km, ML3.7*
*AZER **23** 12:20:00.4±0.5, 38°.29N×43°.39E, h46km±53km, Error ellipse: s-maj=4.4km s-min=3.2km az=72.0*
*CSEM **23** 12:20:02.3±0.2, 38°.77N×43°.47E, h10km, ML4.0, Error ellipse: s-maj=5.2km s-min=4.2km az=146.0*
ISC 23 12:20:01.7±0.9, 38°.74N±0°.02×43°.54E±0°.02, h10km±8km, n83, σ1961/133, 20C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.23**	**206**	⇑*i*P	Pg	12 20 07.2	+0.6
TVAN				*i* S	Sg	12 20 11.6	+1.7
TVAN	**Van**	**0.23**	**206**	P	Pg	12 20 07.2	+0.6
TVAN				S	Sg	12 20 11.6	+1.7
VMUR	**Van-Muradiye**	**0.25**	**6**	⇓*i*P	Pg	12 20 05.7	-1.2
VMUR				*i* S	Sb	12 20 12.0	-1.0
VMUR	**Van-Muradiye**	**0.25**	**6**	P	Pg	12 20 05.7	-1.2
VMUR				S	Sb	12 20 12.0	-1.0
GEVA	**Gevas**	**0.57**	**221**	⇑*i*P	Pg	12 20 09.9	-2.9
GEVA				*i* S	Sg	12 20 19.7	-0.5
BASK	**Baskale_VAN**	**0.78**	**152**	*i* P	Pg	12 20 14.6	-2.2
BASK				*i* S	Sb	12 20 28.4	+0.2
DYDN	**Diyadin**	**0.81**	**8**	⇑*i*P	Pg	12 20 16.2	-1.2
DYDN				*i* S	Sb	12 20 29.9	+0.7
DYDN	**Diyadin**	**0.81**	**8**	P	Pg	12 20 16.2	-1.2
DYDN				S	Sb	12 20 29.9	+0.7
TUTA	**Tutak**	**0.87**	**320**	⇑*i*P	Pg	12 20 16.2	-2.2
TUTA				*i* S	Sg	12 20 29.4	-0.4
TUTA	**Tutak**	**0.87**	**320**	P	Pg	12 20 16.2	-2.2
TUTA				S	Sg	12 20 29.4	-0.4
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*PG	Pg	12 20 17.9	-1.8
AGRB				*e*SG	Sg	12 20 31.6	-0.4
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*Pg	Pg	12 20 17.9	-1.8
AGRB				*e*Sg	Sg	12 20 31.6	-0.4
EKAR	**Karacoban**	**1.26**	**295**	*i* P	Pn	12 20 24.4	-1.2
EKAR				*i* S	Sn	12 20 45.9	+3.2
EKAR	**Karacoban**	**1.26**	**295**	P	Pn	12 20 24.4	-1.2
EATA	**Eleskirt**	**1.38**	**324**	⇑*i*P	Pn	12 20 25.8	-1.6
EATA				*i* S	Sg	12 20 47.1	+0.8
EATA	**Eleskirt**	**1.38**	**324**	P	Pn	12 20 25.8	-1.6
EATA				S	Sg	12 20 47.1	+0.8
CUKT	**Cukurca**	**1.49**	**178**	*e*PN	Pb	12 20 29.9	+0.4
CUKT				*e*SN	Sg	12 20 51.3	+1.7
CUKT	**Cukurca**	**1.49**	**178**	*e*Pn	Pb	12 20 29.9	+0.4
CUKT				*e*Sn	Sg	12 20 51.3	+1.7
SIRN	**S¨–rnak**	**1.52**	**216**	⇑*i*P	Pn	12 20 29.3	+0.2
SIRN				*i* S	Sg	12 20 51.2	+0.5
SIRN	**S¨–rnak**	**1.52**	**216**	P	Pn	12 20 29.3	+0.2
SIRN				S	Sg	12 20 51.2	+0.5
NAX	**Nakhchivan**	**1.59**	**74**	⇓P	Pn	12 20 30.1	+0.1
NAX				⇑S	Sg	12 20 53.0	+0.3
NAX	**Nakhchivan**	**1.59**	**74**	P	Pn	12 20 30.1	+0.1
NAX				S	Sg	12 20 53.0	+0.3
DIGO	**Kars**	**1.68**	**356**	⇓*i*P	Pn	12 20 31.6	+0.2
DIGO				*i* S	Sb	12 20 54.5	+0.3
DIGO	**Kars**	**1.68**	**356**	P	Pn	12 20 31.6	+0.2
DIGO				S	Sb	12 20 54.5	+0.3
HOMI	**Horasan**	**1.82**	**316**	⇑*i*P	Pn	12 20 33.7	+0.4
HOMI				*i* S	Sg	12 21 00.2	+0.1
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*e*PN	Pn	12 20 34.3	-0.3
SVAN				*e*SN	Sb	12 21 00.9	-0.2
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*i* P	Pn	12 20 34.0	-0.6
SVAN				*i* S	Sb	12 21 00.9	-0.2
SVAN	**Silvan-Diyarba**	**1.93**	**253**	P	Pn	12 20 34.0	-0.6
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*e*Pn	Pn	12 20 34.3	-0.3
SVAN				S	Sb	12 21 00.9	-0.2
BTMN	**Batman**	**1.97**	**245**	*i* P	Pn	12 20 32.4	-2.9
BTMN				*i* S	Sb	12 21 01.9	-0.5
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*PN	Pn	12 20 36.1	-0.2
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*Pn	Pn	12 20 36.1	-0.2
ERZM	**Erzurum**	**2.05**	**305**	*i* P	Pb	12 20 38.0	-1.1
ERZM				*i* S	Sg	12 21 08.2	+0.7
ERZM	**Erzurum**	**2.05**	**305**	P	Pb	12 20 38.0	-1.1
ECAT	**Cat-ERZURUM**	**2.17**	**294**	*i* P	Pn	12 20 38.4	+0.2
ECAT				*i* S	Sb	12 21 07.8	-0.5
ECAT	**Cat-ERZURUM**	**2.17**	**294**	P	Pn	12 20 38.3	+0.2
ECAT				S	Sb	12 21 07.8	-0.5
BNGB	**Bing¨¶l**	**2.25**	**277**	*e*PN	Pn	12 20 39.7	+0.6
BINT	**Bingol**	**2.38**	**274**	*e*Pn	Pn	12 20 39.7	-1.3
YEDI	**Yedisu-Bingol**	**2.43**	**288**	*e*PN	Pn	12 20 41.7	+0.1
YEDI	**Yedisu-Bingol**	**2.43**	**288**	*e*Pn	Pn	12 20 41.7	+0.1
DDEM	**Demirkent**	**2.55**	**328**	*i* P	Pb	12 20 46.8	-0.8
DDEM				*i* S	Sg	12 21 26.1	+2.4
GDB	**GEDABAY**	**2.62**	**40**	⇓P	Pn	12 20 46.3	+2.1
GDB				⇑S	Sb	12 21 22.3	+1.3
GDB	**GEDABAY**	**2.62**	**40**	P	Pn	12 20 46.3	+2.1
DAGI	**Agillar**	**2.65**	**332**	*i* P	Pb	12 20 48.9	-0.4
DAGI				*i* S	Sg	12 21 29.2	+2.4
AKH	**Akhalkalaki**	**2.67**	**359**	*e*PN	Pn	12 20 45.3	+0.4
AKH	**Akhalkalaki**	**2.67**	**359**	*e*Pn	Pn	12 20 45.3	+0.4
QZX	**Qazax, Azerbai**	**2.71**	**31**	⇓P	Pn	12 20 47.8	+2.4
QZX				⇑S	Sb	12 21 24.4	+0.7
QZX	**Qazax, Azerbai**	**2.71**	**31**	P	Pn	12 20 47.8	+2.4
MAZI	**Mazidag**	**2.75**	**243**	*e*PN	Pn	12 20 47.2	+1.2
MAZI	**Mazidag**	**2.75**	**243**	*e*Pn	Pn	12 20 47.2	+1.2
GANJ	**Ganja**	**2.87**	**48**	⇓P	Pn	12 20 49.4	+1.8
GANJ				⇓S	Sb	12 21 27.8	-0.4
GANJ	**Ganja**	**2.87**	**48**	P	Pn	12 20 49.4	+1.8
GANJ				S	Sb	12 21 27.8	-0.4
ERZN	**Erzincan**	**3.08**	**287**	*e*PN	Pn	12 20 51.2	+0.6
PTK	**Pertek**	**3.24**	**274**	*e*PN	Pn	12 20 53.8	+1.0
PTK	**Pertek**	**3.24**	**274**	*e*Pn	Pn	12 20 53.8	+1.0
SVRC	**Sivrice-ELAZID**	**3.34**	**265**	*e*PN	Pn	12 20 55.3	+1.2
SVRC	**Sivrice-ELAZID**	**3.34**	**265**	*e*Pn	Pn	12 20 55.3	+1.2
EZC	**Erzincan**	**3.40**	**289**	*e*Pn	Pn	12 20 51.2	-3.8
MNGR	**Mingechevir, A**	**3.41**	**52**	⇑P	Pn	12 20 56.1	+1.2
MNGR				⇓S	Sb	12 21 40.3	-3.3
MNGR	**Mingechevir, A**	**3.41**	**52**	P	Pn	12 20 56.1	+1.2
MNGR				S	Sb	12 21 40.3	-3.3
KTUT	**Trabzon**	**3.67**	**309**	*e*PN	Pn	12 20 59.4	+0.9
KTUT	**Trabzon**	**3.67**	**309**	*e*Pn	Pn	12 20 59.4	+0.9
ZKTA	**Zakatala**	**3.74**	**38**	⇑P	Pn	12 21 01.5	+2.0
ZKTA				⇑S	Sb	12 21 49.9	-3.3
SEKA	**Sheki**	**3.74**	**48**	⇑P	Pn	12 21 01.9	+2.3
SEKA	**Sheki**	**3.74**	**48**	P	Pn	12 21 01.9	+2.3
LRK	**Lerik**	**3.76**	**90**	⇑P	Pn	12 20 57.7	-2.2
LRK				⇓S	Sn	12 21 43.0	-1.3
LRK	**Lerik**	**3.76**	**90**	P	Pn	12 20 57.7	-2.2
LRK				S	Sn	12 21 43.0	-1.3
GLBA	**Clilabad**	**3.82**	**81**	⇑P	Pn	12 20 59.6	-1.0
GLBA				⇓S	Sn	12 21 46.0	+0.5
GLBA	**Clilabad**	**3.82**	**81**	P	Pn	12 20 59.6	-1.0
GLBA				S	Sn	12 21 46.0	+0.5
QBL	**Gabala**	**3.98**	**55**	⇓P	Pn	12 21 03.6	+0.8
QBL				⇓S	Sn	12 21 54.0	+4.5
QBL	**Gabala**	**3.98**	**55**	P	Pn	12 21 03.6	+0.8
QBL				S	Sn	12 21 54.0	+4.5
LKRN	**Lenkeran, Azer**	**4.10**	**89**	⇑P	Pn	12 21 02.5	-1.9
LKRN				⇓S	Sn	12 21 51.3	-1.1
LKRN	**Lenkeran, Azer**	**4.10**	**89**	P	Pn	12 21 02.5	-1.9
LKRN				S	Sn	12 21 51.3	-1.1
ASTR	**Astara**	**4.12**	**91**	⇑P	Pn	12 21 02.6	-2.0
ASTR	**Astara**	**4.12**	**91**	P	Pn	12 21 02.6	-2.0
XNQ	**Khinaliq**	**4.29**	**54**	⇑P	Pn	12 21 08.5	+1.2
XNQ				⇓S	Sn	12 22 02.0	+4.5
XNQ	**Khinaliq**	**4.29**	**54**	P	Pn	12 21 08.5	+1.2
XNQ				S	Sn	12 22 02.0	+4.5
QSAR	**Qusar**	**4.56**	**51**	⇓P	Pn	12 21 12.3	+1.5
QSAR	**Qusar**	**4.56**	**51**	P	Pn	12 21 12.3	+1.5
QUBA	**Quba, Azerbaij**	**4.62**	**54**	⇓P	Pn	12 21 12.6	+1.1
QUBA	**Quba, Azerbaij**	**4.62**	**54**	P	Pn	12 21 12.6	+1.1
SIZA	**Siyzn**	**4.74**	**59**	⇑P	Pn	12 21 14.0	+0.7
SIZA	**Siyzn**	**4.74**	**59**	P	Pn	12 21 14.0	+0.7

*CSEM **23** 12:21:38.4±0.2, 38°.73N×43°.16E, h2km, ML3.9, Error ellipse: s-maj=5.4km s-min=3.5km az=94.0*
*DDA **23** 12:21:38.1, 38°.72N×43°.16E, h7km, Ml3.9*
*ISK **23** 12:21:39.1, 38°.76N×43°.18E, h12km, ML4.0*
ISC 23 12:21:38.5±1.0, 38°.73N±0°.02×43°.14E±0°.03, h6km±10km, n35, σ0°76/59, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.29**	**134**	⇑*i*P	Pg	12 21 44.8	+0.6
TVAN				*i* S	Sg	12 21 48.5	+0.5
TVAN	**Van**	**0.29**	**134**	P	Pg	12 21 44.8	+0.6
TVAN				S	Sg	12 21 48.5	+0.5
GEVA	**Gevas**	**0.42**	**189**	⇑*i*P	Pg	12 21 45.3	-1.4
GEVA				*i* S	Sg	12 21 52.4	+0.1
GEVA	**Gevas**	**0.42**	**189**	P	Pg	12 21 45.3	-1.4
GEVA				S	Sg	12 21 52.4	+0.1
VMUR	**Van-Muradiye**	**0.42**	**52**	⇑*i*P	Pg	12 21 45.9	-0.8
VMUR				*i* S	Sg	12 21 53.0	+0.7
VMUR	**Van-Muradiye**	**0.42**	**52**	P	Pg	12 21 45.9	-0.8
VMUR				S	Sg	12 21 53.0	+0.7
TUTA	**Tutak**	**0.72**	**339**	⇑*i*P	Pg	12 21 52.2	-0.2
TUTA				*i* S	Sb	12 22 03.2	-0.6
TUTA	**Tutak**	**0.72**	**339**	P	Pg	12 21 52.2	-0.2
TUTA				S	Sb	12 22 03.2	-0.6
AGRB	**Hanur-Agry**	**0.85**	**352**	*e*PG	Pb	12 21 55.6	-0.3
AGRB				*e*SG	Sb	12 22 07.3	-0.4
AGRB	**Hanur-Agry**	**0.85**	**352**	*e*Pg	Pb	12 21 55.6	-0.3
AGRB				*e*Sg	Sb	12 22 07.3	-0.4
DYDN	**Diyadin**	**0.92**	**27**	*i* P	Pg	12 21 54.8	-1.3
DYDN				*i* S	Sb	12 22 08.7	-0.8
DYDN	**Diyadin**	**0.92**	**27**	P	Pg	12 21 54.8	-1.3
DYDN				S	Sb	12 22 08.7	-0.8
EATA	**Eleskirt**	**1.24**	**336**	*i* P	Pg	12 22 01.9	-0.4
EATA				*i* S	Sn	12 22 20.8	+0.9
EATA	**Eleskirt**	**1.24**	**336**	P	Pg	12 22 01.9	-0.4
EATA				S	Sn	12 22 20.8	+0.9
SIRN	**S¨–rnak**	**1.36**	**205**	*i* P	Pn	12 22 02.7	-1.4
SIRN				*i* S	Sg	12 22 23.3	+1.1
SIRN	**S¨–rnak**	**1.36**	**205**	P	Pn	12 22 02.7	-1.4
SIRN				S	Sg	12 22 23.3	+1.1
VRTB	**Varto-Mus**	**1.39**	**289**	*e*PN	Pb	12 22 04.8	-0.1
VRTB	**Varto-Mus**	**1.39**	**289**	*e*Pn	Pb	12 22 04.8	-0.1
CUKT	**Cukurca**	**1.52**	**166**	*e*PN	Pb	12 22 07.3	+0.1
CUKT	**Cukurca**	**1.52**	**166**	*i* P	Pg	12 22 08.2	+0.5
CUKT				*i* S	Sg	12 22 28.1	+0.6
CUKT	**Cukurca**	**1.52**	**166**	*e*Pn	Pb	12 22 07.3	+0.1
CUKT	**Cukurca**	**1.52**	**166**	P	Pg	12 22 08.2	+0.5
CUKT				S	Sg	12 22 28.1	+0.6
BNGL	**BINGOL**	**1.57**	**279**	*i* P	Pb	12 22 08.3	+0.1
BNGL				*i* S	Sn	12 22 27.6	-0.3
SVAN	**Silvan-Diyarba**	**1.63**	**250**	*e*PN	Pn	12 22 08.3	+0.5
SVAN				*e*SN	Sg	12 22 30.8	-0.2
SVAN	**Silvan-Diyarba**	**1.63**	**250**	*i* P	Pn	12 22 08.3	+0.5
SVAN				*i* S	Sg	12 22 32.8	+1.8
SVAN	**Silvan-Diyarba**	**1.63**	**250**	P	Pn	12 22 08.3	+0.5
SVAN				*e*Sn	Sg	12 22 30.8	-0.2
BTMN	**Batman**	**1.69**	**241**	*i* P	Pb	12 22 09.7	-0.4
BTMN				*i* S	Sg	12 22 33.6	+0.6
BTMN	**Batman**	**1.69**	**241**	P	Pb	12 22 09.7	-0.4
BTMN				S	Sg	12 22 33.6	+0.6
SENK	**Senkaya-Erzuru**	**1.93**	**342**	*e*PN	Pn	12 22 12.4	+0.3
SENK	**Senkaya-Erzuru**	**1.93**	**342**	*e*Pn	Pn	12 22 12.4	+0.3
BNGB	**Bing¨¶l**	**1.94**	**279**	*e*PN	Pb	12 22 14.0	-0.4
BINT	**Bingol**	**2.08**	**275**	*e*PN	Pn	12 22 14.0	-0.1
YEDI	**Yedisu-Bingol**	**2.14**	**290**	*e*PN	Pn	12 22 16.0	+1.0
YEDI	**Yedisu-Bingol**	**2.14**	**290**	*e*Pn	Pn	12 22 16.0	+1.0
DAGI	**Agillar**	**2.53**	**338**	*i* P	Pb	12 22 25.3	+0.9

IDC 23 12:23:26.3±6.6, 12°.75S×72°.05W, h224km±161km, mb3.0/2, mb1 3.2/3, mb1mx3.0/23, mbtmp3.6/3, Error ellipse: s-maj=406.4km s-min=30.7km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.17**	**133**	P	Pn	12 24 44.1	0.0
	1.0nm,0.3s,baz=314,slow=8.9,SNR=27						
TXAR	**Lajitas Array**	**51.79**	**324**	P	P	12 32 11.5	-0.1
	0.2nm,0.6s,baz=153,slow=10,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.50**	**73**	P	P	12 34 57.9	0.0
	0.8nm,0.7s,baz=260,slow=4.6,SNR=4.1						

*AZER **23** 12:23:26.3±0.3, 38°.74N×43°.17E, h7km, Error ellipse: s-maj=3.1km s-min=2.2km az=30.0*
*IDC **23** 12:23:28.7±1.0, 38°.80N×43°.65E, h0km, mb3.9/9, mb1 3.9/12, mb1mx3.7/44, mbtmp3.8/12, ML3.3/3, Error ellipse: s-maj=22.0km s-min=11.4km az=165.0*
*ISK **23** 12:23:30.5, 38°.80N×43°.39E, h5km, ML3.9*
*CSEM **23** 12:23:30.4±0.1, 38°.83N×43°.62E, h5km, mb4.3/11, Error ellipse: s-maj=5.2km s-min=3.4km az=177.0*
*NEIC **23** 12:23:30.1±0.6, 38°.72N×43°.69E, h10km, mb4.3/10, ML3.8(DDA), Error ellipse: s-maj=10.2km s-min=7.2km az=161.0*
*DDA **23** 12:23:30.2, 38°.86N×43°.50E, h5km, Ml3.8*
*TEH **23** 12:23:34.2, 38°.82N×43°.80E, h18km, ML3.9*
ISC 23 12:23:29.9±1.1, 38°.81N±0°.02×43°.57E±0°.02, h3km±8km, n197, σ1972/226, mb4.2/21, 19C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.31**	**204**	*i* P	Pg	12 23 32.5	-3.3
TVAN				*i* S	Sb	12 23 42.4	-1.3
TVAN	**Van**	**0.31**	**204**	S	Sb	12 23 42.4	-1.3
TVAN	**Van**	**0.31**	**204**	P	Pg	12 23 32.5	-3.3
TVAN				S	Sb	12 23 42.4	-1.3
DYDN	**Diyadin**	**0.74**	**7**	*i* P	Pg	12 23 43.7	-0.4
DYDN	**Diyadin**	**0.74**	**7**	P	Pg	12 23 43.7	-0.4
DYDN	**Diyadin**	**0.74**	**7**	P	Pg	12 23 43.7	-0.4
AGRB	**Hanur-Agry**	**0.89**	**330**	*e*PG	Pg	12 23 46.8	0.0
AGRB				*e*SG	Sg	12 23 59.6	+1.3
AGRB	**Hanur-Agry**	**0.89**	**330**	*e*Pg	Pg	12 23 46.8	0.0
AGRB				*e*Sg	Sg	12 23 59.6	+1.3
EATA	**Eleskirt**	**1.34**	**322**	*i* P	Pn	12 23 54.7	-1.1
EATA	**Eleskirt**	**1.34**	**322**	P	Pn	12 23 54.7	-1.1
EATA	**Eleskirt**	**1.34**	**322**	P	Pn	12 23 54.7	-1.1
NAX	**Nakhchivan**	**1.55**	**76**	⇓P	Pn	12 23 58.4	-0.1
NAX				⇓S	Sg	12 24 23.1	+3.5
NAX	**Nakhchivan**	**1.55**	**76**	P	Pn	12 23 58.4	-0.1
NAX				S	Sg	12 24 23.1	+3.5
CUKT	**Cukurca**	**1.56**	**179**	*e*PN	Pg	12 23 59.9	+0.1
CUKT				*e*SN	Sg	12 24 22.3	+2.4
CUKT	**Cukurca**	**1.56**	**179**	*i* P	Pg	12 24 00.6	+0.9
CUKT	**Cukurca**	**1.56**	**179**	*e*Pn	Pg	12 23 59.9	+0.1
CUKT	**Cukurca**	**1.56**	**179**	P	Pg	12 24 00.6	+0.9
CUKT				*e*Sn	Sg	12 24 22.3	+2.3
CUKT	**Cukurca**	**1.56**	**179**	P	Pg	12 24 00.6	+0.9
DIGO	**Kars**	**1.61**	**355**	*i* P	Pn	12 23 59.8	+0.3
DIGO	**Kars**	**1.61**	**355**	P	Pn	12 23 59.8	+0.3
DIGO	**Kars**	**1.61**	**355**	P	Pn	12 23 59.8	+0.3
GNI	**Garni**	**1.62**	**34**	*e*Pn	Pn	12 23 59.1	-0.5
	90nm,0.3s,baz=337,slow=3.0,SNR=10						
GNI	**Garni**	**1.62**	**34**	*e*Pn	Pb	12 24 00.0	-0.5
GNI	**Garni**	**1.62**	**34**	*e*Pn	Pb	12 24 00.0	-0.5
IMRD	**Marand**	**1.67**	**93**	*e*Pn	Pn	12 24 00.1	-0.2
IMRD				*e*AMB	AMB	12 24 33.9	
comp=Z,35μm,0.3s							
IMRD	**Marand**	**1.67**	**93**	*e*Pn	Pn	12 24 00.1	-0.2
ISHB	**Shabestar**	**1.69**	**107**	*e*Pn	Pn	12 23 59.6	-1.0
ISHB				*e*AMB	AMB	12 24 00.9	
comp=Z,21μm,0.3s							
HOMI	**Horasan**	**1.78**	**314**	*i* P	Pn	12 24 02.0	+0.1
HOMI	**Horasan**	**1.78**	**314**	P	Pn	12 24 02.0	+0.1
HOMI	**Horasan**	**1.78**	**314**	P	Pn	12 24 02.0	+0.1
EAK	**Akyaka**	**1.88**	**1**	*i* P	Pg	12 24 07.7	+1.8
BNGL	**BINGOL**	**1.89**	**275**	*i* P	Pb	12 24 04.6	-0.6
BNGL	**BINGOL**	**1.89**	**275**	Pn	Pb	12 24 04.6	-0.6
BNGL	**BINGOL**	**1.89**	**275**	Pn	Pb	12 24 04.6	-0.6
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*PN	Pn	12 24 04.2	0.0
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	Pn	12 24 04.2	0.0
SENK	**Senkaya-Erzuru**	**1.98**	**332**

SEKA				⇓S	Sb	12 25 16.6	-4.0
SEKA	**Sheki**	**3.68**	**48**	P	Pn	12 24 28.3	+0.6
	SNR=6.5						
LRK	**Lerik**	**3.74**	**91**	⇓P	Pn	12 24 28.5	-0.2
LRK				⇓S	Sn	12 25 16.9	+3.6
LRK	**Lerik**	**3.74**	**91**	P	Pn	12 24 28.5	-0.2
LRK				S	Sn	12 25 16.9	+3.6
ONI	**Oni**	**3.78**	**359**	P	Pb	12 24 38.0	+0.7
GLBA	**Ciilabad**	**3.78**	**82**	⇓P	Pn	12 24 29.4	+0.3
	SNR=5.9						
GLBA				⇓S	Sb	12 25 18.5	-5.1
GLBA	**Ciilabad**	**3.78**	**82**	P	Pn	12 24 29.4	+0.3
	SNR=5.9						
GLBA				S	Sb	12 25 18.5	-5.1
QBL	**Gabala**	**3.92**	**56**	⇓P	Pn	12 24 30.8	-0.2
	SNR=9.0						
QBL				⇑S	Sn	12 25 21.2	+3.6
QBL	**Gabala**	**3.92**	**56**	P	Pn	12 24 30.8	-0.2
	SNR=9.0						
QBL				S	Sn	12 25 21.2	+3.6
URFA	**Urfa**	**3.98**	**251**	*e*PN	Pn	12 24 33.9	+1.9
URFA	**Urfa**	**3.98**	**251**	*e*Pn	Pn	12 24 33.9	+1.9
LKRN	**Lenkeran, Azer**	**4.08**	**90**	⇓P	Pn	12 24 33.1	0.0
	SNR=6.0						
LKRN				⇑S	Sn	12 25 25.4	+4.1
LKRN	**Lenkeran, Azer**	**4.08**	**90**	P	Pn	12 24 33.1	0.0
	SNR=6.0						
LKRN				S	Sn	12 25 25.4	+4.1
ASTR	**Astara**	**4.10**	**92**	⇓P	Pn	12 24 33.4	0.0
ASTR				⇑S	Sn	12 25 26.0	+4.1
ASTR	**Astara**	**4.10**	**92**	P	Pn	12 24 33.4	0.0
ASTR				S	Sn	12 25 26.0	+4.1
XNQ	**Khinaliq**	**4.23**	**55**	⇑P	Pn	12 24 35.2	-0.3
	SNR=6.8						
XNQ	**Khinaliq**	**4.23**	**55**	P	Pn	12 24 35.2	-0.3
	SNR=6.8						
PQL	**Pirkuli**	**4.35**	**61**	⇑P	Pn	12 24 36.9	-0.1
	SNR=3.5						
PQL	**Pirkuli**	**4.35**	**61**	P	Pn	12 24 36.9	-0.1
	SNR=3.5						
QSAR	**Qusar**	**4.50**	**52**	⇓P	Pn	12 24 38.8	-0.2
	SNR=3.2						
QSAR	**Qusar**	**4.50**	**52**	P	Pn	12 24 38.8	-0.2
	SNR=3.2						
QUBA	**Quba, Azerbaij**	**4.55**	**55**	⇑P	Pn	12 24 39.5	-0.3
	SNR=4.3						
QUBA	**Quba, Azerbaij**	**4.55**	**55**	P	Pn	12 24 39.5	-0.3
	SNR=4.3						
ATGJ	**Altiaghaj**	**4.62**	**62**	⇓P	Pn	12 24 40.7	0.0
	SNR=4.8						
ATGJ	**Altiaghaj**	**4.62**	**62**	P	Pn	12 24 40.7	0.0
	SNR=4.8						
SIZA	**Siyzn**	**4.68**	**59**	⇑P	Pn	12 24 41.4	-0.2
	SNR=3.2						
SIZA	**Siyzn**	**4.68**	**59**	P	Pn	12 24 41.4	-0.2
	SNR=3.2						
KBZ	**Khabaz**	**4.94**	**354**	Pn	Pn	12 24 50.6	+5.6
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=2.0						
BR101	**Keskin Array S**	**7.76**	**280**	*e*Pn	Pn	12 25 27.1	+3.3
BRTR	**Keskin Array B**	**7.76**	**280**	Pn	Pn	12 25 27.1	+3.3
	comp=Z,0.1nm,0.3s,baz=98,slow=10,SNR=3.0						
SORM	**Soroca**	**14.43**	**315**	⇑*i*P	Pn	12 26 57.0	+2.0
DOPR	**Dopca**	**15.20**	**304**	⇑*i*P	P	12 27 13.0	+2.4
DOPR	**Dopca**	**15.20**	**304**	⇑*i*P	P	12 27 13.0	+2.4
VOIR		**15.24**	**302**	⇓*i*P	P	12 27 13.5	+2.4
VOIR		**15.24**	**302**	⇓*i*P	P	12 27 13.5	+2.4
AKTO	**Aktyubinsk**	**15.49**	**37**	Pn	Pn	12 27 06.8	-2.4
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=4.8						
AKASG	**Malin Array Be**	**15.62**	**324**	Pn	Pn	12 27 10.2	-0.7
	comp=Z,0.5nm,0.3s,baz=0.7,slow=15,SNR=4.5						
AKBB	**Malin Array Si**	**15.62**	**324**	*e*Pn	P	12 27 13.8	-1.4
	comp=Z,15nm,1.4s						
ABKAR	**Akbulak array**	**15.71**	**43**	*e*Pn	Pn	12 27 11.8	-0.2
	comp=Z,24nm,0.9s						
ABKAR	**Akbulak array**	**15.71**	**43**	*e*Pn	Pn	12 27 11.8	-0.2
	comp=Z,24nm,0.9s						
BURAR	**Bucovina Array**	**15.98**	**309**	⇓*i*P	P	12 27 19.5	+0.1
BURAR	**Bucovina Array**	**15.98**	**309**	⇓*i*P	P	12 27 19.5	+0.1
BUR08	**Bucovina Ar. S**	**16.00**	**309**	*e*Pn	P	12 27 20.6	+0.9
GZR	**Gura Zlata**	**16.75**	**300**	⇑*i*P	P	12 27 37.4	+10
SIRR	**Siria**	**17.75**	**302**	⇑*i*P	P	12 27 40.3	+1.5
SIRR	**Siria**	**17.75**	**302**	⇑*i*P	P	12 27 40.3	+1.5
CRVS	**Cervenica-Dubn**	**18.80**	**310**	*e*P	Pn	12 27 54.4	+3.6
ARU	**Arti**	**20.24**	**25**	P	P	12 28 06.0	0.0
	comp=Z,6.9nm,0.6s,baz=223,slow=6.5,SNR=12						
ARU	**Arti**	**20.24**	**25**	*e*P	P	12 28 06.1	0.0
	comp=Z,14nm,0.8s						
ARU	**Arti**	**20.24**	**25**	*e*P	P	12 28 06.1	+0.1
	comp=Z,14nm,0.8s						
VYHS	**Vyhne**	**20.27**	**307**	*e*P	Pn	12 28 10.4	+2.1
KKAR	**Karatay Array**	**20.76**	**69**	*e*P	P	12 28 10.7	-1.2
	comp=Z,8.1nm,0.8s						
KKAR	**Karatay Array**	**20.76**	**69**	*e*P	P	12 28 10.7	-1.2
	comp=Z,8.1nm,0.8s						
VRAC	**Vranov**	**21.93**	**307**	P	P	12 28 26.4	+2.0
	comp=Z,4.0nm,0.9s,baz=119,slow=12,SNR=3.6						
CONA	**Conrad Observa**	**22.01**	**303**	*i* P	P	12 28 27.3	+2.0
	comp=Z,4.9nm,1.3s						
CONA	**Conrad Observa**	**22.01**	**303**	P	P	12 28 27.3	+2.0
	comp=Z,4.9nm,1.3s						
ARSA	**Arzberg**	**22.07**	**302**	*i* pP	P	12 28 30.6	+4.6
	comp=Z,2.8nm,1.2s						
DPC	**Dobruska-Polom**	**22.44**	**310**	*e*P	P	12 28 33.3	+3.4
MOA	**Molln**	**23.04**	**303**	*i* pP	P	12 28 38.8	+2.7
	comp=Z,7.7nm,1.3s						
MOA	**Molln**	**23.04**	**303**	P	P	12 28 38.8	+2.7
	comp=Z,7.7nm,1.3s						
GEC2	**GERESS Array S**	**23.63**	**305**	*e*P	P	12 28 41.7	-0.5
	comp=Z,3.2nm,1.1s						
GEC2	**GERESS Array S**	**23.63**	**305**	*e*P	P	12 28 41.7	-0.5
	comp=Z,3.2nm,1.1s						
GERES	**GERESS Array B**	**23.63**	**305**	P	P	12 28 41.7	-0.5
	comp=Z,1.0nm,0.8s,baz=92,slow=8.5,SNR=6.2						
AAK	**Ala-Archa**	**23.68**	**71**	P	P	12 28 42.7	-0.2
	comp=Z,0.7nm,0.3s,baz=227,slow=9.2,SNR=3.6						
KHC	**Kasperske Hory**	**23.78**	**305**	*e*P	P	12 28 44.6	+1.0
KHC	**Kasperske Hory**	**23.78**	**305**	P	P	12 28 44.6	+1.0
WTTA	**Wattenberg**	**24.68**	**300**	*i* pP	P	12 28 54.4	+2.2
	comp=Z,6.4nm,0.8s						
WTTA	**Wattenberg**	**24.68**	**300**	P	P	12 28 54.4	+2.2
	comp=Z,6.4nm,0.8s						
CLL	**Collm**	**24.75**	**310**	*e*P	P	12 28 53.4	+0.9
	comp=Z,4.3nm,0.9s						
CLL	**Collm**	**24.75**	**310**	*e*P	P	12 28 53.4	+0.9
	comp=Z,4.3nm,0.9s						
MOTA	**Moosalm**	**25.05**	**300**	*i* pP	P	12 28 58.5	+3.0
	comp=Z,6.9nm,1.0s						
MOTA	**Moosalm**	**25.05**	**300**	P	P	12 28 58.5	+3.0
	comp=Z,6.9nm,1.0s						
FIA0	**FINESS Array S**	**25.12**	**340**	*e*P	P	12 28 54.9	-0.8
FIA0	**FINESS Array S**	**25.12**	**340**	*e*P	P	12 28 54.9	-0.8
FINES	**FINESS Array B**	**25.12**	**340**	P	P	12 28 54.9	-0.8
	comp=Z,1.4nm,0.7s,baz=180,slow=6.9,SNR=3.2						
FETA	**Feichten**	**25.26**	**300**	*i* pP	P	12 29 01.8	+4.4
	comp=Z,6.8nm,1.3s						
DAVA	**Damuels**	**25.87**	**300**	*i* P	P	12 29 05.4	+2.5
	comp=Z,11nm,1.4s						
DAVA	**Damuels**	**25.87**	**300**	P	P	12 29 05.4	+2.5
	comp=Z,11nm,1.4s						
KURBB	**Kurchatov Arra**	**27.25**	**53**	P	P	12 29 14.9	-0.2
	comp=Z,4.4nm,0.9s,baz=262,slow=9.2,SNR=18						
KURK	**Kurchatov**	**27.33**	**53**	*e*P	P	12 29 16.0	+0.2
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**27.33**	**53**	*e*P	P	12 29 16.0	+0.2
	comp=Z,6.0nm,1.0s						
ESDC	**Sonseca Array**	**36.48**	**287**	P	P	12 30 34.6	-1.8
	comp=Z,0.8nm,0.6s,baz=70,slow=9.0,SNR=6.3						
TOA1	**Torodi Ar. Sit**	**44.94**	**247**	*e*P	P	12 31 45.7	-0.6
	comp=Z,6.7nm,1.3s						
TOA1	**Torodi Ar. Sit**	**44.94**	**247**	*e*P	P	12 31 45.7	-0.6
	comp=Z,6.7nm,1.3s						
TORD	**Torodi Ar. Bea**	**44.94**	**247**	P	P	12 31 45.7	-0.6
	comp=Z,1.3nm,0.9s,baz=70,slow=5.9,SNR=7.5						
CM31	**Chiang Mai Arr**	**51.85**	**97**	*e*P	P	12 32 38.1	-1.5
CM31	**Chiang Mai Arr**	**51.85**	**97**	*e*P	P	12 32 38.1	-1.5
CMAR	**Chiang Mai Arr**	**51.85**	**97**	P	P	12 32 38.1	-1.5
	comp=Z,1.2nm,0.3s,baz=297,slow=6.3,SNR=8.4						
KS15	**Wonju Array Si**	**63.93**	**62**	*e*P	P	12 34 02.4	-1.8
KS15	**Wonju Array Si**	**63.93**	**62**	*e*P	P	12 34 02.4	-1.8
KSAR	**Wonju Array Be**	**63.93**	**62**	P	P	12 34 02.4	-1.8
KSAR	**Wonju Array Be**	**63.93**	**62**	P	P	12 34 02.4	-1.8
KSRS	**Korea Array**	**63.95**	**62**	P	P	12 34 02.4	-1.9
	comp=Z,1.4nm,0.8s,baz=292,slow=6.2,SNR=4.2						
EMMW	**East Machias**	**76.25**	**317**	*e*P	P	12 35 20.4	+0.7
	comp=Z,26nm,1.4s						
EMMW	**East Machias**	**76.25**	**317**	*e*P	P	12 35 20.4	+0.7
	comp=Z,26nm,1.4s						
ULM	**Lac du Bonnet**	**84.40**	**335**	*e*P	P	12 36 03.8	+0.3
	comp=Z,16nm,1.4s						
ULM	**Lac du Bonnet**	**84.40**	**335**	*e*P	P	12 36 03.8	+0.3
	comp=Z,16nm,1.4s						

WEL 23 12:24:24.6±0.1, 38°.90S×176°.99E, h39km±1km, ML3.6/42, 28C-19D, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTHZ	**Maungataniwha**	**0.13**	**291**	PN	Pn	12 24 30.4	-3.7
MTHZ				SN	Sn	12 24 35.9	-6.6
NMHZ	**Naumai**	**0.24**	**216**	⇑PN	Pn	12 24 31.9	-1.0
NMHZ				SN	Sn	12 24 38.5	-1.1
NMHZ				AML	AML	12 24 38.9	
WHHZ	**Waihua**	**0.26**	**133**	⇑PN	Pn	12 24 31.9	-0.8
WHHZ				SN	Sn	12 24 39.0	-0.3
WHHZ				AML	AML	12 24 39.3	
RTZ	**Ruatahuna**	**0.28**	**358**	⇓PN	Pn	12 24 31.9	-1.0
RTZ				SN	Sn	12 24 39.0	-0.5
SNGZ	**Shannon Statio**	**0.30**	**67**	⇑PN	Pn	12 24 32.3	-0.6
SNGZ				AML	AML	12 24 39.9	
SNGZ				AML	AML	12 24 42.4	
ARHZ	**Aropaoanui**	**0.36**	**179**	⇑PN	Pn	12 24 33.4	-0.1
ARHZ				AML	AML	12 24 43.2	
ARHZ				AML	AML	12 24 43.7	
MRHZ	**Matea Rd**	**0.45**	**278**	⇓PN	Pn	12 24 34.4	-0.3
MRHZ				AML	AML	12 24 43.6	
MRHZ				AML	AML	12 24 43.8	
MUGZ	**Murupara**	**0.45**	**338**	⇓PN	Pn	12 24 34.2	-0.4
BKZ	**Black Stump Fm**	**0.47**	**235**	PN	Pn	12 24 34.3	-0.6
BKZ				AML	AML	12 24 43.1	
BKZ				AML	AML	12 24 44.1	
RAGZ	**Rawiri**	**0.52**	**40**	⇓PN	Pn	12 24 35.3	-0.2
RAGZ				AML	AML	12 24 46.2	
RAGZ				AML	AML	12 24 48.5	
KNZ	**Kokohu**	**0.55**	**103**	⇓PN	Pn	12 24 35.4	-0.6
KNZ				AML	AML	12 24 47.0	
KNZ				AML	AML	12 24 47.6	
MCHZ	**McNeill Hill**	**0.59**	**203**	⇓PN	Pn	12 24 36.8	+0.2
MCHZ				AML	AML	12 24 50.2	
MCHZ				AML	AML	12 24 51.0	
ALRZ	**Allen Road**	**0.61**	**303**	⇑PN	Pn	12 24 36.4	-0.5
PRRZ	**Plateau Road**	**0.61**	**310**	⇑PN	Pn	12 24 36.4	-0.6
RIGZ	**Rimuhau**	**0.63**	**73**	⇓PN	Pn	12 24 37.1	-0.1
RIGZ				AML	AML	12 24 50.2	
RIGZ				AML	AML	12 24 50.5	
URZ	**Urewera**	**0.65**	**8**	PN	Pn	12 24 36.7	-0.6
URZ				AML	AML	12 24 48.6	
URZ				AML	AML	12 24 51.6	
RRRZ	**Republican Roa**	**0.67**	**326**	⇑PN	Pn	12 24 37.2	-0.5
KWHZ	**Kaweka Forest**	**0.69**	**220**	⇓PN	Pn	12 24 37.9	0.0
KWHZ				AML	AML	12 24 50.2	
KWHZ				AML	AML	12 24 50.7	
PRGZ	**Paritu Road**	**0.70**	**92**	⇑PN	Pn	12 24 37.6	-0.4
PRGZ				AML	AML	12 24 50.2	
PRGZ				AML	AML	12 24 50.5	
MWZ	**Matawai**	**0.70**	**37**	PN	Pn	12 24 38.2	+0.1
MWZ				AML	AML	12 24 50.3	
MWZ				AML	AML	12 24 51.4	
WPRZ	**Whakapapatarin**	**0.75**	**300**	⇑PN	Pn	12 24 38.1	-0.6
HRRZ	**Handcock Road**	**0.75**	**312**	PN	Pn	12 24 38.1	-0.6
MHGZ	**Mahia Peninsul**	**0.76**	**110**	⇑PN	Pn	12 24 38.2	-0.6
MHGZ				AML	AML	12 24 59.6	
MHGZ				AML	AML	12 25 02.5	
CKHZ	**Cape Kidnapper**	**0.76**	**175**	⇓PN	Pn	12 24 38.4	-0.5
CKHZ				AML	AML	12 24 53.3	
CKHZ				AML	AML	12 24 53.9	
TARZ	**Mount Tarawera**	**0.76**	**330**	⇑PN	Pn	12 24 38.8	-0.2
TKGZ	**Te Karaka**	**0.81**	**56**	PN	Pn	12 24 39.7	+0.1
TKGZ				AML	AML	12 24 55.2	
TKGZ				AML	AML	12 24 56.7	
EDRZ	**Edgecumbe**	**0.81**	**346**	PN	Pn	12 24 39.2	-0.4
HLRZ	**Highlands Stat**	**0.82**	**322**	PN	Pn	12 24 39.3	-0.3
HSRZ	**Hossack Road**	**0.83**	**315**	⇑PN	Pn	12 24 39.3	-0.5
WHTZ	**Whakaora**	**0.84**	**286**	PN	Pn	12 24 39.8	-0.2
MKRZ	**Makatiti**	**0.86**	**331**	PN	Pn	12 24 40.5	+0.1
KRHZ	**Kereru**	**0.89**	**213**	⇓PN	Pn	12 24 40.3	-0.3
KRHZ				AML	AML	12 24 55.2	
KRHZ				AML	AML	12 24 57.4	
RITZ	**Rihia Road**	**0.89**	**265**	⇑PN	Pn	12 24 40.6	0.0
KAHZ	**Kahuranaki**	**0.90**	**186**	⇓PN	Pn	12 24 40.4	-0.5
KAHZ				AML	AML	12 24 60.0	
KAHZ				AML	AML	12 25 07.3	
OMRZ	**Omania**	**0.93**	**328**	PN	Pn	12 24 40.6	-0.6
BHHZ	**Black Hill Sta**	**0.93**	**230**	⇓PN	Pn	12 24 41.4	+0.1
BHHZ				AML	AML	12 24 55.3	
BHHZ				AML	AML	12 24 56.7	
RATZ	**Rangitukua**	**0.95**	**272**	PN	Pn	12 24 41.2	-0.4
UTU	**Utuhina**	**0.95**	**319**	PN	Pn	12 24 41.2	-0.3
KUTZ	**Kaahu Road**	**1.00**	**294**	⇑PN	Pn	12 24 41.7	-0.5
WATZ	**Wairara**	**1.00**	**281**	PN	Pn	12 24 41.7	-0.5
KATZ	**Kakaramea**	**1.01**	**265**	⇑PN	Pn	12 24 42.2	-0.2
CNGZ	**Carnagh Statio**	**1.04**	**67**	PN	Pn	12 24 42.8	+0.1
CNGZ				AML	AML	12 25 13.4	
WHRZ	**Whale Island**	**1.04**	**359**	⇓PN	Pn	12 24 42.4	-0.3
TWGZ	**Tauwhareparae**	**1.06**	**47**	PN	Pn	12 24 43.5	+0.5
TWGZ				AML	AML	12 25 02.7	
TWGZ				AML	AML	12 25 05.6	
OTVZ	**Oturere**	**1.07**	**255**	⇑PN	Pn	12 24 43.1	-0.1
KRVZ	**Karewarewa**	**1.07**	**259**	⇑PN	Pn	12 24 43.0	-0.2
RUGZ	**Raukumara Rang**	**1.08**	**30**	PN	Pn	12 24 43.4	+0.1
MOVZ	**Moawhango**	**1.09**	**242**	⇑PN	Pn	12 24 43.4	-0.1
TUVZ	**Tukino**	**1.10**	**250**	PN	Pn	12 24 43.7	0.0
OPRZ	**Ohinepanea**	**1.11**	**342**	⇑PN	Pn	12 24 42.5	-1.1
WTVZ	**West Tongariro**	**1.11**	**258**	⇑PN	Pn	12 24 43.7	-0.1
NGZ	**Ngauruhoe**	**1.12**	**255**	⇑PN	Pn	12 24 43.8	-0.1
PXZ	**Pawanui**	**1.14**	**185**	PN	Pn	12 24 42.5	-1.5
PXZ				AML	AML	12 25 08.3	
PXZ				AML	AML	12 25 08.4	
PXZ				AML	AML	12 25 19.5	
PXZ				AML	AML	12 25 19.5	
WHVZ	**Whangaehu Hut**	**1.16**	**250**	⇑PN	Pn	12 24 44.4	-0.1
WNVZ	**Wahianoa**	**1.17**	**248**	⇑PN	Pn	12 24 44.5	0.0
DRZ	**Dome Shelter**	**1.17**	**251**	PN	Pn	12 24 44.8	0.0
FWVZ	**Far West T-bar**	**1.18**	**252**	⇑PN	Pn	12 24 44.6	-0.2
PNHZ	**Pukenui**	**1.19**	**211**	⇓PN	Pn	12 24 43.8	-0.9
PNHZ				AML	AML	12 25 04.9	
PNHZ				AML	AML	12 25 05.7	
TRVZ	**Turoa**	**1.19**	**250**	PN	Pn	12 24 44.9	0.0
TWVZ	**Taurewa**	**1.22**	**261**	PN	Pn	12 24 44.8	-0.5
WPHZ	**Waipukurau**	**1.24**	**200**	PN	Pn	12 24 44.2	-1.2
WPHZ				AML	AML	12 25 19.3	
WPHZ				AML	AML	12 25 31.3	
TLZ	**Tolley Road**	**1.27**	**296**	⇑PN	Pn	12 24 45.1	-0.8
MTVZ	**Mangateitei**	**1.28**	**247**	PN	Pn	12 24 46.0	0.0
PUZ	**Puketiti**	**1.29**	**51**	PN	Pn	12 24 45.6	-0.5
PUZ				AML	AML	12 25 20.4	
PUZ				AML	AML	12 25 22.5	
HAZ	**Te Kaha**	**1.30**	**29**	⇑PN	Pn	12 24 45.7	-0.5
HAZ				AML	AML	12 25 10.7	
HAZ				AML	AML	12 25 10.7	
PKGZ	**Pakihiroa**	**1.32**	**41**	PN	Pn	12 24 47.0	+0.4
PKGZ				AML	AML	12 25 11.3	
PKGZ				AML	AML	12 25 12.1	
PKVZ	**Pokaka**	**1.34**	**253**	PN	Pn	12 24 46.8	0.0
PRHZ	**Porangahau**	**1.39**	**191**	⇓PN	Pn	12 24 45.9	-1.6
PRHZ				AML	AML	12 25 24.5	
PRHZ				AML	AML	12 25 26.4	
TSZ	**Takapari Road**	**1.41**	**214**	⇓PN	Pn	12 24 46.4	-1.3
TSZ				AML	AML	12 25 15.1	
TSZ				AML	AML	12 25 15.5	
DVHZ	**Dannevirke**	**1.54**	**204**	⇓PN	Pn	12 24 47.6	-1.9
DVHZ				AML	AML	12 25 25.6	
DVHZ				AML	AML	12 25 29.5	
WMGZ	**Waiomatatini S**	**1.55**	**47**	PN	Pn	12 24 49.4	-0.3
WMGZ				AML	AML	12 25 10.5	
WMGZ				AML	AML	12 25 29.8	
ANWZ	**Angora Road**	**1.61**	**194**	⇑PN	Pn	12 24 48.7	-1.8
ANWZ				AML	AML	12 25 32.1	
ANWZ				AML	AML	12 25 33.2	
MXZ	**Matakaoa Point**	**1.69**	**38**	PN	Pn	12 24 52.1	+0.5
VRZ	**Vera Road**	**1.75**	**262**	PN	Pn	12 24 52.7	+0.2
POWZ	**Post Office Ro**	**1.77**	**212**	AML	AML	12 25 29.9	
POWZ				AML	AML	12 25 51.3	
WAZ	**Wanganui**	**1.77**	**241**	PN	Pn	12 24 53.5	+0.7
PRWZ	**Pori Road**	**1.83**	**205**	PN	Pn	12 24 51.7	-1.9
PRWZ				AML	AML	12 25 15.7	
PRWZ				AML	AML	12 25 18.3	
OHWZ	**Ohakea**	**1.84**	**224**	PN	Pn	12 24 53.6	0.0
BFZ	**Birch Farm**	**1.87**	**198**	⇓PN	Pn	12 24 51.7	-2.4
BFZ				AML	AML	12 27 12.1	
TIWZ	**Tintock**	**2.06**	**204**	⇑PN	Pn	12 24 54.5	-2.3
TIWZ				AML	AML	12 25 21.5	
TIWZ				AML	AML	12 25 22.7	
MRZ	**Mangatainoka R**	**2.07**	**211**	⇓PN	Pn	12 24 54.4	-2.4
MRZ				AML	AML	12 25 21.0	
MRZ				AML	AML	12 25 21.1	
MHEZ	**Mangahewa**	**2.09**	**264**	PN	Pn	12 24 58.5	+1.4
LREZ	**Lake Rotokare**	**2.09**	**254**	PN	Pn	12 24 58.1	+1.0
CPWZ	**Castlepoint**	**2.10**	**197**	PN	Pn	12 24 55.3	-1.9
DREZ	**Durham Road**	**2.19**	**262**	PN	Pn	12 24 59.6	+1.1
PREZ	**Palmer Road**	**2.25**	**258**	PN	Pn	12 25 00.8	+1.5
NEZ	**North Egmont**	**2.28**	**260**	PN	Pn	12 25 01.1	+1.2
HOWZ	**Holdsworth Sta**	**2.30**	**209**	PN	Pn	12 24 57.0	-3.0
KHEZ	**Kahui Hut**	**2.35**	**259**	PN	Pn	12 25 02.2	+1.4
PKE	**Pukeiti**	**2.36**	**262**	PN	Pn	12 25 01.9	+1.1
TMWZ	**Te Maipa**	**2.36**	**201**	AML	AML	12 25 26.3	
KUZ	**Kuaotunu**	**2.37**	**335**	PN	Pn	12 25 01.9	+1.0
OGWZ	**Otaki Gorge**	**2.37**	**216**	PN	Pn	12 24 58.5	-2.5
OGWZ				AML	AML	12 25 33.0	
OGWZ				AML	AML	12 25 33.1	
NWEZ	**Newall Road**	**2.46**	**260**	PN	Pn	12 25 04.0	+1.8
MTW	**Mount Morrison**	**2.53**	**206**	PN	Pn	12 24 59.7	-3.4
KIW	**Kapiti Island**	**2.53**	**219**	PN	Pn	12 25 00.8	-2.4
AWAZ	**Awhitu Peninsu**	**2.61**	**314**	PN	Pn	12 25 04.8	+0.6
CAW	**Cannon Point**	**2.66**	**213**	PN	Pn	12 25 01.7	-3.2
CAW				AML	AML	12 26 02.2	
TRWZ	**Traveller**	**2.69**	**201**	PN	Pn	12 25 01.7	-3.6
PAWZ	**Paruwai Farm**	**2.75**	**205**	PN	Pn	12 25 02.7	-3.6
MSWZ	**Moikau Station**	**2.85**	**207**	PN	Pn	12 25 03.4	-4.1
PLWZ	**Palliser**	**2.98**	**206**	PN	Pn	12 25 05.2	-4.2
BHW	**Baring Head**	**2.99**	**212**	PN	Pn	12 25 05.6	-3.8
DUWZ	**D'Urville Isla**	**3.03**	**230**	PN	Pn	12 25 07.9	-2.2
TCW	**Tory Channel**	**3.11**	**221**	PN	Pn	12 25 07.8	-3.3
TCW				AML	AML	12 25 45.9	
TUWZ	**Tuamarina**	**3.44**	**222**	PN	Pn	12 25 11.9	-3.7
NNZ	**Nelson**	**3.61**	**229**	PN	Pn	12 25 15.2	-2.8
BSWZ	**Blackbirch Sta**	**3.69**	**219**	PN	Pn	12 25 15.5	-3.6
THZ	**Tophouse**	**4.24**	**226**	PN	Pn	12 25 23.5	-3.2
KHZ	**Kahutara**	**4.39**	**216**	PN	Pn	12 25 23.1	-5.6
OXZ	**Oxford**	**5.79**	**219**	PN	Pn	12 25 41.5	-6.4
MQZ	**McQueen's Vall**	**5.81**	**213**	PN	Pn	12 25 42.1	-6.0
CTZ	**Chatham Island**	**6.82**	**137**	PN	Pn	12 25 59.4	-2.6

*CSEM **23** 12:26:19.9, 38°.30N×43°.71E, h7km, ML3.7*
DDA 23 12:26:19.9, 38°.30N×43°.71E, h7km, Ml3.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.33**	**313**	*i* P	Pb	12 26 29.1	+0.8
TVAN				*i* S	Sg	12 26 32.3	+1.4
TVAN	**Van**	**0.33**	**313**	P	Pb	12 26 29.1	+0.8
TVAN				S	Sg	12 26 32.3	+1.4
GEVA	**Gevas**	**0.52**	**271**	*i* P	Pg	12 26 29.5	-0.4
GEVA	**Gevas**	**0.52**	**271**	P	Pg	12 26 29.5	-0.4
VMUR	**Van-Muradiye**	**0.69**	**351**	*i

GNI	Garni	1.86	40	Pn	Pg	12 30 51.5	+0.9
	32nm,0.3s,baz=331,slow=8.3,SNR=3.7						
SENK	Senkaya-Erzuru	1.94	341	ePN	Pn	12 30 49.5	+1.3
SENK	Senkaya-Erzuru	1.94	341	ePn	Pn	12 30 49.5	+1.3
BNGB	Bing¶‖	1.97	279	ePN	Pb	12 30 50.0	-1.0
BINT	Bingol	2.11	275	ePn	Pn	12 30 50.0	-0.4
YEDI	Yedisu-Bingol	2.17	290	ePN	Pn	12 30 52.5	+1.2
YEDI	Yedisu-Bingol	2.17	290	ePn	Pn	12 30 52.5	+1.2
DDEM	Demirkent	2.43	333	⇑iP	Pb	12 30 59.5	+0.7
DDEM				i S	Sg	12 31 37.1	+4.1
MAZI	Mazidag	2.50	241	ePN	Pn	12 30 57.4	+1.6
MAZI	Mazidag	2.50	241	ePn	Pn	12 30 57.4	+1.6
AKH	Akhalkalaki	2.69	5	ePN	Pn	12 30 00.3	+1.8
AKH	Akhalkalaki	2.69	5	ePn	Pn	12 31 00.3	+1.8
GDB	GEDABAY	2.81	44	⇓P	Pb	12 31 04.0	-1.3
GDB				⇓S	Sn	12 31 37.1	+2.9
GDB	GEDABAY	2.81	44	P	Pb	12 31 04.0	-1.3
GDB				S	Sn	12 31 37.1	+2.9
ERZN	Erzincan	2.83	289	ePN	Pn	12 31 02.0	+1.7
QZX	Qazax, Azerbai	2.88	35	⇓P	Pb	12 31 05.1	-1.2
QZX				⇑S	Sn	12 31 37.3	+1.7
QZX	Qazax, Azerbai	2.88	35	P	Pb	12 31 05.1	-1.2
QZX				S	Sn	12 31 37.3	+1.7
PTK	Pertek	2.97	274	ePN	Pn	12 31 03.9	+1.6
PTK	Pertek	2.97	274	ePn	Pn	12 31 03.9	+1.6
SVRC	Sivrice-ELAZID	3.06	265	ePN	Pn	12 31 04.9	+1.4
SVRC	Sivrice-ELAZID	3.06	265	ePn	Pn	12 31 04.9	+1.4
GANJ	Ganja	3.09	51	⇑P	Pb	12 31 07.5	-2.5
GANJ				⇓S	Sn	12 31 42.6	+1.7
GANJ	Ganja	3.09	51	P	Pb	12 31 07.5	-2.5
GANJ				S	Sn	12 31 42.6	+1.7
EZC	Erzincan	3.15	290	ePn	Pn	12 31 02.0	-2.7
TBLG	Delisi	3.23	21	ePN	Pn	12 31 07.7	+2.0
TBLG	Delisi	3.23	21	ePn	Pn	12 31 07.7	+2.0
KTUT	Trabzon	3.47	312	ePN	Pn	12 31 10.5	+1.5
KTUT	Trabzon	3.47	312	ePn	Pn	12 31 10.5	+1.5
MNGR	Mingechevir, A	3.64	55	⇓P	Pn	12 31 14.5	+3.2
MNGR				⇑S	Sn	12 31 55.7	+1.4
MNGR	Mingechevir, A	3.64	55	P	Pn	12 31 14.5	+3.2
MNGR				S	Sn	12 31 55.7	+1.4
ZRD	Zardab	3.81	65	⇑P	Pn	12 31 16.8	+3.1
ZRD				⇑S	Sn	12 31 59.2	+0.6
ZRD	Zardab	3.81	65	P	Pn	12 31 16.8	+3.1
ZRD				S	Sn	12 31 59.2	+0.6
ZKTA	Zakatala	3.92	41	⇓P	Pn	12 31 19.2	+3.9
SEKA	Sheki	3.96	50	⇑P	Pn	12 31 20.2	+4.4
SEKA				⇓S	Sn	12 32 04.8	+2.5
SEKA	Sheki	3.96	50	P	Pn	12 31 20.2	+4.4
SEKA				S	Sn	12 32 04.8	+2.5
LRK	Lerik	4.04	90	⇑P	Pn	12 31 19.4	+2.4
LRK				⇑S	Sn	12 32 04.0	-0.4
LRK	Lerik	4.04	90	P	Pn	12 31 19.4	+2.4
LRK				S	Sn	12 32 04.0	-0.4
GLBA	Clilabad	4.09	81	⇑P	Pn	12 31 20.1	+2.6
GLBA				⇑S	Sn	12 32 05.5	-0.1
GLBA	Clilabad	4.09	81	P	Pn	12 31 20.1	+2.6
GLBA				S	Sn	12 32 05.5	-0.1
LKRN	Lenkeran, Azer	4.38	88	⇓P	Pn	12 31 23.8	+2.4
LKRN	Lenkeran, Azer	4.38	88	P	Pn	12 31 23.8	+2.4
ASTR	Astara	4.39	90	⇑P	Pn	12 31 24.0	+2.3
ASTR				⇓S	Sn	12 32 12.9	0.0
ASTR	Astara	4.39	90	P	Pn	12 31 24.0	+2.3
ASTR				S	Sn	12 32 12.9	0.0
XNQ	Khinaliq	4.53	56	⇓P	Pn	12 31 26.7	+3.0
XNQ	Khinaliq	4.53	56	P	Pn	12 31 26.7	+3.0
QSAR	Qusar	4.79	53	⇑P	Pn	12 31 30.4	+3.2
QSAR	Qusar	4.79	53	P	Pn	12 31 30.4	+3.2
GBS	Qobustan	4.80	66	⇑P	Pn	12 31 30.4	+3.1
GBS	Qobustan	4.80	66	P	Pn	12 31 30.4	+3.1
QUBA	Quba, Azerbaij	4.85	56	⇑P	Pn	12 31 31.2	+3.2
QUBA	Quba, Azerbaij	4.85	56	P	Pn	12 31 31.2	+3.2
ATGJ	Altiaghaj	4.92	62	⇑P	Pn	12 31 32.0	+3.0
ATGJ	Altiaghaj	4.92	62	P	Pn	12 31 32.0	+3.0
AKASG	Malin Array Be	15.52	325	Pn	P	12 33 57.2	-1.0
	0.1nm,0.3s,baz=135,slow=11,SNR=5.1						
AKTO	Aktyubinsk	15.74	37	Pn	Pn	12 33 57.4	+0.9
	0.1nm,0.3s,baz=228,slow=16,SNR=2.6						
VYHS	Vyhne	20.08	307	eP	Pn	12 34 50.1	-0.1
VYHS	Vyhne	20.08	307	eP	Pn	12 34 50.1	-0.1
ARU	Arti	20.44	25	P	Pn	12 34 55.7	+1.3
	2.7nm,0.4s,baz=226,slow=4.9,SNR=4.6						
KKAR	Karatay Array	21.07	69	eP	P	12 34 59.3	+0.1
	6.0nm,0.8s						
KKAR	Karatay Array	21.07	69	eP	P	12 34 59.3	+0.1
	6.0nm,0.8s						
GERES	GERESS Array B	23.43	305	P	P	12 35 25.0	+0.7
	0.6nm,0.8s,baz=94,slow=8.9,SNR=3.4						
CLL	Collm	24.57	311	e(P)	P	12 35 32.0	-2.9
FINES	FINESS Array B	25.09	341	P	P	12 35 39.4	-0.1
	5.7nm,1.1s,baz=146,slow=12,SNR=3.6						
KURBB	Kurchatov Arra	27.54	53	P	P	12 36 01.6	-0.1
	1.3nm,0.9s,baz=261,slow=9.0,SNR=4.1						
KURK	Kurchatov	27.62	53	P	P	12 36 01.6	-0.8
TORD	Torodi Ar. Bea	44.64	247	P	P	12 38 25.7	-2.2
	0.4nm,0.5s,baz=48,slow=11,SNR=4.2						
CMAR	Chiang Mai Arr	52.13	96	P	P	12 39 24.8	-0.9
	0.5nm,0.3s,baz=292,slow=9.4,SNR=4.2						

*DDA **23** 12:34:44.0, 38°.83N×43°.31E, h7km, Md3.1*
*ISK **23** 12:34:43.2, 38°.85N×43°.25E, h5km, ML3.4*
*AZER **23** 12:34:43.7±2.0, 38°.82N×42°.91E, h7km, Error ellipse: s-maj=18.2km s-min=9.1km az=34.0*
*CSEM **23** 12:34:45.7±0.2, 38°.85N×43°.10E, h2km, MD3.1, Error ellipse: s-maj=5.7km s-min=4.1km az=172.0*
ISC 23 12:34:44.5±1.1, 38°.82N±0°.03×43°.31E±0°.02, h11km±9km, n49, σ2.9°06/72, 9C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.26	50	i P	Pg	12 34 49.1	-0.8
VMUR				i S	Sg	12 34 54.1	+0.5
TVAN	Van	0.30	166	i P	Pb	12 34 51.1	-0.9
TVAN				i S	Sb	12 34 55.9	-1.3
TUTA	Tutak	0.70	326	i P	Pg	12 34 57.5	-0.5
TUTA				i S	Sb	12 35 08.7	+0.1
TUTA	Tutak	0.70	326	P	Pg	12 34 57.5	-0.5
DYDN	Diyadin	0.78	22	i P	Pg	12 34 58.4	-1.2
AGRB	Hanur-Agry	0.79	342	ePG	Pg	12 34 58.5	-1.3
AGRB				eSG	Sb	12 35 10.5	-0.8
AGRB	Hanur-Agry	0.79	342	ePg	Pg	12 34 58.5	-1.3
AGRB				eSg	Sb	12 35 10.5	-0.8
EKAR	Karacoban	1.06	294	i P	Pg	12 35 04.0	-1.0
EKAR				i S	Sn	12 35 24.2	+3.6
EKAR	Karacoban	1.06	294	P	Pg	12 35 04.0	-1.0
EATA	Eleskirt	1.22	329	i P	Pg	12 35 06.7	-1.2
EATA				i S	Sn	12 35 25.7	+1.2
EATA	Eleskirt	1.22	329	P	Pg	12 35 06.7	-1.2
VRTB	Varto-Mus	1.49	284	ePN	Pb	12 35 12.1	-0.1
VRTB	Varto-Mus	1.49	284	ePn	Pb	12 35 12.1	-0.1
CUKT	Cukurca	1.59	172	ePN	Pb	12 35 14.1	+0.1
CUKT	Cukurca	1.59	172	ePn	Pb	12 35 14.1	+0.1
HOMI	Horasan	1.64	319	i P	Pn	12 35 13.5	+0.1
HOMI				i S	Sg	12 35 39.9	+2.7
NAX	Nakhchivan	1.73	78	⇓P	Pn	12 35 14.8	+0.1
NAX				⇑S	Sg	12 35 45.3	+5.0
NAX	Nakhchivan	1.73	78	P	Pn	12 35 14.8	+0.1
NAX				S	Sg	12 35 45.3	+5.0
SVAN	Silvan-Diyarba	1.79	249	ePN	Pn	12 35 15.6	+0.2
SVAN				eSN	Sb	12 35 39.7	-0.1
SVAN	Silvan-Diyarba	1.79	249	i P	Pn	12 35 16.1	+0.7
SVAN				i S	Sb	12 35 39.3	-0.5
SVAN	Silvan-Diyarba	1.79	249	ePn	Pn	12 35 15.6	+0.2
SVAN	Silvan-Diyarba	1.79	249	P	Pn	12 35 16.1	+0.7
SVAN				S	Sb	12 35 39.3	-0.5
ERZM	Erzurum	1.86	306	i P	Pb	12 35 17.6	-1.0
ERZM	Erzurum	1.86	306	P	Pb	12 35 17.6	-1.0
SENK	Senkaya-Erzuru	1.89	337	ePN	Pn	12 35 17.7	+0.8
SENK	Senkaya-Erzuru	1.89	337	ePn	Pn	12 35 17.7	+0.8
BNGB	Bing¶‖	2.06	275	ePN	Pn	12 35 19.2	0.0
BINT	Bingol	2.21	272	ePn	Pn	12 35 19.2	-2.0
YEDI	Yedisu-Bingol	2.24	287	ePN	Pn	12 35 21.8	+0.1
YEDI	Yedisu-Bingol	2.24	287	ePn	Pn	12 35 21.8	+0.1
MAZI	Mazidag	2.64	240	ePN	Pn	12 35 28.4	+1.3
MAZI	Mazidag	2.64	240	ePn	Pn	12 35 28.4	+1.3
GDB	GEDABAY	2.67	44	⇓P	Pb	12 35 31.0	-1.4
GDB				⇑S	Sb	12 36 06.5	+1.3
GDB	GEDABAY	2.67	44	P	Pb	12 35 31.0	-1.4
GDB				S	Sb	12 36 06.5	+1.3
QZX	Qazax, Azerbai	2.74	35	⇓P	Pb	12 35 31.2	-2.3
QZX				⇑S	Sb	12 36 08.1	+1.1
QZX	Qazax, Azerbai	2.74	35	P	Pb	12 35 31.2	-2.3
QZX				S	Sb	12 36 08.1	+1.1
ERZN	Erzincan	2.89	286	ePN	Pn	12 35 31.0	+0.4
GANJ	Ganja	2.95	51	⇑P	Pb	12 35 35.0	-2.0
GANJ				⇑S	Sb	12 36 13.7	+0.6
GANJ	Ganja	2.95	51	P	Pb	12 35 35.0	-2.0
GANJ				S	Sb	12 36 13.7	+0.6
PTK	Pertek	3.06	273	ePN	Pn	12 35 34.6	+1.6
SVRC	Sivrice-ELAZID	3.17	263	ePN	Pn	12 35 35.6	+1.1
LRK	Lerik	3.93	91	⇑P	Pb	12 35 49.5	-4.5
LRK				⇓S	Sb	12 36 39.6	-2.0
LRK	Lerik	3.93	91	P	Pb	12 35 49.5	-4.5
LRK				S	Sb	12 36 39.6	-2.0
LKRN	Lenkeran, Azer	4.27	90	⇑P	Pn	12 35 54.1	+4.7
LKRN				⇑S	Sb	12 36 48.1	-3.1
LKRN	Lenkeran, Azer	4.27	90	P	Pn	12 35 54.1	+4.7
LKRN				S	Sb	12 36 48.1	-3.1
ASTR	Astara	4.29	92	⇓P	Pn	12 35 54.3	+4.6
ASTR				⇑S	Sb	12 36 48.5	-3.3
ASTR	Astara	4.29	92	P	Pn	12 35 54.3	+4.6
ASTR				S	Sb	12 36 48.5	-3.3
XNQ	Khinaliq	4.39	56	⇓P	Pn	12 35 54.6	+3.4
XNQ	Khinaliq	4.39	56	P	Pn	12 35 54.6	+3.4

*IDC **23** 12:36:31.9±2.0, 31°.67N×131°.76E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/68, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=29.0km s-min=26.2km az=171.0*
*ISCJB **23** 12:36:33.4±1.0, 31°.68N±0°.05×131°.86E±0°.06, h27km±6km, mb3.5/2, Error ellipse: s-maj=9.1km s-min=6.8km az=40.8*
*JMA **23** 12:36:33.5±0.1, 31°.65N×131°.84E, h28km±2km, M3.4*
ISC 23 12:36:34.8±1.1, 31°.66N±0°.04×131°.75E±0°.06, h22km±7km, n16, σ0.9°74/20, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.43	252	⇓P	Pb	12 36 43.6	0.0
JNAR				eS	Sn	12 36 52.3	-0.5
JTZ	Takazaki	0.61	293	⇓P	Pb	12 36 46.4	-0.4
JTZ				S	Sb	12 36 55.4	+0.4
JTSN	Tsuno	0.62	341	⇓P	Pb	12 36 46.1	-0.9
JTSN				eS	Sb	12 36 54.9	-0.3
JZO	Okuchi	1.09	296	⇑P	Pn	12 36 53.7	-1.0
JZO				eS	Sb	12 37 09.1	+0.4
JSU	Suzuyama	1.11	262	⇑P	Pn	12 36 54.3	-0.8
JSU				eS	Sn	12 37 11.1	+1.3
JIU2	Izumi 2	1.18	318	⇑P	Pn	12 36 55.6	-0.5
JTN	Tanegashima 3	1.20	213	P	Pn	12 36 55.5	-0.8
JTN				eS	Sb	12 37 12.3	+0.4
JNU	Nakatsue	1.63	333	Pn	Pn	12 37 02.4	-0.2
	29nm,0.3s,baz=190,slow=5.1,SNR=197						
JNU				Sn	Sb	12 37 25.4	+1.0
	9.8nm,0.3s,baz=104,slow=10.0,SNR=8.4						
KSRS	Korea Array	6.58	332	Pn	Pn	12 38 10.5	+0.3
	0.1nm,0.3s,baz=146,slow=15,SNR=3.2						
JHJ	Hachijo jima 2	6.95	76	Pn	Pn	12 38 15.4	+0.1
	12nm,0.3s,baz=66,slow=7.6,SNR=7.4						
MJAR	Matsushiro Arr	7.24	46	Pn	Pn	12 38 19.2	-0.1
	0.4nm,0.3s,baz=243,slow=14,SNR=6.5						
SONM	Songino Array	25.15	317	P	P	12 41 57.6	-0.9
	1.0nm,0.8s,baz=126,slow=10,SNR=6.3						
CMAR	Chiang Mai Arr	32.36	254	P	P	12 43 03.7	+0.9
	0.3nm,0.3s,baz=39,slow=7.2,SNR=3.0						
H11N2	WAKE ISLAND Hy	33.69	102	T	T	13 18 40.7	
	baz=298,slow=75						
H11N1	WAKE ISLAND Hy	33.69	102	T	T	13 18 41.1	
	baz=298,slow=75,SNR=5.2						
H11N3	WAKE ISLAND Hy	33.70	102	T	T	13 18 42.2	
	baz=298,slow=75,SNR=5.6						

*IDC **23** 12:42:08.1±0.7, 38°.61N×43°.16E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/58, mbtmp4.2/26, ML3.7/3, Error ellipse: s-maj=16.8km s-min=9.4km az=173.0*
*MOS **23** 12:42:08.4±1.5, 38°.50N×43°.33E, h10km, mb4.6/37, Error ellipse: s-maj=6.0km s-min=4.0km az=112.0*
*BJI **23** 12:42:08.2, 38°.50N×43°.40E, h10km, mb4.6/23, mB5.0/1, Ms5.1/6, Ms7 4.9/7*
*ISCJB **23** 12:42:09.5±0.1, 38°.66N±0°.02×43°.28E±0°.01, h10km, mb4.5/105, MS4.8/2, Error ellipse: s-maj=2.4km s-min=1.4km az=173.6*
*NEIC **23** 12:42:09.7±0.0, 38°.73N×43°.19E, h5km, mb4.8/55, ML4.2(ISK), ML4.5(DDA), After ISK.*
*DDA **23** 12:42:09.6, 38°.68N×43°.15E, h10km, Ml4.2*
*ISK **23** 12:42:10.4, 38°.73N×43°.19E, h7km, ML4.3*
*AZER **23** 12:42:10.8±1.3, 38°.42N×43°.31E, h17km±35km, Error ellipse: s-maj=38.4km s-min=10.7km az=61.0*
*CSEM **23** 12:42:10.5±0.1, 38°.67N×43°.22E, h10km, mb4.7/58, Error ellipse: s-maj=3.2km s-min=2.1km az=176.0*
*TEH **23** 12:42:16.1, 38°.71N×43°.58E, h18km, ML4.0*
ISC 23 12:42:10.6±0.6, 38°.67N±0°.01×43°.22E±0°.02, h12km±3km, n517, σ1.9°45/611, mb4.6/107, 60C-48D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.20	134	P	Pb	12 42 16.5	+0.1
TVAN	Van	0.20	134	P	Pb	12 42 16.5	+0.1
TVAN				S	Sg	12 42 21.3	+3.0
GEVA	Gevas	0.38	199	i P	Pg	12 42 16.0	-2.3
GEVA				i S	Sg	12 42 23.3	-0.1
GEVA	Gevas	0.38	199	P	Pg	12 42 16.6	-1.6
GEVA				S	Sg	12 42 23.3	-0.1
GEVA	Gevas	0.38	199	P	Pg	12 42 16.6	-1.6
GEVA				S	Sg	12 42 23.3	-0.1
VMUR	Van-Muradiye	0.42	41	⇑iP	Pg	12 42 18.6	-0.3
VMUR				i S	Sb	12 42 26.2	-0.2
VMUR	Van-Muradiye	0.42	41	Pn	Pg	12 42 18.8	-0.2
VMUR				S	Sb	12 42 26.2	-0.2
VMUR	Van-Muradiye	0.42	41	Pn	Pg	12 42 18.8	-0.2
VMUR				S	Sb	12 42 26.2	-0.2
TUTA	Tutak	0.79	337	⇓iP	Pg	12 42 24.1	-1.9
TUTA				i S	Sg	12 42 35.4	-1.1
TUTA	Tutak	0.79	337	P	Pg	12 42 24.1	-1.9
TUTA				S	Sg	12 42 35.4	-1.1
TUTA	Tutak	0.79	337	P	Pg	12 42 23.7	-2.3
TUTA				S	Sg	12 42 35.4	-1.1
BASK	Baskale_VAN	0.87	135	⇓iP	Pg	12 42 25.6	-1.9
BASK				i S	Sg	12 42 39.1	+0.1
BASK	Baskale_VAN	0.87	135	P	Pg	12 42 25.6	-1.9
BASK				S	Sg	12 42 39.1	+0.1
AGRB	Hanur-Agry	0.92	349	ePG	Pg	12 42 26.6	-1.8
AGRB				eSG	Sg	12 42 39.7	-0.7
AGRB	Hanur-Agry	0.92	349	ePg	Pg	12 42 26.6	-1.8
AGRB				Sg	Sg	12 42 39.6	-0.7
AGRB	Hanur-Agry	0.92	349	Pg	Pg	12 42 26.6	-1.8
AGRB				Sg	Sg	12 42 39.6	-0.8
DYDN	Diyadin	0.94	23	i P	Pg	12 42 27.9	-0.9
DYDN				i S	Sn	12 42 43.4	+0.1
DYDN	Diyadin	0.94	23	P	Pg	12 42 27.9	-0.9
DYDN				S	Sn	12 42 43.4	+0.1
DYDN	Diyadin	0.94	23	P	Pg	12 42 27.9	-0.9
DYDN				S	Sn	12 42 43.4	+0.1
EKAR	Karacoban	1.07	303	i P	Pb	12 42 30.2	-1.0
EKAR				i S	Sn	12 42 50.3	+3.8
EKAR	Karacoban	1.07	303	P	Pb	12 42 30.2	-1.0
EKAR	Karacoban	1.07	303	P	Pb	12 42 30.2	-1.0
HAKT	HAKKARI	1.18	161	⇑iP	Pb	12 42 31.1	-1.9
HAKT				i S	Sn	12 42 50.6	+1.5
HAKT				i S	Sg	12 42 52.2	+3.6
HAKT	HAKKARI	1.18	161	P	Pb	12 42 31.1	-1.9
HAKT				S	Sn	12 42 50.6	+1.5
EATA	Eleskirt	1.31	335	⇓iP	Pn	12 42 33.5	-1.5
EATA				i S	Sb	12 42 52.0	-0.3
EATA	Eleskirt	1.31	335	P	Pn	12 42 33.5	-1.5
EATA				S	Sb	12 42 51.3	-1.0
EATA	Eleskirt	1.31	335	P	Pn	12 42 33.4	-1.6
EATA				S	Sb	12 42 51.3	-1.0
SIRN	S¨–rnak	1.34	209	⇓iP	Pn	12 42 34.6	-0.5
SIRN				i S	Sg	12 42 54.2	+0.6
SIRN	S¨–rnak	1.34	209	P	Pn	12 42 35.3	+0.2
SIRN				S	Sg	12 42 54.2	+0.6
SIRN	S¨–rnak	1.34	209	P	Pn	12 42 35.3	+0.2
CUKT	Cukurca	1.46	168	ePN	Pb	12 42 38.2	+0.6
CUKT	Cukurca	1.46	168	⇑iP	Pb	12 42 38.0	+0.4
CUKT				i S	Sg	12 43 00.3	+2.9
CUKT	Cukurca	1.46	168	P	Pb	12 42 38.0	+0.4
CUKT				S	Sg	12 43 00.3	+2.9
CUKT	Cukurca	1.46	168	Pn	Pb	12 42 38.2	+0.6
VRTB	Varto-Mus	1.46	290	ePN	Pn	12 42 36.9	+0.1
VRTB				eSN	Sb	12 42 56.5	+0.2
VRTB	Varto-Mus	1.46	290	ePn	Pn	12 42 36.9	+0.1
VRTB				S	Sn	12 42 55.8	-0.2
VRTB				eSn	Sb	12 42 56.5	+0.2
VRTB	Varto-Mus	1.46	290	Pn	Pn	12 42 36.9	+0.1
VRTB				S	Sn	12 42 55.8	-0.2
BNGL	BINGOL	1.64	280	⇑iP	Pn	12 42 39.3	0.0
BNGL				i S	Sb	12 43 02.5	+1.0
BNGL	BINGOL	1.64	280	P	Pn	12 42 39.4	0.0
BNGL	BINGOL	1.64	280	P	Pn	12 42 39.4	0.0
SVAN	Silvan-Diyarba	1.67	252	ePN	Pn	12 42 40.1	+0.5
SVAN	Silvan-Diyarba	1.67	252	⇓iP	Pn	12 42 39.5	-0.1
SVAN				i S	Sb	12 43 02.3	0.0
SVAN	Silvan-Diyarba	1.67	252	P	Pn	12 42 39.5	-0.1
SVAN	Silvan-Diyarba	1.67	252	ePn	Pn	12 42 40.1	+0.5
SVAN				S	Sb	12 43 02.3	0.0
SVAN	Silvan-Diyarba	1.67	252	Pn	Pn	12 42 40.1	+0.5
HOMI	Horasan	1.71	324	⇓iP	Pn	12 42 40.5	+0.1
HOMI				i S	Sg	12 43 07.9	+2.4
HOMI	Horasan	1.71	324	P	Pn	12 42 40.9	+0.5
HOMI	Horasan	1.71	324	P	Pn	12 42 40.9	+0.5
BTMN	Batman	1.72	244	i P	Pn	12 42 40.5	+0.1
BTMN				i S	Sb	12 43 03.7	0.0
BTMN	Batman	1.72	244	P	Pn	12 42 40.5	+0.1
BTMN				S	Sb	12 43 03.7	0.0
DIGO	Kars	1.74	4	⇑iP	Pb	12 42 41.8	-0.8
DIGO				i S	Sg	12 43 09.2	+2.5
DIGO	Kars	1.74	4	P	Pb	12 42 41.8	-0.8
DIGO	Kars	1.74	4	P	Pb	12 42 42.2	-0.5
NAX	Nakhchivan	1.84	74	⇓P	Pn	12 42 42.0	-0.1
NAX				⇓S	Sn	12 43 05.6	+0.2
NAX	Nakhchivan	1.84	74	P	Pn	12 42 42.0	-0.1
NAX				S	Sn	12 43 05.6	+0.2
GNI	Garni	1.89	38	Pn	Pn	12 42 43.8	+1.0
	41nm,0.3s,baz=265,slow=3.3,SNR=17						
GNI	Garni	1.89	38	ePN	Pn	12 42 43.4	+0.7
GNI	Garni	1.89	38	ePn	Pn	12 42 43.4	+0.7
ERZM	Erzurum	1.89	311	i P	Pb	12 42 44.2	-1.0
ERZM	Erzurum	1.89	311	P	Pb	12 42 44.2	-1.0
ERZM	Erzurum	1.89	311	P	Pn	12 42 33.2	-10
ISHB	Shabestar	1.92	101	ePn	Pn	12 42 44.0	+0.7
ISHB				eAMB	AMB	12 43 19.1	
	comp=Z,18μm,0.3s						
ISHB	Shabestar	1.92	101	Pn	Pn	12 42 44.0	+0.7
ISHB	Shabestar	1.92	101	Pn	Pn	12 42 44.0	+0.7
IMRD	Marand	1.94	88	ePn	Pn	12 42 44.6	+1.0
IMRD				eAMB	AMB	12 42 52.1	
	comp=Z,39μm,0.2s						
IMRD	Marand	1.94	88	Pn	Pn	12 42 44.5	+1.0
IMRD	Marand	1.94	88	Pn	Pn	12 42 44.5	+1.0
ECAT	Cat-ERZURUM	1.98	299	i P	Pn	12 42 45.1	+1.1
ECAT				i S	Sg	12 43 14.9	+0.7
ECAT	Cat-ERZURUM	1.98	299	P	Pn	12 42 45.1	+1.1
SENK	Senkaya-Erzuru	2.00	341	ePN	Pn	12 42 44.9	+0.5
SENK	Senkaya-Erzuru	2.00	341	ePn	Pn	12 42 44.9	+0.5
BNGB	Bing¶‖	2.01	280	ePN	Pn	12 42 45.7	+1.3
BNGB	Bing¶‖	2.01	280	Pn	Pn	12 42 45.7	+1.3
BNGB	Bing¶‖	2.01	280	Pn	Pn	12 42 45.7	+1.3
BINT	Bingol	2.14	276	P	Pn	12 42 45.6	-0.6
BINT	Bingol	2.14	276	ePn	Pn	12 42 45.7	-0.5
YEDI	Yedisu-Bingol	2.22	291	ePN	Pn	12 42 48.0	+0.7
YEDI	Yedisu-Bingol	2.22	291	ePn	Pn	12 42 48.0	+0.7
YEDI	Yedisu-Bingol	2.22	291	Pn	Pn	12 42 48.7	+1.4
ITBZ	Tabriz	2.34	100	ePn	Pn	12 42 49.8	+0.8
ITBZ				eAMB	AMB	12 43 04.6	
	comp=Z,4μm,0.2s						
ITBZ	Tabriz	2.34	100	ePn	Pn	12 42 49.8	+0.8
ITBZ	Tabriz	2.34	100	Pn	Pn	12 42 49.8	+0.8
MARD	Mardin	2.36	236	i P	Pn	12 42 49.6	+0.4
MARD				i S	Sb	12 43 21

QBL	Gabala	4.22	56	⇓P	Pn	12 43 15.6 +0.9
QBL				⇓S	Sn	12 44 05.3 +1.4
QBL	Gabala	4.22	56	P	Pn	12 43 15.6 +0.9
QBL				S	Sn	12 44 05.3 +1.4
LKRN	Lenkeran, Azer	4.35	88	⇓P	Pn	12 43 15.3 -1.1
LKRN				⇓S	Sn	12 44 05.7 -1.3
LKRN	Lenkeran, Azer	4.35	88	P	Pn	12 43 15.3 -1.1
LKRN				S	Sn	12 44 05.7 -1.3
ASTR	Astara	4.37	90	⇑P	Pn	12 43 15.4 -1.2
ASTR				⇓S	Sn	12 44 05.8 -1.6
ASTR	Astara	4.37	90	P	Pn	12 43 15.4 -1.2
ASTR				S	Sn	12 44 05.8 -1.6
IML	Ismayilli	4.37	59	⇑P	Pn	12 43 17.5 +0.7
IML				⇑S	Sn	12 44 09.6 +1.9
IML	Ismayilli	4.37	59	P	Pn	12 43 17.5 +0.7
IML				S	Sn	12 44 09.6 +1.9
DARE	Darende-Malaty	4.49	270	*e*PN	Pn	12 43 21.0 +2.5
DARE	Darende-Malaty	4.49	270	*e*Pn	Pn	12 43 21.0 +2.5
DARE	Darende-Malaty	4.49	270	Pn	Pn	12 43 21.8 +3.3
XNQ	Khinaliq	4.53	55	⇓P	Pn	12 43 20.0 +0.9
XNQ				⇑S	Sn	12 44 14.4 +2.5
XNQ	Khinaliq	4.53	55	P	Pn	12 43 20.0 +0.9
XNQ				S	Sn	12 44 14.4 +2.5
NEY	Neytrino	4.59	355	⇓*e*P	Pn	12 43 24.5 +4.6
PQL	Pirkuli	4.65	61	⇑P	Pn	12 43 21.1 +0.4
PQL				⇑S	Sn	12 44 16.0 +1.3
PQL	Pirkuli	4.65	61	P	Pn	12 43 21.1 +0.4
PQL				S	Sn	12 44 16.0 +1.3
ALIB	Äli-Bayra	4.67	72	⇓P	Pn	12 43 20.6 -0.2
ALIB				⇓S	Sn	12 44 15.4 +0.5
ALIB	Äli-Bayra	4.67	72	P	Pn	12 43 20.6 -0.2
ALIB				S	Sn	12 44 15.4 +0.5
IDHR	Dehrash	4.71	146	*e*Pn	Pn	12 43 24.3 +2.7
IDHR				*e*AMB	AMB	12 44 55.0
comp=Z,2μm,0.3s						
IDHR	Dehrash	4.71	146	*e*Pn	Pn	12 43 24.3 +2.7
IDHR	Dehrash	4.71	146	Pn	Pn	12 43 24.3 +2.7
GBS	Qobustan	4.80	65	⇑P	Pn	12 43 22.8 +0.2
GBS				⇑S	Sn	12 44 18.9 +0.8
GBS	Qobustan	4.80	65	P	Pn	12 43 22.8 +0.2
GBS				S	Sn	12 44 18.9 +0.8
QSAR	Qusar	4.80	52	⇓P	Pn	12 43 23.7 +1.1
QSAR				⇑S	Sn	12 44 20.6 +2.5
QSAR	Qusar	4.80	52	P	Pn	12 43 23.7 +1.1
QSAR				S	Sn	12 44 20.6 +2.5
NCK	Nalchik	4.83	3	⇓*e*P	Pn	12 43 26.4 +3.4
NCK	Nalchik	4.83	3	*e*P	Pn	12 43 26.4 +3.4
QUBA	Quba, Azerbaij	4.86	55	⇓P	Pn	12 43 24.4 +1.0
QUBA				⇓S	Sn	12 44 22.2 +2.7
QUBA	Quba, Azerbaij	4.86	55	P	Pn	12 43 24.4 +1.0
QUBA				S	Sn	12 44 22.2 +2.7
RSDY	Resadiye-TOKAT	4.87	293	*e*PN	Pn	12 43 26.2 +2.6
RSDY	Resadiye-TOKAT	4.87	293	*e*Pn	Pn	12 43 26.2 +2.6
RSDY	Resadiye-TOKAT	4.87	293	Pn	Pn	12 43 26.8 +3.2
ATGJ	Altiaghaj	4.92	62	⇓P	Pn	12 43 24.8 +0.4
ATGJ				⇓S	Sn	12 44 23.3 +2.1
ATGJ	Altiaghaj	4.92	62	P	Pn	12 43 24.8 +0.4
ATGJ				S	Sn	12 44 23.3 +2.1
SVSK	Karacayir	4.98	286	*e*PN	Pn	12 43 28.0 +2.9
SVSK	Karacayir	4.98	286	*e*Pn	Pn	12 43 28.0 +2.9
SVSK	Karacayir	4.98	286	Pn	Pn	12 43 28.0 +2.9
SIZA	Siyzn	4.99	59	⇓P	Pn	12 43 25.8 +0.6
SIZA				⇑S	Sn	12 44 24.8 +2.0
SIZA	Siyzn	4.99	59	P	Pn	12 43 25.8 +0.6
SIZA				S	Sn	12 44 24.8 +2.0
KBZ	Khabaz	5.06	357	Pn	Pn	12 43 32.4 +6.2
comp=Z,0.3nm,0.3s,baz=172,slow=8.9,SNR=9.6						
KMRS	Kahramanmaras	5.12	259	*e*PN	Pn	12 43 30.3 +3.2
KMRS	Kahramanmaras	5.12	259	*e*Pn	Pn	12 43 30.3 +3.2
KMRS	Kahramanmaras	5.12	259	Pn	Pn	12 43 31.0 +4.0
KIV	Kislovodsk	5.29	356	*e*P	Pn	12 43 35.1 +5.6
KIV				pmax	pmax	
comp=Z,17nm,1.1s						
KIV	Kislovodsk	5.29	356	*e*Pn	Pn	12 43 34.9 +5.4
GOBA	Gobu	5.32	69	⇑P	Pn	12 43 29.8 0.0
GOBA				⇓S	Sn	12 44 31.5 +0.5
GOBA	Gobu	5.32	69	P	Pn	12 43 29.8 0.0
GOBA				S	Sn	12 44 31.5 +0.5
SARI	SarD1z-Kayseri	5.34	269	*e*PN	Pn	12 43 33.2 +2.8
TOKA	Tokat	5.47	290	*e*Pn	Pn	12 43 35.6 +3.8
NDR	Nardaran	5.56	68	⇓P	Pn	12 43 33.2 +0.1
NDR				⇑S	Sn	12 44 37.7 +0.8
NDR	Nardaran	5.56	68	P	Pn	12 43 33.2 +0.1
NDR				S	Sn	12 44 37.7 +0.8
GALA	Gala	5.63	70	⇓P	Pn	12 43 34.0 0.0
GALA				⇓S	Sn	12 44 39.4 +0.8
GALA	Gala	5.63	70	P	Pn	12 43 34.0 0.0
GALA				S	Sn	12 44 39.4 +0.8
GOF	Gofitskoye	6.38	359	⇑*e*P	Pb	12 43 53.6 -7.9
GOF				*e*S	Sn	12 45 04.8 +7.7
GOF				pmax	pmax	
comp=Z,6.0nm,0.4s						
GOF				smax	smax	
comp=N,79nm,1.6s						
BR131	Keskin Array S	7.51	281	*e*Pn	Pn	12 44 03.2 +3.2
BRTR	Keskin Array B	7.51	281	Pn	Pn	12 44 01.1 +1.0
comp=N,0.1nm,0.3s,baz=117,slow=15,SNR=3.3						
ASF	Jabal al Asfar	8.29	220	Pn	Pn	12 44 12.5 +1.9
comp=N,0.2nm,0.3s,baz=346,slow=16,SNR=3.2						
MMAI	Mount Meron Ar	8.49	231	Pn	Pn	12 44 18.5 +5.2
comp=N,3.1nm,0.3s,baz=33,slow=12,SNR=5.6						
GEYT	Alibeck	11.73	89	Pn	Pn	12 44 59.7 +2.0
comp=N,0.4nm,0.3s,baz=271,slow=16,SNR=7.6						
VRI	Vrincioaia	14.15	306	⇑*j*P	P	12 45 38.2 -0.1
VRI	Vrincioaia	14.15	306	⇑P	P	12 45 38.2 -0.1
PLOR	Plostina	14.20	306	⇑*j*P	P	12 45 39.9 +1.1
PLOR	Plostina	14.20	306	⇑P	P	12 45 39.9 +1.1
LPSR	Galich'ya Gora	14.24	349	*e*P	P	12 45 38.0 -1.2
LPSR				pmax	pmax	
comp=Z,8.0nm,0.6s						
SORM	Soroca	14.34	316	⇑*j*P	P	12 45 39.0 -1.3
SORM	Soroca	14.34	316	⇑P	P	12 45 39.0 -1.3
SORM	Soroca	14.34	316	P	P	12 45 39.0 -1.3
MLR	Muntele Rosu	14.51	304	⇑*j*P	P	12 45 42.3 -0.1
MLR	Muntele Rosu	14.51	304	⇑P	P	12 45 42.3 -0.1
MLR	Muntele Rosu	14.51	304	P	P	12 45 42.3 -0.1
IDI	Anoyia	15.03	263	Pn	Pn	12 45 45.2 +2.4
comp=Z,0.2nm,0.3s,baz=90,slow=3.4,SNR=4.6						
IDI	Anoyia	15.03	263	*e*Pn	Pn	12 45 44.8 +2.0
comp=Z,26nm,1.0s						
IDI	Anoyia	15.03	263	*e*Pn	Pn	12 45 44.8 +2.0
comp=Z,26nm,1.0s						
VOIR		15.08	302	⇑*j*P	P	12 45 51.0 +2.3
VOIR		15.08	302	⇑P	P	12 45 51.0 +2.3
RAYN	Ar Rayn	15.23	172	*e*Pn	Pn	12 45 41.7 -3.7
comp=Z,6.6nm,0.8s						
SRS	Serrai	15.26	285	P	P	12 45 50.0 -0.6
SRS				pmax	pmax	
comp=Z,10.0nm,1.5s						
SRS	Serrai	15.26	285	P	P	12 45 50.0 -0.6
comp=Z,10.0nm,1.5s						
ARR	Arges	15.33	302	⇑*j*P	P	12 45 53.8 +2.4
AKASG	Malin Array Be	15.58	325	Pn	Pn	12 45 48.9 -0.9
comp=Z,1.1nm,0.3s,baz=134,slow=11,SNR=7.9						
AKBB	Malin Array Si	15.58	325	*e*P	P	12 45 53.6 -0.4
AKBB				pmax	pmax	
comp=Z,15nm,1.0s						
AKBB	Malin Array Si	15.58	325	*e*P	P	12 45 53.6 -0.4
comp=Z,15nm,1.0s						
AKBB	Malin Array Si	15.58	325	*e*Pn	P	12 45 53.6 -0.4
comp=Z,15nm,1.0s						
KIEV	Kiev	15.58	325	⇓*e*P	P	12 45 52.5 -1.6
KIEV				pmax	pmax	
comp=Z,8.0nm,0.8s						
KIEV	Kiev	15.58	325	*e*P	P	12 45 52.5 -1.6
comp=Z,8.0nm,0.8s						
KIEV	Kiev	15.58	325	*e*Pn	P	12 45 52.9 -1.1
comp=Z,15nm,1.0s						
VTS	Vitosha	15.68	291	*e*P	P	12 45 54.0 -1.5
VTS				pmax	pmax	
comp=Z,20nm,1.3s						
VTS	Vitosha	15.68	291	*e*P	P	12 45 54.0 -1.5
comp=Z,20nm,1.3s						
VTS	Vitosha	15.68	291	*e*Pn	P	12 45 54.0 -1.5
comp=Z,20nm,1.3s						
AKTO	Aktyubinsk	15.76	37	Pn	Pn	12 45 50.4 -1.8
comp=Z,0.8nm,0.3s,baz=233,slow=10,SNR=20						
BURAR	Bucovina Array	15.86	310	⇑*j*P	P	12 45 58.8 +1.5
BURAR	Bucovina Array	15.86	310	⇑P	P	12 45 58.8 +1.5
BURAR	Bucovina Array	15.86	310	⇑*j*P	P	12 45 58.8 +1.5
BUR08	Bucovina Arr. S	15.88	310	*e*Pn	P	12 45 58.7 +1.1
ABKAR	Akbulak array	15.99	43	*e*Pn	Pn	12 45 55.2 +0.1
comp=Z,32nm,0.8s						
ABKAR	Akbulak array	15.99	43	*e*Pn	Pn	12 45 55.2 +0.1
comp=Z,32nm,0.8s						
GZR	Gura Zlata	16.58	300	⇑*j*P	P	12 46 05.4 +0.1
GZR	Gura Zlata	16.58	300	⇑*j*P	P	12 46 05.4 +0.1
ZAGS	Zajecar	16.59	295	*e*P	Pn	12 46 04.0 +1.2
OBN	Obninsk	17.05	347	⇓*e*P	P	12 46 10.1 -0.2
OBN				pmax	pmax	
comp=Z,28nm,1.2s						
OBN	Obninsk	17.05	347	*e*P	P	12 46 10.1 -0.2
comp=Z,28nm,1.2s						
DRGR		17.08	305	⇑*j*P	P	12 46 11.0 +0.2
DRGR		17.08	305	P	P	12 46 13.2 +2.4
DRGR				pmax	pmax	
comp=Z,19nm,1.3s						
DRGR		17.08	305	⇑*j*P	P	12 46 11.0 +0.2
BZS	Buzias	17.43	300	⇑*j*P	P	12 46 16.4 +1.8
BZS	Buzias	17.43	300	⇑P	P	12 46 16.4 +1.8
BZS	Buzias	17.43	300	P	P	12 46 16.4 +1.8
MOS	Moscow	17.48	349	*e*P	P	12 46 20.5 +5.4
MOS				pmax	pmax	
comp=Z,35nm,0.9s						
UOSS	Minazif	17.55	137	*e*Pn	Pn	12 46 12.9 -2.1
comp=Z,28nm,1.3s						
SIRR	Siria	17.59	302	⇑*j*P	P	12 46 18.7 +2.3
KWP	Kalwaria Pacla	18.29	313	P	P	12 46 27.1 +3.0
KWP				pmax	pmax	
comp=Z,159nm,1.1s						
FGSL	Fruska Gora	18.55	298	*e*P	Pn	12 46 28.9 +1.7
CRVS	Cervenica-Dubn	18.68	310	*e*P	Pn	12 46 29.6 +0.8
CRVS	Cervenica-Dubn	18.68	310	*e*P	Pn	12 46 29.6 +0.8
CRVS	Cervenica-Dubn	18.68	310	*e*P	Pn	12 46 29.5 +0.8
STHS	Stebnicka Huta	19.03	311	*e*P	Pn	12 46 34.1 +1.1
STHS				pmax	pmax	
comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	19.03	311	*e*P	Pn	12 46 34.1 +1.1
comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	19.03	311	*e*P	Pn	12 46 34.1 +1.1
PSZ	Piszkesteto	19.27	306	⇓*j*P	Pn	12 46 36.5 +0.6
PSZ	Piszkesteto	19.27	306	*e*P	Pn	12 46 37.5 +1.6
PSZ				pmax	pmax	
comp=Z,22nm,1.2s						
PSZ	Piszkesteto	19.27	306	⇓*j*P	Pn	12 46 36.5 +0.6
PSZ	Piszkesteto	19.27	306	*e*P	Pn	12 46 37.5 +1.6
comp=Z,22nm,1.2s						
BUD	Budapest	19.68	304	P	Pn	12 46 41.5 +0.7
BUD				pmax	pmax	
comp=Z,27nm,1.6s						
BUD	Budapest	19.68	304	P	Pn	12 46 41.5 +0.7
comp=Z,27nm,1.6s						
VYHS	Vyhne	20.13	307	*e*P	P	12 46 45.3 +1.0
VYHS				pmax	pmax	
comp=Z,11nm,1.2s						
VYHS	Vyhne	20.13	307	*e*P	P	12 46 45.3 +1.0
comp=Z,11nm,1.2s						
VYHS	Vyhne	20.13	307	*e*P	P	12 46 45.3 +1.0
OJC	Ojcow	20.23	312	*e*P	Pn	12 46 49.5 +2.3
OJC				pmax	pmax	
comp=Z,4.0nm,0.7s						
OJC	Ojcow	20.23	312	*e*P	Pn	12 46 49.5 +2.2
comp=Z,4.4nm,0.7s						
WSAR	Wadi Sarin	20.24	135	P	Pn	12 46 46.8 -0.7
comp=Z,2.3nm,0.3s,baz=170,slow=12,SNR=7.4						
BLY	Banja Luka	20.32	296	*e*P	Pn	12 46 48.3 0.0
comp=Z,15nm,1.1s						
BLY	Banja Luka	20.32	296	*e*P	Pn	12 46 48.3 0.0
comp=Z,15nm,1.1s						
ARU	Arti	20.48	25	P	P	12 46 48.2 +0.3
comp=Z,12nm,0.5s,baz=225,slow=5.6,SNR=24						
ARU	Arti	20.48	25	⇑*e*P	P	12 46 48.0 +0.1
ARU				pmax	pmax	
comp=Z,34nm,1.3s						
ARU	Arti	20.48	25	*e*P	P	12 46 48.0 +0.1
comp=Z,34nm,1.3s						
ARU	Arti	20.48	25	*e*P	P	12 46 48.8 +0.8
comp=Z,19nm,0.8s						
SUW	Suwalki	20.55	325	P	Pn	12 46 50.5 -0.4
SUW				pmax	pmax	
comp=Z,376nm,0.9s						
SUW	Suwalki	20.55	325	P	Pn	12 46 50.5 -0.4
comp=Z,376nm,0.9s						
SMOL	Smolenice	21.02	306	P	P	12 46 56.8 +2.9
SMOL				pmax	pmax	
comp=Z,34nm,1.0s						
KKAR	Karatay Array	21.06	69	*e*P	P	12 46 55.3 +0.9
KKAR				pmax	pmax	
comp=Z,135nm,0.8s						
KKAR	Karatay Array	21.06	69	*e*P	P	12 46 55.3 +0.9
comp=Z,135nm,0.8s						
KKAR	Karatay Array	21.06	69	*e*P	P	12 46 55.3 +0.9
comp=Z,136nm,0.8s						
KBL	Kabul	21.11	93	*e*P	P	12 46 56.0 +0.8
KBL				pmax	pmax	
comp=Z,19nm,0.8s						
KBL	Kabul	21.11	93	*e*P	P	12 46 56.0 +0.8
comp=Z,19nm,0.8s						
KBL	Kabul	21.11	93	*e*P	P	12 46 56.0 +0.8
comp=Z,19nm,0.8s						
CUC	Castrocucco	21.21	282	*e*P	P	12 46 59.3 +3.3
comp=Z,9.5nm,1.0s						
SOP	Sopron	21.34	304	P	P	12 46 58.4 +1.1
SOP				pmax	pmax	
comp=Z,19nm,1.2s						
SOP	Sopron	21.34	304	P	P	12 46 58.4 +1.1
comp=Z,19nm,1.2s						
CEL	Celeste	21.38	277	*e*P	P	12 47 00.5 +2.7
comp=Z,17nm,0.7s						
MORC	Moravsky Berou	21.38	310	⇑*j*P	P	12 46 59.5 +1.7
MORC	Moravsky Berou	21.38	310	⇑P	P	12 46 59.5 +1.7
MORC	Moravsky Berou	21.38	310	P	P	12 46 59.5 +1.7
SVE	Sverdlovsk	21.50	27	⇑*e*P	P	12 46 59.5 +0.6
SVE				pmax	pmax	
comp=Z,18nm,0.9s						
SVE	Sverdlovsk	21.50	27	*e*P	P	12 46 59.5 +0.6
comp=Z,18nm,0.9s						
VRAC	Vranov	21.80	308	P	P	12 47 05.0 +2.8
comp=Z,6.7nm,0.8s,baz=117,slow=8.1,SNR=5.8						
CONA	Conrad Observa	21.86	304	*i* P	P	12 47 04.5 +1.5
comp=Z,16nm,0.9s						
CONA	Conrad Observa	21.86	304	P	P	12 47 04.5 +1.5
comp=Z,16nm,0.9s						
ARSA	Arzberg	21.92	302	*i* pP	P	12 47 04.4 +0.8
comp=Z,13nm,1.0s						
ARSA	Arzberg	21.92	302	P	P	12 47 04.4 +0.8
comp=Z,13nm,1.0s						
SOKA	Soboth	22.13	300	*i* pP	P	12 47 07.9 +2.0
comp=Z,5.3nm,1.1s						
SOKA	Soboth	22.13	300	P	P	12 47 07.9 +2.0
comp=Z,5.3nm,1.1s						
DPC	Dobruska-Polom	22.32	310	*e*P	P	12 47 08.6 +0.7
DPC				*ep*P	sP	12 47 12.7 -0.4
DPC	Dobruska-Polom	22.32	310	*e*P	P	12 47 08.6 +0.7
DPC				*e*		12 47 12.7
DPC	Dobruska-Polom	22.32	310	*e*P	P	12 47 08.6 +0.7
KLMR	Klimovskoe	22.33	355	*e*P	P	12 47 07.0 -0.8
KLMR				pmax	pmax	
comp=Z,27nm,1.0s						
KLMR	Klimovskoe	22.33	355	*e*P	P	12 47 07.0 -0.8
comp=Z,27nm,1.0s						
TREC	Trest	22.48	307	P	P	12 47 12.5 +2.9
TREC				pmax	pmax	
comp=Z,9.0nm,1.6s						
VSU	Vasula	22.49	337	*ce*P	P	12 47 10.2 +0.7
VSU				pmax	pmax	
comp=Z,65nm,1.0s						
VSU	Vasula	22.49	337	*e*P	P	12 47 10.2 +0.7
comp=Z,65nm,1.0s						
MNAS	Manas	22.51	71	P	P	12 47 11.1 +0.9
MNAS				pmax	pmax	
comp=Z,7.0nm,1.1s						
MNAS	Manas	22.51	71	P	P	12 47 11.1 +0.9
comp=Z,7.0nm,1.1s						
UPC	Upice	22.56	310	*e*P	P	12 47 11.8 +1.3
UPC				*ep*P	sP	12 47 15.4 -0.2
UPC	Upice	22.56	310	*e*P	P	12 47 11.8 +1.3
UPC				*e*		12 47 15.4
UPC	Upice	22.56	310	*e*P	P	12 47 11.8 +1.3
MOA	Molln	22.88	303	*i* P	P	12 47 13.6 -0.2
MOA				pmax	pmax	
comp=Z,12nm,0.9s						
MOA	Molln	22.88	303	P	P	12 47 13.6 -0.2
comp=Z,12nm,0.9s						
KBA	Koelnbreinsper	23.34	301	P	P	12 47 18.7 0.0
KBA				pmax	pmax	
comp=Z,11nm,1.2s						
KBA	Koelnbreinsper	23.34	301	*i* pP	P	12 47 18.9 +0.2
comp=Z,6.4nm,0.8s						
KBA	Koelnbreinsper	23.34	301	P	P	12 47 18.9 +0.2
comp=Z,6.4nm,0.8s						
GEC2	GERESS Array S	23.48	305	*e*P	P	12 47 22.6 +2.6
GEC2				pmax	pmax	
comp=Z,10.0nm,1.5s						
GEC2	GERESS Array S	23.48	305	*e*P	P	12 47 22.6 +2.6
comp=Z,10nm,1.5s						
GERES	GERESS Array B	23.48	305	P	P	12 47 20.0 0.0
comp=Z,2.3nm,0.8s,baz=106,slow=9.8,SNR=11						
BRVK	Borovoye	23.52	43	⇓*e*P	P	12 47 20.9 +0.6
BRVK				pmax	pmax	
comp=Z,46nm,1.0s						
BRVK	Borovoye	23.52	43	*e*P	P	12 47 20.6 +0.3
comp=Z,23nm,1.1s						
BRVK	Borovoye	23.52	43	*e*P	P	12 47 20.6 +0.3
comp=Z,23nm,1.1s						
BVAR	Borovoye Array	23.57	44	P	P	12 47 20.8 +0.1
comp=Z,7.5nm,0.9s,baz=240,slow=8.1,SNR=25						
KHC	Kasperske Hory	23.64	306	*e*P	P	12 47 21.2 -0.3
KHC				*ep*P	pP	12 47 25.7 +0.6
KHC	Kasperske Hory	23.64	306	*e*P	P	12 47 21.2 -0.3
KHC				*e*		12 47 25.7
KHC	Kasperske Hory	23.64	306	P	P	12 47 21.2 -0.3
ABTA	Abfaltersbach	23.85	300	*i* pP	pP	12 47 27.5 +0.2
comp=Z,9.0nm,1.3s						
BRG	Berggiesshubel	23.93	310	*e*P	P	12 47 23.5 -0.7
comp=Z,3.7nm,1.2s						
BRG	Berggiesshubel	23.93	310	*e*P	P	12 47 23.5 -0.7
BRG				pmax	pmax	
comp=Z,4.0nm,1.2s						
AAK	Ala-Archa	23.98	70	P	P	12 47 25.9 +0.9
comp=Z,1.8nm,0.7s,baz=235,slow=10,SNR=11						
AAK	Ala-Archa	23.98	70	*e*P	P	12 47 26.2 +1.2
AAK				pmax	pmax	
comp=Z,18nm,1.5s						
AAK	Ala-Archa	23.98	70	*e*P	P	12 47 26.2 +1.2
comp=Z,18nm,1.5s						
AAK	Ala-Archa	23.98	70	*e*P	P	12 47 26.2 +1.2
comp=Z,18nm,1.5s						
FRU	Bishkek	24.07	70	*e*P	P	12 47 28.0 +2.3
FRU				pmax	pmax	
comp=Z,50nm,2.0s						
WET	Wettzell	24.08	306	P	P	12 47 28.4 +2.7
WET				pmax	pmax	
comp=Z,15nm,1.9s						
WTTA	Wattenberg	24.52	301	*i* pP	P	12 47 30.5 +0.6
comp=Z,13nm,1.0s						
WTTA	Wattenberg	24.52	301	P	P	12 47 30.5 +0.6
comp=Z,13nm,1.0s						
WATA	Walderalm	24.57	301	*i* pP	P	12 47 31.0 +0.7
comp=Z,18nm,1.2s						
WATA	Walderalm	24.57	301	P	P	12 47 31.0 +0.7
comp=Z,18nm,1.2s						
CLL	Collm	24.63	311	*i* P	P	12 47 30.6 0.0
CLL				*i*		12 47 34.0
CLL	Collm	24.63	311	*i* P	P	12 47 30.6 0.0
CLL				*i* sP	pP	12 47 34.0 -0.4
comp=Z,7.0nm,0.9s						
MOTA	Moosalm	24.89	301	*i* P	P	12 47 32.9 -0.3
comp=Z,24nm,0.9s						
MOTA	Moosalm	24.89	301	P	P	12 47 32.9 -0.3
comp=Z,24nm,0.9s						
FETA	Feichten	25.10	300	*i* P	P	12 47 33.0 -2.1
comp=Z,7.4nm,1.4s						
FETA	Feichten	25.10	300	P	P	12 47 33.0 -2.1
comp=Z,7.4nm,1.4s						
RETA	Reutte	25.14	301	*i* P	P	12 47 35.5 +0.1
comp=Z,5.3nm,0.8s						
RETA	Reutte	25.14	301	P	P	12 47 35.5 +0.1
comp=Z,5.3nm,0.8s						
FIA1	FINESS Array S	25.15	341	*e*P	P	12 47 35.4 +0.2
comp=Z,13nm,1.1s						
FIA1	FINESS Array S	25.15	341	*e*P	P	12 47 35.4 +0.2
comp=Z,13nm,1.1s						
FINES	FINESS Array B	25.15	341	P	P	12 47 35.1 -0.1
comp=Z,3.6nm,0.6s,baz=146,slow=11,SNR=11						
GRF	Grafenberg Arr	25.27	306	P	P	12 47 39.2 +2.8
GRF				pmax	pmax	
comp=Z,68nm,1.2s						
GRFO	Grafenberg	25.27	306	*e*P	P	12 47 38.6 +2.2
GRFO				pmax	pmax	
comp=Z,45nm,1.0s						
GRFO	Grafenberg	25.27	306	*e*P	P	12 47 38.6 +2.2
comp=Z,45nm,1.0s						
GRFO	Grafenberg	25.27	306	*e*P	P	12 47 38.6 +2.2
comp=Z,45nm,1.0s						
JOF	Joensuu	25.33	347	P	P	12 47 36.3 -0.5
JOF				pmax	pmax	
comp=Z,23nm,1.3s						
KSH	Kashi	25.36	78	*e*P	P	12 47 36.5 -1.0
KSH				pP	pP	12 47 40.4 -0.9
KSH				sP	sP	12 47 43.1 +0.3
KSH				PP	PnPn	12 48 14.1 +1.8
KSH				*e*PcP	PcP	12 51 12.4 +2.5
KSH				S	S	12 51 57.6 -6.2
KSH				sS	pS	12 52 04.8 -3.0
KSH				SS	SnSn	12 52 56.3 +1.0
KSH				PcS	PcS	12 54 51.0 +0.5
KSH				pmax	pmax	
comp=Z,10.0nm,1.0s						
KSH				pmax	pmax	
comp=Z,550nm,12.2s						
KSH				LR	LR	
comp=Z,1μm,14.5s						
KSH				LR	LR	
comp=Z,610nm,13.4s						
KSH				LR	LR	
comp=Z,1μm,14.8s						
FUORN	Ofenpass-Fuorn	25.37	299	*e*P	P	12 47 38.3 +0.7
comp=Z,7.6nm,1.0s						
FUORN	Ofenpass-Fuorn	25.37	299	*e*P	P	12 47 38.4 +0.7
comp=Z,7.6nm,1.0s						
DAVOX	Davos/Dischmat	25.65	299	P	P	12 47 39.7 -0.4
comp=Z,2.6nm,0.6s,baz=138,slow=16,SNR=5.8					

ZALV	Zalesovo Beam	32.01	48	P		P	12 48 36.6	+0.1
	comp=Z,1.7nm,0.6s,baz=260,slow=8.9,SNR=8.6							
ARCES	ARCESS Array B	32.35	348	P		P	12 48 38.7	-0.6
	comp=Z,3.8nm,0.8s,baz=140,slow=9.6,SNR=9.4							
WMQ	Urumqi	33.52	67	P		P	12 48 52.4	+2.5
WMQ				pP		sP	12 48 56.5	+1.2
WMQ				sP		pP	12 49 04.3	+11
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WMQ				LR		LR		
	comp=Z,3μm,18.5s							
WMQ				LR		LR		
	comp=Z,2μm,19.1s							
WMQ				LR		LR		
	comp=Z,2μm,19.7s							
PYUN	Piuthan	34.60	96	eP		P	12 48 59.8	+0.1
EKA	Eskdalemuir Ar	34.99	314	P		P	12 49 01.9	-0.5
	comp=Z,12nm,0.7s,baz=106,slow=8.2,SNR=15							
ESK	Eskdalemuir	35.01	314	eP		P	12 49 02.1	-0.5
ESK				pmax		pmax		
	comp=Z,119nm,1.9s							
ESK	Eskdalemuir	35.01	314	eP		P	12 49 02.1	-0.5
	comp=Z,119nm,1.9s							
ESK	Eskdalemuir	35.01	314	eP		P	12 49 02.1	-0.5
	comp=Z,119nm,1.9s							
DANN	Dangsing	35.09	95	eP		P	12 49 04.6	+0.7
KOLN	Koldanda	35.23	96	eP		P	12 49 05.1	0.0
GKN	Gorkha	35.93	95	eP		P	12 49 11.2	+0.2
ESDC	Sonseca Array	36.26	287	P		P	12 49 11.9	-1.8
	comp=Z,0.5nm,0.5s,baz=68,slow=8.9,SNR=6.7							
DMN	Daman	36.48	95	eP		P	12 49 16.2	+0.3
	comp=Z,44nm,1.1s							
PKIN	Phulchoki	36.73	95	eP		P	12 49 18.0	0.0
	comp=Z,18nm,1.0s							
GUN	Gumba	36.95	94	eP		P	12 49 20.2	+0.3
	comp=Z,51nm,1.0s							
JIRN	Jiri	37.31	94	eP		P	12 49 23.2	+0.2
	comp=Z,35nm,0.9s							
RAMN	Ramite	37.97	95	eP		P	12 49 28.6	+0.1
	comp=Z,21nm,0.7s							
ODAN	Odare	38.63	94	eP		P	12 49 34.4	+0.4
	comp=Z,67nm,1.2s							
TAPN	Taplejung	38.64	93	eP		P	12 49 34.5	+0.3
	comp=Z,12nm,0.6s							
LSA	Lhasa	40.26	88	eP		P	12 49 48.4	+0.5
LSA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
LSA	Lhasa	40.26	88	eP		P	12 49 48.4	+0.5
	comp=Z,8.0nm,0.8s							
LSA	Lhasa	40.26	88	eP		P	12 49 48.4	+0.5
	comp=Z,8.0nm,0.8s							
GTA	Gaotai	43.33	70	eP		P	12 50 13.3	+0.8
GTA				pP		sP	12 50 17.8	-0.1
GTA				sP		pP	12 50 20.3	+3.9
GTA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
TOA0	Torodi Ar. Sit	44.64	247	eP		P	12 50 23.1	0.0
	comp=Z,18nm,1.8s							
TOA0	Torodi Ar. Sit	44.64	247	eP		P	12 50 23.1	0.0
	comp=Z,18nm,1.8s							
TORD	Torodi Ar. Bea	44.64	247	P		P	12 50 20.9	-2.2
	comp=Z,0.8nm,0.5s,baz=52,slow=8.1,SNR=6.2							
SONM	Songino Array	45.74	57	P		P	12 50 32.1	+0.4
	comp=Z,0.5nm,0.6s,baz=272,slow=9.4,SNR=3.5							
ULN	Ulaanbaatar	46.17	57	⇓iP		P	12 50 36.3	+1.2
ULN				pmax		pmax		
	comp=Z,9.0nm,1.7s							
BOD	Bodaibo	48.43	42	eP		P	12 50 52.0	-0.3
BOD				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CD2	Chengdu	49.53	80	eP		P	12 51 01.0	-0.2
HHC	Hu-ho-hao-te	51.35	65	eP		P	12 51 15.3	+0.4
HHC				pmax		pmax		
	comp=Z,16nm,1.0s							
CHTO	Chiang Mai	51.90	96	P		P	12 51 18.3	-0.8
	comp=Z,150nm,2.0s							
CHTO	Chiang Mai	51.90	96	eP		P	12 51 18.3	-0.8
CHTO				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CHTO	Chiang Mai	51.90	96	eP		P	12 51 18.3	-0.8
	comp=Z,9.8nm,0.6s							
CHTO	Chiang Mai	51.90	96	eP		P	12 51 18.3	-0.8
	comp=Z,9.8nm,0.6s							
CM31	Chiang Mai Arr	52.10	96	eP		P	12 51 20.9	+0.3
CM31	Chiang Mai Arr	52.10	96	eP		P	12 51 20.9	+0.3
CMAR	Chiang Mai Arr	52.10	96	P		P	12 51 20.2	-0.4
	comp=Z,6.0nm,0.7s,baz=298,slow=8.6,SNR=46							
TIXI	Tiksi	52.48	23	P		P	12 51 22.7	0.0
	comp=Z,1.0nm,0.5s,baz=327,slow=3.2,SNR=6.9							
TIXI	Tiksi	52.48	23	⇓eP		P	12 51 23.0	+0.3
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.7s							
NANT	Nan	53.27	95	P		P	12 51 28.9	-0.4
	comp=Z,3.0nm,0.8s							
UTTA	Uttaradit	53.76	96	P		P	12 51 33.4	+0.5
	comp=Z,2.8nm,0.8s							
HIA	Hailar	53.86	52	⇓eP		P	12 51 32.4	-0.9
HIA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
UTHA	Uthaitani	54.18	99	P		P	12 51 36.0	+0.1
	comp=Z,5.4nm,0.8s							
PBKT	Sadao Pong	54.76	97	P		P	12 51 39.9	-0.3
	comp=Z,45nm,0.7s							
NONG	Nongkai	55.60	94	P		P	12 51 49.8	+3.6
	comp=Z,42nm,0.8s							
KHON	Khomkaen	56.34	96	P		P	12 51 51.9	+0.3
	comp=Z,10.0nm,0.9s							
NAYO	Nakonayok	56.37	99	P		P	12 51 51.5	-0.3
SKNT	Sakolnakorn	56.88	94	P		P	12 51 55.2	-0.2
	comp=Z,12nm,1.1s							
SRAK	Srakaew	57.11	99	P		P	12 51 59.9	+2.9
IPM	Ipoh	62.35	108	eP		P	12 52 31.6	-1.6
	comp=Z,8.1nm,0.7s							
IPM	Ipoh	62.35	108	eP		P	12 52 31.6	-1.6
	comp=Z,8.1nm,0.7s							
SEY	Seymchan	64.16	29	⇓iP		P	12 52 45.5	+1.0
KS15	Wonju Array Si	64.24	62	eP		P	12 52 45.2	-0.2
KS15	Wonju Array Si	64.24	62	eP		P	12 52 45.2	-0.2
KSAR	Wonju Array Be	64.24	62	P		P	12 52 45.0	-0.4
KSAR	Wonju Array Be	64.24	62	P		P	12 52 45.0	-0.4
KSAR	Wonju Array Be	64.24	62	P		P	12 52 45.0	-0.4
KSRS	Korea Array	64.26	62	P		P	12 52 45.0	-0.5
	comp=Z,8.0nm,0.8s,baz=289,slow=6.7,SNR=30							
BILL	Bilibino	65.42	20	⇑iP		P	12 52 51.4	-1.2
BILL				i			12 52 59.6	
BILL				pmax		pmax		
	comp=Z,4.0nm,1.0s							
JNU	Nakatsue	68.58	64	P		P	12 53 13.1	-0.2
	comp=Z,3.8nm,0.6s,baz=258,slow=5.6,SNR=7.4							
BOSA	Boshof	69.01	197	P		P	12 53 15.5	-0.4
	comp=Z,3.9nm,1.0s,baz=358,slow=7.4,SNR=3.6							
BOSA	Boshof	69.01	197	P		P	12 53 15.5	-0.4
BOSA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MJAR	Matsushiro Arr	71.69	58	P		P	12 53 31.5	-0.9
	comp=Z,2.9nm,1.1s,baz=276,slow=11,SNR=4.5							
COLD	Coldfoot	73.93	5	eP		P	12 53 45.5	+0.5
	comp=Z,16nm,1.6s							
COLD	Coldfoot	73.93	5	eP		P	12 53 45.5	+0.5
	comp=Z,16nm,1.6s							
MLY	Manley	76.05	6	eP		P	12 53 57.8	+0.4
	comp=Z,13nm,1.7s							
MLY	Manley	76.05	6	eP		P	12 53 57.9	+0.4
	comp=Z,13nm,1.7s							
MDM	Murphy Dome	76.31	5	eP		P	12 53 59.2	+0.3
	comp=Z,24nm,1.7s							
MDM	Murphy Dome	76.31	5	eP		P	12 53 59.2	+0.3
	comp=Z,24nm,1.7s							
COLA	College	76.42	5	⇓eP		P	12 53 59.8	+0.4
COLA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ILAR	Eielson Array	76.59	4	P		P	12 54 00.2	-0.1
	comp=Z,0.4nm,0.5s,baz=334,slow=3.9,SNR=8.5							
CCB	Clear Creek Bu	76.65	5	eP		P	12 54 00.5	-0.2
	comp=Z,11nm,1.6s							
CCB	Clear Creek Bu	76.65	5	eP		P	12 54 00.5	-0.2
	comp=Z,11nm,1.6s							
WRH	Wood River Hil	76.81	5	eP		P	12 54 01.3	-0.3
	comp=Z,17nm,1.9s							
WRH	Wood River Hil	76.81	5	eP		P	12 54 01.3	-0.3
	comp=Z,17nm,1.9s							
EGAK	Eagle	76.83	2	eP		P	12 54 02.1	+0.4
	comp=Z,18nm,1.7s							
EGAK	Eagle	76.83	2	eP		P	12 54 02.1	+0.4
	comp=Z,18nm,1.7s							
BPAW	Bear Paw Mtn.	76.95	6	eP		P	12 54 02.2	-0.3
	comp=Z,22nm,1.9s							
BPAW	Bear Paw Mtn.	76.95	6	eP		P	12 54 02.2	-0.3
	comp=Z,22nm,1.9s							
CAST	Castle Rocks	77.52	7	eP		P	12 54 05.9	+0.2
	comp=Z,7.0nm,0.8s							
CAST	Castle Rocks	77.52	7	eP		P	12 54 05.9	+0.2
	comp=Z,7.0nm,0.8s							
TTA	Tatalina	77.57	9	eP		P	12 54 06.4	+0.4
TTA				pmax		pmax		
	comp=Z,26nm,1.9s							
TTA	Tatalina	77.57	9	eP		P	12 54 06.4	+0.4
	comp=Z,26nm,1.9s							
TTA	Tatalina	77.57	9	eP		P	12 54 06.4	+0.4
	comp=Z,26nm,1.9s							
DAWY	Dawson	77.58	1	eP		P	12 54 06.2	+0.1
	comp=Z,25nm,1.9s							
DAWY	Dawson	77.58	1	eP		P	12 54 06.2	+0.1
	comp=Z,25nm,1.9s							
TT01	Tatalina	77.59	9	eP		P	12 54 06.4	+0.3
TT01	Tatalina	77.59	9	eP		P	12 54 06.4	+0.3
TRF	Thorofare Moun	77.65	6	eP		P	12 54 07.2	+0.6
	comp=Z,34nm,2.0s							
TRF	Thorofare Moun	77.65	6	eP		P	12 54 07.2	+0.6
	comp=Z,34nm,2.0s							
RND	Reindeer	77.81	6	eP		P	12 54 07.0	-0.4
RND				pmax		pmax		
	comp=Z,13nm,1.4s							
RND	Reindeer	77.81	6	eP		P	12 54 07.0	-0.4
	comp=Z,13nm,1.4s							
RND	Reindeer	77.81	6	eP		P	12 54 07.0	-0.4
	comp=Z,13nm,1.4s							
DOT	Dot Lake	77.86	3	eP		P	12 54 07.8	+0.2
	comp=Z,8.6nm,0.7s							
DOT	Dot Lake	77.86	3	eP		P	12 54 07.8	+0.2
	comp=Z,8.6nm,0.7s							
DHY	Denali Highway	78.24	5	eP		P	12 54 09.8	-0.1
	comp=Z,28nm,1.9s							
DHY	Denali Highway	78.24	5	eP		P	12 54 09.8	-0.1
	comp=Z,28nm,1.9s							
MENT	Mentasta	78.58	3	eP		P	12 54 12.2	+0.6
	comp=Z,19nm,1.7s							
MENT	Mentasta	78.58	3	eP		P	12 54 12.2	+0.6
	comp=Z,19nm,1.7s							
SML	Sawmill	79.43	6	eP		P	12 54 16.1	-0.2
SML				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SML	Sawmill	79.43	6	eP		P	12 54 16.1	-0.2
	comp=Z,9.9nm,0.9s							
SML	Sawmill	79.43	6	eP		P	12 54 16.1	-0.2
	comp=Z,9.9nm,0.9s							
SCM	Sheep Creek Mo	79.48	5	eP		P	12 54 17.2	+0.6
SCM				pmax		pmax		
	comp=Z,41nm,1.7s							
SCM	Sheep Creek Mo	79.48	5	eP		P	12 54 17.2	+0.6
	comp=Z,41nm,1.7s							
SCM	Sheep Creek Mo	79.48	5	eP		P	12 54 17.2	+0.6
	comp=Z,41nm,1.7s							
SUA	Susitna One	79.57	7	eP		P	12 54 17.2	+0.1
	comp=Z,25nm,1.6s							
SUA	Susitna One	79.57	7	eP		P	12 54 17.2	+0.1
	comp=Z,25nm,1.6s							
KLU	Klutina	79.91	4	eP		P	12 54 18.8	-0.1
	comp=Z,8.6nm,0.9s							
KLU	Klutina	79.91	4	eP		P	12 54 18.8	-0.1
	comp=Z,8.6nm,0.9s							
RC01	Rabbit Creek A	80.03	6	eP		P	12 54 19.3	-0.1
	comp=Z,6.6nm,0.6s							
RC01	Rabbit Creek A	80.03	6	eP		P	12 54 19.3	-0.1
	comp=Z,6.6nm,0.6s							
BALM	Baldy	80.54	3	eP		P	12 54 22.8	+0.4
BALM				pmax		pmax		
	comp=Z,28nm,1.5s							
BALM	Baldy	80.54	3	eP		P	12 54 22.8	+0.4
	comp=Z,28nm,1.5s							
BALM	Baldy	80.54	3	eP		P	12 54 22.8	+0.4
	comp=Z,28nm,1.5s							
FID	Port Fidalgo	80.61	5	eP		P	12 54 23.2	+0.6
	comp=Z,25nm,1.3s							
FID	Port Fidalgo	80.61	5	eP		P	12 54 23.2	+0.6
	comp=Z,25nm,1.3s							
CRQM	Cirque	80.78	3	eP		P	12 54 23.8	0.0
	comp=Z,17nm,1.1s							
CRQM	Cirque	80.78	3	eP		P	12 54 23.8	0.0
	comp=Z,17nm,1.1s							
CNPM	China Poot	81.43	7	eP		P	12 54 27.1	+0.1
	comp=Z,68nm,1.7s							
CNPM	China Poot	81.43	7	eP		P	12 54 27.1	+0.1
	comp=Z,68nm,1.7s							
DHAK	Deception Hill	82.59	1	eP		P	12 54 32.8	-0.3
	comp=Z,124nm,0.7s							
DHAK	Deception Hill	82.59	1	eP		P	12 54 32.8	-0.3
	comp=Z,124nm,0.7s							
KDAK	Kodiak Island	82.99	8	P		P	12 54 35.4	+0.2
	comp=Z,9.4nm,0.6s,baz=348,slow=1.9,SNR=20							
KDAK	Kodiak Island	82.99	8	iP		P	12 54 35.2	0.0
KDAK	Kodiak Island	82.99	8	eP		P	12 54 35.6	+0.4
	comp=Z,66nm,1.7s							
KDAK	Kodiak Island	82.99	8	eP		P	12 54 35.6	+0.4
	comp=Z,66nm,1.7s							
OHAK	Old Harbor	83.46	9	eP		P	12 54 37.8	+0.2
	comp=Z,87nm,1.8s							
OHAK	Old Harbor	83.46	9	eP		P	12 54 37.8	+0.2
	comp=Z,87nm,1.8s							

*ISCJB **23** 12:45:40.9±0.6, 38°.76N±0°.04×43°.26E±0°.06, h13km, Error ellipse: s-maj=6.4km s-min=5.6km az=173.8*
*ISK **23** 12:45:40.7, 38°.75N×43°.26E, h13km, ML3.4*
*AZER **23** 12:45:42.5±1.0, 37°.46N×44°.51E, h41km, Error ellipse: s-maj=11.8km s-min=5.5km az=6.0*
*CSEM **23** 12:45:42.3±0.4, 38°.75N×43°.17E, h20km, ML3.4, Error ellipse: s-maj=13.0km s-min=11.3km az=166.0*

ISC 23 12:45:40.7±0.9, 38°.73N±0°.04×43°.30E±0°.04, h13km, n32, σ1°.55/36, 8C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.88	344	ePG	Pb	12 45 57.7	-0.3
AGRB				eSG	Sb	12 46 10.0	+0.3
AGRB	Hanur-Agry	0.88	344	ePg	Pb	12 45 57.7	-0.3
AGRB				eSg	Sb	12 46 10.0	+0.3
CUKT	Cukurca	1.50	171	ePN	Pn	12 46 07.8	+0.3
CUKT				eSN	Sg	12 46 28.7	-0.3
CUKT	Cukurca	1.50	171	ePn	Pn	12 46 07.8	+0.3
CUKT				eSn	Sg	12 46 28.7	-0.3
SVAN	Silvan-Diyarba	1.75	251	ePN	Pn	12 46 11.2	+0.4
SVAN	Silvan-Diyarba	1.75	251	ePn	Pn	12 46 11.2	+0.4
NAX	Nakhchivan SNR=10	1.77	75	⇓P	Pg	12 46 15.3	+0.5
NAX				⇑S	Sg	12 46 40.3	+2.6
NAX	Nakhchivan SNR=10	1.77	75	P	Pg	12 46 15.3	+0.5
NAX				S	Sg	12 46 40.3	+2.6
SENK	Senkaya-Erzuru	1.97	339	ePN	Pn	12 46 13.8	-0.3
SENK	Senkaya-Erzuru	1.97	339	ePn	Pn	12 46 13.8	-0.3
BNGB	Bing¶‖	2.06	278	ePN	Pn	12 46 15.7	+0.5
BINT	Bingol	2.20	275	ePn	Pn	12 46 15.7	-1.4
YEDI	Yedisu-Bingol	2.26	289	ePN	Pn	12 46 18.3	+0.3
YEDI	Yedisu-Bingol	2.26	289	ePn	Pn	12 46 18.3	+0.3
GDB	GEDABAY SNR=6.0	2.75	43	⇓P	Pg	12 46 32.4	-1.0
GDB	GEDABAY SNR=6.0	2.75	43	P	Pg	12 46 32.4	-1.0
QZX	Qazax, Azerbai SNR=3.9	2.82	34	⇑P	Pg	12 46 36.4	+1.6
QZX	Qazax, Azerbai SNR=3.9	2.82	34	P	Pg	12 46 36.4	+1.6
GANJ	Ganja SNR=4.9	3.02	50	P	Pb	12 46 34.3	-0.1
GANJ				⇓S	Sg	12 47 15.8	-1.9
GANJ	Ganja SNR=4.9	3.02	50	P	Pb	12 46 34.3	-0.1
GANJ				S	Sg	12 47 15.8	-1.9
BRDA	Brd	3.37	62	⇓P	Pn	12 46 34.3	+1.2
BRDA				⇑S	Sn	12 47 14.6	+1.6
BRDA	Brd	3.37	62	P	Pn	12 46 34.3	+1.2
BRDA				S	Sn	12 47 14.6	+1.6
MNGR	Mingechevir, A	3.56	54	⇓P	Pb	12 46 39.2	-4.4
MNGR	Mingechevir, A	3.56	54	P	Pb	12 46 39.2	-4.4
ZRD	Zardab	3.73	64	⇑P	Pn	12 46 37.5	-0.5
ZRD	Zardab	3.73	64	P	Pn	12 46 37.5	-0.5
LRK	Lerik	3.95	90	⇑P	Pn	12 46 30.9	-10
LRK	Lerik	3.95	90	P	Pn	12 46 30.9	-10
GLBA	Clilabad	4.00	81	⇑P	Pn	12 46 35.0	-6.8
GLBA				⇑S	Sn	12 47 16.2	-12
GLBA	Clilabad	4.00	81	P	Pn	12 46 35.0	-6.8
GLBA				S	Sn	12 47 16.2	-12
LKRN	Lenkeran, Azer	4.29	89	⇑P	Pn	12 46 35.9	-10
LKRN				⇓S	Sn	12 47 16.9	-19
LKRN	Lenkeran, Azer	4.29	89	P	Pn	12 46 35.9	-10
LKRN				S	Sn	12 47 16.9	-19

*DDA **23** 12:53:39.9, 38°.77N×43°.20E, h7km, Ml3.9*
*CSEM **23** 12:53:41.2±0.3, 38°.78N×43°.29E, h2km, ML3.9, Error ellipse: s-maj=6.8km s-min=4.9km az=81.0*
*ISK **23** 12:53:41.5, 38°.83N×43°.41E, h5km, ML3.6*

ISC 23 12:53:41.1±0.9, 38°.78N±0°.02×43°.29E±0°.03, h13km±8km, n39, σ1°.10/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.27	160	iP	Pg	12 53 46.9	+0.1
TVAN				iS	Sg	12 53 51.3	+0.7
TVAN	Van	0.27	160	P	Pg	12 53 46.9	+0.1
TVAN				S	Sg	12 53 51.3	+0.7
VMUR	Van-Muradiye	0.31	46	iP	Pg	12 53 46.7	-0.8
VMUR				iS	Sg	12 53 52.5	+0.7
VMUR	Van-Muradiye	0.31	46	P	Pg	12 53 46.7	-0.8
VMUR				S	Sg	12 53 52.5	+0.7
GEVA	Gevas	0.50	201	iP	Pg	12 53 48.1	-2.8
GEVA				iS	Sg	12 53 56.6	-1.0
TUTA	Tutak	0.72	330	iP	Pg	12 53 54.0	-1.2
TUTA				iS	Sg	12 54 04.2	-0.6
TUTA	Tutak	0.72	330	P	Pg	12 53 54.0	-1.2
TUTA				S	Sg	12 54 04.2	-0.6
DYDN	Diyadin	0.83	22	iP	Pg	12 53 54.7	-2.4
AGRB	Hanur-Agry	0.83	344	ePG	Pg	12 53 57.5	+0.3
AGRB				eSG	Sg	12 54 08.5	+0.4
AGRB	Hanur-Agry	0.83	344	ePg	Pg	12 53 57.5	+0.3
AGRB				eSg	Sg	12 54 08.5	+0.4
EKAR	Karacoban	1.07	297	iP	Pb	12 54 02.1	+0.5
EKAR				iS	Sn	12 54 17.3	+0.5
EKAR	Karacoban	1.07	297	P	Pb	12 54 02.1	+0.5
EKAR				S	Sn	12 54 17.3	+0.5
EATA	Eleskirt	1.25	331	iP	Pn	12 54 02.6	-1.9
EATA				iS	Sg	12 54 22.0	+0.6
VRTB	Varto-Mus	1.48	286	ePN	Pg	12 54 10.4	+0.9
VRTB	Varto-Mus	1.48	286	ePn	Pg	12 54 10.4	+0.9
CUKT	Cukurca	1.55	171	ePN	Pb	12 54 10.5	+0.8
CUKT	Cukurca	1.55	171	iP	Pb	12 54 10.2	+0.5
CUKT	Cukurca	1.55	171	P	Pb	12 54 10.2	+0.5
CUKT	Cukurca	1.55	171	ePn	Pb	12 54 10.5	+0.8
DIGO	Kars	1.64	2	iP	Pn	12 54 09.9	+0.1
DIGO				iS	Sg	12 54 34.9	+1.1
DIGO	Kars	1.64	2	P	Pn	12 54 09.9	+0.1
DIGO				S	Sg	12 54 34.9	+1.1
HOMI	Horasan	1.66	320	iP	Pn	12 54 11.0	+0.9
HOMI				iS	Sg	12 54 36.9	+2.4
BNGL	BINGOL	1.68	277	iP	Pn	12 54 11.3	+0.9
BNGL				iS	Sn	12 54 32.5	+0.7
SVAN	Silvan-Diyarba	1.76	250	iP	Pb	12 54 13.2	0.0
SVAN				iS	Sn	12 54 34.5	+1.0
SVAN	Silvan-Diyarba	1.76	250	P	Pb	12 54 13.2	0.0
SVAN				S	Sn	12 54 34.5	+1.0
BTMN	Batman	1.82	241	iP	Pn	12 54 11.8	-0.3
BTMN				iS	Sb	12 54 36.9	0.0
BTMN	Batman	1.82	241	P	Pn	12 54 11.8	-0.3
BTMN				S	Sb	12 54 36.9	0.0
ERZM	Erzurum	1.87	308	iP	Pn	12 54 12.8	-0.2
ERZM				iS	Sg	12 54 41.0	-0.2
ERZM	Erzurum	1.87	308	P	Pn	12 54 12.8	-0.2
ERZM				S	Sg	12 54 41.0	-0.2
SENK	Senkaya-Erzuru	1.92	338	ePN	Pb	12 54 15.9	-0.2
SENK	Senkaya-Erzuru	1.92	338	ePn	Pb	12 54 15.9	-0.2
BNGB	Bing¶‖	2.05	277	ePN	Pb	12 54 18.8	+0.6
BINT	Bingol	2.19	273	ePn	Pn	12 54 18.8	+1.5
YEDI	Yedisu-Bingol	2.23	288	ePN	Pb	12 54 21.1	-0.3
YEDI	Yedisu-Bingol	2.23	288	ePn	Pb	12 54 21.1	-0.3
AKH	Akhalkalaki	2.63	3	ePN	Pn	12 54 25.2	+1.8
AKH	Akhalkalaki	2.63	3	ePn	Pn	12 54 25.2	+1.8
KECS	Kecovo	19.08	308	ePN	P	12 57 59.3	-3.9
VYHS	Vyhne	20.11	307	eP	P	12 58 15.1	+0.6

*ISCJB **23** 12:54:08.0±1.2, 51°.48N±0°.05×16°.19E±0°.06, h0km, Error ellipse: s-maj=7.6km s-min=4.6km az=32.3*
*CSEM **23** 12:54:09.9±0.9, 51°.45N×16°.13E, h2km, ML2.9/4, Error ellipse: s-maj=13.7km s-min=8.2km az=17.0*
*PRU **23** 12:54:10.9, 51°.43N×16°.16E, h0km*
*WAR **23** 12:54:11.2, 51°.44N×16°.20E, h1km, Mw2.1*

ISC 23 12:54:08.8±1.7, 51°.52N±0°.08×16°.30E±0°.06, h0km, n20, σ0°.51/39, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	180	ePg	Pg	12 54 22.4	+0.6
KSP				eSg	Sg	12 54 30.2	-0.3
KSP	Ksiaz	0.68	180	ePg	Pg	12 54 22.4	+0.6
KSP				eSg	Sg	12 54 30.2	-0.3
KSP	Ksiaz	0.68	180	ePg	Pg	12 54 22.4	+0.6
KSP				eSg	Sg	12 54 30.2	-0.3
UPC	Upice comp=Z,24nm,0.3s	1.03	190	ePG	Pg	12 54 28.5	0.0
UPC				eSG	Sg	12 54 41.1	-0.7
UPC	Upice 24nm,0.3s	1.03	190	Pg	Pg	12 54 28.5	0.0
UPC				Sg	Sg	12 54 41.1	-0.7
DPC	Dobruska-Polom comp=Z,8.2nm,0.3s	1.17	179	ePG	Pg	12 54 31.3	+0.1
DPC				eSG	Sg	12 54 45.7	-0.7
DPC	Dobruska-Polom 8.2nm,0.3s	1.17	179	Pg	Pg	12 54 31.3	+0.1
DPC		

ISC 23 12:56:47.9±0.7, 38'.75N±0'.01×43'.41E±0'.02, h13km±4km, n395, σ1°55/515, mb4.5/64, 45C-38D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.22**	**181**	P	**Pb**	**12 56 54.6**	**+0.7**
TVAN				S	**Sb**	**12 56 58.9**	**+1.0**
TVAN	**Van**	**0.22**	**181**	P	**Pb**	**12 56 54.6**	**+0.7**
TVAN				S	**Sb**	**12 56 58.9**	**+1.0**
VMUR	**Van-Muradiye**	**0.27**	**27**	⇑P	**Pg**	**12 56 53.4**	**-0.3**
VMUR				*i* S	**Sg**	**12 56 58.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.27**	**27**	P	**Pg**	**12 56 53.4**	**-0.3**
VMUR				S	**Sg**	**12 56 58.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.27**	**27**	P	**Pg**	**12 56 53.4**	**-0.3**
VMUR				S	**Sg**	**12 56 58.5**	**+0.8**
GEVA	**Gevas**	**0.52**	**213**	⇓*i*P	**Pg**	**12 56 56.2**	**-1.9**
GEVA				*i* S	**Sg**	**12 57 04.1**	**-0.9**
GEVA	**Gevas**	**0.52**	**213**	P	**Pg**	**12 56 56.2**	**-1.9**
GEVA				S	**Sg**	**12 57 04.1**	**-0.9**
GEVA	**Gevas**	**0.52**	**213**	P	**Pg**	**12 56 56.6**	**-1.5**
TUTA	**Tutak**	**0.80**	**325**	⇓*i*P	**Pg**	**12 57 01.2**	**-2.3**
TUTA				*i* S	**Sg**	**12 57 12.2**	**-1.9**
TUTA	**Tutak**	**0.80**	**325**	P	**Pg**	**12 57 01.2**	**-2.3**
TUTA				S	**Sg**	**12 57 12.2**	**-1.9**
TUTA	**Tutak**	**0.80**	**325**	P	**Pg**	**12 57 01.4**	**-2.2**
TUTA				S	**Sg**	**12 57 12.5**	**-1.6**
DYDN	**Diyadin**	**0.82**	**15**	*i* P	**Pb**	**12 57 02.2**	**-2.0**
DYDN				*i* S	**Sb**	**12 57 13.5**	**-1.8**
DYDN	**Diyadin**	**0.82**	**15**	P	**Pb**	**12 57 02.8**	**-1.4**
DYDN				S	**Sb**	**12 57 13.5**	**-1.8**
DYDN	**Diyadin**	**0.82**	**15**	P	**Pb**	**12 57 02.8**	**-1.4**
DYDN				S	**Sb**	**12 57 13.5**	**-1.8**
BASK	**Baskale_VAN**	**0.84**	**146**	*i* P	**Pb**	**12 57 03.1**	**-1.3**
BASK				*i* S	**Sn**	**12 57 18.0**	**+0.2**
BASK	**Baskale_VAN**	**0.84**	**146**	P	**Pb**	**12 57 03.1**	**-1.3**
BASK				S	**Sn**	**12 57 18.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**339**	*e*PG	**Pb**	**12 57 03.6**	**-1.7**
AGRB				*e*SG	**Sb**	**12 57 14.8**	**-2.3**
AGRB	**Hanur-Agry**	**0.89**	**339**	Pg	**Pg**	**12 57 05.6**	**+0.5**
AGRB				*e*Sg	**Sb**	**12 57 14.8**	**-2.3**
AGRB	**Hanur-Agry**	**0.89**	**339**	Pg	**Pg**	**12 57 05.6**	**+0.5**
EKAR	**Karacoban**	**1.17**	**296**	*i* P	**Pn**	**12 57 08.5**	**-1.6**
EKAR				*i* S	**Sg**	**12 57 28.0**	**+2.3**
EKAR	**Karacoban**	**1.17**	**296**	P	**Pn**	**12 57 08.5**	**-1.6**
EKAR				S	**Sg**	**12 57 28.0**	**+2.3**
EKAR	**Karacoban**	**1.17**	**296**	P	**Pn**	**12 57 08.7**	**-1.5**
HAKT	**HAKKARI**	**1.21**	**169**	⇓*i*P	**Pn**	**12 57 08.7**	**-2.0**
HAKT				*i* S	**Sg**	**12 57 28.7**	**+1.7**
HAKT	**HAKKARI**	**1.21**	**169**	P	**Pn**	**12 57 08.7**	**-2.0**
HAKT				S	**Sg**	**12 57 28.7**	**+1.7**
EATA	**Eleskirt**	**1.32**	**328**	⇑*i*P	**Pn**	**12 57 10.8**	**-1.5**
EATA				*i* S	**Sb**	**12 57 28.7**	**-1.0**
EATA	**Eleskirt**	**1.32**	**328**	P	**Pn**	**12 57 10.9**	**-1.5**
EATA				S	**Sb**	**12 57 28.7**	**-1.0**
EATA	**Eleskirt**	**1.32**	**328**	P	**Pn**	**12 57 11.2**	**-1.2**
EATA				S	**Sb**	**12 57 28.7**	**-1.0**
SIRN	**S¨–rnak**	**1.48**	**213**	⇓*i*P	**Pn**	**12 57 13.8**	**-0.4**
SIRN				*i* S	**Sg**	**12 57 35.4**	**-0.2**
SIRN	**S¨–rnak**	**1.48**	**213**	P	**Pn**	**12 57 13.9**	**-0.4**
SIRN				S	**Sg**	**12 57 35.3**	**-0.2**
SIRN	**S¨–rnak**	**1.48**	**213**	P	**Pn**	**12 57 14.7**	**+0.4**
SIRN				S	**Sn**	**12 57 33.6**	**+0.1**
CUKT	**Cukurca**	**1.51**	**174**	*e*PN	**Pg**	**12 57 17.7**	**+0.8**
CUKT				*e*SN	**Sg**	**12 57 39.9**	**+3.5**
CUKT	**Cukurca**	**1.51**	**174**	⇓*i*P	**Pg**	**12 57 17.7**	**+0.8**
CUKT				*i* S	**Sg**	**12 57 40.3**	**+3.9**
CUKT	**Cukurca**	**1.51**	**174**	P	**Pg**	**12 57 17.7**	**+0.8**
CUKT				Sn	**Sg**	**12 57 37.7**	**+1.3**
CUKT				S	**Sg**	**12 57 40.3**	**+3.9**
CUKT	**Cukurca**	**1.51**	**174**	Pn	**Pg**	**12 57 17.7**	**+0.8**
CUKT				Sn	**Sg**	**12 57 37.7**	**+1.3**
VRTB	**Varto-Mus**	**1.58**	**286**	*e*PN	**Pn**	**12 57 16.1**	**+0.4**
VRTB				*e*SN	**Sb**	**12 57 37.5**	**+0.5**
VRTB	**Varto-Mus**	**1.58**	**286**	*i* P	**Pn**	**12 57 15.3**	**-0.5**
VRTB				*i* S	**Sn**	**12 57 35.4**	**-0.7**
VRTB	**Varto-Mus**	**1.58**	**286**	P	**Pn**	**12 57 15.3**	**-0.5**
VRTB	**Varto-Mus**	**1.58**	**286**	Pn	**Pb**	**12 57 17.0**	**-0.1**
VRTB				S	**Sn**	**12 57 35.4**	**-0.7**
VRTB				Sn	**Sg**	**12 57 38.0**	**-0.8**
VRTB	**Varto-Mus**	**1.58**	**286**	Pn	**Pb**	**12 57 17.0**	**-0.1**
VRTB				Sn	**Sg**	**12 57 38.0**	**-0.8**
DIGO	**Kars**	**1.67**	**359**	⇑*i*P	**Pn**	**12 57 17.3**	**+0.3**
DIGO				*i* S	**Sg**	**12 57 45.0**	**+3.4**
DIGO	**Kars**	**1.67**	**359**	P	**Pn**	**12 57 17.3**	**+0.3**
DIGO				S	**Sg**	**12 57 45.0**	**+3.4**
DIGO	**Kars**	**1.67**	**359**	P	**Pn**	**12 57 17.9**	**+0.8**
NAX	**Nakhchivan**	**1.68**	**75**	⇓P	**Pn**	**12 57 15.8**	**-1.2**
NAX				⇓S	**Sn**	**12 57 37.8**	**-0.6**
NAX	**Nakhchivan**	**1.68**	**75**	P	**Pn**	**12 57 15.8**	**-1.2**
NAX				S	**Sn**	**12 57 37.8**	**-0.6**
GNI	**Garni**	**1.74**	**36**	**Pn**	**Pn**	**12 57 19.0**	**+1.0**
	81nm,0.3s,baz=249,slow=3.1,SNR=26						
GNI	**Garni**	**1.74**	**36**	*e*Pn	**Pn**	**12 57 19.0**	**+1.0**
HOMI	**Horasan**	**1.74**	**318**	⇑*i*P	**Pn**	**12 57 18.0**	**0.0**
HOMI				*i* S	**Sg**	**12 57 45.1**	**+1.0**
HOMI	**Horasan**	**1.74**	**318**	P	**Pn**	**12 57 18.1**	**0.0**
HOMI	**Horasan**	**1.74**	**318**	P	**Pn**	**12 57 18.1**	**0.0**
BNGL	**BINGOL**	**1.78**	**277**	⇑*i*P	**Pn**	**12 57 18.6**	**0.0**
BNGL				*i* S	**Sb**	**12 57 43.3**	**+0.6**
BNGL	**BINGOL**	**1.78**	**277**	P	**Pn**	**12 57 18.9**	**+0.4**
BNGL				S	**Sn**	**12 57 41.6**	**+0.5**
BNGL	**BINGOL**	**1.78**	**277**	P	**Pn**	**12 57 18.9**	**+0.4**
BNGL				S	**Sn**	**12 57 41.6**	**+0.5**
ISHB	**Shabestar**	**1.79**	**104**	*e*Pn	**Pb**	**12 57 20.6**	**-0.1**
ISHB				*e*AMB	AMB	12 57 29.9	
	comp=Z,12μm,0.2s						
IMRD	**Marand**	**1.79**	**90**	*e*Pn	**Pn**	**12 57 20.0**	**+1.3**
IMRD				*e*AMB	AMB	12 57 29.1	
	comp=Z,33μm,0.4s						
IMRD	**Marand**	**1.79**	**90**	*e*Pn	**Pn**	**12 57 20.0**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*e*PN	**Pn**	**12 57 19.9**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*i* P	**Pn**	**12 57 19.4**	**+0.2**
SVAN				*i* S	**Sb**	**12 57 44.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	P	**Pn**	**12 57 19.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*e*Pn	**Pn**	**12 57 20.0**	**+0.8**
SVAN				S	**Sb**	**12 57 44.6**	**+0.3**
SVAN				Sn	**Sb**	**12 57 45.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	Pn	**Pn**	**12 57 19.9**	**+0.8**
SVAN				Sn	**Sb**	**12 57 45.0**	**+0.7**
BTMN	**Batman**	**1.89**	**244**	⇑*i*P	**Pn**	**12 57 20.2**	**+0.3**
BTMN				*i* S	**Sb**	**12 57 46.5**	**+0.7**
BTMN	**Batman**	**1.89**	**244**	P	**Pn**	**12 57 20.2**	**+0.3**
BTMN				S	**Sb**	**12 57 46.5**	**+0.7**
EAK	**Akyaka**	**1.94**	**4**	⇓*i*P	**Pb**	**12 57 24.1**	**+0.9**
EAK				*i* S	**Sg**	**12 57 54.5**	**+4.1**
EAK	**Akyaka**	**1.94**	**4**	P	**Pb**	**12 57 24.1**	**+0.9**
EAK				S	**Sg**	**12 57 54.5**	**+4.1**
ERZM	**Erzurum**	**1.96**	**307**	*i* P	**Pn**	**12 57 22.3**	**+1.2**
ERZM				*i* S	**Sg**	**12 57 50.5**	**-0.6**
ERZM	**Erzurum**	**1.96**	**307**	P	**Pn**	**12 57 22.3**	**+1.2**
ERZM				S	**Sg**	**12 57 50.5**	**-0.6**
ERZM	**Erzurum**	**1.96**	**307**	P	**Pb**	**12 57 23.1**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*PN	**Pn**	**12 57 22.0**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*Pn	**Pn**	**12 57 22.0**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.08**	**295**	*i* P	**Pn**	**12 57 24.1**	**+1.4**
ECAT				*i* S	**Sb**	**12 57 52.7**	**+1.3**
ECAT	**Cat-ERZURUM**	**2.08**	**295**	P	**Pn**	**12 57 24.1**	**+1.4**
ECAT				S	**Sb**	**12 57 52.7**	**+1.3**
BNGB	**Bing¶ll**	**2.15**	**277**	*e*PN	**Pn**	**12 57 25.0**	**+1.5**
BNGB	**Bing¶ll**	**2.15**	**277**	Pn	**Pn**	**12 57 25.0**	**+1.5**
BNGB	**Bing¶ll**	**2.15**	**277**	Pn	**Pn**	**12 57 25.0**	**+1.5**
ITBZ	**Tabriz**	**2.21**	**103**	*e*Pn	**Pn**	**12 57 26.0**	**+1.6**
ITBZ				*e*AMB	AMB	12 57 38.9	
	comp=Z,3μm,0.4s						
ITBZ	**Tabriz**	**2.21**	**103**	*e*Pn	**Pn**	**12 57 26.0**	**+1.6**
BINT	**Bingol**	**2.29**	**274**	P	**Pn**	**12 57 24.9**	**-0.5**
BINT	**Bingol**	**2.29**	**274**	*e*Pn	**Pn**	**12 57 25.0**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.33**	**288**	*e*PN	**Pn**	**12 57 27.3**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.33**	**288**	*e*Pn	**Pn**	**12 57 27.3**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.33**	**288**	Pn	**Pn**	**12 57 27.9**	**+1.7**
DDEM	**Demirkent**	**2.50**	**330**	⇓*i*P	**Pb**	**12 57 32.5**	**-0.1**
DDEM				*i* S	**Sg**	**12 58 09.9**	**+1.8**
DDEM	**Demirkent**	**2.50**	**330**	P	**Pb**	**12 57 32.5**	**-0.1**
DDEM				S	**Sg**	**12 58 09.9**	**+1.8**
MARD	**Mardin**	**2.52**	**236**	*e*Pn	**Pn**	**12 57 28.1**	**-0.6**
MARD				S	**Sn**	**12 57 59.3**	**-0.1**
MARD	**Mardin**	**2.52**	**236**	*e*Pn	**Pn**	**12 57 28.1**	**-0.6**
MARD				S	**Sn**	**12 57 59.3**	**-0.1**
KOPT	**Kop Dagi**	**2.59**	**300**	*e*Pn	**Pn**	**12 57 31.2**	**+1.4**
KOPT	**Kop Dagi**	**2.59**	**300**	*e*Pn	**Pn**	**12 57 31.2**	**+1.4**
AKH	**Akhalkalaki**	**2.66**	**1**	*e*PN	**Pn**	**12 57 31.6**	**+1.0**
AKH	**Akhalkalaki**	**2.66**	**1**	P	**Pb**	**12 57 36.8**	**+1.3**
AKH	**Akhalkalaki**	**2.66**	**1**	P	**Pb**	**12 57 36.8**	**+1.3**
AKH	**Akhalkalaki**	**2.66**	**1**	*e*Pn	**Pn**	**12 57 31.6**	**+1.0**
MAZI	**Mazidag**	**2.67**	**242**	*e*PN	**Pn**	**12 57 31.2**	**+0.5**
MAZI	**Mazidag**	**2.67**	**242**	*e*Pn	**Pn**	**12 57 31.2**	**+0.5**
MAZI	**Mazidag**	**2.67**	**242**	Pn	**Pn**	**12 57 31.2**	**+0.5**
GDB	**GEDABAY**	**2.67**	**42**	⇑P	**Pn**	**12 57 30.5**	**-0.3**
GDB				⇑S	**Sn**	**12 58 03.9**	**+0.8**
GDB	**GEDABAY**	**2.67**	**42**	P	**Pn**	**12 57 30.5**	**-0.3**
GDB				S	**Sn**	**12 58 03.9**	**+0.8**
ARTV	**Artvin**	**2.69**	**335**	*e*Pn	**Pn**	**12 57 31.4**	**+0.3**
ARTV	**Artvin**	**2.69**	**335**	*e*Pn	**Pn**	**12 57 31.4**	**+0.3**
QZX	**Qazax, Azerbai**	**2.76**	**33**	⇓P	**Pn**	**12 57 31.5**	**-0.3**
QZX				⇑S	**Sn**	**12 58 06.1**	**+1.1**
QZX	**Qazax, Azerbai**	**2.76**	**33**	P	**Pn**	**12 57 31.5**	**-0.3**
QZX				S	**Sn**	**12 58 06.1**	**+1.1**
IHRS	**Heris**	**2.88**	**97**	*e*Pn	**Pn**	**12 57 35.3**	**+1.6**
IHRS				*e*AMB	AMB	12 57 48.2	
	comp=Z,3μm,0.3s						
IHRS	**Heris**	**2.88**	**97**	*e*Pn	**Pn**	**12 57 35.3**	**+1.6**
IBST	**Bostanabad**	**2.93**	**110**	*e*Pn	**Pn**	**12 57 35.8**	**+1.4**
IBST				*e*AMB	AMB	12 57 49.8	
	comp=Z,1μm,0.4s						
IBST	**Bostanabad**	**2.93**	**110**	*e*Pn	**Pn**	**12 57 35.8**	**+1.4**
GANJ	**Ganja**	**2.94**	**49**	⇑P	**Pn**	**12 57 33.9**	**-0.4**
GANJ				⇑S	**Sn**	**12 58 10.2**	**+0.7**
GANJ	**Ganja**	**2.94**	**49**	P	**Pn**	**12 57 33.9**	**-0.4**
GANJ				S	**Sn**	**12 58 10.2**	**+0.7**
ERZN	**Erzincan**	**2.99**	**287**	*e*PN	**Pn**	**12 57 36.6**	**+1.5**
ERZN	**Erzincan**	**2.99**	**287**	Pn	**Pn**	**12 57 36.6**	**+1.5**
ERZN	**Erzincan**	**2.99**	**287**	Pn	**Pn**	**12 57 36.6**	**+1.5**
DGRG	**David-gareji**	**3.09**	**29**	P	**Pn**	**12 57 39.0**	**+2.5**
DGRG	**David-gareji**	**3.09**	**29**	P	**Pn**	**12 57 38.9**	**+2.5**
DGRG	**David-gareji**	**3.09**	**29**	P	**Pn**	**12 57 38.9**	**+2.5**
PTK	**Pertek**	**3.14**	**274**	*e*PN	**Pn**	**12 57 39.0**	**+1.7**
PTK	**Pertek**	**3.14**	**274**	*e*Pn	**Pn**	**12 57 39.0**	**+1.7**
PTK	**Pertek**	**3.14**	**274**	Pn	**Pn**	**12 57 40.0**	**+2.7**
TBLG	**Delisi**	**3.15**	**18**	*e*PN	**Pn**	**12 57 38.7**	**+1.5**
TBLG	**Delisi**	**3.15**	**18**	P	**Pb**	**12 57 43.8**	**0.0**
TBLG	**Delisi**	**3.15**	**18**	P	**Pb**	**12 57 43.7**	**0.0**
TBLG	**Delisi**	**3.15**	**18**	*e*Pn	**Pn**	**12 57 38.7**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.24**	**265**	*e*PN	**Pn**	**12 57 40.5**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.24**	**265**	*e*Pn	**Pn**	**12 57 40.5**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.24**	**265**	Pn	**Pn**	**12 57 41.4**	**+2.8**
BRDA	**Brd**	**3.28**	**61**	⇓P	**Pn**	**12 57 38.2**	**-0.8**
BRDA				⇑S	**Sn**	**12 58 18.1**	**+0.2**
BRDA	**Brd**	**3.28**	**61**	P	**Pn**	**12 57 38.2**	**-0.8**
BRDA				S	**Sn**	**12 58 18.1**	**+0.2**
EZC	**Erzincan**	**3.31**	**289**	*e*Pn	**Pn**	**12 57 36.6**	**-2.9**
MNGR	**Mingechevir, A**	**3.48**	**53**	⇓P	**Pn**	**12 57 41.0**	**-0.7**
MNGR				⇓S	**Sn**	**12 58 23.3**	**+0.6**
MNGR	**Mingechevir, A**	**3.48**	**53**	P	**Pn**	**12 57 41.0**	**-0.7**
MNGR				S	**Sn**	**12 58 23.3**	**+0.6**
KTUT	**Trabzon**	**3.59**	**310**	*e*PN	**Pn**	**12 57 44.5**	**+1.3**
KTUT	**Trabzon**	**3.59**	**310**	*e*Pn	**Pn**	**12 57 44.5**	**+1.3**
KTUT	**Trabzon**	**3.59**	**310**	Pn	**Pn**	**12 57 46.7**	**+3.5**
ZRD	**Zardab**	**3.64**	**64**	⇓P	**Pn**	**12 57 43.0**	**-0.9**
ZRD				⇑S	**Sn**	**12 58 26.5**	**-0.2**
ZRD	**Zardab**	**3.64**	**64**	P	**Pn**	**12 57 43.0**	**-0.9**
ZRD				S	**Sn**	**12 58 26.5**	**-0.2**
ZKTA	**Zakatala**	**3.79**	**39**	⇓P	**Pn**	**12 57 45.8**	**-0.3**
ZKTA				⇓S	**Sn**	**12 58 31.8**	**+1.3**
SEKA	**Sheki**	**3.81**	**49**	⇑P	**Pn**	**12 57 46.5**	**+0.2**
SEKA				⇓S	**Sn**	**12 58 33.2**	**+2.2**
SEKA	**Sheki**	**3.81**	**49**	P	**Pn**	**12 57 46.5**	**+0.2**
SEKA				S	**Sn**	**12 58 33.2**	**+2.2**
ONI	**Oni**	**3.84**	**0**	P	**Pb**	**12 57 57.5**	**+1.9**
ONI	**Oni**	**3.84**	**0**	P	**Pb**	**12 57 57.4**	**+1.9**
URFA	**Urfa**	**3.85**	**252**	*e*PN	**Pn**	**12 57 49.8**	**+2.9**
URFA	**Urfa**	**3.85**	**252**	Pn	**Pn**	**12 57 50.6**	**+3.7**
URFA	**Urfa**	**3.85**	**252**	Pn	**Pn**	**12 57 50.6**	**+3.7**
LRK	**Lerik**	**3.86**	**90**	⇑P	**Pn**	**12 57 45.4**	**-1.7**
LRK				⇑S	**Sn**	**12 58 30.8**	**-1.5**
LRK	**Lerik**	**3.86**	**90**	P	**Pn**	**12 57 45.4**	**-1.7**
LRK				S	**Sn**	**12 58 30.8**	**-1.5**
GLBA	**Clilabad**	**3.91**	**81**	⇓P	**Pn**	**12 57 46.3**	**-1.4**
GLBA				⇑S	**Sn**	**12 58 32.8**	**-0.6**
GLBA	**Clilabad**	**3.91**	**81**	P	**Pn**	**12 57 46.3**	**-1.4**
GLBA				S	**Sn**	**12 58 32.8**	**-0.6**
KDMR	**Kurdemir**	**4.03**	**65**	⇑P	**Pn**	**12 57 48.3**	**-1.0**
KDMR				⇓S	**Sn**	**12 58 36.4**	**+0.1**
KDMR	**Kurdemir**	**4.03**	**65**	P	**Pn**	**12 57 48.3**	**-1.0**
KDMR				S	**Sn**	**12 58 36.4**	**+0.1**
SAAT	**Saatly**	**4.04**	**72**	⇓P	**Pn**	**12 57 47.9**	**-1.5**
SAAT				⇓S	**Sn**	**12 58 35.6**	**-1.0**
SAAT	**Saatly**	**4.04**	**72**	P	**Pn**	**12 57 47.9**	**-1.5**
SAAT				S	**Sn**	**12 58 35.6**	**-1.0**
QBL	**Gabala**	**4.05**	**56**	⇑P	**Pn**	**12 57 48.8**	**-0.8**
QBL				⇑S	**Sn**	**12 58 37.3**	**+0.3**
QBL	**Gabala**	**4.05**	**56**	P	**Pn**	**12 57 48.8**	**-0.8**
QBL				S	**Sn**	**12 58 37.3**	**+0.3**
ZEI	**Tsey**	**4.05**	**5**	*e*P	**Pn**	**12 57 49.8**	**0.0**
ZEI				pmax	pmax		
	comp=Z,43nm,0.8s						
LKRN	**Lenkeran, Azer**	**4.20**	**89**	⇑P	**Pn**	**12 57 50.0**	**-1.6**
LKRN				⇑S	**Sn**	**12 58 39.3**	**-1.1**
LKRN	**Lenkeran, Azer**	**4.20**	**89**	P	**Pn**	**12 57 50.0**	**-1.6**
LKRN				S	**Sn**	**12 58 39.3**	**-1.1**
IML	**Ismayilli**	**4.21**	**59**	⇑P	**Pn**	**12 57 50.8**	**-0.9**
IML				⇓S	**Sn**	**12 58 40.9**	**+0.1**
IML	**Ismayilli**	**4.21**	**59**	P	**Pn**	**12 57 50.8**	**-0.9**
IML				S	**Sn**	**12 58 40.9**	**+0.1**
ASTR	**Astara**	**4.22**	**91**	⇑P	**Pn**	**12 57 50.3**	**-1.6**
ASTR				⇑S	**Sn**	**12 58 39.9**	**-1.0**
ASTR	**Astara**	**4.22**	**91**	P	**Pn**	**12 57 50.3**	**-1.6**
ASTR				S	**Sn**	**12 58 39.9**	**-1.0**
XNQ	**Khinaliq**	**4.37**	**55**	⇓P	**Pn**	**12 57 53.2**	**-0.9**
XNQ				⇑S	**Sn**	**12 58 45.0**	**+0.1**
XNQ	**Khinaliq**	**4.37**	**55**	P	**Pn**	**12 57 53.2**	**-0.9**
XNQ				S	**Sn**	**12 58 45.0**	**+0.1**
PQL	**Pirkuli**	**4.48**	**61**	⇑P	**Pn**	**12 57 54.6**	**-1.1**
PQL				⇑S	**Sn**	**12 58 47.5**	**-0.2**
PQL	**Pirkuli**	**4.48**	**61**	P	**Pn**	**12 57 54.6**	**-1.1**
PQL				S	**Sn**	**12 58 47.5**	**-0.2**
ALIB	**Äli-Bayra**	**4.50**	**73**	⇑P	**Pn**	**12 57 54.6**	**-1.2**
ALIB				⇓S	**Sn**	**12 58 47.6**	**-0.3**
ALIB	**Äli-Bayra**	**4.50**	**73**	P	**Pn**	**12 57 54.6**	**-1.2**
ALIB				S	**Sn**	**12 58 47.6**	**-0.3**
NEY	**Neytrino**	**4.53**	**354**	⇑*e*P	**Pn**	**12 57 59.1**	**+2.8**
NEY	**Neytrino**	**4.53**	**354**	*e*P	**Pn**	**12 57 59.1**	**+2.8**
GBS	**Qobustan**	**4.63**	**66**	⇑P	**Pn**	**12 57 56.5**	**-1.1**
GBS				⇓S	**Sn**	**12 58 50.9**	**-0.3**
GBS	**Qobustan**	**4.63**	**66**	P	**Pn**	**12 57 56.5**	**-1.1**
GBS				S	**Sn**	**12 58 50.9**	**-0.3**
QSAR	**Qusar**	**4.63**	**52**	⇑P	**Pn**	**12 57 56.9**	**-0.7**
QSAR				⇓S	**Sn**	**12 58 51.7**	**+0.4**
QSAR	**Qusar**	**4.63**	**52**	P	**Pn**	**12 57 56.9**	**-0.7**
QSAR				S	**Sn**	**12 58 51.7**	**+0.4**
DARE	**Darende-Malaty**	**4.64**	**270**	*e*PN	**Pn**	**12 58 00.6**	**+2.7**
DARE	**Darende-Malaty**	**4.64**	**270**	*e*Pn	**Pn**	**12 58 00.5**	**+2.7**
DARE	**Darende-Malaty**	**4.64**	**270**	Pn	**Pn**	**12 58 01.2**	**+3.4**
QUBA	**Quba, Azerbaij**	**4.69**	**55**	⇓P	**Pn**	**12 57 57.2**	**-0.8**
QUBA				⇓S	**Sn**	**12 58 53.2**	**+0.5**
QUBA	**Quba, Azerbaij**	**4.69**	**55**	P	**Pn**	**12 57 57.6**	**-0.8**
QUBA				S	**Sn**	**12 58 53.2**	**+0.5**
IDHR	**Dehrash**	**4.69**	**148**	*e*Pn	**Pn**	**12 58 01.3**	**+2.7**
IDHR				*e*AMB	AMB	12 59 28.9	
	comp=Z,1μm,0.5s						
IDHR	**Dehrash**	**4.69**	**148**	*e*Pn	**Pn**	**12 58 01.3**	**+2.7**
NCK	**Nalchik**	**4.75**	**2**	⇑*e*P	**Pn**	**12 58 01.7**	**+2.6**
NCK	**Nalchik**	**4.75**	**2**	*e*P	**Pn**	**12 58 01.7**	**+2.6**
ATGJ	**Altiaghaj**	**4.75**	**62**	⇑P	**Pn**	**12 57 58.3**	**-1.0**
ATGJ				⇑S	**Sn**	**12 58 54.1**	**-0.2**
ATGJ	**Altiaghaj**	**4.75**	**62**	P	**Pn**	**12 57 58.3**	**-1.0**
ATGJ				S	**Sn**	**12 58 54.1**	**-0.2**
SIZA	**Siyzn**	**4.82**	**59**	⇓P	**Pn**	**12 57 59.2**	**-1.0**
SIZA				⇓S	**Sn**	**12 58 56.0**	**+0.1**
SIZA	**Siyzn**	**4.82**	**59**	P	**Pn**	**12 57 59.2**	**-1.0**
SIZA				S	**Sn**	**12 58 56.0**	**+0.1**
KBZ	**Khabaz**	**4.99**	**356**	Pn	**Pn**	**12 58 06.2**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=184,slow=9.7,SNR=6.4						
SVSK	**Karacayir**	**5.11**	**285**	*e*PN	**Pn**	**12 58 06.8**	**+2.7**
SVSK	**Karacayir**	**5.11**	**285**	Pn	**Pn**	**12 58 07.5**	**+3.4**
SVSK	**Karacayir**	**5.11**	**285**	Pn	**Pn**	**12 58 07.5**	**+3.4**
GOBA	**Gobu**	**5.16**	**69**	⇓P	**Pn**	**12 58 03.6**	**-1.1**
GOBA				⇓S	**Sn**	**12 59 03.6**	**-0.5**
GOBA	**Gobu**	**5.16**	**69**	P	**Pn**	**12 58 03.6**	**-1.1**
GOBA				S	**Sn**	**12 59 03.6**	**-0.5**
KIV	**Kislovodsk**	**5.23**	**354**	*e*P	Pn	12 58 12.1	+6.2
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KMRS	**Kahramanmaras**	**5.28**	**258**	*e*PN	**Pn**	**12 58 10.0**	**+3.5**
KMRS	**Kahramanmaras**	**5.28**	**258**	*e*Pn	**Pn**	**12 58 10.0**	**+3.5**
KMRS	**Kahramanmaras**	**5.28**	**258**	Pn	**Pn**	**12 58 10.9**	**+4.3**
NDR	**Nardaran**	**5.39**	**68**	⇑P	**Pn**	**12 58 06.9**	**-1.1**
NDR				⇑S	**Sn**	**12 59 09.6**	**-0.3**
NDR	**Nardaran**	**5.39**	**68**	P	**Pn**	**12 58 06.9**	**-1.1**
NDR				S	**Sn**	**12 59 09.6**	**-0.3**
GALA	**Gala**	**5.47**	**70**	⇓P	**Pn**	**12 58 07.9**	**-1.1**
GALA				⇑S	**Sn**	**12 59 11.4**	**-0.3**
GALA	**Gala**	**5.47**	**70**	P	**Pn**	**12 58 07.9**	**-1.1**
GALA				S	**Sn**	**12 59 11.4**	**-0.3**
SARI	**SarD1z-Kayseri**	**5.49**	**269**	*e*PN	**Pn**	**12 58 12.6**	**+3.0**
DRWC	**Darouich**	**5.75**	**250**	*e*P	**Pn**	**12 58 16.4**	**+3.3**
DRWC				*e*S	**Sn**	**12 59 26.1**	**+7.1**
DRWC				AML	AML	12 59 56.6	
	comp=E,159nm,0.6s						
DRWC				AML	AML	12 59 59.3	
	comp=N,114nm,0.8s						
KOZT	**Kozan**	**6.11**	**260**	*e*PN	**Pn**	**12 58 21.8**	**+3.9**
BTCH	**Batrach**	**6.16**	**246**	*e*P

KKAR	Karatay Array	20.89	69	eP	P	13 01 31.3	+1.5
	comp=Z,65nm,0.8s						
KKAR	Karatay Array	20.89	69	eP	P	13 01 31.3	+1.5
	comp=Z,66nm,0.8s						
CUC	Castrocucco	21.34	282	eP	P	13 01 35.4	+0.7
	comp=Z,5.5nm,1.0s						
CUC	Castrocucco	21.34	282	eP	P	13 01 35.4	+0.7
	comp=Z,5.5nm,1.0s						
SVE	Sverdlovsk	21.36	27	eP	P	13 01 35.6	+0.9
SVE				pmax	pmax		
	comp=Z,24nm,1.2s						
SVE	Sverdlovsk	21.36	27	eP	P	13 01 35.6	+0.9
	comp=Z,24nm,1.2s						
CONA	Conrad Observa	21.94	304	i P	P	13 01 41.9	+0.8
	comp=Z,3.5nm,1.3s						
CONA	Conrad Observa	21.94	304	P	P	13 01 41.9	+0.8
	comp=Z,3.5nm,1.3s						
KLMR	Klimovskoe	22.26	355	eP	P	13 01 43.8	-0.5
KLMR				pmax	pmax		
	comp=Z,46nm,1.1s						
KLMR	Klimovskoe	22.26	355	eP	P	13 01 43.8	-0.5
	comp=Z,46nm,1.1s						
VSU	Vasula	22.48	337⇓	eP	P	13 01 47.4	+0.7
VSU				pmax	pmax		
	comp=Z,49nm,0.9s						
VSU	Vasula	22.48	337	eP	P	13 01 47.4	+0.7
	comp=Z,49nm,0.9s						
BRVK	Borovoye	23.36	43⇑	eP	P	13 01 57.3	+1.3
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
BRVK	Borovoye	23.36	43	eP	P	13 01 57.2	+1.3
	comp=Z,10nm,1.1s						
BRVK	Borovoye	23.36	43	eP	P	13 01 57.2	+1.3
	comp=Z,10nm,1.1s						
BVAR	Borovoye Array	23.41	44	P	P	13 01 56.3	0.0
	comp=Z,3.1nm,1.0s,baz=221,slow=8.8,SNR=9.0						
KBA	Koelnbreinsper	23.43	301	i P	P	13 02 00.5	+3.6
	comp=Z,3.0nm,0.7s						
GEC2	GERESS Array S	23.56	305	eP	P	13 01 58.8	+0.7
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.5s						
GEC2	GERESS Array S	23.56	305	eP	P	13 01 58.8	+0.7
	comp=Z,7.0nm,1.5s						
GEC2	GERESS Array S	23.56	305	eP	P	13 01 58.8	+0.7
	comp=Z,6.6nm,1.5s						
GERES	GERESS Array B	23.56	305	P	P	13 01 59.6	+1.6
	comp=Z,0.4nm,0.5s,baz=108,slow=8.6,SNR=5.6						
KHC	Kasperske Hory	23.71	306	eP	P	13 01 52.3	-7.2
KHC				e		13 02 01.0	
KHC	Kasperske Hory	23.71	306	P	P	13 02 01.0	+1.5
AAK	Ala-Archa	23.82	71⇑	eP	P	13 02 03.0	+2.4
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FRU	Bishkek	23.90	70	eP	P	13 02 04.0	+2.7
FRU				pmax	pmax		
	comp=Z,40nm,2.0s						
WTTA	Wattenberg	24.61	301	i P	P	13 02 11.8	+3.8
	comp=Z,5.9nm,0.9s						
WATA	Walderalm	24.66	301	i pP	pP	13 02 11.3	-1.1
	comp=Z,6.1nm,1.0s						
CLL	Collm	24.70	310	eP	P	13 02 09.0	+0.5
CLL	Collm	24.70	310	eP	P	13 02 09.0	+0.5
CLL				esP	pP	13 02 12.0	-0.5
CLL				ePPP	PPP	13 02 46.0	
SQTA	Sankt Quirin	24.89	300	i P	P	13 02 10.8	+0.3
SQTA	Sankt Quirin	24.89	300	P	P	13 02 10.8	+0.3
MOTA	Moosalm	24.98	301	i P	P	13 02 11.3	0.0
	comp=Z,8.0nm,0.8s						
MOTA	Moosalm	24.98	301	P	P	13 02 11.3	0.0
	comp=Z,8.0nm,0.8s						
FIA1	FINESS Array S	25.13	340	eP	P	13 02 12.6	+0.3
	comp=Z,16nm,1.1s						
FIA1	FINESS Array S	25.13	340	eP	P	13 02 12.6	+0.3
	comp=Z,16nm,1.1s						
FINES	FINESS Array B	25.13	340	P	P	13 02 12.2	-0.1
	comp=Z,6.9nm,1.0s,baz=140,slow=12,SNR=11						
KSH	Kashi	25.20	78	eP	P	13 02 12.3	-1.0
KSH				epP	pP	13 02 16.8	-0.5
KSH				sP	sP	13 02 19.8	+0.8
KSH				ePP	PnPn	13 02 49.4	+2.1
KSH				ePcP	PcP	13 05 49.4	+2.6
KSH				S	S	13 06 33.0	-5.3
KSH				SS	SnSn	13 07 30.3	+1.8
KSH				PcS	PcS	13 09 29.5	+2.3
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,270nm,10.0s						
KSH				LR	LR		
	comp=N,1μm,15.9s						
KSH				LR	LR		
	comp=E,1μm,14.3s						
KSH				LR	LR		
	comp=Z,1μm,14.6s						
RETA	Reutte	25.23	301	i pP	pP	13 02 18.7	+1.3
	comp=Z,1.6nm,0.5s						
KURBB	Kurchatov Arra	27.39	53	P	P	13 02 33.9	+1.1
	comp=Z,3.0nm,0.7s,baz=263,slow=9.0,SNR=16						
KURK	Kurchatov	27.46	53	deP	P	13 02 34.9	+1.5
KURK				pmax	pmax		
	comp=Z,15nm,0.8s						
KURK	Kurchatov	27.46	53	eP	P	13 02 34.4	+1.0
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	27.46	53	eP	P	13 02 34.4	+1.0
	comp=Z,4.0nm,0.8s						
ECH	Echery	27.73	302	eP	P	13 02 36.0	0.0
ECH				pmax	pmax		
	comp=Z,15nm,1.5s						
ECH	Echery	27.73	302	eP	P	13 02 36.0	0.0
	comp=Z,15nm,1.5s						
ECH	Echery	27.73	302	eP	P	13 02 36.0	0.0
	comp=Z,15nm,1.5s						
HFS	Hagfors	28.41	329	P	P	13 02 41.5	-0.4
	comp=Z,8.3nm,0.9s,baz=123,slow=5.3,SNR=7.9						
WLF	Walferdange	28.57	305	eP	P	13 02 43.9	+0.5
WLF				pmax	pmax		
	comp=Z,18nm,1.3s						
WLF	Walferdange	28.57	305	eP	P	13 02 43.9	+0.5
	comp=Z,18nm,1.3s						
WLF	Walferdange	28.57	305	eP	P	13 02 43.9	+0.5
	comp=Z,18nm,1.3s						
MKAR	Makanchi Array	29.41	61	P	P	13 02 52.6	+1.7
	comp=Z,1.8nm,0.8s,baz=264,slow=7.9,SNR=8.7						
NVS	Novosibirsk	31.14	46	eP	P	13 03 10.4	+4.3
ARCES	ARCESS Array B	32.31	348	P	P	13 03 14.9	-1.2
	comp=Z,2.1nm,0.8s,baz=152,slow=11,SNR=5.1						
WMQ	Urumqi	33.35	67	P	P	13 03 25.1	-0.6
WMQ				pP	pP	13 03 31.8	+2.0
WMQ				sP	sP	13 03 34.3	+2.9
WMQ				PcP	PcP	13 06 06.3	-1.0
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,2μm,11.5s						
WMQ				LR	LR		
	comp=N,2μm,15.5s						
WMQ				LR	LR		
	comp=E,3μm,17.5s						
WMQ				LR	LR		
	comp=Z,3μm,23.1s						
ESDC	Sonseca Array	36.38	287	P	P	13 03 50.3	-1.6
	comp=Z,2.6nm,0.8s,baz=64,slow=8.9,SNR=9.8						
MTE	Manteigas	38.87	289	eP	P	13 04 12.3	-0.6
	comp=Z,24nm,1.0s						
MTE	Manteigas	38.87	289	eP	P	13 04 12.3	-0.6
	comp=Z,24nm,1.0s						
GTA	Gaotai	43.17	71	eP	P	13 04 48.9	+0.5
GTA				pP	pP	13 04 53.3	+0.8
GTA				sP	sP	13 04 55.9	+1.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TORD	Torodi Ar. Bea	44.81	247	P	P	13 04 59.4	-2.3
	comp=Z,0.5nm,0.4s,baz=44,slow=11,SNR=5.7						
ULN	Ulaanbaatar	46.00	57⇑	i P	P	13 05 12.9	+1.9
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HHC	Hu-ho-hao-te	51.18	65	eP	P	13 05 50.3	-0.6
HHC				pP	pP	13 05 54.8	-0.2
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,6.8s						
XAN	Xi'an	51.94	74	P	P	13 06 01.8	+5.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	Chiang Mai Arr	51.96	96	P	P	13 05 58.5	+1.7
	comp=Z,1.7nm,0.8s,baz=299,slow=8.0,SNR=10						
TIXI	Tiksi	52.35	24⇓	eP	P	13 05 59.1	+0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YAK	Yakutsk	54.99	35⇑	eP	P	13 06 17.4	-1.0
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NJ2	Nanjing	60.26	71	eP	P	13 06 55.6	-0.4
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
SEY	Seymchan	64.02	29⇑	eP	P	13 07 22.4	+1.6
KSAR	Wonju Array Be	64.07	62	P	P	13 07 22.0	+0.5
KSAR	Wonju Array Be	64.07	62	P	P	13 07 22.0	+0.5
KSAR	Wonju Array Be	64.07	62	P	P	13 07 21.9	+0.5
KSRS	Korea Array	64.09	62	P	P	13 07 21.9	+0.3
	comp=Z,1.2nm,0.8s,baz=279,slow=5.3,SNR=5.0						
COCO	West Island	71.05	124	eP	P	13 08 05.1	-0.6
COCO				pmax	pmax		
	comp=Z,50nm,1.0s						
COCO	West Island	71.05	124	eP	P	13 08 05.1	-0.6
	comp=Z,50nm,1.0s						
COCO	West Island	71.05	124	eP	P	13 08 05.1	-0.6
	comp=Z,50nm,1.0s						
MLY	Manley	75.96	6	eP	P	13 08 34.7	+0.6
	comp=Z,2.2nm,1.0s						
MLY	Manley	75.96	6	eP	P	13 08 34.7	+0.6
	comp=Z,2.2nm,1.0s						
MDM	Murphy Dome	76.23	5	eP	P	13 08 36.6	+1.0
	comp=Z,3.2nm,1.1s						
MDM	Murphy Dome	76.23	5	eP	P	13 08 36.6	+1.0
	comp=Z,3.2nm,1.1s						
COLA	College	76.34	5⇓	eP	P	13 08 36.6	+0.5
COLA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CCB	Clear Creek Bu	76.56	5	eP	P	13 08 37.2	-0.2
	comp=Z,3.7nm,1.2s						
CCB	Clear Creek Bu	76.56	5	eP	P	13 08 37.2	-0.2
	comp=Z,3.7nm,1.2s						
WRH	Wood River Hil	76.72	5	eP	P	13 08 37.9	-0.4
	comp=Z,2.9nm,1.2s						
WRH	Wood River Hil	76.72	5	eP	P	13 08 37.9	-0.4
	comp=Z,2.9nm,1.2s						
EGAK	Eagle	76.75	2	eP	P	13 08 39.3	+0.8
	comp=Z,8.2nm,1.3s						
EGAK	Eagle	76.75	2	eP	P	13 08 39.3	+0.8
	comp=Z,8.2nm,1.3s						
CAST	Castle Rocks	77.43	7	eP	P	13 08 42.6	+0.2
	comp=Z,6.3nm,1.0s						
CAST	Castle Rocks	77.43	7	eP	P	13 08 42.6	+0.2
	comp=Z,6.3nm,1.0s						
TTA	Tatalina	77.47	9	eP	P	13 08 43.1	+0.4
TTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TTA	Tatalina	77.47	9	eP	P	13 08 43.1	+0.4
	comp=Z,3.3nm,0.9s						
TTA	Tatalina	77.47	9	eP	P	13 08 43.1	+0.4
	comp=Z,3.3nm,0.9s						
TT01	Tatalina	77.50	9	eP	P	13 08 43.9	+1.1
TT01	Tatalina	77.50	9	eP	P	13 08 43.9	+1.1
DAWY	Dawson	77.50	1	eP	P	13 08 43.0	+0.2
	comp=Z,4.3nm,1.0s						
DAWY	Dawson	77.50	1	eP	P	13 08 43.0	+0.2
	comp=Z,4.3nm,1.0s						
TRF	Thorofare Moun	77.56	6	eP	P	13 08 44.3	+1.0
	comp=Z,11nm,1.4s						
TRF	Thorofare Moun	77.56	6	eP	P	13 08 44.3	+1.0
	comp=Z,11nm,1.4s						
RND	Reindeer	77.72	6	eP	P	13 08 43.6	-0.5
RND				pmax	pmax		
	comp=Z,5.0nm,1.2s						
RND	Reindeer	77.72	6	eP	P	13 08 43.6	-0.5
	comp=Z,4.7nm,1.2s						
RND	Reindeer	77.72	6	eP	P	13 08 43.6	-0.5
	comp=Z,4.7nm,1.2s						
DOT	Dot Lake	77.77	3	eP	P	13 08 45.2	+0.9
	comp=Z,4.4nm,0.8s						
DOT	Dot Lake	77.77	3	eP	P	13 08 45.2	+0.9
	comp=Z,4.4nm,0.8s						
DHY	Denali Highway	78.15	5	eP	P	13 08 46.2	-0.4
	comp=Z,8.9nm,1.5s						
DHY	Denali Highway	78.15	5	eP	P	13 08 46.2	-0.4
	comp=Z,8.9nm,1.5s						
MENT	Mentasta	78.50	3	eP	P	13 08 48.6	+0.2
	comp=Z,2.7nm,0.8s						
MENT	Mentasta	78.50	3	eP	P	13 08 48.6	+0.2
	comp=Z,2.7nm,0.8s						
SML	Sawmill	79.34	6	eP	P	13 08 53.2	+0.2
SML				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SML	Sawmill	79.34	6	eP	P	13 08 53.2	+0.2
	comp=Z,6.6nm,1.0s						
SML	Sawmill	79.34	6	eP	P	13 08 53.2	+0.2
	comp=Z,6.6nm,1.0s						
SCM	Sheep Creek Mo	79.39	5	eP	P	13 08 54.0	+0.7
SCM				pmax	pmax		
	comp=Z,18nm,1.4s						
SCM	Sheep Creek Mo	79.39	5	eP	P	13 08 54.0	+0.7
	comp=Z,18nm,1.4s						
SCM	Sheep Creek Mo	79.39	5	eP	P	13 08 54.0	+0.7
	comp=Z,18nm,1.4s						
SUA	Susitna One	79.47	7	eP	P	13 08 52.7	-1.1
	comp=Z,6.3nm,0.9s						
SUA	Susitna One	79.47	7	eP	P	13 08 52.7	-1.1
	comp=Z,6.3nm,0.9s						
CBIJ	Chichi jima	79.86	64	eP	P	13 08 53.5	-2.9
	comp=Z,144nm,1.2s						
CBIJ	Chichi jima	79.86	64	eP	P	13 08 53.5	-2.9
	comp=Z,144nm,1.2s						
BALM	Baldy	80.46	3	eP	P	13 08 59.7	+0.5
BALM				pmax	pmax		
	comp=Z,13nm,1.2s						
BALM	Baldy	80.46	3	eP	P	13 08 59.7	+0.5
	comp=Z,13nm,1.2s						
BALM	Baldy	80.46	3	eP	P	13 08 59.6	+0.5
	comp=Z,13nm,1.2s						
HYT	Haines Junctio	80.78	0	eP	P	13 09 01.4	+0.5
	comp=Z,14nm,1.5s						
HYT	Haines Junctio	80.78	0	eP	P	13 09 01.4	+0.5
	comp=Z,14nm,1.5s						
BRLK	Bradley Lake	81.13	7	eP	P	13 09 02.3	-0.4
	comp=Z,15nm,1.4s						
BRLK	Bradley Lake	81.13	7	eP	P	13 09 02.3	-0.4
	comp=Z,15nm,1.4s						
PAL	Palisades	82.19	317	eP	P	13 09 07.9	-0.7
PAL				pmax	pmax		
	comp=Z,17nm,1.0s						
PAL	Palisades	82.19	317	eP	P	13 09 07.9	-0.7
	comp=Z,17nm,1.0s						
PAL	Palisades	82.19	317	eP	P	13 09 07.9	-0.7
	comp=Z,17nm,1.0s						
KDAK	Kodiak Island	82.90	9	P	P	13 09 12.3	+0.4
	comp=Z,3.9nm,0.6s,baz=358,slow=6.1,SNR=7.1						
KDAK	Kodiak Island	82.90	9	i P	P	13 09 12.4	+0.6
KDAK	Kodiak Island	82.90	9	eP	P	13 09 12.5	+0.6
	comp=Z,15nm,1.4s						
KDAK	Kodiak Island	82.90	9	eP	P	13 09 12.5	+0.6
	comp=Z,15nm,1.4s						
OHAK	Old Harbor	83.36	9	eP	P	13 09 14.5	+0.2
	comp=Z,23nm,1.3s						
OHAK	Old Harbor	83.36	9	eP	P	13 09 14.5	+0.2
	comp=Z,23nm,1.3s						
UNV	Unalaska Valle	84.23	17	eP	P	13 09 20.7	+1.9
	comp=Z,68nm,1.5s						
UNV	Unalaska Valle	84.23	17	eP	P	13 09 20.7	+1.9
	comp=Z,68nm,1.5s						
GCMT	Greycliff	92.44	342	eP	P	13 09 59.4	+0.9
GCMT	Greycliff	92.44	342	eP	P	13 09 59.4	+0.9
LPAZ	La Paz	116.71	270	ePKIKP	PKPdf	13 15 32.1	-0.9
LPAZ	La Paz	116.71	270	ePKIKP	PKPdf	13 15 32.1	-0.9
LPAZ	La Paz	116.71	270	ePKPdf	PKPdf	13 15 32.1	-0.9
URZ	Urewera	144.06	104	ePKIKP	PKPdf	13 16 22.6	-0.4
URZ	Urewera	144.06	104	ePKPdf	PKPdf	13 16 22.6	-0.4
PPT	Papeete	156.04	32	ePKIKP	PKPdf	13 16 41.7	-0.7
PPT	Papeete	156.04	32	ePKIKP	PKPdf	13 16 41.7	-0.7
PPT	Papeete	156.04	32	ePKPdf	PKPdf	13 16 41.7	-0.7

DDA ***23*** *12:59:33.0, 38°.83N×43°.15E, h7km, Md2.4*
CSEM ***23*** *12:59:34.9±0.3, 38°.78N×43°.30E, h2km, MD2.4, Error ellipse: s-maj=8.1km s-min=5.7km az=95.0*
ISK ***23*** *12:59:34.8, 38°.79N×43°.29E, h5km, ML3.3*
ISC 23 12:59:35.0±1.1,**38°.78N**±0°.02×**43°.28E**±0°.04,**h6**km±12km,
n24,σ**1°.02/34,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.27	158	i P	Pg	12 59 40.9	+0.6
TVAN				i S	Sb	12 59 45.8	-1.4
TVAN	Van	0.27	158	P	Pg	12 59 40.9	+0.6
TVAN				S	Sb	12 59 45.8	-1.4
VMUR	Van-Muradiye	0.31	47	i P	Pg	12 59 40.4	-0.8
VMUR				i S	Sg	12 59 46.1	+0.8
VMUR	Van-Muradiye	0.31	47	P	Pg	12 59 40.4	-0.8
VMUR				S	Sg	12 59 46.1	+0.8
GEVA	Gevas	0.49	201	i P	Pg	12 59 43.2	-1.4
GEVA				i S	Sg	12 59 51.0	0.0
GEVA	Gevas	0.49	201	P	Pg	12 59 43.2	-1.4
GEVA				S	Sg	12 59 51.0	0.0
AGRB	Hanur-Agry	0.83	344	ePG	Pg	12 59 50.4	-0.6
AGRB				eSG	Sb	13 00 02.9	-0.6
AGRB	Hanur-Agry	0.83	344	ePg	Pg	12 59 50.4	-0.6
AGRB				eSg	Sb	13 00 02.9	-0.6
CUKT	Cukurca	1.55	170	ePN	Pb	13 00 03.9	-0.3
CUKT	Cukurca	1.55	170	ePn	Pb	13 00 03.9	-0.3
SVAN	Silvan-Diyarba	1.75	250	ePN	Pn	13 00 06.6	+0.7
SVAN				eSN	Sb	13 00 29.8	+0.1
SVAN	Silvan-Diyarba	1.75	250	ePn	Pn	13 00 06.6	+0.7
SVAN				eSn	Sb	13 00 29.8	+0.1
SENK	Senkaya-Erzuru	1.92	338	ePN	Pn	13 00 08.9	+0.4
SENK	Senkaya-Erzuru	1.92	338	ePn	Pn	13 00 08.9	+0.4
BNGB	Bing˜¶l	2.04	277	ePN	Pn	13 00 11.0	+1.0
BINT	Bingol	2.18	273	ePn	Pn	13 00 11.0	-1.0
YEDI	Yedisu-Bingol	2.23	288	ePN	Pn	13 00 13.4	+0.8
YEDI	Yedisu-Bingol	2.23	288	ePn	Pn	13 00 13.4	+0.8
MAZI	Mazidag	2.59	240	ePN	Pn	13 00 18.8	+1.2
MAZI	Mazidag	2.59	240	ePn	Pn	13 00 18.8	+1.2
PTK	Pertek	3.04	273	ePN	Pn	13 00 25.3	+1.5
PTK	Pertek	3.04	273	ePn	Pn	13 00 25.3	+1.5
SVRC	Sivrice-ELAZID	3.14	264	ePN	Pn	13 00 27.0	+1.8
SVRC	Sivrice-ELAZID	3.14	264	ePn	Pn	13 00 27.0	+1.8

CSEM ***23*** *13:04:25.7±0.3, 38°.07N×42°.98E, h10km, MD2.9, Error ellipse: s-maj=8.2km s-min=5.9km az=36.0*
DDA ***23*** *13:04:25.7, 38°.05N×42°.98E, h7km, Md2.9*
ISK ***23*** *13:04:25.5, 37°.99N×42°.86E, h5km, MD2.9*
ISCJB ***23*** *13:04:26.1±0.8, 38°.06N±0°.04×42°.97E±0°.07, h10km±9km, Error ellipse: s-maj=10.2km s-min=5.5km az=145.9*
ISC 23 13:04:25.8±1.2,**38°.02N**±0°.04×**42°.98E**±0°.04,**h4**km±12km,
n14,σ**0°.39/24,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.30	12	i P	Pg	13 04 31.6	-0.1
GEVA				i S	Sg	13 04 35.8	+0.1
GEVA	Gevas	0.30	12	P	Pg	13 04 31.6	-0.1
GEVA				S	Sg	13 04 35.8	+0.1
SIRN	S¨–rnak	0.69	221	i P	Pg	13 04 38.7	-0.2
SIRN				i S	Sb	13 04 50.6	+0.5
SIRN	S¨–rnak	0.69	221	P	Pg	13 04 38.7	-0.2
SIRN				S	Sb	13 04 50.6	+0.5
HAKT	HAKKARI	0.74	128	i P	Pg	13 04 39.7	-0.3
HAKT				i S	Sb	13 04 52.0	+0.1
HAKT	HAKKARI	0.74	128	P	Pg	13 04 39.7	-0.3
HAKT				S	Sb	13 04 52.0	+0.1
CUKT	Cukurca	0.92	147	ePG	Pb	13 04 44.7	+0.4
CUKT				eSG	Sn	13 04 59.0	-0.2
CUKT	Cukurca	0.92	147	ePg	Pb	13 04 44.7	+0.4
CUKT				eSg	Sn	13 04 59.0	-0.2
SVAN	Silvan-Diyarba	1.41	276	ePN	Pn	13 04 51.5	-0.7
SVAN				eSN	Sn	13 05 11.2	0.0
SVAN	Silvan-Diyarba	1.41	276	ePn	Pn	13 04 51.5	-0.7
SVAN				eSn	Sn	13 05 11.2	0.0
BNGB	Bing˜¶l	2.05	299	ePN	Pn	13 05 01.5	+0.4
MAZI	Mazidag	2.08	255	ePN	Pn	13 05 01.5	0.0
MAZI	Mazidag	2.08	255	ePn	Pn	13 05 01.5	0.0
BINT	Bingol	2.13	294	ePn	Pn	13 05 01.5	-0.8

NSSC ***23*** *13:06:35.5±2.2, 38°.56N×44°.88E, h0km±310km, MD2.9, ML3.8*
IDC ***23*** *13:06:48.5±0.8, 38°.44N×43°.19E, h0km, mb4.0/15, mb1 4.0/21, mb1mx3.9/52, mbtmp4.0/21, ML3.2/6, Error ellipse: s-maj=14.5km s-min=12.1km az=9.0*
CSEM ***23*** *13:06:49.5±0.2, 38°.46N×43°.46E, h10km, mb4.1/10, Error ellipse: s-maj=5.6km s-min=2.5km az=169.0*
ISCJB ***23*** *13:06:50.4±0.4, 38°.60N±0°.02×43°.42E±0°.02, h20km±3km, mb4.0/26, MS4.4/1, Error ellipse: s-maj=3.6km s-min=1.9km az=158.8*
AZER ***23*** *13:06:50.5±0.3, 38°.37N×43°.48E, h24km±8km, Error ellipse: s-maj=7.7km s-min=1.8km az=54.0*
ISK ***23*** *13:06:51.2, 38°.73N×43°.15E, h5km, ML4.0*
NEIC ***23*** *13:06:51.5±0.0, 38°.69N×43°.15E, h5km, mb4.2/9, ML4.1(ISK), After ISK.*
TEH ***23*** *13:06:54.4, 38°.84N×43°.27E, h23km, ML3.9*
DDA ***23*** *13:07:49.2, 38°.67N×43°.20E, h12km, Ml4.4*
ISC 23 13:06:52.5±0.4,**38°.65N**±0°.02×**43°.27E**±0°.02,**h21**km±1km,
n251,σ**2°.34/357,mb4.1/28,40C-50D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.16	137	⇓i P	Pb	13 06 58.3	-0.3
TVAN				i S	Sb	13 07 02.9	0.0
TVAN	Van	0.16	137	P	Pb	13 06 58.3	-0.3
TVAN				S	Sb	13 07 02.9	0.0
GEVA	Gevas	0.37	206	⇓i P	Pb	13 06 57.6	-2.8
GEVA				i S	Sb	13 07 05.1	-0.7
GEVA	Gevas	0.37	206	P	Pb	13 06 57.6	-2.8
GEVA				S	Sb	13 07 05.1	-0.7
VMUR	Van-Muradiye	0.42	35	⇓i P	Pb	13 06 59.8	-1.4
VMUR				i S	Sb	13 07 07.3	+0.2
VMUR	Van-Muradiye	0.42	35	P	Pb	13 06 59.8	-1.4
VMUR				S	Sb	13 07 07.3	+0.2
BASK	Baskale_VAN	0.83	136	⇓i P	Pb	13 07 07.1	-1.2
BASK				i S	Sn	13 07 20.8	-0.1
BASK	Baskale_VAN	0.83	136	P	Pb	13 07 07.1	-1.2
BASK				S	Sn	13 07 20.8	-0.1
TUTA	Tutak	0.83	335	⇓i P	Pb	13 07 05.1	-3.3
TUTA				i S	Sb	13 07 17.1	-2.3
TUTA	Tutak	0.83	335	P	Pb	13 07 05.1	-3.3
TUTA				S	Sb	13 07 17.1	-2.3
AGRB	Hanur-Agry	0.95	347	ePG	Pb	13 07 07.6	-2.9
AGRB				eSG	Sb	13 07 20.2	-2.5
DYDN	Diyadin	0.95	20	i P	Pb	13 07 08.2	-2.3
DYDN				i S	Sn	13 07 27.2	+3.2
DYDN	Diyadin	0.95	20	P	Pb	13 07 08.2	-2.3

DIGO	Kars	1.77	3⇑	*i*P	Pn	13 07 23.0	+0.8
DIGO				*i*S	Sb	13 07 51.4	+5.2
DIGO	Kars	1.77	3	P	Pn	13 07 23.0	+0.8
DIGO				S	Sb	13 07 51.4	+5.2
NAX	Nakhchivan	1.81	72	⇓P	Pn	13 07 19.6	-3.0
NAX				⇓S	Sn	13 07 42.2	-2.9
NAX	Nakhchivan	1.81	72	P	Pn	13 07 19.6	-3.0
NAX				S	Sn	13 07 42.2	-2.9
ISHB	Shabestar	1.88	100	*e*Pn	Pb	13 07 25.1	-1.1
ISHB				*e*AMB	AMB	13 07 28.3	
	comp=Z,12μm,0.2s						
GNI	Garni	1.89	37	Pn	Pb	13 07 25.2	-1.2
	comp=Z,68nm,0.3s,baz=272,slow=6.9,SNR=16						
IMRD	Marand	1.91	87	*e*Pn	Pb	13 07 25.3	-1.4
IMRD				*e*AMB	AMB	13 07 30.3	
	comp=Z,19μm,0.2s						
IMRD				*e*Sg	Sb	13 07 54.2	+4.1
IMRD	Marand	1.91	87	*e*Pn	Pb	13 07 25.3	-1.4
IMRD				*e*Sg	Sb	13 07 54.2	+4.1
ERZM	Erzurum	1.94	311	*i*P	Pn	13 07 24.6	0.0
ERZM				*i*S	Sb	13 07 51.1	-0.1
ERZM	Erzurum	1.94	311	P	Pn	13 07 24.5	0.0
ERZM				S	Sb	13 07 51.1	-0.1
SENK	Senkaya-Erzuru	2.04	340	*e*PN	Pn	13 07 26.0	+0.1
SENK	Senkaya-Erzuru	2.04	340	*e*Pn	Pn	13 07 26.0	+0.1
BNGB	Bing¶ll	2.05	280	*e*PN	Pn	13 07 26.2	+0.3
EAK	Akyaka	2.05	7⇑	*i*P	Pb	13 07 29.7	+0.5
EAK				*i*S	Sb	13 07 58.6	+4.2
EAK	Akyaka	2.05	7	P	Pb	13 07 29.7	+0.5
EAK				S	Sb	13 07 58.6	+4.2
BINT	Bingol	2.19	277	*e*Pn	Pn	13 07 26.3	-1.5
YEDI	Yedisu-Bingol	2.26	291	*e*PN	Pn	13 07 29.2	+0.4
YEDI	Yedisu-Bingol	2.26	291	*e*Pn	Pn	13 07 29.3	+0.4
ITBZ	Tabriz	2.30	99	*e*Pn	Pn	13 07 31.2	+1.8
ITBZ				*e*AMB	AMB	13 07 46.0	
	comp=Z,2μm,0.3s						
ITBZ	Tabriz	2.30	99	*e*Pn	Pn	13 07 31.2	+1.8
MARD	Mardin	2.38	237	*i*P	Pn	13 07 28.4	-2.0
MARD				*i*S	Sn	13 08 00.2	+1.2
MARD	Mardin	2.38	237	*e*Pn	Pn	13 07 28.6	-1.8
MARD	Mardin	2.38	237	*e*Pn	Pn	13 07 28.6	-1.8
MAZI	Mazidag	2.52	243	*e*PN	Pn	13 07 33.5	+1.1
DDEM	Demirkent	2.53	333⇑	*i*P	Pb	13 07 36.2	-1.1
DDEM				*i*S	Sb	13 08 14.4	+6.4
DDEM	Demirkent	2.53	333	P	Pb	13 07 36.2	-1.1
DDEM				S	Sb	13 08 14.4	+6.4
KOPT	Kop Dagi	2.55	303	*e*Pn	Pb	13 07 35.9	-1.8
KOPT	Kop Dagi	2.55	303	*e*Pn	Pb	13 07 35.9	-1.8
DAGI	Agillar	2.64	337⇑	*i*P	Pb	13 07 38.0	-1.2
DAGI				*i*S	Sb	13 08 19.7	+8.5
ARTV	Artvin	2.74	338	*e*Pn	Pn	13 07 35.5	+0.1
ARTV	Artvin	2.74	338	*e*Pn	Pn	13 07 35.5	+0.1
AKH	Akhalkalaki	2.77	3	*e*PN	Pn	13 07 36.7	+0.9
AKH	Akhalkalaki	2.77	3	P	Pb	13 07 40.6	-0.8
AKH	Akhalkalaki	2.77	3	⇓*i*P	Pb	13 07 41.2	-0.1
AKH	Akhalkalaki	2.77	3	*e*Pn	Pn	13 07 36.7	+0.9
AKH	Akhalkalaki	2.77	3	⇓*i*P	Pb	13 07 41.2	-0.1
GDB	GEDABAY	2.82	42	⇑P	Pn	13 07 35.9	-0.8
GDB				⇓S	Sn	13 08 11.6	+1.5
GDB	GEDABAY	2.82	42	P	Pn	13 07 35.8	-0.8
GDB				S	Sn	13 08 11.6	+1.5
QZX	Qazax, Azerbai	2.90	33	⇑P	Pn	13 07 37.3	-0.2
QZX				⇓S	Sn	13 08 14.1	+2.3
QZX	Qazax, Azerbai	2.90	33	P	Pn	13 07 37.3	-0.2
QZX				S	Sn	13 08 14.1	+2.3
IHRS	Heris	2.98	95	*e*Pn	Pn	13 07 41.1	+2.3
IHRS				*e*AMB	AMB	13 07 53.4	
	comp=Z,3μm,0.3s						
IHRS	Heris	2.98	95	*e*Pn	Pn	13 07 41.1	+2.3
IBST	Bostanabad	3.01	107	*e*Pn	Pn	13 07 41.3	+2.1
IBST				*e*AMB	AMB	13 08 03.1	
	comp=Z,1μm,0.3s						
IBST	Bostanabad	3.01	107	*e*Pn	Pn	13 07 41.3	+2.1
PTK	Pertek	3.04	276	*e*PN	Pn	13 07 39.8	+0.2
PTK	Pertek	3.04	276	*e*Pn	Pn	13 07 39.8	+0.2
GANJ	Ganja	3.09	49	⇓P	Pn	13 07 38.9	-1.2
GANJ				⇓S	Sn	13 08 17.1	+0.6
GANJ	Ganja	3.09	49	P	Pn	13 07 38.9	-1.2
GANJ				S	Sn	13 08 17.1	+0.6
SVRC	Sivrice-ELAZID	3.12	266	*e*PN	Pn	13 07 41.5	+0.8
SVRC	Sivrice-ELAZID	3.12	266	*e*Pn	Pn	13 07 41.5	+0.8
DGRG	David-gareji	3.23	29	P	Pn	13 07 45.0	+2.9
TBLG	Delisi	3.28	20	*e*PN	Pn	13 07 44.2	+1.4
TBLG	Delisi	3.28	20	P	Pb	13 07 49.2	-0.8
TBLG	Delisi	3.28	20	*e*Pn	Pn	13 07 44.2	+1.4
BRDA	Brd	3.43	61	⇓P	Pn	13 07 42.5	-2.3
BRDA				⇑S	Sn	13 08 23.5	-1.3
BRDA	Brd	3.43	61	P	Pn	13 07 42.5	-2.3
BRDA				S	Sn	13 08 23.5	-1.3
ISRB	Sarab	3.56	102	*e*Pn	Pn	13 07 49.7	+3.0
ISRB				*e*AMB	AMB	13 08 12.2	
	comp=Z,2μm,0.3s						
ISRB	Sarab	3.56	102	*e*Pn	Pn	13 07 49.7	+3.0
MNGR	Mingechevir, A	3.63	53	⇑P	Pn	13 07 45.8	-1.7
MNGR				⇑S	Sn	13 08 29.6	-0.1
MNGR	Mingechevir, A	3.63	53	P	Pn	13 07 45.8	-1.7
MNGR				S	Sn	13 08 29.6	-0.1
ZRD	Zardab	3.79	63	⇓P	Pn	13 07 47.1	-2.5
ZRD				⇓S	Sn	13 08 32.0	-1.5
ZRD	Zardab	3.79	63	P	Pn	13 07 47.2	-2.5
ZRD				S	Sn	13 08 32.0	-1.5
ZKTA	Zakatala	3.94	40	⇓P	Pn	13 07 51.2	-0.6
ZKTA				⇑S	Sn	13 08 39.1	+1.6
ONI	Oni	3.94	2	P	Pb	13 07 56.6	-4.7
SEKA	Sheki	3.96	48	⇓P	Pn	13 07 51.5	-0.6
SEKA				⇓S	Sn	13 08 39.8	+1.9
SEKA	Sheki	3.96	48	P	Pn	13 07 51.5	-0.6
SEKA				S	Sn	13 08 39.8	+1.9
LRK	Lerik	3.97	88	⇑P	Pn	13 07 47.7	-4.7
LRK				⇑S	Sn	13 08 32.9	-5.5
LRK	Lerik	3.97	88	P	Pn	13 07 47.7	-4.7
LRK				S	Sn	13 08 32.9	-5.5
GLBA	Clilabad	4.04	80	⇓P	Pn	13 07 49.3	-3.8
GLBA				⇓S	Sn	13 08 35.7	-4.1
GLBA	Clilabad	4.04	80	P	Pn	13 07 49.3	-3.8
GLBA				S	Sn	13 08 35.7	-4.1
KDMR	Kurdemir	4.18	64	⇑P	Pn	13 07 52.4	-2.6
KDMR				⇑S	Sn	13 08 41.3	-1.8
KDMR	Kurdemir	4.18	64	P	Pn	13 07 52.4	-2.6
KDMR				S	Sn	13 08 41.3	-1.8
SAAT	Saatly	4.18	72	⇓P	Pn	13 07 51.6	-3.5
SAAT				⇓S	Sn	13 08 39.9	-3.4
SAAT	Saatly	4.18	72	P	Pn	13 07 51.6	-3.5
SAAT				S	Sn	13 08 39.9	-3.4
QBL	Gabala	4.20	55	⇓P	Pn	13 07 53.5	-1.9
QBL				⇑S	Sn	13 08 43.2	-0.7
QBL	Gabala	4.20	55	P	Pn	13 07 53.5	-1.9
QBL				S	Sn	13 08 43.2	-0.7
LKRN	Lenkeran, Azer	4.31	87	⇑P	Pn	13 07 52.4	-4.4
LKRN				⇓S	Sn	13 08 41.5	-5.0
LKRN	Lenkeran, Azer	4.31	87	P	Pn	13 07 52.4	-4.4
LKRN				S	Sn	13 08 41.5	-5.0
ASTR	Astara	4.33	89	⇑P	Pn	13 07 52.5	-4.6
ASTR				⇑S	Sn	13 08 41.7	-5.2
ASTR	Astara	4.33	89	P	Pn	13 07 52.5	-4.6
ASTR				S	Sn	13 08 41.7	-5.2
IML	Ismayilli	4.35	59	⇑P	Pn	13 07 55.2	-2.3
IML				⇓S	Sn	13 08 46.3	-1.3
IML	Ismayilli	4.35	59	P	Pn	13 07 55.2	-2.3
IML				S	Sn	13 08 46.3	-1.3
XNQ	Khinaliq	4.52	55	⇑P	Pn	13 07 57.9	-2.0
XNQ				⇑S	Sn	13 08 51.3	-0.6
XNQ	Khinaliq	4.52	55	P	Pn	13 07 57.9	-2.0
XNQ				S	Sn	13 08 51.3	-0.6
PQL	Pirkuli	4.63	61	⇓P	Pn	13 07 58.9	-2.5
PQL				⇓S	Sn	13 08 53.0	-1.6
PQL	Pirkuli	4.63	61	P	Pn	13 07 58.9	-2.5
PQL				S	Sn	13 08 53.0	-1.6
ALIB	Äli-Bayra	4.64	72	⇓P	Pn	13 07 58.1	-3.3
ALIB				⇓S	Sn	13 08 51.6	-3.0
ALIB	Äli-Bayra	4.64	72	P	Pn	13 07 58.1	-3.3
ALIB				S	Sn	13 08 51.6	-3.0
IDHR	Dehrash	4.67	147	*e*Pn	Pn	13 08 05.3	+3.3
IDHR				*e*AMB	AMB	13 09 46.6	
	comp=Z,2μm,0.4s						
IDHR	Dehrash	4.67	147	*e*Pn	Pn	13 08 05.3	+3.3
GBS	Qobustan	4.77	65	⇑P	Pn	13 08 00.5	-2.8
GBS				⇓S	Sn	13 08 55.8	-2.2
GBS	Qobustan	4.77	65	P	Pn	13 08 00.5	-2.8
GBS				S	Sn	13 08 55.8	-2.2
QSAR	Qusar	4.78	52	⇓P	Pn	13 08 01.7	-1.7
QSAR				⇑S	Sn	13 08 57.9	-0.3
QSAR	Qusar	4.78	52	P	Pn	13 08 01.7	-1.7
QSAR				S	Sn	13 08 57.9	-0.3
QUBA	Quba, Azerbaij	4.84	54	⇑P	Pn	13 08 02.3	-1.9
QUBA				⇑S	Sn	13 08 59.0	-0.6
QUBA	Quba, Azerbaij	4.84	54	P	Pn	13 08 02.3	-1.9
QUBA				S	Sn	13 08 59.0	-0.6
ATGJ	Altiaghaj	4.90	61	⇑P	Pn	13 08 02.5	-2.5
ATGJ				⇑S	Sn	13 08 59.4	-1.7
ATGJ	Altiaghaj	4.90	61	P	Pn	13 08 02.5	-2.5
ATGJ				S	Sn	13 08 59.4	-1.7
SIZA	Siyzn	4.96	59	⇑P	Pn	13 08 03.6	-2.3
SIZA				⇓S	Sn	13 09 01.5	-1.3
SIZA	Siyzn	4.96	59	P	Pn	13 08 03.6	-2.3
SIZA				S	Sn	13 09 01.5	-1.3
KBZ	Khabaz	5.09	357	Pn	Pn	13 08 12.6	+5.1
	comp=Z,0.2nm,0.3s,baz=182,slow=10,SNR=8.4						
GOBA	Gobu	5.30	69	⇓P	Pn	13 08 07.3	-3.1
GOBA				⇓S	Sn	13 09 08.1	-2.7
GOBA	Gobu	5.30	69	P	Pn	13 08 07.3	-3.1
GOBA				S	Sn	13 09 08.1	-2.7
KVAR	Kislovodsk Arr	5.32	356	Pn	Pn	13 08 15.2	+4.4
	baz=12,slow=1.1,SNR=2.4						
KIV	Kislovodsk	5.32	355	*e*Pn	Pn	13 08 12.5	+1.7
KIV	Kislovodsk	5.32	355	*e*Pn	Pn	13 08 12.5	+1.7
TOKA	Tokat	5.51	290	*e*Pn	Pn	13 08 16.5	+3.0
TOKA	Tokat	5.51	290	*e*Pn	Pn	13 08 16.4	+3.0
NDR	Nardaran	5.54	67	⇑P	Pn	13 08 10.7	-3.0
NDR				⇓S	Sn	13 09 14.2	-2.4
NDR	Nardaran	5.54	67	P	Pn	13 08 10.7	-3.0
NDR				S	Sn	13 09 14.2	-2.4
GALA	Gala	5.61	70	⇑P	Pn	13 08 11.5	-3.1
GALA				⇓S	Sn	13 09 15.7	-2.7
GALA	Gala	5.61	70	P	Pn	13 08 11.5	-3.1
GALA				S	Sn	13 09 15.7	-2.7
DRWC	Darouich	5.62	251	*e*P	Pn	13 08 16.3	+1.4
DRWC				AML	AML	13 09 58.4	
	comp=E,99nm,0.5s						
DRWC				AML	AML	13 10 01.8	
	comp=N,146nm,0.6s						
BTCH	Batrach	6.02	246	*e*P	Pn	13 08 23.3	+2.9
BTCH				*e*S	Sb	13 09 41.5	-6.8
BTCH				AML	AML	13 10 12.7	
	comp=E,428nm,0.6s						
BTCH				AML	AML	13 10 22.4	
	comp=N,388nm,0.6s						
RABH	Abou Rabah	6.44	231	*e*P	Pn	13 08 26.0	-0.2
RABH				AML	AML	13 10 24.8	
	comp=N,77nm,0.8s						
RABH				AML	AML	13 10 41.0	
	comp=E,94nm,0.7s						
ARNB	Al Arnab	6.45	247	*e*P	Pn	13 08 28.9	+2.6
ARNB				AML	AML	13 10 31.1	
	comp=E,174nm,0.7s						
ARNB				AML	AML	13 10 31.8	
	comp=N,107nm,0.6s						
ROOS	tl_alroos	6.57	229	*e*P	Pn	13 08 27.8	-0.3
ROOS				AML	AML	13 10 31.8	
	comp=E,172nm,0.6s						
ROOS				AML	AML	13 10 38.0	
	comp=N,132nm,0.8s						
BIDA	Albida	6.65	239	*e*P	Pn	13 08 29.9	+0.9
BIDA				AML	AML	13 10 32.6	
	comp=N,324nm,0.7s						
BIDA				AML	AML	13 10 34.2	
	comp=E,233nm,0.5s						
HAWK	Haweek	6.89	235	*e*P	Pn	13 08 32.3	-0.1
HAWK				*e*S	Sn	13 09 57.1	+7.0
HAWK				AML	AML	13 10 38.0	
	comp=N,73nm,0.6s						
HAWK				AML	AML	13 10 51.2	
	comp=E,88nm,0.6s						
MARH	Ras Al Marh	7.16	232	*e*P	Pn	13 08 36.7	+0.5
MARH				*e*S	Sn	13 10 03.0	+5.9
MARH				AML	AML	13 10 50.3	
	comp=E,130nm,0.7s						
MARH				AML	AML	13 10 50.6	
	comp=N,108nm,0.7s						
BR131	Keskin Array S	7.56	281	*e*Pn	Pn	13 08 44.2	+2.6
BR131	Keskin Array S	7.56	281	*e*Pn	Pn	13 08 44.2	+2.6
BRTR	Keskin Array B	7.56	281	Pn	Pn	13 08 47.2	+5.6
	comp=N,0.2nm,0.3s,baz=109,slow=14,SNR=5.0						
ILGA	Ilgaz	7.73	291	*e*Pn	Pn	13 08 45.2	+1.2
ILGA	Ilgaz	7.73	291	*e*Pn	Pn	13 08 45.2	+1.2
BRBR	Barbar	7.90	231	*e*P	Pn	13 08 46.3	-0.1
BRBR				AML	AML	13 11 05.7	
	comp=N,30nm,0.7s						
BRBR				AML	AML	13 11 19.2	
	comp=E,49nm,0.7s						
SALA	Sala	7.96	224	*e*P	Pn	13 08 47.4	+0.2
SALA				*e*S	Sn	13 10 20.7	+4.1
SALA				AML	AML	13 11 21.3	
	comp=N,57nm,0.7s						
ASF	Jabal al Asfar	8.29	221	Pn	Pn	13 08 53.1	+1.4
	comp=N,0.3nm,0.3s,baz=360,slow=19,SNR=3.5						
MMAI	Mount Meron Ar	8.50	231	Pn	Pn	13 08 57.4	+2.8
	comp=N,1.7nm,0.3s,baz=54,slow=16,SNR=3.3						
GEYT	Alibeck	11.69	89	Pn	Pn	13 09 37.8	-0.4
	comp=N,0.4nm,0.3s,baz=273,slow=15,SNR=3.9						
VRI	Vrincioaia	14.20	306⇑	*i*P	P	13 10 20.5	+0.8
VRI	Vrincioaia	14.20	306⇑	*i*P	P	13 10 20.5	+0.8
PLOR	Plostina	14.24	306⇓	*i*P	P	13 10 18.6	-1.6
SORM	Soroca	14.38	316⇑	*i*P	P	13 10 19.9	-1.7
MLR	Muntele Rosu	14.56	304⇓	*i*P	P	13 10 23.8	+0.1
MLR	Muntele Rosu	14.56	304⇓	*i*P	P	13 10 23.8	+0.1
VOIR		15.13	302⇓	*i*P	P	13 10 32.6	+2.6
VOIR		15.13	302⇓	*i*P	P	13 10 32.6	+2.6
AKASG	Malin Array Be	15.62	325	Pn	Pn	13 10 30.8	-0.5
	comp=N,0.4nm,0.3s,baz=133,slow=11,SNR=4.8						
AKBB	Malin Array Si	15.62	325	*e*Pn	P	13 10 34.9	-0.4
	comp=N,19nm,1.2s						
AKBB	Malin Array Si	15.62	325	*e*Pn	P	13 10 34.9	-0.4
	comp=N,19nm,1.2s						
KIEV	Kiev	15.62	325	*e*Pn	P	13 10 34.8	-0.5
	comp=N,18nm,1.2s						
KIEV	Kiev	15.62	325	*e*Pn	P	13 10 34.8	-0.5
	comp=N,18nm,1.2s						
AKTO	Aktyubinsk	15.76	37	Pn	Pn	13 10 32.2	-0.9
	comp=N,0.4nm,0.3s,baz=226,slow=11,SNR=6.6						
BURAR	Bucovina Array	15.91	310⇑	*i*P	P	13 10 39.9	+1.2
BURAR	Bucovina Array	15.91	310⇑	*i*P	P	13 10 39.9	+1.2
BUR08	Bucovina Ar. S	15.93	310	*e*Pn	P	13 10 37.2	-1.8
BUR08	Bucovina Ar. S	15.93	310	*e*Pn	P	13 10 37.1	-1.8
ABKAR	Akbulak array	15.98	43	*e*Pn	Pn	13 10 35.3	-0.7
	comp=N,18nm,0.7s						
ABKAR	Akbulak array	15.98	43	*e*Pn	Pn	13 10 35.3	-0.7
	comp=N,18nm,0.7s						
GZR	Gura Zlata	16.63	300⇓	*i*P	P	13 10 49.0	+2.3
GZR	Gura Zlata	16.63	300⇓	*i*P	P	13 10 49.0	+2.3
DRGR		17.13	305⇑	*i*P	P	13 10 54.8	+2.7
DRGR		17.13	305⇑	*i*P	P	13 10 54.8	+2.7
SIRR	Siria	17.64	303⇑	*i*P	P	13 10 57.4	-0.3
SIRR	Siria	17.64	303⇑	*i*P	P	13 10 57.4	-0.3
CRVS	Cervenica-Dubn	18.73	310	*e*P	Pn	13 11 10.4	+0.2
CRVS	Cervenica-Dubn	18.73	310	*e*P	Pn	13 11 10.4	+0.2
PSZ	Piszkesteto	19.32	306	*e*P	Pn	13 11 17.6	+0.2
	comp=N,8.6nm,1.0s						
PSZ	Piszkesteto	19.32	306	*e*P	Pn	13 11 17.6	+0.2
	comp=N,8.6nm,1.0s						
VYHS	Vyhne	20.18	307	*e*P	P	13 11 26.0	+0.4
VYHS	Vyhne	20.18	307	*e*P	P	13 11 26.0	+0.4
ARU	Arti	20.48	25	P	P	13 11 29.7	+0.9
	comp=N,5.5nm,0.4s,baz=231,slow=5.6,SNR=9.6						
ARU	Arti	20.48	25	*e*P	P	13 11 28.6	-0.2
	comp=N,9.8nm,0.8s						
ARU	Arti	20.48	25	*e*P	P	13 11 28.6	-0.2
	comp=N,9.8nm,0.8s						
KKAR	Karatay Array	21.03	69	*e*P	P	13 11 35.7	+0.8
	comp=N,5.1nm,0.6s						
KBL	Kabul	21.07	93	*e*P	P	13 11 32.2	-3.4
	comp=N,13nm,1.0s						
KBL	Kabul	21.07	93	*e*P	P	13 11 32.2	-3.4
	comp=N,13nm,1.0s						
CONA	Conrad Observa	21.91	304	*i*pP	P	13 11 45.4	+1.1
	comp=N,7.6nm,1.0s						
CONA	Conrad Observa	21.91	304	P	P	13 11 45.4	+1.1
	comp=N,7.6nm,1.0s						
KRLC	Kraliky	22.00	310	*e*P	P	13 11 43.2	-2.0
SOKA	Soboth	22.17	300	*i*P	P	13 11 46.8	-0.4
	comp=N,6.3nm,1.6s						
SOKA	Soboth	22.17	300	P	P	13 11 46.8	-0.4
	comp=N,6.3nm,1.6s						
MOA	Molln	22.93	303	*i*P	P	13 11 54.5	-0.6
	comp=N,4.4nm,1.0s						
MOA	Molln	22.93	303	P	P	13 11 54.5	-0.6
	comp=N,4.4nm,1.0s						
KBA	Koelnbreinsper	23.39	301	*i*P	P	13 12 00.1	+0.2
	comp=N,5.7nm,1.1s						
KBA	Koelnbreinsper	23.39	301	P	P	13 12 00.1	+0.2
	comp=N,5.7nm,1.1s						
BRVK	Borovoye	23.52	43	*e*P	P	13 12 00.6	-0.4
	comp=N,11nm,1.1s						
BRVK	Borovoye	23.52	43	*e*P	P	13 12 00.6	-0.4
	comp=N,11nm,1.1s						
BRVK				*e*Sn	Sn	13 16 31.0	-2.8
GERES	GERESS Array B	23.53	305	P	P	13 12 00.9	-0.3
	comp=N,0.5nm,0.7s,baz=107,slow=7.1,SNR=6.0						
BVAR	Borovoye Array	23.56	44	P	P	13 12 02.0	+0.6
	comp=N,4.0nm,0.9s,baz=243,slow=6.3,SNR=16						
BVAR	Borovoye Array	23.56	44	P	P	13 12 02.0	+0.6
KHC	Kasperske Hory	23.68	306	*e*P	P	13 12 05.1	+2.4
KHC	Kasperske Hory	23.68	306	P	P	13 12 05.1	+2.4
AAK	Ala-Archa	23.95	70	P	P	13 12 07.4	+1.9
	comp=N,0.5nm,0.3s,baz=255,slow=9.6,SNR=5.1						
AAK	Ala-Archa	23.95	70	*e*P	P	13 12 03.6	-1.8
	comp=N,6.1nm,1.2s						
AAK	Ala-Archa	23.95	70	*e*P	P	13 12 03.6	-1.8
	comp=N,6.1nm,1.2s						
WTTA	Wattenberg	24.57	301	*i*P	P	13 12 11.6	+0.6
	comp=N,8.0nm,1.1s						
WTTA	Wattenberg	24.57	301	P	P	13 12 11.6	+0.6
	comp=N,8.0nm,1.1s						
WATA	Walderalm	24.62	301	*i*P	P	13 12 10.4	-1.1
	comp=N,7.5nm,1.2s						
WATA	Walderalm	24.62	301	P	P	13 12 10.4	-1.1
	comp=N,7.5nm,1.2s						
CLL	Collm	24.68	311	*e*P	P	13 12 11.0	-0.8
MOTA	Moosalm	24.94	301	*i*P	P	13 12 14.4	0.0
	comp=N,9.8nm,1.0s						
MOTA	Moosalm	24.94	301	P	P	13 12 14.4	0.0
	comp=N,9.8nm,1.0s						
FETA	Feichten	25.14	300	*i*pP	P	13 12 18.8	+2.6
	comp=N,3.9nm,0.8s						
FETA	Feichten	25.14	300	P	P	13 12 18.8	+2.6
	comp=N,3.9nm,0.8s						
FINES	FINESS Array B	25.19	341	P	P	13 12 16.1	-0.2
	comp=N,2.9nm,0.8s,baz=150,slow=8.8,SNR=7.4						
KSH	Kashi	25.33	78	*e*P	P	13 12 17.1	-0.9
KSH				pP	pP	13 12 21.8	-2.4
KSH				sP	sP	13 12 24.0	-2.8
KSH				PP	PnPn	13 12 54.1	+1.3
KSH				*e*PcP	PcP	13 15 53.1	+2.7
KSH				S	S	13 16 39.4	-3.7
KSH				sS	pS	13 16 47.0	-3.0
KSH				SS	SnSn	13 17 38.0	+3.1
KSH				PcS	PcS	13 19 34.4	+3.5
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH				LR	LR		
	comp=N,730nm,15.7s						
KSH				LR	LR		
	comp=E,510nm,11.7s						
KSH				LR	LR		
	comp=Z,590nm,13.1s						
DAVOX	Davos/Dischmat	25.69	299	P	P	13 12 20.4	-0.9
	comp=Z,2.6nm,0.8s,baz=141,slow=13,SNR=3.5						
KURBB	Kurchatov Arra	27.54	53	P	P	13 12 39.1	+1.5
	comp=Z,3.3nm,0.8s,baz=263,slow=9.1,SNR=24						
KURBB				PcP	PcP	13 15 55.2	+0.1
	comp=Z,0.5nm,0.8s,baz=266,slow=2.9,SNR=4.0						
KURK	Kurchatov	27.61	53	P	P	13 12 39.1	+0.8
KURK	Kurchatov	27.61	53	PcP	PcP	13 15 55.2	-0.1
KURK	Kurchatov	27.61	53	P	P	13 12 39.1	+0.8
KURK				PcP	PcP	13 15 55.2	-0.1
HFS	Hagfors	28.44	329	P	P	13 12 45.2	-0.3
	comp=Z,3.2nm,0.6s,baz=152,slow=13,SNR=6.3						
MKAR	Makanchi Array	29.55	61	P	P	13 12 57.2	+1.5
	comp=Z,1.2nm,0.5s,baz=261,slow=8.3,SNR=8.4						
WMQ	Urumqi	33.50	67	P	P	13 13 29.8	-0.6
WMQ				pP	pP	13 13 32.5	-4.2
WMQ				sP	sP	13 13 38.3	-1.0
ESDC	Sonseca Array	36.31	287	P	P	13 13 53.4	-1.3
	comp=Z,0.6nm,0.6s,baz=54,slow=7.5,SNR=4.8						
GTA	Gaotai	43.31	70	*e*P

SOH	**Sokhos**	**1.25 229**	P	**Pg**	**13 09 33.1**	**-0.5**
SOH			S	**Sg**	**13 09 49.9**	**+0.2**
ALN	**Alexandroupoli**	**1.33 124**	P	**Pn**	**13 09 34.8**	**+0.1**
ALN			S	**Sb**	**13 09 52.4**	**+0.2**
ALN	**Alexandroupoli**	**1.33 124**	P	**Pb**	**13 09 35.0**	**+0.1**
ALN			S	**Sg**	**13 09 52.0**	**-0.3**
ALN			AML	AML	13 09 54.1	
	comp=E,186μm,0.6s					
ALN			AML	AML	13 09 56.9	
	comp=N,179μm,0.4s					
ALN	**Alexandroupoli**	**1.33 124**	P	**Pn**	**13 09 34.8**	**+0.1**
ALN			S	**Sg**	**13 09 52.0**	**-0.3**
KNT	**Kendrikon**	**1.36 250**	P	**Pn**	**13 09 35.3**	**+0.1**
KNT			S	**Sn**	**13 09 53.9**	**+0.3**
KNT	**Kendrikon**	**1.36 250**	P	**Pn**	**13 09 35.0**	**-0.2**
KNT			S	**Sn**	**13 09 54.1**	**+0.5**
KNT			AML	AML	13 09 56.5	
	comp=E,471μm,0.4s					
KNT			AML	AML	13 09 58.0	
	comp=N,584μm,0.3s					
KNT	**Kendrikon**	**1.36 250**	P	**Pn**	**13 09 35.3**	**+0.1**
KNT			S	**Sn**	**13 09 53.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.37 149**	P	**Pg**	**13 09 36.0**	**0.0**
SMTH			S	**Sn**	**13 09 55.0**	**+1.2**
SMTH	**Samothraki Isl**	**1.37 149**	P	**Pg**	**13 09 36.0**	**0.0**
SMTH			S	**Sn**	**13 09 55.0**	**+1.2**
OUR	**Ouranopolis**	**1.39 200**	P	**Pn**	**13 09 35.0**	**-0.6**
OUR			S	**Sn**	**13 09 54.8**	**+0.6**
OUR	**Ouranopolis**	**1.39 200**	P	**Pn**	**13 09 34.5**	**-1.1**
OUR			S	**Sn**	**13 09 54.5**	**+0.3**
OUR			AML	AML	13 09 57.5	
	comp=E,372μm,0.5s					
OUR			AML	AML	13 09 58.8	
	comp=N,274μm,0.3s					
OUR	**Ouranopolis**	**1.39 200**	P	**Pn**	**13 09 35.0**	**-0.6**
OUR			S	**Sn**	**13 09 54.5**	**+0.3**
VTS	**Vitosha**	**1.40 313**	P	**Pn**	**13 09 35.3**	**-0.5**
VTS			S	**Sn**	**13 09 55.3**	**+0.7**
VTS	**Vitosha**	**1.40 313**	*e*Pg	**Pg**	**13 09 37.2**	**+0.7**
VTS			*e*Sg	**Sn**	**13 09 55.0**	**+0.4**
VTS	**Vitosha**	**1.40 313**	P	**Pn**	**13 09 35.3**	**-0.5**
VTS	**Vitosha**	**1.40 313**	P	**Pn**	**13 09 35.3**	**-0.5**
VTS	**Vitosha**	**1.40 313**	*e*Pg	**Pg**	**13 09 37.2**	**+0.7**
VTS			*e*Sg	**Sn**	**13 09 55.0**	**+0.4**
ENEZ	**Enez**	**1.49 127**	P	**Pn**	**13 09 37.3**	**+0.4**
ENEZ			S	**Sg**	**13 09 58.1**	**+0.6**
ENEZ	**Enez**	**1.49 127**	P	**Pn**	**13 09 37.3**	**+0.4**
ENEZ			S	**Sg**	**13 09 58.1**	**+0.6**
HORT	**Hortiatis**	**1.54 228**	P	**Pn**	**13 09 38.3**	**+0.6**
HORT			S	**Sg**	**13 09 59.1**	**-0.1**
HORT	**Hortiatis**	**1.54 228**	P	**Pn**	**13 09 38.1**	**+0.4**
HORT			S	**Sg**	**13 09 59.3**	**+0.1**
HORT	**Hortiatis**	**1.54 228**	P	**Pn**	**13 09 38.1**	**+0.4**
HORT			S	**Sg**	**13 09 59.1**	**-0.1**
PLG	**Polygyros**	**1.54 215**	P	**Pn**	**13 09 38.0**	**+0.3**
PLG			S	**Sn**	**13 09 58.3**	**+0.3**
PLG	**Polygyros**	**1.54 215**	P	**Pb**	**13 09 38.4**	**-0.2**
PLG			S	**Sg**	**13 09 59.8**	**+0.6**
PLG	**Polygyros**	**1.54 215**	P	**Pn**	**13 09 38.0**	**+0.3**
PLG			S	**Sn**	**13 09 58.3**	**+0.3**
VAY	**Valandovo**	**1.55 259**	P	**Pn**	**13 09 37.8**	**0.0**
VAY			S	**Sb**	**13 09 58.8**	**+0.1**
VAY	**Valandovo**	**1.55 259**	*e*Pg	**Pg**	**13 09 41.1**	**+1.6**
VAY			*e*Sg	**Sg**	**13 10 01.0**	**+1.4**
VAY	**Valandovo**	**1.55 259**	P	**Pn**	**13 09 37.8**	**0.0**
VAY	**Valandovo**	**1.55 259**	*e*Pg	**Pg**	**13 09 41.1**	**+1.6**
VAY			S	**Sb**	**13 09 58.8**	**+0.1**
VAY			*e*Sg	**Sg**	**13 10 01.0**	**+1.4**
THE	**Thessaloniki**	**1.59 231**	P	**Pb**	**13 09 39.3**	**-0.2**
THE			S	**Sn**	**13 09 59.2**	**0.0**
THE	**Thessaloniki**	**1.59 231**	P	**Pb**	**13 09 39.3**	**-0.2**
THE			S	**Sn**	**13 09 59.2**	**0.0**
GADA	**Gvkgeada**	**1.76 145**	P	**Pn**	**13 09 39.6**	**-1.0**
GADA			S	**Sn**	**13 10 04.0**	**+0.7**
GADA	**Gvkgeada**	**1.76 145**	P	**Pn**	**13 09 39.6**	**-1.0**
GRG	**Griva**	**1.79 248**	P	**Pn**	**13 09 40.9**	**-0.2**
GRG			S	**Sb**	**13 10 05.2**	**-0.3**
GRG	**Griva**	**1.79 248**	P	**Pn**	**13 09 40.9**	**-0.2**
GRG			S	**Sb**	**13 10 05.2**	**-0.3**
PAIG	**Paliouri**	**1.85 202**	P	**Pn**	**13 09 41.9**	**0.0**
PAIG	**Paliouri**	**1.85 202**	P	**Pn**	**13 09 41.2**	**-0.8**
PAIG	**Paliouri**	**1.85 202**	P	**Pn**	**13 09 41.9**	**0.0**
ZAPS	**Zavoj**	**2.18 319**	*e*Pn	**Pb**	**13 09 49.3**	**-0.2**
ZAPS			*e*Sn	**Sb**	**13 10 17.0**	**+0.3**
BARS	**Barje**	**2.37 300**	*e*Pn	**Pb**	**13 09 52.6**	**-0.1**
ZAGS	**Zajecar**	**2.78 322**	*e*Pn	**Pb**	**13 09 59.0**	**-0.6**
ZAGS			*e*Sn	**Sb**	**13 10 32.8**	**-1.1**
BOVS	**Bovan**	**2.91 314**	*e*Pn	**Pb**	**13 10 00.4**	**-1.6**
SELS	**Selova**	**3.01 303**	*e*Pn	**Pb**	**13 10 02.1**	**-1.6**

*ISK **23** 13:09:21.1, 38°.78N×43°.28E, h5km, MD2.9*
*ISCJB **23** 13:09:22.9±0.6, 38°.77N±0°.03×43°.20E±0°.06, h1km±8km, Error ellipse: s-maj=7.5km s-min=4.4km az=166.2*
*CSEM **23** 13:09:22.7±0.3, 38°.76N×43°.20E, h2km, MD2.6, Error ellipse: s-maj=7.8km s-min=4.7km az=87.0*
*DDA **23** 13:09:22.9, 38°.77N×43°.22E, h7km, Md2.6*
ISC 23 13:09:21.8±1.3, 38°.78N±0°.03×43°.25E±0°.04, h8km±16km, n14, σ0s66/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28 154**		*i* P	**Pb**	**13 09 29.4**	**+0.3**
TVAN				*i* S	**Sb**	**13 09 33.6**	**-0.4**
TVAN	**Van**	**0.28 154**		P	**Pb**	**13 09 29.4**	**+0.3**
TVAN				S	**Sb**	**13 09 33.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.33**	**50**	*i* P	**Pb**	**13 09 29.8**	**-0.2**
VMUR				*i* S	**Sb**	**13 09 35.6**	**0.0**
VMUR	**Van-Muradiye**	**0.33**	**50**	P	**Pb**	**13 09 29.8**	**-0.2**
VMUR				S	**Sb**	**13 09 35.6**	**0.0**
GEVA	**Gevas**	**0.49 198**		*i* P	**Pg**	**13 09 30.5**	**-0.7**
GEVA				*i* S	**Sg**	**13 09 38.8**	**+1.2**
GEVA	**Gevas**	**0.49 198**		P	**Pg**	**13 09 30.5**	**-0.7**
GEVA				S	**Sg**	**13 09 38.8**	**+1.2**
TUTA	**Tutak**	**0.71 332**		*i* P	**Pb**	**13 09 36.4**	**-0.2**
TUTA				*i* S	**Sb**	**13 09 47.7**	**+1.1**
TUTA	**Tutak**	**0.71 332**		P	**Pb**	**13 09 36.4**	**-0.2**
TUTA				S	**Sb**	**13 09 47.7**	**+1.1**
AGRB	**Hanur-Agry**	**0.82 346**		*e*PG	**Pb**	**13 09 38.0**	**-0.4**
AGRB				*e*SG	**Sb**	**13 09 50.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.82 346**		*e*Pg	**Pb**	**13 09 38.0**	**-0.4**
AGRB				*e*Sg	**Sb**	**13 09 50.2**	**+0.4**
CUKT	**Cukurca**	**1.55 169**		*e*PN	**Pg**	**13 09 50.9**	**-0.6**
CUKT				*e*SN	**Sg**	**13 10 12.5**	**+0.8**
CUKT	**Cukurca**	**1.55 169**		*e*Pn	**Pg**	**13 09 50.9**	**-0.6**
CUKT				*e*Sn	**Sg**	**13 10 12.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.73 249**		*e*PN	**Pb**	**13 09 53.3**	**-0.5**
SVAN				*e*SN	**Sg**	**13 10 17.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.73 249**		*e*Pn	**Pb**	**13 09 53.3**	**-0.5**
SVAN				*e*Sn	**Sg**	**13 10 17.4**	**+0.2**

*ISCJB **23** 13:11:20.8±0.6, 38°.67N±0°.02×43°.16E±0°.04, h4km±5km, mb3.6/7, Error ellipse: s-maj=5.0km s-min=3.7km az=166.9*
*DDA **23** 13:11:20.4, 38°.65N×43°.13E, h7km, Md3.0*
*IDC **23** 13:11:20.3±1.3, 38°.52N×43°.34E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.5/41, mbtmp3.6/10, ML3.0/2, Error ellipse: s-maj=27.9km s-min=13.0km az=178.0*
*ISK **23** 13:11:20.8, 38°.67N×43°.14E, h4km, ML3.9*
*CSEM **23** 13:11:21.1±0.2, 38°.68N×43°.16E, h2km, MD3.0, Error ellipse: s-maj=5.6km s-min=4.1km az=86.0*
ISC 23 13:11:20.8±1.1, 38°.67N±0°.02×43°.15E±0°.03, h4km±9km, n50, σ1s23/63, mb3.7/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.25 124**		*i* P	**Pg**	**13 11 25.4**	**-0.2**
TVAN				*i* S	**Sg**	**13 11 30.1**	**+1.2**
TVAN	**Van**	**0.25 124**		P	**Pg**	**13 11 25.4**	**-0.2**
TVAN				S	**Sg**	**13 11 30.1**	**+1.2**
GEVA	**Gevas**	**0.36 191**		*i* P	**Pg**	**13 11 25.6**	**-2.2**
GEVA				*i* S	**Sg**	**13 11 32.6**	**0.0**
VMUR	**Van-Muradiye**	**0.46**	**46**	*i* P	**Pg**	**13 11 29.2**	**-0.6**
VMUR				*i* S	**Sb**	**13 11 37.9**	**-1.0**
VMUR	**Van-Muradiye**	**0.46**	**46**	P	**Pg**	**13 11 29.2**	**-0.6**
VMUR				S	**Sb**	**13 11 37.9**	**-1.0**
TUTA	**Tutak**	**0.78 341**		*i* P	**Pg**	**13 11 35.1**	**-0.7**
TUTA				*i* S	**Sb**	**13 11 47.3**	**-0.8**
TUTA	**Tutak**	**0.78 341**		P	**Pg**	**13 11 35.1**	**-0.7**
TUTA				S	**Sb**	**13 11 47.3**	**-0.8**
AGRB	**Hanur-Agry**	**0.92 353**		*e*PG	**Pg**	**13 11 38.0**	**-0.3**
AGRB				*e*SG	**Sb**	**13 11 52.3**	**+0.3**
AGRB	**Hanur-Agry**	**0.92 353**		*e*Pg	**Pg**	**13 11 38.0**	**-0.3**
AGRB				*e*Sg	**Sb**	**13 11 52.3**	**+0.3**
EKAR	**Karacoban**	**1.03 305**		*i* P	**Pb**	**13 11 41.1**	**-0.2**
EKAR				*i* S	**Sn**	**13 12 00.0**	**+2.8**
EKAR	**Karacoban**	**1.03 305**		P	**Pb**	**13 11 41.1**	**-0.2**
HAKT	**HAKKARI**	**1.19 158**		*i* P	**Pg**	**13 11 40.4**	**-3.3**
HAKT				*i* S	**Sn**	**13 12 01.4**	**+0.2**
SIRN	**S¨–rnak**	**1.30 207**		*i* P	**Pg**	**13 11 44.8**	**-1.0**
SIRN	**S¨–rnak**	**1.30 207**		P	**Pg**	**13 11 44.8**	**-1.0**
CUKT	**Cukurca**	**1.46 165**		*e*PN	**Pb**	**13 11 48.7**	**0.0**
CUKT				*e*SN	**Sg**	**13 12 09.3**	**+1.5**
CUKT	**Cukurca**	**1.46 165**		*i* P	**Pg**	**13 11 49.5**	**+0.6**
CUKT	**Cukurca**	**1.46 165**		*e*Pn	**Pb**	**13 11 48.7**	**0.0**
CUKT	**Cukurca**	**1.46 165**		P	**Pg**	**13 11 49.5**	**+0.6**
CUKT				*e*Sn	**Sg**	**13 12 09.3**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.61 252**		*e*PN	**Pb**	**13 11 50.8**	**-0.4**
SVAN				*e*SN	**Sb**	**13 12 12.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.61 252**		*e*Pn	**Pb**	**13 11 50.8**	**-0.4**
SVAN				*e*Sn	**Sb**	**13 12 12.5**	**+0.6**
GNI	**Garni**	**1.93**	**39**	Pn	**Pb**	**13 11 56.7**	**+0.1**
	10.0nm,0.3s,baz=19,slow=21,SNR=7.8						
BNGB	**Bing¨¶l**	**1.95 280**		*e*PN	**Pn**	**13 11 55.8**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.99 342**		*e*PN	**Pn**	**13 11 56.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.99 342**		*e*Pn	**Pn**	**13 11 56.2**	**+0.8**
BINT	**Bingol**	**2.09 277**		*e*Pn	**Pn**	**13 11 55.8**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.17 292**		*e*PN	**Pn**	**13 11 58.7**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.17 292**		*e*Pn	**Pn**	**13 11 58.7**	**+0.9**
MAZI	**Mazidag**	**2.45 241**		*e*PN	**Pn**	**13 12 02.8**	**+1.2**
MAZI	**Mazidag**	**2.45 241**		*e*Pn	**Pn**	**13 12 02.8**	**+1.2**
AKH	**Akhalkalaki**	**2.75**	**5**	*e*PN	**Pn**	**13 12 07.0**	**+1.1**
AKH	**Akhalkalaki**	**2.75**	**5**	*e*Pn	**Pn**	**13 12 07.0**	**+1.1**
ERZN	**Erzincan**	**2.82 290**		*e*PN	**Pn**	**13 12 07.5**	**+0.8**
PTK	**Pertek**	**2.94 276**		*e*PN	**Pn**	**13 12 10.0**	**+1.5**
PTK	**Pertek**	**2.94 276**		*e*Pn	**Pn**	**13 12 10.0**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.02 266**		*e*PN	**Pn**	**13 12 11.1**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.02 266**		*e*Pn	**Pn**	**13 12 11.1**	**+1.5**
EZC	**Erzincan**	**3.14 291**		*e*Pn	**Pn**	**13 12 07.5**	**-3.7**
URFA	**Urfa**	**3.63 252**		*e*PN	**Pn**	**13 12 20.0**	**+2.2**
URFA	**Urfa**	**3.63 252**		*e*Pn	**Pn**	**13 12 20.0**	**+2.2**
BRTR	**Keskin Array B**	**7.46 281**		Pn	Pn	13 13 15.6	+5.1
	0.1nm,0.3s,baz=106,slow=15,SNR=3.8						
AKASG	**Malin Array Be**	**15.55 325**		Pn	**P**	**13 15 03.5**	**-1.6**
	0.1nm,0.3s,baz=132,slow=11,SNR=5.1						
VYHS	**Vyhne**	**20.09 307**		*e*P	Pn	13 15 56.9	-0.1
ARU	**Arti**	**20.51**	**25**	P	**P**	**13 16 00.2**	**+0.5**
	4.3nm,0.6s,baz=211,slow=8.7,SNR=5.6						
GERES	**GERESS Array B**	**23.44 305**		P	**P**	**13 16 31.9**	**+0.8**
	0.3nm,0.5s,baz=102,slow=14,SNR=3.4						
BVAR	**Borovoye Array**	**23.61**	**44**	P	**P**	**13 16 32.4**	**-0.2**
	0.9nm,0.7s,baz=230,slow=11,SNR=4.6						
AAK	**Ala-Archa**	**24.04**	**70**	P	**P**	**13 16 37.5**	**+0.4**
	0.7nm,0.4s,baz=347,slow=0.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**27.60**	**53**	P	**P**	**13 17 09.6**	**+0.6**
	1.4nm,0.8s,baz=263,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**29.63**	**61**	P	**P**	**13 17 27.1**	**-0.1**
	0.7nm,0.8s,baz=263,slow=2.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**52.16**	**96**	P	**P**	**13 20 31.3**	**-1.3**
	0.8nm,0.6s,baz=302,slow=9.1,SNR=6.9						
KSRS	**Korea Array**	**64.31**	**62**	P	**P**	**13 21 56.5**	**-1.0**
	2.3nm,0.8s,baz=292,slow=6.9,SNR=8.5						

*ISK **23** 13:15:08.5, 38°.93N×43°.64E, h5km, ML3.6*
*CSEM **23** 13:15:09.7±0.4, 38°.89N×43°.53E, h2km, ML3.5, Error ellipse: s-maj=10.5km s-min=5.8km az=89.0*
*DDA **23** 13:15:09.4, 38°.85N×43°.47E, h7km, Ml3.5*
ISC 23 13:15:10.0±1.1, 38°.86N±0°.02×43°.47E±0°.03, h5km±12km, n48, σ1s30/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**31**	*i* P	**Pg**	**13 15 12.1**	**-1.0**
VMUR				*i* S	**Sg**	**13 15 16.5**	**+1.4**
VMUR	**Van-Muradiye**	**0.15**	**31**	P	**Pg**	**13 15 12.1**	**-1.0**
TVAN	**Van**	**0.34 189**		*i* P	**Pg**	**13 15 17.6**	**+1.0**
TVAN				*i* S	**Sb**	**13 15 23.5**	**-0.9**
TVAN	**Van**	**0.34 189**		P	**Pg**	**13 15 17.6**	**+1.0**
TVAN				S	**Sb**	**13 15 23.5**	**-0.9**
GEVA	**Gevas**	**0.64 211**		*i* P	**Pg**	**13 15 20.9**	**-1.4**
GEVA				*i* S	**Sg**	**13 15 30.6**	**+0.1**
GEVA	**Gevas**	**0.64 211**		P	**Pg**	**13 15 20.9**	**-1.4**
GEVA				S	**Sg**	**13 15 30.6**	**+0.1**
DYDN	**Diyadin**	**0.70**	**14**	*i* P	**Pg**	**13 15 23.0**	**-0.5**
DYDN	**Diyadin**	**0.70**	**14**	P	**Pg**	**13 15 23.0**	**-0.5**
TUTA	**Tutak**	**0.74 317**		*i* P	**Pg**	**13 15 23.1**	**-1.2**
TUTA	**Tutak**	**0.74 317**		P	**Pg**	**13 15 23.1**	**-1.2**
AGRB	**Hanur-Agry**	**0.81 333**		*e*PG	**Pg**	**13 15 24.2**	**-1.3**
AGRB				*e*SG	**Sg**	**13 15 36.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.81 333**		*e*Pg	**Pg**	**13 15 24.2**	**-1.3**
AGRB				*e*Sg	**Sg**	**13 15 36.4**	**+0.5**
EKAR	**Karacoban**	**1.16 290**		*i* P	**Pg**	**13 15 31.8**	**-0.5**
EKAR	**Karacoban**	**1.16 290**		P	**Pg**	**13 15 31.8**	**-0.5**
EATA	**Eleskirt**	**1.26 323**		*i* P	**Pg**	**13 15 33.3**	**-0.8**
EATA	**Eleskirt**	**1.26 323**		P	**Pg**	**13 15 33.3**	**-0.8**
DIGO	**Kars**	**1.55 357**		*i* P	**Pg**	**13 15 39.5**	**-0.3**
DIGO	**Kars**	**1.55 357**		P	**Pg**	**13 15 39.5**	**-0.3**
SIRN	**S¨–rnak**	**1.60 212**		*i* P	**Pn**	**13 15 37.8**	**-1.2**
SIRN	**S¨–rnak**	**1.60 212**		P	**Pn**	**13 15 37.8**	**-1.2**
VRTB	**Varto-Mus**	**1.60 281**		*e*PN	**Pb**	**13 15 39.7**	**-0.4**
VRTB				*e*SN	**Sg**	**13 16 03.0**	**+1.6**
VRTB	**Varto-Mus**	**1.60 281**		*i* P	**Pg**	**13 15 40.8**	**+0.2**
VRTB	**Varto-Mus**	**1.60 281**		*e*Pn	**Pb**	**13 15 39.7**	**-0.4**
VRTB	**Varto-Mus**	**1.60 281**		P	**Pg**	**13 15 40.8**	**+0.2**
VRTB				*e*Sn	**Sg**	**13 16 03.0**	**+1.6**
CUKT	**Cukurca**	**1.61 176**		*e*PN	**Pn**	**13 15 39.2**	**-0.1**
CUKT	**Cukurca**	**1.61 176**		*i* P	**Pb**	**13 15 40.1**	**-0.3**
CUKT	**Cukurca**	**1.61 176**		*e*Pn	**Pn**	**13 15 39.2**	**-0.1**
CUKT	**Cukurca**	**1.61 176**		P	**Pb**	**13 15 40.1**	**-0.3**
HOMI	**Horasan**	**1.69 315**		*i* P	**Pg**	**13 15 42.1**	**-0.3**
BNGL	**BINGOL**	**1.81 274**		*i* P	**Pb**	**13 15 43.8**	**0.0**
EAK	**Akyaka**	**1.83**	**3**	*i* P	**Pg**	**13 15 48.4**	**+3.4**
SVAN	**Silvan-Diyarba**	**1.92 249**		*e*PN	**Pn**	**13 15 43.9**	**+0.5**
SVAN				*e*SN	**Sb**	**13 16 10.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.92 249**		*i* P	**Pb**	**13 15 44.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.92 249**		*e*Pn	**Pn**	**13 15 43.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.92 249**		P	**Pb**	**13 15 44.6**	**-0.9**
SVAN				*e*Sn	**Sb**	**13 16 10.5**	**+0.7**
ERZM	**Erzurum**	**1.94 303**		*i* P	**Pn**	**13 15 41.4**	**-2.4**
BTMN	**Batman**	**1.98 241**		*i* P	**Pn**	**13 15 45.0**	**+0.7**
BTMN	**Batman**	**1.98 241**		P	**Pn**	**13 15 45.0**	**+0.7**
BNGB	**Bing¨¶l**	**2.18 274**		*e*PN	**Pb**	**13 15 48.8**	**-1.2**
BINT	**Bingol**	**2.33 271**		*e*Pn	**Pn**	**13 15 48.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.35 285**		*e*PN	**Pn**	**13 15 50.1**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.35 285**		*e*Pn	**Pn**	**13 15 50.1**	**+0.7**
MAZI	**Mazidag**	**2.76 241**		*e*PN	**Pb**	**13 15 57.6**	**-2.4**
MAZI	**Mazidag**	**2.76 241**		*e*Pn	**Pb**	**13 15 57.6**	**-2.4**
SVRC	**Sivrice-ELAZID**	**3.30 263**		*e*PN	**Pn**	**13 16 04.9**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.30 263**		*e*Pn	**Pn**	**13 16 04.9**	**+2.4**
URFA	**Urfa**	**3.93 250**		*e*PN	**Pn**	**13 16 13.9**	**+2.8**
URFA	**Urfa**	**3.93 250**		*e*Pn	**Pn**	**13 16 13.9**	**+2.8**

*NSSC **23** 13:16:53.4±1.8, 39°.18N×43°.94E, h28km±999km, ML3.6*
*MOS **23** 13:17:01.7±1.5, 38°.46N×43°.56E, h10km, mb4.6/43, Error ellipse: s-maj=6.4km s-min=4.0km az=107.9*
*AZER **23** 13:17:02.7±0.8, 38°.63N×43°.71E, h6km±17km, Error ellipse: s-maj=18.4km s-min=4.6km az=55.0*
*ISCJB **23** 13:17:02.7±0.5, 38°.76N±0°.02×43°.68E±0°.01, h6km±3km, mb4.4/68, MS4.5/2, Error ellipse: s-maj=3.0km s-min=1.8km az=168.0*
*IDC **23** 13:17:02.1±0.7, 38°.64N×43°.52E, h0km, mb4.3/20, mb1 4.3/27, mb1mx4.2/45, mbtmp4.3/27, ML3.6/7, Error ellipse: s-maj=14.1km s-min=9.0km az=169.0*
*DDA **23** 13:17:03.8, 38°.81N×43°.47E, h15km, Ml4.7*
*ISK **23** 13:17:04.7, 38°.85N×43°.46E, h4km, ML4.3*
*NEIC **23** 13:17:04.5±1.0, 38°.73N×43°.62E, h15km±6km, mb4.4/23, ML4.2(ISK), ML4.7(DDA), Error ellipse: s-maj=7.9km s-min=6.1km az=167.0*
*CSEM **23** 13:17:04.3±0.1, 38°.78N×43°.67E, h10km, mb4.3/11, Error ellipse: s-maj=4.0km s-min=2.5km az=168.0*
*DSN **23** 13:17:04.3±0.3, 38°.68N×43°.34E, h10km, mb4.4/1, Error ellipse: s-maj=11.1km s-min=2.9km az=61.0*
*TEH **23** 13:17:08.6, 38°.87N×43°.71E, h18km, ML4.2*
ISC 23 13:17:05.0±0.6, 38°.78N±0°.01×43°.56E±0°.02, h14km±3km, n420, σ1s71/511, mb4.4/68, 47C-44D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**2**	⇓*i* P	**Pg**	**13 17 08.8**	**-1.0**
VMUR				*i* S	**Sg**	**13 17 13.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.21**	**2**	P	**Pg**	**13 17 08.8**	**-1.0**
VMUR				S	**Sg**	**13 17 13.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.21**	**2**	*i* P	**Pg**	**13 17 08.7**	**-1.0**
VMUR				*i* S	**Sg**	**13 17 13.1**	**+0.1**
TVAN	**Van**	**0.28 206**		*i* P	**Pb**	**13 17 12.6**	**+0.6**
TVAN	**Van**	**0.28 206**		*i* P	**Pb**	**13 17 12.6**	**+0.6**
GEVA	**Gevas**	**0.61 220**		⇓*i* P	**Pg**	**13 17 14.8**	**-2.2**
GEVA				*i* S	**Sg**	**13 17 23.9**	**-1.2**
GEVA	**Gevas**	**0.61 220**		P	**Pg**	**13 17 14.8**	**-2.2**
GEVA				S	**Sg**	**13 17 23.9**	**-1.2**
DYDN	**Diyadin**	**0.77**	**7**	⇓*i* P	**Pg**	**13 17 17.9**	**-2.0**
DYDN				*i* S	**Sg**	**13 17 28.6**	**-1.5**
DYDN	**Diyadin**	**0.77**	**7**	P	**Pg**	**13 17 17.9**	**-2.0**
DYDN				S	**Sg**	**13 17 28.6**	**-1.5**
BASK	**Baskale_VAN**	**0.81 154**		⇓*i* P	**Pg**	**13 17 19.7**	**-0.9**
BASK				*i* S	**Sn**	**13 17 33.8**	**-0.3**
BASK	**Baskale_VAN**	**0.81 154**		P	**Pg**	**13 17 19.7**	**-0.9**
TUTA	**Tutak**	**0.85 317**		*i* P	**Pg**	**13 17 17.5**	**-4.0**
AGRB	**Hanur-Agry**	**0.91 331**		*e*PG	**Pg**	**13 17 20.3**	**-2.3**
AGRB				*e*SG	**Sg**	**13 17 32.9**	**-1.6**
AGRB	**Hanur-Agry**	**0.91 331**		Pg	**Pg**	**13 17 21.0**	**-1.6**
AGRB				*e*Sg	**Sg**	**13 17 32.9**	**-1.6**
AGRB	**Hanur-Agry**	**0.91 331**		Pg	**Pg**	**13 17 21.0**	**-1.6**
HAKT	**HAKKARI**	**1.23 175**		⇓*i* P	**Pn**	**13 17 26.4**	**-1.6**
HAKT				*i* S	**Sn**	**13 17 46.5**	**+2.0**
HAKT	**HAKKARI**	**1.23 175**		P	**Pn**	**13 17 26.4**	**-1.6**
EKAR	**Karacoban**	**1.26 293**		*i* P	**Pn**	**13 17 26.7**	**-1.7**
EKAR				*i* S	**Sb**	**13 17 44.6**	**-0.2**
EKAR	**Karacoban**	**1.26 293**		P	**Pn**	**13 17 26.7**	**-1.7**
EKAR				S	**Sb**	**13 17 44.6**	**-0.2**
EATA	**Eleskirt**	**1.36 323**		⇑*i* P	**Pn**	**13 17 27.2**	**-2.7**
EATA				*i* S	**Sb**	**13 17 47.3**	**-0.6**
CUKT	**Cukurca**	**1.53 179**		*e*PN	**Pg**	**13 17 34.5**	**+0.1**
CUKT	**Cukurca**	**1.53 179**		⇓*i* P	**Pg**	**13 17 33.6**	**-0.8**
CUKT				*i* S	**Sg**	**13 17 56.3**	**+2.0**
CUKT	**Cukurca**	**1.53 179**		P	**Pg**	**13 17 33.6**	**-0.8**
CUKT	**Cukurca**	**1.53 179**		*e*Pn	**Pg**	**13 17 34.5**	**+0.1**
NAX	**Nakhchivan**	**1.56**	**75**	⇓P	**Pn**	**13 17 30.2**	**-2.2**
NAX				⇓S	**Sn**	**13 17 50.8**	**-1.6**
NAX	**Nakhchivan**	**1.56**	**75**	P	**Pn**	**13 17 30.2**	**-2.2**
NAX				S	**Sn**	**13 17 50.8**	**-1.6**
SIRN	**S¨–rnak**	**1.57 216**		*i* P	**Pn**	**13 17 32.8**	**+0.3**
SIRN				*

MNGR Mingechevir, A 3.37 53 ⇑P Pn 13 17 55.9 -1.2
MNGR ⇑S **Sn 13 18 37.2 +0.3**
MNGR Mingechevir, A 3.37 53 P Pn 13 17 55.9 -1.2
MNGR S **Sn 13 18 37.2 +0.3**
ISRB Sarab 3.37 105 *e*Pn **Pn 13 17 59.6 +2.2**
ISRB *e*AMB AMB 13 18 13.1
comp=Z,6μm,0.4s
ISRB Sarab 3.37 105 *e*Pn **Pn 13 17 59.6 +2.2**
EZC Erzincan 3.41 288 *e*Pn **Pn 13 17 54.6 -3.3**
ZRD Zardab 3.52 64 ⇑P **Pn 13 17 57.5 -1.8**
ZRD ⇓S **Sn 13 18 40.0 -0.7**
ZRD Zardab 3.52 64 P **Pn 13 17 57.5 -1.8**
ZRD S **Sn 13 18 40.0 -0.7**
ELZG Elazig 3.59 267 *i* P **Pn 13 17 59.9 -0.6**
ELZG Elazig 3.59 267 P **Pn 13 17 59.9 -0.6**
KELT Kelkit 3.60 294 ⇓*i*P **Pb 13 18 07.1 -1.5**
KELT *i* S **Sg 13 18 59.2 -1.4**
MACK Trabzon 3.63 308 ⇑*i*P **Pb 13 18 09.3 +0.3**
KTUT Trabzon 3.66 308 *e*PN **Pn 13 18 02.7 +1.5**
KTUT Trabzon 3.66 308 *e*Pn **Pn 13 18 02.7 +1.5**
ZKTA Zakatala 3.69 38 ⇓P **Pn 13 18 01.1 -0.6**
ZKTA ⇓S **Sn 13 18 46.7 +1.7**
SEKA Sheki 3.70 48 ⇑P **Pn 13 18 01.5 -0.3**
SEKA ⇓S **Sn 13 18 47.3 +2.0**
SEKA Sheki 3.70 48 P **Pn 13 18 01.5 -0.3**
SEKA S **Sn 13 18 47.3 +2.0**
LRK Lerik 3.74 91 ⇑P **Pn 13 17 59.4 -3.1**
LRK ⇑S **Sn 13 18 43.4 -3.0**
LRK Lerik 3.74 91 P **Pn 13 17 59.4 -3.1**
LRK S **Sn 13 18 43.4 -3.0**
GLBA Clilabad 3.79 82 ⇑P **Pn 13 18 00.4 -2.6**
GLBA ⇓S **Sn 13 18 45.5 -1.9**
GLBA Clilabad 3.79 82 P **Pn 13 18 00.4 -2.6**
GLBA S **Sn 13 18 45.5 -1.9**
KDMR Kurdemir 3.91 65 ⇑P **Pn 13 18 02.8 -1.8**
KDMR ⇓S **Sn 13 18 49.6 -0.7**
KDMR Kurdemir 3.91 65 P **Pn 13 18 02.8 -1.8**
KDMR S **Sn 13 18 49.6 -0.7**
SAAT Saatly 3.92 73 ⇑P **Pn 13 18 02.3 -2.5**
SAAT ⇑S **Sn 13 18 48.7 -1.9**
SAAT Saatly 3.92 73 P **Pn 13 18 02.3 -2.5**
SAAT S **Sn 13 18 48.7 -1.9**
QBL Gabala 3.94 55 ⇑P **Pn 13 18 03.6 -1.4**
QBL ⇑S **Sn 13 18 50.9 -0.2**
QBL Gabıla 3.94 55 P **Pn 13 18 03.6 -1.4**
QBL S **Sn 13 18 50.9 -0.2**
URFA Urfa 3.97 252 *e*PN **Pn 13 18 07.7 +2.2**
URFA Urfa 3.97 252 *e*Pn **Pn 13 18 07.7 +2.2**
KEMA Kemaliye 3.98 279 *i* P **Pb 13 18 17.1 +2.2**
ZEI Tsey 4.01 4 *e*P **Pn 13 18 09.8 +3.6**
ZEI pmax pmax
comp=Z,52nm,0.9s
LKRN Lenkeran, Azer 4.08 89 ⇓P **Pn 13 18 04.1 -2.9**
LKRN ⇓S **Sn 13 18 52.0 -2.5**
LKRN Lenkeran, Azer 4.08 89 P **Pn 13 18 04.1 -2.9**
LKRN S **Sn 13 18 52.0 -2.5**
IML Ismayilli 4.09 59 ⇓P **Pn 13 18 05.5 -1.6**
IML ⇑S **Sn 13 18 54.5 -0.3**
IML Ismayilli 4.09 59 P **Pn 13 18 05.5 -1.6**
IML S **Sn 13 18 54.5 -0.3**
ASTR Astara 4.10 91 ⇓P **Pn 13 18 04.3 -3.0**
ASTR ⇓S **Sn 13 18 52.2 -2.8**
ASTR Astara 4.10 91 P **Pn 13 18 04.3 -3.0**
ASTR S **Sn 13 18 52.2 -2.8**
XNQ Khinaliq 4.25 54 ⇓P **Pn 13 18 08.0 -1.5**
XNQ ⇑S **Sn 13 18 58.9 -0.2**
XNQ Khinaliq 4.25 54 P **Pn 13 18 08.0 -1.5**
XNQ S **Sn 13 18 58.9 -0.2**
SURC SANLIURFA_SURC 4.35 246 *i* P **Pb 13 18 24.6 +3.3**
SURC *i* S **Sb 13 19 18.1 +4.4**
ATAB Bozova 4.35 254 *i* P **Pb 13 18 19.8 -1.5**
ATAB *i* S **Sg 13 19 24.4 -0.3**
PQL Pirkuli 4.36 61 ⇑P **Pn 13 18 09.2 -1.8**
PQL ⇓S **Sn 13 19 01.2 -0.6**
PQL Pirkuli 4.36 61 P **Pn 13 18 09.2 -1.8**
PQL S **Sn 13 19 01.2 -0.6**
ALIB Äli-Bayra 4.38 73 ⇑P **Pn 13 18 08.9 -2.2**
ALIB ⇑S **Sn 13 19 00.7 -1.2**
ALIB Äli-Bayra 4.38 73 P **Pn 13 18 08.9 -2.2**
ALIB S **Sn 13 19 00.7 -1.2**
SUSE Susehri 4.38 291 *i* P **Pb 13 18 21.3 -0.6**
SUSE *i* S **Sb 13 19 19.7 +5.0**
GBS Qobustan 4.51 65 ⇓P **Pn 13 18 10.9 -2.0**
GBS ⇑S **Sn 13 19 04.4 -0.8**
GBS Qobustan 4.51 65 P **Pn 13 18 10.9 -2.0**
GBS S **Sn 13 19 04.4 -0.8**
NEY Neytrino 4.51 352 ⇑*e*P **Pb 13 18 19.8 -4.2**
QSAR Qusar 4.52 51 ⇑P **Pn 13 18 11.8 -1.3**
QSAR ⇑S **Sn 13 19 05.8 +0.3**
QSAR Qusar 4.52 51 P **Pn 13 18 11.8 -1.3**
QSAR S **Sn 13 19 05.8 +0.3**
QUBA Quba, Azerbaij 4.57 54 ⇑P **Pn 13 18 12.4 -1.4**
QUBA ⇑S **Sn 13 19 06.9 +0.1**
QUBA Quba, Azerbaij 4.57 54 P **Pn 13 18 12.4 -1.4**
QUBA S **Sn 13 19 06.9 +0.1**
CUZAR Zara_SIVAS 4.62 286 *i* P **Pb 13 18 25.3 -0.7**
CUZAR *i* S **Sg 13 19 33.8 +0.4**
ATGJ Altiaghaj 4.63 62 ⇑P **Pn 13 18 12.8 -1.8**
ATGJ ⇑S **Sn 13 19 07.9 -0.4**
ATGJ Altiaghaj 4.63 62 P **Pn 13 18 12.8 -1.8**
ATGJ S **Sn 13 19 07.9 -0.4**
IDHR Dehrash 4.66 150 *e*Pn **Pn 13 18 17.9 +2.7**
IDHR *e*AMB AMB 13 19 48.9
comp=Z,2μm,0.3s
IDHR Dehrash 4.66 150 *e*Pn **Pn 13 18 17.9 +2.7**
SIZA Siyzn 4.70 59 ⇓P **Pn 13 18 13.9 -1.7**
SIZA ⇑S **Sn 13 19 09.6 -0.3**
SIZA Siyzn 4.70 59 P **Pn 13 18 13.9 -1.7**
SIZA S **Sn 13 19 09.6 -0.3**
NCK Nalchik 4.71 0⇑*e*P **Pb 13 18 23.0 -4.3**
GROC Groznyy 4.73 20 P **Pb 13 18 30.3 +2.6**
GROC pmax pmax
comp=Z,26nm,0.6s
DARE Darende-Malaty 4.76 269 *e*PN **Pn 13 18 18.8 +2.4**
DARE Darende-Malaty 4.76 269 *e*Pn **Pn 13 18 18.8 +2.4**
CUKAN kangal_SIVAS 4.77 278 *i* P Pn 13 18 21.5 +4.8
CUKAN *i* S **Sg 13 19 33.3 -5.0**
KBZ Khabaz 4.97 354 Pn **Pn 13 18 23.6 +4.5**
comp=Z,0.3nm,0.3s,baz=170,slow=9.2,SNR=6.9
GOBA Gobu 5.04 69 ⇑P **Pn 13 18 18.0 -2.1**
GOBA ⇓S **Sn 13 19 17.2 -0.8**
GOBA Gobu 5.04 69 P **Pn 13 18 18.0 -2.1**
GOBA S **Sn 13 19 17.2 -0.8**
RSDY Resadiye-TOKAT 5.08 290 *e*PN **Pn 13 18 23.0 +2.3**
RSDY Resadiye-TOKAT 5.08 290 *e*Pn **Pn 13 18 23.0 +2.3**
KIV Kislovodsk 5.21 353 *i* P **Pn 13 18 23.5 +0.9**
SNR=7.8
KIV Kislovodsk 5.21 353 *e*P **Pn 13 18 27.2 +4.6**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 5.21 353 P **Pn 13 18 23.5 +0.9**
SNR=7.8
KIV Kislovodsk 5.21 353 *e*Pn **Pn 13 18 25.7 +3.1**
KIV Kislovodsk 5.21 353 *e*Pn **Pn 13 18 25.7 +3.1**
KVAR Kislovodsk Arr 5.21 353 Pn **Pn 13 18 26.4 +3.8**
baz=168,slow=4.0,SNR=2.5
SVSK Karacayir 5.21 285 *e*PN **Pn 13 18 25.0 +2.5**
SVSK Karacayir 5.21 285 *e*Pn **Pn 13 18 25.0 +2.5**
NDR Nardaran 5.27 68 ⇓P **Pn 13 18 21.3 -2.0**
NDR ⇑S **Sn 13 19 22.9 -1.0**
NDR Nardaran 5.27 68 P **Pn 13 18 21.3 -2.0**
NDR S **Sn 13 19 22.9 -1.0**
GALA Gala 5.35 70 ⇑P **Pn 13 18 22.2 -2.1**
GALA ⇓S **Sn 13 19 24.8 -0.9**
GALA Gala 5.35 70 P **Pn 13 18 22.2 -2.1**
GALA S **Sn 13 19 24.8 -0.9**
KMRS Kahramanmaras 5.40 258 *e*PN **Pn 13 18 28.1 +2.9**
KMRS Kahramanmaras 5.40 258 *e*Pn **Pn 13 18 28.1 +2.9**
HCB Kahramanmara˜ 5.44 257 *i* P **Pb 13 18 40.3 +0.4**
SARI SarD1z-Kayseri 5.61 268 *e*PN **Pn 13 18 30.6 +2.5**
DRWC Darouich 5.88 251 *e*P Pn 13 18 26.0 -5.7
DRWC AML AML 13 20 23.2
comp=N,86nm,0.6s
DRWC AML AML 13 20 23.4
comp=E,129nm,0.7s
BNN Bunyan 6.03 273 *e*PN **Pn 13 18 36.7 +2.9**
BNN Bunyan 6.03 273 *e*Pn **Pn 13 18 36.7 +2.9**
KOZT Kozan 6.23 260 *e*PN **Pn 13 18 39.7 +3.1**
KOZT Kozan 6.23 260 *e*Pn **Pn 13 18 39.7 +3.1**
BTCH Batrach 6.28 246 *e*P Pn 13 18 31.0 -6.3
BTCH AML AML 13 20 38.1
comp=N,218nm,0.7s
BTCH AML AML 13 20 41.2
comp=E,237nm,0.8s
ARNB Al Arnab 6.71 247 *e*P Pn 13 18 37.8 -5.4
ARNB *e*S **Sn 13 19 51.6 -8.0**
ARNB AML AML 13 20 58.5
comp=E,95nm,0.7s
ARNB AML AML 13 21 01.7
comp=N,79nm,0.8s
BIDA Albida 6.91 239 *e*P Pn 13 18 41.0 -5.0
BIDA AML AML 13 20 59.7
comp=E,229nm,0.6s
BIDA AML AML 13 21 04.6
comp=N,160nm,0.7s
HAWK Haweek 7.15 236 *e*P Pn 13 18 44.2 -5.1
HAWK AML AML 13 20 59.4
comp=N,44nm,0.6s
HAWK AML AML 13 21 13.1
comp=E,50nm,0.6s
MARH Ras Al Marh 7.42 232 *e*P Pn 13 18 47.0 -6.1
MARH AML AML 13 21 13.9
comp=E,87nm,0.7s
MARH AML AML 13 21 36.6
comp=N,72nm,0.8s
BR131 Keskin Array S 7.76 280 *e*Pn **Pn 13 18 59.0 +1.4**
BR131 Keskin Array S 7.76 280 *e*Pn **Pn 13 18 59.0 +1.4**
BRTR Keskin Array B 7.76 280 Pn **Pn 13 18 59.3 +1.7**
comp=N,0.1nm,0.3s,baz=112,slow=16,SNR=5.6
ILGA Ilgaz 7.90 290 *e*Pn **Pn 13 19 01.8 +2.2**
ILGA Ilgaz 7.90 290 *e*Pn **Pn 13 19 01.8 +2.2**
BRBR Barbar 8.16 231 *e*P Pn 13 18 57.5 -5.7
BRBR *e*S **Sn 13 20 29.2 -6.2**
BRBR AML AML 13 21 50.3
comp=E,34nm,0.8s
BRBR AML AML 13 21 54.6
comp=N,25nm,0.8s
MMAI Mount Meron Ar 8.77 231 Pn **Pn 13 19 13.8 +2.4**
comp=N,1.5nm,0.3s,baz=78,slow=14,SNR=4.3
GEYT Alibeck 11.46 90 Pn **Pn 13 19 47.7 -0.6**
comp=N,0.2nm,0.3s,baz=294,slow=14,SNR=4.4
LPSR Galich'ya Gora 14.19 348 *e*P **Pn 13 20 29.0 +3.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 14.19 348 *e*P **Pn 13 20 29.0 +3.6**
comp=Z,10.0nm,0.8s
PLOR Plostina 14.35 305 ⇑P **P 13 20 33.6 -1.2**
PLOR Plostina 14.35 305 P **P 13 20 33.6 -1.2**
SORM Soroca 14.45 315 ⇓P **P 13 20 32.9 -2.8**
VOIR 15.25 302 ⇑P **P 13 20 47.8 +3.0**
VOIR 15.25 302 P **P 13 20 47.8 +3.0**
RAYN Ar Rayn 15.30 173 *e*Pn **Pn 13 20 36.8 -3.9**
comp=Z,11nm,0.8s
AKTO Aktyubinsk 15.51 37 Pn **Pn 13 20 41.8 -1.5**
comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=16
AKTO Aktyubinsk 15.51 37 P **Pn 13 20 40.7 -2.5**
AKTO pmax pmax
comp=Z,24nm,1.0s
AKASG Malin Array Be 15.64 324 Pn **Pn 13 20 45.0 +0.1**
comp=Z,0.6nm,0.3s,baz=131,slow=12,SNR=14
AKASG Malin Array Be 15.64 324 P **Pn 13 20 45.0 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.64 324 Pn **Pn 13 20 45.0 +0.1**
AKBB Malin Array Si 15.64 324 *e*P **Pn 13 20 45.0 +0.1**
AKBB pmax pmax
comp=Z,16nm,1.1s
AKBB Malin Array Si 15.64 324 *e*Pn **Pn 13 20 45.0 +0.1**
comp=Z,16nm,1.1s
AKBB Malin Array Si 15.64 324 *e*Pn **Pn 13 20 45.0 +0.1**
comp=Z,16nm,1.1s
KIEV Kiev 15.64 324⇑*e*P **P 13 20 47.2 -1.8**
KIEV Kiev 15.64 324 *e*Pn **Pn 13 20 44.7 -0.2**
comp=Z,15nm,1.1s
KIEV Kiev 15.64 324 *e*P **P 13 20 47.2 -1.8**
KIEV Kiev 15.64 324 *e*Pn **Pn 13 20 44.7 -0.2**
comp=Z,15nm,1.1s
AB31 Akbulak array 15.73 43 *i* P **Pn 13 20 43.8 -2.2**
AB31 pmax pmax
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 15.73 43 *e*Pn **Pn 13 20 43.5 -2.5**
comp=Z,3.4nm,0.6s
ABKAR Akbulak array 15.73 43 *e*Pn **Pn 13 20 43.5 -2.5**
comp=Z,3.4nm,0.6s
VTS Vitosha 15.90 290 *e*P **Pn 13 20 49.7 +1.3**
VTS pmax pmax
comp=Z,11nm,1.1s
VTS Vitosha 15.90 290 *e*Pn **Pn 13 20 49.7 +1.3**
comp=Z,11nm,1.1s
VTS Vitosha 15.90 290 *e*Pn **Pn 13 20 49.7 +1.3**
comp=Z,11nm,1.1s
BUR08 Bucovina Ar. S 16.02 309 *e*Pn **P 13 20 52.8 -0.5**
BUR08 Bucovina Ar. S 16.02 309 *e*Pn **P 13 20 52.8 -0.5**
OBN Obninsk 17.01 346 P **P 13 21 03.7 -0.3**
comp=Z,4.7nm,0.3s,baz=167,slow=18,SNR=3.2
OBN Obninsk 17.01 346 ⇓*i*P **P 13 21 07.6 +3.6**
OBN pmax pmax
comp=Z,76nm,1.3s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 17.01 346 *e*Pn **P 13 21 03.3 -0.7**
comp=Z,74nm,1.2s
OBN Obninsk 17.01 346 *e*Pn **P 13 21 03.3 -0.7**
comp=Z,74nm,1.2s
FAQ Al Faqa, Dubai 17.31 140 P **Pn 13 21 06.5 +0.3**
FAQ Al Faqa, Dubai 17.31 140 P **Pn 13 21 06.5 +0.3**
MOS Moscow 17.43 349 *e*P **Pn 13 21 08.1 +0.6**
MOS *e*S **S 13 24 28.3 -1.1**
MOS pmax pmax
comp=Z,38nm,0.9s
MOS Moscow 17.43 349 *e*P **Pn 13 21 08.1 +0.6**
comp=Z,38nm,0.9s
UOSS Minazif 17.46 139 P **Pn 13 21 08.4 +0.3**
HATD Hatta, Dubai 17.52 139 P **P 13 21 09.7 -0.2**
HATD Hatta, Dubai 17.52 139 P **P 13 21 09.7 -0.2**
ASHO Ashiyiah 17.60 139 P **P 13 21 10.3 -0.5**
ASHO Ashiyiah 17.60 139 P **P 13 21 10.3 -0.5**
LVV L'vov 17.75 315 *e*P P 13 21 22.4 +10
UZH Uzhgorod 18.20 310 *e*P **Pn 13 21 15.2 -1.9**
CRVS Cervenica-Dubn 18.82 310 *e*P **Pn 13 21 26.8 +2.2**
CRVS Cervenica-Dubn 18.82 310 *e*P **Pn 13 21 26.8 +2.2**
CRVS Cervenica-Dubn 18.82 310 *e*P **Pn 13 21 26.8 +2.2**
STHS Stebnicka Huta 19.16 311 *e*P **Pn 13 21 32.5 +3.7**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 19.16 311 *e*P **Pn 13 21 32.5 +3.7**
KECS Kecovo 19.25 308 *e*P **Pn 13 21 31.5 +1.7**
KECS pmax pmax
comp=Z,4.0nm,1.3s
KECS Kecovo 19.25 308 *e*P **Pn 13 21 31.5 +1.7**
comp=Z,4.0nm,1.3s
KECS Kecovo 19.25 308 *e*P **Pn 13 21 31.5 +1.7**
PSZ Piszkesteto 19.42 306 *e*P **P 13 21 30.8 0.0**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 19.42 306 *e*P **P 13 21 30.8 0.0**
comp=Z,7.4nm,0.9s
PSZ Piszkesteto 19.42 306 *e*P **P 13 21 30.8 0.0**
comp=Z,7.4nm,0.9s
NACGM Naroch 19.71 330 *e* **P 13 21 32.0 -1.8**
NIE Niedzica 19.72 310 *e*P **Pn 13 21 35.9 +0.3**
NIE Niedzica 19.72 310 *e*P **Pn 13 21 35.9 +0.4**
ARU Arti 20.27 25 P **P 13 21 40.3 +0.5**
comp=Z,32nm,0.7s,baz=231,slow=5.9,SNR=43
ARU Arti 20.27 25*c* *i*P **P 13 21 40.0 +0.1**
ARU 13 21 58.2
ARU S Sn 13 25 31.4 +1.7
ARU SS **SnSn 13 25 51.0 +6.8**
ARU pmax pmax
comp=Z,43nm,0.8s
ARU Arti 20.27 25 *i* P **P 13 21 40.0 +0.1**
comp=Z,43nm,0.8s
ARU Arti 20.27 25 *e*P **P 13 21 38.6 -1.3**
comp=Z,42nm,0.9s
VYHS Vyhne 20.28 307 *e*P **P 13 21 40.9 +0.8**
VYHS *e* 13 21 44.9
VYHS pmax pmax
comp=Z,19nm,1.8s
VYHS Vyhne 20.28 307 *e*P **P 13 21 40.9 +0.8**
comp=Z,19nm,1.8s
VYHS Vyhne 20.28 307 *e*PN **P 13 21 40.8 +0.7**
VYHS Vyhne 20.28 307 *e*P Pn 13 21 44.9 +2.8
OJC Ojcow 20.35 312 *e*P Pn 13 21 45.4 +2.5
OJC Ojcow 20.35 312 *e*P **P 13 21 41.0 +0.1**
OJC pmax pmax
comp=Z,11nm,0.8s
OJC Ojcow 20.35 312 *e*P **P 13 21 41.0 +0.1**
comp=Z,10nm,0.8s
OJC Ojcow 20.35 312 *e*P **P 13 21 41.0 +0.1**
comp=Z,10nm,0.8s
KK31 Karatay Array 20.77 69 *i* P **P 13 21 46.5 +1.0**
KK31 pmax pmax
comp=Z,35nm,0.9s
KKAR Karatay Array 20.77 69 *e*P **P 13 21 44.8 -0.7**
KKAR pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 20.77 69 *e*P **P 13 21 44.8 -0.7**
comp=Z,27nm,0.8s
KKAR Karatay Array 20.77 69 *e*P **P 13 21 44.8 -0.7**
comp=Z,27nm,0.8s
SMOL Smolenice 21.17 306 P **P 13 21 53.6 +3.8**
SMOL pmax pmax
comp=Z,26nm,0.8s
SVE Sverdlovsk 21.28 26⇑*e*P **P 13 21 51.5 +0.7**
SVE pmax pmax
comp=Z,30nm,1.3s
CUC Castrocucco 21.45 282 *e*P **P 13 21 51.1 -1.8**
comp=Z,7.2nm,0.9s
SOP Sopron 21.50 303 P **P 13 21 56.1 +2.8**
SOP pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 21.52 309 *e*P **P 13 21 55.2 +1.7**
MORC pmax pmax
comp=Z,21nm,1.0s
MORC Moravsky Berou 21.52 309 *e*P **P 13 21 55.6 +2.1**
MORC Moravsky Berou 21.52 309 *e*P **P 13 21 55.2 +1.7**
comp=Z,21nm,1.0s
VRAC Vranov 21.94 307 P **P 13 22 00.4 +2.3**
comp=Z,12nm,0.8s,baz=104,slow=8.9,SNR=16
CONA Conrad Observa 22.02 304 *i* P **P 13 21 59.7 +0.8**
comp=Z,11nm,1.1s
CONA Conrad Observa 22.02 304 P **P 13 21 59.7 +0.8**
comp=Z,11nm,1.1s
KRLC Kraliky 22.08 309 *e*P **P 13 22 01.1 +1.5**
KRLC Kraliky 22.08 309 *e*P **P 13 22 01.1 +1.5**
KRLC Kraliky 22.08 309 P **P 13 22 01.1 +1.5**
ARSA Arzberg 22.09 302 *i* P **P 13 22 01.6 +2.0**
comp=Z,5.3nm,1.0s
ARSA Arzberg 22.09 302 P **P 13 22 01.6 +2.0**
comp=Z,5.3nm,1.0s
MNAS Manas 22.23 71 P **P 13 22 01.8 +0.5**
MNAS pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 22.24 355 *e*P **P 13 22 02.5 +1.4**
KLMR pmax pmax
comp=Z,104nm,1.1s
SOKA Soboth 22.30 300 *i* pP pP 13 22 06.3 +0.4
DPC Dobruska-Polom 22.46 310 *e*P **P 13 22 04.6 +1.0**
DPC Dobruska-Polom 22.46 310 *e*P **P 13 22 04.6 +1.0**
DPC Dobruska-Polom 22.46 310 P **P 13 22 04.6 +1.0**
VSU Vasula 22.50 337 ⇓*i*P **P 13 22 04.3 +0.5**
VSU pmax pmax
comp=Z,121nm,2.5s
TREC Trest 22.63 307 *e*P **P 13 22 06.7 +1.3**
TREC Trest 22.63 307 *e*P **P 13 22 06.7 +1.3**
TREC Trest 22.63 307 P **P 13 22 06.7 +1.3**
KSP Ksiaz 22.65 311 *e*P **P 13 22 06.9 +1.3**
KSP Ksiaz 22.65 311 *e*P **P 13 22 06.9 +1.3**
KSP Ksiaz 22.65 311 *e*P **P 13 22 06.9 +1.3**
UPC Upice 22.70 310 *e*P **P 13 22 07.2 +1.1**
UPC *e*pP **sP 13 22 12.9 +1.1**
UPC Upice 22.70 310 *e*P **P 13 22 07.2 +1.1**
UPC *e* 13 22 12.9
UPC Upice 22.70 310 P **P 13 22 07.2 +1.1**
MOA Molln 23.05 303 *i* P **P 13 22 10.1 +0.3**
comp=Z,10.0nm,1.0s
MOA Molln 23.05 303 P **P 13 22 10.1 +0.3**
comp=Z,10.0nm,1.0s
AQU L'Aquila 23.13 289 *e*P **P 13 22 08.5 -2.2**
AQU pmax pmax
comp=Z,31nm,1.1s
AQU L'Aquila 23.13 289 *e*P **P 13 22 08.5 -2.2**
comp=Z,31nm,1.1s
GOPC GO Pecny, Ondr 23.25 308 *e*P **P 13 22 12.2 +0.4**
GOPC GO Pecny, Ondr 23.25 308 *e*P **P 13 22 12.2 +0.4**
GOPC GO Pecny, Ondr 23.25 308 P **P 13 22 12.2 +0.4**
BRVK Borovoye 23.26 43⇑*e*P **P 13 22 12.2 +0.3**
BRVK pmax pmax
comp=Z,36nm,1.2s
BRVK Borovoye 23.26 43 *e*P **P 13 22 11.5 -0.4**
comp=Z,12nm,1.0s
BVA0 Borovoye Array 23.30 44 P **P 13 22 12.1 -0.2**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 23.30 44 P **P 13 22 13.1 +0.8**
comp=Z,6.9nm,0.9s,baz=234,slow=7.1,SNR=27
PRU Pruhonice 23.42 308 *e*P **P 13 22 14.6 +1.1**
PRU Pruhonice 23.42 308 *e*P **P 13 22 14.6 +1.1**
PRU Pruhonice 23.42 308 P **P 13 22 14.6 +1.1**
KBA Koelnbreinsper 23.51 300 *i* P **P 13 22 14.8 +0.1**
comp=Z,14nm,1.4s
KBA Koelnbreinsper 23.51 300 P **P 13 22 14.8 +0.1**
comp=Z,14nm,1.4s
GEC2 GERESS Array S 23.64 305 *e*P **P 13 22 14.3 -1.5**
GEC2 pmax pmax
comp=Z,14nm,1.3s
GEC2 GERESS Array S 23.64 305 *e*P **P 13 22 14.3 -1.5**
comp=Z,14nm,1.3s
GERES GERESS Array B 23.64 305 P **P 13 22 15.7 -0.1**
comp=Z,2.0nm,0.5s,baz=99,slow=8.7,SNR=17
AAK Ala-Archa 23.69 71 P **P 13 22 17.9 +1.4**
comp=Z,4.3nm,0.9s,baz=240,slow=9.9,SNR=8.8
AAK Ala-Archa 23.69 71⇑*e*P **P 13 22 18.5 +2.0**
AAK pmax pmax
comp=Z,24nm,1.2s
AAK Ala-Archa 23.69 71 *e*P **P 13 22 15.5 -1.0**
comp=Z,16nm,1.3s
FRU Bishkek 23.78 70⇓*e*P **P 13 22 20.0 +2.9**
FRU pmax pmax
comp=Z,70nm,2.0s
KHC Kasperske Hory 23.79 306 *e*P **P 13 22 17.2 0.0**
KHC *ex* x 13 22 21.9
KHC Kasperske Hory 23.79 306 *e*P **P 13 22 15.6 -1.6**
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 23.79 306 P **P 13 22 17.2 0.0**
KHC Kasperske Hory 23.79 306 *e*P **P 13 22 15.6 -1.6**
comp=Z,12nm,1.5s
ABTA Abfaltersbach 24.03 299 *i* P **P 13 22 20.6 +1.1**
comp=Z,11nm,1.3s
ABTA Abfaltersbach 24.03 299 P **P 13 22 20.6 +1.1**
comp=Z,11nm,1.3s
BRG Berggiesshubel 24.06 310 *e*P **P 13 22 19.3 -0.4**
comp=Z,3.8nm,0.6s
BRG Berggiesshubel 24.06 310 *e*P **P 13 22 19.3 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.6s
WET Wettzell 24.24 305 P **P 13 22 20.8 -0.6**
WET pmax pmax
comp=Z,18nm,1.1s
TKM2 Tokmak 2 24.50 70 *i* P **P 13 22 24.9 +0.9**
WTTA Wattenberg 24.69 300 *i* P **P 13 22 25.6 -0.1**
comp=Z,6.7nm,0.8s
WTTA Wattenberg 24.69 300 P **P 13 22 25.6 -0.1**
comp=Z,6.7nm,0.8s
WATA Walderalm 24.74 301 *i* P **P 13 22 25.5 -0.6**
comp=Z,4.8nm,0.6s
WATA Walderalm 24.74 301 P **P 13 22 25.5 -0.6**
comp=Z,4.8nm,0.6s
CLL Collm 24.76 310 *i* P **P 13 22 25.6 -0.4**
CLL *e* 13 22 32.0
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 24.76 310 *i* P **P 13 22 25.6 -0.4**
comp=Z,12nm,0.9s
CLL *es*P **sP 13 22 32.0 +0.1**
CLL *e* 13 22 44.0
CLL *e*PPP PPP 13 23 03.0
CLL Collm 24.76 310 *e*P **P 13 22 25.2 -0.8**
comp=Z,13nm,1.0s
MOTA Moosalm 25.06 301 *i* P **P 13 22 28.5 -0.5**
comp=Z,6.9nm,0.7s
MOTA Moosalm 25.06 301 P **P 13 22 28.5 -0.5**
comp=Z,6.9nm,0.7s
KSH Kashi 25.08 78 P **P 13 22 28.9 -0.3**
KSH pP pP 13 22 33.3 0.0
KSH sP sP 13 22 36.1 +1.1
KSH PP **PnPn 13 23 05.5 +2.9**
KSH *e*PcP **PcP 13 26 05.8 +2.3**
KSH S **S 13 26 50.3 -3.0**

KSH				sS	pS	13 26 57.4	-0.4
KSH				SS	**SnSn**	**13 27 47.4**	**+4.9**
KSH				PcS	**PcS**	**13 29 47.4**	**+3.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,310nm,7.5s						
KSH				LR	LR		
	comp=N,260nm,12.0s						
KSH				LR	LR		
	comp=E,310nm,7.8s						
KSH				LR	LR		
	comp=Z,290nm,11.7s						
FINES	**FINES Array B**	**25.14**	**340**	P	**P**	**13 22 28.3**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=157,slow=11,SNR=9.3						
FETA	**Feichten**	**25.27**	**300**	*i* P	**P**	**13 22 30.0**	**-0.9**
	comp=Z,5.6nm,0.7s						
FETA	**Feichten**	**25.27**	**300**	P	**P**	**13 22 30.0**	**-0.9**
	comp=Z,5.6nm,0.7s						
JOF	**Joensuu**	**25.28**	**347**	P	**P**	**13 22 29.8**	**-0.8**
JOF				pmax	pmax		
	comp=Z,33nm,1.5s						
RETA	**Reutte**	**25.31**	**301**	*i* P	**P**	**13 22 30.4**	**-0.8**
	comp=Z,4.1nm,0.6s						
RETA	**Reutte**	**25.31**	**301**	P	**P**	**13 22 30.4**	**-0.8**
	comp=Z,4.1nm,0.6s						
GRF	**Grafenberg Arr**	**25.42**	**306**	P	**P**	**13 22 34.9**	**+2.9**
GRF				pmax	pmax		
	comp=Z,29nm,1.3s						
GRFO	**Grafenberg**	**25.42**	**306**	*e*P	**P**	**13 22 31.3**	**-0.7**
GRFO				pmax	pmax		
	comp=Z,36nm,1.3s						
GRFO	**Grafenberg**	**25.42**	**306**	*e*P	**P**	**13 22 31.2**	**-0.7**
	comp=Z,36nm,1.3s						
TMCR	**Tamitsa**	**25.63**	**354**	*e*P	**P**	**13 22 35.7**	**+2.0**
TMCR				pmax	pmax		
	comp=Z,33nm,0.9s						
DAVOX	**Davos/Dischmat**	**25.83**	**299**	P	**P**	**13 22 35.0**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=107,slow=6.6,SNR=14						
DAVA	**Damuels**	**25.88**	**300**	*i* P	**P**	**13 22 35.3**	**-1.2**
	comp=Z,9.0nm,0.8s						
DAVA	**Damuels**	**25.88**	**300**	P	**P**	**13 22 35.3**	**-1.2**
	comp=Z,9.0nm,0.8s						
KURBB	**Kurchatov Arra**	**27.27**	**53**	P	**P**	**13 22 49.9**	**+1.2**
	comp=Z,12nm,0.7s,baz=263,slow=8.9,SNR=83						
KURBB				PcP	**PcP**	**13 26 07.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=264,slow=2.6,SNR=4.7						
KEST	**Kesra**	**27.31**	**274**	P	**P**	**13 22 49.6**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=316,slow=6.1,SNR=7.5						
KEST	**Kesra**	**27.31**	**274**	*e*P	**P**	**13 22 49.1**	**-0.2**
	comp=Z,8.8nm,1.1s						
PDGK	**Podgornoye**	**27.33**	**69**	P	**P**	**13 22 50.7**	**+1.1**
PDGK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KURK	**Kurchatov**	**27.35**	**53**	*ce*P	**P**	**13 22 50.5**	**+1.1**
KURK				pmax	pmax		
	comp=Z,77nm,1.2s						
KURK	**Kurchatov**	**27.35**	**53**	*e*P	**P**	**13 22 49.1**	**-0.3**
	comp=Z,15nm,0.9s						
KURK				PcP	**PcP**	**13 26 07.7**	**-0.7**
HFS	**Hagfors**	**28.45**	**328**	P	**P**	**13 22 58.5**	**-0.7**
	comp=Z,8.9nm,0.7s,baz=134,slow=12,SNR=15						
MKAR	**Makanchi Array**	**29.29**	**61**	P	**P**	**13 23 08.0**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=268,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**29.29**	**61**	P	**P**	**13 23 08.0**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**29.97**	**329**	P	**P**	**13 23 11.3**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=126,slow=8.8,SNR=5.9						
NVS	**Novosibirsk**	**31.04**	**46**	*e*P	P	13 23 16.4	-5.7
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZALV	**Zalesovo Beam**	**31.74**	**48**	P	**P**	**13 23 28.4**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=254,slow=10,SNR=9.2						
ARCES	**ARCESS Array B**	**32.30**	**348**	P	**P**	**13 23 32.4**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=149,slow=7.9,SNR=13						
WMQ	**Urumqi**	**33.23**	**67**	P	**P**	**13 23 43.1**	**+1.5**
WMQ				pP	sP	13 23 46.5	-1.0
WMQ				sP	pP	13 23 52.9	+7.1
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,2μm,11.7s						
WMQ				LR	LR		
	comp=N,2μm,21.9s						
WMQ				LR	LR		
	comp=E,2μm,21.3s						
WMQ				LR	LR		
	comp=Z,4μm,22.7s						
PYUN	**Piuthan**	**34.35**	**96**	*e*P	**P**	**13 23 52.3**	**+0.6**
	comp=Z,30nm,0.9s						
DANN	**Dangsing**	**34.83**	**95**	*e*P	**P**	**13 23 57.2**	**+1.3**
KOLN	**Koldanda**	**34.98**	**96**	*e*P	**P**	**13 23 57.8**	**+0.7**
GKN	**Gorkha**	**35.68**	**95**	*e*P	**P**	**13 24 03.6**	**+0.6**
	comp=Z,31nm,0.8s						
TAM	**Tamanrasset**	**36.06**	**255**	P	**P**	**13 24 06.9**	**+0.5**
TAM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DMN	**Daman**	**36.23**	**95**	*e*P	**P**	**13 24 08.7**	**+0.8**
	comp=Z,45nm,0.9s						
KKN	**Kakani**	**36.28**	**95**	*e*P	**P**	**13 24 08.8**	**+0.5**
PKIN	**Phulchoki**	**36.47**	**95**	*e*P	**P**	**13 24 10.5**	**+0.5**
	comp=Z,22nm,0.7s						
ESDC	**Sonseca Array**	**36.49**	**287**	P	**P**	**13 24 08.0**	**-1.8**
	comp=Z,4.0nm,0.6s,baz=67,slow=8.6,SNR=33						
GUN	**Gumba**	**36.69**	**94**	*e*P	**P**	**13 24 12.6**	**+0.7**
	comp=Z,59nm,1.0s						
JIRN	**Jiri**	**37.05**	**94**	*e*P	**P**	**13 24 15.8**	**+0.8**
	comp=Z,65nm,0.8s						
RAMN	**Ramite**	**37.71**	**95**	*e*P	**P**	**13 24 21.0**	**+0.5**
	comp=Z,65nm,0.8s						
ODAN	**Odare**	**38.37**	**95**	*e*P	**P**	**13 24 26.9**	**+0.9**
TAPN	**Taplejung**	**38.38**	**94**	*e*P	**P**	**13 24 26.8**	**+0.6**
	comp=Z,30nm,0.8s						
MDT	**Midelt**	**39.16**	**276**	P	**P**	**13 24 31.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=59,slow=4.1,SNR=5.7						
LSA	**Lhasa**	**39.99**	**88**	P	**P**	**13 24 40.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,18nm,0.7s						
TLY	**Talaya**	**43.04**	**52⇑**	*e*P	**P**	**13 25 06.1**	**+2.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA	**Gaotai**	**43.05**	**71**	*e*P	**P**	**13 25 05.3**	**+0.9**
GTA				pP	sP	13 25 09.8	-0.6
GTA				sP	pP	13 25 12.4	+3.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**44.93**	**247**	P	**P**	**13 25 17.7**	**-1.9**
	comp=Z,3.4nm,0.9s,baz=48,slow=7.8,SNR=17						
ULN	**Ulaanbaatar**	**45.89**	**57⇑**	*i* P	**P**	**13 25 28.1**	**+1.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**45.89**	**57**	*e*P	**P**	**13 25 26.5**	**-0.6**
	comp=Z,5.5nm,1.0s						
LZH	**Lanzhou**	**47.19**	**74**	*e*P	P	13 25 44.3	+6.9
LZH				pP	sP	13 25 54.3	+11
LZH				sP	pP	13 25 58.8	+17
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.3s						
BOD	**Bodaibo**	**48.17**	**43**	*e*P	**P**	**13 25 44.3**	**-0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**51.06**	**65**	*e*P	**P**	**13 26 08.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,1μm,5.8s						
CHTO	**Chiang Mai**	**51.64**	**96**	*e*P	**P**	**13 26 09.8**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**51.64**	**96**	*e*P	**P**	**13 26 09.8**	**-1.7**
	comp=Z,4.7nm,0.7s						
XAN	**Xi'an**	**51.82**	**74**	P	**P**	**13 26 12.8**	**+0.2**
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.85**	**97**	P	**P**	**13 26 12.4**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=298,slow=8.6,SNR=30						
TIXI	**Tiksi**	**52.27**	**24⇓**	*e*P	**P**	**13 26 15.8**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SEY	**Seymchan**	**63.94**	**29⇓**	*e*P	**P**	**13 27 37.4**	**+0.2**
KSAR	**Wonju Array Be**	**63.95**	**62**	P	**P**	**13 27 37.3**	**-0.4**
KSAR	**Wonju Array Be**	**63.95**	**62**	P	**P**	**13 27 37.3**	**-0.4**
KSRS	**Korea Array**	**63.97**	**62**	P	**P**	**13 27 37.3**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=291,slow=6.1,SNR=17						
MJAR	**Matsushiro Arr**	**71.41**	**58**	P	**P**	**13 28 24.4**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=295,slow=4.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**71.41**	**58**	P	**P**	**13 28 24.4**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
COLA	**College**	**76.29**	**5⇓**	*e*P	**P**	**13 28 52.6**	**-0.3**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ILAR	**Eielson Array**	**76.46**	**5**	P	**P**	**13 28 53.1**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=305,slow=2.6,SNR=5.1						
KDAK	**Kodiak Island**	**82.84**	**9**	*i* P	**P**	**13 29 28.6**	**0.0**

*CSEM **23** 13:19:58.1±0.2, 44°.43N×21°.89E, h1km, ML1.7, Error ellipse: s-maj=4.6km s-min=3.0km az=101.0, Mining explosion.*

BEO 23 13:19:59.2±0.4, 44°.45N×21°.91E, h0km, M1.7/7, 7C-6D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.17**	**257**	*e*Pg	Pg	13 20 00.3	-2.2
KUBS				*e*Sg	Sg	13 20 04.8	+0.1
KUBS	**Kucevo**	**0.17**	**257**	*e*Pg	Pg	13 20 00.3	-2.2
KUBS				*e*Sg	Sg	13 20 04.8	+0.1
MDVR	**Moldovita**	**0.36**	**337**	⇓*i*P	Pg	13 20 05.8	-0.3
MDVR				S	Sg	13 20 11.9	+1.1
MDVR	**Moldovita**	**0.36**	**337**	⇓*i*P	Pg	13 20 05.8	-0.3
MDVR				S	Sg	13 20 11.9	+1.1
ZAGS	**Zajecar**	**0.68**	**160**	*e*Pg	Pg	13 20 10.3	-1.9
ZAGS				*e*Sg	Sg	13 20 21.4	+0.4
ZAGS	**Zajecar**	**0.68**	**160**	*e*Pg	Pg	13 20 10.3	-1.9
ZAGS				*e*Sg	Sg	13 20 21.4	+0.4
BOVS	**Bovan**	**0.83**	**190**	*e*Pg	Pg	13 20 13.3	-1.7
BOVS				*e*Sg	Sg	13 20 26.4	+0.6
BOVS	**Bovan**	**0.83**	**190**	*e*Pg	Pg	13 20 13.3	-1.7
BOVS				*e*Sg	Sg	13 20 26.4	+0.6
GRUS	**Gruza**	**1.03**	**237**	*e*Pg	Pg	13 20 17.6	-1.3
GRUS				*e*Sg	Sg	13 20 31.9	-0.3
GRUS	**Gruza**	**1.03**	**237**	*e*Pg	Pg	13 20 17.6	-1.3
GRUS				*e*Sg	Sg	13 20 31.9	-0.3
TRUS	**Trudelj**	**1.10**	**259**	*e*Pg	Pg	13 20 19.3	-1.0
TRUS				*e*Sg	Sg	13 20 34.4	-0.2
TRUS	**Trudelj**	**1.10**	**259**	*e*Pg	Pg	13 20 19.3	-1.0
TRUS				*e*Sg	Sg	13 20 34.4	-0.2
GZR	**Gura Zlata**	**1.13**	**33**	⇓*i*P	Pg	13 20 20.1	-0.7
GZR	**Gura Zlata**	**1.13**	**33**	⇓*i*P	Pg	13 20 20.1	-0.7
GZR				S	Sn	13 20 38.2	-0.3
BZS	**Buzias**	**1.19**	**350**	*e*Pg	Pg	13 20 20.7	-1.2
BZS				*e*Sg	Sb	13 20 38.0	-0.5
BZS	**Buzias**	**1.19**	**350**	⇑*i*P	Pg	13 20 21.2	-0.7
BZS	**Buzias**	**1.19**	**350**	*e*Pg	Pg	13 20 20.7	-1.2
BZS	**Buzias**	**1.19**	**350**	⇑*i*P	Pg	13 20 21.2	-0.7
BZS				*e*Sg	Sb	13 20 38.0	-0.5
BZS				S	Sn	13 20 39.7	-0.2
ZAPS	**Zavoj**	**1.29**	**156**	*e*Pg	Pg	13 20 22.2	-1.7
ZAPS				*e*Sg	Sg	13 20 40.7	+0.2
SELS	**Selova**	**1.36**	**205**	*e*Pg	Pg	13 20 23.4	-1.8
SELS				*e*Sg	Sg	13 20 43.0	+0.2
DIVS	**Divibare**	**1.42**	**256**	*e*Pg	Pn	13 20 24.0	-2.4
DIVS	**Divibare**	**1.42**	**256**	*e*Pg	Pn	13 20 24.0	-2.4
IVAS	**Ivanjica**	**1.54**	**236**	*e*Pg	Pn	13 20 26.1	-1.9
IVAS				*e*Sg	Sg	13 20 48.1	-0.5
IVAS	**Ivanjica**	**1.54**	**236**	*e*Pg	Pn	13 20 26.1	-1.9
IVAS				*e*Sg	Sg	13 20 48.1	-0.5
BARS	**Barje**	**1.63**	**182**	*e*Pg	Pn	13 20 27.4	-1.8
BARS				*e*Sg	Sn	13 20 50.8	-0.2
BARS	**Barje**	**1.63**	**182**	*e*Pg	Pn	13 20 27.4	-1.8
BARS				*e*Sg	Sn	13 20 50.8	-0.2
LOT	**Lotru**	**1.66**	**52**	⇑*i*P	Pn	13 20 28.8	-0.8
LOT	**Lotru**	**1.66**	**52**	⇑*i*P	Pn	13 20 28.8	-0.8
LOT				S	Sn	13 20 51.0	-0.6
SIRR	**Siria**	**1.83**	**355**	⇑*i*P	Pn	13 20 30.1	-1.8
SIRR	**Siria**	**1.83**	**355**	⇑*i*P	Pn	13 20 30.1	-1.8
SIRR				S	Sn	13 20 54.3	-1.4
DRGR		**2.41**	**13**	⇓*i*P	Pn	13 20 39.1	-0.8
DRGR		**2.41**	**13**	⇓*i*P	Pn	13 20 39.1	-0.8
DOPR	**Dopca**	**2.89**	**57**	⇑*i*P	Pn	13 20 45.7	-0.8

*DDA **23** 13:22:32.2, 38°.64N×43°.32E, h1km, Ml4.1*
*ISK **23** 13:22:33.6, 38°.76N×43°.45E, h5km, MD3.5, ML3.6*
*IDC **23** 13:22:36.2±1.1, 38°.64N×43°.94E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/43, mbtmp3.6/9, ML2.7/2, Error ellipse: s-maj=20.5km s-min=12.8km az=156.0*
*CSEM **23** 13:22:39.5±0.2, 38°.77N×43°.07E, h10km, ML4.1, Error ellipse: s-maj=6.9km s-min=3.8km az=168.0*
*TEH **23** 13:22:41.3, 38°.66N×43°.84E, h18km, ML3.5*
*AZER **23** 13:22:42.0±1.2, 38°.74N×43°.14E, h28km±47km, Error ellipse: s-maj=37.9km s-min=9.0km az=61.0*

ISC 23 13:22:33.0±1.1, 38°.73N±0°.02×43°.44E±0°.02, h3km±9km, n110, σ1$70/129, mb3.6/6, 14C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.28**	**21**	⇓*i*P	**Pb**	**13 22 41.0**	**+0.2**
VMUR				*i* S	**Sb**	**13 22 47.2**	**+1.2**
GEVA	**Gevas**	**0.51**	**216**	⇓*i*P	**Pg**	**13 22 41.4**	**-1.4**
GEVA				*i* S	**Sn**	**13 22 54.4**	**-2.2**
BASK	**Baskale_VAN**	**0.80**	**147**	*i* P	**Pg**	**13 22 47.8**	**-0.6**
TUTA	**Tutak**	**0.83**	**324**	*i* P	**Pb**	**13 22 49.0**	**-1.3**
DYDN	**Diyadin**	**0.84**	**13**	*i* P	**Pn**	**13 22 50.8**	**-1.1**
AGRB	**Hanur-Agry**	**0.92**	**338**	*e*PG	**Pn**	**13 22 51.8**	**-1.2**
AGRB				*e*SG	**Sn**	**13 23 05.0**	**-1.8**
AGRB	**Hanur-Agry**	**0.92**	**338**	*e*Pg	**Pn**	**13 22 51.8**	**-1.2**
AGRB				*e*Sg	**Sn**	**13 23 05.0**	**-1.8**
HAKT	**HAKKARI**	**1.18**	**170**	⇓*i*P	**Pb**	**13 22 54.0**	**-2.1**
HAKT				*i* S	**Sn**	**13 23 13.6**	**+0.2**
EKAR	**Karacoban**	**1.20**	**297**	⇑*i*P	**Pg**	**13 22 56.9**	**+1.0**
EKAR	**Karacoban**	**1.20**	**297**	P	**Pg**	**13 22 56.9**	**+1.0**
EATA	**Eleskirt**	**1.35**	**327**	⇑*i*P	**Pg**	**13 22 58.4**	**-0.6**
EATA				*i* S	**Sg**	**13 23 18.1**	**+1.5**
SIRN	**S¨–rnak**	**1.47**	**214**	⇓*i*P	**Pn**	**13 22 59.7**	**-0.7**
CUKT	**Cukurca**	**1.48**	**175**	*e*PN	**Pg**	**13 23 03.1**	**+1.7**
CUKT	**Cukurca**	**1.48**	**175**	*i* P	**Pg**	**13 23 01.6**	**+0.2**
VRTB	**Varto-Mus**	**1.61**	**286**	*e*PN	**Pg**	**13 23 04.2**	**+0.4**
VRTB				*e*SN	**Sg**	**13 23 26.7**	**+2.0**
VRTB	**Varto-Mus**	**1.61**	**286**	*e*Pn	**Pg**	**13 23 04.2**	**+0.4**
VRTB				*e*Sn	**Sg**	**13 23 26.7**	**+2.0**
NAX	**Nakhchivan**	**1.66**	**74**	⇓P	**Pg**	**13 23 05.8**	**+1.0**
NAX				⇓S	Sg	13 23 35.0	+8.6
NAX	**Nakhchivan**	**1.66**	**74**	S	Sg	13 23 35.0	+8.6
DIGO	**Kars**	**1.69**	**358**	⇓*i*P	**Pg**	**13 23 06.2**	**+0.8**
GNI	**Garni**	**1.74**	**35**	Pn	**Pg**	**13 23 06.8**	**+0.5**
	25nm,0.3s,baz=13,slow=8.6,SNR=10						
ISHB	**Shabestar**	**1.76**	**104**	*e*AMB	AMB	13 23 10.8	
	comp=Z,9μm,0.2s						
ISHB				*e*Pn	**Pg**	**13 23 06.6**	**-0.1**
IMRD	**Marand**	**1.77**	**90**	*e*AMB	AMB	13 23 11.3	
	comp=Z,16μm,0.2s						
IMRD				*e*Pn	**Pg**	**13 23 06.8**	**-0.1**
HOMI	**Horasan**	**1.78**	**318**	*i* P	**Pg**	**13 23 06.8**	**-0.3**
HOMI				*i* S	**Sg**	**13 23 32.9**	**+2.8**
BNGL	**BINGOL**	**1.81**	**278**	*i* P	**Pb**	**13 23 05.3**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	*e*PN	**Pb**	**13 23 07.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	*i* P	**Pn**	**13 23 05.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	*e*Pn	**Pb**	**13 23 07.0**	**-0.5**
BTMN	**Batman**	**1.90**	**245**	⇓*i*P	**Pn**	**13 23 06.1**	**-0.2**
BTMN				*i* S	**Sb**	**13 23 31.6**	**-0.9**
EAK	**Akyaka**	**1.96**	**4**	⇓*i*P	**Pg**	**13 23 11.8**	**+1.2**
EAK				*i* S	**Sg**	**13 23 39.5**	**+3.4**
EAK	**Akyaka**	**1.96**	**4**	P	**Pg**	**13 23 11.8**	**+1.2**
EAK				S	**Sg**	**13 23 39.5**	**+3.4**
ERZM	**Erzurum**	**2.00**	**307**	*i* P	**Pg**	**13 23 10.8**	**-0.5**
ERZM	**Erzurum**	**2.00**	**307**	P	**Pg**	**13 23 10.8**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*PN	**Pb**	**13 23 09.8**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*Pn	**Pb**	**13 23 09.8**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.11**	**295**	*i* P	**Pb**	**13 23 10.6**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.11**	**295**	P	**Pb**	**13 23 10.6**	**-1.4**
BNGB	**Bing¨¶l**	**2.17**	**278**	*e*PN	**Pb**	**13 23 11.8**	**-1.2**
ITBZ	**Tabriz**	**2.18**	**102**	*e*Pn	**Pb**	**13 23 12.5**	**-0.6**
ITBZ				*e*AMB	AMB	13 23 18.4	
	comp=Z,2μm,0.3s						
ITBZ				*e*Sg	**Sb**	**13 23 39.7**	**-0.9**
BINT	**Bingol**	**2.31**	**275**	*e*Pn	**Pn**	**13 23 11.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*PN	**Pb**	**13 23 15.2**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*Pn	**Pb**	**13 23 15.2**	**-1.1**
MARD	**Mardin**	**2.53**	**237**	*i* P	**Pn**	**13 23 14.7**	**-0.3**
KOPT	**Kop Dagi**	**2.62**	**300**	⇓*i*P	**Pb**	**13 23 20.7**	**-0.1**
KOPT	**Kop Dagi**	**2.62**	**300**	P	**Pb**	**13 23 20.7**	**-1.2**
DAGI	**Agillar**	**2.63**	**334**	*i* P	**Pb**	**13 23 19.7**	**-1.1**
GDB	**GEDABAY**	**2.67**	**41**	⇓P	**Pb**	**13 23 20.4**	**-1.2**
	SNR=23						
GDB				⇓S	**Sg**	**13 23 59.4**	**+0.5**
GDB	**GEDABAY**	**2.67**	**41**	P	**Pb**	**13 23 20.4**	**-1.2**
	SNR=23						
GDB				S	**Sg**	**13 23 59.4**	**+0.5**
MAZI	**Mazidag**	**2.68**	**243**	*e*PN	**Pb**	**13 23 20.0**	**-1.6**
MAZI	**Mazidag**	**2.68**	**243**	*e*Pn	**Pb**	**13 23 20.0**	**-1.6**
AKH	**Akhalkalaki**	**2.68**	**1**	*e*PN	**Pb**	**13 23 18.7**	**-3.0**
AKH	**Akhalkalaki**	**2.68**	**1**	*e*Pn	**Pb**	**13 23 18.7**	**-3.0**
ARTV	**Artvin**	**2.72**	**335**	*i* P	**Pb**	**13 23 20.9**	**-1.5**
ARTV	**Artvin**	**2.72**	**335**	P	**Pb**	**13 23 20.9**	**-1.5**
QZX	**Qazax, Azerbai**	**2.76**	**32**	⇓P	**Pg**	**13 23 24.4**	**-1.5**
	SNR=10.0						
QZX				⇑S	**Sg**	**13 24 00.6**	**-1.1**
QZX	**Qazax, Azerbai**	**2.76**	**32**	P	**Pg**	**13 23 24.4**	**-1.5**
	SNR=10.0						
QZX				S	**Sg**	**13 24 00.6**	**-1.1**
IHRS	**Heris**	**2.85**	**97**	*e*Pn	**Pb**	**13 23 22.2**	**-2.4**
IHRS				*e*AMB	AMB	13 23 40.0	
	comp=Z,4μm,0.4s						
IBST	**Bostanabad**	**2.90**	**110**	*e*Pn	**Pb**	**13 23 26.3**	**+0.8**
IBST				*e*AMB	AMB	13 23 29.3	
	comp=Z,986nm,0.2s						
IBST	**Bostanabad**	**2.90**	**110**	*e*Pn	**Pb**	**13 23 26.3**	**+0.8**
GANJ	**Ganja**	**2.94**	**48**	⇑P	**Pg**	**13 23 26.8**	**-2.4**
	SNR=13						
GANJ				⇓S	**Sg**	**13 24 06.0**	**-1.3**
GANJ	**Ganja**	**2.94**	**48**	P	**Pg**	**13 23 26.8**	**-2.4**
	SNR=13						
GANJ				S	**Sg**	**13 24 06.0**	**-1.3**
ERZN	**Erzincan**	**3.02**	**288**	*e*PN	**Pb**	**13 23 24.2**	**-3.2**
TNCL	**Tunceli-Merkez**	**3.07**	**279**	*i* P	**Pb**	**13 23 28.3**	**0.0**
DGRG	**David-gareji**	**3.10**	**28**	P	**Pg**	**13 23 31.3**	**+1.1**
PTK	**Pertek**	**3.17**	**274**	*e*PN	**Pb**	**13 23 26.4**	**-3.6**
PTK	**Pertek**	**3.17**	**274**	*e*Pn	**Pb**	**13 23 26.4**	**-3.6**
SVRC	**Sivrice-ELAZID**	**3.26**	**265**	*e*PN	**Pb**	**13 23 28.1**	**-3.5**
SVRC	**Sivrice-ELAZID**	**3.26**	**265**	*e*Pn	**Pb**	**13 23 28.1**	**-3.5**
BRDA	**Brd**	**3.27**	**61**	⇓P	**Pg**	**13 23 34.5**	**-1.2**
	SNR=6.0						
BRDA	**Brd**	**3.27**	**61**	P	**Pg**	**13 23 34.5**	**-1.2**
	SNR=6.0						
EZC	**Erzincan**	**3.34**	**289**	*e*Pn	**Pn**	**13 23 24.2**	**-2.0**
MNGR	**Mingechevir, A**	**3.47**	**53**	⇓P	**Pg**	**13 23 37.3**	**-2.2**
	SNR=8.1						
MNGR	**Mingechevir, A**	**3.47**	**53**	P	**Pg**	**13 23 37.3**	**-2.2**
	SNR=8.1						
ELZG	**Elazig**	**3.50**	**268**	*i* P	Pn	13 23 20.2	-8.2
KELT	**Kelkit**	**3.54**	**295**	*i* P	**Pb**	**13 23 36.2**	**-0.2**
ZKTA	**Zakatala**	**3.79**	**39**	⇑P	**Pb**	**13 23 41.0**	**+0.4**
	SNR=6.9						
ZKTA				⇑S	**Sb**	**13 24 27.0**	**0.0**
SEKA	**Sheki**	**3.81**	**48**	⇑P	**Pb**	**13 23 42.1**	**+1.3**
	SNR=12						
SEKA				⇑S	**Sb**	**13 24 28.4**	**+1.1**
SEKA	**Sheki**	**3.81**	**48**	P	**Pb**	**13 23 42.1**	**+1.3**
	SNR=12						
SEKA				S	**Sb**	**13 24 28.4**	**+1.1**
LRK	**Lerik**	**3.83**	**90**	⇓P	**Pb**	**13 23 40.7**	**-0.6**
	SNR=14						
LRK				⇑S	**Sb**	**13 24 30.0**	**+1.8**
LRK	**Lerik**	**3.83**	**90**	P	**Pb**	**13 23 40.7**	**-0.6**
	SNR=14						
LRK				S	**Sb**	**13 24 30.0**	**+1.8**
GLBA	**Clilabad**	**3.89**	**81**	⇑P	**Pb**	**13 23 43.6**	**+1.4**
	SNR=4.5						
GLBA				⇓S	**Sb**	**13 24 31.6**	**+1.9**
GLBA	**Clilabad**	**3.89**	**81**	P

JMA 23 13:29:00.2±0.1, 37°.76N×141°.96E, h31km±3km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.84	325	P	Pn	13 29 15.9	0.0
JIO				S	Sn	13 29 26.2	-1.1
JMM	Marumori	0.93	277	P	Pn	13 29 17.2	+0.1
JMM				S	Sn	13 29 28.7	-0.7
JFK	Kawauchi	0.95	246	P	Pn	13 29 17.2	-0.2
JFK				S	Sn	13 29 29.0	-0.9
ONAJ	Iwakimizuishiy	1.13	235	P	Pn	13 29 20.0	0.0
ONAJ				S	Sn	13 29 33.6	-0.9
JOU	Okura	1.19	301	P	Pb	13 29 21.5	-0.7
JOU				S	Sb	13 29 36.6	-0.6
JFT	Otama	1.31	260	P	Pb	13 29 23.6	-0.6
JFT				eS	Sb	13 29 39.9	-0.8
JMK	Ichinoseki	1.32	334	P	Pn	13 29 23.3	+0.7
JMK				eS	Sn	13 29 38.9	-0.2
JYS	Shirataka	1.57	288	eS	Sb	13 29 47.0	-1.0
JYK	Kaneyama	1.71	313	P	Pn	13 29 29.0	+1.1
JOM	Ohasama	1.79	343	P	Pn	13 29 30.1	+1.2
JOM				eS	Sn	13 29 51.6	+1.0
JFY	Yanaizu	1.83	260	P	Pn	13 29 30.9	+1.4
JYA	Atsumi	1.96	296	P	Pn	13 29 32.6	+1.4
MAT	Matsushiro	3.23	249	P	Pn	13 29 50.9	+2.0
MAT				eS	Sn	13 30 31.1	+4.8

ISK 23 13:31:28.4, 38°.83N×43°.76E, h11km, ML3.3
AZER 23 13:31:30.9±2.2, 38°.79N×43°.29E, h8km, Error ellipse: s-maj=23.5km s-min=16.0km az=49.0
CSEM 23 13:31:31.5±0.2, 38°.84N×43°.42E, h2km, ML3.3, Error ellipse: s-maj=9.5km s-min=4.4km az=162.0

ISC 23 13:31:32.7±2.3, 38°.93N±0°.05×43°.44E±0°.03, h11km±17km, n36, σ0°89/49, 9C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.73	332	ePG	Pb	13 31 47.3	-0.3
AGRB				SG	Sn	13 32 00.7	+0.2
AGRB	Hanur-Agry	0.73	332	ePg	Pb	13 31 47.3	-0.3
NAX	Nakhchivan	1.62	81	⇑P	Pn	13 32 00.3	-1.0
NAX				⇓S	Sg	13 32 25.4	+0.6
NAX	Nakhchivan	1.62	81	P	Pn	13 32 00.3	-1.0
SENK	Senkaya-Erzuru	1.83	333	ePN	Pn	13 32 03.9	-0.4
SENK	Senkaya-Erzuru	1.83	333	ePn	Pn	13 32 03.9	-0.4
SVAN	Silvan-Diyarba	1.92	247	ePN	Pn	13 32 04.3	-1.1
SVAN				eSN	Sn	13 32 31.3	+1.8
SVAN	Silvan-Diyarba	1.92	247	ePn	Pn	13 32 04.3	-1.1
BNGB	Bing¶ll	2.15	272	ePN	Pn	13 32 08.9	+0.3
BNGB				eSN	Sb	13 32 38.6	+0.2
BINT	Bingol	2.30	270	ePn	Pn	13 32 08.9	-1.8
BINT				eSn	Sn	13 32 38.6	-0.5
YEDI	Yedisu-Bingol	2.31	284	ePN	Pn	13 32 11.0	+0.2
YEDI	Yedisu-Bingol	2.31	284	ePn	Pn	13 32 11.0	+0.2
AKH	Akhalkalaki	2.48	1	ePN	Pn	13 32 11.3	-1.8
GDB	GEDABAY	2.53	44	⇑P	Pn	13 32 14.7	+0.9
GDB				⇑S	Sb	13 32 49.1	-0.2
GDB	GEDABAY	2.53	44	P	Pn	13 32 14.7	+0.9
GDB				S	Sb	13 32 49.1	-0.2
QZX	Qazax, Azerbai	2.59	34	⇑P	Pn	13 32 16.1	+1.5
QZX				⇑S	Sb	13 32 49.9	-1.2
QZX	Qazax, Azerbai	2.59	34	P	Pn	13 32 16.1	+1.5
QZX				S	Sb	13 32 49.9	-1.2
MAZI	Mazidag	2.78	239	ePN	Pn	13 32 16.6	-0.6
MAZI	Mazidag	2.78	239	ePn	Pn	13 32 16.6	-0.6
GANJ	Ganja	2.81	51	⇑P	Pn	13 32 17.9	+0.4
GANJ				⇓S	Sb	13 32 56.0	-1.2
GANJ	Ganja	2.81	51	P	Pn	13 32 17.9	+0.4
GANJ				S	Sb	13 32 56.0	-1.2
ERZN	Erzincan	2.96	284	ePN	Pn	13 32 20.7	+1.0
PTK	Pertek	3.16	271	ePN	Pn	13 32 23.0	+0.5
PTK	Pertek	3.16	271	ePn	Pn	13 32 23.0	+0.5
SVRC	Sivrice-ELAZID	3.28	262	ePN	Pn	13 32 24.9	+0.7
SVRC	Sivrice-ELAZID	3.28	262	ePn	Pn	13 32 24.9	+0.7
GLBA	Clilabad	3.87	84	⇑P	Pn	13 32 32.5	+0.4
GLBA				⇓S	Sn	13 33 17.9	+0.4
GLBA	Clilabad	3.87	84	P	Pn	13 32 32.5	+0.4
GLBA				S	Sn	13 33 17.9	+0.4
URFA	Urfa	3.93	249	ePN	Pn	13 32 33.6	+0.6
URFA	Urfa	3.93	249	ePn	Pn	13 32 33.6	+0.6
LKRN	Lenkeran, Azer	4.18	91	⇑P	Pn	13 32 36.1	-0.2
LKRN	Lenkeran, Azer	4.18	91	P	Pn	13 32 36.1	-0.2
XNQ	Khinaliq	4.25	57	⇓P	Pn	13 32 38.3	+0.8
XNQ	Khinaliq	4.25	57	P	Pn	13 32 38.3	+0.8
PQL	Pirkuli	4.38	63	⇑P	Pn	13 32 40.3	+1.0
PQL	Pirkuli	4.38	63	P	Pn	13 32 40.3	+1.0

NSSC 23 13:33:26.2±1.7, 38°.57N×45°.69E, h0km±272km, MD3.0, ML3.3
IDC 23 13:33:46.2±1.1, 38°.71N×43°.43E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.5/53, mbtmp3.6/13, ML3.1/3, MS4.5/1, Ms1 4.5/1, ms1mx3.8/42, Error ellipse: s-maj=19.1km s-min=13.7km az=152.0
DDA 23 13:33:46.9, 38°.72N×43°.38E, h3km, Ml4.2
ISK 23 13:33:48.8, 38°.82N×43°.23E, h5km, ML3.6
AZER 23 13:33:48.3±1.5, 38°.45N×43°.20E, h8km, Error ellipse: s-maj=16.1km s-min=12.1km az=19.0
CSEM 23 13:33:49.6±0.2, 38°.73N×43°.20E, h2km, ML4.2, Error ellipse: s-maj=5.0km s-min=4.4km az=150.0
NEIC 23 13:33:49.2±0.0, 38°.81N×43°.23E, h5km, ML4.1(DDA), ML4.1(ISK), After ISK.
TEH 23 13:33:51.2, 39°.05N×43°.59E, h18km, ML3.8

ISC 23 13:33:48.8±1.0, 38°.79N±0°.01×43°.35E±0°.02, h6km±7km, n139, σ2°06/178, mb3.6/9, 14C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.26	170	iP	Pg	13 33 54.5	+0.6
TVAN	Van	0.26	170	iP	Pg	13 33 54.5	+0.6
VMUR	Van-Muradiye	0.27	40	⇓iP	Pg	13 33 53.6	-0.5
VMUR				iS	Sg	13 33 58.6	+0.9
VMUR	Van-Muradiye	0.27	40	iS	Sg	13 33 59.3	+1.6
VMUR	Van-Muradiye	0.27	40	iP	Pg	13 33 53.7	-0.5
VMUR				iS	Sg	13 33 59.3	+1.6
GEVA	Gevas	0.53	206	⇓iP	Pg	13 33 56.8	-2.1
GEVA				iS	Sg	13 34 05.3	-0.4
GEVA	Gevas	0.53	206	iP	Pg	13 33 57.2	-1.7
GEVA	Gevas	0.53	206	iP	Pg	13 33 57.2	-1.7
TUTA	Tutak	0.74	326	⇑iP	Pg	13 34 02.5	-0.6
TUTA				iS	Sb	13 34 14.8	-0.1
TUTA	Tutak	0.74	326	P	Pg	13 34 02.5	-0.6
TUTA				S	Sb	13 34 14.8	-0.1
DYDN	Diyadin	0.80	19	⇑iP	Pg	13 34 02.8	-1.5
DYDN				iS	Sg	13 34 14.9	+0.2
AGRB	Hanur-Agry	0.84	341	ePG	Pg	13 34 04.2	-0.8
AGRB				eSG	Sg	13 34 16.8	+1.0
AGRB	Hanur-Agry	0.84	341	Pg	Pg	13 34 04.9	0.0
AGRB				eSg	Sg	13 34 16.8	+1.0
AGRB	Hanur-Agry	0.84	341	Pg	Pg	13 34 04.9	0.0
BASK	Baskale_VAN	0.89	145	iP	Pg	13 34 03.0	-3.0
EKAR	Karacoban	1.11	296	iP	Pg	13 34 09.9	-0.1
EKAR				iS	Sn	13 34 28.9	+2.1
EKAR	Karacoban	1.11	296	P	Pg	13 34 09.9	-0.1
EATA	Eleskirt	1.27	329	⇑iP	Pg	13 34 12.1	-1.0
EATA				iS	Sn	13 34 31.6	+0.7
EATA	Eleskirt	1.27	329	P	Pg	13 34 12.1	-1.0
EATA				S	Sn	13 34 31.5	+0.7
SIRN	S¨–rnak	1.48	210	iP	Pn	13 34 14.7	-1.4
SIRN				iS	Sg	13 34 37.3	+0.8
SIRN	S¨–rnak	1.48	210	P	Pn	13 34 14.7	-1.4
VRTB	Varto-Mus	1.52	285	ePN	Pn	13 34 16.9	+0.2
VRTB	Varto-Mus	1.52	285	ePn	Pn	13 34 16.9	+0.2
VRTB	Varto-Mus	1.52	285	Pn	Pn	13 34 17.3	+0.5
CUKT	Cukurca	1.55	172	ePN	Pg	13 34 19.5	+1.0
CUKT				eSN	Sg	13 34 41.3	+2.7
CUKT	Cukurca	1.55	172	iP	Pb	13 34 17.9	-0.1
CUKT				iS	Sg	13 34 39.5	+0.9
CUKT	Cukurca	1.55	172	P	Pb	13 34 17.9	-0.1
CUKT	Cukurca	1.55	172	ePn	Pg	13 34 19.5	+1.0
CUKT				eSn	Sg	13 34 41.3	+2.7
CUKT	Cukurca	1.55	172	Pn	Pg	13 34 19.5	+1.0
DIGO	Kars	1.63	1	⇑iP	Pn	13 34 17.9	-0.3
DIGO				iS	Sg	13 34 44.8	+3.6
HOMI	Horasan	1.68	319	⇑iP	Pn	13 34 19.7	+0.7
HOMI				iS	Sg	13 34 45.5	+2.5
NAX	Nakhchivan	1.72	76	⇓P	Pn	13 34 19.3	0.0
NAX	SNR=23			⇓S	Sg	13 34 46.7	+2.7
NAX	Nakhchivan	1.72	76	P	Pn	13 34 19.3	0.0
NAX	SNR=23			S	Sg	13 34 46.7	+2.7
BNGL	BINGOL	1.73	276	⇓iP	Pn	13 34 19.7	+0.2
BNGL				iS	Sg	13 34 44.9	+0.6
GNI	Garni	1.74	38	Pn	Pn	13 34 19.5	-0.2
	60nm,0.3s,baz=289,slow=1.7,SNR=19						
SVAN	Silvan-Diyarba	1.80	250	ePN	Pn	13 34 20.8	+0.3
SVAN				eSN	Sb	13 34 44.8	-0.4
SVAN	Silvan-Diyarba	1.80	250	iP	Pn	13 34 20.4	-0.1
SVAN	Silvan-Diyarba	1.80	250	P	Pn	13 34 20.4	-0.1
SVAN	Silvan-Diyarba	1.80	250	ePn	Pn	13 34 20.8	+0.3
SVAN				eSn	Sb	13 34 44.8	-0.4
IMRD	Marand	1.84	91	ePn	Pn	13 34 19.9	-1.2
IMRD				eAMB	AMB	13 35 02.0	
IMRD	comp=Z,13μm,0.2s						
IMRD	Marand	1.84	91	ePn	Pn	13 34 19.9	-1.2
ISHB	Shabestar	1.85	105	ePn	Pn	13 34 20.3	-1.0
ISHB				eAMB	AMB	13 34 27.2	
ISHB	comp=Z,9μm,0.2s						
ISHB				eSg	Sb	13 34 46.4	-0.2
BTMN	Batman	1.86	242	⇓iP	Pn	13 34 20.7	-0.7
BTMN	Batman	1.86	242	P	Pn	13 34 20.7	-0.7
ERZM	Erzurum	1.90	307	iP	Pn	13 34 22.5	+0.4
ERZM				iS	Sn	13 34 46.8	+0.3
ERZM	Erzurum	1.90	307	P	Pn	13 34 22.5	+0.4
ERZM				S	Sn	13 34 46.8	+0.3
EAK	Akyaka	1.91	6	iP	Pb	13 34 25.0	+0.8
EAK	Akyaka	1.91	6	P	Pb	13 34 25.0	+0.8
SENK	Senkaya-Erzuru	1.94	337	ePN	Pn	13 34 23.2	+0.7
SENK	Senkaya-Erzuru	1.94	337	ePn	Pn	13 34 23.2	+0.7
ECAT	Cat-ERZURUM	2.02	295	iP	Pb	13 34 25.9	-0.2
ECAT	Cat-ERZURUM	2.02	295	P	Pb	13 34 25.9	-0.2
BNGB	Bing¶ll	2.10	276	ePN	Pn	13 34 24.9	+0.4
BINT	Bingol	2.24	273	ePn	Pn	13 34 24.9	-1.6
YEDI	Yedisu-Bingol	2.28	288	ePN	Pn	13 34 27.5	+0.4
YEDI	Yedisu-Bingol	2.28	288	ePn	Pn	13 34 27.5	+0.4
DDEM	Demirkent	2.44	330	⇑iP	Pb	13 34 33.6	+0.5
MARD	Mardin	2.50	235	⇓iP	Pn	13 34 29.3	-0.9
KOPT	Kop Dagi	2.53	300	⇓iP	Pb	13 34 35.3	+0.5
DAGI	Agillar	2.54	335	iP	Pb	13 34 35.3	+0.4
AKH	Akhalkalaki	2.62	2	ePN	Pn	13 34 33.7	+1.8
AKH	Akhalkalaki	2.62	2	P	Pg	13 34 38.9	-0.2
AKH	Akhalkalaki	2.62	2	ePn	Pn	13 34 33.7	+1.8
ARTV	Artvin	2.63	336	iP	Pb	13 34 37.1	+0.5
MAZI	Mazidag	2.65	241	ePN	Pn	13 34 31.3	-0.8
MAZI	Mazidag	2.65	241	ePn	Pn	13 34 31.3	-0.8
GDB	GEDABAY	2.68	43	⇓P	Pn	13 34 32.7	+0.1
GDB	SNR=8.8			⇓S	Sb	13 35 12.4	+2.0
GDB	GEDABAY	2.68	43	P	Pn	13 34 32.7	+0.1
GDB	SNR=8.8			S	Sb	13 35 12.4	+2.0
QZX	Qazax, Azerbai	2.75	34	⇑P	Pb	13 34 37.7	-0.7
QZX	SNR=12			⇓S	Sg	13 35 17.0	-0.2
QZX	Qazax, Azerbai	2.75	34	P	Pb	13 34 37.7	-0.7
QZX	SNR=12			S	Sg	13 35 17.0	-0.2
DBOC	Borcka	2.87	334	⇓iP	Pb	13 34 40.1	-0.3
ERZN	Erzincan	2.93	287	ePN	Pn	13 34 37.3	+1.2
IHRS	Heris	2.93	98	ePn	Pn	13 34 35.2	-1.0
IHRS				eAMB	AMB	13 34 50.9	
IHRS	comp=Z,2μm,0.4s						
IHRS	Heris	2.93	98	ePn	Pn	13 34 35.2	-1.0
GANJ	Ganja	2.95	50	P	Pb	13 34 40.5	-1.3
GANJ	SNR=13			P	Pb	13 34 40.5	-1.3
IBST	Bostanabad	2.99	110	ePn	Pn	13 34 37.5	+0.5
IBST	Bostanabad	2.99	110	ePn	Pn	13 34 37.5	+0.5
DGRG	David-gareji	3.08	30	P	Pn	13 34 39.4	+1.3
PTK	Pertek	3.09	273	ePN	Pn	13 34 39.3	+0.9
TBLG	Delisi	3.13	19	ePN	Pn	13 34 41.5	+2.8
TBLG	Delisi	3.13	19	P	Pb	13 34 44.8	-0.1
TBLG	Delisi	3.13	19	ePn	Pn	13 34 41.5	+2.8
TBLG	Delisi	3.13	19	P	Pb	13 34 44.8	-0.1
SVRC	Sivrice-ELAZID	3.19	264	ePN	Pn	13 34 41.0	+1.3
MNGR	Mingechevir, A	3.50	54	⇑P	Pn	13 34 46.8	+3.1
MNGR				⇑S	Sb	13 35 34.7	+0.9
MNGR	Mingechevir, A	3.50	54	P	Pn	13 34 46.8	+3.1
MNGR				S	Sb	13 35 34.7	+0.9
KTUT	Trabzon	3.53	310	ePN	Pn	13 34 45.5	+1.5
KTUT	Trabzon	3.53	310	ePn	Pn	13 34 45.6	+1.5
GUDG	Gudauri	3.77	13	P	Pn	13 34 41.7	-6.1
ZKTA	Zakatala	3.79	40	⇓P	Pn	13 34 51.4	+3.6
	SNR=4.1						
URFA	Urfa	3.82	251	ePN	Pn	13 34 50.1	+1.9
URFA	Urfa	3.82	251	ePn	Pn	13 34 50.1	+1.9
SEKA	Sheki	3.82	49	⇓P	Pn	13 34 52.6	+4.4
	SNR=7.0						
SEKA	Sheki	3.82	49	P	Pn	13 34 52.6	+4.4
	SNR=7.0						
QBL	Gabala	4.07	57	⇓P	Pn	13 34 53.7	+2.0
	SNR=7.6						
QBL	Gabala	4.07	57	P	Pn	13 34 53.7	+2.0
	SNR=7.6						
LKRN	Lenkeran, Azer	4.25	89	⇑P	Pn	13 34 55.2	+1.2
LKRN				⇓S	Sn	13 35 48.0	+4.1
LKRN	Lenkeran, Azer	4.25	89	P	Pn	13 34 55.2	+1.2
LKRN				S	Sn	13 35 48.0	+4.1
ASTR	Astara	4.26	91	⇑P	Pn	13 34 55.9	+1.6
ASTR				⇑S	Sb	13 35 50.5	-5.4
ASTR	Astara	4.26	91	P	Pn	13 34 55.9	+1.6
ASTR				S	Sb	13 35 50.5	-5.4
XNQ	Khinaliq	4.38	56	⇓P	Pn	13 34 59.7	+3.6
XNQ				⇓S	Sb	13 35 56.7	-2.9
XNQ	Khinaliq	4.38	56	P	Pn	13 34 59.7	+3.6
XNQ				S	Sb	13 35 56.7	-2.9
PQL	Pirkuli	4.51	62	⇓P	Pn	13 35 00.9	+3.1
PQL				⇑S	Sb	13 35 58.6	-4.5
PQL	Pirkuli	4.51	62	P	Pn	13 35 00.9	+3.1
PQL				S	Sb	13 35 58.6	-4.5
QSAR	Qusar	4.65	53	⇑P	Pn	13 35 03.4	+3.8
QSAR	Qusar	4.65	53	P	Pn	13 35 03.4	+3.8
QUBA	Quba, Azerbaij	4.71	55	⇓P	Pn	13 35 05.2	+4.8
	SNR=3.6						
QUBA	Quba, Azerbaij	4.71	55	P	Pn	13 35 05.2	+4.8
	SNR=3.6						
SIZA	Siyzn	4.84	60	⇓P	Pn	13 35 05.9	+3.6
	SNR=3.1						
SIZA	Siyzn	4.84	60	P	Pn	13 35 05.9	+3.6
	SNR=3.1						
KBZ	Khabaz	4.95	356	Pn	Pn	13 35 04.8	+1.1
	comp=Z,0.1nm,0.3s,baz=248,slow=9.2,SNR=2.5						
DRWC	Darouich	5.72	250	eP	Pn	13 35 17.4	+3.0
DRWC				AML	AML	13 37 01.5	
DRWC	comp=N,37nm,0.5s						
DRWC				AML	AML	13 37 01.6	
DRWC	comp=E,51nm,0.7s						
BTCH	Batrach	6.13	246	eP	Pn	13 35 22.2	+2.2
BTCH				eS	Sb	13 36 44.9	-4.9
BTCH				AML	AML	13 37 14.0	
BTCH	comp=E,109nm,0.7s						
BTCH				AML	AML	13 37 25.6	
BTCH	comp=N,102nm,0.6s						
RABH	Abou Rabah	6.58	231	eP	Pn	13 35 24.7	-1.4
RABH				eS	Sn	13 36 50.3	+8.9
RABH				AML	AML	13 37 40.2	
RABH	comp=N,16nm,0.6s						
RABH				AML	AML	13 37 44.7	
RABH	comp=E,26nm,0.6s						
ROOS	tl_alroos	6.71	229	eP	Pn	13 35 26.4	-1.6
BIDA	Albida	6.77	238	eP	Pn	13 35 27.4	-1.4
BIDA				AML	AML	13 37 38.3	
BIDA	comp=N,68nm,0.7s						
BIDA				AML	AML	13 37 38.7	
BIDA	comp=E,71nm,0.7s						
MARH	Ras Al Marh	7.29	231	eP	Pn	13 35 34.3	-1.9
MARH				eS	Sn	13 37 08.0	+8.5
MARH				AML	AML	13 37 54.8	
MARH	comp=N,21nm,0.7s						
MARH				AML	AML	13 38 09.3	
MARH	comp=E,30nm,0.7s						
BRBR	Barbar	8.04	230	eP	Pn	13 35 45.1	-1.2
BRBR				eS	Sn	13 37 25.5	+7.9
BRBR				AML	AML	13 38 12.7	
BRBR	comp=N,9.7nm,0.6s						
BRBR				AML	AML	13 38 19.0	
BRBR	comp=E,13nm,0.8s						
SALA	Sala	8.10	224	eP	Pn	13 35 44.1	-3.1
SALA				eS	Sn	13 37 22.3	+3.1
SALA				AML	AML	13 38 18.1	
SALA	comp=N,14nm,0.6s						
SALA				AML	AML	13 38 39.0	
SALA	comp=E,1.0nm,0.6s						
ASF	Jabal al Asfar	8.44	221	Pn	Pn	13 35 51.0	-0.7
	comp=E,0.3nm,0.3s,baz=4.5,slow=18,SNR=4.5						
MMAI	Mount Meron Ar	8.64	231	Pn	Pn	13 35 55.8	+1.3
	comp=E,2.8nm,0.3s,baz=64,slow=16,SNR=9.0						
EIL	Elat	11.44	220	LR	LR	13 41 00.9	
	comp=E,3μm,21.4s,baz=261,slow=38						
AKASG	Malin Array Be	15.54	325	Pn	Pn	13 37 28.0	-0.4
	comp=E,0.5nm,0.3s,baz=131,slow=12,SNR=6.7						
AKASG	Malin Array Be	15.54	325	Pn	Pn	13 37 28.0	-0.4
VYHS	Vyhne	20.14	307	eP	P	13 38 24.1	+0.5
VYHS	Vyhne	20.14	307	eP	P	13 38 24.1	+0.5
ARU	Arti	20.33	25	P	P	13 38 25.7	+0.2
	comp=E,1.7nm,0.4s,baz=230,slow=9.5,SNR=5.6						
BVAR	Borovoye Array	23.41	44	P	P	13 38 57.0	-1.4
	comp=E,0.2nm,0.4s,baz=284,slow=5.8,SNR=2.7						
GERES	GERESS Array B	23.50	305	P	P	13 39 00.2	+0.8
	comp=E,0.3nm,0.4s,baz=142,slow=6.8,SNR=3.7						
CLL	Collm	24.63	310	eP	P	13 39 09.0	-0.9
FINES	FINESS Array B	25.08	340	P	P	13 39 13.4	-0.4
	comp=E,1.3nm,0.8s,baz=140,slow=11,SNR=2.8						
KURBB	Kurchatov Array	27.40	53	P	P	13 39 34.0	-0.9
	comp=E,0.8nm,0.7s,baz=264,slow=8.9,SNR=6.9						
KURK	Kurchatov	27.48	53	P	P	13 39 34.0	-1.6
HFS	Hagfors	28.36	329	P	P	13 39 42.4	-1.0
	comp=E,2.4nm,0.8s,baz=134,slow=15,SNR=2.8						
EKA	Eskdalemuir Ar	34.98	314	P	P	13 40 40.2	-1.4
	comp=E,1.7nm,0.7s,baz=95,slow=9.3,SNR=3.6						
ESDC	Sonseca Array	36.33	287	P	P	13 40 51.4	-2.1
	comp=E,0.3nm,0.4s,baz=67,slow=8.2,SNR=4.9						
TORD	Torodi Ar. Bea	44.78	247	P	P	13 42 01.0	-2.5
	comp=E,0.8nm,0.8s,baz=87,slow=4.8,SNR=5.7						
CMAR	Chiang Mai Arr	52.01	96	P	P	13 42 56.8	-2.5
	comp=E,0.3nm,0.5s,baz=301,slow=9.3,SNR=2.7						

IDC 23 13:36:03.7±3.0, 1°.55S×138°.05E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.3/51, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=428.4km s-min=27.9km az=105.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.64	191	P	P	13 40 22.7	-0.4
	0.1nm,0.3s,baz=10,slow=12,SNR=3.5						
ASAR	Alice Springs	22.35	190	P	P	13 41 03.8	+0.3
	0.7nm,0.7s,baz=14,slow=11,SNR=11						
ILAR	Eielson Array	85.06	25	P	P	13 48 41.1	-0.1
	1.4nm,0.8s,baz=245,slow=4.9,SNR=17						

IDC 23 13:36:17.1±3.9, 13°.15S×166°.97E, h51km±34km, mb3.7/6, mb1 4.1/8, mb1mx3.6/42, mbtmp4.1/8, ML4.1/2, Error ellipse: s-maj=32.8km s-min=26.6km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.82	297	P	Pn	13 38 08.7	+0.4
	6.7nm,0.3s,baz=198,slow=5.2,SNR=6.9						
HNR	Honiara	7.82	297	eP	Pn	13 38 08.0	-0.3
DZM	Mont Dzumac	8.89	183	P	Pn	13 38 22.1	-1.0
	0.9nm,0.3s,baz=355,slow=18,SNR=11						
STKA	Stephens Creek	29.82	227	P	P	13 42 19.4	-0.2
	2.0nm,0.8s,baz=25,slow=10,SNR=4.3						
WRA	Warramunga Arr	31.96	253	P	P	13 42 39.1	+0.5
	0.5nm,0.6s,baz=86,slow=9.2,SNR=3.9						
ASAR	Alice Springs	33.00	247	P	P	13 42 48.3	+0.7
	0.8nm,0.7s,baz=67,slow=10.0,SNR=11						
CMAR	Chiang Mai Arr	74.05	294	P	P	13 47 46.9	-1.3
	0.7nm,0.6s,baz=120,slow=5.1,SNR=6.6						
ILAR	Eielson Array	85.12	18	P	P	13 48 47.7	+0.4
	2.2nm,0.9s,baz=236,slow=5.7,SNR=12						
TXAR	Lajitas Array	95.78	61	P	P	13 49 38.6	+0.2
	0.4nm,0.8s,baz=258,slow=6.0,SNR=3.9						

AZER 23 13:45:53.8±2.0, 37°.07N×42°.26E, h8km, Error ellipse: s-maj=23.7km s-min=8.4km az=9.0
IDC 23 13:46:07.5±1.1, 38°.71N×43°.33E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/41, mbtmp3.8/11, ML3.2/3, Error ellipse: s-maj=23.0km s-min=12.3km az=162.0
DDA 23 13:46:07.8, 38°.75N×43°.32E, h15km, Ml4.1
CSEM 23 13:46:09.9±0.2, 38°.77N×43°.35E, h10km, mb4.1, Error ellipse: s-maj=5.5km s-min=5.0km az=142.0
ISCJB 23 13:46:09.2±0.5, 38°.77N±0°.02×43°.36E±0°.03, h12km±3km, mb3.8/9, Error ellipse: s-maj=3.6km s-min=3.0km az=179.2
ISK 23 13:46:09.8, 38°.81N×43°.27E, h5km, ML3.8
NEIC 23 13:46:09.0±0.0, 38°.78N×43°.26E, h7km, mb4.1/2, ML4.0(DDA), ML4.0(ISK), After DDA.

ISC 23 13:46:09.5±0.8, 38°.77N±0°.01×43°.32E±0°.02, h13km±6km, n126, σ1°46/155, mb3.8/9, 12C-16D, Turkey

| Code | Station Name | Δ° | AZ

BNGL	BINGOL	1.70	277	*i* P		Pb	13 46 40.6	-0.2
NAX	Nakhchivan	1.74	76	⇓P		Pb	13 46 40.5	-0.9
	SNR=5.3							
NAX				⇓S		Sg	13 47 26.0	+20
NAX	Nakhchivan	1.74	76	P		Pb	13 46 40.5	-0.9
	SNR=5.3							
GNI	Garni	1.77	38	Pn		Pb	13 46 41.4	-0.4
	13nm,0.3s,baz=323,slow=16,SNR=2.3							
GNI	Garni	1.77	38	*e*Pn		Pg	13 46 42.4	-1.0
GNI	Garni	1.77	38	*e*Pn		Pg	13 46 42.4	-1.0
SVAN	Silvan-Diyarba	1.77	250	*e*PN		Pb	13 46 41.3	-0.6
SVAN				*e*SN		Sb	13 47 04.8	+0.7
SVAN	Silvan-Diyarba	1.77	250	*i* P		Pb	13 46 41.1	-0.8
SVAN	Silvan-Diyarba	1.77	250	P		Pb	13 46 41.1	-0.8
SVAN	Silvan-Diyarba	1.77	250	*e*Pn		Pb	13 46 41.3	-0.6
SVAN				*e*Sn		Sb	13 47 04.8	+0.7
BTMN	Batman	1.83	242	⇓*i*P		Pn	13 46 41.4	+0.6
BTMN	Batman	1.83	242	P		Pn	13 46 41.4	+0.6
ERZM	Erzurum	1.90	307	*i* P		Pb	13 46 43.5	-0.6
ERZM				*i* S		Sn	13 47 05.1	-0.5
ERZM	Erzurum	1.90	307	P		Pb	13 46 43.5	-0.6
ERZM				S		Sn	13 47 05.1	-0.5
EAK	Akyaka	1.93	6	*i* P		Pb	13 46 43.4	-1.2
EAK	Akyaka	1.93	6	P		Pb	13 46 43.4	-1.2
SENK	Senkaya-Erzuru	1.94	338	*e*PN		Pb	13 46 44.0	-0.9
SENK	Senkaya-Erzuru	1.94	338	*e*Pn		Pb	13 46 44.0	-0.9
ECAT	Cat-ERZURUM	2.01	295	*i* P		Pn	13 46 40.6	-2.6
ECAT	Cat-ERZURUM	2.01	295	P		Pn	13 46 40.7	-2.6
BNGB	Bing˜¶‖	2.07	277	*e*PN		Pb	13 46 46.0	-1.0
BINT	Bingol	2.21	274	*e*Pn		Pn	13 46 46.0	0.0
YEDI	Yedisu-Bingol	2.26	288	*e*PN		Pb	13 46 48.7	-1.6
YEDI	Yedisu-Bingol	2.26	288	*e*Pn		Pb	13 46 48.7	-1.6
DDEM	Demirkent	2.44	331	⇓*i*P		Pb	13 46 53.8	+0.5
DDEM	Demirkent	2.44	331	P		Pb	13 46 53.8	+0.5
MARD	Mardin	2.48	235	*i* P		Pn	13 46 50.1	+0.4
MARD				*i* S		Sn	13 47 20.4	+0.7
KOPT	Kop Dagi	2.52	301	*i* P		Pb	13 46 55.1	+0.3
KOPT	Kop Dagi	2.52	301	P		Pb	13 46 55.1	+0.3
ARTV	Artvin	2.64	337	*i* P		Pg	13 46 58.8	-1.3
AKH	Akhalkalaki	2.64	3	*e*PN		Pb	13 46 54.5	-2.3
AKH	Akhalkalaki	2.64	3	P		Pg	13 46 59.1	-1.1
AKH	Akhalkalaki	2.64	3	*e*Pn		Pb	13 46 54.5	-2.3
GDB	GEDABAY	2.71	43	⇑P		Pb	13 46 59.1	+1.2
	SNR=4.1							
GDB				⇑S		Sg	13 47 57.0	+20
QZX	Qazax, Azerbai	2.78	34	⇓P		Pg	13 47 04.2	+1.4
	SNR=4.1							
QZX				⇑S		Sg	13 47 59.2	+20
ERZN	Erzincan	2.91	287	*e*PN		Pn	13 46 57.6	+1.9
GANJ	Ganja	2.98	50	⇓P		Pg	13 47 06.3	-0.3
	SNR=4.4							
DGRG	David-gareji	3.11	30	P		Pg	13 47 07.3	-1.8
TBLG	Delisi	3.15	20	*e*PN		Pn	13 47 01.1	+2.2
TBLG	Delisi	3.15	20	P		Pg	13 47 10.4	+0.4
TBLG	Delisi	3.15	20	*e*Pn		Pn	13 47 01.1	+2.2
SVRC	Sivrice-ELAZID	3.17	264	*e*PN		Pn	13 47 01.5	+2.3
SVRC	Sivrice-ELAZID	3.17	264	*e*Pn		Pn	13 47 01.5	+2.3
EZC	Erzincan	3.23	289	*e*Pn		Pn	13 46 57.6	-2.5
MNGR	Mingechevir, A	3.53	54	⇓P		Pb	13 47 13.2	+1.5
	SNR=4.0							
MNGR				⇓S		Sg	13 48 14.9	+12
URFA	Urfa	3.79	251	*e*PN		Pn	13 47 10.4	+2.9
URFA	Urfa	3.79	251	*e*Pn		Pn	13 47 10.5	+2.9
ONI	Oni	3.82	1	P		Pg	13 47 22.1	-0.6
ZKTA	Zakatala	3.82	40	⇑P		Pb	13 47 18.8	+2.0
	SNR=5.6							
ZKTA				⇓S		Sg	13 48 24.7	+12
SEKA	Sheki	3.85	49	⇑P		Pb	13 47 18.7	+1.4
	SNR=3.8							
LRK	Lerik	3.93	90	⇓P		Pn	13 47 10.2	+0.6
LRK				⇑S		Sb	13 48 09.4	+3.2
LRK	Lerik	3.93	90	P		Pn	13 47 10.2	+0.6
QBL	Gabala	4.10	57	⇑P		Pb	13 47 20.6	-1.0
IML	Ismayilli	4.26	60	⇓P		Pb	13 47 21.9	-2.4
LKRN	Lenkeran, Azer	4.27	89	⇓P		Pn	13 47 14.8	+0.7
LKRN				⇑S		Sb	13 48 18.3	+2.5
LKRN	Lenkeran, Azer	4.27	89	P		Pn	13 47 14.8	+0.7
ASTR	Astara	4.29	91	⇑P		Pn	13 47 14.6	+0.2
ASTR				⇓S		Sb	13 48 17.4	+1.1
ASTR	Astara	4.29	91	P		Pn	13 47 14.6	+0.2
XNQ	Khinaliq	4.41	56	⇑P		Pb	13 47 25.6	-1.4
PQL	Pirkuli	4.54	62	⇓P		Pb	13 47 25.3	-3.7
DARE	Darende-Malaty	4.57	269	*e*PN		Pn	13 47 21.0	+2.6
DARE	Darende-Malaty	4.57	269	*e*Pn		Pn	13 47 21.0	+2.6
RSDY	Resadiye-TOKAT	4.91	291	*e*PN		Pn	13 47 26.3	+3.3
RSDY	Resadiye-TOKAT	4.91	291	*e*Pn		Pn	13 47 26.3	+3.3
BRTR	Keskin Array B	7.57	280	Pn		Pn	13 48 03.2	+3.5
	0.1nm,0.3s,baz=108,slow=14,SNR=2.8							
ASF	Jabal al Asfar	8.41	220	Pn		Pn	13 48 11.1	0.0
	0.5nm,0.3s,baz=345,slow=8.2,SNR=7.0							
MMAI	Mount Meron Ar	8.61	231	Pn		Pn	13 48 15.8	+1.9
	2.9nm,0.3s,baz=68,slow=16,SNR=11							
AKASG	Malin Array Be	15.54	325	Pn		Pn	13 49 46.9	-1.3
	0.3nm,0.3s,baz=133,slow=11,SNR=2.9							
AKTO	Aktyubinsk	15.64	37	Pn		Pn	13 49 49.5	+0.1
	0.1nm,0.3s,baz=217,slow=10,SNR=4.8							
ABKAR	Akbulak array	15.87	43	*e*P		Pn	13 49 53.8	+1.4
VYHS	Vyhne	20.14	307	*e*P		Pn	13 50 45.2	+0.2
VYHS	Vyhne	20.14	307	*e*P		Pn	13 50 45.2	+0.2
ARU	Arti	20.36	25	P		Pn	13 50 48.9	+1.3
	2.7nm,0.6s,baz=242,slow=15,SNR=4.3							
KKAR	Karatay Array	20.95	69	*e*P		P	13 50 51.6	-0.5
	3.6nm,0.6s							
KKAR	Karatay Array	20.95	69	*e*P		P	13 50 51.6	-0.5
	3.6nm,0.6s							
VRAC	Vranov	21.80	308	P		P	13 51 01.7	+0.6
	1.4nm,0.4s,baz=272,slow=2.4,SNR=3.0							
BRVK	Borovoye	23.40	44	*e*P		P	13 51 19.0	+1.1
	12nm,1.0s							
BRVK	Borovoye	23.40	44	*e*P		P	13 51 18.9	+1.1
	12nm,1.0s							
BVAR	Borovoye Array	23.44	44	P		P	13 51 19.7	+1.4
	1.3nm,0.8s,baz=223,slow=6.1,SNR=4.7							
GERES	GERESS Array B	23.49	305	P		P	13 51 19.5	+0.6
	0.5nm,0.8s,baz=141,slow=8.6,SNR=4.8							
CLL	Collm	24.63	311	*e*P		P	13 51 30.0	+0.6
FINES	FINESS Array B	25.09	340	P		P	13 51 34.0	+0.5
	1.8nm,0.8s,baz=138,slow=13,SNR=3.1							
FINES	FINESS Array B	25.09	340	P		P	13 51 34.0	+0.5
KURBB	Kurchatov Arra	27.43	53	P		P	13 51 55.5	+0.8
	2.6nm,0.2s,baz=264,slow=8.9,SNR=4.8							
KURK	Kurchatov	27.51	53	P		P	13 51 55.5	+0.1
KURK	Kurchatov	27.51	53	P		P	13 51 55.5	+0.1
ESDC	Sonseca Array	36.31	287	P		P	13 53 11.7	-1.1
	1.3nm,0.7s,baz=61,slow=8.0,SNR=6.6							
TORD	Torodi Ar. Bea	44.75	247	P		P	13 54 20.9	-1.9
	0.9nm,0.5s,baz=47,slow=9.1,SNR=7.1							
CMAR	Chiang Mai Arr	52.03	96	P		P	13 55 19.5	+0.6
	0.4nm,0.4s,baz=297,slow=8.0,SNR=4.8							

DDA ***23*** *13:47:48.6,38.°78N×43.°40E,h8km,Md3.1*
ISCJB ***23*** *13:47:48.9±0.6,38.°78N±0.°02×43.°55E±0.°04,h10km±4km, mb3.7/7, Error ellipse: s-maj=5.6km s-min=3.6km az=19.1*
CSEM ***23*** *13:47:49.2±0.2,38.°79N×43.°53E,h5km,MD3.1,Error ellipse: s-maj=6.7km s-min=5.7km az=114.0*
NEIC ***23*** *13:47:49.0±0.0,38.°78N×43.°40E,h8km,mb4.0/1,After DDA.*
IDC ***23*** *13:47:49.1±1.5,38.°90N×43.°61E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.6/37,mbtmp3.8/8,ML4.0/1,Error ellipse: s-maj=28.9km s-min=17.3km az=175.0*
ISK ***23*** *13:47:49.1,38.°82N×43.°53E,h11km,ML3.9*
ISC 23 13:47:49.6±0.7,38.°78N±0.°02×43.°52E±0.°03,h11km±4km, n68,σ1.9°23/87,mb3.8/7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.21	12	*i* P		Pg	13 47 52.8	-1.4
VMUR				*i* S		Sg	13 47 58.6	+1.2
VMUR	Van-Muradiye	0.21	12	P		Pg	13 47 52.8	-1.4
VMUR				*i* S		Sg	13 47 58.5	+1.2
VMUR	Van-Muradiye	0.21	12	*i* P		Pg	13 47 52.8	-1.4
VMUR				*i* S		Sg	13 47 58.5	+1.2
TVAN	Van	0.27	199	*i* P		Pg	13 47 55.2	+0.1
TVAN				*i* S		Sb	13 48 00.0	-1.1
TVAN	Van	0.27	199	P		Pg	13 47 55.2	+0.1
TVAN				S		Sb	13 48 00.0	-1.1
TVAN	Van	0.27	199	*i* P		Pg	13 47 55.2	+0.1
TVAN				*i* S		Sb	13 48 00.4	-0.8
GEVA	Gevas	0.59	218	*i* P		Pg	13 47 58.3	-2.7
GEVA				*i* S		Sg	13 48 08.2	-0.6
GEVA	Gevas	0.59	218	*i* P		Pg	13 47 58.3	-2.7
DYDN	Diyadin	0.77	10	*i* P		Pg	13 48 03.2	-1.4
DYDN				*i* S		Sb	13 48 15.3	-0.5
DYDN	Diyadin	0.77	10	P		Pg	13 48 03.2	-1.4
DYDN				S		Sb	13 48 15.3	-0.5
TUTA	Tutak	0.83	319	*i* P		Pg	13 48 03.9	-1.7
TUTA				*i* S		Sg	13 48 15.8	-0.6
TUTA	Tutak	0.83	319	P		Pg	13 48 03.9	-1.7
TUTA				S		Sg	13 48 15.8	-0.6
AGRB	Hanur-Agry	0.89	333	*e*PG		Pg	13 48 06.1	-0.7
AGRB				*e*SG		Sb	13 48 18.5	-0.7
AGRB	Hanur-Agry	0.89	333	*e*Pg		Pg	13 48 06.1	-0.7
AGRB				*e*Sg		Sb	13 48 18.5	-0.7
EKAR	Karacoban	1.23	293	*i* P		Pn	13 48 15.0	+2.1
EKAR				*i* S		Sn	13 48 32.1	+2.6
EKAR	Karacoban	1.23	293	P		Pn	13 48 15.0	+2.1
HAKT	HAKKARI	1.23	173	*i* P		Pb	13 48 08.0	-4.9
EATA	Eleskirt	1.34	324	*i* P		Pn	13 48 11.6	-3.0
EATA				*i* S		Sn	13 48 34.0	+1.5
EATA	Eleskirt	1.34	324	S		Sn	13 48 34.0	+1.5
CUKT	Cukurca	1.53	177	*e*PN		Pb	13 48 17.8	-0.2
CUKT	Cukurca	1.53	177	*i* P		Pg	13 48 18.6	-0.4
CUKT	Cukurca	1.53	177	*e*Pn		Pb	13 48 17.8	-0.2
CUKT	Cukurca	1.53	177	P		Pg	13 48 18.6	-0.4
SIRN	S¨–rnak	1.55	214	*i* P		Pn	13 48 17.3	+0.1
SIRN				*i* S		Sn	13 48 37.8	+0.5
SIRN	S¨–rnak	1.55	214	P		Pn	13 48 17.3	+0.1
SIRN				S		Sn	13 48 37.8	+0.5
DIGO	Kars	1.64	356	*i* P		Pb	13 48 19.2	-0.7
DIGO	Kars	1.64	356	P		Pb	13 48 19.2	-0.7
VRTB	Varto-Mus	1.65	284	*e*PN		Pn	13 48 18.9	+0.3
VRTB	Varto-Mus	1.65	284	*e*Pn		Pn	13 48 18.9	+0.3
GNI	Garni	1.66	34	Pn		Pb	13 48 19.3	-1.0
	78nm,0.3s,baz=17,slow=5.8,SNR=9.6							
GNI	Garni	1.66	34	*e*Pn		Pn	13 48 18.6	-0.2
GNI	Garni	1.66	34	*e*Pn		Pn	13 48 18.6	-0.2
SVAN	Silvan-Diyarba	1.92	252	*e*PN		Pn	13 48 22.9	+0.7
SVAN				*e*SN		Sn	13 48 47.9	+1.4
SVAN	Silvan-Diyarba	1.92	252	*i* P		Pb	13 48 23.8	-0.9
SVAN				*i* S		Sn	13 48 47.6	+1.1
SVAN	Silvan-Diyarba	1.92	252	P		Pb	13 48 23.8	-0.9
SVAN				S		Sn	13 48 47.6	+1.1
SENK	Senkaya-Erzuru	1.99	334	*e*PN		Pn	13 48 23.2	-0.2
ERZM	Erzurum	2.01	305	*i* P		Pb	13 48 26.3	0.0
ERZM				*i* S		Sb	13 48 52.4	+1.0
ERZM	Erzurum	2.01	305	P		Pb	13 48 26.3	0.0
BNGB	Bing˜¶‖	2.22	276	*e*PN		Pn	13 48 26.7	+0.3
BINT	Bingol	2.37	273	*e*Pn		Pn	13 48 26.7	-1.7
YEDI	Yedisu-Bingol	2.40	287	*e*PN		Pn	13 48 29.2	+0.2
YEDI	Yedisu-Bingol	2.40	287	*e*Pn		Pn	13 48 29.2	+0.2
AKH	Akhalkalaki	2.63	360	*e*PN		Pn	13 48 32.0	0.0
KIV	Kislovodsk	5.21	353	*e*Pn		Pn	13 49 10.0	+2.5
KIV	Kislovodsk	5.21	353	*e*Pn		Pn	13 49 10.0	+2.5
AKTO	Aktyubinsk	15.54	37	Pn		P	13 51 30.9	-1.9
	0.3nm,0.3s,baz=136,slow=5.4,SNR=6.0							
AKASG	Malin Array Be	15.62	324	Pn		Pn	13 51 29.1	-0.5
	0.5nm,0.3s,baz=135,slow=11,SNR=5.7							
ABKAR	Akbulak array	15.75	43	*e*P		P	13 51 33.3	-1.9
ABKAR	Akbulak array	15.75	43	*e*P		P	13 51 33.3	-1.9
VYHS	Vyhne	20.25	307	*e*Pg		P	13 52 25.3	+0.5
VYHS	Vyhne	20.25	307	*e*PG		P	13 52 25.3	+0.5
ARU	Arti	20.28	25	P		P	13 52 25.2	+0.2
	5.2nm,0.6s,baz=265,slow=15,SNR=3.2							
KKAR	Karatay Array	20.81	69	*e*Pn		Pn	13 52 33.7	+0.4
	4.5nm,0.7s							
KKAR	Karatay Array	20.81	69	*e*Pn		Pn	13 52 33.7	+0.4
	4.5nm,0.7s							
VRAC	Vranov	21.92	307	P		P	13 52 45.1	+2.4
	2.9nm,0.8s,baz=122,slow=9.2,SNR=3.1							
DPC	Dobruska-Polom	22.43	310	*e*P		P	13 52 49.2	+0.9
DPC	Dobruska-Polom	22.43	310	P		P	13 52 49.2	+0.9
BVAR	Borovoye Array	23.33	44	P		P	13 52 59.8	+2.2
	1.1nm,0.8s,baz=243,slow=14,SNR=3.5							
KHC	Kasperske Hory	23.76	306	*e*P		P	13 53 01.7	-0.2
KHC	Kasperske Hory	23.76	306	P		P	13 53 01.7	-0.2
CLL	Collm	24.73	310	*e*P		P	13 53 10.0	-0.8
CLL				*i* sP		sP	13 53 16.0	+0.5
KURBB	Kurchatov Arra	27.30	53	P		P	13 53 33.9	0.0
	1.2nm,0.4s,baz=260,slow=9.3,SNR=4.9							
KURK	Kurchatov	27.38	53	P		P	13 53 33.9	-0.7
KURK	Kurchatov	27.38	53	P		P	13 53 33.9	-0.7
MKAR	Makanchi Array	29.32	61	P		P	13 53 51.9	-0.2
	0.4nm,0.7s,baz=267,slow=5.8,SNR=3.0							
ZALV	Zalesovo Beam	31.77	48	P		P	13 54 13.9	+0.3
	1.1nm,0.5s,baz=258,slow=7.2,SNR=2.7							
ESDC	Sonseca Array	36.45	287	P		P	13 54 55.0	+0.6
	0.6nm,0.6s,baz=75,slow=8.9,SNR=4.8							
CMAR	Chiang Mai Arr	51.88	97	P		P	13 56 59.8	+1.5
	0.8nm,0.6s,baz=296,slow=8.7,SNR=5.6							

WEL 23 13:48:31.0±0.2,41.°16S×173.°58E,h93km±2km,ML3.5/23, 10C-11D,Error ellipse: s-maj=1.7km s-min=1.2km az=0.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNZ	Nelson	0.16	249	⇓PN		Pn	13 48 43.7	-0.4
NNZ				SN		Sn	13 48 52.7	-1.2
TUWZ	Tuamarina	0.38	134	⇓PN		Pn	13 48 45.2	0.0
TUWZ				SN		Sn	13 48 55.1	-0.7
TUWZ				AML		AML	13 48 55.9	
TCW	Tory Channel	0.53	96	⇓PN		Pn	13 48 46.7	+0.4
TCW				SN		Sn	13 48 57.1	-0.6
TCW				AML		AML	13 48 57.5	
BSWZ	Blackbirch Sta	0.60	158	⇑PN		Pn	13 48 47.0	+0.2
BSWZ				AML		AML	13 48 59.5	
BSWZ				AML		AML	13 48 59.5	
CMWZ	Cape Campbell	0.76	141	AML		AML	13 49 03.9	
CMWZ				AML		AML	13 49 04.1	
THZ	Tophouse	0.79	220	⇑PN		Pn	13 48 48.6	0.0
THZ				SN		Sn	13 49 01.0	-0.8
QRZ	Quartz Range	0.86	293	PN		Pn	13 48 49.0	-0.4
WEL	Wellington	0.91	98	PN		Pn	13 48 49.9	+0.1
WEL				AML		AML	13 49 05.3	
WEL				AML		AML	13 49 07.5	
BHW	Baring Head	1.01	105	⇓PN		Pn	13 48 50.8	-0.1
BHW				SN		Sn	13 49 04.8	-1.1
BHW				AML		AML	13 49 06.1	
KIW	Kapiti Island	1.05	74	PN		Pn	13 48 51.8	+0.3
KIW				AML		AML	13 49 08.1	
KIW				AML		AML	13 49 08.8	
CAW	Cannon Point	1.13	88	⇓PN		Pn	13 48 52.2	-0.1
CAW				AML		AML	13 49 08.8	
CAW				AML		AML	13 49 09.5	
KHZ	Kahutara	1.25	181	PN		Pn	13 48 54.0	+0.2
OGWZ	Otaki Gorge	1.25	75	PN		Pn	13 48 54.0	+0.2
OGWZ				AML		AML	13 49 11.7	
OGWZ				AML		AML	13 49 13.3	
MSWZ	Moikau Station	1.29	102	⇓PN		Pn	13 48 53.9	-0.4
PLWZ	Palliser	1.33	108	PN		Pn	13 48 54.4	-0.3
PLWZ				AML		AML	13 48 54.9	
PAWZ	Paruwai Farm	1.41	100	PN		Pn	13 48 55.3	-0.5
MTW	Mount Morrison	1.45	90	PN		Pn	13 48 55.7	-0.5
MTW				AML		AML	13 49 15.0	
MTW				AML		AML	13 49 15.1	
DSZ	Denniston Nort	1.45	246	⇓PN		Pn	13 48 55.9	-0.4
HOWZ	Holdsworth Sta	1.49	80	PN		Pn	13 48 56.4	-0.4
HOWZ				AML		AML	13 49 16.6	
HOWZ				AML		AML	13 49 17.6	
MRZ	Mangatainoka R	1.60	72	⇓PN		Pn	13 48 57.6	-0.5
MRZ				AML		AML	13 49 19.5	
MRZ				AML		AML	13 49 19.5	
TRWZ	Traveller	1.61	99	⇑PN		Pn	13 48 57.8	-0.4
OHWZ	Ohakea	1.63	55	PN		Pn	13 48 59.2	+0.7
TMWZ	Te Maipa	1.75	89	PN		Pn	13 48 59.4	-0.7
TMWZ				AML		AML	13 49 22.4	
TMWZ				AML		AML	13 49 22.4	
NMEZ	Namu Road	1.76	8	PN		Pn	13 49 01.6	+1.4
WAZ	Wanganui	1.77	38	⇑PN		Pn	13 49 01.9	+1.5
TIWZ	Tintock	1.79	78	PN		Pn	13 48 59.9	-0.7
TIWZ				AML		AML	13 49 23.5	
TIWZ				AML		AML	13 49 23.8	
LREZ	Lake Rotokare	1.81	21	⇑PN		Pn	13 49 03.1	+2.2
POWZ	Post Office Ro	1.83	66	PN		Pn	13 49 00.5	-0.6
PREZ	Palmer Road	1.87	14	PN		Pn	13 49 03.2	+1.5
LTZ	Lake Taylor	1.89	211	⇑PN		Pn	13 49 01.6	-0.3
KHEZ	Kahui Hut	1.90	10	PN		Pn	13 49 03.3	+1.3
NWEZ	Newall Road	1.90	7	PN		Pn	13 49 03.4	+1.5
PRWZ	Pori Road	1.91	72	⇓PN		Pn	13 49 01.6	-0.5
PRWZ				AML		AML	13 49 26.9	
PRWZ				AML		AML	13 49 27.4	
NEZ	North Egmont	1.93	12	PN		Pn	13 49 03.5	+1.1
PKE	Pukeiti	1.99	9	PN		Pn	13 49 04.6	+1.4
CPWZ	Castlepoint	2.00	84	PN		Pn	13 49 03.2	-0.1
DREZ	Durham Road	2.03	14	PN		Pn	13 49 05.1	+1.4
BFZ	Birch Farm	2.08	78	AML		AML	13 49 29.1	
BFZ				AML		AML	13 49 29.4	
BFZ				AML		AML	13 49 29.6	
TSZ	Takapari Road	2.12	60	PN		Pn	13 49 04.2	-0.7
DVHZ	Dannevirke	2.15	67	⇓PN		Pn	13 49 04.1	-1.2
DVHZ				AML		AML	13 49 30.8	
DVHZ				AML		AML	13 49 32.8	
MHEZ	Mangahewa	2.16	16	PN		Pn	13 49 07.3	+1.9
VRZ	Vera Road	2.23	24	PN		Pn	13 49 07.8	+1.5
INZ	Inchbonnie	2.23	225	⇑PN		Pn	13 49 06.2	-0.1
MTVZ	Mangateitei	2.29	40	PN		Pn	13 49 08.2	+1.0
ANWZ	Angora Road	2.31	73	PN		Pn	13 49 06.3	-1.0
ANWZ				AML		AML	13 49 36.1	
ANWZ				AML		AML	13 49 36.4	
PKVZ	Pokaka	2.31	36	PN		Pn	13 49 08.1	+0.7
PNHZ	Pukenui	2.36	59	PN		Pn	13 49 07.0	-1.0
PNHZ				AML		AML	13 49 37.5	
TRVZ	Turoa	2.40	40	PN		Pn	13 49 08.7	-0.1
WNVZ	Wahianoa	2.40	41	PN		Pn	13 49 09.3	+0.6
MOVZ	Moawhango	2.42	44	PN		Pn	13 49 08.9	+0.1
WHVZ	Whangaehu Hut	2.43	40	⇓PN		Pn	13 49 09.9	+0.7
FWVZ	Far West T-bar	2.43	39	PN		Pn	13 49 09.8	+0.5
WPHZ	Waipukurau	2.44	64	PN		Pn	13 49 07.5	-1.6
OXZ	Oxford	2.45	207	⇑PN		Pn	13 49 07.6	-1.5
PRHZ	Porangahau	2.49	70	PN		Pn	13 49 08.6	-1.2
CRLZ	Canterbury Las	2.51	196	PN		Pn	13 49 08.4	-1.6
NGZ	Ngauruhoe	2.52	39	PN		Pn	13 49 10.8	+0.5
TWVZ	Taurewa	2.53	35	PN		Pn	13 49 10.9	+0.5
BHHZ	Black Hill Sta	2.53	49	PN		Pn	13 49 10.2	-0.2
OTVZ	Oturere	2.56	39	PN		Pn	13 49 11.4	+0.6
WTVZ	West Tongariro	2.56	38	PN		Pn	13 49 11.1	+0.3
KRVZ	Karewarewa	2.60	38	PN		Pn	13 49 11.7	+0.3
MQZ	McQueen's Vall	2.63	195	PN		Pn	13 49 09.6	-2.1
KATZ	Kakaramea	2.72	37	PN		Pn	13 49 13.6	+0.6
PXZ	Pawanui	2.74	67	PN		Pn	13 49 11.6	-1.5
KWHZ	Kaweka Forest	2.78	52	PN		Pn	13 49 13.0	-0.8
KWHZ				AML		AML	13 49 48.5	
KWHZ				AML		AML	13 49 49.4	
HIZ	Hauiti	2.82	21	⇑PN		Pn	13 49 17.1	+2.9
RATZ	Rangitukua	2.84	37	PN		Pn	13 49 16.9	+2.3
WVZ	Waitaha Valley	2.85	227	PN		Pn	13 49 13.7	-0.8
KAHZ	Kahuranaki	2.86	63	PN		Pn	13 49 13.6	-1.2
BKZ	Black Stump Fm	2.99	49	PN		Pn	13 49 15.7	-0.9
MRHZ	Matea Rd	3.19	44	PN		Pn	13 49 17.9	-1.2
MRHZ				AML		AML	13 49 56.0	
MRHZ				AML		AML	13 49 56.0	
TLZ	Tolley Road	3.21	29	PN		Pn	13 49 20.0

TVAN				*i* S	**Sb**	**14 02 39.3**	**+3.2**
TVAN	**Van**	**0.31**	**195**	P	**Pg**	**14 02 26.0**	**-3.4**
TVAN				S	**Sb**	**14 02 39.3**	**+3.3**
GEVA	**Gevas**	**0.62**	**214**	*i* P	Pg	14 02 29.3	-6.0
GEVA				*i* S	**Sg**	**14 02 41.6**	**-1.8**
GEVA	**Gevas**	**0.62**	**214**	P	Pg	14 02 29.3	-5.9
GEVA				S	**Sg**	**14 02 41.6**	**-1.8**
DYDN	**Diyadin**	**0.73**	**11**	*i* P	**Pg**	**14 02 34.9**	**-2.4**
DYDN				*i* S	**Sb**	**14 02 49.0**	**+0.7**
DYDN	**Diyadin**	**0.73**	**11**	P	**Pg**	**14 02 34.9**	**-2.4**
DYDN				S	**Sb**	**14 02 49.0**	**+0.7**
TUTA	**Tutak**	**0.79**	**317**	*i* P	**Pg**	**14 02 35.6**	**-2.8**
TUTA				*i* S	**Sg**	**14 02 44.8**	**-3.9**
TUTA	**Tutak**	**0.79**	**317**	P	**Pg**	**14 02 35.6**	**-2.8**
TUTA				S	**Sg**	**14 02 44.8**	**-3.9**
AGRB	**Hanur-Agry**	**0.85**	**332**	*e*PG	**Pg**	**14 02 38.2**	**-1.4**
AGRB				*e*SG	**Sg**	**14 02 50.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.85**	**332**	*e*Pg	**Pg**	**14 02 38.2**	**-1.4**
AGRB				*e*Sg	**Sg**	**14 02 50.5**	**-0.1**
EKAR	**Karacoban**	**1.20**	**291**	*i* P	**Pb**	**14 02 43.7**	**-2.4**
EKAR				*i* S	**Sn**	**14 03 04.0**	**+1.2**
HAKT	**HAKKARI**	**1.28**	**173**	*i* P	Pn	14 02 39.6	-7.6
HAKT				*i* S	**Sn**	**14 03 07.5**	**+3.0**
HAKT	**HAKKARI**	**1.28**	**173**	P	Pn	14 02 39.6	-7.7
HAKT				S	**Sn**	**14 03 07.6**	**+3.0**
EATA	**Eleskirt**	**1.30**	**323**	*i* P	**Pn**	**14 02 45.3**	**-2.4**
EATA				*i* S	**Sn**	**14 03 06.4**	**+1.1**
CUKT	**Cukurca**	**1.58**	**177**	*e*PN	**Pg**	**14 02 52.4**	**-1.0**
CUKT	**Cukurca**	**1.58**	**177**	*e*Pn	**Pg**	**14 02 52.4**	**-1.0**
VRTB	**Varto-Mus**	**1.63**	**282**	*e*PN	**Pn**	**14 02 51.5**	**-0.6**
VRTB	**Varto-Mus**	**1.63**	**282**	*e*Pn	**Pn**	**14 02 51.5**	**-0.6**
IMRD	**Marand**	**1.72**	**93**	*e*Pn	**Pn**	**14 02 51.0**	**-2.3**
IMRD				*e*AMB	AMB	14 03 30.2	
	comp=Z,7μm,0.2s						
IMRD	**Marand**	**1.72**	**93**	*e*Pn	**Pn**	**14 02 51.0**	**-2.3**
ISHB	**Shabestar**	**1.74**	**107**	*e*Pn	**Pn**	**14 02 51.0**	**-2.7**
ISHB				*e*AMB	AMB	14 03 13.0	
	comp=Z,5μm,0.4s						
SVAN	**Silvan-Diyarba**	**1.93**	**250**	*e*PN	**Pn**	**14 02 55.4**	**-0.7**
SVAN				*e*SN	**Sn**	**14 03 20.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.93**	**250**	*e*Pn	**Pn**	**14 02 55.4**	**-0.7**
SVAN				*e*Sn	**Sn**	**14 03 20.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*PN	**Pn**	**14 02 56.3**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*Pn	**Pn**	**14 02 56.3**	**-0.2**
ITBZ	**Tabriz**	**2.15**	**105**	*e*Pn	**Pn**	**14 02 57.9**	**-1.4**
ITBZ				*e*AMB	AMB	14 03 29.7	
	comp=Z,875nm,0.2s						
ITBZ	**Tabriz**	**2.15**	**105**	*e*Pn	**Pn**	**14 02 57.9**	**-1.4**
BNGB	**Bing¶‖**	**2.21**	**275**	*e*PN	**Pn**	**14 02 59.6**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.38**	**286**	*e*PN	**Pn**	**14 03 02.5**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.38**	**286**	*e*Pn	**Pn**	**14 03 02.5**	**+0.1**
AKH	**Akhalkalaki**	**2.58**	**360**	*e*PN	**Pn**	**14 03 05.4**	**+0.2**
AKH	**Akhalkalaki**	**2.58**	**360**	*e*Pn	**Pn**	**14 03 05.4**	**+0.2**
MAZI	**Mazidag**	**2.77**	**241**	*e*PN	**Pn**	**14 03 08.3**	**+0.6**
MAZI	**Mazidag**	**2.77**	**241**	*e*Pn	**Pn**	**14 03 08.3**	**+0.6**
IHRS	**Heris**	**2.82**	**99**	*e*AMB	AMB	14 03 39.4	
	comp=Z,2μm,0.4s						
IHRS				*e*Pn	**Pn**	**14 03 06.9**	**-1.6**
IBST	**Bostanabad**	**2.89**	**112**	*e*Pn	**Pn**	**14 03 09.1**	**-0.4**
IBST	**Bostanabad**	**2.89**	**112**	*e*Pn	**Pn**	**14 03 09.1**	**-0.4**
ERZN	**Erzincan**	**3.04**	**286**	*e*PN	**Pn**	**14 03 11.9**	**+0.5**
PTK	**Pertek**	**3.21**	**272**	*e*PN	**Pn**	**14 03 14.1**	**+0.3**
PTK	**Pertek**	**3.21**	**272**	*e*Pn	**Pn**	**14 03 14.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.32**	**264**	*e*PN	**Pn**	**14 03 15.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.32**	**264**	*e*Pn	**Pn**	**14 03 15.7**	**+0.4**
URFA	**Urfa**	**3.94**	**251**	*e*PN	**Pn**	**14 03 25.1**	**+1.3**
URFA	**Urfa**	**3.94**	**251**	*e*Pn	**Pn**	**14 03 25.1**	**+1.3**
DARE	**Darende-Malaty**	**4.72**	**269**	*e*PN	**Pn**	**14 03 35.5**	**+1.0**
DARE	**Darende-Malaty**	**4.72**	**269**	*e*Pn	**Pn**	**14 03 35.5**	**+1.0**
IDHR	**Dehrash**	**4.72**	**150**	*e*Pn	**Pn**	**14 03 32.7**	**-1.9**
IDHR	**Dehrash**	**4.72**	**150**	*e*Pn	**Pn**	**14 03 32.7**	**-1.9**
CRVS	**Cervenica-Dubn**	**18.75**	**310**	*e*P	**Pn**	**14 06 48.0**	**+5.4**

*CSEM **23** 14:04:31.1, 38°.78N×43°.25E, h7km, ML3.5*

DDA 23 14:04:31.1, 38°.78N×43°.25E, h7km, Ml3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28**	**153**	*i* P	Pb	14 04 37.6	-0.9
TVAN				*i* S	Sg	14 04 41.8	+1.4
TVAN	**Van**	**0.28**	**153**	P	Pg	14 04 37.6	+0.9
TVAN				S	Sg	14 04 41.8	+1.4
VMUR	**Van-Muradiye**	**0.33**	**50**	*i* P	Pg	14 04 37.0	-0.7
VMUR				*i* S	Sg	14 04 43.3	+1.1
VMUR	**Van-Muradiye**	**0.33**	**50**	P	Pg	14 04 37.0	-0.7
VMUR				S	Sg	14 04 43.3	+1.1
GEVA	**Gevas**	**0.48**	**198**	*i* P	Pg	14 04 38.7	-1.9
GEVA				*i* S	Sg	14 04 47.5	+0.6
GEVA	**Gevas**	**0.48**	**198**	P	Pg	14 04 38.7	-1.9
GEVA				S	Sg	14 04 47.5	+0.6
TUTA	**Tutak**	**0.71**	**332**	*i* P	Pg	14 04 44.7	-0.2
TUTA				*i* S	Sb	14 04 56.0	-0.2
TUTA	**Tutak**	**0.71**	**332**	P	Pg	14 04 44.7	-0.2
TUTA				S	Sb	14 04 56.0	-0.1

*ISCJB **23** 14:10:44.8±0.8, 4°.12S±0°.06×134°.4E±0°.1, h21km, mb3.6/4, Error ellipse: s-maj=19.5km s-min=8.7km az=1.5*
*IDC **23** 14:10:44.1±1.1, 3°.79S×134°.69E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/39, mbtmp3.7/7, ML3.8/3, Error ellipse: s-maj=43.7km s-min=22.4km az=73.0*

ISC 23 14:10:46.6±1.0, 4°.16S±0°.08×134°.5E±0°.2, h21km, n8, σ2°39/11, mb3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.69**	**181**	Pn	**Pn**	**14 14 27.1**	**+0.5**
	0.1nm,0.3s,baz=3.6,slow=13,SNR=6.4						
WRA				Sn	**Sn**	**14 17 17.9**	**-2.1**
	0.1nm,0.3s,baz=6.9,slow=22,SNR=4.4						
FITZ	**Fitzroy Crossi**	**16.35**	**211**	Pn	**P**	**14 14 40.2**	**+2.4**
	0.2nm,0.3s,baz=33,slow=12,SNR=4.3						
FITZ				Sn	**Sn**	**14 17 35.1**	**-0.9**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**19.41**	**182**	P	**Pn**	**14 15 16.0**	**+3.3**
	0.4nm,0.3s,baz=8.6,slow=10,SNR=24						
ASAR				S	**Sn**	**14 18 45.6**	**-4.4**
	0.1nm,0.3s,baz=5.8,slow=28,SNR=2.8						
CTA	**Charters Tower**	**19.54**	**145**	P	**Pn**	**14 15 15.7**	**+1.3**
	0.2nm,0.3s,baz=332,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**41.62**	**304**	P	**P**	**14 18 34.0**	**+0.3**
	0.5nm,0.8s,baz=139,slow=6.5,SNR=4.8						
SONM	**Songino Array**	**57.35**	**338**	P	**P**	**14 20 32.0**	**-1.4**
	0.3nm,0.5s,baz=148,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**68.43**	**324**	P	**P**	**14 21 47.1**	**0.0**
	0.8nm,0.6s,baz=105,slow=7.6,SNR=7.4						
ILAR	**Eielson Array**	**88.89**	**25**	P	**P**	**14 23 38.2**	**-0.9**
	0.4nm,1.0s,baz=258,slow=4.5,SNR=3.0						

*ISK **23** 14:10:53.6, 38°.66N×43°.26E, h7km, ML3.3*
*ISCJB **23** 14:10:55.9±0.5, 38°.65N±0°.03×43°.22E±0°.08, h19km±8km, Error ellipse: s-maj=10.6km s-min=5.0km az=16.0*
*CSEM **23** 14:10:55.2±0.2, 38°.67N×43°.16E, h8km, ML3.5, Error ellipse: s-maj=6.1km s-min=4.7km az=95.0*
*DDA **23** 14:10:55.5, 38°.67N×43°.17E, h7km, Ml3.5*

ISC 23 14:10:55.9±0.9, 38°.66N±0°.02×43°.22E±0°.04, h18km±7km, n28, σ1°32/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.19**	**131**	*i* P	**Pg**	**14 11 01.2**	**+0.3**
TVAN				*i* S	**Sg**	**14 11 04.9**	**+0.6**
TVAN	**Van**	**0.19**	**131**	P	**Pg**	**14 11 01.2**	**+0.3**
TVAN				S	**Sg**	**14 11 04.9**	**+0.6**
GEVA	**Gevas**	**0.36**	**200**	*i* P	**Pg**	**14 11 02.0**	**-1.7**
GEVA				*i* S	**Sb**	**14 11 09.7**	**+0.2**
GEVA	**Gevas**	**0.36**	**200**	P	**Pg**	**14 11 02.0**	**-1.7**
GEVA				S	**Sb**	**14 11 09.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.43**	**39**	*i* P	**Pg**	**14 11 03.4**	**-1.5**
VMUR				*i* S	**Sb**	**14 11 11.6**	**+0.1**
VMUR	**Van-Muradiye**	**0.43**	**39**	P	**Pg**	**14 11 03.4**	**-1.5**
VMUR				S	**Sb**	**14 11 11.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**349**	*e*PG	**Pg**	**14 11 12.2**	**-2.0**
AGRB				*e*SG	**Sb**	**14 11 25.5**	**-0.5**
AGRB	**Hanur-Agry**	**0.94**	**349**	*e*Pg	**Pg**	**14 11 12.2**	**-2.0**
AGRB				*e*Sg	**Sb**	**14 11 25.5**	**-0.5**
EKAR	**Karacoban**	**1.08**	**304**	*i* P	**Pn**	**14 11 16.4**	**-0.1**
EKAR				*i* S	**Sn**	**14 11 35.8**	**+4.6**
EKAR	**Karacoban**	**1.08**	**304**	P	**Pn**	**14 11 16.4**	**-0.1**
HAKT	**HAKKARI**	**1.16**	**160**	*i* P	**Pg**	**14 11 15.4**	**-3.0**
HAKT				*i* S	**Sn**	**14 11 34.6**	**+1.5**
EATA	**Eleskirt**	**1.33**	**335**	*i* P	**Pn**	**14 11 19.3**	**-0.7**
EATA				*i* S	**Sn**	**14 11 39.1**	**+1.6**
EATA	**Eleskirt**	**1.33**	**335**	P	**Pn**	**14 11 19.3**	**-0.7**
EATA				S	**Sn**	**14 11 39.1**	**+1.6**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*PN	**Pn**	**14 11 21.3**	**-0.4**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*Pn	**Pn**	**14 11 21.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*e*PN	**Pn**	**14 11 24.3**	**0.0**
SVAN				*e*SN	**Sb**	**14 11 46.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*e*Pn	**Pn**	**14 11 24.3**	**0.0**
SVAN				*e*Sn	**Sb**	**14 11 46.9**	**+0.1**
HOMI	**Horasan**	**1.72**	**324**	*i* P	**Pb**	**14 11 26.9**	**-0.3**
DIGO	**Kars**	**1.76**	**4**	*i* P	**Pb**	**14 11 27.2**	**-0.7**
DIGO				*i* S	**Sg**	**14 11 55.3**	**+2.4**
DIGO	**Kars**	**1.76**	**4**	P	**Pb**	**14 11 27.2**	**-0.7**
BNGB	**Bing¶‖**	**2.01**	**280**	*e*PN	**Pn**	**14 11 29.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**341**	*e*PN	**Pn**	**14 11 29.2**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**341**	*e*Pn	**Pn**	**14 11 29.2**	**-0.2**
BINT	**Bingol**	**2.15**	**277**	*e*Pn	**Pn**	**14 11 29.4**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.23**	**291**	*e*PN	**Pn**	**14 11 32.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.23**	**291**	*e*Pn	**Pn**	**14 11 32.3**	**+0.2**
MAZI	**Mazidag**	**2.49**	**242**	*e*PN	**Pn**	**14 11 35.8**	**0.0**
MAZI	**Mazidag**	**2.49**	**242**	*e*Pn	**Pn**	**14 11 35.8**	**0.0**

DDA 23 14:12:14.2, 38°.68N×43°.08E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.30**	**120**	*i* P	Pg	14 12 20.5	+0.4
TVAN				*i* S	Sg	14 12 24.9	+0.9
GEVA	**Gevas**	**0.36**	**183**	*i* P	Pg	14 12 20.3	-1.1
GEVA				*i* S	Sg	14 12 27.2	+1.1
TUTA	**Tutak**	**0.75**	**344**	*i* P	Pg	14 12 28.5	-0.2
TUTA				*i* S	Sb	14 12 39.9	-0.4

*DDA **23** 14:12:36.3, 38°.71N×43°.04E, h7km, Ml2.7*
*ISCJB **23** 14:12:38.0±0.7, 38°.67N±0°.03×43°.12E±0°.06, h4km±8km, Error ellipse: s-maj=7.9km s-min=4.8km az=173.3*
*CSEM **23** 14:12:37.5±0.4, 38°.61N×43°.23E, h10km, ML2.7, Error ellipse: s-maj=11.8km s-min=8.2km az=96.0*
*ISK **23** 14:12:40.0, 38°.74N×42°.96E, h7km, ML3.0*

ISC 23 14:12:36.9±1.0, 38°.64N±0°.03×43°.12E±0°.03, h16km±9km, n18, σ0°90/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.25**	**116**	*i* P	**Pb**	**14 12 44.1**	**+0.9**
TVAN				*i* S	**Sb**	**14 12 48.1**	**+0.7**
TVAN	**Van**	**0.25**	**116**	P	**Pb**	**14 12 44.1**	**+0.9**
TVAN				S	**Sb**	**14 12 48.2**	**+0.7**
GEVA	**Gevas**	**0.33**	**188**	*i* P	**Pg**	**14 12 43.7**	**-0.2**
GEVA				*i* S	**Sb**	**14 12 50.5**	**+0.8**
GEVA	**Gevas**	**0.33**	**188**	P	**Pg**	**14 12 43.7**	**-0.2**
GEVA				S	**Sb**	**14 12 50.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.50**	**45**	*i* P	**Pg**	**14 12 46.2**	**-0.8**
VMUR				*i* S	**Sg**	**14 12 53.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.50**	**45**	P	**Pg**	**14 12 46.2**	**-0.8**
VMUR				S	**Sg**	**14 12 53.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**354**	*e*PG	**Pn**	**14 12 56.5**	**+0.8**
AGRB				*e*SG	**Sn**	**14 13 08.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**354**	*e*Pg	**Pn**	**14 12 56.5**	**+0.8**
AGRB				*e*Sg	**Sn**	**14 13 08.3**	**-0.6**
HAKT	**HAKKARI**	**1.18**	**156**	*i* P	**Pn**	**14 12 57.0**	**-1.9**
HAKT				*i* S	**Sg**	**14 13 16.0**	**+0.9**
HAKT	**HAKKARI**	**1.18**	**156**	P	**Pn**	**14 12 57.0**	**-1.9**
HAKT				S	**Sg**	**14 13 16.0**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.58**	**253**	*e*PN	**Pg**	**14 13 07.8**	**+0.4**
SVAN				*e*SN	**Sg**	**14 13 28.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.58**	**253**	*e*Pn	**Pg**	**14 13 07.8**	**+0.4**
SVAN				*e*Sn	**Sg**	**14 13 28.6**	**+0.6**
BNGB	**Bing¶‖**	**1.94**	**281**	*e*PN	**Pb**	**14 13 12.4**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.01**	**343**	*e*PN	**Pb**	**14 13 13.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.01**	**343**	*e*Pn	**Pb**	**14 13 13.4**	**+0.2**
BINT	**Bingol**	**2.07**	**277**	*e*Pn	**Pb**	**14 13 12.4**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.15**	**293**	*e*PN	**Pb**	**14 13 15.2**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.15**	**293**	*e*Pn	**Pb**	**14 13 15.2**	**-0.5**

*CSEM **23** 14:13:29.5, 38°.74N×43°.45E, h7km, ML2.6*

DDA 23 14:13:29.5, 38°.74N×43°.45E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.21**	**190**	*i* P	Pg	14 13 34.7	+0.8
TVAN				*i* S	Sg	14 13 39.8	+2.9
TVAN	**Van**	**0.21**	**190**	P	Pg	14 13 34.7	+0.8
TVAN				S	Sg	14 13 39.8	+3.0
VMUR	**Van-Muradiye**	**0.27**	**21**	*i* P	Pg	14 13 35.0	+0.2
VMUR				*i* S	Sb	14 13 42.4	+0.8
VMUR	**Van-Muradiye**	**0.27**	**21**	P	Pg	14 13 35.0	+0.1
VMUR				S	Sb	14 13 42.4	+0.8
GEVA	**Gevas**	**0.53**	**216**	*i* P	Pg	14 13 37.2	-2.5
GEVA				*i* S	Sg	14 13 46.5	-0.1
GEVA	**Gevas**	**0.53**	**216**	P	Pg	14 13 37.2	-2.5
GEVA				S	Sg	14 13 46.5	-0.1
DYDN	**Diyadin**	**0.82**	**13**	*i* P	Pn	14 13 50.7	+2.9
DYDN	**Diyadin**	**0.82**	**13**	P	Pn	14 13 50.7	+2.9

*MOS **23** 14:13:37.9±1.9, 38°.49N×43°.39E, h10km, mb4.1/18, Error ellipse: s-maj=9.3km s-min=5.6km az=104.1*
*IDC **23** 14:13:37.1±0.9, 38°.49N×43°.31E, h0km, mb3.8/14, mb1 3.9/21, mb1mx3.8/45, mbtmp3.8/21, ML3.4/5, Error ellipse: s-maj=16.6km s-min=11.7km az=176.0*
*AZER **23** 14:13:38.0±0.6, 38°.61N×43°.03E, h3km±16km, Error ellipse: s-maj=18.8km s-min=3.7km az=65.0*
*NEIC **23** 14:13:38.8±0.6, 38°.60N×43°.41E, h10km, mb4.1/4, ML3.8(ISK), Error ellipse: s-maj=9.9km s-min=8.0km az=138.0*
*CSEM **23** 14:13:41.5±0.3, 38°.67N×43°.34E, h10km, mb3.9/5, Error ellipse: s-maj=11.3km s-min=5.2km az=172.0*
*ISK **23** 14:13:43.0, 38°.98N×43°.14E, h6km, ML3.8*

ISC 23 14:13:41.0±2.7, 38°.73N±0°.04×43°.43E±0°.03, h16km±19km, n183, σ2°38/185, mb3.9/22, 23C-27D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.91**	**338**	*e*PG	Pb	14 13 54.9	-3.6
AGRB				*e*SG	**Sb**	**14 14 03.9**	**-6.5**
AGRB	**Hanur-Agry**	**0.91**	**338**	Pg	**Pb**	**14 13 55.7**	**-2.8**
AGRB	**Hanur-Agry**	**0.91**	**338**	Pg	**Pb**	**14 13 55.7**	**-2.8**
VRTB	**Varto-Mus**	**1.60**	**286**	*e*PN	**Pn**	**14 14 08.9**	**+0.2**
VRTB	**Varto-Mus**	**1.60**	**286**	Pn	**Pn**	**14 14 09.1**	**+0.4**
VRTB	**Varto-Mus**	**1.60**	**286**	Pn	**Pn**	**14 14 09.1**	**+0.4**
NAX	**Nakhchivan**	**1.67**	**74**	⇑P	**Pn**	**14 14 08.5**	**-1.1**
NAX				⇓S	**Sb**	**14 14 33.9**	**+1.7**
NAX	**Nakhchivan**	**1.67**	**74**	P	**Pn**	**14 14 08.5**	**-1.1**
NAX				S	**Sb**	**14 14 33.9**	**+1.7**
GNI	**Garni**	**1.74**	**35**	Pn	**Pn**	**14 14 09.3**	**-1.4**
	79nm,0.3s,baz=316,slow=3.8,SNR=16						
GNI				Sn	**Sb**	**14 14 36.2**	**+1.8**
	73nm,0.3s,baz=158,slow=23,SNR=5.2						
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*PN	**Pn**	**14 14 13.5**	**+1.5**
SVAN				*e*SN	**Sb**	**14 14 36.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*Pn	**Pn**	**14 14 13.5**	**+1.5**
SVAN				*e*Sn	**Sb**	**14 14 36.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**336**	*e*PN	**Pn**	**14 14 14.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.01**	**336**	*e*Pn	**Pn**	**14 14 14.3**	**-0.1**
BNGB	**Bing¶‖**	**2.16**	**278**	*e*PN	**Pn**	**14 14 17.3**	**+0.9**
BINT	**Bingol**	**2.30**	**274**	*e*Pn	**Pn**	**14 14 17.3**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*PN	**Pn**	**14 14 20.0**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*Pn	**Pn**	**14 14 20.0**	**+0.9**
AKH	**Akhalkalaki**	**2.67**	**1**	*e*PN	**Pn**	**14 14 24.9**	**+1.3**
AKH	**Akhalkalaki**	**2.67**	**1**	P	**Pb**	**14 14 28.9**	**+0.3**
AKH	**Akhalkalaki**	**2.67**	**1**	⇓*i*P	Pn	14 14 20.4	-3.2
AKH	**Akhalkalaki**	**2.67**	**1**	P	**Pb**	**14 14 28.9**	**+0.3**
AKH	**Akhalkalaki**	**2.67**	**1**	*e*Pn	**Pn**	**14 14 24.9**	**+1.3**
AKH	**Akhalkalaki**	**2.67**	**1**	P	**Pb**	**14 14 28.9**	**+0.3**
GDB	**GEDABAY**	**2.67**	**41**	⇓P	**Pn**	**14 14 25.9**	**+2.4**
GDB				⇓S	**Sb**	**14 15 03.8**	**+2.5**
GDB	**GEDABAY**	**2.67**	**41**	P	**Pn**	**14 14 25.9**	**+2.4**
MAZI	**Mazidag**	**2.67**	**243**	*e*PN	**Pb**	**14 14 27.7**	**-0.9**
MAZI	**Mazidag**	**2.67**	**243**	*e*Pn	**Pb**	**14 14 27.7**	**-0.9**
QZX	**Qazax, Azerbai**	**2.76**	**32**	⇓P	**Pn**	**14 14 26.8**	**+2.2**
QZX				⇓S	**Sb**	**14 15 04.7**	**+1.1**
QZX	**Qazax, Azerbai**	**2.76**	**32**	P	**Pn**	**14 14 26.8**	**+2.2**
GANJ	**Ganja**	**2.94**	**49**	⇑P	**Pn**	**14 14 30.2**	**+3.2**
GANJ				⇑S	**Sb**	**14 15 11.1**	**+2.4**
GANJ	**Ganja**	**2.94**	**49**	P	**Pn**	**14 14 30.2**	**+3.2**
ERZN	**Erzincan**	**3.01**	**288**	*e*PN	**Pn**	**14 14 29.2**	**+1.1**
TBLG	**Delisi**	**3.16**	**18**	*e*PN	**Pn**	**14 14 32.5**	**+2.4**
TBLG	**Delisi**	**3.16**	**18**	P	**Pb**	**14 14 36.0**	**-0.7**
TBLG	**Delisi**	**3.16**	**18**	P	**Pb**	**14 14 36.0**	**-0.7**
TBLG	**Delisi**	**3.16**	**18**	*e*Pn	**Pn**	**14 14 32.5**	**+2.4**
TBLG	**Delisi**	**3.16**	**18**	P	**Pb**	**14 14 36.0**	**-0.7**
PTK	**Pertek**	**3.16**	**274**	*e*PN	**Pn**	**14 14 31.9**	**+1.7**
PTK	**Pertek**	**3.16**	**274**	*e*Pn	**Pn**	**14 14 31.9**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*PN	**Pn**	**14 14 33.8**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*Pn	**Pn**	**14 14 33.8**	**+2.3**
MNGR	**Mingechevir, A**	**3.48**	**53**	⇓P	**Pn**	**14 14 37.5**	**+3.1**
	SNR=6.9						
MNGR				⇑S	**Sb**	**14 15 23.9**	**-0.2**
MNGR	**Mingechevir, A**	**3.48**	**53**	P	**Pn**	**14 14 37.5**	**+3.1**
	SNR=6.9						
ZKTA	**Zakatala**	**3.79**	**39**	⇓P	**Pn**	**14 14 41.6**	**+2.8**
	SNR=12						
ZKTA				⇓S	**Sb**	**14 15 31.4**	**-1.9**
SEKA	**Sheki**	**3.81**	**48**	⇓P	**Pn**	**14 14 42.8**	**+3.8**
	SNR=17						
SEKA				⇑S	**Sb**	**14 15 33.3**	**-0.4**
SEKA	**Sheki**	**3.81**	**48**	P	**Pn**	**14 14 42.8**	**+3.8**
	SNR=17						
LRK	**Lerik**	**3.84**	**90**	⇓P	**Pn**	**14 14 42.2**	**+2.6**
	SNR=9.0						
LRK				⇓S	**Sb**	**14 15 32.9**	**-1.9**
LRK	**Lerik**	**3.84**	**90**	P	**Pn**	**14 14 42.2**	**+2.6**
	SNR=9.0						
ONI	**Oni**	**3.85**	**0**	P	**Pb**	**14 14 50.9**	**+2.3**
ONI	**Oni**	**3.85**	**0**	P	**Pb**	**14 14 50.9**	**+2.3**
URFA	**Urfa**	**3.86**	**252**	*e*PN	**Pn**	**14 14 43.0**	**+3.2**
URFA	**Urfa**	**3.86**	**252**	*e*Pn	**Pn**	**14 14 43.0**	**+3.2**
GLBA	**Clilabad**	**3.90**	**81**	⇓P	**Pn**	**14 14 43.2**	**+3.0**
	SNR=7.3						
GLBA				⇑S	**Sb**	**14 15 34.7**	**-1.6**
GLBA	**Clilabad**	**3.90**	**81**	P	**Pn**	**14 14 43.2**	**+3.0**
	SNR=7.3						
QBL	**Gabala**	**4.05**	**56**	⇓P	**Pn**	**14 14 45.4**	**+3.1**
	SNR=18						
QBL	**Gabala**	**4.05**	**56**	P	**Pn**	**14 14 45.4**	**+3.1**
	SNR=18						
ZEI	**Tsey**	**4.07**	**5**	*e*P	**Pn**	**14 14 46.8**	**+4.1**
ZEI				pmax	pmax		
	comp=Z,26nm,0.8s						
LKRN	**Lenkeran, Azer**	**4.18**	**89**	⇓P	**Pn**	**14 14 46.9**	**+2.8**
	SNR=3.9						
LKRN				⇑S	**Sb**	**14 15 40.8**	**-3.7**
LKRN	**Lenkeran, Azer**	**4.18**

comp=Z,113nm,2.0s
KWP Kalwaria Pacla 18.36 313 P **P 14 17 55.6 +0.8**
comp=Z,113nm,2.0s
CRVS Cervenica-Dubn 18.77 310 *e*P **Pn 14 18 02.7 +2.9**
CRVS Cervenica-Dubn 18.77 310 *e*P **Pn 14 18 02.7 +2.9**
CRVS Cervenica-Dubn 18.77 310 *e*P **Pn 14 18 02.7 +2.9**
PSZ Piszkesteto 19.37 306 ⇑/P **Pn 14 18 09.0 +2.0**
PSZ Piszkesteto 19.37 306 ⇑P **Pn 14 18 09.0 +2.0**
PSZ Piszkesteto 19.37 306 P **Pn 14 18 09.0 +2.0**
NIE Niedzica 19.68 310 P **Pn 14 18 11.3 +0.6**
NIE pmax pmax
comp=Z,5.0nm,1.6s
NIE Niedzica 19.68 310 P **Pn 14 18 11.3 +0.6**
comp=Z,5.0nm,1.6s
VYHS Vyhne 20.23 307 *e*P Pn 14 18 17.0 -0.2
VYHS Vyhne 20.23 307 *e*P Pn 14 18 17.0 -0.2
VYHS Vyhne 20.23 307 *e*P Pn 14 18 17.0 -0.2
ARU Arti 20.35 25 P **P 14 18 15.3 -1.2**
comp=Z,12nm,0.7s,baz=227,slow=8.1,SNR=13
ARU Arti 20.35 25*d* P **P 14 18 13.5 -3.0**
ARU S **S 14 22 02.0 -1.8**
ARU pmax pmax
comp=Z,18nm,2.5s
BEL Belsk 20.52 317 P Pn 14 18 21.6 +1.1
BEL pmax pmax
comp=Z,44nm,0.6s
BEL Belsk 20.52 317 P Pn 14 18 21.6 +1.1
comp=Z,44nm,0.6s
SUW Suwalki 20.59 324 P **P 14 18 19.0 -0.1**
SUW pmax pmax
comp=Z,42nm,1.0s
SUW Suwalki 20.59 324 P **P 14 18 19.0 -0.1**
comp=Z,42nm,1.0s
KKAR Karatay Array 20.89 69 *e*P **P 14 18 18.0 -4.4**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 20.89 69 *e*P **P 14 18 18.0 -4.4**
comp=Z,6.5nm,0.8s
KKAR Karatay Array 20.89 69 *e*P **P 14 18 18.0 -4.4**
comp=Z,6.5nm,0.8s
DPC Dobruska-Polom 22.41 310 *e*P P 14 18 48.9 +10
DPC Dobruska-Polom 22.41 310 *e*P P 14 18 48.9 +10
TREC Trest 22.58 307 P **P 14 18 41.7 +1.2**
TREC pmax pmax
comp=Z,5.0nm,1.4s
TREC Trest 22.58 307 P **P 14 18 41.7 +1.2**
comp=Z,5.0nm,1.4s
UPC Upice 22.65 310 *e*P **P 14 18 43.8 +2.5**
UPC Upice 22.65 310 *e*P **P 14 18 43.8 +2.5**
UPC Upice 22.65 310 *e*P **P 14 18 43.8 +2.5**
BRVK Borovoye 23.37 43 *e*P **P 14 18 50.6 +2.0**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 23.37 43 *e*P **P 14 18 50.6 +2.0**
comp=Z,9.0nm,0.8s
BRVK Borovoye 23.37 43 *e*P **P 14 18 50.5 +2.0**
comp=Z,8.7nm,0.8s
BVAR Borovoye Array 23.41 44 P **P 14 18 50.3 +1.3**
comp=Z,1.8nm,0.8s,baz=243,slow=9.7,SNR=7.4
GERES GERESS Array B 23.59 305 P **P 14 18 49.7 -1.2**
comp=Z,1.0nm,0.8s,baz=99,slow=8.2,SNR=5.9
KHC Kasperske Hory 23.73 306 *e*P **P 14 18 54.3 +2.0**
KHC *ex* x 14 19 01.2
KHC Kasperske Hory 23.73 306 *e*P **P 14 18 54.3 +2.0**
KHC *e* 14 19 01.2
KHC Kasperske Hory 23.73 306 *e*P **P 14 18 54.3 +2.0**
AAK Ala-Archa 23.81 71 P **P 14 18 56.1 +2.9**
comp=Z,1.0nm,0.5s,baz=156,slow=6.6,SNR=3.7
WET Wettzell 24.18 305 P **P 14 18 57.7 +1.2**
WET pmax pmax
comp=Z,14nm,2.8s
WET Wettzell 24.18 305 P **P 14 18 57.7 +1.2**
comp=Z,14nm,2.8s
CLL Collm 24.72 311 *e*P **P 14 19 01.0 -0.3**
FINES FINESS Array B 25.15 340 P **P 14 19 05.5 +0.5**
comp=Z,2.7nm,0.9s,baz=174,slow=5.7,SNR=4.0
KSH Kashi 25.19 78 *e*P P 14 19 15.4 +10
KSH pP sP 14 19 18.8 +6.0
KSH sP pP 14 19 21.5 +11
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,240nm,5.6s
JOF Joensuu 25.31 347 P **P 14 19 08.3 +1.8**
JOF pmax pmax
comp=Z,15nm,2.0s
DAVOX Davos/Dischmat 25.76 299 P **P 14 19 11.4 +0.4**
comp=Z,2.0nm,0.7s,baz=90,slow=13,SNR=3.7
KURBB Kurchatov Arra 27.38 53 P **P 14 19 24.6 -0.8**
comp=Z,1.3nm,0.5s,baz=264,slow=9.1,SNR=4.1
KURK Kurchatov 27.46 53 P **P 14 19 24.6 -1.4**
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 27.46 53 P **P 14 19 24.6 -1.4**
HFS Hagfors 28.43 329 P **P 14 19 32.9 -1.8**
comp=Z,3.9nm,0.8s,baz=123,slow=8.5,SNR=3.4
MKAR Makanchi Array 29.40 61 P **P 14 19 43.2 -0.3**
comp=Z,0.4nm,0.6s,baz=270,slow=7.3,SNR=2.7
MKAR Makanchi Array 29.40 61 P **P 14 19 43.2 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 29.96 329 P **P 14 19 47.7 -0.5**
comp=Z,0.7nm,0.7s,baz=121,slow=8.7,SNR=2.7
ZALV Zalesovo Beam 31.85 48 P **P 14 20 05.3 +0.3**
comp=Z,0.6nm,0.5s,baz=255,slow=10,SNR=3.0
ARCES ARCESS Array B 32.32 348 P **P 14 20 08.4 -0.5**
comp=Z,1.6nm,0.9s,baz=157,slow=8.7,SNR=3.4
ESDC Sonseca Array 36.40 287 P **P 14 20 43.9 -0.8**
comp=Z,0.7nm,0.5s,baz=68,slow=8.6,SNR=7.8
TORD Torodi Ar. Bea 44.82 247 P P 14 21 51.2 -3.1
comp=Z,1.4nm,0.9s,baz=20,slow=5.9,SNR=6.6
XAN Xi'an 51.93 74 P **P 14 22 48.9 -0.2**
XAN pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 51.94 96 P **P 14 22 48.4 -0.9**
comp=Z,1.3nm,0.8s,baz=298,slow=8.5,SNR=9.8
KSAR Wonju Array Be 64.06 62 P **P 14 24 15.5 +1.4**
KSAR Wonju Array Be 64.06 62 P **P 14 24 15.5 +1.4**
KSAR Wonju Array Be 64.06 62 P **P 14 24 15.5 +1.4**
KSRS Korea Array 64.08 62 P **P 14 24 15.5 +1.3**
comp=Z,0.9nm,0.9s,baz=285,slow=6.3,SNR=4.3

*CSEM **23** 14:20:18.8±0.3,38°.76N×43°.20E,h2km,ML3.1,Error*
ellipse: s-maj=8.8km s-min=5.8km az=87.0
*DDA **23** 14:20:18.5,38°.75N×43°.17E,h7km,Ml3.1*
*ISK **23** 14:20:20.1,38°.86N×43°.03E,h5km,ML2.6*
ISC 23 14:20:18.9±1.1,38°.76N±0°.02×43°.16E±0°.03,h5km±12km,
n16,σ0°74/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.30**	**140**	*i* P	**Pg**	**14 20 25.4**	**+0.8**
TVAN				*i* S	**Sg**	**14 20 29.7**	**+1.1**
TVAN	**Van**	**0.30**	**140**	P	**Pg**	**14 20 25.5**	**+0.8**
TVAN				S	**Sg**	**14 20 29.7**	**+1.1**
VMUR	**Van-Muradiye**	**0.39**	**54**	*i* P	**Pg**	**14 20 25.6**	**-0.9**
VMUR				*i* S	**Sg**	**14 20 32.2**	**+0.4**
VMUR	**Van-Muradiye**	**0.39**	**54**	P	**Pg**	**14 20 25.6**	**-0.9**
VMUR				S	**Sg**	**14 20 32.2**	**+0.4**
GEVA	**Gevas**	**0.45**	**191**	*i* P	**Pg**	**14 20 26.7**	**-0.9**
GEVA				*i* S	**Sg**	**14 20 33.5**	**0.0**
GEVA	**Gevas**	**0.45**	**191**	P	**Pg**	**14 20 26.7**	**-0.9**
GEVA				S	**Sg**	**14 20 33.5**	**0.0**
TUTA	**Tutak**	**0.70**	**337**	*i* P	**Pg**	**14 20 32.4**	**+0.1**
TUTA				*i* S	**Sb**	**14 20 43.5**	**-0.2**
TUTA	**Tutak**	**0.70**	**337**	P	**Pg**	**14 20 32.4**	**+0.1**
TUTA				S	**Sb**	**14 20 43.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.83**	**351**	*e*PG	**Pg**	**14 20 34.9**	**+0.1**
AGRB				*e*SG	**Sg**	**14 20 46.3**	**+0.7**
AGRB	**Hanur-Agry**	**0.83**	**351**	*e*Pg	**Pg**	**14 20 34.9**	**+0.1**
AGRB				*e*Sg	**Sg**	**14 20 46.3**	**+0.7**
EATA	**Eleskirt**	**1.22**	**335**	*i* P	**Pg**	**14 20 42.1**	**-0.2**
EATA				*i* S	**Sn**	**14 21 01.1**	**+1.2**
EATA	**Eleskirt**	**1.22**	**335**	P	**Pg**	**14 20 42.1**	**-0.2**
EATA				S	**Sn**	**14 21 01.1**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.66**	**249**	*e*PN	**Pg**	**14 20 50.9**	**+0.3**
SVAN				*e*SN	**Sg**	**14 21 13.0**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.66**	**249**	*e*Pn	**Pg**	**14 20 50.9**	**+0.3**
SVAN				*e*Sn	**Sg**	**14 21 13.0**	**+0.9**
BNGB	**Bing¶‖**	**1.95**	**278**	*e*PN	**Pb**	**14 20 54.1**	**-0.9**
BINT	**Bingol**	**2.09**	**274**	*e*Pn	**Pn**	**14 20 54.1**	**-0.6**

*DDA **23** 14:26:49.7,38°.73N×43°.02E,h6km,Ml3.6*
*ISK **23** 14:26:49.7,38°.78N×43°.07E,h5km,ML3.2*
*CSEM **23** 14:26:50.4±0.2,38°.76N×43°.04E,h2km,ML3.6,Error*
ellipse: s-maj=5.1km s-min=3.8km az=99.0
ISC 23 14:26:49.8±1.1,38°.74N±0°.02×43°.05E±0°.02,h6km±10km,
n50,σ0°94/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.35**	**127**	*i* P	**Pb**	**14 26 58.3**	**-0.4**
TVAN	**Van**	**0.35**	**127**	P	**Pb**	**14 26 58.3**	**-0.4**
GEVA	**Gevas**	**0.43**	**179**	*i* P	**Pg**	**14 26 56.2**	**-1.9**
GEVA				*i* S	**Sg**	**14 27 04.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.48**	**59**	*i* P	**Pg**	**14 26 58.7**	**-0.5**
VMUR				*i* S	**Sg**	**14 27 06.4**	**+1.0**
VMUR	**Van-Muradiye**	**0.48**	**59**	P	**Pg**	**14 26 58.7**	**-0.5**
VMUR				S	**Sg**	**14 27 06.4**	**+1.0**
TUTA	**Tutak**	**0.69**	**345**	*i* P	**Pg**	**14 27 02.9**	**-0.1**
TUTA				*i* S	**Sb**	**14 27 12.6**	**-1.6**
TUTA	**Tutak**	**0.69**	**345**	P	**Pg**	**14 27 02.9**	**-0.1**
TUTA				S	**Sb**	**14 27 12.6**	**-1.6**
AGRB	**Hanur-Agry**	**0.84**	**357**	*e*PG	**Pg**	**14 27 05.1**	**-0.8**
AGRB				*e*SG	**Sb**	**14 27 17.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.84**	**357**	*e*Pg	**Pg**	**14 27 05.1**	**-0.8**
AGRB				*e*Sg	**Sb**	**14 27 17.2**	**-1.3**
EKAR	**Karacoban**	**0.92**	**304**	*i* P	**Pb**	**14 27 08.6**	**+0.2**
EKAR	**Karacoban**	**0.92**	**304**	P	**Pb**	**14 27 08.6**	**+0.2**
DYDN	**Diyadin**	**0.95**	**32**	*i* P	**Pb**	**14 27 08.5**	**-0.3**
DYDN				*i* S	**Sb**	**14 27 22.2**	**+0.5**
DYDN	**Diyadin**	**0.95**	**32**	P	**Pb**	**14 27 08.5**	**-0.3**
DYDN				S	**Sb**	**14 27 22.2**	**+0.5**
EATA	**Eleskirt**	**1.20**	**339**	*i* P	**Pg**	**14 27 12.2**	**-0.7**
EATA				*i* S	**Sn**	**14 27 29.7**	**-0.6**
EATA	**Eleskirt**	**1.20**	**339**	P	**Pg**	**14 27 12.2**	**-0.7**
EATA				S	**Sn**	**14 27 29.7**	**-0.6**
HAKT	**HAKKARI**	**1.29**	**156**	*i* P	**Pg**	**14 27 12.2**	**-2.4**
HAKT				*i* S	**Sb**	**14 27 32.3**	**+0.7**
SIRN	**S¨–rnak**	**1.34**	**202**	*i* P	**Pn**	**14 27 15.1**	**0.0**
SIRN				*i* S	**Sg**	**14 27 32.6**	**-0.2**
SIRN	**S¨–rnak**	**1.34**	**202**	P	**Pn**	**14 27 15.1**	**0.0**
SIRN				S	**Sg**	**14 27 32.6**	**-0.2**
BNGL	**BINGOL**	**1.50**	**279**	*i* P	**Pb**	**14 27 18.0**	**-0.1**
BNGL				*i* S	**Sg**	**14 27 38.5**	**+0.6**
CUKT	**Cukurca**	**1.56**	**163**	*e*PN	**Pb**	**14 27 19.3**	**+0.2**
CUKT	**Cukurca**	**1.56**	**163**	*i* P	**Pg**	**14 27 19.7**	**+0.1**
CUKT				*i* S	**Sg**	**14 27 41.1**	**+1.3**
CUKT	**Cukurca**	**1.56**	**163**	*e*Pn	**Pb**	**14 27 19.3**	**+0.2**
CUKT	**Cukurca**	**1.56**	**163**	P	**Pg**	**14 27 19.7**	**+0.1**
CUKT				S	**Sg**	**14 27 41.1**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.56**	**249**	*e*PN	**Pn**	**14 27 18.6**	**+0.4**
SVAN				*e*SN	**Sg**	**14 27 40.7**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.56**	**249**	*i* P	**Pg**	**14 27 19.5**	**-0.3**
SVAN				*i* S	**Sg**	**14 27 40.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.56**	**249**	*e*Pn	**Pn**	**14 27 18.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.56**	**249**	P	**Pg**	**14 27 19.5**	**-0.3**
SVAN				*e*Sn	**Sg**	**14 27 40.7**	**+0.6**
HOMI	**Horasan**	**1.57**	**326**	*i* P	**Pb**	**14 27 19.2**	**-0.3**
BTMN	**Batman**	**1.63**	**239**	*i* P	**Pb**	**14 27 20.1**	**-0.3**
BTMN				*i* S	**Sg**	**14 27 42.5**	**+0.2**
BTMN	**Batman**	**1.63**	**239**	P	**Pb**	**14 27 20.1**	**-0.3**
BTMN				S	**Sg**	**14 27 42.5**	**+0.2**
DIGO	**Kars**	**1.69**	**9**	*i* P	**Pg**	**14 27 21.6**	**-0.7**
DIGO	**Kars**	**1.69**	**9**	P	**Pg**	**14 27 21.6**	**-0.7**
ERZM	**Erzurum**	**1.75**	**312**	*i* P	**Pg**	**14 27 23.2**	**-0.1**
ERZM	**Erzurum**	**1.75**	**312**	P	**Pg**	**14 27 23.2**	**-0.1**
BNGB	**Bing¶‖**	**1.86**	**278**	*e*PN	**Pn**	**14 27 23.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.90**	**344**	*e*PN	**Pn**	**14 27 23.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.90**	**344**	*e*Pn	**Pn**	**14 27 23.3**	**+0.3**
EAK	**Akyaka**	**1.99**	**12**	*i* P	**Pg**	**14 27 27.9**	**-0.1**
EAK	**Akyaka**	**1.99**	**12**	P	**Pg**	**14 27 27.9**	**-0.1**
BINT	**Bingol**	**2.00**	**275**	*e*Pn	**Pn**	**14 27 23.1**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.07**	**290**	*e*PN	**Pn**	**14 27 26.3**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.07**	**290**	*e*Pn	**Pn**	**14 27 26.3**	**+1.0**
DDEM	**Demirkent**	**2.37**	**336**	*i* P	**Pg**	**14 27 34.0**	**-1.3**
MAZI	**Mazidag**	**2.42**	**239**	*e*PN	**Pn**	**14 27 31.8**	**+1.8**
MAZI	**Mazidag**	**2.42**	**239**	*e*Pn	**Pn**	**14 27 31.8**	**+1.8**
DAGI	**Agillar**	**2.49**	**340**	*i* P	**Pb**	**14 27 35.0**	**-0.1**
PTK	**Pertek**	**2.86**	**274**	*e*PN	**Pn**	**14 27 38.0**	**+1.8**
PTK	**Pertek**	**2.86**	**274**	*e*Pn	**Pn**	**14 27 38.0**	**+1.8**
SVRC	**Sivrice-ELAZID**	**2.95**	**264**	*e*PN	**Pn**	**14 27 39.5**	**+2.0**
SVRC	**Sivrice-ELAZID**	**2.95**	**264**	*e*Pn	**Pn**	**14 27 39.5**	**+2.0**

*CSEM **23** 14:34:57.5±0.3,38°.76N×43°.34E,h2km,ML3.5,Error*
ellipse: s-maj=9.7km s-min=5.1km az=83.0
*DDA **23** 14:34:57.2,38°.75N×43°.27E,h7km,Ml3.5*
*ISK **23** 14:34:57.9,38°.86N×43°.43E,h16km,ML3.4*
ISC 23 14:34:57.8±0.8,38°.76N±0°.02×43°.33E±0°.04,h16km±8km,
n33,σ1°41/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.24**	**166**	*i* P	**Pg**	**14 35 03.4**	**+0.2**
TVAN				*i* S	**Sg**	**14 35 07.3**	**+0.4**
TVAN	**Van**	**0.24**	**166**	P	**Pg**	**14 35 03.4**	**+0.2**
TVAN				S	**Sg**	**14 35 07.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.30**	**39**	*i* P	**Pg**	**14 35 03.2**	**-1.0**
VMUR				*i* S	**Sg**	**14 35 09.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.30**	**39**	P	**Pg**	**14 35 03.2**	**-1.0**
VMUR				S	**Sg**	**14 35 09.4**	**+0.8**
GEVA	**Gevas**	**0.49**	**206**	*i* P	**Pg**	**14 35 05.3**	**-2.4**
GEVA				*i* S	**Sg**	**14 35 13.3**	**-1.1**
GEVA	**Gevas**	**0.49**	**206**	P	**Pg**	**14 35 05.3**	**-2.4**
GEVA				S	**Sg**	**14 35 13.3**	**-1.1**
TUTA	**Tutak**	**0.76**	**328**	*i* P	**Pb**	**14 35 11.4**	**-1.4**
TUTA				*i* S	**Sb**	**14 35 20.8**	**-2.2**
TUTA	**Tutak**	**0.76**	**328**	P	**Pb**	**14 35 11.4**	**-1.4**
TUTA				S	**Sb**	**14 35 20.8**	**-2.2**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*PG	**Pb**	**14 35 13.4**	**-1.1**
AGRB				*e*SG	**Sb**	**14 35 25.9**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*Pg	**Pb**	**14 35 13.4**	**-1.1**
AGRB				*e*Sg	**Sb**	**14 35 25.9**	**0.0**
HAKT	**HAKKARI**	**1.23**	**166**	*i* P	**Pn**	**14 35 19.8**	**-0.9**
HAKT				*i* S	**Sb**	**14 35 36.1**	**-0.6**
HAKT	**HAKKARI**	**1.23**	**166**	P	**Pn**	**14 35 19.8**	**-0.9**
HAKT				S	**Sb**	**14 35 36.1**	**-0.6**
EATA	**Eleskirt**	**1.28**	**330**	*i* P	**Pb**	**14 35 22.6**	**+0.8**
EATA				*i* S	**Sg**	**14 35 40.4**	**+1.1**
EATA	**Eleskirt**	**1.28**	**330**	P	**Pb**	**14 35 22.6**	**+0.8**
EATA				S	**Sg**	**14 35 40.4**	**+1.1**
SIRN	**S¨–rnak**	**1.45**	**210**	*i* P	**Pb**	**14 35 25.0**	**+0.4**
SIRN	**S¨–rnak**	**1.45**	**210**	P	**Pb**	**14 35 25.0**	**+0.4**
CUKT	**Cukurca**	**1.52**	**172**	*e*PN	**Pb**	**14 35 26.5**	**+0.7**
CUKT				*e*SN	**Sg**	**14 35 47.4**	**+0.5**
CUKT	**Cukurca**	**1.52**	**172**	*e*Pn	**Pb**	**14 35 26.5**	**+0.7**
CUKT				*e*Sn	**Sg**	**14 35 47.4**	**+0.5**
DIGO	**Kars**	**1.66**	**1**	*i* P	**Pb**	**14 35 29.1**	**+1.0**
DIGO	**Kars**	**1.66**	**1**	P	**Pb**	**14 35 29.1**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.78**	**251**	*e*PN	**Pn**	**14 35 29.7**	**+1.7**
SVAN				*e*SN	**Sb**	**14 35 53.7**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.78**	**251**	*e*Pn	**Pn**	**14 35 29.7**	**+1.7**
SVAN				*e*Sn	**Sb**	**14 35 53.7**	**+1.4**
SENK	**Senkaya-Erzuru**	**1.95**	**337**	*e*PN	**Pn**	**14 35 30.1**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.95**	**337**	*e*Pn	**Pn**	**14 35 30.1**	**-0.4**
BNGB	**Bing¶‖**	**2.08**	**277**	*e*PN	**Pn**	**14 35 34.3**	**+2.1**
BINT	**Bingol**	**2.23**	**274**	*e*Pn	**Pn**	**14 35 34.3**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.27**	**288**	*e*PN	**Pn**	**14 35 36.9**	**+2.0**
YEDI	**Yedisu-Bingol**	**2.27**	**288**	*e*Pn	**Pn**	**14 35 36.9**	**+2.0**
MAZI	**Mazidag**	**2.62**	**241**	*e*PN	**Pb**	**14 35 42.9**	**-1.6**
MAZI	**Mazidag**	**2.62**	**241**	*e*Pn	**Pb**	**14 35 42.9**	**-1.6**
ELZG	**Elazig**	**3.42**	**267**	*i* P	Sg	14 36 47.7	+0.1
URFA	**Urfa**	**3.79**	**251**	*e*PN	**Pn**	**14 35 58.8**	**+3.1**
URFA	**Urfa**	**3.79**	**251**	*e*Pn	**Pn**	**14 35 58.8**	**+3.1**

*AZER **23** 14:37:06.0±0.8,38°.03N×43°.50E,h6km±23km,Error*
ellipse: s-maj=25.1km s-min=4.4km az=58.0
*ISK **23** 14:37:09.2,38°.76N×43°.65E,h11km,ML3.2*
*CSEM **23** 14:37:10.9±0.3,38°.66N×43°.42E,h2km,ML3.2,Error*
ellipse: s-maj=11.0km s-min=7.3km az=154.0
ISC 23 14:37:09.7±1.2,38°.74N±0°.03×43°.62E±0°.03,h13km±11km,
n34,σ2°44/47,9C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.96**	**330**	*e*PG	**Pb**	**14 37 28.0**	**-0.4**
AGRB				*e*SG	**Sn**	**14 37 42.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.96**	**330**	*e*Pg	**Pb**	**14 37 28.0**	**-0.4**
AGRB				*e*Sg	**Sn**	**14 37 42.2**	**-0.6**
CUKT	**Cukurca**	**1.49**	**180**	*e*PN	**Pn**	**14 37 36.7**	**+0.4**
CUKT				*e*SN	**Sg**	**14 37 57.4**	**-0.3**
CUKT	**Cukurca**	**1.49**	**180**	*e*Pn	**Pn**	**14 37 36.7**	**+0.4**
CUKT				*e*Sn	**Sg**	**14 37 57.4**	**-0.3**
NAX	**Nakhchivan**	**1.53**	**73**	⇑P	**Pg**	**14 37 39.4**	**+0.4**
NAX				⇓S	**Sg**	**14 38 05.3**	**+6.4**
NAX	**Nakhchivan**	**1.53**	**73**	P	**Pg**	**14 37 39.4**	**+0.4**
NAX				S	**Sg**	**14 38 05.3**	**+6.4**
SVAN	**Silvan-Diyarba**	**1.99**	**253**	*e*PN	**Pn**	**14 37 43.8**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.99**	**253**	*e*Pn	**Pn**	**14 37 43.8**	**+0.8**
BNGB	**Bing¶‖**	**2.31**	**277**	*e*PN	**Pn**	**14 37 48.7**	**+1.2**
BINT	**Bingol**	**2.45**	**274**	*e*Pn	**Pn**	**14 37 48.7**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.49**	**287**	*e*PN	**Pn**	**14 37 50.8**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.49**	**287**	*e*Pn	**Pn**	**14 37 50.8**	**+0.7**
GDB	**GEDABAY**	**2.57**	**39**	⇓P	**Pg**	**14 37 57.0**	**-2.0**
GDB				⇓S	**Sg**	**14 38 36.5**	**+4.1**
GDB	**GEDABAY**	**2.57**	**39**	P	**Pg**	**14 37 57.0**	**-2.0**
QZX	**Qazax, Azerbai**	**2.68**	**30**	⇓P	**Pg**	**14 37 59.0**	**-2.0**
QZX				⇑S	**Sg**	**14 38 39.8**	**+4.0**
QZX	**Qazax, Azerbai**	**2.68**	**30**	P	**Pg**	**14 37 59.0**	**-2.0**
MAZI	**Mazidag**	**2.81**	**244**	*e*PN	**Pn**	**14 37 56.0**	**+1.7**
MAZI	**Mazidag**	**2.81**	**244**	*e*Pn	**Pn**	**14 37 56.1**	**+1.7**
GANJ	**Ganja**	**2.82**	**47**	⇓P	**Pb**	**14 37 59.6**	**-0.3**
GANJ				⇑S	**Sg**	**14 38 41.6**	**+1.2**
GANJ	**Ganja**	**2.82**	**47**	P	**Pb**	**14 37 59.6**	**-0.3**
GANJ				S	**Sg**	**14 38 41.6**	**+1.2**
PTK	**Pertek**	**3.30**	**274**	*e*PN	**Pn**	**14 38 02.7**	**+1.4**
PTK	**Pertek**	**3.30**	**274**	*e*Pn	**Pn**	**14 38 02.7**	**+1.4**
MNGR	**Mingechevir, A**	**3.36**	**52**	⇑P	**Pb**	**14 38 06.7**	**-2.3**
MNGR				⇓S	**Sg**	**14 38 53.5**	**-3.9**
MNGR	**Mingechevir, A**	**3.36**	**52**	P	**Pb**	**14 38 06.7**	**-2.3**
MNGR				S	**Sg**	**14 38 53.5**	**-3.9**
ZRD	**Zardab**	**3.50**	**63**	⇑P	**Pb**	**14 38 07.5**	**-3.9**
ZRD				⇑S	**Sb**	**14 38 54.8**	**+0.9**
ZRD	**Zardab**	**3.50**	**63**	P	**Pb**	**14 38 07.5**	**-3.9**
ZRD				S	**Sb**	**14 38 54.8**	**+0.9**
SEKA	**Sheki**	**3.69**	**47**	⇓P	**Pb**	**14 38 12.2**	**-2.6**
SEKA	**Sheki**	**3.69**	**47**	P	**Pb**	**14 38 12.2**	**-2.6**
ZKTA	**Zakatala**	**3.70**	**38**	⇓P	**Pb**	**14 38 12.7**	**-2.2**
LRK	**Lerik**	**3.70**	**90**	⇑P	**Pn**	**14 38 05.8**	**-0.8**
LRK				⇑S	**Sn**	**14 38 52.5**	**+2.3**
LKRN	**Lenkeran, Azer**	**4.04**	**89**	⇓P	**Pn**	**14 38 10.7**	**-0.4**
ASTR	**Astara**	**4.05**	**91**	⇑S	**Sn**	**14 39 01.1**	**+2.4**
XNQ	**Khinaliq**	**4.24**	**54**	⇓P	Pb	14 38 18.5	-5.7
XNQ	**Khinaliq**	**4.24**	**54**	P	Pb	14 38 18.5	-5.7

*ISCJB **23** 14:42:57.3±0.5,38°.71N±0°.02×43°.21E±0°.03,h0km±4km,*
mb3.6/4,Error ellipse: s-maj=4.4km s-min=3.2km az=1.6
*DDA **23** 14:42:57.0,38°.69N×43°.19E,h10km,Ml3.8*
*ISK **23** 14:42:57.2,38°.74N×43°.19E,h4km,ML3.3*
*IDC **23** 14:42:57.1±2.5,38°.71N×43°.28E,h0km,mb3.5/4,*
mb1 3.5/9,mb1mx3.3/51,mbtmp3.4/9,ML2.6/4,Error
ellipse: s-maj=34.9km s-min=12.8km az=160.0
*CSEM **23** 14:42:57.6±0.2,38°.73N×43°.23E,h2km,ML3.8,Error*
ellipse: s-maj=4.9km s-min=3.3km az=97.0
ISC 23 14:42:57.6±1.1,38°.72N±0°.02×43°.21E±0°.03,h5km±9km,
n60,σ1°16/79,mb3.6/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.25**	**142**	*i* P	**Pg**	**14 43 03.0**	**+0.5**
TVAN				*i* S	**Sg**	**14 43 07.4**	**+1.6**
TVAN	**Van**	**0.25**	**142**	P	**Pg**	**14 43 03.0**	**+0.5**
TVAN				S	**Sg**	**14 43 07.4**	**+1.6**
VMUR	**Van-Muradiye**	**0.39**	**47**	*i* P	**Pg**	**14 43 04.5**	**-0.7**
VMUR				*i* S	**Sb**	**14 43 12.8**	**-0.6**
VMUR	**Van-Muradiye**	**0.39**	**47**	P	**Pg**	**14 43 04.5**	**-0.7**
GEVA	**Gevas**	**0.43**	**196**	*i* P	**Pg**	**14 43 03.9**	**-2.1**
GEVA				*i* S	**Sg**	**14 43 11.4**	**-0.1**
TUTA	**Tutak**	**0.74**	**336**	*i* P	**Pg**	**14 43 11.9**	**-0.1**
TUTA				*i* S	**Sb**	**14 43 22.8**	**-1.0**
TUTA	**Tutak**	**0.74**	**336**	P	**Pg**	**14 43 11.9**	**-0.1**
TUTA				S	**Sb**	**14 43 22.8**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*PG	**Pg**	**14 43 13.8**	**-0.5**
AGRB				*e*SG	**Sb**	**14 43 26.3**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*Pg	**Pg**	**14 43 13.8**	**-0.5**
AGRB				*e*Sg	**Sb**	**14 43 26.3**

NNC 23 14:46:59.2±3.1, 37°22N×71°10E, h230km±71km, mb2.5, mpv3.7, 3C-3D, Error ellipse: s-maj=40.7km s-min=27.7km az=15.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.37**	**11**	⇓P	Pn	14 48 19.6	+0.6
	4.2nm,0.3s						
MNAS				⇑S	S	14 49 22.8	+0.3
	7.9nm,0.5s						
KK31	**Karatay Array**	**5.89**	**356**	P	Pn	14 48 25.8	+0.3
	3.2nm,0.4s,baz=179,slow=12,SNR=68						
KK31				⇓S	S	14 49 35.0	+0.7
	1.8nm,0.5s,baz=180,slow=20,SNR=6.3						
AAK	**Ala-Archa**	**6.01**	**25**	⇓P	Pn	14 48 26.2	-0.9
	1.9nm,0.3s						
AAK				⇑S	S	14 49 37.9	+0.8
	4.2nm,0.6s						
AB31	**Akbulak array**	**14.50**	**330**	⇑P	Pn	14 50 13.7	-0.2
	0.4nm,0.4s,baz=143,slow=12,SNR=6.0						

WEL 23 14:49:35.1±0.3, 37°70S×176°62E, h151km±2km, ML3.5/30, 7C-7D, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.68**	**145**	PN	Pn	14 49 57.5	-0.1
URZ				AML	AML	14 50 15.1	
URZ				SN	Sn	14 50 15.1	+0.3
MUGZ	**Murupara**	**0.79**	**171**	PN	Pn	14 49 58.4	+0.1
MUGZ				SN	Sn	14 50 16.3	+0.1
RUGZ	**Raukumara Rang**	**0.88**	**108**	PN	Pn	14 49 58.4	-0.8
HAZ	**Te Kaha**	**0.93**	**94**	⇓PN	Pn	14 49 59.0	-0.4
HAZ				SN	Sn	14 50 18.1	+0.2
HAZ				AML	AML	14 50 18.6	
HAZ				AML	AML	14 50 18.8	
RTZ	**Ruatahuna**	**0.96**	**163**	⇓PN	Pn	14 49 59.7	0.0
RTZ				SN	Sn	14 50 18.4	-0.3
MWZ	**Matawai**	**0.96**	**132**	⇓PN	Pn	14 49 59.4	-0.3
MWZ				SN	Sn	14 50 18.5	0.0
MWZ				AML	AML	14 50 25.8	
RAGZ	**Rawiri**	**1.01**	**142**	PN	Pn	14 50 00.5	+0.3
RAGZ				AML	AML	14 50 25.3	
RAGZ				AML	AML	14 50 27.1	
TLZ	**Tolley Road**	**1.06**	**233**	⇑PN	Pn	14 50 01.0	+0.5
MRHZ	**Matea Rd**	**1.14**	**188**	PN	Pn	14 50 01.3	-0.1
MRHZ				AML	AML	14 50 22.3	
MRHZ				AML	AML	14 50 22.4	
PKGZ	**Pakihiroa**	**1.17**	**100**	PN	Pn	14 50 01.6	0.0
PKGZ				AML	AML	14 50 30.3	
PKGZ				AML	AML	14 50 32.1	
TWGZ	**Tauwhareparae**	**1.18**	**114**	PN	Pn	14 50 01.9	+0.3
TWGZ				AML	AML	14 50 31.9	
TWGZ				AML	AML	14 50 32.6	
KUZ	**Kuaotunu**	**1.19**	**323**	⇑PN	Pn	14 50 01.8	+0.1
SNGZ	**Shannon Statio**	**1.22**	**152**	PN	Pn	14 50 02.1	+0.1
SNGZ				AML	AML	14 50 25.2	
SNGZ				AML	AML	14 50 26.5	
TKGZ	**Te Karaka**	**1.22**	**128**	PN	Pn	14 50 02.0	+0.1
TKGZ				AML	AML	14 50 27.0	
TKGZ				AML	AML	14 50 27.0	
MXZ	**Matakaoa Point**	**1.35**	**85**	PN	Pn	14 50 03.4	+0.2
PUZ	**Puketiti**	**1.35**	**106**	PN	Pn	14 50 03.0	-0.3
RIGZ	**Rimuhau**	**1.35**	**138**	PN	Pn	14 50 03.6	+0.3
RIGZ				AML	AML	14 50 25.8	
RIGZ				AML	AML	14 50 31.2	
NMHZ	**Naumai**	**1.40**	**174**	PN	Pn	14 50 04.4	+0.6
NMHZ				AML	AML	14 50 28.3	
NMHZ				AML	AML	14 50 30.7	
WMGZ	**Waiomatatini S**	**1.43**	**95**	PN	Pn	14 50 04.0	0.0
WMGZ				AML	AML	14 50 27.7	
WMGZ				AML	AML	14 50 36.1	
WHHZ	**Waihua**	**1.46**	**161**	PN	Pn	14 50 04.5	+0.2
WHHZ				AML	AML	14 50 27.8	
WHHZ				AML	AML	14 50 35.1	
BKZ	**Black Stump Fm**	**1.47**	**184**	PN	Pn	14 50 04.0	-0.5
BKZ				AML	AML	14 50 26.3	
BKZ				AML	AML	14 50 27.5	
CNGZ	**Carnagh Statio**	**1.48**	**122**	PN	Pn	14 50 05.1	+0.6
KNZ	**Kokohu**	**1.56**	**148**	⇑PN	Pn	14 50 05.2	-0.1
KNZ				AML	AML	14 50 29.6	
PRGZ	**Paritu Road**	**1.58**	**141**	PN	Pn	14 50 05.6	0.0
PRGZ				AML	AML	14 50 31.5	
ARHZ	**Aropaoanui**	**1.59**	**169**	⇑PN	Pn	14 50 05.9	+0.2
ARHZ				AML	AML	14 50 30.2	
ARHZ				AML	AML	14 50 32.4	
TWVZ	**Taurewa**	**1.65**	**214**	PN	Pn	14 50 06.3	-0.2
NGZ	**Ngauruhoe**	**1.68**	**208**	PN	Pn	14 50 06.8	+0.1
KWHZ	**Kaweka Forest**	**1.73**	**185**	PN	Pn	14 50 07.0	-0.3
KWHZ				AML	AML	14 50 31.9	
KWHZ				AML	AML	14 50 32.7	
MCHZ	**McNeill Hill**	**1.74**	**178**	PN	Pn	14 50 07.4	0.0
MCHZ				AML	AML	14 50 34.3	
MCHZ				AML	AML	14 50 37.6	
FWVZ	**Far West T-bar**	**1.76**	**208**	⇓PN	Pn	14 50 07.7	-0.1
MHGZ	**Mahia Peninsul**	**1.77**	**145**	⇓PN	Pn	14 50 07.8	+0.2
WHVZ	**Whangaehu Hut**	**1.77**	**207**	PN	Pn	14 50 07.6	-0.3
WNVZ	**Wahianoa**	**1.81**	**206**	⇑PN	Pn	14 50 07.8	-0.5
MOVZ	**Moawhango**	**1.83**	**201**	PN	Pn	14 50 07.5	-1.0
BHHZ	**Black Hill Sta**	**1.84**	**193**	PN	Pn	14 50 07.6	-0.9
BHHZ				AML	AML	14 50 34.5	
BHHZ				AML	AML	14 50 34.5	
MTVZ	**Mangateitei**	**1.91**	**208**	PN	Pn	14 50 08.9	-0.4
KRHZ	**Kereru**	**1.95**	**186**	PN	Pn	14 50 09.0	-0.8
KRHZ				AML	AML	14 50 36.5	
KRHZ				AML	AML	14 50 37.1	
CKHZ	**Cape Kidnapper**	**1.99**	**170**	PN	Pn	14 50 09.9	-0.3
CKHZ				AML	AML	14 50 35.9	
CKHZ				AML	AML	14 50 36.7	
KAHZ	**Kahuranaki**	**2.10**	**175**	PN	Pn	14 50 11.0	-0.5
KAHZ				AML	AML	14 50 39.3	
KAHZ				AML	AML	14 50 40.6	
PNHZ	**Pukenui**	**2.23**	**188**	PN	Pn	14 50 11.7	-1.4
PNHZ				AML	AML	14 50 42.3	
PXZ	**Pawanui**	**2.34**	**175**	⇓PN	Pn	14 50 13.1	-1.2
PXZ				AML	AML	14 50 44.4	
PXZ				AML	AML	14 50 44.4	
PXZ				AML	AML	14 50 44.4	
WPHZ	**Waipukurau**	**2.37**	**183**	PN	Pn	14 50 13.5	-1.1
TSZ	**Takapari Road**	**2.41**	**192**	PN	Pn	14 50 13.6	-1.5
WAZ	**Wanganui**	**2.42**	**211**	⇑PN	Pn	14 50 14.3	-1.0
PRHZ	**Porangahau**	**2.56**	**180**	PN	Pn	14 50 15.7	-1.3
PRHZ				AML	AML	14 50 49.8	
PRHZ				AML	AML	14 50 50.7	
DVHZ	**Dannevirke**	**2.62**	**188**	PN	Pn	14 50 15.7	-2.1
OHWZ	**Ohakea**	**2.70**	**202**	PN	Pn	14 50 17.6	-1.1
ANWZ	**Angora Road**	**2.76**	**182**	PN	Pn	14 50 17.8	-1.6
ANWZ				AML	AML	14 50 53.3	
ANWZ				AML	AML	14 50 53.8	
POWZ	**Post Office Ro**	**2.77**	**194**	PN	Pn	14 50 17.6	-2.0
PRWZ	**Pori Road**	**2.90**	**190**	PN	Pn	14 50 19.4	-1.7
BFZ	**Birch Farm**	**2.99**	**185**	PN	Pn	14 50 20.0	-2.3
MRZ	**Mangatainoka R**	**3.06**	**195**	⇑PN	Pn	14 50 20.7	-2.6
MRZ				AML	AML	14 50 57.9	
TIWZ	**Tintock**	**3.12**	**190**	PN	Pn	14 50 21.6	-2.5
TIWZ				AML	AML	14 50 58.9	
HOWZ	**Holdsworth Sta**	**3.31**	**195**	PN	Pn	14 50 23.4	-3.0
OGWZ	**Otaki Gorge**	**3.31**	**199**	PN	Pn	14 50 23.5	-2.9
OGWZ				AML	AML	14 51 03.5	
OGWZ				AML	AML	14 51 06.4	
KIW	**Kapiti Island**	**3.42**	**202**	PN	Pn	14 50 24.5	-3.4
TMWZ	**Te Maipa**	**3.45**	**189**	PN	Pn	14 50 25.3	-2.9
MTW	**Mount Morrison**	**3.56**	**194**	PN	Pn	14 50 26.1	-3.6
CAW	**Cannon Point**	**3.61**	**199**	PN	Pn	14 50 26.8	-3.5
DUWZ	**D'Urville Isla**	**3.74**	**213**	PN	Pn	14 50 28.3	-3.6
TRWZ	**Traveller**	**3.76**	**191**	PN	Pn	14 50 29.0	-3.2
WEL	**Wellington**	**3.85**	**201**	PN	Pn	14 50 29.8	-3.6
MSWZ	**Moikau Station**	**3.86**	**195**	PN	Pn	14 50 29.8	-3.7
BHW	**Baring Head**	**3.94**	**199**	PN	Pn	14 50 30.5	-4.1
TCW	**Tory Channel**	**3.95**	**207**	PN	Pn	14 50 31.0	-3.6
PLWZ	**Palliser**	**4.00**	**195**	PN	Pn	14 50 31.4	-4.0
TUWZ	**Tuamarina**	**4.26**	**208**	PN	Pn	14 50 34.6	-4.1
NNZ	**Nelson**	**4.31**	**214**	PN	Pn	14 50 35.4	-4.0
QRZ	**Quartz Range**	**4.45**	**224**	PN	Pn	14 50 36.8	-4.4
BSWZ	**Blackbirch Sta**	**4.53**	**207**	PN	Pn	14 50 38.3	-4.0
THZ	**Tophouse**	**4.96**	**214**	PN	Pn	14 50 43.3	-4.7
KHZ	**Kahutara**	**5.27**	**206**	⇓PN	Pn	14 50 47.3	-4.7
DSZ	**Denniston Nort**	**5.48**	**221**	PN	Pn	14 50 49.7	-5.3
INZ	**Inchbonnie**	**6.39**	**217**	PN	Pn	14 51 00.5	-6.4
OXZ	**Oxford**	**6.61**	**210**	PN	Pn	14 51 03.5	-6.4
MQZ	**McQueen's Vall**	**6.71**	**205**	PN	Pn	14 51 04.6	-6.6
ODZ	**Otahua Downs**	**8.60**	**210**	PN	Pn	14 51 30.3	-6.1

DDA ***23*** *14:52:47.8, 38°68N×43°27E, h2km, Ml4.2*
IDC ***23*** *14:52:47.2±1.0, 38°56N×43°21E, h0km, mb3.9/15, mb1 4.0/20, mb1mx3.8/54, mbtmp3.9/20, ML4.3/2, Error ellipse: s-maj=17.5km s-min=11.1km az=170.0*
ISCJB ***23*** *14:52:48.4±0.5, 38°66N±0°02×43°33E±0°01, h6km±3km, mb3.8/23, Error ellipse: s-maj=2.8km s-min=1.8km az=172.5*
CSEM ***23*** *14:52:48.7±0.1, 38°66N×43°27E, h2km, mb4.1/8, Error ellipse: s-maj=3.1km s-min=2.2km az=169.0*
ISK ***23*** *14:52:48.7, 38°73N×43°14E, h5km, ML3.8*
NEIC ***23*** *14:52:49.0±0.0, 38°71N×43°18E, h5km, mb4.0/7, ML3.9(ISK), ML4.2(DDA), After DDA.*
AZER ***23*** *14:52:50.3±0.9, 38°48N×43°19E, h35km±71km, Error ellipse: s-maj=10.4km s-min=4.0km az=65.0*
TEH ***23*** *14:52:52.2, 38°66N×43°39E, h10km, ML3.9*

ISC 23 14:52:50.1±0.8, 38°67N±0°01×43°28E±0°02, h14km±5km, n277, σ1§47/379, mb4.0/24, 46C-46D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.17**	**144**	*i* P	**Pb**	**14 52 55.3**	**0.0**
TVAN				*i* S	**Sb**	**14 52 59.6**	**+1.0**
VMUR	**Van-Muradiye**	**0.39**	**36**	*i* P	**Pg**	**14 52 56.7**	**-1.4**
VMUR	**Van-Muradiye**	**0.39**	**36**	P	**Pg**	**14 52 56.7**	**-1.4**
VMUR				*i* S	**Sg**	**14 53 03.5**	**0.0**
VMUR	**Van-Muradiye**	**0.39**	**36**	*i* P	**Pg**	**14 52 57.0**	**-1.1**
VMUR				*i* S	**Sg**	**14 53 03.8**	**0.0**
GEVA	**Gevas**	**0.40**	**206**	⇑*i* P	**Pg**	**14 52 56.4**	**-1.7**
GEVA	**Gevas**	**0.40**	**206**	P	**Pg**	**14 52 56.4**	**-1.7**
GEVA	**Gevas**	**0.40**	**206**	*i* P	**Pg**	**14 52 56.7**	**-1.4**
TUTA	**Tutak**	**0.82**	**334**	⇓*i* P	**Pg**	**14 53 03.7**	**-2.3**
TUTA				*i* S	**Sg**	**14 53 14.7**	**-2.0**
TUTA	**Tutak**	**0.82**	**334**	P	**Pg**	**14 53 03.7**	**-2.3**
BASK	**Baskale_VAN**	**0.84**	**137**	⇑*i* P	**Pg**	**14 53 04.2**	**-2.3**
BASK				*i* S	**Sg**	**14 53 16.7**	**-0.8**
BASK	**Baskale_VAN**	**0.84**	**137**	P	**Pg**	**14 53 04.2**	**-2.3**
BASK				S	**Sg**	**14 53 16.7**	**-0.8**
DYDN	**Diyadin**	**0.93**	**20**	*i* P	**Pg**	**14 53 05.8**	**-2.4**
DYDN	**Diyadin**	**0.93**	**20**	P	**Pg**	**14 53 05.8**	**-2.4**
AGRB	**Hanur-Agry**	**0.93**	**346**	*e*PG	**Pg**	**14 53 06.5**	**-1.7**
AGRB				*e*SG	**Sg**	**14 53 18.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.93**	**346**	Pg	**Pg**	**14 53 07.1**	**-1.1**
AGRB				*e*Sg	**Sg**	**14 53 18.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.93**	**346**	Pg	**Pg**	**14 53 07.1**	**-1.1**
EKAR	**Karacoban**	**1.11**	**302**	*i* P	**Pb**	**14 53 09.7**	**-1.6**
EKAR				*i* S	**Sn**	**14 53 32.4**	**+5.5**
EKAR	**Karacoban**	**1.11**	**302**	P	**Pb**	**14 53 09.7**	**-1.6**
HAKT	**HAKKARI**	**1.16**	**163**	⇓*i* P	**Pb**	**14 53 08.9**	**-3.3**
HAKT				*i* S	**Sb**	**14 53 26.5**	**-0.6**
HAKT	**HAKKARI**	**1.16**	**163**	P	**Pb**	**14 53 08.9**	**-3.3**
HAKT				S	**Sb**	**14 53 26.5**	**-0.6**
EATA	**Eleskirt**	**1.34**	**333**	⇓*i* P	**Pn**	**14 53 13.3**	**-1.5**
EATA				*i* S	**Sb**	**14 53 31.3**	**-1.1**
EATA	**Eleskirt**	**1.34**	**333**	P	**Pn**	**14 53 13.3**	**-1.5**
EATA				S	**Sb**	**14 53 31.3**	**-1.1**
SIRN	**S¨–rnak**	**1.36**	**210**	⇓*i* P	**Pn**	**14 53 14.2**	**-0.6**
SIRN				*i* S	**Sg**	**14 53 34.1**	**+0.2**
SIRN	**S¨–rnak**	**1.36**	**210**	P	**Pn**	**14 53 14.2**	**-0.6**
SIRN				S	**Sg**	**14 53 34.1**	**+0.2**
CUKT	**Cukurca**	**1.44**	**169**	*e*PN	**Pg**	**14 53 18.1**	**+0.2**
CUKT				*e*SN	**Sg**	**14 53 39.9**	**+3.2**
CUKT	**Cukurca**	**1.44**	**169**	⇑*i* P	**Pb**	**14 53 16.8**	**-0.1**
CUKT				*i* S	**Sg**	**14 53 41.5**	**+4.8**
CUKT	**Cukurca**	**1.44**	**169**	P	**Pb**	**14 53 16.8**	**-0.1**
CUKT	**Cukurca**	**1.44**	**169**	*e*Pn	**Pg**	**14 53 18.1**	**+0.2**
CUKT	**Cukurca**	**1.44**	**169**	Pn	**Pg**	**14 53 19.4**	**+1.5**
VRTB	**Varto-Mus**	**1.50**	**290**	*e*PN	**Pn**	**14 53 16.3**	**-0.5**
VRTB				*e*SN	**Sb**	**14 53 36.4**	**-0.5**
VRTB	**Varto-Mus**	**1.50**	**290**	⇓*i* P	**Pn**	**14 53 16.4**	**-0.5**
VRTB				*i* S	**Sg**	**14 53 39.5**	**+0.9**
VRTB	**Varto-Mus**	**1.50**	**290**	P	**Pn**	**14 53 16.4**	**-0.5**
VRTB	**Varto-Mus**	**1.50**	**290**	Pn	**Pb**	**14 53 17.4**	**-0.5**
VRTB				*e*Sn	**Sb**	**14 53 36.4**	**-0.5**
VRTB				S	**Sg**	**14 53 39.5**	**+0.9**
VRTB	**Varto-Mus**	**1.50**	**290**	Pn	**Pb**	**14 53 17.4**	**-0.5**
BNGL	**BINGOL**	**1.69**	**280**	*i* P	**Pn**	**14 53 19.3**	**-0.1**
BNGL				*i* S	**Sb**	**14 53 42.5**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*e*PN	**Pn**	**14 53 19.8**	**+0.1**
SVAN				*e*SN	**Sb**	**14 53 42.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	⇓*i* P	**Pn**	**14 53 19.4**	**-0.2**
SVAN				*i* S	**Sb**	**14 53 43.0**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	P	**Pn**	**14 53 19.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*e*Pn	**Pn**	**14 53 19.8**	**+0.1**
SVAN				*e*Sn	**Sb**	**14 53 42.6**	**-0.3**
SVAN				S	**Sb**	**14 53 43.0**	**+0.1**
HOMI	**Horasan**	**1.74**	**323**	⇓*i* P	**Pn**	**14 53 20.3**	**+0.1**
HOMI				*i* S	**Sg**	**14 53 46.3**	**+0.2**
DIGO	**Kars**	**1.74**	**2**	⇓*i* P	**Pn**	**14 53 20.8**	**+0.5**
DIGO				*i* S	**Sg**	**14 53 47.6**	**+1.3**
DIGO	**Kars**	**1.74**	**2**	P	**Pn**	**14 53 20.8**	**+0.5**
DIGO				S	**Sg**	**14 53 47.7**	**+1.3**
BTMN	**Batman**	**1.76**	**244**	*i* P	**Pn**	**14 53 20.5**	**+0.2**
BTMN				*i* S	**Sg**	**14 53 46.4**	**-0.5**
BTMN	**Batman**	**1.76**	**244**	P	**Pn**	**14 53 20.5**	**+0.2**
BTMN				S	**Sg**	**14 53 46.3**	**-0.5**
NAX	**Nakhchivan**	**1.80**	**73**	⇓P	**Pn**	**14 53 20.6**	**-0.3**
NAX				⇑S	**Sn**	**14 53 44.2**	**+0.6**
NAX	**Nakhchivan**	**1.80**	**73**	P	**Pn**	**14 53 20.6**	**-0.3**
NAX				S	**Sn**	**14 53 44.2**	**+0.6**
GNI	**Garni**	**1.86**	**37**	Pn	**Pb**	**14 53 23.3**	**-0.8**
	29nm,0.3s,baz=233,slow=3.2,SNR=14						
ISHB	**Shabestar**	**1.88**	**101**	*e*Pn	**Pn**	**14 53 22.7**	**+0.6**
ISHB				*e*AMB	AMB	14 53 29.5	
	comp=Z,17μm,0.2s						
ISHB				*e*Sg	**Sb**	**14 53 48.0**	**+0.2**
IMRD	**Marand**	**1.90**	**88**	*e*Pn	**Pn**	**14 53 23.4**	**+1.1**
IMRD				*e*AMB	AMB	14 53 54.2	
	comp=Z,48μm,0.3s						
IMRD	**Marand**	**1.90**	**88**	*e*Pn	**Pn**	**14 53 23.4**	**+1.1**
ERZM	**Erzurum**	**1.93**	**310**	⇑*i* P	**Pn**	**14 53 23.7**	**+0.9**
ERZM	**Erzurum**	**1.93**	**310**	P	**Pn**	**14 53 23.7**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.02**	**298**	⇓*i* P	**Pn**	**14 53 24.1**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.02**	**298**	P	**Pn**	**14 53 24.1**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.02**	**340**	*e*PN	**Pn**	**14 53 24.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.02**	**340**	*e*Pn	**Pn**	**14 53 24.3**	**+0.3**
EAK	**Akyaka**	**2.03**	**7**	*i* P	**Pb**	**14 53 26.9**	**-0.1**
EAK				*i* S	**Sg**	**14 53 56.4**	**+1.0**
EAK	**Akyaka**	**2.03**	**7**	P	**Pb**	**14 53 26.9**	**-0.1**
BNGB	**Bing¨¶l**	**2.06**	**280**	*e*PN	**Pn**	**14 53 24.3**	**-0.1**
BINT	**Bingol**	**2.19**	**276**	*e*Pn	**Pn**	**14 53 24.3**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.26**	**291**	*e*PN	**Pn**	**14 53 26.4**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.26**	**291**	*e*Pn	**Pn**	**14 53 26.4**	**-0.9**
ITBZ	**Tabriz**	**2.29**	**100**	*e*Pn	**Pn**	**14 53 28.7**	**+0.9**
ITBZ				*e*AMB	AMB	14 53 45.0	
	comp=Z,3μm,0.2s						
ITBZ	**Tabriz**	**2.29**	**100**	*e*Pn	**Pn**	**14 53 28.7**	**+0.9**
MARD	**Mardin**	**2.39**	**236**	*i* P	**Pn**	**14 53 28.4**	**-0.7**
MARD				*i* S	**Sb**	**14 54 00.5**	**-2.0**
MARD	**Mardin**	**2.39**	**236**	*e*Pn	**Pn**	**14 53 28.6**	**-0.5**
MARD	**Mardin**	**2.39**	**236**	*e*Pn	**Pn**	**14 53 28.6**	**-0.5**
DDEM	**Demirkent**	**2.51**	**333**	⇓*i* P	**Pb**	**14 53 34.6**	**-0.5**
DDEM				*i* S	**Sb**	**14 54 05.0**	**-0.9**
DDEM	**Demirkent**	**2.51**	**333**	P	**Pb**	**14 53 34.6**	**-0.5**
DDEM				S	**Sb**	**14 54 05.0**	**-0.9**
MAZI	**Mazidag**	**2.54**	**242**	*e*PN	**Pn**	**14 53 30.2**	**-0.9**
MAZI	**Mazidag**	**2.54**	**242**	*e*Pn	**Pn**	**14 53 30.2**	**-0.9**
KOPT	**Kop Dagi**	**2.54**	**303**	*i* P	**Pb**	**14 53 34.8**	**-0.9**
KOPT				*i* S	**Sb**	**14 54 07.2**	**+0.3**
KOPT	**Kop Dagi**	**2.54**	**303**	*e*Pn	**Pn**	**14 53 32.0**	**+0.7**
KOPT	**Kop Dagi**	**2.54**	**303**	P	**Pb**	**14 53 34.8**	**-0.9**
KOPT				S	**Sb**	**14 54 07.2**	**+0.3**
KOPT	**Kop Dagi**	**2.54**	**303**	*e*Pn	**Pn**	**14 53 32.0**	**+0.7**
DIYA	**Diyarbakir**	**2.59**	**254**	*i* P	**Pb**	**14 53 34.7**	**-1.8**
DIYA				*i* S	**Sb**	**14 54 06.7**	**-1.5**
DIYA	**Diyarbakir**	**2.59**	**254**	P	**Pb**	**14 53 34.7**	**-1.8**
DIYA				S	**Sb**	**14 54 06.7**	**-1.5**
DAGI	**Agillar**	**2.62**	**337**	*i* P	**Pn**	**14 53 33.4**	**+1.1**
ARTV	**Artvin**	**2.72**	**338**	*i* P	**Pn**	**14 53 34.5**	**+0.9**
ARTV	**Artvin**	**2.72**	**338**	*e*Pn	**Pn**	**14 53 33.5**	**-0.1**
ARTV	**Artvin**	**2.72**	**338**	P	**Pn**	**14 53 34.5**	**+0.9**
ARTV	**Artvin**	**2.72**	**338**	*e*Pn	**Pn**	**14 53 33.5**	**-0.1**
AKH	**Akhalkalaki**	**2.74**	**3**	*e*PN	**Pn**	**14 53 34.5**	**+0.6**
AKH	**Akhalkalaki**	**2.74**	**3**	P	**Pb**	**14 53 39.8**	**+0.7**
AKH	**Akhalkalaki**	**2.74**	**3**	⇓*i* P	**Pb**	**14 53 40.1**	**+1.0**
AKH	**Akhalkalaki**	**2.74**	**3**	*e*Pn	**Pn**	**14 53 34.5**	**+0.6**
GDB	**GEDABAY**	**2.80**	**42**	⇑P	**Pn**	**14 53 35.3**	**+0.6**
GDB				⇓S	**Sn**	**14 54 10.6**	**+2.2**
GDB	**GEDABAY**	**2.80**	**42**	P	**Pn**	**14 53 35.3**	**+0.6**
GDB				S	**Sn**	**14 54 10.6**	**+2.2**
EPOS	**Posof**	**2.86**	**352**	*i* P	**Pb**	**14 53 42.5**	**+1.4**
EPOS				*i* S	**Sg**	**14 54 23.8**	**+1.7**
QZX	**Qazax, Azerbai**	**2.88**	**33**	⇑P	**Pn**	**14 53 36.4**	**+0.7**
QZX				⇑S	**Sn**	**14 54 12.4**	**+2.3**
QZX	**Qazax, Azerbai**	**2.88**	**33**	P	**Pn**	**14 53 36.4**	**+0.7**
QZX				S	**Sn**	**14 54 12.4**	**+2.3**
ERZN	**Erzincan**	**2.91**	**289**	*e*PN	**Pn**	**14 53 36.4**	**+0.2**
DBOC	**Borcka**	**2.94**	**336**	*i* P	**Pb**	**14 53 42.2**	**-0.2**
DBOC				*i* S	**Sg**	**14 54 25.8**	**+1.0**
TNCL	**Tunceli-Merkez**	**2.95**	**280**	*i* P	**Pb**	**14 53 40.0**	**-2.6**
TNCL	**Tunceli-Merkez**	**2.95**	**280**	P	**Pb**	**14 53 40.0**	**-2.6**
IHRS	**Heris**	**2.97**	**96**	*e*Pn	**Pn**	**14 53 38.4**	**+1.2**
IHRS				*e*AMB	AMB	14 53 56.4	
	comp=Z,4μm,0.2s						
IHRS	**Heris**	**2.97**	**96**	*e*Pn	**Pn**	**14 53 38.4**	**+1.2**
IBST	**Bostanabad**	**3.01**	**108**	*e*AMB	AMB	14 53 52.0	
	comp=Z,2μm,0.2s						
PTK	**Pertek**	**3.04**	**275**	*e*PN	**Pn**	**14 53 37.8**	**-0.3**
PTK	**Pertek**	**3.04**	**275**	*e*Pn	**Pn**	**14 53 37.8**	**-0.3**
GANJ	**Ganja**	**3.07**	**49**	⇑P	**Pn**	**14 53 38.8**	**+0.5**
GANJ				⇑S	**Sn**	**14 54 16.7**	**+1.9**
GANJ	**Ganja**	**3.07**	**49**	P	**Pn**	**14 53 38.8**	**+0.5**
GANJ				S	**Sn**	**14 54 16.7**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.13**	**266**	*e*PN	**Pn**	**14 53 39.2**	**0.0**
SVRC	**Sivrice-ELAZID**	**3.13**	**266**	*e*Pn	**Pn**	**14 53 39.2**	**0.0**
EZC	**Erzincan**	**3.23**	**291**	*e*Pn	**Pn**	**14 53 36.4**	**-4.3**
TBLG	**Delisi**	**3.26**	**20**	P	**Pb**	**14 53 47.8**	**+0.1**
TBLG	**Delisi**	**3.26**	**20**	P	**Pn**	**14 53 39.8**	**-1.0**
ELZG	**Elazig**	**3.37**	**268**	*i* P	**Pn**	**14 53 42.3**	**-0.2**
ELZG				*i* S	**Sg**	**14 54 38.8**	**+0.4**
ELZG	**Elazig**	**3.37**	**268**	P	**Pn**	**14 53 42.3**	**-0.2**
BRDA	**Brd**	**3.41**	**61**	⇓P	**Pn**	**14 53 43.1**	**+0.1**
BRDA				⇓S	**Sn**	**14 54 24.6**	**+1.4**
BRDA	**Brd**	**3.41**	**61**	P	**Pn**	**14 53 43.1**	**+0.1**
BRDA				S	**Sn**	**14 54 24.6**	**+1.4**
KELT	**Kelkit**	**3.45**	**297**	*i* P	**Pb**	**14 53 50.5**	**-0.6**
KELT				*i* S	**Sg**	**14 54 36.5**	**-4.3**
ISRB	**Sarab**	**3.56**	**102**	*e*Pn	**Pn**	**14 53 46.8**	**+1.7**
ISRB				*e*AMB	AMB	14 54 06.2	
	comp=Z,2μm,0.2s						
ISRB	**Sarab**	**3.56**	**102**	*e*Pn	**Pn**	**14 53 46.8**	**+1.7**
KTUT	**Tr

GOBA			⇑S	Sn	14 55 10.0	+0.7
GOBA	**Gobu**	**5.28 69**	P	Pn	14 54 08.4	-0.2
GOBA			S	Sn	14 55 10.0	+0.7
KIV	**Kislovodsk**	**5.30 355**	*e*Pn	Pn	14 54 10.6	+1.6
KIV	**Kislovodsk**	**5.30 355**	*e*Pn	Pn	14 54 10.6	+1.6
KVAR	**Kislovodsk Arr**	**5.30 355**	Pn	Pn	14 54 13.1	+4.1
	baz=283,slow=2.6,SNR=3.7					
KAMA	**Osmaniye**	**5.43 256**	*i* P	Pb	14 54 26.6	+1.7
KAMA			*i* S	Sg	14 55 40.4	-4.0
NDR	**Nardaran**	**5.52 68**	⇓P	Pn	14 54 11.7	-0.2
NDR			⇓S	Sn	14 55 16.0	+0.8
NDR	**Nardaran**	**5.52 68**	P	Pn	14 54 11.7	-0.2
NDR			S	Sn	14 55 16.0	+0.8
ANDN	**Andirin**	**5.57 261**	*i* P	Pb	14 54 29.5	+2.3
ANDN			*i* S	Sg	14 55 51.5	+2.5
GALA	**Gala**	**5.59 70**	⇑P	Pn	14 54 12.6	-0.3
GALA			⇓S	Sn	14 55 17.6	+0.7
GALA	**Gala**	**5.59 70**	P	Pn	14 54 12.6	-0.3
GALA			S	Sn	14 55 17.6	+0.7
YAYL	**Yayladag**	**6.29 247**	*i* P	Pb	14 54 32.2	-7.2
YAYL			*i* S	Sb	14 55 56.4	+1.8
BRTR	**Keskin Array B**	**7.56 281**	Pn	Pn	14 54 40.0	-0.1
	comp=Z,0.2nm,0.3s,baz=108,slow=14,SNR=5.9					
BRTR	**Keskin Array B**	**7.56 281**	Pn	Pn	14 54 40.0	-0.1
ASF	**Jabal al Asfar**	**8.31 221**	Pn	Pn	14 54 51.0	+0.7
	comp=Z,0.4nm,0.3s,baz=7.6,slow=15,SNR=1.7					
MMAI	**Mount Meron Ar**	**8.52 231**	Pn	Pn	14 54 55.1	+1.9
	comp=Z,0.8nm,0.3s,baz=41,slow=14,SNR=3.5					
AKAS	**Kas**	**11.14 262**	*e*Pn	Pn	14 55 27.1	-2.0
AKAS	**Kas**	**11.14 262**	*e*Pn	Pn	14 55 27.1	-2.0
GEYT	**Alibeck**	**11.69 89**	Pn	Pn	14 55 40.1	+3.6
	comp=Z,0.0nm,0.3s,baz=280,slow=16,SNR=4.1					
VRI	**Vrincioaia**	**14.19 306**	⇑*i*P	P	14 56 14.3	-3.8
VRI	**Vrincioaia**	**14.19 306**	⇑*i*P	P	14 56 14.3	-3.8
SORM	**Soroca**	**14.37 316**	⇑*i*P	P	14 56 18.9	-1.2
SORM	**Soroca**	**14.37 316**	⇑*i*P	P	14 56 18.9	-1.2
MLR	**Muntele Rosu**	**14.55 303**	⇑*i*P	P	14 56 19.8	-2.4
DOPR	**Dopca**	**15.09 305**	⇑*i*P	P	14 56 26.9	-1.2
DOPR	**Dopca**	**15.09 305**	⇑*i*P	P	14 56 26.9	-1.2
VOIR		**15.12 302**	⇑*i*P	Pn	14 56 25.2	+1.9
RAYN	**Ar Rayn**	**15.22 172**	*e*Pn	Pn	14 56 19.9	-4.8
	comp=Z,4.8nm,0.9s					
ARR	**Arges**	**15.37 302**	⇑*i*P	P	14 56 29.7	-1.6
ARR	**Arges**	**15.37 302**	⇑*i*P	P	14 56 29.7	-1.6
AKASG	**Malin Array Be**	**15.61 325**	Pn	Pn	14 56 29.4	-0.2
	comp=Z,0.5nm,0.3s,baz=133,slow=11,SNR=4.7					
AKBB	**Malin Array Si**	**15.61 325**	*e*Pn	Pn	14 56 31.0	+1.4
	comp=Z,9.4nm,0.9s					
AKBB	**Malin Array Si**	**15.61 325**	*e*Pn	Pn	14 56 31.0	+1.4
	comp=Z,9.4nm,0.9s					
KIEV	**Kiev**	**15.61 325**	*e*Pn	P	14 56 31.5	-2.2
	comp=Z,8.9nm,0.9s					
KIEV	**Kiev**	**15.61 325**	*e*Pn	P	14 56 31.6	-2.2
	comp=Z,8.9nm,0.9s					
VTS	**Vitosha**	**15.73 291**	⇑*i*P	Pn	14 56 30.5	-0.9
AKTO	**Aktyubinsk**	**15.73 37**	Pn	P	14 56 33.4	-1.8
	comp=Z,0.3nm,0.3s,baz=216,slow=9.7,SNR=7.4					
BURAR	**Bucovina Array**	**15.90 310**	⇑*i*P	P	14 56 38.0	+0.9
BURAR	**Bucovina Array**	**15.90 310**	⇑*i*P	P	14 56 38.0	+0.9
BUR08	**Bucovina Ar. S**	**15.92 310**	*e*Pn	Pn	14 56 35.0	+1.2
BUR08	**Bucovina Ar. S**	**15.92 310**	*e*Pn	Pn	14 56 35.0	+1.2
GZR	**Gura Zlata**	**16.62 300**	⇑*i*P	Pn	14 56 42.5	-0.3
OBN	**Obninsk**	**17.06 347**	P	P	14 56 49.3	-0.5
	comp=Z,3.7nm,0.3s,baz=113,slow=24,SNR=5.2					
DRGR		**17.12 305**	⇑*i*P	P	14 56 50.5	-0.1
DRGR		**17.12 305**	⇑*i*P	P	14 56 50.5	-0.1
BZS	**Buzias**	**17.47 300**	⇑*i*P	Pn	14 56 53.0	-0.3
BZS	**Buzias**	**17.47 300**	⇑*i*P	Pn	14 56 53.0	-0.3
SIRR	**Siria**	**17.63 302**	⇑*i*P	Pn	14 56 55.0	-0.3
SIRR	**Siria**	**17.63 302**	⇑*i*P	Pn	14 56 55.0	-0.3
CRVS	**Cervenica-Dubn**	**18.72 310**	*e*P	Pn	14 57 09.0	+0.4
CRVS	**Cervenica-Dubn**	**18.72 310**	*e*P	Pn	14 57 09.0	+0.4
PSZ	**Piszkesteto**	**19.31 306**	⇑*i*P	P	14 57 13.4	-1.3
PSZ	**Piszkesteto**	**19.31 306**	*e*P	Pn	14 57 16.0	+0.2
	comp=Z,7.1nm,1.0s					
PSZ	**Piszkesteto**	**19.31 306**	*e*P	Pn	14 57 16.0	+0.2
	comp=Z,7.1nm,1.0s					
VYHS	**Vyhne**	**20.17 307**	*e*P	Pn	14 57 25.4	-0.6
	comp=Z,9.2nm,1.5s					
VYHS	**Vyhne**	**20.17 307**	*e*P	Pn	14 57 25.4	-0.6
ARU	**Arti**	**20.46 25**	P	P	14 57 27.3	+0.1
	comp=Z,5.3nm,0.4s,baz=240,slow=6.1,SNR=12					
ARU	**Arti**	**20.46 25**	*e*P	P	14 57 26.8	-0.3
	comp=Z,6.9nm,0.6s					
ARU	**Arti**	**20.46 25**	*e*P	P	14 57 26.8	-0.3
	comp=Z,6.9nm,0.6s					
KKAR	**Karatay Array**	**21.02 69**	*e*P	P	14 57 34.1	+0.7
	comp=Z,42nm,0.7s					
KKAR	**Karatay Array**	**21.02 69**	*e*P	P	14 57 34.1	+0.7
	comp=Z,42nm,0.7s					
KBL	**Kabul**	**21.07 93**	*e*P	P	14 57 33.8	-0.3
	comp=Z,7.2nm,1.1s					
KBL	**Kabul**	**21.07 93**	*e*P	P	14 57 33.8	-0.3
	comp=Z,7.2nm,1.1s					
VRAC	**Vranov**	**21.84 308**	P	P	14 57 42.8	+0.7
	comp=Z,1.3nm,0.5s,baz=123,slow=11,SNR=3.9					
CONA	**Conrad Observa**	**21.90 304**	*i* P	P	14 57 43.8	+1.0
	comp=Z,6.1nm,0.9s					
CONA	**Conrad Observa**	**21.90 304**	P	P	14 57 43.8	+1.0
	comp=Z,6.1nm,0.9s					
ARSA	**Arzberg**	**21.96 302**	*i* pP	P	14 57 45.9	+2.5
	comp=Z,6.8nm,1.4s					
ARSA	**Arzberg**	**21.96 302**	P	P	14 57 45.9	+2.5
	comp=Z,6.8nm,1.4s					
MOA	**Molln**	**22.92 303**	*i* pP	P	14 57 55.6	+1.9
	comp=Z,7.6nm,1.5s					
MOA	**Molln**	**22.92 303**	P	P	14 57 55.6	+1.9
	comp=Z,7.6nm,1.5s					
GERES	**GERESS Array B**	**23.52 305**	P	P	14 57 59.3	-0.5
	comp=Z,0.7nm,0.6s,baz=103,slow=9.5,SNR=9.0					
BVAR	**Borovoye Array**	**23.54 44**	P	P	14 57 59.4	-0.4
	comp=Z,0.3nm,0.3s,baz=241,slow=11,SNR=2.6					
KHC	**Kasperske Hory**	**23.67 306**	*e*P	P	14 58 02.0	+0.8
WATA	**Walderalm**	**24.61 301**	*i* P	P	14 58 09.3	-0.8
	comp=Z,2.4nm,0.4s					
WATA	**Walderalm**	**24.61 301**	P	P	14 58 09.3	-0.8
	comp=Z,2.4nm,0.4s					
CLL	**Collm**	**24.67 311**	*e*P	P	14 58 10.0	-0.3
MOTA	**Moosalm**	**24.93 301**	*i* P	P	14 58 10.7	-2.2
	comp=Z,2.4nm,0.6s					
FETA	**Feichten**	**25.14 300**	*i* pP	P	14 58 16.9	+2.0
	comp=Z,2.6nm,1.3s					
FETA	**Feichten**	**25.14 300**	P	P	14 58 16.9	+2.0
	comp=Z,2.6nm,1.3s					
FINES	**FINESS Array B**	**25.17 340**	P	P	14 58 14.2	-0.6
	comp=Z,4.1nm,0.7s,baz=148,slow=9.8,SNR=18					
KSH	**Kashi**	**25.32 78**	*e*P	P	14 58 16.8	+0.3
KSH			pP	sP	14 58 22.8	+0.4
KSH			sP	pP	14 58 25.8	+5.2
KSH			*e*PP	**PnPn**	14 58 54.0	+2.9
KSH			*e*PcP	**PcP**	15 01 52.3	+3.1
KSH			S	**S**	15 02 38.1	-4.2
KSH			sS	sS	15 02 48.8	-0.3
KSH			SS	**SnSn**	15 03 37.3	+3.8
KSH			PcS	**PcS**	15 05 32.0	+2.3
KSH			pmax	pmax		
	comp=Z,4.0nm,1.1s					
KSH			pmax	pmax		
	comp=Z,84nm,4.7s					
KSH			LR	LR		
	comp=N,77nm,4.7s					
KSH			LR	LR		
	comp=E,95nm,5.9s					
KSH			LR	LR		
	comp=Z,180nm,6.9s					
KSH			LR	LR		
	comp=Z,140nm,7.1s					
KURBB	**Kurchatov Arra**	**27.52 53**	P	P	14 58 37.4	+1.3
	comp=Z,0.7nm,0.2s,baz=263,slow=9.3,SNR=5.0					
KURK	**Kurchatov**	**27.59 53**	P	P	14 58 37.4	+0.7
KURK	**Kurchatov**	**27.59 53**	P	P	14 58 37.4	+0.7
HFS	**Hagfors**	**28.43 329**	P	P	14 58 43.3	-0.8
	comp=Z,3.3nm,0.6s,baz=115,slow=10,SNR=12					
MKAR	**Makanchi Array**	**29.54 61**	P	P	14 58 54.8	+0.6
	comp=Z,0.8nm,0.8s,baz=242,slow=2.6,SNR=3.5					
NB2	**NORSAR Subarra**	**29.95 329**	P	P	14 58 56.4	-1.3
	comp=Z,0.9nm,0.5s,baz=124,slow=9.3					
NB2	**NORSAR Subarra**	**29.95 329**	P	P	14 58 56.4	-1.3
	comp=Z,0.9nm,0.5s,SNR=4.7					
NOA	**NORSAR Array B**	**29.95 329**	P	P	14 58 56.8	-0.9
	comp=Z,0.8nm,0.5s,baz=125,slow=8.8,SNR=4.5					
ZALV	**Zalesovo Beam**	**31.98 48**	P	P	14 59 16.8	+1.3
	comp=Z,0.3nm,0.3s,baz=146,slow=35,SNR=2.8					
ARCES	**ARCESS Array B**	**32.36 348**	P	P	14 59 18.5	-0.3
	comp=Z,4.7nm,0.9s,baz=146,slow=8.8,SNR=11					
WMQ	**Urumqi**	**33.48 67**	P	P	14 59 31.1	+2.1
ESDC	**Sonseca Array**	**36.31 287**	P	P	14 59 52.5	-0.9
	comp=Z,0.8nm,0.7s,baz=70,slow=9.0,SNR=5.1					
TORD	**Torodi Ar. Bea**	**44.68 247**	P	P	15 01 01.2	-1.5
	comp=Z,1.2nm,0.9s,baz=74,slow=10,SNR=7.1					
HHC	**Hu-ho-hao-te**	**51.31 65**	*e*P	P	15 01 54.4	+0.4
HHC			pmax	pmax		
	comp=Z,23nm,1.0s					
HHC			pmax	pmax		
	comp=Z,230nm,8.1s					
CMAR	**Chiang Mai Arr**	**52.05 96**	P	P	15 01 58.2	-1.4
	comp=Z,0.4nm,0.4s,baz=308,slow=9.4,SNR=7.1					
KSAR	**Wonju Array Be**	**64.20 62**	P	P	15 03 25.1	+0.6
KSAR	**Wonju Array Be**	**64.20 62**	P	P	15 03 25.1	+0.6
KSRS	**Korea Array**	**64.22 62**	P	P	15 03 25.1	+0.5
	comp=Z,1.0nm,0.9s,baz=284,slow=7.4,SNR=3.0					

DDA ***23*** *14:54:27.2, 38.67N×43.21E, h8km, Ml3.5*
CSEM ***23*** *14:54:28.3±0.5, 38.71N×43.17E, h10km, ML3.5, Error ellipse: s-maj=13.1km s-min=8.3km az=89.0*
ISK ***23*** *14:54:28.4, 38.76N×43.25E, h22km, ML3.3*
ISC 23 14:54:28.1±1.0,**38.67N**±0.03×**43.27E**±0.05,**h10**km±10km,
n30,σ1**67/39,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.18**	**142**	*i* P	**Pg**	**14 54 31.1**	**-0.8**
GEVA	**Gevas**	**0.39**	**205**	*i* P	Pg	14 54 31.6	-4.3
GEVA				*i* S	**Sg**	**14 54 39.0**	**-2.0**
VMUR	**Van-Muradiye**	**0.40**	**37**	*i* P	**Pg**	**14 54 31.3**	**-4.7**
VMUR				*i* S	**Sn**	**14 54 44.4**	**+3.1**
TUTA	**Tutak**	**0.81**	**334**	*i* P	**Pg**	**14 54 41.0**	**-2.8**
TUTA	**Tutak**	**0.81**	**334**	P	**Pg**	**14 54 41.0**	**-2.8**
AGRB	**Hanur-Agry**	**0.93**	**347**	*e*PG	**Pg**	**14 54 45.6**	**-0.4**
AGRB				*e*SG	**Sg**	**14 54 57.6**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**347**	*e*Pg	**Pg**	**14 54 45.6**	**-0.4**
AGRB				*e*Sg	**Sg**	**14 54 57.6**	**-0.5**
HAKT	**HAKKARI**	**1.16**	**162**	*i* P	Pb	14 54 44.9	-5.5
EATA	**Eleskirt**	**1.33**	**333**	*i* P	**Pn**	**14 54 52.3**	**-0.8**
EATA				*i* S	**Sg**	**14 55 13.4**	**+2.3**
EATA	**Eleskirt**	**1.33**	**333**	P	**Pn**	**14 54 52.3**	**-0.8**
CUKT	**Cukurca**	**1.44**	**169**	*e*PN	**Pn**	**14 54 55.3**	**+0.9**
CUKT	**Cukurca**	**1.44**	**169**	*i* P	**Pb**	**14 54 55.9**	**+0.8**
CUKT	**Cukurca**	**1.44**	**169**	*e*Pn	**Pn**	**14 54 55.3**	**+0.9**
CUKT	**Cukurca**	**1.44**	**169**	P	**Pb**	**14 54 55.9**	**+0.8**
VRTB	**Varto-Mus**	**1.50**	**290**	*e*PN	**Pn**	**14 54 54.0**	**-1.1**
VRTB	**Varto-Mus**	**1.50**	**290**	*e*Pn	**Pn**	**14 54 54.0**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	*e*PN	**Pn**	**14 54 57.3**	**-0.6**
SVAN				*e*SN	**Sn**	**14 55 19.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	*i* P	**Pn**	**14 54 57.4**	**-0.6**
SVAN				*i* S	**Sn**	**14 55 20.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	P	**Pn**	**14 54 57.3**	**-0.6**
SVAN				*e*Sn	**Sn**	**14 55 19.5**	**-0.3**
SVAN				S	**Sn**	**14 55 20.1**	**+0.3**
ERZM	**Erzurum**	**1.92**	**311**	*i* P	**Pn**	**14 55 02.5**	**+1.3**
ERZM				*i* S	**Sg**	**14 55 32.2**	**+2.3**
ERZM	**Erzurum**	**1.92**	**311**	P	**Pn**	**14 55 02.5**	**+1.3**
ECAT	**Cat-ERZURUM**	**2.01**	**298**	*i* P	**Pn**	**14 55 03.4**	**+1.1**
ECAT				*i* S	**Sb**	**14 55 32.3**	**+2.2**
ECAT	**Cat-ERZURUM**	**2.01**	**298**	P	**Pn**	**14 55 03.4**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.02**	**340**	*e*PN	**Pn**	**14 55 00.6**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.02**	**340**	*e*Pn	**Pn**	**14 55 00.6**	**-1.8**
BNGB	**Bing¶l**	**2.05**	**280**	*e*PN	**Pn**	**14 55 02.1**	**-0.6**
BINT	**Bingol**	**2.18**	**276**	*e*Pn	**Pn**	**14 55 02.1**	**-2.4**
YEDI	**Yedisu-Bingol**	**2.25**	**291**	*e*PN	**Pn**	**14 55 04.7**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.25**	**291**	*e*Pn	**Pn**	**14 55 04.7**	**-0.9**
DDEM	**Demirkent**	**2.51**	**333**	*i* P	**Pb**	**14 55 14.5**	**+1.2**

ISCJB ***23*** *14:54:45.0±0.5, 22.66N×101.02×121.71E±0.02, h17km±5km, Error ellipse: s-maj=3.5km s-min=3.2km az=164.7*
JMA ***23*** *14:54:45.0, 22.67N×121.59E, h33km±4km, M3.0*
TAP ***23*** *14:54:45.7, 22.67N×121.60E, h15km±1km, ML3.1, C*
ISC 23 14:54:44.3±1.1,**22.66N**±0.02×**121.68E**±0.03,**h10**km±9km,
n51,σ0**73/99,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.50**	**281**	*e*P	**Pb**	**14 54 55.5**	**+0.3**
	baz=280						
TTN				*e*S	**Sb**	**14 55 01.8**	**-0.8**
	baz=280						
CHKT	**Chengkung**	**0.52**	**326**	*i* P	**Pb**	**14 54 56.3**	**+0.7**
	baz=333						
CHKT				*i* S	**Sg**	**14 55 02.4**	**+1.0**
	baz=333						
TWG	**Pinlang**	**0.58**	**286**	*e*P	**Pb**	**14 54 56.7**	**0.0**
	baz=286						
TWG				*e*S	**Sg**	**14 55 03.7**	**+0.4**
	baz=286						
LAY	**Lan-yu**	**0.63**	**191**	P	**Pb**	**14 54 58.6**	**+1.1**
	baz=183						
LAY				S	**Sb**	**14 55 06.3**	**-0.1**
	baz=183						
ECL	**Taimali**	**0.67**	**265**	*i* P	**Pb**	**14 54 58.3**	**+0.1**
	baz=262						
ECL				S	**Sg**	**14 55 06.1**	**-0.1**
	baz=262						
TWF1	**Yuli**	**0.77**	**333**	P	**Pb**	**14 55 00.4**	**+0.5**
	baz=338						
TWF1				S	**Sg**	**14 55 09.8**	**+0.5**
	baz=338						
TAW	**Tawu**	**0.79**	**247**	*e*P	**Pb**	**14 55 00.1**	**+0.1**
	baz=243						
TAW				*e*S	**Sg**	**14 55 09.3**	**-0.5**
	baz=243						
ELDTW	**Lidau**	**0.81**	**311**	*e*P	**Pg**	**14 55 00.1**	**+0.2**
	baz=314						
ELDTW				*e*S	**Sg**	**14 55 09.3**	**-1.1**
	baz=314						
EAST	**Anshuo**	**0.82**	**250**	P	**Pb**	**14 55 00.6**	**-0.1**
	baz=247						
EAST				*e*S	**Sg**	**14 55 10.0**	**-0.8**
	baz=247						
EHY	**Hungye**	**0.90**	**339**	P	**Pb**	**14 55 02.4**	**+0.3**
	baz=343						
EHY				*e*S	**Sg**	**14 55 13.5**	**0.0**
	baz=343						
SSD	**Sandimen**	**0.97**	**275**	*e*P	**Pb**	**14 55 03.6**	**+0.3**
	baz=274						
SSD				*e*S	**Sb**	**14 55 16.0**	**-0.2**
	baz=274						
STYT	**Tauyuan**	**0.99**	**301**	*e*P	**Pg**	**14 55 03.1**	**-0.2**
	baz=302						
STYT				*e*S	**Sg**	**14 55 15.4**	**-0.8**
	baz=302						
SCZT	**Fangliau**	**1.02**	**254**	*e*P	**Pg**	**14 55 03.6**	**-0.4**
	baz=251						
SCZT				*e*S	**Sg**	**14 55 15.6**	**-1.7**
	baz=251						
YUS	**Yu-Shan**	**1.06**	**321**	*e*P	**Pg**	**14 55 04.6**	**-0.2**
	baz=324						
YUS				*e*S	**Sg**	**14 55 17.9**	**-0.8**
	baz=324						
TWK1	**Hengchun**	**1.08**	**229**	*e*P	**Pg**	**14 55 05.1**	**0.0**
	baz=224						
TWK1				*e*S	**Sg**	**14 55 19.0**	**-0.1**
	baz=224						
HEN	**Hengchun**	**1.09**	**233**	*e*S	**Sg**	**14 55 18.6**	**-0.8**
	baz=229						
SGST	**Jiashian**	**1.09**	**293**	*e*P	**Pn**	**14 55 06.0**	**+0.2**
	baz=293						
SGST				*e*S	**Sb**	**14 55 19.5**	**-0.2**
	baz=293						
SGLT	**Jiouru**	**1.10**	**274**	*e*P	**Pn**	**14 55 05.9**	**+0.1**
	baz=272						
SGLT				*e*S	**Sb**	**14 55 19.9**	**+0.1**
	baz=272						
WTP	**Ta-pu**	**1.14**	**301**	*e*P	**Pn**	**14 55 06.8**	**+0.3**
	baz=302						
WTP				*e*S	**Sb**	**14 55 21.3**	**+0.2**
	baz=302						
ALS	**Alishan**	**1.17**	**317**	*e*P	**Pb**	**14 55 07.1**	**+0.3**
	baz=319						
ALS				*e*S	**Sg**	**14 55 22.0**	**0.0**
	baz=319						
ESL	**Shilin**	**1.17**	**349**	*e*P	**Pb**	**14 55 06.6**	**-0.1**
	baz=352						
ESL				*e*S	**Sg**	**14 55 20.4**	**-1.6**
	baz=352						
TWM1	**Shoushan**	**1.17**	**278**	*e*P	**Pn**	**14 55 07.1**	**+0.3**
	baz=277						
TWM1				*e*S	**Sb**	**14 55 22.0**	**+0.1**
	baz=277						
CHN1	**Nanshi**	**1.18**	**296**	*e*P	**Pn**	**14 55 07.7**	**+0.7**
	baz=297						
CHN1				*e*S	**Sb**	**14 55 22.5**	**+0.2**
	baz=297						
CHN4	**Tsaushan**	**1.21**	**305**	*e*P	**Pn**	**14 55 08.1**	**+0.7**
	baz=306						
CHN4				*e*S	**Sb**	**14 55 23.0**	**-0.2**
	baz=306						
TWK	**Hsinying**	**1.25**	**299**	*e*P	**Pb**	**14 55 08.3**	**+0.2**
	baz=300						
TWK				*e*S	**Sn**	**14 55 24.9**	**-0.1**
	baz=300						
CHN3	**Shinhua**	**1.28**	**289**	*e*P	**Pg**	**14 55 09.1**	**+0.2**
	baz=289						
CHN3				*e*S	**Sn**	**14 55 27.0**	**+1.4**
	baz=289						
CHN5	**Tsauling**	**1.31**	**315**	*e*P	**Pg**	**14 55 09.9**	**+0.4**
	baz=317						
CHN5				*e*S	**Sg**	**14 55 26.5**	**0.0**
	baz=317						
CHN2	**Minshiung**	**1.41**	**308**	*e*S	**Sn**	**14 55 29.1**	**+0.4**
	baz=309						
SMLT	**Sun Moon Lake**	**1.41**	**330**	*e*P	**Pb**	**14 55 11.2**	**+0.3**
	baz=332						
SMLT				*e*S	**Sb**	**14 55 27.8**	**-1.2**
	baz=332						
CHY	**Chiayi**	**1.42**	**306**	*e*P	**Pn**	**14 55 10.6**	**+0.3**
	baz=307						
CHY				*e*S	**Sb**	**14 55 29.2**	**-0.1**
	baz=307						
WGK	**Gukeng**	**1.45**	**315**	*e*P	**Pg**	**14 55 12.1**	**0.0**
	baz=316						
WGK				*e*S	**Sb**	**14 55 30.2**	**+0.2**
	baz=316						
TYC	**Yuchr**	**1.45**	**329**	*e*P	**Pg**	**14 55 12.2**	**+0.1**
	baz=331						
TYC				*e*S	**Sn**	**14 55 29.7**	**0.0**
	baz=331						
WNT	**Mingjian**	**1.52**	**323**	*e*P	**Pb**	**14 55 12.8**	**+0.2**
	baz=325						
WNT				*e*S	**Sb**	**14 55 32.1**	**+0.2**
	baz=325						
WHF	**Hehuan Shan**	**1.52**	**346**	*e*P	**Pn**	**14 55 12.6**	**+0.5**
	baz=348						
WHF				*e*S	**Sn**	**14 55 30.1**	**-2.1**
	baz=348						
ENA	**Nanau**	**1.76 2**		*e*P	**Pn**	**14 55 15.3**	**+0.4**
	baz=4.0						
ENA				*e*S	**Sn**	**14 55 37.0**	**-0.4**
	baz=4.0						
NNS	**Nan Shan**	**1.79**	**351**	*e*P	**Pn**	**14 55 16.0**	**+0.5**
	baz=353						
NNS				*e*S	**Sn**	**14 55 38.6**	**+0.2**
	baz=353						
TWQ1	**Liyutan**	**1.87**	**334**	*e*P	**Pb**	**14 55 18.5**	**-0.2**
	baz=335						
TWQ1				*e*S	**Sn**	**14 55 41.0**	**+0.7**
	baz=335						
NSY	**Sanyi**	**1.94**	**334**	*e*P	**Pb**	**14 55 19.1**	**-0.7**
	baz=336						
NSY				*e*S	**Sn**	**14 55 42.8**	**+0.9**
	baz=336						
ENTT	**Nioudou**	**1.97**	**357**	*e*P	**Pn**	**14 55 18.4**	**+0.6**
	baz=359						
ENTT				*e*S	**Sn**	**14 55 41.5**	**-1.2**
	baz=359						
NSK	**Sanguang**	**2.03**	**352**	*e*P	**Pn**	**14 55 19.4**	**+0.7**
	baz=353						
NSK				*e*S	**Sn**	**14 55 44.0**	**-0.1**
	baz=353						
NSTT	**Nanjuang**	**2.06**	**343**	*e*P	**Pn**	**14 55 20.2**	**+1.1**
	baz=344						
NSTT				*e*S	**Sn**	**14 55 44.9**	**+0.1**
	baz=344						
PNG	**Penghu**	**2.15**	**295**	*e*P	**Pn**	**14 55 21.4**	**+1.0**
	baz=295						
PNG				*e*S	**Sn**	**14 55 45.1**	**-2.0**
	baz=295						
YOJ	**Yonaguni jima**	**2.17 34**		P	**Pn**	**14 55 20.6**	**+0.1**
YOJ				S	**Sn**	**14 55 47.7**	**+0.2**
HATJ	**Hateruma jima**	**2.40 54**		P	**Pn**	**14 55 24.4**	**+0.7**
HATJ				S	**Sn**	**14 55 51.8**	**-1.3**
IRIF	**Iriomote-Funau**	**2.51 48**		P	**Pn**	**14 55 26.4**	**+1.1**
IRIF				S	**Sn**	**14 55 55.4**	**-0.6**
JKRS	**Kuro-shima**	**2.65 53**		P	**Pn**	**14 55 28.3**	**+1.1**
JKRS				S	**Sn**	**14 55 58.3**	**-1.1**
JIJ	**Ishigaki jima**	**2.83 53**		P	**Pn**	**14 55 30.4**	**+0.8**
JIJ				S	**Sn**	**14 56 02.8**	**-0.9**
JISG	**Ishigakijimahi**	**3.08 51**		P	**Pn**	**14 55 33.6**	**+0.5**
JISG				*e*S	**Sn**	**14 56 08.8**	**-1.2**
JTJ	**Tarama**	**3.40 54**		P	**Pn**	**14 55 38.6**	**+1.1**
JTJ				S	**Sn**	**14 56 16.8**	**-1.1**
JIRB	**Irabujima**	**3.86 55**		P	**Pn**	**14 55 45.0**	**+1.2**
JIRB				S	**Sn**	**14 56 28.0**	**-1.2**
JOGS	**Gusukube**	**4.00 58**		S	**Sn**	**14 56 33.3**	**+0.5**

CSEM ***23*** *15:05:31.3±0.2, 38.89N×43.17E, h8km, MD2.7, Error ellipse

GEVA				S	Sg	15 06 37.2	+0.3
TUTA	**Tutak**	**0.66**	**329**	*i* P	**Pg**	**15 06 31.5**	**-0.6**
TUTA	**Tutak**	**0.66**	**329**	P	**Pg**	**15 06 31.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.77**	**345**	*e*PG	**Pg**	**15 06 33.0**	**-1.0**
AGRB				*e*SG	**Sg**	**15 06 44.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.77**	**345**	*e*Pg	**Pg**	**15 06 33.0**	**-1.0**
AGRB				*e*Sg	**Sg**	**15 06 44.0**	**-0.2**
DYDN	**Diyadin**	**0.79**	**26**	*i* P	**Pg**	**15 06 33.7**	**-0.7**
DYDN	**Diyadin**	**0.79**	**26**	P	**Pg**	**15 06 33.7**	**-0.7**
EKAR	**Karacoban**	**1.01**	**295**	*i* P	**Pb**	**15 06 38.9**	**+0.3**
EKAR	**Karacoban**	**1.01**	**295**	P	**Pb**	**15 06 38.9**	**+0.3**
EATA	**Eleskirt**	**1.18**	**331**	*i* P	**Pg**	**15 06 41.2**	**-0.7**
EATA				*i* S	**Sn**	**15 06 58.6**	**+0.8**
EATA	**Eleskirt**	**1.18**	**331**	P	**Pg**	**15 06 41.2**	**-0.7**
HAKT	**HAKKARI**	**1.32**	**164**	*i* P	**Pg**	**15 06 43.4**	**-1.1**
HAKT	**HAKKARI**	**1.32**	**164**	P	**Pg**	**15 06 43.4**	**-1.1**
VRTB	**Varto-Mus**	**1.44**	**284**	*e*PN	**Pn**	**15 06 45.2**	**+0.3**
VRTB				*e*SN	**Sn**	**15 07 05.2**	**+1.5**
VRTB	**Varto-Mus**	**1.44**	**284**	*e*Pn	**Pn**	**15 06 45.2**	**+0.3**
VRTB				*e*Sn	**Sn**	**15 07 05.2**	**+1.5**
SIRN	**S¨–rnak**	**1.49**	**207**	*i* P	**Pn**	**15 06 46.0**	**+0.5**
SIRN	**S¨–rnak**	**1.49**	**207**	P	**Pn**	**15 06 46.0**	**+0.5**
DIGO	**Kars**	**1.58**	**3**	*i* P	**Pb**	**15 06 48.2**	**-0.1**
DIGO	**Kars**	**1.58**	**3**	P	**Pb**	**15 06 48.2**	**-0.1**
CUKT	**Cukurca**	**1.61**	**170**	*e*PN	**Pb**	**15 06 49.2**	**+0.5**
CUKT				*e*SN	**Sg**	**15 07 11.2**	**+0.3**
CUKT	**Cukurca**	**1.61**	**170**	*i* P	**Pb**	**15 06 49.6**	**+1.0**
CUKT	**Cukurca**	**1.61**	**170**	*e*Pn	**Pb**	**15 06 49.2**	**+0.5**
CUKT	**Cukurca**	**1.61**	**170**	P	**Pb**	**15 06 49.6**	**+1.0**
CUKT				*e*Sn	**Sg**	**15 07 11.2**	**+0.3**
BNGL	**BINGOL**	**1.64**	**275**	*i* P	**Pb**	**15 06 49.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.75**	**248**	*e*PN	**Pn**	**15 06 49.8**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.75**	**248**	*e*Pn	**Pn**	**15 06 49.8**	**+0.7**
ERZM	**Erzurum**	**1.81**	**307**	*i* P	**Pg**	**15 06 53.3**	**-0.5**
ERZM	**Erzurum**	**1.81**	**307**	P	**Pg**	**15 06 53.3**	**-0.5**
BTMN	**Batman**	**1.82**	**239**	*i* P	**Pn**	**15 06 51.0**	**+0.9**
BTMN	**Batman**	**1.82**	**239**	P	**Pn**	**15 06 51.0**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.86**	**338**	*e*PN	**Pn**	**15 06 51.4**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.86**	**338**	*e*Pn	**Pn**	**15 06 51.4**	**+0.6**
EAK	**Akyaka**	**1.87**	**8**	*i* P	**Pg**	**15 06 55.3**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.93**	**294**	*i* P	**Pb**	**15 06 54.5**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.93**	**294**	P	**Pb**	**15 06 54.5**	**+0.3**
BNGB	**Bing¨¶l**	**2.01**	**275**	*e*PN	**Pn**	**15 06 54.1**	**+1.3**
BINT	**Bingol**	**2.15**	**272**	*e*Pn	**Pn**	**15 06 54.1**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.19**	**287**	*e*PN	**Pn**	**15 06 55.6**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.19**	**287**	*e*Pn	**Pn**	**15 06 55.6**	**+0.3**
KOPT	**Kop Dagi**	**2.44**	**300**	*i* P	**Pb**	**15 07 04.0**	**+1.1**
AKH	**Akhalkalaki**	**2.58**	**4**	*e*PN	**Pn**	**15 07 01.7**	**+1.0**
AKH	**Akhalkalaki**	**2.58**	**4**	P	**Pg**	**15 07 07.5**	**-1.1**
AKH	**Akhalkalaki**	**2.58**	**4**	*e*Pn	**Pn**	**15 07 01.7**	**+1.0**
MAZI	**Mazidag**	**2.60**	**239**	*e*PN	**Pn**	**15 07 01.6**	**+0.8**
MAZI	**Mazidag**	**2.60**	**239**	*e*Pn	**Pn**	**15 07 01.7**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.12**	**263**	*e*PN	**Pn**	**15 07 10.0**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.12**	**263**	*e*Pn	**Pn**	**15 07 10.0**	**+1.9**
ONI	**Oni**	**3.76**	**2**	P	**Pb**	**15 07 27.8**	**+2.5**
URFA	**Urfa**	**3.76**	**250**	*e*PN	**Pn**	**15 07 18.9**	**+2.1**
URFA	**Urfa**	**3.76**	**250**	*e*Pn	**Pn**	**15 07 18.9**	**+2.1**
AKTO	**Aktyubinsk**	**15.62**	**37**	Pn	**Pn**	**15 09 57.2**	**-1.5**
	0.1nm,0.3s,baz=230,slow=12,SNR=3.6						
BVAR	**Borovoye Array**	**23.43**	**44**	P	**P**	**15 11 28.8**	**+1.1**
	0.6nm,0.6s,baz=258,slow=6.8,SNR=4.8						
MKAR	**Makanchi Array**	**29.48**	**62**	P	**P**	**15 12 22.4**	**-0.2**
	0.8nm,0.6s,baz=269,slow=7.1,SNR=6.3						
CMAR	**Chiang Mai Arr**	**52.09**	**96**	P	**P**	**15 15 27.2**	**-1.7**
	0.3nm,0.6s,baz=302,slow=8.4,SNR=4.2						
KSRS	**Korea Array**	**64.16**	**62**	P	**P**	**15 16 52.2**	**-1.0**
	0.8nm,0.6s,baz=284,slow=7.0,SNR=3.9						

SGS 23 15:12:47.9, 25°.24N×37°.76E, h0km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY06	**LNY06**	**0.03**	**150**	S	Sg	15 12 49.8	+0.9
LNY06	**LNY06**	**0.03**	**150**	P	Pg	15 12 47.0	-1.5
LNY12	**LNY12**	**0.04**	**18**	P	Pg	15 12 48.4	-0.2
LNY12	**LNY12**	**0.04**	**18**	P	Pg	15 12 48.4	-0.2
LNY11	**LNY11**	**0.08**	**8**	P	Pg	15 12 48.8	-0.6
LNY11	**LNY11**	**0.08**	**8**	P	Pg	15 12 48.8	-0.7
LNY10	**LNY10**	**0.10**	**71**	P	Pg	15 12 48.9	-0.8
LNY10	**LNY10**	**0.10**	**71**	P	Pg	15 12 50.2	+0.5
LNY04	**LNY04**	**0.11**	**288**	P	Pg	15 12 49.8	-0.2
LNY04	**LNY04**	**0.11**	**288**	P	Pg	15 12 49.8	-0.2
LNY02	**LNY02**	**0.14**	**137**	S	Sg	15 12 51.9	-0.3
LNY02				P	Pg	15 12 49.9	-0.6
LNY02	**LNY02**	**0.14**	**137**	P	Pg	15 12 52.0	+1.5
LNY01	**LNY01**	**0.18**	**96**	P	Pg	15 12 50.4	-1.0
LNY01	**LNY01**	**0.18**	**96**	P	Pg	15 12 50.4	-1.0
LNY01				P	Pg	15 12 52.6	+1.3
LNY09	**LNY09**	**0.18**	**331**	P	Pg	15 12 53.4	+1.9
LNY07	**LNY07**	**0.20**	**238**	P	Pg	15 12 51.6	-0.2
LNY07	**LNY07**	**0.20**	**238**	P	Pg	15 12 51.6	-0.2
LNY07				P	Pg	15 12 54.7	+2.9

*DDA **23** 15:14:01.7, 38°.63N×43°.08E, h14km, Ml4.0*
*NEIC **23** 15:14:02.4±0.0, 38°.65N×43°.06E, h3km, mb4.0/4, ML4.0(DDA), After ISK.*
*ISCJB **23** 15:14:02.7±0.5, 38°.64N±0°.02×43°.13E±0°.03, h12km±4km, mb3.7/10, Error ellipse: s-maj=3.9km s-min=3.6km az=174.4*
*CSEM **23** 15:14:02.3±0.2, 38°.62N×43°.10E, h5km, mb4.0, Error ellipse: s-maj=4.9km s-min=4.6km az=79.0*
*ISK **23** 15:14:02.4, 38°.66N×43°.04E, h4km, ML3.7*
*IDC **23** 15:14:03.8±1.2, 38°.48N×43°.68E, h0km, mb3.8/6, mb1 3.7/11, mb1mx3.5/48, mbtmp3.6/11, ML3.1/5, Error ellipse: s-maj=19.0km s-min=13.8km az=172.0*

ISC 23 15:14:02.3±1.0, 38°.63N±0°.02×43°.09E±0°.02, h9km±8km, n108, σ1§23/121, mb3.8/10, 8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.27**	**113**	*i* P	**Pb**	**15 14 09.7**	**+0.2**
TVAN	**Van**	**0.27**	**113**	*i* P	**Pb**	**15 14 09.7**	**+0.2**
TVAN				*i* S	**Sb**	**15 14 14.8**	**+0.5**
GEVA	**Gevas**	**0.32**	**184**	||*i*P	**Pg**	**15 14 07.7**	**-1.1**
GEVA				*i* S	**Sg**	**15 14 14.4**	**+1.3**
GEVA	**Gevas**	**0.32**	**184**	P	**Pg**	**15 14 07.7**	**-1.1**
GEVA				S	**Sg**	**15 14 14.4**	**+1.3**
GEVA	**Gevas**	**0.32**	**184**	*i* P	**Pg**	**15 14 07.7**	**-1.1**
GEVA				*i* S	**Sg**	**15 14 14.4**	**+1.3**
VMUR	**Van-Muradiye**	**0.52**	**47**	||*i*P	**Pg**	**15 14 12.1**	**-0.3**
VMUR				*i* S	**Sb**	**15 14 21.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.52**	**47**	P	**Pg**	**15 14 12.1**	**-0.3**
VMUR				S	**Sb**	**15 14 21.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.52**	**47**	*i* P	**Pg**	**15 14 12.2**	**-0.3**
TUTA	**Tutak**	**0.80**	**345**	||*i*P	**Pg**	**15 14 17.1**	**-0.6**
TUTA	**Tutak**	**0.80**	**345**	P	**Pg**	**15 14 17.1**	**-0.6**
BASK	**Baskale_VAN**	**0.93**	**129**	*i* P	**Pg**	**15 14 18.7**	**-1.4**
BASK				*i* S	**Sb**	**15 14 33.9**	**+0.7**
BASK	**Baskale_VAN**	**0.93**	**129**	P	**Pg**	**15 14 18.7**	**-1.4**
BASK				S	**Sb**	**15 14 33.9**	**+0.7**
AGRB	**Hanur-Agry**	**0.94**	**356**	*e*PG	**Pg**	**15 14 19.8**	**-0.7**
AGRB				*e*SG	**Sb**	**15 14 33.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**356**	*e*Pg	**Pg**	**15 14 19.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**15 14 33.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**356**	Pg	**Pg**	**15 14 19.6**	**-0.9**
EKAR	**Karacoban**	**1.01**	**308**	*i* P	**Pg**	**15 14 21.6**	**-0.2**
EKAR	**Karacoban**	**1.01**	**308**	P	**Pg**	**15 14 21.6**	**-0.2**
DYDN	**Diyadin**	**1.02**	**27**	*i* P	**Pg**	**15 14 20.4**	**-1.6**
DYDN	**Diyadin**	**1.02**	**27**	P	**Pg**	**15 14 20.4**	**-1.6**
HAKT	**HAKKARI**	**1.18**	**155**	*i* P	**Pg**	**15 14 23.0**	**-2.0**
HAKT				*i* S	**Sg**	**15 14 40.2**	**-0.1**
HAKT	**HAKKARI**	**1.18**	**155**	P	**Pg**	**15 14 23.0**	**-2.0**
HAKT				S	**Sg**	**15 14 40.2**	**-0.1**
EATA	**Eleskirt**	**1.31**	**340**	||*i*P	**Pg**	**15 14 26.3**	**-1.2**
EATA				*i* S	**Sb**	**15 14 44.8**	**+0.4**
EATA	**Eleskirt**	**1.31**	**340**	P	**Pg**	**15 14 26.3**	**-1.2**
EATA				S	**Sb**	**15 14 44.8**	**+0.4**
VRTB	**Varto-Mus**	**1.38**	**293**	*e*PN	**Pg**	**15 14 28.5**	**-0.2**
VRTB	**Varto-Mus**	**1.38**	**293**	Pn	**Pg**	**15 14 28.6**	**-0.2**
VRTB	**Varto-Mus**	**1.38**	**293**	Pn	**Pg**	**15 14 28.6**	**-0.2**
CUKT	**Cukurca**	**1.44**	**163**	*e*PN	**Pg**	**15 14 30.5**	**+0.5**
CUKT	**Cukurca**	**1.44**	**163**	||*i*P	**Pg**	**15 14 30.2**	**+0.1**
CUKT				*i* S	**Sg**	**15 14 52.0**	**+3.2**
CUKT	**Cukurca**	**1.44**	**163**	P	**Pg**	**15 14 30.2**	**+0.1**
CUKT	**Cukurca**	**1.44**	**163**	*e*Pn	**Pg**	**15 14 30.5**	**+0.5**
CUKT				S	**Sg**	**15 14 52.0**	**+3.2**
CUKT	**Cukurca**	**1.44**	**163**	Pn	**Pg**	**15 14 30.5**	**+0.5**
BNGL	**BINGOL**	**1.55**	**282**	*i* S	**Sn**	**15 14 50.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.56**	**253**	*e*PN	**Pb**	**15 14 31.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.56**	**253**	||*i*P	**Pn**	**15 14 31.1**	**+0.8**
SVAN				*i* S	**Sg**	**15 14 52.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.56**	**253**	*e*Pn	**Pb**	**15 14 31.2**	**-0.2**
SVAN				S	**Sg**	**15 14 52.5**	**0.0**
BTMN	**Batman**	**1.61**	**243**	||*i*P	**Pn**	**15 14 31.8**	**+0.7**
BTMN				*i* S	**Sg**	**15 14 54.9**	**+0.8**
BTMN	**Batman**	**1.61**	**243**	P	**Pn**	**15 14 31.8**	**+0.7**
BTMN				S	**Sg**	**15 14 54.9**	**+0.8**
HOMI	**Horasan**	**1.68**	**327**	||*i*P	**Pn**	**15 14 33.0**	**+0.8**
HOMI				*i* S	**Sg**	**15 14 57.5**	**+1.1**
ERZM	**Erzurum**	**1.84**	**314**	*i* P	**Pb**	**15 14 36.3**	**-0.1**
ERZM	**Erzurum**	**1.84**	**314**	P	**Pb**	**15 14 36.3**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.91**	**301**	*i* P	**Pn**	**15 14 36.1**	**+0.9**
ECAT	**Cat-ERZURUM**	**1.91**	**301**	P	**Pn**	**15 14 36.2**	**+0.9**
BNGB	**Bing¨¶l**	**1.92**	**281**	*e*PN	**Pn**	**15 14 36.4**	**+1.1**
GNI	**Garni**	**1.98**	**40**	Pn	**Pb**	**15 14 38.0**	**-0.7**
	12nm,0.3s,baz=273,slow=0.8,SNR=19						
GNI	**Garni**	**1.98**	**40**	*e*Pn	**Pn**	**15 14 36.8**	**+0.6**
GNI	**Garni**	**1.98**	**40**	*e*Pn	**Pn**	**15 14 36.8**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*PN	**Pn**	**15 14 37.8**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*Pn	**Pn**	**15 14 37.8**	**+1.2**
BINT	**Bingol**	**2.05**	**278**	*e*Pn	**Pn**	**15 14 36.4**	**-0.7**
EAK	**Akyaka**	**2.09**	**11**	*i* P	**Pb**	**15 14 41.1**	**+0.6**
EAK	**Akyaka**	**2.09**	**11**	P	**Pb**	**15 14 41.1**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.14**	**293**	*e*PN	**Pn**	**15 14 39.3**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.14**	**293**	*e*Pn	**Pn**	**15 14 39.3**	**+0.9**
MARD	**Mardin**	**2.25**	**235**	*i* P	**Pn**	**15 14 40.6**	**+0.7**
MAZI	**Mazidag**	**2.39**	**241**	*e*PN	**Pn**	**15 14 43.1**	**+1.3**
MAZI	**Mazidag**	**2.39**	**241**	*e*Pn	**Pn**	**15 14 43.1**	**+1.3**
KOPT	**Kop Dagi**	**2.44**	**305**	*i* P	**Pn**	**15 14 44.4**	**+1.8**
KOPT	**Kop Dagi**	**2.44**	**305**	P	**Pn**	**15 14 44.4**	**+1.8**
DIYA	**Diyarbakir**	**2.44**	**254**	*i* P	**Pn**	**15 14 40.8**	**-1.7**
DIYA	**Diyarbakir**	**2.44**	**254**	P	**Pn**	**15 14 40.8**	**-1.7**
DDEM	**Demirkent**	**2.48**	**336**	*i* P	**Pn**	**15 14 44.6**	**+1.6**
DDEM	**Demirkent**	**2.48**	**336**	P	**Pn**	**15 14 44.6**	**+1.6**
DAGI	**Agillar**	**2.60**	**340**	*i* P	**Pn**	**15 14 45.6**	**+0.9**
ARTV	**Artvin**	**2.70**	**341**	*i* P	**Pn**	**15 14 47.8**	**+1.7**
ARTV	**Artvin**	**2.70**	**341**	P	**Pn**	**15 14 47.8**	**+1.7**
ERZN	**Erzincan**	**2.79**	**291**	*e*PN	**Pn**	**15 14 48.6**	**+1.3**
AKH	**Akhalkalaki**	**2.79**	**6**	*e*PN	**Pn**	**15 14 49.0**	**+1.7**
AKH	**Akhalkalaki**	**2.79**	**6**	*e*Pn	**Pn**	**15 14 49.1**	**+1.7**
TNCL	**Tunceli-Merkez**	**2.81**	**281**	*i* P	**Pg**	**15 14 54.6**	**-1.6**
PTK	**Pertek**	**2.90**	**276**	*e*PN	**Pn**	**15 14 50.1**	**+1.2**
PTK	**Pertek**	**2.90**	**276**	*e*Pn	**Pn**	**15 14 50.1**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*PN	**Pn**	**15 14 51.2**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*Pn	**Pn**	**15 14 51.3**	**+1.4**
EZC	**Erzincan**	**3.11**	**292**	*e*Pn	**Pn**	**15 14 48.6**	**-3.1**
ELZG	**Elazig**	**3.22**	**269**	*i* P	**Pn**	**15 14 54.8**	**+1.5**
ELZG	**Elazig**	**3.22**	**269**	P	**Pn**	**15 14 54.8**	**+1.5**
DGRG	**David-gareji**	**3.31**	**31**	P	**Pn**	**15 14 57.6**	**+3.2**
KELT	**Kelkit**	**3.33**	**298**	*i* P	**Pb**	**15 15 03.3**	**+1.6**
SURC	**SANLIURFA_SURC**	**3.96**	**245**	*i* P	**Pn**	**15 15 02.3**	**-0.9**
SURC	**SANLIURFA_SURC**	**3.96**	**245**	P	**Pn**	**15 15 02.3**	**-0.9**
ATAB	**Bozova**	**3.96**	**254**	*i* P	**Pb**	**15 15 13.4**	**+1.1**
KBZ	**Khabaz**	**5.09**	**358**	Pn	**Pb**	**15 15 27.9**	**-3.7**
	0.1nm,0.3s,baz=177,slow=17,SNR=2.9						
BRTR	**Keskin Array B**	**7.42**	**281**	Pn	Pb	15 16 02.4	-9.0
	0.1nm,0.3s,baz=101,slow=13,SNR=4.3						
ASF	**Jabal al Asfar**	**8.19**	**220**	Pn	Pn	15 16 10.6	+9.1
	0.2nm,0.3s,baz=35,slow=11,SNR=3.9						
MMAI	**Mount Meron Ar**	**8.39**	**230**	Pn	Pn	15 16 10.9	+6.8
	0.7nm,0.3s,baz=53,slow=14,SNR=2.5						
RAYN	**Ar Rayn**	**15.21**	**172**	*e*Pn	**Pn**	**15 17 33.7**	**-3.6**
	3.4nm,0.8s						
AKASG	**Malin Array Be**	**15.55**	**325**	Pn	**P**	**15 17 47.1**	**+1.1**
	0.6nm,0.3s,baz=134,slow=11,SNR=7.2						
AKTO	**Aktyubinsk**	**15.85**	**37**	Pn	**Pn**	**15 17 45.3**	**-0.3**
	0.1nm,0.3s,baz=225,slow=11,SNR=9.1						
VYHS	**Vyhne**	**20.07**	**307**	*e*P	Pn	15 18 37.5	-0.2
VYHS	**Vyhne**	**20.07**	**307**	*e*PN	**P**	**15 18 34.9**	**-1.0**
VYHS	**Vyhne**	**20.07**	**307**	*e*P	Pn	15 18 37.5	-0.2
ARU	**Arti**	**20.56**	**25**	P	**P**	**15 18 40.8**	**-0.2**
	1.3nm,0.3s,baz=214,slow=7.9,SNR=4.3						
ARU	**Arti**	**20.56**	**25**	*e*P	Pn	15 18 43.0	-0.3
	12nm,1.3s						
ARU	**Arti**	**20.56**	**25**	*e*P	Pn	15 18 43.0	-0.2
	12nm,1.3s						
KKAR	**Karatay Array**	**21.17**	**69**	P	**P**	**15 18 47.4**	**-0.5**
	3.8nm,0.7s						
KKAR	**Karatay Array**	**21.17**	**69**	P	**P**	**15 18 47.4**	**-0.5**
	3.8nm,0.7s						
GERES	**GERESS Array B**	**23.42**	**305**	P	**P**	**15 19 11.8**	**+0.1**
	0.3nm,0.5s,baz=110,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**23.66**	**44**	P	**P**	**15 19 14.8**	**+0.8**
	1.3nm,0.9s,baz=224,slow=8.3,SNR=5.6						
FINES	**FINESS Array B**	**25.16**	**341**	P	**P**	**15 19 28.7**	**+1.2**
	1.7nm,0.8s,baz=134,slow=11,SNR=3.9						
KURBB	**Kurchatov Arra**	**27.66**	**53**	P	**P**	**15 19 51.0**	**+0.7**
	0.7nm,0.7s,baz=264,slow=8.7,SNR=4.9						
KURK	**Kurchatov**	**27.73**	**53**	P	**P**	**15 19 51.4**	**+0.5**
	14nm,1.2s						
KURK	**Kurchatov**	**27.73**	**53**	P	**P**	**15 19 51.4**	**+0.5**
	14nm,1.2s						
HFS	**Hagfors**	**28.38**	**329**	P	P	15 20 03.1	+6.5
	1.5nm,0.7s,baz=172,slow=40,SNR=2.1						
MKAR	**Makanchi Array**	**29.68**	**61**	P	**P**	**15 20 09.3**	**+0.9**
	0.9nm,0.9s,baz=295,slow=6.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**52.20**	**96**	P	**P**	**15 23 13.3**	**-0.4**
	0.9nm,0.5s,baz=297,slow=8.2,SNR=9.7						
KSAR	**Wonju Array Be**	**64.34**	**62**	P	**P**	**15 24 38.2**	**-0.2**
KSAR	**Wonju Array Be**	**64.34**	**62**	P	**P**	**15 24 38.2**	**-0.2**
KSRS	**Korea Array**	**64.37**	**62**	P	**P**	**15 24 38.2**	**-0.3**
	1.1nm,0.8s,baz=294,slow=7.4,SNR=4.8						

*DDA **23** 15:17:05.3, 38°.71N×43°.05E, h5km, Ml3.6*
*ISK **23** 15:17:06.4, 38°.79N×43°.19E, h5km, ML3.4*
*CSEM **23** 15:17:07.8±0.2, 38°.80N×43°.14E, h2km, ML3.6, Error ellipse: s-maj=6.3km s-min=5.0km az=89.0*

ISC 23 15:17:07.6±1.1, 38°.76N±0°.02×43°.15E±0°.03, h7km±11km, n62, σ1§39/77, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.31**	**139**	*i* P	**Pb**	**15 17 15.3**	**-0.3**
TVAN				*i* S	**Sb**	**15 17 20.8**	**-0.1**
TVAN	**Van**	**0.31**	**139**	P	**Pb**	**15 17 15.3**	**-0.3**
TVAN				S	**Sb**	**15 17 20.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.40**	**55**	*i* P	**Pg**	**15 17 15.7**	**+0.2**
VMUR				*i* S	**Sb**	**15 17 23.2**	**-0.4**
VMUR	**Van-Muradiye**	**0.40**	**55**	P	**Pg**	**15 17 15.7**	**+0.2**
GEVA	**Gevas**	**0.45**	**189**	*i* P	**Pg**	**15 17 13.7**	**-2.7**
TUTA	**Tutak**	**0.69**	**338**	*i* P	**Pg**	**15 17 19.7**	**-1.2**
TUTA	**Tutak**	**0.69**	**338**	P	**Pg**	**15 17 19.7**	**-1.2**
AGRB	**Hanur-Agry**	**0.82**	**352**	*e*PG	**Pg**	**15 17 22.6**	**-0.8**
AGRB				*e*SG	**Sg**	**15 17 34.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.82**	**352**	*e*Pg	**Pg**	**15 17 22.6**	**-0.8**
AGRB				*e*Sg	**Sg**	**15 17 34.7**	**+0.5**
DYDN	**Diyadin**	**0.89**	**28**	*i* P	**Pg**	**15 17 23.8**	**-0.9**
DYDN				*i* S	**Sg**	**15 17 36.4**	**+0.1**
DYDN	**Diyadin**	**0.89**	**28**	P	**Pg**	**15 17 23.8**	**-0.9**
DYDN				S	**Sg**	**15 17 36.4**	**+0.1**
EATA	**Eleskirt**	**1.21**	**335**	*i* P	**Pg**	**15 17 29.2**	**-1.7**
EATA				*i* S	**Sb**	**15 17 47.2**	**+0.1**
EATA	**Eleskirt**	**1.21**	**335**	P	**Pg**	**15 17 29.2**	**-1.7**
EATA				S	**Sb**	**15 17 47.2**	**+0.1**
HAKT	**HAKKARI**	**1.28**	**160**	*i* P	**Pn**	**15 17 28.7**	**-3.4**
VRTB	**Varto-Mus**	**1.38**	**287**	*e*PN	**Pn**	**15 17 33.8**	**+0.4**
VRTB	**Varto-Mus**	**1.38**	**287**	*i* P	**Pn**	**15 17 32.3**	**-1.1**
VRTB	**Varto-Mus**	**1.38**	**287**	P	**Pn**	**15 17 32.3**	**-1.1**
VRTB	**Varto-Mus**	**1.38**	**287**	*e*Pn	**Pn**	**15 17 33.8**	**+0.4**
SIRN	**S¨–rnak**	**1.39**	**205**	*i* P	**Pg**	**15 17 36.0**	**+1.8**
SIRN	**S¨–rnak**	**1.39**	**205**	P	**Pg**	**15 17 36.0**	**+1.8**
CUKT	**Cukurca**	**1.55**	**166**	*e*PN	**Pn**	**15 17 36.4**	**+0.6**
CUKT				*e*SN	**Sg**	**15 17 58.3**	**+0.8**
CUKT	**Cukurca**	**1.55**	**166**	*i* P	**Pn**	**15 17 35.5**	**-0.3**
CUKT	**Cukurca**	**1.55**	**166**	P	**Pn**	**15 17 35.5**	**-0.3**
CUKT	**Cukurca**	**1.55**	**166**	*e*Pn	**Pn**	**15 17 36.4**	**+0.6**
CUKT				*e*Sn	**Sg**	**15 17 58.3**	**+0.8**
BNGL	**BINGOL**	**1.57**	**278**	*i* P	**Pn**	**15 17 32.5**	**-3.6**
HOMI	**Horasan**	**1.60**	**324**	*i* P	**Pn**	**15 17 36.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.65**	**249**	*e*PN	**Pn**	**15 17 37.8**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.65**	**249**	*i* P	**Pn**	**15 17 34.4**	**-2.5**
SVAN				*i* S	**Sn**	**15 17 58.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.65**	**249**	*e*Pn	**Pn**	**15 17 37.8**	**+0.8**
SVAN				S	**Sn**	**15 17 58.3**	**-0.1**
DIGO	**Kars**	**1.66**	**6**	*i* P	**Pn**	**15 17 37.4**	**0.0**
DIGO	**Kars**	**1.66**	**6**	P	**Pn**	**15 17 37.4**	**0.0**
BTMN	**Batman**	**1.71**	**240**	*i* P	**Pn**	**15 17 36.5**	**-1.5**
BTMN				*i* S	**Sn**	**15 17 59.1**	**-1.0**
ERZM	**Erzurum**	**1.79**	**310**	*i* P	**Pn**	**15 17 39.5**	**+0.3**
ERZM	**Erzurum**	**1.79**	**310**	P	**Pn**	**15 17 39.5**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.89**	**297**	*i* P	**Pn**	**15 17 41.5**	**+1.0**
ECAT	**Cat-ERZURUM**	**1.89**	**297**	P	**Pn**	**15 17 41.5**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.90**	**341**	*e*PN	**Pn**	**15 17 41.1**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.90**	**341**	*e*Pn	**Pn**	**15 17 41.1**	**+0.4**
BNGB	**Bing¨¶l**	**1.94**	**278**	*e*PN	**Pn**	**15 17 41.1**	**0.0**
EAK	**Akyaka**	**1.96**	**10**	*i* P	**Pg**	**15 17 44.9**	**-0.2**
EAK				*i* S	**Sg**	**15 18 15.4**	**+4.9**
BINT	**Bingol**	**2.08**	**274**	*e*Pn	**Pn**	**15 17 41.1**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.13**	**289**	*e*PN	**Pn**	**15 17 44.7**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.13**	**289**	*e*Pn	**Pn**	**15 17 44.7**	**+0.9**
MARD	**Mardin**	**2.36**	**233**	*i* P	**Pn**	**15 17 46.5**	**-0.5**
DDEM	**Demirkent**	**

CUKT	**Cukurca**	**1.48 174**	P	**Pn**	**15 21 18.9**	**+1.2**
CUKT			*e*Sn	**Sg**	**15 21 39.8**	**+0.4**
VRTB	**Varto-Mus**	**1.59 286**	*e*PN	**Pb**	**15 21 19.6**	**-1.1**
VRTB	**Varto-Mus**	**1.59 286**	*e*Pn	**Pb**	**15 21 19.6**	**-1.1**
DIGO	**Kars**	**1.69 359**	*i* P	**Pn**	**15 21 22.2**	**+1.5**
DIGO	**Kars**	**1.69 359**	P	**Pn**	**15 21 22.2**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.83 253**	*e*PN	**Pn**	**15 21 22.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.83 253**	*e*Pn	**Pn**	**15 21 22.7**	**+0.2**
ERZM	**Erzurum**	**1.98 307**	*i* P	**Pg**	**15 21 28.9**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.01 336**	*e*PN	**Pn**	**15 21 26.1**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.01 336**	*e*Pn	**Pn**	**15 21 26.2**	**+1.1**
BNGB	**Bing¶‖**	**2.15 278**	*e*PN	**Pn**	**15 21 27.5**	**+0.5**
BINT	**Bingol**	**2.29 275**	*e*Pn	**Pn**	**15 21 27.5**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.35 289**	*e*PN	**Pn**	**15 21 30.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.35 289**	*e*Pn	**Pn**	**15 21 30.6**	**+1.0**
AKH	**Akhalkalaki**	**2.68 1**	*e*PN	**Pn**	**15 21 36.1**	**+1.8**
AKH	**Akhalkalaki**	**2.68 1**	*e*Pn	**Pn**	**15 21 36.1**	**+1.8**
ARTV	**Artvin**	**2.71 335**	*i* P	**Pg**	**15 21 43.3**	**-0.2**
ERZN	**Erzincan**	**3.00 288**	*e*PN	**Pn**	**15 21 40.0**	**+1.5**
TNCL	**Tunceli-Merkez**	**3.05 279**	*i* P	**Pg**	**15 21 50.2**	**+0.2**
TBLG	**Delisi**	**3.17 18**	*e*PN	**Pn**	**15 21 43.7**	**+2.9**
TBLG	**Delisi**	**3.17 18**	*e*Pn	**Pn**	**15 21 43.7**	**+2.9**
EZC	**Erzincan**	**3.32 289**	*e*Pn	**Pn**	**15 21 40.0**	**-3.0**
KELT	**Kelkit**	**3.52 295**	*i* P	**Sg**	**15 22 45.3**	**+0.6**
KEMA	**Kemaliye**	**3.88 280**	*i* P	**Pn**	**15 21 51.2**	**+0.6**
KEMA	**Kemaliye**	**3.88 280**	P	**Pn**	**15 21 51.2**	**+0.6**
VYHS	**Vyhne**	**20.22 307**	*e*P	Pn	15 25 30.2	+2.5

IDC 23 15:24:18.0±37.0, 6°.60N×121°.98E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.3/57, mbtmp3.9/3, MS3.8/2, Ms1 3.8/2, ms1mx3.1/58, Error ellipse: s-maj=626.2km s-min=301.9km az=152.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**23.57**	**71**	LR	LR	15 38 51.1	
	comp=Z,126nm,20.9s,baz=80,slow=37						
WRA	**Warramunga Arr**	**29.05**	**155**	P	P	15 30 20.2	+0.1
	0.8nm,0.4s,baz=336,slow=9.6,SNR=18						
PMG	**Port Moresby**	**29.71**	**122**	LR	LR	15 43 44.6	
	comp=Z,350nm,20.5s,baz=189,slow=39						
ASAR	**Alice Springs**	**32.26**	**159**	P	P	15 30 48.5	0.0
	0.3nm,0.4s,baz=333,slow=7.9,SNR=20						
STKA	**Stephens Creek**	**42.60**	**155**	P	P	15 32 15.8	-0.3
	1.8nm,0.6s,baz=326,slow=7.3,SNR=3.3						

*IDC **23** 15:24:28.8±0.5, 38°.53N×43°.15E, h0km, mb4.4/29, mb1 4.4/38, mb1mx4.4/53, mbtmp4.4/38, ML3.8/7, MS4.2/16, Ms1 4.2/16, ms1mx3.8/60, Error ellipse: s-maj=10.8km s-min=8.1km az=166.0*

*BJI **23** 15:24:28.8, 38°.50N×43°.30E, h10km, mb4.8/49, mB5.0/33, Ms4.5/19, Ms7 4.2/16*

*ISCJB **23** 15:24:29.8±0.5, 38°.57N±0°.02×43°.29E±0°.01, h12km±3km, mb4.7/133, MS4.3/16, Error ellipse: s-maj=2.8km s-min=1.7km az=177.0*

*AZER **23** 15:24:30.0±0.1, 38°.49N×43°.25E, h14km±3km, Error ellipse: s-maj=3.9km s-min=1.0km az=61.0*

*DDA **23** 15:24:29.8, 38°.59N×43°.15E, h22km, Ml4.7*

*ISK **23** 15:24:30.4, 38°.70N×43°.11E, h4km, ML4.4*

*CSEM **23** 15:24:30.3±0.1, 38°.49N×43°.30E, h10km, mb4.7/54, Ms4.1, Error ellipse: s-maj=3.9km s-min=2.2km az=172.0*

*MOS **23** 15:24:30.1±1.2, 38°.47N×43°.25E, h17km, mb4.9/54, Error ellipse: s-maj=5.2km s-min=3.5km az=110.7*

*NEIC **23** 15:24:31.0±0.6, 38°.49N×43°.26E, h16km±3km, mb4.8/54, ML4.7(DDA), Error ellipse: s-maj=4.8km s-min=3.5km az=176.0*

*DSN **23** 15:24:31.3±0.9, 38°.45N×43°.20E, h15km, mb4.9/1, Ms4.1/7, Error ellipse: s-maj=21.6km s-min=6.8km az=71.0*

*TEH **23** 15:24:34.1, 38°.71N×43°.40E, h10km, ML4.3*

ISC 23 15:24:31.4±0.6, 38°.58N±0°.01×43°.18E±0°.02, h17km±3km, n631, σ1§51/731, mb4.8/133, MS4.2/16, 64C-73D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.18 105**		‖*i*P	**Pb**	**15 24 36.5**	**0.0**
TVAN				*i* S	**Sb**	**15 24 40.7**	**+0.7**
TVAN	**Van**	**0.18 105**		*i* P	**Pb**	**15 24 36.5**	**0.0**
TVAN				*i* S	**Sb**	**15 24 40.7**	**+0.7**
GEVA	**Gevas**	**0.28 200**		‖*i*P	**Pg**	**15 24 35.7**	**-1.9**
GEVA				*i* S	**Sg**	**15 24 42.1**	**+0.2**
GEVA	**Gevas**	**0.28 200**		P	**Pg**	**15 24 35.7**	**-1.9**
GEVA				S	**Sg**	**15 24 42.1**	**+0.2**
GEVA	**Gevas**	**0.28 200**		*i* P	**Pg**	**15 24 35.7**	**-1.9**
GEVA				*i* S	**Sg**	**15 24 42.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.51**	**37**	⇑*i*P	**Pg**	**15 24 39.8**	**-1.9**
VMUR				*i* S	**Sg**	**15 24 48.9**	**+0.2**
VMUR	**Van-Muradiye**	**0.51**	**37**	*i* P	**Pg**	**15 24 39.9**	**-1.9**
VMUR				S	**Sg**	**15 24 48.9**	**+0.2**
VMUR	**Van-Muradiye**	**0.51**	**37**	*i* P	**Pg**	**15 24 39.9**	**-1.9**
BASK	**Baskale_VAN**	**0.83 129**		*i* P	**Pb**	**15 24 45.6**	**-2.1**
BASK				*i* S	**Sb**	**15 24 57.6**	**-1.1**
TUTA	**Tutak**	**0.87 341**		‖*i*P	**Pb**	**15 24 45.5**	**-2.8**
TUTA				*i* S	**Sb**	**15 24 57.9**	**-1.9**
AGRB	**Hanur-Agry**	**1.01 352**		PG	**Pb**	**15 24 47.9**	**-2.7**
AGRB				*e*SG	**Sb**	**15 25 00.1**	**-3.6**
AGRB	**Hanur-Agry**	**1.01 352**		*i* Pg	**Pb**	**15 24 47.9**	**-2.7**
HAKT	**HAKKARI**	**1.10 158**		‖*i*P	**Pb**	**15 24 50.1**	**-2.1**
HAKT				*i* S	**Sn**	**15 25 09.4**	**+2.1**
HAKT	**HAKKARI**	**1.10 158**		P	**Pb**	**15 24 50.1**	**-2.1**
EKAR	**Karacoban**	**1.10 308**		‖*i*P	**Pb**	**15 24 50.1**	**-2.1**
EKAR				*i* S	**Sg**	**15 25 13.7**	**+6.4**
SIRN	**S¨–rnak**	**1.24 209**		‖*i*P	**Pn**	**15 24 53.1**	**-1.0**
SIRN				*i* S	**Sg**	**15 25 13.3**	**+1.8**
SIRN	**S¨–rnak**	**1.24 209**		P	**Pn**	**15 24 53.1**	**-1.0**
CUKT	**Cukurca**	**1.37 166**		*e*PN	**Pg**	**15 24 57.9**	**0.0**
CUKT				*e*SN	**Sg**	**15 25 20.0**	**+4.2**
CUKT	**Cukurca**	**1.37 166**		‖*i*P	**Pb**	**15 24 56.9**	**+0.2**
CUKT				*i* S	**Sg**	**15 25 21.3**	**+5.6**
EATA	**Eleskirt**	**1.39 338**		‖*i*P	**Pn**	**15 24 54.9**	**-1.5**
EATA				*i* S	**Sb**	**15 25 15.7**	**+0.9**
VRTB	**Varto-Mus**	**1.47 294**		*e*PN	**Pn**	**15 24 56.7**	**-0.6**
VRTB	**Varto-Mus**	**1.47 294**		‖*i*P	**Pn**	**15 24 56.1**	**-1.2**
VRTB				*i* S	**Sg**	**15 25 18.9**	**+0.1**
VRTB	**Varto-Mus**	**1.47 294**		*e*Pn	**Pn**	**15 24 56.7**	**-0.6**
VRTB				S	**Sg**	**15 25 18.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.61 255**		*e*PN	**Pn**	**15 24 59.8**	**+0.6**
SVAN				*e*SN	**Sb**	**15 25 21.8**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.61 255**		⇑*i*P	**Pn**	**15 24 59.4**	**+0.2**
SVAN				*i* S	**Sg**	**15 25 22.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.61 255**		P	**Pn**	**15 24 59.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.61 255**		*e*Pn	**Pn**	**15 24 59.8**	**+0.6**
SVAN				*e*Sn	**Sb**	**15 25 21.8**	**+0.9**
SVAN				S	**Sg**	**15 25 22.9**	**-0.6**
BNGL	**BINGOL**	**1.63 284**		*i* P	**Pn**	**15 24 59.6**	**0.0**
BNGL				*i* S	**Sb**	**15 25 22.7**	**+1.1**
BNGL	**BINGOL**	**1.63 284**		*i* P	**Pn**	**15 24 59.4**	**-0.2**
BTMN	**Batman**	**1.65 246**		⇑*i*P	**Pn**	**15 25 00.2**	**+0.4**
BTMN				*i* S	**Sg**	**15 25 24.5**	**-0.2**
BTMN	**Batman**	**1.65 246**		P	**Pn**	**15 25 00.2**	**+0.4**
BTMN				S	**Sg**	**15 25 24.5**	**-0.2**
HOMI	**Horasan**	**1.77 326**		‖*i*P	**Pn**	**15 25 01.7**	**+0.2**
HOMI				*i* S	**Sg**	**15 25 27.9**	**-0.6**
DIGO	**Kars**	**1.84**	**5**	*i* P	**Pn**	**15 25 03.3**	**+0.7**
DIGO				*i* S	**Sg**	**15 25 30.9**	**+0.1**
DIGO	**Kars**	**1.84**	**5**	P	**Pn**	**15 25 03.3**	**+0.7**
DIGO				S	**Sg**	**15 25 30.9**	**+0.1**
NAX	**Nakhchivan**	**1.90**	**71**	‖P	**Pn**	**15 25 01.7**	**-1.5**
NAX				‖S	**Sn**	**15 25 26.0**	**-0.9**
NAX	**Nakhchivan**	**1.90**	**71**	P	**Pn**	**15 25 01.7**	**-1.5**
NAX				S	**Sn**	**15 25 26.0**	**-0.9**
ERZM	**Erzurum**	**1.93 314**		‖*i*P	**Pn**	**15 25 04.4**	**+0.6**
ERZM				*i* S	**Sg**	**15 25 34.5**	**+0.7**
ERZM	**Erzurum**	**1.93 314**		P	**Pn**	**15 25 04.4**	**+0.6**
ERZM				S	**Sg**	**15 25 34.5**	**+0.7**
ISHB	**Shabestar**	**1.94**	**98**	*e*AMB	AMB	15 25 11.7	
	comp=Z,22μm,0.2s						
ISHB				*e*Pn	**Pn**	**15 25 04.8**	**+0.9**
IMRD	**Marand**	**1.98**	**85**	*e*AMB	AMB	15 25 15.1	
	comp=Z,52μm,0.2s						
IMRD				*e*Pn	**Pn**	**15 25 05.1**	**+0.7**
GNI	**Garni**	**1.98**	**37**	Pn	**Pn**	**15 25 05.1**	**+0.7**
	comp=Z,41nm,0.3s,baz=276,slow=1.2,SNR=24						
GNI				Sn	**Sg**	**15 25 34.8**	**-0.5**
	comp=Z,93nm,0.3s,baz=326,slow=14,SNR=5.8						
GNI				LR	LR	15 26 09.5	
	comp=Z,2μm,21.9s,baz=128,slow=50						
GNI	**Garni**	**1.98**	**37**	P	**Pn**	**15 25 05.1**	**+0.7**
BNGB	**Bing¶‖**	**2.00 283**		*e*PN	**Pn**	**15 25 04.9**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.00 302**		‖*i*P	**Pn**	**15 25 04.9**	**+0.2**
ECAT				*i* S	**Sg**	**15 25 34.5**	**-1.3**
ECAT	**Cat-ERZURUM**	**2.00 302**		P	**Pn**	**15 25 04.9**	**+0.2**
ECAT				S	**Sg**	**15 25 34.5**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.08 342**		*e*PN	**Pn**	**15 25 05.6**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.08 342**		*e*Pn	**Pn**	**15 25 05.6**	**-0.2**
BINT	**Bingol**	**2.12 279**		*e*Pn	**Pn**	**15 25 04.9**	**-1.4**
EAK	**Akyaka**	**2.13**	**9**	*i* P	**Pb**	**15 25 08.3**	**-1.5**
EAK				*i* S	**Sg**	**15 25 42.7**	**+2.6**
EAK	**Akyaka**	**2.13**	**9**	P	**Pb**	**15 25 08.3**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.23 294**		*e*PN	**Pn**	**15 25 08.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.23 294**		*e*Pn	**Pn**	**15 25 08.1**	**+0.4**
MARD	**Mardin**	**2.28 237**		*i* P	**Pn**	**15 25 08.7**	**+0.3**
MARD				*i* S	**Sb**	**15 25 39.5**	**-0.2**
MARD				*i* S	**Sg**	**15 25 42.8**	**-2.0**
MARD	**Mardin**	**2.28 237**		*e*Pn	**Pn**	**15 25 08.9**	**+0.5**
MARD	**Mardin**	**2.28 237**		*e*Pn	**Pn**	**15 25 08.9**	**+0.5**
ITBZ	**Tabriz**	**2.36**	**97**	*e*Pn	**Pn**	**15 25 10.5**	**+0.9**
ITBZ				*e*AMB	AMB	15 26 23.1	
	comp=Z,10μm,0.6s						
ITBZ	**Tabriz**	**2.36**	**97**	*e*Pn	**Pn**	**15 25 10.5**	**+0.9**
MAZI	**Mazidag**	**2.43 243**		*e*PN	**Pn**	**15 25 12.2**	**+1.7**
MAZI	**Mazidag**	**2.43 243**		*e*Pn	**Pn**	**15 25 12.2**	**+1.7**
DIYA	**Diyarbakir**	**2.49 256**		*i* P	**Pn**	**15 25 12.0**	**+0.6**
DIYA				*i* S	**Sb**	**15 25 48.5**	**+2.2**
DIYA	**Diyarbakir**	**2.49 256**		P	**Pn**	**15 25 12.0**	**+0.6**
KOPT	**Kop Dagi**	**2.53 306**		*i* P	**Pn**	**15 25 13.4**	**+1.4**
KOPT				*i* S	**Sg**	**15 25 54.6**	**+1.8**
KOPT	**Kop Dagi**	**2.53 306**		P	**Pn**	**15 25 13.4**	**+1.4**
KOPT	**Kop Dagi**	**2.53 306**		*e*Pn	**Pb**	**15 25 15.7**	**-0.9**
KOPT	**Kop Dagi**	**2.53 306**		*e*Pn	**Pb**	**15 25 15.7**	**-0.9**
DDEM	**Demirkent**	**2.56 335**		*i* P	**Pn**	**15 25 12.6**	**+0.3**
DDEM				*i* S	**Sg**	**15 25 54.1**	**+0.3**
DDEM	**Demirkent**	**2.56 335**		P	**Pn**	**15 25 12.6**	**+0.3**
DAGI	**Agillar**	**2.68 339**		*i* P	**Pn**	**15 25 13.8**	**-0.2**
DAGI				*i* S	**Sb**	**15 25 53.2**	**+1.4**
ARTV	**Artvin**	**2.78 340**		*i* P	**Pn**	**15 25 16.0**	**+0.6**
ARTV				*i* S	**Sg**	**15 26 00.8**	**+0.1**
ARTV	**Artvin**	**2.78 340**		*e*Pn	**Pn**	**15 25 15.7**	**+0.3**
ARTV	**Artvin**	**2.78 340**		P	**Pn**	**15 25 16.0**	**+0.6**
ARTV	**Artvin**	**2.78 340**		*e*Pn	**Pn**	**15 25 15.7**	**+0.3**
AKH	**Akhalkalaki**	**2.84**	**5**	*e*PN	**Pn**	**15 25 16.8**	**+0.6**
AKH	**Akhalkalaki**	**2.84**	**5**	P	**Pb**	**15 25 21.7**	**-0.2**
AKH	**Akhalkalaki**	**2.84**	**5**	‖*i*P	**Pn**	**15 25 18.3**	**+2.1**
AKH	**Akhalkalaki**	**2.84**	**5**	P	**Pb**	**15 25 21.6**	**-0.2**
AKH	**Akhalkalaki**	**2.84**	**5**	*e*Pn	**Pn**	**15 25 16.8**	**+0.6**
AKH	**Akhalkalaki**	**2.84**	**5**	‖*i*P	**Pn**	**15 25 18.3**	**+2.1**
ERZN	**Erzincan**	**2.87 292**		*e*PN	**Pn**	**15 25 17.8**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.89 282**		*i* P	**Pb**	**15 25 20.9**	**-1.7**
TNCL				*i* S	**Sb**	**15 25 59.2**	**+1.5**
TNCL	**Tunceli-Merkez**	**2.89 282**		P	**Pb**	**15 25 20.9**	**-1.7**
GDB	**GEDABAY**	**2.92**	**42**	⇑P	**Pn**	**15 25 16.7**	**-0.6**
GDB				‖S	**Sn**	**15 25 52.9**	**+0.7**
GDB	**GEDABAY**	**2.92**	**42**	P	**Pn**	**15 25 16.7**	**-0.6**
GDB				S	**Sn**	**15 25 52.9**	**+0.7**
EUZM	**Uzumlu**	**2.93 294**		*i* P	**Pb**	**15 25 22.3**	**-1.0**
EUZM				*i* S	**Sg**	**15 26 10.2**	**+4.6**
PTK	**Pertek**	**2.98 277**		*e*PN	**Pn**	**15 25 18.8**	**+0.7**
PTK	**Pertek**	**2.98 277**		*e*Pn	**Pn**	**15 25 18.8**	**+0.7**
QZX	**Qazax, Azerbai**	**3.00**	**34**	⇑P	**Pn**	**15 25 17.6**	**-0.6**
QZX				‖S	**Sn**	**15 25 54.8**	**+1.0**
QZX	**Qazax, Azerbai**	**3.00**	**34**	P	**Pn**	**15 25 17.6**	**-0.6**
QZX				S	**Sn**	**15 25 54.8**	**+1.0**
IHRS	**Heris**	**3.04**	**94**	*e*Pn	**Pn**	**15 25 20.6**	**+1.5**
IHRS				*e*AMB	AMB	15 25 31.0	
	comp=Z,17μm,0.5s						
IHRS	**Heris**	**3.04**	**94**	*e*Pn	**Pn**	**15 25 20.6**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.04 267**		*e*PN	**Pn**	**15 25 20.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.04 267**		*e*Pn	**Pn**	**15 25 20.1**	**+1.1**
IBST	**Bostanabad**	**3.06 105**		*e*AMB	AMB	15 25 39.5	
	comp=Z,4μm,0.4s						
GANJ	**Ganja**	**3.19**	**49**	⇑P	**Pn**	**15 25 20.1**	**-0.8**
GANJ				⇑S	**Sn**	**15 25 59.0**	**+0.5**
GANJ	**Ganja**	**3.19**	**49**	P	**Pn**	**15 25 20.1**	**-0.8**
GANJ				S	**Sn**	**15 25 59.0**	**+0.5**
TBLG	**Delisi**	**3.37**	**20**	*e*PN	**Pn**	**15 25 23.9**	**+0.6**
TBLG	**Delisi**	**3.37**	**20**	P	**Pb**	**15 25 32.5**	**+1.7**
TBLG	**Delisi**	**3.37**	**20**	P	**Pb**	**15 25 32.4**	**+1.7**
TBLG	**Delisi**	**3.37**	**20**	*e*Pn	**Pn**	**15 25 23.9**	**+0.6**
SEAG	**Tbilisi Sea**	**3.42**	**21**	P	**Pb**	**15 25 30.5**	**-1.1**
BRDA	**Brd**	**3.53**	**60**	⇑P	**Pn**	**15 25 24.3**	**-1.2**
BRDA				‖S	**Sn**	**15 26 06.5**	**-0.2**
BRDA	**Brd**	**3.53**	**60**	P	**Pn**	**15 25 24.3**	**-1.2**
BRDA				S	**Sn**	**15 26 06.5**	**-0.2**
ISRB	**Sarab**	**3.62 101**		*e*Pn	**Pn**	**15 25 28.7**	**+1.8**
ISRB				*e*AMB	AMB	15 25 45.4	
	comp=Z,4μm,0.4s						
ISRB	**Sarab**	**3.62 101**		*e*Pn	**Pn**	**15 25 28.7**	**+1.8**
MNGR	**Mingechevir, A**	**3.73**	**53**	‖P	**Pn**	**15 25 27.3**	**-0.9**
MNGR				⇑S	**Sn**	**15 26 12.0**	**+0.3**
MNGR	**Mingechevir, A**	**3.73**	**53**	P	**Pn**	**15 25 27.3**	**-0.9**
MNGR				S	**Sn**	**15 26 12.0**	**+0.3**
ZRD	**Zardab**	**3.88**	**63**	‖P	**Pn**	**15 25 29.1**	**-1.2**
ZRD				‖S	**Sn**	**15 26 15.3**	**-0.2**
ZRD	**Zardab**	**3.88**	**63**	P	**Pn**	**15 25 29.1**	**-1.2**
ZRD				S	**Sn**	**15 26 15.3**	**-0.2**
GUDG	**Gudauri**	**4.01**	**14**	P	**Pn**	**15 25 29.7**	**-2.6**
ONI	**Oni**	**4.01**	**3**	P	**Pb**	**15 25 44.2**	**+2.4**
ONI	**Oni**	**4.01**	**3**	P	**Pb**	**15 25 44.1**	**+2.4**
ZKTA	**Zakatala**	**4.04**	**40**	⇑P	**Pn**	**15 25 32.0**	**-0.6**
ZKTA				⇑S	**Sn**	**15 26 20.4**	**+0.9**
LRK	**Lerik**	**4.04**	**87**	‖P	**Pn**	**15 25 30.6**	**-2.1**
LRK				‖S	**Sn**	**15 26 18.1**	**-1.7**
LRK	**Lerik**	**4.04**	**87**	P	**Pn**	**15 25 30.6**	**-2.1**
LRK				S	**Sn**	**15 26 18.1**	**-1.7**
SEKA	**Sheki**	**4.06**	**48**	⇑P	**Pn**	**15 25 32.7**	**-0.1**
SEKA				⇑S	**Sn**	**15 26 21.8**	**+1.8**
SEKA	**Sheki**	**4.06**	**48**	P	**Pn**	**15 25 32.7**	**-0.1**
SEKA				S	**Sn**	**15 26 21.8**	**+1.8**
GLBA	**Clilabad**	**4.12**	**79**	⇑P	**Pn**	**15 25 31.9**	**-1.7**
GLBA				⇑S	**Sn**	**15 26 20.4**	**-1.1**
GLBA	**Clilabad**	**4.12**	**79**	P	**Pn**	**15 25 31.9**	**-1.7**
GLBA				S	**Sn**	**15 26 20.4**	**-1.1**
ZEI	**Tsey**	**4.24**	**7**	*e*P	**Pn**	**15 25 37.8**	**+2.3**
ZEI				pmax	pmax		
	comp=Z,70nm,1.0s						
KDMR	**Kurdemir**	**4.27**	**64**	⇑P	**Pn**	**15 25 34.4**	**-1.3**
KDMR				‖S	**Sn**	**15 26 24.7**	**-0.4**
KDMR	**Kurdemir**	**4.27**	**64**	P	**Pn**	**15 25 34.4**	**-1.3**
KDMR				S	**Sn**	**15 26 24.7**	**-0.4**
SAAT	**Saatly**	**4.27**	**71**	‖P	**Pn**	**15 25 33.8**	**-1.9**
SAAT				‖S	**Sn**	**15 26 23.7**	**-1.4**
SAAT	**Saatly**	**4.27**	**71**	P	**Pn**	**15 25 33.8**	**-1.9**
SAAT				S	**Sn**	**15 26 23.7**	**-1.4**
QBL	**Gabala**	**4.30**	**55**	⇑P	**Pn**	**15 25 35.0**	**-1.1**
QBL				‖S	**Sn**	**15 26 26.0**	**+0.1**
QBL	**Gabala**	**4.30**	**55**	P	**Pn**	**15 25 35.0**	**-1.1**
QBL				S	**Sn**	**15 26 26.0**	**+0.1**
LKRN	**Lenkeran, Azer**	**4.39**	**87**	⇑P	**Pn**	**15 25 35.3**	**-2.0**
LKRN				‖S	**Sn**	**15 26 26.6**	**-1.4**
LKRN	**Lenkeran, Azer**	**4.39**	**87**	P	**Pn**	**15 25 35.3**	**-2.0**
LKRN				S	**Sn**	**15 26 26.6**	**-1.4**
ASTR	**Astara**	**4.40**	**88**	‖P	**Pn**	**15 25 35.5**	**-2.0**
ASTR				‖S	**Sn**	**15 26 26.8**	**-1.5**
ASTR	**Astara**	**4.40**	**88**	P	**Pn**	**15 25 35.5**	**-2.0**
ASTR				S	**Sn**	**15 26 26.8**	**-1.5**
IML	**Ismayilli**	**4.45**	**59**	‖P	**Pn**	**15 25 37.0**	**-1.2**
IML				‖S	**Sn**	**15 26 29.4**	**-0.3**
IML	**Ismayilli**	**4.45**	**59**	P	**Pn**	**15 25 37.0**	**-1.2**
IML				S	**Sn**	**15 26 29.4**	**-0.3**
XNQ	**Khinaliq**	**4.61**	**54**	‖P	**Pn**	**15 25 39.4**	**-1.2**
XNQ				⇑S	**Sn**	**15 26 33.9**	**0.0**
XNQ	**Khinaliq**	**4.61**	**54**	P	**Pn**	**15 25 39.4**	**-1.2**
XNQ				S	**Sn**	**15 26 33.9**	**0.0**
IDHR	**Dehrash**	**4.65 145**		*e*Pn	**Pn**	**15 25 44.1**	**+3.0**
IDHR				*e*AMB	AMB	15 27 10.2	
	comp=Z,10μm,0.7s						
NEY	**Neytrino**	**4.68 356**		‖*e*P	**Pn**	**15 25 44.4**	**+2.9**
NEY	**Neytrino**	**4.68 356**		*e*P	**Pn**	**15 25 44.4**	**+2.9**
PQL	**Pirkuli**	**4.72**	**60**	⇑P	**Pn**	**15 25 40.7**	**-1.4**
PQL				‖S	**Sn**	**15 26 36.1**	**-0.5**
PQL	**Pirkuli**	**4.72**	**60**	P	**Pn**	**15 25 40.7**	**-1.4**
PQL				S	**Sn**	**15 26 36.1**	**-0.5**
ALIB	**Äli-Bayra**	**4.73**	**71**	⇑P	**Pn**	**15 25 40.4**	**-1.6**
ALIB				‖S	**Sn**	**15 26 35.7**	**-0.7**
ALIB	**Äli-Bayra**	**4.73**	**71**	P	**Pn**	**15 25 40.4**	**-1.6**
ALIB				S	**Sn**	**15 26 35.7**	**-0.7**
ILIN	**Lien**	**4.75 139**		*e*Pn	**Pn**	**15 25 45.3**	**+2.8**
ILIN				*e*AMB	AMB	15 27 25.8	
	comp=Z,4μm,0.6s						
GBS	**Qobustan**	**4.87**	**64**	‖P	**Pn**	**15 25 42.5**	**-1.4**
GBS				‖S	**Sn**	**15 26 39.3**	**-0.6**
GBS	**Qobustan**	**4.87**	**64**	P	**Pn**	**15 25 42.5**	**-1.4**
GBS				S	**Sn**	**15 26 39.3**	**-0.6**
QSAR	**Qusar**	**4.88**	**51**	‖P	**Pn**	**15 25 43.1**	**-1.0**
QSAR				‖S	**Sn**	**15 26 40.4**	**+0.1**
QSAR	**Qusar**	**4.88**	**51**	P	**Pn**	**15 25 43.1**	**-1.0**
QSAR				S	**Sn**	**15 26 40.4**	**+0.1**
NCK	**Nalchik**	**4.92**	**4**	⇑*e*P	**Pn**	**15 25 48.4**	**+3.7**
NCK	**Nalchik**	**4.92**	**4**	*e*P	**Pn**	**15 25 48.4**	**+3.7**
QUBA	**Quba, Azerbaij**	**4.94**	**54**	⇑P	**Pn**	**15 25 43.8**	**-1.1**
QUBA				‖S	**Sn**	**15 26 41.7**	**+0.1**
QUBA	**Quba, Azerbaij**	**4.94**	**54**	P	**Pn**	**15 25 43.8**	**-1.1**
QUBA				S	**Sn**	**15 26 41.7**	**+0.1**
ATGJ	**Altiaghaj**	**4.99**	**61**	⇑P	**Pn**	**15 25 44.4**	**-1.3**
ATGJ				⇑S	**Sn**	**15 26 42.7**	**-0.4**
ATGJ	**Altiaghaj**	**4.99**	**61**	P	**Pn**	**15 25 44.4**	**-1.3**
ATGJ				S	**Sn**	**15 26 42.7**	**-0.4**
IVIS	**Veis**	**5.01 143**		*e*Pn	**Pn**	**15 25 48.6**	**+2.7**
IVIS				*e*AMB	AMB	15 27 29.5	
	comp=Z,4μm,0.8s						
GROC	**Groznyy**	**5.03**	**22**	P	**Pn**	**15 25 46.8**	**+0.7**
GROC				pmax	pmax		
	comp=Z,18nm,0.3s						
GROC	**Groznyy**	**5.03**	**22**	P	**Pn**	**15 25 46.8**	**+0.7**
	comp=Z,18nm,0.3s						
IGHG	**Ghaleghazi**	**5.04 146**		*e*Pn	**Pn**	**15 25 49.7**	**+3.1**
IGHG				*e*AMB	AMB	15 28 01.3	
	comp=Z,11μm,0.7s						
SIZA	**Siyzn**	**5.06**	**59**	⇑P	**Pn**	**15 25 45.4**	**-1.3**
SIZA				⇑S	**Sn**	**15 26 44.7**	**-0.1**
SIZA	**Siyzn**	**5.06**	**59**	P	**Pn**	**15 25 45.4**	**-1.3**
SIZA				S	**Sn**	**15 26 44.7**	**-0.1**
KBZ	**Khabaz**	**5.15 358

VTS Vitosha 15.69 291 *e*Pn **Pn 15 28 13.4 +1.6**
comp=Z,37nm,1.4s
VTS Vitosha 15.69 291⇑*i*P **P 15 28 16.8 +1.0**
VTS Vitosha 15.69 291 *e*Pn **Pn 15 28 13.4 +1.6**
comp=Z,37nm,1.4s
AKTO Aktyubinsk 15.86 37 Pn **Pn 15 28 12.0 -1.8**
comp=Z,1.0nm,0.3s,baz=229,slow=13,SNR=17
AKTO Aktyubinsk 15.86 37 P **Pn 15 28 11.3 -2.5**
AKTO pmax pmax
comp=Z,31nm,1.1s
AKTO Aktyubinsk 15.86 37 Pn **Pn 15 28 12.0 -1.8**
BURAR Bucovina Array 15.90 310⇑*i*P **P 15 28 20.4 +2.4**
BURAR Bucovina Array 15.90 310⇑*i*P **P 15 28 20.4 +2.4**
BUR08 Bucovina Ar. S 15.92 310 *e*Pn **Pn 15 28 16.5 +1.7**
BUR08 Bucovina Ar. S 15.92 310 *e*Pn **Pn 15 28 16.5 +1.7**
LOT Lotru 15.96 302⇑*i*P **P 15 28 21.6 +2.9**
LOT Lotru 15.96 302⇑*i*P **P 15 28 21.6 +2.9**
AB31 Akbulak array 16.08 43 *i* P **Pn 15 28 13.8 -2.9**
AB31 pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 16.08 43 *e*Pn **Pn 15 28 14.0 -2.7**
comp=Z,89nm,1.0s
ABKAR Akbulak array 16.08 43 *e*Pn **Pn 15 28 14.0 -2.7**
comp=Z,89nm,1.0s
BARS Barje 16.74 291 *e*P **P 15 28 29.5 +2.2**
BANOM Banah 16.78 135 *i* P **Pn 15 28 24.3 -1.5**
SNR=7.1
DRGR 17.11 305⇓*i*P **P 15 28 33.5 +2.1**
DRGR 17.11 305 P **P 15 28 33.5 +2.1**
DRGR 17.11 305⇓*i*P **P 15 28 33.5 +2.1**
OBN Obninsk 17.14 347 P **Pn 15 28 29.5 -0.4**
comp=Z,3.2nm,0.3s,baz=178,slow=9.2,SNR=5.2
OBN LR LR 15 35 38.6
comp=Z,1μm,18.3s,baz=151,slow=39
OBN Obninsk 17.14 347⇓*i*P **P 15 28 31.4 -0.1**
OBN pmax pmax
comp=Z,37nm,1.1s
OBN MLR MLR
comp=Z,909nm,17.0s
OBN Obninsk 17.14 347 Pn **Pn 15 28 30.4 +0.5**
comp=Z,74nm,1.3s
OBN Obninsk 17.14 347 Pn **Pn 15 28 30.4 +0.5**
comp=Z,74nm,1.3s
MDVR Moldovita 17.17 298⇓*i*P **P 15 28 34.4 +2.3**
MDVR Moldovita 17.17 298⇓*i*P **P 15 28 34.4 +2.3**
NAZ Nazwa, Dubai 17.18 138 P **Pn 15 28 31.2 +0.4**
SELS Selova 17.30 293 *e*P **P 15 28 33.9 +0.4**
FAQ Al Faqa, Dubai 17.35 139 P **Pn 15 28 32.6 -0.2**
BZS Buzias 17.45 301⇑*i*P **P 15 28 37.6 +2.5**
BZS Buzias 17.45 301⇑P **P 15 28 37.6 +2.5**
BZS Buzias 17.45 301⇑*i*P **P 15 28 37.6 +2.5**
UOSS Minazif 17.50 137 *e*Pn **Pn 15 28 30.3 -4.5**
comp=Z,53nm,1.2s
UOSS Minazif 17.50 137 *e*Pn **Pn 15 28 30.3 -4.5**
comp=Z,53nm,1.2s
HATD Hatta, Dubai 17.56 138 P **Pn 15 28 34.3 -1.2**
HATD Hatta, Dubai 17.56 138 Pn **P 15 28 36.1 -0.4**
SNR=5.6
HATD Hatta, Dubai 17.56 138 Pn **P 15 28 36.1 -0.4**
SNR=5.6
HATD Hatta, Dubai 17.56 138 Pn **P 15 28 36.1 -0.4**
SNR=5.6
HATD Hatta, Dubai 17.56 138 P **P 15 28 36.1 -0.4**
SNR=5.6
MOS Moscow 17.57 350 *e*P **P 15 28 36.1 -0.2**
MOS pmax pmax
comp=Z,50nm,1.1s
SIRR Siria 17.61 303⇑*i*P **P 15 28 38.7 +1.7**
SIRR Siria 17.61 303⇑*i*P **P 15 28 38.7 +1.7**
ASHO Ashiyiah 17.64 138 *i* P **Pn 15 28 35.4 -1.1**
SNR=9.8
ASHO Ashiyiah 17.64 138 P **Pn 15 28 35.3 -1.1**
SNR=9.8
ASHO Ashiyiah 17.64 138 P **Pn 15 28 35.3 -1.1**
SNR=9.8
ASHO Ashiyiah 17.64 138 Pn **Pn 15 28 35.3 -1.1**
SNR=9.8
ASHO Ashiyiah 17.64 138 P **Pn 15 28 35.3 -1.1**
SNR=9.8
LVV L'vov 17.69 316 *e*P **P 15 28 41.0 +3.3**
GRUS Gruza 17.69 295 *e*P **P 15 28 39.9 +2.1**
TRPA Tarpa 17.74 309 *e*Pn **P 15 28 38.3 0.0**
TRUS Trudelj 17.97 296 *e*P **P 15 28 42.7 +1.8**
UZH Uzhgorod 18.11 310*d i*P **P 15 28 43.0 +0.7**
UZH *e*S **Sn 15 32 02.0 -1.6**
DIVS Divibare 18.24 295 *e*P **P 15 28 44.4 +0.5**
KWP Kalwaria Pacla 18.33 314 *e*P **P 15 28 45.9 +1.1**
KWP Kalwaria Pacla 18.33 314 *e*P **P 15 28 45.9 +1.1**
KWP Kalwaria Pacla 18.33 314 *e*P **P 15 28 45.9 +1.1**
FGSL Fruska Gora 18.57 298 *e*P **Pn 15 28 48.5 +0.7**
PDG Podgorica 18.58 290⇓*i*P **Pn 15 28 49.0 +1.2**
PDG Podgorica 18.58 290⇓*i*P **Pn 15 28 49.0 +1.2**
BBLS Lazići 18.62 294 *e*P **Pn 15 28 51.3 +2.8**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn 15 28 50.9 +1.4**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn 15 28 50.9 +1.4**
MICGM Minsk 19.02 332 *e* **Pn 15 28 53.0 -0.1**
MNK Minsk 19.02 332 *e*P **Pn 15 28 53.0 -0.1**
STHS Stebnicka Huta 19.07 312 *e*P **Pn 15 28 55.6 +1.8**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 19.07 312 *e*P **Pn 15 28 55.6 +1.8**
PSZ Piszkesteto 19.30 306 *e*P **Pn 15 28 56.9 +0.3**
PSZ pmax pmax
comp=Z,84nm,1.6s
PSZ Piszkesteto 19.30 306⇓*e*P **Pn 15 28 57.8 +1.2**
PSZ Piszkesteto 19.30 306⇓*e*P **Pn 15 28 57.8 +1.2**
PSZ Piszkesteto 19.30 306 *e*P **Pn 15 28 56.9 +0.3**
comp=Z,84nm,1.6s
NIE Niedzica 19.63 311 *e*P **Pn 15 29 02.0 +1.5**
NIE Niedzica 19.63 311 *e*P **Pn 15 29 02.0 +1.5**
BUD Budapest 19.71 305 P **Pn 15 29 02.0 +0.6**
BUD pmax pmax
comp=Z,26nm,0.8s
BUD Budapest 19.71 305 *e*P **Pn 15 29 01.3 -0.1**
NACGM Naroch 19.74 331 *e* **P 15 29 01.0 +0.8**
VYHS Vyhne 20.16 307 *e*P Pn 15 29 06.5 -0.3
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 20.16 307 *e*P Pn 15 29 06.5 -0.3
CSKK Cs˙ţkako 20.17 304 *e*P Pn 15 29 07.1 +0.2
WSAR Wadi Sarin 20.19 135 P **P 15 29 05.9 +0.6**
comp=Z,8.6nm,0.5s,baz=344,slow=7.7,SNR=12
WSAR LR LR 15 38 32.1
comp=Z,450nm,20.4s,baz=306,slow=42
OJC Ojcow 20.27 313 *e*P **P 15 29 07.0 +1.0**
OJC pmax pmax
comp=Z,61nm,1.9s
OJC Ojcow 20.27 313 *e*P **P 15 29 06.9 +1.0**
comp=Z,61nm,1.9s
OJC Ojcow 20.27 313 *e*P **P 15 29 07.0 +1.0**
comp=Z,61nm,1.9s
ARU Arti 20.58 25 P **P 15 29 09.1 -0.2**
comp=Z,15nm,0.5s,baz=221,slow=8.0,SNR=27
ARU LR LR 15 39 22.3
comp=Z,600nm,19.4s,baz=214,slow=43
ARU Arti 20.58 25*d i*P **P 15 29 09.2 -0.1**
ARU 15 29 28.8
ARU S **S 15 33 00.8 +2.2**
ARU SS **SnSn 15 33 19.8 +2.1**
ARU pmax pmax
comp=Z,52nm,1.2s
ARU MLR MLR
comp=Z,633nm,21.0s
ARU Arti 20.58 25 *e*P **P 15 29 09.1 -0.2**
comp=Z,55nm,1.2s
ARU Arti 20.58 25 *e*P **P 15 29 09.1 -0.2**
comp=Z,55nm,1.2s
SUW Suwalki 20.61 325 *e*P Pn 15 29 13.0 +1.1
SUW Suwalki 20.61 325 *e*P Pn 15 29 13.0 +1.1
SUW Suwalki 20.61 325 *e*P Pn 15 29 13.0 +1.1
BEHE Becsehely 20.93 301 *e*P Pn 15 29 15.6 -0.2
SMOL Smolenice 21.05 306 *e*P **P 15 29 17.5 +3.0**
SMOL Smolenice 21.05 306 *e*P **P 15 29 17.5 +3.0**
OKC Ostrava-Krasne 21.08 310 *e*P **P 15 29 20.6 +5.8**
OKC Ostrava-Krasne 21.08 310 *e*P **P 15 29 20.6 +5.8**
KK31 Karatay Array 21.12 69 *i* P **P 15 29 16.4 +1.0**
KK31 pmax pmax
comp=Z,98nm,0.8s
KKAR Karatay Array 21.12 69 *e*P **P 15 29 16.1 +0.7**
KKAR Karatay Array 21.12 69 *e*P **P 15 29 16.1 +0.7**
comp=Z,824nm,0.8s
KKAR Karatay Array 21.12 69 *e*P **P 15 29 16.1 +0.7**
comp=Z,824nm,0.8s
KBL Kabul 21.14 93 *e*P **P 15 29 16.3 +0.5**
KBL pmax pmax
comp=Z,47nm,1.1s
KBL Kabul 21.14 93 *e*P **P 15 29 16.3 +0.5**
comp=Z,47nm,1.1s
KBL Kabul 21.14 93 *e*P **P 15 29 16.3 +0.5**
comp=Z,47nm,1.1s
CUC Castrocucco 21.20 282 *e*P **P 15 29 16.5 +0.3**
comp=Z,39nm,1.6s
CUC Castrocucco 21.20 282 *e*P **P 15 29 16.5 +0.3**
comp=Z,39nm,1.6s
SOP Sopron 21.37 304 P **P 15 29 20.0 +2.1**
SOP pmax pmax
comp=Z,27nm,1.3s
SOP Sopron 21.37 304 *e*P **P 15 29 19.6 +1.7**
MORC Moravsky Berou 21.42 310⇓*i*P **P 15 29 18.1 -0.4**
MORC Moravsky Berou 21.42 310 *e*P **P 15 29 19.3 +0.8**
MORC pmax pmax
comp=Z,59nm,1.3s
MORC Moravsky Berou 21.42 310 *e*P **P 15 29 19.3 +0.8**
comp=Z,59nm,1.3s
MORC Moravsky Berou 21.42 310 *e*P **P 15 29 19.3 +0.8**
comp=Z,59nm,1.3s
SVE Sverdlovsk 21.60 27⇑*i*P **P 15 29 21.2 +0.9**
SVE pmax pmax
comp=Z,47nm,1.3s
VRAC Vranov 21.83 308 P **P 15 29 25.7 +2.8**
comp=Z,7.5nm,0.3s,baz=116,slow=10,SNR=6.8
CONA Conrad Observa 21.88 304 *i* pP **P 15 29 25.2 +1.6**
comp=Z,8.8nm,0.7s
CONA Conrad Observa 21.88 304 P **P 15 29 25.2 +1.6**
comp=Z,8.8nm,0.7s
ARSA Arzberg 21.94 302 *i* pP **P 15 29 26.3 +2.2**
comp=Z,2.8nm,0.7s
ARSA Arzberg 21.94 302 P **P 15 29 26.3 +2.2**
comp=Z,2.8nm,0.7s
KRLC Kraliky 21.98 310 *ex* P 15 29 35.0 +10
KRLC Kraliky 21.98 310 *e*P P 15 29 35.0 +10
SOKA Soboth 22.15 301 *i* P P 15 29 45.6 +19
comp=Z,4.0nm,1.1s
DPC Dobruska-Polom 22.36 310 *e*P **P 15 29 31.3 +2.7**
DPC *e*pP **sP 15 29 37.5 +2.0**
DPC Dobruska-Polom 22.36 310 *e*P **P 15 29 31.3 +2.7**
DPC *e* 15 29 37.5
DPC Dobruska-Polom 22.36 310 P **P 15 29 31.3 +2.7**
KLMR Klimovskoe 22.42 355 *e*P **P 15 29 26.7 -2.3**
KLMR pmax pmax
comp=Z,59nm,1.1s
TREC Trest 22.51 307 *e*P **P 15 29 31.9 +1.7**
TREC Trest 22.51 307 *e*P **P 15 29 31.9 +1.7**
TREC Trest 22.51 307 P **P 15 29 31.9 +1.7**
KSP Ksiaz 22.56 312 *e*P **P 15 29 33.5 +2.8**
KSP Ksiaz 22.56 312 *e*P **P 15 29 33.5 +2.8**
KSP Ksiaz 22.56 312 *e*P **P 15 29 33.5 +2.8**
VSU Vasula 22.57 337⇓*i*P **P 15 29 32.3 +1.7**
VSU pmax pmax
comp=Z,183nm,1.7s
MNAS Manas 22.57 71 P **P 15 29 31.3 +0.2**
MNAS pmax pmax
comp=Z,39nm,1.2s
UPC Upice 22.60 311 *e*P **P 15 29 33.6 +2.5**
UPC Upice 22.60 311 *e*P **P 15 29 33.6 +2.5**
UPC Upice 22.60 311 P **P 15 29 33.6 +2.5**
VAE Valguarnera 22.65 276 P **P 15 29 31.6 -0.2**
comp=Z,4.2nm,0.4s,baz=355,slow=11,SNR=2.5
PUL Pulkovo 22.73 343⇑*e*P **P 15 29 34.6 +2.2**
PUL pmax pmax
comp=Z,42nm,0.9s
SOKR Solikamsk 22.76 18*c i*P **P 15 29 31.5 -1.1**
SOKR pmax pmax
comp=Z,35nm,1.1s
SOKR MLR MLR
comp=Z,826nm,18.0s
MOA Molln 22.91 303 *i* pP **P 15 29 35.7 +1.3**
comp=Z,3.2nm,0.5s
MOA Molln 22.91 303 P **P 15 29 35.7 +1.3**
comp=Z,3.2nm,0.5s
AQU L'Aquila 22.91 289 *e*P **P 15 29 34.8 +0.3**
AQU pmax pmax
comp=Z,29nm,0.9s
AQU L'Aquila 22.91 289 *e*P **P 15 29 34.8 +0.3**
comp=Z,29nm,0.9s
AQU L'Aquila 22.91 289 *e*P **P 15 29 34.8 +0.3**
comp=Z,29nm,0.9s
MYKA Terra Mystica 23.08 300 *i* pP pP 15 29 40.0 -1.0
comp=Z,2.2nm,0.4s
MYKA Terra Mystica 23.08 300 P pP 15 29 40.0 -1.0
comp=Z,2.2nm,0.4s
GOPC GO Pecny, Ondr 23.14 309 *e*P **P 15 29 38.2 +1.5**
GOPC GO Pecny, Ondr 23.14 309 *e*P **P 15 29 38.2 +1.5**
GOPC GO Pecny, Ondr 23.14 309 P **P 15 29 38.2 +1.5**
PRU Pruhonice 23.31 309 *e*P **P 15 29 40.2 +1.7**
PRU *ex* x 15 29 51.2
PRU *e*S Sn 15 34 03.7 -5.1
PRU AMS AMS 15 40 50.0
comp=Z,400nm,14.0s
PRU Pruhonice 23.31 309 *e*P **P 15 29 40.2 +1.7**
PRU *e* 15 29 51.2
PRU MLR MLR
comp=Z,400nm,14.0s
PRU Pruhonice 23.31 309 P **P 15 29 40.2 +1.7**
KBA Koelnbreinsper 23.36 301 *i* pP **P 15 29 40.5 +1.3**
comp=Z,6.1nm,0.7s
KBA Koelnbreinsper 23.36 301 P **P 15 29 40.5 +1.3**
comp=Z,6.1nm,0.7s
PVCC Panska Ves 23.47 310 *e*P **P 15 29 41.6 +1.6**
PVCC Panska Ves 23.47 310 *e*P **P 15 29 41.6 +1.6**
PVCC Panska Ves 23.47 310 P **P 15 29 41.6 +1.6**
GEC2 GERESS Array S 23.51 305 *e*P **P 15 29 41.2 +0.6**
GEC2 pmax pmax
comp=Z,21nm,1.6s
GEC2 GERESS Array S 23.51 305 *e*P **P 15 29 41.2 +0.6**
comp=Z,21nm,1.6s
GEC2 GERESS Array S 23.51 305 *e*P **P 15 29 41.2 +0.6**
comp=Z,21nm,1.6s
GERES GERESS Array B 23.51 305 P **P 15 29 41.0 +0.4**
comp=Z,2.4nm,0.7s,baz=108,slow=8.0,SNR=14
GERES PcP **PcP 15 33 25.4 -0.4**
comp=Z,0.5nm,0.6s,baz=102,slow=1.8,SNR=3.8
GERES GERESS Array B 23.51 305 P **P 15 29 41.0 +0.4**
BRVK Borovoye 23.61 43*c e*P **P 15 29 42.3 +0.9**
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK Borovoye 23.61 43 *e*P **P 15 29 41.1 -0.3**
comp=Z,38nm,1.1s
BRVK Borovoye 23.61 43 *e*P **P 15 29 41.1 -0.3**
comp=Z,38nm,1.1s
BRVK Borovoye 23.61 43 P **P 15 29 41.9 +0.5**
SNR=17
BRVK Borovoye 23.61 43 P **P 15 29 41.9 +0.5**
SNR=17
BRVK Borovoye 23.61 43 P **P 15 29 41.9 +0.5**
SNR=17
BVA0 Borovoye Array 23.66 44 *i* P **P 15 29 42.0 +0.2**
BVA0 pmax pmax
comp=Z,29nm,1.3s
BVAR Borovoye Array 23.66 44 P **P 15 29 42.6 +0.8**
comp=Z,9.8nm,0.9s,baz=243,slow=6.5,SNR=39
BVAR PcP **PcP 15 33 26.6 +0.7**
comp=Z,1.3nm,0.7s,baz=325,slow=2.3,SNR=3.8
KHC Kasperske Hory 23.67 306 *e*P **P 15 29 42.7 +0.7**
KHC *e*S Sn 15 34 08.1 -9.2
KHC Kasperske Hory 23.67 306 *e*P **P 15 29 42.6 +0.6**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 23.67 306 *e*P **P 15 29 42.6 +0.6**
comp=Z,5.8nm,1.1s
KHC Kasperske Hory 23.67 306 *e*P **P 15 29 42.6 +0.6**
comp=Z,5.8nm,1.1s
ABTA Abfaltersbach 23.87 300 *i* pP **P 15 29 44.7 +0.7**
ABTA Abfaltersbach 23.87 300 P **P 15 29 44.7 +0.7**
BRG Berggiesshubel 23.96 310 *e*P **P 15 29 45.5 +0.7**
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 23.96 310 *e*P **P 15 29 45.5 +0.7**
BRG pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 24.04 70 P **P 15 29 47.4 +1.6**
comp=Z,17nm,1.0s,baz=249,slow=12,SNR=37
AAK PcP **PcP 15 33 27.4 +0.3**
comp=Z,2.4nm,0.7s,baz=270,slow=2.2,SNR=5.1
AAK Ala-Archa 24.04 70*c i*P **P 15 29 47.3 +1.6**
AAK pmax pmax
comp=Z,81nm,1.2s
AAK Ala-Archa 24.04 70 *e*P **P 15 29 46.4 +0.6**
comp=Z,38nm,1.3s
AAK PcP **PcP 15 33 27.4 +0.3**
AAK Ala-Archa 24.04 70 pP **P 15 29 47.4 +1.6**
SNR=22
AAK Ala-Archa 24.04 70 P **P 15 29 47.4 +1.6**
SNR=22
AAK Ala-Archa 24.04 70 P **P 15 29 47.4 +1.6**
SNR=22
AAK P **P 15 29 47.4 +1.6**
SNR=22
WET Wettzell 24.11 306 P **P 15 29 47.2 +1.0**
WET pmax pmax
comp=Z,25nm,2.9s
FRU Bishkek 24.13 70 *e*P **P 15 29 48.5 +2.0**
FRU pmax pmax
comp=Z,160nm,1.8s
WTTA Wattenberg 24.54 301 *i* pP **P 15 29 51.9 +1.6**
comp=Z,5.9nm,0.6s
WTTA Wattenberg 24.54 301 P **P 15 29 51.9 +1.6**
comp=Z,5.9nm,0.6s
WATA Walderalm 24.59 301 *i* pP **P 15 29 52.9 +2.1**
comp=Z,1.3nm,0.3s
WATA Walderalm 24.59 301 P **P 15 29 52.9 +2.1**
comp=Z,1.3nm,0.3s
CLL Collm 24.67 311 *i* P **P 15 29 52.2 +1.0**
CLL *i* 15 29 58.5
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 24.67 311 *e*P **P 15 29 51.7 +0.5**
comp=Z,6.9nm,0.8s
CLL Collm 24.67 311 *i* P **P 15 29 52.2 +1.0**
comp=Z,7.0nm,0.8s
CLL *i* sP **sP 15 29 58.5 +0.1**
comp=Z,10.0nm,1.1s
CLL Collm 24.67 311 *e*P **P 15 29 51.7 +0.5**
comp=Z,6.9nm,0.8s
NKC Novy Kostel 24.67 308 *e*P **P 15 29 53.1 +1.8**
NKC Novy Kostel 24.67 308 *e*P **P 15 29 53.1 +1.8**
NKC Novy Kostel 24.67 308 P **P 15 29 53.1 +1.8**
TKM2 Tokmak 2 24.85 70 *i* P **P 15 29 54.6 +1.4**
TKM2 pmax pmax
comp=Z,60nm,1.1s
MOTA Moosalm 24.91 301 *i* pP **P 15 29 54.1 +0.5**
comp=Z,11nm,0.7s
MOTA Moosalm 24.91 301 P **P 15 29 54.1 +0.5**
comp=Z,11nm,0.7s
FETA Feichten 25.12 300 *i* P **P 15 29 55.8 +0.3**
comp=Z,3.2nm,0.6s
FETA Feichten 25.12 300 P **P 15 29 55.8 +0.3**
comp=Z,3.2nm,0.6s
RETA Reutte 25.16 301 *i* P **P 15 29 56.4 +0.6**
comp=Z,2.2nm,0.5s
RETA Reutte 25.16 301 P **P 15 29 56.4 +0.6**
comp=Z,2.2nm,0.5s
FINES FINESS Array B 25.23 341 P **P 15 29 56.5 +0.3**
comp=Z,3.5nm,0.5s,baz=145,slow=11,SNR=27
FINES LR LR 15 41 05.1
comp=Z,648nm,18.7s,baz=136,slow=39
GRF Grafenberg Arr 25.30 306 P **P 15 30 00.1 +3.2**
GRF pmax pmax
comp=Z,65nm,1.4s
GRFO Grafenberg 25.30 306 *e*P **P 15 29 58.1 +1.2**
GRFO pmax pmax
comp=Z,61nm,1.2s
GRFO Grafenberg 25.30 306 *e*P **P 15 29 58.1 +1.2**
comp=Z,61nm,1.2s
GRFO Grafenberg 25.30 306 *e*P **P 15 29 58.1 +1.2**
comp=Z,61nm,1.2s
FUORN Ofenpass-Fuorn 25.38 299 *e*P **P 15 29 58.8 +0.8**
comp=Z,30nm,1.5s
FUORN Ofenpass-Fuorn 25.38 299 *e*P **P 15 29 58.8 +0.8**
comp=Z,30nm,1.5s
JOF Joensuu 25.42 347 P **P 15 29 58.6 +0.8**
JOF pmax pmax
comp=Z,25nm,1.1s
DAVOX Davos/Dischmat 25.66 299 P **P 15 29 59.3 -1.2**
comp=Z,3.0nm,0.5s,baz=125,slow=5.6,SNR=12
DAVA Damuels 25.73 301 *i* P **P 15 30 00.7 -0.4**
comp=Z,3.3nm,0.5s
DAVA Damuels 25.73 301 P **P 15 30 00.7 -0.4**
comp=Z,3.3nm,0.5s
TMCR Tamitsa 25.81 355 *e*P **P 15 30 01.1 -0.2**
TMCR *e*S **S 15 34 29.6 -0.2**
TMCR pmax pmax
comp=Z,22nm,1.0s
MON Monaco 27.27 292 *e*P **P 15 30 15.1 +0.3**
MON Monaco 27.27 292 *e*P **P 15 30 15.1 +0.3**
SENIN Lac Senin/Sane 27.40 298 *e*P **P 15 30 15.1 -1.1**
comp=Z,57nm,1.8s
SENIN Lac Senin/Sane 27.40 298 *e*P **P 15 30 15.1 -1.1**
comp=Z,57nm,1.8s
KURBB Kurchatov Arra 27.63 53 P **P 15 30 19.4 +1.4**
comp=Z,6.6nm,0.5s,baz=264,slow=9.4,SNR=49
PDGK Podgornoye 27.69 68 *i* P **P 15 30 19.3 +0.6**
PDGK pmax pmax
comp=Z,22nm,1.1s
KURK Kurchatov 27.71 52⇑*e*P **P 15 30 19.8 +1.1**
KURK pmax pmax
comp=Z,103nm,1.2s
KURK Kurchatov 27.71 52 P **P 15 30 20.7 +2.0**
SNR=11
KURK Kurchatov 27.71 52 *e*P **P 15 30 19.3 +0.7**
comp=Z,28nm,1.1s
KURK Kurchatov 27.71 52 pP **P 15 30 20.7 +2.0**
SNR=11
KURK Kurchatov 27.71 52 P **P 15 30 20.7 +2.0**
SNR=11
KURK Kurchatov 27.71 52 P **P 15 30 20.7 +2.0**
SNR=11
BNI Bardonecchia 27.79 295 *e*P **P 15 30 20.2 +0.6**
BNI pmax pmax
comp=Z,26nm,1.3s
BNI Bardonecchia 27.79 295 *e*P **P 15 30 20.2 +0.6**
comp=Z,26nm,1.3s
BNI Bardonecchia 27.79 295 *e*P **P 15 30 20.2 +0.6**
comp=Z,26nm,1.3s
HFS Hagfors 28.46 329 P **P 15 30 25.0 -0.3**
comp=Z,5.5nm,0.7s,baz=134,slow=10,SNR=16
HFS LR LR 15 43 37.2
comp=Z,344nm,21.0s,baz=92,slow=40
MAKZ Makanchi 29.43 61 *e*P **P 15 30 35.0 +0.9**
MAKZ pmax pmax
comp=Z,15nm,1.1s
MAKZ Makanchi 29.43 61 *e*P **P 15 30 35.0 +0.9**
comp=Z,15nm,1.1s
MAKZ Makanchi 29.43 61 *e*P **P 15 30 35.0 +0.9**
comp=Z,15nm,1.1s
APA Apatity 29.55 352⇓*i*P P 15 30 26.9 -8.0
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,1μm,11.0s
MK31 Makanchi Array 29.65 61 P **P 15 30 36.7 +0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 29.65 61 *e*P **P 15 30 36.2 +0.2**
MK31 Makanchi Array 29.65 61 *e*P **P 15 30 36.2 +0.2**
MKAR Makanchi Array 29.65 61 P **P 15 30 37.2 +1.2**
comp=Z,3.8nm,0.6s,baz=261,slow=10,SNR=30
MKAR Makanchi Array 29.65 61 *e*P **P 15 30 36.4 +0.3**
MKAR pmax pmax
comp=Z,32nm,0.6s
MKAR Makanchi Array 29.65 61 *e*P **P 15 30 36.3 +0.3**
comp=Z,32nm,0.6s
MKAR Makanchi Array 29.65 61 *e*P **P 15 30 36.4 +0.3**
comp=Z,32nm,0.6s
NB2 NORSAR Subarra 29.99 329 P **P 15 30 38.3 -0.6**
comp=Z,2.0nm,0.7s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.99 329 P **P 15 30 38.3 -0.6**
comp=Z,2.0nm,0.7s,SNR=4.3
NOA NORSAR Array B 29.99 329 P **P 15 30 38.4 -0.6**
comp=Z,1.4nm,0.6s,baz=125,slow=8.9,SNR=5.1
SGF Sodankyl 30.39 347 P **P 15 30 44.1 +1.9**
SGF pmax pmax
comp=Z,23nm,0.5s
NVS Novosibirsk 31.39 46 *e*P **P 15 30 52.9 +1.6**
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.8s
ZAA0 Zalesovo Array 32.10 48 *e*P **P 15 30 57.3 -0.2**
ZAA0 Zalesovo Array 32.10 48 *e*P **P 15 30 57.3 -0.2**
ZALV Zalesovo Beam 32.10 48 P **P 15 30 58.2 +0.8**
comp=N,2.0nm,0.5s,baz=260,slow=8.9,SNR=10
ARCES ARCESS Array B 32.44 349 P **P 15 31 00.8 +0.5**
comp=N,1.7nm,0.5s,baz=152,slow=9.1,SNR=14
ARCES LR LR 15 44 41.7
comp=N,630nm,18.1s,baz=142,slow=37
WMQ Urumqi 33.59 67 P **P 15 31 11.9 +1.1**

WMQ					pP	sP	15 31 17.0	-0.9
WMQ					sP	pP	15 31 22.8	+6.9
WMQ					PP	**PP**	**15 32 27.5**	**+0.8**
WMQ					pmax	pmax		
	comp=N,28nm,1.3s							
WMQ					pmax	pmax		
	comp=N,160nm,3.8s							
WMQ					LR	LR		
	comp=N,260nm,6.3s							
WMQ					LR	LR		
	comp=N,190nm,9.1s							
PYUN	**Piuthan**	**34.63**	**95**	*eP*	**P**		**15 31 21.2**	**+1.1**
KOLN	**Koldanda**	**35.26**	**96**	*eP*	**P**		**15 31 26.5**	**+1.0**
TAM	**Tamanrasset**	**35.72**	**255**	*eP*	**P**		**15 31 29.3**	**-0.2**
TAM					pmax	pmax		
	comp=Z,7.0nm,1.0s							
TAM	**Tamanrasset**	**35.72**	**255**	*eP*	**P**		**15 31 29.3**	**-0.2**
	comp=Z,7.2nm,1.0s							
TAM	**Tamanrasset**	**35.72**	**255**	*eP*	**P**		**15 31 29.3**	**-0.2**
	comp=Z,7.2nm,1.0s							
GKN	**Gorkha**	**35.96**	**94**	*eP*	**P**		**15 31 32.2**	**+0.7**
ESDC	**Sonseca Array**	**36.26**	**287**	P	**P**		**15 31 34.0**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=68,slow=8.5,SNR=12							
ESDC	**Sonseca Array**	**36.26**	**287**	P	**P**		**15 31 34.0**	**+0.2**
DMN	**Daman**	**36.51**	**95**	*eP*	**P**		**15 31 37.3**	**+1.0**
	comp=Z,66nm,1.2s							
KKN	**Kakani**	**36.56**	**94**	*eP*	**P**		**15 31 37.4**	**+0.7**
PKIN	**Phulchoki**	**36.75**	**95**	*eP*	**P**		**15 31 39.1**	**+0.7**
GUN	**Gumba**	**36.97**	**94**	*eP*	**P**		**15 31 41.1**	**+0.7**
	comp=Z,83nm,1.1s							
JIRN	**Jiri**	**37.33**	**94**	*eP*	**P**		**15 31 44.4**	**+1.0**
	comp=Z,135nm,0.9s							
RAMN	**Ramite**	**37.99**	**95**	*eP*	**P**		**15 31 49.6**	**+0.7**
	comp=Z,52nm,0.8s							
ODAN	**Odare**	**38.65**	**94**	*eP*	**P**		**15 31 55.6**	**+1.2**
TAPN	**Taplejung**	**38.67**	**93**	*eP*	**P**		**15 31 55.4**	**+0.8**
	comp=Z,14nm,0.6s							
NRIK	**Noril'sk**	**38.79**	**23**	P	**P**		**15 31 55.1**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=227,slow=7.1,SNR=6.6							
KMBO	**Kilima Mbogo**	**39.88**	**189**	LR	LR		15 49 25.1	
	comp=Z,468nm,18.0s,baz=228,slow=38							
MOY	**Mondy**	**41.77**	**52**	*eP*	**P**		**15 32 22.3**	**+2.5**
MOY					pmax	pmax		
	comp=Z,16nm,1.8s							
ZAK	**Zakamensk**	**43.35**	**54**	*eP*	**P**		**15 32 33.1**	**+0.4**
ZAK				*e*			15 34 15.8	
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.4s							
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.3s							
GTA	**Gaotai**	**43.40**	**70**	*eP*	**P**		**15 32 34.5**	**+1.2**
GTA					pP	pP	15 32 39.0	+0.5
GTA					sP	sP	15 32 41.5	+1.0
GTA					S	**S**	**15 39 02.3**	**+1.6**
GTA					pmax	pmax		
	comp=Z,20nm,1.5s							
GTA					pmax	pmax		
	comp=Z,190nm,4.3s							
GTA					LR	LR		
	comp=Z,190nm,18.1s							
GTA					LR	LR		
	comp=Z,230nm,18.5s							
GTA					LR	LR		
	comp=Z,180nm,17.1s							
TLY	**Talaya**	**43.41**	**52**	P	**P**		**15 32 32.5**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=282,slow=8.0,SNR=3.1							
TLY	**Talaya**	**43.41**	**52⇑**	*eP*	**P**		**15 32 35.3**	**+2.3**
TLY					pmax	pmax		
	comp=Z,6.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**44.57**	**247**	P	**P**		**15 32 41.9**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=57,slow=9.5,SNR=14							
TORD				PcP	**PcP**		**15 34 25.5**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=40,slow=3.0,SNR=5.4							
SONM	**Songino Array**	**45.82**	**57**	P	**P**		**15 32 52.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=289,slow=9.2,SNR=4.1							
SONM				PcP	**PcP**		**15 34 30.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=261,slow=4.1,SNR=7.4							
ULN	**Ulaanbaatar**	**46.25**	**57**	*c iP*	**P**		**15 32 56.9**	**+1.0**
ULN					pmax	pmax		
	comp=Z,26nm,1.7s							
ULN	**Ulaanbaatar**	**46.25**	**57**	*eP*	**P**		**15 32 55.7**	**-0.2**
	comp=Z,16nm,1.1s							
ULN	**Ulaanbaatar**	**46.25**	**57**	*eP*	**P**		**15 32 55.7**	**-0.2**
	comp=Z,16nm,1.1s							
ULN	**Ulaanbaatar**	**46.25**	**57**	pP	**P**		**15 32 57.1**	**+1.2**
	SNR=12							
ULN	**Ulaanbaatar**	**46.25**	**57**	P	**P**		**15 32 57.1**	**+1.2**
	SNR=12							
ULN	**Ulaanbaatar**	**46.25**	**57**	P	**P**		**15 32 57.1**	**+1.2**
ULN				P	**P**		**15 32 57.1**	**+1.2**
	SNR=12							
LZH	**Lanzhou**	**47.53**	**73**	*eP*	**P**		**15 33 08.3**	**+2.2**
LZH				pP	sP		15 33 12.4	-1.0
LZH				sP	pP		15 33 15.1	+3.8
LZH				PP	**PP**		**15 34 56.3**	**-1.1**
LZH				*e*S	**S**		**15 40 00.4**	**-0.1**
LZH				SS	**SS**		**15 43 23.3**	**-4.8**
LZH				pmax	pmax			
	comp=Z,49nm,1.0s							
LZH				pmax	pmax			
	comp=Z,170nm,4.0s							
LZH				LR	LR			
	comp=Z,1μm,15.6s							
LZH				LR	LR			
	comp=Z,1μm,15.8s							
BOD	**Bodaibo**	**48.52**	**42**	*eP*	**P**		**15 33 11.6**	**-1.6**
BOD				pmax	pmax			
	comp=Z,15nm,1.2s							
CD2	**Chengdu**	**49.58**	**80**	*eP*	**P**		**15 33 21.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**51.42**	**64**	*eP*	**P**		**15 33 36.5**	**+0.9**
HHC				pP	pP		15 33 40.9	0.0
HHC				sP	sP		15 33 44.8	+1.9
HHC				PP	**PP**		**15 35 34.3**	**+1.7**
HHC				S	**S**		**15 40 51.6**	**-3.1**
HHC				pmax	pmax			
	comp=Z,26nm,0.9s							
HHC				pmax	pmax			
	comp=Z,94nm,4.4s							
HHC				LR	LR			
	comp=Z,200nm,17.3s							
HHC				LR	LR			
	comp=Z,150nm,13.6s							
HHC				LR	LR			
	comp=Z,140nm,12.3s							
KMI	**Kunming**	**51.53**	**87**	P	**P**		**15 33 37.9**	**+1.1**
KMI				pmax	pmax			
	comp=Z,17nm,0.7s							
CHTO	**Chiang Mai**	**51.92**	**96**	P	**P**		**15 33 39.8**	**+0.3**
	comp=Z,78nm,0.9s							
CHTO	**Chiang Mai**	**51.92**	**96**	*eP*	**P**		**15 33 38.8**	**-0.7**
CHTO				pmax	pmax			
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**51.92**	**96**	*eP*	**P**		**15 33 38.8**	**-0.7**
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**51.92**	**96**	*eP*	**P**		**15 33 38.8**	**-0.7**
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**51.92**	**96**	pP	**P**		**15 33 40.2**	**+0.7**
	SNR=6.1							
CHTO	**Chiang Mai**	**51.92**	**96**	P	**P**		**15 33 40.2**	**+0.7**
	SNR=6.1							
CHTO	**Chiang Mai**	**51.92**	**96**	P	**P**		**15 33 40.2**	**+0.7**
	SNR=6.1							
CM31	**Chiang Mai Arr**	**52.12**	**96**	*eP*	**P**		**15 33 39.6**	**-1.4**
CM31	**Chiang Mai Arr**	**52.12**	**96**	*eP*	**P**		**15 33 39.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**52.12**	**96**	P	**P**		**15 33 41.0**	**0.0**
	comp=Z,7.1nm,0.7s,baz=299,slow=8.3,SNR=57							
XAN	**Xi'an**	**52.16**	**73**	P	**P**		**15 33 42.1**	**+0.9**
XAN				pmax	pmax			
	comp=Z,24nm,1.2s							
TIXI	**Tiksi**	**52.58**	**23⇓**	*iP*	**P**		**15 33 44.3**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.7s							
TIXI	**Tiksi**	**52.58**	**23**	*eP*	**P**		**15 33 43.9**	**+0.3**
	comp=Z,6.8nm,1.2s							
TIXI	**Tiksi**	**52.58**	**23**	*eP*	**P**		**15 33 43.9**	**+0.3**
	comp=Z,6.8nm,1.2s							
LAMP	**Lampang**	**52.62**	**96**	P	**P**		**15 33 46.4**	**+1.7**
	comp=Z,6.1nm,1.0s							
NANT	**Nan**	**53.30**	**95**	P	**P**		**15 33 50.0**	**+0.3**
	comp=Z,4.4nm,0.9s							
DBIC	**Dimbokro**	**53.68**	**246**	P	**P**		**15 33 51.9**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=36,slow=7.8,SNR=5.7							
UTTA	**Uttaradit**	**53.78**	**96**	P	**P**		**15 33 54.4**	**+1.2**
	comp=Z,3.9nm,0.9s							
KIC	**Kosan Boka**	**53.81**	**246**	*eP*	**P**		**15 33 52.7**	**-0.8**
	comp=Z,46nm,1.2s							
TIC	**Toumodi**	**53.82**	**247**	*eP*	**P**		**15 33 53.7**	**+0.2**
GYA	**Guiyang**	**53.92**	**83⇑**	*iP*	**P**		**15 33 54.1**	**-0.3**
GYA				pP	sP		15 34 01.0	-0.7
GYA				PcP	**PcP**		**15 35 01.8**	**+2.1**
GYA				PP	**PP**		**15 35 56.8**	**+1.3**
GYA				ScP	**ScP**		**15 38 56.9**	**-0.1**
GYA				S	**S**		**15 41 27.3**	**-2.0**
GYA				sS	pS		15 41 35.3	-0.4
GYA				SS	**SKiKP**		**15 45 08.0**	**+1.1**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,6.2s							
GYA				LR	LR			
	comp=Z,480nm,20.2s							
GYA				LR	LR			
	comp=Z,440nm,19.4s							
GYA				LR	LR			
	comp=Z,450nm,21.0s							
HIA	**Hailar**	**53.95**	**52**	*d iP*	**P**		**15 33 56.0**	**+1.9**
HIA				pmax	pmax			
	comp=Z,21nm,1.0s							
LIC	**Lamto**	**54.11**	**246**	*eP*	**P**		**15 33 54.3**	**-1.4**
	comp=Z,72nm,1.4s							
UTHA	**Uthaitani**	**54.19**	**99**	P	**P**		**15 33 57.5**	**+1.2**
	comp=Z,5.5nm,0.9s,comp=Z,61nm							
PBKT	**Sadao Pong**	**54.78**	**97**	P	**P**		**15 34 01.3**	**+0.8**
	comp=Z,18nm,1.0s							
YAK	**Yakutsk**	**55.24**	**35**	P	**P**		**15 34 03.0**	**-0.2**
	comp=Z,5.9nm,0.5s,baz=80,slow=15,SNR=5.0							
YAK	**Yakutsk**	**55.24**	**35⇑**	*eP*	**P**		**15 34 03.7**	**+0.5**
YAK				pmax	pmax			
	comp=Z,15nm,1.0s							
YAK	**Yakutsk**	**55.24**	**35**	P	**P**		**15 34 03.0**	**-0.2**
PHET	**Kaeng Krachan**	**55.93**	**101**	P	**P**		**15 34 10.5**	**+1.7**
	comp=Z,6.3nm,1.1s,comp=Z,84nm							
KHON	**Khomkaen**	**56.36**	**96**	P	**P**		**15 34 12.8**	**+0.9**
	comp=Z,13nm,1.0s							
NAYO	**Nakonayok**	**56.39**	**99**	P	**P**		**15 34 13.1**	**+1.0**
	comp=Z,60nm,0.7s,comp=Z,13μm							
SKNT	**Sakolnakorn**	**56.90**	**94**	P	**P**		**15 34 15.9**	**+0.1**
	comp=Z,12nm,1.1s							
SRAK	**Srakaew**	**57.13**	**98**	P	**P**		**15 34 21.3**	**+4.0**
	comp=Z,77nm,1.0s,comp=Z,657nm							
PANO	**Nakornpanom**	**57.30**	**94**	P	**P**		**15 34 19.2**	**+0.7**
	comp=Z,9.1nm,1.5s							
WHN	**Wuhan**	**57.84**	**75**	⇑P	**P**		**15 34 24.1**	**+1.9**
LHMI	**Lhok Sumawe**	**58.83**	**110**	P	**P**		**15 34 25.5**	**-3.8**
	comp=Z,192nm,0.9s							
MLSI	**Meulaboh, Aceh**	**59.08**	**111**	P	**P**		**15 34 27.0**	**-4.0**
	comp=Z,48nm,1.5s							
NJ2	**Nanjing**	**60.49**	**71**	*eP*	**P**		**15 34 39.3**	**-1.2**
NJ2				pmax	pmax			
	comp=Z,11nm,0.9s							
PSI	**Prapat**	**61.91**	**111**	P	**P**		**15 34 50.1**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=320,slow=11,SNR=5.5							
GSI	**Gunungsitoli**	**61.95**	**113**	P	**P**		15 35 04.4	+14
IPM	**Ipoh**	**62.35**	**108**	*eP*	**P**		**15 34 52.2**	**-1.2**
	comp=Z,9.8nm,0.8s							
IPM	**Ipoh**	**62.35**	**108**	*eP*	**P**		**15 34 52.2**	**-1.2**
	comp=Z,9.8nm,0.8s							
INCN	**Inchon**	**63.42**	**62**	*eP*	**P**		**15 34 59.4**	**-0.8**
	comp=Z,24nm,0.8s							
INCN	**Inchon**	**63.42**	**62**	*eP*	**P**		**15 34 59.4**	**-0.8**
	comp=Z,24nm,0.8s							
USRK	**Ussuriysk Ar.**	**63.70**	**53**	P	**P**		**15 35 02.0**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=300,slow=4.2,SNR=7.4							
SEY	**Seymchan**	**64.26**	**29**	P	**P**		**15 35 06.2**	**+0.9**
	comp=Z,12nm,0.8s,baz=297,slow=8.2,SNR=30							
SEY	**Seymchan**	**64.26**	**29⇓**	*iP*	**P**		**15 35 07.3**	**+2.0**
KS15	**Wonju Array Si**	**64.31**	**62**	*eP*	**P**		**15 35 05.9**	**-0.1**
KS15	**Wonju Array Si**	**64.31**	**62**	*eP*	**P**		**15 35 05.9**	**-0.1**
KSAR	**Wonju Array Be**	**64.31**	**62**	P	**P**		**15 35 06.4**	**+0.4**
KSAR	**Wonju Array Be**	**64.31**	**62**	P	**P**		**15 35 06.4**	**+0.4**
KSAR	**Wonju Array Be**	**64.31**	**62**	P	**P**		**15 35 06.4**	**+0.4**
KSRS	**Korea Array**	**64.33**	**62**	P	**P**		**15 35 06.4**	**+0.2**
	comp=Z,14nm,0.7s,baz=290,slow=6.3,SNR=50							
BILL	**Bilibino**	**65.52**	**20⇓**	*eP*	**P**		**15 35 14.4**	**+1.0**
BILL				pmax	pmax			
	comp=Z,11nm,1.0s							
PDSI	**Padang**	**65.56**	**112**	P	**P**		**15 35 12.7**	**-1.8**
	comp=Z,4.7nm,0.4s,comp=Z,2μm							
JNU	**Nanatsue**	**68.65**	**64**	P	**P**		**15 35 34.7**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=328,slow=0.9,SNR=12							
YSS	**Yuzh-Sakhalins**	**68.71**	**46⇑**	*eP*	**P**		**15 35 37.1**	**+3.1**
YSS				pmax	pmax			
	comp=Z,56nm,1.5s							
MAJO	**Matsushiro**	**71.77**	**58⇓**	*iP*	**P**		**15 35 52.8**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,83nm,1.4s							
MJAR	**Matsushiro Arr**	**71.77**	**58**	P	**P**		**15 35 53.3**	**+0.3**
	comp=Z,8.5nm,1.1s,baz=308,slow=5.3,SNR=12							
MJAR	**Matsushiro Arr**	**71.77**	**58**	P	**P**		**15 35 53.3**	**+0.3**
MJAR				pmax	pmax			
	comp=Z,8.0nm,1.1s							
STKI	**Sintang**	**73.11**	**104**	P	**P**		**15 35 58.6**	**-2.6**
COLD	**Coldfoot**	**74.03**	**5**	*eP*	**P**		**15 36 06.4**	**+0.6**
	comp=Z,6.1nm,0.9s							
COLD	**Coldfoot**	**74.03**	**5**	*eP*	**P**		**15 36 06.4**	**+0.6**
	comp=Z,6.1nm,0.9s							
MLY	**Manley**	**76.15**	**6**	*eP*	**P**		**15 36 18.6**	**+0.4**
	comp=Z,11nm,1.2s							
MLY	**Manley**	**76.15**	**6**	*eP*	**P**		**15 36 18.6**	**+0.4**
	comp=Z,11nm,1.2s							
MDM	**Murphy Dome**	**76.41**	**5**	*eP*	**P**		**15 36 19.5**	**-0.1**
	comp=Z,16nm,1.4s							
MDM	**Murphy Dome**	**76.41**	**5**	*eP*	**P**		**15 36 19.5**	**-0.1**
	comp=Z,16nm,1.4s							
COLA	**College**	**76.52**	**5**	*eP*	**P**		**15 36 20.1**	**0.0**
COLA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
COLA	**College**	**76.52**	**5**	*eP*	**P**		**15 36 20.1**	**0.0**
	comp=Z,7.4nm,0.7s							
COLA	**College**	**76.52**	**5**	*eP*	**P**		**15 36 20.1**	**0.0**
	comp=Z,7.4nm,0.7s							
ILAR	**Eielson Array**	**76.68**	**4**	P	**P**		**15 36 21.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=337,slow=2.8,SNR=15							
ILAR				LR	LR		16 11 13.6	
	comp=Z,95nm,21.9s,baz=226,slow=37							
CCB	**Clear Creek Bu**	**76.75**	**5**	*eP*	**P**		**15 36 21.3**	**-0.1**
	comp=Z,18nm,1.4s							
CCB	**Clear Creek Bu**	**76.75**	**5**	*eP*	**P**		**15 36 21.3**	**-0.1**
	comp=Z,18nm,1.4s							
EGAK	**Eagle**	**76.92**	**2**	*eP*	**P**		**15 36 22.4**	**0.0**
	comp=Z,14nm,1.3s							
EGAK	**Eagle**	**76.92**	**2**	*eP*	**P**		**15 36 22.4**	**0.0**
	comp=Z,14nm,1.3s							
BPAW	**Bear Paw Mtn.**	**77.05**	**6**	*eP*	**P**		**15 36 22.9**	**-0.3**
	comp=Z,18nm,1.3s							
BPAW	**Bear Paw Mtn.**	**77.05**	**6**	*eP*	**P**		**15 36 22.9**	**-0.3**
	comp=Z,18nm,1.3s							
MCK	**McKinley**	**77.58**	**5**	*eP*	**P**		**15 36 26.2**	**0.0**
MCK				pmax	pmax			
	comp=Z,44nm,1.9s							
MCK	**McKinley**	**77.58**	**5**	*eP*	**P**		**15 36 26.2**	**0.0**
	comp=Z,44nm,1.9s							
MCK	**McKinley**	**77.58**	**5**	*eP*	**P**		**15 36 26.2**	**0.0**
	comp=Z,44nm,1.9s							
TTA	**Tatalina**	**77.67**	**9**	*eP*	**P**		**15 36 27.0**	**+0.2**
TTA				pmax	pmax			
	comp=Z,16nm,1.5s							
TTA	**Tatalina**	**77.67**	**9**	*eP*	**P**		**15 36 27.0**	**+0.2**
	comp=Z,16nm,1.5s							
TTA	**Tatalina**	**77.67**	**9**	*eP*	**P**		**15 36 27.0**	**+0.2**
	comp=Z,16nm,1.5s							
DAWY	**Dawson**	**77.68**	**1**	*eP*	**P**		**15 36 26.3**	**-0.5**
	comp=Z,10nm,1.2s							
DAWY	**Dawson**	**77.68**	**1**	*eP*	**P**		**15 36 26.3**	**-0.5**
	comp=Z,10nm,1.2s							
TT01	**Tatalina**	**77.69**	**9**	*eP*	**P**		**15 36 26.9**	**+0.1**
TT01	**Tatalina**	**77.69**	**9**	*eP*	**P**		**15 36 26.9**	**+0.1**
RND	**Reindeer**	**77.91**	**6**	*eP*	**P**		**15 36 28.0**	**-0.1**
RND				pmax	pmax			
	comp=Z,7.0nm,0.8s							
RND	**Reindeer**	**77.91**	**6**	*eP*	**P**		**15 36 28.0**	**-0.1**
	comp=Z,6.5nm,0.8s							
RND	**Reindeer**	**77.91**	**6**	*eP*	**P**		**15 36 28.0**	**-0.1**
	comp=Z,6.5nm,0.8s							
DOT	**Dot Lake**	**77.95**	**3**	*eP*	**P**		**15 36 28.5**	**+0.2**
	comp=Z,21nm,0.9s							
DOT	**Dot Lake**	**77.95**	**3**	*eP*	**P**		**15 36 28.5**	**+0.2**
	comp=Z,21nm,0.9s							
DHY	**Denali Highway**	**78.34**	**5**	*eP*	**P**		**15 36 30.0**	**-0.6**
	comp=Z,14nm,1.5s							
DHY	**Denali Highway**	**78.34**	**5**	*eP*	**P**		**15 36 30.0**	**-0.6**
	comp=Z,14nm,1.5s							
MENT	**Mentasta**	**78.68**	**3**	*eP*	**P**		**15 36 32.5**	**+0.2**
	comp=Z,6.6nm,0.7s							
MENT	**Mentasta**	**78.68**	**3**	*eP*	**P**		**15 36 32.5**	**+0.2**
	comp=Z,6.6nm,0.7s							
SML	**Sawmill**	**79.53**	**6**	*eP*	**P**		**15 36 36.3**	**-0.7**
SML				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SML	**Sawmill**	**79.53**	**6**	*eP*	**P**		**15 36 36.3**	**-0.7**
	comp=Z,10nm,0.6s							
SML	**Sawmill**	**79.53**	**6**	*eP*	**P**		**15 36 36.3**	**-0.7**
	comp=Z,10nm,0.6s							
SUA	**Susitna One**	**79.67**	**7**	*eP*	**P**		**15 36 37.0**	**-0.8**
	comp=Z,16nm,0.8s							
SUA	**Susitna One**	**79.67**	**7**	*eP*	**P**		**15 36 37.0**	**-0.8**
	comp=Z,16nm,0.8s							
KLU	**Klutina**	**80.00**	**4**	*eP*	**P**		**15 36 40.5**	**+0.9**
	comp=Z,30nm,1.4s							
KLU	**Klutina**	**80.00**	**4**	*eP*	**P**		**15 36 40.5**	**+0.9**
	comp=Z,30nm,1.4s							
RC01	**Rabbit Creek A**	**80.12**	**6**	*eP*	**P**		**15 36 40.3**	**+0.1**
	comp=Z,12nm,0.7s							
RC01	**Rabbit Creek A**	**80.12**	**6**	*eP*	**P**		**15 36 40.3**	**+0.1**
	comp=Z,12nm,0.7s							
DIV	**Divide**	**80.38**	**4**	*eP*	**P**		**15 36 42.2**	**+0.6**
	comp=Z,39nm,1.5s							
DIV	**Divide**	**80.38**	**4**	*eP*	**P**		**15 36 42.1**	**+0.6**
	comp=Z,39nm,1.5s							
BALM	**Baldy**	**80.64**	**3**	*eP*	**P**		**15 36 43.4**	**+0.3**
BALM				pmax	pmax			
	comp=Z,40nm,1.8s							
BALM	**Baldy**	**80.64**	**3**	*eP*	**P**		**15 36 43.4**	**+0.3**
	comp=Z,40nm,1.8s							
BALM	**Baldy**	**80.64**	**3**	*eP*	**P**		**15 36 43.4**	**+0.3**
	comp=Z,40nm,1.8s							
HYT	**Haines Junctio**	**80.95**	**0**	*eP*	**P**		**15 36 45.6**	**+0.8**
	comp=Z,12nm,1.1s							
HYT	**Haines Junctio**	**80.95**	**0**	*eP*	**P**		**15 36 45.6**	**+0.8**
	comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**83.09**	**8**	*i P*	**P**		**15 36 56.6**	**+0.7**
DLBC	**Dease Lake**	**83.18**	**356**	LR	LR		16 19 32.3	
	comp=Z,134nm,18.1s,slow=40							
ULM	**Lac du Bonnet**	**84.49**	**335**	LR	LR		16 17 20.8	
	comp=Z,181nm,18.1s,baz=323,slow=38							
LLLB	**Lillooet**	**90.22**	**351**	*eP*	**P**		**15 37 31.9**	**+0.9**
	comp=Z,14nm,1.4s							
LLLB	**Lillooet**	**90.22**	**351**	*eP*	**P**		**15 37 31.9**	**+0.9**
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**103.03**	**105**	Pdiff	**Pdif**		**15 38 28.1**	**-1.4**
	comp=Z,0.9nm,1.1s,baz=317,slow=4.5,SNR=3.4							
ASAR	**Alice Springs**	**104.89**	**108**	Pdiff	**Pdif**		**15 38 36.7**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=302,slow=4.8,SNR=3.7							
ASAR				PKiKP	**PKiKP**		**15 42 52.0**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=302,slow=1.3,SNR=4.4							
STKA	**Stephens Creek**	**115.08**	**112**	PKP	**PKPdf**		**15 43 09.6**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=322,slow=4.0,SNR=2.9							
URZ	**Urewera**	**144.20**	**104**	PKhKP	PKPpre		15 44 02.1	
	comp=Z,20nm,0.7s,baz=318,slow=1.8,SNR=24							

CSEM ***23*** *15:31:36.5±0.3,38°.70N×43°.15E,h2km,ML3.5,Error ellipse: s-maj=8.0km s-min=5.7km az=86.0*
DDA ***23*** *15:31:36.2,38°.68N×43°.14E,h5km,Ml3.5*
ISK ***23*** *15:31:36.4,38°.74N×43°.07E,h4km,ML3.3*

ISC 23 15:31:36.6±1.0,38°.71N±0°.02×43°.15E±0°.02,h7km±10km, n46,σ1§60/69,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.27**	**132**	*i* P	**Pg**	**15 31 43.1**	**+1.1**
TVAN				*i* S	**Sg**	**15 31 47.1**	**+1.5**
TVAN	**Van**	**0.27**	**132**	P	**Pg**	**15 31 43.1**	**+1.1**
TVAN				S	**Sg**	**15 31 47.1**	**+1.5**
GEVA	**Gevas**	**0.40**	**190**	*i* P	**Pg**	**15 31 43.2**	**-1.3**
GEVA				*i* S	**Sg**	**15 31 49.8**	**0.0**
GEVA	**Gevas**	**0.40**	**190**	P	**Pg**	**15 31 43.2**	**-1.3**
GEVA				S	**Sg**	**15 31 49.8**	**0.0**
VMUR	**Van-Muradiye**	**0.43**	**50**	*i* P	**Pg**	**15 31 44.7**	**-0.4**
VMUR				*i* S	**Sg**	**15 31 52.6**	**+1.8**
VMUR	**Van-Muradiye**	**0.43**	**50**	P	**Pg**	**15 31 44.7**	**-0.4**
VMUR				S	**Sg**	**15 31 52.6**	**+1.8**
TUTA	**Tutak**	**0.74**	**340**	*i* P	**Pb**	**15 31 51.0**	**-1.0**
TUTA	**Tutak**	**0.74**	**340**	P	**Pb**	**15 31 51.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*PG	**Pb**	**15 31 52.9**	**-1.3**
AGRB				*e*SG	**Sb**	**15 32 05.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*Pg	**Pb**	**15 31 52.9**	**-1.3**
DYDN	**Diyadin**	**0.93**	**27**	*i* P	**Pg**	**15 31 51.2**	**-3.3**
DYDN	**Di

CTAO	**Charters Tower**	**20.38**	**243**	*e*Pn	Pn	15 37 48.8	+0.3
	61nm,1.0s						
AFI	**Afiamalu**	**22.30**	**99**	P	**P**	**15 38 07.2**	**+0.1**
	25nm,0.8s,baz=273,slow=17,SNR=3.1						
AFI				LR	LR	15 44 59.9	
	comp=Z,360nm,22.0s,baz=126,slow=32						
STKA	**Stephens Creek**	**29.95**	**224**	P	**P**	**15 39 17.8**	**0.0**
	1.1nm,0.4s,baz=11,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**31.10**	**250**	P	**P**	**15 39 27.8**	**-0.2**
	3.2nm,0.9s,baz=80,slow=9.3,SNR=17						
ASAR	**Alice Springs**	**32.38**	**244**	P	**P**	**15 39 39.0**	**-0.2**
	1.4nm,0.9s,baz=67,slow=10,SNR=17						
ASAR				PcP	**PcP**	**15 42 26.8**	**0.0**
	0.8nm,0.9s,baz=83,slow=3.0,SNR=6.0						
PPT	**Papeete**	**43.83**	**103**	P	**P**	**15 41 15.3**	**-0.4**
	74nm,1.0s,baz=54,slow=11,SNR=3.7						
CMAR	**Chiang Mai Arr**	**72.06**	**294**	P	**P**	**15 44 35.9**	**+1.9**
	1.6nm,0.9s,baz=125,slow=4.3,SNR=10.0						
ULN	**Ulaanbaatar**	**78.51**	**324**	*e*P	**P**	**15 45 11.6**	**+1.0**
	2.8nm,1.0s						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**15 45 13.5**	**+0.9**
	0.3nm,0.3s,baz=126,slow=7.5,SNR=5.3						
ILAR	**Eielson Array**	**84.01**	**19**	P	**P**	**15 45 38.1**	**-1.1**
	0.6nm,0.5s,baz=237,slow=4.8,SNR=15						
PFO	**Pinyon Flats O**	**86.54**	**55**	LR	LR	16 15 52.0	
	comp=Z,106nm,21.4s,baz=272,slow=30						
NEW	**Newport**	**90.24**	**41**	LR	LR	16 21 35.7	
	comp=Z,104nm,18.0s,baz=328,slow=32						
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**	**15 46 26.2**	**+0.4**
	1.8nm,0.8s,baz=102,slow=5.1,SNR=10						
ZALV	**Zalesovo Beam**	**93.77**	**324**	P	**P**	**15 46 25.9**	**-0.2**
	0.6nm,0.5s,baz=64,slow=5.1,SNR=4.6						
KEST	**Kesra**	**147.61**	**322**	PKPbc	**PKPbc**	**15 52 55.0**	**+0.8**
	5.2nm,0.9s,baz=25,slow=1.6,SNR=5.8						

MAN 23 15:36:17.15±00N×119°49E, h47km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**1.45**	**150**	*e*P	Pn	15 36 40.3	-0.5
LUBP				*e*S	Sn	15 37 00.9	+2.2
TGY	**Tagaytay City**	**1.66**	**122**	⇓*e*P	Pn	15 36 45.0	+1.3
TGY				*e*S	Sn	15 37 04.9	+1.1
BOAC	**Boac**	**2.74**	**124**	*e*P	Pn	15 36 55.5	-3.0
BOAC				*e*S	Sn	15 37 21.3	-9.1
SJMP	**San Jose**	**2.97**	**148**	*e*P	Pn	15 37 04.3	+2.6
SJMP				*e*S	Sn	15 37 30.5	-5.6
BUSP	**Coron**	**3.05**	**167**	*e*P	Pn	15 37 04.9	+2.1
BUSP				*e*S	Sn	15 37 35.5	-2.6
ENPP	**El Nido**	**3.77**	**181**	*e*P	Pn	15 37 13.8	+1.2
ENPP				*e*S	Sn	15 37 52.2	-3.5

*AZER **23** 15:49:14.7±0.8, 38°02N×43°04E, h8km, Error ellipse: s-maj=13.0km s-min=6.9km az=137.0*
*DDA **23** 15:49:18.5, 38°68N×43°16E, h7km, Ml3.8*
*ISCJB **23** 15:49:18.9±0.6, 38°66N±0°02×43°16E±0°03, h0km±4km, mb3.5/6, Error ellipse: s-maj=3.7km s-min=3.2km az=144.9*
*ISK **23** 15:49:18.3, 38°62N×43°10E, h5km, ML3.5*
*CSEM **23** 15:49:19.5±0.2, 38°64N×43°11E, h2km, ML3.8, Error ellipse: s-maj=5.2km s-min=4.4km az=135.0*
*IDC **23** 15:49:21.2±1.3, 38°66N×43°67E, h0km, mb3.6/7, mb1 3.5/10, mb1mx3.3/45, mbtmp3.5/10, ML2.7/3, Error ellipse: s-maj=22.1km s-min=13.8km az=178.0*

ISC 23 15:49:18.9±1.1, 38°69N±0°02×43°18E±0°02, h3km±8km, n89, σ1°79/117, mb3.5/6, 11C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.24**	**132**	*i* P	**Pg**	**15 49 24.3**	**+0.7**
TVAN				*i* S	**Sg**	**15 49 28.1**	**+1.4**
TVAN	**Van**	**0.24**	**132**	P	**Pg**	**15 49 24.3**	**+0.7**
TVAN				S	**Sg**	**15 49 28.1**	**+1.4**
GEVA	**Gevas**	**0.39**	**194**	*i* P	**Pg**	**15 49 24.8**	**-1.6**
GEVA				*i* S	**Sg**	**15 49 32.5**	**+1.1**
GEVA	**Gevas**	**0.39**	**194**	P	**Pg**	**15 49 24.8**	**-1.6**
GEVA				S	**Sg**	**15 49 32.5**	**+1.1**
VMUR	**Van-Muradiye**	**0.43**	**45**	*i* P	**Pg**	**15 49 25.7**	**-1.5**
VMUR				*i* S	**Sg**	**15 49 34.3**	**+1.4**
TUTA	**Tutak**	**0.77**	**338**	*i* P	**Pg**	**15 49 31.8**	**-1.9**
TUTA				*i* S	**Sb**	**15 49 45.1**	**-0.9**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*PG	**Pb**	**15 49 37.1**	**-0.2**
AGRB				*e*SG	**Sn**	**15 49 52.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*Pg	**Pb**	**15 49 37.1**	**-0.2**
AGRB				*e*Sg	**Sn**	**15 49 52.3**	**+0.1**
DYDN	**Diyadin**	**0.94**	**25**	*i* P	**Pb**	**15 49 37.4**	**-0.6**
DYDN				*i* S	**Sn**	**15 49 51.2**	**-2.1**
DYDN	**Diyadin**	**0.94**	**25**	P	**Pb**	**15 49 37.4**	**-0.6**
DYDN				S	**Sn**	**15 49 51.2**	**-2.1**
EKAR	**Karacoban**	**1.04**	**303**	*i* P	**Pn**	**15 49 41.4**	**+0.8**
EKAR				*i* S	**Sn**	**15 49 59.6**	**+3.9**
EKAR	**Karacoban**	**1.04**	**303**	P	**Pn**	**15 49 41.4**	**+0.8**
HAKT	**HAKKARI**	**1.20**	**160**	*i* P	**Pb**	**15 49 41.1**	**-1.3**
HAKT	**HAKKARI**	**1.20**	**160**	P	**Pb**	**15 49 41.1**	**-1.3**
EATA	**Eleskirt**	**1.29**	**336**	*i* P	**Pn**	**15 49 42.3**	**-1.8**
EATA				*i* S	**Sn**	**15 50 01.3**	**-0.7**
EATA	**Eleskirt**	**1.29**	**336**	P	**Pn**	**15 49 42.3**	**-1.8**
EATA				S	**Sn**	**15 50 01.3**	**-0.7**
SIRN	**S¨–rnak**	**1.33**	**207**	*i* P	**Pg**	**15 49 44.3**	**-0.2**
SIRN	**S¨–rnak**	**1.33**	**207**	P	**Pg**	**15 49 44.3**	**-0.2**
VRTB	**Varto-Mus**	**1.43**	**290**	*e*PN	**Pg**	**15 49 45.7**	**-0.5**
VRTB				*e*SN	**Sg**	**15 50 05.8**	**+1.1**
VRTB	**Varto-Mus**	**1.43**	**290**	*i* P	**Pg**	**15 49 46.0**	**-0.3**
VRTB				*i* S	**Sg**	**15 50 08.1**	**+3.3**
VRTB	**Varto-Mus**	**1.43**	**290**	*e*Pn	**Pg**	**15 49 45.7**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**290**	P	**Pg**	**15 49 46.0**	**-0.3**
VRTB				*e*Sn	**Sg**	**15 50 05.8**	**+1.1**
CUKT	**Cukurca**	**1.48**	**167**	*e*PN	**Pb**	**15 49 46.4**	**-0.7**
CUKT	**Cukurca**	**1.48**	**167**	*i* P	**Pg**	**15 49 48.6**	**+1.4**
CUKT	**Cukurca**	**1.48**	**167**	*e*Pn	**Pb**	**15 49 46.4**	**-0.7**
CUKT	**Cukurca**	**1.48**	**167**	P	**Pg**	**15 49 48.6**	**+1.4**
BNGL	**BINGOL**	**1.61**	**280**	*i* P	**Pb**	**15 49 48.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*PN	**Pn**	**15 49 48.1**	**-0.6**
SVAN				*e*SN	**Sg**	**15 50 10.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*i* P	**Pb**	**15 49 48.6**	**-1.3**
SVAN				*i* S	**Sg**	**15 50 12.9**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*Pn	**Pn**	**15 49 48.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	P	**Pb**	**15 49 48.6**	**-1.3**
SVAN				*e*Sn	**Sg**	**15 50 10.9**	**-0.9**
SVAN				S	**Sg**	**15 50 12.9**	**+1.1**
HOMI	**Horasan**	**1.68**	**324**	*i* P	**Pg**	**15 49 52.0**	**+0.9**
BTMN	**Batman**	**1.70**	**243**	*i* P	**Pb**	**15 49 50.0**	**-0.8**
BTMN	**Batman**	**1.70**	**243**	P	**Pb**	**15 49 50.0**	**-0.8**
DIGO	**Kars**	**1.73**	**5**	*i* P	**Pb**	**15 49 51.3**	**-0.2**
DIGO	**Kars**	**1.73**	**5**	P	**Pb**	**15 49 51.3**	**-0.2**
NAX	**Nakhchivan**	**1.87**	**74**	⇑P	**Pn**	**15 49 51.2**	**-0.7**
	SNR=13						
NAX				⇓S	**Sg**	**15 50 20.2**	**+1.2**
NAX	**Nakhchivan**	**1.87**	**74**	P	**Pn**	**15 49 51.2**	**-0.7**
	SNR=13						
NAX				S	**Sg**	**15 50 20.2**	**+1.2**
GNI	**Garni**	**1.90**	**39**	Pn	**Pb**	**15 49 52.9**	**-1.4**
	33nm,0.3s,baz=255,slow=7.6,SNR=11						
BNGB	**Bing¶‖**	**1.98**	**280**	*e*PN	**Pb**	**15 49 53.8**	**-1.8**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*PN	**Pb**	**15 49 54.9**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pb**	**15 49 54.9**	**-0.8**
BINT	**Bingol**	**2.11**	**276**	*e*PN	**Pn**	**15 49 53.8**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.18**	**291**	*e*PN	**Pn**	**15 49 56.6**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.18**	**291**	*e*Pn	**Pn**	**15 49 56.6**	**+0.4**
MAZI	**Mazidag**	**2.48**	**241**	*e*PN	**Pn**	**15 49 59.9**	**-0.4**
MAZI	**Mazidag**	**2.48**	**241**	*e*Pn	**Pn**	**15 49 59.9**	**-0.4**
AKH	**Akhalkalaki**	**2.73**	**5**	*e*PN	**Pb**	**15 50 06.2**	**-2.3**
AKH	**Akhalkalaki**	**2.73**	**5**	*e*Pn	**Pb**	**15 50 06.2**	**-2.3**
ERZN	**Erzincan**	**2.83**	**290**	*e*PN	**Pn**	**15 50 05.5**	**+0.3**
GDB	**GEDABAY**	**2.84**	**44**	⇑P	**Pb**	**15 50 08.6**	**-1.7**
	SNR=11						
GDB				⇓S	**Sg**	**15 50 51.4**	**+1.3**
GDB	**GEDABAY**	**2.84**	**44**	P	**Pb**	**15 50 08.6**	**-1.7**
	SNR=11						
QZX	**Qazax, Azerbai**	**2.91**	**35**	⇓P	**Pb**	**15 50 10.0**	**-1.4**
	SNR=6.7						
QZX				⇑S	**Sg**	**15 50 54.9**	**+2.6**
QZX	**Qazax, Azerbai**	**2.91**	**35**	P	**Pb**	**15 50 10.0**	**-1.4**
	SNR=6.7						
PTK	**Pertek**	**2.97**	**275**	*e*PN	**Pn**	**15 50 07.7**	**+0.7**
PTK	**Pertek**	**2.97**	**275**	*e*Pn	**Pn**	**15 50 07.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.05**	**265**	*e*PN	**Pn**	**15 50 08.4**	**+0.2**
SVRC	**Sivrice-ELAZID**	**3.05**	**265**	*e*Pn	**Pn**	**15 50 08.4**	**+0.2**
GANJ	**Ganja**	**3.12**	**50**	⇑P	**Pn**	**15 50 11.1**	**+2.1**
	SNR=8.6						
GANJ				⇓S	**Sg**	**15 50 57.7**	**-1.3**
GANJ	**Ganja**	**3.12**	**50**	P	**Pn**	**15 50 11.1**	**+2.1**
	SNR=8.6						
EZC	**Erzincan**	**3.16**	**291**	*e*Pn	**Pn**	**15 50 05.5**	**-4.1**
BRDA	**Brd**	**3.47**	**62**	⇓P	**Pn**	**15 50 15.1**	**+1.3**
	SNR=14						
BRDA				⇑S	**Sb**	**15 51 02.8**	**-0.8**
BRDA	**Brd**	**3.47**	**62**	P	**Pn**	**15 50 15.1**	**+1.3**
	SNR=14						
MNGR	**Mingechevir, A**	**3.66**	**54**	⇑P	**Pn**	**15 50 18.6**	**+2.2**
	SNR=7.9						
MNGR				⇓S	**Sb**	**15 51 08.7**	**-0.3**
MNGR	**Mingechevir, A**	**3.66**	**54**	P	**Pn**	**15 50 18.6**	**+2.2**
	SNR=7.9						
ZKTA	**Zakatala**	**3.96**	**41**	⇓P	Pb	15 50 24.3	-4.9
	SNR=6.4						
ZKTA				⇓S	**Sb**	**15 51 17.7**	**+0.2**
SEKA	**Sheki**	**3.98**	**50**	⇑P	**Pn**	**15 50 24.6**	**+3.7**
	SNR=8.3						
SEKA				⇓S	**Sb**	**15 51 18.2**	**-0.2**
SEKA	**Sheki**	**3.98**	**50**	P	**Pn**	**15 50 24.6**	**+3.7**
	SNR=8.3						
ASTR	**Astara**	**4.40**	**90**	⇓P	**Pn**	**15 50 24.0**	**-2.5**
ASTR				⇑S	**Sn**	**15 51 18.1**	**-0.1**
ASTR	**Astara**	**4.40**	**90**	P	**Pn**	**15 50 24.0**	**-2.5**
ASTR				S	**Sn**	**15 51 18.1**	**-0.1**
XNQ	**Khinaliq**	**4.55**	**55**	⇓P	**Pn**	**15 50 31.2**	**+2.4**
	SNR=4.7						
XNQ				⇑S	**Sb**	**15 51 29.4**	**-5.4**
XNQ	**Khinaliq**	**4.55**	**55**	P	**Pn**	**15 50 31.2**	**+2.4**
	SNR=4.7						
PQL	**Pirkuli**	**4.67**	**62**	⇓S	**Sb**	**15 51 31.5**	**-6.7**
PQL	**Pirkuli**	**4.67**	**62**	S	**Sb**	**15 51 31.5**	**-6.7**
ATGJ	**Altiaghaj**	**4.94**	**62**	⇑P	**Pn**	**15 50 35.9**	**+1.8**
	SNR=4.2						
ATGJ	**Altiaghaj**	**4.94**	**62**	P	**Pn**	**15 50 35.9**	**+1.8**
	SNR=4.2						
SIZA	**Siyzn**	**5.00**	**60**	⇑P	**Pn**	**15 50 36.1**	**+1.2**
	SNR=3.9						
SIZA	**Siyzn**	**5.00**	**60**	P	**Pn**	**15 50 36.1**	**+1.2**
	SNR=3.9						
KBZ	**Khabaz**	**5.04**	**358**	Pn	Pb	15 50 42.2	-5.5
	0.1nm,0.3s,baz=190,slow=21,SNR=1.7						
BRTR	**Keskin Array B**	**7.48**	**281**	Pn	Pb	15 51 18.8	-11
	0.0nm,0.3s,baz=51,slow=11,SNR=2.9						
AKASG	**Malin Array Be**	**15.55**	**325**	Pn	**P**	**15 53 05.4**	**+2.1**
	0.3nm,0.3s,baz=134,slow=11,SNR=3.3						
AKTO	**Aktyubinsk**	**15.77**	**37**	Pn	**Pn**	**15 53 01.8**	**0.0**
	0.1nm,0.3s,baz=229,slow=18,SNR=4.1						
ARU	**Arti**	**20.48**	**25**	P	Pn	15 53 59.4	-0.3
	1.8nm,0.4s,baz=255,slow=3.6,SNR=4.4						
BVAR	**Borovoye Array**	**23.58**	**44**	P	**P**	**15 54 30.5**	**0.0**
	0.4nm,0.6s,baz=256,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra**	**27.57**	**53**	P	**P**	**15 55 07.9**	**+1.0**
	0.6nm,0.7s,baz=264,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**29.60**	**61**	P	**P**	**15 55 26.7**	**+1.7**
	0.6nm,0.9s,baz=264,slow=7.5,SNR=2.5						
NRIK	**Noril'sk**	**38.69**	**23**	P	**P**	**15 56 43.9**	**+0.4**
	0.6nm,0.3s,baz=184,slow=1.9,SNR=6.9						
SONM	**Songino Array**	**45.76**	**57**	P	**P**	**15 57 42.9**	**+1.3**
	0.3nm,0.6s,baz=284,slow=5.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**52.13**	**96**	P	**P**	**15 58 29.9**	**-0.8**
	0.7nm,0.8s,baz=304,slow=8.2,SNR=7.3						

*ISK **23** 15:51:21.7, 38°77N×43°19E, h5km, ML3.5*
*CSEM **23** 15:51:22.2±0.2, 38°75N×43°21E, h2km, ML3.8, Error ellipse: s-maj=5.9km s-min=4.0km az=83.0*
*DDA **23** 15:51:22.0, 38°74N×43°20E, h7km, Ml3.8*

ISC 23 15:51:21.9±1.1, 38°74N±0°02×43°23E±0°03, h5km±10km, n47, σ0°63/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.26**	**146**	*i* P	**Pb**	**15 51 28.8**	**-0.4**
TVAN				*i* S	**Sb**	**15 51 33.0**	**-1.0**
TVAN	**Van**	**0.26**	**146**	P	**Pb**	**15 51 28.8**	**-0.4**
TVAN				S	**Sb**	**15 51 33.0**	**-1.0**
VMUR	**Van-Muradiye**	**0.37**	**47**	*i* P	**Pg**	**15 51 28.9**	**-0.1**
VMUR				*i* S	**Sg**	**15 51 34.8**	**+0.8**
VMUR	**Van-Muradiye**	**0.37**	**47**	P	**Pg**	**15 51 29.0**	**-0.1**
VMUR				S	**Sg**	**15 51 34.8**	**+0.8**
GEVA	**Gevas**	**0.45**	**197**	*i* P	**Pg**	**15 51 29.9**	**-0.7**
GEVA				*i* S	**Sg**	**15 51 36.2**	**-0.3**
GEVA	**Gevas**	**0.45**	**197**	P	**Pg**	**15 51 29.9**	**-0.7**
GEVA				S	**Sg**	**15 51 36.2**	**-0.3**
TUTA	**Tutak**	**0.73**	**334**	*i* P	**Pg**	**15 51 35.8**	**-0.2**
TUTA	**Tutak**	**0.73**	**334**	P	**Pg**	**15 51 35.8**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*PG	**Pg**	**15 51 38.4**	**+0.1**
AGRB				*e*SG	**Sg**	**15 51 49.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*Pg	**Pg**	**15 51 38.4**	**+0.1**
AGRB				*e*Sg	**Sg**	**15 51 49.2**	**-0.2**
DYDN	**Diyadin**	**0.88**	**24**	*i* P	**Pg**	**15 51 38.1**	**-0.7**
DYDN				*i* S	**Sb**	**15 51 52.8**	**+0.8**
DYDN	**Diyadin**	**0.88**	**24**	P	**Pg**	**15 51 38.1**	**-0.7**
EKAR	**Karacoban**	**1.04**	**300**	*i* P	**Pn**	**15 51 44.2**	**+0.7**
EKAR				*i* S	**Sn**	**15 51 59.7**	**+1.2**
EKAR	**Karacoban**	**1.04**	**300**	P	**Pn**	**15 51 44.2**	**+0.7**
HAKT	**HAKKARI**	**1.24**	**162**	*i* P	**Pg**	**15 51 44.8**	**-0.9**
HAKT				*i* S	**Sb**	**15 52 03.0**	**+0.6**
HAKT	**HAKKARI**	**1.24**	**162**	P	**Pg**	**15 51 44.8**	**-0.9**
HAKT				S	**Sb**	**15 52 03.0**	**+0.6**
EATA	**Eleskirt**	**1.26**	**333**	*i* P	**Pg**	**15 51 45.8**	**-0.3**
EATA				*i* S	**Sn**	**15 52 03.1**	**-0.8**
EATA	**Eleskirt**	**1.26**	**333**	P	**Pg**	**15 51 45.8**	**-0.3**
EATA				S	**Sn**	**15 52 03.1**	**-0.8**
SIRN	**S¨–rnak**	**1.40**	**208**	*i* P	**Pg**	**15 51 48.8**	**+0.1**
SIRN				*i* S	**Sb**	**15 52 05.9**	**-0.9**
SIRN	**S¨–rnak**	**1.40**	**208**	P	**Pg**	**15 51 48.8**	**+0.1**
SIRN				S	**Sb**	**15 52 05.9**	**-0.9**
VRTB	**Varto-Mus**	**1.44**	**287**	*e*PN	**Pn**	**15 51 48.6**	**-0.3**
VRTB	**Varto-Mus**	**1.44**	**287**	*i* P	**Pg**	**15 51 49.9**	**+0.3**
VRTB	**Varto-Mus**	**1.44**	**287**	P	**Pg**	**15 51 49.9**	**+0.3**
CUKT	**Cukurca**	**1.52**	**168**	*e*PN	**Pb**	**15 51 50.8**	**+0.1**
CUKT				*e*SN	**Sg**	**15 52 11.8**	**+0.9**
CUKT	**Cukurca**	**1.52**	**168**	*i* P	**Pg**	**15 51 52.4**	**+1.3**
CUKT				*i* S	**Sg**	**15 52 11.3**	**+0.5**
CUKT	**Cukurca**	**1.52**	**168**	*e*Pn	**Pb**	**15 51 50.8**	**+0.1**
CUKT	**Cukurca**	**1.52**	**168**	P	**Pg**	**15 51 52.4**	**+1.3**
CUKT				S	**Sg**	**15 52 11.3**	**+0.5**
BNGL	**BINGOL**	**1.64**	**278**	*i* P	**Pg**	**15 51 53.2**	**-0.1**
HOMI	**Horasan**	**1.66**	**322**	*i* P	**Pg**	**15 51 53.2**	**-0.5**
DIGO	**Kars**	**1.68**	**4**	*i* P	**Pg**	**15 51 54.0**	**-0.1**
DIGO	**Kars**	**1.68**	**4**	P	**Pg**	**15 51 54.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.70**	**250**	*e*PN	**Pn**	**15 51 52.4**	**+0.1**
SVAN				*e*SN	**Sb**	**15 52 15.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.70**	**250**	*i* P	**Pb**	**15 51 53.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.70**	**250**	P	**Pb**	**15 51 53.6**	**-0.1**
SVAN				*e*Sn	**Sb**	**15 52 15.5**	**+0.1**
BTMN	**Batman**	**1.76**	**242**	*i* P	**Pn**	**15 51 53.7**	**+0.5**
BTMN	**Batman**	**1.76**	**242**	P	**Pn**	**15 51 53.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**340**	*e*PN	**Pn**	**15 51 55.8**	**0.0**
BNGB	**Bing¶‖**	**2.00**	**278**	*e*PN	**Pn**	**15 51 56.5**	**-0.1**
BINT	**Bingol**	**2.14**	**274**	*e*Pn	**Pn**	**15 51 56.5**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.20**	**289**	*e*PN	**Pn**	**15 51 59.4**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.20**	**289**	*e*Pn	**Pn**	**15 51 59.4**	**+0.1**
MAZI	**Mazidag**	**2.54**	**241**	*e*PN	**Pn**	**15 52 04.3**	**+0.4**
MAZI	**Mazidag**	**2.54**	**241**	*e*Pn	**Pn**	**15 52 04.3**	**+0.4**
PTK	**Pertek**	**3.00**	**274**	*e*PN	**Pn**	**15 52 10.8**	**+0.5**
PTK	**Pertek**	**3.00**	**274**	*e*Pn	**Pn**	**15 52 10.8**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.09**	**264**	*e*PN	**Pn**	**15 52 12.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.09**	**264**	*e*Pn	**Pn**	**15 52 12.0**	**+0.4**

*NSSC **23** 15:57:33.6±2.1, 39°71N×45°39E, h22km±936km, ML4.0*
*MOS **23** 15:57:57.2±1.5, 38°46N×43°36E, h10km, mb4.7/51, Error ellipse: s-maj=5.7km s-min=3.9km az=105.2*
*ISCJB **23** 15:57:59.0±0.5, 38°58N±0°02×43°39E±0°02, h15km±3km, mb4.4/95, MS3.7/3, Error ellipse: s-maj=3.0km s-min=1.8km az=162.0*
*ISK **23** 15:57:59.5, 38°75N×43°31E, h5km, ML4.3*
*CSEM **23** 15:57:59.6±0.1, 38°67N×43°35E, h10km, mb4.6/40, Error ellipse: s-maj=3.4km s-min=2.3km az=166.0*
*DDA **23** 15:57:59.4, 38°72N×43°33E, h22km, Ml4.6*
*AZER **23** 15:57:59.8±1.0, 38°52N×43°28E, h27km±28km, Error ellipse: s-maj=21.6km s-min=8.1km az=62.0*
*NEIC **23** 15:58:00.3±0.6, 38°66N×43°33E, h18km±4km, mb4.6/39, Error ellipse: s-maj=4.7km s-min=3.7km az=160.0*
*IDC **23** 15:58:00.1±4.5, 38°58N×43°33E, h17km±28km, mb4.2/34, mb1 4.3/42, mb1mx4.2/58, mbtmp4.3/42, ML3.4/8, MS3.8/2, Ms1 3.8/2, ms1mx3.0/55, Error ellipse: s-maj=12.8km s-min=8.4km az=158.0*

ISC 23 15:58:01.0±0.5, 38°66N±0°01×43°35E±0°02, h19km±2km, n504, σ1°47/609, mb4.5/100, MS3.8/4, 50C-66D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.14**	**162**	⇓*i*P	**Pg**	**15 58 06.0**	**+0.5**
TVAN				*i* S	**Sg**	**15 58 10.0**	**+1.4**
TVAN	**Van**	**0.14**	**162**	P	**Pg**	**15 58 06.0**	**+0.5**
TVAN				*i* S	**Sg**	**15 58 09.9**	**+1.3**
TVAN	**Van**	**0.14**	**162**	*i* P	**Pg**	**15 58 06.1**	**+0.5**
TVAN				*i* S	**Sg**	**15 58 09.9**	**+1.3**
VMUR	**Van-Muradiye**	**0.37**	**28**	⇓*i*P	**Pg**	**15 58 06.8**	**-2.1**
VMUR				*i* S	**Sg**	**15 58 12.9**	**-1.3**
VMUR	**Van-Muradiye**	**0.37**	**28**	P	**Pg**	**15 58 06.8**	**-2.1**
VMUR				*i* S	**Sg**	**15 58 13.4**	**-0.9**
VMUR	**Van-Muradiye**	**0.37**	**28**	*i* P	**Pg**	**15 58 06.8**	**-2.1**
VMUR				*i* S	**Sg**	**15 58 13.4**	**-0.9**
GEVA	**Gevas**	**0.42**	**213**	⇓*i*P	**Pg**	**15 58 07.6**	**-2.2**
GEVA				*i* S	**Sg**	**15 58 15.7**	**0.0**
GEVA	**Gevas**	**0.42**	**213**	P	**Pg**	**15 58 07.6**	**-2.2**
GEVA				S	**Sg**	**15 58 15.7**	**0.0**
GEVA	**Gevas**	**0.42**	**213**	*i* P	**Pg**	**15 58 07.6**	**-2.2**
BASK	**Baskale_VAN**	**0.80**	**140**	⇓*i*P	**Pb**	**15 58 14.4**	**-1.9**
BASK				*i* S	**Sn**	**15 58 27.8**	**-1.0**
BASK	**Baskale_VAN**	**0.80**	**140**	P	**Pb**	**15 58 14.4**	**-1.9**
BASK				S	**Sn**	**15 58 27.8**	**-1.0**
TUTA	**Tutak**	**0.85**	**331**	⇓*i*P	**Pb**	**15 58 14.4**	**-2.8**
TUTA				*i* S	**Sb**	**15 58 25.8**	**-2.4**
TUTA	**Tutak**	**0.85**	**331**	P	**Pb**	**15 58 14.4**	**-2.8**
TUTA				S	**Sb**	**15 58 25.8**	**-2.4**
DYDN	**Diyadin**	**0.92**	**17**	*i* P	**Pb**	**15 58 15.6**	**-2.8**
DYDN				*i* S	**Sn**	**15 58 33.8**	**+2.0**
DYDN	**Diyadin**	**0.92**	**17**	*i* P	**Pb**	**15 58 16.2**	**-2.2**
DYDN				S	**Sn**	**15 58 33.8**	**+2.0**
DYDN	**Diyadin**	**0.92**	**17**	*i* P	**Pb**	**15 58 16.2**	**-2.2**
AGRB	**Hanur-Agry**	**0.95**	**343**	PG	**Pb**	**15 58 16.4**	**-2.5**
AGRB				*e*SG	**Sb**	**15 58 28.5**	**-2.7**
AGRB	**Hanur-Agry**	**0.95**	**343**	*i* Pg	**Pb**	**15 58 16.4**	**-2.5**
AGRB				*e*Sg	**Sb**	**15 58 28.5**	**-2.7**
HAKT	**HAKKARI**	**1.14**	**166**	⇓*i*P	**Pn**	**15 58 20.3**	**-1.8**
HAKT				*i* S	**Sg**	**15 58 40.8**	**+2.7**
HAKT	**HAKKARI**	**1.14**	**166**	P	**Pn**	**15 58 20.3**	**-1.8**
HAKT				S	**Sg**	**15 58 40.8**	**+2.7**
EKAR	**Karacoban**	**1.16**	**301**	⇓*i*P	**Pn**	**15 58 20.9**	**-1

EUZM	Uzumlu	3.02	291	*i* P	Pb	15 58 52.0	-2.2	
EUZM				*i* S	Sb	15 59 30.6	-0.2	
EUZM	Uzumlu	3.02	291	P	Pb	15 58 52.0	-2.2	
GANJ	Ganja	3.03	48	⇑P	Pn	15 58 48.1	+0.3	
GANJ				⇓S	Sn	15 59 25.6	+2.0	
GANJ	Ganja	3.03	48	P	Pn	15 58 48.1	+0.3	
GANJ				S	Sn	15 59 25.6	+2.0	
PTK	Pertek	3.10	275	*e*PN	Pn	15 58 50.2	+1.2	
PTK	Pertek	3.10	275	*e*Pn	Pn	15 58 50.2	+1.2	
SVRC	Sivrice-ELAZID	3.19	266	*e*PN	Pn	15 58 51.1	+1.0	
SVRC	Sivrice-ELAZID	3.19	266	*e*Pn	Pn	15 58 51.1	+1.0	
DGRG	David-gareji	3.19	29	P	Pn	15 58 52.2	+2.2	
TBLG	Delisi	3.24	19	*e*PN	Pn	15 58 51.2	+0.4	
TBLG	Delisi	3.24	19	P	Pb	15 59 00.2	+2.3	
TBLG	Delisi	3.24	19	P	Pb	15 59 00.2	+2.3	
TBLG	Delisi	3.24	19	*e*Pn	Pn	15 58 51.2	+0.4	
EZC	Erzincan	3.29	291	*e*Pn	Pn	15 58 47.6	-4.0	
SEAG	Tbilisi Sea	3.29	19	P	Pb	15 58 59.3	+0.6	
BRDA	Brd	3.37	60	⇑P	Pn	15 58 52.3	-0.1	
BRDA				⇑S	Sn	15 59 33.4	+1.6	
BRDA	Brd	3.37	60	P	Pn	15 58 52.3	-0.1	
BRDA				S	Sn	15 59 33.4	+1.6	
ELZG	Elazig	3.43	269	*i* P	Pn	15 58 53.9	+0.5	
ELZG				*i* S	Sb	15 59 45.9	+3.5	
ELZG	Elazig	3.43	269	P	Pn	15 58 53.9	+0.5	
KELT	Kelkit	3.50	296	⇓*i*P	Pb	15 58 59.8	-2.6	
KELT				*i* S	Sg	15 59 51.5	-2.0	
MNGR	Mingechevir, A	3.57	53	⇓P	Pn	15 58 55.3	+0.1	
MNGR				⇑S	Sn	15 59 38.6	+1.8	
MNGR	Mingechevir, A	3.57	53	P	Pn	15 58 55.3	+0.1	
MNGR				S	Sn	15 59 38.6	+1.8	
ZRD	Zardab	3.72	63	⇓P	Pn	15 58 57.2	-0.1	
ZRD				⇑S	Sn	15 59 42.1	+1.5	
ZRD	Zardab	3.72	63	P	Pn	15 58 57.2	-0.1	
ZRD				S	Sn	15 59 42.1	+1.5	
URFA	Urfa	3.78	253	*e*PN	Pn	15 58 59.9	+1.7	
URFA	Urfa	3.78	253	*e*Pn	Pn	15 58 59.9	+1.7	
ZKTA	Zakatala	3.89	39	⇑P	Pn	15 59 00.1	+0.4	
ZKTA				⇓S	Sn	15 59 47.2	+2.5	
GUDG	Gudauri	3.89	12	P	Pg	15 59 17.0	+1.5	
SEKA	Sheki	3.90	48	⇑P	Pn	15 59 00.8	+0.9	
SEKA				⇓S	Sn	15 59 48.5	+3.4	
SEKA	Sheki	3.90	48	P	Pn	15 59 00.8	+0.9	
SEKA				S	Sn	15 59 48.5	+3.4	
LRK	Lerik	3.91	89	⇓P	Pn	15 58 58.9	-1.1	
LRK				⇓S	Sn	15 59 45.1	-0.3	
LRK	Lerik	3.91	89	P	Pn	15 58 58.9	-1.1	
LRK				S	Sn	15 59 45.1	-0.3	
ONI	Oni	3.92	1	P	Pb	15 59 11.0	+1.4	
ONI	Oni	3.92	1	P	Pb	15 59 10.9	+1.4	
GLBA	Clilabad	3.97	80	⇑P	Pn	15 59 00.1	-0.7	
GLBA				⇑S	Sn	15 59 47.5	+0.7	
GLBA	Clilabad	3.97	80	P	Pn	15 59 00.1	-0.7	
GLBA				S	Sn	15 59 47.5	+0.7	
KDMR	Kurdemir	4.11	64	⇑P	Pn	15 59 02.5	-0.2	
KDMR				⇑S	Sn	15 59 51.5	+1.3	
KDMR	Kurdemir	4.11	64	P	Pn	15 59 02.5	-0.2	
KDMR				S	Sn	15 59 51.5	+1.3	
SAAT	Saatly	4.12	72	⇑P	Pn	15 59 02.0	-0.7	
SAAT				⇑S	Sn	15 59 50.8	+0.5	
SAAT	Saatly	4.12	72	P	Pn	15 59 02.0	-0.7	
SAAT				S	Sn	15 59 50.8	+0.5	
QBL	Gabala	4.14	55	⇓P	Pn	15 59 03.1	0.0	
QBL				⇑S	Sn	15 59 52.8	+1.8	
QBL	Gabala	4.14	55	P	Pn	15 59 03.1	0.0	
QBL				S	Sn	15 59 52.8	+1.8	
ZEI	Tsey	4.14	6	*e*P	Pn	15 59 06.5	+3.2	
ZEI				pmax	pmax			
	comp=Z,48nm,0.7s							
LKRN	Lenkeran, Azer	4.25	88	⇓P	Pn	15 59 03.6	-0.9	
LKRN				⇓S	Sn	15 59 53.6	+0.1	
LKRN	Lenkeran, Azer	4.25	88	P	Pn	15 59 03.6	-0.9	
LKRN				S	Sn	15 59 53.6	+0.1	
ASTR	Astara	4.26	90	⇑P	Pn	15 59 03.8	-1.0	
ASTR				⇓S	Sn	15 59 53.9	-0.1	
ASTR	Astara	4.26	90	P	Pn	15 59 03.8	-1.0	
ASTR				S	Sn	15 59 53.9	-0.1	
IML	Ismayilli	4.29	59	⇑P	Pn	15 59 05.1	-0.1	
IML				⇑S	Sn	15 59 56.2	+1.5	
IML	Ismayilli	4.29	59	P	Pn	15 59 05.1	-0.1	
IML				S	Sn	15 59 56.2	+1.5	
XNQ	Khinaliq	4.45	54	⇓P	Pn	15 59 07.5	-0.1	
XNQ				⇓S	Sn	16 00 00.1	+1.1	
XNQ	Khinaliq	4.45	54	P	Pn	15 59 07.5	-0.1	
XNQ				S	Sn	16 00 00.1	+1.1	
PQL	Pirkuli	4.56	61	⇓P	Pn	15 59 08.8	-0.3	
PQL				⇓S	Sn	16 00 02.8	+1.1	
PQL	Pirkuli	4.56	61	P	Pn	15 59 08.8	-0.3	
PQL				S	Sn	16 00 02.8	+1.1	
ALIB	Äli-Bayra	4.57	72	⇓P	Pn	15 59 08.6	-0.4	
ALIB				⇑S	Sn	16 00 02.2	+0.6	
ALIB	Äli-Bayra	4.57	72	P	Pn	15 59 08.6	-0.4	
ALIB				S	Sn	16 00 02.2	+0.6	
NEY	Neytrino	4.61	354	⇑*e*P	Pn	15 59 12.1	+2.5	
NEY	Neytrino	4.61	354	*e*P	Pn	15 59 12.1	+2.5	
GBS	Qobustan	4.71	65	⇓P	Pn	15 59 10.6	-0.3	
GBS				⇑S	Sn	16 00 06.3	+1.3	
GBS	Qobustan	4.71	65	P	Pn	15 59 10.6	-0.3	
GBS				S	Sn	16 00 06.3	+1.3	
QSAR	Qusar	4.72	51	⇓P	Pn	15 59 11.1	0.0	
QSAR				⇓S	Sn	16 00 07.3	+2.0	
QSAR	Qusar	4.72	51	P	Pn	15 59 11.1	0.0	
QSAR				S	Sn	16 00 07.3	+2.0	
QUBA	Quba, Azerbaij	4.78	54	⇑P	Pn	15 59 11.9	0.0	
QUBA				⇓S	Sn	16 00 08.4	+1.7	
QUBA	Quba, Azerbaij	4.78	54	P	Pn	15 59 11.9	0.0	
QUBA				S	Sn	16 00 08.4	+1.7	
NCK	Nalchik	4.83	2	⇑*e*P	Pn	15 59 17.5	+4.9	
NCK	Nalchik	4.83	2	*e*P	Pn	15 59 17.5	+4.9	
ATGJ	Altiaghaj	4.83	61	⇑P	Pn	15 59 12.4	-0.3	
ATGJ				⇑S	Sn	16 00 09.4	+1.2	
ATGJ	Altiaghaj	4.83	61	P	Pn	15 59 12.4	-0.3	
ATGJ				S	Sn	16 00 09.4	+1.2	
GROC	Groznyy	4.90	21	*e*P	Pb	15 59 22.5	-3.5	
GROC				pmax	pmax			
	comp=Z,15nm,0.4s							
SIZA	Siyzn	4.90	59	⇑P	Pn	15 59 13.5	-0.2	
SIZA				⇑S	Sn	16 00 11.3	+1.5	
SIZA	Siyzn	4.90	59	P	Pn	15 59 13.5	-0.2	
SIZA				S	Sn	16 00 11.3	+1.5	
KBZ	Khabaz	5.07	356	Pn	Pn	15 59 19.9	+4.1	
	comp=Z,0.2nm,0.3s,baz=179,slow=7.9,SNR=16							
GOBA	Gobu	5.23	69	⇑P	Pn	15 59 17.7	-0.4	
GOBA				⇓S	Sn	16 00 18.8	+1.0	
GOBA	Gobu	5.23	69	P	Pn	15 59 17.7	-0.4	
GOBA				S	Sn	16 00 18.8	+1.0	
KIV	Kislovodsk	5.31	355	*e*P	Pn	15 59 25.8	+6.6	
KIV				pmax	pmax			
	comp=Z,40nm,1.1s							
KIV				MLR	MLR			
	comp=Z,69nm,7.0s							
KIV	Kislovodsk	5.31	355	*e*Pn	Pn	15 59 20.6	+1.4	
KIV	Kislovodsk	5.31	355	*e*Pn	Pn	15 59 20.6	+1.4	
KIV	Kislovodsk	5.31	355	PnPn	Pb	15 59 26.6	-6.5	
	SNR=17							
KIV	Kislovodsk	5.31	355	P	Pb	15 59 26.6	-6.5	
	SNR=17							
KVAR	Kislovodsk Arr	5.31	355	Pn	Pn	15 59 23.5	+4.2	
	baz=179,slow=9.3,SNR=9.5							
MAK	Makhachkala	5.33	35	*e*P	Pn	15 59 22.1	+2.8	
MAK				*e*S	Sb	16 00 30.6	-6.2	
MAK				pmax	pmax			
	comp=Z,23nm,0.3s							
MAK				MLR	MLR			
	comp=Z,1µm,11.0s							
MAK	Makhachkala	5.33	35	*e*P	Pn	15 59 22.1	+2.8	
	comp=Z,23nm,0.3s							
NDR	Nardaran	5.47	67	⇓P	Pn	15 59 21.0	-0.3	
NDR				⇑S	Sn	16 00 24.9	+1.2	
NDR	Nardaran	5.47	67	P	Pn	15 59 21.0	-0.3	
GALA	Gala	5.54	70	⇑P	Pn	15 59 21.9	-0.4	
GALA				⇑S	Sn	16 00 26.5	+1.0	
GALA	Gala	5.54	70	P	Pn	15 59 21.9	-0.4	
SOC	Sochi	5.63	332	*e*P	Pn	15 59 28.5	+5.0	
SOC				*e*		16 00 34.8		
SOC				pmax	pmax			
	comp=Z,53nm,1.1s							
SOC				MLR	MLR			
	comp=Z,726nm,16.0s							
DRWC	Darouich	5.68	251	*e*P	Pn	15 59 23.1	-1.2	
DRWC				*e*S	Sb	16 00 43.4	-3.8	
DRWC				AML	AML	16 01 09.7		
	comp=E,120nm,0.7s							
DRWC				AML	AML	16 01 19.7		
	comp=N,275nm,0.6s							
BTCH	Batrach	6.08	247	*e*P	Pn	15 59 28.0	-1.9	
BTCH				AML	AML	16 01 27.0		
	comp=E,384nm,0.7s							
BTCH				AML	AML	16 01 29.4		
	comp=N,326nm,0.7s							
KFRA	Kufra	6.28	239	*e*P	Pn	15 59 33.3	+0.8	
KFRA				AML	AML	16 01 37.4		
	comp=E,791nm,0.7s							
KFRA				AML	AML	16 01 44.2		
	comp=N,486nm,0.6s							
GOF	Gofitskoye	6.39	358	⇑*e*P	Pn	15 59 37.7	+3.7	
GOF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
RABH	Abou Rabah	6.50	231	*e*P	Pn	15 59 36.6	+1.0	
RABH				AML	AML	16 01 33.5		
	comp=N,105nm,0.6s							
RABH				AML	AML	16 02 00.5		
	comp=E,80nm,0.7s							
ARNB	Al Arnab	6.51	247	*e*P	Pn	15 59 34.5	-1.3	
ARNB				AML	AML	16 01 42.0		
	comp=N,193nm,0.7s							
ARNB				AML	AML	16 01 43.7		
	comp=E,118nm,0.7s							
ROOS	tl_alroos	6.63	229	*e*P	Pn	15 59 37.5	+0.1	
BIDA	Aibida	6.71	239	*e*P	Pn	15 59 39.5	+1.0	
BIDA				AML	AML	16 01 41.6		
	comp=E,467nm,0.7s							
BIDA				AML	AML	16 01 51.8		
	comp=N,457nm,0.6s							
HAWK	Haweek	6.95	236	*e*P	Pn	15 59 41.6	-0.2	
HAWK				*e*S	Sb	16 01 13.8	-10	
HAWK				AML	AML	16 01 47.8		
	comp=N,99nm,0.6s							
HAWK				AML	AML	16 01 50.8		
	comp=E,66nm,0.6s							
MARH	Ras Al Marh	7.22	232	*e*P	Pn	15 59 45.3	-0.4	
MARH				AML	AML	16 02 15.8		
	comp=N,53nm,0.8s							
MARH				AML	AML	16 02 23.7		
	comp=E,132nm,0.7s							
BR131	Keskin Array S	7.62	281	*e*Pn	Pn	15 59 49.4	-1.6	
BR131	Keskin Array S	7.62	281	*e*Pn	Pn	15 59 49.4	-1.6	
BRTR	Keskin Array B	7.62	281	Pn	Pn	15 59 52.7	+1.7	
	comp=E,0.1nm,0.3s,baz=107,slow=15,SNR=6.5							
QASN	Qassioun	7.68	230	*e*P	Pn	15 59 51.6	-0.2	
QASN				AML	AML	16 02 30.0		
	comp=E,141nm,0.5s							
QASN				AML	AML	16 02 32.1		
	comp=N,190nm,0.6s							
TOTH	TOTAH	7.71	229	*e*P	Pn	15 59 51.7	-0.5	
TOTH				*e*S	Sn	16 01 31.4	+12	
TOTH				AML	AML	16 02 23.6		
	comp=N,70nm,0.7s							
TOTH				AML	AML	16 02 28.6		
	comp=E,40nm,0.8s							
ILGA	Ilgaz	7.79	291	*e*Pn	Pn	15 59 52.2	-1.2	
ILGA	Ilgaz	7.79	291	*e*Pn	Pn	15 59 52.2	-1.2	
BRBR	Barbar	7.96	231	*e*P	Pn	15 59 56.9	+1.1	
BRBR				AML	AML	16 02 24.3		
	comp=N,50nm,0.7s							
BRBR				AML	AML	16 02 46.1		
	comp=E,74nm,0.7s							
DQRL	Deir Qamar	8.00	234	*e*P	Pn	15 59 58.5	+2.3	
SALA	Sala	8.01	224	*e*P	Pn	15 59 56.5	0.0	
SALA				*e*S	Sn	16 01 39.5	+13	
SALA				AML	AML	16 02 35.0		
	comp=N,81nm,0.7s							
SALA				AML	AML	16 02 44.8		
	comp=E,4.7nm,0.7s							
SHBL	Chebaa	8.13	232	*e*P	Pn	16 00 00.0	+2.0	
ANTO	Ankara	8.28	282	*e*P	Pn	15 59 58.2	-1.8	
ANTO	Ankara	8.28	282	*e*Pn	Pn	15 59 58.2	-1.8	
ANTO	Ankara	8.28	282	*e*Pn	Pn	15 59 58.2	-1.8	
BR231	Keskin MP Arra	8.29	281	*e*Pn	Pn	15 59 58.7	-1.5	
BR231	Keskin MP Arra	8.29	281	*e*Pn	Pn	15 59 58.7	-1.5	
ASF	Jabal al Asfar	8.35	221	Pn	Pn	16 00 00.9	-0.1	
	comp=E,0.9nm,0.3s,baz=346,slow=14,SNR=4.3							
MMAI	Mount Meron Ar	8.56	231	Pn	Pn	16 00 05.3	+1.4	
	comp=E,4.3nm,0.3s,baz=68,slow=16,SNR=15							
CSS	Mathiatis	8.84	248	*e*Pn	Pn	16 00 04.5	-3.2	
EIL	Elat	11.35	220	Pn	Pn	16 00 42.4	+0.4	
	comp=E,0.2nm,0.3s,baz=90,slow=19,SNR=2.5							
MANT	Manisa	11.58	274	*e*Pn	Pn	16 00 42.1	-3.3	
GEYT	Alibeck	11.63	89	Pn	Pn	16 00 48.7	+2.8	
	comp=E,0.3nm,0.3s,baz=248,slow=15,SNR=7.1							
VRI	Vrincioaia	14.24	306	⇑*i*P	P	16 01 30.5	+1.8	
VRI	Vrincioaia	14.24	306	⇑P	P	16 01 32.1	+3.4	
LPSR	Galich'ya Gora	14.27	349	*e*P	Pn	16 01 21.3	-0.5	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PLOR	Plostina	14.29	306	⇑*i*P	P	16 01 30.9	+1.7	
PLOR	Plostina	14.29	306	⇑P	P	16 01 30.9	+1.7	
MLR	Muntele Rosu	14.60	303	⇓*i*P	P	16 01 35.6	+2.8	
MLR	Muntele Rosu	14.60	303	⇓P	P	16 01 35.6	+2.8	
IDI	Anoyia	15.13	263	Pn	Pn	16 01 33.8	+0.1	
	baz=147,slow=13,SNR=2.4							
DOPR	Dopca	15.14	305	⇓*i*P	P	16 01 41.5	+2.8	
VOIR		15.17	302	⇓*i*P	P	16 01 42.6	+3.5	
VOIR		15.17	302	⇓P	P	16 01 42.6	+3.5	
RAYN	Ar Rayn	15.21	172	*e*Pn	Pn	16 01 29.6	-5.1	
ARR	Arges	15.42	302	⇑*i*P	P	16 01 45.0	+3.1	
AKASG	Malin Array Be	15.64	325	Pn	Pn	16 01 39.2	-1.0	
	comp=Z,0.6nm,0.3s,baz=130,slow=12,SNR=20							
AKBB	Malin Array Si	15.64	325	*e*P	Pn	16 01 40.2	+0.1	
AKBB				pmax	pmax			
	comp=Z,20nm,1.0s							
AKBB	Malin Array Si	15.64	325	*e*Pn	Pn	16 01 40.2	+0.1	
	comp=Z,20nm,1.0s							
AKBB	Malin Array Si	15.64	325	*e*Pn	Pn	16 01 40.2	+0.1	
	comp=Z,20nm,1.0s							
KIEV	Kiev	15.64	325	⇓*e*P	Pn	16 01 40.4	+0.2	
KIEV	Kiev	15.64	325	*e*Pn	Pn	16 01 40.0	-0.2	
	comp=Z,18nm,1.0s							
KIEV	Kiev	15.64	325	*e*Pn	Pn	16 01 40.0	-0.2	
	comp=Z,18nm,1.0s							
AKTO	Aktyubinsk	15.71	37	Pn	Pn	16 01 39.9	-1.1	
	comp=Z,0.3nm,0.3s,baz=231,slow=13,SNR=10.0							
AKTO	Aktyubinsk	15.71	37	P	Pn	16 01 38.3	-2.7	
AKTO				pmax	pmax			
	comp=Z,29nm,1.4s							
VTS	Vitosha	15.78	291	⇓*i*P	P	16 01 46.0	0.0	
VTS	Vitosha	15.78	291	*e*P	Pn	16 01 42.3	+0.1	
VTS				pmax	pmax			
	comp=Z,18nm,1.2s							
VTS	Vitosha	15.78	291	*e*Pn	Pn	16 01 42.3	+0.1	
	comp=Z,18nm,1.2s							
VTS	Vitosha	15.78	291	*e*Pn	Pn	16 01 42.3	+0.1	
	comp=Z,18nm,1.2s							
AB31	Akbulak array	15.93	43	*i* P	Pn	16 01 42.1	-1.7	
AB31				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ABKAR	Akbulak array	15.93	43	*e*Pn	Pn	16 01 43.0	-0.8	
	comp=Z,36nm,0.8s							
ABKAR	Akbulak array	15.93	43	*e*Pn	Pn	16 01 43.0	-0.8	
	comp=Z,36nm,0.8s							
BURAR	Bucovina Array	15.95	310	⇓*i*P	P	16 01 49.9	+2.2	
BURAR	Bucovina Array	15.95	310	⇓P	P	16 01 49.8	+2.1	
BUR08	Bucovina Ar. S	15.97	310	*e*Pn	Pn	16 01 46.5	+2.0	
BUR08	Bucovina Ar. S	15.97	310	*e*Pn	Pn	16 01 46.5	+2.0	
OBN	Obninsk	17.08	347	P	Pn	16 01 57.6	-0.8	
	comp=Z,0.6nm,0.3s,baz=157,slow=10,SNR=8.7							
OBN	Obninsk	17.08	347	⇑*i*P	Pn	16 01 59.1	+0.7	
OBN				pmax	pmax			
	comp=Z,76nm,1.7s							
OBN	Obninsk	17.08	347	*e*Pn	Pn	16 01 57.9	-0.5	
	comp=Z,97nm,1.3s							
OBN	Obninsk	17.08	347	*e*Pn	Pn	16 01 57.9	-0.5	
	comp=Z,97nm,1.3s							
DRGR		17.17	305	⇓*i*P	P	16 02 02.9	+1.7	
DRGR		17.17	305	⇓P	P	16 02 02.9	+1.7	
MOS	Moscow	17.51	349	*e*P	Pn	16 02 02.3	-1.4	
MOS				*e*S	Sn	16 05 21.7	+3.7	
MOS				pmax	pmax			
	comp=Z,90nm,1.3s							
BZS	Buzias	17.52	300	⇑*i*P	P	16 02 06.1	+1.1	
BZS	Buzias	17.52	300	⇑P	P	16 02 06.1	+1.1	
SIRR	Siria	17.68	302	⇓*i*P	P	16 02 09.1	+2.3	
UZH	Uzhgorod	18.15	310	*e*P	Pn	16 02 11.6	-0.1	
CRVS	Cervenica-Dubn	18.77	310	*e*P	Pn	16 02 22.2	+3.0	
CRVS	Cervenica-Dubn	18.77	310	*e*P	Pn	16 02 22.2	+3.0	
PSZ	Piszkesteto	19.36	306	⇓*i*P	Pn	16 02 28.4	+2.0	
PSZ	Piszkesteto	19.36	306	*e*P	P	16 02 25.2	-0.1	
PSZ				pmax	pmax			
	comp=Z,26nm,1.2s							
PSZ	Piszkesteto	19.36	306	*e*P	P	16 02 25.2	-0.1	
	comp=Z,26nm,1.2s							
PSZ	Piszkesteto	19.36	306	⇑*e*PKKPdf	Pn	16 02 33.9	+7.5	
PSZ	Piszkesteto	19.36	306	*e*P	P	16 02 25.2	-0.1	
	comp=Z,26nm,1.2s							
NACGM	Naroch	19.73	331	*e*	P	16 02 29.0	-0.2	
WSAR	Wadi Sarin	20.16	135	P	P	16 02 33.5	-0.6	
	comp=Z,3.1nm,0.7s,baz=37,slow=14,SNR=3.3							
VYHS	Vyhne	20.22	307	*e*P	Pn	16 02 36.2	-0.4	
VYHS				pmax	pmax			
	comp=Z,40nm,2.2s							
VYHS	Vyhne	20.22	307	*e*P	Pn	16 02 36.2	-0.4	
CSKK	Cs^ˇtkako	20.23	304	⇓*e*PKKPdf	Pn	16 02 36.6	-0.2	
OJC	Ojcow	20.31	312	*e*P	P	16 02 34.2	-1.3	
OJC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
OJC	Ojcow	20.31	312	*e*P	P	16 02 34.2	-1.3	
	comp=Z,8.8nm,0.8s							
OJC	Ojcow	20.31	312	*e*P	P	16 02 34.2	-1.3	
	comp=Z,8.8nm,0.8s							
ARU	Arti	20.44	25	P	P	16 02 37.4	+0.5	
	comp=Z,21nm,0.6s,baz=221,slow=6.4,SNR=39							
ARU	Arti	20.44	25	*c i*P	P	16 02 36.8	-0.1	
ARU						16 02 55.2		
ARU				S	Sn	16 06 28.4	-0.4	
ARU				SS	SnSn	16 06 49.0	+5.6	
ARU				pmax	pmax			
	comp=Z,48nm,1.2s							
ARU	Arti	20.44	25	*e*P	P	16 02 37.0	+0.1	
	comp=Z,28nm,0.7s							
ARU	Arti	20.44	25	*e*P	P	16 02 37.0	+0.1	
	comp=Z,28nm,0.7s							
SUW	Suwalki	20.61	325	P	P	16 02 39.5	+0.7	
KK31	Karatay Array	20.97	69	*i* P	P	16 02 43.2	+0.4	
KK31				pmax	pmax			
	comp=Z,24nm,0.8s							
KKAR	Karatay Array	20.97	69	*e*P	P	16 02 43.2	+0.4	
KKAR				pmax	pmax			
	comp=Z,192nm,0.8s							
KKAR	Karatay Array	20.97	69	*e*P	P	16 02 43.2	+0.4	
	comp=Z,192nm,0.8s							
KKAR	Karatay Array	20.97	69	*e*P	P	16 02 43.2	+0.4	
	comp=Z,192nm,0.8s							
KBL	Kabul	21.01	93	*e*P	P	16 02 43.6	+0.1	
KBL				pmax	pmax			
	comp=Z,23nm,1.1s							
KBL	Kabul	21.01	93	*e*P	P	16 02 43.6	+0.1	
	comp=Z,23nm,1.1s							
KBL	Kabul	21.01	93	*e*P	P	16 02 43.6	+0.1	
	comp=Z,23nm,1.1s							
OKC	Ostrava-Krasne	21.12	310	*e*pP	pP	16 02 53.2	+3.3	
OKC	Ostrava-Krasne	21.12	310	*e*P	P	16 02 53.2	+8.8	
CUC	Castrocucco	21.31	282	*e*P	P	16 02 47.0	+0.4	
	comp=Z,14nm,1.3s							
CUC	Castrocucco	21.31	282	*e*P	P	16 02 47.0	+0.4	
	comp=Z,14nm,1.3s							
SOP	Sopron	21.43	304	P	P	16 02 50.3	+2.6	
SOP	Sopron	21.43	304	P	P	16 02 50.3	+2.6	
SVE	Sverdlovsk	21.46	27	*e*P	P	16 02 48.2	+0.3	
SVE				pmax	pmax			
	comp=Z,47nm,1.2s							
MORC	Moravsky Berou	21.47	310	⇓*i*P	P	16 02 50.1	+2.0	
MORC	Moravsky Berou	21.47	310	⇑P	P	16 02 52.0	+3.9	
MORC	Moravsky Berou	21.47	310	*e*P	P	16 02 47.8	-0.3	
	comp=Z,70nm,1.6s							
MORC	Moravsky Berou	21.47	310	*e*P	P	16 02 47.8	-0.3	
	comp=Z,70nm,1.6s							
VRAC	Vranov	21.89	308	P	P	16 02 55.8	+3.2	
	comp=Z,8.2nm,0.9s,baz=99,slow=9.1,SNR=8.2							
CONA	Conrad Observa	21.95	304	*i* pP	P	16 02 54.8	+1.5	
	comp=Z,21nm,1.3s							
ARSA	Arzberg	22.01	302	*i* P	P	16 02 55.2	+1.2	
	comp=Z,9.4nm,1.4s							
ARSA	Arzberg	22.01	302	P	P	16 02 55.2	+1.2	
	comp=Z,9.4nm,1.4s							
SOKA	Soboth	22.22	300	*i* pP	P	16 02 59.0	+2.7	
	comp=Z,10nm,2.0s							
KLMR	Klimovskoe	22.34	355	*e*P	P	16 02 56.9	-0.4	
KLMR				pmax	pmax			
	comp=Z,132nm,1.5s							
KLMR	Kl

KHC	**Kasperske Hory**	23.72	306	*e*P		**P**	**16 03 12.5**	**+0.8**
KHC				*e*pP		**pP**	**16 03 16.3**	**-1.2**
KHC	**Kasperske Hory**	23.72	306	*e*P		**P**	**16 03 11.2**	**-0.5**
KHC				pmax		pmax		
	comp=Z,12nm,1.6s							
KHC	**Kasperske Hory**	23.72	306	*e*P		**P**	**16 03 11.2**	**-0.5**
	comp=Z,12nm,1.6s							
KHC	**Kasperske Hory**	23.72	306	*e*P		**P**	**16 03 11.2**	**-0.5**
	comp=Z,12nm,1.6s							
AAK	**Ala-Archa**	23.89	70	P		**P**	**16 03 14.5**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=242,slow=11,SNR=7.8							
AAK	**Ala-Archa**	23.89	70	⇓*e*P		**P**	**16 03 15.3**	**+1.9**
AAK				pmax		pmax		
	comp=Z,24nm,1.3s							
AAK	**Ala-Archa**	23.89	70	*e*P		**P**	**16 03 11.8**	**-1.6**
	comp=Z,15nm,1.3s							
AAK	**Ala-Archa**	23.89	70	*e*P		**P**	**16 03 11.8**	**-1.6**
	comp=Z,15nm,1.3s							
AAK	**Ala-Archa**	23.89	70	P		**P**	**16 03 15.5**	**+2.0**
	SNR=7.7							
AAK	**Ala-Archa**	23.89	70	P		**P**	**16 03 15.5**	**+2.0**
	SNR=7.7							
ABTA	**Abfaltersbach**	23.94	300	*i* P		**P**	**16 03 11.8**	**-2.0**
	comp=Z,9.0nm,1.5s							
ABTA	**Abfaltersbach**	23.94	300	P		**P**	**16 03 11.8**	**-2.0**
	comp=Z,9.0nm,1.5s							
FRU	**Bishkek**	23.98	70	*e*P		**P**	**16 03 16.0**	**+1.9**
FRU				pmax		pmax		
	comp=Z,50nm,2.0s							
BRG	**Berggiesshubel**	24.01	310	*e*P		**P**	**16 03 14.6**	**+0.3**
	comp=Z,10nm,1.1s							
BRG	**Berggiesshubel**	24.01	310	*e*P		**P**	**16 03 14.6**	**+0.3**
BRG				pmax		pmax		
	comp=Z,10.0nm,1.2s							
WET	**Wettzell**	24.17	306	P		**P**	**16 03 16.2**	**+0.3**
WET				pmax		pmax		
	comp=Z,21nm,1.3s							
WTTA	**Wattenberg**	24.61	301	*i* pP		**P**	**16 03 21.1**	**+1.0**
	comp=Z,16nm,1.2s							
WATA	**Walderalm**	24.66	301	*i* pP		**P**	**16 03 21.7**	**+1.2**
	comp=Z,14nm,1.0s							
TKM2	**Tokmak 2**	24.69	70	*i* P		**P**	**16 03 22.3**	**+1.4**
TKM2				pmax		pmax		
	comp=Z,21nm,1.5s							
CLL	**Collm**	24.71	311	⇓*i*P		**P**	**16 03 21.1**	**+0.4**
CLL				*e*			16 03 28.0	
CLL				pmax		pmax		
	comp=Z,14nm,1.0s							
CLL	**Collm**	24.71	311	*e*P		**P**	**16 03 20.8**	**+0.1**
	comp=Z,10nm,0.9s							
CLL	**Collm**	24.71	311	⇓*i*P		**P**	**16 03 21.1**	**+0.4**
	comp=Z,14nm,1.0s							
CLL				*es*P		**pP**	**16 03 28.0**	**+1.4**
CLL				*i*			16 03 33.9	
CLL	**Collm**	24.71	311	*e*P		**P**	**16 03 20.8**	**+0.1**
	comp=Z,10nm,0.9s							
NKC	**Novy Kostel**	24.73	308	*e*P		**P**	**16 03 21.3**	**+0.4**
NKC	**Novy Kostel**	24.73	308	*e*P		**P**	**16 03 21.3**	**+0.4**
NKC	**Novy Kostel**	24.73	308	P		**P**	**16 03 21.3**	**+0.4**
MOTA	**Moosalm**	24.98	301	*i* P		**P**	**16 03 24.0**	**+0.6**
	comp=Z,16nm,0.9s							
MOTA	**Moosalm**	24.98	301	P		**P**	**16 03 24.0**	**+0.6**
	comp=Z,16nm,0.9s							
FETA	**Feichten**	25.19	300	*i* P		**P**	**16 03 25.6**	**+0.3**
	comp=Z,14nm,1.5s							
FETA	**Feichten**	25.19	300	P		**P**	**16 03 25.6**	**+0.3**
	comp=Z,14nm,1.5s							
FINES	**FINESS Array B**	25.20	340	P		**P**	**16 03 25.2**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=141,slow=12,SNR=13							
RETA	**Reutte**	25.23	301	*i* P		**P**	**16 03 24.6**	**-1.0**
	comp=Z,11nm,1.5s							
RETA	**Reutte**	25.23	301	P		**P**	**16 03 24.6**	**-1.0**
	comp=Z,11nm,1.5s							
KSH	**Kashi**	25.26	78	P		**P**	**16 03 25.1**	**-0.9**
KSH				pP		pP	16 03 32.3	+0.5
KSH				sP		sP	16 03 36.1	+1.8
KSH				PP		**PnPn**	**16 04 02.8**	**+2.3**
KSH				*e*PcP		**PcP**	**16 07 01.1**	**+2.2**
KSH				S		**S**	**16 07 45.8**	**-5.0**
KSH				sS		pS	16 07 57.1	-0.2
KSH				SS		**SnSn**	**16 08 44.3**	**+2.4**
KSH				PcS		**PcS**	**16 10 41.0**	**+1.6**
KSH				pmax		pmax		
	comp=Z,8.0nm,1.3s							
KSH				pmax		pmax		
	comp=Z,60nm,4.1s							
KSH				LR		LR		
	comp=N,130nm,7.8s							
KSH				LR		LR		
	comp=E,230nm,12.7s							
KSH				LR		LR		
	comp=Z,150nm,7.4s							
GRF	**Grafenberg Arr**	25.35	306	P		**P**	**16 03 26.4**	**-0.2**
GRF				pmax		pmax		
	comp=Z,32nm,1.3s							
GRFO	**Grafenberg**	25.35	306	*e*P		**P**	**16 03 26.1**	**-0.4**
GRFO				pmax		pmax		
	comp=Z,41nm,1.3s							
GRFO	**Grafenberg**	25.35	306	*e*P		**P**	**16 03 26.1**	**-0.4**
	comp=Z,41nm,1.3s							
GRFO	**Grafenberg**	25.35	306	*e*P		**P**	**16 03 26.1**	**-0.4**
	comp=Z,41nm,1.3s							
JOF	**Joensuu**	25.36	347	P		**P**	**16 03 26.1**	**-0.3**
JOF				pmax		pmax		
	comp=Z,35nm,0.8s							
TMCR	**Tamitsa**	25.73	355	*e*P		**P**	**16 03 28.7**	**-1.1**
TMCR				pmax		pmax		
	comp=Z,22nm,0.7s							
DAVOX	**Davos/Dischmat**	25.74	299	P		**P**	**16 03 30.0**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=97,slow=7.6,SNR=9.7							
DAVA	**Damuels**	25.80	300	*i* P		**P**	**16 03 30.8**	**0.0**
	comp=Z,9.7nm,0.9s							
DAVA	**Damuels**	25.80	300	P		**P**	**16 03 30.8**	**0.0**
	comp=Z,9.7nm,0.9s							
KEST	**Kesra**	27.16	274	P		**P**	**16 03 43.5**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=129,slow=1.4,SNR=4.2							
KURBB	**Kurchatov Arra**	27.47	53	P		**P**	**16 03 46.8**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=263,slow=9.1,SNR=56							
KURBB				PcP		**PcP**	**16 07 02.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=257,slow=2.8,SNR=5.3							
PDGK	**Podgornoye**	27.53	69	P		**P**	**16 03 46.3**	**-0.1**
PDGK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KURK	**Kurchatov**	27.55	53	*c i*P		**P**	**16 03 47.4**	**+1.1**
KURK				pmax		pmax		
	comp=Z,44nm,1.0s							
KURK	**Kurchatov**	27.55	53	*e*P		**P**	**16 03 46.7**	**+0.4**
	comp=Z,10nm,0.9s							
KURK	**Kurchatov**	27.55	53	PcP		**PcP**	**16 07 02.9**	**-0.9**
KURK	**Kurchatov**	27.55	53	*e*P		**P**	**16 03 46.6**	**+0.4**
KURK				PcP		**PcP**	**16 07 02.9**	**-0.9**
KURK	**Kurchatov**	27.55	53	P		**P**	**16 03 47.7**	**+1.3**
	SNR=5.2							
KURK	**Kurchatov**	27.55	53	P		**P**	**16 03 47.7**	**+1.3**
	SNR=5.2							
HFS	**Hagfors**	28.46	329	P		**P**	**16 03 53.8**	**-0.6**
	comp=Z,8.5nm,0.8s,baz=164,slow=12,SNR=9.5							
MKAR	**Makanchi Array**	29.49	61	P		**P**	**16 04 04.3**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=263,slow=7.1,SNR=7.0							
NOA	**NORSAR Array B**	29.98	329	P		**P**	**16 04 07.3**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=126,slow=8.6,SNR=3.5							
NVS	**Novosibirsk**	31.24	46	*e*P		**P**	**16 04 19.6**	**+0.6**
NVS				pmax		pmax		
	comp=Z,12nm,1.3s							
NVS				pmax		pmax		
	comp=N,5.0nm,1.2s							
ZAA0	**Zalesovo Array**	31.94	48	*e*P		**P**	**16 04 23.9**	**-1.3**
ZAA0	**Zalesovo Array**	31.94	48	*e*P		**P**	**16 04 23.9**	**-1.3**
ZALV	**Zalesovo Beam**	31.94	48	P		**P**	**16 04 24.7**	**-0.5**
	comp=N,1.1nm,0.6s,baz=265,slow=9.7,SNR=5.1							
ARCES	**ARCESS Array B**	32.38	348	P		**P**	**16 04 29.1**	**+0.2**
	comp=N,4.8nm,0.8s,baz=158,slow=7.3,SNR=8.7							
WMQ	**Urumqi**	33.43	67	P		**P**	**16 04 38.4**	**-0.1**
WMQ				pP		sP	16 04 46.0	-0.9
WMQ				sP		pP	16 04 48.8	+4.4
WMQ				pmax		pmax		
	comp=Z,11nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,150nm,5.7s							
WMQ				LR		LR		
	comp=N,230nm,39.1s							
WMQ				LR		LR		
	comp=E,130nm,39.2s							
WMQ				LR		LR		
	comp=Z,170nm,37.9s							
PYUN	**Piuthan**	34.50	96	*e*P		**P**	**16 04 48.9**	**+0.8**
	comp=Z,20nm,0.7s							
DANN	**Dangsing**	34.98	95	*e*P		**P**	**16 04 53.9**	**+1.6**
EKA	**Eskdalemuir Ar**	35.07	314	P		**P**	**16 04 52.2**	**-0.1**
	comp=Z,10nm,0.7s,baz=107,slow=8.6,SNR=17							
KOLN	**Koldanda**	35.13	96	*e*P		**P**	**16 04 54.3**	**+0.8**
	comp=Z,17nm,1.0s							
GKN	**Gorkha**	35.83	95	*e*P		**P**	**16 05 00.1**	**+0.6**
	comp=Z,28nm,0.7s							
TAM	**Tamanrasset**	35.88	255	*e*P		**P**	**16 04 56.6**	**-3.3**
TAM				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TAM	**Tamanrasset**	35.88	255	*e*P		**P**	**16 04 56.6**	**-3.3**
	comp=Z,5.4nm,0.9s							
ESDC	**Sonseca Array**	36.36	287	P		**P**	**16 05 02.2**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=68,slow=8.5,SNR=13							
DMN	**Daman**	36.38	95	*e*P		**P**	**16 05 05.4**	**+1.1**
	comp=Z,45nm,1.1s							
KKN	**Kakani**	36.43	95	*e*P		**P**	**16 05 05.2**	**+0.5**
	comp=Z,20nm,1.0s							
PKIN	**Phulchoki**	36.62	95	*e*P		**P**	**16 05 07.0**	**+0.6**
	comp=Z,14nm,0.7s							
GUN	**Gumba**	36.84	94	*e*P		**P**	**16 05 09.1**	**+0.8**
	comp=Z,74nm,1.1s							
JIRN	**Jiri**	37.20	94	*e*P		**P**	**16 05 12.4**	**+1.0**
	comp=Z,138nm,0.8s							
RAMN	**Ramite**	37.86	95	*e*P		**P**	**16 05 17.5**	**+0.6**
	comp=Z,54nm,0.8s							
ODAN	**Odare**	38.52	94	*e*P		**P**	**16 05 23.5**	**+1.1**
	comp=Z,72nm,1.2s							
TAPN	**Taplejung**	38.54	93	*e*P		**P**	**16 05 23.4**	**+0.8**
	comp=Z,28nm,0.9s							
NRIK	**Noril'sk**	38.66	23	P		**P**	**16 05 23.7**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=243,slow=6.5,SNR=9.9							
LSA	**Lhasa**	40.16	88	*e*P		**P**	**16 05 36.6**	**+0.2**
LSA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
LSA	**Lhasa**	40.16	88	*e*P		**P**	**16 05 36.6**	**+0.2**
	comp=Z,9.4nm,0.9s							
LSA	**Lhasa**	40.16	88	*e*P		**P**	**16 05 36.6**	**+0.2**
	comp=Z,9.4nm,0.9s							
GTA	**Gaotai**	43.24	70	*e*P		**P**	**16 06 02.3**	**+1.2**
GTA				pP		sP	16 06 08.4	-1.1
GTA				sP		pP	16 06 11.3	+4.2
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
TOA0	**Torodi Ar. Sit**	44.73	247	*e*P		**P**	**16 06 10.2**	**-2.9**
	comp=Z,8.3nm,1.0s							
TORD	**Torodi Ar. Bea**	44.73	247	P		**P**	**16 06 11.7**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=69,slow=8.5,SNR=24							
TORD				LR		LR	16 28 18.5	
	comp=Z,104nm,19.8s,baz=195,slow=41							
SONM	**Songino Array**	45.66	57	PcP		**PcP**	**16 07 57.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=252,slow=2.0,SNR=3.5							
ULN	**Ulaanbaatar**	46.09	57	⇓*i*P		**P**	**16 06 25.1**	**+1.4**
ULN				pmax		pmax		
	comp=Z,12nm,2.5s							
ULN	**Ulaanbaatar**	46.09	57	*e*P		**P**	**16 06 23.7**	**0.0**
	comp=Z,23nm,1.7s							
ULN	**Ulaanbaatar**	46.09	57	*e*P		**P**	**16 06 23.7**	**0.0**
	comp=Z,23nm,1.7s							
DAG	**Danmarks Havn**	46.36	344	P		**P**	**16 06 25.4**	**+0.1**
DAG				pmax		pmax		
	comp=Z,11nm,1.2s							
LZH	**Lanzhou**	47.38	73	*e*P		**P**	**16 06 37.5**	**+3.5**
LZH				pP		sP	16 06 43.6	+1.1
LZH				sP		pP	16 06 47.3	+7.2
LZH				pmax		pmax		
	comp=Z,44nm,1.6s							
LZH				pmax		pmax		
	comp=Z,190nm,5.3s							
BOD	**Bodaibo**	48.36	43	*e*P		**P**	**16 06 40.3**	**-0.8**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.2s							
HHC	**Hu-ho-hao-te**	51.26	65	*e*P		**P**	**16 07 04.8**	**+1.3**
HHC				sP		sP	16 07 13.9	+1.9
HHC				PP		**PP**	**16 08 59.8**	**-0.4**
HHC				pmax		pmax		
	comp=Z,26nm,1.0s							
HHC				pmax		pmax		
	comp=Z,71nm,5.3s							
CHTO	**Chiang Mai**	51.80	96	*e*P		**P**	**16 07 06.0**	**-1.6**
CHTO				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CHTO	**Chiang Mai**	51.80	96	*e*P		**P**	**16 07 06.0**	**-1.6**
	comp=Z,5.8nm,0.8s							
CHTO	**Chiang Mai**	51.80	96	P		**P**	**16 07 07.7**	**0.0**
	SNR=10							
CHTO	**Chiang Mai**	51.80	96	P		**P**	**16 07 07.7**	**0.0**
	SNR=10							
CM31	**Chiang Mai Arr**	52.00	96	*e*P		**P**	**16 07 06.8**	**-2.3**
CMAR	**Chiang Mai Arr**	52.00	96	P		**P**	**16 07 08.8**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=299,slow=8.4,SNR=50							
XAN	**Xi'an**	52.01	74	P		**P**	**16 07 09.4**	**+0.3**
XAN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
TIXI	**Tiksi**	52.44	23	P		**P**	**16 07 11.7**	**-0.1**
	comp=Z,3.3nm,1.0s,baz=325,slow=4.3,SNR=8.8							
TIXI	**Tiksi**	52.44	23	*e*P		**P**	**16 07 11.6**	**-0.1**
	comp=Z,2.2nm,0.8s							
TIXI	**Tiksi**	52.44	23	*e*P		**P**	**16 07 11.6**	**-0.1**
	comp=Z,2.2nm,0.8s							
DBIC	**Dimbokro**	53.84	247	P		**P**	**16 07 21.8**	**-1.0**
	comp=Z,7.8nm,1.0s,baz=18,slow=9.2,SNR=4.9							
KIC	**Kosan Boka**	53.97	246	*e*P		**P**	**16 07 22.1**	**-1.6**
	comp=Z,52nm,1.2s							
TIC	**Toumodi**	53.98	247	*e*P		**P**	**16 07 22.4**	**-1.4**
LIC	**Lamto**	54.27	246	*e*P		**P**	**16 07 24.5**	**-1.4**
	comp=Z,47nm,1.0s							
YAK	**Yakutsk**	55.09	35	P		**P**	**16 07 30.9**	**-0.3**
	comp=Z,6.1nm,0.4s,baz=311,slow=5.5,SNR=4.2							
YAK	**Yakutsk**	55.09	35	⇓*i*P		**P**	**16 07 32.4**	**+1.2**
YAK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	60.33	71	*e*P		**P**	**16 08 07.8**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,11nm,1.1s							
USRK	**Ussuriysk Ar.**	63.53	53	P		**P**	**16 08 30.2**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=266,slow=6.8,SNR=3.5							
SEY	**Seymchan**	64.12	29	P		**P**	**16 08 33.8**	**+0.4**
	comp=Z,8.6nm,0.8s,baz=269,slow=6.2,SNR=16							
SEY	**Seymchan**	64.12	29	⇓*e*P		**P**	**16 08 34.7**	**+1.3**
KSAR	**Wonju Array Be**	64.15	62	P		**P**	**16 08 34.0**	**0.0**
KSAR	**Wonju Array Be**	64.15	62	P		**P**	**16 08 34.0**	**0.0**
KSAR	**Wonju Array Be**	64.15	62	P		**P**	**16 08 34.0**	**0.0**
KSRS	**Korea Array**	64.17	62	P		**P**	**16 08 34.0**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=291,slow=6.4,SNR=11							
BILL	**Bilibino**	65.39	20	⇓*e*P		**P**	**16 08 41.5**	**-0.1**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.1s							
BOSA	**Bosof**	69.03	197	P		**P**	**16 09 03.5**	**-1.7**
	comp=Z,2.6nm,0.7s,baz=356,slow=3.4,SNR=4.8							
MJAR	**Matsushiro Arr**	71.61	58	P		**P**	**16 09 20.8**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=318,slow=4.7,SNR=4.7							
SBUM	**Sibu**	72.04	102	*e*P		**P**	**16 09 23.0**	**-0.9**
	comp=Z,12nm,1.1s							
SBUM	**Sibu**	72.04	102	*e*P		**P**	**16 09 23.0**	**-0.9**
	comp=Z,12nm,1.1s							
PETK	**Petropavlovsk-**	72.43	35	P		**P**	**16 09 24.9**	**-0.8**
	comp=Z,5.4nm,1.0s,baz=94,slow=2.1,SNR=3.5							
PETK	**Petropavlovsk-**	72.43	35	P		**P**	**16 09 24.9**	**-0.8**
PETK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	73.32	359	P		**P**	**16 09 30.5**	**-0.1**
	comp=Z,3.1nm,1.0s,baz=348,slow=11,SNR=3.9							
COLD	**Coldfoot**	73.93	5	*e*P		**P**	**16 09 34.6**	**+0.3**
	comp=Z,10nm,1.3s							
COLD	**Coldfoot**	73.93	5	*e*P		**P**	**16 09 34.6**	**+0.3**
	comp=Z,10nm,1.3s							
MLY	**Manley**	76.05	6	*e*P		**P**	**16 09 46.8**	**+0.2**
	comp=Z,5.2nm,0.9s							
MLY	**Manley**	76.05	6	*e*P		**P**	**16 09 46.8**	**+0.2**
	comp=Z,5.2nm,0.9s							
COLA	**College**	76.42	5	*e*P		**P**	**16 09 48.8**	**+0.2**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
COLA	**College**	76.42	5	*e*P		**P**	**16 09 48.8**	**+0.2**
	comp=Z,7.4nm,0.8s							
COLA	**College**	76.42	5	*e*P		**P**	**16 09 48.8**	**+0.2**
	comp=Z,7.4nm,0.8s							
ILAR	**Eielson Array**	76.59	4	P		**P**	**16 09 49.8**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=333,slow=6.2,SNR=7.8							
CCB	**Clear Creek Bu**	76.65	5	*e*P		**P**	**16 09 48.9**	**-1.1**
	comp=Z,3.5nm,0.9s							
CCB	**Clear Creek Bu**	76.65	5	*e*P		**P**	**16 09 48.9**	**-1.1**
	comp=Z,3.5nm,0.9s							
EGAK	**Eagle**	76.83	2	*e*P		**P**	**16 09 49.2**	**-1.8**
	comp=Z,8.1nm,1.0s							
EGAK	**Eagle**	76.83	2	*e*P		**P**	**16 09 49.2**	**-1.8**
	comp=Z,8.1nm,1.0s							
CAST	**Castle Rocks**	77.52	7	*e*P		**P**	**16 09 54.5**	**-0.4**
	comp=Z,11nm,0.9s							
CAST	**Castle Rocks**	77.52	7	*e*P		**P**	**16 09 54.5**	**-0.4**
	comp=Z,11nm,0.9s							
DAWY	**Dawson**	77.59	1	*e*P		**P**	**16 09 54.8**	**-0.5**
	comp=Z,7.1nm,0.9s							
DAWY	**Dawson**	77.59	1	*e*P		**P**	**16 09 54.8**	**-0.5**
	comp=Z,7.1nm,0.9s							
RND	**Reindeer**	77.81	6	*e*P		**P**	**16 09 55.4**	**-1.2**
RND				pmax		pmax		
	comp=Z,8.0nm,1.1s							
RND	**Reindeer**	77.81	6	*e*P		**P**	**16 09 55.4**	**-1.2**
	comp=Z,8.1nm,1.1s							
RND	**Reindeer**	77.81	6	*e*P		**P**	**16 09 55.4**	**-1.2**
	comp=Z,8.1nm,1.1s							
DOT	**Dot Lake**	77.86	3	*e*P		**P**	**16 09 55.5**	**-1.3**
	comp=Z,18nm,1.0s							
DOT	**Dot Lake**	77.86	3	*e*P		**P**	**16 09 55.5**	**-1.3**
	comp=Z,18nm,1.0s							
SML	**Sawmill**	79.43	6	*e*P		**P**	**16 10 05.2**	**-0.3**
SML				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SML	**Sawmill**	79.43	6	*e*P		**P**	**16 10 05.2**	**-0.3**
	comp=Z,8.7nm,0.8s							
SML	**Sawmill**	79.43	6	*e*P		**P**	**16 10 05.2**	**-0.3**
	comp=Z,8.7nm,0.8s							
SUA	**Susitna One**	79.56	7	*e*P		**P**	**16 10 04.1**	**-2.2**
	comp=Z,8.4nm,0.8s							
RC01	**Rabbit Creek A**	80.02	6	*e*P		**P**	**16 10 08.0**	**-0.7**
	comp=Z,10nm,1.0s							
RC01	**Rabbit Creek A**	80.02	6	*e*P		**P**	**16 10 08.0**	**-0.7**
	comp=Z,10nm,1.0s							
KDAK	**Kodiak Island**	82.98	9	*i* P		**P**	**16 10 25.1**	**+0.7**
DLBC	**Dease Lake**	83.10	356	P		**P**	**16 10 25.9**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=29,slow=13,SNR=2.2							
DLBC	**Dease Lake**	83.10	356	P		**P**	**16 10 26.0**	**+0.9**
GUMO	**Guam**	90.39	72	LR		LR	16 57 16.8	
	comp=Z,39nm,18.3s,baz=7.0,slow=39							
TKL	**Tuckaleechee C**	91.36	319	P		**P**	**16 11 05.6**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=72,slow=5.4,SNR=9.1							
NEW	**Newport**	91.72	347	P		**P**	**16 11 07.7**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=14,slow=5.4,SNR=9.8							
NEW	**Newport**	91.72	347	*e*P		**P**	**16 11 05.2**	**-1.9**
	comp=Z,2.1nm,0.8s							
NEW	**Newport**	91.72	347	*e*P		**P**	**16 11 05.2**	**-1.9**
	comp=Z,2.1nm,0.8s							
LRAL	**Lakeview Retre**	95.06	320	*e*P		**P**	**16 11 21.3**	**-1.3**
LRAL	**Lakeview Retre**	95.06	320	*e*P		**P**	**16 11 21.3**	**-1.3**
PDAR	**Pinedale Array**	95.30	340	P		**P**	**16 11 24.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=45,slow=4.0,SNR=3.4							

GUC 23 15:58:19.5±0.5, 24°.00S×67°.45W, h217km±10km, ML3.9, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.93**	**316**	⇓*i*P	Pn	15 59 00.1	+1.0
LVC				*e*S	S	15 59 31.4	+1.8
PB06	**IPOC Station P**	**2.34**	**303**	⇑*i*P	Pn	15 59 04.7	+1.7
PB06				*e*S	S	15 59 39.0	+2.5
PB06				IAML		15 59 41.7	
	comp=E,172nm,0.3s						
PB06				IAML		15 59 43.5	
	comp=N,182nm,0.4s						
PB09	**IPOC Station P**	**2.75**	**323**	⇑*i*P	Pn	15 59 09.3	+1.9
PB09				IAML		15 59 49.2	
	comp=N,220nm,0.5s						
PB09				IAML		15 59 53.6	
	comp=E,209nm,0.4s						
PB10	**IPOC Station P**	**2.88**	**279**	⇓*i*P	Pn	15 59 10.6	+1.9
PB10				*i* S	S	15 59 48.9	+2.0
PB10				IAML		15 59 52.6	
	comp=N,268nm,0.5s						
PB10				IAML		15 59 54.0	
	comp=E,319nm,0.4s						
PB04	**IPOC Station P**	**2.99**	**303**	⇓*i*P	Pn	15 59 12.2	+2.1
PB04				*e*S	S	15 59 52.1	+2.7
PB07	**IPOC Station P**	**3.19**	**315**	*e*P	Pn	15 59 14.2	+1.7
PB07				*e*S	S	15 59 56.0	+2.4

DDA **23** *16:00:32.6, 38°.76N×43°.20E, h7km, Ml3.2*
CSEM **23** *16:00:33.3±0.2, 38°.79N×43°.30E, h2km, ML3.2, Error ellipse: s-maj=6.3km s-min=3.7km az=83.0*
ISK **23** *16:00:33.4, 38°.82N×43°.37E, h12km, ML3.1*
ISC 23 16:00:33.3±1.1, 38°.79N±0°.02×43°.26E±0°.04, h7km±11km, n23, σ0°.76/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28**	**156**	*i* P	**Pg**	**16 00

HAKT	HAKKARI	1.24 173	*i* P	Pn	16 02 29.4	-1.8
EATA	Eleskirt	1.33 324	*i* P	Pn	16 02 32.6	+0.2
EATA	Eleskirt	1.33 324	P	Pn	16 02 32.6	+0.2
CUKT	Cukurca	1.55 177	*i* P	Pg	16 02 37.4	-0.4
CUKT	Cukurca	1.55 177	P	Pg	16 02 37.4	-0.4
SIRN	S¨–rnak	1.56 214	*i* P	Pb	16 02 36.8	+0.1
SIRN			*i* S	Sg	16 03 00.2	+1.9
SIRN	S¨–rnak	1.56 214	P	Pb	16 02 36.8	+0.1
NAX	Nakhchivan	1.59 76	⇑P	Pb	16 02 37.8	+0.6
NAX			⇓S	Sg	16 03 02.0	+2.7
NAX	Nakhchivan	1.59 76	P	Pb	16 02 37.8	+0.6
NAX			S	Sg	16 03 02.0	+2.7
DIGO	Kars	1.62 356	*i* P	Pg	16 02 39.0	-0.3
DIGO	Kars	1.62 356	P	Pg	16 02 39.0	-0.3
VRTB	Varto-Mus	1.65 283	*i* P	Pb	16 02 38.2	0.0
VRTB	Varto-Mus	1.65 283	P	Pb	16 02 38.2	0.0
HOMI	Horasan	1.76 316	*i* P	Pb	16 02 40.7	+0.4
BNGL	BINGOL	1.85 276	*i* P	Pb	16 02 41.5	-0.3
EAK	Akyaka	1.89 2	*i* P	Pb	16 02 41.5	-0.9
EAK	Akyaka	1.89 2	P	Pb	16 02 41.5	-0.9
SVAN	Silvan-Diyarba	1.93 251	*i* P	Pb	16 02 42.8	-0.1
SVAN	Silvan-Diyarba	1.93 251	P	Pb	16 02 42.8	-0.1
BTMN	Batman	1.98 244	*i* P	Pn	16 02 41.9	+0.7
BTMN	Batman	1.98 244	P	Pn	16 02 41.9	+0.7
ERZM	Erzurum	2.00 304	*i* P	Pb	16 02 45.2	+0.9
ERZM	Erzurum	2.00 304	P	Pb	16 02 45.2	+0.9
ECAT	Cat-ERZURUM	2.13 293	*i* P	Pb	16 02 46.0	-0.6
ECAT	Cat-ERZURUM	2.13 293	P	Pb	16 02 46.0	-0.6
DDEM	Demirkent	2.50 328	*i* P	Pg	16 02 54.3	-1.6
GDB	GEDABAY	2.59 41	⇓P	Pn	16 02 51.9	+2.3
GDB			⇓S	Sb	16 03 27.2	+1.3
GDB	GEDABAY	2.59 41	P	Pn	16 02 51.9	+2.3
GDB			S	Sb	16 03 27.2	+1.3
KOPT	Kop Dagi	2.64 299	*i* P	Pb	16 02 56.2	+1.0
QZX	Qazax, Azerbai	2.67 32	⇑P	Pb	16 02 53.5	-2.2
QZX			⇑S	Sb	16 03 27.7	-0.7
QZX	Qazax, Azerbai	2.67 32	P	Pb	16 02 53.5	-2.2
QZX			S	Sb	16 03 27.7	-0.7
GANJ	Ganja	2.85 49	⇓P	Pb	16 02 56.2	-2.4
GANJ			⇓S	Sb	16 03 34.3	+1.0
GANJ	Ganja	2.85 49	P	Pb	16 02 56.2	-2.4
GANJ			S	Sb	16 03 34.3	+1.0
BRDA	Brd	3.19 61	⇓P	Pn	16 03 00.8	+3.1
BRDA	Brd	3.19 61	P	Pn	16 03 00.8	+3.1
MNGR	Mingechevir, A	3.39 53	⇓P	Pn	16 03 03.7	+3.3
MNGR	Mingechevir, A	3.39 53	P	Pn	16 03 03.7	+3.3
ZRD	Zardab	3.55 64	⇓P	Pn	16 03 05.7	+3.1
ZRD	Zardab	3.55 64	P	Pn	16 03 05.7	+3.1
ZKTA	Zakatala	3.71 39	⇑P	Pn	16 03 07.9	+3.1
SEKA	Sheki	3.72 48	⇓P	Pn	16 03 08.9	+3.9
SEKA			⇑S	Sb	16 03 57.2	-1.2
SEKA	Sheki	3.72 48	P	Pn	16 03 08.9	+3.9
SEKA			S	Sb	16 03 57.2	-1.2
LRK	Lerik	3.78 91	⇓P	Pn	16 03 08.0	+2.1
LRK			⇑S	Sb	16 03 59.2	-1.1
LRK	Lerik	3.78 91	P	Pn	16 03 08.0	+2.1
GLBA	Clilabad	3.83 82	⇓P	Pn	16 03 09.1	+2.7
GLBA			⇓S	Sb	16 03 59.9	-1.5
GLBA	Clilabad	3.83 82	P	Pn	16 03 09.1	+2.7
GLBA			S	Sb	16 03 59.9	-1.5
KDMR	Kurdemir	3.94 65	⇑P	Pn	16 03 11.1	+3.1
KDMR	Kurdemir	3.94 65	P	Pn	16 03 11.1	+3.1
SAAT	Saatly	3.95 73	⇓P	Pn	16 03 10.8	+2.6
SAAT	Saatly	3.95 73	P	Pn	16 03 10.8	+2.6
QBL	Gabala	3.96 56	⇑P	Pn	16 03 11.4	+3.1
QBL	Gabala	3.96 56	P	Pn	16 03 11.4	+3.1
LKRN	Lenkeran, Azer	4.12 90	⇑P	Pn	16 03 12.8	+2.4
LKRN	Lenkeran, Azer	4.12 90	P	Pn	16 03 12.8	+2.4
ASTR	Astara	4.14 92	⇑P	Pn	16 03 13.1	+2.4
ASTR	Astara	4.14 92	P	Pn	16 03 13.1	+2.4
XNQ	Khinaliq	4.27 55	⇑P	Pn	16 03 15.9	+3.1
XNQ			⇓S	Sb	16 04 09.7	-4.8
XNQ	Khinaliq	4.27 55	P	Pn	16 03 15.9	+3.1
XNQ			S	Sb	16 04 09.7	-4.8
PQL	Pirkuli	4.39 61	⇓P	Pn	16 03 17.3	+2.9
PQL			⇓S	Sb	16 04 13.1	-4.8
PQL	Pirkuli	4.39 61	P	Pn	16 03 17.3	+2.9
PQL			S	Sb	16 04 13.1	-4.8
GBS	Qobustan	4.54 66	⇓P	Pn	16 03 19.3	+3.0
GBS			⇑S	Sb	16 04 17.2	-4.7
GBS	Qobustan	4.54 66	P	Pn	16 03 19.3	+3.0
GBS			S	Sb	16 04 17.2	-4.7
QSAR	Qusar	4.54 52	⇑P	Pn	16 03 19.6	+3.3
QSAR			⇑S	Sb	16 04 16.0	-6.0
QSAR	Qusar	4.54 52	P	Pn	16 03 19.6	+3.3
QSAR			S	Sb	16 04 16.0	-6.0
QUBA	Quba, Azerbaij	4.60 55	⇑P	Pn	16 03 20.3	+3.2
QUBA			⇑S	Sb	16 04 17.6	-6.0
QUBA	Quba, Azerbaij	4.60 55	P	Pn	16 03 20.3	+3.2
QUBA			S	Sb	16 04 17.6	-6.0
ATGJ	Altiaghaj	4.66 62	⇑P	Pn	16 03 21.2	+3.2
ATGJ	Altiaghaj	4.66 62	P	Pn	16 03 21.2	+3.2
NDR	Nardaran	5.30 68	⇑P	Pn	16 03 29.6	+2.9
NDR	Nardaran	5.30 68	P	Pn	16 03 29.6	+2.9

ISK ***23*** *16:05:08.5, 38°.75N×43°.56E, h5km, ML4.5*
ISCJB ***23*** *16:05:09.6±0.5, 38°.71N±0°.02×43°.62E±0°.01, h9km±3km, mb4.4/87, MS4.0/13, Error ellipse: s-maj=2.6km s-min=1.8km az=171.0*
MOS ***23*** *16:05:09.1±1.4, 38°.60N×43°.59E, h11km, mb4.7/51, Error ellipse: s-maj=5.1km s-min=3.6km az=106.1*
NEIC ***23*** *16:05:10.8±0.7, 38°.79N×43°.59E, h10km±4km, mb4.6/30, ML4.4(ISK), ML4.8(DDA), Error ellipse: s-maj=4.7km s-min=3.9km az=148.0*
AZER ***23*** *16:05:10.1±0.5, 38°.63N×43°.59E, h12km±8km, Error ellipse: s-maj=9.8km s-min=2.6km az=59.0*
TEH ***23*** *16:05:10.1, 38°.94N×43°.39E, h10km, ML4.6*
CSEM ***23*** *16:05:10.3±0.1, 38°.75N×43°.59E, h5km, mb4.6/40, Error ellipse: s-maj=2.9km s-min=2.0km az=172.0*
DDA ***23*** *16:05:10.0, 38°.75N×43°.51E, h21km, Ml4.8*
DSN ***23*** *16:05:11.8±3.7, 38°.39N×43°.43E, h15km, mb4.7/2, Error ellipse: s-maj=87.2km s-min=32.5km az=64.0*
IDC ***23*** *16:05:12.5±4.1, 38°.76N×43°.52E, h22km±27km, mb4.1/34, mb1 4.2/43, mb1mx4.1/57, mbtmp4.2/43, ML3.4/9, MS3.8/11, Ms1 3.8/11, ms1mx3.5/58, Error ellipse: s-maj=12.3km s-min=7.9km az=162.0*

ISC 23 16:05:10.7±0.5, 38°.71N±0°.01×43°.60E±0°.02, h11km±3km, n542, σ1§61/653, mb4.5/89, MS4.0/14, 59C-64D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.23	219	⇓*i*P	Pb	16 05 17.7	+0.5
TVAN				*i* S	Sg	16 05 21.4	+2.3
TVAN	Van	0.23	219	P	Pb	16 05 17.7	+0.5
TVAN				S	Sg	16 05 21.4	+2.3
TVAN	Van	0.23	219	*i* P	Pb	16 05 17.9	+0.7
TVAN				*i* S	Sg	16 05 22.6	+3.5
VMUR	Van-Muradiye	0.28	356	⇓*i*P	Pg	16 05 15.4	-1.0
VMUR				*i* S	Sg	16 05 20.9	+0.5
VMUR	Van-Muradiye	0.28	356	*i* P	Pg	16 05 15.5	-1.0
VMUR				S	Sg	16 05 20.9	+0.5
VMUR	Van-Muradiye	0.28	356	P	Pg	16 05 15.5	-1.0
VMUR				*i* S	Sg	16 05 20.9	+0.5
GEVA	Gevas	0.58	227	⇓*i*P	Pg	16 05 20.4	-1.6
GEVA				*i* S	Sg	16 05 29.2	-0.5
GEVA	Gevas	0.58	227	P	Pg	16 05 20.4	-1.6
GEVA				S	Sg	16 05 29.2	-0.5
GEVA	Gevas	0.58	227	*i* P	Pg	16 05 20.4	-1.6
BASK	Baskale_VAN	0.73	154	⇓*i*P	Pg	16 05 24.1	-0.9
BASK				*i* S	Sn	16 05 37.9	-0.7
BASK	Baskale_VAN	0.73	154	P	Pg	16 05 24.1	-0.9
BASK				S	Sn	16 05 37.9	-0.7
DYDN	Diyadin	0.83	5	⇑*i*P	Pg	16 05 25.0	-1.8
DYDN				*i* S	Sg	16 05 37.6	-0.2
DYDN	Diyadin	0.83	5	*i* P	Pg	16 05 25.1	-1.8
DYDN				S	Sg	16 05 37.6	-0.2
DYDN	Diyadin	0.83	5	*i* P	Pg	16 05 25.1	-1.8
TUTA	Tutak	0.92	319	⇓*i*P	Pg	16 05 25.9	-2.6
TUTA				*i* S	Sg	16 05 37.1	-3.4
TUTA	Tutak	0.92	319	P	Pg	16 05 25.9	-2.6
TUTA				S	Sg	16 05 37.1	-3.4
AGRB	Hanur-Agry	0.98	332	*e*PG	Pg	16 05 27.5	-2.2
AGRB				*e*SG	Sg	16 05 41.4	-1.1
AGRB	Hanur-Agry	0.98	332	*e*Pg	Pg	16 05 27.5	-2.2
AGRB				*e*Sg	Sg	16 05 41.4	-1.1
AGRB	Hanur-Agry	0.98	332	Pg	Pg	16 05 27.5	-2.2
HAKT	HAKKARI	1.16	176	⇓*i*P	Pb	16 05 31.0	-1.9
HAKT				*i* S	Sn	16 05 51.1	+2.0
HAKT	HAKKARI	1.16	176	P	Pb	16 05 31.0	-1.9
HAKT				S	Sn	16 05 51.1	+2.0
EKAR	Karacoban	1.31	295	⇓*i*P	Pn	16 05 33.8	-1.5
EKAR				*i* S	Sg	16 05 56.7	+3.7
EKAR	Karacoban	1.31	295	P	Pn	16 05 33.8	-1.5
EKAR				S	Sg	16 05 56.7	+3.7
EATA	Eleskirt	1.43	324	⇓*i*P	Pn	16 05 35.2	-1.8
EATA				*i* S	Sg	16 05 57.0	+0.1
EATA	Eleskirt	1.43	324	P	Pn	16 05 35.2	-1.8
EATA				S	Sg	16 05 57.0	+0.1
CUKT	Cukurca	1.46	180	*e*PN	Pn	16 05 37.6	+0.4
CUKT				*e*SN	Sg	16 05 58.9	+1.1
CUKT	Cukurca	1.46	180	⇓*i*P	Pb	16 05 38.4	+0.3
CUKT				*i* S	Sg	16 06 02.7	+4.9
CUKT	Cukurca	1.46	180	*e*Pn	Pn	16 05 37.6	+0.4
CUKT	Cukurca	1.46	180	P	Pb	16 05 38.4	+0.3
CUKT				*e*Sn	Sg	16 05 58.9	+1.1
SIRN	S¨–rnak	1.53	218	⇑*i*P	Pn	16 05 38.0	-0.1
SIRN				*i* S	Sg	16 06 00.9	+0.9
SIRN	S¨–rnak	1.53	218	P	Pn	16 05 38.0	-0.1
SIRN				S	Sg	16 06 00.9	+0.9
NAX	Nakhchivan	1.55	72	⇓P	Pn	16 05 38.0	-0.5
NAX				⇑S	Sb	16 05 59.2	-0.1
NAX	Nakhchivan	1.55	72	P	Pn	16 05 38.0	-0.5
NAX				S	Sb	16 05 59.2	-0.1
ISHB	Shabestar	1.64	104	*e*Pn	Pb	16 05 41.4	+0.2
ISHB				*e*AMB	AMB	16 05 47.4	
	comp=Z,61μm,0.2s						
IMRD	Marand	1.65	89	*e*Pn	Pb	16 05 41.2	-0.1
IMRD				*e*AMB	AMB	16 05 48.2	
	comp=Z,47μm,0.3s						
IMRD	Marand	1.65	89	*e*Pn	Pb	16 05 41.2	-0.1
GNI	Garni	1.69	31	Pn	Pb	16 05 41.3	-0.6
	comp=Z,713nm,0.3s,baz=238,slow=2.2,SNR=188						
GNI				Sn	Sg	16 06 08.1	+3.0
	comp=Z,410nm,0.3s,baz=264,slow=23,SNR=7.3						
GNI	Garni	1.69	31	P	Pb	16 05 41.4	-0.5
DIGO	Kars	1.71	354	⇑*i*P	Pn	16 05 41.2	+0.4
DIGO				*i* S	Sg	16 06 10.0	+4.3
DIGO	Kars	1.71	354	P	Pn	16 05 41.2	+0.4
VRTB	Varto-Mus	1.73	286	*e*PN	Pn	16 05 40.1	-0.8
VRTB	Varto-Mus	1.73	286	⇓*i*P	Pn	16 05 41.0	+0.1
VRTB				*i* S	Sg	16 06 10.2	+3.9
VRTB	Varto-Mus	1.73	286	*e*Pn	Pn	16 05 40.1	-0.8
VRTB	Varto-Mus	1.73	286	P	Pn	16 05 41.0	+0.1
HOMI	Horasan	1.87	316	⇑*i*P	Pn	16 05 42.8	-0.1
HOMI				*i* S	Sg	16 06 13.0	+2.2
BNGL	BINGOL	1.93	278	⇑*i*P	Pn	16 05 42.7	-1.0
BNGL				*i* S	Sb	16 06 10.8	+0.6
SVAN	Silvan-Diyarba	1.96	254	*e*PN	Pn	16 05 44.1	0.0
SVAN				*e*SN	Sb	16 06 10.1	-1.0
SVAN	Silvan-Diyarba	1.96	254	⇑*i*P	Pn	16 05 44.9	+0.8
SVAN				*i* S	Sb	16 06 11.3	+0.2
SVAN	Silvan-Diyarba	1.96	254	*e*Pn	Pn	16 05 44.1	0.0
SVAN	Silvan-Diyarba	1.96	254	P	Pn	16 05 44.9	+0.8
SVAN				*e*Sn	Sb	16 06 10.1	-1.0
SVAN				S	Sb	16 06 11.3	+0.2
EAK	Akyaka	1.97	0	⇑*i*P	Pn	16 05 45.4	+1.0
EAK				*i* S	Sg	16 06 18.9	+4.7
EAK	Akyaka	1.97	0	P	Pn	16 05 45.3	+1.0
BTMN	Batman	2.00	247	⇓*i*P	Pn	16 05 44.8	+0.1
BTMN				*i* S	Sb	16 06 13.4	+1.1
BTMN	Batman	2.00	247	P	Pn	16 05 44.8	+0.1
BTMN				S	Sb	16 06 13.4	+1.1
ITBZ	Tabriz	2.06	103	*e*Pn	Pb	16 05 47.2	-1.1
ITBZ				*e*AMB	AMB	16 05 56.4	
	comp=Z,15μm,0.4s						
ITBZ	Tabriz	2.06	103	*e*Pn	Pb	16 05 47.2	-1.1
SENK	Senkaya-Erzuru	2.08	333	*e*PN	Pn	16 05 45.5	-0.4
SENK	Senkaya-Erzuru	2.08	333	*e*Pn	Pn	16 05 45.5	-0.4
ERZM	Erzurum	2.10	305	⇑*i*P	Pn	16 05 46.1	-0.1
ERZM				*i* S	Sg	16 06 23.0	+4.7
ERZM	Erzurum	2.10	305	P	Pn	16 05 46.1	-0.1
ECAT	Cat-ERZURUM	2.23	294	*i* P	Pn	16 05 49.4	+1.5
ECAT				*i* S	Sb	16 06 19.2	+0.4
ECAT	Cat-ERZURUM	2.23	294	P	Pn	16 05 49.3	+1.5
ECAT				S	Sb	16 06 19.2	+0.4
BNGB	Bing¨¶l	2.29	278	*e*PN	Pn	16 05 48.6	-0.1
BINT	Bingol	2.43	275	P	Pn	16 05 48.6	-2.0
BINT	Bingol	2.43	275	*e*Pn	Pn	16 05 48.6	-2.0
YEDI	Yedisu-Bingol	2.48	288	*e*PN	Pn	16 05 51.4	+0.1
YEDI	Yedisu-Bingol	2.48	288	*e*Pn	Pn	16 05 51.4	+0.1
DDEM	Demirkent	2.60	327	⇑*i*P	Pn	16 05 52.9	0.0
DDEM				*i* S	Sg	16 06 35.2	+0.9
DDEM	Demirkent	2.60	327	P	Pn	16 05 52.9	0.0
GDB	GEDABAY	2.61	39	⇓P	Pn	16 05 53.2	+0.2
GDB				⇓S	Sn	16 06 26.8	+2.0
GDB	GEDABAY	2.61	39	P	Pn	16 05 53.2	+0.2
GDB				S	Sn	16 06 26.8	+2.0
MARD	Mardin	2.62	239	⇓*i*P	Pn	16 05 53.1	-0.2
MARD				*i* S	Sg	16 06 33.8	-1.4
MARD	Mardin	2.62	239	*e*Pn	Pn	16 05 53.1	-0.2
MARD	Mardin	2.62	239	*e*Pn	Pn	16 05 53.1	-0.2
DAGI	Agililar	2.69	332	*i* P	Pn	16 05 54.5	+0.4
DAGI				*i* S	Sg	16 06 38.3	+1.0
AKH	Akhalkalaki	2.70	358	*e*PN	Pn	16 05 53.9	-0.4
AKH	Akhalkalaki	2.70	358	P	Pb	16 05 60.0	+0.8
AKH	Akhalkalaki	2.70	358	⇓*i*P	Pb	16 06 00.3	+1.2
AKH	Akhalkalaki	2.70	358	P	Pb	16 05 59.9	+0.8
AKH	Akhalkalaki	2.70	358	*e*Pn	Pn	16 05 53.9	-0.4
QZX	Qazax, Azerbai	2.71	30	⇑P	Pn	16 05 54.5	+0.1
QZX				⇓S	Sn	16 06 29.0	+1.8
QZX	Qazax, Azerbai	2.71	30	P	Pn	16 05 54.5	+0.1
QZX				S	Sn	16 06 29.0	+1.8
IHRS	Heris	2.73	97	*e*Pn	Pb	16 05 57.4	-2.4
IHRS				*e*AMB	AMB	16 06 10.0	
	comp=Z,15μm,0.2s						
IHRS	Heris	2.73	97	*e*Pn	Pb	16 05 57.4	-2.4
KOPT	Kop Dagi	2.73	299	⇓*i*P	Pb	16 05 58.9	-0.9
KOPT				*i* S	Sg	16 06 46.1	+7.5
KOPT	Kop Dagi	2.73	299	P	Pb	16 05 58.9	-0.9
KOPT	Kop Dagi	2.73	299	*e*Pn	Pb	16 05 58.9	-0.9
KZR	Kazreti	2.74	13	P	Pb	16 06 00.0	+0.2
MAZI	Mazidag	2.78	244	*e*PN	Pn	16 05 54.8	-0.6
MAZI	Mazidag	2.78	244	*e*Pn	Pn	16 05 54.8	-0.6
ARTV	Artvin	2.78	333	⇑*i*P	Pn	16 05 55.5	0.0
ARTV				*i* S	Sg	16 06 39.0	-1.2
ARTV	Artvin	2.78	333	P	Pn	16 05 55.5	0.0
ARTV	Artvin	2.78	333	*e*Pn	Pn	16 05 55.4	0.0
IBST	Bostanabad	2.79	110	*e*AMB	AMB	16 06 11.8	
	comp=Z,6μm,0.3s						
DIYA	Diyarbakir	2.84	255	*i* P	Pn	16 05 57.7	+1.5
DIYA				*i* S	Sg	16 06 41.0	-1.1
DIYA	Diyarbakir	2.84	255	P	Pn	16 05 57.7	+1.5
GANJ	Ganja	2.86	47	⇓P	Pn	16 05 56.5	+0.1
GANJ				⇓S	Sn	16 06 32.6	+1.8
GANJ	Ganja	2.86	47	P	Pn	16 05 56.5	+0.1
GANJ				S	Sn	16 06 32.6	+1.8
EPOS	Posof	2.87	347	*i* P	Pn	16 05 57.2	+0.6
EPOS				*i* S	Sg	16 06 50.5	+7.7
EPOS	Posof	2.87	347	P	Pn	16 05 57.2	+0.6
DBOC	Borcka	3.02	331	*i* P	Pn	16 05 59.2	+0.7
DBOC				*i* S	Sg	16 06 51.0	+3.3
DBOC	Borcka	3.02	331	P	Pn	16 05 59.2	+0.7
ERZN	Erzincan	3.13	287	*e*PN	Pn	16 06 00.1	-0.2
TBLG	Delisi	3.14	16	*e*PN	Pn	16 06 00.4	+0.2
TBLG	Delisi	3.14	16	P	Pn	16 06 01.1	+0.9
TBLG	Delisi	3.14	16	*e*Pn	Pn	16 06 00.4	+0.2
TBLG	Delisi	3.14	16	P	Pn	16 06 01.1	+0.9
BRDA	Brd	3.18	60	⇓P	Pn	16 06 00.5	-0.2
BRDA				⇑S	Sn	16 06 39.7	+1.1
BRDA	Brd	3.18	60	P	Pn	16 06 00.5	-0.2
BRDA				S	Sn	16 06 39.7	+1.1
SEAG	Tbilisi Sea	3.19	16	P	Pb	16 06 07.5	+0.1
EUZM	Uzumlu	3.19	289	⇑*i*P	Pb	16 06 06.2	-1.2
EUZM				*i* S	Sg	16 06 53.3	+0.2
TNCL	Tunceli-Merkez	3.19	279	*i* P	Pb	16 06 06.4	-1.1
TNCL				*i* S	Sg	16 06 57.0	+3.9
PTK	Pertek	3.29	274	*e*PN	Pn	16 06 02.3	-0.1
PTK	Pertek	3.29	274	*e*Pn	Pn	16 06 02.3	-0.1
ISRB	Sarab	3.33	104	*e*AMB	AMB	16 06 27.7	
	comp=Z,12μm,0.4s						
ISRB				*e*Pn	Pn	16 06 05.7	+2.8
SVRC	Sivrice-ELAZID	3.38	266	*e*PN	Pn	16 06 03.7	+0.1
SVRC	Sivrice-ELAZID	3.38	266	*e*Pn	Pn	16 06 03.7	+0.1
MNGR	Mingechevir, A	3.39	51	⇓P	Pn	16 06 03.5	0.0
MNGR				⇑S	Sn	16 06 45.2	+1.5
MNGR	Mingechevir, A	3.39	51	P	Pn	16 06 03.5	0.0
MNGR				S	Sn	16 06 45.2	+1.5
EZC	Erzincan	3.45	289	*e*Pn	Pn	16 06 00.0	-4.7
ZRD	Zardab	3.53	62	⇑P	Pn	16 06 05.3	-0.2
ZRD				⇑S	Sn	16 06 48.5	+1.2
ZRD	Zardab	3.53	62	P	Pn	16 06 05.3	-0.2
ZRD				S	Sn	16 06 48.5	+1.2
KELT	Kelkit	3.65	294	*i* P	Pb	16 06 12.6	-2.8
LRK	Lerik	3.71	90	⇓P	Pn	16 06 07.3	-1.0
LRK				⇑S	Sn	16 06 51.9	-0.2
LRK	Lerik	3.71	90	P	Pn	16 06 07.3	-1.0
LRK				S	Sn	16 06 51.9	-0.2
KTUT	Trabzon	3.72	309	*e*PN	Pn	16 06 08.7	+0.5
KTUT	Trabzon	3.72	309	*e*Pn	Pn	16 06 08.7	+0.5
SEKA	Sheki	3.73	47	⇑P	Pn	16 06 09.1	+0.8
SEKA				⇓S	Sn	16 06 55.5	+3.2
SEKA	Sheki	3.73	47	P	Pn	16 06 09.1	+0.8
SEKA				S	Sn	16 06 55.5	+3.2
ZKTA	Zakatala	3.73	37	⇓P	Pn	16 06 08.6	+0.3
ZKTA				⇓S	Sn	16 06 54.5	+2.2
GLBA	Clilabad	3.78	80	⇓P	Pn	16 06 08.3	-0.6
GLBA				⇑S	Sn	16 06 53.7	+0.3
GLBA	Clilabad	3.78	80	P	Pn	16 06 08.3	-0.6
GLBA				S	Sn	16 06 53.7	+0.3
GUDG	Gudauri	3.81	10	P	Pb	16 06 19.9	+1.7
ONI	Oni	3.88	358	P	Pb	16 06 21.0	+1.8
ONI	Oni	3.88	358	P	Pb	16 06 20.9	+1.8
KDMR	Kurdemir	3.92	63	⇑P	Pn	16 06 10.6	-0.3
KDMR				⇓S	Sn	16 06 57.9	+1.1
KDMR	Kurdemir	3.92	63	P	Pn	16 06 10.6	-0.3
KDMR				S	Sn	16 06 57.9	+1.1
SAAT	Saatly	3.92	71	⇓P	Pn	16 06 10.1	-0.8
SAAT				⇑S	Sn	16 06 56.9	0.0
SAAT	Saatly	3.92	71	P	Pn	16 06 10.1	-0.8
SAAT				S	Sn	16 06 56.9	0.0
QBL	Gabala	3.96	54	⇓P	Pn	16 06 11.3	-0.1
QBL				⇓S	Sn	16 06 59.5	+1.6
QBL	Gabala	3.96	54	P	Pn	16 06 11.3	-0.1
QBL				S	Sn	16 06 59.5	+1.6
URFA	Urfa	3.97	253	*e*PN	Pn	16 06 12.8	+1.1
URFA	Urfa	3.97	253	*e*Pn	Pn	16 06 12.8	+1.1
LKRN	Lenkeran, Azer	4.05	88	⇓P	Pn	16 06 12.0	-0.8
LKRN				⇓S	Sn	16 07 00.5	+0.3
LKRN	Lenkeran, Azer	4.05	88	P	Pn	16 06 12.0	-0.8
LKRN				S	Sn	16 07 00.5	+0.3
ASTR	Astara	4.07	91	⇓P	Pn	16 06 12.2	-0.8
ASTR				⇑S	Sn	16 07 00.7	0.0
ASTR	Astara	4.07	91	P	Pn	16 06 12.2	-0.8
ASTR				S	Sn	16 07 00.7	0.0
ZEI	Tsey	4.08	3	*e*P	Pn	16 06 13.6	+0.3
ZEI				pmax	pmax		
	comp=Z,95nm,0.8s						
IML	Ismayilli	4.10	58	⇑P	Pn	16 06 13.2	-0.2
IML				⇓S	Sn	16 07 02.6	+1.1
IML	Ismayilli	4.10	58	P	Pn	16 06 13.2	-0.2
IML				S	Sn	16 07 02.6	+1.1
XNQ	Khinaliq	4.27	53	⇓P	Pn	16 06 15.7	-0.2
XNQ				⇑S	Sn	16 07 07.2	+1.3
XNQ	Khinaliq	4.27	53	P	Pn	16 06 15.7	-0.2
XNQ				S	Sn	16 07 07.2	+1.3
PQL	Pirkuli	4.38	60	⇑P	Pn	16 06 16.9	-0.4
PQL				⇑S	Sn	16 07 09.4	+1.0
PQL	Pirkuli	4.38	60	P	Pn	16 06 16.9	-0.4
PQL				S	Sn	16 07 09.4	+1.0
ALIB	Äli-Bayra	4.38	72	⇑P	Pn	16 06 16.7	-0.5
ALIB				⇑S

GALA S **Sn** **16 07 33.2 +1.2**
KMRS Kahramanmaras 5.42 259 *e*PN **Pn** **16 06 32.6 +1.1**
KMRS Kahramanmaras 5.42 259 *e*Pn **Pn** **16 06 32.6 +1.1**
SARI SarD1z-Kayseri 5.63 269 *e*PN **Pn** **16 06 36.3 +1.7**
SOC Sochi 5.68 330 *e*P **Pn** **16 06 35.4 +0.3**
SOC *e* 16 07 39.5
SOC pmax pmax
comp=Z,28nm,0.7s
SOC Sochi 5.68 330 *e*P **Pn** **16 06 35.4 +0.3**
comp=Z,28nm,0.7s
SOC *e*S **Sn** **16 07 39.5 -0.7**
TOKA Tokat 5.73 289 *e*Pn **Pn** **16 06 39.5 +3.6**
BNN Bunyan 6.06 274 *e*PN **Pn** **16 06 41.2 +0.8**
BNN Bunyan 6.06 274 *e*Pn **Pn** **16 06 41.2 +0.8**
KOZT Kozan 6.25 261 *e*PN **Pn** **16 06 44.9 +2.0**
KOZT Kozan 6.25 261 *e*Pn **Pn** **16 06 44.9 +2.0**
KVT Kavak 6.27 295 *e*PN **Pn** **16 06 44.9 +1.7**
KVT Kavak 6.27 295 *e*Pn **Pn** **16 06 44.9 +1.7**
GOF Gofitskoye 6.36 356⇑*e*P Pn 16 06 49.9 +5.6
GOF pmax pmax
comp=Z,35nm,0.9s
CEYT Ceyhan 6.44 257 *e*PN **Pn** **16 06 47.9 +2.4**
CEYT Ceyhan 6.44 257 *e*Pn **Pn** **16 06 47.9 +2.4**
BR131 Keskin Array S 7.80 281 *e*Pn **Pn** **16 07 06.4 +2.1**
BR131 Keskin Array S 7.80 281 *e*Pn **Pn** **16 07 06.4 +2.1**
BRTR Keskin Array B 7.80 281 Pn **Pn** **16 07 06.2 +1.9**
comp=Z,0.1nm,0.3s,baz=105,slow=14,SNR=7.5
ANTO Ankara 8.46 281 *e*P **Pn** **16 07 14.0 +0.7**
ANTO Ankara 8.46 281 *e*P **Pn** **16 07 14.0 +0.7**
ANTO Ankara 8.46 281 *e*Pn **Pn** **16 07 14.0 +0.7**
ASF Jabal al Asfar 8.51 222 Pn **Pn** **16 07 14.4 +0.4**
comp=Z,0.5nm,0.3s,baz=234,slow=5.0,SNR=3.7
ASF LR LR 16 10 57.0
comp=Z,386nm,18.4s,baz=330,slow=40
MMAI Mount Meron Ar 8.74 232 Pn **Pn** **16 07 18.3 +1.1**
comp=Z,3.4nm,0.3s,baz=68,slow=15,SNR=18
MMAI LR LR 16 10 55.1
comp=Z,503nm,20.7s,baz=55,slow=39
GEYT Alibeck 11.44 89 Pn **Pn** **16 07 54.2 +0.1**
comp=Z,0.5nm,0.3s,baz=269,slow=15,SNR=11
EIL Elat 11.51 221 Pn **Pn** **16 07 58.0 +3.0**
comp=Z,0.1nm,0.3s,baz=66,slow=20,SNR=2.2
EIL LR LR 16 13 00.3
comp=Z,851nm,18.4s,baz=56,slow=41
LPSR Galich'ya Gora 14.26 348 *e*P **Pn** **16 08 32.6 0.0**
LPSR pmax pmax
comp=Z,50nm,1.0s
VRI Vrincioaia 14.37 305⇑*i*P **P** **16 08 38.3 -2.9**
VRI Vrincioaia 14.37 305 P **P** **16 08 38.4 -2.8**
VRI pmax pmax
comp=Z,123nm,1.4s
SORM Soroca 14.52 315⇑*i*P **Pn** **16 08 35.3 -0.7**
TESR Tescani 14.69 307⇓*i*P **P** **16 08 42.9 -1.8**
MLR Muntele Rosu 14.73 303⇓*i*P **P** **16 08 42.6 -2.7**
RAYN Ar Rayn 15.23 173 *e*Pn **Pn** **16 08 41.4 -4.4**
comp=Z,21nm,0.7s
DOPR Dopca 15.27 304⇓*i*P **P** **16 08 51.9 +0.7**
VOIR 15.31 302⇓*i*P **Pn** **16 08 48.7 +1.9**
IDI Anoyia 15.33 263 Pn **Pn** **16 08 47.2 +0.1**
comp=Z,0.1nm,0.3s,baz=308,slow=16,SNR=2.3
PRAR RASCA 15.34 310⇑*i*P **P** **16 08 50.9 -1.0**
AKTO Aktyubinsk 15.55 36 Pn **Pn** **16 08 48.3 -1.6**
comp=Z,0.5nm,0.3s,baz=229,slow=13,SNR=22
ARR Arges 15.56 301⇓*i*P **P** **16 08 53.0 -1.4**
AKASG Malin Array Be 15.71 324 Pn **Pn** **16 08 50.6 -1.4**
comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=16
AKBB Malin Array Si 15.71 324 *e*P **Pn** **16 08 50.2 -1.8**
AKBB pmax pmax
comp=Z,26nm,1.1s
AKBB Malin Array Si 15.71 324 *e*Pn **Pn** **16 08 50.2 -1.8**
comp=Z,26nm,1.1s
AKBB Malin Array Si 15.71 324 *e*Pn **Pn** **16 08 50.2 -1.8**
comp=Z,26nm,1.1s
KIEV Kiev 15.72 324⇑*e*P **Pn** **16 08 51.7 -0.3**
KIEV Kiev 15.72 324 *e*Pn **Pn** **16 08 50.5 -1.5**
comp=Z,23nm,1.1s
AB31 Akbulak array 15.76 43 *i*P **Pn** **16 08 49.3 -3.3**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 15.76 43 *e*Pn **Pn** **16 08 49.1 -3.5**
comp=Z,77nm,0.8s
VTS Vitosha 15.95 291⇓*i*P **Pn** **16 08 54.8 -0.4**
BURAR Bucovina Array 16.06 310⇑*i*P **P** **16 08 59.8 -0.3**
BURAR Bucovina Array 16.06 310 P **P** **16 08 59.7 -0.3**
BUR08 Bucovina Ar. S 16.09 310 *e*Pn **P** **16 09 00.8 +0.5**
ARCR ARCALIA 16.36 307⇑*i*P **P** **16 09 03.0 -0.3**
GRG Griva 16.43 285 P **P** **16 09 05.7 +1.6**
GRG pmax pmax
comp=Z,21nm,1.2s
GRG Griva 16.43 285 P **P** **16 09 05.7 +1.6**
comp=Z,21nm,1.2s
BANOM Banah 16.65 136 P **Pn** **16 09 03.2 -0.9**
GZR Gura Zlata 16.82 300⇓*i*P **P** **16 09 07.7 -0.7**
GZR Gura Zlata 16.82 300⇓*i*P **P** **16 09 07.7 -0.7**
DEV Deva 16.88 302 P **P** **16 09 10.0 +1.1**
DEV pmax pmax
comp=Z,21nm,1.2s
DEV Deva 16.88 302 P **P** **16 09 10.0 +1.1**
comp=Z,21nm,1.2s
BARS Barje 16.99 291 *i*P **P** **16 09 12.3 +2.1**
OBN Obninsk 17.08 346⇓*i*P **P** **16 09 10.6 -0.5**
OBN pmax pmax
comp=Z,114nm,1.7s
OBN MLR MLR
comp=Z,584nm,14.0s
OBN Obninsk 17.08 346 *i*P **P** **16 09 10.6 -0.5**
comp=Z,584nm,14.0s
FNA Florina 17.21 284 P **P** **16 09 14.4 +1.7**
FNA pmax pmax
comp=Z,11nm,1.7s
FNA Florina 17.21 284 P **P** **16 09 14.4 +1.7**
comp=Z,11nm,1.7s
DRGR 17.30 305 P **P** **16 09 15.0 +1.3**
DRGR pmax pmax
comp=Z,90nm,1.4s
DRGR 17.30 305 P **P** **16 09 15.0 +1.3**
comp=Z,90nm,1.4s
UOSS Minazif 17.39 138 *e*Pn **P** **16 09 16.2 +1.5**
comp=Z,46nm,1.1s
MDVR Moldovita 17.40 297⇑*i*P Pn 16 09 04.3 -9.1
MOS Moscow 17.50 349 *e*P **Pn** **16 09 11.7 -2.8**
MOS pmax pmax
comp=Z,66nm,0.9s
ASHO Ashiyiah 17.52 139 *i*P **P** **16 09 16.3 0.0**
SNR=6.1
ASHO Ashiyiah 17.52 139 P **P** **16 09 16.3 0.0**
SNR=6.1
BZS Buzias 17.66 300⇑*i*P **Pn** **16 09 16.8 +0.1**
BZS Buzias 17.66 300⇑*i*P **Pn** **16 09 16.8 +0.1**
SIRR Siria 17.82 302⇑*i*P **P** **16 09 19.6 +0.3**
SIRR Siria 17.82 302⇑*i*P **P** **16 09 19.6 +0.3**
GRUS Gruza 17.93 294 *e*P **P** **16 09 23.1 +2.5**
TRUS Trudelj 18.20 295 *e*P **Pn** **16 09 22.0 -1.4**
UZH Uzhgorod 18.27 310 *e*P **Pn** **16 09 20.6 -3.5**
IVAS Ivanjica 18.29 293 *e*P **P** **16 09 25.2 +0.6**
KWP Kalwaria Pacla 18.47 313 *e*P **P** **16 09 26.5 0.0**
KWP Kalwaria Pacla 18.47 313 *e*P **P** **16 09 26.5 0.0**
KWP Kalwaria Pacla 18.47 313 *e*P **P** **16 09 26.5 0.0**
DIVS Divibare 18.48 294 *e*P **P** **16 09 24.5 -2.2**
FGSL Fruska Gora 18.80 298⇓*i*P **Pn** **16 09 31.0 +0.4**
PDG Podgorica 18.84 289⇓*i*P **P** **16 09 29.5 -1.1**
PDG Podgorica 18.84 289⇓*i*P **P** **16 09 29.5 -1.1**
TEKS Tekeris 18.88 296 *e*P **Pn** **16 09 32.5 +0.9**
CRVS Cervenica-Dubn 18.88 310 *e*P **Pn** **16 09 31.6 0.0**
CRVS Cervenica-Dubn 18.88 310 *e*P **Pn** **16 09 31.6 0.0**
CRVS Cervenica-Dubn 18.88 310 *e*P **Pn** **16 09 31.6 0.0**
STHS Stebnicka Huta 19.23 311 *e*P **Pn** **16 09 39.0 +3.2**
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 19.23 311 *e*P **Pn** **16 09 39.0 +3.2**
PSZ Piszkesteto 19.48 306⇑*i*P **Pn** **16 09 38.7 -0.2**
PSZ Piszkesteto 19.48 306 *e*P **Pn** **16 09 38.9 0.0**
PSZ pmax pmax
comp=Z,39nm,1.3s
PSZ Piszkesteto 19.48 306 *e*P **Pn** **16 09 38.9 0.0**
comp=Z,39nm,1.3s
PSZ Piszkesteto 19.48 306 *e*P **Pn** **16 09 38.9 0.0**
comp=Z,39nm,1.3s
NACGM Naroch 19.78 330 *e* **P** **16 09 39.0 -1.8**
NIE Niedzica 19.79 310 *e*P **Pn** **16 09 41.9 -0.6**
NIE Niedzica 19.79 310 *e*P **Pn** **16 09 41.9 -0.6**
WSAR Wadi Sarin 20.06 136 P Pn 16 09 45.6 -0.2
comp=Z,5.6nm,0.6s,baz=332,slow=7.9,SNR=8.7
LANS Liptovska Anna 20.18 309 *e*P Pn 16 09 53.5 +6.3

LANS Liptovska Anna 20.18 309 *e* Pn 16 09 53.5 +6.3
ARU Arti 20.32 24 P **P** **16 09 46.6 -0.1**
comp=Z,20nm,0.7s,baz=235,slow=5.7,SNR=35
ARU Arti 20.32 24*c i*P **P** **16 09 47.3 +0.7**
ARU 16 10 06.3
ARU S Sn 16 13 36.1 -1.2
ARU SS **SnSn** **16 13 53.7 +1.9**
ARU pmax pmax
comp=Z,68nm,1.2s
ARU MLR MLR
comp=Z,422nm,13.0s
ARU Arti 20.32 24 *i*P **P** **16 09 47.3 +0.7**
comp=Z,68nm,1.2s
ARU Arti 20.32 24 *e*P **P** **16 09 45.7 -0.9**
comp=Z,49nm,1.0s
VYHS Vyhne 20.34 307 *e*P **P** **16 09 47.2 +0.2**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 20.34 307 *e*P **P** **16 09 47.2 +0.2**
comp=Z,20nm,1.4s
VYHS Vyhne 20.34 307 *e*P **P** **16 09 47.2 +0.2**
OJC Ojcow 20.42 312 *e*P Pn 16 09 52.0 +2.1
OJC Ojcow 20.42 312 *e*P Pn 16 09 52.0 +2.1
OJC Ojcow 20.42 312 *e*P **P** **16 09 48.0 +0.2**
comp=Z,68nm,1.9s
OJC Ojcow 20.42 312 *e*P **P** **16 09 48.0 +0.2**
comp=Z,68nm,1.9s
SUW Suwalki 20.68 324 *e*P **P** **16 09 51.0 +0.4**
SUW Suwalki 20.68 324 *e*P **P** **16 09 51.0 +0.4**
SUW Suwalki 20.68 324 *e*P **P** **16 09 51.0 +0.4**
KK31 Karatay Array 20.77 69 P **P** **16 09 52.1 +0.4**
KK31 pmax pmax
comp=Z,32nm,0.8s
KK31 Karatay Array 20.77 69 P **P** **16 09 52.1 +0.4**
comp=Z,32nm,0.8s
KKAR Karatay Array 20.77 69 *e*P **P** **16 09 52.1 +0.4**
KKAR pmax pmax
comp=Z,273nm,0.8s
KKAR Karatay Array 20.77 69 *e*P **P** **16 09 52.1 +0.4**
comp=Z,273nm,0.8s
KKAR Karatay Array 20.77 69 *e*P **P** **16 09 52.1 +0.4**
comp=Z,273nm,0.8s
KBL Kabul 20.82 94 *e*P Pn 16 09 54.4 -0.5
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 20.82 94 *e*P Pn 16 09 54.4 -0.5
comp=Z,16nm,0.9s
KBL Kabul 20.82 94 *e*P Pn 16 09 54.4 -0.6
comp=Z,16nm,0.9s
OKC Ostrava-Krasne 21.24 310 *e*P **P** **16 10 02.7 +6.0**
OKC Ostrava-Krasne 21.24 310 *e*P **P** **16 10 02.7 +6.0**
SVE Sverdlovsk 21.33 26 *e*P **P** **16 09 58.4 +0.8**
SVE pmax pmax
comp=Z,77nm,1.2s
SVE Sverdlovsk 21.33 26 *e*P **P** **16 09 58.4 +0.8**
comp=Z,77nm,1.2s
CUC Castrocucco 21.49 282 *e*P **P** **16 10 02.5 +3.0**
comp=Z,13nm,0.9s
SOP Sopron 21.56 303 P **P** **16 10 02.5 +2.3**
SOP pmax pmax
comp=Z,25nm,1.1s
SOP Sopron 21.56 303 P **P** **16 10 02.5 +2.3**
comp=Z,25nm,1.1s
MORC Moravsky Berou 21.58 309⇓*i*P **P** **16 10 01.4 +1.0**
MORC Moravsky Berou 21.58 309 *e*P **P** **16 10 01.4 +1.0**
MORC pmax pmax
comp=Z,32nm,1.1s
MORC Moravsky Berou 21.58 309 *e*P **P** **16 10 01.4 +1.0**
comp=Z,32nm,1.1s
MORC Moravsky Berou 21.58 309 *e*P **P** **16 10 01.4 +1.0**
comp=Z,32nm,1.1s
VRAC Vranov 22.01 308 P **P** **16 10 05.1 +0.2**
comp=Z,8.8nm,0.8s,baz=110,slow=8.6,SNR=9.1
CONA Conrad Observa 22.08 304 *i*P **P** **16 10 06.0 +0.2**
comp=Z,20nm,1.4s
CONA Conrad Observa 22.08 304 P **P** **16 10 06.0 +0.2**
comp=Z,20nm,1.4s
ARSA Arzberg 22.15 302 *i*pP **P** **16 10 10.0 +3.5**
comp=Z,12nm,1.8s
KRLC Kraliky 22.15 310 *e*P **P** **16 10 07.7 +1.2**
KRLC Kraliky 22.15 310 *e*P **P** **16 10 07.7 +1.2**
KRLC Kraliky 22.15 310 *e*P **P** **16 10 07.7 +1.2**
MNAS Manas 22.22 71 P **P** **16 10 08.2 +0.7**
MNAS pmax pmax
comp=Z,17nm,1.1s
MNAS Manas 22.22 71 P **P** **16 10 08.2 +0.7**
comp=Z,17nm,1.1s
KLMR Klimovskoe 22.31 355 *e*P **P** **16 10 07.3 -0.7**
KLMR *e*PPP PPP 16 10 38.5
KLMR *e*S **S** **16 14 11.9 -1.2**
KLMR pmax pmax
comp=Z,130nm,1.3s
KLMR Klimovskoe 22.31 355 *e*P **P** **16 10 07.3 -0.7**
comp=Z,130nm,1.3s
SOKA Soboth 22.36 300 *i*P **P** **16 10 08.4 -0.5**
comp=Z,7.2nm,1.0s
SOKA Soboth 22.36 300 P **P** **16 10 08.4 -0.5**
comp=Z,7.2nm,1.0s
DPC Dobruska-Polom 22.52 310 *e*P **P** **16 10 11.8 +1.3**
DPC *e*x x 16 10 22.8
DPC Dobruska-Polom 22.52 310 *e*P **P** **16 10 11.8 +1.3**
DPC Dobruska-Polom 22.52 310 *e*P **P** **16 10 11.8 +1.3**
SOKR Solikamsk 22.53 18*c i*P **P** **16 10 08.9 -1.4**
SOKR pmax pmax
comp=Z,32nm,1.2s
SOKR MLR MLR
comp=Z,483nm,16.0s
VSU Vasula 22.57 337⇑*e*P **P** **16 10 14.9 +4.1**
VSU pmax pmax
comp=Z,110nm,1.2s
OBKA Obir 22.66 299 pP pP 16 10 15.6 +0.5
comp=Z,8.3nm,1.6s
TREC Trest 22.69 307 *e*P **P** **16 10 13.6 +1.3**
TREC Trest 22.69 307 *e*P **P** **16 10 13.6 +1.3**
TREC Trest 22.69 307 *e*P **P** **16 10 13.6 +1.3**
KSP Ksiaz 22.72 311 *e*P **P** **16 10 13.8 +1.3**
KSP Ksiaz 22.72 311 *e*P **P** **16 10 13.8 +1.3**
KSP Ksiaz 22.72 311 *e*P **P** **16 10 13.8 +1.3**
MOA Molln 23.11 303 *i*P **P** **16 10 16.6 0.0**
comp=Z,18nm,1.4s
MOA Molln 23.11 303 P **P** **16 10 16.6 0.0**
comp=Z,18nm,1.4s
AQU L'Aquila 23.17 289 *e*P **P** **16 10 17.8 +0.4**
AQU pmax pmax
comp=Z,35nm,1.0s
AQU L'Aquila 23.17 289 *e*P **P** **16 10 17.8 +0.4**
comp=Z,35nm,1.0s
AQU L'Aquila 23.17 289 *e*P **P** **16 10 17.8 +0.4**
comp=Z,35nm,1.0s
BRVK Borovoye 23.29 43*c i*P **P** **16 10 18.9 +0.5**
BRVK pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 23.29 43 *i*P **P** **16 10 18.9 +0.5**
comp=Z,47nm,1.2s
BRVK Borovoye 23.29 43 *e*P **P** **16 10 18.5 +0.1**
comp=Z,31nm,1.1s
BRVK Borovoye 23.29 43 pP **P** **16 10 19.8 +1.4**
SNR=11
BRVK Borovoye 23.29 43 P **P** **16 10 19.8 +1.4**
SNR=11
GOPC GO Pecny, Ondr 23.31 308 *e*P **P** **16 10 19.2 +0.5**
GOPC GO Pecny, Ondr 23.31 308 *e*P **P** **16 10 19.2 +0.5**
GOPC GO Pecny, Ondr 23.31 308 *e*P **P** **16 10 19.2 +0.5**
BVA0 Borovoye Array 23.33 43 P **P** **16 10 18.9 +0.1**
BVA0 pmax pmax
comp=Z,18nm,1.2s
BVA0 Borovoye Array 23.33 43 P **P** **16 10 18.9 +0.1**
comp=Z,18nm,1.2s
BVAR Borovoye Array 23.33 43 P **P** **16 10 19.5 +0.7**
comp=Z,7.6nm,0.9s,baz=232,slow=7.3,SNR=30
PRU Pruhonice 23.49 308 *e*P **P** **16 10 21.4 +1.0**
PRU *e*pP **sP** **16 10 25.5 +0.6**
PRU Pruhonice 23.49 308 *e*P **P** **16 10 21.4 +1.0**
PRU *e* 16 10 25.5
PRU Pruhonice 23.49 308 *e*P **P** **16 10 21.4 +1.0**
KBA Koelnbreinsper 23.57 301 P **P** **16 10 22.3 +0.8**
KBA pmax pmax
comp=Z,11nm,1.0s
KBA Koelnbreinsper 23.57 301 *i*P **P** **16 10 21.6 +0.1**
comp=Z,8.7nm,1.0s
KBA Koelnbreinsper 23.57 301 P **P** **16 10 22.3 +0.8**
comp=Z,11nm,1.0s
PRA Prague 23.58 308 *e*P **P** **16 10 26.0 +4.7**
PRA Prague 23.58 308 *e*P **P** **16 10 26.0 +4.7**
AAK Ala-Archa 23.69 71 P **P** **16 10 24.5 +1.9**

comp=Z,3.9nm,0.7s,baz=218,slow=6.2,SNR=12
AAK Ala-Archa 23.69 71*d i*P **P** **16 10 25.0 +2.3**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 23.69 71 *e*P **P** **16 10 23.2 +0.5**
comp=Z,18nm,1.1s
AAK Ala-Archa 23.69 71 *e*P **P** **16 10 23.2 +0.5**
comp=Z,18nm,1.1s
AAK Ala-Archa 23.69 71 pP **P** **16 10 24.6 +1.9**
SNR=11
AAK Ala-Archa 23.69 71 P **P** **16 10 24.6 +1.9**
SNR=11
GEC2 GERESS Array S 23.70 305 *e*P **P** **16 10 22.5 -0.1**
GEC2 pmax pmax
comp=Z,15nm,1.3s
GEC2 GERESS Array S 23.70 305 *e*P **P** **16 10 22.5 -0.1**
comp=Z,15nm,1.3s
GEC2 GERESS Array S 23.70 305 *e*P **P** **16 10 22.5 -0.1**
comp=Z,15nm,1.3s
GERES GERESS Array B 23.70 305 P **P** **16 10 22.2 -0.4**
comp=Z,1.1nm,0.6s,baz=107,slow=9.1,SNR=12
GERES GERESS Array B 23.70 305 P **P** **16 10 22.2 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 23.70 305 P **P** **16 10 22.2 -0.4**
comp=Z,2.0nm,0.8s
FRU Bishkek 23.78 70 *e*P **P** **16 10 25.0 +1.6**
FRU pmax pmax
comp=Z,50nm,2.0s
FRU Bishkek 23.78 70 *e*P **P** **16 10 25.0 +1.6**
comp=Z,50nm,2.0s
KHC Kasperske Hory 23.85 306 *e*P **P** **16 10 23.9 -0.1**
KHC *e*pP **sP** **16 10 29.1 +0.6**
KHC Kasperske Hory 23.85 306 *e*P **P** **16 10 23.7 -0.3**
KHC pmax pmax
comp=Z,35nm,1.9s
KHC Kasperske Hory 23.85 306 *e*P **P** **16 10 23.7 -0.3**
comp=Z,35nm,1.9s
KHC Kasperske Hory 23.85 306 *e*P **P** **16 10 23.6 -0.3**
comp=Z,35nm,1.9s
ABTA Abfaltersbach 24.08 300 *i*pP **P** **16 10 27.0 +0.8**
comp=Z,10nm,1.2s
ABTA Abfaltersbach 24.08 300 P **P** **16 10 27.0 +0.8**
comp=Z,10nm,1.2s
BRG Berggiesshubel 24.13 310 *e*P **P** **16 10 26.0 -0.5**
comp=Z,3.8nm,0.8s
BRG *e* 16 10 31.9
comp=Z,23nm,1.8s
BRG Berggiesshubel 24.13 310 *e*P **P** **16 10 26.0 -0.5**
BRG *e* 16 10 31.9
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,23nm,1.8s
WET Wettzell 24.30 305 P **P** **16 10 28.3 +0.1**
WET pmax pmax
comp=Z,18nm,1.2s
TKM2 Tokmak 2 24.50 70 *i*P **P** **16 10 32.0 +1.7**
TKM2 pmax pmax
comp=Z,25nm,1.0s
WTTA Wattenberg 24.75 301 *i*P **P** **16 10 30.0 -2.5**
comp=Z,7.5nm,1.0s
WATA Walderalm 24.80 301 *i*P **P** **16 10 32.6 -0.3**
comp=Z,16nm,1.0s
WATA Walderalm 24.80 301 P **P** **16 10 32.6 -0.3**
comp=Z,16nm,1.0s
CLL Collm 24.83 310⇓*i*P **P** **16 10 32.8 -0.1**
CLL *i* 16 10 35.3
CLL *i* 16 10 37.5
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 24.83 310 *e*P **P** **16 10 31.9 -1.0**
comp=Z,11nm,0.8s
CLL Collm 24.83 310⇓*i*P **P** **16 10 32.8 -0.1**
comp=Z,12nm,0.9s
CLL *i*pP **pP** **16 10 35.3 -0.8**
CLL *i*sP **sP** **16 10 37.5 +0.1**
CLL Collm 24.83 310 *e*P **P** **16 10 31.9 -1.0**
comp=Z,11nm,0.8s
NKC Novy Kostel 24.85 308 *e*P **P** **16 10 32.8 -0.3**
NKC Novy Kostel 24.85 308 *e*P **P** **16 10 32.8 -0.3**
NKC Novy Kostel 24.85 308 P **P** **16 10 32.8 -0.3**
KSH Kashi 25.07 78 *e*P **P** **16 10 35.0 -0.3**
KSH pP pP 16 10 39.0 +0.5
KSH sP sP 16 10 41.8 +1.9
KSH PP **PnPn** **16 11 11.8 +3.2**
KSH *e*PcP **PcP** **16 14 11.8 +2.1**
KSH S **S** **16 14 55.4 -4.3**
KSH sS pS 16 15 02.5 -0.6
KSH SS **SnSn** **16 15 52.4 +3.9**
KSH PcS **PcS** **16 17 52.4 +2.3**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,150nm,5.1s
KSH LR LR
comp=N,220nm,6.8s
KSH LR LR
comp=E,130nm,9.3s
KSH LR LR
comp=Z,110nm,12.8s
MOTA Moosalm 25.12 301 *i*P **P** **16 10 35.9 +0.1**
comp=Z,17nm,0.9s
MOTA Moosalm 25.12 301 P **P** **16 10 35.9 +0.1**
comp=Z,17nm,0.9s
FIA1 FINESS Array S 25.21 340 *e*P **P** **16 10 35.2 -1.0**
comp=Z,70nm,1.8s
FIA1 FINESS Array S 25.21 340 *e*P **P** **16 10 35.2 -1.0**
comp=Z,70nm,1.8s
FINES FINESS Array B 25.21 340 P **P** **16 10 35.4 -0.9**
comp=Z,3.4nm,0.8s,baz=150,slow=8.1,SNR=8.4
FINES LR LR 16 20 56.7
comp=Z,277nm,18.5s,baz=146,slow=38
FETA Feichten 25.33 300 *i*P **P** **16 10 37.4 -0.3**
comp=Z,11nm,1.0s
FETA Feichten 25.33 300 P **P** **16 10 37.4 -0.3**
comp=Z,11nm,1.0s
JOF Joensuu 25.36 347 P **P** **16 10 36.5 -1.0**
JOF pmax pmax
comp=Z,20nm,1.5s
RETA Reutte 25.37 301 *i*P **P** **16 10 38.0 0.0**
comp=Z,12nm,1.4s
RETA Reutte 25.37 301 P **P** **16 10 38.0 0.0**
comp=Z,12nm,1.4s
MOX Moxa 25.47 308 P **P** **16 10 38.4 -0.3**
MOX pmax pmax
comp=Z,6.0nm,1.2s
GRF Grafenberg Arr 25.48 306 P **P** **16 10 40.6 +1.8**
GRF pmax pmax
comp=Z,41nm,1.4s
GRFO Grafenberg 25.48 306 *e*P **P** **16 10 37.7 -1.1**
GRFO pmax pmax
comp=Z,45nm,1.2s
GRFO Grafenberg 25.48 306 *e*P **P** **16 10 37.7 -1.1**
comp=Z,45nm,1.2s
GRFO Grafenberg 25.48 306 *e*P **P** **16 10 37.7 -1.1**
comp=Z,45nm,1.2s
DAVOX Davos/Dischmat 25.88 299 P **P** **16 10 41.7 -1.1**
comp=Z,3.9nm,0.6s,baz=108,slow=12,SNR=7.5
DAVA Damuels 25.94 300 *i*P **P** **16 10 42.7 -0.5**
comp=Z,15nm,1.0s
DAVA Damuels 25.94 300 P **P** **16 10 42.7 -0.5**
comp=Z,15nm,1.0s
TUE Stuetta 26.22 298 *e*P **P** **16 10 44.2 -1.6**
comp=Z,8.1nm,0.9s
TUE Stuetta 26.22 298 *e*P **P** **16 10 44.2 -1.6**
comp=Z,8.1nm,0.9s
KURBB Kurchatov Arra 27.29 53 P **P** **16 10 56.3 +1.2**
comp=Z,14nm,0.7s,baz=264,slow=8.9,SNR=101
KEST Kesra 27.34 274 P **P** **16 10 57.0 +1.2**
comp=Z,4.7nm,0.9s,baz=312,slow=9.2,SNR=4.8
KURK Kurchatov 27.37 53*c i*P **P** **16 10 56.9 +1.1**
KURK pmax pmax
comp=Z,108nm,1.2s
KURK Kurchatov 27.37 53 *e*P **P** **16 10 56.5 +0.6**
comp=Z,21nm,0.9s
KURK Kurchatov 27.37 53 *e*P **P** **16 10 56.5 +0.6**
comp=Z,21nm,0.9s
KURK Kurchatov 27.37 53 pP **P** **16 10 57.0 +1.2**
SNR=9.7
KURK Kurchatov 27.37 53 P **P** **16 10 57.0 +1.2**
SNR=9.7
BNI Bardonecchia 28.03 295 P **P** **16 11 03.1 +1.1**
HFS Hagfors 28.52 328 P **P** **16 11 05.9 -0.1**
comp=Z,10nm,0.9s,baz=166,slow=7.4,SNR=5.9
MAKZ Makanchi 29.08 61 *e*P **P** **16 11 11.0 -0.3**

MAKZ pmax pmax
comp=Z,16nm,1.3s
MAKZ Makanchi 29.08 61 *eP* **P 16 11 10.9 -0.3**
comp=Z,16nm,1.3s
MAKZ Makanchi 29.08 61 *eP* **P 16 11 10.9 -0.3**
comp=Z,16nm,1.3s
MK31 Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
MK31 Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
MK31 Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
MKAR Makanchi Array 29.30 61 P **P 16 11 14.5 +1.3**
comp=Z,2.3nm,0.6s,baz=269,slow=6.1,SNR=14
MKAR Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
MKAR pmax pmax
comp=Z,41nm,1.0s
MKAR Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
comp=Z,41nm,1.0s
MKAR Makanchi Array 29.30 61 *eP* **P 16 11 13.8 +0.7**
comp=Z,41nm,1.0s
NOA NORSAR Array B 30.04 329 P **P 16 11 18.6 -1.0**
comp=Z,1.9nm,0.9s,baz=126,slow=7.5,SNR=3.9
NOA LR LR 16 24 31.2
comp=Z,138nm,19.0s,baz=130,slow=39
NVS Novosibirsk 31.07 46 *eP* **P 16 11 29.5 +0.9**
NVS *e* 16 11 38.4
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=Z,11nm,1.2s
ZAA0 Zalesovo Array 31.77 48 *eP* **P 16 11 34.6 -0.2**
ZAA0 Zalesovo Array 31.77 48 *eP* **P 16 11 34.6 -0.2**
ZALV Zalesovo Beam 31.77 48 P **P 16 11 34.9 +0.1**
comp=Z,1.9nm,0.6s,baz=263,slow=10,SNR=12
ARCES ARCESS Array B 32.37 348 P **P 16 11 38.6 -1.3**
comp=Z,1.7nm,0.7s,baz=158,slow=9.8,SNR=5.1
ARCES LR LR 16 25 34.3
comp=Z,294nm,20.0s,baz=196,slow=38
WMQ Urumqi 33.24 67 P **P 16 11 48.9 +1.0**
WMQ pP sP 16 11 55.5 +3.0
WMQ sP pP 16 11 58.8 +7.6
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,100nm,5.1s
WMQ LR LR
comp=N,120nm,33.5s
WMQ LR LR
comp=E,160nm,25.5s
WMQ LR LR
comp=Z,160nm,39.3s
PYUN Piuthan 34.31 96 *eP* **P 16 11 58.6 +1.0**
comp=Z,35nm,0.8s
KOLN Koldanda 34.95 96 *eP* **P 16 12 03.9 +0.8**
comp=Z,22nm,0.9s
EKA Eskdalemuir Ar 35.17 314 P **P 16 12 03.3 -1.2**
comp=Z,8.3nm,0.7s,baz=95,slow=9.3,SNR=7.8
GKN Gorkha 35.64 95 *eP* **P 16 12 09.6 +0.6**
comp=Z,30nm,0.7s
TAM Tamanrasset 36.07 255 *eP* **P 16 12 12.1 -0.6**
TAM pmax pmax
comp=Z,9.0nm,1.2s
TAM Tamanrasset 36.07 255 *eP* **P 16 12 12.1 -0.6**
comp=Z,8.5nm,1.2s
TAM Tamanrasset 36.07 255 *eP* **P 16 12 12.1 -0.6**
comp=Z,8.5nm,1.2s
DMN Daman 36.20 95 *eP* **P 16 12 14.6 +0.7**
KKN Kakani 36.24 95 *eP* **P 16 12 15.0 +0.8**
PKIN Phulchoki 36.44 95 *eP* **P 16 12 16.7 +0.8**
comp=Z,9.4nm,0.5s
ESDC Sonseca Array 36.53 287 P **P 16 12 14.5 -1.9**
comp=Z,3.4nm,0.7s,baz=67,slow=8.8,SNR=14
GUN Gumba 36.66 94 *eP* **P 16 12 18.7 +0.8**
comp=Z,45nm,0.9s
JIRN Jiri 37.02 94 *eP* **P 16 12 21.9 +0.9**
comp=Z,123nm,0.8s
RAMN Ramite 37.68 95 *eP* **P 16 12 27.0 +0.5**
comp=Z,32nm,0.6s
ODAN Odare 38.34 95 *eP* **P 16 12 33.1 +1.1**
comp=Z,34nm,0.9s
TAPN Taplejung 38.35 94 *eP* **P 16 12 32.5 +0.3**
comp=Z,32nm,0.9s
NRIK Noril'sk 38.54 23 P **P 16 12 33.0 +0.1**
comp=Z,1.3nm,0.4s,baz=184,slow=14,SNR=3.0
NRIK LR LR 16 31 59.1
comp=Z,267nm,20.1s,baz=247,slow=42
LSA Lhasa 39.97 88 P **P 16 12 47.5 +1.6**
LSA pmax pmax
comp=Z,14nm,0.9s
LSA Lhasa 39.97 88 *eP* **P 16 12 45.1 -0.8**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 39.97 88 *eP* **P 16 12 45.0 -0.8**
comp=Z,10nm,0.8s
LSA Lhasa 39.97 88 *eP* **P 16 12 45.0 -0.8**
comp=Z,10nm,0.8s
MOY Mondy 41.42 52 *eP* **P 16 12 58.9 +1.6**
GTA Gaotai 43.04 71 *eP* **P 16 13 11.9 +1.3**
GTA pP sP 16 13 18.0 +2.7
GTA sP pP 16 13 20.8 +6.8
GTA PP **PcP** **16 14 55.8 -4.9**
GTA S **S** **16 19 40.9 +4.5**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,93nm,5.2s
GTA LR LR
comp=N,140nm,16.6s
GTA LR LR
comp=E,130nm,15.7s
GTA LR LR
comp=Z,190nm,18.5s
TLY Talaya 43.06 52 P **P 16 13 09.7 -0.8**
comp=Z,2.5nm,0.5s,baz=218,slow=14,SNR=3.1
TLY LR LR 16 33 04.5
comp=Z,144nm,18.2s,baz=305,slow=39
TORD Torodi Ar. Bea 44.93 247 P **P 16 13 24.2 -1.6**
comp=Z,2.6nm,1.1s,baz=45,slow=9.0,SNR=8.9
SONM Songino Array 45.48 57 P **P 16 13 30.2 +0.1**
comp=Z,0.3nm,0.4s,baz=286,slow=8.2,SNR=2.4
ULN Ulaanbaatar 45.90 57 *ceP* **P 16 13 34.5 +1.1**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 45.90 57 *eP* **P 16 13 33.0 -0.4**
comp=Z,15nm,1.5s
ULN Ulaanbaatar 45.90 57 *eP* **P 16 13 33.0 -0.4**
comp=Z,15nm,1.5s
ULN Ulaanbaatar 45.90 57 pP **P 16 13 34.8 +1.4**
SNR=6.5
ULN Ulaanbaatar 45.90 57 P **P 16 13 34.8 +1.4**
SNR=6.5
ULN P P 16 13 34.8 +1.4
LZH Lanzhou 47.18 73 *eP* **P 16 13 45.6 +2.0**
LZH pP sP 16 13 51.8 +3.5
LZH sP pP 16 13 55.6 +8.6
LZH PP PP 16 15 43.0 +8.7
LZH *e*S **S** **16 20 33.3 -3.0**
LZH sS sS 16 20 45.8 +4.0
LZH Lanzhou 47.18 73 SS SS 16 23 51.8 -11
LZH pmax pmax
comp=Z,44nm,1.3s
LZH pmax pmax
comp=Z,150nm,4.1s
LZH LR LR
comp=N,1μm,13.2s
LZH LR LR
comp=E,1μm,13.4s
LZH LR LR
comp=Z,1μm,15.3s
BOD Bodaibo 48.20 43 *eP* **P 16 13 50.4 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 51.06 65 *eP* **P 16 14 14.4 +1.2**
HHC pP sP 16 14 19.3 +1.4
HHC sP pP 16 14 24.5 +7.9
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,78nm,4.1s
CHTO Chiang Mai 51.61 96 *eP* **P 16 14 16.1 -1.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 51.61 96 *eP* **P 16 14 16.1 -1.4**
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 51.61 96 *eP* **P 16 14 16.1 -1.4**
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 51.81 97 *eP* **P 16 14 18.1 -0.9**
CM31 Chiang Mai Arr 51.81 97 *eP* **P 16 14 18.1 -0.9**
CMAR Chiang Mai Arr 51.81 97 P **P 16 14 18.5 -0.5**
comp=Z,2.7nm,0.8s,baz=302,slow=8.5,SNR=18
XAN Xi'an 51.81 74 P **P 16 14 19.3 +0.5**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,140nm,9.5s
TIXI Tiksi 52.32 24 P **P 16 14 21.6 -0.4**
comp=Z,1.1nm,0.7s,baz=315,slow=11,SNR=3.7
TIXI Tiksi 52.32 24⇓ *eP* **P 16 14 22.0 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 52.32 24 *eP* **P 16 14 21.4 -0.6**
comp=Z,4.7nm,1.1s
TIXI Tiksi 52.32 24 *eP* **P 16 14 21.4 -0.6**
comp=Z,4.7nm,1.1s
HIA Hailar 53.61 52⇓ *eP* **P 16 14 33.2 +1.3**
HIA pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 54.03 247 P **P 16 14 36.5 +1.2**
comp=Z,4.4nm,1.0s,baz=44,slow=7.2,SNR=3.7
KIC Kosan Boka 54.16 246 *eP* **P 16 14 34.1 -2.2**
comp=Z,70nm,1.4s
TIC Toumodi 54.17 247 *eP* **P 16 14 37.3 +0.9**
LIC Lamto 54.46 246 *eP* **P 16 14 37.2 -1.3**
comp=Z,65nm,1.4s
YAK Yakutsk 54.94 35 P **P 16 14 41.2 -0.1**
comp=Z,5.3nm,0.6s,baz=296,slow=2.5,SNR=3.6
YAK LR LR 16 43 40.7
comp=Z,157nm,18.1s,baz=74,slow=42
YAK Yakutsk 54.94 35⇓ *eP* **P 16 14 44.4 +3.1**
YAK pmax pmax
comp=Z,8.0nm,0.8s
NJ2 Nanjing 60.13 71 *eP* **P 16 15 20.0 +1.6**
NJ2 pmax pmax
comp=Z,16nm,1.5s
KLR Kul'dur 60.87 49 LR LR 16 44 15.4
comp=Z,16nm,19.7s,baz=332,slow=38
USRK Ussuriysk Ar. 63.35 54 P **P 16 15 40.1 +0.2**
comp=Z,2.6nm,0.8s,baz=300,slow=6.5,SNR=3.3
KSAR Wonju Array Be 63.96 62 P **P 16 15 44.0 0.0**
KSAR Wonju Array Be 63.96 62 P **P 16 15 44.0 0.0**
KSAR Wonju Array Be 63.96 62 P **P 16 15 44.0 0.0**
KSRS Korea Array 63.98 62 P **P 16 15 44.0 -0.1**
comp=Z,3.0nm,0.8s,baz=287,slow=6.8,SNR=13
SEY Seymchan 63.99 29⇓ *eP* **P 16 15 45.0 +1.2**
BILL Bilibino 65.28 20 *eP* **P 16 15 53.4 +1.3**
BILL pmax pmax
comp=Z,9.0nm,1.5s
BILL MLR MLR
comp=Z,102nm,18.0s
BOSA Boshof 69.13 197 P **P 16 16 17.2 +0.1**
comp=Z,3.5nm,0.6s,baz=16,slow=5.4,SNR=9.5
MJAR Matsushiro Arr 71.42 58 P **P 16 16 31.7 +0.5**
comp=Z,2.5nm,0.9s,baz=343,slow=2.9,SNR=4.5
MLY Manley 75.98 6 *eP* **P 16 16 57.7 +0.2**
comp=Z,9.9nm,1.3s
MLY Manley 75.98 6 *eP* **P 16 16 57.7 +0.2**
comp=Z,9.9nm,1.3s
COLA College 76.36 5⇑ *eP* **P 16 17 03.7 +4.2**
COLA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 76.52 5 P **P 16 17 00.1 -0.4**
comp=Z,0.2nm,0.6s,baz=336,slow=5.9,SNR=3.9
CAST Castle Rocks 77.44 7 *eP* **P 16 17 05.1 -0.6**
comp=Z,12nm,1.3s
CAST Castle Rocks 77.44 7 *eP* **P 16 17 05.1 -0.6**
comp=Z,12nm,1.3s
KDAK Kodiak Island 82.91 9 P **P 16 17 35.4 +0.2**
comp=Z,3.8nm,0.7s,baz=331,slow=7.4,SNR=4.9
KDAK Kodiak Island 82.91 9 *i P* **P 16 17 35.9 +0.7**
TKL Tuckaleechee C 91.44 320 P **P 16 18 16.6 -0.6**
comp=Z,3.8nm,0.9s,baz=212,slow=13,SNR=3.0
NEW Newport 91.72 347 P **P 16 18 18.1 -0.2**
comp=Z,1.3nm,0.7s,baz=13,slow=5.9,SNR=3.8
PDAR Pinedale Array 95.31 340 P **P 16 18 34.5 -0.7**
comp=Z,0.1nm,0.4s,baz=27,slow=5.6,SNR=2.6

AZER ***23*** *16:13:11.5±1.4, 37°.01N×44°.00E, h16km±44km, Error ellipse: s-maj=46.6km s-min=15.6km az=38.0*
MOS ***23*** *16:13:21.7±1.5, 38°.55N×43°.15E, h10km, mb4.4/12, Error ellipse: s-maj=12.0km s-min=7.7km az=77.1*
IDC ***23*** *16:13:22.6±0.7, 38°.66N×43°.16E, h0km, mb4.0/17, mb1 4.0/23, mb1mx3.8/58, mbtmp3.9/23, ML2.9/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/50, Error ellipse: s-maj=13.6km s-min=10.5km az=165.0*
ISCJB ***23*** *16:13:23.7±0.6, 38°.58N±0°.02×43°.28E±0°.03, h13km±4km, mb4.0/19, Error ellipse: s-maj=4.0km s-min=2.8km az=142.1*
DDA ***23*** *16:13:23.8, 38°.66N×43°.11E, h21km, Ml4.1*
CSEM ***23*** *16:13:24.4±0.2, 38°.64N×43°.20E, h10km, mb4.2/13, Error ellipse: s-maj=5.1km s-min=3.9km az=129.0*
NEIC ***23*** *16:13:24.3±0.7, 38°.70N×43°.17E, h10km±5km, mb4.1/4, ML4.1(DDA), Error ellipse: s-maj=7.0km s-min=5.7km az=133.0*
ISK ***23*** *16:13:25.0, 38°.64N×43°.09E, h11km, ML3.9*
ISC 23 16:13:24.0±0.9,**38°.64N**±0°.01×**43°.15E**±0°.02,**h10**km±6km,
n176,σt§**76/220,mb4.0**/19,**28C-26D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.23**	**120**	⇓*iP*	**Pb**	**16 13 31.3**	**+1.0**
TVAN				*i* S	**Sb**	**16 13 35.9**	**+3.7**
TVAN	**Van**	**0.23**	**120**	*i P*	**Pb**	**16 13 30.9**	**+0.5**
TVAN				*i* S	**Sb**	**16 13 35.8**	**+3.7**
TVAN	**Van**	**0.23**	**120**	*i P*	**Pb**	**16 13 30.9**	**+0.5**
TVAN				*i* S	**Sb**	**16 13 35.8**	**+3.7**
GEVA	**Gevas**	**0.34**	**193**	⇓*iP*	**Pg**	**16 13 30.2**	**-0.6**
GEVA				*i* S	**Sb**	**16 13 37.3**	**-0.4**
GEVA	**Gevas**	**0.34**	**193**	P	**Pg**	**16 13 30.2**	**-0.6**
GEVA				S	**Sb**	**16 13 37.3**	**-0.4**
GEVA	**Gevas**	**0.34**	**193**	*i P*	**Pg**	**16 13 30.2**	**-0.6**
GEVA				*i* S	**Sg**	**16 13 34.3**	**-1.1**
VMUR	**Van-Muradiye**	**0.47**	**43**	⇓*iP*	**Pg**	**16 13 33.3**	**-0.1**
VMUR				*i* S	**Sb**	**16 13 41.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.47**	**43**	P	**Pg**	**16 13 33.3**	**-0.1**
VMUR				S	**Sb**	**16 13 41.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.47**	**43**	*i P*	**Pg**	**16 13 33.3**	**-0.1**
TUTA	**Tutak**	**0.80**	**341**	⇓*iP*	**Pg**	**16 13 38.4**	**-1.2**
TUTA				*i* S	**Sg**	**16 13 50.5**	**+0.4**
TUTA	**Tutak**	**0.80**	**341**	P	**Pg**	**16 13 38.4**	**-1.2**
TUTA				S	**Sg**	**16 13 50.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.94**	**352**	*e*PG	**Pn**	**16 13 43.9**	**+0.5**
AGRB				*e*SG	**Sn**	**16 13 56.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.94**	**352**	*e*Pg	**Pn**	**16 13 43.9**	**+0.5**
AGRB				*e*Sg	**Sn**	**16 13 56.6**	**-0.4**
DYDN	**Diyadin**	**0.99**	**25**	*i P*	**Pb**	**16 13 41.7**	**-1.7**
DYDN				*i* S	**Sg**	**16 13 57.0**	**+0.9**
DYDN	**Diyadin**	**0.99**	**25**	P	**Pb**	**16 13 41.7**	**-1.7**
DYDN				S	**Sg**	**16 13 57.0**	**+0.9**
DYDN	**Diyadin**	**0.99**	**25**	*i P*	**Pb**	**16 13 41.7**	**-1.7**
EKAR	**Karacoban**	**1.05**	**306**	⇑*iP*	**Pb**	**16 13 43.7**	**-0.6**
EKAR				*i* S	**Sn**	**16 14 05.1**	**+5.4**
EKAR	**Karacoban**	**1.05**	**306**	*i P*	**Pb**	**16 13 43.8**	**-0.6**
EKAR	**Karacoban**	**1.05**	**306**	*i P*	**Pb**	**16 13 43.8**	**-0.6**
HAKT	**HAKKARI**	**1.17**	**158**	⇓*iP*	**Pb**	**16 13 44.9**	**-1.6**
HAKT				*i* S	**Sn**	**16 14 02.9**	**+0.2**
HAKT	**HAKKARI**	**1.17**	**158**	P	**Pb**	**16 13 44.8**	**-1.6**
HAKT				S	**Sn**	**16 14 02.9**	**+0.2**
SIRN	**S¨–rnak**	**1.29**	**207**	*i P*	**Pn**	**16 13 48.3**	**+0.2**
SIRN				*i* S	**Sg**	**16 14 08.0**	**+2.6**
SIRN	**S¨–rnak**	**1.29**	**207**	P	**Pn**	**16 13 48.3**	**+0.2**
SIRN				S	**Sg**	**16 14 08.0**	**+2.6**
EATA	**Eleskirt**	**1.32**	**337**	⇓*iP*	**Pn**	**16 13 47.7**	**-1.0**
EATA				*i* S	**Sb**	**16 14 06.0**	**-0.2**
EATA	**Eleskirt**	**1.32**	**337**	*i P*	**Pn**	**16 13 47.8**	**-1.0**
EATA				S	**Sb**	**16 14 06.0**	**-0.2**
EATA	**Eleskirt**	**1.32**	**337**	*i P*	**Pn**	**16 13 47.8**	**-1.0**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*PN	**Pb**	**16 13 51.4**	**+0.7**
VRTB	**Varto-Mus**	**1.42**	**292**	*i P*	**Pn**	**16 13 50.2**	**+0.2**
VRTB				*i* S	**Sg**	**16 14 11.5**	**+1.7**
VRTB	**Varto-Mus**	**1.42**	**292**	P	**Pn**	**16 13 50.2**	**+0.2**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*Pn	**Pb**	**16 13 51.4**	**+0.7**
VRTB				S	**Sg**	**16 14 11.5**	**+1.7**
CUKT	**Cukurca**	**1.44**	**165**	*e*PN	**Pg**	**16 13 51.8**	**+0.2**
CUKT	**Cukurca**	**1.44**	**165**	⇓*iP*	**Pg**	**16 13 51.9**	**+0.2**
CUKT				*i* S	**Sg**	**16 14 14.8**	**+4.4**
CUKT	**Cukurca**	**1.44**	**165**	*e*Pn	**Pg**	**16 13 51.8**	**+0.2**
BNGL	**BINGOL**	**1.60**	**282**	⇑*iP*	**Pn**	**16 13 53.0**	**+0.6**
BNGL				*i* S	**Sg**	**16 14 16.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*PN	**Pn**	**16 13 53.4**	**+0.9**
SVAN				*e*SN	**Sb**	**16 14 14.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	⇓*iP*	**Pb**	**16 13 53.8**	**-0.1**
SVAN				*i* S	**Sb**	**16 14 15.1**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*Pn	**Pn**	**16 13 53.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	P	**Pb**	**16 13 53.8**	**-0.1**
SVAN				*e*Sn	**Sb**	**16 14 14.3**	**0.0**
SVAN				S	**Sb**	**16 14 15.1**	**+0.8**
BTMN	**Batman**	**1.66**	**244**	⇑*iP*	**Pn**	**16 13 54.1**	**+0.9**
BTMN				*i* S	**Sn**	**16 14 14.5**	**-0.2**
BTMN	**Batman**	**1.66**	**244**	P	**Pn**	**16 13 54.1**	**+0.9**
BTMN				S	**Sn**	**16 14 14.5**	**-0.2**
HOMI	**Horasan**	**1.70**	**326**	*i P*	**Pn**	**16 13 54.5**	**+0.6**
HOMI				*i* S	**Sg**	**16 14 20.6**	**+1.8**
DIGO	**Kars**	**1.78**	**5**	⇑*iP*	**Pb**	**16 13 56.3**	**-0.5**
DIGO				*i* S	**Sg**	**16 14 23.2**	**+2.0**
DIGO	**Kars**	**1.78**	**5**	P	**Pb**	**16 13 56.3**	**-0.5**
ERZM	**Erzurum**	**1.87**	**313**	*i P*	**Pn**	**16 13 57.5**	**+1.1**
ERZM				*i* S	**Sb**	**16 14 23.5**	**+1.4**
ERZM	**Erzurum**	**1.87**	**313**	P	**Pn**	**16 13 57.5**	**+1.1**
ERZM				S	**Sb**	**16 14 23.5**	**+1.4**
NAX	**Nakhchivan**	**1.90**	**73**	⇓P	Pn	16 13 51.0	-5.6
NAX				⇓S	**Sg**	**16 14 25.7**	**+0.6**
GNI	**Garni**	**1.94**	**39**	Pn	**Pn**	**16 13 58.5**	**+1.3**
	64nm,0.3s,baz=345,slow=4.0,SNR=22						
GNI				Sn	**Sg**	**16 14 29.9**	**+3.4**
	48nm,0.3s,baz=161,slow=17,SNR=4.3						
GNI	**Garni**	**1.94**	**39**	*e*P	**Pn**	**16 13 57.7**	**+0.5**
GNI	**Garni**	**1.94**	**39**	*e*P	**Pn**	**16 13 57.7**	**+0.5**
GNI	**Garni**	**1.94**	**39**	*e*Pn	**Pn**	**16 13 57.6**	**+0.5**
GNI				Sn	**Sg**	**16 14 29.9**	**+3.4**
ECAT	**Cat-ERZURUM**	**1.95**	**300**	⇑*iP*	**Pn**	**16 13 58.1**	**+0.8**
ECAT				*i* S	**Sg**	**16 14 27.2**	**+0.5**
ECAT	**Cat-ERZURUM**	**1.95**	**300**	P	**Pn**	**16 13 58.1**	**+0.8**
BNGB	**Bing¨¶l**	**1.96**	**281**	*e*PN	**Pn**	**16 13 57.9**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.01**	**342**	*e*PN	**Pn**	**16 13 59.5**	**+1.3**
SENK	**Senkaya-Erzuru**	**2.01**	**342**	*e*Pn	**Pn**	**16 13 59.5**	**+1.3**
EAK	**Akyaka**	**2.07**	**10**	⇓*iP*	**Pb**	**16 14 02.7**	**+0.9**
EAK				*i* S	**Sg**	**16 14 36.6**	**+6.0**
EAK	**Akyaka**	**2.07**	**10**	P	**Pb**	**16 14 02.7**	**+0.9**
BINT	**Bingol**	**2.10**	**277**	*e*Pn	**Pn**	**16 13 57.9**	**-1.4**
MARD	**Mardin**	**2.30**	**235**	*i P*	**Pn**	**16 14 02.5**	**+0.5**
MARD				*i* S	**Sb**	**16 14 32.7**	**-1.4**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**16 14 05.0**	**+1.0**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**16 14 05.0**	**+1.0**
KOPT	**Kop Dagi**	**2.48**	**305**	⇓*iP*	**Pb**	**16 14 08.6**	**-0.2**
KOPT				*i* S	**Sg**	**16 14 43.6**	**0.0**
KOPT	**Kop Dagi**	**2.48**	**305**	P	**Pb**	**16 14 08.6**	**-0.2**
DIYA	**Diyarbakir**	**2.49**	**254**	*e*P	**Pn**	**16 14 07.1**	**+2.4**
DIYA				*i* S	**Sb**	**16 14 38.6**	**-1.0**
DIYA	**Diyarbakir**	**2.49**	**254**	P	**Pn**	**16 14 07.1**	**+2.4**
DIYA				S	**Sb**	**16 14 38.6**	**-1.0**
DDEM	**Demirkent**	**2.49**	**335**	*i P*	**Pb**	**16 14 07.3**	**-1.6**
DDEM	**Demirkent**	**2.49**	**335**	P	**Pb**	**16 14 07.3**	**-1.6**
DAGI	**Agillar**	**2.61**	**339**	*i P*	**Pn**	**16 14 08.6**	**+2.2**
DAGI				*i* S	**Sg**	**16 14 48.4**	**+0.4**
ARTV	**Artvin**	**2.71**	**340**	*i P*	**Pn**	**16 14 08.8**	**+1.0**
ARTV	**Artvin**	**2.71**	**340**	P	**Pn**	**16 14 08.8**	**+1.0**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*PN	**Pn**	**16 14 11.0**	**+2.3**
AKH	**Akhalkalaki**	**2.78**	**5**	⇓*iP*	**Pb**	**16 14 14.2**	**+0.4**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*Pn	**Pn**	**16 14 11.0**	**+2.3**
ERZN	**Erzincan**	**2.83**	**291**	*e*PN	**Pn**	**16 14 10.7**	**+1.3**
TNCL	**Tunceli-Merkez**	**2.86**	**281**	⇓*iP*	**Pn**	**16 14 12.0**	**+2.3**
TNCL	**Tunceli-Merkez**	**2.86**	**281**	P	**Pn**	**16 14 12.0**	**+2.3**
EPOS	**Posof**	**2.88**	**354**	*i P*	**Pb**	**16 14 13.4**	**-2.1**
EPOS	**Posof**	**2.88**	**354**	P	**Pb**	**16 14 13.4**	**-2.1**
GDB	**GEDABAY**	**2.89**	**43**	⇑P	**Pn**	**16 14 11.5**	**+1.3**
	SNR=8.5						
GDB				⇓S	**Sg**	**16 14 59.8**	**+3.0**
GDB	**GEDABAY**	**2.89**	**43**	P	**Pn**	**16 14 11.5**	**+1.3**
	SNR=8.5						
EUZM	**Uzumlu**	**2.89**	**293**	*i P*	**Pb**	**16 14 15.7**	**0.0**
DBOC	**Borcka**	**2.93**	**338**	⇓*iP*	**Pb**	**16 14 16.2**	**-0.2**
PTK	**Pertek**	**2.95**	**276**	*e*PN	**Pn**	**16 14 12.1**	**+1.0**
PTK	**Pertek**	**2.95**	**276**	*e*Pn	**Pn**	**16 14 12.1**	**+1.0**
QZX	**Qazax, Azerbai**	**2.96**	**35**	⇓P	**Pb**	**16 14 14.2**	**-2.5**
	SNR=28						
QZX				⇑S	**Sg**	**16 15 02.7**	**+3.8**
QZX	**Qazax, Azerbai**	**2.96**	**35**	P	**Pb**	**16 14 14.2**	**-2.5**
	SNR=28						
SVRC	**Sivrice-ELAZID**	**3.03**	**266**	*e*PN	**Pn**	**16 14 13.2**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.03**	**266**	*e*Pn	**Pn**	**16 14 13.2**	**+1.1**
EZC	**Erzincan**	**3.15**	**292**	*e*Pn	**Pn**	**16 14 10.7**	**-3.1**
GANJ	**Ganja**	**3.16**	**50**	⇑P	**Pn**	**16 14 13.5**	**-0.3**
	SNR=6.7						
GANJ				⇑S	**Sb**	**16 15 01.1**	**+2.3**
GANJ	**Ganja**	**3.16**	**50**	P	**Pn**	**16 14 13.5**	**-0.3**
	SNR=6.7						
TBLG	**Delisi**	**3.31**	**21**	*e*PN	**Pn**	**16 14 18.6**	**+2.7**
TBLG	**Delisi**	**3.31**	**21**	*e*Pn	**Pn**	**16 14 18.6**	**+2.7**
KELT	**Kelkit**	**3.37**	**298**	⇓*iP*	**Pb**	**16 14 26.0**	**+2.0**
KTUT	**Trabzon**	**3.50**	**313**	*e*PN	**Pn**	**16 14 20.2**	**+1.8**
KTUT	**Trabzon**	**3.50**	**313**	*e*Pn	**Pn**	**16 14 20.3**	**+1.8**
BRDA	**Brd**	**3.51**	**61**	⇑P	Pn	16 14 13.3	-5.3
	SNR=5.6						
BRDA				⇓S	**Sn**	**16 15 01.2**	**+1.0**
URFA	**Urfa**	**3.62**	**252**	*e*PN	**Pn**	**16 14 22.5**	**+2.3**
URFA	**Urfa**	**3.62**	**252**	*e*Pn	**Pn**	**16 14 22.5**	**+2.3**
MNGR	**Mingechevir, A**	**3.70**	**54**	⇑P	**Pn**	**16 14 18.2**	**-3.0**
	SNR=7.5						
MNGR	**Mingechevir, A**	**3.70**	**54**	P	**Pn**	**16 14 18.2**	**-3.0**
	SNR=7.5						
ZKTA	**Zakatala**	**4.00**	**41**	⇓P	**Pn**	**16 14 26.4**	**+1.0**
	SNR=14						
ZKTA				⇓S	**Sb**	**16 15 25.4**	**+2.4**
SEKA	**Sheki**	**4.03**	**49**	⇑P	**Pn**	**16 14 24.9**	**-0.9**
	SNR=9.4						
SEKA				⇑S	**Sb**	**16 15 21.9**	**-1.9**
SEKA	**Sheki**	**4.03**	**49**	P	**Pn**	**16 14 24.9**	**-0.9**
	SNR=9.4						
GLBA	**Cilabad**	**4.13**	**80**	⇑S	Sn	16 15 02.6	-13
ZEI	**Tsey**	**4.18**	**8**	*e*P	**Pn**	**16 14 29.8**	**+1.8**
ZEI				pmax	pmax		
	comp=Z,19nm,0.7s						
QBL	**Gabala**	**4.28**	**56**	⇓P	**Pn**	**16 14 25.2**	**-4.0**
	SNR=3.7						
QBL				⇓S	**Sn**	**16 15 22.7**	**+3.6**
QBL	**Gabala**	**4.28**	**56**	P	**Pn**	**16 14 25.2**	**-4.0**
	SNR=3.7						
QBL				S	**Sn**	**16 15 22.7**	**+3.6**
ASTR	**Astara**	**4.42**	**89**	⇑S	Sn	16 15 02.5	-20
IML	**Ismayilli**	**4.43**	**59**	⇑P	Pn	16 14 25.4	-5.9
	SNR=3.7						
IML				⇑S	**Sn**	**16 15 24.2**	**+1.3**
XNQ	**Khinaliq**	**4.59**	**55**	⇑P	**Pn**	**16 14 29.8**	**-3.9**
	SNR=10						
XNQ	**Khinaliq**	**4.59**	**55**	P	**Pn**	**16 14 29.8**	**-3.9**
	SNR=10						
PQL	**Pirkuli**	**4.71**	**61**	⇑P	Pn	16 14 28.7	-6.5
	SNR=3.7						
GBS	**Qobustan**	**4.85**	**65**	⇓P	Pn	16 14 29.0	-8.2
	SNR=3.3						
QSAR	**Qusar**	**4.86**	**52**	⇑P	**Pn**	**16 14 33.6**	**-3.5**
	SNR=4.3						
QSAR	**Qusar**	**4.86**	**52**	P	**P

GEYT	Alibeck	11.78	89	Pn		Pn	16 16 11.2	-0.9
	comp=Z,0.2nm,0.3s,baz=349,slow=15,SNR=3.1							
MLR	Muntele Rosu	14.48	304	⇑	iP	Pn	16 16 52.7	+3.6
DOPR	Dopca	15.03	305	⇑	iP	P	16 17 02.3	+0.6
DOPR	Dopca	15.03	305	⇑	iP	P	16 17 02.3	+0.6
VOIR		15.05	303	⇑	iP	P	16 16 59.9	-2.2
ARR	Arges	15.30	302	⇓	iP	P	16 17 08.0	+3.1
AKASG	Malin Array Be	15.57	325	Pn		Pn	16 17 01.5	-1.9
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=3.6							
AKTO	Aktyubinsk	15.81	37	Pn		Pn	16 17 04.2	-2.4
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=6.1							
BURAR	Bucovina Array	15.84	310	⇑	iP	Pn	16 17 08.8	+1.7
ABKAR	Akbulak array	16.05	43	eP		Pn	16 17 09.2	-0.4
	comp=Z,3.0nm,0.8s							
VYHS	Vyhne	20.11	307	eP		Pn	16 17 59.5	-0.1
VYHS	Vyhne	20.11	307	eP		Pn	16 17 59.5	-0.1
VYHS	Vyhne	20.11	307	eP		Pn	16 17 59.5	-0.1
ARU	Arti	20.53	25	P		P	16 18 02.9	+0.7
	comp=Z,4.4nm,0.4s,baz=230,slow=6.3,SNR=8.3							
ARU	Arti	20.53	25	c	iP	P	16 18 02.6	+0.4
ARU							16 18 19.8	
ARU				S		S	16 21 52.1	+0.5
ARU				SS		SnSn	16 22 11.5	+1.3
ARU				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ARU	Arti	20.53	25	i	P	P	16 18 02.6	+0.4
	comp=Z,10.0nm,1.0s							
ARU				S		S	16 21 52.1	+0.5
ARU	Arti	20.53	25	eP		P	16 18 02.8	+0.6
	comp=Z,7.7nm,0.8s							
KKAR	Karatay Array	21.12	69	eP		P	16 18 08.0	-0.8
KKAR				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KKAR	Karatay Array	21.12	69	eP		P	16 18 08.0	-0.8
	comp=Z,8.0nm,0.8s							
KKAR	Karatay Array	21.12	69	eP		P	16 18 08.0	-0.8
	comp=Z,8.1nm,0.8s							
GERES	GERESS Array B	23.46	305	P		P	16 18 34.1	+0.5
	comp=Z,0.4nm,0.5s,baz=106,slow=9.8,SNR=4.4							
BVAR	Borovoye Array	23.62	44	P		P	16 18 33.9	-1.1
	comp=Z,2.3nm,0.9s,baz=224,slow=12,SNR=8.2							
CLL	Collm	24.61	311	eP		P	16 18 45.0	+0.8
FINES	FINESS Array B	25.16	341	P		P	16 18 49.3	+0.2
	comp=Z,1.9nm,0.7s,baz=137,slow=11,SNR=11							
KURBB	Kurchatov Arra	27.61	53	P		P	16 19 12.4	+1.1
	comp=Z,1.9nm,0.6s,baz=263,slow=9.1,SNR=14							
KURK	Kurchatov	27.68	53	P		P	16 19 12.4	+0.4
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURK	Kurchatov	27.68	53	P		P	16 19 12.4	+0.4
	comp=Z,2.0nm,0.6s							
KURK	Kurchatov	27.68	53	P		P	16 19 12.4	+0.4
HFS	Hagfors	28.40	329	P		P	16 19 17.8	-0.4
	comp=Z,2.4nm,0.8s,baz=113,slow=9.9,SNR=2.8							
MKAR	Makanchi Array	29.63	61	P		P	16 19 30.4	+1.0
	comp=Z,0.9nm,0.5s,baz=261,slow=11,SNR=10							
NOA	NORSAR Array B	29.92	329	P		P	16 19 31.4	-0.4
	comp=Z,0.6nm,0.8s,baz=125,slow=8.6,SNR=2.2							
ZALV	Zalesovo Beam	32.07	48	P		P	16 19 51.0	+0.3
	comp=Z,0.5nm,0.5s,baz=263,slow=7.0,SNR=2.9							
ARCES	ARCESS Array B	32.37	349	P		P	16 19 52.2	-1.0
	comp=Z,2.3nm,0.9s,baz=166,slow=15,SNR=3.3							
PAB	San Pablo	36.54	287	eP		P	16 20 26.7	-3.1
PAB				pmax		pmax		
	comp=Z,7.0nm,0.6s							
PAB	San Pablo	36.54	287	eP		P	16 20 26.7	-3.1
	comp=Z,7.3nm,0.6s							
TORD	Torodi Ar. Bea	44.58	247	P		P	16 21 36.5	+0.2
	comp=Z,0.6nm,0.9s,baz=61,slow=8.5,SNR=3.7							
CMAR	Chiang Mai Arr	52.15	96	P		P	16 22 34.6	-0.2
	comp=Z,2.1nm,0.7s,baz=299,slow=8.3,SNR=21							
CMAR	Chiang Mai Arr	52.15	96	P		P	16 22 34.6	-0.2
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CMAR	Chiang Mai Arr	52.15	96	P		P	16 22 34.6	-0.2
	comp=Z,3.0nm,0.9s							
SEY	Seymchan	64.21	29	P		P	16 23 59.0	+0.4
	comp=Z,3.0nm,0.7s,baz=289,slow=8.2,SNR=8.4							
SEY	Seymchan	64.21	29	P		P	16 23 59.0	+0.4
SEY				pmax		pmax		
	comp=Z,3.0nm,0.7s							
SEY	Seymchan	64.21	29	P		P	16 23 59.0	+0.4
	comp=Z,3.0nm,0.7s							
KSAR	Wonju Array Be	64.30	62	P		P	16 23 59.3	-0.2
KSAR	Wonju Array Be	64.30	62	P		P	16 23 59.3	-0.2
KSAR	Wonju Array Be	64.30	62	P		P	16 23 59.3	-0.2
KSRS	Korea Array	64.32	62	P		P	16 23 59.3	-0.4
	comp=Z,1.9nm,0.6s,baz=291,slow=7.1,SNR=9.4							
BOSA	Boshof	68.97	197	P		P	16 24 30.1	+0.7
	comp=Z,3.6nm,0.9s,baz=328,slow=8.7,SNR=3.3							
KDAK	Kodiak Island	83.03	8	P		P	16 25 49.7	+0.6
	comp=Z,3.9nm,0.7s,baz=359,slow=1.7,SNR=6.2							
PDAR	Pinedale Array	95.26	340	P		P	16 26 47.0	-1.3
	comp=Z,0.4nm,0.4s,baz=59,slow=7.4,SNR=4.2							

*ISK **23** 16:14:59.6, 38.°75N×43.°17E, h5km, ML3.6*
*DDA **23** 16:15:00.2, 38.°72N×43.°17E, h7km, Ml3.6*
*CSEM **23** 16:15:00.2±0.3, 38.°71N±0.°02×43.°21E, h2km, ML3.6, Error ellipse: s-maj=7.8km s-min=5.1km az=78.0*
ISC 23 16:15:00.3±1.2, 38.°71N±0.°02×43.°17E±0.°03, h0km±12km, n49, σ0.9±94/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TVAN	Van	0.26	135	iP			Pg	16 15 05.2	-0.1
TVAN				iS			Sg	16 15 10.3	+1.6
TVAN	Van	0.26	135	P			Pg	16 15 05.2	-0.1
TVAN				S			Sg	16 15 10.3	+1.6
GEVA	Gevas	0.41	193	iP			Pg	16 15 06.8	-1.3
GEVA	Gevas	0.41	193	P			Pg	16 15 06.8	-1.3
VMUR	Van-Muradiye	0.42	48	iP			Pg	16 15 07.8	-0.5
VMUR				iS			Sg	16 15 15.1	+1.4
VMUR	Van-Muradiye	0.42	48	P			Pg	16 15 07.8	-0.5
TUTA	Tutak	0.74	338	iP			Pg	16 15 14.4	-0.1
TUTA	Tutak	0.74	338	P			Pg	16 15 14.4	-0.1
AGRB	Hanur-Agry	0.87	351	ePG			Pg	16 15 16.6	-0.4
AGRB				eSG			Sb	16 15 29.2	-1.5
AGRB	Hanur-Agry	0.87	351	ePg			Pg	16 15 16.6	-0.4
AGRB				eSg			Sb	16 15 29.2	-1.5
EKAR	Karacoban	1.02	302	iP			Pn	16 15 21.8	-0.2
EKAR	Karacoban	1.02	302	P			Pn	16 15 21.8	-0.2
HAKT	HAKKARI	1.23	160	iP			Pg	16 15 21.9	-1.9
HAKT	HAKKARI	1.23	160	P			Pg	16 15 21.9	-1.9
EATA	Eleskirt	1.26	335	iP			Pg	16 15 24.3	-0.2
EATA	Eleskirt	1.26	335	P			Pg	16 15 24.3	-0.2
SIRN	S¨–rnak	1.35	206	iP			Pn	16 15 25.7	-0.8
SIRN				iS			Sn	16 15 48.1	+2.9
SIRN	S¨–rnak	1.35	206	P			Pn	16 15 25.7	-0.8
VRTB	Varto-Mus	1.41	289	ePN			Pb	16 15 27.1	-0.5
VRTB				eSN			Sn	16 15 47.0	+0.3
VRTB	Varto-Mus	1.41	289	ePn			Pb	16 15 27.1	-0.5
VRTB				eSn			Sn	16 15 47.0	+0.3
CUKT	Cukurca	1.50	167	ePN			Pg	16 15 29.2	+0.1
CUKT	Cukurca	1.50	167	iP			Pg	16 15 29.9	+0.8
CUKT	Cukurca	1.50	167	ePn			Pg	16 15 29.2	+0.1
CUKT	Cukurca	1.50	167	P			Pg	16 15 29.9	+0.8
BNGL	BINGOL	1.60	279	iP			Pb	16 15 29.9	-0.8
SVAN	Silvan-Diyarba	1.65	251	ePN			Pn	16 15 30.3	-0.2
SVAN				eSN			Sg	16 15 53.6	+0.3
SVAN	Silvan-Diyarba	1.65	251	iP			Pb	16 15 31.3	-0.3
SVAN	Silvan-Diyarba	1.65	251	ePn			Pn	16 15 30.3	-0.2
SVAN	Silvan-Diyarba	1.65	251	P			Pb	16 15 31.3	-0.3
SVAN				eSn			Sg	16 15 53.6	+0.3
HOMI	Horasan	1.65	324	iP			Pg	16 15 31.8	-0.2
DIGO	Kars	1.71	5	iP			Pg	16 15 32.5	-0.5
DIGO	Kars	1.71	5	P			Pg	16 15 32.5	-0.5
BTMN	Batman	1.71	242	iP			Pg	16 15 32.8	-0.2
BTMN	Batman	1.71	242	P			Pg	16 15 32.8	-0.2
ERZM	Erzurum	1.84	311	iP			Pb	16 15 34.3	-0.6
ERZM	Erzurum	1.84	311	P			Pb	16 15 34.3	-0.6
ECAT	Cat-ERZURUM	1.93	298	iP			Pg	16 15 39.0	+1.8
SENK	Senkaya-Erzuru	1.95	341	ePN			Pn	16 15 34.7	-0.1
SENK	Senkaya-Erzuru	1.95	341	ePn			Pn	16 15 34.7	-0.1
BNGB	Bing¨¶l	1.97	279	ePN			Pn	16 15 35.2	+0.3
BINT	Bingol	2.10	275	ePn			Pn	16 15 35.2	-1.6
YEDI	Yedisu-Bingol	2.17	290	ePN			Pn	16 15 37.8	0.0
YEDI	Yedisu-Bingol	2.17	290	ePn			Pn	16 15 37.8	0.0
DDEM	Demirkent	2.44	334	iP			Pg	16 15 46.0	-1.0
DAGI	Agilar	2.55	338	iP			Pb	16 15 47.5	+0.5
ARTV	Artvin	2.65	339	iP			Pb	16 15 48.6	0.0
EPOS	Posof	2.81	353	iP			Pg	16 15 53.0	-1.1
TNCL	Tunceli-Merkez	2.86	279	iP			Pg	16 15 55.5	+0.4

KELT	Kelkit	3.35	297	iP		Pb	16 16 02.0	+1.3

*ISCJB **23** 16:17:13.7±0.8, 53.°22N±0.°09×166.°85W±0.°08, h58km±6km, mb3.8/9, Error ellipse: s-maj=16.9km s-min=4.4km az=155.6*
*NEIC **23** 16:17:13.7±0.0, 53.°17N×166.°75W, h26km, ML3.8(AEIC), After AEIC.*
*IDC **23** 16:17:15.9±4.7, 53.°39N×166.°84W, h53km±40km, mb3.5/9, mb1 3.6/11, mb1mx3.4/69, mbtmp3.7/11, ML3.4/2, Error ellipse: s-maj=41.7km s-min=19.7km az=1.0*
ISC 23 16:17:14.9±1.5, 53.°3N±0.°1×166.°81W±0.°06, h47km±12km, n39, σ1.9±10/45, mb3.8/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.54	356		P		Pn	16 17 26.4	0.0
UNV	Unalaska Valle	0.61	18		P		Pn	16 17 26.6	-0.8
UNV					S		Sn	16 17 36.4	+0.1
MSW	Makushin Switc	0.65	2		P		Pn	16 17 28.1	+0.1
MSW					S		Sn	16 17 38.9	+1.5
OKFG	Magazine Ridge	0.68	283		P		Pn	16 17 27.5	-0.6
OKFG					S		Sn	16 17 37.7	-0.1
MTBL	Makushin Table	0.71	6		P		Pn	16 17 29.1	+0.4
OKTU	Okmok Mt. Tuli	0.75	280		P		Pn	16 17 29.2	0.0
OKNC	Okmok New Cone	0.81	284		P		Pn	16 17 29.6	-0.4
OKNC					S		Sn	16 17 40.6	-0.3
OKSO	Okmok South	0.81	277		P		Pn	16 17 29.1	-0.9
OKSO					S		Sn	16 17 40.1	-1.0
OKCE	Okmok Cone E	0.83	282		P		Pn	16 17 30.0	-0.2
AKMO	Akutan Morgan	0.96	30		P		Pn	16 17 31.8	-0.1
AKMO					S		Sn	16 17 45.7	+1.2
AKRB	Akutan Reef Bi	0.98	27		P		Pn	16 17 32.4	+0.2
AKRB					S		Sn	16 17 47.1	+2.2
AKLV	Akutan Long Va	1.04	29		P		Pn	16 17 32.8	-0.3
AKGG	Akutan Green G	1.06	27		P		Pn	16 17 33.5	+0.2
AKGG					S		Sn	16 17 47.9	+1.0
AKUT	Akutan	1.07	35		P		Pn	16 17 33.1	-0.4
AKSA	Akutan Strait	1.10	37		P		Pn	16 17 33.0	-0.8
AKSA					S		Sn	16 17 48.6	+0.7
NIKH	Nikolski High	1.26	258		P		Pn	16 17 34.5	-1.6
WESP	Westdahl Peak	1.75	44		P		Pn	16 17 43.6	+0.8
WESP					S		Sn	16 18 06.4	+2.5
WESE	West Dahl East	1.79	47		P		Pn	16 17 43.8	+0.4
WESN	West Dahl Nort	1.86	44		P		Pn	16 17 45.0	+0.8
FALS	False Pass	2.56	50	ePn			Pn	16 17 54.8	+0.9
KDAK	Kodiak Island	9.25	55	P			Pn	16 19 23.7	-1.7
	0.5nm,0.3s,baz=223,slow=6.4,SNR=12								
KDAK					S		Sn	16 21 04.5	-3.5
	0.2nm,0.3s,baz=321,slow=18,SNR=2.2								
KDAK	Kodiak Island	9.25	55	ePn			Pn	16 19 24.5	-0.9
SEW	Seward	11.73	47	ePn			Pn	16 19 59.2	-0.1
ILAR	Eielson Array	15.34	34	P			Pn	16 20 46.7	-1.3
	0.1nm,0.3s,baz=245,slow=12,SNR=2.9								
DLBC	Dease Lake	21.09	61	P			P	16 21 55.7	+0.6
	2.9nm,1.1s,baz=76,slow=16,SNR=2.7								
PETK	Petropavlovsk-	21.14	284	P			P	16 21 56.9	+1.4
	1.1nm,0.3s,baz=82,slow=14,SNR=14								
INK	Inuvik	21.75	33	P			P	16 22 03.1	+1.2
	2.8nm,0.5s,baz=258,slow=7.8,SNR=12								
H11N2	WAKE ISLAND Hy	39.13	221	T			T	17 06 13.7	
	baz=26,slow=74								
H11N3	WAKE ISLAND Hy	39.14	221	T			T	17 06 15.4	
	baz=26,slow=74								
H11N1	WAKE ISLAND Hy	39.15	221	T			T	17 06 15.7	
	baz=26								
H11S1	WAKE ISLAND Hy	40.32	221	T			T	17 07 40.4	
	baz=25								
H11S2	WAKE ISLAND Hy	40.33	221	T			T	17 07 44.1	
	baz=25								
H11S3	WAKE ISLAND Hy	40.34	221	T			T	17 07 44.5	
	baz=25								
TXAR	Lajitas Array	51.20	92	P			P	16 26 13.7	+0.2
	0.4nm,0.6s,baz=300,slow=6.0,SNR=7.7								
KURBB	Kurchatov Arra	62.83	319	P			P	16 27 34.7	-0.6
	0.2nm,0.2s,baz=35,slow=7.3,SNR=3.2								
BVAR	Borovoye Array	63.86	326	P			P	16 27 41.6	-0.4
	0.7nm,0.5s,baz=46,slow=8.4,SNR=6.7								
BVAR					PcP		PcP	16 28 17.7	+0.3
	0.6nm,0.5s,baz=43,slow=2.8,SNR=4.5								
MKAR	Makanchi Array	64.30	315	P			P	16 27 43.9	-1.1
	0.3nm,0.6s,baz=44,slow=5.3,SNR=3.3								
HFS	Hagfors	66.95	360	P			P	16 28 01.3	-0.6
	2.3nm,0.9s,baz=3.2,slow=7.3,SNR=3.4								
CMAR	Chiang Mai Arr	77.91	285	P			P	16 29 08.0	+0.2
	0.8nm,0.7s,baz=26,slow=6.5,SNR=9.3								

*IDC **23** 16:21:37.7±6.6, 7.°32S×111.°00E, h196km±75km, mb3.0/3, mb1 3.2/4, mb1mx2.7/58, mbtmp3.5/4, Error ellipse: s-maj=157.1km s-min=15.0km az=47.0*
*ISCJB **23** 16:21:40.6±0.5, 7.°3S±0.°1×111.°37E±0.°04, h250km, mb3.3/3, Error ellipse: s-maj=18.6km s-min=4.5km az=7.3*
*DJA **23** 16:21:41.6±0.5, 7.°S±10.°×11.°1E±.°, h234km±6km, M3.5/11, mb3.6/2, MLv3.4/11*
ISC 23 16:21:41.9±0.9, 7.°2S±0.°1×111.°37E±0.°05, h250km, n15, σ2.9±82/23, mb3.3/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UWJI	Ujung Watu	0.86	331		P		Pn	16 22 13.9	-2.3
SMRI	Semarang	0.94	278		P		Pn	16 22 15.8	-0.8
UGM	Wanagama	1.12	229		P		Pn	16 22 16.4	-1.2
UGM					S		S	16 22 41.7	-4.0
KMMI	Kalianget	2.58	87		P		Pn	16 22 28.4	-1.5
CMJI	Cimerak	2.96	258		P		Pn	16 22 32.2	-1.8
CMJI					S		S	16 23 11.5	-3.6
JAGI	Jajag, Banyuwa	3.04	115		P		Pn	16 22 32.6	-2.2
JAGI					S		S	16 23 13.4	-3.2
CISI	Cisompet, Garu	3.55	264		P		Pn	16 22 38.6	-2.0
CISI					S		S	16 23 24.3	-2.7
SRBI	Singaraja	3.91	104		P		Pn	16 22 43.5	-1.1
CNJI	Cibinong	4.21	268		P		Pn	16 22 50.1	+1.9
CNJI					S		S	16 23 39.3	-1.6
CGJI	Cibinong	5.67	275		P		Pn	16 23 07.6	+1.7
CGJI					S		S	16 24 12.7	-0.4
PLAI	Plampang	6.55	105		P		Pn	16 23 16.0	-0.9
PLAI					S		S	16 24 29.2	-3.9
FITZ	Fitzroy Crossi	17.64	129		P		Pn	16 25 33.4	+0.1
	0.1nm,0.3s,baz=325,slow=12,SNR=5.8								
FITZ					S		S	16 28 48.1	+7.3
	0.1nm,0.3s,baz=180,slow=20,SNR=3.7								
WRA	Warramunga Arr	25.63	122	P			P	16 26 51.1	+2.1
	0.3nm,0.3s,baz=296,slow=12,SNR=5.4								
ASAR	Alice Springs	27.14	130	P			P	16 27 04.5	+2.1
	0.9nm,0.5s,baz=303,slow=8.1,SNR=46								
MKAR	Makanchi Array	59.63	337	P			P	16 31 21.1	+1.3
	0.1nm,0.4s,baz=148,slow=8.3,SNR=3.1								

JMA 23 16:31:31.2±0.2, 36.°58N×141.°56E, h55km±4km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	Hitachi	0.80	273		P		Pn	16 31 46.4	0.0
JHO					eS		Sn	16 31 57.7	+0.1
JFK	Kawauchi	0.96	325		P		Pn	16 31 48.8	+0.3
JFT	Otama	1.35	314		P		Pn	16 31 55.4	+1.6
JMM	Marumori	1.42	335		P		Pn	16 31 54.2	-0.5
JAG	Ashikaga	1.70	265		P		Pn	16 31 59.9	+1.3
MAT	Matsushiro	2.70	270		P		Pn	16 32 15.2	+3.0
MAT					eS		Sn	16 32 50.0	+6.3

*ISCJB **23** 16:32:10.2±0.6, 38.°54N±0.°03×141.°77E±0.°07, h61km±3km, mb3.9/22, Error ellipse: s-maj=9.4km s-min=4.8km az=20.3*
*JMA **23** 16:32:11.5±0.1, 38.°54N×141.°72E, h54km±1km, M3.9*
JMA Felt II J1.
*IDC **23** 16:32:13.2±1.9, 38.°55N×141.°68E, h70km±17km, mb3.6/21, mb1 3.7/27, mb1mx3.6/66, mbtmp3.9/27, Error ellipse: s-maj=16.7km s-min=12.0km az=93.0*
ISC 23 16:32:11.0±1.1, 38.°51N±0.°04×141.°82E±0.°08, h52km±8km, n49, σ1.9±05/60, mb4.0/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	Ouri	0.37	261		P		Pn	16 32 21.0	0.0
JIO					iS		Sn	16 32 27.4	-0.7
OFUJ	Ofunato	0.58	348		P		Pn	16 32 23.4	+0.1
OFUJ					S		Sn	16 32 31.7	-0.5
JMK	Ichinoseki	0.64	313		P		Pn	16 32 24.0	-0.1
JMK					S		Sn	16 32 32.7	-0.8
JOU	Okura	0.92	261		P		Pn	16 32 27.2	-0.5
JOU					eS		Sn	16 32 38.5	-1.5
JMM	Marumori	1.03	232		P		Pn	16 32 28.7	-0.5
JMM					S		Sn	16 32 41.4	-1.3
JOM	Ohasama	1.04	337		P		Pn	16 32 29.3	0.0
JOM					S		Sn	16 32 42.2	-0.7
JYK	Kaneyama	1.21	290		P		Pn	16 32 31.2	-0.4
JYK					eS		Sn	16 32 46.6	-0.3
JRG	Rokugo	1.28	314		P		Pn	16 32 32.1	-0.4
JFK	Kawauchi	1.37	213		P		Pn	16 32 33.8	+0.1
JFK					S		Sn	16 32 50.1	-0.7
JYS	Shirataka	1.41	259		P		Pn	16 32 34.2	-0.1
JYS					eS		Sn	16 32 51.3	-0.5
JFT	Otama	1.54	230		P		Pn	16 32 36.4	+0.4
JFT					eS		Sn	16 32 54.4	-0.4
MAT	Matsushiro	3.48	237		P		Pn	16 33 04.0	+1.4
MAT					eS		Sn	16 33 45.9	+3.3
MJAR	Matsushiro Arr	3.48	237		P		Pn	16 33 04.4	+1.7
	5.4nm,0.3s,baz=35,slow=13,SNR=25								
ASAJ	Asahikawa	5.63	6		P		Pn	16 33 32.1	+0.1
	2.5nm,0.3s,baz=223,slow=10,SNR=24								
JHJ	Hachijo jima 2	5.63	198		P		Pn	16 33 34.0	+1.9
	14nm,0.3s,baz=118,slow=23,SNR=6.3								
JHJ					S		Sn	16 34 32.0	-3.4
	20nm,0.3s,baz=253,slow=19,SNR=3.7								
USRK	Ussuriysk Ar.	9.32	311		P		Pn	16 34 22.9	+0.3
	0.7nm,0.3s,baz=113,slow=15,SNR=10								
JNU	Nakatsue	10.38	242		P		Pn	16 34 38.6	+1.4
	0.3nm,0.3s,baz=99,slow=6.9,SNR=5.8								
KSRS	Korea Array	11.02	269		P		Pn	16 34 47.9	+2.0
	0.3nm,0.3s,baz=84,slow=14,SNR=7.0								
YAK	Yakutsk	24.70	346		P		P	16 37 28.6	+1.7
	4.2nm,0.3s,baz=301,slow=3.2,SNR=4.2								
SONM	Songino Array	27.26	301		P		P	16 37 50.4	+0.1
	0.5nm,0.5s,baz=93,slow=8.0,SNR=4.1								
TIXI	Tiksi	33.86	353		P		P	16 38 46.9	-1.2
	0.3nm,0.3s,baz=136,slow=9.7,SNR=2.6								
ZALV	Zalesovo Beam	41.17	311		P		P	16 39 48.6	-1.4
	1.6nm,0.5s,baz=92,slow=8.4,SNR=9.6								
CMAR	Chiang Mai Arr	42.20	254		P		P	16 40 04.6	+5.7
	0.6nm,0.5s,baz=48,slow=7.4,SNR=8.2								
MKAR	Makanchi Array	43.62	301		P		P	16 40 09.6	-0.5
	1.7nm,0.6s,baz=83,slow=9.9,SNR=12								
KURBB	Kurchatov Arra	45.36	307		P		P	16 40 23.2	-0.7
	5.0nm,0.5s,baz=80,slow=8.1,SNR=50								
JIRN	Jiri	47.22	274	eP			P	16 40 39.1	-0.1
RAMN	Ramite	47.23	273	eP			P	16 40 38.9	-0.3
	19nm,0.6s								
GUN	Gumba	47.34	275	eP			P	16 40 40.1	-0.1
KKN	Kakani	47.87	275	eP			P	16 40 43.8	-0.3
	12nm,0.7s								
PKIN	Phulchoki	47.88	274	eP			P	16 40 43.4	-0.9
	4.0nm,0.5s								
ILAR	Eielson Array	48.08	33		P		P	16 40 45.1	+0.1
	0.4nm,0.8s,baz=268,slow=6.1,SNR=3.6								
GKN	Gorkha	48.27	275	eP			P	16 40 46.5	-0.7
DANN	Dangsing	48.80	276	eP			P	16 40 51.5	+0.2
KOLN	Koldanda	49.19	276	eP			P	16 40 53.7	-0.6
	2.6nm,0.3s								
PYUN	Piuthan	49.51	276	eP			P	16 40 56.3	-0.4
	6.9nm,0.3s								
BVAR	Borovoye Array	49.83	311		P		P	16 40 58.0	-0.5
	0.9nm,0.5s,baz=69,slow=7.2,SNR=6.9								
AAK	Ala-Archa	50.08	297		P		P	16 41 00.3	-0.5
	0.6nm,0.4s,baz=22,slow=5.4,SNR=2.7								
INK	Inuvik	52.93	28		P		P	16 41 22.3	+0.9
	0.6nm,0.4s,baz=286,slow=7.5,SNR=4.2								
ARU	Arti	55.47	318		P		P	16 41 39.7	-0.4
	2.0nm,0.5s,baz=107,slow=6.4,SNR=5.2					

comp=Z,212nm,0.2s
IDMV Damavand 3.49 126 *e*Pn **Pn 16 36 10.3 +1.9**
IVRN Varamin 3.70 135 *e*AMB AMB 16 37 15.9
comp=Z,547nm,0.1s
IALA Alasht 3.77 114 *e*Pn **Pn 16 36 13.5 +1.3**
IALA *e*AMB AMB 16 36 25.2
comp=Z,465nm,0.1s
IALA Alasht 3.77 114 *e*Pn **Pn 16 36 13.5 +1.3**
IFIR Firoozkooh 3.94 120 *e*Pn **Pn 16 36 16.3 +1.8**
IFIR *e*AMB AMB 16 36 19.3
comp=Z,141nm,0.1s
IFIR Firoozkooh 3.94 120 *e*Pn **Pn 16 36 16.3 +1.8**
ISHM Shahmirzad 4.24 115 *e*Pn **Pn 16 36 21.3 +2.6**
ISHM *e*AMB AMB 16 37 14.9
comp=Z,278nm,0.2s
IGLO Ghaloghah 4.38 104 *e*Pn **Pn 16 36 21.6 +1.1**
IGLO *e*AMB AMB 16 37 15.9
comp=Z,422nm,0.1s
QAM Ghamsar 4.55 148 *e*Pn **Pn 16 36 24.9 +2.0**
QAM *e*AMB AMB 16 37 41.0
comp=Z,187nm,0.3s
IZEF Zefreh 5.67 146 *e*Pn **Pn 16 36 39.9 +1.5**
IZEF *e*AMB AMB 16 36 42.2
comp=Z,33nm,0.1s
IZEF Zefreh 5.67 146 *e*Pn **Pn 16 36 39.9 +1.5**

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*CSEM **23** 16:35:47.0, 38°.71N×43°.16E, h7km, ML3.3*
DDA 23 16:35:47.0, 38°.71N×43°.16E, h7km, Ml3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.26**	**132**	*i* P	Pg	16 35 52.5	+0.2
TVAN				*i* S	Sg	16 35 57.3	+1.5
TVAN	**Van**	**0.26**	**132**	P	Pg	16 35 52.5	+0.2
TVAN				S	Sg	16 35 57.3	+1.5
GEVA	**Gevas**	**0.40**	**191**	*i* P	Pg	16 35 54.9	0.0
GEVA				*i* S	Sb	16 36 01.7	-1.2
GEVA	**Gevas**	**0.40**	**191**	P	Pg	16 35 54.9	0.0
GEVA				S	Sb	16 36 01.7	-1.2
VMUR	**Van-Muradiye**	**0.43**	**49**	*i* P	Pg	16 35 55.2	-0.2
VMUR				*i* S	Sg	16 36 01.5	+0.4
VMUR	**Van-Muradiye**	**0.43**	**49**	P	Pg	16 35 55.2	-0.2
VMUR				S	Sg	16 36 01.5	+0.4
TUTA	**Tutak**	**0.74**	**339**	*i* P	Pg	16 36 01.7	+0.3
TUTA				*i* S	Sb	16 36 12.5	-0.4
TUTA	**Tutak**	**0.74**	**339**	P	Pg	16 36 01.7	+0.3
TUTA				S	Sb	16 36 12.5	-0.5

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*IDC **23** 16:36:52.2±7.5, 33°.82N×26°.82E, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.4/48, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=117.6km s-min=42.3km az=11.0*
*ISCJB **23** 16:37:00.8±2.0, 34°.34N±0°.10×26°.49E±0°.06, h19km±11km, mb3.5/2, Error ellipse: s-maj=16.4km s-min=7.7km az=176.4*
*ATH **23** 16:37:00.8, 34°.38N×26°.41E, h23km±2km, ML2.9/3, Error ellipse: s-maj=4.3km s-min=1.6km az=353.0*
*CSEM **23** 16:37:01.4±0.7, 34°.41N×26°.45E, h10km, ML2.6, Error ellipse: s-maj=15.5km s-min=8.8km az=175.0*
*THE **23** 16:37:04.0, 34°.56N×26°.34E, h0km±1km, ML2.6/6, Error ellipse: s-maj=2.8km s-min=1.0km az=157.0*
ISC 23 16:37:01.0±1.9, 34°.35N±0°.09×26°.44E±0°.04, h24km±12km, n44, σ1°08/59, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.79**	**347**	P	**Pb**	**16 37 15.4**	**-0.6**
ZKR				S	**Sb**	**16 37 25.2**	**-1.1**
ZKR	**Zakros**	**0.79**	**347**	P	**Pb**	**16 37 15.0**	**-1.1**
ZKR				S	**Sn**	**16 37 26.8**	**-0.9**
ZKR	**Zakros**	**0.79**	**347**	P	**Pb**	**16 37 15.4**	**-0.6**
ZKR				S	**Sn**	**16 37 26.8**	**-0.9**
LAST	**Lasithi**	**1.13**	**316**	P	**Pb**	**16 37 21.6**	**-0.4**
LAST				S	**Sn**	**16 37 36.0**	**-0.3**
LAST	**Lasithi**	**1.13**	**316**	P	**Pb**	**16 37 21.5**	**-0.4**
LAST				S	**Sn**	**16 37 37.1**	**+0.8**
LAST				AML	AML	16 37 48.9	
	comp=N,821μm,0.6s						
LAST				AML	AML	16 37 50.5	
	comp=E,1165μm,0.9s						
LAST	**Lasithi**	**1.13**	**316**	P	**Pb**	**16 37 21.5**	**-0.4**
LAST				S	**Sn**	**16 37 37.1**	**+0.8**
NPS	**Neapolis**	**1.14**	**324**	P	**Pb**	**16 37 21.8**	**-0.2**
NPS				S	**Sn**	**16 37 36.4**	**+0.1**
NPS	**Neapolis**	**1.14**	**324**	P	**Pb**	**16 37 21.3**	**-0.7**
NPS				S	**Sn**	**16 37 36.4**	**+0.1**
NPS				AML	AML	16 37 47.4	
	comp=N,926μm,0.5s						
NPS				AML	AML	16 37 50.9	
	comp=E,1345μm,0.9s						
NPS	**Neapolis**	**1.14**	**324**	P	**Pb**	**16 37 21.3**	**-0.7**
NPS				S	**Sn**	**16 37 36.4**	**+0.1**
KARP	**Karpathos**	**1.34**	**26**	P	**Pb**	**16 37 26.3**	**+0.9**
KARP				S	**Sb**	**16 37 44.1**	**+1.9**
KARP	**Karpathos**	**1.34**	**26**	P	**Pb**	**16 37 26.6**	**+1.2**
KARP	**Karpathos**	**1.34**	**26**	P	**Pb**	**16 37 26.6**	**+1.2**
SIVA	**Sivas**	**1.50**	**297**	P	**Pb**	**16 37 29.0**	**+0.9**
SIVA				S	**Sb**	**16 37 47.7**	**+1.0**
SIVA	**Sivas**	**1.50**	**297**	P	**Pb**	**16 37 28.8**	**+0.7**
SIVA				S	**Sb**	**16 37 47.9**	**+1.2**
SIVA				AML	AML	16 38 03.7	
	comp=N,936μm,0.7s						
SIVA				AML	AML	16 38 09.5	
	comp=E,1684μm,0.8s						
SIVA	**Sivas**	**1.50**	**297**	P	**Pb**	**16 37 29.0**	**+0.9**
SIVA				S	**Sb**	**16 37 47.9**	**+1.2**
IDI	**Anoyia**	**1.58**	**307**	Pn	**Pb**	**16 37 29.9**	**+0.3**
	comp=E,3.8nm,0.3s,baz=158,slow=3.0,SNR=23						
IDI				Sn	Sb	16 37 57.2	+8.0
	comp=E,7.2nm,0.3s,baz=169,slow=20,SNR=8.1						
IDI	**Anoyia**	**1.58**	**307**	P	**Pb**	**16 37 30.2**	**+0.6**
IDI				S	**Sb**	**16 37 49.5**	**+0.3**
IDI	**Anoyia**	**1.58**	**307**	P	**Pb**	**16 37 30.1**	**+0.5**
IDI	**Anoyia**	**1.58**	**307**	P	**Pb**	**16 37 30.1**	**+0.5**
IDI				S	**Sb**	**16 37 49.5**	**+0.3**
GVD	**Gavdhos**	**2.00**	**285**	P	**Pb**	**16 37 34.6**	**-2.0**
GVD	**Gavdhos**	**2.00**	**285**	P	**Pb**	**16 37 34.6**	**-2.0**
VAM	**Vamos**	**2.12**	**301**	P	**Pb**	**16 37 37.8**	**-0.9**
VAM	**Vamos**	**2.12**	**301**	P	**Pb**	**16 37 37.8**	**-0.9**
THR6	**Thira Island,**	**2.18**	**337**	P	**Pb**	**16 37 37.2**	**-2.5**
THR6	**Thira Island,**	**2.18**	**337**	P	**Pb**	**16 37 37.2**	**-2.5**
THR3	**Thira Island,**	**2.23**	**338**	P	**Pn**	**16 37 37.6**	**+1.2**
THR3	**Thira Island,**	**2.23**	**338**	P	**Pn**	**16 37 36.7**	**+0.3**
THR3	**Thira Island,**	**2.23**	**338**	P	**Pn**	**16 37 37.6**	**+1.2**
THR5	**Thira Island,**	**2.25**	**337**	P	**Pn**	**16 37 37.7**	**+1.0**
THR5	**Thira Island,**	**2.25**	**337**	P	**Pn**	**16 37 37.3**	**+0.6**
THR5	**Thira Island,**	**2.25**	**337**	P	**Pn**	**16 37 37.7**	**+1.0**
IMMV	**Iera Moni Meta**	**2.30**	**300**	P	**Pb**	**16 37 40.5**	**-1.3**
IMMV	**Iera Moni Meta**	**2.30**	**300**	P	**Pb**	**16 37 40.5**	**-1.3**
ARG	**Arkhangelos**	**2.32**	**36**	P	**Pb**	**16 37 40.6**	**-1.6**
ARG	**Arkhangelos**	**2.32**	**36**	P	**Pb**	**16 37 40.6**	**-1.6**
APE	**Apeiranthos**	**2.82**	**345**	P	**Pn**	**16 37 44.6**	**+0.1**
APE	**Apeiranthos**	**2.82**	**345**	P	**Pn**	**16 37 44.6**	**+0.1**
KSL	**Kastellorizon**	**3.14**	**54**	P	**Pn**	**16 37 48.6**	**-0.4**
VLI	**Veliai**	**3.71**	**311**	P	**Pn**	**16 37 56.4**	**-0.3**
VLI	**Veliai**	**3.71**	**311**	P	**Pn**	**16 37 56.4**	**-0.3**
AKASG	**Malin Array Be**	**16.47**	**6**	Pn	**Pn**	**16 40 51.2**	**+0.9**
	comp=E,0.9nm,0.3s,baz=192,slow=9.9,SNR=5.1						
GERES	**GERESS Array B**	**17.30**	**331**	P	**P**	**16 41 02.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=146,slow=11,SNR=5.3						
HFS	**Hagfors**	**27.11**	**346**	P	**P**	**16 42 42.8**	**+1.0**
	comp=E,1.3nm,0.7s,baz=130,slow=10,SNR=2.9						
FINES	**FINESS Array B**	**27.12**	**360**	P	**P**	**16 42 40.0**	**-1.8**
	comp=E,1.3nm,0.8s,baz=165,slow=11,SNR=7.9						

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*ISCJB **23** 16:38:46.8±0.5, 38°.67N±0°.02×43°.56E±0°.01, h3km±3km, mb4.1/43, Error ellipse: s-maj=3.0km s-min=1.8km az=167.8*
*AZER **23** 16:38:47.0±0.4, 38°.65N×43°.46E, h8km±6km, Error ellipse: s-maj=8.3km s-min=2.2km az=57.0*
*DDA **23** 16:38:47.3, 38°.69N×43°.37E, h3km, Ml4.1*
*CSEM **23** 16:38:47.6±0.1, 38°.69N×43°.53E, h2km, mb4.2/17, Error ellipse: s-maj=3.5km s-min=2.3km az=168.0*
*MOS **23** 16:38:47.7±1.7, 38°.67N×43°.46E, h11km, mb4.3/27, Error ellipse: s-maj=7.2km s-min=4.7km az=115.4*
*ISK **23** 16:38:48.2, 38°.77N×43°.40E, h5km, ML4.0*
*NEIC **23** 16:38:48.5±0.6, 38°.74N×43°.41E, h9km±5km, mb4.2/14, Error ellipse: s-maj=6.8km s-min=5.7km az=125.0*
*IDC **23** 16:38:55.6±1.9, 38°.86N×43°.42E, h64km±17km, mb3.7/17, mb1 3.8/23, mb1mx3.6/49, mbtmp3.9/23, Error ellipse: s-maj=19.0km s-min=11.7km az=0.0*
ISC 23 16:38:48.9±0.6, 38°.69N±0°.01×43°.46E±0°.02, h11km±4km, n360, σ1°44/452, mb4.1/47, 55C-49D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.17**	**195**	*i* P	**Pb**	**16 38 54.3**	**+0.2**
TVAN				*i* S	**Sb**	**16 38 59.2**	**+3.6**
VMUR	**Van-Muradiye**	**0.31**	**16**	⇓*i*P	**Pg**	**16 38 54.5**	**-0.8**
VMUR				*i* S	**Sg**	**16 39 00.3**	**+0.7**
VMUR	**Van-Muradiye**	**0.31**	**16**	P	**Pg**	**16 38 54.5**	**-0.8**
VMUR				*i* S	**Sg**	**16 39 00.1**	**+0.6**
VMUR	**Van-Muradiye**	**0.31**	**16**	*i* P	**Pg**	**16 38 54.3**	**-1.0**
VMUR				*i* S	**Sg**	**16 39 00.1**	**+0.6**
GEVA	**Gevas**	**0.49**	**220**	⇓*i*P	**Pg**	**16 38 56.6**	**-2.0**
GEVA	**Gevas**	**0.49**	**220**	P	**Pg**	**16 38 56.6**	**-2.0**
GEVA	**Gevas**	**0.49**	**220**	*i* P	**Pg**	**16 38 56.6**	**-2.0**
BASK	**Baskale_VAN**	**0.77**	**146**	*i* P	**Pg**	**16 39 02.4**	**-1.3**
BASK				*i* S	**Sb**	**16 39 15.9**	**+1.1**
BASK	**Baskale_VAN**	**0.77**	**146**	P	**Pg**	**16 39 02.4**	**-1.3**
DYDN	**Diyadin**	**0.87**	**12**	⇑*i*P	**Pg**	**16 39 04.2**	**-1.5**
DYDN				*i* S	**Sg**	**16 39 17.4**	**+0.3**
DYDN	**Diyadin**	**0.87**	**12**	P	**Pg**	**16 39 04.2**	**-1.5**
DYDN				S	**Sg**	**16 39 17.4**	**+0.3**
DYDN	**Diyadin**	**0.87**	**12**	*i* P	**Pg**	**16 39 04.0**	**-1.7**
TUTA	**Tutak**	**0.87**	**325**	⇓*i*P	**Pg**	**16 39 03.7**	**-2.1**
TUTA				*i* S	**Sg**	**16 39 15.8**	**-1.4**
TUTA	**Tutak**	**0.87**	**325**	P	**Pg**	**16 39 03.7**	**-2.1**
TUTA				S	**Sg**	**16 39 15.8**	**-1.4**
AGRB	**Hanur-Agry**	**0.96**	**338**	*e*PG	**Pg**	**16 39 05.8**	**-1.6**
AGRB				*e*SG	**Sg**	**16 39 18.8**	**-1.1**
AGRB	**Hanur-Agry**	**0.96**	**338**	*e*Pg	**Pg**	**16 39 05.8**	**-1.6**
AGRB				*e*Sg	**Sg**	**16 39 18.8**	**-1.1**
HAKT	**HAKKARI**	**1.15**	**170**	*i* P	**Pb**	**16 39 07.6**	**-3.2**
HAKT				*i* S	**Sn**	**16 39 29.6**	**+2.8**
HAKT	**HAKKARI**	**1.15**	**170**	⇓*i*P	**Pb**	**16 39 08.4**	**-2.4**
HAKT				*i* S	**Sn**	**16 39 30.2**	**+3.4**
HAKT	**HAKKARI**	**1.15**	**170**	P	**Pb**	**16 39 08.4**	**-2.4**
HAKT	**HAKKARI**	**1.15**	**170**	P	**Pb**	**16 39 07.6**	**-3.2**
HAKT				S	**Sn**	**16 39 29.6**	**+2.8**
EKAR	**Karacoban**	**1.23**	**298**	*i* P	**Pn**	**16 39 11.4**	**-0.8**
EKAR				*i* S	**Sn**	**16 39 30.5**	**+1.7**
EKAR	**Karacoban**	**1.23**	**298**	P	**Pn**	**16 39 11.4**	**-0.8**
EKAR				S	**Sn**	**16 39 30.5**	**+1.7**
EKAR	**Karacoban**	**1.23**	**298**	*i* P	**Pn**	**16 39 11.2**	**-1.0**
EATA	**Eleskirt**	**1.39**	**328**	⇓*i*P	**Pn**	**16 39 13.1**	**-1.4**
EATA				*i* S	**Sn**	**16 39 33.0**	**0.0**
EATA	**Eleskirt**	**1.39**	**328**	P	**Pn**	**16 39 13.1**	**-1.4**
EATA				S	**Sn**	**16 39 33.0**	**0.0**
CUKT	**Cukurca**	**1.45**	**175**	*e*PN	**Pg**	**16 39 17.4**	**+0.8**
CUKT				*e*SN	**Sg**	**16 39 39.5**	**+4.1**
CUKT	**Cukurca**	**1.45**	**175**	⇓*i*P	**Pb**	**16 39 15.7**	**-0.1**
CUKT				*i* S	**Sb**	**16 39 34.5**	**+0.2**
CUKT	**Cukurca**	**1.45**	**175**	P	**Pb**	**16 39 15.7**	**-0.1**
CUKT	**Cukurca**	**1.45**	**175**	*e*Pn	**Pg**	**16 39 17.4**	**+0.8**
CUKT				S	**Sb**	**16 39 34.5**	**+0.2**
SIRN	**S¨–rnak**	**1.45**	**215**	⇓*i*P	**Pn**	**16 39 14.9**	**-0.2**
SIRN				*i* S	**Sg**	**16 39 35.3**	**-0.3**
SIRN	**S¨–rnak**	**1.45**	**215**	P	**Pn**	**16 39 14.9**	**-0.2**
SIRN				S	**Sg**	**16 39 35.3**	**-0.3**
VRTB	**Varto-Mus**	**1.63**	**287**	*e*PN	**Pb**	**16 39 18.7**	**-0.4**
VRTB				*e*SN	**Sb**	**16 39 40.2**	**+0.5**
VRTB	**Varto-Mus**	**1.63**	**287**	⇑*i*P	**Pn**	**16 39 17.2**	**-0.5**
VRTB				*i* S	**Sg**	**16 39 42.2**	**+0.7**
VRTB	**Varto-Mus**	**1.63**	**287**	P	**Pn**	**16 39 17.2**	**-0.5**
VRTB	**Varto-Mus**	**1.63**	**287**	*e*Pn	**Pb**	**16 39 18.7**	**-0.4**
VRTB				*e*Sn	**Sb**	**16 39 40.2**	**+0.5**
VRTB				S	**Sg**	**16 39 42.2**	**+0.7**
NAX	**Nakhchivan**	**1.66**	**72**	⇓P	**Pn**	**16 39 16.6**	**-1.3**
NAX				⇑S	**Sn**	**16 39 39.1**	**-0.1**
NAX	**Nakhchivan**	**1.66**	**72**	P	**Pn**	**16 39 16.6**	**-1.3**
NAX				S	**Sn**	**16 39 39.1**	**-0.1**
DIGO	**Kars**	**1.72**	**358**	⇑*i*P	**Pn**	**16 39 19.4**	**+0.4**
DIGO				*i* S	**Sg**	**16 39 44.8**	**+0.4**
DIGO	**Kars**	**1.72**	**358**	P	**Pn**	**16 39 19.4**	**+0.4**
DIGO				S	**Sg**	**16 39 44.8**	**+0.4**
GNI	**Garni**	**1.76**	**34**	P	**Pb**	**16 39 20.9**	**-0.4**
	29nm,0.3s,baz=227,slow=3.9,SNR=49						
HOMI	**Horasan**	**1.81**	**319**	⇑*i*P	**Pn**	**16 39 20.5**	**+0.3**
HOMI				*i* S	**Sg**	**16 39 48.3**	**+1.1**
BNGL	**BINGOL**	**1.82**	**279**	*i* P	**Pn**	**16 39 20.6**	**+0.3**
BNGL				*i* S	**Sn**	**16 39 44.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.86**	**254**	*e*PN	**Pn**	**16 39 21.3**	**+0.7**
SVAN				*e*SN	**Sb**	**16 39 46.4**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.86**	**254**	*i* P	**Pn**	**16 39 20.3**	**-0.3**
SVAN				*i* S	**Sb**	**16 39 45.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.86**	**254**	P	**Pn**	**16 39 20.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.86**	**254**	*e*Pn	**Pn**	**16 39 21.3**	**+0.7**
SVAN				S	**Sb**	**16 39 45.3**	**-0.8**
SVAN				*e*Sn	**Sb**	**16 39 46.4**	**+0.3**
BTMN	**Batman**	**1.90**	**246**	*i* P	**Pn**	**16 39 21.6**	**+0.3**
BTMN				*i* S	**Sn**	**16 39 45.8**	**+0.6**
BTMN	**Batman**	**1.90**	**246**	P	**Pn**	**16 39 21.6**	**+0.3**
BTMN				S	**Sn**	**16 39 45.8**	**+0.6**
EAK	**Akyaka**	**2.00**	**3**	⇓*i*P	**Pb**	**16 39 25.9**	**+0.6**
EAK				*i* S	**Sg**	**16 39 56.7**	**+3.6**
EAK	**Akyaka**	**2.00**	**3**	P	**Pb**	**16 39 25.9**	**+0.6**
ERZM	**Erzurum**	**2.03**	**307**	⇓*i*P	**Pn**	**16 39 23.8**	**+0.6**
ERZM				*i* S	**Sb**	**16 39 52.4**	**+1.2**
ERZM	**Erzurum**	**2.03**	**307**	P	**Pn**	**16 39 23.8**	**+0.6**
ERZM				S	**Sb**	**16 39 52.4**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.06**	**336**	*e*PN	**Pn**	**16 39 24.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.06**	**336**	*e*Pn	**Pn**	**16 39 24.2**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.14**	**296**	*i* P	**Pb**	**16 39 26.3**	**-1.4**
ECAT				*i* S	**Sb**	**16 39 55.5**	**+1.1**
ECAT	**Cat-ERZURUM**	**2.14**	**296**	P	**Pb**	**16 39 26.3**	**-1.4**
ECAT				S	**Sb**	**16 39 55.5**	**+1.1**
BNGB	**Bing¨¶l**	**2.19**	**279**	*e*PN	**Pn**	**16 39 26.3**	**+1.0**
BINT	**Bingol**	**2.33**	**275**	*e*Pn	**Pn**	**16 39 26.3**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.39**	**289**	*e*PN	**Pn**	**16 39 29.1**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.39**	**289**	*e*Pn	**Pn**	**16 39 29.1**	**+1.0**
MARD	**Mardin**	**2.53**	**238**	*i* P	**Pn**	**16 39 29.4**	**-0.5**
MARD	**Mardin**	**2.53**	**238**	*e*Pn	**Pn**	**16 39 30.5**	**+0.6**
MARD	**Mardin**	**2.53**	**238**	*e*Pn	**Pn**	**16 39 30.6**	**+0.6**
DDEM	**Demirkent**	**2.56**	**330**	*i* P	**Pb**	**16 39 33.9**	**-1.0**
DDEM	**Demirkent**	**2.56**	**330**	P	**Pb**	**16 39 33.9**	**-1.0**
KOPT	**Kop Dagi**	**2.65**	**301**	*e*Pn	**Pb**	**16 39 35.7**	**-0.9**
DAGI	**Agillar**	**2.67**	**334**	⇓*i*P	**Pb**	**16 39 35.6**	**-1.1**
MAZI	**Mazidag**	**2.68**	**244**	*e*PN	**Pn**	**16 39 33.5**	**+1.5**
MAZI	**Mazidag**	**2.68**	**244**	*e*Pn	**Pn**	**16 39 33.5**	**+1.5**
GDB	**GEDABAY**	**2.69**	**40**	⇓P	**Pn**	**16 39 31.3**	**-0.9**
GDB				⇑S	**Sn**	**16 40 05.6**	**+0.8**
GDB	**GEDABAY**	**2.69**	**40**	P	**Pn**	**16 39 31.3**	**-0.9**
GDB				S	**Sn**	**16 40 05.6**	**+0.8**
AKH	**Akhalkalaki**	**2.72**	**0**	*e*PN	**Pn**	**16 39 33.3**	**+0.7**
AKH	**Akhalkalaki**	**2.72**	**0**	P	**Pg**	**16 39 39.4**	**-1.6**
AKH	**Akhalkalaki**	**2.72**	**0**	P	**Pg**	**16 39 39.3**	**-1.6**
AKH	**Akhalkalaki**	**2.72**	**0**	*e*Pn	**Pn**	**16 39 33.3**	**+0.7**
DIYA	**Diyarbakir**	**2.74**	**255**	*i* P	**Pn**	**16 39 31.4**	**-1.3**
DIYA	**Diyarbakir**	**2.74**	**255**	P	**Pn**	**16 39 31.5**	**-1.3**
ARTV	**Artvin**	**2.76**	**335**	⇑*i*P	**Pn**	**16 39 33.7**	**+0.5**
ARTV	**Artvin**	**2.76**	**335**	*e*Pn	**Pn**	**16 39 33.2**	**0.0**
ARTV	**Artvin**	**2.76**	**335**	P	**Pn**	**16 39 33.7**	**+0.5**
ARTV	**Artvin**	**2.76**	**335**	*e*Pn	**Pn**	**16 39 33.1**	**0.0**
QZX	**Qazax, Azerbai**	**2.78**	**31**	⇑P	**Pn**	**16 39 32.4**	**-1.0**
QZX				⇓S	**Sn**	**16 40 07.4**	**+0.4**
QZX	**Qazax, Azerbai**	**2.78**	**31**	P	**Pn**	**16 39 32.4**	**-1.0**
QZX				S	**Sn**	**16 40 07.4**	**+0.4**
EPOS	**Posof**	**2.87**	**349**	*i* P	**Pn**	**16 39 36.7**	**+2.1**
EPOS	**Posof**	**2.87**	**349**	P	**Pn**	**16 39 36.7**	**+2.1**
GANJ	**Ganja**	**2.95**	**48**	⇑P	**Pn**	**16 39 34.7**	**-0.9**
GANJ				⇑S	**Sn**	**16 40 11.8**	**+0.8**
GANJ	**Ganja**	**2.95**	**48**	P	**Pn**	**16 39 34.7**	**-0.9**
GANJ				S	**Sn**	**16 40 11.8**	**+0.8**
DBOC	**Borcka**	**2.99**	**333**	*i* P	**Pb**	**16 39 42.1**	**0.0**
ERZN	**Erzincan**	**3.04**	**288**	*e*PN	**Pb**	**16 39 38.4**	**+1.4**
TNCL	**Tunceli-Merkez**	**3.09**	**279**	*i* P	**Pb**	**16 39 42.4**	**-1.5**
EUZM	**Uzumlu**	**3.10**	**290**	*i* P	**Pb**	**16 39 42.9**	**-1.1**
EUZM	**Uzumlu**	**3.10**	**290**	P	**Pb**	**16 39 42.9**	**-1.1**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pn**	**16 39 40.7**	**+2.7**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pn**	**16 39 40.7**	**+2.7**
DGRG	**David-gareji**	**3.12**	**27**	P	**Pn**	**16 39 38.6**	**+0.6**
PTK	**Pertek**	**3.19**	**275**	*e*PN	**Pn**	**16 39 40.6**	**+1.5**
TBLG	**Delisi**	**3.19**	**17**	*e*PN	**Pn**	**16 39 40.2**	**+1.2**
TBLG	**Delisi**	**3.19**	**17**	P	**Pb**	**16 39 46.0**	**+0.5**
TBLG	**Delisi**	**3.19**	**17**	P	**Pb**	**16 39 46.0**	**+0.5**
TBLG	**Delisi**	**3.19**	**17**	*e*Pn	**Pn**	**16 39 40.2**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.27**	**266**	*e*PN	**Pn**	**16 39 42.0**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.27**	**266**	*e*Pn	**Pn**	**16 39 42.0**	**+1.8**
BRDA	**Brd**	**3.28**	**60**	⇓P	**Pn**	**16 39 39.0**	**-1.1**
BRDA				⇑S	**Sn**	**16 40 19.3**	**+0.3**
BRDA	**Brd**	**3.28**	**60**	P	**Pn**	**16 39 39.0**	**-1.1**
BRDA				S	**Sn**	**16 40 19.3**	**+0.3**
EZC	**Erzincan**	**3.36**	**290**	*e*Pn	**Pn**	**16 39 38.4**	**-3.0**
MNGR	**Mingechevir, A**	**3.48**	**52**	⇑P	**Pn**	**16 39 41.9**	**-1.0**
MNGR				⇑S	**Sn**	**16 40 24.5**	**+0.4**
MNGR	**Mingechevir, A**	**3.48**	**52**	P	**Pn**	**16 39 41.9**	**-1.0**
MNGR				S	**Sn**	**16 40 24.5**	**+0.4**
ZRD	**Zardab**	**3.63**	**63**	⇑P	**Pn**	**16 39 43.8**	**-1.2**
ZRD				⇑S	**Sn**	**16 40 28.1**	**+0.3**
ZRD	**Zardab**	**3.63**	**63**	P	**Pn**	**16 39 43.8**	**-1.2**
ZRD				S	**Sn**	**16 40 28.1**	**+0.3**
KTUT	**Trabzon**	**3.66**	**310**	*e*PN	**Pn**	**16 39 47.0**	**+1.7**
KTUT	**Trabzon**	**3.66**	**310**	*e*Pn	**Pn**	**16 39 47.0**	**+1.7**
ZKTA	**Zakatala**	**3.81**	**38**	⇓P	**Pn**	**16 39 46.6**	**-0.9**
ZKTA				⇓S	**Sn**	**16 40 33.0**	**+0.8**
SEKA	**Sheki**	**3.82**	**48**	⇑P	**Pn**	**16 39 47.3**	**-0.3**
SEKA				⇓S	**Sn**	**16 40 34.5**	**+2.0**
SEKA	**Sheki**	**3.82**	**48**	P	**Pn**	**16 39 47.3**	**-0.3**
SEKA				S	**Sn**	**16 40 34.5**	**+2.0**
LRK	**Lerik**	**3.82**	**89**	⇑P	**Pn**	**16 39 46.1**	**-1.6**
LRK				⇓S	**Sn**	**16 40 32.4**	**-0.2**
LRK	**Lerik**	**3.82**	**89**	P	**Pn**	**16 39 46.1**	**-1.6**
LRK				S	**Sn**	**16 40 32.4**	**-0.2**
GUDG	**Gudauri**	**3.85**	**11**	P	**Pg**	**16 40 01.3**	**-1.3**
URFA	**Urfa**	**3.87**	**253**	*e*PN	**Pn**	**16 39 51.2**	**+2.9**
URFA	**Urfa**	**3.87**	**253**	*e*Pn	**Pn**	**16 39 51.3**	**+2.9**
GLBA	**Clilabad**	**3.88**	**80**	⇓P	**Pn**	**16 39 47.0**	**-1.4**
GLBA				⇑S	**Sn**	**16 40 33.7**	**-0.3**
GLBA	**Clilabad**	**3.88**	**80**	P	**Pn**	**16 39 47.0**	**-1.4**
GLBA				S	**Sn**	**16 40 33.7**	**-0.3**
ONI	**Oni**	**3.90**	**360**	P	**Pg**	**16 40 02.1**	**-1.5**
ONI	**Oni**	**3.90**	**360**	P	**Pg**	**16 40 02.0**	**-1.5**
KDMR	**Kurdemir**	**4.02**	**64**	⇓P	**Pn**	**16 39 49.1**	**-1.2**
KDMR				⇑S	**Sn**	**16 40 37.8**	**+0.5**
KDMR	**Kurdemir**	**4.02**	**64**	P	**Pn**	**16 39 49.1**	**-1.2**
KDMR				S	**Sn**	**16 40 37.8**	**+0.5**
SAAT	**Saatly**	**4.02**	**72**	⇑P	**Pn**	**16 39 48.7**	**-1.6**
SAAT				⇑S	**Sn**	**16 40 37.1**	**-0.3**
SAAT	**Saatly**	**4.02**	**72**	P	**Pn**	**16 39 48.7**	**-1.6**
SAAT				S	**Sn**	**16 40 37.1**	**-0.3**
QBL	**Gabala**	**4.05**	**55**	⇓P	**Pn**	**16 39 49.7**	**-1.1**
QBL				⇑S	**Sn**	**16 40 38.6**	**+0.3**
QBL	**Gabala**	**4.05**	**55**	P	**Pn**	**16 39 49.7**	**-1.1**
QBL				S	**Sn**	**16 40 38.6**	**+0.3**
ZEI	**Tsey**

MLR	Muntele Rosu	14.66 303	⇑P	Pn	16 42 15.2	-1.0
MLR	Muntele Rosu	14.66 303	⇑P	Pn	16 42 15.2	-1.0
MLR	Muntele Rosu	14.66 303	ePn	Pn	16 42 14.7	-1.5
MLR	Muntele Rosu	14.66 303	ePn	Pn	16 42 14.7	-1.5
DOPR	Dopca	15.20 304	⇓iP	P	16 42 30.6	+2.2
RAYN	Ar Rayn	15.22 173	ePn	Pn	16 42 18.4	-5.3
	comp=Z,8.9nm,0.8s					
VOIR		15.23 302	⇓iP	P	16 42 27.6	-1.2
VOIR		15.23 302	⇓P	P	16 42 27.6	-1.2
VOIR		15.23 302	P	P	16 42 27.6	-1.2
ARR	Arges	15.48 302	⇓iP	P	16 42 31.2	-0.4
AKTO	Aktyubinsk	15.63 37	P	Pn	16 42 27.5	-1.4
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=7.1					
AKASG	Malin Array Be	15.67 325	P	Pn	16 42 29.1	-0.4
	comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=22					
AKBB	Malin Array Si	15.67 325	eP	Pn	16 42 28.1	-1.4
AKBB			pmax	pmax		
	comp=Z,23nm,1.4s					
AKBB	Malin Array Si	15.67 325	ePn	Pn	16 42 28.1	-1.4
	comp=Z,23nm,1.4s					
AKBB	Malin Array Si	15.67 325	ePn	Pn	16 42 28.1	-1.4
	comp=Z,23nm,1.4s					
KIEV	Kiev	15.68 325	eP	Pn	16 42 28.3	-1.2
KIEV			pmax	pmax		
	comp=Z,21nm,1.3s					
KIEV	Kiev	15.68 325	ePn	Pn	16 42 28.3	-1.2
	comp=Z,20nm,1.3s					
KIEV	Kiev	15.68 325	ePn	Pn	16 42 28.3	-1.2
	comp=Z,21nm,1.3s					
VTS	Vitosha	15.86 291	⇓iP	P	16 42 34.5	-1.3
VTS	Vitosha	15.86 291	⇓P	P	16 42 34.5	-1.3
VTS	Vitosha	15.86 291	P	P	16 42 34.5	-1.3
BURAR	Bucovina Array	16.00 310	⇓iP	P	16 42 37.2	-0.1
BURAR	Bucovina Array	16.00 310	⇓P	P	16 42 37.2	-0.1
BUR08	Bucovina Ar. S	16.02 310	ePn	Pn	16 42 32.7	-1.4
BUR08	Bucovina Ar. S	16.02 310	ePn	Pn	16 42 32.7	-1.4
GZR	Gura Zlata	16.74 300	⇑iP	P	16 42 44.3	-1.2
OBN	Obninsk	17.08 346	P	Pn	16 42 47.8	+0.5
	comp=Z,1.6nm,0.3s,baz=171,slow=9.0,SNR=7.9					
OBN	Obninsk	17.08 346	ceP	P	16 42 48.5	-0.5
OBN			pmax	pmax		
	comp=Z,60nm,1.7s					
OBN	Obninsk	17.08 346	ePn	Pn	16 42 46.0	-1.3
	comp=Z,44nm,1.2s					
OBN	Obninsk	17.08 346	eP	P	16 42 48.5	-0.5
	comp=Z,60nm,1.7s					
OBN	Obninsk	17.08 346	ePn	Pn	16 42 46.0	-1.3
	comp=Z,45nm,1.2s					
DRGR		17.23 305	⇓iP	P	16 42 51.5	+0.6
DRGR		17.23 305	⇓P	P	16 42 51.5	+0.6
DRGR		17.23 305	P	P	16 42 51.5	+0.6
MOS	Moscow	17.50 349	eP	Pn	16 42 49.3	-3.3
BZS	Buzias	17.59 300	⇓iP	Pn	16 42 52.4	-1.4
BZS	Buzias	17.59 300	⇓P	Pn	16 42 52.4	-1.4
SIRR	Siria	17.74 302	⇑iP	Pn	16 42 55.0	-0.7
CRVS	Cervenica-Dubn	18.82 310	eP	Pn	16 43 10.5	+1.7
CRVS	Cervenica-Dubn	18.82 310	eP	Pn	16 43 10.5	+1.7
CRVS	Cervenica-Dubn	18.82 310	eP	Pn	16 43 10.5	+1.7
PSZ	Piszkesteto	19.41 306	⇑iP	P	16 43 15.1	+0.2
PSZ	Piszkesteto	19.41 306	eP	P	16 43 14.0	-0.9
PSZ			pmax	pmax		
	comp=Z,19nm,1.4s					
PSZ	Piszkesteto	19.41 306	eP	P	16 43 14.0	-0.9
	comp=Z,19nm,1.4s					
PSZ	Piszkesteto	19.41 306	eP	P	16 43 14.0	-0.9
	comp=Z,19nm,1.4s					
NIE	Niedzica	19.72 310	P	Pn	16 43 20.6	+0.8
NIE			pmax	pmax		
	comp=Z,7.0nm,1.3s					
NIE	Niedzica	19.72 310	P	Pn	16 43 20.6	+0.8
	comp=Z,7.0nm,1.3s					
VYHS	Vyhne	20.27 307	eP	Pn	16 43 25.4	-0.8
VYHS			pmax	pmax		
	comp=Z,12nm,1.5s					
VYHS	Vyhne	20.27 307	eP	Pn	16 43 25.4	-0.8
	comp=Z,12nm,1.5s					
VYHS	Vyhne	20.27 307	eP	Pn	16 43 25.3	-0.9
OJC	Ojcow	20.36 312	eP	P	16 43 24.4	-0.7
OJC			pmax	pmax		
	comp=Z,14nm,1.1s					
OJC	Ojcow	20.36 312	eP	P	16 43 24.4	-0.7
	comp=Z,14nm,1.1s					
OJC	Ojcow	20.36 312	eP	P	16 43 24.4	-0.7
	comp=Z,14nm,1.1s					
ARU	Arti	20.38 25	P	P	16 43 25.0	-0.3
	comp=Z,5.2nm,0.6s,baz=233,slow=7.8,SNR=6.5					
ARU	Arti	20.38 25	diP	Pn	16 43 26.4	-1.0
ARU					16 43 42.3	
ARU			S	S	16 47 14.3	+0.9
ARU			SS	SnSn	16 47 34.9	+3.5
ARU			pmax	pmax		
	comp=Z,15nm,1.2s					
ARU	Arti	20.38 25	iP	Pn	16 43 26.4	-1.0
	comp=Z,15nm,1.2s					
ARU	Arti	20.38 25	eP	P	16 43 23.5	-1.8
	comp=Z,17nm,1.1s					
KKAR	Karatay Array	20.88 69	eP	P	16 43 31.2	+0.3
KKAR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KKAR	Karatay Array	20.88 69	eP	P	16 43 31.1	+0.3
	comp=Z,4.4nm,0.6s					
KKAR	Karatay Array	20.88 69	eP	P	16 43 31.1	+0.3
	comp=Z,4.4nm,0.6s					
SMOL	Smolenice	21.16 306	P	P	16 43 37.6	+3.7
SMOL			pmax	pmax		
	comp=Z,19nm,1.0s					
OKC	Ostrava-Krasne	21.18 310	eP	P	16 43 37.1	+3.1
OKC	Ostrava-Krasne	21.18 310	eP	P	16 43 37.1	+3.1
SOP	Sopron	21.49 303	P	P	16 43 38.4	+1.0
SOP			pmax	pmax		
	comp=Z,12nm,1.4s					
SOP	Sopron	21.49 303	P	P	16 43 38.4	+1.0
	comp=Z,12nm,1.4s					
VRAC	Vranov	21.94 308	P	P	16 43 43.6	+1.4
	comp=Z,8.2nm,1.0s,baz=116,slow=6.6,SNR=7.9					
CONA	Conrad Observa	22.01 304	iP	P	16 43 44.0	+0.9
	comp=Z,11nm,1.7s					
CONA	Conrad Observa	22.01 304	P	P	16 43 44.0	+0.9
	comp=Z,11nm,1.7s					
ARSA	Arzberg	22.07 302	iP	P	16 43 46.3	+2.7
	comp=Z,6.5nm,1.7s					
ARSA	Arzberg	22.07 302	P	P	16 43 46.3	+2.7
	comp=Z,6.5nm,1.7s					
KRLC	Kraliky	22.08 310	eP	P	16 43 44.0	+0.2
KRLC	Kraliky	22.08 310	eP	P	16 43 44.0	+0.2
KRLC	Kraliky	22.08 310	eP	P	16 43 44.0	+0.2
SOKA	Soboth	22.28 300	iP	P	16 43 46.0	0.0
	comp=Z,5.9nm,1.2s					
SOKA	Soboth	22.28 300	P	P	16 43 46.0	0.0
	comp=Z,5.9nm,1.2s					
MNAS	Manas	22.33 71	P	P	16 43 48.0	+1.4
MNAS			pmax	pmax		
	comp=Z,3.0nm,1.2s					
MNAS	Manas	22.33 71	P	P	16 43 48.0	+1.4
	comp=Z,3.0nm,1.2s					
DPC	Dobruska-Polom	22.46 310	eP	P	16 43 49.2	+1.4
DPC			ex	x	16 44 03.9	
DPC	Dobruska-Polom	22.46 310	eP	P	16 43 49.2	+1.4
DPC	Dobruska-Polom	22.46 310	eP	P	16 43 49.2	+1.4
VSU	Vasula	22.55 337	ceP	P	16 43 50.3	+1.7
VSU			pmax	pmax		
	comp=Z,44nm,1.7s					
VSU	Vasula	22.55 337	eP	P	16 43 50.3	+1.7
	comp=Z,44nm,1.7s					
OBKA	Obir	22.58 300	iP	P	16 43 49.0	-0.2
	comp=Z,9.7nm,1.5s					
OBKA	Obir	22.58 300	P	P	16 43 49.0	-0.2
	comp=Z,9.7nm,1.5s					
TREC	Trest	22.62 307	eP	P	16 43 50.5	+0.9
TREC	Trest	22.62 307	eP	P	16 43 50.5	+0.9
TREC	Trest	22.62 307	eP	P	16 43 50.5	+0.9
UPC	Upice	22.70 310	eP	P	16 43 51.1	+0.8
UPC			ex	x	16 43 56.2	
UPC	Upice	22.70 310	eP	P	16 43 51.1	+0.8
UPC			e		16 43 56.2	
UPC	Upice	22.70 310	eP	P	16 43 51.1	+0.8
MOA	Molln	23.03 303	iP	P	16 43 51.7	-2.1
	comp=Z,7.1nm,1.1s					
MYKA	Terra Mystica	23.22 300	iP	P	16 43 56.5	+0.7
	comp=Z,1.7nm,0.5s					
GOPC	GO Pecny, Ondr	23.24 308	eP	P	16 43 56.9	+0.9
GOPC	GO Pecny, Ondr	23.24 308	eP	P	16 43 56.9	+0.9
GOPC	GO Pecny, Ondr	23.24 308	P	P	16 43 56.9	+0.9
BRVK	Borovoye	23.38 43	ceP	P	16 43 59.1	+1.8
BRVK			pmax	pmax		
	comp=Z,11nm,1.0s					
BRVK	Borovoye	23.38 43	eP	P	16 43 57.0	-0.3
	comp=Z,20nm,1.7s					
BRVK	Borovoye	23.38 43	eP	P	16 43 57.0	-0.3
	comp=Z,20nm,1.7s					
PRU	Pruhonice	23.42 308	eP	P	16 43 58.5	+0.8
PRU	Pruhonice	23.42 308	eP	P	16 43 58.5	+0.8
PRU	Pruhonice	23.42 308	P	P	16 43 58.5	+0.8
BVAR	Borovoye Array	23.42 43	P	P	16 43 57.7	0.0
	comp=Z,1.7nm,0.9s,baz=227,slow=7.9,SNR=8.2					
KBA	Koelnbreinsper	23.49 301	P	P	16 44 02.3	+3.6
KBA			pmax	pmax		
	comp=Z,19nm,0.8s					
KBA	Koelnbreinsper	23.49 301	iP	P	16 43 56.0	-2.6
	comp=Z,8.6nm,0.6s					
GERES	GERESS Array B	23.63 305	P	P	16 44 01.0	+1.1
	comp=Z,0.8nm,0.5s,baz=99,slow=8.5,SNR=7.7					
GERES	GERESS Array B	23.63 305	P	P	16 44 01.0	+1.1
GERES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
KHC	Kasperske Hory	23.78 306	eP	P	16 44 00.9	-0.4
KHC			ex	x	16 44 15.5	
KHC	Kasperske Hory	23.78 306	eP	P	16 44 01.3	-0.1
KHC			pmax	pmax		
	comp=Z,11nm,1.6s					
KHC	Kasperske Hory	23.78 306	eP	P	16 44 01.2	-0.1
	comp=Z,11nm,1.6s					
KHC	Kasperske Hory	23.78 306	eP	P	16 44 01.2	-0.1
	comp=Z,11nm,1.6s					
AAK	Ala-Archa	23.80 71	P	P	16 44 03.1	+1.4
	comp=Z,1.6nm,0.7s,baz=238,slow=7.7,SNR=5.8					
AAK	Ala-Archa	23.80 71	eP	P	16 44 01.9	+0.2
AAK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
AAK	Ala-Archa	23.80 71	eP	P	16 44 01.9	+0.2
	comp=Z,6.2nm,1.0s					
AAK	Ala-Archa	23.80 71	eP	P	16 44 01.9	+0.2
	comp=Z,6.2nm,1.0s					
ABTA	Abfaltersbach	24.00 300	iP	P	16 44 00.2	-3.3
	comp=Z,6.9nm,1.4s					
WET	Wettzell	24.23 305	P	P	16 44 05.8	+0.3
WET			pmax	pmax		
	comp=Z,12nm,1.7s					
WTTA	Wattenberg	24.67 301	iP	P	16 44 10.6	+0.8
	comp=Z,4.3nm,0.7s					
WATA	Walderalm	24.73 301	iP	P	16 44 10.5	+0.3
	comp=Z,3.8nm,0.7s					
WATA	Walderalm	24.73 301	P	P	16 44 10.5	+0.3
	comp=Z,3.8nm,0.7s					
CLL	Collm	24.76 311	⇑iP	P	16 44 09.8	-0.5
CLL			i		16 44 15.9	
CLL			pmax	pmax		
	comp=Z,11nm,1.1s					
CLL	Collm	24.76 311	eP	P	16 44 09.7	-0.5
	comp=Z,10nm,1.1s					
CLL	Collm	24.76 311	⇑iP	P	16 44 09.8	-0.5
	comp=Z,11nm,1.1s					
CLL			i (sP)	sP	16 44 15.9	+0.7
CLL	Collm	24.76 311	eP	P	16 44 09.7	-0.6
	comp=Z,10nm,1.1s					
NKC	Novy Kostel	24.78 308	eP	P	16 44 10.6	+0.1
NKC	Novy Kostel	24.78 308	eP	P	16 44 10.6	+0.1
NKC	Novy Kostel	24.78 308	P	P	16 44 10.6	+0.1
MOTA	Moosalm	25.04 301	iP	P	16 44 13.3	+0.2
	comp=Z,6.5nm,0.9s					
MOTA	Moosalm	25.04 301	P	P	16 44 13.3	+0.2
	comp=Z,6.5nm,0.9s					
FINES	FINESS Array B	25.20 340	P	P	16 44 12.0	-2.1
	comp=Z,4.3nm,0.9s,baz=147,slow=12,SNR=6.7					
FINES	FINESS Array B	25.20 340	P	P	16 44 12.0	-2.1
FINES			pmax	pmax		
	comp=Z,4.0nm,1.0s					
FETA	Feichten	25.25 300	iP	P	16 44 16.2	+1.2
	comp=Z,4.8nm,1.2s					
RETA	Reutte	25.29 301	iP	P	16 44 18.8	+3.6
	comp=Z,3.7nm,0.8s					
JOF	Joensuu	25.36 347	P	P	16 44 14.7	-0.8
JOF			pmax	pmax		
	comp=Z,16nm,0.8s					
GRF	Grafenberg Arr	25.41 306	P	P	16 44 16.9	+0.7
GRF			pmax	pmax		
	comp=Z,20nm,1.6s					
DAVA	Damuels	25.86 300	iP	P	16 44 20.2	-0.3
	comp=Z,9.4nm,1.1s					
DAVA	Damuels	25.86 300	P	P	16 44 20.2	-0.3
	comp=Z,9.4nm,1.1s					
KURBB	Kurchatov Arra	27.39 53	P	P	16 44 35.3	+1.3
	comp=Z,3.8nm,0.7s,baz=263,slow=9.0,SNR=15					
KURK	Kurchatov	27.46 53	ceP	P	16 44 36.2	+1.5
KURK			pmax	pmax		
	comp=Z,16nm,1.0s					
KURK	Kurchatov	27.46 53	eP	P	16 44 35.4	+0.7
	comp=Z,4.9nm,0.9s					
KURK	Kurchatov	27.46 53	eP	P	16 44 35.4	+0.7
	comp=Z,4.9nm,0.9s					
HFS	Hagfors	28.48 329	P	P	16 44 43.5	-0.2
	comp=Z,8.0nm,0.9s,baz=140,slow=11,SNR=5.7					
MKAR	Makanchi Array	29.40 61	P	P	16 44 52.8	+0.7
	comp=Z,0.7nm,0.6s,baz=270,slow=7.8,SNR=5.0					
NOA	NORSAR Array B	30.01 329	P	P	16 44 56.5	-0.8
	comp=Z,0.9nm,0.7s,baz=168,slow=14,SNR=2.9					
ZALV	Zalesovo Beam	31.86 48	P	P	16 45 12.7	-0.9
	comp=Z,1.2nm,0.6s,baz=258,slow=9.5,SNR=5.1					
ARCES	ARCESS Array B	32.37 348	P	P	16 45 15.9	-2.0
	comp=Z,3.1nm,0.8s,baz=182,slow=5.6,SNR=4.1					
WMQ	Urumqi	33.34 67	P	P	16 45 28.1	+1.3
WMQ			pP	sP	16 45 32.5	+0.7
WMQ			sP	pP	16 45 35.1	+4.8
PYUN	Piuthan	34.42 96	eP	P	16 45 37.0	+0.5
KOLN	Koldanda	35.05 96	eP	P	16 45 42.4	+0.5
GKN	Gorkha	35.74 95	eP	P	16 45 48.3	+0.4
	comp=Z,16nm,1.0s					
DMN	Daman	36.30 95	eP	P	16 45 53.7	+1.0
ESDC	Sonseca Array	36.44 287	P	P	16 45 51.6	-2.0
	comp=Z,0.5nm,0.5s,baz=66,slow=8.9,SNR=6.2					
PKIN	Phulchoki	36.54 95	eP	P	16 45 55.0	+0.2
	comp=Z,19nm,1.2s					
GUN	Gumba	36.76 94	eP	P	16 45 57.2	+0.4
	comp=Z,39nm,1.0s					
JIRN	Jiri	37.12 94	eP	P	16 46 00.6	+0.7
	comp=Z,66nm,0.9s					
RAMN	Ramite	37.78 95	eP	P	16 46 05.6	+0.3
	comp=Z,32nm,1.0s					
ODAN	Odare	38.44 95	eP	P	16 46 11.6	+0.7
	comp=Z,38nm,1.2s					
TAPN	Taplejung	38.45 94	eP	P	16 46 11.7	+0.6
	comp=Z,25nm,1.2s					
LSA	Lhasa	40.07 88	eP	P	16 46 24.3	-0.5
LSA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
LSA	Lhasa	40.07 88	eP	P	16 46 24.3	-0.5
	comp=Z,5.2nm,0.9s					
LSA	Lhasa	40.07 88	eP	P	16 46 24.3	-0.5
	comp=Z,5.2nm,0.9s					
GTA	Gaotai	43.15 71	eP	P	16 46 50.3	+0.8
GTA			pP	sP	16 46 54.8	+0.3
GTA			sP	pP	16 46 57.3	+4.2
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
MSEY	Mahe Island	44.56 163	ceP	P	16 47 03.3	+2.4
TORD	Torodi Ar. Bea	44.82 247	P	P	16 47 03.6	+0.6
	comp=Z,1.1nm,1.1s,baz=59,slow=5.6,SNR=4.8					
SONM	Songino Array	45.58 57	P	P	16 47 01.7	-7.1
	comp=Z,0.3nm,0.4s,baz=282,slow=8.7,SNR=3.1					
ULN	Ulaanbaatar	46.00 57	ceP	P	16 47 14.3	+2.1
ULN			pmax	pmax		
	comp=Z,4.0nm,1.7s					
HHC	Hu-ho-hao-te	51.17 65	eP	P	16 47 51.8	-0.2
HHC			pmax	pmax		
	comp=Z,15nm,0.8s					
HHC			pmax	pmax		
	comp=Z,71nm,3.6s					
CMAR	Chiang Mai Arr	51.91 96	P	P	16 47 57.4	-0.3
	comp=Z,1.7nm,0.9s,baz=298,slow=8.3,SNR=18					
XAN	Xi'an	51.92 74	P	P	16 47 57.8	+0.2
XAN			pmax	pmax		
	comp=Z,5.0nm,1.0s					
XAN			pmax	pmax		
	comp=Z,68nm,5.5s					
SEY	Seymchan	64.06 29	P	P	16 49 22.7	+0.5
	comp=Z,1.3nm,0.6s,baz=231,slow=4.3,SNR=5.4					
KSRS	Korea Array	64.08 62	P	P	16 49 22.6	-0.2
	comp=Z,1.6nm,0.8s,baz=292,slow=7.4,SNR=6.6					

*DDA **23** 16:46:33.0,38.°71N×43.°52E,h7km,Ml3.7*

*ISK **23** 16:46:32.5,38.°82N×43.°63E,h5km,ML3.4*
*CSEM **23** 16:46:33.0±0.4,38.°75N×43.°65E,h2km,ML3.7,Error ellipse: s-maj=10.3km s-min=5.6km az=84.0*
ISC 23 16:46:34.1±1.0,38.75N±0.02×43.53E±0.04,h14km±10km, n46,σ1947/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.24	8	iP	Pg	16 46 38.7	-0.8
VMUR				iS	Sb	16 46 44.2	-0.4
VMUR	Van-Muradiye	0.24	8	P	Pg	16 46 38.7	-0.8
VMUR				S	Sb	16 46 44.2	-0.4
GEVA	Gevas	0.57	220	iP	Pg	16 46 44.3	-1.1
GEVA	Gevas	0.57	220	P	Pg	16 46 44.3	-1.1
DYDN	Diyadin	0.80	9	iP	Pg	16 46 48.7	-1.0
DYDN	Diyadin	0.80	9	P	Pg	16 46 48.7	-1.0
TUTA	Tutak	0.85	320	iP	Pg	16 46 49.7	-1.0
TUTA				iS	Sb	16 47 02.6	+0.3
TUTA	Tutak	0.85	320	P	Pg	16 46 49.7	-1.0
TUTA				S	Sb	16 47 02.6	+0.3
AGRB	Hanur-Agry	0.92	333	PG	Pg	16 46 50.6	-1.4
AGRB				eSG	Sb	16 47 04.7	+0.5
AGRB	Hanur-Agry	0.92	333	iPg	Pg	16 46 50.6	-1.4
AGRB				eSg	Sb	16 47 04.7	+0.5
HAKT	HAKKARI	1.20	173	iP	Pn	16 46 54.4	-2.3
HAKT	HAKKARI	1.20	173	P	Pn	16 46 54.4	-2.3
EKAR	Karacoban	1.25	294	iP	Pn	16 46 57.3	-0.1
EKAR	Karacoban	1.25	294	P	Pn	16 46 57.3	-0.1
EATA	Eleskirt	1.37	324	iP	Pn	16 46 58.9	-0.2
EATA				iS	Sg	16 47 20.5	+2.1
EATA	Eleskirt	1.37	324	P	Pn	16 46 58.9	-0.2
EATA				S	Sg	16 47 20.5	+2.1
CUKT	Cukurca	1.50	178	ePN	Pb	16 47 02.4	+0.5
CUKT				eSN	Sg	16 47 25.0	+2.5
CUKT	Cukurca	1.50	178	iP	Pn	16 47 01.2	+0.5
CUKT	Cukurca	1.50	178	P	Pn	16 47 01.2	+0.5
CUKT	Cukurca	1.50	178	ePn	Pb	16 47 02.4	+0.5
CUKT				eSn	Sg	16 47 25.0	+2.5
VRTB	Varto-Mus	1.67	285	ePN	Pb	16 47 04.3	-0.4
VRTB				eSN	Sg	16 47 28.6	+0.8
VRTB	Varto-Mus	1.67	285	iP	Pb	16 47 04.5	-0.2
VRTB	Varto-Mus	1.67	285	P	Pb	16 47 04.5	-0.2
VRTB				eSn	Sg	16 47 28.6	+0.8
BNGL	BINGOL	1.87	277	iP	Pb	16 47 07.4	-0.7
SVAN	Silvan-Diyarba	1.92	253	ePN	Pb	16 47 08.6	-0.4
SVAN				eSN	Sg	16 47 35.4	-0.6
SVAN	Silvan-Diyarba	1.92	253	iP	Pb	16 47 07.9	-1.1
SVAN	Silvan-Diyarba	1.92	253	P	Pb	16 47 07.9	-1.1
SVAN	Silvan-Diyarba	1.92	253	ePn	Pb	16 47 08.6	-0.4
SVAN				eSn	Sg	16 47 35.4	-0.6
BTMN	Batman	1.97	245	iP	Pn	16 47 07.9	+0.7
BTMN	Batman	1.97	245	P	Pn	16 47 07.9	+0.7
SENK	Senkaya-Erzuru	2.02	334	ePN	Pn	16 47 08.8	+0.8
SENK	Senkaya-Erzuru	2.02	334	ePn	Pn	16 47 08.8	+0.8
BNGB	Bing¶ll	2.24	277	ePN	Pb	16 47 13.3	-1.0
BINT	Bingol	2.38	274	ePn	Pn	16 47 13.3	+0.5
YEDI	Yedisu-Bingol	2.42	287	ePN	Pb	16 47 15.6	-1.9
YEDI	Yedisu-Bingol	2.42	287	ePn	Pb	16 47 15.6	-1.9
AKH	Akhalkalaki	2.66	359	ePN	Pn	16 47 17.4	+0.7
AKH	Akhalkalaki	2.66	359	ePn	Pn	16 47 17.4	+0.7
MAZI	Mazidag	2.75	243	ePN	Pb	16 47 21.3	-1.8
MAZI	Mazidag	2.75	243	ePn	Pb	16 47 21.3	-1.8
ERZN	Erzincan	3.07	287	ePN	Pn	16 47 24.9	+2.5
PTK	Pertek	3.23	274	ePN	Pn	16 47 27.9	+3.3
PTK	Pertek	3.23	274	ePn	Pn	16 47 27.9	+3.3
SVRC	Sivrice-ELAZID	3.33	265	ePN	Pn	16 47 29.1	+3.2
SVRC	Sivrice-ELAZID	3.33	265	ePn	Pn	16 47 29.1	+3.2
EZC	Erzincan	3.39	288	ePn	Pn	16 47 24.9	-1.8

*CSEM **23** 16:49:01.8,38.°71N×43.°51E,h7km,ML2.7*
DDA 23 16:49:01.8,38.°71N×43.°51E,h7km,Ml2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.28	11	iP	Pg	16 49 08.1	+0.7
VMUR				iS	Sb	16 49 13.2	-1.1
VMUR	Van-Muradiye	0.28	11	iP	Pg	16 49 08.1	+0.7
VMUR				iS	Sb	16 49 13.3	-1.0
VMUR	Van-Muradiye	0.28	11	P	Pg	16 49 08.1	+0.7
VMUR				S	Sb	16 49 13.4	-0.9
GEVA	Gevas	0.53	221	iP	Pg	16 49 12.3	+0.2
GEVA	Gevas	0.53	221	iP	Pg	16 49 12.5	+0.4
GEVA	Gevas	0.53	221	P	Pg	16 49 12.5	+0.4
DYDN	Diyadin	0.84	10	iP	Pg	16 49 17.9	-0.1
DYDN				iS	Sb	16 49 30.1	-0.4
DYDN	Diyadin	0.84	10	P	Pg	16 49 17.9	-0.1
DYDN				S	Sb	16 49 30.1	-0.4
TUTA	Tutak	0.87	322	iP	Pg	16 49 18.1	-0.5
TUTA	Tutak	0.87	322	iP	Pg	16 49 18.2	-0.4
TUTA	Tutak	0.87	322	P	Pg	16 49 18.2	-0.4
HAKT	HAKKARI	1.17	172	iP	Pg	16 49 23.8	-0.4
HAKT	HAKKARI	1.17	172	P	Pg	16 49 23.8	-0.4
EATA	Eleskirt	1.39	326	iP	Pb	16 49 28.2	-0.1
EATA				iS	Sn	16 49 48.1	+1.3
EATA	Eleskirt	1.39	326	iP	Pb	16 49 28.3	0.0
EATA	Eleskirt	1.39	326	P	Pb	16 49 28.3	0.0

*DDA **23** 16:54:48.3,38.°72N×43.°30E,h7km,Ml3.1*
*CSEM **23** 16:54:48.6±0.4,38.°75N×43.°33E,h2km,ML3.1,Error ellipse: s-maj=9.7km s-min=5.5km az=84.0*
*ISK **23** 16:54:48.6,38.°81N×43.°22E,h5km,MD3.3*
ISC 23 16:54:49.2±1.2,38.76N±0.02×43.26E±0.04,h3km±14km, n30,σ0994/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.34	47	iP	Pg	16 54 55.2	-0.5
VMUR				iS	Sb	16 55 02.2	-1.6
VMUR	Van-Muradiye	0.34	47	P	Pg	16 54 55.2	-0.5
GEVA	Gevas	0.47	199	iP	Pg	16 54 57.1	-1.2
GEVA				iS	Sg	16 55 04.9	+0.5
GEVA	Gevas	0.47	199	P	Pg	16 54 57.1	-1.2
GEVA				S	Sg	16 55 04.9	+0.5
TUTA	T

n69,σ1°65/102,12C-8D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.21**	**185**	*i* P	**Pg**	**17 00 27.9**	**+0.8**
TVAN				*i* S	**Sg**	**17 00 32.3**	**+2.5**
TVAN	**Van**	**0.21**	**185**	P	**Pg**	**17 00 27.9**	**+0.8**
TVAN				S	**Sg**	**17 00 32.3**	**+2.5**
VMUR	**Van-Muradiye**	**0.28**	**23**	*i* P	**Pg**	**17 00 27.4**	**-1.1**
VMUR				*i* S	**Sb**	**17 00 34.5**	**-1.3**
VMUR	**Van-Muradiye**	**0.28**	**23**	P	**Pg**	**17 00 27.4**	**-1.1**
VMUR				S	**Sb**	**17 00 34.5**	**-1.3**
GEVA	**Gevas**	**0.51**	**215**	*i* P	**Pg**	**17 00 30.9**	**-2.0**
GEVA				*i* S	**Sb**	**17 00 41.0**	**-1.5**
GEVA	**Gevas**	**0.51**	**215**	P	**Pg**	**17 00 30.9**	**-2.0**
GEVA				S	**Sb**	**17 00 41.0**	**-1.5**
DYDN	**Diyadin**	**0.83**	**14**	*i* P	**Pg**	**17 00 37.8**	**-1.2**
DYDN	**Diyadin**	**0.83**	**14**	P	**Pg**	**17 00 37.8**	**-1.2**
AGRB	**Hanur-Agry**	**0.91**	**338**	*e*PG	**Pg**	**17 00 40.0**	**-0.4**
AGRB				*e*SG	**Sb**	**17 00 53.4**	**-0.5**
AGRB	**Hanur-Agry**	**0.91**	**338**	*e*Pg	**Pg**	**17 00 40.0**	**-0.4**
AGRB				*e*Sg	**Sb**	**17 00 53.4**	**-0.5**
EKAR	**Karacoban**	**1.19**	**296**	*i* P	**Pn**	**17 00 46.2**	**-0.4**
EKAR	**Karacoban**	**1.19**	**296**	P	**Pn**	**17 00 46.2**	**-0.4**
HAKT	**HAKKARI**	**1.20**	**169**	*i* P	**Pg**	**17 00 41.3**	**-4.7**
HAKT				*i* S	**Sn**	**17 01 04.5**	**+1.0**
EATA	**Eleskirt**	**1.34**	**327**	*i* P	**Pn**	**17 00 47.3**	**-1.5**
EATA				*i* S	**Sn**	**17 01 07.9**	**+0.7**
EATA	**Eleskirt**	**1.34**	**327**	P	**Pn**	**17 00 47.3**	**-1.5**
EATA				S	**Sn**	**17 01 07.9**	**+0.7**
SIRN	**S¨–rnak**	**1.48**	**213**	*i* P	**Pg**	**17 00 51.8**	**+0.5**
SIRN				*i* S	**Sg**	**17 01 11.0**	**+0.6**
SIRN	**S¨–rnak**	**1.48**	**213**	P	**Pg**	**17 00 51.8**	**+0.5**
SIRN				S	**Sg**	**17 01 11.0**	**+0.6**
CUKT	**Cukurca**	**1.49**	**175**	*e*PN	**Pn**	**17 00 49.5**	**-1.2**
CUKT				*e*SN	**Sb**	**17 01 10.6**	**-0.1**
CUKT	**Cukurca**	**1.49**	**175**	*i* P	**Pn**	**17 00 49.1**	**-1.6**
CUKT				*i* S	**Sg**	**17 01 16.3**	**+5.3**
CUKT	**Cukurca**	**1.49**	**175**	*e*Pn	**Pn**	**17 00 49.5**	**-1.2**
CUKT				*e*Sn	**Sb**	**17 01 10.6**	**-0.1**
VRTB	**Varto-Mus**	**1.60**	**286**	*e*PN	**Pb**	**17 00 52.3**	**-0.9**
VRTB	**Varto-Mus**	**1.60**	**286**	*i* P	**Pn**	**17 00 51.1**	**-1.1**
VRTB	**Varto-Mus**	**1.60**	**286**	P	**Pn**	**17 00 51.1**	**-1.1**
VRTB	**Varto-Mus**	**1.60**	**286**	*e*Pn	**Pb**	**17 00 52.3**	**-0.9**
NAX	**Nakhchivan**	**1.67**	**74**	⇑P	**Pn**	**17 00 52.1**	**-1.0**
	SNR=7.8						
NAX				⇓S	**Sg**	**17 01 17.4**	**+0.8**
NAX	**Nakhchivan**	**1.67**	**74**	P	**Pn**	**17 00 52.1**	**-1.0**
	SNR=7.8						
NAX				S	**Sg**	**17 01 17.4**	**+0.8**
DIGO	**Kars**	**1.68**	**359**	*i* P	**Pn**	**17 00 52.0**	**-1.4**
DIGO	**Kars**	**1.68**	**359**	P	**Pn**	**17 00 52.0**	**-1.4**
HOMI	**Horasan**	**1.76**	**318**	*i* P	**Pb**	**17 00 55.9**	**-0.2**
BNGL	**BINGOL**	**1.79**	**278**	*i* P	**Pn**	**17 00 54.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*PN	**Pn**	**17 00 55.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*i* P	**Pn**	**17 00 54.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	P	**Pn**	**17 00 54.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*Pn	**Pn**	**17 00 55.5**	**0.0**
BTMN	**Batman**	**1.90**	**244**	*i* P	**Pn**	**17 00 53.0**	**-3.2**
ERZM	**Erzurum**	**1.98**	**307**	*i* P	**Pg**	**17 01 00.7**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.00**	**336**	*e*PN	**Pn**	**17 00 57.3**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.00**	**336**	*e*Pn	**Pn**	**17 00 57.3**	**-0.6**
BNGB	**Bing¨¶l**	**2.16**	**278**	*e*PN	**Pn**	**17 01 00.2**	**+0.3**
BINT	**Bingol**	**2.30**	**274**	*e*Pn	**Pn**	**17 01 00.2**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*PN	**Pn**	**17 01 02.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*Pn	**Pn**	**17 01 02.5**	**-0.1**
GDB	**GEDABAY**	**2.67**	**41**	⇑P	**Pb**	**17 01 09.3**	**-2.2**
	SNR=7.4						
GDB				⇑S	**Sb**	**17 01 45.5**	**+0.8**
GDB	**GEDABAY**	**2.67**	**41**	P	**Pb**	**17 01 09.3**	**-2.2**
	SNR=7.4						
GDB				S	**Sb**	**17 01 45.5**	**+0.8**
MAZI	**Mazidag**	**2.68**	**243**	*e*PN	**Pn**	**17 01 07.4**	**+0.4**
MAZI	**Mazidag**	**2.68**	**243**	*e*Pn	**Pn**	**17 01 07.4**	**+0.4**
QZX	**Qazax, Azerbai**	**2.76**	**32**	⇓P	**Pb**	**17 01 10.4**	**-2.5**
	SNR=9.0						
QZX				⇑S	**Sb**	**17 01 47.7**	**+0.6**
QZX	**Qazax, Azerbai**	**2.76**	**32**	P	**Pb**	**17 01 10.4**	**-2.5**
	SNR=9.0						
QZX				S	**Sb**	**17 01 47.7**	**+0.6**
GANJ	**Ganja**	**2.94**	**49**	⇑P	**Pn**	**17 01 12.6**	**+2.1**
	SNR=10.0						
GANJ				⇑S	**Sb**	**17 01 51.3**	**-0.8**
GANJ	**Ganja**	**2.94**	**49**	P	**Pn**	**17 01 12.6**	**+2.1**
	SNR=10.0						
GANJ				S	**Sb**	**17 01 51.3**	**-0.8**
ERZN	**Erzincan**	**3.01**	**288**	*e*PN	**Pn**	**17 01 12.3**	**+0.8**
PTK	**Pertek**	**3.16**	**274**	*e*PN	**Pn**	**17 01 14.4**	**+0.7**
PTK	**Pertek**	**3.16**	**274**	*e*Pn	**Pn**	**17 01 14.4**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*PN	**Pn**	**17 01 15.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*Pn	**Pn**	**17 01 15.8**	**+0.9**
EZC	**Erzincan**	**3.33**	**289**	*e*Pn	**Pn**	**17 01 12.3**	**-3.6**
ZKTA	**Zakatala**	**3.79**	**39**	⇓P	**Pn**	**17 01 24.5**	**+2.3**
	SNR=3.3						
ZKTA				⇓S	**Sb**	**17 02 13.3**	**-3.4**
LRK	**Lerik**	**3.84**	**90**	⇑P	**Pn**	**17 01 22.1**	**-1.0**
	SNR=4.7						
LRK				⇓S	**Sn**	**17 02 09.1**	**+0.4**
LRK	**Lerik**	**3.84**	**90**	P	**Pn**	**17 01 22.1**	**-1.0**
	SNR=4.7						
LRK				S	**Sn**	**17 02 09.1**	**+0.4**
LKRN	**Lenkeran, Azer**	**4.18**	**89**	⇑P	**Pn**	**17 01 27.2**	**-0.4**
LKRN				⇑S	**Sn**	**17 02 17.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**4.18**	**89**	P	**Pn**	**17 01 27.2**	**-0.4**
LKRN				S	**Sn**	**17 02 17.4**	**+0.6**
XNQ	**Khinaliq**	**4.36**	**55**	⇑P	**Pn**	**17 01 31.7**	**+1.5**
	SNR=4.5						
XNQ				⇓S	**Sn**	**17 02 25.8**	**+4.3**
XNQ	**Khinaliq**	**4.36**	**55**	P	**Pn**	**17 01 31.7**	**+1.5**
	SNR=4.5						
XNQ				S	**Sn**	**17 02 25.8**	**+4.3**
PQL	**Pirkuli**	**4.48**	**61**	⇑P	**Pn**	**17 01 32.5**	**+0.8**
PQL				⇑S	**Sn**	**17 02 27.7**	**+3.4**
PQL	**Pirkuli**	**4.48**	**61**	P	**Pn**	**17 01 32.5**	**+0.8**
PQL				S	**Sn**	**17 02 27.7**	**+3.4**
QUBA	**Quba, Azerbaij**	**4.68**	**54**	⇓P	**Pn**	**17 01 36.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**4.68**	**54**	P	**Pn**	**17 01 36.0**	**+1.5**
ATGJ	**Altiaghaj**	**4.74**	**62**	⇓P	**Pn**	**17 01 36.2**	**+0.8**
ATGJ	**Altiaghaj**	**4.74**	**62**	P	**Pn**	**17 01 36.2**	**+0.8**

IDC 23 17:02:59.4±1.6,12°.44N×142°.25E,h0km,mb3.6/3,
mb1 3.9/4,mb1mx3.3/62,mbtmp3.7/4,ML3.9/1,Error
ellipse: s-maj=37.5km s-min=30.1km az=140.0,South
of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.80**	**66**	Pn	Pn	17 03 45.5	0.0
	21nm,0.3s,baz=252,slow=3.2,SNR=43						
GUMO				Sn	Sn	17 04 10.1	-10
	50nm,0.3s,baz=183,slow=23,SNR=14						
WRA	**Warramunga Arr**	**33.11**	**194**	P	P	17 09 37.7	+0.3
	1.3nm,0.7s,baz=16,slow=9.4,SNR=8.1						
ASAR	**Alice Springs**	**36.80**	**193**	P	P	17 10 08.8	-0.5
	0.6nm,0.5s,baz=17,slow=13,SNR=9.1						
CMAR	**Chiang Mai Arr**	**42.09**	**284**	P	P	17 10 53.5	-0.1
	0.2nm,0.5s,baz=80,slow=6.9,SNR=4.2						

*NNC **23** 17:05:30.0±4.7,36°.97N×69°.01E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=40.8km s-min=26.4km az=161.0
*ISCJB **23** 17:05:32.5±0.9,36°.82N±0°.07×69°.24E±0°.07,h37km,*
mb3.4/2,Error ellipse: s-maj=11.2km s-min=6.5km
az=152.7
*IDC **23** 17:05:35.9±3.3,36°.87N×69°.26E,h46km±43km,mb3.3/3,*
mb1 3.5/9,mb1mx3.2/67,mbtmp3.6/9,ML3.3/6,Error
ellipse: s-maj=36.4km s-min=18.5km az=155.0

ISC 23 17:05:35.6±1.1,36°.93N±0°.09×69°.19E±0°.07,h37km,n15,
σ2°48/22,9C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.11**	**24**	⇓Pn	Pn	17 06 57.5	-6.0
	3.3nm,0.5s						
MNAS				⇑Sn	**Sn**	**17 08 13.8**	**+1.7**
	16nm,1.1s						
MNAS				⇑Lg	Lg	17 08 48.6	
	11nm,0.7s						
KK31	**Karatay Array**	**6.25**	**9**	⇑Pn	**Pn**	**17 07 01.6**	**-3.6**
	2.2nm,0.5s,baz=171,slow=11,SNR=32						
KK31				⇑Sn	**Sn**	**17 08 19.5**	**+4.1**
	3.6nm,0.5s,baz=191,slow=22,SNR=5.0						
KK31				⇑Lg	Lg	17 08 52.4	
	4.7nm,0.4s,baz=202,slow=31,SNR=5.0						
AAK	**Ala-Archa**	**7.01**	**34**	P	**Pn**	**17 07 17.9**	**+2.0**
	1.9nm,0.3s,baz=208,slow=10,SNR=54						
AAK				S	**Sn**	**17 08 35.6**	**+1.3**
	0.3nm,0.3s,baz=30,slow=20,SNR=3.7						
AAK	**Ala-Archa**	**7.01**	**34**	⇑Pn	**Pn**	**17 07 17.3**	**+1.4**
	13nm,0.7s						
AAK				⇑Sn	**Sn**	**17 08 37.4**	**+3.0**
	9.6nm,0.6s						
AAK				⇑Lg	Lg	17 09 12.4	
	8.1nm,0.6s						
TKM2	**Tokmak 2**	**7.75**	**37**	⇓Pn	**Pn**	**17 07 26.2**	**+0.2**
	5.6nm,0.6s						
TKM2				⇓Sn	**Sn**	**17 08 55.5**	**+3.1**
	6.8nm,0.8s						
TKM2				⇓Lg	Lg	17 09 34.8	
	8.2nm,1.1s						
GEYT	**Alibeck**	**8.87**	**280**	P	**Pn**	**17 07 42.9**	**+1.8**
	1.0nm,0.3s,baz=102,slow=12,SNR=14						
GEYT				S	**Sn**	**17 09 22.3**	**+2.5**
	0.7nm,0.3s,baz=120,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**13.85**	**41**	P	**Pn**	**17 08 48.5**	**-0.8**
	0.1nm,0.3s,baz=225,slow=14,SNR=5.9						
AB31	**Akbulak array**	**14.04**	**334**	Pn	**Pn**	**17 08 50.6**	**-1.1**
	1.2nm,0.4s,baz=153,slow=13,SNR=33						
AB31				⇓Sn	**Sn**	**17 11 23.6**	**-2.4**
	0.6nm,0.5s,baz=160,slow=23,SNR=7.1						
KURBB	**Kurchatov Arra**	**15.24**	**23**	P	**Pn**	**17 09 06.3**	**-1.6**
	0.0nm,0.3s,baz=213,slow=12,SNR=3.0						
AKTO	**Aktyubinsk**	**15.71**	**333**	P	**Pn**	**17 09 14.1**	**+0.1**
	0.2nm,0.3s,baz=140,slow=15,SNR=4.8						
AKTO	**Aktyubinsk**	**15.71**	**333**	⇓Pn	**P**	**17 09 16.9**	**-0.7**
	8.3nm,1.3s						
AKTO				⇑Sn	**Sn**	**17 12 01.0**	**-5.8**
	2.6nm,0.9s						
BVAR	**Borovoye Array**	**16.12**	**3**	P	**Pn**	**17 09 18.3**	**-0.9**
	0.1nm,0.3s,baz=175,slow=8.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**20.17**	**28**	P	**P**	**17 10 06.2**	**-0.4**
	1.6nm,0.5s,baz=220,slow=10,SNR=8.8						
SONM	**Songino Array**	**29.30**	**56**	P	**P**	**17 11 34.6**	**+0.1**
	0.6nm,0.7s,baz=251,slow=8.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**31.94**	**117**	P	**P**	**17 11 56.4**	**-1.5**
	0.4nm,0.7s,baz=290,slow=8.3,SNR=5.2						

*CSEM **23** 17:08:36.6±0.2,39°.06N×42°.24E,h2km,ML4.0,Error*
ellipse: s-maj=3.7km s-min=3.2km az=134.0
*DDA **23** 17:08:36.1,39°.03N×42°.25E,h12km,Ml4.0*
*ISK **23** 17:08:36.0,39°.06N×42°.23E,h9km,ML3.5*

ISC 23 17:08:36.8±0.9,39°.05N±0°.02×42°.23E±0°.02,h14km±7km,
n80,σ1°18/122,5C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.24**	**328**	⇓*i*P	**Pg**	**17 08 42.4**	**+0.2**
EKAR				*i* S	**Sg**	**17 08 46.4**	**+0.6**
EKAR	**Karacoban**	**0.24**	**328**	P	**Pg**	**17 08 42.4**	**+0.2**
EKAR				S	**Sg**	**17 08 46.4**	**+0.6**
TUTA	**Tutak**	**0.57**	**52**	⇑*i*P	**Pg**	**17 08 47.0**	**-1.1**
TUTA				*i* S	**Sg**	**17 08 55.2**	**-0.6**
TUTA	**Tutak**	**0.57**	**52**	P	**Pg**	**17 08 47.0**	**-1.1**
TUTA				S	**Sg**	**17 08 55.2**	**-0.6**
VRTB	**Varto-Mus**	**0.61**	**280**	*e*PG	**Pg**	**17 08 48.3**	**-0.5**
VRTB				*e*SG	**Sb**	**17 08 57.7**	**-0.3**
VRTB	**Varto-Mus**	**0.61**	**280**	⇓*i*P	**Pg**	**17 08 48.7**	**-0.2**
VRTB				*i* S	**Sb**	**17 08 58.5**	**+0.5**
VRTB	**Varto-Mus**	**0.61**	**280**	*e*Pg	**Pg**	**17 08 48.3**	**-0.5**
VRTB	**Varto-Mus**	**0.61**	**280**	P	**Pg**	**17 08 48.7**	**-0.2**
VRTB				*e*Sg	**Sb**	**17 08 57.7**	**-0.3**
VRTB				S	**Sb**	**17 08 58.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.79**	**48**	*e*PG	**Pb**	**17 08 51.8**	**-0.7**
AGRB				*e*SG	**Sb**	**17 09 02.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.79**	**48**	*e*Pg	**Pb**	**17 08 51.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**17 09 02.7**	**-0.4**
EATA	**Eleskirt**	**0.83**	**14**	⇓*i*P	**Pg**	**17 08 52.0**	**-1.1**
EATA				*i* S	**Sb**	**17 09 04.2**	**-0.3**
EATA	**Eleskirt**	**0.83**	**14**	P	**Pg**	**17 08 52.0**	**-1.1**
EATA				S	**Sb**	**17 09 04.2**	**-0.3**
BNGL	**BINGOL**	**0.85**	**263**	⇓*i*P	**Pg**	**17 08 52.8**	**-0.5**
BNGL				*i* S	**Sb**	**17 09 05.7**	**+0.9**
GEVA	**Gevas**	**0.98**	**139**	⇓*i*P	**Pg**	**17 08 54.8**	**-1.1**
GEVA				*i* S	**Sn**	**17 09 09.9**	**-0.4**
GEVA	**Gevas**	**0.98**	**139**	P	**Pg**	**17 08 54.8**	**-1.1**
GEVA				S	**Sn**	**17 09 09.9**	**-0.4**
HOMI	**Horasan**	**1.02**	**346**	⇓*i*P	**Pg**	**17 08 55.9**	**-0.7**
HOMI				*i* S	**Sn**	**17 09 10.8**	**-0.5**
ERZM	**Erzurum**	**1.08**	**322**	⇓*i*P	**Pg**	**17 08 57.0**	**-0.8**
ERZM				*i* S	**Sg**	**17 09 11.2**	**-0.8**
ERZM	**Erzurum**	**1.08**	**322**	P	**Pg**	**17 08 57.0**	**-0.8**
ERZM				S	**Sg**	**17 09 11.1**	**-0.8**
ECAT	**Cat-ERZURUM**	**1.12**	**300**	*i* P	**Pg**	**17 08 56.7**	**-1.7**
ECAT				*i* S	**Sn**	**17 09 13.6**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.12**	**300**	P	**Pg**	**17 08 56.7**	**-1.7**
ECAT				S	**Sn**	**17 09 13.6**	**-0.1**
BNGB	**Bing¨¶l**	**1.21**	**268**	*e*PN	**Pb**	**17 08 58.9**	**-0.7**
BNGB				*e*SN	**Sn**	**17 09 16.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.21**	**222**	*e*PN	**Pg**	**17 08 59.7**	**-0.5**
SVAN				*e*SN	**Sn**	**17 09 16.9**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.21**	**222**	⇑*i*P	**Pb**	**17 08 57.6**	**-1.9**
SVAN				*i* S	**Sn**	**17 09 17.2**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.21**	**222**	*e*Pn	**Pg**	**17 08 59.7**	**-0.5**
SVAN				*e*Sn	**Sn**	**17 09 16.9**	**+1.2**
SVAN				S	**Sn**	**17 09 17.2**	**+1.5**
YEDI	**Yedisu-Bingol**	**1.36**	**287**	*e*PN	**Pn**	**17 09 01.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.36**	**287**	*e*Pn	**Pn**	**17 09 01.5**	**-0.1**
BINT	**Bingol**	**1.37**	**263**	*e*Pn	**Pn**	**17 08 58.9**	**-2.8**
BTMN	**Batman**	**1.38**	**213**	⇓*i*P	**Pg**	**17 09 02.8**	**-0.7**
BTMN				*i* S	**Sg**	**17 09 21.4**	**-0.1**
BTMN	**Batman**	**1.38**	**213**	P	**Pg**	**17 09 02.8**	**-0.7**
BTMN				S	**Sg**	**17 09 21.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.51**	**4**	*e*PN	**Pb**	**17 09 03.9**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.51**	**4**	*e*Pn	**Pb**	**17 09 03.9**	**-0.9**
SIRN	**S¨–rnak**	**1.56**	**175**	⇓*i*P	**Pb**	**17 09 05.3**	**-0.3**
SIRN				*i* S	**Sg**	**17 09 28.4**	**+1.2**
SIRN	**S¨–rnak**	**1.56**	**175**	P	**Pb**	**17 09 05.3**	**-0.3**
SIRN				S	**Sg**	**17 09 28.4**	**+1.2**
DIGO	**Kars**	**1.62**	**33**	⇑*i*P	**Pb**	**17 09 06.5**	**-0.2**
DIGO				*i* S	**Sg**	**17 09 32.2**	**+3.1**
DIGO	**Kars**	**1.62**	**33**	P	**Pb**	**17 09 06.5**	**-0.2**
KOPT	**Kop Dagi**	**1.65**	**306**	⇓*i*P	**Pb**	**17 09 07.2**	**0.0**
KOPT				*i* S	**Sg**	**17 09 31.8**	**+1.8**
KOPT	**Kop Dagi**	**1.65**	**306**	P	**Pb**	**17 09 07.2**	**0.0**
DDEM	**Demirkent**	**1.87**	**349**	⇓*i*P	**Pb**	**17 09 09.7**	**-1.2**
DDEM				*i* S	**Sg**	**17 09 37.5**	**+0.4**
DDEM	**Demirkent**	**1.87**	**349**	P	**Pb**	**17 09 09.7**	**-1.2**
HAKT	**HAKKARI**	**1.89**	**142**	⇓*i*P	**Pb**	**17 09 10.8**	**-0.5**
HAKT				*i* S	**Sb**	**17 09 34.9**	**-0.1**
HAKT	**HAKKARI**	**1.89**	**142**	P	**Pb**	**17 09 10.8**	**-0.5**
HAKT				S	**Sb**	**17 09 34.9**	**-0.1**
EAK	**Akyaka**	**1.94**	**33**	*i* P	**Pg**	**17 09 14.0**	**-0.2**
EAK				*i* S	**Sg**	**17 09 40.1**	**+0.7**
DIYA	**Diyarbakir**	**2.00**	**236**	*i* P	**Pb**	**17 09 12.5**	**-0.6**
DIYA				*i* S	**Sg**	**17 09 40.2**	**-1.1**
DIYA	**Diyarbakir**	**2.00**	**236**	P	**Pb**	**17 09 12.5**	**-0.6**
ERZN	**Erzincan**	**2.02**	**286**	*e*PN	**Pn**	**17 09 11.9**	**+1.3**
DAGI	**Agillar**	**2.04**	**353**	*i* P	**Pb**	**17 09 12.7**	**-1.1**
DAGI				*i* S	**Sg**	**17 09 43.9**	**+1.6**
EUZM	**Uzumlu**	**2.07**	**289**	*i* P	**Pb**	**17 09 13.9**	**-0.4**
EUZM				*i* S	**Sg**	**17 09 43.4**	**+0.1**
EUZM	**Uzumlu**	**2.07**	**289**	P	**Pb**	**17 09 13.9**	**-0.4**
MARD	**Mardin**	**2.08**	**214**	⇑*i*P	**Pb**	**17 09 13.7**	**-0.8**
MARD				*i* S	**Sb**	**17 09 39.1**	**-1.2**
TNCL	**Tunceli-Merkez**	**2.09**	**272**	*i* P	**Pn**	**17 09 12.9**	**+1.2**
TNCL				*i* S	**Sg**	**17 09 42.7**	**-1.4**
TNCL	**Tunceli-Merkez**	**2.09**	**272**	P	**Pn**	**17 09 12.9**	**+1.2**
MAZI	**Mazidag**	**2.12**	**222**	*e*PN	**Pn**	**17 09 12.6**	**+0.5**
MAZI	**Mazidag**	**2.12**	**222**	*e*Pn	**Pn**	**17 09 12.6**	**+0.5**
ARTV	**Artvin**	**2.14**	**354**	⇓*i*P	**Pn**	**17 09 13.4**	**+1.0**
ARTV	**Artvin**	**2.14**	**354**	P	**Pn**	**17 09 13.4**	**+1.0**
PTK	**Pertek**	**2.22**	**267**	*e*PN	**Pn**	**17 09 14.1**	**+0.6**
PTK	**Pertek**	**2.22**	**267**	*e*Pn	**Pn**	**17 09 14.1**	**+0.6**
DBOC	**Borcka**	**2.33**	**350**	⇓*i*P	**Pb**	**17 09 17.6**	**-1.1**
DBOC	**Borcka**	**2.33**	**350**	P	**Pb**	**17 09 17.6**	**-1.1**
EZC	**Erzincan**	**2.33**	**288**	*e*Pn	**Pn**	**17 09 11.9**	**-3.1**
SVRC	**Sivrice-ELAZID**	**2.38**	**254**	*e*PN	**Pn**	**17 09 17.3**	**+1.6**
SVRC	**Sivrice-ELAZID**	**2.38**	**254**	*e*Pn	**Pn**	**17 09 17.3**	**+1.6**
EPOS	**Posof**	**2.48**	**9**	*i* P	**Pb**	**17 09 18.9**	**-2.4**
EPOS				*i* S	**Sb**	**17 09 51.4**	**-0.2**
EPOS	**Posof**	**2.48**	**9**	P	**Pb**	**17 09 18.9**	**-2.4**
AKH	**Akhalkalaki**	**2.54**	**22**	*e*PN	**Pn**	**17 09 18.3**	**+0.4**
AKH	**Akhalkalaki**	**2.54**	**22**	P	**Pn**	**17 09 19.7**	**+1.8**
AKH	**Akhalkalaki**	**2.54**	**22**	*e*Pn	**Pn**	**17 09 18.3**	**+0.4**
KELT	**Kelkit**	**2.54**	**296**	⇑*i*P	**Pb**	**17 09 22.7**	**+0.3**
KELT				*i* S	**Sg**	**17 09 58.0**	**-0.6**
KEMA	**Kemaliye**	**2.91**	**275**	*i* P	**Pn**	**17 09 24.2**	**+1.3**
KEMA	**Kemaliye**	**2.91**	**275**	P	**Pn**	**17 09 24.2**	**+1.3**
URFA	**Urfa**	**3.13**	**240**	*e*PN	**Pn**	**17 09 27.6**	**+1.7**
URFA	**Urfa**	**3.13**	**240**	*e*Pn	**Pn**	**17 09 27.6**	**+1.7**
SUSE	**Susehri**	**3.32**	**292**	⇓*i*P	**Pb**	**17 09 34.9**	**-0.7**
DGRG	**David-gareji**	**3.39**	**44**	P	**Pn**	**17 09 31.1**	**+1.6**
CUZAR	**Zara_SIVAS**	**3.55**	**285**	*i* P	**Pn**	**17 09 35.2**	**+3.5**
CUZAR	**Zara_SIVAS**	**3.55**	**285**	P	**Pn**	**17 09 35.2**	**+3.5**
GRSN	**GIRESUNGRSN**	**3.57**	**303**	*i* P	**Pb**	**17 09 40.5**	**+0.7**
SURC	**SANLIURFA_SURC**	**3.59**	**234**	*i* P	**Pg**	**17 09 45.1**	**-0.5**
ONI	**Oni**	**3.65**	**14**	P	**Pn**	**17 09 34.9**	**+1.9**
CUKAN	**kangal_SIVAS**	**3.71**	**276**	*i* P	**Pb**	**17 09 39.3**	**-3.0**

*CSEM **23** 17:10:26.4,39°.30N×41°.71E,h38km,ML3.7*
DDA 23 17:10:26.4,39°.30N×41°.71E,h38km,Ml3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.24**	**235**	*i* P	Pn	17 10 33.7	-1.1
VRTB				*i* S	Sn	17 10 39.0	-2.9
VRTB	**Varto-Mus**	**0.24**	**235**	P	Pn	17 10 33.7	-1.1
VRTB				S	Sn	17 10 39.0	-2.9
EKAR	**Karacoban**	**0.28**	**99**	*i* P	Pn	17 10 34.1	-0.8
EKAR				*i* S	Sn	17 10 42.2	+0.4
EKAR	**Karacoban**	**0.28**	**99**	P	Pn	17 10 34.1	-0.8
EKAR				S	Sn	17 10 42.2	+0.4
BNGL	**BINGOL**	**0.56**	**232**	*i* P	Pn	17 10 38.7	+0.6
BNGL				*i* S	Sn	17 10 48.3	+2.0
ECAT	**Cat-ERZURUM**	**0.65**	**298**	*i* P	Pn	17 10 40.0	+0.7
ECAT				*i* S	Sn	17 10 49.5	+1.1
ECAT	**Cat-ERZURUM**	**0.65**	**298**	P	Pn	17 10 40.0	+0.7
ECAT				S	Sn	17 10 49.5	+1.1
ERZM	**Erzurum**	**0.66**	**336**	*i* P	Pn	17 10 40.7	+1.1
ERZM	**Erzurum**	**0.66**	**336**	P	Pn	17 10 40.7	+1.2
HOMI	**Horasan**	**0.76**	**11**	*i* P	Pn	17 10 42.0	+1.2
HOMI				*i* S	Sn	17 10 52.8	+1.6
TUTA	**Tutak**	**

DAGI	Agillar	2.66	332	*i* P		Pb	17 15 38.5	+0.8
QZX	Qazax, Azerbai	2.72	31	⇑P		Pb	17 15 38.4	-0.3
QZX				⇓S		Sb	17 16 14.3	+2.0
QZX	Qazax, Azerbai	2.72	31	P		Pb	17 15 38.4	-0.3
MAZI	Mazidag	2.75	244	*e*Pn		Pn	17 15 36.1	+1.7
MAZI	Mazidag	2.75	244	*e*Pn		Pn	17 15 36.1	+1.7
GANJ	Ganja	2.88	47	⇓P		Pb	17 15 40.0	-1.3
GANJ				⇑S		Sb	17 16 16.5	-0.4
GANJ	Ganja	2.88	47	P		Pb	17 15 40.0	-1.3
GANJ				S		Sb	17 16 16.5	-0.4
PTK	Pertek	3.25	274	*e*PN		Pn	17 15 42.6	+1.2
PTK	Pertek	3.25	274	*e*Pn		Pn	17 15 42.6	+1.2
MNGR	Mingechevir, A	3.41	52	⇓P		Pb	17 15 47.1	-3.2
MNGR				⇑S		Sb	17 16 29.1	-3.1
MNGR	Mingechevir, A	3.41	52	P		Pb	17 15 47.1	-3.2
MNGR				S		Sb	17 16 29.1	-3.1
ZKTA	Zakatala	3.74	38	⇑P		Pb	17 15 52.5	-3.5
LRK	Lerik	3.75	90	⇓P		Pn	17 15 49.1	+0.9
LRK				⇑S		Sn	17 16 33.7	+0.7
LRK	Lerik	3.75	90	P		Pn	17 15 49.2	+0.9
LRK				S		Sn	17 16 33.7	+0.7
LKRN	Lenkeran, Azer	4.09	89	⇑P		Pn	17 15 54.1	+1.3
LKRN	Lenkeran, Azer	4.09	89	P		Pn	17 15 54.1	+1.3
ASTR	Astara	4.11	91	⇓P		Pn	17 15 53.8	+0.8
ASTR	Astara	4.11	91	P		Pn	17 15 53.8	+0.8
QUBA	Quba, Azerbaij	4.62	54	⇓P		Pn	17 16 03.3	+3.3
QUBA	Quba, Azerbaij	4.62	54	P		Pn	17 16 03.3	+3.3

AZER ***23*** *17:16:55.4±0.9, 37.°96N×43.°43E, h7km, Error ellipse: s-maj=9.2km s-min=6.2km az=71.0*
ISK ***23*** *17:16:55.5, 38.°68N×43.°13E, h5km, ML3.2*
CSEM ***23*** *17:16:56.7±0.2, 38.°66N×43.°13E, h2km, ML3.9, Error ellipse: s-maj=5.8km s-min=4.4km az=131.0*
IDC ***23*** *17:16:56.2±1.2, 38.°61N×43.°41E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.4/50, mbtmp3.5/10, ML3.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.5/41, Error ellipse: s-maj=20.1km s-min=13.6km az=165.0*
DDA ***23*** *17:16:56.3, 38.°66N×43.°15E, h10km, Ml3.9*
ISC 23 17:16:55.9±1.0,**38.°65N**±0.°02×**43.°19E**±0.°02,**h10**km±8km, **n82**,σ1**§63**/102,**mb3.7**/4,**6C-12D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.35**	**197**	*i* P	**Pg**	**17 17 02.0**	**-0.9**
GEVA				*i* S	**Sg**	**17 17 09.1**	**+1.5**
GEVA	**Gevas**	**0.35**	**197**	P	**Pg**	**17 17 02.0**	**-0.9**
GEVA				S	**Sg**	**17 17 09.1**	**+1.5**
VMUR	**Van-Muradiye**	**0.45**	**41**	*i* P	**Pg**	**17 17 05.3**	**+0.5**
VMUR				*i* S	**Sb**	**17 17 13.9**	**+0.9**
VMUR	**Van-Muradiye**	**0.45**	**41**	P	**Pg**	**17 17 05.3**	**+0.5**
VMUR				S	**Sb**	**17 17 13.9**	**+0.9**
TUTA	**Tutak**	**0.81**	**339**	*i* P	**Pg**	**17 17 11.2**	**-0.2**
TUTA				*i* S	**Sb**	**17 17 23.2**	**0.0**
TUTA	**Tutak**	**0.81**	**339**	P	**Pg**	**17 17 11.2**	**-0.2**
TUTA				S	**Sb**	**17 17 23.2**	**0.0**
AGRB	**Hanur-Agry**	**0.94**	**351**	*e*PG	**Pg**	**17 17 13.4**	**-0.5**
AGRB				*e*SG	**Sb**	**17 17 27.6**	**+0.6**
AGRB	**Hanur-Agry**	**0.94**	**351**	*e*Pg	**Pg**	**17 17 13.4**	**-0.5**
AGRB				*e*Sg	**Sb**	**17 17 27.6**	**+0.6**
DYDN	**Diyadin**	**0.97**	**23**	*i* P	**Pb**	**17 17 15.8**	**+0.8**
DYDN				*i* S	**Sb**	**17 17 29.2**	**+1.2**
DYDN	**Diyadin**	**0.97**	**23**	P	**Pb**	**17 17 15.8**	**+0.8**
DYDN				S	**Sb**	**17 17 29.2**	**+1.2**
EKAR	**Karacoban**	**1.06**	**305**	*i* P	**Pg**	**17 17 16.4**	**0.0**
EKAR	**Karacoban**	**1.06**	**305**	P	**Pg**	**17 17 16.4**	**0.0**
EATA	**Eleskirt**	**1.33**	**336**	*i* P	**Pg**	**17 17 20.5**	**-0.9**
EATA				*i* S	**Sb**	**17 17 39.0**	**+0.7**
EATA	**Eleskirt**	**1.33**	**336**	P	**Pg**	**17 17 20.5**	**-0.9**
EATA				S	**Sb**	**17 17 39.0**	**+0.7**
CUKT	**Cukurca**	**1.44**	**167**	*e*PN	**Pg**	**17 17 24.4**	**+0.9**
CUKT	**Cukurca**	**1.44**	**167**	*e*Pn	**Pg**	**17 17 24.4**	**+0.9**
VRTB	**Varto-Mus**	**1.44**	**291**	*e*PN	**Pn**	**17 17 22.8**	**+0.5**
VRTB	**Varto-Mus**	**1.44**	**291**	*i* P	**Pn**	**17 17 22.8**	**+0.5**
VRTB	**Varto-Mus**	**1.44**	**291**	P	**Pn**	**17 17 22.8**	**+0.5**
BNGL	**BINGOL**	**1.62**	**281**	*i* P	**Pg**	**17 17 26.5**	**-0.5**
BNGL				*i* S	**Sg**	**17 17 49.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*e*PN	**Pn**	**17 17 25.4**	**+0.6**
SVAN				*e*SN	**Sg**	**17 17 48.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*i* P	**Pb**	**17 17 26.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*e*Pn	**Pn**	**17 17 25.4**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	P	**Pb**	**17 17 26.2**	**0.0**
SVAN				*e*Sn	**Sg**	**17 17 48.6**	**0.0**
HOMI	**Horasan**	**1.71**	**325**	*i* P	**Pb**	**17 17 27.9**	**+0.3**
DIGO	**Kars**	**1.77**	**5**	*i* P	**Pb**	**17 17 29.3**	**+0.7**
DIGO	**Kars**	**1.77**	**5**	P	**Pb**	**17 17 29.3**	**+0.7**
NAX	**Nakhchivan**	**1.88**	**73**	⇓P	**Pn**	**17 17 29.4**	**+1.3**
NAX				⇓S	**Sb**	**17 17 55.9**	**+2.1**
NAX	**Nakhchivan**	**1.88**	**73**	P	**Pn**	**17 17 29.4**	**+1.3**
NAX				S	**Sb**	**17 17 55.9**	**+2.1**
ERZM	**Erzurum**	**1.89**	**312**	*i* P	**Pb**	**17 17 31.3**	**+0.7**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pb**	**17 17 31.3**	**+0.7**
GNI	**Garni**	**1.92**	**38**	Pn	**Pn**	**17 17 30.8**	**+1.9**
	5.3nm,0.3s,baz=309,slow=13,SNR=5.6						
ECAT	**Cat-ERZURUM**	**1.97**	**300**	*i* P	**Pb**	**17 17 32.2**	**+0.3**
ECAT				*i* S	**Sg**	**17 17 58.7**	**-0.4**
ECAT	**Cat-ERZURUM**	**1.97**	**300**	P	**Pb**	**17 17 32.2**	**+0.3**
BNGB	**Bing¶‖**	**1.99**	**281**	*e*PN	**Pn**	**17 17 31.1**	**+1.4**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*PN	**Pn**	**17 17 31.4**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*Pn	**Pn**	**17 17 31.4**	**+1.2**
BINT	**Bingol**	**2.12**	**277**	*e*Pn	**Pn**	**17 17 31.1**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*PN	**Pn**	**17 17 33.9**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*Pn	**Pn**	**17 17 33.9**	**+1.2**
MAZI	**Mazidag**	**2.47**	**242**	*e*PN	**Pn**	**17 17 37.8**	**+1.5**
MAZI	**Mazidag**	**2.47**	**242**	*e*Pn	**Pn**	**17 17 37.8**	**+1.5**
DIYA	**Diyarbakir**	**2.52**	**254**	*i* P	**Pn**	**17 17 39.1**	**+2.2**
DIYA	**Diyarbakir**	**2.52**	**254**	P	**Pn**	**17 17 39.1**	**+2.2**
ERZN	**Erzincan**	**2.85**	**290**	*e*PN	**Pn**	**17 17 43.3**	**+1.7**
GDB	**GEDABAY**	**2.86**	**43**	⇑P	**Pb**	**17 17 47.7**	**+0.5**
GDB				⇓S	**Sg**	**17 18 29.1**	**+1.2**
GDB	**GEDABAY**	**2.86**	**43**	P	**Pb**	**17 17 47.7**	**+0.5**
TNCL	**Tunceli-Merkez**	**2.88**	**280**	*i* P	**Pb**	**17 17 46.5**	**-1.0**
QZX	**Qazax, Azerbai**	**2.94**	**34**	⇓P	**Pb**	**17 17 49.2**	**+0.9**
QZX				⇓S	**Sg**	**17 18 30.7**	**+0.6**
QZX	**Qazax, Azerbai**	**2.94**	**34**	P	**Pb**	**17 17 49.2**	**+0.9**
PTK	**Pertek**	**2.98**	**276**	*e*PN	**Pn**	**17 17 45.3**	**+1.9**
PTK	**Pertek**	**2.98**	**276**	*e*Pn	**Pn**	**17 17 45.3**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.06**	**266**	*e*PN	**Pn**	**17 17 46.3**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.06**	**266**	*e*Pn	**Pn**	**17 17 46.3**	**+1.8**
GANJ	**Ganja**	**3.14**	**50**	⇑P	**Pb**	**17 17 51.2**	**-0.5**
GANJ	**Ganja**	**3.14**	**50**	P	**Pb**	**17 17 51.2**	**-0.5**
EZC	**Erzincan**	**3.17**	**291**	*e*Pn	**Pn**	**17 17 43.3**	**-2.8**
ZKTA	**Zakatala**	**3.98**	**40**	⇓P	**Pb**	**17 18 03.3**	**-2.8**
ZKTA				⇓S	**Sb**	**17 18 57.5**	**+3.2**
SEKA	**Sheki**	**4.00**	**49**	⇓P	Pn	17 18 02.6	+5.2
SEKA				⇓S	**Sb**	**17 18 56.3**	**+1.2**
SEKA	**Sheki**	**4.00**	**49**	P	Pn	17 18 02.6	+5.2
LRK	**Lerik**	**4.04**	**88**	⇑P	**Pn**	**17 17 55.9**	**-2.0**
LRK				⇓S	**Sn**	**17 18 43.5**	**-1.8**
LRK	**Lerik**	**4.04**	**88**	P	**Pn**	**17 17 55.9**	**-2.0**
LRK				S	**Sn**	**17 18 43.5**	**-1.8**
LKRN	**Lenkeran, Azer**	**4.38**	**87**	⇑P	**Pn**	**17 18 00.7**	**-1.7**
LKRN	**Lenkeran, Azer**	**4.38**	**87**	P	**Pn**	**17 18 00.7**	**-1.7**
ASTR	**Astara**	**4.39**	**89**	⇓P	**Pn**	**17 18 00.1**	**-2.5**
ASTR	**Astara**	**4.39**	**89**	P	**Pn**	**17 18 00.1**	**-2.5**
XNQ	**Khinaliq**	**4.57**	**55**	⇓P	**Pn**	**17 18 10.0**	**+4.8**
XNQ				⇑S	**Sb**	**17 19 06.9**	**-4.4**
XNQ	**Khinaliq**	**4.57**	**55**	P	**Pn**	**17 18 10.0**	**+4.8**
PQL	**Pirkuli**	**4.68**	**61**	⇑P	**Pn**	**17 18 08.8**	**+2.0**
PQL	**Pirkuli**	**4.68**	**61**	P	**Pn**	**17 18 08.8**	**+2.0**
KBZ	**Khabaz**	**5.08**	**358**	Pn	**Pb**	**17 18 20.9**	**-4.0**
	0.1nm,0.3s,baz=243,slow=16,SNR=1.6						
KVAR	**Kislovodsk Arr**	**5.31**	**356**	Pn	Pn	17 18 20.4	+5.0
	baz=328,slow=15,SNR=2.2						
BRTR	**Keskin Array B**	**7.49**	**281**	Pn	Pn	17 18 51.1	+5.7
	0.0nm,0.3s,baz=89,slow=13,SNR=2.7						
ASF	**Jabal al Asfar**	**8.25**	**220**	Pn	**Pn**	**17 19 00.0**	**+4.3**
	0.3nm,0.3s,baz=143,slow=5.1,SNR=2.0						
MMAI	**Mount Meron Ar**	**8.46**	**231**	Pn	Pn	17 19 05.1	+6.6
	0.6nm,0.3s,baz=56,slow=16,SNR=3.1						
AKASG	**Malin Array Be**	**15.58**	**325**	Pn	**P**	**17 20 38.5**	**-1.3**
	0.4nm,0.3s,baz=135,slow=11,SNR=4.3						
AKASG				LR	LR	17 27 39.8	
	comp=Z,43nm,20.9s,baz=215,slow=41						
AKTO	**Aktyubinsk**	**15.79**	**37**	Pn	**Pn**	**17 20 37.0**	**-1.3**
	0.2nm,0.3s,baz=236,slow=8.4,SNR=4.1						
ARU	**Arti**	**20.51**	**25**	P	**P**	**17 21 35.7**	**+1.7**
	1.7nm,0.6s,baz=218,slow=5.9,SNR=3.6						
ARU				LR	LR	17 31 39.7	
	comp=Z,66nm,18.3s,baz=257,slow=43						

BVAR	**Borovoye Array**	**23.60**	**44**	P		**P**	**17 22 06.6**	**-0.2**
	0.4nm,0.7s,baz=226,slow=5.8,SNR=4.5							
KURBB	**Kurchatov Arra**	**27.59**	**53**	P		**P**	**17 22 44.7**	**+1.7**
	0.7nm,0.5s,baz=265,slow=9.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**52.12**	**96**	P		**P**	**17 26 06.8**	**+0.3**
	0.9nm,0.9s,baz=292,slow=7.8,SNR=7.2							
KSRS	**Korea Array**	**64.29**	**62**	P		**P**	**17 27 32.2**	**+0.8**
	1.0nm,0.7s,baz=287,slow=7.5,SNR=4.5							

JMA 23 17:22:13.0±0.2,**37.°42N×141.°99E,h34**km±4km,**M3.5,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.89**	**267**	P	Pn	17 22 29.4	+0.3
JFK				*e*S	Sn	17 22 40.8	0.0
ONAJ	**Iwakimizuishiy**	**1.00**	**252**	P	Pn	17 22 30.9	+0.2
ONAJ				*e*S	Sn	17 22 43.5	-0.2
JMM	**Marumori**	**1.05**	**295**	P	Pn	17 22 31.7	+0.4
JMM				*e*S	Sn	17 22 44.9	+0.2
JIO	**Ouri**	**1.15**	**334**	P	Pn	17 22 32.8	+0.1
JIO				*e*S	Sn	17 22 46.4	-0.8
JFT	**Otama**	**1.32**	**275**	P	Pb	17 22 36.5	-0.7
JFT				*e*S	Sb	17 22 53.3	-0.6
JOU	**Okura**	**1.41**	**312**	P	Pn	17 22 37.4	+1.1
JOU				*e*S	Sb	17 22 55.4	-1.1
JMK	**Ichinoseki**	**1.65**	**339**	P	Pn	17 22 40.5	+1.0
JMK				*e*S	Sn	17 23 00.4	+0.9
JYS	**Shirataka**	**1.72**	**298**	P	Pb	17 22 42.7	-1.3
JYS				*e*S	Sb	17 23 04.7	-0.6
JFY	**Yanaizu**	**1.82**	**270**	P	Pn	17 22 43.5	+1.6
JFY				*e*S	Sb	17 23 07.0	-1.1
JYK	**Kaneyama**	**1.97**	**320**	P	Pn	17 22 45.3	+1.3
MAT	**Matsushiro**	**3.15**	**255**	P	Pn	17 23 03.5	+3.2
MAT				S	Sb	17 23 42.3	-4.1

DDA ***23*** *17:27:03.4, 38.°81N×43.°30E, h7km, Ml3.8*
ISCJB ***23*** *17:27:05.1±0.7, 38.°72N±0.°03×43.°41E±0.°07, h13km, Error ellipse: s-maj=7.9km s-min=5.0km az=0.4*
CSEM ***23*** *17:27:05.0±0.4, 38.°71N×43.°42E, h8km, ML3.8, Error ellipse: s-maj=10.1km s-min=6.8km az=84.0*
ISK ***23*** *17:27:06.0, 38.°69N×43.°32E, h14km, ML3.5*
ISC 23 17:27:04.8±0.9,**38.°75N**±0.°02×**43.°36E**±0.°04,**h13**km,**n48**, σ1**§46**/52,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.23**	**172**	*i* P	**Pg**	**17 27 09.4**	**-0.5**
TVAN	**Van**	**0.23**	**172**	P	**Pg**	**17 27 09.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.29**	**35**	*i* P	**Pg**	**17 27 09.8**	**-1.0**
VMUR	**Van-Muradiye**	**0.29**	**35**	P	**Pg**	**17 27 09.8**	**-1.0**
GEVA	**Gevas**	**0.50**	**209**	*i* P	**Pg**	**17 27 10.5**	**-4.3**
TUTA	**Tutak**	**0.78**	**327**	*i* P	**Pg**	**17 27 16.8**	**-3.1**
AGRB	**Hanur-Agry**	**0.87**	**341**	*e*PG	**Pn**	**17 27 24.4**	**+1.5**
AGRB				*e*SG	**Sn**	**17 27 37.6**	**+2.0**
AGRB	**Hanur-Agry**	**0.87**	**341**	*e*Pg	**Pn**	**17 27 24.4**	**+1.5**
AGRB				*e*Sg	**Sn**	**17 27 37.6**	**+2.0**
EKAR	**Karacoban**	**1.13**	**297**	*i* P	**Pb**	**17 27 24.0**	**-2.4**
HAKT	**HAKKARI**	**1.23**	**167**	*i* P	**Pn**	**17 27 27.2**	**-0.7**
HAKT	**HAKKARI**	**1.23**	**167**	P	**Pn**	**17 27 27.2**	**-0.7**
EATA	**Eleskirt**	**1.30**	**329**	*i* P	**Pn**	**17 27 26.5**	**-2.5**
SIRN	**S¨–rnak**	**1.46**	**211**	*i* P	**Pn**	**17 27 31.5**	**+0.5**
SIRN	**S¨–rnak**	**1.46**	**211**	P	**Pn**	**17 27 31.5**	**+0.5**
CUKT	**Cukurca**	**1.52**	**173**	*e*PN	**Pb**	**17 27 32.8**	**-0.1**
CUKT	**Cukurca**	**1.52**	**173**	*i* P	**Pb**	**17 27 33.6**	**+0.7**
CUKT	**Cukurca**	**1.52**	**173**	*e*Pn	**Pb**	**17 27 32.8**	**-0.1**
CUKT	**Cukurca**	**1.52**	**173**	P	**Pb**	**17 27 33.6**	**+0.7**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*PN	**Pb**	**17 27 33.1**	**-0.2**
VRTB	**Varto-Mus**	**1.54**	**286**	*i* P	**Pg**	**17 27 34.2**	**-0.2**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*Pn	**Pb**	**17 27 33.1**	**-0.2**
VRTB	**Varto-Mus**	**1.54**	**286**	P	**Pg**	**17 27 34.2**	**-0.2**
DIGO	**Kars**	**1.66**	**0**	*i* P	**Pb**	**17 27 35.0**	**-0.4**
DIGO	**Kars**	**1.66**	**0**	P	**Pb**	**17 27 35.0**	**-0.4**
HOMI	**Horasan**	**1.71**	**319**	*i* P	**Pn**	**17 27 33.7**	**-0.9**
BNGL	**BINGOL**	**1.74**	**277**	*i* P	**Pb**	**17 27 37.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*PN	**Pn**	**17 27 36.5**	**+0.9**
SVAN				*e*SN	**Sb**	**17 27 59.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*i* P	**Pb**	**17 27 37.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*Pn	**Pn**	**17 27 36.6**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	P	**Pb**	**17 27 37.5**	**-0.2**
SVAN				*e*Sn	**Sb**	**17 27 59.9**	**-0.3**
BTMN	**Batman**	**1.86**	**243**	*i* P	**Pn**	**17 27 35.7**	**-0.7**
BTMN	**Batman**	**1.86**	**243**	P	**Pn**	**17 27 35.7**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*PN	**Pb**	**17 27 40.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*Pn	**Pb**	**17 27 40.7**	**+0.1**
BNGB	**Bing¶‖**	**2.11**	**277**	*e*PN	**Pn**	**17 27 41.0**	**+1.1**
BINT	**Bingol**	**2.25**	**274**	*e*Pn	**Pn**	**17 27 41.0**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	*e*PN	**Pn**	**17 27 43.9**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	*e*Pn	**Pn**	**17 27 43.9**	**+1.3**
MAZI	**Mazidag**	**2.64**	**242**	*e*PN	**Pn**	**17 27 48.3**	**+1.1**
MAZI	**Mazidag**	**2.64**	**242**	*e*Pn	**Pn**	**17 27 48.3**	**+1.1**
DIYA	**Diyarbakir**	**2.68**	**253**	*i* P	**Pn**	**17 27 50.2**	**+2.5**
DIYA	**Diyarbakir**	**2.68**	**253**	P	**Pn**	**17 27 50.2**	**+2.5**
PTK	**Pertek**	**3.10**	**274**	*e*PN	**Pn**	**17 27 56.0**	**+2.3**
PTK	**Pertek**	**3.10**	**274**	*e*Pn	**Pn**	**17 27 56.0**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.20**	**265**	*e*PN	**Pn**	**17 27 56.8**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.20**	**265**	*e*Pn	**Pn**	**17 27 56.8**	**+1.8**
URFA	**Urfa**	**3.81**	**251**	*e*PN	**Pn**	**17 28 04.9**	**+1.6**
URFA	**Urfa**	**3.81**	**251**	*e*Pn	**Pn**	**17 28 04.9**	**+1.6**

IDC ***23*** *17:31:10.1±0.9, 2.°40S×121.°78E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.7/47, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=47.8km s-min=15.4km az=58.0*
DJA ***23*** *17:31:13.4±0.9, 3.°S±2.°×12.°2E±.°, h17km±7km, M4.7/13, mB5.0/1, mb5.0/1, MLv4.5/13, Mw(mB)4.3/1*
NEIC ***23*** *17:31:13.7±3.4, 2.°51S×121.°65E, h24km±27km, mb4.1/2, Error ellipse: s-maj=12.3km s-min=8.9km az=67.0*
NEIC Felt [III] at Soroako.
ISC 23 17:31:12.2±1.9,**2.°51S**±0.°03×**121.°64E**±0.°04,**h13**km±13km, **n30**,σ1**§01**/39,**mb4.0**/11,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.59**	**0**	P	**Pn**	**17 31 40.3**	**+0.2**
APSI				S	**Sg**	**17 32 02.5**	**-0.9**
KDI	**Kendari**	**1.74**	**146**	P	**Pb**	**17 31 43.9**	**-0.2**
LUWI	**Luwuk**	**1.85**	**38**	P	**Pb**	**17 31 45.3**	**-0.6**
LUWI				S	**Sg**	**17 32 12.5**	**+0.8**
LUWI	**Luwuk**	**1.85**	**38**	*e*Pn	**Pn**	**17 31 44.0**	**+0.3**
LUWI				*e*Sn	**Sn**	**17 32 07.2**	**+0.2**
TTSI	**Tana Toraja**	**1.89**	**254**	P	**Pn**	**17 31 44.0**	**-0.3**
TTSI				S	**Sn**	**17 32 08.7**	**+0.6**
SPSI	**Sidrap Palu**	**2.36**	**232**	P	**Pn**	**17 31 51.1**	**+0.3**
SPSI				S	**Sb**	**17 32 23.2**	**-0.6**
PCI	**Palu**	**2.41**	**311**	P	**Pn**	**17 31 53.2**	**+1.8**
BNSI	**Bone**	**2.42**	**219**	P	**Pn**	**17 31 52.5**	**+0.9**
MRSI	**Marisa**	**2.98**	**6**	P	**Pn**	**17 31 59.5**	**+0.2**
MRSI				S	**Sn**	**17 32 35.3**	**+0.3**
BBSI	**Bau Bau**	**3.10**	**163**	P	**Pn**	**17 32 01.3**	**+0.4**
KAPI	**Kappang**	**3.12**	**217**	*e*Pn	**Pn**	**17 32 01.3**	**+0.1**
KAPI				*e*Sn	**Sn**	**17 32 36.0**	**-2.4**
MPSI	**Mapaga**	**3.32**	**328**	P	**Pn**	**17 32 03.9**	**-0.1**
MPSI				S	**Sn**	**17 32 43.0**	**-0.4**
BSSI	**Bau Bau, Buton**	**3.79**	**198**	P	**Pn**	**17 32 11.3**	**+0.9**
KMSI	**Cibinong**	**3.86**	**37**	P	**Pn**	**17 32 13.9**	**+2.6**
SANI	**Sanana**	**4.37**	**84**	P	**Pn**	**17 32 16.6**	**-1.8**
LBMI	**Labuha**	**6.15**	**72**	P	**Pn**	**17 32 43.4**	**+0.5**
LBMI				S	**Sn**	**17 33 53.3**	**+0.2**
SOEI	**Soe**	**7.66**	**160**	*e*Pn	**Pn**	**17 33 02.8**	**-0.9**
	56nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.98**	**166**	Pn	**Pn**	**17 34 58.8**	**+1.8**
	0.2nm,0.3s,baz=336,slow=4.7,SNR=8.7						
WRA	**Warramunga Arr**	**21.31**	**145**	P	**P**	**17 35 57.8**	**-1.3**
	4.1nm,1.0s,baz=323,slow=10,SNR=10						
IPM	**Ipoh**	**21.74**	**289**	*e*P	**P**	**17 36 03.5**	**-0.2**
	7.9nm,0.8s						
PSI	**Prapat**	**23.31**	**283**	P	**P**	**17 36 20.6**	**+0.1**
	9.6nm,1.0s,baz=135,slow=6.2,SNR=7.9						
ASAR	**Alice Springs**	**24.15**	**152**	P	**P**	**17 36 28.3**	**0.0**
	0.7nm,0.7s,baz=322,slow=7.9,SNR=16						
CMAR	**Chiang Mai Arr**	**30.55**	**314**	P	**P**	**17 37 26.4**	**+0.6**
	0.8nm,0.6s,baz=139,slow=7.9,SNR=8.3						
STKA	**Stephens Creek**	**34.73**	**149**	P	**P**	**17 38 02.8**	**+0.5**
	2.8nm,0.8s,baz=301,slow=15,SNR=4.6						
LSA	**Lhasa**	**43.32**	**320**	*e*P	**P**	**17 39 14.8**	**0.0**
	2.0nm,0.6s						
SONM	**Songino Array**	**51.88**	**347**	P	**P**	**17 40 20.7**	**0.0**
	0.3nm,0.6s,baz=164,slow=5.7,SNR=2.5						

MKAR	**Makanchi Array**	**60.05**	**330**	P		**P**	**17 41 18.7**	**-0.4**
	0.9nm,0.8s,baz=116,slow=6.9,SNR=4.8							
ZALV	**Zalesovo Beam**	**64.05**	**337**	P		**P**	**17 41 43.5**	**-2.2**
	0.5nm,0.4s,baz=107,slow=5.1,SNR=4.8							
KURBB	**Kurchatov Arra**	**64.47**	**331**	P		**P**	**17 41 48.9**	**+0.3**
	0.3nm,0.3s,baz=135,slow=5.8,SNR=4.1							
KURK	**Kurchatov**	**64.48**	**331**	P		**P**	**17 41 48.9**	**+0.2**

NNC 23 17:31:34.6±2.4,**37.°07N×69.°23E,h0**km,**mb3.6,mpv3.3,**
9C-2D,Error ellipse: s-maj=23.3km s-min=16.2km
az=130.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.97**	**24**	⇑Pn	Pn	17 33 04.8	+0.4
	0.6nm,0.3s						
MNAS				⇑Sn	Sn	17 34 14.6	+1.1
	1.4nm,0.5s						
MNAS				⇑Lg	Lg	17 34 47.4	
	3.2nm,0.7s						
KK31	**Karatay Array**	**6.11**	**9**	Pn	Pn	17 33 07.2	+1.1
	0.5nm,0.3s,baz=194,slow=14,SNR=20						
KK31				⇓Sn	Sn	17 34 17.5	+0.9
	0.9nm,0.3s						
KK31				⇑Lg	Lg	17 34 53.7	
	6.2nm,0.8s,baz=187,slow=26,SNR=3.5						
AAK	**Ala-Archa**	**6.88**	**34**	⇑Pn	Pn	17 33 17.8	+0.9
	1.9nm,0.4s						
AAK				⇑Sn	Sn	17 34 36.5	+0.5
	3.2nm,0.6s						
AAK				⇓Lg	Lg	17 35 08.6	
	2.9nm,0.6s						
TKM2	**Tokmak 2**	**7.62**	**38**	⇑Pn	Pn	17 33 26.3	-0.7
	2.0nm,0.6s						
TKM2			

XNQ	Khinaliq	4.55	55	⇓P	Pb	17 32 57.2	-3.1
XNQ	Khinaliq	4.55	55	P	Pb	17 32 57.2	-3.1
PQL	Pirkuli	4.67	61	⇑P	Pb	17 32 58.4	-3.8
PQL				⇑S	Sb	17 33 55.0	-3.9
PQL	Pirkuli	4.67	61	P	Pb	17 32 58.4	-3.8
PQL				S	Sb	17 33 55.0	-3.9
QSAR	Qusar	4.82	52	⇑P	Pb	17 33 01.0	-3.7
QSAR	Qusar	4.82	52	P	Pb	17 33 01.0	-3.7
QUBA	Quba, Azerbaij	4.87	55	⇓P	Pb	17 33 01.9	-3.8
QUBA	Quba, Azerbaij	4.87	55	P	Pb	17 33 01.9	-3.8
ATGJ	Altiaghaj	4.94	62	⇓P	Pb	17 33 02.2	-4.6
ATGJ	Altiaghaj	4.94	62	P	Pb	17 33 02.2	-4.6
KBZ	Khabaz	5.07	357	Pn	Pn	17 33 01.0	+4.4
	0.0nm,0.3s,baz=194,slow=17,SNR=2.2						
KVAR	Kislovodsk Arr	5.31	356	Pn	Pn	17 33 04.4	+4.4
	baz=153,slow=9.0,SNR=2.0						
BRTR	Keskin Array B	7.51	281	Pn	Pn	17 33 34.5	+4.3
	0.0nm,0.3s,baz=106,slow=13,SNR=3.8						
MMAI	Mount Meron Ar	8.47	231	Pn	Pn	17 33 48.2	+4.9
	0.9nm,0.3s,baz=52,slow=15,SNR=3.2						
GEYT	Alibeck	11.74	89	Pn	Pn	17 34 28.8	+0.7
	baz=346,slow=18,SNR=2.8						
AKASG	Malin Array Be	15.58	325	Pn	Pn	17 35 21.4	+1.2
	0.6nm,0.3s,baz=134,slow=11,SNR=7.2						
AKTO	Aktyubinsk	15.78	37	Pn	Pn	17 35 22.9	+0.1
	0.1nm,0.3s,baz=141,slow=5.3,SNR=4.8						
CRVS	Cervenica-Dubn	18.68	310	*e*P	Pn	17 36 01.5	+2.4
VYHS	Vyhne	20.13	307	*e*P	Pn	17 36 16.7	+0.2
VYHS				*e*		17 36 18.9	
ARU	Arti	20.50	25	P	P	17 36 17.7	-0.9
	2.1nm,0.6s,baz=130,slow=2.4,SNR=4.8						
GERES	GERESS Array B	23.48	305	P	P	17 36 50.8	+0.3
	0.3nm,0.5s,baz=106,slow=7.2,SNR=4.1						
BVAR	Borovoye Array	23.58	44	P	P	17 36 51.2	-0.1
	1.0nm,0.8s,baz=245,slow=11,SNR=4.1						
FINES	FINESS Array B	25.16	341	P	P	17 37 05.8	-0.1
	1.5nm,0.8s,baz=145,slow=7.0,SNR=4.9						
KURBB	Kurchatov Arra	27.57	53	P	P	17 37 28.0	+0.3
	0.6nm,0.2s,baz=264,slow=9.2,SNR=4.0						
HFS	Hagfors	28.41	329	P	P	17 37 37.1	+2.0
	3.0nm,0.8s,baz=100,slow=6.0,SNR=2.9						
MKAR	Makanchi Array	29.59	61	P	P	17 37 46.6	+0.8
	0.5nm,0.7s,baz=248,slow=7.6,SNR=3.1						
NOA	NORSAR Array B	29.93	329	P	P	17 37 50.6	+1.9
	0.3nm,0.6s,baz=112,slow=10,SNR=2.4						
ZALV	Zalesovo Beam	32.03	48	P	P	17 38 06.7	-0.5
	0.3nm,0.4s,baz=268,slow=8.4,SNR=2.5						
ARCES	ARCESS Array B	32.36	348	P	P	17 38 09.9	-0.1
	3.2nm,0.9s,baz=331,slow=1.5,SNR=4.0						
GTA	Gaotai	43.35	70	*e*P	P	17 39 42.8	-0.4
GTA				pP	sP	17 39 47.4	+2.9
GTA				sP	pP	17 39 49.9	+5.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TORD	Torodi Ar. Bea	44.62	247	P	P	17 39 57.9	+4.4
	comp=Z,0.4nm,0.8s,baz=62,slow=6.7,SNR=2.4						
SONM	Songino Array	45.76	57	P	P	17 40 02.9	+0.5
	comp=Z,0.2nm,0.5s,baz=336,slow=6.3,SNR=2.8						
CMAR	Chiang Mai Arr	52.11	96	P	P	17 40 50.9	-0.4
	comp=Z,1.1nm,0.7s,baz=296,slow=8.6,SNR=11						
KSRS	Korea Array	64.27	62	P	P	17 42 15.4	-0.8
	comp=Z,1.2nm,0.8s,baz=289,slow=7.7,SNR=4.7						

MAN 23 17:32:01, 9°.77N×125°.70E, h9km, mb4.2, ML3.0, MS2.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.21	274	⇑*i*P	Pg	17 32 07.0	+1.7
SCPH				*i* S	Sg	17 32 12.1	+3.9
MSLP	Maasin	0.91	294	*e*P	Pb	17 32 18.8	-0.2
MSLP				*e*S	Sn	17 32 33.0	-0.2
PLP	Palo	1.56	333	⇓*e*P	Pn	17 32 28.0	-1.0
PLP				*e*S	Sn	17 32 46.2	-3.2
OCLP	Ormoc	1.67	320	*e*P	Pn	17 32 31.1	+0.6
BIPH	Bislig	1.70	157	⇑*i*P	Pb	17 32 31.9	-0.6
BIPH				*i* S	Sn	17 32 51.3	-1.5
LLP	Lapu-Lapu	1.80	288	⇓*e*P	Pb	17 32 33.4	-0.7
LLP				*e*S	Sn	17 32 55.5	+0.4
BESP	Borongan	1.84	352	*e*P	Pn	17 32 32.4	-0.4
BESP				*e*S	Sb	17 32 57.9	-0.2
BUKP	Musuan	1.98	199	*e*P	Pn	17 32 33.0	-1.8
BUKP				*e*S	Sn	17 33 00.0	+0.3
CNP	Catarman	2.91	340	*e*P	Pn	17 32 48.7	+1.2
CNP				*e*S	Sb	17 33 26.7	-2.2
PVCP	Virac	4.10	338	*e*P	Pn	17 33 07.0	+3.2

CSEM 23 17:32:56.8±0.3, 38°.69N×43°.31E, h2km, ML3.1, Error ellipse: s-maj=8.5km s-min=5.6km az=83.0
DDA 23 17:32:56.9, 38°.70N×43°.30E, h7km, Ml3.1
ISK 23 17:32:57.4, 38°.77N×43°.36E, h15km, ML3.7
ISC 23 17:32:56.9±1.3, 38°.70N±0°.02×43°.24E±0°.04, h1km±11km, n26, σ1°.24/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.39	42	*i* P	Pg	17 33 04.8	+0.5
VMUR				*i* S	Sb	17 33 13.1	-0.2
VMUR	Van-Muradiye	0.39	42	P	Pg	17 33 04.8	+0.5
GEVA	Gevas	0.41	200	*i* P	Pg	17 33 04.1	-0.8
GEVA				*i* S	Sb	17 33 12.5	-1.4
GEVA	Gevas	0.41	200	P	Pg	17 33 04.1	-0.8
GEVA				S	Sb	17 33 12.5	-1.4
AGRB	Hanur-Agry	0.89	348	*e*PG	Pg	17 33 14.2	+0.2
AGRB				*e*SG	Sb	17 33 27.1	-0.6
AGRB	Hanur-Agry	0.89	348	*e*Pg	Pg	17 33 14.2	+0.2
EKAR	Karacoban	1.07	302	*i* P	Pn	17 33 19.4	+0.2
EKAR	Karacoban	1.07	302	P	Pn	17 33 19.4	+0.2
HAKT	HAKKARI	1.20	162	*i* P	Pb	17 33 18.9	-1.7
HAKT				*i* S	Sn	17 33 41.7	+3.6
HAKT	HAKKARI	1.20	162	P	Pb	17 33 18.9	-1.7
EATA	Eleskirt	1.29	334	*i* P	Pn	17 33 21.5	-0.9
EATA				*i* S	Sn	17 33 40.3	-0.2
EATA	Eleskirt	1.29	334	P	Pn	17 33 21.5	-0.9
EATA				S	Sn	17 33 40.3	-0.2
VRTB	Varto-Mus	1.46	289	*e*PN	Pb	17 33 24.8	-0.1
VRTB				*e*SN	Sg	17 33 45.0	+1.2
VRTB	Varto-Mus	1.46	289	*e*Pn	Pb	17 33 24.8	-0.1
VRTB				*e*Sn	Sg	17 33 45.0	+1.2
CUKT	Cukurca	1.48	168	*e*PN	Pg	17 33 25.3	0.0
CUKT	Cukurca	1.48	168	*e*Pn	Pg	17 33 25.3	0.0
SVAN	Silvan-Diyarba	1.69	252	*e*PN	Pb	17 33 28.2	-0.6
SVAN				*e*SN	Sg	17 33 52.6	+1.3
SVAN	Silvan-Diyarba	1.69	252	*e*Pn	Pb	17 33 28.2	-0.6
SVAN				*e*Sn	Sg	17 33 52.6	+1.3
BNGB	Bing¨¶l	2.02	279	*e*PN	Pb	17 33 32.9	-1.6
BINT	Bingol	2.15	275	*e*Pn	Pn	17 33 32.9	-1.1
YEDI	Yedisu-Bingol	2.22	290	*e*PN	Pb	17 33 36.0	-1.9
YEDI	Yedisu-Bingol	2.22	290	*e*Pn	Pb	17 33 36.0	-1.9
MAZI	Mazidag	2.53	241	*e*PN	Pn	17 33 40.4	+1.2
MAZI	Mazidag	2.53	241	*e*Pn	Pn	17 33 40.4	+1.2
SVRC	Sivrice-ELAZID	3.10	265	*e*PN	Pn	17 33 48.4	+1.4
SVRC	Sivrice-ELAZID	3.10	265	*e*Pn	Pn	17 33 48.4	+1.4

IDC 23 17:38:35.0±1.9, 24°.76N×121°.73E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/41, mbtmp3.8/5, Error ellipse: s-maj=150.8km s-min=20.1km az=63.0
JMA 23 17:38:44.4±0.1, 24°.91N×121°.76E, h99km±2km, M3.2
ISCJB 23 17:38:45.8±0.4, 24°.94N±0°.03×121°.85E±0°.02, h100km±2km, mb3.6/5, Error ellipse: s-maj=4.5km s-min=2.7km az=159.3
TAP 23 17:38:47.1, 24°.89N×121°.82E, h90km, ML4.1, B
ISC 23 17:38:46.4±0.8, 24°.91N±0°.04×121°.86E±0°.03, h95km±5km, n71, σ0°.89/118, mb3.7/5, 9C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.10	132	⇓*i*P	Pn	17 39 00.3	+0.6
	baz=99						
EGS				S	Sn	17 39 10.1	+0.4
	baz=99						
TWB1	Santiao Chiao	0.16	51	⇓*i*P	Pn	17 39 00.5	+0.6
	baz=54						
TWB1				*i* S	Sn	17 39 09.8	-0.1
	baz=54						
ILA	Ilan	0.17	214	P	Pn	17 39 00.5	+0.6
	baz=209						
ILA				S	Sn	17 39 10.9	+1.0
	baz=209						
NWF	Wu-fen Shan	0.17	337	⇓*i*P	Pn	17 39 00.4	+0.3
	baz=348						
NWF				S	Sn	17 39 09.3	-0.9
	baz=348						
TWA	Mucha	0.26	286	⇓*i*P	Pn	17 39 00.7	+0.4
	baz=294						
TWA				*i* S	Sn	17 39 10.7	+0.1
	baz=294						
TWC	Suao	0.30	181	*e*P	Pn	17 39 01.2	+0.8
	baz=169						
TWC				*e*S	Sn	17 39 12.7	+1.8
	baz=169						
TAP1	Taipei	0.33	293	⇓*i*P	Pn	17 39 00.8	+0.3
	baz=302						
TAP1				*i* S	Sn	17 39 10.9	-0.2
	baz=302						
TAP	Taipei	0.34	292	⇓*i*P	Pn	17 39 00.9	+0.3
	baz=302						
TAP				*i* S	Sn	17 39 11.0	-0.2
	baz=302						
ENTT	Nioudou	0.38	224	⇓*i*P	Pn	17 39 01.6	+0.7
	baz=233						
ENTT				*i* S	Sn	17 39 11.7	0.0
	baz=233						
TWY	Chenhua	0.43	328	⇓*i*P	Pn	17 39 01.6	+0.4
	baz=333						
TWY				*i* S	Sn	17 39 12.5	+0.3
	baz=333						
TWS1	Kuangyinshan	0.44	296	⇓*i*P	Pn	17 39 01.9	+0.6
	baz=289						
TWS1				*i* S	Sn	17 39 12.7	+0.4
	baz=289						
ENA	Nanau	0.49	192	*e*P	Pn	17 39 02.2	+0.5
	baz=189						
ENA				*e*S	Sn	17 39 15.6	+2.7
	baz=189						
NSK	Sanguang	0.51	243	⇓*i*P	Pn	17 39 02.0	+0.2
	baz=235						
NSK				S	Sn	17 39 12.4	-0.9
	baz=235						
NCU	National Centr	0.61	276	⇓*i*P	Pn	17 39 03.1	+0.5
	baz=278						
NCU				*i* S	Sn	17 39 15.0	+0.3
	baz=278						
NNS	Nan Shan	0.64	223	⇑P	Pn	17 39 03.5	+0.5
	baz=228						
NNS				*e*S	Sn	17 39 15.8	+0.4
	baz=228						
PCYT	Pengchaiyu	0.74	15	⇓*i*P	Pn	17 39 04.7	+0.9
	baz=10.0						
PCYT				S	Sn	17 39 17.6	+0.8
	baz=10.0						
HSN	Hsinchu	0.81	263	*e*P	Pn	17 39 04.2	-0.2
	baz=266						
HSN				S	Sn	17 39 17.2	-0.8
	baz=266						
NSTT	Nanjuang	0.82	251	⇑P	Pn	17 39 04.9	+0.3
	baz=245						
NSTT				S	Sn	17 39 17.7	-0.5
	baz=245						
TWD	Chiawan	0.86	196	⇓P	Pn	17 39 04.7	-0.3
	baz=205						
TWD				*e*S	Sn	17 39 18.5	-0.3
	baz=205						
TWT	Tachien	0.90	224	⇑P	Pn	17 39 06.6	+1.0
	baz=233						
TWT				*e*S	Sn	17 39 20.4	+0.5
	baz=233						
WHF	Hehuan Shan	0.93	215	*e*P	Pn	17 39 06.5	+0.2
	baz=210						
WHF				*e*S	Sn	17 39 22.4	+1.4
	baz=210						
HWA	Hwalien	0.96	194	*e*P	Pn	17 39 06.0	0.0
	baz=202						
JYNG	Yonagunijimaku	1.09	114	P	Pn	17 39 07.1	-0.4
JYNG				*e*S	Sn	17 39 23.5	+0.1
NSY	Sanyi	1.11	244	*e*P	Pn	17 39 08.1	+0.4
	baz=245						
NSY				S	Sn	17 39 23.7	-0.1
	baz=245						
TWQ1	Liyutan	1.13	241	⇓P	Pn	17 39 08.4	+0.4
	baz=249						
TWQ1				S	Sn	17 39 23.9	-0.3
	baz=249						
YOJ	Yonaguni jima	1.14	113	⇓*e*P	Pn	17 39 07.7	-0.4
	baz=112						
YOJ				*e*S	Sn	17 39 22.9	-1.5
	baz=112						
YOJ	Yonaguni jima	1.14	113	P	Pn	17 39 07.7	-0.4
YOJ				*e*S	Sn	17 39 24.2	-0.2
ESL	Shilin	1.16	200	*e*P	Pn	17 39 07.1	-1.2
	baz=193						
TCU	Taichung	1.31	235	*e*P	Pn	17 39 10.9	+0.8
	baz=242						
SMLT	Sun Moon Lake	1.34	221	⇑*i*P	Pn	17 39 11.4	+0.8
	baz=222						
SMLT				S	Sn	17 39 29.9	+1.0
	baz=222						
TYC	Yuchr	1.35	222	⇑P	Pn	17 39 11.4	+0.8
	baz=224						
TYC				*e*S	Sn	17 39 29.1	+0.2
	baz=224						
EHY	Hungye	1.48	199	*e*P	Pn	17 39 11.2	-1.0
	baz=192						
WNT	Mingjian	1.48	226	⇑P	Pn	17 39 12.9	+0.7
	baz=228						
WNT				S	Sn	17 39 32.3	+0.6
	baz=228						
TWF1	Yuli	1.63	198	*e*P	Pn	17 39 13.6	-0.5
	baz=198						
YUS	Yu-Shan	1.64	210	*e*P	Pn	17 39 16.2	+1.6
	baz=223						
YUS				*e*S	Sn	17 39 38.1	+2.2
	baz=223						
ALS	Alishan	1.69	215	*e*P	Pn	17 39 16.4	+1.3
	baz=225						
ALS				*e*S	Sn	17 39 38.8	+1.9
	baz=225						
CHN5	Tsauling	1.69	220	⇑*i*P	Pn	17 39 15.8	+0.8
	baz=222						
CHN5				*e*S	Sn	17 39 37.3	+0.7
	baz=222						
WGK	Gukeng	1.69	224	P	Pn	17 39 15.7	+0.8
	baz=226						
WGK				S	Sn	17 39 37.8	+1.2
	baz=226						
WTCT	Ta-ch'eng	1.77	234	*e*P	Pn	17 39 16.1	+0.2
	baz=235						
IRIF	Iriomote-Funau	1.80	108	P	Pn	17 39 15.8	-0.4
IRIF				*e*S	Sn	17 39 38.9	0.0
CHKT	Chengkung	1.86	194	*e*P	Pn	17 39 17.1	+0.1
	baz=184						
CHN2	Minshiung	1.86	223	*e*P	Pn	17 39 17.6	+0.5
	baz=224						
ELDTW	Lidau	1.88	204	*e*P	Pn	17 39 18.0	+0.6
	baz=200						
CHY	Chiayi	1.92	223	P	Pn	17 39 18.5	+0.7
	baz=234						
CHY				*e*S	Sn	17 39 42.9	+1.3
	baz=234						
CHN4	Tsaushan	1.93	217	⇓P	Pn	17 39 19.0	+1.0
	baz=218						
WSF	Szhu	1.96	230	*e*P	Pn	17 39 19.0	+0.7
	baz=231						
HATJ	Hateruma jima	1.97	115	P	Pn	17 39 18.6	+0.2
HATJ				*e*S	Sn	17 39 43.5	+0.7
STYT	Tauyuan	2.01	210	*e*P	Pn	17 39 20.1	+1.1
	baz=221						
WTP	Ta-pu	2.01	215	⇑P	Pn	17 39 19.6	+0.6
	baz=216						
WTP				*e*S	Sn	17 39 45.9	+2.1
	baz=216						
TWK	Hsinying	2.06	218	⇑P	Pn	17 39 19.8	+0.2
	baz=220						
TWK				*e*S	Sn	17 39 45.6	+0.7
	baz=220						
JKRS	Kuro-shima	2.07	108	P	Pn	17 39 20.0	+0.2
JKRS				*e*S	Sn	17 39 45.2	0.0
CHN1	Nanshi	2.10	216	P	Pn	17 39 20.9	+0.7
	baz=219						
CHN1				S	Sn	17 39 46.1	+0.1
	baz=219						
JIJ	Ishigaki jima	2.15	104	P	Pn	17 39 20.7	-0.1
JIJ				*e*S	Sn	17 39 46.7	-0.4
SGST	Jiashian	2.16	213	*e*P	Pn	17 39 21.5	+0.6
	baz=223						
CHN8	Yiju	2.16	224	*e*P	Pn	17 39 20.9	-0.1
	baz=226						
TWG	Pinlang	2.20	199	*e*P	Pn	17 39 21.1	-0.4
	baz=185						
TWG				*e*S	Sn	17 39 46.7	-1.5
	baz=185						
JISG	Ishigakijimahi	2.26	98	P	Pn	17 39 22.7	+0.5
JISG				S	Sn	17 39 50.9	+1.4
SSD	Sandimen	2.43	208	*e*P	Pn	17 39 25.8	+1.3
	baz=218						
ECL	Taimali	2.44	200	*e*P	Pn	17 39 23.9	-0.8
	baz=193						
PNG	Penghu	2.49	238	*e*P	Pn	17 39 24.7	-0.6
	baz=238						
JTJ	Tarama	2.60	95	P	Pn	17 39 27.9	+1.2
JTJ				*e*S	Sn	17 39 59.1	+1.4
EAST	Anshuo	2.68	200	*e*P	Pn	17 39 29.5	+1.7
	baz=186						
EAST				*e*S	Sn	17 40 01.1	+1.5
	baz=186						
SCZT	Fangliau	2.77	204	*e*P	Pn	17 39 30.0	+1.0
	baz=209						
SCZT				*e*S	Sn	17 40 02.1	+0.4
	baz=209						
LAY	Lan-yu	2.87	186	*e*P	Pn	17 39 29.6	-0.8
	baz=180						
JIRB	Irabujima	3.02	91	P	Pn	17 39 33.3	+1.0
JIRB				S	Sn	17 40 09.6	+2.0
JOGS	Gusukube	3.23	92	*e*S	Sn	17 40 14.7	+1.9
SONM	Songino Array	25.95	336	P	P	17 44 10.6	+0.5
	0.6nm,0.9s,baz=152,slow=9.4,SNR=3.9						
MKAR	Makanchi Array	38.25	315	P	P	17 45 57.0	-0.4
	0.6nm,0.6s,baz=102,slow=9.1,SNR=5.7						
KURBB	Kurchatov Arra	41.95	319	P	P	17 46 27.2	-0.6
	1.1nm,0.3s,baz=101,slow=9.5,SNR=2.3						
WRA	Warramunga Arr	46.21	164	P	P	17 47 00.7	-1.4
	1.4nm,0.7s,baz=347,slow=8.6,SNR=6.0						
ASAR	Alice Springs	49.68	165	P	P	17 47 28.1	-0.7
	0.6nm,0.7s,baz=349,slow=7.5,SNR=8.5						

IDC 23 17:45:23.8±2.7, 7°.84S×107°.72E, h39km±22km, mb4.1/22, mb1 4.2/22, mb1mx4.1/33, mbtmp4.3/22, MS3.2/4, Ms1 3.3/4, ms1mx3.1/39, Error ellipse: s-maj=19.5km s-min=11.4km az=66.0
DJA 23 17:45:24.7±0.5, 8°.5±3°.3×10°.8E±°.1, h21km±3km, M4.7/19, mb5.0/19, mB5.1/13, MLv4.9/19, Mw(mB)4.5/13
ISCJB 23 17:45:25.5±0.5, 8°.01S±0°.06×107°.73E±0°.03, h71km±3km, mb4.4/36, Error ellipse: s-maj=10.7km s-min=3.6km az=20.8
NEIC 23 17:45:26.5±0.6, 7°.87S×107°.78E, h66km±5km, mb4.6/10, Error ellipse: s-maj=9.5km s-min=5.1km az=220.0
ISC 23 17:45:24.3±0.9, 8°.19S±0°.06×107°.61E±0°.04, h49km±7km, n215, σ1°.93/224, mb4.4/36, MS3.3/8, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.67	18	P	Pn	17 45 36.8	-0.9
CISI				S	Sn	17 45 46.3	-1.0
CISI	Cisompet, Garu	0.67	18	*e*Pn	Pn	17 45 37.3	-0.4
CMJI	Cimerak	0.93	64	P	Pn	17 45 40.1	-0.9
CMJI				S	Sn	17 45 52.1	-1.2
CNJI	Cibinong	1.00	332	P	Pn	17 45 41.6	-0.4
CNJI				S	Sn	17 45 54.9	-0.1
SKJI	Sukabumi	1.57	318	P	Pn	17 45 50.4	+0.5
SKJI				S	Sn	17 46 10.2	+1.1
DBJI	Dramaga	1.84	332	P	Pn	17 45 55.2	+1.7
DBJI				S	Sn	17 46 19.2	+3.6
TNG	Tangerang	2.22	335	P	Pn	17 46 01.2	+2.4
CGJI	Cibinong	2.46	309	P	Pn	17 46 02.7	+0.7
CGJI				S	Sn	17 46 29.5	-1.4
SBJI	Serang	2.53	324	P	Pn	17 46 05.0	+2.1
SBJI				S	Sn	17 46 36.7	+4.2
UGM	Wanagama	2.90	85	P	Pn	17 46 07.8	-0.3
UGM				S	Sn	17 46 41.3	-0.5
UGM	Wanagama	2.90	85	*e*Pn	Pn	17 46 07.8	-0.3
XMIS	Christmas Isla	2.98	220	*e*Pn	Pn	17 46 08.0	-1.2
SMRI	Semarang	3.03	68	P	Pn	17 46 11.7	+1.9
SMRI				S	Sn	17 46 43.9	-1.0
SMRI	Semarang	3.03	68	*e*Pn	Pn	17 46 09.3	-0.5
BLSI	Bandar Lampung	3.66	320	P	Pn	17 46 22.0	+3.5
UWJI	Ujung Watu	3.75	62	P	Pn	17 46 20.8	+1.1
KASI	Kota Agung	4.07	310	P	Pn	17 46 27.1	+3.0
KASI				S	Sn	17 47 14.3	+3.8
KLSI		4.50	320	P	Pn	17 46 33.9	+3.8
LWLI	Liwa	4.73	312	P	Pn	17 46 36.8	+3.5
MDSI	Maura Dua	5.02	317	P	Pn	17 46 40.5	+3.4
	63nm,1.4s,866nm0.3nm						
LHSI	Lahat	5.94	317	P	Pn	17 46 53.1	+3.3
	110nm,0.8s,2μm0.5nm						
MNAI	Manna	5.99	309	P	Pn	17 46 54.8	+4.3
	233nm,1.2s,1.1nm						
MNAI	Manna	5.99	309	*e*Pn	Pn	17 46 51.9	+1.5
KMMI	Kalianget	6.41	80	P	Pn	17 46 56.2	0.0
JAGI	Jajag, Banyuwa	6.48	93	P	Pn	17 47 00.1	+2.9
	153nm,0.8s,2μm1.0nm						
JAGI	Jajag, Banyuwa	6.48	93	*e*Pn	Pn	17 46 57.4	+0.2
PBKI	Pangkalan Bun	6.79	37	P	Pn	17 47 03.3	+1.9
	182nm,1.2s,1μm0.6nm						
IGBI	Denpasar	7.48	95	P	Pn	17 47 14.2	+3.3
	242nm,0.7s,3μm0.8nm						
SRBI	Singaraja	7.53	90	P	Pn	17 47 16.8	+5.2
TWSI	Taliwang, Sumb	9.19	94	P	Pn	17 47 37.7	+3.3
	37nm,0.7s,1μm						
PPSI	Pulau Pagai	9.29	305	P	Pn	17 47 35.8	+0.1
	95nm,0.8s						
TPRI	Tanjung Pinang	9.56	341	P	Pn	17 47 42.9	+3.5
	22nm,0.9s						
KSM	Kuching	9.97	16	*e*Pn	Pn	17 47 43.1	-1.9
PLAI	Plampang	10.08	94	P	Pn	17 47 47.3	+0.8
	71nm,0.8s,688nm						
SISI	Saibi	10.89	308	P	Pn	17 47 59.5	+1.9
	37nm,0.8s						
TTSI	Tana Toraja	13.18	68	P	P	17 48 37.4	-0.3
EDFI	Ende, Flores	13.94	93	P	Pn	17 48 38.1	-1.3
	21nm,1.2s						
PCI	Palu	14.17	60	P	P	17 48 50.1	+1.4
MMRI	Maumere	14.48	93	P	Pn	17 48 47.7	+1.2
	44nm,0.8s						
MPSI	Mapaga	14.90	56	P	P	17 48 54.7	-2.0
	19nm,1.0s,222nm						
APSI	Ampana	15.75	63	P	P	17 49 05.6	-0.6
	66nm,0.8s,562nm						
SOEI	Soe	16.53	97	P	Pn	17 49 12.0	-1.1
	76nm,1.0s,1μm						
SOEI	Soe	16.53	97	*e*Pn	Pn	17 49 11.1	-2.0
	62nm,0.9s						
MRSI	Marisa	16.68	60	P	P	17 49 17.5	+0.9
	48nm,0.7s,389nm						
LHMI	Lhok Sumawe	17.05	321	P

CD2	Chengdu	39.05	355	eP	P	17 52 47.4	+0.7
STKA	Stephens Creek	39.40	131	P	P	17 52 51.3	+1.7
	comp=Z,9.7nm,0.5s,baz=311,slow=7.6,SNR=42						
STKA				LR	LR	18 09 52.4	
	comp=Z,48nm,21.7s,baz=318,slow=37						
STKA	Stephens Creek	39.40	131	eP	P	17 52 51.2	+1.7
	comp=Z,2.1nm,0.5s						
ODAN	Odare	39.98	331	eP	P	17 52 54.5	-0.2
	comp=Z,8.8nm,0.6s						
RAMN	Ramite	40.44	330	eP	P	17 52 59.0	+0.5
	comp=Z,5.9nm,0.5s						
JIRN	Jiri	41.23	331	eP	P	17 53 04.7	-0.5
	comp=Z,42nm,0.8s						
NJ2	Nanjing	41.44	14	eP	P	17 53 04.5	-1.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DMN	Daman	41.73	329	eP	P	17 53 08.9	-0.2
XAN	Xi'an	42.02	2	P	P	17 53 11.3	+0.2
XAN				S	S	17 59 10.9	-16
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,44nm,4.1s						
XAN				LR	LR		
	comp=N,79nm,21.9s						
XAN				LR	LR		
	comp=E,72nm,22.3s						
XAN				LR	LR		
	comp=Z,110nm,24.7s						
KOLN	Koldanda	42.63	328	eP	P	17 53 15.7	-0.7
	comp=Z,9.5nm,0.6s						
PYUN	Piuthan	43.22	327	eP	P	17 53 20.4	-0.8
LZH	Lanzhou	44.19	356	eP	P	17 53 31.4	+2.7
LZH				pP	sP	17 53 43.9	-3.7
LZH				sP	pP	17 53 48.0	+6.1
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
GTA	Gaotai	47.91	352	eP	P	17 53 58.6	+0.6
GTA				pP	pP	17 54 09.9	-1.3
GTA				sP	sP	17 54 15.1	-1.8
GTA				PcP	PcP	17 55 25.3	-0.5
GTA				PcS	PcS	17 59 19.3	-2.3
GTA				S	S	18 00 52.3	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,86nm,5.5s						
GTA				LR	LR		
	comp=N,79nm,17.1s						
GTA				LR	LR		
	comp=E,110nm,19.0s						
GTA				LR	LR		
	comp=Z,150nm,17.6s						
HHC	Hu-ho-hao-te	48.93	4	eP	P	17 54 11.8	+6.0
HHC				pP	pP	17 54 17.6	-1.5
HHC				sP	sP	17 54 22.6	-2.2
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,59nm,4.7s						
KSAR	Wonju Array Be	49.20	21	P	P	17 54 06.7	-1.1
KSRS	Korea Array	49.23	21	P	P	17 54 06.7	-1.3
	comp=Z,1.1nm,0.9s,baz=212,slow=7.2,SNR=7.5						
KSRS				LR	LR	18 16 06.1	
	comp=Z,24nm,20.9s,baz=64,slow=38						
MJAR	Matsushiro Arr	52.97	31	P	P	17 54 32.9	-3.2
	comp=Z,1.2nm,1.0s,baz=269,slow=8.4,SNR=3.7						
WMQ	Urumqi	54.83	342	P	P	17 54 50.8	+1.2
WMQ				pP	pP	17 55 02.1	-1.0
WMQ				sP	sP	17 55 08.9	+0.2
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,46nm,5.1s						
WMQ				LR	LR		
	comp=N,79nm,36.1s						
WMQ				LR	LR		
	comp=E,52nm,28.1s						
WMQ				LR	LR		
	comp=Z,81nm,32.1s						
KSH	Kashi	55.79	331	P	P	17 54 54.3	-2.4
KSH				pP	pP	17 55 07.4	-2.8
KSH				sP	sP	17 55 11.9	-3.9
KSH				PcP	PcP	17 55 52.8	-2.5
KSH				PP	PP	17 57 01.6	-0.1
KSH				PcS	PcS	17 59 48.3	-7.4
KSH				S	S	18 02 31.3	-9.0
KSH				ScS	ScS	18 04 31.5	-10
KSH	Kashi	55.79	331	SS	SKiKP	18 06 16.9	+22
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,87nm,7.0s						
KSH				LR	LR		
	comp=N,58nm,5.5s						
KSH				LR	LR		
	comp=E,81nm,5.0s						
KSH				LR	LR		
	comp=Z,110nm,5.6s						
SONM	Songino Array	55.79	359	P	P	17 54 55.5	-1.1
	comp=Z,1.3nm,0.6s,baz=176,slow=7.9,SNR=15						
SONM				PcP	PcP	17 55 55.1	-0.1
	comp=Z,3.0nm,0.8s,baz=170,slow=4.0,SNR=12						
SONM				ScP	ScP	17 59 49.9	-0.4
	comp=Z,0.3nm,0.7s,baz=208,slow=2.8,SNR=3.1						
ULN	Ulaanbaatar	55.81	360	eP	P	17 54 55.4	-1.4
	comp=Z,2.2nm,0.7s						
USRK	Ussuriysk Ar.	56.62	21	P	P	17 55 00.3	-2.0
	comp=Z,1.9nm,0.5s,baz=193,slow=6.5,SNR=6.7						
MK31	Makanchi Array	59.21	340	eP	P	17 55 18.2	-2.2
MKAR	Makanchi Array	59.21	340	P	P	17 55 18.8	-1.6
	comp=Z,5.0nm,0.5s,baz=147,slow=7.3,SNR=59						
MKAR	Makanchi Array	59.21	340	eP	P	17 55 19.0	-1.5
	comp=Z,34nm,0.6s						
ASAJ	Asahikawa	60.93	28	P	P	17 55 30.3	-2.0
	comp=Z,7.9nm,1.0s,baz=270,slow=3.7						
KLR	Kul'dur	60.97	18	P	P	17 55 29.6	-2.8
	comp=Z,0.2nm,0.5s,baz=223,slow=6.2,SNR=7.4						
KKAR	Karatay Array	61.19	330	eP	P	17 55 32.4	-1.7
	comp=Z,21nm,0.7s						
KURK	Kurchatov	63.82	340	eP	P	17 55 49.7	-1.7
	comp=Z,13nm,1.6s						
ZALV	Zalesovo Beam	64.83	345	P	P	17 55 56.3	-1.7
	comp=Z,0.9nm,0.5s,baz=168,slow=6.1,SNR=6.7						
ZALV				PcP	PcP	17 56 30.0	-1.1
	comp=Z,1.0nm,0.5s,baz=159,slow=4.5,SNR=3.9						
GEYT	Alibeck	65.05	318	P	P	17 55 59.6	-0.2
	comp=Z,10nm,0.7s,baz=141,slow=5.7,SNR=28						
MAW	Mawson	66.41	197	P	P	17 56 11.0	+3.0
	comp=Z,4.0nm,0.8s,baz=38,slow=4.7,SNR=13						
MAW	Mawson	66.41	197	eP	P	17 56 09.9	+1.9
	comp=Z,1.2nm,1.0s						
BRVK	Borovoye	68.76	337	eP	P	17 56 21.8	-1.3
	comp=Z,8.3nm,0.7s						
ABKAR	Akbulak array	70.74	329	eP	P	17 56 34.8	-0.5
	comp=Z,290nm,0.6s						
PETK	Petropavlovsk-	74.34	29	P	P	17 56 54.8	-1.9
	comp=Z,2.2nm,0.7s,baz=226,slow=3.8,SNR=2.4						
SYO	Syowa Base	74.60	200	⇓eP	cP	17 57 12.0	-0.1
VNDA	Vanda	74.69	169	P	P	17 57 00.4	+2.0
	comp=Z,1.5nm,0.7s,baz=318,slow=5.5,SNR=13						
ARU	Arti	75.95	334	eP	P	17 57 05.3	-0.6
	comp=Z,7.4nm,0.7s						
KBZ	Khabaz	77.93	318	P	P	17 57 17.4	+0.1
	comp=Z,4.9nm,0.9s,baz=122,slow=4.6,SNR=13						
KIV	Kislovodsk	78.16	318	eP	P	17 57 18.8	+0.1
	comp=Z,9.9nm,1.2s						
CSS	Mathiatis	81.98	307	eP	P	17 57 39.8	+0.3
	comp=Z,2.7nm,0.8s						
BRTR	Keskin Array B	83.07	312	P	P	17 57 45.1	+0.1
	comp=Z,2.7nm,0.7s,baz=136,slow=7.6,SNR=16						
BR131	Keskin Array S	83.07	312	eP	P	17 57 45.2	+0.1
AKASG	Malin Array Be	89.00	321	P	P	17 58 13.3	-0.6
	comp=Z,0.3nm,0.2s,baz=84,slow=5.1,SNR=7.1						
BUR08	Bucovina Ar. S	90.91	318	eP	P	17 58 23.7	+0.6
FINES	FINESS Array B	93.10	332	P	P	17 58 32.5	-0.2
	comp=Z,1.4nm,0.7s,baz=77,slow=8.6,SNR=4.5						
ARCES	ARCESS Array B	94.86	340	P	P	17 58 39.8	-0.9
	comp=Z,3.2nm,1.0s,baz=94,slow=5.3,SNR=5.2						
S35A	Otter Creek Ra	143.52	33	P	PKPbc	18 04 51.4	-0.1
	baz=318						
R37A	Teagarden Farm	143.82	31	P	PKPab	18 04 51.9	+0.2
	baz=320						
S36A	Lake Cedric, C	143.88	32	P	PKPab	18 04 52.0	+0.1
	baz=319						
TXAR	Lajitas Array	143.88	50	PKP	PKPdf	18 04 54.2	-0.9
	comp=Z,0.5nm,0.6s,baz=263,slow=2.8,SNR=11						
P39B	Salisbury	143.89	27	P	PKPab	18 04 52.0	+0.2
	baz=324						
Q38A	Cooks Store, C	143.91	29	P	PKPab	18 04 51.9	0.0
	baz=323						
T35A	Sooner Cattle	143.98	34	P	PKPbc	18 04 52.8	0.0
	baz=317						
Q39A	Willow Grove F	144.14	28	P	PKPab	18 04 52.7	-0.1
	baz=324						
WMOK	Wichita Mounta	144.16	39	P	PKPbc	18 04 53.6	+0.1
	baz=312,SNR=17						
P40A	Paris	144.17	26	P	PKPbc	18 04 53.2	-0.1
	baz=325						
O41A	Passleys Farm,	144.18	25	P	PKPab	18 04 52.6	-0.3
	baz=328						
T36A	Boggs Farm, Ca	144.22	33	P	PKPab	18 04 53.1	0.0
	baz=318						
S37A	Fort Scott	144.25	31	P	PKPab	18 04 52.9	-0.4
	baz=320						
R38A	Fenwick Farm,	144.38	30	P	PKPab	18 04 52.9	-0.8
	baz=322						
P41A	Barry, Barry	144.47	25	P	PKPab	18 04 53.8	-0.2
	baz=327						
Q40A	Laux Farm, Aux	144.59	27	P	PKPab	18 04 54.3	-0.2
	baz=325,SNR=7.9						
R39A	Chumby, Stover	144.70	29	P	PKPab	18 04 54.4	-0.5
	baz=323,SNR=8.7						
U36A	Oologah	144.79	34	P	PKPab	18 04 55.3	0.0
	baz=317,SNR=5.4						
N45A	Kentland	144.81	20	P	PKPab	18 04 55.1	-0.1
	baz=333						
S38A	Stockton	144.81	30	P	PKPab	18 04 54.6	-0.8
	baz=321,SNR=12						
P42A	Winchester	144.84	24	P	PKPab	18 04 54.9	-0.4
	baz=328						
ABTX	Abilene, Hawle	144.95	42	P	PKPbc	18 04 56.3	+0.3
	baz=308						
Q41A	Truxton	145.00	26	P	PKPbc	18 04 55.6	-0.3
	baz=326,SNR=5.4						
N46A	Monticello	145.02	19	P	PKPbc	18 04 55.7	-0.3
	baz=335,SNR=6.1						
W35A	Tecumseh	145.02	36	P	PKPbc	18 04 56.1	-0.1
	baz=314,SNR=5.7						
S39A	Bolivar	145.05	30	P	PKPbc	18 04 55.6	-0.6
	baz=322,SNR=7.5						
T38A	Diamond	145.07	31	P	PKPbc	18 04 56.0	-0.3
	baz=320,SNR=22						
R40A	Maddies Statio	145.08	28	P	PKPbc	18 04 56.0	-0.3
	baz=324,SNR=34						
TUL1	Leonard	145.10	34	P	PKPab	18 04 56.5	0.0
	baz=317,SNR=6.9						
V36A	Jenks	145.11	35	P	PKPab	18 04 56.6	+0.1
	baz=316,SNR=12						
U37A	Salina	145.11	33	P	PKPbc	18 04 56.4	-0.1
	baz=318,SNR=9.0						
P43A	Skaggs, Pawnee	145.13	23	P	PKPbc	18 04 55.9	-0.5
	baz=329						
O45A	Potomac	145.27	21	P	PKPbc	18 04 56.7	-0.1
	baz=333						
Q42A	Golden Eagle	145.34	25	P	PKPbc	18 04 56.7	-0.4
	baz=327						
SFIN	Lafayette	145.37	20	P	PKPbc	18 04 57.0	-0.1
	baz=334,SNR=7.3						
W36A	Wetumka	145.41	36	P	PKPdf	18 04 57.5	0.0
	baz=315,SNR=5.5						
R41A	Rosebud	145.48	27	P	PKPdf	18 04 57.3	-0.2
	baz=326,SNR=21						
U38A	Gravette	145.48	32	P	PKPdf	18 04 57.2	-0.4
	baz=319,SNR=15						
V37A	Hulbert	145.49	34	P	PKPdf	18 04 57.6	0.0
	baz=318,SNR=13						
X35A	Drake	145.49	37	P	PKPbc	18 04 57.7	0.0
	baz=314,SNR=12						
S40A	Lebanon	145.52	29	P	PKPdf	18 04 57.4	-0.2
	baz=323,SNR=27						
T39A	Clever	145.55	30	P	PKPdf	18 04 57.7	0.0
	baz=321,SNR=24						
P44A	Sand Creek, Wi	145.63	23	P	PKPbc	18 04 57.8	-0.1
	baz=331,SNR=7.2						
Q43A	New Douglas	145.66	24	P	PKPdf	18 04 57.6	-0.2
	baz=329						
X36A	Centrahoma	145.74	37	P	PKPbc	18 04 58.6	+0.2
	baz=315						
R42A	Luebbering	145.75	26	P	PKPbc	18 04 58.2	-0.2
	baz=326,SNR=15						
Y35A	Marietta	145.78	38	P	PKPbc	18 04 58.7	+0.1
	baz=313						
O47A	Sheridan	145.80	19	P	PKPbc	18 04 58.4	0.0
	baz=335						
W37B	Quinton	145.87	35	P	PKPbc	18 04 59.0	+0.1
	baz=317,SNR=6.8						
T40A	Mansfield	145.87	29	P	PKPdf	18 04 58.3	0.0
	baz=323,SNR=12						
S41A	Jillco Farms,	145.89	28	P	PKPbc	18 04 58.5	-0.3
	baz=324,SNR=39						
V38A	Canehill	145.90	33	P	PKPdf	18 04 58.5	+0.2
	baz=319,SNR=14						
Q44A	Meyer Farm, Va	145.96	24	P	PKPbc	18 04 58.7	-0.3
	baz=330						
U39A	Green Forest	145.99	31	P	PKPdf	18 04 58.7	+0.2
	baz=321,SNR=11						
JCT	Junction City	146.11	45	P	PKPab	18 05 00.4	0.0
	baz=306						
R43A	Red Bud	146.12	25	P	PKPbc	18 04 59.1	-0.4
	baz=328,SNR=12						
S42A	Caledonia	146.17	27	P	PKPbc	18 04 59.4	-0.3
	baz=326,SNR=22						
BDFB	Brasilia	146.18	226	PKPbc	PKPab	18 05 00.8	-0.4
	comp=Z,1.4nm,0.6s,baz=278,slow=15,SNR=3.3						
M54A	Oil Creek Stat	146.20	10	P	PKPbc	18 04 59.3	-0.4
	baz=347						
Y36A	Durant	146.24	37	P	PKPbc	18 05 00.2	+0.1
	baz=314,SNR=13						
X37A	Clayton	146.29	35	P	PKPbc	18 05 00.3	+0.1
	baz=316,SNR=5.8						
T41A	Mountain View	146.32	29	P	PKPbc	18 04 59.8	-0.4
	baz=324,SNR=9.6						
V39A	Pettigrew	146.32	32	P	PKPbc	18 04 59.8	-0.5
	baz=320,SNR=15						
U40A	Yellville	146.33	31	P	PKPbc	18 04 59.8	-0.4
	baz=322,SNR=18						
W38A	Poteau	146.43	34	P	PKPbc	18 05 00.6	+0.1
	baz=318,SNR=8.2						
P47A	Martinsville	146.45	20	P	PKPbc	18 05 00.0	-0.4
	baz=335						
R44A	Waltonville	146.50	24	P	PKPbc	18 05 00.5	-0.1
	baz=329,SNR=5.0						
X38A	Whitesboro	146.55	35	P	PKPbc	18 05 01.2	+0.3
	baz=317						
Z36A	Blue Ridge	146.58	38	P	PKPbc	18 05 01.4	+0.3
	baz=313						
S43A	Fulton Ridge,	146.65	26	P	PKPbc	18 05 01.0	-0.1
	baz=327						
N54A	Moraine State	146.68	10	P	PKPbc	18 05 01.4	+0.3
	baz=346						
W39A	Magazine	146.73	33	P	PKPbc	18 05 01.3	-0.1
	baz=319						
V40A	Witts Springs	146.78	31	P	PKPbc	18 05 01.2	-0.4
	baz=321,SNR=5.8						
U41A	Viola	146.80	30	P	PKPbc	18 05 01.4	-0.2
	baz=323,SNR=8.9						
X39A	Fountain Ranch	147.06	34	P	PKPbc	18 05 02.8	+0.4
	baz=318,SNR=11						
W40A	Ferguson Farm,	147.12	32	P	PKPbc	18 05 02.5	0.0
	baz=320,SNR=5.2						
U42A	Revenden	147.13	29	P	PKPbc	18 05 02.3	-0.2
	baz=324,SNR=16						
Z37A	Pogue Cattle C	147.13	38	P	PKPab	18 05 03.8	-0.4
	baz=314						
V41A	Mountainview	147.13	30	P	PKPbc	18 05 02.3	-0.3
	baz=322						
S45A	Carrier Mills	147.19	24	P	PKPbc	18 05 02.8	+0.1
	baz=329						
T44A	Benton	147.27	26	P	PKPbc	18 05 02.9	0.0
	baz=327						
N59A	State Game Lan	147.27	5	P	PKPbc	18 05 02.9	+0.1
	baz=354						
MIAR	Mount Ida	147.33	34	P	PKPbc	18 05 03.5	+0.4
	baz=319,SNR=13						
V42A	Cord	147.49	29	P	PKPbc	18 05 03.8	+0.3
	baz=323						
Y39A	Lockesburg	147.50	35	P	PKPbc	18 05 03.9	+0.3
	baz=317						
W41B	Gary Mavity, V	147.56	31	P	PKPbc	18 05 03.3	-0.4
	baz=321						
O56A	Blue Knob Stat	147.59	9	P	PKPbc	18 05 03.8	0.0
	baz=348						
X40A	Basin Creek Fa	147.78	33	P	PKPbc	18 05 05.0	+0.6
	baz=320						
138A	Matatall Enter	147.82	38	P	PKPbc	18 05 05.6	+1.1
	baz=314						
237A	Washetta, Mont	147.83	39	P	PKPbc	18 05 05.5	+0.9
	baz=313						
X41A	Kaden, Bauxite	147.94	32	P	PKPbc	18 05 05.3	+0.6
	baz=320						
Z39A	Irene McRaven,	147.95	36	P	PKPbc	18 05 05.4	+0.5
	baz=316						
933A	Laredo	148.08	49	P	PKPbc	18 05 05.8	+0.4
	baz=303						
V44A	Blytheville	148.18	28	P	PKPbc	18 05 06.0	+0.6
	baz=326						
337A	Centerville	148.24	40	P	PKPbc	18 05 06.6	+0.9
	baz=312						
536A	Bastrop	148.25	43	P	PKPbc	18 05 06.4	+0.7
	baz=309						
Y41A	Eaglette Beard	148.36	33	P	PKPbc	18 05 06.3	+0.4
	baz=320						
Z40A	Long Farm, Mag	148.39	35	P	PKPbc	18 05 06.6	+0.6
	baz=318						
239A	Gary	148.65	38	P	PKPbc	18 05 06.9	+0.2
	baz=315						
140A	Cam and Jess,	148.74	36	P	PKPbc	18 05 07.7	+0.8
	baz=317						
034A	Hebbronville	148.81	50	P	PKPbc	18 05 08.6	+1.3
	baz=302						
X44A	Crenshaw	149.15	29	P	PKPbc	18 05 08.5	+0.6
	baz=324						
Y43A	Makayla and Ka	149.22	31	P	PKPbc	18 05 08.7	+0.6
	baz=322						
Y44A	Strider, Charl	149.54	30	P	PKPbc	18 05 09.4	+0.5
	baz=324						
Y46A	Houston	150.26	28	P	PKPbc	18 05 10.5	-0.1
	baz=326						
Y47A	UCPARC, Winfie	150.71	27	P	PKPbc	18 05 11.2	-0.5
	baz=328						
Z48A	Northport	151.28	27	P	PKPbc	18 05 12.7	-0.4
	baz=328						
147A	Livingston	151.54	29	P	PKPbc	18 05 13.4	-0.3
	baz=326						
KMSC	Kings Mountain	151.95	16	P	PKPbc	18 05 14.2	-0.3
	baz=341						
347A	Saraland	152.43	31	P	PKPbc	18 05 15.3	-0.4
	baz=324						

TAP 23 17:50:16.1, 24°.36N×121°.89E, h28km±1km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.15	296	*i* P	Pb	17 50 21.8	+0.3
	baz=296						
TWC	Suao	0.25	352	P	Pb	17 50 22.6	-0.1
	baz=353						
TWC				S	Sb	17 50 28.3	+1.2
	baz=353						
ENTT	Nioudou	0.40	313	*e*P	Pn	17 50 25.5	-0.6
	baz=313						
EGS		0.48	5	P	Pb	17 50 26.6	+0.4
	baz=5.0						
EGS				*e*S	Sn	17 50 34.7	+0.1
	baz=5.0						
WHF	Hehuan Shan	0.61	249	*e*P	Pb	17 50 28.6	+0.1
	baz=248						

*AZER **23** 17:51:31.9±0.9, 38°.34N×42°.69E, h7km, Error ellipse: s-maj=8.9km s-min=8.7km az=98.0*
*ISK **23** 17:51:37.6, 38°.73N×43°.50E, h5km, ML3.4*
*DDA **23** 17:51:38.3, 38°.70N×43°.51E, h4km, Md3.2*
*CSEM **23** 17:51:39.9±0.2, 38°.69N×43°.39E, h2km, MD3.2, Error ellipse: s-maj=5.1km s-min=3.7km az=163.0*
ISC 23 17:51:38.6±1.2, 38°.72N±0°.02×43°.47E±0°.02, h1km±14km, n96, σ1.73/114, 18C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.28	17	*i* P	Pg	17 51 44.7	+0.7
GEVA	Gevas	0.52	218	*i* P	Pg	17 51 48.2	-0.3
GEVA	Gevas	0.52	218	P	Pg	17 51 48.2	-0.3
DYDN	Diyadin	0.84	12	*i* P	Pg	17 51 54.8	0.0
TUTA	Tutak	0.85	324	*i* P	Pg	17 51 55.5	+0.6
TUTA	Tutak	0.85	324	P	Pg	17 51 55.5	+0.6
AGRB	Hanur-Agry	0.93	337	*e*PG	Pg	17 51 56.5	0.0
AGRB				*e*SG	Sb	17 52 10.7	-0.1
AGRB	Hanur-Agry	0.93	337	*e*Pg	Pg	17 51 56.5	0.0
AGRB				*e*Sg	Sb	17 52 10.7	-0.1
EKAR	Karacoban	1.22	297	*i* P	Pg	17 52 02.8	+0.8
EKAR	Karacoban	1.22	297	P	Pg	17 52 02.8	+0.8
EATA	Eleskirt	1.37	327	*i* P	Pb	17 52 04.8	-0.5
EATA	Eleskirt	1.37	327	P	Pb	17 52 04.8	-0.5
CUKT	Cukurca	1.47	176	*e*PN	Pb	17 52 06.2	-0.7
CUKT				*e*SN	Sg	17 52 28.1	+2.2
CUKT	Cukurca	1.47	176	*i* P	Pb	17 52 05.9	-1.0
CUKT	Cukurca	1.47	176	P	Pb	17 52 05.9	-1.0
CUKT	Cukurca	1.47	176	*e*Pn	Pb	17 52 06.2	-0.7
CUKT				*e*Sn	Sg	17 52 28.1	+2.2
SIRN	S¨–rnak	1.48	215	*i* P	Pg	17 52 07.1	+0.2
SIRN	S¨–rnak	1.48	215	P	Pg	17 52 07.1	+0.2
VRTB	Varto-Mus	1.63	286	*e*PN	Pb	17 52 09.0	-0.6
VRTB	Varto-Mus	1.63	286	*i* P	Pg	17 52 09.8	0.0
VRTB	Varto-Mus	1.63	286	*e*Pn	Pb	17 52 09.0	-0.6
VRTB	Varto-Mus	1.63	286	P	Pg	17 52 09.8	0.0
NAX	Nakhchivan	1.65	73	⇓P	Pb	17 52 09.2	-0.7
	SNR=19						
NAX				⇑S	Sg	17 52 34.1	+2.6
NAX	Nakhchivan	1.65	73	P	Pb	17 52 09.2	-0.7
	SNR=19						
NAX				S	Sg	17 52 34.1	+2.6
DIGO	Kars	1.70	358	*i* P	Pb	17 52 10.4	-0.4
DIGO	Kars	1.70	358	P	Pb	17 52 10.4	-0.4
HOMI	Horasan	1.79	318	*i* P	Pb	17 52 12.2	-0.2
BNGL	BINGOL	1.82	278	*i* P	Pb	17 52 12.4	-0.6
SVAN	Silvan-Diyarba	1.87	253	*e*PN	Pb	17 52 12.1	-1.5
SVAN				*e*SN	Sg	17 52 37.9	-0.7
SVAN	Silvan-Diyarba	1.87	253	*e*Pn	Pb	17 52 12.1	-1.5
SVAN				*e*Sn	Sg	17 52 37.9	-0.7
EAK	Akyaka	1.97	3	*i* P	Pg	17 52 15.9	-0.5
EAK	Akyaka	1.97	3	P	Pg	17 52 15.9	-0.5
ERZM	Erzurum	2.02	307	*i* P	Pb	17 52 16.0	-0.3
ERZM	Erzurum	2.02	307	P	Pb	17 52 16.0	-0.3
SENK	Senkaya-Erzuru	2.03	335	*e*PN	Pn	17 52 14.4	+0.2
SENK	Senkaya-Erzuru	2.03	335	*e*Pn	Pn	17 52 14.4	+0.2
ECAT	Cat-ERZURUM	2.13	295	*i* P	Pb	17 52 18.6	+0.4
ECAT	Cat-ERZURUM	2.13	295	P	Pb	17 52 18.6	+0.4
BNGB	Bing¨ll	2.19	278	*e*PN	Pn	17 52 16.9	+0.6
BINT	Bingol	2.33	275	*e*Pn	Pn	17 52 16.9	-1.4
YEDI	Yedisu-Bingol	2.38	288	*e*PN	Pn	17 52 19.7	+0.7
YEDI	Yedisu-Bingol	2.38	288	*e*Pn	Pn	17 52 19.7	+0.7
BGD	Bogdanovka	2.55	2	P	Pg	17 52 28.2	+0.8
GDB	GEDABAY	2.67	41	P	Pb	17 52 25.0	-2.3
	SNR=3.2						
GDB				⇓S	Sg	17 53 06.6

SNR=4.6
MNGR ⇑S Sg 17 53 26.4 -3.5
MNGR Mingechevir, A 3.46 53 P Pn 17 52 36.1 +2.4
SNR=4.6
ZKTA Zakatala 3.79 39 ⇓P Pn 17 52 40.5 +2.3
SNR=5.3
SEKA Sheki 3.80 48 ⇑P Pn 17 52 41.5 +3.1
SNR=7.2
SEKA Sheki 3.80 48 P Pn 17 52 41.5 +3.1
SNR=7.2
LRK Lerik 3.82 90 ⇑P Pn 17 52 40.0 +1.3
SNR=6.3
LRK ⇑S Sb 17 53 32.7 -0.9
LRK Lerik 3.82 90 P Pn 17 52 40.0 +1.3
SNR=6.3
ONI Oni 3.87 360 P Pg 17 52 50.2 -2.5
GLBA Clilabad 3.88 81 ⇓P Pn 17 52 41.7 +2.3
SNR=4.6
GLBA ⇓S Sb 17 53 35.6 +0.4
GLBA Clilabad 3.88 81 P Pn 17 52 41.7 +2.3
SNR=4.6
URFA Urfa 3.88 252 *e*PN Pn 17 52 41.1 +1.7
URFA Urfa 3.88 252 *e*Pn Pn 17 52 41.2 +1.7
QBL Gabala 4.04 55 ⇓P Pn 17 52 44.1 +2.5
SNR=3.7
QBL ⇓S Sb 17 53 40.9 +1.0
QBL Gabala 4.04 55 P Pn 17 52 44.1 +2.5
SNR=3.7
LKRN Lenkeran, Azer 4.16 88 ⇑P Pn 17 52 44.2 +1.0
LKRN ⇑S Sb 17 53 41.1 -2.2
LKRN Lenkeran, Azer 4.16 88 P Pn 17 52 44.2 +1.0
ASTR Astara 4.17 90 ⇑P Pn 17 52 44.8 +1.4
SNR=3.0
ASTR ⇑S Sb 17 53 41.9 -1.9
ASTR Astara 4.17 90 P Pn 17 52 44.8 +1.4
SNR=3.0
IML Ismayilli 4.18 59 ⇑P Pn 17 52 46.0 +2.3
IML Ismayilli 4.18 59 P Pn 17 52 46.0 +2.3
XNQ Khinaliq 4.35 54 ⇓S Sb 17 53 48.3 -0.8
PQL Pirkuli 4.46 61 ⇑P Pn 17 52 50.0 +2.4
SNR=3.2
PQL Pirkuli 4.46 61 P Pn 17 52 50.0 +2.4
SNR=3.2
GBS Qobustan 4.60 65 ⇓P Pn 17 52 51.9 +2.5
GBS Qobustan 4.60 65 P Pn 17 52 51.9 +2.5
QSAR Qusar 4.62 51 ⇓P Pn 17 52 52.9 +3.3
SNR=3.0
QSAR Qusar 4.62 51 P Pn 17 52 52.9 +3.3
SNR=3.0
QUBA Quba, Azerbaij 4.67 54 ⇑P Pn 17 52 53.4 +3.0
SNR=4.5
QUBA Quba, Azerbaij 4.67 54 P Pn 17 52 53.4 +3.0
SNR=4.5
ATGJ Altiaghaj 4.73 61 ⇑P Pn 17 52 53.9 +2.7
SNR=4.3
ATGJ Altiaghaj 4.73 61 P Pn 17 52 53.9 +2.7
SNR=4.3
SIZA Siyzn 4.80 59 ⇓P Pn 17 52 55.1 +3.0
SIZA Siyzn 4.80 59 P Pn 17 52 55.1 +3.0

IDC 23 17:53:30.7±2.2, 33°.03N×96°.10E, h0^{km}, mb3.1/1, mb1 3.4/3, mb1mx3.1/29, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=86.0km s-min=35.3km az=69.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.72**	**25**	Pn	Pn	17 57 26.0	-0.4
	0.1nm,0.3s,baz=207,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**17.32**	**327**	P	Pn	17 57 34.0	+0.1
	0.1nm,0.3s,baz=144,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**66.92**	**142**	P	P	18 04 25.1	0.0
	0.1nm,0.5s,baz=322,slow=6.6,SNR=6.0						

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*ISN **23** 18:07:18.3±0.5, 34°.84N×44°.94E, h1^{km}±2^{km}, ML3.0*
*CSEM **23** 18:07:19.2±0.2, 34°.82N×45°.03E, h5^{km}, ML3.0, Error ellipse: s-maj=7.7km s-min=4.9km az=26.0*
TEH 23 18:07:18.7, 34°.82N×44°.95E, h2^{km}, ML3.0, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.42**	**110**	*e*Pg	Pn	18 07 44.2	-1.6
IGHG				*e*AMB	AMB	18 08 06.9	
	comp=Z,2μm,0.1s						
IGHG	**Ghaleghazi**	**1.42**	**110**	*e*Pg	Pn	18 07 44.2	-1.6
IVIS	**Veis**	**1.59**	**100**	*e*Pn	Pn	18 07 47.4	-0.6
IVIS				*e*Sg	Sn	18 08 08.3	-0.9
IVIS				*e*AMB	AMB	18 08 10.5	
	comp=Z,1μm,0.2s						
IVIS	**Veis**	**1.59**	**100**	*e*Pn	Pn	18 07 47.4	-0.6
IVIS				*e*Sg	Sn	18 08 08.3	-0.9
BHD	**Baghdad**	**1.62**	**197**	*e*Pn	Pn	18 07 48.0	-0.3
	SNR=3.0						
BHD				*e*Sn	Sn	18 08 09.0	-0.7
	SNR=3.0						
ILIN	**Lien**	**1.66**	**86**	*e*Pn	Pn	18 07 48.9	-0.1
ILIN				*e*Sg	Sn	18 08 10.4	-0.6
ILIN				*e*AMB	AMB	18 08 17.2	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**1.66**	**86**	*e*Pn	Pn	18 07 48.9	-0.1
ILIN				*e*Sg	Sn	18 08 10.4	-0.6
IKOM	**Komasi**	**2.21**	**106**	*e*Pn	Pn	18 07 56.7	+0.1
IKOM				*e*AMB	AMB	18 08 25.9	
	comp=Z,943nm,0.2s						
IKOM	**Komasi**	**2.21**	**106**	*e*Pn	Pn	18 07 56.7	+0.1
NSR	**Nasriya**	**3.93**	**165**	*e*Pn	Pn	18 08 21.0	+0.9
	SNR=3.0						
NSR				*e*Sn	Sn	18 09 05.0	-1.8
	SNR=3.0						
RTB	**Rutbah**	**4.25**	**246**	*e*Pn	Pn	18 08 25.0	+0.4
	SNR=3.0						
RTB				*e*Sn	Sn	18 09 12.0	-2.9
	SNR=3.0						

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*NSSC **23** 18:10:39.2±1.5, 38°.55N×43°.90E, h0^{km}±171^{km}, MD3.0, ML4.2*
*AZER **23** 18:10:40.4±0.5, 38°.27N×42°.44E, h7^{km}, Error ellipse: s-maj=5.8km s-min=3.8km az=119.0*
*IDC **23** 18:10:43.9±0.4, 38°.58N×43°.12E, h0^{km}, mb4.6/33, mb1 4.6/44, mb1mx4.6/50, mbtmp4.5/44, ML3.8/11, MS4.2/29, Ms1 4.2/29, ms1mx4.1/42, Error ellipse: s-maj=9.4km s-min=7.6km az=167.0*
*DDA **23** 18:10:44.6, 38°.63N×43°.19E, h20^{km}, MI5.0*
*MOS **23** 18:10:44.3±1.4, 38°.46N×43°.17E, h10^{km}, mb5.2/47, MS4.2/31, Error ellipse: s-maj=4.8km s-min=3.2km az=104.0*
*BJI **23** 18:10:44.3, 38°.60N×43°.20E, h10^{km}, mb4.9/65, mB5.1/48, Ms4.6/52, Ms7 4.3/47*
*GCMT **23** 18:10:45.2±0.4, 38°.52N×43°.07E, h21^{km}±1^{km}, MW5.2/75, Moment Tensor Solution. s13,c16; s75,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r6.54±.66; $M_{\theta\theta}$-6.38±.38; $M_{\phi\phi}$-0.15±.35; $M_{r\theta}$-0.06±.45; $M_{r\phi}$0.85±.18; $M_{\theta\phi}$-0.26±.74; Best double couple: $M_0$6.52200×10^{16} NP1:ϕ_S275.00000°, δ45.00000°, λ87.00000°. NP2: ϕ_S100.00000°, δ45.00000°, λ93.00000°. Principal axes: T 6.5500, Plg88.0000°, Azm101.0000°; N -0.0540, Plg2.0000°, Azm278.0000°; P -6.4930, Plg0.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 18:10:45.2±0.0, 38°.71N×43°.34E, h5^{km}, mb5.1/51, ML5.0(ISK), After ISK.*
*ISK **23** 18:10:45.2, 38°.72N×43°.21E, h6^{km}, ML5.0*
*DSN **23** 18:10:46.6±0.8, 38°.46N×43°.15E, h15^{km}, mb5.1/2, Error ellipse: s-maj=16.6km s-min=5.6km az=71.0*
*CSEM **23** 18:10:47.3±0.1, 38°.68N×43°.08E, h2^{km}, mb5.0/23, Error ellipse: s-maj=3.5km s-min=2.8km az=158.0*
*ISCJB **23** 18:10:47.1±0.3, 38°.55N±0°.01×43°.24E±0°.01, h27^{km}±2^{km}, mb4.9/160, MS4.3/54, Error ellipse: s-maj=2.2km s-min=1.6km az=175.2*
*ISN **23** 18:10:49.5±1.3, 38°.24N×42°.57E, h0^{km}±4^{km}, ML5.1*
ISC 23 18:10:46.4±0.5, 38°.63N±0°.01×43°.16E±0°.01, h11^{km}±2^{km}, n974, σ2°.04/1102, mb5.0/160, MS4.3/55, 82C-65D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**102**	PG	**Pg**	**18 10 50.9**	**+0.4**
VANB				*e*SG	**Sg**	**18 10 54.7**	**+1.5**
VANB	**Van**	**0.18**	**102**	*i* Pg	**Pg**	**18 10 50.9**	**+0.4**
VANB				*e*Sg	**Sg**	**18 10 54.7**	**+1.5**
GEVA	**Gevas**	**0.33**	**194**	⇓*i*P	**Pg**	**18 10 51.7**	**-1.4**
GEVA				*i* S	**Sb**	**18 10 58.5**	**-1.3**
GEVA	**Gevas**	**0.33**	**194**	P	**Pg**	**18 10 51.7**	**-1.4**
GEVA				S	**Sb**	**18 10 58.5**	**-1.3**
VMUR	**Van-Muradiye**	**0.48**	**42**	⇓*i*P	**Pg**	**18 10 54.9**	**-1.0**
VMUR				*i* S	**Sb**	**18 11 04.1**	**-0.1**
VMUR	**Van-Muradiye**	**0.48**	**42**	P	**Pg**	**18 10 54.9**	**-1.0**
VMUR				S	**Sb**	**18 11 04.1**	**-0.1**
TUTA	**Tutak**	**0.81**	**341**	⇓*i*P	**Pg**	**18 10 60.0**	**-2.2**
TUTA				*i* S	**Sg**	**18 11 12.7**	**-0.2**
TUTA	**Tutak**	**0.81**	**341**	P	**Pg**	**18 11 00.0**	**-2.2**
TUTA				S	**Sg**	**18 11 12.7**	**-0.2**
BASK	**Baskale_VAN**	**0.88**	**131**	*i* P	**Pg**	**18 11 01.8**	**-1.6**
BASK				*i* S	**Sg**	**18 11 11.9**	**-3.0**
BASK	**Baskale_VAN**	**0.88**	**131**	P	**Pg**	**18 11 01.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.95**	**352**	PG	**Pg**	**18 11 02.4**	**-2.4**
AGRB				*e*SG	**Sg**	**18 11 15.4**	**-1.8**
AGRB	**Hanur-Agry**	**0.95**	**352**	*i* Pg	**Pg**	**18 11 02.4**	**-2.4**
AGRB				*e*Sg	**Sg**	**18 11 15.4**	**-1.8**
DYDN	**Diyadin**	**1.00**	**24**	⇓*i*P	**Pg**	**18 11 03.1**	**-2.6**
DYDN				*i* S	**Sn**	**18 11 24.1**	**+3.3**
DYDN	**Diyadin**	**1.00**	**24**	P	**Pg**	**18 11 03.1**	**-2.6**
DYDN				S	**Sn**	**18 11 24.1**	**+3.3**
EKAR	**Karacoban**	**1.06**	**306**	⇓*i*P	**Pg**	**18 11 04.9**	**-1.9**
EKAR				*i* S	**Sn**	**18 11 24.9**	**+2.5**
EKAR	**Karacoban**	**1.06**	**306**	P	**Pg**	**18 11 04.9**	**-1.9**
HAKT	**HAKKARI**	**1.16**	**158**	⇑*i*P	**Pb**	**18 11 06.2**	**-2.4**
HAKT				*i* S	**Sn**	**18 11 26.3**	**+1.6**
SIRN	**S¨–rnak**	**1.28**	**208**	⇓*i*P	**Pn**	**18 11 08.4**	**-2.0**
SIRN				*i* S	**Sn**	**18 11 30.4**	**+2.9**
SIRN	**S¨–rnak**	**1.28**	**208**	P	**Pn**	**18 11 08.4**	**-2.0**
SIRN				S	**Sn**	**18 11 30.4**	**+2.9**
EATA	**Eleskirt**	**1.33**	**337**	⇓*i*P	**Pn**	**18 11 09.3**	**-2.0**
EATA				*i* S	**Sb**	**18 11 28.8**	**-0.1**
EATA	**Eleskirt**	**1.33**	**337**	P	**Pn**	**18 11 09.3**	**-2.0**
EATA				S	**Sb**	**18 11 28.8**	**-0.1**
CUKT	**Cukurca**	**1.43**	**166**	PN	**Pg**	**18 11 13.8**	**0.0**
CUKT	**Cukurca**	**1.43**	**166**	⇑*i*P	**Pg**	**18 11 13.3**	**-0.5**
CUKT				*i* S	**Sg**	**18 11 36.1**	**+3.7**
CUKT	**Cukurca**	**1.43**	**166**	P	**Pg**	**18 11 13.3**	**-0.5**
CUKT	**Cukurca**	**1.43**	**166**	*i* Pn	**Pg**	**18 11 13.8**	**0.0**
CUKT				S	**Sg**	**18 11 36.1**	**+3.7**
VRTB	**Varto-Mus**	**1.43**	**292**	PN	**Pn**	**18 11 12.2**	**-0.3**
VRTB	**Varto-Mus**	**1.43**	**292**	*i* P	**Pn**	**18 11 11.9**	**-0.6**
VRTB				*i* S	**Sg**	**18 11 40.6**	**+8.1**
VRTB	**Varto-Mus**	**1.43**	**292**	P	**Pn**	**18 11 11.9**	**-0.6**
VRTB	**Varto-Mus**	**1.43**	**292**	*i* Pn	**Pn**	**18 11 12.2**	**-0.3**
BNGL	**BINGOL**	**1.60**	**282**	*i* P	**Pn**	**18 11 14.4**	**-0.5**
BNGL				*i* S	**Sg**	**18 11 37.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	PN	**Pn**	**18 11 15.3**	**+0.4**
SVAN				*e*SN	**Sg**	**18 11 38.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	⇑*i*P	**Pn**	**18 11 14.5**	**-0.4**
SVAN				*i* S	**Sg**	**18 11 38.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	P	**Pn**	**18 11 14.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*i* Pn	**Pn**	**18 11 15.3**	**+0.4**
SVAN				*e*Sn	**Sg**	**18 11 38.3**	**-0.1**
BTMN	**Batman**	**1.66**	**244**	⇑*i*P	**Pn**	**18 11 15.4**	**-0.2**
BTMN				*i* S	**Sg**	**18 11 40.1**	**+0.2**
BTMN	**Batman**	**1.66**	**244**	P	**Pn**	**18 11 15.4**	**-0.2**
BTMN				S	**Sg**	**18 11 40.1**	**+0.2**
HOMI	**Horasan**	**1.71**	**326**	⇓*i*P	**Pn**	**18 11 16.0**	**-0.4**
HOMI				*i* S	**Sg**	**18 11 44.3**	**+2.7**
DIGO	**Kars**	**1.79**	**5**	⇓*i*P	**Pn**	**18 11 17.0**	**-0.5**
DIGO				*i* S	**Sg**	**18 11 45.8**	**+1.9**
DIGO	**Kars**	**1.79**	**5**	P	**Pn**	**18 11 17.0**	**-0.5**
DIGO				S	**Sg**	**18 11 45.8**	**+1.9**
ERZM	**Erzurum**	**1.89**	**313**	⇑*i*P	**Pn**	**18 11 19.3**	**+0.4**
ERZM				*i* S	**Sg**	**18 11 50.9**	**+3.8**
ERZM	**Erzurum**	**1.89**	**313**	P	**Pn**	**18 11 19.3**	**+0.4**
NAX	**Nakhchivan**	**1.90**	**73**	⇑P	**Pn**	**18 11 19.8**	**+0.9**
NAX				⇑S	**Sg**	**18 11 50.6**	**+3.1**
NAX	**Nakhchivan**	**1.90**	**73**	P	**Pn**	**18 11 19.8**	**+0.9**
NAX				S	**Sg**	**18 11 50.6**	**+3.1**
GNI	**Garni**	**1.95**	**38**	Pn	**Pn**	**18 11 20.6**	**+1.0**
	128nm,0.3s,baz=163,slow=4.1,SNR=32						
GNI				Lg	Lg	18 11 52.3	
	160nm,0.3s,baz=45,slow=23,SNR=7.8						
GNI	**Garni**	**1.95**	**38**	P	**Pn**	**18 11 20.4**	**+0.8**
ECAT	**Cat-ERZURUM**	**1.96**	**300**	⇓*i*P	**Pn**	**18 11 19.6**	**-0.3**
ECAT				*i* S	**Sg**	**18 11 49.4**	**0.0**
ECAT	**Cat-ERZURUM**	**1.96**	**300**	P	**Pn**	**18 11 19.6**	**-0.3**
ECAT				S	**Sg**	**18 11 49.4**	**0.0**
BNGB	**Bing¨¶l**	**1.97**	**281**	*e*PN	**Pn**	**18 11 20.5**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*PN	**Pn**	**18 11 20.0**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*Pn	**Pn**	**18 11 20.0**	**-0.7**
EAK	**Akyaka**	**2.08**	**9**	⇓*i*P	**Pn**	**18 11 22.4**	**+0.9**
EAK				*i* S	**Sg**	**18 11 58.2**	**+4.9**
EAK	**Akyaka**	**2.08**	**9**	P	**Pn**	**18 11 22.4**	**+0.9**
BINT	**Bingol**	**2.10**	**277**	*e*Pn	**Pn**	**18 11 20.5**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*PN	**Pn**	**18 11 23.2**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*Pn	**Pn**	**18 11 23.2**	**+0.2**
MARD	**Mardin**	**2.30**	**236**	⇑*i*P	**Pn**	**18 11 23.5**	**-0.9**
MARD				*i* S	**Sb**	**18 11 57.5**	**+1.0**
MARD	**Mardin**	**2.30**	**236**	*e*Pn	**Pn**	**18 11 24.1**	**-0.3**
MARD				*e*Sn	**Sb**	**18 11 55.1**	**-1.3**
MARD	**Mardin**	**2.30**	**236**	*e*Pn	**Pn**	**18 11 24.1**	**-0.3**
MARD				*e*Sn	**Sb**	**18 11 55.1**	**-1.3**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**18 11 27.8**	**+1.4**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**18 11 27.8**	**+1.4**
KOPT	**Kop Dagi**	**2.49**	**305**	⇓*i*P	**Pn**	**18 11 28.0**	**+0.9**
KOPT				*i* S	**Sg**	**18 12 07.2**	**+0.8**
KOPT	**Kop Dagi**	**2.49**	**305**	P	**Pn**	**18 11 28.0**	**+0.9**
DIYA	**Diyarbakir**	**2.50**	**254**	*i* P	**Pn**	**18 11 27.0**	**0.0**
DIYA				*i* S	**Sg**	**18 12 09.0**	**+2.4**
DIYA	**Diyarbakir**	**2.50**	**254**	P	**Pn**	**18 11 27.0**	**0.0**
DDEM	**Demirkent**	**2.50**	**335**	⇓*i*P	**Pn**	**18 11 27.1**	**-0.1**
DDEM				*i* S	**Sg**	**18 12 11.9**	**+5.0**
DDEM	**Demirkent**	**2.50**	**335**	P	**Pn**	**18 11 27.1**	**-0.1**
DAGI	**Agillar**	**2.62**	**339**	⇓*i*P	**Pn**	**18 11 28.8**	**-0.1**
DAGI				*i* S	**Sg**	**18 12 16.7**	**+6.0**
BGD	**Bogdanovka**	**2.65**	**7**	P	**Pn**	**18 11 30.2**	**+0.9**
ARTV	**Artvin**	**2.72**	**340**	*i* P	**Pn**	**18 11 30.2**	**-0.1**
ARTV				*i* S	**Sg**	**18 12 21.0**	**+7.2**
ARTV	**Artvin**	**2.72**	**340**	P	**Pn**	**18 11 30.2**	**-0.1**
ARTV	**Artvin**	**2.72**	**340**	*e*Pn	**Pn**	**18 11 30.6**	**+0.3**
ARTV				*e*Sn	**Sn**	**18 12 04.3**	**+1.0**
ARTV	**Artvin**	**2.72**	**340**	*e*Pn	**Pn**	**18 11 30.6**	**+0.3**
ARTV				*e*Sn	**Sn**	**18 12 04.3**	**+1.0**
AKH	**Akhalkalaki**	**2.79**	**5**	*e*PN	**Pn**	**18 11 30.1**	**-1.1**
AKH	**Akhalkalaki**	**2.79**	**5**	P	**Pb**	**18 11 36.6**	**+0.2**
AKH	**Akhalkalaki**	**2.79**	**5**	⇓*i*P	**Pn**	**18 11 31.2**	**0.0**
AKH	**Akhalkalaki**	**2.79**	**5**	P	**Pb**	**18 11 36.5**	**+0.2**
AKH	**Akhalkalaki**	**2.79**	**5**	*e*Pn	**Pn**	**18 11 30.1**	**-1.1**
AKH	**Akhalkalaki**	**2.79**	**5**	⇓*i*P	**Pn**	**18 11 31.2**	**0.0**
TNCL	**Tunceli-Merkez**	**2.87**	**281**	*i* P	**Pb**	**18 11 36.0**	**-1.7**
TNCL				*i* S	Sg	18 12 28.4	+10
TNCL	**Tunceli-Merkez**	**2.87**	**281**	P	**Pb**	**18 11 36.0**	**-1.7**
EPOS	**Posof**	**2.89**	**354**	*i* P	**Pn**	**18 11 33.3**	**+0.8**
EPOS				*i* S	**Sg**	**18 12 17.3**	**-1.8**
EPOS	**Posof**	**2.89**	**354**	P	**Pn**	**18 11 33.3**	**+0.8**
GDB	**GEDABAY**	**2.89**	**43**	⇓P	**Pb**	**18 11 35.7**	**-2.4**
	SNR=35						
GDB				⇓S	**Sg**	**18 12 19.3**	**0.0**
GDB	**GEDABAY**	**2.89**	**43**	P	**Pb**	**18 11 35.7**	**-2.4**
	SNR=35						
EUZM	**Uzumlu**	**2.90**	**293**	*i* P	**Pb**	**18 11 36.6**	**-1.6**
EUZM				*i* S	**Sg**	**18 12 18.8**	**-0.7**
EUZM	**Uzumlu**	**2.90**	**293**	P	**Pb**	**18 11 36.6**	**-1.6**
KZR	**Kazreti**	**2.91**	**19**	P	**Pb**	**18 11 36.9**	**-1.4**
DBOC	**Borcka**	**2.94**	**338**	*i* P	**Pn**	**18 11 33.2**	**0.0**
DBOC				*i* S	**Sg**	**18 12 28.2**	**+7.3**
DBOC	**Borcka**	**2.94**	**338**	P	**Pn**	**18 11 33.2**	**0.0**
PTK	**Pertek**	**2.96**	**276**	*e*PN	**Pn**	**18 11 34.6**	**+1.1**
PTK	**Pertek**	**2.96**	**276**	*e*Pn	**Pn**	**18 11 34.6**	**+1.1**
QZX	**Qazax, Azerbai**	**2.96**	**34**	⇓P	**Pn**	**18 11 36.2**	**+2.8**
QZX				⇓S	**Sg**	**18 12 21.3**	**-0.2**
QZX	**Qazax, Azerbai**	**2.96**	**34**	P	**Pn**	**18 11 36.2**	**+2.8**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*PN	**Pn**	**18 11 35.4**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*Pn	**Pn**	**18 11 35.4**	**+0.8**
GANJ	**Ganja**	**3.16**	**50**	⇑P	**Pb**	**18 11 39.8**	**-2.8**
	SNR=4.1						
GANJ				⇓S	**Sg**	**18 12 25.6**	**-2.4**
GANJ	**Ganja**	**3.16**	**50**	P	**Pb**	**18 11 39.8**	**-2.8**
	SNR=4.1						
ELZG	**Elazig**	**3.28**	**269**	*i* P	**Pn**	**18 11 38.0**	**+0.1**
ELZG				*i* S	**Sg**	**18 12 32.9**	**+1.2**
ELZG	**Elazig**	**3.28**	**269**	P	**Pn**	**18 11 38.0**	**+0.1**
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**18 11 39.9**	**+2.0**
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**18 11 39.9**	**+2.0**
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**18 11 40.0**	**+2.0**
TBLG	**Delisi**	**3.32**	**21**	*e*PN	**Pn**	**18 11 37.8**	**-0.6**
TBLG	**Delisi**	**3.32**	**21**	P	**Pn**	**18 11 39.2**	**+0.7**
TBLG	**Delisi**	**3.32**	**21**	P	**Pn**	**18 11 39.1**	**+0.7**
TBLG	**Delisi**	**3.32**	**21**	*e*Pn	**Pn**	**18 11 37.8**	**-0.6**
TBLG	**Delisi**	**3.32**	**21**	P	**Pn**	**18 11 39.1**	**+0.7**
SEAG	**Tbilisi Sea**	**3.37**	**21**	P	**Pn**	**18 11 41.0**	**+1.9**
KELT	**Kelkit**	**3.38**	**298**	*i* P	**Pn**	**18 11 39.4**	**0.0**
KELT				*i* S	**Sg**	**18 12 33.1**	**-2.0**
KELT	**Kelkit**	**3.38**	**298**	P	**Pn**	**18 11 39.4**	**0.0**
MACK	**Trabzon**	**3.49**	**313**	*i* P	**Pn**	**18 11 43.1**	**+2.5**
MACK				*i* S	**Sg**	**18 12 36.3**	**-2.1**
MACK	**Trabzon**	**3.49**	**313**	P	**Pn**	**18 11 43.1**	**+2.5**
BRDA	**Brd**	**3.51**	**61**	⇓P	**Pn**	**18 11 44.7**	**+3.8**
	SNR=3.5						
BRDA				⇑S	**Sg**	**18 12 35.3**	**-3.8**
BRDA	**Brd**	**3.51**	**61**	P	**Pn**	**18 11 44.7**	**+3.8**
	SNR=3.5						
KEMA	**Kemaliye**	**3.69**	**281**	*i* P	**Pn**	**18 11 43.0**	**-0.6**
KEMA				*i* S	**Sg**	**18 12 45.9**	**+0.9**
KEMA	**Kemaliye**	**3.69**	**281**	P	**Pn**	**18 11 43.0**	**-0.6**
MNGR	**Mingechevir, A**	**3.71**	**54**	⇓P	**Pn**	**18 11 47.2**	**+3.6**
	SNR=52						
MNGR	**Mingechevir, A**	**3.71**	**54**	P	**Pn**	**18 11 47.2**	**+3.6**
	SNR=52						
ZRD	**Zardab**	**3.87**	**63**	⇑P	**Pn**	**18 11 49.6**	**+3.8**
	SNR=62						
ZRD				⇑S	**Sb**	**18 12 41.1**	**-0.4**
ZRD	**Zardab**	**3.87**	**63**	P	**Pn**	**18 11 49.6**	**+3.8**
	SNR=62						
ZRD				S	**Sb**	**18 12 41.1**	**-0.4**
GUDG	**Gudauri**	**3.96**	**14**	P	**Pb**	**18 11 56.1**	**-0.2**
ONI	**Oni**	**3.96**	**3**	P	**Pn**	**18 11 48.3**	**+1.1**
ONI	**Oni**	**3.96**	**3**	P	**Pn**	**18 11 48.3**	**+1.1**
ONI	**Oni**	**3.96**	**3**	P	**Pn**	**18 11 48.3**	**+1.1**
ZKTA	**Zakatala**	**4.01**	**40**	⇓P	**Pn**	**18 11 51.0**	**+3.2**
	SNR=30						
SURC	**SANLIURFA_SURC**	**4.01**	**246**	*i* P	**Pn**	**18 11 49.4**	**+1.5**
SURC	**SANLIURFA_SURC**	**4.01**	**246**	P	**Pn**	**18 11 49.3**	**+1.5**
ATAB	**Bozova**	**4.01**	**255**	*i* P	**Pn**	**18 11 48.6**	**+0.7**
ATAB	**Bozova**	**4.01**	**255**	P	**Pn**	**18 11 48.6**	**+0.7**
SEKA	**Sheki**	**4.03**	**49**	⇑P	**Pn**	**18 11 52.6**	**+4.4**
	SNR=5.1						
SEKA				⇓S	**Sb**	**18 12 49.1**	**+2.8**
SEKA	**Sheki**	**4.03**	**49**	P	**Pn**	**18 11 52.6**	**+4.4**
	SNR=5.1						
LRK	**Lerik**	**4.06**	**88**	P	**Pn**	**18 11 50.4**	**+1.8**
	SNR=14						
LRK				⇓S	**Sb**	**18 12 46.0**	**-1.1**
LRK	**Lerik**	**4.06**	**88**	P	**Pn**	**18 11 50.4**	**+1.8**
	SNR=14						
LRK				S	**Sb**	**18 12 46.0**	**-1.1**
GLBA	**Clilabad**	**4.12**	**80**	⇑P	**Pn**	**18 11 52.8**	**+3.4**
	SNR=6.6						
GLBA	**Clilabad**	**4.12**	**80**	P	**Pn**	**18 11 52.8**	**+3.4**
	SNR=6.6						
SUSE	**Susehri**	**4.15**	**294**	*i* P	**Pn**	**18 11 51.2**	**+1.3**
SUSE	**Susehri**	**4.15**	**294**	P	**Pn**	**18 11 51.2**	**+1.3**
ZEI	**Tsey**	**4.19**	**7**	*e*P	**Pn**	**18 11 50.3**	**-0.2**
ZEI				pmax	pmax		
	comp=Z,280nm,0.8s						
KDMR	**Kurdemir**	**4.26**	**64**	⇓P	**Pn**	**18 11 55.1**	**+3.9**
	SNR=3.9						
KDMR	**Kurdemir**	**4.26**	**64**	P	**Pn**	**18 11 55.1**	**+3.9**
	SNR=3.9						
SAAT	**Saatly**	**4.27**	**72**	⇑P	**Pn**	**18 11 54.7**	**+3.4**
	SNR=49						
SAAT				⇓S	**Sb**	**18 12 52.1**	**-0.8**
SAAT	**Saatly**	**4.27**	**72**	P	**Pn**	**18 11 54.7**	**+3.4**
	SNR=49						
QBL	**Gabala**	**4.28**	**56**	⇑P	**Pn**	**18 11 55.0**	**+3.5**
	SNR=3.1						
QBL				⇑S	**Sb**	**18 12 54.0**	**+0.6**
QBL	**Gabala**	**4.28**	**56**	P	**Pn**	**18 11 55.0**	**+3.5**
	SNR=3.1						
CUZAR	**Zara_SIVAS**	**4.37**	**288**	*i

KIV	Kislovodsk	5.33	356	pPn	Pn	18 12 09.5	+3.4
	SNR=28						
KVAR	Kislovodsk Arr	5.33	356	Pn	Pn	18 12 07.1	+1.1
	baz=176,slow=14,SNR=7.5						
KAMA	Osmaniye	5.33	256	*i* P	Pn	18 12 05.8	-0.3
GOBA	Gobu	5.38	69	⇑P	Pn	18 12 10.1	+3.5
GOBA	Gobu	5.38	69	P	Pn	18 12 10.1	+3.5
MAK	Makhachkala	5.44	36	*e*P	Pn	18 12 13.6	+6.2
MAK				*e*S	Sb	18 13 21.4	-5.2
MAK				pmax	pmax		
	comp=Z,164nm,1.5s						
MAK				MLR	MLR		
	comp=Z,6μm,8.0s						
TOKA	Tokat	5.44	290	*e*Pn	Pn	18 12 10.2	+2.7
TOKA	Tokat	5.44	290	*e*Pn	Pn	18 12 10.2	+2.7
BHD	Baghdad	5.44	169	*e*Pn	Pn	18 12 09.4	+1.9
	SNR=39						
CUSAR	Sarkisla-SIVAS	5.44	280	*i* P	Pn	18 12 13.7	+6.1
ANDN	Andirin	5.48	261	*i* P	Pn	18 12 09.7	+1.6
ANDN	Andirin	5.48	261	P	Pn	18 12 09.7	+1.6
DRWC	Darouich	5.53	251	*e*P	Pn	18 12 10.1	+1.3
DRWC				AML	AML	18 13 59.4	
	comp=E,494nm,0.6s						
DRWC				AML	AML	18 14 01.2	
	comp=N,598nm,0.6s						
SOC	Sochi	5.59	333	*e*P	Pn	18 12 12.5	+3.0
SOC				pmax	pmax		
	comp=Z,54nm,0.5s						
SOC	Sochi	5.59	333	*e*P	Pn	18 12 12.5	+3.0
	comp=Z,54nm,0.5s						
NDR	Nardaran	5.62	68	⇓P	Pn	18 12 13.5	+3.6
NDR	Nardaran	5.62	68	P	Pn	18 12 13.5	+3.6
BNN	Bunyan	5.72	274	*e*PN	Pn	18 12 14.1	+2.6
BNN	Bunyan	5.72	274	*e*Pn	Pn	18 12 14.1	+2.6
KOZT	Kozan	5.90	261	*e*PN	Pn	18 12 17.5	+3.7
KOZT	Kozan	5.90	261	*e*Pn	Pn	18 12 17.5	+3.7
BTCH	Batrach	5.93	246	*e*P	Pn	18 12 16.0	+1.7
BTCH				*e*S	Sn	18 13 26.9	+4.5
BTCH				AML	AML	18 14 08.2	
	comp=E,1μm,0.7s						
BTCH				AML	AML	18 14 22.7	
	comp=N,486nm,0.7s						
KVT	Kavak	6.00	296	*e*PN	Pn	18 12 17.5	+2.4
KVT	Kavak	6.00	296	*e*Pn	Pn	18 12 17.5	+2.4
SAMS	Samsun-Alacam	6.01	299	*i* P	Pb	18 12 27.6	-3.5
CEYT	Ceyhan	6.09	257	*e*PN	Pn	18 12 19.6	+3.2
CEYT	Ceyhan	6.09	257	*e*Pn	Pn	18 12 19.6	+3.2
KFRA	Kufra	6.13	238	AML	AML	18 14 13.6	
	comp=N,2μm,0.6s						
YAHY	KAYSERI_Yahyal	6.15	267	*i* P	Pn	18 12 17.4	0.0
YAHY	KAYSERI_Yahyal	6.15	267	P	Pn	18 12 17.4	0.0
YAYL	Yayladag	6.19	247	*i* P	Pn	18 12 14.9	-2.9
AKO	Adana	6.20	262	*i* P	Pn	18 12 18.6	+0.7
YURE	YUREGIR	6.23	256	*e*PN	Pn	18 12 21.7	+3.3
YURE	YUREGIR	6.23	256	*i* P	Pn	18 12 20.9	+2.5
YURE	YUREGIR	6.23	256	P	Pn	18 12 20.9	+2.5
YURE	YUREGIR	6.23	256	*e*Pn	Pn	18 12 21.7	+3.3
RABH	Abou Rabah	6.37	231	*e*P	Pn	18 12 21.4	+1.1
RABH				AML	AML	18 14 21.5	
	comp=E,381nm,0.6s						
RABH				AML	AML	18 14 23.6	
	comp=N,356nm,0.6s						
ARNB	Al Arnab	6.37	246	*e*P	Pn	18 12 22.4	+2.1
ARNB				*e*S	Sn	18 13 37.2	+4.2
ARNB				AML	AML	18 14 28.8	
	comp=E,280nm,0.6s						
ARNB				AML	AML	18 14 29.7	
	comp=N,460nm,0.9s						
GOF	Gofitskoye	6.42	359⇑	*e*P	Pn	18 12 27.7	+6.8
GOF				*e*S	Sb	18 13 48.0	-6.9
GOF				pmax	pmax		
	comp=Z,44nm,0.9s						
GOF				smax	smax		
	comp=N,427nm,1.7s						
ROOS	tl_alroos	6.50	229	*e*P	Pn	18 12 22.4	+0.4
ROOS				AML	AML	18 14 32.8	
	comp=N,629nm,0.8s						
ROOS				AML	AML	18 14 42.5	
	comp=E,599nm,0.8s						
KRTS	Karatas	6.51	254	*e*PN	Pn	18 12 25.1	+2.9
KRTS	Karatas	6.51	254	*e*Pn	Pn	18 12 25.1	+2.9
COAL	Corum-Alaca	6.53	287	*i* P	Pn	18 12 22.4	-0.2
COAL	Corum-Alaca	6.53	287	P	Pn	18 12 22.4	-0.2
BIDA	Albida	6.57	239	*e*P	Pn	18 12 24.4	+1.4
BIDA				*e*S	Sn	18 13 39.5	+1.5
BIDA				AML	AML	18 14 26.1	
	comp=E,801nm,0.7s						
BIDA				AML	AML	18 14 41.0	
	comp=N,933nm,0.7s						
GULE	Gulek	6.76	261	*i* P	Pn	18 12 30.2	+4.4
DIKM	Dikmen	6.76	299	*e*PN	Pn	18 12 27.6	+2.0
DIKM	Dikmen	6.76	299	*e*Pn	Pn	18 12 27.6	+2.0
CORM	Corum	6.78	286	*e*PN	Pn	18 12 28.4	+2.4
CORM	Corum	6.78	286	*e*Pn	Pn	18 12 28.4	+2.4
HAWK	Haweek	6.81	235	*e*P	Pn	18 12 27.0	+0.6
HAWK				*e*S	Sn	18 13 45.0	+1.1
HAWK				AML	AML	18 14 34.1	
	comp=N,285nm,0.6s						
HAWK				AML	AML	18 14 51.7	
	comp=E,191nm,0.7s						
BOYT	Boyabat	6.92	296	*i* P	Pn	18 12 29.8	+2.0
BOYT	Boyabat	6.92	296	P	Pn	18 12 29.8	+2.0
FKH	Fakeheh	6.98	233	*e*P	Pn	18 12 30.1	+1.3
FKH	Fakeheh	6.98	233	*e*P	Pn	18 12 30.1	+1.3
MARH	Ras Al Marh	7.08	232	*e*P	Pn	18 12 30.9	+0.6
MARH				*e*S	Sn	18 13 51.6	+0.6
MARH				AML	AML	18 14 44.3	
	comp=N,183nm,0.7s						
MARH				AML	AML	18 14 52.3	
	comp=E,354nm,0.7s						
KERG	Konya-Eregli	7.24	263	*i* P	Pn	18 12 36.0	+3.7
KERG	Konya-Eregli	7.24	263	P	Pn	18 12 36.0	+3.7
HWQ	Hawqa	7.26	235	*e*P	Pn	18 12 33.3	+0.8
HWQ	Hawqa	7.26	235	*e*P	Pn	18 12 33.3	+0.8
BR131	Keskin Array S	7.48	281	*e*Pn	Pn	18 12 39.0	+3.4
BR131	Keskin Array S	7.48	281	*e*Pn	Pn	18 12 39.0	+3.4
BRTR	Keskin Array B	7.48	281	Pn	Pn	18 12 37.0	+1.4
	comp=E,0.3nm,0.3s,baz=110,slow=14,SNR=12						
ANN	Anapa	7.50	327	*e*P	Pn	18 12 38.9	+3.2
ANN				*e*S	Sn	18 14 07.5	+6.7
ANN				pmax	pmax		
	comp=Z,28nm,1.0s						
ANN				MLR	MLR		
	comp=E,3μm,13.0s						
ANN				MLR	MLR		
	comp=N,2μm,13.0s						
ANN				MLR	MLR		
	comp=Z,3μm,13.0s						
ANN	Anapa	7.50	327	*e*P	Pn	18 12 38.9	+3.2
	comp=Z,28nm,1.0s						
QASN	Qassioun	7.55	230	*e*P	Pn	18 12 36.8	+0.3
QASN				AML	AML	18 15 11.4	
	comp=N,408nm,0.7s						
QASN				AML	AML	18 15 12.1	
	comp=E,280nm,0.6s						
TOTH	TOTAH	7.58	228	*e*P	Pn	18 12 38.2	+1.3
TOTH				*e*S	Sn	18 14 03.2	+0.4
TOTH				AML	AML	18 14 55.6	
	comp=N,155nm,0.7s						
TOTH				AML	AML	18 15 02.8	
	comp=E,140nm,0.7s						
ILGA	Ilgaz	7.66	291	*e*Pn	Pn	18 12 35.6	-2.5
BHL	Bhannes	7.68	234	*e*P	Pn	18 12 42.3	+4.0
BHL	Bhannes	7.68	234	*e*P	Pn	18 12 42.3	+4.0
BRBR	Barbar	7.83	230	*e*P	Pn	18 12 42.0	+1.6
BRBR				*e*S	Sn	18 14 08.7	-0.4
BRBR				AML	AML	18 15 07.9	
	comp=N,142nm,0.7s						
BRBR				AML	AML	18 15 16.4	
	comp=E,170nm,0.7s						
RCY	Rachaya	7.84	231	*e*P	Pn	18 12 44.3	+3.8
DQRL	Deir Qamar	7.86	234	*e*P	Pn	18 12 35.3	-5.5
SALA	Sala	7.89	223	*e*P	Pn	18 12 41.5	+0.3
SALA				*e*S	Sn	18 14 10.3	-0.4
SALA				AML	AML	18 15 27.2	
	comp=N,204nm,0.8s						
NSR	Nassriya	7.99	161	*e*Pn	Pn	18 12 46.5	+4.1
	SNR=39						
SHBL	Chebaa	7.99	231	*e*P	Pn	18 12 45.2	+2.5
SHBL	Chebaa	7.99	231	*e*P	Pn	18 12 45.2	+2.5
ANTO	Ankara	8.14	282	P	Pn	18 12 44.9	+0.3
ANTO	Ankara	8.14	282	P	Pn	18 12 44.9	+0.3
ANTO	Ankara	8.14	282	Pn	Pn	18 12 44.9	+0.3
BR231	Keskin MP Arra	8.15	282	*e*Pn	Pn	18 12 44.1	-0.7
BR231	Keskin MP Arra	8.15	282	*e*Pn	Pn	18 12 44.1	-0.7
ASF	Jabal al Asfar	8.22	220	Pn	Pn	18 12 45.4	-0.4
	comp=N,1.0nm,0.3s,baz=346,slow=20,SNR=12						
ASF				Lg	Lg	18 15 04.6	
	comp=N,1.2nm,0.3s,baz=0.0,slow=20,SNR=2.5						
ASF				LR	LR	18 16 39.7	
	comp=N,1μm,19.8s,baz=354,slow=44						
ERMK	Ermenek	8.37	259	*i* P	Pn	18 12 50.8	+2.9
ERMK	Ermenek	8.37	259	P	Pn	18 12 50.8	+2.9
MMAI	Mount Meron Ar	8.43	231	Pn	Pn	18 12 48.5	-0.1
	comp=N,3.7nm,0.3s,baz=66,slow=14,SNR=12						
MMAI				Lg	Lg	18 15 08.7	
	comp=N,2.5nm,0.3s,baz=19,slow=23,SNR=3.8						
MMAI				LR	LR	18 16 06.8	
	comp=N,1μm,18.3s,baz=40,slow=39						
KONT	Konya--Tatoy	8.52	269	*i* P	Pn	18 12 55.6	+5.8
KDHN	Kadinhani	8.65	273	*i* P	Pn	18 12 55.1	+3.4
KDHN	Kadinhani	8.65	273	P	Pn	18 12 55.1	+3.4
CSS	Mathiatis	8.69	248	Pn	Pn	18 12 52.7	+0.5
CSS	Mathiatis	8.69	248	Pn	Pn	18 12 52.7	+0.5
SIM	Simferopol'	9.24	316	*e*P	Pn	18 13 08.8	+9.2
SIM				S	Sn	18 14 58.5	+15
SIM				pmax	pmax		
	comp=Z,22nm,1.0s						
GOLH	Golhisar	10.83	267	*i* P	Pn	18 13 22.3	+0.8
GOLH	Golhisar	10.83	267	P	Pn	18 13 22.3	+0.8
AKAS	Kas	11.04	262	*e*Pn	Pn	18 13 27.4	+3.0
AKAS	Kas	11.04	262	*e*Pn	Pn	18 13 27.4	+3.0
EIL	Elat	11.23	220	Pn	Pn	18 13 29.5	+2.7
	comp=Z,0.2nm,0.3s,baz=341,slow=9.2,SNR=3.2						
EIL				Lg	Lg	18 16 52.9	
	comp=Z,0.8nm,0.3s,baz=171,slow=19,SNR=4.4						
MANT	Manisa	11.44	274	*e*Pn	Pn	18 13 28.6	-1.3
MANT	Manisa	11.44	274	*e*Pn	Pn	18 13 28.6	-1.3
GEYT	Alibeck	11.78	89	Pn	Pn	18 13 34.4	0.0
	comp=Z,0.5nm,0.3s,baz=281,slow=14,SNR=25						
TLCR		12.52	306⇑	*i*P	Pn	18 13 48.0	+3.5
TLCR		12.52	306⇑	*i*P	Pn	18 13 48.0	+3.5
HARR	Harsova	12.89	303⇑	*i*P	Pn	18 13 54.4	+4.9
CFR	Carcaliu	12.95	305⇑	*i*P	Pn	18 13 55.1	+4.8
KARP	Karpathos	13.14	261	*e*Pn	Pn	18 13 48.3	-4.7
VORR	Voronezh	13.33	349	*e*P	Pn	18 13 58.0	+2.5
VORR				pmax	pmax		
	comp=Z,300nm,1.6s						
VORR	Voronezh	13.33	349	*e*P	Pn	18 13 58.0	+2.5
	comp=Z,300nm,1.6s						
ALN	Alexandroupoli	13.36	285	P	P	18 14 05.6	0.0
CHOS	Chios island	13.40	274	P	P	18 14 07.5	+1.3
KIS	Kishinev	13.43	313	*e*P	P	18 14 02.0	-4.3
KIS				LRM	MLR	18 22 57.0	
	comp=Z,1μm,12.0s						
KIS	Kishinev	13.43	313	*e*P	P	18 14 02.0	-4.3
LEOM	Leova	13.49	310⇑	*i*P	Pn	18 14 01.9	+4.3
PGOR	Pogoanele	13.60	303⇓	*i*P	P	18 14 04.2	-3.9
PETR	Petresti	13.76	306⇓	*i*P	P	18 14 06.0	-4.0
ODBI	Odobesti	13.89	306⇑	*i*P	P	18 14 07.3	-4.1
ISR	Istrita	13.96	303⇑	*i*P	Pn	18 14 07.7	+3.5
ISR	Istrita	13.96	303⇑	*i*P	Pn	18 14 07.7	+3.5
SULR		14.00	301⇑	*i*P	Pn	18 14 07.9	+3.3
SULR		14.00	301⇑	*i*P	Pn	18 14 07.9	+3.3
APE	Apeiranthos	14.02	269⇓	*i*P	Pn	18 14 07.1	+2.0
APE	Apeiranthos	14.02	269⇓	*i*P	Pn	18 14 07.1	+2.0
VRI	Vrincioaia	14.14	306⇑	*i*P	Pn	18 14 10.0	+3.4
VRI	Vrincioaia	14.14	306⇑	*i*P	Pn	18 14 10.0	+3.4
PLOR	Plostina	14.18	306⇑	*i*P	P	18 14 11.3	-3.5
PLOR	Plostina	14.18	306⇑	*i*P	P	18 14 11.3	-3.5
SECR		14.25	302⇓	*i*P	P	18 14 11.7	-3.7
SECR		14.25	302⇓	*i*P	P	18 14 11.7	-3.7
LPSR	Galich'ya Gora	14.28	349	*e*P	Pn	18 14 10.6	+2.2
LPSR				pmax	pmax		
	comp=Z,50nm,1.0s						
SORM	Soroca	14.34	316⇑	*i*P	Pn	18 14 12.2	+3.0
TESR	Tescani	14.47	308⇓	*i*P	Pn	18 14 14.3	+3.1
MLR	Muntele Rosu	14.49	304	Pn	Pn	18 14 11.2	-0.4
	comp=Z,0.0nm,0.3s,baz=89,slow=17,SNR=2.9						
MLR	Muntele Rosu	14.49	304⇑	*i*P	P	18 14 16.5	-1.8
MLR	Muntele Rosu	14.49	304	*e*P	P	18 14 19.0	+0.7
MLR	Muntele Rosu	14.49	304	Pn	Pn	18 14 11.2	-0.4
MLR				*e*P	P	18 14 19.0	+0.7
LAST	Lasithi	14.57	262	P	P	18 14 15.7	-3.4
LAST	Lasithi	14.57	262	P	P	18 14 15.7	-3.4
HUMR	Humele	14.82	299⇑	*i*P	P	18 14 20.3	-1.4
HUMR	Humele	14.82	299⇑	*i*P	P	18 14 20.3	-1.4
MTUR	Matau	14.98	302⇑	*i*P	P	18 14 22.9	-0.8
MTUR	Matau	14.98	302⇑	*i*P	P	18 14 22.9	-0.8
IDI	Anoyia	14.98	263	Pn	Pn	18 14 18.1	-0.1
	comp=Z,0.4nm,0.3s,baz=69,slow=12,SNR=7.8						
IDI	Anoyia	14.98	263	P	Pn	18 14 19.2	+1.0
IDI	Anoyia	14.98	263	*e*Pn	Pn	18 14 17.2	-1.0
IDI	Anoyia	14.98	263	*e*Pn	Pn	18 14 17.2	-1.0
DOPR	Dopca	15.04	305⇑	*i*P	Pn	18 14 20.4	+1.6
EREA	Eretria	15.06	275	P	P	18 14 29.2	+4.7
VOIR		15.06	303⇓	*i*P	P	18 14 23.6	-1.0
VOIR		15.06	303⇓	*i*P	P	18 14 23.6	-1.0
PRAR	RASCA	15.13	311⇓	*i*P	P	18 14 24.1	-1.1
SIVA	Sivas	15.13	262	P	Pn	18 14 22.3	+2.2
SIVA	Sivas	15.13	262	P	Pn	18 14 22.3	+2.2
RAYN	Ar Rayn	15.20	172	*e*Pn	Pn	18 14 16.4	-4.6
	comp=Z,68nm,1.1s						
ATHU	Athens Univers	15.23	274	P	P	18 14 27.7	+1.3
ATHU	Athens Univers	15.23	274	P	P	18 14 27.7	+1.3
ATHU	Athens Univers	15.23	274	P	P	18 14 27.7	+1.3
ATHU	Athens Univers	15.23	274	P	P	18 14 27.7	+1.3
ATH	Athens Observa	15.28	274	P	P	18 14 32.0	+5.1
ATH	Athens Observa	15.28	274	P	P	18 14 32.0	+5.1
ARR	Arges	15.31	302⇓	*i*P	P	18 14 26.5	-0.8
ARR	Arges	15.31	302⇓	*i*P	P	18 14 26.5	-0.8
VAM	Vamos	15.48	264	P	P	18 14 29.4	+0.2
VAM	Vamos	15.48	264	P	P	18 14 29.4	+0.2
VAM	Vamos	15.48	264	P	P	18 14 29.4	+0.2
VAM	Vamos	15.48	264	P	P	18 14 29.4	+0.2
SMIA	Simia	15.57	277	P	P	18 14 35.9	+5.7
AKASG	Malin Array Be	15.58	325	Pn	Pn	18 14 24.8	-1.1
	comp=Z,1.2nm,0.3s,baz=131,slow=12,SNR=44						
AKASG				LR	LR	18 21 42.3	
	comp=Z,384nm,21.7s,baz=140,slow=42						
AKBB	Malin Array Si	15.58	325	*e*P	Pn	18 14 27.3	+1.3
AKBB				pmax	pmax		
	comp=Z,177nm,1.3s						
AKBB	Malin Array Si	15.58	325	*e*Pn	Pn	18 14 27.2	+1.3
	comp=Z,176nm,1.3s						
AKBB	Malin Array Si	15.58	325	*e*Pn	Pn	18 14 27.2	+1.3
	comp=Z,176nm,1.3s						
HORT	Hortiatis	15.59	284	P	Pn	18 14 28.1	+2.0
HORT	Hortiatis	15.59	284	P	Pn	18 14 28.1	+2.0
KIEV	Kiev	15.59	325*c*	*i*P	Pn	18 14 27.8	+1.8
KIEV	Kiev	15.59	325	*e*Pn	Pn	18 14 26.0	+0.1
	comp=Z,174nm,1.3s						
KIEV	Kiev	15.59	325	*e*Pn	Pn	18 14 26.0	+0.1
	comp=Z,174nm,1.3s						
IMMV	Iera Moni Meta	15.64	264	P	Pn	18 14 28.6	+1.8
VTS	Vitosha	15.65	291	P	P	18 14 32.3	+1.1
VTS	Vitosha	15.65	291	P	P	18 14 32.3	+1.1
VTS	Vitosha	15.65	291	P	P	18 14 32.3	+1.1
VTS	Vitosha	15.65	291	P	P	18 14 32.3	+1.1
THE	Thessaloniki	15.69	284	P	P	18 14 31.3	-0.1
THE	Thessaloniki	15.69	284	P	P	18 14 31.3	-0.1
THE	Thessaloniki	15.69	284	P	P	18 14 31.3	-0.1
THE	Thessaloniki	15.69	284	P	P	18 14 31.3	-0.1
DID	Didima	15.73	272	P	P	18 14 32.3	+0.3
DID	Didima	15.73	272	P	P	18 14 32.3	+0.3
DID	Didima	15.73	272	P	P	18 14 32.3	+0.3
GVD	Gavdhos	15.75	262	P	Pn	18 14 29.1	+0.9
GVD	Gavdhos	15.75	262	P	Pn	18 14 29.1	+0.9
LKR	Lokris	15.76	276	P	P	18 14 33.0	+0.8
LKR	Lokris	15.76	276	P	P	18 14 33.0	+0.8
LKR	Lokris	15.76	276	P	P	18 14 33.0	+0.8
AKTO	Aktyubinsk	15.82	37	Pn	Pn	18 14 27.8	-1.2
	comp=Z,0.5nm,0.3s,baz=229,slow=12,SNR=22						
AKTO				LR	LR	18 22 18.9	
	comp=Z,2μm,19.4s,baz=223,slow=44						
AKTO	Aktyubinsk	15.82	37	P	Pn	18 14 26.0	-3.0
AKTO				pmax	pmax		
	comp=Z,65nm,1.1s						
BURAR	Bucovina Array	15.85	310⇑	*i*P	P	18 14 33.7	+0.4
BURAR	Bucovina Array	15.85	310⇑	*i*P	P	18 14 33.7	+0.4
LTK	Loutraki	15.86	274	P	P	18 14 35.2	+1.8
LTK	Loutraki	15.86	274	P	P	18 14 35.2	+1.8
LTK	Loutraki	15.86	274	P	P	18 14 35.2	+1.8
BUR08	Bucovina Ar. S	15.88	310	*e*Pn	Pn	18 14 31.0	+1.1
BUR08	Bucovina Ar. S	15.88	310	*e*Pn	Pn	18 14 31.0	+1.1
LOT	Lotru	15.91	302⇓	*i*P	P	18 14 32.8	-1.3
AB31	Akbulak array	16.05	43	P	Pn	18 14 30.8	-1.2
AB31				pmax	pmax		
	comp=Z,14nm,0.8s						
ABKAR	Akbulak array	16.05	43	*e*Pn	Pn	18 14 30.2	-1.8
	comp=Z,124nm,0.9s						
LIT	Litokhoron	16.05	282	P	Pn	18 14 32.9	+0.8
LIT	Litokhoron	16.05	282	P	Pn	18 14 32.9	+0.8
LIT	Litokhoron	16.05	282	P	Pn	18 14 32.9	+0.8
THAL	Thalero	16.10	274	P	P	18 14 37.8	+1.8
THAL	Thalero	16.10	274	P	P	18 14 37.8	+1.8
ARCR	ARCALIA	16.14	308⇑	*i*P	P	18 14 37.4	+0.9
ARCR	ARCALIA	16.14	308⇑	*i*P	P	18 14 37.4	+0.9
DSF	Desfina	16.15	276	P	P	18 14 39.9	+3.2
DSF	Desfina	16.15	276	P	P	18 14 39.9	+3.2
DSF	Desfina	16.15	276	P	P	18 14 39.9	+3.2
AGG	Agios Georgios	16.24	278	P	P	18 14 39.4	+1.8
AGG	Agios Georgios	16.24	278	*e*P	P	18 14 40.9	+3.3
AGG				pmax	pmax		
	comp=Z,327nm,1.7s						
AGG	Agios Georgios	16.24	278	*e*P	P	18 14 40.9	+3.3
	comp=Z,327nm,1.7s						
AGG	Agios Georgios	16.24	278	*e*Pn	P	18 14 40.9	+3.3
	comp=Z,327nm,1.7s						
GUR	Goura	16.36	274	P	P	18 14 40.8	+1.7
GUR	Goura	16.36	274	P	P	18 14 40.8	+1.7
GUR	Goura	16.36	274	P	P	18 14 40.8	+1.7
VLX	Vlachokerasia	16.43	272	P	P	18 14 41.5	+1.7
VLX	Vlachokerasia	16.43	272	P	P	18 14 41.5	+1.7
VLX	Vlachokerasia	16.43	272	P	P	18 14 41.5	+1.7
THL	Klokotos Trika	16.44	280	P	P	18 14 40.9	+1.1
THL	Klokotos Trika	16.44	280	P	P	18 14 40.9	+1.1
KALE	Kalithea	16.46	276	P	P	18 14 43.8	+3.7
KALE	Kalithea	16.46	276	P	P	18 14 43.8	+3.7
KALE	Kalithea	16.46	276	P	P	18 14 43.8	+3.7
CJR	Cluj-Napoca	16.47	306⇓	*i*P	P	18 14 39.6	-0.5
CJR	Cluj-Napoca	16.47	306⇓	*i*P	P	18 14 39.6	-0.5
KLV	Kalavryta, Ach	16.50	275	P	Pn	18 14 35.2	-2.6
KLV	Kalavryta, Ach	16.50	275	P	Pn	18 14 35.2	-2.6
SERG	Sergoula	16.52	276	P	P	18 14 41.9	+1.2
SERG	Sergoula	16.52	276	P	P	18 14 41.9	+1.2
ZAGS	Zajecar	16.56	295	*e*P	P	18 14 43.2	+2.1
KZN	Kozani	16.60	283	P	Pn	18 14 33.1	-6.1
KZN	Kozani	16.60	283	P	Pn	18 14 33.1	-6.1
ANX	Ano Chora	16.60	277	P	P	18 14 43.4	+1.7
ANX	Ano Chora	16.60	277	P	P	18 14 43.4	+1.7
LAKA	Lakka	16.60	275	P	P	18 14 43.5	+1.9
LAKA	Lakka	16.60	275	P	P	18 14 43.5	+1.9
LAKA	Lakka	16.60	275	P	P	18 14 43.5	+1.9
DEV	Deva	16.63	302⇑	*i*P	P	18 14 43.5	+1.7
DEV	Deva	16.63	302⇑	*i*P	P	18 14 43.5	+1.7
EFP	Efpalio	16.64	276	P	P	18 14 42.6	+0.7
EFP	Efpalio	16.64	276	P	P	18 14 42.6	+0.7
EVR	Evrytania	16.66	278	P	P	18 14 43.8	+1.5
EVR	Evrytania	16.66	278	P	P	18 14 43.8	+1.5
EVR	Evrytania	16.66	278	P	P	18 14 43.8	+1.5
BARS	Barje	16.70	291	*e*P	P	18 14 46.4	+3.7
ITM	Ithomi	16.82	272	P	P	18 14 43.7	-0.4
ITM	Ithomi	16.82	272	P	P	18 14 43.7	-0.4
ITM	Ithomi	16.82	272	P	P	18 14 43.7	-0.4
BANOM	Banah	16.83	135	P	Pn	18 14 40.0	-2.0
BANOM	Banah	16.83	135	P	Pn	18 14 39.2	-2.9
	SNR=5.8						
BANOM	Banah	16.83	135	Pn	Pn	18 14 39.2	-2.9
	SNR=5.8						
DRO	Drossia	16.85	274	P	P	18 14 46.2	+1.8
DRO	Drossia	16.85	274	P	P	18 14 46.2	+1.8
SKO	Skopje	16.89	288	P	P	18 14 46.2	+1.4
SKO	Skopje	16.89	288	P	P	18 14 46.2	+1.4
SKO	Skopje	16.89	288	P	P	18 14 46.2	+1.4
SKO	Skopje	16.89	288	P	P	18 14 46.2	+1.4
FNA	Florina	16.90	284	P	P	18 14 48.5	+3.6
FNA	Florina	16.90	284	P	P	18 14 48.5	+3.6
FNA	Florina	16.90	284	P	P	18 14 48.5	+3.6
FNA	Florina	16.90	284	P	P	18 14 48.5	+3.6
BOVS	Bovan	16.90	294	*e*P	P	18 14 45.6	+

KEK Kerkira 18.14 281 P **Pn 18 14 53.6 -4.7**
DIVS Divibare 18.20 295 P **P 18 15 00.3 +0.9**
DIVS Divibare 18.20 295 P **P 18 15 00.3 +0.9**
KWP Kalwaria Pacla 18.28 314 *eP* **P 18 15 00.6 +0.5**
KWP Kalwaria Pacla 18.28 314 *eP* **P 18 15 00.6 +0.5**
KWP Kalwaria Pacla 18.28 314 *eP* **P 18 15 00.6 +0.5**
FGSL Fruska Gora 18.53 298⇑ *iP* **Pn 18 15 03.3 +0.2**
FRGS Fruska Gora 18.53 298 *eP* **Pn 18 15 04.7 +1.6**
PDG Podgorica 18.55 289 P **Pn 18 15 05.9 +2.7**
PDG Podgorica 18.55 289⇓ *iP* **Pn 18 15 03.8 +0.6**
PDG Podgorica 18.55 289⇓ *iP* **Pn 18 15 03.8 +0.6**
TTG Podgorica 18.55 289 P **Pn 18 15 05.9 +2.7**
TTG Podgorica 18.55 289 P **Pn 18 15 05.9 +2.7**
TTG Podgorica 18.55 289 P **Pn 18 15 05.9 +2.7**
DRME Dracevica, Mon 18.59 289 *eP* **Pn 18 15 06.3 +2.6**
BBLS Lazići 18.59 294⇑ *iP* **Pn 18 15 04.7 +0.9**
TEKS Tekeris 18.61 296 *eP* **P 18 15 03.3 -0.4**
CRVS Cervenica-Dubn 18.67 310 *eP* **Pn 18 15 07.9 +3.2**
CRVS Cervenica-Dubn 18.67 310 *eP* **Pn 18 15 07.9 +3.2**
CRVS Cervenica-Dubn 18.67 310 *eP* **Pn 18 15 07.9 +3.2**
UPM Unac-Piva 18.87 292 *eP* **Pn 18 15 08.1 +0.8**
HAPS Han Pijesak,BI 18.94 294 *eP* **Pn 18 15 09.8 +1.6**
MICGM Minsk 18.96 332 *eP* **Pn 18 15 09.0 +0.8**
MICGM PM 18 15 10.0
comp=Z,0.2nm,1.0s
MICGM *e* 18 15 17.0
MICGM *e* 18 15 30.0
MNK Minsk 18.96 332 *eP* **Pn 18 15 09.0 +0.8**
MNK pmax pmax
comp=Z,170nm,1.0s
STHS Stebnicka Huta 19.02 312 *eP* **Pn 18 15 10.7 +1.7**
STHS pmax pmax
comp=Z,21nm,1.2s
STHS Stebnicka Huta 19.02 312 *eP* **Pn 18 15 10.7 +1.7**
comp=Z,21nm,1.2s
STHS Stebnicka Huta 19.02 312 *eP* **Pn 18 15 10.7 +1.7**
KECS Kecovo 19.09 308 *eP* **Pn 18 15 11.1 +1.3**
KECS pmax pmax
comp=Z,11nm,1.1s
KECS Kecovo 19.09 308 *eP* **Pn 18 15 11.1 +1.3**
comp=Z,11nm,1.1s
KECS Kecovo 19.09 308 *eP* **Pn 18 15 11.1 +1.3**
BRY Bratogost 19.11 291 *eP* **Pn 18 15 10.8 +0.6**
HCY Herceg Novi 19.11 289 *eP* **P 18 15 09.0 -0.2**
TREB Trebinje 19.23 290 *eP* **P 18 15 10.2 -0.4**
PSZ Piszkesteto 19.25 306⇓ *iP* **P 18 15 11.1 +0.2**
PSZ Piszkesteto 19.25 306 *eP* **Pn 18 15 12.7 +0.9**
PSZ pmax pmax
comp=Z,84nm,1.1s
PSZ Piszkesteto 19.25 306 *eP* **Pn 18 15 12.7 +0.9**
comp=Z,84nm,1.1s
PSZ Piszkesteto 19.25 306⇑ *eP* **Pn 18 15 14.2 +2.4**
PSZ Piszkesteto 19.25 306 *eP* **Pn 18 15 12.7 +0.9**
comp=Z,84nm,1.1s
NIE Niedzica 19.58 311 *eP* **Pn 18 15 15.8 +0.1**
NIE Niedzica 19.58 311 *eP* **Pn 18 15 15.8 +0.1**
DOB Doboj 19.64 296 *eP* **Pn 18 15 17.7 +1.3**
BUD Budapest 19.67 305⇑ *eP* **Pn 18 15 20.3 +3.6**
NACGM Naroch 19.68 331 *e* **P 18 15 14.0 -1.4**
STON Ston 19.72 291 P **P 18 15 15.7 -0.1**
BIDO Bidbid 19.74 135 P **Pn 18 15 16.9 -0.8**
SNR=8.1
BIDO Bidbid 19.74 135 Pn **Pn 18 15 16.9 -0.8**
SNR=8.1
LANS Liptovska Anna 19.97 309 *eP* **Pn 18 15 20.6 +0.2**
LANS Liptovska Anna 19.97 309 *eP* **Pn 18 15 20.6 +0.2**
LANS Liptovska Anna 19.97 309 *eP* **Pn 18 15 20.6 +0.2**
IDID Didziasalis 20.01 332 *eP* **P 18 15 18.3 -0.7**
IDID IAmb IAmb 18 15 23.4
comp=Z,46nm,1.3s
VYHS Vyhne 20.12 307 *eP* Pn 18 15 21.9 -0.2
VYHS pmax pmax
comp=Z,89nm,1.3s
VYHS Vyhne 20.12 307 *eP* Pn 18 15 21.9 -0.2
comp=Z,89nm,1.3s
VYHS Vyhne 20.12 307 *eP* Pn 18 15 21.9 -0.2
CSKK Cs‡kako 20.13 304⇑ *eP* Pn 18 15 22.0 -0.2
CSKK Cs‡kako 20.13 304⇑ *eP* Pn 18 15 22.0 -0.2
OJC Ojcow 20.22 313 *eP* **P 18 15 22.1 +0.8**
OJC Ojcow 20.22 313 *eP* Pn 18 15 22.4 -0.8
OJC pmax pmax
comp=Z,93nm,1.5s
OJC Ojcow 20.22 313 *eP* Pn 18 15 22.4 -0.8
comp=Z,93nm,1.5s
OJC Ojcow 20.22 313 *eP* Pn 18 15 22.4 -0.8
comp=Z,93nm,1.5s
IIGN Ignalina 20.23 331 *eP* **P 18 15 20.8 -0.6**
IIGN IAmb IAmb 18 15 27.6
comp=Z,100nm,1.4s
WSAR Wadi Sarin 20.24 135 P **P 18 15 21.9 +0.1**
comp=Z,15nm,0.8s,baz=326,slow=11,SNR=15
WSAR LR LR 18 25 18.2
comp=Z,1µm,19.0s,baz=330,slow=43
BLY Banja Luka 20.29 296 *eP* **P 18 15 22.8 +0.7**
comp=Z,46nm,1.2s
BLY Banja Luka 20.29 296 *eP* **P 18 15 22.8 +0.7**
comp=Z,46nm,1.2s
CHM Chimkent 20.42 71 *i P* **P 18 15 22.1 -1.4**
comp=Z,2µm,1.2s
CHM *eS* **S 18 19 12.3 +0.2**
CHM LRM MLR 18 24 44.5
comp=Z,130nm,10.3s
ISAL Salakas 20.44 332 *eP* **P 18 15 23.0 -0.5**
ISAL IAmb IAmb 18 15 28.7
comp=Z,63nm,1.2s
BEL Belsk 20.45 317 *eP* **P 18 15 24.3 +0.6**
BEL Belsk 20.45 317 *eP* **P 18 15 24.3 +0.6**
BEL Belsk 20.45 317 *eP* **P 18 15 24.3 +0.6**
IZAR Zarasai 20.53 332 *eP* **P 18 15 23.9 -0.7**
IZAR IAmb IAmb 18 15 34.0
comp=Z,79nm,1.2s
ARU Arti 20.53 25 P **P 18 15 24.9 +0.3**
comp=Z,25nm,0.5s,baz=212,slow=9.5,SNR=31
ARU LR LR 18 25 37.2
comp=Z,1µm,18.9s,baz=219,slow=43
ARU Arti 20.53 25 *eP* **P 18 15 24.6 0.0**
comp=Z,359nm,1.5s
SUW Suwalki 20.55 325 *eP* Pn 18 15 28.6 +1.5
SUW Suwalki 20.55 325 *eP* Pn 18 15 28.6 +1.5
SUW Suwalki 20.55 325 *eP* Pn 18 15 28.6 +1.5
BRLS Borolday 20.62 69 *i P* **P 18 15 23.2 -2.6**
comp=Z,180nm,1.4s
BRLS *i S* **S 18 19 14.2 -1.9**
BRLS LRM MLR 18 24 44.9
comp=Z,178nm,14.4s
IUG Iuzhnay 20.73 72 *i P* **P 18 15 25.3 -1.8**
comp=Z,796nm,1.0s
IUG *i S* **S 18 19 18.5 0.0**
IUG LRM MLR 18 24 46.8
comp=Z,108nm,9.6s
BEHE Becsehely 20.89 301 *eP* Pn 18 15 30.2 -0.9
BEHE Becsehely 20.89 301⇑ *eP* Pn 18 15 33.3 +2.2
SISC Sisak 20.97 298 P Pn 18 15 33.7 +1.7
SMOL Smolenice 21.01 306 *eP* **P 18 15 32.5 +2.6**
SMOL Smolenice 21.01 306 *eP* **P 18 15 32.5 +2.6**
SMOL Smolenice 21.01 306 *eP* **P 18 15 32.5 +2.6**
OKC Ostrava-Krasne 21.03 310 *eP* **P 18 15 31.0 +0.9**
OKC *epP* **sP 18 15 34.1 -0.4**
OKC *eS* Sn 18 19 29.3 -0.9
OKC AMS AMS 18 27 40.0
comp=Z,800nm,13.9s
OKC Ostrava-Krasne 21.03 310 *eP* **P 18 15 31.0 +0.9**
OKC *e* 18 15 34.1
OKC *eS* Sn 18 19 29.3 -0.9
OKC MLR MLR
comp=Z,800nm,13.9s
OKC Ostrava-Krasne 21.03 310 P **P 18 15 31.0 +0.9**
RAC Raciborz 21.10 311 *eP* **P 18 15 34.8 +4.0**
RAC MLR MLR
comp=Z,1µm,13.8s
RAC Raciborz 21.10 311 *eP* **P 18 15 34.8 +4.0**
KK31 Karatay Array 21.12 69 *i P* **P 18 15 31.7 +0.6**
KK31 pmax pmax
comp=Z,52nm,0.8s
KKAR Karatay Array 21.12 69 *eP* **P 18 15 30.3 -0.8**
KKAR Karatay Array 21.12 69 *eP* **P 18 15 30.3 -0.8**
KBL Kabul 21.16 93 *eP* **P 18 15 33.9 +2.1**
KBL pmax pmax
comp=Z,113nm,1.1s
KBL Kabul 21.16 93 *eP* **P 18 15 33.9 +2.1**
comp=Z,113nm,1.1s
KBL Kabul 21.16 93 *eP* **P 18 15 33.9 +2.1**
comp=Z,113nm,1.1s
CUC Castrocucco 21.18 282 *eP* **P 18 15 31.3 -0.5**
comp=Z,43nm,1.0s
CUC Castrocucco 21.18 282 *eP* **P 18 15 31.3 -0.5**
comp=Z,43nm,1.0s
KOGS Kog 21.24 300 *eP* **P 18 15 32.8 +0.5**
KOGS Kog 21.24 300 *eP* **P 18 15 32.8 +0.5**
UDBI Udbina 21.27 295 P **P 18 15 36.3 +3.6**
ZAG Zagreb 21.30 298 *eP* **P 18 15 34.7 +1.7**
SOP Sopron 21.32 304⇑ *eP* **P 18 15 34.3 +1.1**
CEL Celeste 21.34 278 *eP* **P 18 15 35.5 +1.9**
comp=Z,79nm,1.3s
MORC Moravsky Berou 21.37 310⇓ *iP* **P 18 15 34.4 +0.6**
MORC Moravsky Berou 21.37 310 *eP* **P 18 15 34.3 +0.5**
MORC pmax pmax
comp=Z,201nm,1.4s
MORC Moravsky Berou 21.37 310 *eP* **P 18 15 34.3 +0.5**
comp=Z,201nm,1.4s
MORC Moravsky Berou 21.37 310 *eP* **P 18 15 34.3 +0.5**
comp=Z,201nm,1.4s
SVE Sverdlovsk 21.55 27⇑ *eP* **P 18 15 36.4 +0.8**
SVE *eS* **S 18 19 30.4 -3.9**
SVE pmax pmax
comp=Z,178nm,1.3s
SVE MLR MLR
comp=Z,1µm,18.0s
OZLJ Ozalj 21.62 298 P **P 18 15 38.2 +1.8**
CRES Cresnjev 21.66 298 *eP* **P 18 15 38.8 +1.9**
CRES Cresnjev 21.66 298 *eP* **P 18 15 38.8 +1.9**
DZA Taraz 21.71 70 *i P* **P 18 15 36.7 -0.8**
comp=Z,893nm,1.5s
VRAC Vranov 21.79 308 P **P 18 15 38.1 -0.1**
comp=Z,26nm,1.0s,baz=109,slow=9.2,SNR=19
VRAC LR LR 18 26 22.1
comp=Z,396nm,18.8s,baz=106,slow=43
VRAC PKKP **PKKPdf 18 42 32.3 +3.0**
comp=Z,1.6nm,0.5s,baz=75,slow=1.3,SNR=3.5
VRAC Vranov 21.79 308 *eP* **P 18 15 39.4 +1.2**
CONA Conrad Observa 21.84 304 *i pP* **P 18 15 40.2 +1.3**
comp=Z,33nm,0.8s,SNR=51
CONA Conrad Observa 21.84 304 P **P 18 15 40.2 +1.3**
comp=Z,33nm,0.8s,SNR=51
ARSA Arzberg 21.90 302 *i pP* **P 18 15 40.8 +1.3**
comp=Z,11nm,0.8s,SNR=18
ARSA Arzberg 21.90 302 P **P 18 15 40.8 +1.3**
comp=Z,11nm,0.8s,SNR=18
NVLJ Novalja 21.91 295 P **P 18 15 34.5 -5.0**
KRLC Kraliky 21.94 310 *eP* **P 18 15 42.2 +2.3**
KRLC Kraliky 21.94 310 *eP* **P 18 15 42.2 +2.3**
KRLC Kraliky 21.94 310 *eP* **P 18 15 42.2 +2.3**
PERS Pernice 22.04 300 *eP* **P 18 15 43.1 +2.1**
PERS Pernice 22.04 300 *eP* **P 18 15 43.1 +2.1**
SOKA Soboth 22.11 300 *i P* **P 18 15 43.9 +2.1**
comp=Z,10nm,1.1s,SNR=10
SOKA Soboth 22.11 300 P **P 18 15 43.9 +2.1**
comp=Z,10nm,1.1s,SNR=10
DPC Dobruska-Polom 22.31 310 *eP* **P 18 15 45.8 +1.9**
DPC *eS* **S 18 19 52.8 +3.7**
DPC AMS AMS 18 27 10.0
comp=Z,900nm,11.1s
DPC Dobruska-Polom 22.31 310 *eP* **P 18 15 45.8 +1.9**
DPC *eS* **S 18 19 52.8 +3.7**
DPC MLR MLR
comp=Z,900nm,11.1s
DPC Dobruska-Polom 22.31 310 *eP* **P 18 15 45.8 +1.9**
comp=Z,900nm,11.1s
LJU Ljubljana 22.34 299 *eP* **P 18 15 46.5 +2.3**
LJU Ljubljana 22.34 299 *eP* **P 18 15 46.5 +2.3**
KLMR Klimovskoe 22.36 355 *eP* **P 18 15 43.6 -0.6**
KLMR pmax pmax
comp=Z,232nm,1.4s
KLMR MLR MLR
comp=Z,474nm,10.0s
CEY Cerknica 22.36 298 *eP* **P 18 15 47.8 +3.3**
OBKA Obir 22.40 300 *i P* **P 18 15 46.9 +1.9**
comp=Z,1.3nm,0.6s
OBKA Obir 22.40 300 P **P 18 15 46.9 +1.9**
comp=Z,1.3nm,0.6s
TREC Trest 22.47 307 *eP* **P 18 15 46.2 +0.6**
TREC *epP* **sP 18 15 50.4 +0.4**
TREC *eS* **S 18 19 57.0 +5.0**
TREC AMS AMS 18 26 50.0
comp=Z,700nm,16.6s
TREC Trest 22.47 307 *eP* **P 18 15 46.2 +0.6**
TREC *e* 18 15 50.4
TREC *eS* **S 18 19 57.0 +5.0**
TREC MLR MLR
comp=Z,700nm,16.6s
TREC Trest 22.47 307 P **P 18 15 46.2 +0.6**
VSU Vasula 22.51 337 *d iP* **P 18 15 46.9 +1.1**
VSU pmax pmax
comp=Z,380nm,1.2s
VSU Vasula 22.51 337 *eP* **P 18 15 46.5 +0.7**
comp=Z,408nm,1.5s,SNR=152
KSP Ksiaz 22.52 312 *eP* **P 18 15 47.0 +1.0**
KSP Ksiaz 22.52 312 *eP* **P 18 15 47.1 +1.0**
KSP Ksiaz 22.52 312 *eP* **P 18 15 47.0 +1.0**
UPC Upice 22.56 311 *eP* **P 18 15 48.2 +1.7**
UPC *eS* **S 18 19 56.1 +2.6**
UPC AMS AMS 18 29 50.0
comp=Z,600nm,13.1s
UPC Upice 22.56 311 *eP* **P 18 15 48.2 +1.7**
UPC *eS* **S 18 19 56.1 +2.6**
UPC MLR MLR
comp=Z,600nm,13.1s
UPC Upice 22.56 311 *eP* **P 18 15 48.2 +1.7**
comp=Z,600nm,13.1s
MNAS Manas 22.57 71 P **P 18 15 47.4 +0.6**
MNAS pmax pmax
comp=Z,51nm,1.4s
PUL Pulkovo 22.68 343⇓ *eP* **P 18 15 51.1 +3.5**
PUL pmax pmax
comp=Z,79nm,0.6s
SOKR Solikamsk 22.71 18 *c iP* **P 18 15 50.3 +2.4**
SOKR S **S 18 20 02.0 +6.0**
SOKR pmax pmax
comp=Z,77nm,1.1s
SOKR MLR MLR
comp=Z,1µm,19.0s
MOA Molln 22.86 303 *i P* **P 18 15 50.1 +0.3**
comp=Z,20nm,0.8s,SNR=15
MOA Molln 22.86 303 P **P 18 15 50.1 +0.3**
comp=Z,20nm,0.8s,SNR=15
AQU L'Aquila 22.88 289 *eP* **P 18 15 49.3 -0.7**
AQU pmax pmax
comp=Z,238nm,1.5s
AQU L'Aquila 22.88 289 *eP* **P 18 15 49.3 -0.7**
comp=Z,238nm,1.5s
GOPC GO Pecny, Ondr 23.09 308 *eP* **P 18 15 52.3 +0.2**
GOPC *eS* **S 18 20 06.2 +3.1**
GOPC AMS AMS 18 29 00.0
comp=Z,700nm,15.4s
GOPC GO Pecny, Ondr 23.09 308 *eP* **P 18 15 52.3 +0.2**
GOPC *eS* **S 18 20 06.2 +3.1**
GOPC MLR MLR
comp=Z,700nm,15.4s
GOPC GO Pecny, Ondr 23.09 308 P **P 18 15 52.3 +0.2**
GOPC S **S 18 20 06.2 +3.1**
PRU Pruhonice 23.27 308 *eP* **P 18 15 53.9 0.0**
PRU *eS* **S 18 20 08.6 +2.7**
PRU AMS AMS 18 29 00.0
comp=Z,700nm,16.2s
PRU Pruhonice 23.27 308 *eP* **P 18 15 53.9 0.0**
PRU *eS* **S 18 20 08.6 +2.7**
PRU MLR MLR
comp=Z,700nm,16.2s
PRU Pruhonice 23.27 308 P **P 18 15 53.9 0.0**
PRU S **S 18 20 08.6 +2.7**
KBA Koelnbreinsper 23.32 301 *i P* **P 18 15 54.3 -0.3**
comp=Z,1.5nm,0.2s,SNR=18
KBA Koelnbreinsper 23.32 301 P **P 18 15 54.3 -0.3**
comp=Z,1.5nm,0.2s,SNR=18
PRA Prague 23.36 309 *eS* **S 18 20 14.9 +7.5**
SLIT Slitere, Latvi 23.39 331 *eP* **P 18 15 54.8 -0.2**
comp=Z,430nm,1.9s,SNR=152
PVCC Panska Ves 23.43 310 *eP* **P 18 15 56.4 +1.0**
PVCC AMS AMS 18 27 40.0
comp=Z,800nm,12.5s
PVCC Panska Ves 23.43 310 *eP* **P 18 15 56.4 +1.0**
PVCC MLR MLR
comp=Z,800nm,12.5s
PVCC Panska Ves 23.43 310 *eP* **P 18 15 56.4 +1.0**
comp=Z,800nm,12.5s
GEC2 GERESS Array S 23.47 305 *eP* **P 18 15 56.4 +0.4**
GEC2 pmax pmax
comp=Z,23nm,1.1s
GEC2 GERESS Array S 23.47 305 *eP* **P 18 15 56.4 +0.4**
comp=Z,23nm,1.1s
GERES GERESS Array B 23.47 305 P **P 18 15 55.1 -0.9**
comp=Z,7.1nm,0.9s,baz=106,slow=8.7,SNR=23
GERES GERESS Array B 23.47 305 P **P 18 15 55.1 -0.9**
GERES pmax pmax
comp=Z,4.0nm,0.8s
CLTB Caltabellotta 23.54 277 *eP* **P 18 15 58.0 +1.2**
comp=Z,34nm,1.2s
BRVK Borovoye 23.58 43 *c iP* **P 18 15 57.3 +0.4**
BRVK pmax pmax
comp=Z,157nm,1.2s
BRVK Borovoye 23.58 43 *eP* **P 18 15 57.4 +0.4**
comp=Z,74nm,1.1s
BRVK Borovoye 23.58 43 P **P 18 15 57.8 +0.8**
SNR=38
BRVK Borovoye 23.58 43 P **P 18 15 57.8 +0.8**
SNR=38
KHC Kasperske Hory 23.62 306 *eP* **P 18 15 57.2 -0.2**
KHC *epP* **sP 18 16 01.6 -0.4**
KHC *ex* x 18 17 16.0
KHC *eS* **S 18 20 15.8 +4.0**
KHC AMS AMS 18 30 10.0
comp=Z,600nm,12.3s
KHC Kasperske Hory 23.62 306 *eP* **P 18 15 57.2 -0.2**
KHC *e* 18 16 01.6
KHC *eS* **S 18 20 15.8 +4.0**
KHC MLR MLR
comp=Z,600nm,12.3s
KHC Kasperske Hory 23.62 306 P **P 18 15 57.2 -0.2**
KHC Kasperske Hory 23.62 306 *eP* **P 18 15 57.0 -0.4**
comp=Z,49nm,1.5s
BVA0 Borovoye Array 23.62 44 *i P* **P 18 15 57.3 -0.1**
BVA0 pmax pmax
comp=Z,46nm,1.3s
BVAR Borovoye Array 23.62 44 P **P 18 15 57.8 +0.4**
comp=Z,20nm,1.0s,baz=230,slow=11,SNR=56
BVAR PcP **PcP 18 19 41.6 -0.3**
comp=Z,1.8nm,0.8s,baz=225,slow=1.2,SNR=3.6
MTSE Matsula 23.65 334 *eP* **P 18 15 58.6 +1.1**
SNR=148
BTLS Baital 23.79 64 *i P* **P 18 15 58.2 -0.9**
comp=Z,339nm,0.8s
BRZS Berezniki 23.82 52 *i P* **P 18 15 58.2 -1.1**
comp=Z,18nm,1.4s
BRZS *eS* **S 18 20 15.7 +0.8**
BRZS LR LR 18 25 19.0
comp=Z,19nm,9.0s
ABTA Abfaltersbach 23.83 300 *i P* **P 18 15 59.6 +0.1**
comp=Z,3.3nm,0.7s,SNR=16
ABTA Abfaltersbach 23.83 300 P **P 18 15 59.6 +0.1**
comp=Z,3.3nm,0.7s,SNR=16
BRG Berggiesshubel 23.92 310 *eP* **P 18 16 00.1 -0.1**
comp=Z,17nm,1.2s
BRG *i* 18 16 03.0
comp=Z,58nm,1.4s
BRG S Sn 18 20 29.0 -10
comp=N,528nm,18.2s
comp=E,391nm,14.5s
comp=Z,938nm,15.4s
BRG Berggiesshubel 23.92 310 *eP* **P 18 16 00.1 -0.1**
BRG *i* 18 16 03.0
BRG pmax pmax
comp=Z,17nm,1.2s
BRG MLR MLR
comp=N,528nm,18.2s
BRG MLR MLR
comp=E,391nm,14.5s
BRG MLR MLR
comp=Z,938nm,15.4s
DAMY Dhamar 23.99 177 *eP* **P 18 16 03.8 +2.3**
comp=Z,61nm,1.2s
AAK Ala-Archa 24.04 70 P **P 18 16 01.9 +0.3**
comp=Z,15nm,1.1s,baz=258,slow=9.6,SNR=46
AAK LR LR 18 26 42.3
comp=Z,422nm,18.4s,baz=274,slow=40
AAK Ala-Archa 24.04 70 *c iP* **P 18 16 03.0 +1.4**
AAK pmax pmax
comp=Z,153nm,1.6s
AAK Ala-Archa 24.04 70 *eP* **P 18 16 02.4 +0.8**
comp=Z,94nm,1.5s
AAK Ala-Archa 24.04 70 pP **P 18 16 03.2 +1.6**
SNR=45
AAK Ala-Archa 24.04 70 pP **P 18 16 03.2 +1.6**
SNR=45
FRU Bishkek 24.13 70⇑ *eP* **P 18 16 04.0 +1.7**
FRU *e* 18 20 17.0
FRU pmax pmax
comp=Z,420nm,1.8s
WTTA Wattenberg 24.50 301 *i P* **P 18 16 06.3 +0.5**
comp=Z,34nm,0.8s,SNR=22
WTTA Wattenberg 24.50 301 P **P 18 16 06.3 +0.5**
comp=Z,34nm,0.8s,SNR=22
WATA Walderalm 24.55 301 *i P* **P 18 16 06.9 +0.6**
comp=Z,37nm,1.0s,SNR=36
WATA Walderalm 24.55 301 P **P 18 16 06.9 +0.6**
comp=Z,37nm,1.0s,SNR=36
CLL Collm 24.62 311 *i P* **P 18 16 06.7 0.0**
CLL *i* 18 16 09.7
CLL *eS* **S 18 20 30.0 +2.4**
CLL pmax pmax
comp=Z,114nm,2.0s
CLL Collm 24.62 311 *i P* **P 18 16 06.7 0.0**
comp=Z,9.0nm,0.9s
CLL *i sP* **pP 18 16 09.7 -0.2**
comp=Z,114nm,2.0s
CLL *i* 18 16 34.1
CLL *ePP* **PnPn 18 16 39.0 +1.1**
CLL *eS* **S 18 20 30.0 +2.4**
CLL *e*(SS) 18 21 25.0
CLL Collm 24.62 311 *eP* **P 18 16 06.3 -0.3**
comp=Z,48nm,1.4s
NKC Novy Kostel 24.63 308 AMS AMS 18 28 40.0
comp=Z,800nm,13.1s
TKM2 Tokmak 2 24.84 70 *i P* **P 18 16 09.8 +0.8**
TKM2 pmax pmax
comp=Z,131nm,1.7s
MOTA Moosalm 24.87 301 *i P* **P 18 16 09.0 -0.2**
comp=Z,42nm,0.7s,SNR=57
MOTA Moosalm 24.87 301 P **P 18 16 09.0 -0.2**
comp=Z,42nm,0.7s,SNR=57
FETA Feichten 25.08 300 *i P* **P 18 16 10.3 -0.7**
comp=Z,6.3nm,0.7s,SNR=6.3
VLC Villacollemand 25.09 293 *eP* **P 18 16 10.5 -0.5**
comp=Z,57nm,1.3s
RETA Reutte 25.12 301 *i P* **P 18 16 10.2 -1.1**
comp=Z,8.6nm,0.6s
FINES FINESS Array B 25.18 341 P **P 18 16 10.9 -0.6**
comp=Z,22nm,0.9s,baz=144,slow=11,SNR=36
FINES LR LR 18 27 00.4
comp=Z,666nm,21.1s,baz=144,slow=39
FIA1 FINESS Array S 25.18 341 *eP* **P 18 16 10.1 -1.4**
comp=Z,63nm,1.1s
GRFO Grafenberg 25.25 306 *eP* **P 18 16 12.5 +0.1**
GRFO pmax pmax
comp=Z,329nm,1.3s
GRFO Grafenberg 25.25 306 *eP* **P 18 16 12.5 +0.1**
comp=Z,329nm,1.3s
FUORN Ofenpass-Fuorn 25.34 299 *eP* **P 18 16 13.9 +0.3**
comp=Z,24nm,1.0s
KSH Kashi 25.41 78 *eP* **P 18 16 13.3 -0.8**
KSH pP pP 18 16 17.6 +0.2
KSH sP sP 18 16 20.8 +2.1
KSH *ePP* **PnPn 18 16 50.5 +1.4**
KSH PcP **PcP 18 19 49.4 +3.2**
KSH S **S 18 20 35.3 -5.6**
KSH sS pS 18 20 42.6 -1.7
KSH SS **SnSn 18 21 34.6 +1.9**
KSH PcS **PcS 18 23 29.3 +2.6**
KSH pmax pmax
comp=Z,33nm,1.0s
KSH pmax pmax
comp=Z,470nm,5.1s
KSH LR LR
comp=Z,380nm,8.7s
KSH LR LR
comp=Z,560nm,10.7s
KSH LR LR
comp=Z,470nm,12.3s
DAVOX Davos/Dischmat 25.63 299 P **P 18 16 15.4 -0.7**
comp=Z,9.2nm,0.6s,baz=103,slow=8.1,SNR=15
DAVA Damuels 25.69 300 *i P* **P 18 16 14.7 -1.9**
comp=Z,5.3nm,0.7s
TMCR Tamitsa 25.75 355 *eP* **P 18 16 16.1 -0.6**
TMCR *eS* **S 18 20 44.6 -0.7**
TMCR pmax pmax
comp=Z,22nm,1.4s

TUE	**Stuetta**	25.96	299	*e*P	P	18 16 19.0	-0.1
VSL	**Villasalto**	26.16	283	*e*P	P	18 16 20.5	-0.3
	comp=Z,39nm,1.0s						
STU	**Stuttgart**	26.36	304	*e*P	P	18 16 25.0	+2.5
STU				pmax	pmax		
	comp=Z,42nm,1.1s						
STU	**Stuttgart**	26.36	304	*e*P	P	18 16 25.0	+2.5
	comp=Z,42nm,1.1s						
ATD	**Arta Tunnel**	26.99	181	LR	LR	18 27 05.1	
	comp=Z,375nm,18.1s,baz=346,slow=36						
KEST	**Kesra**	27.01	274	P	P	18 16 27.7	-0.8
	comp=Z,14nm,1.0s,baz=338,slow=2.8,SNR=8.5						
KEST	**Kesra**	27.01	274	*e*P	P	18 16 28.6	+0.1
	comp=Z,28nm,1.1s						
THN	**Thein Dam**	27.11	93	*e*P	P	18 16 28.0	-1.4
SENIN	**Lac Senin/Sane**	27.36	298	*e*P	P	18 16 29.7	-2.1
	comp=Z,90nm,1.6s						
KURBB	**Kurchatov Arra**	27.61	53	P	P	18 16 34.0	+0.4
	comp=Z,12nm,0.7s,baz=263,slow=9.1,SNR=48						
KURBB				PcP	**PcP**	18 19 50.6	-0.3
	comp=Z,5.1nm,0.9s,baz=255,slow=3.2,SNR=6.2						
KURBB				ScP	**ScP**	18 23 31.0	-0.4
	comp=Z,0.6nm,0.3s,baz=243,slow=3.0,SNR=3.6						
DHRM	**DHARAMSHALA**	27.64	93	AMB	AMB	18 16 36.9	
	comp=Z,99nm,1.5s						
PDGK	**Podgornoye**	27.68	69	*i* P	P	18 16 34.0	-0.5
PDGK				pmax	pmax		
	comp=Z,27nm,1.6s						
KURK	**Kurchatov**	27.69	53*c*	*i*P	P	18 16 35.3	+1.0
KURK				pmax	pmax		
	comp=Z,92nm,1.2s						
KURK	**Kurchatov**	27.69	53	*e*P	P	18 16 35.1	+0.7
KURK				PcP	**PcP**	18 19 50.6	-0.5
KURK				ScP	**ScP**	18 23 31.0	-0.7
KURK	**Kurchatov**	27.69	53	P	P	18 16 35.5	+1.2
	SNR=16						
KURK	**Kurchatov**	27.69	53	pP	P	18 16 35.5	+1.2
	SNR=16						
BNI	**Bardonecchia**	27.75	295	*e*P	P	18 16 35.4	+0.2
BNI	**Bardonecchia**	27.75	295	*e*P	P	18 16 35.4	+0.2
HFS	**Hagfors**	28.41	329	P	P	18 16 40.3	-0.4
	comp=Z,26nm,1.0s,baz=128,slow=9.3,SNR=17						
HFS				LR	LR	18 29 43.7	
	comp=Z,438nm,19.7s,baz=125,slow=40						
SEM	**Semipalatinsk**	28.65	54	*e*P	P	18 16 41.9	-1.4
	comp=Z,51nm,0.9s						
SEM				*e*S	S	18 21 32.3	+0.5
SEM				LRM	MLR	18 29 39.7	
	comp=Z,173nm,11.7s						
SMLA	**Simla**	28.76	95	*e*P	P	18 16 43.4	-0.7
SMLA				AMB	AMB	18 16 46.5	
	comp=Z,86nm,0.9s						
SSB	**Saint Sauveur**	29.27	296	*e*P	P	18 16 51.0	+2.5
SSB				pmax	pmax		
	comp=Z,32nm,1.4s						
SSB	**Saint Sauveur**	29.27	296	*e*P	P	18 16 51.0	+2.5
	comp=Z,32nm,1.4s						
MAKZ	**Makanchi**	29.42	61	*e*P	P	18 16 50.3	+0.4
MAKZ				pmax	pmax		
	comp=Z,66nm,1.9s						
MAKZ	**Makanchi**	29.42	61	*e*P	P	18 16 50.3	+0.4
	comp=Z,66nm,1.9s						
APA	**Apatity**	29.50	352⇓	*i*P	P	18 16 44.5	-5.8
APA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
APA				MLR	MLR		
	comp=Z,2μm,16.0s						
MK31	**Makanchi Array**	29.64	61	*e*P	P	18 16 52.5	+0.7
MK31	**Makanchi Array**	29.64	61	*e*P	P	18 16 52.5	+0.7
MKAR	**Makanchi Array**	29.64	61	P	P	18 16 51.9	+0.1
	comp=Z,12nm,0.8s,baz=261,slow=9.9,SNR=35						
MKAR				PcP	**PcP**	18 19 56.5	+0.4
	comp=Z,0.4nm,0.7s,baz=280,slow=4.2,SNR=3.5						
MKAR				LR	LR	18 30 51.3	
	comp=Z,273nm,18.9s,baz=266,slow=41						
MKAR	**Makanchi Array**	29.64	61	*e*P	P	18 16 52.5	+0.7
MKAR						18 19 56.5	
MKAR				pmax	pmax		
	comp=Z,60nm,0.8s						
MKAR	**Makanchi Array**	29.64	61	*e*P	P	18 16 52.5	+0.7
	comp=Z,60nm,0.8s						
MKAR				PcP	**PcP**	18 19 56.5	+0.4
LVZ	**Lovozero**	29.70	354⇓	*e*P	P	18 16 54.3	+2.2
LVZ				pmax	pmax		
	comp=Z,28nm,1.1s						
NC405	**NORSAR Array S**	29.77	329	*e*P	P	18 16 56.5	+3.7
NB2	**NORSAR Subarra**	29.93	329	P	P	18 16 53.2	-1.1
	comp=Z,38nm,1.7s,baz=125,slow=9.3						
NB2	**NORSAR Subarra**	29.93	329	P	P	18 16 53.2	-1.1
	baz=125,slow=9.3						
NB2	**NORSAR Subarra**	29.93	329	P	P	18 16 53.2	-1.1
	comp=Z,38nm,1.7s,SNR=8.8						
NOA	**NORSAR Array B**	29.93	329	P	P	18 16 53.4	-0.9
	comp=Z,1.9nm,0.6s,baz=126,slow=8.9,SNR=9.3						
NOA				LR	LR	18 29 54.8	
	comp=Z,281nm,19.3s,baz=125,slow=38						
NVS	**Novosibirsk**	31.37	46	*e*P	P	18 17 07.7	+0.8
NVS				*e*		18 22 05.4	
NVS				pmax	pmax		
	comp=Z,35nm,1.7s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
ZAA0	**Zalesovo Array**	32.07	48	*e*P	P	18 17 13.2	+0.1
ZALV	**Zalesovo Beam**	32.07	48	P	P	18 17 12.8	-0.3
	comp=E,4.0nm,0.6s,baz=256,slow=10,SNR=16						
ZALV				PP	**PnPn**	18 18 16.0	-2.4
	comp=E,5.4nm,1.0s,baz=263,slow=12,SNR=4.2						
ZALV				LR	LR	18 32 15.5	
	comp=E,421nm,18.1s,baz=246,slow=40						
ARCES	**ARCESS Array B**	32.38	349	P	P	18 17 15.0	-0.7
	comp=E,5.7nm,0.8s,baz=148,slow=9.0,SNR=20						
ARCES				LR	LR	18 31 17.8	
	comp=E,841nm,20.0s,baz=153,slow=38						
WMQ	**Urumqi**	33.58	67	P	P	18 17 27.3	+0.7
WMQ				pP	sP	18 17 33.1	+1.9
WMQ				sP	pP	18 17 41.3	+11
WMQ				S	S	18 22 50.3	+1.5
WMQ				ScS	ScS	18 27 52.4	-0.1
WMQ				pmax	pmax		
	comp=E,24nm,0.9s						
WMQ				pmax	pmax		
	comp=E,220nm,3.7s						
WMQ				LR	LR		
	comp=E,600nm,15.3s						
WMQ				LR	LR		
	comp=E,290nm,15.3s						
PYUN	**Piuthan**	34.65	96	*e*P	P	18 17 36.5	+0.4
	comp=E,103nm,1.1s						
ESK	**Eskdalemuir**	35.01	314	*e*P	P	18 17 38.4	-0.3
ESK				pmax	pmax		
	comp=Z,57nm,1.1s						
ESK	**Eskdalemuir**	35.01	314	*e*P	P	18 17 38.4	-0.3
	comp=Z,57nm,1.1s						
DANN	**Dangsing**	35.13	95	*e*P	P	18 17 41.0	+0.6
	comp=Z,12nm,1.0s						
KOLN	**Koldanda**	35.28	96	*e*P	P	18 17 41.7	+0.1
	comp=Z,76nm,1.4s						
TAM	**Tamanrasset**	35.72	255	*e*P	P	18 17 45.5	+0.1
TAM				pmax	pmax		
	comp=Z,12nm,1.0s						
TAM	**Tamanrasset**	35.72	255	*e*P	P	18 17 45.5	+0.1
	comp=Z,12nm,1.0s						
GKN	**Gorkha**	35.98	95	*e*P	P	18 17 47.4	-0.1
	comp=Z,50nm,0.7s						
ESDC	**Sonseca Array**	36.23	287	P	P	18 17 47.9	-1.5
	comp=Z,9.8nm,0.8s,baz=66,slow=8.9,SNR=22						
ESLA	**Sonseca Array**	36.23	287	*e*P	P	18 17 48.8	-0.7
	comp=Z,18nm,1.0s						
DMN	**Daman**	36.53	95	*e*P	P	18 17 52.5	+0.1
	comp=Z,232nm,1.4s						
KKN	**Kakani**	36.58	94	*e*P	P	18 17 52.5	-0.2
	comp=Z,103nm,1.5s						
PKIN	**Phulchoki**	36.77	95	*e*P	P	18 17 54.1	-0.3
	comp=Z,82nm,1.1s						
GUN	**Gumba**	36.99	94	*e*P	P	18 17 56.2	-0.2
	comp=Z,246nm,1.3s						
JIRN	**Jiri**	37.35	94	*e*P	P	18 17 59.7	+0.2
	comp=Z,935nm,1.6s						
HYB	**Hyderabad**	37.39	114	*i* P	P	18 17 59.5	0.0
HYB				*e*		18 18 04.0	
RAMN	**Ramite**	38.01	95	*e*P	P	18 18 04.6	-0.3
	comp=Z,80nm,0.7s						
MVO	**Moncorvo**	38.16	290	*e*P	P	18 18 07.7	+1.9
	comp=Z,74nm,1.8s						
MVO	**Moncorvo**	38.16	290	*e*P	P	18 18 07.7	+1.9
	comp=Z,74nm,1.8s						
ODAN	**Odare**	38.67	94	*e*P	P	18 18 10.8	+0.3
	comp=Z,338nm,1.4s						
TAPN	**Taplejung**	38.68	93	*e*P	P	18 18 10.7	0.0
	comp=Z,92nm,1.1s						
MTE	**Manteigas**	38.72	289	*e*P	P	18 18 10.4	-0.2
	comp=Z,136nm,1.8s						
MTE	**Manteigas**	38.72	289	*e*P	P	18 18 10.4	-0.2
	comp=Z,136nm,1.8s						
MTE	**Manteigas**	38.72	289	*e*P	P	18 18 10.2	-0.4
	comp=Z,77nm,1.1s						
NRIK	**Noril'sk**	38.75	23	P	P	18 18 10.5	+0.1
	comp=Z,15nm,0.9s,baz=248,slow=9.9,SNR=9.3						
PCBR	**Castelo Branco**	38.81	288	*e*P	P	18 18 09.2	-2.0
	comp=Z,64nm,1.6s						
PVIS	**Viseu**	38.90	290	*e*P	P	18 18 14.3	+2.2
	comp=Z,83nm,1.7s						
PVIS	**Viseu**	38.90	290	*e*P	P	18 18 14.3	+2.2
	comp=Z,83nm,1.7s						
PBAR	**Barrancos**	38.94	286	*e*P	P	18 18 11.0	-1.3
	comp=Z,102nm,1.7s						
ZFT	**Errachidia**	38.97	275	*i* P	P	18 18 13.0	+0.1
BOK	**Bokaro**	39.06	100	*e*P	P	18 18 11.4	-2.1
BOK				AMB	AMB	18 18 14.3	
	comp=Z,21nm,1.1s						
PESTR	**Estremoz**	39.16	287	*e*P	P	18 18 13.5	-0.7
	comp=Z,50nm,1.5s						
GTK	**Tadong**	39.40	93	*e*P	P	18 18 15.9	-0.5
GTK				AMB	AMB	18 18 18.6	
	comp=Z,67nm,1.5s						
PTOM	**Tomar**	39.56	288	*e*P	P	18 18 19.6	+2.1
	comp=Z,140nm,1.6s						
PTOM	**Tomar**	39.56	288	*e*P	P	18 18 19.6	+2.1
	comp=Z,140nm,1.6s						
PMTG	**Montargil**	39.58	287	*e*P	P	18 18 17.3	-0.3
PMTG	**Montargil**	39.58	287	*e*P	P	18 18 17.3	-0.3
PVAQ	**Vaqueiros**	39.68	285	*e*P	P	18 18 20.9	+2.4
	comp=Z,105nm,1.8s						
PVAQ	**Vaqueiros**	39.68	285	*e*P	P	18 18 20.9	+2.4
	comp=Z,105nm,1.8s						
PCVE	**Castro Verde**	39.85	285	*e*P	P	18 18 22.6	+2.6
PCVE	**Castro Verde**	39.85	285	*e*P	P	18 18 22.6	+2.6
KMBO	**Kilima Mbogo**	39.94	189	P	P	18 18 20.9	-0.2
	comp=Z,1.1nm,0.8s,baz=16,slow=10,SNR=4.8						
KMBO				LR	LR	18 33 46.1	
	comp=Z,786nm,20.2s,baz=30,slow=35						
KMBO	**Kilima Mbogo**	39.94	189	*e*P	P	18 18 23.1	+2.0
	comp=Z,17nm,1.7s						
PNCL	**Nicolau / Gran**	40.08	286	*e*P	P	18 18 24.7	+2.9
PNCL	**Nicolau / Gran**	40.08	286	*e*P	P	18 18 24.7	+2.9
LSA	**Lhasa**	40.31	88	P	P	18 18 25.0	+0.6
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	40.31	88	*e*P	P	18 18 24.1	-0.3
LSA				pmax	pmax		
	comp=Z,32nm,0.9s						
LSA	**Lhasa**	40.31	88	*e*P	P	18 18 24.1	-0.3
	comp=Z,32nm,0.9s						
DHUB	**DHUBRI**	41.12	94	*e*P	P	18 18 29.5	-1.0
TURI	**Tura**	41.61	94	*e*P	P	18 18 33.9	-0.7
TURI				AMB	AMB	18 18 34.2	
	comp=Z,15nm,0.7s						
MOY	**Mondy**	41.74	52	*e*P	P	18 18 38.9	+3.4
OUK	**Oukaimeden**	42.04	276	*i* P	P	18 18 42.0	+3.5
GUWA	**GUWAHATI**	42.36	92	*e*P	P	18 18 39.8	-0.9
GUWA				AMB	AMB	18 18 41.3	
	comp=Z,17nm,1.5s						
CIA	**Chichaoua**	42.59	277	*e*P	P	18 18 46.0	+3.4
SHL	**Shillong**	42.82	93	*e*P	P	18 18 43.7	-1.0
SHL				AMB	AMB	18 18 45.0	
	comp=Z,24nm,1.3s						
TEZP	**TEZPUR**	43.02	91	*e*P	P	18 18 45.8	-0.2
TEZP				AMB	AMB	18 18 46.9	
	comp=Z,28nm,1.1s						
AGT	**Agartala**	43.18	95	*e*P	P	18 18 46.7	-0.6
ZAK	**Zakamensk**	43.33	54	*e*P	P	18 18 49.7	+1.3
ZAK				*e*		18 20 30.0	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TLY	**Talaya**	43.38	52	*i* P	P	18 18 50.1	+1.4
TLY				pmax	pmax		
	comp=Z,25nm,2.0s						
GTA	**Gaotai**	43.39	70	P	P	18 18 49.8	+0.7
GTA				pP	sP	18 18 54.8	+1.0
GTA				sP	pP	18 18 56.8	+4.3
GTA				PP	**PP**	18 20 32.0	+2.2
GTA				S	S	18 25 16.9	-0.2
GTA				sS	sS	18 25 24.0	+1.4
GTA				SS	**SS**	18 28 22.6	-8.1
GTA				pmax	pmax		
	comp=Z,18nm,1.1s						
GTA				pmax	pmax		
	comp=Z,170nm,5.0s						
GTA				LR	LR		
	comp=Z,370nm,20.9s						
GTA				LR	LR		
	comp=Z,350nm,20.4s						
ZIRO	**ZIRO**	43.41	89	*e*P	P	18 18 49.3	-0.2
ZIRO				AMB	AMB	18 18 50.8	
	comp=Z,28nm,1.5s						
ITAN	**ITANAGAR**	43.49	90	*e*P	P	18 18 50.1	+0.3
ITAN				AMB	AMB	18 18 51.9	
	comp=Z,48nm,0.9s						
MOKO	**MOKOCHONG**	44.51	90	*e*P	P	18 18 58.4	+0.2
MOKO				AMB	AMB	18 18 59.6	
	comp=Z,49nm,1.0s						
TORD	**Torodi Ar. Bea**	44.58	247	P	P	18 18 56.5	-2.2
	comp=Z,3.5nm,0.8s,baz=52,slow=9.2,SNR=24						
TORD				PcP	**PcP**	18 20 40.3	-1.4
	comp=Z,2.7nm,0.9s,baz=28,slow=3.1,SNR=4.1						
TORD				LR	LR	18 40 00.1	
	comp=Z,198nm,19.3s,baz=35,slow=39						
TORD				PKKP	PKKPdf	18 42 08.3	-8.2
	comp=Z,0.6nm,0.8s,baz=101,slow=1.0,SNR=3.8						
IMP	**Imphal**	44.80	92	*e*P	P	18 19 00.2	-0.3
IMP				AMB	AMB	18 19 02.3	
	comp=Z,28nm,1.0s						
LKP	**Lekhapani**	45.06	88	*e*P	P	18 19 02.6	+0.2
LKP				AMB	AMB	18 19 04.1	
	comp=Z,37nm,1.0s						
SONM	**Songino Array**	45.80	57	P	P	18 19 08.5	+0.2
	comp=Z,0.8nm,0.6s,baz=270,slow=8.8,SNR=6.7						
SONM				PcP	**PcP**	18 20 45.0	-0.6
	comp=Z,2.1nm,0.8s,baz=240,slow=4.0,SNR=7.9						
SONM				LR	LR	18 41 14.1	
	comp=Z,636nm,18.2s,baz=281,slow=40						
ULN	**Ulaanbaatar**	46.23	57*c*	*i*P	P	18 19 12.7	+1.0
ULN				pmax	pmax		
	comp=Z,21nm,1.2s						
ULN	**Ulaanbaatar**	46.23	57	*e*P	P	18 19 12.9	+1.2
	comp=Z,24nm,1.3s						
ULN	**Ulaanbaatar**	46.23	57	P	P	18 19 12.7	+1.0
	SNR=12						
ULN	**Ulaanbaatar**	46.23	57	pP	P	18 19 12.7	+1.0
	SNR=12						
DAG	**Danmarks Havn**	46.35	344	*i* P	P	18 19 14.0	+2.0
	comp=Z,55nm,1.5s						
DAG	**Danmarks Havn**	46.35	344	*e*P	P	18 19 14.0	+2.0
DAG				pmax	pmax		
	comp=Z,150nm,1.5s						
LZH	**Lanzhou**	47.53	73	*e*P	P	18 19 23.3	+1.3
LZH				pP	sP	18 19 28.1	+1.4
LZH				sP	pP	18 19 30.4	+5.1
LZH				PcP	**PcP**	18 20 55.3	+3.3
LZH				PP	**PP**	18 21 17.3	+4.1
LZH				*e*S	S	18 26 15.0	-1.9
LZH				sS	sS	18 26 22.5	0.0
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				pmax	pmax		
	comp=Z,250nm,5.0s						
LZH				LR	LR		
	comp=Z,320nm,12.8s						
LZH				LR	LR		
	comp=Z,190nm,12.0s						
LZH				LR	LR		
	comp=Z,340nm,15.0s						
BOD	**Bodaibo**	48.49	42	*e*P	P	18 19 28.5	-0.4
BOD				pmax	pmax		
	comp=Z,30nm,1.7s						
CIT	**Chita**	49.36	50	*e*P	P	18 19 37.0	+1.2
CD2	**Chengdu**	49.59	80	P	P	18 19 38.1	+0.3
CD2				S	S	18 26 46.1	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
CD2				LR	LR		
	comp=Z,460nm,19.9s						
CD2				LR	LR		
	comp=Z,390nm,23.8s						
CD2				LR	LR		
	comp=Z,200nm,13.9s						
BTO	**Baotou**	50.40	65	*e*P	P	18 19 44.6	+0.7
SUMG	**Summit**	51.15	337	*i* P	P	18 19 49.6	+0.2
	comp=Z,68nm,1.4s						
SUMG	**Summit**	51.15	337	*i* P	P	18 19 49.6	+0.2
SUMG				pmax	pmax		
	comp=Z,68nm,1.4s						
SUMG	**Summit**	51.15	337	*e*P	P	18 19 49.7	+0.3
	comp=Z,81nm,1.5s						
CMAI	**Chiengmai2**	51.39	95	P	P	18 19 51.4	-0.2
	comp=Z,282nm,0.7s						
HHC	**Hu-ho-hao-te**	51.41	64	*e*P	P	18 19 51.5	+0.1
HHC				pP	sP	18 19 56.0	-0.2
HHC				sP	pP	18 20 01.0	+6.1
HHC				PP	**PP**	18 21 50.8	+2.4
HHC				S	S	18 27 10.0	-1.1
HHC				SS	**SS**	18 30 45.9	-0.6
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				LR	LR		
	comp=Z,830nm,14.8s						
HHC				LR	LR		
	comp=Z,550nm,13.6s						
HHC				LR	LR		
	comp=Z,560nm,14.8s						
KMI	**Kunming**	51.54	87	P	P	18 19 52.8	0.0
KMI				pP	pP	18 19 55.9	-0.3
KMI				S	S	18 27 14.0	+0.6
KMI				pmax	pmax		
	comp=Z,32nm,1.2s						
KMI				pmax	pmax		
	comp=Z,200nm,4.4s						
KMI				LR	LR		
	comp=Z,170nm,15.9s						
KMI				LR	LR		
	comp=Z,140nm,16.8s						
KMI				LR	LR		
	comp=Z,180nm,27.1s						
CHTO	**Chiang Mai**	51.94	96	P	P	18 19 54.4	-1.2
	comp=Z,164nm,0.9s,comp=Z,2μm						
CHTO	**Chiang Mai**	51.94	96	*e*P	P	18 19 54.6	-0.9
CHTO				pmax	pmax		
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	51.94	96	*e*P	P	18 19 54.6	-0.9
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	51.94	96	P	P	18 19 54.6	-0.9
	SNR=22						
CHTO	**Chiang Mai**	51.94	96	P	P	18 19 54.6	-0.9
	SNR=22						
CMAR	**Chiang Mai Arr**	52.14	96	P	P	18 19 56.3	-0.8
	comp=Z,19nm,0.8s,baz=298,slow=8.4,SNR=139						
CMAR				LR	LR	18 46 21.2	
	comp=Z,122nm,21.2s,baz=292,slow=41						
XAN	**Xi'an**	52.16	73	P	P	18 19 57.3	+0.2
XAN				pmax	pmax		
	comp=Z,31nm,1.5s						
XAN				pmax	pmax		
	comp=Z,120nm,4.4s						
XAN				LR	LR		
	comp=Z,190nm,26.2s						
XAN				LR	LR		
	comp=Z,220nm,25.6s						
XAN				LR	LR		
	comp=Z,260nm,15.3s						
TIXI	**Tiksi**	52.53	23*c*	*e*P	P	18 19 59.3	+0.1
TIXI				pmax	pmax		
	comp=Z,20nm,1.7s						
TIXI	**Tiksi**	52.53	23	*e*P	P	18 19 59.5	+0.3
	comp=Z,20nm,1.4s						
LAMP	**Lampang**	52.64	96	P	P	18 20 00.7	-0.1
	comp=Z,13nm,1.0s						
TIY	**Taiyuan**	53.23	68	*e*P	P	18 20 06.8	+1.8
TIY				S	S	18 27 38.5	+2.4
TIY				pmax	pmax		
	comp=Z,83nm,3.7s						
TIY				LR	LR		
	comp=Z,260nm,15.0s						
TIY				LR	LR		
	comp=Z,200nm,20.3s						
NANT	**Nan**	53.32	95	P	P	18 20 04.6	-1.2
	comp=Z,9.7nm,0.8s						
DBIC	**Dimbokro**	53.69	246	P	P	18 20 06.2	-2.4
	comp=Z,8.0nm,0.9s,baz=45,slow=8.6,SNR=6.4						
DBIC				LR	LR	18 45 23.5	
	comp=Z,225nm,19.3s,baz=42,slow=39						
DBIC	**Dimbokro**	53.69	246	*e*P	P	18 20 06.9	-1.6
DBIC				pmax	pmax		
	comp=Z,18nm,1.1s						
DBIC	**Dimbokro**	53.69	246	*e*P	P	18 20 06.9	-1.6
	comp=Z,18nm,1.1s						
UTTA	**Uttaradit**	53.80	96	P	P	18 20 09.0	-0.3
	comp=Z,9.1nm,0.9s,comp=Z,81nm						
KIC	**Kosan Boka**	53.82	246	*e*P	P	18 20 06.1	-3.4
	comp=Z,68nm,1.2s						
TIC	**Toumodi**	53.83	247	*e*P	P	18 20 06.8	-2.7
HIA	**Hailar**	53.92	52*c*	*i*P	P	18 20 10.7	+0.8
HIA				pmax	pmax		
	comp=Z,33nm,1.6s						
GYA	**Guiyang**	53.93	83⇑	*i*P	P	18 20 11.0	+0.7
GYA				PcP	**PcP**	18 21 17.3	+1.6
GYA				PP	**PP**	18 22 13.6	+2.1
GYA				ScP	**ScP**	18 25 13.8	+0.1
GYA				S	S	18 27 44.6	-1.3
GYA				SS	**SKiKP**	18 31 24.0	+0.4
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,6.4s						
GYA				LR	LR		
	comp=Z,520nm,20.0s						
GYA				LR	LR		
	comp=Z,470nm,19.8s						
GYA				LR	LR		
	comp=Z,490nm,20.4s						
LIC	**Lamto**	54.12	246	*e*P	P	18 20 09.1	-2.6
	comp=Z,91nm,1.3s						
ENH	**Enshi**	54.27	77	*e*P	P	18 20 10.7	-2.0
	comp=Z,33nm,1.2s						
SRDT	**SRDT**	54.69	100	P	P	18 20 15.6	-0.2
	comp=Z,78nm,1.2s						
PBKT	**Sadao Pong**	54.80	97	P	P	18 20 16.0	-0.6
	comp=Z,50nm,0.9s,comp=Z,860nm						
YAK	**Yakutsk**	55.20	35	*e*P	P	18 20 18.1	-0.7
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.6s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
LSZ	**Lusaka**	55.43	198	*e*P	P	18 20 19.8	-1.4
LSZ				pmax	pmax		
	comp=Z,24nm,1.5s						
LSZ	**Lusaka**	55.43	198	*e*P	P	18 20 19.8	-1.4
	comp=Z,24nm,1.5s						
PHET	**Kaeng Krachan**	55.95	101	P	P	18 20 25.0	+0.1
	comp=Z,13nm,1.1s,comp=Z,126nm						
CHAI	**Chaiyaphum**	55.98	97	P	P	18 20 24.5	-0.6
	comp=Z,9.0nm,0.8s,comp=Z,81nm						
KHON	**Khomkaen**	56.38	96	P	P	18 20 27.5	-0.5
	comp=Z,31nm,0.9s					

WHN				LR	LR		
	comp=Z,360nm,12.2s						
WHN				LR	LR		
	comp=Z,460nm,17.5s						
CHBT	**CHBT**	**58.13**	**99**	P	**P**	**18 20 40.7**	**+0.4**
	comp=Z,87nm,0.7s						
TRTT	**Trang**	**59.19**	**106**	P	**P**	**18 20 46.9**	**-0.8**
	comp=Z,27nm,1.2s						
CN2	**Changchun**	**59.67**	**56**	*e*P	**P**	**18 20 50.1**	**-0.6**
CN2				*e*S	**S**	**18 28 57.4**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
QIZ	**Qiongzhong**	**60.34**	**89**	P	**P**	**18 20 54.9**	**-0.8**
QIZ				S	**S**	**18 29 12.1**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,16nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,110nm,5.0s						
QIZ				LR	LR		
	comp=Z,130nm,15.0s						
QIZ				LR	LR		
	comp=Z,140nm,18.8s						
NJ2	**Nanjing**	**60.48**	**71**	*e*P	**P**	**18 20 56.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,17nm,1.3s						
KCSI	**Kotacane, Aceh**	**60.62**	**111**	P	**P**	**18 20 55.5**	**-2.0**
KULM	**Kulim**	**61.57**	**107**	*e*P	**P**	**18 21 01.4**	**-2.6**
	comp=Z,47nm,1.4s						
PSI	**Prapat**	**61.95**	**111**	P	**P**	**18 21 05.0**	**-1.6**
	comp=Z,19nm,0.9s,baz=300,slow=6.8,SNR=16						
PSI	**Prapat**	**61.95**	**111**	*e*P	**P**	**18 21 05.4**	**-1.3**
PSI	**Prapat**	**61.95**	**111**	*e*P	**P**	**18 21 05.4**	**-1.3**
MDJ	**Mudanjiang**	**61.96**	**54**	P	**P**	**18 21 06.3**	**0.0**
MDJ				PcP	**PcP**	**18 21 47.3**	**+0.4**
MDJ				PP	**PP**	**18 23 21.8**	**-0.5**
MDJ				ScP	**ScP**	**18 25 50.0**	**+1.3**
MDJ				S	**S**	**18 29 29.3**	**-1.0**
MDJ				ScS	**ScS**	**18 30 58.6**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,71nm,4.0s						
MDJ				LR	LR		
	comp=Z,340nm,12.9s						
MDJ				LR	LR		
	comp=Z,110nm,11.8s						
MDJ				LR	LR		
	comp=Z,260nm,12.9s						
USRK	**Ussuriysk Ar.**	**63.67**	**53**	P	**P**	**18 21 16.5**	**-1.2**
	comp=Z,5.5nm,0.9s,baz=305,slow=6.7,SNR=8.7						
USRK				LR	LR	18 52 00.5	
	comp=Z,241nm,18.2s,baz=290,slow=39						
SEY	**Seymchan**	**64.22**	**29**	*e*P	**P**	**18 21 22.1**	**+1.2**
KSAR	**Wonju Array Be**	**64.30**	**62**	P	**P**	**18 21 21.4**	**-0.5**
KSAR	**Wonju Array Be**	**64.30**	**62**	P	**P**	**18 21 21.4**	**-0.5**
KSRS	**Korea Array**	**64.32**	**62**	P	**P**	**18 21 21.4**	**-0.6**
	comp=Z,16nm,0.9s,baz=292,slow=6.1,SNR=33						
KSRS				LR	LR	18 52 56.8	
	comp=Z,159nm,18.4s,baz=305,slow=39						
BILL	**Bilibino**	**65.47**	**20**	*i*P	**P**	**18 21 29.5**	**+0.5**
BILL				*e*		18 23 56.6	
BILL				pmax	pmax		
	comp=Z,23nm,1.3s						
BILL				MLR	MLR		
	comp=Z,373nm,19.0s						
PDSI	**Padang**	**65.59**	**112**	P	**P**	**18 21 29.4**	**-1.2**
	comp=Z,25nm,1.3s,comp=Z,901nm						
MASI	**Maura Aman, Be**	**68.41**	**113**	P	**P**	**18 21 47.8**	**-0.7**
JNU	**Nakatsue**	**68.63**	**64**	P	**P**	**18 21 48.5**	**-1.2**
	comp=Z,6.7nm,0.8s,baz=322,slow=5.7,SNR=8.1						
BOSA	**Boshof**	**68.96**	**197**	P	**P**	**18 21 49.7**	**-2.0**
	comp=Z,6.8nm,0.8s,baz=6.0,slow=7.5,SNR=7.9						
BOSA				LR	LR	18 56 00.2	
	comp=Z,148nm,18.3s,baz=15,slow=39						
SCHQ	**Schefferville**	**69.38**	**324**	LR	LR	18 53 18.2	
	comp=Z,66nm,18.7s,baz=356,slow=37						
MAJO	**Matsushiro**	**71.75**	**58**	*e*P	**P**	**18 22 08.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,82nm,1.3s						
MJAR	**Matsushiro Arr**	**71.75**	**58**	P	**P**	**18 22 07.8**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=312,slow=5.0,SNR=4.9						
PETK	**Petropavlovsk-**	**72.55**	**35**	P	**P**	**18 22 12.4**	**-0.9**
	comp=Z,10.0nm,1.1s,baz=208,slow=11,SNR=4.1						
PETK				LR	LR	18 58 49.2	
	comp=Z,268nm,18.4s,baz=306,slow=40						
TOLK	**Toolik Lake Re**	**72.62**	**5**	P	**P**	**18 22 13.0**	**-0.5**
	baz=349						
COLD	**Coldfoot**	**73.97**	**5**	*e*P	**P**	**18 22 17.6**	**-3.8**
	comp=Z,14nm,1.1s						
COLA	**College**	**76.47**	**5**	*e*P	**P**	**18 22 33.9**	**-1.9**
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
COLA	**College**	**76.47**	**5**	*e*P	**P**	**18 22 33.9**	**-1.9**
	comp=Z,19nm,1.0s						
ILAR	**Eielson Array**	**76.63**	**4**	P	**P**	**18 22 36.4**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=347,slow=3.7,SNR=7.0						
ILAR				PP	**PP**	**18 25 34.0**	**+5.8**
	comp=Z,1.1nm,1.1s,baz=345,slow=7.3,SNR=4.3						
EGAK	**Eagle**	**76.87**	**2**	*e*P	**P**	**18 22 37.0**	**-1.0**
BPAW	**Bear Paw Mtn.**	**76.99**	**6**	*e*P	**P**	**18 22 38.2**	**-0.7**
	comp=Z,10nm,1.6s						
DAWY	**Dawson**	**77.62**	**1**	*e*P	**P**	**18 22 40.2**	**-2.2**
YKA	**Yellowknife Ar**	**77.64**	**350**	P	**P**	**18 22 41.8**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=10,slow=5.6,SNR=4.4						
YKA				LR	LR	18 58 07.7	
	comp=Z,11nm,18.9s,baz=0.0,slow=37						
DOT	**Dot Lake**	**77.90**	**3**	*e*P	**P**	**18 22 42.3**	**-1.6**
KDAK	**Kodiak Island**	**83.04**	**8**	*i* P	**P**	**18 23 11.4**	**-0.1**
N59A	**State Game Lan**	**83.19**	**318**	P	**P**	**18 23 13.1**	**+0.3**
	baz=43						
E45A	**Wooded Hills,**	**83.57**	**327**	P	**P**	**18 23 14.7**	**+0.2**
	baz=38						
E43A	**Lone Tree Farm**	**84.32**	**328**	P	**P**	**18 23 17.4**	**-1.0**
	baz=37						
F44A	**Big Bay de Noc**	**84.40**	**327**	P	**P**	**18 23 17.5**	**-1.3**
	baz=37						
D41A	**Chassel**	**84.41**	**329**	P	**P**	**18 23 17.3**	**-1.5**
	baz=36						
ULM	**Lac du Bonnet**	**84.43**	**335**	P	**P**	**18 23 17.0**	**-1.9**
	comp=Z,5.5nm,1.0s,baz=13,slow=3.7,SNR=3.6						
ULM				LR	LR	19 02 11.6	
	comp=Z,94nm,18.6s,baz=50,slow=37						
ULM	**Lac du Bonnet**	**84.43**	**335**	P	**P**	**18 23 17.0**	**-1.9**
ULM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULM				MLR	MLR		
	comp=Z,94nm,18.6s						
E42A	**Champion**	**84.66**	**328**	P	**P**	**18 23 18.6**	**-1.6**
	baz=36						
M54A	**Oil Creek Stat**	**84.74**	**321**	P	**P**	**18 23 19.3**	**-1.3**
	baz=41						
F43A	**Flat Rock, Esc**	**84.83**	**328**	P	**P**	**18 23 20.3**	**-0.6**
	baz=37						
E41A	**Kenton**	**85.06**	**329**	P	**P**	**18 23 20.9**	**-1.2**
	baz=35						
O56A	**Blue Knob Stat**	**85.11**	**319**	P	**P**	**18 23 21.4**	**-1.2**
	baz=42						
C37A	**Embarrass**	**85.27**	**332**	P	**P**	**18 23 22.7**	**-0.5**
	baz=33						
B35A	**Bob, Littlefor**	**85.30**	**333**	P	**P**	**18 23 23.2**	**-0.1**
	baz=32						
N54A	**Moraine State**	**85.31**	**320**	P	**P**	**18 23 22.9**	**-0.6**
	baz=41						
A33A	**Warroad**	**85.39**	**334**	P	**P**	**18 23 23.0**	**-0.7**
	baz=31						
E40A	**Wakefield**	**85.45**	**330**	P	**P**	**18 23 23.0**	**-1.1**
	baz=35						
C36A	**Pine Crest Far**	**85.48**	**332**	P	**P**	**18 23 24.3**	**+0.1**
	baz=33						
G43A	**Wallace**	**85.51**	**328**	P	**P**	**18 23 23.6**	**-0.7**
	baz=36						
B34A	**Aery, Baudette**	**85.52**	**333**	P	**P**	**18 23 23.6**	**-0.7**
	baz=32						
F41A	**Three Lakes**	**85.70**	**329**	P	**P**	**18 23 24.8**	**-0.5**
	baz=35						
E39A	**Mellen**	**85.76**	**330**	P	**P**	**18 23 24.3**	**-1.3**
	baz=34						
G42A	**Mountain**	**85.83**	**328**	P	**P**	**18 23 24.8**	**-1.2**
	baz=36						
E38A	**The Farm, Brul**	**85.96**	**331**	P	**P**	**18 23 25.7**	**-1.0**
	baz=34						
F40A	**Park Falls**	**85.97**	**329**	P	**P**	**18 23 25.2**	**-1.5**
	baz=35						
D36A	**Goodland**	**86.09**	**332**	P	**P**	**18 23 26.8**	**-0.5**
	baz=33						
B32A	**Ashes, Strandq**	**86.25**	**334**	P	**P**	**18 23 26.8**	**-1.1**
	baz=30						
F39A	**Loretta**	**86.28**	**330**	P	**P**	**18 23 27.0**	**-1.2**
	baz=34						
D35A	**Remer**	**86.50**	**332**	P	**P**	**18 23 28.8**	**-0.5**
	baz=32						
G40A	**Rib Lake**	**86.53**	**329**	P	**P**	**18 23 28.8**	**-0.7**
	baz=34						
F38A	**Pierce - Schro**	**86.62**	**330**	P	**P**	**18 23 29.6**	**-0.3**
	baz=33						
G38A	**Ridgeland**	**87.27**	**330**	P	**P**	**18 23 31.6**	**-1.5**
	baz=33						
F36A	**Milaca**	**87.33**	**331**	P	**P**	**18 23 32.2**	**-1.1**
	baz=32						
BBB	**Bella Bella**	**89.24**	**355**	LR	LR	19 07 29.7	
	comp=Z,103nm,19.5s,baz=220,slow=38						
J34A	**George**	**90.44**	**331**	P	**P**	**18 23 51.0**	**+2.9**
	baz=31						
PDAR	**Pinedale Array**	**95.28**	**340**	P	**P**	**18 24 09.9**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=19,slow=3.1,SNR=5.2						
FITZ	**Fitzroy Crossi**	**95.42**	**109**	LR	LR	19 08 51.1	
	comp=Z,40nm,18.6s,slow=36						
WRA	**Warramunga Arr**	**103.06**	**105**	Pdiff	**Pdif**	**18 24 45.3**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=316,slow=4.2,SNR=3.3						
WRA				PP	**PP**	**18 29 01.1**	**+0.5**
	comp=Z,1.5nm,1.1s,baz=315,slow=7.7,SNR=5.1						
ASAR	**Alice Springs**	**104.92**	**108**	Pdiff	**Pdif**	**18 24 54.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=311,slow=4.4,SNR=3.4						
STKA	**Stephens Creek**	**115.12**	**112**	PKP	**PKPdf**	**18 29 26.9**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=45,slow=1.4,SNR=2.9						
STKA	**Stephens Creek**	**115.12**	**112**	PKIKP	**PKPdf**	**18 29 27.0**	**-0.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PLCA	**Paso Flores**	**130.05**	**245**	PKP	**PKPdf**	**18 29 55.1**	**-1.1**
	comp=Z,5.4nm,1.1s,baz=24,slow=1.9,SNR=5.3						

*CSEM **23** 18:12:21.7,38.˙05N×21.˙59E,h11km,ML1.5/12*
ATH 23 18:12:21.7,38.˙05N×21.˙59E,h11km±3km,ML1.5/12,Error
ellipse: s-maj=3.6km s-min=0.9km az=259.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.10**	**277**	P	Pg	18 12 23.2	-1.1
RLS				S	Sg	18 12 26.0	-0.3
RLS				AML	AML	18 12 26.2	
	comp=N,3106μm,0.1s						
RLS				AML	AML	18 12 26.3	
	comp=E,992μm,0.1s						
RLS	**Riolos of Patr**	**0.10**	**277**	P	Pg	18 12 23.2	-1.1
RLS				S	Sg	18 12 26.0	-0.3
DRO	**Drossia**	**0.13**	**134**	P	Pg	18 12 23.9	-1.0
DRO				AML	AML	18 12 27.6	
	comp=N,1308μm,0.1s						
DRO				AML	AML	18 12 27.6	
	comp=E,1447μm,0.1s						
DRO				S	Sg	18 12 27.8	+0.6
DRO	**Drossia**	**0.13**	**134**	P	Pg	18 12 23.9	-1.0
DRO				S	Sg	18 12 27.8	+0.6
VTN	**Vitineika**	**0.34**	**248**	P	Pg	18 12 27.9	-0.7
VTN				S	Sb	18 12 36.1	+0.9
VTN	**Vitineika**	**0.34**	**248**	P	Pg	18 12 27.9	-0.6
VTN				S	Sb	18 12 36.1	+0.9
KLV	**Kalavryta, Ach**	**0.44**	**90**	P	Pg	18 12 28.8	-1.6
KLV				S	Sb	18 12 38.1	-0.1
KLV				AML	AML	18 12 39.0	
	comp=N,54μm,0.2s						
KLV				AML	AML	18 12 40.0	
	comp=E,42μm,0.1s						
KLV	**Kalavryta, Ach**	**0.44**	**90**	P	Pg	18 12 28.8	-1.6
KLV				S	Sb	18 12 38.1	-0.1
EFP	**Efpalio**	**0.46**	**33**	P	Pg	18 12 30.3	-0.3
EFP				AML	AML	18 12 38.3	
	comp=N,121μm,0.3s						
EFP				S	Sb	18 12 38.4	-0.1
EFP				AML	AML	18 12 38.9	
	comp=E,176μm,0.2s						
EFP	**Efpalio**	**0.46**	**33**	P	Pg	18 12 30.3	-0.3
EFP				S	Sb	18 12 38.3	-0.2
SERG	**Sergoula**	**0.52**	**45**	P	Pg	18 12 30.7	-1.2
SERG				S	Sg	18 12 39.4	+0.6
SERG	**Sergoula**	**0.52**	**45**	P	Pg	18 12 30.7	-1.1
SERG				S	Sg	18 12 39.4	+0.7
AMT	**Artemida-Makis**	**0.52**	**169**	P	Pg	18 12 31.5	-0.3
AMT				S	Sb	18 12 41.3	+0.9
AMT				AML	AML	18 12 41.6	
	comp=N,246μm,0.4s						
AMT				AML	AML	18 12 41.8	
	comp=E,189μm,0.4s						
AMT	**Artemida-Makis**	**0.52**	**169**	P	Pg	18 12 31.5	-0.4
AMT				S	Sb	18 12 41.3	+0.9
KALE	**Kalithea**	**0.56**	**51**	P	Pg	18 12 30.9	-1.6
KALE				S	Sb	18 12 41.6	+0.2
KALE				AML	AML	18 12 41.6	
	comp=E,252μm,0.2s						
KALE				AML	AML	18 12 41.7	
	comp=N,147μm,0.3s						
KALE	**Kalithea**	**0.56**	**51**	P	Pg	18 12 31.0	-1.5
KALE				S	Sb	18 12 41.6	+0.2
PVO	**Paravola**	**0.57**	**355**	P	Pg	18 12 31.7	-1.1
PVO				S	Sb	18 12 41.3	-0.6
PVO				AML	AML	18 12 45.6	
	comp=E,50μm,0.2s						
PVO				AML	AML	18 12 46.9	
	comp=N,50μm,0.4s						
PVO	**Paravola**	**0.57**	**355**	P	Pg	18 12 31.7	-1.1
PVO				S	Sb	18 12 41.3	-0.6
ANX	**Ano Chora**	**0.61**	**25**	P	Pg	18 12 32.0	-1.5
ANX				S	Sb	18 12 43.2	+0.3
ANX				AML	AML	18 12 44.2	
	comp=E,72μm,0.2s						
ANX				AML	AML	18 12 46.8	
	comp=N,62μm,0.4s						
ANX	**Ano Chora**	**0.61**	**25**	P	Pg	18 12 32.0	-1.5
ANX				S	Sb	18 12 43.2	+0.3
GUR	**Goura**	**0.61**	**100**	P	Pg	18 12 31.7	-1.8
GUR				S	Sg	18 12 42.1	+0.6
GUR				AML	AML	18 12 44.0	
	comp=N,469μm,0.4s						
GUR				AML	AML	18 12 45.0	
	comp=E,153μm,0.3s						
GUR	**Goura**	**0.61**	**100**	P	Pg	18 12 31.7	-1.8
GUR				S	Sg	18 12 42.1	+0.6
PDO	**Prodromos**	**0.64**	**330**	P	Pg	18 12 32.8	-1.3
PDO				S	Sb	18 12 45.2	+1.5
PDO	**Prodromos**	**0.64**	**330**	P	Pg	18 12 32.8	-1.3
PDO				S	Sb	18 12 45.2	+1.5
DSF	**Desfina**	**0.82**	**63**	P	Pg	18 12 36.0	-1.6
DSF				S	Sg	18 12 48.4	+0.1
DSF				AML	AML	18 12 56.8	
	comp=E,53μm,0.9s						
DSF				AML	AML	18 12 58.0	
	comp=N,29μm,0.5s						
DSF	**Desfina**	**0.82**	**63**	P	Pg	18 12 36.0	-1.6
DSF				S	Sg	18 12 48.4	0.0
ITM	**Ithomi**	**0.91**	**163**	P	Pg	18 12 38.7	-0.5
ITM				S	Sn	18 12 53.3	-0.1
ITM				AML	AML	18 12 53.5	
	comp=N,33μm,0.5s						
ITM				AML	AML	18 12 56.8	
	comp=E,40μm,0.3s						
ITM	**Ithomi**	**0.91**	**163**	P	Pg	18 12 38.7	-0.4
ITM				S	Sn	18 12 53.3	-0.1
PYL	**PYLOS**	**1.16**	**174**	P	Pb	18 12 43.4	-0.2
PYL				S	Sn	18 12 59.4	-0.1
PYL				AML	AML	18 13 10.2	
	comp=E,50μm,1.0s						
PYL				AML	AML	18 13 17.7	
	comp=N,77μm,1.4s						
PYL	**PYLOS**	**1.16**	**174**	P	Pb	18 12 43.4	-0.2
PYL				S	Sn	18 12 59.4	-0.1

*SKO **23** 18:13:27.0,41.˙82N×22.˙80E,h18km,M2.6,ML2.8*
*ISCJB **23** 18:13:26.8±0.4,41.˙87N±0.˙02×22.˙78E±0.˙03,h4km±4km,*
Error ellipse: s-maj=3.6km s-min=2.6km az=167.3
*SOF **23** 18:13:27.9,41.˙82N×22.˙84E,h11km,MD2.7*
*ATH **23** 18:13:27.4,41.˙83N×22.˙83E,h9km±2km,ML2.3/14,Error*
ellipse: s-maj=3.2km s-min=1.4km az=186.0
*CSEM **23** 18:13:27.3±0.1,41.˙85N×22.˙80E,h10km,ML2.5,Error*
ellipse: s-maj=3.2km s-min=1.9km az=69.0
*THE **23** 18:13:28.1,41.˙80N×22.˙83E,h1km±1km,ML2.5/11,Error*
ellipse: s-maj=1.6km s-min=0.6km az=294.0
*BEO **23** 18:13:28.2±0.4,41.˙83N×22.˙83E,h15km±3km,M2.5/7*
ISC 23 18:13:27.5±1.0,41.˙84N±0.˙01×22.˙82E±0.˙02,h10km±9km,
n78,σ0.˙54/134,3C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.20**	**81**	P	**Pb**	**18 13 32.8**	**-0.4**
VAY	**Valandovo**	**0.55**	**200**	P	**Pg**	**18 13 38.4**	**+0.2**
VAY				S	**Sg**	**18 13 45.9**	**+0.5**
VAY	**Valandovo**	**0.55**	**200**	*i* Pg	**Pb**	**18 13 38.8**	**-0.4**
VAY				*i* Sg	**Sg**	**18 13 46.2**	**+0.8**
VAY				*e*Lg	Lg	18 13 46.4	
	comp=E,366nm,0.2s						
VAY				*e*Lg	Lg	18 13 46.4	
	comp=N,302nm,0.2s						
VAY	**Valandovo**	**0.55**	**200**	||*i* Pg	**Pb**	**18 13 38.8**	**-0.4**
VAY				*e*Sg	**Sg**	**18 13 46.1**	**+0.7**
VAY	**Valandovo**	**0.55**	**200**	P	**Pg**	**18 13 38.4**	**+0.2**
VAY	**Valandovo**	**0.55**	**200**	||*i* Pg	**Pb**	**18 13 38.8**	**-0.4**
VAY				S	**Sg**	**18 13 45.9**	**+0.5**
VAY				*e*Lg	Lg	18 13 46.3	
	comp=N,302nm,0.2s						
KNT	**Kendrikon**	**0.68**	**175**	P	**Pg**	**18 13 40.6**	**0.0**
KNT				S	**Sg**	**18 13 49.2**	**-0.2**
KNT	**Kendrikon**	**0.68**	**175**	P	**Pb**	**18 13 41.1**	**-0.3**
KNT				S	**Sg**	**18 13 49.3**	**-0.2**
KNT				AML	AML	18 13 49.9	
	comp=E,699μm,0.1s						
KNT				AML	AML	18 13 50.2	
	comp=N,1527μm,0.2s						
KNT	**Kendrikon**	**0.68**	**175**	P	**Pg**	**18 13 40.6**	**0.0**
KNT				S	**Sg**	**18 13 49.3**	**-0.2**
MMB	**Musomiste**	**0.72**	**110**	P	**Pb**	**18 13 42.1**	**0.0**
VTS	**Vitosha**	**0.81**	**21**	P	**Pb**	**18 13 43.5**	**-0.2**
VTS				S	**Sb**	**18 13 55.4**	**+0.7**
VTS	**Vitosha**	**0.81**	**21**	||*i* Pg	**Pb**	**18 13 43.5**	**-0.2**
VTS				*e*Sg	**Sb**	**18 13 54.8**	**+0.1**
VTS	**Vitosha**	**0.81**	**21**	P	**Pb**	**18 13 43.7**	**0.0**
VTS	**Vitosha**	**0.81**	**21**	P	**Pb**	**18 13 43.5**	**-0.2**
VTS				*e*Sg	**Sb**	**18 13 54.8**	**+0.1**
VTS				S	**Sb**	**18 13 55.4**	**+0.7**
NVR	**Nevrokopi**	**0.92**	**122**	P	**Pg**	**18 13 45.1**	**-0.1**
NVR				S	**Sb**	**18 13 58.1**	**+0.4**
NVR	**Nevrokopi**	**0.92**	**122**	P	**Pb**	**18 13 45.5**	**0.0**
NVR				S	**Sg**	**18 13 56.8**	**-0.3**
NVR				AML	AML	18 13 59.0	
	comp=N,409μm,0.1s						
NVR				AML	AML	18 13 59.5	
	comp=E,419μm,0.1s						
NVR	**Nevrokopi**	**0.92**	**122**	P	**Pb**	**18 13 45.5**	**0.0**
NVR				S	**Sb**	**18 13 58.1**	**+0.4**
SRS	**Serrai**	**0.92**	**141**	P	**Pg**	**18 13 44.9**	**-0.3**
SRS				S	**Sb**	**18 13 58.0**	**+0.2**
SRS	**Serrai**	**0.92**	**141**	P	**Pg**	**18 13 45.1**	**-0.1**
SRS				S	**Sb**	**18 13 58.7**	**+0.9**
SRS				AML	AML	18 14 00.4	
	comp=N,464μm,0.3s						
SRS				AML	AML	18 14 01.4	
	comp=E,385μm,0.1s						
SRS	**Serrai**	**0.92**	**141**	P	**Pg**	**18 13 45.2**	**-0.1**
SRS				S	**Sb**	**18 13 58.0**	**+0.2**
GRG	**Griva**	**0.93**	**200**	P	**Pg**	**18 13 45.1**	**-0.4**
GRG				S	**Sg**	**18 13 57.6**	**-0.1**
GRG	**Griva**	**0.93**	**200**	P	**Pg**	**18 13 45.2**	**-0.3**
GRG				S	**Sg**	**18 13 57.4**	**-0.3**
GRG				AML	AML	18 13 57.9	
	comp=N,669μm,0.3s						
GRG				AML	AML	18 13 58.2	
	comp=E,1079μm,0.3s						
GRG	**Griva**	**0.93**	**200**	P	**Pg**	**18 13 45.2**	**-0.3**
GRG				S	**Sg**	**18 13 57.6**	**-0.1**
SKO	**Skopje**	**1.04**	**278**	*e*Pg	**Pg**	**18 13 47.0**	**-0.6**
SKO				*i* Sg	**Sn**	**18 14 02.2**	**-0.5**
SKO	**Skopje**	**1.04**	**278**	*e*Pg	**Pg**	**18 13 46.9**	**-0.6**
SKO				*i* Sg	**Sn**	**18 14 02.2**	**-0.5**
SOH	**Sokhos**	**1.09**	**158**	P	**Pg**	**18 13 48.2**	**-0.2**
SOH				S	**Sb**	**18 14 02.9**	**+0.2**
SOH	**Sokhos**	**1.09**	**158**	P	**Pn**	**18 13 48.7**	**-0.1**
SOH				S	**Sn**	**18 14 03.9**	**0.0**
SOH				AML	AML	18 14 04.8	
	comp=E,330μm,0.4s						
SOH				AML	AML	18 14 05.0	
	comp=N,730μm,0.5s						
SOH	**Sokhos**	**1.09**	**158**	P	**Pn**	**18 13 48.7**	**-0.1**
SOH				S	**Sb**	**18 14 02.9**	**+0.2**
THE	**Thessaloniki**	**1.21**	**175**	P	**Pn**	**18 13 50.1**	**-0.3**
THE				S	**Sn**	**18 14 07.1**	**+0.3**
THE	**Thessaloniki**	**1.21**	**175**	P	**Pn**	**18 13 50.1**	**-0.3**
THE				S	**Sb**	**18 14 05.3**	**-0.7**
THE				AML	AML	18 14 06.2	
	comp=N,117μm,0.3s						
THE				AML	AML	18 14 06.9	
	comp=E,146μm,0.3s						
THE	**Thessaloniki**	**1.21**	**175**	P	**Pn**	**18 13 50.1**	**-0.3**
THE				S	**Sn**	**18 14 07.1**	**+0.3**
PGB	**Panagyurishte**	**1.23**	**54**	P	**Pg**	**18 13 51.1**	**0.0**
BARS	**Barje**	**1.23**	**323**	*i* Pg	**Pg**	**18 13 51.3**	**+0.1**
BARS				*e*Sg	**Sb**	**18 14 07.1**	**+0.3**
HORT	**Hortiatis**	**1.25**	**170**	P	**Pn**	**18 13 51.1**	**0.0**
HORT				S	**Sn**	**18 14 08.8**	**+0.7**
HORT	**Hortiatis**	**1.25**	**170**	P	**Pn**	**18 13 51.2**	**+0.1**
HORT				S	**Sn**	**18 14 09.5**	**+1.4**
HORT				AML	AML	18 14 12.7	
	comp=E,127μm,0.4s						
HORT				AML	AML	18 14 13.2	
	comp=N,104μm,0.3s						
HORT	**Hortiatis**	**1.25**	**170**	P	**Pn**	**18 13 51.2**	**+0.1**
HORT				S	**Sn**	**18 14 08.8**	**+0.7**
KRUS	**Krusevo**	**1.27**	**249**	*i* Pg	**Pb**	**18 13 51.8**	**+0.2**
KRUS				*e*Sg	**Sn**	**18 14 09.5**	**+1.0**
KRUS	**Krusevo**	**1.27**	**249**	*i* Pg	**Pb**	**18 13 51.7**	**+0.2**
BIA	**Bitola**	**1.39**	**235**	*e*Pg	**Pg**	**18 13 54.2**	**0.0**
BIA	**Bitola**	**1.39**	**235**	*e*Pg	**Pg**	**18 13 54.2**	**0.0**
RZN	**Rozhen**	**1.42**	**95**	P	**Pg**	**18 13 54.6**	**-0.2**
ZAPS	**Zavoj**	**1.44**	**354**	||*i* Pg	**Pg**	**18 13 55.7**	**+0.5**
ZAPS				*e*Sg	**Sg**	**18 14 13.6**

BOVS	**Bovan**	**1.98 336**	*e*Pg	**Pb**	**18 14 04.2**	**+0.6**
BOVS			*e*Sg	**Sg**	**18 14 30.6**	**-0.5**
BOVS	**Bovan**	**1.98 336**	*e*Pg	**Pb**	**18 14 04.2**	**+0.6**
BOVS			*e*Sg	**Sg**	**18 14 30.6**	**-0.5**
PAIG	**Paliouri**	**2.01 161**	P	**Pn**	**18 13 60.0**	**-1.5**
PAIG			AML	AML	18 14 26.5	
	comp=E,93μm,1.1s					
PAIG			AML	AML	18 14 34.4	
	comp=N,87μm,0.9s					
PAIG	**Paliouri**	**2.01 161**	P	**Pn**	**18 14 00.0**	**-1.5**
ZAGS	**Zajecar**	**2.02 348**	⇑*i*Pn	**Pn**	**18 14 02.1**	**+0.5**
ZAGS	**Zajecar**	**2.02 348**	*e*Pg	**Pb**	**18 14 04.3**	**0.0**
ZAGS			*e*Sg	**Sg**	**18 14 32.3**	**-0.2**
ZAGS	**Zajecar**	**2.02 348**	⇑*i*Pn	**Pn**	**18 14 02.1**	**+0.5**
ZAGS	**Zajecar**	**2.02 348**	*e*Pg	**Pb**	**18 14 04.3**	**0.0**
ZAGS			*e*Sg	**Sg**	**18 14 32.3**	**-0.2**
RDO	**Rodhopi**	**2.15 108**	P	**Pn**	**18 14 04.7**	**+1.3**
RDO			S	**Sb**	**18 14 32.6**	**-0.6**
RDO	**Rodhopi**	**2.15 108**	P	**Pb**	**18 14 07.2**	**+0.7**
RDO			S	**Sb**	**18 14 33.6**	**+0.4**
RDO			AML	AML	18 14 39.1	
	comp=E,110μm,0.2s					
RDO			AML	AML	18 14 42.9	
	comp=N,138μm,0.4s					
RDO	**Rodhopi**	**2.15 108**	P	**Pn**	**18 14 04.7**	**+1.3**
RDO			S	**Sb**	**18 14 32.6**	**-0.6**
SJES	**Sjenica**	**2.54 305**	*e*Pg	**Pb**	**18 14 14.6**	**+1.3**
ALN	**Alexandroupoli**	**2.60 110**	P	**Pn**	**18 14 08.7**	**-0.8**
ALN			S	**Sb**	**18 14 46.7**	**+0.6**
ALN			AML	AML	18 14 57.6	
	comp=N,47μm,1.0s					
ALN			AML	AML	18 15 01.8	
	comp=E,48μm,1.1s					
ALN	**Alexandroupoli**	**2.60 110**	P	**Pn**	**18 14 08.7**	**-0.8**
IVAS	**Ivanjica**	**2.63 312**	*e*Pn	**Pn**	**18 14 08.8**	**-1.2**
IVAS	**Ivanjica**	**2.63 312**	*e*Pn	**Pn**	**18 14 08.8**	**-1.2**
SZH	**Strazhica**	**2.71 57**	P	**Pn**	**18 14 12.1**	**+1.1**
KUBS	**Kucevo**	**2.71 342**	*e*Pn	**Pn**	**18 14 10.5**	**-0.6**
KUBS	**Kucevo**	**2.71 342**	*e*Pn	**Pn**	**18 14 10.5**	**-0.6**
TRUS	**Trudelj**	**2.97 324**	*e*Pg	**Pg**	**18 14 23.5**	**-1.0**
TRUS	**Trudelj**	**2.97 324**	*e*Pg	**Pg**	**18 14 23.5**	**-1.0**
DIVS	**Divibare**	**3.07 318**	*e*Pn	**Pn**	**18 14 16.0**	**-0.1**
DIVS			*e*Sn	**Sn**	**18 14 53.2**	**+0.3**
DIVS	**Divibare**	**3.07 318**	*e*Pn	**Pn**	**18 14 16.0**	**-0.1**
DIVS			*e*Sn	**Sn**	**18 14 53.2**	**+0.3**

*IDC **23** 18:15:43.9±1.7, 38°.39N×43°.21E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/46, mbtmp3.7/7, ML1.7/1, Error ellipse: s-maj=25.1km s-min=19.0km az=158.0*
*ISK **23** 18:15:44.3, 38°.68N×43°.14E, h6km, ML3.6*
*ISCJB **23** 18:15:46.0±0.4, 38°.70N±0°.03×43°.16E±0°.04, h15km, mb3.6/4, Error ellipse: s-maj=5.0km s-min=4.5km az=149.8*
*CSEM **23** 18:15:45.2±0.2, 38°.70N×43°.10E, h2km, ML3.6, Error ellipse: s-maj=5.6km s-min=5.0km az=88.0*
*DDA **23** 18:15:45.2, 38°.71N×43°.12E, h7km, Ml3.7*
ISC 23 18:15:46.3±0.7, 38°.69N±0°.02×43°.13E±0°.03, h15km, n56, σ1§10/59, mb3.6/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**115**	*e*PG	**Pg**	**18 15 50.1**	**-1.3**
VANB				*e*SG	**Sg**	**18 15 54.4**	**-0.5**
VANB	**Van**	**0.22**	**115**	*e*Pg	**Pg**	**18 15 50.1**	**-1.3**
VANB				*e*Sg	**Sg**	**18 15 54.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.46**	**49**	*i* P	**Pg**	**18 15 53.1**	**-2.4**
VMUR	**Van-Muradiye**	**0.46**	**49**	P	**Pg**	**18 15 53.1**	**-2.4**
TUTA	**Tutak**	**0.75**	**341**	*i* P	**Pg**	**18 15 59.0**	**-2.0**
TUTA	**Tutak**	**0.75**	**341**	P	**Pg**	**18 15 59.0**	**-2.0**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*PG	**Pb**	**18 16 02.3**	**-1.3**
AGRB				*e*SG	**Sb**	**18 16 14.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*Pg	**Pb**	**18 16 02.3**	**-1.3**
AGRB				*e*Sg	**Sb**	**18 16 14.9**	**-0.5**
DYDN	**Diyadin**	**0.96**	**27**	*i* P	**Pg**	**18 16 04.5**	**-0.3**
DYDN	**Diyadin**	**0.96**	**27**	P	**Pg**	**18 16 04.6**	**-0.3**
HAKT	**HAKKARI**	**1.22**	**158**	*i* P	**Pn**	**18 16 07.7**	**-1.4**
HAKT	**HAKKARI**	**1.22**	**158**	P	**Pn**	**18 16 07.7**	**-1.4**
SIRN	**S¨–rnak**	**1.32**	**206**	*i* P	**Pb**	**18 16 10.8**	**-0.1**
SIRN	**S¨–rnak**	**1.32**	**206**	P	**Pb**	**18 16 10.8**	**-0.1**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*PN	**Pn**	**18 16 10.6**	**-0.7**
VRTB	**Varto-Mus**	**1.39**	**290**	*i* P	**Pn**	**18 16 11.0**	**-0.3**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*Pn	**Pn**	**18 16 10.6**	**-0.7**
VRTB	**Varto-Mus**	**1.39**	**290**	P	**Pn**	**18 16 11.0**	**-0.3**
CUKT	**Cukurca**	**1.49**	**165**	*e*PN	**Pn**	**18 16 12.6**	**-0.1**
CUKT	**Cukurca**	**1.49**	**165**	*i* P	**Pg**	**18 16 14.7**	**-0.3**
CUKT	**Cukurca**	**1.49**	**165**	*e*Pn	**Pn**	**18 16 12.6**	**-0.1**
CUKT	**Cukurca**	**1.49**	**165**	P	**Pg**	**18 16 14.7**	**-0.3**
BNGL	**BINGOL**	**1.57**	**280**	*i* P	**Pn**	**18 16 13.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*PN	**Pn**	**18 16 13.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*i* P	**Pb**	**18 16 15.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*Pn	**Pn**	**18 16 13.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	P	**Pb**	**18 16 15.9**	**+0.1**
BTMN	**Batman**	**1.67**	**242**	*i* P	**Pb**	**18 16 16.6**	**-0.2**
BTMN	**Batman**	**1.67**	**242**	P	**Pb**	**18 16 16.6**	**-0.2**
DIGO	**Kars**	**1.73**	**6**	*i* P	**Pb**	**18 16 17.9**	**0.0**
DIGO	**Kars**	**1.73**	**6**	P	**Pb**	**18 16 18.0**	**0.0**
ECAT	**Cat-ERZURUM**	**1.91**	**299**	*i* P	**Pg**	**18 16 22.1**	**-0.9**
ECAT	**Cat-ERZURUM**	**1.91**	**299**	P	**Pg**	**18 16 22.1**	**-0.9**
GNI	**Garni**	**1.92**	**40**	Pn	**Pb**	**18 16 21.6**	**+0.5**
	14nm,0.3s,baz=281,slow=10,SNR=2.7						
GNI				Sn	**Sg**	**18 16 51.2**	**+3.2**
	12nm,0.3s,baz=108,slow=20,SNR=3.3						
BNGB	**Bing¨¶l**	**1.94**	**280**	*e*PN	**Pn**	**18 16 18.9**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*PN	**Pn**	**18 16 19.6**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*Pn	**Pn**	**18 16 19.6**	**+0.3**
BINT	**Bingol**	**2.07**	**276**	*e*Pn	**Pn**	**18 16 18.9**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*PN	**Pn**	**18 16 21.9**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*Pn	**Pn**	**18 16 21.9**	**+0.1**
MAZI	**Mazidag**	**2.45**	**241**	*e*PN	**Pn**	**18 16 25.9**	**0.0**
MAZI	**Mazidag**	**2.45**	**241**	*e*Pn	**Pn**	**18 16 25.9**	**0.0**
AKH	**Akhalkalaki**	**2.73**	**6**	*e*PN	**Pn**	**18 16 30.4**	**+0.6**
AKH	**Akhalkalaki**	**2.73**	**6**	*e*Pn	**Pn**	**18 16 30.4**	**+0.6**
ERZN	**Erzincan**	**2.80**	**290**	*e*PN	**Pn**	**18 16 31.2**	**+0.5**
PTK	**Pertek**	**2.93**	**275**	*e*PN	**Pn**	**18 16 32.8**	**+0.3**
PTK	**Pertek**	**2.93**	**275**	*e*Pn	**Pn**	**18 16 32.8**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*PN	**Pn**	**18 16 34.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*Pn	**Pn**	**18 16 34.2**	**+0.5**
AKASG	**Malin Array Be**	**15.52**	**325**	Pn	**P**	**18 19 27.1**	**-1.8**
	0.6nm,0.3s,baz=137,slow=10,SNR=4.6						
VYHS	**Vyhne**	**20.07**	**307**	*e*P	Pn	18 20 22.6	+1.8
ARU	**Arti**	**20.49**	**25**	P	Pn	18 20 25.5	-0.1
	1.0nm,0.3s,baz=254,slow=11,SNR=2.4						
GERES	**GERESS Array B**	**23.42**	**305**	P	**P**	**18 20 56.5**	**+1.8**
	0.6nm,0.8s,baz=101,slow=10,SNR=2.6						
BVAR	**Borovoye Array**	**23.60**	**44**	P	**P**	**18 20 59.6**	**+3.2**
	1.8nm,1.0s,baz=258,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**29.63**	**61**	P	**P**	**18 21 51.5**	**+0.5**
	1.0nm,0.8s,baz=256,slow=5.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**52.17**	**96**	P	**P**	**18 24 55.6**	**-0.9**
	0.9nm,0.3s,baz=301,slow=8.5,SNR=4.6						

IDC 23 18:21:12.2±7.5, 25°.79S×177°.08W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/27, mbtmp3.5/2, Error ellipse: s-maj=328.2km s-min=115.7km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.37**	**262**	P	P	18 29 25.4	+0.8
	0.6nm,0.7s,baz=100,slow=7.0,SNR=6.6						
WRA	**Warramunga Arr**	**44.95**	**267**	P	P	18 29 28.3	-1.0
	0.4nm,0.7s,baz=108,slow=7.8,SNR=2.9						
FINES	**FINESS Array B**	**141.06**	**343**	PKP	PKPdf	18 40 43.4	-0.4
	0.8nm,0.7s,baz=42,slow=2.3,SNR=4.2						

*IDC **23** 18:25:49.8±1.0, 36°.78N×140°.56E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/50, mbtmp3.6/7, ML3.2/2, MS3.9/2, Ms1 3.9/2, ms1mx2.9/45, Error ellipse: s-maj=19.4km s-min=14.7km az=158.0*
*ISCJB **23** 18:25:51.4±0.6, 36°.80N±0°.03×140°.68E±0°.05, h15km±4km, mb3.5/5, MS3.9/2, Error ellipse: s-maj=7.0km s-min=3.9km az=19.4*
*JMA **23** 18:25:52.1, 36°.83N×140°.58E, h6km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs19.00000°, δ53.00000°, λ-102.00000°. NP2: φs219.00000°, δ39.00000°, λ-74.00000°. Principal axes: T Plg7.0000°, Azm118.0000°; N Plg10.0000°, Azm27.0000°; P Plg78.0000°, Azm243.0000°;*
JMA Felt I J1.
ISC 23 18:25:51.7±0.9, 36°.81N±0°.03×140°.58E±0°.04, h11km±6km, n24, σ0§94/27, mb3.5/5, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**183**	⇑P	**Pb**	**18 25 56.3**	**-1.0**
JHO				S	**Sb**	**18 25 59.6**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.34**	**31**	⇓P	**Pg**	**18 25 58.6**	**0.0**
ONAJ				S	**Sg**	**18 26 03.2**	**0.0**
JSB	**Shiboa**	**0.55**	**287**	P	**Pb**	**18 26 03.4**	**0.0**
JSB				S	**Sb**	**18 26 11.2**	**-0.1**
JFK	**Kawauchi**	**0.60**	**23**	P	**Pg**	**18 26 03.3**	**-0.2**
JFK				S	**Sg**	**18 26 11.3**	**-0.2**
JYT	**Yasato**	**0.66**	**208**	⇓P	**Pb**	**18 26 05.0**	**-0.2**
JYT				S	**Sb**	**18 26 13.9**	**-0.4**
JFT	**Otama**	**0.73**	**345**	P	**Pb**	**18 26 06.1**	**-0.4**
JFT				S	**Sg**	**18 26 15.8**	**+0.2**
JFY	**Yanaizu**	**0.92**	**311**	⇑P	**Pb**	**18 26 09.4**	**-0.3**
JFY				S	**Sb**	**18 26 21.6**	**-0.3**
JAG	**Ashikaga**	**0.98**	**247**	P	**Pg**	**18 26 10.6**	**-0.1**
JAG				S	**Sg**	**18 26 23.5**	**0.0**
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pn	**Pn**	**18 26 25.0**	**+0.6**
	17nm,0.3s,baz=90,slow=15,SNR=279						
MJAR				Lg	Lg	18 26 50.1	
	34nm,0.3s,baz=77,slow=30,SNR=22						
MAT	**Matsushiro**	**1.93**	**263**	P	**Pb**	**18 26 25.9**	**-0.9**
MAT				S	**Sb**	**18 26 52.0**	**+1.1**
JHJ	**Hachijo jima 2**	**3.74**	**190**	Pn	**Pn**	**18 26 48.5**	**-0.8**
	1.3nm,0.3s,baz=27,slow=9.0,SNR=2.2						
JHJ				Sn	**Sn**	**18 27 35.6**	**+2.3**
	3.1nm,0.3s,baz=253,slow=19,SNR=4.0						
ASAJ	**Asahikawa**	**7.46**	**11**	Pn	**Pn**	**18 27 41.1**	**+0.7**
	0.7nm,0.3s,baz=229,slow=9.3,SNR=7.4						
YAK	**Yakutsk**	**26.15**	**348**	LR	LR	18 42 12.6	
	comp=Z,244nm,19.9s,baz=276,slow=38						
SONM	**Songino Array**	**27.36**	**305**	P	**P**	**18 31 34.8**	**-2.0**
	0.6nm,0.8s,baz=98,slow=8.9,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	19 01 35.3	
	baz=312,slow=75,SNR=400						
H11N1	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	19 01 35.9	
	baz=312,slow=75,SNR=303						
H11N3	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	19 01 36.6	
	baz=312,slow=75,SNR=255						
H11S1	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	19 02 26.9	
	baz=314,slow=76,SNR=606						
H11S3	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	19 02 26.9	
	baz=314,slow=76,SNR=467						
H11S2	**WAKE ISLAND Hy**	**29.32**	**121**	T	T	19 02 28.1	
	baz=314,slow=76,SNR=453						
ILAR	**Eielson Array**	**50.04**	**32**	P	**P**	**18 34 46.0**	**+0.1**
	0.4nm,0.8s,baz=249,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**56.75**	**187**	P	**P**	**18 35 35.4**	**-0.2**
	0.8nm,0.8s,baz=4.4,slow=7.3,SNR=8.7						
ASAR	**Alice Springs**	**60.48**	**187**	P	**P**	**18 36 00.2**	**-1.4**
	0.2nm,0.6s,baz=10.0,slow=7.1,SNR=2.9						
TXAR	**Lajitas Array**	**90.79**	**52**	P	**P**	**18 38 57.0**	**+1.7**
	0.2nm,0.6s,baz=306,slow=3.1,SNR=4.5						
TXAR				LR	LR	19 14 09.1	
	comp=Z,58nm,21.2s,baz=0.0,slow=32						

*VIE **23** 18:26:38.6±0.6, 46°.33N×13°.60E, h5km±15km, ML1.0/4, Error ellipse: s-maj=3.6km s-min=1.9km az=88.0*
*CSEM **23** 18:26:38.5±0.2, 46°.32N×13°.60E, h5km, ML1.5/8, Error ellipse: s-maj=3.7km s-min=3.5km az=43.0*
LJU 23 18:26:38.2, 46°.32N×13°.60E, h8km, ML1.0, 4C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.10**	**219**	*i* Pg	Pg	18 26 40.5	0.0
ROBS				*i* Sg	Sg	18 26 42.2	+0.1
	comp=Z,50nm,0.1s						
ROBS	**Robic**	**0.10**	**219**	Pg	Pg	18 26 40.5	0.0
ROBS				*i* Sg	Sg	18 26 42.2	+0.1
	comp=Z,50nm,0.1s						
CADS	**Cadrg**	**0.13**	**134**	*i* Pg	Pg	18 26 41.0	-0.1
CADS				*i* Sg	Sg	18 26 43.4	+0.3
	comp=Z,44nm,0.1s						
CADS	**Cadrg**	**0.13**	**134**	*i* Pg	Pg	18 26 41.0	-0.1
CADS				*i* Sg	Sg	18 26 43.4	+0.3
	comp=Z,44nm,0.1s						
DRE	**Drenchia**	**0.15**	**168**	⇑*e*Pg	Pg	18 26 41.4	0.0
DRE				*e*Sg	Sg	18 26 43.9	+0.3
VINO	**Villanova**	**0.23**	**254**	⇑*e*Pg	Pg	18 26 42.9	+0.1
VINO				*e*Sg	Sg	18 26 46.7	+0.9
ACOM	**Acomizza, Ital**	**0.23**	**346**	⇑*e*Pg	Pg	18 26 43.0	0.0
GORS	**Gorjuse**	**0.28**	**91**	⇑*i*Pg	Pg	18 26 43.5	-0.2
GORS				*i* Sg	Sg	18 26 48.1	+0.7
	comp=Z,14nm,0.1s						
GORS	**Gorjuse**	**0.28**	**91**	⇑*i*Pg	Pg	18 26 43.5	-0.2
GORS				*i* Sg	Sg	18 26 48.1	+0.7
	comp=Z,14nm,0.1s						
MYKA	**Terra Mystica**	**0.31**	**6**	Pg	Pg	18 26 44.5	+0.1
	comp=Z,0.2nm,0.0s						
MYKA				Sg	Sg	18 26 49.9	+1.4
	comp=Z,0.9nm,0.1s						
VOJS	**Vojsko**	**0.35**	**145**	*i* Pg	Pg	18 26 45.0	-0.1
VOJS				*i* Sg	Sg	18 26 51.0	+1.3
	comp=Z,2.0nm,0.1s						
VOJS	**Vojsko**	**0.35**	**145**	*i* Pg	Pg	18 26 45.0	-0.1
VOJS				*i* Sg	Sg	18 26 51.0	+1.3
	comp=Z,2.0nm,0.1s						
ZOU	**Zoufplan**	**0.49**	**299**	*e*Pg	Pg	18 26 48.1	+0.3
CRNS	**Crni Vrh**	**0.52**	**117**	*i* Pg	Pg	18 26 48.0	-0.2
CRNS				*e*Sg	Sg	18 26 56.0	+1.0
	comp=Z,2.0nm,0.1s						
CRNS	**Crni Vrh**	**0.52**	**117**	*i* Pg	Pg	18 26 48.0	-0.2
CRNS				*e*Sg	Sg	18 26 56.0	+1.0
	comp=Z,2.0nm,0.1s						
OBKA	**Obir**	**0.68**	**74**	Pg	Pg	18 26 51.7	+0.3
	comp=Z,0.2nm,0.1s						
OBKA				Sg	Sb	18 27 01.7	-0.4
	comp=Z,1.0nm,0.2s						
ABTA	**Abfaltersbach**	**0.86**	**300**	Sg	Sb	18 27 07.5	+0.2
	comp=Z,0.7nm,0.2s						
VISS	**Visnje**	**1.01**	**120**	*i* Pg	Pn	18 26 59.0	+0.3
VISS	**Visnje**	**1.01**	**120**	*i* Pg	Pn	18 26 59.0	+0.3
SOKA	**Soboth**	**1.05**	**70**	Sg	Sg	18 27 12.1	0.0
OZLJ	**Ozalj**	**1.48**	**118**	Sn	Sg	18 27 27.5	+1.7
NVLJ	**Novalja**	**1.97**	**153**	*e*Pn	Pb	18 27 15.1	+0.7
NVLJ				Sn	Sg	18 27 41.3	-0.2

*ISN **23** 18:26:50.9±0.8, 39°.53N×43°.22E, h0km±44km, ML4.4*
*NSSC **23** 18:26:53.5±2.0, 38°.92N×44°.55E, h38km±999km, MD2.9, ML3.5*
*IDC **23** 18:27:00.7±0.5, 38°.63N×43°.48E, h0km, mb4.2/24, mb1 4.3/33, mb1mx4.2/49, mbtmp4.2/33, ML3.9/7, MS3.5/2, Ms1 3.5/2, ms1mx2.8/49, Error ellipse: s-maj=10.8km s-min=8.3km az=165.0*
*MOS **23** 18:27:01.6±1.2, 38°.51N×43°.59E, h18km, mb4.6/31, Error ellipse: s-maj=6.6km s-min=4.4km az=108.9*
*NEIC **23** 18:27:02.0±1.0, 38°.64N×43°.55E, h9km±6km, mb4.4/10, ML4.4(DDA), Error ellipse: s-maj=6.9km s-min=4.9km az=148.0*
*DDA **23** 18:27:01.9, 38°.69N×43°.54E, h19km, Ml4.4*
*TEH **23** 18:27:02.0, 39°.03N×43°.24E, h28km, ML4.4*
*CSEM **23** 18:27:02.8±0.1, 38°.70N×43°.51E, h5km, mb4.3/18, Error ellipse: s-maj=3.3km s-min=3.0km az=1.0*
*ISK **23** 18:27:03.0, 38°.69N×43°.37E, h6km, ML4.2*
*ISCJB **23** 18:27:03.1±0.3, 38°.66N±0°.01×43°.54E±0°.02, h22km±2km, mb4.3/67, MS4.3/4, Error ellipse: s-maj=2.5km s-min=2.1km az=159.6*
*AZER **23** 18:27:07.3±2.5, 39°.16N×43°.59E, h7km, Error ellipse: s-maj=17.7km s-min=8.8km az=56.0*
ISC 23 18:27:03.2±0.5, 38°.69N±0°.01×43°.57E±0°.02, h14km, n24: pP-P, n45, σ1§66/502, mb4.4/67, MS4.1/5, 37C-42D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**238**	*e*PG	**Pg**	**18 27 07.4**	**0.0**
VANB	**Van**	**0.17**	**238**	*e*Pg	**Pg**	**18 27 07.4**	**0.0**
VMUR	**Van-Muradiye**	**0.30**	**360**	⇓*i*P	**Pg**	**18 27 08.3**	**-1.2**
VMUR				*i* S	**Sb**	**18 27 14.4**	**-1.1**
VMUR	**Van-Muradiye**	**0.30**	**360**	P	**Pg**	**18 27 08.4**	**-1.2**
VMUR				S	**Sb**	**18 27 14.4**	**-1.1**
VMUR	**Van-Muradiye**	**0.30**	**360**	*i* P	**Pg**	**18 27 08.4**	**-1.2**
GEVA	**Gevas**	**0.55**	**227**	*i* P	**Pg**	**18 27 11.3**	**-2.8**
GEVA				*i* S	**Sg**	**18 27 21.0**	**-0.5**
GEVA	**Gevas**	**0.55**	**227**	*i* P	**Pg**	**18 27 11.7**	**-2.4**
GEVA				S	**Sg**	**18 27 21.0**	**-0.5**
GEVA	**Gevas**	**0.55**	**227**	*i* P	**Pg**	**18 27 11.7**	**-2.4**
BASK	**Baskale_VAN**	**0.72**	**152**	*i* P	**Pg**	**18 27 14.8**	**-2.5**
BASK				*i* S	**Sg**	**18 27 26.8**	**+0.1**
BASK	**Baskale_VAN**	**0.72**	**152**	P	**Pg**	**18 27 14.8**	**-2.5**
BASK				S	**Sg**	**18 27 26.8**	**+0.1**
DYDN	**Diyadin**	**0.86**	**6**	⇑*i*P	**Pg**	**18 27 18.3**	**-1.6**
DYDN				*i* S	Sn	**18 27 32.6**	**-1.1**
DYDN	**Diyadin**	**0.86**	**6**	*i* P	**Pg**	**18 27 18.4**	**-1.6**
DYDN				S	Sn	**18 27 32.6**	**-1.1**
DYDN	**Diyadin**	**0.86**	**6**	*i* P	**Pg**	**18 27 18.4**	**-1.5**
TUTA	**Tutak**	**0.93**	**321**	⇑*i*P	**Pg**	**18 27 19.1**	**-2.2**
TUTA				*i* S	**Sb**	**18 27 33.1**	**-0.5**
TUTA	**Tutak**	**0.93**	**321**	P	**Pg**	**18 27 19.0**	**-2.2**
TUTA				S	**Sb**	**18 27 33.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*PG	**Pg**	**18 27 21.4**	**-1.1**
AGRB				*e*SG	**Sg**	**18 27 34.7**	**-0.9**
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*Pg	**Pg**	**18 27 21.4**	**-1.1**
AGRB				*e*Sg	**Sg**	**18 27 34.7**	**-0.9**
HAKT	**HAKKARI**	**1.13**	**175**	⇓*i*P	**Pb**	**18 27 21.8**	**-2.9**
HAKT				*i* S	Sn	**18 27 40.7**	**+0.3**
HAKT	**HAKKARI**	**1.13**	**175**	P	**Pb**	**18 27 21.8**	**-2.9**
HAKT				S	Sn	**18 27 40.7**	**+0.3**
EKAR	**Karacoban**	**1.31**	**296**	*i* P	**Pn**	**18 27 26.1**	**-1.2**
EKAR	**Karacoban**	**1.31**	**296**	*i* P	**Pn**	**18 27 26.6**	**-0.7**
EKAR	**Karacoban**	**1.31**	**296**	*i* P	**Pn**	**18 27 26.6**	**-0.7**
CUKT	**Cukurca**	**1.44**	**179**	*e*PN	**Pb**	**18 27 30.0**	**+0.1**
CUKT				*e*SN	**Sg**	**18 27 50.4**	**+0.8**
CUKT	**Cukurca**	**1.44**	**179**	⇑*i*P	**Pn**	**18 27 29.4**	**+0.4**
CUKT	**Cukurca**	**1.44**	**179**	P	**Pn**	**18 27 29.4**	**+0.4**
CUKT	**Cukurca**	**1.44**	**179**	*e*Pn	**Pb**	**18 27 30.0**	**+0.1**
CUKT				*e*Sn	**Sg**	**18 27 50.4**	**+0.8**
EATA	**Eleskirt**	**1.44**	**325**	*i* P	**Pn**	**18 27 28.4**	**-0.9**
EATA				*i* S	Sn	**18 27 47.4**	**-0.8**
EATA	**Eleskirt**	**1.44**	**325**	P	**Pn**	**18 27 28.4**	**-0.9**
EATA				S	Sn	**18 27 47.4**	**-0.8**
SIRN	**S¨–rnak**	**1.50**	**218**	⇓*i*P	**Pb**	**18 27 30.6**	**-0.3**
SIRN				*i* S	**Sg**	**18 27 51.9**	**+0.3**
SIRN	**S¨–rnak**	**1.50**	**218**	P	**Pb**	**18 27 30.6**	**-0.3**
SIRN				S	**Sg**	**18 27 51.9**	**+0.3**
NAX	**Nakhchivan**	**1.58**	**71**	P	**Pb**	**18 27 32.3**	**+0.1**
	SNR=62						
NAX				⇓S	**Sg**	**18 27 55.8**	**+1.8**
NAX	**Nakhchivan**	**1.58**	**71**	P	**Pb**	**18 27 32.3**	**+0.1**
	SNR=62						
NAX				S	**Sg**	**18 27 55.8**	**+1.8**
ISHB	**Shabestar**	**1.65**	**103**	*e*Pn	**Pb**	**18 27 33.0**	**-0.6**
ISHB				*e*AMB	AMB	18 27 34.5	
	comp=Z,49μm,0.2s						
ISHB				*e*Sn	**Sg**	**18 27 57.7**	**+1.2**
IMRD	**Marand**	**1.67**	**88**	*e*Pn	**Pb**	**18 27 33.2**	**-0.6**
IMRD				*e*AMB	AMB	18 28 01.4	
	comp=Z,28μm,0.4s						
IMRD	**Marand**	**1.67**	**88**	*e*Pn	**Pb**	**18 27 33.2**	**-0.6**
GNI	**Garni**	**1.72**	**31**	Pn	**Pb**	**18 27 34.2**	**-0.5**
	comp=Z,85nm,0.3s,baz=232,slow=3.6,SNR=52						
GNI				Lg	Lg	18 28 01.9	
	comp=Z,112nm,0.3s,baz=84,slow=17,SNR=10						
GNI				LR	LR	18 28 22.3	
	comp=Z,812nm,18.8s,baz=206,slow=45						
VRTB	**Varto-Mus**	**1.72**	**287**	*e*PN	**Pn**	**18 27 32.2**	**-0.7**
VRTB	**Varto-Mus**	**1.72**	**287**	*i* P	**Pn**	**18 27 33.4**	**+0.5**
V

BRDA ⇑S Sn 18 28 29.5 -1.6
BRDA Brd 3.20 59 P Pn 18 27 54.2 +1.0
SNR=15
BRDA S Sn 18 28 29.5 -1.6
SEAG Tbilisi Sea 3.21 17 P Pb 18 28 01.3 +1.1
PTK Pertek 3.27 275 *e*PN Pn 18 27 53.8 -0.5
PTK Pertek 3.27 275 *e*Pn Pn 18 27 53.8 -0.5
ISRB Sarab 3.33 104 *e*Pn Pn 18 27 56.8 +1.6
ISRB *e*AMB AMB 18 28 21.1
comp=Z,6μm,0.3s
ISRB Sarab 3.33 104 *e*Pn Pn 18 27 56.8 +1.6
SVRC Sivrice-ELAZID 3.36 266 *e*PN Pn 18 27 55.1 -0.4
SVRC Sivrice-ELAZID 3.36 266 *e*Pn Pn 18 27 55.1 -0.4
MNGR Mingechevir, A 3.42 51 ⇓P Pn 18 27 55.5 -0.6
SNR=12
MNGR Mingechevir, A 3.42 51 P Pn 18 27 55.5 -0.6
SNR=12
ZRD Zardab 3.56 62 ⇑P Pn 18 27 59.3 +1.3
SNR=11
ZRD Zardab 3.56 62 P Pn 18 27 59.3 +1.3
SNR=11
ELZG Elazig 3.60 268 *i* P Pn 18 27 58.6 -0.1
ELZG Elazig 3.60 268 P Pn 18 27 58.7 -0.1
KELT Kelkit 3.65 295⇑*i*P Pb 18 28 06.4 -1.2
MACK Trabzon 3.70 309 *i* P Pb 18 28 09.2 +0.9
KTUT Trabzon 3.72 309 *e*PN Pn 18 28 00.9 +0.6
KTUT Trabzon 3.72 309 *e*Pn Pn 18 28 00.9 +0.6
LRK Lerik 3.73 89 ⇓P Pb 18 28 06.2 -2.8
SNR=25
LRK Lerik 3.73 89 P Pb 18 28 06.2 -2.8
SNR=25
SEKA Sheki 3.76 47 ⇓P Pn 18 28 00.6 -0.2
SNR=4.0
SEKA Sheki 3.76 47 P Pn 18 28 00.6 -0.2
SNR=4.0
ZKTA Zakatala 3.76 37 ⇓P Pn 18 27 58.2 -2.7
SNR=14
GLBA Cliilabad 3.80 80 P Pb 18 28 05.9 -4.1
SNR=38
GLBA ⇓S Sn 18 28 50.3 +4.5
GLBA Cliilabad 3.80 80 P Pb 18 28 05.9 -4.1
SNR=38
GLBA S Sn 18 28 50.3 +4.5
GUDG Gudauri 3.84 10 P Pn 18 28 05.5 +3.4
ONI Oni 3.90 359 P Pg 18 28 15.0 -3.0
ONI Oni 3.90 359 P Pg 18 28 14.9 -3.0
SAAT Saatly 3.94 71 ⇓P Pn 18 28 05.7 +2.4
SNR=29
SAAT Saatly 3.94 71 P Pn 18 28 05.7 +2.4
SNR=29
KDMR Kurdemir 3.94 63 ⇑S Sn 18 28 48.3 -1.1
KDMR Kurdemir 3.94 63 S Sn 18 28 48.3 -1.1
URFA Urfa 3.95 253 *e*PN Pn 18 28 03.6 +0.1
URFA Urfa 3.95 253 *e*Pn Pn 18 28 03.7 +0.1
QBL Gabala 3.98 54 ⇓S Sn 18 28 47.2 -3.2
KEMA Kemaliye 4.00 280 *i* P Pn 18 28 06.1 +1.8
KEMA Kemaliye 4.00 280 P Pn 18 28 06.1 +1.8
LKRN Lenkeran, Azer 4.07 88 ⇓P Pb 18 28 11.1 -3.6
SNR=37
LKRN Lenkeran, Azer 4.07 88 P Pb 18 28 11.1 -3.6
SNR=37
ASTR Astara 4.09 90 ⇓P Pb 18 28 11.2 -3.8
SNR=15
ASTR Astara 4.09 90 P Pb 18 28 11.2 -3.8
SNR=15
ZEI Tsey 4.11 3 *e*P Pn 18 28 03.8 -2.0
ZEI pmax pmax
comp=Z,37nm,0.7s
SURC SANLIURFA_SURC 4.32 247 *i* P Pn 18 28 06.1 -2.5
SURC SANLIURFA_SURC 4.32 247 P Pn 18 28 06.1 -2.5
ALIB Äli-Bayra 4.40 72 ⇑P Pn 18 28 12.3 +2.7
SNR=3.4
ALIB Äli-Bayra 4.40 72 P Pn 18 28 12.3 +2.7
SNR=3.4
SUSE Susehri 4.43 292 *i* P Pb 18 28 16.6 -4.3
GBS Qobustan 4.54 64 ⇑P Pn 18 28 13.0 +1.4
SNR=5.9
GBS Qobustan 4.54 64 P Pn 18 28 13.0 +1.4
SNR=5.9
QSAR Qusar 4.57 50 ⇓P Pn 18 28 11.3 -0.8
SNR=19
QSAR Qusar 4.57 50 P Pn 18 28 11.3 -0.8
SNR=19
NEY Neytrino 4.60 352⇑*e*P Pb 18 28 18.0 -5.9
QUBA Quba, Azerbaij 4.62 53 ⇑P Pn 18 28 12.6 -0.1
SNR=13
QUBA Quba, Azerbaij 4.62 53 P Pn 18 28 12.6 -0.1
SNR=13
ILIN Lien 4.64 143 *e*Pn Pn 18 28 15.7 +2.5
ILIN *e*AMB AMB 18 29 56.6
comp=Z,2μm,0.4s
ILIN Lien 4.64 143 *e*Pn Pn 18 28 15.7 +2.5
CUZAR Zara_SIVAS 4.66 287 *i* P Pb 18 28 25.4 +0.6
ATGJ Altiaghaj 4.67 61 ⇑P Pn 18 28 13.9 +0.5
SNR=4.7
ATGJ Altiaghaj 4.67 61 P Pn 18 28 13.9 +0.5
SNR=4.7
SIZA Siyzn 4.74 58 ⇑P Pn 18 28 14.7 +0.3
SNR=3.1
SIZA Siyzn 4.74 58 P Pn 18 28 14.7 +0.3
SNR=3.1
DARE Darende-Malaty 4.77 271 *e*PN Pn 18 28 16.1 +1.3
DARE Darende-Malaty 4.77 271 *e*Pn Pn 18 28 16.1 +1.3
NCK Nalchik 4.80 0⇓*e*P Pn 18 28 20.8 +5.6
GROC Groznyy 4.81 20 *e*P Pb 18 28 30.5 +3.1
GROC pmax pmax
comp=Z,41nm,0.8s
IVIS Veis 4.92 147 *e*Pn Pn 18 28 19.1 +2.3
IVIS *e*AMB AMB 18 28 42.7
comp=Z,2μm,0.5s
IVIS Veis 4.92 147 *e*Pn Pn 18 28 19.1 +2.3
IGHG Ghaleghazi 4.97 150 *e*Pn Pn 18 28 20.2 +2.5
IGHG *e*AMB AMB 18 30 18.4
comp=Z,4μm,0.6s
IGHG Ghaleghazi 4.97 150 *e*Pn Pn 18 28 20.2 +2.5
GOBA Gobu 5.06 68 ⇑P Pn 18 28 20.5 +1.8
SNR=4.4
GOBA Gobu 5.06 68 P Pn 18 28 20.5 +1.8
SNR=4.4
KBZ Khabaz 5.06 354 Pn Pn 18 28 21.7 +3.0
comp=Z,0.1nm,0.3s,baz=185,slow=10,SNR=12
KIV Kislovodsk 5.31 353 *e*P Pn 18 28 26.0 +3.8
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,168nm,7.0s
KIV Kislovodsk 5.31 353 *e*Pn Pn 18 28 24.3 +2.2
KIV Kislovodsk 5.31 353 *e*P Pn 18 28 26.0 +3.8
comp=Z,168nm,7.0s
KIV *e*Sn Sn 18 29 27.6 +4.5
KIV Kislovodsk 5.31 353 *e*Pn Pn 18 28 24.3 +2.2
KIV *e*Sn Sn 18 29 27.6 +4.5
KVAR Kislovodsk Arr 5.31 353 Pn Pn 18 28 24.5 +2.4
baz=197,slow=14,SNR=7.5
BHD Baghdad 5.44 173 *e*Pn Pn 18 28 27.0 +3.0
SNR=39
SOC Sochi 5.69 330 *e*P Pn 18 28 28.1 +0.7
SOC *e* 18 29 35.5
SOC pmax pmax
comp=Z,21nm,1.0s
SOC MLR MLR
comp=Z,741nm,12.0s
SOC Sochi 5.69 330 *e*P Pn 18 28 28.1 +0.7
comp=Z,741nm,12.0s
DRWC Darouich 5.86 252 *e*P Pn 18 28 29.2 -0.5
DRWC *e*S Sn 18 29 38.7 +2.0
DRWC AML AML 18 30 27.7
comp=E,85nm,0.8s
DRWC AML AML 18 30 28.8
comp=N,106nm,0.7s
IRAZ Razeghan 6.05 121 *e*Pn Pn 18 28 35.1 +2.6
IRAZ *e*AMB AMB 18 29 08.5
comp=Z,688nm,0.5s
IRAZ Razeghan 6.05 121 *e*Pn Pn 18 28 35.1 +2.6
RTB Rutbah 6.24 206 *e*Pn Pn 18 28 35.0 +0.1
SNR=3.0
RTB *e*Sn Sn 18 29 48.1 +2.1
SNR=39
BTCH Batrach 6.25 247 *e*P Pn 18 28 34.6 -0.5
BTCH *e*S Sn 18 29 50.8 +4.3
BTCH AML AML 18 30 33.6
comp=N,90nm,0.6s
BTCH AML AML 18 30 50.0
comp=E,257nm,0.7s
GOF Gofitskoye 6.38 357⇑*e*P Pn 18 28 41.5 +4.7
GOF pmax pmax
comp=Z,25nm,0.9s
KFRA Kufra 6.44 239 *e*P Pn 18 28 37.6 -0.1
KFRA *e*S Sn 18 29 52.2 +1.2
KFRA AML AML 18 30 40.9
comp=E,278nm,0.7s
KFRA AML AML 18 31 05.6
comp=N,253nm,0.7s
RABH Abou Rabah 6.65 232 *e*P Pn 18 28 41.0 +0.4
RABH AML AML 18 31 06.5
comp=N,51nm,0.8s
RABH AML AML 18 31 09.3
comp=E,36nm,0.8s
ARNB Al Arnab 6.69 247 *e*P Pn 18 28 40.6 -0.5
ARNB AML AML 18 30 53.5
comp=N,64nm,0.8s
ARNB AML AML 18 30 57.5
comp=E,45nm,0.7s
ROOS tl_alroos 6.78 230 *e*P Pn 18 28 42.6 +0.2
ROOS AML AML 18 30 59.4
comp=E,109nm,0.8s
ROOS AML AML 18 31 40.7
comp=N,74nm,0.7s
BIDA Albida 6.87 240 *e*P Pn 18 28 43.6 -0.1
BIDA *e*S Sn 18 30 04.0 +2.3
BIDA AML AML 18 31 14.0
comp=E,136nm,0.8s
HAWK Haweek 7.11 236 *e*P Pn 18 28 46.7 -0.2
HAWK AML AML 18 30 58.2
comp=N,44nm,0.7s
HAWK AML AML 18 31 26.1
comp=E,31nm,0.8s
FKH Fakeheh 7.28 235 *e*P Pn 18 28 49.3 0.0
MARH Ras Al Marh 7.37 233 *e*P Pn 18 28 51.5 +0.7
MARH AML AML 18 31 16.7
comp=N,29nm,0.8s
MARH AML AML 18 31 21.3
comp=E,84nm,0.7s
IDMV Damavand 7.43 112 *e*Pn Pn 18 28 52.9 +1.3
IDMV *e*AMB AMB 18 31 37.0
comp=Z,580nm,0.6s
IDMV Damavand 7.43 112 *e*Pn Pn 18 28 52.9 +1.3
HWQ Hawqa 7.55 237 *e*P Pn 18 28 53.3 +0.2
BRTR Keskin Array B 7.78 281 Pn Pn 18 28 57.0 +0.8
comp=Z,0.1nm,0.3s,baz=94,slow=14,SNR=4.7
BRTR Lg Lg 18 31 21.1
comp=Z,0.0nm,0.3s,baz=87,slow=29,SNR=2.4
TOTH TOTAH 7.86 230 *e*P Pn 18 28 57.2 0.0
TOTH AML AML 18 31 15.4
comp=E,23nm,0.7s
TOTH AML AML 18 31 39.5
comp=N,25nm,0.7s
IFIR Firoozkooh 7.93 110 *e*AMB AMB 18 29 22.0
comp=N,131nm,0.4s
BRBR Barbar 8.11 232 *e*P Pn 18 29 01.5 +0.7
BRBR *e*S Sn 18 30 32.1 -0.3
BRBR AML AML 18 31 17.6
comp=N,16nm,0.7s
BRBR AML AML 18 31 37.5
comp=E,29nm,0.7s
SALA Sala 8.15 225 *e*P Pn 18 29 01.3 0.0
SALA *e*S Sn 18 30 32.0 -1.4
SALA AML AML 18 31 44.8
comp=E,2.3nm,0.6s
SALA AML AML 18 31 54.5
comp=N,48nm,0.7s
DQRL Deir Qamar 8.16 235 *e*P Pn 18 29 01.2 -0.1
SHBL Chebaa 8.28 232 *e*P Pn 18 29 03.6 +0.5
ASF Jabal al Asfar 8.48 222 Pn Pn 18 29 04.7 -1.0
comp=N,0.3nm,0.3s,baz=354,slow=9.2,SNR=7.3
ASF Lg Lg 18 31 41.3
comp=N,0.3nm,0.3s,baz=268,slow=20,SNR=4.2
MMAI Mount Meron Ar 8.72 232 Pn Pn 18 29 08.2 -0.8
comp=N,3.7nm,0.3s,baz=63,slow=15,SNR=19
MMAI Lg Lg 18 31 37.9
comp=N,0.3nm,0.3s,baz=45,slow=37,SNR=3.1
MMAI LR LR 18 32 37.7
comp=N,396nm,18.8s,baz=40,slow=39
GEYT Alibeck 11.45 89 Pn Pn 18 29 46.8 +0.3
comp=N,0.2nm,0.3s,baz=297,slow=16,SNR=15
EIL Elat 11.48 221 Pn Pn 18 29 49.2 +2.5
comp=N,0.2nm,0.3s,baz=25,slow=19,SNR=2.7
EIL Lg Lg 18 33 15.6
comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=3.3
VORR Voronezh 13.34 348 P Pn 18 30 14.0 +1.9
VORR pmax pmax
comp=Z,250nm,1.4s
ISR Istrita 14.21 302 P P 18 30 28.3 -3.1
ISR pmax pmax
comp=Z,53nm,1.3s
ISR Istrita 14.21 302 P P 18 30 28.3 -3.1
comp=Z,53nm,1.3s
LPSR Galich'ya Gora 14.29 348 *e*P Pn 18 30 23.8 -1.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRI Vrincioaia 14.37 305⇓*i*P Pn 18 30 26.1 -0.1
VRI Vrincioaia 14.37 305 P P 18 30 32.5 -0.7
VRI pmax pmax
comp=Z,121nm,1.3s
VRI Vrincioaia 14.37 305 P P 18 30 32.5 -0.7
comp=Z,121nm,1.3s
PLOR Plostina 14.42 305⇑*i*P Pn 18 30 26.7 -0.2
SORM Soroca 14.52 315⇓*i*P Pn 18 30 28.2 0.0
TESR Tescani 14.70 308⇓*i*P Pn 18 30 30.5 -0.1
MLR Muntele Rosu 14.73 303 Pn Pn 18 30 31.4 +0.1
comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=3.4
MLR Muntele Rosu 14.73 303⇑*i*P Pn 18 30 31.4 +0.1
RAYN Ar Rayn 15.21 173 *e*Pn Pn 18 30 33.1 -4.6
VOIR 15.31 302⇑*i*P Pn 18 30 40.1 +1.2
SRS Serrai 15.53 285 P P 18 30 48.0 +1.9
SRS pmax pmax
comp=Z,15nm,1.3s
SRS Serrai 15.53 285 P P 18 30 48.0 +1.9
comp=Z,15nm,1.3s
ARR Arges 15.56 301⇓*i*P Pn 18 30 42.7 +0.5
AKTO Aktyubinsk 15.58 36 Pn Pn 18 30 41.4 -1.1
comp=Z,0.3nm,0.3s,baz=226,slow=15,SNR=19
AKASG Malin Array Be 15.72 324 Pn Pn 18 30 42.3 -1.9
comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=28
KIEV Kiev 15.73 324⇓*i*P Pn 18 30 42.8 -1.4
KIEV Kiev 15.73 324 *e*Pn Pn 18 30 42.5 -1.7
comp=Z,9.7nm,1.0s
KIEV Kiev 15.73 324 *e*Pn Pn 18 30 42.5 -1.7
comp=Z,9.7nm,1.0s
ABKAR Akbulak array 15.79 43 *e*Pn Pn 18 30 44.6 -0.5
comp=Z,50nm,0.8s
ABKAR Akbulak array 15.79 43 *e*Pn Pn 18 30 44.6 -0.5
comp=Z,50nm,0.8s
VTS Vitosha 15.94 291⇑*i*P P 18 30 49.0 -1.8
VTS Vitosha 15.94 291 *e*P Pn 18 30 45.4 -1.8
VTS pmax pmax
comp=Z,19nm,1.2s
VTS Vitosha 15.94 291 *e*Pn Pn 18 30 45.4 -1.8
comp=Z,19nm,1.2s
VTS Vitosha 15.94 291⇑*i*P P 18 30 49.0 -1.8
VTS Vitosha 15.94 291 *e*Pn Pn 18 30 45.4 -1.8
comp=Z,19nm,1.2s
BURAR Bucovina Array 16.07 310⇓*i*P Pn 18 30 49.4 +0.7
BUR08 Bucovina Ar. S 16.09 310 *e*Pn Pn 18 30 49.0 0.0
BUR08 Bucovina Ar. S 16.09 310 *e*Pn Pn 18 30 49.0 0.0
ZAGS Zajecar 16.83 295 *e*P P 18 31 00.0 -0.5
BARS Barje 16.98 291⇑*i*P P 18 31 02.3 +0.1
OBN Obninsk 17.10 346 P Pn 18 31 01.3 -0.4
comp=Z,4.4nm,0.3s,baz=180,slow=7.1,SNR=6.2
OBN LR LR 18 37 24.3
comp=Z,93nm,18.3s,baz=137,slow=36
OBN Obninsk 17.10 346⇓*e*P Pn 18 31 02.0 +0.3
OBN pmax pmax
comp=Z,46nm,1.2s
OBN MLR MLR
comp=Z,315nm,14.0s
OBN Obninsk 17.10 346 *e*P Pn 18 31 02.0 +0.3
comp=Z,315nm,14.0s
DRGR 17.30 305⇓*i*P P 18 31 05.1 -0.6
DRGR 17.30 305 P P 18 31 08.7 +3.0
DRGR pmax pmax
comp=Z,22nm,1.2s
DRGR 17.30 305⇓*i*P P 18 31 05.1 -0.6
KUBS Kucevo 17.34 296 *e*P Pn 18 31 04.1 -0.7
MOS Moscow 17.52 349 *e*P P 18 31 09.0 +1.0
MOS pmax pmax
comp=Z,32nm,1.1s
MOS Moscow 17.52 349 *e*P P 18 31 09.0 +1.0
comp=Z,32nm,1.1s
SELS Selova 17.54 292 *e*P P 18 31 08.6 +0.2
BZS Buzias 17.66 300⇑*i*P P 18 31 09.4 -0.3
BZS Buzias 17.66 300⇑*i*P P 18 31 09.4 -0.3
LVV L'vov 17.83 315 *e*P Pn 18 31 05.9 -4.9
GRUS Gruza 17.93 294⇑*i*P P 18 31 13.1 +0.5
UZH Uzhgorod 18.27 310⇑*i*P Pn 18 31 16.0 -0.2
UZH Uzhgorod 18.27 310 *i* P Pn 18 31 16.0 -0.2
FGSL Fruska Gora 18.79 298 *e*P Pn 18 31 22.7 +0.1
TEKS Tekeris 18.88 296 *e*P Pn 18 31 24.7 +1.0
CRVS Cervenica-Dubn 18.88 310 *e*P Pn 18 31 24.5 +0.8
CRVS Cervenica-Dubn 18.88 310 *e*P Pn 18 31 24.5 +0.8
CRVS Cervenica-Dubn 18.88 310 *e*P Pn 18 31 24.5 +0.8
STHS Stebnicka Huta 19.23 311 *e*P Pn 18 31 28.1 +0.2
STHS Stebnicka Huta 19.23 311 *e*P Pn 18 31 28.1 +0.2
STHS Stebnicka Huta 19.23 311 *e*P Pn 18 31 28.1 +0.2
BRY Bratogost 19.39 291 P Pn 18 31 32.1 +2.1
PSZ Piszkesteto 19.48 306⇑*i*P Pn 18 31 32.1 +1.1
PSZ Piszkesteto 19.48 306⇑*i*P Pn 18 31 32.1 +1.1
NIE Niedzica 19.79 310 *e*P Pn 18 31 35.0 +0.4
NIE Niedzica 19.79 310 *e*P Pn 18 31 35.0 +0.4
NACGM Naroch 19.80 330 *e* P 18 31 28.0 -5.0
WSAR Wadi Sarin 20.05 136 P P 18 31 36.4 +0.3
comp=Z,7.7nm,0.9s,baz=270,slow=6.1,SNR=4.0
LANS Liptovska Anna 20.19 309 *e*P Pn 18 31 38.9 -0.4
LANS Liptovska Anna 20.19 309 *e*P Pn 18 31 38.9 -0.4
LANS Liptovska Anna 20.19 309 *e*P Pn 18 31 38.9 -0.4
LANS *e* 18 58 30.5
VYHS Vyhne 20.34 307 *e*P Pn 18 31 40.2 -0.9
VYHS pmax pmax
comp=Z,22nm,1.5s
VYHS Vyhne 20.34 307 *e*P Pn 18 31 40.2 -0.9
comp=Z,22nm,1.5s
VYHS Vyhne 20.34 307 *e*P Pn 18 31 40.2 -0.9
ARU Arti 20.35 24 P P 18 31 39.8 +0.8
comp=Z,12nm,0.7s,baz=217,slow=6.3,SNR=25
ARU Arti 20.35 24*d i*P Pn 18 31 40.2 -0.9
ARU 18 31 58.1
ARU SS Sn 18 35 56.5 +27
ARU pmax pmax
comp=Z,33nm,1.7s
ARU Arti 20.35 24 *i* P Pn 18 31 40.2 -0.9
comp=Z,33nm,1.7s
ARU Arti 20.35 24 *e*P P 18 31 38.4 -0.6
comp=Z,28nm,1.0s
OJC Ojcow 20.42 312 *e*P P 18 31 40.1 +0.2
OJC Ojcow 20.42 312 *e*P P 18 31 40.3 +0.4
OJC pmax pmax
comp=Z,18nm,1.1s
OJC Ojcow 20.42 312 *e*P P 18 31 40.3 +0.4
comp=Z,18nm,1.1s
OJC Ojcow 20.42 312 *e*P P 18 31 40.3 +0.4
comp=Z,18nm,1.1s
KKAR Karatay Array 20.80 69 P P 18 31 43.4 -0.6
KKAR pmax pmax
comp=Z,172nm,0.8s
KKAR Karatay Array 20.80 69 P P 18 31 43.4 -0.6
comp=Z,172nm,0.8s
KKAR Karatay Array 20.80 69 P P 18 31 43.4 -0.6
comp=Z,172nm,0.8s
SMOL Smolenice 21.24 306 *e*P P 18 31 51.3 +2.6
SMOL Smolenice 21.24 306 *e*P P 18 31 51.3 +2.6
SMOL Smolenice 21.24 306 *e*PN P 18 31 51.3 +2.6
OKC Ostrava-Krasne 21.24 310 *e*P P 18 31 49.6 +0.8
OKC Ostrava-Krasne 21.24 310 *e*P P 18 31 49.6 +0.8
OKC Ostrava-Krasne 21.24 310 *e*P P 18 31 49.6 +0.8
SVE Sverdlovsk 21.36 26 *e*P P 18 31 51.0 +1.1
SVE pmax pmax
comp=Z,27nm,1.1s
SVE Sverdlovsk 21.36 26 *e*P P 18 31 51.0 +1.1
comp=Z,27nm,1.1s
SOP Sopron 21.56 303 P P 18 31 53.7 +1.5
SOP pmax pmax
comp=Z,23nm,1.0s
SOP Sopron 21.56 303 P P 18 31 53.7 +1.5
comp=Z,23nm,1.0s
MORC Moravsky Berou 21.59 309⇓*i*P P 18 31 55.3 +2.8
MORC Moravsky Berou 21.59 309⇓*i*P P 18 31 55.3 +2.8
VRAC Vranov 22.01 308 P P 18 31 56.8 -0.2
comp=Z,10nm,0.9s,baz=108,slow=9.3,SNR=14
CONA Conrad Observa 22.08 304 *i* P P 18 31 58.3 +0.5
comp=Z,21nm,1.5s
CONA Conrad Observa 22.08 304 P P 18 31 58.3 +0.5
comp=Z,21nm,1.5s
ARSA Arzberg 22.14 302 *i* P P 18 31 59.2 +0.7
comp=Z,6.7nm,1.0s
ARSA Arzberg 22.14 302 P P 18 31 59.2 +0.7
comp=Z,6.7nm,1.0s
KRLC Kraliky 22.15 310 *e*P P 18 31 58.5 -0.1
KRLC Kraliky 22.15 310 *e*P P 18 31 58.5 -0.1
KRLC Kraliky 22.15 310 *e*P P 18 31 58.5 -0.1
MNAS Manas 22.25 71 P P 18 32 03.2 +3.4
MNAS pmax pmax
comp=Z,11nm,0.9s
MNAS Manas 22.25 71 P P 18 32 03.2 +3.4
comp=Z,11nm,0.9s
KLMR Klimovskoe 22.34 355 *e*P P 18 31 59.4 -0.9
KLMR *e*S S 18 36 09.7 +4.4
KLMR pmax pmax
comp=Z,82nm,1.3s
KLMR Klimovskoe 22.34 355 *e*P P 18 31 59.4 -0.9
comp=Z,82nm,1.3s
SOKA Soboth 22.36 300 *e*P P 18 32 01.2 +0.3
comp=Z,4.6nm,1.1s
SOKA Soboth 22.36 300 P P 18 32 01.2 +0.3
comp=Z,4.6nm,1.1s
DPC Dobruska-Polom 22.53 310 *e*P P 18 32 03.8 +1.2
DPC *ep*P sP 18 32 07.9 +1.4
DPC Dobruska-Polom 22.53 310 *e*P P 18 32 03.8 +1.2
DPC *e* 18 32 07.9
DPC Dobruska-Polom 22.53 310 *e*P P 18 32 03.8 +1.2
TREC Trest 22.69 307 *e*P P 18 32 04.8 +0.5
TREC Trest 22.69 307 *e*P P 18 32 04.8 +0.5
TREC Trest 22.69 307 *e*P P 18 32 04.8 +0.5
KSP Ksiaz 22.72 311 *e*P P 18 32 06.2 +1.6
KSP Ksiaz 22.72 311 *e*P P 18 32 06.2 +1.6
KSP Ksiaz 22.72 311 *e*P P 18 32 06.2 +1.6
UPC Upice 22.77 310 *e*P P 18 32 05.9 +0.8
UPC *ep*P sP 18 32 10.3 -0.5
UPC Upice 22.77 310 *e*P P 18 32 05.9 +0.8
UPC *e* 18 32 10.3
UPC Upice 22.77 310 *e*P P 18 32 05.9 +0.8
MOA Molln 23.11 303 *i* P P 18 32 09.0 +0.4
comp=Z,17nm,1.4s
MOA Molln 23.11 303 P P 18 32 09.0 +0.4
comp=Z,17nm,1.4s
MYKA Terra Mystica 23.30 300 *i* P P 18 32 10.4 -0.2
comp=Z,5.5nm,0.9s
MYKA Terra Mystica 23.30 300 P P 18 32 10.4 -0.2
comp=Z,5.5nm,0.9s
GOPC GO Pecny, Ondr 23.32 308 *e*P P 18 32 11.0 +0.3
GOPC GO Pecny, Ondr 23.32 308 *e*P P 18 32 11.0 +0.3
GOPC GO Pecny, Ondr 23.32 308 P P 18 32 11.0 +0.3
BRVK Borovoye 23.32 43 *e*P P 18 32 09.2 -1.5
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 23.32 43 *e*P P 18 32 09.2 -1.5
comp=Z,10nm,0.9s
BVAR Borovoye Array 23.36 43 P P 18 32 12.1 +0.9
comp=Z,4.4nm,0.8s,baz=238,slow=8.5,SNR=23
PRU Pruhonice 23.49 308 *e*P P 18 32 12.7 +0.3
PRU *ex* x 18 32 19.8
PRU Pruhonice 23.49 308 *e*P P 18 32 12.7 +0.3
PRU *e* 18 32 19.8
PRU Pruhonice 23.49 308 P P 18 32 12.7 +0.3
KBA Koelnbreinsper 23.57 301 P P 18 32 15.3 +1.8
KBA pmax pmax
comp=Z,26nm,1.9s
KBA Koelnbreinsper 23.57 301 *i* pP P 18 32 14.0 +0.5
comp=Z,12nm,1.2s
KBA Koelnbreinsper 23.57 301 P P 18 32 14.0 +0.5
comp=Z,12nm,1.2s
PVCC Panska Ves 23.64 309 *e*P P 18 32 13.8 -0.1
PVCC *ex* x 18 32 21.2
PVCC Panska Ves 23.64 309 *e*P P 18 32 13.8 -0.1
PVCC *e* 18 32 21.2
PVCC Panska Ves 23.64 309 P P 18 32 13.8 -0.1
GEC2 GERESS Array S 23.70 305 *e*P P 18 32 14.9 +0.3
GEC2 pmax pmax
comp=Z,16nm,1.4s
GEC2 GERESS Array S 23.70 305 *e*P P 18 32 14.9 +0.3
comp=Z,16nm,1.4s
GERES GERESS Array B 23.70 305 P P 18 32 13.5 -1.2
comp=Z,2.5nm,0.9s,baz=94,slow=10.0,SNR=14
AAK Ala-Archa 23.72 71 P P 18 32 16.1 +1.2
comp=Z,4.1nm,0.9s,baz=247,slow=9.9,SNR=12
FRU Bishkek 23.80 70 *e*P P 18 32 20.0 +4.4

FRU pmax pmax
comp=Z,40nm,1.8s
KHC Kasperske Hory 23.85 306 *e*P **P 18 32 16.2 +0.2**
KHC *ep*P **sP 18 32 21.9 0.0**
KHC Kasperske Hory 23.85 306 *e*P **P 18 32 16.2 +0.2**
KHC *e* 18 32 21.9
KHC Kasperske Hory 23.85 306 P **P 18 32 16.2 +0.2**
KHC Kasperske Hory 23.85 306 *e*P **P 18 32 13.4 -2.6**
comp=Z,12nm,1.4s
ABTA Abfaltersbach 24.08 300 *i* P **P 18 32 18.3 0.0**
comp=Z,8.3nm,1.3s
ABTA Abfaltersbach 24.08 300 P **P 18 32 18.3 0.0**
comp=Z,8.3nm,1.3s
BRG Berggiesshubel 24.13 310 *e*P **P 18 32 18.4 -0.1**
comp=Z,13nm,1.3s
BRG Berggiesshubel 24.13 310 *e*P **P 18 32 18.5 -0.1**
BRG pmax pmax
comp=Z,13nm,1.3s
WET Wettzell 24.30 305 P **P 18 32 20.3 +0.1**
WET pmax pmax
comp=Z,39nm,1.1s
WTTA Wattenberg 24.75 301 *i* P **P 18 32 23.8 -0.7**
comp=Z,13nm,1.6s
WTTA Wattenberg 24.75 301 P **P 18 32 23.8 -0.7**
comp=Z,13nm,1.6s
WATA Walderalm 24.80 301 *i* P **P 18 32 24.2 -0.7**
comp=Z,18nm,1.2s
WATA Walderalm 24.80 301 P **P 18 32 24.2 -0.7**
comp=Z,18nm,1.2s
CLL Collm 24.83 311 *e*P **P 18 32 24.9 0.0**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 24.83 311⇑ *i*P **P 18 32 24.6 -0.3**
comp=Z,12nm,1.0s
CLL *i* sP **pP 18 32 29.4 +0.3**
comp=Z,21nm,1.1s
CLL *i* 18 32 34.9
CLL Collm 24.83 311 *e*P **P 18 32 24.9 0.0**
comp=Z,15nm,0.9s
NKC Novy Kostel 24.85 308 *e*P **P 18 32 25.5 +0.4**
NKC *ep*P **pP 18 32 29.7 +0.4**
NKC Novy Kostel 24.85 308 *e*P **P 18 32 25.5 +0.4**
NKC *e* 18 32 29.7
NKC Novy Kostel 24.85 308 P **P 18 32 25.5 +0.4**
SQTA Sankt Quirin 25.03 300 *i* P **P 18 32 27.8 +0.9**
comp=Z,0.1nm,0.6s
SQTA Sankt Quirin 25.03 300 P **P 18 32 27.8 +0.9**
comp=Z,0.1nm,0.6s
KSH Kashi 25.09 78 P **P 18 32 27.5 0.0**
KSH pP sP 18 32 34.1 +0.7
KSH sP pP 18 32 38.3 +6.6
KSH PP **PnPn 18 33 04.6 +3.6**
KSH PcP **PcP 18 36 06.1 +4.4**
KSH S **S 18 36 47.4 -4.3**
KSH sS sS 18 36 57.9 -0.7
KSH SS **SnSn 18 37 45.8 +4.8**
KSH PcS **PcS 18 39 44.3 +2.2**
KSH pmax pmax
comp=Z,11nm,1.3s
KSH pmax pmax
comp=Z,280nm,9.4s
KSH LR LR
comp=N,150nm,9.1s
KSH LR LR
comp=E,130nm,9.8s
KSH LR LR
comp=Z,140nm,11.7s
MOTA Moosalm 25.12 301 *i* P **P 18 32 27.4 -0.4**
comp=Z,8.2nm,0.9s
MOTA Moosalm 25.12 301 P **P 18 32 27.4 -0.4**
comp=Z,8.2nm,0.9s
FINES FINESS Array B 25.23 340 P **P 18 32 27.9 -0.5**
comp=Z,7.5nm,1.2s,baz=156,slow=11,SNR=5.0
FINES FINESS Array B 25.23 340 P **P 18 32 27.9 -0.5**
FINES pmax pmax
comp=Z,7.0nm,1.2s
FETA Feichten 25.33 300 *i* P **P 18 32 29.0 -0.7**
comp=Z,9.4nm,1.2s
FETA Feichten 25.33 300 P **P 18 32 29.0 -0.7**
comp=Z,9.4nm,1.2s
RETA Reutte 25.37 301 *i* P **P 18 32 29.7 -0.2**
comp=Z,12nm,1.4s
RETA Reutte 25.37 301 P **P 18 32 29.7 -0.2**
comp=Z,12nm,1.4s
JOF Joensuu 25.38 347 P **P 18 32 31.2 +1.5**
JOF pmax pmax
comp=Z,41nm,0.9s
GRF Grafenberg Arr 25.48 306 P **P 18 32 33.6 +2.7**
GRF pmax pmax
comp=Z,30nm,1.5s
GRFO Grafenberg 25.48 306 *e*P **P 18 32 28.1 -2.7**
GRFO pmax pmax
comp=Z,39nm,1.2s
GRFO Grafenberg 25.48 306 *e*P **P 18 32 28.1 -2.7**
comp=Z,38nm,1.2s
DAVOX Davos/Dischmat 25.88 299 P **P 18 32 33.9 -0.9**
comp=Z,3.8nm,0.5s,baz=90,slow=9.1,SNR=12
DAVA Damuels 25.94 300 *i* P **P 18 32 35.0 -0.2**
comp=Z,23nm,1.6s
DAVA Damuels 25.94 300 P **P 18 32 35.0 -0.2**
comp=Z,23nm,1.6s
KURBB Kurchatov Arra 27.32 53 P **P 18 32 48.6 +1.2**
comp=Z,5.0nm,0.5s,baz=263,slow=8.9,SNR=31
KEST Kesra 27.33 275 P **P 18 32 47.3 -0.5**
comp=Z,4.9nm,0.9s,baz=317,slow=3.0,SNR=4.5
KURK Kurchatov 27.40 52⇑ *e*P **P 18 32 49.5 +1.4**
KURK pmax pmax
comp=Z,62nm,1.2s
KURK Kurchatov 27.40 52 *e*P **P 18 32 46.2 -1.9**
HFS Hagfors 28.53 329 P **P 18 32 58.1 0.0**
comp=Z,10nm,0.8s,baz=134,slow=10,SNR=3.3
MK31 Makanchi Array 29.32 61 *e*P **P 18 33 04.2 -1.2**
MK31 Makanchi Array 29.32 61 *e*P **P 18 33 04.2 -1.2**
MKAR Makanchi Array 29.32 61 P **P 18 33 06.1 +0.7**
comp=Z,6.0nm,0.9s,baz=267,slow=7.2,SNR=12
MKAR Makanchi Array 29.32 61 *e*P **P 18 33 04.2 -1.2**
MKAR pmax pmax
comp=Z,30nm,0.9s
MKAR Makanchi Array 29.32 61 *e*P **P 18 33 04.2 -1.2**
comp=Z,30nm,0.9s
NOA NORSAR Array B 30.05 329 P **P 18 33 11.8 +0.2**
comp=Z,1.3nm,0.8s,baz=124,slow=8.7,SNR=3.6
NVS Novosibirsk 31.10 46 *e*P **P 18 33 22.1 +1.2**
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=N,2.0nm,0.5s
ZAA0 Zalesovo Array 31.80 48 *e*P **P 18 33 25.4 -1.6**
ZALV Zalesovo Beam 31.80 48 P **P 18 33 27.6 +0.5**
comp=N,2.0nm,0.5s,baz=265,slow=10,SNR=9.5
WMQ Urumqi 33.26 67 P **P 18 33 40.4 +0.3**
WMQ pP pP 18 33 41.8 -2.6
WMQ sP sP 18 33 51.1 +5.0
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,330nm,7.3s
WMQ LR LR
comp=N,280nm,6.7s
WMQ LR LR
comp=E,190nm,11.1s
WMQ LR LR
comp=Z,66nm,25.5s
PYUN Piuthan 34.33 96 *e*P **P 18 33 52.8 +3.1**
comp=Z,17nm,0.7s
DANN Dangsing 34.81 95 *e*P **P 18 33 56.5 +2.5**
comp=Z,4.2nm,1.0s
KOLN Koldanda 34.96 96 *e*P **P 18 33 56.5 +1.3**
comp=Z,11nm,0.8s
GKN Gorkha 35.66 95 *e*P **P 18 34 01.9 +0.8**
comp=Z,20nm,0.9s
DMN Daman 36.21 95 *e*P **P 18 34 07.1 +1.1**
comp=Z,31nm,1.1s
PKIN Phulchoki 36.45 95 *e*P **P 18 34 08.4 +0.3**
comp=Z,7.8nm,0.6s
ESDC Soneca Array 36.52 287 P **P 18 34 06.6 -1.7**
comp=Z,2.1nm,0.7s,baz=76,slow=7.5,SNR=9.8
GUN Gumba 36.67 94 *e*P **P 18 34 11.0 +1.0**
comp=Z,35nm,1.0s
JIRN Jiri 37.03 94 *e*P **P 18 34 14.0 +0.9**
comp=Z,71nm,0.8s
RAMN Ramite 37.69 95 *e*P **P 18 34 18.4 -0.2**
comp=Z,22nm,0.7s
ODAN Odare 38.35 95 *e*P **P 18 34 24.1 0.0**
comp=Z,57nm,1.1s
TAPN Taplejung 38.37 94 *e*P **P 18 34 23.5 -0.8**
comp=Z,27nm,1.1s
GTA Gaotai 43.07 71 *e*P **P 18 35 05.8 +3.0**
GTA pP sP 18 35 12.1 +3.3
GTA sP pP 18 35 14.8 +7.7
GTA pmax pmax
comp=Z,3.0nm,1.1s
TORD Torodi Ar. Bea 44.90 247 P **P 18 35 15.4 -2.2**
comp=Z,3.4nm,0.9s,baz=71,slow=7.5,SNR=13
SONM Songino Array 45.51 57 P **P 18 35 22.4 +0.2**
comp=Z,0.2nm,0.5s,baz=260,slow=8.3,SNR=3.0
SONM PcP **PcP 18 36 59.8 -1.1**
comp=Z,0.5nm,0.8s,baz=226,slow=3.8,SNR=3.6
ULN Ulaanbaatar 45.93 57⇓ *e*P **P 18 35 27.3 +1.7**
ULN pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 47.20 73 *e*P **P 18 35 37.4 +1.6**
LZH pP sP 18 35 44.4 +2.6
LZH sP pP 18 35 47.3 +7.2
LZH PP **PP 18 37 31.3 +4.7**
LZH *e*S **S 18 42 26.0 -2.3**
LZH sS sS 18 42 39.0 +3.5
LZH Lanzhou 47.20 73 SS SS 18 45 49.5 -5.8
LZH pmax pmax
comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=N,1μm,13.1s
LZH LR LR
comp=E,1μm,12.4s
LZH LR LR
comp=Z,1μm,15.3s
BOD Bodaibo 48.23 43 *e*P **P 18 35 42.9 -0.3**
BOD pmax pmax
comp=Z,8.0nm,2.0s
HHC Hu-ho-hao-te 51.09 65 *e*P **P 18 36 05.1 -0.3**
HHC pP sP 18 36 10.3 -1.2
HHC sP pP 18 36 14.0 +4.2
HHC S **S 18 43 20.8 -1.9**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,56nm,4.9s
HHC LR LR
comp=N,320nm,19.7s
HHC LR LR
comp=E,390nm,14.8s
HHC LR LR
comp=Z,350nm,13.6s
CMAR Chiang Mai Arr 51.83 97 P **P 18 36 10.8 -0.3**
comp=Z,3.5nm,1.0s,baz=297,slow=8.7,SNR=14
XAN Xi'an 51.84 74 P **P 18 36 11.8 +0.8**
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,80nm,4.9s
TIXI Tiksi 52.35 23⇓ *e*P **P 18 36 14.6 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
DBIC Dimbokro 54.01 247 P **P 18 36 24.8 -2.4**
comp=Z,2.8nm,0.7s,baz=45,slow=6.2,SNR=3.9
YAK Yakutsk 54.97 35⇑ *e*P **P 18 36 34.5 +1.0**
YAK pmax pmax
comp=Z,6.0nm,0.8s
NJ2 Nanjing 60.16 71 *e*P **P 18 37 08.8 -1.7**
NJ2 pmax pmax
comp=Z,9.0nm,1.3s
KLR Kul'dur 60.90 49 P **P 18 37 16.0 +0.7**
comp=Z,0.3nm,0.9s,baz=284,slow=7.3,SNR=4.3
USRK Ussuriysk Ar. 63.38 54 P **P 18 37 31.6 -0.5**
comp=Z,3.4nm,0.9s,baz=254,slow=5.4,SNR=3.8
VLA Vladivostok 63.84 55⇓ *e*P **P 18 37 34.8 -0.3**
VLA pmax pmax
comp=Z,42nm,0.9s
KSAR Wonju Array Be 63.98 62 P **P 18 37 36.0 -0.2**
KSAR Wonju Array Be 63.98 62 P **P 18 37 36.0 -0.2**
KSRS Korea Array 64.01 62 P **P 18 37 36.0 -0.3**
comp=Z,6.6nm,0.9s,baz=289,slow=6.0,SNR=17
KSRS Korea Array 64.01 62 P **P 18 37 36.0 -0.3**
KSRS pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 64.02 29 P **P 18 37 36.3 +0.4**
comp=Z,4.7nm,0.8s,baz=282,slow=6.7,SNR=9.1
SEY Seymchan 64.02 29⇓ *e*P **P 18 37 37.6 +1.7**
BILL Bilibino 65.31 20⇑ *e*P **P 18 37 44.4 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,101nm,18.0s
BOSA Boshof 69.11 197 P **P 18 38 09.5 +0.6**
comp=Z,2.6nm,0.6s,baz=23,slow=8.6,SNR=8.3
BOSA Boshof 69.11 197 P **P 18 38 09.5 +0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 71.45 58 P **P 18 38 22.5 -0.8**
comp=Z,3.9nm,1.1s,baz=300,slow=5.6,SNR=6.0
COLA College 76.39 5⇓ *e*P **P 18 38 52.1 +0.5**
COLA pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 76.55 5 P **P 18 38 52.4 -0.2**
comp=Z,0.3nm,0.9s,baz=327,slow=4.3,SNR=3.5

*DDA **23** 18:30:33.8, 38°.72N×43°.27E, h5km, Ml3.4*
*ISK **23** 18:30:33.8, 38°.73N×43°.38E, h4km, ML3.5*
*CSEM **23** 18:30:34.6±0.3, 38°.76N×43°.33E, h2km, ML3.5, Error ellipse: s-maj=8.6km s-min=4.5km az=76.0*
ISC 23 18:30:35.1±0.9,**38°.74N**±0°.02×**43°.33E**±0°.03,**h10**km±7km,
n48,σ1°**28**/74,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**162**	*e*PG		**Pg**		**18 30 38.7**	**+0.1**
VANB				*e*SG		**Sg**		**18 30 42.7**	**+1.6**
VANB	**Van**	**0.15**	**162**	*e*Pg		**Pg**		**18 30 38.7**	**+0.1**
VANB				*e*Sg		**Sg**		**18 30 42.7**	**+1.6**
VMUR	**Van-Muradiye**	**0.31**	**38**	*i* P		**Pg**		**18 30 39.7**	**-1.8**
VMUR				*i* S		**Sb**		**18 30 48.1**	**0.0**
VMUR	**Van-Muradiye**	**0.31**	**38**	P		**Pg**		**18 30 39.7**	**-1.8**
VMUR				S		**Sb**		**18 30 48.1**	**0.0**
GEVA	**Gevas**	**0.48**	**206**	*i* P		**Pg**		**18 30 42.3**	**-2.2**
GEVA				*i* S		**Sg**		**18 30 50.2**	**-0.6**
GEVA	**Gevas**	**0.48**	**206**	P		**Pg**		**18 30 42.3**	**-2.2**
GEVA				S		**Sg**		**18 30 50.2**	**-0.6**
TUTA	**Tutak**	**0.77**	**329**	*i* P		**Pg**		**18 30 49.0**	**-1.0**
TUTA				*i* S		**Sg**		**18 30 60.0**	**-0.2**
TUTA	**Tutak**	**0.77**	**329**	P		**Pg**		**18 30 49.0**	**-1.0**
TUTA				S		**Sg**		**18 31 00.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.87**	**343**	*e*PG		**Pb**		**18 30 51.7**	**-0.7**
AGRB				*e*SG		**Sb**		**18 31 04.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.87**	**343**	*e*Pg		**Pb**		**18 30 51.7**	**-0.7**
AGRB				*e*Sg		**Sb**		**18 31 04.3**	**+0.1**
EKAR	**Karacoban**	**1.11**	**298**	*i* P		**Pb**		**18 30 55.7**	**-0.8**
EKAR				*i* S		**Sn**		**18 31 15.1**	**+2.7**
EKAR	**Karacoban**	**1.11**	**298**	P		**Pb**		**18 30 55.7**	**-0.8**
EKAR				S		**Sn**		**18 31 15.1**	**+2.7**
HAKT	**HAKKARI**	**1.22**	**166**	*i* P		**Pg**		**18 30 55.6**	**-3.0**
HAKT				*i* S		**Sn**		**18 31 16.6**	**+1.6**
HAKT	**HAKKARI**	**1.22**	**166**	P		**Pg**		**18 30 55.6**	**-3.0**
HAKT				S		**Sn**		**18 31 16.6**	**+1.6**
EATA	**Eleskirt**	**1.29**	**330**	*i* P		**Pg**		**18 30 58.7**	**-1.3**
EATA				*i* S		**Sb**		**18 31 16.2**	**-0.3**
EATA	**Eleskirt**	**1.29**	**330**	P		**Pg**		**18 30 58.7**	**-1.3**
EATA				S		**Sb**		**18 31 16.2**	**-0.3**
SIRN	**S¯–rnak**	**1.44**	**210**	*i* P		**Pn**		**18 31 00.6**	**-0.7**
SIRN				*i* S		**Sn**		**18 31 22.3**	**+2.1**
SIRN	**S¯–rnak**	**1.44**	**210**	P		**Pn**		**18 31 00.6**	**-0.7**
SIRN				S		**Sn**		**18 31 22.3**	**+2.1**
CUKT	**Cukurca**	**1.51**	**171**	*e*PN		**Pb**		**18 31 02.3**	**-0.9**
CUKT	**Cukurca**	**1.51**	**171**	*i* P		**Pg**		**18 31 03.8**	**-0.3**
CUKT	**Cukurca**	**1.51**	**171**	*e*Pn		**Pb**		**18 31 02.3**	**-0.9**
CUKT	**Cukurca**	**1.51**	**171**	P		**Pg**		**18 31 03.8**	**-0.3**
VRTB	**Varto-Mus**	**1.52**	**287**	*e*PN		**Pb**		**18 31 02.7**	**-0.7**
VRTB				*e*SN		**Sg**		**18 31 24.7**	**+0.7**
VRTB	**Varto-Mus**	**1.52**	**287**	*i* P		**Pb**		**18 31 02.4**	**-1.0**
VRTB				*i* S		**Sg**		**18 31 24.3**	**+0.3**
VRTB	**Varto-Mus**	**1.52**	**287**	*e*Pn		**Pb**		**18 31 02.7**	**-0.7**
VRTB				S		**Sg**		**18 31 24.3**	**+0.3**
HOMI	**Horasan**	**1.71**	**320**	*i* P		**Pb**		**18 31 05.9**	**-0.7**
HOMI				*i* S		**Sg**		**18 31 30.0**	**0.0**
BNGL	**BINGOL**	**1.71**	**278**	*i* P		**Pb**		**18 31 05.7**	**-1.1**
BNGL				*i* S		**Sg**		**18 31 30.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	*e*PN		**Pb**		**18 31 06.4**	**-1.3**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	*i* P		**Pn**		**18 31 06.0**	**+0.2**
SVAN				*i* S		**Sb**		**18 31 29.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	*e*Pn		**Pb**		**18 31 06.4**	**-1.3**
SVAN				S		**Sb**		**18 31 29.9**	**-0.1**
BTMN	**Batman**	**1.83**	**243**	*i* P		**Pb**		**18 31 07.3**	**-1.3**
BTMN				*i* S		**Sb**		**18 31 31.4**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.97**	**338**	*e*PN		**Pb**		**18 31 09.6**	**-1.5**
SENK	**Senkaya-Erzuru**	**1.97**	**338**	*e*Pn		**Pb**		**18 31 09.6**	**-1.5**
ECAT	**Cat-ERZURUM**	**2.02**	**296**	*i* P		**Pn**		**18 31 08.6**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.02**	**296**	P		**Pn**		**18 31 08.6**	**-0.8**
BNGB	**Bing¶ll**	**2.08**	**278**	*e*PN		**Pn**		**18 31 11.0**	**+0.8**
BINT	**Bingol**	**2.22**	**274**	*e*Pn		**Pn**		**18 31 11.0**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.27**	**289**	*e*PN		**Pn**		**18 31 13.9**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.27**	**289**	*e*Pn		**Pn**		**18 31 13.9**	**+1.1**
DDEM	**Demirkent**	**2.47**	**331**	*i* P		**Pb**		**18 31 19.7**	**+0.1**
DDEM	**Demirkent**	**2.47**	**331**	P		**Pb**		**18 31 19.7**	**+0.1**
KOPT	**Kop Dagi**	**2.54**	**301**	*i* P		**Pb**		**18 31 19.7**	**-1.2**
KOPT	**Kop Dagi**	**2.54**	**301**	P		**Pb**		**18 31 19.7**	**-1.2**
DAGI	**Agillar**	**2.57**	**335**	*i* P		**Pb**		**18 31 21.9**	**+0.5**
MAZI	**Mazidag**	**2.61**	**241**	*e*PN		**Pn**		**18 31 18.9**	**+1.5**
MAZI	**Mazidag**	**2.61**	**241**	*e*Pn		**Pn**		**18 31 18.9**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*PN		**Pn**		**18 31 27.2**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*Pn		**Pn**		**18 31 27.2**	**+2.0**

IDC 23 18:34:03.8±2.3,**6°.73S**×**129°.60E, h0**km,**mb3.4**/1,
mb1 3.9/3,**mb1mx3.5**/24,**mbtmp3.7**/3,**ML4.0**/2,**Error ellipse: s-maj=148.4km s-min=32.1km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.92**	**161**	Pn		Pn	Pn	18 37 22.7	+0.2
0.8nm,0.3s,baz=344,slow=12,SNR=26									
WRA				Sn		Sn	Sn	18 39 44.0	-14
0.7nm,0.3s,baz=332,slow=22,SNR=8.8									
ASAR	**Alice Springs**	**17.34**	**167**	P		Pn		18 38 07.4	-0.1
0.4nm,0.3s,baz=341,slow=10.0,SNR=48									
ASAR				S		Sn		18 41 07.2	-14
0.2nm,0.3s,baz=346,slow=26,SNR=5.2									
MKAR	**Makanchi Array**	**67.78**	**327**	P		P		18 45 03.6	0.0
0.3nm,0.6s,baz=123,slow=6.6,SNR=4.6									

*CSEM **23** 18°.38:08.4, 38°.52N×43°.59E, h6km, ML2.7*
DDA 23 18:38:08.4, 38°.52N×43°.59E, h6km, Ml2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.47**	**358**	*i* P		Pb		18 38 19.1	0.0
VMUR				*i* S		Sg		18 38 24.4	+0.8
VMUR	**Van-Muradiye**	**0.47**	**358**	P		Pb		18 38 19.1	0.0
VMUR				S		Sg		18 38 24.4	+0.8
GEVA	**Gevas**	**0.47**	**243**	*i* P		Pg		18 38 17.9	+0.4
GEVA				*i* S		Sg		18 38 24.7	+1.0
GEVA	**Gevas**	**0.47**	**243**	P		Pg		18 38 17.9	+0.4
GEVA				S		Sg		18 38 24.7	+1.1
TUTA	**Tutak**	**1.07**	**326**	*i* P		Pg		18 38 28.7	-0.1
TUTA				*i* S		Sn		18 38 44.5	-0.8
TUTA	**Tutak**	**1.07**	**326**	P		Pg		18 38 28.7	-0.2
TUTA				S		Sn		18 38 44.5	-0.8

MAN 23 18:48:45, 10°.63N×124°.81E, h55km,**mb3.7, ML2.5, MS2.0, 1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.50**	**174**	*e*P		Pn		18 48 58.8	+2.2
MSLP				*e*S		Sn		18 49 09.4	+4.4
PLP	**Palo**	**0.55**	**17**⇓	*e*P		Pn		18 48 59.6	+2.4
PLP				*e*S		Sn		18 49 09.4	+3.3
BESP	**Borongan**	**1.14**	**33**	*e*P		Pn		18 49 05.5	+0.7
BESP				*e*S		Sn		18 49 21.4	+1.9

*ISCJB **23** 18:53:42.2±1.0, 19°.0N±0°.1×146°.7E±0°.2, h83km, mb3.5/10, Error ellipse: s-maj=32.5km s-min=15.1km az=2.2*
*IDC **23** 18:53:50.3±9.6, 18°.95N×146°.55E, h142km±87km, mb3.3/10, mb1 3.4/10, mb1mx3.2/67, mbtmp3.7/10, Error ellipse: s-maj=38.4km s-min=15.3km az=86.0*
ISC 23 18:53:43.9±1.1,**19°.0N**±0°.1×**146°.7E**±0°.3,**h83**km,**n16,**
σ0°**93**/11,**mb3.6**/10,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**18.97**	**88**	T		T		19 19 02.5	
baz=275,slow=75,SNR=19									
H11S1	**WAKE ISLAND Hy**	**18.98**	**88**	T		T		19 19 01.2	
baz=275,slow=75,SNR=14									
H11S2	**WAKE ISLAND Hy**	**18.99**	**88**	T		T		19 19 01.7	
baz=275,slow=75,SNR=17									
H11N1	**WAKE ISLAND Hy**	**19.10**	**84**	T		T		19 19 10.6	
baz=271									
H11N2	**WAKE ISLAND Hy**	**19.11**	**84**	T		T		19 19 12.9	
baz=271									
H11N3	**WAKE ISLAND Hy**	**19.12**	**84**	T		T		19 19 10.6	
baz=271									
KSRS	**Korea Array**	**24.66**	**322**	P			**P**	**18 58 57.4**	**+0.6**
0.8nm,0.7s,baz=141,slow=8.2,SNR=4.0									
WRA	**Warramunga Arr**	**40.50**	**198**	P			**P**	**19 01 14.5**	**-0.3**
0.8nm,0.8s,baz=18,slow=8.5,SNR=3.7									
WRA				PcP			**PcP**	**19 03 14.9**	**-1.1**
0.2nm,0.5s,baz=15,slow=3.6,SNR=2.8									
FITZ	**Fitzroy Crossi**	**42.22**	**211**	P			**P**	**19 01 28.6**	**-0.4**
1.2nm,0.9s,baz=36,slow=9.1,SNR=3.7									
ASAR	**Alice Springs**	**44.15**	**197**	P			**P**	**19 01 45.2**	**+0.8**
0.2nm,0.6s,baz=23,slow=6.7,SNR=8.2									
CMAR	**Chiang Mai Arr**	**45.09**	**277**	P			**P**	**19 01 53.1**	**+1.0**
0.3nm,0.6s,baz=64,slow=6.1,SNR=4.2									
KURBB	**Kurchatov Arra**	**61.74**	**318**	P			**P**	**19 03 52.5**	**-1.1**
0.2nm,0.3s,baz=92,slow=7.3,SNR=4.7									
ILAR	**Eielson Array**	**63.01**	**26**	P			**P**	**19 04 02.8**	**+1.0**
0.5nm,0.9s,baz=245,slow=7.9,SNR=4.5									
BVAR	**Borovoye Array**	**66.86**	**320**	P			**P**	**19 04 25.9**	**-1.0**
0.3nm,0.4s,baz=90,slow=10,SNR=3.9									
ARCES	**ARCESS Array B**	**82.53**	**342**	P			**P**	**19 05 57.0**	**-0.2**
4.6nm,1.0s,baz=48,slow=7.3,SNR=3.5									
FINES	**FINESS Array B**	**87.03**	**336**	P			**P**	**19 06 19.3**	**-0.6**
2.2nm,1.0s,baz=57,slow=5.1,SNR=7.5									

*NSSC **23** 18:53:33.0±1.5, 39°.39N×44°.83E, h37km±468km, MD3.1, ML4.4*
*AZER **23** 18:53:42.9±0.4, 39°.61N×42°.70E, h8km, Error ellipse: s-maj=2.8km s-min=2.3km az=76.0*
*ISN **23** 18:53:43.3±1.2, 39°.30N×44°.36E, h3km±59km, ML4.5*
*IDC **23** 18:53:46.5±0.4, 38°.62N×43°.36E, h0km, mb4.6/38, mb1 4.6/46, mb1mx4.5/67, mbtmp4.6/46, ML3.8/8, MS3.9/27, Ms1 3.9/27, ms1mx3.7/47, Error ellipse: s-maj=10.0km s-min=8.1km az=164.0*
*BJI **23** 18:53:46.5, 38°.60N×43°.30E, h15km, mb4.7/48, mB4.9/35, Ms4.5/25, Ms7 4.2/26*
*ISCJB **23** 18:53:47.7±0.5, 38°.75N±0°.01×43°.45E±0°.01, h8km±3km, mb4.7/135, MS4.0/27, Error ellipse: s-maj=2.3km s-min=1.9km az=176.0*
*MOS **23** 18:53:47.1±1.4, 38°.60N×43°.42E, h13km, mb4.9/58, Error ellipse: s-maj=5.3km s-min=3.5km az=95.1*
*DDA **23** 18:53:47.5, 38°.73N×43°.30E, h6km, Ml4.8*
*ISK **23** 18:53:48.0, 38°.77N×43°.36E, h4km, ML4.6*
*CSEM **23** 18:53:48.7±0.1, 38°.74N×43°.37E, h2km, mb4.6/15, Error ellipse: s-maj=3.7km s-min=3.3km az=37.0*
*NEIC **23** 18:53:48.0±0.0, 38°.71N×43°.34E, h12km, mb4.9/61, ML4.9(DDA), After DDA.*
*DSN **23** 18:53:49.6±0.8, 38°.56N×43°.34E, h15km, mb4.8/2, Error ellipse: s-maj=18.1km s-min=6.1km az=71.0*
*TEH **23** 18:53:53.2, 38°.87N×43°.47E, h29km, ML4.5*
ISC 23 18:53:48.8±0.6,**38°.77N**±0°.01×**43°.39E**±0°.01,**h10**km±3km,
n594,σ2°**08**/659,**mb4.8**/135,**MS4.0**/27,**53C-48D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.27**	**32**⇓	*i* P		**Pb**		**18 53 55.1**	**-0.6**
VMUR				*i* S		**Sb**		**18 54 00.3**	**-0.2**
VMUR	**Van-Muradiye**	**0.27**	**32**	P		**Pb**		**18 53 55.2**	**-0.6**
VMUR				S		**Sb**		**18 54 00.3**	**-0.2**
VMUR	**Van-Muradiye**	**0.27**	**32**	*i* P		**Pb**		**18 53 55.2**	**-0.6**
GEVA	**Gevas**	**0.52**	**210**⇓	*i* P		**Pg**		**18 53 55.3**	**-3.6**
GEVA	**Gevas**	**0.52**	**210**	*i* P		**Pg**		**18 53 55.7**	**-3.2**
GEVA	**Gevas**	**0.52**	**210**	*i* P		**Pg**		**18 53 55.7**	**-3.2**
TUTA	**Tutak**	**0.78**	**325**	*i* P		**Pg**		**18 54 02.0**	**-1.8**

TUTA *i* S **Sg** **18 54 12.3 -1.7**
TUTA Tutak 0.78 325 *i* P **Pg** **18 54 02.2 -1.6**
TUTA S **Sg** **18 54 12.3 -1.7**
TUTA Tutak 0.78 325 *i* P **Pg** **18 54 02.2 -1.6**
DYDN Diyadin 0.81 17⇑*i*P **Pg** **18 54 04.0 -0.5**
DYDN *i* S **Sb** **18 54 16.5 +0.3**
DYDN Diyadin 0.81 17 *i* P **Pb** **18 54 04.7 -0.4**
DYDN S **Sb** **18 54 16.5 +0.3**
DYDN Diyadin 0.81 17 *i* P **Pb** **18 54 04.7 -0.4**
BASK Baskale_VAN 0.86 146⇓*i*P **Pg** **18 54 04.1 -1.3**
BASK *i* S **Sb** **18 54 17.6 0.0**
BASK Baskale_VAN 0.86 146 P **Pg** **18 54 04.1 -1.3**
BASK S **Sb** **18 54 17.6 0.0**
AGRB Hanur-Agry 0.87 339 *e*PG **Pg** **18 54 05.1 -0.4**
AGRB *e*SG **Sb** **18 54 17.1 -0.7**
AGRB Hanur-Agry 0.87 339 *e*Pg **Pg** **18 54 05.1 -0.4**
AGRB *e*Sg **Sb** **18 54 17.1 -0.7**
EKAR Karacoban 1.14 296⇑*i*P **Pb** **18 54 10.1 -0.6**
EKAR *i* S **Sn** **18 54 28.1 +1.2**
EKAR Karacoban 1.14 296 *i* P **Pb** **18 54 10.2 -0.6**
EKAR S **Sn** **18 54 28.1 +1.2**
EKAR Karacoban 1.14 296 *i* P **Pb** **18 54 10.2 -0.6**
HAKT HAKKARI 1.23 168⇓*i*P **Pn** **18 54 10.4 -1.9**
HAKT *i* S **Sn** **18 54 31.1 +2.1**
EATA Eleskirt 1.30 328⇓*i*P **Pn** **18 54 11.7 -1.6**
EATA *i* S **Sn** **18 54 31.6 +0.7**
EATA Eleskirt 1.30 328 P **Pn** **18 54 11.7 -1.6**
EATA S **Sn** **18 54 31.6 +0.7**
SIRN S¨–rnak 1.48 212⇑*i*P **Pn** **18 54 14.1 -1.5**
SIRN *i* S **Sg** **18 54 37.6 +1.1**
SIRN S¨–rnak 1.48 212 P **Pn** **18 54 14.1 -1.5**
SIRN S **Sg** **18 54 37.6 +1.1**
CUKT Cukurca 1.52 173 *e*PN **Pb** **18 54 16.8 -0.4**
CUKT Cukurca 1.52 173⇓*i*P **Pb** **18 54 17.2 0.0**
CUKT Cukurca 1.52 173 *e*Pn **Pb** **18 54 16.8 -0.4**
CUKT Cukurca 1.52 173 P **Pb** **18 54 17.2 0.0**
VRTB Varto-Mus 1.56 285 *e*PN **Pn** **18 54 16.8 +0.1**
VRTB Varto-Mus 1.56 285⇓*i*P **Pn** **18 54 17.1 +0.4**
VRTB *i* S **Sg** **18 54 38.7 -0.2**
VRTB Varto-Mus 1.56 285 *e*Pn **Pn** **18 54 16.8 +0.1**
VRTB Varto-Mus 1.56 285 P **Pn** **18 54 17.1 +0.4**
VRTB S **Sg** **18 54 38.7 -0.2**
DIGO Kars 1.65 360⇑*i*P **Pb** **18 54 19.2 -0.2**
DIGO *i* S **Sg** **18 54 44.0 +2.2**
DIGO Kars 1.65 360 P **Pb** **18 54 19.2 -0.2**
NAX Nakhchivan 1.69 75⇓P **Pb** **18 54 19.4 -0.6**
SNR=138
NAX ⇑S **Sg** **18 54 47.1 +3.9**
NAX Nakhchivan 1.69 75 P **Pb** **18 54 19.4 -0.6**
SNR=138
HOMI Horasan 1.72 319 *i* P **Pb** **18 54 19.7 -0.9**
HOMI *i* S **Sg** **18 54 45.5 +1.4**
GNI Garni 1.73 37 Pn **Pb** **18 54 21.0 +0.2**
468nm,0.3s,baz=278,slow=5.9,SNR=259
GNI Lg Lg 18 54 50.0
379nm,0.3s,baz=278,slow=19,SNR=8.4
GNI Garni 1.73 37 P **Pb** **18 54 20.9 +0.1**
GNI Garni 1.73 37 P **Pb** **18 54 21.0 +0.2**
GNI pmax pmax
comp=Z,469nm,0.3s
BNGL BINGOL 1.76 277 *i* P **Pn** **18 54 18.4 -1.1**
BNGL *i* S **Sg** **18 54 44.7 -0.6**
IMRD Marand 1.81 91 *e*Pn **Pb** **18 54 21.1 -1.0**
IMRD *e*AMB AMB 18 54 53.7
comp=Z,26μm,0.3s
IMRD Marand 1.81 91 *e*Pn **Pb** **18 54 21.1 -1.0**
ISHB Shabestar 1.81 105 *e*Pn **Pb** **18 54 22.5 +0.3**
ISHB *e*AMB AMB 18 54 34.4
comp=Z,52μm,0.3s
ISHB *e*Sn **Sn** **18 54 43.3 -0.1**
SVAN Silvan-Diyarba 1.83 251 *e*PN **Pn** **18 54 20.2 0.0**
SVAN *e*SN **Sb** **18 54 44.9 -0.3**
SVAN Silvan-Diyarba 1.83 251 *i* P **Pn** **18 54 18.8 -1.5**
SVAN *i* S **Sb** **18 54 45.1 -0.1**
SVAN Silvan-Diyarba 1.83 251 P **Pn** **18 54 18.8 -1.5**
SVAN Silvan-Diyarba 1.83 251 *e*Pn **Pn** **18 54 20.2 0.0**
SVAN *e*Sn **Sb** **18 54 44.9 -0.3**
BTMN Batman 1.88 243 *i* P **Pn** **18 54 19.7 -1.3**
BTMN *i* S **Sb** **18 54 46.9 +0.1**
BTMN Batman 1.88 243 P **Pn** **18 54 19.7 -1.3**
BTMN S **Sb** **18 54 46.9 +0.1**
EAK Akyaka 1.93 5⇑*i*P **Pb** **18 54 23.8 -0.3**
EAK *i* S **Sg** **18 54 54.8 +4.1**
EAK Akyaka 1.93 5 P **Pb** **18 54 23.8 -0.3**
SENK Senkaya-Erzuru 1.96 336 *e*PN **Pn** **18 54 23.1 +0.8**
SENK Senkaya-Erzuru 1.96 336 *e*Pn **Pn** **18 54 23.1 +0.8**
ECAT Cat-ERZURUM 2.06 295⇑*i*P **Pn** **18 54 24.1 +0.5**
ECAT *i* S **Sg** **18 54 55.9 +1.0**
ECAT Cat-ERZURUM 2.06 295 P **Pn** **18 54 24.1 +0.5**
BNGB Bing¶l 2.13 277 *e*PN **Pn** **18 54 24.5 0.0**
ITBZ Tabriz 2.23 103 *e*Pn **Pb** **18 54 27.7 -1.5**
ITBZ *e*AMB AMB 18 54 38.0
comp=Z,14μm,0.3s
ITBZ *e*Sg **Sg** **18 55 02.1 +1.7**
ITBZ Tabriz 2.23 103 *e*Pn **Pb** **18 54 27.7 -1.5**
ITBZ *e*Sg **Sg** **18 55 02.1 +1.7**
BINT Bingol 2.27 274 *e*Pn **Pn** **18 54 24.5 -1.9**
YEDI Yedisu-Bingol 2.31 288 *e*PN **Pn** **18 54 27.6 +0.5**
YEDI Yedisu-Bingol 2.31 288 *e*Pn **Pn** **18 54 27.6 +0.5**
DDEM Demirkent 2.47 330 *i* P **Pn** **18 54 29.7 +0.5**
DDEM Demirkent 2.47 330 P **Pn** **18 54 29.7 +0.5**
BGD Bogdanovka 2.50 4 P **Pb** **18 54 31.7 -2.2**
MARD Mardin 2.52 236⇓*i*P **Pn** **18 54 29.9 0.0**
MARD Mardin 2.52 236 *e*Pn **Pn** **18 54 30.0 +0.1**
MARD Mardin 2.52 236 *e*Pn **Pn** **18 54 30.0 +0.1**
KOPT Kop Dagi 2.57 300 *i* P **Pb** **18 54 33.2 -1.8**
KOPT Kop Dagi 2.57 300 P **Pb** **18 54 33.2 -1.8**
KOPT Kop Dagi 2.57 300 *e*Pn **Pb** **18 54 35.4 +0.3**
KOPT Kop Dagi 2.57 300 *e*Pn **Pb** **18 54 35.4 +0.3**
DAGI Agillar 2.57 334⇑*i*P **Pn** **18 54 31.9 +1.2**
AKH Akhalkalaki 2.64 2 *e*PN **Pn** **18 54 32.0 +0.5**
AKH Akhalkalaki 2.64 2 P **Pb** **18 54 36.4 0.0**
AKH Akhalkalaki 2.64 2⇑*i*P **Pn** **18 54 33.3 +1.7**
AKH Akhalkalaki 2.64 2 P **Pb** **18 54 36.3 0.0**
AKH Akhalkalaki 2.64 2 *e*Pn **Pn** **18 54 32.1 +0.5**
AKH Akhalkalaki 2.64 2⇑*i*P **Pn** **18 54 33.3 +1.7**
MAZI Mazidag 2.66 242 *e*PN **Pn** **18 54 32.5 +0.7**
MAZI Mazidag 2.66 242 *e*Pn **Pn** **18 54 32.5 +0.7**
ARTV Artvin 2.67 336⇑*i*P **Pn** **18 54 33.1 +1.1**
ARTV Artvin 2.67 336 P **Pn** **18 54 33.1 +1.1**
ARTV Artvin 2.67 336 *e*Pn **Pn** **18 54 33.6 +1.6**
ARTV Artvin 2.67 336 *e*Pn **Pn** **18 54 33.6 +1.6**
GDB GEDABAY 2.67 42⇑P Pn 18 54 25.1 -6.9
DIYA Diyarbakir 2.70 253⇓*i*P **Pn** **18 54 32.2 -0.2**
DIYA Diyarbakir 2.70 253 P **Pn** **18 54 32.2 -0.2**
KZR Kazreti 2.73 16 P **Pg** **18 54 39.5 -1.6**
QZX Qazax, Azerbai 2.75 33⇓P Pn 18 54 24.1 -8.8
QZX ⇑S Sn 18 54 55.3 -11
EPOS Posof 2.78 350⇑*i*P **Pn** **18 54 35.3 +1.8**
EPOS Posof 2.78 350 P **Pn** **18 54 35.3 +1.8**
DBOC Borcka 2.90 333 *i* P **Pn** **18 54 36.0 +1.0**
DBOC Borcka 2.90 333 P **Pn** **18 54 36.0 +1.0**
IHRS Heris 2.90 98 *e*Pn **Pn** **18 54 36.4 +1.2**
IHRS *e*AMB AMB 18 54 54.7
comp=Z,29μm,0.4s
IHRS Heris 2.90 98 *e*Pn **Pn** **18 54 36.4 +1.2**
GANJ Ganja 2.94 49⇑P Pn 18 54 30.0 -5.5
GANJ ⇑S **Sn** **18 55 07.3 -3.7**
IBST Bostanabad 2.96 110 *e*Pn **Pn** **18 54 38.3 +2.3**
IBST *e*AMB AMB 18 54 47.5
comp=Z,9μm,0.3s
IBST Bostanabad 2.96 110 *e*Pn **Pn** **18 54 38.3 +2.3**
ERZN Erzincan 2.97 287 *e*PN **Pn** **18 54 37.1 +1.1**
EUZM Uzumlu 3.02 289 *i* P **Pb** **18 54 40.2 -2.5**
TNCL Tunceli-Merkez 3.02 278 *i* P **Pn** **18 54 36.6 -0.1**
TNCL Tunceli-Merkez 3.02 278 P **Pn** **18 54 36.7 -0.1**
DGRG David-gareji 3.08 29 P **Pb** **18 54 40.6 -3.1**
DGRG David-gareji 3.08 29 P **Pb** **18 54 40.6 -3.1**
DGRG David-gareji 3.08 29 P **Pb** **18 54 40.6 -3.1**
PTK Pertek 3.12 274 *e*PN **Pn** **18 54 39.5 +1.2**
PTK Pertek 3.12 274 *e*Pn **Pn** **18 54 39.5 +1.2**
TBLG Delisi 3.14 19 *e*PN **Pn** **18 54 40.2 +1.9**
TBLG Delisi 3.14 19 P **Pn** **18 54 40.3 +2.0**
TBLG Delisi 3.14 19 P **Pn** **18 54 40.3 +2.0**
TBLG Delisi 3.14 19 *e*Pn **Pn** **18 54 40.2 +1.9**
SEAG Tbilisi Sea 3.19 19 P **Pn** **18 54 41.4 +2.4**
SVRC Sivrice-ELAZID 3.22 264 *e*PN **Pn** **18 54 40.9 +1.3**
SVRC Sivrice-ELAZID 3.22 264 *e*Pn **Pn** **18 54 40.9 +1.3**
EZC Erzincan 3.28 289 *e*Pn **Pn** **18 54 37.1 -3.3**
BRDA Brd 3.29 62⇓P **Pn** **18 54 37.6 -2.7**
BRDA Brd 3.29 62 P **Pn** **18 54 37.6 -2.7**
MNGR Mingechevir, A 3.48 54⇑P Pn 18 54 38.3 -4.7
MNGR ⇑S **Sn** **18 55 21.2 -3.0**
ISRB Sarab 3.49 104 *e*Pn **Pn** **18 54 45.0 +1.6**
ISRB Sarab 3.49 104 *e*Pn **Pn** **18 54 45.0 +1.6**
MACK Trabzon 3.54 309 *i* P **Pb** **18 54 49.1 -2.4**
KTUT Trabzon 3.56 310 *e*PN **Pn** **18 54 45.5 +1.4**
KTUT Trabzon 3.56 310 *e*Pn **Pn** **18 54 45.5 +1.4**
ZRD Zardab 3.65 64⇓P **Pn** **18 54 42.5 -2.8**
ZRD ⇑S **Sn** **18 55 29.4 +1.1**
ZRD Zardab 3.65 64 P **Pn** **18 54 42.5 -2.8**
ZRD S **Sn** **18 55 29.4 +1.1**
REFA Refahiye_ERZ¨ 3.65 281 *i* P **Pb** **18 54 50.8 -2.8**
GUDG Gudauri 3.79 12 P **Pn** **18 54 51.1 +3.7**
ZKTA Zakatala 3.79 40⇑P Pn 18 54 39.0 -8.2
ZKTA ⇑S **Sn** **18 55 23.1 -8.8**
SEKA Sheki 3.81 49⇓P Pn 18 54 42.6 -4.9
SEKA ⇓S **Sn** **18 55 29.2 -3.2**
ONI Oni 3.82 1 P **Pn** **18 54 50.6 +2.9**
ONI Oni 3.82 1 P **Pn** **18 54 50.6 +2.9**
ONI Oni 3.82 1 P **Pn** **18 54 50.6 +2.9**
URFA Urfa 3.84 251 *e*PN **Pn** **18 54 49.3 +1.3**
URFA Urfa 3.84 251 *e*Pn **Pn** **18 54 49.3 +1.3**
KEMA Kemaliye 3.85 279 *i* P **Pn** **18 54 48.2 +0.1**
KEMA Kemaliye 3.85 279 P **Pn** **18 54 48.2 +0.1**
LRK Lerik 3.88 90⇓P **Pn** **18 54 50.4 +1.9**
LRK ⇓S **Sb** **18 55 44.2 -0.2**
LRK Lerik 3.88 90 P **Pn** **18 54 50.4 +1.9**
GLBA Clilabad 3.93 81⇑P **Pn** **18 54 50.2 +1.1**
GLBA ⇓S **Sb** **18 55 42.6 -3.1**
GLBA Clilabad 3.93 81 P **Pn** **18 54 50.2 +1.1**
ZEI Tsey 4.04 5 *e*P **Pn** **18 54 48.6 -2.2**
ZEI pmax pmax
comp=Z,85nm,0.6s
KDMR Kurdemir 4.04 65⇑P **Pn** **18 54 48.4 -2.2**
KDMR Kurdemir 4.04 65 P **Pn** **18 54 48.4 -2.2**
QBL Gabala 4.06 56⇑P Pn 18 54 46.2 -4.8
QBL ⇓S **Sn** **18 55 35.8 -2.7**
IML Ismayilli 4.21 60⇑P **Pn** **18 54 49.6 -3.5**
IML Ismayilli 4.21 60 P **Pn** **18 54 49.6 -3.5**
LKRN Lenkeran, Azer 4.21 89⇓P **Pn** **18 54 55.5 +2.5**
LKRN Lenkeran, Azer 4.21 89 P **Pn** **18 54 55.5 +2.5**
SURC SANLIURFA_SURC 4.22 245 *i* P **Pn** **18 54 53.1 -0.1**
SURC SANLIURFA_SURC 4.22 245 P **Pn** **18 54 53.2 -0.1**
ASTR Astara 4.23 91⇓P **Pn** **18 54 55.4 +2.1**
SNR=9.5
ASTR ⇑S **Sb** **18 55 53.4 -1.1**
ASTR Astara 4.23 91 P **Pn** **18 54 55.4 +2.1**
SNR=9.5
XNQ Khinaliq 4.37 55⇓P Pn 18 54 49.8 -5.6
XNQ ⇓S **Sn** **18 55 42.8 -3.6**
PQL Pirkuli 4.49 62⇑P **Pn** **18 54 53.3 -3.7**
PQL Pirkuli 4.49 62 P **Pn** **18 54 53.3 -3.7**
CUZAR Zara_SIVAS 4.50 286 *i* P **Pn** **18 55 01.0 +3.9**
NEY Neytrino 4.51 354⇓*e*P **Pn** **18 55 00.8 +3.6**
NEY Neytrino 4.51 354 *e*P **Pn** **18 55 00.8 +3.6**
ALIB Äli-Bayra 4.51 73⇑P **Pn** **18 54 55.5 -1.6**
ALIB Äli-Bayra 4.51 73 P **Pn** **18 54 55.5 -1.6**
DARE Darende-Malaty 4.63 269 *e*PN **Pn** **18 55 01.2 +2.4**
DARE Darende-Malaty 4.63 269 *e*Pn **Pn** **18 55 01.2 +2.4**
GBS Qobustan 4.64 66⇑P **Pn** **18 54 56.7 -2.2**
GBS Qobustan 4.64 66 P **Pn** **18 54 56.7 -2.2**
QSAR Qusar 4.64 52⇓P Pn 18 54 53.3 -5.6
QSAR ⇓S **Sn** **18 55 48.0 -4.8**
CUKAN kangal_SIVAS 4.64 279 *i* P **Pn** **18 54 58.7 -0.4**
CUKAN kangal_SIVAS 4.64 279 P **Pn** **18 54 58.7 -0.4**
QUBA Quba, Azerbaij 4.69 55⇓P Pn 18 54 54.7 -5.0
NCK Nalchik 4.73 2⇓*e*P **Pn** **18 55 04.1 +4.0**
NCK Nalchik 4.73 2 *e*P **Pn** **18 55 04.1 +4.0**
ATGJ Altiaghaj 4.76 62⇑P **Pn** **18 54 57.4 -3.2**
ATGJ Altiaghaj 4.76 62 P **Pn** **18 54 57.4 -3.2**
ILIN Lien 4.79 142 *e*Pn **Pn** **18 55 04.0 +2.8**
ILIN *e*AMB AMB 18 56 34.2
comp=Z,5μm,0.6s
ILIN Lien 4.79 142 *e*Pn **Pn** **18 55 04.0 +2.8**
GROC Groznyy 4.79 22 *e*P Pn 18 55 06.3 +5.3
GROC *e* 18 56 06.6
GROC pmax pmax
comp=Z,21nm,0.7s
GROC smax smax
comp=E,63nm,0.5s
GROC smax smax
comp=E,85nm,1.0s
GROC Groznyy 4.79 22 *e*P Pn 18 55 06.3 +5.3
comp=E,21nm,0.7s
GZT Gaziantep 4.81 255 *i* S **Sb** **18 56 09.7 -1.5**
SIZA Siyzn 4.82 60⇑P **Pn** **18 54 57.5 -4.0**
SIZA Siyzn 4.82 60 P **Pn** **18 54 57.5 -4.0**
RSDY Resadiye-TOKAT 4.96 291 *e*PN **Pn** **18 55 05.7 +2.4**
RSDY Resadiye-TOKAT 4.96 291 *e*Pn **Pn** **18 55 05.7 +2.4**
KBZ Khabaz 4.97 356 Pn **Pn** **18 55 06.7 +3.2**
comp=E,0.2nm,0.3s,baz=164,slow=11,SNR=17
KBZ Lg Lg 18 56 29.7
baz=346,slow=16,SNR=1.7
KBZ LR LR 18 57 29.4
comp=E,2μm,20.3s,baz=191,slow=44
IVIS Veis 5.06 146 *e*AMB AMB 18 55 46.0
comp=Z,3μm,0.5s
IVIS *e*Pn **Pn** **18 55 06.9 +2.1**
SVSK Karacayir 5.09 285 *e*PN **Pn** **18 55 07.6 +2.6**
SVSK Karacayir 5.09 285 *e*Pn **Pn** **18 55 07.6 +2.6**
IGHG Ghaleghazi 5.11 149 *e*Pn **Pn** **18 55 07.5 +1.9**
IGHG *e*AMB AMB 18 56 13.5
comp=Z,8μm,0.5s
IGHG Ghaleghazi 5.11 149 *e*Pn **Pn** **18 55 07.5 +1.9**
GOBA Gobu 5.17 70⇓P **Pn** **18 55 04.1 -2.0**
GOBA Gobu 5.17 70 P **Pn** **18 55 04.1 -2.0**
CUALT Altinyayla-SIV 5.19 278 *i* P **Pn** **18 55 10.5 +4.0**
KIV Kislovodsk 5.21 354 *i* P **Pn** **18 55 11.1 +4.2**
SNR=15
KIV Kislovodsk 5.21 354 *e*P **Pn** **18 55 10.9 +4.1**
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,410nm,7.0s
KIV Kislovodsk 5.21 354 *e*Pn **Pn** **18 55 08.8 +2.0**
KIV Kislovodsk 5.21 354 *e*P **Pn** **18 55 10.9 +4.1**
comp=Z,410nm,7.0s
KIV *e*Sn **Sn** **18 56 10.9 +3.9**
KIV Kislovodsk 5.21 354 *e*Pn **Pn** **18 55 08.8 +2.0**
KIV *e*Sn **Sn** **18 56 10.9 +3.9**
KIV Kislovodsk 5.21 354 pPn Pn 18 55 11.6 +4.7
SNR=20
KIV Kislovodsk 5.21 354 P Pn 18 55 11.6 +4.7
SNR=20
KVAR Kislovodsk Arr 5.21 354 Pn **Pn** **18 55 10.9 +4.0**
baz=166,slow=8.3,SNR=14
KVAR LR LR 18 57 36.6
comp=Z,2μm,18.3s,baz=176,slow=43
MAK Makhachkala 5.22 35 *e*P **Pn** **18 55 05.0 -1.9**
MAK *e*S **Sn** **18 56 07.2 0.0**
MAK pmax pmax
comp=Z,16nm,0.4s
MAK MLR MLR
comp=Z,7μm,14.0s
MAK Makhachkala 5.22 35 *e*P **Pn** **18 55 05.0 -1.9**
comp=Z,16nm,0.4s
MAK *e*S **Sn** **18 56 07.2 0.0**
comp=Z,7μm,14.0s
KMRS Kahramanmaras 5.27 258 *e*PN **Pn** **18 55 10.2 +2.6**
KMRS Kahramanmaras 5.27 258 *e*Pn **Pn** **18 55 10.2 +2.6**
KUZU Kuzuini 5.38 250 *i* P **Pn** **18 55 10.8 +1.6**
KUZU Kuzuini 5.38 250 P **Pn** **18 55 10.8 +1.6**
NDR Nardaran 5.40 68⇑P **Pn** **18 55 07.3 -2.0**
SARI SarD1z-Kayseri 5.47 268 *e*PN **Pn** **18 55 12.9 +2.4**
BHD Baghdad 5.54 171 *e*Pn **Pn** **18 55 14.0 +2.7**
SNR=39
BHD *e*Sn **Sn** **18 56 18.5 +3.5**
SNR=39
SOC Sochi 5.55 331 *e*P **Pn** **18 55 11.3 -0.1**
SOC *e* 18 56 16.2
SOC pmax pmax
comp=Z,25nm,0.7s
SOC MLR MLR
comp=Z,1μm,11.0s
SOC Sochi 5.55 331 *e*P **Pn** **18 55 11.3 -0.1**
comp=Z,1μm,11.0s
SOC *e*S **Sn** **18 56 16.2 +0.9**
IKOM Komasi 5.66 143 *e*AMB AMB 18 56 54.0
comp=Z,3μm,0.3s
DRWC Darouich 5.74 250 *e*P **Pn** **18 55 13.7 -0.4**
DRWC *e*S **Sn** **18 56 27.2 +7.1**
DRWC AML AML 18 56 57.6
comp=N,596nm,0.6s
DRWC AML AML 18 57 09.8
comp=E,432nm,0.6s
BNN Bunyan 5.89 273 *e*PN **Pn** **18 55 18.4 +2.2**
BNN Bunyan 5.89 273 *e*Pn **Pn** **18 55 18.4 +2.2**
IGZV Ghazvin 5.92 112 *e*Pn **Pn** **18 55 18.5 +1.8**
IGZV *e*AMB AMB 18 55 49.3
comp=Z,2μm,0.4s
IGZV Ghazvin 5.92 112 *e*Pn **Pn** **18 55 18.5 +1.8**
KOZT Kozan 6.10 260 *e*PN **Pn** **18 55 21.6 +2.7**
KOZT Kozan 6.10 260 *e*Pn **Pn** **18 55 21.6 +2.7**
BTCH Batrach 6.15 246 *e*P **Pn** **18 55 21.9 +2.2**
BTCH AML AML 18 57 13.6
comp=E,1μm,0.7s
BTCH AML AML 18 57 14.8
comp=N,641nm,0.7s
IRAZ Razeghan 6.21 121 *e*Pn **Pn** **18 55 22.9 +2.2**
IRAZ *e*AMB AMB 18 56 17.6
comp=Z,2μm,0.5s
IRAZ Razeghan 6.21 121 *e*Pn **Pn** **18 55 22.9 +2.2**
GOF Gofitskoye 6.29 358⇑*e*P **Pn** **18 55 18.3 -3.3**
GOF pmax pmax
comp=Z,8.0nm,0.5s
HAVZ Havza 6.33 294 *i* P **Pn** **18 55 25.6 +3.5**
KFRA Kufra 6.35 238 *e*P **Pn** **18 55 22.9 +0.4**
KFRA *e*S **Sn** **18 56 42.4 +7.2**
KFRA AML AML 18 57 24.1
comp=N,2μm,0.7s
KFRA AML AML 18 57 28.0
comp=E,2μm,0.7s
ARNB Al Arnab 6.58 246 *e*P **Pn** **18 55 25.6 -0.1**
ARNB AML AML 18 57 34.1
comp=E,293nm,0.7s
ARNB AML AML 18 57 34.5
comp=N,710nm,0.6s
RABH Abou Rabah 6.59 231 *e*P **Pn** **18 55 26.1 +0.4**
RABH *e*S **Sn** **18 56 47.2 +6.3**
RABH AML AML 18 57 27.9
comp=N,319nm,0.6s
RABH AML AML 18 57 36.1
comp=E,272nm,0.8s
ROOS tl_alroos 6.72 229 *e*P **Pn** **18 55 27.5 -0.1**
ROOS *e*S **Sn** **18 56 50.5 +6.3**
ROOS AML AML 18 57 37.6
comp=N,535nm,0.7s
ROOS AML AML 18 57 43.7
comp=E,370nm,0.6s
BIDA Albida 6.79 239 *e*P **Pn** **18 55 29.0 +0.5**
BIDA *e*S **Sn** **18 56 53.2 +7.3**
BIDA AML AML 18 57 39.5
comp=N,1μm,0.7s
BIDA AML AML 18 57 39.9
comp=E,824nm,0.7s
HAWK Haweek 7.03 235 *e*P **Pn** **18 55 32.0 +0.2**
HAWK *e*S **Sn** **18 56 58.5 +6.6**
HAWK AML AML 18 57 39.3
comp=N,491nm,0.7s
HAWK AML AML 18 57 43.6
comp=E,218nm,0.6s
FKH Fakeheh 7.21 233 *e*P **Pn** **18 55 34.5 +0.3**
MARH Ras Al Marh 7.30 232 *e*P **Pn** **18 55 35.9 +0.1**
MARH *e*S **Sn** **18 57 05.5 +6.5**
MARH AML AML 18 57 50.9
comp=E,431nm,0.7s
MARH AML AML 18 58 02.4
comp=N,144nm,0.7s
HWQ Hawqa 7.48 235 *e*P **Pn** **18 55 38.4 +0.4**
IDMV Damavand 7.60 112 *e*Pn **Pn** **18 55 43.6 +3.8**
IDMV *e*AMB AMB 18 56 29.5
comp=Z,653nm,0.4s
BRTR Keskin Array B 7.63 280 Pn **Pn** **18 55 41.8 +1.7**
comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=8.0
BRTR Lg Lg 18 58 06.1
comp=Z,0.1nm,0.3s,baz=104,slow=35,SNR=2.2
BRTR LR LR 18 59 02.9
comp=Z,824nm,18.5s,baz=95,slow=41
QASN Qassioun 7.77 230 *e*P **Pn** **18 55 43.4 +1.4**
QASN AML AML 18 58 14.2
comp=Z,154nm,0.7s
QASN AML AML 18 58 14.3
comp=E,251nm,0.6s
QASN AML AML 18 58 19.1
comp=N,411nm,0.7s
TOTH TOTAH 7.80 228 *e*P **Pn** **18 55 43.7 +1.3**
TOTH *e*S **Sn** **18 57 17.0 +6.3**
TOTH AML AML 18 58 13.6
comp=N,143nm,0.7s
TOTH AML AML 18 58 33.7
comp=E,80nm,0.7s
BHL Bhannes 7.90 234 *e*P **Pn** **18 55 44.5 +0.7**
BRBR Barbar 8.05 231 *e*P **Pn** **18 55 46.8 +0.9**
BRBR *e*S **Sn** **18 57 23.2 +6.1**
BRBR AML AML 18 58 08.8
comp=E,119nm,0.7s
BRBR AML AML 18 58 23.3
comp=N,115nm,0.7s
RCY Rachaya 8.06 232 *e*P **Pn** **18 55 46.8 +0.7**
NSR Nasseriya 8.06 163 *e*Pn **Pn** **18 55 48.5 +2.6**
SNR=39
DQRL Deir Qamar 8.09 234 *e*P **Pn** **18 55 47.6 +1.3**
SALA Sala 8.11 224 *e*P **Pn** **18 55 46.7 0.0**
SALA *e*S **Sn** **18 57 23.6 +5.0**
SALA AML AML 18 58 38.3
comp=N,177nm,0.7s
SHBL Chebaa 8.22 231 *e*P **Pn** **18 55 48.7 +0.5**
ASF Jabal al Asfar 8.44 221 Pn **Pn** **18 55 49.9 -1.3**
comp=N,5.0nm,0.3s,baz=351,slow=9.5,SNR=50
ASF Lg Lg 18 58 21.4
comp=N,2.4nm,0.3s,baz=180,slow=21,SNR=7.2
MMAI Mount Meron Ar 8.65 231 Pn **Pn** **18 55 55.6 +1.5**
comp=N,12nm,0.3s,baz=71,slow=15,SNR=65
MMAI Lg Lg 18 58 35.9
comp=N,3.4nm,0.3s,baz=40,slow=25,SNR=5.4
MMAI LR LR 18 59 39.4
comp=N,2μm,19.1s,baz=40,slow=41
SIM Simferopol' 9.27 315 P **Pn** **18 56 06.6 +4.2**
SIM S Sn 18 58 01.1 +14
SIM pmax pmax
comp=Z,7.0nm,1.3s
SIM MLR MLR
comp=Z,450nm,14.3s
EIL Elat 11.44 220 Pn **Pn** **18 56 32.8 +0.5**
comp=Z,0.5nm,0.3s,baz=272,slow=22,SNR=12
EIL Lg Lg 18 59 59.4
comp=Z,0.4nm,0.3s,baz=105,slow=20,SNR=3.4
EIL LR LR 19 01 26.1
comp=Z,1μm,19.4s,baz=14,slow=41
GEYT Alibeck 11.60 90 Pn **Pn** **18 56 34.0 -0.3**
comp=Z,0.3nm,0.3s,baz=290,slow=14,SNR=8.1
GEYT LR LR 19 01 28.6
comp=Z,196nm,20.4s,baz=275,slow=40
CFR Carcaliu 13.02 304⇑*i*P **P** **18 57 00.7 -3.6**
ISR Istrita 14.04 302⇑*i*P **P** **18 57 14.2 -1.5**
LPSR Galich'ya Gora 14.18 349 *e*P **Pn** **18 57 09.4 -0.1**
LPSR pmax pmax
comp=Z,70nm,1.2s
VRI Vrincioaia 14.21 305⇑*i*P **P** **18 57 15.6 -1.9**
VRI Vrincioaia 14.21 305 P **P** **18 57 15.6 -1.9**
VRI Vrincioaia 14.21 305 P **P** **18 57 15.6 -1.9**
PLOR Plostina 14.25 305⇓*i*P **P** **18 57 16.8 -1.2**
PLOR Plostina 14.25 305 P **P** **18 57 16.8 -1.2**
PLOR Plostina 14.25 305 P **P** **18 57 16.8 -1.2**
SORM Soroca 14.37 316⇑*i*P **P** **18 57 17.1 -2.0**
TESR Tescani 14.53 308⇓*i*P **P** **18 57 21.0 0.0**
MLR Muntele Rosu 14.57 303⇓*i*P **P** **18 57 20.0 -1.6**
DOPR Dopca 15.11 304⇓*i*P **P** **18 57 26.7 -0.8**
VOIR 15.14 302⇓*i*P **P** **18 57 27.5 -0.4**
VOIR 15.14 302 P **P** **18 57 29.9 +2.0**
VOIR pmax pmax
comp=Z,42nm,1.0s
VOIR 15.14 302 P **P** **18 57 29.9 +2.0**
comp=Z,42nm,1.0s
IDI Anoyia 15.18 262 Pn **Pn** **18 57 23.4 +0.2**
comp=Z,0.3nm,0.3s,baz=85,slow=9.3,SNR=3.7
IDI Anoyia 15.18 262 *e*Pn **Pn** **18 57 21.5 -1.7**
comp=Z,54nm,1.1s
PRAR RASCA 15.18 310⇓*i*P **P** **18 57 28.1 -0.1**
RAYN Ar Rayn 15.30 173 *e*Pn **Pn** **18 57 20.2 -4.7**
comp=Z,26nm,0.8s
ARR Arges 15.40 301⇑*i*P **P** **18 57 31.3 +0.6**
AKASG Malin Array Be 15.58 325 Pn **Pn** **18 57 28.0 -0.3**
comp=Z,1.1nm,0.3s,baz=129,slow=12,SNR=18
AKASG LR LR 19 05 09.3
comp=Z,216nm,21.1s,baz=105,slow=44
AKBB Malin Array Si 15.58 325 *e*P **Pn** **18 57 29.5 +1.2**

AKBB pmax pmax
comp=Z,53nm,1.0s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn 18 57 29.5 +1.2**
comp=Z,53nm,1.0s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn 18 57 29.5 +1.2**
comp=Z,53nm,1.0s
KIEV Kiev 15.58 325⇑ *e*P **Pn 18 57 28.9 +0.6**
KIEV Kiev 15.58 325 *e*Pn **Pn 18 57 27.8 -0.5**
comp=Z,52nm,1.0s
KIEV Kiev 15.58 325 *e*Pn **Pn 18 57 27.8 -0.5**
comp=Z,52nm,1.0s
AKTO Aktyubinsk 15.61 37 Pn **Pn 18 57 28.2 -0.5**
comp=Z,0.4nm,0.3s,baz=232,slow=13,SNR=25
AKTO LR LR 19 05 06.8
comp=Z,841nm,18.6s,baz=221,slow=43
VTS Vitosha 15.78 290⇓ *i*P **P 18 57 34.5 -0.5**
THE Thessaloniki 15.83 283 P **P 18 57 41.1 +5.6**
THE pmax pmax
comp=Z,28nm,1.1s
AB31 Akbulak array 15.83 43 *i* P **Pn 18 57 30.5 -1.1**
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 15.83 43 *e*Pn **Pn 18 57 30.2 -1.4**
comp=Z,134nm,0.9s
ABKAR Akbulak array 15.83 43 *e*Pn **Pn 18 57 30.2 -1.4**
comp=Z,134nm,0.9s
BURAR Bucovina Array 15.90 310⇓ *i*P **P 18 57 38.3 +1.9**
BURAR Bucovina Array 15.90 310 P **P 18 57 38.2 +1.9**
CJR Cluj-Napoca 16.54 305⇑ *i*P **P 18 57 44.1 +0.8**
GZR Gura Zlata 16.65 300⇑ *i*P **P 18 57 45.4 +0.8**
BANOM Banah 16.80 136 P **Pn 18 57 42.4 -1.7**
OBN Obninsk 16.99 346 Pn **Pn 18 57 45.4 -1.0**
comp=Z,2.3nm,0.3s,baz=176,slow=14,SNR=16
OBN LR LR 19 05 14.2
comp=Z,134nm,21.8s,baz=130,slow=40
OBN Obninsk 16.99 346*c i*P **Pn 18 57 45.3 -1.0**
OBN *e*S **Sn 19 00 54.4 -0.6**
OBN pmax pmax
comp=Z,56nm,1.2s
OBN MLR MLR
comp=Z,441nm,15.0s
OBN Obninsk 16.99 346 *e*Pn **Pn 18 57 42.9 -3.4**
comp=Z,95nm,0.9s
DRGR 17.14 305⇑ *i*P **P 18 57 53.3 +3.3**
DRGR 17.14 305 P **P 18 57 54.1 +4.1**
DRGR 17.14 305⇑ *i*P **P 18 57 53.3 +3.3**
NAZ Nazwa, Dubai 17.22 139 P **Pn 18 57 48.7 -0.7**
NAZ Nazwa, Dubai 17.22 139 Pn **Pn 18 57 48.0 -1.4**
SNR=6.2
NAZ Nazwa, Dubai 17.22 139 Pn **Pn 18 57 48.0 -1.4**
SNR=6.2
NAZ Nazwa, Dubai 17.22 139 P **Pn 18 57 48.0 -1.4**
SNR=6.2
MDVR Moldovita 17.23 297⇑ *i*P **Pn 18 57 45.9 -3.6**
MOS Moscow 17.41 349 *e*P **Pn 18 57 50.0 -1.6**
MOS pmax pmax
comp=Z,171nm,1.6s
MOS pmax pmax
comp=N,138nm,1.0s
BZS Buzias 17.50 300⇓ *i*P **P 18 57 54.9 +1.0**
UOSS Minazif 17.53 138 *e*Pn **Pn 18 57 51.3 -2.0**
comp=N,32nm,0.9s
HATD Hatta, Dubai 17.59 138 P **Pn 18 57 53.7 -0.3**
HATD Hatta, Dubai 17.59 138 P **Pn 18 57 53.7 -0.3**
SIRR Siria 17.65 302⇑ *i*P **P 18 57 59.1 +3.5**
LVV L'vov 17.67 315 *e*P **P 18 58 00.3 +4.5**
ASHO Ashiyiah 17.67 139 *i* P **Pn 18 57 53.6 -1.5**
SNR=6.8
ASHO Ashiyiah 17.67 139 Pn **Pn 18 57 53.7 -1.3**
SNR=8.6
ASHO Ashiyiah 17.67 139 Pn **Pn 18 57 53.7 -1.3**
SNR=8.6
ASHO Ashiyiah 17.67 139 P **Pn 18 57 53.7 -1.3**
SNR=8.6
UZH Uzhgorod 18.11 310 *e*P **Pn 18 58 00.0 -0.3**
UZH *e*S **Sn 19 01 19.0 -3.3**
UZH MLR MLR
comp=Z,600nm,5.0s
UZH Uzhgorod 18.11 310 *e*P **Pn 18 58 00.0 -0.3**
comp=Z,600nm,5.0s
PDG Podgorica 18.67 289⇑ *i*P **Pn 18 58 08.8 +1.6**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn 18 58 11.1 +3.3**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn 18 58 11.1 +3.3**
NKY Niksic 18.89 290 P **Pn 18 58 11.4 +1.5**
NKY Niksic 18.89 290 P **Pn 18 58 11.4 +1.5**
MICGM Minsk 18.93 331 *e*P **P 18 58 09.0 -0.6**
MNK Minsk 18.93 331 *e*P **P 18 58 09.0 -0.6**
STHS Stebnicka Huta 19.07 311 *e*P **Pn 18 58 13.9 +1.9**
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 19.07 311 *e*P **Pn 18 58 13.9 +1.9**
comp=Z,12nm,1.0s
STHS Stebnicka Huta 19.07 311 *e*P **Pn 18 58 13.9 +1.9**
PSZ Piszkesteto 19.32 306⇓ *i*P **Pn 18 58 15.9 +0.8**
PSZ Piszkesteto 19.32 306 *e*P **P 18 58 11.4 -2.6**
PSZ pmax pmax
comp=Z,80nm,1.7s
PSZ Piszkesteto 19.32 306⇓ *i*P **Pn 18 58 15.9 +0.8**
PSZ Piszkesteto 19.32 306 *e*P **P 18 58 11.4 -2.6**
comp=Z,80nm,1.7s
NIE Niedzica 19.63 310 *e*P **Pn 18 58 20.3 +1.6**
NIE Niedzica 19.63 310 *e*P **Pn 18 58 20.3 +1.6**
NIE Niedzica 19.63 310 *e*P **Pn 18 58 20.3 +1.6**
NACGM Naroch 19.66 331 *e* **P 18 58 18.0 +0.5**
VYHS Vyhne 20.18 307 *e*P Pn 18 58 26.1 +0.9
VYHS pmax pmax
comp=Z,24nm,1.6s
VYHS Vyhne 20.18 307 *e*P Pn 18 58 26.1 +0.9
comp=Z,24nm,1.6s
VYHS Vyhne 20.18 307 *e*P Pn 18 58 26.1 +0.9
WSAR Wadi Sarin 20.21 136 P **P 18 58 23.8 0.0**
comp=Z,13nm,0.9s,baz=325,slow=12,SNR=7.6
WSAR LR LR 19 06 21.3
comp=Z,352nm,21.3s,baz=319,slow=38
OJC Ojcow 20.26 312 *e*P Pn 18 58 29.6 +3.5
OJC Ojcow 20.26 312 P Pn 18 58 30.4 +4.2
OJC pmax pmax
comp=Z,22nm,1.4s
OJC Ojcow 20.26 312 *e*P **P 18 58 22.4 -1.8**
comp=Z,17nm,0.9s
ARU Arti 20.34 25 P **P 18 58 25.6 +0.7**
comp=Z,50nm,0.7s,baz=243,slow=14,SNR=69
ARU LR LR 19 08 11.9
comp=Z,518nm,19.9s,baz=208,slow=42
ARU Arti 20.34 25*c i*P Pn 18 58 26.1 -0.9
ARU 18 58 45.8
ARU S Sn 19 02 18.2 +2.3
ARU SS **SnSn 19 02 37.7 +7.3**
ARU pmax pmax
comp=Z,104nm,1.2s
ARU MLR MLR
comp=Z,696nm,16.0s
ARU Arti 20.34 25 *i* P Pn 18 58 26.1 -0.9
comp=Z,104nm,1.2s
ARU Arti 20.34 25 *e*P **P 18 58 25.4 +0.4**
comp=Z,172nm,1.1s
BLY Banja Luka 20.40 295 *e*P **P 18 58 25.3 -0.4**
comp=Z,9.8nm,0.8s
BLY Banja Luka 20.40 295 *e*P **P 18 58 25.3 -0.4**
comp=Z,9.8nm,0.8s
SUW Suwalki 20.55 324 *e*P Pn 18 58 28.7 -0.8
SUW Suwalki 20.55 324 *e*P Pn 18 58 28.7 -0.7
SUW Suwalki 20.55 324 *e*P Pn 18 58 28.7 -0.7
KK31 Karatay Array 20.90 69 *i* P **P 18 58 31.6 +0.3**
KK31 pmax pmax
comp=Z,26nm,0.8s
KK31 Karatay Array 20.90 69 *i* P **P 18 58 31.6 +0.3**
comp=Z,26nm,0.8s
KKAR Karatay Array 20.90 69 *e*P **P 18 58 31.9 +0.6**
KKAR pmax pmax
comp=Z,205nm,0.8s
KKAR Karatay Array 20.90 69 *e*P **P 18 58 31.9 +0.6**
comp=Z,205nm,0.8s
KKAR Karatay Array 20.90 69 *e*P **P 18 58 31.9 +0.6**
comp=Z,205nm,0.8s
OKC Ostrava-Krasne 21.08 310 *e*P P 18 58 40.9 +7.8
OKC *e*S Sn 19 02 36.3 +2.4
OKC AMS AMS 19 09 00.0
comp=Z,400nm,15.7s
OKC Ostrava-Krasne 21.08 310 *e*P P 18 58 40.9 +7.8
OKC *e*S Sn 19 02 36.3 +2.4
OKC MLR MLR
comp=Z,400nm,15.7s
CUC Castrocucco 21.32 282 *e*P **P 18 58 34.0 -1.7**
comp=Z,23nm,1.0s

SVE Sverdlovsk 21.36 27 *e*P **P 18 58 36.8 +0.9**
SVE *e*S Sn 19 02 39.5 -0.9
SVE pmax pmax
comp=Z,145nm,1.5s
SVE MLR MLR
comp=Z,1μm,16.0s
SVE Sverdlovsk 21.36 27 *e*P **P 18 58 36.8 +0.9**
comp=Z,145nm,1.5s
MORC Moravsky Berou 21.43 309⇓ *i*P **P 18 58 39.1 +2.3**
MORC Moravsky Berou 21.43 309 P **P 18 58 34.7 -2.1**
MORC pmax pmax
comp=Z,56nm,1.1s
MORC Moravsky Berou 21.43 309⇓ *i*P **P 18 58 39.1 +2.3**
MORC Moravsky Berou 21.43 309 P **P 18 58 34.7 -2.1**
comp=Z,56nm,1.1s
VRAC Vranov 21.85 308 P **P 18 58 43.9 +2.6**
comp=Z,5.3nm,0.7s,baz=99,slow=8.3,SNR=9.4
VRAC LR LR 19 09 01.4
comp=Z,69nm,19.0s,baz=122,slow=42
ARSA Arzberg 21.98 302 P **P 18 58 45.6 +2.8**
comp=Z,13nm,1.3s
KLMR Klimovskoe 22.25 355 *e*P **P 18 58 43.7 -1.7**
KLMR *e*S **S 19 02 50.1 +0.1**
KLMR pmax pmax
comp=Z,224nm,1.2s
MNAS Manas 22.36 71 *i* P **P 18 58 47.4 +0.4**
MNAS pmax pmax
comp=Z,18nm,0.9s
MNAS Manas 22.36 71 *i* P **P 18 58 47.4 +0.4**
comp=Z,18nm,0.9s
DPC Dobruska-Polom 22.36 310 *e*P **P 18 58 49.9 +3.0**
DPC *ep*P **sP 18 58 53.3 +2.2**
DPC *ex* x 18 59 01.5
DPC *e*S Sn 19 03 04.4 -0.4
DPC Dobruska-Polom 22.36 310 *e*P **P 18 58 49.9 +3.0**
DPC *e* 18 58 53.3
DPC Dobruska-Polom 22.36 310 *e*P **P 18 58 49.9 +3.0**
VSU Vasula 22.46 337⇓ *e*P **P 18 58 48.6 +0.9**
VSU pmax pmax
comp=Z,169nm,1.0s
VSU Vasula 22.46 337 *e*P **P 18 58 48.6 +0.9**
comp=Z,169nm,1.0s
SOKR Solikamsk 22.53 18⇓ *i*P **P 18 58 47.0 -1.4**
SOKR S **S 19 03 00.8 +5.5**
SOKR pmax pmax
comp=Z,60nm,1.2s
SOKR MLR MLR
comp=Z,707nm,16.0s
TREC Trest 22.53 307 *e*P **P 18 58 52.8 +4.1**
TREC Trest 22.53 307 *e*P **P 18 58 52.8 +4.1**
KSP Ksiaz 22.56 311 *e*P **P 18 58 51.5 +2.6**
KSP Ksiaz 22.56 311 *e*P **P 18 58 51.5 +2.6**
KSP Ksiaz 22.56 311 *e*P **P 18 58 51.5 +2.6**
UPC Upice 22.61 310 *e*P **P 18 58 52.3 +2.9**
UPC Upice 22.61 310 *e*P **P 18 58 52.3 +2.9**
UPC Upice 22.61 310 *e*P **P 18 58 52.3 +2.9**
AQU L'Aquila 23.00 289 *e*P **P 18 58 52.7 -1.0**
AQU pmax pmax
comp=Z,52nm,1.0s
AQU L'Aquila 23.00 289 *e*P **P 18 58 52.7 -1.0**
comp=Z,52nm,1.0s
AQU L'Aquila 23.00 289 *e*P **P 18 58 52.7 -1.0**
comp=Z,52nm,1.0s
GOPC GO Pecny, Ondr 23.15 308 *e*P **P 18 58 58.1 +2.9**
GOPC *ex* x 18 59 04.9
GOPC GO Pecny, Ondr 23.15 308 *e*P **P 18 58 58.1 +2.9**
GOPC *e* 18 59 04.9
GOPC GO Pecny, Ondr 23.15 308 *e*P **P 18 58 58.1 +2.9**
PRU Pruhonice 23.33 308 *e*P **P 18 58 58.2 +1.3**
PRU *ep*P **sP 18 59 01.8 +0.7**
PRU *e*S **S 19 03 17.0 +7.6**
PRU Pruhonice 23.33 308 *e*P **P 18 58 58.2 +1.3**
PRU *e* 18 59 01.8
PRU Pruhonice 23.33 308 *e*P **P 18 58 58.2 +1.3**
BRVK Borovoye 23.36 44 *e*P **P 18 58 57.9 +0.7**
BRVK pmax pmax
comp=Z,36nm,1.1s
BRVK Borovoye 23.36 44 P **P 18 58 58.7 +1.5**
SNR=18
BRVK Borovoye 23.36 44 *e*P **P 18 58 57.9 +0.7**
comp=Z,36nm,1.1s
BRVK Borovoye 23.36 44 P **P 18 58 58.7 +1.5**
SNR=18
BRVK Borovoye 23.36 44 P **P 18 58 58.7 +1.5**
SNR=18
BVA0 Borovoye Array 23.41 44 P **P 18 58 57.5 -0.2**
BVA0 pmax pmax
comp=Z,38nm,1.3s
BVAR Borovoye Array 23.41 44 P **P 18 58 58.7 +1.0**
comp=Z,18nm,1.0s,baz=248,slow=7.6,SNR=43
KBA Koelnbreinsper 23.41 301 P **P 18 59 03.0 +5.1**
KBA pmax pmax
comp=Z,21nm,1.1s
KBA Koelnbreinsper 23.41 301 P **P 18 58 58.8 +0.9**
comp=Z,16nm,1.0s
PVCC Panska Ves 23.48 309 *e*P **P 18 58 59.6 +1.2**
PVCC Panska Ves 23.48 309 *e*P **P 18 58 59.6 +1.2**
PVCC Panska Ves 23.48 309 *e*P **P 18 58 59.6 +1.2**
GEC2 GERESS Array S 23.54 305 *e*P **P 18 59 00.1 +1.0**
GEC2 pmax pmax
comp=Z,11nm,1.1s
GEC2 GERESS Array S 23.54 305 *e*P **P 18 59 00.1 +1.0**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 23.54 305 *e*P **P 18 59 00.1 +1.0**
comp=Z,11nm,1.1s
GERES GERESS Array B 23.54 305 P **P 18 58 59.8 +0.6**
comp=Z,1.2nm,0.6s,baz=103,slow=9.6,SNR=9.8
GERES LR LR 19 10 51.2
comp=Z,170nm,19.0s,baz=108,slow=43
KHC Kasperske Hory 23.69 306 *e*P **P 18 59 01.5 +1.0**
KHC *ep*P **sP 18 59 05.9 +1.1**
KHC *e*S **S 19 03 19.9 +4.5**
KHC Kasperske Hory 23.69 306 *e*P **P 18 59 01.5 +1.0**
KHC *e* 18 59 05.9
KHC *e*S **S 19 03 19.9 +4.5**
KHC Kasperske Hory 23.69 306 *e*P **P 18 59 01.5 +1.0**
KHC Kasperske Hory 23.69 306 *e*P **P 18 58 59.3 -1.3**
comp=Z,5.4nm,1.1s
AAK Ala-Archa 23.83 71 P **P 18 59 02.7 +0.7**
comp=Z,4.2nm,0.8s,baz=237,slow=9.0,SNR=14
AAK LR LR 19 10 18.0
comp=Z,651nm,18.3s,baz=267,slow=42
AAK Ala-Archa 23.83 71*c i*P **P 18 59 03.4 +1.4**
AAK pmax pmax
comp=Z,38nm,1.3s
AAK Ala-Archa 23.83 71 *e*P **P 18 59 02.4 +0.4**
comp=Z,87nm,1.4s
AAK Ala-Archa 23.83 71 P **P 18 59 03.4 +1.4**
SNR=13
AAK Ala-Archa 23.83 71 P **P 18 59 03.4 +1.4**
SNR=13
AAK P **P 18 59 03.4 +1.4**
SNR=13
FRU Bishkek 23.91 70 *e*P **P 18 59 03.0 +0.3**
FRU pmax pmax
comp=Z,180nm,2.0s
BRG Berggiesshubel 23.97 310 *e*P **P 18 59 04.0 +0.9**
comp=Z,5.8nm,1.1s
BRG *e* 18 59 08.0
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 23.97 310 *e*P **P 18 59 04.0 +0.9**
BRG *e* 18 59 08.0
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.9s
WET Wettzell 24.14 305 P **P 18 59 09.6 +4.8**
WET pmax pmax
comp=Z,21nm,1.9s
TKM2 Tokmak 2 24.63 70 *i* P **P 18 59 09.8 +0.2**
TKM2 pmax pmax
comp=Z,43nm,1.4s
CLL Collm 24.67 310 *e*P **P 18 59 10.0 +0.4**
CLL *e*S **S 19 03 31.0 +0.1**
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 24.67 310 *e*P **P 18 59 10.0 +0.4**
comp=Z,7.0nm,1.0s
CLL *i* sP **sP 18 59 14.5 +0.6**
comp=Z,14nm,0.9s
CLL *i* 18 59 22.2
CLL *e*S **S 19 03 31.0 +0.1**
CLL *e*(SS) 19 04 28.0
CLL LmH 19 10 00.0
comp=N,300nm,20.6s

CLL LmH 19 10 00.0
comp=E,200nm,20.9s
CLL LmV 19 16 00.0
comp=Z,200nm,20.9s
CLL Collm 24.67 310 *e*P **P 18 59 10.2 +0.7**
comp=Z,12nm,0.8s
NKC Novy Kostel 24.69 308 *e*P **P 18 59 10.7 +0.9**
NKC *ex* x 18 59 22.2
NKC Novy Kostel 24.69 308 *e*P **P 18 59 10.7 +0.9**
NKC Novy Kostel 24.69 308 P **P 18 59 10.7 +0.9**
MOTA Moosalm 24.96 301 P **P 18 59 12.8 +0.4**
comp=Z,30nm,0.8s
FINES FINESS Array B 25.11 340 P **P 18 59 13.5 +0.1**
comp=Z,25nm,0.9s,baz=143,slow=10,SNR=25
FINES LR LR 19 09 32.7
comp=Z,151nm,21.8s,baz=139,slow=38
FIA1 FINESS Array S 25.11 340 *e*P **P 18 59 14.0 +0.6**
comp=Z,29nm,0.9s
RETA Reutte 25.21 301 P **P 18 59 14.0 -0.6**
comp=Z,4.3nm,0.6s
KSH Kashi 25.21 78 P **P 18 59 14.0 -0.7**
KSH pP sP 18 59 20.1 +1.0
KSH sP pP 18 59 22.8 +5.0
KSH PP **PnPn 18 59 52.1 +3.4**
KSH PcP **PcP 19 02 50.8 +2.6**
KSH S **S 19 03 33.4 -6.8**
KSH sS pS 19 03 43.3 -0.1
KSH SS **SnSn 19 04 32.9 +2.7**
KSH PcS **PcS 19 06 29.8 +1.2**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,150nm,3.9s
KSH LR LR
comp=Z,210nm,10.0s
KSH LR LR
comp=Z,280nm,9.4s
KSH LR LR
comp=Z,710nm,12.9s
JOF Joensuu 25.27 347 P **P 18 59 14.5 -0.3**
JOF pmax pmax
comp=Z,96nm,1.0s
MOX Moxa 25.31 308 P **P 18 59 20.7 +5.3**
MOX pmax pmax
comp=Z,29nm,0.7s
FUORN Ofenpass-Fuorn 25.44 299 *e*P **P 18 59 17.8 +1.0**
comp=Z,17nm,1.1s
TMCR Tamitsa 25.63 355 *e*P **P 18 59 18.0 -0.1**
TMCR pmax pmax
comp=Z,54nm,0.9s
DAVOX Davos/Dischmat 25.72 299 P **P 18 59 19.4 0.0**
comp=Z,3.0nm,0.5s,baz=90,slow=7.5,SNR=6.9
DAVA Damuels 25.77 300 P **P 18 59 19.1 -0.7**
comp=Z,6.9nm,0.7s
ATD Arta Tunnel 27.13 181 LR LR 19 10 38.5
comp=Z,303nm,18.7s,baz=8.5,slow=38
KEST Kesra 27.18 274 P **P 18 59 32.6 +0.1**
comp=Z,6.7nm,0.9s,baz=50,slow=4.8,SNR=5.8
KURBB Kurchatov Arra 27.39 53 P **P 18 59 35.0 +0.9**
comp=Z,13nm,0.8s,baz=263,slow=8.8,SNR=69
KURK Kurchatov 27.46 53*c i*P **P 18 59 36.1 +1.3**
KURK pmax pmax
comp=Z,100nm,1.0s
KURK Kurchatov 27.46 53 *e*P **P 18 59 35.4 +0.6**
comp=Z,25nm,0.9s
KURK Kurchatov 27.46 53 P **P 18 59 36.4 +1.6**
SNR=14
KURK Kurchatov 27.46 53 P **P 18 59 36.4 +1.6**
SNR=14
KURK P **P 18 59 36.4 +1.6**
SNR=14
PDGK Podgornoye 27.46 69 *i* P **P 18 59 34.8 -0.3**
PDGK pmax pmax
comp=Z,12nm,1.1s
MBDF Montbardon 27.80 294 *e*P **P 18 59 38.0 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 27.81 296 *e*P **P 18 59 39.6 +1.3**
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 27.83 296 *e*P **P 18 59 38.8 +0.4**
LPL pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 27.86 295 *e*P **P 18 59 38.6 0.0**
BNI pmax pmax
comp=Z,20nm,1.2s
BNI Bardonecchia 27.86 295 *e*P **P 18 59 38.6 0.0**
comp=Z,20nm,1.2s
CABF La Chapelle 28.31 298 *e*P **P 18 59 42.2 -0.3**
CABF pmax pmax
comp=Z,24nm,1.2s
HFS Hagfors 28.39 329 P **P 18 59 43.2 +0.3**
comp=Z,12nm,0.7s,baz=128,slow=9.3,SNR=18
HFS LR LR 19 12 53.1
comp=Z,122nm,19.0s,baz=107,slow=40
MK31 Makanchi Array 29.41 61 *i* P **P 18 59 52.8 +0.5**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 29.41 61 *e*P **P 18 59 53.8 +1.5**
MKAR Makanchi Array 29.41 61 P **P 18 59 52.4 +0.1**
comp=Z,3.6nm,0.7s,baz=268,slow=7.0,SNR=18
MKAR LR LR 19 13 41.4
comp=Z,587nm,18.1s,baz=257,slow=40
MKAR Makanchi Array 29.41 61 *e*P **P 18 59 53.5 +1.3**
comp=Z,34nm,0.8s
NB2 NORSAR Subarra 29.91 329 P **P 18 59 55.7 -0.8**
comp=Z,6.7nm,1.0s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.91 329 P **P 18 59 58.1 +1.6**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 29.91 329 P **P 18 59 55.7 -0.8**
comp=Z,6.7nm,1.0s,SNR=6.5
NOA NORSAR Array B 29.91 329 P **P 18 59 56.2 -0.3**
comp=Z,2.1nm,0.6s,baz=126,slow=8.8,SNR=6.5
NOA LR LR 19 13 49.2
comp=Z,126nm,18.9s,baz=125,slow=40
AVF Avril sur Loir 30.19 298 *e*P **P 18 59 59.2 +0.1**
AVF pmax pmax
comp=Z,30nm,1.5s
NVS Novosibirsk 31.15 46 *e*P **P 19 00 08.4 +1.0**
NVS pmax pmax
comp=Z,20nm,1.5s
NVS pmax pmax
comp=E,12nm,1.4s
ZAA0 Zalesovo Array 31.85 48 *e*P **P 19 00 14.4 +0.7**
ZALV Zalesovo Beam 31.85 48 P **P 19 00 13.9 +0.3**
comp=E,2.3nm,0.7s,baz=262,slow=10,SNR=11
ZALV LR LR 19 15 23.0
comp=E,280nm,19.0s,baz=250,slow=41
ZALV Zalesovo Beam 31.85 48 P **P 19 00 14.0 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,281nm,19.0s
ARCES ARCESS Array B 32.28 348 P **P 19 00 17.5 +0.2**
comp=Z,7.6nm,0.7s,baz=156,slow=9.3,SNR=19
WMQ Urumqi 33.36 67 P **P 19 00 28.3 +1.2**
WMQ pP sP 19 00 33.1 +1.6
WMQ sP pP 19 00 38.1 +7.9
WMQ PcP **PcP 19 03 07.0 -1.7**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,290nm,6.7s
WMQ LR LR
comp=Z,180nm,5.5s
WMQ LR LR
comp=Z,210nm,20.1s
PYUN Piuthan 34.48 96 *e*P **P 19 00 37.9 +0.8**
comp=Z,43nm,0.8s
QUIF Quistinic 34.61 301 *e*P **P 19 00 36.9 -0.9**
DANN Dangsing 34.96 95 *e*P **P 19 00 42.8 +1.4**
comp=Z,8.3nm,1.0s
KOLN Koldanda 35.11 96 *e*P **P 19 00 43.3 +0.7**
comp=Z,30nm,1.0s
GKN Gorkha 35.81 95 *e*P **P 19 00 49.1 +0.6**
comp=Z,47nm,0.7s
TAM Tamanrasset 35.93 255 *e*P **P 19 00 46.6 -3.0**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 35.93 255 *e*P **P 19 00 46.6 -3.0**
comp=Z,5.5nm,0.8s
DMN Daman 36.36 95 *e*P **P 19 00 54.3 +0.9**
comp=Z,76nm,1.1s

ESDC Sonseca Array 36.36 287 P **P** **19 00 52.1 -1.0**
comp=Z,4.0nm,0.6s,baz=67,slow=8.8,SNR=24
KKN Kakani 36.41 95 *e*P **P** **19 00 54.2 +0.4**
comp=Z,23nm,0.8s
PKIN Phulchoki 36.60 95 *e*P **P** **19 00 55.9 +0.4**
comp=Z,27nm,0.7s
GUN Gumba 36.82 94 *e*P **P** **19 00 58.2 +0.8**
comp=Z,95nm,1.0s
JIRN Jiri 37.18 94 *e*P **P** **19 01 01.4 +0.9**
comp=Z,248nm,0.8s
RAMN Ramite 37.84 95 *e*P **P** **19 01 06.4 +0.4**
comp=Z,78nm,0.8s
ODAN Odare 38.50 95 *e*P **P** **19 01 12.5 +1.0**
comp=Z,114nm,1.2s
TAPN Taplejung 38.51 94 *e*P **P** **19 01 12.4 +0.7**
comp=Z,36nm,0.8s
NRIK Noril'sk 38.56 23 P **P** **19 01 12.0 +0.8**
comp=Z,8.4nm,0.6s,baz=241,slow=5.7,SNR=8.2
MDT Midelt 39.03 276 LR LR 19 20 57.8
comp=Z,44nm,18.9s,baz=72,slow=42
LSA Lhasa 40.13 88 *e*P **P** **19 01 25.4 +0.1**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 40.13 88 *e*P **P** **19 01 25.4 +0.1**
comp=Z,11nm,0.8s
MOY Mondy 41.52 52 *e*P **P** **19 01 38.6 +2.4**
MOY pmax pmax
comp=Z,27nm,2.8s
ZAK Zakamensk 43.11 54 *e*P **P** **19 01 49.2 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 43.18 71 P **P** **19 01 50.9 +1.1**
GTA pP sP 19 01 57.1 +2.9
GTA sP pP 19 01 59.9 +6.9
GTA PP **PP** **19 03 32.9 +2.9**
GTA S **S** **19 08 16.8 +0.3**
GTA sS sS 19 08 25.5 +3.8
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=Z,160nm,17.4s
GTA LR LR
comp=Z,160nm,16.6s
GTA LR LR
comp=Z,210nm,15.7s
TOA0 Torodi Ar. Sit 44.80 247 *e*P **P** **19 02 01.5 -1.4**
comp=Z,14nm,1.1s
TORD Torodi Ar. Bea 44.80 247 P **P** **19 02 01.1 -1.8**
comp=Z,2.7nm,0.5s,baz=41,slow=9.1,SNR=35
TORD PcP **PcP** **19 03 43.2 -1.7**
comp=Z,1.1nm,0.7s,baz=47,slow=3.3,SNR=3.2
TORD LR LR 19 22 49.4
comp=Z,78nm,21.9s,baz=25,slow=39
SONM Songino Array 45.58 57 P **P** **19 02 09.1 +0.2**
comp=Z,0.5nm,0.7s,baz=285,slow=5.8,SNR=5.1
SONM LR LR 19 23 26.1
comp=Z,366nm,19.4s,baz=288,slow=39
ULN Ulaanbaatar 46.01 57*c i*P **P** **19 02 13.4 +1.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 46.01 57 *e*P **P** **19 02 10.3 -2.0**
comp=Z,11nm,1.1s
ULN Ulaanbaatar 46.01 57 P **P** **19 02 14.4 +2.0**
SNR=5.2
ULN Ulaanbaatar 46.01 57 P **P** **19 02 14.4 +2.0**
SNR=5.2
ULN P **P** **19 02 14.4 +2.0**
SNR=5.2
LZH Lanzhou 47.32 73 *e*P **P** **19 02 24.4 +1.6**
LZH pP sP 19 02 29.8 +2.6
LZH sP pP 19 02 32.8 +6.8
LZH PP **PP** **19 04 16.6 +2.9**
LZH *e*S **S** **19 09 14.3 -2.2**
LZH SS **SS** **19 12 35.6 -8.1**
LZH pmax pmax
comp=Z,37nm,1.3s
LZH pmax pmax
comp=Z,130nm,5.3s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,1μm,17.8s
BOD Bodaibo 48.27 43 *e*P **P** **19 02 29.8 +0.2**
BOD pmax pmax
comp=Z,16nm,1.5s
SUMG Summit 51.10 337 *i*P **P** **19 02 52.9 +1.4**
SUMG pmax pmax
comp=Z,23nm,1.2s
HHC Hu-ho-hao-te 51.19 65 *e*P **P** **19 02 53.5 +1.2**
HHC pP sP 19 02 59.1 +2.4
HHC PP **PP** **19 04 46.9 -1.9**
HHC S **S** **19 10 15.0 +4.4**
HHC SS **SS** **19 13 40.9 -4.7**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC LR LR
comp=Z,170nm,13.6s
HHC LR LR
comp=Z,130nm,11.1s
HHC LR LR
comp=Z,170nm,14.8s
KMI Kunming 51.35 87 P **P** **19 02 57.1 +3.3**
KMI pmax pmax
comp=Z,11nm,0.5s
CHTO Chiang Mai 51.78 96 P **P** **19 02 56.3 -0.5**
comp=Z,43nm,0.9s
CHTO Chiang Mai 51.78 96 *e*P **P** **19 02 55.6 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 51.78 96 *e*P **P** **19 02 55.6 -1.2**
comp=Z,7.3nm,0.8s
XAN Xi'an 51.95 74 P **P** **19 02 58.4 +0.4**
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,87nm,3.9s
XAN LR LR
comp=Z,170nm,14.0s
XAN LR LR
comp=Z,170nm,16.5s
XAN LR LR
comp=Z,230nm,13.1s
CMAR Chiang Mai Arr 51.98 96 P **P** **19 02 57.5 -0.8**
comp=Z,5.4nm,0.8s,baz=298,slow=8.3,SNR=42
CMAR LR LR 19 28 32.4
comp=Z,76nm,20.7s,baz=310,slow=40
TIXI Tiksi 52.34 24 P **P** **19 03 00.6 +0.3**
comp=Z,4.8nm,0.8s,baz=303,slow=5.8,SNR=22
TIXI Tiksi 52.34 24 *e*P **P** **19 03 00.3 +0.1**
comp=Z,12nm,1.2s
LAMP Lampang 52.48 96 P **P** **19 03 02.6 +0.6**
comp=Z,4.0nm,0.9s
NANT Nan 53.15 95 P P 19 03 11.8 +4.8
comp=Z,2.3nm,0.8s
UTTA Uttaradit 53.64 96 P **P** **19 03 13.7 +3.1**
comp=Z,2.6nm,0.8s
HIA Hailar 53.70 52*c i*P **P** **19 03 11.7 +1.0**
HIA pmax pmax
comp=Z,14nm,1.4s
GYA Guiyang 53.74 83 *e*P **P** **19 03 12.0 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 53.91 246 P **P** **19 03 10.2 -2.3**
comp=Z,8.2nm,0.9s,baz=34,slow=8.7,SNR=8.8
DBIC PcP **PcP** **19 04 16.8 -1.2**
comp=Z,2.9nm,0.6s,baz=344,slow=5.3,SNR=4.5
DBIC Dimbokro 53.91 246 *e*P **P** **19 03 10.9 -1.7**
DBIC 19 04 16.8
DBIC pmax pmax
comp=Z,16nm,1.0s
DBIC Dimbokro 53.91 246 *e*P **P** **19 03 10.8 -1.7**
comp=Z,16nm,1.0s
DBIC PcP **PcP** **19 04 16.8 -1.2**
KIC Kosan Boka 54.04 246 *e*P **P** **19 03 11.5 -2.0**
comp=Z,72nm,1.1s
TIC Toumodi 54.04 247 *e*P **P** **19 03 11.6 -2.0**
UTHA Uthaitani 54.06 99 P **P** **19 03 13.9 +0.2**
comp=Z,5.7nm,0.9s
ENH Enshi 54.07 78 *e*P **P** **19 03 13.2 -0.4**
comp=Z,5.2nm,0.8s
LIC Lamto 54.34 246 *e*P **P** **19 03 13.8 -1.9**
comp=Z,74nm,1.0s
SRDT SRDT 54.54 100 P **P** **19 03 18.5 +1.4**
comp=Z,24nm,1.0s
PBKT Sadao Pong 54.64 97 P **P** **19 03 17.8 -0.1**
comp=Z,14nm,0.9s
YAK Yakutsk 54.99 35 P **P** **19 03 18.9 -0.8**
comp=Z,8.6nm,0.7s,baz=306,slow=3.3,SNR=5.2
YAK Yakutsk 54.99 35 ||*i*P **P** **19 03 19.5 -0.3**
YAK pmax pmax
comp=Z,13nm,0.8s
LSZ Lusaka 55.61 198 *e*P **P** **19 03 25.7 +0.8**
LSZ pmax pmax
comp=Z,15nm,1.3s
LSZ Lusaka 55.61 198 *e*P **P** **19 03 25.7 +0.8**
comp=Z,15nm,1.3s
PHET Kaeng Krachan 55.80 101 P **P** **19 03 28.4 +2.1**
comp=Z,5.1nm,1.0s
CHAI Chaiyaphum 55.82 97 P **P** **19 03 29.3 +2.9**
comp=Z,2.4nm,0.8s
KHON Khonmkaen 56.22 96 P **P** **19 03 30.2 +0.9**
comp=Z,8.5nm,1.0s
NAYO Nakonayok 56.25 99 P **P** **19 03 32.3 +2.8**
comp=Z,29nm,0.7s
SKNT Sakolnakorn 56.75 95 P **P** **19 03 35.9 +2.8**
comp=Z,7.4nm,1.1s
SRAK Srakaew 56.99 99 P **P** **19 03 37.9 +3.1**
WHN Wuhan 57.63 75 ⇑P **P** **19 03 39.3 +0.2**
QIZ Qiongzhong 60.16 89 P **P** **19 03 59.3 +2.4**
QIZ S **S** **19 12 14.4 +3.8**
NJ2 Nanjing 60.27 71 *e*P **P** **19 03 57.8 +0.4**
NJ2 pmax pmax
comp=Z,11nm,1.1s
KLR Kul'dur 60.95 49 P **P** **19 04 01.0 -0.8**
comp=Z,0.5nm,0.8s,baz=292,slow=8.5,SNR=4.2
PSI Prapat 61.83 111 P **P** **19 04 06.6 -1.7**
comp=Z,4.6nm,0.8s,baz=288,slow=8.4,SNR=5.8
USRK Ussuriysk Ar. 63.45 53 P **P** **19 04 18.6 0.0**
comp=Z,3.9nm,0.9s,baz=264,slow=5.8,SNR=3.4
USRK LR LR 19 35 11.5
comp=Z,140nm,20.6s,baz=288,slow=39
SEY Seymchan 64.02 29 P **P** **19 04 23.6 +1.5**
comp=Z,20nm,0.9s,baz=300,slow=9.3,SNR=13
SEY Seymchan 64.02 29 ||*i*P **P** **19 04 23.9 +1.8**
KSAR Wonju Array Be 64.08 62 P **P** **19 04 22.9 0.0**
KSAR Wonju Array Be 64.08 62 P **P** **19 04 22.9 0.0**
KSRS Korea Array 64.10 62 P **P** **19 04 22.9 -0.1**
comp=Z,6.7nm,0.8s,baz=294,slow=5.8,SNR=13
BILL Bilibino 65.28 20 ||*i*P **P** **19 04 30.2 -0.1**
BILL *e* 19 06 55.8
BILL pmax pmax
comp=Z,20nm,1.5s
JNU Nakatsue 68.42 64 P **P** **19 04 51.4 +0.5**
comp=Z,2.9nm,0.7s,baz=316,slow=4.1,SNR=4.8
BOSA Boshof 69.14 197 P **P** **19 04 54.5 -0.8**
comp=Z,6.2nm,0.7s,baz=355,slow=5.8,SNR=14
MJAR Matsushiro Arr 71.53 58 P **P** **19 05 09.7 -0.3**
comp=Z,2.7nm,0.9s,baz=310,slow=6.1,SNR=5.3
MJAR LR LR 19 39 28.1
comp=Z,240nm,18.9s,baz=330,slow=38
PETK Petropavlovsk- 72.33 35 LR LR 19 41 07.1
comp=Z,106nm,19.4s,baz=301,slow=39
INK Inuvik 73.22 359 P **P** **19 05 19.0 -0.4**
comp=Z,5.9nm,1.0s,baz=12,slow=7.4,SNR=9.2
INK Inuvik 73.22 359 P **P** **19 05 19.0 -0.4**
INK pmax pmax
comp=Z,6.0nm,1.0s
COLD Coldfoot 73.83 5 *e*P **P** **19 05 22.2 -0.8**
comp=Z,10nm,1.0s
MLY Manley 75.95 6 *e*P **P** **19 05 36.2 +0.8**
comp=Z,9.7nm,0.9s
MDM Murphy Dome 76.21 5 *e*P **P** **19 05 38.0 +1.1**
comp=Z,6.5nm,0.7s
COLA College 76.32 5 ||*i*P **P** **19 05 38.4 +1.0**
COLA pmax pmax
comp=Z,12nm,0.8s
ILAR Eielson Array 76.48 5 P **P** **19 05 38.4 0.0**
comp=Z,1.7nm,0.9s,baz=328,slow=3.1,SNR=17
CCB Clear Creek Bu 76.55 5 *e*P **P** **19 05 38.8 +0.1**
comp=Z,5.9nm,0.7s
WRH Wood River Hil 76.70 5 *e*P **P** **19 05 39.9 +0.3**
comp=Z,18nm,1.6s
EGAK Eagle 76.73 2 *e*P **P** **19 05 40.8 +1.1**
comp=Z,9.5nm,0.8s
HDA Harding Lake 76.84 5 *e*P **P** **19 05 40.5 +0.1**
comp=Z,9.9nm,0.7s
BPAW Bear Paw Mtn. 76.84 6 *e*P **P** **19 05 40.8 +0.4**
comp=Z,7.4nm,0.9s
MCK McKinley 77.37 6 *e*P **P** **19 05 43.8 +0.3**
MCK pmax pmax
comp=Z,11nm,1.1s
MCK McKinley 77.37 6 *e*P **P** **19 05 43.8 +0.3**
comp=Z,11nm,1.1s
CAST Castle Rocks 77.41 7 *e*P **P** **19 05 43.9 +0.2**
comp=Z,21nm,0.9s
TT01 Tatalina 77.48 9 *e*P **P** **19 05 44.9 +0.9**
DAWY Dawson 77.48 1 *e*P **P** **19 05 44.5 +0.4**
comp=Z,11nm,0.9s
YKA Yellowknife Ar 77.54 350 P **P** **19 05 44.6 +0.3**
comp=Z,3.0nm,0.7s,baz=22,slow=6.7,SNR=4.3
TRF Thorofare Moun 77.54 6 *e*P **P** **19 05 44.6 0.0**
comp=Z,6.3nm,0.9s
RND Reindeer 77.70 6 *e*P **P** **19 05 45.1 -0.3**
RND pmax pmax
comp=Z,8.0nm,0.7s
RND Reindeer 77.70 6 *e*P **P** **19 05 45.1 -0.3**
comp=Z,7.5nm,0.7s
DOT Dot Lake 77.75 3 *e*P **P** **19 05 46.4 +0.8**
comp=Z,28nm,0.8s
DHY Denali Highway 78.14 5 *e*P **P** **19 05 48.0 +0.1**
comp=Z,6.5nm,0.8s
MENT Mentasta 78.48 3 *e*P **P** **19 05 50.2 +0.6**
comp=Z,12nm,0.7s
SML Sawmill 79.32 6 *e*P **P** **19 05 54.4 +0.1**
SML pmax pmax
comp=Z,20nm,0.7s
SML Sawmill 79.32 6 *e*P **P** **19 05 54.4 +0.1**
comp=Z,20nm,0.7s
SCM Sheep Creek Mo 79.37 5 *e*P **P** **19 05 55.5 +0.9**
SCM pmax pmax
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 79.37 5 *e*P **P** **19 05 55.5 +0.9**
comp=Z,17nm,0.8s
SUA Susitna One 79.46 7 *e*P **P** **19 05 55.4 +0.3**
comp=Z,20nm,0.8s
PMR Palmer 79.47 6 *e*P **P** **19 05 55.2 +0.2**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 79.47 6 *e*P **P** **19 05 55.1 +0.2**
comp=Z,8.2nm,0.9s
KLU Klutina 79.80 5 *e*P **P** **19 05 57.9 +0.9**
comp=Z,19nm,0.8s
RC01 Rabbit Creek A 79.92 6 *e*P **P** **19 05 57.0 -0.4**
comp=Z,15nm,0.8s
DIV Divide 80.17 4 *e*P **P** **19 05 57.3 -1.6**
comp=Z,18nm,0.9s
RSO Redoubt South 80.24 8 *e*P **P** **19 06 00.5 +1.1**
BALM Baldy 80.44 3 *e*P **P** **19 06 01.6 +1.2**
BALM pmax pmax
comp=Z,18nm,1.0s
BALM Baldy 80.44 3 *e*P **P** **19 06 01.6 +1.2**
comp=Z,18nm,1.0s
CRQM Cirque 80.69 3 *e*P **P** **19 06 03.0 +1.1**
comp=Z,22nm,1.0s
HYT Haines Junctio 80.76 0 *e*P **P** **19 06 03.5 +1.3**
comp=Z,16nm,0.9s
KDAK Kodiak Island 82.88 9 P **P** **19 06 13.8 +0.7**
comp=Z,18nm,0.6s,baz=360,slow=5.1,SNR=26
DLBC Dease Lake 83.00 357 P **P** **19 06 14.3 +0.4**
comp=Z,3.2nm,0.7s,baz=45,slow=4.3,SNR=4.3
ULM Lac du Bonnet 84.39 335 P **P** **19 06 21.1 0.0**
comp=Z,2.9nm,0.6s,baz=23,slow=7.7,SNR=3.4
TKL Tuckaleechee C 91.30 320 P **P** **19 06 54.1 -0.5**
comp=Z,5.4nm,0.9s,baz=27,slow=4.5,SNR=4.3
NEW Newport 91.63 347 P **P** **19 06 56.7 +0.7**
comp=Z,5.1nm,0.8s,baz=34,slow=4.8,SNR=4.7
PDAR Pinedale Array 95.21 340 P **P** **19 07 12.8 0.0**
comp=Z,0.4nm,0.7s,baz=43,slow=4.1,SNR=3.6
FITZ Fitzroy Crossi 95.30 109 P **P** **19 07 12.2 -0.9**
comp=Z,1.8nm,0.8s,baz=320,slow=12,SNR=6.0
URZ Urewera 144.09 104 PKP **PKPab** **19 13 21.1 -0.9**
comp=Z,19nm,0.8s,baz=334,slow=1.5,SNR=10

NIED ***23*** *18:58:00,39.°60N×142.°10E,h53km,Mw4.2 Best double couple: M0=2.17000×10^15 NP1:φs=178.00000°,δ=24.00000°, λ=66.00000°. NP2:φs=24.00000°,δ=68.00000°,λ=100.00000°. ISCJB* ***23*** *18:58:33.5±0.4,39.°66N±0.°02×142.°24E±0.°04,h52km±2km, mb4.4/45,MS4.5/4,Error ellipse: s-maj=6.1km s-min=3.6km az=24.6*
MOS ***23*** *18:58:34.5±1.1,39.°72N×142.°10E,h53km,mb4.6/24,Error ellipse: s-maj=8.8km s-min=6.2km az=89.8*
JMA ***23*** *18:58:35.4,39.°63N×142.°10E,h48km±1km,M4.2*
JMA Felt III J1.
IDC ***23*** *18:58:37.0±1.6,39.°62N×142.°06E,h64km±14km,mb4.0/28, mb1 4.1/35,mb1mx4.0/79,mbtmp4.3/35,MS3.1/2, Ms1 3.1/2,ms1mx2.7/56,Error ellipse: s-maj=13.4km s-min=9.7km az=107.0*
NEIC ***23*** *18:58:37.0±0.7,39.°67N×142.°10E,h66km±6km,mb4.3/5, Error ellipse: s-maj=8.5km s-min=5.5km az=112.0*
NEIC Felt at Ichinoseki and Ofunato. Recorded [3 JMA] in Iwate.
ISC 23 18:58:35.1±0.7,39.°64N±0.°03×142.°24E±0.°05,h53km±6km, n123,σ1§53/151,mb4.4/45,MS4.6/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.33**	**259**	P	**Pn**	**18 58 43.8**	**-1.0**
MIYJ				S	**Sn**	**18 58 49.5**	**-2.3**
JTH	**Tanohata**	**0.42**	**316**	P	**Pn**	**18 58 44.9**	**-0.8**
JTH				S	**Sn**	**18 58 51.5**	**-1.8**
OFUJ	**Ofunato**	**0.71**	**219**	P	**Pn**	**18 58 48.2**	**-1.0**
OFUJ				*e*S	**Sn**	**18 58 57.3**	**-2.1**
JOM	**Ohasama**	**0.75**	**258**	P	**Pn**	**18 58 48.6**	**-1.1**
JOM				S	**Sn**	**18 58 58.0**	**-2.2**
JKZ	**Kuzumaki**	**0.78**	**297**	P	**Pn**	**18 58 49.1**	**-1.0**
JKZ				S	**Sn**	**18 58 58.7**	**-2.3**
JANG	**Nango**	**0.92**	**323**	P	**Pn**	**18 58 51.0**	**-0.9**
JANG				*e*S	**Sn**	**18 59 02.0**	**-2.2**
JMK	**Ichinoseki**	**1.05**	**229**	P	**Pn**	**18 58 52.6**	**-0.9**
JMK				*e*S	**Sn**	**18 59 05.0**	**-2.2**
JRG	**Rokugo**	**1.27**	**259**	P	**Pn**	**18 58 55.3**	**-1.2**
JAH	**Hinai**	**1.35**	**295**	P	**Pn**	**18 58 56.9**	**-0.7**
JAH				*e*S	**Sn**	**18 59 12.6**	**-1.9**
JIO	**Ouri**	**1.37**	**211**	P	**Pn**	**18 58 57.2**	**-0.7**
JIO				*e*S	**Sn**	**18 59 13.0**	**-2.0**
JTM	**Tenmabayashi**	**1.46**	**322**	P	**Pn**	**18 58 58.6**	**-0.5**
JTM				*e*S	**Sn**	**18 59 15.8**	**-1.2**
MJAR	**Matsushiro Arr**	**4.43**	**227**	P	**Pn**	**18 59 42.0**	**+2.1**
	9.8nm,0.3s,baz=33,slow=14,SNR=241						
MJB9	**Matsu-Tunnel**	**4.43**	**227**	*e*Pn	**Pn**	**18 59 40.9**	**+1.0**
MAJO	**Matsushiro**	**4.43**	**227**	*e*P	**Pn**	**18 59 40.8**	**+0.9**
MAJO				*e*		19 00 34.2	
MAJO	**Matsushiro**	**4.43**	**227**	*e*Pn	**Pn**	**18 59 40.8**	**+0.9**
MAJO				*e*Sn	**Sn**	**19 00 34.2**	**+4.0**
MAT	**Matsushiro**	**4.43**	**227**	P	**Pn**	**18 59 40.9**	**+1.0**
MAT				S	**Sn**	**19 00 33.7**	**+3.5**
ASAJ	**Asahikawa**	**4.48**	**3**	P	**Pn**	**18 59 41.7**	**+1.2**
	5.5nm,0.3s,baz=206,slow=12,SNR=54						
ASAJ				S	**Sn**	**19 00 32.4**	**+1.1**
	1.9nm,0.3s,baz=234,slow=18,SNR=2.8						
ASAJ	**Asahikawa**	**4.48**	**3**	*e*Pn	**Pn**	**18 59 39.8**	**-0.7**
ASAJ				*e*Sn	**Sn**	**19 00 29.1**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**5.16**	**30**	*i*P	**Pn**	**18 59 50.7**	**+1.0**
YUK				*i*S	**Sn**	**19 00 46.1**	**-1.8**
YUK				pmax	pmax		
	comp=N,92nm,0.3s						
YUK				pmax	pmax		
	comp=E,70nm,0.3s						
YUK				pmax	pmax		
	comp=Z,169nm,0.2s						
YUK				smax	smax		
	comp=E,870nm,0.6s						
YUK				smax	smax		
	comp=N,628nm,0.5s						
SHO	**Shikotan**	**5.45**	**38**	*e*P	**Pn**	**18 59 53.2**	**-0.5**
SHO				*e*S	**Sn**	**19 00 50.5**	**-4.4**
SHO				pmax	pmax		
	comp=E,44nm,0.4s						
SHO				pmax	pmax		
	comp=Z,45nm,0.4s						
SHO				pmax	pmax		
	comp=N,24nm,0.5s						
SHO				smax	smax		
	comp=N,491nm,0.6s						
SHO				smax	smax		
	comp=E,324nm,0.3s						
INU	**Inuyama**	**5.96**	**226**	*e*Pn	**Pn**	**19 00 02.5**	**+1.7**
JHJ2	**Mitsune**	**6.80**	**197**	*e*Pn	**Pn**	**19 00 12.1**	**-0.1**
JHJ	**Hachijo jima 2**	**6.80**	**198**	P	**Pn**	**19 00 11.7**	**-0.6**
	comp=E,7.9nm,0.3s,baz=42,slow=15,SNR=19						
JHJ				S	**Sn**	**19 01 24.9**	**-3.5**
	comp=E,26nm,0.3s,baz=47,slow=20,SNR=4.6						
KUR	**Kuril'sk**	**6.97**	**35**	*e*P	**Pn**	**19 00 15.5**	**+1.0**
KUR				*e*S	**Sn**	**19 01 31.0**	**-1.3**
KUR				pmax	pmax		
	comp=Z,59nm,0.8s						
KUR				pmax	pmax		
	comp=N,24nm,0.6s						
KUR				pmax	pmax		
	comp=E,24nm,0.8s						
KUR				smax	smax		
	comp=E,163nm,0.5s						
KUR				smax	smax		
	comp=N,81nm,0.2s						
USRK	**Ussuriysk Ar.**	**8.89**	**304**	P	**Pn**	**19 00 42.3**	**+1.4**
	comp=N,1.6nm,0.3s,baz=116,slow=13,SNR=24						
USRK				LR	LR	19 03 50.0	
	comp=N,180nm,19.7s,baz=109,slow=36						
MDJ	**Mudanjiang**	**10.62**	**302**	*e*Pn	**Pn**	**19 01 04.7**	**+0.2**
JNU	**Nakatsue**	**11.23**	**238**	P	**Pn**	**19 01 13.2**	**+0.3**
	comp=N,0.7nm,0.3s,baz=98,slow=2.7,SNR=9.3						
KSRS	**Korea Array**	**11.42**	**264**	P	**Pn**	**19 01 17.8**	**+2.3**
	comp=N,2.6nm,0.3s,baz=70,slow=14,SNR=48						
KSRS				LR	LR	19 05 03.0	
	comp=N,73nm,21.2s,baz=325,slow=34						
KS15	**Wonju Array Si**	**11.46**	**264**	*e*Pn	**Pn**	**19 01 19.2**	**+3.2**
KSAR	**Wonju Array Be**	**11.46**	**264**	P	**Pn**	**19 01 17.8**	**+1.8**
KSAR	**Wonju Array Be**	**11.46**	**264**	P	**Pn**	**19 01 17.8**	**+1.8**
KLR	**Kul'dur**	**12.16**	**325**	P	**Pn**	**19 01 26.5**	**+1.0**
	comp=N,0.0nm,0.3s,baz=131,slow=18,SNR=3.7						
CN2	**Changchun**	**13.21**	**294**	*e*P	**Pn**	**19 01 42.8**	**+2.9**
PETK	**Petropavlovsk-**	**17.13**	**33**	P	**P**	**19 02 32.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=2.6						
TIA	**Tai'an**	**20.09**	**268**	*e*P	**P**	**19 03 02.4**	**-1.8**
TIA				pmax	pmax		
	comp=Z,20nm,1.3s						
NJ2	**Nanjing**	**20.38**	**255**	*e*P	Pn	19 03 09.0	-0.8
NJ2				pmax	pmax		
	comp=Z,30nm,0.5s						
MA2	**Magadan**	**20.67**	**12**	P	**P**	**19 03 10.6**	**+0.3**
	comp=Z,13nm,0.7s,baz=179,slow=10,SNR=6.6						
HHC	**Hu-ho-hao-te**	**23.39**	**283**	*e*P	**P**	**19 03 39.0**	**-0.2**
HHC				PP	PnPn	19 04 19.4	+12
HHC				S	**S**	**19 07 46.4**	**-1.9**
HHC				SS	**SnSn**	**19 08 32.6**	**+5.0**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,4.2s						
HHC				LR	LR		
	comp=N,1μm,9.3s						
HHC				LR	LR		
	comp=E,1μm,12.3s						
HHC				LR	LR		
	comp=Z,1μm,13.4s						
YAK	**Yakutsk**	**23.70**	**345**	*e*P	**P**	**19 03 39.3**	**-2.4**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK	**Yakutsk**	**23.70**	**345**	*e*P	**P**	**19 03 40.1**	**-1.6**
	comp=E,30nm,0.6s						
SEY	**Seymchan**	**24.11**	**11**	P	**P**	**19 03 46.9**	**+1.3**
	comp=E,10nm,0.8s,baz=190,slow=9.2,SNR=18						
SONM	**Songino Array**	**26.97**	**300**	P	**P**	**19 04 11.7**	**0.0**
	comp=E,1.8nm,0.6s,baz=92,slow=8.2,SNR=11						
SONM				PcP	**PcP**	**19 07 32.6**	**+0.4**
	comp=E,0.3nm,0.6s,baz=128,slow=3.2,SNR=3.1						
H11N2	**WAKE ISLAND Hy 29.04**	**126**		T	T	19 35 04.8	
	baz=318,slow=76,SNR=2459						
H11N1	**WAKE ISLAND Hy 29.05**	**126**		T	T	19 35 10.6	
	baz=318,slow=76,SNR=2039						
H11N3	**WAKE ISLAND Hy 29.05**	**126**		T	T	19 35 11.7	
	baz=318,slow=76,SNR=3237						
H11S1	**WAKE ISLAND Hy 29.84**	**128**		T	T	19 36 06.1	
	baz=320,slow=76,SNR=226						
H11S3	**WAKE ISLAND Hy 29.84**	**128**		T	T	19 36 08.3	
	baz=320,slow=76,SNR=198						
H11S2	**WAKE ISLAND Hy 29.85**	**128**		T	T	19 36 09.3	
	baz=320,slow=76,SNR=209						

LZH	**Lanzhou**	**30.36 276**	*e*P	**P**	**19 04 44.1**	**+2.0**
LZH			pP	pP	19 04 54.8	-0.8
LZH			sP	sP	19 04 58.8	-3.2
LZH			PP	**PP**	**19 05 47.6**	**-3.6**
LZH			*e*S	**S**	**19 09 40.8**	**+1.9**
LZH			sS	sS	19 10 02.5	+0.7
LZH			SS	**SnSn**	**19 11 18.0**	**+0.2**
LZH			pmax	pmax		
	comp=Z,12nm,1.1s					
LZH			pmax	pmax		
	comp=Z,67nm,4.3s					
LZH			LR	LR		
	comp=N,1μm,13.8s					
LZH			LR	LR		
	comp=E,1μm,17.4s					
LZH			LR	LR		
	comp=Z,2μm,17.4s					
TIXI	**Tiksi**	**32.79 352**	P	**P**	**19 05 02.4**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=137,slow=7.2,SNR=11					
TIXI	**Tiksi**	**32.79 352**	P	**P**	**19 05 02.4**	**-0.4**
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.4s					
TIXI	**Tiksi**	**32.79 352**	*e*P	**P**	**19 05 01.9**	**-0.9**
	comp=Z,3.0nm,0.6s					
WMQ	**Urumqi**	**40.30 294**	P	**P**	**19 06 06.5**	**-0.6**
WMQ			pP	sP	19 06 24.3	-3.0
WMQ			sP	pP	19 06 30.3	+9.3
WMQ			pmax	pmax		
	comp=Z,8.0nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,59nm,4.9s					
WMQ			LR	LR		
	comp=N,350nm,16.7s					
WMQ			LR	LR		
	comp=E,120nm,5.9s					
WMQ			LR	LR		
	comp=Z,140nm,21.5s					
ZAA0	**Zalesovo Array**	**40.69 310**	*e*P	**P**	**19 06 09.4**	**-0.6**
ZALV	**Zalesovo Beam**	**40.69 310**	P	**P**	**19 06 10.1**	**0.0**
	comp=Z,6.9nm,0.4s,baz=92,slow=8.0,SNR=38					
ZALV			PcP	**PcP**	**19 08 10.9**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=104,slow=3.1,SNR=9.7					
NVS	**Novosibirsk**	**41.55 312**	*e*P	**P**	**19 06 17.4**	**+0.2**
CHTO	**Chiang Mai**	**42.60 254**	P	**P**	**19 06 24.6**	**-1.6**
CHTO			pmax	pmax		
	comp=Z,2.0nm,0.6s					
CHTO	**Chiang Mai**	**42.60 254**	P	**P**	**19 06 24.6**	**-1.6**
	comp=Z,2.4nm,0.6s					
LSA	**Lhasa**	**42.67 273**	*e*P	**P**	**19 06 25.9**	**-1.3**
LSA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
LSA	**Lhasa**	**42.67 273**	*e*P	**P**	**19 06 25.9**	**-1.3**
	comp=Z,3.8nm,0.7s					
CMAR	**Chiang Mai Arr**	**42.83 253**	P	**P**	**19 06 28.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=40,slow=6.1,SNR=9.3					
CMAR			PcP	**PcP**	**19 08 18.2**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=47,slow=1.8,SNR=4.0					
MK31	**Makanchi Array**	**43.33 300**	*i* P	**P**	**19 06 31.3**	**-0.5**
MK31			pmax	pmax		
	comp=Z,6.0nm,0.6s					
MK31	**Makanchi Array**	**43.33 300**	*e*P	**P**	**19 06 31.5**	**-0.3**
MKAR	**Makanchi Array**	**43.33 300**	P	**P**	**19 06 31.5**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=84,slow=9.5,SNR=39					
MKAR			PcP	**PcP**	**19 08 19.4**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=69,slow=2.0,SNR=2.8					
MKAR	**Makanchi Array**	**43.33 300**	*e*P	**P**	**19 06 31.3**	**-0.5**
	comp=Z,48nm,0.6s					
MKAR			PcP	**PcP**	**19 08 19.4**	**-0.3**
KDAK	**Kodiak Island**	**44.75 44**	P	**P**	**19 06 44.8**	**+1.9**
	comp=Z,1.9nm,0.4s,baz=300,slow=4.4,SNR=9.5					
KURK	**Kurchatov**	**44.88 306**	P	**P**	**19 06 44.4**	**+0.4**
KURK					19 08 25.6	
KURK			pmax	pmax		
	comp=Z,10.0nm,0.5s					
KURK			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KURK	**Kurchatov**	**44.88 306**	*e*P	**P**	**19 06 42.1**	**-1.9**
KURK			PcP	**PcP**	**19 08 25.6**	**+0.8**
KURBB	**Kurchatov Arra**	**44.95 306**	P	**P**	**19 06 44.4**	**-0.3**
	comp=Z,10nm,0.5s,baz=80,slow=8.6,SNR=132					
KURBB			PcP	**PcP**	**19 08 25.6**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=90,slow=3.3,SNR=5.6					
TAPN	**Taplejung**	**46.45 272**	*e*P	**P**	**19 06 58.0**	**+0.8**
	comp=Z,5.0nm,0.4s					
ODAN	**Odare**	**46.95 272**	*e*P	**P**	**19 07 00.0**	**-0.9**
ILAR	**Eielson Array**	**46.96 34**	P	**P**	**19 07 02.4**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=266,slow=6.2,SNR=15					
JIRN	**Jiri**	**47.47 273**	*e*P	**P**	**19 07 05.2**	**0.0**
	comp=Z,24nm,0.3s					
RAMN	**Ramite**	**47.51 272**	*e*P	**P**	**19 07 05.0**	**-0.3**
	comp=Z,22nm,0.8s					
GUN	**Gumba**	**47.59 274**	*e*P	**P**	**19 07 05.9**	**-0.2**
	comp=Z,33nm,0.7s					
KKN	**Kakani**	**48.11 274**	*e*P	**P**	**19 07 09.7**	**-0.2**
	comp=Z,20nm,0.6s					
PKIN	**Phulchoki**	**48.13 274**	*e*P	**P**	**19 07 09.6**	**-0.5**
	comp=Z,4.4nm,0.5s					
DMN	**Daman**	**48.33 274**	*e*P	**P**	**19 07 11.7**	**0.0**
GKN	**Gorkha**	**48.50 275**	*e*P	**P**	**19 07 12.6**	**-0.3**
	comp=Z,12nm,0.6s					
TKM2	**Tokmak 2**	**49.00 297**	P	**P**	**19 07 16.8**	**+0.2**
TKM2			pmax	pmax		
	comp=Z,8.0nm,1.0s					
DANN	**Dangsing**	**49.01 275**	*e*P	**P**	**19 07 16.6**	**-0.3**
	comp=Z,1.9nm,0.6s					
BVA0	**Borovoye Array**	**49.33 311**	*i* P	**P**	**19 07 18.3**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BVAR	**Borovoye Array**	**49.33 311**	P	**P**	**19 07 18.6**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=68,slow=7.9,SNR=25					
BVAR			PcP	**PcP**	**19 08 41.3**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=82,slow=5.1,SNR=4.3					
BRVK	**Borovoye**	**49.38 311**	*e*P	**P**	**19 07 18.9**	**-0.2**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
BRVK	**Borovoye**	**49.38 311**	*e*P	**P**	**19 07 18.9**	**-0.2**
	comp=Z,3.4nm,0.9s					
KOLN	**Koldanda**	**49.41 275**	*e*P	**P**	**19 07 19.8**	**-0.1**
	comp=Z,12nm,0.6s					
PYUN	**Piuthan**	**49.72 276**	*e*P	**P**	**19 07 22.3**	**0.0**
	comp=Z,8.2nm,0.3s					
AAK	**Ala-Archa**	**49.86 297**	P	**P**	**19 07 22.9**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=127,slow=4.9,SNR=7.2					
KSH	**Kashi**	**49.98 292**	*e*P	**P**	**19 07 24.9**	**+0.9**
KSH			pP	pP	19 07 40.6	+2.4
KSH			sP	sP	19 07 48.3	+3.9
KSH			PcP	**PcP**	**19 08 41.4**	**-2.0**
KSH			PcS	**PcS**	**19 12 34.9**	**-5.6**
KSH			S	**S**	**19 14 29.8**	**-1.0**
KSH			sS	sS	19 14 56.4	+1.6
KSH			ScS	**ScS**	**19 17 05.6**	**-5.0**
KSH	**Kashi**	**49.98 292**	SS	**SS**	**19 18 02.4**	**-1.5**
KSH			pmax	pmax		
	comp=Z,16nm,1.8s					
KSH			pmax	pmax		
	comp=Z,97nm,5.0s					
KSH			LR	LR		
	comp=N,100nm,11.2s					
KSH			LR	LR		
	comp=E,130nm,6.9s					
KSH			LR	LR		
	comp=Z,170nm,8.7s					
MNAS	**Manas**	**51.29 297**	P	**P**	**19 07 33.7**	**-0.1**
MNAS			pmax	pmax		
	comp=Z,6.0nm,0.6s					
INK	**Inuvik**	**51.78 28**	P	**P**	**19 07 38.7**	**+1.8**
	comp=Z,4.7nm,0.8s,baz=278,slow=6.2,SNR=13					
KK31	**Karatay Array**	**52.41 299**	*e*P	**P**	**19 07 41.4**	**-0.6**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KKAR	**Karatay Array**	**52.41 299**	*e*P	**P**	**19 07 41.5**	**-0.6**
KKAR			pmax	pmax		
	comp=Z,34nm,0.5s					
KKAR	**Karatay Array**	**52.41 299**	*e*P	**P**	**19 07 41.5**	**-0.6**
	comp=Z,34nm,0.5s					
ARU	**Arti**	**54.86 318**	P	**P**	**19 07 59.8**	**+0.1**
	comp=Z,10.0nm,0.6s,baz=78,slow=8.0,SNR=17					
ARU	**Arti**	**54.86 318**	*e*P	**P**	**19 07 59.4**	**-0.3**
	comp=Z,12nm,0.7s					
AB31	**Akbulak array**	**56.78 309**	*i* P	**P**	**19 08 13.0**	**-0.5**
AB31			pmax	pmax		
	comp=Z,6.0nm,0.5s					
ABKAR	**Akbulak array**	**56.78 309**	*e*P	**P**	**19 08 13.1**	**-0.4**
	comp=Z,112nm,0.6s					
AKTO	**Aktyubinsk**	**57.44 311**	P	**P**	**19 08 18.1**	**0.0**
	comp=Z,3.6nm,0.7s,baz=67,slow=12,SNR=10					
AKTO			PcP	**PcP**	**19 09 11.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=75,slow=4.7,SNR=2.7					
FITZ	**Fitzroy Crossi**	**59.50 198**	P	**P**	**19 08 32.8**	**0.0**
	comp=Z,1.8nm,0.9s,baz=37,slow=5.1,SNR=4.0					
WRA	**Warramunga Arr**	**59.73 189**	P	**P**	**19 08 33.8**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=6.8,slow=7.0,SNR=16					
RES	**Resolute Bay**	**59.92 15**	P	**P**	**19 08 35.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=315,slow=5.7,SNR=12					
ARCES	**ARCESS Array B**	**61.79 339**	P	**P**	**19 08 48.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=59,slow=7.5,SNR=8.0					
ASAR	**Alice Springs**	**63.45 189**	P	**P**	**19 08 59.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=8.9,slow=6.6,SNR=16					
FINES	**FINESS Array B**	**66.82 332**	P	**P**	**19 09 20.9**	**+0.1**
	comp=Z,6.1nm,0.7s,baz=33,slow=8.8,SNR=25					
STKA	**Stephens Creek**	**71.16 181**	P	**P**	**19 09 49.3**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=307,slow=5.1,SNR=3.1					
HFS	**Hagfors**	**71.98 336**	P	**P**	**19 09 52.7**	**0.0**
	comp=Z,3.5nm,0.3s,baz=46,slow=6.2,SNR=33					
NB2	**NORSAR Subarra**	**72.04 337**	P	**P**	**19 09 53.4**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=35,slow=6.5					
NB2	**NORSAR Subarra**	**72.04 337**	P	**P**	**19 09 53.3**	**+0.2**
NB2			pmax	pmax		
	comp=Z,2.0nm,0.5s					
NOA	**NORSAR Array B**	**72.04 337**	P	**P**	**19 09 53.1**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=38,slow=6.0,SNR=12					
PDAR	**Pinedale Array**	**75.39 46**	P	**P**	**19 10 15.4**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=267,slow=3.0,SNR=8.4					
CLL	**Collm**	**79.16 330**	*e*P	**P**	**19 10 34.0**	**+0.1**
	comp=Z,5.0nm,0.9s					
KHC	**Kasperske Hory**	**80.66 329**	*e*P	**P**	**19 10 42.5**	**+0.3**
KHC	**Kasperske Hory**	**80.66 329**	*e*P	**P**	**19 10 42.5**	**+0.3**
GERES	**GERESS Array B**	**80.84 328**	P	**P**	**19 10 43.7**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=28,slow=6.5,SNR=10					
GERES	**GERESS Array B**	**80.84 328**	P	**P**	**19 10 43.7**	**+0.5**
GERES			pmax	pmax		
	comp=Z,8.0nm,0.5s					
EKA	**Eskdalemuir Ar**	**80.89 341**	P	**P**	**19 10 43.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=38,slow=4.8,SNR=2.9					
EKA	**Eskdalemuir Ar**	**80.89 341**	P	**P**	**19 10 43.9**	**+0.7**
EKA			pmax	pmax		
	comp=Z,9.0nm,0.5s					
EIL	**Elat**	**83.50 303**	LR	LR	19 51 07.8	
	comp=Z,655nm,18.1s,baz=359,slow=38					
TXAR	**Lajitas Array**	**88.03 53**	P	**P**	**19 11 21.8**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=301,slow=1.6,SNR=4.0					
LPAZ	**La Paz**	**144.78 57**	PKP	**PKPdf**	**19 18 07.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=242,slow=2.1,SNR=3.7					
LPAZ	**La Paz**	**144.78 57**	PKIKP	**PKPdf**	**19 18 07.6**	**+0.5**
LPAZ			pmax	pmax		
	comp=Z,7.0nm,0.6s					

AZER ***23*** *19:01:54.9±1.0, 38°.46N×42°.22E, h8km, Error ellipse: s-maj=10.4km s-min=9.1km az=139.0*
DDA ***23*** *19:02:05.8, 38°.83N×43°.65E, h6km, Ml3.5*
ISK ***23*** *19:02:07.9, 38°.97N×43°.55E, h5km, ML3.6*
CSEM ***23*** *19:02:09.4±0.2, 38°.95N×43°.54E, h2km, ML3.5, Error ellipse: s-maj=5.3km s-min=3.6km az=167.0*
IDC ***23*** *19:02:11.2±5.2, 38°.86N×43°.75E, h34km±44km, mb3.4/3, mb1 3.4/7, mb1mx3. 1/62, mbtmp3.4/7, ML3.0/3, Error ellipse: s-maj=36.5km s-min=17.4km az=9.0*
ISC 23 19:02:08.3±0.9, 38°.90N±0°.02×43°.57E±0°.02, h7km±6km, n90, σ1§92/116, 13C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**360**	*i* P	**Pg**	**19 02 09.7**	**-0.9**
VMUR				*i* S	**Sg**	**19 02 13.2**	**+1.0**
VMUR	**Van-Muradiye**	**0.09**	**360**	P	**Pg**	**19 02 09.7**	**-0.9**
VMUR				S	**Sg**	**19 02 13.2**	**+1.0**
DYDN	**Diyadin**	**0.65**	**8**	*i* P	**Pg**	**19 02 19.8**	**-1.1**
DYDN				*i* S	**Sg**	**19 02 30.4**	**+0.9**
DYDN	**Diyadin**	**0.65**	**8**	P	**Pg**	**19 02 19.8**	**-1.1**
DYDN				S	**Sg**	**19 02 30.4**	**+0.9**
GEVA	**Gevas**	**0.71**	**215**	*i* P	**Pg**	**19 02 19.4**	**-2.5**
GEVA				*i* S	**Sb**	**19 02 33.8**	**+0.7**
TUTA	**Tutak**	**0.78**	**311**	*i* P	**Pg**	**19 02 21.5**	**-1.7**
TUTA				*i* S	**Sb**	**19 02 35.0**	**-0.2**
TUTA	**Tutak**	**0.78**	**311**	S	**Sb**	**19 02 35.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.81**	**327**	*e*PG	**Pg**	**19 02 22.8**	**-1.2**
AGRB				*e*SG	**Sg**	**19 02 35.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.81**	**327**	*e*Pg	**Pg**	**19 02 22.8**	**-1.2**
AGRB				*e*Sg	**Sg**	**19 02 35.0**	**+0.4**
EKAR	**Karacoban**	**1.23**	**288**	*i* P	**Pg**	**19 02 30.6**	**-1.3**
EKAR				*i* S	**Sn**	**19 02 50.6**	**+1.5**
EATA	**Eleskirt**	**1.28**	**319**	*i* P	**Pg**	**19 02 30.8**	**-2.0**
EATA				*i* S	**Sn**	**19 02 50.6**	**+0.1**
HAKT	**HAKKARI**	**1.34**	**175**	*i* P	**Pn**	**19 02 30.6**	**-3.1**
NAX	**Nakhchivan**	**1.52**	**79**	P	**Pn**	**19 02 35.8**	**-0.2**
	SNR=71						
NAX	**Nakhchivan**	**1.52**	**79**	P	**Pn**	**19 02 35.8**	**-0.2**
	SNR=71						
DIGO	**Kars**	**1.52**	**354**	*i* P	**Pn**	**19 02 36.2**	**0.0**
DIGO	**Kars**	**1.52**	**354**	P	**Pn**	**19 02 36.2**	**0.0**
GNI	**Garni**	**1.54**	**35**	Pn	**Pn**	**19 02 36.7**	**+0.3**
	96nm,0.3s,baz=282,slow=3.0,SNR=55						
GNI				Lg	Lg	19 03 01.1	
	76nm,0.3s,baz=313,slow=21,SNR=26						
CUKT	**Cukurca**	**1.65**	**179**	*e*PN	**Pg**	**19 02 39.8**	**0.0**
CUKT				*e*SN	**Sg**	**19 03 04.2**	**+3.1**
CUKT	**Cukurca**	**1.65**	**179**	*e*Pn	**Pg**	**19 02 39.8**	**0.0**
CUKT				*e*Sn	**Sg**	**19 03 04.3**	**+3.1**
VRTB	**Varto-Mus**	**1.67**	**280**	*e*PN	**Pb**	**19 02 38.6**	**-0.8**
VRTB				*e*SN	**Sg**	**19 03 02.2**	**+0.3**
VRTB	**Varto-Mus**	**1.67**	**280**	*i* P	**Pn**	**19 02 37.5**	**-0.6**
VRTB				*i* S	**Sg**	**19 03 03.0**	**+1.1**
VRTB	**Varto-Mus**	**1.67**	**280**	P	**Pn**	**19 02 37.5**	**-0.6**
VRTB	**Varto-Mus**	**1.67**	**280**	*e*Pn	**Pb**	**19 02 38.6**	**-0.8**
VRTB				*e*Sn	**Sg**	**19 03 02.2**	**+0.3**
VRTB				S	**Sg**	**19 03 03.0**	**+1.1**
HOMI	**Horasan**	**1.73**	**312**	*i* P	**Pn**	**19 02 39.6**	**+0.6**
HOMI				*i* S	**Sg**	**19 03 06.7**	**+2.8**
SENK	**Senkaya-Erzuru**	**1.91**	**331**	*e*PN	**Pn**	**19 02 42.3**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.91**	**331**	*e*Pn	**Pn**	**19 02 42.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.00**	**249**	*e*PN	**Pb**	**19 02 44.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.00**	**249**	*e*Pn	**Pb**	**19 02 44.3**	**-0.8**
BNGB	**Bing¶ll**	**2.26**	**273**	*e*PN	**Pn**	**19 02 47.5**	**+1.4**
BINT	**Bingol**	**2.41**	**270**	*e*Pn	**Pn**	**19 02 47.6**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.42**	**284**	*e*PN	**Pn**	**19 02 49.9**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.42**	**284**	*e*Pn	**Pn**	**19 02 49.9**	**+1.5**
GDB	**GEDABAY**	**2.48**	**42**	⇓P	**Pn**	**19 02 50.4**	**+1.1**
	SNR=39						
GDB				⇓S	**Sg**	**19 03 34.2**	**+6.3**
GDB	**GEDABAY**	**2.48**	**42**	P	**Pn**	**19 02 50.4**	**+1.1**
	SNR=39						
AKH	**Akhalkalaki**	**2.51**	**359**	*e*PN	**Pn**	**19 02 50.1**	**+0.4**
AKH	**Akhalkalaki**	**2.51**	**359**	*e*Pn	**Pn**	**19 02 50.1**	**+0.4**
QZX	**Qazax, Azerbai**	**2.56**	**32**	⇓P	**Pn**	**19 02 50.8**	**+0.5**
	SNR=12						
QZX				⇓S	**Sg**	**19 03 34.0**	**+3.3**
QZX	**Qazax, Azerbai**	**2.56**	**32**	P	**Pn**	**19 02 50.8**	**+0.5**
	SNR=12						
GANJ	**Ganja**	**2.75**	**50**	P	**Pn**	**19 02 54.0**	**+1.2**
	SNR=36						
GANJ				⇑S	**Sg**	**19 03 41.1**	**+4.6**
GANJ	**Ganja**	**2.75**	**50**	P	**Pn**	**19 02 54.0**	**+1.2**
	SNR=36						
MAZI	**Mazidag**	**2.85**	**241**	*e*PN	**Pn**	**19 02 56.5**	**+2.2**
MAZI	**Mazidag**	**2.85**	**241**	*e*Pn	**Pn**	**19 02 56.5**	**+2.2**
TBLG	**Delisi**	**2.97**	**17**	*e*PN	**Pn**	**19 02 57.4**	**+1.5**
TBLG	**Delisi**	**2.97**	**17**	*e*Pn	**Pn**	**19 02 57.4**	**+1.5**
ERZN	**Erzincan**	**3.07**	**284**	*e*PN	**Pn**	**19 02 59.1**	**+1.8**
BRDA	**Brd**	**3.10**	**63**	⇓P	**Pn**	**19 02 60.0**	**+2.3**
	SNR=6.3						
BRDA	**Brd**	**3.10**	**63**	P	**Pn**	**19 03 00.0**	**+2.3**
	SNR=6.3						
PTK	**Pertek**	**3.26**	**271**	*e*PN	**Pn**	**19 03 02.2**	**+2.2**
PTK	**Pertek**	**3.26**	**271**	*e*Pn	**Pn**	**19 03 02.2**	**+2.2**
MNGR	**Mingechevir, A**	**3.29**	**54**	⇓P	**Pn**	**19 03 02.4**	**+2.2**
	SNR=3.2						
MNGR				⇓S	**Sg**	**19 03 54.8**	**+0.8**
MNGR	**Mingechevir, A**	**3.29**	**54**	P	**Pn**	**19 03 02.4**	**+2.2**
	SNR=3.2						
SVRC	**Sivrice-ELAZID**	**3.38**	**263**	*e*PN	**Pn**	**19 03 03.5**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.38**	**263**	*e*Pn	**Pn**	**19 03 03.6**	**+1.9**
EZC	**Erzincan**	**3.38**	**286**	*e*Pn	**Pn**	**19 02 59.1**	**-2.6**
ZRD	**Zardab**	**3.46**	**65**	⇑P	**Pn**	**19 03 04.9**	**+2.3**
	SNR=7.3						
ZRD				⇑S	**Sg**	**19 03 59.7**	**+0.2**
ZRD	**Zardab**	**3.46**	**65**	P	**Pn**	**19 03 04.9**	**+2.3**
	SNR=7.3						
ZKTA	**Zakatala**	**3.60**	**39**	⇓P	**Pn**	**19 03 05.6**	**+1.1**
	SNR=16						
ZKTA				⇓S	**Sg**	**19 04 00.5**	**-3.3**
SEKA	**Sheki**	**3.62**	**49**	⇓P	**Pn**	**19 03 07.6**	**+2.8**
	SNR=9.6						
SEKA				⇑S	**Sg**	**19 04 03.9**	**-0.6**
SEKA	**Sheki**	**3.62**	**49**	P	**Pn**	**19 03 07.6**	**+2.8**
	SNR=9.6						
LRK	**Lerik**	**3.73**	**92**	⇑P	**Pn**	**19 03 07.7**	**+1.2**
	SNR=8.2						
LRK				⇓S	**Sg**	**19 04 04.7**	**-3.6**
LRK	**Lerik**	**3.73**	**92**	P	**Pn**	**19 03 07.7**	**+1.2**
	SNR=8.2						
GLBA	**Clilabad**	**3.77**	**83**	⇑P	**Pn**	**19 03 08.9**	**+2.1**
	SNR=7.7						
GLBA	**Clilabad**	**3.77**	**83**	P	**Pn**	**19 03 08.9**	**+2.1**
	SNR=7.7						
QBL	**Gabala**	**3.87**	**57**	⇓P	**Pn**	**19 03 10.7**	**+2.5**
	SNR=10						
QBL				⇓S	**Sg**	**19 04 08.9**	**-3.5**
QBL	**Gabala**	**3.87**	**57**	P	**Pn**	**19 03 10.7**	**+2.5**
	SNR=10						
URFA	**Urfa**	**4.02**	**250**	*e*PN	**Pn**	**19 03 13.3**	**+3.0**
URFA	**Urfa**	**4.02**	**250**	*e*Pn	**Pn**	**19 03 13.3**	**+3.0**
IML	**Ismayilli**	**4.02**	**60**	⇑P	**Pn**	**19 03 13.2**	**+2.8**
	SNR=3.5						
IML	**Ismayilli**	**4.02**	**60**	P	**Pn**	**19 03 13.2**	**+2.8**
	SNR=3.5						
LKRN	**Lenkeran, Azer**	**4.07**	**91**	⇓P	**Pn**	**19 03 12.8**	**+1.8**
	SNR=3.7						
LKRN	**Lenkeran, Azer**	**4.07**	**91**	P	**Pn**	**19 03 12.8**	**+1.8**
	SNR=3.7						
ASTR	**Astara**	**4.09**	**93**	⇑P	**Pn**	**19 03 12.8**	**+1.5**
	SNR=5.2						
ASTR	**Astara**	**4.09**	**93**	P	**Pn**	**19 03 12.8**	**+1.5**
	SNR=5.2						
XNQ	**Khinaliq**	**4.18**	**56**	⇑P	**Pn**	**19 03 14.7**	**+2.0**
	SNR=12						
XNQ	**Khinaliq**	**4.18**	**56**	P	**Pn**	**19 03 14.7**	**+2.0**
	SNR=12						
PQL	**Pirkuli**	**4.30**	**62**	⇑P	**Pn**	**19 03 16.4**	**+2.1**
	SNR=5.4						
PQL	**Pirkuli**	**4.30**	**62**	P	**Pn**	**19 03 16.4**	**+2.1**
	SNR=5.4						
QSAR	**Qusar**	**4.44**	**52**	⇑P	**Pn**	**19 03 18.6**	**+2.4**
	SNR=4.2						
QSAR	**Qusar**	**4.44**	**52**	P	**Pn**	**19 03 18.6**	**+2.4**
	SNR=4.2						
QUBA	**Quba, Azerbaij**	**4.50**	**55**	⇑P	**Pn**	**19 03 19.4**	**+2.4**
	SNR=6.0						
QUBA	**Quba, Azerbaij**	**4.50**	**55**	P	**Pn**	**19 03 19.4**	**+2.4**
	SNR=6.0						
ATGJ	**Altiaghaj**	**4.57**	**63**	⇑P	**Pn**	**19 03 20.2**	**+2.3**
	SNR=3.7						
ATGJ	**Altiaghaj**	**4.57**	**63**	P	**Pn**	**19 03 20.2**	**+2.3**
	SNR=3.7						
KBZ	**Khabaz**	**4.86**	**354**	Pn	**Pn**	**19 03 23.3**	**+1.6**
	baz=332,slow=8.1,SNR=1.8						
KBZ				Pg	**Pg**	**19 03 40.1**	**-1.1**
	0.1nm,0.3s,baz=177,slow=10,SNR=6.9						
KVAR	**Kislovodsk Arr**	**5.10**	**353**	Pn	**Pn**	19 03 30.1	+4.9
	baz=231,slow=7.6,SNR=1.6						
KVAR				Lg	Lg	19 04 56.8	
	baz=247,slow=0.5,SNR=1.9						
GEYT	**Alibeck**	**11.46**	**90**	Pn	**Pn**	**19 04 51.8**	**-0.6**
	0.1nm,0.3s,baz=286,slow=17,SNR=2.3						
AKASG	**Malin Array Be**	**15.55**	**324**	Pn	**Pn**	**19 05 47.6**	**-0.4**
	0.4nm,0.3s,baz=132,slow=11,SNR=4.5						
ARU	**Arti**	**20.16**	**25**	P	**P**	**19 06 44.0**	**+1.0**
	1.7nm,0.5s,baz=204,slow=5.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**44.98**	**247**	P	**P**	**19 10 24.5**	**+0.1**
	0.7nm,0.9s,baz=54,slow=7.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**51.85**	**97**	P	**P**	**19 11 15.1**	**-2.3**
	0.3nm,0.3s,baz=297,slow=8.0,SNR=4.2						

ISCJB ***23*** *19:05:11.5±1.1, 27°.95N±0°.05×130°.23E±0°.08, h41km±8km, mb3.7/11, Error ellipse: s-maj=13.1km s-min=6.4km az=26.4*
JMA ***23*** *19:05:11.0±0.1, 27°.97N×130°.25E, h51km±1km, M3.7*
JMA Felt I J1.
IDC ***23*** *19:05:13.1±3.0, 28°.08N×130°.53E, h44km±30km, mb3.5/11, mb1 3.6/12, mb1mx3.4/62, mbtmp3.7/12, ML3.6/1, Error ellipse: s-maj=38.9km s-min=16.8km az=82.0*
ISC 23 19:05:12.7±1.4, 27°.98N±0°.05×130°.21E±0°.08, h35km±5km, n20, σ1§12/29, mb3.7/11, Ryukyu Islands

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

VMUR	Van-Muradiye	0.32	35	*i* P	Pb	19 06 13.2	-1.5
VMUR				*i* S	Sb	19 06 19.4	-0.6
GEVA	Gevas	0.47	208	*i* P	Pg	19 06 15.3	-0.8
GEVA				*i* S	Sb	19 06 23.1	-1.4
GEVA	Gevas	0.47	208	*i* P	Pg	19 06 15.4	-0.8
GEVA				S	Sb	19 06 23.1	-1.4
GEVA	Gevas	0.47	208	*i* P	Pg	19 06 15.4	-0.8
GEVA				*i* S	Sb	19 06 23.1	-1.4
BASK	Baskale_VAN	0.85	142	⇓*i*P	Pg	19 06 22.3	-1.1
BASK				*i* S	Sb	19 06 34.8	-0.8
BASK	Baskale_VAN	0.85	142	P	Pg	19 06 22.3	-1.1
BASK				S	Sb	19 06 34.8	-0.8
DYDN	Diyadin	0.85	18	*i* P	Pg	19 06 22.7	-0.7
DYDN				*i* S	Sb	19 06 34.9	-0.7
DYDN	Diyadin	0.85	18	P	Pg	19 06 22.7	-0.7
DYDN				S	Sb	19 06 34.9	-0.7
AGRB	Hanur-Agry	0.89	342	*e*PG	Pg	19 06 22.8	-1.2
AGRB				*e*SG	Sb	19 06 35.4	-1.1
AGRB	Hanur-Agry	0.89	342	*e*Pg	Pg	19 06 22.8	-1.2
AGRB				*e*Sg	Sb	19 06 35.4	-1.1
EKAR	Karacoban	1.12	298	*i* P	Pg	19 06 27.5	-1.0
EKAR				*i* S	Sn	19 06 47.0	+2.4
EKAR	Karacoban	1.12	298	*i* P	Pb	19 06 27.8	-0.8
EKAR				S	Sn	19 06 47.0	+2.4
EKAR	Karacoban	1.12	298	*i* P	Pb	19 06 27.8	-0.8
HAKT	HAKKARI	1.21	166	*i* P	Pg	19 06 27.2	-2.9
HAKT				*i* S	Sn	19 06 49.2	+2.6
HAKT	HAKKARI	1.21	166	P	Pg	19 06 27.2	-2.9
HAKT				S	Sn	19 06 49.2	+2.6
EATA	Eleskirt	1.31	330	⇑*i*P	Pg	19 06 30.4	-1.6
EATA				*i* S	Sn	19 06 48.9	-0.3
EATA	Eleskirt	1.31	330	P	Pg	19 06 30.4	-1.6
EATA				S	Sn	19 06 48.9	-0.3
SIRN	S¨–rnak	1.43	211	*i* P	Pn	19 06 31.9	-1.1
SIRN				*i* S	Sg	19 06 53.5	+0.5
SIRN	S¨–rnak	1.43	211	P	Pn	19 06 31.9	-1.1
SIRN				S	Sg	19 06 53.5	+0.5
CUKT	Cukurca	1.50	172	*e*PN	Pg	19 06 36.4	+0.8
CUKT	Cukurca	1.50	172	⇓*i*P	Pg	19 06 36.2	+0.6
CUKT				*i* S	Sg	19 07 01.6	+6.5
CUKT	Cukurca	1.50	172	P	Pg	19 06 36.2	+0.6
VRTB	Varto-Mus	1.53	287	*e*PN	Pb	19 06 34.8	-0.6
VRTB				*e*SN	Sg	19 06 55.4	-0.8
VRTB	Varto-Mus	1.53	287	⇑*i*P	Pn	19 06 33.8	-0.6
VRTB				*i* S	Sg	19 06 56.3	+0.2
VRTB	Varto-Mus	1.53	287	P	Pn	19 06 33.8	-0.6
VRTB	Varto-Mus	1.53	287	*e*Pn	Pb	19 06 34.8	-0.6
VRTB				*e*Sn	Sg	19 06 55.4	-0.8
VRTB				S	Sg	19 06 56.3	+0.2
DIGO	Kars	1.68	1	*i* P	Pn	19 06 34.9	-1.7
DIGO				*i* S	Sg	19 07 01.5	+0.5
DIGO	Kars	1.68	1	P	Pn	19 06 34.9	-1.7
DIGO				S	Sg	19 07 01.5	+0.5
HOMI	Horasan	1.72	320	⇑*i*P	Pn	19 06 37.4	+0.3
HOMI				*i* S	Sg	19 07 03.2	+0.9
BNGL	BINGOL	1.73	278	⇑*i*P	Pn	19 06 36.8	-0.4
BNGL				*i* S	Sn	19 06 59.3	-0.1
NAX	Nakhchivan	1.74	75	⇑P	Pb	19 06 38.7	-0.2
	SNR=14						
NAX				⇑S	Sn	19 06 56.7	-2.8
NAX	Nakhchivan	1.74	75	P	Pb	19 06 38.7	-0.2
	SNR=14						
NAX				S	Sn	19 06 56.7	-2.8
SVAN	Silvan-Diyarba	1.78	252	*e*PN	Pb	19 06 38.6	-1.0
SVAN				*e*SN	Sb	19 07 02.2	+0.2
SVAN	Silvan-Diyarba	1.78	252	⇓*i*P	Pn	19 06 38.1	+0.4
SVAN				*i* S	Sg	19 07 02.6	-1.5
SVAN	Silvan-Diyarba	1.78	252	P	Pn	19 06 38.1	+0.4
SVAN	Silvan-Diyarba	1.78	252	*e*Pn	Pb	19 06 38.6	-1.0
SVAN				*e*Sn	Sb	19 07 02.2	+0.2
GNI	Garni	1.78	37	Pn	Pb	19 06 39.7	-0.1
	187nm,0.3s,baz=194,slow=3.6,SNR=24						
GNI				Lg	Lg	19 07 07.5	
	110nm,0.3s,baz=153,slow=22,SNR=8.1						
BTMN	Batman	1.83	243	⇓*i*P	Pn	19 06 38.4	-0.1
BTMN				*i* S	Sb	19 07 03.8	+0.2
BTMN	Batman	1.83	243	P	Pn	19 06 38.4	-0.1
BTMN				S	Sb	19 07 03.8	+0.2
ERZM	Erzurum	1.93	308	⇓*i*P	Pb	19 06 40.8	-1.5
ERZM				*i* S	Sg	19 07 13.9	+4.9
ERZM	Erzurum	1.93	308	P	Pb	19 06 40.8	-1.5
EAK	Akyaka	1.96	6	*i* P	Pg	19 06 44.1	-0.5
EAK				*i* S	Sg	19 07 11.7	+1.7
EAK	Akyaka	1.96	6	P	Pg	19 06 44.1	-0.5
SENK	Senkaya-Erzuru	1.98	338	*e*PN	Pn	19 06 41.2	+0.5
SENK	Senkaya-Erzuru	1.98	338	*e*Pn	Pn	19 06 41.2	+0.5
ECAT	Cat-ERZURUM	2.04	296	⇑*i*P	Pn	19 06 41.6	+0.2
ECAT				*i* S	Sg	19 07 11.4	-0.9
ECAT	Cat-ERZURUM	2.04	296	P	Pn	19 06 41.6	+0.2
ECAT				S	Sg	19 07 11.4	-0.9
BNGB	Bing¨¶l	2.09	278	*e*PN	Pn	19 06 42.4	+0.3
BINT	Bingol	2.23	275	P	Pn	19 06 42.4	-1.7
BINT	Bingol	2.23	275	*e*Pn	Pn	19 06 42.4	-1.7
YEDI	Yedisu-Bingol	2.29	289	*e*PN	Pn	19 06 45.0	+0.1
YEDI	Yedisu-Bingol	2.29	289	*e*Pn	Pn	19 06 45.0	+0.1
MARD	Mardin	2.47	236	*i* P	Pn	19 06 47.2	-0.1
MARD				*i* S	Sg	19 07 24.1	-2.0
MARD	Mardin	2.47	236	*e*Pn	Pn	19 06 47.6	+0.3
MARD				*e*Sn	Sn	19 07 18.8	+1.2
MARD	Mardin	2.47	236	*e*Pn	Pn	19 06 47.6	+0.3
MARD				*e*Sn	Sn	19 07 18.8	+1.2
DDEM	Demirkent	2.48	331	*i* P	Pb	19 06 51.4	-0.3
DDEM				*i* S	Sg	19 07 24.2	-2.5
DDEM	Demirkent	2.48	331	P	Pb	19 06 51.4	-0.3
BGD	Bogdanovka	2.54	4	P	Pn	19 06 49.4	+1.0
KOPT	Kop Dagi	2.55	301	*i* P	Pb	19 06 51.7	-1.2
KOPT				*i* S	Sg	19 07 32.5	+3.7
KOPT	Kop Dagi	2.55	301	*e*Pn	Pn	19 06 49.4	+0.8
KOPT	Kop Dagi	2.55	301	P	Pb	19 06 51.7	-1.2
KOPT	Kop Dagi	2.55	301	*e*Pn	Pn	19 06 49.4	+0.8
DAGI	Agillar	2.59	335	*i* P	Pn	19 06 49.4	+0.4
DAGI				*i* S	Sg	19 07 29.3	-0.8
MAZI	Mazidag	2.61	242	*e*PN	Pn	19 06 49.4	+0.1
MAZI	Mazidag	2.61	242	*e*Pn	Pn	19 06 49.4	+0.1
DIYA	Diyarbakir	2.66	253	*i* P	Pn	19 06 50.7	+0.9
DIYA				*i* S	Sb	19 07 27.9	+0.5
DIYA	Diyarbakir	2.66	253	P	Pn	19 06 50.7	+0.9
AKH	Akhalkalaki	2.68	2	*e*PN	Pn	19 06 51.4	+1.1
AKH	Akhalkalaki	2.68	2	P	Pg	19 06 56.5	-1.7
AKH	Akhalkalaki	2.68	2	P	Pg	19 06 56.5	-1.7
AKH	Akhalkalaki	2.68	2	*e*Pn	Pn	19 06 51.4	+1.1
ARTV	Artvin	2.68	337	*i* P	Pn	19 06 50.5	+0.2
ARTV				*i* S	Sg	19 07 32.3	-0.7
ARTV	Artvin	2.68	337	*e*Pn	Pn	19 06 50.1	-0.2
ARTV	Artvin	2.68	337	P	Pn	19 06 50.5	+0.2
ARTV				*e*Sn	Sn	19 07 22.5	-0.4
ARTV	Artvin	2.68	337	*e*Pn	Pn	19 06 50.1	-0.2
ARTV				*e*Sn	Sn	19 07 22.5	-0.4
GDB	GEDABAY	2.72	42	⇑P	Pb	19 06 56.1	+0.3
	SNR=4.2						
GDB				⇓S	Sb	19 07 29.9	+0.6
QZX	Qazax, Azerbai	2.80	33	⇑P	Pb	19 06 57.8	+0.8
	SNR=12						
QZX				⇓S	Sg	19 07 34.9	-1.9
EPOS	Posof	2.81	351	*i* P	Pn	19 06 50.8	-1.2
EPOS				*i* S	Sg	19 07 42.5	+5.3
EPOS	Posof	2.81	351	P	Pn	19 06 50.8	-1.2
DBOC	Borcka	2.91	334	*i* P	Pn	19 06 52.4	-0.9
DBOC				*i* S	Sg	19 07 38.3	-2.0
DBOC	Borcka	2.91	334	P	Pn	19 06 52.4	-0.9
ERZN	Erzincan	2.94	288	*e*PN	Pn	19 06 55.0	+1.2
TNCL	Tunceli-Merkez	2.99	279	*i* P	Pn	19 06 53.8	-0.6
TNCL				*i* S	Sg	19 07 42.9	+0.1
TNCL	Tunceli-Merkez	2.99	279	P	Pn	19 06 53.8	-0.6
GANJ	Ganja	2.99	49	⇑P	Pb	19 07 00.8	+0.5
	SNR=40						
GANJ				⇑S	Sn	19 07 33.0	+2.6
EUZM	Uzumlu	2.99	290	*i* P	Pb	19 06 58.4	-1.9
EUZM				*i* S	Sg	19 07 45.2	+2.2
EUZM	Uzumlu	2.99	290	P	Pb	19 06 58.4	-1.9
PTK	Pertek	3.09	274	*e*PN	Pn	19 06 57.0	+1.1
PTK	Pertek	3.09	274	*e*Pn	Pn	19 06 57.0	+1.1
DGRG	David-gareji	3.13	29	P	Pg	19 07 06.9	0.0
DGRG	David-gareji	3.13	29	P	Pg	19 07 06.8	0.0
SVRC	Sivrice-ELAZID	3.18	265	*e*PN	Pn	19 06 57.7	+0.5
SVRC	Sivrice-ELAZID	3.18	265	*e*Pn	Pn	19 06 57.7	+0.5
TBLG	Delisi	3.18	19	*e*PN	Pn	19 06 58.9	+1.9
TBLG	Delisi	3.18	19	P	Pb	19 07 04.2	+0.6
TBLG	Delisi	3.18	19	P	Pb	19 07 04.1	+0.6
TBLG	Delisi	3.18	19	P	Pn	19 06 57.0	0.0
TBLG	Delisi	3.18	19	*e*Pn	Pn	19 06 58.9	+1.9
SEAG	Tbilisi Sea	3.23	20	P	Pb	19 07 05.1	+0.8
EZC	Erzincan	3.26	289	*e*Pn	Pn	19 06 55.0	-3.2
BRDA	Brd	3.34	62	⇑P	Pb	19 07 03.1	-3.1
	SNR=11						
BRDA	Brd	3.34	62	P	Pb	19 07 03.1	-3.1
	SNR=11						
KELT	Kelkit	3.46	295	*i* P	Pb	19 07 07.3	-1.1
KELT				*i* S	Sg	19 07 58.3	+0.1
MACK	Trabzon	3.53	310	*i* P	Pb	19 07 09.7	+0.3
MACK				*i* S	Sg	19 08 08.5	+8.3
MNGR	Mingechevir, A	3.53	54	⇓P	Pb	19 07 07.1	-2.4
	SNR=5.2						
KTUT	Trabzon	3.56	310	*e*PN	Pn	19 07 03.3	+1.2
KTUT	Trabzon	3.56	310	*e*Pn	Pn	19 07 03.3	+1.2
REFA	Refahiye_ERZ¨	3.62	282	*i* P	Pn	19 07 06.6	+3.4
REFA				*i* S	Sg	19 08 08.2	+5.0
REFA	Refahiye_ERZ¨	3.62	282	P	Pn	19 07 06.6	+3.4
ZRD	Zardab	3.70	64	⇑P	Pn	19 07 07.4	+3.3
ZRD				⇑S	Sn	19 07 44.8	-2.9
ZRD	Zardab	3.70	64	P	Pn	19 07 07.4	+3.3
ZRD				S	Sn	19 07 44.8	-2.9
URFA	Urfa	3.79	252	*e*PN	Pn	19 07 07.7	+2.3
URFA	Urfa	3.79	252	*e*Pn	Pn	19 07 07.7	+2.3
KEMA	Kemaliye	3.81	280	*i* P	Pn	19 07 04.2	-1.6
KEMA				*i* S	Sg	19 08 15.1	+5.7
KEMA	Kemaliye	3.81	280	P	Pn	19 07 04.2	-1.6
GUDG	Gudauri	3.83	13	P	Pb	19 07 13.9	-0.8
ZKTA	Zakatala	3.84	40	⇑P	Pb	19 07 14.3	-0.5
	SNR=21						
ZKTA				⇑S	Sb	19 07 57.0	-4.3
ONI	Oni	3.86	1	P	Pb	19 07 17.1	+2.0
ONI	Oni	3.86	1	P	Pb	19 07 17.0	+2.0
SEKA	Sheki	3.86	49	⇑P	Pb	19 07 13.1	-2.0
	SNR=33						
SEKA				⇑S	Sn	19 07 54.8	+2.9
LRK	Lerik	3.91	90	⇓P	Pn	19 07 07.3	+0.1
	SNR=21						
LRK	Lerik	3.91	90	P	Pn	19 07 07.3	+0.1
	SNR=21						
GLBA	Clilabad	3.97	81	⇓P	Pn	19 07 08.8	+1.0
	SNR=11						
GLBA				⇓S	Sn	19 07 45.9	-8.5
GLBA	Clilabad	3.97	81	P	Pn	19 07 08.8	+1.0
	SNR=11						
SAAT	Saatly	4.10	72	⇑P	Pn	19 07 11.4	+1.8
	SNR=21						
SAAT				⇓S	Sn	19 07 50.9	-6.8
SAAT	Saatly	4.10	72	P	Pn	19 07 11.4	+1.8
	SNR=21						
QBL	Gabala	4.11	56	⇑P	Pb	19 07 14.4	-4.9
	SNR=23						
QBL				⇑S	Sn	19 07 56.1	-1.8
QBL	Gabala	4.11	56	P	Pb	19 07 14.4	-4.9
	SNR=23						
QBL				S	Sn	19 07 56.1	-1.8
SURC	SANLIURFA_SURC	4.17	245	*i* P	Pn	19 07 10.2	-0.5
SURC				*i* S	Sb	19 08 13.9	+3.0
SURC	SANLIURFA_SURC	4.17	245	P	Pn	19 07 10.2	-0.5
SUSE	Susehri	4.24	292	*i* P	Pb	19 07 19.9	-1.8
SUSE				*i* S	Sg	19 08 19.5	-3.6
LKRN	Lenkeran, Azer	4.25	89	⇓P	Pn	19 07 12.1	+0.4
	SNR=6.0						
LKRN				⇑S	Sn	19 07 52.1	-9.3
LKRN	Lenkeran, Azer	4.25	89	P	Pn	19 07 12.1	+0.4
	SNR=6.0						
IML	Ismayilli	4.26	60	⇑P	Pn	19 07 15.8	+3.9
	SNR=10						
IML				⇑S	Sn	19 07 59.5	-2.2
IML	Ismayilli	4.26	60	P	Pn	19 07 15.8	+3.9
	SNR=10						
IML				S	Sn	19 07 59.5	-2.2
ASTR	Astara	4.27	91	⇑P	Pn	19 07 12.2	+0.2
	SNR=5.4						
ASTR				⇑S	Sn	19 07 52.4	-9.4
ASTR	Astara	4.27	91	P	Pn	19 07 12.2	+0.2
	SNR=5.4						
XNQ	Khinaliq	4.42	55	⇓P	Pn	19 07 18.9	+4.6
	SNR=3.3						
XNQ				⇓S	Sn	19 08 04.9	-1.0
XNQ	Khinaliq	4.42	55	P	Pn	19 07 18.9	+4.7
	SNR=3.3						
XNQ				S	Sn	19 08 04.9	-1.0
CUZAR	Zara_SIVAS	4.47	287	*i* P	Pn	19 07 16.4	+1.5
CUZAR				*i* S	Sg	19 08 26.1	-4.4
CUZAR	Zara_SIVAS	4.47	287	P	Pn	19 07 16.4	+1.5
GRSN	GIRESUNGRSN	4.48	301	*i* P	Pn	19 07 16.5	+1.6
GRSN	GIRESUNGRSN	4.48	301	P	Pn	19 07 16.5	+1.6
NEY	Neytrino	4.54	354	⇓*e*P	Pn	19 07 17.9	+2.1
NEY	Neytrino	4.54	354	*e*P	Pn	19 07 17.9	+2.1
PQL	Pirkuli	4.54	61	⇓P	Pn	19 07 19.2	+3.4
	SNR=3.2						
PQL	Pirkuli	4.54	61	P	Pn	19 07 19.2	+3.4
	SNR=3.2						
ALIB	Äli-Bayra	4.56	73	⇑P	Pn	19 07 17.7	+1.8
	SNR=8.1						
ALIB	Äli-Bayra	4.56	73	P	Pn	19 07 17.7	+1.8
	SNR=8.1						
DARE	Darende-Malaty	4.59	270	*e*PN	Pn	19 07 18.4	+2.0
DARE	Darende-Malaty	4.59	270	*e*Pn	Pn	19 07 18.4	+2.0
CUKAN	kangal_SIVAS	4.61	279	*i* P	Pn	19 07 17.1	+0.3
CUKAN	kangal_SIVAS	4.61	279	P	Pn	19 07 17.1	+0.3
GBS	Qobustan	4.69	66	⇑P	Pn	19 07 20.5	+2.8
	SNR=4.8						
GBS	Qobustan	4.69	66	P	Pn	19 07 20.5	+2.8
	SNR=4.8						
QSAR	Qusar	4.69	52	⇑P	Pn	19 07 22.9	+5.2
	SNR=3.1						
QUBA	Quba, Azerbaij	4.74	55	⇑P	Pn	19 07 23.2	+4.7
	SNR=20						
QUBA	Quba, Azerbaij	4.74	55	P	Pn	19 07 23.2	+4.7
	SNR=20						
CUGUR	Gurin_S¨VAS	4.75	272	*i* P	Pb	19 07 24.3	-5.9
CUGUR				*i* S	Sg	19 08 43.7	+4.4
GZT	Gaziantep	4.76	255	*i* P	Pn	19 07 19.3	+0.5
NCK	Nalchik	4.76	2	⇑*e*P	Pn	19 07 19.1	+0.3
NCK	Nalchik	4.76	2	*e*P	Pn	19 07 19.1	+0.3
ATGJ	Altiaghaj	4.81	62	⇓P	Pn	19 07 22.7	+3.3
	SNR=20						
ATGJ	Altiaghaj	4.81	62	P	Pn	19 07 22.7	+3.3
	SNR=20						
GROC	Groznyy	4.84	22	P	Pn	19 07 22.5	+2.8
GROC	Groznyy	4.84	22	P	Pn	19 07 22.5	+2.8
SIZA	Siyzn	4.87	60	⇑P	Pn	19 07 24.2	+3.9
	SNR=5.3						
SIZA	Siyzn	4.87	60	P	Pn	19 07 24.2	+3.9
	SNR=5.3						
RSDY	Resadiye-TOKAT	4.94	292	*e*PN	Pn	19 07 22.8	+1.7
RSDY	Resadiye-TOKAT	4.94	292	*e*Pn	Pn	19 07 22.8	+1.7
SCER	sogukcermik	4.95	285	*i* P	Pn	19 07 20.2	-1.2
SCER	sogukcermik	4.95	285	P	Pn	19 07 20.2	-1.2
KBZ	Khabaz	5.00	356	Pn	Pn	19 07 25.0	+3.0
	0.5nm,0.3s,baz=189,slow=9.8,SNR=11						
KBZ				Pg	Pg	19 07 41.8	-0.9
	1.7nm,0.3s,baz=191,slow=9.4,SNR=8.6						
KBZ				Lg	Lg	19 08 46.5	
	baz=123,slow=22,SNR=1.5						
KBZ				LR	LR	19 09 47.8	
	comp=Z,3μm,21.8s,baz=159,slow=44						
KBZ	Khabaz	5.00	356	P	Pn	19 07 25.0	+3.0
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				MLR	MLR		
	comp=Z,3μm,21.8s						
KBZ	Khabaz	5.00	356	P	Pn	19 07 25.0	+3.0
	comp=Z,3μm,21.8s						
SVSK	Karacayir	5.06	286	*e*PN	Pn	19 07 25.3	+2.5
SVSK	Karacayir	5.06	286	*e*Pn	Pn	19 07 25.3	+2.5
CUALT	Altinyayla-SIV	5.16	278	*i* P	Pn	19 07 11.4	-13
CUALT				*i* S	Sg	19 08 54.2	+1.8
GOBA	Gobu	5.21	69	⇓P	Pn	19 07 27.2	+2.3
	SNR=6.7						
GOBA	Gobu	5.21	69	P	Pn	19 07 27.2	+2.3
	SNR=6.7						
KMRS	Kahramanmaras	5.22	258	*e*PN	Pn	19 07 27.5	+2.4
KMRS	Kahramanmaras	5.22	258	*e*Pn	Pn	19 07 27.5	+2.4
KIV	Kislovodsk	5.24	355	*e*P	Pn	19 07 24.1	-1.3
KIV				pmax	pmax		
	comp=Z,78nm,1.1s						
KIV				MLR	MLR		
	comp=Z,656nm,7.0s						
KIV	Kislovodsk	5.24	355	*e*P	Pn	19 07 24.1	-1.3
	comp=Z,656nm,7.0s						
KIV	Kislovodsk	5.24	355	*e*Pn	Pn	19 07 24.7	-0.7
KIV	Kislovodsk	5.24	355	*e*Pn	Pn	19 07 24.7	-0.7
KIV				*e*Sn	Sn	19 08 18.1	-7.9
KIV	Kislovodsk	5.24	355	P	Pn	19 07 28.3	+3.0
	SNR=16						
KIV	Kislovodsk	5.24	355	pPn	Pn	19 07 28.3	+3.0
	SNR=16						
KVAR	Kislovodsk Arr	5.24	355	Pn	Pn	19 07 27.9	+2.4
	baz=38,slow=1.7,SNR=11						
KVAR				Lg	Lg	19 09 01.8	
	baz=29,slow=16,SNR=2.0						
KVAR				LR	LR	19 09 54.4	
	comp=Z,4μm,18.9s,baz=140,slow=43						
HCB	Kahramanmara¨	5.26	257	*i* P	Pn	19 07 24.6	-1.1
MAK	Makhachkala	5.28	35	*e*P	Pn	19 07 31.4	+5.7
MAK				*e*S	Sb	19 08 36.9	-5.6
MAK				pmax	pmax		
	comp=Z,118nm,1.2s						
MAK				MLR	MLR		
	comp=Z,5μm,14.0s						
KUZU	Kuzuini	5.33	250	*i* P	Pn	19 07 26.6	0.0
KUZU	Kuzuini	5.33	250	P	Pn	19 07 26.6	0.0
SARI	SarD1z-Kayseri	5.43	269	*e*PN	Pn	19 07 30.7	+2.6
KAMA	Osmaniye	5.49	256	*i* P	Pn	19 07 28.1	-0.7
KAMA				*i* S	Sg	19 08 56.0	-7.3
KAMA	Osmaniye	5.49	256	P	Pn	19 07 28.1	-0.7
BHD	Baghdad	5.51	171	*e*Pn	Pn	19 07 29.0	0.0
	SNR=3.0						
BHD				*e*Sn	Sn	19 08 34.7	+2.2
	SNR=39						
TOKA	Tokat	5.54	289	*i* P	Pb	19 07 42.5	-1.1
TOKA				*i* S	Sg	19 09 06.1	+1.4
TOKA	Tokat	5.54	289	*e*Pg	Pb	19 07 46.0	+2.3
CUSAR	Sarkisla-SIVAS	5.56	279	*i* P	Pb	19 07 39.7	-4.5
CUSAR				*i* S	Sg	19 09 05.6	+0.1
SOC	Sochi	5.56	332	*e*P	Pn	19 07 29.3	-0.4
SOC				*e*		19 08 27.8	
SOC				pmax	pmax		
	comp=Z,57nm,1.2s						
SOC				MLR	MLR		
	comp=Z,2μm,13.0s						
SOC	Sochi	5.56	332	*e*P	Pn	19 07 29.3	-0.4
	comp=Z,2μm,13.0s						
ANDN	Andirin	5.63	260	*i* P	Pb	19 07 43.0	-2.3
ANDN				*i* S	Sg	19 09 03.5	-4.1
DRWC	Darouich	5.70	250	*e*P	Pn	19 07 31.9	+0.3
DRWC				AML	AML	19 09 18.9	
	comp=E,397nm,0.6s						
DRWC				AML	AML	19 09 22.4	
	comp=N,869nm,0.7s						
KOZT	Kozan	6.06	260	*e*PN	Pn	19 07 40.4	+3.9
KVT	Kavak	6.08	295	*e*PN	Pn	19 07 40.1	+3.2
KVT	Kavak	6.08	295	P	Pn	19 07 40.7	+3.9
SAMS	Samsun-Alacam	6.08	298	*i* P	Pb	19 07 52.3	-0.7
SAMS				*i* S	Sg	19 09 16.1	-6.0
BTCH	Batrach	6.10	246	*e*P	Pn	19 07 39.0	+1.8
BTCH				*e*S	Sn	19 08 46.2	-0.9
BTCH				AML	AML	19 09 36.7	
	comp=E,2μm,0.7s						
BTCH				AML	AML	19 09 36.7	
	comp=N,999nm,0.7s						
RTB	Rutbah	6.20	204	*e*Pn	Pn	19 07 39.0	+0.5
	SNR=3.0						
RTB				*e*Sn	Sn	19 08 52.0	+2.5
	SNR=3.0						
YAHY	KAYSERI_Yahyal	6.30	267	*i* P	Pg	19 08 02.3	-5.2
YAHY				*i* S	Sg	19 09 21.8	-7.2
KFRA	Kufra	6.30	238	AML	AML	19 09 47.3	
	comp=N,2μm,0.6s						
HAVZ	Havza	6.31	294	*i* P	Pb	19 07 55.2	-1.7
HAVZ				*i* S	Sb	19 09 16.1	+3.7
GOF	Gofitskoye	6.33	358	⇑*e*P	Pn	19 07 41.9	+1.7
GOF				pmax	pmax		
	comp=Z,25nm,1.3s						
GOF	Gofitskoye	6.33	358	*e*P	Pn	19 07 41.9	+1.7
	comp=Z,25nm,1.3s						
AKO	Adana	6.35	261	*i* P	Pg	19 08 08.1	-0.4
YAYL	Yayladag	6.36	247	*i* P	Pb	19 07 58.2	+0.5
YAYL				*i* S	Sb	19 09 20.5	+6.6
YURE	YUREGIR	6.39	255	*i* P	Pb	19 08 01.6	+3.3
YURE				*i* S	Sg	19 09 23.9	-8.3
ARNB	Al Arnab	6.53	246	*e*P	Pn	19 07 45.7	+2.5
ARNB				AML	AML	19 09 42.9	
	comp=N,728nm,0.7s						
ARNB				AML	AML

BRBR AML AML 19 10 58.5
comp=E,2µm,1.0s
RCY Rachaya 8.01 232 *e*P **Pn** **19 08 05.2 +1.8**
DQRL Deir Qamar 8.03 234 *e*P **Pn** **19 08 06.3 +2.5**
NSR Nassriya 8.04 163 *e*Pn **Pn** **19 08 04.0 +0.3**
SNR=3.0
NSR Sn **Sn** **19 09 34.1 -0.6**
SNR=39
SALA Sala 8.06 224 *e*P **Pn** **19 08 04.2 +0.1**
SALA *e*S **Sn** **19 09 31.0 -4.4**
SALA AML AML 19 10 35.9
comp=N,246nm,0.7s
KKUL Konya-Kulu 8.13 276 *i*P Pn 19 08 11.2 +6.1
KKUL *i*S **Sg** **19 10 34.6 +6.7**
SHBL Chebaa 8.16 231 *e*P **Pn** **19 08 07.1 +1.5**
ANTO Ankara 8.26 281 P **Pn** **19 08 05.1 -1.7**
ANTO *e* 19 09 39.3
ANTO Ankara 8.26 281 P **Pn** **19 08 05.1 -1.7**
ANTO *e*S **Sn** **19 09 39.3 -0.8**
ANTO Ankara 8.26 281 Pn **Pn** **19 08 05.1 -1.7**
ANTO *e*Sn **Sn** **19 09 39.3 -0.8**
ASF Jabal al Asfar 8.39 221 Pn **Pn** **19 08 08.6 -0.1**
comp=N,2.9nm,0.3s,baz=352,slow=9.9,SNR=24
ASF Lg Lg 19 10 38.1
comp=N,1.7nm,0.3s,baz=234,slow=22,SNR=3.6
MMAI Mount Meron Ar 8.60 231 Pn **Pn** **19 08 12.8 +1.3**
comp=N,4.5nm,0.3s,baz=66,slow=16,SNR=22
MMAI Lg Lg 19 10 47.0
comp=N,5.1nm,0.3s,baz=32,slow=24,SNR=5.3
SUDU Sudak 8.75 317 *e*P Pn 19 08 18.7 +5.3
SUDU *e*S **Sn** **19 09 59.2 +7.1**
CSS Mathiatis 8.86 248 Pn **Pn** **19 08 16.3 +1.3**
CSS Mathiatis 8.86 248 Pn **Pn** **19 08 16.3 +1.3**
CSS *e*Sn **Sn** **19 09 52.2 -2.8**
ALU Alushta 8.94 315 *e*P Pn 19 08 25.9 +10
SIM Simferopol' 9.27 315 *e*P Pn 19 08 29.0 +8.5
SIM pmax pmax
comp=Z,19nm,1.2s
EIL Elat 11.39 220 Pn **Pn** **19 08 50.9 +1.2**
comp=Z,0.4nm,0.3s,baz=90,slow=21,SNR=8.4
EIL Lg Lg 19 12 16.0
comp=Z,0.7nm,0.3s,baz=318,slow=16,SNR=3.0
EIL LR LR 19 13 51.9
comp=Z,1µm,19.4s,baz=5.5,slow=41
GEYT Alibeck 11.64 89 Pn **Pn** **19 08 56.6 +3.5**
comp=Z,0.4nm,0.3s,baz=291,slow=8.9,SNR=12
TIRR Tirgusor 12.55 302 *e*P **Pn** **19 09 04.4 -1.0**
TIRR Tirgusor 12.55 302 *e*P **Pn** **19 09 04.4 -1.0**
TIRR Tirgusor 12.55 302 *e*Pn **Pn** **19 09 04.3 -1.0**
CFR Carcaliu 13.01 305⇑*i*P **Pn** **19 09 12.8 +1.1**
VORR Voronezh 13.26 349 *e*P **Pn** **19 09 17.0 +1.9**
VORR pmax pmax
comp=Z,350nm,1.4s
VORR Voronezh 13.26 349 *e*P **Pn** **19 09 17.0 +1.9**
comp=Z,350nm,1.4s
LEOM Leova 13.53 310⇑*i*P **Pn** **19 09 20.6 +1.8**
ODBI Odobesti 13.95 305⇑*i*P **Pn** **19 09 28.2 +3.7**
ISR Istrita 14.03 302⇑*i*P **Pn** **19 09 26.5 +0.8**
ISR Istrita 14.03 302 P **Pn** **19 09 26.8 +1.1**
ISR pmax pmax
comp=Z,113nm,1.3s
ISR Istrita 14.03 302 P **Pn** **19 09 26.8 +1.1**
comp=Z,113nm,1.3s
VRI Vrincioaia 14.20 305⇑*i*P **Pn** **19 09 29.1 +1.1**
VRI Vrincioaia 14.20 305 P **Pn** **19 09 29.5 +1.5**
VRI pmax pmax
comp=Z,199nm,1.2s
VRI Vrincioaia 14.20 305 P **Pn** **19 09 29.5 +1.5**
comp=Z,199nm,1.2s
LPSR Galich'ya Gora 14.21 349 *e*P **Pn** **19 09 28.3 +0.3**
LPSR pmax pmax
comp=Z,170nm,1.1s
PLOR Plostina 14.24 305⇑*i*P **Pn** **19 09 30.2 +1.6**
PLOR Plostina 14.24 305 P **Pn** **19 09 30.1 +1.5**
PLOR Plostina 14.24 305⇑*i*P **Pn** **19 09 30.2 +1.6**
IAS Iasi 14.30 311⇑*i*P **Pn** **19 09 32.0 +2.7**
SECR 14.31 302⇑*i*P **Pn** **19 09 31.5 +1.9**
SORM Soroca 14.36 316⇓*i*P **Pn** **19 09 31.2 +1.0**
SORM Soroca 14.36 316 P **P** **19 09 37.3 +0.1**
SORM Soroca 14.36 316 P **P** **19 09 37.3 +0.1**
TESR Tescani 14.52 308⇑*i*P **Pn** **19 09 33.5 +1.1**
RZN Rozhen 14.54 288 P **Pn** **19 09 35.2 +2.4**
MLR Muntele Rosu 14.56 303 Pn **Pn** **19 09 33.9 +0.9**
comp=Z,0.0nm,0.3s,baz=205,slow=19,SNR=4.1
MLR Muntele Rosu 14.56 303⇑*i*P **Pn** **19 09 34.4 +1.5**
MLR Muntele Rosu 14.56 303 *e*P **Pn** **19 09 34.5 +1.5**
MLR Muntele Rosu 14.56 303 *e*Pn **Pn** **19 09 34.5 +1.5**
MLR Muntele Rosu 14.56 303 *e*Pn **Pn** **19 09 34.5 +1.5**
MTUR Matau 15.05 301⇓*i*P **Pn** **19 09 41.3 +1.7**
DOPR Dopca 15.10 304⇑*i*P **Pn** **19 09 40.6 +0.4**
VOIR 15.13 302⇓*i*P **Pn** **19 09 41.8 +1.1**
IDI Anoyia 15.13 263 Pn **Pn** **19 09 40.5 -0.3**
comp=Z,0.4nm,0.3s,baz=67,slow=11,SNR=3.6
IDI LR LR 19 15 22.2
comp=Z,253nm,20.0s,baz=110,slow=37
IDI Anoyia 15.13 263 Pn **Pn** **19 09 37.2 -3.6**
comp=Z,43nm,1.0s
PRAR RASCA 15.17 310⇑*i*P **Pn** **19 09 42.2 +1.0**
MMB Musomiste 15.27 287 P **P** **19 09 48.4 +1.0**
RAYN Ar Rayn 15.27 172 *e*Pn **Pn** **19 09 37.8 -4.8**
comp=Z,26nm,0.9s
RAYN *e*Sn **Sn** **19 12 30.7 -1.2**
SRS Serrai 15.34 285 P **P** **19 09 45.7 -2.5**
SRS pmax pmax
comp=Z,29nm,1.2s
SRS Serrai 15.34 285 P **P** **19 09 45.7 -2.5**
comp=Z,29nm,1.2s
ARR Arges 15.38 302⇓*i*P **Pn** **19 09 44.8 +0.8**
AKASG Malin Array Be 15.58 325 Pn **Pn** **19 09 44.7 -1.8**
comp=Z,0.9nm,0.3s,baz=129,slow=12,SNR=51
AKASG LR LR 19 16 33.4
comp=Z,246nm,18.9s,baz=120,slow=40
AKBB Malin Array Si 15.58 325 *e*P **Pn** **19 09 45.2 -1.3**
AKBB pmax pmax
comp=Z,47nm,0.9s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn** **19 09 45.2 -1.3**
comp=Z,47nm,0.9s
AKBB Malin Array Si 15.58 325 *e*Pn **Pn** **19 09 45.2 -1.3**
comp=Z,47nm,0.9s
KIEV Kiev 15.59 325 *de*P **Pn** **19 09 45.5 -1.0**
KIEV pmax pmax
comp=Z,44nm,1.1s
KIEV Kiev 15.59 325 *e*Pn **Pn** **19 09 44.4 -2.1**
comp=Z,50nm,1.0s
KIEV Kiev 15.59 325 *e*Pn **Pn** **19 09 44.4 -2.1**
comp=Z,50nm,1.0s
AKTO Aktyubinsk 15.66 37 Pn **Pn** **19 09 46.2 -1.3**
comp=Z,0.6nm,0.3s,baz=226,slow=15,SNR=16
AKTO LR LR 19 17 34.7
comp=Z,742nm,18.0s,baz=228,slow=44
AKTO Aktyubinsk 15.66 37 P **Pn** **19 09 45.2 -2.3**
AKTO pmax pmax
comp=Z,43nm,1.2s
VTS Vitosha 15.75 291 *e*P **P** **19 09 50.7 -2.2**
VTS pmax pmax
comp=Z,38nm,1.1s
VTS Vitosha 15.75 291 P **Pn** **19 09 50.0 +1.1**
VTS Vitosha 15.75 291 *e*P **P** **19 09 50.7 -2.2**
comp=Z,38nm,1.1s
VTS Vitosha 15.75 291 *e*Pn **P** **19 09 50.6 -2.2**
comp=Z,38nm,1.1s
KKB Krupnik 15.77 288 P **Pn** **19 09 50.6 +1.6**
KNT Kendrikon 15.86 285 P **P** **19 09 52.2 -1.8**
KNT pmax pmax
comp=Z,14nm,1.2s
KNT Kendrikon 15.86 285 P **P** **19 09 52.2 -1.8**
comp=Z,14nm,1.2s
AB31 Akbulak array 15.88 43 *i*P **Pn** **19 09 50.6 +0.2**
AB31 pmax pmax
comp=Z,23nm,1.3s
ABKAR Akbulak array 15.88 43 *e*Pn **Pn** **19 09 48.8 -1.6**
comp=Z,76nm,0.8s
ABKAR Akbulak array 15.88 43 *e*Pn **Pn** **19 09 48.8 -1.6**
comp=Z,76nm,0.8s
BURAR Bucovina Array 15.90 310⇑*i*P **Pn** **19 09 50.8 +0.1**
BURAR Bucovina Array 15.90 310 P **P** **19 09 55.7 +1.3**
BUR08 Bucovina Ar. S 15.92 310 *e*Pn **Pn** **19 09 50.6 -0.4**
BUR08 Bucovina Ar. S 15.92 310 *e*Pn **Pn** **19 09 50.6 -0.4**
LOT Lotru 15.98 301⇑*i*P **Pn** **19 09 50.4 -1.5**
ARCR ARCALIA 16.20 307⇑*i*P **Pn** **19 09 53.9 -0.5**
GRG Griva 16.23 284 P **P** **19 09 57.6 -0.5**
GRG Griva 16.23 284 P **P** **19 09 57.6 -0.5**
AGG Agios Georgios 16.37 278 *e*P **Pn** **19 09 57.8 +1.1**
AGG pmax pmax
comp=Z,56nm,1.1s
AGG Agios Georgios 16.37 278 *e*P **Pn** **19 09 57.8 +1.1**
comp=Z,56nm,1.1s
AGG Agios Georgios 16.37 278 *e*Pn **Pn** **19 09 57.8 +1.1**
comp=Z,56nm,1.1s
CJR Cluj-Napoca 16.53 305⇑*i*P **Pn** **19 09 59.5 +0.8**
CJR Cluj-Napoca 16.53 305 P **Pn** **19 09 59.5 +0.8**
CJR Cluj-Napoca 16.53 305 P **Pn** **19 09 59.5 +0.8**
GZR Gura Zlata 16.64 300⇑*i*P **Pn** **19 09 58.9 -1.3**
DEV Deva 16.70 302 P **P** **19 10 03.0 -0.2**
DEV pmax pmax
comp=Z,52nm,1.4s
DEV Deva 16.70 302 P **P** **19 10 03.0 -0.2**
comp=Z,52nm,1.4s
SKO Skopje 17.00 288 *e*P **P** **19 10 07.6 +1.1**
FNA Florina 17.01 284 P **P** **19 10 06.6 -0.2**
FNA pmax pmax
comp=Z,11nm,0.9s
FNA Florina 17.01 284 P **P** **19 10 06.6 -0.2**
comp=Z,11nm,0.9s
OBN Obninsk 17.02 347 Pn **Pn** **19 10 02.9 -1.9**
comp=Z,2.7nm,0.3s,baz=194,slow=6.4,SNR=12
OBN Obninsk 17.02 347 *c i*P **Pn** **19 10 02.4 -2.3**
OBN pmax pmax
comp=Z,276nm,1.7s
OBN MLR MLR
comp=Z,777nm,15.0s
OBN Obninsk 17.02 347 *e*Pn **Pn** **19 10 02.9 -1.9**
comp=Z,166nm,0.9s
OBN Obninsk 17.02 347 *e*Pn **Pn** **19 10 02.9 -1.9**
comp=Z,166nm,0.9s
DRGR 17.12 305⇑*i*P **Pn** **19 10 06.0 -0.3**
DRGR 17.12 305 P **P** **19 10 07.0 -1.0**
DRGR pmax pmax
comp=Z,70nm,1.1s
DRGR 17.12 305 P **P** **19 10 07.0 -1.0**
comp=Z,70nm,1.1s
MDVR Moldovita 17.21 297⇑*i*P **Pn** **19 10 04.7 -2.7**
MOS Moscow 17.44 349 *e*P **Pn** **19 10 08.2 -1.9**
MOS pmax pmax
comp=Z,120nm,0.9s
OHR Ohrid 17.45 285 *e*P **P** **19 10 12.2 +0.6**
BZS Buzias 17.48 300⇑*i*P **Pn** **19 10 08.2 -2.5**
BZS Buzias 17.48 300 P **Pn** **19 10 10.2 -0.5**
BZS pmax pmax
comp=Z,23nm,1.1s
BZS Buzias 17.48 300 P **Pn** **19 10 10.2 -0.5**
comp=Z,23nm,1.1s
UOSS Minazif 17.53 138 *e*Pn **Pn** **19 10 10.8 -0.7**
comp=Z,35nm,1.0s
UOSS Minazif 17.53 138 *e*Pn **Pn** **19 10 10.8 -0.7**
comp=Z,35nm,1.0s
SIRR Siria 17.64 302⇑*i*P **Pn** **19 10 11.5 -1.2**
LVV L'vov 17.67 315 *e*P **P** **19 10 14.4 +0.5**
LVV L'vov 17.67 315 *e*P **P** **19 10 14.4 +0.5**
TRPA Tarpa 17.74 309⇑*ex* x 19 10 13.2
UZH Uzhgorod 18.10 310⇓*i*P **Pn** **19 10 17.0 -1.3**
UZH Uzhgorod 18.10 310 *i*P **Pn** **19 10 17.0 -1.3**
DIVS Divibare 18.29 295 *e*P **P** **19 10 21.7 +0.8**
KWP Kalwaria Pacla 18.32 313 *e*P **P** **19 10 21.1 +0.1**
KWP Kalwaria Pacla 18.32 313 *e*P **P** **19 10 21.1 +0.1**
FRGS Fruska Gora 18.61 298 *e*P **Pn** **19 10 24.8 +0.2**
PLE Pljevlja 18.62 292 P **Pn** **19 10 27.5 +2.6**
PDG Podgorica 18.65 289⇑*i*P **P** **19 10 21.0 -3.7**
PDG Podgorica 18.65 289 *e*P **Pn** **19 10 26.8 +1.8**
BBLS Lazići 18.68 294 *e*P **Pn** **19 10 25.8 +0.3**
DRME Dracevica, Mon 18.69 288 *e*P **Pn** **19 10 27.0 +1.5**
TEKS Tekeris 18.69 296 *e*P **Pn** **19 10 26.1 +0.5**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn** **19 10 25.5 -0.3**
CRVS Cervenica-Dubn 18.72 310 *e*P **Pn** **19 10 25.5 -0.3**
NKY Niksic 18.86 290 P **Pn** **19 10 31.0 +3.2**
MICGM Minsk 18.95 331 *e*P **P** **19 10 24.0 -3.9**
MNK Minsk 18.95 331 *e*P **P** **19 10 24.0 -3.9**
UPM Unac-Piva 18.96 291 *e*P **Pn** **19 10 29.1 +0.1**
HAPS Han Pijesak,Bl 19.03 294 *e*P **P** **19 10 29.1 0.0**
STHS Stebnicka Huta 19.07 311 *e*P **Pn** **19 10 30.5 +0.4**
comp=Z,11nm,0.9s
STHS Stebnicka Huta 19.07 311 *e*PN **P** **19 10 24.9 -4.4**
STHS Stebnicka Huta 19.07 311 *e*P **Pn** **19 10 30.5 +0.4**
KECS Kecovo 19.14 308 *e*P **Pn** **19 10 31.1 +0.1**
comp=Z,8.0nm,1.0s
KECS Kecovo 19.14 308 *e*P **Pn** **19 10 31.1 +0.1**
BRY Bratogost 19.20 290 *e*P **Pn** **19 10 31.9 0.0**
PSZ Piszkesteto 19.31 306 *e*P **Pn** **19 10 32.8 -0.3**
comp=Z,72nm,1.1s
PSZ Piszkesteto 19.31 306 *e*P **Pn** **19 10 32.8 -0.3**
comp=Z,72nm,1.1s
NIE Niedzica 19.62 310 *e*P **Pn** **19 10 36.8 0.0**
NIE Niedzica 19.62 310 *e*P **Pn** **19 10 36.8 0.0**
NACGM Naroch 19.67 331 *e*P **P** **19 10 34.0 -1.8**
NACGM PM 19 10 35.0
comp=Z,0.1nm,0.7s
NACGM *e*LR LR 19 19 24.0
DOB Doboj 19.73 296 *e*P **P** **19 10 35.9 -0.7**
BUD Budapest 19.73 304 P **Pn** **19 10 38.2 +0.2**
BUD Budapest 19.73 304⇑*e*P **Pn** **19 10 37.6 -0.4**
IDID Didziasalis 19.99 331 *e*P **P** **19 10 39.1 -0.3**
IDID IAmb IAmb 19 10 41.4
comp=Z,21nm,0.8s
LANS Liptovska Anna 20.02 309 *e*P Pn 19 10 41.3 -0.2
LANS Liptovska Anna 20.02 309 *e*P Pn 19 10 41.3 -0.2
LANS Liptovska Anna 20.02 309 *e*P Pn 19 10 41.3 -0.2
LANS *e* 19 41 21.7
VYHS Vyhne 20.17 307 *e*P Pn 19 10 42.4 -0.9
comp=Z,41nm,1.3s
VYHS Vyhne 20.17 307 *e*P Pn 19 10 42.4 -0.9
CSKK Cs‡kako 20.19 303 *e*P Pn 19 10 43.2 -0.3
WSAR Wadi Sarin 20.21 135 P **P** **19 10 42.8 +0.8**
comp=Z,18nm,0.9s,baz=326,slow=8.4,SNR=9.3
WSAR LR LR 19 20 28.5
comp=Z,606nm,18.8s,baz=343,slow=42
IIGN Ignalina 20.21 331 *e*P **P** **19 10 41.5 -0.3**
IIGN IAmb IAmb 19 10 44.4
comp=Z,36nm,1.1s
OJC Ojcow 20.26 312 *e*P **P** **19 10 42.4 0.0**
OJC Ojcow 20.26 312 *e*P **P** **19 10 42.3 0.0**
OJC pmax pmax
comp=Z,33nm,1.1s
OJC Ojcow 20.26 312 *e*P **P** **19 10 42.3 0.0**
comp=Z,33nm,1.1s
OJC Ojcow 20.26 312 *e*P **P** **19 10 42.3 0.0**
comp=Z,33nm,1.1s
BLY Banja Luka 20.38 296 *e*P **P** **19 10 43.4 -0.2**
comp=Z,26nm,1.1s
BLY Banja Luka 20.38 296 *e*P **P** **19 10 43.4 -0.2**
comp=Z,26nm,1.1s
ARU Arti 20.39 25 P **P** **19 10 43.6 0.0**
comp=Z,19nm,0.6s,baz=232,slow=6.2,SNR=26
ARU LR LR 19 20 38.5
comp=Z,375nm,18.5s,baz=210,slow=43
ARU Arti 20.39 25 *e*P **P** **19 10 43.5 -0.1**
ARU pmax pmax
comp=Z,103nm,1.3s
ARU Arti 20.39 25 *e*P **P** **19 10 43.6 0.0**
comp=Z,163nm,1.5s
ARU Arti 20.39 25 *e*P **P** **19 10 43.6 0.0**
comp=Z,163nm,1.5s
ISAL Salakas 20.42 331 *e*P **P** **19 10 43.7 -0.3**
ISAL IAmb IAmb 19 10 46.8
comp=Z,71nm,1.5s
BEL Belsk 20.47 317 *e*P **P** **19 10 44.7 +0.1**
BEL Belsk 20.47 317 *e*P **P** **19 10 44.7 +0.1**
BEL Belsk 20.47 317 *e*P **P** **19 10 44.7 +0.1**
IZAR Zarasai 20.51 332 *e*P **P** **19 10 44.6 -0.3**
IZAR IAmb IAmb 19 10 50.6
comp=Z,75nm,1.1s
SUW Suwalki 20.55 325 *e*P **P** **19 10 46.1 +0.7**
SUW Suwalki 20.55 325 *e*P **P** **19 10 46.1 +0.7**
SUW Suwalki 20.55 325 *e*P **P** **19 10 46.1 +0.7**
KK31 Karatay Array 20.95 69 *i*P Pn 19 10 51.0 -1.5
KK31 pmax pmax
comp=Z,26nm,0.8s
KK31 Karatay Array 20.95 69 *i*P Pn 19 10 51.0 -1.5
comp=Z,26nm,0.8s
KKAR Karatay Array 20.95 69 *e*P Pn 19 10 51.3 -1.2
KKAR pmax pmax
comp=Z,224nm,0.8s
KKAR Karatay Array 20.95 69 *e*P Pn 19 10 51.2 -1.3
comp=Z,224nm,0.8s
KKAR Karatay Array 20.95 69 *e*P Pn 19 10 51.2 -1.2
comp=Z,224nm,0.8s
BEHE Becsehely 20.96 300⇑*e*P **P** **19 10 50.9 +1.0**
KBL Kabul 21.02 94 *e*P **P** **19 10 54.1 +3.2**
KBL pmax pmax
comp=Z,27nm,1.2s
KBL Kabul 21.02 94 *e*P **P** **19 10 54.1 +3.2**
comp=Z,27nm,1.2s
SMOL Smolenice 21.06 306 *e*P **P** **19 10 53.1 +2.1**
SMOL Smolenice 21.06 306 *e*P **P** **19 10 53.1 +2.1**
SMOL Smolenice 21.06 306 *e*PN **P** **19 10 53.1 +2.1**
OKC Ostrava-Krasne 21.08 310 *e*P **P** **19 10 51.4 +0.3**
OKC *ep*P **sP** **19 10 54.5 -0.7**
OKC AMS AMS 19 23 40.0
comp=Z,400nm,15.2s
OKC Ostrava-Krasne 21.08 310 *e*P **P** **19 10 51.4 +0.3**
OKC *e* 19 10 54.5
OKC MLR MLR
comp=Z,400nm,15.2s
OKC Ostrava-Krasne 21.08 310 *e*P **P** **19 10 51.4 +0.3**
comp=Z,400nm,15.2s
CUC Castrocucco 21.29 282 *e*P **P** **19 10 52.8 -0.8**
comp=Z,19nm,1.1s
CUC Castrocucco 21.29 282 *e*P **P** **19 10 52.8 -0.8**
comp=Z,19nm,1.1s
KOGS Kog 21.31 300 *e*P **P** **19 10 54.1 +0.4**
SOP Sopron 21.39 303 P **P** **19 10 55.0 +0.5**
SOP pmax pmax
comp=Z,49nm,1.2s
SVE Sverdlovsk 21.40 27⇑*e*P **P** **19 10 55.2 +0.6**
SVE *e*S Sn 19 15 03.2 +3.6
SVE pmax pmax
comp=Z,78nm,1.3s
SVE MLR MLR
comp=Z,708nm,15.0s
MORC Moravsky Berou 21.42 309⇑*i*P **P** **19 10 53.0 -1.9**
MORC Moravsky Berou 21.42 309 *e*P **P** **19 10 53.3 -1.6**
MORC pmax pmax
comp=Z,90nm,1.3s
MORC Moravsky Berou 21.42 309 *e*P **P** **19 10 53.3 -1.6**
comp=Z,90nm,1.3s
MORC Moravsky Berou 21.42 309 *e*P **P** **19 10 53.3 -1.6**
comp=Z,90nm,1.3s
CRES Cresnjev 21.74 298 *e*P **P** **19 10 58.9 +0.6**
CRES Cresnjev 21.74 298 *e*P **P** **19 10 59.0 +0.6**
VRAC Vranov 21.84 308 P **P** **19 10 59.7 +0.3**
comp=Z,24nm,1.0s,baz=103,slow=9.7,SNR=20
VRAC LR LR 19 20 12.7
comp=Z,41nm,18.5s,baz=161,slow=39
CONA Conrad Observa 21.90 304 *i*pP **P** **19 11 00.9 +0.8**
comp=Z,40nm,0.9s,SNR=16
ARSA Arzberg 21.97 302 *i*pP **P** **19 11 01.5 +0.8**
comp=Z,26nm,1.0s,SNR=7.6
KRLC Kraliky 21.98 310 *e*P **P** **19 11 01.2 +0.2**
KRLC Kraliky 21.98 310 *e*P **P** **19 11 01.2 +0.2**
KRLC Kraliky 21.98 310 *e*P **P** **19 11 01.2 +0.2**
SOKA Soboth 22.18 300 *i*pP **P** **19 11 03.1 -0.1**
comp=Z,23nm,1.9s
KLMR Klimovskoe 22.28 355 *e*P **P** **19 11 01.4 -2.5**
KLMR *e* 19 11 23.9
KLMR *e*S **S** **19 15 07.2 -1.5**
KLMR pmax pmax
comp=Z,179nm,1.2s
KLMR Klimovskoe 22.28 355 *e*P **P** **19 11 01.4 -2.5**
comp=Z,179nm,1.2s
DPC Dobruska-Polom 22.36 310 *e*P **P** **19 11 06.3 +1.3**
DPC Dobruska-Polom 22.36 310 *e*P **P** **19 11 06.3 +1.3**
DPC Dobruska-Polom 22.36 310 *e*P **P** **19 11 06.3 +1.3**
MNAS Manas 22.40 71 P **P** **19 11 06.0 +0.3**
MNAS pmax pmax
comp=Z,17nm,1.1s
MNAS Manas 22.40 71 P **P** **19 11 06.0 +0.3**
comp=Z,17nm,1.1s
VSU Vasula 22.48 337 *c i*P **P** **19 11 04.9 -1.1**
VSU Vasula 22.48 337 *i*P **P** **19 11 04.9 -1.1**
OBKA Obir 22.48 300 *i*pP **P** **19 11 06.4 +0.1**
comp=Z,17nm,1.6s
TREC Trest 22.52 307 *e*P **P** **19 11 07.8 +1.1**
TREC Trest 22.52 307 *e*P **P** **19 11 07.8 +1.1**
TREC Trest 22.52 307 *e*P **P** **19 11 07.8 +1.1**
KSP Ksiaz 22.55 311 *e*P **P** **19 11 08.5 +1.5**
KSP Ksiaz 22.55 311 *e*P **P** **19 11 08.5 +1.5**
KSP Ksiaz 22.55 311 *e*P **P** **19 11 08.5 +1.5**
SOKR Solikamsk 22.57 18⇑*i*P **P** **19 11 05.3 -1.7**
SOKR pmax pmax
comp=Z,41nm,1.2s
SOKR MLR MLR
comp=Z,745nm,18.0s
UPC Upice 22.60 310 *e*P **P** **19 11 08.6 +1.1**
UPC Upice 22.60 310 *e*P **P** **19 11 08.6 +1.1**
UPC Upice 22.60 310 *e*P **P** **19 11 08.6 +1.1**
PUL Pulkovo 22.62 343⇓*e*P **P** **19 11 07.5 -0.1**
PUL pmax pmax
comp=Z,70nm,0.6s
PUL Pulkovo 22.62 343 *e*P **P** **19 11 07.5 -0.1**
comp=Z,70nm,0.6s
MOA Molln 22.93 303 *i*P **P** **19 11 10.9 -0.1**
comp=Z,19nm,1.0s,SNR=5.2
MOA Molln 22.93 303 P **P** **19 11 10.9 -0.1**
comp=Z,19nm,1.0s,SNR=5.2
AQU L'Aquila 22.98 289 *e*P **P** **19 11 08.5 -3.1**
AQU pmax pmax
comp=Z,54nm,1.0s
AQU L'Aquila 22.98 289 *e*P **P** **19 11 11.1 -0.5**
AQU L'Aquila 22.98 289 *e*P **P** **19 11 08.5 -3.1**
comp=Z,54nm,1.0s
MYKA Terra Mystica 23.11 300 *i*P **P** **19 11 12.8 -0.2**
comp=Z,11nm,1.5s
MYKA Terra Mystica 23.11 300 P **P** **19 11 12.8 -0.2**
comp=Z,11nm,1.5s
GOPC GO Pecny, Ondr 23.14 308 *e*P **P** **19 11 13.5 +0.3**
GOPC GO Pecny, Ondr 23.14 308 *e*P **P** **19 11 13.5 +0.3**
GOPC GO Pecny, Ondr 23.14 308 *e*P **P** **19 11 13.5 +0.3**
PRU Pruhonice 23.32 308 *e*P **P** **19 11 15.1 +0.2**
PRU Pruhonice 23.32 308 *e*P **P** **19 11 15.1 +0.2**
PRU Pruhonice 23.32 308 *e*P **P** **19 11 15.1 +0.2**
KBA Koelnbreinsper 23.39 301 P **P** **19 11 16.2 +0.3**
KBA pmax pmax
comp=Z,17nm,1.0s
KBA Koelnbreinsper 23.39 301 *i*pP **P** **19 11 15.9 0.0**
comp=Z,30nm,1.3s,SNR=7.6
KBA Koelnbreinsper 23.39 301 P **P** **19 11 16.2 +0.3**
comp=Z,17nm,1.0s
PRA Prague 23.41 308 *e*P **P** **19 11 16.4 +0.6**
PRA Prague 23.41 308 *e*P **P** **19 11 16.4 +0.6**
PRA Prague 23.41 308 *e*P **P** **19 11 16.4 +0.6**
BRVK Borovoye 23.41 43 *c i*P **P** **19 11 16.0 +0.1**
BRVK pmax pmax
comp=Z,61nm,1.2s
BRVK Borovoye 23.41 43 *i*P **P** **19 11 16.0 +0.1**
comp=Z,61nm,1.2s
BRVK Borovoye 23.41 43 *e*P **P** **19 11 15.4 -0.5**
comp=Z,29nm,1.1s
BRVK Borovoye 23.41 43 P **P** **19 11 16.3 +0.5**
SNR=12
BRVK Borovoye 23.41 43 P **P** **19 11 16.3 +0.5**
SNR=12
BVA0 Borovoye Array 23.46 44 *i*P **P** **19 11 16.6 +0.3**
BVA0 pmax pmax
comp=Z,21nm,1.1s
BVA0 Borovoye Array 23.46 44 *i*P **P** **19 11 16.6 +0.3**
comp=Z,21nm,1.1s
BVAR Borovoye Array 23.46 44 P **P** **19 11 16.8 +0.5**
comp=Z,18nm,1.2s,baz=233,slow=7.2,SNR=18
BVAR Borovoye Array 23.46 44 P **P** **19 11 16.8 +0.5**
BVAR pmax pmax
comp=Z,22nm,1.2s
BVAR Borovoye Array 23.46 44 P **P** **19 11 16.8 +0.5**
comp=Z,22nm,1.2s
PVCC Panska Ves 23.47 310 *e*P **P** **19 11 16.9 +0.4**
PVCC AMS AMS 19 23 10.0
comp=Z,500nm,14.3s
PVCC Panska Ves 23.47 310 *e*P **P** **19 11 16.9 +0.4**
PVCC MLR MLR
comp=Z,500nm,14.3s
PVCC Panska Ves 23.47 310 *e*P **P** **19 11 16.9 +0.4**
comp=Z,500nm,14.3s
GEC2 GERESS Array S 23.53 305 *e*P **P** **19 11 17.1 -0.1**
GEC2 pmax pmax
comp=Z,35nm,1.5s
GEC2 GERESS Array S 23.53 305 *e*P **P** **19 11 17.1 -0.1**
comp=Z,35nm,1.5s
GEC2 GERESS Array S 23.53 305 *e*P **P** **19 11 17.1 -0.1**
comp=Z,35nm,1.5s
GERES GERESS Array B 23.53 305 P **P** **19 11 16.1 -1.0**
comp=Z,3.9nm,0.7s,baz=118,slow=11,SNR=20
GERES LR LR 19 23 20.8
comp=Z,159nm,18.0s,baz=88,slow=44
KHC Kasperske Hory 23.68 306 *e*P **P** **19 11 18.5 -0.1**
KHC *ex* x 19 11 30.5

KHC Kasperske Hory 23.68 306 *eP* **P 19 11 18.5 -0.1**
KHC Kasperske Hory 23.68 306 *eP* **P 19 11 18.5 -0.1**
KHC Kasperske Hory 23.68 306 *eP* **P 19 11 16.8 -1.7**
comp=Z,24nm,1.3s
AAK Ala-Archa 23.87 71 P **P 19 11 22.6 +2.0**
comp=Z,2.4nm,0.7s,baz=256,slow=11,SNR=5.6
AAK Ala-Archa 23.87 71 *de*P **P 19 11 22.4 +1.7**
AAK pmax pmax
comp=Z,27nm,1.6s
AAK Ala-Archa 23.87 71 *eP* **P 19 11 20.1 -0.6**
comp=Z,20nm,1.2s
AAK Ala-Archa 23.87 71 *eP* **P 19 11 20.1 -0.6**
comp=Z,20nm,1.2s
AAK Ala-Archa 23.87 71 P **P 19 11 22.8 +2.1**
SNR=5.2
AAK Ala-Archa 23.87 71 pP **P 19 11 22.8 +2.1**
SNR=5.2
ABTA Abfaltersbach 23.90 300 *i* pP **P 19 11 21.1 +0.3**
comp=Z,20nm,1.2s,SNR=7.3
FRU Bishkek 23.96 70 *eP* **P 19 11 24.0 +2.7**
FRU *e* 19 11 29.0
FRU pmax pmax
comp=Z,50nm,2.0s
BRG Berggiesshubel 23.96 310 *i* P **P 19 11 21.6 +0.4**
comp=Z,24nm,1.1s
BRG Berggiesshubel 23.96 310 *i* P **P 19 11 21.6 +0.4**
BRG pmax pmax
comp=Z,24nm,1.1s
BRG Berggiesshubel 23.96 310 *i* P **P 19 11 21.6 +0.4**
comp=Z,24nm,1.1s
WET Wettzell 24.13 305 P **P 19 11 22.5 -0.3**
WET pmax pmax
comp=Z,47nm,1.5s
WET Wettzell 24.13 305 P **P 19 11 22.5 -0.3**
comp=Z,47nm,1.5s
WTTA Wattenberg 24.57 301 *i* P **P 19 11 26.9 -0.2**
comp=Z,31nm,1.0s,SNR=9.2
WTTA Wattenberg 24.57 301 P **P 19 11 26.9 -0.2**
comp=Z,31nm,1.0s,SNR=9.2
WATA Walderalm 24.62 301 *i* P **P 19 11 27.0 -0.5**
comp=Z,42nm,1.1s,SNR=20
WATA Walderalm 24.62 301 P **P 19 11 27.0 -0.5**
comp=Z,42nm,1.1s,SNR=20
CLL Collm 24.66 311 *eP* **P 19 11 27.4 -0.2**
CLL pmax pmax
comp=Z,22nm,0.8s
CLL Collm 24.66 311 *eP* **P 19 11 27.4 -0.2**
comp=Z,22nm,0.8s
CLL Collm 24.66 311⇑ *iP* **P 19 11 27.4 -0.2**
comp=Z,27nm,0.9s
CLL *es*P **sP 19 11 31.0 -0.9**
CLL Collm 24.66 311 *eP* **P 19 11 27.4 -0.2**
comp=Z,22nm,0.8s
TKM2 Tokmak 2 24.68 70 *i* P **P 19 11 29.8 +1.7**
TKM2 pmax pmax
comp=Z,16nm,1.1s
NKC Novy Kostel 24.68 308 *eP* **P 19 11 27.6 -0.2**
NKC *ep*P **sP 19 11 32.0 -0.1**
NKC Novy Kostel 24.68 308 *eP* **P 19 11 27.6 -0.2**
NKC *e* 19 11 32.0
NKC Novy Kostel 24.68 308 *eP* **P 19 11 27.6 -0.2**
MOTA Moosalm 24.94 301 *i* pP **P 19 11 30.7 +0.3**
comp=Z,39nm,0.8s,SNR=27
FIA1 FINESS Array S 25.13 340 *eP* **P 19 11 31.3 -0.4**
comp=Z,60nm,1.0s
FIA1 FINESS Array S 25.13 340 *eP* **P 19 11 31.3 -0.4**
comp=Z,60nm,1.0s
FINES FINESS Array B 25.13 340 P **P 19 11 30.8 -0.9**
comp=Z,38nm,0.9s,baz=143,slow=11,SNR=40
FINES LR LR 19 22 11.9
comp=Z,348nm,21.0s,baz=144,slow=38
FINES FINESS Array B 25.13 340 P **P 19 11 30.8 -0.9**
FINES pmax pmax
comp=Z,37nm,1.0s
FINES MLR MLR
comp=Z,348nm,21.0s
FETA Feichten 25.15 300 *i* P **P 19 11 31.5 -0.8**
comp=Z,27nm,1.1s,SNR=5.8
FETA Feichten 25.15 300 P **P 19 11 31.5 -0.8**
comp=Z,27nm,1.1s,SNR=5.8
RETA Reutte 25.19 301 *i* P **P 19 11 32.5 -0.1**
comp=Z,24nm,1.1s
RETA Reutte 25.19 301 P **P 19 11 32.5 -0.1**
comp=Z,24nm,1.1s
KSH Kashi 25.26 78 *eP* **P 19 11 33.4 +0.1**
KSH pP sP 19 11 37.4 -0.1
KSH sP pP 19 11 40.5 +4.2
KSH PP **PnPn 19 12 10.0 +2.5**
KSH S **S 19 15 55.3 -3.7**
KSH sS sS 19 16 02.0 -2.0
KSH SS **SnSn 19 16 53.9 +4.4**
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,140nm,6.4s
KSH LR LR
comp=Z,300nm,11.6s
KSH LR LR
comp=Z,320nm,14.4s
KSH LR LR
comp=Z,310nm,14.5s
JOF Joensuu 25.29 347 P **P 19 11 32.3 -0.9**
JOF pmax pmax
comp=Z,108nm,1.1s
MOX Moxa 25.30 308 P **P 19 11 33.4 -0.1**
MOX pmax pmax
comp=Z,16nm,1.1s
GRF Grafenberg Arr 25.31 306 P **P 19 11 34.5 +1.0**
GRF pmax pmax
comp=Z,99nm,1.4s
GRFO Grafenberg 25.31 306 P **P 19 11 32.5 -1.0**
GRFO pmax pmax
comp=Z,133nm,1.4s
GRFO Grafenberg 25.31 306 P **P 19 11 32.5 -1.0**
comp=Z,133nm,1.4s
GRFO Grafenberg 25.31 306 P **P 19 11 32.5 -1.0**
comp=Z,133nm,1.4s
FUORN Ofenpass-Fuorn 25.42 299 *eP* **P 19 11 35.6 +0.7**
comp=Z,92nm,1.9s
FUORN Ofenpass-Fuorn 25.42 299 *eP* **P 19 11 35.6 +0.7**
comp=Z,92nm,1.9s
TMCR Tamitsa 25.66 355 *eP* **P 19 11 35.9 -0.6**
TMCR pmax pmax
comp=Z,69nm,1.1s
DAVOX Davos/Dischmat 25.70 299 P **P 19 11 36.1 -1.3**
comp=Z,7.2nm,0.6s,baz=120,slow=8.4,SNR=10
DAVA Damuels 25.76 300 *i* P **P 19 11 37.2 -0.6**
comp=Z,35nm,1.2s,SNR=5.9
DAVA Damuels 25.76 300 P **P 19 11 37.2 -0.6**
comp=Z,35nm,1.2s,SNR=5.9
VDL Val di Lei 25.97 298 P **P 19 11 39.7 -0.1**
SUF Sumiainen 26.19 342 P **P 19 11 41.6 +0.2**
SUF pmax pmax
comp=Z,48nm,1.2s
STU Stuttgart 26.43 303 *eP* **P 19 11 43.4 -0.3**
STU pmax pmax
comp=Z,21nm,1.1s
STU Stuttgart 26.43 303 *eP* **P 19 11 43.4 -0.3**
comp=Z,21nm,1.1s
STU Stuttgart 26.43 303 *eP* **P 19 11 43.4 -0.3**
comp=Z,21nm,1.1s
SLE Schleitheim 26.75 301 P **P 19 11 44.2 -2.4**
SLE pmax pmax
comp=Z,11nm,1.1s
ATD Arta Tunnel 27.09 181 LR LR 19 23 06.4
comp=Z,360nm,19.4s,baz=351,slow=38
BSEG Bad Segeberg 27.09 315 P **P 19 11 49.7 +0.1**
BSEG pmax pmax
comp=Z,57nm,1.1s
KEST Kesra 27.14 274 P **P 19 11 49.6 -0.7**
comp=Z,6.0nm,0.8s,baz=324,slow=3.4,SNR=8.5
KEST Kesra 27.14 274 *eP* **P 19 11 51.2 +0.9**
comp=Z,16nm,1.1s
KEST Kesra 27.14 274 *eP* **P 19 11 51.2 +0.9**
comp=Z,16nm,1.1s
TNS Taunus Mts 27.17 306 P **P 19 11 51.1 +0.7**
TNS pmax pmax
comp=Z,49nm,1.5s
SAOF Saorge 27.22 293 P **P 19 11 53.0 +2.1**
VAF Ylistaro 27.36 340 P **P 19 11 52.8 +1.0**
VAF pmax pmax
comp=Z,35nm,1.6s
KURBB Kurchatov Arra 27.44 53 P **P 19 11 53.1 +0.3**
comp=Z,9.7nm,0.9s,baz=263,slow=8.9,SNR=28
PDGK Podgornoye 27.51 69 P **P 19 11 54.0 +0.4**
PDGK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 27.52 53⇑ *eP* **P 19 11 54.2 +0.8**
KURK pmax pmax
comp=Z,57nm,1.2s
KURK Kurchatov 27.52 53 *eP* **P 19 11 54.6 +1.2**
KURK Kurchatov 27.52 53 P **P 19 11 54.6 +1.2**
SNR=7.8
KURK Kurchatov 27.52 53 pP **P 19 11 54.6 +1.2**
SNR=7.8
BNI Bardonecchia 27.84 295 *eP* **P 19 11 56.3 -0.3**
BNI pmax pmax
comp=Z,13nm,0.9s
BNI Bardonecchia 27.84 295 *eP* **P 19 11 56.2 -0.3**
comp=Z,13nm,0.9s
BNI Bardonecchia 27.84 295 *eP* **P 19 11 56.2 -0.3**
comp=Z,13nm,0.9s
BUG Bochum--Univer 28.16 309 P **P 19 11 58.1 -1.0**
BUG pmax pmax
comp=Z,23nm,1.6s
HFS Hagfors 28.40 329 P **P 19 12 00.5 -0.7**
comp=Z,34nm,0.8s,baz=127,slow=9.5,SNR=28
HFS LR LR 19 25 31.2
comp=Z,152nm,19.2s,baz=120,slow=41
MK31 Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
MK31 Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
MK31 Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
MKAR Makanchi Array 29.46 61 P **P 19 12 11.5 +0.6**
comp=Z,2.9nm,0.7s,baz=268,slow=7.2,SNR=15
MKAR Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
MKAR pmax pmax
comp=Z,26nm,0.8s
MKAR Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
comp=Z,26nm,0.8s
MKAR Makanchi Array 29.46 61 *eP* **P 19 12 12.1 +1.2**
comp=Z,26nm,0.8s
NB2 NORSAR Subarra 29.92 329 P **P 19 12 13.3 -1.5**
comp=Z,8.0nm,0.8s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.92 329 P **P 19 12 13.4 -1.4**
NB2 pmax pmax
comp=Z,31nm,1.4s
NB2 NORSAR Subarra 29.92 329 P **P 19 12 13.3 -1.5**
comp=Z,8.0nm,0.8s,SNR=1.1
NOA NORSAR Array B 29.92 329 P **P 19 12 13.4 -1.4**
comp=Z,5.3nm,0.7s,baz=126,slow=8.8,SNR=13
NOA LR LR 19 24 35.1
comp=Z,162nm,21.6s,baz=125,slow=37
NOA NORSAR Array B 29.92 329 P **P 19 12 13.4 -1.4**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,162nm,21.6s
NAO01 NORSAR Array S 29.95 328 *eP* **P 19 12 14.2 -0.8**
NAO01 NORSAR Array S 29.95 328 *eP* **P 19 12 14.2 -0.8**
NVS Novosibirsk 31.20 46 *eP* **P 19 12 25.9 -0.1**
NVS *e*S **S 19 17 33.5 +1.6**
NVS pmax pmax
comp=Z,16nm,1.7s
NVS smax smax
comp=E,7.0nm,1.1s
ZALV Zalesovo Beam 31.90 48 P **P 19 12 31.7 -0.5**
comp=E,1.3nm,0.6s,baz=261,slow=9.9,SNR=5.1
ZALV LR LR 19 27 32.2
comp=E,154nm,18.5s,baz=248,slow=40
ARCES ARCESS Array B 32.31 348 P **P 19 12 35.2 -0.5**
comp=E,11nm,0.8s,baz=148,slow=9.5,SNR=28
ARCES LR LR 19 26 28.3
comp=E,486nm,18.6s,baz=138,slow=38
WMQ Urumqi 33.41 67 P **P 19 12 46.8 +1.1**
WMQ pP sP 19 12 51.4 +1.4
WMQ sP pP 19 12 54.8 +6.1
WMQ pmax pmax
comp=E,6.0nm,0.7s
WMQ pmax pmax
comp=E,72nm,7.3s
WMQ LR LR
comp=E,250nm,23.5s
WMQ LR LR
comp=E,67nm,23.5s
CWF Charnwood Fore 33.59 309 *eP* **P 19 12 45.8 -1.2**
CWF IAmb IAmb 19 12 47.7
comp=Z,46nm,1.3s
CWF Charnwood Fore 33.59 309 *eP* **P 19 12 46.6 -0.4**
comp=Z,40nm,1.3s
CWF Charnwood Fore 33.59 309 *eP* **P 19 12 46.6 -0.4**
comp=Z,40nm,1.3s
HPK Haverah Park 33.93 312 *eP* **P 19 12 49.5 -0.5**
HPK Haverah Park 33.93 312 *eP* **P 19 12 49.5 -0.5**
EDMD Edmundbyers 34.26 313 *eP* **P 19 12 52.3 -0.5**
EDMD IAmb IAmb 19 12 53.2
comp=Z,50nm,0.9s
EDMD Edmundbyers 34.26 313 *eP* **P 19 12 52.3 -0.5**
HGH Gray Hill 34.41 307 *eP* **P 19 12 53.5 -0.7**
HGH Gray Hill 34.41 307 *eP* **P 19 12 53.5 -0.7**
PYUN Piuthan 34.52 96 *eP* **P 19 12 55.8 +0.2**
HLM1 Long Mynd 34.52 309 *eP* **P 19 12 54.7 -0.4**
HLM1 Long Mynd 34.52 309 *eP* **P 19 12 54.7 -0.4**
MCH1 Michaelchurch 34.55 308 *eP* **P 19 12 54.7 -0.7**
MCH1 IAmb IAmb 19 12 54.8
comp=Z,138nm,1.2s
MCH1 Michaelchurch 34.55 308 *eP* **P 19 12 54.7 -0.7**
FOEL Foel Wylfa 34.75 309 *eP* **P 19 12 56.0 -1.1**
FOEL IAmb IAmb 19 12 57.7
comp=Z,56nm,0.8s
FOEL Foel Wylfa 34.75 309 *eP* **P 19 12 56.0 -1.1**
ESY Stoneypath 34.80 315 *eP* **P 19 12 57.1 -0.4**
ESY Stoneypath 34.80 315 *eP* **P 19 12 57.1 -0.4**
KESW Keswick, Cumbr 34.88 312 *eP* **P 19 12 57.8 -0.4**
KESW IAmb IAmb 19 12 58.8
comp=Z,72nm,1.0s
KESW Keswick, Cumbr 34.88 312 *eP* **P 19 12 57.8 -0.4**
DRUM Mains of Drumt 34.92 317 *eP* **P 19 12 58.0 -0.5**
DRUM IAmb IAmb 19 12 59.2
comp=Z,39nm,0.7s
DRUM Mains of Drumt 34.92 317 *eP* **P 19 12 58.0 -0.5**
DANN Dangsing 35.00 95 *eP* **P 19 13 00.8 +0.9**
comp=Z,4.3nm,1.0s
EKA Eskdalemuir Ar 35.02 314 P **P 19 12 58.8 -0.5**
comp=Z,38nm,0.7s,baz=106,slow=8.7,SNR=67
ESK Eskdalemuir 35.04 314 *eP* **P 19 12 58.9 -0.7**
ESK IAmb IAmb 19 13 00.0
comp=Z,39nm,0.8s
ESK Eskdalemuir 35.04 314 *eP* **P 19 12 59.3 -0.2**
ESK pmax pmax
comp=Z,38nm,0.7s
ESK Eskdalemuir 35.04 314 *eP* **P 19 12 58.8 -0.7**
ESK Eskdalemuir 35.04 314 *eP* **P 19 12 59.3 -0.2**
comp=Z,38nm,0.7s
EDI Edinburgh 35.12 315 *eP* **P 19 13 00.3 +0.1**
EDI IAmb IAmb 19 13 01.4
comp=Z,138nm,1.6s
EDI Edinburgh 35.12 315 *eP* **P 19 13 00.3 +0.1**
EDU Dundee 35.14 316 *eP* **P 19 12 59.6 -0.8**
EDU Dundee 35.14 316 *eP* **P 19 12 59.6 -0.8**
KOLN Koldanda 35.15 96 *eP* **P 19 13 01.6 +0.6**
comp=Z,10nm,0.7s
WPM1 Penmaenmawr 35.20 310 *eP* **P 19 13 00.8 -0.2**
WPM1 Penmaenmawr 35.20 310 *eP* **P 19 13 00.8 -0.2**
EAB Aberfoyle 35.80 315 *eP* **P 19 13 05.1 -1.0**
EAB Aberfoyle 35.80 315 *eP* **P 19 13 05.1 -1.0**
GKN Gorkha 35.84 95 *eP* **P 19 13 07.7 +0.7**
comp=Z,39nm,1.0s
TAM Tamanrasset 35.88 255 *eP* **P 19 13 07.9 +0.5**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 35.88 255 *eP* **P 19 13 07.9 +0.5**
comp=Z,5.2nm,0.9s
TAM Tamanrasset 35.88 255 *eP* **P 19 13 07.9 +0.5**
comp=Z,5.2nm,0.9s
ESDC Sonseca Array 36.34 287 P **P 19 13 09.4 -1.6**
comp=Z,4.9nm,0.7s,baz=66,slow=8.8,SNR=26
ESDC LR LR 19 29 12.3
comp=Z,76nm,19.8s,baz=185,slow=38
DMN Daman 36.40 95 *eP* **P 19 13 12.8 +1.0**
comp=Z,68nm,1.3s
KKN Kakani 36.45 95 *eP* **P 19 13 12.5 +0.3**
comp=Z,18nm,1.0s
KAC Achnashellach 36.53 317 *eP* **P 19 13 11.6 -0.7**
KAC Achnashellach 36.53 317 *eP* **P 19 13 11.6 -0.7**
PKIN Phulchoki 36.64 95 *eP* **P 19 13 14.6 +0.7**
comp=Z,22nm,0.8s
GUN Gumba 36.86 94 *eP* **P 19 13 16.5 +0.6**
comp=Z,72nm,1.2s
JIRN Jiri 37.22 94 *eP* **P 19 13 19.7 +0.8**
comp=Z,205nm,1.3s
RAMN Ramite 37.88 95 *eP* **P 19 13 24.9 +0.5**
comp=Z,39nm,0.7s
ODAN Odare 38.54 94 *eP* **P 19 13 30.7 +0.7**
comp=Z,78nm,1.3s
TAPN Taplejung 38.55 94 *eP* **P 19 13 30.9 +0.8**
comp=Z,23nm,1.0s
NRIK Noril'sk 38.60 23 P **P 19 13 30.3 +0.6**
comp=Z,5.9nm,0.7s,baz=229,slow=4.7,SNR=5.7
NRIK LR LR 19 32 54.4
comp=Z,293nm,18.1s,baz=227,slow=42
MDT Midelt 39.00 276 P **P 19 13 32.7 -0.9**
comp=Z,2.4nm,0.9s,baz=11,slow=7.4,SNR=3.7
KMBO Kilima Mbogo 40.06 189 LR LR 19 30 35.2
comp=Z,388nm,18.6s,baz=94,slow=37
LSA Lhasa 40.16 88 *eP* **P 19 13 44.8 +1.0**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 40.16 88 *eP* **P 19 13 44.8 +1.0**
comp=Z,11nm,0.8s
LSA Lhasa 40.16 88 *eP* **P 19 13 44.8 +1.0**
comp=Z,11nm,0.8s
GTA Gaotai 43.23 71 *eP* **P 19 14 09.6 +1.2**
GTA pP sP 19 14 14.3 +1.6
GTA sP pP 19 14 16.6 +5.1
GTA pmax pmax
comp=Z,3.0nm,1.1s
TOA0 Torodi Ar. Sit 44.75 247 *eP* **P 19 14 19.9 -0.8**
comp=Z,11nm,1.4s
TOA0 Torodi Ar. Sit 44.75 247 *eP* **P 19 14 19.9 -0.8**
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 44.75 247 P **P 19 14 18.7 -2.0**
comp=Z,2.1nm,0.9s,baz=48,slow=6.7,SNR=13
SONM Songino Array 45.63 57 P **P 19 14 27.8 +0.3**
comp=Z,0.3nm,0.6s,baz=286,slow=12,SNR=2.6
ULN Ulaanbaatar 46.06 57 *c i*P **P 19 14 31.6 +0.7**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 46.06 57 *eP* **P 19 14 32.1 +1.2**
comp=Z,14nm,1.3s
ULN Ulaanbaatar 46.06 57 *eP* **P 19 14 32.1 +1.2**
comp=Z,14nm,1.3s
LZH Lanzhou 47.36 73 *eP* **P 19 14 43.0 +1.7**
LZH pP sP 19 14 48.3 +2.7
LZH sP pP 19 14 50.4 +6.0
LZH *e*S **S 19 21 34.0 -1.3**
LZH sS sS 19 21 43.0 +2.6
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,1μm,14.3s
BOD Bodaibo 48.32 43 *eP* **P 19 14 47.8 -0.4**
BOD pmax pmax
comp=Z,13nm,1.0s
CD2 Chengdu 49.43 80 *eP* **P 19 14 58.3 +1.1**
SUMG Summit 51.11 337 *i* P **P 19 15 09.8 +0.1**
comp=Z,22nm,1.1s
SUMG Summit 51.11 337 *i* P **P 19 15 09.8 +0.1**
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 51.11 337 *eP* **P 19 15 09.9 +0.1**
comp=Z,23nm,1.1s
SUMG Summit 51.11 337 *eP* **P 19 15 09.9 +0.1**
comp=Z,23nm,1.1s
HHC Hu-ho-hao-te 51.24 65 *eP* **P 19 15 11.9 +1.1**
HHC pP sP 19 15 16.8 +1.7
HHC PP **PP 19 17 12.5 +5.1**
HHC S **S 19 22 28.1 -1.3**
HHC sS sS 19 22 35.5 +0.9
HHC SS **SS 19 26 00.3 -4.2**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,68nm,3.6s
HHC LR LR
comp=Z,140nm,11.1s
HHC LR LR
comp=Z,110nm,12.3s
HHC LR LR
comp=Z,99nm,16.0s
KMI Kunming 51.39 87 P **P 19 15 15.0 +2.7**
KMI pmax pmax
comp=Z,6.0nm,0.5s
CHTO Chiang Mai 51.81 96 *eP* **P 19 15 15.1 -0.1**
CHTO pmax pmax
comp=Z,25nm,2.0s
CHTO Chiang Mai 51.81 96 *eP* **P 19 15 15.1 -0.1**
comp=Z,25nm,2.0s
CHTO Chiang Mai 51.81 96 *eP* **P 19 15 15.1 -0.1**
comp=Z,25nm,2.0s
XAN Xi'an 52.00 74 P **P 19 15 16.5 0.0**
XAN pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 52.01 96 P **P 19 15 15.7 -1.0**
comp=Z,1.1nm,0.8s,baz=301,slow=8.7,SNR=4.9
TIXI Tiksi 52.38 23⇓ *iP* **P 19 15 18.8 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 52.38 23 *eP* **P 19 15 18.8 +0.1**
comp=Z,5.2nm,0.9s
TIXI Tiksi 52.38 23 *eP* **P 19 15 18.8 +0.1**
comp=Z,5.3nm,0.9s
HIA Hailar 53.75 52⇓ *iP* **P 19 15 29.4 +0.2**
HIA pmax pmax
comp=Z,6.0nm,0.7s
GYA Guiyang 53.78 83 *eP* **P 19 15 31.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 53.86 246 P **P 19 15 28.2 -2.2**
comp=Z,5.7nm,0.9s,baz=29,slow=9.0,SNR=7.8
DBIC Dimbokro 53.86 246 *eP* **P 19 15 29.5 -0.8**
DBIC pmax pmax
comp=Z,34nm,1.7s
DBIC Dimbokro 53.86 246 *eP* **P 19 15 29.5 -0.8**
comp=Z,34nm,1.7s
DBIC Dimbokro 53.86 246 *eP* **P 19 15 29.5 -0.8**
comp=Z,34nm,1.7s
KIC Kosan Boka 53.99 246 *eP* **P 19 15 29.3 -2.0**
comp=Z,43nm,1.2s
TIC Toumodi 53.99 247 *eP* **P 19 15 29.9 -1.5**
LIC Lamto 54.29 246 *eP* **P 19 15 32.2 -1.3**
comp=Z,61nm,1.2s
YAK Yakutsk 55.04 35⇓ *iP* **P 19 15 37.6 -0.7**
YAK pmax pmax
comp=Z,18nm,1.1s
ABPO Ambohimpanom 57.56 176 *i* P **P 19 15 57.8 +0.9**
WHN Wuhan 57.68 75 ⇓P P 19 16 06.4 +8.8
CN2 Changchun 59.50 56 *eP* **P 19 16 12.4 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
NJ2 Nanjing 60.32 71 *eP* **P 19 16 15.9 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 61.00 49 P **P 19 16 20.6 +0.3**
comp=Z,0.2nm,0.8s,baz=287,slow=7.5,SNR=5.0
USRK Ussuriysk Ar. 63.50 53 P **P 19 16 36.7 -0.5**
comp=Z,2.4nm,0.9s,baz=268,slow=8.7,SNR=3.2
VLA Vladivostok 63.96 55 *de*P **P 19 16 40.7 +0.5**
VLA pmax pmax
comp=Z,52nm,0.8s
SEY Seymchan 64.06 29⇓ *eP* **P 19 16 41.9 +1.4**
KSAR Wonju Array Be 64.12 62 P **P 19 16 40.7 -0.7**
KSAR Wonju Array Be 64.12 62 P **P 19 16 40.7 -0.7**
KSAR Wonju Array Be 64.12 62 P **P 19 16 40.7 -0.7**
KSRS Korea Array 64.15 62 P **P 19 16 40.7 -0.8**
comp=Z,3.7nm,0.9s,baz=294,slow=6.1,SNR=11
BILL Bilibino 65.33 20⇑ *iP* **P 19 16 49.0 +0.3**
BILL pmax pmax
comp=Z,13nm,1.5s
BOSA Boshof 69.09 197 P **P 19 17 12.0 -1.1**
comp=Z,2.2nm,0.7s,baz=14,slow=5.4,SNR=7.0
MJAR Matsushiro Arr 71.58 58 P **P 19 17 27.8 -0.6**
comp=Z,1.0nm,0.7s,baz=315,slow=4.4,SNR=5.3
MJAR Matsushiro Arr 71.58 58 P **P 19 17 27.8 -0.6**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 73.26 359 P **P 19 17 36.9 -0.8**
comp=Z,5.9nm,1.1s,baz=308,slow=3.3,SNR=3.9
COLD Coldfoot 73.86 5 *eP* **P 19 17 41.8 +0.4**
comp=Z,5.4nm,0.9s
COLD Coldfoot 73.86 5 *eP* **P 19 17 41.8 +0.4**

	comp=Z,5.4nm,0.9s						
PQI	Presque Isle	75.19	318	eP	P	19 17 49.8	+0.4
	comp=Z,26nm,1.1s						
PQI	Presque Isle	75.19	318	eP	P	19 17 49.8	+0.4
	comp=Z,26nm,1.1s						
MLY	Manley	75.98	6	eP	P	19 17 54.0	+0.2
	comp=Z,5.8nm,0.9s						
MLY	Manley	75.98	6	eP	P	19 17 54.0	+0.2
	comp=Z,5.8nm,0.9s						
MDM	Murphy Dome	76.25	5	eP	P	19 17 55.6	+0.4
	comp=Z,22nm,1.7s						
MDM	Murphy Dome	76.25	5	eP	P	19 17 55.6	+0.4
	comp=Z,22nm,1.7s						
COLA	College	76.36	5⇑	eP	P	19 17 56.1	+0.3
COLA				pmax	pmax		
	comp=Z,21nm,2.0s						
ILAR	Eielson Array	76.52	4	P	P	19 17 56.0	-0.7
	comp=Z,0.9nm,0.9s,baz=330,slow=5.9,SNR=9.2						
ILAR				PP	PP	19 20 48.1	+0.2
	comp=Z,0.6nm,1.0s,baz=346,slow=5.9,SNR=3.3						
CCB	Clear Creek Bu	76.58	5	eP	P	19 17 56.9	-0.2
	comp=Z,9.9nm,1.4s						
CCB	Clear Creek Bu	76.58	5	eP	P	19 17 56.9	-0.2
	comp=Z,9.9nm,1.4s						
EGAK	Eagle	76.77	2	eP	P	19 17 58.0	-0.1
	comp=Z,20nm,1.5s						
EGAK	Eagle	76.77	2	eP	P	19 17 58.0	-0.1
	comp=Z,20nm,1.5s						
BPAW	Bear Paw Mtn.	76.88	6	eP	P	19 17 59.3	+0.5
	comp=Z,9.3nm,1.1s						
BPAW	Bear Paw Mtn.	76.88	6	eP	P	19 17 59.3	+0.5
	comp=Z,9.3nm,1.1s						
CAST	Castle Rocks	77.45	7	eP	P	19 18 01.8	-0.2
	comp=Z,15nm,1.0s						
CAST	Castle Rocks	77.45	7	eP	P	19 18 01.8	-0.2
	comp=Z,15nm,1.0s						
DAWY	Dawson	77.52	1	eP	P	19 18 02.2	-0.2
	comp=Z,6.0nm,0.9s						
DAWY	Dawson	77.52	1	eP	P	19 18 02.2	-0.2
	comp=Z,6.0nm,0.9s						
RND	Reindeer	77.74	6	eP	P	19 18 02.9	-0.8
RND				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RND	Reindeer	77.74	6	eP	P	19 18 02.9	-0.8
	comp=Z,4.7nm,0.9s						
RND	Reindeer	77.74	6	eP	P	19 18 02.9	-0.8
	comp=Z,4.7nm,0.9s						
DOT	Dot Lake	77.79	3	eP	P	19 18 04.4	+0.5
	comp=Z,13nm,0.7s						
DOT	Dot Lake	77.79	3	eP	P	19 18 04.5	+0.5
	comp=Z,13nm,0.7s						
MENT	Mentasta	78.52	3	eP	P	19 18 08.3	+0.3
	comp=Z,6.3nm,0.7s						
MENT	Mentasta	78.52	3	eP	P	19 18 08.3	+0.3
	comp=Z,6.3nm,0.7s						
SML	Sawmill	79.36	6	eP	P	19 18 12.4	-0.2
SML				pmax	pmax		
	comp=Z,13nm,0.8s						
SML	Sawmill	79.36	6	eP	P	19 18 12.4	-0.2
	comp=Z,13nm,0.8s						
SML	Sawmill	79.36	6	eP	P	19 18 12.4	-0.2
	comp=Z,13nm,0.8s						
SCM	Sheep Creek Mo	79.41	5	eP	P	19 18 13.3	+0.3
SCM				pmax	pmax		
	comp=Z,19nm,1.1s						
SCM	Sheep Creek Mo	79.41	5	eP	P	19 18 13.3	+0.3
	comp=Z,19nm,1.1s						
SCM	Sheep Creek Mo	79.41	5	eP	P	19 18 13.3	+0.3
	comp=Z,19nm,1.1s						
SUA	Susitna One	79.50	7	eP	P	19 18 13.5	0.0
SUA	Susitna One	79.50	7	eP	P	19 18 13.5	0.0
KLU	Klutina	79.84	4	eP	P	19 18 15.9	+0.6
KLU	Klutina	79.84	4	eP	P	19 18 15.9	+0.6
LONY	Lake Ozonia	79.94	320	eP	P	19 18 16.0	-0.1
	comp=Z,17nm,1.4s						
LONY	Lake Ozonia	79.94	320	eP	P	19 18 16.0	-0.1
	comp=Z,17nm,1.4s						
RC01	Rabbit Creek A	79.96	6	eP	P	19 18 15.8	0.0
	comp=Z,9.2nm,0.8s						
RC01	Rabbit Creek A	79.96	6	eP	P	19 18 15.8	0.0
	comp=Z,9.2nm,0.8s						
DIV	Divide	80.21	4	eP	P	19 18 17.8	+0.5
	comp=Z,11nm,0.8s						
DIV	Divide	80.21	4	eP	P	19 18 17.8	+0.5
	comp=Z,11nm,0.8s						
HYT	Haines Junctio	80.79	0	eP	P	19 18 21.1	+0.6
HYT	Haines Junctio	80.79	0	eP	P	19 18 21.1	+0.6
KDAK	Kodiak Island	82.92	9	iP	P	19 18 31.6	+0.1
ULM	Lac du Bonnet	84.40	335	LR	LR	19 57 13.4	
	comp=Z,104nm,18.2s,baz=337,slow=36						
SSPA	Standing Stone	84.51	319	eP	P	19 18 39.9	-0.2
	comp=Z,7.8nm,0.9s						
SSPA	Standing Stone	84.51	319	eP	P	19 18 39.9	-0.2
	comp=Z,7.8nm,0.9s						
LLLB	Lillooet	90.09	351	eP	P	19 19 07.4	+0.4
LLLB	Lillooet	90.09	351	eP	P	19 19 07.4	+0.4
EGMT	Eagleton	90.36	342	eP	P	19 19 11.0	+2.7
TKL	Tuckaleechee C	91.30	319	eP	P	19 19 12.5	-0.3
TKL	Tuckaleechee C	91.30	319	eP	P	19 19 12.5	-0.3
TKL	Tuckaleechee C	91.30	319	eP	P	19 19 12.5	-0.3
PDAR	Pinedale Array	95.23	340	P	P	19 19 30.6	-0.5
	comp=Z,0.3nm,0.6s,baz=55,slow=7.8,SNR=3.5						
PDAR				LR	LR	20 03 23.2	
	comp=Z,100nm,18.5s,baz=36,slow=36						
URZ	Urewera	144.11	104	PKhKP	PKPpre	19 25 38.2	
	comp=Z,9.2nm,0.9s,baz=316,slow=3.3,SNR=8.9						

IDC 23 19:18:35.5±6.4, 22°.98S×171°.75E, h62km±43km, mb3.4/3, mb1 3.8/5, mb1mx3.5/24, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=77.2km s-min=30.8km az=35.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.99	279	P	Pn	19 19 47.0	-0.9
	4.9nm,0.3s,baz=110,slow=18,SNR=24						
DZM				S	Sn	19 20 45.8	+1.6
	1.4nm,0.3s,baz=143,slow=21,SNR=1.6						
URZ	Urewera	15.91	164	P	Pn	19 22 15.9	+0.6
	0.2nm,0.3s,baz=320,slow=15,SNR=6.9						
ASAR	Alice Springs	34.69	261	P	P	19 25 19.4	0.0
	0.5nm,0.5s,baz=88,slow=8.5,SNR=17						
WRA	Warramunga Arr	34.88	268	P	P	19 25 19.9	-1.2
	0.5nm,0.4s,baz=97,slow=8.5,SNR=12						
CMAR	Chiang Mai Arr	82.16	294	P	P	19 30 51.0	+1.0
	0.5nm,0.8s,baz=136,slow=3.9,SNR=5.2						

*ISK **23** 19:19:50.9, 38°.81N×43°.33E, h5km, MD3.2*
*DDA **23** 19:19:51.8, 38°.80N×43°.30E, h8km, Md2.5*
*CSEM **23** 19:19:52.1±0.3, 38°.80N×43°.31E, h2km, MD2.5, Error ellipse: s-maj=7.9km s-min=6.2km az=108.0*

ISC 23 19:19:52.4±1.1, 38°.80N±0°.03×43°.31E±0°.03, h9km±10km, n30, σ0°80/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.28	48	iP	Pg	19 19 58.2	+0.2
VMUR	Van-Muradiye	0.28	48	P	Pg	19 19 58.2	+0.2
DYDN	Diyadin	0.80	22	iP	Pg	19 20 06.9	-0.9
DYDN				iS	Sb	19 20 19.0	-0.6
DYDN	Diyadin	0.80	22	P	Pg	19 20 06.9	-0.9
DYDN				S	Sb	19 20 19.0	-0.6
AGRB	Hanur-Agry	0.81	342	ePG	Pg	19 20 07.3	-0.8
AGRB				eSG	Sb	19 20 19.9	-0.1
AGRB	Hanur-Agry	0.81	342	ePg	Pg	19 20 07.3	-0.8
AGRB				eSg	Sb	19 20 19.9	-0.1
EKAR	Karacoban	1.07	295	iP	Pg	19 20 12.0	-1.1
EKAR				iS	Sn	19 20 30.0	+0.9
EKAR	Karacoban	1.07	295	P	Pg	19 20 12.0	-1.1
EKAR				S	Sn	19 20 30.0	+0.9
EATA	Eleskirt	1.23	329	iP	Pg	19 20 14.9	-1.2
EATA				iS	Sn	19 20 33.1	-0.1
EATA	Eleskirt	1.23	329	P	Pg	19 20 14.9	-1.2
EATA				S	Sn	19 20 33.1	-0.1
VRTB	Varto-Mus	1.49	284	ePN	Pg	19 20 20.3	-0.7
VRTB				eSN	Sg	19 20 41.4	+1.0
VRTB	Varto-Mus	1.49	284	ePn	Pg	19 20 20.3	-0.7
VRTB				eSn	Sg	19 20 41.4	+1.0
CUKT	Cukurca	1.57	171	ePN	Pb	19 20 21.3	-0.5
CUKT				eSN	Sg	19 20 43.1	+0.1
CUKT	Cukurca	1.57	171	ePn	Pb	19 20 21.3	-0.5
CUKT				eSn	Sg	19 20 43.1	+0.1
DIGO	Kars	1.61	2	iP	Pg	19 20 22.4	-0.9
DIGO	Kars	1.61	2	P	Pg	19 20 22.5	-0.9
SVAN	Silvan-Diyarba	1.78	249	ePN	Pn	19 20 23.4	-0.1
SVAN	Silvan-Diyarba	1.78	249	ePn	Pn	19 20 23.4	-0.1
ERZM	Erzurum	1.87	307	iP	Pb	19 20 27.1	+0.2
ERZM	Erzurum	1.87	307	P	Pb	19 20 27.1	+0.2
SENK	Senkaya-Erzuru	1.91	337	ePN	Pn	19 20 25.8	+0.4
SENK	Senkaya-Erzuru	1.91	337	ePn	Pn	19 20 25.8	+0.4
BNGB	Bing¶l	2.06	276	ePN	Pn	19 20 27.9	+0.5
BINT	Bingol	2.21	273	ePn	Pn	19 20 27.9	-1.5
YEDI	Yedisu-Bingol	2.24	287	ePN	Pn	19 20 30.4	+0.4
YEDI	Yedisu-Bingol	2.24	287	ePn	Pn	19 20 30.4	+0.4
MAZI	Mazidag	2.63	240	ePN	Pn	19 20 36.2	+1.0
MAZI	Mazidag	2.63	240	ePn	Pn	19 20 36.2	+1.0
SVRC	Sivrice-ELAZID	3.17	264	ePN	Pn	19 20 44.0	+1.3
SVRC	Sivrice-ELAZID	3.17	264	ePn	Pn	19 20 44.0	+1.3

IDC 23 19:22:45.4±71.0, 20°.79S×177°.87E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/24, mbtmp3.8/3, Error ellipse: s-maj=1265.0km s-min=153.0km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.19	244	P	P	19 29 31.9	-0.8
	2.1nm,0.9s,baz=74,slow=4.8,SNR=3.6						
ASAR	Alice Springs	40.69	258	P	P	19 30 27.7	-0.2
	0.8nm,0.6s,baz=91,slow=8.0,SNR=6.8						
WRA	Warramunga Arr	40.73	263	P	P	19 30 28.7	+0.4
	0.3nm,0.3s,baz=96,slow=7.8,SNR=11						

*AZER **23** 19:25:18.8±1.6, 37°.89N×41°.76E, h1km, Error ellipse: s-maj=16.1km s-min=15.7km az=127.0*
*ISN **23** 19:25:22.5±1.4, 39°.37N×43°.25E, h0km±76km, ML4.2*
*DDA **23** 19:25:32.8, 38°.62N×43°.20E, h7km, Ml4.4*
*ISK **23** 19:25:32.6, 38°.67N×43°.20E, h5km, ML4.1*
*TEH **23** 19:25:33.5, 38°.86N×42°.95E, h23km, ML4.2*
*CSEM **23** 19:25:34.9±0.1, 38°.52N×43°.13E, h2km, ML4.4, Error ellipse: s-maj=4.5km s-min=3.8km az=3.0*
*IDC **23** 19:25:36.9±2.1, 38°.63N×43°.22E, h28km±16km, mb3.7/19, mb1 3.8/29, mb1mx3.7/45, mbtmp3.9/29, ML3.5/9, MS3.3/5, Ms1 3.3/5, ms1mx2.8/48, Error ellipse: s-maj=12.2km s-min=7.8km az=147.0*

ISC 23 19:25:33.3±0.6, 38°.64N±0°.01×43°.30E±0°.02, h6km±4km, n261, σ1°94/264, mb3.9/19, 46C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.38	210	⇑iP	Pg	19 25 40.0	-0.7
GEVA				iS	Sg	19 25 47.4	+1.7
GEVA	Gevas	0.38	210	P	Pg	19 25 40.0	-0.7
GEVA				S	Sg	19 25 47.4	+1.7
VMUR	Van-Muradiye	0.41	32	⇓iP	Pb	19 25 42.6	-0.6
VMUR				iS	Sb	19 25 49.6	-0.2
VMUR	Van-Muradiye	0.41	32	P	Pb	19 25 42.6	-0.6
VMUR				S	Sb	19 25 49.6	-0.2
BASK	Baskale_VAN	0.81	136	⇓iP	Pb	19 25 48.7	-1.3
BASK	Baskale_VAN	0.81	136	P	Pb	19 25 48.7	-1.3
AGRB	Hanur-Agry	0.96	346	PG	Pg	19 25 51.3	-0.5
AGRB				eSG	Sb	19 26 05.0	-0.7
HAKT	HAKKARI	1.13	163	⇓iP	Pg	19 25 53.5	-1.5
HAKT				iS	Sb	19 26 10.4	-0.1
HAKT	HAKKARI	1.13	163	P	Pg	19 25 53.5	-1.5
HAKT				S	Sb	19 26 10.4	-0.1
EKAR	Karacoban	1.14	303	⇑iP	Pg	19 25 54.4	-0.8
EKAR	Karacoban	1.14	303	P	Pg	19 25 54.4	-0.8
SIRN	S¨–rnak	1.34	212	⇓iP	Pn	19 25 57.3	-1.4
SIRN				iS	Sn	19 26 18.0	+1.1
SIRN	S¨–rnak	1.34	212	P	Pn	19 25 57.3	-1.4
SIRN				S	Sn	19 26 18.0	+1.1
EATA	Eleskirt	1.37	333	⇑iP	Pn	19 25 58.4	-1.0
EATA				iS	Sn	19 26 20.2	+2.2
EATA	Eleskirt	1.37	333	P	Pn	19 25 58.4	-1.0
EATA				S	Sn	19 26 20.2	+2.2
CUKT	Cukurca	1.41	170	PN	Pg	19 26 01.1	+0.6
CUKT	Cukurca	1.41	170	⇓iP	Pg	19 26 00.6	+0.2
CUKT				iS	Sn	19 26 23.2	+4.4
CUKT	Cukurca	1.41	170	P	Pg	19 26 00.6	+0.2
CUKT	Cukurca	1.41	170	iPn	Pg	19 26 01.1	+0.6
CUKT				S	Sn	19 26 23.2	+4.4
VRTB	Varto-Mus	1.53	290	PN	Pn	19 26 01.1	-0.3
VRTB				eSN	Sn	19 26 22.0	+0.4
VRTB	Varto-Mus	1.53	290	⇑iP	Pn	19 26 00.0	-1.4
VRTB	Varto-Mus	1.53	290	P	Pn	19 26 00.0	-1.4
VRTB	Varto-Mus	1.53	290	iPn	Pn	19 26 01.1	-0.3
VRTB				eSn	Sn	19 26 22.0	+0.4
BNGL	BINGOL	1.71	281	⇑iP	Pn	19 26 03.4	-0.5
BNGL				iS	Sg	19 26 28.6	+0.5
SVAN	Silvan-Diyarba	1.72	254	PN	Pn	19 26 03.8	-0.1
SVAN	Silvan-Diyarba	1.72	254	⇑iP	Pn	19 26 03.8	-0.1
SVAN				iS	Sn	19 26 26.8	+0.6
SVAN	Silvan-Diyarba	1.72	254	P	Pn	19 26 03.8	-0.1
SVAN				S	Sn	19 26 26.8	+0.6
BTMN	Batman	1.76	245	⇑iP	Pn	19 26 04.4	-0.1
BTMN				iS	Sn	19 26 27.6	+0.2
BTMN	Batman	1.76	245	P	Pn	19 26 04.4	-0.1
BTMN				S	Sn	19 26 27.5	+0.2
HOMI	Horasan	1.77	323	⇑iP	Pn	19 26 05.2	+0.4
HOMI				iS	Sg	19 26 32.4	+2.2
DIGO	Kars	1.77	2	⇑iP	Pb	19 26 06.2	-0.2
DIGO				iS	Sg	19 26 31.8	+1.5
DIGO	Kars	1.77	2	P	Pb	19 26 06.2	-0.2
DIGO				S	Sg	19 26 31.8	+1.5
NAX	Nakhchivan	1.80	72	⇑P	Pg	19 26 07.4	-0.4
	SNR=99						
NAX				⇓S	Sg	19 26 49.0	+18
NAX	Nakhchivan	1.80	72	P	Pg	19 26 07.4	-0.4
	SNR=99						
ISHB	Shabestar	1.86	100	eAMB	AMB	19 26 09.9	
	comp=Z,17μm,0.2s						
ISHB				ePn	Pg	19 26 07.9	-1.1
ISHB				eSg	Sg	19 26 41.0	+8.0
GNI	Garni	1.88	36	Pn	Pg	19 26 07.7	-1.6
	comp=Z,32nm,0.3s,baz=286,slow=3.2,SNR=33						
GNI				Lg	Lg	19 26 38.2	
	comp=Z,39nm,0.3s,baz=291,slow=17,SNR=6.0						
GNI				LR	LR	19 27 11.8	
	comp=Z,1μm,19.4s,baz=222,slow=49						
IMRD	Marand	1.89	87	eAMB	AMB	19 26 17.5	
	comp=Z,47μm,0.3s						
IMRD				ePn	Pg	19 26 08.5	-1.0
IMRD				eSg	Sg	19 26 41.2	+7.2
ERZM	Erzurum	1.96	311	⇑iP	Pn	19 26 08.3	+0.9
ERZM	Erzurum	1.96	311	P	Pn	19 26 08.3	+0.9
ECAT	Cat-ERZURUM	2.05	299	⇑iP	Pn	19 26 08.8	+0.2
ECAT				iS	Sb	19 26 37.7	+0.8
ECAT	Cat-ERZURUM	2.05	299	P	Pn	19 26 08.8	+0.2
ECAT				S	Sb	19 26 37.7	+0.8
SENK	Senkaya-Erzuru	2.05	339	ePN	Pn	19 26 08.5	-0.2
SENK	Senkaya-Erzuru	2.05	339	ePn	Pn	19 26 08.5	-0.2
EAK	Akyaka	2.06	7	⇓iP	Pg	19 26 13.1	+0.3
EAK	Akyaka	2.06	7	P	Pg	19 26 13.1	+0.3
BNGB	Bing¶l	2.07	281	ePN	Pn	19 26 08.8	0.0
BINT	Bingol	2.21	277	ePn	Pn	19 26 08.8	-1.9
ITBZ	Tabriz	2.28	99	ePn	Pb	19 26 13.8	-1.2
ITBZ				eAMB	AMB	19 26 48.6	
	comp=Z,3μm,0.3s						
ITBZ	Tabriz	2.28	99	ePn	Pb	19 26 13.8	-1.2
YEDI	Yedisu-Bingol	2.29	291	ePN	Pn	19 26 12.1	+0.3
YEDI	Yedisu-Bingol	2.29	291	ePn	Pn	19 26 12.1	+0.3
MARD	Mardin	2.39	237	iP	Pn	19 26 11.7	-1.5
MARD				iS	Sb	19 26 46.6	-0.1
MAZI	Mazidag	2.54	243	ePN	Pn	19 26 14.4	-0.8
MAZI	Mazidag	2.54	243	ePn	Pn	19 26 14.4	-0.8
DDEM	Demirkent	2.54	333	iP	Pb	19 26 19.6	+0.1
DDEM	Demirkent	2.54	333	P	Pb	19 26 19.6	+0.1
KOPT	Kop Dagi	2.57	303	iP	Pb	19 26 19.3	-0.7
KOPT	Kop Dagi	2.57	303	P	Pb	19 26 19.3	-0.7
DIYA	Diyarbakir	2.60	255	⇓iP	Pn	19 26 17.2	+1.2
DIYA				iS	Sb	19 26 54.4	+1.8
DIYA	Diyarbakir	2.60	255	P	Pn	19 26 17.2	+1.2
DIYA				S	Sb	19 26 54.4	+1.8
BGD	Bogdanovka	2.63	5	P	Pb	19 26 18.5	-2.5
DAGI	Agillar	2.66	337	iP	Pb	19 26 21.2	-0.2
DAGI				iS	Sb	19 26 52.2	-2.2
ARTV	Artvin	2.75	338	iP	Pb	19 26 21.8	-1.3
ARTV	Artvin	2.75	338	P	Pb	19 26 21.8	-1.3
AKH	Akhalkalaki	2.77	3	ePN	Pn	19 26 19.8	+1.3
AKH	Akhalkalaki	2.77	3	P	Pg	19 26 25.5	-0.9
AKH	Akhalkalaki	2.77	3	iP	Pg	19 26 25.5	-0.9
AKH	Akhalkalaki	2.77	3	ePn	Pn	19 26 19.8	+1.3
AKH	Akhalkalaki	2.77	3	⇑iP	Pg	19 26 25.5	-0.9
GDB	GEDABAY	2.81	42	⇓P	Pb	19 26 21.3	-2.8
	SNR=7.6						
GDB				⇓S	Sg	19 27 15.2	+11
GDB	GEDABAY	2.81	42	P	Pb	19 26 21.3	-2.8
	SNR=7.6						
EPOS	Posof	2.89	352	iP	Pb	19 26 24.7	-0.8
EPOS	Posof	2.89	352	P	Pb	19 26 24.7	-0.8
QZX	Qazax, Azerbai	2.90	33	⇑P	Pb	19 26 23.4	-2.0
	SNR=32						
QZX				⇑S	Sg	19 27 15.5	+9.2
QZX	Qazax, Azerbai	2.90	33	P	Pb	19 26 23.4	-2.0
	SNR=32						
IHRS	Heris	2.96	95	ePn	Pb	19 26 23.1	-3.5
IHRS				eAMB	AMB	19 26 32.8	
	comp=Z,6μm,0.3s						
IHRS	Heris	2.96	95	ePn	Pb	19 26 23.1	-3.5
TNCL	Tunceli-Merkez	2.97	280	iP	Pn	19 26 22.5	+1.4
TNCL	Tunceli-Merkez	2.97	280	P	Pn	19 26 22.5	+1.4
DBOC	Borcka	2.98	336	iP	Pb	19 26 24.6	-2.2
DBOC	Borcka	2.98	336	P	Pb	19 26 24.6	-2.2
IBST	Bostanabad	2.99	107	eAMB	AMB	19 26 51.7	
	comp=Z,2μm,0.3s						
EUZM	Uzumlu	2.99	292	iP	Pn	19 26 22.2	+0.7
EUZM	Uzumlu	2.99	292	P	Pn	19 26 22.2	+0.7
PTK	Pertek	3.06	276	ePN	Pn	19 26 23.0	+0.5
PTK	Pertek	3.06	276	ePn	Pn	19 26 23.0	+0.5
GANJ	Ganja	3.08	48	⇓P	Pb	19 26 27.7	-0.8
	SNR=23						
GANJ				⇑S	Sg	19 27 22.5	+10
GANJ	Ganja	3.08	48	P	Pb	19 26 27.7	-0.8
	SNR=23						
SVRC	Sivrice-ELAZID	3.14	266	ePN	Pn	19 26 23.5	-0.1
SVRC	Sivrice-ELAZID	3.14	266	ePn	Pn	19 26 23.5	-0.1
DGRG	David-gareji	3.23	29	P	Pb	19 26 29.8	-1.3
DGRG	David-gareji	3.23	29	P	Pb	19 26 27.7	-3.4
TBLG	Delisi	3.28	19	ePN	Pn	19 26 27.7	+2.4
TBLG	Delisi	3.28	19	P	Pg	19 26 33.4	-2.7
TBLG	Delisi	3.28	19	ePn	Pn	19 26 27.7	+2.4
TBLG	Delisi	3.28	19	P	Pb	19 26 31.8	-0.2
ELZG	Elazig	3.38	269	iP	Pb	19 26 35.9	+2.1
ELZG	Elazig	3.38	269	P	Pb	19 26 35.9	+2.1
BRDA	Brd	3.42	60	⇓P	Pb	19 26 32.8	-1.5
	SNR=43						
BRDA				⇓S	Sg	19 27 30.8	+7.8
BRDA	Brd	3.42	60	P	Pb	19 26 32.8	-1.5
	SNR=43						
KELT	Kelkit	3.47	297	iP	Pn	19 26 30.6	+2.4
KELT	Kelkit	3.47	297	P	Pn	19 26 30.6	+2.4
ISRB	Sarab	3.54	102	ePn	Pn	19 26 31.1	+2.0
ISRB				eAMB	AMB	19 26 51.5	
	comp=Z,4μm,0.3s						
ISRB	Sarab	3.54	102	ePn	Pn	19 26 31.1	+2.0
MACK	Trabzon	3.56	311	iP	Pb	19 26 37.4	+0.6
MACK	Trabzon	3.56	311	P	Pb	19 26 37.4	+0.6
KTUT	Trabzon	3.59	312	ePN	Pn	19 26 30.7	+1.2
KTUT	Trabzon	3.59	312	ePn	Pn	19 26 30.7	+1.2
REFA	Refahiye_ERZ¨	3.61	283	iP	Pb	19 26 37.5	-0.2
REFA	Refahiye_ERZ¨	3.61	283	P	Pb	19 26 37.5	-0.2
MNGR	Mingechevir, A	3.62	53	⇑P	Pb	19 26 35.7	-2.0
	SNR=41						
MNGR				⇑S	Sg	19 27 36.1	+6.6
MNGR	Mingechevir, A	3.62	53	P	Pb	19 26 35.7	-2.0
	SNR=41						
URFA	Urfa	3.73	253	ePN	Pn	19 26 32.4	+0.8
URFA	Urfa	3.73	253	ePn	Pn	19 26 32.4	+0.8
ZRD	Zardab	3.77	63	⇑P	Pb	19 26 37.8	-2.5
	SNR=24						
ZRD				⇑S	Sg	19 27 39.6	+5.2
ZRD	Zardab	3.77	63	P	Pb	19 26 37.8	-2.5
	SNR=24						
GUDG	Gudauri	3.92	13	P	Pg	19 26 52.8	+4.3
ZKTA	Zakatala	3.93	39	⇑P	Pb	19 26 39.5	-3.6
	SNR=38						
ZKTA				⇓S	Sg	19 27 41.7	+2.1
ONI	Oni	3.95	2	P	Pg	19 26 46.7	-2.3
SEKA	Sheki	3.95	48	⇓P	Pb	19 26 41.0	-2.4
	SNR=16						
SEKA				⇓S	Sg	19 27 45.1	+5.0
SEKA	Sheki	3.95	48	P	Pb	19 26 41.0	-2.4
	SNR=16						
LRK	Lerik	3.95	88	⇑P	Pb	19 26 38.2	-5.3
	SNR=9.4						
LRK	Lerik	3.95	88	P	Pb	19 26 38.2	-5.3
	SNR=9.4						
GLBA	Clilabad	4.02	80	⇓P	Pb	19 26 40.2	-4.4
	SNR=5.8						
GLBA				⇑S	Sg	19 27 43.7	+1.3
GLBA	Clilabad	4.02	80	P	Pb	19 26 40.2	-4.4
	SNR=5.8						
SURC	SANLIURFA_SURC	4.11	246	iP	Pn	19 26 37.2	+0.5
SURC	SANLIURFA_SURC	4.11	246	P	Pn	19 26 37.2	+0.5
ATAB	Bozova	4.12	255	iP	Pb	19 26 42.4	-3.9
ATAB

SVSK	**Karacayir**	**5.05 287**	*e*PN	**Pn**	**19 26 51.5 +1.9**
SVSK	**Karacayir**	**5.05 287**	*e*Pn	**Pn**	**19 26 51.5 +1.9**
KBZ	**Khabaz**	**5.09 357**	Pn	**Pn**	19 26 55.4 +5.2
	comp=Z,0.1nm,0.3s,baz=183,slow=15,SNR=5.3				
KBZ			Pg	**Pg**	**19 27 11.8 +1.0**
	comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=24				
KBZ			LR	LR	19 29 12.6
	comp=Z,690nm,18.6s,baz=139,slow=42				
CUALT	**Altinyayla-SIV**	**5.13 279**	*i* S	Sg	19 28 28.5 +10
CUALT	**Altinyayla-SIV**	**5.13 279**	S	Sg	19 28 28.5 +10
GOBA	**Gobu**	**5.28 69**	⇓P	Pn	19 26 58.2 +5.4
GOBA	**Gobu**	**5.28 69**	P	Pn	19 26 58.2 +5.4
KVAR	**Kislovodsk Arr**	**5.33 355**	Pn	**Pn**	**19 26 57.6 +4.0**
	baz=303,slow=0.9,SNR=6.1				
KVAR			Pg	**Pg**	**19 27 15.1 -0.4**
	baz=130,slow=1.5,SNR=14				
KVAR			LR	LR	19 29 30.1
	comp=Z,518nm,20.8s,baz=120,slow=44				
SARI	**SarD1z-Kayseri**	**5.40 270**	*e*PN	**Pn**	**19 26 56.1 +1.5**
BHD	**Baghdad**	**5.43 170**	*e*Pn	**Pn**	**19 26 56.0 +1.1**
	SNR=3.0				
DRWC	**Darouich**	**5.63 251**	*e*P	**Pb**	**19 27 08.5 -3.7**
DRWC			*e*S	**Sb**	**19 28 15.8 -4.2**
DRWC			AML	AML	19 28 47.6
	comp=N,101nm,0.6s				
DRWC			AML	AML	19 28 48.8
	comp=E,60nm,0.7s				
BNN	**Bunyan**	**5.83 274**	*e*PN	**Pn**	**19 27 02.2 +1.7**
BNN	**Bunyan**	**5.83 274**	*e*Pn	**Pn**	**19 27 02.2 +1.7**
KOZT	**Kozan**	**6.01 261**	*e*PN	**Pn**	**19 27 05.1 +2.3**
BTCH	**Batrach**	**6.03 247**	*e*P	Pb	19 27 13.7 -5.2
BTCH			AML	AML	19 28 58.5
	comp=N,110nm,0.7s				
BTCH			AML	AML	19 29 17.1
	comp=E,166nm,0.7s				
RTB	**Rutbah**	**6.10 204**	*e*Pn	**Pn**	**19 27 05.0 +0.8**
	SNR=3.0				
KFRA	**Kufra**	**6.23 239**	*e*P	Pn	19 27 10.9 +5.0
KFRA			AML	AML	19 29 11.8
	comp=N,226nm,0.7s				
KFRA			AML	AML	19 29 19.2
	comp=E,307nm,0.7s				
RABH	**Abou Rabah**	**6.45 231**	*e*P	**Pn**	**19 27 09.9 +0.9**
RABH			*e*S	**Sn**	**19 28 18.1 -4.8**
RABH			AML	AML	19 29 19.6
	comp=E,48nm,0.7s				
RABH			AML	AML	19 29 26.6
	comp=N,48nm,0.7s				
ARNB	**Al Arnab**	**6.47 247**	*e*P	Pn	19 27 17.3 +8.1
ARNB			AML	AML	19 29 22.4
	comp=N,111nm,0.7s				
ARNB			AML	AML	19 29 26.3
	comp=E,71nm,0.8s				
ROOS	**tl_alroos**	**6.58 229**	*e*P	**Pn**	**19 27 11.3 +0.5**
ROOS			*e*S	Sn	19 28 17.6 -8.7
ROOS			AML	AML	19 29 19.3
	comp=E,102nm,0.8s				
ROOS			AML	AML	19 29 39.4
	comp=N,77nm,0.8s				
BIDA	**Albida**	**6.66 239**	*e*P	Pn	19 27 17.0 +5.2
BIDA			AML	AML	19 29 23.0
	comp=E,179nm,0.7s				
BIDA			AML	AML	19 29 35.5
	comp=N,150nm,0.7s				
HAWK	**Haweek**	**6.90 236**	*e*P	**Pn**	**19 27 17.5 +2.4**
HAWK			AML	AML	19 29 34.6
	comp=E,29nm,0.7s				
HAWK			AML	AML	19 29 56.1
	comp=N,55nm,0.3s				
MARH	**Ras Al Marh**	**7.17 232**	*e*P	**Pn**	**19 27 19.9 +0.9**
MARH			AML	AML	19 29 43.5
	comp=N,22nm,0.7s				
MARH			AML	AML	19 29 54.9
	comp=E,64nm,0.9s				
BRTR	**Keskin Array B**	**7.58 281**	Pn	**Pn**	**19 27 26.7 +2.2**
	comp=E,0.1nm,0.3s,baz=111,slow=16,SNR=4.1				
TOTH	**TOTAH**	**7.66 229**	*e*P	**Pn**	**19 27 25.0 -0.5**
TOTH			AML	AML	19 30 12.7
	comp=E,24nm,0.9s				
TOTH			AML	AML	19 30 20.6
	comp=N,40nm,0.8s				
BRBR	**Barbar**	**7.91 231**	*e*P	**Pn**	**19 27 29.2 0.0**
BRBR			AML	AML	19 29 58.9
	comp=E,26nm,0.7s				
BRBR			AML	AML	19 30 19.2
	comp=N,22nm,0.8s				
DQRL	**Deir Qamar**	**7.95 234**	*e*P	Pn	19 27 38.7 +9.1
NSR	**Nassriya**	**7.96 162**	*e*Pn	**Pn**	**19 27 31.0 +1.4**
	SNR=3.0				
SALA	**Sala**	**7.97 224**	*e*P	**Pn**	**19 27 25.3 -4.6**
SALA			AML	AML	19 30 02.3
	comp=E,1.8nm,0.8s				
SALA			AML	AML	19 30 15.7
	comp=N,37nm,0.7s				
SHBL	**Chebaa**	**8.08 231**	*e*P	**Pn**	**19 27 34.8 +3.4**
ASF	**Jabal al Asfar**	**8.30 221**	Pn	**Pn**	**19 27 34.4 0.0**
	comp=N,0.3nm,0.3s,baz=243,slow=7.1,SNR=3.0				
ASF			Lg	Lg	19 30 01.1
	comp=N,0.2nm,0.3s,baz=190,slow=23,SNR=7.1				
MMAI	**Mount Meron Ar**	**8.52 231**	Pn	**Pn**	**19 27 37.4 +0.1**
	comp=N,0.3nm,0.3s,baz=87,slow=14,SNR=3.0				
MMAI			Lg	Lg	19 30 07.4
	comp=N,0.3nm,0.3s,baz=225,slow=57,SNR=2.6				
MMAI			LR	LR	19 31 26.0
	comp=N,146nm,20.9s,baz=65,slow=41				
EIL	**Elat**	**11.30 220**	Pn	**Pn**	**19 28 15.1 -0.3**
	comp=N,0.3nm,0.3s,baz=88,slow=23,SNR=2.9				
EIL			Lg	Lg	19 31 38.4
	comp=N,0.1nm,0.3s,baz=313,slow=16,SNR=3.3				
EIL			LR	LR	19 33 28.6
	comp=N,45nm,20.7s,baz=10,slow=42				
GEYT	**Alibeck**	**11.67 89**	Pn	Pn	19 28 25.1 +4.6
	comp=N,0.1nm,0.3s,baz=287,slow=26,SNR=2.7				
VRI	**Vrincioaia**	**14.22 306**	⇑P	**P**	**19 29 00.9 -1.9**
VRI	**Vrincioaia**	**14.22 306**	⇑P	**P**	**19 29 00.9 -1.9**
PLOR	**Plostina**	**14.27 306**	⇑P	**P**	**19 29 00.6 -2.7**
PLOR	**Plostina**	**14.27 306**	⇑P	**P**	**19 29 00.6 -2.7**
SORM	**Soroca**	**14.40 316**	⇑P	**Pn**	**19 28 58.6 +0.9**
TESR	**Tescani**	**14.55 308**	⇑P	**P**	**19 29 04.2 -2.2**
TESR	**Tescani**	**14.55 308**	⇑P	**P**	**19 29 04.2 -2.2**
MLR	**Muntele Rosu**	**14.58 304**	Pn	**P**	**19 29 10.2 +3.3**
	comp=N,0.1nm,0.3s,baz=96,slow=13,SNR=3.8				
IDI	**Anoyia**	**15.09 263**	Pn	**Pn**	**19 29 09.3 +2.2**
	comp=N,0.2nm,0.3s,baz=57,slow=16,SNR=2.7				
DOPR	**Dopca**	**15.12 305**	⇓P	**P**	**19 29 10.9 -1.9**
DOPR	**Dopca**	**15.12 305**	⇓P	**P**	**19 29 10.9 -1.9**
VOIR		**15.15 302**	⇓P	**P**	**19 29 10.8 -2.3**
VOIR		**15.15 302**	⇓P	**P**	**19 29 10.8 -2.3**
ARR	**Arges**	**15.40 302**	⇑P	**P**	**19 29 15.0 -0.9**
ARR	**Arges**	**15.40 302**	⇑P	**P**	**19 29 15.0 -0.9**
AKASG	**Malin Array Be**	**15.64 325**	Pn	**Pn**	**19 29 13.2 -0.9**
	comp=N,0.6nm,0.3s,baz=133,slow=12,SNR=8.0				
AKTO	**Aktyubinsk**	**15.75 37**	Pn	**Pn**	**19 29 15.2 -0.6**
	comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=6.5				
VTS	**Vitosha**	**15.75 291**	⇓P	**Pn**	**19 29 15.1 -0.8**
VTS	**Vitosha**	**15.75 291**	⇓P	**Pn**	**19 29 15.1 -0.8**
BURAR	**Bucovina Array**	**15.93 310**	⇓P	**Pn**	**19 29 19.5 +1.4**
BURAR	**Bucovina Array**	**15.93 310**	⇓P	**Pn**	**19 29 19.5 +1.4**
GZR	**Gura Zlata**	**16.65 300**	⇓P	**Pn**	**19 29 25.2 -2.2**
GZR	**Gura Zlata**	**16.65 300**	⇓P	**Pn**	**19 29 25.2 -2.2**
OBN	**Obninsk**	**17.09 347**	P	**Pn**	**19 29 31.7 -1.0**
	comp=N,1.5nm,0.3s,baz=218,slow=18,SNR=3.0				
DRGR		**17.15 305**	⇑P	**Pn**	**19 29 33.0 -0.6**
DRGR		**17.15 305**	⇑P	**Pn**	**19 29 33.0 -0.6**
BZS	**Buzias**	**17.50 300**	⇑P	**Pn**	**19 29 35.0 -2.9**
BZS	**Buzias**	**17.50 300**	⇑P	**Pn**	**19 29 35.0 -2.9**
SIRR	**Siria**	**17.66 303**	⇑P	**Pn**	**19 29 36.5 -3.4**
SIRR	**Siria**	**17.66 303**	⇑P	**Pn**	**19 29 36.5 -3.4**
CRVS	**Cervenica-Dubn**	**18.75 310**	*e*P	**Pn**	**19 29 54.5 +1.2**
STHS	**Stebnicka Huta**	**19.10 311**	*e*P	**Pn**	**19 29 59.3 +1.8**
STHS			*e*		19 41 31.4
PSZ	**Piszkesteto**	**19.33 306**	⇑P	P	19 29 51.4 -8.0
WSAR	**Wadi Sarin**	**20.17 135**	P	Pn	19 30 09.9 -0.6
	comp=N,7.6nm,0.8s,baz=330,slow=7.0,SNR=8.5				
VYHS	**Vyhne**	**20.20 307**	*e*P	Pn	19 30 09.8 -0.8
VYHS			*e*		19 41 25.2
ARU	**Arti**	**20.48 25**	P	Pn	19 30 12.9 -0.9
	comp=N,6.5nm,0.7s,baz=218,slow=6.4,SNR=14				
UPC	**Upice**	**22.63 310**	*e*P	**P**	**19 30 35.7 +0.8**
BVAR	**Borovoye Array**	**23.55 44**	P	**P**	**19 30 45.5 +1.2**
	comp=N,0.5nm,0.5s,baz=266,slow=5.9,SNR=4.4				
GERES	**GERESS Array B**	**23.55 305**	P	**P**	**19 30 43.1 -1.4**
	comp=N,0.6nm,0.6s,baz=107,slow=9.1,SNR=6.2				
KHC	**Kasperske Hory**	**23.70 306**	*e*P	**P**	**19 30 43.1 -2.8**
KHC			*e*pP	**pP**	**19 30 46.9 -0.7**
KHC			*e*x	x	19 31 10.6
AAK	**Ala-Archa**	**23.94 70**	P	**P**	**19 30 48.5 +0.1**
	comp=N,0.7nm,0.4s,baz=214,slow=8.1,SNR=8.2				
FINES	**FINESS Array B**	**25.20 340**	P	**P**	**19 30 59.6 +0.1**
	comp=N,2.3nm,0.6s,baz=147,slow=11,SNR=9.5				
KSH	**Kashi**	**25.31 78**	*e*P	**P**	**19 30 59.4 -1.5**
KSH			pP	sP	19 31 05.4 +2.1
KSH			sP	pP	19 31 08.9 +6.3
KSH			pmax	pmax	
	comp=Z,3.0nm,0.7s				
KSH			pmax	pmax	
	comp=Z,77nm,5.5s				
DAVOX	**Davos/Dischmat**	**25.71 299**	P	**P**	**19 31 04.3 -0.2**
	comp=Z,1.5nm,0.6s,baz=316,slow=9.6,SNR=3.1				
KURBB	**Kurchatov Arra**	**27.52 53**	P	**P**	**19 31 22.4 +1.9**
	comp=Z,1.4nm,0.8s,baz=264,slow=8.9,SNR=12				
HFS	**Hagfors**	**28.46 329**	P	**P**	**19 31 29.1 +0.2**
	comp=Z,3.3nm,0.8s,baz=119,slow=8.4,SNR=5.5				
MKAR	**Makanchi Array**	**29.54 61**	P	**P**	**19 31 40.6 +1.9**
	comp=Z,1.2nm,0.8s,baz=282,slow=6.1,SNR=6.5				
NOA	**NORSAR Array B**	**29.98 329**	P	**P**	**19 31 42.2 -0.2**
	comp=Z,1.2nm,0.8s,baz=110,slow=12,SNR=3.1				
ZALV	**Zalesovo Beam**	**31.99 48**	P	**P**	**19 32 01.5 +1.4**
	comp=Z,1.0nm,0.6s,baz=253,slow=9.3,SNR=4.6				
ARCES	**ARCESS Array B**	**32.39 348**	P	**P**	**19 32 02.9 -0.6**
	comp=Z,1.2nm,0.6s,baz=152,slow=10,SNR=4.8				
ESDC	**Sonseca Array**	**36.33 287**	P	**P**	**19 32 37.5 -0.5**
	comp=Z,0.7nm,0.7s,baz=64,slow=8.7,SNR=4.1				
NRIK	**Noril'sk**	**38.70 23**	LR	LR	19 52 32.0
	comp=Z,84nm,19.9s,baz=226,slow=42				
GTA	**Gaotai**	**43.29 70**	*e*P	**P**	**19 33 37.3 +1.3**
GTA			pP	sP	19 33 41.9 +3.4
GTA			sP	pP	19 33 44.4 +6.6
GTA			pmax	pmax	
	comp=Z,4.0nm,1.2s				
TORD	**Torodi Ar. Bea**	**44.68 247**	P	**P**	**19 33 45.8 -1.5**
	comp=Z,1.7nm,1.0s,baz=51,slow=8.2,SNR=10.0				
CMAR	**Chiang Mai Arr**	**52.04 96**	P	**P**	**19 34 44.2 +0.2**
	comp=Z,1.9nm,0.6s,baz=297,slow=8.6,SNR=21				
DBIC	**Dimbokro**	**53.79 246**	P	**P**	**19 34 56.1 -0.9**
	comp=Z,1.6nm,0.8s,baz=16,slow=12,SNR=3.1				
KSRS	**Korea Array**	**64.22 62**	P	**P**	**19 36 09.6 +0.5**
	comp=Z,2.1nm,0.7s,baz=282,slow=6.3,SNR=9.8				
JNU	**Nakatsue**	**68.54 64**	LR	LR	20 09 19.6
	comp=Z,453nm,18.6s,baz=279,slow=38				
ILAR	**Eielson Array**	**76.61 4**	P	**P**	**19 37 24.9 +0.5**
	comp=Z,0.4nm,0.5s,baz=338,slow=2.8,SNR=8.9				

*DDA **23** 19:28:37.3, 38°.71N×43°.11E, h6km, Ml3.4*
*CSEM **23** 19:28:38.4±0.4, 38°.71N×43°.12E, h2km, MD3.3, Error ellipse: s-maj=9.5km s-min=6.3km az=90.0*
*ISK **23** 19:28:38.3, 38°.73N×43°.13E, h6km, MD3.3*
ISC 23 19:28:37.6±1.3, 38°.72N±0°.03×43°.13E±0°.03, h1km±12km, n45, σ1°.33/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.86**	**353**	*e*PG	**Pg**	**19 28 54.2**	**+0.1**
AGRB				*e*SG	**Sb**	**19 29 07.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.86**	**353**	*e*Pg	**Pg**	**19 28 54.2**	**+0.1**
AGRB				*e*Sg	**Sb**	**19 29 07.5**	**-0.2**
EATA	**Eleskirt**	**1.24**	**337**	*i* P	**Pg**	**19 29 00.7**	**-0.8**
EATA				*i* S	**Sn**	**19 29 20.2**	**+0.1**
EATA	**Eleskirt**	**1.24**	**337**	P	**Pg**	**19 29 00.6**	**-0.8**
EATA				S	**Sn**	**19 29 20.2**	**+0.1**
VRTB	**Varto-Mus**	**1.38**	**289**	*e*PN	**Pg**	**19 29 04.5**	**+0.6**
VRTB				*e*SN	**Sn**	**19 29 23.1**	**0.0**
VRTB	**Varto-Mus**	**1.38**	**289**	*i* P	**Pg**	**19 29 03.9**	**0.0**
VRTB	**Varto-Mus**	**1.38**	**289**	P	**Pg**	**19 29 03.9**	**0.0**
VRTB	**Varto-Mus**	**1.38**	**289**	*e*Pn	**Pg**	**19 29 04.5**	**+0.6**
VRTB				*e*Sn	**Sn**	**19 29 23.1**	**0.0**
CUKT	**Cukurca**	**1.52**	**165**	*e*PN	**Pg**	**19 29 06.9**	**+0.3**
CUKT				*e*SN	**Sg**	**19 29 27.4**	**+1.1**
CUKT	**Cukurca**	**1.52**	**165**	*i* P	**Pb**	**19 29 05.8**	**-0.8**
CUKT	**Cukurca**	**1.52**	**165**	P	**Pb**	**19 29 05.8**	**-0.8**
CUKT	**Cukurca**	**1.52**	**165**	*e*Pn	**Pg**	**19 29 06.9**	**+0.3**
CUKT				*e*Sn	**Sg**	**19 29 27.4**	**+1.1**
BNGL	**BINGOL**	**1.56**	**279**	*i* P	**Pb**	**19 29 06.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**250**	*e*PN	**Pg**	**19 29 07.8**	**-0.8**
SVAN				*e*SN	**Sg**	**19 29 30.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**250**	*i* P	**Pb**	**19 29 06.9**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.62**	**250**	P	**Pb**	**19 29 06.9**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.62**	**250**	*e*Pn	**Pg**	**19 29 07.8**	**-0.8**
SVAN				*e*Sn	**Sg**	**19 29 30.2**	**+0.7**
HOMI	**Horasan**	**1.63**	**325**	*i* P	**Pb**	**19 29 08.2**	**-0.4**
DIGO	**Kars**	**1.71**	**6**	*i* P	**Pn**	**19 29 05.6**	**-3.2**
DIGO	**Kars**	**1.71**	**6**	P	**Pn**	**19 29 05.6**	**-3.2**
ERZM	**Erzurum**	**1.81**	**311**	*i* P	**Pb**	**19 29 10.8**	**-0.9**
ERZM	**Erzurum**	**1.81**	**311**	P	**Pb**	**19 29 10.8**	**-0.9**
BNGB	**Bing¶ll**	**1.93**	**279**	*e*PN	**Pb**	**19 29 12.9**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.94**	**342**	*e*PN	**Pb**	**19 29 13.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.94**	**342**	*e*Pn	**Pb**	**19 29 13.4**	**-0.4**
EAK	**Akyaka**	**2.00**	**11**	*i* P	**Pb**	**19 29 15.1**	**+0.2**
EAK	**Akyaka**	**2.00**	**11**	P	**Pb**	**19 29 15.1**	**+0.2**
BINT	**Bingol**	**2.07**	**275**	*e*Pn	**Pn**	**19 29 12.9**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.13**	**290**	*e*PN	**Pb**	**19 29 16.1**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.13**	**290**	*e*Pn	**Pb**	**19 29 16.1**	**-1.1**
DDEM	**Demirkent**	**2.42**	**334**	*i* P	**Pn**	**19 29 18.8**	**+0.4**
DDEM	**Demirkent**	**2.42**	**334**	P	**Pn**	**19 29 18.8**	**+0.4**
MAZI	**Mazidag**	**2.46**	**240**	*e*PN	**Pb**	**19 29 19.9**	**-2.8**
MAZI	**Mazidag**	**2.46**	**240**	*e*Pn	**Pb**	**19 29 19.9**	**-2.8**
AKH	**Akhalkalaki**	**2.70**	**6**	*e*PN	**Pn**	**19 29 23.3**	**+0.9**
AKH	**Akhalkalaki**	**2.70**	**6**	*e*Pn	**Pn**	**19 29 23.3**	**+0.9**
ERZN	**Erzincan**	**2.79**	**289**	*e*PN	**Pn**	**19 29 24.7**	**+1.2**
PTK	**Pertek**	**2.92**	**275**	*e*PN	**Pn**	**19 29 27.0**	**+1.6**
PTK	**Pertek**	**2.92**	**275**	*e*Pn	**Pn**	**19 29 27.0**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*PN	**Pn**	**19 29 27.8**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*Pn	**Pn**	**19 29 27.8**	**+1.1**
KELT	**Kelkit**	**3.32**	**297**	*i* P	**Pg**	**19 29 40.4**	**-0.9**
CUZAR	**Zara_SIVAS**	**4.32**	**287**	*i* P	Pn	19 29 37.2	-7.3
GRSN	**GIRESUNGRSN**	**4.34**	**302**	*i* P	**Pn**	**19 29 48.2**	**+3.4**
GRSN	**GIRESUNGRSN**	**4.34**	**302**	P	**Pn**	**19 29 48.2**	**+3.4**

IDC 23 19:29:18.4±8.1, 23°.73S×178°.97E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/20, mbtmp4.3/3, ML5.6/1, Error ellipse: s-maj=183.3km s-min=36.6km az=39.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.16**	**154**	Pn	Pn	19 30 51.0	+0.2
	143nm,0.3s,baz=47,slow=4.6,SNR=16						
RAO				Sn	Sn	19 31 50.9	-11
	47nm,0.3s,baz=76,slow=22,SNR=1.8						
STKA	**Stephens Creek**	**33.91**	**248**	P	P	19 36 02.7	-0.6
	2.1nm,0.5s,baz=101,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**41.13**	**261**	P	P	19 37 04.3	-0.3
	1.7nm,0.4s,baz=90,slow=7.3,SNR=34						
WRA	**Warramunga Arr**	**41.48**	**266**	P	P	19 37 07.9	+0.4
	2.7nm,0.4s,baz=104,slow=7.8,SNR=31						

*AZER **23** 19:29:35.1±1.7, 38°.39N×43°.11E, h7km, Error ellipse: s-maj=16.2km s-min=11.9km az=51.0*
*ISK **23** 19:29:39.0, 38°.95N×43°.52E, h5km, MD3.3*
*ISCJB **23** 19:29:40.9±0.4, 38°.92N±0°.04×43°.45E±0°.03, h10km, Error ellipse: s-maj=5.3km s-min=3.8km az=174.1*
*CSEM **23** 19:29:40.5±0.3, 38°.79N×43°.47E, h2km, MD3.3, Error ellipse: s-maj=11.8km s-min=7.0km az=158.0*
ISC 23 19:29:40.0±0.8, 38°.88N±0°.03×43°.50E±0°.03, h10km, n50, σ2°.30/74, 19C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.80**	**331**	*e*PG	**Pg**	**19 29 53.4**	**-2.1**
AGRB				*e*SG	**Sg**	**19 30 05.0**	**-1.1**
NAX	**Nakhchivan**	**1.58**	**79**	⇑P	**Pn**	**19 30 06.3**	**-1.9**
	SNR=6.7						
NAX				⇑S	**Sn**	**19 30 28.4**	**-0.3**
NAX	**Nakhchivan**	**1.58**	**79**	P	**Pn**	**19 30 06.3**	**-1.9**
	SNR=6.7						
NAX				S	**Sn**	**19 30 28.4**	**-0.3**
VRTB	**Varto-Mus**	**1.62**	**281**	*e*PN	**Pn**	**19 30 09.4**	**+0.7**
VRTB	**Varto-Mus**	**1.62**	**281**	*e*Pn	**Pn**	**19 30 09.5**	**+0.7**
CUKT	**Cukurca**	**1.63**	**177**	*e*PN	**Pb**	**19 30 10.0**	**-0.2**
CUKT				*e*SN	**Sg**	**19 30 32.6**	**+0.2**
CUKT	**Cukurca**	**1.63**	**177**	*e*Pn	**Pb**	**19 30 10.0**	**-0.2**
CUKT				*e*Sn	**Sg**	**19 30 32.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.90**	**333**	*e*PN	**Pn**	**19 30 12.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	*e*PN	**Pn**	**19 30 14.5**	**+1.3**
SVAN				*e*SN	**Sb**	**19 30 39.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	*e*Pn	**Pn**	**19 30 14.5**	**+1.3**
SVAN				*e*Sn	**Sb**	**19 30 39.6**	**-0.4**
BNGB	**Bing¶ll**	**2.21**	**274**	*e*PN	**Pn**	**19 30 17.1**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.37**	**285**	*e*PN	**Pn**	**19 30 20.0**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.37**	**285**	*e*Pn	**Pn**	**19 30 20.0**	**+0.9**
GDB	**GEDABAY**	**2.53**	**43**	⇑P	**Pn**	**19 30 23.2**	**+1.9**
	SNR=11						
GDB				⇑S	**Sb**	**19 30 58.0**	**+1.1**
GDB	**GEDABAY**	**2.53**	**43**	P	**Pn**	**19 30 23.2**	**+1.9**
	SNR=11						
GDB				S	**Sb**	**19 30 58.0**	**+1.1**
QZX	**Qazax, Azerbai**	**2.61**	**33**	⇑P	**Pn**	**19 30 23.2**	**+0.9**
	SNR=5.0						
QZX				⇑S	**Sg**	**19 31 02.9**	**-1.0**
QZX	**Qazax, Azerbai**	**2.61**	**33**	P	**Pn**	**19 30 23.2**	**+0.9**
	SNR=5.0						
QZX				S	**Sg**	**19 31 02.9**	**-1.0**
GANJ	**Ganja**	**2.80**	**50**	⇑P	**Pn**	**19 30 24.1**	**-0.8**
	SNR=4.5						
GANJ				⇓S	**Sb**	**19 31 04.7**	**+0.1**
GANJ	**Ganja**	**2.80**	**50**	P	**Pn**	**19 30 24.1**	**-0.8**
	SNR=4.5						
GANJ				S	**Sb**	**19 31 04.7**	**+0.1**
BRDA	**Brd**	**3.16**	**63**	⇑P	**Pn**	**19 30 29.9**	**+0.1**
BRDA	**Brd**	**3.16**	**63**	P	**Pn**	**19 30 29.9**	**+0.1**
MNGR	**Mingechevir, A**	**3.35**	**54**	⇓P	**Pb**	**19 30 36.3**	**-3.1**
	SNR=3.1						
MNGR				⇑S	**Sb**	**19 31 22.9**	**+2.7**
MNGR	**Mingechevir, A**	**3.35**	**54**	P	**Pb**	**19 30 36.3**	**-3.1**
	SNR=3.1						
ZRD	**Zardab**	**3.52**	**65**	⇑P	**Pn**	**19 30 37.7**	**+2.9**
ZRD				⇑S	**Sb**	**19 31 25.4**	**+0.2**
ZRD	**Zardab**	**3.52**	**65**	P	**Pn**	**19 30 37.7**	**+2.9**
ZRD				S	**Sb**	**19 31 25.4**	**+0.2**
ZKTA	**Zakatala**	**3.65**	**40**	⇑P	**Pn**	**19 30 39.7**	**+3.1**
	SNR=4.0						
ZKTA				⇓S	**Sb**	**19 31 31.9**	**+3.0**
SEKA	**Sheki**	**3.67**	**49**	⇑P	**Pn**	**19 30 40.4**	**+3.5**
	SNR=3.8						
SEKA				⇓S	**Sb**	**19 31 32.7**	**+3.1**
SEKA	**Sheki**	**3.67**	**49**	P	**Pn**	**19 30 40.4**	**+3.5**
	SNR=3.8						
LRK	**Lerik**	**3.79**	**92**	⇓P	**Pn**	**19 30 38.5**	**-0.1**
	SNR=5.1						
LRK	**Lerik**	**3.79**	**92**	P	**Pn**	**19 30 38.5**	**-0.1**
	SNR=5.1						
GLBA	**Clilabad**	**3.83**	**83**	⇓P	**Pn**	**19 30 40.0**	**+1.1**
GLBA				⇑S	**Sb**	**19 31 29.4**	**-4.6**
GLBA	**Clilabad**	**3.83**	**83**	P	**Pn**	**19 30 40.0**	**+1.1**
GLBA				S	**Sb**	**19 31 29.4**	**-4.6**
QBL	**Gabala**	**3.92**	**57**	⇑P	**Pn**	**19 30 43.1**	**+2.8**
	SNR=4.9						
QBL	**Gabala**	**3.92**	**57**	P	**Pn**	**19 30 43.1**	**+2.8**
	SNR=4.9						
LKRN	**Lenkeran, Azer**	**4.13**	**91**	⇑P	**Pn**	**19 30 43.3**	**+0.2**
LKRN				⇑S	**Sn**	**19 31 35.3**	**+3.9**
LKRN	**Lenkeran, Azer**	**4.13**	**91**	P	**Pn**	**19 30 43.3**	**+0.2**
LKRN				S	**Sn**	**19 31 35.3**	**+3.9**
ASTR	**Astara**	**4.15**	**93**	⇑P	**Pn**	**19 30 43.2**	**-0.2**
ASTR				⇓S	**Sn**	**19 31 35.5**	**+3.5**
ASTR	**Astara**	**4.15**	**93**	P	**Pn**	**19 30 43.2**	**-0.2**
ASTR				S	**Sn**	**19 31 35.5**	**+3.5**
XNQ	**Khinaliq**	**4.23**	**56**	⇓P	**Pn**	**19 30 48.3**	**+3.5**
	SNR=4.5						
XNQ	**Khinaliq**	**4.23**	**56**	P	**Pn**	**19 30 48.3**	**+3.5**
	SNR=4.5						
PQL	**Pirkuli**	**4.36**	**62**	⇑P	**Pn**	**19 30 49.5**	**+3.0**
PQL	**Pirkuli**

*PRU **23** 19:40:30.7, 51°48N×16°09E, h0km*
*BGR **23** 19:40:31.3±0.6, 51°48N×16°10E, h1km, ML3.0/12, Error ellipse: s-maj=7.8km s-min=2.2km az=9.0*
*UPP **23** 19:40:32.2±3.2, 51°67N×15°64E, h0km, ML1.6*
ISC 23 19:40:28.3±0.7, 51°57N±0°03×16°13E±0°02, h0km, n94, σ1§16/170, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**19 40 43.1**	**+0.8**
KSP				*i* Sg	**Sg**	**19 40 52.4**	**+0.5**
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pb**	**19 40 43.3**	**-0.7**
	SNR=53						
KSP	**Ksiaz**	**0.73**	**172**	Pg	**Pb**	**19 40 43.3**	**-0.7**
	SNR=53						
KSP				*i* Sg	**Sg**	**19 40 52.4**	**+0.5**
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**19 40 43.1**	**+0.8**
KSP				*i* Sg	**Sg**	**19 40 52.4**	**+0.5**
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pb**	**19 40 49.3**	**-0.3**
UPC				*e*SG	**Sg**	**19 41 02.1**	**-0.4**
UPC	**Upice**	**1.07**	**184**	Pg	**Pb**	**19 40 49.3**	**-0.3**
UPC				Sg	**Sg**	**19 41 02.1**	**-0.4**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**19 40 52.0**	**+0.3**
DPC				*e*SG	**Sg**	**19 41 07.3**	**-0.4**
	comp=Z,66nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*Pg	**Pg**	**19 40 52.1**	**+0.3**
	SNR=76						
DPC				*e*Sg	**Sg**	**19 41 07.7**	**0.0**
	SNR=5.8						
DPC	**Dobruska-Polom**	**1.23**	**174**	Pg	**Pg**	**19 40 52.1**	**+0.3**
	SNR=76						
DPC				Sg	**Sg**	**19 41 07.7**	**0.0**
	SNR=5.8						
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pb**	**19 40 56.4**	**+0.5**
PVCC				*e*SG	**Sg**	**19 41 14.6**	**+0.2**
	comp=Z,164nm,0.2s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*Pg	**Pb**	**19 40 56.6**	**+0.7**
	SNR=28						
PVCC				*e*Sg	**Sb**	**19 41 15.0**	**+0.3**
	SNR=4.3						
PVCC	**Panska Ves**	**1.44**	**224**	Pg	**Pb**	**19 40 56.4**	**+0.5**
PVCC				Sg	**Sg**	**19 41 14.6**	**+0.2**
	164nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pg**	**19 40 58.7**	**+0.8**
BRG				PG	**Pb**	**19 40 58.9**	**+1.1**
BRG				SG	**Sg**	**19 41 18.5**	**+0.7**
	108nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pg	**Pg**	**19 40 58.7**	**+0.8**
	SNR=12						
BRG				*e*Sg	**Sg**	**19 41 18.5**	**+0.7**
	SNR=10						
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**19 40 58.7**	**+0.8**
	SNR=12						
BRG				Sg	**Sg**	**19 41 18.5**	**+0.7**
	SNR=10						
KRLC	**Kraliky**	**1.55**	**164**	*e*SG	**Sn**	**19 41 17.9**	**-0.2**
KRLC	**Kraliky**	**1.55**	**164**	Sg	**Sn**	**19 41 17.9**	**-0.2**
PRA	**Prague**	**1.85**	**216**	*e*PN	**Pn**	**19 41 01.6**	**+0.4**
PRA				*e*SG	**Sb**	**19 41 26.4**	**-0.2**
	comp=Z,42nm,0.5s						
PRA	**Prague**	**1.85**	**216**	Pn	**Pn**	**19 41 01.6**	**+0.4**
PRA				Sg	**Sb**	**19 41 26.4**	**-0.2**
	42nm,0.5s						
FBE	**Freiberg**	**1.86**	**251**	*e*Pn	**Pg**	**19 41 04.3**	**+0.3**
	SNR=1.8						
FBE				*e*Sg	**Sg**	**19 41 28.3**	**+0.2**
	SNR=3.8						
FBE	**Freiberg**	**1.86**	**251**	Pn	**Pg**	**19 41 04.3**	**+0.3**
	SNR=1.8						
FBE				Sg	**Sg**	**19 41 28.3**	**+0.2**
	SNR=3.8						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PG	**Pg**	**19 41 03.9**	**-0.1**
GOPC				*e*SG	**Sb**	**19 41 27.1**	**0.0**
	comp=Z,37nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pg	**Pg**	**19 41 03.9**	**-0.1**
GOPC				Sg	**Sb**	**19 41 27.1**	**0.0**
	37nm,0.3s						
PRU	**Pruhonice**	**1.88**	**213**	*e*PN	**Pn**	**19 41 01.8**	**+0.2**
PRU				*e*PG	**Pb**	**19 41 03.7**	**+0.3**
PRU				*e*SG	**Sb**	**19 41 26.9**	**-0.5**
	comp=Z,49nm,0.4s						
PRU	**Pruhonice**	**1.88**	**213**	*e*Pn	**Pn**	**19 41 01.8**	**+0.2**
	SNR=3.1						
PRU	**Pruhonice**	**1.88**	**213**	Pn	**Pn**	**19 41 01.8**	**+0.2**
	SNR=3.1						
PRU	**Pruhonice**	**1.88**	**213**	Pg	**Pb**	**19 41 03.7**	**+0.3**
PRU				Sg	**Sb**	**19 41 26.9**	**-0.5**
	49nm,0.4s						
CLL	**Collm**	**1.98**	**264**	*e*Sg	**Sg**	**19 41 33.2**	**+1.4**
	SNR=4.7						
CLL	**Collm**	**1.98**	**264**	Sg	**Sg**	**19 41 33.2**	**+1.4**
	SNR=4.7						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**19 41 04.0**	**+1.0**
CLL				*e*Pg	**Pg**	**19 41 07.0**	**+0.8**
CLL				*i* Sg	**Sg**	**19 41 32.8**	**+1.0**
	comp=Z,30nm,0.4s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn	**Pn**	**19 41 04.1**	**+0.6**
	SNR=11						
MORC	**Moravsky Berou**	**2.01**	**153**	Pn	**Pn**	**19 41 04.1**	**+0.6**
	SNR=11						
MORC				*e*Sg	**Sn**	**19 41 30.3**	**+1.0**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PG	**Pg**	**19 41 09.5**	**-0.1**
OKC				*e*SG	**Sg**	**19 41 37.1**	**-0.4**
	comp=Z,17nm,0.3s						
OKC	**Ostrava-Krasne**	**2.16**	**143**	Pg	**Pg**	**19 41 09.5**	**-0.1**
OKC				Sg	**Sg**	**19 41 37.4**	**-0.1**
	SNR=4.9						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**19 41 08.1**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=330,slow=16,SNR=20						
VRAC				Lg	Lg	19 41 40.7	
	comp=Z,5.3nm,0.3s,baz=176,slow=9.0,SNR=11						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**19 41 07.7**	**+0.5**
VRAC				*e*Sg	**Sb**	**19 41 39.9**	**+0.8**
TREC	**Trest**	**2.31**	**191**	*e*SG	**Sb**	**19 41 40.0**	**0.0**
TREC	**Trest**	**2.31**	**191**	Sg	**Sb**	**19 41 40.0**	**0.0**
KRUC	**Moravsky**	**2.52**	**176**	*e*Pn	**Pn**	**19 41 11.9**	**+1.5**
	SNR=5.4						
KRUC				*e*Pg	**Pg**	**19 41 15.8**	**-0.7**
	SNR=5.1						
KRUC	**Moravsky**	**2.52**	**176**	Pn	**Pn**	**19 41 11.9**	**+1.5**
	SNR=5.4						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**19 41 12.2**	**-0.6**
OJC				*e*Pg	**Pg**	**19 41 19.8**	**0.0**
OJC				*e*Sn	**Sn**	**19 41 44.8**	**-1.2**
OJC				*e*Sg	**Sg**	**19 41 55.4**	**+0.8**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**19 41 13.9**	**+1.1**
	SNR=2.5						
OJC				*e*Sg	**Sg**	**19 41 56.0**	**+1.4**
	SNR=2.6						
OJC	**Ojcow**	**2.69**	**119**	Pn	**Pn**	**19 41 13.9**	**+1.1**
	SNR=2.5						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**19 41 19.8**	**0.0**
OJC				*e*Sn	**Sn**	**19 41 44.8**	**-1.2**
OJC				Sg	**Sg**	**19 41 56.0**	**+1.4**
	SNR=2.6						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**19 41 12.2**	**-0.6**
OJC				*e*Pg	**Pg**	**19 41 19.8**	**0.0**
OJC				*e*Sn	**Sn**	**19 41 44.8**	**-1.2**
OJC				*e*Sg	**Sg**	**19 41 55.4**	**+0.8**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**19 41 14.1**	**+1.3**
NKC				*e*PG	**Pg**	**19 41 20.0**	**+0.2**
NKC				*e*SG	**Sg**	**19 41 54.1**	**-0.5**
	comp=Z,46nm,0.4s						
NKC	**Novy Kostel**	**2.69**	**242**	Pn	**Pn**	**19 41 14.1**	**+1.3**
NKC	**Novy Kostel**	**2.69**	**242**	Pg	**Pg**	**19 41 20.0**	**+0.2**
NKC				Sg	**Sg**	**19 41 54.1**	**-0.5**
	comp=Z,46nm,0.4s						
WERN	**Wernitzgruen**	**2.70**	**243**	*e*Sg	**Sg**	**19 41 54.8**	**-0.2**
	SNR=7.2						
WERN	**Wernitzgruen**	**2.70**	**243**	Sg	**Sg**	**19 41 54.8**	**-0.2**
	SNR=7.2						
PLN	**Plauen**	**2.73**	**248**	*e*Sg	**Sg**	**19 41 55.9**	**-0.2**
	SNR=4.5						
PLN	**Plauen**	**2.73**	**248**	Sg	**Sg**	**19 41 55.9**	**-0.2**
	SNR=4.5						
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**19 41 16.8**	**+0.5**
KHC				*e*PG	**Pb**	**19 41 22.9**	**+1.3**
KHC				*e*SN	**Sn**	**19 41 50.4**	**-1.9**
KHC				*e*SG	**Sg**	**19 42 00.5**	**-2.2**
	comp=Z,20nm,0.3s						
KHC	**Kasperske Hory**	**2.94**	**215**	Pn	**Pn**	**19 41 16.8**	**+0.5**
KHC	**Kasperske Hory**	**2.94**	**215**	Pg	**Pb**	**19 41 22.9**	**+1.3**
KHC				Sn	**Sn**	**19 41 50.4**	**-1.9**
KHC				Sg	**Sg**	**19 42 00.5**	**-2.2**
	comp=Z,20nm,0.3s						
MOX	**Moxa**	**2.99**	**254**	*e*Sg	**Sg**	**19 42 05.2**	**+0.8**
	SNR=8.1						
MOX	**Moxa**	**2.99**	**254**	Sg	**Sg**	**19 42 05.2**	**+0.8**
	SNR=8.1						
MANZ	**Manzenberg**	**3.01**	**240**	*e*Sg	**Sg**	**19 42 04.2**	**-0.6**
	SNR=4.8						
MANZ	**Manzenberg**	**3.01**	**240**	Sg	**Sg**	**19 42 04.2**	**-0.6**
	SNR=4.8						
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**19 41 19.2**	**+1.0**
	SNR=4.3						
ROTZ	**Rotzenmuhle**	**3.08**	**236**	Pn	**Pn**	**19 41 19.2**	**+1.0**
	SNR=4.3						
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**19 41 20.7**	**+1.6**
	SNR=4.1						
GEC2				*e*Sn	**Sn**	**19 41 56.3**	**-1.1**
	SNR=2.5						
GEC2	**GERESS Array S**	**3.14**	**211**	Pn	**Pn**	**19 41 20.7**	**+1.6**
	SNR=4.1						
GEC2				Sn	**Sn**	**19 41 56.3**	**-1.1**
	SNR=2.5						
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**19 41 20.6**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=28,slow=12,SNR=16						
GERES				Sn	**Sn**	**19 41 56.6**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=48,slow=20,SNR=5.3						
GERES				Lg	Lg	19 42 08.1	
	comp=Z,4.5nm,0.3s,baz=35,slow=28,SNR=10.0						
SMOL	**Smolenice**	**3.17**	**164**	*e*Pg	**Pg**	**19 41 30.7**	**+1.6**
SMOL				*e*SG	**Sg**	**19 42 10.6**	**+0.5**
SMOL	**Smolenice**	**3.17**	**164**	*e*PG	**Pg**	**19 41 30.7**	**+1.6**
SMOL				*e*SG	**Sg**	**19 42 10.6**	**+0.5**
WET	**Wettzell**	**3.20**	**222**	*e*Sn	**Sn**	**19 41 56.9**	**-1.8**
	SNR=2.0						
WET	**Wettzell**	**3.20**	**222**	Sn	**Sn**	**19 41 56.9**	**-1.8**
	SNR=2.0						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*Pg	**Pg**	**19 41 31.3**	**+1.1**
LANS				*e*Sg	**Sg**	**19 42 12.8**	**+0.8**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**19 41 31.2**	**+1.1**
LANS				*e*SG	**Sg**	**19 42 12.8**	**+0.8**
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**19 41 24.8**	**+1.9**
NIE				*e*Pg	**Pg**	**19 41 34.3**	**+0.4**
NIE				*e*Sn	**Sn**	**19 42 03.4**	**-0.8**
NIE				*e*Sg	**Sg**	**19 42 19.7**	**+1.5**
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**19 41 24.8**	**+1.9**
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**19 41 24.8**	**+1.9**
NIE				*e*Pg	**Pg**	**19 41 34.3**	**+0.4**
NIE				*e*Sn	**Sn**	**19 42 03.4**	**-0.8**
NIE				*e*Sg	**Sg**	**19 42 19.7**	**+1.5**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pg	**Pg**	**19 41 36.5**	**+0.4**
VYHS				*e*Sg	**Sg**	**19 42 21.1**	**-0.8**
VYHS	**Vyhne**	**3.54**	**149**	*e*PG	**Pg**	**19 41 36.5**	**+0.4**
VYHS				*e*SG	**Sg**	**19 42 21.1**	**-0.8**
CONA	**Conrad Observa**	**3.65**	**183**	Pn	**Pn**	**19 41 27.6**	**+1.5**
	comp=Z,1.4nm,0.2s						
CONA				Sg	**Sg**	**19 42 23.2**	**-2.3**
	comp=Z,6.3nm,0.3s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*Pg	**Pg**	**19 41 44.7**	**+1.5**
STHS				*e*Sg	**Sg**	**19 42 34.1**	**+0.2**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**19 41 44.7**	**+1.5**
STHS				*e*SG	**Sg**	**19 42 34.1**	**+0.2**
STHS				*e*LG	Lg	19 42 48.1	
MOA	**Molln**	**3.92**	**199**	Pn	**Pn**	**19 41 30.8**	**+1.1**
	comp=Z,0.5nm,0.1s						
MOA				Sg	**Sg**	**19 42 33.3**	**-0.7**
	comp=Z,8.1nm,0.4s						
ARSA	**Arzberg**	**4.34**	**185**	Pn	**Pn**	**19 41 36.6**	**+1.1**
	comp=Z,0.3nm,0.2s						
ARSA				Sg	**Sg**	**19 42 49.7**	**+2.0**
	comp=Z,14nm,0.6s						
BLEU	**Blekinge**	**4.75**	**358**	P	**Pn**	**19 41 42.4**	**+1.3**
BLEU	**Blekinge**	**4.75**	**358**	P	**Pn**	**19 41 42.4**	**+1.3**
KBA	**Koelnbreinsper**	**4.85**	**203**	Pn	**Pn**	**19 41 42.6**	**-0.1**
	comp=Z,0.2nm,0.1s						
KBA				Sg	**Sg**	**19 43 05.2**	**+1.1**
	comp=Z,1.8nm,0.3s						
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**19 41 43.2**	**+0.4**
BJUU				S	**Sn**	**19 42 36.8**	**-3.1**
BJUU	**Bjuv**	**4.88**	**339**	P	**Pn**	**19 41 43.2**	**+0.4**
BJUU				S	**Sn**	**19 42 36.8**	**-3.1**
DEL	**Delary**	**5.09**	**346**	P	**Pn**	**19 41 46.6**	**+0.8**
DEL				S	**Sn**	**19 42 43.8**	**-1.4**
DEL	**Delary**	**5.09**	**346**	P	**Pn**	**19 41 46.6**	**+0.8**
DEL				S	**Sn**	**19 42 43.8**	**-1.4**
WTTA	**Wattenberg**	**5.21**	**216**	Sg	**Sg**	**19 43 19.5**	**+3.8**
	comp=Z,1.1nm,0.2s						
LNKU	**Linkoeping**	**6.68**	**357**	P	**Pn**	**19 42 09.1**	**+1.5**
LNKU	**Linkoeping**	**6.68**	**357**	P	**Pn**	**19 42 09.1**	**+1.5**
HFS	**Hagfors**	**8.69**	**352**	Pn	**Pn**	**19 42 36.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=161,slow=14,SNR=4.8						
HFS				Sn	**Sn**	**19 44 14.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=177,slow=27,SNR=2.4						
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**Pn**	**19 42 52.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=2.6						
NOA				Sn	**Sn**	**19 44 40.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=2.0						
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**19 43 11.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=5.2						
FINES				Sn	**Sn**	**19 45 11.9**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=22,SNR=2.8						
ARCES	**ARCESS Array B**	**18.56**	**10**	Pn	**P**	**19 44 44.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=3.8						

*NSSC **23** 19:43:07.7±1.9, 39°23N×44°76E, h37km±999km, MD2.9, ML3.9*
*ISN **23** 19:43:13.7±0.9, 39°42N×43°13E, h3km±47km, ML4.7*
*AZER **23** 19:43:22.2±0.3, 37°67N×43°83E, h7km, Error ellipse: s-maj=2.3km s-min=2.2km az=75.0*
*ISCJB **23** 19:43:24.6±0.6, 38°55N±0°02×43°35E±0°02, h8km±4km, mb4.4/77, MS3.6/24, Error ellipse: s-maj=3.0km s-min=2.2km az=170.1*
*ISK **23** 19:43:24.3, 38°74N×43°24E, h5km, ML4.4*
*MOS **23** 19:43:24.7±1.5, 38°45N×43°34E, h15km, mb4.6/35, Error ellipse: s-maj=5.5km s-min=3.6km az=108.4*
*DDA **23** 19:43:24.6, 38°70N×43°15E, h8km, Ml4.5*
*NEIC **23** 19:43:25.1±0.0, 38°63N×43°13E, h5km, mb4.4/19, ML4.4(ISK), ML4.5(DDA), After ISK.*
*CSEM **23** 19:43:25.7±0.1, 38°55N×43°38E, h10km, mb4.5/51, Error ellipse: s-maj=4.5km s-min=3.1km az=165.0*
*IDC **23** 19:43:28.7±1.7, 38°62N×43°23E, h34km±13km, mb4.0/25, mb1 4.1/33, mb1mx4.0/53, mbtmp4.2/33, ML3.3/8, MS3.6/26, Ms1 3.6/26, ms1mx3.4/51, Error ellipse: s-maj=12.0km s-min=8.1km az=164.0*
*TEH **23** 19:43:29.1, 38°72N×43°31E, h21km, ML4.3*
ISC 23 19:43:25.0±0.9, 38°60N±0°02×43°37E±0°02, h4km±6km, n511, σ1§93/539, mb4.4/75, MS3.6/24, 42C-58D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.38**	**221**	⇓*i*P	**Pg**	**19 43 32.1**	**-0.1**
GEVA				*i* S	**Sb**	**19 43 40.9**	**+0.3**
GEVA	**Gevas**	**0.38**	**221**	P	**Pg**	**19 43 32.2**	**-0.1**
GEVA	**Gevas**	**0.38**	**221**	*i* P	**Pg**	**19 43 32.2**	**-0.1**
GEVA				*i* S	**Sb**	**19 43 40.9**	**+0.3**
VMUR	**Van-Muradiye**	**0.42**	**21**	⇑*i*P	**Pg**	**19 43 33.0**	**-0.2**
VMUR				*i* S	**Sg**	**19 43 40.4**	**+1.6**
VMUR	**Van-Muradiye**	**0.42**	**21**	P	**Pg**	**19 43 33.0**	**-0.2**
VMUR				S	**Sg**	**19 43 40.4**	**+1.6**
VMUR	**Van-Muradiye**	**0.42**	**21**	*i* P	**Pg**	**19 43 33.0**	**-0.2**
VMUR				*i* S	**Sg**	**19 43 40.4**	**+1.6**
DYDN	**Diyadin**	**0.98**	**14**	*i* P	**Pg**	**19 43 42.4**	**-1.4**
AGRB	**Hanur-Agry**	**1.02**	**343**	*e*PG	**Pg**	**19 43 42.0**	**-2.7**
AGRB				*e*SG	**Sg**	**19 43 54.5**	**-3.4**
AGRB	**Hanur-Agry**	**1.02**	**343**	*e*Pg	**Pg**	**19 43 42.0**	**-2.7**
SIRN	**S¨–rnak**	**1.33**	**215**	*i* P	**Pn**	**19 43 50.0**	**-0.5**
SIRN	**S¨–rnak**	**1.33**	**215**	P	**Pn**	**19 43 50.0**	**-0.5**
CUKT	**Cukurca**	**1.36**	**172**	*e*PN	**Pg**	**19 43 53.4**	**+2.4**
CUKT	**Cukurca**	**1.36**	**172**	⇑*i*P	**Pg**	**19 43 53.2**	**+2.1**
CUKT	**Cukurca**	**1.36**	**172**	*e*Pn	**Pg**	**19 43 53.4**	**+2.4**
EATA	**Eleskirt**	**1.44**	**332**	⇑*i*P	**Pn**	**19 43 48.5**	**-3.8**
VRTB	**Varto-Mus**	**1.60**	**291**	*e*PN	**Pn**	**19 43 52.6**	**-1.7**
VRTB				*e*SN	**Sn**	**19 44 13.4**	**-2.1**
VRTB	**Varto-Mus**	**1.60**	**291**	*i* P	**Pn**	**19 43 51.1**	**-3.2**
VRTB	**Varto-Mus**	**1.60**	**291**	*e*Pn	**Pn**	**19 43 52.6**	**-1.7**
VRTB				*e*Sn	**Sn**	**19 44 13.4**	**-2.1**
NAX	**Nakhchivan**	**1.75**	**70**	⇓P	**Pn**	**19 43 55.8**	**-0.5**
NAX				⇑S	**Sg**	**19 44 22.2**	**+0.8**
NAX	**Nakhchivan**	**1.75**	**70**	P	**Pn**	**19 43 55.8**	**-0.5**
NAX				S	**Sg**	**19 44 22.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.77**	**256**	*e*PN	**Pn**	**19 43 55.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.77**	**256**	⇓*i*P	**Pn**	**19 43 55.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.77**	**256**	P	**Pn**	**19 43 55.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.77**	**256**	*e*Pn	**Pn**	**19 43 55.9**	**-0.6**
BNGL	**BINGOL**	**1.77**	**282**	⇑*i*P	**Pn**	**19 43 55.2**	**-1.6**
ISHB	**Shabestar**	**1.79**	**99**	*e*Pn	**Pg**	**19 43 59.4**	**+0.1**
ISHB				*e*AMB	AMB	19 44 08.8	
	comp=Z,39μm,0.3s						
ISHB				*e*Sg	**Sg**	**19 44 27.4**	**+4.9**
BTMN	**Batman**	**1.80**	**248**	*i* P	**Pn**	**19 43 55.5**	**-1.5**
BTMN	**Batman**	**1.80**	**248**	P	**Pn**	**19 43 55.5**	**-1.5**
DIGO	**Kars**	**1.82**	**360**	⇓*i*P	**Pn**	**19 43 57.3**	**-0.1**
DIGO	**Kars**	**1.82**	**360**	P	**Pn**	**19 43 57.3**	**-0.1**
IMRD	**Marand**	**1.83**	**86**	*e*Pn	**Pb**	**19 44 00.0**	**+0.8**
IMRD				*e*AMB	AMB	19 44 08.6	
	comp=Z,26μm,0.3s						
IMRD	**Marand**	**1.83**	**86**	*e*Pn	**Pb**	**19 44 00.0**	**+0.8**
GNI	**Garni**	**1.88**	**34**	Pn	**Pn**	**19 43 59.3**	**+1.1**
	comp=Z,50nm,0.3s,baz=200,slow=3.1,SNR=88						
GNI				Lg	Lg	19 44 31.7	
	comp=Z,93nm,0.3s,baz=94,slow=10,SNR=6.3						
GNI				LR	LR	19 45 02.0	
	comp=Z,727nm,20.9s,baz=189,slow=48						
EAK	**Akyaka**	**2.10**	**5**	⇓*i*P	**Pn**	**19 44 03.2**	**+2.0**
EAK	**Akyaka**	**2.10**	**5**	P	**Pn**	**19 44 03.2**	**+2.0**
SENK	**Senkaya-Erzuru**	**2.12**	**338**	*e*PN	**Pn**	**19 43 59.8**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.12**	**338**	*e*Pn	**Pn**	**19 43 59.8**	**-1.6**
ECAT	**Cat-ERZURUM**	**2.12**	**299**	*i* P	**Pn**	**19 44 00.5**	**-1.0**
ECAT				*i* S	**Sb**	**19 44 30.4**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.12**	**299**	P	**Pn**	**19 44 00.5**	**-1.0**
ECAT				S	**Sb**	**19 44 30.4**	**-0.6**
BNGB	**Bing¨¶l**	**2.14**	**281**	*e*PN	**Pn**	**19 44 00.6**	**-1.1**
ITBZ	**Tabriz**	**2.21**	**99**	*e*AMB	AMB	19 44 13.7	
	comp=Z,8μm,0.4s						
ITBZ				*e*Pn	**Pb**	**19 44 05.7**	**+0.1**
BINT	**Bingol**	**2.27**	**278**	P	**Pn**	**19 44 01.1**	**-2.4**
BINT	**Bingol**	**2.27**	**278**	*e*Pn	**Pn**	**19 44 00.6**	**-2.9**
BINT	**Bingol**	**2.27**	**278**	P	**Pn**	**19 44 01.1**	**-2.4**
YEDI	**Yedisu-Bingol**	**2.36**	**292**	*e*PN	**Pn**	**19 44 03.5**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.36**	**292**	*e*Pn	**Pn**	**19 44 03.5**	**-1.3**
MARD	**Mardin**	**2.42**	**239**	*i* P	**Pn**	**19 44 04.7**	**-0.8**
MARD				*i* S	**Sn**	**19 44 36.5**	**+0.9**
MARD	**Mardin**	**2.42**	**239**	*e*Pn	**Pn**	**19 44 05.1**	**-0.4**
MARD	**Mardin**	**2.42**	**239**	*e*Pn	**Pn**	**19 44 05.0**	**-0.4**
MAZI	**Mazidag**	**2.58**	**245**	*e*PN	**Pn**	**19 44 06.5**	**-1.1**
MAZI	**Mazidag**	**2.58**	**245**	*e*Pn	**Pn**	**19 44 06.5**	**-1.1**
DDEM	**Demirkent**	**2.61**	**332**	*i* P	**Pn**	**19 44 09.7**	**+1.5**
DDEM	**Demirkent**	**2.61**	**332**	P	**Pn**	**19 44 09.7**	**+1.5**
KOPT	**Kop Dagi**	**2.65**	**303**	*e*Pn	**Pn**	**19 44 09.9**	**+1.1**
KOPT	**Kop Dagi**	**2.65**	**303**	*e*Pn	**Pn**	**19 44 09.9**	**+1.1**
DIYA	**Diyarbakir**	**2.65**	**256**	*i* P	**Pn**	**19 44 07.4**	**-1.2**
DIYA				*i* S	**Sb**	**19 44 45.4**	**-0.6**
DIYA	**Diyarbakir**	**2.65**	**256**	P	**Pn**	**19 44 07.4**	**-1.2**
BGD	**Bogdanovka**	**2.67**	**4**	P	**Pn**	**19 44 10.5**	**+1.4**
DAGI	**Agi¨lar**	**2.72**	**336**	*i* P	**Pn**	**19 44 09.6**	**-0.1**
GDB	**GEDABAY**	**2.81**	**40**	⇓P	**Pb**	**19 44 14.7**	**-1.2**
GDB				⇑S	**Sg**	**19 44 57.1**	**+1.8**
GDB	**GEDABAY**	**2.81**	**40**	P	**Pb**	**19 44 14.7**	**-1.2**
AKH	**Akhalkalaki**	**2.81**	**2**	*e*PN	**Pn**	**19 44 10.1**	**-0.9**
AKH	**Akhalkalaki**	**2.81**	**2**	P	**Pn**	**19 44 12.0**	**+1.0**
AKH	**Akhalkalaki**	**2.81**	**2**	⇑*i*P	**Pn**	**19 44 12.0**	**+1.0**
AKH	**Akhalkalaki**	**2.81**	**2**	P	**Pn**	**19 44 11.9**	**+1.0**
AKH	**Akhalkalaki**	**2.81**	**2**	*e*Pn	**Pn**	**19 44 10.1**	**-0.9**
AKH	**Akhalkalaki**	**2.81**

QSAR	Qusar	4.75	51	P	Pn	19 44 39.8	+2.3
	SNR=25						
QUBA	Quba, Azerbaij	4.80	53	⇓P	Pn	19 44 39.7	+1.5
	SNR=24						
QUBA	Quba, Azerbaij	4.80	53	P	Pn	19 44 39.7	+1.5
	SNR=24						
ATGJ	Altiaghaj	4.85	60	⇓P	Pn	19 44 38.9	0.0
	SNR=19						
ATGJ	Altiaghaj	4.85	60	P	Pn	19 44 38.9	0.0
	SNR=19						
NCK	Nalchik	4.90	2	⇓eP	Pn	19 44 41.9	+2.4
NCK	Nalchik	4.90	2	eP	Pn	19 44 41.9	+2.4
SIZA	Siyzn	4.92	58	⇑P	Pn	19 44 40.6	+0.7
	SNR=6.7						
SIZA	Siyzn	4.92	58	P	Pn	19 44 40.6	+0.7
	SNR=6.7						
IVIS	Veis	4.93	144	ePn	Pn	19 44 42.9	+2.9
IVIS				eAMB	AMB	19 46 26.6	
	comp=Z,3μm,0.6s						
IVIS	Veis	4.93	144	ePn	Pn	19 44 42.9	+2.9
GROC	Groznyy	4.96	21	P	Pn	19 44 44.5	+4.3
GROC						19 45 42.2	
GROC	Groznyy	4.96	21	P	Pn	19 44 44.5	+4.3
GROC				S	Sn	19 45 42.2	+4.2
IGHG	Ghaleghazi	4.97	148	ePn	Pn	19 44 44.1	+3.3
IGHG				eAMB	AMB	19 46 34.8	
	comp=Z,9μm,0.8s						
IGHG	Ghaleghazi	4.97	148	ePn	Pn	19 44 44.1	+3.3
KBZ	Khabaz	5.14	356	Pn	Pn	19 44 45.2	+2.4
	comp=Z,0.1nm,0.3s,baz=180,slow=11,SNR=6.0						
KBZ				Pg	Pg	19 45 02.0	-1.5
	comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=32						
KBZ				Lg	Lg	19 46 18.2	
	baz=232,slow=9.0,SNR=1.3						
KBZ				LR	LR	19 46 53.0	
	comp=Z,415nm,18.1s,baz=162,slow=40						
GOBA	Gobu	5.24	68	⇑P	Pn	19 44 42.4	-1.7
GOBA	Gobu	5.24	68	P	Pn	19 44 42.4	-1.7
MAK	Makhachkala	5.37	34	eP	Pn	19 44 49.1	+3.2
MAK				eS	Sn	19 45 54.9	+6.7
MAK				pmax	pmax		
	comp=Z,49nm,1.1s						
MAK				MLR	MLR		
	comp=Z,666nm,7.0s						
BHD	Baghdad	5.38	171	ePn	Pn	19 44 47.7	+1.7
	SNR=39						
KIV	Kislovodsk	5.38	355	eP	Pn	19 44 51.9	+5.7
KIV				pmax	pmax		
	comp=Z,20nm,0.9s						
KIV				MLR	MLR		
	comp=Z,80nm,7.0s						
KIV	Kislovodsk	5.38	355	ePn	Pn	19 44 48.4	+2.2
KIV	Kislovodsk	5.38	355	ePn	Pn	19 44 48.4	+2.2
KVAR	Kislovodsk Arr	5.38	355	Pn	Pn	19 44 47.3	+1.1
	baz=349,slow=4.4,SNR=9.3						
KVAR				Pg	Pg	19 45 05.9	-2.2
	baz=324,slow=4.5,SNR=20						
KVAR				Lg	Lg	19 46 23.6	
	baz=171,slow=19,SNR=1.4						
KVAR				LR	LR	19 47 18.2	
	comp=Z,307nm,20.8s,baz=144,slow=43						
NDR	Nardaran	5.48	67	⇓P	Pn	19 44 46.0	-1.4
NDR	Nardaran	5.48	67	P	Pn	19 44 46.0	-1.4
IKOM	Komasi	5.53	142	ePn	Pn	19 44 51.9	+3.6
IKOM				eAMB	AMB	19 47 04.8	
	comp=Z,2μm,0.3s						
TOKA	Tokat	5.61	290	ePn	Pn	19 44 52.3	+3.0
DRWC	Darouich	5.68	252	eP	Pn	19 44 46.6	-3.7
DRWC				AML	AML	19 46 42.0	
	comp=E,123nm,0.7s						
DRWC				AML	AML	19 46 45.6	
	comp=N,193nm,0.6s						
SOC	Sochi	5.70	332	eP	Pn	19 44 55.2	+4.8
SOC				e		19 45 57.2	
SOC				pmax	pmax		
	comp=Z,22nm,0.8s						
SOC				MLR	MLR		
	comp=Z,609nm,11.0s						
SOC	Sochi	5.70	332	eS	Sn	19 45 57.2	+0.9
IGZV	Ghazvin	5.87	110	ePn	Pn	19 44 52.8	-0.3
IGZV				eAMB	AMB	19 45 30.1	
	comp=Z,1μm,0.4s						
IGZV	Ghazvin	5.87	110	ePn	Pn	19 44 52.8	-0.3
BTCH	Batrach	6.07	247	eP	Pn	19 44 53.4	-2.3
BTCH				eS	Sn	19 46 08.9	+3.2
BTCH				AML	AML	19 46 57.1	
	comp=E,524nm,0.7s						
BTCH				AML	AML	19 46 57.9	
	comp=N,210nm,0.6s						
RTB	Rutbah	6.09	205	ePn	Pn	19 44 56.0	+0.1
	SNR=3.0						
IRAZ	Razeghan	6.13	119	ePn	Pn	19 45 01.8	+5.1
IRAZ				eAMB	AMB	19 45 42.1	
	comp=Z,865nm,0.4s						
KFRA	Kufra	6.26	239	eP	Pn	19 44 56.6	-1.5
KFRA				AML	AML	19 46 58.6	
	comp=N,460nm,0.7s						
KFRA				AML	AML	19 47 00.3	
	comp=E,607nm,0.7s						
GOF	Gofitskoye	6.46	358	⇑eP	Pn	19 45 06.2	+5.2
GOF				eS	Sn	19 46 24.2	+9.0
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
GOF				smax	smax		
	comp=N,149nm,1.5s						
RABH	Abou Rabah	6.47	232	eP	Pn	19 44 59.0	-2.2
RABH				AML	AML	19 47 03.4	
	comp=N,101nm,0.6s						
RABH				AML	AML	19 47 17.8	
	comp=E,105nm,0.8s						
ARNB	Al Arnab	6.50	247	eP	Pn	19 45 00.9	-0.7
ARNB				AML	AML	19 47 02.9	
	comp=N,137nm,0.6s						
ARNB				AML	AML	19 47 11.8	
	comp=E,96nm,0.7s						
ROOS	tl_alroos	6.60	230	eP	Pn	19 45 00.9	-2.1
ROOS				eS	Sn	19 46 22.4	+3.7
ROOS				AML	AML	19 47 12.7	
	comp=N,124nm,0.7s						
ROOS				AML	AML	19 47 29.1	
	comp=E,185nm,0.8s						
BIDA	Albida	6.69	240	eP	Pn	19 45 00.9	-3.3
BIDA				eS	Sn	19 46 24.9	+3.9
BIDA				AML	AML	19 47 11.3	
	comp=E,436nm,0.7s						
BIDA				AML	AML	19 47 27.2	
	comp=N,282nm,0.8s						
HAWK	Haweek	6.93	236	eP	Pn	19 45 05.5	-1.9
HAWK				AML	AML	19 47 11.0	
	comp=E,49nm,0.7s						
HAWK				AML	AML	19 47 24.2	
	comp=N,100nm,0.6s						
FKH	Fakeheh	7.10	234	eP	Pn	19 45 08.7	-1.1
FKH	Fakeheh	7.10	234	eP	Pn	19 45 08.7	-1.1
MARH	Ras Al Marh	7.19	233	eP	Pn	19 45 08.6	-2.7
MARH				AML	AML	19 47 26.2	
	comp=E,133nm,0.7s						
MARH				AML	AML	19 47 40.6	
	comp=N,50nm,0.7s						
HWQ	Hawqa	7.37	237	eP	Pn	19 45 12.1	-1.5
HWQ	Hawqa	7.37	237	eP	Pn	19 45 12.1	-1.5
IDMV	Damavand	7.55	111	ePn	Pn	19 45 23.0	+6.9
IDMV				eAMB	AMB	19 48 21.9	
	comp=Z,914nm,1.0s						
BR131	Keskin Array S	7.65	282	ePn	Pn	19 45 19.6	+2.2
BR131	Keskin Array S	7.65	282	ePn	Pn	19 45 19.6	+2.2
BRTR	Keskin Array B	7.65	282	Pn	Pn	19 45 17.9	+0.6
	comp=Z,0.1nm,0.3s,baz=105,slow=13,SNR=9.9						
BRTR				Lg	Lg	19 47 34.1	
	comp=Z,0.0nm,0.3s,baz=130,slow=6.6,SNR=2.1						
BRTR				LR	LR	19 48 30.3	
	comp=Z,861nm,18.9s,baz=103,slow=40						
BRTR	Keskin Array B	7.65	282	P	Pn	19 45 18.0	+0.6
BRTR				MLR	MLR		
	comp=Z,861nm,18.9s						
BRTR	Keskin Array B	7.65	282	P	Pn	19 45 18.0	+0.6
	comp=Z,861nm,18.9s						
BRBR	Barbar	7.93	232	eP	Pn	19 45 19.2	-2.1
BRBR				AML	AML	19 47 55.8	
	comp=N,36nm,0.7s						
BRBR				AML	AML	19 48 04.6	
	comp=E,54nm,0.7s						
DQRL	Deir Qamar	7.98	235	eP	Pn	19 45 26.0	+4.2
SALA	Sala	7.98	225	eP	Pn	19 45 19.8	-2.2
SALA				eS	Sn	19 46 54.5	+1.7
SALA				AML	AML	19 48 01.1	
	comp=N,64nm,0.8s						
IFIR	Firoozkooh	8.05	109	ePn	Pn	19 45 30.3	+7.3
IFIR				eAMB	AMB	19 45 50.6	
	comp=N,218nm,0.4s						
SHBL	Chebaa	8.10	232	eP	Pn	19 45 25.5	+1.9
SHBL	Chebaa	8.10	232	eP	Pn	19 45 25.5	+1.9
ASF	Jabal al Asfar	8.31	221	Pn	Pn	19 45 27.1	+0.7
	comp=N,0.6nm,0.3s,baz=351,slow=4.6,SNR=8.8						
ASF				Lg	Lg	19 47 56.0	
	comp=N,0.5nm,0.3s,baz=206,slow=21,SNR=3.0						
MMAI	Mount Meron Ar	8.54	232	Pn	Pn	19 45 31.7	+2.2
	comp=N,1.0nm,0.3s,baz=69,slow=19,SNR=4.7						
MMAI				Lg	Lg	19 48 00.2	
	comp=N,0.4nm,0.3s,baz=51,slow=17,SNR=3.9						
MMAI				LR	LR	19 48 27.3	
	comp=N,158nm,20.5s,baz=40,slow=35						
SIM	Simferopol'	9.38	316	eP	Pn	19 45 49.0	+8.0
SIM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
EIL	Elat	11.30	221	Pn	Pn	19 46 12.3	+5.0
	comp=Z,0.7nm,0.3s,baz=87,slow=19,SNR=3.3						
EIL				Lg	Lg	19 49 26.3	
	comp=Z,0.2nm,0.3s,baz=90,slow=24,SNR=1.9						
GEYT	Alibeck	11.61	89	Pn	Pn	19 46 14.0	+2.4
	comp=Z,0.2nm,0.3s,baz=287,slow=34,SNR=3.1						
ODBI	Odobesti	14.05	306	⇓iP	Pn	19 46 48.2	+3.4
ODBI	Odobesti	14.05	306	⇓iP	Pn	19 46 48.2	+3.4
VRI	Vrincioaia	14.30	306	⇑iP	Pn	19 46 50.7	+2.4
VRI	Vrincioaia	14.30	306	⇑iP	Pn	19 46 50.7	+2.4
PLOR	Plostina	14.34	306	⇑iP	Pn	19 46 51.6	+2.7
PLOR	Plostina	14.34	306	⇑iP	Pn	19 46 51.6	+2.7
LPSR	Galich'ya Gora	14.35	349	eP	Pn	19 46 48.9	+0.1
LPSR				pmax	pmax		
	comp=Z,50nm,1.2s						
SECR		14.41	302	⇑iP	Pn	19 46 51.4	+1.6
SORM	Soroca	14.48	316	⇑iP	P	19 46 54.5	-3.0
SORM	Soroca	14.48	316	⇑iP	P	19 46 54.5	-3.0
MLR	Muntele Rosu	14.65	304	Pn	P	19 46 57.2	-2.5
	comp=Z,0.1nm,0.3s,baz=335,slow=15,SNR=2.1						
MLR	Muntele Rosu	14.65	304	⇓iP	Pn	19 46 55.8	+2.6
MLR	Muntele Rosu	14.65	304	⇓iP	Pn	19 46 55.8	+2.6
HUMR	Humele	14.98	299	⇓iP	Pn	19 46 57.8	+0.3
RAYN	Ar Rayn	15.13	172	ePn	Pn	19 46 55.5	-4.2
IDI	Anoyia	15.14	263	Pn	Pn	19 47 01.4	+1.6
	comp=Z,0.6nm,0.3s,baz=77,slow=11,SNR=6.1						
IDI				LR	LR	19 53 40.0	
	comp=Z,240nm,18.2s,baz=66,slow=41						
DOPR	Dopca	15.20	305	⇑iP	Pn	19 47 00.7	+0.3
VOIR		15.22	303	⇑iP	Pn	19 47 02.8	+2.0
VOIR		15.22	303	⇑iP	Pn	19 47 02.8	+2.0
PRAR	RASCA	15.28	310	⇑iP	Pn	19 47 04.1	+2.6
SRS	Serrai	15.40	286	P	P	19 47 09.5	+1.6
SRS	Serrai	15.40	286	P	P	19 47 09.5	+1.6
ARR	Arges	15.48	302	⇑iP	Pn	19 47 05.5	+1.4
AKASG	Malin Array Be	15.71	325	Pn	Pn	19 47 06.7	-0.3
	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=16						
AKASG				LR	LR	19 54 23.5	
	comp=Z,217nm,18.8s,baz=125,slow=42						
KIEV	Kiev	15.71	325	eP	Pn	19 47 07.2	+0.1
KIEV				pmax	pmax		
	comp=Z,42nm,1.1s						
KIEV	Kiev	15.71	325	ePn	Pn	19 47 07.2	+0.1
	comp=Z,42nm,1.1s						
KIEV	Kiev	15.71	325	ePn	Pn	19 47 07.2	+0.1
	comp=Z,42nm,1.1s						
AKTO	Aktyubinsk	15.75	37	Pn	Pn	19 47 07.1	-0.5
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=16						
VTS	Vitosha	15.82	291	⇑iP	Pn	19 47 07.4	-1.4
VTS	Vitosha	15.82	291	eP	P	19 47 11.3	-1.4
VTS				pmax	pmax		
	comp=Z,19nm,1.2s						
VTS	Vitosha	15.82	291	eP	P	19 47 11.3	-1.4
	comp=Z,19nm,1.2s						
VTS	Vitosha	15.82	291	ePn	P	19 47 11.2	-1.4
	comp=Z,19nm,1.2s						
ABKAR	Akbulak array	15.96	43	ePn	Pn	19 47 08.6	-1.8
	comp=Z,47nm,0.9s						
ABKAR	Akbulak array	15.96	43	ePn	Pn	19 47 08.6	-1.8
	comp=Z,47nm,0.9s						
BURAR	Bucovina Array	16.00	310	⇓iP	Pn	19 47 12.9	+1.9
BURAR	Bucovina Array	16.00	310	⇓iP	Pn	19 47 12.9	+1.9
BURAR	Bucovina Array	16.00	310	⇓iP	Pn	19 47 12.9	+1.9
BUR08	Bucovina Ar. S	16.03	310	ePn	P	19 47 14.7	-0.2
BANOM	Banah	16.68	135	P	Pn	19 47 19.2	-0.5
GZR	Gura Zlata	16.73	301	⇓iP	Pn	19 47 18.6	-1.7
ZAGS	Zajecar	16.73	295	eP	P	19 47 21.8	-0.8
BARS	Barje	16.87	291	eP	P	19 47 24.3	+0.1
BOVS	Bovan	17.07	294	eP	P	19 47 26.9	+0.5
OBN	Obninsk	17.15	347	P	Pn	19 47 24.0	-1.5
	comp=Z,0.8nm,0.3s,baz=170,slow=4.1,SNR=8.6						
OBN	Obninsk	17.15	347	⇓iP	P	19 47 26.8	-0.3
OBN				pmax	pmax		
	comp=Z,60nm,1.3s						
OBN				MLR	MLR		
	comp=Z,86nm,14.0s						
OBN	Obninsk	17.15	347	ePn	Pn	19 47 24.3	-1.1
	comp=Z,19nm,0.8s						
OBN	Obninsk	17.15	347	iP	P	19 47 26.8	-0.3
	comp=Z,86nm,14.0s						
OBN	Obninsk	17.15	347	ePn	Pn	19 47 24.3	-1.1
	comp=Z,19nm,0.8s						
DRGR		17.22	305	⇓iP	Pn	19 47 25.6	-0.9
DRGR		17.22	305	⇓iP	Pn	19 47 25.7	-0.8
DRGR		17.22	305	P	Pn	19 47 25.7	-0.8
KUBS	Kucevo	17.24	297	eP	P	19 47 30.6	+2.3
UOSS	Minazif	17.41	138	eP	P	19 47 29.3	-1.0
	comp=Z,21nm,0.9s						
UOSS	Minazif	17.41	138	eP	P	19 47 29.3	-1.0
	comp=Z,21nm,0.9s						
SELS	Selova	17.43	292	eP	P	19 47 30.3	-0.1
HATD	Hatta, Dubai	17.47	138	P	Pn	19 47 29.3	-0.4
	SNR=5.5						
HATD	Hatta, Dubai	17.47	138	P	Pn	19 47 29.3	-0.4
	SNR=5.5						
ASHO	Ashiyiah	17.55	139	P	Pn	19 47 29.8	-0.9
	SNR=10						
ASHO	Ashiyiah	17.55	139	P	Pn	19 47 29.8	-0.9
	SNR=10						
BZS	Buzias	17.57	300	⇑iP	Pn	19 47 29.0	-1.8
BZS	Buzias	17.57	300	⇑iP	Pn	19 47 29.0	-1.8
MOS	Moscow	17.58	349	eP	Pn	19 47 28.9	-1.9
MOS				pmax	pmax		
	comp=Z,53nm,0.8s						
SIRR	Siria	17.73	303	⇓iP	Pn	19 47 30.4	-2.4
LVV	L'vov	17.78	315	eP	P	19 47 35.5	+1.3
LVV	L'vov	17.78	315	eP	P	19 47 35.5	+1.3
GRUS	Gruza	17.82	294	eP	P	19 47 36.3	+1.6
TRPA	Tarpa	17.85	309	⇓eP	P	19 47 37.2	+2.3
TRPA	Tarpa	17.85	309	⇓ePn	P	19 47 37.2	+2.3
TRUS	Trudelj	18.10	295	eP	P	19 47 39.1	+1.4
IVAS	Ivanjica	18.18	293	eP	Pn	19 47 38.5	+0.2
UZH	Uzhgorod	18.21	310	eP	Pn	19 47 35.7	-2.9
KWP	Kalwaria Pacla	18.43	313	eP	Pn	19 47 41.7	+0.4
KWP	Kalwaria Pacla	18.43	313	eP	Pn	19 47 41.7	+0.4
KWP	Kalwaria Pacla	18.43	313	eP	Pn	19 47 41.7	+0.4
FGSL	Fruska Gora	18.70	298	eP	Pn	19 47 45.9	+1.3
PLE	Pljevlja	18.70	292	P	Pn	19 47 47.6	+2.8
PDG	Podgorica	18.72	289	⇓iP	P	19 47 38.8	-5.7
BBLS	Lazići	18.75	294	eP	Pn	19 47 47.0	+1.6
TEKS	Tekeris	18.78	296	eP	Pn	19 47 46.0	+0.4
CRVS	Cervenica-Dubn	18.82	310	eP	P	19 47 45.9	+0.2
CRVS	Cervenica-Dubn	18.82	310	eP	P	19 47 45.9	+0.2
CRVS	Cervenica-Dubn	18.82	310	eP	P	19 47 45.9	+0.2
STHS	Stebnicka Huta	19.18	311	eP	Pn	19 47 50.6	+0.2
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	19.18	311	eP	Pn	19 47 50.6	+0.2
	comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	19.18	311	eP	Pn	19 47 50.6	+0.2
PSZ	Piszkesteto	19.41	306	⇑iP	P	19 47 49.7	-2.5
PSZ	Piszkesteto	19.41	306	eP	P	19 47 52.8	+0.6
PSZ				pmax	pmax		
	comp=Z,17nm,1.0s						
PSZ	Piszkesteto	19.41	306	eP	P	19 47 52.8	+0.6
	comp=Z,17nm,1.0s						
PSZ	Piszkesteto	19.41	306	⇓eP	Pn	19 47 54.0	+0.7
PSZ	Piszkesteto	19.41	306	eP	P	19 47 52.8	+0.6
	comp=Z,17nm,1.0s						
NIE	Niedzica	19.73	311	eP	Pn	19 47 57.6	+0.5
NIE	Niedzica	19.73	311	eP	Pn	19 47 57.6	+0.5
NIE	Niedzica	19.73	311	eP	Pn	19 47 57.6	+0.5
NACGM	Naroch	19.80	331	e	P	19 47 55.0	-1.3
BUD	Budapest	19.83	304	P	Pn	19 47 58.5	+0.3
BUD	Budapest	19.83	304	⇓eP	Pn	19 47 57.8	-0.4
BUD	Budapest	19.83	304	⇓eP	Pn	19 47 57.8	-0.4
WSAR	Wadi Sarin	20.09	135	P	Pn	19 48 02.2	+0.7
	comp=Z,4.0nm,0.6s,baz=322,slow=10.0,SNR=5.7						
WSAR				LR	LR	19 57 14.9	
	comp=Z,248nm,20.4s,baz=344,slow=41						
WSAR	Wadi Sarin	20.09	135	P	Pn	19 48 02.7	+1.2
IDID	Didziasalis	20.13	332	eP	P	19 47 58.7	-1.1
IDID				lAmb	lAmb	19 48 10.9	
	comp=Z,6.3nm,0.9s						
VYHS	Vyhne	20.27	307	eP	P	19 48 01.8	+0.3
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VYHS	Vyhne	20.27	307	eP	P	19 48 01.8	+0.3
	comp=Z,10.0nm,1.0s						
VYHS	Vyhne	20.27	307	eP	P	19 48 01.8	+0.3
CSKK	Cs¨ˇtkako	20.29	304	⇓eP	P	19 48 02.1	+0.4
CSKK	Cs¨ˇtkako	20.29	304	⇓eP	P	19 48 02.1	+0.4
IIGN	Ignalina	20.35	331	eP	P	19 48 01.1	-1.2
IIGN				lAmb	lAmb	19 48 03.9	
	comp=Z,5.9nm,0.8s						
BLY	Banja Luka	20.46	296	eP	P	19 48 03.2	-0.4
	comp=Z,8.9nm,0.9s						
BLY	Banja Luka	20.46	296	eP	P	19 48 03.2	-0.4
	comp=Z,8.9nm,0.9s						
ARU	Arti	20.50	25	P	P	19 48 03.3	-0.5
	comp=Z,9.9nm,0.7s,baz=232,slow=7.2,SNR=22						
ARU				LR	LR	19 58 35.9	
	comp=Z,176nm,18.3s,baz=196,slow=44						
ARU	Arti	20.50	25	c iP	P	19 48 04.3	+0.4
ARU						19 48 20.5	
ARU				S	Sn	19 51 56.0	-1.2
ARU				SS	PcP	19 52 15.0	-0.3
ARU				pmax	pmax		
	comp=Z,36nm,1.2s						
ARU	Arti	20.50	25	i P	P	19 48 04.3	+0.4
	comp=Z,36nm,1.2s						
ARU				S	Sn	19 51 56.0	-1.2
ARU	Arti	20.50	25	PcP	PcP	19 52 15.0	-0.3
ARU	Arti	20.50	25	eP	P	19 48 03.3	-0.5
	comp=Z,46nm,1.0s						
ISAL	Salakas	20.55	331	eP	P	19 48 03.3	-1.1
ISAL				lAmb	lAmb	19 48 07.3	
	comp=Z,6.6nm,1.0s						
IZAR	Zarasai	20.64	332	eP	P	19 48 04.5	-0.9
IZAR				lAmb	lAmb	19 48 11.5	
	comp=Z,11nm,0.8s						
KKAR	Karatay Array	20.98	69	eP	Pn	19 48 10.5	-1.2
KKAR				pmax	pmax		
	comp=Z,150nm,0.8s						
KKAR	Karatay Array	20.98	69	eP	Pn	19 48 10.5	-1.2
	comp=Z,150nm,0.8s						
KKAR	Karatay Array	20.98	69	eP	Pn	19 48 10.5	-1.2
	comp=Z,150nm,0.8s						
KBL	Kabul	20.99	93	eP	Pn	19 48 12.5	+0.4
KBL				pmax	pmax		
	comp=Z,17nm,1.0s						
KBL	Kabul	20.99	93	eP	Pn	19 48 12.5	+0.4
	comp=Z,17nm,1.0s						
BEHE	Becsehely	21.05	301	⇓eP	P	19 48 11.5	+1.5
BEHE	Becsehely	21.05	301	⇓eP	P	19 48 11.5	+1.5
SMOL	Smolenice	21.16	306	eP	P	19 48 13.8	+2.6
SMOL	Smolenice	21.16	306	eP	P	19 48 13.8	+2.6
SMOL	Smolenice	21.16	306	eP	P	19 48 13.8	+2.6
SOP	Sopron	21.48	304	P	P	19 48 16.0	+1.4
SOP				pmax	pmax		
	comp=Z,22nm,1.0s						
SOP	Sopron	21.48	304	P	P	19 48 16.0	+1.4
	comp=Z,22nm,1.0s						
SOP	Sopron	21.48	304	⇓eP	P	19 48 16.1	+1.4
SVE	Sverdlovsk	21.51	26	eP	P	19 48 15.4	+0.6
SVE				pmax	pmax		
	comp=Z,46nm,1.6s						
SVE	Sverdlovsk	21.51	26	eP	P	19 48 15.4	+0.6
	comp=Z,46nm,1.6s						
MORC	Moravsky Berou	21.52	310	⇑iP	P	19 48 12.5	-2.6
MORC	Moravsky Berou	21.52	310	P	P	19 48 15.1	0.0
MORC	Moravsky Berou	21.52	310	P	P	19 48 15.1	0.0
MORC	Moravsky Berou	21.52	310	P	P	19 48 15.1	0.0
VRAC	Vranov	21.94	308	P	P	19 48 19.5	-0.1
	comp=Z,4.0nm,0.4s,baz=123,slow=8.5,SNR=6.2						
VRAC				LR	LR	19 58 53.1	
	comp=Z,133nm,19.2s,baz=124,slow=42						
CONA	Conrad Observa	22.00	304	i P	P	19 48 20.5	+0.2
	comp=Z,17nm,0.9s						
CONA	Conrad Observa	22.00	304	P	P	19 48 20.5	+0.2
	comp=Z,17nm,0.9s						
ARSA	Arzberg	22.06	302	i pP	P	19 48 22.0	+1.2
	comp=Z,11nm,0.9s						
ARSA	Arzberg	22.06	302	P	P	19 48 22.0	+1.2
	comp=Z,11nm,0.9s						
KRLC	Kraliky	22.09	310	eP	P	19 48 22.9	+1.7
KRLC	Kraliky	22.09	310	eP	P	19 48 22.9	+1.7
KRLC	Kraliky	22.09	310	eP	P	19 48 22.9	+1.7
SOKA	Soboth	22.27	300	i P	P	19 48 25.3	+2.2
	comp=Z,5.7nm,1.0s						
SOKA	Soboth	22.27	300	P	P	19 48 25.3	+2.2
	comp=Z,5.7nm,1.0s						
KLMR	Klimovskoe	22.41	355	eP	P	19 48 22.5	-1.9
KLMR				eS	S	19 52 29.6	-1.4
KLMR				pmax	pmax		
	comp=Z,79nm,1.2s						
KLMR	Klimovskoe	22.41	355	eP	P	19 48 22.5	-1.9
	comp=Z,79nm,1.2s						
KLMR				eS	S	19 52 29.6	-1.4
DPC	Dobruska-Polom	22.47	310	eP	P	19 48 26.1	+0.9
DPC	Dobruska-Polom	22.47	310	eP	P	19 48 26.1	+0.9
DPC	Dobruska-Polom	22.47	310	eP	P	19 48 26.1	+0.9
OBKA	Obir	22.57	300	i P	P	19 48 30.8	+4.4

comp=Z,1.9nm,0.8s,baz=106,slow=8.5,SNR=11
GERES LR LR 20 00 35.0
comp=Z,148nm,18.9s,baz=96,slow=44
KHC Kasperske Hory 23.78 306 *eP* **P 19 48 38.1 -0.5**
KHC *ex* x 19 49 00.0
KHC AMS AMS 20 00 10.0
comp=Z,300nm,14.9s
KHC Kasperske Hory 23.78 306 *eP* **P 19 48 37.7 -0.9**
KHC pmax pmax
comp=Z,15nm,1.8s
KHC Kasperske Hory 23.78 306 *eP* **P 19 48 37.7 -0.9**
comp=Z,15nm,1.8s
KHC Kasperske Hory 23.78 306 *eP* **P 19 48 37.7 -0.9**
comp=Z,15nm,1.8s
AAK Ala-Archa 23.89 70 P **P 19 48 42.6 +2.7**
comp=Z,1.9nm,0.8s,baz=216,slow=15,SNR=5.5
AAK LR LR 19 59 34.8
comp=Z,103nm,20.8s,baz=262,slow=40
AAK Ala-Archa 23.89 70⇑ *eP* **P 19 48 41.9 +2.0**
AAK pmax pmax
comp=Z,16nm,1.6s
AAK Ala-Archa 23.89 70 *eP* **P 19 48 41.9 +2.0**
comp=Z,16nm,1.6s
FRU Bishkek 23.98 70 *eP* **P 19 48 43.5 +2.9**
FRU *e* 19 49 18.0
FRU pmax pmax
comp=Z,160nm,2.3s
ABTA Abfaltersbach 23.99 300 *i* P **P 19 48 41.9 +1.2**
comp=Z,9.0nm,1.1s
ABTA Abfaltersbach 23.99 300 P **P 19 48 41.9 +1.2**
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 24.07 310 *eP* **P 19 48 41.7 +0.4**
comp=Z,4.5nm,1.0s
BRG Berggiesshubel 24.07 310 *eP* **P 19 48 41.7 +0.4**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 24.07 310 *eP* **P 19 48 41.7 +0.4**
comp=Z,5.0nm,1.0s
WET Wettzell 24.23 306 P **P 19 48 43.1 +0.2**
WET pmax pmax
comp=Z,13nm,1.3s
WET Wettzell 24.23 306 P **P 19 48 43.1 +0.2**
comp=Z,13nm,1.3s
WTTA Wattenberg 24.66 301 *i* P **P 19 48 48.5 +1.5**
comp=Z,22nm,1.0s
WTTA Wattenberg 24.66 301 P **P 19 48 48.5 +1.5**
comp=Z,22nm,1.0s
WATA Walderalm 24.71 301 *i* P **P 19 48 46.8 -0.6**
comp=Z,14nm,1.0s
WATA Walderalm 24.71 301 P **P 19 48 46.8 -0.6**
comp=Z,14nm,1.0s
CLL Collm 24.77 311 *eP* **P 19 48 47.0 -0.7**
CLL *eS* **S 19 53 14.0 +3.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 24.77 311 *eP* **P 19 48 47.0 -0.7**
comp=Z,7.0nm,1.0s
CLL Collm 24.77 311 *eP* **P 19 48 47.0 -0.7**
comp=Z,7.0nm,1.0s
CLL *e* 19 48 55.0
CLL *i* 19 48 58.3
CLL *eS* **S 19 53 14.0 +3.6**
CLL *eSS* **SnSn 19 53 54.0 -2.5**
NKC Novy Kostel 24.78 308 *eP* **P 19 48 47.3 -0.6**
NKC Novy Kostel 24.78 308 *eP* **P 19 48 47.3 -0.6**
NKC Novy Kostel 24.78 308 *eP* **P 19 48 47.3 -0.6**
MOTA Moosalm 25.03 301 *i* P **P 19 48 49.8 -0.5**
comp=Z,35nm,0.9s
MOTA Moosalm 25.03 301 P **P 19 48 49.8 -0.5**
comp=Z,35nm,0.9s
FETA Feichten 25.24 300 *i* P **P 19 48 52.2 0.0**
comp=Z,4.9nm,0.8s
FETA Feichten 25.24 300 P **P 19 48 52.2 0.0**
comp=Z,4.9nm,0.8s
KSH Kashi 25.26 78 *eP* **P 19 48 52.5 +0.1**
KSH pP sP 19 48 58.6 +4.6
KSH sP pP 19 49 01.5 +8.0
KSH PP **PnPn 19 49 30.9 +4.5**
KSH *e*PcP **PcP 19 52 28.8 +3.2**
KSH S **S 19 53 13.6 -5.2**
KSH sS sS 19 53 23.4 +2.8
KSH SS **SnSn 19 54 12.5 +3.6**
KSH PcS **PcS 19 56 08.8 +2.7**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,130nm,5.3s
KSH LR LR
comp=N,130nm,7.3s
KSH LR LR
comp=E,170nm,8.4s
KSH LR LR
comp=Z,180nm,7.9s
FINES FINESS Array B 25.27 340 P **P 19 48 51.1 -0.9**
comp=Z,11nm,1.0s,baz=140,slow=10.0,SNR=14
FINES LR LR 20 00 51.5
comp=Z,136nm,18.5s,baz=150,slow=41
RETA Reutte 25.28 301 *i* P **P 19 48 52.6 +0.1**
comp=Z,5.1nm,0.9s
RETA Reutte 25.28 301 P **P 19 48 52.6 +0.1**
comp=Z,5.1nm,0.9s
GRA1 Grafenberg Arr 25.41 306 P **P 19 48 56.1 +2.6**
comp=Z,58nm,1.1s
GRF Grafenberg Arr 25.41 306 P **P 19 48 56.1 +2.6**
GRF pmax pmax
comp=Z,58nm,1.1s
GRFO Grafenberg 25.41 306 *eP* **P 19 48 54.2 +0.7**
GRFO pmax pmax
comp=Z,38nm,1.1s
GRFO Grafenberg 25.41 306 *eP* **P 19 48 54.2 +0.7**
comp=Z,38nm,1.1s
GRFO Grafenberg 25.41 306 *eP* **P 19 48 54.2 +0.7**
comp=Z,38nm,1.1s
JOF Joensuu 25.43 347 P **P 19 48 53.4 -0.1**
JOF pmax pmax
comp=Z,27nm,1.1s
JOF Joensuu 25.43 347 P **P 19 48 53.4 -0.1**
comp=Z,27nm,1.1s
DAVOX Davos/Dischmat 25.79 299 P **P 19 48 55.8 -1.5**
comp=Z,3.1nm,0.7s,baz=126,slow=16,SNR=5.3
TMCR Tamitsa 25.80 355 *eP* **P 19 48 56.4 -0.5**
TMCR pmax pmax
comp=Z,62nm,1.5s
TMCR Tamitsa 25.80 355 *eP* **P 19 48 56.4 -0.5**
comp=Z,62nm,1.5s
DAVA Damuels 25.85 300 *i* P **P 19 48 58.1 +0.4**
comp=Z,7.6nm,0.9s
DAVA Damuels 25.85 300 P **P 19 48 58.1 +0.4**
comp=Z,7.6nm,0.9s
ATD Arta Tunnel 26.96 181 P **P 19 49 06.9 -0.9**
comp=Z,4.4nm,0.3s,baz=352,slow=19,SNR=7.9
ATD LR LR 20 00 19.3
comp=Z,109nm,19.7s,baz=308,slow=38
KEST Kesra 27.18 275 P **P 19 49 09.0 -0.8**
comp=Z,3.3nm,0.9s,baz=2.0,slow=7.5,SNR=4.1
KURBB Kurchatov Arra 27.50 53 P **P 19 49 13.1 +0.7**
comp=Z,3.3nm,0.8s,baz=262,slow=9.1,SNR=28
KURK Kurchatov 27.58 52⇓ *eP* **P 19 49 14.5 +1.5**
KURK pmax pmax
comp=Z,30nm,1.2s
KURK Kurchatov 27.58 52 *eP* **P 19 49 13.0 -0.1**
KURK Kurchatov 27.58 52 *eP* **P 19 49 13.0 -0.1**
HFS Hagfors 28.53 329 P **P 19 49 19.9 -1.5**
comp=Z,12nm,0.8s,baz=120,slow=10,SNR=12
HFS LR LR 20 02 04.9
comp=Z,160nm,19.9s,baz=118,slow=39
MK31 Makanchi Array 29.51 61 *eP* **P 19 49 30.2 -0.1**
MK31 Makanchi Array 29.51 61 *eP* **P 19 49 30.2 -0.1**
MK31 Makanchi Array 29.51 61 *eP* **P 19 49 30.2 -0.1**
MKAR Makanchi Array 29.51 61 P **P 19 49 31.7 +1.4**
comp=Z,1.5nm,0.7s,baz=269,slow=6.9,SNR=10
MKAR LR LR 20 03 07.3
comp=Z,155nm,19.7s,baz=260,slow=40
MKAR Makanchi Array 29.51 61 *eP* **P 19 49 30.4 +0.1**
comp=Z,26nm,1.0s
MKAR Makanchi Array 29.51 61 *eP* **P 19 49 30.4 +0.1**
comp=Z,26nm,1.0s
NOA NORSAR Array B 30.05 329 P **P 19 49 32.5 -2.5**
comp=Z,0.7nm,0.6s,baz=126,slow=9.0,SNR=3.6
NOA LR LR 20 03 01.6
comp=Z,145nm,19.1s,baz=140,slow=39
NVS Novosibirsk 31.27 46 *eP* **P 19 49 47.2 +1.4**
NVS pmax pmax
comp=Z,23nm,2.1s
NVS Novosibirsk 31.27 46 *eP* **P 19 49 47.2 +1.4**
comp=Z,23nm,2.1s

ZALV Zalesovo Beam 31.97 48 P **P 19 49 51.7 -0.2**
comp=Z,0.7nm,0.5s,baz=259,slow=10,SNR=4.4
ZALV LR LR 20 04 30.2
comp=Z,87nm,18.9s,baz=250,slow=39
ARCES ARCESS Array B 32.45 348 P **P 19 49 54.6 -1.4**
comp=Z,3.0nm,0.6s,baz=147,slow=6.9,SNR=14
WMQ Urumqi 33.44 67 P **P 19 50 08.5 +3.5**
WMQ pP sP 19 50 12.9 +6.3
WMQ sP pP 19 50 15.4 +9.2
WMQ PP **PP 19 51 21.8 +1.3**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,80nm,3.6s
WMQ LR LR
comp=N,290nm,6.5s
WMQ LR LR
comp=E,140nm,4.1s
WMQ LR LR
comp=Z,52nm,26.5s
DANN Dangsing 34.96 95 *eP* **P 19 50 19.5 +0.9**
KOLN Koldanda 35.11 96 *eP* **P 19 50 20.2 +0.4**
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 35.13 314 P **P 19 50 17.2 -2.2**
comp=Z,16nm,0.7s,baz=103,slow=8.8,SNR=19
GKN Gorkha 35.81 95 *eP* **P 19 50 26.3 +0.5**
comp=Z,12nm,0.6s
TAM Tamanrasset 35.88 255 P **P 19 50 24.4 -2.0**
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 35.88 255 P **P 19 50 24.4 -2.0**
comp=Z,3.5nm,0.9s
TAM Tamanrasset 35.88 255 P **P 19 50 24.4 -2.0**
comp=Z,3.5nm,0.9s
DMN Daman 36.36 95 *eP* **P 19 50 31.4 +0.8**
comp=Z,16nm,0.8s
ESDC Sonseca Array 36.40 287 P **P 19 50 28.3 -2.3**
comp=Z,0.6nm,0.6s,baz=65,slow=8.9,SNR=7.1
ESDC LR LR 20 06 04.2
comp=Z,118nm,19.2s,baz=105,slow=37
KKN Kakani 36.41 94 *eP* **P 19 50 31.4 +0.4**
PKIN Phulchoki 36.60 95 *eP* **P 19 50 33.1 +0.4**
comp=Z,7.1nm,0.6s
GUN Gumba 36.82 94 *eP* **P 19 50 35.5 +0.8**
comp=Z,26nm,0.8s
JIRN Jiri 37.18 94 *eP* **P 19 50 38.7 +1.0**
comp=Z,88nm,0.9s
RAMN Ramite 37.84 95 *eP* **P 19 50 43.7 +0.5**
comp=Z,17nm,0.6s
ODAN Odare 38.50 94 *eP* **P 19 50 49.5 +0.8**
comp=Z,36nm,1.1s
TAPN Taplejung 38.52 93 *eP* **P 19 50 49.7 +0.7**
comp=Z,24nm,0.9s
NRIK Noril'sk 38.72 23 P **P 19 50 48.6 -1.1**
comp=Z,4.6nm,0.8s,baz=183,slow=5.8,SNR=6.0
NRIK LR LR 20 10 45.0
comp=Z,147nm,18.4s,baz=206,slow=42
LSA Lhasa 40.14 88 *eP* **P 19 51 01.6 -1.1**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 40.14 88 *eP* **P 19 51 01.6 -1.1**
comp=Z,7.8nm,0.8s
LSA Lhasa 40.14 88 *eP* **P 19 51 01.6 -1.1**
comp=Z,7.9nm,0.8s
TORD Torodi Ar. Bea 44.72 247 P **P 19 51 36.4 -3.2**
comp=Z,1.6nm,0.9s,baz=69,slow=3.9,SNR=10
TORD LR LR 20 13 38.5
comp=Z,34nm,19.4s,baz=80,slow=41
SONM Songino Array 45.69 57 LR LR 20 12 51.2
comp=Z,138nm,20.1s,baz=274,slow=38
ULN Ulaanbaatar 46.11 57⇓ *iP* **P 19 51 53.2 +2.8**
ULN pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 47.38 73 *eP* **P 19 52 03.4 +2.9**
LZH pP sP 19 52 07.8 +5.7
LZH sP pP 19 52 10.0 +8.3
LZH PP **PP 19 53 47.8 -3.7**
LZH *eS* **S 19 58 53.4 -1.9**
LZH sS sS 19 59 02.0 +4.8
LZH Lanzhou 47.38 73 SS SS 20 02 11.0 -11
LZH pmax pmax
comp=Z,39nm,1.5s
LZH pmax pmax
comp=Z,110nm,4.2s
LZH LR LR
comp=N,1μm,12.9s
LZH LR LR
comp=E,1μm,15.6s
LZH LR LR
comp=Z,1μm,16.0s
BOD Bodaibo 48.40 42 *eP* **P 19 52 07.7 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.7s
BOD Bodaibo 48.40 42 *eP* **P 19 52 07.7 -0.2**
comp=Z,7.0nm,1.7s
HHC Hu-ho-hao-te 51.27 65 *eP* **P 19 52 31.3 +1.1**
HHC pP sP 19 52 36.4 +4.6
HHC S **S 19 59 51.6 +1.9**
HHC Hu-ho-hao-te 51.27 65 SS **SS 20 03 28.6 +3.8**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,69nm,8.0s
HHC LR LR
comp=N,74nm,13.6s
HHC LR LR
comp=E,100nm,11.1s
HHC LR LR
comp=Z,71nm,11.1s
CHTO Chiang Mai 51.77 96 P **P 19 52 34.0 0.0**
comp=Z,33nm,1.1s
CHTO Chiang Mai 51.77 96 *eP* **P 19 52 32.8 -1.2**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 51.77 96 *eP* **P 19 52 32.8 -1.2**
comp=Z,5.1nm,0.7s
CHTO Chiang Mai 51.77 96 *eP* **P 19 52 32.8 -1.2**
comp=Z,5.1nm,0.7s
CM31 Chiang Mai Arr 51.97 96 *eP* **P 19 52 35.0 -0.5**
CM31 Chiang Mai Arr 51.97 96 *eP* **P 19 52 35.0 -0.5**
CMAR Chiang Mai Arr 51.97 96 P **P 19 52 35.5 0.0**
comp=Z,4.0nm,0.8s,baz=301,slow=7.4,SNR=32
CMAR LR LR 20 19 06.0
comp=Z,63nm,18.1s,baz=306,slow=41
XAN Xi'an 52.01 74 P **P 19 52 36.5 +0.8**
XAN pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 52.50 23⇓ *eP* **P 19 52 40.0 +1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.9s
TIXI Tiksi 52.50 23 *eP* **P 19 52 40.0 +1.3**
comp=Z,6.0nm,1.9s
NANT Nan 53.15 95 P P 19 52 49.6 +5.4
comp=Z,2.1nm,0.9s
UTTA Uttaradit 53.63 96 P **P 19 52 51.2 +3.4**
comp=Z,1.8nm,0.8s
DBIC Dimbokro 53.83 247 P **P 19 52 47.6 -1.7**
comp=Z,3.4nm,0.9s,baz=48,slow=22,SNR=3.6
UTHA Uthaitani 54.04 99 P **P 19 52 53.4 +2.6**
comp=Z,2.8nm,0.9s
PBKT Sadao Pong 54.63 97 P **P 19 52 55.6 +0.5**
comp=Z,7.9nm,0.8s
KHON Khomkaen 56.21 96 P **P 19 53 08.6 +2.1**
comp=Z,6.4nm,0.9s
SRAK Srakaew 56.98 99 P **P 19 53 15.8 +3.9**
KLR Kul'dur 61.07 48 P **P 19 53 40.3 +0.3**
comp=Z,0.2nm,0.8s,baz=316,slow=8.6,SNR=3.9
KLR LR LR 20 21 34.1
comp=Z,6.5nm,19.6s,slow=37
KSAR Wonju Array Be 64.17 62 P **P 19 54 00.1 -0.7**
KSAR Wonju Array Be 64.17 62 P **P 19 54 00.1 -0.7**
KSAR Wonju Array Be 64.17 62 P **P 19 54 00.1 -0.7**
SEY Seymchan 64.17 29⇑ *eP* **P 19 54 01.3 +0.9**
SEY Seymchan 64.17 29 *eP* **P 19 54 01.3 +0.9**
KSRS Korea Array 64.19 62 P **P 19 54 00.1 -0.8**
comp=Z,2.9nm,0.7s,baz=294,slow=6.3,SNR=10
BILL Bilibino 65.45 20 *eP* **P 19 54 12.1 +3.5**
BILL pmax pmax
comp=Z,9.0nm,1.3s
BOSA Boshof 68.97 197 P **P 19 54 31.1 -0.5**
comp=Z,3.5nm,0.8s,baz=24,slow=3.9,SNR=4.9
BOSA LR LR 20 25 03.7
comp=Z,47nm,18.3s,baz=24,slow=36
MJAR Matsushiro Arr 71.63 58 P **P 19 54 47.3 -0.6**
comp=Z,0.9nm,0.9s,baz=21,slow=9.3,SNR=3.2
MJAR LR LR 20 28 56.8
comp=Z,70nm,19.6s,baz=275,slow=38

MLY Manley 76.12 6 *eP* **P 19 55 15.2 +1.5**
MLY Manley 76.12 6 *eP* **P 19 55 15.2 +1.5**
COLA College 76.49 5⇓ *iP* **P 19 55 14.9 -0.8**
COLA pmax pmax
comp=Z,4.0nm,1.2s
COLA College 76.49 5 *i* P **P 19 55 14.9 -0.8**
comp=Z,4.0nm,1.2s
ILAR Eielson Array 76.65 4 P **P 19 55 15.9 -0.7**
comp=Z,0.6nm,0.8s,baz=338,slow=6.4,SNR=6.4
ILAR Eielson Array 76.65 4 P **P 19 55 16.0 -0.7**
ILAR Eielson Array 76.65 4 P **P 19 55 16.0 -0.7**
BPAW Bear Paw Mtn. 77.01 6 *eP* **P 19 55 20.5 +1.8**
BPAW Bear Paw Mtn. 77.01 6 *eP* **P 19 55 20.5 +1.8**
KDAK Kodiak Island 83.05 9 *i* P **P 19 55 52.9 +1.5**
KDAK Kodiak Island 83.05 9 *i* P **P 19 55 52.9 +1.5**
URZ Urewera 144.05 104 PKhKP PKPpre 20 02 56.7
comp=Z,7.6nm,0.9s,baz=353,slow=5.7,SNR=5.1

IDC 23 19:46:44.9±5.6, 39°.36N×110°.61E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/58, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/34, Error ellipse: s-maj=118.6km s-min=24.0km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.01**	**342**	Pn	Pn	19 48 55.8	-0.5
	baz=159,slow=14,SNR=8.8						
SONM				Sn	Sn	19 50 33.3	-5.1
	0.1nm,0.3s,baz=155,slow=19,SNR=2.3						
SONM				Lg	Lg	19 51 31.3	
	0.1nm,0.3s,baz=162,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**21.89**	**299**	P	P	19 51 39.3	-0.1
	1.7nm,0.8s,baz=102,slow=13,SNR=5.6						
CMAR	**Chiang Mai Arr**	**23.15**	**209**	P	P	19 51 52.9	-0.1
	1.1nm,0.7s,baz=13,slow=9.8,SNR=15						
KURBB	**Kurchatov Arra**	**25.13**	**307**	P	P	19 52 11.6	+0.3
	1.0nm,0.9s,baz=102,slow=10,SNR=3.8						
MMAI	**Mount Meron Ar**	**59.41**	**289**	LR	LR	20 23 19.0	
	comp=Z,52nm,19.0s,baz=270,slow=37						

JMA 23 19:47:25.5±0.1, 36°.88N×138°.68E, h3km±3km, M1.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.32**	**186**	P	Pg	19 47 32.1	+0.5
JHK	**Hiroka**	**0.46**	**36**	P	Pg	19 47 34.3	0.0
JHK				S	Sg	19 47 40.5	+0.3
MAT	**Matsushiro**	**0.51**	**229**	P	Pg	19 47 35.1	-0.1
MAT				S	Sg	19 47 41.4	-0.4
MAT	**Matsushiro**	**0.51**	**229**	P	Pg	19 47 35.1	-0.1
MAT				S	Sg	19 47 41.5	-0.3
JNG	**Nsakai**	**0.66**	**225**	P	Pg	19 47 38.1	-0.1
JNG				S	Sg	19 47 46.4	-0.4
JAG	**Ashikaga**	**0.77**	**126**	S	Sg	19 47 50.6	+0.4
JRY	**Ryogami san**	**0.88**	**168**	P	Pg	19 47 42.0	-0.4
JRY				S	Sg	19 47 53.8	0.0

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*MOS **23** 19:48:54.8±1.7, 38°.54N×43°.20E, h7km, mb4.4/34, Error ellipse: s-maj=6.1km s-min=3.7km az=115.1*
*DDA **23** 19:48:55.5, 38°.62N×43°.20E, h14km, Ml4.2*
*ISCJB **23** 19:48:56.1±0.5, 38°.64N±0°.02×43°.24E±0°.02, h11km±3km, mb4.2/62, MS4.0/3, Error ellipse: s-maj=2.9km s-min=2.5km az=26.2*
*NEIC **23** 19:48:56.0±0.0, 38°.69N×43°.17E, h7km, mb4.4/12, ML3.8(ISK), ML4.3(DDA), After DDA.*
*DSN **23** 19:48:56.8±0.0, 38°.53N×43°.25E, h15km, mb4.3/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISK **23** 19:48:56.6, 38°.74N×43°.04E, h5km, ML3.8*
*CSEM **23** 19:48:56.7±0.1, 38°.61N×43°.24E, h10km, mb4.3/37, Error ellipse: s-maj=4.0km s-min=3.3km az=31.0*
*IDC **23** 19:48:59.8±2.3, 38°.62N×43°.17E, h32km±16km, mb3.9/25, mb1 4.0/34, mb1mx3.9/53, mbtmp4.0/34, ML3.4/8, Error ellipse: s-maj=15.5km s-min=8.3km az=171.0*
*AZER **23** 19:48:59.7±0.9, 38°.39N×42°.52E, h7km, Error ellipse: s-maj=12.5km s-min=6.6km az=133.0*
*ISN **23** 19:49:00.8±13.0, 38°.17N×42°.84E, h0km±43km, ML4.5*
*TEH **23** 19:49:02.0, 38°.63N×43°.38E, h28km, ML4.2*
ISC 23 19:48:56.7±0.9, 38°.64N±0°.02×43°.23E±0°.02, h10km±5km, n376, σ1°.81/421, mb4.2/62, MS4.0/4, 52C-30D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.35**	**202**	*i* P	**Pg**	**19 49 01.6**	**-2.1**
GEVA				*i* S	**Sb**	**19 49 10.4**	**-0.5**
GEVA	**Gevas**	**0.35**	**202**	P	**Pg**	**19 49 01.6**	**-2.1**
GEVA	**Gevas**	**0.35**	**202**	*i* P	**Pg**	**19 49 01.4**	**-2.3**
GEVA				*i* S	**Sb**	**19 49 10.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.45**	**37⇓**	*iP*	**Pg**	**19 49 04.5**	**-1.0**
VMUR				*i* S	**Sg**	**19 49 12.6**	**+1.2**
VMUR	**Van-Muradiye**	**0.45**	**37**	*i* P	**Pg**	**19 49 04.2**	**-1.3**
VMUR				*i* S	**Sg**	**19 49 12.2**	**+0.8**
VMUR	**Van-Muradiye**	**0.45**	**37**	*i* P	**Pg**	**19 49 04.2**	**-1.3**
VMUR				*i* S	**Sg**	**19 49 12.2**	**+0.8**
BASK	**Baskale_VAN**	**0.84**	**133⇑**	*iP*	**Pg**	**19 49 11.1**	**-1.9**
BASK				*i* S	**Sb**	**19 49 25.0**	**-0.1**
BASK	**Baskale_VAN**	**0.84**	**133**	P	**Pg**	**19 49 11.1**	**-1.9**
AGRB	**Hanur-Agry**	**0.96**	**349**	*e*PG	**Pg**	**19 49 13.3**	**-1.9**
AGRB				*e*SG	**Sg**	**19 49 26.5**	**-1.1**
AGRB	**Hanur-Agry**	**0.96**	**349**	*e*Pg	**Pg**	**19 49 13.3**	**-1.9**
AGRB				*e*Sg	**Sg**	**19 49 26.5**	**-1.1**
DYDN	**Diyadin**	**0.98**	**22**	*i* P	**Pg**	**19 49 12.4**	**-3.1**
DYDN				*i* S	**Sn**	**19 49 32.9**	**+2.1**
DYDN	**Diyadin**	**0.98**	**22**	P	**Pg**	**19 49 12.4**	**-3.1**
DYDN	**Diyadin**	**0.98**	**22**	*i* P	**Pg**	**19 49 11.7**	**-3.9**
EKAR	**Karacoban**	**1.10**	**305**	*i* P	**Pb**	**19 49 17.8**	**-0.2**
EKAR				*i* S	Sn	19 49 42.8	+9.0
EKAR	**Karacoban**	**1.10**	**305**	P	**Pb**	**19 49 17.8**	**-0.2**
EKAR	**Karacoban**	**1.10**	**305**	*i* P	**Pn**	**19 49 19.2**	**+0.7**
HAKT	**HAKKARI**	**1.14**	**160⇑**	*iP*	**Pg**	**19 49 16.1**	**-2.6**
HAKT				*i* S	**Sn**	**19 49 35.7**	**+0.8**
HAKT	**HAKKARI**	**1.14**	**160**	P	**Pg**	**19 49 16.1**	**-2.6**
SIRN	**S¨–rnak**	**1.31**	**210**	*i* P	**Pn**	**19 49 18.8**	**-2.3**
SIRN				*i* S	**Sb**	**19 49 37.3**	**-1.0**
SIRN	**S¨–rnak**	**1.31**	**210**	P	**Pn**	**19 49 18.8**	**-2.3**
SIRN				S	**Sb**	**19 49 37.3**	**-1.0**
EATA	**Eleskirt**	**1.35**	**335⇓**	*iP*	**Pn**	**19 49 20.4**	**-1.6**
EATA				*i* S	**Sg**	**19 49 43.7**	**+3.5**
EATA	**Eleskirt**	**1.35**	**335**	P	**Pn**	**19 49 20.4**	**-1.6**
CUKT	**Cukurca**	**1.42**	**168**	*e*PN	**Pg**	**19 49 26.5**	**+2.5**
CUKT	**Cukurca**	**1.42**	**168**	*i* P	**Pb**	**19 49 23.3**	**-0.1**
CUKT				*i* S	**Sg**	**19 49 49.3**	**+7.0**
CUKT	**Cukurca**	**1.42**	**168**	P	**Pb**	**19 49 23.3**	**-0.1**
CUKT	**Cukurca**	**1.42**	**168**	*e*Pn	**Pg**	**19 49 26.5**	**+2.5**
VRTB	**Varto-Mus**	**1.48**	**291**	*e*PN	**Pn**	**19 49 22.9**	**-0.6**
VRTB	**Varto-Mus**	**1.48**	**291**	*i* P	**Pn**	**19 49 22.9**	**-0.6**
VRTB	**Varto-Mus**	**1.48**	**291**	P	**Pn**	**19 49 23.0**	**-0.6**
BNGL	**BINGOL**	**1.65**	**282**	*i* P	**Pn**	**19 49 26.1**	**+0.1**
BNGL				*i* S	**Sg**	**19 49 49.7**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**254**	*e*PN	**Pn**	**19 49 25.8**	**-0.2**
SVAN				*e*SN	**Sb**	**19 49 48.1**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**254⇓**	*iP*	**Pb**	**19 49 26.8**	**-0.8**
SVAN				*i* S	**Sb**	**19 49 49.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**254**	*e*Pn	**Pn**	**19 49 25.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**254**	P	**Pb**	**19 49 26.8**	**-0.8**
SVAN				*e*Sn	**Sb**	**19 49 48.1**	**-0.5**
SVAN				S	**Sb**	**19 49 49.1**	**+0.5**
BTMN	**Batman**	**1.71**	**245**	*i* P	**Pb**	**19 49 27.7**	**-0.6**
BTMN				*i* S	**Sg**	**19 49 51.3**	**-0.4**
BTMN	**Batman**	**1.71**	**245**	P	**Pb**	**19 49 27.7**	**-0.6**
BTMN				S	**Sg**	**19 49 51.3**	**-0.4**
HOMI	**Horasan**	**1.74**	**324⇓**	*iP*	**Pn**	**19 49 27.2**	**-0.1**
HOMI				*i* S	Sg	19 50 04.3	+12
DIGO	**Kars**	**1.78**	**4⇓**	*iP*	**Pn**	**19 49 28.2**	**+0.4**
DIGO				*i* S	**Sg**	**19 49 57.9**	**+3.9**
DIGO	**Kars**	**1.78**	**4**	P	**Pn**	**19 49 28.2**	**+0.4**
NAX	**Nakhchivan**	**1.85**	**72⇑**	P	**Pn**	**19 49 29.7**	**+1.1**
	SNR=3.8						
NAX				⇑S	Sg	19 50 12.0	+16
NAX	**Nakhchivan**	**1.85**	**72**	P	**Pn**	**19 49 29.7**	**+1.1**
	SNR=3.8						
ISHB	**Shabestar**	**1.91**	**100**	*e*Pn	**Pn**	**19 49 30.8**	**+1.2**
ISHB				*e*AMB	AMB	19 49 36.8	
	comp=Z,25μm,0.2s						
ISHB				*e*Sg	**Sg**	**19 49 58.6**	**+0.4**
GNI	**Garni**	**1.91**	**37**	Pn	**Pb**	**19 49 31.1**	**-0.7**
	comp=Z,40nm,0.3s,baz=247,slow=3.2,SNR=25						

GNI Lg Lg 19 50 00.6
comp=Z,72nm,0.3s,baz=180,slow=23,SNR=7.4
ERZM Erzurum 1.92 312 *i* P **Pn 19 49 30.6 +0.8**
ERZM *i* S **Sg 19 50 00.9 +2.4**
ERZM Erzurum 1.92 312 P **Pn 19 49 30.6 +0.8**
IMRD Marand 1.94 87 *e*Pn **Pb 19 49 31.5 -0.8**
IMRD *e*AMB AMB 19 49 40.4
comp=Z,46μm,0.5s
IMRD Marand 1.94 87 *e*Pn **Pb 19 49 31.5 -0.8**
ECAT Cat-ERZURUM 2.00 300 *i* P **Pn 19 49 31.1 +0.3**
ECAT *i* S **Sg 19 50 02.9 +1.9**
ECAT Cat-ERZURUM 2.00 300 P **Pn 19 49 31.1 +0.3**
BNGB Bing¶ll 2.02 281 *e*PN **Pn 19 49 30.9 -0.1**
SENK Senkaya-Erzuru 2.04 341 *e*PN **Pn 19 49 31.7 +0.4**
SENK Senkaya-Erzuru 2.04 341 *e*Pn **Pn 19 49 31.7 +0.4**
BINT Bingol 2.15 277 P **Pn 19 49 30.9 -2.0**
BINT Bingol 2.15 277 *e*Pn **Pn 19 49 30.9 -2.0**
YEDI Yedisu-Bingol 2.24 292 *e*PN **Pn 19 49 34.0 0.0**
YEDI Yedisu-Bingol 2.24 292 *e*Pn **Pn 19 49 34.0 0.0**
ITBZ Tabriz 2.33 99 *e*Pn **Pn 19 49 36.9 +1.6**
ITBZ *e*AMB AMB 19 50 22.3
comp=Z,4μm,0.3s
ITBZ Tabriz 2.33 99 *e*Pn **Pn 19 49 36.9 +1.6**
MARD Mardin 2.34 236 *i* P **Pn 19 49 36.4 +0.9**
MARD *i* S **Sb 19 50 07.7 -0.4**
MAZI Mazidag 2.49 243 *e*PN **Pn 19 49 38.8 +1.3**
MAZI Mazidag 2.49 243 *e*Pn **Pn 19 49 38.8 +1.3**
KOPT Kop Dagi 2.53 304 *e*PN **Pn 19 49 39.3 +1.2**
KOPT Kop Dagi 2.53 304 *e*Pn **Pn 19 49 39.3 +1.2**
DIYA Diyarbakir 2.54 255 *i* P **Pb 19 49 41.0 -1.5**
DIYA *i* S **Sg 19 50 25.1 +6.6**
ARTV Artvin 2.73 339 *e*Pn **Pn 19 49 40.2 -0.8**
ARTV Artvin 2.73 339 *e*PN **Pn 19 49 40.1 -0.8**
AKH Akhalkalaki 2.78 4 *e*PN **Pn 19 49 42.8 +1.3**
AKH Akhalkalaki 2.78 4⇑*i*P **Pb 19 49 46.2 -0.4**
AKH Akhalkalaki 2.78 4 *e*Pn **Pn 19 49 42.8 +1.3**
AKH Akhalkalaki 2.78 4⇑*i*P **Pb 19 49 46.2 -0.4**
GDB GEDABAY 2.85 42⇓P **Pb 19 49 47.4 -0.4**
SNR=12
GDB ⇑S **Sg 19 50 36.7 +8.3**
ERZN Erzincan 2.89 290 *e*PN **Pn 19 49 43.3 +0.4**
QZX Qazax, Azerbai 2.93 34⇑P **Pb 19 49 48.3 -0.8**
SNR=16
QZX ⇓S **Sg 19 50 36.0 +5.2**
PTK Pertek 3.01 276 *e*PN **Pn 19 49 44.8 +0.2**
PTK Pertek 3.01 276 *e*Pn **Pn 19 49 44.8 +0.2**
IHRS Heris 3.01 95 *e*Pn **Pn 19 49 46.2 +1.4**
IHRS *e*AMB AMB 19 49 59.8
comp=Z,9μm,0.4s
IHRS Heris 3.01 95 *e*Pn **Pn 19 49 46.2 +1.4**
IBST Bostanabad 3.04 107 *e*Pn **Pn 19 49 46.6 +1.5**
IBST *e*AMB AMB 19 49 57.7
comp=Z,2μm,0.3s
IBST Bostanabad 3.04 107 *e*Pn **Pn 19 49 46.6 +1.5**
SVRC Sivrice-ELAZID 3.08 266 *e*PN **Pn 19 49 45.5 -0.2**
SVRC Sivrice-ELAZID 3.08 266 *e*Pn **Pn 19 49 45.5 -0.2**
GANJ Ganja 3.12 49⇓P **Pb 19 49 52.1 -0.2**
SNR=17
EZC Erzincan 3.21 292 *e*Pn **Pn 19 49 43.3 -4.1**
BRDA Brd 3.46 61 P **Pg 19 50 01.9 -1.2**
SNR=12
BRDA ⇑S **Sg 19 50 51.0 +3.0**
ISRB Sarab 3.59 102 *e*Pn **Pn 19 49 54.1 +1.4**
ISRB *e*AMB AMB 19 50 13.1
comp=Z,4μm,0.3s
ISRB Sarab 3.59 102 *e*Pn **Pn 19 49 54.1 +1.4**
MNGR Mingechevir, A 3.66 53 P **Pb 19 50 03.9 +2.4**
SNR=11
MNGR ⇓S **Sg 19 50 55.5 +1.2**
ZRD Zardab 3.82 63⇓P **Pb 19 50 06.9 +2.6**
SNR=3.5
ZRD ⇑S **Sg 19 50 59.8 +0.4**
ZKTA Zakatala 3.97 40⇓P **Pb 19 50 09.0 +2.2**
SNR=2.8
ZKTA ⇑S **Sg 19 51 02.6 -1.6**
SEKA Sheki 3.99 49⇑P **Pb 19 50 10.2 +2.9**
SNR=16
SEKA ⇑S **Sg 19 51 05.7 +0.8**
LRK Lerik 4.00 88⇓P **Pb 19 50 09.1 +1.6**
SNR=7.7
LRK ⇑S **Sg 19 51 04.2 -1.2**
GLBA Clilabad 4.08 80⇑P **Pb 19 50 10.6 +2.0**
SNR=9.1
GLBA ⇑S **Sg 19 51 05.3 -2.2**
ZEI Tsey 4.18 7 *e*P **Pn 19 50 00.5 -0.3**
ZEI pmax pmax
comp=Z,40nm,0.7s
KDMR Kurdemir 4.21 64⇑P **Pb 19 50 12.8 +1.9**
SNR=4.0
QBL Gabala 4.24 56 P **Pb 19 50 12.9 +1.5**
SNR=12
QBL ⇓S **Sg 19 51 10.0 -2.7**
LKRN Lenkeran, Azer 4.35 87⇑P **Pb 19 50 13.8 +0.6**
SNR=5.5
LKRN ⇑S **Sg 19 51 13.0 -3.3**
ASTR Astara 4.36 89⇑P **Pb 19 50 14.3 +0.8**
SNR=22
ASTR ⇓S **Sg 19 51 13.5 -3.3**
IML Ismayilli 4.39 59⇑P **Pb 19 50 15.2 +1.3**
SNR=5.1
IML ⇑S **Sg 19 51 13.8 -3.8**
XNQ Khinaliq 4.55 55⇓P **Pb 19 50 17.8 +1.0**
SNR=12
NEY Neytrino 4.62 355⇓*e*P Pn 19 50 12.3 +5.4
PQL Pirkuli 4.66 61⇓P **Pb 19 50 18.6 -0.1**
SNR=5.1
QSAR Qusar 4.82 52⇑P **Pb 19 50 20.7 -0.6**
SNR=7.9
NCK Nalchik 4.86 3⇑*e*P **Pn 19 50 13.0 +3.0**
NCK Nalchik 4.86 3 *e*P **Pn 19 50 13.0 +3.0**
GROC Groznyy 4.96 22 *e*P **Pn 19 50 15.4 +4.1**
GROC 19 51 12.1
GROC pmax pmax
comp=Z,7.0nm,0.3s
GROC smax smax
comp=N,59nm,1.6s
GROC smax smax
comp=N,23nm,1.6s
GROC Groznyy 4.96 22 *e*P **Pn 19 50 15.4 +4.1**
comp=N,7.0nm,0.3s
GROC S **Sn 19 51 12.1 +3.4**
comp=N,23nm,1.6s
IVIS Veis 5.03 143 *e*Pn **Pn 19 50 14.0 +1.6**
IVIS *e*AMB AMB 19 50 37.7
comp=Z,1μm,0.3s
IVIS Veis 5.03 143 *e*Pn **Pn 19 50 14.0 +1.6**
IGHG Ghaleghazi 5.07 147 *e*Pn **Pn 19 50 14.8 +1.7**
IGHG *e*AMB AMB 19 51 17.8
comp=Z,5μm,0.5s
IGHG Ghaleghazi 5.07 147 *e*Pn **Pn 19 50 14.8 +1.7**
KBZ Khabaz 5.09 357 Pn **Pn 19 50 16.5 +3.4**
comp=Z,0.1nm,0.3s,baz=169,slow=8.5,SNR=5.0
KBZ Pg **Pg 19 50 32.5 -1.8**
comp=Z,0.4nm,0.3s,baz=159,slow=12,SNR=9.7
KIV Kislovodsk 5.33 356 P **Pn 19 50 17.8 +1.3**
KIV Kislovodsk 5.33 356 *e*P **Pn 19 50 20.5 +4.0**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 5.33 356 P **Pn 19 50 17.8 +1.3**
KIV Kislovodsk 5.33 356 *e*Pn **Pn 19 50 17.9 +1.4**
KVAR Kislovodsk Arr 5.33 356 Pn **Pn 19 50 21.1 +4.6**
baz=41,slow=2.0,SNR=3.7
KVAR Pg **Pg 19 50 36.2 -2.6**
baz=278,slow=1.9,SNR=13
BHD Baghdad 5.44 170 *e*Pn **Pn 19 50 18.0 +0.2**
SNR=3.0
BHD *e*Sn **Sn 19 51 22.0 +1.5**
SNR=3.0
SOC Sochi 5.61 333 *e*P **Pn 19 50 24.6 +4.4**
SOC pmax pmax
comp=Z,37nm,0.7s
SOC MLR MLR
comp=Z,442nm,11.0s
RTB Rutbah 6.08 204 *e*Pn **Pn 19 50 26.0 -0.7**
SNR=3.0
GOF Gofitskoye 6.42 359⇑*e*P Pn 19 50 37.6 +6.3
GOF pmax pmax
comp=Z,18nm,1.0s
BRTR Keskin Array B 7.53 281 Pn **Pn 19 50 50.2 +3.5**
comp=Z,0.1nm,0.3s,baz=105,slow=13,SNR=5.8
NSR Nassriya 7.98 162 *e*Pn **Pn 19 50 52.0 -0.7**
SNR=3.0
NSR *e*Sn **Sn 19 52 24.0 +1.0**
SNR=3.0

ASF Jabal al Asfar 8.26 221 Pn **Pn 19 51 00.6 +3.8**
comp=Z,0.2nm,0.3s,baz=168,slow=23,SNR=3.5
ASF Lg Lg 19 53 27.1
comp=Z,0.3nm,0.3s,baz=151,slow=21,SNR=3.8
MMAI Mount Meron Ar 8.47 231 Pn **Pn 19 51 03.3 +3.7**
comp=Z,0.9nm,0.3s,baz=65,slow=18,SNR=3.7
MMAI Lg Lg 19 53 28.9
comp=Z,0.2nm,0.3s,baz=12,slow=13,SNR=2.6
GEYT Alibeck 11.73 89 Pn **Pn 19 51 46.7 +2.5**
comp=Z,0.1nm,0.3s,baz=284,slow=24,SNR=3.4
VRI Vrincioaia 14.18 306⇑*i*P **P 19 52 26.8 +1.6**
VRI Vrincioaia 14.18 306⇑P **P 19 52 26.8 +1.6**
PLOR Plostina 14.22 306⇑*i*P **P 19 52 27.7 +2.0**
PLOR Plostina 14.22 306⇑P **P 19 52 27.7 +2.0**
LPSR Galich'ya Gora 14.28 349 *e*P **Pn 19 52 19.1 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.0s
SORM Soroca 14.37 316⇑*i*P **Pn 19 52 20.2 +0.1**
SORM Soroca 14.37 316⇑P **Pn 19 52 20.2 +0.1**
MLR Muntele Rosu 14.54 304 Pn **Pn 19 52 24.2 +1.7**
comp=Z,0.0nm,0.3s,baz=114,slow=14,SNR=2.1
MLR Muntele Rosu 14.54 304⇓*i*P **P 19 52 26.6 -2.6**
MLR Muntele Rosu 14.54 304⇓P **P 19 52 26.6 -2.6**
HUMR Humele 14.86 299⇑*i*P **Pn 19 52 26.5 -0.3**
IDI Anoyia 15.03 263 Pn **Pn 19 52 29.0 -0.3**
comp=Z,0.2nm,0.3s,baz=67,slow=6.9,SNR=2.8
DOPR Dopca 15.08 305⇑*i*P **Pn 19 52 32.3 +2.5**
VOIR 15.10 303⇑*i*P **Pn 19 52 31.8 +1.6**
VOIR 15.10 303⇑P **Pn 19 52 31.8 +1.6**
PRAR RASCA 15.16 311⇑*i*P **Pn 19 52 31.1 +0.2**
SRS Serrai 15.28 286 P **P 19 52 38.0 +0.6**
SRS pmax pmax
comp=Z,10.0nm,1.8s
SRS Serrai 15.28 286 P **P 19 52 38.0 +0.6**
comp=Z,10.0nm,1.8s
ARR Arges 15.36 302⇑*i*P **Pn 19 52 34.4 +0.9**
AKASG Malin Array Be 15.61 325 Pn **Pn 19 52 35.1 -1.6**
comp=Z,0.3nm,0.3s,baz=129,slow=12,SNR=18
AKBB Malin Array Si 15.61 325 *e*P **Pn 19 52 37.0 +0.3**
AKBB pmax pmax
comp=Z,21nm,1.0s
AKBB Malin Array Si 15.61 325 *e*Pn **Pn 19 52 37.0 +0.3**
comp=Z,21nm,1.0s
AKBB Malin Array Si 15.61 325 *e*Pn **Pn 19 52 37.0 +0.3**
comp=Z,21nm,1.0s
KIEV Kiev 15.61 325⇓*e*P **Pn 19 52 36.3 -0.4**
KIEV pmax pmax
comp=Z,15nm,1.3s
KIEV Kiev 15.61 325 *e*Pn **Pn 19 52 33.1 -3.6**
comp=Z,21nm,1.0s
VTS Vitosha 15.70 291⇑*i*P **Pn 19 52 34.9 -3.2**
VTS Vitosha 15.70 291 *e*P **Pn 19 52 38.3 +0.2**
VTS pmax pmax
comp=Z,56nm,1.7s
VTS Vitosha 15.70 291 *e*Pn **Pn 19 52 38.3 +0.2**
comp=Z,56nm,1.7s
VTS Vitosha 15.70 291 *e*Pn **Pn 19 52 38.3 +0.2**
comp=Z,56nm,1.7s
AKTO Aktyubinsk 15.79 37 Pn **Pn 19 52 38.0 -1.0**
comp=Z,0.1nm,0.3s,baz=223,slow=11,SNR=6.9
BURAR Bucovina Array 15.89 310⇓*i*P **Pn 19 52 41.3 +0.8**
BURAR Bucovina Array 15.89 310⇓P **Pn 19 52 41.3 +0.8**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **Pn 19 52 41.8 +1.0**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **Pn 19 52 41.8 +1.0**
ABKAR Akbulak array 16.01 43 *e*Pn **Pn 19 52 41.1 -0.9**
comp=Z,149nm,1.8s
ABKAR Akbulak array 16.01 43 *e*Pn **Pn 19 52 41.1 -0.9**
comp=Z,149nm,1.8s
LIT Litokhoron 16.10 282 P **P 19 52 45.9 -0.7**
LIT pmax pmax
comp=Z,32nm,1.1s
LIT Litokhoron 16.10 282 P **P 19 52 45.9 -0.7**
comp=Z,32nm,1.1s
DJES Djerdap 16.59 298 *e*P **P 19 52 51.8 -0.1**
ZAGS Zajecar 16.61 295 *e*P **Pn 19 52 50.0 +0.4**
GZR Gura Zlata 16.61 301⇑*i*P **Pn 19 52 46.5 -3.2**
BARS Barje 16.75 291 *e*P **P 19 52 54.1 +0.4**
BANOM Banah 16.80 135 P **Pn 19 52 49.1 -3.1**
SKO Skopje 16.94 288 P **P 19 52 56.6 +0.8**
SKO pmax pmax
comp=Z,2.0nm,1.5s
SKO Skopje 16.94 288 P **P 19 52 56.6 +0.8**
comp=Z,2.0nm,1.5s
BOVS Bovan 16.95 294 *e*P **P 19 52 55.5 -0.4**
OBN Obninsk 17.09 347 P **Pn 19 52 54.4 -1.1**
comp=Z,1.7nm,0.3s,baz=133,slow=10,SNR=7.1
OBN Obninsk 17.09 347⇓*e*P **Pn 19 52 54.7 -0.8**
OBN pmax pmax
comp=Z,65nm,1.6s
DRGR 17.10 305⇑*i*P **Pn 19 52 55.4 -0.5**
DRGR 17.10 305⇑P **Pn 19 52 55.4 -0.5**
KUBS Kucevo 17.12 297 *e*P **P 19 52 57.1 -0.7**
NAZ Nazwa, Dubai 17.20 139 P **Pn 19 52 54.1 -3.1**
SELS Selova 17.31 292 *e*P **P 19 52 59.9 0.0**
FAQ Al Faqa, Dubai 17.37 139 P **Pn 19 52 57.9 -1.4**
FAQ Al Faqa, Dubai 17.37 139 P **Pn 19 52 57.9 -1.4**
BZS Buzias 17.45 300⇑*i*P **Pn 19 52 53.8 -6.4**
BZS Buzias 17.45 300 P **Pn 19 53 00.0 -0.2**
BZS pmax pmax
comp=Z,5.0nm,2.5s
BZS Buzias 17.45 300 P **Pn 19 53 00.0 -0.2**
comp=Z,5.0nm,2.5s
MOS Moscow 17.52 349 *e*P **Pn 19 52 57.9 -3.0**
MOS pmax pmax
comp=Z,33nm,1.2s
UOSS Minazif 17.52 137 P **Pn 19 53 00.0 -1.2**
HATD Hatta, Dubai 17.58 138 P **Pn 19 53 00.3 -1.6**
HATD Hatta, Dubai 17.58 138 P **Pn 19 53 00.3 -1.6**
SIRR Siria 17.61 303⇑*i*P **Pn 19 52 58.8 -3.4**
ASHO Ashiyiah 17.66 138 *i* P **Pn 19 53 02.7 -0.2**
SNR=11
ASHO Ashiyiah 17.66 138 P **Pn 19 53 02.7 -0.2**
SNR=11
GRUS Gruza 17.70 294 *e*P **P 19 53 04.9 +0.7**
IVAS Ivanjica 18.05 293 *e*P **P 19 53 09.3 +1.1**
UZH Uzhgorod 18.09 310⇑*i*P **Pn 19 53 05.5 -2.6**
DIVS Divibare 18.25 295 *e*P **P 19 53 11.3 +1.0**
KWP Kalwaria Pacla 18.31 314 *e*P **P 19 53 11.1 +0.2**
KWP Kalwaria Pacla 18.31 314 *e*P **P 19 53 11.1 +0.2**
KWP Kalwaria Pacla 18.31 314 *e*P **P 19 53 11.1 +0.2**
FGSL Fruska Gora 18.57 298 *e*Pn **Pn 19 53 14.9 +0.9**
PDG Podgorica 18.59 289⇑*i*P **P 19 53 10.4 -3.6**
BBLS Lazići 18.63 294 *e*P **Pn 19 53 15.5 +0.7**
TEKS Tekeris 18.65 296 *e*P **P 19 53 13.8 -0.9**
CRVS Cervenica-Dubn 18.71 310 *e*P **Pn 19 53 15.8 +0.2**
CRVS Cervenica-Dubn 18.71 310 *e*P **Pn 19 53 15.8 +0.2**
CRVS Cervenica-Dubn 18.71 310 *e*P **Pn 19 53 15.8 +0.2**
STHS Stebnicka Huta 19.06 312 *e*P **Pn 19 53 20.1 +0.2**
STHS pmax pmax
comp=Z,6.0nm,1.2s
STHS Stebnicka Huta 19.06 312 *e*P **Pn 19 53 20.1 +0.2**
comp=Z,6.0nm,1.2s
STHS Stebnicka Huta 19.06 312 *e*P **Pn 19 53 20.1 +0.2**
PSZ Piszkesteto 19.29 306⇑*i*P **P 19 53 18.8 -3.0**
PSZ Piszkesteto 19.29 306 *e*P **P 19 53 21.6 -0.2**
PSZ pmax pmax
comp=Z,26nm,1.1s
PSZ Piszkesteto 19.29 306 *e*P **P 19 53 21.6 -0.2**
comp=Z,26nm,1.1s
PSZ Piszkesteto 19.29 306⇓*e*P **Pn 19 53 24.3 +1.5**
PSZ Piszkesteto 19.29 306 *e*P **P 19 53 21.6 -0.2**
comp=Z,26nm,1.1s
NIE Niedzica 19.62 311 *e*P **Pn 19 53 27.0 +0.4**
NIE Niedzica 19.62 311 *e*P **Pn 19 53 27.0 +0.4**
BUD Budapest 19.71 304 P **Pn 19 53 27.3 -0.3**
BUD pmax pmax
comp=Z,12nm,0.4s
BUD Budapest 19.71 304 P **Pn 19 53 27.3 -0.3**
comp=Z,12nm,0.4s
IDID Didziasalis 20.04 332 *e*P **P 19 53 29.3 -0.3**
IDID IAmb IAmb 19 53 31.3
comp=Z,6.3nm,0.9s
VYHS Vyhne 20.16 307 *e*P Pn 19 53 32.8 -0.2
VYHS pmax pmax
comp=Z,25nm,1.5s
VYHS Vyhne 20.16 307 *e*P Pn 19 53 32.8 -0.2
comp=Z,25nm,1.5s
VYHS Vyhne 20.16 307 *e*P Pn 19 53 32.8 -0.2
CSKK Cs¨tkako 20.17 304⇓*e*P Pn 19 53 33.0 -0.1
CSKK Cs¨tkako 20.17 304⇓*e*P Pn 19 53 33.0 -0.1
WSAR Wadi Sarin 20.21 135 P Pn 19 53 33.5 -0.3
comp=Z,7.6nm,0.9s,baz=356,slow=7.6,SNR=8.3
OJC Ojcow 20.25 312 *e*P **P 19 53 32.1 0.0**
OJC pmax pmax
comp=Z,25nm,1.3s
OJC Ojcow 20.25 312 *e*P **P 19 53 32.1 0.0**
comp=Z,24nm,1.3s
OJC Ojcow 20.25 312 *e*P **P 19 53 32.1 0.0**
comp=Z,24nm,1.3s
IIGN Ignalina 20.25 331 *e*P **P 19 53 31.8 -0.3**
IIGN IAmb IAmb 19 53 33.9
comp=Z,29nm,1.5s
ISAL Salakas 20.46 331 *e*P **P 19 53 33.9 -0.3**
ISAL IAmb IAmb 19 53 37.7
comp=Z,14nm,1.2s
BEL Belsk 20.48 317 P **P 19 53 34.5 -0.1**
BEL pmax pmax
comp=Z,45nm,1.7s
BEL Belsk 20.48 317 P **P 19 53 34.5 -0.1**
comp=Z,45nm,1.7s
ARU Arti 20.51 25 P **P 19 53 35.4 +0.6**
comp=Z,6.0nm,0.7s,baz=236,slow=7.4,SNR=9.4
ARU Arti 20.51 25*c i*P **P 19 53 35.5 +0.7**
ARU 19 53 53.8
ARU S Sn 19 57 27.7 -0.4
ARU SS **PcP 19 57 46.1 +0.1**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 20.51 25 *i* P **P 19 53 35.5 +0.7**
comp=Z,20nm,1.2s
ARU Arti 20.51 25 PcP **PcP 19 57 46.1 +0.1**
ARU Arti 20.51 25 P **P 19 53 32.6 -2.2**
comp=Z,17nm,0.8s
SUW Suwalki 20.58 325 *e*P **P 19 53 36.5 +0.8**
SUW Suwalki 20.58 325 *e*P **P 19 53 36.4 +0.8**
SUW Suwalki 20.58 325 *e*P **P 19 53 36.4 +0.8**
SMOL Smolenice 21.05 306 *e*P **P 19 53 43.3 +2.6**
SMOL Smolenice 21.05 306 *e*P **P 19 53 43.3 +2.6**
SMOL Smolenice 21.05 306 *e*P **P 19 53 43.3 +2.6**
OKC Ostrava-Krasne 21.07 310 *e*P **P 19 53 42.0 +1.1**
OKC Ostrava-Krasne 21.07 310 *e*P **P 19 53 42.0 +1.1**
OKC Ostrava-Krasne 21.07 310 *e*P **P 19 53 42.0 +1.1**
KKAR Karatay Array 21.07 69 *e*P **P 19 53 40.6 -0.5**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 21.07 69 *e*P **P 19 53 40.6 -0.5**
comp=Z,9.1nm,0.7s
KKAR Karatay Array 21.07 69 *e*P **P 19 53 40.6 -0.5**
comp=Z,9.1nm,0.7s
SOP Sopron 21.36 304 P **P 19 53 45.9 +1.7**
SOP pmax pmax
comp=Z,23nm,1.1s
SOP Sopron 21.36 304⇑*e*P **P 19 53 45.6 +1.4**
SOP Sopron 21.36 304⇑*e*P **P 19 53 45.6 +1.4**
MORC Moravsky Berou 21.41 310 *e*P **P 19 53 44.9 +0.2**
SVE Sverdlovsk 21.53 27 *e*P **P 19 53 46.3 +0.5**
SVE pmax pmax
comp=Z,29nm,1.3s
SVE Sverdlovsk 21.53 27 *e*P **P 19 53 46.3 +0.5**
comp=Z,29nm,1.3s
VRAC Vranov 21.82 308 P **P 19 53 50.7 +1.6**
comp=Z,3.6nm,0.9s,baz=99,slow=9.1,SNR=6.6
VRAC Vranov 21.82 308 *e*P **P 19 53 49.9 +0.8**
CONA Conrad Observa 21.88 304 P **P 19 53 51.2 +1.4**
comp=Z,22nm,1.5s
ARSA Arzberg 21.94 302 P **P 19 53 52.6 +2.2**
comp=Z,12nm,1.6s
KRLC Kraliky 21.98 310 *e*P **P 19 53 47.2 -3.6**
KRLC Kraliky 21.98 310 *e*P **P 19 53 47.2 -3.6**
SOKA Soboth 22.15 300 P **P 19 53 54.0 +1.3**
comp=Z,10nm,1.6s
DPC Dobruska-Polom 22.35 310 *e*P **P 19 53 56.4 +1.6**
DPC *ex* x 19 54 06.1
DPC Dobruska-Polom 22.35 310 *e*P **P 19 53 56.4 +1.6**
DPC Dobruska-Polom 22.35 310 *e*P **P 19 53 56.4 +1.6**
KLMR Klimovskoe 22.36 355 *e*P **P 19 53 52.1 -2.6**
KLMR pmax pmax
comp=Z,85nm,1.3s
TREC Trest 22.51 307 *e*P **P 19 53 58.0 +1.6**
TREC Trest 22.51 307 *e*P **P 19 53 58.0 +1.6**
TREC Trest 22.51 307 *e*P **P 19 53 58.0 +1.6**
MNAS Manas 22.52 71 P **P 19 53 58.8 +2.0**
MNAS pmax pmax
comp=Z,6.0nm,1.2s
MNAS Manas 22.52 71 P **P 19 53 58.8 +2.0**
comp=Z,6.0nm,1.2s
VSU Vasula 22.53 337⇑*e*P **P 19 53 56.4 -0.1**
VSU pmax pmax
comp=Z,135nm,1.7s
VSU Vasula 22.53 337 *e*P **P 19 53 56.4 -0.1**
comp=Z,135nm,1.7s
KSP Ksiaz 22.55 312 *e*P **P 19 53 58.9 +2.0**
KSP Ksiaz 22.55 312 *e*P **P 19 53 58.9 +2.0**
KSP Ksiaz 22.55 312 *e*P **P 19 53 58.9 +2.0**
UPC Upice 22.59 311 *e*P **P 19 53 56.7 -0.6**
UPC *ex* x 19 54 07.1
UPC Upice 22.59 311 *e*P **P 19 53 56.7 -0.6**
UPC Upice 22.59 311 *e*P **P 19 53 56.7 -0.6**
MOA Molln 22.91 303 P **P 19 54 00.2 -0.5**
comp=Z,4.9nm,0.9s
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 19 54 03.7 +0.7**
GOPC *ex* x 19 54 13.4
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 19 54 03.7 +0.7**
GOPC GO Pecny, Ondr 23.13 308 *e*P **P 19 54 03.7 +0.7**
PRU Pruhonice 23.31 308 *e*P **P 19 54 06.1 +1.4**
PRU *ex* x 19 54 15.5
PRU Pruhonice 23.31 308 *e*P **P 19 54 06.1 +1.4**
PRU Pruhonice 23.31 308 *e*P **P 19 54 06.1 +1.4**
KBA Koelnbreinsper 23.36 301 P **P 19 54 05.2 -0.3**
KBA pmax pmax
comp=Z,8.0nm,1.7s
KBA Koelnbreinsper 23.36 301 P **P 19 54 05.2 -0.3**
comp=Z,8.0nm,1.7s
PVCC Panska Ves 23.46 310 *e*P **P 19 54 07.6 +1.3**
PVCC Panska Ves 23.46 310 *e*P **P 19 54 07.6 +1.3**
PVCC Panska Ves 23.46 310 *e*P **P 19 54 07.6 +1.3**
GERES GERESS Array B 23.51 305 P **P 19 54 07.3 +0.4**
comp=Z,0.5nm,0.5s,baz=104,slow=9.7,SNR=5.4
BRVK Borovoye 23.55 43⇑*e*P **P 19 54 10.3 +3.2**
BRVK pmax pmax
comp=Z,18nm,1.2s
BVAR Borovoye Array 23.59 44 P **P 19 54 07.4 -0.1**
comp=Z,4.4nm,1.0s,baz=226,slow=12,SNR=9.4
KHC Kasperske Hory 23.66 306 *e*P **P 19 54 08.1 -0.2**
KHC *ex* x 19 54 21.4
KHC Kasperske Hory 23.66 306 *e*P **P 19 54 08.1 -0.2**
KHC Kasperske Hory 23.66 306 *e*P **P 19 54 08.1 -0.2**
KHC Kasperske Hory 23.66 306 *e*P **P 19 54 02.5 -5.8**
comp=Z,13nm,1.7s
ABTA Abfaltersbach 23.87 300 P **P 19 54 09.2 -1.2**
comp=Z,9.8nm,1.5s
BRG Berggiesshubel 23.95 310 *e*P **P 19 54 11.3 +0.3**
comp=Z,29nm,1.9s
BRG Berggiesshubel 23.95 310 *e*P **P 19 54 11.3 +0.3**
BRG pmax pmax
comp=Z,29nm,1.9s
BRG Berggiesshubel 23.95 310 *e*P **P 19 54 11.3 +0.3**
comp=Z,29nm,1.9s
AAK Ala-Archa 23.99 70 P **P 19 54 13.9 +2.2**
comp=Z,4.6nm,1.1s,baz=236,slow=7.4,SNR=3.5
AAK Ala-Archa 23.99 70⇓*e*P **P 19 54 13.8 +2.2**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 23.99 70 P **P 19 54 11.6 -0.1**
AAK Ala-Archa 23.99 70 P **P 19 54 11.6 -0.1**
FRU Bishkek 24.08 70 *e*P **P 19 54 16.0 +3.7**
WET Wettzell 24.11 306 P **P 19 54 12.0 -0.6**
WET pmax pmax
comp=Z,15nm,1.7s
WET Wettzell 24.11 306 P **P 19 54 12.0 -0.6**
comp=Z,15nm,1.7s
WTTA Wattenberg 24.54 301 P **P 19 54 18.3 +1.6**
WATA Walderalm 24.59 301 P **P 19 54 17.9 +0.8**
comp=Z,12nm,1.3s
CLL Collm 24.66 311 *e*P **P 19 54 16.0 -1.5**
CLL Collm 24.66 311 *e*P **P 19 54 16.0 -1.5**
CLL Collm 24.66 311 *e*P **P 19 54 16.0 -1.5**
CLL *i* 19 54 24.2
CLL *e*PPP PPP 19 54 55.0
NKC Novy Kostel 24.67 308 *e*P **P 19 54 18.2 +0.6**
NKC Novy Kostel 24.67 308 *e*P **P 19 54 18.2 +0.6**
NKC Novy Kostel 24.67 308 *e*P **P 19 54 18.2 +0.6**
MOTA Moosalm 24.91 301 P **P 19 54 20.3 +0.3**
comp=Z,10nm,0.9s
FETA Feichten 25.12 300 P **P 19 54 22.9 +1.0**
comp=Z,8.0nm,1.2s
RETA Reutte 25.16 301 P **P 19 54 22.6 +0.4**
comp=Z,7.8nm,1.3s

FINES FINESS Array B 25.19 341 P **P** 19 54 21.7 -0.4
comp=Z,7.9nm,1.0s,baz=134,slow=11,SNR=9.3
GRF Grafenberg Arr 25.29 306 P **P** 19 54 20.8 -2.5
GRF pmax pmax
comp=Z,51nm,1.4s
GRFO Grafenberg 25.29 306 P **P** 19 54 21.0 -2.2
GRFO pmax pmax
comp=Z,39nm,1.5s
KSH Kashi 25.36 78 *e*P **P** 19 54 23.5 -0.7
KSH pP pP 19 54 27.6 +0.6
KSH sP sP 19 54 31.0 +2.7
KSH *e*PP **PnPn** 19 55 00.0 +1.2
KSH PcP **PcP** 19 57 59.6 +3.0
KSH S **S** 19 58 45.9 -4.8
KSH sS pS 19 58 53.3 -0.4
KSH SS **SnSn** 19 59 45.4 +3.4
KSH PcS **PcS** 20 01 39.9 +2.8
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,71nm,5.2s
KSH LR LR
comp=N,81nm,9.7s
KSH LR LR
comp=E,120nm,7.6s
KSH LR LR
comp=Z,120nm,7.2s
JOF Joensuu 25.37 347 P **P** 19 54 22.0 -1.7
JOF pmax pmax
comp=Z,26nm,1.2s
JOF Joensuu 25.37 347 P **P** 19 54 22.0 -1.7
comp=Z,26nm,1.2s
DAVOX Davos/Dischmat 25.67 299 P **P** 19 54 26.5 -0.4
comp=Z,2.7nm,0.6s,baz=60,slow=7.7,SNR=5.5
DAVA Damuels 25.73 300 P **P** 19 54 27.6 +0.2
comp=Z,3.8nm,0.8s
TMCR Tamitsa 25.75 355 *e*P **P** 19 54 28.2 +1.0
TMCR pmax pmax
comp=Z,42nm,1.4s
TMCR Tamitsa 25.75 355 *e*P **P** 19 54 28.2 +1.0
comp=Z,42nm,1.4s
KURBB Kurchatov Arra 27.57 53 P **P** 19 54 44.7 +0.9
comp=Z,2.2nm,0.8s,baz=263,slow=9.1,SNR=11
KURK Kurchatov 27.64 53⇓ *e*P **P** 19 54 46.9 +2.5
KURK pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 27.64 53 P **P** 19 54 43.2 -1.2
KURK Kurchatov 27.64 53 P **P** 19 54 43.2 -1.2
HFS Hagfors 28.43 329 P **P** 19 54 51.4 0.0
comp=Z,6.5nm,1.0s,baz=116,slow=10,SNR=6.0
MKAR Makanchi Array 29.59 61 P **P** 19 55 03.4 +1.6
comp=Z,2.0nm,0.9s,baz=328,slow=1.6,SNR=5.5
NOA NORSAR Array B 29.96 329 P **P** 19 55 04.0 -0.9
comp=Z,0.9nm,0.7s,baz=125,slow=8.9,SNR=3.6
ZALV Zalesovo Beam 32.03 48 P **P** 19 55 24.3 +1.0
comp=Z,0.4nm,0.4s,baz=294,slow=11,SNR=3.1
ARCES ARCESS Array B 32.39 348 P **P** 19 55 26.4 +0.1
comp=Z,2.7nm,0.8s,baz=155,slow=7.5,SNR=3.5
WMQ Urumqi 33.53 67 P **P** 19 55 38.9 +2.3
WMQ pP sP 19 55 40.8 0.0
WMQ sP pP 19 55 44.6 +5.0
WMQ pmax pmax
comp=Z,10.0nm,0.8s
WMQ pmax pmax
comp=Z,26nm,3.7s
WMQ LR LR
comp=N,64nm,23.1s
WMQ LR LR
comp=E,63nm,16.3s
WMQ LR LR
comp=Z,54nm,16.3s
ESDC Sonseca Array 36.28 287 P **P** 19 55 58.9 -1.4
comp=Z,0.6nm,0.6s,baz=70,slow=8.9,SNR=6.4
NRIK Noril'sk 38.73 23 P **P** 19 56 22.6 +2.0
comp=Z,4.3nm,0.8s,baz=250,slow=9.0,SNR=2.7
LSA Lhasa 40.26 88 *e*P **P** 19 56 33.0 -1.5
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 40.26 88 P **P** 19 56 33.6 -0.9
LSA Lhasa 40.26 88 *e*P **P** 19 56 33.0 -1.5
comp=Z,4.0nm,0.7s
GTA Gaotai 43.34 70 *e*P **P** 19 57 00.1 +0.9
GTA pP sP 19 57 04.6 +1.2
GTA sP pP 19 57 07.3 +5.1
GTA S **S** 20 03 28.4 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,47nm,4.3s
GTA LR LR
comp=N,93nm,14.3s
GTA LR LR
comp=E,100nm,14.7s
GTA LR LR
comp=Z,100nm,15.9s
TORD Torodi Ar. Bea 44.63 247 P **P** 19 57 08.0 -1.6
comp=Z,1.5nm,1.1s,baz=48,slow=9.4,SNR=13
TORD Torodi Ar. Bea 44.63 247 P **P** 19 57 08.0 -1.6
ULN Ulaanbaatar 46.19 57⇓ *e*P **P** 19 57 23.3 +1.5
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 46.19 57 *e*P **P** 19 57 20.6 -1.2
comp=Z,4.1nm,1.1s
ULN Ulaanbaatar 46.19 57 *e*P **P** 19 57 20.6 -1.2
comp=Z,4.1nm,1.1s
LZH Lanzhou 47.48 73 *e*P **P** 19 57 30.1 -2.0
LZH pP pP 19 57 34.3 -0.8
LZH sP sP 19 57 37.3 +1.0
LZH pmax pmax
comp=Z,17nm,1.2s
HHC Hu-ho-hao-te 51.36 65 *e*P **P** 19 58 01.3 -0.3
HHC pP sP 19 58 06.0 +0.2
HHC sP pP 19 58 14.5 +10
HHC PP **PP** 19 59 55.4 -3.0
HHC S **S** 20 05 17.0 -4.0
HHC Hu-ho-hao-te 51.36 65 SS **SS** 20 08 56.5 +0.2
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,48nm,4.1s
HHC LR LR
comp=N,110nm,16.0s
HHC LR LR
comp=E,100nm,13.6s
HHC LR LR
comp=Z,110nm,12.3s
CHTO Chiang Mai 51.89 96 *e*P **P** 19 58 03.3 -2.4
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 51.89 96 *e*P **P** 19 58 03.3 -2.4
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 51.89 96 *e*P **P** 19 58 03.3 -2.4
comp=Z,4.3nm,0.8s
CMAR Chiang Mai Arr 52.09 96 P **P** 19 58 06.7 -0.5
comp=Z,1.6nm,0.6s,baz=297,slow=7.5,SNR=22
XAN Xi'an 52.11 74 P **P** 19 58 08.3 +1.1
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN LR LR
comp=N,45nm,16.2s
XAN LR LR
comp=E,98nm,15.4s
XAN LR LR
comp=Z,110nm,12.8s
TIXI Tiksi 52.51 23⇑ *e*P **P** 19 58 11.6 +2.1
TIXI pmax pmax
comp=Z,4.0nm,1.5s
TIXI Tiksi 52.51 23 *e*P **P** 19 58 11.6 +2.1
comp=Z,4.0nm,1.5s
DBIC Dimbokro 53.74 246 P **P** 19 58 17.8 -1.5
comp=Z,1.3nm,0.7s,baz=356,slow=12,SNR=2.8
YAK Yakutsk 55.17 35 P **P** 19 58 28.2 -0.9
comp=Z,3.6nm,0.4s,baz=124,slow=5.7,SNR=2.4
NJ2 Nanjing 60.43 71 *e*P **P** 19 59 05.4 -1.2
NJ2 pmax pmax
comp=Z,13nm,1.5s
KLR Kul'dur 61.13 48 P **P** 19 59 14.8 +3.7
comp=Z,0.1nm,0.6s,baz=311,slow=8.3,SNR=3.6
KSAR Wonju Array Be 64.25 62 P **P** 19 59 32.1 0.0
KSAR Wonju Array Be 64.25 62 P **P** 19 59 32.1 0.0
KSAR Wonju Array Be 64.25 62 P **P** 19 59 32.1 0.0
KSRS Korea Array 64.27 62 P **P** 19 59 32.1 -0.1
comp=Z,1.6nm,0.8s,baz=282,slow=6.4,SNR=4.9
JNU Nakatsue 68.59 64 P **P** 20 00 00.5 +0.5
comp=Z,2.3nm,0.8s,baz=328,slow=0.7,SNR=2.6
MJAR Matsushiro Arr 71.71 58 P **P** 20 00 19.9 +0.8
comp=Z,2.0nm,1.1s,baz=309,slow=7.9,SNR=4.5
COLA College 76.46 5⇓ *e*P **P** 20 00 46.3 +0.1
COLA pmax pmax
comp=Z,2.0nm,0.8s
COLA College 76.46 5 *e*P **P** 20 00 46.3 +0.1
comp=Z,2.0nm,0.8s
ILAR Eielson Array 76.62 4 P **P** 20 00 46.6 -0.6
comp=Z,0.8nm,1.0s,baz=347,slow=3.7,SNR=2.9
KDAK Kodiak Island 83.03 8 *i* P **P** 20 01 22.6 +0.6
KDAK Kodiak Island 83.03 8 *i* P **P** 20 01 22.6 +0.6
PDAR Pinedale Array 95.29 340 P **P** 20 02 20.3 -0.9
comp=Z,0.8nm,0.8s,baz=57,slow=3.3,SNR=4.4
URZ Urewera 144.18 104 PKhKP PKPpre 20 08 28.1
comp=Z,6.6nm,0.9s,baz=146,slow=15,SNR=2.4

AZER ***23*** *19:54:21.8±0.5,38°.59N×43°.09E, h7km, Error ellipse: s-maj=4.8km s-min=3.8km az=70.0*
IDC ***23*** *19:54:24.1±0.9,38°.63N×43°.68E, h0km, mb3.7/15, mb1 3.7/20, mb1mx3.7/37, mbtmp3.6/20, ML3.1/5, Error ellipse: s-maj=15.0km s-min=9.9km az=157.0*
DDA ***23*** *19:54:24.3,38°.72N×43°.48E, h12km, Ml3.9*
NEIC ***23*** *19:54:24.0±0.0,38°.74N×43°.48E, h5km, mb3.9/3, ML3.8(ISK), ML4.0(DDA), After DDA.*
ISK ***23*** *19:54:24.7,38°.75N×43°.39E, h5km, ML3.9*
CSEM ***23*** *19:54:25.6±0.1,38°.73N×43°.46E, h5km, ML3.9, Error ellipse: s-maj=3.5km s-min=3.0km az=159.0*
TEH ***23*** *19:54:29.0,38°.96N×43°.64E, h28km, ML3.8*
ISN ***23*** *19:54:34.0±2.3,38°.31N×43°.41E, h0km±8km, ML3.8*
ISC 23 19:54:25.0±1.1,38.73N±0.02×43.48E±0.02,h5km±8km, n167,σ1°71/225,mb3.6/16,23C-23D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.53**	**219**	⇓*i*P			**Pg**	**19 54 35.0**	**-0.2**
GEVA				*i* S			**Sg**	19 54 42.0	-0.2
GEVA	**Gevas**	**0.53**	**219**	*i* P			**Pg**	**19 54 35.2**	**0.0**
GEVA				S			**Sg**	19 54 42.0	-0.2
GEVA	**Gevas**	**0.53**	**219**	*i* P			**Pg**	**19 54 35.2**	**0.0**
GEVA				*i* S			**Sg**	**19 54 42.9**	**+0.8**
BASK	**Baskale_VAN**	**0.79**	**148**	*i* P			**Pg**	**19 54 38.9**	**-1.3**
BASK				*i* S			**Sb**	**19 54 51.6**	**-0.9**
BASK	**Baskale_VAN**	**0.79**	**148**	P			**Pg**	**19 54 38.9**	**-1.3**
BASK				S			**Sb**	**19 54 51.6**	**-0.9**
DYDN	**Diyadin**	**0.83**	**11**	⇓*i*P			**Pg**	**19 54 39.6**	**-1.3**
DYDN				*i* S			**Sb**	**19 54 52.9**	**-0.7**
DYDN	**Diyadin**	**0.83**	**11**	P			**Pg**	**19 54 39.7**	**-1.3**
DYDN				S			**Sb**	**19 54 52.9**	**-0.7**
DYDN	**Diyadin**	**0.83**	**11**	*i* P			**Pg**	**19 54 39.7**	**-1.3**
DYDN				*i* S			**Sb**	**19 54 52.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*PG			**Pg**	**19 54 42.1**	**-0.7**
AGRB				*e*SG			**Sb**	**19 54 55.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*Pg			**Pg**	**19 54 42.1**	**-0.7**
AGRB				*e*Sg			**Sb**	**19 54 55.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**336**	P			**Pg**	**19 54 41.2**	**-1.6**
HAKT	**HAKKARI**	**1.18**	**171**	⇓*i*P			**Pg**	**19 54 45.9**	**-1.8**
HAKT				*i* S			**Sn**	**19 55 09.4**	**+4.3**
HAKT	**HAKKARI**	**1.18**	**171**	P			**Pg**	**19 54 45.9**	**-1.8**
EKAR	**Karacoban**	**1.22**	**296**	*i* P			**Pb**	**19 54 48.4**	**-0.4**
EKAR				*i* S			**Sn**	**19 55 07.3**	**+1.3**
EKAR	**Karacoban**	**1.22**	**296**	P			**Pb**	**19 54 48.4**	**-0.4**
EKAR	**Karacoban**	**1.22**	**296**	*i* P			**Pg**	**19 54 48.0**	**-0.4**
EATA	**Eleskirt**	**1.37**	**326**	*i* P			**Pn**	**19 54 50.2**	**-0.8**
EATA				*i* S			**Sn**	**19 55 10.6**	**+0.9**
EATA				*i* S			**Sn**	**19 55 10.7**	**+0.9**
EATA	**Eleskirt**	**1.37**	**326**	P			**Pn**	**19 54 50.2**	**-0.8**
EATA				S			**Sn**	**19 55 10.6**	**+0.9**
EATA	**Eleskirt**	**1.37**	**326**	*i* P			**Pb**	**19 54 52.9**	**+1.6**
CUKT	**Cukurca**	**1.48**	**176**	*e*PN			**Pg**	**19 54 53.7**	**+0.3**
CUKT				*e*SN			**Sg**	**19 55 14.7**	**+2.1**
CUKT	**Cukurca**	**1.48**	**176**	⇓*i*P			**Pg**	**19 54 53.2**	**-0.3**
CUKT				*i* S			**Sg**	**19 55 19.4**	**+6.8**
CUKT	**Cukurca**	**1.48**	**176**	*i* P			**Pg**	**19 54 53.1**	**-0.3**
CUKT	**Cukurca**	**1.48**	**176**	*e*Pn			**Pg**	**19 54 53.7**	**+0.3**
CUKT				*e*Sn			**Sg**	**19 55 14.7**	**+2.1**
CUKT	**Cukurca**	**1.48**	**176**	*i* P			**Pg**	**19 54 53.1**	**-0.3**
SIRN	**S¨–rnak**	**1.49**	**215**	⇑*i*P			**Pn**	**19 54 52.5**	**0.0**
SIRN				*i* S			**Sg**	**19 55 14.0**	**+1.1**
SIRN	**S¨–rnak**	**1.49**	**215**	P			**Pn**	**19 54 52.5**	**0.0**
SIRN				S			**Sg**	**19 55 14.0**	**+1.1**
NAX	**Nakhchivan**	**1.63**	**74**	P			**Pn**	**19 54 54.7**	**+0.2**
NAX	SNR=87								
NAX				⇓S			**Sg**	**19 55 19.1**	**+1.6**
NAX	**Nakhchivan**	**1.63**	**74**	P			**Pn**	**19 54 54.7**	**+0.2**
NAX	SNR=87								
NAX				S			**Sg**	**19 55 19.1**	**+1.6**
VRTB	**Varto-Mus**	**1.64**	**286**	*e*PN			**Pn**	**19 54 54.7**	**+0.1**
VRTB	**Varto-Mus**	**1.64**	**286**	*i* P			**Pb**	**19 54 55.2**	**-0.6**
VRTB				*i* S			**Sb**	**19 55 16.1**	**-0.6**
VRTB	**Varto-Mus**	**1.64**	**286**	*e*Pn			**Pn**	**19 54 54.7**	**+0.1**
VRTB	**Varto-Mus**	**1.64**	**286**	P			**Pb**	**19 54 55.2**	**-0.6**
VRTB				S			**Sb**	**19 55 16.1**	**-0.6**
DIGO	**Kars**	**1.69**	**357**	⇑*i*P			**Pn**	**19 54 54.9**	**-0.6**
DIGO				*i* S			**Sb**	**19 55 18.2**	**-0.1**
DIGO	**Kars**	**1.69**	**357**	P			**Pn**	**19 54 54.8**	**-0.6**
DIGO				S			**Sb**	**19 55 18.2**	**-0.1**
GNI	**Garni**	**1.72**	**34**	Pn			**Pn**	**19 54 55.7**	**-0.1**
	67nm,0.3s,baz=262,slow=3.8,SNR=34								
GNI				Lg			Lg	19 55 21.8	
	124nm,0.3s,baz=288,slow=21,SNR=15								
ISHB	**Shabestar**	**1.73**	**104**	*e*Pn			**Pn**	**19 54 56.2**	**+0.2**
ISHB				*e*AMB			AMB	19 55 02.1	
	comp=Z,11μm,0.3s								
ISHB				*e*Sg			**Sg**	**19 55 22.1**	**+1.4**
IMRD	**Marand**	**1.74**	**90**	*e*Pn			**Pn**	**19 54 55.6**	**-0.4**
IMRD				*e*AMB			AMB	19 54 58.5	
	comp=Z,33μm,0.2s								
IMRD	**Marand**	**1.74**	**90**	*e*Pn			**Pn**	**19 54 55.6**	**-0.4**
HOMI	**Horasan**	**1.79**	**318**	⇓*i*P			**Pb**	**19 54 57.9**	**-0.6**
HOMI				*i* S			**Sg**	**19 55 25.4**	**+2.8**
BNGL	**BINGOL**	**1.83**	**278**	⇑*i*P			**Pb**	**19 54 58.1**	**-1.1**
BNGL				*i* S			**Sn**	**19 55 21.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*PN			**Pn**	**19 54 58.0**	**+0.1**
SVAN				*e*SN			**Sb**	**19 55 22.6**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	⇓*i*P			**Pn**	**19 54 58.3**	**+0.4**
SVAN				*i* S			**Sn**	**19 55 21.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*Pn			**Pn**	**19 54 58.0**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	P			**Pn**	**19 54 58.3**	**+0.4**
SVAN				S			**Sn**	**19 55 21.5**	**-0.6**
SVAN				*e*Sn			**Sb**	**19 55 22.6**	**-1.2**
BTMN	**Batman**	**1.93**	**245**	*i* P			**Pb**	**19 54 59.3**	**-1.4**
BTMN				*i* S			**Sn**	**19 55 23.4**	**+0.2**
BTMN	**Batman**	**1.93**	**245**	P			**Pb**	**19 54 59.3**	**-1.4**
BTMN				S			**Sn**	**19 55 23.4**	**+0.2**
EAK	**Akyaka**	**1.96**	**3**	*i* P			**Pb**	**19 55 00.4**	**-0.9**
EAK				*i* S			**Sg**	**19 55 32.5**	**+4.6**
EAK	**Akyaka**	**1.96**	**3**	P			**Pb**	**19 55 00.4**	**-0.9**
ERZM	**Erzurum**	**2.02**	**306**	*i* P			**Pb**	**19 55 01.8**	**-0.6**
ERZM	**Erzurum**	**2.02**	**306**	P			**Pb**	**19 55 01.8**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**335**	*e*PN			**Pn**	**19 55 00.6**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**335**	*e*Pn			**Pn**	**19 55 00.6**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.14**	**295**	*i* P			**Pn**	**19 54 59.3**	**-2.2**
ITBZ	**Tabriz**	**2.15**	**102**	*e*AMB			AMB	19 55 07.6	
	comp=Z,4μm,0.4s								
ITBZ				*e*Pn			**Pn**	**19 55 02.3**	**+0.6**
ITBZ				*e*Sg			**Sg**	**19 55 35.2**	**+1.1**
BNGB	**Bing¨¶l**	**2.20**	**278**	*e*PN			**Pn**	**19 55 03.0**	**+0.6**
BINT	**Bingol**	**2.34**	**275**	*e*Pn			**Pn**	**19 55 03.0**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*PN			**Pn**	**19 55 05.3**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*Pn			**Pn**	**19 55 05.3**	**+0.3**
DDEM	**Demirkent**	**2.54**	**329**	⇓*i*P			**Pb**	**19 55 11.1**	**0.0**
MARD	**Mardin**	**2.56**	**237**	⇓*i*P			**Pn**	**19 55 07.3**	**+0.1**
MARD				*i* S			**Sn**	**19 55 40.7**	**+1.9**
DAGI	**Agillar**	**2.64**	**333**	*i* P			**Pb**	**19 55 13.4**	**+0.6**
KOPT	**Kop Dagi**	**2.65**	**300**	*i* P			**Pb**	**19 55 13.1**	**0.0**
GDB	**GEDABAY**	**2.65**	**41**	⇓P			**Pn**	**19 55 09.6**	**+1.0**
GDB	SNR=8.7								
GDB				⇑S			**Sb**	**19 55 46.3**	**+0.3**
GDB	**GEDABAY**	**2.65**	**41**	P			**Pn**	**19 55 09.6**	**+1.0**
GDB	SNR=8.7								
GDB				S			**Sb**	**19 55 46.3**	**+0.3**
AKH	**Akhalkalaki**	**2.68**	**0**	*e*PN			**Pn**	**19 55 10.4**	**+1.4**
AKH	**Akhalkalaki**	**2.68**	**0**	*e*Pn			**Pn**	**19 55 10.4**	**+1.4**
MAZI	**Mazidag**	**2.71**	**243**	*e*PN			**Pn**	**19 55 08.7**	**-0.6**
MAZI	**Mazidag**	**2.71**	**243**	*e*Pn			**Pn**	**19 55 08.7**	**-0.6**
ARTV	**Artvin**	**2.73**	**335**	⇓*i*P			**Pb**	**19 55 14.1**	**-0.3**
QZX	**Qazax, Azerbai**	**2.74**	**31**	⇑P			**Pn**	**19 55 10.1**	**+0.4**
QZX	SNR=6.8								
QZX				⇑S			**Sb**	**19 55 47.2**	**-1.3**
QZX	**Qazax, Azerbai**	**2.74**	**31**	P			**Pn**	**19 55 10.1**	**+0.4**
QZX	SNR=6.8								
QZX				S			**Sb**	**19 55 47.2**	**-1.3**
DIYA	**Diyarbakir**	**2.76**	**254**	*i* P			**Pn**	**19 55 09.9**	**-0.1**
DIYA	**Diyarbakir**	**2.76**	**254**	P			**Pn**	**19 55 09.9**	**-0.1**
IHRS	**Heris**	**2.82**	**97**	*e*Pn			**Pn**	**19 55 11.5**	**+0.5**
IHRS				*e*AMB			AMB	19 55 22.4	
	comp=Z,5μm,0.4s								
IHRS	**Heris**	**2.82**	**97**	*e*Pn			**Pn**	**19 55 11.5**	**+0.5**
IBST	**Bostanabad**	**2.88**	**110**	*e*Pn			**Pn**	**19 55 12.4**	**+0.7**
IBST				*e*AMB			AMB	19 55 58.5	
	comp=Z,1μm,0.3s								
IBST	**Bostanabad**	**2.88**	**110**	*e*Pn			**Pn**	**19 55 12.4**	**+0.7**
GANJ	**Ganja**	**2.91**	**48**	⇑P			**Pn**	**19 55 12.7**	**+0.7**
GANJ	SNR=37								
GANJ				⇓S			**Sb**	**19 55 52.7**	**-0.6**
GANJ	**Ganja**	**2.91**	**48**	P			**Pn**	**19 55 12.7**	**+0.7**
GANJ	SNR=37								
GANJ				S			**Sb**	**19 55 52.7**	**-0.6**
ERZN	**Erzincan**	**3.04**	**288**	*e*PN			**Pn**	**19 55 14.7**	**+0.7**
EUZM	**Uzumlu**	**3.10**	**290**	*i* P			**Pb**	**19 55 20.5**	**-0.2**
TNCL	**Tunceli-Merkez**	**3.10**	**278**	*i* P			**Pn**	**19 55 15.9**	**+1.3**
TNCL	**Tunceli-Merkez**	**3.10**	**278**	P			**Pn**	**19 55 15.9**	**+1.3**
PTK	**Pertek**	**3.20**	**274**	*e*PN			**Pn**	**19 55 16.7**	**+0.6**
PTK	**Pertek**	**3.20**	**274**	*e*Pn			**Pn**	**19 55 16.7**	**+0.6**
BRDA	**Brd**	**3.25**	**61**	⇓P			**Pn**	**19 55 17.8**	**+1.3**
BRDA	SNR=3.8								
BRDA				⇑S			**Sb**	**19 56 01.6**	**-1.3**
BRDA	**Brd**	**3.25**	**61**	P			**Pn**	**19 55 17.8**	**+1.3**
BRDA	SNR=3.8								
BRDA				S			**Sb**	**19 56 01.6**	**-1.3**
SVRC	**Sivrice-ELAZID**	**3.29**	**265**	*e*PN			**Pn**	**19 55 17.9**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.29**	**265**	*e*Pn			**Pn**	**19 55 17.9**	**+0.5**
EZC	**Erzincan**	**3.36**	**289**	*e*Pn			**Pn**	**19 55 14.7**	**-3.6**
ISRB	**Sarab**	**3.42**	**104**	*e*Pn			**Pn**	**19 55 20.2**	**+1.1**
ISRB				*e*AMB			AMB	19 55 20.9	
	comp=Z,2μm,0.2s								
ISRB	**Sarab**	**3.42**	**104**	*e*Pn			**Pn**	**19 55 20.2**	**+1.1**
MNGR	**Mingechevir, A**	**3.45**	**53**	⇑P			**Pn**	**19 55 20.6**	**+1.3**
MNGR	SNR=7.6								
MNGR				⇑S			**Sb**	**19 56 06.0**	**-2.7**
MNGR	**Mingechevir, A**	**3.45**	**53**	P			**Pn**	**19 55 20.6**	**+1.3**
MNGR	SNR=7.6								
MNGR				S			**Sb**	**19 56 06.0**	**-2.7**
ZRD	**Zardab**	**3.60**	**63**	⇓P			**Pn**	**19 55 22.7**	**+1.3**
ZRD	SNR=5.7								
ZRD				⇑S			**Sb**	**19 56 10.2**	**-2.9**
ZRD	**Zardab**	**3.60**	**63**	P			**Pn**	**19 55 22.7**	**+1.3**
ZRD	SNR=5.7								
ZRD				S			**Sb**	**19 56 10.2**	**-2.9**
KTUT	**Trabzon**	**3.64**	**309**	*e*PN			**Pn**	**19 55 23.4**	**+1.4**
KTUT	**Trabzon**	**3.64**	**309**	*e*Pn			**Pn**	**19 55 23.4**	**+1.4**
ZKTA	**Zakatala**	**3.77**	**39**	⇓P			**Pn**	**19 55 24.7**	**+0.9**
ZKTA	SNR=19								
ZKTA				⇓S			**Sb**	**19 56 13.7**	**-4.4**
SEKA	**Sheki**	**3.78**	**48**	⇑P			**Pn**	**19 55 25.1**	**+1.1**
SEKA	SNR=13								
SEKA				⇑S			**Sb**	**19 56 15.5**	**-2.9**
SEKA	**Sheki**	**3.78**	**48**	P			**Pn**	**19 55 25.1**	**+1.1**
SEKA	SNR=13								
SEKA				S			**Sb**	**19 56 15.5**	**-2.9**
LRK	**Lerik**	**3.80**	**90**	⇓P			**Pn**	**19 55 25.2**	**+0.8**
LRK	SNR=8.6								
LRK				⇑S			**Sb**	**19 56 14.4**	**-4.8**
LRK	**Lerik**	**3.80**	**90**	P			**Pn**	**19 55 25.2**	**+0.8**
LRK	SNR=8.6								
LRK				S			**Sb**	**19 56 14.4**	**-4.8**
GLBA	**Clilabad**	**3.86**	**81**	⇑P			**Pn**	**19 55 26.2**	**+1.1**
GLBA	SNR=9.1								
GLBA				⇓S			**Sb**	**19 56 16.1**	**-4.5**
GLBA	**Clilabad**	**3.86**	**81**	P			**Pn**	**19 55 26.2**	**+1.1**
GLBA	SNR=9.1								
GLBA				S			**Sb**	**19 56 16.1**	**-4.5**
URFA	**Urfa**	**3.89**	**252**	*e*PN			**Pn**	**19 55 26.6**	**+1.0**
URFA	**Urfa**	**3.89**	**252**	*e*Pn			**Pn**	**19 55 26.6**	**+1.0**
QBL	**Gabala**	**4.02**	**55**	⇑P			**Pn**	**19 55 28.4**	**+1.1**
QBL	SNR=12								
QBL				⇑S			**Sb**	**19 56 20.7**	**-4.5**
QBL	**Gabala**	**4.02**	**55**	P			**Pn**	**19 55 28.4**	**+1.1**
QBL	SNR=12								
QBL				S			**Sb**	**19 56 20.7**	**-4.5**
LKRN	**Lenkeran, Azer**	**4.14**	**89**	⇑P			**Pn**	**19 55 30.1**	**+1.2**
LKRN	SNR=3.1								
LKRN				⇓S			**Sn**	**19 56 22.8**	**+5.0**
LKRN	**Lenkeran, Azer**	**4.14**	**89**	P			**Pn**	**19 55 30.1**	**+1.2**
LKRN	SNR=3.1								
LKRN				S			**Sn**	**19 56 22.8**	**+5.0**
ASTR	**Astara**	**4.16**	**91**	⇓P			**Pn**	**19 55 30.0**	**+0.8**
ASTR	SNR=4.0								
ASTR				⇑S			**Sn**	**19 56 23.1**	**+4.9**
ASTR	**Astara**	**4.16**	**91**	P			**Pn**	**19 55 30.0**	**+0.8**
ASTR	SNR=4.0								
ASTR				S			**Sn**	**19 56 23.1**	**+4.9**
IML	**Ismayilli**	**4.17**	**59**	⇑P			**Pn**	**19 55 30.6**	**+1.3**
IML	SNR=3.8								
IML	**Ismayilli**	**4.17**	**59**	P			**Pn**	**19 55 30.6**	**+1.3**
IML	SNR=3.8								
XNQ	**Khinaliq**	**4.33**	**54**	⇑P			**Pn**	**19 55 32.9**	**+1.2**
XNQ	SNR=4.2								
XNQ	**Khinaliq**	**4.33**	**54**	P			**Pn**	**19 55 32.9**	**+1.2**
XNQ	SNR=4.2								
PQL	**Pirkuli**	**4.45**	**61**	P			**Pn**	**19 55 34.4**	**+1.2**
PQL	SNR=5.5								
PQL	**Pirkuli**	**4.45**	**61**	P			**Pn**	**19 55 34.4**	**+1.2**
PQL	SNR=5.5								
GBS	**Qobustan**	**4.59**	**65**	⇑P			**Pn**	**19 55 36.2**	**+1.1**
GBS	SNR=4.0								
GBS	**Qobustan**	**4.59**	**65**	P			**Pn**	**19 55 36.2**	**+1.1**
GBS	SNR=4.0								
QSAR	**Qusar**	**4.60**	**51**	⇓P			**Pn**	**19 55 36.3**	**+1.0**
QSAR	SNR=4.7								
QSAR	**Qusar**	**4.60**	**51**	P			**Pn**	**19 55 36.3**	**+1.0**
QSAR	SNR=4.7					

comp=N,0.2nm,0.3s,baz=120,slow=9.1,SNR=2.9
AAK Ala-Archa 23.77 71 P **P 19 59 38.8 +0.3**
comp=N,0.7nm,0.5s,baz=172,slow=12,SNR=2.9
FINES FINESS Array B 25.17 340 P **P 19 59 53.0 +2.0**
comp=N,3.3nm,1.0s,baz=134,slow=20,SNR=3.7
KURBB Kurchatov Arra 27.35 53 P **P 20 00 10.9 +0.1**
comp=N,3.0nm,0.7s,baz=262,slow=9.0,SNR=28
KURK Kurchatov 27.43 53 *eP* **P 20 00 10.3 -1.2**
KURK Kurchatov 27.43 53 *eP* **P 20 00 10.3 -1.2**
HFS Hagfors 28.46 329 P **P 20 00 21.7 +1.1**
comp=N,2.1nm,0.8s,baz=146,slow=10,SNR=2.9
MKAR Makanchi Array 29.37 61 P **P 20 00 27.7 -1.2**
comp=N,0.3nm,0.5s,baz=252,slow=7.1,SNR=4.8
NOA NORSAR Array B 29.98 329 P **P 20 00 37.1 +2.9**
comp=N,0.8nm,0.8s,baz=124,slow=7.6,SNR=2.8
ZALV Zalesovo Beam 31.82 48 P **P 20 00 49.5 -0.9**
comp=N,0.7nm,0.6s,baz=298,slow=12,SNR=2.4
ARCES ARCESS Array B 32.34 348 P **P 20 00 56.6 +1.9**
comp=N,3.7nm,1.0s,baz=152,slow=7.9,SNR=3.2
ESDC Sonseca Array 36.44 287 P **P 20 01 29.4 -1.4**
comp=N,0.5nm,0.7s,baz=75,slow=9.1,SNR=3.7
TORD Torodi Ar. Bea 44.85 247 P **P 20 02 39.1 -1.3**
comp=N,0.3nm,0.7s,baz=42,slow=8.5,SNR=5.3
CMAR Chiang Mai Arr 51.90 97 P **P 20 03 33.5 -1.3**
comp=N,0.5nm,0.7s,baz=300,slow=8.2,SNR=6.8
KSRS Korea Array 64.05 62 P **P 20 04 58.6 -1.2**
comp=N,1.1nm,0.7s,baz=294,slow=6.7,SNR=5.3

IDC 23 19:55:43.2±3.6, 29°.89S×176°.36W, h60km±26km, mb3.4/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=35.2km s-min=17.5km az=69.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**294**	P	Pn	19 56 07.4	-0.4
	329nm,0.3s,baz=24,slow=11,SNR=23						
RAO				S	Sn	19 56 26.5	0.0
	640nm,0.3s,baz=128,slow=22,SNR=12						
RAO				LR	LR	19 56 49.1	
	comp=Z,2μm,21.0s,baz=63,slow=44						
URZ	**Urewera**	**9.95**	**211**	P	Pn	19 58 04.1	+0.7
	0.4nm,0.3s,baz=275,slow=4.0,SNR=3.9						
URZ				S	Sn	19 59 53.5	0.0
	1.7nm,0.3s,baz=147,slow=24,SNR=9.8						
STKA	**Stephens Creek**	**35.98**	**256**	P	P	20 02 38.9	+0.6
	2.5nm,0.8s,baz=85,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**44.56**	**266**	P	P	20 03 49.0	-0.4
	0.2nm,0.4s,baz=104,slow=7.6,SNR=7.8						
WRA	**Warramunga Arr**	**45.51**	**271**	P	P	20 03 56.8	-0.1
	1.1nm,0.7s,baz=112,slow=7.6,SNR=11						
VNDA	**Vanda**	**48.75**	**186**	P	P	20 04 20.4	-0.9
	0.5nm,0.9s,baz=12,slow=16,SNR=3.4						
FINES	**FINESS Array B**	**145.13**	**341**	PKPbc	PKPbc	20 15 12.2	-0.5
	1.5nm,0.6s,baz=36,slow=3.5,SNR=9.4						
OBN	**Obninsk**	**145.55**	**326**	PKPbc	PKPdf	20 15 11.8	-2.1
	6.2nm,0.5s,baz=291,slow=23,SNR=3.4						
AKASG	**Malin Array Be**	**151.73**	**325**	PKPbc	PKPbc	20 15 30.5	+0.1
	0.9nm,0.7s,baz=34,slow=2.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**163.25**	**173**	PKPab	PKPab	20 16 30.7	+0.8
	1.2nm,0.8s,baz=190,slow=3.6,SNR=7.2						

ISCJB 23 20:03:01.5±3.1, 29°.93S±0°.07×177°.3W±0°.4, h24km, mb3.9/3, Error ellipse: s-maj=45.7km s-min=8.7km az=174.7
IDC 23 20:03:03.5±7.4, 29°.815×177°.31W, h26km±49km, mb3.8/3, mb1 4.0/4, mb1mx3.5/29, mbtmp3.9/4, Error ellipse: s-maj=50.6km s-min=20.2km az=75.0
ISC 23 20:03:02.3±2.1, 29°.83S±0°.09×177°.2W±0°.2, h24km, n6, σ1°.04/8, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**313**	Pn	**Pn**	**20 03 18.7**	**-0.1**
	1μm,0.3s,baz=99,slow=8.8,SNR=206						
RAO				Sn	**Sb**	**20 03 28.8**	**-0.5**
	2μm,0.3s,baz=80,slow=21,SNR=16						
URZ	**Urewera**	**9.64**	**208**	Pn	**Pn**	**20 05 18.3**	**-1.3**
	baz=65,slow=11,SNR=3.0						
URZ				Sn	**Sn**	**20 07 07.6**	**+0.5**
	0.6nm,0.3s,baz=200,slow=22,SNR=8.6						
STKA	**Stephens Creek**	**35.28**	**256**	P	**P**	**20 09 57.1**	**+1.7**
	2.4nm,0.9s,baz=106,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**43.83**	**266**	P	**P**	**20 11 06.2**	**-0.6**
	0.6nm,0.6s,baz=104,slow=7.5,SNR=9.0						
WRA	**Warramunga Arr**	**44.77**	**271**	P	**P**	**20 11 14.3**	**0.0**
	1.5nm,0.4s,baz=110,slow=8.1,SNR=26						
FINES	**FINESS Array B**	**144.84**	**341**	PKP	**PKPdf**	**20 22 36.5**	**0.0**
	1.6nm,0.5s,baz=55,slow=3.3,SNR=15						

NSSC 23 20:06:44.1±16.0, 38°.75N×46°.47E, h0km±999km, MD2.9, ML3.1
ISK 23 20:07:21.3, 38°.69N×43°.47E, h5km, ML3.6
DDA 23 20:07:21.2, 38°.63N×43°.57E, h15km, Ml3.9
ISCJB 23 20:07:22.4±0.4, 38°.59N±0°.03×43°.60E±0°.04, h13km, mb3.4/9, Error ellipse: s-maj=5.5km s-min=3.4km az=35.5
CSEM 23 20:07:23.2±0.3, 38°.65N×43°.51E, h10km, ML3.9, Error ellipse: s-maj=8.8km s-min=5.3km az=103.0
IDC 23 20:07:26.7±3.0, 38°.70N×43°.70E, h26km±21km, mb3.4/9, mb1 3.5/17, mb1mx3.3/51, mbtmp3.5/17, ML2.9/7, Error ellipse: s-maj=16.8km s-min=9.6km az=156.0
ISC 23 20:07:23.4±0.6, 38°.68N±0°.02×43°.55E±0°.03, h13km, n97, σ1°.73/102, mb3.6/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.53**	**227**	*i* P	**Pg**	**20 07 31.2**	**-2.6**
GEVA				*i* S	**Sg**	**20 07 40.4**	**-0.5**
GEVA	**Gevas**	**0.53**	**227**	P	**Pg**	**20 07 31.2**	**-2.6**
GEVA				S	**Sg**	**20 07 40.4**	**-0.5**
DYDN	**Diyadin**	**0.87**	**7**	*i* P	**Pg**	**20 07 38.5**	**-1.8**
DYDN				*i* S	**Sb**	**20 07 52.5**	**+0.3**
DYDN	**Diyadin**	**0.87**	**7**	P	**Pg**	**20 07 38.5**	**-1.8**
DYDN				S	**Sb**	**20 07 52.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.99**	**334**	PG	**Pb**	**20 07 40.8**	**-1.8**
AGRB				SG	**Sg**	**20 07 55.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.99**	**334**	*i* Pg	**Pb**	**20 07 40.8**	**-1.8**
AGRB				*i* Sg	**Sg**	**20 07 55.0**	**-0.6**
HAKT	**HAKKARI**	**1.12**	**173**	*i* P	**Pb**	**20 07 41.9**	**-2.9**
HAKT	**HAKKARI**	**1.12**	**173**	P	**Pb**	**20 07 41.9**	**-2.9**
EKAR	**Karacoban**	**1.29**	**297**	*i* P	**Pn**	**20 07 46.8**	**-0.5**
EKAR	**Karacoban**	**1.29**	**297**	P	**Pn**	**20 07 46.8**	**-0.5**
CUKT	**Cukurca**	**1.43**	**178**	*e*PN	**Pb**	**20 07 49.2**	**-0.7**
CUKT				*e*SN	**Sg**	**20 08 10.3**	**+0.9**
CUKT	**Cukurca**	**1.43**	**178**	*i* P	**Pb**	**20 07 49.5**	**-0.4**
CUKT	**Cukurca**	**1.43**	**178**	*e*Pn	**Pb**	**20 07 49.2**	**-0.7**
CUKT	**Cukurca**	**1.43**	**178**	P	**Pb**	**20 07 49.5**	**-0.4**
CUKT				*e*Sn	**Sg**	**20 08 10.3**	**+0.9**
EATA	**Eleskirt**	**1.44**	**326**	*i* P	**Pn**	**20 07 48.8**	**-0.7**
EATA	**Eleskirt**	**1.44**	**326**	P	**Pn**	**20 07 48.8**	**-0.7**
VRTB	**Varto-Mus**	**1.70**	**287**	*e*PN	**Pn**	**20 07 52.9**	**0.0**
VRTB	**Varto-Mus**	**1.70**	**287**	*i* P	**Pb**	**20 07 53.4**	**-1.2**
VRTB	**Varto-Mus**	**1.70**	**287**	*e*Pn	**Pn**	**20 07 52.9**	**0.0**
VRTB	**Varto-Mus**	**1.70**	**287**	P	**Pb**	**20 07 53.4**	**-1.2**
GNI	**Garni**	**1.74**	**32**	Pn	**Pb**	**20 07 54.3**	**-0.9**
	23nm,0.3s,baz=240,slow=2.5,SNR=41						
GNI				Lg	Lg	20 08 21.3	
	34nm,0.3s,baz=198,slow=23,SNR=9.0						
DIGO	**Kars**	**1.74**	**356**	*i* P	**Pb**	**20 07 54.1**	**-1.2**
DIGO	**Kars**	**1.74**	**356**	P	**Pb**	**20 07 54.1**	**-1.2**
HOMI	**Horasan**	**1.87**	**318**	*i* P	**Pb**	**20 07 56.4**	**-1.1**
BNGL	**BINGOL**	**1.89**	**279**	*i* P	**Pn**	**20 07 56.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*e*PN	**Pn**	**20 07 55.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*i* P	**Pn**	**20 07 55.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*e*Pn	**Pn**	**20 07 55.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	P	**Pn**	**20 07 55.9**	**+0.1**
BTMN	**Batman**	**1.96**	**247**	*i* P	**Pn**	**20 07 56.5**	**+0.2**
BTMN	**Batman**	**1.96**	**247**	P	**Pn**	**20 07 56.5**	**+0.2**
EAK	**Akyaka**	**2.01**	**1**	*i* P	**Pb**	**20 07 58.6**	**-1.2**
EAK	**Akyaka**	**2.01**	**1**	P	**Pb**	**20 07 58.6**	**-1.2**
ERZM	**Erzurum**	**2.09**	**307**	*i* P	**Pb**	**20 07 59.5**	**-1.8**
ERZM	**Erzurum**	**2.09**	**307**	P	**Pb**	**20 07 59.5**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*PN	**Pn**	**20 07 58.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*Pn	**Pn**	**20 07 58.6**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.21**	**296**	*i* P	**Pb**	**20 08 01.3**	**-1.9**
ECAT	**Cat-ERZURUM**	**2.21**	**296**	P	**Pb**	**20 08 01.3**	**-1.9**
BNGB	**Bing¶ll**	**2.26**	**279**	*e*PN	**Pn**	**20 08 01.1**	**+0.5**
BINT	**Bingol**	**2.40**	**276**	*e*Pn	**Pn**	**20 08 01.1**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.46**	**289**	*e*PN	**Pn**	**20 08 03.0**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.46**	**289**	*e*Pn	**Pn**	**20 08 03.0**	**-0.3**
MARD	**Mardin**	**2.58**	**239**	*i* P	**Pn**	**20 08 05.1**	**+0.2**
BGD	**Bogdanovka**	**2.58**	**1**	P	**Pg**	**20 08 10.9**	**-2.0**
DDEM	**Demirkent**	**2.61**	**329**	*i* P	**Pb**	**20 08 09.1**	**-1.0**
DAGI	**Agillar**	**2.71**	**333**	*i* P	**Pb**	**20 08 11.2**	**-0.5**
KOPT	**Köp Dagi**	**2.72**	**300**	*i* P	**Pb**	**20 08 11.9**	**-0.1**
AKH	**Akhalkalaki**	**2.73**	**359**	*e*PN	**Pn**	**20 08 07.8**	**+0.8**
AKH	**Akhalkalaki**	**2.73**	**359**	P	**Pg**	**20 08 13.5**	**-2.2**
AKH	**Akhalkalaki**	**2.73**	**359**	*e*Pn	**Pn**	**20 08 07.8**	**+0.8**
MAZI	**Mazidag**	**2.73**	**245**	*e*PN	**Pn**	**20 08 06.3**	**-0.7**
MAZI	**Mazidag**	**2.73**	**245**	*e*Pn	**Pn**	**20 08 06.3**	**-0.7**
ARTV	**Artvin**	**2.80**	**334**	*i* P	**Pb**	**20 08 10.3**	**-3.0**
ARTV	**Artvin**	**2.80**	**334**	P	**Pb**	**20 08 10.3**	**-3.0**
DIYA	**Diyarbakir**	**2.80**	**255**	*i* P	**Pn**	**20 08 07.2**	**-0.7**
DIYA	**Diyarbakir**	**2.80**	**255**	P	**Pn**	**20 08 07.2**	**-0.7**
DGRG	**David-gareji**	**3.10**	**26**	P	**Pb**	**20 08 14.5**	**-4.0**
DGRG	**David-gareji**	**3.10**	**26**	P	**Pb**	**20 08 14.5**	**-4.0**
ERZN	**Erzincan**	**3.11**	**288**	*e*PN	**Pn**	**20 08 12.8**	**+0.5**
TBLG	**Delisi**	**3.18**	**16**	*e*PN	**Pn**	**20 08 14.9**	**+1.7**
TBLG	**Delisi**	**3.18**	**16**	P	**Pb**	**20 08 20.3**	**+0.5**
TBLG	**Delisi**	**3.18**	**16**	*e*Pn	**Pn**	**20 08 14.9**	**+1.7**
PTK	**Pertek**	**3.25**	**275**	*e*PN	**Pn**	**20 08 14.7**	**+0.4**
PTK	**Pertek**	**3.25**	**275**	*e*Pn	**Pn**	**20 08 14.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.34**	**266**	*e*PN	**Pn**	**20 08 15.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.34**	**266**	*e*Pn	**Pn**	**20 08 15.7**	**+0.3**
EZC	**Erzincan**	**3.43**	**290**	*e*Pn	**Pn**	**20 08 12.8**	**-3.9**
KELT	**Kelkit**	**3.63**	**295**	*i* P	**Pb**	**20 08 27.1**	**-0.5**
ONI	**Oni**	**3.91**	**359**	P	**Pb**	**20 08 34.4**	**+2.2**
URFA	**Urfa**	**3.93**	**253**	*e*PN	**Pn**	**20 08 23.8**	**+0.4**
URFA	**Urfa**	**3.93**	**253**	*e*Pn	**Pn**	**20 08 23.8**	**+0.4**
KBZ	**Khabaz**	**5.07**	**355**	Pn	Pn	20 08 44.7	+5.7
	0.1nm,0.3s,baz=179,slow=9.4,SNR=8.0						
KVAR	**Kislovodsk Arr**	**5.31**	**353**	Pn	**Pn**	**20 08 46.1**	**+3.6**
	baz=225,slow=8.5,SNR=2.9						
DRWC	**Darouich**	**5.83**	**252**	*e*P	**Pn**	**20 08 46.6**	**-3.0**
DRWC				*e*S	**Sb**	**20 10 10.7**	**-4.1**
DRWC				AML	AML	20 10 56.0	
	comp=N,25nm,0.6s						
DRWC				AML	AML	20 11 01.3	
	comp=E,21nm,0.7s						
BTCH	**Batrach**	**6.23**	**247**	*e*P	Pn	20 08 47.1	-8.0
BTCH				AML	AML	20 10 57.2	
	comp=N,26nm,0.7s						
BTCH				AML	AML	20 11 10.6	
	comp=E,44nm,0.7s						
RABH	**Abou Rabah**	**6.63**	**232**	*e*P	**Pn**	**20 09 01.3**	**+0.7**
RABH				AML	AML	20 11 09.6	
	comp=E,9.4nm,0.8s						
ROOS	**tl_alroos**	**6.76**	**230**	*e*P	**Pn**	**20 09 02.6**	**+0.3**
ROOS				AML	AML	20 11 19.6	
	comp=E,27nm,0.7s						
ROOS				AML	AML	20 11 35.9	
	comp=N,16nm,0.7s						
HAWK	**Haweek**	**7.08**	**236**	*e*S	**Sn**	**20 10 34.4**	**+7.1**
HAWK				AML	AML	20 11 17.4	
	comp=N,10nm,0.5s						
HAWK				AML	AML	20 11 33.1	
	comp=E,6.7nm,0.7s						
BRTR	**Keskin Array B**	**7.76**	**281**	Pn	Pn	20 09 22.9	+6.6
	comp=E,0.0nm,0.3s,baz=1.3,slow=11,SNR=2.8						
SALA	**Sala**	**8.13**	**225**	*e*S	**Sn**	**20 10 55.6**	**+2.4**
SALA				AML	AML	20 12 11.2	
	comp=N,11nm,0.7s						
ASF	**Jabal al Asfar**	**8.46**	**222**	Pn	**Pn**	**20 09 27.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=321,slow=15,SNR=2.6						
ASF				Lg	Lg	20 11 58.0	
	comp=N,0.1nm,0.3s,baz=184,slow=22,SNR=3.3						
MMAI	**Mount Meron Ar**	**8.69**	**232**	Pn	**Pn**	**20 09 31.2**	**+2.3**
	comp=N,0.8nm,0.3s,baz=64,slow=15,SNR=7.2						
GEYT	**Alibeck**	**11.48**	**89**	Pn	**Pn**	**20 10 06.3**	**-0.7**
	comp=N,0.1nm,0.3s,baz=83,slow=34,SNR=3.0						
AKTO	**Aktyubinsk**	**15.60**	**36**	Pn	**Pn**	**20 11 02.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=227,slow=9.9,SNR=3.8						
AKASG	**Malin Array Be**	**15.72**	**325**	Pn	**Pn**	**20 11 04.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=137,slow=11,SNR=4.6						
ARU	**Arti**	**20.37**	**24**	P	Pn	20 11 60.0	-1.5
	comp=N,1.9nm,0.7s,baz=232,slow=7.8,SNR=5.0						
VRAC	**Vranov**	**22.00**	**308**	P	**P**	**20 12 20.0**	**+2.9**
	comp=N,1.2nm,0.5s,baz=112,slow=10.0,SNR=2.6						
BVAR	**Borovoye Array**	**23.39**	**43**	P	**P**	**20 12 32.3**	**+0.7**
	comp=N,0.3nm,0.7s,baz=225,slow=10.0,SNR=3.5						
KHC	**Kasperske Hory**	**23.84**	**306**	*e*P	**P**	**20 12 36.5**	**+0.3**
DAVOX	**Davos/Dischmat**	**25.87**	**299**	P	**P**	**20 12 57.3**	**+2.4**
	comp=N,1.2nm,0.6s,baz=316,slow=23,SNR=3.0						
KURBB	**Kurchatov Arra**	**27.34**	**53**	P	**P**	**20 13 08.8**	**+0.9**
	comp=N,0.8nm,0.5s,baz=262,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**29.35**	**61**	P	**P**	**20 13 27.3**	**+1.4**
	comp=N,0.8nm,1.0s,baz=260,slow=8.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**31.82**	**48**	P	**P**	**20 13 47.5**	**0.0**
	comp=N,0.4nm,0.4s,baz=268,slow=9.8,SNR=3.1						
ESDC	**Sonseca Array**	**36.51**	**287**	P	**P**	**20 14 29.9**	**+1.5**
	comp=N,0.4nm,0.6s,baz=58,slow=8.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**44.88**	**247**	P	**P**	**20 15 36.1**	**-1.6**
	comp=N,0.4nm,0.5s,baz=34,slow=10,SNR=5.6						
CMAR	**Chiang Mai Arr**	**51.85**	**97**	P	**P**	**20 16 32.6**	**+1.2**
	comp=N,0.3nm,0.5s,baz=301,slow=8.3,SNR=5.9						

SJA 23 20:07:50.6±0.7, 31°.29S×68°.99W, h160km±4km, ML3.4, MW3.6
ISCJB 23 20:07:56.7±0.7, 31°.30S±0°.03×68°.56W±0°.06, h115km±7km, Error ellipse: s-maj=8.4km s-min=4.7km az=21.6
GUC 23 20:07:58.5±0.8, 31°.20S×68°.68W, h54km±8km, ML3.3
ISC 23 20:07:57.5±1.4, 31°.29S±0°.03×68°.64W±0°.05, h109km±9km, n26, σ1°.80/34, 3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.14**	**105**	⇓*i*P	**Pn**	**20 08 13.3**	**+0.6**
RTLL				*i* S	**Sn**	**20 08 24.4**	**+0.2**
RTLL				IAML		20 08 25.4	
	comp=E,6μm,0.3s						
SJA	**San Juan**	**0.24**	**165**	*e*P	**Pn**	**20 08 13.4**	**+0.3**
AMOG	**MOGNA**	**0.37**	**19**	*e*P	**Pn**	**20 08 13.7**	**+0.1**
RTCV	**Cerro Valdivia**	**0.57**	**172**	*e*P	**Pn**	**20 08 14.7**	**-0.2**
RTLS	**Leoncito**	**0.76**	**228**	*e*P	**Pn**	**20 08 14.6**	**-2.1**
RTLS				*e*S	**Sn**	**20 08 32.5**	**+1.5**
ACCO	**Cerro Coronel**	**0.79**	**332**	*e*P	**Pn**	**20 08 15.5**	**-1.6**
ACCO				*e*S	**Sn**	**20 08 34.1**	**+2.5**
AUSP	**Uspallata**	**1.13**	**214**	*e*P	**Pn**	**20 08 18.3**	**-2.0**
AUSP				*e*P	**Pn**	**20 08 18.3**	**-2.0**
ACDV	**Cuesta del Vie**	**1.19**	**339**	*e*P	**Pn**	**20 08 18.2**	**-2.8**
AVFE	**Valle Fertil**	**1.19**	**58**	*e*P	**Pn**	**20 08 21.5**	**+0.6**
AVFE				IAML		20 08 40.3	
	comp=Z,260nm,0.3s						
ASAL	**Salagasta**	**1.31**	**187**	*e*P	**Pn**	**20 08 19.6**	**-2.5**
ASAL				*e*S	**Sn**	**20 08 41.2**	**+0.5**
AROD	**Rodeo**	**1.33**	**327**	*e*P	**Pn**	**20 08 19.3**	**-3.4**
ARCO	**CERRO ARCO**	**1.56**	**189**	*e*P	**Pn**	**20 08 22.2**	**-3.0**
ARCO				*e*S	**Sn**	**20 08 46.0**	**-0.3**
ACAN	**Cantantal**	**1.57**	**129**	*e*P	**Pn**	**20 08 25.3**	**0.0**
ACHE	**Chepes**	**1.69**	**86**	*e*P	**Pn**	**20 08 27.1**	**+0.3**
AAGR	**Agrelo**	**1.79**	**185**	*e*P	**Pn**	**20 08 24.8**	**-3.3**
AAGR				*e*S	**Sn**	**20 08 50.2**	**-1.0**
AGUA	**GUANDACOL**	**1.80**	**4**	*e*P	**Pn**	**20 08 26.0**	**-2.2**
AGUA				*e*S	**Sn**	**20 08 50.8**	**-0.6**
APLL	**PUNTA DE LOS L**	**2.02**	**64**	*e*P	**Pn**	**20 08 30.5**	**-0.4**
TLL	**Tololo Astrono**	**2.18**	**300**	*e*P	**Pn**	**20 08 34.0**	**+1.0**
TLL				IAML		20 09 03.2	
	comp=N,314nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.36**	**38**	*e*P	**Pn**	**20 08 34.2**	**-1.2**
FCH	**Farellones**	**2.47**	**214**	*e*P	Pn	20 08 40.1	+3.3
FCH				IAML		20 09 18.7	
	comp=N,75nm,0.2s						
PEL	**Peldehue**	**2.54**	**223**	⇓*i*P	**Pn**	**20 08 39.3**	**+1.9**
PEL				*i* S	**Sn**	**20 09 11.2**	**+3.1**
PEL				IAML		20 09 15.7	
	comp=N,111nm,0.4s						
VCA	**Vinchina**	**2.58**	**8**	⇓*i*P	**Pn**	**20 08 39.0**	**+1.0**
VCA				*i* S	**Sn**	**20 09 09.1**	**-0.1**
VCA				IAML		20 09 13.5	
	comp=N,241nm,0.3s						
ROCH	**El Roble**	**2.62**	**230**	*e*P	**Pn**	**20 08 40.1**	**+1.4**
ROCH				*e*S	**Sn**	**20 09 11.9**	**+1.6**
ROCH				IAML		20 09 14.7	
	comp=N,144nm,0.3s						
ROC1	**El Roble**	**2.63**	**230**	*e*P	Pn	20 08 31.9	-6.9
CLCH	**Cerro Calan**	**2.64**	**217**	*e*P	Pn	20 08 41.5	+2.6
CLCH				IAML		20 09 16.2	
	comp=E,91nm,0.8s						
TCA	**Tanti**	**3.46**	**92**	*e*P	**Pn**	**20 08 49.2**	**-0.5**

IDC 23 20:10:44.2±2.4, 43°.28N×105°.16W, h0km, mb4.3/1, mb1 4.0/3, mb1mx3.3/48, mbtmp3.9/3, ML3.3/2, Error ellipse: s-maj=53.3km s-min=9.4km az=156.0
NEIC 23 20:10:46.6±0.7, 43°.62N×105°.21W, h0km, MN3.0, Error ellipse: s-maj=15.7km s-min=7.2km az=165.0, Suspected Mining explosion.
NEIC 76 km [47 miles] SSE of Gillette.
ISC 23 20:10:41.2±0.9, 43°.08N±0°.05×105°.14W±0°.04, h0km, n21, σ2°.44/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.11**	**247**	*e*Pg	Pn	20 11 12.4	+8.3
RSSD	**Black Hills**	**1.31**	**37**	*e*Pg	**Pn**	**20 11 06.1**	**-0.8**
RSSD				*e*Sg	**Sg**	**20 11 20.6**	**-2.6**
OGNE	**Ogallala**	**3.15**	**132**	Pn	**Pn**	**20 11 30.5**	**-1.6**
PDAR	**Pinedale Array**	**3.26**	**266**	Pn	**Pb**	**20 11 39.9**	**-0.2**
	3.6nm,0.3s,baz=78,slow=15,SNR=19						
PDAR				Lg	Lg	20 12 26.3	
	19nm,0.3s,baz=79,slow=31,SNR=7.8						
BW06	**Boulder Array**	**3.26**	**266**	*e*Pn	**Pb**	**20 11 39.6**	**-0.5**
BW06				*e*Sn	**Sg**	**20 12 22.9**	**-3.0**
O20A	**White River Ci**	**3.75**	**219**	*e*Pn	**Pb**	**20 11 45.8**	**-2.6**
LOHW	**Long Hollow**	**4.02**	**279**	*e*Pn	**Pb**	**20 11 50.7**	**-2.3**
SNOW	**Snow King Moun**	**4.12**	**277**	*e*Pn	**Pb**	**20 11 50.7**	**-4.0**
SNOW				*e*Sn	**Sn**	**20 12 36.7**	**+2.1**
MOOW	**Moose Ponds**	**4.14**	**281**	Pn	**Pn**	**20 11 47.2**	**+1.3**
REDW	**Red Top Meadow**	**4.18**	**276**	*e*Pn	**Pb**	**20 11 52.3**	**-3.5**
REDW				*e*Sg	**Sg**	**20 12 54.9**	**-0.7**
TPAW	**Teton Pass**	**4.26**	**277**	Pn	Pb	20 11 51.7	-5.5
TPAW				*e*Sn	**Sn**	**20 12 38.7**	**+0.5**
IMW	**Indian Meadow**	**4.30**	**283**	Pn	**Pn**	**20 11 51.0**	**+2.9**
IMW				*e*Pg	**Pg**	**20 12 05.7**	**+2.1**
IMW				*e*Sn	**Sn**	**20 12 40.0**	**+1.0**
IMW				*e*Sg	**Sg**	**20 12 59.6**	**+0.3**
HWUT	**Hardware Ranch**	**4.99**	**255**	*e*Pn	**Pb**	**20 12 04.7**	**-4.8**
	12nm,0.7s						
HWUT				*e*Sn	**Sn**	**20 12 56.1**	**+0.2**
BOZ	**Bozeman (W)**	**5.29**	**301**	*e*Pn	**Pn**	**20 12 03.4**	**+1.8**
	6.0nm,0.4s						
PV04	**Paradox Valley**	**5.49**	**213**	Pn	**Pn**	**20 12 07.0**	**+2.6**
PV01	**Paradox Valley**	**5.59**	**209**	*e*Pn	**Pb**	**20 12 17.8**	**-1.9**
	739nm,0.9s						
ECSD	**EROS Data Cent**	**6.24**	**81**	Pn	**Pn**	**20 12 18.8**	**+4.2**
	6.1nm,0.4s						
DUG	**Dugway, Tooele**	**6.43**	**246**	*e*Pn	Pn	20 12 24.8	+7.6
	3.3nm,0.4s						
I10CA	**LAC DU BONNET**	**9.48**	**38**	*i*		21 04 15.0	
	baz=221,slow=327,SNR=5.1						
ULM	**Lac du Bonnet**	**9.58**	**38**	Pn	**Pn**	**20 12 59.4**	**-0.9**
	0.6nm,0.3s,baz=228,slow=12,SNR=5.2						
ULM				Lg	Lg	20 15 34.8	
	0.5nm,0.3s,baz=137,slow=19,SNR=2.6						
ARCES	**ARCESS Array B**	**62.01**	**18**	P	**P**	**20 21 03.6**	**+0.9**
	3.5nm,0.8s,baz=328,slow=8.5,SNR=4.1						

ISK 23 20:11:28.4, 38°.92N×43°.52E, h5km, ML3.1
*CSEM 23 20:11:29.8±0.5, 38°.92N×43°.49E, h2km, ML3.1, Error ellipse: s-maj=12.7km s-min=6

CUKT				*e*SN	Sg	20 18 04.2	-0.4
CUKT	**Cukurca**	**1.70**	**178**	*e*Pn	Pn	20 17 39.9	+0.6
CUKT				*e*Sn	Sg	20 18 04.2	-0.4
EAK	**Akyaka**	**1.73**	**2**	*i* P	Pn	20 17 40.8	+1.0
EAK	**Akyaka**	**1.73**	**2**	P	Pn	20 17 40.8	+1.0
SENK	**Senkaya-Erzuru**	**1.85**	**331**	*e*PN	Pb	20 17 43.0	-0.6
SENK	**Senkaya-Erzuru**	**1.85**	**331**	*e*Pn	Pb	20 17 43.0	-0.6
BNGL	**BINGOL**	**1.86**	**271**	*i* P	Pn	20 17 42.1	+0.6
SVAN	**Silvan-Diyarba**	**2.00**	**247**	*e*PN	Pn	20 17 43.9	+0.5
SVAN	**Silvan-Diyarba**	**2.00**	**247**	*e*Pn	Pn	20 17 43.9	+0.5
ECAT	**Cat-ERZURUM**	**2.09**	**289**	*i* P	Pn	20 17 45.5	+0.8
ECAT	**Cat-ERZURUM**	**2.09**	**289**	P	Pn	20 17 45.5	+0.8
BNGB	**Bing¶ll**	**2.23**	**272**	*e*PN	Pn	20 17 47.8	+1.3
YEDI	**Yedisu-Bingol**	**2.38**	**283**	*e*PN	Pn	20 17 50.0	+1.4
YEDI	**Yedisu-Bingol**	**2.38**	**283**	*e*Pn	Pn	20 17 50.0	+1.4
BINT	**Bingol**	**2.38**	**269**	*e*Pn	Pn	20 17 47.8	-0.8
MAZI	**Mazidag**	**2.85**	**239**	*e*PN	Pn	20 17 56.5	+1.4
MAZI	**Mazidag**	**2.85**	**239**	*e*Pn	Pn	20 17 56.5	+1.4
EUZM	**Uzumlu**	**3.07**	**285**	*i* P	Pn	20 17 59.8	+1.7
EUZM	**Uzumlu**	**3.07**	**285**	P	Pn	20 17 59.8	+1.7
PTK	**Pertek**	**3.23**	**270**	*e*PN	Pn	20 18 02.1	+1.8
PTK	**Pertek**	**3.23**	**270**	*e*Pn	Pn	20 18 02.2	+1.8
TOKA	**Tokat**	**5.62**	**286**	*i* P	Pn	20 18 35.2	+2.2
TOKA	**Tokat**	**5.62**	**286**	P	Pn	20 18 35.2	+2.2

JMA 23 20:19:10.9±0.1,37°.04N×138°.49E,h16km±1km,M1.0,
Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.27**	**284**	P	Pg	20 19 16.5	-0.2
JHK	**Hiroka**	**0.47**	**64**	P	Pg	20 19 20.0	-0.3
JHK				S	Sg	20 19 27.0	+0.3
MAT	**Matsushiro**	**0.55**	**205**	P	Pg	20 19 21.1	-0.6
MAT				S	Sg	20 19 28.2	-0.8
MAT	**Matsushiro**	**0.55**	**205**	P	Pg	20 19 21.2	-0.5
MAT				S	Sg	20 19 28.2	-0.8
JNG	**Nsakai**	**0.71**	**206**	S	Sg	20 19 33.3	-0.8

*ISK **23** 20:28:52.6,38°.83N×43°.64E,h4km,ML3.3*
*DDA **23** 20:28:54.1,38°.76N×43°.41E,h7km,ML3.4*
*ISCJB **23** 20:28:56.2±0.3,38°.81N±0°.03×43°.41E±0°.03,h13km,Error ellipse: s-maj=4.3km s-min=2.7km az=168.0*
*CSEM **23** 20:28:56.0±0.2,38°.79N×43°.35E,h5km,ML3.4,Error ellipse: s-maj=6.5km s-min=4.3km az=164.0*
*AZER **23** 20:29:00.2±1.7,38°.93N×43°.64E,h9km,Error ellipse: s-maj=17.2km s-min=13.6km az=45.0*

ISC 23 20:28:52.5±0.8,38°.84N±0°.02×43°.66E±0°.02,h13km,n84,
σ1§38/105,17C-13D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.70**	**222**	*i* P	Pg	20 29 03.9	-2.4
DYDN	**Diyadin**	**0.71**	**2**	*i* P	Pn	20 29 08.1	-0.4
AGRB	**Hanur-Agry**	**0.90**	**325**	*e*PG	Pb	20 29 10.1	-0.1
AGRB				*e*SG	Sn	20 29 23.4	-0.7
AGRB	**Hanur-Agry**	**0.90**	**325**	*e*Pg	Pb	20 29 10.1	-0.1
AGRB				*e*Sg	Sn	20 29 23.4	-0.7
EKAR	**Karacoban**	**1.31**	**289**	*i* P	Pn	20 29 16.6	-0.1
EKAR	**Karacoban**	**1.31**	**289**	P	Pn	20 29 16.6	-0.1
EATA	**Eleskirt**	**1.37**	**319**	*i* P	Pg	20 29 19.1	+0.2
EATA	**Eleskirt**	**1.37**	**319**	P	Pg	20 29 19.1	+0.2
NAX	**Nakhchivan**	**1.47**	**76**	⇑P	Pg	20 29 23.4	+2.6
NAX				⇑S	Sg	20 29 49.2	+9.3
NAX	**Nakhchivan**	**1.47**	**76**	P	Pg	20 29 23.4	+2.6
NAX				S	Sg	20 29 49.2	+9.3
CUKT	**Cukurca**	**1.59**	**181**	*e*PN	Pb	20 29 22.2	+0.5
CUKT				*e*SN	Sg	20 29 43.8	+0.1
CUKT	**Cukurca**	**1.59**	**181**	*i* P	Pg	20 29 23.0	0.0
CUKT	**Cukurca**	**1.59**	**181**	*e*Pn	Pb	20 29 22.3	+0.5
CUKT	**Cukurca**	**1.59**	**181**	P	Pg	20 29 23.0	0.0
CUKT				*e*Sn	Sg	20 29 43.8	+0.1
DIGO	**Kars**	**1.59**	**352**	*i* P	Pg	20 29 24.8	+1.7
DIGO	**Kars**	**1.59**	**352**	P	Pg	20 29 24.8	+1.7
SIRN	**S¨–rnak**	**1.66**	**217**	*i* P	Pb	20 29 22.7	-0.3
SIRN	**S¨–rnak**	**1.66**	**217**	P	Pb	20 29 22.7	-0.3
VRTB	**Varto-Mus**	**1.75**	**281**	*e*PN	Pb	20 29 24.3	-0.2
VRTB	**Varto-Mus**	**1.75**	**281**	*i* P	Pb	20 29 24.1	-0.4
VRTB	**Varto-Mus**	**1.75**	**281**	*e*Pn	Pb	20 29 24.3	-0.2
HOMI	**Horasan**	**1.82**	**312**	*i* P	Pb	20 29 26.5	+0.7
EAK	**Akyaka**	**1.85**	**359**	*i* P	Pg	20 29 30.7	+2.7
EAK	**Akyaka**	**1.85**	**359**	P	Pg	20 29 30.7	+2.7
BNGL	**BINGOL**	**1.96**	**274**	*i* P	Pn	20 29 26.9	+1.2
SENK	**Senkaya-Erzuru**	**2.00**	**330**	*e*PN	Pb	20 29 28.1	-0.7
SENK	**Senkaya-Erzuru**	**2.00**	**330**	*e*Pn	Pb	20 29 28.1	-0.7
SVAN	**Silvan-Diyarba**	**2.05**	**251**	*e*PN	Pb	20 29 28.5	-1.1
SVAN	**Silvan-Diyarba**	**2.05**	**251**	*i* P	Pb	20 29 28.8	-0.8
SVAN	**Silvan-Diyarba**	**2.05**	**251**	*e*Pn	Pb	20 29 28.5	-1.1
SVAN	**Silvan-Diyarba**	**2.05**	**251**	P	Pb	20 29 28.8	-0.8
ERZM	**Erzurum**	**2.07**	**302**	*i* P	Pb	20 29 30.7	+0.5
ERZM	**Erzurum**	**2.07**	**302**	P	Pb	20 29 30.7	+0.5
BTMN	**Batman**	**2.10**	**244**	*i* P	Pn	20 29 28.9	+1.4
BTMN	**Batman**	**2.10**	**244**	P	Pn	20 29 28.9	+1.4
BNGB	**Bing¶ll**	**2.33**	**275**	*e*PN	Pb	20 29 32.7	-1.8
BINT	**Bingol**	**2.47**	**272**	*e*Pn	Pn	20 29 32.7	0.0
GDB	**GEDABAY**	**2.48**	**40**	⇑P	Pg	20 29 39.6	-0.5
GDB				⇓S	Sg	20 30 10.8	-1.5
GDB	**GEDABAY**	**2.48**	**40**	P	Pg	20 29 39.6	-0.5
GDB				S	Sg	20 30 10.8	-1.5
YEDI	**Yedisu-Bingol**	**2.49**	**285**	*e*PN	Pn	20 29 35.1	+2.1
YEDI	**Yedisu-Bingol**	**2.49**	**285**	*e*Pn	Pn	20 29 35.1	+2.1
GANJ	**Ganja**	**2.74**	**48**	⇓P	Pb	20 29 41.2	-0.2
GANJ				⇓S	Sg	20 30 18.7	-1.7
GANJ	**Ganja**	**2.74**	**48**	P	Pb	20 29 41.2	-0.2
GANJ				S	Sg	20 30 18.7	-1.7
MAZI	**Mazidag**	**2.88**	**242**	*e*PN	Pn	20 29 40.7	+2.4
MAZI	**Mazidag**	**2.88**	**242**	*e*Pn	Pn	20 29 40.7	+2.4
BRDA	**Brd**	**3.07**	**61**	⇑P	Pb	20 29 48.0	+1.0
	SNR=7.0						
BRDA				⇑S	Sb	20 30 25.6	+1.2
BRDA	**Brd**	**3.07**	**61**	P	Pb	20 29 48.0	+1.0
	SNR=7.0						
BRDA				S	Sb	20 30 25.6	+1.2
ERZN	**Erzincan**	**3.15**	**285**	*e*PN	Pn	20 29 44.4	+2.4
MNGR	**Mingechevir, A**	**3.27**	**53**	⇑P	Pb	20 29 50.3	-0.2
	SNR=4.7						
MNGR	**Mingechevir, A**	**3.27**	**53**	P	Pb	20 29 50.3	-0.2
	SNR=4.7						
PTK	**Pertek**	**3.33**	**272**	*e*PN	Pn	20 29 47.1	+2.7
PTK	**Pertek**	**3.33**	**272**	*e*Pn	Pn	20 29 47.2	+2.7
ZRD	**Zardab**	**3.43**	**64**	⇑P	Pb	20 29 52.9	-0.2
	SNR=3.2						
ZRD				⇑S	Sb	20 30 33.9	-0.8
ZRD	**Zardab**	**3.43**	**64**	P	Pb	20 29 52.9	-0.2
	SNR=3.2						
ZRD				S	Sb	20 30 33.9	-0.8
SVRC	**Sivrice-ELAZID**	**3.44**	**264**	*e*PN	Pn	20 29 48.4	+2.4
SVRC	**Sivrice-ELAZID**	**3.44**	**264**	*e*Pn	Pn	20 29 48.4	+2.4
EZC	**Erzincan**	**3.46**	**287**	*e*Pn	Pn	20 29 44.4	-1.9
ZKTA	**Zakatala**	**3.60**	**38**	⇓P	Pb	20 29 55.5	-0.6
	SNR=12						
ZKTA				⇑S	Sb	20 30 37.1	-2.6
SEKA	**Sheki**	**3.61**	**48**	⇓P	Pb	20 29 56.2	0.0
	SNR=11						
SEKA				⇓S	Sb	20 30 39.9	0.0
SEKA	**Sheki**	**3.61**	**48**	P	Pb	20 29 56.2	0.0
	SNR=11						
SEKA				S	Sb	20 30 39.9	0.0
LRK	**Lerik**	**3.67**	**92**	⇑P	Pb	20 29 54.9	-2.4
	SNR=3.4						
LRK				⇓S	Sb	20 30 42.1	+0.4
LRK	**Lerik**	**3.67**	**92**	P	Pb	20 29 54.9	-2.4
	SNR=3.4						
LRK				S	Sb	20 30 42.1	+0.4
GLBA	**Clilabad**	**3.71**	**82**	⇑P	Pb	20 29 57.7	-0.2
	SNR=5.4						
GLBA				⇑S	Sb	20 30 43.3	+0.5
GLBA	**Clilabad**	**3.71**	**82**	P	Pb	20 29 57.7	-0.2
	SNR=5.4						
GLBA				S	Sb	20 30 43.3	+0.5
QBL	**Gabala**	**3.84**	**55**	⇓P	Pb	20 29 59.2	-1.0
	SNR=6.8						
QBL	**Gabala**	**3.84**	**55**	P	Pb	20 29 59.2	-1.0
	SNR=6.8						
IML	**Ismayilli**	**4.00**	**59**	⇓P	Pb	20 30 01.7	-1.1
IML	**Ismayilli**	**4.00**	**59**	P	Pb	20 30 01.7	-1.1
LKRN	**Lenkeran, Azer**	**4.00**	**90**	⇑P	Pb	20 30 01.0	-1.9
LKRN	**Lenkeran, Azer**	**4.00**	**90**	P	Pb	20 30 01.0	-1.9
ASTR	**Astara**	**4.03**	**92**	⇓P	Pb	20 30 03.5	+0.2
ASTR				⇑S	Sb	20 30 51.6	-0.3
ASTR	**Astara**	**4.03**	**92**	P	Pb	20 30 03.5	+0.2
ASTR				S	Sb	20 30 51.6	-0.3
XNQ	**Khinaliq**	**4.16**	**54**	⇑P	Pb	20 30 03.9	-1.8
	SNR=8.4						
XNQ	**Khinaliq**	**4.16**	**54**	P	Pb	20 30 03.9	-1.8
	SNR=8.4						
PQL	**Pirkuli**	**4.27**	**61**	⇑P	Pb	20 30 05.8	-1.8
PQL	**Pirkuli**	**4.27**	**61**	P	Pb	20 30 05.8	-1.8
GBS	**Qobustan**	**4.42**	**66**	⇑P	Pb	20 30 08.4	-1.6
GBS	**Qobustan**	**4.42**	**66**	P	Pb	20 30 08.4	-1.6
QSAR	**Qusar**	**4.43**	**51**	⇓P	Pb	20 30 08.6	-1.6
QSAR	**Qusar**	**4.43**	**51**	P	Pb	20 30 08.6	-1.6
QUBA	**Quba, Azerbaij**	**4.48**	**54**	⇓P	Pb	20 30 09.7	-1.4
QUBA	**Quba, Azerbaij**	**4.48**	**54**	P	Pb	20 30 09.7	-1.4
ATGJ	**Altiaghaj**	**4.54**	**62**	⇓P	Pb	20 30 10.3	-1.8
ATGJ	**Altiaghaj**	**4.54**	**62**	P	Pb	20 30 10.3	-1.8

*DDA **23** 20:32:54.9,38°.70N×43°.59E,h7km,Ml3.7*
*ISK **23** 20:32:54.6,38°.71N×43°.54E,h2km,ML3.3*
*CSEM **23** 20:32:57.1±0.2,38°.69N×43°.35E,h2km,ML3.7,Error ellipse: s-maj=5.8km s-min=4.1km az=154.0*
*AZER **23** 20:32:57.6±2.5,38°.59N×43°.41E,h3km,Error ellipse: s-maj=26.3km s-min=16.1km az=50.0*

ISC 23 20:32:54.9±0.8,38°.69N±0°.02×43°.58E±0°.02,h7km±9km,
n77,σ1§70/93,10C-13D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.56**	**228**	*i* P	Pg	20 33 05.3	-0.4
GEVA				*i* S	Sb	20 33 15.4	0.0
GEVA	**Gevas**	**0.56**	**228**	P	Pg	20 33 05.3	-0.4
DYDN	**Diyadin**	**0.86**	**5**	*i* P	Pb	20 33 12.1	-0.1
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*PG	Pg	20 33 14.0	-0.1
AGRB				*e*SG	Sb	20 33 28.3	+0.3
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*Pg	Pg	20 33 14.0	-0.1
AGRB				*e*Sg	Sb	20 33 28.3	+0.3
HAKT	**HAKKARI**	**1.14**	**175**	*i* P	Pg	20 33 15.7	-1.0
EKAR	**Karacoban**	**1.31**	**296**	*i* P	Pg	20 33 20.2	+0.1
EKAR	**Karacoban**	**1.31**	**296**	P	Pg	20 33 20.2	+0.1
CUKT	**Cukurca**	**1.44**	**179**	*e*PN	Pg	20 33 22.9	+0.4
CUKT				*e*SN	Sg	20 33 43.6	+2.4
CUKT	**Cukurca**	**1.44**	**179**	*i* P	Pg	20 33 23.3	+0.7
CUKT	**Cukurca**	**1.44**	**179**	*e*Pn	Pg	20 33 22.9	+0.4
CUKT	**Cukurca**	**1.44**	**179**	P	Pg	20 33 23.3	+0.7
CUKT				*e*Sn	Sg	20 33 43.6	+2.4
EATA	**Eleskirt**	**1.45**	**324**	*i* P	Pn	20 33 21.6	-0.2
EATA	**Eleskirt**	**1.45**	**324**	P	Pn	20 33 21.6	-0.2
SIRN	**S¨–rnak**	**1.51**	**218**	*i* P	Pg	20 33 24.1	+0.3
SIRN	**S¨–rnak**	**1.51**	**218**	P	Pg	20 33 24.1	+0.3
NAX	**Nakhchivan**	**1.57**	**71**	⇑P	Pg	20 33 26.8	+1.8
	SNR=14						
NAX				⇓S	Sg	20 33 50.9	+5.6
NAX	**Nakhchivan**	**1.57**	**71**	P	Pg	20 33 26.8	+1.8
	SNR=14						
NAX				S	Sg	20 33 50.9	+5.6
VRTB	**Varto-Mus**	**1.73**	**286**	*e*PN	Pn	20 33 26.2	+0.7
VRTB				*e*SN	Sb	20 33 48.9	-0.1
VRTB	**Varto-Mus**	**1.73**	**286**	*i* P	Pb	20 33 27.2	+0.2
VRTB	**Varto-Mus**	**1.73**	**286**	*e*Pn	Pn	20 33 26.2	+0.7
VRTB	**Varto-Mus**	**1.73**	**286**	P	Pb	20 33 27.2	+0.2
VRTB				*e*Sn	Sb	20 33 48.9	-0.1
DIGO	**Kars**	**1.73**	**355**	*i* P	Pb	20 33 27.3	+0.2
DIGO	**Kars**	**1.73**	**355**	P	Pb	20 33 27.3	+0.2
HOMI	**Horasan**	**1.88**	**317**	*i* P	Pb	20 33 29.6	-0.1
BNGL	**BINGOL**	**1.92**	**279**	*i* P	Pn	20 33 29.3	+1.1
SVAN	**Silvan-Diyarba**	**1.95**	**255**	*e*PN	Pn	20 33 29.5	+1.0
SVAN	**Silvan-Diyarba**	**1.95**	**255**	*i* P	Pb	20 33 30.0	-0.8
SVAN	**Silvan-Diyarba**	**1.95**	**255**	*e*Pn	Pn	20 33 29.5	+1.0
SVAN	**Silvan-Diyarba**	**1.95**	**255**	P	Pb	20 33 30.0	-0.8
SENK	**Senkaya-Erzuru**	**2.10**	**333**	*e*PN	Pn	20 33 31.6	+1.0
SENK	**Senkaya-Erzuru**	**2.10**	**333**	*e*Pn	Pn	20 33 31.6	+1.0
BNGB	**Bing¶ll**	**2.29**	**278**	*e*PN	Pn	20 33 34.1	+1.0
BINT	**Bingol**	**2.42**	**275**	*e*Pn	Pn	20 33 34.1	-1.0
YEDI	**Yedisu-Bingol**	**2.48**	**288**	*e*PN	Pn	20 33 36.9	+1.0
YEDI	**Yedisu-Bingol**	**2.48**	**288**	*e*Pn	Pn	20 33 36.9	+1.0
GDB	**GEDABAY**	**2.63**	**39**	⇑P	Pb	20 33 41.7	-0.8
	SNR=3.5						
GDB				⇑S	Sg	20 34 19.8	+0.4
GDB	**GEDABAY**	**2.63**	**39**	P	Pb	20 33 41.7	-0.8
	SNR=3.5						
GDB				S	Sg	20 34 19.8	+0.4
AKH	**Akhalkalaki**	**2.72**	**359**	*e*PN	Pn	20 33 39.9	+0.8
AKH	**Akhalkalaki**	**2.72**	**359**	*e*Pn	Pn	20 33 39.9	+0.8
QZX	**Qazax, Azerbai**	**2.74**	**30**	⇓P	Pb	20 33 42.5	-1.7
	SNR=3.7						
QZX				⇓S	Sg	20 34 22.3	-0.5
QZX	**Qazax, Azerbai**	**2.74**	**30**	P	Pb	20 33 42.5	-1.7
	SNR=3.7						
QZX				S	Sg	20 34 22.3	-0.5
MAZI	**Mazidag**	**2.76**	**245**	*e*PN	Pn	20 33 39.4	-0.3
MAZI	**Mazidag**	**2.76**	**245**	*e*Pn	Pn	20 33 39.4	-0.3
DIYA	**Diyarbakir**	**2.83**	**255**	*i* P	Pn	20 33 41.2	+0.6
DIYA	**Diyarbakir**	**2.83**	**255**	P	Pn	20 33 41.2	+0.6
GANJ	**Ganja**	**2.88**	**46**	⇓P	Pb	20 33 46.1	-0.5
	SNR=8.4						
GANJ				⇓S	Sg	20 34 26.4	-0.9
GANJ	**Ganja**	**2.88**	**46**	P	Pb	20 33 46.1	-0.5
	SNR=8.4						
GANJ				S	Sg	20 34 26.4	-0.9
ERZN	**Erzincan**	**3.13**	**288**	*e*PN	Pn	20 33 45.7	+0.9
TBLG	**Delisi**	**3.16**	**16**	*e*PN	Pn	20 33 46.7	+1.6
TBLG	**Delisi**	**3.16**	**16**	*e*Pn	Pn	20 33 46.7	+1.6
BRDA	**Brd**	**3.19**	**59**	⇑P	Pb	20 33 51.7	-0.3
	SNR=3.9						
BRDA				⇓S	Sb	20 34 32.6	+1.5
BRDA	**Brd**	**3.19**	**59**	P	Pb	20 33 51.7	-0.3
	SNR=3.9						
BRDA				S	Sb	20 34 32.6	+1.5
PTK	**Pertek**	**3.28**	**275**	*e*PN	Pn	20 33 48.0	+1.1
PTK	**Pertek**	**3.28**	**275**	*e*Pn	Pn	20 33 48.0	+1.1
SVRC	**Sivrice-ELAZID**	**3.37**	**266**	*e*PN	Pn	20 33 49.1	+1.0
SVRC	**Sivrice-ELAZID**	**3.37**	**266**	*e*Pn	Pn	20 33 49.1	+1.0
MNGR	**Mingechevir, A**	**3.41**	**51**	⇓P	Pb	20 33 55.0	-0.6
	SNR=3.9						
MNGR				⇑S	Sb	20 34 38.1	+0.9
MNGR	**Mingechevir, A**	**3.41**	**51**	P	Pb	20 33 55.0	-0.6
	SNR=3.9						
MNGR				S	Sb	20 34 38.1	+0.9
EZC	**Erzincan**	**3.45**	**289**	*e*Pn	Pn	20 33 45.7	-3.5
LRK	**Lerik**	**3.72**	**89**	⇑P	Pb	20 33 57.9	-3.2
	SNR=7.2						
LRK				⇓S	Sb	20 34 44.2	-2.3
LRK	**Lerik**	**3.72**	**89**	P	Pb	20 33 57.9	-3.2
	SNR=7.2						
LRK				S	Sb	20 34 44.2	-2.3
SEKA	**Sheki**	**3.75**	**47**	⇓P	Pb	20 33 59.2	-2.2
	SNR=3.3						
SEKA	**Sheki**	**3.75**	**47**	P	Pb	20 33 59.2	-2.2
	SNR=3.3						
ZKTA	**Zakatala**	**3.75**	**37**	⇑P	Pb	20 33 59.5	-2.0
	SNR=13						
ZKTA				⇓S	Sb	20 34 45.9	-1.3
GLBA	**Clilabad**	**3.79**	**80**	⇓P	Pb	20 34 00.0	-2.1
	SNR=5.7						
GLBA	**Clilabad**	**3.79**	**80**	P	Pb	20 34 00.0	-2.1
	SNR=5.7						
QBL	**Gabala**	**3.98**	**54**	⇑P	Pb	20 34 01.5	-3.8
	SNR=4.9						
QBL	**Gabala**	**3.98**	**54**	P	Pb	20 34 01.5	-3.8
	SNR=4.9						
IML	**Ismayilli**	**4.12**	**58**	⇓P	Pb	20 34 03.5	-4.3
	SNR=3.4						
IML	**Ismayilli**	**4.12**	**58**	P	Pb	20 34 03.5	-4.3
	SNR=3.4						
XNQ	**Khinaliq**	**4.29**	**53**	⇑P	Pb	20 34 06.1	-4.7
	SNR=7.2						
XNQ	**Khinaliq**	**4.29**	**53**	P	Pb	20 34 06.1	-4.7
	SNR=7.2						
PQL	**Pirkuli**	**4.39**	**60**	⇑P	Pb	20 34 07.6	-4.9
	SNR=3.9						
PQL	**Pirkuli**	**4.39**	**60**	P	Pb	20 34 07.6	-4.9
	SNR=3.9						
ATGJ	**Altiaghaj**	**4.66**	**61**	⇓P	Pb	20 34 11.6	-5.4
	SNR=3.9						
ATGJ	**Altiaghaj**	**4.66**	**61**	P	Pb	20 34 11.6	-5.4
	SNR=3.9						

AZER 23 20:35:55.4±2.6,38°.54N×43°.74E,h7km,5C-6D,Error ellipse: s-maj=20.6km s-min=17.2km az=16.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAX	**Nakhchivan**	**1.51**	**65**	⇑P	Pb	20 36 23.7	-0.1
NAX				⇓S	Sg	20 36 45.7	+1.8
GDB	**GEDABAY**	**2.68**	**35**	⇓P	Pn	20 36 39.7	+0.6
QZX	**Qazax, Azerbai**	**2.81**	**26**	⇑P	Pn	20 36 40.5	-0.3
QZX				⇑S	Sn	20 37 15.6	+0.7
GANJ	**Ganja**	**2.90**	**43**	⇓P	Pn	20 36 41.4	-0.6
GANJ				⇓S	Sn	20 37 19.7	+2.6
BRDA	**Brd**	**3.17**	**56**	⇓P	Pn	20 36 46.3	+0.6
BRDA				⇑S	Sn	20 37 24.2	+0.5
LRK	**Lerik**	**3.60**	**87**	⇓P	Pn	20 36 52.2	+0.4
LRK				⇑S	Sn	20 37 34.4	-0.3

*AZER **23** 20:36:21.4±1.4,38°.09N×43°.24E,h7km,Error ellipse: s-maj=12.1km s-min=9.4km az=129.0*
*IDC **23** 20:36:24.4±1.1,38°.52N×43°.71E,h0km,mb3.6/6, mb1 3.8/11,mb1mx3.5/75,mbtmp3.7/11,ML3.8/5,Error ellipse: s-maj=20.5km s-min=13.4km az=140.0*
*CSEM **23** 20:36:25.6±0.3,38°.21N×43°.67E,h2km,ML3.9,Error ellipse: s-maj=10.0km s-min=4.6km az=166.0*
*DDA **23** 20:36:25.1,38°.72N×43°.42E,h7km,Ml3.9*
*ISCJB **23** 20:36:26.6±0.4,38°.57N±0°.05×43°.49E±0°.04,h13km, mb3.4/5,Error ellipse: s-maj=7.0km s-min=3.7km az=163.6*

ISC 23 20:36:26.9±0.6,38°.64N±0°.03×43°.54E±0°.03,h13km,n82,
σ1§91/98,mb3.4/5,16C-20D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.50**	**229**	*i* P	Pg	20 36 34.7	-2.1
GEVA	**Gevas**	**0.50**	**229**	P	Pg	20 36 34.7	-2.1
DYDN	**Diyadin**	**0.91**	**7**	*i* P	Pg	20 36 41.3	-3.2
CUKT	**Cukurca**	**1.40**	**178**	*i* P	Pg	20 36 52.9	-0.8
SIRN	**S¨–rnak**	**1.45**	**218**	*i* P	Pg	20 36 53.6	-1.1
EATA	**Eleskirt**	**1.46**	**327**	*i* P	Pn	20 36 51.1	-2.2
NAX	**Nakhchivan**	**1.62**	**70**	⇓P	Pb	20 36 57.1	+0.4
NAX				⇑S	Sg	20 37 22.4	+3.4
NAX	**Nakhchivan**	**1.62**	**70**	P	Pb	20 36 57.1	+0.4
NAX				S	Sg	20 37 22.4	+3.4
GNI	**Garni**	**1.77**	**31**	Pn	Pn	20 36 57.4	0.0
	55nm,0.3s,baz=323,slow=5.0,SNR=12						
GNI				Lg	Lg	20 37 23.3	
	45nm,0.3s,baz=270,slow=22,SNR=13						
HOMI	**Horasan**	**1.89**	**318**	*i* P	Pn	20 36 57.9	-1.1
BNGL	**BINGOL**	**1.89**	**280**	*i* P	Pn	20 36 58.1	-0.9
SVAN	**Silvan-Diyarba**	**1.90**	**256**	*i* P	Pn	20 37 00.0	+0.9
SVAN	**Silvan-Diyarba**	**1.90**	**256**	P	Pn	20 37 00.0	+0.9
BTMN	**Batman**	**1.94**	**248**	*i* P	Pn	20 36 59.7	+0.1
BTMN	**Batman**	**1.94**	**248**	P	Pn	20 36 59.7	+0.1
ERZM	**Erzurum**	**2.10**	**307**	*i* P	Pn	20 37 00.8	-1.3
ECAT	**Cat-ERZURUM**	**2.21**	**297**	*i* P	Pn	20 37 03.8	+0.3
BGD	**Bogdanovka**	**2.62**	**1**	P	Pb	20 37 13.2	-0.6
GDB	**GEDABAY**	**2.69**	**39**	⇓P	Pb	20 37 14.6	-0.4
GDB				⇑S	Sg	20 37 52.0	-1.3
GDB	**GEDABAY**	**2.69**	**39**	P	Pb	20 37 14.6	-0.4
GDB				S	Sg	20 37 52.0	-1.3
GDB	**GEDABAY**	**2.69**	**39**	⇑S	Pb	20 37 14.7	-0.4
AKH	**Akhalkalaki**	**2.76**	**359**	P	Pb	20 37 16.8	+0.5
QZX	**Qazax, Azerbai**	**2.79**	**30**	⇓P	Pb	20 37 14.7	-2.0
QZX			

AGRB	Hanur-Agry	0.94 352	*e*Pg	Pb	20 39 50.7	-1.6
AGRB			*e*Sg	Sb	20 40 03.8	-0.9
DYDN	Diyadin	0.99 25	*i* P	Pb	20 39 53.5	+0.3
DYDN	Diyadin	0.99 25	P	Pb	20 39 53.5	+0.3
EKAR	Karacoban	1.05 306	*i* P	Pb	20 39 53.3	-0.9
EKAR	Karacoban	1.05 306	P	Pb	20 39 53.3	-0.9
VRTB	Varto-Mus	1.42 292	*e*PN	Pn	20 40 00.5	+0.8
VRTB	Varto-Mus	1.42 292	*i* P	Pn	20 40 00.4	+0.8
VRTB	Varto-Mus	1.42 292	P	Pn	20 40 00.4	+0.8
CUKT	Cukurca	1.44 165	*e*PN	Pn	20 40 00.8	+0.9
CUKT	Cukurca	1.44 165	*e*Pn	Pn	20 40 00.8	+0.9
BNGL	BINGOL	1.60 282	*i* P	Pn	20 40 03.1	+1.0
SVAN	Silvan-Diyarba	1.61 253	*e*PN	Pn	20 40 03.3	+1.0
SVAN	Silvan-Diyarba	1.61 253	*i* P	Pn	20 40 03.2	+1.0
SVAN	Silvan-Diyarba	1.61 253	P	Pn	20 40 03.2	+1.0
BTMN	Batman	1.66 244	*i* P	Pn	20 40 03.0	+0.1
BTMN	Batman	1.66 244	P	Pn	20 40 03.0	+0.1
HOMI	Horasan	1.70 326	*i* P	Pb	20 40 06.3	+0.9
DIGO	Kars	1.78 5	*i* P	Pn	20 40 06.0	+1.4
DIGO	Kars	1.78 5	P	Pn	20 40 06.0	+1.4
BNGB	Bing˜¶‖	1.96 281	*e*PN	Pb	20 40 09.1	-0.7
SENK	Senkaya-Erzuru	2.01 342	*e*PN	Pn	20 40 09.3	+1.4
SENK	Senkaya-Erzuru	2.01 342	*e*Pn	Pn	20 40 09.3	+1.4
EAK	Akyaka	2.07 10	*i* P	Pg	20 40 13.5	-0.5
BINT	Bingol	2.10 277	*e*Pn	Pn	20 40 09.1	+0.2
YEDI	Yedisu-Bingol	2.18 292	*e*PN	Pn	20 40 12.0	+1.9
YEDI	Yedisu-Bingol	2.18 292	*e*Pn	Pn	20 40 12.0	+1.9
MARD	Mardin	2.30 235	*i* P	Pb	20 40 15.9	+0.4
MAZI	Mazidag	2.44 242	*e*PN	Pn	20 40 16.2	+2.5
MAZI	Mazidag	2.44 242	*e*Pn	Pn	20 40 16.2	+2.5
DIYA	Diyarbakir	2.49 254	*i* P	Pn	20 40 16.0	+1.7
DIYA	Diyarbakir	2.49 254	P	Pn	20 40 16.0	+1.7
PTK	Pertek	2.95 276	*e*PN	Pn	20 40 23.2	+2.5
PTK	Pertek	2.95 276	*e*Pn	Pn	20 40 23.2	+2.5
SVRC	Sivrice-ELAZID	3.03 266	*e*PN	Pn	20 40 23.1	+1.3
SVRC	Sivrice-ELAZID	3.03 266	*e*Pn	Pn	20 40 23.1	+1.3

IDC ***23*** *20:43:17.5±1.2,29°.55S×175°.93W,h0km,mb4.0/6, mb1 4.2/8,mb1mx3.9/54,mbtmp4.0/8,ML4.0/2,Error ellipse: s-maj=34.0km s-min=20.8km az=154.0*
ISCJB ***23*** *20:43:19.2±1.1,29°.63S±0°.08×175°.8W±0°.1,h28km, mb4.0/6,Error ellipse: s-maj=14.2km s-min=11.2km az=173.2*
ISC 23 20:43:21.6±1.1,29°.5S±0°.1×175°.9W±0°.1,h28km,n14, σ0°90/16,mb4.0/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.78 278		Pn	Pn	20 43 50.2	-0.3
	590nm,0.3s,baz=90,slow=8.7,SNR=69						
RAO				Sn	Sn	20 44 12.6	+0.4
	383nm,0.3s,baz=87,slow=22,SNR=9.0						
URZ	Urewera	10.47 212		Pn	Pn	20 45 49.9	+0.1
	1.1nm,0.3s,baz=285,slow=2.7,SNR=6.1						
URZ				Sn	Sn	20 47 46.8	+0.6
	2.6nm,0.3s,baz=73,slow=23,SNR=9.5						
RPZ	Rata Peaks	17.58 213		P	Pn	20 47 22.8	-1.8
	0.7nm,0.3s,baz=172,slow=2.1,SNR=2.7						
CTA	Charters Tower	35.48 277		P	P	20 50 16.4	+0.4
	1.4nm,0.3s,baz=327,slow=16,SNR=2.7						
STKA	Stephens Creek	36.46 255		P	P	20 50 23.9	-0.4
	0.9nm,0.5s,baz=99,slow=13,SNR=4.3						
ASAR	Alice Springs	44.99 265		P	P	20 51 33.8	-1.0
	1.0nm,0.6s,baz=100,slow=6.3,SNR=30						
WRA	Warramunga Arr	45.90 270		P	P	20 51 40.4	-1.6
	1.4nm,0.5s,baz=108,slow=7.9,SNR=14						
FITZ	Fitzroy Crossi	54.19 268		P	P	20 52 46.2	+1.3
	1.7nm,1.1s,baz=90,slow=6.1,SNR=3.5						
ILAR	Eielson Array	96.68 12		P	P	20 56 48.5	0.0
	0.2nm,0.7s,baz=228,slow=4.6,SNR=4.9						
FINES	FINESS Array B	144.91 342		PKP	PKPab	21 02 54.2	-0.4
	3.1nm,0.9s,baz=43,slow=2.9,SNR=3.8						
NB2	NORSAR Subarra	148.12 353		PKP	PKPbc	21 03 04.4	+0.3
	comp=Z,1.3nm,0.5s,baz=22,slow=3.2						
NOA	NORSAR Array B	148.12 353		PKPbc	PKPbc	21 03 04.9	+0.8
	comp=Z,0.4nm,0.4s,baz=13,slow=4.4,SNR=5.9						
HFS	Hagfors	148.71 351		PKPbc	PKPbc	21 03 05.5	-0.1
	comp=Z,3.8nm,0.9s,baz=33,slow=3.4,SNR=4.2						
AKASG	Malin Array Be	151.66 325		PKPbc	PKPbc	21 03 13.5	+0.5
	comp=Z,0.7nm,0.5s,baz=43,slow=2.5,SNR=3.6						

DDA ***23*** *20:43:19.7,38°.67N×43°.31E,h7km,Ml3.7*
ISK ***23*** *20:43:20.9,38°.76N×43°.19E,h5km,ML3.0*
ISCJB ***23*** *20:43:21.5±0.7,38°.73N±0°.04×43°.34E±0°.07,h13km,Error ellipse: s-maj=7.9km s-min=5.1km az=4.5*
CSEM ***23*** *20:43:21.1±0.4,38°.73N×43°.25E,h2km,ML3.7,Error ellipse: s-maj=10.3km s-min=5.7km az=99.0*
ISC 23 20:43:21.0±1.0,38°.72N±0°.03×43°.29E±0°.05,h13km,n37, σ1°10/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.44 205		*i* P	Pg	20 43 27.9	-2.0
GEVA	Gevas	0.44 205		P	Pg	20 43 27.9	-2.0
DYDN	Diyadin	0.88 20		*i* P	Pg	20 43 37.5	-0.7
DYDN	Diyadin	0.88 20		P	Pg	20 43 37.5	-0.7
AGRB	Hanur-Agry	0.89 345		*e*PG	Pg	20 43 37.1	-1.2
AGRB				*e*SG	Sb	20 43 50.3	-0.1
AGRB	Hanur-Agry	0.89 345		*e*Pg	Pg	20 43 37.1	-1.2
AGRB				*e*Sg	Sb	20 43 50.3	-0.1
EKAR	Karacoban	1.10 300		*i* P	Pb	20 43 41.8	-0.3
EKAR	Karacoban	1.10 300		P	Pb	20 43 41.8	-0.3
HAKT	HAKKARI	1.20 164		*i* P	Pn	20 43 41.7	-2.0
EATA	Eleskirt	1.30 332		*i* P	Pn	20 43 44.9	-0.4
EATA	Eleskirt	1.30 332		P	Pn	20 43 44.8	-0.4
SIRN	S¨–rnak	1.40 210		*i* P	Pn	20 43 47.3	+0.9
SIRN	S¨–rnak	1.40 210		P	Pn	20 43 47.3	+0.9
CUKT	Cukurca	1.49 170		*e*PN	Pg	20 43 50.5	+0.9
CUKT	Cukurca	1.49 170		*e*Pn	Pg	20 43 50.5	+0.9
VRTB	Varto-Mus	1.50 288		*e*PN	Pb	20 43 48.5	-0.3
VRTB				*e*SN	Sg	20 44 08.6	-0.8
VRTB	Varto-Mus	1.50 288		*e*Pn	Pb	20 43 48.5	-0.3
VRTB				*e*Sn	Sg	20 44 08.6	-0.8
BNGL	BINGOL	1.69 279		*i* P	Pb	20 43 52.2	+0.1
DIGO	Kars	1.70 2		*i* P	Pb	20 43 52.9	+0.6
DIGO	Kars	1.70 2		P	Pb	20 43 52.9	+0.6
HOMI	Horasan	1.71 321		*i* P	Pb	20 43 52.4	-0.1
SVAN	Silvan-Diyarba	1.74 252		*e*PN	Pb	20 43 52.2	-0.6
SVAN				*e*SN	Sb	20 44 15.4	+0.8
SVAN	Silvan-Diyarba	1.74 252		*e*Pn	Pb	20 43 52.2	-0.6
SVAN				*e*Sn	Sb	20 44 15.4	+0.8
BTMN	Batman	1.79 243		*i* P	Pn	20 43 52.9	+1.2
BTMN	Batman	1.79 243		P	Pn	20 43 52.9	+1.2
ERZM	Erzurum	1.91 309		*i* P	Pb	20 43 56.2	+0.3
ERZM	Erzurum	1.91 309		P	Pb	20 43 56.2	+0.3
SENK	Senkaya-Erzuru	1.98 339		*e*PN	Pn	20 43 55.9	+1.4
SENK	Senkaya-Erzuru	1.98 339		*e*Pn	Pn	20 43 55.9	+1.4
BNGB	Bing˜¶‖	2.06 279		*e*PN	Pn	20 43 56.7	+1.2
BINT	Bingol	2.20 275		*e*Pn	Pn	20 43 56.7	-0.7
YEDI	Yedisu-Bingol	2.26 290		*e*PN	Pn	20 43 59.3	+1.1
YEDI	Yedisu-Bingol	2.26 290		*e*Pn	Pn	20 43 59.3	+1.1
MAZI	Mazidag	2.57 242		*e*PN	Pn	20 44 04.4	+1.9
MAZI	Mazidag	2.57 242		*e*Pn	Pn	20 44 04.4	+1.9
PTK	Pertek	3.05 275		*e*PN	Pn	20 44 11.0	+1.8
PTK	Pertek	3.05 275		*e*Pn	Pn	20 44 11.0	+1.8

ISN ***23*** *20:45:28.3±1.1,39°.07N×43°.22E,h1km±.52km,ML6.0*
AZER ***23*** *20:45:33.8±0.3,38°.56N×43°.14E,h12km±.6km,Error ellipse: s-maj=10.1km s-min=1.6km az=243.0*
DDA ***23*** *20:45:34.4,38°.65N×43°.13E,h7km,Ml5.8*
NEIC ***23*** *20:45:34.9±0.0,38°.63N×43°.08E,h5km,mb6.0/146,ME5.9, MS5.6/143,MW5.9,MW5.9,ML5.7(ISK),ML5.8(DDA), Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}=6.06; $M_{\theta\theta}$-7.07; $M_{\phi\phi}$1.00; $M_{r\theta}$1.51; $M_{\theta\phi}$2.75; $M_{r\phi}$-4.10; Best double couple: $M_0$8.40000×10^{17} NP1: ϕ_s133.00000°,δ61.00000°,λ121.00000°. NP2: ϕ_s262.00000°,δ41.00000°,λ47.00000°. Principal axes: T 8.3500, Plg61.0000°, Azm90.0000°; N 0.1000, Plg27.0000°, Azm297.0000°; P -8.4400, Plg11.0000°, Azm201.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s160.00000°,δ55.00000°,λ135.00000°. NP2: ϕ_s280.00000°,δ55.00000°,λ45.00000°. Principal axes: T Plg55.0000°, Azm130.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm40.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed*

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from BB mechanism. After ISK.
NEIC Felt at Antioch and Erzurum. Also felt at Yerevan, Armenia; Naxcivan, Azerbaijan; Mosul, Iraq.
GCMT ***23*** *20:45:34.9±0.1,38°.51N×43°.07E,h12km,MW6.0/143, Moment Tensor Solution. s136,c280; s143,c431; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.99±.01; $M_{\theta\theta}$-1.03±.01; $M_{\phi\phi}$0.04±.01; $M_{r\theta}$0.16±.02; $M_{\theta\phi}$0.35±.01; $M_{r\phi}$-0.12±.02; Best double couple: $M_0$1.07900×10^{18} NP1:ϕ_s111.00000°,δ50.00000°, λ96.00000°. NP2:ϕ_s281.00000°,δ40.00000°,λ82.00000°. Principal axes: T 1.0090, Plg83.0000°, Azm61.0000°; N 0.1380, Plg5.0000°, Azm287.0000°; P -1.1490, Plg5.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***23*** *20:45:34.9±0.3,38°.56N±0°.01×43°.216E±0°.009,h7km±.1km, mb5.8/336,MS5.6/232 Error ellipse: s-maj=1.8km s-min=1.1km az=1.0*
IDC ***23*** *20:45:35.6±0.3,38°.60N×43°.17E,h0km,mb5.4/59, mb1 5.4/68,mb1mx5.4/84,mbtmp5.4/68,ML4.2/10, MS5.7/45,Ms1 5.7/45,ms1mx5.6/50,Error ellipse: s-maj=5.9km s-min=5.5km az=10.0*
MOS ***23*** *20:45:35.7±1.1,38°.60N×43°.20E,h13km,mb5.9/109, MS5.7/88,Error ellipse: s-maj=4.0km s-min=2.5km az=127.7*
BJI ***23*** *20:45:35.3,38°.65N×43°.15E,h10km,mb5.7/68,mB6.1/79, Ms6.1/96,Ms7 5.8/90*
CSEM ***23*** *20:45:36.9±0.1,38°.57N×43°.16E,h10km,mb5.9/99,Ms5.7, Mw5.9,Error ellipse: s-maj=2.5km s-min=1.6km az=175.0*
DSN ***23*** *20:45:36.9±0.4,38°.54N×43°.22E,h10km,mb5.9/5,Error ellipse: s-maj=10.4km s-min=4.2km az=62.0*
ISK ***23*** *20:45:36.0,38°.63N×43°.10E,h8km,ML5.7*
SFS ***23*** *20:45:37.0,38°.64N×43°.22E,h10km,ML6.0*
NEIC ***23*** *20:45:37.0±0.0,38°.76N×43°.29E,h15km,Moment Tensor Solution. s43 Moment tensor: Scale 10^{17}Nm; M_{rr}8.02; $M_{\theta\theta}$-7.04; $M_{\phi\phi}$-0.99; $M_{r\theta}$3.85; $M_{\theta\phi}$1.50; $M_{r\phi}$-4.53; Best double couple: $M_0$9.80000×10^{17} NP1:ϕ_s123.00000°, δ64.00000°,λ106.00000°. NP2:ϕ_s270.00000°,δ31.00000°, λ61.00000°. Principal axes: T 10.4000, Plg67.0000°, Azm63.0000°; N -1.6000, Plg14.0000°, Azm295.0000°; P -8.9000, Plg17.0000°, Azm200.0000°;*
TEH ***23*** *20:45:40.3,38°.70N×43°.27E,h22km,ML5.7*
ISC 23 20:45:37.0±0.4,38°.59N±0°.01×43°.12E±0°.01,h10km±2km, h11km:pP-P,n2651,σ1°62/2901,mb5.9/359,MS5.7/245, 203C-116D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.28 189		⇓*i*P	Pg	20 45 41.5	-1.3
GEVA	Gevas	0.28 189		P	Pg	20 45 41.5	-1.3
GEVA	Gevas	0.28 189		*i* P	Pg	20 45 42.1	-0.7
BASK	Baskale_VAN	0.88 127		⇑*i*P	Pg	20 45 51.8	-2.2
BASK	Baskale_VAN	0.88 127		P	Pg	20 45 51.8	-2.2
AGRB	Hanur-Agry	0.99 354		*e*PG	Pg	20 45 54.7	-1.4
AGRB				*e*SG	Sg	20 46 08.2	-0.7
AGRB	Hanur-Agry	0.99 354		*e*Pg	Pg	20 45 54.7	-1.4
AGRB				*e*Sg	Sg	20 46 08.3	-0.7
AGRB	Hanur-Agry	0.99 354		Pg	Pg	20 45 52.6	-3.5
DYDN	Diyadin	1.05 25		⇓*i*P	Pg	20 45 53.6	-3.7
DYDN	Diyadin	1.05 25		P	Pg	20 45 53.6	-3.7
DYDN	Diyadin	1.05 25		*i* P	Pg	20 45 55.5	-1.8
EKAR	Karacoban	1.06 309		⇓*i*P	Pg	20 45 54.7	-2.7
EKAR	Karacoban	1.06 309		P	Pg	20 45 54.7	-2.7
EKAR	Karacoban	1.06 309		*i* P	Pb	20 45 57.4	-0.1
HAKT	HAKKARI	1.13 155		⇑*i*P	Pg	20 45 56.4	-2.4
HAKT	HAKKARI	1.13 155		P	Pg	20 45 56.4	-2.4
SIRN	S¨–rnak	1.23 207		⇓*i*P	Pn	20 45 58.3	-2.0
SIRN				*i* S	Sn	20 46 16.9	0.0
SIRN	S¨–rnak	1.23 207		P	Pn	20 45 58.3	-2.0
SIRN				S	Sn	20 46 17.0	0.0
EATA	Eleskirt	1.36 339		⇓*i*P	Pn	20 45 59.4	-3.0
EATA				*i* S	Sb	20 46 19.7	-0.7
EATA	Eleskirt	1.36 339		P	Pn	20 45 59.4	-3.0
EATA				S	Sb	20 46 19.7	-0.7
EATA	Eleskirt	1.36 339		*i* P	Pn	20 45 59.8	-2.6
CUKT	Cukurca	1.40 164		*e*PN	Pb	20 46 03.2	-0.1
CUKT	Cukurca	1.40 164		⇑*i*P	Pb	20 46 03.2	-0.1
CUKT	Cukurca	1.40 164		P	Pb	20 46 03.2	-0.1
CUKT	Cukurca	1.40 164		*i* P	Pg	20 46 06.3	+2.5
VRTB	Varto-Mus	1.42 294		*e*PN	Pn	20 46 02.3	-0.7
VRTB				*e*SN	Sn	20 46 21.8	0.0
VRTB	Varto-Mus	1.42 294		⇓*i*P	Pn	20 46 01.0	-2.0
VRTB	Varto-Mus	1.42 294		P	Pn	20 46 01.0	-2.0
VRTB	Varto-Mus	1.42 294		*e*Pn	Pn	20 46 02.3	-0.7
VRTB				*e*Sn	Sn	20 46 21.8	0.0
VRTB	Varto-Mus	1.42 294		*i* P	Pn	20 46 01.4	-1.6
SVAN	Silvan-Diyarba	1.57 254		*e*PN	Pn	20 46 04.8	-0.2
SVAN	Silvan-Diyarba	1.57 254		⇑*i*P	Pn	20 46 04.8	-0.2
SVAN				*i* S	Sg	20 46 27.6	+0.1
SVAN	Silvan-Diyarba	1.57 254		P	Pn	20 46 04.8	-0.2
SVAN				S	Sg	20 46 27.6	+0.1
BNGL	BINGOL	1.58 284		⇓*i*P	Pn	20 46 03.9	-1.4
BNGL				*i* S	Sn	20 46 25.0	-0.9
BTMN	Batman	1.61 245		⇑*i*P	Pn	20 46 05.5	-0.1
BTMN				*i* S	Sb	20 46 28.2	+0.8
BTMN	Batman	1.61 245		P	Pn	20 46 05.5	-0.1
BTMN				S	Sb	20 46 28.2	+0.8
HOMI	Horasan	1.73 328		⇓*i*P	Pn	20 46 06.4	-1.0
DIGO	Kars	1.83 6		⇓*i*P	Pn	20 46 07.6	-1.2
DIGO				*i* S	Sg	20 46 36.7	+0.7
DIGO	Kars	1.83 6		P	Pn	20 46 07.6	-1.2
DIGO				S	Sg	20 46 36.7	+0.7
ERZM	Erzurum	1.89 315		⇓*i*P	Pn	20 46 09.2	-0.5
ERZM	Erzurum	1.89 315		P	Pn	20 46 09.1	-0.5
NAX	Nakhchivan	1.95 72		⇓P	Pn	20 46 09.7	-0.5
NAX				⇓S	Sn	20 46 34.8	+0.1
NAX	Nakhchivan	1.95 72		P	Pn	20 46 09.7	-0.5
NAX				S	Sn	20 46 34.8	+0.1
BNGB	Bing˜¶‖	1.95 283		*e*PN	Pn	20 46 09.9	-0.4
ECAT	Cat-ERZURUM	1.95 302		⇓*i*P	Pn	20 46 09.7	-0.7
ECAT				*i* S	Sb	20 46 36.6	-0.7
ECAT	Cat-ERZURUM	1.95 302		P	Pn	20 46 09.7	-0.7
ECAT				S	Sb	20 46 36.6	-0.7
ISHB	Shabestar	1.99 98		*e*Pn	Pn	20 46 10.9	0.0
ISHB				*e*AMB	AMB	20 46 28.1	
	comp=Z,36μm,0.2s						
ISHB				*e*Sg	Sb	20 46 38.3	0.0
GNI	Garni	2.00 38		Pn	Pn	20 46 10.3	-0.7
	comp=Z,206nm,0.3s,baz=247,slow=2.5,SNR=108						
GNI				Lg	Lg	20 46 41.9	
	comp=Z,828nm,0.3s,baz=30,slow=20,SNR=7.9						
GNI	Garni	2.00 38		*e*P	Pn	20 46 10.8	-0.3
GNI	Garni	2.00 38		Pn	Pn	20 46 10.3	-0.7
GNI				*e*P	Pn	20 46 10.8	-0.3
GNI				Lg	Lg	20 46 41.9	
IMRD	Marand	2.03 86		*e*Pn	Pn	20 46 11.6	+0.2
IMRD				*e*Sg	Sg	20 46 41.5	-0.8
IMRD				*e*AMB	AMB	20 46 47.2	
	comp=Z,72μm,0.5s						
IMRD	Marand	2.03 86		*e*Pn	Pn	20 46 11.6	+0.2
IMRD				*e*Sg	Sg	20 46 41.5	-0.8
SENK	Senkaya-Erzuru	2.06 344		*e*PN	Pn	20 46 10.9	-0.9
SENK	Senkaya-Erzuru	2.06 344		*e*Pn	Pn	20 46 10.9	-0.9
BINT	Bingol	2.08 279		*e*Pn	Pn	20 46 09.9	-2.1
EAK	Akyaka	2.13 10		⇓*i*P	Pn	20 46 12.2	-0.7
EAK				*i* S	Sg	20 46 50.0	+4.6
EAK	Akyaka	2.13 10		P	Pn	20 46 12.1	-0.7
EAK				S	Sg	20 46 50.0	+4.6
YEDI	Yedisu-Bingol	2.18 294		*e*PN	Pn	20 46 12.6	-0.8
YEDI	Yedisu-Bingol	2.18 294		*e*Pn	Pn	20 46 12.6	-0.8
MARD	Mardin	2.24 236		*i* P	Pn	20 46 14.2	-0.2
MARD				*i* S	Sn	20 46 42.6	+0.4
MARD	Mardin	2.24 236		*e*Pn	Pb	20 46 16.3	-1.4
MAZI	Mazidag	2.39 243		*e*PN	Pn	20 46 16.7	+0.3
MAZI	Mazidag	2.39 243		*e*Pn	Pn	20 46 16.7	+0.3
ITBZ	Tabriz	2.41 98		*e*Pn	Pn	20 46 16.9	+0.3
ITBZ				*e*AMB	AMB	20 47 15.7	
	comp=Z,77μm,0.4s						
ITBZ	Tabriz	2.41 98		*e*Pn	Pn	20 46 16.9	+0.3
DIYA	Diyarbakir	2.45 255		⇑*i*P	Pn	20 46 16.6	-0.5
DIYA				*i* S	Sn	20 46 47.2	0.0
DIYA	Diyarbakir	2.45 255		P	Pn	20 46 16.6	-0.5
DIYA				S	Sn	20 46 47.2	0.0
KOPT	Kop Dagi	2.48 306		⇓*i*P	Pn	20 46 18.0	+0.2
KOPT				*i* S	Sg	20 46 56.7	-0.1
KOPT	Kop Dagi	2.48 306		P	Pn	20 46 18.0	+0.2
KOPT	Kop Dagi	2.48 306		*e*Pn	Pb	20 46 20.1	-1.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT				S	Sg	20 46 56.7	-0.1
KOPT	Kop Dagi	2.48 306		*e*Pn	Pb	20 46 20.1	-1.8
DDEM	Demirkent	2.53 336		⇓*i*P	Pn	20 46 17.5	-0.7
DDEM				*i* S	Sg	20 46 56.8	-1.5
DDEM	Demirkent	2.53 336		P	Pn	20 46 17.5	-0.7
DDEM				S	Sg	20 46 56.8	-1.5
DAGI	Agillar	2.65 340		⇓*i*P	Pn	20 46 19.0	-0.9
DAGI				*i* S	Sg	20 47 04.8	+2.6
BGD	Bogdanovka	2.70 8		P	Pn	20 46 20.6	0.0
ARTV	Artvin	2.75 341		⇓*i*P	Pn	20 46 19.9	-1.5
ARTV				*i* S	Sb	20 47 00.5	+0.2
ARTV	Artvin	2.75 341		P	Pn	20 46 19.9	-1.5
ARTV	Artvin	2.75 341		*e*Pn	Pn	20 46 23.4	+2.0
ARTV				S	Sb	20 47 00.4	+0.2
ARTV	Artvin	2.75 341		*e*Pn	Pn	20 46 23.4	+2.0
ERZN	Erzincan	2.82 292		*e*PN	Pn	20 46 22.2	-0.1
AKH	Akhalkalaki	2.83 6		*e*PN	Pn	20 46 22.7	+0.2
AKH	Akhalkalaki	2.83 6		P	Pn	20 46 21.8	-0.7
AKH				S	Sg	20 47 05.3	-2.8
AKH	Akhalkalaki	2.83 6		⇓*i*P	Pn	20 46 21.5	-1.0
AKH	Akhalkalaki	2.83 6		P	Pn	20 46 21.7	-0.7
AKH				S	Sg	20 47 05.2	-2.8
AKH	Akhalkalaki	2.83 6		⇓*i*P	Pn	20 46 21.5	-1.0
AKH	Akhalkalaki	2.83 6		*e*Pn	Pn	20 46 22.7	+0.2
TNCL	Tunceli-Merkez	2.84 282		⇑*i*P	Pn	20 46 23.2	+0.7
TNCL	Tunceli-Merkez	2.84 282		P	Pn	20 46 23.2	+0.7
EUZM	Uzumlu	2.88 294		⇓*i*P	Pn	20 46 22.6	-0.5
EUZM				*i* S	Sg	20 47 10.6	+0.9
EUZM	Uzumlu	2.88 294		P	Pn	20 46 22.6	-0.5
EUZM				S	Sg	20 47 10.6	+0.9
EPOS	Posof	2.93 354		⇓*i*P	Pn	20 46 22.8	-1.0
EPOS				*i* S	Sg	20 47 09.5	-1.5
EPOS	Posof	2.93 354		P	Pn	20 46 22.8	-1.0
EPOS				S	Sg	20 47 09.5	-1.5
PTK	Pertek	2.93 277		*e*PN	Pn	20 46 23.7	-0.1
PTK	Pertek	2.93 277		*e*Pn	Pn	20 46 23.7	-0.1
GDB	GEDABAY	2.95 43		⇓P	Pn	20 46 24.0	0.0
GDB				⇑S	Sn	20 47 00.5	+1.0
GDB	GEDABAY	2.95 43		P	Pn	20 46 24.0	0.0
GDB				S	Sn	20 47 00.5	+1.0
KZR	Kazreti	2.96 19		P	Pb	20 46 31.4	+1.4
DBOC	Borcka	2.97 338		⇓*i*P	Pn	20 46 22.9	-1.3
DBOC				*i* S	Sb	20 47 08.8	+2.4
DBOC	Borcka	2.97 338		P	Pn	20 46 22.9	-1.3
DBOC				S	Sb	20 47 08.8	+2.4
SVRC	Sivrice-ELAZID	3.00 267		*e*PN	Pn	20 46 25.1	+0.4
SVRC	Sivrice-ELAZID	3.00 267		*e*Pn	Pn	20 46 25.1	+0.4
QZX	Qazax, Azerbai	3.02 34		⇑P	Pn	20 46 24.8	-0.1
QZX				⇑S	Sn	20 47 01.7	+0.6
QZX	Qazax, Azerbai	3.02 34		P	Pn	20 46 24.8	-0.1
QZX				S	Sn	20 47 01.7	+0.6
IHRS	Heris	3.09 94		*e*Pn	Pn	20 46 26.1	0.0
IHRS				*e*AMB	AMB	20 46 46.0	
	comp=Z,97μm,0.6s						
IHRS	Heris	3.09 94		*e*Pn	Pn	20 46 26.1	0.0
IBST	Bostanabad	3.11 105		*e*AMB	AMB	20 47 37.4	
	comp=Z,49μm,0.4s						
EZC	Erzincan	3.15 293		*e*Pn	Pn	20 46 22.3	-4.5
GANJ	Ganja	3.22 49		⇓P	Pn	20 46 27.6	0.0
GANJ				⇑S	Sn	20 47 07.1	+1.1
GANJ	Ganja	3.22 49		P	Pn	20 46 27.6	0.0
GANJ				S	Sn	20 47 07.1	+1.1
ELZG	Elazig	3.24 270		*i* P	Pn	20 46 27.4	-0.7
ELZG	Elazig	3.24 270		P	Pn	20 46 27.4	-0.7
DGRG	David-gareji	3.34 31		P	Pn	20 46 32.4	+3.0
DGRG				S	Sg	20 47 23.8	-0.6
KELT	Kelkit	3.37 299		⇓*i*P	Pn	20 46 29.4	-0.5
KELT				*i* S	Sb	20 47 17.7	-0.5
KELT	Kelkit	3.37 299		P	Pn	20 46 29.

DARE	**Darende-Malaty**	**4.42 272**	*e*PN	**Pn**	**20 46 45.3 +1.2**
DARE	**Darende-Malaty**	**4.42 272**	*e*Pn	**Pn**	**20 46 45.3 +1.2**
LKRN	**Lenkeran, Azer**	**4.43 87**	⇓P	**Pn**	**20 46 43.7 -0.6**
LKRN			⇓S	**Sn**	**20 47 36.0 0.0**
LKRN	**Lenkeran, Azer**	**4.43 87**	P	**Pn**	**20 46 43.7 -0.6**
LKRN			S	**Sn**	**20 47 36.0 0.0**
ASTR	**Astara**	**4.45 89**	⇓P	**Pn**	**20 46 43.9 -0.6**
ASTR			⇓S	**Sn**	**20 47 36.3 0.0**
ASTR	**Astara**	**4.45 89**	P	**Pn**	**20 46 43.9 -0.6**
ASTR			S	**Sn**	**20 47 36.3 0.0**
CUKAN	**kangal_SIVAS**	**4.46 281**	*i* P	**Pn**	**20 46 46.0 +1.1**
CUKAN			*i* S	**Sg**	**20 48 00.8 +0.4**
CUKAN	**kangal_SIVAS**	**4.46 281**	P	**Pn**	**20 46 46.0 +1.1**
CUKAN			S	**Sg**	**20 48 00.8 +0.4**
IML	**Ismayilli**	**4.48 59**	⇑P	**Pn**	**20 46 44.7 -0.4**
IML			⇑S	**Sn**	**20 47 37.7 +0.4**
IML	**Ismayilli**	**4.48 59**	P	**Pn**	**20 46 44.7 -0.4**
IML			S	**Sn**	**20 47 37.7 +0.4**
GZT	**Gaziantep**	**4.56 256**	*i* P	**Pn**	**20 46 46.9 +0.7**
CUGUR	**Gurin_S¨VAS**	**4.58 273**	⇑*i* P	**Pn**	**20 46 47.4 +1.0**
CUGUR			*i* S	**Sg**	**20 48 05.0 +1.0**
CUGUR	**Gurin_S¨VAS**	**4.58 273**	P	**Pn**	**20 46 47.4 +1.0**
CUGUR			S	**Sg**	**20 48 05.0 +1.0**
XNQ	**Khinaliq**	**4.65 55**	⇑P	**Pn**	**20 46 47.1 -0.4**
XNQ			⇑S	**Sn**	**20 47 42.0 +0.5**
XNQ	**Khinaliq**	**4.65 55**	P	**Pn**	**20 46 47.1 -0.4**
XNQ			S	**Sn**	**20 47 42.0 +0.5**
NEY	**Neytrino**	**4.67 356**	*c i* P	**Pn**	**20 46 50.0 +2.3**
NEY	**Neytrino**	**4.67 356**	*i* P	**Pn**	**20 46 50.0 +2.3**
ORDU	**Ordu-Boztepe**	**4.71 302**	*i* P	**Pn**	**20 46 50.1 +2.0**
ORDU			*i* S	**Sg**	**20 48 04.1 -4.1**
ORDU	**Ordu-Boztepe**	**4.71 302**	P	**Pn**	**20 46 50.1 +2.0**
ORDU			S	**Sg**	**20 48 04.1 -4.1**
PQL	**Pirkuli**	**4.76 61**	⇓P	**Pn**	**20 46 48.5 -0.5**
PQL			⇓S	**Sn**	**20 47 44.6 +0.3**
PQL	**Pirkuli**	**4.76 61**	P	**Pn**	**20 46 48.5 -0.5**
PQL			S	**Sn**	**20 47 44.6 +0.3**
ALIB	**Äli-Bayra**	**4.77 72**	⇑P	**Pn**	**20 46 48.5 -0.4**
ALIB			⇓S	**Sn**	**20 47 44.4 +0.1**
ALIB	**Äli-Bayra**	**4.77 72**	P	**Pn**	**20 46 48.5 -0.4**
ALIB			S	**Sn**	**20 47 44.4 +0.1**
ILIN	**Lien**	**4.79 139**	*e*Pn	**Pn**	**20 46 51.1 +1.6**
ILIN			*e*AMB	AMB	20 48 22.7
	comp=Z,88µm,0.7s				
ILIN	**Lien**	**4.79 139**	*e*Pn	**Pn**	**20 46 51.1 +1.6**
SCER	**sogukcermik**	**4.82 287**	⇓*i* P	**Pn**	**20 46 52.4 +2.6**
SCER	**sogukcermik**	**4.82 287**	P	**Pn**	**20 46 52.4 +2.6**
RSDY	**Resadiye-TOKAT**	**4.83 294**	*e*PN	**Pn**	**20 46 50.9 +1.1**
RSDY	**Resadiye-TOKAT**	**4.83 294**	*e*Pn	**Pn**	**20 46 50.9 +1.1**
GBS	**Qobustan**	**4.90 65**	⇑P	**Pn**	**20 46 50.4 -0.5**
GBS			⇓S	**Sn**	**20 47 47.9 +0.2**
GBS	**Qobustan**	**4.90 65**	P	**Pn**	**20 46 50.4 -0.5**
GBS			S	**Sn**	**20 47 47.9 +0.2**
QSAR	**Qusar**	**4.91 52**	⇓P	**Pn**	**20 46 50.6 -0.3**
QSAR			⇓S	**Sn**	**20 47 48.3 +0.5**
QSAR	**Qusar**	**4.91 52**	P	**Pn**	**20 46 50.6 -0.3**
QSAR			S	**Sn**	**20 47 48.3 +0.5**
NCK	**Nalchik**	**4.92 4**	*de*P	**Pn**	**20 46 54.6 +3.6**
NCK	**Nalchik**	**4.92 4**	*e*P	**Pn**	**20 46 54.6 +3.6**
SVSK	**Karacayir**	**4.93 288**	*e*PN	**Pn**	**20 46 52.4 +1.3**
SVSK	**Karacayir**	**4.93 288**	*e*Pn	**Pn**	**20 46 52.4 +1.3**
QUBA	**Quba, Azerbaij**	**4.97 55**	⇑P	**Pn**	**20 46 51.4 -0.3**
QUBA			⇓S	**Sn**	**20 47 49.6 +0.4**
QUBA	**Quba, Azerbaij**	**4.97 55**	P	**Pn**	**20 46 51.4 -0.3**
QUBA			S	**Sn**	**20 47 49.6 +0.4**
CUALT	**Altinyayla-SIV**	**5.00 280**	⇓*i* P	**Pn**	**20 46 55.0 +2.7**
CUALT			*i* S	**Sg**	**20 48 18.8 +1.1**
CUALT	**Altinyayla-SIV**	**5.00 280**	P	**Pn**	**20 46 55.0 +2.7**
CUALT			S	**Sg**	**20 48 18.8 +1.1**
KMRS	**Kahramanmaras**	**5.03 259**	*e*PN	**Pn**	**20 46 54.0 +1.5**
KMRS	**Kahramanmaras**	**5.03 259**	*e*Pn	**Pn**	**20 46 54.0 +1.5**
ATGJ	**Altiaghaj**	**5.03 61**	⇓P	**Pn**	**20 46 52.1 -0.5**
ATGJ			⇓S	**Sn**	**20 47 51.1 +0.3**
ATGJ	**Altiaghaj**	**5.03 61**	P	**Pn**	**20 46 52.1 -0.5**
ATGJ			S	**Sn**	**20 47 51.1 +0.3**
GROC	**Groznyy**	**5.04 23**	*e*P	**Pn**	**20 46 57.2 +4.6**
GROC			*e*		20 47 52.1
GROC	**Groznyy**	**5.04 23**	*e*P	**Pn**	**20 46 57.2 +4.6**
GROC			*e*S	**Sn**	**20 47 52.1 +1.3**
IVIS	**Veis**	**5.05 142**	*e*Pn	**Pn**	**20 46 54.7 +1.8**
IVIS			*e*AMB	AMB	20 48 44.4
	comp=Z,74µm,0.8s				
IVIS	**Veis**	**5.05 142**	*e*Pn	**Pn**	**20 46 54.7 +1.8**
HCB	**Kahramanmara¯**	**5.06 258**	⇓*i* P	**Pn**	**20 46 53.6 +0.6**
HCB			*i* S	**Sb**	**20 48 08.6 +2.0**
IGHG	**Ghaleghazi**	**5.08 146**	*e*Pn	**Pn**	**20 46 55.5 +2.1**
IGHG			*e*AMB	AMB	20 48 58.2
	comp=Z,55µm,1.4s				
IGHG	**Ghaleghazi**	**5.08 146**	*e*Pn	**Pn**	**20 46 55.5 +2.1**
SIZA	**Siyzn**	**5.10 59**	⇓P	**Pn**	**20 46 53.1 -0.4**
SIZA			⇓P	**Pn**	**20 46 53.1 -0.4**
SIZA	**Siyzn**	**5.10 59**	P	**Pn**	**20 46 53.1 -0.4**
KUZU	**Kuzuini**	**5.12 251**	⇓*i* P	**Pn**	**20 46 54.9 +1.0**
KUZU			*i* S	**Sb**	**20 48 11.1 +2.7**
KUZU	**Kuzuini**	**5.12 251**	P	**Pn**	**20 46 54.9 +1.0**
KUZU			S	**Sb**	**20 48 11.1 +2.7**
KBZ	**Khabaz**	**5.14 358**	Pn	**Pn**	**20 46 54.9 +0.9**
	comp=Z,0.6nm,0.3s,baz=182,slow=11,SNR=24				
KBZ			Lg	Lg	20 48 22.0
	baz=47,slow=20,SNR=1.6				
KBZ			LR	LR	20 49 17.7
	comp=Z,179µm,20.5s,baz=157,slow=43				
KAMA	**Osmaniye**	**5.29 257**	⇓*i* P	**Pn**	**20 46 56.5 +0.3**
KAMA	**Osmaniye**	**5.29 257**	P	**Pn**	**20 46 56.5 +0.3**
KIV	**Kislovodsk**	**5.37 357**	*i* P	**Pn**	**20 46 58.2 +0.9**
	SNR=54				
KIV	**Kislovodsk**	**5.37 357**	*e*P	**Pn**	**20 46 57.5 +0.2**
KIV			pmax	pmax	
	comp=Z,186nm,1.0s				
KIV			MLR	MLR	
	comp=Z,34µm,7.0s				
KIV	**Kislovodsk**	**5.37 357**	*e*Pn	**Pn**	**20 46 58.7 +1.4**
KIV	**Kislovodsk**	**5.37 357**	*e*Pn	**Pn**	**20 46 58.7 +1.4**
KIV	**Kislovodsk**	**5.37 357**	pPn	**Pn**	**20 46 59.3 +2.0**
	SNR=106				
KIV	**Kislovodsk**	**5.37 357**	P	**Pn**	**20 46 59.3 +2.0**
	SNR=106				
KVAR	**Kislovodsk Arr**	**5.37 357**	Pn	**Pn**	**20 46 58.5 +1.2**
	baz=101,slow=22,SNR=25				
KVAR			Sn	**Sn**	**20 47 59.5 +0.2**
	baz=164,slow=3.5,SNR=4.0				
KVAR			LR	LR	20 49 35.3
	comp=Z,172µm,21.1s,baz=141,slow=45				
BHD	**Baghdad**	**5.41 169**	*e*Pn	**Pn**	**20 46 58.0 +0.3**
	SNR=3.0				
BHD			*i* Sn	**Sn**	**20 48 00.0 +0.1**
	SNR=3.0				
CUSAR	**Sarkisla-SIVAS**	**5.42 281**	⇑*i* P	Pn	20 46 51.7 -6.2
CUSAR	**Sarkisla-SIVAS**	**5.42 281**	P	Pn	20 46 51.7 -6.3
TOKA	**Tokat**	**5.42 291**	⇓*i* P	**Pn**	**20 46 57.7 -0.2**
TOKA	**Tokat**	**5.42 291**	P	**Pn**	**20 46 57.7 -0.2**
TOKA	**Tokat**	**5.42 291**	*e*Pn	**Pn**	**20 47 00.2 +2.3**
TOKA	**Tokat**	**5.42 291**	*e*Pn	**Pn**	**20 47 00.2 +2.3**
ANDN	**Andirin**	**5.44 261**	⇑*i* P	**Pn**	**20 46 58.3 +0.1**
ANDN			*i* S	**Sb**	**20 48 21.0 +3.6**
ANDN	**Andirin**	**5.44 261**	P	**Pn**	**20 46 58.3 +0.1**
ANDN			S	**Sb**	**20 48 21.0 +3.6**
DRWC	**Darouich**	**5.49 251**	*e*P	**Pn**	**20 46 59.7 +0.8**
DRWC			*e*S	**Sb**	**20 48 13.9 -4.9**
DRWC			AML	AML	20 48 45.5
	comp=N,6µm,0.6s				
DRWC			AML	AML	20 48 54.7
	comp=E,4µm,0.7s				
MAK	**Makhachkala**	**5.49 36**	*e*P	Pb	20 47 06.4 -6.6
MAK			pmax	pmax	
	comp=Z,742nm,1.4s				
MAK			MLR	MLR	
	comp=Z,152µm,14.0s				
SOC	**Sochi**	**5.61 334**	*e*P	**Pn**	**20 46 59.8 -0.7**
SOC			*e*		20 48 01.9
SOC			pmax	pmax	
	comp=Z,668nm,1.5s				
SOC			MLR	MLR	
	comp=Z,60µm,12.0s				
IKOM	**Komasi**	**5.65 140**	*e*Pn	**Pn**	**20 47 02.8 +1.5**
IKOM			*e*AMB	AMB	20 49 13.2
	comp=Z,2µm,0.8s				
NDR	**Nardaran**	**5.67 67**	⇓P	**Pn**	**20 47 00.8 -0.4**
NDR			⇓S	**Sn**	**20 48 06.6 +0.2**
GALA	**Gala**	**5.74 69**	⇓P	**Pn**	**20 47 01.8 -0.4**
GALA			⇓S	**Sn**	**20 48 08.4 +0.3**
BTCH	**Batrach**	**5.88 246**	*e*P	**Pn**	**20 47 06.5 +2.2**
BTCH			AML	AML	20 48 52.7
	comp=N,6µm,0.6s				
BTCH			AML	AML	20 48 54.2
	comp=E,11µm,0.8s				
SAMS	**Samsun-Alacam**	**6.00 300**	⇓*i* P	**Pn**	**20 47 07.7 +1.9**
SAMS			*i* S	**Sg**	**20 48 42.1 -7.4**
SAMS	**Samsun-Alacam**	**6.00 300**	P	**Pn**	**20 47 07.7 +1.9**
SAMS			S	**Sg**	**20 48 42.2 -7.4**
KFRA	**Kufra**	**6.08 238**	*e*P	**Pn**	**20 47 08.7 +1.7**
KFRA			AML	AML	20 49 02.8
	comp=N,12µm,0.8s				
KFRA			AML	AML	20 49 06.6
	comp=E,13µm,0.8s				
YAHY	**KAYSERI_Yahyal**	**6.12 268**	⇑*i* P	**Pn**	**20 47 09.0 +1.5**
YAHY			*i* S	**Sg**	**20 48 52.6 -0.7**
YAHY	**KAYSERI_Yahyal**	**6.12 268**	P	**Pn**	**20 47 09.0 +1.5**
YAHY			S	**Sg**	**20 48 52.6 -0.7**
YAYL	**Yayladag**	**6.14 248**	⇓*i* P	**Pn**	**20 47 05.8 -2.1**
YAYL			*i* S	**Sb**	**20 48 41.6 +3.9**
YAYL	**Yayladag**	**6.14 248**	P	**Pn**	**20 47 05.8 -2.1**
YAYL			S	**Sb**	**20 48 41.6 +3.9**
AKO	**Adana**	**6.16 262**	⇓*i* P	**Pn**	**20 47 09.1 +1.0**
AKO			*i* S	**Sg**	**20 48 53.8 -1.0**
YURE	**YUREGIR**	**6.19 256**	*i* P	**Pn**	**20 47 12.0 +3.5**
YURE	**YUREGIR**	**6.19 256**	P	**Pn**	**20 47 12.0 +3.5**
HAVZ	**Havza**	**6.21 296**	⇓*i* P	**Pn**	**20 47 11.5 +2.7**
HAVZ			*i* S	**Sb**	**20 48 46.4 +6.7**
HAVZ	**Havza**	**6.21 296**	P	**Pn**	**20 47 11.5 +2.7**
HAVZ			S	**Sb**	**20 48 46.4 +6.7**
RABH	**Abou Rabah**	**6.31 231**	*e*P	**Pn**	**20 47 11.4 +1.3**
RABH			AML	AML	20 49 14.0
	comp=N,3µm,0.8s				
RABH			AML	AML	20 49 22.3
	comp=E,2µm,0.8s				
ARNB	**Al Arnab**	**6.32 247**	*e*P	**Pn**	**20 47 10.9 +0.6**
ARNB			*e*S	Sb	20 48 34.0 -8.8
ARNB			AML	AML	20 49 13.8
	comp=N,4µm,0.7s				
ARNB			AML	AML	20 49 23.1
	comp=E,3µm,0.7s				
ROOS	**tl_alroos**	**6.45 229**	*e*P	**Pn**	**20 47 13.3 +1.2**
ROOS			AML	AML	20 49 30.2
	comp=N,5µm,0.7s				
ROOS			AML	AML	20 49 30.3
	comp=E,6µm,0.8s				
GOF	**Gofitskoye**	**6.46 360**	⇑*i* P	**Pn**	**20 47 13.3 +1.1**
GOF			*e*S	**Sn**	**20 48 18.8 -7.2**
GOF			pmax	pmax	
	comp=Z,473nm,1.2s				
GOF			smax	smax	
	comp=E,2µm,1.4s				
COAL	**Corum-Alaca**	**6.51 287**	*i* P	**Pn**	**20 47 15.8 +2.8**
COAL			*i* S	**Sg**	**20 49 10.7 +4.7**
COAL	**Corum-Alaca**	**6.51 287**	P	**Pn**	**20 47 15.8 +2.8**
COAL			S	**Sg**	**20 49 10.7 +4.7**
BIDA	**Albida**	**6.51 239**	*e*P	**Pn**	**20 47 14.2 +1.2**
BIDA			*e*S	Sb	20 48 39.0 -9.4
BIDA			AML	AML	20 49 15.7
	comp=N,7µm,0.7s				
BIDA			AML	AML	20 49 15.9
	comp=E,9µm,0.8s				
GULE	**Gulek**	**6.72 261**	⇓*i* P	**Pn**	**20 47 19.5 +3.6**
GULE			*i* S	**Sg**	**20 49 07.3 -5.4**
GULE	**Gulek**	**6.72 261**	P	**Pn**	**20 47 19.5 +3.6**
GULE			S	**Sg**	**20 49 07.3 -5.4**
CTAK	**Corum_Osmancik**	**6.75 290**	⇓*i* P	**Pn**	**20 47 19.1 +2.7**
CTAK			*i* S	**Sg**	**20 49 09.6 -4.0**
CTAK	**Corum_Osmancik**	**6.75 290**	P	**Pn**	**20 47 19.0 +2.7**
CTAK			S	**Sg**	**20 49 09.6 -4.0**
HAWK	**Haweek**	**6.76 235**	*e*P	**Pn**	**20 47 18.0 +1.7**
HAWK			*e*S	Sn	20 48 43.8 +10
HAWK			AML	AML	20 49 29.8
	comp=N,2µm,0.7s				
HAWK			AML	AML	20 49 30.6
	comp=E,1µm,0.8s				
DED	**Mersin**	**6.79 259**	⇓*i* P	**Pn**	**20 47 17.6 +1.0**
DED			*i* S	**Sb**	**20 48 56.0 -0.1**
CDAG	**Cicekdag**	**6.88 281**	⇓*i* P	**Pn**	**20 47 20.9 +2.9**
CDAG			*i* S	**Sg**	**20 49 17.5 -0.3**
CDAG	**Cicekdag**	**6.88 281**	P	**Pn**	**20 47 20.9 +2.9**
CDAG			S	**Sg**	**20 49 17.5 -0.3**
BOYT	**Boyabat**	**6.91 297**	*i* P	Pn	20 47 23.6 +5.2
BOYT	**Boyabat**	**6.91 297**	P	Pn	20 47 23.6 +5.2
FKH	**Fakeheh**	**6.93 233**	*e*P	**Pn**	**20 47 19.2 +0.4**
SINO	**SINOP_Merkez**	**6.95 302**	⇓*i* P	**Pn**	**20 47 21.6 +2.7**
SINO	**SINOP_Merkez**	**6.95 302**	P	**Pn**	**20 47 21.6 +2.7**
MARH	**Ras Al Marh**	**7.03 232**	*e*P	**Pn**	**20 47 22.7 +2.4**
MARH			AML	AML	20 49 31.9
	comp=E,3µm,0.7s				
MARH			AML	AML	20 49 32.5
	comp=N,2µm,0.7s				
KERG	**Konya-Eregli**	**7.20 263**	⇓*i* P	**Pn**	**20 47 24.8 +2.4**
KERG	**Konya-Eregli**	**7.20 263**	P	**Pn**	**20 47 24.8 +2.4**
HWQ	**Hawqa**	**7.20 236**	*e*P	**Pn**	**20 47 23.6 +1.1**
AKSY	**AKSARAY - Alti**	**7.33 273**	⇓*i* P	**Pn**	**20 47 27.0 +2.9**
AKSY			*i* S	**Sb**	**20 49 15.2 +3.5**
AKSY	**AKSARAY - Alti**	**7.33 273**	P	**Pn**	**20 47 27.0 +2.9**
AKSY			S	**Sb**	**20 49 15.2 +3.5**
KIZK	**Mersin**	**7.43 256**	⇓*i* P	**Pn**	**20 47 25.2 -0.3**
KIZK	**Mersin**	**7.43 256**	P	**Pn**	**20 47 25.2 -0.3**
BR131	**Keskin Array S**	**7.45 282**	*e*Pn	**Pn**	**20 47 27.7 +1.8**
BR131	**Keskin Array S**	**7.45 282**	*e*Pn	**Pn**	**20 47 27.7 +1.8**
BRTR	**Keskin Array B**	**7.45 282**	Pn	**Pn**	**20 47 27.1 +1.1**
	comp=N,0.8nm,0.3s,baz=103,slow=14,SNR=45				
BRTR			LR	LR	20 50 19.4
	comp=N,14µm,19.1s,baz=110,slow=38				
QASN	**Qassioun**	**7.49 230**	*e*P	**Pn**	**20 47 28.4 +1.9**
QASN			*e*S	Sn	20 49 02.7 +11
QASN			AML	AML	20 50 04.7
	comp=E,2µm,0.7s				
QASN			AML	AML	20 50 08.6
	comp=N,3µm,0.7s				
ANN	**Anapa**	**7.52 327**	*e*P	**Pn**	**20 47 28.7 +2.0**
ANN			*e*S	**Sn**	**20 48 54.7 +2.8**
ANN			pmax	pmax	
	comp=N,35nm,1.0s				
ANN			pmax	pmax	
	comp=Z,47nm,1.0s				
ANN			pmax	pmax	
	comp=E,15nm,1.0s				
ANN			smax	smax	
	comp=E,276nm,1.5s				
ANN			MLR	MLR	
	comp=E,70µm,13.0s				
ANN			MLR	MLR	
	comp=Z,58µm,13.0s				
ANN			MLR	MLR	
	comp=N,48µm,13.0s				
TOTH	**TOTAH**	**7.52 228**	*e*P	**Pn**	**20 47 28.7 +1.9**
TOTH			AML	AML	20 49 49.5
	comp=E,970nm,0.7s				
TOTH			AML	AML	20 50 07.6
	comp=N,1µm,0.7s				
KAST	**KASTAMONU**	**7.62 295**	*i* P	Pn	20 47 33.1 +4.9
KAST			*i* S	**Sg**	**20 49 37.8 -3.7**
KAST	**KASTAMONU**	**7.62 295**	P	Pn	20 47 33.1 +5.0
KAST			S	**Sg**	**20 49 37.8 -3.7**
BHL	**Bhannes**	**7.63 234**	*e*P	**Pn**	**20 47 30.2 +1.9**
BEYL	**Beirut**	**7.75 235**	*e*P	**Pn**	**20 47 32.0 +2.2**
BRBR	**Barbar**	**7.77 231**	*e*P	**Pn**	**20 47 31.9 +1.6**
BRBR			*e*S	Sn	20 49 09.5 +11
BRBR			AML	AML	20 50 02.5
	comp=N,952nm,0.8s				
BRBR			AML	AML	20 50 15.7
	comp=E,2µm,0.8s				
RCY	**Rachaya**	**7.78 231**	*e*P	**Pn**	**20 47 32.1 +1.6**
DQRL	**Deir Qamar**	**7.81 234**	*e*P	**Pn**	**20 47 33.5 +2.7**
SALA	**Sala**	**7.83 223**	*e*P	**Pn**	**20 47 33.0 +1.8**
SALA			*e*S	Sn	20 49 12.0 +12
SALA			AML	AML	20 50 09.2
	comp=N,2µm,0.7s				
BBAL	**Bala**	**7.83 280**	⇓*i* P	Pn	20 47 36.0 +4.9
BBAL			*i* S	**Sg**	**20 49 52.5 +4.1**
BBAL	**Bala**	**7.83 280**	P	Pn	20 47 36.0 +4.9
BBAL			S	**Sg**	**20 49 52.5 +4.1**
QRWL	**Qaraoun**	**7.84 232**	*e*P	**Pn**	**20 47 33.7 +2.4**
SHBL	**Chebaa**	**7.94 231**	*e*P	**Pn**	**20 47 33.9 +1.3**
KKUL	**Konya-Kulu**	**7.98 277**	⇓*i* P	**Pn**	**20 47 37.8 +4.7**
KKUL	**Konya-Kulu**	**7.98 277**	P	**Pn**	**20 47 37.8 +4.7**
ANTO	**Ankara**	**8.11 282**	*e*P	**Pn**	**20 47 38.3 +3.4**
ANTO	**Ankara**	**8.11 282**	*e*Pn	**Pn**	**20 47 38.3 +3.4**
ANTO	**Ankara**	**8.11 282**	pPn	**Pn**	**20 47 38.9 +4.0**
	SNR=19				
ANTO	**Ankara**	**8.11 282**	P	**Pn**	**20 47 38.9 +4.0**
	SNR=19				
PHNC	**Paralimni**	**8.12 247**	P	Pn	20 47 40.4 +5.5
ASF	**Jabal al Asfar**	**8.17 220**	Pn	**Pn**	**20 47 37.0 +1.3**
	comp=N,3.0nm,0.3s,baz=348,slow=15,SNR=55				
ASF			Lg	Lg	20 50 01.4
	comp=N,18nm,0.3s,baz=340,slow=22,SNR=4.9				
ASF			LR	LR	20 51 34.6
	comp=N,33µm,19.3s,baz=348,slow=44				
ASF	**Jabal al Asfar**	**8.17 220**	P	**Pn**	**20 47 37.0 +1.3**
ASF			pmax	pmax	
	comp=Z,3.0nm,0.3s				
ASF			MLR	MLR	
	comp=Z,33µm,19.3s				
ERMK	**Ermenek**	**8.33 260**	⇓*i* P	**Pn**	**20 47 39.3 +1.3**
ERMK	**Ermenek**	**8.33 260**	P	**Pn**	**20 47 39.3 +1.3**
MMAI	**Mount Meron Ar**	**8.38 231**	Pn	**Pn**	**20 47 40.2 +1.7**
	comp=Z,17nm,0.3s,baz=66,slow=15,SNR=58				
MMAI			Lg	Lg	20 50 07.3
	comp=Z,16nm,0.3s,baz=70,slow=23,SNR=5.8				
MMAI			LR	LR	20 50 57.7
	comp=Z,38µm,18.1s,baz=50,slow=38				
CMDR	**Camlidere-ANKA**	**8.44 286**	⇑*i* P	**Pn**	**20 47 41.6 +2.2**
CMDR			*i* S	**Sg**	**20 50 02.6 -5.2**
CMDR	**Camlidere-ANKA**	**8.44 286**	P	**Pn**	**20 47 41.7 +2.2**
CMDR			S	**Sg**	**20 50 02.6 -5.2**
NAQL	**Naqoura**	**8.47 232**	*e*P	**Pn**	**20 47 42.6 +2.9**
KONT	**Konya--Tatoy**	**8.49 269**	⇓*i* P	**Pn**	**20 47 44.0 +4.0**
KONT			*i* S	Sb	20 49 49.1 +4.1
KMER	**Konya-Meram**	**8.51 268**	⇓*i* P	**Pn**	**20 47 45.1 +4.8**
KMER	**Konya-Meram**	**8.51 268**	P	**Pn**	**20 47 45.1 +4.8**
KDHN	**Kadinhani**	**8.62 273**	⇓*i* P	Pn	20 47 46.7 +4.8
KDHN			*i* S	Sn	20 49 36.7 +17
KDHN	**Kadinhani**	**8.62 273**	P	Pn	20 47 46.7 +4.8
KDHN			S	Sn	20 49 36.7 +17
CSS	**Mathiatis**	**8.64 248**	P	**Pn**	**20 47 43.0 +0.8**
CSS	**Mathiatis**	**8.64 248**	*e*Pn	**Pn**	**20 47 43.3 +1.1**
CSS	**Mathiatis**	**8.64 248**	*e*Pn	**Pn**	**20 47 43.3 +1.1**
SUDU	**Sudak**	**8.74 319**	*e*P	**Pn**	**20 47 45.4 +2.0**
SUDU			*e*S	**Sn**	**20 49 21.0 -0.9**
BCAM	**Yenicaga**	**8.80 288**	⇓*i* P	Pn	20 47 49.8 +5.4
BCAM	**Yenicaga**	**8.80 288**	P	Pn	20 47 49.8 +5.4
BTIN	**Bart¨–n**	**8.86 293**	*i* P	Pn	20 47 50.7 +5.6
BTIN			*i* S	Sg	20 50 10.5 -11
BTIN	**Bart¨–n**	**8.86 293**	P	Pn	20 47 50.7 +5.6
BTIN			S	Sg	20 50 10.5 -11
LEF	**Lefka**	**8.90 250**	P	**Pn**	**20 47 46.4 +0.8**
LEF			S	Sg	20 49 55.9 -27
ALU	**Alushta**	**8.92 316**	*e*P	**Pn**	**20 47 50.1 +4.2**
YAL	**Yalta**	**8.93 314**	*e*P	**Pn**	**20 47 48.0 +1.9**
DOGA	**KONYA_Doganhis**	**9.01 270**	⇓*i* P	Pn	20 47 52.4 +5.2
DOGA			*i* S	Sn	20 49 52.5 +24
DOGA	**KONYA_Doganhis**	**9.01 270**	P	Pn	20 47 52.4 +5.1
DOGA			S	Sn	20 49 52.5 +24
SEV	**Sevastopol'**	**9.24 313**	*e*P	**Pn**	**20 47 49.9 -0.4**
SIM	**Simferopol'**	**9.25 316**	*de*P	**Pn**	**20 47 52.4 +2.0**
SIM			pmax	pmax	
	comp=Z,810nm,3.6s				
AKMC	**Akamas**	**9.35 251**	P	**Pn**	**20 47 56.3 +4.4**
PPCY	**Paphos**	**9.40 250**	P	Pn	20 47 58.2 +5.7
BOLV	**Bolvadin**	**9.52 275**	⇑*i* P	**Pn**	**20 47 58.2 +4.0**
BOLV			*i* S	Sn	20 50 26.4 +45
BOLV	**Bolvadin**	**9.52 275**	P	**Pn**	**20 47 58.2 +4.0**
BOLV			S	Sn	20 50 26.4 +45
BOLV	**Bolvadin**	**9.52 275**	*e*Pn	**Pn**	**20 47 59.0 +4.8**
BTAS	**Taskesti**	**9.56 286**	⇓*i* P	**Pn**	**20 47 59.4 +4.6**
BTAS			*i* S		20 50 43.8
BTAS	**Taskesti**	**9.56 286**	P	**Pn**	**20 47 59.4 +4.6**
BTAS			S		20 50 43.8
ESKT	**Eskisehir**	**9.59 279**	*i* P	**Pn**	**20 47 58.7 +3.5**
SEYT	**Eskypehyr**	**9.59 279**	P	**Pn**	**20 47 58.7 +3.5**
BAGO	**Egridir - ISPA**	**9.71 270**	⇓*i* P	Pn	20 48 02.7 +5.8
BAGO			*i* S	Sn	20 50 33.1 +47
SAHE	**Sakarya_HENDEK**	**9.71 287**	*i* P	Pn	20 48 02.4 +5.6
SAHE	**Sakarya_HENDEK**	**9.71 287**	P	Pn	20 48 02.4 +5.6
GEYV	**SAKARYA_Geyve**	**10.08 285**	⇓*i* P	Pn	20 48 07.1 +5.2
GEYV	**SAKARYA_Geyve**	**10.08 285**	P	Pn	20 48 07.1 +5.3
KORT	**Korkueli**	**10.23 265**	⇓*i* P	**Pn**	**20 48 07.2 +3.2**
KORT	**Korkueli**	**10.23 265**	P	**Pn**	**20 48 07.2 +3.2**
KAND	**Kocaeli-Kandir**	**10.25 288**	*i* P	**Pn**	**20 48 02.9 -1.2**
KAND	**Kocaeli-Kandir**	**10.25 288**	P	**Pn**	**20 48 02.9 -1.2**
BRDR	**BURDUR-Merkez**	**10.32 269**	⇑*i* P	Pn	20 48 10.3 +5.0
BRDR			*i* S	Sn	20 50 47.8 +47
BRDR	**BURDUR-Merkez**	**10.32 269**

DAT	Datca	12.46 266	P		Pn	20 48 37.3 +2.9
SART	Tekirdag	12.46 285	*i* P		Pn	20 48 38.0 +3.5
SART	Tekirdag	12.46 285	P		Pn	20 48 38.0 +3.5
TIRR	Tirgusor	12.47 303	⇑ *i* P		Pn	20 48 35.6 +1.1
TIRR	Tirgusor	12.47 303	*e*P		Pn	20 48 36.0 +1.5
TIRR	Tirgusor	12.47 303	⇑ *i* P		Pn	20 48 35.6 +1.1
TIRR	Tirgusor	12.47 303	*e*Pn		Pn	20 48 36.0 +1.5
TIRR	Tirgusor	12.47 303	*e*Pn		Pn	20 48 36.0 +1.5
BDRM	Kayabasi	12.49 268	*i* P		Pn	20 48 37.6 +2.8
BDRM			*i* S		Sn	20 51 35.2 +41
BDRM	Kayabasi	12.49 268	P		Pn	20 48 37.6 +2.8
BDRM			S		Sn	20 51 35.2 +41
TLCR		12.52 306	⇑ *i* P		Pn	20 48 35.5 +0.3
GCAM	G?zelcaml?	12.54 271	*i* P		Pn	20 48 38.9 +3.5
GCAM	G?zelcaml?	12.54 271	P		Pn	20 48 38.9 +3.5
BODT	Bodrum	12.59 268	P		Pn	20 48 40.0 +3.8
BODT	Bodrum	12.59 268	P		Pn	20 48 40.0 +3.8
DGB	˜zmir	12.76 273	*i* P		Pn	20 48 40.9 +2.4
NIS1	Nisyros Isl.	12.80 266	P		Pn	20 48 41.8 +2.8
NIS1	Nisyros Isl.	12.80 266	P		Pn	20 48 41.8 +2.8
NISR	Nisiros	12.84 266	P		Pn	20 48 41.6 +2.1
NISR	Nisiros	12.84 266	P		Pn	20 48 41.6 +2.1
NISR	Nisiros	12.84 266	P		Pn	20 48 41.6 +2.1
HARR	Harsova	12.88 303	⇑ *i* P		Pn	20 48 41.1 +1.0
BAYC	CANAKKALE_Bayr	12.91 280	*i* P		Pn	20 48 38.9 -1.7
BAYC	CANAKKALE_Bayr	12.91 280	P		Pn	20 48 38.9 -1.7
EDRB	Edirne	12.93 290	P		Pn	20 48 42.2 +1.4
EDRB	Edirne	12.93 290	P		Pn	20 48 42.2 +1.4
EDRB	Edirne	12.93 290	P		Pn	20 48 42.2 +1.4
CFR	Carcaliu	12.95 305	⇑ *i* P		Pn	20 48 42.2 +1.2
CFR	Carcaliu	12.95 305	P		Pn	20 48 41.9 +0.9
CFR			pmax	pmax		
	comp=Z,325nm,1.2s					
CFR	Carcaliu	12.95 305	⇑ *i* P		Pn	20 48 42.2 +1.2
URLA	Izmir	12.95 274	⇑ *i* P		Pn	20 48 44.5 +3.4
URLA	Izmir	12.95 274	P		Pn	20 48 44.5 +3.4
ZEY	˜zmir	13.04 274	*i* P		Pn	20 48 35.1 -7.1
EZN	Ezine	13.09 281	P		Pn	20 48 46.1 +3.2
EZN	Ezine	13.09 281	P		Pn	20 48 46.1 +3.2
EZN	Ezine	13.09 281	P		Pn	20 48 46.1 +3.2
KARP	Karpathos	13.10 262	P		Pn	20 48 44.3 +1.1
KARP	Karpathos	13.10 262	*e*Pn		Pn	20 48 46.2 +3.1
PRK	Paraskevi	13.14 278	P		Pn	20 48 43.4 -0.2
PRK	Paraskevi	13.14 278	P		Pn	20 48 43.4 -0.2
PRK	Paraskevi	13.14 278	P		Pn	20 48 43.4 -0.2
PRK	Paraskevi	13.14 278	P		Pn	20 48 43.4 -0.2
AMRR	Amara	13.25 302	⇓ *i* P		Pn	20 48 46.4 +1.4
ENEZ	Enez	13.25 285	P		Pn	20 48 46.3 +1.2
BOZC	Bozcaada	13.29 281	*i* P		Pn	20 48 45.9 +0.1
ALN	Alexandroupoli	13.34 285	P		Pn	20 48 49.0 +2.6
ALN	Alexandroupoli	13.34 285	P		Pn	20 48 49.0 +2.6
ALN	Alexandroupoli	13.34 285	P		Pn	20 48 49.0 +2.6
VORR	Voronezh	13.37 349	*e*P		Pn	20 48 46.0 -0.7
VORR			pmax	pmax		
	comp=Z,750nm,2.0s					
CHOS	Chios island	13.37 274	P		Pn	20 48 50.0 +3.1
CHOS	Chios island	13.37 274	P		Pn	20 48 50.0 +3.1
GADA	Gvkgeada	13.42 282	P		Pn	20 48 50.4 +3.0
GADA	Gvkgeada	13.42 282	P		Pn	20 48 50.4 +3.0
KIS	Kishinev	13.43 313	⇑ *i* P		Pn	20 48 48.0 +0.4
	comp=Z,400nm,2.0s					
KIS	Kishinev	13.43 313	*i* PP		P	20 48 58.0 +0.9
	comp=Z,2μm,2.0s					
KIS			*i* S		Sn	20 51 18.0 +1.1
KIS			*i* Li			20 52 40.0
KIS			*i* LQ		LQ	20 53 15.0
KIS			*i* LR		LR	20 54 02.0
	comp=Z,21μm,13.0s					
KIS	Kishinev	13.43 313	α *i* P		Pn	20 48 48.0 +0.4
KIS			*i* S		Sn	20 51 18.0 +1.1
KIS			pmax	pmax		
	comp=Z,400nm,2.0s					
KIS			pmax	pmax		
	comp=E,300μm,2.0s					
KIS			pmax	pmax		
	comp=N,1μm,4.0s					
KIS			pmax	pmax		
	comp=E,2μm,4.0s					
KIS			pmax	pmax		
	comp=Z,2μm,4.0s					
KIS			MLR	MLR		
	comp=Z,21μm,13.0s					
KIS			MLR	MLR		
	comp=N,16μm,14.0s					
KIS			MLR	MLR		
	comp=E,18μm,12.0s					
KIS			MLR	MLR		
	comp=Z,24μm,16.0s					
KIS	Kishinev	13.43 313	⇑ *i* P		Pn	20 48 48.0 +0.4
	comp=Z,400nm,2.0s					
KIS			*i* S		Sn	20 51 18.0 +1.1
	comp=Z,24μm,16.0s					
SIGR	SIGRI	13.46 278	P		Pn	20 48 50.6 +2.6
SIGR	SIGRI	13.46 278	P		Pn	20 48 50.6 +2.6
LEOM	Leova	13.49 310	⇑ *i* P		Pn	20 48 48.5 +0.2
PGOR	Pogoanele	13.59 303	⇑ *i* P		Pn	20 48 51.8 +2.1
SMTH	Samothraki Isl	13.71 283	P		Pn	20 48 50.6 -0.8
SMTH	Samothraki Isl	13.71 283	P		Pn	20 48 50.6 -0.8
SMTH	Samothraki Isl	13.71 283	P		Pn	20 48 50.6 -0.8
RDO	Rodhopi	13.74 286	P		Pn	20 48 55.0 +3.1
RDO	Rodhopi	13.74 286	P		Pn	20 48 55.0 +3.1
PETR	Petresti	13.76 306	⇑ *i* P		Pn	20 48 53.5 +1.5
ODBI	Odobesti	13.89 306	⇓ *i* P		Pn	20 48 55.8 +2.0
ISR	Istrita	13.96 303	⇓ *i* P		Pn	20 48 57.3 +2.5
ISR	Istrita	13.96 303	P		Pn	20 48 57.7 +2.9
ISR			pmax	pmax		
	comp=Z,1μm,1.5s					
ISR	Istrita	13.96 303	⇓ *i* P		Pn	20 48 57.3 +2.5
LIA	Limnos Island	13.96 281	P		Pn	20 48 57.7 +2.8
LIA	Limnos Island	13.96 281	P		Pn	20 48 57.7 +2.8
ZKR	Zakros	13.97 261	P		Pn	20 48 57.9 +2.9
ZKR	Zakros	13.97 261	P		Pn	20 48 57.9 +2.9
APE	Apeiranthos	13.99 269	P		Pn	20 48 57.1 +1.8
APE	Apeiranthos	13.99 269	⇑ *i* P		Pn	20 48 57.7 +2.4
APE	Apeiranthos	13.99 269	*d* *i* P		P	20 48 59.4 -3.9
APE	Apeiranthos	13.99 269	P		Pn	20 48 57.1 +1.8
APE	Apeiranthos	13.99 269	P		Pn	20 48 57.1 +1.8
SULR		13.99 301	⇑ *i* P		Pn	20 48 57.1 +1.9
VRI	Vrincioaia	14.14 306	⇓ *i* P		Pn	20 48 57.9 +0.6
VRI	Vrincioaia	14.14 306	P		Pn	20 48 58.7 +1.4
VRI			pmax	pmax		
	comp=Z,2μm,1.5s					
PLOR	Plostina	14.18 306	⇑ *i* P		Pn	20 48 58.9 +1.0
SANT	Santorini	14.20 266	P		Pn	20 49 00.5 +2.3
SANT	Santorini	14.20 266	*e*Pn		Pn	20 48 59.0 +0.9
SANT	Santorini	14.20 266	*e*Pn		Pn	20 48 59.0 +0.9
THR2	Thira island,	14.20 267	P		P	20 49 04.2 -1.4
THR2	Thira island,	14.20 267	P		P	20 49 04.2 -1.4
THR2	Thira island,	14.20 267	P		P	20 49 04.2 -1.4
CMBO	Columbo, Santo	14.21 267	P		Pn	20 49 00.7 +2.4
THT1	Athinios (Pele	14.22 267	P		Pn	20 49 00.8 +2.4
THR3	Thira Island,	14.23 267	P		Pn	20 49 01.6 +3.0
THR3	Thira Island,	14.23 267	P		Pn	20 49 01.6 +3.0
THR3	Thira Island,	14.23 267	P		Pn	20 49 01.6 +3.0
SECR		14.24 302	⇑ *i* P		Pn	20 49 01.0 +2.3
THR6	Thira Island,	14.25 266	P		P	20 49 04.2 -2.0
THR6	Thira Island,	14.25 266	P		P	20 49 04.2 -2.0
THR6	Thira Island,	14.25 266	P		P	20 49 04.2 -2.0
IAS	Iasi	14.26 312	⇑ *i* P		Pn	20 49 00.6 +1.7
ZIMR		14.30 296	⇑ *i* P		Pn	20 49 01.7 +2.2
LPSR	Galich'ya Gora	14.31 350	*e*P		Pn	20 49 00.9 +1.3
LPSR			*e*S		Sn	20 51 43.1 +4.8
LPSR			pmax	pmax		
	comp=Z,50nm,1.8s					
LPSR			smax	smax		
	comp=E,190nm,4.2s					
LPSR			MLR	MLR		
	comp=Z,9μm,8.0s					
SORM	Soroca	14.34 316	⇓ *i* P		Pn	20 49 00.1 +0.1
NPS	Neapolis	14.39 262	P		Pn	20 49 03.0 +2.2
NPS	Neapolis	14.39 262	P		Pn	20 49 03.0 +2.2
NPS	Neapolis	14.39 262	P		Pn	20 49 03.0 +2.2
RZN	Rozhen	14.41 288	P		Pn	20 49 04.2 +3.0
TESR	Tescani	14.47 308	⇓ *i* P		Pn	20 49 02.2 +0.4
MLR	Muntele Rosu	14.49 304	Pn		Pn	20 49 04.3 +2.1
	comp=Z,0.1nm,0.3s,baz=328,slow=15,SNR=15					
MLR	Muntele Rosu	14.49 304	⇓ *i* P		Pn	20 49 03.9 +1.7
MLR	Muntele Rosu	14.49 304	*e*Pn		Pn	20 49 04.1 +1.9
MLR	Muntele Rosu	14.49 304	*e*Pn		Pn	20 49 04.1 +1.9
KAVA	Kavala	14.51 285	P		Pn	20 49 03.4 +1.1
KAVA	Kavala	14.51 285	P		Pn	20 49 03.4 +1.1
LAST	Lasithi	14.53 262	P		Pn	20 49 04.4 +1.7
LAST	Lasithi	14.53 262	P		Pn	20 49 04.4 +1.7
KARY	Karystos	14.68 274	P		P	20 49 08.5 -2.5
IACM	Heraklion	14.80 263	P		Pn	20 49 08.7 +2.4
HUMR	Humele	14.81 299	⇓ *i* P		Pn	20 49 08.3 +1.9
OUR	Ouranopolis	14.89 283	P		Pn	20 49 09.9 +2.4
OUR	Ouranopolis	14.89 283	P		Pn	20 49 09.9 +2.4
OUR	Ouranopolis	14.89 283	P		Pn	20 49 09.9 +2.4
IDI	Anoyia	14.94 263	Pn		Pn	20 49 09.3 +0.9
	comp=Z,1.7nm,0.3s,baz=59,slow=12,SNR=29					
IDI			LR	LR		20 55 00.5
	comp=Z,18μm,20.0s,baz=69,slow=38					
IDI	Anoyia	14.94 263	P		Pn	20 49 08.3 -0.1
IDI	Anoyia	14.94 263	*e*Pn		Pn	20 49 08.7 +0.4
IDI	Anoyia	14.94 263	*e*Pn		Pn	20 49 08.7 +0.4
MHLO	Agia Marina, M	14.95 269	P		Pn	20 49 08.5 +0.1
MTUR	Matau	14.97 302	⇑ *i* P		Pn	20 49 09.8 +1.1
NVR	Nevrokopi	15.02 287	P		Pn	20 49 11.7 +2.4
NVR	Nevrokopi	15.02 287	P		Pn	20 49 11.7 +2.4
EREA	Eretria	15.03 275	P		Pn	20 49 12.1 +2.7
DOPR	Dopca	15.03 305	⇑ *i* P		Pn	20 49 10.2 +0.7
VOIR		15.06 303	⇑ *i* P		Pn	20 49 11.1 +1.3
SIVA	Sivas	15.09 262	P		Pn	20 49 12.7 +2.4
SIVA	Sivas	15.09 262	P		Pn	20 49 12.7 +2.4
TMBK	Timbaki Herakl	15.11 262	P		P	20 49 15.2 -0.5
PAIG	Paliouri	15.12 281	P		Pn	20 49 12.8 +2.2
PAIG	Paliouri	15.12 281	P		Pn	20 49 12.8 +2.2
PAIG	Paliouri	15.12 281	P		Pn	20 49 12.8 +2.2
PTL	Penteli	15.12 274	P		P	20 49 14.0 -1.9
PTL	Penteli	15.12 274	P		P	20 49 14.0 -1.9
PTL	Penteli	15.12 274	P		P	20 49 14.0 -1.9
PRAR	RASCA	15.13 311	⇑ *i* P		Pn	20 49 11.8 +1.1
MMB	Musomiste	15.14 288	P		P	20 49 13.8 -2.3
RAYN	Ar Rayn	15.16 172	*e*Pn		Pn	20 49 06.7 -4.6
	comp=Z,373nm,1.1s					
ATHU	Athens Univers	15.20 274	P		Pn	20 49 13.2 +1.5
ATHU	Athens Univers	15.20 274	P		Pn	20 49 13.2 +1.5
SRS	Serrai	15.21 286	P		Pn	20 49 13.6 +1.8
SRS	Serrai	15.21 286	P		Pn	20 49 13.6 +1.8
SRS	Serrai	15.21 286	P		Pn	20 49 13.6 +1.8
VLY	Voula,Athens	15.21 273	P		Pn	20 49 14.2 +2.4
VLY	Voula,Athens	15.21 273	P		Pn	20 49 14.2 +2.4
VLY	Voula,Athens	15.21 273	P		Pn	20 49 14.2 +2.4
ATH	Athens Observa	15.25 274	P		P	20 49 15.4 -1.9
ATH	Athens Observa	15.25 274	P		P	20 49 15.4 -1.9
ATH	Athens Observa	15.25 274	P		P	20 49 15.4 -1.9
ATH	Athens Observa	15.25 274	P		P	20 49 15.4 -1.9
PLG	Polygyros	15.30 283	P		Pn	20 49 15.0 +2.0
PLG	Polygyros	15.30 283	P		Pn	20 49 15.0 +2.0
PLG	Polygyros	15.30 283	P		Pn	20 49 15.0 +2.0
ARR	Arges	15.31 302	⇑ *i* P		Pn	20 49 14.1 +1.0
SKIA	Skiathos	15.32 278	P		Pn	20 49 15.6 +2.3
SOH	Sokhos	15.37 285	P		Pn	20 49 15.0 +1.0
SOH	Sokhos	15.37 285	P		Pn	20 49 15.0 +1.0
SOH	Sokhos	15.37 285	P		Pn	20 49 15.0 +1.0
VAM	Vamos	15.45 264	P		Pn	20 49 15.6 +0.7
VAM	Vamos	15.45 264	P		Pn	20 49 15.6 +0.7
VAM	Vamos	15.45 264	P		Pn	20 49 15.6 +0.7
NEO	Neokhori	15.50 279	P		Pn	20 49 16.8 +1.2
NEO	Neokhori	15.50 279	P		Pn	20 49 16.8 +1.2
XOR	Xorichti	15.52 279	P		Pn	20 49 17.6 +1.7
XOR	Xorichti	15.52 279	P		Pn	20 49 17.6 +1.7
SMIA	Simia	15.54 277	P		P	20 49 18.9 -1.7
HORT	Hortiatis	15.56 284	P		P	20 49 18.9 -1.9
HORT	Hortiatis	15.56 284	P		P	20 49 18.9 -1.9
HORT	Hortiatis	15.56 284	P		P	20 49 18.9 -1.9
CRAR	CRAIOVA	15.56 298	⇑ *i* P		Pn	20 49 18.5 +2.1
AKASG	Malin Array Be	15.60 325	Pn		Pn	20 49 14.0 -2.8
	comp=Z,3.3nm,0.3s,baz=133,slow=12,SNR=202					
AKASG			LR	LR		20 56 08.7
	comp=Z,12μm,19.0s,baz=125,slow=40					
AKASG	Malin Array Be	15.60 325	P		Pn	20 49 14.0 -2.8
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.3s					
AKASG			MLR	MLR		
	comp=Z,12μm,19.0s					
AKBB	Malin Array Si	15.60 325	*e*P		Pn	20 49 16.2 -0.6
AKBB			pmax	pmax		
	comp=Z,2μm,1.4s					
AKBB	Malin Array Si	15.60 325	*e*Pn		Pn	20 49 16.2 -0.6
	comp=Z,2μm,1.4s					
AKBB	Malin Array Si	15.60 325	*e*Pn		Pn	20 49 16.2 -0.6
	comp=Z,2μm,1.4s					
IMMV	Iera Moni Meta	15.60 264	P		Pn	20 49 17.4 +0.5
KIEV	Kiev	15.60 325	*c* *i* P		Pn	20 49 15.6 -1.3
KIEV	Kiev	15.60 325	*e*Pn		Pn	20 49 16.5 -0.4
	comp=Z,2μm,1.3s					
KIEV	Kiev	15.60 325	*e*Pn		Pn	20 49 16.5 -0.4
	comp=Z,2μm,1.3s					
VTS	Vitosha	15.64 291	P		Pn	20 49 19.3 +1.7
VTS	Vitosha	15.64 291	⇑ *i* P		P	20 49 20.0 -1.8
VTS	Vitosha	15.64 291	*e*P		P	20 49 20.2 -1.5
VTS			pmax	pmax		
	comp=Z,351nm,1.1s					
VTS	Vitosha	15.64 291	P		P	20 49 20.3 -1.5
VTS	Vitosha	15.64 291	⇑ *i* P		P	20 49 20.0 -1.8
VTS	Vitosha	15.64 291	*e*Pn		P	20 49 20.2 -1.5
	comp=Z,350nm,1.1s					
KKB	Krupnik	15.64 288	P		P	20 49 20.3 -1.4
THE	Thessaloniki	15.66 284	P		P	20 49 20.1 -1.8
THE	Thessaloniki	15.66 284	P		P	20 49 20.1 -1.8
THE	Thessaloniki	15.66 284	P		P	20 49 20.1 -1.8
THE	Thessaloniki	15.66 284	P		P	20 49 20.1 -1.8
DID	Didima	15.70 272	P		P	20 49 20.5 -1.9
DID	Didima	15.70 272	P		P	20 49 20.5 -1.9
DID	Didima	15.70 272	P		P	20 49 20.5 -1.9
FYTO	Fytoko, Volos	15.71 279	P		Pn	20 49 20.1 +1.7
FYTO	Fytoko, Volos	15.71 279	P		Pn	20 49 20.1 +1.7
FYTO	Fytoko, Volos	15.71 279	P		Pn	20 49 20.1 +1.7
GVD	Gavdhos	15.71 262	P		Pn	20 49 17.8 -0.6
GVD	Gavdhos	15.71 262	P		Pn	20 49 17.8 -0.6
LKR	Lokris	15.73 277	P		Pn	20 49 20.3 +1.7
LKR	Lokris	15.73 277	P		Pn	20 49 20.3 +1.7
LKR	Lokris	15.73 277	P		Pn	20 49 20.3 +1.7
KNT	Kendrikon	15.73 286	P		P	20 49 20.9 -1.8
KNT	Kendrikon	15.73 286	P		P	20 49 20.9 -1.8
KNT	Kendrikon	15.73 286	P		P	20 49 20.9 -1.8
KNT	Kendrikon	15.73 286	P		P	20 49 20.9 -1.8
LOUT	Loutraki	15.83 274	P		P	20 49 23.1 -0.7
LTK	Loutraki	15.83 274	P		P	20 49 22.3 -1.5
LTK	Loutraki	15.83 274	P		P	20 49 22.3 -1.5
LTK	Loutraki	15.83 274	P		P	20 49 22.3 -1.5
BURAR	Bucovina Array	15.85 310	⇓ *i* P		Pn	20 49 20.9 +0.6
I31KZ	AKTYUBINSK ÍNF	15.87 37	*i*			22 17 00.0
	baz=225,slow=322,SNR=2.1					
AKTO	Aktyubinsk	15.88 37	Pn		Pn	20 49 18.8 -1.6
	comp=Z,1.9nm,0.3s,baz=225,slow=12,SNR=83					
AKTO			LR	LR		20 57 10.4
	comp=Z,56μm,19.3s,baz=223,slow=44					
BUR08	Bucovina Ar. S	15.88 311	*e*Pn		Pn	20 49 21.6 +1.0
BUR08	Bucovina Ar. S	15.88 311	*e*Pn		Pn	20 49 21.6 +1.0
LOT	Lotru	15.91 302	⇓ *i* P		Pn	20 49 22.2 +1.2
VAY	Valandovo	15.99 286	P		Pn	20 49 23.1 +1.2
VAY	Valandovo	15.99 286	⇑ *i* P		P	20 49 24.2 -1.2
VAY	Valandovo	15.99 286	P		Pn	20 49 23.1 +1.2
VAY	Valandovo	15.99 286	P		Pn	20 49 23.1 +1.2
VAY	Valandovo	15.99 286	P		Pn	20 49 23.1 +1.2
ANKY	Antikythira Is	16.02 266	P		Pn	20 49 21.5 -0.8
ANKY	Antikythira Is	16.02 266	P		Pn	20 49 21.5 -0.8
LIT	Litokhoron	16.03 282	P		Pn	20 49 24.1 +1.6
LIT	Litokhoron	16.03 282	P		Pn	20 49 24.1 +1.6
LIT	Litokhoron	16.03 282	P		Pn	20 49 24.1 +1.6
LIT	Litokhoron	16.03 282	P		Pn	20 49 24.1 +1.6
SRE	Strehaia	16.06 299	⇑ *i* P		P	20 49 24.6 -1.7
THAL	Thalero	16.07 274	P		P	20 49 25.2 -1.1
VLI	Veliai	16.09 270	P		Pn	20 49 23.3 0.0
VLI	Veliai	16.09 270	P		Pn	20 49 23.3 0.0
GRG	Griva	16.10 285	P		Pn	20 49 24.9 +1.5
GRG	Griva	16.10 285	P		Pn	20 49 24.9 +1.5
GRG	Griva	16.10 285	P		Pn	20 49 24.9 +1.5
GRG	Griva	16.10 285	P		Pn	20 49 24.9 +1.5
ABKAR	Akbulak array	16.11 43	*e*Pn		Pn	20 49 22.3 -1.1
	comp=Z,589nm,0.9s					
ABKAR	Akbulak array	16.11 43	*e*Pn		Pn	20 49 22.3 -1.1
	comp=Z,589nm,0.9s					
KYTH	Kithira	16.11 268	P		Pn	20 49 23.9 +0.3
KYTH	Kithira	16.11 268	P		Pn	20 49 23.9 +0.3
DSF	Desfina	16.12 276	P		Pn	20 49 25.2 +1.5
DSF	Desfina	16.12 276	P		Pn	20 49 25.2 +1.5
DSF	Desfina	16.12 276	P		Pn	20 49 25.2 +1.5
ARCR	ARCALIA	16.14 308	⇑ *i* P		P	20 49 26.5 -0.7
AGG	Agios Georgios	16.21 278	P		Pn	20 49 25.6 +0.7
AGG	Agios Georgios	16.21 278	*e*P		P	20 49 27.5 -0.5
AGG			pmax	pmax		
	comp=Z,2μm,1.5s					
AGG	Agios Georgios	16.21 278	P		Pn	20 49 25.6 +0.7
AGG	Agios Georgios	16.21 278	*e*Pn		P	20 49 27.5 -0.5
	comp=Z,2μm,1.5s					
GUR	Goura	16.33 274	P		P	20 49 28.8 -0.6
GUR	Goura	16.33 274	P		P	20 49 28.8 -0.6
GUR	Goura	16.33 274	P		P	20 49 28.8 -0.6
VLX	Vlachokerasia	16.40 272	P		Pn	20 49 28.6 +1.3
VLX	Vlachokerasia	16.40 272	P		Pn	20 49 28.6 +1.3
VLX	Vlachokerasia	16.40 272	P		Pn	20 49 28.6 +1.3
THL	Klokotos Trika	16.42 280	P		P	20 49 29.0 -1.2
KALE	Kalithea	16.43 276	P		P	20 49 29.4 -1.0
KALE	Kalithea	16.43 276	P		P	20 49 29.4 -1.0
KALE	Kalithea	16.43 276	P		P	20 49 29.4 -1.0
CJR	Cluj-Napoca	16.47 306	⇓ *i* P		Pn	20 49 28.8 +0.7
KLV	Kalavryta, Ach	16.47 275	P		P	20 49 30.0 -0.9
KLV	Kalavryta, Ach	16.47 275	P		P	20 49 30.0 -0.9
KLV	Kalavryta, Ach	16.47 275	P		P	20 49 30.0 -0.9
SERG	Sergoula	16.49 276	P		P	20 49 30.4 -0.7
LAKA	Lakka	16.57 275	P		P	20 49 31.5 -0.5
LAKA	Lakka	16.57 275	P		P	20 49 31.5 -0.5
LAKA	Lakka	16.57 275	P		P	20 49 31.5 -0.5
ANX	Ano Chora	16.57 277	P		Pn	20 49 30.8 +1.3
KZN	Kozani	16.58 283	P		P	20 49 31.1 -1.0
KZN	Kozani	16.58 283	P		P	20 49 31.1 -1.0
KZN	Kozani	16.58 283	P		P	20 49 31.1 -1.0
KZN	Kozani	16.58 283	P		P	20 49 31.1 -1.0
EFP	Efpalio	16.61 276	P		Pn	20 49 31.1 +1.3
DEV	Deva	16.62 302	⇑ *i* P		P	20 49 31.6 -0.9
DEV	Deva	16.62 302	P		P	20 49 34.4 +1.9
DEV			pmax	pmax		
	comp=Z,380nm,1.7s					
DEV	Deva	16.62 302	⇑ *i* P		P	20 49 31.6 -0.9
EVR	Evrytania	16.63 278	P		P	20 49 32.1 -0.6
EVR	Evrytania	16.63 278	P		P	20 49 32.1 -0.6
EVR	Evrytania	16.63 278	P		P	20 49 32.1 -0.6
UPR	University Cam	16.72 276	P		P	20 49 36.5 +2.9
ITM	Ithomi	16.79 272	P		Pn	20 49 32.9 +0.7
ITM	Ithomi	16.79 272	P		Pn	20 49 32.9 +0.7
ITM	Ithomi	16.79 272	P		Pn	20 49 32.9 +0.7
BANOM	Banah	16.82 135	*i* P		Pn	20 49 31.9 -0.9
	SNR=44					
BANOM	Banah	16.82 135	Pn		Pn	20 49 30.1 -2.6
	SNR=35					
BANOM	Banah	16.82 135	P		Pn	20 49 30.1 -2.6
	SNR=35					
DRO	Drossia	16.82 275	P		P	20 49 34.1 -0.7
FNA	Florina	16.88 284	P		P	20 49 35.5 +0.1
FNA	Florina	16.88 284	P		P	20 49 35.5 +0.1
FNA	Florina	16.88 284	P		P	20 49 35.5 +0.1
FNA	Florina	16.88 284	P		P	20 49 35.5 +0.1
SKO	Skopje	16.88 288	P		P	20 49 36.1 +0.8
SKO	Skopje	16.88 288	⇑ *i* P		P	20 49 36.4 +1.1
SKO	Skopje	16.88 288	P		P	20 49 36.1 +0.8
SKO	Skopje	16.88 288	P		P	20 49 36.1 +0.8
SKO	Skopje	16.88 288	P		P	20 49 36.1 +0.8
PVO	Paravola	16.88 277	P		P	20 49 35.9 +0.6
AMT	Artemida-Makis	16.89 273	P		P	20 49 34.7 -0.9
KPRO	Kipourio	16.90 281	P		P	20 49 35.9 +0.2
BIA	Bitola	16.92 285	P		P	20 49 37.4 +1.6
BIA	Bitola	16.92 285	⇑ *e*P		P	20 49 36.7 +0.8
BIA	Bitola	16.92 285	P		P	20 49 37.4 +1.6
BIA	Bitola	16.92 285	P		P	20 49 37.4 +1.6
BMR	Baia Mare	16.92 309	⇑ *i* P		Pn	20 49 33.9 +0.1
KRUS	Krusevo	16.98 286	*e*P		Pn	20 49 35.0 +0.3
PYL	PYLOS	16.99 271	P		Pn	20 49 34.7 0.0
PYL	PYLOS	16.99 271	P		Pn	20 49 34.7 0.0
PYL	PYLOS	16.99 271	P		Pn	20 49 34.7 0.0
RLS	Riolos of Patr	17.00 275	P		P	20 49 37.8 +1.1
RLS	Riolos of Patr	17.00 275	P		P	20 49 37.8 +1.1
RLS	Riolos of Patr	17.00 275	P		P	20 49 37.8 +1.1
DRGR		17.06 305	⇓ *i* P		Pn	20 49 36.0 +0.4
OBN	Obninsk	17.11 347	P		Pn	20 49 35.4 -0.7
	comp=Z,4.7nm,0.3s,baz=164,slow=5.9,SNR=50					
OBN			S		Sn	20 52 47.8 +1.6
	comp=Z,1.5nm,0.3s,baz=182,slow=23,SNR=2.1					
OBN

UZH	**Uzhgorod**	**18.06 310**⇑	*e*P	**Pn**	**20 49 46.4**	**-1.5**
UZH			*e*S	**Sn**	**20 53 03.3**	**-6.0**
UZH			MLR	MLR		
	comp=N,10μm,11.0s					
UZH			MLR	MLR		
	comp=E,14μm,11.0s					
UZH			MLR	MLR		
	comp=Z,6μm,11.0s					
BEY	**Berane**	**18.10 291**⇑	*i*P	**P**	**20 49 49.4**	**+0.5**
IVA	**Berane**	**18.10 291**⇑	*i*P	**P**	**20 49 49.4**	**+0.5**
KEK	**Kerkira**	**18.11 281**	P	**Pn**	**20 49 48.1**	**-0.6**
KEK	**Kerkira**	**18.11 281**	P	**Pn**	**20 49 48.1**	**-0.6**
KEK	**Kerkira**	**18.11 281**	P	**Pn**	**20 49 48.1**	**-0.6**
DIVS	**Divibare**	**18.19 295**	P	**P**	**20 49 51.0**	**+1.1**
DIVS	**Divibare**	**18.19 295**⇑	*i*P	**P**	**20 49 50.3**	**+0.4**
KWP	**Kalwaria Pacla**	**18.29 314**	*e*P	**P**	**20 49 50.9**	**+0.1**
KWP			*e*S	**S**	**20 53 17.8**	**-2.1**
KWP	**Kalwaria Pacla**	**18.29 314**	*e*P	**P**	**20 49 50.9**	**+0.1**
KWP			*e*S	**S**	**20 53 17.8**	**-2.1**
KWP	**Kalwaria Pacla**	**18.29 314**	*e*P	**P**	**20 49 50.9**	**+0.1**
KOME	**Kolasin**	**18.37 291**⇑	*i*P	**P**	**20 49 53.9**	**+2.0**
KOME	**Kolasin**	**18.37 291**⇑	*i*P	**P**	**20 49 53.9**	**+2.0**
ULC	**Ulcinj**	**18.51 288**⇑	*i*P	**Pn**	**20 49 54.5**	**+1.0**
ULC	**Ulcinj**	**18.51 288**⇑	*i*P	**Pn**	**20 49 54.5**	**+1.0**
PLE	**Pljevlja**	**18.51 292**⇑	*i*P	**Pn**	**20 49 54.7**	**+1.1**
PLE	**Pljevlja**	**18.51 292**⇑	*i*P	**Pn**	**20 49 54.8**	**+1.1**
FRGS	**Fruska Gora**	**18.52 298**	*e*P	**Pn**	**20 49 54.3**	**+0.7**
PDG	**Podgorica**	**18.53 290**	P	**Pn**	**20 49 54.4**	**+0.7**
PDG	**Podgorica**	**18.53 290**⇑	*i*P	**Pn**	**20 49 54.5**	**+0.7**
PDG	**Podgorica**	**18.53 290**⇑	*i*P	**Pn**	**20 49 54.4**	**+0.7**
TTG	**Podgorica**	**18.53 290**⇑	*i*P	**Pn**	**20 49 54.3**	**+0.6**
TTG	**Podgorica**	**18.53 290**	P	**Pn**	**20 49 54.4**	**+0.7**
TTG	**Podgorica**	**18.53 290**	P	**Pn**	**20 49 54.4**	**+0.7**
TTG	**Podgorica**	**18.53 290**	P	**Pn**	**20 49 54.4**	**+0.7**
DRME	**Dracevica, Mon**	**18.57 289**⇑	*i*P	**Pn**	**20 49 54.8**	**+0.6**
DRME	**Dracevica, Mon**	**18.57 289**⇑	*i*P	**Pn**	**20 49 54.7**	**+0.6**
BBLS	**Lazići**	**18.57 294**⇑	*i*P	**Pn**	**20 49 55.9**	**+1.6**
TEKS	**Tekeris**	**18.60 296**	*e*P	**Pn**	**20 49 55.7**	**+1.1**
CRVS	**Cervenica-Dubn**	**18.67 310**	*e*P	**Pn**	**20 49 55.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**18.67 310**	*e*P	**Pn**	**20 49 55.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**18.67 310**	*e*P	**Pn**	**20 49 55.8**	**+0.4**
CRVS			*e*S	**S**	**20 53 33.5**	**+5.8**
NKY	**Niksic**	**18.75 291**⇑	*i*P	**Pn**	**20 49 57.0**	**+0.5**
NKY	**Niksic**	**18.75 291**⇑	*i*P	**Pn**	**20 49 57.0**	**+0.5**
NKME	**Niksic**	**18.78 291**⇑	*i*P	**Pn**	**20 49 57.3**	**+0.5**
NKME	**Niksic**	**18.78 291**⇑	*i*P	**Pn**	**20 49 57.3**	**+0.5**
CEME	**Cevo**	**18.79 290**⇑	*i*P	**Pn**	**20 49 57.0**	**+0.1**
CEME	**Cevo**	**18.79 290**⇑	*i*P	**Pn**	**20 49 57.0**	**+0.1**
BUM	**Brajici-Budva**	**18.79 289**⇑	*i*P	**Pn**	**20 49 57.1**	**+0.2**
BUM	**Brajici-Budva**	**18.79 289**⇑	*i*P	**Pn**	**20 49 57.2**	**+0.3**
UPM	**Unac-Piva**	**18.85 292**	*e*P	**Pn**	**20 49 58.2**	**+0.4**
UPM	**Unac-Piva**	**18.85 292**	*e*P	**Pn**	**20 49 58.3**	**+0.4**
HAPS	**Han Pijesak,BI**	**18.93 295**	*e*P	**P**	**20 49 57.4**	**-0.7**
MICGM	**Minsk**	**18.99 332**⇓	*i*P	**P**	**20 49 56.0**	**-2.5**
MICGM			PM		20 49 59.0	
	comp=Z,2.2nm,1.5s					
MICGM			PM		20 49 59.0	
	comp=N,2.2nm,1.5s					
MICGM			PM		20 50 00.0	
	comp=E,1.9nm,1.0s					
MICGM			PM		20 50 02.0	
	comp=N,5.5nm,4.0s					
MICGM			PM		20 50 02.0	
	comp=Z,12nm,6.0s					
MICGM			PM		20 50 04.0	
	comp=E,12nm,6.0s					
MICGM			*e*PP	**PnPn**	**20 50 20.0**	**+8.5**
MICGM			*e*PPP	PPP	20 50 30.0	
MICGM			*e*S	Sn	20 53 20.0	-12
MICGM			*e*SS	**SnSn**	**20 53 50.0**	**+4.5**
MICGM			*e*SSS	SSS	20 54 14.0	
MICGM			*e*LQ	LQ	20 55 20.0	
MICGM			LQM		20 57 00.0	
	comp=N,74nm,20.0s					
MICGM			LQM		20 57 00.0	
	comp=E,54nm,20.0s					
MICGM			*e*LR	LR	20 57 36.0	
MICGM			LRM	MLR	20 58 20.0	
	comp=E,30nm,16.0s					
MICGM			LRM	MLR	20 58 24.0	
	comp=Z,29nm,16.0s					
MICGM			LRM	MLR	20 58 38.0	
	comp=N,12nm,16.0s					
MNK	**Minsk**	**18.99 332**⇓	*i*P	**P**	**20 49 56.0**	**-2.5**
MNK			*e*S	Sn	20 53 20.0	-12
MNK			pmax	pmax		
	comp=N,2μm,1.5s					
MNK			pmax	pmax		
	comp=Z,2μm,1.5s					
MNK			pmax	pmax		
	comp=E,2μm,1.0s					
MNK			pmax	pmax		
	comp=Z,13μm,6.0s					
MNK			pmax	pmax		
	comp=N,5μm,4.0s					
MNK			pmax	pmax		
	comp=E,12μm,6.0s					
MNK			MLR	MLR		
	comp=E,30μm,16.0s					
MNK			MLR	MLR		
	comp=Z,29μm,16.0s					
MNK			MLR	MLR		
	comp=N,12μm,16.0s					
STHS	**Stebnicka Huta**	**19.03 312**	*e*P	**Pn**	**20 49 59.4**	**-0.3**
STHS			pmax	pmax		
	comp=Z,150nm,1.2s					
STHS	**Stebnicka Huta**	**19.03 312**	*e*P	**Pn**	**20 49 59.4**	**-0.3**
	comp=Z,150nm,1.2s					
STHS	**Stebnicka Huta**	**19.03 312**	*e*P	**Pn**	**20 49 59.4**	**-0.3**
BRY	**Bratogost**	**19.09 291**⇑	*i*P	**Pn**	**20 50 00.4**	**-0.3**
BRY	**Bratogost**	**19.09 291**	*e*P	**P**	**20 50 00.1**	**+0.2**
HCY	**Herceg Novi**	**19.09 289**⇑	*i*P	**P**	**20 49 59.5**	**-0.2**
HCY	**Herceg Novi**	**19.09 289**⇑	*i*P	**P**	**20 49 59.5**	**-0.2**
KECS	**Kecovo**	**19.09 308**	*e*P	**Pn**	**20 50 00.7**	**+0.2**
KECS			pmax	pmax		
	comp=Z,103nm,1.3s					
KECS	**Kecovo**	**19.09 308**	*e*P	**Pn**	**20 50 00.7**	**+0.2**
	comp=Z,103nm,1.3s					
KECS	**Kecovo**	**19.09 308**	*e*P	**Pn**	**20 50 00.7**	**+0.2**
TREB	**Trebinje**	**19.21 290**	*e*P	**P**	**20 50 01.1**	**0.0**
PSZ	**Piszkesteto**	**19.25 306**⇓	*i*P	**Pn**	**20 50 02.4**	**-0.1**
PSZ	**Piszkesteto**	**19.25 306**	*e*P	**Pn**	**20 50 02.8**	**+0.3**
PSZ			pmax	pmax		
	comp=Z,3μm,2.0s					
PSZ	**Piszkesteto**	**19.25 306**	*e*P	**Pn**	**20 50 02.8**	**+0.3**
	comp=Z,3μm,2.0s					
PSZ	**Piszkesteto**	**19.25 306**⇑	*e*P	**Pn**	**20 50 03.7**	**+1.2**
PSZ	**Piszkesteto**	**19.25 306**	*e*P	**Pn**	**20 50 02.8**	**+0.3**
	comp=Z,3μm,2.0s					
NIE	**Niedzica**	**19.58 311**	*e*P	**Pn**	**20 50 07.2**	**+0.8**
NIE			*e*S	**Sn**	**20 53 48.8**	**+2.6**
NIE			LMZ	LR	21 00 23.9	
	comp=Z,13μm,16.8s					
NIE	**Niedzica**	**19.58 311**	*e*P	**Pn**	**20 50 07.2**	**+0.8**
NIE			*e*S	**Sn**	**20 53 48.8**	**+2.6**
NIE			MLR	MLR		
	comp=Z,13μm,16.8s					
DOB	**Doboj**	**19.63 296**	*e*P	**Pn**	**20 50 06.8**	**-0.2**
BUD	**Budapest**	**19.66 305**	P	**Pn**	**20 50 07.1**	**-0.2**
BUD			pmax	pmax		
	comp=Z,1μm,1.4s					
BUD	**Budapest**	**19.66 305**⇓	*e*P	**Pn**	**20 50 09.1**	**+1.8**
NACGM	**Naroch**	**19.71 331**	*e*P	**P**	**20 50 04.0**	**-2.3**
NACGM			*e*P	**P**	**20 50 05.0**	**-1.3**
NACGM			PM		20 50 08.0	
	comp=Z,0.8nm,0.8s					
NACGM			*e*PP	**PnPn**	**20 50 18.0**	**-3.4**
NACGM			*e*PPP	PPP	20 50 32.0	
NACGM			*e*S	**S**	**20 53 40.0**	**-8.3**
NACGM			*e*SS	**SnSn**	**20 54 10.0**	**+6.8**
NACGM			*e*SSS	SSS	20 54 56.0	
NACGM			*e*LQ	LQ	20 55 36.0	
NACGM			*e*LR	LR	20 56 50.0	
NACGM			LRM	MLR	20 58 50.0	
	comp=Z,42nm,18.0s					
NACGM	**Naroch**	**19.71 331**	*e*P	**P**	**20 50 05.0**	**-1.3**
BIDO	**Bidbid**	**19.73 135**	P	**P**	**20 50 06.6**	**-0.2**
	SNR=47					
BIDO	**Bidbid**	**19.73 135**	P	**P**	**20 50 06.6**	**-0.2**
	SNR=47					
LANS	**Liptovska Anna**	**19.97 310**	*e*P	**Pn**	**20 50 10.8**	**-0.3**
LANS	**Liptovska Anna**	**19.97 310**	*e*P	**Pn**	**20 50 10.8**	**-0.3**
LANS	**Liptovska Anna**	**19.97 310**	*e*P	**Pn**	**20 50 10.8**	**-0.3**
IDID	**Didziasalis**	**20.04 332**	*e*P	**P**	**20 50 09.1**	**-0.8**
IDID			IAmb	IAmb	20 50 15.0	
	comp=Z,235nm,1.1s					
VYHS	**Vyhne**	**20.12 307**	*e*P	**P**	**20 50 11.5**	**+0.6**
VYHS			pmax	pmax		
	comp=Z,2μm,1.9s					
VYHS	**Vyhne**	**20.12 307**	*e*P	**P**	**20 50 11.5**	**+0.6**
	comp=Z,2μm,1.9s					
VYHS	**Vyhne**	**20.12 307**	*e*P	**P**	**20 50 11.5**	**+0.6**
VYHS			*e*S	Sn	20 54 03.0	+4.0
VYHS			*e*L	L	21 03 24.2	
CSKK	**Cs˙‡kako**	**20.12 304**⇑	*e*P	Pn	20 50 12.4	-0.4
OJC	**Ojcow**	**20.22 313**	*e*P	**P**	**20 50 12.5**	**+0.5**
OJC			*e*S	**S**	**20 53 58.7**	**-0.1**
OJC			LMZ	LR	21 01 41.1	
	comp=Z,9μm,19.7s					
OJC	**Ojcow**	**20.22 313**	*e*P	**P**	**20 50 12.5**	**+0.5**
OJC			*e*S	**S**	**20 53 58.7**	**-0.1**
OJC			MLR	MLR		
	comp=Z,9μm,19.7s					
OJC	**Ojcow**	**20.22 313**	*e*P	**P**	**20 50 12.2**	**+0.2**
	comp=Z,733nm,1.4s					
OJC			*e*S	**S**	**20 53 58.7**	**-0.1**
OJC	**Ojcow**	**20.22 313**	*e*P	**P**	**20 50 12.2**	**+0.2**
	comp=Z,733nm,1.4s					
WSAR	**Wadi Sarin**	**20.23 135**	P	**P**	**20 50 10.7**	**-1.7**
	comp=Z,139nm,1.2s,baz=340,slow=10,SNR=28					
WSAR			S	Sn	20 54 04.1	+1.9
	comp=Z,40nm,1.1s,baz=128,slow=11,SNR=3.8					
WSAR			LR	LR	20 59 42.0	
	comp=Z,24μm,18.2s,baz=328,slow=42					
IIGN	**Ignalina**	**20.25 331**	*e*P	**P**	**20 50 11.5**	**-0.8**
IIGN			IAmb	IAmb	20 50 17.7	
	comp=Z,762nm,1.4s					
BLY	**Banja Luka**	**20.28 296**	*e*P	**P**	**20 50 12.3**	**-0.4**
	comp=Z,276nm,1.1s					
BLY	**Banja Luka**	**20.28 296**	*e*P	**P**	**20 50 12.3**	**-0.4**
	comp=Z,276nm,1.1s					
BEL	**Belsk**	**20.46 318**	*e*P	**P**	**20 50 15.0**	**+0.5**
BEL			*e*S	Sn	20 54 07.0	0.0
BEL	**Belsk**	**20.46 318**	*e*P	**P**	**20 50 15.0**	**+0.5**
BEL			*e*S	Sn	20 54 07.0	-0.1
BEL	**Belsk**	**20.46 318**	*e*P	**P**	**20 50 15.0**	**+0.5**
BEL			*e*S	Sn	20 54 07.0	-0.1
ISAL	**Salakas**	**20.46 332**	*e*P	**P**	**20 50 14.4**	**-0.1**
ISAL			IAmb	IAmb	20 50 21.4	
	comp=Z,533nm,1.2s					
CHM	**Chimkent**	**20.47 71**	*i*P	**P**	**20 50 12.9**	**-1.8**
	comp=Z,4μm,1.6s					
CHM			*i*S	**S**	**20 54 02.7**	**-1.1**
CHM			LRM	MLR	20 59 37.1	
	comp=Z,3μm,12.7s					
IZAR	**Zarasai**	**20.55 332**	*e*P	**P**	**20 50 15.3**	**-0.2**
IZAR			IAmb	IAmb	20 50 22.6	
	comp=Z,1μm,1.3s					
SUW	**Suwalki**	**20.57 325**	*e*P	**P**	**20 50 15.6**	**-0.1**
SUW			*e*S	Sn	20 54 12.9	+3.2
SUW			LMZ	LR	20 57 52.2	
	comp=Z,9μm,26.6s					
SUW	**Suwalki**	**20.57 325**	*e*P	**P**	**20 50 15.6**	**-0.1**
SUW			MLR	MLR		
	comp=Z,9μm,26.6s					
SUW	**Suwalki**	**20.57 325**	*e*P	**P**	**20 50 15.6**	**-0.1**
ARU	**Arti**	**20.59 25**	P	**P**	**20 50 16.1**	**+0.2**
	comp=Z,200nm,0.8s,baz=219,slow=7.7,SNR=109					
ARU			S	**S**	**20 54 06.7**	**+0.8**
	comp=Z,9.3nm,0.8s,baz=246,slow=17,SNR=1.8					
ARU			LR	LR	21 00 09.2	
	comp=Z,32μm,21.9s,baz=219,slow=42					
ARU	**Arti**	**20.59 25**	*d*iP	**P**	**20 50 15.2**	**-0.6**
ARU					20 50 33.3	
ARU			S	**S**	**20 54 06.8**	**+0.9**
ARU			SS	**PcP**	**20 54 25.3**	**-1.1**
ARU			pmax	pmax		
	comp=Z,631nm,1.2s					
ARU			MLR	MLR		
	comp=Z,36μm,23.0s					
ARU	**Arti**	**20.59 25**	*e*P	**P**	**20 50 15.3**	**-0.6**
	comp=Z,866nm,1.0s					
ARU			S	**S**	**20 54 06.8**	**+0.9**
ARU	**Arti**	**20.59 25**	PcP	**PcP**	**20 54 25.3**	**-1.1**
	comp=Z,36μm,23.0s					
ARU	**Arti**	**20.59 25**	*e*P	**P**	**20 50 15.3**	**-0.6**
	comp=Z,866nm,1.0s					
ARU			S	**S**	**20 54 06.7**	**+0.8**
BRLS	**Borolday**	**20.67 69**	*i*P	**P**	**20 50 14.3**	**-2.7**
	comp=Z,305nm,1.8s					
BRLS			*i*S	**S**	**20 54 04.0**	**-3.7**
BRLS			LR	LR	20 58 17.6	
	comp=Z,864nm,16.0s					
IUG	**Iuzhnay**	**20.78 72**	*i*P	**P**	**20 50 16.8**	**-1.4**
	comp=Z,4μm,1.9s					
IUG			*e*S	**S**	**20 54 08.5**	**-1.7**
IUG			LRM	MLR	20 59 39.5	
	comp=Z,2μm,9.7s					
BEHE	**Becsehely**	**20.88 301**⇑	*i*P	Pn	20 50 20.9	-0.8
BEHE	**Becsehely**	**20.88 301**⇑	*e*P	Pn	20 50 21.0	-0.7
SMOL	**Smolenice**	**21.00 306**	P	**P**	**20 50 22.4**	**+1.9**
SMOL			pmax	pmax		
	comp=Z,999nm,1.1s					
SMOL	**Smolenice**	**21.00 306**	*e*P	**P**	**20 50 22.1**	**+1.6**
OKC	**Ostrava-Krasne**	**21.03 310**⇑	*e*P	**P**	**20 50 20.3**	**-0.5**
OKC			*e*S	Sn	20 54 18.2	-2.8
OKC			AMS	AMS	21 02 30.0	
	comp=Z,14μm,15.2s					
OKC	**Ostrava-Krasne**	**21.03 310**	*e*P	**P**	**20 50 20.3**	**-0.5**
OKC			*e*S	Sn	20 54 18.2	-2.8
OKC			MLR	MLR		
	comp=Z,14μm,15.2s					
OKC	**Ostrava-Krasne**	**21.03 310**	P	**P**	**20 50 20.3**	**-0.5**
OKC			*e*S	Sn	20 54 18.2	-2.8
RAC	**Raciborz**	**21.10 311**	*e*P	**P**	**20 50 22.2**	**+0.7**
RAC			*e*S	**S**	**20 54 17.9**	**+1.7**
RAC			MLR	MLR		
	comp=Z,10μm,19.3s					
RAC	**Raciborz**	**21.10 311**	*e*P	**P**	**20 50 22.2**	**+0.7**
RAC			*e*S	**S**	**20 54 17.9**	**+1.7**
CUC	**Castrocucco**	**21.15 282**	*e*P	**P**	**20 50 23.0**	**+0.8**
	comp=Z,921nm,1.7s					
CUC	**Castrocucco**	**21.15 282**	*e*P	**P**	**20 50 23.0**	**+0.8**
	comp=Z,921nm,1.7s					
CUC			LR	LR		
	comp=Z,10μm,19.0s					
KKAR	**Karatay Array**	**21.17 69**	*e*P	**P**	**20 50 22.3**	**0.0**
KOGS	**Kog**	**21.23 300**⇑	*e*P	**P**	**20 50 23.5**	**+0.5**
	comp=Z,5μm,1.5s					
KOGS			*e*S	Sn	20 54 30.9	+5.1
ZAG	**Zagreb**	**21.29 299**⇑	*i*P	**P**	**20 50 24.7**	**+1.1**
CEL	**Celeste**	**21.31 278**	*e*P	**P**	**20 50 23.8**	**-0.1**
	comp=Z,424nm,1.1s					
CEL	**Celeste**	**21.31 278**	*e*P	**P**	**20 50 23.8**	**-0.1**
	comp=Z,424nm,1.1s					
CEL			LR	LR		
	comp=Z,6μm,22.0s					
SOP	**Sopron**	**21.32 304**	P	**P**	**20 50 24.2**	**+0.3**
SOP			pmax	pmax		
	comp=Z,936nm,1.2s					
SOP	**Sopron**	**21.32 304**⇑	*e*P	**P**	**20 50 25.1**	**+1.2**
SOP	**Sopron**	**21.32 304**⇑	*e*P	**P**	**20 50 25.1**	**+1.2**
MORC	**Moravsky Berou**	**21.37 310**⇑	*i*P	**P**	**20 50 25.2**	**+0.7**
MORC	**Moravsky Berou**	**21.37 310**	*e*P	**P**	**20 50 25.0**	**+0.5**
MORC			pmax	pmax		
	comp=Z,2μm,1.4s					
MORC	**Moravsky Berou**	**21.37 310**	*e*P	**P**	**20 50 25.0**	**+0.5**
	comp=Z,2μm,1.4s					
MORC	**Moravsky Berou**	**21.37 310**	*e*P	**P**	**20 50 25.0**	**+0.5**
	comp=Z,2μm,1.4s					
GCIS	**Gornji Cirnik**	**21.55 299**	*e*P	**P**	**20 50 27.2**	**+0.8**
SVE	**Sverdlovsk**	**21.61 27**	*d*iP	**P**	**20 50 27.3**	**+0.4**
SVE			*e*S	**S**	**20 54 22.7**	**-3.4**
SVE			pmax	pmax		
	comp=Z,881nm,1.5s					
SVE			MLR	MLR		
	comp=Z,33μm,18.0s					
CRES	**Cresnjev**	**21.66 298**⇑	*i*P	**P**	**20 50 28.6**	**+1.1**
BOJS	**Bojanci**	**21.75 297**⇑	*i*P	**P**	**20 50 29.6**	**+1.1**
	comp=Z,2μm,2.2s					
DZA	**Taraz**	**21.76 70**	*i*P	**P**	**20 50 27.4**	**-1.4**
	comp=Z,2μm,1.8s					
VRAC	**Vranov**	**21.79 308**	P	**P**	**20 50 30.0**	**+1.1**
	comp=Z,182nm,1.1s,baz=105,slow=10,SNR=106					
VRAC			S	Sn	20 54 35.7	-3.4
	comp=Z,18nm,1.2s,baz=98,slow=5.5,SNR=2.3					
VRAC			LR	LR	21 01 14.4	
	comp=Z,10μm,18.8s,baz=104,slow=43					
VRAC	**Vranov**	**21.79 308**	P	**P**	**20 50 30.0**	**+1.1**
CONA	**Conrad Observa**	**21.84 304**	*i*P	**P**	**20 50 29.8**	**+0.2**
	comp=Z,1μm,1.1s,SNR=380					
CONA	**Conrad Observa**	**21.84 304**	P	**P**	**20 50 29.8**	**+0.2**
	comp=Z,1μm,1.1s,SNR=380					
ARSA	**Arzberg**	**21.89 302**	*i*P	**P**	**20 50 32.2**	**+2.1**
	comp=Z,392nm,1.3s,SNR=120					
ARSA	**Arzberg**	**21.89 302**	P	**P**	**20 50 32.2**	**+2.1**
	comp=Z,392nm,1.3s,SNR=120					
KRLC	**Kraliky**	**21.94 310**⇑	*e*P	**P**	**20 50 30.8**	**+0.2**
KRLC	**Kraliky**	**21.94 310**	*e*P	**P**	**20 50 30.8**	**+0.2**
KRLC	**Kraliky**	**21.94 310**	P	**P**	**20 50 30.8**	**+0.2**
PERS	**Pernice**	**22.04 300**⇑	*e*P	**P**	**20 50 32.1**	**+0.4**
	comp=Z,1μm,1.8s					
PERS			*e*S	**S**	**20 54 35.4**	**+0.8**
SOKA	**Soboth**	**22.10 301**	*i p*P	**P**	**20 50 33.2**	**+0.8**
	comp=Z,350nm,1.5s,SNR=127					
SOKA	**Soboth**	**22.10 301**	P	**P**	**20 50 33.2**	**+0.8**
	comp=Z,350nm,1.5s,SNR=127					
DPC	**Dobruska-Polom**	**22.32 310**⇑	*i*P	**P**	**20 50 35.0**	**+0.4**
DPC			*ex*	x	20 50 53.5	
DPC			*e*S	**S**	**20 54 40.6**	**+0.7**
DPC			AMS	AMS	21 02 40.0	
	comp=Z,11μm,12.4s					
DPC	**Dobruska-Polom**	**22.32 310**⇑	*i*P	**P**	**20 50 35.0**	**+0.4**
DPC			*e*S	**S**	**20 54 40.6**	**+0.7**
DPC			MLR	MLR		
	comp=Z,11μm,12.4s					
DPC	**Dobruska-Polom**	**22.32 310**	P	**P**	**20 50 35.0**	**+0.4**
DPC			*e*S	**S**	**20 54 40.6**	**+0.7**
	comp=Z,11μm,12.4s					
LJU	**Ljubljana**	**22.33 299**⇑	*e*P	**P**	**20 50 35.8**	**+1.0**
LJU			*e*S	**S**	**20 54 41.2**	**+1.0**
LJU	**Ljubljana**	**22.33 299**⇑	*i*P	**P**	**20 50 35.7**	**+0.9**
LJU			*e*S	**S**	**20 54 41.2**	**+1.0**
	comp=Z,5μm,3.9s					
CEY	**Cerknica**	**22.35 298**⇑	*i*P	**P**	**20 50 36.0**	**+0.9**
OBKA	**Obir**	**22.39 300**	*i* P	**P**	**20 50 37.3**	**+1.7**
	comp=Z,207nm,1.4s,SNR=36					
OBKA	**Obir**	**22.39 300**	P	**P**	**20 50 37.3**	**+1.7**
	comp=Z,207nm,1.4s,SNR=36					
KLMR	**Klimovskoe**	**22.40 355**	*e*P	**P**	**20 50 32.7**	**-2.7**
KLMR			*e*S	**S**	**20 54 37.1**	**-4.1**
KLMR			pmax	pmax		
	comp=Z,2μm,1.5s					
KLMR			MLR	MLR		
	comp=Z,10μm,13.0s					
TREC	**Trest**	**22.47 307**⇑	*e*P	**P**	**20 50 35.9**	**-0.3**
TREC			*ex*	x	20 50 52.4	
TREC			*e*S	**S**	**20 54 43.2**	**+0.5**
TREC			AMS	AMS	21 01 30.0	
	comp=Z,12μm,14.8s					
TREC	**Trest**	**22.47 307**	*e*P	**P**	**20 50 35.9**	**-0.3**
TREC			*e*S	**S**	**20 54 43.2**	**+0.5**
TREC			MLR	MLR		
	comp=Z,12μm,14.8s					
TREC	**Trest**	**22.47 307**	P	**P**	**20 50 35.9**	**-0.3**
TREC			*e*S	**S**	**20 54 43.2**	**+0.5**
	comp=Z,12μm,14.8s					
KSP	**Ksiaz**	**22.52 312**	*e*P	**P**	**20 50 37.1**	**+0.4**
KSP			*e*S	**S**	**20 54 47.1**	**+3.5**
KSP	**Ksiaz**	**22.52 312**	*e*P	**P**	**20 50 37.1**	**+0.4**
KSP			*e*S	**S**	**20 54 47.1**	**+3.5**
KSP	**Ksiaz**	**22.52 312**	*e*P	**P**	**20 50 37.1**	**+0.4**
KSP			*e*S	**S**	**20 54 47.1**	**+3.5**
VSU	**Vasula**	**22.54 337***c i*P		**P**	**20 50 36.3**	**-0.5**
VSU			pmax	pmax		
	comp=Z,5μm,1.7s					
UPC	**Upice**	**22.56 311**⇑	*e*P	**P**	**20 50 37.4**	**+0.2**
UPC			*e*S	**S**	**20 54 44.0**	**-0.3**
UPC			AMS	AMS	21 02 40.0	
	comp=Z,15μm,12.1s					
UPC	**Upice**	**22.56 311**	*e*P	**P**	**20 50 37.4**	**+0.2**
UPC			*e*S	**S**	**20 54 44.0**	**-0.3**
UPC			MLR	MLR		
	comp=Z,15μm,12.1s					
UPC	**Upice**	**22.56 311**	P	**P**	**20 50 37.4**	**+0.2**
UPC			*e*S	**S**	**20 54 44.0**	**-0.3**
VAE	**Valguarnera**	**22.60 276**	P	**P**	**20 50 38.9**	**+1.1**
	comp=Z,91nm,1.1s,baz=316,slow=2.5,SNR=7.3					
MNAS	**Manas**	**22.62 71**	P	**P**	**20 50 38.8**	**+0.8**
MNAS			pmax	pmax		
	comp=Z,211nm,1.1s					
PUL	**Pulkovo**	**22.71 343***d i*P		**P**	**20 50 39.5**	**+0.9**
PUL			pmax	pmax		
	comp=Z,1μm,1.2s					
PUL	**Pulkovo**	**22.71 343**	*e*S	**S**	**20 54 50.3**	**+3.5**
	SNR=150					
SOKR	**Solikamsk**	**22.76 18***c i*P		**P**	**20 50 36.7**	**-2.5**
SOKR			S	**S**	**20 54 46.7**	**-1.0**
SOKR			pmax	pmax		
	comp=Z,804nm,1.6s					
SOKR			MLR	MLR		
	comp=Z,43μm,18.0s					
TRI	**Trieste**	**22.81 298**	*e*P	**P**	**20 50 39.4**	**-0.4**
TRI			pmax	pmax		
	comp=Z,379nm,1.2s					
TRI	**Trieste**	**22.81 298**	*e*P	**P**	**20 50 39.4**	**-0.4**
	comp=Z,379nm,1.2s					
TRI	**Trieste**	**22.81 298**	*e*P	**P**	**20 50 39.4**	**-0.4**
	comp=Z,379nm,1.2s					
AQU	**L'Aquila**	**22.86 289**	*e*P	**P**	**20 50 39.7**	**-0.8**
AQU			pmax	pmax		
	comp=Z,1μm,1.3s					
AQU			MLR	MLR		
	comp=Z,26μm,19.0s					
AQU	**L'Aquila**	**22.86 289**	*e*P	**P**	**20 50 39.7**	**-0.8**
	comp=Z,1μm,1.3s					
AQU	**L'Aquila**	**22.86 289**	*e*P	**P**	**20 50 39.7**	**-0.8**
	comp=Z,1μm,1.3s					
AQU			LR	LR		
	comp=Z,26μm,19.0s					
MOA	**

comp=Z,15μm,13.8s
PRA Prague 23.36 309 *e*P **P 20 50 45.9 +0.4**
comp=Z,15μm,13.8s
PRA *e*S **S 20 54 57.2 -1.0**
SLIT Slitere, Latvi 23.41 331 *e*P **P 20 50 45.9 0.0**
SNR=151
SLIT *e*S **S 20 54 59.6 +0.8**
SNR=29
PVCC Panska Ves 23.43 310⇑ *i*P **P 20 50 46.4 +0.2**
PVCC *e*S **S 20 54 57.9 -1.4**
PVCC AMS AMS 21 02 20.0
comp=Z,12μm,12.6s
PVCC Panska Ves 23.43 310⇑ *i*P **P 20 50 46.4 +0.2**
PVCC *e*S **S 20 54 57.9 -1.4**
PVCC MLR MLR
comp=Z,12μm,12.6s
PVCC Panska Ves 23.43 310 *i* P **P 20 50 46.4 +0.2**
comp=Z,12μm,12.6s
PVCC *e*S **S 20 54 57.9 -1.4**
GEC2 GERESS Array S 23.47 305 *e*P **P 20 50 46.0 -0.7**
GEC2 pmax pmax
comp=Z,272nm,1.2s
GEC2 GERESS Array S 23.47 305 *e*P **P 20 50 46.0 -0.7**
comp=Z,272nm,1.2s
GEC2 GERESS Array S 23.47 305 *e*P **P 20 50 46.0 -0.7**
comp=Z,272nm,1.2s
GERES GERESS Array B 23.47 305 P **P 20 50 45.6 -1.1**
comp=Z,69nm,0.8s,baz=108,slow=8.7,SNR=106
GERES PcP **PcP 20 54 32.6 +0.1**
comp=Z,2.2nm,0.8s,baz=107,slow=1.0,SNR=4.2
GERES S **S 20 55 08.5 +8.3**
comp=Z,3.5nm,1.1s,baz=82,slow=11,SNR=2.2
GERES LR LR 21 02 21.1
comp=Z,4μm,18.8s,baz=88,slow=43
CLTB Caltabellotta 23.51 277 *e*P **P 20 50 47.2 0.0**
comp=Z,551nm,1.3s
CLTB Caltabellotta 23.51 277 *e*P **P 20 50 47.2 0.0**
comp=Z,551nm,1.3s
CLTB LR LR
comp=Z,6μm,22.0s
KHC Kasperske Hory 23.62 306⇑ *e*P **P 20 50 47.1 -1.0**
KHC *e*x **x** 20 51 04.0
KHC *e*S **S 20 54 59.8 -2.7**
KHC AMS AMS 21 03 10.0
comp=Z,11μm,11.5s
KHC Kasperske Hory 23.62 306 *e*P **P 20 50 47.1 -1.0**
KHC *e*S **S 20 54 59.8 -2.7**
KHC MLR MLR
comp=Z,11μm,11.5s
KHC Kasperske Hory 23.62 306 *e*P **P 20 50 48.7 +0.6**
comp=Z,270nm,1.3s
KHC Kasperske Hory 23.62 306 *e*P **P 20 50 48.7 +0.6**
comp=Z,270nm,1.3s
BRVK Borovoye 23.64 43 *c i*P **P 20 50 47.2 -1.0**
BRVK pmax pmax
comp=Z,2μm,2.5s
BRVK Borovoye 23.64 43 *e*P **P 20 50 48.5 +0.2**
comp=Z,313nm,1.2s
BRVK Borovoye 23.64 43 *e*P **P 20 50 48.5 +0.2**
comp=Z,313nm,1.2s
BRVK LR LR
comp=Z,16μm,20.0s
BRVK Borovoye 23.64 43 P **P 20 50 48.4 +0.2**
SNR=160
BRVK Borovoye 23.64 43 P **P 20 50 48.4 +0.2**
SNR=160
BRVK P **P 20 50 48.4 +0.2**
SNR=160
BRVK P **P 20 50 48.4 +0.2**
SNR=160
MTSE Matsula 23.67 335 *e*P **P 20 50 48.8 +0.4**
SNR=152
MTSE *e*S **S 20 55 04.2 +1.2**
SNR=29
BVAR Borovoye Array 23.68 44 P **P 20 50 47.2 -1.4**
comp=Z,77nm,1.0s,baz=247,slow=10,SNR=57
BVAR PcP **PcP 20 54 32.9 +0.2**
comp=Z,4.9nm,0.7s,baz=163,slow=11,SNR=2.8
BVAR LR LR 21 01 45.4
comp=Z,25μm,18.6s,baz=246,slow=41
BVAR Borovoye Array 23.68 44 P **P 20 50 47.2 -1.4**
BVAR 20 54 32.9
BVAR pmax pmax
comp=Z,112nm,1.1s
BVAR MLR MLR
comp=Z,25μm,18.6s
BVAR Borovoye Array 23.68 44 P **P 20 50 47.2 -1.4**
comp=Z,112nm,1.1s
ABTA Abfaltersbach 23.82 300 *i* P **P 20 50 50.6 +0.5**
comp=Z,407nm,1.4s,SNR=104
ABTA Abfaltersbach 23.82 300 P **P 20 50 50.6 +0.5**
comp=Z,407nm,1.4s,SNR=104
BTLS Baital 23.84 64 *i* P **P 20 50 48.8 -1.5**
comp=Z,2μm,1.5s
BRZS Berezniki 23.87 52 *i* P **P 20 50 49.2 -1.3**
comp=Z,175nm,1.8s
BRZS *i* S **S 20 55 05.0 -1.4**
BRZS LRM MLR 21 00 40.8
comp=Z,307nm,11.1s
BRG Berggiesshubel 23.92 310 *i* P **P 20 50 50.8 -0.1**
comp=Z,860nm,1.8s
BRG *i* 20 51 20.7
comp=Z,126nm,1.2s
BRG S **S 20 55 08.0 +0.9**
BRG SCS **ScS 21 01 51.6 -6.7**
comp=Z,30nm,1.6s
comp=N,18μm,15.8s
comp=E,14μm,12.8s
comp=Z,13μm,12.2s
BRG Berggiesshubel 23.92 310 *i* P **P 20 50 50.8 -0.1**
BRG *i* 20 51 20.7
BRG S **S 20 55 08.0 +0.9**
BRG 21 01 51.6
BRG pmax pmax
comp=Z,860nm,1.8s
BRG pmax pmax
comp=Z,126nm,1.2s
BRG MLR MLR
comp=N,18μm,15.8s
BRG MLR MLR
comp=E,14μm,12.8s
BRG MLR MLR
comp=Z,13μm,12.2s
BRG Berggiesshubel 23.92 310 *i* P **P 20 50 50.8 -0.1**
comp=Z,860nm,1.8s
BRG S **S 20 55 08.0 +0.9**
DAMY Dhamar 23.95 177 *e*P **P 20 50 53.8 +2.0**
comp=Z,762nm,1.5s
WET Wettzell 24.07 306 P **P 20 50 51.6 -0.8**
WET pmax pmax
comp=Z,456nm,1.1s
WET Wettzell 24.07 306 P **P 20 50 51.6 -0.8**
comp=Z,456nm,1.1s
AAK Ala-Archa 24.09 70 P **P 20 50 52.5 -0.3**
comp=Z,224nm,1.3s,baz=242,slow=8.5,SNR=80
AAK PcP **PcP 20 54 34.1 +0.2**
comp=Z,15nm,0.8s,baz=106,slow=2.7,SNR=5.1
AAK LR LR 21 01 37.2
comp=Z,13μm,21.6s,baz=275,slow=40
AAK Ala-Archa 24.09 70 *c i*P **P 20 50 52.3 -0.5**
AAK pmax pmax
comp=Z,1μm,1.5s
AAK Ala-Archa 24.09 70 *e*P **P 20 50 53.6 +0.8**
comp=Z,670nm,1.4s
AAK PcP **PcP 20 54 34.1 +0.2**
AAK Ala-Archa 24.09 70 P **P 20 50 53.1 +0.3**
SNR=186
AAK Ala-Archa 24.09 70 P **P 20 50 53.1 +0.3**
SNR=186
AAK P **P 20 50 53.1 +0.3**
SNR=186
AAK P **P 20 50 53.1 +0.3**
SNR=186
FRU Bishkek 24.17 70 *e*P **P 20 50 54.0 +0.6**
FRU *e*S **S 20 55 06.0 -5.5**
FRU pmax pmax
comp=Z,1μm,2.2s
FRU MLR MLR
comp=E,14μm,14.0s
FRU Bishkek 24.17 70 *e*P **P 20 50 54.0 +0.6**
comp=E,1μm,2.2s
WTTA Wattenberg 24.49 301 *i* P **P 20 50 56.9 +0.3**
comp=E,631nm,1.1s,SNR=186
WTTA Wattenberg 24.49 301 P **P 20 50 56.8 +0.3**
comp=E,631nm,1.1s,SNR=186
WATA Walderalm 24.54 301 *i* pP **P 20 50 57.1 +0.2**
comp=E,612nm,1.1s,SNR=244
WATA Walderalm 24.54 301 P **P 20 50 57.1 +0.2**
comp=E,612nm,1.1s,SNR=244
CLL Collm 24.62 311 *e*P **P 20 50 56.9 -0.5**
CLL pmax pmax
comp=Z,262nm,1.2s
CLL Collm 24.62 311 *e*P **P 20 50 56.9 -0.5**
comp=Z,262nm,1.2s
CLL Collm 24.62 311 *i* P **P 20 50 56.0 -1.4**
comp=Z,1μm,2.3s
CLL *e*Pmax 20 50 59.0
CLL *e* 20 51 19.0
CLL *e* 20 52 38.0
CLL *e*S **S 20 55 25.0 +6.6**
comp=N,4μm,20.8s
CLL *e*S **S 20 55 25.0 +6.6**
comp=E,12μm,17.1s
CLL *e*S **S 20 55 25.0 +6.6**
comp=Z,7μm,20.8s
CLL *e*SSS SSS 20 56 15.0
CLL *e* 20 57 05.0
CLL Lmax 21 03 00.0
CLL Collm 24.62 311 *e*P **P 20 50 56.9 -0.5**
comp=Z,262nm,1.2s
NKC Novy Kostel 24.63 308⇑ *e*P **P 20 50 56.9 -0.6**
NKC *e*S **S 20 55 21.3 +2.7**
NKC AMS AMS 21 03 40.0
comp=Z,13μm,13.8s
NKC Novy Kostel 24.63 308 *e*P **P 20 50 56.9 -0.6**
NKC *e*S **S 20 55 21.3 +2.7**
NKC MLR MLR
comp=Z,13μm,13.8s
NKC Novy Kostel 24.63 308 *e*P **P 20 50 56.9 -0.6**
comp=Z,13μm,13.8s
NKC S **S 20 55 21.3 +2.7**
MEF Metsahovi 24.66 337 *e*P **P 20 50 57.7 +0.1**
SNR=152
MOTA Moosalm 24.86 301 *i* P **P 20 50 59.6 -0.2**
comp=Z,476nm,0.8s,SNR=203
MOTA Moosalm 24.86 301 P **P 20 50 59.6 -0.2**
comp=Z,476nm,0.8s,SNR=203
FETA Feichten 25.07 300 *i* P **P 20 51 02.6 +0.9**
comp=Z,271nm,0.9s,SNR=98
FETA Feichten 25.07 300 P **P 20 51 02.6 +0.9**
comp=Z,271nm,0.9s,SNR=98
VLC Villacollemand 25.08 293 *e*P **P 20 51 02.8 +1.2**
comp=Z,996nm,1.8s
VLC Villacollemand 25.08 293 *e*P **P 20 51 02.9 +1.2**
comp=Z,996nm,1.8s
VLC LR LR
comp=Z,10μm,20.0s
RETA Reutte 25.11 301 *i* P **P 20 51 01.4 -0.6**
comp=Z,376nm,1.5s,SNR=75
RETA Reutte 25.11 301 P **P 20 51 01.4 -0.6**
comp=Z,376nm,1.5s,SNR=75
BSD Bornholm Skovb 25.15 320⇑ *i*P **P 20 51 00.8 -1.3**
comp=Z,9μm,14.0s
BSD Bornholm Skovb 25.15 320⇑ *i*P **P 20 51 00.8 -1.3**
BSD MLR MLR
comp=Z,9μm,14.0s
BSD Bornholm Skovb 25.15 320 *e*P **P 20 51 00.9 -1.2**
SNR=28
FINES FINESS Array B 25.20 341 P **P 20 51 03.4 +0.9**
comp=Z,282nm,1.0s,baz=139,slow=12,SNR=128
FINES PcP **PcP 20 54 36.5 +0.7**
comp=Z,12nm,0.9s,baz=145,slow=5.1,SNR=3.2
FINES S **S 20 55 30.1 +2.6**
comp=Z,8.9nm,1.0s,baz=171,slow=14,SNR=2.0
FINES LR LR 21 02 11.8
comp=Z,19μm,18.9s,baz=142,slow=40
GRA1 Grafenberg Arr 25.25 306 P **P 20 51 04.2 +1.1**
comp=Z,3μm,1.2s
GRF Grafenberg Arr 25.25 306 P **P 20 51 04.2 +1.1**
GRF pmax pmax
comp=Z,3μm,1.2s
GRFO Grafenberg 25.25 306 *e*P **P 20 51 04.7 +1.6**
GRFO pmax pmax
comp=Z,3μm,1.1s
GRFO Grafenberg 25.25 306 *e*P **P 20 51 04.7 +1.6**
comp=Z,3μm,1.1s
GRFO Grafenberg 25.25 306 *e*P **P 20 51 04.7 +1.6**
comp=Z,3μm,1.1s
MOX Moxa 25.25 309 P **P 20 51 04.0 +0.9**
MOX pmax pmax
comp=Z,105nm,1.3s
MOX Moxa 25.25 309 P **P 20 51 04.0 +0.9**
comp=Z,105nm,1.3s
FUORN Ofenpass-Fuorn 25.34 299 *e*P **P 20 51 04.5 +0.3**
comp=Z,235nm,1.0s
FUORN Ofenpass-Fuorn 25.34 299 *e*P **P 20 51 04.5 +0.3**
comp=Z,235nm,1.0s
JOF Joensuu 25.39 347 P **P 20 51 04.7 +0.5**
JOF pmax pmax
comp=Z,855nm,1.5s
JOF Joensuu 25.39 347 P **P 20 51 04.7 +0.5**
comp=Z,855nm,1.5s
KSH Kashi 25.46 78⇑ *i*P **P 20 51 03.3 -1.9**
KSH pP pP 20 51 07.4 -0.9
KSH sP sP 20 51 10.1 +0.5
KSH PP **PnPn 20 51 41.6 +1.3**
KSH PcP **PcP 20 54 37.4 +0.4**
KSH S **S 20 55 24.9 -7.4**
KSH sS pS 20 55 31.9 -3.7
KSH SS **SnSn 20 56 25.0 +0.5**
KSH PcS **PcS 20 58 15.8 -1.8**
KSH pmax pmax
comp=Z,270nm,1.2s
KSH pmax pmax
comp=Z,7μm,5.7s
KSH LR LR
comp=Z,7μm,9.5s
KSH LR LR
comp=Z,11μm,9.6s
KSH LR LR
comp=Z,14μm,9.7s
DAVOX Davos/Dischmat 25.62 299 P **P 20 51 07.3 +0.6**
comp=Z,86nm,0.7s,baz=111,slow=8.1,SNR=38
DAVOX S **S 20 55 39.6 +4.8**
comp=Z,4.6nm,1.0s,baz=260,slow=9.0,SNR=2.0
DAVA Damuels 25.68 301 *i* P **P 20 51 07.8 +0.6**
comp=Z,558nm,1.6s,SNR=98
DAVA Damuels 25.68 301 P **P 20 51 07.8 +0.6**
comp=Z,558nm,1.6s,SNR=98
RGN Rugen 25.70 318 *e*P **P 20 51 09.2 +2.2**
comp=Z,2μm,1.3s
RGN Rugen 25.70 318 *e*P **P 20 51 09.2 +2.2**
comp=Z,2μm,1.3s
TMCR Tamitsa 25.79 355 *e*P **P 20 51 08.5 +0.7**
TMCR *e*S **S 20 55 41.3 +4.6**
TMCR pmax pmax
comp=Z,1μm,1.5s
TMCR Tamitsa 25.79 355 *e*P **P 20 51 08.5 +0.7**
comp=Z,1μm,1.5s
MDOK Medeo 25.95 69 *i* P **P 20 51 08.2 -1.5**
comp=Z,998nm,1.9s
TUE Stuetta 25.95 299 *e*P **P 20 51 09.2 -0.5**
comp=Z,548nm,1.7s
TUE Stuetta 25.95 299 *e*P **P 20 51 09.2 -0.5**
comp=Z,548nm,1.7s
TUE LR LR
comp=Z,7μm,20.0s
RAF Rauma 26.11 336 *e*P **P 20 51 10.7 0.0**
SNR=152
PGF Pioggiola 26.11 290 *e*P **P 20 51 10.7 -0.4**
PGF pmax pmax
comp=Z,1μm,1.1s
PGF Pioggiola 26.11 290 *e*P **P 20 51 10.7 -0.4**
comp=Z,1μm,1.1s
VSL Villasalto 26.14 283 *e*P **P 20 51 10.7 -0.5**
comp=Z,325nm,1.0s
VSL Villasalto 26.14 283 *e*P **P 20 51 10.7 -0.5**
comp=Z,325nm,1.0s
VSL LR LR
comp=Z,8μm,20.0s
SUF Sumiainen 26.27 342 P **P 20 51 12.8 +0.6**
SUF pmax pmax
comp=Z,380nm,1.5s
SUF Sumiainen 26.27 342 P **P 20 51 12.8 +0.6**
comp=Z,380nm,1.5s
STU Stuttgart 26.36 304 *e*P **P 20 51 13.0 -0.2**
STU pmax pmax
comp=Z,289nm,1.2s
STU Stuttgart 26.36 304 *e*P **P 20 51 13.0 -0.2**
comp=Z,289nm,1.2s
STU Stuttgart 26.36 304 *e*P **P 20 51 13.0 -0.2**
comp=Z,289nm,1.2s
SPAK Spaichingen-Ko 26.52 302 *e*P **P 20 51 15.0 +0.3**
LLD Lille Linde 26.62 319 *i* P **P 20 51 17.5 +2.1**
comp=Z,802nm,1.3s
LLD Lille Linde 26.62 319 *i* P **P 20 51 17.5 +2.1**
LLD pmax pmax
comp=Z,800nm,1.3s
LLD Lille Linde 26.62 319 *i* P **P 20 51 17.5 +2.1**
comp=Z,800nm,1.3s
COP Copenhagen 26.67 320⇑ *i*P **P 20 51 16.9 +1.1**
COP Copenhagen 26.67 320⇑ *i*P **P 20 51 16.9 +1.1**
COP Copenhagen 26.67 320 *i* P **P 20 51 16.9 +1.1**
TOD Tromm 26.77 305 *e*P **P 20 51 17.3 +0.4**
BFO Black Forest 26.86 303 *i* P **P 20 51 20.2 +2.5**
BFO Black Forest 26.86 303 *e*P **P 20 51 17.1 -0.6**
comp=Z,103nm,1.3s
BFO Black Forest 26.86 303 *e*P **P 20 51 17.1 -0.6**
comp=Z,103nm,1.3s
BFO LR LR
comp=Z,5μm,21.0s
TDK Taldyqorghan 26.93 65 *i* P **P 20 51 16.9 -1.4**
comp=Z,757nm,2.1s
ATD Arta Tunnel 26.95 181 P **P 20 51 21.9 +3.2**
comp=Z,8.7nm,0.8s,baz=6.2,slow=6.8,SNR=12
ATD LR LR 21 02 38.0
comp=Z,22μm,18.3s,baz=5.5,slow=38
SATY Saty 26.95 69 *i* P **P 20 51 17.5 -1.2**
comp=Z,1μm,2.3s
ZHN Zhinishke 26.96 69 *i* P **P 20 51 17.5 -1.3**
comp=Z,612nm,2.1s
ZHN LRM MLR 21 03 06.2
comp=Z,1μm,9.8s
KEST Kesra 26.98 274 P **P 20 51 19.9 +0.9**
comp=Z,141nm,1.1s,baz=22,slow=3.6,SNR=36
KEST Kesra 26.98 274 *e*P **P 20 51 19.3 +0.3**
comp=Z,298nm,1.2s
KEST Kesra 26.98 274 *e*P **P 20 51 19.3 +0.3**
comp=Z,298nm,1.2s
FELD Feldberg im Sc 27.01 302 *e*P **P 20 51 19.2 0.0**
THN Thein Dam 27.15 93 *e*P **P 20 51 16.6 -3.8**
THN *e*x **x** 20 54 33.6
KTD Kalmit 27.18 305 *e*P **P 20 51 21.4 +0.8**
REVF Revere 27.26 292 *e*P **P 20 51 22.6 +1.2**
REVF Revere 27.26 292 *e*P **P 20 51 22.6 +1.2**
LUCF Luceram 27.27 293 *e*P **P 20 51 22.9 +1.4**
LUCF Luceram 27.27 293 *e*P **P 20 51 22.9 +1.4**
BHJ Bhuj 27.29 116 *e*P **P 20 51 20.8 -0.9**
LANF Langenberg 27.30 304 *e*P **P 20 51 21.6 -0.1**
LANF Langenberg 27.30 304 P **P 20 51 22.1 +0.5**
LANF Langenberg 27.30 304 P **P 20 51 22.1 +0.5**
SENIN Lac Senin/Sane 27.35 298 *e*P **P 20 51 21.6 -0.8**
comp=Z,690nm,1.6s
SENIN Lac Senin/Sane 27.35 298 *e*P **P 20 51 21.6 -0.8**
comp=Z,690nm,1.6s
MVIF Mont Vial 27.41 293 *e*P **P 20 51 24.2 +1.3**
MVIF Mont Vial 27.41 293 *e*P **P 20 51 24.2 +1.3**
CDF Champ du Feu 27.57 303 *e*P **P 20 51 22.7 -1.4**
CDF pmax pmax
comp=Z,163nm,1.9s
CDF Champ du Feu 27.57 303 *e*P **P 20 51 22.7 -1.4**
comp=Z,163nm,1.9s
MOF Molkenrain 27.59 301 *e*P **P 20 51 24.4 0.0**
MOF Molkenrain 27.59 301 *e*P **P 20 51 24.4 0.0**
ABH Alteburg 27.62 306 *e*P **P 20 51 25.8 +1.3**
ECH Echery 27.62 302 *e*P **P 20 51 24.2 -0.3**
ECH Echery 27.62 302 *e*P **P 20 51 24.6 +0.1**
ECH pmax pmax
comp=Z,205nm,1.7s
ECH MLR MLR
comp=Z,6μm,19.0s
ECH Echery 27.62 302 *e*P **P 20 51 24.6 +0.1**
comp=Z,6μm,19.0s
ECH Echery 27.62 302 *e*P **P 20 51 24.6 +0.1**
comp=Z,205nm,1.7s
ECH LR LR
comp=Z,6μm,19.0s
KURBB Kurchatov Arra 27.66 53 P **P 20 51 24.5 -0.3**
comp=Z,58nm,0.7s,baz=264,slow=9.1,SNR=96
KURBB PcP **PcP 20 54 43.7 +2.0**
comp=Z,11nm,1.1s,baz=253,slow=3.0,SNR=6.1
DHRM DHARAMSHALA 27.67 93 *e*P **P 20 51 23.4 -1.9**
DHRM AMB AMB 20 51 30.1
comp=Z,667nm,0.9s
LPG La Plagne 27.70 296 *e*P **P 20 51 25.4 -0.2**
LPG pmax pmax
comp=Z,685nm,1.4s
LPG La Plagne 27.70 296 *e*P **P 20 51 25.4 -0.2**
comp=Z,685nm,1.4s
LPL La Plagne 27.71 296 *e*P **P 20 51 25.5 -0.1**
LPL pmax pmax
comp=Z,523nm,1.6s
LPL La Plagne 27.71 296 *e*P **P 20 51 25.5 -0.1**
comp=Z,523nm,1.6s
SHLS Shalkode 27.72 69 *i* P **P 20 51 27.0 +1.4**
comp=Z,262nm,1.3s
SHLS *i* S **S 20 56 11.2 +3.3**
SHLS LRM MLR 21 03 27.9
comp=Z,996nm,9.9s
KURK Kurchatov 27.74 52⇓ *i*P **P 20 51 25.6 +0.1**
KURK pmax pmax
comp=Z,1μm,1.7s
KURK Kurchatov 27.74 52 *i* P **P 20 51 25.6 +0.1**
comp=Z,1μm,1.7s
KURK Kurchatov 27.74 52 *e*P **P 20 51 25.8 +0.3**
comp=Z,507nm,1.7s
KURK PcP **PcP 20 54 43.7 +1.8**
KURK LR LR
comp=Z,22μm,19.0s
BNI Bardonecchia 27.74 295 *e*P **P 20 51 25.0 -0.8**
BNI pmax pmax
comp=Z,507nm,1.2s
BNI MLR MLR
comp=Z,7μm,19.0s
BNI Bardonecchia 27.74 295 *e*P **P 20 51 25.0 -0.8**
comp=Z,7μm,19.0s
BNI Bardonecchia 27.74 295 *e*P **P 20 51 24.9 -0.8**
comp=Z,507nm,1.2s
BNI LR LR
comp=Z,7μm,19.0s
LOMF Lomont 27.75 300 *e*P **P 20 51 26.6 +0.8**
LOMF Lomont 27.75 300 *e*P **P 20 51 26.6 +0.8**
HINF Hinteralfeld 27.78 301 *e*P **P 20 51 24.9 -1.1**
HINF pmax pmax
comp=Z,110nm,1.8s
HINF Hinteralfeld 27.78 301 *e*P **P 20 51 24.9 -1.1**
comp=Z,110nm,1.8s
RSL Roselend 27.79 297⇑ *e*P **P 20 51 26.0 -0.3**
RSL Roselend 27.79 297⇑ *e*P **P 20 51 26.0 -0.3**
RUP Ruppelstein 27.90 305 *e*P **P 20 51 26.9 -0.1**
BHK Bhakra 28.09 95 *e*P **P 20 51 27.5 -1.4**
GDM Grand'Maison 28.14 296⇑ *e*P **P 20 51 29.1 -0.3**
GDM Grand'Maison 28.14 296⇑ *e*P **P 20 51 29.1 -0.3**
CABF La Chapelle 28.20 299 *e*P **P 20 51 30.1 +0.2**
CABF pmax pmax
comp=Z,2μm,1.7s
CABF La Chapelle 28.20 299 *e*P **P 20 51 30.1 +0.2**
comp=Z,2μm,1.7s
CMAH Djebel Manchou 28.24 277 P **P 20 51 31.7 +1.4**
CMAH Djebel Manchou 28.24 277 P **P 20 51 31.7 +1.4**
ABSA Djebel Ababsia 28.29 277 P **P 20 51 32.3 +1.6**
ABSA Djebel Ababsia 28.29 277 P **P 20 51 32.3 +1.6**
ORIF Oris-en-Rattie 28.31 295 *e*P **P 20 51 29.7 -1.1**
ORIF pmax pmax
comp=Z,289nm,1.3s
ORIF Oris-en-Rattie 28.31 295 *e*P **P 20 51 29.7 -1.1**
comp=Z,289nm,1.3s
GRN Grenoble 28.40 296⇑ *e*P **P 20 51 31.2 -0.4**
GRN Grenoble 28.40 296⇑ *e*P **P 20 51 31.2 -0.4**
HFS Hagfors 28.43 329 P **P 20 51 30.4 -1.2**
comp=Z,209nm,0.9s,baz=132,slow=8.2,SNR=64
HFS LR LR 21 03 49.2
comp=Z,13μm,18.5s,baz=125,slow=38
WLF Walferdange 28.47 305 P **P 20 51 32.9 +0.7**
comp=Z,81nm,2.1s
WLF Walferdange 28.47 305 *e*P **P 20 51 32.7 +0.6**
WLF pmax pmax
comp=Z,125nm,1.2s
WLF MLR MLR
comp=Z,6μm,22.0s
WLF Walferdange 28.47 305 *e*P **P 20 51 32.7 +0.6**
comp=Z,6μm,22.0s
WLF Walferdange 28.47 305 *e*P **P 20 51 32.6 +0.6**
comp=Z,125nm,1.2s
WLF LR LR
comp=Z,6μm,22.0s
SDNR Sundarnagar 28.49 94 *e*P **P 20 51 30.6 -1.9**
WTSB Winterswijk 28.52 310 *e*P **P 20 51 33.5 +1.1**
comp=Z,2μm,1.8s

CAEH	**'Ain El Ouahch**	**28.64 278**	P	**P**	**20 51 35.2 +1.4**
CAEH	**'Ain El Ouahch**	**28.64 278**	P	**P**	**20 51 35.2 +1.4**
MUD	**Monsted U'grnd**	**28.65 320⇑**	*i* P	**P**	**20 51 34.9 +1.4**
MUD	**Monsted U'grnd**	**28.65 320⇑**	*i* P	**P**	**20 51 34.9 +1.4**
MUD	**Monsted U'grnd**	**28.65 320**	*i* P	**P**	**20 51 34.9 +1.4**
SEM	**Semipalatinsk**	**28.70 54**	*i* P	**P**	**20 51 32.7 -1.7**
	comp=Z,18nm,0.7s				
SEM			*i* S	**S**	**20 56 21.4 -2.0**
SEM			LR	LR	21 03 03.8
	comp=Z,9μm,16.5s				
MEM	**Membach**	**28.72 307**	P	**P**	**20 51 35.6 +1.3**
	comp=Z,111nm,1.9s				
MEM	**Membach**	**28.72 307**	P	**P**	**20 51 36.6 +2.3**
MEM	**Membach**	**28.72 307**	P	**P**	**20 51 36.6 +2.3**
SMLA	**Simla**	**28.80 95**	*e*P	**P**	**20 51 34.9 -0.2**
SMLA			AMB	AMB	20 51 39.9
	comp=Z,561nm,2.1s				
HGN	**Heimansgroeve**	**28.80 307**	*e*P	**P**	**20 51 36.0 +1.0**
	comp=Z,911nm,1.8s				
HGN			*e*S	**S**	**20 56 29.9 +5.5**
HGN			*e*L	L	21 05 22.4
	comp=Z,6μm,18.1s				
HGN	**Heimansgroeve**	**28.80 307**	*e*P	**P**	**20 51 36.0 +1.0**
	comp=Z,911nm,1.8s				
CKFL	**Kef-Lekhel**	**28.84 277**	P	**P**	**20 51 36.8 +1.1**
CKFL	**Kef-Lekhel**	**28.84 277**	P	**P**	**20 51 36.8 +1.1**
BEBN	**Eben Emael**	**28.96 307**	P	**P**	**20 51 38.2 +1.8**
BEBN	**Eben Emael**	**28.96 307**	P	**P**	**20 51 38.2 +1.8**
CASM	**Ain Smara**	**29.06 277**	P	**P**	**20 51 38.4 +0.9**
CASM	**Ain Smara**	**29.06 277**	P	**P**	**20 51 38.4 +0.9**
BCLA	**Clavier**	**29.13 306**	P	**P**	**20 51 39.9 +2.0**
	comp=Z,83nm,2.2s				
BCLA	**Clavier**	**29.13 306**	P	**P**	**20 51 39.9 +2.0**
	comp=Z,83nm,2.2s				
VIVF	**Saint-Julien-l**	**29.17 295**	*e*P	**P**	**20 51 37.7 -0.7**
VIVF			pmax	pmax	
	comp=Z,178nm,1.2s				
VIVF	**Saint-Julien-l**	**29.17 295**	*e*P	**P**	**20 51 37.7 -0.7**
	comp=Z,178nm,1.2s				
CTEI	**Djebel Teioual**	**29.18 277**	P	**P**	**20 51 40.2 +1.5**
CTEI	**Djebel Teioual**	**29.18 277**	P	**P**	**20 51 40.2 +1.5**
SSB	**Saint Sauveur**	**29.25 296⇑**	*e*P	**P**	**20 51 38.8 -0.3**
SSB	**Saint Sauveur**	**29.25 296**	*e*P	**P**	**20 51 38.5 -0.7**
SSB			pmax	pmax	
	comp=Z,210nm,1.2s				
SSB			MLR	MLR	
	comp=Z,3μm,19.0s				
SSB	**Saint Sauveur**	**29.25 296⇑**	*e*P	**P**	**20 51 38.8 -0.3**
SSB	**Saint Sauveur**	**29.25 296**	*e*P	**P**	**20 51 38.5 -0.7**
	comp=Z,210nm,1.2s				
SSB			LR	LR	
	comp=Z,3μm,19.0s				
GIVF	**Givet**	**29.39 306**	*e*P	**P**	**20 51 41.1 +0.9**
GIVF			pmax	pmax	
	comp=Z,267nm,1.7s				
GIVF	**Givet**	**29.39 306**	*e*P	**P**	**20 51 41.1 +0.9**
	comp=Z,267nm,1.7s				
DFRA	**Djebel Bou Aff**	**29.46 278**	P	**P**	**20 51 42.5 +1.3**
DFRA	**Djebel Bou Aff**	**29.46 278**	P	**P**	**20 51 42.5 +1.3**
MAKZ	**Makanchi**	**29.47 61**	*e*P	**P**	**20 51 41.0 0.0**
MAKZ			pmax	pmax	
	comp=Z,57nm,0.9s				
MAKZ	**Makanchi**	**29.47 61**	*e*P	**P**	**20 51 41.0 0.0**
	comp=Z,57nm,0.9s				
MAKZ	**Makanchi**	**29.47 61**	*e*P	**P**	**20 51 41.0 0.0**
	comp=Z,57nm,0.9s				
DOU	**Dourbes**	**29.53 306**	P	**P**	**20 51 42.0 +0.5**
	comp=Z,68nm,1.7s				
DOU	**Dourbes**	**29.53 306**	P	**P**	**20 51 42.0 +0.5**
	comp=Z,68nm,1.7s				
APA	**Apatity**	**29.54 352⇑**	*i* P	**P**	**20 51 41.0 -0.3**
APA			*i*		20 52 38.0
APA			*i* S	**S**	**20 56 31.0 -4.7**
APA			pmax	pmax	
	comp=Z,49nm,1.2s				
APA			MLR	MLR	
	comp=Z,23μm,16.0s				
APA	**Apatity**	**29.54 352**	*i* P	**P**	**20 51 41.0 -0.3**
	comp=Z,49nm,1.2s				
OSL	**Oslo**	**29.56 327**	*e*P	**P**	**20 51 40.6 -1.0**
OSL			IVmB_BB		20 51 42.6
	comp=Z,4μm,1.4s				
OSL			*e*S	**S**	**20 56 39.0 +2.8**
OSL	**Oslo**	**29.56 327**	*e*P	**P**	**20 51 40.6 -1.0**
	SNR=28				
NC602	**NORSAR Array S**	**29.65 329**	*e*P	**P**	**20 51 42.8 +0.4**
NC602	**NORSAR Array S**	**29.65 329**	*e*P	**P**	**20 51 42.8 +0.4**
MK31	**Makanchi Array**	**29.69 61**	*e*P	**P**	**20 51 42.8 -0.2**
MK31	**Makanchi Array**	**29.69 61**	*e*P	**P**	**20 51 42.8 -0.2**
MK31	**Makanchi Array**	**29.69 61**	*e*P	**P**	**20 51 42.8 -0.2**
MKAR	**Makanchi Array**	**29.69 61**	P	**P**	**20 51 42.7 -0.2**
	comp=Z,30nm,0.7s,baz=266,slow=7.3,SNR=50				
MKAR			LR	LR	21 05 34.8
	comp=Z,17μm,18.1s,baz=268,slow=40				
MKAR	**Makanchi Array**	**29.69 61**	P	**P**	**20 51 42.7 -0.2**
MKAR			pmax	pmax	
	comp=Z,30nm,0.7s				
MKAR			MLR	MLR	
	comp=Z,17μm,18.1s				
MKAR	**Makanchi Array**	**29.69 61**	*e*P	**P**	**20 51 42.8 -0.2**
	comp=Z,261nm,0.8s				
MKAR	**Makanchi Array**	**29.69 61**	*e*P	**P**	**20 51 42.8 -0.2**
	comp=Z,261nm,0.8s				
LVZ	**Lovozero**	**29.74 354⇑**	*e*P	**P**	**20 51 43.7 +0.5**
LVZ			pmax	pmax	
	comp=Z,159nm,1.2s				
LVZ	**Lovozero**	**29.74 354**	*e*P	**P**	**20 51 43.7 +0.5**
	comp=Z,159nm,1.2s				
LVZ	**Lovozero**	**29.74 354**	*e*P	**P**	**20 51 42.6 -0.6**
	comp=Z,100nm,0.9s				
LVZ			LR	LR	
	comp=Z,20μm,19.0s				
HOMB	**Homborsund**	**29.75 323**	*e*P	**P**	**20 51 43.7 +0.4**
HOMB			*e*S	**S**	**20 56 41.6 +2.3**
HOMB			IVMs_BB	IVMs_BB	21 06 06.2
	comp=Z,6μm,8.9s				
HOMB	**Homborsund**	**29.75 323**	*e*P	**P**	**20 51 43.7 +0.4**
	SNR=28				
SMF	**Signal de Mont**	**29.75 298**	*e*P	**P**	**20 51 43.0 -0.5**
SMF			pmax	pmax	
	comp=Z,72nm,0.9s				
SMF	**Signal de Mont**	**29.75 298**	*e*P	**P**	**20 51 43.0 -0.5**
	comp=Z,72nm,0.9s				
BAIF	**Baives**	**29.77 305**	*e*P	**P**	**20 51 45.6 +2.0**
BAIF			pmax	pmax	
	comp=Z,212nm,1.4s				
BAIF	**Baives**	**29.77 305**	*e*P	**P**	**20 51 45.6 +2.0**
	comp=Z,212nm,1.4s				
UCC	**Uccle**	**29.79 307**	P	**P**	**20 51 45.0 +1.3**
UCC	**Uccle**	**29.79 307**	P	**P**	**20 51 45.0 +1.3**
SNF	**Seneffe**	**29.79 306**	P	**P**	**20 51 45.8 +2.1**
SNF	**Seneffe**	**29.79 306**	P	**P**	**20 51 45.8 +2.1**
NC405	**NORSAR Array S**	**29.79 329**	*e*P	**P**	**20 51 43.5 -0.2**
NC405	**NORSAR Array S**	**29.79 329**	*e*P	**P**	**20 51 43.5 -0.2**
DDI	**Dehra Dun**	**29.83 95**	*e*P	**P**	**20 51 43.4 -1.0**
DDI			AMB	AMB	20 51 46.5
	comp=Z,296nm,2.6s				
CKHR	**Kef el Ahmar**	**29.89 277**	P	**P**	**20 51 46.5 +1.5**
CKHR	**Kef el Ahmar**	**29.89 277**	P	**P**	**20 51 46.5 +1.5**
PLDF	**La Plantade**	**29.90 297**	*e*P	**P**	**20 51 45.3 +0.4**
PLDF	**La Plantade**	**29.90 297**	*e*P	**P**	**20 51 45.3 +0.4**
KONO	**Kongsberg**	**29.90 326***c*	*i* P	**P**	**20 51 44.0 -0.6**
KONO			pmax	pmax	
	comp=Z,1μm,1.2s				
KONO	**Kongsberg**	**29.90 326**	*e*P	**P**	**20 51 45.3 +0.7**
	comp=Z,160nm,1.1s				
KONO	**Kongsberg**	**29.90 326**	*e*P	**P**	**20 51 45.3 +0.7**
	comp=Z,160nm,1.1s				
NDI	**New Delhi**	**29.91 99**	*e*P	**P**	**20 51 43.0 -2.1**
SET	**Setif**	**29.92 277**	P	**P**	**20 51 47.0 +1.8**
SET	**Setif**	**29.92 277**	P	**P**	**20 51 47.0 +1.8**
NB201	**NORSAR Array S**	**29.93 329**	*e*P	**P**	**20 51 45.7 +0.8**
NB201	**NORSAR Array S**	**29.93 329**	*e*P	**P**	**20 51 45.7 +0.8**
NB2	**NORSAR Subarra**	**29.95 329**	P	**P**	**20 51 43.4 -1.8**
	comp=Z,391nm,1.7s,baz=126,slow=9.3				
NB2	**NORSAR Subarra**	**29.95 329**	P	**P**	**20 51 43.4 -1.8**
	baz=126,slow=9.3				
NB2	**NORSAR Subarra**	**29.95 329**	P	**P**	**20 51 43.4 -1.8**
	comp=Z,391nm,1.7s,SNR=4.3				
NOA	**NORSAR Array B**	**29.95 329**	P	**P**	**20 51 43.8 -1.4**
	comp=Z,46nm,0.9s,baz=126,slow=8.8,SNR=29				
NOA			LR	LR	21 04 18.7
	comp=Z,7μm,21.3s,baz=125,slow=38				
MAHO	**Mahon**	**29.96 285**	*i* P	**P**	**20 51 44.7 -0.7**
NAO01	**NORSAR Array S**	**29.98 328**	*e*P	**P**	**20 51 45.5 +0.2**
NAO01	**NORSAR Array S**	**29.98 328**	*e*P	**P**	**20 51 45.5 +0.2**
NC303	**NORSAR Array S**	**30.00 329**	*e*P	**P**	**20 51 46.0 +0.5**
NC303	**NORSAR Array S**	**30.00 329**	*e*P	**P**	**20 51 46.0 +0.5**
NC303	**NORSAR Array S**	**30.00 329**	*e*P	**P**	**20 51 46.0 +0.5**
AVF	**Avril sur Loir**	**30.09 299**	*e*P	**P**	**20 51 45.9 -0.6**
AVF			pmax	pmax	
	comp=Z,438nm,1.7s				
AVF	**Avril sur Loir**	**30.09 299**	*e*P	**P**	**20 51 45.9 -0.6**
	comp=Z,438nm,1.7s				
NBO00	**NORSAR Array S**	**30.12 329**	*e*P	**P**	**20 51 47.5 +0.9**
NBO00	**NORSAR Array S**	**30.12 329**	*e*P	**P**	**20 51 47.5 +0.9**
LBL	**Lubilhac**	**30.17 296**	*e*P	**P**	**20 51 47.8 +0.5**
LBL	**Lubilhac**	**30.17 296**	*e*P	**P**	**20 51 47.8 +0.5**
AGO	**Saint Agoulin**	**30.24 297**	*e*P	**P**	**20 51 47.9 +0.1**
AGO	**Saint Agoulin**	**30.24 297**	*e*P	**P**	**20 51 47.9 +0.1**
NC204	**NORSAR Array S**	**30.27 329**	*e*P	**P**	**20 51 48.2 +0.2**
NC204	**NORSAR Array S**	**30.27 329**	*e*P	**P**	**20 51 48.2 +0.2**
PYM	**Petit Puy Mans**	**30.33 297**	*e*P	**P**	**20 51 49.1 +0.4**
PYM	**Petit Puy Mans**	**30.33 297**	*e*P	**P**	**20 51 49.1 +0.4**
FRNF	**Fournols**	**30.65 296⇑**	*e*P	**P**	**20 51 52.3 +0.8**
FRNF	**Fournols**	**30.65 296⇑**	*e*P	**P**	**20 51 52.3 +0.8**
VERF	**Verneugheol**	**30.69 297**	*e*P	**P**	**20 51 52.8 +0.9**
VERF	**Verneugheol**	**30.69 297**	*e*P	**P**	**20 51 52.8 +0.9**
LRDF	**Laroque-de-Fa**	**30.83 291**	*e*P	**P**	**20 51 52.1 -0.9**
LRDF	**Laroque-de-Fa**	**30.83 291**	*e*P	**P**	**20 51 52.1 -0.9**
FILF	**Fillols**	**30.85 290**	*e*P	**P**	**20 51 53.9 +0.6**
FILF	**Fillols**	**30.85 290**	*e*P	**P**	**20 51 53.9 +0.6**
CAF	**Calviac**	**31.02 295**	*e*P	**P**	**20 51 54.6 -0.1**
CAF			pmax	pmax	
	comp=Z,94nm,1.2s				
CAF	**Calviac**	**31.02 295**	*e*P	**P**	**20 51 54.6 -0.1**
	comp=Z,94nm,1.2s				
MENF	**Mencas**	**31.14 306**	*e*P	**P**	**20 51 55.1 -0.6**
MENF	**Mencas**	**31.14 306**	*e*P	**P**	**20 51 55.1 -0.6**
CARF	**Carcanieres**	**31.17 291**	*e*P	**P**	**20 51 56.0 -0.2**
CARF	**Carcanieres**	**31.17 291**	*e*P	**P**	**20 51 56.0 -0.2**
BLS5	**Blasjo**	**31.21 324**	*e*P	**P**	**20 51 57.5 +1.2**
BLS5			*e*S	**S**	**20 57 03.9 +1.6**
BLS5	**Blasjo**	**31.21 324**	*e*P	**P**	**20 51 57.5 +1.2**
	SNR=27				
ODD1	**Odda**	**31.35 325**	*e*P	**P**	**20 51 58.0 +0.5**
ODD1	**Odda**	**31.35 325**	*e*P	**P**	**20 51 58.0 +0.5**
	SNR=27				
STAV	**Stavanger**	**31.36 323**	*e*P	**P**	**20 51 57.8 +0.3**
STAV			IVmB_BB		20 52 02.0
	comp=Z,2μm,2.0s				
STAV			*e*S	**S**	**20 57 08.1 +3.6**
STAV			IVMs_BB	IVMs_BB	21 06 19.5
	comp=Z,5μm,16.1s				
STAV	**Stavanger**	**31.36 323**	*e*P	**P**	**20 51 57.8 +0.3**
	SNR=27				
DOMB	**Dombas**	**31.37 330**	*e*P	**P**	**20 51 58.0 +0.4**
DOMB			IVmB_BB		20 52 00.6
	comp=Z,2μm,1.9s				
DOMB			*e*S	**S**	**20 57 07.7 +3.0**
DOMB			IVMs_BB	IVMs_BB	21 05 50.4
	comp=Z,9μm,10.5s				
DOMB	**Dombas**	**31.37 330**	*e*P	**P**	**20 51 58.0 +0.4**
	SNR=27				
NVS	**Novosibirsk**	**31.42 46**	*e*P	**P**	**20 51 59.5 +1.4**
NVS			*e*		20 53 17.3
NVS			pmax	pmax	
	comp=Z,197nm,1.6s				
NVS			pmax	pmax	
	comp=E,63nm,1.5s				
NVS	**Novosibirsk**	**31.42 46**	*e*P	**P**	**20 51 59.5 +1.4**
	comp=E,197nm,1.6s				
TBLU	**Trondheim**	**31.59 332**	*e*P	**P**	**20 51 59.6 +0.1**
TBLU			IVmB_BB		20 52 03.6
	comp=Z,2μm,1.2s				
TBLU			*e*S	**S**	**20 57 10.2 +2.2**
TBLU	**Trondheim**	**31.59 332**	*e*P	**P**	**20 51 59.6 +0.1**
	SNR=27				
EMHD	**Djebel Mahouad**	**31.82 278**	P	**P**	**20 52 01.8 -0.2**
EMHD	**Djebel Mahouad**	**31.82 278**	P	**P**	**20 52 01.8 -0.2**
SALF	**Salau**	**31.83 291**	*e*P	**P**	**20 52 01.6 -0.4**
SALF	**Salau**	**31.83 291**	*e*P	**P**	**20 52 01.6 -0.4**
HYA	**Hoyanger**	**32.12 327**	*e*P	**P**	**20 52 05.6 +1.5**
HYA			IVmB_BB		20 52 13.4
	comp=Z,2μm,2.0s				
HYA			*e*S	**S**	**20 57 18.7 +2.5**
HYA			IVMs_BB	IVMs_BB	21 06 33.7
	comp=Z,5μm,12.7s				
HYA	**Hoyanger**	**32.12 327**	*e*P	**P**	**20 52 05.6 +1.5**
	SNR=27				
MOR8	**Moi Rana**	**32.12 338**	*e*P	**P**	**20 52 03.6 -0.6**
MOR8			IVmB_BB		20 52 07.7
	comp=Z,2μm,1.0s				
MOR8			*e*S	**S**	**20 57 18.4 +2.1**
MOR8			IVMs_BB	IVMs_BB	21 06 15.1
	comp=Z,11μm,10.3s				
MOR8	**Moi Rana**	**32.12 338**	*e*P	**P**	**20 52 03.6 -0.6**
	SNR=27				
ZAA0	**Zalesovo Array**	**32.12 48**	*e*P	**P**	**20 52 04.7 +0.4**
ZAA0	**Zalesovo Array**	**32.12 48**	*e*P	**P**	**20 52 04.7 +0.4**
ZALV	**Zalesovo Beam**	**32.12 48**	P	**P**	**20 52 03.3 -1.0**
	comp=Z,7.8nm,0.6s,baz=259,slow=9.4,SNR=52				
ZALV			PP	**PnPn**	**20 53 07.6 -2.2**
	comp=Z,26nm,1.1s,baz=264,slow=14,SNR=3.6				
ZALV			LR	LR	21 07 07.7
	comp=Z,16μm,19.5s,baz=252,slow=40				
MELF	**Melles**	**32.13 291**	*e*P	**P**	**20 52 03.7 -0.9**
MELF	**Melles**	**32.13 291**	*e*P	**P**	**20 52 03.7 -0.9**
BER	**Bergen**	**32.14 325**	*e*P	**P**	**20 52 06.1 +1.8**
BER			IVmB_BB		20 52 07.8
	comp=Z,3μm,2.2s				
BER			*e*S	**S**	**20 57 19.3 +2.7**
BER	**Bergen**	**32.14 325**	*e*P	**P**	**20 52 06.1 +1.8**
	SNR=27				
ASK	**Askoy**	**32.24 325**	*e*P	**P**	**20 52 07.0 +1.7**
ASK			IVmB_BB		20 52 08.6
	comp=Z,2μm,1.8s				
AKN	**Aaknes**	**32.27 329**	*e*P	**P**	**20 52 06.7 +1.2**
AKN			*e*S	**S**	**20 57 21.7 +3.0**
AKN			IVMs_BB	IVMs_BB	21 06 10.0
	comp=Z,7μm,12.3s				
AKN	**Aaknes**	**32.27 329**	*e*P	**P**	**20 52 06.7 +1.2**
	SNR=27				
KTK1	**Kautokeino**	**32.33 347**	*e*P	**P**	**20 52 06.4 +0.4**
KTK1			IVmB_BB		20 52 08.3
	comp=Z,2μm,2.1s				
KTK1			*e*S	**S**	**20 57 21.4 +1.9**
KTK1			IVMs_BB	IVMs_BB	21 05 46.6
	comp=Z,13μm,13.8s				
KTK1	**Kautokeino**	**32.33 347**	*e*P	**P**	**20 52 06.4 +0.4**
	SNR=27				
WACR	**West Acre**	**32.38 310**	*e*P	**P**	**20 52 07.6 +1.1**
WACR			IAmb	IAmb	20 52 11.5
	comp=Z,896nm,1.1s				
WACR	**West Acre**	**32.38 310**	*e*P	**P**	**20 52 07.6 +1.1**
BOM	**Bombay**	**32.38 119**	*i* x	P	20 51 59.5 -7.4
BOM			*ex*	**S**	**20 57 23.8 +2.7**
KEV	**Kevo**	**32.39 350**	*e*P	**P**	**20 52 07.7 +1.2**
KEV			pmax	pmax	
	comp=Z,330nm,1.6s				
KEV	**Kevo**	**32.39 350**	*e*P	**P**	**20 52 07.7 +1.2**
	comp=Z,330nm,1.6s				
KEV	**Kevo**	**32.39 350**	PFAKE		20 52 20.0 +14
KEV			LR	LR	
	comp=Z,19μm,20.0s				
ARCES	**ARCESS Array B**	**32.41 349**	P	**P**	**20 52 07.0 +0.3**
	comp=Z,43nm,0.8s,baz=168,slow=6.2,SNR=31				
ARCES			LR	LR	21 05 60.0
	comp=Z,29μm,18.4s,baz=149,slow=38				
ARCES	**ARCESS Array B**	**32.41 349**	P	**P**	**20 52 07.0 +0.3**
ARCES			pmax	pmax	
	comp=Z,43nm,0.8s				
ARCES			MLR	MLR	
	comp=Z,29μm,18.4s				
ARCES	**ARCESS Array B**	**32.41 349**	P	**P**	**20 52 07.0 +0.3**
	comp=Z,29μm,18.4s				
ARE0	**ARCESS Array S**	**32.41 349**	*e*P	**P**	**20 52 07.7 +1.0**
	comp=Z,408nm,1.6s				
ARE0	**ARCESS Array S**	**32.41 349**	*e*P	**P**	**20 52 07.7 +1.0**
	comp=Z,408nm,1.6s				
RESF	**Ens**	**32.45 291**	*e*P	**P**	**20 52 08.2 +0.8**
RESF	**Ens**	**32.45 291**	*e*P	**P**	**20 52 08.2 +0.8**
LABF	**Labassere**	**32.61 292**	*e*P	**P**	**20 52 08.3 -0.5**
LABF	**Labassere**	**32.61 292**	*e*P	**P**	**20 52 08.3 -0.5**
STOK	**Stokkvaagen**	**32.65 338**	*e*P	**P**	**20 52 08.5 -0.2**
STOK			IVmB_BB		20 52 11.6
	comp=N,3μm,2.4s				
STOK			*e*S	**S**	**20 57 26.6 +2.3**
STOK			IVMs_BB	IVMs_BB	21 05 51.3
	comp=N,7μm,6.4s				
STOK	**Stokkvaagen**	**32.65 338**	*e*P	**P**	**20 52 08.5 -0.2**
	SNR=27				
VIEF	**Viey**	**32.67 292**	*e*P	**P**	**20 52 09.4 +0.1**
VIEF	**Viey**	**32.67 292**	*e*P	**P**	**20 52 09.4 +0.1**
SUE	**Sulen**	**32.68 326**	*e*P	**P**	**20 52 10.1 +1.0**
SUE			*e*		20 52 13.8
SUE			*e*S	**S**	**20 57 27.1 +2.0**
SUE			IVMs_BB	IVMs_BB	21 07 11.4
	comp=Z,7μm,11.8s				
SUE	**Sulen**	**32.68 326**	*e*P	**P**	**20 52 10.1 +1.0**
	SNR=27				
KONS	**Konsvik**	**32.73 338**	*e*P	**P**	**20 52 10.0 +0.6**
KONS			IVmB_BB		20 52 12.5
	comp=Z,4μm,2.1s				
KONS	**Konsvik**	**32.73 338**	*e*P	**P**	**20 52 10.0 +0.6**
	SNR=27				
FOO	**Floro**	**32.80 327**	*e*P	**P**	**20 52 11.0 +0.9**
FOO			*e*S	**S**	**20 57 29.7 +2.8**
FOO			IVMs_BB	IVMs_BB	21 07 01.1
	comp=Z,6μm,9.1s				
FOO	**Floro**	**32.80 327**	*e*P	**P**	**20 52 11.0 +0.9**
	SNR=27				
EBNR	**Beni Rached**	**32.90 279**	P	**P**	**20 52 12.0 +0.6**
EBNR	**Beni Rached**	**32.90 279**	P	**P**	**20 52 12.0 +0.6**
REYF	**Montagne du Re**	**32.95 292**	*e*P	**P**	**20 52 10.3 -1.5**
REYF	**Montagne du Re**	**32.95 292**	*e*P	**P**	**20 52 10.3 -1.5**
BHPL	**Bhopal**	**32.95 108**	*e*P	**P**	**20 52 10.1 -1.8**
GRR	**Gorron**	**32.97 302**	*e*P	**P**	**20 52 10.8 -1.0**
GRR			pmax	pmax	
	comp=Z,151nm,1.1s				
GRR	**Gorron**	**32.97 302**	*e*P	**P**	**20 52 10.8 -1.0**
	comp=Z,151nm,1.1s				
ECHA	**Ech Chlef**	**33.07 279**	P	**P**	**20 52 13.5 +0.8**
ECHA	**Ech Chlef**	**33.07 279**	P	**P**	**20 52 13.5 +0.8**
ATE	**Arette**	**33.17 292**	*e*P	**P**	**20 52 13.3 -0.3**
ATE	**Arette**	**33.17 292**	*e*P	**P**	**20 52 13.3 -0.3**
STEI	**Steigen**	**33.19 341**	*e*P	**P**	**20 52 14.4 +1.0**
STEI			IVmB_BB		20 52 16.4
	comp=Z,3μm,2.6s				
STEI	**Steigen**	**33.19 341**	*e*P	**P**	**20 52 14.4 +1.0**
	SNR=27				
ORDF	**Ordiarp**	**33.32 292**	*e*P	**P**	**20 52 14.5 -0.4**
ORDF	**Ordiarp**	**33.32 292**	*e*P	**P**	**20 52 14.5 -0.4**
WOL	**Wolverton**	**33.34 307**	*e*P	**P**	**20 52 15.7 +0.7**
WOL			IAmb	IAmb	20 52 17.1
	comp=Z,1μm,1.4s				
WOL	**Wolverton**	**33.34 307**	*e*P	**P**	**20 52 15.7 +0.7**
POO	**Poona**	**33.35 118**	*e*P	**P**	**20 52 14.2 -1.2**
LARF	**Larrau**	**33.38 292**	*e*P	**P**	**20 52 16.2 +0.7**
LARF	**Larrau**	**33.38 292**	*e*P	**P**	**20 52 16.2 +0.7**
CWF	**Charnwood Fore**	**33.54 310**	*e*P	**P**	**20 52 15.8 -0.9**
CWF			IAmb	IAmb	20 52 18.4
	comp=Z,389nm,1.6s				
CWF			IAMs_20	IAMs_20	21 10 51.8
	comp=Z,10μm,13.9s				
CWF	**Charnwood Fore**	**33.54 310**	*e*P	**P**	**20 52 17.1 +0.4**
	comp=Z,648nm,1.9s				
CWF	**Charnwood Fore**	**33.54 310**	*e*P	**P**	**20 52 17.1 +0.4**
	comp=Z,648nm,1.9s				
OSSF	**Osses**	**33.55 292**	*e*P	**P**	**20 52 16.2 -0.7**
OSSF	**Osses**	**33.55 292**	*e*P	**P**	**20 52 16.2 -0.7**
WMQ	**Urumqi**	**33.63 67**	P	**P**	**20 52 18.4 +0.7**
WMQ			pP	sP	20 52 23.4 +1.3
WMQ			PP	**PP**	**20 53 34.9 +1.3**
WMQ			PcP	**PcP**	**20 54 58.5 +0.8**
WMQ			S	**S**	**20 57 44.1 +3.8**
WMQ			ScP	**ScP**	**20 58 42.5 +0.2**
WMQ			SS	**SnSn**	**20 59 42.9 -0.4**
WMQ			ScS	**ScS**	**21 02 45.5 +2.0**
WMQ			pmax	pmax	
	comp=Z,290nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,3μm,3.9s				
WMQ			LR	LR	
	comp=Z,12μm,14.1s				
WMQ			LR	LR	
	comp=Z,16μm,17.7s				
WMQ			LR	LR	
	comp=Z,11μm,18.3s				
TRO	**Tromso**	**33.68 345**	*e*P	**P**	**20 52 22.2 +4.5**
TRO			IVMs_BB	IVMs_BB	21 06 43.1
	comp=Z,15μm,12.1s				
HAMF	**Hammerfest**	**33.69 348**	*e*P	**P**	**20 52 18.9 +1.1**
HAMF			*e*S	**S**	**20 57 42.6 +2.1**
HAMF	**Hammerfest**	**33.69 348**	*e*P	**P**	**20 52 18.9 +1.1**
	SNR=27				
LOF	**Lofoten**	**33.77 341**	*e*P	**P**	**20 52 18.5 0.0**
LOF			IVmB_BB		20 52 18.7
	comp=Z,3μm,2.0s				
LOF			*e*S	**S**	**20 57 43.0 +1.2**
LOF			IVMs_BB	IVMs_BB	21 07 07.7
	comp=Z,11μm,12.5s				
LOF	**Lofoten**	**33.77 341**	*e*P	**P**	**20 52 18.5 0.0**
	SNR=27				
HPK	**Haverah Park**	**33.90 312**	*e*P	**P**	**20 52 19.0 -0.8**
HPK			IAmb	IAmb	20 52 23.9
	comp=Z,924nm,1.2s				
HPK			IAMs_20	IAMs_20	21 12 42.0
	comp=Z,8μm,13.0s				
HPK	**Haverah Park**	**33.90 312**	*e*P	**P**	**20 52 19.0 -0.8**
STRD	**Stroud**	**33.97 308**	*e*P	**P**	**20 52 21.3 +0.8**
STRD			IAmb	IAmb	20 52 22.2
	comp=Z,608nm,1.3s				
STRD	**Stroud**	**33.97 308**	*e*P	**P**	**20 52 21.3 +0.8**
LHO	**Holmfirth**	**33.97 311**	*e*P	**P**	**20 52 20.3 -0.2**
LHO	**Holmfirth**	**33.97 311**	*e*P	**P**	**20 52 20.3 -0.2**
OLDB	**Oldbury-Upon-S**	**34.20 308**	*e*P	**P**	**20 52 21.5 -0.9**
OLDB			IAmb	IAmb	20 52 25.9
	comp=Z,752nm,1.2s				
OLDB	**Oldbury-Upon-S**	**34.20 308**	*e*P	**P**	**20 52 21.5 -0.9**
EDMD	**Edmundbyers**	**34.23 313**	*e*P	**P**	**20 52 22.3 -0.4**
EDMD			IAmb	IAmb	20 52 26.8
	comp=Z,365nm,1.0s				
EDMD			IAMs_20	IAMs_20	21 12 35.6
	comp=Z,9μm,14.2s				

comp=Z,2μm,3.5s
JBP ex x 20 58 02.9
LLW Llanuwychllyn 34.98 310 *e*P **P 20 52 29.5 +0.3**
LLW Llanuwychllyn 34.98 310 *e*P **P 20 52 29.5 +0.3**
BHH Howats Hill 34.98 314 *e*P **P 20 52 29.5 +0.3**
BHH Howats Hill 34.98 314 *e*P **P 20 52 29.5 +0.3**
EKA Eskdalemuir Ar 34.99 314 P **P 20 52 28.1 -1.1**
comp=Z,182nm,0.8s,baz=102,slow=8.7,SNR=60
ESK Eskdalemuir 35.01 314 *e*P **P 20 52 28.6 -0.8**
ESK IAmb IAmb 20 52 33.3
comp=Z,386nm,1.0s
ESK IAMs_20 IAMs_20 21 13 02.7
comp=Z,9μm,14.7s
ESK Eskdalemuir 35.01 314 *e*P **P 20 52 28.6 -0.8**
ESK pmax pmax
comp=Z,375nm,1.0s
ESK MLR MLR
comp=Z,5μm,20.0s
ESK Eskdalemuir 35.01 314 *e*P **P 20 52 28.6 -0.8**
ESK Eskdalemuir 35.01 314 *e*P **P 20 52 28.6 -0.8**
comp=Z,375nm,1.0s
ESK LR LR
comp=Z,5μm,20.0s
DYA Yadsworthy 35.01 305 *e*P **P 20 52 30.6 +1.1**
DYA IAMs_20 IAMs_20 21 10 17.4
comp=Z,8μm,14.5s
DYA Yadsworthy 35.01 305 *e*P **P 20 52 30.6 +1.1**
EDI Edinburgh 35.10 315 *e*P **P 20 52 30.1 -0.1**
EDI IAMs_20 IAMs_20 21 13 47.7
comp=Z,8μm,15.6s
EDI Edinburgh 35.10 315 *e*P **P 20 52 30.1 -0.1**
EDU Dundee 35.12 316 *e*P **P 20 52 30.2 -0.1**
EDU Dundee 35.12 316 *e*P **P 20 52 30.2 -0.1**
WPM1 Penmaenmawr 35.16 310 *e*P **P 20 52 30.5 -0.3**
WPM1 Penmaenmawr 35.16 310 *e*P **P 20 52 30.5 -0.3**
DANN Dangsing 35.16 95 *e*P **P 20 52 32.2 +0.8**
comp=Z,50nm,1.0s
LPW Lampeter 35.17 308 *e*P **P 20 52 30.3 -0.5**
LPW IAmb IAmb 20 52 33.5
comp=Z,837nm,1.8s
LPW Lampeter 35.17 308 *e*P **P 20 52 30.3 -0.5**
MME1 Meikle Cairn 35.24 317 *e*P **P 20 52 32.0 +0.6**
MME1 Meikle Cairn 35.24 317 *e*P **P 20 52 32.0 +0.6**
KOLN Koldanda 35.31 96 *e*P **P 20 52 32.3 -0.2**
comp=Z,702nm,1.6s
NGP Nagpur 35.40 109 *e*P **P 20 52 31.8 -1.3**
NGP ex x 20 58 35.3
WME Myndd Eilian 35.41 310 *e*P **P 20 52 33.2 +0.3**
WME Myndd Eilian 35.41 310 *e*P **P 20 52 33.2 +0.3**
MCD Coleburn Disti 35.45 318 *e*P **P 20 52 33.4 +0.2**
MCD Coleburn Disti 35.45 318 *e*P **P 20 52 33.4 +0.2**
WLF1 Llynfaes 35.46 310 *e*P **P 20 52 34.9 +1.6**
WLF1 IAmb IAmb 20 52 35.3
comp=Z,1μm,1.5s
WLF1 Llynfaes 35.46 310 *e*P **P 20 52 34.9 +1.6**
GOA Goa 35.46 122 *e*P **P 20 52 31.7 -2.0**
KLRI Killari 35.58 116 *e*P **P 20 52 32.8 -2.0**
KLRI IAmb IAmb 20 52 36.9
comp=Z,217nm,1.5s
KLRI *e*S **S 20 58 09.8 -1.0**
KLRI IVMs_BB IVMs_BB 21 09 38.0
comp=Z,6μm,14.3s
MLA1 Latheron 35.66 319 *e*P **P 20 52 35.7 +0.7**
MLA1 Latheron 35.66 319 *e*P **P 20 52 35.7 +0.7**
TAM Tamanrasset 35.68 255 *e*P **P 20 52 35.6 -0.1**
TAM pmax pmax
comp=Z,320nm,1.6s
TAM MLR MLR
comp=Z,5μm,21.0s
TAM Tamanrasset 35.68 255 *e*P **P 20 52 35.6 -0.1**
comp=Z,5μm,21.0s
TAM Tamanrasset 35.68 255 *e*P **P 20 52 35.6 -0.1**
comp=Z,320nm,1.6s
TAM LR LR
comp=Z,5μm,21.0s
WIM Isle of Man 35.70 312 *e*P **P 20 52 36.4 +1.0**
WIM Isle of Man 35.70 312 *e*P **P 20 52 36.4 +1.0**
EAB Aberfoyle 35.78 315 *e*P **P 20 52 35.5 -0.5**
EAB Aberfoyle 35.78 315 *e*P **P 20 52 35.5 -0.5**
PGBU Glenifferbraes 35.80 315 *e*P **P 20 52 35.8 -0.4**
PGBU IAmb IAmb 20 52 40.6
comp=Z,677nm,1.2s
PGBU Glenifferbraes 35.80 315 *e*P **P 20 52 35.8 -0.4**
CCA1 Carnmenellis 35.84 305 *e*P **P 20 52 36.1 -0.5**
CCA1 IAmb IAmb 20 52 39.3
comp=Z,2μm,1.9s
CCA1 IAMs_20 IAMs_20 21 10 25.0
comp=Z,7μm,17.4s
CCA1 Carnmenellis 35.84 305 *e*P **P 20 52 36.1 -0.5**
BIGH Upper Bighouse 35.99 319 *e*P **P 20 52 37.5 -0.2**
BIGH IAMs_20 IAMs_20 21 11 29.9
comp=Z,16μm,16.3s
BIGH Upper Bighouse 35.99 319 *e*P **P 20 52 37.5 -0.2**
GKN Gorkha 36.01 94 *e*P **P 20 52 37.6 -0.9**
comp=Z,1μm,1.5s
MDO Dochfour 36.01 317 *e*P **P 20 52 38.3 +0.3**
MDO Dochfour 36.01 317 *e*P **P 20 52 38.3 +0.3**
ESDC Sonseca Array 36.21 287 P **P 20 52 39.1 -0.9**
comp=Z,61nm,0.9s,baz=68,slow=8.0,SNR=95
ESLA Sonseca Array 36.21 287 *e*P **P 20 52 39.8 -0.2**
comp=Z,241nm,1.3s
ESLA Sonseca Array 36.21 287 *e*P **P 20 52 39.8 -0.2**
comp=Z,241nm,1.3s
SRSP Sriramsagar 36.27 113 *e*P **P 20 52 39.1 -1.5**
SRSP IAmb IAmb 20 52 42.6
comp=Z,157nm,1.8s
SRSP *e*S **S 20 58 17.8 -3.4**
SRSP IVMs_BB IVMs_BB 21 09 50.5
comp=Z,7μm,13.5s
KAC Achnashellach 36.52 317 *e*P **P 20 52 41.6 -0.7**
KAC Achnashellach 36.52 317 *e*P **P 20 52 41.6 -0.7**
PAB San Pablo 36.53 287 *e*P **P 20 52 42.9 +0.2**
PAB pmax pmax
comp=Z,393nm,1.5s
PAB MLR MLR
comp=Z,5μm,21.0s
PAB San Pablo 36.53 287 *e*P **P 20 52 42.9 +0.2**
comp=Z,5μm,21.0s
PAB San Pablo 36.53 287 *e*P **P 20 52 42.9 +0.2**
comp=Z,393nm,1.5s
PAB LR LR
comp=Z,5μm,21.0s
DMN Daman 36.56 95 *e*P **P 20 52 43.2 -0.1**
comp=Z,2μm,1.7s
RSC Scourie 36.60 319 *e*P **P 20 52 42.4 -0.6**
RSC Scourie 36.60 319 *e*P **P 20 52 42.4 -0.6**
KKN Kakani 36.61 94 *e*P **P 20 52 43.4 -0.3**
comp=Z,967nm,1.8s
DSB Dublin 36.64 310 *e*P **P 20 52 42.8 -0.6**
comp=Z,130nm,0.9s
DSB Dublin 36.64 310 *e*P **P 20 52 42.8 -0.6**
comp=Z,130nm,0.9s
GCL Cushendall 36.64 313 *e*P **P 20 52 44.3 +0.9**
GCL Cushendall 36.64 313 *e*P **P 20 52 44.3 +0.9**
MELI Melilla 36.66 279 *i*P **P 20 52 42.9 -0.9**
KPL Plockton 36.68 317 *e*P **P 20 52 44.1 +0.4**
KPL IAmb IAmb 20 52 47.0
comp=Z,135nm,0.9s
KPL IAMs_20 IAMs_20 21 15 38.8
comp=Z,6μm,11.9s
KPL Plockton 36.68 317 *e*P **P 20 52 44.1 +0.4**
PKIN Phulchoki 36.80 95 *e*P **P 20 52 44.8 -0.6**
comp=Z,783nm,1.6s
RRR Rubha Reidh 36.85 318 *e*P **P 20 52 45.8 +0.7**
RRR Rubha Reidh 36.85 318 *e*P **P 20 52 45.8 +0.7**
RPR Rampur 37.00 112 *e*P **P 20 52 45.5 -1.3**
RPR IAmb IAmb 20 52 54.2
comp=Z,120nm,1.5s
RPR *e* 20 58 39.5
RPR IVMs_BB IVMs_BB 21 10 06.3
comp=Z,5μm,12.4s
GUN Gumba 37.02 94 *e*P **P 20 52 47.1 -0.3**
comp=Z,1μm,1.4s
RRH Rhenigidale 37.32 318 *e*P **P 20 52 49.1 0.0**
RRH Rhenigidale 37.32 318 *e*P **P 20 52 49.1 0.0**
JIRN Jiri 37.38 94 *e*P **P 20 52 50.6 +0.1**
comp=Z,9μm,1.9s
HYBB Hyderabad (bro 37.40 114 *e*P **P 20 52 49.0 -1.3**
HYBB IAmb IAmb 20 52 52.2
comp=Z,89nm,1.4s
HYBB *e* 20 58 51.3
HYBB IVMs_BB IVMs_BB 21 12 27.1
comp=Z,4μm,11.1s
HYB Hyderabad 37.40 114 *i*P **P 20 52 49.0 -1.3**
comp=Z,71nm,1.2s
HYB *e*PP **PnPn 20 54 16.0 -0.2**
HYB *e*S **S 20 58 42.0 +3.4**
HYB LR LR
comp=Z,14nm,14.0s
HYB Hyderabad 37.40 114 *e*P **P 20 52 47.8 -2.6**
PBRG Braganca 37.79 291 *e*P **P 20 52 53.2 -0.2**
comp=Z,198nm,1.8s
PBRG Braganca 37.79 291 *e*PP PP 20 54 23.3 +3.7
PBRG Braganca 37.79 291 *e*P **P 20 52 53.2 -0.2**
comp=Z,198nm,1.8s
MNGI Mangalore 37.98 124 *e*x P 20 53 02.5 +7.4
RAMN Ramite 38.04 95 *e*P **P 20 52 54.6 -1.3**
comp=Z,2μm,1.5s
MVO Moncorvo 38.14 290 *e*P **P 20 52 56.1 -0.3**
comp=Z,230nm,1.3s
MVO *e*LR LR 21 01 46.1
comp=Z,3μm,18.0s
MVO Moncorvo 38.14 290 *e*P **P 20 52 56.1 -0.3**
comp=Z,230nm,1.3s
URV Uravakonda 38.17 119 *e*P **P 20 52 54.8 -2.0**
URV IAmb IAmb 20 53 00.7
comp=Z,168nm,1.4s
URV *e*S **S 20 58 48.1 -2.2**
URV IVMs_BB IVMs_BB 21 11 59.6
comp=Z,2μm,21.1s
NJS Nagarjunasagar 38.51 115 *e*P **P 20 52 58.0 -1.6**
NJS IAmb IAmb 20 53 00.6
comp=Z,234nm,2.1s
NJS *e*S **S 20 59 00.2 +4.8**
NJS IVMs_BB IVMs_BB 21 12 04.1
comp=Z,4μm,11.7s
SRLM Srisailam 38.52 116 *e*P **P 20 52 58.4 -1.4**
SRLM IAmb IAmb 20 53 01.9
comp=Z,194nm,1.9s
SRLM IVMs_BB IVMs_BB 21 11 37.5
comp=Z,4μm,11.0s
PVRL Vila Real 38.62 291 *e*P **P 20 53 00.9 +0.5**
comp=Z,328nm,1.3s
PVRL Vila Real 38.62 291 *e*P **P 20 53 00.9 +0.5**
comp=Z,328nm,1.3s
POLO Lamas de Olo 38.66 291 *e*P **P 20 53 00.3 -0.5**
comp=Z,171nm,1.5s
POLO *e*LR LR 21 01 46.1
comp=Z,2μm,16.0s
POLO Lamas de Olo 38.66 291 *e*P **P 20 53 00.3 -0.5**
comp=Z,171nm,1.5s
ODAN Odare 38.70 94 *e*P **P 20 53 01.7 +0.3**
comp=Z,2μm,1.5s
MTE Manteigas 38.70 289 *e*P **P 20 53 01.5 +0.4**
comp=Z,781nm,1.5s
MTE *e*LR LR 21 01 58.7
MTE Manteigas 38.70 289 *e*P **P 20 53 00.2 -0.9**
comp=Z,317nm,1.0s
MTE Manteigas 38.70 289 *e*P **P 20 53 00.2 -0.9**
comp=Z,317nm,1.0s
MTE LR LR
comp=Z,4μm,20.0s
TAPN Taplejung 38.72 93 *e*P **P 20 53 01.5 -0.2**
comp=Z,1μm,1.6s
PCAB Cabril 38.75 291 *e*P **P 20 53 02.6 +1.1**
comp=Z,238nm,1.7s
PCAB Cabril 38.75 291 *e*P **P 20 53 02.6 +1.1**
comp=Z,238nm,1.7s
PCBR Castelo Branco 38.79 288 *e*P **P 20 53 02.2 +0.4**
comp=Z,604nm,1.5s
PCBR Castelo Branco 38.79 288 *e*P **P 20 53 02.2 +0.4**
comp=Z,604nm,1.5s
NRIK Noril'sk 38.80 23 P **P 20 53 02.9 +1.4**
comp=Z,95nm,0.9s,baz=246,slow=8.2,SNR=71
NRIK LR LR 21 13 06.2
comp=Z,30μm,18.2s,baz=242,slow=43
PMRV Marv??o 38.84 288 *e*P **P 20 53 02.1 -0.1**
comp=Z,447nm,1.5s
PMRV *e*LR LR 21 01 58.7
comp=Z,3μm,18.0s
PMRV Marv??o 38.84 288 *e*P **P 20 53 02.1 -0.1**
comp=Z,447nm,1.5s
MDT Midelt 38.84 276 P **P 20 53 01.8 -0.6**
comp=Z,101nm,1.0s,baz=77,slow=9.6,SNR=57
MDT S **S 20 59 04.1 +3.8**
comp=Z,3.1nm,1.1s,baz=46,slow=3.1,SNR=2.0
HOPEN Hopen 38.86 353 *e*P **P 20 53 02.1 +0.2**
HOPEN *e*S **S 20 59 01.7 +2.3**
HOPEN *e*SS **SS 21 01 50.4 +0.2**
HOPEN IVMs_BB IVMs_BB 21 10 22.9
comp=Z,6μm,14.9s
HOPEN Hopen 38.86 353 *e*P **P 20 53 02.1 +0.2**
SNR=26
PGAV Gavieira, Arco 38.87 292 *e*P **P 20 53 02.8 +0.2**
comp=Z,505nm,1.4s
PGAV *e*LR LR 21 01 58.7
comp=Z,6μm,18.0s
PGAV Gavieira, Arco 38.87 292 *e*P **P 20 53 02.8 +0.2**
comp=Z,505nm,1.4s
PVIS Viseu 38.88 290 *e*P **P 20 53 03.2 +0.6**
comp=Z,344nm,1.4s
PVIS Viseu 38.88 290 *e*P **P 20 53 03.2 +0.6**
comp=Z,344nm,1.4s
PBAR Barrancos 38.92 286 *e*P **P 20 53 02.6 -0.3**
comp=Z,854nm,1.6s
PBAR Barrancos 38.92 286 *e*PP PP 20 54 37.3 +5.4
PBAR *e*LR LR 21 01 55.5
comp=Z,7μm,18.0s
PBAR Barrancos 38.92 286 *e*P **P 20 53 02.6 -0.3**
comp=Z,854nm,1.6s
BOK Bokaro 39.09 99 *e*P **P 20 53 03.0 -1.4**
BOK AMB AMB 20 53 06.2
comp=Z,186nm,1.6s
PESTR Estremoz 39.14 287 *e*P **P 20 53 04.5 -0.2**
comp=Z,502nm,1.5s
PESTR *e*LR LR 21 01 52.4
comp=Z,4μm,18.0s
PESTR Estremoz 39.14 287 *e*P **P 20 53 04.5 -0.2**
comp=Z,502nm,1.5s
PTO Porto 39.30 291 *e*P **P 20 53 07.4 +1.4**
comp=Z,302nm,1.5s
PTO Porto 39.30 291 *e*P **P 20 53 07.4 +1.4**
comp=Z,302nm,1.5s
COI Coimbra 39.39 289 *e*P **P 20 53 08.1 +1.3**
comp=Z,752nm,1.5s
ADKI Addanki 39.46 115 *e*P **P 20 53 05.7 -1.8**
ADKI IAmb IAmb 20 53 08.6
comp=Z,131nm,1.9s
ADKI *e*S **S 20 59 09.2 -0.3**
ADKI IVMs_BB IVMs_BB 21 12 03.6
comp=Z,3μm,13.6s
PCAS Casmilo, Conde 39.50 289 *e*P **P 20 53 08.0 +0.3**
comp=Z,306nm,1.7s
PCAS *e*LR LR 21 02 01.8
comp=Z,4μm,16.0s
PCAS Casmilo, Conde 39.50 289 *e*P **P 20 53 08.0 +0.3**
comp=Z,306nm,1.7s
PTOM Tomar 39.55 288 *e*P **P 20 53 08.4 +0.3**
comp=Z,1μm,1.5s
PTOM Tomar 39.55 288 *e*P **P 20 53 08.4 +0.3**
comp=Z,1μm,1.5s
EVO Evora 39.55 286 *e*P **P 20 53 08.9 +0.8**
comp=Z,222nm,1.7s
EVO Evora 39.55 286 *e*P **P 20 53 08.9 +0.8**
comp=Z,222nm,1.7s
PMTG Montargil 39.56 287 *e*P **P 20 53 08.5 +0.3**
comp=Z,381nm,1.5s
PMTG *e*LR LR 21 01 58.7
comp=Z,3μm,20.0s
PMTG Montargil 39.56 287 *e*P **P 20 53 08.5 +0.3**
comp=Z,381nm,1.5s
PBEJ Beja 39.59 286 *e*P **P 20 53 08.4 0.0**
comp=Z,407nm,1.6s
PBEJ Beja 39.59 286 *e*P **P 20 53 08.4 0.0**
comp=Z,407nm,1.6s
PVAQ Vaqueiros 39.66 285 *e*P **P 20 53 08.8 -0.3**
comp=Z,508nm,1.6s
PVAQ *e*LR LR 21 01 58.7
comp=Z,2μm,18.0s
PVAQ Vaqueiros 39.66 285 *e*P **P 20 53 08.8 -0.3**
comp=Z,508nm,1.6s
PVM Polavaram 39.73 111 *e*P **P 20 53 08.7 -1.1**
PVM IAmb IAmb 20 53 12.7
comp=Z,2μm,3.9s
PVM *e*S **S 20 59 13.3 -0.3**
PVM IVMs_BB IVMs_BB 21 11 47.7
comp=Z,4μm,13.2s
PCVE Castro Verde 39.83 285 *e*P **P 20 53 10.6 +0.1**
comp=Z,409nm,1.4s
PCVE *e*LR LR 21 02 01.8
PCVE Castro Verde 39.83 285 *e*P **P 20 53 10.6 +0.1**
comp=Z,409nm,1.4s
PBDV Barranco-do-Ve 39.87 285 *e*P **P 20 53 10.8 -0.1**
comp=Z,629nm,1.6s
PBDV Barranco-do-Ve 39.87 285 *e*PP PP 20 54 46.1 +3.7
PBDV *e*LR LR 21 02 01.8
comp=Z,2μm,18.0s
PBDV Barranco-do-Ve 39.87 285 *e*P **P 20 53 10.8 -0.1**
comp=Z,629nm,1.6s
KMBO Kilima Mbogo 39.89 189 P **P 20 53 12.5 +1.1**
comp=Z,17nm,1.2s,baz=5.2,slow=9.0,SNR=28
KMBO LR LR 21 08 37.6
comp=Z,19μm,21.2s,baz=358,slow=35
KMBO Kilima Mbogo 39.89 189 P **P 20 53 12.3 +0.9**
SNR=24
KMBO Kilima Mbogo 39.89 189 *e*P **P 20 53 13.8 +2.4**
comp=Z,132nm,1.9s
KMBO Kilima Mbogo 39.89 189 P **P 20 53 12.3 +0.9**
SNR=24
KMBO Kilima Mbogo 39.89 189 P **P 20 53 12.3 +0.9**
SNR=24
KMBO P **P 20 53 12.3 +0.9**
SNR=24
PNCL Nicolau / Gran 40.06 286 *e*P **P 20 53 12.6 +0.2**
comp=Z,266nm,1.8s
PNCL Nicolau / Gran 40.06 286 *e*PP PP 20 54 49.1 +4.8
PNCL *e*LR LR 21 02 14.3
comp=Z,4μm,18.0s
PNCL Nicolau / Gran 40.06 286 *e*P **P 20 53 12.6 +0.2**
comp=Z,266nm,1.8s
RTC Rabat Centre 40.14 279 PFAKE 20 53 20.0 +6.9
RTC LR LR
comp=Z,9μm,22.0s
LSA Lhasa 40.35 88 P **P 20 53 14.9 -0.5**
LSA pmax pmax
comp=Z,2μm,9.0s
LSA LR LR
comp=Z,2μm,24.0s
LSA LR LR
comp=Z,2μm,17.4s
LSA LR LR
comp=Z,5μm,16.6s
LSA Lhasa 40.35 88 *e*P **P 20 53 14.8 -0.6**
LSA pmax pmax
comp=Z,465nm,1.5s
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 40.35 88 *e*P **P 20 53 14.8 -0.6**
comp=Z,3μm,22.0s
LSA Lhasa 40.35 88 *e*P **P 20 53 14.8 -0.6**
comp=Z,465nm,1.5s
LSA LR LR
comp=Z,3μm,22.0s
LIS Lisbon 40.35 287 *e*P **P 20 53 14.9 +0.2**
LIS AMb AMB 20 53 17.3
comp=Z,497nm,1.3s
LIS Lisbon 40.35 287 *e*P **P 20 53 15.8 +1.1**
comp=Z,834nm,1.6s
LIS Lisbon 40.35 287 *e*P **P 20 53 14.9 +0.2**
LIS pmax pmax
comp=Z,497nm,1.3s
LIS Lisbon 40.35 287 *e*P **P 20 53 15.8 +1.1**
comp=Z,834nm,1.6s
PMST Lisbon--Monsan 40.37 287 *e*P **P 20 53 15.7 +0.8**
comp=Z,1μm,1.8s
PMST Lisbon--Monsan 40.37 287 *e*P **P 20 53 15.7 +0.8**
comp=Z,1μm,1.8s
PMAFR Mafra 40.38 288 *e*P **P 20 53 15.2 +0.2**
comp=Z,707nm,1.4s
PMAFR *e*LR LR 21 02 14.3
comp=Z,3μm,20.0s
PMAFR Mafra 40.38 288 *e*P **P 20 53 15.2 +0.2**
comp=Z,707nm,1.4s
MORF Marmelete 40.40 285 *e*P **P 20 53 14.9 -0.3**
MORF AMb AMB 20 53 17.6
comp=Z,340nm,1.9s
MORF Marmelete 40.40 285 *e*P **P 20 53 15.0 -0.3**
comp=Z,392nm,1.7s
MORF *e*LR LR 21 02 20.6
MORF Marmelete 40.40 285 *e*P **P 20 53 14.9 -0.3**
MORF pmax pmax
comp=Z,341nm,1.9s
MORF Marmelete 40.40 285 *e*P **P 20 53 14.9 -0.3**
comp=Z,341nm,1.9s
PFVI Vila Bisbo 40.58 285 *e*P **P 20 53 17.0 +0.3**
comp=Z,495nm,1.6s
PFVI Vila Bisbo 40.58 285 *e*PP PP 20 54 50.5 +0.4
PFVI *e*LR LR 21 02 26.9
PFVI Vila Bisbo 40.58 285 *e*P **P 20 53 17.9 +1.1**
comp=Z,573nm,1.7s
PFVI Vila Bisbo 40.58 285 *e*PP PP 20 54 50.5 +0.4
PFVI Vila Bisbo 40.58 285 *e*P **P 20 53 17.9 +1.1**
comp=Z,573nm,1.7s
VIS Vishakhapatnam 40.68 109 *i*P **P 20 53 15.7 -2.0**
VIS *i*x x 20 59 42.6
CHLP Challavanipeta 40.74 108 *e*P **P 20 53 16.8 -1.4**
CHLP IAmb IAmb 20 53 20.4
comp=Z,379nm,2.3s
CHLP *e*S **S 20 59 26.9 -1.8**
CHLP IVMs_BB IVMs_BB 21 12 18.1
comp=Z,4μm,12.0s
BWNR Bhubaneshwar 40.98 104 *e*P **P 20 53 16.6 -3.6**
SPA0 Spitsbergen Ar 41.23 352 *e*P **P 20 53 23.5 +2.0**
SPA0 Spitsbergen Ar 41.23 352 *e*P **P 20 53 23.5 +2.0**
SPITS Spitsbergen Ar 41.23 352 P **P 20 53 22.7 +1.2**
comp=Z,127nm,1.1s,baz=134,slow=16,SNR=12
SPITS PP **PP 20 54 58.3 +1.8**
comp=Z,64nm,1.1s,baz=169,slow=9.8,SNR=3.5
MDRS Chennai 41.55 118 *e*P **P 20 53 22.7 -2.2**
JMIC Jan Mayen 41.73 337 P **P 20 53 25.2 -0.5**
comp=Z,45nm,0.3s,baz=112,slow=8.3,SNR=3.3
JMIC PcP **PcP 20 55 20.5 -1.4**
comp=Z,59nm,0.6s,baz=102,slow=9.5,SNR=3.3
JMIC Jan Mayen 41.73 337 *e*P P 20 53 30.5 +4.8
JMIC IVMs_BB IVMs_BB 21 07 20.5
comp=Z,9μm,4.1s
MOY Mondy 41.80 52 *e*P **P 20 53 28.8 +2.1**
MOY pmax pmax
comp=Z,294nm,1.8s
MOY Mondy 41.80 52 *e*P **P 20 53 28.8 +2.1**
comp=Z,294nm,1.8s
KBS Kingsbay 42.35 351 PFAKE 20 53 40.0 +9.3
KBS LR LR
comp=Z,10μm,19.0s
TRD Trivandrum 42.68 126 *e*P **P 20 53 33.0 -1.1**
SHL Shillong 42.85 93 *e*P **P 20 53 33.7 -1.9**
ZAK Zakamensk 43.38 54 *e*P **P 20 53 41.5 +1.9**
ZAK *e* 20 55 26.3
ZAK pmax pmax
comp=Z,65nm,1.7s
ZAK Zakamensk 43.38 54 *e*P **P 20 53 41.5 +1.9**
comp=Z,65nm,1.7s
TLY Talaya 43.44 52 P **P 20 53 41.2 +1.3**
comp=Z,16nm,0.8s,baz=254,slow=7.3,SNR=17
TLY PcP **PcP 20 55 27.7 -0.3**
comp=Z,5.5nm,0.7s,baz=246,slow=12,SNR=3.0
TLY LR LR 21 13 33.2
comp=Z,6μm,18.5s,baz=286,slow=39
TLY Talaya 43.44 52*c i*P **P 20 53 40.3 +0.4**
TLY *e* 20 55 29.4
TLY *e*PPP PPP 20 56 01.4
TLY *e*S **S 21 00 12.8 +4.8**
TLY *e*SS **SS 21 03 30.2 +8.5**
TLY *e*SSS SSS 21 04 01.4
TLY pmax pmax
comp=Z,122nm,1.4s
TLY MLR MLR
comp=Z,9μm,15.0s
TLY Talaya 43.44 52 *i*P **P 20 53 40.3 +0.4**
comp=Z,122nm,1.4s
TLY Talaya 43.44 52 pP **P 20 53 40.4 +0.5**
SNR=15
TLY Talaya 43.44 52 P **P 20 53 40.4 +0.5**
SNR=15
TLY P **P 20 53 40.4 +0.5**
SNR=15
GTA Gaotai 43.44 70 ⇑P **P 20 53 39.8 -0.4**
GTA pP sP 20 53 44.3 -0.3
GTA sP pP 20 53 46.8 +3.4
GTA PP **PP 20 55 24.0 +3.0**
GTA S **S 21 00 08.4 -0.2**
GTA sS sS 21 00 16.5 +2.8
GTA SS **SS 21 03 15.3 -7.0**
GTA pmax pmax
comp=Z,3μm,5.7s
GTA LR LR
comp=Z,8μm,20.9s
GTA LR LR

	comp=Z,8μm,20.4s					
GTA				LR	LR	
	comp=Z,6μm,17.1s					
IRK	**Irkutsk**	**43.75**	**51**	*e*P	**P**	**20 53 39.9 -2.5**
IRK				*e*		20 55 26.0
IRK				pmax	pmax	
	comp=Z,428nm,4.1s					
TOA0	**Torodi Ar. Sit**	**44.53**	**247**	*e*P	**P**	**20 53 46.8 -2.3**
TOA0	**Torodi Ar. Sit**	**44.53**	**247**	*e*P	**P**	**20 53 46.8 -2.3**
TORD	**Torodi Ar. Bea**	**44.53**	**247**	P	**P**	**20 53 48.1 -1.0**
	comp=Z,39nm,1.0s,baz=47,slow=2.9,SNR=110					
TORD				PcP	**PP**	**20 55 32.9 -0.1**
	comp=Z,5.8nm,0.8s,baz=27,slow=1.5,SNR=4.0					
TORD				S	**S**	**21 00 22.9 -1.8**
	comp=Z,0.6nm,0.8s,baz=180,slow=40,SNR=2.3					
TORD				LR	LR	21 14 51.1
	comp=Z,4μm,19.7s,baz=65,slow=39					
MSEY	**Mahe Island**	**44.54**	**162**	*i* P	**P**	**20 53 50.9 +1.8**
	SNR=8.4					
MSEY	**Mahe Island**	**44.54**	**162**	*i* P	**P**	**20 53 52.5 +3.4**
MSEY	**Mahe Island**	**44.54**	**162**	*e*P	**P**	**20 53 48.0 -1.1**
	comp=Z,165nm,1.0s					
MSEY	**Mahe Island**	**44.54**	**162**	*e*P	**P**	**20 53 48.0 -1.1**
	comp=Z,165nm,1.0s					
MSEY				LR	LR	
	comp=Z,20μm,20.0s					
MSEY	**Mahe Island**	**44.54**	**162**	P	**P**	**20 53 50.2 +1.1**
	SNR=5.3					
MSEY	**Mahe Island**	**44.54**	**162**	P	**P**	**20 53 50.2 +1.1**
	SNR=5.3					
MSEY				P	**P**	**20 53 50.2 +1.1**
	SNR=5.3					
MSEY				P	**P**	**20 53 50.2 +1.1**
	SNR=5.3					
BORG	**Borgarnes**	**45.08**	**327**	PFAKE		20 54 00.0 +7.2
BORG				LR	LR	
	comp=Z,2μm,20.0s					
SONM	**Songino Array**	**45.86**	**57**	P	**P**	**20 53 59.7 +0.2**
	comp=Z,3.6nm,0.6s,baz=286,slow=4.8,SNR=38					
SONM				PcP	**PcP**	**20 55 37.2 +0.6**
	comp=Z,7.7nm,0.9s,baz=263,slow=4.3,SNR=6.0					
SONM				LR	LR	21 15 47.1
	comp=Z,19μm,18.3s,baz=283,slow=40					
SCO	**Scoresbysund**	**45.89**	**335**	*i* P	**P**	**20 54 00.8 +1.7**
	comp=Z,7μm,22.0s					
SCO	**Scoresbysund**	**45.89**	**335**	*i* P	**P**	**20 54 00.8 +1.7**
SCO				MLR	MLR	
	comp=Z,7μm,22.0s					
SCO	**Scoresbysund**	**45.89**	**335**	*i* P	**P**	**20 54 00.8 +1.7**
	comp=Z,7μm,22.0s					
PALK	**Pallekele**	**46.04**	**123**	P	**P**	**20 53 59.3 -1.8**
	comp=Z,70nm,1.3s,baz=296,slow=7.7,SNR=11					
PALK				PcP	**PcP**	**20 55 37.9 +0.4**
	comp=Z,8.5nm,0.8s,baz=297,slow=5.0,SNR=3.8					
PALK	**Pallekele**	**46.04**	**123**	*i* P	**P**	**20 53 59.4 -1.6**
	SNR=6.7					
PALK	**Pallekele**	**46.04**	**123**	P	**P**	**20 53 59.4 -1.6**
	SNR=6.7					
PALK	**Pallekele**	**46.04**	**123**	*e*P	**P**	**20 54 02.2 +1.2**
	comp=Z,134nm,1.5s					
PALK				PcP	**PcP**	**20 55 37.9 +0.4**
PALK	**Pallekele**	**46.04**	**123**	P	**P**	**20 53 59.1 -1.9**
	SNR=7.2					
PALK	**Pallekele**	**46.04**	**123**	P	**P**	**20 53 59.1 -1.9**
	SNR=7.2					
PALK				P	**P**	**20 53 59.1 -1.9**
	SNR=7.2					
PALK				P	**P**	**20 53 59.1 -1.9**
	SNR=7.2					
ULN	**Ulaanbaatar**	**46.28**	**57***c*	*i*P	**P**	**20 54 02.4 -0.4**
ULN				pmax	pmax	
	comp=Z,295nm,1.7s					
ULN	**Ulaanbaatar**	**46.28**	**57**	*e*P	**P**	**20 54 02.8 0.0**
	comp=Z,419nm,1.6s					
ULN	**Ulaanbaatar**	**46.28**	**57**	*e*P	**P**	**20 54 02.8 0.0**
	comp=Z,419nm,1.6s					
ULN	**Ulaanbaatar**	**46.28**	**57**	P	**P**	**20 54 02.8 0.0**
	SNR=130					
ULN	**Ulaanbaatar**	**46.28**	**57**	P	**P**	**20 54 02.8 0.0**
	SNR=130					
ULN				P	**P**	**20 54 02.8 0.0**
	SNR=130					
ULN				P	**P**	**20 54 02.8 0.0**
	SNR=130					
DAG	**Danmarks Havn**	**46.38**	**344**⇑	*i*P	**P**	**20 54 02.9 -0.1**
	comp=Z,6μm,19.0s					
DAG	**Danmarks Havn**	**46.38**	**344**⇑	*i*P	**P**	**20 54 02.9 -0.1**
DAG				MLR	MLR	
	comp=Z,6μm,19.0s					
LZH	**Lanzhou**	**47.57**	**73**	*e*P	**P**	**20 54 13.5 +0.5**
LZH				pP	sP	20 54 18.3 +0.8
LZH				sP	pP	20 54 22.8 +6.6
LZH				PcP	**PcP**	**20 55 41.6 -1.3**
LZH				PP	**PP**	**20 56 08.0 +3.6**
LZH				*e*S	**S**	**21 01 03.5 -4.9**
LZH				sS	sS	21 01 14.0 +0.4
LZH				pmax	pmax	
	comp=Z,320nm,1.2s					
LZH				pmax	pmax	
	comp=Z,1μm,4.4s					
LZH				LR	LR	
	comp=Z,11μm,16.8s					
LZH				LR	LR	
	comp=Z,4μm,15.1s					
LZH				LR	LR	
	comp=Z,19μm,16.9s					
BOD	**Bodaibo**	**48.54**	**42**	*e*P	**P**	**20 54 18.7 -1.3**
BOD				pmax	pmax	
	comp=Z,184nm,1.4s					
BOD	**Bodaibo**	**48.54**	**42**	*e*P	**P**	**20 54 18.7 -1.3**
	comp=Z,184nm,1.4s					
PMOZ	**Porto Moniz, M**	**48.55**	**283**	*e*P	**P**	**20 54 19.3 -1.3**
	comp=Z,238nm,1.4s					
PMOZ	**Porto Moniz, M**	**48.55**	**283**	*e*LR	LR	21 04 44.9
	comp=Z,1μm,20.0s					
PMOZ	**Porto Moniz, M**	**48.55**	**283**	*e*P	**P**	**20 54 19.3 -1.3**
	comp=Z,238nm,1.4s					
CIT	**Chita**	**49.42**	**50**	*e*P	**P**	**20 54 28.1 +1.2**
CIT				*e*		20 55 50.5
CIT				pmax	pmax	
	comp=Z,358nm,1.7s					
CIT	**Chita**	**49.42**	**50**	*e*P	**P**	**20 54 28.1 +1.2**
	comp=Z,358nm,1.7s					
CD2	**Chengdu**	**49.63**	**80**	⇑P	**P**	**20 54 29.0 +0.2**
CD2				pP	pP	20 54 32.3 +0.3
CD2				PP	**PP**	**20 56 23.3 +0.2**
CD2				PcS	**PcS**	**20 59 47.6 +0.5**
CD2				S	**S**	**21 01 37.3 +0.1**
CD2				pmax	pmax	
	comp=Z,100nm,0.8s					
CD2				pmax	pmax	
	comp=Z,2μm,5.6s					
CD2				LR	LR	
	comp=Z,7μm,14.9s					
CD2				LR	LR	
	comp=Z,6μm,21.4s					
CD2				LR	LR	
	comp=Z,5μm,20.4s					
BTO	**Baotou**	**50.45**	**65**	*e*P	**P**	**20 54 34.1 -0.9**
DGPR	**DIGLIPUR**	**50.71**	**106**	*e*P	**P**	**20 54 34.4 -2.6**
DGPR				AMB	AMB	20 54 39.4
	comp=Z,265nm,1.7s					
SUMG	**Summit**	**51.18**	**338**⇑	*i*P	**P**	**20 54 41.1 +0.8**
	comp=Z,9μm,22.0s					
SUMG	**Summit**	**51.18**	**338**	*e*P	**P**	**20 54 41.5 +1.2**
SUMG				pmax	pmax	
	comp=Z,514nm,1.5s					
SUMG	**Summit**	**51.18**	**338**	*e*P	**P**	**20 54 41.5 +1.2**
	comp=Z,514nm,1.5s					
SUMG	**Summit**	**51.18**	**338**	*e*P	**P**	**20 54 41.5 +1.2**
	comp=Z,514nm,1.5s					
CMAI	**Chiengmai2**	**51.42**	**95**	P	**P**	**20 54 41.7 -0.9**
	comp=Z,652nm,1.8s,comp=Z,72μm					
HHC	**Hu-ho-hao-te**	**51.46**	**64**	*e*P	**P**	**20 54 44.3 +1.8**
HHC				pP	sP	20 54 47.8 +0.8
HHC				sP	pP	20 54 55.6 +10
HHC				PP	**PP**	**20 56 39.5 0.0**
HHC				S	**S**	**21 02 03.3 +0.8**
HHC				sS	sS	21 02 08.3 +0.5
HHC				SS	**SS**	**21 05 34.8 -3.3**
HHC				pmax	pmax	
	comp=Z,150nm,1.3s					
HHC				LR	LR	
	comp=Z,6μm,15.7s					
HHC				LR	LR	
	comp=Z,4μm,12.6s					
HHC				LR	LR	
	comp=Z,5μm,14.8s					
PBA	**Port Blair**	**51.54**	**108**	*ex*	P	20 54 37.0 -6.3
KMI	**Kunming**	**51.57**	**87**	P	**P**	**20 54 42.3 -1.4**
KMI				pP	pP	20 54 44.9 -2.1
KMI				PP	**PP**	**20 56 39.5 -1.5**
KMI				S	**S**	**21 02 01.0 -3.7**
KMI				pmax	pmax	
	comp=Z,160nm,1.6s					
KMI				pmax	pmax	
	comp=Z,2μm,7.6s					
KMI				LR	LR	
	comp=Z,3μm,26.9s					
KMI				LR	LR	
	comp=Z,3μm,25.8s					
KMI				LR	LR	
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**51.97**	**96**	P	**P**	**20 54 44.9 -1.6**
	comp=Z,677nm,1.1s,comp=Z,13μm					
CHTO	**Chiang Mai**	**51.97**	**96**	*e*P	**P**	**20 54 45.3 -1.2**
CHTO				pmax	pmax	
	comp=Z,699nm,1.9s					
CHTO				MLR	MLR	
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**51.97**	**96**	*e*P	**P**	**20 54 45.3 -1.2**
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**51.97**	**96**	*e*P	**P**	**20 54 45.3 -1.2**
	comp=Z,699nm,1.9s					
CHTO				LR	LR	
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**51.97**	**96**	P	**P**	**20 54 45.1 -1.4**
	SNR=129					
CHTO	**Chiang Mai**	**51.97**	**96**	P	**P**	**20 54 45.1 -1.4**
	SNR=129					
CHTO				P	**P**	**20 54 45.1 -1.4**
	SNR=129					
CHTO				P	**P**	**20 54 45.1 -1.4**
	SNR=129					
CM31	**Chiang Mai Arr**	**52.17**	**96**	*e*P	**P**	**20 54 47.0 -1.0**
CM31	**Chiang Mai Arr**	**52.17**	**96**	*e*P	**P**	**20 54 47.0 -1.0**
CMAR	**Chiang Mai Arr**	**52.17**	**96**	P	**P**	**20 54 45.9 -2.1**
	comp=Z,53nm,0.8s,baz=300,slow=8.7,SNR=125					
CMAR				LR	LR	21 22 37.4
	comp=Z,3μm,19.0s,baz=302,slow=43					
XAN	**Xi'an**	**52.21**	**73**	P	**P**	**20 54 47.5 -0.7**
XAN				S	**S**	**21 02 14.0 +1.1**
XAN				pmax	pmax	
	comp=Z,290nm,1.2s					
XAN				pmax	pmax	
	comp=Z,2μm,4.2s					
XAN				LR	LR	
	comp=Z,4μm,13.5s					
XAN				LR	LR	
	comp=Z,7μm,18.3s					
XAN				LR	LR	
	comp=Z,9μm,18.3s					
TIXI	**Tiksi**	**52.59**	**23**	P	**P**	**20 54 50.9 +0.5**
	comp=Z,26nm,0.9s,baz=293,slow=5.4,SNR=64					
TIXI				LR	LR	21 21 14.5
	comp=Z,10μm,19.8s,baz=299,slow=41					
TIXI	**Tiksi**	**52.59**	**23***c*	*i*P	**P**	**20 54 51.1 +0.8**
TIXI				pmax	pmax	
	comp=Z,166nm,1.7s					
TIXI	**Tiksi**	**52.59**	**23**	*i* P	**P**	**20 54 51.1 +0.8**
	comp=Z,166nm,1.7s					
TIXI	**Tiksi**	**52.59**	**23**	*e*P	**P**	**20 54 49.6 -0.7**
	comp=Z,197nm,1.5s					
LAMP	**Lampang**	**52.67**	**96**	P	**P**	**20 54 51.9 +0.2**
	comp=Z,51nm,1.3s,comp=Z,538nm					
CMLA	**Cha da Macela**	**52.77**	**292**	PFAKE		20 55 00.0 +7.8
CMLA				LR	LR	
	comp=Z,3μm,19.0s					
DGAR	**Diego Garcia**	**53.28**	**143***c*	*i*P	**P**	**20 54 56.0 -0.1**
DGAR	**Diego Garcia**	**53.28**	**143**	*e*P	**P**	**20 54 55.8 -0.3**
	comp=Z,1μm,1.5s					
DGAR	**Diego Garcia**	**53.28**	**143**	*e*P	**P**	**20 54 55.8 -0.3**
	comp=Z,1μm,1.5s					
DGAR				LR	LR	
	comp=Z,5μm,19.0s					
DGAR	**Diego Garcia**	**53.28**	**143**	P	**P**	**20 54 56.9 +0.8**
	SNR=12					
DGAR	**Diego Garcia**	**53.28**	**143**	P	**P**	**20 54 56.9 +0.8**
	SNR=12					
DGAR				P	**P**	**20 54 56.9 +0.8**
	SNR=12					
TIY	**Taiyuan**	**53.28**	**68**	*e*P	**P**	**20 54 57.8 +1.7**
TIY				S	**S**	**21 02 31.5 +4.0**
TIY				pmax	pmax	
	comp=Z,400nm,1.9s					
TIY				pmax	pmax	
	comp=Z,2μm,5.1s					
TIY				LR	LR	
	comp=Z,4μm,13.8s					
TIY				LR	LR	
	comp=Z,4μm,15.0s					
TIY				LR	LR	
	comp=Z,6μm,22.7s					
NANT	**Nan**	**53.35**	**95**	P	**P**	**20 54 55.3 -1.4**
	comp=Z,37nm,1.0s,comp=Z,296nm					
H08S3	**Diego Garcia H**	**53.48**	**143**	P	**P**	**20 54 55.7 -1.6**
	baz=326,slow=16,SNR=7.1					
H08S1	**Diego Carcia H**	**53.49**	**143**	P	**P**	**20 54 55.5 -1.8**
	baz=326,slow=16,SNR=7.3					
H08S2	**Diego Garcia H**	**53.50**	**143**	P	**P**	**20 54 55.2 -2.3**
	baz=326,slow=16,SNR=12					
DBIC	**Dimbokro**	**53.64**	**246**	P	**P**	**20 54 58.3 -0.6**
	comp=Z,92nm,1.1s,baz=36,slow=9.5,SNR=29					
DBIC				LR	LR	21 20 14.2
	comp=Z,5μm,19.9s,baz=44,slow=39					
DBIC	**Dimbokro**	**53.64**	**246**	*e*P	**P**	**20 54 56.9 -1.9**
	comp=Z,321nm,1.6s					
KIC	**Kosan Boka**	**53.77**	**246**	*e*P	**P**	**20 54 59.4 -0.4**
	comp=Z,537nm,1.2s					
TIC	**Toumodi**	**53.78**	**246**	*e*P	**P**	**20 54 59.3 -0.6**
UTTA	**Uttaradit**	**53.83**	**96**	P	**P**	**20 54 59.9 -0.3**
	comp=Z,32nm,1.1s,comp=Z,274nm					
GYA	**Guiyang**	**53.97**	**83**⇑	*i*P	**P**	**20 54 59.8 -1.5**
GYA				PcP	**PcP**	**20 56 07.8 +1.2**
GYA				PP	**PP**	**20 57 04.4 +1.9**
GYA				ScP	**ScP**	**21 00 03.8 -0.8**
GYA				S	**S**	**21 02 35.4 -1.8**
GYA				SS	**SS**	**21 06 16.6 -1.7**
GYA				pmax	pmax	
	comp=Z,110nm,1.2s					
GYA				pmax	pmax	
	comp=Z,1μm,9.0s					
GYA				LR	LR	
	comp=Z,3μm,20.5s					
GYA				LR	LR	
	comp=Z,2μm,18.4s					
GYA				LR	LR	
	comp=Z,3μm,17.7s					
HIA	**Hailar**	**53.98**	**52**	P	**P**	**20 54 59.8 -1.2**
HIA				pmax	pmax	
	comp=Z,248nm,1.4s					
HIA				MLR	MLR	
	comp=Z,10μm,19.0s					
HIA	**Hailar**	**53.98**	**52**	P	**P**	**20 54 59.8 -1.2**
	comp=Z,10μm,19.0s					
HIA	**Hailar**	**53.98**	**52**	P	**P**	**20 54 59.8 -1.2**
	comp=Z,248nm,1.4s					
HIA				LR	LR	
	comp=Z,10μm,19.0s					
LIC	**Lamto**	**54.07**	**246**	*e*P	**P**	**20 55 01.5 -0.5**
	comp=Z,538nm,1.2s					
UTHA	**Uthaitani**	**54.24**	**99**	P	**P**	**20 55 02.6 -0.7**
	comp=Z,54nm,1.3s,comp=Z,490nm					
ENH	**Enshi**	**54.32**	**77**	*e*P	**P**	**20 55 02.5 -1.2**
	comp=Z,262nm,1.4s					
ENH	**Enshi**	**54.32**	**77**	*e*P	**P**	**20 55 02.5 -1.2**
	comp=Z,262nm,1.4s					
ENH				LR	LR	
	comp=Z,5μm,19.0s					
CLNS	**Chul'man**	**54.51**	**42**	*e*P	**P**	**20 55 05.1 +0.4**
CLNS				*e**PP	**sP**	**20 55 14.9 +5.7**
CLNS				*e*		20 57 08.3
CLNS				*e*PPP	PPP	20 58 22.0
CLNS				*e*S	**S**	**21 02 48.1 +4.5**
CLNS				*e*SS	**SS**	**21 06 28.8 +3.3**
CLNS				pmax	pmax	
	comp=Z,81nm,1.1s					
CLNS				pmax	pmax	
	comp=N,44nm,1.5s					
CLNS				pmax	pmax	
	comp=E,39nm,1.2s					
CLNS				pmax	pmax	
	comp=N,21nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,18nm,1.3s					
CLNS				pmax	pmax	
	comp=E,29nm,1.4s					
CLNS				smax	smax	
	comp=N,849nm,11.5s					
CLNS				smax	smax	
	comp=E,633nm,14.2s					
CLNS				MLR	MLR	
	comp=Z,6μm,13.0s					
CLNS				MLR	MLR	
	comp=N,6μm,14.0s					
CLNS				MLR	MLR	
	comp=E,4μm,17.0s					
CLNS	**Chul'man**	**54.51**	**42**	*e*P	**P**	**20 55 05.1 +0.4**
	comp=E,44nm,1.5s					
SRDT	**SRDT**	**54.71**	**100**	P	**P**	**20 55 06.2 -0.5**
	comp=E,499nm,1.5s,comp=E,11μm					
PBKT	**Sadao Pong**	**54.83**	**97**	P	**P**	**20 55 06.4 -1.1**
	comp=E,225nm,1.5s,comp=E,4μm					
BJI	**Beijing**	**55.02**	**64**	P	**P**	**20 55 08.8 +0.2**
BJI				S	**S**	**21 02 51.6 +0.9**
BJI				SS	**SS**	**21 06 36.0 +2.0**
BJI				pmax	pmax	
	comp=E,77nm,1.6s					
BJI				pmax	pmax	
	comp=E,2μm,4.7s					
BJI				LR	LR	
	comp=E,9μm,25.1s					
BJI				LR	LR	
	comp=E,4μm,19.6s					
BJI				LR	LR	
	comp=E,4μm,25.7s					
BJT	**Baijiatuau**	**55.02**	**64**	*e*P	P	20 55 03.4 -5.2
BJT				pmax	pmax	
	comp=Z,179nm,1.5s					
BJT				MLR	MLR	
	comp=Z,6μm,19.0s					
BJT	**Baijiatuau**	**55.02**	**64**	*e*P	P	20 55 03.4 -5.3
	comp=Z,179nm,1.5s					
BJT				LR	LR	
	comp=Z,6μm,19.0s					
YAK	**Yakutsk**	**55.25**	**35**	P	**P**	**20 55 09.7 -0.3**
	comp=Z,94nm,0.8s,baz=303,slow=0.6,SNR=18					
YAK				LR	LR	21 24 36.2
	comp=Z,8μm,19.0s,baz=271,slow=42					
YAK	**Yakutsk**	**55.25**	**35**	*e*P	**P**	**20 55 09.3 -0.6**
YAK				*e**PP	**sP**	**20 55 14.3 -0.1**
YAK				*e*		20 56 10.3
YAK				*e*		20 57 11.4
YAK				*e*S	**S**	**21 02 53.3 +0.1**
YAK				pmax	pmax	
	comp=Z,103nm,1.1s					
YAK				pmax	pmax	
	comp=N,30nm,1.5s					
YAK				pmax	pmax	
	comp=E,83nm,1.7s					
YAK				pmax	pmax	
	comp=Z,216nm,2.3s					
YAK				pmax	pmax	
	comp=N,37nm,2.3s					
YAK				pmax	pmax	
	comp=E,142nm,2.5s					
YAK				smax	smax	
	comp=N,576nm,4.4s					
YAK				smax	smax	
	comp=E,373nm,4.1s					
YAK				MLR	MLR	
	comp=Z,8μm,27.0s					
YAK				MLR	MLR	
	comp=N,20μm,22.0s					
YAK				MLR	MLR	
	comp=E,7μm,21.0s					
YAK	**Yakutsk**	**55.25**	**35**	*e*P	**P**	**20 55 09.3 -0.6**
	comp=E,30nm,1.5s					
YAK	**Yakutsk**	**55.25**	**35**	*e*P	**P**	**20 55 08.9 -1.0**
	comp=E,128nm,0.8s					
LSZ	**Lusaka**	**55.38**	**198**	*e*P	**P**	**20 55 09.9 -1.6**
LSZ				pmax	pmax	
	comp=Z,48nm,1.1s					
LSZ				MLR	MLR	
	comp=Z,13μm,20.0s					
LSZ	**Lusaka**	**55.38**	**198**	*e*P	**P**	**20 55 09.9 -1.6**
	comp=Z,13μm,20.0s					
LSZ	**Lusaka**	**55.38**	**198**	*e*P	**P**	**20 55 09.9 -1.6**
	comp=Z,48nm,1.1s					
LSZ				LR	LR	
	comp=Z,13μm,20.0s					
PHET	**Kaeng Krachan**	**55.98**	**101**	P	**P**	**20 55 16.1 +0.3**
	comp=Z,69nm,1.3s,comp=Z,718nm					
CHAI	**Chaiyaphum**	**56.02**	**97**	P	**P**	**20 55 14.9 -1.2**
	comp=Z,36nm,1.4s,comp=Z,370nm					
KHON	**Khomkaen**	**56.41**	**96**	P	**P**	**20 55 18.2 -0.7**
	comp=Z,102nm,0.9s,comp=Z,864nm					
NRS	**Narsarsuaq**	**56.43**	**324**	*i* P	**P**	**20 55 19.3 +0.9**
	comp=Z,4μm,17.0s					
NRS	**Narsarsuaq**	**56.43**	**324**	*i* P	**P**	**20 55 19.3 +0.9**
NRS				MLR	MLR	
	comp=Z,4μm,17.0s					
NAYO	**Nakonayok**	**56.44**	**99**	P	**P**	**20 55 18.6 -0.5**
	comp=Z,208nm,0.8s					
SFJD	**Kangerlussuaq**	**56.56**	**332**	P	**P**	**20 55 18.7 -0.5**
	comp=Z,22nm,0.8s,baz=37,slow=10,SNR=5.2					
SFJD	**Kangerlussuaq**	**56.56**	**332**	*i* P	**P**	**20 55 19.4 +0.2**
	comp=Z,5μm,15.0s					
SFJD	**Kangerlussuaq**	**56.56**	**332**	*i* P	**P**	**20 55 19.4 +0.2**
SFJD				MLR	MLR	
	comp=Z,5μm,15.0s					
SFJD	**Kangerlussuaq**	**56.56**	**332**	*e*P	**P**	**20 55 20.4 +1.2**
	comp=Z,308nm,1.9s					
SFJD	**Kangerlussuaq**	**56.56**	**332**	*e*P	**P**	**20 55 20.4 +1.2**
	comp=Z,308nm,1.9s					
PATY	**Pattaya**	**56.92**	**100**	P	**P**	**20 55 23.1 +0.6**
	comp=Z,31nm,1.2s					
SKNT	**Sakolnakorn**	**56.95**	**94**	P	**P**	**20 55 21.0 -1.7**
	comp=Z,131nm,1.6s,comp=Z,3μm					
OPO	**Ambohidratompo**	**56.98**	**175**	P	**P**	**20 55 23.2 +0.3**
	comp=Z,12nm,1.1s,baz=166,slow=20,SNR=15					
SRAK	**Srakaew**	**57.18**	**98**	P	**P**	**20 55 26.6 +2.3**
	comp=Z,734nm,1.1s,comp=Z,7μm					
TIA	**Tai'an**	**57.32**	**67**	⇑P	**P**	**20 55 23.8 -1.3**
TIA				PP	**PP**	**20 57 29.0 -3.1**
TIA				S	**S**	**21 03 21.1 -0.4**
TIA				pmax	pmax	
	comp=Z,110nm,1.3s					
TIA				pmax	pmax	
	comp=Z,3μm,12.0s					
TIA				LR	LR	
	comp=Z,7μm,16.0s					
TIA				LR	LR	
	comp=Z,3μm,14.0s					
TIA				LR	LR	
	comp=Z,7μm,17.0s					
PANO	**Nakornpanom**	**57.34**	**94**	P	**P**	**20 55 24.6 -0.9**
	comp=Z,137nm,1.1s					
BBTS	**Babate**	**57.35**	**263**	P	**P**	**20 55 26.1 +0.6**
	comp=Z,62nm,0.9s,baz=124,slow=1.5,SNR=8.3					
ABPO	**Ambohimpanom**	**57.43**	**175**	*e*P	**P**	**20 55 26.6 +0.5**
ABPO				pmax	pmax	
	comp=Z,289nm,1.7s					
ABPO				MLR	MLR	
	comp=Z,3μm,22.0s					
ABPO	**Ambohimpanom**	**57.43**	**175**	*e*P	**P**	**20 55 26.6 +0.5**
	comp=Z,289nm,1.7s					
ABPO	**Ambohimpanom**	**57.43**	**175**	*e*P	**P**	**20 55 26.6 +0.5**
	comp=Z,289nm,1.7s					
ABPO				LR	LR	
	comp=Z,3μm,22.0s					
TULEG	**Thule**	**57.64**	**345**⇑	*i*P	**P**	**20 55 26.0 -0.7**
	SNR=22					
IVI	**Ivigtut**	**57.66**	**325**	*i* P	**P**	**20 55 27.5 +0.4**
	SNR=22					
SURT	**Suratani**	**57.82**	**105**	P	**P**	**20 55 28.6 -0.2**
	comp=Z,53nm,1.1s,comp=Z,890nm					
WHN	**Wuhan**	**57.88**	**75**	⇓P	**P**	**20 55 28.6 -0.6**
WHN				S	**S**	**21 03 32.8 +3.8**
WHN				pmax	pmax	
	comp=Z,4μm,5.9s					
WHN				LR	LR	
	comp=Z,12μm,13.4s					
WHN				LR	LR	
	comp=Z,5μm,11.8s					
WHN				LR	LR	
	comp=Z,14μm,17.4s					
CHBT	**CHBT**	**58.16**	**99**	P	**P**	**20 55 32.6 +1.4**
	comp=Z,158nm,1.4s,comp=Z,105μm					
PKDT	**Phuket**	**58.16**	**107**	P	**P**	**20 55 31.5 +0.3**

comp=Z,76nm,2.0s,comp=Z,2μm
KRAB Krabi 58.59 106 P **P** **20 55 34.5 +0.2**
comp=Z,35nm,1.4s,comp=Z,482nm
UBPT Khong Chiam 59.09 95 P **P** **20 55 37.6 -0.2**
comp=Z,157nm,1.2s,comp=Z,2μm
MLSI Meulaboh, Aceh 59.13 111 P P 20 55 31.7 -6.3
TRTT Trang 59.21 106 P **P** **20 55 37.2 -1.4**
comp=Z,128nm,1.4s,comp=Z,3μm
DL2 Dalian 59.31 63 P **P** **20 55 40.8 +1.8**
DL2 S **S** **21 03 52.4 +5.0**
DL2 pmax pmax
comp=Z,300nm,1.3s
DL2 pmax pmax
comp=Z,3μm,4.7s
DL2 LR LR
comp=Z,5μm,20.8s
DL2 LR LR
comp=Z,5μm,20.4s
DL2 LR LR
comp=Z,5μm,20.0s
SNY Shenyang 59.35 59 ⇑P **P** **20 55 39.3 +0.1**
SNY PP **PP** **20 57 52.4 +2.4**
SNY S **S** **21 03 49.9 +2.1**
SNY SS **SS** **21 07 47.1 +5.1**
SNY LR LR
comp=Z,7μm,20.3s
SNY LR LR
comp=Z,9μm,19.9s
SNY LR LR
comp=Z,15μm,19.9s
CN2 Changchun 59.72 56⇑ *i*P **P** **20 55 40.5 -1.3**
CN2 *e*pP pP 20 55 45.3 +0.3
CN2 *e*sP sP 20 55 47.5 +1.2
CN2 PcP **PcP** **20 56 25.4 -3.2**
CN2 PP **PP** **20 57 54.5 +1.2**
CN2 *e*S **S** **21 03 47.0 -5.6**
CN2 SS **SS** **21 07 44.4 -3.4**
CN2 pmax pmax
comp=Z,50nm,1.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,9μm,16.0s
CN2 LR LR
comp=Z,9μm,16.0s
CN2 LR LR
comp=Z,16μm,16.0s
MRIV Mauritius Mete 60.11 164 *e*P **P** **20 55 46.0 +1.4**
MRIV Mauritius Mete 60.11 164 *e*P **P** **20 55 46.0 +1.4**
SNSI Sinabang, Aceh 60.34 113 P **P** **20 55 44.7 -1.6**
comp=Z,250nm,1.5s,comp=Z,5μm
SKLT Songkhla 60.34 106 P **P** **20 55 46.6 +0.2**
comp=Z,143nm,1.1s,comp=Z,3μm
TPTI 60.38 112 P **P** **20 55 46.8 +0.2**
comp=Z,57nm,0.8s,comp=Z,4μm
QIZ Qiongzhong 60.38 89 P **P** **20 55 46.0 -0.6**
QIZ PP **PP** **20 58 00.5 +0.9**
QIZ S **S** **21 04 01.8 +0.2**
QIZ ScS **ScS** **21 05 38.0 +0.3**
QIZ pmax pmax
comp=Z,100nm,1.5s
QIZ pmax pmax
comp=Z,1μm,8.0s
QIZ LR LR
comp=Z,2μm,22.4s
QIZ LR LR
comp=Z,3μm,17.0s
QIZ Qiongzhong 60.38 89 *e*P **P** **20 55 46.0 -0.6**
comp=Z,149nm,1.3s
QIZ Qiongzhong 60.38 89 *e*P **P** **20 55 46.0 -0.6**
comp=Z,149nm,1.3s
QIZ LR LR
comp=Z,3μm,20.0s
NJ2 Nanjing 60.53 71 *e*P **P** **20 55 48.3 +0.8**
NJ2 PP **PP** **20 58 04.0 +3.4**
NJ2 S **S** **21 04 05.8 +2.6**
NJ2 pmax pmax
comp=Z,110nm,1.4s
NJ2 LR LR
comp=Z,6μm,19.5s
NJ2 LR LR
comp=Z,4μm,15.2s
NJ2 LR LR
comp=Z,7μm,16.2s
RER Riviere de l'E 60.60 166 *e*P **P** **20 55 49.3 +1.3**
RER Riviere de l'E 60.60 166 *e*P **P** **20 55 49.3 +1.3**
RER LR LR
comp=Z,6μm,20.0s
KCSI Kotacane, Aceh 60.63 111 P **P** **20 55 45.8 -2.6**
comp=Z,67nm,1.5s,comp=Z,2μm
GZH Guangzhou 60.90 83 P **P** **20 55 49.5 -0.6**
GZH PP **PP** **20 58 06.9 +2.8**
GZH S **S** **21 04 13.8 +5.7**
GZH pmax pmax
comp=Z,4μm,6.3s
GZH LR LR
comp=Z,9μm,14.7s
KLR Kul'dur 61.23 48 LR LR 21 25 11.4
comp=Z,1μm,18.9s,slow=39
MCO Taipa Grande 61.59 83 P **P** **20 55 57.0 +2.2**
KULM Kulim 61.59 107 *e*P **P** **20 55 51.8 -3.1**
comp=Z,446nm,1.5s
KULM Kulim 61.59 107 *e*P **P** **20 55 51.8 -3.1**
comp=Z,446nm,1.5s
KULM LR LR
comp=Z,3μm,22.0s
PSI Prapat 61.96 111 P **P** **20 55 54.4 -3.1**
comp=Z,65nm,0.9s,baz=298,slow=6.9,SNR=63
PSI Prapat 61.96 111 *e*P **P** **20 55 55.3 -2.2**
PSI Prapat 61.96 111 *e*P **P** **20 55 55.3 -2.2**
MDJ Mudanjiang 62.02 54 P **P** **20 55 57.9 +0.5**
MDJ PcP **PcP** **20 56 38.3 +0.5**
MDJ PP **PP** **20 58 13.0 -0.5**
MDJ ScP **ScP** **21 00 40.8 +1.1**
MDJ S **S** **21 04 22.8 +1.0**
MDJ ScS **ScS** **21 05 51.1 +1.8**
MDJ pmax pmax
comp=Z,1μm,6.1s
MDJ LR LR
comp=Z,8μm,16.3s
MDJ LR LR
comp=Z,2μm,13.3s
MDJ LR LR
comp=Z,6μm,14.3s
MDJ Mudanjiang 62.02 54 *e*P **P** **20 55 55.9 -1.5**
comp=Z,130nm,1.7s
MDJ Mudanjiang 62.02 54 *e*P **P** **20 55 55.9 -1.5**
comp=Z,130nm,1.7s
MDJ LR LR
comp=Z,3μm,19.0s
TSUM Tsumeb 62.28 207 *e*P **P** **20 55 56.8 -2.6**
comp=Z,47nm,1.4s
TSUM Tsumeb 62.28 207 *e*P **P** **20 55 56.9 -2.6**
comp=Z,47nm,1.4s
IPM Ipoh 62.40 108 *e*P **P** **20 55 57.1 -3.3**
comp=Z,589nm,1.5s
IPM Ipoh 62.40 108 *e*P **P** **20 55 57.1 -3.3**
comp=Z,589nm,1.5s
SACV Santiago Islan 62.69 268 PFAKE 20 56 10.0 +7.7
SACV LR LR
comp=Z,1μm,21.0s
SSE Sheshan 62.73 71 P **P** **20 56 00.0 -2.3**
SSE PP **PP** **20 58 19.3 -0.8**
SSE S **S** **21 04 29.9 -1.2**
SSE sS **sS** **21 04 37.9 +1.4**
SSE pmax pmax
comp=Z,1μm,6.8s
SSE LR LR
comp=Z,4μm,16.3s
SSE LR LR
comp=Z,3μm,16.3s
SSE LR LR
comp=Z,3μm,16.3s
KTGM Kuala Trenggan 63.43 105 ⇑P **P** **20 56 07.7 +0.5**
PBSI Pulau Batu 63.44 113 P **P** **20 56 04.2 -3.0**
INCN Inchon 63.46 62 *e*P **P** **20 56 08.0 +0.8**
comp=Z,422nm,1.6s
INCN Inchon 63.46 62 *e*P **P** **20 56 08.0 +0.8**
comp=Z,422nm,1.6s
INCN LR LR
comp=Z,6μm,21.0s
INCN Inchon 63.46 62 pP **P** **20 56 07.8 +0.7**
SNR=7.8
INCN Inchon 63.46 62 P **P** **20 56 07.8 +0.7**
SNR=7.8
INCN P **P** **20 56 07.8 +0.7**
SNR=7.8
HABR Khabarovsk 63.51 48 *c*eP **P** **20 56 06.0 -1.2**
HABR *e**PP **sP** **20 56 11.0 -0.7**
HABR *e**SP **pP** **20 56 12.7 +2.2**
HABR *e* 20 56 42.4
HABR *e* 20 58 25.4
HABR *e*PPP PPP 20 59 54.4
HABR *e*S **S** **21 04 38.7 -1.6**
HABR *e* 21 05 58.5
HABR *e*SS **SS** **21 08 46.9 +0.1**
HABR pmax pmax
comp=Z,396nm,1.6s
HABR pmax pmax
comp=N,53nm,1.6s
HABR pmax pmax
comp=E,125nm,1.6s
HABR pmax pmax
comp=Z,2μm,4.2s
HABR MLR MLR
comp=Z,12μm,19.0s
RES Resolute Bay 63.64 349 P **P** **20 56 08.9 +1.2**
comp=Z,20nm,1.1s,baz=34,slow=8.1,SNR=15
RES S **S** **21 04 45.4 +4.1**
FRIM Kepong 63.67 108 ⇓P **P** **20 56 09.4 +0.7**
USRK Ussuriysk Ar. 63.73 53 P **P** **20 56 08.4 -0.3**
comp=Z,22nm,0.9s,baz=298,slow=4.1,SNR=37
USRK S **S** **21 04 48.2 +5.0**
comp=Z,0.6nm,0.5s,baz=254,slow=8.6,SNR=2.0
USRK LR LR 21 26 54.0
comp=Z,10μm,18.1s,baz=294,slow=39
QZH Quanzhou 63.96 78 ⇑ *i*P **P** **20 56 08.0 -2.6**
QZH pP **PP** **20 58 33.0 +1.9**
QZH S **S** **21 04 38.5 -8.2**
QZH pmax pmax
comp=Z,2μm,4.4s
QZH LR LR
comp=Z,6μm,14.8s
QZH LR LR
comp=Z,4μm,12.4s
QZH LR LR
comp=Z,6μm,15.2s
MSHR Mys Shultsa 63.99 55⇓ *e*P **P** **20 56 11.5 +1.0**
VLA Vladivostok 64.19 54⇓ *e*P **P** **20 56 12.2 +0.4**
VLA pmax pmax
comp=Z,181nm,1.0s
SEY Seymchan 64.27 29 P **P** **20 56 13.6 +1.6**
comp=Z,95nm,0.8s,baz=284,slow=6.0,SNR=54
SEY LR LR 21 29 00.4
comp=Z,21μm,18.1s,baz=304,slow=40
SEY Seymchan 64.27 29⇓ *e*P **P** **20 56 12.1 +0.1**
NKL Nikolayevsk 64.30 42 *e*P **P** **20 56 13.0 +0.7**
NKL *e* 21 04 48.0
NKL pmax pmax
comp=E,1μm,6.0s
NKL pmax pmax
comp=Z,2μm,6.0s
NKL pmax pmax
comp=Z,360nm,1.5s
NKL MLR MLR
comp=N,5μm,19.0s
NKL MLR MLR
comp=E,8μm,19.0s
NKL MLR MLR
comp=Z,11μm,19.0s
KSAR Wonju Array Be 64.35 62 P **P** **20 56 13.0 +0.1**
KSAR Wonju Array Be 64.35 62 P **P** **20 56 13.0 +0.1**
KSAR Wonju Array Be 64.35 62 P **P** **20 56 13.0 +0.1**
KSRS Korea Array 64.37 62 P **P** **20 56 13.0 0.0**
comp=Z,83nm,0.8s,baz=290,slow=6.4,SNR=97
KSRS LR LR 21 27 58.5
comp=Z,6μm,18.5s,baz=308,slow=40
SISI Saibi 64.90 114 P **P** **20 56 13.9 -2.9**
BKNI Bangkinang 65.19 111 P **P** **20 56 15.4 -3.3**
BKNI Bangkinang 65.19 111 *e*P **P** **20 56 17.6 -1.0**
BKNI Bangkinang 65.19 111 *e*P **P** **20 56 17.6 -1.0**
LBTB Lobatse 65.37 197 *e*P **P** **20 56 21.7 +2.1**
LBTB Lobatse 65.37 197 *e*P **P** **20 56 21.7 +2.1**
BILL Bilibino 65.52 20⇑ *i*P **P** **20 56 21.7 +1.6**
BILL *i* 20 56 24.4
BILL *i* 20 58 42.5
BILL pmax pmax
comp=Z,79nm,1.7s
MA2 Magadan 65.56 32 P **P** **20 56 21.3 +0.8**
comp=Z,64nm,0.9s,baz=317,slow=7.3,SNR=12
MA2 LR LR 21 29 13.5
comp=Z,17μm,19.3s,baz=305,slow=40
PDSI Padang 65.61 112 P **P** **20 56 18.4 -3.0**
YHNB Yeheng 66.24 77 *e*P **P** **20 56 25.4 -0.1**
YHNB Yeheng 66.24 77 *e*P **P** **20 56 25.4 -0.1**
YHNB LR LR
comp=Z,2μm,21.0s
MYKOM Kota Tinggi 66.28 108 *e*P **P** **20 56 22.9 -2.9**
MYKOM Kota Tinggi 66.28 108 *e*P **P** **20 56 22.9 -2.9**
SSLB Suanglung 66.40 78 *e*P **P** **20 56 25.7 -0.8**
comp=Z,54nm,0.6s
SSLB Suanglung 66.40 78 *e*P **P** **20 56 25.7 -0.8**
comp=Z,54nm,0.6s
TPUB Ta-pu 66.42 78 *e*P **P** **20 56 28.0 +1.4**
TPUB Ta-pu 66.42 78 *e*P **P** **20 56 27.9 +1.4**
TYV Tymovskoe 66.53 43 *e*P **P** **20 56 26.6 -0.3**
TYV pmax pmax
comp=Z,102nm,1.3s
TYV pmax pmax
comp=Z,2μm,4.4s
TYV MLR MLR
comp=N,8μm,22.0s
TYV MLR MLR
comp=Z,8μm,20.0s
PPSI Pulau Pagai 66.56 114 P **P** **20 56 32.0 +4.5**
YULB Yu-li 66.88 78 *e*P **P** **20 56 31.3 +1.8**
YULB Yu-li 66.88 78 *e*P **P** **20 56 31.3 +1.8**
TWG Pinlang 67.02 79 *e*P **P** **20 56 31.1 +0.7**
TWG Pinlang 67.02 79 *e*P **P** **20 56 31.1 +0.7**
TPRI Tanjung Pinang 67.36 108 P **P** **20 56 32.4 -0.3**
JMBI JAMBI 68.42 111 P **P** **20 56 40.8 +1.5**
MASI Maura Aman, Be 68.42 113 P **P** **20 56 36.5 -2.8**
JNU Nakatsue 68.68 64 P **P** **20 56 41.2 +0.4**
comp=Z,58nm,0.7s,baz=110,slow=4.3,SNR=28
JNU LR LR 21 30 58.6
comp=Z,20nm,18.9s,baz=310,slow=40
JNU Nakatsue 68.68 64 *e*P **P** **20 56 41.3 +0.5**
JNU Nakatsue 68.68 64 *e*P **P** **20 56 41.3 +0.5**
YSS Yuzh-Sakhalins 68.74 46 *c i*P **P** **20 56 42.0 +1.2**
YSS *e*SP 20 56 48.2
YSS *e* 20 57 02.0
YSS *e*PPP PPP 21 00 54.4
YSS *e*S **S** **21 05 45.5 +1.5**
YSS *e* 21 06 21.8
YSS *e* 21 06 34.9
YSS *e*SS **SS** **21 10 11.1 +3.2**
YSS pmax pmax
comp=Z,150nm,1.8s
YSS pmax pmax
comp=Z,2μm,4.4s
YSS smax smax
comp=E,1μm,9.0s
YSS MLR MLR
comp=Z,9μm,16.5s
YSS MLR MLR
comp=N,4μm,18.7s
YSS MLR MLR
comp=E,10μm,16.0s
YSS Yuzh-Sakhalins 68.74 46 *e*P **P** **20 56 42.4 +1.6**
YSS Yuzh-Sakhalins 68.74 46 *e*P **P** **20 56 42.4 +1.6**
BOSA Boshof 68.91 197 *i P* **P** **20 56 41.7 -0.4**
BOSA Boshof 68.91 197 P **P** **20 56 41.3 -0.8**
comp=E,25nm,0.8s,baz=14,slow=6.0,SNR=17
BOSA LR LR 21 28 51.7
comp=E,5μm,18.1s,baz=14,slow=38
BOSA Boshof 68.91 197 *e*P **P** **20 56 42.9 +0.8**
BOSA Boshof 68.91 197 *e*P **P** **20 56 42.9 +0.8**
BOSA Boshof 68.91 197 *e*P **P** **20 56 42.9 +0.8**
SCHQ Schefferville 69.39 324 P **P** **20 56 44.7 -0.1**
comp=E,32nm,0.8s,baz=55,slow=9.0,SNR=12
SCHQ S **S** **21 05 53.4 +1.8**
comp=E,6.0nm,0.7s,baz=11,slow=8.1,SNR=2.8
SCHQ LR LR 21 28 38.3
comp=E,2μm,18.1s,baz=46,slow=37
SCHQ Schefferville 69.39 324 *e*P **P** **20 56 45.0 +0.2**
SCHQ S **S** **21 05 53.4 +1.8**
SCHQ Schefferville 69.39 324 *e*P **P** **20 56 45.0 +0.2**
SCHQ S **S** **21 05 53.4 +1.8**
ABRA Dolores 69.65 83 *e*P **P** **20 56 47.4 +0.5**
BOLP Bolinao 69.76 85 *e*P **P** **20 56 47.2 -0.4**
LHSI Lahat 69.82 112 P **P** **20 56 45.2 -2.8**
SCZP Santa Cruz 70.11 85 *e*P **P** **20 56 50.8 +1.0**
PMBI Palembang 70.12 111 P **P** **20 56 50.2 +0.4**
JOW Kunigami 70.25 71 *e*P **P** **20 56 48.7 -1.8**
JOW Kunigami 70.25 71 *e*P **P** **20 56 48.7 -1.8**
ASAJ Asahikawa 70.25 49 P **P** **20 56 49.1 -1.1**
comp=E,26nm,0.8s,baz=342,slow=1.5,SNR=14
ASAJ LR LR 21 31 13.2
comp=E,25nm,19.7s,baz=320,slow=39
ASAJ Asahikawa 70.25 49 *e*P **P** **20 56 51.7 +1.5**
ASAJ Asahikawa 70.25 49 *e*P **P** **20 56 51.7 +1.5**
SGCP Mt. Cagua 70.35 82 *e*P **P** **20 56 49.4 -1.8**
ASCN Ascension 70.60 242 PFAKE 20 57 00.0 +7.3
ASCN LR LR
comp=Z,3μm,20.0s
CAUP Cauayan 70.92 83 *e*P **P** **20 56 55.5 +0.8**
SHEL Horse Pasture 70.96 230 PFAKE 20 57 10.0 +15
SHEL LR LR
comp=Z,2μm,19.0s
LWLI Liwa 71.02 113 P **P** **20 56 52.6 -2.9**
COCO West Island 71.15 124 *e*P **P** **20 56 54.9 -1.1**
COCO pmax pmax
comp=Z,866nm,1.4s
COCO MLR MLR
comp=Z,3μm,21.0s
COCO West Island 71.15 124 *e*P **P** **20 56 54.9 -1.1**
comp=Z,866nm,1.4s
COCO West Island 71.15 124 *e*P **P** **20 56 54.9 -1.1**
comp=Z,866nm,1.4s
COCO LR LR
comp=Z,3μm,21.0s
KLSI 71.28 112 P **P** **20 56 54.2 -2.7**
KSM Kuching 71.36 103 *e*P **P** **20 56 56.2 -1.2**
KSM Kuching 71.36 103 *e*P **P** **20 56 56.2 -1.2**
KSM LR LR
comp=Z,2μm,19.0s
BALP Baler 71.43 84 *e*P **P** **20 56 58.9 +1.1**
LUBP Lubang 71.57 87 *e*P **P** **20 56 59.6 +0.9**
INU Inuyama 71.69 59 *e*P **P** **20 56 59.6 +0.5**
INU Inuyama 71.69 59 *e*P **P** **20 56 59.6 +0.5**
ERM Erimo 71.80 51 PFAKE 20 57 10.0 +10
ERM LR LR
comp=Z,6μm,22.0s
MJB9 Matsu-Tunnel 71.80 58 *e*P **P** **20 57 00.2 +0.4**
MJB9 Matsu-Tunnel 71.80 58 *e*P **P** **20 57 00.2 +0.4**
MAJO Matsushiro 71.81 58 *c i*P **P** **20 56 59.6 -0.3**
MAJO pmax pmax
comp=Z,897nm,1.5s
MAJO Matsushiro 71.81 58 *e*P **P** **20 57 00.2 +0.3**
MAJO Matsushiro 71.81 58 *e*P **P** **20 57 00.2 +0.3**
MAJO LR LR
comp=Z,9μm,19.0s
MAT Matsushiro 71.81 58 P **P** **20 56 57.9 -2.0**
MAT S **S** **21 06 19.0 -1.3**
MJAR Matsushiro Arr 71.81 58 P **P** **20 56 58.4 -1.4**
comp=Z,68nm,1.2s,baz=307,slow=6.3,SNR=73
MJAR LR LR 21 31 22.2
comp=Z,8μm,18.7s,baz=310,slow=38
TGY Tagaytay City 71.89 86 P **P** **20 57 00.9 +0.2**
comp=Z,117nm,0.3s,baz=294,slow=3.6,SNR=4.7
TGY Tagaytay City 71.89 86 P **P** **20 57 00.9 +0.2**
TGY pmax pmax
comp=Z,91nm,0.3s
BLSI Bandar Lampung 72.12 112 P **P** **20 56 59.3 -2.6**
SBUM Sibu 72.20 101 *e*P **P** **20 57 02.0 -0.5**
SBUM Sibu 72.20 101 *e*P **P** **20 57 02.0 -0.5**
YUK Yuzh-Kuril'sk 72.21 48 *c i*P **P** **20 57 02.3 +0.2**
YUK *i* 20 57 19.9
YUK *i* S **S** **21 06 28.6 +4.0**
YUK pmax pmax
comp=Z,671nm,1.3s
YUK pmax pmax
comp=E,236nm,0.9s
YUK pmax pmax
comp=N,458nm,1.2s
YUK pmax pmax
comp=Z,2μm,3.8s
YUK MLR MLR
comp=Z,5μm,20.0s
YUK MLR MLR
comp=E,5μm,18.0s
YUK MLR MLR
comp=N,6μm,16.0s
BUSP Coron 72.56 88 *e*P **P** **20 57 06.0 +1.4**
PEA0B Petropavlovsk- 72.60 35 *e*P **P** **20 57 04.7 +0.4**
PEA0B Petropavlovsk- 72.60 35 *e*P **P** **20 57 04.7 +0.4**
PETK Petropavlovsk- 72.60 35 P **P** **20 57 03.9 -0.4**
comp=N,50nm,1.2s,baz=354,slow=1.5,SNR=18
PETK LR LR 21 33 41.0
comp=N,10μm,18.7s,baz=310,slow=40
KUR Kuril'sk 72.63 46 *e*P **P** **20 57 04.4 -0.2**
KUR *e* 20 57 24.8
KUR *e*PPP PPP 21 01 33.1
KUR *e*S **S** **21 06 31.9 +2.5**
KUR MLR MLR
comp=E,6μm,17.0s
KUR MLR MLR
comp=Z,5μm,17.0s
KUR MLR MLR
comp=N,3μm,16.0s
TOLK Toolik Lake Re 72.67 5 P **P** **20 57 05.7 +1.2**
baz=350,SNR=46
BOAC Boac 72.98 86 *e*P **P** **20 57 05.9 -1.2**
SJMP San Jose 73.00 87 *e*P **P** **20 57 06.3 -0.9**
KKM Kota Kinabalu 73.05 96 *e*P **P** **20 57 08.8 +1.1**
KKM Kota Kinabalu 73.05 96 *e*P **P** **20 57 08.8 +1.1**
KKM LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 73.08 35 *c i*P **P** **20 57 05.7 -1.4**
PET *e* 20 59 49.8
PET *e*PPP PPP 21 01 30.7
PET *e*S **S** **21 06 30.2 -4.1**
PET pmax pmax
comp=Z,1μm,6.1s
PET pmax pmax
comp=Z,700nm,7.0s
PET MLR MLR
comp=Z,7μm,18.0s
PET MLR MLR
comp=Z,6μm,17.0s
PET Petropavlovsk 73.08 35 PFAKE 20 57 20.0 +13
PET LR LR
comp=Z,7μm,19.0s
INK Inuvik 73.39 359 P **P** **20 57 08.3 -0.3**
comp=Z,49nm,1.2s,baz=9.6,slow=10,SNR=23
SKR Severo-Kuril's 73.47 38 *e*P **P** **20 57 08.7 -0.7**
SKR *e*PPP PPP 21 01 37.9
SKR *e*S **SKiKP** **21 06 41.8 +1.8**
SKR *e* 21 07 12.2
SKR pmax pmax
comp=Z,1μm,4.6s
SKR MLR MLR
comp=Z,4μm,19.0s
SKR MLR MLR
comp=Z,7μm,18.0s
SUR Sutherland 73.60 200 *e*P **P** **20 57 12.0 +1.5**
SUR Sutherland 73.60 200 *e*P **P** **20 57 12.0 +1.5**
SUR LR LR
comp=Z,22μm,20.0s
OTRP Odiongan 73.77 87 *e*P **P** **20 57 11.4 -0.3**
COLD Coldfoot 74.02 5 *e*P **P** **20 57 12.3 -0.1**
COLD Coldfoot 74.02 5 *e*P **P** **20 57 12.3 -0.1**
JAP San Jose, Anti 74.68 88⇓ *e*P **P** **20 57 18.0 +1.0**
PVCP Virac 74.70 85 *e*P **P** **20 57 17.7 +0.5**
JHJ Hachijo jima 2 74.84 60 P **P** **20 57 17.9 +0.1**
comp=Z,16nm,0.4s,baz=235,slow=21,SNR=4.3
JHJ LR LR 21 32 36.6
comp=Z,9.9nm,19.1s,baz=316,slow=38
FYU Fort Yukon 74.98 3 *e*P **P** **20 57 20.2 +2.2**
FYU Fort Yukon 74.98 3 *e*P **P** **20 57 20.2 +2.2**
PQI Presque Isle 75.18 318 *e*P **P** **20 57 20.9 +1.4**
PQI Presque Isle 75.18 318 *e*P **P** **20 57 20.9 +1.4**
CISI Cisompet, Garu 75.47 112 *e*P **P** **20 57 18.2 -3.4**
comp=Z,838nm,1.3s
CNP Cataman 75.75 85 *e*P **P** **20 57 23.1 -0.2**
EMMW East Machias 76.16 317 *e*P **P** **20 57 26.4 +1.2**
EMMW East Machias 76.16 317 *e*P **P** **20 57 26.4 +1.2**
MDM Murphy Dome 76.40 5 *e*P **P** **20 57 25.9 -0.3**
MDM Murphy Dome 76.40 5 *e*P **P** **20 57 25.9 -0.3**
COLA College 76.51 5 *e*P **P** **20 57 26.4 -0.3**
COLA MLR MLR
comp=Z,4μm,22.0s
COLA College 76.51 5 *e*P **P** **20 57 26.4 -0.3**
COLA College 76.51 5 *e*P **P** **20 57 26.4 -0.3**

COLA LR LR
comp=Z,4µm,22.0s
LLP Lapu-Lapu 76.52 88⇑ eP P 20 57 27.8 +0.2
LLP eS PP 21 00 21.0 +1.5
OCLP Ormoc 76.58 87 eP P 20 57 28.1 +0.1
ILAR Eielson Array 76.67 4 P P 20 57 27.8 0.0
comp=Z,20nm,1.2s,baz=329,slow=2.8,SNR=60
ILAR PP PP 21 00 15.6 -3.7
comp=Z,2.9nm,1.0s,baz=346,slow=5.2,SNR=4.0
ILAR PKPPKP P'P'df 21 24 38.8 -9.2
comp=Z,0.3nm,0.7s,baz=210,slow=3.2,SNR=4.9
ILAR LR LR 21 35 31.0
comp=Z,3µm,19.4s,baz=340,slow=39
ILAR Eielson Array 76.67 4 P P 20 57 27.8 0.0
ILAR 21 00 15.6
ILAR pmax pmax
comp=Z,24nm,1.2s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
PKME Peaks-Kenny Pk 76.77 318 eP P 20 57 30.4 +1.8
PKME Peaks-Kenny Pk 76.77 318 eP P 20 57 30.4 +1.8
PKME LR LR
comp=Z,3µm,19.0s
BESP Borongan 76.90 86 eP P 20 57 27.9 -1.9
EGAK Eagle 76.92 2 eP P 20 57 28.3 -0.8
EGAK Eagle 76.92 2 eP P 20 57 28.3 -0.8
EGAK LR LR
comp=Z,3µm,20.0s
BPAW Bear Paw Mtn. 77.04 6 eP P 20 57 29.2 -0.7
BPAW Bear Paw Mtn. 77.04 6 eP P 20 57 29.2 -0.7
MSLP Maasin 77.33 87 eP P 20 57 33.6 +1.4
WVL Waterville 77.44 318 eP P 20 57 33.5 +1.2
WVL Waterville 77.44 318 eP P 20 57 33.5 +1.2
PAGZ Pagadian 77.55 90 eP P 20 57 34.1 +0.7
MCK McKinley 77.57 5 eP P 20 57 31.4 -1.4
MCK pmax pmax
comp=Z,281nm,1.5s
MCK McKinley 77.57 5 eP P 20 57 31.4 -1.4
comp=Z,280nm,1.5s
MCK McKinley 77.57 5 eP P 20 57 31.4 -1.4
comp=Z,280nm,1.5s
DAWY Dawson 77.67 1 eP P 20 57 32.4 -1.0
comp=Z,296nm,1.5s
DAWY Dawson 77.67 1 eP P 20 57 32.4 -1.0
comp=Z,296nm,1.5s
YKA Yellowknife Ar 77.67 350 P P 20 57 34.3 +1.0
comp=Z,21nm,1.0s,baz=12,slow=5.5,SNR=18
YKA PP PP 21 00 12.5 -15
comp=Z,6.5nm,1.0s,baz=12,slow=6.6,SNR=3.9
YKA LR LR 21 34 45.1
comp=Z,196nm,18.3s,baz=0.0,slow=38
TT01 Tatalina 77.69 9 eP P 20 57 34.3 +0.9
TT01 Tatalina 77.69 9 eP P 20 57 34.3 +0.9
TRF Thorofare Moun 77.74 6 eP P 20 57 34.5 +0.6
TRF Thorofare Moun 77.74 6 eP P 20 57 34.5 +0.6
DOT Dot Lake 77.94 3 eP P 20 57 34.4 -0.5
comp=Z,1µm,1.5s
DOT Dot Lake 77.94 3 eP P 20 57 34.4 -0.5
comp=Z,1µm,1.5s
PPLA Purkeypile 78.11 7 eP P 20 57 35.1 -0.9
comp=Z,184nm,1.4s
PPLA Purkeypile 78.11 7 eP P 20 57 35.1 -0.9
comp=Z,184nm,1.4s
PAX Paxson 78.55 4 eP P 20 57 38.5 +0.1
PAX Paxson 78.55 4 eP P 20 57 38.5 +0.1
PAX Paxson 78.55 4 eP P 20 57 38.5 +0.1
MENT Mentasta 78.67 3 eP P 20 57 38.5 -0.4
MENT Mentasta 78.67 3 eP P 20 57 38.5 -0.4
LBNH Lisbon 78.85 318 eP P 20 57 42.2 +2.0
LBNH Lisbon 78.85 318 eP P 20 57 42.2 +2.0
LBNH Lisbon 78.85 318 eP P 20 57 42.2 +2.0
HARP HAARP 79.13 4 eP P 20 57 42.7 +1.3
HARP HAARP 79.13 4 eP P 20 57 42.7 +1.3
FFD Franklin Falls 79.23 318 eP P 20 57 44.3 +2.0
FFD Franklin Falls 79.23 318 eP P 20 57 44.3 +2.0
FRNY Flat Rock 79.29 320 eP P 20 57 41.7 -0.9
FRNY Flat Rock 79.29 320 eP P 20 57 41.7 -0.9
HNH Hanover 79.40 318 eP P 20 57 44.1 +0.9
HNH Hanover 79.40 318 eP P 20 57 44.1 +0.9
SML Sawmill 79.52 6 eP P 20 57 42.4 -1.2
SML pmax pmax
comp=Z,14nm,0.8s
SML Sawmill 79.52 6 eP P 20 57 42.4 -1.2
comp=Z,14nm,0.8s
SML Sawmill 79.52 6 eP P 20 57 42.4 -1.2
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 79.57 5 eP P 20 57 43.8 -0.1
SCM Sheep Creek Mo 79.57 5 eP P 20 57 43.8 -0.1
SCM Sheep Creek Mo 79.57 5 eP P 20 57 43.8 -0.1
MDV Middlebury 79.66 319 eP P 20 57 46.2 +1.5
MDV Middlebury 79.66 319 eP P 20 57 46.2 +1.5
PMR Palmer 79.67 6 eP P 20 57 43.6 -0.7
PMR Palmer 79.67 6 eP P 20 57 43.6 -0.7
PMR Palmer 79.67 6 eP P 20 57 43.6 -0.7
DAV Davao City (W) 79.75 89⇑ eP P 20 57 42.1 -3.5
DAV Davao City (W) 79.75 89 PFAKE 20 58 00.0 +14
DAV LR LR
comp=Z,1µm,19.0s
BCX Boston College 79.76 317 eP P 20 57 46.8 +1.6
BCX Boston College 79.76 317 eP P 20 57 46.8 +1.6
WES Weston 79.81 317 eP P 20 57 46.8 +1.4
WES Weston 79.81 317 eP P 20 57 46.8 +1.4
WES Weston 79.81 317 eP P 20 57 46.8 +1.4
SPU Mount Spurr 79.81 7 eP P 20 57 45.9 +0.7
SPU Mount Spurr 79.81 7 eP P 20 57 45.9 +0.7
HRV Adam Dziewonsk 79.85 317 eP P 20 57 47.4 +1.7
HRV Adam Dziewonsk 79.85 317 eP P 20 57 47.4 +1.7
HRV Adam Dziewonsk 79.85 317 eP P 20 57 47.4 +1.7
LONY Lake Ozonia 79.94 320 PFAKE 20 58 00.0 +14
LONY LR LR
comp=Z,2µm,22.0s
RC01 Rabbit Creek A 80.12 6 eP P 20 57 46.0 -0.8
RC01 Rabbit Creek A 80.12 6 eP P 20 57 46.0 -0.8
NCB Newcomb 80.22 319 eP P 20 57 49.1 +1.4
NCB Newcomb 80.22 319 eP P 20 57 49.1 +1.4
BRYW Bryant College 80.24 317 eP P 20 57 48.6 +0.7
BRYW Bryant College 80.24 317 eP P 20 57 48.6 +0.7
ACCN Adirondack Com 80.35 319 eP P 20 57 49.5 +1.1
ACCN Adirondack Com 80.35 319 eP P 20 57 49.5 +1.1
MATI Mati 80.36 89 eP P 20 57 49.9 +1.1
DIV Divide 80.37 4 eP P 20 57 47.1 -1.1
comp=Z,360nm,1.5s
DIV Divide 80.37 4 eP P 20 57 47.1 -1.1
comp=Z,360nm,1.5s
QUA2 Belchertown 80.43 317 eP P 20 57 49.4 +0.6
QUA2 Belchertown 80.43 317 eP P 20 57 49.4 +0.6
RSO Redoubt South 80.44 8 eP P 20 57 49.8 +1.0
RSO Redoubt South 80.44 8 eP P 20 57 49.8 +1.0
BMRM Bremner River 80.59 4 eP P 20 57 48.5 -0.9
comp=Z,107nm,1.4s
BMRM Bremner River 80.59 4 eP P 20 57 48.5 -0.9
comp=Z,107nm,1.4s
FID Port Fidalgo 80.70 5 eP P 20 57 51.8 +1.9
FID Port Fidalgo 80.70 5 eP P 20 57 51.8 +1.9
JAGI Jajag, Banyuwa 80.73 109 eP P 20 57 46.4 -4.4
comp=Z,154nm,1.1s
TRY Troy 80.81 318 eP P 20 57 52.7 +1.8
TRY Troy 80.81 318 eP P 20 57 52.6 +1.8
SEW Seward 81.12 6 P P 20 57 48.9 -3.2
comp=Z,349nm,1.6s
SADO Sadowa 82.07 323 eP P 20 57 54.0 -3.5
comp=Z,139nm,1.7s
PAL Palisades 82.15 317 eP P 20 57 59.0 +1.0
PAL Palisades 82.15 317 eP P 20 57 59.0 +1.0
PAL Palisades 82.15 317 eP P 20 57 59.0 +1.0
SKAG Skagway 82.30 359 eP P 20 57 55.9 -2.5
comp=Z,216nm,1.7s
CPNY Central Park 82.33 317 eP P 20 58 00.1 +1.2
CPNY Central Park 82.33 317 eP P 20 58 00.1 +1.2
FFC Flin Flon 82.35 340 eP P 20 57 58.9 +0.1
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 82.35 340 eP P 20 57 58.9 +0.1
FFC Flin Flon 82.35 340 eP P 20 57 58.9 +0.1
FFC LR LR
comp=Z,3µm,20.0s
BINY Binghamton 82.39 319 PFAKE 20 58 10.0 +11
BINY LR LR
comp=Z,1µm,20.0s
ODNJ Ogdensburg 82.47 318 eP P 20 58 00.9 +1.2
ODNJ Ogdensburg 82.47 318 eP P 20 58 00.9 +1.2
LUWI Luwuk 82.56 97 eP P 20 57 58.2 -2.3
comp=Z,107nm,1.3s
LUWI Luwuk 82.56 97 eP P 20 57 58.2 -2.3
comp=Z,107nm,1.3s
BBSR BB Station 82.64 306 PFAKE 20 58 10.0 +9.3
BBSR LR LR
comp=Z,1µm,22.0s
KAPI Kappang 82.73 102 eP P 20 57 59.9 -1.4
comp=Z,537nm,1.6s
KAPI Kappang 82.73 102 eP P 20 57 59.9 -1.4
comp=Z,537nm,1.6s
KAPI LR LR
comp=Z,1µm,22.0s
KAPI Kappang 82.73 102 P P 20 57 59.9 -1.4
SNR=29
KAPI Kappang 82.73 102 P P 20 57 59.9 -1.4
SNR=29
KAPI P P 20 57 59.9 -1.4
SNR=29
MMNY Mt. Morris Dam 82.97 320 eP P 20 58 03.4 +1.2
MMNY Mt. Morris Dam 82.97 320 eP P 20 58 03.4 +1.2
KDAK Kodiak Island 83.09 8 P P 20 58 03.7 +1.2
comp=Z,51nm,0.7s,baz=1.3,slow=1.2,SNR=35
KDAK Kodiak Island 83.09 8 i P P 20 58 01.8 -0.7
KDAK Kodiak Island 83.09 8 eP P 20 58 02.1 -0.4
KDAK Kodiak Island 83.09 8 eP P 20 58 02.1 -0.4
KDAK LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 83.16 356 P P 20 58 04.6 +1.5
comp=Z,21nm,1.0s,baz=20,slow=4.5,SNR=21
N59A State Game Lan 83.20 318 P P 20 58 04.0 +0.5
baz=44
N59A S S 21 08 23.5 -0.2
baz=44
ADK Adak 83.44 24 PFAKE 20 58 10.0 +5.6
ADK LR LR
comp=Z,8µm,19.0s
OHAK Old Harbor 83.55 9 eP P 20 58 01.6 -3.3
comp=Z,196nm,1.1s
E45A Wooded Hills, 83.59 327 P P 20 58 05.9 +0.6
baz=38,SNR=18
E44A Grand Marais A 83.69 327 P P 20 58 06.7 +0.8
baz=38,SNR=8.6
F46A Macinaw City C 83.86 326 P P 20 58 06.9 +0.2
baz=38
C40A Isle Royale Na 83.97 330 P P 20 58 07.8 +0.5
baz=36
F45A CMU Biological 84.26 327 P P 20 58 09.0 +0.2
baz=38,SNR=14
E43A Lone Tree Farm 84.34 328 P P 20 58 09.4 +0.2
baz=37,SNR=22
F44A Big Bay de Noc 84.42 327 P P 20 58 09.9 +0.3
baz=37,SNR=20
C39A Grand Marais 84.43 330 P P 20 58 09.7 0.0
baz=35
D41A Chassel 84.43 329 P P 20 58 09.8 +0.1
baz=36,SNR=15
ULM Lac du Bonnet 84.46 335 P P 20 58 09.6 -0.1
comp=Z,15nm,0.8s,baz=37,slow=5.0,SNR=20
ULM LR LR 21 35 40.1
comp=Z,3µm,21.2s,baz=32,slow=36
SSPA Standing Stone 84.50 319 eP P 20 58 08.8 -1.3
comp=Z,2µm,1.7s
SSPA Standing Stone 84.50 319 eP P 20 58 08.8 -1.3
comp=Z,2µm,1.7s
GLMI Grayling 84.54 326 eP P 20 58 11.3 +1.0
comp=Z,623nm,1.7s
GLMI Grayling 84.54 326 eP P 20 58 11.3 +1.0
comp=Z,623nm,1.7s
GLMI LR LR
comp=Z,3µm,20.0s
E42A Champion 84.68 328 P P 20 58 11.1 +0.2
baz=36,SNR=24
M54A Oil Creek Stat 84.75 321 P P 20 58 11.4 0.0
baz=41,SNR=24
EYMN Ely 84.85 331 P P 20 58 12.0 +0.3
baz=34,SNR=18
EYMN Ely 84.85 331 eP P 20 58 11.3 -0.4
comp=Z,297nm,1.8s
EYMN Ely 84.85 331 eP P 20 58 11.3 -0.4
comp=Z,297nm,1.8s
EYMN LR LR
comp=Z,4µm,21.0s
F43A Flat Rock, Esc 84.85 328 P P 20 58 11.9 +0.1
baz=37,SNR=29
C38A Sawbill Land. 84.95 331 P P 20 58 12.0 -0.3
baz=34,SNR=6.7
RCBR Riachuelo 85.07 259 P P 20 58 14.5 +1.1
comp=Z,20nm,1.2s,baz=76,slow=6.9,SNR=4.1
RCBR Riachuelo 85.07 259 P P 20 58 14.5 +1.1
RCBR LR LR
comp=Z,3µm,19.0s
E41A Kenton 85.08 329 P P 20 58 13.1 +0.2
baz=36,SNR=20
O56A Blue Knob Stat 85.12 319 P P 20 58 13.6 +0.3
baz=42
WRAK Wrangell Islan 85.28 357 eP P 20 58 12.9 -0.8
comp=Z,137nm,1.4s
WRAK Wrangell Islan 85.28 357 eP P 20 58 12.9 -0.8
comp=Z,137nm,1.4s
C37A Embarrass 85.29 332 P P 20 58 14.3 +0.3
baz=34,SNR=15
F42A Maple Grove Fa 85.31 328 P P 20 58 14.3 +0.2
baz=36,SNR=8.5
B35A Bob, Littlefor 85.32 333 P P 20 58 14.2 +0.1
baz=32,SNR=21
N54A Moraine State 85.33 320 P P 20 58 13.9 -0.4
baz=41,SNR=22
A33A Warroad 85.42 334 P P 20 58 14.6 0.0
baz=31,SNR=24
E40A Wakefield 85.47 330 P P 20 58 15.4 +0.5
baz=35,SNR=43
C36A Pine Crest Far 85.50 332 P P 20 58 15.7 +0.6
baz=33,SNR=22
G43A Wallace 85.52 328 P P 20 58 15.4 +0.3
baz=36,SNR=7.6
B34A Aery, Baudette 85.54 333 P P 20 58 15.3 +0.1
baz=32,SNR=14
F41A Three Lakes 85.72 329 P P 20 58 16.5 +0.3
baz=36,SNR=22
E39A Mellen 85.78 330 P P 20 58 16.6 +0.1
baz=35,SNR=24
A32A Rocking H Ranc 85.81 335 P P 20 58 16.6 +0.1
baz=30
G42A Mountain 85.85 328 P P 20 58 17.2 +0.4
baz=36,SNR=13
D37A Cotton 85.85 331 P P 20 58 16.9 +0.1
baz=33,SNR=13
C35A Jirik Farms, M 85.97 333 P P 20 58 17.2 -0.1
baz=32,SNR=9.3
E38A The Farm, Brul 85.98 331 P P 20 58 17.2 -0.2
baz=34,SNR=9.3
F40A Park Falls 85.98 329 P P 20 58 17.6 +0.1
baz=35,SNR=16
CBN Corbin Frederi 86.03 317 PFAKE 20 58 30.0 +12
CBN LR LR
comp=Z,2µm,20.0s
A31A Linda, St. Vin 86.03 335 P P 20 58 17.4 -0.2
baz=30
B33A Robert and Kas 86.05 334 P P 20 58 17.8 +0.1
baz=31
AAM Ann Arbor 86.07 323 PFAKE 20 58 30.0 +12
AAM LR LR
comp=Z,3µm,20.0s
D36A Goodland 86.11 332 P P 20 58 18.3 +0.2
baz=33,SNR=16
AGMN Agassiz Nation 86.12 334 P P 20 58 18.2 +0.1
baz=31,SNR=14
AGMN Agassiz Nation 86.12 334 eP P 20 58 16.6 -1.5
comp=Z,177nm,1.7s
AGMN Agassiz Nation 86.12 334 eP P 20 58 16.6 -1.5
comp=Z,177nm,1.7s
AGMN LR LR
comp=Z,4µm,20.0s
G41A Antigo 86.18 328 P P 20 58 18.4 -0.1
baz=35
H43A Windswept, Lux 86.19 327 P P 20 58 18.5 0.0
baz=36
B32A Ashes, Strandq 86.27 334 P P 20 58 19.1 +0.2
baz=30
F39A Loretta 86.31 330 P P 20 58 19.2 +0.1
baz=34,SNR=21
E37A Wrenshall 86.34 331 P P 20 58 19.6 +0.4
baz=33
C34A RKJ Ranch, Bem 86.34 333 P P 20 58 19.2 0.0
baz=32
H42A Shiocton 86.48 328 P P 20 58 20.1 +0.2
baz=36
D35A Remer 86.52 332 P P 20 58 20.1 +0.1
baz=32,SNR=11
G40A Rib Lake 86.55 329 P P 20 58 20.4 +0.1
baz=35,SNR=29
C33A Trail 86.56 334 P P 20 58 20.3 0.0
baz=31,SNR=11
B31A Greenbush Farm 86.62 335 P P 20 58 20.7 +0.2
baz=30
F38A Pierce - Schro 86.64 330 P P 20 58 21.3 +0.6
baz=34,SNR=34
E36A McGregor 86.70 331 P P 20 58 21.2 +0.2
baz=33,SNR=24
C32A Crookston 86.76 334 P P 20 58 20.7 -0.5
baz=30
H41A Junction City 86.86 328 P P 20 58 21.9 +0.1
baz=35,SNR=7.4
G39A Holcombe 86.92 330 P P 20 58 22.2 +0.2
baz=34,SNR=28
D34A Park Rapids 86.93 333 P P 20 58 21.9 -0.2
baz=31
MMRI Maumere 86.93 103 eP P 20 58 18.0 -4.5
comp=Z,422nm,1.7s
E35A Pequot Lakes 87.09 332 P P 20 58 22.9 +0.1
baz=32,SNR=16
D33A AnnSam, Waubun 87.11 333 P P 20 58 22.9 -0.1
baz=31
F37A Hinrichs Farm, 87.13 331 P P 20 58 23.4 +0.3
baz=33,SNR=12
I42A Draeger Farm, 87.14 327 P P 20 58 23.3 +0.1
baz=36,SNR=8.6
H40A Chili 87.16 329 P P 20 58 23.5 +0.2
baz=35,SNR=14
C31A Landman Farms, 87.20 335 P P 20 58 23.2 -0.1
baz=30
G38A Ridgeland 87.29 330 P P 20 58 23.9 0.0
baz=34,SNR=23
J43A Natural Harves 87.35 327 P P 20 58 23.9 -0.2
baz=36
F36A Milaca 87.35 331 P P 20 58 24.1 -0.1
baz=32,SNR=20
ACSO Alum Creek Sta 87.36 322 eP P 20 58 23.1 -1.2
comp=Z,36nm,1.3s
ACSO Alum Creek Sta 87.36 322 eP P 20 58 23.1 -1.2
comp=Z,36nm,1.3s
ACSO LR LR
comp=Z,2µm,22.0s
E34A Wadena 87.41 333 P P 20 58 24.2 -0.3
baz=31
I41A Arkdale 87.41 328 P P 20 58 24.7 +0.2
baz=35,SNR=8.7
H39A Augusta 87.47 329 P P 20 58 25.0 +0.3
baz=34,SNR=11
D32A Dogwood Acres, 87.52 334 P P 20 58 24.9 -0.1
baz=30
SPMN Marine on St. 87.61 331 P P 20 58 25.7 +0.3
baz=33,SNR=13
SPMN Marine on St. 87.61 331 eP P 20 58 24.6 -0.8
comp=Z,143nm,1.4s
SPMN Marine on St. 87.61 331 eP P 20 58 24.6 -0.8
comp=Z,143nm,1.4s
J42A Columbus 87.70 327 P P 20 58 26.1 +0.2
baz=35
E33A Westby DABS, E 87.71 333 P P 20 58 25.6 -0.3
baz=31
F35A Swanville 87.75 332 P P 20 58 26.3 +0.2
baz=32,SNR=7.7
MDND Maddock 87.76 336 P P 20 58 26.0 -0.1
baz=28
D31A Mcclaflin, Tow 87.84 334 P P 20 58 26.1 -0.3
baz=30
I40A Norwalk 87.85 328 P P 20 58 26.8 +0.2
baz=34,SNR=9.6
K43A Burlington 87.86 326 P P 20 58 26.2 -0.4
baz=36
H38A Maiden Rock 87.87 330 P P 20 58 26.7 0.0
baz=33,SNR=8.5
G36A St. Michael 87.97 331 P P 20 58 27.3 +0.2
baz=32
E32A Braaten, Kindr 88.01 334 P P 20 58 27.2 -0.1
baz=30
J41A Loganville 88.03 328 P P 20 58 27.5 0.0
baz=35,SNR=12
F34A Alexandria 88.05 332 P P 20 58 27.3 -0.3
baz=31
L44A Lake County Fo 88.10 326 P P 20 58 27.3 -0.5
baz=36
H37A Dierke Farm, C 88.20 330 P P 20 58 28.7 +0.4
baz=33
K42A Prairie Point, 88.23 327 P P 20 58 28.2 -0.2
baz=35
I39A Houston 88.25 329 P P 20 58 28.5 0.0
baz=34,SNR=7.1
G35A Watkins 88.26 332 P P 20 58 28.7 +0.2
baz=32
J40A Soldiers Grove 88.31 328 P P 20 58 28.0 -0.8
baz=34,SNR=6.1
E31A Nome 88.32 334 P P 20 58 28.8 0.0
baz=30
BLA Blacksburg 88.37 318 PFAKE 20 58 40.0 +11
BLA LR LR
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 88.39 333 P P 20 58 29.2 +0.1
baz=31
I38A Scanlan Farm, 88.42 330 P P 20 58 29.3 0.0
baz=33,SNR=10.0
L43A Garden Prairie 88.46 326 P P 20 58 29.1 -0.4
baz=36
CNNC Cliffs of the 88.49 315 PFAKE 20 58 40.0 +10
CNNC LR LR
comp=Z,3µm,22.0s
JFWS Jewell Farm 88.50 328 eP P 20 58 28.4 -1.3
JFWS pmax pmax
comp=Z,175nm,2.0s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 88.50 328 eP P 20 58 28.4 -1.3
comp=Z,175nm,2.0s
JFWS Jewell Farm 88.50 328 eP P 20 58 28.4 -1.3
comp=Z,175nm,2.0s
JFWS LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 88.58 339 P P 20 58 30.5 +0.4
baz=25
DGMT Dagmar 88.58 339 eP P 20 58 29.7 -0.3
comp=Z,424nm,1.8s
DGMT Dagmar 88.58 339 eP P 20 58 29.7 -0.3
comp=Z,424nm,1.8s
DGMT LR LR
comp=Z,5µm,22.0s
H36A Jessenland, He 88.59 331 P P 20 58 30.5 +0.4
baz=32,SNR=6.2
N46A Monticello 88.60 324 P P 20 58 29.9 -0.3
baz=37
F32A Veblen 88.66 333 P P 20 58 30.5 +0.2
baz=30
G34A Benson 88.66 332 P P 20 58 30.5 +0.1
baz=31
J39A Decorah 88.76 329 P P 20 58 30.7 -0.2
baz=34,SNR=12
K41A Shullsburg 88.78 328 P P 20 58 30.6 -0.4
baz=35
M44A Midewin, Midew 88.79 325 P P 20 58 30.6 -0.5
baz=36
H35A Sunnyside Ranc 88.83 331 P P 20 58 31.8 +0.5
baz=32
I37A Lemond, Waseca 88.86 330 P P 20 58 31.6 +0.2
baz=33,SNR=13
O47A Sheridan 88.87 324 P P 20 58 30.6 -0.8
baz=37
N45A Kentland 88.99 325 P P 20 58 31.3 -0.7
baz=36
G33A Ortonville 88.99 333 P P 20 58 32.2 +0.2
baz=30
K40A Colesburg 89.05 328 P P 20 58 31.9 -0.4
baz=34,SNR=7.0
F31A Hecla 89.05 334 P P 20 58 32.3 +0.1
baz=29
J38A Wedel Dairy, R 89.08 329 P P 20 58 31.9 -0.5
baz=33,SNR=14
I36A Fitzsimmons Fa 89.10 331 P P 20 58 32.8 +0.4
baz=32
SFIN Lafayette 89.18 324 P P 20 58 32.4 -0.5
baz=37
SOEI Soe 89.18 103 eP P 20 58 29.6 -3.8
comp=Z,92nm,1.0s
H34A Spellman Lake, 89.21 332 P P 20 58 33.5 +0.5
baz=31
L41A Preston 89.30 327 P P 20 58 33.1 -0.4
baz=34,SNR=7.9
N44A Piper City 89.31 325 P P 20 58 33.2 -0.3

	baz=36					
G32A	Webster	89.32 333	P	P	20 58 33.5	-0.1
	baz=30					
K39A	Oelwein	89.36 329	P	P	20 58 33.0	-0.7
	baz=34,SNR=7.1					
M42A	Sheffield	89.49 327	P	P	20 58 33.9	-0.4
	baz=35					
P47A	Martinsville	89.51 323	P	P	20 58 33.8	-0.7
	baz=37					
J37A	Redenius Farm,	89.52 330	P	P	20 58 34.5	+0.1
	baz=32,SNR=14					
H33A	Prehn Over Nor	89.55 333	P	P	20 58 34.7	+0.1
	baz=30					
O45A	Potomac	89.57 325	P	P	20 58 34.5	-0.3
	baz=36					
G31A	Conde	89.59 334	P	P	20 58 34.7	0.0
	baz=29					
I35A	Creekview Farm	89.60 331	P	P	20 58 35.0	+0.2
	baz=32					
L40A	Anamosa	89.61 328	P	P	20 58 34.5	-0.4
	baz=34,SNR=8.4					
K38A	Parkersburg	89.76 329	P	P	20 58 35.1	-0.5
	baz=33					
I34A	Hadley	89.78 332	P	P	20 58 35.5	-0.2
	baz=31					
J36A	Seneca 1, Swea	89.81 330	P	P	20 58 36.0	+0.2
	baz=32					
L39A	Vinton	89.89 328	P	P	20 58 35.5	-0.7
	baz=34,SNR=8.2					
M41A	Milan	89.89 327	P	P	20 58 35.6	-0.7
	baz=34					
H32A	Carlson Farm,	89.95 333	P	P	20 58 36.6	+0.1
	baz=30					
O44A	Mansfield	89.98 325	P	P	20 58 36.5	-0.2
	baz=36					
K37A	Belmond	90.01 330	P	P	20 58 36.3	-0.4
	baz=32					
HDIL	Hopedale	90.02 326	P	P	20 58 36.7	-0.1
	baz=35					
HDIL	Hopedale	90.02 326	PFAKE		20 58 50.0	+13
HDIL			LR	LR		
	comp=Z,3μm,20.0s					
J35A	Milford	90.11 331	P	P	20 58 36.8	-0.4
	baz=31					
I33A	Coleman	90.11 332	P	P	20 58 37.4	+0.1
	baz=30					
N42A	Yates City	90.12 326	P	P	20 58 36.8	-0.5
	baz=35					
O43A	Sugar Creek Fa	90.25 326	P	P	20 58 37.4	-0.6
	baz=35					
L38A	Oak Wood Farm,	90.26 329	P	P	20 58 37.3	-0.7
	baz=33,SNR=6.1					
ANWB	Willy Bob	90.27 293	PFAKE		20 58 50.0	+12
ANWB			LR	LR		
	comp=Z,746nm,21.0s					
M40A	Post Highland	90.28 328	P	P	20 58 37.2	-0.8
	baz=34					
ECSD	EROS Data Cent	90.32 332	P	P	20 58 38.3	+0.1
	baz=30,SNR=19					
ECSD	EROS Data Cent	90.32 332	eP	P	20 58 37.5	-0.7
	comp=Z,107nm,1.5s					
ECSD	EROS Data Cent	90.32 332	eP	P	20 58 37.5	-0.7
ECSD			LR	LR		
	comp=Z,5μm,19.0s					
H31A	Wolsey	90.34 334	P	P	20 58 38.0	-0.2
	baz=29					
I32A	Karley and Nic	90.37 333	P	P	20 58 38.4	-0.1
	baz=30					
WALA	Waterton Lakes	90.39 345	eP	P	20 58 38.2	-0.4
	comp=Z,156nm,1.8s					
WALA	Waterton Lakes	90.39 345	eP	P	20 58 38.2	-0.4
	comp=Z,156nm,1.8s					
KMSC	Kings Mountain	90.42 317	P	P	20 58 39.1	+0.2
	baz=40					
K36A	Gilmore City	90.43 330	P	P	20 58 38.4	-0.4
	baz=32					
EGMT	Eagleton	90.45 342	P	P	20 58 39.1	+0.2
	baz=21,SNR=11					
EGMT	Eagleton	90.45 342	eP	P	20 58 37.5	-1.3
	comp=Z,217nm,1.7s					
EGMT	Eagleton	90.45 342	eP	P	20 58 37.5	-1.3
EGMT			LR	LR		
	comp=Z,217nm,1.7s					
	comp=Z,4μm,21.0s					
J34A	George	90.46 331	P	P	20 58 39.0	+0.1
	baz=31					
M39A	Webster	90.49 328	P	P	20 58 38.5	-0.5
	baz=33					
WCI	Wyandotte Cave	90.52 323	eP	P	20 58 38.1	-1.2
WCI			pmax	pmax		
	comp=Z,351nm,1.5s					
WCI	Wyandotte Cave	90.52 323	eP	P	20 58 38.1	-1.2
	comp=Z,351nm,1.5s					
WCI	Wyandotte Cave	90.52 323	eP	P	20 58 38.1	-1.2
	comp=Z,351nm,1.5s					
SUSD	Miller	90.53 334	P	P	20 58 39.1	-0.1
	baz=29					
SCIA	State Center	90.56 329	PFAKE		20 58 50.0	+11
SCIA			LR	LR		
	comp=Z,4μm,19.0s					
N41A	Harden Midland	90.58 327	P	P	20 58 39.0	-0.4
	baz=34,SNR=5.8					
GUMO	Guam	90.58 72	LR	LR	21 42 08.7	
	comp=Z,619nm,21.5s,baz=314,slow=38					
L37A	Phoenix Point,	90.59 329	P	P	20 58 38.6	-0.9
	baz=32					
P44A	Sand Creek, Wi	90.61 325	P	P	20 58 39.7	+0.1
	baz=36,SNR=6.1					
O42A	Bath	90.66 326	P	P	20 58 38.9	-1.0
	baz=35					
K35A	Storm Lake	90.67 331	P	P	20 58 39.2	-0.7
	baz=31					
N40A	Mertquake, Sal	90.74 327	P	P	20 58 39.4	-0.8
	baz=34					
I31A	Royce, Wessing	90.75 333	P	P	20 58 39.8	-0.4
	baz=29					
LAO	LASA Array	90.77 339	P	P	20 58 41.7	+1.4
	baz=24					
LAO	LASA Array	90.77 339	eP	P	20 58 41.6	+1.3
	comp=Z,352nm,1.5s					
LAO	LASA Array	90.77 339	eP	P	20 58 41.6	+1.3
LAO			LR	LR		
	comp=Z,4μm,20.0s					
PAF	Port-aux-Franc	90.79 163	PFAKE		20 58 50.0	+10
PAF			LR	LR		
	comp=Z,5μm,21.0s					
J33A	Davis	90.81 332	P	P	20 58 40.3	-0.2
	baz=30					
P43A	Skaggs, Pawnee	90.87 325	P	P	20 58 40.6	-0.2
	baz=35,SNR=6.1					
M38A	Pleasantville	90.97 329	P	P	20 58 41.1	-0.1
	baz=33,SNR=13					
L36A	Harm Buss Farm	90.97 330	P	P	20 58 41.0	-0.3
	baz=32					
K34A	Le Mars	91.03 331	P	P	20 58 41.2	-0.3
	baz=31					
O41A	Passleys Farm,	91.08 327	P	P	20 58 41.1	-0.6
	baz=34,SNR=12					
J32A	Parkston	91.08 333	P	P	20 58 41.6	-0.1
	baz=30					
FAKI	Fak Fak	91.12 93	eP	P	20 58 37.6	-4.8
	comp=Z,97nm,1.4s					
N39A	Derby Farms, D	91.13 328	P	P	20 58 41.8	-0.2
	baz=33,SNR=10.0					
Q44A	Meyer Farm, Va	91.24 325	P	P	20 58 42.4	-0.2
	baz=35					
P42A	Winchester	91.28 326	P	P	20 58 42.2	-0.5
	baz=35					
TKL	Tuckaleechee C	91.30 319	P	P	20 58 42.8	-0.1
	comp=Z,38nm,1.0s,baz=38,slow=5.3,SNR=33					
L35A	Bielow Farm, R	91.31 331	P	P	20 58 42.7	-0.2
	baz=31					
M37A	Trindle Farm,	91.33 329	P	P	20 58 42.8	-0.1
	baz=32					
NHSC	New Hope	91.34 315	PFAKE		20 58 50.0	+6.9
NHSC			LR	LR		
	comp=Z,3μm,22.0s					
K33A	Hardington	91.43 332	P	P	20 58 43.0	-0.4
	baz=30					
J31A	Geddes	91.47 333	P	P	20 58 43.3	-0.3
	baz=29					
O40A	La Belle	91.50 327	P	P	20 58 43.4	-0.3
	baz=34,SNR=8.4					
N38A	Joes South For	91.50 328	P	P	20 58 43.3	-0.5
	baz=33					
P41A	Barry, Barry	91.52 326	P	P	20 58 43.1	-0.8
	baz=34					
Q43A	New Douglas	91.52 325	P	P	20 58 43.7	-0.2
	baz=35,SNR=5.9					
BBGH	Gun Hill	91.56 288	PFAKE		20 58 50.0	+5.6
BBGH			LR	LR		
	comp=Z,1μm,20.0s					
M36A	Felix, Anita	91.58 330	P	P	20 58 43.4	-0.7
	baz=32					
O39A	Kirksville	91.67 328	P	P	20 58 44.3	-0.2
	baz=33					
FDF	Fort de France	91.71 290	PFAKE		20 58 50.0	+4.8
FDF			LR	LR		
	comp=Z,760nm,20.0s					
K32A	Verdigre	91.74 332	P	P	20 58 44.5	-0.4
	baz=29					
L34A	Svendsen Farm,	91.75 331	P	P	20 58 44.3	-0.6
	baz=30					
NEW	Newport	91.76 347	P	P	20 58 45.9	+1.0
	comp=Z,21nm,1.1s,baz=18,slow=4.9,SNR=37					
NEW	Newport	91.76 347	P	P	20 58 45.9	+1.0
	baz=15,SNR=27					
NEW	Newport	91.76 347	P	P	20 58 45.9	+1.0
NEW			LR	LR		
	comp=Z,5μm,19.0s					
R44A	Waltonville	91.81 324	P	P	20 58 44.5	-0.7
	baz=35,SNR=12					
L33A	Hoskins	91.91 332	P	P	20 58 45.2	-0.5
	baz=30					
Q42A	Golden Eagle	91.92 326	P	P	20 58 45.0	-0.6
	baz=34					
M35A	Neola	91.92 330	P	P	20 58 45.1	-0.5
	baz=31					
N37A	Lee Faris, Mou	91.93 329	P	P	20 58 45.3	-0.5
	baz=32					
S45A	Carrier Mills	92.04 324	P	P	20 58 45.8	-0.5
	baz=36,SNR=14					
K31A	O'Neill	92.06 333	P	P	20 58 46.3	-0.1
	baz=29					
P40A	Paris	92.06 327	P	P	20 58 46.0	-0.4
	baz=34					
A04D	Lummi Island	92.16 351	P	P	20 58 46.7	+0.1
	baz=11					
O38A	Galt	92.17 328	P	P	20 58 46.4	-0.4
	baz=32					
R43A	Red Bud	92.17 325	P	P	20 58 46.4	-0.5
	baz=35					
N36A	Muff Farm, Cla	92.18 330	P	P	20 58 46.6	-0.3
	baz=32					
Q41A	Truxton	92.19 326	P	P	20 58 46.4	-0.5
	baz=34,SNR=14					
MCW	Mount Constitu	92.22 351	P	P	20 58 48.0	+1.1
MCW	Mount Constitu	92.22 351	P	P	20 58 48.0	+1.1
MCW	Mount Constitu	92.22 351	P	P	20 58 48.0	+1.1
M34A	Aspy Farms, Fr	92.23 331	P	P	20 58 46.5	-0.6
	baz=30					
RPW	Rockport	92.27 350	P	P	20 58 47.8	+0.6
RPW	Rockport	92.27 350	P	P	20 58 47.8	+0.6
L32A	Elgin	92.33 332	P	P	20 58 47.2	-0.4
	baz=29					
S44A	Carbondale	92.34 324	P	P	20 58 47.2	-0.4
	baz=35,SNR=12					
M33A	Taylor Creek F	92.40 331	P	P	20 58 47.3	-0.6
	baz=30					
P39B	Salisbury	92.40 327	P	P	20 58 47.7	-0.2
	baz=33,SNR=8.7					
O37A	Wolven Farm, M	92.41 329	P	P	20 58 47.5	-0.4
	baz=32					
N35A	Tabor	92.41 330	P	P	20 58 47.7	-0.2
	baz=31					
RSSD	Black Hills	92.48 337	P	P	20 58 48.2	-0.2
	baz=25					
RSSD	Black Hills	92.48 337	eP	P	20 58 47.7	-0.8
RSSD			pmax	pmax		
	comp=Z,103nm,1.5s					
RSSD	Black Hills	92.48 337	eP	P	20 58 47.7	-0.8
	comp=Z,103nm,1.5s					
RSSD	Black Hills	92.48 337	eP	P	20 58 47.6	-0.8
	comp=Z,103nm,1.5s					
MSO	Missoula	92.52 344	P	P	20 58 48.9	+0.4
	baz=18,SNR=15					
Q40A	Laux Farm, Aux	92.52 327	P	P	20 58 48.5	+0.1
	baz=34,SNR=17					
B05A	Bryant	92.53 350	P	P	20 58 48.4	0.0
	baz=12,SNR=11					
R42A	Luebbering	92.55 325	P	P	20 58 48.4	-0.3
	baz=34					
P38A	Dawn	92.61 328	P	P	20 58 48.8	-0.1
	baz=32,SNR=7.9					
SAW	Saint Andrews	92.69 348	P	P	20 58 50.6	+1.4
SAW	Saint Andrews	92.69 348	P	P	20 58 50.6	+1.4
C06D	Leavenworth	92.70 349	P	P	20 58 48.9	-0.3
	baz=12					
O36A	Bolckow	92.77 329	P	P	20 58 49.4	-0.2
	baz=32					
N34A	Lincoln	92.77 331	P	P	20 58 49.5	-0.1
	baz=30					
WTV	Waterville	92.77 349	P	P	20 58 50.6	+1.0
WTV	Waterville	92.77 349	P	P	20 58 50.6	+1.0
R41A	Rosebud	92.80 326	P	P	20 58 49.4	-0.4
	baz=34,SNR=10					
S43A	Fulton Ridge,	92.81 325	P	P	20 58 49.4	-0.4
	baz=35					
Q39A	Willow Grove F	92.86 327	P	P	20 58 49.6	-0.5
	baz=33					
GOGA	Godfrey	92.88 318	eP	P	20 58 47.2	-3.0
GOGA			pmax	pmax		
	comp=Z,35nm,1.5s					
GOGA			MLR	MLR		
	comp=Z,2μm,21.0s					
GOGA	Godfrey	92.88 318	eP	P	20 58 47.2	-3.0
	comp=Z,35nm,1.5s					
GOGA			LR	LR		
	comp=Z,2μm,21.0s					
BGNE	Belgrade	92.90 332	P	P	20 58 50.3	+0.1
	baz=29					
BGNE	Belgrade	92.90 332	eP	P	20 58 49.7	-0.6
	comp=Z,76nm,0.8s					
BGNE	Belgrade	92.90 332	eP	P	20 58 49.6	-0.6
	comp=Z,76nm,0.8s					
ETW	Entiat	92.92 349	P	P	20 58 51.1	+0.7
ETW	Entiat	92.92 349	P	P	20 58 51.1	+0.7
CCM	Cathedral Cave	92.94 326	P	P	20 58 47.8	-2.6
CCM			pmax	pmax		
	comp=Z,88nm,1.1s					
CCM	Cathedral Cave	92.94 326	P	P	20 58 47.8	-2.6
	comp=Z,88nm,1.1s					
CCM	Cathedral Cave	92.94 326	P	P	20 58 47.8	-2.6
	comp=Z,88nm,1.1s					
S42A	Caledonia	92.97 325	P	P	20 58 50.2	-0.4
	baz=34,SNR=8.7					
P37A	Lathrop	92.98 328	P	P	20 58 49.9	-0.7
	baz=32					
T44A	Benton	92.98 324	P	P	20 58 50.4	-0.3
	baz=35					
O35A	Humboldt	93.03 330	P	P	20 58 50.3	-0.5
	baz=31					
RLMT	Red Lodge	93.03 341	P	P	20 58 52.2	+1.2
	baz=21					
RLMT	Red Lodge	93.03 341	eP	P	20 58 50.4	-0.6
	comp=Z,133nm,1.6s					
RLMT	Red Lodge	93.03 341	eP	P	20 58 50.4	-0.6
RLMT			LR	LR		
	comp=Z,133nm,1.6s					
	comp=Z,5μm,20.0s					
MBWA	Marble Bar	93.07 115	PFAKE		20 59 00.0	+8.9
MBWA			LR	LR		
	comp=Z,3μm,20.0s					
BOZ	Bozeman (W)	93.17 343	P	P	20 58 52.2	+0.7
	baz=20,SNR=30					
BOZ	Bozeman (W)	93.17 343	eP	P	20 58 50.9	-0.7
BOZ			pmax	pmax		
	comp=Z,58nm,1.4s					
BOZ			MLR	MLR		
	comp=Z,4μm,20.0s					
BOZ	Bozeman (W)	93.17 343	eP	P	20 58 50.9	-0.7
	comp=Z,58nm,1.4s					
BOZ	Bozeman (W)	93.17 343	eP	P	20 58 50.9	-0.7
BOZ			LR	LR		
	comp=Z,58nm,1.4s					
	comp=Z,4μm,20.0s					
R40A	Maddies Statio	93.19 326	P	P	20 58 51.3	-0.2
	baz=33,SNR=13					
U45A	Rockin P Farm,	93.20 323	P	P	20 58 51.3	-0.3
	baz=36					
Q38A	Cooks Store, C	93.20 328	P	P	20 58 51.3	-0.3
	baz=32,SNR=8.2					
N33A	J Bar K, Exete	93.22 331	P	P	20 58 51.3	-0.4
	baz=30					
P36A	Good Intent, A	93.30 329	P	P	20 58 51.7	-0.4
	baz=31					
T43A	Greenville	93.31 324	P	P	20 58 52.0	-0.1
	baz=35,SNR=12					
O34A	Beatrice	93.41 330	P	P	20 58 52.2	-0.3
	baz=30					
U44B	Burton Farm, H	93.48 323	P	P	20 58 52.4	-0.5
	baz=35					
R39A	Chumby, Stover	93.50 327	P	P	20 58 52.9	-0.2
	baz=33,SNR=6.7					
U44A	Portageville	93.50 324	P	P	20 58 52.8	-0.3
	baz=35					
S41A	Jillco Farms,	93.55 326	P	P	20 58 53.2	-0.1
	baz=34,SNR=11					
NLWA	Neilton Lookou	93.61 351	PFAKE		20 59 00.0	+6.6
NLWA			LR	LR		
	comp=Z,4μm,21.0s					
DLMT	Dillon	93.61 343	eP	P	20 58 50.8	-2.8
	comp=Z,88nm,1.7s					
Q37A	Longview Farm,	93.62 328	P	P	20 58 53.0	-0.5
	baz=32					
P35A	Duane Minner,	93.70 330	P	P	20 58 53.4	-0.6
	baz=31					
T42A	Van Buren	93.72 325	P	P	20 58 53.5	-0.5
	baz=34					
V45A	Humboldt	93.78 323	P	P	20 58 53.6	-0.8
	baz=36					
LKWY	Lake	93.84 341	PFAKE		20 59 00.0	+5.2
LKWY			LR	LR		
	comp=Z,10μm,20.0s					
O33A	Hebron	93.84 331	P	P	20 58 54.2	-0.4
	baz=30					
S40A	Lebanon	93.87 326	P	P	20 58 54.3	-0.5
	baz=33,SNR=9.9					
U43A	Rector	93.95 324	P	P	20 58 54.4	-0.6
	baz=35					
Q36A	Arnold C. Orve	93.97 329	P	P	20 58 54.3	-0.8
	baz=31					
R38A	Fenwick Farm,	93.98 327	P	P	20 58 54.8	-0.4
	baz=32					
HAWA	Hanford	93.98 348	eP	P	20 58 53.5	-1.6
	comp=Z,56nm,1.6s					
HAWA	Hanford	93.98 348	eP	P	20 58 53.5	-1.6
HAWA			LR	LR		
	comp=Z,4μm,21.0s					
T41A	Mountain View	94.00 325	P	P	20 58 55.4	0.0
	baz=34					
P34A	Walnut Farm, R	94.01 330	P	P	20 58 55.0	-0.4
	baz=30					
H17A	Grant Village	94.05 341	P	P	20 58 58.2	+2.5
	baz=20,SNR=8.1					
H17A	Grant Village	94.05 341	eP	P	20 58 55.4	-0.3
	comp=Z,102nm,1.6s					
H17A	Grant Village	94.05 341	eP	P	20 58 55.4	-0.3
	comp=Z,102nm,1.6s					
S39A	Bolivar	94.15 327	P	P	20 58 55.7	-0.4
	baz=33,SNR=8.9					
V44A	Blytheville	94.15 323	P	P	20 58 55.8	-0.2
	baz=35					
GRTK	Grand Turk	94.20 302	PFAKE		20 59 10.0	+14
GRTK			LR	LR		
	comp=Z,2μm,21.0s					
TRW	Toppenish Ridg	94.24 349	P	P	20 58 57.8	+1.5
TRW	Toppenish Ridg	94.24 349	P	P	20 58 57.8	+1.5
T40A	Mansfield	94.25 326	P	P	20 58 56.1	-0.4
	baz=33,SNR=11					
R37A	Teagarden Farm	94.26 328	P	P	20 58 55.7	-0.8
	baz=32					
Q35A	Mercer Eighty,	94.28 329	P	P	20 58 56.1	-0.5
	baz=31					
KSU1	Kansas State U	94.31 330	P	P	20 58 56.4	-0.3
	baz=30					
KSU1	Kansas State U	94.31 330	PFAKE		20 59 10.0	+13
KSU1			LR	LR		
	comp=Z,3μm,20.0s					
U42A	Revenden	94.34 325	P	P	20 58 56.7	-0.2
	baz=34,SNR=11					
W45A	Hickory Valley	94.36 323	P	P	20 58 56.1	-1.0
	baz=35					
S38A	Stockton	94.45 327	P	P	20 58 56.4	-1.0
	baz=32,SNR=11					
TIGA	Tifton	94.47 317	P	P	20 58 57.2	-0.4
	baz=39					
V43A	Jonesboro	94.49 324	P	P	20 58 57.3	-0.3
	baz=34					
R36A	Gordon, Harris	94.53 329	P	P	20 58 57.0	-0.8
	baz=31					
K22A	Casper	94.56 338	P	P	20 58 57.6	-0.5
	baz=23					
K22A	Casper	94.56 338	eP	P	20 58 57.4	-0.7
	comp=Z,117nm,1.5s					
K22A	Casper	94.56 338	eP	P	20 58 57.4	-0.7
	comp=Z,117nm,1.5s					
Q34A	Chapman	94.59 330	P	P	20 58 57.8	-0.2
	baz=30					
FL2	Flat Top 2	94.59 350	P	P	20 58 59.6	+1.5
FL2	Flat Top 2	94.59 350	P	P	20 58 59.6	+1.5
IMW	Indian Meadow	94.60 342	eP	P	20 58 59.0	+0.6
	comp=Z,109nm,1.8s					
IMW	Indian Meadow	94.60 342	eP	P	20 58 59.0	+0.6
	comp=Z,109nm,1.8s					
U41A	Viola	94.66 325	P	P	20 58 58.2	-0.2
	baz=34					
W44A	Shelby Farms P	94.68 323	P	P	20 58 57.7	-0.8
	baz=35					
OGNE	Ogallala	94.68 334	P	P	20 58 58.4	-0.1
	baz=27					
OGNE	Ogallala	94.68 334	PFAKE		20 59 10.0	+11
OGNE			LR	LR		
	comp=Z,3μm,20.0s					
MOOW	Moose Ponds	94.69 341	eP	P	20 58 59.5	+0.8
	comp=Z,116nm,1.7s					
MOOW	Moose Ponds	94.69 341	eP	P	20 58 59.5	+0.8
	comp=Z,116nm,1.7s					
S37A	Fort Scott	94.73 328	P	P	20 58 57.8	-0.9
	baz=32,SNR=9.2					
Y47A	UCPARC, Winfie	94.73 321	P	P	20 58 57.5	-1.2
	baz=36					
T39A	Clever	94.73 326	P	P	20 58 58.1	-0.6
	baz=33,SNR=6.8					
LOHW	Long Hollow	94.78 341	eP	P	20 58 59.0	-0.1
	comp=Z,95nm,1.6s					
LOHW	Long Hollow	94.78 341	eP	P	20 58 59.0	-0.1
	comp=Z,95nm,1.6s					
F04D	Rainier, OR	94.79 350	P	P	20 58 59.3	+0.6
	baz=11					
R35A	Emporia Munici	94.81 329	P	P	20 58 58.0	-1.0
	baz=31					
V42A	Cord	94.86 324	P	P	20 58 58.9	-0.4
	baz=34,SNR=7.0					
SNOW	Snow King Moun	94.96 341	eP	P	20 59 00.1	+0.1
	comp=Z,126nm,1.8s					
SNOW	Snow King Moun	94.96 341	eP	P	20 59 00.1	+0.1
	comp=Z,126nm,1.8s					
TPAW	Teton Pass	94.99 341	eP	P	20 59 00.2	+0.1
	comp=Z,113nm,1.5s					
TPAW	Teton Pass	94.99 341	eP	P	20 59 00.2	+0.1
	comp=Z,113nm,1.5s					
LRAL	Lakeview Retre	95.00 320	eP	P	20 58 59.6	-0.4
	comp=Z,70nm,1.5s					
LRAL	Lakeview Retre	95.00 320	eP	P	20 58 59.6	-0.4
	comp=Z,70nm,1.5s					
Z48A	Northport	95.00 320	P	P	20 58 59.1	-0.9
	baz=36,SNR=7.3					
X45A	UM Field Stati	95.06 322	P	P	20 58 58.8	-1.4
	baz=35					
U40A	Yellville	95.06 326	P	P	20 58 59.7	-0.5
	baz=33,SNR=6.1					
S36A	Lake Cedric, C	95.07 328	P	P	20 58 59.2	-1.0
	baz=31					
BMO	Blue Mountains	95.08 346	eP	P	20 58 58.2	-2.1
BMO			pmax	pmax		
	comp=Z,20nm,1.4s					
BMO			MLR	MLR		
	comp=Z,5μm,20.0s					
BMO	Blue Mountains	95.08 346	eP	P	20 58 58.2	-2.1
	comp=Z,20nm,1.4s					
BMO	Blue Mountains	95.08 346	eP	P	20 58 58.2	-2.1
	comp=Z,20nm,1.4s					
BMO			LR	LR		
	comp=Z,5μm,20.0s					
REDW	Red Top Meadow	95.08 341	eP	P	20 58 59.7	-0.8
	comp=Z,141nm,1.6s					
REDW	Red Top Meadow	95.08 341	eP	P	20 58 59.7	-0.8
	comp=Z,141nm,1.6s					
T38A	Diamond	95.11 327	P	P	20 58 59.8	-0.7

	baz=32,SNR=8.3					
W43A	Forest City	95.14 324	P	P	20 59 00.3	-0.2
	baz=34					
V41A	Mountainview	95.22 325	P	P	20 59 00.0	-1.0
	baz=34					
Y46A	Houston	95.24 322	P	P	20 59 00.2	-0.9
	baz=36,SNR=13					
R34A	Isabella, Hill	95.25 330	P	P	20 59 00.7	-0.4
	baz=30,SNR=8.9					
BW06	Boulder Array	95.30 340	P	P	20 59 01.3	-0.3
	baz=21,SNR=13					
BW06	Boulder Array	95.30 340	eP	P	20 59 01.6	+0.1
	comp=Z,58nm,1.8s					
BW06	Boulder Array	95.30 340	eP	P	20 59 01.6	+0.1
	comp=Z,58nm,1.8s					
BW06			LR	LR		
	comp=Z,3µm,19.0s					
PDAR	Pinedale Array	95.30 340	P	P	20 59 01.2	-0.3
	comp=Z,5.4nm,1.1s,baz=39,slow=2.8,SNR=19					
PDAR			PP	PP	21 02 45.5	-5.1
	comp=Z,0.5nm,0.3s,baz=15,slow=6.2,SNR=4.1					
PDAR			LR	LR	21 44 33.3	
	comp=Z,3µm,18.2s,baz=25,slow=37					
T37A	Cheneyville 18	95.30 328	P	P	20 59 00.4	-0.9
	baz=32					
U39A	Green Forest	95.31 326	P	P	20 59 00.5	-0.9
	baz=33,SNR=11					
X44A	Crenshaw	95.36 323	P	P	20 59 01.1	-0.5
	baz=35					
W42A	Bald Knob	95.36 324	P	P	20 59 01.3	-0.3
	baz=34					
G05D	Wamic, OR	95.38 349	P	P	20 59 02.5	+0.9
	baz=12					
Z47A	Carrollton	95.40 321	P	P	20 59 00.9	-0.9
	baz=36,SNR=6.0					
S35A	Otter Creek Ra	95.41 329	P	P	20 59 01.2	-0.6
	baz=31					
FITZ	Fitzroy Crossi	95.44 109	P	P	20 59 01.4	-0.7
	comp=Z,11nm,0.7s,baz=218,slow=3.6,SNR=24					
FITZ			PP	PP	21 02 57.2	+4.1
	comp=Z,2.1nm,0.9s,baz=320,slow=11,SNR=3.3					
V40A	Witts Springs	95.51 325	P	P	20 59 01.6	-0.7
	baz=33					
Y45A	Yeager Farm, C	95.58 322	P	P	20 59 01.8	-0.8
	baz=35					
U38A	Gravette	95.66 327	P	P	20 59 02.1	-0.8
	baz=32					
G03D	McMinnville, O	95.68 350	P	P	20 59 03.6	+0.8
	baz=11					
X43A	Marvell	95.69 323	P	P	20 59 02.6	-0.5
	baz=34					
S34A	Willow Spring	95.71 329	P	P	20 59 02.5	-0.7
	baz=30					
HLID	Hailey	95.73 344	P	P	20 59 04.1	+0.7
	baz=18					
HLID	Hailey	95.73 344	P	P	20 58 60.0	-3.4
	comp=Z,117nm,2.5s					
HLID			LR	LR		
	comp=Z,4µm,20.0s					
CBKS	Cedar Bluff	95.75 332	P	P	20 59 03.1	-0.3
	baz=28					
CBKS	Cedar Bluff	95.75 332	P	P	20 59 01.7	-1.7
CBKS			pmax	pmax		
	comp=Z,177nm,1.7s					
CBKS			MLR	MLR		
	comp=Z,5µm,19.0s					
CBKS	Cedar Bluff	95.75 332	P	P	20 59 01.7	-1.7
	comp=Z,177nm,1.7s					
CBKS	Cedar Bluff	95.75 332	P	P	20 59 01.7	-1.7
	comp=Z,177nm,1.7s					
CBKS			LR	LR		
	comp=Z,5µm,19.0s					
T36A	Boggs Farm, Ca	95.76 328	P	P	20 59 02.6	-0.8
	baz=31					
W41B	Gary Mavity, V	95.78 325	P	P	20 59 02.7	-0.8
	baz=34					
Y44A	Strider, Charl	95.83 323	P	P	20 59 03.1	-0.6
	baz=35					
Z46A	Louisville	95.84 321	P	P	20 59 03.4	-0.4
	baz=36					
V39A	Pettigrew	95.84 326	P	P	20 59 03.2	-0.7
	baz=32					
147A	Livingston	95.93 320	P	P	20 59 03.5	-0.7
	baz=36					
N23A	Red Feather La	96.00 337	P	P	20 59 05.4	+0.6
	baz=24,SNR=5.6					
U37A	Salina	96.00 327	P	P	20 59 03.7	-0.8
	baz=32					
X42A	Stuttgart	96.00 324	P	P	20 59 04.1	-0.4
	baz=34					
SDDR	Presa de Saban	96.06 300	PFAKE		20 59 10.0	+4.9
SDDR			LR	LR		
	comp=Z,1µm,21.0s					
Z45A	Winona	96.06 322	P	P	20 59 04.3	-0.6
	baz=35					
248A	Dixon Mills	96.12 320	P	P	20 59 04.5	-0.6
	baz=36					
W40A	Ferguson Farm,	96.13 325	P	P	20 59 04.3	-0.8
	baz=33					
T35A	Sooner Cattle	96.14 329	P	P	20 59 04.6	-0.6
	baz=31					
V38A	Canehill	96.15 327	P	P	20 59 03.9	-1.3
	baz=32					
MFID	Camas Ranch	96.17 345	P	P	20 59 05.9	+0.6
	comp=Z,91nm,1.7s					
MFID	Camas Ranch	96.17 345	P	P	20 59 05.9	+0.6
	comp=Z,91nm,1.7s					
Y43A	Makayla and Ka	96.21 323	P	P	20 59 05.2	-0.3
	baz=34					
I05D	Terrebonne, OR	96.27 349	P	P	20 59 06.2	+0.5
	baz=12					
U36A	Oologah	96.27 328	P	P	20 59 04.9	-0.8
	baz=31					
T34A	McClaskey Farm	96.33 329	P	P	20 59 05.9	-0.1
	baz=30,SNR=5.2					
146A	Union	96.34 321	P	P	20 59 05.8	-0.3
	baz=36					
W39A	Magazine	96.44 326	P	P	20 59 06.1	-0.5
	baz=32					
V37A	Hulbert	96.45 327	P	P	20 59 05.9	-0.7
	baz=32					
X41A	Kaden, Bauxite	96.46 324	P	P	20 59 05.8	-0.9
	baz=33					
Z44A	Pea Ridge, Bel	96.49 322	P	P	20 59 05.8	-0.9
	baz=35					
BRAL	Brewton	96.51 319	PFAKE		20 59 20.0	+13
BRAL			LR	LR		
	comp=Z,2µm,21.0s					
247A	Quitman	96.59 320	P	P	20 59 07.6	+0.3
	baz=36					
X40A	Basin Creek Fa	96.61 325	P	P	20 59 07.0	-0.3
	baz=33					
KSCO	Kaye Shedlock'	96.62 334	P	P	20 59 07.7	+0.3
	baz=26					
Y42A	Garnett, Star	96.67 324	P	P	20 59 07.1	-0.5
	baz=34					
U35A	Pawnee	96.70 328	P	P	20 59 07.2	-0.5
	baz=30					
TUL1	Leonard	96.70 328	P	P	20 59 07.3	-0.4
	baz=31					
TUL1	Leonard	96.70 328	eP	P	20 59 03.5	-4.2
	comp=Z,21nm,1.0s					
348A	Jackson	96.75 319	P	P	20 59 08.4	+0.4
	baz=36					
145A	Houston Renfro	96.80 322	P	P	20 59 08.3	+0.2
	baz=35					
W38A	Poteau	96.87 326	P	P	20 59 08.1	-0.4
	baz=32					
V36A	Jenks	96.87 328	P	P	20 59 07.8	-0.6
	baz=31					
246A	Jackson Lee, B	96.88 321	P	P	20 59 08.5	-0.1
	baz=36					
ISCO	Idaho Springs	96.89 336	P	P	20 59 08.4	-0.5
	baz=24,SNR=5.5					
ISCO	Idaho Springs	96.89 336	eP	P	20 59 06.6	-2.3
ISCO			pmax	pmax		
	comp=Z,10.0nm,1.3s					
ISCO			MLR	MLR		
	comp=Z,5µm,20.0s					
ISCO	Idaho Springs	96.89 336	eP	P	20 59 06.6	-2.3
	comp=Z,9.9nm,1.3s					
ISCO	Idaho Springs	96.89 336	eP	P	20 59 06.6	-2.3
	comp=Z,9.9nm,1.3s					
ISCO			LR	LR		
	comp=Z,5µm,20.0s					
MIAR	Mount Ida	96.90 325	P	P	20 59 08.4	-0.2
	baz=33					
MIAR	Mount Ida	96.90 325	eP	P	20 59 07.1	-1.5
MIAR			pmax	pmax		
	comp=Z,93nm,2.2s					
MIAR			MLR	MLR		
	comp=Z,2µm,19.0s					
MIAR	Mount Ida	96.90 325	eP	P	20 59 07.1	-1.5
	comp=Z,93nm,2.2s					
MIAR			LR	LR		
	comp=Z,2µm,19.0s					
HWUT	Hardware Ranch	96.91 341	eP	P	20 59 07.3	-1.5
	comp=Z,95nm,1.8s					
HWUT	Hardware Ranch	96.91 341	eP	P	20 59 07.3	-1.5
	comp=Z,95nm,1.8s					
HWUT			LR	LR		
	comp=Z,5µm,20.0s					
Z43A	Armstrong Fami	96.93 323	P	P	20 59 08.2	-0.5
	baz=34					
Y41A	Eaglette Beard	97.02 324	P	Pdif	20 59 09.2	-0.1
	baz=33					
144A	Alexander Plac	97.02 322	P	Pdif	20 59 09.2	0.0
	baz=35					
347A	Saraland	97.08 320	P	Pdif	20 59 10.1	+0.5
	baz=36,SNR=8.3					
448A	Bay Minette	97.12 319	P	Pdif	20 59 10.1	+0.3
	baz=36					
X39A	Fountain Ranch	97.17 326	P	Pdif	20 59 09.9	0.0
	baz=32					
I03D	Drain, OR	97.18 350	P	Pdif	20 59 10.7	+0.9
	baz=11					
W37B	Quinton	97.21 327	P	P	20 59 09.7	-0.3
	baz=31					
Y40A	Okolona	97.21 325	P	P	20 59 09.7	-0.3
	baz=33					
Z42A	Norrel Spur, H	97.21 323	P	P	20 59 09.8	-0.2
	baz=34					
245A	Little AP, Sta	97.25 321	P	Pdif	20 59 10.5	+0.2
	baz=35					
V35A	Meyer Ranch, C	97.27 328	P	P	20 59 09.9	-0.4
	baz=30					
J05D	Fort Rock, OR	97.28 349	P	Pdif	20 59 11.2	+0.8
	baz=12					
X38A	Whitesboro	97.35 326	P	P	20 59 10.4	-0.3
	baz=32					
O20A	White River Ci	97.38 338	P	Pdif	20 59 11.1	0.0
	baz=22					
O20A	White River Ci	97.38 338	P	P	20 59 10.3	-0.7
	comp=Z,51nm,1.6s					
O20A	White River Ci	97.38 338	P	P	20 59 10.3	-0.7
	comp=Z,51nm,1.6s					
VBMS	Vicksburg	97.40 322	P	Pdif	20 59 11.1	+0.1
	baz=35					
143A	Socs Landing,	97.43 323	P	P	20 59 10.9	-0.1
	baz=34					
Q24A	Divide	97.50 336	P	P	20 59 11.7	0.0
	baz=24,SNR=6.4					
W36A	Wetumka	97.55 327	P	P	20 59 11.1	-0.4
	baz=31					
346A	Big Creek Wild	97.56 321	P	Pdif	20 59 12.2	+0.5
	baz=36					
U32A	Winter Ranch,	97.60 330	P	Pdif	20 59 12.0	+0.2
	baz=29					
Z41A	Richland Creek	97.62 324	P	Pdif	20 59 12.0	0.0
	baz=33					
244A	Avery, Jackson	97.62 322	P	Pdif	20 59 12.5	+0.5
	baz=35					
447A	Lucedale	97.63 320	P	Pdif	20 59 12.5	+0.5
	baz=36					
Y39A	Lockesburg	97.64 325	P	Pdif	20 59 12.0	-0.1
	baz=32					
X37A	Clayton	97.65 327	P	Pdif	20 59 12.0	0.0
	baz=32					
WVOR	Wild Horse Val	97.67 346	eP	P	20 59 11.7	-0.4
WVOR			pmax	pmax		
	comp=Z,45nm,1.7s					
WVOR	Wild Horse Val	97.67 346	eP	P	20 59 11.7	-0.4
	comp=Z,45nm,1.7s					
WVOR	Wild Horse Val	97.67 346	eP	P	20 59 11.7	-0.4
	comp=Z,45nm,1.7s					
W35A	Tecumseh	97.81 328	P	P	20 59 12.5	-0.2
	baz=30					
142A	Monroe	97.81 323	P	Pdif	20 59 12.9	+0.1
	baz=34					
SMCO	Snowmass	97.88 337	eP	P	20 59 11.3	-2.2
	comp=Z,9.1nm,1.4s					
SMCO	Snowmass	97.88 337	eP	P	20 59 11.3	-2.2
	comp=Z,9.2nm,1.4s					
Z40A	Long Farm, Mag	97.90 324	P	Pdif	20 59 13.1	0.0
	baz=33					
345A	Thompson Farm,	97.90 321	P	Pdif	20 59 14.0	+0.7
	baz=35					
Y38A	Idabel	97.93 326	P	P	20 59 12.6	-0.7
	baz=32					
GTBY	Guantanamo Bay	97.95 303	PFAKE		20 59 20.0	+6.4
GTBY			LR	LR		
	comp=Z,988nm,20.0s					
446A	Poplarville	97.99 320	P	Pdif	20 59 14.2	+0.6
	baz=36					
X36A	Centrahoma	98.09 327	P	Pdif	20 59 14.3	+0.3
	baz=31					
344A	Westbrook Farm	98.13 321	P	Pdif	20 59 15.0	+0.8
	baz=35					
243A	Waterproof	98.14 322	P	Pdif	20 59 14.9	+0.6
	baz=34					
141A	Papa Simpson,	98.21 324	P	Pdif	20 59 15.0	+0.4
	baz=33					
Z39A	Irene McRaven,	98.26 325	P	Pdif	20 59 15.1	+0.3
	baz=32					
Y37A	Hugo	98.28 326	P	Pdif	20 59 15.3	+0.5
	baz=31					
242A	Grayson	98.31 323	P	Pdif	20 59 15.4	+0.4
	baz=34					
MOD	Modoc Plateau	98.47 348	P	P	20 59 14.4	-1.4
	comp=Z,18nm,1.4s					
MOD	Modoc Plateau	98.47 348	P	P	20 59 14.4	-1.4
	comp=Z,18nm,1.4s					
140A	Cam and Jess,	98.49 324	P	Pdif	20 59 16.2	+0.3
	baz=33					
X35A	Drake	98.50 328	P	P	20 59 15.7	-0.2
	baz=30					
445A	Amite	98.53 321	P	Pdif	20 59 16.1	+0.1
	baz=35					
DUG	Dugway, Tooele	98.56 342	P	Pdif	20 59 17.2	+1.0
	baz=19					
DUG	Dugway, Tooele	98.56 342	eP	P	20 59 15.6	-0.5
DUG			pmax	pmax		
	comp=Z,66nm,1.8s					
DUG			MLR	MLR		
	comp=Z,3µm,19.0s					
DUG	Dugway, Tooele	98.56 342	eP	P	20 59 15.6	-0.5
	comp=Z,66nm,1.8s					
DUG	Dugway, Tooele	98.56 342	eP	P	20 59 15.6	-0.5
	comp=Z,66nm,1.8s					
DUG			LR	LR		
	comp=Z,3µm,19.0s					
ELK	Elko	98.60 344	P	Pdif	20 59 18.2	+1.7
	comp=Z,3.4nm,1.1s,baz=77,slow=3.6,SNR=24					
ELK			PP	PP	21 03 12.7	-3.3
	comp=Z,0.9nm,0.9s,baz=64,slow=9.5,SNR=3.4					
Z38A	Mt. Pleasant	98.62 326	P	P	20 59 16.1	-0.3
	baz=32					
546A	Slidell	98.62 320	P	Pdif	20 59 17.5	+1.1
	baz=35					
Y36A	Durant	98.63 327	P	P	20 59 16.1	-0.3
	baz=31					
343A	Vidalia	98.70 322	P	Pdif	20 59 17.2	+0.4
	baz=34					
241A	Mo Tay, Goldon	98.70 323	P	Pdif	20 59 16.8	0.0
	baz=33					
SDCO	Great Sand Dun	98.72 335	P	P	20 59 16.5	-0.6
	baz=24					
SDCO	Great Sand Dun	98.72 335	PFAKE		20 59 30.0	+13
SDCO			LR	LR		
	comp=Z,4µm,19.0s					
M04C	Macdoel	98.84 349	P	P	20 59 17.1	-0.3
	baz=12					
T25A	Trinidad	98.91 334	P	P	20 59 17.7	-0.2
	baz=25					
Z37A	Pogue Cattle C	98.94 326	P	Pdif	20 59 17.8	0.0
	baz=31					
Y35A	Marietta	98.95 327	P	P	20 59 17.6	-0.2
	baz=30					
WMOK	Wichita Mounta	98.95 329	P	P	20 59 17.5	-0.3
	baz=29					
WMOK	Wichita Mounta	98.95 329	eP	P	20 59 17.2	-0.6
WMOK			pmax	pmax		
	comp=Z,9.0nm,1.2s					
WMOK	Wichita Mounta	98.95 329	eP	P	20 59 17.2	-0.6
	comp=Z,8.8nm,1.2s					
WMOK	Wichita Mounta	98.95 329	eP	P	20 59 17.2	-0.6
	comp=Z,8.8nm,1.2s					
NWAO	Narrogin (SRO)	98.96 125	P	P	20 59 16.2	-1.4
	comp=Z,17nm,1.0s,baz=170,slow=13,SNR=2.6					
NWAO	Narrogin (SRO)	98.96 125	P	P	20 59 16.2	-1.4
NWAO			LR	LR		
	comp=Z,2µm,20.0s					
342A	Flagon Creek P	98.96 323	P	Pdif	20 59 18.5	+0.6
	baz=34					
240A	Hunter Patters	99.08 324	P	Pdif	20 59 18.5	+0.1
	baz=33					
S22A	4UR Ranch, Cre	99.15 336	P	Pdif	20 59 18.7	-0.4
	baz=23					
138A	Matatall Enter	99.16 325	P	Pdif	20 59 19.0	+0.2
	baz=32					
PV04	Paradox Valley	99.19 338	eP	Pdif	20 59 18.0	-1.0
PV04	Paradox Valley	99.19 338	eP	Pdif	20 59 18.1	-1.0
443A	Delano Plantat	99.21 322	P	Pdif	20 59 19.9	+0.9
	baz=34					
Z36A	Blue Ridge	99.23 327	P	Pdif	20 59 19.0	-0.2
	baz=31					
BMN	Battle Mountai	99.33 345	eP	Pdif	20 59 19.7	+0.1
BMN			pmax	pmax		
	comp=Z,10.0nm,1.2s					
BMN	Battle Mountai	99.33 345	eP	Pdif	20 59 19.7	+0.1
	comp=Z,10nm,1.2s					
BMN	Battle Mountai	99.33 345	eP	Pdif	20 59 19.7	+0.1
	comp=Z,10nm,1.2s					
PV01	Paradox Valley	99.33 338	eP	Pdif	20 59 20.0	+0.2
	comp=Z,2µm,1.5s					
PV01	Paradox Valley	99.33 338	eP	Pdif	20 59 20.0	+0.2
	comp=Z,2µm,1.5s					
341A	Kurthwood	99.40 323	P	Pdif	20 59 20.4	+0.6
	baz=33					
239A	Gary	99.42 324	P	Pdif	20 59 19.9	-0.1
	baz=32					
442A	Mamou	99.56 322	P	Pdif	20 59 20.5	-0.1
	baz=34					
340A	Bronson	99.66 324	P	Pdif	20 59 21.6	+0.5
	baz=33					
NATX	Nacogdoches	99.73 324	P	Pdif	20 59 21.8	+0.4
	baz=32					
NATX	Nacogdoches	99.73 324	PFAKE		20 59 30.0	+8.7
NATX			LR	LR		
	comp=Z,3µm,19.0s					
238A	Jacksonville	99.73 325	P	Pdif	20 59 21.7	+0.4
	baz=32					
N02D	Trinity Center	99.76 349	P	Pdif	20 59 21.9	+0.4
	baz=11					
441A	DeRidder	99.89 323	P	Pdif	20 59 22.6	+0.5
	baz=33					
136A	Ennis	99.95 326	P	Pdif	20 59 22.4	0.0
	baz=31					
237A	Washetta, Mont	100.04 325	P	Pdif	20 59 22.9	+0.2
	baz=31					
339A	Huntington	100.04 324	P	Pdif	20 59 23.0	+0.3
	baz=32					
MVCO	Mesa Verde	100.16 337	P	Pdif	20 59 23.5	0.0
	baz=22					
MVCO	Mesa Verde	100.16 337	PFAKE		20 59 30.0	+6.5
MVCO			LR	LR		
	comp=Z,5µm,22.0s					
236A	Katherine and	100.36 326	P	Pdif	20 59 23.9	-0.3
	baz=31					
338A	Crockett	100.36 325	P	Pdif	20 59 24.6	+0.4
	baz=32					
BDFB	Brasilia	100.45 258	P	Pdif	20 59 26.6	+1.8
	comp=Z,0.5nm,0.4s,baz=172,slow=26,SNR=2.6					
BDFB			PP	PP	21 03 29.9	-1.7
	comp=Z,6.9nm,1.1s,baz=208,slow=9.7,SNR=4.8					
337A	Centerville	100.66 325	P	Pdif	20 59 25.9	+0.5
	baz=31					
PTGA	Pitinga	100.68 278	P	Pdif	20 59 26.9	+1.1
	comp=Z,1.4nm,0.5s,baz=302,slow=15,SNR=3.3					
PTGA			PP	PP	21 03 31.4	-1.6
	comp=Z,2.6nm,0.9s,baz=60,slow=6.9,SNR=6.2					
PTGA	Pitinga	100.68 278	P	Pdif	20 59 26.9	+1.1
PTGA			PP	PP	21 03 31.4	-1.6
PTGA			LR	LR		
	comp=Z,35µm,22.0s					
540A	Vidor	100.72 323	P	Pdif	20 59 25.9	+0.2
	baz=33					
MTDJ	Mount Denham	100.76 304	PFAKE		20 59 40.0	+14
MTDJ			LR	LR		
	comp=Z,1µm,20.0s					
R11A	Troy Canyon, C	100.97 343	P	Pdif	20 59 27.5	+0.5
	baz=17					
R11A	Troy Canyon, C	100.97 343	ePdif	Pdif	20 59 27.5	+0.5
	comp=Z,28nm,1.7s					
ABTX	Abilene, Hawle	101.14 329	P	Pdif	20 59 27.5	-0.2
	baz=29					
MSTX	Muleshoe	101.17 332	P	Pdif	20 59 27.6	-0.3
	baz=26					
ANMO	Albuquerque	101.59 335	P	Pdif	20 59 31.4	+1.6
	comp=Z,0.7nm,0.5s,baz=314,slow=3.7,SNR=7.1					
ANMO			PP	PP	21 03 42.3	+3.5
	comp=Z,2.1nm,1.0s,baz=219,slow=7.5,SNR=4.2					
ANMO	Albuquerque	101.59 335	P	Pdif	20 59 30.2	+0.4
	baz=24					
ANMO	Albuquerque	101.59 335	P	Pdif	20 59 31.4	+1.6
ANMO			PP	PP	21 03 42.3	+3.5
ANMO			LR	LR		
	comp=Z,3µm,19.0s					
537A	Green Hill Far	101.90 325	P	Pdif	20 59 31.4	+0.4
	baz=31					
536A	Bastrop	102.24 325	P	Pdif	20 59 32.7	+0.2
	baz=31					
TPNV	Topopah Spring	102.46 343	P	Pdif	20 59 34.1	+0.4
	baz=16					
SDV	Santo Domingo	102.51 292	PFAKE		20 59 40.0	+5.8
SDV			LR	LR		
	comp=Z,826nm,22.0s					
WUAZ	Wupatki	102.58 339	P	Pdif	20 59 34.8	+0.7
	baz=20					
WUAZ	Wupatki	102.58 339	ePdif	Pdif	20 59 34.5	+0.3
	comp=Z,16nm,1.5s					
GRAC	Grapevine Rang	102.66 344	P	Pdif	20 59 35.9	+1.5
	baz=16					
FURC	Furnace Creek,	103.06 344	P	Pdif	20 59 37.7	+1.7
	baz=16					
JCT	Junction City	103.08 328	PFAKE		20 59 50.0	+14
JCT			LR	LR		
	comp=Z,2µm,20.0s					
WRA	Warramunga Arr	103.08 105	Pdiff	Pdif	20 59 35.7	-0.6
	comp=Z,1.7nm,0.9s,baz=303,slow=3.4,SNR=8.8					
WRA			PP	PP	21 03 45.8	-5.6
	comp=Z,3.4nm,1.1s,baz=315,slow=7.3,SNR=5.2					
WRA			PKiKP	PKiKP	21 03 58.7	+2.5
	comp=Z,3.3nm,1.0s,baz=295,slow=4.3,SNR=5.6					
WRAB	Tennant Creek	103.08 105	PFAKE		20 59 50.0	+14
WRAB			LR	LR		
	comp=Z,1µm,20.0s					
CWC	Cottonwood Cre	103.35 345	P	Pdif	20 59 38.8	+1.2
	baz=15					
SHOC	Shoshone, Teco	103.47 343	P	Pdif	20 59 39.4	+1.5
	baz=16					
MIDW	Midway	103.52 36	PFAKE		20 59 50.0	+12
MIDW			LR	LR		
	comp=Z,3µm,20.0s					
MPMC	Manual Prospec	103.59 344	P	Pdif	20 59 40.0	+1.3
	baz=16					
TUQ	Turquoise Moun	103.83 342	P	Pdif	20 59 41.1	+1.4
	baz=17					
GSC	Goldstone, Bar	104.16 343	P	Pdif	20 59 42.6	+1.4
	baz=16					
MNTX	Cornudas Mount	104.17 333	P	Pdif	20 59 41.7	+0.5
	baz=25					
MNTX	Cornudas Mount	104.17 333	ePdif	Pdif	20 59 41.3	+0.1
	comp=Z,14nm,1.6s					
MNTX			LR	LR		
	comp=Z,4µm,20.0s					
SPB	Sao Paulo	104.72 252	PFAKE		20 59 50.0	+6.5
SPB			LR	LR		
	comp=Z,2µm,20.0s					
833A	Chaparral WMA,	104.77 326	P	Pdif	20 59 44.1	+0.2
	baz=29					
KVTX	Kingsville	104.78 325	PFAKE		20 59 50.0	+6.1
KVTX			LR	LR		
	comp=Z,2µm,19.0s					
SMMC	Simmler	104.82 346	P	Pdif	20 59 44.3	+0.3
	baz=14					
IRM	Iron Mountain	104.86 341	P	Pdif	20 59 44.7	+0.5
	baz=17					
ASAR	Alice Springs	104.94 108	Pdiff	Pdif	20 59 43.9	-0.7
	comp=Z,0.7nm,0.9s,baz=308,slow=4.7,SNR=4.9					
ASAR			PKiKP	PKiKP	21 03 59.3	-0.3
	comp=Z,1.1nm,0.7s,baz=292,slow=1.5,SNR=9.1					

ASAR			PP	**PP**	**21 04 08.7**	**+3.4**
	comp=Z,6.2nm,1.2s,baz=301,slow=5.7,SNR=6.8					
934A	**Benavides**	**105.01 325**	P	**Pdif**	**20 59 45.6**	**+0.6**
	baz=30					
BELC	**Belle Mtn. Jos**	**105.22 342**	P	**Pdif**	**20 59 47.5**	**+1.5**
	baz=17					
TUC	**Tucson**	**105.40 337**	P	**Pdif**	**20 59 48.0**	**+1.4**
	baz=21					
BC3	**Big Chuckawall**	**105.42 342**	P	**Pdif**	**20 59 47.6**	**+0.8**
	baz=17					
034A	**Hebbronville**	**105.55 325**	P	**Pdif**	**20 59 46.0**	**-1.3**
	baz=30					
TXAR	**Lajitas Array**	**105.65 330**	Pdiff	**Pdif**	**20 59 48.5**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=48,slow=3.7,SNR=4.6					
TXAR			PP	**PP**	**21 04 10.1**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=51,slow=6.6,SNR=5.2					
PFO	**Pinyon Flats O**	**105.70 342**	Pdiff	**Pdif**	**20 59 49.8**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=17,slow=7.0,SNR=5.6					
PFO			PP	**PP**	**21 04 08.6**	**-0.7**
	comp=Z,5.3nm,1.2s,baz=350,slow=4.4,SNR=4.7					
PFO	**Pinyon Flats O**	**105.70 342**	P	**Pdif**	**20 59 47.6**	**-0.5**
	baz=16					
PFO	**Pinyon Flats O**	**105.70 342**	Pdif	**Pdif**	**20 59 49.8**	**+1.7**
PFO			PP	**PP**	**21 04 08.6**	**-0.7**
PFO			LR	LR		
	comp=Z,4μm,21.0s					
GLA	**Glamis**	**105.83 341**	P	**Pdif**	**20 59 49.3**	**+0.7**
	baz=18					
PMG	**Port Moresby**	**106.77 89**	PFAKE		21 04 10.0	
PMG			LR	LR		
	comp=Z,929nm,20.0s					
SAML	**Samuel**	**108.26 273**	PFAKE		21 04 20.0	
SAML			LR	LR		
	comp=Z,1μm,19.0s					
BCIP	**Isla Barro Col**	**108.82 299**	PFAKE		21 04 20.0	
BCIP			LR	LR		
	comp=Z,512nm,20.0s					
SIV	**San Ignacio**	**110.78 266**	PP	PP	21 04 51.7	+3.7
	comp=Z,1.9nm,0.8s,baz=101,slow=12,SNR=3.0					
CTAO	**Charters Tower**	**112.30 98**	PFAKE		21 04 20.0	
CTAO			LR	LR		
	comp=Z,2μm,19.0s					
CPUP	**Villa Florida**	**113.67 255**	Pdiff	**Pdif**	**21 00 24.4**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=103,slow=11,SNR=2.7					
CPUP			PKiKP	**PKiKP**	**21 04 14.5**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=93,slow=6.4,SNR=3.9					
CPUP			PP	**PP**	**21 05 07.5**	**-1.1**
	comp=Z,5.7nm,1.0s,baz=68,slow=6.4,SNR=5.1					
OTAV	**Otavalo**	**114.06 291**	PFAKE		21 04 30.0	+12
OTAV			LR	LR		
	comp=Z,908nm,21.0s					
SNAA	**Sanae**	**114.64 194**	PKP	PKPdf	21 04 15.9	-0.5
	comp=Z,3.5nm,1.1s,baz=93,slow=2.6,SNR=7.1					
HOPE	**Hope Point**	**114.85 219**	PFAKE		21 04 30.0	+13
HOPE			LR	LR		
	comp=Z,2μm,20.0s					
STKA	**Stephens Creek**	**115.14 112**	PKP	**PKPdf**	**21 04 17.9**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=312,slow=7.3,SNR=11					
LPAZ	**La Paz**	**116.48 270**	PKP	**PKPdf**	**21 04 22.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=9.2,slow=7.4,SNR=6.6					
LPAZ			PP	**PP**	**21 05 27.6**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=54,slow=5.4,SNR=5.2					
LPAZ			PKKPab	**PKKPab**	**21 14 54.5**	**+0.3**
	comp=Z,3.4nm,1.2s,baz=192,slow=5.4,SNR=6.2					
HNR	**Honiara**	**116.75 80**	PFAKE		21 04 30.0	+7.9
HNR			LR	LR		
	comp=Z,1μm,19.0s					
JOHN	**Johnston Islan**	**117.03 35**	PFAKE		21 04 30.0	+7.4
JOHN			LR	LR		
	comp=Z,242nm,20.0s					
KIP	**Kipapa**	**117.10 22**	PFAKE		21 04 30.0	+7.3
KIP			LR	LR		
	comp=Z,6μm,20.0s					
ATAH	**Atahualpa**	**118.89 285**	PP	PP	21 05 47.5	+2.1
	comp=Z,3.6nm,0.6s,baz=162,slow=12,SNR=3.6					
POHA	**Pohakuloa**	**119.38 20**	PFAKE		21 04 40.0	+13
POHA			LR	LR		
	comp=Z,4μm,21.0s					
LVC	**Limon Verde**	**120.60 264**	PKP	**PKPdf**	**21 04 30.5**	**+0.8**
	comp=Z,50nm,1.2s,baz=134,slow=5.3,SNR=4.9					
LVC			PP	**PP**	**21 05 58.5**	**+1.1**
	comp=Z,19nm,0.9s,baz=95,slow=6.0,SNR=4.7					
LVC	**Limon Verde**	**120.60 264**	PKP	**PKPdf**	**21 04 30.5**	**+0.8**
LVC			PP	**PP**	**21 05 58.5**	**+1.1**
LVC			LR	LR		
	comp=Z,1μm,19.0s					
NNA	**Nana**	**120.74 279**	PKP	**PKPdf**	**21 04 29.9**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=81,slow=6.1,SNR=2.8					
NNA	**Nana**	**120.74 279**	PKP	**PKPdf**	**21 04 29.9**	**+0.1**
NNA			LR	LR		
	comp=Z,859nm,19.0s					
ARMA	**Armidale**	**121.86 105**	*e*PKPdf	**PKPdf**	**21 04 30.5**	**-1.1**
CAN	**Canberra**	**122.20 112**	PFAKE		21 04 40.0	+8.0
CAN			LR	LR		
	comp=Z,2μm,20.0s					
TRQA	**Tornquist**	**122.85 245**	*e*PKPdf	**PKPdf**	**21 04 32.0**	**-1.1**
PAYG	**Puerto Ayora**	**123.07 300**	PFAKE		21 04 40.0	+5.7
PAYG			LR	LR		
	comp=Z,476nm,19.0s					
TAU	**Tasmania Unive**	**124.24 121**	PFAKE		21 04 50.0	+14
TAU			LR	LR		
	comp=Z,2μm,20.0s					
LCO	**Las Campanas**	**125.23 259**	PFAKE		21 04 50.0	+12
LCO			LR	LR		
	comp=Z,2μm,19.0s					
EFI	**East Falkland**	**125.50 229**	PFAKE		21 04 50.0	+12
EFI			LR	LR		
	comp=Z,2μm,20.0s					
QSPA	**South Pole Qui**	**128.42 180**	*e*PKPdf	**PKPdf**	**21 04 43.0**	**+0.1**
QSPA			LR	LR		
	comp=Z,3μm,22.0s					
DZM	**Mont Dzumac**	**129.16 88**	PKP	**PKPdf**	**21 04 47.5**	**+1.7**
	comp=Z,36nm,1.3s,baz=132,slow=7.0,SNR=5.5					
DZM	**Mont Dzumac**	**129.16 88**	*e*PKIKP	**PKPdf**	**21 04 47.2**	**+1.4**
	comp=Z,122nm,1.4s					
DZM	**Mont Dzumac**	**129.16 88**	*e*PP	PP	21 06 49.4	-4.9
	comp=Z,251nm,25.4s					
DZM	**Mont Dzumac**	**129.16 88**	*e*LR	LR	21 45 17.3	
	comp=Z,2μm,23.6s					
PLCA	**Paso Flores**	**130.00 245**	PKP	**PKPdf**	**21 04 48.0**	**+1.2**
	comp=Z,35nm,1.2s,baz=55,slow=1.9,SNR=11					
PLCA			PKKP	**PKKPdf**	**21 14 53.9**	**+4.5**
	comp=Z,1.9nm,0.7s,baz=308,slow=4.3,SNR=3.1					
PLCA	**Paso Flores**	**130.00 245**	PKIKP	**PKPdf**	**21 04 48.0**	**+1.2**
PLCA			pmax	pmax		
	comp=Z,35nm,1.3s					
FUNA	**Funafuti**	**130.53 65**	PFAKE		21 05 00.0	+12
FUNA			LR	LR		
	comp=Z,5μm,20.0s					
PMSA	**Palmer Station**	**131.33 213**	PKP	**PKPdf**	**21 04 48.3**	**0.0**
PMSA	**Palmer Station**	**131.33 213**	PKP	**PKPdf**	**21 04 48.4**	**0.0**
PMSA			LR	LR		
	comp=Z,4μm,19.0s					
USHA	**Ushuaia**	**132.31 227**	PKP	**PKPdf**	**21 04 51.6**	**+1.1**
	comp=Z,67nm,0.9s,baz=117,slow=6.0,SNR=3.7					
VNDA	**Vanda**	**133.49 165**	PKP	**PKPdf**	**21 04 50.8**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=288,slow=10,SNR=3.0					
VNDA			PP	**PP**	**21 07 18.2**	**-2.7**
	comp=Z,4.9nm,1.3s,baz=265,slow=9.5,SNR=6.8					
SBA	**Scott Base**	**134.35 166**	*e*PKIKP	**PKPdf**	**21 04 54.3**	**+0.5**
SBA			MLR	MLR		
	comp=Z,3μm,20.0s					
SBA	**Scott Base**	**134.35 166**	*e*PKPdf	**PKPdf**	**21 04 54.3**	**+0.5**
SBA			LR	LR		
	comp=Z,3μm,20.0s					
MSVF	**Nonsavu**	**135.69 75**	PFAKE		21 05 10.0	+12
MSVF			LR	LR		
	comp=Z,1μm,21.0s					
AFI	**Afiamalu**	**140.58 61**	PFAKE		21 05 20.0	+13
AFI			LR	LR		
	comp=Z,3μm,20.0s					
RPZ	**Rata Peaks**	**141.00 115**	PKhKP	PKPpre	21 05 01.3	
	comp=Z,4.7nm,0.5s,baz=3.6,slow=5.6,SNR=3.0					
URZ	**Urewera**	**144.25 104**	PKhKP	PKPpre	21 05 07.4	
	comp=Z,117nm,0.7s,baz=277,slow=3.2,SNR=64					
RAO	**Raoul Island**	**144.94 87**	PKP	**PKPdf**	**21 05 14.1**	**-0.4**
	comp=Z,128nm,0.5s,baz=161,slow=11,SNR=4.7					
RAO	**Raoul Island**	**144.94 87**	PKP	**PKPdf**	**21 05 14.1**	**-0.4**
RAO			LR	LR		
	comp=Z,2μm,21.0s					
TAOE	**Nuku Hiva Isla**	**150.25 7**	*e*LR	LR	21 55 27.2	
	comp=Z,4μm,22.0s					
RAR	**Rarotonga**	**153.78 55**	PKPbc	**PKPbc**	**21 05 37.9**	**+1.3**
	comp=Z,23nm,1.0s,baz=236,slow=20,SNR=3.4					
RPN	**Rapa Nui**	**154.29 288**	PFAKE		21 05 40.0	+2.4
RPN			LR	LR		
	comp=Z,978nm,20.0s					
PPT2	**Papeete2**	**156.32 31**	*e*PP	PP	21 09 32.2	-5.0
	comp=Z,418nm,27.8s					
PPT2	**Papeete2**	**156.32 31**	*e*LR	LR	21 57 49.8	
	comp=Z,3μm,23.2s					
TBI	**Tubuai**	**161.40 39**	*e*SS	SS	21 30 18.0	-3.1
	comp=Z,632nm,28.8s					
TBI	**Tubuai**	**161.40 39**	*e*LR	LR	22 00 40.3	
	comp=Z,4μm,24.0s					
RKT	**Rikitea**	**164.49 353**	*e*SS	SS	21 30 57.3	+5.3
	comp=Z,3μm,35.5s					
RKT	**Rikitea**	**164.49 353**	*e*LR	LR	22 02 04.2	
	comp=Z,4μm,39.5s					
PTCN	**Pitcairn Islan**	**165.35 335**	PFAKE		21 05 50.0	+8.1
PTCN			LR	LR		
	comp=Z,2μm,22.0s					

IDC ***23*** *20:49:00.7±1.1,29°.61S×175°.96W,h0km,mb4.1/4, mb1 4.2/6,mb1mx3.8/51,mbtmp4.1/6,ML3.8/2,MS3.5/2, Ms1 3.5/2,ms1mx3.0/29,Error ellipse: s-maj=33.2km s-min=21.6km az=159.0*

ISC 23 20:49:05.1±1.1,**29°.5S**±0°.1×**176°.0W**±0°.1,**h28**km,**n15,** σ1§**05**/15,**mb4.0**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**279**		Pn	**Pn**	**20 49 33.4**	**+0.7**
	496nm,0.3s,baz=90,slow=3.3,SNR=45							
RAO				Sn		**Sb**	**20 49 55.9**	**-0.5**
	366nm,0.3s,baz=70,slow=23,SNR=11							
URZ	**Urewera**	**10.42**	**211**		Pn	**Pn**	**20 51 32.0**	**-0.6**
	0.4nm,0.3s,baz=274,slow=5.9,SNR=6.4							
URZ				Sn		**Sn**	**20 53 29.8**	**+1.4**
	3.5nm,0.3s,baz=100,slow=20,SNR=12							
RAR	**Rarotonga**	**16.83**	**64**	LR		LR	20 57 56.3	
	comp=Z,136nm,19.2s,baz=264,slow=32							
DZM	**Mont Dzumac**	**17.45**	**291**	LR		LR	20 59 07.1	
	comp=Z,179nm,18.9s,baz=21,slow=35							
RPZ	**Rata Peaks**	**17.53**	**213**	P		**Pn**	**20 53 05.4**	**-2.0**
	0.5nm,0.3s,baz=118,slow=1.6,SNR=3.2							
CTA	**Charters Tower**	**35.39**	**277**	P		**P**	**20 55 59.9**	**+1.1**
	2.2nm,0.3s,baz=85,slow=6.9,SNR=3.0							
STKA	**Stephens Creek**	**36.37**	**255**	P		**P**	**20 56 06.8**	**-0.2**
	1.1nm,0.5s,baz=108,slow=8.1,SNR=3.9							
ASAR	**Alice Springs**	**44.90**	**265**	P		**P**	**20 57 16.9**	**-0.7**
	1.0nm,0.5s,baz=97,slow=6.2,SNR=25							
WRA	**Warramunga Arr**	**45.81**	**270**	P		**P**	**20 57 23.4**	**-1.4**
	1.3nm,0.6s,baz=109,slow=6.3,SNR=13							
FINES	**FINESS Array B**	**144.89**	**342**	PKP		**PKPab**	**21 08 37.5**	**-0.5**
	1.7nm,0.6s,baz=42,slow=3.1,SNR=9.8							
NB2	**NORSAR Subarra**	**148.12**	**353**	PKP		**PKPbc**	**21 08 47.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=8.7,slow=2.9							
NOA	**NORSAR Array B**	**148.12**	**353**	PKPbc		**PKPbc**	**21 08 47.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=70,slow=1.6,SNR=6.3							
NOA				SKP			21 12 19.9	
	comp=Z,1.1nm,0.8s,baz=297,slow=3.6,SNR=3.6							
HFS	**Hagfors**	**148.70**	**351**	PKPbc		**PKPbc**	**21 08 48.6**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=330,slow=2.0,SNR=5.3							
AKASG	**Malin Array Be**	**151.61**	**325**	PKPbc		**PKPbc**	**21 08 57.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=47,slow=3.4,SNR=2.7							
BRTR	**Keskin Array B**	**153.68**	**301**	PKPbc		**PKPbc**	**21 09 02.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=347,slow=3.3,SNR=1.9							

AZER ***23*** *20:52:56.4±6.9,38°.04N×43°.33E,h7km, Error ellipse: s-maj=86.8km s-min=47.4km az=114.0*
DDA ***23*** *20:53:00.3,38°.68N×43°.52E,h7km,Ml3.4*
CSEM ***23*** *20:53:03.2±0.4,38°.44N×43°.71E,h10km,ML3.4, Error ellipse: s-maj=14.9km s-min=10.3km az=130.0*

ISC 23 20:53:01.1±1.0,**38°.65N**±0°.03×**43°.53E**±0°.04,**h17**km±11km, **n24,** σ1§**50**/31,**5C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.50**	**228**	*i* P		**Pg**	**20 53 09.2**	**-2.0**
GEVA				*i* S		**Sg**	**20 53 18.3**	**+0.3**
DYDN	**Diyadin**	**0.90**	**8**	*i* P		**Pb**	**20 53 17.2**	**-1.3**
HAKT	**HAKKARI**	**1.10**	**173**	*i* P		**Pb**	**20 53 21.5**	**-0.4**
HAKT				*i* S		**Sn**	**20 53 37.6**	**+0.6**
HAKT	**HAKKARI**	**1.10**	**173**	P		**Pb**	**20 53 21.5**	**-0.4**
CUKT	**Cukurca**	**1.40**	**177**	*i* P		**Pg**	**20 53 29.8**	**+1.6**
SIRN	**S¨–rnak**	**1.45**	**218**	*i* P		**Pg**	**20 53 29.2**	**+0.1**
SIRN	**S¨–rnak**	**1.45**	**218**	P		**Pg**	**20 53 29.2**	**+0.1**
NAX	**Nakhchivan**	**1.62**	**71**	⇑P		**Pg**	**20 53 31.3**	**-1.0**
NAX				⇓S		**Sg**	**20 53 56.6**	**+3.2**
NAX	**Nakhchivan**	**1.62**	**71**	P		**Pg**	**20 53 31.3**	**-1.0**
NAX				S		**Sg**	**20 53 56.6**	**+3.2**
EAK	**Akyaka**	**2.03**	**2**	*i* P		**Pg**	**20 53 41.9**	**+1.7**
EAK	**Akyaka**	**2.03**	**2**	P		**Pg**	**20 53 41.9**	**+1.7**
DDEM	**Demirkent**	**2.62**	**329**	*i* P		**Pb**	**20 53 47.8**	**0.0**
DDEM	**Demirkent**	**2.62**	**329**	P		**Pb**	**20 53 47.8**	**0.0**
GDB	**GEDABAY**	**2.69**	**39**	⇑P		**Pb**	**20 53 48.2**	**-0.7**
GDB				⇓S		**Sg**	**20 54 28.6**	**+1.1**
GDB	**GEDABAY**	**2.69**	**39**	P		**Pb**	**20 53 48.2**	**-0.7**
QZX	**Qazax, Azerbai**	**2.79**	**30**	⇑P		**Pb**	**20 53 49.5**	**-1.1**
QZX				⇓S		**Sg**	**20 54 30.9**	**+0.1**
QZX	**Qazax, Azerbai**	**2.79**	**30**	P		**Pb**	**20 53 49.5**	**-1.1**
GANJ	**Ganja**	**2.94**	**46**	⇓P		**Pb**	**20 53 52.0**	**-1.0**
GANJ				⇑S		**Sg**	**20 54 34.0**	**-1.5**
GANJ	**Ganja**	**2.94**	**46**	P		**Pb**	**20 53 52.0**	**-1.0**
LRK	**Lerik**	**3.77**	**89**	⇑P		**Pn**	**20 53 58.0**	**-0.6**
LRK	**Lerik**	**3.77**	**89**	P		**Pn**	**20 53 58.0**	**-0.6**
ZKTA	**Zakatala**	**3.81**	**37**	⇓P		**Pb**	**20 54 04.3**	**-3.7**
GLBA	**Clilabad**	**3.84**	**80**	⇓P		**Pn**	**20 53 59.6**	**+0.2**
GLBA	**Clilabad**	**3.84**	**80**	P		**Pn**	**20 53 59.6**	**+0.2**

MOS ***23*** *20:56:36.4±1.2,38°.48N×43°.10E,h11km,mb4.7/25,Error ellipse: s-maj=7.1km s-min=4.7km az=116.3*
DDA ***23*** *20:56:37.5,38°.65N×43°.06E,h13km,Ml3.9*
NEIC ***23*** *20:56:37.5±0.9,38°.62N×43°.08E,h8km±6km,mb4.5/6, ML4.3(DDA),Error ellipse: s-maj=6.1km s-min=5.0km az=155.0*
ISK ***23*** *20:56:37.5,38°.65N×42°.97E,h5km,ML4.0*
CSEM ***23*** *20:56:38.8±0.1,38°.59N×43°.03E,h10km,mb4.5/20,Error ellipse: s-maj=4.5km s-min=2.9km az=171.0*
IDC ***23*** *20:56:40.5±2.7,38°.59N×43°.06E,h28km±20km,mb4.0/26, mb1 4.1/38,mb1mx4.0/53,mbtmp4.1/38,ML3.4/9,Error ellipse: s-maj=11.5km s-min=7.7km az=156.0*
AZER ***23*** *20:56:42.2±0.5,38°.62N×43°.38E,h3km,Error ellipse: s-maj=4.5km s-min=3.1km az=111.0*

ISC 23 20:56:38.0±0.8,**38°.63N**±0°.02×**43°.07E**±0°.02,**h9**km±5km, **n352,** σ1§**81**/410,**mb4.4**/58,**43C-41D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.31**	**181**	⇓*i*P		**Pg**	**20 56 43.7**	**-0.6**
GEVA				*i* S		**Sb**	**20 56 51.2**	**0.0**
GEVA	**Gevas**	**0.31**	**181**	*i* P		**Pg**	**20 56 43.7**	**-0.6**
GEVA				*i* S		**Sb**	**20 56 51.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.95**	**357**	*e*PG		**Pg**	**20 56 55.8**	**-0.5**
AGRB				*e*SG		**Sb**	**20 57 09.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**357**	*e*Pg		**Pg**	**20 56 55.8**	**-0.5**
AGRB				*e*Sg		**Sb**	**20 57 09.8**	**+0.2**
EKAR	**Karacoban**	**1.00**	**309**	*i* P		**Pg**	**20 56 56.7**	**-0.6**
EKAR				*i* S		**Sn**	**20 57 18.1**	**+5.2**
EKAR	**Karacoban**	**1.00**	**309**	P		**Pg**	**20 56 56.7**	**-0.6**
EKAR				S		**Sn**	**20 57 18.1**	**+5.2**
EKAR	**Karacoban**	**1.00**	**309**	*i* P		**Pg**	**20 56 56.7**	**-0.6**
DYDN	**Diyadin**	**1.04**	**28**	*i* P		**Pg**	**20 56 56.0**	**-2.0**
DYDN				*i* S		**Sn**	**20 57 15.8**	**+2.0**
DYDN	**Diyadin**	**1.04**	**28**	P		**Pg**	**20 56 56.0**	**-2.0**
DYDN				S		**Sn**	**20 57 15.8**	**+2.0**
DYDN	**Diyadin**	**1.04**	**28**	*i* P		**Pg**	**20 56 56.0**	**-2.0**
HAKT	**HAKKARI**	**1.18**	**154**	*i* P		**Pg**	**20 56 59.1**	**-1.6**
HAKT				*i* S		**Sn**	**20 57 18.4**	**+1.1**
HAKT	**HAKKARI**	**1.18**	**154**	P		**Pg**	**20 56 59.1**	**-1.6**
HAKT				S		**Sn**	**20 57 18.4**	**+1.1**
SIRN	**S¨–rnak**	**1.24**	**205**	*i* P		**Pn**	**20 57 00.5**	**-1.2**
SIRN				*i* S		**Sn**	**20 57 19.6**	**+1.0**
SIRN	**S¨–rnak**	**1.24**	**205**	P		**Pn**	**20 57 00.5**	**-1.2**
SIRN				S		**Sn**	**20 57 19.6**	**+1.0**
EATA	**Eleskirt**	**1.31**	**340**	*i* P		**Pn**	**20 57 01.8**	**-1.1**
EATA				*i* S		**Sn**	**20 57 20.8**	**0.0**
EATA	**Eleskirt**	**1.31**	**340**	P		**Pn**	**20 57 01.8**	**-1.1**
EATA				S		**Sn**	**20 57 20.8**	**0.0**
VRTB	**Varto-Mus**	**1.36**	**294**	*e*Pn		**Pn**	**20 57 02.5**	**-1.0**
VRTB				*e*SN		**Sn**	**20 57 21.8**	**0.0**
VRTB	**Varto-Mus**	**1.36**	**294**	*i* P		**Pn**	**20 57 03.1**	**-0.3**
VRTB				*i* S		**Sg**	**20 57 23.6**	**+1.7**
VRTB	**Varto-Mus**	**1.36**	**294**	*e*Pn		**Pn**	**20 57 02.5**	**-1.0**
VRTB	**Varto-Mus**	**1.36**	**294**	P		**Pn**	**20 57 03.1**	**-0.3**
VRTB				*e*Sn		**Sn**	**20 57 21.8**	**0.0**
VRTB				S		**Sg**	**20 57 23.6**	**+1.7**
CUKT	**Cukurca**	**1.44**	**163**	*e*PN		**Pg**	**20 57 06.0**	**+0.3**
CUKT	**Cukurca**	**1.44**	**163**	*i* P		**Pg**	**20 57 06.5**	**+0.8**
CUKT				*i* S		**Sg**	**20 57 29.7**	**+5.3**
CUKT	**Cukurca**	**1.44**	**163**	*e*Pn		**Pg**	**20 57 06.0**	**+0.3**
CUKT	**Cukurca**	**1.44**	**163**	P		**Pg**	**20 57 06.5**	**+0.8**
BNGL	**BINGOL**	**1.53**	**283**	*i* P		**Pn**	**20 57 06.1**	**+0.3**
BNGL				*i* S		**Sn**	**20 57 26.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.54**	**253**	*e*PN		**Pn**	**20 57 05.8**	**0.0**
SVAN				*e*SN		**Sb**	**20 57 27.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.54**	**253**	⇓*i*P		**Pb**	**20 57 06.5**	**-0.3**
SVAN				*i* S		**Sg**	**20 57 28.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.54**	**253**	*e*Pn		**Pn**	**20 57 05.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.54**	**253**	P		**Pb**	**20 57 06.5**	**-0.3**
SVAN				*e*Sn		**Sb**	**20 57 27.1**	**+0.6**
SVAN				S		**Sg**	**20 57 28.1**	**+0.5**
BTMN	**Batman**	**1.59**	**243**	⇓*i*P		**Pb**	**20 57 07.5**	**-0.2**
BTMN				*i* S		**Sg**	**20 57 29.6**	**+0.4**
BTMN	**Batman**	**1.59**	**243**	P		**Pb**	**20 57 07.5**	**-0.2**
BTMN				S		**Sg**	**20 57 29.6**	**+0.4**
HOMI	**Horasan**	**1.68**	**328**	*i* P		**Pn**	**20 57 08.4**	**+0.5**
HOMI				*i* S		**Sg**	**20 57 34.2**	**+2.2**
DIGO	**Kars**	**1.80**	**8**	*i* P		**Pn**	**20 57 10.4**	**+0.8**
DIGO				*i* S		**Sg**	**20 57 37.8**	**+1.8**
DIGO	**Kars**	**1.80**	**8**	P		**Pn**	**20 57 10.4**	**+0.8**
DIGO				S		**Sg**	**20 57 37.8**	**+1.8**
ERZM	**Erzurum**	**1.84**	**315**	*i* P		**Pb**	**20 57 11.3**	**-0.7**
ERZM				*i* S		**Sg**	**20 57 39.1**	**+2.0**
ERZM	**Erzurum**	**1.84**	**315**	P		**Pb**	**20 57 11.3**	**-0.7**
ERZM				S		**Sg**	**20 57 39.1**	**+2.0**
ECAT	**Cat-ERZURUM**	**1.90**	**302**	*i* P		**Pn**	**20 57 11.7**	**+0.8**
ECAT				*i* S		**Sg**	**20 57 40.7**	**+1.6**
ECAT	**Cat-ERZURUM**	**1.90**	**302**	P		**Pn**	**20 57 11.7**	**+0.8**
BNGB	**Bing¨¶l**	**1.90**	**282**	*e*PN		**Pn**	**20 57 11.0**	**+0.3**
NAX	**Nakhchivan**	**1.97**	**73**	⇓P		**Pb**	**20 57 14.1**	**-0.1**
	SNR=7.1							
NAX				⇑S		**Sn**	**20 57 36.8**	**+0.1**
NAX	**Nakhchivan**	**1.97**	**73**	P		**Pb**	**20 57 14.1**	**-0.1**
	SNR=7.1							
NAX				S		**Sn**	**20 57 36.8**	**+0.1**
GNI	**Garni**	**2.00**	**40**	Pn		**Pn**	**20 57 13.0**	**+0.8**
	16nm,0.3s,baz=258,slow=2.2,SNR=16							
GNI	**Garni**	**2.00**	**40**	*e*P		**Pn**	**20 57 11.6**	**-0.6**
GNI				*e*			20 57 36.1	
GNI	**Garni**	**2.00**	**40**	*e*P		**Pn**	**20 57 11.6**	**-0.6**
GNI				*e*S		**Sn**	**20 57 36.1**	**-1.4**
GNI	**Garni**	**2.00**	**40**	*e*Pn		**Pn**	**20 57 11.6**	**-0.6**
GNI				*e*Sn		**Sn**	**20 57 36.1**	**-1.4**
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*PN		**Pn**	**20 57 13.4**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.01**	**344**	*e*Pn		**Pn**	**20 57 13.4**	**+1.0**
BINT	**Bingol**	**2.03**	**278**	*e*Pn		**Pn**	**20 57 11.0**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.12**	**293**	*e*PN		**Pn**	**20 57 14.1**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.12**	**293**	*e*Pn		**Pn**	**20 57 14.1**	**+0.2**
MARD	**Mardin**	**2.23**	**235**	*i* P		**Pn**	**20 57 16.1**	**+0.8**
MARD				*i* S		**Sb**	**20 57 47.5**	**+1.1**
MAZI	**Mazidag**	**2.37**	**241**	*e*PN		**Pn**	**20 57 18.3**	**+1.0**
MAZI	**Mazidag**	**2.37**	**241**	*e*Pn		**Pn**	**20 57 18.3**	**+1.0**
ERZN	**Erzincan**	**2.77**	**291**	*e*PN		**Pn**	**20 57 23.6**	**+0.8**
AKH	**Akhalkalaki**	**2.80**	**7**	*e*PN		**Pn**	**20 57 25.5**	**+2.3**
AKH	**Akhalkalaki**	**2.80**	**7**	⇑*i*P		**Pb**	**20 57 28.5**	**+0.1**
AKH	**Akhalkalaki**	**2.80**	**7**	*e*Pn		**Pn**

SNR=5.5
PQL ⇑S Sn 20 58 46.8 +0.8
PQL Pirkuli 4.78 61 P Pn 20 57 52.2 +1.8
SNR=5.5
PQL S Sn 20 58 46.8 +0.8
ALIB Äli-Bayra 4.80 72 ⇑P Pn 20 57 52.1 +1.6
ALIB ⇓S Sn 20 58 46.9 +0.7
ALIB Äli-Bayra 4.80 72 P Pn 20 57 52.1 +1.6
ALIB S Sn 20 58 46.9 +0.7
NCK Nalchik 4.88 5⇓eP Pb 20 58 00.5 -3.2
QSAR Qusar 4.92 52 ⇑P Pn 20 57 54.4 +2.2
SNR=3.9
QSAR Qusar 4.92 52 P Pn 20 57 54.4 +2.2
SNR=3.9
GBS Qobustan 4.92 65 ⇑P Pn 20 57 53.9 +1.6
SNR=6.7
GBS Qobustan 4.92 65 P Pn 20 57 53.9 +1.6
SNR=6.7
QUBA Quba, Azerbaij 4.98 55 ⇑P Pn 20 57 55.1 +2.1
SNR=8.1
QUBA Quba, Azerbaij 4.98 55 P Pn 20 57 55.1 +2.1
SNR=8.1
ATGJ Altiaghaj 5.05 62 ⇑P Pn 20 57 55.8 +1.8
SNR=4.8
ATGJ Altiaghaj 5.05 62 P Pn 20 57 55.8 +1.8
SNR=4.8
KBZ Khabaz 5.10 359 Pn **Pn 20 57 56.6 +2.0**
comp=Z,0.0nm,0.3s,baz=47,slow=9.1,SNR=2.9
KIV Kislovodsk 5.33 357 P **Pn 20 57 58.3 +0.4**
KIV Kislovodsk 5.33 357 P **Pn 20 57 58.3 +0.4**
KIV Kislovodsk 5.33 357 Pn **Pn 20 57 58.2 +0.4**
KVAR Kislovodsk Arr 5.33 357 Pn Pn 20 58 03.0 +5.1
baz=107,slow=2.7,SNR=4.8
DRWC Darouich 5.46 250 eP Pb 20 58 08.0 -5.6
DRWC AML AML 20 59 45.0
comp=E,295nm,0.6s
DRWC AML AML 20 59 46.5
comp=N,451nm,0.6s
BTCH Batrach 5.86 246 eP Pn 20 58 10.8 +5.5
BTCH eS **Sb 20 59 26.9 -4.0**
BTCH AML AML 20 59 52.6
comp=E,828nm,0.7s
BTCH AML AML 20 59 52.8
comp=N,389nm,0.6s
ARNB Al Arnab 6.29 246 eP Pn 20 58 17.9 +6.7
ARNB eS **Sb 20 59 34.9 -8.4**
ARNB AML AML 21 00 15.6
comp=N,404nm,0.7s
ARNB AML AML 21 00 16.2
comp=E,274nm,0.7s
RABH Abou Rabah 6.30 230 eP **Pn 20 58 13.5 +2.2**
RABH AML AML 21 00 10.7
comp=N,307nm,0.7s
RABH AML AML 21 00 12.1
comp=E,208nm,0.7s
ROOS tl_alroos 6.44 228 eP **Pn 20 58 14.7 +1.5**
ROOS eS **Sn 20 59 32.9 +6.1**
ROOS AML AML 21 00 22.1
comp=E,415nm,0.7s
ROOS AML AML 21 00 36.5
comp=N,350nm,0.7s
BIDA Albida 6.50 238 eP **Pn 20 58 17.0 +3.0**
BIDA eS Sn 20 59 38.7 +10
BIDA AML AML 21 00 11.3
comp=N,617nm,0.6s
BIDA AML AML 21 00 20.0
comp=E,542nm,0.5s
HAWK Haweek 6.74 235 eP **Pn 20 58 19.2 +1.9**
HAWK eS Sn 20 59 43.6 +9.3
HAWK AML AML 21 00 21.2
comp=E,105nm,0.6s
HAWK AML AML 21 00 25.8
comp=N,227nm,0.6s
FKH Fakeheh 6.92 233 eP **Pn 20 58 21.9 +2.2**
MARH Ras Al Marh 7.02 231 eP **Pn 20 58 24.2 +2.8**
MARH eS **Sn 20 59 47.0 +5.6**
MARH AML AML 21 00 38.5
comp=N,99nm,0.7s
MARH AML AML 21 00 38.9
comp=E,290nm,0.7s
HWQ Hawqa 7.19 235 eP **Pn 20 58 26.0 +2.5**
BRTR Keskin Array B 7.41 281 Pn **Pn 20 58 28.5 +2.1**
comp=E,0.1nm,0.3s,baz=67,slow=20,SNR=4.1
TOTH TOTAH 7.52 228 eP **Pn 20 58 29.2 +1.3**
TOTH AML AML 21 00 55.8
comp=N,132nm,0.7s
TOTH AML AML 21 01 16.0
comp=E,79nm,0.7s
BRBR Barbar 7.76 230 eP **Pn 20 58 33.5 +2.1**
BRBR eS **Sn 21 00 04.8 +5.3**
BRBR AML AML 21 00 50.9
comp=E,104nm,0.6s
BRBR AML AML 21 00 55.5
comp=N,105nm,0.7s
DQRL Deir Qamar 7.80 233 eP Pn 20 58 37.6 +5.8
SALA Sala 7.83 223 eP **Pn 20 58 33.1 +0.7**
SALA eS **Sn 21 00 02.6 +1.3**
ASF Jabal al Asfar 8.17 220 Pn **Pn 20 58 37.5 +0.6**
comp=N,0.6nm,0.3s,baz=340,slow=12,SNR=5.9
ASF Lg Lg 21 01 02.4
comp=N,1.2nm,0.3s,baz=338,slow=21,SNR=3.9
MMAI Mount Meron Ar 8.37 230 Pn **Pn 20 58 40.2 +0.6**
comp=N,1.5nm,0.3s,baz=67,slow=15,SNR=15
MMAI Lg Lg 21 01 06.8
comp=N,2.5nm,0.3s,baz=54,slow=28,SNR=4.0
GEYT Alibeck 11.85 89 Pn **Pn 20 59 29.2 +1.9**
comp=N,0.1nm,0.3s,baz=261,slow=8.7,SNR=3.0
VRI Vrincioaia 14.09 306⇑iP P 21 00 12.3 +6.8
VRI Vrincioaia 14.09 306 ⇑P P 21 00 12.3 +6.8
PLOR Plostina 14.13 306⇓iP **P 21 00 07.6 +1.6**
PLOR Plostina 14.13 306 ⇓P **P 21 00 07.6 +1.6**
PLOR Plostina 14.13 306 P **P 21 00 07.6 +1.6**
SORM Soroca 14.29 316⇓iP **Pn 21 00 03.6 +3.1**
SORM Soroca 14.29 316 ⇓P **Pn 21 00 03.6 +3.1**
MLR Muntele Rosu 14.44 304 Pn **P 21 00 06.5 -3.1**
comp=N,0.1nm,0.3s,baz=261,slow=9.6,SNR=2.5
MLR Muntele Rosu 14.44 304⇓iP **P 21 00 09.4 -0.2**
HUMR Humele 14.75 299⇓iP **P 21 00 13.4 +0.5**
IDI Anoyia 14.91 263 Pn **Pn 21 00 08.9 -0.1**
comp=N,0.1nm,0.3s,baz=352,slow=5.7,SNR=2.6
VOIR 15.00 303⇓iP **P 21 00 18.8 +3.0**
VOIR 15.00 303 ⇓P **P 21 00 18.8 +3.0**
VOIR 15.00 303 P **P 21 00 18.8 +3.0**
PRAR RASCA 15.08 311⇓iP **P 21 00 17.0 +0.5**
SRS Serrai 15.16 286 P **P 21 00 19.8 +2.3**
SRS pmax pmax
comp=Z,267nm,4.0s
SRS Serrai 15.16 286 P **P 21 00 19.8 +2.3**
comp=Z,267nm,4.0s
ARR Arges 15.25 302⇑iP **P 21 00 19.4 +0.8**
AKASG Malin Array Be 15.55 325 Pn **Pn 21 00 17.2 -0.1**
comp=Z,0.6nm,0.3s,baz=134,slow=11,SNR=8.6
KIEV Kiev 15.55 325⇑eP **Pn 21 00 16.8 -0.6**
KIEV Kiev 15.55 325 ePn **Pn 21 00 16.7 -0.6**
KIEV Kiev 15.55 325 ePn **Pn 21 00 16.7 -0.7**
VTS Vitosha 15.59 291⇓iP **P 21 00 24.7 +2.3**
VTS Vitosha 15.59 291 ⇓P **P 21 00 24.7 +2.3**
VTS Vitosha 15.59 291 P **P 21 00 24.7 +2.3**
BURAR Bucovina Array 15.80 310⇑iP **Pn 21 00 22.6 +1.9**
BURAR Bucovina Array 15.80 310 ⇑P **Pn 21 00 22.6 +1.9**
LOT Lotru 15.86 302⇓iP **Pn 21 00 21.5 0.0**
AKTO Aktyubinsk 15.87 37 Pn **Pn 21 00 20.1 -1.4**
comp=Z,0.1nm,0.3s,baz=255,slow=12,SNR=3.3
ABKAR Akbulak array 16.11 43 ePn **Pn 21 00 20.2 -4.4**
comp=Z,4.7nm,0.8s
CJR Cluj-Napoca 16.41 306⇑iP **P 21 00 33.8 +2.4**
CJR Cluj-Napoca 16.41 306 ⇑P **P 21 00 33.8 +2.4**
CJR Cluj-Napoca 16.41 306 P **P 21 00 33.8 +2.4**
ZAGS Zajecar 16.50 295⇑iP **P 21 00 31.9 -0.4**
BARS Barje 16.64 291⇑iP **P 21 00 35.2 +1.3**
SKO Skopje 16.83 288 P **P 21 00 35.8 -0.2**
SKO pmax pmax
comp=Z,2.0nm,1.0s
SKO Skopje 16.83 288 P **P 21 00 35.8 -0.2**
comp=Z,2.0nm,1.0s
BOVS Bovan 16.84 294 eP **P 21 00 37.2 +1.1**
DRGR 17.01 305⇑iP **P 21 00 40.3 +2.3**
DRGR 17.01 305 ⇑P **P 21 00 40.3 +2.3**
DRGR 17.01 305 P **P 21 00 40.3 +2.3**
OBN Obninsk 17.07 347 P **P 21 00 38.4 -0.1**
comp=Z,4.0nm,0.3s,baz=151,slow=21,SNR=3.5
OBN Obninsk 17.07 347⇑eP **P 21 00 37.9 -0.6**
OBN pmax pmax
comp=Z,33nm,0.9s
SELS Selova 17.20 292 eP **P 21 00 40.7 +0.6**

BZS Buzias 17.35 301⇑iP **Pn 21 00 40.3 0.0**
BZS Buzias 17.35 301 ⇑P **Pn 21 00 40.3 0.0**
BZS Buzias 17.35 301 P **Pn 21 00 40.3 0.0**
SIRR Siria 17.51 303⇓iP **P 21 00 45.8 +2.2**
GRUS Gruza 17.59 295 eP **P 21 00 44.9 +0.5**
IVAS Ivanjica 17.94 293 eP **P 21 00 49.5 +1.1**
UZH Uzhgorod 18.01 310 eP **Pn 21 00 43.2 -5.2**
DIVS Divibare 18.14 295 eP **P 21 00 51.9 +1.3**
BBLS Lazići 18.52 294 eP **Pn 21 00 55.8 +0.9**
TEKS Tekeris 18.55 296 eP **Pn 21 00 57.2 +2.1**
CRVS Cervenica-Dubn 18.62 310 eP **Pn 21 00 56.1 +0.1**
CRVS Cervenica-Dubn 18.62 310 eP **Pn 21 00 56.1 +0.1**
CRVS Cervenica-Dubn 18.62 310 eP **Pn 21 00 56.1 +0.1**
KECS Kecovo 19.04 308 eP **P 21 01 00.7 +0.4**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 19.04 308 eP **P 21 01 00.7 +0.4**
comp=Z,4.0nm,1.0s
KECS Kecovo 19.04 308 eP **P 21 01 00.7 +0.4**
PSZ Piszkesteto 19.20 306⇑iP **Pn 21 01 04.6 +1.5**
PSZ Piszkesteto 19.20 306 ⇑P **Pn 21 01 04.6 +1.5**
PSZ Piszkesteto 19.20 306 P **Pn 21 01 04.6 +1.5**
PSZ Piszkesteto 19.20 306 P **P 21 00 58.3 -3.9**
BUD Budapest 19.61 305 P **Pn 21 01 08.7 +0.8**
BUD pmax pmax
comp=Z,29nm,1.2s
BUD Budapest 19.61 305 P **Pn 21 01 08.7 +0.8**
comp=Z,29nm,1.2s
VYHS Vyhne 20.06 307 eP Pn 21 01 13.1 -0.2
VYHS pmax pmax
comp=Z,39nm,1.4s
VYHS Vyhne 20.06 307 eP Pn 21 01 13.1 -0.2
comp=Z,39nm,1.4s
VYHS Vyhne 20.06 307 eP Pn 21 01 13.1 -0.2
WSAR Wadi Sarin 20.29 135 P **P 21 01 13.8 -0.3**
comp=Z,6.2nm,1.1s,baz=311,slow=9.1,SNR=2.0
ARU Arti 20.57 25 P **P 21 01 17.4 +0.4**
comp=Z,4.9nm,0.5s,baz=239,slow=6.7,SNR=11
ARU Arti 20.57 25⇑eP **P 21 01 17.7 +0.8**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU Arti 20.57 25 eP **P 21 01 17.7 +0.8**
comp=Z,29nm,1.7s
ARU Arti 20.57 25 eP **P 21 01 14.5 -2.5**
SMOL Smolenice 20.95 306 P Pn 21 01 23.9 +0.2
SMOL pmax pmax
comp=Z,67nm,1.1s
SMOL Smolenice 20.95 306 P Pn 21 01 23.9 +0.2
comp=Z,67nm,1.1s
OKC Ostrava-Krasne 20.98 310 eP **P 21 01 22.4 +1.0**
OKC Ostrava-Krasne 20.98 310 eP **P 21 01 22.4 +1.0**
OKC Ostrava-Krasne 20.98 310 eP **P 21 01 22.4 +1.0**
CUC Castrocucco 21.10 282 eP **P 21 01 21.9 -1.0**
CUC Castrocucco 21.10 282 eP **P 21 01 21.9 -1.0**
KKAR Karatay Array 21.19 69 eP **P 21 01 24.2 +0.4**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 21.19 69 eP **P 21 01 24.2 +0.4**
comp=Z,17nm,0.8s
KKAR Karatay Array 21.19 69 eP **P 21 01 24.2 +0.4**
comp=Z,17nm,0.8s
SOP Sopron 21.27 304 P **P 21 01 25.8 +1.3**
SOP pmax pmax
comp=Z,37nm,1.2s
SOP Sopron 21.27 304 P **P 21 01 25.8 +1.3**
comp=Z,37nm,1.2s
MORC Moravsky Berou 21.32 310⇓iP **P 21 01 21.7 -3.4**
MORC Moravsky Berou 21.32 310 ⇓P **P 21 01 21.7 -3.4**
MORC Moravsky Berou 21.32 310 eP **P 21 01 25.4 +0.3**
VRAC Vranov 21.73 308 P **P 21 01 30.6 +1.0**
comp=Z,7.2nm,0.8s,baz=106,slow=9.1,SNR=9.8
CONA Conrad Observa 21.78 304 iP **P 21 01 31.0 +0.8**
comp=Z,32nm,0.9s
CONA Conrad Observa 21.78 304 P **P 21 01 31.0 +0.8**
comp=Z,32nm,0.9s
ARSA Arzberg 21.84 302 iP **P 21 01 32.2 +1.5**
comp=Z,17nm,1.4s
ARSA Arzberg 21.84 302 P **P 21 01 32.2 +1.5**
comp=Z,17nm,1.4s
KRLC Kraliky 21.89 310 eP **P 21 01 33.5 +2.3**
KRLC Kraliky 21.89 310 eP **P 21 01 33.5 +2.3**
KRLC Kraliky 21.89 310 eP **P 21 01 33.5 +2.3**
SOKA Soboth 22.05 300 iP **P 21 01 31.9 -1.1**
comp=Z,11nm,1.4s
SOKA Soboth 22.05 300 P **P 21 01 31.9 -1.1**
comp=Z,11nm,1.4s
DPC Dobruska-Polom 22.26 310 eP **P 21 01 37.3 +2.0**
DPC Dobruska-Polom 22.26 310 eP **P 21 01 37.3 +2.0**
DPC Dobruska-Polom 22.26 310 eP **P 21 01 37.3 +2.0**
VSU Vasula 22.49 337⇓eP **P 21 01 37.7 +0.2**
VSU pmax pmax
comp=Z,115nm,1.0s
VSU Vasula 22.49 337 eP **P 21 01 37.7 +0.2**
comp=Z,115nm,1.0s
UPC Upice 22.50 311 eP **P 21 01 39.7 +1.9**
UPC Upice 22.50 311 eP **P 21 01 39.7 +1.9**
UPC Upice 22.50 311 eP **P 21 01 39.7 +1.9**
MOA Molln 22.81 303 iP **P 21 01 41.6 +0.5**
comp=Z,14nm,1.0s
MOA Molln 22.81 303 P **P 21 01 41.6 +0.5**
comp=Z,14nm,1.0s
AQU L'Aquila 22.81 289 eP **P 21 01 41.5 +0.3**
AQU pmax pmax
comp=Z,30nm,1.1s
AQU L'Aquila 22.81 289 eP **P 21 01 41.5 +0.3**
comp=Z,30nm,1.1s
AQU L'Aquila 22.81 289 eP **P 21 01 41.5 +0.3**
comp=Z,30nm,1.1s
GOPC GO Pecny, Ondr 23.04 309 eP **P 21 01 43.7 +0.2**
GOPC GO Pecny, Ondr 23.04 309 eP **P 21 01 43.7 +0.2**
GOPC GO Pecny, Ondr 23.04 309 eP **P 21 01 43.7 +0.2**
PRU Pruhonice 23.21 309 eP **P 21 01 38.8 -6.4**
PRU epP **pP 21 01 46.7 -1.1**
PRU Pruhonice 23.21 309 eP **P 21 01 38.8 -6.4**
PRU e 21 01 46.7
KBA Koelnbreinsper 23.26 301 P **P 21 01 46.1 +0.2**
KBA pmax pmax
comp=Z,14nm,1.0s
KBA Koelnbreinsper 23.26 301 iP **P 21 01 46.8 +0.9**
comp=Z,24nm,1.3s
KBA Koelnbreinsper 23.26 301 P **P 21 01 46.1 +0.2**
comp=Z,14nm,1.0s
GERES GERESS Array B 23.41 305 P **P 21 01 47.0 -0.4**
comp=Z,3.3nm,0.9s,baz=112,slow=9.3,SNR=14
GERES GERESS Array B 23.41 305 P **P 21 01 47.0 -0.4**
GERES pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 23.41 305 P **P 21 01 47.0 -0.4**
KHC Kasperske Hory 23.57 306 eP **P 21 01 47.9 -0.9**
KHC ex x 21 02 00.0
KHC Kasperske Hory 23.57 306 eP **P 21 01 47.9 -0.9**
KHC Kasperske Hory 23.57 306 eP **P 21 01 47.7 -1.1**
KHC Kasperske Hory 23.57 306 eP **P 21 01 47.7 -1.1**
BRVK Borovoye 23.64 44⇓eP **P 21 01 50.7 +1.3**
BRVK pmax pmax
comp=Z,45nm,1.2s
BRVK Borovoye 23.64 44 eP **P 21 01 50.2 +0.8**
BRVK Borovoye 23.64 44 eP **P 21 01 50.2 +0.8**
BVAR Borovoye Array 23.68 44 P **P 21 01 50.1 +0.3**
comp=Z,5.5nm,1.1s,baz=238,slow=8.5,SNR=7.2
ABTA Abfaltersbach 23.77 300 iP pP 21 01 52.3 -1.1
comp=Z,13nm,1.3s
ABTA Abfaltersbach 23.77 300 P pP 21 01 52.3 -1.1
comp=Z,13nm,1.3s
WET Wettzell 24.01 306 P **P 21 01 51.5 -1.6**
WET pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 24.11 70 P **P 21 01 55.0 +0.8**
comp=Z,2.7nm,0.9s,baz=254,slow=14,SNR=3.2
AAK Ala-Archa 24.11 70 P **P 21 01 55.0 +0.8**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 24.11 70 P **P 21 01 55.0 +0.8**
WTTA Wattenberg 24.44 301 iP **P 21 01 57.4 +0.2**
comp=Z,30nm,1.1s
WTTA Wattenberg 24.44 301 P **P 21 01 57.4 +0.2**
comp=Z,30nm,1.1s
WATA Walderalm 24.49 301 iP pP **P 21 01 58.3 +0.7**
comp=Z,23nm,1.0s
WATA Walderalm 24.49 301 P **P 21 01 58.3 +0.7**
comp=Z,23nm,1.0s
CLL Collm 24.57 311 eP **P 21 01 59.0 +0.9**
CLL i 21 02 00.9
CLL Collm 24.57 311 eP **P 21 01 59.0 +0.9**

CLL i sP **pP 21 02 00.9 +0.1**
comp=Z,65nm,2.1s
NKC Novy Kostel 24.57 308 eP **P 21 01 58.6 +0.4**
NKC Novy Kostel 24.57 308 eP **P 21 01 58.6 +0.4**
NKC Novy Kostel 24.57 308 P **P 21 01 58.6 +0.4**
MOTA Moosalm 24.81 301 iP **P 21 02 01.2 +0.6**
comp=Z,21nm,0.8s
MOTA Moosalm 24.81 301 P **P 21 02 01.2 +0.6**
comp=Z,21nm,0.8s
FETA Feichten 25.02 300 iP **P 21 02 00.4 -2.0**
comp=Z,8.8nm,1.0s
FETA Feichten 25.02 300 P **P 21 02 00.4 -2.0**
comp=Z,8.8nm,1.0s
RETA Reutte 25.06 301 iP **P 21 02 02.0 -0.7**
comp=Z,9.0nm,1.1s
RETA Reutte 25.06 301 P **P 21 02 02.0 -0.7**
comp=Z,9.0nm,1.1s
FINES FINESS Array B 25.16 341 P **P 21 02 02.7 -0.6**
comp=Z,7.1nm,0.9s,baz=143,slow=12,SNR=12
GRF Grafenberg Arr 25.20 306 P **P 21 02 05.1 +1.3**
GRF pmax pmax
comp=Z,79nm,1.0s
GRFO Grafenberg 25.20 306 eP **P 21 02 03.8 0.0**
GRFO Grafenberg 25.20 306 eP **P 21 02 03.8 0.0**
GRFO Grafenberg 25.20 306 eP **P 21 02 03.8 0.0**
JOF Joensuu 25.35 347 P **P 21 02 05.0 0.0**
JOF pmax pmax
comp=Z,33nm,1.3s
KSH Kashi 25.49 78 P **P 21 02 03.3 -3.4**
KSH pP pP 21 02 09.3 -0.1
KSH sP sP 21 02 12.4 +1.9
KSH pmax pmax
comp=Z,190nm,2.6s
KSH pmax pmax
comp=Z,3μm,6.1s
DAVOX Davos/Dischmat 25.56 299 P **P 21 02 07.1 -0.3**
comp=Z,7.8nm,0.8s,baz=127,slow=7.7,SNR=9.2
DAVA Damuels 25.63 301 epP **P 21 02 08.0 +0.1**
comp=Z,6.5nm,0.8s
DAVA Damuels 25.63 301 P **P 21 02 08.0 +0.1**
comp=Z,6.5nm,0.8s
VSL Villasalto 26.09 283 eP **P 21 02 09.6 -2.5**
BFO Black Forest 26.80 303 iP **P 21 02 13.5 -4.9**
KEST Kesra 26.94 274 P **P 21 02 21.1 +1.3**
comp=Z,3.9nm,0.9s,baz=312,slow=8.7,SNR=3.8
KURBB Kurchatov Arra 27.68 53 P **P 21 02 26.6 +0.4**
comp=Z,2.9nm,0.8s,baz=263,slow=9.1,SNR=10.0
KURK Kurchatov 27.75 53⇓eP **P 21 02 28.4 +1.6**
KURK pmax pmax
comp=Z,252nm,3.1s
KURK Kurchatov 27.75 53 P **P 21 02 26.6 -0.2**
KURK Kurchatov 27.75 53 P **P 21 02 26.6 -0.2**
HFS Hagfors 28.38 329 P **P 21 02 31.2 -1.1**
comp=Z,12nm,0.9s,baz=131,slow=6.6,SNR=8.5
MKAR Makanchi Array 29.70 61 P **P 21 02 44.2 -0.1**
comp=Z,2.7nm,0.9s,baz=266,slow=6.9,SNR=7.1
MKAR Makanchi Array 29.70 61 P **P 21 02 44.2 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 29.90 329 P **P 21 02 44.3 -1.6**
comp=Z,1.3nm,0.7s,baz=124,slow=8.5,SNR=3.6
ZALV Zalesovo Beam 32.13 48 P **P 21 03 07.4 +1.8**
comp=Z,1.3nm,0.8s,baz=271,slow=7.3,SNR=3.7
ARCES ARCESS Array B 32.37 349 P **P 21 03 10.5 +3.0**
comp=Z,1.8nm,0.7s,baz=148,slow=10,SNR=5.7
EKA Eskdalemuir Ar 34.93 314 P **P 21 03 29.6 -0.4**
comp=Z,9.3nm,0.6s,baz=104,slow=8.8,SNR=14
TAM Tamanrasset 35.65 255 eP **P 21 03 36.7 0.0**
TAM Tamanrasset 35.65 255 eP **P 21 03 36.7 0.0**
TAM Tamanrasset 35.65 255 eP **P 21 03 36.7 0.0**
ESDC Sonseca Array 36.16 287 P **P 21 03 39.5 -1.3**
comp=Z,3.3nm,0.8s,baz=73,slow=8.5,SNR=7.7
NRIK Noril'sk 38.78 23 P **P 21 04 02.9 +0.3**
comp=Z,1.4nm,0.4s,baz=136,slow=9.9,SNR=3.0
MDT Midelt 38.80 276 P **P 21 04 03.1 -0.2**
comp=Z,3.7nm,1.0s,baz=70,slow=10,SNR=3.7
LSA Lhasa 40.38 88 eP **P 21 04 16.5 -0.4**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 40.38 88 eP **P 21 04 16.5 -0.4**
comp=Z,8.2nm,0.8s
LSA Lhasa 40.38 88 eP **P 21 04 16.5 -0.4**
comp=Z,8.2nm,0.8s
GTA Gaotai 43.46 70 eP **P 21 04 42.5 +0.9**
GTA pP sP 21 04 49.8 +4.4
GTA sP pP 21 04 53.3 +8.9
GTA pmax pmax
comp=Z,5.0nm,1.2s
TORD Torodi Ar. Bea 44.51 247 P **P 21 04 48.8 -1.3**
comp=Z,1.8nm,1.0s,baz=27,slow=7.0,SNR=5.7
SONM Songino Array 45.87 57 P **P 21 05 04.1 +3.4**
comp=Z,0.3nm,0.6s,baz=282,slow=7.2,SNR=3.1
ULN Ulaanbaatar 46.30 57⇑eP **P 21 05 05.6 +1.5**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 46.30 57 eP **P 21 05 02.9 -1.2**
comp=Z,2.8nm,0.8s
ULN Ulaanbaatar 46.30 57 eP **P 21 05 02.9 -1.2**
comp=Z,2.8nm,0.8s
CHTO Chiang Mai 52.01 96 P **P 21 05 47.5 -0.5**
comp=Z,42nm,0.8s
CHTO Chiang Mai 52.01 96 eP **P 21 05 47.0 -1.0**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 52.01 96 eP **P 21 05 47.0 -1.0**
comp=Z,5.3nm,0.7s
CHTO Chiang Mai 52.01 96 eP **P 21 05 47.0 -1.0**
comp=Z,5.3nm,0.7s
CMAR Chiang Mai Arr 52.22 96 P **P 21 05 48.4 -1.2**
comp=Z,4.9nm,0.8s,baz=297,slow=8.2,SNR=29
NANT Nan 53.39 95 P **P 21 06 00.3 +2.1**
comp=Z,3.3nm,0.9s
DBIC Dimbokro 53.62 246 P **P 21 05 57.5 -2.4**
comp=Z,6.4nm,1.1s,baz=126,slow=11,SNR=2.5
UTTA Uttaradit 53.88 96 P **P 21 06 04.8 +3.0**
comp=Z,2.2nm,0.8s
UTHA Uthaitani 54.29 99 P **P 21 06 05.1 +0.3**
comp=Z,3.5nm,0.9s
PBKT Sadao Pong 54.88 97 P **P 21 06 09.0 -0.1**
comp=Z,1.1nm,1.0s
PHET Kaeng Krachan 56.02 101 P **P 21 06 18.0 +0.6**
comp=Z,4.2nm,1.0s
CHAI Chaiyaphum 56.06 97 P **P 21 06 21.5 +3.9**
comp=Z,2.3nm,0.7s
KHON Khomkaen 56.46 96 P **P 21 06 21.2 +0.8**
USRK Ussuriysk Ar. 63.74 53 P **P 21 07 11.1 +1.0**
comp=Z,0.8nm,0.5s,baz=251,slow=9.0,SNR=3.0
SEY Seymchan 64.26 29⇑iP **P 21 07 13.6 +0.4**
KSAR Wonju Array Be 64.36 62 P **P 21 07 13.9 -0.4**
KSAR Wonju Array Be 64.36 62 P **P 21 07 13.9 -0.4**
KSAR Wonju Array Be 64.36 62 P **P 21 07 13.9 -0.4**
KSRS Korea Array 64.39 62 P **P 21 07 13.9 -0.5**
comp=Z,3.4nm,0.7s,baz=289,slow=6.3,SNR=11
BOSA Boshof 68.93 197 P **P 21 07 42.2 -1.3**
comp=Z,2.4nm,0.8s,baz=69,slow=7.9,SNR=3.1
MJAR Matsushiro Arr 71.82 58 P **P 21 07 59.4 -1.7**
comp=Z,1.1nm,0.8s,baz=330,slow=4.3,SNR=4.1
ILAR Eielson Array 76.64 4 P **P 21 08 29.6 +0.8**
comp=Z,0.4nm,0.8s,baz=328,slow=3.2,SNR=3.1

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*ISK **23** 21:00:06.6, 38°.68N×43°.21E, h5km, ML3.6*
*DDA **23** 21:00:08.2, 38°.68N×43°.12E, h7km, Ml3.7*
*CSEM **23** 21:00:09.2±0.3, 38°.66N×43°.05E, h2km, ML3.7, Error ellipse: s-maj=6.8km s-min=5.6km az=125.0*
*AZER **23** 21:00:14.3±5.6, 38°.87N×43°.21E, h7km, Error ellipse: s-maj=44.3km s-min=40.1km az=37.0*

ISC 23 21:00:08.4±1.1, 38°.67N±0°.02×43°.13E±0°.03, h3km±11km, n60, σ1.9/49/74, 4C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.36**	**189**	*i* P	**Pg**	**21 00 14.3**	**-1.1**
GEVA				*i* S	**Sg**	**21 00 21.5**	**+1.4**
GEVA	**Gevas**	**0.36**	**189**	P	**Pg**	**21 00 14.3**	**-1.1**
GEVA				S	**Sg**	**21 00 21.5**	**+1.4**
AGRB	**Hanur-Agry**	**0.91**	**353**	*e*PG	**Pg**	**21 00 24.6**	**-1.3**
AGRB				*e*SG	**Sg**	**21 00 38.9**	**+1.1**
AGRB	**Hanur-Agry**	**0.91**	**353**	*e*Pg	**Pg**	**21 00 24.6**	**-1.3**
AGRB				*e*Sg	**Sg**	**21 00 38.9**	**+1.1**
DYDN	**Diyadin**	**0.98**	**26**	*i* P	**Pg**	**21 00 27.1**	**-0.1**
DYDN	**Diyadin**	**0.98**	**26**	P	**Pg**	**21 00 27.1**	**-0.1**
EKAR	**Karacoban**	**1.02**	**306**	*i* P	**Pg**	**21 00 28.3**	**+0.4**
EKAR	**Karacoban**	**1.02**	**306**	P	**Pg**	**21 00 28.3**	**+0.4**
EATA	**Eleskirt**	**1.29**	**338**	*i* P	**Pn**	**21 00 32.2**	**-1.5**

EATA	Eleskirt	1.29 338	P		Pn	21 00 32.2	-1.5
SIRN	S¨–rnak	1.30 206	*i* P		Pn	21 00 32.9	-0.7
SIRN	S¨–rnak	1.30 206	P		Pn	21 00 32.9	-0.7
VRTB	Varto-Mus	1.39 291	*e*PN		Pn	21 00 34.3	-0.7
VRTB			*e*SN		Sg	21 00 56.3	+3.1
VRTB	Varto-Mus	1.39 291	*i* P		Pn	21 00 34.4	-0.5
VRTB	Varto-Mus	1.39 291	P		Pn	21 00 34.4	-0.5
VRTB			*e*Sn		Sg	21 00 56.3	+3.1
CUKT	Cukurca	1.47 165	*e*PN		Pn	21 00 35.5	-0.4
CUKT	Cukurca	1.47 165	*i* P		Pn	21 00 36.1	+0.2
CUKT	Cukurca	1.47 165	*e*Pn		Pn	21 00 35.5	-0.4
CUKT	Cukurca	1.47 165	P		Pn	21 00 36.1	+0.2
BNGL	BINGOL	1.57 281	*i* P		Pn	21 00 37.6	+0.2
SVAN	Silvan-Diyarba	1.60 252	*e*PN		Pn	21 00 37.3	-0.4
SVAN	Silvan-Diyarba	1.60 252	*i* P		Pn	21 00 38.2	+0.5
SVAN	Silvan-Diyarba	1.60 252	*e*Pn		Pn	21 00 37.3	-0.4
SVAN	Silvan-Diyarba	1.60 252	P		Pn	21 00 38.2	+0.5
BTMN	Batman	1.66 243	*i* P		Pn	21 00 39.7	+1.3
BTMN	Batman	1.66 243	P		Pn	21 00 39.7	+1.3
HOMI	Horasan	1.67 326	*i* P		Pn	21 00 39.4	+0.6
DIGO	Kars	1.75 6	*i* P		Pn	21 00 40.7	+0.7
DIGO	Kars	1.75 6	P		Pn	21 00 40.7	+0.7
ERZM	Erzurum	1.84 313	*i* P		Pn	21 00 42.9	+1.7
ERZM	Erzurum	1.84 313	P		Pn	21 00 42.9	+1.7
NAX	Nakhchivan	1.91 74	⇓P		Pg	21 00 45.4	+0.3
NAX			⇑S		Sg	21 01 10.4	+0.5
NAX	Nakhchivan	1.91 74	P		Pg	21 00 45.4	+0.3
NAX			S		Sg	21 01 10.4	+0.5
ECAT	Cat-ERZURUM	1.92 300	*i* P		Pn	21 00 43.9	+1.7
ECAT	Cat-ERZURUM	1.92 300	P		Pn	21 00 43.9	+1.7
BNGB	Bing¶‖	1.94 280	*e*PN		Pn	21 00 43.1	+0.7
SENK	Senkaya-Erzuru	1.98 343	*e*PN		Pn	21 00 43.6	+0.5
SENK	Senkaya-Erzuru	1.98 343	*e*Pn		Pn	21 00 43.6	+0.5
EAK	Akyaka	2.05 10	*i* P		Pg	21 00 47.4	-0.4
EAK	Akyaka	2.05 10	P		Pg	21 00 47.3	-0.4
BINT	Bingol	2.07 277	*e*Pn		Pn	21 00 43.1	-1.2
YEDI	Yedisu-Bingol	2.15 292	*e*PN		Pn	21 00 45.6	+0.2
YEDI	Yedisu-Bingol	2.15 292	*e*Pn		Pn	21 00 45.6	+0.2
MAZI	Mazidag	2.44 241	*e*PN		Pn	21 00 50.0	+0.8
MAZI	Mazidag	2.44 241	*e*Pn		Pn	21 00 50.0	+0.8
DIYA	Diyarbakir	2.48 253	*i* P		Pn	21 00 52.7	+2.9
AKH	Akhalkalaki	2.75 6	*e*PN		Pn	21 00 52.4	-1.2
AKH	Akhalkalaki	2.75 6	*e*Pn		Pn	21 00 52.4	-1.2
GDB	GEDABAY	2.88 44	⇓P		Pb	21 00 58.9	-1.7
GDB			⇓S		Sb	21 01 32.8	-3.5
GDB	GEDABAY	2.88 44	P		Pb	21 00 58.9	-1.7
GDB			S		Sb	21 01 32.8	-3.5
PTK	Pertek	2.93 276	*e*PN		Pn	21 00 57.1	+1.0
PTK	Pertek	2.93 276	*e*Pn		Pn	21 00 57.1	+1.0
QZX	Qazax, Azerbai	2.95 35	⇑P		Pn	21 00 58.3	+2.1
QZX			⇓S		Sn	21 01 33.6	+1.5
QZX	Qazax, Azerbai	2.95 35	P		Sn	21 00 58.3	+2.1
QZX			S		Sn	21 01 33.6	+1.5
SVRC	Sivrice-ELAZID	3.01 266	*e*PN		Pn	21 00 57.9	+0.7
SVRC	Sivrice-ELAZID	3.01 266	*e*Pn		Pn	21 00 57.9	+0.7
GANJ	Ganja	3.16 50	⇑P		Pn	21 01 01.2	+2.1
GANJ			⇑S		Sn	21 01 38.2	+0.9
GANJ	Ganja	3.16 50	P		Pn	21 01 01.2	+2.1
GANJ			S		Sn	21 01 38.2	+0.9
LRK	Lerik	4.08 89	⇓P		Pn	21 01 15.5	+3.6
LRK	Lerik	4.08 89	P		Pn	21 01 15.5	+3.6

*IDC **23** 21:04:35.9±13.0, 18.°95S×176.°95W, h313km±123km, mb3.7/6, mb1 4.0/6, mb1mx3.4/34, mbtmp4.4/6, MS3.4/1, Ms1 3.4/1, ms1mx3.0/27, Error ellipse: s-maj=62.6km s-min=37.3km az=143.0*
*ISCJB **23** 21:04:34.8±1.4, 18.°9S±0.°4×177.°1W±0.°3, h344km, mb3.8/6, Error ellipse: s-maj=61.9km s-min=19.6km az=144.8*
ISC 23 21:04:38.8±1.5, 19.°0S±0.°4×177.°0W±0.°3, h344km, n21, σ1§24/20, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.11	45	LR	LR	21 08 33.2	
	comp=Z,247nm,18.7s,baz=141,slow=34						
STKA	Stephens Creek	39.31	243	P	P	21 11 35.6	-0.1
	1.6nm,0.8s,baz=95,slow=12,SNR=3.6						
WRA	Warramunga Arr	45.77	260	P	P	21 12 27.5	+0.1
	7.2nm,0.4s,baz=98,slow=6.2,SNR=139						
ASAR	Alice Springs	45.80	255	P	P	21 12 27.9	+0.2
	29nm,0.6s,baz=91,slow=8.2,SNR=352						
PETK	Petropavlovsk-	75.07	345	P	P	21 15 43.6	+0.4
	2.0nm,0.7s,baz=93,slow=11,SNR=5.3						
TXAR	Lajitas Array	85.45	57	P	P	21 16 39.1	+0.3
	0.6nm,0.8s,baz=216,slow=8.5,SNR=6.6						
ILAR	Eielson Array	86.64	12	P	P	21 16 43.0	-0.6
	0.6nm,0.8s,baz=201,slow=4.3,SNR=4.5						
CLL	Collm	146.80	349	*i* (PKP)	PKPbc	21 23 41.1	+0.5
GERES	GERESS Array B	148.99	346	PKPbc	PKPbc	21 23 46.7	-0.2
	0.6nm,0.5s,baz=38,slow=2.4,SNR=6.9						
ARSA	Arzberg	150.01	343	*i* PKiKP	PKPbc	21 23 48.7	-0.3
	1.7nm,1.0s						
SOKA	Soboth	150.67	343	*i* PKiKP	PKPbc	21 23 50.2	-0.4
	3.0nm,0.9s						
KBA	Koelnbreinsper	150.73	345	*i* PKiKP	PKPbc	21 23 50.2	-0.7
	2.3nm,0.4s						
WATA	Walderalm	150.87	348	*i* PKiKP	PKPbc	21 23 50.9	-0.2
	1.9nm,0.4s						
RETA	Reutte	150.88	349	*i* PKiKP	PKPbc	21 23 48.8	-2.2
	9.4nm,1.6s						
WTTA	Wattenberg	150.93	348	*i* PKiKP	PKPbc	21 23 50.8	-0.5
	8.2nm,0.8s						
MOTA	Moosalm	150.95	349	*i* pPKiKP	PKPbc	21 23 55.4	+4.1
	1.7nm,0.6s						
MYKA	Terra Mystica	151.08	345	*i* PKiKP	PKPbc	21 23 50.0	-1.5
	2.8nm,0.6s						
DAVA	Damuels	151.22	350	*i* PKiKP	PKiKP	21 23 52.5	+0.1
	1.9nm,0.5s						
ABTA	Abfaltersbach	151.24	346	*i* PKiKP	PKPbc	21 23 51.2	-0.7
	4.0nm,0.5s						
FETA	Feichten	151.34	349	*i* PKiKP	PKPbc	21 23 52.5	+0.2
	5.0nm,1.1s						
DAVOX	Davos/Dischmat	151.72	350	PKPbc	PKPbc	21 23 53.4	+0.3
	4.2nm,0.5s,baz=264,slow=3.9,SNR=14						

*DDA **23** 21:07:11.3, 38.°66N×43.°17E, h7km, Ml3.9*
*ISK **23** 21:07:12.4, 38.°74N×43.°14E, h9km, ML3.3*
*CSEM **23** 21:07:13.1±0.2, 38.°69N×43.°03E, h2km, ML3.9, Error ellipse: s-maj=6.7km s-min=4.9km az=168.0*
*AZER **23** 21:07:18.2±2.2, 38.°45N×43.°44E, h7km, Error ellipse: s-maj=14.4km s-min=13.3km az=47.0*
ISC 23 21:07:11.5±0.8, 38.°69N±0.°02×43.°18E±0.°02, h0km±8km, n76, σ1§71/81, 8C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.39 194	*i* P		Pg	21 07 19.0	0.0
GEVA	Gevas	0.39 194	P		Pg	21 07 19.0	0.0
AGRB	Hanur-Agry	0.90 351	*e*PG		Pg	21 07 29.1	+0.4
AGRB			*e*SG		Sg	21 07 41.5	+1.1
AGRB	Hanur-Agry	0.90 351	*e*Pg		Pg	21 07 29.1	+0.4
AGRB			*e*Sg		Sg	21 07 41.5	+1.1
DYDN	Diyadin	0.94 25	*i* P		Pg	21 07 29.9	+0.4
DYDN	Diyadin	0.94 25	P		Pg	21 07 29.9	+0.4
EKAR	Karacoban	1.04 303	*i* P		Pb	21 07 31.9	-0.6
EKAR	Karacoban	1.04 303	P		Pb	21 07 31.9	-0.6
HAKT	HAKKARI	1.20 160	*i* P		Pg	21 07 33.6	-1.0
EATA	Eleskirt	1.29 336	*i* P		Pn	21 07 36.0	-1.1
EATA	Eleskirt	1.29 336	P		Pn	21 07 36.0	-1.1
VRTB	Varto-Mus	1.43 290	*e*PN		Pg	21 07 38.7	-0.1
VRTB			*e*SN		Sg	21 07 57.5	+0.2
VRTB	Varto-Mus	1.43 290	*i* P		Pb	21 07 38.3	-0.7
VRTB	Varto-Mus	1.43 290	P		Pb	21 07 38.3	-0.7
VRTB	Varto-Mus	1.43 290	*e*Pn		Pg	21 07 38.7	-0.1
VRTB			*e*Sn		Sg	21 07 57.5	+0.2
CUKT	Cukurca	1.48 167	*e*PN		Pg	21 07 40.8	+1.0
CUKT	Cukurca	1.48 167	*i* P		Pg	21 07 40.9	+1.0
CUKT	Cukurca	1.48 167	P		Pg	21 07 40.9	+1.1
BNGL	BINGOL	1.61 280	*i* P		Pb	21 07 41.6	-0.6
SVAN	Silvan-Diyarba	1.65 252	*e*PN		Pb	21 07 41.9	-0.9
SVAN			*e*SN		Sg	21 08 03.5	-0.9
SVAN	Silvan-Diyarba	1.65 252	*e*Pn		Pb	21 07 41.9	-0.9
SVAN			*e*Sn		Sg	21 08 03.5	-0.9
HOMI	Horasan	1.68 324	*i* P		Pb	21 07 43.1	-0.2
BTMN	Batman	1.70 243	*i* P		Pb	21 07 42.8	-0.9
BTMN	Batman	1.70 243	P		Pb	21 07 42.8	-0.9
DIGO	Kars	1.73 5	*i* P		Pb	21 07 44.3	0.0
DIGO	Kars	1.73 5	P		Pb	21 07 44.3	0.0
ERZM	Erzurum	1.86 311	*i* P		Pb	21 07 46.3	-0.2
ERZM	Erzurum	1.86 311	P		Pb	21 07 46.3	-0.2
NAX	Nakhchivan	1.87 74	⇑P		Pg	21 07 47.2	-0.2
	SNR=5.3						
NAX			⇑S		Sg	21 08 11.4	-0.2
NAX	Nakhchivan	1.87 74	P		Pg	21 07 47.2	-0.2
	SNR=5.3						
NAX			S		Sg	21 08 11.4	-0.2
ECAT	Cat-ERZURUM	1.94 299	*i* P		Pb	21 07 47.4	-0.5
ECAT	Cat-ERZURUM	1.94 299	P		Pb	21 07 47.4	-0.5
SENK	Senkaya-Erzuru	1.98 341	*e*PN		Pn	21 07 46.0	-0.4
SENK	Senkaya-Erzuru	1.98 341	*e*Pn		Pn	21 07 46.0	-0.4
BNGB	Bing¶‖	1.98 280	*e*PN		Pb	21 07 46.7	-1.7
BINT	Bingol	2.11 276	*e*Pn		Pn	21 07 46.7	-1.5
YEDI	Yedisu-Bingol	2.18 291	*e*PN		Pn	21 07 49.4	+0.1
YEDI	Yedisu-Bingol	2.18 291	*e*Pn		Pn	21 07 49.4	+0.1
MAZI	Mazidag	2.48 241	*e*PN		Pn	21 07 52.3	-1.0
MAZI	Mazidag	2.48 241	*e*Pn		Pn	21 07 52.3	-1.0
DIYA	Diyarbakir	2.53 253	*i* P		Pb	21 07 56.5	-1.2
AKH	Akhalkalaki	2.73 5	*e*PN		Pn	21 07 56.8	+0.1
AKH	Akhalkalaki	2.73 5	*e*Pn		Pn	21 07 56.8	+0.1
GDB	GEDABAY	2.84 44	⇑P		Pb	21 08 04.4	+1.3
GDB			⇓S		Sb	21 08 40.0	+1.5
GDB	GEDABAY	2.84 44	P		Pb	21 08 04.4	+1.3
GDB			S		Sb	21 08 40.0	+1.5
QZX	Qazax, Azerbai	2.91 35	⇓P		Pg	21 08 06.5	-0.7
QZX			⇓S		Sg	21 08 44.0	-0.8
PTK	Pertek	2.97 275	*e*PN		Pn	21 08 00.6	+0.6
PTK	Pertek	2.97 275	*e*Pn		Pn	21 08 00.6	+0.6
SVRC	Sivrice-ELAZID	3.05 265	*e*PN		Pn	21 08 01.7	+0.5
SVRC	Sivrice-ELAZID	3.05 265	*e*Pn		Pn	21 08 01.7	+0.5
GANJ	Ganja	3.11 50	⇓P		Pb	21 08 08.4	+0.6
GANJ	Ganja	3.11 50	P		Pb	21 08 08.4	+0.6
BRDA	Brd	3.47 62	⇓S		Sb	21 08 53.2	-3.3
BRDA	Brd	3.47 62	S		Sb	21 08 53.2	-3.3
MNGR	Mingechevir, A	3.66 54	⇓S		Sb	21 08 58.7	-3.2
MNGR	Mingechevir, A	3.66 54	S		Sb	21 08 58.7	-3.2
ZRD	Zardab	3.83 64	⇑S		Sb	21 09 02.2	-4.6
ZRD	Zardab	3.83 64	S		Sb	21 09 02.2	-4.6
ZKTA	Zakatala	3.95 41	⇓S		Sb	21 09 08.8	-1.6
SEKA	Sheki	3.98 50	⇑S		Sb	21 09 10.0	-1.3
LRK	Lerik	4.04 89	⇓P		Pn	21 08 17.5	+2.8
LRK			⇓S		Sn	21 09 05.0	+2.2
LRK	Lerik	4.04 89	P		Pn	21 08 17.5	+2.8
LRK			S		Sn	21 09 05.0	+2.2
LKRN	Lenkeran, Azer	4.38 88	⇓S		Sn	21 09 13.0	+2.0
LKRN	Lenkeran, Azer	4.38 88	S		Sn	21 09 13.0	+2.0
IML	Ismayilli	4.39 60	⇑P		Pb	21 08 24.4	-5.1
IML	Ismayilli	4.39 60	P		Pb	21 08 24.4	-5.1
ASTR	Astara	4.40 90	⇓P		Pn	21 08 22.6	+3.1
ASTR	Astara	4.40 90	P		Pn	21 08 22.6	+3.1
XNQ	Khinaliq	4.55 55	⇓P		Pb	21 08 27.3	-5.0
XNQ	Khinaliq	4.55 55	P		Pb	21 08 27.3	-5.0
PQL	Pirkuli	4.67 62	⇑S		Sn	21 09 23.1	+4.8
PQL	Pirkuli	4.67 62	S		Sn	21 09 23.1	+4.8
QSAR	Qusar	4.81 52	⇓P		Pn	21 08 30.2	+5.0
QSAR	Qusar	4.81 52	P		Pn	21 08 30.2	+5.0
ATGJ	Altiaghaj	4.94 62	⇑P		Pn	21 08 31.8	+4.7
ATGJ	Altiaghaj	4.94 62	P		Pn	21 08 31.8	+4.8

*ISCJB **23** 21:07:22.9±0.8, 32.°25N±0.°05×115.°23W±0.°07, h22km±8km, Error ellipse: s-maj=11.2km s-min=5.9km az=148.6*
*ECX **23** 21:07:24.4±0.6, 32.°21N×115.°26W, h6km, MD2.3, ML2.5*
*MEX **23** 21:07:24.4±0.3, 32.°32N×115.°11W, h24km±5km, MD3.7*
ISC 23 21:07:22.3±1.3, 32.°29N±0.°06×115.°20W±0.°08, h29km±9km, n11, σ0§55/18, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.12 359		*e*P	Pb	21 07 27.9	+0.3
MBIG				*e*S	Sb	21 07 30.6	-0.6
CPBX	Cerro Prieto	0.16 325		⇑*e*P	Pn	21 07 28.0	-0.8
CPBX				*e*S	Sb	21 07 31.9	0.0
CPBX				IAML		21 07 33.2	
	comp=E,4μm,0.2s						
CPBX				*e*		21 07 33.2	
CPBX				⇑*e*		21 07 33.4	
CPBX				IAML		21 07 33.4	
	comp=N,2μm,0.2s						
WESC	Westside Schoo	0.66 316		*e*P	Pn	21 07 36.4	+0.8
ECBX	El Chinero	0.82 171		⇓*e*P	Pn	21 07 37.6	-0.3
ECBX				*e*S	Sb	21 07 47.9	-0.7
ECBX				⇑*e*		21 07 49.1	
ECBX				IAML		21 07 49.1	
	comp=E,135nm,0.2s						
IKP	In-Ko-Pah, Jac	0.85 295		⇑*e*P	Pb	21 07 38.9	+0.2
CBX	Cerro Bola	1.24 272		*e*P	Pb	21 07 44.7	-0.5
CBX				*e*S	Sn	21 07 59.9	+0.1
CBX	Cerro Bola	1.24 272		*e*P	Pb	21 07 45.2	0.0
CBX				*e*S	Sb	21 08 00.9	0.0
SPIG	San Pedro Mart	1.26 191		*e*P	Pn	21 07 44.5	+0.3
SPIG				*e*S	Sn	21 08 00.7	+0.4
SPIG	San Pedro Mart	1.26 191		⇓*e*P	Pn	21 07 44.7	+0.5
SPX	San Pedro Mart	1.26 191		⇓*e*P	Pn	21 07 44.7	+0.5
TJIG	Tijuana	1.26 277		*e*P	Pb	21 07 44.7	-0.8
TJIG				*e*S	Sn	21 08 00.5	+0.5

*ISK **23** 21:08:51.8, 38.°80N×43.°38E, h2km, ML3.0*
*AZER **23** 21:08:51.5±5.3, 38.°27N×43.°51E, h7km, Error ellipse: s-maj=40.7km s-min=27.6km az=78.0*
*CSEM **23** 21:08:53.5±0.3, 38.°77N×43.°25E, h2km, ML3.0, Error ellipse: s-maj=7.5km s-min=5.7km az=153.0*
ISC 23 21:08:51.8±1.3, 38.°78N±0.°03×43.°40E±0.°03, h1km±12km, n29, σ1§48/44, 8C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.85 338		*e*PG	Pg	21 09 08.5	+0.3
AGRB				*e*SG	Sb	21 09 21.1	-0.6
AGRB	Hanur-Agry	0.85 338		*e*Pg	Pg	21 09 08.5	+0.3
AGRB				*e*Sg	Sb	21 09 21.1	-0.6
CUKT	Cukurca	1.54 174		*e*PN	Pg	21 09 21.5	+0.1
CUKT				*e*SN	Sn	21 09 43.1	+1.7
CUKT	Cukurca	1.54 174		*e*Pn	Pg	21 09 21.5	+0.1
CUKT				*e*Sn	Sn	21 09 43.1	+1.7
VRTB	Varto-Mus	1.56 285		*e*PN	Pn	21 09 21.1	+0.2
VRTB	Varto-Mus	1.56 285		*e*Pn	Pn	21 09 21.2	+0.2
NAX	Nakhchivan	1.68 76		⇓P	Pn	21 09 21.3	-1.1
NAX				⇑S	Sg	21 09 48.2	+2.5
NAX	Nakhchivan	1.68 76		P	Pn	21 09 21.3	-1.1
NAX				S	Sg	21 09 48.2	+2.5
SVAN	Silvan-Diyarba	1.84 251		*e*PN	Pn	21 09 25.0	+0.3
SVAN				*e*SN	Sb	21 09 49.6	-0.3
SVAN	Silvan-Diyarba	1.84 251		*e*Pn	Pn	21 09 25.0	+0.3
SVAN				*e*Sn	Sb	21 09 49.6	-0.3
SENK	Senkaya-Erzuru	1.95 336		*e*PN	Pn	21 09 27.1	+0.7
SENK	Senkaya-Erzuru	1.95 336		*e*Pn	Pn	21 09 27.1	+0.7
BNGB	Bing¶‖	2.14 276		*e*PN	Pn	21 09 29.7	+0.9
BINT	Bingol	2.28 273		*e*Pn	Pn	21 09 29.7	-1.1
YEDI	Yedisu-Bingol	2.32 287		*e*PN	Pn	21 09 32.3	+0.9
YEDI	Yedisu-Bingol	2.32 287		*e*Pn	Pn	21 09 32.3	+0.9
GDB	GEDABAY	2.65 42		⇑P	Pb	21 09 38.8	-1.5
GDB				⇑S	Sg	21 10 16.3	-0.7
GDB	GEDABAY	2.65 42		P	Pb	21 09 38.8	-1.5
GDB				S	Sg	21 10 16.3	-0.7
QZX	Qazax, Azerbai	2.73 33		⇓P	Pb	21 09 40.4	-1.1
QZX				⇓S	Sg	21 10 20.8	+1.2
QZX	Qazax, Azerbai	2.73 33		P	Pb	21 09 40.4	-1.1
GANJ	Ganja	2.92 49		⇑P	Pb	21 09 43.0	-1.8
GANJ				⇑S	Sb	21 10 21.0	0.0
GANJ	Ganja	2.92 49		P	Pb	21 09 43.0	-1.8
GANJ				S	Sb	21 10 21.0	0.0
BRDA	Brd	3.27 62		⇑P	Pn	21 09 46.3	+2.0
BRDA	Brd	3.27 62		P	Pn	21 09 46.3	+2.0
ZKTA	Zakatala	3.77 40		⇓P	Pb	21 09 55.4	-3.8
LRK	Lerik	3.86 91		⇑P	Pn	21 09 51.2	-1.4
LRK				⇑S	Sn	21 10 38.6	-0.1
LRK	Lerik	3.86 91		P	Pn	21 09 51.2	-1.4
LRK				S	Sn	21 10 38.6	-0.1
XNQ	Khinaliq	4.35 55		⇓P	Pn	21 10 02.4	+3.1
XNQ	Khinaliq	4.35 55		P	Pn	21 10 02.4	+3.1

MEX 23 21:10:25.1±0.5, 17.°86N×103.°18W, h3km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.45 340		*e*P	Pg	21 10 33.1	-0.6
MMIG				*e*S	Sg	21 10 40.1	+0.5
R15V		1.50 330		*e*P	Pn	21 10 49.7	-3.4
R15V				*e*S	Sn	21 11 07.9	-5.3
ARIG	Puente Sto Nin	2.73 81		*e*P	Pn	21 11 07.4	-2.5
ARIG				*e*S	Sn	21 11 39.4	-4.1

*ISK **23** 21:10:28.9, 38.°68N×43.°07E, h5km, ML3.3*
*DDA **23** 21:10:29.4, 38.°62N×43.°08E, h7km, Ml3.6*
*CSEM **23** 21:10:31.4±0.1, 38.°54N×42.°92E, h2km, ML3.6, Error ellipse: s-maj=4.8km s-min=3.2km az=162.0*
*ISCJB **23** 21:10:32.1±0.3, 38.°52N±0.°03×42.°95E±0.°02, h15km, Error ellipse: s-maj=4.6km s-min=2.5km az=165.0*
*AZER **23** 21:10:32.9±0.9, 38.°51N×43.°07E, h2km, Error ellipse: s-maj=9.6km s-min=7.8km az=105.0*
ISC 23 21:10:32.2±0.8, 38.°57N±0.°03×42.°95E±0.°03, h15km, n92, σ2§07/125, 17C-22D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.27 162		*i* P	Pg	21 10 35.7	-2.5
GEVA	Gevas	0.27 162		P	Pg	21 10 35.7	-2.5
EKAR	Karacoban	0.97 315		*i* P	Pb	21 10 49.6	-1.3
EKAR	Karacoban	0.97 315		P	Pb	21 10 49.6	-1.3
AGRB	Hanur-Agry	1.00 2		*e*PG	Pb	21 10 46.9	-4.6
AGRB				*e*SG	Sb	21 11 00.4	-4.1
DYDN	Diyadin	1.13 30		*i* P	Pb	21 10 49.1	-4.4
SIRN	S¨–rnak	1.16 202		*i* P	Pn	21 10 53.0	-0.9
SIRN	S¨–rnak	1.16 202		P	Pn	21 10 53.0	-0.9
HAKT	HAKKARI	1.18 149		*i* P	Pn	21 10 51.8	-2.6
HAKT	HAKKARI	1.18 149		P	Pn	21 10 51.8	-2.6
VRTB	Varto-Mus	1.31 297		*e*PN	Pn	21 10 55.3	-0.8
VRTB	Varto-Mus	1.31 297		*i* P	Pn	21 10 55.4	-0.7
VRTB	Varto-Mus	1.31 297		P	Pn	21 10 55.4	-0.7
EATA	Eleskirt	1.34 345		*i* P	Pn	21 10 54.1	-2.6
CUKT	Cukurca	1.42 158		*e*PN	Pn	21 10 57.9	+0.3
CUKT				*e*SN	Sg	21 11 18.9	+0.8
CUKT	Cukurca	1.42 158		*i* P	Pn	21 10 58.2	+0.6
CUKT	Cukurca	1.42 158		*e*Pn	Pn	21 10 57.9	+0.3
CUKT	Cukurca	1.42 158		P	Pn	21 10 58.2	+0.6
CUKT				*e*Sn	Sg	21 11 18.9	+0.8
SVAN	Silvan-Diyarba	1.44 254		*e*PN	Pb	21 10 58.6	-0.1
SVAN	Silvan-Diyarba	1.44 254		*i* P	Pb	21 10 58.9	+0.1
SVAN	Silvan-Diyarba	1.44 254		*e*Pn	Pb	21 10 58.7	-0.1
BNGL	BINGOL	1.46 286		*i* P	Pn	21 10 58.2	0.0
BTMN	Batman	1.49 243		*i* P	Pb	21 10 59.9	+0.2
BTMN	Batman	1.49 243		P	Pb	21 10 59.9	+0.2
HOMI	Horasan	1.68 331		*i* P	Pn	21 11 01.6	+0.2
ERZM	Erzurum	1.81 318		*i* P	Pn	21 11 04.1	+0.9
ERZM	Erzurum	1.81 318		P	Pn	21 11 04.1	+0.9
BNGB	Bing¶‖	1.82 284		*e*PN	Pn	21 11 03.3	+0.1
ECAT	Cat-ERZURUM	1.85 304		*i* P	Pb	21 11 05.0	-0.9
ECAT	Cat-ERZURUM	1.85 304		P	Pb	21 11 05.0	-0.9
DIGO	Kars	1.87 10		*i* P	Pn	21 11 03.6	-0.3
DIGO	Kars	1.87 10		P	Pn	21 11 03.6	-0.3
BINT	Bingol	1.95 280		*e*Pn	Pn	21 11 03.3	-1.6
SENK	Senkaya-Erzuru	2.04 347		*e*PN	Pn	21 11 04.8	-1.4
SENK	Senkaya-Erzuru	2.04 347		*e*Pn	Pn	21 11 04.8	-1.4
YEDI	Yedisu-Bingol	2.06 296		*e*PN	Pn	21 11 06.7	+0.2
YEDI	Yedisu-Bingol	2.06 296		*e*Pn	Pn	21 11 06.7	+0.2
NAX	Nakhchivan	2.08 72		⇓P	Pn	21 11 05.8	-0.8
NAX				⇑S	Sn	21 11 34.0	+1.8
NAX	Nakhchivan	2.08 72		P	Pn	21 11 05.8	-0.8
NAX				S	Sn	21 11 34.0	+1.8
MARD	Mardin	2.13 234		*i* P	Pn	21 11 08.9	+1.6
MAZI	Mazidag	2.27 241		*e*PN	Pn	21 11 11.0	+1.7
MAZI	Mazidag	2.27 241		*e*Pn	Pn	21 11 11.0	+1.7
DIYA	Diyarbakir	2.32 255		*i* P	Pb	21 11 12.7	-1.2
DIYA	Diy

s-min=3.8km az=30.2
*JMA **23** 21:11:17.3±0.3, 40°.42N×143°.59E, h20km±5km, M4.2*
*NEIC **23** 21:11:18.7±2.8, 40°.31N×143°.70E, h26km±20km, mb4.7/8, Error ellipse: s-maj=12.0km s-min=6.9km az=102.0*
ISC 23 21:11:15.2±3.3, 40°.39N±0°.04×143°.79E±0°.06, h7km±21km, n79, σ1§83/86, mb4.1/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	1.54	254	P	Pn	21 11 42.1	-1.0
JEM	**Erimo**	1.69	344	P	Pb	21 11 45.6	-1.1
MIYJ	**Miyakonagasawa**	1.71	242	P	Pn	21 11 44.9	-0.6
JANG	**Nango**	1.73	270	P	Pn	21 11 44.8	-1.0
JNBK	**Urakawa-nobuka**	2.04	338	P	Pn	21 11 50.6	+0.6
JTM	**Tenmabayashi**	2.11	282	P	Pn	21 11 50.8	-0.1
JOM	**Ohasama**	2.12	245	P	Pn	21 11 51.4	+0.3
JOM				eS	Sn	21 12 16.3	-1.5
JCH	**Churui**	2.25	352	P	Pn	21 11 53.4	+0.6
JCH				eS	Sn	21 12 19.9	-0.8
JOT	**Ohata**	2.30	296	P	Pn	21 11 53.3	-0.2
JOT				eS	Sn	21 12 19.0	-3.1
JMK	**Ichinoseki**	2.45	235	P	Pn	21 11 55.9	+0.4
JKB	**Kayabe**	2.56	307	P	Pn	21 11 57.2	+0.1
JAK	**Akkeshi**	2.69	14	P	Pn	21 11 59.9	+1.0
JAK				eS	Sn	21 12 31.5	-0.2
JAR	**Ashorobuto**	2.91	360	P	Pn	21 12 02.2	+0.3
JAR				eS	Sn	21 12 35.0	-2.0
JEW	**Eniwo**	3.01	325	P	Pn	21 12 04.9	+1.6
JEW				eS	Sn	21 12 39.7	+0.1
JYK	**Kaneyama**	3.03	242	P	Pn	21 12 04.2	+0.7
JYK				eS	Sn	21 12 39.2	-0.8
ASAJ	**Asahikawa**	3.83	347	Pn	Pn	21 12 16.4	+1.9
ASAJ	3.8nm,0.3s,baz=194,slow=11,SNR=24						
ASAJ				Sn	Sb	21 13 05.1	-4.5
ASAJ	5.6nm,0.3s,baz=122,slow=24,SNR=4.4						
ASAJ	**Asahikawa**	3.83	347	ePn	Pn	21 12 15.9	+1.4
ASAJ				eSn	Sb	21 13 05.1	-4.5
YUK	**Yuzh-Kuril'sk**	3.96	22	eP	Pn	21 12 18.1	+1.8
YUK				eS	Sn	21 13 01.2	-1.7
YUK				pmax	pmax		
	comp=N,100nm,0.6s						
YUK				pmax	pmax		
	comp=Z,201nm,0.6s						
YUK				pmax	pmax		
	comp=E,103nm,0.4s						
YUK				smax	smax		
	comp=N,281nm,0.4s						
YUK				smax	smax		
	comp=E,403nm,0.3s						
SHO	**Shikotan**	4.15	32	eP	Pn	21 12 19.8	+0.9
SHO				eS	Sn	21 13 04.3	-3.4
SHO				pmax	pmax		
	comp=E,65nm,0.4s						
SHO				pmax	pmax		
	comp=Z,130nm,0.4s						
SHO				pmax	pmax		
	comp=N,106nm,0.5s						
SHO				smax	smax		
	comp=N,178nm,0.3s						
SHO				smax	smax		
	comp=E,118nm,0.4s						
KUR	**Kuril'sk**	5.70	30	eP	Pn	21 12 44.2	+4.0
KUR				eS	Sn	21 13 43.4	-2.3
KUR				pmax	pmax		
	comp=N,63nm,0.3s						
KUR				pmax	pmax		
	comp=Z,86nm,0.3s						
KUR				pmax	pmax		
	comp=E,41nm,0.2s						
KUR				smax	smax		
	comp=N,99nm,0.5s						
KUR				smax	smax		
	comp=E,85nm,0.5s						
MAJO	**Matsushiro**	5.82	231	eP	Pn	21 12 43.8	+1.8
MAJO	**Matsushiro**	5.82	231	ePn	Pn	21 12 43.8	+1.8
MAT	**Matsushiro**	5.82	231	P	Pn	21 12 43.6	+1.6
MAT				eS	Sn	21 13 51.5	+2.5
MJAR	**Matsushiro Arr**	5.82	230	Pn	Pn	21 12 43.2	+1.3
	comp=E,1.8nm,0.3s,baz=43,slow=11,SNR=38						
MJB9	**Matsu-Tunnel**	5.82	231	ePn	Pn	21 12 44.1	+2.1
JHJ2	**Mitsune**	7.93	205	ePn	Pn	21 13 08.6	-2.3
JHJ	**Hachijo jima 2**	7.93	205	Pn	Pn	21 13 09.4	-1.6
	comp=E,20nm,0.3s,baz=69,slow=22,SNR=12						
JHJ				Sn	Sn	21 14 35.2	-5.8
	comp=E,4.6nm,0.3s,baz=253,slow=23,SNR=3.3						
USRK	**Ussuriysk Ar.**	9.53	297	Pn	Pn	21 13 32.9	0.0
	comp=E,0.6nm,0.3s,baz=101,slow=14,SNR=8.3						
KLR	**Kul'dur**	12.28	320	Pn	Pn	21 14 11.4	+1.0
	comp=E,0.0nm,0.3s,baz=93,slow=17,SNR=2.5						
JOW	**Kunigami**	18.66	228	eP	P	21 15 31.4	-2.4
	comp=E,99nm,2.0s						
SEY	**Seymchan**	23.16	10	P	P	21 16 23.0	+1.1
	comp=E,1.0nm,0.3s,baz=174,slow=4.7,SNR=4.1						
SEY	**Seymchan**	23.16	10	P	P	21 16 23.0	+1.1
SEY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SARN	**Sarigan**	23.67	175	eP	P	21 16 26.1	-1.3
SONA0	**Songino Array**	27.65	298	eP	P	21 17 03.6	0.0
	comp=Z,12nm,1.9s						
SONM	**Songino Array**	27.65	298	P	P	21 17 03.6	0.0
	comp=Z,0.7nm,0.5s,baz=92,slow=8.7,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	28.55	129	T	T	21 47 16.6	
	baz=322,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	28.56	129	T	T	21 47 15.4	
	baz=322,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	28.57	129	T	T	21 47 14.3	
	baz=322,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	29.40	131	T	T	21 48 20.4	
	baz=323,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	29.40	131	T	T	21 48 28.9	
	baz=323,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	29.41	131	T	T	21 48 24.5	
	baz=323,slow=76,SNR=20						
TIXI	**Tiksi**	32.22	351	P	P	21 17 44.2	+0.6
	comp=Z,0.6nm,0.4s,baz=159,slow=7.8,SNR=3.1						
ZAA1	**Zalesovo Array**	41.12	310	eP	P	21 19 00.4	+0.9
ZALV	**Zalesovo Beam**	41.12	310	P	P	21 19 00.4	+0.9
	comp=Z,1.2nm,0.5s,baz=88,slow=7.6,SNR=6.6						
MK31	**Makanchi Array**	43.99	300	eP	P	21 19 23.8	+0.7
MK31	**Makanchi Array**	43.99	300	eP	P	21 19 23.8	+0.7
MK32	**Makanchi Array**	43.99	300	eP	P	21 19 22.6	-0.5
MKAR	**Makanchi Array**	43.99	300	P	P	21 19 22.6	-0.5
	comp=Z,0.6nm,0.6s,baz=81,slow=8.9,SNR=7.9						
MKAR	**Makanchi Array**	43.99	300	eP	P	21 19 23.6	+0.5
MKAR				pmax	pmax		
	comp=Z,16nm,0.6s						
MKAR	**Makanchi Array**	43.99	300	eP	P	21 19 23.6	+0.5
	comp=Z,16nm,0.6s						
CM31	**Chiang Mai Arr**	44.18	254	eP	P	21 19 24.9	0.0
CMAR	**Chiang Mai Arr**	44.18	254	P	P	21 19 24.8	0.0
	comp=Z,0.3nm,0.6s,baz=116,slow=4.9,SNR=2.9						
MAKZ	**Makanchi**	44.20	300	eP	P	21 19 24.7	-0.1
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAKZ	**Makanchi**	44.20	300	eP	P	21 19 24.7	-0.1
	comp=Z,5.4nm,1.1s						
SEW	**Seward**	44.80	41	eP	P	21 19 30.3	+1.0
	comp=Z,20nm,1.2s						
KURK	**Kurchatov**	45.40	306	P	P	21 19 34.6	+0.4
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURK	**Kurchatov**	45.40	306	eP	P	21 19 34.5	+0.4
KURBB	**Kurchatov Arra**	45.48	306	P	P	21 19 34.5	-0.3
	comp=Z,3.5nm,0.2s,baz=78,slow=8.5,SNR=7.6						
ILAR	**Eielson Array**	45.67	34	P	P	21 19 38.9	+2.6
	comp=Z,0.4nm,0.8s,baz=270,slow=6.9,SNR=3.3						
ILB	**Eielson Array**	45.67	34	eP	P	21 19 38.9	+2.6
EGAK	**Eagle**	48.12	34	eP	P	21 19 55.7	+0.4
	comp=Z,20nm,1.8s						
JIRN	**Jiri**	48.62	274	eP	P	21 20 01.6	+1.5
RAMN	**Ramite**	48.67	272	eP	P	21 20 01.2	+0.9
	comp=Z,4.7nm,0.3s						
GUN	**Gumba**	48.73	274	eP	P	21 20 03.3	+2.4
	comp=Z,10nm,0.3s						
KKN	**Kakani**	49.24	274	eP	P	21 20 07.8	+3.1
	comp=Z,5.8nm,0.4s						
PKIN	**Phulchoki**	49.26	274	eP	P	21 20 07.3	+2.4
DMN	**Daman**	49.47	274	eP	P	21 20 09.7	+3.2
GKN	**Gorkha**	49.62	275	eP	P	21 20 11.3	+3.7
	comp=Z,5.8nm,0.4s						
BVAR	**Borovoye Array**	49.74	311	P	P	21 20 08.7	+0.7
	comp=Z,1.1nm,0.6s,baz=252,slow=37,SNR=2.9						
DANN	**Dangsing**	50.12	276	eP	P	21 20 16.0	+4.5
	comp=Z,1.4nm,0.7s						
KAPI	**Kappang**	50.29	212	eP	P	21 20 09.6	-2.8
	comp=Z,168nm,0.8s						
INK	**Inuvik**	50.56	29	P	P	21 20 16.6	+2.8
	comp=Z,1.5nm,0.9s,baz=328,slow=5.5,SNR=3.7						
WR1	**Warramunga Arr**	60.66	190	eP	P	21 21 27.4	+0.4
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	60.66	190	P	P	21 21 27.4	+0.4
	comp=Z,1.0nm,0.7s,baz=9.3,slow=6.9,SNR=8.0						
AS31	**Alice Springs**	64.39	190	eP	P	21 21 52.5	+0.7
	comp=Z,1.7nm,1.2s						
ASAR	**Alice Springs**	64.39	190	P	P	21 21 52.5	+0.7
	comp=Z,0.3nm,0.6s,baz=11,slow=11,SNR=5.7						
FIA0	**FINESS Array S**	66.71	332	eP	P	21 22 07.6	+1.2
FIA0	**FINESS Array S**	66.71	332	eP	P	21 22 07.6	+1.2
FINES	**FINESS Array B**	66.71	332	P	P	21 22 07.6	+1.2
	comp=Z,1.2nm,0.8s,baz=46,slow=8.0,SNR=3.7						

*CSEM **23** 21:16:49.8, 39°.05N×43°.62E, h9km, ML3.6*
ISK 23 21:16:49.8, 39°.05N×43°.62E, h9km, ML3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	0.71	317	ePG	Pg	21 17 03.9	+0.3
AGRB				eSG	Sb	21 17 14.7	+0.1
AGRB	**Hanur-Agry**	0.71	317	ePg	Pg	21 17 03.9	+0.3
AGRB				eSg	Sb	21 17 14.7	+0.2
VRTB	**Varto-Mus**	1.69	274	ePN	Pn	21 17 19.3	-0.3
VRTB				eSN	Sb	21 17 42.5	+0.1
VRTB	**Varto-Mus**	1.69	274	ePn	Pn	21 17 19.3	-0.3
VRTB				eSn	Sb	21 17 42.6	+0.1
SENK	**Senkaya-Erzuru**	1.80	327	ePN	Pn	21 17 21.9	+0.8
SENK	**Senkaya-Erzuru**	1.80	327	ePn	Pn	21 17 22.0	+0.8
CUKT	**Cukurca**	1.80	180	ePN	Pn	21 17 21.9	+0.8
CUKT				eSN	Sb	21 17 45.4	-0.4
CUKT	**Cukurca**	1.80	180	ePn	Pn	21 17 22.0	+0.8
CUKT				eSn	Sb	21 17 45.4	-0.4
SVAN	**Silvan-Diyarba**	2.10	245	ePN	Pn	21 17 24.8	-0.4
SVAN	**Silvan-Diyarba**	2.10	245	ePn	Pn	21 17 24.8	-0.4
BNGB	**Bing¶l**	2.29	269	ePN	Pn	21 17 28.8	+1.0
AKH	**Akhalkalaki**	2.36	358	ePN	Pn	21 17 29.5	+0.7
AKH	**Akhalkalaki**	2.36	358	ePn	Pn	21 17 29.5	+0.6
YEDI	**Yedisu-Bingol**	2.42	280	ePN	Pn	21 17 30.5	+0.9
YEDI	**Yedisu-Bingol**	2.42	280	ePn	Pn	21 17 30.5	+0.8
BINT	**Bingol**	2.45	267	ePn	Pn	21 17 28.8	-1.2
MAZI	**Mazidag**	2.96	238	ePN	Pn	21 17 38.5	+1.5
MAZI	**Mazidag**	2.96	238	ePn	Pn	21 17 38.6	+1.5
PTK	**Pertek**	3.30	269	ePN	Pn	21 17 42.5	+0.7
PTK	**Pertek**	3.30	269	ePn	Pn	21 17 42.6	+0.8
SVRC	**Sivrice-ELAZID**	3.44	260	ePN	Pn	21 17 45.4	+1.7
SVRC	**Sivrice-ELAZID**	3.44	260	ePn	Pn	21 17 45.4	+1.7
URFA	**Urfa**	4.10	248	ePN	Pn	21 17 54.6	+1.8
URFA	**Urfa**	4.10	248	ePn	Pn	21 17 54.6	+1.8

*DDA **23** 21:18:39.9, 38°.89N×43°.56E, h8km, Ml3.7*
*ISK **23** 21:18:39.8, 38°.96N×43°.50E, h5km, ML3.6*
*ISCJB **23** 21:18:42.8±0.3, 38°.88N±0°.03×43°.48E±0°.02, h10km, Error ellipse: s-maj=3.9km s-min=2.1km az=171.7*
*CSEM **23** 21:18:42.2±0.1, 38°.80N×43°.45E, h2km, ML3.7, Error ellipse: s-maj=5.1km s-min=3.0km az=161.0*
*AZER **23** 21:18:44.1±0.4, 38°.79N×43°.56E, h8km, Error ellipse: s-maj=4.7km s-min=3.1km az=171.0*
ISC 23 21:18:41.5±0.7, 38°.89N±0°.02×43°.41E±0°.02, h10km, n113, σ1§84/156, 17C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	0.64	205	i P	Pg	21 18 52.5	-1.4
GEVA	**Gevas**	0.64	205	P	Pg	21 18 52.5	-1.4
DYDN	**Diyadin**	0.69	18	i P	Pg	21 18 52.0	-2.9
DYDN				i S	Sg	21 19 01.5	-2.5
AGRB	**Hanur-Agry**	0.76	335	ePG	Pg	21 18 54.6	-1.6
AGRB				eSG	Sb	21 19 06.8	-0.6
AGRB	**Hanur-Agry**	0.76	335	ePg	Pg	21 18 54.6	-1.6
AGRB				eSg	Sb	21 19 06.8	-0.6
EKAR	**Karacoban**	1.11	290	i P	Pn	21 19 04.1	+0.8
EKAR				i S	Sn	21 19 20.6	+1.8
EKAR	**Karacoban**	1.11	290	P	Pn	21 19 04.1	+0.8
EKAR				S	Sn	21 19 20.6	+1.8
EATA	**Eleskirt**	1.20	324	i P	Pb	21 19 03.5	-1.1
EATA				i S	Sg	21 19 19.7	-0.7
HAKT	**HAKKARI**	1.35	170	i P	Pn	21 19 04.5	-2.1
HAKT	**HAKKARI**	1.35	170	P	Pn	21 19 04.5	-2.1
DIGO	**Kars**	1.52	359	i P	Pn	21 19 08.8	-0.3
VRTB	**Varto-Mus**	1.54	281	ePN	Pg	21 19 10.1	-1.1
VRTB				eSN	Sg	21 19 32.8	+1.6
VRTB	**Varto-Mus**	1.54	281	i P	Pg	21 19 10.2	-0.9
VRTB	**Varto-Mus**	1.54	281	P	Pg	21 19 10.2	-0.9
VRTB				eSn	Sg	21 19 32.8	+1.6
SIRN	**S¨–rnak**	1.59	210	i P	Pg	21 19 11.7	-0.4
SIRN	**S¨–rnak**	1.59	210	P	Pg	21 19 11.7	-0.4
HOMI	**Horasan**	1.64	315	i P	Pg	21 19 12.9	0.0
CUKT	**Cukurca**	1.65	174	ePN	Pb	21 19 11.3	-0.7
CUKT				eSN	Sg	21 19 36.0	+1.6
CUKT	**Cukurca**	1.65	174	i P	Pg	21 19 12.1	-1.0
CUKT	**Cukurca**	1.65	174	ePn	Pb	21 19 11.3	-0.7
CUKT	**Cukurca**	1.65	174	P	Pg	21 19 12.1	-1.0
CUKT				eSn	Sg	21 19 36.0	+1.6
NAX	**Nakhchivan**	1.65	79	⇓P	Pn	21 19 09.7	-1.0
NAX	SNR=27						
NAX				⇑S	Sb	21 19 33.3	+0.3
NAX	**Nakhchivan**	1.65	79	P	Pn	21 19 09.7	-1.0
NAX	SNR=27						
NAX				S	Sb	21 19 33.3	+0.3
BNGL	**BINGOL**	1.76	273	i P	Pg	21 19 14.8	-0.5
EAK	**Akyaka**	1.80	5	i P	Pg	21 19 15.2	-1.0
EAK	**Akyaka**	1.80	5	P	Pg	21 19 15.1	-1.0
SENK	**Senkaya-Erzuru**	1.86	334	ePN	Pn	21 19 13.9	+0.3
SENK	**Senkaya-Erzuru**	1.86	334	ePn	Pn	21 19 13.9	+0.3
ERZM	**Erzurum**	1.88	303	i P	Pg	21 19 17.4	-0.2
ERZM	**Erzurum**	1.88	303	P	Pg	21 19 17.4	-0.2
SVAN	**Silvan-Diyarba**	1.88	248	ePN	Pb	21 19 15.3	-0.7
SVAN	**Silvan-Diyarba**	1.88	248	i P	Pg	21 19 16.2	-1.4
SVAN				i S	Sg	21 19 44.2	+2.2
SVAN	**Silvan-Diyarba**	1.88	248	ePn	Pb	21 19 15.3	-0.7
SVAN	**Silvan-Diyarba**	1.88	248	P	Pg	21 19 16.2	-1.4
BTMN	**Batman**	1.95	240	i P	Pg	21 19 17.8	-1.1
BTMN				i S	Sg	21 19 44.3	+0.1
BTMN	**Batman**	1.95	240	P	Pg	21 19 17.8	-1.1
ECAT	**Cat-ERZURUM**	2.02	292	i P	Pb	21 19 18.4	0.0
ECAT	**Cat-ERZURUM**	2.02	292	P	Pb	21 19 18.4	0.0
BNGB	**Bing¶l**	2.13	274	ePN	Pb	21 19 19.1	-1.2
BINT	**Bingol**	2.28	271	ePn	Pn	21 19 19.1	-0.2
YEDI	**Yedisu-Bingol**	2.29	285	ePN	Pb	21 19 21.2	-1.8
YEDI	**Yedisu-Bingol**	2.29	285	ePn	Pb	21 19 21.2	-1.8
DDEM	**Demirkent**	2.37	328	i P	Pb	21 19 24.8	+0.4
DDEM	**Demirkent**	2.37	328	P	Pb	21 19 24.8	+0.4
DAGI	**Agillar**	2.47	333	i P	Pb	21 19 25.8	-0.2
KOPT	**Kop Dagi**	2.52	298	i P	Pg	21 19 28.2	-1.6
KOPT	**Kop Dagi**	2.52	298	P	Pg	21 19 28.2	-1.6
AKH	**Akhalkalaki**	2.52	1	ePN	Pn	21 19 22.4	-0.3
AKH	**Akhalkalaki**	2.52	1	ePn	Pn	21 19 22.4	-0.3
ARTV	**Artvin**	2.56	334	i P	Pb	21 19 26.7	-1.0
ARTV	**Artvin**	2.56	334	P	Pb	21 19 26.7	-1.0
GDB	**GEDABAY**	2.57	44	⇓P	Pb	21 19 25.6	-2.3
GDB	SNR=11						
GDB				⇓S	Sb	21 19 59.3	-0.3
GDB	**GEDABAY**	2.57	44	P	Pb	21 19 25.6	-2.3
GDB	SNR=11						
GDB				S	Sb	21 19 59.3	-0.3
QZX	**Qazax, Azerbai**	2.64	34	⇓P	Pb	21 19 26.9	-2.0
QZX				⇑S	Sb	21 20 01.8	+0.4
QZX	**Qazax, Azerbai**	2.64	34	P	Pb	21 19 26.9	-2.0
QZX				S	Sb	21 20 01.8	+0.4
MAZI	**Mazidag**	2.73	239	ePN	Pb	21 19 28.4	-2.2
MAZI	**Mazidag**	2.73	239	ePn	Pb	21 19 28.4	-2.2
DIYA	**Diyarbakir**	2.75	251	i P	Pb	21 19 30.9	0.0
GANJ	**Ganja**	2.85	51	⇑P	Pn	21 19 28.4	+1.3
GANJ				⇓S	Sb	21 20 06.2	-1.3
GANJ	**Ganja**	2.85	51	P	Pn	21 19 28.4	+1.3
GANJ				S	Sb	21 20 06.2	-1.3
ERZN	**Erzincan**	2.94	285	ePN	Pb	21 19 30.8	-3.4
EUZM	**Uzumlu**	2.99	287	i P	Pb	21 19 34.9	-0.1
TBLG	**Delisi**	3.02	19	ePN	Pn	21 19 29.6	+0.3
TBLG	**Delisi**	3.02	19	ePn	Pn	21 19 29.7	+0.3
TNCL	**Tunceli-Merkez**	3.02	276	i P	Pg	21 19 36.7	-2.7
PTK	**Pertek**	3.13	271	ePN	Pn	21 19 32.8	+1.7
PTK	**Pertek**	3.13	271	ePn	Pn	21 19 32.8	+1.7
BRDA	**Brd**	3.22	64	⇑P	Pn	21 19 34.4	+2.2
BRDA	SNR=3.6						
BRDA				⇑S	Sn	21 20 13.7	+3.1
BRDA	**Brd**	3.22	64	P	Pn	21 19 34.4	+2.2
BRDA	SNR=3.6						
BRDA				S	Sn	21 20 13.7	+3.1
SVRC	**Sivrice-ELAZID**	3.25	262	ePN	Pb	21 19 35.4	-4.0
SVRC	**Sivrice-ELAZID**	3.25	262	ePn	Pb	21 19 35.4	-4.0
EZC	**Erzincan**	3.26	287	ePn	Pn	21 19 30.8	-2.0
MNGR	**Mingechevir, A**	3.40	55	⇓P	Pn	21 19 37.0	+2.4
MNGR	SNR=3.3						
MNGR				⇓S	Sn	21 20 19.0	+4.0
MNGR	**Mingechevir, A**	3.40	55	P	Pn	21 19 37.0	+2.4
MNGR	SNR=3.3						
MNGR				S	Sn	21 20 19.0	+4.0
ZRD	**Zardab**	3.58	66	⇓P	Pn	21 19 39.6	+2.5
ZRD	SNR=3.6						
ZRD				⇑S	Sn	21 20 23.1	+3.6
ZRD	**Zardab**	3.58	66	P	Pn	21 19 39.6	+2.5
ZRD	SNR=3.6						
ZRD				S	Sn	21 20 23.1	+3.6
ZKTA	**Zakatala**	3.69	41	⇓P	Pn	21 19 41.5	+3.0
ZKTA	SNR=4.0						
ZKTA				⇓S	Sb	21 20 26.9	-4.6
SEKA	**Sheki**	3.72	50	⇓P	Pn	21 19 42.4	+3.3
SEKA	SNR=3.4						
SEKA	**Sheki**	3.72	50	P	Pn	21 19 42.4	+3.3
SEKA	SNR=3.4						
LRK	**Lerik**	3.86	92	P	Pn	21 19 42.4	+1.3
LRK	SNR=3.5						
LRK				⇓S	Sn	21 20 27.2	+0.5
LRK	**Lerik**	3.86	92	P	Pn	21 19 42.4	+1.3
LRK	SNR=3.5						
LRK				S	Sn	21 20 27.2	+0.5
URFA	**Urfa**	3.89	250	ePN	Pn	21 19 44.5	+3.0
URFA	**Urfa**	3.89	250	ePn	Pn	21 19 44.5	+3.0
GLBA	**Clilabad**	3.90	83	⇑P	Pn	21 19 43.1	+1.6
GLBA	SNR=3.0						
GLBA				⇓S	Sn	21 20 28.4	+1.2
GLBA	**Clilabad**	3.90	83	P	Pn	21 19 43.1	+1.6
GLBA	SNR=3.0						
GLBA				S	Sn	21 20 28.4	+1.2
KDMR	**Kurdemir**	3.98	67	⇓P	Pn	21 19 44.5	+2.0
KDMR				⇑S	Sn	21 20 31.1	+1.9
KDMR	**Kurdemir**	3.98	67	P	Pn	21 19 44.5	+2.0
KDMR				S	Sn	21 20 31.1	+1.9
QBL	**Gabala**	3.98	57	⇓S	Sn	21 20 31.8	+2.5
QBL	**Gabala**	3.98	57	S	Sn	21 20 31.8	+2.5
IML	**Ismayilli**	4.14	61	⇓P	Pn	21 19 46.7	+1.9
IML				⇓S	Sn	21 20 35.5	+2.2
IML	**Ismayilli**	4.14	61	P	Pn	21 19 46.7	+1.9
IML				S	Sn	21 20 35.5	+2.2
LKRN	**Lenkeran, Azer**	4.20	91	⇑P	Pn	21 19 46.7	+1.1
LKRN				⇑S	Sn	21 20 35.5	+0.8
LKRN	**Lenkeran, Azer**	4.20	91	P	Pn	21 19 46.7	+1.1
LKRN				S	Sn	21 20 35.5	+0.8
ASTR	**Astara**	4.22	93	⇑P	Pn	21 19 47.2	+1.3
ASTR	SNR=4.0						
ASTR				⇑S	Sn	21 20 36.0	+0.7
ASTR	**Astara**	4.22	93	P	Pn	21 19 47.2	+1.3
ASTR	SNR=4.0						
ASTR				S	Sn	21 20 36.0	+0.7
XNQ	**Khinaliq**	4.29	56	⇑P	Pn	21 19 49.0	+1.9
XNQ	SNR=4.6						
XNQ				⇓S	Sn	21 20 39.5	+2.2
XNQ	**Khinaliq**	4.29	56	P	Pn	21 19 49.0	+1.9
XNQ	SNR=4.6						
XNQ				S	Sn	21 20 39.5	+2.2
PQL	**Pirkuli**	4.42	63	⇓P	Pn	21 19 50.6	+1.8
PQL	SNR=3.2						
PQL				⇓S	Sn	21 20 42.3	+1.9
PQL	**Pirkuli**	4.42	63	P	Pn	21 19 50.6	+1.8
PQL	SNR=3.2						
PQL				S	Sn	21 20 42.3	+1.9
ALIB	**Äli-Bayra**	4.47	74	⇓P	Pn	21 19 50.8	+1.6
ALIB	**Äli-Bayra**	4.47	74	P	Pn	21 19 50.8	+1.6
QSAR	**Qusar**	4.55	53	⇑P	Pn	21 19 52.7	+2.2
QSAR	**Qusar**	4.55	53	P	Pn	21 19 52.7	+2.2
GBS	**Qobustan**	4.58	67	⇓P	Pn	21 19 52.5	+1.7
GBS	**Qobustan**	4.58	67	P	Pn	21 19 52.5	+1.7
QUBA	**Quba, Azerbaij**	4.61	56	⇑P	Pn	21 19 53.5	+2.2
QUBA	SNR=2.8						
QUBA	**Quba, Azerbaij**	4.61	56	P	Pn	21 19 53.5	+

GNI LR LR 21 22 15.1
comp=Z,974nm,21.9s,baz=54,slow=51
VRTB Varto-Mus 1.64 282 *e*Pn **Pb 21 21 20.8 -0.4**
VRTB Varto-Mus 1.64 282 *i* P **Pn 21 21 20.1 +0.2**
VRTB *i* S **Sg 21 21 45.0 +1.7**
VRTB Varto-Mus 1.64 282 P **Pn 21 21 20.1 +0.2**
VRTB Varto-Mus 1.64 282 *e*Pn **Pb 21 21 20.8 -0.4**
VRTB S **Sg 21 21 45.0 +1.7**
IMRD Marand 1.71 94 *e*Pn **Pn 21 21 20.1 -0.8**
IMRD *e*Sg **Sg 21 21 49.4 +3.8**
IMRD *e*AMB AMB 21 22 05.9
comp=Z,30µm,0.5s
IMRD Marand 1.71 94 *e*Pn **Pn 21 21 20.1 -0.8**
IMRD Sg **Sg 21 21 49.3 +3.7**
IMRD Marand 1.71 94 Pn **Pn 21 21 20.0 -0.8**
IMRD Sg **Sg 21 21 49.3 +3.7**
HOMI Horasan 1.74 314 *i* P **Pn 21 21 22.0 +0.7**
HOMI *i* S **Sg 21 21 52.1 +5.7**
ISHB Shabestar 1.74 108 *e*Pn **Pn 21 21 20.7 -0.6**
ISHB *e*AMB AMB 21 21 24.4
comp=Z,23µm,0.2s
ISHB Shabestar 1.74 108 Pn **Pn 21 21 20.6 -0.7**
ISHB Shabestar 1.74 108 Pn **Pn 21 21 20.6 -0.7**
EAK Akyaka 1.85 2 ⇑*i*P **Pb 21 21 25.1 +0.4**
EAK *i* S **Sg 21 21 54.5 +4.5**
EAK Akyaka 1.85 2 P **Pb 21 21 25.1 +0.4**
BNGL BINGOL 1.85 274 *i* P **Pb 21 21 24.9 +0.1**
BNGL *i* S **Sg 21 21 51.6 +1.5**
SENK Senkaya-Erzuru 1.94 333 *e*PN **Pn 21 21 24.7 +0.6**
SENK Senkaya-Erzuru 1.94 333 *e*Pn **Pn 21 21 24.7 +0.6**
SVAN Silvan-Diyarba 1.95 250 *e*Pn **Pb 21 21 25.9 -0.4**
SVAN *e*SN **Sb 21 21 52.1 +1.3**
SVAN Silvan-Diyarba 1.95 250 *i* P **Pn 21 21 25.3 +1.3**
SVAN *i* S **Sg 21 21 53.7 +0.6**
SVAN Silvan-Diyarba 1.95 250 P **Pn 21 21 25.3 +1.3**
SVAN Silvan-Diyarba 1.95 250 *e*Pn **Pb 21 21 25.9 -0.4**
SVAN *e*Sn **Sb 21 21 52.1 +1.3**
SVAN S **Sg 21 21 53.7 +0.6**
ERZM Erzurum 1.98 303 ⇑*i*P **Pn 21 21 25.9 +1.2**
ERZM *i* S **Sg 21 21 55.7 +1.5**
ERZM Erzurum 1.98 303 P **Pn 21 21 25.9 +1.2**
BTMN Batman 2.00 243 *i* P **Pn 21 21 26.1 +1.3**
BTMN *i* S **Sg 21 21 55.0 0.0**
BTMN Batman 2.00 243 P **Pn 21 21 26.1 +1.3**
BTMN S **Sg 21 21 55.0 0.0**
ECAT Cat-ERZURUM 2.12 292 ⇓*i*P **Pb 21 21 28.6 -0.8**
ECAT *i* S **Sg 21 22 00.0 +1.3**
ECAT Cat-ERZURUM 2.12 292 P **Pb 21 21 28.6 -0.8**
ITBZ Tabriz 2.15 106 *e*Pn **Pn 21 21 27.0 +0.1**
ITBZ *e*AMB AMB 21 21 41.1
comp=Z,6µm,0.4s
ITBZ Tabriz 2.15 106 *e*Pn **Pn 21 21 27.0 +0.1**
BNGB Bing¶l 2.22 275 *e*PN **Pb 21 21 29.6 -1.4**
BINT Bingol 2.37 272 *e*Pn **Pn 21 21 29.7 -0.1**
YEDI Yedisu-Bingol 2.39 285 *e*PN **Pn 21 21 31.5 +1.3**
YEDI Yedisu-Bingol 2.39 285 *e*Pn **Pn 21 21 31.5 +1.3**
BGD Bogdanovka 2.42 1 P **Pb 21 21 34.5 -0.1**
DDEM Demirkent 2.46 327 *i* P **Pn 21 21 32.6 +1.5**
DDEM *i* S **Sg 21 22 13.6 +3.9**
DDEM Demirkent 2.46 327 P **Pn 21 21 32.6 +1.5**
GDB GEDABAY 2.55 42 ⇑P **Pn 21 21 33.2 +0.8**
SNR=41
GDB ⇓S **Sn 21 22 02.3 -1.4**
GDB GEDABAY 2.55 42 P **Pn 21 21 33.2 +0.8**
SNR=41
GDB S **Sn 21 22 02.3 -1.4**
AKH Akhalkalaki 2.57 360 *e*PN **Pn 21 21 33.2 +0.5**
AKH Akhalkalaki 2.57 360 P **Pb 21 21 38.0 +0.9**
AKH Akhalkalaki 2.57 360 *e*Pn **Pn 21 21 33.2 +0.5**
KOPT Kop Dagi 2.62 298 *i* P **Pb 21 21 38.1 +0.2**
KOPT *i* S Sg 21 22 25.2 +10
QZX Qazax, Azerbai 2.63 32 ⇑P **Pn 21 21 34.4 +1.0**
SNR=25
QZX ⇓S **Sn 21 22 04.4 -1.2**
QZX Qazax, Azerbai 2.63 32 P **Pn 21 21 34.4 +1.0**
SNR=25
QZX S **Sn 21 22 04.4 -1.2**
ARTV Artvin 2.64 333 *i* P **Pn 21 21 34.7 +1.0**
ARTV Artvin 2.64 333 P **Pn 21 21 34.7 +1.0**
MARD Mardin 2.65 236 *i* P **Pn 21 21 35.4 +1.8**
MARD *i* S **Sg 21 22 14.7 -0.9**
EPOS Posof 2.73 347 *i* P **Pn 21 21 35.9 +1.0**
EPOS Posof 2.73 347 P **Pn 21 21 35.8 +1.0**
MAZI Mazidag 2.79 241 *e*PN **Pn 21 21 35.7 +0.1**
MAZI Mazidag 2.79 241 *e*Pn **Pn 21 21 35.7 +0.1**
IHRS Heris 2.81 100 *e*Pn **Pn 21 21 36.3 +0.3**
IHRS *e*AMB AMB 21 21 45.7
comp=Z,6µm,0.3s
IHRS Heris 2.81 100 *e*Pn **Pn 21 21 36.3 +0.3**
GANJ Ganja 2.81 49 ⇓P **Pn 21 21 36.6 +0.7**
SNR=32
GANJ ⇓S **Sn 21 22 09.0 -1.1**
GANJ Ganja 2.81 49 P **Pn 21 21 36.6 +0.7**
SNR=32
GANJ S **Sn 21 22 09.0 -1.1**
IBST Bostanabad 2.89 112 *e*AMB AMB 21 21 55.3
comp=Z,1µm,0.2s
DGRG David-gareji 2.97 28 P **Pg 21 21 50.0 +2.5**
DGRG David-gareji 2.97 28 P **Pn 21 21 39.7 +1.6**
TBLG Delisi 3.04 17 *e*PN **Pn 21 21 39.2 +0.3**
TBLG Delisi 3.04 17 P **Pb 21 21 45.3 +0.4**
TBLG Delisi 3.04 17 *e*Pn **Pn 21 21 39.2 +0.3**
ERZN Erzincan 3.04 285 *e*PN **Pn 21 21 40.2 +1.1**
BRDA Brd 3.17 62 ⇑P **Pn 21 21 41.3 +0.6**
SNR=3.7
BRDA ⇓S **Sn 21 22 17.3 -1.3**
BRDA Brd 3.17 62 P **Pn 21 21 41.3 +0.6**
SNR=3.7
BRDA S **Sn 21 22 17.3 -1.3**
PTK Pertek 3.22 272 *e*PN **Pn 21 21 43.3 +1.6**
PTK Pertek 3.22 272 *e*Pn **Pn 21 21 43.3 +1.6**
SVRC Sivrice-ELAZID 3.33 263 *e*PN **Pn 21 21 45.4 +2.2**
SVRC Sivrice-ELAZID 3.33 263 *e*Pn **Pn 21 21 45.4 +2.2**
EZC Erzincan 3.36 287 *e*Pn **Pn 21 21 40.2 -3.3**
MNGR Mingechevir, A 3.36 54 ⇑P **Pn 21 21 43.9 +0.6**
SNR=6.4
MNGR ⇑S **Sn 21 22 22.2 -1.2**
MNGR Mingechevir, A 3.36 54 P **Pn 21 21 43.9 +0.6**
SNR=6.4
MNGR S **Sn 21 22 22.2 -1.2**
ISRB Sarab 3.42 106 *e*Pn **Pn 21 21 44.9 +0.6**
ISRB *e*AMB AMB 21 21 56.2
comp=Z,2µm,0.3s
ISRB Sarab 3.42 106 *e*Pn **Pn 21 21 44.9 +0.6**
ZRD Zardab 3.53 65 ⇓P **Pn 21 21 46.2 +0.6**
SNR=2.9
ZRD ⇑S **Sn 21 22 26.3 -1.2**
ZRD Zardab 3.53 65 P **Pn 21 21 46.2 +0.6**
SNR=2.9
ZRD S **Sn 21 22 26.3 -1.2**
KTUT Trabzon 3.60 308 *e*PN **Pn 21 21 48.0 +1.4**
KTUT Trabzon 3.60 308 *e*Pn **Pn 21 21 48.0 +1.4**
ZKTA Zakatala 3.67 39 ⇓P **Pn 21 21 48.6 +0.9**
SNR=9.9
ZKTA ⇑S **Sn 21 22 31.0 -0.1**
SEKA Sheki 3.69 49 ⇑P **Pn 21 21 49.3 +1.4**
SNR=4.9
SEKA ⇑S **Sn 21 22 33.0 +1.5**
SEKA Sheki 3.69 49 P **Pn 21 21 49.3 +1.4**
SNR=4.9
SEKA S **Sn 21 22 33.0 +1.5**
GUDG Gudauri 3.69 11 P **Pg 21 21 59.2 -2.2**
ONI Oni 3.75 359 P **Pb 21 21 54.0 -3.1**
LRK Lerik 3.77 91 ⇓P **Pn 21 21 50.5 +1.3**
SNR=10
LRK ⇑S **Sn 21 22 34.9 +1.0**
LRK Lerik 3.77 91 P **Pn 21 21 50.5 +1.3**
SNR=10
LRK S **Sn 21 22 34.9 +1.0**
GLBA Clilabad 3.82 82 ⇓P **Pn 21 21 50.8 +1.2**
SNR=4.2
GLBA Clilabad 3.82 82 P **Pn 21 21 50.8 +1.2**
SNR=4.2
KDMR Kurdemir 3.92 65 ⇓P **Pn 21 21 51.6 +0.6**
SNR=3.9
KDMR ⇑S **Sn 21 22 36.8 -0.3**
KDMR Kurdemir 3.92 65 P **Pn 21 21 51.6 +0.6**
SNR=3.9
KDMR S **Sn 21 22 36.8 -0.3**
QBL Gabala 3.93 56 ⇑P **Pn 21 21 51.9 +0.6**
SNR=3.6
QBL ⇑S **Sn 21 22 37.5 -0.1**
QBL Gabala 3.93 56 P **Pn 21 21 51.9 +0.6**
SNR=3.6
QBL S **Sn 21 22 37.5 -0.1**
IML Ismayilli 4.09 60 ⇓S **Sn 21 22 40.8 -0.6**
IML Ismayilli 4.09 60 S **Sn 21 22 40.8 -0.6**
LKRN Lenkeran, Azer 4.11 90 ⇓P **Pn 21 21 55.1 +1.4**
SNR=3.1
LKRN ⇓S **Sn 21 22 43.4 +1.4**
LKRN Lenkeran, Azer 4.11 90 P **Pn 21 21 55.1 +1.4**
SNR=3.1
LKRN S **Sn 21 22 43.4 +1.4**
ASTR Astara 4.13 92 ⇓P **Pn 21 21 55.8 +1.8**
SNR=6.8
ASTR ⇑S **Sn 21 22 43.3 +0.8**
ASTR Astara 4.13 92 P **Pn 21 21 55.8 +1.8**
SNR=6.8
ASTR S **Sn 21 22 43.3 +0.8**
XNQ Khinaliq 4.25 55 ⇑P **Pn 21 21 56.4 +0.6**
SNR=8.1
XNQ ⇑S **Sn 21 22 44.5 -1.1**
XNQ Khinaliq 4.25 55 P **Pn 21 21 56.4 +0.6**
SNR=8.1
XNQ S **Sn 21 22 44.5 -1.1**
PQL Pirkuli 4.37 62 ⇓P **Pn 21 21 58.0 +0.6**
SNR=5.5
PQL ⇑S **Sn 21 22 47.5 -1.0**
PQL Pirkuli 4.37 62 P **Pn 21 21 58.0 +0.6**
SNR=5.5
PQL S **Sn 21 22 47.5 -1.0**
ALIB Äli-Bayra 4.39 74 ⇓S **Sn 21 22 48.4 -0.5**
ALIB Äli-Bayra 4.39 74 S **Sn 21 22 48.4 -0.5**
QSAR Qusar 4.51 52 ⇓P **Pn 21 21 59.9 +0.7**
SNR=7.3
QSAR Qusar 4.51 52 P **Pn 21 21 59.9 +0.7**
SNR=7.3
GBS Qobustan 4.51 66 ⇑P **Pn 21 21 59.7 +0.4**
GBS Qobustan 4.51 66 P **Pn 21 21 59.7 +0.4**
QUBA Quba, Azerbaij 4.57 55 ⇓P **Pn 21 22 00.4 +0.4**
SNR=5.3
QUBA Quba, Azerbaij 4.57 55 P **Pn 21 22 00.4 +0.4**
SNR=5.3
ATGJ Altiaghaj 4.63 62 ⇑P **Pn 21 22 01.6 +0.6**
SNR=3.9
ATGJ Altiaghaj 4.63 62 P **Pn 21 22 01.6 +0.6**
SNR=3.9
SIZA Siyzn 4.70 60 ⇓P **Pn 21 22 02.2 +0.4**
SNR=2.9
SIZA Siyzn 4.70 60 P **Pn 21 22 02.2 +0.4**
SNR=2.9
KBZ Khabaz 4.91 355 Pn **Pn 21 22 09.1 +4.5**
comp=Z,0.1nm,0.3s,baz=156,slow=8.0,SNR=2.4
KBZ Pg **Pg 21 22 23.8 -0.8**
comp=Z,0.4nm,0.3s,baz=200,slow=8.2,SNR=6.8
IVIS Veis 5.07 147 *e*AMB AMB 21 22 40.7
comp=Z,364nm,0.3s
IVIS *e*Pn **Pn 21 22 09.1 +2.1**
KIV Kislovodsk 5.15 353 Pn **Pn 21 22 10.1 +2.0**
KIV Kislovodsk 5.15 353 Pn **Pn 21 22 10.1 +2.0**
KVAR Kislovodsk Arr 5.15 353 Pn Pn 21 22 13.8 +5.8
baz=197,slow=4.8,SNR=4.0
KVAR Pg **Pg 21 22 28.5 -0.7**
baz=263,slow=2.8,SNR=6.4
RABH Abou Rabah 6.71 231 *e*P Pn 21 22 24.3 -5.2
RABH AML AML 21 24 42.8
comp=N,20nm,0.6s
RABH AML AML 21 24 48.5
comp=E,19nm,0.7s
ROOS tl_alroos 6.85 229 *e*P **Pn 21 22 28.9 -2.5**
ROOS AML AML 21 24 49.0
comp=E,45nm,0.7s
ROOS AML AML 21 24 53.9
comp=N,33nm,0.6s
HAWK Haweek 7.16 235 *e*P Pn 21 22 26.0 -10
HAWK AML AML 21 24 48.6
comp=N,22nm,0.7s
HAWK AML AML 21 24 54.3
comp=E,12nm,0.7s
MARH Ras Al Marh 7.43 232 *e*P Pn 21 22 31.6 -8.0
MARH AML AML 21 25 10.2
comp=E,24nm,0.7s
MARH AML AML 21 25 10.8
comp=N,12nm,0.7s
BRTR Keskin Array B 7.71 280 Pn **Pn 21 22 47.4 +4.1**
comp=N,0.1nm,0.3s,baz=123,slow=14,SNR=2.7
BRBR Barbar 8.17 231 *e*P Pn 21 22 40.4 -9.2
BRBR *e*S **Sn 21 24 21.0 -1.4**
BRBR AML AML 21 25 32.7
comp=N,9.2nm,0.7s
BRBR AML AML 21 25 32.8
comp=E,15nm,0.7s
SALA Sala 8.23 224 *e*P **Pn 21 22 47.3 -3.2**
SALA *e*S **Sn 21 24 17.3 -6.5**
SALA AML AML 21 25 53.1
comp=N,15nm,0.7s
ASF Jabal al Asfar 8.56 221 Pn **Pn 21 22 56.2 +1.2**
comp=N,0.2nm,0.3s,baz=18,slow=19,SNR=3.0
ASF Lg Lg 21 25 28.6
comp=N,0.2nm,0.3s,baz=164,slow=23,SNR=3.3
MMAI Mount Meron Ar 8.78 231 Pn **Pn 21 23 00.9 +3.1**
comp=N,0.6nm,0.3s,baz=71,slow=15,SNR=4.8
GEYT Alibeck 11.50 90 Pn **Pn 21 23 34.5 -0.5**
comp=N,0.1nm,0.3s,baz=290,slow=22,SNR=2.4
VRI Vrinciooaia 14.25 305 ⇓*i*P P 21 24 28.3 +8.3
SORM Soroca 14.38 315 ⇑*i*P **Pn 21 24 13.8 -0.6**
MLR Muntele Rosu 14.62 303 ⇑*i*P **P 21 24 26.2 +2.0**
MLR Muntele Rosu 14.62 303 ⇑*i*P **P 21 24 26.2 +2.0**
DOPR Dopca 15.15 304 ⇑*i*P **Pn 21 24 25.1 +0.2**
VOIR 15.19 302 ⇑*i*P **P 21 24 32.2 +1.7**
VOIR 15.19 302 ⇑*i*P **P 21 24 32.2 +1.7**
RAYN Ar Rayn 15.36 173 *e*P **Pn 21 24 22.6 -5.2**
comp=N,8.9nm,1.0s
AKTO Aktyubinsk 15.49 37 Pn **Pn 21 24 27.2 -2.0**
comp=N,0.1nm,0.3s,baz=235,slow=11,SNR=3.7
AKASG Malin Array Be 15.58 324 Pn **Pn 21 24 30.1 -0.2**
comp=N,0.5nm,0.3s,baz=132,slow=12,SNR=7.2
ABKAR Akbulak array 15.71 43 *e*P **Pn 21 24 31.6 -0.5**
comp=N,3.0nm,0.8s
VTS Vitosha 15.85 290 ⇑*i*P **P 21 24 37.3 -0.6**
VTS Vitosha 15.85 290 ⇑*i*P **P 21 24 37.3 -0.6**
BURAR Bucovina Array 15.94 309 ⇑*i*P **Pn 21 24 34.8 -0.3**
ARCR ARCALIA 16.24 307 ⇓*i*P **Pn 21 24 36.0 -3.0**
OBN Obninsk 16.94 346 P **Pn 21 24 48.6 +0.8**
baz=95,slow=14,SNR=2.3
CRVS Cervenica-Dubn 18.75 310 *e*P **Pn 21 25 15.1 +4.8**
WSAR Wadi Sarin 20.19 136 P **P 21 25 23.1 -2.6**
comp=N,2.0nm,0.7s,baz=270,slow=7.3,SNR=2.1
VYHS Vyhne 20.22 307 *e*P Pn 21 25 30.0 +2.2
VYHS Vyhne 20.22 307 *e*P Pn 21 25 30.0 +2.2
VYHS *e* P 21 48 37.8
ARU Arti 20.23 25 P **P 21 25 25.6 -0.3**
comp=N,2.5nm,0.4s,baz=236,slow=9.0,SNR=5.4
KKAR Karatay Array 20.78 70 *e*P **P 21 25 31.7 -0.4**
comp=N,4.4nm,0.7s
KKAR Karatay Array 20.78 70 *e*P **P 21 25 31.7 -0.4**
comp=N,4.4nm,0.7s
BVAR Borovoye Array 23.28 44 P **P 21 25 57.4 -1.2**
comp=N,0.6nm,0.4s,baz=246,slow=43,SNR=2.9
GERES GERESS Array B 23.58 305 P **P 21 26 03.6 +1.9**
comp=N,0.3nm,0.6s,baz=91,slow=6.7,SNR=4.0
FINES FINESS Array B 25.08 340 P **P 21 26 15.7 +0.5**
comp=N,2.6nm,1.0s,baz=152,slow=12,SNR=4.4
KURBB Kurchatov Arra 27.26 53 P **P 21 26 35.9 +0.7**
comp=N,1.6nm,0.6s,baz=263,slow=9.1,SNR=9.6
HFS Hagfors 28.38 328 P **P 21 26 47.0 +2.0**
comp=N,2.6nm,0.8s,baz=98,slow=7.7,SNR=2.8
MKAR Makanchi Array 29.29 62 P **P 21 26 53.8 +0.4**
comp=N,1.1nm,0.9s,baz=337,slow=7.9,SNR=4.1
ZALV Zalesovo Beam 31.72 48 P **P 21 27 14.5 -0.2**
comp=N,0.4nm,0.4s,baz=260,slow=8.6,SNR=2.8
ESDC Sonseca Array 36.44 287 P **P 21 27 56.6 +0.8**
comp=N,0.8nm,0.6s,baz=65,slow=8.6,SNR=6.1
TORD Torodi Ar. Bea 44.92 247 P **P 21 29 06.3 +0.3**
comp=N,1.2nm,0.9s,baz=43,slow=8.2,SNR=6.5
CMAR Chiang Mai Arr 51.89 97 P **P 21 29 59.5 -0.3**
comp=N,0.4nm,0.6s,baz=293,slow=9.7,SNR=5.2

DDA ***23*** *21:27:07.1, 38°.66N×43°.30E, h5km, Ml3.9*
ISCJB ***23*** *21:27:08.7±0.8, 38°.66N±0°.03×43°.39E±0°.09, h13km, Error ellipse: s-maj=10.1km s-min=4.8km az=177.4*
ISK ***23*** *21:27:08.6, 38°.67N×43°.18E, h5km, ML3.3*
CSEM ***23*** *21:27:09.0±0.4, 38°.67N×43°.27E, h2km, ML3.9, Error ellipse: s-maj=11.2km s-min=6.5km az=87.0*
ISC 23 21:27:08.2±1.0,**38°.76N**±0°.03×**43°.45E**±0°.06,**h13km**,**n41**,
σ1§**02**/45,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.54**	**215**	*i* P		Pg	21 27 13.3	-5.6
DYDN	**Diyadin**	**0.81**	**13**	*i* P		**Pn**	**21 27 25.6**	**0.0**
DYDN	**Diyadin**	**0.81**	**13**	P		**Pn**	**21 27 25.6**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*PG		**Pn**	**21 27 27.3**	**+0.6**
AGRB				*e*SG		**Sn**	**21 27 41.2**	**+1.6**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*Pg		**Pn**	**21 27 27.3**	**+0.6**
AGRB				*e*Sg		**Sn**	**21 27 41.3**	**+1.6**
EKAR	**Karacoban**	**1.19**	**295**	*i* P		**Pn**	**21 27 28.8**	**-2.1**
EKAR	**Karacoban**	**1.19**	**295**	P		**Pn**	**21 27 28.8**	**-2.1**
HAKT	**HAKKARI**	**1.21**	**170**	*i* P		**Pn**	**21 27 27.9**	**-3.2**
EATA	**Eleskirt**	**1.33**	**326**	*i* P		**Pn**	**21 27 31.8**	**-1.1**
EATA				*i* S		**Sg**	**21 27 51.8**	**+0.5**
SIRN	**S¨–rnak**	**1.50**	**213**	*i* P		**Pn**	**21 27 34.5**	**-0.4**
SIRN	**S¨–rnak**	**1.50**	**213**	P		**Pn**	**21 27 34.5**	**-0.4**
CUKT	**Cukurca**	**1.51**	**175**	*e*PN		**Pg**	**21 27 37.0**	**-0.3**
CUKT				*e*SN		**Sg**	**21 27 58.0**	**+1.1**
CUKT	**Cukurca**	**1.51**	**175**	*i* P		**Pn**	**21 27 35.1**	**+0.1**
CUKT	**Cukurca**	**1.51**	**175**	P		**Pn**	**21 27 35.2**	**+0.1**
CUKT	**Cukurca**	**1.51**	**175**	*e*Pn		**Pg**	**21 27 37.0**	**-0.3**
CUKT				*e*Sn		**Sg**	**21 27 58.0**	**+1.1**
VRTB	**Varto-Mus**	**1.61**	**285**	*e*PN		**Pn**	**21 27 36.6**	**+0.1**
VRTB	**Varto-Mus**	**1.61**	**285**	*i* P		**Pn**	**21 27 36.5**	**0.0**
VRTB	**Varto-Mus**	**1.61**	**285**	P		**Pn**	**21 27 36.5**	**0.0**
HOMI	**Horasan**	**1.76**	**318**	*i* P		**Pb**	**21 27 39.9**	**-0.7**
BNGL	**BINGOL**	**1.81**	**277**	*i* P		**Pn**	**21 27 39.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	*e*PN		**Pn**	**21 27 39.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	*i* P		**Pn**	**21 27 38.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	P		**Pn**	**21 27 38.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	*e*Pn		**Pn**	**21 27 39.5**	**-0.5**
BTMN	**Batman**	**1.92**	**244**	*i* P		**Pn**	**21 27 39.8**	**-0.9**
BTMN	**Batman**	**1.92**	**244**	P		**Pn**	**21 27 39.8**	**-0.9**
ERZM	**Erzurum**	**1.98**	**306**	*i* P		**Pg**	**21 27 45.3**	**-1.0**
ERZM	**Erzurum**	**1.98**	**306**	P		**Pg**	**21 27 45.3**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.00**	**335**	*e*PN		**Pg**	**21 27 45.4**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.00**	**335**	*e*Pn		**Pg**	**21 27 45.4**	**-1.1**
BNGB	**Bing¶l**	**2.18**	**277**	*e*PN		**Pn**	**21 27 44.5**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.36**	**288**	*e*PN		**Pn**	**21 27 47.5**	**+0.6**
MARD	**Mardin**	**2.56**	**237**	*i* P		**Pn**	**21 27 50.4**	**+0.9**
MAZI	**Mazidag**	**2.70**	**242**	*e*PN		**Pn**	**21 27 51.6**	**+0.1**
MAZI	**Mazidag**	**2.70**	**242**	*e*Pn		**Pn**	**21 27 51.6**	**+0.1**
PTK	**Pertek**	**3.17**	**274**	*e*PN		**Pn**	**21 27 58.6**	**+0.5**
PTK	**Pertek**	**3.17**	**274**	*e*Pn		**Pn**	**21 27 58.6**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	*e*PN		**Pn**	**21 27 59.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	*e*Pn		**Pn**	**21 27 59.8**	**+0.4**
URFA	**Urfa**	**3.88**	**252**	*e*PN		**Pn**	**21 28 08.5**	**+0.8**
URFA	**Urfa**	**3.88**	**252**	*e*Pn		**Pn**	**21 28 08.5**	**+0.8**

IDC ***23*** *21:31:47.5±1.0, 36°.17N×142°.58E, h0km, mb3.6/8, mb1 3.6/14, mb1mx3.5/52, mbtmp3.5/14, ML2.8/6, Error ellipse: s-maj=21.5km s-min=19.7km az=160.0*
ISCJB ***23*** *21:31:48.1±1.4, 36°.28N±0°.04×142°.52E±0°.06, h14km±10km, mb3.5/8, Error ellipse: s-maj=8.0km s-min=6.5km az=20.7*
JMA ***23*** *21:31:48.2±0.2, 36°.30N×142°.65E, h71km, M3.3*
ISC 23 21:31:49.9±2.6,**36°.27N**±0°.04×**142°.51E**±0°.05,**h15km**±17km,
n37,σ1§**81**/34,**mb3.5**/8,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.45**	**248**	P		Pn	21 32 14.6	-1.0
CHOJ				*e*S		**Sn**	**21 32 34.5**	**+0.1**
JHO	**Hitachi**	**1.60**	**283**	P		Pn	21 32 16.2	-1.5
JHO				*e*S		**Sn**	**21 32 36.4**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.61**	**302**	P		Pn	21 32 16.3	-1.5
ONAJ				*e*S		**Sn**	**21 32 36.7**	**-1.7**
JFK	**Kawauchi**	**1.71**	**310**	P		Pn	21 32 17.3	-1.9
JFK				*e*S		**Sn**	**21 32 38.8**	**-2.1**
BSO1	**Boso 1**	**2.04**	**218**	P		**Pn**	**21 32 22.0**	**-1.1**
BSO1				*e*S		**Sn**	**21 32 48.9**	**+0.9**
JFT	**Otama**	**2.15**	**306**	P		Pn	21 32 24.1	-1.0
JFT				*e*S		**Sn**	**21 32 51.3**	**-0.2**
JAG	**Ashikaga**	**2.48**	**275**	P		Pn	21 32 28.8	-0.8
JAG				*e*S		**Sn**	**21 32 58.4**	**-1.2**
JRY	**Ryogami san**	**2.93**	**266**	P		Pn	21 32 34.9	-1.1
JRY				*e*S		**Sn**	**21 33 10.0**	**-0.9**
JOD2	**Odawara 2**	**2.96**	**251**	P		Pn	21 32 35.8	-0.5
JOD2				*e*S		**Sn**	**21 33 11.0**	**-0.6**
JNS	**Sasagawa**	**2.99**	**302**	P		**Pn**	**21 32 37.4**	**+0.7**
JYK	**Kaneyama**	**3.15**	**328**	P		Pn	21 32 37.3	-1.6
JYN	**Shimob**	**3.31**	**258**	P		**Pn**	**21 32 41.8**	**+0.6**
JYN				*e*S		**Sn**	**21 33 20.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.48**	**276**	Pn		**Pn**	**21 32 43.4**	**-0.1**
	3.4nm,0.3s,baz=103,slow=8.4,SNR=41							
MJAR				Sn		**Sn**	**21 33 27.9**	**+3.4**
	2.1nm,0.3s,baz=260,slow=23,SNR=4.9							
MAT	**Matsushiro**	**3.48**	**276**	P		**Pn**	**21 32 43.8**	**+0.2**
MAT				*e*S		**Sn**	**21 33 23.9**	**-0.6**
MAT	**Matsushiro**	**3.48**	**276**	P		**Pn**	**21 32 43.7**	**+0.2**
JSD	**Sado**	**3.83**	**299**	P		Pn	21 32 47.7	-0.6
JHJ2	**Mitsune**	**3.85**	**216**	*e*S		**Sn**	**21 33 29.7**	**-3.8**
JHJ	**Hachijo jima 2**	**3.86**	**216**	Pn		**Pn**	**21 32 47.8**	**-0.9**
	12nm,0.3s,baz=250,slow=20,SNR=7.1							
JHJ				Sn		**Sn**	**21 33 29.9**	**-3.9**
	31nm,0.3s,baz=110,slow=23,SNR=9.6							
ASAJ	**Asahikawa**	**7.84**	**0**	Pn		Pn	21 33 40.3	-3.0
	1.3nm,0.3s,baz=232,slow=14,SNR=5.3							
ASAJ				Sn		**Sn**	**21 35 06.3**	**-5.5**
	0.2nm,0.3s,baz=90,slow=31,SNR=2.8							
JNU	**Nakatsue**	**10.08**	**255**	Pn		**Pn**	**21 34 14.4**	**+0.3**
	0.2nm,0.3s,baz=84,slow=15,SNR=2.3							
USRK	**Ussuriysk Ar.**	**11.28**	**318**	Pn		**Pn**	**21 34 30.8**	**+0.3**
	0.1nm,0.3s,baz=257,slow=8.2,SNR=2.9							
KSRS	**Korea Array**	**11.75**	**280**	Pn		**Pn**	**21 34 37.5**	**+0.6**
	0.0nm,0.3s,baz=95,slow=13,SNR=3.2							
KLR	**Kul'dur**	**15.16**	**332**	Pn		**Pn**	**21 35 23.3**	**0.0**
	0.0nm,0.3s,baz=187,slow=14,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**27.00**	**121**	T		T	22 05 39.8	
	baz=313,slow=75,SNR=7.1							
H11N1	**WAKE ISLAND Hy**	**27.00**	**121**	T		T	22 05 39.5	
	baz=313,slow=75,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**27.01**	**121**	T		T	22 05 46.6	
	baz=313,slow=75,SNR=3.9							
H11S1	**WAKE ISLAND Hy**	**27.70**	**123**	T		T	22 06 46.7	
	baz=315,slow=74							
H11S3	**WAKE ISLAND Hy**	**27.70**	**123**	T		T	22 06 33.9	
	baz=315,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.72**	**123**	T		T	22 06 31.8	
	baz=315							
SONM	**Songino Array**	**28.95**	**305**	P		**P**	**21 37 48.9**	**+0.3**
	0.8nm,0.5s,baz=108,slow=8.7,SNR=11							
CMAR	**Chiang Mai Arr**	**42.17**	**257**	P		**P**	**21 39 42.8**	**+0.8**
	0.2nm,0.7s,baz=47,slow=3.1,SNR=2.5							
ZALV	**Zalesovo Beam**	**43.08**	**313**	P		**P**	**21 39 48.6**	**-0.4**
	0.5nm,0.5s,baz=96,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**45.28**	**303**	P		**P**	**21 40 07.2**	**+0.5**
	1.6nm,0.7s,baz=88,slow=10,SNR=14							
ILAR	**Eielson Array**	**49.67**	**32**	P		**P**	**21 40 42.0**	**+1.3**
	0.3nm,0.8s,baz=

CUKT	Cukurca	1.45	169	ePN	Pb	21 37 11.3	+0.9
CUKT				eSN	Sg	21 37 31.5	+1.1
CUKT	Cukurca	1.45	169	ePN	Pb	21 37 11.3	+0.9
CUKT				eSn	Sg	21 37 31.5	+1.1
VRTB	Varto-Mus	1.48	290	ePN	Pb	21 37 10.0	-0.1
VRTB	Varto-Mus	1.48	290	ePn	Pn	21 37 10.0	-0.1
SVAN	Silvan-Diyarba	1.69	253	ePN	Pn	21 37 13.5	+0.7
SVAN	Silvan-Diyarba	1.69	253	ePn	Pn	21 37 13.5	+0.7
DIGO	Kars	1.75	3	iP	Pb	21 37 15.3	-0.4
DIGO	Kars	1.75	3	P	Pb	21 37 15.3	-0.4
SENK	Senkaya-Erzuru	2.02	340	ePN	Pn	21 37 18.2	+0.8
SENK	Senkaya-Erzuru	2.02	340	ePn	Pn	21 37 18.2	+0.8
BNGB	Bing ¶‖	2.03	280	ePN	Pn	21 37 18.5	+0.9
EAK	Akyaka	2.04	8	iP	Pg	21 37 22.3	-0.5
BINT	Bingol	2.17	276	ePn	Pn	21 37 18.5	-0.9
YEDI	Yedisu-Bingol	2.24	291	ePN	Pn	21 37 21.7	+1.2
YEDI	Yedisu-Bingol	2.24	291	ePn	Pn	21 37 21.7	+1.2
DDEM	Demirkent	2.50	333	iP	Pb	21 37 28.9	+0.5
MAZI	Mazidag	2.52	242	ePN	Pn	21 37 25.8	+1.6
MAZI	Mazidag	2.52	242	ePn	Pn	21 37 25.8	+1.6
KOPT	Kop Dagi	2.52	303	iP	Pb	21 37 29.1	+0.2
DIYA	Diyarbakir	2.57	254	iP	Pb	21 37 28.2	-1.4
DIYA	Diyarbakir	2.57	254	P	Pb	21 37 28.2	-1.4
DAGI	Agillar	2.62	337	iP	Pb	21 37 30.6	+0.1
ARTV	Artvin	2.71	338	iP	Pb	21 37 31.9	-0.2
AKH	Akhalkalaki	2.75	4	ePN	Pn	21 37 28.4	+1.0
AKH	Akhalkalaki	2.75	4	ePn	Pn	21 37 28.4	+1.0
ERZN	Erzincan	2.89	290	ePN	Pn	21 37 31.1	+1.6
TNCL	Tunceli-Merkez	2.93	280	iP	Pb	21 37 35.6	-0.1
EUZM	Uzumlu	2.95	292	iP	Pb	21 37 36.0	-0.1
PTK	Pertek	3.02	275	ePN	Pn	21 37 33.0	+1.7
PTK	Pertek	3.02	275	ePn	Pn	21 37 33.0	+1.7
SVRC	Sivrice-ELAZID	3.11	266	ePN	Pn	21 37 33.9	+1.5
SVRC	Sivrice-ELAZID	3.11	266	ePn	Pn	21 37 33.9	+1.5
EZC	Erzincan	3.21	291	ePn	Pn	21 37 31.1	-2.7
TBLG	Delisi	3.27	20	ePN	Pn	21 37 35.9	+1.5
TBLG	Delisi	3.27	20	ePn	Pn	21 37 35.9	+1.5
KTUT	Trabzon	3.54	312	ePN	Pn	21 37 39.6	+1.4
KTUT	Trabzon	3.54	312	ePn	Pn	21 37 39.6	+1.4
URFA	Urfa	3.70	252	ePN	Pn	21 37 42.5	+2.0
URFA	Urfa	3.70	252	ePn	Pn	21 37 42.5	+2.0
DARE	Darende-Malaty	4.52	271	ePN	Pn	21 37 53.3	+1.6
DARE	Darende-Malaty	4.52	271	ePn	Pn	21 37 53.3	+1.6
KMRS	Kahramanmaras	5.14	259	ePN	Pn	21 38 02.3	+2.1
KMRS	Kahramanmaras	5.14	259	ePn	Pn	21 38 02.3	+2.1
KOZT	Kozan	5.98	261	ePN	Pn	21 38 14.8	+3.1
KOZT	Kozan	5.98	261	ePn	Pn	21 38 14.8	+3.1

*IDC **23** 21:43:26.8±1.1, 38°.59N×43°.31E, h0km, mb3.4/5, mb1 3.4/9, mb1mx3.3/46, mbtmp3.4/9, ML2.6/3, Error ellipse: s-maj=20.6km s-min=11.0km az=151.0*
*NEIC **23** 21:43:28.3±0.0, 38°.80N×43°.36E, h5km, mb3.8/2, ML3.9(ISK), ML4.1(DDA), After ISK.*
*AZER **23** 21:43:28.9±0.6, 38°.25N×43°.56E, h2km, Error ellipse: s-maj=5.7km s-min=4.1km az=149.0*
*DDA **23** 21:43:28.2, 38°.77N×43°.33E, h2km, Ml4.1*
*ISK **23** 21:43:28.2, 38°.80N×43°.36E, h5km, ML3.6*
*CSEM **23** 21:43:30.0±0.1, 38°.77N×43°.30E, h2km, ML4.1, Error ellipse: s-maj=4.2km s-min=3.3km az=150.0*

ISC 23 21:43:29.4±1.0,**38°.76N**±0°.01×**43°.38E**±0°.02,**h10**km±7km, **n144**,σ1**9**79/198,**mb3.3**/4,**19C-30D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.52**	**209**	⇑iP		**Pg**	**21 43 38.8**	**-0.6**
GEVA				iS		Sg	21 43 47.5	+1.2
GEVA	**Gevas**	**0.52**	**209**	iP		**Pg**	**21 43 39.2**	**-0.3**
GEVA				S		Sg	21 43 47.5	+1.2
GEVA	**Gevas**	**0.52**	**209**	iP		**Pg**	**21 43 39.2**	**-0.3**
DYDN	**Diyadin**	**0.81**	**17**	⇑iP		**Pg**	**21 43 44.1**	**-1.0**
DYDN				iS		Sg	21 43 56.4	+0.6
DYDN	**Diyadin**	**0.81**	**17**	iP		**Pg**	**21 43 44.3**	**-0.8**
DYDN				S		Sg	21 43 56.4	+0.6
DYDN	**Diyadin**	**0.81**	**17**	iP		**Pg**	**21 43 44.3**	**-0.8**
AGRB	**Hanur-Agry**	**0.86**	**340**	ePG		**Pg**	**21 43 45.2**	**-0.9**
AGRB				eSG		Sg	21 43 57.6	+0.3
AGRB	**Hanur-Agry**	**0.86**	**340**	ePg		**Pg**	**21 43 45.2**	**-0.9**
AGRB				eSg		Sg	21 43 57.6	+0.3
AGRB	**Hanur-Agry**	**0.86**	**340**	Pg		**Pg**	**21 43 45.2**	**-0.9**
BASK	**Baskale_VAN**	**0.86**	**145**	iP		**Pg**	**21 43 45.3**	**-0.8**
BASK				iS		Sg	21 43 58.8	+1.5
BASK	**Baskale_VAN**	**0.86**	**145**	P		**Pg**	**21 43 45.3**	**-0.8**
BASK				S		Sg	21 43 58.8	+1.5
EKAR	**Karacoban**	**1.14**	**296**	⇓iP		**Pb**	**21 43 50.5**	**-0.8**
EKAR				iS		Sn	21 44 10.2	+2.7
EKAR	**Karacoban**	**1.14**	**296**	P		**Pb**	**21 43 50.5**	**-0.8**
EKAR	**Karacoban**	**1.14**	**296**	iP		**Pb**	**21 43 50.7**	**-0.6**
HAKT	**HAKKARI**	**1.23**	**168**	⇓iP		**Pn**	**21 43 51.4**	**-1.6**
HAKT				iS		Sn	21 44 10.6	+0.8
EATA	**Eleskirt**	**1.29**	**328**	⇓iP		**Pn**	**21 43 53.0**	**-0.9**
EATA				iS		Sn	21 44 12.2	+0.7
EATA	**Eleskirt**	**1.29**	**328**	iP		**Pn**	**21 43 53.2**	**-0.7**
EATA				S		Sn	21 44 12.2	+0.7
EATA	**Eleskirt**	**1.29**	**328**	iP		**Pn**	**21 43 53.1**	**-0.7**
SIRN	**S¨–rnak**	**1.48**	**211**	⇓iP		**Pn**	**21 43 56.3**	**+0.1**
SIRN				iS		Sg	21 44 18.4	+1.5
SIRN	**S¨–rnak**	**1.48**	**211**	iP		**Pn**	**21 43 57.0**	**+0.8**
SIRN				S		Sg	21 44 18.4	+1.5
SIRN	**S¨–rnak**	**1.48**	**211**	iP		**Pn**	**21 43 57.0**	**+0.8**
CUKT	**Cukurca**	**1.52**	**173**	ePN		**Pn**	**21 43 58.3**	**+1.4**
CUKT	**Cukurca**	**1.52**	**173**	iP		**Pb**	**21 43 58.9**	**+1.0**
CUKT				iS		Sg	21 44 22.8	+4.3
CUKT	**Cukurca**	**1.52**	**173**	ePn		**Pn**	**21 43 58.3**	**+1.4**
CUKT	**Cukurca**	**1.52**	**173**	P		**Pb**	**21 43 58.9**	**+1.0**
VRTB	**Varto-Mus**	**1.55**	**285**	ePN		**Pn**	**21 43 57.5**	**+0.3**
VRTB				eSN		Sg	21 44 19.6	+0.4
VRTB	**Varto-Mus**	**1.55**	**285**	iP		**Pn**	**21 43 57.3**	**+0.1**
VRTB				iS		Sg	21 44 20.1	+0.9
VRTB	**Varto-Mus**	**1.55**	**285**	P		**Pn**	**21 43 57.3**	**+0.1**
VRTB	**Varto-Mus**	**1.55**	**285**	ePn		**Pn**	**21 43 57.5**	**+0.3**
VRTB				eSn		Sg	21 44 19.6	+0.4
VRTB	**Varto-Mus**	**1.55**	**285**	Pn		**Pn**	**21 43 57.5**	**+0.3**
DIGO	**Kars**	**1.65**	**360**	⇑iP		**Pn**	**21 43 59.4**	**+0.7**
DIGO				iS		Sg	21 44 29.4	+0.9
DIGO	**Kars**	**1.65**	**360**	P		**Pn**	**21 43 59.4**	**+0.7**
DIGO				S		Sg	21 44 23.4	+0.9
NAX	**Nakhchivan**	**1.70**	**75**	P		**Pb**	**21 44 01.1**	**+0.2**
NAX=34								
NAX				⇑S		Sg	21 44 26.4	+2.3
NAX	**Nakhchivan**	**1.70**	**75**	P		**Pb**	**21 44 01.1**	**+0.2**
NAX=34								
NAX				S		Sg	21 44 26.4	+2.3
HOMI	**Horasan**	**1.71**	**319**	⇓iP		**Pn**	**21 44 00.2**	**+0.6**
HOMI				iS		Sg	21 44 27.4	+2.9
GNI	**Garni**	**1.74**	**37**	Pn		**Pn**	**21 44 01.3**	**+1.4**
32nm,0.3s,baz=107,slow=3.3,SNR=43								
GNI				Lg		Lg	21 44 29.0	
33nm,0.3s,baz=175,slow=23,SNR=11								
GNI	**Garni**	**1.74**	**37**	ePn		**Pn**	**21 44 00.9**	**+1.0**
GNI	**Garni**	**1.74**	**37**	ePn		**Pn**	**21 44 00.9**	**+1.0**
BNGL	**BINGOL**	**1.75**	**277**	⇓iP		**Pn**	**21 44 00.6**	**+0.6**
BNGL				iS		Sb	21 44 25.1	+1.3
SVAN	**Silvan-Diyarba**	**1.82**	**251**	ePN		**Pn**	**21 44 01.6**	**+0.8**
SVAN				eSN		Sb	21 44 26.0	+0.4
SVAN	**Silvan-Diyarba**	**1.82**	**251**	⇓iP		**Pn**	**21 44 01.8**	**+0.9**
SVAN				iS		Sb	21 44 26.5	+0.8
SVAN	**Silvan-Diyarba**	**1.82**	**251**	ePn		**Pn**	**21 44 01.6**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	P		**Pn**	**21 44 01.8**	**+0.9**
SVAN				eSn		Sb	21 44 26.0	+0.4
BTMN	**Batman**	**1.87**	**243**	⇑iP		**Pn**	**21 44 01.9**	**+0.3**
BTMN				iS		Sb	21 44 28.8	+1.5
BTMN	**Batman**	**1.87**	**243**	P		**Pn**	**21 44 01.9**	**+0.3**
BTMN				S		Sb	21 44 28.8	+1.5
EAK	**Akyaka**	**1.93**	**5**	iP		**Pb**	**21 44 05.2**	**+0.4**
EAK				iS		Sg	21 44 35.3	+3.9
EAK	**Akyaka**	**1.93**	**5**	P		**Pb**	**21 44 05.2**	**+0.4**
ERZM	**Erzurum**	**1.93**	**307**	iP		**Pn**	**21 44 03.2**	**+0.6**
ERZM				iS		Sb	21 44 29.3	+0.1
ERZM	**Erzurum**	**1.93**	**307**	P		**Pn**	**21 44 03.2**	**+0.6**
ERZM				S		Sb	21 44 29.3	+0.1
SENK	**Senkaya-Erzuru**	**1.96**	**337**	ePN		**Pn**	**21 44 03.7**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.96**	**337**	ePn		**Pn**	**21 44 03.7**	**+0.7**
ECAT	**Cat-ERZURUM**	**2.05**	**295**	iP		**Pn**	**21 44 05.4**	**+1.3**
ECAT				iS		Sg	21 44 35.1	-0.2
ECAT	**Cat-ERZURUM**	**2.05**	**295**	P		**Pn**	**21 44 05.4**	**+1.3**
BNGB	**Bing ¶‖**	**2.12**	**277**	ePN		**Pn**	**21 44 05.3**	**+0.3**
BINT	**Bingol**	**2.26**	**274**	ePn		**Pn**	**21 44 05.3**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	ePN		**Pn**	**21 44 08.7**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	ePn		**Pn**	**21 44 08.7**	**+1.1**
DDEM	**Demirkent**	**2.47**	**330**	⇓iP		**Pb**	**21 44 14.3**	**+0.4**
DDEM				iS		Sg	21 44 50.8	+2.2
BGD	**Bogdanovka**	**2.50**	**4**	P		**Pb**	**21 44 15.2**	**+0.6**
MARD	**Mardin**	**2.51**	**236**	⇑iP		**Pn**	**21 44 10.5**	**0.0**
MARD				iS		Sb	21 44 47.4	+1.6
KOPT	**Kop Dagi**	**2.56**	**300**	⇓iP		**Pb**	**21 44 15.7**	**+0.1**
KOPT				iS		Sg	21 44 52.4	+0.7
DAGI	**Agillar**	**2.57**	**335**	iP		**Pb**	**21 44 14.7**	**-1.0**
DAGI				iS		Sg	21 44 52.1	+0.1
AKH	**Akhalkalaki**	**2.64**	**2**	ePN		**Pn**	**21 44 13.1**	**+0.8**
AKH	**Akhalkalaki**	**2.64**	**2**	P		**Pg**	**21 44 19.4**	**-0.7**
AKH	**Akhalkalaki**	**2.64**	**2**	ePn		**Pn**	**21 44 13.1**	**+0.8**
MAZI	**Mazidag**	**2.65**	**241**	ePN		**Pn**	**21 44 12.5**	**+0.1**
MAZI	**Mazidag**	**2.65**	**241**	ePn		**Pn**	**21 44 12.5**	**+0.1**
ARTV	**Artvin**	**2.66**	**336**	iP		**Pb**	**21 44 18.0**	**+0.6**
GDB	**GEDABAY**	**2.68**	**42**	⇓P		**Pn**	**21 44 14.2**	**+1.4**
SNR=7.5								
GDB				⇓S		Sg	21 44 55.6	+0.1
GDB	**GEDABAY**	**2.68**	**42**	P		**Pn**	**21 44 14.2**	**+1.4**
SNR=7.5								
DIYA	**Diyarbakir**	**2.69**	**253**	iP		**Pn**	**21 44 14.1**	**+1.2**
DIYA				iS		Sb	21 44 50.7	-0.2
DIYA	**Diyarbakir**	**2.69**	**253**	P		**Pn**	**21 44 14.1**	**+1.2**
QZX	**Qazax, Azerbai**	**2.76**	**33**	⇓P		**Pb**	**21 44 18.6**	**-0.2**
SNR=9.1								
QZX				⇓S		Sg	21 44 58.7	+0.7
QZX	**Qazax, Azerbai**	**2.76**	**33**	P		**Pb**	**21 44 18.6**	**-0.2**
SNR=9.1								
GANJ	**Ganja**	**2.95**	**49**	⇓P		**Pb**	**21 44 20.1**	**-2.0**
SNR=23								
GANJ				⇑S		Sb	21 45 01.6	+3.4
GANJ	**Ganja**	**2.95**	**49**	P		**Pb**	**21 44 20.1**	**-2.0**
SNR=23								
ERZN	**Erzincan**	**2.96**	**287**	ePN		**Pn**	**21 44 17.7**	**+1.1**
EUZM	**Uzumlu**	**3.01**	**289**	⇑iP		**Pb**	**21 44 22.8**	**-0.4**
TNCL	**Tunceli-Merkez**	**3.01**	**278**	iP		**Pb**	**21 44 21.2**	**-2.0**
PTK	**Pertek**	**3.12**	**274**	ePN		**Pn**	**21 44 20.2**	**+1.4**
PTK	**Pertek**	**3.12**	**274**	ePn		**Pn**	**21 44 20.2**	**+1.4**
TBLG	**Delisi**	**3.14**	**19**	ePN		**Pn**	**21 44 20.2**	**+1.2**
TBLG	**Delisi**	**3.14**	**19**	P		**Pb**	**21 44 26.1**	**+0.7**
TBLG	**Delisi**	**3.14**	**19**	ePn		**Pn**	**21 44 20.2**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.21**	**264**	ePN		**Pn**	**21 44 21.2**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.21**	**264**	ePn		**Pn**	**21 44 21.2**	**+1.0**
EZC	**Erzincan**	**3.28**	**289**	ePn		**Pn**	**21 44 17.7**	**-3.3**
BRDA	**Brd**	**3.30**	**62**	⇓P		**Pn**	**21 44 23.8**	**+2.6**
SNR=10								
BRDA				⇓S		Sb	21 45 05.8	-2.5
BRDA	**Brd**	**3.30**	**62**	P		**Pn**	**21 44 23.8**	**+2.6**
SNR=10								
BRDA				S		Sb	21 45 05.8	-2.5
MNGR	**Mingechevir, A**	**3.49**	**54**	⇑P		**Pn**	**21 44 27.2**	**+3.4**
SNR=8.2								
MNGR				⇓S		Sb	21 45 13.0	-0.8
MNGR	**Mingechevir, A**	**3.49**	**54**	P		**Pn**	**21 44 27.2**	**+3.4**
SNR=8.2								
ZRD	**Zardab**	**3.66**	**64**	⇓P		**Pn**	**21 44 27.6**	**+1.5**
SNR=6.6								
ZRD				⇓S		Sn	21 45 14.8	+5.5
ZRD	**Zardab**	**3.66**	**64**	P		**Pn**	**21 44 27.6**	**+1.5**
SNR=6.6								
ZRD				S		Sn	21 45 14.8	+5.5
GUDG	**Gudauri**	**3.79**	**12**	P		**Pg**	**21 44 40.8**	**-1.2**
ZKTA	**Zakatala**	**3.80**	**40**	⇑P		**Pb**	**21 44 33.4**	**-3.2**
SNR=16								
ZKTA				⇓S		Sb	21 45 23.4	+0.8
SEKA	**Sheki**	**3.82**	**49**	⇑P		**Pn**	**21 44 33.0**	**+4.7**
SNR=7.1								
SEKA				⇑S		Sb	21 45 23.3	0.0
SEKA	**Sheki**	**3.82**	**49**	P		**Pn**	**21 44 33.0**	**+4.7**
SNR=7.1								
ONI	**Oni**	**3.82**	**1**	P		**Pg**	**21 44 42.8**	**+0.2**
URFA	**Urfa**	**3.83**	**251**	ePN		**Pn**	**21 44 30.7**	**+2.2**
URFA	**Urfa**	**3.83**	**251**	ePn		**Pn**	**21 44 30.7**	**+2.2**
LRK	**Lerik**	**3.88**	**90**	⇑P		**Pn**	**21 44 28.0**	**-1.4**
SNR=9.2								
LRK				⇓S		Sn	21 45 14.0	-1.2
LRK	**Lerik**	**3.88**	**90**	P		**Pn**	**21 44 28.0**	**-1.4**
SNR=9.2								
LRK				S		Sn	21 45 14.0	-1.2
GLBA	**Ciilabad**	**3.94**	**81**	⇓P		**Pn**	**21 44 30.1**	**+0.2**
SNR=5.7								
GLBA				⇑S		Sn	21 45 17.3	+1.1
GLBA	**Ciilabad**	**3.94**	**81**	P		**Pn**	**21 44 30.1**	**+0.2**
SNR=5.7								
GLBA				S		Sn	21 45 17.3	+1.1
KDMR	**Kurdemir**	**4.05**	**65**	⇓P		**Pn**	**21 44 33.7**	**+2.3**
KDMR	**Kurdemir**	**4.05**	**65**	P		**Pn**	**21 44 33.7**	**+2.3**
SAAT	**Saatly**	**4.06**	**73**	⇓S		**Sn**	**21 45 22.1**	**+2.8**
SAAT	**Saatly**	**4.06**	**73**	S		**Sn**	**21 45 22.1**	**+2.8**
QBL	**Gabala**	**4.07**	**56**	⇑P		**Pn**	**21 44 35.5**	**+3.7**
SNR=10								
QBL	**Gabala**	**4.07**	**56**	P		**Pn**	**21 44 35.5**	**+3.7**
SNR=10								
IML	**Ismayilli**	**4.22**	**60**	⇑P		**Pn**	**21 44 37.0**	**+3.1**
SNR=3.3								
IML	**Ismayilli**	**4.22**	**60**	P		**Pn**	**21 44 37.0**	**+3.1**
SNR=3.3								
LKRN	**Lenkeran, Azer**	**4.22**	**89**	⇓P		**Pn**	**21 44 32.3**	**-1.6**
LKRN				⇑S		Sn	21 45 22.5	-0.8
LKRN	**Lenkeran, Azer**	**4.22**	**89**	P		**Pn**	**21 44 32.3**	**-1.6**
LKRN				S		Sn	21 45 22.5	-0.8
ASTR	**Astara**	**4.24**	**91**	⇑P		**Pn**	**21 44 32.1**	**-2.0**
ASTR	**Astara**	**4.24**	**91**	P		**Pn**	**21 44 32.1**	**-2.0**
XNQ	**Khinaliq**	**4.38**	**55**	⇓P		**Pn**	**21 44 39.2**	**+3.0**
SNR=9.9								
XNQ	**Khinaliq**	**4.38**	**55**	P		**Pn**	**21 44 39.2**	**+3.0**
SNR=9.9								
PQL	**Pirkuli**	**4.50**	**62**	⇓P		**Pn**	**21 44 40.0**	**+2.2**
SNR=6.0								
PQL	**Pirkuli**	**4.50**	**62**	P		**Pn**	**21 44 40.0**	**+2.2**
SNR=6.0								
QSAR	**Qusar**	**4.64**	**52**	⇓P		**Pn**	**21 44 43.4**	**+3.7**
SNR=3.8								
QSAR	**Qusar**	**4.64**	**52**	P		**Pn**	**21 44 43.4**	**+3.7**
SNR=3.8								
GBS	**Qobustan**	**4.64**	**66**	⇓P		**Pn**	**21 44 42.0**	**+2.3**
SNR=3.0								
GBS	**Qobustan**	**4.64**	**66**	P		**Pn**	**21 44 42.0**	**+2.3**
SNR=3.0								
QUBA	**Quba, Azerbaij**	**4.70**	**55**	⇓P		**Pn**	**21 44 44.1**	**+3.6**
SNR=3.2								
QUBA	**Quba, Azerbaij**	**4.70**	**55**	P		**Pn**	**21 44 44.1**	**+3.6**
SNR=3.2								
ATGJ	**Altiaghaj**	**4.77**	**62**	⇑P		**Pn**	**21 44 43.6**	**+2.2**
SNR=5.4								
ATGJ	**Altiaghaj**	**4.77**	**62**	P		**Pn**	**21 44 43.6**	**+2.2**
SNR=5.4								
KBZ	**Khabaz**	**4.97**	**356**	Pn		**Pn**	**21 44 47.8**	**+3.7**
0.1nm,0.3s,baz=49,slow=19,SNR=2.0								
KIV	**Kislovodsk**	**5.21**	**355**	ePg		**Pg**	**21 45 08.6**	**-0.6**
KIV	**Kislovodsk**	**5.21**	**355**	ePg		**Pg**	**21 45 08.6**	**-0.6**
BRTR	**Keskin Array B**	**7.62**	**280**	Pn		**Pn**	**21 45 21.0**	**+0.4**
0.1nm,0.3s,baz=53,slow=13,SNR=2.6								
ASF	**Jabal al Asfar**	**8.44**	**221**	Pn		**Pn**	**21 45 32.0**	**+0.1**
0.3nm,0.3s,baz=356,slow=14,SNR=7.4								
MMAI	**Mount Meron Ar**	**8.64**	**231**	Pn		**Pn**	**21 45 36.6**	**+1.9**
1.1nm,0.3s,baz=61,slow=17,SNR=10								
RAYN	**Ar Rayn**	**15.30**	**173**	ePn		**Pn**	**21 47 00.6**	**-5.0**
5.4nm,0.7s								
AKASG	**Malin Array Be**	**15.57**	**325**	Pn		**Pn**	**21 47 08.8**	**-0.1**
0.7nm,0.3s,baz=131,slow=12,SNR=5.0								
AKTO	**Aktyubinsk**	**15.61**	**37**	Pn		**Pn**	**21 47 08.1**	**-1.4**
0.1nm,0.3s,baz=225,slow=16,SNR=1.4								
ARU	**Arti**	**20.34**	**25**	P		**P**	**21 48 06.9**	**+1.2**
1.8nm,0.6s,baz=275,slow=20,SNR=1.6								
KKAR	**Karatay Array**	**20.91**	**69**	P		**P**	**21 48 13.1**	**+1.0**
2.0nm,0.6s								
KKAR	**Karatay Array**	**20.91**	**69**	P		**P**	**21 48 13.1**	**+1.0**
2.0nm,0.6s								
KURBB	**Kurchatov Arra**	**27.40**	**53**	P		**P**	**21 49 16.6**	**+1.7**
0.2nm,0.4s,baz=262,slow=9.1,SNR=3.0								
EKA	**Eskdalemuir Ar**	**35.01**	**314**	P		**P**	**21 50 21.0**	**-0.9**
0.8nm,0.5s,baz=103,slow=9.5,SNR=2.6								
TORD	**Torodi Ar. Bea**	**44.79**	**247**	P		**P**	**21 51 41.5**	**-2.0**
0.3nm,0.6s,baz=42,slow=8.3,SNR=5.8								
CMAR	**Chiang Mai Arr**	**51.99**	**96**	P		**P**	**21 52 38.2**	**-0.9**
0.1nm,0.4s,baz=316,slow=7.6,SNR=3.2								

*ISCJB **23** 21:43:58.6±0.8, 38°.7N±0°.1×43°.50E±0°.07, h13km, mb3.6/12, Error ellipse: s-maj=15.8km s-min=8.3km az=177.2*
*IDC **23** 21:43:58.4±0.9, 38°.68N×43°.43E, h0km, mb3.7/12, mb1 3.7/17, mb1mx3.6/46, mbtmp3.7/17, ML3.4/5, Error ellipse: s-maj=19.0km s-min=9.6km az=159.0*

ISC 23 21:44:00.7±0.9,**38°.7N**±0°.1×**43°.50E**±0°.07,**h13**km,**n19**, σ0**9**96/19,**mb3.6**/12,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.71**	**34**	Pn		**Pb**	**21 44 31.5**	**-0.6**
85nm,0.3s,baz=9.1,slow=22,SNR=7.9								
GNI				Lg		Lg	21 44 54.7	
22nm,0.3s,baz=72,slow=23,SNR=2.9								
BRTR	**Keskin Array B**	**7.71**	**280**	Pn		**Pn**	**21 45 52.1**	**-0.7**
0.1nm,0.3s,baz=85,slow=13,SNR=3.3								
GEYT	**Alibeck**	**11.52**	**89**	Pn		**Pn**	**21 46 45.2**	**+0.3**
0.0nm,0.3s,baz=314,slow=56,SNR=2.8								
AKTO	**Aktyubinsk**	**15.58**	**37**	Pn		**Pn**	**21 47 39.7**	**-0.1**
0.1nm,0.3s,baz=223,slow=8.6,SNR=3.0								
AKASG	**Malin Array Be**	**15.64**	**324**	Pn		**Pn**	**21 47 40.9**	**+0.1**
0.6nm,0.3s,baz=138,slow=11,SNR=4.9								
OBN	**Obninsk**	**17.03**	**346**	P		**Pn**	**21 47 57.3**	**-1.0**
0.9nm,0.3s,baz=129,slow=22,SNR=2.6								
ARU	**Arti**	**20.33**	**25**	P		**P**	**21 48 37.2**	**+0.8**
4.4nm,0.7s,baz=233,slow=6.9,SNR=6.5								
VRAC	**Vranov**	**21.93**	**308**	P		**P**	**21 48 56.6**	**+2.9**
2.5nm,0.6s,baz=106,slow=8.9,SNR=4.0								
BVAR	**Borovoye Array**	**23.37**	**44**	P		**P**	**21 49 08.5**	**-0.2**
0.9nm,0.7s,baz=258,slow=7.4,SNR=4.9								
GERES	**GERESS Array B**	**23.62**	**305**	P		**P**	**21 49 12.4**	**+1.0**
0.3nm,0.5s,baz=102,slow=9.3,SNR=2.9								
FINES	**FINESS Array B**	**25.16**	**340**	P		**P**	**21 49 26.2**	**+0.9**
2.1nm,1.0s,baz=133,slow=13,SNR=4.6								
DAVOX	**Davos/Dischmat**	**25.80**	**299**	P		**P**	**21 49 31.5**	**-0.1**
1.3nm,0.7s,baz=95,slow=12,SNR=3.4								
KURBB	**Kurchatov Arra**	**27.34**	**53**	P		**P**	**21 49 45.8**	**+0.7**
0.3nm,0.6s,baz=263,slow=6.9,SNR=10								
MKAR	**Makanchi Array**	**29.35**	**61**	P		**P**	**21 50 03.1**	**-0.1**
0.7nm,0.8s,baz=267,slow=5.8,SNR=3.2								
ZALV	**Zalesovo Beam**	**31.80**	**48**	P		**P**	**21 50 23.7**	**-1.0**
0.9nm,0.5s,baz=253,slow=9.7,SNR=6.9								
EKA	**Eskdalemuir Ar**	**35.10**	**314**	P		**P**	**21 50 53.1**	**-0.2**
2.7nm,0.8s,baz=99,slow=8.7,SNR=3.1	

	SNR=6.7								
ZKTA				⇑S		Sb	21 49 24.6	+0.8	
SEKA	**Sheki**	**4.05**	**49**	⇑P		**Pb**	21 48 33.8	-1.6	
	SNR=5.2								
SEKA				⇓S		Sb	21 49 23.6	-1.1	
LRK	**Lerik**	**4.09**	**88**	⇑P		**Pn**	21 48 26.4	-0.4	
	SNR=3.5								
LRK				⇑S		Sn	21 49 09.8	-5.3	
LRK	**Lerik**	**4.09**	**88**	P		**Pn**	21 48 26.4	-0.4	
	SNR=3.5								
GLBA	**Clilabad**	**4.16**	**80**	⇑P		**Pn**	21 48 28.5	+1.0	
	SNR=3.8								
GLBA				⇓S		Sn	21 49 15.0	-1.5	
GLBA	**Clilabad**	**4.16**	**80**	P		**Pn**	21 48 28.5	+1.0	
	SNR=3.8								
GLBA				S		Sn	21 49 15.0	-1.5	
KDMR	**Kurdemir**	**4.29**	**64**	⇑S		**Sn**	21 49 22.9	+3.2	
KDMR	**Kurdemir**	**4.29**	**64**	S		**Sn**	21 49 22.9	+3.2	
QBL	**Gabala**	**4.30**	**56**	⇓P		**Pb**	21 48 36.4	-3.2	
	SNR=3.6								
QBL				⇓S		Sb	21 49 26.2	-5.7	
QBL	**Gabala**	**4.30**	**56**	P		**Pb**	21 48 36.4	-3.2	
	SNR=3.6								
QBL				S		Sb	21 49 26.2	-5.7	
DARE	**Darende-Malaty**	**4.42**	**271**	*e*PN		**Pn**	21 48 32.5	+1.2	
DARE	**Darende-Malaty**	**4.42**	**271**	*e*Pn		**Pn**	21 48 32.5	+1.2	
LKRN	**Lenkeran, Azer**	**4.43**	**87**	⇑P		**Pn**	21 48 31.8	+0.5	
	SNR=2.8								
LKRN				⇑S		Sn	21 49 19.6	-3.6	
LKRN	**Lenkeran, Azer**	**4.43**	**87**	P		**Pn**	21 48 31.8	+0.5	
	SNR=2.8								
ASTR	**Astara**	**4.44**	**89**	⇓P		**Pn**	21 48 31.5	0.0	
	SNR=2.8								
ASTR				⇓S		Sn	21 49 19.4	-4.2	
ASTR	**Astara**	**4.44**	**89**	P		**Pn**	21 48 31.5	0.0	
	SNR=2.8								
IML	**Ismayilli**	**4.46**	**59**	⇑S		**Sn**	21 49 28.8	+4.7	
IML	**Ismayilli**	**4.46**	**59**	S		**Sn**	21 49 28.8	+4.7	
XNQ	**Khinaliq**	**4.62**	**55**	⇓P		**Pb**	21 48 40.7	-4.4	
XNQ				⇑S		Sn	21 49 34.2	+6.0	
XNQ	**Khinaliq**	**4.62**	**55**	P		**Pb**	21 48 40.7	-4.4	
XNQ				S		Sn	21 49 34.2	+6.0	
PQL	**Pirkuli**	**4.74**	**61**	⇓P		Pn	21 48 40.8	+5.2	
PQL				⇓S		Sn	21 49 34.8	+3.7	
PQL	**Pirkuli**	**4.74**	**61**	P		Pn	21 48 40.8	+5.1	
PQL				S		Sn	21 49 34.8	+3.7	
ALIB	**Äli-Bayra**	**4.75**	**72**	⇓S		**Sn**	21 49 32.0	+0.8	
ALIB	**Äli-Bayra**	**4.75**	**72**	S		**Sn**	21 49 32.0	+0.8	
RSDY	**Resadiye-TOKAT**	**4.81**	**293**	*e*PN		**Pn**	21 48 38.4	+1.8	
RSDY	**Resadiye-TOKAT**	**4.81**	**293**	*e*Pn		**Pn**	21 48 38.4	+1.8	
GBS	**Qobustan**	**4.88**	**65**	⇑P		Pn	21 48 43.1	+5.6	
GBS	**Qobustan**	**4.88**	**65**	P		Pn	21 48 43.1	+5.5	
QSAR	**Qusar**	**4.88**	**52**	⇓P		Pb	21 48 44.5	-5.0	
	SNR=3.8								
QSAR	**Qusar**	**4.88**	**52**	P		Pb	21 48 44.5	-5.0	
	SNR=3.8								
SVSK	**Karacayir**	**4.92**	**287**	*e*PN		**Pn**	21 48 40.6	+2.6	
SVSK	**Karacayir**	**4.92**	**287**	*e*Pn		**Pn**	21 48 40.6	+2.6	
ATGJ	**Altiaghaj**	**5.00**	**62**	⇓P		Pn	21 48 44.4	+5.1	
ATGJ	**Altiaghaj**	**5.00**	**62**	P		Pn	21 48 44.4	+5.1	
KMRS	**Kahramanmaras**	**5.04**	**259**	*e*PN		**Pn**	21 48 41.8	+2.1	
KMRS	**Kahramanmaras**	**5.04**	**259**	*e*Pn		**Pn**	21 48 41.8	+2.1	
SARI	**SarD1z-Kayseri**	**5.26**	**270**	*e*PN		**Pn**	21 48 45.2	+2.3	
BNN	**Bunyan**	**5.69**	**274**	*e*PN		**Pn**	21 48 51.1	+2.3	
BNN	**Bunyan**	**5.69**	**274**	*e*Pn		**Pn**	21 48 51.1	+2.3	
KOZT	**Kozan**	**5.87**	**261**	*e*PN		**Pn**	21 48 53.9	+2.8	
KOZT	**Kozan**	**5.87**	**261**	*e*Pn		**Pn**	21 48 53.9	+2.8	
CEYT	**Ceyhan**	**6.06**	**257**	*e*PN		**Pn**	21 48 56.4	+2.7	
CEYT	**Ceyhan**	**6.06**	**257**	*e*Pn		**Pn**	21 48 56.4	+2.7	
BRTR	**Keskin Array B**	**7.45**	**281**	Pn		**Pn**	21 49 14.4	+1.5	
	0.1nm,0.3s,baz=92,slow=13,SNR=3.1								
ASF	**Jabal al Asfar**	**8.21**	**220**	Pn		**Pn**	21 49 22.3	-1.0	
	0.2nm,0.3s,baz=41,slow=17,SNR=1.1								
MMAI	**Mount Meron Ar**	**8.41**	**231**	Pn		**Pn**	21 49 26.6	+0.6	
	0.4nm,0.3s,baz=42,slow=12,SNR=3.5								
IDI	**Anoyia**	**14.95**	**263**	Pn		**Pn**	21 50 54.1	-1.5	
	0.1nm,0.3s,baz=283,slow=4.0,SNR=3.7								
AKASG	**Malin Array Be**	**15.56**	**325**	Pn		**Pn**	21 51 03.3	-0.2	
	baz=131,slow=11,SNR=2.7								
AKTO	**Aktyubinsk**	**15.84**	**37**	Pn		**Pn**	21 51 06.2	-0.9	
	0.1nm,0.3s,baz=219,slow=16,SNR=1.8								
CRVS	**Cervenica-Dubn**	**18.65**	**310**	*e*P		**Pn**	21 51 44.6	+2.3	
VYHS	**Vyhne**	**20.09**	**307**	*e*P		Pn	21 51 59.8	+0.2	
ARU	**Arti**	**20.55**	**25**	P		**P**	21 52 03.2	+0.5	
	1.6nm,0.5s,baz=264,slow=12,SNR=4.1								
BVAR	**Borovoye Array**	**23.65**	**44**	P		**P**	21 52 36.6	+1.1	
	0.2nm,0.4s,baz=212,slow=39,SNR=2.6								
KURBB	**Kurchatov Arra**	**27.64**	**53**	P		**P**	21 53 13.1	+1.3	
	0.6nm,0.7s,baz=262,slow=9.1,SNR=4.4								
EKA	**Eskdalemuir Ar**	**34.96**	**314**	P		**P**	21 54 16.1	-0.1	
	3.8nm,0.8s,baz=104,slow=10,SNR=5.4								
TORD	**Torodi Ar. Bea**	**44.55**	**247**	P		**P**	21 55 35.1	-1.4	
	0.5nm,0.8s,baz=63,slow=8.8,SNR=4.3								
CMAR	**Chiang Mai Arr**	**52.17**	**96**	P		**P**	21 56 34.2	-1.1	
	0.4nm,0.5s,baz=298,slow=8.5,SNR=4.4								

IDC 23 21:47:48.9±1.3, 38°.41N×43°.87E, $h0^{km}$, mb3.6/5, mb1 3.6/6, mb1mx3.4/51, mbtmp3.6/6, Error ellipse: s-maj=26.0km s-min=19.7km az=135.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**1.86**	**21**	Pn	Pn	21 48 23.0	+0.8
	35nm,0.3s,baz=195,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**16.08**	**325**	Pn	Pn	21 51 36.3	+0.1
	baz=135,slow=10,SNR=2.2						
ARU	**Arti**	**20.50**	**24**	P	P	21 52 28.6	+0.3
	2.1nm,0.6s,baz=105,slow=18,SNR=2.4						
KURBB	**Kurchatov Arra**	**27.31**	**52**	P	P	21 53 37.0	+1.9
	1.3nm,0.6s,baz=264,slow=9.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**31.81**	**47**	P	P	21 54 16.4	+1.4
	0.4nm,0.5s,baz=253,slow=10,SNR=2.7						
TORD	**Torodi Ar. Bea**	**45.01**	**248**	P	P	21 56 05.6	-0.7
	0.7nm,1.1s,baz=71,slow=8.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**51.57**	**97**	P	P	21 56 55.8	-1.2
	0.2nm,0.5s,baz=294,slow=16,SNR=4.4						

*CSEM **23** 21:53:52.1, 38°.73N×42°.65E, $h7^{km}$, ML3.5*
DDA 23 21:53:52.1, 38°.73N×42°.65E, $h7^{km}$, Ml3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.53**	**142**	*i* P	Pg	21 54 02.4	+0.1
GEVA	**Gevas**	**0.53**	**142**	P	Pg	21 54 02.4	+0.1
DYDN	**Diyadin**	**1.14**	**45**	*i* P	Pg	21 54 13.9	-0.2
DYDN	**Diyadin**	**1.14**	**45**	P	Pg	21 54 13.9	-0.2
BTMN	**Batman**	**1.37**	**233**	*i* P	Pb	21 54 18.1	-0.1
BTMN	**Batman**	**1.37**	**233**	P	Pb	21 54 18.1	0.0
HAKT	**HAKKARI**	**1.44**	**144**	*i* P	Pb	21 54 19.5	+0.1
HAKT	**HAKKARI**	**1.44**	**144**	P	Pb	21 54 19.5	+0.1
CUKT	**Cukurca**	**1.67**	**153**	*i* P	Pg	21 54 25.5	+1.4
CUKT	**Cukurca**	**1.67**	**153**	P	Pg	21 54 25.5	+1.5

*CSEM **23** 21:57:32.1±0.3, 38°.70N×43°.24E, $h2^{km}$, ML3.6, Error ellipse: s-maj=8.4km s-min=5.1km az=84.0*
*DDA **23** 21:57:32.1, 38°.66N×43°.17E, $h7^{km}$, Ml3.6*
*ISCJB **23** 21:57:33.3±0.6, 38°.73N±0°.03×43°.27E±0°.07, $h15^{km}$, Error ellipse: s-maj=7.4km s-min=4.4km az=177.3*
*ISK **23** 21:57:33.1, 38°.77N×43°.29E, $h18^{km}$, ML3.1*
ISC 23 21:57:32.5±0.9, 38°.71N±0°.03×43°.27E±0°.04, h15km, n47, σ1§17/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.43**	**203**	*i* P	**Pg**	21 57 39.1	**-2.0**
GEVA	**Gevas**	**0.43**	**203**	P	**Pg**	21 57 39.2	**-2.0**
AGRB	**Hanur-Agry**	**0.90**	**346**	*e*PG	**Pb**	21 57 49.6	**-0.3**
AGRB				*e*SG	**Sb**	21 58 02.2	**+0.5**
AGRB	**Hanur-Agry**	**0.90**	**346**	*e*Pg	**Pb**	21 57 49.6	**-0.3**
AGRB				*e*Sg	**Sb**	21 58 02.2	**+0.5**
DYDN	**Diyadin**	**0.90**	**21**	*i* P	**Pn**	21 57 51.2	**+0.4**
DYDN	**Diyadin**	**0.90**	**21**	P	**Pn**	21 57 51.2	**+0.4**
EKAR	**Karacoban**	**1.09**	**301**	*i* P	**Pb**	21 57 52.8	**-0.4**
EKAR	**Karacoban**	**1.09**	**301**	P	**Pb**	21 57 52.8	**-0.4**
HAKT	**HAKKARI**	**1.20**	**163**	*i* P	**Pn**	21 57 53.9	**-1.0**
HAKT	**HAKKARI**	**1.20**	**163**	P	**Pn**	21 57 53.9	**-1.0**
EATA	**Eleskirt**	**1.30**	**333**	*i* P	**Pn**	21 57 56.7	**+0.2**
EATA	**Eleskirt**	**1.30**	**333**	P	**Pn**	21 57 56.7	**+0.2**
SIRN	**S¨–rnak**	**1.38**	**209**	*i* P	**Pn**	21 57 57.6	**+0.2**
SIRN	**S¨–rnak**	**1.38**	**209**	P	**Pn**	21 57 57.6	**+0.2**
CUKT	**Cukurca**	**1.48**	**170**	*e*PN	**Pb**	21 58 00.5	**+0.7**
CUKT				*e*SN	**Sg**	21 58 20.4	**+0.1**
CUKT	**Cukurca**	**1.48**	**170**	*i* P	**Pg**	21 58 01.2	**+0.2**
CUKT	**Cukurca**	**1.48**	**170**	*e*Pn	**Pb**	21 58 00.5	**+0.7**
CUKT	**Cukurca**	**1.48**	**170**	P	**Pg**	21 58 01.2	**+0.2**
CUKT				*e*Sn	**Sg**	21 58 20.4	**+0.1**
VRTB	**Varto-Mus**	**1.49**	**288**	*e*PN	**Pn**	21 57 59.2	**+0.4**
VRTB	**Varto-Mus**	**1.49**	**288**	*i* P	**Pn**	21 57 58.4	**-0.5**
VRTB	**Varto-Mus**	**1.49**	**288**	P	**Pn**	21 57 58.4	**-0.5**
VRTB	**Varto-Mus**	**1.49**	**288**	*e*Pn	**Pn**	21 57 59.2	**+0.4**
BNGL	**BINGOL**	**1.67**	**279**	*i* P	**Pb**	21 58 01.9	**+0.4**
HOMI	**Horasan**	**1.71**	**322**	*i* P	**Pb**	21 58 04.3	**+0.6**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*PN	**Pn**	21 58 02.6	**+0.7**
SVAN				*e*SN	**Sb**	21 58 25.5	**+0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*i* P	**Pb**	21 58 02.9	**-0.9**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*Pn	**Pn**	21 58 02.6	**+0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	P	**Pb**	21 58 02.9	**-0.9**
SVAN				*e*Sn	**Sb**	21 58 25.5	**+0.2**
BTMN	**Batman**	**1.77**	**243**	*i* P	**Pb**	21 58 04.2	**-0.6**
BTMN	**Batman**	**1.77**	**243**	P	**Pb**	21 58 04.2	**-0.6**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*PN	**Pn**	21 58 05.9	**+0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*Pn	**Pn**	21 58 05.9	**+0.2**
BNGB	**Bing¨¶l**	**2.04**	**279**	*e*PN	**Pn**	21 58 07.6	**+1.1**
BINT	**Bingol**	**2.18**	**275**	*e*Pn	**Pn**	21 58 07.6	**-0.8**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*PN	**Pn**	21 58 10.9	**+1.6**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*Pn	**Pn**	21 58 10.9	**+1.6**
MARD	**Mardin**	**2.41**	**236**	*i* P	**Pn**	21 58 13.1	**+1.6**
MAZI	**Mazidag**	**2.55**	**242**	*e*PN	**Pn**	21 58 15.7	**+2.3**
MAZI	**Mazidag**	**2.55**	**242**	*e*Pn	**Pn**	21 58 15.7	**+2.3**
AKH	**Akhalkalaki**	**2.71**	**4**	*e*PN	**Pn**	21 58 16.1	**+0.5**
AKH	**Akhalkalaki**	**2.71**	**4**	*e*Pn	**Pn**	21 58 16.1	**+0.5**
ERZN	**Erzincan**	**2.90**	**289**	*e*PN	**Pn**	21 58 19.7	**+1.5**
PTK	**Pertek**	**3.04**	**275**	*e*PN	**Pn**	21 58 22.2	**+2.0**
PTK	**Pertek**	**3.04**	**275**	*e*Pn	**Pn**	21 58 22.2	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*PN	**Pn**	21 58 23.9	**+2.5**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*Pn	**Pn**	21 58 23.9	**+2.5**
EZC	**Erzincan**	**3.22**	**290**	*e*Pn	**Pn**	21 58 19.7	**-2.9**

*IDC **23** 22:02:16.4±0.8, 9°.99N×126°.51E, $h0^{km}$, mb4.0/14, mb1 4.0/14, mb1mx3.8/53, mbtmp4.0/14, Error ellipse: s-maj=40.7km s-min=15.6km az=71.0*
*MAN **23** 22:02:18, 10°.00N×126°.46E, $h1^{km}$, mb4.7, ML3.5, MS3.5*
*NEIC **23** 22:02:25.4±1.4, 9°.92N×126°.43E, $h70^{km}$±13^{km}, mb4.7/13, Error ellipse: s-maj=12.9km s-min=5.9km az=72.0*
ISC 23 22:02:17.7±1.5, 9°.94N±0°.03×126°.48E±0°.05, $h8^{km}$±9^{km}, n61, σ1§42/67, mb4.3/27, 1C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.99**	**261**	⇓*i* P	**Pn**	22 02 37.8	**0.0**
SCPH				*i* S	Sn	22 02 51.5	**-0.5**
MSLP	**Maasin**	**1.60**	**277**	*e*P	**Pg**	22 02 47.9	**-0.7**
MSLP				*e*S	**Sg**	22 03 08.8	**-0.6**
PLP	**Palo**	**1.91**	**310**	⇓*e*P	**Pb**	22 02 51.9	**-0.9**
PLP				*e*S	**Sn**	22 03 14.3	**-0.5**
BESP	**Borongan**	**1.94**	**328**	*e*P	**Pb**	22 02 51.8	**-1.5**
BESP				*e*S	**Sg**	22 03 22.4	**+2.3**
OCLP	**Ormoc**	**2.14**	**301**	*e*P	**Pb**	22 02 56.7	**0.0**
BUKP	**Musuan**	**2.48**	**214**	*e*P	**Pb**	22 03 03.0	**+0.4**
BUKP				*e*S	**Sb**	22 03 32.7	**-0.7**
LLP	**Lapu-Lapu**	**2.50**	**279**	⇓*e*P	**Pb**	22 03 01.6	**-1.3**
LLP				*e*S	**Sb**	22 03 33.2	**-0.7**
TBP	**Tagbilaran**	**2.59**	**265**	*e*P	**Pb**	22 03 02.7	**-1.7**
TBP				*e*S	**Sn**	22 03 31.0	**-0.7**
MATI	**Mati**	**2.98**	**184**	*e*P	**Pg**	22 03 15.1	**+0.1**
MATI				*e*S	**Sg**	22 03 53.2	**-0.5**
DAV	**Davao City (W)**	**2.99**	**197**	Pn	**Pb**	22 03 10.5	**-0.8**
CNP	**Cataman**	**3.11**	**325**	*e*P	**Pn**	22 03 08.9	**+1.9**
CNP				*e*S	**Sn**	22 03 44.7	**+0.2**
SNPH	**Sibulan**	**3.25**	**260**	⇓*i* P	**Pb**	22 03 13.7	**-2.0**
SNPH				*i* S	**Sn**	22 03 52.0	**+3.9**
DCPH	**Dipolog City**	**3.37**	**247**	⇑*e*P	**Pn**	22 03 13.5	**+2.8**
DCPH				*e*S	**Sn**	22 03 52.3	**+1.5**
PAGZ	**Pagadian**	**3.70**	**236**	*e*P	**Pn**	22 03 18.4	**+3.2**
RCP	**Roxas**	**4.00**	**294**	⇓*e*P	**Pn**	22 03 22.8	**+3.4**
PVCP	**Virac**	**4.29**	**328**	*e*P	**Pn**	22 03 26.2	**+3.0**
PVCP				*e*S	**Sn**	22 04 16.9	**+3.4**
MTN	**Manton Dam**	**23.11**	**168**	*e*P	**P**	22 07 26.2	**+2.0**
	17nm,1.3s						
SMRI	**Semarang**	**23.24**	**224**	*e*P	**P**	22 07 25.2	**-0.5**
	33nm,0.5s						
INU	**Inuyama**	**27.05**	**19**	*e*P	**P**	22 07 57.3	**-3.4**
	59nm,2.0s						
FITZ	**Fitzroy Crossi**	**27.88**	**182**	P	**P**	22 08 09.9	**+1.7**
	1.5nm,0.7s,baz=356,slow=12,SNR=6.9						
CM31	**Chiang Mai Arr**	**27.97**	**291**	*e*P	**P**	22 08 08.6	**-0.5**
CMAR	**Chiang Mai Arr**	**27.97**	**291**	P	**P**	22 08 09.7	**+0.5**
	0.4nm,0.4s,baz=106,slow=8.6,SNR=6.7						
WRA	**Warramunga Arr**	**30.69**	**165**	P	**P**	22 08 33.3	**+0.2**
	0.2nm,0.6s,baz=258,slow=27,SNR=2.6						
WR1	**Warramunga Arr**	**30.69**	**165**	*e*P	**P**	22 08 33.3	**+0.2**
	28nm,1.9s						
AS31	**Alice Springs**	**34.18**	**168**	*e*P	**P**	22 09 03.1	**-0.7**
	3.2nm,1.6s						
ASAR	**Alice Springs**	**34.18**	**168**	P	**P**	22 09 03.1	**-0.7**
	0.2nm,0.3s,baz=349,slow=7.2,SNR=5.8						
ASAJ	**Asahikawa**	**36.80**	**19**	*e*P	**P**	22 09 26.3	**+0.2**
	41nm,1.7s						
H11S3	**WAKE ISLAND Hy**	**39.82**	**73**	T	T	22 52 47.2	
	baz=262,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	22 52 48.2	
	baz=262,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**39.84**	**73**	T	T	22 52 48.9	
	baz=262,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	22 53 12.7	
	baz=264,slow=74,SNR=53						
H11N2	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	22 53 14.0	
	baz=264,slow=74,SNR=43						
H11N3	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	22 53 14.9	
	baz=264,slow=74,SNR=50						
ULN	**Ulaanbaatar**	**41.20**	**340**	*e*P	**P**	22 10 03.6	**+0.5**
	2.5nm,0.6s						
SONA0	**Songino Array**	**41.40**	**340**	*e*P	**P**	22 10 05.8	**+1.2**
	4.3nm,1.5s						
SONM	**Songino Array**	**41.40**	**340**	P	**P**	22 10 05.8	**+1.2**
	1.0nm,0.6s,baz=160,slow=9.9,SNR=7.7						
BBOO	**Buckleboo**	**43.48**	**168**	*e*P	**P**	22 10 20.7	**-0.9**
	36nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.53**	**191**	*e*P	**P**	22 10 23.7	**+1.7**
	126nm,1.6s						
MK31	**Makanchi Array**	**52.41**	**323**	*e*P	**P**	22 11 30.7	**0.0**
MK32	**Makanchi Array**	**52.41**	**323**	*e*P	**P**	22 11 30.6	**-0.1**
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	22 11 30.6	**0.0**
	2.7nm,0.7s,baz=123,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**52.41**	**323**	*e*P	**P**	22 11 30.7	**0.0**
	16nm,0.6s						
MAKZ	**Makanchi**	**52.60**	**323**	*e*P	**P**	22 11 31.5	**-0.6**
	16nm,1.9s						
ZALV	**Zalesovo Beam**	**55.01**	**331**	P	**P**	22 11 48.7	**-0.9**
	0.7nm,0.3s,baz=136,slow=7.6,SNR=4.8						
ZAA1	**Zalesovo Array**	**55.01**	**331**	*e*P	**P**	22 11 48.7	**-0.9**
KURK	**Kurchatov**	**56.45**	**326**	*e*P	**P**	22 11 59.5	**-0.4**
KURBB	**Kurchatov Arra**	**56.46**	**325**	P	**P**	22 11 59.5	**-0.5**
	1.0nm,0.3s,baz=122,slow=6.8,SNR=5.3						
SMY	**Shemya**	**57.32**	**32**	*e*P	**P**	22 12 05.2	**-0.8**
	143nm,1.1s						
KKAR	**Karatay Array**	**58.62**	**315**	*e*P	**P**	22 12 15.0	**-0.5**
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**62.05**	**325**	P	**P**	22 12 37.8	**-1.0**
	0.3nm,0.3s,baz=125,slow=9.4,SNR=4.6						
ARU	**Arti**	**69.61**	**327**	P	**P**	22 13 26.4	**-1.0**
	2.2nm,0.4s,baz=101,slow=5.2,SNR=4.6						
ARU	**Arti**	**69.61**	**327**	*e*P	**P**	22 13 26.4	**-1.0**
	16nm,1.8s						
ILAR	**Eielson Array**	**79.64**	**26**	P	**P**	22 14 25.7	**+0.2**
	0.2nm,0.8s,baz=280,slow=5.3,SNR=2.9						
ILB	**Eielson Array**	**79.64**	**26**	*e*P	**P**	22 14 25.7	**+0.2**
ARA0	**ARCESS Array S**	**84.57**	**340**	*e*P	**P**	22 14 51.5	**+0.2**
ARCES	**ARCESS Array B**	**84.57**	**340**	P	**P**	22 14 51.5	**+0.2**
	4.3nm,1.0s,baz=91,slow=7.3,SNR=4.2						
FIA0	**FINESS Array S**	**86.27**	**332**	*e*P	**P**	22 14 59.7	**-0.1**
FINES	**FINESS Array B**	**86.27**	**332**	P	**P**	22 14 59.7	**-0.1**
	1.5nm,0.8s,baz=78,slow=4.8,SNR=15						
HFS	**Hagfors**	**92.43**	**332**	P	**P**	22 15 27.9	**-1.1**
	0.8nm,0.6s,baz=47,slow=6.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**120.58**	**292**	PKP	**PKPdf**	22 21 10.5	**-0.6**
	0.1nm,0.3s,baz=67,slow=1.5,SNR=6.5						
TOA1	**Torodi Ar. Sit**	**120.58**	**292**	*e*PKPdf	**PKPdf**	22 21 10.5	**-0.6**

*DDA **23** 22:04:33.0, 38°.70N×43°.33E, $h7^{km}$, Ml3.5*
*ISK **23** 22:04:33.8, 38°.76N×43°.24E, $h6^{km}$, ML3.1*

*CSEM **23** 22:04:34.7±0.2, 38°.69N×43°.17E, $h5^{km}$, ML3.5, Error ellipse: s-maj=6.8km s-min=5.3km az=140.0*
*AZER **23** 22:04:35.7±0.9, 38°.37N×43°.53E, $h7^{km}$, Error ellipse: s-maj=7.7km s-min=4.0km az=22.0*
ISC 23 22:04:33.5±1.1, 38°.72N±0°.02×43°.29E±0°.02, $h7^{km}$±10^{km}, n61, σ1§73/80, 16C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.44**	**204**	*i* P	**Pg**	22 04 41.5	**-0.6**
GEVA	**Gevas**	**0.44**	**204**	P	**Pg**	22 04 41.5	**-0.6**
DYDN	**Diyadin**	**0.88**	**20**	*i* P	**Pg**	22 04 49.6	**-0.9**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*PG	**Pg**	22 04 50.3	**-0.3**
AGRB				*e*SG	**Sg**	22 05 02.3	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*Pg	**Sg**	22 04 50.3	**-0.3**
AGRB				*e*Sg	**Sg**	22 05 02.3	**+0.2**
EKAR	**Karacoban**	**1.10**	**300**	*i* P	**Pg**	22 04 55.1	**+0.5**
EKAR	**Karacoban**	**1.10**	**300**	P	**Pg**	22 04 55.1	**+0.5**
HAKT	**HAKKARI**	**1.20**	**164**	*i* P	**Pg**	22 04 54.5	**-2.1**
EATA	**Eleskirt**	**1.30**	**332**	*i* P	**Pg**	22 04 58.3	**-0.2**
EATA	**Eleskirt**	**1.30**	**332**	P	**Pg**	22 04 58.3	**-0.2**
SIRN	**S¨–rnak**	**1.40**	**210**	*i* P	**Pg**	22 05 00.5	**+0.1**
SIRN	**S¨–rnak**	**1.40**	**210**	P	**Pg**	22 05 00.5	**+0.1**
CUKT	**Cukurca**	**1.49**	**170**	*e*PN	**Pg**	22 05 02.5	**+0.5**
CUKT				*e*SN	**Sg**	22 05 23.5	**+2.1**
CUKT	**Cukurca**	**1.49**	**170**	*i* P	**Pb**	22 05 01.8	**+0.2**
CUKT	**Cukurca**	**1.49**	**170**	P	**Pb**	22 05 01.8	**+0.2**
CUKT	**Cukurca**	**1.49**	**170**	*e*Pn	**Pg**	22 05 02.6	**+0.5**
CUKT				*e*Sn	**Sg**	22 05 23.5	**+2.1**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*PN	**Pn**	22 05 01.3	**+0.3**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*Pn	**Pn**	22 05 01.3	**+0.3**
BNGL	**BINGOL**	**1.69**	**279

ERZM	Erzurum	1.92 308	*i* P	Pg	22 06 22.8	-0.2
SENK	Senkaya-Erzuru	1.97 338	*e*PN	Pb	22 06 20.8	-1.3
SENK	Senkaya-Erzuru	1.97 338	*e*Pn	Pb	22 06 20.8	-1.3
ECAT	Cat-ERZURUM	2.02 296	*i* P	Pg	22 06 23.9	-1.2
BNGB	Bing¶ll	2.08 278	*e*PN	Pb	22 06 22.0	-2.0
BINT	Bingol	2.22 274	*e*Pn	Pn	22 06 22.0	-0.9
YEDI	Yedisu-Bingol	2.27 289	*e*PN	Pn	22 06 24.9	+1.2
YEDI	Yedisu-Bingol	2.27 289	*e*Pn	Pn	22 06 24.9	+1.2

*CSEM **23** 22:09:04.9, 38.°74N×43.°41E, h6km, ML3.5*

DDA 23 22:09:04.9, 38.°74N×43.°41E, h6km, Ml3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.50	213	*i* P	Pb	22 09 15.6	-0.6
GEVA	Gevas	0.50	213	P	Pb	22 09 15.6	-0.6
DYDN	Diyadin	0.83	15	*i* P	Pg	22 09 21.3	+0.4
DYDN	Diyadin	0.83	15	P	Pg	22 09 21.3	+0.3
EKAR	Karacoban	1.17	297	*i* P	Pn	22 09 29.1	+1.1
EKAR	Karacoban	1.17	297	P	Pn	22 09 29.1	+1.2
HAKT	HAKKARI	1.20	168	*i* P	Pg	22 09 27.1	-0.9
HAKT	HAKKARI	1.20	168	P	Pg	22 09 27.1	-0.9
EATA	Eleskirt	1.33	328	*i* P	Pn	22 09 29.6	-0.7
EATA	Eleskirt	1.33	328	P	Pn	22 09 29.6	-0.6
SIRN	S¨–rnak	1.47	213	*i* P	Pg	22 09 33.0	0.0
SIRN	S¨–rnak	1.47	213	P	Pg	22 09 33.0	0.0
CUKT	Cukurca	1.50	174	*i* P	Pg	22 09 36.9	+3.3
CUKT	Cukurca	1.50	174	P	Pg	22 09 36.9	+3.3
DIGO	Kars	1.68	359	*i* P	Pg	22 09 37.0	0.0
DIGO	Kars	1.68	359	P	Pg	22 09 37.0	0.0
HOMI	Horasan	1.75	319	*i* P	Pb	22 09 37.3	-0.2
BNGL	BINGOL	1.77	278	*i* P	Pb	22 09 37.6	-0.3
ERZM	Erzurum	1.96	307	*i* P	Pb	22 09 41.4	+0.2
ERZM	Erzurum	1.96	307	P	Pb	22 09 41.4	+0.2
ECAT	Cat-ERZURUM	2.08	295	*i* P	Pb	22 09 42.7	-0.4
ECAT	Cat-ERZURUM	2.08	295	P	Pb	22 09 42.7	-0.4

*NEIC **23** 22:12:08.1±0.0, 37.°08S×177.°34E, h137km, MG4.1(WEL), After WEL.*

WEL 23 22:12:07.5±0.4, 37.°06S×177.°34E, h142km±3km, ML4.1/29, 11C-6D, Error ellipse: s-maj=3.1km s-min=2.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.78	153	⇑PN	Pn	22 12 29.5	-0.2
HAZ				SN	Sn	22 12 46.9	+0.2
HAZ				AML	AML	22 12 53.0	
HAZ				AML	AML	22 12 53.0	
WHRZ	Whale Island	0.85	200	PN	Pn	22 12 30.6	+0.3
MXZ	Matakaoa Point	0.92	123	*e*Pn	Pn	22 12 30.9	0.0
MXZ				*e*Sn	Sn	22 12 52.0	+3.4
MXZ	Matakaoa Point	0.92	123	⇓PN	Pn	22 12 30.7	-0.1
MXZ				SN	Sn	22 12 49.4	+0.7
MXZ				AML	AML	22 12 55.4	
RUGZ	Raukumara Rang	0.94	164	⇑PN	Pn	22 12 30.6	-0.6
PKGZ	Pakihiroa	1.02	145	⇑PN	Pn	22 12 32.0	+0.3
PKGZ				AML	AML	22 12 56.8	
PKGZ				AML	AML	22 12 57.2	
WMGZ	Waiomatatini S	1.15	132	⇑PN	Pn	22 12 32.9	0.0
WMGZ				AML	AML	22 13 00.8	
WMGZ				AML	AML	22 13 02.1	
URZ	Urewera	1.21	188	*e*Pn	Pn	22 12 33.6	+0.1
URZ				*e*Sn	Sn	22 12 52.6	-0.8
URZ	Urewera	1.21	188	PN	Pn	22 12 33.5	0.0
URZ				SN	Sn	22 12 53.4	0.0
URZ				AML	AML	22 12 57.8	
TWGZ	Tauwhareparae	1.23	156	⇑PN	Pn	22 12 34.1	+0.4
TWGZ				AML	AML	22 12 59.6	
TWGZ				AML	AML	22 13 06.8	
PUZ	Puketiti	1.25	144	⇓PN	Pn	22 12 33.6	-0.3
PUZ				AML	AML	22 13 02.0	
PUZ				AML	AML	22 13 04.8	
MWZ	Matawai	1.28	173	*e*Pn	Pn	22 12 34.1	-0.2
MWZ	Matawai	1.28	173	PN	Pn	22 12 34.1	-0.2
MWZ				AML	AML	22 13 02.7	
MWZ				AML	AML	22 13 02.8	
TARZ	Mount Tarawera	1.35	209	PN	Pn	22 12 35.8	+0.8
RAGZ	Rawiri	1.44	178	PN	Pn	22 12 36.0	+0.2
RAGZ				AML	AML	22 13 07.1	
RAGZ				AML	AML	22 13 10.1	
TKGZ	Te Karaka	1.44	164	PN	Pn	22 12 35.6	-0.2
TKGZ				AML	AML	22 13 07.2	
TKGZ				AML	AML	22 13 10.2	
MUGZ	Murupara	1.49	197	⇑PN	Pn	22 12 36.4	+0.1
RTZ	Ruatahuna	1.58	190	PN	Pn	22 12 37.3	-0.1
CNGZ	Carnagh Statio	1.58	154	⇑PN	Pn	22 12 37.6	+0.2
CNGZ				AML	AML	22 13 05.3	
CNGZ				AML	AML	22 13 23.7	
PRRZ	Plateau Road	1.62	207	PN	Pn	22 12 38.3	+0.5
RIGZ	Rimuhau	1.68	169	PN	Pn	22 12 38.1	-0.4
RIGZ				SN	Sn	22 13 02.3	0.0
ALRZ	Allen Road	1.70	207	PN	Pn	22 12 39.2	+0.6
SNGZ	Shannon Statio	1.72	180	PN	Pn	22 12 38.3	-0.6
SNGZ				AML	AML	22 13 13.0	
SNGZ				AML	AML	22 13 17.6	
MKAZ	Moumakai	1.74	268	PN	Pn	22 12 39.5	+0.4
PRGZ	Paritu Road	1.91	167	⇑PN	Pn	22 12 40.8	-0.3
PRGZ				AML	AML	22 12 44.4	
PRGZ				AML	AML	22 13 29.6	
MRHZ	Matea Rd	1.92	202	PN	Pn	22 12 40.6	-0.6
MRHZ				AML	AML	22 13 09.8	
MRHZ				AML	AML	22 13 19.3	
KNZ	Kokohu	1.98	172	⇑PN	Pn	22 12 41.4	-0.4
KNZ				AML	AML	22 13 39.4	
WHHZ	Waihua	2.02	182	PN	Pn	22 12 42.5	+0.2
WHHZ				AML	AML	22 13 19.7	
WHHZ				AML	AML	22 13 27.8	
NMHZ	Naumai	2.08	191	⇓PN	Pn	22 12 43.3	+0.2
NMHZ				AML	AML	22 13 21.0	
NMHZ				AML	AML	22 13 21.6	
MHGZ	Mahia Peninsul	2.14	168	⇑PN	Pn	22 12 43.6	-0.2
MHGZ				AML	AML	22 12 46.9	
BKZ	Black Stump Fm	2.21	197	*e*Pn	Pn	22 12 44.5	-0.2
BKZ				*e*Sn	Sn	22 13 11.6	-1.8
BKZ	Black Stump Fm	2.21	197	PN	Pn	22 12 45.3	+0.6
BKZ				AML	AML	22 13 21.3	
BKZ				AML	AML	22 13 25.6	
ARHZ	Aropaoanui	2.22	187	⇓PN	Pn	22 12 44.7	0.0
ARHZ				AML	AML	22 13 22.6	
ARHZ				AML	AML	22 13 25.3	
MCHZ	McNeill Hill	2.44	192	PN	Pn	22 12 47.3	-0.1
MCHZ				AML	AML	22 13 30.1	
MCHZ				AML	AML	22 13 36.8	
HIZ	Hauiti	2.44	233	*e*Pn	Pn	22 12 51.0	+3.5
HIZ				*e*Sn	Sn	22 13 23.3	+4.9
KWHZ	Kaweka Forest	2.47	197	PN	Pn	22 12 47.0	-0.9
KWHZ				AML	AML	22 13 29.4	
KWHZ				AML	AML	22 13 30.5	
TUVZ	Tukino	2.57	211	*e*Pn	Pn	22 12 49.4	+0.1
TUVZ	Tukino	2.57	211	PN	Pn	22 12 49.3	+0.1
CKHZ	Cape Kidnapper	2.60	184	⇑PN	Pn	22 12 48.5	-0.9
CKHZ				AML	AML	22 13 22.9	
WHVZ	Whangaehu Hut	2.61	211	PN	Pn	22 12 49.7	-0.1
BHHZ	Black Hill Sta	2.63	202	PN	Pn	22 12 49.3	-0.6
BHHZ				AML	AML	22 13 29.1	
BHHZ				AML	AML	22 13 35.0	
WNVZ	Wahianoa	2.65	211	*e*Pn	Pn	22 12 50.2	0.0
WNVZ	Wahianoa	2.65	211	PN	Pn	22 12 50.2	0.0
MOVZ	Moawhango	2.66	208	PN	Pn	22 12 49.4	-0.8
KRHZ	Kereru	2.69	196	⇓PN	Pn	22 12 49.3	-1.4
KRHZ				AML	AML	22 13 35.6	
KRHZ				AML	AML	22 13 36.3	
PKVZ	Pokaka	2.73	215	PN	Pn	22 12 51.2	+0.1
KAHZ	Kahuranaki	2.76	187	PN	Pn	22 12 50.4	-1.1
KAHZ				AML	AML	22 13 42.4	
KAHZ				AML	AML	22 13 43.1	
PNHZ	Pukenui	2.99	197	PN	Pn	22 12 52.9	-1.5
PNHZ				AML	AML	22 13 42.8	
PNHZ				AML	AML	22 13 44.9	
PXZ	Pawanui	2.99	187	*e*Pn	Pn	22 12 49.8	-4.6
PXZ	Pawanui	2.99	187	PN	Pn	22 12 52.4	-2.0
PXZ				AML	AML	22 13 29.6	
PXZ				AML	AML	22 13 29.8	
PRHZ	Porangahau	3.25	190	⇓PN	Pn	22 12 55.9	-1.9
PRHZ				AML	AML	22 13 37.8	
PRHZ				AML	AML	22 13 38.2	
BFZ	Birch Farm	3.72	193	*e*Pn	Pn	22 13 01.6	-2.2
BFZ				*e*Sn	Sn	22 13 45.7	-1.8
THZ	Tophouse	5.82	215	*e*Pn	Pn	22 13 27.2	-4.4
THZ				*e*Sn	Sn	22 14 33.1	-4.3
KHZ	Kahutara	6.10	208	*e*Pn	Pn	22 13 30.7	-4.6
KHZ				*e*Sn	Sn	22 14 36.1	-7.9
OXZ	Oxford	7.46	211	*e*Pn	Pn	22 13 49.0	-4.5
OXZ				*e*Sn	Sn	22 15 07.3	-9.5
MQZ	McQueen's Vall	7.54	207	*e*Pn	Pn	22 13 49.0	-5.6
MQZ				*e*Sn	Sn	22 15 07.0	-12
ODZ	Otahua Downs	9.44	210	*e*Pn	Pn	22 14 14.4	-5.6

NEIC 23 22:17:21.4±0.0, 61.°97N×150.°69W, h63km, ML3.7(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.40	273	P	Pn	22 17 32.0	-0.7
SKT				S	Sn	22 17 40.6	-0.2
SUA	Susitna One	0.50	183	P	Pn	22 17 33.1	-0.6
SUA				S	Sn	22 17 42.8	+0.1
STLK	Strandline Lak	0.72	230	P	Pn	22 17 35.4	-0.7
FIB	Fire Island	0.84	163	P	Pn	22 17 37.6	+0.2
GHO	Glory Hole Cre	0.86	102	P	Pn	22 17 37.7	-0.9
GHO				S	Sn	22 17 50.0	0.0
SPCG	Spurr Capps Gl	0.93	224	P	Pn	22 17 38.2	-0.5
SPCG				S	Sn	22 17 51.7	+0.2
VOGL	Vogel Lake	0.98	173	P	Pn	22 17 39.8	+0.6
CRP	Crater Peak	0.99	226	P	Pn	22 17 39.0	-0.6
CRP				S	Sn	22 17 53.0	0.0
SPCP	Crater Peak Br	0.99	226	P	Pn	22 17 38.9	-0.7
RC01	Rabbit Creek A	0.99	152	S	Sn	22 17 52.8	0.0
SPU	Mount Spurr	1.02	220	*e*Pn	Pn	22 17 39.1	-0.7
BGL	Barrier Glacie	1.07	230	P	Pn	22 17 40.1	-0.5
CKL	Chakachamna La	1.10	226	P	Pn	22 17 40.3	-0.6
SPWE	Spurr West	1.13	233	P	Pn	22 17 41.2	-0.1
KNK	Knik Glacier	1.20	116	P	Pn	22 17 41.4	-0.8
KNK				S	Sn	22 17 57.9	+0.2
SLKM	Skilak Lake	1.48	171	P	Pn	22 17 44.6	-1.3
PWL	Port Wells	1.59	133	P	Pn	22 17 45.9	-1.4
CAST	Castle Rocks	1.59	337	*e*Pn	Pn	22 17 46.9	-0.5
SCM	Sheep Creek Mo	1.60	93	P	Pn	22 17 46.8	-0.8
SCM				S	Sn	22 18 07.3	+0.1
RND	Reindeer	1.68	30	P	Pn	22 17 48.0	-0.6
DFR	Drift River	1.68	216	P	Pn	22 17 48.4	-0.2
RDJH	Redoubt Jeurge	1.71	217	P	Pn	22 17 48.9	-0.2
REF	Redoubt East F	1.77	214	P	Pn	22 17 50.0	+0.1
REF				S	Sn	22 18 12.9	+1.3
RSO	Redoubt South	1.81	214	*e*Pn	Pn	22 17 50.3	-0.2
RDWB	Redoubt West	1.81	216	P	Pn	22 17 50.4	0.0
RED	Redoubt Volcan	1.85	214	P	Pn	22 17 50.7	-0.2
DHY	Denali Highway	1.90	53	P	Pn	22 17 50.9	-0.8
GLI	Glacier Island	2.04	121	P	Pn	22 17 51.5	-1.9
CHUM	Lake Minchumin	2.06	340	P	Pn	22 17 53.3	-0.3
CHUM				S	Sn	22 18 17.4	-0.8
JPK	Jack Peak	2.17	113	P	Pn	22 17 53.4	-1.8
BRLK	Bradley Lake	2.21	183	P	Pn	22 17 56.5	+0.7
INE	Iliamna NE	2.23	212	P	Pn	22 17 56.6	+0.4
VLZ	Valdez	2.25	110	P	Pn	22 17 54.4	-1.8
ILW	Iliamna West	2.25	213	P	Pn	22 17 56.6	+0.2
KLU	Klutina	2.32	100	P	Pn	22 17 56.0	-1.3
KLU				S	Sn	22 18 23.6	-1.1
HOM	Homer	2.36	192	*e*Pn	Pn	22 18 00.4	+2.7
FID	Port Fidalgo	2.37	119	P	Pn	22 17 55.5	-2.4
CNPM	China Poot	2.46	186	*e*Pn	Pn	22 17 59.9	+0.7
PS11	TAPS Pump St11	2.46	85	P	Pn	22 17 59.1	0.0
SVW2	Sparrevohn	2.50	252	P	Pn	22 17 59.0	-0.7
HIN	Hinchinbrook I	2.57	126	P	Pn	22 17 58.7	-1.9
HARP	HAARP	2.63	78	P	Pn	22 18 01.2	-0.3
TT01	Tatalina	2.65	293	P	Pn	22 18 00.9	-0.7
TTA	Tatalina	2.66	294	P	Pn	22 18 01.0	-0.8
WRH	Wood River Hil	2.78	24	P	Pn	22 18 02.7	-0.7
EYAK	Cordova Ski Ar	2.78	119	P	Pn	22 18 01.4	-2.0
HDA	Harding Lake	2.98	33	P	Pn	22 18 06.0	-0.2
CCB	Clear Creek Bu	2.99	25	P	Pn	22 18 05.3	-1.0
MLY	Manley	3.08	360	P	Pn	22 18 06.9	-0.6
PS08	TAPS Pump Stn8	3.12	32	P	Pn	22 18 07.9	-0.9
MDM	Murphy Dome	3.20	19	P	Pn	22 18 08.8	-0.4
ILB	Eielson Array	3.30	30	P	Pn	22 18 09.4	-1.1
RAGM	Ragged Mountai	3.32	116	*e*Pn	Pn	22 18 08.9	-2.0
GLM	Gilmore Dome	3.38	25	P	Pn	22 18 11.6	-0.1
CDD	Cape Douglas	3.38	207	P	Pn	22 18 12.2	+0.6
MENT	Mentasta	3.38	70	*e*Pn	Pn	22 18 10.2	-1.5
DOT	Dot Lake	3.48	58	P	Pn	22 18 12.7	-0.4
VRDI	Verde Repeater	3.54	99	P	Pn	22 18 12.2	-1.7
NICHA	Nichawak Mount	3.70	115	P	Pn	22 18 13.2	-2.7
MCARA	McCarthy VSAT	3.70	96	P	Pn	22 18 15.1	-1.0
BERG	Berg Lake	3.73	112	P	Pn	22 18 13.7	-2.8
CRQM	Cirque	3.83	105	*e*Pn	Pn	22 18 17.6	-0.4
KHIT	Khitrov Hills	3.91	110	P	Pn	22 18 16.7	-2.3
PS06	TAPS Pump Stn6	3.93	6	P	Pn	22 18 19.1	0.0
GRIN	Grindle Hills	3.96	112	P	Pn	22 18 17.9	-1.6
KAHC	Katmai Hardscr	3.96	215	P	Pn	22 18 19.1	-0.5
TGL	Tana Glacier	3.98	104	P	Pn	22 18 17.8	-2.0
PTPK	Patty Peak	4.01	98	P	Pn	22 18 19.3	-1.1
BALM	Baldy	4.11	99	P	Pn	22 18 19.6	-2.1
KIAG	Kiagna River	4.13	101	P	Pn	22 18 20.3	-1.8
IM3	Indian Mountai	4.25	343	P	Pn	22 18 22.9	-0.6
BARK	Barkley Ridge	4.27	108	P	Pn	22 18 22.0	-1.9
BCA3	Beaver Creek A	4.27	71	P	Pn	22 18 22.9	-1.0
KAKN	Katmai Knife C	4.28	213	P	Pn	22 18 24.6	+0.5
BAGL	Bagley Icefiel	4.41	106	P	Pn	22 18 24.5	-1.2
BARN	Barnard Glacie	4.42	98	P	Pn	22 18 25.0	-1.0
GRNC	Granite Creek	4.48	102	P	Pn	22 18 25.0	-1.8
CTGM	Chitina Glacie	4.60	98	P	Pn	22 18 27.4	-1.0
MESA	MESA	4.61	109	P	Pn	22 18 26.8	-1.8
LOGN	Logan Glacier	4.80	100	P	Pn	22 18 29.7	-1.4
RKAV	Rock Avalanche	4.83	106	P	Pn	22 18 30.2	-1.4
TABL	Table Mountain	4.87	104	P	Pn	22 18 31.0	-1.1
OHAK	Old Harbor	4.94	197	*e*Pn	Pn	22 18 36.0	+3.1
FYU	Fort Yukon	5.19	25	*e*Pn	Pn	22 18 38.3	+1.9
DAWY	Dawson	5.56	63	P	Pn	22 18 40.6	-0.9
BM3	Burnt Mountain	6.06	23	P	Pn	22 18 48.1	-0.2

*DDA **23** 22:19:39.9, 38.°87N×43.°62E, h7km, Ml3.7*
*ISK **23** 22:19:41.3, 38.°95N×43.°49E, h5km, ML4.0*
*CSEM **23** 22:19:42.4±0.2, 38.°94N×43.°51E, h2km, ML3.7, Error ellipse: s-maj=5.4km s-min=3.7km az=162.0*

ISC 23 22:19:41.0±1.3, 38.°92N±0.°02×43.°57E±0.°05, h6km±10km, n45, σ1$40/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.63	8	*i* P	Pg	22 19 53.1	-0.1
DYDN				*i* S	Sb	22 20 03.9	+0.2
DYDN	Diyadin	0.63	8	P	Pg	22 19 53.1	-0.1
DYDN				S	Sb	22 20 03.9	+0.2
GEVA	Gevas	0.73	214	*i* P	Pg	22 19 53.7	-1.4
AGRB	Hanur-Agry	0.80	326	*e*PG	Pg	22 19 56.4	0.0
AGRB				*e*SG	Sg	22 20 08.1	+1.4
AGRB	Hanur-Agry	0.80	326	*e*Pg	Pg	22 19 56.4	0.0
AGRB				*e*Sg	Sg	22 20 08.1	+1.4
EKAR	Karacoban	1.22	286	*i* P	Pn	22 20 04.8	0.0
EKAR				*i* S	Sn	22 20 22.6	+0.8
EKAR	Karacoban	1.22	286	P	Pn	22 20 04.8	0.0
EKAR				S	Sn	22 20 22.6	+0.8
EATA	Eleskirt	1.26	319	*i* P	Pn	22 20 04.3	-1.2
EATA				*i* S	Sn	22 20 23.4	+0.6
EATA	Eleskirt	1.26	319	P	Pn	22 20 04.3	-1.2
EATA				S	Sn	22 20 23.4	+0.6
HAKT	HAKKARI	1.36	175	*i* P	Pg	22 20 09.3	+2.1
HAKT				*i* S	Sn	22 20 24.1	-1.2
HAKT	HAKKARI	1.36	175	P	Pg	22 20 09.3	+2.1
DIGO	Kars	1.50	354	*i* P	Pg	22 20 09.9	0.0
DIGO	Kars	1.50	354	P	Pg	22 20 09.9	0.0
VRTB	Varto-Mus	1.67	279	*e*PN	Pb	22 20 11.4	-0.7
VRTB				*e*SN	Sg	22 20 34.3	-0.3
VRTB	Varto-Mus	1.67	279	*i* P	Pb	22 20 11.0	-1.2
VRTB	Varto-Mus	1.67	279	P	Pb	22 20 11.0	-1.2
VRTB	Varto-Mus	1.67	279	*e*Pn	Pb	22 20 11.5	-0.7
VRTB				*e*Sn	Sg	22 20 34.3	-0.3
CUKT	Cukurca	1.67	179	*e*PN	Pg	22 20 13.4	+0.4
CUKT	Cukurca	1.67	179	*i* P	Pg	22 20 13.2	+0.2
CUKT	Cukurca	1.67	179	P	Pg	22 20 13.2	+0.2
CUKT	Cukurca	1.67	179	*e*Pn	Pg	22 20 13.5	+0.4
HOMI	Horasan	1.71	312	*i* P	Pb	22 20 13.1	+0.1
EAK	Akyaka	1.77	1	*i* P	Pg	22 20 15.8	+0.9
EAK	Akyaka	1.77	1	P	Pg	22 20 15.8	+0.9
BNGL	BINGOL	1.89	272	*i* P	Pb	22 20 15.8	-0.2
BNGL				*i* S	Sg	22 20 42.3	+0.6
SENK	Senkaya-Erzuru	1.89	331	*e*PN	Pb	22 20 15.8	-0.2
SENK	Senkaya-Erzuru	1.89	331	*e*Pn	Pb	22 20 15.8	-0.2
SVAN	Silvan-Diyarba	2.01	248	*e*PN	Pb	22 20 17.0	-1.0
SVAN	Silvan-Diyarba	2.01	248	*i* P	Pb	22 20 16.2	-1.8
SVAN	Silvan-Diyarba	2.01	248	P	Pb	22 20 16.2	-1.8
SVAN	Silvan-Diyarba	2.01	248	*e*Pn	Pb	22 20 17.0	-1.0
BTMN	Batman	2.08	241	*i* P	Pb	22 20 18.9	-0.3
BTMN	Batman	2.08	241	P	Pb	22 20 18.9	-0.3
BNGB	Bing¶ll	2.26	273	*e*PN	Pb	22 20 20.1	-2.1
BINT	Bingol	2.41	270	*e*Pn	Pn	22 20 20.1	-0.9
YEDI	Yedisu-Bingol	2.41	283	*e*PN	Pb	22 20 22.6	-2.3
YEDI	Yedisu-Bingol	2.41	283	*e*Pn	Pb	22 20 22.6	-2.3
AKH	Akhalkalaki	2.49	359	*e*PN	Pb	22 20 23.9	-2.3
AKH	Akhalkalaki	2.49	359	*e*Pn	Pb	22 20 23.9	-2.3
MAZI	Mazidag	2.86	240	*e*PN	Pb	22 20 29.2	-3.3
MAZI	Mazidag	2.86	240	*e*Pn	Pb	22 20 29.2	-3.3
PTK	Pertek	3.26	271	*e*PN	Pn	22 20 35.0	+2.1
PTK	Pertek	3.26	271	*e*Pn	Pn	22 20 35.0	+2.1
SVRC	Sivrice-ELAZID	3.38	262	*e*PN	Pn	22 20 36.6	+2.1
SVRC	Sivrice-ELAZID	3.38	262	*e*Pn	Pn	22 20 36.6	+2.1

*AZER **23** 22:19:47.2±0.6, 38.°54N×44.°36E, h2km±2km, Error ellipse: s-maj=5.0km s-min=4.2km az=126.0*
*NEIC **23** 22:19:48.9±0.0, 38.°28N×44.°69E, h1km, mb4.4/12, MN3.9(TEH), After TEH.*
*CSEM **23** 22:19:48.9±0.3, 38.°34N×44.°72E, h2km, mb4.5/6, Error ellipse: s-maj=9.9km s-min=6.7km az=173.0*
*TEH **23** 22:19:49.4, 38.°31N×44.°72E, h5km, ML3.9*
*IDC **23** 22:19:49.7±1.0, 38.°47N×44.°64E, h0km, mb3.8/10, mb1 3.8/19, mb1mx3.7/60, mbtmp3.8/19, ML3.7/6, Error ellipse: s-maj=16.0km s-min=11.1km az=155.0*

ISC 23 22:19:48.9±1.4, 38.°35N±0.°04×44.°70E±0.°04, h4km±9km, n121, σ1$66/142, mb4.0/14, 21C-18D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.72	95	*e*AMB	AMB	22 20 16.0	
	comp=Z,96μm,0.2s						
ISHB				*e*Pg	Pg	22 20 02.1	-0.7
IMRD	Marand	0.86	65	*e*AMB	AMB	22 20 21.3	
	comp=Z,89μm,0.1s						
IMRD				*e*Pg	Pg	22 20 04.9	-0.6
NAX	Nakhchivan	1.03	37	P	Pg	22 20 08.1	-0.6
	SNR=99						
NAX				⇓S	Sb	22 20 23.5	+0.3
NAX	Nakhchivan	1.03	37	P	Pg	22 20 08.1	-0.6
	SNR=99						
ITBZ	Tabriz	1.14	95	*e*Sg	Sg	22 20 24.6	-1.0
ITBZ				*e*Pg	Pg	22 20 09.6	-1.2
ITBZ				*e*AMB	AMB	22 20 28.7	
	comp=Z,16μm,0.1s						
GNI	Garni	1.80	1	Pn	Pg	22 20 23.1	-0.3
	comp=Z,59nm,0.3s,baz=226,slow=2.1,SNR=56						
GNI				Lg	Lg	22 20 48.5	
	comp=Z,64nm,0.3s,baz=333,slow=15,SNR=11						
GNI	Garni	1.80	1	*e*Pn	Pb	22 20 22.7	+0.2
GNI				*e*Sn	Sg	22 20 49.8	+3.1
GNI	Garni	1.80	1	*e*Pn	Pb	22 20 22.7	+0.2
GNI				*e*Sn	Sg	22 20 49.8	+3.1
IHRS	Heris	1.84	90	*e*Pn	Pn	22 20 22.0	+0.5
IHRS				*e*AMB	AMB	22 20 28.5	
	comp=Z,11μm,0.1s						
IHRS	Heris	1.84	90	*e*Pn	Pn	22 20 22.0	+0.5
IBST	Bostanabad	1.84	110	*e*AMB	AMB	22 20 52.7	
	comp=Z,7μm,0.2s						
ISRB	Sarab	2.40	102	*e*Pn	Pn	22 20 29.3	+0.2
ISRB				*e*AMB	AMB	22 20 41.4	
	comp=Z,6μm,0.2s						
ISRB	Sarab	2.40	102	*e*Pn	Pn	22 20 29.3	+0.2
GDB	GEDABAY	2.50	19	⇑P	Pn	22 20 28.0	-2.6
	SNR=7.6						
GDB				⇑S	Sn	22 21 00.6	-1.0
GDB	GEDABAY	2.50	19	P	Pn	22 20 28.0	-2.6
	SNR=7.6						
GANJ	Ganja	2.61	28	⇓P	Pn	22 20 31.0	-0.9
	SNR=11						
GANJ				⇓S

PQL				S		Sn	22 21 37.1	+1.9
GBS	Qobustan	3.94	55	⇑P		Pn	22 20 50.3	+0.1
	SNR=6.2							
GBS	Qobustan	3.94	55	P		Pn	22 20 50.3	+0.1
	SNR=6.2							
ATGJ	Altiaghaj	4.12	51	⇑P		Pn	22 20 52.8	+0.1
	SNR=15							
ATGJ	Altiaghaj	4.12	51	P		Pn	22 20 52.8	+0.1
	SNR=15							
QSAR	Qusar	4.18	40	⇓P		Pn	22 20 52.4	-1.0
	SNR=11							
QSAR	Qusar	4.18	40	P		Pn	22 20 52.4	-1.1
	SNR=11							
QUBA	Quba, Azerbaij	4.18	43	⇓P		Pn	22 20 52.9	-0.7
	SNR=14							
QUBA	Quba, Azerbaij	4.18	43	P		Pn	22 20 52.9	-0.6
	SNR=14							
SIZA	Siyzn	4.23	49	⇑P		Pn	22 20 54.0	-0.2
	SNR=17							
SIZA	Siyzn	4.23	49	P		Pn	22 20 54.0	-0.2
	SNR=17							
KBZ	Khabaz	5.54	346	Pn		Pn	22 21 13.9	+1.8
	comp=Z,0.1nm,0.3s,baz=176,slow=10,SNR=6.7							
KVAR	Kislovodsk Arr	5.80	345	Pn		Pn	22 21 17.1	+1.2
	baz=198,slow=20,SNR=2.8							
KIV	Kislovodsk	5.80	345	*e*Pn		Pn	22 21 21.5	+5.7
KIV	Kislovodsk	5.80	345	*e*Pn		Pn	22 21 21.5	+5.7
BR101	Keskin Array S	8.72	283	*e*Pn		Pn	22 22 00.3	+4.4
BR101	Keskin Array S	8.72	283	*e*Pn		Pn	22 22 00.3	+4.4
BRTR	Keskin Array B	8.72	283	Pn		Pn	22 22 00.3	+4.4
	comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=3.2							
ASF	Jabal al Asfar	8.87	228	Pn		Pn	22 21 58.9	+0.9
	comp=Z,0.1nm,0.3s,baz=355,slow=17,SNR=2.4							
MMAI	Mount Meron Ar	9.25	238	Pn		Pn	22 22 04.1	+1.0
	comp=Z,1.2nm,0.3s,baz=76,slow=12,SNR=3.6							
GEYT	Alibeck	10.57	88	Pn		Pn	22 22 21.1	-0.1
	comp=Z,0.6nm,0.3s,baz=264,slow=13,SNR=15							
KARP	Karpathos	14.31	264	*e*Pn		Pn	22 23 15.0	+2.7
KARP	Karpathos	14.31	264	*e*Pn		Pn	22 23 15.0	+2.7
RAYN	Ar Rayn	14.80	177	*e*Pn		Pn	22 23 16.2	-2.8
RAYN	Ar Rayn	14.80	177	*e*Pn		Pn	22 23 16.2	-2.8
AKTO	Aktyubinsk	15.35	34	Pn		Pn	22 23 24.1	-2.1
	comp=Z,0.1nm,0.3s,baz=241,slow=19,SNR=2.6							
ABKAR	Akbulak array	15.46	40	*e*Pn		Pn	22 23 27.8	+0.2
	comp=Z,16nm,0.9s							
ABKAR	Akbulak array	15.46	40	*e*Pn		Pn	22 23 27.8	+0.2
	comp=Z,16nm,0.9s							
IDI	Anoyia	16.16	265	*e*Pn		Pn	22 23 38.5	+1.6
	comp=Z,58nm,1.7s							
IDI	Anoyia	16.16	265	*e*Pn		Pn	22 23 38.5	+1.6
	comp=Z,58nm,1.7s							
AKASG	Malin Array Be	16.52	323	Pn		Pn	22 23 40.7	-0.6
	comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=11							
BUR08	Bucovina Ar. S	16.99	309	*e*Pn		Pn	22 23 45.3	-2.1
BUR08	Bucovina Ar. S	16.99	309	*e*Pn		Pn	22 23 45.3	-2.1
AGG	Agios Georgios	17.48	279	*e*Pn		Pn	22 23 47.7	-5.8
	comp=Z,181nm,1.7s							
AGG	Agios Georgios	17.48	279	*e*Pn		Pn	22 23 47.7	-5.8
	comp=Z,181nm,1.7s							
OBN	Obninsk	17.65	344	P		Pn	22 23 53.8	-1.7
	comp=Z,2.4nm,0.3s,baz=216,slow=19,SNR=7.1							
OBN	Obninsk	17.65	344	*e*Pn		Pn	22 23 54.3	-1.2
	comp=Z,36nm,1.1s							
OBN	Obninsk	17.65	344	*e*Pn		Pn	22 23 54.3	-1.2
	comp=Z,36nm,1.1s							
KKAR	Karatay Array	20.09	68	*e*P		P	22 24 20.3	-3.1
	comp=Z,5.9nm,0.8s							
KKAR	Karatay Array	20.09	68	*e*P		P	22 24 20.3	-3.1
	comp=Z,5.9nm,0.8s							
ARU	Arti	20.30	23	P		P	22 24 26.1	+0.5
	comp=Z,5.4nm,0.7s,baz=225,slow=6.9,SNR=7.3							
ARU	Arti	20.30	23	*e*P		P	22 24 26.5	+0.9
	comp=Z,6.3nm,0.8s							
ARU	Arti	20.30	23	*e*P		P	22 24 26.5	+0.9
	comp=Z,6.3nm,0.8s							
AAK	Ala-Archa	23.00	70	P		P	22 24 57.0	+2.2
	comp=Z,1.1nm,0.5s,baz=176,slow=10.0,SNR=5.3							
BVAR	Borovoye Array	23.01	42	P		P	22 24 56.4	+1.7
	comp=Z,3.0nm,0.8s,baz=246,slow=9.8,SNR=7.5							
GEC2	GERESS Array S	24.62	305	*e*P		P	22 25 11.1	+0.7
	comp=Z,4.9nm,1.1s							
GEC2	GERESS Array S	24.62	305	*e*P		P	22 25 11.1	+0.7
	comp=Z,4.9nm,1.1s							
GERES	GERESS Array B	24.62	305	P		P	22 25 11.1	+0.7
	comp=Z,1.6nm,0.8s,baz=98,slow=7.0,SNR=7.2							
KHC	Kasperske Hory	24.77	306	*e*P		P	22 25 11.5	0.0
KHC	Kasperske Hory	24.77	306	*e*P		P	22 25 11.6	0.0
	comp=Z,7.2nm,1.8s							
KHC	Kasperske Hory	24.77	306	*e*P		P	22 25 11.6	0.0
	comp=Z,7.2nm,1.8s							
FIA0	FINESS Array S	25.86	339	*e*P		P	22 25 21.0	-0.2
FIA0	FINESS Array S	25.86	339	*e*P		P	22 25 21.1	-0.2
FINES	FINESS Array B	25.86	339	P		P	22 25 21.1	-0.2
	comp=Z,3.3nm,0.9s,baz=153,slow=13,SNR=5.4							
VLC	Villacollemand	26.32	294	*e*P		P	22 25 24.7	-0.9
	comp=Z,65nm,1.4s							
VLC	Villacollemand	26.32	294	*e*P		P	22 25 24.7	-0.9
	comp=Z,65nm,1.4s							
DAVOX	Davos/Dischmat	26.82	300	P		P	22 25 30.5	+0.2
	comp=Z,1.9nm,0.8s,baz=100,slow=12,SNR=2.8							
KURBB	Kurchatov Arra	26.83	52	P		P	22 25 31.6	+1.5
	comp=Z,1.8nm,0.7s,baz=263,slow=9.2,SNR=7.6							
KURK	Kurchatov	26.91	52	*e*P		P	22 25 32.8	+2.0
KURK	Kurchatov	26.91	52	*e*P		P	22 25 32.8	+2.0
MAKZ	Makanchi	28.50	61	*e*P		P	22 25 46.9	+1.7
	comp=Z,8.5nm,1.6s							
MAKZ	Makanchi	28.50	61	*e*P		P	22 25 46.9	+1.7
	comp=Z,8.5nm,1.6s							
MK31	Makanchi Array	28.71	61	*e*P		P	22 25 48.1	+1.0
MK31	Makanchi Array	28.71	61	*e*P		P	22 25 48.1	+1.0
MK32	Makanchi Array	28.71	61	*e*P		P	22 25 48.6	+1.5
MK32	Makanchi Array	28.71	61	*e*P		P	22 25 48.6	+1.5
MKAR	Makanchi Array	28.71	61	P		P	22 25 48.6	+1.5
	comp=Z,1.6nm,0.7s,baz=268,slow=5.8,SNR=14							
MKAR	Makanchi Array	28.71	61	*e*P		P	22 25 47.7	+0.6
	comp=Z,11nm,0.7s							
MKAR	Makanchi Array	28.71	61	*e*P		P	22 25 47.7	+0.6
	comp=Z,11nm,0.7s							
HFS	Hagfors	29.28	328	P		P	22 25 52.2	+0.3
	comp=Z,2.2nm,0.8s,baz=125,slow=12,SNR=2.3							
ESDC	Sonseca Array	37.47	288	P		P	22 27 02.8	-0.7
	comp=Z,0.3nm,0.4s,baz=62,slow=7.4,SNR=4.4							
TOA1	Torodi Ar. Sit	45.59	248	*e*P		P	22 28 11.1	+0.8
	comp=Z,19nm,1.9s							
TOA1	Torodi Ar. Sit	45.59	248	*e*P		P	22 28 11.1	+0.8
	comp=Z,19nm,1.9s							
TORD	Torodi Ar. Bea	45.59	248	P		P	22 28 11.1	+0.8
	comp=Z,1.0nm,1.0s,baz=46,slow=6.2,SNR=3.3							

NSSC ***23*** *22:21:06.6±1.5, 39°.16N×45°.24E, h0km±342km, ML4.1*
IDC ***23*** *22:21:29.4±0.5, 38°.57N×43°.04E, h0km, mb4.3/29, mb1 4.3/40, mb1mx4.2/63, mbtmp4.2/40, ML3.6/6, MS4.0/14, Ms1 4.0/14, ms1mx3.7/44, Error ellipse: s-maj=10.1km s-min=7.5km az=160.0*
BJI ***23*** *22:21:29.9, 38°.50N×43°.10E, h10km, mb4.7/43, mB5.0/26, Ms4.4/17, Ms7 4.2/11*
MOS ***23*** *22:21:29.2±1.3, 38°.52N×43°.13E, h4km, mb4.9/54, Error ellipse: s-maj=5.3km s-min=3.2km az=123.7*
ISK ***23*** *22:21:30.6, 38°.68N×43°.13E, h5km, ML4.4*
CSEM ***23*** *22:21:30.8±0.1, 38°.58N×43°.18E, h5km, mb4.8/98, Error ellipse: s-maj=3.7km s-min=2.9km az=170.0*
DDA ***23*** *22:21:30.1, 38°.61N×43°.08E, h14km, Ml3.9*
ISCJB ***23*** *22:21:30.5±0.5, 38°.59N±0°.02×43°.20E±0°.02, h10km±3km, mb4.6/119, MS4.0/11, Error ellipse: s-maj=3.0km s-min=2.3km az=177.8*
NEIC ***23*** *22:21:30.4±0.0, 38°.62N×43°.07E, h5km, mb4.8/61, ML4.3(ISK), ML4.4(DDA), After ISK.*
ISN ***23*** *22:21:45.6±1.9, 37°.94N×43°.09E, h0km±6km, ML4.5*
ISC 23 22:21:31.9±0.**7**, **38°.55N**±0°.02×**43°.11E**±0°.02, **h13**km±4km, **n767**, σ1°**68**/815, **mb4.8**/120, **MS4.0**/12, **37C-21D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.24**	**190**	*i* P	**Pg**	**22 21 36.1**	**-1.0**
GEVA				*i* S	**Sb**	**22 21 42.0**	**-0.4**
GEVA	**Gevas**	**0.24**	**190**	P	**Pg**	**22 21 36.1**	**-1.0**
GEVA				*i* S	**Sg**	**22 21 41.1**	**+0.4**
GEVA	**Gevas**	**0.24**	**190**	*i* P	**Pg**	**22 21 36.1**	**-1.0**
GEVA				*i* S	**Sg**	**22 21 41.1**	**+0.4**
BASK	**Baskale_VAN**	**0.86**	**125**	*i* P	**Pg**	**22 21 48.0**	**-0.5**
BASK				*i* S	**Sn**	**22 22 03.7**	**+1.2**
BASK	**Baskale_VAN**	**0.86**	**125**	P	**Pg**	**22 21 48.0**	**-0.5**
AGRB	**Hanur-Agry**	**1.03**	**355**	*e*PG	**Pb**	**22 21 48.5**	**-3.2**
AGRB				*e*SG	**Sb**	**22 22 01.3**	**-3.8**
AGRB	**Hanur-Agry**	**1.03**	**355**	*e*Pg	**Pb**	**22 21 48.5**	**-3.2**
AGRB				*e*Sg	**Sb**	**22 22 01.3**	**-3.8**
EKAR	**Karacoban**	**1.08**	**311**	*i* P	**Pb**	**22 21 51.3**	**-1.2**
EKAR				*i* S	**Sn**	**22 22 13.9**	**+6.1**
EKAR	**Karacoban**	**1.08**	**311**	P	**Pb**	**22 21 51.3**	**-1.2**
EKAR	**Karacoban**	**1.08**	**311**	*i* P	**Pb**	**22 21 51.9**	**-0.7**
DYDN	**Diyadin**	**1.09**	**24**	*i* P	**Pb**	**22 21 50.4**	**-2.3**
DYDN				*i* S	**Sn**	**22 22 10.8**	**+2.7**
DYDN	**Diyadin**	**1.09**	**24**	P	**Pb**	**22 21 50.4**	**-2.3**
DYDN	**Diyadin**	**1.09**	**24**	*i* P	**Pb**	**22 21 50.6**	**-2.1**
HAKT	**HAKKARI**	**1.10**	**154**	*i* P	**Pb**	**22 21 51.7**	**-1.1**
HAKT				*i* S	**Sn**	**22 22 12.2**	**+3.9**
HAKT	**HAKKARI**	**1.10**	**154**	P	**Pb**	**22 21 51.7**	**-1.1**
CUKT	**Cukurca**	**1.36**	**163**	*e*PN	**Pg**	**22 21 58.8**	**+0.8**
CUKT	**Cukurca**	**1.36**	**163**	*i* P	**Pg**	**22 21 59.7**	**+1.7**
CUKT				*i* S	Sg	22 22 25.0	+9.3
CUKT	**Cukurca**	**1.36**	**163**	*e*Pn	**Pg**	**22 21 58.8**	**+0.8**
EATA	**Eleskirt**	**1.40**	**340**	⇓*i*P	**Pn**	**22 21 54.6**	**-2.7**
EATA				*i* S	**Sn**	**22 22 13.7**	**-2.1**
EATA	**Eleskirt**	**1.40**	**340**	P	**Pn**	**22 21 54.6**	**-2.7**
EATA				S	**Sn**	**22 22 13.7**	**-2.1**
VRTB	**Varto-Mus**	**1.43**	**296**	*e*PN	**Pn**	**22 21 57.5**	**-0.2**
VRTB				*e*SN	**Sb**	**22 22 17.1**	**+0.5**
VRTB	**Varto-Mus**	**1.43**	**296**	*i* P	**Pn**	**22 21 56.3**	**-1.3**
VRTB	**Varto-Mus**	**1.43**	**296**	P	**Pn**	**22 21 56.3**	**-1.3**
VRTB	**Varto-Mus**	**1.43**	**296**	*e*Pn	**Pn**	**22 21 57.5**	**-0.2**
VRTB				*e*Sn	**Sb**	**22 22 17.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.56**	**256**	*e*PN	**Pn**	**22 21 58.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.56**	**256**	⇓*i*P	**Pn**	**22 21 59.5**	**+0.2**
SVAN				*i* S	**Sn**	**22 22 19.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**256**	*e*Pn	**Pn**	**22 21 58.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.56**	**256**	P	**Pn**	**22 21 59.5**	**+0.2**
SVAN				S	**Sn**	**22 22 19.3**	**-0.1**
BNGL	**BINGOL**	**1.58**	**285**	*i* P	**Pn**	**22 21 59.2**	**-0.7**
BNGL				*i* S	**Sn**	**22 22 20.0**	**-0.3**
BTMN	**Batman**	**1.59**	**246**	⇓*i*P	**Pb**	**22 22 00.5**	**-0.7**
BTMN				*i* S	**Sg**	**22 22 22.1**	**-1.0**
BTMN	**Batman**	**1.59**	**246**	P	**Pb**	**22 22 00.5**	**-0.7**
BTMN				S	**Sg**	**22 22 22.1**	**-1.0**
HOMI	**Horasan**	**1.76**	**328**	*i* P	**Pn**	**22 22 01.2**	**-1.1**
HOMI				*i* S	**Sb**	**22 22 26.2**	**-0.1**
DIGO	**Kars**	**1.87**	**6**	⇓*i*P	**Pn**	**22 22 03.4**	**-0.4**
DIGO				*i* S	**Sg**	**22 22 34.9**	**+2.7**
DIGO	**Kars**	**1.87**	**6**	P	**Pn**	**22 22 03.4**	**-0.4**
ERZM	**Erzurum**	**1.92**	**315**	*i* P	**Pn**	**22 22 04.9**	**+0.5**
ERZM				*i* S	**Sb**	**22 22 32.2**	**+1.5**
ERZM	**Erzurum**	**1.92**	**315**	P	**Pn**	**22 22 04.9**	**+0.5**
BNGB	**Bing¶ll**	**1.95**	**284**	*e*PN	**Pn**	**22 22 05.3**	**+0.5**
ECAT	**Cat-ERZURUM**	**1.97**	**303**	⇓*i*P	**Pn**	**22 22 05.2**	**+0.1**
ECAT				*i* S	**Sb**	**22 22 32.8**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.97**	**303**	P	**Pn**	**22 22 05.2**	**+0.1**
ECAT				S	**Sb**	**22 22 32.8**	**+0.6**
GNI	**Garni**	**2.04**	**38**	Pn	**Pn**	**22 22 06.9**	**+0.9**
	22nm,0.3s,baz=292,slow=3.9,SNR=6.3						
GNI				Lg	Lg	22 22 35.6	
	41nm,0.3s,baz=0.0,slow=20,SNR=3.8						
GNI				LR	LR	22 23 12.4	
	comp=Z,4μm,18.7s,baz=232,slow=50						
BINT	**Bingol**	**2.08**	**280**	P	**Pn**	**22 22 05.5**	**-1.0**
BINT	**Bingol**	**2.08**	**280**	P	**Pn**	**22 22 05.5**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.09**	**344**	*e*PN	**Pn**	**22 22 06.0**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.09**	**344**	*e*Pn	**Pn**	**22 22 06.0**	**-0.8**
EAK	**Akyaka**	**2.17**	**10**	⇑*i*P	**Pb**	**22 22 11.0**	**0.0**
EAK				*i* S	**Sg**	**22 22 47.4**	**+5.8**
YEDI	**Yedisu-Bingol**	**2.19**	**295**	*e*PN	**Pn**	**22 22 08.2**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.19**	**295**	*e*Pn	**Pn**	**22 22 08.3**	**+0.2**
MARD	**Mardin**	**2.22**	**237**	*i* P	**Pn**	**22 22 09.3**	**+0.8**
MARD				*i* S	**Sb**	**22 22 37.4**	**-2.0**
MARD	**Mardin**	**2.22**	**237**	*e*Pn	**Pn**	**22 22 09.8**	**+1.3**
MARD				*e*Sn	**Sb**	**22 22 38.7**	**-0.6**
MARD	**Mardin**	**2.22**	**237**	*e*Pn	**Pn**	**22 22 09.8**	**+1.3**
MARD				*e*Sn	**Sb**	**22 22 38.7**	**-0.6**
MAZI	**Mazidag**	**2.37**	**243**	*e*PN	**Pn**	**22 22 11.5**	**+1.0**
MAZI	**Mazidag**	**2.37**	**243**	*e*Pn	**Pn**	**22 22 11.5**	**+1.0**
DIYA	**Diyarbakir**	**2.44**	**256**	*i* P	**Pn**	**22 22 12.1**	**+0.7**
DIYA				*i* S	**Sb**	**22 22 44.3**	**-1.2**
DIYA	**Diyarbakir**	**2.44**	**256**	P	**Pn**	**22 22 12.1**	**+0.7**
DIYA				S	**Sb**	**22 22 44.3**	**-1.2**
KOPT	**Kop Dagi**	**2.50**	**307**	*i* P	**Pb**	**22 22 15.8**	**-1.0**
KOPT				*i* S	**Sg**	**22 22 51.2**	**-1.1**
KOPT	**Kop Dagi**	**2.50**	**307**	*e*Pn	**Pn**	**22 22 14.2**	**+1.7**
KOPT	**Kop Dagi**	**2.50**	**307**	*e*Pn	**Pn**	**22 22 14.2**	**+1.7**
DDEM	**Demirkent**	**2.56**	**336**	*i* P	**Pb**	**22 22 16.0**	**-1.8**
DDEM				*i* S	**Sb**	**22 22 51.3**	**+2.1**
DAGI	**Agillar**	**2.69**	**340**	*i* P	**Pn**	**22 22 17.4**	**+2.5**
DAGI				*i* S	**Sb**	**22 22 52.4**	**-0.4**
BGD	**Bogdanovka**	**2.74**	**8**	P	**Pb**	**22 22 19.1**	**-1.6**
ARTV	**Artvin**	**2.78**	**341**	*i* P	**Pn**	**22 22 16.5**	**+0.2**
ARTV				*i* S	**Sg**	**22 23 03.9**	**+2.6**
ARTV	**Artvin**	**2.78**	**341**	P	**Pn**	**22 22 16.5**	**+0.2**
ARTV	**Artvin**	**2.78**	**341**	*e*Pn	**Pn**	**22 22 17.0**	**+0.7**
ARTV	**Artvin**	**2.78**	**341**	*e*Pn	**Pn**	**22 22 17.0**	**+0.7**
ERZN	**Erzincan**	**2.83**	**292**	*e*PN	**Pn**	**22 22 17.5**	**+0.5**
TNCL	**Tunceli-Merkez**	**2.84**	**283**	*i* P	**Pb**	**22 22 20.9**	**-1.7**
TNCL				*i* S	**Sg**	**22 23 09.8**	**+6.5**
AKH	**Akhalkalaki**	**2.87**	**6**	*e*PN	**Pn**	**22 22 17.0**	**-0.5**
AKH	**Akhalkalaki**	**2.87**	**6**	⇑*i*P	**Pb**	**22 22 21.7**	**-1.3**
AKH	**Akhalkalaki**	**2.87**	**6**	*e*Pn	**Pn**	**22 22 17.0**	**-0.5**
AKH	**Akhalkalaki**	**2.87**	**6**	⇑*i*P	**Pb**	**22 22 21.7**	**-1.3**
EUZM	**Uzumlu**	**2.90**	**295**	*i* P	**Pb**	**22 22 21.3**	**-2.1**
EUZM				*i* S	**Sg**	**22 23 07.0**	**+2.1**
PTK	**Pertek**	**2.93**	**278**	*e*PN	**Pn**	**22 22 19.3**	**+1.0**
PTK	**Pertek**	**2.93**	**278**	*e*Pn	**Pn**	**22 22 19.3**	**+1.0**
EPOS	**Posof**	**2.96**	**354**	*i* P	**Pb**	**22 22 22.0**	**-2.6**
SVRC	**Sivrice-ELAZID**	**2.99**	**268**	*e*PN	**Pn**	**22 22 20.6**	**+1.5**
SVRC	**Sivrice-ELAZID**	**2.99**	**268**	*e*Pn	**Pn**	**22 22 20.6**	**+1.5**
EZC	**Erzincan**	**3.16**	**293**	*e*Pn	**Pn**	**22 22 17.5**	**-3.9**
ELZG	**Elazig**	**3.24**	**270**	*i* P	**Pn**	**22 22 22.8**	**+0.3**
ELZG	**Elazig**	**3.24**	**270**	P	**Pn**	**22 22 22.8**	**+0.3**
DGRG	**David-gareji**	**3.38**	**30**	P	**Pb**	**22 22 34.1**	**+2.5**
DGRG	**David-gareji**	**3.38**	**30**	P	**Pb**	**22 22 34.1**	**+2.5**
DGRG	**David-gareji**	**3.38**	**30**	P	**Pb**	**22 22 34.1**	**+2.5**
KELT	**Kelkit**	**3.39**	**299**	*i* P	**Pb**	**22 22 32.1**	**+0.3**
TBLG	**Delisi**	**3.41**	**21**	*e*PN	**Pn**	**22 22 24.4**	**-0.4**
TBLG	**Delisi**	**3.41**	**21**	P	**Pg**	**22 22 36.0**	**-1.2**
TBLG	**Delisi**	**3.41**	**21**	P	**Pg**	**22 22 36.0**	**-1.2**
TBLG	**Delisi**	**3.41**	**21**	*e*Pn	**Pn**	**22 22 24.4**	**-0.4**
TBLG	**Delisi**	**3.41**	**21**	P	**Pg**	**22 22 36.0**	**-1.2**
REFA	**Refahiye_ERZ¯**	**3.49**	**285**	*i* P	**Pn**	**22 22 28.1**	**+2.1**
REFA	**Refahiye_ERZ¯**	**3.49**	**285**	P	**Pn**	**22 22 28.1**	**+2.1**
MACK	**Trabzon**	**3.51**	**314**	*i* P	**Pb**	**22 22 33.9**	**0.0**
KTUT	**Trabzon**	**3.54**	**314**	*e*PN	**Pn**	**22 22 27.1**	**+0.6**
KTUT	**Trabzon**	**3.54**	**314**	*e*Pn	**Pn**	**22 22 27.1**	**+0.6**
URFA	**Urfa**	**3.56**	**253**	*e*PN	**Pn**	**22 22 29.1**	**+2.2**
URFA	**Urfa**	**3.56**	**253**	*e*Pn	**Pn**	**22 22 29.1**	**+2.2**
SURC	**SANLIURFA_SURC**	**3.94**	**246**	*i* P	**Pn**	**22 22 34.5**	**+2.5**
SURC	**SANLIURFA_SURC**	**3.94**	**246**	P	**Pn**	**22 22 34.5**	**+2.5**
ONI	**Oni**	**4.04**	**4**	P	**Pb**	**22 22 41.4**	**-1.5**
ONI	**Oni**	**4.04**	**4**	P	**Pb**	**22 22 41.4**	**-1.5**
GUDG	**Gudauri**	**4.05**	**14**	P	**Pn**	**22 22 38.3**	**+4.7**
SUSE	**Susehri**	**4.15**	**295**	*i* P	**Pb**	**22 22 44.5**	**-0.3**
ZEI	**Tsey**	**4.28**	**8**	*e*P	**Pb**	**22 22 44.2**	**-2.8**
ZEI				pmax	pmax		
	comp=Z,64nm,0.9s						
CUZAR	**Zara_SIVAS**	**4.36**	**290**	*i* P	**Pb**	**22 22 50.1**	**+1.7**
DARE	**Darende-Malaty**	**4.41**	**272**	*e*PN	**Pn**	**22 22 40.9**	**+2.3**
CUKAN	**kangal_SIVAS**	**4.47**	**282**	*i* P	**Pb**	**22 22 52.9**	**+2.7**
GZT	**Gaziantep**	**4.54**	**256**	*i* P	**Pb**	**22 22 53.5**	**+2.0**
NEY	**Neytrino**	**4.70**	**357**	⇓*e*P	**Pn**	**22 22 45.7**	**+3.0**
NEY	**Neytrino**	**4.70**	**357**	*e*P	**Pn**	**22 22 45.7**	**+3.0**
RSDY	**Resadiye-TOKAT**	**4.84**	**294**	*e*PN	**Pn**	**22 22 46.4**	**+2.0**
RSDY	**Resadiye-TOKAT**	**4.84**	**294**	*e*Pn	**Pn**	**22 22 46.4**	**+2.0**
SVSK	**Karacayir**	**4.94**	**288**	*e*PN	**Pn**	**22 22 47.7**	**+2.0**
SVSK	**Karacayir**	**4.94**	**288**	*e*Pn	**Pn**	**22 22 47.7**	**+2.0**
KMRS	**Kahramanmaras**	**5.01**	**260**	*e*PN	**Pn**	**22 22 49.7**	**+2.9**
KMRS	**Kahramanmaras**	**5.01**	**260**	*e*Pn	**Pn**	**22 22 49.7**	**+2.9**
KBZ	**Khabaz**	**5.18**	**358**	Pn	**Pn**	**22 22 50.9**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=129,slow=13,SNR=2.1						
SARI	**SarD1z-Kayseri**	**5.25**	**271**	*e*PN	**Pn**	**22 22 53.0**	**+2.7**
KIV	**Kislovodsk**	**5.41**	**357**	*e*P	**Pn**	**22 22 52.6**	**+0.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV				MLR	MLR		
	comp=Z,543nm,7.0s						
KIV	**Kislovodsk**	**5.41**	**357**	*e*P	**Pn**	**22 22 52.6**	**+0.3**
	comp=Z,543nm,7.0s						
KIV	**Kislovodsk**	**5.41**	**357**	*e*Pn	**Pn**	**22 22 53.5**	**+1.2**
KIV	**Kislovodsk**	**5.41**	**357**	*e*Pn	**Pn**	**22 22 53.5**	**+1.2**
KIV	**Kislovodsk**	**5.41**	**357**	Pg	**Pg**	**22 23 15.7**	**+0.3**
	SNR=8.6						
KIV	**Kislovodsk**	**5.41**	**357**	P	**Pg**	**22 23 15.7**	**+0.3**
	SNR=8.6						
KVAR	**Kislovodsk Arr**	**5.41**	**357**	Pn	**Pn**	**22 22 52.5**	**+0.2**
	baz=230,slow=18,SNR=1.3						
KVAR				LR	LR	22 25 27.9	
	comp=Z,3μm,21.1s,baz=114,slow=44						
ANDN	**Andirin**	**5.43**	**262**	*i* P	**Pb**	**22 23 05.7**	**-0.9**
TOKA	**Tokat**	**5.43**	**291**	*e*Pn	**Pn**	**22 22 54.6**	**+2.1**
TOKA	**Tokat**	**5.43**	**291**	*e*Pn	**Pn**	**22 22 54.6**	**+2.1**
SOC	**Sochi**	**5.64**	**334**	*e*P	**Pb**	**22 23 07.5**	**-2.7**
SOC				pmax	pmax		
	comp=Z,103nm,1.2s						
SOC				MLR	MLR		
	comp=Z,880nm,11.0s						
SOC	**Sochi**	**5.64**	**334**	*e*P	**Pb**	**22 23 07.5**	**-2.7**
	comp=Z,880nm,11.0s						
BNN	**Bunyan**	**5.69**	**275**	*e*PN	**Pn**	**22 22 59.2**	**+3.0**
BNN	**Bunyan**	**5.69**	**275**	*e*Pn	**Pn**	**22 22 59.2**	**+3.0**
KOZT	**Kozan**	**5.85**	**262**	*e*PN	**Pn**	**22 23 01.5**	**+3.2**
KOZT	**Kozan**	**5.85**	**262**	*e*Pn	**Pn**	**22 23 01.5**	**+3.2**
BTCH	**Batrach**	**5.87**	**247**	*e*P	**Pn**	**22 23 01.3**	**+2.8**
BTCH				*e*S	**Sb**	**22 24 22.0**	**-2.3**
BTCH				AML	AML	22 24 49.0	
	comp=N,345nm,0.6s						
KVT	**Kavak**	**6.00**	**297**	*e*PN	**Pn**	**22 23 02.5**	**+2.2**
KVT	**Kavak**	**6.00**	**297**	P	**Pn**	**22 23 03.0**	**+2.7**
KVT	**Kavak**	**6.00**	**297**	*e*Pn	**Pn**	**22 23 02.5**	**+2.2**
KVT	**Kavak**	**6.00**

SRS Serrai 15.21 286 P **P** **22 25 11.2 -0.1**
SRS Serrai 15.21 286 *e*Pn **P** **22 25 11.2 -0.1**
ATH Athens Observa 15.25 274 P **P** **22 25 14.4 +2.7**
ATH Athens Observa 15.25 274 P **P** **22 25 14.4 +2.7**
ATH Athens Observa 15.25 274 P **P** **22 25 14.4 +2.7**
ATH Athens Observa 15.25 274 P **P** **22 25 14.4 +2.7**
ARR Arges 15.32 302⇑ *i*P **Pn** **22 25 06.8 -1.0**
SOH Sokhos 15.38 285 P **P** **22 25 14.0 +0.8**
SOH Sokhos 15.38 285 *e*P **P** **22 25 14.0 +0.8**
SOH Sokhos 15.38 285 P **P** **22 25 14.0 +0.8**
SOH Sokhos 15.38 285 *e*Pn **P** **22 25 14.0 +0.8**
VAM Vamos 15.44 264 P **P** **22 25 13.3 -0.5**
VAM Vamos 15.44 264 P **P** **22 25 13.3 -0.5**
VAM Vamos 15.44 264 P **P** **22 25 13.3 -0.5**
VAM Vamos 15.44 264 P **P** **22 25 13.3 -0.5**
SMIA Simia 15.54 277 P **P** **22 25 15.9 +0.9**
SMIA Simia 15.54 277 P **P** **22 25 15.9 +0.9**
IMMV Iera Moni Meta 15.59 264 P **Pn** **22 25 11.6 +0.3**
AKASG Malin Array Be 15.63 325 Pn **Pn** **22 25 10.9 -0.7**
comp=N,0.4nm,0.3s,baz=133,slow=11,SNR=16
AKBB Malin Array Si 15.63 325 *e*P **Pn** **22 25 10.9 -0.8**
AKBB Malin Array Si 15.63 325 *e*P **Pn** **22 25 10.9 -0.8**
AKBB Malin Array Si 15.63 325 *e*Pn **Pn** **22 25 10.9 -0.8**
KIEV Kiev 15.63 325⇓ *e*P **Pn** **22 25 12.8 +1.1**
KIEV Kiev 15.63 325 *e*P **Pn** **22 25 12.8 +1.1**
KIEV Kiev 15.63 325 *e*Pn **Pn** **22 25 12.9 +1.1**
comp=N,70nm,1.1s
VTS Vitosha 15.65 291 P **P** **22 25 15.3 -1.0**
VTS Vitosha 15.65 291 *e*P **Pn** **22 25 13.5 +1.3**
VTS pmax pmax
comp=Z,67nm,1.8s
VTS Vitosha 15.65 291 P **P** **22 25 18.9 +2.6**
VTS Vitosha 15.65 291 *e*P **Pn** **22 25 13.5 +1.3**
comp=Z,67nm,1.8s
VTS Vitosha 15.65 291 *e*Pn **Pn** **22 25 13.5 +1.3**
comp=Z,67nm,1.8s
KKB Krupnik 15.65 289 P **P** **22 25 17.6 +1.4**
THE Thessaloniki 15.67 284 P **P** **22 25 16.6 +0.3**
THE pmax pmax
comp=Z,27nm,1.0s
THE Thessaloniki 15.67 284 P **P** **22 25 16.6 +0.3**
comp=Z,27nm,1.0s
GVD Gavdhos 15.70 262 P **Pn** **22 25 12.7 0.0**
GVD Gavdhos 15.70 262 *e*Pn **Pn** **22 25 12.7 0.0**
GVD Gavdhos 15.70 262 *e*Pn **Pn** **22 25 12.7 0.0**
KNT Kendrikon 15.74 286 P **P** **22 25 18.9 +1.8**
KNT Kendrikon 15.74 286 P **P** **22 25 18.9 +1.8**
KNT Kendrikon 15.74 286 P **P** **22 25 18.9 +1.8**
KNT Kendrikon 15.74 286 P **P** **22 25 18.9 +1.8**
LTK Loutraki 15.83 274 P **P** **22 25 18.6 +0.4**
LTK Loutraki 15.83 274 P **P** **22 25 18.6 +0.4**
LTK Loutraki 15.83 274 *e*Pn **P** **22 25 18.6 +0.4**
BURAR Bucovina Array 15.88 311⇑ *i*P **Pn** **22 25 15.4 +0.4**
BURAR Bucovina Array 15.88 311⇑P **Pn** **22 25 15.4 +0.4**
BUR08 Bucovina Ar. S 15.90 311 *e*Pn **Pn** **22 25 15.5 +0.2**
BUR08 Bucovina Ar. S 15.90 311 *e*Pn **Pn** **22 25 15.5 +0.2**
AKTO Aktyubinsk 15.91 37 Pn **Pn** **22 25 13.5 -1.8**
comp=Z,0.2nm,0.3s,baz=220,slow=15,SNR=12
AKTO LR LR 22 32 54.3
comp=Z,640nm,20.9s,baz=225,slow=43
THAL Thalero 16.07 275 P **P** **22 25 21.3 +0.6**
THAL Thalero 16.07 275 P **P** **22 25 21.3 +0.6**
DSF Desfina 16.12 276 P **P** **22 25 22.6 +1.1**
DSF Desfina 16.12 276 P **P** **22 25 22.6 +1.1**
DSF Desfina 16.12 276 *e*Pn **P** **22 25 22.6 +1.1**
ABKAR Akbulak array 16.14 43 *e*Pn **Pn** **22 25 17.6 -0.6**
comp=Z,54nm,0.8s
ABKAR Akbulak array 16.14 43 *e*Pn **Pn** **22 25 17.6 -0.6**
comp=Z,54nm,0.8s
ARCR ARCALIA 16.16 308⇑ *i*P **Pn** **22 25 17.3 -1.3**
AGG Agios Georgios 16.21 278 P **P** **22 25 26.4 +4.0**
AGG Agios Georgios 16.21 278 P **P** **22 25 26.4 +4.0**
AGG Agios Georgios 16.21 278 P **P** **22 25 26.4 +4.0**
AGG Agios Georgios 16.21 278 P **P** **22 25 26.4 +4.0**
GUR Goura 16.33 274 P **P** **22 25 23.6 -0.2**
GUR Goura 16.33 274 P **P** **22 25 23.6 -0.2**
GUR Goura 16.33 274 *e*Pn **P** **22 25 23.6 -0.2**
KALE Kalithea 16.43 276 P **P** **22 25 25.8 +1.0**
KALE Kalithea 16.43 276 P **P** **22 25 25.8 +1.0**
KALE Kalithea 16.43 276 P **P** **22 25 25.8 +1.0**
KLV Kalavryta, Ach 16.46 275 P **P** **22 25 26.2 +0.9**
KLV Kalavryta, Ach 16.46 275 P **P** **22 25 26.2 +0.9**
KLV Kalavryta, Ach 16.46 275 P **P** **22 25 26.2 +0.9**
CJR Cluj-Napoca 16.48 306⇑ *i*P **Pn** **22 25 20.9 -1.9**
CJR Cluj-Napoca 16.48 306 ⇑P **Pn** **22 25 20.9 -1.9**
CJR Cluj-Napoca 16.48 306 P **Pn** **22 25 20.9 -1.9**
SERG Sergoula 16.49 276 P **P** **22 25 26.7 +1.2**
SERG Sergoula 16.49 276 P **P** **22 25 26.7 +1.2**
ZAGS Zajecar 16.56 295 *e*P **P** **22 25 26.7 +0.5**
LAKA Lakka 16.57 276 P **P** **22 25 28.0 +1.6**
LAKA Lakka 16.57 276 P **P** **22 25 28.0 +1.6**
LAKA Lakka 16.57 276 P **P** **22 25 28.0 +1.6**
ANX Ano Chora 16.57 277 P **P** **22 25 27.6 +1.1**
ANX Ano Chora 16.57 277 P **P** **22 25 27.6 +1.1**
EVR Evrytania 16.63 278 P **P** **22 25 29.5 +2.4**
EVR Evrytania 16.63 278 P **P** **22 25 29.5 +2.4**
EVR Evrytania 16.63 278 P **P** **22 25 29.5 +2.4**
BARS Barje 16.70 292 *e*P **P** **22 25 28.6 +0.9**
DRO Drossia 16.82 275 P **P** **22 25 29.1 -0.1**
DRO Drossia 16.82 275 P **P** **22 25 29.1 -0.1**
PVO Paravola 16.88 277 P **P** **22 25 31.8 +2.0**
PVO Paravola 16.88 277 P **P** **22 25 31.8 +2.0**
FNA Florina 16.88 284 P **P** **22 25 29.8 -0.1**
FNA Florina 16.88 284 P **P** **22 25 29.8 -0.1**
FNA Florina 16.88 284 P **P** **22 25 29.8 -0.1**
FNA Florina 16.88 284 P **P** **22 25 29.8 -0.1**
SKO Skopje 16.88 289 P **P** **22 25 32.2 +2.4**
SKO pmax pmax
comp=Z,2.0nm,1.5s
SKO Skopje 16.88 289 P **P** **22 25 32.2 +2.4**
comp=Z,2.0nm,1.5s
AMT Artemida-Makis 16.89 273 P **P** **22 25 30.6 +0.6**
AMT Artemida-Makis 16.89 273 P **P** **22 25 30.6 +0.6**
BOVS Bovan 16.98 294 *e*P **P** **22 25 30.0 0.0**
PYL PYLOS 16.99 271 P **Pn** **22 25 25.9 -3.2**
PYL PYLOS 16.99 271 *e*Pn **Pn** **22 25 25.9 -3.2**
PYL PYLOS 16.99 271 *e*Pn **Pn** **22 25 25.9 -3.2**
RLS Riolos of Patr 17.00 275 P **P** **22 25 32.2 +1.1**
RLS Riolos of Patr 17.00 275 P **P** **22 25 32.2 +1.1**
RLS Riolos of Patr 17.00 275 P **P** **22 25 32.2 +1.1**
KUBS Kucevo 17.08 297 *e*P **P** **22 25 33.4 +1.4**
DRGR 17.08 305⇓ *i*P **Pn** **22 25 26.5 -3.8**
DRGR 17.08 305 ⇓P **Pn** **22 25 26.5 -3.8**
DRGR 17.08 305 P **Pn** **22 25 26.5 -3.8**
PDO Prodromos 17.15 277 P **P** **22 25 32.8 +0.1**
PDO Prodromos 17.15 277 P **P** **22 25 32.8 +0.1**
OBN Obninsk 17.15 347 P **Pn** **22 25 29.8 -1.1**
comp=Z,2.7nm,0.3s,baz=161,slow=5.7,SNR=8.5
OBN LR LR 22 32 38.0
comp=Z,618nm,18.2s,baz=126,slow=39
OBN Obninsk 17.15 347⇓ *i*P **Pn** **22 25 31.3 +0.3**
OBN pmax pmax
comp=Z,60nm,1.1s
OBN Obninsk 17.15 347 *i* P **Pn** **22 25 31.3 +0.3**
comp=Z,60nm,1.1s
OBN Obninsk 17.15 347 *e*Pn **Pn** **22 25 27.5 -3.5**
comp=Z,45nm,1.0s
DSL Palaion Diasel 17.16 279 P **Pn** **22 25 31.0 -0.3**
DSL Palaion Diasel 17.16 279 P **Pn** **22 25 31.0 -0.3**
DSL Palaion Diasel 17.16 279 P **Pn** **22 25 31.0 -0.3**
SELS Selova 17.26 293 *e*P **P** **22 25 35.7 +1.7**
BZS Buzias 17.42 301⇑ *i*P **Pn** **22 25 28.4 -6.1**
BZS Buzias 17.42 301 ⇑P **Pn** **22 25 28.4 -6.1**
BZS Buzias 17.42 301 P **Pn** **22 25 28.4 -6.1**
UOSS Minazif 17.52 137 *e*Pn **Pn** **22 25 35.5 -0.4**
comp=Z,56nm,1.5s
UOSS Minazif 17.52 137 *e*Pn **Pn** **22 25 35.5 -0.4**
comp=Z,56nm,1.5s
LKD2 Lefkada island 17.53 278 P **P** **22 25 37.4 +0.3**
LKD2 Lefkada island 17.53 278 P **P** **22 25 37.4 +0.3**
LKD2 Lefkada island 17.53 278 P **P** **22 25 37.4 +0.3**
MOS Moscow 17.59 350 *e*P **Pn** **22 25 36.3 -0.1**
MOS *e*S **S** **22 28 56.4 -3.2**
MOS pmax pmax
comp=Z,82nm,1.2s
MOS Moscow 17.59 350 *e*P **Pn** **22 25 36.3 -0.1**
comp=Z,82nm,1.2s
MOS *e*S **S** **22 28 56.4 -3.2**
GRUS Gruza 17.65 295 *e*P **P** **22 25 40.1 +1.8**
ASHO Ashiyiah 17.66 138 P **Pn** **22 25 36.8 -0.8**
SNR=5.2
ASHO Ashiyiah 17.66 138 Pn **Pn** **22 25 36.8 -0.8**
SNR=5.2
ASHO Ashiyiah 17.66 138 P **Pn** **22 25 36.8 -0.8**
SNR=5.2
LVV L'vov 17.67 316 *e*P **P** **22 25 41.2 +2.8**
LVV L'vov 17.67 316 *e*P **P** **22 25 41.2 +2.8**
SGD Sagiada 17.79 281 P **P** **22 25 43.0 +3.2**
SGD Sagiada 17.79 281 P **P** **22 25 43.0 +3.2**
TRUS Trudelj 17.93 296 *e*P **P** **22 25 42.7 +1.3**
IVAS Ivanjica 18.01 293 *e*P **P** **22 25 43.1 +0.8**
TIR Tirane 18.03 286 *e*P **Pn** **22 25 41.2 -0.9**
TIR pmax pmax
comp=Z,63nm,1.4s
TIR Tirane 18.03 286 *e*P **Pn** **22 25 41.2 -0.9**
comp=Z,63nm,1.4s
TIR Tirane 18.03 286 *e*Pn **Pn** **22 25 41.2 -0.9**
comp=Z,63nm,1.4s
UZH Uzhgorod 18.08 311 *e*P **Pn** **22 25 42.3 -0.3**
UZH Uzhgorod 18.08 311 *e*P **Pn** **22 25 42.3 -0.3**
DIVS Divibare 18.20 295 P **Pn** **22 25 44.2 -0.1**
DIVS Divibare 18.20 295 P **Pn** **22 25 44.2 -0.1**
KWP Kalwaria Pacla 18.31 314 P **Pn** **22 25 44.1 -1.3**
KWP pmax pmax
comp=Z,509nm,1.1s
KWP Kalwaria Pacla 18.31 314 P **Pn** **22 25 44.1 -1.3**
comp=Z,509nm,1.1s
FGSL Fruska Gora 18.54 298 *e*P **Pn** **22 25 49.2 +0.9**
BBLS Lazići 18.59 294 *e*P **Pn** **22 25 50.0 +1.1**
TEKS Tekeris 18.61 296 *e*P **Pn** **22 25 50.2 +1.0**
CRVS Cervenica-Dubn 18.70 311 *e*P **Pn** **22 25 51.7 +1.6**
CRVS Cervenica-Dubn 18.70 311 *e*P **Pn** **22 25 51.7 +1.6**
CRVS Cervenica-Dubn 18.70 311 *e*P **Pn** **22 25 51.7 +1.6**
MICGM Minsk 19.02 332 *e* P 22 25 46.0 -7.2
MNK Minsk 19.02 332 *e*P P 22 25 46.0 -7.2
MNK Minsk 19.02 332 *e*P P 22 25 46.0 -7.2
STHS Stebnicka Huta 19.05 312 *e*P **Pn** **22 25 55.3 +0.9**
STHS pmax pmax
comp=Z,11nm,1.4s
STHS Stebnicka Huta 19.05 312 *e*P **Pn** **22 25 55.3 +0.9**
comp=Z,10nm,1.4s
STHS Stebnicka Huta 19.05 312 *e*P **Pn** **22 25 55.3 +0.9**
KECS Kecovo 19.11 309 *e*P **Pn** **22 25 58.0 +2.8**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 19.11 309 *e*P **Pn** **22 25 58.0 +2.8**
comp=Z,4.0nm,0.9s
KECS Kecovo 19.11 309 *e*P **Pn** **22 25 58.0 +2.8**
PSZ Piszkesteto 19.27 307⇑ *i*P **P** **22 25 51.5 -4.7**
PSZ Piszkesteto 19.27 307 *e*P **Pn** **22 25 58.2 +1.0**
PSZ pmax pmax
comp=Z,31nm,1.2s
PSZ Piszkesteto 19.27 307 *e*P **Pn** **22 25 58.2 +1.0**
comp=Z,31nm,1.2s
PSZ Piszkesteto 19.27 307 *e*P **Pn** **22 25 58.2 +1.0**
comp=Z,31nm,1.2s
NIE Niedzica 19.61 311 P **Pn** **22 26 01.8 +0.7**
NIE Niedzica 19.61 311 P **Pn** **22 26 01.8 +0.7**
BUD Budapest 19.68 305 P **Pn** **22 26 02.5 +0.5**
BUD pmax pmax
comp=Z,60nm,1.4s
BUD Budapest 19.68 305 P **Pn** **22 26 02.5 +0.5**
comp=Z,60nm,1.4s
NACGM Naroch 19.74 331 *e* **P** **22 26 00.0 -1.1**
LANS Liptovska Anna 19.99 310 *e*P **Pn** **22 26 06.4 +0.7**
LANS Liptovska Anna 19.99 310 *e*P **Pn** **22 26 06.4 +0.7**
LANS Liptovska Anna 19.99 310 *e*P **Pn** **22 26 06.4 +0.7**
IDID Didziasalis 20.07 332 *e*P **P** **22 26 05.2 +0.5**
IDID IAmb IAmb 22 26 09.1
comp=Z,11nm,1.0s
VYHS Vyhne 20.14 307 *e*P Pn 22 26 06.8 -0.6
VYHS pmax pmax
comp=Z,38nm,1.3s
VYHS Vyhne 20.14 307 *e*P Pn 22 26 06.8 -0.6
comp=Z,38nm,1.3s
VYHS Vyhne 20.14 307 *e*P Pn 22 26 06.8 -0.6
WSAR Wadi Sarin 20.21 135 P **P** **22 26 07.3 +0.8**
comp=Z,6.1nm,0.9s,baz=332,slow=9.1,SNR=4.7
OJC Ojcow 20.25 313 *e*P Pn 22 26 09.0 +0.3
OJC pmax pmax
comp=Z,25nm,1.2s
OJC Ojcow 20.25 313 *e*P Pn 22 26 09.0 +0.3
comp=Z,25nm,1.2s
OJC Ojcow 20.25 313 *e*P Pn 22 26 09.0 +0.3
comp=Z,25nm,1.2s
IIGN Ignalina 20.29 331 *e*P **P** **22 26 08.0 +0.9**
IIGN IAmb IAmb 22 26 10.6
comp=Z,32nm,1.4s
BLY Banja Luka 20.29 296 *e*P Pn 22 26 10.0 +0.7
comp=Z,15nm,1.1s
BLY Banja Luka 20.29 296 *e*P Pn 22 26 10.0 +0.8
comp=Z,15nm,1.1s
BEL Belsk 20.48 318 P **P** **22 26 09.9 +0.7**
BEL Belsk 20.48 318 P **P** **22 26 09.9 +0.7**
ISAL Salakas 20.49 332 *e*P **P** **22 26 10.0 +0.8**
ISAL IAmb IAmb 22 26 14.3
comp=Z,41nm,1.3s
IZAR Zarasai 20.58 332 *e*P **P** **22 26 11.3 +1.0**
IZAR IAmb IAmb 22 26 15.4
comp=Z,60nm,1.3s
SUW Suwalki 20.60 325 P Pn 22 26 11.8 -0.9
SUW pmax pmax
comp=Z,502nm,1.2s
SUW Suwalki 20.60 325 P Pn 22 26 11.8 -0.9
comp=Z,502nm,1.2s
ARU Arti 20.62 25 P **P** **22 26 10.5 -0.2**
comp=Z,21nm,0.9s,baz=212,slow=7.5,SNR=16
ARU LR LR 22 35 14.7
comp=Z,508nm,21.3s,baz=218,slow=40
ARU Arti 20.62 25*d i*P **P** **22 26 10.7 0.0**
ARU 22 26 27.3
ARU S **S** **22 30 03.2 +2.4**
ARU SS **PcP** **22 30 23.7 +2.9**
ARU pmax pmax
comp=Z,80nm,1.7s
ARU Arti 20.62 25 *e*P **P** **22 26 09.9 -0.8**
comp=Z,38nm,0.9s
ARU S **S** **22 30 03.2 +2.4**
ARU Arti 20.62 25 PcP **PcP** **22 30 23.7 +2.9**
ARU Arti 20.62 25 *e*P **P** **22 26 09.9 -0.8**
comp=Z,38nm,0.9s
SMOL Smolenice 21.02 307 *e*P **P** **22 26 17.6 +2.4**
SMOL Smolenice 21.02 307 *e*P **P** **22 26 17.6 +2.4**
SMOL Smolenice 21.02 307 *e*P **P** **22 26 17.6 +2.4**
OKC Ostrava-Krasne 21.05 310 *e*P **P** **22 26 17.5 +2.1**
OKC Ostrava-Krasne 21.05 310 *e*P **P** **22 26 17.5 +2.1**
OKC Ostrava-Krasne 21.05 310 P **P** **22 26 17.5 +2.1**
CUC Castrocucco 21.15 283 *e*P **P** **22 26 17.4 +0.7**
comp=Z,18nm,1.0s
CUC Castrocucco 21.15 283 *e*P **P** **22 26 17.4 +0.7**
comp=Z,18nm,1.0s
KKAR Karatay Array 21.18 69 *e*P **P** **22 26 14.8 -2.1**
KKAR *e* 22 26 18.0
KKAR pmax pmax
comp=Z,205nm,0.8s
KKAR Karatay Array 21.18 69 *e*P **P** **22 26 14.8 -2.1**
comp=Z,205nm,0.8s
KKAR Karatay Array 21.18 69 *e*Pn **P** **22 26 18.0 +1.1**
KKAR Karatay Array 21.18 69 *e*P **P** **22 26 14.8 -2.1**
comp=Z,205nm,0.8s
KKAR *e*Pn **P** **22 26 18.0 +1.1**
KBL Kabul 21.19 93 *e*P **P** **22 26 20.0 +2.7**
KBL Kabul 21.19 93 *e*P **P** **22 26 20.0 +2.7**
KBL Kabul 21.19 93 *e*P **P** **22 26 20.0 +2.7**
KOGS Kog 21.25 300 *e*P **P** **22 26 17.8 +0.3**
KOGS Kog 21.25 300 P **P** **22 26 17.8 +0.3**
CEL Celeste 21.31 278 *e*P **P** **22 26 18.7 +0.4**
comp=Z,21nm,0.9s
CEL Celeste 21.31 278 *e*P **P** **22 26 18.7 +0.4**
comp=Z,21nm,0.9s
SOP Sopron 21.34 304 P **P** **22 26 19.4 +0.9**
SOP pmax pmax
comp=Z,48nm,1.4s
SOP Sopron 21.34 304 P **P** **22 26 19.4 +0.9**
comp=Z,48nm,1.4s
MORC Moravsky Berou 21.39 310⇓ *i*P **P** **22 26 12.8 -6.4**
MORC Moravsky Berou 21.39 310 *e*P **P** **22 26 19.4 +0.3**
MORC pmax pmax
comp=Z,70nm,1.2s
MORC Moravsky Berou 21.39 310 *e*P **P** **22 26 19.4 +0.3**
comp=Z,70nm,1.2s
MORC Moravsky Berou 21.39 310 *e*P **P** **22 26 19.4 +0.3**
comp=Z,70nm,1.2s
SVE Sverdlovsk 21.64 27⇑ *e*P **P** **22 26 21.9 +0.2**
SVE pmax pmax
comp=Z,51nm,1.3s
SVE Sverdlovsk 21.64 27 *e*P **P** **22 26 21.9 +0.2**
comp=Z,51nm,1.3s
VRAC Vranov 21.81 308 P **P** **22 26 23.4 -0.1**
comp=Z,19nm,0.9s,baz=114,slow=9.9,SNR=15
CONA Conrad Observa 21.86 304 *i* P **P** **22 26 25.3 +1.1**
comp=Z,23nm,0.9s,SNR=23
CONA Conrad Observa 21.86 304 P **P** **22 26 25.3 +1.1**
comp=Z,23nm,0.9s,SNR=23
ARSA Arzberg 21.91 302 *i* pP **P** **22 26 24.8 +0.1**
comp=Z,9.0nm,0.9s,SNR=6.5
ARSA Arzberg 21.91 302 P **P** **22 26 24.8 +0.1**
comp=Z,9.0nm,0.9s,SNR=6.5
KRLC Kraliky 21.96 310 *e*P **P** **22 26 27.6 +2.4**
KRLC *ex* x 22 26 29.5
KRLC Kraliky 21.96 310 *e*P **P** **22 26 27.6 +2.4**
KRLC *e* 22 26 29.5
KRLC Kraliky 21.96 310 P **P** **22 26 27.6 +2.4**
VISS Visnje 22.09 298 *e*P **P** **22 26 28.6 +1.9**
VISS Visnje 22.09 298 *e*P **P** **22 26 28.6 +1.9**
SOKA Soboth 22.12 301 *i* pP **P** **22 26 28.9 +1.9**
comp=Z,18nm,1.4s,SNR=7.5
SOKA Soboth 22.12 301 P **P** **22 26 28.9 +1.9**
comp=Z,18nm,1.4s,SNR=7.5
DPC Dobruska-Polom 22.34 311 *e*P **P** **22 26 30.5 +1.2**
DPC Dobruska-Polom 22.34 311 *e*P **P** **22 26 30.5 +1.2**
DPC Dobruska-Polom 22.34 311 P **P** **22 26 30.5 +1.2**
OBKA Obir 22.41 300 *i* pP **P** **22 26 31.2 +1.1**
comp=Z,6.4nm,1.0s
OBKA Obir 22.41 300 P **P** **22 26 31.2 +1.1**
comp=Z,6.4nm,1.0s
KLMR Klimovskoe 22.44 355 *e*P **P** **22 26 28.4 -1.8**
KLMR *e* 22 26 52.2
KLMR pmax pmax
comp=Z,109nm,1.5s
KLMR Klimovskoe 22.44 355 *e*P **P** **22 26 28.4 -1.8**
comp=Z,109nm,1.5s
TREC Trest 22.49 307 *e*P **P** **22 26 32.5 +1.6**
TREC Trest 22.49 307 *e*P **P** **22 26 32.5 +1.6**
TREC Trest 22.49 307 P **P** **22 26 32.5 +1.6**
KSP Ksiaz 22.54 312 P **P** **22 26 33.5 +2.1**
KSP pmax pmax
comp=Z,22nm,1.2s
KSP Ksiaz 22.54 312 P **P** **22 26 33.5 +2.1**
comp=Z,22nm,1.2s
VSU Vasula 22.57 337⇓ *i*P **P** **22 26 31.9 +0.3**
VSU pmax pmax
comp=Z,304nm,1.7s
VSU Vasula 22.57 337 *i* P **P** **22 26 31.9 +0.3**
comp=Z,304nm,1.7s
UPC Upice 22.58 311 *e*P **P** **22 26 33.1 +1.3**
UPC Upice 22.58 311 *e*P **P** **22 26 33.1 +1.3**
UPC Upice 22.58 311 P **P** **22 26 33.1 +1.3**
VAE Valguarnera 22.60 276 P **P** **22 26 33.0 +0.8**
comp=Z,7.2nm,1.1s,baz=265,slow=18,SNR=2.0
MNAS Manas 22.63 71 P **P** **22 26 33.5 +0.9**
MNAS pmax pmax
comp=Z,16nm,1.4s
MNAS Manas 22.63 71 P **P** **22 26 33.5 +0.9**
comp=Z,16nm,1.4s
PUL Pulkovo 22.74 343⇓ *e*P **P** **22 26 34.8 +1.4**
PUL pmax pmax
comp=Z,53nm,1.1s
PUL Pulkovo 22.74 343 *e*P **P** **22 26 34.8 +1.4**
comp=Z,53nm,1.1s
SOKR Solikamsk 22.80 18⇑ *i*P **P** **22 26 33.6 -0.4**
SOKR pmax pmax
comp=Z,51nm,1.7s
TRI Trieste 22.82 298 *e*P **P** **22 26 30.5 -3.9**
TRI pmax pmax
comp=Z,30nm,1.2s
TRI Trieste 22.82 298 *e*P **P** **22 26 30.5 -3.9**
comp=Z,30nm,1.2s
TRI Trieste 22.82 298 *e*P **P** **22 26 30.5 -3.9**
comp=Z,30nm,1.2s
AQU L'Aquila 22.87 289 *e*P **P** **22 26 34.7 -0.3**
AQU pmax pmax
comp=Z,48nm,1.1s
AQU L'Aquila 22.87 289 *e*P **P** **22 26 34.7 -0.3**
comp=Z,48nm,1.1s
AQU L'Aquila 22.87 289 *e*P **P** **22 26 34.7 -0.3**
comp=Z,48nm,1.1s
MOA Molln 22.88 303 *i* pP **P** **22 26 34.8 -0.2**
comp=Z,17nm,0.8s,SNR=5.3
MOA Molln 22.88 303 P **P** **22 26 34.8 -0.2**
comp=Z,17nm,0.8s,SNR=5.3
WDD Wied Dalam 22.90 272 *e*P **P** **22 26 34.3 -0.9**
comp=Z,88nm,1.0s
WDD Wied Dalam 22.90 272 *e*P **P** **22 26 34.3 -0.9**
comp=Z,88nm,1.0s
MYKA Terra Mystica 23.05 300 *i* P **P** **22 26 40.3 +3.4**
comp=Z,12nm,1.1s
GOPC GO Pecny, Ondr 23.11 309 *e*P **P** **22 26 37.5 +0.1**
GOPC GO Pecny, Ondr 23.11 309 *e*P **P** **22 26 37.5 +0.1**
GOPC GO Pecny, Ondr 23.11 309 P **P** **22 26 37.5 +0.1**
PRU Pruhonice 23.29 309 *e*P **P** **22 26 38.7 -0.5**
PRU *ep*P **pP** **22 26 41.6 -1.4**
PRU Pruhonice 23.29 309 *e*P **P** **22 26 38.7 -0.5**
PRU *e* 22 26 41.6
PRU Pruhonice 23.29 309 P **P** **22 26 38.7 -0.5**
KBA Koelnbreinsper 23.33 301 P **P** **22 26 40.3 +0.5**
KBA pmax pmax
comp=Z,19nm,1.0s
KBA Koelnbreinsper 23.33 301 *i* P **P** **22 26 40.6 +0.8**
comp=Z,22nm,1.6s
KBA Koelnbreinsper 23.33 301 P **P** **22 26 40.6 +0.8**
comp=Z,22nm,1.6s
PVCC Panska Ves 23.45 310 *e*P **P** **22 26 41.6 +0.8**
PVCC Panska Ves 23.45 310 *e*P **P** **22 26 41.6 +0.8**
PVCC Panska Ves 23.45 310 P **P** **22 26 41.6 +0.8**
GEC2 GERESS Array S 23.48 306 *e*P **P** **22 26 41.5 +0.2**
GEC2 pmax pmax
comp=Z,17nm,1.2s
GEC2 GERESS Array S 23.48 306 *e*P **P** **22 26 41.5 +0.2**
comp=Z,17nm,1.2s
GEC2 GERESS Array S 23.48 306 *e*P **P** **22 26 41.5 +0.2**
comp=Z,17nm,1.2s
GERES GERESS Array B 23.48 306 P **P** **22 26 40.9 -0.3**
comp=Z,5.2nm,0.9s,baz=104,slow=9.8,SNR=16
CLTB Caltabellotta 23.51 277 *e*P **P** **22 26 42.3 +0.7**
comp=Z,23nm,1.1s
CLTB Caltabellotta 23.51 277 *e*P **P** **22 26 42.3 +0.7**
comp=Z,23nm,1.1s
KHC Kasperske Hory 23.64 306 *e*P **P** **22 26 42.1 -0.6**
KHC *ex* x 22 26 55.0
KHC Kasperske Hory 23.64 306 *e*P **P** **22 26 42.5 -0.2**
KHC pmax pmax
comp=Z,31nm,1.8s
KHC Kasperske Hory 23.64 306 *e*P **P** **22 26 42.5 -0.2**
comp=Z,31nm,1.8s
KHC Kasperske Hory 23.64 306 *e*P **P** **22 26 42.5 -0.2**
comp=Z,31nm,1.8s
BRVK Borovoye 23.67 43*d i*P **P** **22 26 44.0 +1.1**
BRVK pmax pmax
comp=Z,88nm,1.7s
BRVK Borovoye 23.67 43 *e*P **P** **22 26 42.2 -0.7**
comp=Z,52nm,1.6s
BRVK Borovoye 23.67 43 *e*P **P** **22 26 42.2 -0.7**
comp=Z,52nm,1.6s
BRVK Borovoye 23.67 43 P **P** **22 26 43.6 +0.7**
SNR=11
BRVK Borovoye 23.67 43 P **P** **22 26 43.6 +0.7**
SNR=11
BVAR Borovoye Array 23.71 44 P **P** **22 26 43.5 +0.2**
comp=Z,4.4nm,0.8s,baz=234,slow=13,SNR=10
ABTA Abfaltersbach 23.84 300 *i* P **P** **22 26 45.4 +0.7**
comp=Z,34nm,1.7s,SNR=5.2
ABTA Abfaltersbach 23.84 300 P **P** **22 26 45.4 +0.7**
comp=Z,34nm,1.7s,SNR=5.2
DAMY Dhamar 23.91 177 *e*P **P** **22 26 38.8 -7.0**
comp=Z,31nm,1.4s
BRG Berggiesshubel 23.94 310 *e*P **P** **22 26 45.0 -0.5**
comp=Z,57nm,1.7s
BRG Berggiesshubel 23.94 310 *e*P **P** **22 26 45.0 -0.5**
BRG pmax pmax
comp=Z,57nm,1.7s
BRG Berggiesshubel 23.94 310 *e*P **P** **22 26 45.0 -0.5**
comp=Z,57nm,1.7s
WET Wettzell 24.09 306 P **P** **22 26 46.6 -0.3**
WET pmax pmax
comp=Z,39nm,1.5s
WET Wettzell 24.09 306 P **P** **22 26 46.6 -0.3**
comp=Z,39nm,1.5s
AAK Ala-Archa 24.10 70 P **P** **22 26 47.9 +0.5**
comp=Z,6.2nm,1.0s,baz=249,slow=11,SNR=15
AAK Ala-Archa 24.10 70*c i*P **P** **22 26 48.6 +1.3**
AAK pmax pmax

comp=Z,78nm,1.5s
AAK Ala-Archa 24.10 70 *e*P **P 22 26 46.1 -1.2**
comp=Z,44nm,1.5s
AAK Ala-Archa 24.10 70 *e*P **P 22 26 46.1 -1.2**
comp=Z,44nm,1.5s
AAK Ala-Archa 24.10 70 pP **P 22 26 49.0 +1.7**
SNR=13
FRU Bishkek 24.19 70 *e*P **P 22 26 49.0 +1.0**
FRU pmax pmax
comp=Z,165nm,2.1s
FRU Bishkek 24.19 70 *e*P **P 22 26 49.0 +1.0**
comp=Z,165nm,2.1s
WTTA Wattenberg 24.51 301 *i* pP **P 22 26 50.9 -0.1**
comp=Z,42nm,1.0s,SNR=7.8
WTTA Wattenberg 24.51 301 P **P 22 26 50.9 -0.1**
comp=Z,42nm,1.0s,SNR=7.8
WATA Walderalm 24.56 301 *i* P **P 22 26 51.9 +0.4**
comp=Z,35nm,1.0s,SNR=18
WATA Walderalm 24.56 301 P **P 22 26 51.9 +0.4**
comp=Z,35nm,1.0s,SNR=18
CLL Collm 24.64 311 *e*P **P 22 26 51.0 -1.0**
CLL *i* 22 26 53.5
CLL *i* 22 26 55.3
CLL pmax pmax
comp=Z,26nm,1.1s
CLL Collm 24.64 311 *e*P **P 22 26 51.0 -1.0**
comp=Z,26nm,1.1s
CLL Collm 24.64 311 *e*P **P 22 26 51.0 -1.0**
CLL *i* Pmax 22 26 53.5
comp=Z,15nm,1.1s
CLL *i* sP **pP 22 26 55.3 -0.7**
comp=Z,26nm,1.1s
CLL Collm 24.64 311 *e*P **P 22 26 49.9 -2.1**
comp=Z,23nm,1.0s
NKC Novy Kostel 24.65 308 *e*P **P 22 26 51.9 -0.2**
NKC Novy Kostel 24.65 308‖*e*P **P 22 26 51.9 -0.2**
NKC Novy Kostel 24.65 308 P **P 22 26 51.9 -0.2**
MOTA Moosalm 24.88 301 *i* pP **P 22 26 54.6 +0.3**
comp=Z,44nm,0.8s,SNR=39
MOTA Moosalm 24.88 301 P **P 22 26 54.6 +0.3**
comp=Z,44nm,0.8s,SNR=39
FUR Furstenfeldbru 24.91 303 P **P 22 26 55.2 +0.8**
FUR pmax pmax
comp=Z,162nm,1.0s
FUR Furstenfeldbru 24.91 303 P **P 22 26 55.2 +0.8**
comp=Z,162nm,1.0s
FETA Feichten 25.09 300 *i* pP **P 22 26 55.7 -0.5**
comp=Z,13nm,0.9s
FETA Feichten 25.09 300 P **P 22 26 55.7 -0.5**
comp=Z,13nm,0.9s
RETA Reutte 25.13 301 *i* pP **P 22 26 56.0 -0.5**
comp=Z,11nm,0.7s
RETA Reutte 25.13 301 P **P 22 26 56.0 -0.5**
comp=Z,11nm,0.7s
FIA0 FINESS Array S 25.24 341 *e*P **P 22 26 56.5 -0.7**
FIA0 FINESS Array S 25.24 341 *e*P **P 22 26 56.5 -0.7**
FIA0 FINESS Array S 25.24 341 *e*P **P 22 26 56.5 -0.7**
FIA1 FINESS Array S 25.24 341 *e*P **P 22 26 55.5 -1.7**
comp=Z,93nm,1.6s
FIA1 FINESS Array S 25.24 341 *e*P **P 22 26 55.5 -1.7**
comp=Z,93nm,1.6s
FINES FINESS Array B 25.24 341 P **P 22 26 56.5 -0.7**
comp=Z,19nm,1.0s,baz=156,slow=9.6,SNR=14
FINES FINESS Array B 25.24 341 P **P 22 26 56.5 -0.7**
GRA1 Grafenberg Arr 25.27 307 P **P 22 26 59.4 +1.7**
comp=Z,200nm,1.2s
GRF Grafenberg Arr 25.27 307 P **P 22 26 59.4 +1.7**
GRF pmax pmax
comp=Z,200nm,1.2s
GRFO Grafenberg 25.27 307 *e*P **P 22 26 56.2 -1.5**
GRFO pmax pmax
comp=Z,149nm,1.1s
GRFO Grafenberg 25.27 307 *e*P **P 22 26 56.2 -1.5**
comp=Z,149nm,1.1s
GRFO Grafenberg 25.27 307 *e*P **P 22 26 56.2 -1.5**
comp=Z,149nm,1.1s
MOX Moxa 25.27 309 P **P 22 26 58.1 +0.4**
MOX pmax pmax
comp=Z,9.0nm,1.9s
MOX Moxa 25.27 309 P **P 22 26 58.1 +0.4**
comp=Z,9.0nm,1.9s
FUORN Ofenpass-Fuorn 25.35 299 *e*P **P 22 27 01.5 +2.8**
comp=Z,14nm,1.0s
FUORN Ofenpass-Fuorn 25.35 299 *e*P **P 22 27 01.4 +2.8**
comp=Z,14nm,1.0s
JOF Joensuu 25.43 347 P **P 22 26 58.9 0.0**
JOF pmax pmax
comp=Z,42nm,1.4s
JOF Joensuu 25.43 347 P **P 22 26 58.9 0.0**
comp=Z,42nm,1.4s
KSH Kashi 25.47 77 P **P 22 26 59.5 -0.2**
KSH pP pP 22 27 03.5 -0.2
KSH sP sP 22 27 06.1 +0.7
KSH PP **PnPn 22 27 36.8 +1.8**
KSH PcP **PcP 22 30 33.8 +2.5**
KSH S **S 22 31 22.1 -4.5**
KSH sS pS 22 31 29.5 -1.4
KSH SS **SnSn 22 32 22.3 +3.2**
KSH PcS **PcS 22 34 13.5 +1.6**
KSH pmax pmax
comp=Z,36nm,1.5s
KSH pmax pmax
comp=Z,97nm,6.4s
KSH LR LR
comp=Z,170nm,8.0s
KSH LR LR
comp=Z,150nm,9.7s
DAVOX Davos/Dischmat 25.63 299 P **P 22 27 00.1 -1.1**
comp=Z,8.8nm,0.8s,baz=122,slow=12,SNR=14
DAVA Damuels 25.70 301 *i* pP **P 22 27 01.6 -0.1**
comp=Z,39nm,1.9s
DAVA Damuels 25.70 301 P **P 22 27 01.6 -0.1**
comp=Z,39nm,1.9s
TMCR Tamitsa 25.83 355 *e*P **P 22 27 01.8 -0.7**
TMCR pmax pmax
comp=Z,49nm,1.1s
TMCR Tamitsa 25.83 355 *e*P **P 22 27 01.8 -0.7**
comp=Z,49nm,1.1s
VDL Val di Lei 25.89 299 P **P 22 27 05.6 +2.0**
TUE Stuetta 25.96 299 *e*P **P 22 27 03.1 -1.1**
comp=Z,44nm,1.9s
TUE Stuetta 25.96 299 *e*P **P 22 27 03.1 -1.1**
comp=Z,44nm,1.9s
VSL Villasalto 26.14 283 *e*P **P 22 27 03.9 -1.8**
comp=Z,17nm,0.9s
VSL Villasalto 26.14 283 *e*P **P 22 27 03.9 -1.8**
comp=Z,17nm,0.9s
SUF Sumiainen 26.31 342 P **P 22 27 06.4 -0.5**
SUF Sumiainen 26.31 342 P **P 22 27 06.4 -0.5**
STU Stuttgart 26.38 304 *e*P **P 22 27 07.0 -0.7**
STU pmax pmax
comp=Z,47nm,1.6s
STU Stuttgart 26.38 304 *e*P **P 22 27 07.0 -0.7**
comp=Z,47nm,1.6s
STU Stuttgart 26.38 304 *e*P **P 22 27 07.0 -0.7**
comp=Z,47nm,1.6s
KEST Kesra 26.98 275 P **P 22 27 13.8 +0.5**
comp=Z,7.1nm,0.9s,baz=347,slow=11,SNR=7.2
KEST Kesra 26.98 275 *e*P **P 22 27 14.8 +1.5**
comp=Z,15nm,1.0s
KEST Kesra 26.98 275 *e*P **P 22 27 14.8 +1.5**
comp=Z,15nm,1.0s
SAOF Saorge 27.13 293 P **P 22 27 12.5 -2.1**
SAOF Saorge 27.13 293 P **P 22 27 12.5 -2.1**
SENIN Lac Senin/Sane 27.37 298 *e*P **P 22 27 15.9 -1.0**
comp=Z,59nm,1.8s
SENIN Lac Senin/Sane 27.37 298 *e*P **P 22 27 15.9 -1.0**
comp=Z,59nm,1.8s
KURBB Kurchatov Arra 27.69 53 P **P 22 27 19.5 0.0**
comp=Z,3.6nm,0.2s,baz=271,slow=9.3,SNR=12
PDGK Podgornoye 27.75 68 P **P 22 27 20.6 +0.4**
PDGK pmax pmax
comp=Z,7.0nm,1.3s
PDGK Podgornoye 27.75 68 P **P 22 27 20.6 +0.4**
comp=Z,7.0nm,1.3s
BNI Bardonecchia 27.75 295 *e*P **P 22 27 20.2 -0.1**
BNI pmax pmax
comp=Z,17nm,0.9s
BNI Bardonecchia 27.75 295 *e*P **P 22 27 20.2 -0.1**
comp=Z,17nm,0.9s
BNI Bardonecchia 27.75 295 *e*P **P 22 27 20.2 -0.1**
comp=Z,17nm,0.9s
KURK Kurchatov 27.77 52 *c i*P **P 22 27 20.5 +0.4**
KURK pmax pmax
comp=Z,49nm,1.2s
KURK Kurchatov 27.77 52 *i* P **P 22 27 20.5 +0.4**
comp=Z,49nm,1.2s
KURK Kurchatov 27.77 52 *e*P **P 22 27 21.4 +1.2**
comp=Z,36nm,1.8s
KURK Kurchatov 27.77 52 pP **P 22 27 21.4 +1.2**
SNR=5.0
KURK Kurchatov 27.77 52 P **P 22 27 21.4 +1.2**
SNR=5.0
HFS Hagfors 28.46 329 P **P 22 27 25.6 -0.7**
comp=Z,14nm,0.8s,baz=134,slow=6.2,SNR=11
SSB Saint Sauveur 29.27 296 *e*P **P 22 27 34.9 +1.3**
SSB pmax pmax
comp=Z,58nm,1.6s
SSB Saint Sauveur 29.27 296 *e*P **P 22 27 34.9 +1.3**
comp=Z,58nm,1.6s
SSB Saint Sauveur 29.27 296 *e*P **P 22 27 34.9 +1.3**
comp=Z,58nm,1.6s
MAKZ Makanchi 29.49 61 *e*P **P 22 27 38.2 +2.6**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 29.49 61 *e*P **P 22 27 38.2 +2.6**
comp=Z,6.0nm,0.9s
MAKZ Makanchi 29.49 61 *e*P **P 22 27 38.2 +2.6**
comp=Z,5.7nm,0.9s
MK31 Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
MK31 Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
MK31 Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
MK32 Makanchi Array 29.71 61 *e*P **P 22 27 38.0 +0.5**
MK32 Makanchi Array 29.71 61 *e*P **P 22 27 38.0 +0.5**
MKAR Makanchi Array 29.71 61 P **P 22 27 38.0 +0.4**
comp=Z,2.1nm,0.7s,baz=272,slow=6.7,SNR=8.9
MKAR LR LR 22 39 43.4
comp=Z,220nm,21.3s,baz=298,slow=37
MKAR Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
MKAR pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
comp=Z,28nm,0.8s
MKAR Makanchi Array 29.71 61 *e*P **P 22 27 38.6 +1.1**
comp=Z,28nm,0.8s
NB2 NORSAR Subarra 29.98 329 P **P 22 27 38.5 -1.3**
comp=Z,1.5nm,0.7s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.98 329 P **P 22 27 38.5 -1.3**
comp=Z,1.5nm,0.7s,baz=125,slow=8.8,SNR=6.2
NB200 NORSAR Array S 29.98 329 *e*P **P 22 27 38.5 -1.3**
NB200 NORSAR Array S 29.98 329 *e*P **P 22 27 38.5 -1.3**
NOA NORSAR Array B 29.98 329 P **P 22 27 38.5 -1.3**
comp=Z,2.9nm,0.8s,baz=126,slow=8.9,SNR=5.8
NOA LR LR 22 41 35.0
comp=Z,78nm,21.0s,baz=330,slow=40
NVS Novosibirsk 31.45 46 *e*P **P 22 27 53.6 +0.9**
NVS pmax pmax
comp=Z,13nm,1.9s
NVS Novosibirsk 31.45 46 *e*P **P 22 27 53.6 +0.9**
comp=Z,13nm,1.9s
ZALV Zalesovo Beam 32.15 48 P **P 22 27 58.7 -0.3**
comp=Z,1.0nm,0.6s,baz=260,slow=8.5,SNR=3.4
ZALV LR LR 22 43 10.4
comp=Z,210nm,19.1s,baz=244,slow=40
ZAA1 Zalesovo Array 32.16 48 *e*P **P 22 27 58.7 -0.3**
ZAA1 Zalesovo Array 32.16 48 *e*P **P 22 27 58.7 -0.3**
ARA0 ARCESS Array S 32.45 349 *e*P **P 22 28 00.6 -0.8**
ARA0 ARCESS Array S 32.45 349 *e*P **P 22 28 00.6 -0.8**
ARCES ARCESS Array B 32.45 349 P **P 22 28 00.6 -0.8**
comp=Z,1.9nm,0.6s,baz=150,slow=9.4,SNR=5.1
WMQ Urumqi 33.65 66 P **P 22 28 13.0 +0.8**
WMQ pP pP 22 28 16.4 +0.1
WMQ sP sP 22 28 25.8 +7.9
WMQ PP **PP 22 29 29.8 +1.5**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.5s
WMQ LR LR
comp=Z,160nm,9.5s
WMQ LR LR
comp=Z,340nm,17.3s
WMQ LR LR
comp=Z,210nm,5.5s
PYUN Piuthan 34.68 95 *e*P **P 22 28 22.6 +1.1**
DANN Dangsing 35.16 94 *e*P **P 22 28 27.3 +1.5**
comp=Z,3.4nm,1.1s
KOLN Koldanda 35.31 95 *e*P **P 22 28 28.0 +1.1**
comp=Z,21nm,1.1s
TAM Tamanrasset 35.66 255 *e*P **P 22 28 31.0 +1.1**
TAM pmax pmax
comp=Z,14nm,1.2s
TAM Tamanrasset 35.66 255 *e*P **P 22 28 31.0 +1.1**
comp=Z,14nm,1.2s
TAM Tamanrasset 35.66 255 *e*P **P 22 28 31.0 +1.1**
comp=Z,14nm,1.2s
GKN Gorkha 36.01 94 *e*P **P 22 28 33.7 +0.8**
comp=Z,17nm,0.6s
GUD Guadarrama 36.14 289 P **P 22 28 34.9 +1.0**
GUD pmax pmax
comp=Z,19nm,3.0s
GUD Guadarrama 36.14 289 P **P 22 28 34.9 +1.0**
comp=Z,19nm,3.0s
ESDC Sonseca Array 36.22 287 P **P 22 28 33.2 -1.2**
comp=Z,7.7nm,0.9s,baz=68,slow=8.8,SNR=19
ESLA Sonseca Array 36.22 287 *e*P **P 22 28 35.8 +1.4**
comp=Z,26nm,1.4s
ESLA Sonseca Array 36.22 287 *e*P **P 22 28 35.8 +1.4**
comp=Z,26nm,1.4s
DMN Daman 36.56 95 *e*P **P 22 28 39.0 +1.3**
comp=Z,114nm,1.5s
KKN Kakani 36.61 94 *e*P **P 22 28 38.9 +0.8**
PKIN Phulchoki 36.80 94 *e*P **P 22 28 40.8 +1.0**
GUN Gumba 37.02 94 *e*P **P 22 28 42.7 +0.9**
comp=Z,63nm,1.2s
JIRN Jiri 37.38 94 *e*P **P 22 28 45.6 +0.8**
comp=Z,70nm,0.8s
RAMN Ramite 38.04 95 *e*P **P 22 28 50.9 +0.6**
comp=Z,34nm,0.8s
ODAN Odare 38.70 94 *e*P **P 22 28 57.0 +1.2**
comp=Z,108nm,1.2s
TAPN Taplejung 38.72 93 *e*P **P 22 28 56.8 +0.8**
comp=Z,21nm,0.9s
NRIK Noril'sk 38.84 23 P **P 22 28 56.1 -0.1**
comp=Z,8.2nm,1.0s,baz=227,slow=5.2,SNR=7.8
LSA Lhasa 40.35 88 P **P 22 29 11.1 +1.3**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 40.35 88 P **P 22 29 11.3 +1.5**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 40.35 88 *e*P **P 22 29 11.3 +1.5**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 40.35 88 *e*P **P 22 29 11.3 +1.5**
comp=Z,8.0nm,0.8s
LSA Lhasa 40.35 88 *e*P **P 22 29 11.3 +1.5**
comp=Z,8.0nm,0.8s
ZAK Zakamensk 43.41 54 *e*P **P 22 29 35.2 +1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
ZAK Zakamensk 43.41 54 *e*P **P 22 29 35.2 +1.1**
comp=Z,4.0nm,1.6s
GTA Gaotai 43.45 70 P **P 22 29 35.6 +0.9**
GTA pP sP 22 29 40.3 -0.1
GTA sP pP 22 29 42.6 +3.8
GTA PP **PP 22 31 17.9 +2.3**
GTA pmax pmax
comp=Z,7.0nm,1.4s
TLY Talaya 43.46 52 LR LR 22 51 22.2
comp=Z,161nm,18.6s,baz=7.0,slow=41
TOA1 Torodi Ar. Sit 44.51 247 *e*P **P 22 29 42.1 -1.2**
comp=Z,6.8nm,1.3s
TOA1 Torodi Ar. Sit 44.51 247 *e*P **P 22 29 42.1 -1.2**
comp=Z,6.8nm,1.3s
TOA1 *e*PcP **PcP 22 31 25.5 -1.0**
TORD Torodi Ar. Bea 44.52 247 P **P 22 29 42.1 -1.2**
comp=Z,2.1nm,1.0s,baz=60,slow=8.9,SNR=9.2
TORD PcP **PcP 22 31 25.5 -1.0**
comp=Z,0.7nm,0.7s,baz=37,slow=2.6,SNR=4.3
SONA0 Songino Array 45.88 57 *e*P **P 22 29 54.6 +0.7**
comp=Z,2.0nm,1.0s
SONA0 Songino Array 45.88 57 *e*P **P 22 29 54.6 +0.7**
comp=Z,2.0nm,1.0s
SONA0 *e*PcP **PcP 22 31 30.1 -0.9**
SONM Songino Array 45.88 57 P **P 22 29 54.6 +0.7**
comp=Z,0.4nm,0.6s,baz=271,slow=9.7,SNR=3.6
SONM PcP **PcP 22 31 30.1 -0.9**
comp=Z,0.4nm,0.7s,baz=238,slow=2.3,SNR=2.9
SONM LR LR 22 51 50.6
comp=Z,162nm,20.6s,baz=312,slow=40
ULN Ulaanbaatar 46.31 57‖*i*P **P 22 29 58.6 +1.3**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 46.31 57 *i* P **P 22 29 58.6 +1.3**
comp=Z,18nm,1.7s
ULN Ulaanbaatar 46.31 57 *e*P **P 22 29 58.7 +1.4**
comp=Z,14nm,1.3s
ULN Ulaanbaatar 46.31 57 pP **P 22 29 58.8 +1.4**
SNR=6.2
ULN Ulaanbaatar 46.31 57 P **P 22 29 58.8 +1.4**
SNR=6.2
LZH Lanzhou 47.59 73 *e*P **P 22 30 09.5 +2.0**
LZH pP sP 22 30 13.8 +0.5
LZH sP pP 22 30 16.8 +5.2
LZH *e*S **S 22 36 58.1 -4.5**
LZH pmax pmax
comp=Z,41nm,1.3s
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,1μm,16.9s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,18.4s
BOD Bodaibo 48.57 42 *e*P **P 22 30 14.1 -0.5**
BOD pmax pmax
comp=Z,9.0nm,1.3s
BOD Bodaibo 48.57 42 *e*P **P 22 30 14.1 -0.5**
comp=Z,9.0nm,1.3s
CD2 Chengdu 49.64 79 *e*P **P 22 30 23.0 -0.2**
SUMG Summit 51.21 338 *i* P **P 22 30 34.7 -0.2**
comp=Z,28nm,1.3s
SUMG Summit 51.21 338 *i* P **P 22 30 34.7 -0.2**
SUMG pmax pmax
comp=Z,28nm,1.3s
SUMG Summit 51.21 338 *e*P **P 22 30 35.3 +0.4**
comp=Z,25nm,1.3s
SUMG Summit 51.21 338 *e*P **P 22 30 35.3 +0.4**
comp=Z,25nm,1.3s
HHC Hu-ho-hao-te 51.48 64 *e*P **P 22 30 36.1 -1.0**
HHC S **S 22 37 54.0 -2.9**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,71nm,3.6s
HHC LR LR
comp=Z,130nm,13.6s
HHC LR LR
comp=Z,110nm,16.0s
HHC LR LR
comp=Z,99nm,13.6s
CHTO Chiang Mai 51.97 96 *e*P **P 22 30 40.7 -0.1**
CHTO pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 51.97 96 P **P 22 30 40.9 +0.1**
SNR=7.2
CHTO Chiang Mai 51.97 96 *e*P **P 22 30 40.7 -0.1**
comp=Z,9.9nm,0.6s
CHTO Chiang Mai 51.97 96 P **P 22 30 40.9 +0.1**
SNR=7.2
CHTO Chiang Mai 51.97 96 P **P 22 30 40.9 +0.1**
SNR=7.2
CM31 Chiang Mai Arr 52.17 96 *e*P **P 22 30 42.2 -0.1**
CM31 Chiang Mai Arr 52.17 96 *e*P **P 22 30 42.2 -0.1**
CM31 *e*PcP **PcP 22 31 53.5 -0.6**
CMAR Chiang Mai Arr 52.17 96 P **P 22 30 42.2 -0.1**
comp=Z,5.4nm,0.6s,baz=299,slow=8.3,SNR=46
CMAR PcP **PcP 22 31 53.5 -0.6**
comp=Z,0.6nm,0.4s,baz=289,slow=5.6,SNR=1.8
CMAR Chiang Mai Arr 52.17 96 P **P 22 30 42.3 -0.1**
CMAR 22 31 53.5
CMAR pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 52.22 73 P **P 22 30 42.8 +0.2**
XAN pmax pmax
comp=Z,13nm,1.3s
TIXI Tiksi 52.62 23 P **P 22 30 43.8 -1.2**
comp=Z,0.6nm,0.3s,baz=305,slow=12,SNR=4.5
TIXI Tiksi 52.62 23‖*e*P **P 22 30 45.1 +0.2**
TIXI pmax pmax
comp=Z,10.0nm,1.8s
TIXI Tiksi 52.62 23 *e*P **P 22 30 44.6 -0.4**
TIXI Tiksi 52.62 23 *e*P **P 22 30 44.6 -0.4**
DBIC Dimbokro 53.62 246 P **P 22 30 51.7 -1.4**
comp=Z,3.8nm,0.9s,baz=29,slow=9.2,SNR=5.6
DBIC PcP **PcP 22 31 57.6 -1.9**
comp=Z,2.7nm,0.8s,baz=34,slow=3.6,SNR=3.3
DBIC Dimbokro 53.62 246 P **P 22 30 51.7 -1.4**
DBIC 22 31 57.6
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 53.62 246 P **P 22 30 51.7 -1.4**
comp=Z,5.0nm,1.0s
DBIC Dimbokro 53.62 246 *e*P **P 22 30 51.7 -1.4**
comp=Z,36nm,1.6s
DBIC *e*PcP **PcP 22 31 57.6 -1.9**
KIC Kosan Boka 53.75 246 *e*P **P 22 30 52.6 -1.5**
comp=Z,93nm,1.8s
TIC Toumodi 53.76 247 *e*P **P 22 30 52.5 -1.6**
GYA Guiyang 53.98 83 *e*P **P 22 30 57.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
LIC Lamto 54.05 246 *e*P **P 22 30 54.5 -1.7**
comp=Z,29nm,1.1s
CN2 Changchun 59.75 56 *e*P **P 22 31 38.5 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 60.54 71 *e*P **P 22 31 44.6 +2.7**
NJ2 pmax pmax
comp=Z,13nm,0.9s
KLR Kul'dur 61.26 48 P **P 22 31 46.5 0.0**
comp=Z,0.1nm,0.7s,baz=303,slow=9.0,SNR=5.3
PSI Prapat 61.95 111 P **P 22 31 50.9 -0.9**
comp=Z,8.1nm,0.8s,baz=347,slow=4.5,SNR=6.5
PSI Prapat 61.95 111 P **P 22 31 50.9 -0.9**
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 61.95 111 *e*P **P 22 31 50.9 -0.9**
comp=Z,13nm,1.0s
IPM Ipoh 62.39 108 *e*P **P 22 31 52.7 -2.0**
comp=Z,15nm,0.7s
IPM Ipoh 62.39 108 *e*P **P 22 31 52.6 -2.0**
comp=Z,15nm,0.7s
SEY Seymchan 64.31 29‖*i*P **P 22 32 07.9 +1.3**
SEY Seymchan 64.31 29 *i* P **P 22 32 07.9 +1.3**
KS15 Wonju Array Si 64.37 62 *e*P **P 22 32 07.3 -0.1**
KS15 Wonju Array Si 64.37 62 *e*P **P 22 32 07.3 -0.1**
KSAR Wonju Array Be 64.37 62 P **P 22 32 07.3 -0.1**
KSAR Wonju Array Be 64.37 62 P **P 22 32 07.3 -0.1**
KSAR Wonju Array Be 64.37 62 P **P 22 32 07.3 -0.1**
KSRS Korea Array 64.39 62 P **P 22 32 07.3 -0.2**
comp=Z,4.2nm,0.8s,baz=288,slow=6.7,SNR=15
KSRS LR LR 23 03 41.7
comp=Z,92nm,18.2s,baz=125,slow=39
BOSA Boshof 68.87 197 P **P 22 32 36.7 +0.5**
comp=Z,3.8nm,0.9s,baz=52,slow=9.5,SNR=5.0
MJAR Matsushiro Arr 71.83 58 P **P 22 32 54.4 0.0**
comp=Z,0.5nm,0.3s,baz=282,slow=7.3,SNR=4.8
MJAR LR LR 23 07 41.9
comp=Z,149nm,18.2s,baz=125,slow=39
FYU Fort Yukon 75.02 3 *e*P **P 22 33 15.7 +3.2**
comp=Z,38nm,1.6s
FYU Fort Yukon 75.02 3 *e*P **P 22 33 15.7 +3.2**
comp=Z,38nm,1.6s
MDM Murphy Dome 76.44 5 *e*P **P 22 33 21.4 +0.6**
comp=Z,24nm,1.6s
MDM Murphy Dome 76.44 5 *e*P **P 22 33 21.4 +0.6**
comp=Z,24nm,1.6s
COLA College 76.55 5‖*i*P **P 22 33 21.8 +0.5**
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 76.55 5 *i* P **P 22 33 21.8 +0.5**
comp=Z,10.0nm,1.1s
ILAR Eielson Array 76.71 4 P **P 22 33 21.8 -0.5**
comp=Z,0.6nm,0.9s,baz=332,slow=3.3,SNR=6.0
ILAR LR LR 23 10 00.1
comp=Z,142nm,22.0s,baz=180,slow=38
ILB Eielson Array 76.71 4 *e*P **P 22 33 21.8 -0.5**
ILB Eielson Array 76.71 4 *e*P **P 22 33 21.8 -0.5**
CCB Clear Creek Bu 76.78 5 *e*P **P 22 33 22.5 -0.1**
comp=Z,12nm,1.7s
CCB Clear Creek Bu 76.78 5 *e*P **P 22 33 22.5 -0.1**
comp=Z,12nm,1.7s
EGAK Eagle 76.95 2 *e*P **P 22 33 24.5 +0.9**
comp=Z,17nm,1.5s
EGAK Eagle 76.95 2 *e*P **P 22 33 24.4 +0.9**

comp=Z,17nm,1.5s
HDA Harding Lake 77.07 4 *e*P **P 22 33 23.9 -0.4**
comp=Z,9.9nm,1.3s
HDA Harding Lake 77.07 4 *e*P **P 22 33 23.9 -0.4**
comp=Z,9.9nm,1.3s
BPAW Bear Paw Mtn. 77.08 6 *e*P **P 22 33 25.5 +1.1**
comp=Z,51nm,1.8s
BPAW Bear Paw Mtn. 77.08 6 *e*P **P 22 33 25.5 +1.1**
comp=Z,51nm,1.8s
MCK McKinley 77.61 5 *e*P **P 22 33 30.5 +3.2**
MCK pmax pmax
comp=Z,39nm,1.8s
MCK McKinley 77.61 5 *e*P **P 22 33 30.5 +3.2**
comp=Z,39nm,1.8s
MCK McKinley 77.61 5 *e*P **P 22 33 30.5 +3.2**
comp=Z,39nm,1.8s
CAST Castle Rocks 77.65 7 *e*P **P 22 33 27.9 +0.3**
comp=Z,19nm,1.3s
CAST Castle Rocks 77.65 7 *e*P **P 22 33 27.9 +0.3**
comp=Z,19nm,1.3s
RND Reindeer 77.94 5 *e*P **P 22 33 28.4 -0.8**
RND pmax pmax
comp=Z,37nm,1.9s
RND Reindeer 77.94 5 *e*P **P 22 33 28.4 -0.8**
comp=Z,37nm,1.9s
RND Reindeer 77.94 5 *e*P **P 22 33 28.4 -0.8**
comp=Z,37nm,1.9s
SML Sawmill 79.56 5 *e*P **P 22 33 38.4 +0.2**
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 79.56 5 *e*P **P 22 33 38.4 +0.2**
comp=Z,10.0nm,0.9s
SML Sawmill 79.56 5 *e*P **P 22 33 38.4 +0.2**
comp=Z,9.9nm,0.9s
KLU Klutina 80.03 4 *e*P **P 22 33 41.4 +0.6**
comp=Z,9.7nm,1.0s
KLU Klutina 80.03 4 *e*P **P 22 33 41.4 +0.6**
comp=Z,9.7nm,1.0s
BRYW Bryant College 80.27 317 *e*P **P 22 33 42.4 +0.1**
comp=Z,54nm,0.4s
BRYW Bryant College 80.27 317 *e*P **P 22 33 42.4 +0.1**
comp=Z,54nm,0.4s
KDAK Kodiak Island 83.12 8 *i*P **P 22 33 57.2 +0.2**
KDAK Kodiak Island 83.12 8 *i*P **P 22 33 57.2 +0.2**
NEW Newport 91.79 347 P **P 22 34 40.0 +0.7**
comp=Z,1.2nm,0.7s,baz=45,slow=5.7,SNR=3.6
SLMT Seeley Lake 92.07 344 *e*P **P 22 34 41.0 +0.2**
SLMT Seeley Lake 92.07 344 *e*P **P 22 34 41.0 +0.2**
RLMT Red Lodge 93.07 341 *e*P **P 22 34 43.7 -1.8**
comp=Z,6.0nm,0.8s
RLMT Red Lodge 93.07 341 *e*P **P 22 34 43.7 -1.8**
comp=Z,6.0nm,0.8s

IDC ***23*** *22:27:55.8±1.6, 38°.56N×43°.99E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.2/51, mbtmp3.3/7, ML2.3/3, Error ellipse: s-maj=24.7km s-min=13.1km az=135.0*
AZER ***23*** *22:27:56.0±0.6, 38°.63N×43°.33E, h2km, Error ellipse: s-maj=5.4km s-min=4.2km az=12.0*
DDA ***23*** *22:27:57.6, 38°.86N×43°.68E, h6km, Ml3.8*
ISK ***23*** *22:27:57.4, 38°.97N×43°.71E, h5km, ML3.5*
CSEM ***23*** *22:28:00.1±0.2, 38°.93N×43°.57E, h2km, ML3.8, Error ellipse: s-maj=5.3km s-min=3.5km az=166.0*
ISC 23 22:27:58.6±1.1, 38°.88N±0°.02×43°.66E±0°.02, h9km±9km, n122, σ2°32/149, mb3.4/4, 22C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.66**	**2**	*i* P	**Pg**	**22 28 10.8**	**-0.6**
DYDN				*i* S	**Sb**	**22 28 21.1**	**-0.8**
DYDN	**Diyadin**	**0.66**	**2**	P	**Pg**	**22 28 10.8**	**-0.6**
DYDN				S	**Sb**	**22 28 21.1**	**-0.8**
GEVA	**Gevas**	**0.74**	**220**	*i* P	**Pg**	**22 28 11.3**	**-1.6**
GEVA				*i* S	**Sb**	**22 28 24.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.87**	**323**	*e*PG	**Pg**	**22 28 14.1**	**-1.2**
AGRB				*e*SG	**Sg**	**22 28 26.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.87**	**323**	*e*Pg	**Pg**	**22 28 14.1**	**-1.2**
AGRB				*e*Sg	**Sg**	**22 28 26.9**	**+0.3**
EKAR	**Karacoban**	**1.30**	**287**	*i* P	**Pg**	**22 28 22.9**	**-0.6**
EKAR				*i* S	**Sn**	**22 28 42.5**	**+1.7**
EKAR	**Karacoban**	**1.30**	**287**	P	**Pg**	**22 28 22.9**	**-0.6**
HAKT	**HAKKARI**	**1.32**	**178**	*i* P	**Pn**	**22 28 22.2**	**-1.2**
HAKT				*i* S	**Sn**	**22 28 42.6**	**+1.3**
EATA	**Eleskirt**	**1.34**	**318**	*i* P	**Pn**	**22 28 22.4**	**-1.4**
EATA	**Eleskirt**	**1.34**	**318**	P	**Pn**	**22 28 22.4**	**-1.4**
NAX	**Nakhchivan**	**1.46**	**78**	⇑P	**Pg**	**22 28 27.0**	**+0.5**
NAX				⇓S	**Sg**	**22 28 50.6**	**+5.2**
NAX	**Nakhchivan**	**1.46**	**78**	P	**Pg**	**22 28 27.0**	**+0.5**
NAX				S	**Sg**	**22 28 50.6**	**+5.2**
GNI	**Garni**	**1.52**	**33**	Pn	**Pg**	**22 28 27.6**	**-0.1**
GNI				Lg	Lg	22 28 50.3	
DIGO	**Kars**	**1.55**	**352**	*i* P	**Pg**	**22 28 28.0**	**-0.3**
DIGO	**Kars**	**1.55**	**352**	P	**Pg**	**22 28 28.0**	**-0.3**
CUKT	**Cukurca**	**1.63**	**182**	*e*PN	**Pg**	**22 28 29.5**	**-0.3**
CUKT				*e*SN	**Sg**	**22 28 53.4**	**+2.4**
CUKT	**Cukurca**	**1.63**	**182**	*i* P	**Pg**	**22 28 30.1**	**+0.2**
CUKT	**Cukurca**	**1.63**	**182**	*e*Pn	**Pg**	**22 28 29.5**	**-0.3**
CUKT	**Cukurca**	**1.63**	**182**	P	**Pg**	**22 28 30.1**	**+0.2**
CUKT				*e*Sn	**Sg**	**22 28 53.4**	**+2.4**
VRTB	**Varto-Mus**	**1.74**	**280**	*e*PN	**Pn**	**22 28 29.4**	**+0.2**
VRTB	**Varto-Mus**	**1.74**	**280**	*i* P	**Pb**	**22 28 29.7**	**-1.1**
VRTB				*i* S	**Sg**	**22 28 54.0**	**-0.6**
VRTB	**Varto-Mus**	**1.74**	**280**	*e*Pn	**Pn**	**22 28 29.4**	**+0.2**
VRTB	**Varto-Mus**	**1.74**	**280**	P	**Pb**	**22 28 29.7**	**-1.1**
VRTB				S	**Sg**	**22 28 54.0**	**-0.6**
HOMI	**Horasan**	**1.79**	**311**	*i* P	**Pb**	**22 28 31.3**	**-0.4**
EAK	**Akyaka**	**1.80**	**359**	*i* P	**Pg**	**22 28 33.0**	**-0.1**
EAK	**Akyaka**	**1.80**	**359**	P	**Pg**	**22 28 33.0**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**329**	*e*PN	**Pn**	**22 28 32.5**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**329**	*e*Pn	**Pn**	**22 28 32.5**	**+0.3**
BNGL	**BINGOL**	**1.96**	**273**	*i* P	**Pb**	**22 28 34.3**	**-0.3**
ERZM	**Erzurum**	**2.05**	**301**	*i* P	**Pb**	**22 28 35.0**	**-1.2**
ERZM	**Erzurum**	**2.05**	**301**	P	**Pb**	**22 28 35.0**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.07**	**250**	*e*PN	**Pb**	**22 28 35.1**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.07**	**250**	*i* P	**Pb**	**22 28 35.3**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.07**	**250**	*e*Pn	**Pb**	**22 28 35.1**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.07**	**250**	P	**Pb**	**22 28 35.3**	**-1.0**
BTMN	**Batman**	**2.12**	**243**	*i* P	**Pb**	**22 28 35.2**	**-2.1**
BTMN	**Batman**	**2.12**	**243**	P	**Pb**	**22 28 35.2**	**-2.1**
ECAT	**Cat-ERZURUM**	**2.21**	**290**	*i* P	**Pb**	**22 28 37.7**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.21**	**290**	P	**Pb**	**22 28 37.7**	**-1.1**
BNGB	**Bing¶‖**	**2.33**	**274**	*e*PN	**Pn**	**22 28 38.5**	**+1.3**
GDB	**GEDABAY**	**2.44**	**41**	⇓P	**Pb**	**22 28 41.4**	**-1.4**
GDB				⇓S	**Sg**	**22 29 19.4**	**+2.3**
GDB	**GEDABAY**	**2.44**	**41**	P	**Pb**	**22 28 41.4**	**-1.4**
BINT	**Bingol**	**2.48**	**271**	*e*Pn	**Pn**	**22 28 38.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.49**	**284**	*e*PN	**Pn**	**22 28 40.8**	**+1.4**
YEDI	**Yedisu-Bingol**	**2.49**	**284**	*e*Pn	**Pn**	**22 28 40.8**	**+1.4**
AKH	**Akhalkalaki**	**2.53**	**357**	*e*PN	**Pn**	**22 28 39.8**	**-0.2**
AKH	**Akhalkalaki**	**2.53**	**357**	*e*Pn	**Pn**	**22 28 39.8**	**-0.2**
QZX	**Qazax, Azerbai**	**2.54**	**31**	⇓P	**Pb**	**22 28 43.2**	**-1.1**
QZX				⇑S	**Sg**	**22 29 20.9**	**+0.7**
QZX	**Qazax, Azerbai**	**2.54**	**31**	P	**Pb**	**22 28 43.2**	**-1.1**
GANJ	**Ganja**	**2.70**	**48**	P	**Pb**	**22 28 45.0**	**-2.1**
GANJ				⇑S	**Sg**	**22 29 25.2**	**-0.2**
GANJ	**Ganja**	**2.70**	**48**	P	**Pb**	**22 28 45.0**	**-2.1**
MARD	**Mardin**	**2.76**	**236**	*i* P	**Pb**	**22 28 45.6**	**-2.6**
MAZI	**Mazidag**	**2.91**	**242**	*e*PN	**Pn**	**22 28 46.6**	**+1.5**
MAZI	**Mazidag**	**2.91**	**242**	*e*Pn	**Pn**	**22 28 46.6**	**+1.5**
TBLG	**Delisi**	**2.96**	**16**	*e*PN	**Pn**	**22 28 45.9**	**+0.1**
TBLG	**Delisi**	**2.96**	**16**	*e*Pn	**Pn**	**22 28 45.9**	**+0.1**
BRDA	**Brd**	**3.05**	**62**	⇑P	**Pb**	**22 28 50.0**	**-3.0**
BRDA				⇑S	**Sb**	**22 29 31.8**	**+1.6**
BRDA	**Brd**	**3.05**	**62**	P	**Pb**	**22 28 50.0**	**-3.0**
BRDA				S	**Sb**	**22 29 31.8**	**+1.6**
ERZN	**Erzincan**	**3.14**	**284**	*e*PN	**Pn**	**22 28 50.0**	**+1.6**
MNGR	**Mingechevir, A**	**3.24**	**53**	⇑P	**Pb**	**22 28 52.9**	**-3.4**
MNGR				⇓S	**Sb**	**22 29 36.9**	**+1.1**
MNGR	**Mingechevir, A**	**3.24**	**53**	P	**Pb**	**22 28 52.9**	**-3.4**
MNGR				S	**Sb**	**22 29 36.9**	**+1.1**
PTK	**Pertek**	**3.33**	**272**	*e*PN	**Pn**	**22 28 52.7**	**+1.6**
PTK	**Pertek**	**3.33**	**272**	*e*Pn	**Pn**	**22 28 52.7**	**+1.6**
ZRD	**Zardab**	**3.41**	**65**	⇓S	**Sb**	**22 29 40.6**	**0.0**
ZRD	**Zardab**	**3.41**	**65**	S	**Sb**	**22 29 40.6**	**0.0**
SVRC	**Sivrice-ELAZID**	**3.45**	**263**	*e*PN	**Pn**	**22 28 54.7**	**+2.1**
SVRC	**Sivrice-ELAZID**	**3.45**	**263**	*e*Pn	**Pn**	**22 28 54.7**	**+2.1**
EZC	**Erzincan**	**3.46**	**286**	*e*Pn	**Pn**	**22 28 50.0**	**-2.7**
ZKTA	**Zakatala** SNR=7.5	**3.56**	**38**	⇑P	**Pn**	**22 28 57.3**	**+3.2**
ZKTA				⇑S	**Sb**	**22 29 45.0**	**-0.2**
SEKA	**Sheki** SNR=12	**3.57**	**48**	⇑P	**Pb**	**22 28 58.2**	**-3.8**
SEKA				⇓S	**Sb**	**22 29 46.5**	**+1.1**
SEKA	**Sheki** SNR=12	**3.57**	**48**	P	**Pb**	**22 28 58.2**	**-3.8**
KTUT	**Trabzon**	**3.66**	**306**	*e*PN	**Pn**	**22 28 56.8**	**+1.4**
KTUT	**Trabzon**	**3.66**	**306**	*e*Pn	**Pn**	**22 28 56.8**	**+1.4**
LRK	**Lerik** SNR=8.5	**3.66**	**92**	⇑P	**Pn**	**22 28 57.4**	**+1.8**
LRK				⇓S	**Sb**	**22 29 44.7**	**-3.5**
LRK	**Lerik** SNR=8.5	**3.66**	**92**	P	**Pn**	**22 28 57.4**	**+1.8**
LRK				S	**Sb**	**22 29 44.7**	**-3.5**
GLBA	**Clilabad** SNR=9.1	**3.70**	**83**	⇓P	**Pn**	**22 28 58.2**	**+2.3**
GLBA				⇓S	**Sb**	**22 29 46.6**	**-2.4**
GLBA	**Clilabad** SNR=9.1	**3.70**	**83**	P	**Pn**	**22 28 58.2**	**+2.3**
GLBA				S	**Sb**	**22 29 46.6**	**-2.4**
KDMR	**Kurdemir**	**3.80**	**65**	⇑S	**Sb**	**22 29 50.2**	**-1.6**
KDMR	**Kurdemir**	**3.80**	**65**	S	**Sb**	**22 29 50.2**	**-1.6**
QBL	**Gabala** SNR=12	**3.81**	**56**	⇑P	**Pn**	**22 29 01.0**	**+3.5**
QBL				⇑S	**Sb**	**22 29 50.8**	**-1.6**
QBL	**Gabala** SNR=12	**3.81**	**56**	P	**Pn**	**22 29 01.0**	**+3.5**
IML	**Ismayilli** SNR=3.2	**3.97**	**60**	⇑P	**Pn**	**22 29 03.4**	**+3.7**
IML				⇓S	**Sb**	**22 29 54.5**	**-2.3**
IML	**Ismayilli** SNR=3.2	**3.97**	**60**	P	**Pn**	**22 29 03.4**	**+3.7**
LKRN	**Lenkeran, Azer** SNR=3.7	**4.00**	**91**	⇑P	**Pn**	**22 29 02.4**	**+2.4**
LKRN				⇑S	**Sb**	**22 29 53.3**	**-4.4**
LKRN	**Lenkeran, Azer** SNR=3.7	**4.00**	**91**	P	**Pn**	**22 29 02.4**	**+2.4**
LKRN				S	**Sb**	**22 29 53.3**	**-4.4**
ASTR	**Astara** SNR=4.4	**4.02**	**93**	⇓P	**Pn**	**22 29 02.7**	**+2.4**
ASTR				⇑S	**Sb**	**22 29 53.4**	**-4.9**
ASTR	**Astara** SNR=4.4	**4.02**	**93**	P	**Pn**	**22 29 02.7**	**+2.4**
ASTR				S	**Sb**	**22 29 53.4**	**-4.9**
URFA	**Urfa**	**4.08**	**251**	*e*PN	**Pn**	**22 29 04.2**	**+3.1**
URFA	**Urfa**	**4.08**	**251**	*e*Pn	**Pn**	**22 29 04.3**	**+3.1**
XNQ	**Khinaliq** SNR=19	**4.13**	**55**	⇓P	**Pn**	**22 29 05.6**	**+3.6**
XNQ	**Khinaliq** SNR=19	**4.13**	**55**	P	**Pn**	**22 29 05.6**	**+3.6**
PQL	**Pirkuli** SNR=7.3	**4.25**	**62**	⇓P	**Pn**	**22 29 06.2**	**+2.6**
PQL				⇑S	**Sb**	**22 30 01.3**	**-3.6**
PQL	**Pirkuli** SNR=7.3	**4.25**	**62**	P	**Pn**	**22 29 06.2**	**+2.6**
ALIB	**Äli-Bayra**	**4.28**	**74**	⇑S	**Sb**	**22 30 01.3**	**-4.3**
ALIB	**Äli-Bayra**	**4.28**	**74**	S	**Sb**	**22 30 01.3**	**-4.3**
GBS	**Qobustan** SNR=4.5	**4.39**	**66**	⇓P	**Pn**	**22 29 08.3**	**+2.8**
GBS	**Qobustan** SNR=4.5	**4.39**	**66**	P	**Pn**	**22 29 08.3**	**+2.8**
QSAR	**Qusar** SNR=6.5	**4.40**	**52**	⇑P	**Pn**	**22 29 08.8**	**+3.3**
QSAR	**Qusar** SNR=6.5	**4.40**	**52**	P	**Pn**	**22 29 08.8**	**+3.3**
QUBA	**Quba, Azerbaij** SNR=4.1	**4.45**	**55**	⇑P	**Pn**	**22 29 09.3**	**+3.0**
QUBA	**Quba, Azerbaij** SNR=4.1	**4.45**	**55**	P	**Pn**	**22 29 09.3**	**+3.0**
ATGJ	**Altiaghaj** SNR=6.5	**4.51**	**62**	⇑P	**Pn**	**22 29 10.4**	**+3.2**
ATGJ	**Altiaghaj** SNR=6.5	**4.51**	**62**	P	**Pn**	**22 29 10.4**	**+3.2**
DARE	**Darende-Malaty**	**4.84**	**268**	*e*PN	**Pn**	**22 29 14.8**	**+3.1**
DARE	**Darende-Malaty**	**4.84**	**268**	*e*Pn	**Pn**	**22 29 14.8**	**+3.1**
KBZ	**Khabaz** 0.1nm,0.3s,baz=129,slow=13,SNR=2.1	**4.88**	**353**	Pn	Pb	22 29 17.8	-6.4
RSDY	**Resadiye-TOKAT**	**5.12**	**289**	*e*PN	**Pn**	**22 29 18.2**	**+2.7**
RSDY	**Resadiye-TOKAT**	**5.12**	**289**	*e*Pn	**Pn**	**22 29 18.2**	**+2.7**
KVAR	**Kislovodsk Arr** baz=143,slow=20,SNR=2.9	**5.12**	**352**	Pn	Pb	22 29 22.2	-6.2
KMRS	**Kahramanmaras**	**5.50**	**258**	*e*PN	**Pn**	**22 29 24.6**	**+3.9**
KMRS	**Kahramanmaras**	**5.50**	**258**	*e*Pn	**Pn**	**22 29 24.6**	**+3.9**
SARI	**SarD1z-Kayseri**	**5.69**	**267**	*e*PN	**Pn**	**22 29 27.4**	**+4.0**
BNN	**Bunyan**	**6.10**	**272**	*e*PN	**Pn**	**22 29 32.8**	**+3.7**
BNN	**Bunyan**	**6.10**	**272**	*e*Pn	**Pn**	**22 29 32.8**	**+3.7**
KOZT	**Kozan**	**6.33**	**260**	*e*PN	Pn	22 29 36.6	+4.5
BRTR	**Keskin Array B** 0.0nm,0.3s,baz=91,slow=16,SNR=2.9	**7.82**	**279**	Pn	Pn	22 29 58.4	+5.8
ARU	**Arti** 1.4nm,0.4s,baz=238,slow=11,SNR=5.2	**20.14**	**25**	P	Pn	22 32 35.2	+0.6
VYHS	**Vyhne**	**20.29**	**306**	*e*P	Pn	22 32 38.9	+2.5
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=91,slow=11,SNR=3.6	**23.18**	**44**	P	**P**	**22 33 05.1**	**-0.2**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=266,slow=9.3,SNR=4.1	**23.65**	**305**	P	**P**	**22 33 10.9**	**+0.7**
KURBB	**Kurchatov Arra** 2.5nm,0.2s,baz=245,slow=9.3,SNR=4.1	**27.15**	**53**	P	**P**	**22 33 40.9**	**-1.0**
TORD	**Torodi Ar. Bea** 0.9nm,1.0s,baz=41,slow=9.6,SNR=4.2	**45.04**	**247**	P	**P**	**22 36 14.1**	**-0.7**

ISK ***23*** *22:31:08.3, 38°.65N×43°.04E, h5km, ML3.6*
IDC ***23*** *22:31:08.2±0.9, 38°.52N×43°.11E, h0km, mb3.6/10, mb1 3.6/16, mb1mx3.5/53, mbtmp3.5/16, ML2.9/4, Error ellipse: s-maj=19.4km s-min=11.1km az=161.0*
DDA ***23*** *22:31:08.4, 38°.59N×43°.00E, h3km, Ml3.9*
CSEM ***23*** *22:31:09.4±0.1, 38°.60N×43°.07E, h2km, ML3.9, Error ellipse: s-maj=3.3km s-min=2.4km az=162.0*
ISCJB ***23*** *22:31:09.2±0.6, 38°.59N±0°.02×43°.11E±0°.02, h8km±4km, mb3.5/9, Error ellipse: s-maj=3.5km s-min=2.3km az=161.5*
AZER ***23*** *22:31:12.4±1.0, 38°.66N×43°.28E, h3km, Error ellipse: s-maj=6.1km s-min=2.5km az=70.0*
ISC 23 22:31:08.6±1.1, 38°.62N±0°.02×43°.06E±0°.02, h1km±8km, n145, σ1°13/195, mb3.6/9, 20C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.30**	**180**	*i* P	**Pg**	**22 31 13.9**	**-0.5**
GEVA				*i* S	**Sg**	**22 31 19.6**	**+1.2**
GEVA	**Gevas**	**0.30**	**180**	P	**Pg**	**22 31 13.9**	**-0.5**
GEVA				S	**Sg**	**22 31 19.6**	**+1.2**
BASK	**Baskale_VAN**	**0.93**	**127**	*i* P	Pn	22 31 37.1	+8.1
AGRB	**Hanur-Agry**	**0.96**	**357**	*e*PG	**Pg**	**22 31 26.8**	**-0.2**
AGRB				*e*SG	**Sb**	**22 31 41.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**357**	*e*Pg	**Pg**	**22 31 26.8**	**-0.2**
AGRB				*e*Sg	**Sb**	**22 31 41.1**	**-0.3**
EKAR	**Karacoban**	**1.00**	**310**	*i* P	**Pb**	**22 31 29.7**	**+0.8**
EKAR				*i* S	**Sn**	**22 31 48.3**	**+3.4**
EKAR	**Karacoban**	**1.00**	**310**	P	**Pb**	**22 31 29.7**	**+0.8**
DYDN	**Diyadin**	**1.05**	**28**	*i* P	**Pg**	**22 31 28.8**	**+0.1**
DYDN	**Diyadin**	**1.05**	**28**	P	**Pg**	**22 31 28.8**	**+0.1**
HAKT	**HAKKARI**	**1.17**	**154**	*i* P	**Pg**	**22 31 30.3**	**-0.8**
HAKT				*i* S	**Sg**	**22 31 46.9**	**+0.6**
HAKT	**HAKKARI**	**1.17**	**154**	P	**Pg**	**22 31 30.3**	**-0.8**
HAKT				S	**Sg**	**22 31 46.9**	**+0.6**
EATA	**Eleskirt**	**1.32**	**341**	*i* P	**Pg**	**22 31 33.5**	**-0.4**
EATA				*i* S	**Sg**	**22 31 49.9**	**-1.1**
EATA	**Eleskirt**	**1.32**	**341**	P	**Pg**	**22 31 33.5**	**-0.4**
VRTB	**Varto-Mus**	**1.36**	**294**	*e*PN	**Pg**	**22 31 34.3**	**-0.4**
VRTB				*e*SN	**Sn**	**22 31 54.8**	**+1.1**
VRTB	**Varto-Mus**	**1.36**	**294**	*i* P	**Pg**	**22 31 34.3**	**-0.4**
VRTB	**Varto-Mus**	**1.36**	**294**	P	**Pg**	**22 31 34.3**	**-0.4**
VRTB				*e*Sn	**Sn**	**22 31 54.8**	**+1.1**
CUKT	**Cukurca**	**1.43**	**162**	*e*PN	**Pb**	**22 31 37.3**	**+1.1**
CUKT	**Cukurca**	**1.43**	**162**	*i* P	**Pb**	**22 31 36.5**	**+0.4**
CUKT				*i* S	**Sn**	**22 31 56.7**	**+1.3**
CUKT	**Cukurca**	**1.43**	**162**	P	**Pb**	**22 31 36.5**	**+0.4**
CUKT	**Cukurca**	**1.43**	**162**	*e*Pn	**Pb**	**22 31 37.3**	**+1.1**
CUKT				S	**Sn**	**22 31 56.7**	**+1.3**
BNGL	**BINGOL**	**1.53**	**283**	*i* P	**Pn**	**22 31 37.3**	**+0.1**
BNGL				*i* S	**Sn**	**22 31 57.3**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*e*PN	**Pn**	**22 31 37.6**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*i* P	**Pn**	**22 31 37.2**	**+0.1**
SVAN				*i* S	**Sn**	**22 31 56.7**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	P	**Pn**	**22 31 37.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*e*Pn	**Pn**	**22 31 37.6**	**+0.5**
SVAN				S	**Sn**	**22 31 56.7**	**-1.0**
BTMN	**Batman**	**1.58**	**243**	*i* P	**Pn**	**22 31 38.2**	**+0.4**
BTMN				*i* S	**Sn**	**22 31 58.7**	**-0.3**
BTMN	**Batman**	**1.58**	**243**	P	**Pn**	**22 31 38.2**	**+0.4**
BTMN				S	**Sn**	**22 31 58.7**	**-0.3**
HOMI	**Horasan**	**1.68**	**328**	*i* P	**Pb**	**22 31 40.4**	**-0.1**
DIGO	**Kars**	**1.81**	**8**	*i* P	**Pb**	**22 31 42.2**	**-0.5**
DIGO	**Kars**	**1.81**	**8**	P	**Pb**	**22 31 42.2**	**-0.5**
ERZM	**Erzurum**	**1.84**	**315**	*i* P	**Pb**	**22 31 43.6**	**+0.4**
ERZM	**Erzurum**	**1.84**	**315**	P	**Pb**	**22 31 43.6**	**+0.4**
BNGB	**Bing¶‖**	**1.90**	**282**	*e*PN	**Pn**	**22 31 43.2**	**+1.0**
ECAT	**Cat-ERZURUM**	**1.90**	**302**	*i* P	**Pb**	**22 31 43.6**	**-0.5**
ECAT				*i* S	**Sg**	**22 32 12.1**	**+2.4**
ECAT	**Cat-ERZURUM**	**1.90**	**302**	P	**Pb**	**22 31 43.6**	**-0.5**
NAX	**Nakhchivan** SNR=23	**1.98**	**73**	⇑P	**Pb**	**22 31 45.2**	**-0.3**
NAX				⇓S	**Sn**	**22 32 08.9**	**+0.1**
NAX	**Nakhchivan** SNR=23	**1.98**	**73**	P	**Pb**	**22 31 45.2**	**-0.3**
NAX				S	**Sn**	**22 32 08.9**	**+0.1**
GNI	**Garni** 9.3nm,0.3s,baz=136,slow=4.2,SNR=9.0	**2.01**	**40**	Pn	**Pb**	**22 31 45.6**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.02**	**344**	*e*PN	**Pn**	**22 31 44.7**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.02**	**344**	*e*Pn	**Pn**	**22 31 44.7**	**+0.8**
BINT	**Bingol**	**2.03**	**278**	*e*Pn	**Pn**	**22 31 43.2**	**-0.8**
EAK	**Akyaka**	**2.11**	**11**	*i* P	**Pb**	**22 31 48.2**	**+0.5**
EAK	**Akyaka**	**2.11**	**11**	P	**Pb**	**22 31 48.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.12**	**294**	*e*PN	**Pn**	**22 31 46.6**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.12**	**294**	*e*Pn	**Pn**	**22 31 46.6**	**+1.3**
MARD	**Mardin**	**2.22**	**235**	*i* P	**Pn**	**22 31 46.6**	**-0.1**
MARD				*i* S	**Sn**	**22 32 15.0**	**+0.2**
MAZI	**Mazidag**	**2.36**	**242**	*e*PN	**Pn**	**22 31 49.9**	**+1.3**
MAZI	**Mazidag**	**2.36**	**242**	*e*Pn	**Pn**	**22 31 49.9**	**+1.3**
DIYA	**Diyarbakir**	**2.41**	**254**	*i* P	**Pn**	**22 31 50.1**	**+0.9**
DIYA				*i* S	**Sb**	**22 32 21.8**	**-1.3**
DIYA	**Diyarbakir**	**2.41**	**254**	P	**Pn**	**22 31 50.1**	**+0.9**
DIYA				S	**Sb**	**22 32 21.8**	**-1.3**
DDEM	**Demirkent**	**2.49**	**336**	*i* P	**Pb**	**22 31 54.6**	**+0.5**
DAGI	**Agilar**	**2.61**	**341**	*i* P	**Pb**	**22 31 55.4**	**-0.8**
ARTV	**Artvin**	**2.71**	**342**	*i* P	**Pn**	**22 31 55.3**	**+1.9**
ARTV	**Artvin**	**2.71**	**342**	P	**Pn**	**22 31 55.3**	**+1.9**
ERZN	**Erzincan**	**2.77**	**292**	*e*PN	**Pn**	**22 31 55.8**	**+1.6**
TNCL	**Tunceli-Merkez**	**2.79**	**281**	*i* P	**Pn**	**22 31 55.8**	**+1.3**
TNCL	**Tunceli-Merkez**	**2.79**	**281**	P	**Pn**	**22 31 55.8**	**+1.3**
AKH	**Akhalkalaki**	**2.81**	**7**	*e*PN	**Pn**	**22 31 55.2**	**+0.4**
AKH	**Akhalkalaki**	**2.81**	**7**	*e*Pn	**Pn**	**22 31 55.2**	**+0.4**
EUZM	**Uzumlu**	**2.83**	**294**	*i* P	**Pb**	**22 31 59.5**	**-0.5**
PTK	**Pertek**	**2.88**	**277**	*e*PN	**Pn**	**22 31 56.8**	**+1.0**
PTK	**Pertek**	**2.88**	**277**	*e*Pn	**Pn**	**22 31 56.8**	**+1.0**
EPOS	**Posof**	**2.90**	**355**	*i* P	**Pb**	**22 31 59.1**	**-2.0**
EPOS	**Posof**	**2.90**	**355**	P	**Pb**	**22 31 59.1**	**-2.0**
SVRC	**Sivrice-ELAZID**	**2.95**	**267**	*e*PN	**Pn**	**22 31 57.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.95**	**267**	*e*Pn	**Pn**	**22 31 57.1**	**+0.3**
GDB	**GEDABAY** SNR=16	**2.96**	**44**	⇑P	**Pn**	**22 31 58.7**	**+1.9**
GDB				⇓S	**Sn**	**22 32 34.3**	**+1.3**
GDB	**GEDABAY** SNR=16	**2.96**	**44**	P	**Pn**	**22 31 58.7**	**+1.9**
GDB				S	**Sn**	**22 32 34.3**	**+1.3**
QZX	**Qazax, Azerbai** SNR=9.4	**3.02**	**35**	⇓P	**Pn**	**22 31 59.6**	**+2.0**
QZX				⇑S	**Sn**	**22 32 35.9**	**+1.5**
QZX	**Qazax, Azerbai** SNR=9.4	**3.02**	**35**	P	**Pn**	**22 31 59.6**	**+2.0**
QZX				S	**Sn**	**22 32 35.9**	**+1.5**
EZC	**Erzincan**	**3.10**

ASF	**Jabal al Asfar**	**8.16 220**	Pn	**Pn**	**22 33 08.8**	**+0.5**	
	0.1nm,0.3s,baz=30,slow=20,SNR=2.5						
ASF			Lg	Lg	22 35 26.7		
	0.4nm,0.3s,baz=233,slow=20,SNR=3.2						
MMAI	**Mount Meron Ar**	**8.36 230**	Pn	**Pn**	**22 33 14.1**	**+3.2**	
	0.4nm,0.3s,baz=66,slow=14,SNR=3.3						
MMAI			Lg	Lg	22 35 33.1		
	0.3nm,0.3s,baz=324,slow=48,SNR=2.6						
GEYT	**Alibeck**	**11.86 89**	Pn	**Pn**	**22 33 57.9**	**-0.9**	
	0.2nm,0.3s,baz=293,slow=12,SNR=3.3						
AKASG	**Malin Array Be**	**15.55 325**	Pn	**Pn**	**22 34 49.4**	**+0.5**	
	0.8nm,0.3s,baz=134,slow=11,SNR=3.9						
AKTO	**Aktyubinsk**	**15.88 37**	Pn	**Pn**	**22 34 52.7**	**-0.5**	
	0.1nm,0.3s,baz=236,slow=15,SNR=3.0						
VYHS	**Vyhne**	**20.06 307**	*e*P	Pn	22 35 45.0	+0.1	
ARU	**Arti**	**20.58 25**	P	**P**	**22 35 48.7**	**+0.1**	
	1.0nm,0.3s,baz=250,slow=8.2,SNR=5.3						
GERES	**GERESS Array B**	**23.41 305**	P	**P**	**22 36 19.0**	**0.0**	
	0.5nm,0.6s,baz=106,slow=7.3,SNR=3.3						
BVAR	**Borovoye Array**	**23.69 44**	P	**P**	**22 36 21.2**	**-0.4**	
	0.3nm,0.4s,baz=260,slow=40,SNR=3.1						
FINES	**FINESS Array B**	**25.16 341**	P	**P**	**22 36 35.6**	**+0.5**	
	1.6nm,0.9s,baz=133,slow=12,SNR=3.8						
DAVOX	**Davos/Dischmat**	**25.56 299**	P	**P**	**22 36 39.5**	**+0.4**	
	1.6nm,0.6s,baz=221,slow=21,SNR=4.1						
KURBB	**Kurchatov Arra**	**27.68 53**	P	**P**	**22 36 58.6**	**+0.7**	
	0.3nm,0.3s,baz=264,slow=9.7,SNR=2.3						
MKAR	**Makanchi Array**	**29.71 61**	P	**P**	**22 37 17.1**	**+1.0**	
	0.3nm,0.5s,baz=252,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**44.50 247**	P	**P**	**22 39 20.1**	**-1.7**	
	0.4nm,0.9s,baz=68,slow=9.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**52.22 96**	P	**P**	**22 40 20.4**	**-0.9**	
	0.5nm,0.3s,baz=292,slow=7.7,SNR=5.9						
KSRS	**Korea Array**	**64.39 62**	P	**P**	**22 41 46.0**	**-0.2**	
	0.6nm,0.5s,baz=298,slow=8.1,SNR=3.7						

JMA 23 22:33:10.8, 36.°15N×137.°45E, h5km±1km, M2.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.13**	**304**	P	Pg	22 33 13.7	+0.2
JGN				S	Sg	22 33 15.7	+0.4
JTT	**Ttatey**	**0.46**	**348**	P	Pg	22 33 20.2	+0.4
JTT				S	Sg	22 33 27.0	+1.2
MAT	**Matsushiro**	**0.73**	**57**	P	Pg	22 33 25.2	+0.4
MAT				*e*S	Sg	22 33 34.7	+0.5

*CSEM **23** 22:35:40.5±0.7, 40.°46N×42.°38E, h10km, ML2.7, Error ellipse: s-maj=20.0km s-min=11.6km az=47.0*
*ISK **23** 22:35:43.2, 40.°38N×42.°78E, h23km, ML2.7*
*TIF **23** 22:35:43.6, 40.°93N×42.°52E, h11km±1km*
*DDA **23** 22:35:44.1, 40.°91N×42.°53E, h7km, Ml3.3*
ISC 23 22:35:44.1±0.9, 40.°91N±0.°03×42.°51E±0.°03, h17km±10km, n29, σ0.°98/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.37**	**199**	*e*PG	**Pg**	**22 35 51.8**	**-0.1**
SENK				*e*SG	**Sg**	**22 35 57.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**0.37**	**199**	*e*Pg	**Pg**	**22 35 51.8**	**-0.1**
SENK				*e*Sg	**Sg**	**22 35 57.7**	**+0.6**
DAGI	**Agillar**	**0.48**	**291**	*i* P	**Pg**	**22 35 54.0**	**+0.1**
ARTV	**Artvin**	**0.52**	**302**	*i* P	**Pg**	**22 35 54.8**	**+0.2**
ARTV	**Artvin**	**0.52**	**302**	P	**Pg**	**22 35 54.8**	**+0.2**
DDEM	**Demirkent**	**0.58**	**269**	*i* P	**Pg**	**22 35 55.8**	**+0.2**
DDEM	**Demirkent**	**0.58**	**269**	P	**Pg**	**22 35 55.8**	**+0.2**
EPOS	**Posof**	**0.62**	**15**	*i* P	**Pg**	**22 35 56.2**	**-0.2**
DBOC	**Borcka**	**0.77**	**305**	*i* P	**Pg**	**22 35 59.0**	**-0.2**
DBOC	**Borcka**	**0.77**	**305**	P	**Pg**	**22 35 59.0**	**-0.2**
EAK	**Akyaka**	**0.86**	**105**	*i* P	**Pg**	**22 36 00.5**	**-0.5**
EAK	**Akyaka**	**0.86**	**105**	P	**Pg**	**22 36 00.5**	**-0.5**
AKH	**Akhalkalaki**	**0.90**	**56**	P	**Pg**	**22 36 00.6**	**-1.0**
AKH				S	**Sg**	**22 36 12.4**	**-1.1**
AKH	**Akhalkalaki**	**0.90**	**56**	P	**Pg**	**22 36 00.8**	**-0.8**
BGD	**Bogdanovka**	**0.90**	**66**	P	**Pg**	**22 36 00.8**	**-0.8**
BGD				S	**Sb**	**22 36 13.4**	**+0.2**
BGD	**Bogdanovka**	**0.90**	**66**	P	**Pg**	**22 36 00.8**	**-0.8**
AGRB	**Hanur-Agry**	**1.38**	**164**	*e*PG	Pn	22 35 59.6	-9.2
AGRB				*e*SG	Sb	22 36 11.7	-15
AGRB	**Hanur-Agry**	**1.38**	**164**	*e*Pg	Pn	22 35 59.6	-9.2
AGRB				*e*Sg	Sb	22 36 11.7	-15
ONI	**Oni**	**1.82**	**22**	P	**Pb**	**22 36 17.2**	**+0.1**
ONI				S	**Sg**	**22 36 41.7**	**-1.2**
ONI	**Oni**	**1.82**	**22**	P	**Pb**	**22 36 17.4**	**+0.3**
ONI				S	**Sb**	**22 36 41.3**	**+1.7**
TBLG	**Delisi**	**1.87**	**63**	*e*PN	**Pn**	**22 36 16.5**	**+1.1**
TBLG	**Delisi**	**1.87**	**63**	P	**Pb**	**22 36 17.5**	**-0.4**
TBLG				S	**Sg**	**22 36 43.0**	**-1.4**
TBLG	**Delisi**	**1.87**	**63**	*e*Pn	**Pn**	**22 36 16.5**	**+1.1**
TBLG	**Delisi**	**1.87**	**63**	P	**Pb**	**22 36 17.9**	**+0.1**
TBLG				S	**Sg**	**22 36 43.1**	**-1.2**
KTUT	**Trabzon**	**2.08**	**273**	*e*PN	**Pb**	**22 36 20.8**	**-0.6**
GUDG	**Gudauri**	**2.14**	**43**	P	**Pb**	**22 36 23.3**	**+0.7**
GUDG				S	**Sb**	**22 36 50.0**	**+1.0**
DGRG	**David-gareji**	**2.23**	**75**	P	**Pb**	**22 36 25.4**	**+1.4**
DGRG				S	**Sb**	**22 36 53.3**	**+2.0**
BNGB	**Bing¶ll**	**2.38**	**217**	*e*PN	Pn	22 36 18.3	-4.1
SVRC	**Sivrice-ELAZID**	**3.54**	**225**	*e*PN	**Pn**	**22 36 35.9**	**-2.5**

MEX 23 22:41:50.6±1.0, 16.°42N×99.°52W, h16km±230km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.55**	**324**	*e*P	Pg	22 41 54.9	-6.7
ACX				*e*S	Sg	22 42 01.6	-7.3
CAIG	**El Cayaco**	**0.95**	**311**	*e*P	Pb	22 42 05.3	-3.4
CAIG				*e*S	Sb	22 42 15.9	-5.1
PNIG	**Pinotepa**	**1.34**	**91**	*e*P	Pn	22 42 10.4	-4.3
PNIG				*e*S	Sn	22 42 26.9	-5.3
MEIG	**Mezcala**	**1.50**	**357**	*e*P	Pn	22 42 13.4	-3.5
MEIG				*e*S	Sn	22 42 30.9	-5.3
PLIG	**Platanillo**	**1.96**	**1**	*e*P	Pn	22 42 20.1	-3.2
ARIG	**Puente Sto Nin**	**2.01**	**337**	*e*P	Pn	22 42 21.4	-2.5
ZIIG	**Zihuatanejo**	**2.20**	**303**	*e*P	Pn	22 42 23.9	-2.6
YAIG	**Yautepec**	**2.47**	**10**	*e*P	Pn	22 42 27.7	-2.6
YAIG				*e*S	Sn	22 42 56.2	-4.1
MAVM	**Malinalco, Edo**	**2.52**	**1**	*e*P	Pn	22 42 31.6	+0.4
VHO	**Vista Hermosa**	**2.75**	**76**	*e*P	Pn	22 42 31.7	-2.6
VHO				*e*S	Sn	22 43 03.1	-4.2
MZVM		**2.77**	**6**	*e*P	Pb	22 42 38.7	-1.0
PPM	**Popocatepetl**	**2.77**	**18**	*e*P	Pn	22 42 27.7	-7.0
PPM				*e*S	Sn	22 43 01.3	-6.9
TOVM	**TOLUCA**	**2.85**	**357**	*e*P	Pn	22 42 36.7	+0.9
TPIG	**Tehuac#an**	**2.87**	**46**	*e*P	Pn	22 42 33.7	-2.2
TPIG				*e*S	Sn	22 43 03.3	-6.8
PBVM	**Pinon**	**3.03**	**8**	*e*P	Pg	22 42 49.4	+0.6
HUIG	**Huatulco**	**3.35**	**101**	*e*P	Pn	22 42 45.2	+3.0
HUIG				*i* S	Sn	22 43 14.2	-7.5
ZUVM	**ZUMPANGO**	**3.42**	**7**	*e*P	Pn	22 42 36.9	-6.6
MMIG	**Aquila**	**4.09**	**298**	*e*P	Pn	22 42 50.1	-2.4
MMIG				*e*S	Sn	22 43 36.5	-3.7
R15V		**5.05**	**303**	*e*P	Pb	22 43 20.5	+1.8
R15V				*e*P	Pg	22 43 21.6	-5.8

MEX 23 22:42:15.7±1.9, 16.°61N×99.°45W, h20km±319km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.47**	**303**	*i* P	Pb	22 42 19.6	-5.8
ACX				*i* S	Sg	22 42 26.6	-5.3
CAIG	**El Cayaco**	**0.90**	**299**	*i* P	Pb	22 42 30.2	-2.4
CAIG				*e*S	Sb	22 42 40.2	-4.0
PNIG	**Pinotepa**	**1.28**	**99**	*e*P	Pn	22 42 35.2	-3.3
PNIG				*e*S	Sn	22 42 51.0	-4.2
MEIG	**Mezcala**	**1.32**	**353**	*i* P	Pn	22 42 36.1	-3.0
MEIG				*e*S	Sn	22 42 51.6	-4.6
PLIG	**Platanillo**	**1.77**	**358**	*e*P	Pn	22 42 42.6	-2.8
PLIG				*i* S	Sn	22 43 03.8	-3.7
PLIG	**Platanillo**	**1.77**	**358**	*e*S	Pn	22 42 42.8	-2.6
ARIG	**Puente Sto Nin**	**1.87**	**333**	*e*P	Pn	22 42 44.3	-2.4
ARIG				*e*S	Sn	22 43 05.3	-4.5
ARIG	**Puente Sto Nin**	**1.87**	**333**	*i* S	Pn	22 42 44.0	-2.6
ZIIG	**Zihuatanejo**	**2.17**	**298**	*i* P	Pn	22 42 48.6	-2.1
ZIIG				*e*S	Sn	22 43 13.5	-3.6
ZIIG	**Zihuatanejo**	**2.17**	**298**	*e*S	Pn	22 42 49.1	-1.6
YAIG	**Yautepec**	**2.27**	**9**	*e*P	Pn	22 42 49.3	-3.0
YAIG				*e*S	Sn	22 43 16.4	-3.4
MAVM	**Malinalco, Edo**	**2.34**	**359**	*e*P	Pn	22 42 50.6	-2.7
PPM	**Popocatepetl**	**2.57**	**18**	*i* P	Pn	22 42 54.1	-2.6
PPM				*e*S	Sn	22 43 25.0	-2.6
MZVM		**2.58**	**5**	*e*P	Pn	22 42 53.7	-2.6
VHO	**Vista Hermosa**	**2.64**	**80**	*e*P	Pn	22 42 54.4	-3.0
VHO				*e*S	Sn	22 43 25.9	-3.0
TOVM	**TOLUCA**	**2.67**	**355**	*e*P	Pn	22 42 56.7	-1.3
TPIG	**Tehuac#an**	**2.68**	**48**	*e*P	Pn	22 42 54.9	-3.1
TPIG				*e*S	Sn	22 43 27.7	-2.4
PBVM	**Pinon**	**2.84**	**7**	*e*P	Pn	22 42 56.4	-3.5
ZUVM	**ZUMPANGO**	**3.22**	**6**	*e*P	Pn	22 43 02.9	-2.6
HUIG	**Huatulco**	**3.31**	**104**	*e*P	Pn	22 43 05.5	-1.0
HUIG				*e*S	Sn	22 43 42.3	-3.0
MMIG	**Aquila**	**4.08**	**295**	*e*P	Pn	22 43 15.2	-1.8
MMIG				*e*S	Sn	22 44 01.5	-2.7
R15V		**5.01**	**301**	*i* P	Pn	22 43 28.3	-1.6
R15V				*e*P	Pn	22 43 28.6	-1.3

*ISCJB **23** 22:42:22.0±0.8, 31.°89S±0.°04×70.°24W±0.°05, h116km±9km, Error ellipse: s-maj=7.7km s-min=5.1km az=43.7*
*SJA **23** 22:42:21.6±1.1, 31.°86S×70.°27W, h103km±7km, ML2.9, MW3.0*
*GUC **23** 22:42:22.5±0.6, 31.°89S×70.°48W, h102km±10km, ML2.9*
ISC 23 22:42:22.8±1.7, 31.°88S±0.°04×70.°25W±0.°05, h108km±15km, n19, σ0.°65/33, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.81**	**115**	*e*P	**Pn**	**22 42 41.9**	**-0.4**
AUSP				*e*S	**Sn**	**22 42 57.1**	**+0.1**
RTLS	**Leoncito**	**0.82**	**84**	*e*P	**Pn**	**22 42 42.1**	**-0.3**
RTLS				*e*S	**Sn**	**22 42 57.6**	**+0.5**
RTLS				IAML		22 42 58.6	
	comp=Z,113nm,0.2s						
ROCH	**El Roble**	**1.26**	**210**	⇓*i*P	**Pn**	**22 42 46.3**	**-0.7**
ROCH				*e*S	**Sn**	**22 43 04.4**	**-0.8**
ROCH				IAML		22 43 05.4	
	comp=N,650nm,0.3s						
ROC1	**El Roble**	**1.27**	**210**	*e*P	**Pn**	**22 42 46.5**	**-0.6**
ROC1				*e*S	**Sn**	**22 43 05.2**	**-0.2**
PEL	**Peldehue**	**1.31**	**196**	*e*P	**Pn**	**22 42 46.8**	**-0.5**
PEL				*i* S	**Sn**	**22 43 05.7**	**-0.2**
PEL				IAML		22 43 06.2	
	comp=E,120nm,0.3s						
ASAL	**Salagasta**	**1.40**	**121**	*e*P	**Pn**	**22 42 49.1**	**+0.7**
ASAL				*e*S	**Sn**	**22 43 07.7**	**0.0**
FCH	**Farellones**	**1.44**	**181**	*e*P	**Pn**	**22 42 49.6**	**+0.5**
FCH				*e*S	**Sn**	**22 43 10.5**	**+1.4**
FCH				IAML		22 43 13.0	
	comp=E,186nm,0.2s						
RTCV	**Cerro Valdivia**	**1.46**	**90**	*e*P	**Pn**	**22 42 48.5**	**-0.5**
RTCV				*e*S	**Sn**	**22 43 08.8**	**-0.2**
ARCO	**CERRO ARCO**	**1.47**	**131**	*e*P	**Pn**	**22 42 50.4**	**+1.0**
ARCO				IAML		22 42 51.2	
	comp=Z,204nm,0.3s						
ARCO				*e*S	**Sn**	**22 43 09.3**	**-0.1**
CLCH	**Cerro Calan**	**1.53**	**189**	*e*P	**Pn**	**22 42 49.7**	**-0.2**
CLCH				*e*S	**Sn**	**22 43 10.8**	**+0.2**
CLCH				IAML		22 43 19.6	
	comp=E,172nm,0.5s						
AAGR	**Agrelo**	**1.70**	**135**	*e*P	**Pn**	**22 42 53.1**	**+1.0**
AAGR				*e*S	**Sn**	**22 43 14.8**	**+0.5**
TLL	**Tololo Astrono**	**1.77**	**344**	*e*P	**Pn**	**22 42 53.7**	**+0.6**
TLL				*e*S	**Sn**	**22 43 16.6**	**+0.4**
TLL				IAML		22 43 19.5	
	comp=E,201nm,0.3s						
AMOG	**MOGNA**	**1.77**	**58**	*e*P	**Pn**	**22 42 53.3**	**+0.3**
AMOG				*e*S	**Sn**	**22 43 15.6**	**-0.4**
AVFE	**Valle Fertil**	**2.69**	**64**	*e*P	**Pn**	**22 43 04.3**	**-0.3**
AGUA	**GUANDACOL**	**2.83**	**33**	*e*P	**Pn**	**22 43 07.8**	**+1.2**
ACHE	**Chepes**	**3.15**	**78**	*e*P	**Pn**	**22 43 10.6**	**-0.3**
ACHE				*e*S	**Sn**	**22 43 46.5**	**-1.4**
APLL	**PUNTA DE LOS L**	**3.52**	**66**	*e*P	**Pn**	**22 43 15.4**	**-0.4**
VCA	**Vinchina**	**3.60**	**30**	*e*P	**Pn**	**22 43 16.7**	**-0.3**
ACLC	**CERRO LA CRUZ**	**3.75**	**50**	*e*P	**Pn**	**22 43 18.9**	**-0.1**

JMA 23 22:55:22.4±0.2, 32.°34N×141.°01E, h34km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.26**	**306**	P	Pn	22 55 44.1	+0.5
JHCJ				*e*S	Sn	22 55 59.8	+0.5
JHJ2	**Mitsune**	**1.27**	**308**	P	Pn	22 55 44.4	+0.7
JHJ2				*e*S	Sn	22 55 59.8	+0.3
BSO1	**Boso 1**	**2.31**	**359**	P	Pn	22 55 58.2	+0.7
JKO	**Kozu shima**	**2.42**	**320**	P	Pn	22 56 01.3	+1.7
BSO3	**Boso 3**	**2.49**	**350**	P	Pn	22 56 00.9	+0.6
BSO3				*e*S	Sn	22 56 30.2	+0.8
BSO4	**Boso 4**	**2.70**	**348**	P	Pn	22 56 04.3	+1.0

MEX 23 22:58:40.9±0.5, 16.°46N×99.°57W, h16km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.49**	**326**	*i* P	Pg	22 58 44.3	-6.4
ACX				*e*S	Sg	22 58 51.2	-6.1
CAIG	**El Cayaco**	**0.88**	**311**	*e*P	Pb	22 58 54.8	-3.1
CAIG				*e*S	Sb	22 59 05.2	-4.3
PNIG	**Pinotepa**	**1.39**	**93**	*e*P	Pn	22 59 02.3	-3.4
PNIG				*e*S	Sn	22 59 17.9	-5.8
MEIG	**Mezcala**	**1.46**	**358**	*e*P	Pn	22 59 02.6	-4.0
MEIG				*e*S	Sn	22 59 20.1	-5.3
PLIG	**Platanillo**	**1.92**	**2**	*e*P	Pn	22 59 09.8	-3.2
PLIG				*e*S	Sn	22 59 32.0	-4.9
ARIG	**Puente Sto Nin**	**1.95**	**338**	*e*P	Pn	22 59 09.8	-3.7
ARIG				*e*S	Sn	22 59 33.5	-4.2
YAIG	**Yautepec**	**2.43**	**11**	*e*P	Pn	22 59 17.2	-3.0
YAIG				*e*S	Sn	22 59 46.5	-3.2

*AZER **23** 23:00:10.8±0.9, 37.°42N×43.°89E, h45km, Error ellipse: s-maj=8.5km s-min=6.2km az=173.0*
*DDA **23** 23:00:16.9, 38.°69N×43.°54E, h7km, Ml3.4*
*CSEM **23** 23:00:17.4±0.2, 38.°70N×43.°61E, h10km, ML3.4, Error ellipse: s-maj=6.5km s-min=4.7km az=148.0*
*ISK **23** 23:00:17.1, 38.°71N×43.°56E, h7km, ML3.3*
ISC 23 23:00:17.5±1.0, 38.°66N±0.°02×43.°64E±0.°02, h17km±9km, n87, σ2.°09/101, 17C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.57**	**233**	*i* P	**Pg**	**23 00 26.6**	**-2.4**
GEVA	**Gevas**	**0.57**	**233**	P	**Pg**	**23 00 26.6**	**-2.4**
DYDN	**Diyadin**	**0.88**	**2**	*i* P	**Pg**	**23 00 33.4**	**-1.4**
DYDN	**Diyadin**	**0.88**	**2**	P	**Pg**	**23 00 33.4**	**-1.4**
AGRB	**Hanur-Agry**	**1.04**	**331**	*e*PG	**Pg**	**23 00 36.0**	**-1.8**
AGRB				*e*SG	**Sb**	**23 00 50.3**	**-0.4**
AGRB	**Hanur-Agry**	**1.04**	**331**	*e*Pg	**Pg**	**23 00 36.0**	**-1.8**
AGRB				*e*Sg	**Sb**	**23 00 50.3**	**-0.4**
HAKT	**HAKKARI**	**1.10**	**177**	*i* P	**Pg**	**23 00 37.7**	**-1.2**
HAKT	**HAKKARI**	**1.10**	**177**	P	**Pg**	**23 00 37.7**	**-1.2**
EKAR	**Karacoban**	**1.37**	**296**	*i* P	**Pn**	**23 00 42.0**	**0.0**
EKAR	**Karacoban**	**1.37**	**296**	P	**Pn**	**23 00 42.0**	**0.0**
CUKT	**Cukurca**	**1.41**	**181**	*e*PN	**Pg**	**23 00 44.6**	**-0.1**
CUKT				*e*SN	**Sg**	**23 01 04.5**	**+1.4**
CUKT	**Cukurca**	**1.41**	**181**	*i* P	**Pg**	**23 00 45.2**	**+0.4**
CUKT	**Cukurca**	**1.41**	**181**	*e*Pn	**Pg**	**23 00 44.6**	**-0.1**
CUKT	**Cukurca**	**1.41**	**181**	P	**Pg**	**23 00 45.2**	**+0.4**
CUKT				*e*Sn	**Sg**	**23 01 04.5**	**+1.4**
EATA	**Eleskirt**	**1.50**	**324**	*i* P	**Pb**	**23 00 44.1**	**-0.8**
EATA	**Eleskirt**	**1.50**	**324**	P	**Pb**	**23 00 44.2**	**-0.8**
SIRN	**S¨–rnak**	**1.51**	**220**	*i* P	**Pb**	**23 00 45.8**	**+0.6**
SIRN	**S¨–rnak**	**1.51**	**220**	P	**Pb**	**23 00 45.8**	**+0.6**
NAX	**Nakhchivan** SNR=20	**1.54**	**70**	⇑P	**Pn**	**23 00 44.5**	**+0.3**
NAX				⇑S	**Sg**	**23 01 12.9**	**+5.8**
NAX	**Nakhchivan** SNR=20	**1.54**	**70**	P	**Pn**	**23 00 44.5**	**+0.3**
VRTB	**Varto-Mus**	**1.78**	**287**	*e*PN	**Pn**	**23 00 47.6**	**0.0**
VRTB	**Varto-Mus**	**1.78**	**287**	*i* P	**Pb**	**23 00 48.7**	**-1.0**
VRTB	**Varto-Mus**	**1.78**	**287**	*e*Pn	**Pn**	**23 00 47.6**	**0.0**
VRTB	**Varto-Mus**	**1.78**	**287**	P	**Pb**	**23 00 48.7**	**-1.0**
HOMI	**Horasan**	**1.93**	**316**	*i* P	**Pb**	**23 00 51.5**	**-0.9**
BNGL	**BINGOL**	**1.97**	**279**	*i* P	**Pn**	**23 00 51.3**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.98**	**256**	*e*PN	**Pn**	**23 00 51.5**	**+1.2**
SVAN				*e*SN	**Sn**	**23 01 16.5**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.98**	**256**	*i* P	**Pn**	**23 00 51.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**256**	P	**Pn**	**23 00 51.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**256**	*e*Pn	**Pn**	**23 00 51.5**	**+1.2**
SVAN				*e*Sn	**Sn**	**23 01 16.5**	**+1.7**
BTMN	**Batman**	**2.02**	**248**	*i* P	**Pb**	**23 00 52.7**	**-1.1**
BTMN	**Batman**	**2.02**	**248**	P	**Pb**	**23 00 52.7**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.14**	**333**	*e*PN	**Pn**	**23 00 53.5**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.14**	**333**	*e*Pn	**Pn**	**23 00 53.5**	**+0.8**
BNGB	**Bing¶ll**	**2.34**	**279**	*e*PN	**Pn**	**23 00 55.7**	**+0.5**
BINT	**Bingol**	**2.47**	**276**	*e*Pn	**Pn**	**23 00 55.7**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.53**	**289**	*e*PN	**Pn**	**23 00 58.7**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.53**	**289**	*e*Pn	**Pn**	**23 00 58.7**	**+0.8**
BGD	**Bogdanovka**	**2.60**	**359**	P	**Pg**	**23 01 06.8**	**-0.7**
GDB	**GEDABAY** SNR=17	**2.63**	**38**	⇑P	**Pb**	**23 01 03.2**	**-1.0**
GDB				⇓S	**Sg**	**23 01 46.2**	**+4.2**
GDB	**GEDABAY** SNR=17	**2.63**	**38**	P	**Pb**	**23 01 03.2**	**-1.0**
QZX	**Qazax, Azerbai** SNR=14	**2.74**	**29**	⇓P	**Pb**	**23 01 06.2**	**+0.1**
QZX				⇑S	**Sg**	**23 01 52.0**	**+6.4**
QZX	**Qazax, Azerbai** SNR=14	**2.74**	**29**	P	**Pb**	**23 01 06.2**	**+0.1**
AKH	**Akhalkalaki**	**2.75**	**358**	P	**Pg**	**23 01 09.0**	**-1.2**
MAZI	**Mazidag**	**2.79**	**246**	*e*PN	**Pn**	**23 01 01.6**	**+0.1**
MAZI	**Mazidag**	**2.79**	**246**	*e*Pn	**Pn**	**23 01 01.6**	**+0.1**
GANJ	**Ganja** SNR=22	**2.87**	**45**	P	**Pb**	**23 01 06.3**	**-1.9**
GANJ				⇓S	**Sg**	**23 01 50.1**	**+0.4**
GANJ	**Ganja** SNR=22	**2.87**	**45**	P	**Pb**	**23 01 06.3**	**-1.9**
DGRG	**David-gareji**	**3.09**	**25**	P	**Pb**	**23 01 13.7**	**+1.7**
BRDA	**Brd** SNR=4.5	**3.17**	**59**	⇑P	**Pn**	**23 01 07.2**	**+0.6**
BRDA				⇑S	**Sb**	**23 01 52.2**	**+0.5**
BRDA	**Brd** SNR=4.5	**3.17**	**59**	P	**Pn**	**23 01 07.2**	**+0.6**
TBLG	**Delisi**	**3.18**	**15**	*e*PN	**Pn**	**23 01 08.3**	**+1.6**
TBLG	**Delisi**	**3.18**	**15**	P	**Pb**	**23 01 15.2**	**+1.7**
TBLG	**Delisi**	**3.18**	**15**	*e*Pn	**Pn**	**23 01 08.3**	**+1.6**
PTK	**Pertek**	**3.33**	**275**	*e*PN	**Pn**	**23 01 09.9**	**+1.0**
PTK	**Pertek**	**3.33**	**275**	*e*Pn	**Pn**	**23 01 09.9**	**+1.0**
MNGR	**Mingechevir, A**	**3.39**	**50**	⇓S	**Sb**	**23 02 00.1**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.41**	**267**	*e*PN	**Pn**	**23 01 11.8**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.41**	**267**	*e*Pn	**Pn**	**23 01 11.9**	**+1.8**
ZRD	**Zardab** SNR=3.4	**3.52**	**61**	⇑P	**Pn**	**23 01 11.0**	**-0.4**
ZRD				⇑S	**Sb**	**23 01 58.4**	**-3.4**
ZRD	**Zardab** SNR=3.4	**3.52**	**61**	P	**Pn**	**23 01 11.0**	**-0.4**
ZRD				S	**Sb**	**23 01 58.4**	**-3.4**
LRK	**Lerik** SNR=4.3	**3.68**	**89**	⇑P	Pn	23 01 06.1	-7.7
LRK				⇑S	Sn	23 01 49.0	-7.7
SEKA	**Sheki** SNR=6.6	**3.74**	**46**	⇓P	**Pn**	**23 01 17.8**	**+3.4**
SEKA				⇓S	**Sb**	**23 02 10.5**	**+2.4**
SEKA	**Sheki** SNR=6.6	**3.74**	**46**	P	**Pn**	**23 01 17.8**	**+3.4**
GLBA	**Cilbabd** SNR=4.8	**3.75**	**80**	⇑P	Pn	23 01 09.4	-5.1
GLBA				⇓S	**Sn**	**23 01 55.7**	**-2.6**
ZKTA	**Zakatala** SNR=8.2	**3.75**	**37**	⇑P	**Pn**	**23 01 18.6**	**+4.0**
ZKTA				⇓S	**Sg**	**23 02 13.0**	**-4.9**
GUDG	**Gudauri**	**3.85**	**9**	P	**Pg**	**23 01 28.5**	**-2.8**
SAAT	**Saatly**	**3.90**	**71**	⇑S	**Sn**	**23 02 02.7

JMA 23 23:07:55.6, 37°.10N×140°.80E, h8km±1km, M2.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.00**	**321**	P	Pg	23 07 56.9	-0.2
ONAJ				S	Sg	23 07 57.9	-0.2
JFK	**Kawauchi**	**0.27**	**13**	P	Pg	23 08 01.1	0.0
JFK				S	Sg	23 08 05.1	+0.4
JHO	**Hitachi**	**0.52**	**201**	P	Pg	23 08 05.5	-0.2
JHO				S	Sg	23 08 12.6	+0.1
JFT	**Otama**	**0.56**	**319**	P	Pg	23 08 06.7	+0.3
JFT				S	Sg	23 08 14.5	+0.8
JMM	**Marumori**	**0.77**	**360**	P	Pg	23 08 09.9	-0.4
JMM				S	Sg	23 08 20.6	+0.3
JFY	**Yanaizu**	**0.93**	**290**	P	Pg	23 08 13.4	0.0
JFY				S	Sg	23 08 25.6	+0.2
MAT	**Matsushiro**	**2.15**	**256**	P	Pn	23 08 32.8	+1.0
MAT				S	Sb	23 09 02.2	+0.5

*CSEM **23** 23:09:16.9±0.3, 38°.70N×43°.24E, h2km, ML3.5, Error ellipse: s-maj=9.0km s-min=4.6km az=93.0*
*DDA **23** 23:09:16.8, 38°.68N×43°.18E, h7km, Ml3.5*
*ISK **23** 23:09:16.0, 38°.73N×43°.23E, h5km, ML3.3*
*ISCJB **23** 23:09:17.2±0.8, 38°.69N±0°.03×43°.30E±0°.08, h15km, Error ellipse: s-maj=9.6km s-min=4.7km az=0.5*

ISC 23 23:09:17.3±0.9, 38°.69N±0°.03×43°.28E±0°.05, h15km, n38, σ1§27/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.42**	**204**	*i* P	**Pg**	**23 09 23.9**	**-1.8**
GEVA				*i* S	**Sg**	**23 09 30.2**	**-1.3**
GEVA	**Gevas**	**0.42**	**204**	P	**Pg**	**23 09 23.9**	**-1.8**
GEVA				S	**Sg**	**23 09 30.2**	**-1.3**
AGRB	**Hanur-Agry**	**0.91**	**346**	*e*PG	**Pb**	**23 09 33.4**	**-1.4**
AGRB				*e*SG	**Sb**	**23 09 46.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.91**	**346**	*e*Sg	**Pb**	**23 09 33.4**	**-1.4**
AGRB				*e*Sg	**Sb**	**23 09 46.9**	**+0.1**
DYDN	**Diyadin**	**0.91**	**21**	*i* P	**Pb**	**23 09 35.0**	**+0.1**
DYDN	**Diyadin**	**0.91**	**21**	P	**Pb**	**23 09 35.0**	**+0.1**
EKAR	**Karacoban**	**1.10**	**301**	*i* P	**Pg**	**23 09 38.2**	**-0.3**
EKAR	**Karacoban**	**1.10**	**301**	P	**Pg**	**23 09 38.2**	**-0.3**
HAKT	**HAKKARI**	**1.18**	**163**	*i* P	**Pn**	**23 09 37.7**	**-1.8**
EATA	**Eleskirt**	**1.32**	**333**	*i* P	**Pn**	**23 09 41.2**	**-0.2**
EATA	**Eleskirt**	**1.32**	**333**	P	**Pn**	**23 09 41.2**	**-0.2**
SIRN	**S¨–rnak**	**1.38**	**210**	*i* P	**Pn**	**23 09 42.1**	**+0.1**
SIRN	**S¨–rnak**	**1.38**	**210**	P	**Pn**	**23 09 42.1**	**+0.1**
CUKT	**Cukurca**	**1.47**	**170**	*e*PN	**Pb**	**23 09 45.2**	**+0.9**
CUKT				*e*SN	**Sg**	**23 10 06.8**	**+2.2**
CUKT	**Cukurca**	**1.47**	**170**	*i* P	**Pb**	**23 09 45.0**	**+0.6**
CUKT	**Cukurca**	**1.47**	**170**	*e*Pn	**Pb**	**23 09 45.2**	**+0.9**
CUKT				*e*Sn	**Sg**	**23 10 06.8**	**+2.2**
VRTB	**Varto-Mus**	**1.49**	**289**	*e*PN	**Pn**	**23 09 44.0**	**+0.3**
VRTB	**Varto-Mus**	**1.49**	**289**	*i* P	**Pn**	**23 09 44.0**	**+0.3**
VRTB	**Varto-Mus**	**1.49**	**289**	P	**Pn**	**23 09 44.0**	**+0.3**
BNGL	**BINGOL**	**1.68**	**279**	*i* P	**Pn**	**23 09 46.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*PN	**Pn**	**23 09 47.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*i* P	**Pb**	**23 09 47.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*Pn	**Pn**	**23 09 47.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	P	**Pb**	**23 09 47.8**	**-0.8**
BTMN	**Batman**	**1.77**	**244**	*i* P	**Pn**	**23 09 48.4**	**+1.0**
BTMN	**Batman**	**1.77**	**244**	P	**Pn**	**23 09 48.4**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*PN	**Pn**	**23 09 51.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*Pn	**Pn**	**23 09 51.9**	**+1.2**
BNGB	**Bing¨¶l**	**2.05**	**279**	*e*PN	**Pn**	**23 09 52.5**	**+1.2**
BINT	**Bingol**	**2.19**	**276**	*e*Pn	**Pn**	**23 09 52.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*PN	**Pn**	**23 09 55.4**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*Pn	**Pn**	**23 09 55.4**	**+1.3**
MAZI	**Mazidag**	**2.55**	**242**	*e*PN	**Pn**	**23 10 00.0**	**+1.8**
MAZI	**Mazidag**	**2.55**	**242**	*e*Pn	**Pn**	**23 10 00.0**	**+1.8**
PTK	**Pertek**	**3.04**	**275**	*e*PN	**Pn**	**23 10 07.0**	**+2.0**
PTK	**Pertek**	**3.04**	**275**	*e*Pn	**Pn**	**23 10 07.0**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.13**	**265**	*e*PN	**Pn**	**23 10 08.4**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.13**	**265**	*e*Pn	**Pn**	**23 10 08.4**	**+2.2**

*ISN **23** 23:20:44.7±2.6, 39°.19N×43°.63E, h0km±131km, ML4.2*
*IDC **23** 23:20:49.9±0.8, 38°.38N×43°.65E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.7/41, mbtmp3.8/19, ML3.3/6, MS3.2/2, Ms1 3.1/2, ms1mx2.6/51, Error ellipse: s-maj=13.9km s-min=10.2km az=158.0*
*MOS **23** 23:20:50.1±1.9, 38°.17N×43°.78E, h9km, mb4.2/22, Error ellipse: s-maj=8.0km s-min=5.5km az=106.5*
*DDA **23** 23:20:52.9, 38°.72N×43°.66E, h6km, Ml3.8*
*ISK **23** 23:20:53.7, 38°.68N×43°.63E, h3km, ML3.9*
*NEIC **23** 23:20:54.2±0.0, 38°.64N×43°.59E, h3km, mb4.3/8, ML3.7(ISK), ML3.8(DDA), After ISK.*
*ISCJB **23** 23:20:54.1±0.7, 38°.62N±0°.02×43°.65E±0°.02, h10km±4km, mb3.9/26, Error ellipse: s-maj=3.3km s-min=2.6km az=151.6*
*CSEM **23** 23:20:54.0±0.1, 38°.64N×43°.60E, h5km, mb4.1/7, Error ellipse: s-maj=4.6km s-min=3.5km az=158.0*
*AZER **23** 23:20:54.3±0.1, 38°.73N×43°.63E, h8km±2km, Error ellipse: s-maj=17.2km s-min=3.6km az=240.0*

ISC 23 23:20:53.8±1.0, 38°.68N±0°.02×43°.60E±0°.02, h9km±7km, n235, σ1§86/278, mb4.0/26, 36C-27D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.56**	**230**	*i* P	**Pg**	**23 21 04.1**	**-0.5**
GEVA				*i* S	**Sb**	**23 21 14.6**	**+0.6**
GEVA	**Gevas**	**0.56**	**230**	*i* P	**Pg**	**23 21 04.1**	**-0.5**
GEVA				*i* S	**Sb**	**23 21 14.6**	**+0.6**
DYDN	**Diyadin**	**0.87**	**5**	*i* P	**Pg**	**23 21 08.7**	**-1.9**
DYDN				*i* S	**Sb**	**23 21 22.4**	**-0.6**
DYDN	**Diyadin**	**0.87**	**5**	*i* P	**Pg**	**23 21 08.7**	**-1.9**
AGRB	**Hanur-Agry**	**1.02**	**332**	*e*PG	**Pb**	**23 21 13.8**	**+0.1**
AGRB				*e*SG	**Sn**	**23 21 28.4**	**-0.5**
AGRB	**Hanur-Agry**	**1.02**	**332**	*e*Pg	**Pb**	**23 21 13.8**	**+0.1**
AGRB				*e*Sg	**Sn**	**23 21 28.4**	**-0.5**
HAKT	**HAKKARI**	**1.12**	**176**	*i* P	**Pg**	**23 21 13.5**	**-1.8**
HAKT				*i* S	**Sn**	**23 21 32.8**	**+1.3**
EKAR	**Karacoban**	**1.33**	**296**	*i* P	**Pg**	**23 21 19.7**	**+0.3**
EKAR	**Karacoban**	**1.33**	**296**	P	**Pg**	**23 21 19.7**	**+0.3**
EKAR	**Karacoban**	**1.33**	**296**	*i* P	**Pg**	**23 21 19.7**	**+0.3**
CUKT	**Cukurca**	**1.43**	**180**	*e*PN	**Pg**	**23 21 21.0**	**-0.2**
CUKT				*e*SN	**Sg**	**23 21 41.5**	**+1.8**
CUKT	**Cukurca**	**1.43**	**180**	*i* P	**Pg**	**23 21 21.1**	**0.0**
CUKT	**Cukurca**	**1.43**	**180**	*e*Pn	**Pg**	**23 21 21.0**	**-0.2**
CUKT				*e*Sn	**Sg**	**23 21 41.5**	**+1.8**
EATA	**Eleskirt**	**1.46**	**324**	*i* P	**Pn**	**23 21 20.3**	**-0.4**
EATA				*i* S	**Sg**	**23 21 40.9**	**-0.1**
EATA	**Eleskirt**	**1.46**	**324**	P	**Pn**	**23 21 20.3**	**-0.4**
EATA				S	**Sg**	**23 21 40.9**	**-0.1**
SIRN	**S¨–rnak**	**1.50**	**219**	*i* P	**Pg**	**23 21 22.4**	**-0.3**
SIRN				*i* S	**Sg**	**23 21 45.0**	**+2.9**
SIRN	**S¨–rnak**	**1.50**	**219**	P	**Pg**	**23 21 22.4**	**-0.3**
NAX	**Nakhchivan**	**1.56**	**71**	⇑P	**Pb**	**23 21 23.2**	**+0.3**
NAX	SNR=23			⇓S	**Sg**	**23 21 44.1**	**+0.1**
NAX	**Nakhchivan**	**1.56**	**71**	P	**Pb**	**23 21 23.2**	**+0.3**
NAX	SNR=23			S	**Sg**	**23 21 44.1**	**+0.1**
GNI	**Garni**	**1.72**	**31**	Pn	**Pn**	**23 21 24.8**	**+0.8**
GNI	47nm,0.3s,baz=221,slow=2.9,SNR=22			Lg	Lg	23 21 53.0	
GNI	**Garni**	**1.72**	**31**	*e*Pn	**Pb**	**23 21 25.1**	**-0.6**
GNI	**Garni**	**1.72**	**31**	*e*Pn	**Pb**	**23 21 25.1**	**-0.6**
VRTB	**Varto-Mus**	**1.74**	**287**	*e*PN	**Pn**	**23 21 25.2**	**+0.9**
VRTB				*e*SN	**Sg**	**23 21 49.7**	**-0.1**
VRTB	**Varto-Mus**	**1.74**	**287**	*i* P	**Pb**	**23 21 25.6**	**-0.4**
VRTB				*i* S	**Sg**	**23 21 51.8**	**+2.0**
VRTB	**Varto-Mus**	**1.74**	**287**	*e*Pn	**Pn**	**23 21 25.2**	**+0.9**
VRTB	**Varto-Mus**	**1.74**	**287**	P	**Pb**	**23 21 25.6**	**-0.4**
VRTB				*e*Sn	**Sg**	**23 21 49.7**	**-0.1**
DIGO	**Kars**	**1.75**	**354**	*i* P	**Pb**	**23 21 25.5**	**-0.7**
DIGO	**Kars**	**1.75**	**354**	P	**Pb**	**23 21 25.5**	**-0.7**
HOMI	**Horasan**	**1.90**	**317**	*i* P	**Pn**	**23 21 27.5**	**+1.0**
BNGL	**BINGOL**	**1.93**	**279**	*i* P	**Pb**	**23 21 28.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.96**	**255**	*e*PN	**Pb**	**23 21 28.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.96**	**255**	*i* P	**Pb**	**23 21 28.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.96**	**255**	P	**Pb**	**23 21 28.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.96**	**255**	*e*Pn	**Pb**	**23 21 28.8**	**-0.8**
BTMN	**Batman**	**1.99**	**248**	*i* P	**Pb**	**23 21 29.3**	**-1.0**
BTMN	**Batman**	**1.99**	**248**	P	**Pb**	**23 21 29.3**	**-1.0**
EAK	**Akyaka**	**2.01**	**0**	*i* P	**Pg**	**23 21 32.3**	**0.0**
EAK	**Akyaka**	**2.01**	**0**	P	**Pg**	**23 21 32.3**	**0.0**
SENK	**Senkaya-Erzuru**	**2.12**	**333**	*e*PN	**Pb**	**23 21 31.7**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.12**	**333**	*e*Pn	**Pb**	**23 21 31.7**	**-0.8**
ERZM	**Erzurum**	**2.12**	**306**	*i* P	**Pb**	**23 21 32.2**	**-0.4**
ERZM	**Erzurum**	**2.12**	**306**	P	**Pb**	**23 21 32.2**	**-0.4**
ECAT	**Cat-ERZURUM**	**2.24**	**295**	*i* P	**Pb**	**23 21 34.3**	**-0.3**
ECAT	**Cat-ERZURUM**	**2.24**	**295**	P	**Pb**	**23 21 34.3**	**-0.3**
BNGB	**Bing¨¶l**	**2.30**	**279**	*e*PN	**Pb**	**23 21 34.5**	**-1.1**
MSL	**Mosul**	**2.30**	**190**	*e*Pn	**Pn**	**23 21 32.0**	**+0.1**
MSL	SNR=39			*e*Sn	**Sb**	**23 22 03.3**	**-0.8**
BINT	**Bingol**	**2.44**	**276**	P	**Pn**	**23 21 34.4**	**+0.5**
BINT	**Bingol**	**2.44**	**276**	P	**Pn**	**23 21 34.4**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.50**	**289**	*e*PN	**Pb**	**23 21 37.0**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.50**	**289**	*e*Pn	**Pb**	**23 21 37.0**	**-1.9**
BGD	**Bogdanovka**	**2.59**	**360**	P	**Pb**	**23 21 40.6**	**+0.1**
MARD	**Mardin**	**2.61**	**239**	*i* P	**Pn**	**23 21 35.8**	**-0.4**
MARD				*i* S	**Sb**	**23 22 14.3**	**+1.3**
DDEM	**Demirkent**	**2.63**	**328**	*i* P	**Pb**	**23 21 41.1**	**-0.1**
GDB	**GEDABAY**	**2.63**	**38**	⇓P	**Pn**	**23 21 38.3**	**+1.7**
GDB	SNR=7.5			⇓S	**Sn**	**23 22 11.0**	**+2.2**
GDB	**GEDABAY**	**2.63**	**38**	P	**Pn**	**23 21 38.3**	**+1.7**
GDB	SNR=7.5			S	**Sn**	**23 22 11.0**	**+2.2**
DAGI	**Agillar**	**2.73**	**332**	*i* P	**Pb**	**23 21 42.6**	**-0.2**
AKH	**Akhalkalaki**	**2.73**	**358**	*e*PN	**Pn**	**23 21 39.7**	**+1.7**
AKH	**Akhalkalaki**	**2.73**	**358**	P	**Pb**	**23 21 43.9**	**+0.9**
AKH	**Akhalkalaki**	**2.73**	**358**	⇓*i*P	**Pb**	**23 21 43.4**	**+0.5**
AKH	**Akhalkalaki**	**2.73**	**358**	P	**Pb**	**23 21 43.8**	**+0.9**
AKH	**Akhalkalaki**	**2.73**	**358**	*e*Pn	**Pn**	**23 21 39.7**	**+1.7**
AKH	**Akhalkalaki**	**2.73**	**358**	⇓*i*P	**Pb**	**23 21 43.4**	**+0.5**
QZX	**Qazax, Azerbai**	**2.74**	**29**	⇓P	**Pn**	**23 21 39.8**	**+1.8**
QZX	SNR=6.5			⇑S	**Sn**	**23 22 13.2**	**+1.9**
QZX	**Qazax, Azerbai**	**2.74**	**29**	P	**Pn**	**23 21 39.8**	**+1.8**
QZX	SNR=6.5			S	**Sn**	**23 22 13.2**	**+1.9**
KOPT	**Kop Dagi**	**2.75**	**300**	*i* P	**Pb**	**23 21 44.9**	**+1.6**
MAZI	**Mazidag**	**2.77**	**245**	*e*PN	**Pn**	**23 21 38.9**	**+0.5**
MAZI	**Mazidag**	**2.77**	**245**	*e*Pn	**Pn**	**23 21 38.9**	**+0.5**
ARTV	**Artvin**	**2.82**	**333**	*i* P	**Pb**	**23 21 43.8**	**-0.6**
GANJ	**Ganja**	**2.88**	**46**	⇑P	**Pn**	**23 21 41.6**	**+1.7**
GANJ	SNR=12			⇓S	**Sn**	**23 22 16.9**	**+2.3**
GANJ	**Ganja**	**2.88**	**46**	P	**Pn**	**23 21 41.6**	**+1.7**
GANJ	SNR=12			S	**Sn**	**23 22 16.9**	**+2.3**
DGRG	**David-gareji**	**3.09**	**26**	P	**Pb**	**23 21 50.4**	**+1.5**
DGRG	**David-gareji**	**3.09**	**26**	P	**Pb**	**23 21 50.4**	**+1.5**
ERZN	**Erzincan**	**3.15**	**288**	*e*PN	**Pn**	**23 21 45.6**	**+1.9**
TBLG	**Delisi**	**3.17**	**16**	*e*PN	**Pn**	**23 21 46.0**	**+2.1**
TBLG	**Delisi**	**3.17**	**16**	P	**Pn**	**23 21 49.9**	**-0.6**
TBLG	**Delisi**	**3.17**	**16**	P	**Pb**	**23 21 49.8**	**-0.6**
TBLG	**Delisi**	**3.17**	**16**	*e*Pn	**Pn**	**23 21 46.0**	**+2.1**
TBLG	**Delisi**	**3.17**	**16**	P	**Pb**	**23 21 49.8**	**-0.6**
BRDA	**Brd**	**3.19**	**59**	⇓P	**Pn**	**23 21 45.7**	**+1.6**
BRDA	SNR=12			⇑S	**Sn**	**23 22 24.5**	**+2.2**
BRDA	**Brd**	**3.19**	**59**	P	**Pn**	**23 21 45.7**	**+1.6**
BRDA	SNR=12			S	**Sn**	**23 22 24.5**	**+2.2**
TNCL	**Tunceli-Merkez**	**3.20**	**279**	*i* P	**Pb**	**23 21 49.3**	**-1.4**
EUZM	**Uzumlu**	**3.20**	**290**	*i* P	**Pb**	**23 21 50.0**	**-0.9**
PTK	**Pertek**	**3.29**	**275**	*e*PN	**Pn**	**23 21 48.1**	**+2.4**
PTK	**Pertek**	**3.29**	**275**	*e*Pn	**Pn**	**23 21 48.2**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.38**	**266**	*e*PN	**Pn**	**23 21 49.5**	**+2.7**
SVRC	**Sivrice-ELAZID**	**3.38**	**266**	*e*Pn	**Pn**	**23 21 49.6**	**+2.7**
MNGR	**Mingechevir, A**	**3.41**	**51**	⇑P	**Pn**	**23 21 48.8**	**+1.7**
MNGR	SNR=10			⇑S	**Sn**	**23 22 29.4**	**+1.8**
MNGR	**Mingechevir, A**	**3.41**	**51**	P	**Pn**	**23 21 48.8**	**+1.7**
MNGR	SNR=10			S	**Sn**	**23 22 29.4**	**+1.8**
EZC	**Erzincan**	**3.47**	**289**	*e*Pn	**Pn**	**23 21 45.6**	**-2.5**
ZRD	**Zardab**	**3.54**	**62**	⇓S	**Sn**	**23 22 32.9**	**+2.0**
ZRD	**Zardab**	**3.54**	**62**	S	**Sn**	**23 22 32.9**	**+2.0**
LRK	**Lerik**	**3.71**	**89**	P	**Pn**	**23 21 53.2**	**+1.8**
LRK	SNR=7.0			⇓S	**Sn**	**23 22 37.3**	**+1.9**
LRK	**Lerik**	**3.71**	**89**	P	**Pn**	**23 21 53.2**	**+1.8**
LRK	SNR=7.0			S	**Sn**	**23 22 37.3**	**+1.9**
KTUT	**Trabzon**	**3.75**	**309**	*e*PN	**Pn**	**23 21 54.6**	**+2.8**
KTUT	**Trabzon**	**3.75**	**309**	*e*Pn	**Pn**	**23 21 54.6**	**+2.8**
SEKA	**Sheki**	**3.75**	**46**	⇑P	**Pn**	**23 21 54.4**	**+2.6**
SEKA	SNR=8.2			⇓S	**Sn**	**23 22 39.5**	**+3.4**
ZKTA	**Zakatala**	**3.76**	**37**	⇓P	**Pn**	**23 21 54.8**	**+2.9**
ZKTA				⇑S	**Sn**	**23 22 38.8**	**+2.5**
GLBA	**Clilabad**	**3.78**	**80**	⇑P	**Pn**	**23 21 54.1**	**+1.9**
GLBA	SNR=3.1			⇓S	**Sn**	**23 22 38.8**	**+2.0**
GLBA	**Clilabad**	**3.78**	**80**	P	**Pn**	**23 21 54.1**	**+1.9**
GLBA	SNR=3.1			S	**Sn**	**23 22 38.8**	**+2.0**
ONI	**Oni**	**3.91**	**358**	P	**Pb**	**23 22 01.6**	**-1.4**
ONI	**Oni**	**3.91**	**358**	P	**Pb**	**23 22 01.5**	**-1.4**
SAAT	**Saatly**	**3.93**	**71**	⇓P	**Pn**	**23 21 55.6**	**+1.4**
SAAT	SNR=5.8			⇑S	**Sn**	**23 22 41.9**	**+1.6**
KDMR	**Kurdemir**	**3.93**	**63**	⇓S	**Sn**	**23 22 42.1**	**+1.6**
KDMR	**Kurdemir**	**3.93**	**63**	S	**Sn**	**23 22 42.1**	**+1.6**
URFA	**Urfa**	**3.97**	**253**	*e*PN	**Pn**	**23 21 57.9**	**+3.0**
URFA	**Urfa**	**3.97**	**253**	*e*Pn	**Pn**	**23 21 57.9**	**+3.0**
QBL	**Gabala**	**3.97**	**54**	⇓P	**Pn**	**23 21 56.3**	**+1.4**
QBL	SNR=6.1			⇑S	**Sn**	**23 22 43.4**	**+1.8**
LKRN	**Lenkeran, Azer**	**4.05**	**88**	⇓P	**Pn**	**23 21 58.0**	**+2.0**
LKRN	SNR=3.8			⇓S	**Sn**	**23 22 45.5**	**+2.0**
LKRN	**Lenkeran, Azer**	**4.05**	**88**	P	**Pn**	**23 21 58.0**	**+2.0**
LKRN	SNR=3.8			S	**Sn**	**23 22 45.5**	**+2.0**
ASTR	**Astara**	**4.07**	**90**	P	**Pn**	**23 21 58.4**	**+2.2**
ASTR	SNR=2.9			⇓S	**Sn**	**23 22 46.3**	**+2.4**
ASTR	**Astara**	**4.07**	**90**	P	**Pn**	**23 21 58.4**	**+2.2**
ASTR	SNR=2.9			S	**Sn**	**23 22 46.3**	**+2.4**
ZEI	**Tsey**	**4.12**	**3**	*e*P	**Pb**	**23 22 04.4**	**-2.1**
ZEI				pmax	pmax		
IML	**Ismayilli**	**4.12**	**58**	⇑P	**Pn**	**23 21 58.3**	**+1.3**
IML	SNR=5.3			⇑S	**Sn**	**23 22 46.9**	**+1.7**
XNQ	**Khinaliq**	**4.29**	**53**	⇓P	**Pn**	**23 22 01.2**	**+1.8**
XNQ	SNR=9.0			⇓S	**Sn**	**23 22 51.6**	**+1.9**
ALIB	**Äli-Bayra**	**4.38**	**71**	⇑S	**Sn**	**23 22 53.8**	**+2.1**
ALIB	**Äli-Bayra**	**4.38**	**71**	S	**Sn**	**23 22 53.8**	**+2.1**
PQL	**Pirkuli**	**4.39**	**60**	⇑P	**Pn**	**23 22 02.4**	**+1.6**
PQL	SNR=3.4			⇑S	**Sn**	**23 22 53.9**	**+1.8**
PQL	**Pirkuli**	**4.39**	**60**	P	**Pn**	**23 22 02.4**	**+1.6**
PQL	SNR=3.4			S	**Sn**	**23 22 53.9**	**+1.8**
GBS	**Qobustan**	**4.53**	**64**	⇓P	**Pn**	**23 22 04.2**	**+1.7**
QSAR	**Qusar**	**4.56**	**50**	⇑P	**Pn**	**23 22 04.8**	**+1.7**
QSAR	**Qusar**	**4.56**	**50**	P	**Pn**	**23 22 04.8**	**+1.7**
QUBA	**Quba, Azerbaij**	**4.61**	**53**	⇑P	**Pn**	**23 22 05.5**	**+1.7**
ATGJ	**Altiaghaj**	**4.66**	**60**	⇓P	**Pn**	**23 22 05.9**	**+1.5**
ATGJ	**Altiaghaj**	**4.66**	**60**	P	**Pn**	**23 22 05.9**	**+1.5**
SIZA	**Siyzn**	**4.73**	**58**	⇑P	**Pn**	**23 22 07.0**	**+1.7**
DARE	**Darende-Malaty**	**4.79**	**271**	*e*PN	**Pn**	**23 22 09.7**	**+3.5**
DARE	**Darende-Malaty**	**4.79**	**271**	*e*Pn	**Pn**	**23 22 09.7**	**+3.5**
KBZ	**Khabaz**	**5.08**	**354**	Pn	**Pn**	**23 22 14.5**	**+4.5**
KBZ	comp=Z,0.0nm,0.3s,baz=188,slow=9.9,SNR=3.4			Lg	LR	23 24 45.6	
RSDY	**Resadiye-TOKAT**	**5.14**	**291**	*e*PN	**Pn**	**23 22 15.1**	**+4.1**
RSDY	**Resadiye-TOKAT**	**5.14**	**291**	*e*Pn	**Pn**	**23 22 15.1**	**+4.1**
SVSK	**Karacayir**	**5.27**	**286**	*e*PN	**Pn**	**23 22 16.3**	**+3.6**
SVSK	**Karacayir**	**5.27**	**286**	*e*Pn	**Pn**	**23 22 16.3**	**+3.6**
KIV	**Kislovodsk**	**5.32**	**353**	*e*P	**Pn**	**23 22 17.0**	**+3.5**
KIV	comp=Z,9.0nm,1.0s			pmax	pmax		
KIV	comp=Z,47nm,7.0s			MLR	MLR		
KIV	**Kislovodsk**	**5.32**	**353**	*e*P	**Pn**	**23 22 17.0**	**+3.5**
KVAR	**Kislovodsk Arr**	**5.32**	**353**	Pn	**Pn**	**23 22 17.9**	**+4.4**
KVAR	baz=158,slow=5.4,SNR=2.7			LR	LR	23 24 54.2	
KMRS	**Kahramanmaras**	**5.41**	**260**	*e*PN	**Pn**	**23 22 18.3**	**+3.6**
KMRS	**Kahramanmaras**	**5.41**	**260**	*e*Pn	**Pn**	**23 22 18.3**	**+3.6**
BHD	**Baghdad**	**5.43**	**173**	*e*Pn	**Pn**	**23 22 15.0**	**+0.1**
BHD	SNR=3.0			*i* Sn	**Sn**	**23 23 18.0**	**+0.5**
SARI	**SarD1z-Kayseri**	**5.64**	**270**	*e*PN	**Pn**	**23 22 22.0**	**+4.1**
RTB	**Rutbah**	**6.24**	**206**	*e*Pn	**Pn**	**23 22 26.0**	**0.0**
BRTR	**Keskin Array B**	**7.80**	**281**	Pn	**Pn**	**23 22 48.0**	**+0.4**
NSR	**Nassriya**	**7.93**	**164**	*e*Pn	**Pn**	**23 22 49.0**	**-0.2**
NSR	SNR=3.0			*i* Sn	**Sn**	**23 24 20.0**	**+1.1**
ASF	**Jabal al Asfar**	**8.48**	**222**	Pn	**Pn**	**23 22 54.9**	**-2.0**
ASF	comp=Z,0.1nm,0.3s,baz=327,slow=1.5,SNR=2.8			Lg	Lg	23 25 21.0	
MMAI	**Mount Meron Ar**	**8.72**	**232**	Pn	**Pn**	**23 23 00.5**	**+0.3**
CSS	**Mathiatis**	**9.03**	**249**	*e*Pn	**Pn**	**23 23 04.0**	**-0.3**
CSS	**Mathiatis**	**9.03**	**249**	*e*Pn	**Pn**	**23 23 04.0**	**-0.3**
GEYT	**Alibeck**	**11.44**	**89**	Pn	**Pn**	**23 23 35.9**	**-1.4**
VRI	**Vrincioaia**	**14.39**	**305**	⇑*i*P	**P**	**23 24 25.2**	**+0.5**
VRI	**Vrincioaia**	**14.39**	**305**	⇑P	**P**	**23 24 25.2**	**+0.5**
VRI	**Vrincioaia**	**14.39**	**305**	P	**P**	**23 24 25.2**	**+0.5**
SORM	**Soroca**	**14.54**	**315**	⇑*i*P	**Pn**	**23 24 21.5**	**+1.8**
SORM	**Soroca**	**14.54**	**315**	⇑P	**Pn**	**23 24 21.5**	**+1.8**
SANT	**Santorini**	**14.58**	**267**	*e*Pn	**Pn**	**23 24 20.2**	**-0.1**
SANT	**Santorini**	**14.58**	**267**	*e*Pn	**Pn**	**23 24 20.2**	**-0.1**
RAYN	**Ar Rayn**	**15.19**	**173**	*e*Pn	**Pn**	**23 24 25.4**	**-3.2**
VOIR	comp=Z,12nm,0.9s	**15.33**	**302**	⇓*i*P	**P**	**23 24 36.4**	**+1.3**
VOIR		**15.33**	**302**	⇓P	**P**	**23 24 36.4**	**+1.3**
VOIR		**15.33**	**302**	P	**P**	**23 24 36.4**	**+1.3**
AKTO	**Aktyubinsk**	**15.58**	**36**	Pn	**Pn**	**23 24 31.4**	**-2.2**
ARR	comp=Z,0.1nm,0.3s,baz=222,slow=11,SNR=4.6 **Arges**	**15.58**	**301**	⇓*i*P	**P**	**23 24 40.0**	**+2.1**
AKASG	**Malin Array Be**	**15.75**	**324**	Pn	**Pn**	**23 24 34.9**	**-0.8**
ABKAR	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=7.9 **Akbulak array**	**15.79**	**43**	*e*Pn	**Pn**	**23 24 38.1**	**+1.9**
ABKAR	comp=Z,0.9nm,0.7s **Akbulak array**	**15.79**	**43**	*e*Pn	**Pn**	**23 24 38.1**	**+1.9**
VTS	comp=Z,0.9nm,0.7s **Vitosha**	**15.96**	**291**	⇑*i*P	**P**	**23 24 43.8**	**+1.6**
VTS	**Vitosha**	**15.96**	**291**	⇑P	**P**	**23 24 43.8**	**+1.6**
BURAR	**Bucovina Array**	**16.09**	**310**	⇑*i*P	**Pn**	**23 24 41.9**	**+1.7**
BURAR	**Bucovina Array**	**16.09**	**310**	⇑P	**Pn**	**23 24 41.9**	**+1.7**
BURAR	**Bucovina Array**	**16.09**	**310**	⇑*i*P	**Pn**	**23 24 41.9**	**+1.7**
**L

ULN	**Ulaanbaatar**	**45.92**	**57**	P	P	23 29 22.4	+5.6
ULN				pmax	pmax		
comp=Z,3.0nm,1.1s							
CHTO	**Chiang Mai**	**51.60**	**96**	*e*P	**P**	**23 29 59.4**	**-1.3**
CHTO				pmax	pmax		
comp=Z,3.0nm,1.0s							
CHTO	**Chiang Mai**	**51.60**	**96**	*e*P	**P**	**23 29 59.4**	**-1.3**
comp=Z,2.5nm,1.0s							
CHTO	**Chiang Mai**	**51.60**	**96**	*e*P	**P**	**23 29 59.4**	**-1.3**
comp=Z,2.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**51.80**	**97**	P	**P**	**23 29 57.8**	**-4.4**
comp=Z,1.0nm,0.6s,baz=293,slow=7.8,SNR=2.4							
BJT	**Baijiatuan**	**54.64**	**64**	*e*P	**P**	**23 30 21.4**	**-1.4**
BJT				pmax	pmax		
comp=Z,2.0nm,0.5s							
BJT	**Baijiatuan**	**54.64**	**64**	*e*P	**P**	**23 30 21.4**	**-1.4**
comp=Z,1.9nm,0.5s							
BJT	**Baijiatuan**	**54.64**	**64**	*e*P	**P**	**23 30 21.4**	**-1.4**
comp=Z,1.9nm,0.5s							
KSAR	**Wonju Array Be**	**63.97**	**62**	P	**P**	**23 31 25.9**	**-1.5**
KSAR	**Wonju Array Be**	**63.97**	**62**	P	**P**	**23 31 25.9**	**-1.5**
KSAR	**Wonju Array Be**	**63.97**	**62**	P	**P**	**23 31 25.9**	**-1.5**
KSRS	**Korea Array**	**63.99**	**62**	P	**P**	**23 31 25.9**	**-1.6**
comp=Z,1.7nm,0.9s,baz=298,slow=4.6,SNR=5.5							
MJAR	**Matsushiro Arr**	**71.44**	**58**	P	**P**	**23 32 14.1**	**-0.5**
comp=Z,0.6nm,0.5s,baz=308,slow=5.8,SNR=2.4							

MEX 23 23:31:00.7±1.0, 18°.13N×100°.59W, h46km±14km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.28**	**56**	*e*P	Pn	23 31 07.1	-2.2
ARIG				*e*S	Sn	23 31 13.9	-1.4
MEIG	**Mezcala**	**0.94**	**102**	*e*P	Pn	23 31 16.6	-1.0
MEIG				*i* S	Sn	23 31 28.5	-1.6
ZIIG	**Zihuatanejo**	**0.98**	**238**	*e*P	Pn	23 31 16.7	-1.3
ZIIG				*e*S	Sn	23 31 28.9	-2.0
PLIG	**Platanillo**	**1.07**	**75**	*e*P	Pn	23 31 17.6	-1.7
PLIG				*e*S	Sn	23 31 31.0	-2.1
CAIG	**El Cayaco**	**1.11**	**164**	*e*P	Pn	23 31 15.3	-4.6
CAIG				*e*S	Sn	23 31 31.0	-3.1
YAIG	**Yautepec**	**1.62**	**63**	*e*P	Pn	23 31 24.9	-2.1
YAIG				*e*S	Sn	23 31 44.3	-2.4

ISCJB ***23*** *23:34:40.1±0.8, 38°.54N±0°.02×43°.61E±0°.02, h1km±5km, mb4.1/24, MS3.5/2, Error ellipse: s-maj=4.0km s-min=2.8km az=163.6*
DDA ***23*** *23:34:40.2, 38°.67N×43°.59E, h13km, Ml3.8*
IDC ***23*** *23:34:40.0±0.8, 38°.65N×43°.51E, h0km, mb3.8/15, mb1 3.8/20, mb1mx3.7/40, mbtmp3.8/20, ML3.2/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/42, Error ellipse: s-maj=13.1km s-min=11.4km az=160.0*
ISK ***23*** *23:34:40.9, 38°.70N×43°.51E, h5km, ML4.0*
AZER ***23*** *23:34:42.1±0.7, 38°.38N×43°.58E, h17km±12km, Error ellipse: s-maj=14.2km s-min=2.8km az=60.0*
MOS ***23*** *23:34:42.2±1.6, 38°.70N×43°.62E, h17km, mb4.2/15, Error ellipse: s-maj=8.1km s-min=6.8km az=83.7*
CSEM ***23*** *23:34:42.6±0.1, 38°.62N×43°.55E, h10km, mb4.3/14, Error ellipse: s-maj=4.2km s-min=2.9km az=161.0*
ISN ***23*** *23:34:43.9±1.4, 38°.32N×43°.42E, h0km±4km, ML4.5*
NEIC ***23*** *23:34:43.7±0.0, 38°.59N×43°.52E, h10km, mb4.3/13, ML3.8(DDA), ML3.9(ISK), After ISK.*

ISC 23 23:34:42.3±0.8, 38°.65N±0°.02×43°.58E±0°.02, h8km±5km, n256, σ1§57/293, mb4.1/24, 18C-26D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.53**	**231**	*i* P	**Pg**	**23 34 51.1**	**-1.4**
GEVA	**Gevas**	**0.53**	**231**	P	**Pg**	**23 34 51.1**	**-1.4**
GEVA	**Gevas**	**0.53**	**231**	*i* P	**Pg**	**23 34 51.1**	**-1.4**
DYDN	**Diyadin**	**0.90**	**6**	*i* P	**Pg**	**23 34 57.1**	**-2.5**
DYDN	**Diyadin**	**0.90**	**6**	P	**Pg**	**23 34 57.1**	**-2.5**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*PG	**Pg**	**23 35 00.3**	**-1.8**
AGRB				*e*SG	**Sg**	**23 35 15.0**	**-0.6**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*Pg	**Pg**	**23 35 00.4**	**-1.8**
AGRB				*e*Sg	**Sg**	**23 35 15.0**	**-0.6**
HAKT	**HAKKARI**	**1.09**	**175**	*i* P	**Pg**	**23 35 01.5**	**-1.8**
HAKT	**HAKKARI**	**1.09**	**175**	P	**Pg**	**23 35 01.5**	**-1.8**
EKAR	**Karacoban**	**1.33**	**298**	*i* P	**Pn**	**23 35 05.6**	**-1.7**
EKAR	**Karacoban**	**1.33**	**298**	P	**Pn**	**23 35 05.6**	**-1.7**
EKAR	**Karacoban**	**1.33**	**298**	*i* P	**Pn**	**23 35 05.6**	**-1.7**
CUKT	**Cukurca**	**1.40**	**179**	*e*PN	**Pg**	**23 35 09.2**	**+0.1**
CUKT				*e*SN	**Sg**	**23 35 30.1**	**+2.9**
CUKT	**Cukurca**	**1.40**	**179**	*i* P	**Pb**	**23 35 08.7**	**0.0**
CUKT	**Cukurca**	**1.40**	**179**	P	**Pb**	**23 35 08.7**	**0.0**
CUKT	**Cukurca**	**1.40**	**179**	*e*Pn	**Pg**	**23 35 09.2**	**+0.1**
CUKT				*e*Sn	**Sg**	**23 35 30.1**	**+2.9**
EATA	**Eleskirt**	**1.48**	**326**	*i* P	**Pn**	**23 35 07.2**	**-2.2**
EATA	**Eleskirt**	**1.48**	**326**	P	**Pn**	**23 35 07.2**	**-2.2**
NAX	**Nakhchivan** SNR=117	**1.59**	**70**	⇓P	**Pn**	**23 35 11.2**	**+0.5**
NAX				⇓S	**Sg**	**23 35 33.2**	**-0.1**
NAX	**Nakhchivan** SNR=117	**1.59**	**70**	P	**Pn**	**23 35 11.2**	**+0.5**
NAX				S	**Sg**	**23 35 33.2**	**-0.1**
VRTB	**Varto-Mus**	**1.73**	**288**	*e*PN	**Pn**	**23 35 12.2**	**-0.6**
VRTB	**Varto-Mus**	**1.73**	**288**	*i* P	**Pn**	**23 35 12.8**	**0.0**
VRTB	**Varto-Mus**	**1.73**	**288**	*e*Pn	**Pn**	**23 35 12.2**	**-0.6**
VRTB	**Varto-Mus**	**1.73**	**288**	P	**Pn**	**23 35 12.8**	**0.0**
GNI	**Garni** 98nm,0.3s,baz=252,slow=2.5,SNR=122	**1.75**	**31**	Pn	**Pn**	**23 35 13.3**	**+0.2**
GNI				Lg	Lg	23 35 37.4	
55nm,0.3s,baz=352,slow=17,SNR=6.1							
GNI	**Garni**	**1.75**	**31**	*e*P	**Pn**	**23 35 13.7**	**+0.6**
GNI	**Garni**	**1.75**	**31**	*e*Pn	**Pn**	**23 35 13.6**	**+0.6**
GNI	**Garni**	**1.75**	**31**	*e*Pn	**Pn**	**23 35 13.7**	**+0.6**
GNI				S	**Sg**	**23 35 42.9**	**+4.3**
DIGO	**Kars**	**1.77**	**355**	*i* P	**Pn**	**23 35 12.8**	**-0.6**
DIGO	**Kars**	**1.77**	**355**	P	**Pn**	**23 35 12.8**	**-0.6**
HOMI	**Horasan**	**1.91**	**318**	*i* P	**Pn**	**23 35 15.2**	**0.0**
BNGL	**BINGOL**	**1.92**	**280**	*i* P	**Pn**	**23 35 15.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	*e*PN	**Pn**	**23 35 15.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	*i* P	**Pn**	**23 35 15.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	P	**Pn**	**23 35 15.5**	**+0.1**
BTMN	**Batman**	**1.97**	**248**	*i* P	**Pn**	**23 35 16.0**	**+0.1**
BTMN	**Batman**	**1.97**	**248**	P	**Pn**	**23 35 16.0**	**+0.1**
EAK	**Akyaka**	**2.04**	**1**	*i* P	**Pn**	**23 35 17.8**	**+0.8**
EAK	**Akyaka**	**2.04**	**1**	P	**Pn**	**23 35 17.8**	**+0.8**
ERZM	**Erzurum**	**2.13**	**307**	*i* P	**Pn**	**23 35 19.4**	**+1.1**
ERZM	**Erzurum**	**2.13**	**307**	P	**Pn**	**23 35 19.4**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.13**	**334**	*e*PN	**Pn**	**23 35 18.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.13**	**334**	*e*Pn	**Pn**	**23 35 18.2**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.24**	**296**	*i* P	**Pn**	**23 35 20.6**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.24**	**296**	P	**Pn**	**23 35 20.6**	**+0.8**
BNGB	**Bing¶ll**	**2.29**	**280**	*e*PN	**Pn**	**23 35 20.4**	**0.0**
BINT	**Bingol**	**2.42**	**276**	P	**Pn**	**23 35 22.3**	**0.0**
BINT	**Bingol**	**2.42**	**276**	*e*Pn	**Pn**	**23 35 20.4**	**-1.9**
BINT	**Bingol**	**2.42**	**276**	P	**Pn**	**23 35 22.3**	**0.0**
YEDI	**Yedisu-Bingol**	**2.49**	**289**	*e*PN	**Pn**	**23 35 23.3**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.49**	**289**	*e*Pn	**Pn**	**23 35 23.3**	**+0.1**
MARD	**Mardin**	**2.58**	**240**	*i* P	**Pn**	**23 35 24.6**	**+0.1**
MARD	**Mardin**	**2.58**	**240**	*e*Pn	**Pn**	**23 35 24.1**	**-0.3**
MARD	**Mardin**	**2.58**	**240**	*e*Pn	**Pn**	**23 35 24.1**	**-0.3**
BGD	**Bogdanovka**	**2.61**	**0**	P	**Pn**	**23 35 25.3**	**+0.3**
GDB	**GEDABAY** SNR=44	**2.67**	**38**	⇑P	**Pn**	**23 35 27.4**	**+1.7**
GDB				⇑S	**Sb**	**23 36 03.0**	**-0.3**
GDB	**GEDABAY** SNR=44	**2.67**	**38**	P	**Pn**	**23 35 27.4**	**+1.7**
GDB				S	**Sb**	**23 36 03.0**	**-0.3**
MAZI	**Mazidag**	**2.74**	**245**	*e*PN	**Pn**	**23 35 25.7**	**-0.9**
MAZI	**Mazidag**	**2.74**	**245**	*e*Pn	**Pn**	**23 35 25.7**	**-0.9**
KOPT	**Kop Dagi**	**2.75**	**301**	*e*Pn	**Pb**	**23 35 30.3**	**-1.6**
KOPT	**Kop Dagi**	**2.75**	**301**	*e*Pn	**Pb**	**23 35 30.3**	**-1.6**
AKH	**Akhalkalaki**	**2.76**	**359**	*e*PN	**Pn**	**23 35 27.2**	**+0.3**
AKH	**Akhalkalaki**	**2.76**	**359**	P	**Pb**	**23 35 32.4**	**+0.5**
AKH	**Akhalkalaki**	**2.76**	**359**	P	**Pb**	**23 35 32.4**	**+0.5**
AKH	**Akhalkalaki**	**2.76**	**359**	*e*Pn	**Pn**	**23 35 27.3**	**+0.3**
QZX	**Qazax, Azerbai** SNR=42	**2.78**	**29**	⇓P	**Pn**	**23 35 29.0**	**+2.0**
QZX				⇓S	**Sb**	**23 36 05.5**	**-0.7**
QZX	**Qazax, Azerbai** SNR=42	**2.78**	**29**	P	**Pn**	**23 35 29.0**	**+2.0**
QZX				S	**Sb**	**23 36 05.5**	**-0.7**
DIYA	**Diyarbakir**	**2.81**	**256**	*i* P	**Pn**	**23 35 28.3**	**+0.7**
DIYA	**Diyarbakir**	**2.81**	**256**	P	**Pn**	**23 35 28.3**	**+0.7**
ARTV	**Artvin**	**2.83**	**334**	*e*Pn	**Pb**	**23 35 32.0**	**-1.2**
ARTV	**Artvin**	**2.83**	**334**	*e*Pn	**Pb**	**23 35 32.0**	**-1.2**
GANJ	**Ganja** SNR=50	**2.91**	**46**	⇓P	**Pn**	**23 35 30.1**	**+1.2**
GANJ				⇑S	**Sb**	**23 36 08.4**	**-1.8**
GANJ	**Ganja** SNR=50	**2.91**	**46**	P	**Pn**	**23 35 30.1**	**+1.2**
GANJ				S	**Sb**	**23 36 08.4**	**-1.8**
DGRG	**David-gareji**	**3.12**	**26**	P	**Pb**	**23 35 38.3**	**+0.3**
DGRG	**David-gareji**	**3.12**	**26**	P	**Pb**	**23 35 38.3**	**+0.3**
ERZN	**Erzincan**	**3.14**	**289**	*e*PN	**Pn**	**23 35 32.7**	**+0.5**
TBLG	**Delisi**	**3.21**	**16**	*e*PN	**Pn**	**23 35 34.1**	**+1.2**
TBLG	**Delisi**	**3.21**	**16**	P	**Pb**	**23 35 38.4**	**-1.0**
TBLG	**Delisi**	**3.21**	**16**	P	**Pb**	**23 35 38.4**	**-1.0**
TBLG	**Delisi**	**3.21**	**16**	*e*Pn	**Pn**	**23 35 34.1**	**+1.2**
BRDA	**Brd** SNR=14	**3.22**	**59**	⇑P	**Pn**	**23 35 33.7**	**+0.6**
BRDA				⇑S	**Sn**	**23 36 14.6**	**+3.0**
BRDA	**Brd** SNR=14	**3.22**	**59**	P	**Pn**	**23 35 33.7**	**+0.6**
BRDA				S	**Sn**	**23 36 14.6**	**+3.0**
PTK	**Pertek**	**3.28**	**276**	*e*PN	**Pn**	**23 35 34.5**	**+0.4**
PTK	**Pertek**	**3.28**	**276**	*e*Pn	**Pn**	**23 35 34.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.36**	**267**	*e*PN	**Pn**	**23 35 35.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.36**	**267**	*e*Pn	**Pn**	**23 35 35.5**	**+0.3**
MNGR	**Mingechevir, A** SNR=5.4	**3.44**	**51**	⇓P	**Pn**	**23 35 37.5**	**+1.4**
MNGR				⇑S	**Sn**	**23 36 20.8**	**+3.8**
MNGR	**Mingechevir, A** SNR=5.4	**3.44**	**51**	P	**Pn**	**23 35 37.5**	**+1.4**
MNGR				S	**Sn**	**23 36 20.8**	**+3.8**
EZC	**Erzincan**	**3.46**	**290**	*e*Pn	**Pn**	**23 35 32.7**	**-3.9**
ZRD	**Zardab**	**3.57**	**62**	⇓S	**Sn**	**23 36 22.6**	**+2.4**
ZRD	**Zardab**	**3.57**	**62**	S	**Sn**	**23 36 22.6**	**+2.4**
LRK	**Lerik** SNR=8.3	**3.73**	**89**	⇓P	**Pn**	**23 35 39.1**	**-1.1**
LRK				⇑S	**Sn**	**23 36 23.8**	**-0.6**
LRK	**Lerik** SNR=8.3	**3.73**	**89**	P	**Pn**	**23 35 39.1**	**-1.1**
LRK				S	**Sn**	**23 36 23.8**	**-0.6**
KTUT	**Trabzon**	**3.75**	**310**	*e*PN	**Pn**	**23 35 41.3**	**+0.9**
KTUT	**Trabzon**	**3.75**	**310**	*e*Pn	**Pn**	**23 35 41.3**	**+0.9**
SEKA	**Sheki** SNR=7.2	**3.78**	**46**	⇓P	**Pn**	**23 35 43.0**	**+2.1**
SEKA				⇑S	**Sb**	**23 36 31.0**	**-4.2**
SEKA	**Sheki** SNR=7.2	**3.78**	**46**	P	**Pn**	**23 35 43.0**	**+2.1**
SEKA				S	**Sb**	**23 36 31.0**	**-4.2**
ZKTA	**Zakatala** SNR=2.9	**3.79**	**37**	⇓P	**Pn**	**23 35 43.0**	**+2.1**
ZKTA				⇓S	**Sn**	**23 36 30.5**	**+4.8**
GLBA	**Clilabad** SNR=2.9	**3.80**	**80**	⇓P	**Pn**	**23 35 41.0**	**0.0**
GLBA				⇑S	**Sn**	**23 36 26.6**	**+0.7**
GLBA	**Clilabad** SNR=2.9	**3.80**	**80**	P	**Pn**	**23 35 41.0**	**0.0**
GLBA				S	**Sn**	**23 36 26.6**	**+0.7**
GUDG	**Gudauri**	**3.87**	**10**	P	**Pb**	**23 35 51.2**	**+0.2**
ONI	**Oni**	**3.94**	**359**	P	**Pb**	**23 35 52.7**	**+0.7**
ONI	**Oni**	**3.94**	**359**	P	**Pb**	**23 35 52.7**	**+0.7**
URFA	**Urfa**	**3.94**	**254**	*e*PN	**Pn**	**23 35 44.5**	**+1.5**
URFA	**Urfa**	**3.94**	**254**	*e*Pn	**Pn**	**23 35 44.6**	**+1.5**
SAAT	**Saatly** SNR=6.9	**3.95**	**71**	⇑P	**Pn**	**23 35 42.9**	**-0.2**
SAAT				⇑S	**Sn**	**23 36 30.9**	**+1.3**
SAAT	**Saatly** SNR=6.9	**3.95**	**71**	P	**Pn**	**23 35 42.9**	**-0.2**
SAAT				S	**Sn**	**23 36 30.9**	**+1.3**
KDMR	**Kurdemir** SNR=3.8	**3.96**	**63**	⇑P	**Pn**	**23 35 44.1**	**+0.9**
KDMR				⇑S	**Sn**	**23 36 32.0**	**+2.2**
KDMR	**Kurdemir** SNR=3.8	**3.96**	**63**	P	**Pn**	**23 35 44.1**	**+0.9**
KDMR				S	**Sn**	**23 36 32.0**	**+2.2**
QBL	**Gabala** SNR=7.9	**4.00**	**54**	⇑P	**Pn**	**23 35 45.0**	**+1.1**
QBL				⇓S	**Sn**	**23 36 34.3**	**+3.3**
QBL	**Gabala** SNR=7.9	**4.00**	**54**	P	**Pn**	**23 35 45.0**	**+1.1**
QBL				S	**Sn**	**23 36 34.3**	**+3.3**
LKRN	**Lenkeran, Azer** SNR=5.8	**4.07**	**88**	⇓P	**Pn**	**23 35 44.0**	**-0.8**
LKRN				⇓S	**Sn**	**23 36 32.5**	**-0.1**
LKRN	**Lenkeran, Azer** SNR=5.8	**4.07**	**88**	P	**Pn**	**23 35 44.0**	**-0.8**
LKRN				S	**Sn**	**23 36 32.5**	**-0.1**
ASTR	**Astara** SNR=5.3	**4.08**	**90**	⇓P	**Pn**	**23 35 44.2**	**-0.8**
ASTR				⇓S	**Sn**	**23 36 32.7**	**-0.2**
ASTR	**Astara** SNR=5.3	**4.08**	**90**	P	**Pn**	**23 35 44.2**	**-0.8**
ASTR				S	**Sn**	**23 36 32.7**	**-0.2**
ZEI	**Tsey**	**4.14**	**3**	*e*P	**Pn**	**23 35 47.6**	**+1.6**
ZEI				pmax	pmax		
comp=Z,17nm,0.7s							
IML	**Ismayilli** SNR=9.6	**4.15**	**57**	⇓P	**Pn**	**23 35 46.6**	**+0.7**
IML				⇓S	**Sn**	**23 36 37.6**	**+3.0**
IML	**Ismayilli** SNR=9.6	**4.15**	**57**	P	**Pn**	**23 35 46.6**	**+0.7**
IML				S	**Sn**	**23 36 37.6**	**+3.0**
XNQ	**Khinaliq** SNR=4.8	**4.32**	**53**	⇓P	**Pn**	**23 35 49.6**	**+1.2**
XNQ				⇑S	**Sn**	**23 36 41.9**	**+2.8**
XNQ	**Khinaliq** SNR=4.8	**4.32**	**53**	P	**Pn**	**23 35 49.6**	**+1.2**
XNQ				S	**Sn**	**23 36 41.9**	**+2.8**
ALIB	**Äli-Bayra**	**4.41**	**71**	⇑S	**Sn**	**23 36 41.9**	**+1.0**
ALIB	**Äli-Bayra**	**4.41**	**71**	S	**Sn**	**23 36 41.9**	**+1.0**
PQL	**Pirkuli** SNR=7.3	**4.42**	**59**	⇓P	**Pn**	**23 35 50.5**	**+0.8**
PQL				⇑S	**Sn**	**23 36 44.0**	**+2.6**
PQL	**Pirkuli** SNR=7.3	**4.42**	**59**	P	**Pn**	**23 35 50.5**	**+0.8**
PQL				S	**Sn**	**23 36 44.0**	**+2.6**
GBS	**Qobustan** SNR=5.2	**4.55**	**64**	⇑P	**Pn**	**23 35 52.0**	**+0.5**
GBS	**Qobustan** SNR=5.2	**4.55**	**64**	P	**Pn**	**23 35 52.0**	**+0.5**
QSAR	**Qusar** SNR=9.9	**4.59**	**50**	⇓P	**Pn**	**23 35 53.5**	**+1.4**
QSAR	**Qusar** SNR=9.9	**4.59**	**50**	P	**Pn**	**23 35 53.5**	**+1.4**
QUBA	**Quba, Azerbaij** SNR=3.3	**4.64**	**53**	⇓P	**Pn**	**23 35 54.0**	**+1.3**
QUBA	**Quba, Azerbaij** SNR=3.3	**4.64**	**53**	P	**Pn**	**23 35 54.0**	**+1.3**
ATGJ	**Altiaghaj** SNR=6.3	**4.69**	**60**	⇓P	**Pn**	**23 35 54.0**	**+0.7**
ATGJ	**Altiaghaj** SNR=6.3	**4.69**	**60**	P	**Pn**	**23 35 54.0**	**+0.7**
SIZA	**Siyzn** SNR=3.0	**4.76**	**58**	⇓P	**Pn**	**23 35 55.2**	**+0.9**
SIZA	**Siyzn** SNR=3.0	**4.76**	**58**	P	**Pn**	**23 35 55.2**	**+0.9**
DARE	**Darende-Malaty**	**4.77**	**271**	*e*PN	**Pn**	**23 35 55.7**	**+1.2**
DARE	**Darende-Malaty**	**4.77**	**271**	*e*Pn	**Pn**	**23 35 55.7**	**+1.2**
GROC	**Groznyy**	**4.85**	**20**	*e*P	**Pb**	**23 36 09.2**	**+1.8**
GROC						23 36 55.0	
GROC				pmax	pmax		
comp=Z,7.0nm,0.7s							
GROC				smax	smax		
comp=N,12nm,1.8s							
GROC				smax	smax		
comp=N,37nm,2.6s							
GROC	**Groznyy** comp=N,37nm,2.6s	**4.85**	**20**	S	**Sn**	**23 36 55.0**	**+3.2**
KBZ	**Khabaz** comp=N,0.0nm,0.3s,baz=114,slow=12,SNR=2.4	**5.10**	**354**	Pn	**Pn**	**23 35 59.0**	**+0.1**
RSDY	**Resadiye-TOKAT**	**5.14**	**292**	*e*PN	**Pn**	**23 36 01.1**	**+1.6**
RSDY	**Resadiye-TOKAT**	**5.14**	**292**	*e*Pn	**Pn**	**23 36 01.1**	**+1.6**
MAK	**Makhachkala**	**5.24**	**33**	*e*P	**Pn**	**23 35 59.1**	**-1.7**
MAK				*e*S	**Sn**	**23 37 01.1**	**-0.2**
MAK				pmax	pmax		
comp=Z,40nm,1.1s							
MAK				MLR	MLR		
comp=Z,860nm,15.0s							
MAK	**Makhachkala** comp=Z,40nm,1.1s	**5.24**	**33**	*e*P	**Pn**	**23 35 59.1**	**-1.7**
MAK				*e*S	**Sn**	**23 37 01.1**	**-0.2**
comp=Z,860nm,15.0s							
SVSK	**Karacayir**	**5.26**	**286**	*e*PN	**Pn**	**23 36 02.9**	**+1.8**
SVSK	**Karacayir**	**5.26**	**286**	*e*Pn	**Pn**	**23 36 02.9**	**+1.8**
KIV	**Kislovodsk**	**5.34**	**353**	*e*P	Pb	23 36 10.4	-5.5
KIV				pmax	pmax		
comp=Z,13nm,1.1s							
KIV				MLR	MLR		
comp=Z,47nm,7.0s							
KIV	**Kislovodsk**	**5.34**	**353**	*e*Pn	Pb	23 36 09.2	-6.7
KVAR	**Kislovodsk Arr** baz=337,slow=7.7,SNR=2.5	**5.34**	**353**	Pn	**Pn**	**23 36 03.3**	**+0.9**
KMRS	**Kahramanmaras**	**5.39**	**260**	*e*PN	**Pn**	**23 36 05.1**	**+2.1**
KMRS	**Kahramanmaras**	**5.39**	**260**	*e*Pn	**Pn**	**23 36 05.1**	**+2.1**
SARI	**SarD1z-Kayseri**	**5.62**	**270**	*e*PN	**Pn**	**23 36 08.0**	**+1.8**
TOKA	**Tokat**	**5.74**	**289**	*e*Pg	**Pg**	**23 36 36.5**	**+4.3**
RTB	**Rutbah** SNR=3.0	**6.20**	**206**	*e*Pn	**Pn**	**23 36 13.0**	**-1.1**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=100,slow=15,SNR=2.5	**7.79**	**281**	Pn	**Pn**	**23 36 39.8**	**+3.7**
NSR	**Nassriya** SNR=3.0	**7.91**	**164**	*e*Pn	**Pn**	**23 36 38.0**	**+0.6**
ASF	**Jabal al Asfar** comp=Z,0.1nm,0.3s,baz=330,slow=20,SNR=3.6	**8.45**	**222**	Pn	**Pn**	**23 36 47.8**	**+2.8**
ASF				Lg	Lg	23 39 13.3	
comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=2.8							
MMAI	**Mount Meron Ar** comp=Z,0.4nm,0.3s,baz=65,slow=24,SNR=6.4	**8.69**	**232**	Pn	**Pn**	**23 36 49.6**	**+1.2**
MMAI				Lg	Lg	23 39 18.2	
comp=Z,0.1nm,0.3s,baz=145,slow=34,SNR=3.0							
GEYT	**Alibeck** comp=Z,0.2nm,0.3s,baz=281,slow=16,SNR=9.3	**11.45**	**89**	Pn	**Pn**	**23 37 25.9**	**-0.2**
SANT	**Santorini**	**14.56**	**267**	*e*Pn	**Pn**	**23 38 08.2**	**-0.4**
SANT	**Santorini**	**14.56**	**267**	*e*Pn	**Pn**	**23 38 08.2**	**-0.4**
RAYN	**Ar Rayn**	**15.17**	**173**	*e*Pn	**Pn**	**23 38 12.8**	**-4.0**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=233,slow=7.8,SNR=7.4	**15.61**	**36**	Pn	**Pn**	**23 38 20.4**	**-2.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=5.2	**15.76**	**325**	Pn	**Pn**	**23 38 22.8**	**-1.5**
ABKAR	**Akbulak array** comp=Z,18nm,0.8s	**15.82**	**43**	*e*Pn	**Pn**	**23 38 25.5**	**+0.3**
ABKAR	**Akbulak array** comp=Z,18nm,0.8s	**15.82**	**43**	*e*Pn	**Pn**	**23 38 25.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**16.11**	**310**	*e*Pn	**P**	**23 38 32.5**	**+0.1**
OBN	**Obninsk** comp=Z,23nm,1.5s	**17.14**	**346**	*e*Pn	**P**	**23 38 46.0**	**+2.5**
UZH	**Uzhgorod**	**18.30**	**310**	*e*P	**Pn**	**23 38 54.8**	**-1.5**
UZH	**Uzhgorod**	**18.30**	**310**	*e*P	**Pn**	**23 38 54.8**	**-1.5**
PSZ	**Piszkesteto** comp=Z,23nm,1.9s	**19.51**	**306**	*e*P	**Pn**	**23 39 11.6**	**+0.5**
PSZ				pmax	pmax		
comp=Z,23nm,1.9s							
PSZ	**Piszkesteto** comp=Z,23nm,1.9s	**19.51**	**306**	*e*P	**Pn**	**23 39 11.6**	**+0.5**
PSZ	**Piszkesteto** comp=Z,23nm,1.9s	**19.51**	**306**	*e*P	**Pn**	**23 39 11.6**	**+0.5**
WSAR	**Wadi Sarin** comp=Z,2.7nm,0.9s,baz=324,slow=19,SNR=1.7	**20.02**	**136**	P	**P**	**23 39 15.6**	**+0.1**
VYHS	**Vyhne**	**20.37**	**307**	*e*P	Pn	23 39 20.5	-0.7
VYHS	**Vyhne**	**20.37**	**307**	*e*P	Pn	23 39 20.5	-0.7
VYHS	**Vyhne**	**20.37**	**307**	*e*P	Pn	23 39 20.5	-0.7
ARU	**Arti** comp=Z,3.3nm,0.7s,baz=205,slow=5.1,SNR=9.4	**20.38**	**24**	P	**P**	**23 39 17.9**	**-1.3**
ARU	**Arti**	**20.38**	**24**	*d i*P	**P**	**23 39 17.6**	**-1.6**
ARU						23 39 34.5	
ARU				S	**S**	**23 43 08.9**	**+1.4**
ARU				SS	**SnSn**	**23 43 29.8**	**+4.5**
ARU				pmax	pmax		
comp=Z,10.0nm,1.2s							
ARU	**Arti**	**20.38**	**24**	*e*P	**P**	**23 39 18.1**	**-1.1**
ARU	**Arti**	**20.38**	**24**	*e*Pn	**P**	**23 39 20.0**	**+0.8**
ARU				S	**S**	**23 43 08.9**	**+1.4**
ARU	**Arti**	**20.38**	**24**	*e*P	**P**	**23 39 18.1**	**-1.1**
ARU				*e*Pn	Pn	23 39 20.0	-1.2
OJC	**Ojcow**	**20.45**	**312**	*e*P	Pn	23 39 21.8	-0.3
OJC				pmax	pmax		
comp=Z,6.0nm,1.0s							
OJC	**Ojcow** comp=Z,5.5nm,1.0s	**20.45**	**312**	*e*P	Pn	23 39 21.8	-0.

	comp=Z,54nm,1.4s						
NVS	Novosibirsk	31.12	46	eP	P	23 41 01.5	+0.5
NVS	Novosibirsk	31.12	46	eP	P	23 41 01.5	+0.5
ZALV	Zalesovo Beam	31.82	48	P	P	23 41 05.5	-1.6
	comp=Z,0.6nm,0.4s,baz=254,slow=9.7,SNR=4.1						
WMQ	Urumqi	33.27	67	P	P	23 41 19.6	-0.5
WMQ				pP	sP	23 41 24.1	+0.4
WMQ				sP	pP	23 41 27.6	+4.9
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.9s						
WMQ				LR	LR		
	comp=N,100nm,20.9s						
WMQ				LR	LR		
	comp=E,50nm,28.5s						
WMQ				LR	LR		
	comp=Z,110nm,20.9s						
PYUN	Piuthan	34.32	96	eP	P	23 41 29.8	+0.3
	comp=Z,19nm,0.8s						
DANN	Dangsing	34.81	95	eP	P	23 41 34.0	+0.2
	comp=Z,1.3nm,0.6s						
KOLN	Koldanda	34.95	96	eP	P	23 41 35.1	+0.1
	comp=Z,6.8nm,0.7s						
GKN	Gorkha	35.65	95	eP	P	23 41 41.1	+0.1
	comp=Z,14nm,0.6s						
DMN	Daman	36.20	95	eP	P	23 41 46.2	+0.4
	comp=Z,9.6nm,0.5s						
KKN	Kakani	36.25	95	eP	P	23 41 46.2	0.0
PKIN	Phulchoki	36.45	95	eP	P	23 41 48.0	+0.1
	comp=Z,7.6nm,0.5s						
ESDC	Sonseca Array	36.54	287	P	P	23 41 46.2	-2.1
	comp=Z,1.4nm,0.8s,baz=58,slow=9.5,SNR=5.0						
GUN	Gumba	36.66	94	eP	P	23 41 50.1	+0.3
	comp=Z,28nm,1.0s						
JIRN	Jiri	37.02	94	eP	P	23 41 53.1	+0.2
	comp=Z,95nm,0.8s						
RAMN	Ramite	37.69	95	eP	P	23 41 58.3	-0.1
	comp=Z,23nm,0.7s						
ODAN	Odare	38.34	95	eP	P	23 42 04.2	+0.2
	comp=Z,39nm,1.2s						
TAPN	Taplejung	38.36	94	eP	P	23 42 04.3	+0.1
	comp=Z,13nm,0.9s						
LSA	Lhasa	39.98	88	eP	P	23 42 18.7	+0.8
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	Lhasa	39.98	88	eP	P	23 42 18.7	+0.8
	comp=Z,5.4nm,0.6s						
LSA	Lhasa	39.98	88	eP	P	23 42 18.7	+0.8
	comp=Z,5.4nm,0.6s						
TORD	Torodi Ar. Bea	44.89	247	P	P	23 42 55.0	-2.4
	comp=Z,1.0nm,1.0s,baz=50,slow=7.7,SNR=5.1						
TORD	Torodi Ar. Bea	44.89	247	P	P	23 42 55.0	-2.4
ULN	Ulaanbaatar	45.95	57	eP	P	23 43 07.2	+1.5
ULN				pmax	pmax		
	comp=Z,10.0nm,1.8s						
ULN	Ulaanbaatar	45.95	57	eP	P	23 43 07.2	+1.5
	comp=Z,10.0nm,1.8s						
ULN	Ulaanbaatar	45.95	57	eP	P	23 43 07.2	+1.5
	comp=Z,10nm,1.8s						
CHTO	Chiang Mai	51.62	96	eP	P	23 43 49.0	-0.4
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CHTO	Chiang Mai	51.62	96	eP	P	23 43 49.0	-0.4
	comp=Z,2.2nm,0.9s						
CHTO	Chiang Mai	51.62	96	eP	P	23 43 49.0	-0.4
	comp=Z,2.2nm,0.9s						
CMAR	Chiang Mai Arr	51.82	97	P	P	23 43 49.3	-1.6
	comp=Z,0.8nm,0.4s,baz=297,slow=8.4,SNR=11						
KSAR	Wonju Array Be	64.00	62	P	P	23 45 15.3	-0.9
KSAR	Wonju Array Be	64.00	62	P	P	23 45 15.3	-0.9
KSAR	Wonju Array Be	64.00	62	P	P	23 45 15.3	-0.9
KSRS	Korea Array	64.02	62	P	P	23 45 15.3	-1.0
	comp=Z,1.6nm,0.8s,baz=300,slow=6.7,SNR=4.7						

*DDA **23** 23:37:51.9, 38.°75N×43.°25E, h7km, Ml3.8*
*CSEM **23** 23:37:52.9±0.3, 38.°76N×43.°27E, h2km, ML3.8, Error ellipse: s-maj=8.2km s-min=4.9km az=90.0*
*ISCJB **23** 23:37:53.4±0.6, 38.°75N±0.°03×43.°29E±0.°07, h12km, Error ellipse: s-maj=7.8km s-min=4.1km az=7.0*
*ISK **23** 23:37:53.4, 38.°81N×43.°18E, h5km, ML3.6*
ISC 23 23:37:53.3±0.9, 38.°76N±0.°02×43.°23E±0.°04, h12km, n55, σ1§35/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.47	197	i P	Pg	23 38 00.5	-2.0
GEVA				i S	Sg	23 38 08.4	-0.3
GEVA	Gevas	0.47	197	P	Pg	23 38 00.5	-2.0
GEVA				S	Sg	23 38 08.4	-0.3
AGRB	Hanur-Agry	0.84	347	ePG	Pg	23 38 08.9	-0.6
AGRB				eSG	Sg	23 38 20.0	-0.5
AGRB	Hanur-Agry	0.84	347	ePg	Pg	23 38 08.9	-0.6
AGRB				eSg	Sg	23 38 20.0	-0.5
DYDN	Diyadin	0.86	24	i P	Pg	23 38 08.8	-1.2
DYDN	Diyadin	0.86	24	P	Pg	23 38 08.8	-1.2
EKAR	Karacoban	1.04	299	i P	Pn	23 38 14.4	+0.5
EKAR	Karacoban	1.04	299	P	Pn	23 38 14.4	+0.5
EATA	Eleskirt	1.24	333	i P	Pn	23 38 15.6	-1.2
EATA	Eleskirt	1.24	333	P	Pn	23 38 15.6	-1.2
HAKT	HAKKARI	1.26	162	i P	Pn	23 38 14.8	-2.0
HAKT	HAKKARI	1.26	162	P	Pn	23 38 14.9	-2.0
SIRN	S¨–rnak	1.42	207	i P	Pn	23 38 19.0	0.0
SIRN	S¨–rnak	1.42	207	P	Pn	23 38 19.0	0.0
VRTB	Varto-Mus	1.44	287	ePN	Pn	23 38 19.3	-0.1
VRTB	Varto-Mus	1.44	287	i P	Pn	23 38 19.9	+0.5
VRTB	Varto-Mus	1.44	287	ePn	Pn	23 38 19.3	-0.1
VRTB	Varto-Mus	1.44	287	P	Pn	23 38 19.9	+0.5
CUKT	Cukurca	1.54	169	ePN	Pg	23 38 22.9	+0.1
CUKT				eSN	Sg	23 38 44.6	+1.8
CUKT	Cukurca	1.54	169	i P	Pb	23 38 21.8	0.0
CUKT	Cukurca	1.54	169	P	Pb	23 38 21.8	0.0
CUKT	Cukurca	1.54	169	ePn	Pg	23 38 22.9	+0.1
CUKT				eSn	Sg	23 38 44.6	+1.8
BNGL	BINGOL	1.64	277	i P	Pn	23 38 22.4	+0.3
HOMI	Horasan	1.65	322	i P	Pb	23 38 23.3	-0.5
DIGO	Kars	1.66	4	i P	Pb	23 38 23.6	-0.3
DIGO	Kars	1.66	4	P	Pb	23 38 23.6	-0.3
SVAN	Silvan-Diyarba	1.71	250	ePN	Pn	23 38 23.7	+0.8
SVAN	Silvan-Diyarba	1.71	250	i P	Pn	23 38 23.9	+1.0
SVAN	Silvan-Diyarba	1.71	250	P	Pn	23 38 23.9	+1.0
BTMN	Batman	1.77	241	i P	Pb	23 38 25.3	-0.4
BTMN	Batman	1.77	241	P	Pb	23 38 25.3	-0.4
ERZM	Erzurum	1.85	309	i P	Pb	23 38 26.8	-0.3
ERZM	Erzurum	1.85	309	P	Pb	23 38 26.8	-0.3
SENK	Senkaya-Erzuru	1.93	340	ePN	Pn	23 38 27.2	+1.1
SENK	Senkaya-Erzuru	1.93	340	ePn	Pn	23 38 27.2	+1.1
ECAT	Cat-ERZURUM	1.95	296	i P	Pb	23 38 28.1	-0.7
ECAT	Cat-ERZURUM	1.95	296	P	Pb	23 38 28.1	-0.7
BNGB	Bing¨¶l	2.01	277	ePN	Pb	23 38 28.7	-1.0
BINT	Bingol	2.15	274	ePn	Pn	23 38 28.7	-0.3
YEDI	Yedisu-Bingol	2.20	289	ePN	Pn	23 38 31.1	+1.3
YEDI	Yedisu-Bingol	2.20	289	ePn	Pn	23 38 31.1	+1.3
MAZI	Mazidag	2.55	240	ePN	Pn	23 38 36.3	+1.7
MAZI	Mazidag	2.55	240	ePn	Pn	23 38 36.3	+1.7
AKH	Akhalkalaki	2.66	4	ePN	Pn	23 38 37.3	+1.2
AKH	Akhalkalaki	2.66	4	ePn	Pn	23 38 37.3	+1.2
ERZN	Erzincan	2.85	288	ePN	Pn	23 38 41.0	+2.3
PTK	Pertek	3.00	274	ePN	Pn	23 38 43.2	+2.3
PTK	Pertek	3.00	274	ePn	Pn	23 38 43.2	+2.3
SVRC	Sivrice-ELAZID	3.10	264	ePN	Pn	23 38 44.2	+2.0
SVRC	Sivrice-ELAZID	3.10	264	ePn	Pn	23 38 44.2	+2.0
EZC	Erzincan	3.17	289	ePn	Pn	23 38 41.0	-2.1
TBLG	Delisi	3.19	21	ePN	Pn	23 38 45.6	+2.4
TBLG	Delisi	3.19	21	ePn	Pn	23 38 45.6	+2.4
URFA	Urfa	3.72	251	ePN	Pn	23 38 53.2	+2.6
URFA	Urfa	3.72	251	ePn	Pn	23 38 53.2	+2.6

*ISK **23** 23:45:02.9, 38.°95N×43.°63E, h12km, ML2.9*
*ISCJB **23** 23:45:03.6±0.9, 38.°94N±0.°04×43.°5E±0.°1, h8km, Error ellipse: s-maj=12.0km s-min=5.4km az=163.4*
*CSEM **23** 23:45:03.9±0.3, 38.°96N×43.°51E, h10km, ML2.9, Error ellipse: s-maj=9.4km s-min=5.4km az=75.0*
*DDA **23** 23:45:03.4, 38.°94N×43.°50E, h7km, Ml2.8*
ISC 23 23:45:01.9±1.1, 39.°02N±0.°04×43.°74E±0.°08, h8km, n24, σ0§74/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.52	356	i P	Pn	23 45 15.5	-0.4
DYDN	Diyadin	0.52	356	P	Pn	23 45 15.5	-0.4
AGRB	Hanur-Agry	0.80	314	ePG	Pb	23 45 18.6	+0.4
AGRB				eSG	Sb	23 45 30.6	+1.3
AGRB	Hanur-Agry	0.80	314	ePg	Pb	23 45 18.6	+0.4
GEVA	Gevas	0.89	217	i P	Pg	23 45 12.8	-6.2
GEVA	Gevas	0.89	217	P	Pg	23 45 12.8	-6.2
EKAR	Karacoban	1.32	281	i P	Pn	23 45 25.6	-1.3
EKAR	Karacoban	1.32	281	P	Pn	23 45 25.6	-1.3
HAKT	HAKKARI	1.46	181	i P	Pg	23 45 30.6	+0.6
HAKT	HAKKARI	1.46	181	P	Pg	23 45 30.6	+0.6
CUKT	Cukurca	1.77	183	ePN	Pn	23 45 33.2	+0.1
CUKT				eSN	Sn	23 45 55.5	-0.4
CUKT	Cukurca	1.77	183	i P	Pb	23 45 34.2	-0.6
CUKT	Cukurca	1.77	183	ePn	Pn	23 45 33.2	+0.1
CUKT	Cukurca	1.77	183	P	Pb	23 45 34.2	-0.6
CUKT				eSn	Sn	23 45 55.5	-0.4
VRTB	Varto-Mus	1.78	275	ePN	Pn	23 45 33.0	-0.1
VRTB	Varto-Mus	1.78	275	ePn	Pn	23 45 33.0	-0.1
SENK	Senkaya-Erzuru	1.87	326	ePN	Pb	23 45 35.9	-0.6
SENK	Senkaya-Erzuru	1.87	326	ePn	Pb	23 45 35.9	-0.6
SVAN	Silvan-Diyarba	2.17	247	ePN	Pn	23 45 38.5	+0.1
SVAN	Silvan-Diyarba	2.17	247	ePn	Pn	23 45 38.5	+0.1
BNGB	Bing¨¶l	2.38	270	ePN	Pn	23 45 41.6	+0.2
YEDI	Yedisu-Bingol	2.51	281	ePN	Pn	23 45 43.1	-0.1
YEDI	Yedisu-Bingol	2.51	281	ePn	Pn	23 45 43.1	-0.1
BINT	Bingol	2.54	268	ePn	Pn	23 45 41.6	-1.9

*CSEM **23** 23:51:01.8±0.2, 43.°66N×12.°38E, h15km, MD1.3, Error ellipse: s-maj=6.7km s-min=4.1km az=170.0*
ROM 23 23:51:02.6±0.1, 43.°60N×12.°36E, h8km±1km, Md1.3/3, Ml0.4/2, Error ellipse: s-maj=0.5km s-min=0.3km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	Parchiule	0.10	297	Pg	Pg	23 51 05.4	+0.3
PARC				Sg	Sg	23 51 07.5	+0.7
	61nm,2.3s						
PARC	Parchiule	0.10	297	Pg	Pg	23 51 05.4	+0.3
PARC				Sg	Sg	23 51 07.5	+0.7
	61nm,2.3s						
BADI	Badiali	0.13	222	Pg	Pg	23 51 06.0	+0.6
BADI				Sg	Sg	23 51 08.3	+0.9
	14nm,0.3s						
BADI	Badiali	0.13	222	Pg	Pg	23 51 06.0	+0.6
BADI				Sg	Sg	23 51 08.3	+0.9
	14nm,0.3s						
PIEI	Pieia	0.14	118	Pg	Pg	23 51 06.3	+0.6
PIEI				Sg	Sg	23 51 08.9	+1.0
PIEI	Pieia	0.14	118	Pg	Pg	23 51 06.3	+0.6
PIEI				Sg	Sg	23 51 08.9	+1.0
NVLJ	Novalja	2.05	61	ePg	Pg	23 52 03.4	+22
NVLJ				Sg	Sb	23 52 05.8	+0.3
NVLJ	Novalja	2.05	61	Sg	Sb	23 52 05.8	+0.2

*AZER **23** 23:53:07.9±0.4, 38.°16N×43.°34E, h10km, Error ellipse: s-maj=2.9km s-min=2.2km az=35.0*
*DDA **23** 23:53:08.0, 38.°67N×43.°44E, h6km, Ml3.4*
*ISK **23** 23:53:09.0, 38.°77N×43.°32E, h4km, ML3.2*
*CSEM **23** 23:53:10.0±0.2, 38.°46N×43.°32E, h10km, ML3.4, Error ellipse: s-maj=9.3km s-min=4.3km az=170.0*
ISC 23 23:53:08.5±1.2, 38.°70N±0.°03×43.°41E±0.°02, h4km±10km, n79, σ2§60/110, 23C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.47	216	i P	Pg	23 53 17.2	-0.4
GEVA	Gevas	0.47	216	P	Pg	23 53 17.2	-0.4
AGRB	Hanur-Agry	0.93	340	ePG	Pg	23 53 25.2	-1.2
AGRB				eSG	Sg	23 53 38.2	-0.3
HAKT	HAKKARI	1.16	168	i P	Pg	23 53 29.8	-0.9
HAKT	HAKKARI	1.16	168	P	Pg	23 53 29.8	-0.9
EKAR	Karacoban	1.19	298	i P	Pn	23 53 32.1	0.0
EKAR	Karacoban	1.19	298	P	Pn	23 53 32.1	0.0
CUKT	Cukurca	1.46	174	ePN	Pg	23 53 38.3	+1.9
CUKT				eSN	Sg	23 53 58.8	+3.6
CUKT	Cukurca	1.46	174	i P	Pg	23 53 38.7	+2.3
CUKT	Cukurca	1.46	174	ePn	Pg	23 53 38.3	+1.9
VRTB	Varto-Mus	1.59	287	ePN	Pn	23 53 37.5	-0.1
VRTB	Varto-Mus	1.59	287	ePn	Pn	23 53 37.5	-0.1
NAX	Nakhchivan	1.69	73	P	Pg	23 53 40.5	-0.4
	SNR=8.1						
NAX				⇑S	Sg	23 54 07.0	+4.1
NAX	Nakhchivan	1.69	73	P	Pg	23 53 40.5	-0.4
	SNR=8.1						
NAX				S	Sg	23 54 07.0	+4.1
DIGO	Kars	1.71	359	i P	Pb	23 53 40.4	-0.3
BNGL	BINGOL	1.78	279	i P	Pb	23 53 41.0	-0.8
SVAN	Silvan-Diyarba	1.82	253	ePN	Pb	23 53 41.4	-1.0
SVAN	Silvan-Diyarba	1.82	253	ePn	Pb	23 53 41.4	-1.0
ERZM	Erzurum	1.99	308	i P	Pb	23 53 45.5	0.0
ERZM	Erzurum	1.99	308	P	Pb	23 53 45.5	0.0
SENK	Senkaya-Erzuru	2.03	337	ePN	Pn	23 53 43.8	+0.1
SENK	Senkaya-Erzuru	2.03	337	ePn	Pn	23 53 43.8	+0.1
ECAT	Cat-ERZURUM	2.10	296	i P	Pb	23 53 46.8	-0.4
ECAT	Cat-ERZURUM	2.10	296	P	Pb	23 53 46.8	-0.4
BNGB	Bing¨¶l	2.15	279	ePN	Pn	23 53 45.4	+0.1
BINT	Bingol	2.29	275	ePn	Pn	23 53 45.4	-1.8
YEDI	Yedisu-Bingol	2.35	289	ePN	Pn	23 53 48.6	+0.6
YEDI	Yedisu-Bingol	2.35	289	ePn	Pn	23 53 48.6	+0.6
MAZI	Mazidag	2.65	243	ePN	Pn	23 53 51.7	-0.4
MAZI	Mazidag	2.65	243	ePn	Pn	23 53 51.7	-0.4
GDB	GEDABAY	2.71	41	⇑P	Pb	23 53 57.6	0.0
	SNR=10						
GDB				⇓S	Sg	23 54 37.7	+2.1
GDB	GEDABAY	2.71	41	P	Pb	23 53 57.6	0.0
	SNR=10						
QZX	Qazax, Azerbai	2.80	32	⇓P	Pb	23 53 59.5	+0.4
	SNR=9.3						
QZX				⇓S	Sg	23 54 39.7	+1.4
QZX	Qazax, Azerbai	2.80	32	P	Pb	23 53 59.5	+0.4
	SNR=9.3						
GANJ	Ganja	2.97	48	⇑P	Pb	23 54 01.2	-0.8
	SNR=10						
GANJ				⇑S	Sg	23 54 42.5	-1.5
GANJ	Ganja	2.97	48	P	Pb	23 54 01.2	-0.8
	SNR=10						
GANJ				S	Sg	23 54 42.5	-1.5
PTK	Pertek	3.15	275	ePN	Pn	23 53 59.8	+0.8
PTK	Pertek	3.15	275	ePn	Pn	23 53 59.8	+0.8
SVRC	Sivrice-ELAZID	3.23	266	ePN	Pn	23 54 00.9	+0.7
SVRC	Sivrice-ELAZID	3.23	266	ePn	Pn	23 54 00.9	+0.7
BRDA	Brd	3.31	61	⇓P	Pb	23 54 04.6	-3.1
BRDA				⇓S	Sb	23 54 48.4	+0.1
BRDA	Brd	3.31	61	P	Pb	23 54 04.6	-3.1
BRDA				S	Sb	23 54 48.4	+0.1
MNGR	Mingechevir, A	3.51	53	⇑P	Pb	23 54 08.0	-3.1
MNGR				⇑S	Sb	23 54 54.8	+0.7
MNGR	Mingechevir, A	3.51	53	P	Pb	23 54 08.0	-3.1
MNGR				S	Sb	23 54 54.8	+0.7
ZRD	Zardab	3.67	63	⇓P	Pb	23 54 09.1	-4.7
ZRD				⇓S	Sb	23 54 56.8	-1.8
ZRD	Zardab	3.67	63	P	Pb	23 54 09.1	-4.7
ZRD				S	Sb	23 54 56.8	-1.8
ZKTA	Zakatala	3.83	39	⇓S	Sb	23 55 04.7	+1.3
SEKA	Sheki	3.84	48	⇓P	Pb	23 54 13.6	-3.3
	SNR=5.8						
SEKA				⇑S	Sb	23 55 05.0	+1.2
SEKA	Sheki	3.84	48	P	Pb	23 54 13.6	-3.3
	SNR=5.8						
LRK	Lerik	3.86	89	⇓P	Pn	23 54 08.8	0.0
	SNR=3.0						
LRK				⇑S	Sn	23 54 56.0	+1.3
LRK	Lerik	3.86	89	P	Pn	23 54 08.8	0.0
	SNR=3.0						
LRK				S	Sn	23 54 56.0	+1.3
GLBA	Cliilabad	3.92	80	⇑P	Pn	23 54 11.0	+1.5
GLBA				⇓S	Sn	23 54 59.5	+3.5
GLBA	Cliilabad	3.92	80	P	Pn	23 54 11.0	+1.5
GLBA				S	Sn	23 54 59.5	+3.5
KDMR	Kurdemir	4.05	64	⇓P	Pn	23 54 14.5	+3.2
KDMR	Kurdemir	4.05	64	P	Pn	23 54 14.5	+3.2
SAAT	Saatly	4.06	72	⇑S	Sb	23 55 04.2	-5.7
SAAT	Saatly	4.06	72	S	Sb	23 55 04.2	-5.7
QBL	Gabala	4.08	55	⇑P	Pn	23 54 15.4	+3.7
QBL				⇑S	Sb	23 55 08.4	-2.3
QBL	Gabala	4.08	55	P	Pn	23 54 15.4	+3.7
QBL				S	Sb	23 55 08.4	-2.3
LKRN	Lenkeran, Azer	4.20	88	⇓P	Pn	23 54 13.3	0.0
LKRN				⇓S	Sn	23 55 04.7	+1.9
LKRN	Lenkeran, Azer	4.20	88	P	Pn	23 54 13.3	0.0
LKRN				S	Sn	23 55 04.7	+1.9
ASTR	Astara	4.22	90	⇑P	Pn	23 54 13.1	-0.4
ASTR				⇑S	Sn	23 55 04.4	+1.2
ASTR	Astara	4.22	90	P	Pn	23 54 13.1	-0.4
ASTR				S	Sn	23 55 04.4	+1.2
IML	Ismayilli	4.23	59	⇑P	Pn	23 54 17.1	+3.3
IML				⇓S	Sb	23 55 11.4	-3.6
IML	Ismayilli	4.23	59	P	Pn	23 54 17.1	+3.3
IML				S	Sb	23 55 11.4	-3.6
XNQ	Khinaliq	4.40	54	⇑P	Pn	23 54 20.0	+3.8
	SNR=3.6						
XNQ				⇑S	Sb	23 55 16.3	-3.6
XNQ	Khinaliq	4.40	54	P	Pn	23 54 20.0	+3.8
	SNR=3.6						
XNQ				S	Sb	23 55 16.3	-3.6
PQL	Pirkuli	4.51	61	⇓P	Pn	23 54 20.8	+3.1
	SNR=4.2						
PQL				⇑S	Sb	23 55 17.9	-5.1
PQL	Pirkuli	4.51	61	P	Pn	23 54 20.8	+3.1
	SNR=4.2						
PQL				S	Sb	23 55 17.9	-5.1
ALIB	Äli-Bayra	4.52	72	⇑P	Pn	23 54 19.6	+1.9
ALIB				⇑S	Sb	23 55 15.9	-7.2
ALIB	Äli-Bayra	4.52	72	P	Pn	23 54 19.6	+1.9
ALIB				S	Sb	23 55 15.9	-7.2
GBS	Qobustan	4.65	65	⇑P	Pn	23 54 22.4	+2.8
GBS	Qobustan	4.65	65	P	Pn	23 54 22.4	+2.8
QSAR	Qusar	4.67	51	⇑P	Pn	23 54 24.0	+4.3
QSAR	Qusar	4.67	51	P	Pn	23 54 24.0	+4.3
QUBA	Quba, Azerbaij	4.72	54	⇑P	Pn	23 54 24.4	+3.9
QUBA	Quba, Azerbaij	4.72	54	P	Pn	23 54 24.4	+3.9
ATGJ	Altiaghaj	4.78	61	⇓P	Pn	23 54 24.4	+3.1
ATGJ	Altiaghaj	4.78	61	P	Pn	23 54 24.4	+3.1

*DDA **23** 23:54:24.7, 38.°64N×43.°05E, h7km, Ml3.2*
*ISK **23** 23:54:26.5, 38.°71N×42.°92E, h11km, ML2.9*
*ISCJB **23** 23:54:27.3±0.7, 38.°72N±0.°04×42.°94E±0.°07, h15km, Error ellipse: s-maj=8.3km s-min=5.4km az=174.9*
*CSEM **23** 23:54:27.2±0.7, 38.°73N×42.°93E, h14km±6km, ML2.9, Error ellipse: s-maj=10.0km s-min=7.1km az=69.0*
ISC 23 23:54:26.1±0.9, 38.°68N±0.°03×42.°97E±0.°04, h15km, n25, σ1§06/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.37	169	i P	Pg	23 54 31.4	-2.3
GEVA	Gevas	0.37	169	P	Pg	23 54 31.4	-2.3
AGRB	Hanur-Agry	0.90	1	ePG	Pb	23 54 43.8	+0.3
AGRB				eSG	Sg	23 54 56.3	+0.9
AGRB	Hanur-Agry	0.90	1	ePg	Pb	23 54 43.8	+0.3
AGRB				eSg	Sg	23 54 56.3	+0.9
EATA	Eleskirt	1.24	343	i P	Pn	23 54 49.3	+0.1
EATA	Eleskirt	1.24	343	P	Pn	23 54 49.3	+0.1
VRTB	Varto-Mus	1.27	293	ePN	Pn	23 54 49.9	+0.4
VRTB				eSN	Sg	23 55 07.5	+0.1
VRTB	Varto-Mus	1.27	293	ePn	Pn	23 54 49.9	+0.4
VRTB				eSn	Sg	23 55 07.5	+0.1
BNGL	BINGOL	1.45	282	i P	Pb	23 54 53.2	+0.3
SVAN	Silvan-Diyarba	1.49	250	ePN	Pb	23 54 53.4	-0.1
SVAN	Silvan-Diyarba	1.49	250	i P	Pb	23 54 53.7	+0.2
SVAN	Silvan-Diyarba	1.49	250	ePn	Pb	23 54 53.4	-0.1
SVAN	Silvan-Diyarba	1.49	250	P	Pb	23 54 53.7	+0.2
CUKT	Cukurca	1.51	160	ePN	Pb	23 54 54.8	+0.9
CUKT				eSN	Sg	23 55 15.5	+0.6
CUKT	Cukurca	1.51	160	ePn	Pb	23 54 54.8	+0.9
CUKT				eSn	Sg	23 55 15.5	+0.6
BNGB	Bing¨¶l	1.82	281	ePN	Pn	23 54 57.9	+1.0
SENK	Senkaya-Erzuru	1.94	346	ePN	Pn	23 54 59.6	+0.8
SENK	Senkaya-Erzuru	1.94	346	ePn	Pn	23 54 59.6	+0.8
BINT	Bingol	1.95	277	ePn	Pn	23 54 57.9	-0.9
YEDI	Yedisu-Bingol	2.04	293	ePN	Pn	23 55 01.3	+1.3
YEDI	Yedisu-Bingol	2.04	293	ePn	Pn	23 55 01.3	+1.3
MAZI	Mazidag	2.33	239	ePN	Pn	23 55 05.6	+1.5
MAZI	Mazidag	2.33	239	ePn	Pn	23 55 05.6	+1.5
SVRC	Sivrice-ELAZID	2.89	265	ePN	Pn	23 55 13.3	+1.6
SVRC	Sivrice-ELAZID	2.89	265	ePn	Pn	23 55 13.3	+1.6

*NIED **23** 23:57:00, 33.°80N×135.°00E, h11km, Mw3.4 Best double couple: M0 1.42000×10^14 NP1:φs 151.00000°, δ64.00000°, λ22.00000°. NP2:φs 51.00000°, δ71.00000°, λ152.00000°.*
JMA 23 23:57:42.4, 33.°83N×134.°98E, h13km±1km, M3.6, 1C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	Minabe	0.31	86	⇓P	Pg	23 57 48.7	-0.1
JWM				S	Sg	23 57 53.0	-0.1
JAI	Aioi	0.44	265	⇓P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.52**	**214**	*i* P	**Pg**	**00 15 32.1**	**-0.4**
GEVA	**Gevas**	**0.52**	**214**	P	**Pg**	**00 15 32.1**	**-0.4**
DYDN	**Diyadin**	**0.82**	**14**	*i* P	**Pg**	**00 15 36.6**	**-1.6**
DYDN	**Diyadin**	**0.82**	**14**	P	**Pg**	**00 15 36.7**	**-1.6**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*PG	**Pg**	**00 15 38.9**	**-0.8**
AGRB				*e*SG	**Sb**	**00 15 51.8**	**-0.9**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*Pg	**Pg**	**00 15 38.9**	**-0.8**
AGRB				*e*Sg	**Sb**	**00 15 51.8**	**-0.9**
EKAR	**Karacoban**	**1.18**	**296**	*i* P	**Pn**	**00 15 45.3**	**-0.3**
EKAR	**Karacoban**	**1.18**	**296**	P	**Pn**	**00 15 45.3**	**-0.3**
HAKT	**HAKKARI**	**1.21**	**169**	*i* P	**Pg**	**00 15 42.8**	**-2.8**
EATA	**Eleskirt**	**1.33**	**327**	*i* P	**Pn**	**00 15 47.2**	**-0.6**
EATA	**Eleskirt**	**1.33**	**327**	P	**Pn**	**00 15 47.2**	**-0.6**
SIRN	**S¨–rnak**	**1.48**	**213**	*i* P	**Pg**	**00 15 50.7**	**-0.2**
SIRN	**S¨–rnak**	**1.48**	**213**	P	**Pg**	**00 15 50.7**	**-0.2**
CUKT	**Cukurca**	**1.50**	**174**	*e*PN	**Pg**	**00 15 51.3**	**0.0**
CUKT				*e*SN	**Sg**	**00 16 13.1**	**+2.3**
CUKT	**Cukurca**	**1.50**	**174**	*i* P	**Pb**	**00 15 50.6**	**-0.2**
CUKT	**Cukurca**	**1.50**	**174**	P	**Pb**	**00 15 50.6**	**-0.2**
CUKT	**Cukurca**	**1.50**	**174**	*e*Pn	**Pg**	**00 15 51.3**	**0.0**
CUKT				*e*Sn	**Sg**	**00 16 13.1**	**+2.3**
VRTB	**Varto-Mus**	**1.59**	**286**	*e*PN	**Pg**	**00 15 52.2**	**-0.7**
VRTB	**Varto-Mus**	**1.59**	**286**	*i* P	**Pg**	**00 15 52.3**	**-0.7**
VRTB	**Varto-Mus**	**1.59**	**286**	*e*Pn	**Pg**	**00 15 52.2**	**-0.7**
DIGO	**Kars**	**1.67**	**359**	*i* P	**Pb**	**00 15 53.3**	**-0.4**
DIGO	**Kars**	**1.67**	**359**	P	**Pb**	**00 15 53.3**	**-0.4**
NAX	**Nakhchivan** SNR=46	**1.67**	**75**	⇑P	**Pn**	**00 15 50.4**	**-1.9**
NAX				⇓S	**Sg**	**00 16 16.7**	**+0.7**
NAX	**Nakhchivan** SNR=46	**1.67**	**75**	P	**Pn**	**00 15 50.4**	**-1.9**
NAX				S	**Sg**	**00 16 16.7**	**+0.7**
HOMI	**Horasan**	**1.75**	**318**	*i* P	**Pg**	**00 15 55.4**	**-0.6**
BNGL	**BINGOL**	**1.79**	**277**	*i* P	**Pb**	**00 15 55.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*PN	**Pb**	**00 15 55.9**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*i* P	**Pg**	**00 15 57.0**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*Pn	**Pb**	**00 15 55.9**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	P	**Pg**	**00 15 57.0**	**-0.8**
BTMN	**Batman**	**1.90**	**244**	*i* P	**Pb**	**00 15 56.2**	**-1.3**
BTMN	**Batman**	**1.90**	**244**	P	**Pb**	**00 15 56.2**	**-1.3**
EAK	**Akyaka**	**1.94**	**4**	*i* P	**Pb**	**00 15 58.8**	**+0.5**
EAK	**Akyaka**	**1.94**	**4**	P	**Pb**	**00 15 58.8**	**+0.5**
ERZM	**Erzurum**	**1.97**	**307**	*i* P	**Pb**	**00 15 58.7**	**-0.2**
ERZM	**Erzurum**	**1.97**	**307**	P	**Pb**	**00 15 58.7**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*PN	**Pn**	**00 15 57.7**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*Pn	**Pn**	**00 15 57.7**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.09**	**295**	*i* P	**Pb**	**00 16 01.1**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.09**	**295**	P	**Pb**	**00 16 01.1**	**+0.2**
BNGB	**Bing¨¶l**	**2.16**	**277**	*e*PN	**Pb**	**00 16 00.5**	**-1.4**
BINT	**Bingol**	**2.30**	**274**	*e*Pn	**Pn**	**00 16 00.5**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*PN	**Pb**	**00 16 03.0**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*Pn	**Pb**	**00 16 03.0**	**-2.2**
BGD	**Bogdanovka**	**2.52**	**3**	P	**Pb**	**00 16 08.7**	**+0.5**
AKH	**Akhalkalaki**	**2.66**	**1**	*e*PN	**Pn**	**00 16 06.5**	**+0.5**
AKH	**Akhalkalaki**	**2.66**	**1**	P	**Pb**	**00 16 11.3**	**+0.8**
AKH	**Akhalkalaki**	**2.66**	**1**	*e*Pn	**Pn**	**00 16 06.5**	**+0.5**
GDB	**GEDABAY** SNR=30	**2.67**	**42**	⇑P	**Pn**	**00 16 05.6**	**-0.4**
GDB				⇑S	**Sg**	**00 16 47.9**	**-0.2**
GDB	**GEDABAY** SNR=30	**2.67**	**42**	P	**Pn**	**00 16 05.6**	**-0.4**
DIYA	**Diyarbakir**	**2.73**	**253**	*i* P	**Pb**	**00 16 10.6**	**-1.0**
QZX	**Qazax, Azerbai** SNR=23	**2.75**	**32**	P	**Pn**	**00 16 07.1**	**0.0**
QZX				⇓S	**Sg**	**00 16 54.1**	**+3.3**
QZX	**Qazax, Azerbai** SNR=23	**2.75**	**32**	P	**Pn**	**00 16 07.1**	**0.0**
GANJ	**Ganja** SNR=15	**2.93**	**49**	P	**Pn**	**00 16 09.4**	**-0.1**
GANJ				⇑S	**Sb**	**00 16 52.6**	**+1.4**
GANJ	**Ganja** SNR=15	**2.93**	**49**	P	**Pn**	**00 16 09.4**	**-0.1**
DGRG	**David-gareji**	**3.09**	**28**	P	**Pb**	**00 16 17.7**	**0.0**
TBLG	**Delisi**	**3.15**	**18**	*e*PN	**Pn**	**00 16 13.9**	**+1.4**
TBLG	**Delisi**	**3.15**	**18**	*e*Pn	**Pn**	**00 16 13.9**	**+1.4**
BRDA	**Brd** SNR=8.2	**3.27**	**61**	⇑P	**Pn**	**00 16 15.0**	**+0.8**
BRDA	**Brd** SNR=8.2	**3.27**	**61**	P	**Pn**	**00 16 15.0**	**+0.8**
ZRD	**Zardab** SNR=4.0	**3.63**	**64**	⇓P	**Pn**	**00 16 22.8**	**+3.7**
ZRD	**Zardab** SNR=4.0	**3.63**	**64**	P	**Pn**	**00 16 22.8**	**+3.7**
ZKTA	**Zakatala** SNR=12	**3.79**	**39**	⇓P	**Pn**	**00 16 21.8**	**+0.5**
SEKA	**Sheki** SNR=11	**3.80**	**48**	⇑P	**Pb**	**00 16 30.1**	**+0.1**
ONI	**Oni**	**3.84**	**0**	P	**Pb**	**00 16 32.2**	**+1.6**
GLBA	**Cilabad** SNR=4.3	**3.90**	**81**	⇑P	**Pn**	**00 16 25.4**	**+2.6**
GLBA	**Cilabad** SNR=4.3	**3.90**	**81**	P	**Pn**	**00 16 25.4**	**+2.6**
KDMR	**Kurdemir** SNR=3.3	**4.02**	**65**	⇑P	**Pb**	**00 16 30.7**	**-2.9**
LKRN	**Lenkeran, Azer** SNR=2.9	**4.19**	**89**	⇑P	**Pn**	**00 16 28.0**	**+1.2**
LKRN	**Lenkeran, Azer** SNR=2.9	**4.19**	**89**	P	**Pn**	**00 16 28.0**	**+1.2**
PQL	**Pirkuli**	**4.47**	**61**	⇓P	Pn	00 16 26.2	-4.6
GBS	**Qobustan** SNR=3.3	**4.62**	**66**	⇓P	**Pb**	**00 16 39.8**	**-4.1**
QSAR	**Qusar** SNR=3.5	**4.62**	**52**	⇑P	**Pb**	**00 16 42.4**	**-1.6**
QUBA	**Quba, Azerbaij** SNR=4.5	**4.68**	**55**	⇓P	**Pb**	**00 16 42.9**	**-2.0**

AZER ***24*** *00:28:03.1±1.6,38.°14N×43.°37E,h26km±43km, Error ellipse: s-maj=32.1km s-min=6.3km az=61.0*
DDA ***24*** *00:28:04.0,38.°70N×43.°51E,h6km,Ml3.2*
CSEM ***24*** *00:28:05.7±0.3,38.°54N×43.°57E,h10km,ML3.2, Error ellipse: s-maj=11.1km s-min=6.2km az=166.0*
ISK ***24*** *00:28:06.6,38.°78N×43.°40E,h6km,ML3.1*
ISC 24 00:28:05.3±1.1,**38.°72N**±0.°02×**43.°53E**±0.°03,**h8**km±10km, **n63**,σ1**°62**/76,**13C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.55**	**223**	*i* P	**Pg**	**00 28 14.7**	**-1.3**
GEVA	**Gevas**	**0.55**	**223**	P	**Pg**	**00 28 14.6**	**-1.3**
DYDN	**Diyadin**	**0.83**	**8**	*i* P	**Pg**	**00 28 20.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*PG	**Pg**	**00 28 23.3**	**-0.3**
AGRB				*e*SG	**Sg**	**00 28 35.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*Pg	**Pg**	**00 28 23.3**	**-0.3**
HAKT	**HAKKARI**	**1.17**	**173**	*i* P	**Pg**	**00 28 25.9**	**-1.8**
HAKT	**HAKKARI**	**1.17**	**173**	P	**Pg**	**00 28 25.9**	**-1.8**
EATA	**Eleskirt**	**1.40**	**325**	*i* P	**Pn**	**00 28 30.8**	**-0.7**
CUKT	**Cukurca**	**1.47**	**178**	*e*PN	**Pg**	**00 28 35.4**	**+1.9**
CUKT				*e*SN	**Sg**	**00 28 56.0**	**+3.5**
CUKT	**Cukurca**	**1.47**	**178**	*e*Pn	**Pg**	**00 28 35.4**	**+1.9**
NAX	**Nakhchivan** SNR=11	**1.60**	**73**	⇓P	**Pb**	**00 28 35.0**	**-0.1**
NAX				⇑S	**Sg**	**00 28 59.3**	**+2.7**
NAX	**Nakhchivan** SNR=11	**1.60**	**73**	P	**Pb**	**00 28 35.0**	**-0.1**
NAX				S	**Sg**	**00 28 59.3**	**+2.7**
VRTB	**Varto-Mus**	**1.68**	**286**	*e*PN	**Pn**	**00 28 35.6**	**+0.5**
VRTB	**Varto-Mus**	**1.68**	**286**	*i* P	**Pn**	**00 28 34.8**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**286**	P	**Pn**	**00 28 34.8**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**286**	*e*Pn	**Pn**	**00 28 35.6**	**+0.5**
DIGO	**Kars**	**1.70**	**356**	*i* P	**Pn**	**00 28 35.5**	**0.0**
HOMI	**Horasan**	**1.83**	**317**	*i* P	**Pb**	**00 28 38.5**	**-0.7**
BNGL	**BINGOL**	**1.88**	**278**	*i* P	**Pn**	**00 28 38.7**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.92**	**254**	*e*PN	**Pb**	**00 28 39.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.92**	**254**	*i* P	**Pb**	**00 28 39.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.92**	**254**	*e*Pn	**Pb**	**00 28 39.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.92**	**254**	P	**Pb**	**00 28 39.8**	**-0.8**
EAK	**Akyaka**	**1.97**	**2**	*i* P	**Pg**	**00 28 43.1**	**+0.1**
EAK	**Akyaka**	**1.97**	**2**	P	**Pg**	**00 28 43.1**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.05**	**334**	*e*PN	**Pn**	**00 28 41.2**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.05**	**334**	*e*Pn	**Pn**	**00 28 41.3**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.18**	**295**	*i* P	**Pn**	**00 28 43.1**	**+1.1**
ECAT	**Cat-ERZURUM**	**2.18**	**295**	P	**Pn**	**00 28 43.1**	**+1.1**
BNGB	**Bing¨¶l**	**2.25**	**278**	*e*PN	**Pn**	**00 28 43.4**	**+0.5**
BINT	**Bingol**	**2.38**	**275**	*e*Pn	**Pn**	**00 28 43.4**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.43**	**288**	*e*PN	**Pn**	**00 28 46.4**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.43**	**288**	*e*Pn	**Pn**	**00 28 46.4**	**+0.9**
GDB	**GEDABAY** SNR=4.1	**2.63**	**40**	⇓P	**Pb**	**00 28 51.6**	**-1.2**
GDB				⇑S	**Sg**	**00 29 29.5**	**-0.3**
GDB	**GEDABAY** SNR=4.1	**2.63**	**40**	P	**Pb**	**00 28 51.6**	**-1.2**
QZX	**Qazax, Azerbai** SNR=12	**2.73**	**31**	⇑P	**Pb**	**00 28 53.1**	**-1.3**
QZX				⇓S	**Sg**	**00 29 32.8**	**-0.3**
QZX	**Qazax, Azerbai** SNR=12	**2.73**	**31**	P	**Pb**	**00 28 53.1**	**-1.3**
MAZI	**Mazidag**	**2.74**	**244**	*e*PN	**Pn**	**00 28 51.0**	**+1.3**
MAZI	**Mazidag**	**2.74**	**244**	*e*Pn	**Pn**	**00 28 51.0**	**+1.3**
GANJ	**Ganja** SNR=9.7	**2.89**	**47**	⇑P	**Pn**	**00 28 54.2**	**+2.6**
GANJ				⇑S	**Sb**	**00 29 34.7**	**+2.1**
GANJ	**Ganja** SNR=9.7	**2.89**	**47**	P	**Pn**	**00 28 54.2**	**+2.6**
TBLG	**Delisi**	**3.15**	**17**	*e*PN	**Pn**	**00 28 57.6**	**+2.4**
TBLG	**Delisi**	**3.15**	**17**	*e*Pn	**Pn**	**00 28 57.6**	**+2.4**
BRDA	**Brd** SNR=3.0	**3.21**	**60**	⇓P	**Pn**	**00 28 57.5**	**+1.4**
BRDA				⇓S	**Sb**	**00 29 40.5**	**-1.4**
BRDA	**Brd** SNR=3.0	**3.21**	**60**	P	**Pn**	**00 28 57.5**	**+1.4**
BRDA				S	**Sb**	**00 29 40.5**	**-1.4**
PTK	**Pertek**	**3.24**	**274**	*e*PN	**Pn**	**00 28 58.1**	**+1.5**
PTK	**Pertek**	**3.24**	**274**	*e*Pn	**Pn**	**00 28 58.1**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.33**	**265**	*e*PN	**Pn**	**00 28 59.5**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.33**	**265**	*e*Pn	**Pn**	**00 28 59.5**	**+1.6**
MNGR	**Mingechevir, A**	**3.42**	**52**	⇑S	**Sb**	**00 29 46.9**	**-1.0**
MNGR	**Mingechevir, A**	**3.42**	**52**	S	**Sb**	**00 29 46.9**	**-1.0**
ZRD	**Zardab**	**3.57**	**63**	⇑S	**Sb**	**00 29 48.7**	**-3.4**
ZRD	**Zardab**	**3.57**	**63**	S	**Sb**	**00 29 48.7**	**-3.4**
SEKA	**Sheki**	**3.76**	**47**	⇑P	**Pn**	**00 29 06.9**	**+3.3**
SEKA	**Sheki**	**3.76**	**47**	P	**Pn**	**00 29 06.9**	**+3.3**
LRK	**Lerik**	**3.76**	**90**	⇑P	**Pn**	**00 29 02.0**	**-1.8**
LRK				⇑S	**Sn**	**00 29 48.1**	**-0.2**
LRK	**Lerik**	**3.76**	**90**	P	**Pn**	**00 29 02.0**	**-1.8**
LRK				S	**Sn**	**00 29 48.1**	**-0.2**
GLBA	**Clilabad**	**3.82**	**81**	⇑P	**Pn**	**00 29 03.5**	**-0.9**
GLBA				⇑S	**Sn**	**00 29 51.1**	**+1.5**
GLBA	**Clilabad**	**3.82**	**81**	P	**Pn**	**00 29 03.5**	**-0.9**
GLBA				S	**Sn**	**00 29 51.1**	**+1.5**
LKRN	**Lenkeran, Azer**	**4.10**	**88**	⇓P	**Pn**	**00 29 06.5**	**-1.8**
LKRN	**Lenkeran, Azer**	**4.10**	**88**	P	**Pn**	**00 29 06.5**	**-1.8**
ASTR	**Astara**	**4.12**	**91**	⇑P	**Pn**	**00 29 06.5**	**-2.0**
ASTR	**Astara**	**4.12**	**91**	P	**Pn**	**00 29 06.5**	**-2.0**

ISK ***24*** *00:29:57.8,38.°68N×43.°20E,h5km,ML3.3*
AZER ***24*** *00:29:57.1±0.5,37.°97N×43.°18E,h10km, Error ellipse: s-maj=5.6km s-min=4.3km az=179.0*
DDA ***24*** *00:29:59.0,38.°69N×43.°15E,h3km,Ml3.7*
CSEM ***24*** *00:30:00.1±0.2,38.°65N×43.°13E,h2km,ML3.7, Error ellipse: s-maj=6.1km s-min=4.3km az=160.0*
ISC 24 00:29:58.8±1.2,**38.°66N**±0.°02×**43.°20E**±0.°02,**h2**km±10km, **n114**,σ1**°71**/139,**18C-19D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.36**	**198**	*i* P	**Pg**	**00 30 05.3**	**-0.5**
GEVA	**Gevas**	**0.36**	**198**	P	**Pg**	**00 30 05.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**350**	*e*PG	**Pg**	**00 30 16.1**	**-0.6**
AGRB				*e*SG	**Sb**	**00 30 30.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**350**	*e*Pg	**Pg**	**00 30 16.1**	**-0.6**
AGRB				*e*Sg	**Sb**	**00 30 30.0**	**-0.7**
DYDN	**Diyadin**	**0.96**	**23**	*i* P	**Pg**	**00 30 17.6**	**+0.2**
DYDN	**Diyadin**	**0.96**	**23**	P	**Pg**	**00 30 17.6**	**+0.2**
EKAR	**Karacoban**	**1.07**	**304**	*i* P	**Pg**	**00 30 19.3**	**0.0**
EKAR	**Karacoban**	**1.07**	**304**	P	**Pg**	**00 30 19.3**	**0.0**
SIRN	**S¨–rnak**	**1.31**	**208**	*i* P	**Pg**	**00 30 24.5**	**+0.5**
SIRN	**S¨–rnak**	**1.31**	**208**	P	**Pg**	**00 30 24.5**	**+0.5**
EATA	**Eleskirt**	**1.32**	**336**	*i* P	**Pg**	**00 30 23.4**	**-0.8**
EATA	**Eleskirt**	**1.32**	**336**	P	**Pg**	**00 30 23.4**	**-0.8**
CUKT	**Cukurca**	**1.44**	**167**	*e*PN	**Pn**	**00 30 26.1**	**0.0**
CUKT	**Cukurca**	**1.44**	**167**	*i* P	**Pg**	**00 30 27.4**	**+0.9**
CUKT	**Cukurca**	**1.44**	**167**	*e*Pn	**Pn**	**00 30 26.1**	**0.0**
CUKT	**Cukurca**	**1.44**	**167**	P	**Pg**	**00 30 27.4**	**+0.9**
VRTB	**Varto-Mus**	**1.45**	**291**	*e*PN	**Pn**	**00 30 25.5**	**-0.6**
VRTB				*e*SN	**Sn**	**00 30 46.8**	**+0.9**
VRTB	**Varto-Mus**	**1.45**	**291**	*i* P	**Pn**	**00 30 25.6**	**-0.6**
VRTB	**Varto-Mus**	**1.45**	**291**	P	**Pn**	**00 30 25.6**	**-0.6**
VRTB				*e*Sn	**Sn**	**00 30 46.8**	**+0.9**
BNGL	**BINGOL**	**1.63**	**281**	*i* P	**Pb**	**00 30 29.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	*e*PN	**Pn**	**00 30 29.1**	**+0.2**
SVAN				*e*SN	**Sg**	**00 30 52.0**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	*i* P	**Pb**	**00 30 29.3**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	P	**Pb**	**00 30 29.3**	**-0.7**
SVAN				*e*Sn	**Sg**	**00 30 52.0**	**+0.1**
BTMN	**Batman**	**1.70**	**244**	*i* P	**Pb**	**00 30 30.9**	**0.0**
BTMN	**Batman**	**1.70**	**244**	P	**Pb**	**00 30 30.9**	**0.0**
HOMI	**Horasan**	**1.71**	**325**	*i* P	**Pb**	**00 30 30.5**	**-0.7**
DIGO	**Kars**	**1.76**	**4**	*i* P	**Pb**	**00 30 31.6**	**-0.4**
DIGO	**Kars**	**1.76**	**4**	P	**Pb**	**00 30 31.6**	**-0.4**
NAX	**Nakhchivan**	**1.86**	**73**	⇓P	**Pn**	**00 30 32.5**	**+0.7**
NAX				⇑S	**Sg**	**00 31 02.2**	**+3.5**
NAX	**Nakhchivan**	**1.86**	**73**	P	**Pn**	**00 30 32.5**	**+0.7**
NAX				S	**Sg**	**00 31 02.2**	**+3.5**
ERZM	**Erzurum**	**1.89**	**312**	*i* P	**Pg**	**00 30 34.4**	**-0.7**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pg**	**00 30 34.4**	**-0.7**
ECAT	**Cat-ERZURUM**	**1.97**	**299**	*i* P	**Pb**	**00 30 34.8**	**-0.8**
ECAT	**Cat-ERZURUM**	**1.97**	**299**	P	**Pb**	**00 30 34.8**	**-0.8**
BNGB	**Bing¨¶l**	**2.00**	**280**	*e*PN	**Pn**	**00 30 34.4**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.01**	**341**	*e*PN	**Pn**	**00 30 34.0**	**0.0**
SENK	**Senkaya-Erzuru**	**2.01**	**341**	*e*Pn	**Pn**	**00 30 34.0**	**0.0**
EAK	**Akyaka**	**2.05**	**9**	*i* P	**Pg**	**00 30 37.8**	**-0.4**
EAK	**Akyaka**	**2.05**	**9**	P	**Pg**	**00 30 37.8**	**-0.4**
BINT	**Bingol**	**2.13**	**277**	*e*Pn	**Pn**	**00 30 34.4**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	*e*PN	**Pn**	**00 30 36.5**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	*e*Pn	**Pn**	**00 30 36.5**	**-0.2**
MARD	**Mardin**	**2.33**	**236**	*i* P	**Pb**	**00 30 41.3**	**-0.4**
MAZI	**Mazidag**	**2.48**	**242**	*e*PN	**Pn**	**00 30 40.6**	**+0.3**
MAZI	**Mazidag**	**2.48**	**242**	*e*Pn	**Pn**	**00 30 40.6**	**+0.3**
KOPT	**Kop Dagi**	**2.50**	**304**	*i* P	**Pb**	**00 30 44.3**	**-0.3**
DIYA	**Diyarbakir**	**2.53**	**254**	*i* P	**Pb**	**00 30 43.8**	**-1.2**
AKH	**Akhalkalaki**	**2.76**	**5**	*e*PN	**Pn**	**00 30 45.7**	**+1.5**
AKH	**Akhalkalaki**	**2.76**	**5**	*e*Pn	**Pn**	**00 30 45.7**	**+1.5**
GDB	**GEDABAY** SNR=4.6	**2.85**	**43**	⇓P	**Pb**	**00 30 50.4**	**-0.1**
GDB				⇓S	**Sg**	**00 31 30.7**	**+0.3**
GDB	**GEDABAY** SNR=4.6	**2.85**	**43**	P	**Pb**	**00 30 50.4**	**-0.1**
ERZN	**Erzincan**	**2.86**	**290**	*e*PN	**Pn**	**00 30 46.8**	**+1.2**
EPOS	**Posof**	**2.87**	**353**	*i* P	**Pb**	**00 30 49.2**	**-1.5**
EPOS	**Posof**	**2.87**	**353**	P	**Pb**	**00 30 49.2**	**-1.5**
QZX	**Qazax, Azerbai** SNR=4.3	**2.92**	**34**	⇑P	**Pb**	**00 30 52.7**	**+1.0**
QZX				⇓S	**Sg**	**00 31 35.0**	**+2.2**
QZX	**Qazax, Azerbai** SNR=4.3	**2.92**	**34**	P	**Pb**	**00 30 52.7**	**+1.0**
PTK	**Pertek**	**2.98**	**276**	*e*PN	**Pn**	**00 30 48.5**	**+1.2**
PTK	**Pertek**	**2.98**	**276**	*e*Pn	**Pn**	**00 30 48.5**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*PN	**Pn**	**00 30 50.0**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*Pn	**Pn**	**00 30 50.0**	**+1.6**
GANJ	**Ganja**	**3.12**	**50**	⇑P	**Pb**	**00 30 54.1**	**-1.0**
GANJ				⇓S	**Sg**	**00 31 36.9**	**-2.3**
GANJ	**Ganja**	**3.12**	**50**	P	**Pb**	**00 30 54.1**	**-1.0**
EZC	**Erzincan**	**3.18**	**291**	*e*Pn	**Pn**	**00 30 46.8**	**-3.2**
TBLG	**Delisi**	**3.29**	**21**	*e*PN	**Pn**	**00 30 52.6**	**+1.2**
TBLG	**Delisi**	**3.29**	**21**	*e*Pn	**Pn**	**00 30 52.6**	**+1.2**
ELZG	**Elazig**	**3.31**	**269**	*i* P	**Pn**	**00 30 53.3**	**+1.6**
ELZG	**Elazig**	**3.31**	**269**	P	**Pn**	**00 30 53.3**	**+1.6**
BRDA	**Brd**	**3.47**	**61**	⇑P	**Pn**	**00 30 56.5**	**+2.7**
BRDA				⇑S	**Sb**	**00 31 43.0**	**-0.6**
BRDA	**Brd**	**3.47**	**61**	P	**Pn**	**00 30 56.5**	**+2.7**
BRDA				S	**Sb**	**00 31 43.0**	**-0.6**
KTUT	**Trabzon**	**3.52**	**312**	*e*PN	**Pn**	**00 30 55.0**	**+0.5**
KTUT	**Trabzon**	**3.52**	**312**	*e*Pn	**Pn**	**00 30 55.0**	**+0.5**
URFA	**Urfa**	**3.66**	**252**	*e*PN	**Pn**	**00 30 58.8**	**+2.2**
URFA	**Urfa**	**3.66**	**252**	*e*Pn	**Pn**	**00 30 58.8**	**+2.2**
MNGR	**Mingechevir, A**	**3.67**	**54**	⇓P	**Pb**	**00 31 00.4**	**-3.9**
MNGR				⇓S	**Sb**	**00 31 49.4**	**+0.2**
MNGR	**Mingechevir, A**	**3.67**	**54**	P	**Pb**	**00 31 00.4**	**-3.9**
ZRD	**Zardab**	**3.83**	**64**	⇓P	**Pn**	**00 31 01.5**	**+2.7**
ZRD				⇓S	**Sb**	**00 31 50.9**	**-3.0**
ZRD	**Zardab**	**3.83**	**64**	P	**Pn**	**00 31 01.5**	**+2.7**
ZRD				S	**Sb**	**00 31 50.9**	**-3.0**
ZKTA	**Zakatala**	**3.97**	**40**	⇑P	**Pb**	**00 31 05.7**	**-3.8**
ZKTA				⇑S	**Sb**	**00 31 59.1**	**+1.2**
SEKA	**Sheki**	**3.99**	**49**	⇑P	**Pb**	**00 31 05.8**	**-4.1**
SEKA	**Sheki**	**3.99**	**49**	P	**Pb**	**00 31 05.8**	**-4.1**
LRK	**Lerik**	**4.03**	**89**	⇑P	**Pn**	**00 30 59.8**	**-1.8**
LRK				⇑S	**Sn**	**00 31 49.1**	**-0.3**
LRK	**Lerik**	**4.03**	**89**	P	**Pn**	**00 30 59.8**	**-1.8**
LRK				S	**Sn**	**00 31 49.1**	**-0.3**
GLBA	**Clilabad**	**4.09**	**80**	⇑P	**Pn**	**00 31 02.2**	**-0.2**
GLBA				⇑S	**Sn**	**00 31 53.0**	**+2.2**
GLBA	**Clilabad**	**4.09**	**80**	P	**Pn**	**00 31 02.2**	**-0.2**
GLBA				S	**Sn**	**00 31 53.0**	**+2.2**
KDMR	**Kurdemir**	**4.22**	**64**	⇓P	**Pn**	**00 31 06.4**	**+2.3**
KDMR	**Kurdemir**	**4.22**	**64**	P	**Pn**	**00 31 06.4**	**+2.3**
SAAT	**Saatly**	**4.23**	**72**	⇓P	**Pn**	**00 31 05.1**	**+0.9**
SAAT	**Saatly**	**4.23**	**72**	P	**Pn**	**00 31 05.1**	**+0.9**
QBL	**Gabala**	**4.24**	**56**	⇓P	**Pn**	**00 31 07.5**	**+3.0**
QBL	**Gabala**	**4.24**	**56**	P	**Pn**	**00 31 07.5**	**+3.0**
LKRN	**Lenkeran, Azer**	**4.37**	**88**	⇑P	**Pn**	**00 31 04.6**	**-1.5**
LKRN				⇓S	**Sn**	**00 31 57.3**	**-0.3**
LKRN	**Lenkeran, Azer**	**4.37**	**88**	P	**Pn**	**00 31 04.6**	**-1.5**
LKRN				S	**Sn**	**00 31 57.3**	**-0.3**
ASTR	**Astara**	**4.38**	**90**	⇓P	**Pn**	**00 31 04.2**	**-2.1**
ASTR				⇓S	**Sn**	**00 31 57.4**	**-0.5**
ASTR	**Astara**	**4.38**	**90**	P	**Pn**	**00 31 04.2**	**-2.1**
ASTR				S	**Sn**	**00 31 57.4**	**-0.5**
IML	**Ismayilli**	**4.39**	**59**	⇓P	**Pn**	**00 31 09.2**	**+2.6**
IML	**Ismayilli**	**4.39**	**59**	P	**Pn**	**00 31 09.2**	**+2.6**
DARE	**Darende-Malaty**	**4.48**	**271**	*e*PN	**Pn**	**00 31 09.5**	**+1.7**
DARE	**Darende-Malaty**	**4.48**	**271**	*e*Pn	**Pn**	**00 31 09.5**	**+1.7**
XNQ	**Khinaliq**	**4.55**	**55**	⇓P	**Pn**	**00 31 11.7**	**+2.8**
**X

GLBA	**Clilabad**	**3.81**	**80**	⇓P	**Pn**	**00 38 48.6**	**-2.9**
GLBA				⇓S	**Sn**	**00 39 35.6**	**-0.5**
GLBA	**Clilabad**	**3.81**	**80**	P	**Pn**	**00 38 48.6**	**-2.9**
GLBA				S	**Sn**	**00 39 35.6**	**-0.5**
ONI	**Oni**	**3.88**	**359**	P	**Pb**	**00 39 03.8**	**+2.3**
KDMR	**Kurdemir**	**3.94**	**64**	⇑P	**Pn**	**00 38 53.4**	**0.0**
KDMR	**Kurdemir**	**3.94**	**64**	P	**Pn**	**00 38 53.4**	**0.0**
QBL	**Gabala**	**3.98**	**54**	⇑P	**Pn**	**00 38 55.6**	**+1.7**
QBL				⇑S	**Sb**	**00 39 48.6**	**-2.7**
QBL	**Gabala**	**3.98**	**54**	P	**Pn**	**00 38 55.6**	**+1.7**
LKRN	**Lenkeran, Azer**	**4.08**	**88**	⇓P	Pn	00 38 50.3	-5.0
LKRN				⇑S	**Sn**	**00 39 39.3**	**-3.7**
ASTR	**Astara**	**4.10**	**90**	⇑P	Pn	00 38 50.6	-4.9
ASTR				⇓S	**Sn**	**00 39 39.0**	**-4.4**
IML	**Ismayilli**	**4.13**	**58**	⇑P	**Pn**	**00 38 56.9**	**+1.0**
IML	**Ismayilli**	**4.13**	**58**	P	**Pn**	**00 38 56.9**	**+1.0**
XNQ	**Khinaliq**	**4.30**	**54**	⇓P	**Pn**	**00 39 00.1**	**+1.7**
XNQ	**Khinaliq**	**4.30**	**54**	P	**Pn**	**00 39 00.1**	**+1.7**
PQL	**Pirkuli**	**4.40**	**60**	⇓P	**Pn**	**00 39 00.4**	**+0.6**
PQL	**Pirkuli**	**4.40**	**60**	P	**Pn**	**00 39 00.4**	**+0.6**
GBS	**Qobustan**	**4.54**	**65**	⇑P	**Pn**	**00 39 01.1**	**-0.5**
GBS	**Qobustan**	**4.54**	**65**	P	**Pn**	**00 39 01.1**	**-0.5**
QSAR	**Qusar**	**4.57**	**51**	⇑P	**Pn**	**00 39 03.7**	**+1.7**
QSAR	**Qusar**	**4.57**	**51**	P	**Pn**	**00 39 03.7**	**+1.7**
QUBA	**Quba, Azerbaij**	**4.62**	**54**	⇑P	**Pn**	**00 39 04.4**	**+1.7**
QUBA	**Quba, Azerbaij**	**4.62**	**54**	P	**Pn**	**00 39 04.4**	**+1.7**
ATGJ	**Altiaghaj**	**4.67**	**61**	⇓P	**Pn**	**00 39 04.2**	**+0.8**
ATGJ	**Altiaghaj**	**4.67**	**61**	P	**Pn**	**00 39 04.2**	**+0.8**

*AZER **24** 00:42:13.8±1.1,38°.65N×43°.21E, h4km, Error ellipse: s-maj=12.8km s-min=7.6km az=134.0*
*DDA **24** 00:42:16.3,38°.85N×43°.57E, h7km, Ml3.3*
*CSEM **24** 00:42:18.0±0.2,38°.90N×43°.53E, h2km, ML3.3, Error ellipse: s-maj=4.8km s-min=3.2km az=162.0*
*ISK **24** 00:42:18.1,38°.91N×43°.43E, h3km, ML3.1*
ISC 24 00:42:17.5±1.1,38°.86N±0°.02×43°.55E±0°.02, h15km±12km, n82, σ1§80/102, 10C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.67**	**215**	*i* P	**Pg**	**00 42 27.4**	**-3.2**
DYDN	**Diyadin**	**0.69**	**9**	*i* P	**Pg**	**00 42 29.6**	**-1.5**
DYDN				*i* S	**Sb**	**00 42 40.2**	**-0.7**
DYDN	**Diyadin**	**0.69**	**9**	P	**Pg**	**00 42 29.6**	**-1.5**
DYDN				S	**Sb**	**00 42 40.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.84**	**329**	*e*PG	**Pb**	**00 42 33.2**	**-0.7**
AGRB				*e*SG	**Sb**	**00 42 44.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.84**	**329**	*e*Pg	**Pb**	**00 42 33.2**	**-0.7**
AGRB				*e*Sg	**Sb**	**00 42 44.6**	**-0.4**
EKAR	**Karacoban**	**1.22**	**289**	*i* P	**Pn**	**00 42 40.3**	**+0.1**
EKAR	**Karacoban**	**1.22**	**289**	P	**Pn**	**00 42 40.3**	**+0.1**
EATA	**Eleskirt**	**1.30**	**321**	*i* P	**Pn**	**00 42 41.0**	**-0.3**
EATA	**Eleskirt**	**1.30**	**321**	P	**Pn**	**00 42 41.0**	**-0.3**
HAKT	**HAKKARI**	**1.30**	**175**	*i* P	**Pn**	**00 42 40.6**	**-0.7**
NAX	**Nakhchivan** SNR=5.0	**1.55**	**78**	⇑P	**Pg**	**00 42 46.4**	**-0.9**
NAX				⇓S	**Sg**	**00 43 11.5**	**+4.1**
NAX	**Nakhchivan** SNR=5.0	**1.55**	**78**	P	**Pg**	**00 42 46.4**	**-0.9**
NAX				S	**Sg**	**00 43 11.5**	**+4.1**
DIGO	**Kars**	**1.56**	**355**	*i* P	**Pg**	**00 42 46.6**	**-0.9**
DIGO	**Kars**	**1.56**	**355**	P	**Pg**	**00 42 46.6**	**-0.9**
CUKT	**Cukurca**	**1.61**	**178**	*e*PN	**Pg**	**00 42 49.0**	**+0.6**
CUKT				*e*SN	**Sg**	**00 43 11.5**	**+2.2**
CUKT	**Cukurca**	**1.61**	**178**	*i* P	**Pg**	**00 42 48.9**	**+0.6**
CUKT	**Cukurca**	**1.61**	**178**	P	**Pg**	**00 42 48.9**	**+0.5**
CUKT				*e*Sn	**Sg**	**00 43 11.5**	**+2.2**
SIRN	**S¨–rnak**	**1.63**	**214**	*i* P	**Pg**	**00 42 47.6**	**-1.2**
SIRN	**S¨–rnak**	**1.63**	**214**	P	**Pg**	**00 42 47.6**	**-1.2**
VRTB	**Varto-Mus**	**1.66**	**281**	*e*PN	**Pb**	**00 42 47.4**	**-0.4**
VRTB	**Varto-Mus**	**1.66**	**281**	*i* P	**Pb**	**00 42 47.3**	**-0.5**
VRTB	**Varto-Mus**	**1.66**	**281**	*e*Pn	**Pb**	**00 42 47.4**	**-0.4**
HOMI	**Horasan**	**1.74**	**313**	*i* P	**Pb**	**00 42 49.0**	**-0.2**
BNGL	**BINGOL**	**1.88**	**274**	*i* P	**Pb**	**00 42 51.5**	**0.0**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*PN	**Pb**	**00 42 52.1**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*Pn	**Pb**	**00 42 52.1**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	*e*PN	**Pb**	**00 42 52.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	*i* P	**Pb**	**00 42 53.1**	**0.0**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	*e*Pn	**Pb**	**00 42 52.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	P	**Pb**	**00 42 53.1**	**0.0**
ERZM	**Erzurum**	**1.99**	**302**	*i* P	**Pb**	**00 42 53.7**	**+0.2**
ERZM	**Erzurum**	**1.99**	**302**	P	**Pb**	**00 42 53.7**	**+0.2**
BTMN	**Batman**	**2.04**	**242**	*i* P	**Pb**	**00 42 53.7**	**-0.5**
BTMN	**Batman**	**2.04**	**242**	P	**Pb**	**00 42 53.7**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.14**	**291**	*i* P	**Pb**	**00 42 55.4**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.14**	**291**	P	**Pb**	**00 42 55.4**	**-0.6**
BNGB	**Bing¨¶l**	**2.24**	**274**	*e*PN	**Pb**	**00 42 56.3**	**-1.5**
BINT	**Bingol**	**2.39**	**271**	*e*Pn	**Pn**	**00 42 56.3**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*PN	**Pb**	**00 42 58.7**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*Pn	**Pb**	**00 42 58.7**	**-1.9**
GDB	**GEDABAY** SNR=11	**2.52**	**42**	⇓P	**Pb**	**00 43 00.2**	**-2.3**
GDB				⇓S	**Sg**	**00 43 37.7**	**-0.7**
GDB	**GEDABAY** SNR=11	**2.52**	**42**	P	**Pb**	**00 43 00.2**	**-2.3**
AKH	**Akhalkalaki**	**2.55**	**359**	*e*PN	**Pb**	**00 43 01.0**	**-2.0**
AKH	**Akhalkalaki**	**2.55**	**359**	*e*Pn	**Pb**	**00 43 01.0**	**-2.0**
QZX	**Qazax, Azerbai** SNR=3.9	**2.61**	**32**	⇑P	**Pb**	**00 43 01.4**	**-2.5**
QZX				⇑S	**Sb**	**00 43 36.9**	**+1.2**
QZX	**Qazax, Azerbai** SNR=3.9	**2.61**	**32**	P	**Pb**	**00 43 01.4**	**-2.5**
QZX				S	**Sb**	**00 43 36.9**	**+1.2**
GANJ	**Ganja**	**2.79**	**49**	⇑P	**Pn**	**00 43 03.7**	**+2.2**
GANJ				⇓S	**Sb**	**00 43 43.0**	**+2.1**
GANJ	**Ganja**	**2.79**	**49**	P	**Pn**	**00 43 03.7**	**+2.2**
MAZI	**Mazidag**	**2.82**	**241**	*e*PN	**Pb**	**00 43 04.7**	**-2.8**
MAZI	**Mazidag**	**2.82**	**241**	*e*Pn	**Pb**	**00 43 04.7**	**-2.8**
TBLG	**Delisi**	**3.01**	**17**	*e*PN	**Pb**	**00 43 08.3**	**-2.4**
TBLG	**Delisi**	**3.01**	**17**	*e*Pn	**Pb**	**00 43 08.3**	**-2.4**
BRDA	**Brd**	**3.14**	**62**	⇑P	**Pn**	**00 43 08.4**	**+2.1**
BRDA				⇓S	**Sb**	**00 43 50.9**	**0.0**
BRDA	**Brd**	**3.14**	**62**	P	**Pn**	**00 43 08.4**	**+2.1**
BRDA				S	**Sb**	**00 43 50.9**	**0.0**
PTK	**Pertek**	**3.25**	**272**	*e*PN	**Pn**	**00 43 10.1**	**+2.1**
PTK	**Pertek**	**3.25**	**272**	*e*Pn	**Pn**	**00 43 10.1**	**+2.1**
MNGR	**Mingechevir, A**	**3.33**	**54**	⇓S	**Sb**	**00 43 56.1**	**-0.3**
SVRC	**Sivrice-ELAZID**	**3.36**	**263**	*e*PN	**Pn**	**00 43 12.4**	**+2.9**
SVRC	**Sivrice-ELAZID**	**3.36**	**263**	*e*Pn	**Pn**	**00 43 12.4**	**+2.9**
ZRD	**Zardab**	**3.50**	**65**	⇓P	**Pn**	**00 43 12.8**	**+1.6**
ZRD				⇓S	**Sb**	**00 43 59.6**	**-1.6**
ZRD	**Zardab**	**3.50**	**65**	P	**Pn**	**00 43 12.8**	**+1.6**
ZRD				S	**Sb**	**00 43 59.6**	**-1.6**
ZKTA	**Zakatala**	**3.64**	**39**	⇓P	**Pn**	**00 43 15.3**	**+2.1**
ZKTA				⇑S	**Sb**	**00 44 03.3**	**-2.1**
SEKA	**Sheki**	**3.65**	**49**	⇓P	**Pn**	**00 43 16.4**	**+2.9**
SEKA				⇓S	**Sb**	**00 44 05.2**	**-0.7**
SEKA	**Sheki**	**3.65**	**49**	P	**Pn**	**00 43 16.4**	**+2.9**
LRK	**Lerik**	**3.75**	**92**	⇓P	**Pn**	**00 43 15.9**	**+1.0**
LRK				⇓S	**Sb**	**00 44 04.9**	**-3.9**
LRK	**Lerik**	**3.75**	**92**	P	**Pn**	**00 43 15.9**	**+1.0**
LRK				S	**Sb**	**00 44 04.9**	**-3.9**
GLBA	**Clilabad**	**3.79**	**83**	⇑P	**Pn**	**00 43 16.8**	**+1.5**
GLBA	**Clilabad**	**3.79**	**83**	P	**Pn**	**00 43 16.8**	**+1.5**
KDMR	**Kurdemir**	**3.89**	**66**	⇑P	**Pn**	**00 43 19.0**	**+2.4**
KDMR	**Kurdemir**	**3.89**	**66**	P	**Pn**	**00 43 19.0**	**+2.4**
QBL	**Gabala**	**3.90**	**56**	⇓P	**Pn**	**00 43 19.4**	**+2.5**
QBL	**Gabala**	**3.90**	**56**	P	**Pn**	**00 43 19.4**	**+2.5**
SAAT	**Saatly**	**3.91**	**74**	⇓P	**Pn**	**00 43 18.3**	**+1.4**
SAAT	**Saatly**	**3.91**	**74**	P	**Pn**	**00 43 18.3**	**+1.4**
XNQ	**Khinaliq**	**4.21**	**55**	⇑P	**Pn**	**00 43 23.7**	**+2.4**
XNQ	**Khinaliq**	**4.21**	**55**	P	**Pn**	**00 43 23.7**	**+2.4**
QSAR	**Qusar**	**4.48**	**52**	⇓P	**Pn**	**00 43 26.6**	**+1.8**
QSAR	**Qusar**	**4.48**	**52**	P	**Pn**	**00 43 26.6**	**+1.8**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	⇓P	**Pn**	**00 43 27.2**	**+1.6**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	P	**Pn**	**00 43 27.2**	**+1.6**
ATGJ	**Altiaghaj**	**4.60**	**63**	⇑P	**Pn**	**00 43 28.0**	**+1.4**
ATGJ	**Altiaghaj**	**4.60**	**63**	P	**Pn**	**00 43 28.0**	**+1.4**

*NSSC **24** 00:50:25.2±2.3,39°.75N×44°.86E, h0km±453km, MD3.0, ML3.7*
*IDC **24** 00:50:45.5±0.7,38°.57N×43°.39E, h0km, mb4.0/24, mb1 4.1/30, mb1mx4.0/48, mbtmp4.0/30, ML3.4/6, MS3.3/24, Ms1 3.4/24, ms1mx3.2/58, Error ellipse: s-maj=13.2km s-min=9.3km az=165.0*
*ISK **24** 00:50:46.8,38°.81N×43°.32E, h5km, ML4.0*
*MOS **24** 00:50:46.9±1.7,38°.43N×43°.53E, h18km, mb4.4/23, Error*

ellipse: s-maj=7.3km s-min=4.2km az=94.5
*NEIC **24** 00:50:47.0±0.0,38°.77N×43°.24E, h4km, mb4.2/10, ML4.4(DDA), After DDA.*
*DDA **24** 00:50:47.0,38°.74N×43°.31E, h13km, Ml4.1*
*CSEM **24** 00:50:48.2±0.1,38°.68N×43°.41E, h10km, mb4.1/9, Error ellipse: s-maj=4.1km s-min=2.8km az=164.0*
*AZER **24** 00:50:48.0±0.4,38°.44N×43°.49E, h15km±10km, Error ellipse: s-maj=10.9km s-min=2.5km az=63.0*
ISC 24 00:50:48.0±1.0,38°.74N±0°.01×43°.39E±0°.02, h9km±6km, n320, σ1§65/382, mb4.2/44, MS3.3/23, 39C-46D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.49**	**211**	⇓*i*P	**Pg**	**00 50 56.5**	**-1.2**
GEVA				*i* S	**Sg**	**00 51 04.2**	**+0.1**
GEVA	**Gevas**	**0.49**	**211**	*i* P	**Pg**	**00 50 56.4**	**-1.2**
GEVA				*i* S	**Sg**	**00 51 04.2**	**+0.1**
GEVA	**Gevas**	**0.49**	**211**	*i* P	**Pg**	**00 50 56.4**	**-1.2**
GEVA				*i* S	**Sg**	**00 51 04.2**	**+0.1**
BASK	**Baskale_VAN**	**0.84**	**144**	*i* P	**Pg**	**00 51 03.7**	**-0.4**
BASK				*i* S	**Sb**	**00 51 17.7**	**+1.4**
BASK	**Baskale_VAN**	**0.84**	**144**	P	**Pg**	**00 51 03.7**	**-0.4**
DYDN	**Diyadin**	**0.84**	**16**	⇓*i*P	**Pg**	**00 51 02.9**	**-1.3**
DYDN				*i* S	**Sg**	**00 51 15.8**	**+0.6**
DYDN	**Diyadin**	**0.84**	**16**	*i* P	**Pg**	**00 51 03.1**	**-1.1**
DYDN				S	**Sg**	**00 51 15.8**	**+0.6**
DYDN	**Diyadin**	**0.84**	**16**	*i* P	**Pg**	**00 51 03.1**	**-1.1**
AGRB	**Hanur-Agry**	**0.89**	**340**	*e*PG	**Pg**	**00 51 03.4**	**-1.8**
AGRB				*e*SG	**Sg**	**00 51 15.5**	**-1.3**
AGRB	**Hanur-Agry**	**0.89**	**340**	*e*Pg	**Pg**	**00 51 03.4**	**-1.8**
AGRB				*e*Sg	**Sg**	**00 51 15.5**	**-1.3**
EKAR	**Karacoban**	**1.15**	**297**	⇓*i*P	**Pg**	**00 51 08.5**	**-1.7**
EKAR				*i* S	**Sn**	**00 51 26.5**	**-0.1**
EKAR	**Karacoban**	**1.15**	**297**	P	**Pg**	**00 51 08.5**	**-1.7**
EKAR	**Karacoban**			S	**Sn**	**00 51 26.5**	**-0.1**
EKAR	**Karacoban**	**1.15**	**297**	*i* P	**Pg**	**00 51 08.5**	**-1.7**
HAKT	**HAKKARI**	**1.20**	**168**	⇓*i*P	**Pb**	**00 51 09.4**	**-1.7**
HAKT				*i* S	**Sn**	**00 51 30.3**	**+2.4**
HAKT	**HAKKARI**	**1.20**	**168**	P	**Pb**	**00 51 09.4**	**-1.7**
EATA	**Eleskirt**	**1.32**	**329**	⇓*i*P	**Pn**	**00 51 11.3**	**-1.7**
EATA				*i* S	**Sb**	**00 51 29.9**	**-0.5**
EATA	**Eleskirt**	**1.32**	**329**	P	**Pn**	**00 51 11.3**	**-1.7**
EATA				S	**Sb**	**00 51 29.9**	**-0.5**
EATA	**Eleskirt**	**1.32**	**329**	*i* P	**Pn**	**00 51 11.3**	**-1.7**
SIRN	**S¨–rnak**	**1.46**	**212**	⇑*i*P	**Pn**	**00 51 14.0**	**-0.6**
SIRN				*i* S	**Sg**	**00 51 36.2**	**+1.4**
SIRN	**S¨–rnak**	**1.46**	**212**	P	**Pn**	**00 51 14.0**	**-0.6**
CUKT	**Cukurca**	**1.50**	**173**	*e*PN	**Pg**	**00 51 16.9**	**+0.2**
CUKT				*e*SN	**Sg**	**00 51 38.9**	**+2.8**
CUKT	**Cukurca**	**1.50**	**173**	⇓*i*P	**Pb**	**00 51 16.3**	**+0.2**
CUKT				*i* S	**Sg**	**00 51 39.4**	**+3.3**
CUKT	**Cukurca**	**1.50**	**173**	P	**Pb**	**00 51 16.3**	**+0.2**
CUKT	**Cukurca**	**1.50**	**173**	*e*Pn	**Pg**	**00 51 16.9**	**+0.2**
CUKT				*e*Sn	**Sg**	**00 51 38.9**	**+2.8**
VRTB	**Varto-Mus**	**1.56**	**286**	*e*PN	**Pn**	**00 51 15.8**	**-0.4**
VRTB				*e*SN	**Sb**	**00 51 37.3**	**+0.1**
VRTB	**Varto-Mus**	**1.56**	**286**	*i* P	**Pn**	**00 51 15.1**	**-1.1**
VRTB				*i* S	**Sb**	**00 51 37.6**	**+0.4**
VRTB	**Varto-Mus**	**1.56**	**286**	P	**Pn**	**00 51 15.1**	**-1.1**
VRTB	**Varto-Mus**	**1.56**	**286**	*e*Pn	**Pn**	**00 51 15.8**	**-0.4**
VRTB				*e*Sn	**Sb**	**00 51 37.3**	**+0.1**
DIGO	**Kars**	**1.68**	**360**	⇓*i*P	**Pn**	**00 51 18.4**	**+0.6**
DIGO				*i* S	**Sg**	**00 51 43.8**	**+1.9**
DIGO	**Kars**	**1.68**	**360**	P	**Pn**	**00 51 18.4**	**+0.6**
DIGO				S	**Sg**	**00 51 43.8**	**+1.9**
NAX	**Nakhchivan** SNR=39	**1.70**	**74**	⇓P	**Pn**	**00 51 17.5**	**-0.5**
NAX				⇓S	**Sn**	**00 51 40.2**	**+0.2**
NAX	**Nakhchivan** SNR=39	**1.70**	**74**	P	**Pn**	**00 51 17.5**	**-0.5**
NAX				S	**Sn**	**00 51 40.2**	**+0.2**
HOMI	**Horasan**	**1.74**	**319**	⇓*i*P	**Pn**	**00 51 18.4**	**-0.2**
HOMI				*i* S	**Sg**	**00 51 43.8**	**-0.2**
BNGL	**BINGOL**	**1.76**	**278**	⇓*i*P	**Pn**	**00 51 18.9**	**0.0**
BNGL				*i* S	**Sb**	**00 51 42.7**	**-0.2**
GNI	**Garni** 72nm,0.3s,baz=237,slow=2.9,SNR=121	**1.76**	**36**	Pn	**Pb**	**00 51 20.1**	**-0.5**
GNI				Lg	Lg	00 51 45.3	
	28nm,0.3s,baz=142,slow=15,SNR=11						
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*e*PN	**Pn**	**00 51 20.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	⇑*i*P	**Pn**	**00 51 19.0**	**-0.5**
SVAN				*i* S	**Sb**	**00 51 43.5**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	P	**Pn**	**00 51 19.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*e*Pn	**Pn**	**00 51 20.0**	**+0.5**
SVAN				S	**Sb**	**00 51 43.5**	**-0.8**
BTMN	**Batman**	**1.87**	**244**	⇑*i*P	**Pn**	**00 51 19.7**	**-0.5**
BTMN				*i* S	**Sb**	**00 51 45.4**	**-0.4**
BTMN	**Batman**	**1.87**	**244**	P	**Pn**	**00 51 19.7**	**-0.5**
BTMN				S	**Sb**	**00 51 45.4**	**-0.4**
ERZM	**Erzurum**	**1.95**	**307**	*i* P	**Pn**	**00 51 21.8**	**+0.2**
ERZM				*i* S	**Sn**	**00 51 46.6**	**+0.1**
ERZM	**Erzurum**	**1.95**	**307**	P	**Pn**	**00 51 21.8**	**+0.2**
ERZM				S	**Sn**	**00 51 46.6**	**+0.1**
EAK	**Akyaka**	**1.96**	**5**	*i* P	**Pb**	**00 51 24.0**	**+0.1**
EAK				*i* S	**Sg**	**00 51 55.3**	**+4.4**
EAK	**Akyaka**	**1.96**	**5**	P	**Pb**	**00 51 24.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.99**	**337**	*e*PN	**Pn**	**00 51 21.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.99**	**337**	*e*Pn	**Pn**	**00 51 21.9**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.07**	**296**	⇓*i*P	**Pn**	**00 51 22.2**	**-0.9**
ECAT				*i* S	**Sb**	**00 51 52.0**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.07**	**296**	P	**Pn**	**00 51 22.2**	**-0.9**
ECAT				S	**Sb**	**00 51 52.0**	**+0.3**
BNGB	**Bing¨¶l**	**2.13**	**278**	*e*PN	**Pn**	**00 51 23.6**	**-0.3**
BINT	**Bingol**	**2.27**	**274**	*e*Pn	**Pn**	**00 51 23.6**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.32**	**288**	*e*PN	**Pn**	**00 51 27.3**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.32**	**288**	*e*Pn	**Pn**	**00 51 27.3**	**+0.7**
DDEM	**Demirkent**	**2.50**	**330**	*i* P	**Pb**	**00 51 32.3**	**-0.8**
DDEM				*i* S	**Sg**	**00 52 06.4**	**-1.8**
DDEM	**Demirkent**	**2.50**	**330**	P	**Pb**	**00 51 32.3**	**-0.8**
MARD	**Mardin**	**2.50**	**236**	⇑*i*P	**Pn**	**00 51 28.6**	**-0.4**
MARD				*i* S	**Sb**	**00 52 04.1**	**0.0**
MARD	**Mardin**	**2.50**	**236**	*e*Pn	**Pn**	**00 51 28.8**	**-0.2**
MARD	**Mardin**	**2.50**	**236**	*e*Pn	**Pn**	**00 51 28.8**	**-0.2**
BGD	**Bogdanovka**	**2.53**	**4**	P	**Pg**	**00 51 35.5**	**-1.0**
KOPT	**Kop Dagi**	**2.58**	**301**	⇓*i*P	**Pb**	**00 51 33.9**	**-0.7**
KOPT				*i* S	**Sg**	**00 52 09.2**	**-1.6**
KOPT	**Kop Dagi**	**2.58**	**301**	*e*Pn	**Pb**	**00 51 33.9**	**-0.7**
DAGI	**Agillar**	**2.60**	**335**	*i* P	**Pb**	**00 51 34.0**	**-0.9**
DAGI				*i* S	**Sb**	**00 52 07.0**	**0.0**
MAZI	**Mazidag**	**2.65**	**242**	*e*PN	**Pn**	**00 51 30.3**	**-0.7**
MAZI	**Mazidag**	**2.65**	**242**	*e*Pn	**Pn**	**00 51 30.3**	**-0.7**
AKH	**Akhalkalaki**	**2.67**	**2**	*e*PN	**Pn**	**00 51 31.7**	**+0.3**
AKH	**Akhalkalaki**	**2.67**	**2**	P	**Pb**	**00 51 36.7**	**+0.6**
AKH	**Akhalkalaki**	**2.67**	**2**	⇑*i*P	**Pb**	**00 51 36.8**	**+0.6**
AKH	**Akhalkalaki**	**2.67**	**2**	P	**Pb**	**00 51 36.7**	**+0.6**
AKH	**Akhalkalaki**	**2.67**	**2**	*e*Pn	**Pn**	**00 51 31.7**	**+0.3**
AKH	**Akhalkalaki**	**2.67**	**2**	P	**Pb**	**00 51 36.7**	**+0.6**
ARTV	**Artvin**	**2.69**	**336**	*i* P	**Pn**	**00 51 31.9**	**+0.2**
ARTV				*i* S	**Sg**	**00 52 13.6**	**-0.8**
ARTV	**Artvin**	**2.69**	**336**	P	**Pn**	**00 51 31.9**	**+0.2**
ARTV	**Artvin**	**2.69**	**336**	*e*Pn	**Pb**	**00 51 36.3**	**-0.2**
ARTV	**Artvin**	**2.69**	**336**	*e*Pn	**Pb**	**00 51 36.3**	**-0.2**
DIYA	**Diyarbakir**	**2.69**	**253**	⇓*i*P	**Pn**	**00 51 32.1**	**+0.5**
DIYA				*i* S	**Sb**	**00 52 09.5**	**-0.1**
DIYA	**Diyarbakir**	**2.69**	**253**	P	**Pn**	**00 51 32.1**	**+0.5**
GDB	**GEDABAY** SNR=31	**2.70**	**42**	⇓P	**Pn**	**00 51 33.5**	**+1.7**
GDB				⇑S	**Sb**	**00 52 08.9**	**-0.9**
GDB	**GEDABAY** SNR=31	**2.70**	**42**	P	**Pn**	**00 51 33.5**	**+1.7**
GDB				S	**Sb**	**00 52 08.9**	**-0.9**
QZX	**Qazax, Azerbai** SNR=46	**2.78**	**33**	⇓P	**Pn**	**00 51 35.0**	**+2.3**
QZX				⇑S	**Sb**	**00 52 11.3**	**-0.7**
QZX	**Qazax, Azerbai** SNR=46	**2.78**	**33**	P	**Pn**	**00 51 35.0**	**+2.3**
QZX				S	**Sb**	**00 52 11.3**	**-0.7**
GANJ	**Ganja** SNR=56	**2.96**	**49**	⇓P	**Pn**	**00 51 36.7**	**+1.4**
GANJ				⇓S	**Sb**	**00 52 14.6**	**-2.7**
GANJ	**Ganja** SNR=56	**2.96**	**49**	P	**Pn**	**00 51 36.7**	**+1.4**
GANJ				S	**Sb**	**00 52 14.6**	**-2.7**
ERZN	**Erzincan**	**2.97**	**288**	*e*PN	**Pn**	**00 51 35.9**	**+0.4**
TNCL	**Tunceli-Merkez**	**3.02**	**278**	*i* P	**Pb**	**00 51 40.1**	**-1.9**
TNCL				*i* S	**Sb**	**00 52 19.2**	**+0.1**
EUZM	**Uzumlu**	**3.02**	**290**	⇑*i*P	**Pb**	**00 51 40.8**	**-1.3**
EUZM				*i* S	**Sb**	**00 52 21.9**	**+2.7**
DGRG	**David-gareji**	**3.11**	**29**	P	**Pn**	**00 51 39.7**	**+2.4**
DGRG	**David-gareji**	**3.11**	**29**	P	**Pn**	**00 51 39.7**	**+2.4**

DGRG	**David-gareji**	**3.11**	**29**	P	**Pn**	**00 51 39.7**	**+2.4**
PTK	**Pertek**	**3.12**	**274**	*e*PN	**Pn**	**00 51 38.2**	**+0.5**
PTK	**Pertek**	**3.12**	**274**	*e*Pn	**Pn**	**00 51 38.2**	**+0.5**
TBLG	**Delisi**	**3.17**	**19**	*e*PN	**Pn**	**00 51 39.1**	**+1.0**
TBLG	**Delisi**	**3.17**	**19**	P	**Pb**	**00 51 45.2**	**+0.8**
TBLG	**Delisi**	**3.17**	**19**	P	**Pb**	**00 51 45.2**	**+0.8**
TBLG	**Delisi**	**3.17**	**19**	*e*Pn	**Pn**	**00 51 39.1**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.22**	**265**	*e*PN	**Pn**	**00 51 39.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.22**	**265**	*e*Pn	**Pn**	**00 51 39.8**	**+0.9**
EZC	**Erzincan**	**3.29**	**289**	*e*Pn	**Pn**	**00 51 35.9**	**-4.0**
BRDA	**Brd** SNR=28	**3.31**	**61**	⇓P	**Pn**	**00 51 40.4**	**+0.4**
BRDA				⇓S	**Sn**	**00 52 21.2**	**+1.8**
BRDA	**Brd** SNR=28	**3.31**	**61**	P	**Pn**	**00 51 40.4**	**+0.4**
BRDA				S	**Sn**	**00 52 21.2**	**+1.8**
MNGR	**Mingechevir, A** SNR=34	**3.50**	**53**	⇓P	**Pn**	**00 51 43.6**	**+1.0**
MNGR				⇓S	**Sn**	**00 52 26.8**	**+2.6**
MNGR	**Mingechevir, A** SNR=34	**3.50**	**53**	P	**Pn**	**00 51 43.6**	**+1.0**
MNGR				S	**Sn**	**00 52 26.8**	**+2.6**
KTUT	**Trabzon**	**3.58**	**310**	*e*PN	**Pn**	**00 51 44.3**	**+0.6**
KTUT	**Trabzon**	**3.58**	**310**	*e*Pn	**Pn**	**00 51 44.3**	**+0.6**
ZRD	**Zardab** SNR=22	**3.67**	**64**	⇓P	**Pn**	**00 51 45.2**	**+0

KMRS Kahramanmaras 5.26 259 *e*Pn **Pn 00 52 08.8 +2.0**
SARI SarD1z-Kayseri 5.47 269 *e*PN **Pn 00 52 11.7 +1.8**
TOKA Tokat 5.57 289 *e*Pn **Pn 00 52 13.3 +2.2**
TOKA Tokat 5.57 289 *e*Pn **Pn 00 52 13.3 +2.2**
DRWC Darouich 5.73 250 *e*P **Pn 00 52 13.2 -0.2**
DRWC AML AML 00 53 59.4
comp=N,147nm,0.6s
DRWC AML AML 00 54 09.2
comp=E,100nm,0.7s
BTCH Batrach 6.14 246 *e*P **Pn 00 52 18.4 -0.6**
BTCH *e*S Sn 00 53 38.8 +9.5
BTCH AML AML 00 54 10.8
comp=N,136nm,0.6s
BTCH AML AML 00 54 15.1
comp=E,249nm,0.7s
GOF Gofitskoye 6.32 358⇑*e*P Pn 00 52 29.2 +7.8
GOF pmax pmax
comp=Z,9.0nm,0.6s
KFRA Kufra 6.34 238 *e*P **Pn 00 52 22.1 +0.4**
KFRA AML AML 00 54 23.1
comp=E,355nm,0.5s
KFRA AML AML 00 54 52.7
comp=N,22nm,2.2s
RABH Abou Rabah 6.57 231 *e*P **Pn 00 52 25.1 +0.3**
RABH AML AML 00 54 25.1
comp=E,51nm,0.8s
RABH AML AML 00 54 33.3
comp=N,103nm,0.7s
ARNB Al Arnab 6.57 246 *e*P **Pn 00 52 25.2 +0.3**
ARNB AML AML 00 54 25.3
comp=N,105nm,0.7s
ARNB AML AML 00 54 30.8
comp=E,61nm,0.6s
ROOS tl_alroos 6.70 229 *e*P **Pn 00 52 26.9 +0.2**
ROOS *e*S Sb 00 53 55.1 -10
ROOS AML AML 00 54 33.0
comp=E,150nm,0.6s
ROOS AML AML 00 54 34.5
comp=N,94nm,0.7s
BIDA Albida 6.77 239 *e*P **Pn 00 52 27.3 -0.3**
BIDA *e*S Sb 00 53 56.5 -10
BIDA AML AML 00 54 37.9
comp=N,200nm,0.7s
BIDA AML AML 00 54 41.0
comp=E,215nm,0.6s
HAWK Haweek 7.01 235 *e*P **Pn 00 52 30.9 -0.1**
HAWK AML AML 00 54 46.9
comp=E,47nm,0.6s
HAWK AML AML 00 54 47.1
comp=N,76nm,0.6s
MARH Ras Al Marh 7.29 232 *e*P **Pn 00 52 35.7 +0.7**
MARH AML AML 00 54 59.8
comp=E,71nm,0.7s
MARH AML AML 00 55 00.7
comp=N,43nm,0.7s
BRTR Keskin Array B 7.63 280 Pn **Pn 00 52 41.2 +1.7**
comp=N,0.1nm,0.3s,baz=122,slow=14,SNR=2.8
TOTH TOTAH 7.78 229 *e*P **Pn 00 52 41.6 +0.2**
TOTH *e*S Sn 00 54 20.2 +10
TOTH AML AML 00 55 05.5
comp=E,28nm,0.6s
TOTH AML AML 00 55 09.0
comp=N,26nm,0.7s
BRBR Barbar 8.03 231 *e*P **Pn 00 52 46.9 +1.8**
BRBR AML AML 00 55 24.5
comp=N,23nm,0.7s
BRBR AML AML 00 55 25.9
comp=E,41nm,0.7s
SALA Sala 8.09 224 *e*P **Pn 00 52 45.9 +0.1**
SALA *e*S Sn 00 54 30.1 +13
SALA AML AML 00 55 28.1
comp=N,34nm,0.7s
SALA AML AML 00 55 33.5
comp=E,3.0nm,0.7s
ASF Jabal al Asfar 8.42 221 Pn **Pn 00 52 50.2 -0.1**
comp=E,0.4nm,0.3s,baz=2.1,slow=16,SNR=8.1
ASF Lg Lg 00 55 17.2
comp=E,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.7
TCHB Talchebab 8.54 227 *e*P **Pn 00 52 51.3 -0.6**
TCHB AML AML 00 55 33.8
comp=E,71nm,0.7s
TCHB AML AML 00 55 35.3
comp=N,27nm,0.8s
MMAI Mount Meron Ar 8.63 231 Pn **Pn 00 52 55.8 +2.6**
comp=N,1.5nm,0.3s,baz=70,slow=15,SNR=9.6
MMAI Lg Lg 00 55 25.0
comp=N,1.0nm,0.3s,baz=25,slow=18,SNR=3.8
MMAI LR LR 00 56 38.8
comp=N,256nm,18.3s,baz=35,slow=41
EIL Elat 11.42 220 Lg Lg 00 56 56.0
comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=2.0
GEYT Alibeck 11.60 89 Pn **Pn 00 53 32.6 -1.3**
comp=N,0.1nm,0.3s,baz=291,slow=20,SNR=2.6
CFR Carcaliu 13.04 304⇑*i*P Pn 00 53 58.4 +5.0
CFR Carcaliu 13.04 304 P Pn 00 53 58.4 +5.0
LPSR Galich'ya Gora 14.21 349 *e*P **P 00 54 15.8 -1.0**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
LPSR Galich'ya Gora 14.21 349 *e*P **P 00 54 15.8 -1.0**
comp=Z,9.0nm,0.8s
SORM Soroca 14.38 316⇑*i*P **P 00 54 16.0 -2.8**
DOPR Dopca 15.12 304⇑*i*P **P 00 54 25.1 -2.0**
VOIR 15.15 302⇓*i*P **P 00 54 27.2 -0.3**
VOIR 15.15 302 P **P 00 54 28.5 +1.0**
VOIR pmax pmax
comp=Z,20nm,0.9s
VOIR 15.15 302 P **P 00 54 28.5 +1.0**
comp=Z,20nm,0.9s
IDI Anoyia 15.17 263 LR LR 01 01 14.7
comp=Z,88nm,18.0s,baz=98,slow=42
RAYN Ar Rayn 15.27 173 *e*Pn **Pn 00 54 20.3 -3.7**
ARR Arges 15.41 301⇑*i*P **P 00 54 29.8 -0.5**
AKASG Malin Array Be 15.60 325 Pn **Pn 00 54 29.1 +1.1**
comp=Z,0.4nm,0.3s,baz=131,slow=11,SNR=7.1
AKBB Malin Array Si 15.60 325 *e*P **P 00 54 32.3 0.0**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 15.60 325 *e*P **P 00 54 32.3 0.0**
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 15.60 325 *e*Pn **P 00 54 32.3 0.0**
comp=Z,6.4nm,0.9s
KIEV Kiev 15.60 325⇑*e*P **P 00 54 31.9 -0.4**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 15.60 325 *e*Pn **Pn 00 54 28.9 +0.9**
comp=Z,6.5nm,0.9s
KIEV Kiev 15.60 325 *e*P **P 00 54 31.9 -0.4**
comp=Z,5.0nm,0.9s
KIEV Kiev 15.60 325 *e*Pn **Pn 00 54 28.9 +0.9**
comp=Z,6.5nm,0.9s
AKTO Aktyubinsk 15.63 37 Pn **Pn 00 54 27.3 -1.1**
comp=Z,0.1nm,0.3s,baz=223,slow=10,SNR=6.5
AKTO LR LR 01 02 29.6
comp=Z,61nm,18.2s,baz=222,slow=45
VTS Vitosha 15.78 291⇑*i*P **P 00 54 33.0 -1.6**
VTS Vitosha 15.78 291 P **P 00 54 32.9 -1.6**
VTS Vitosha 15.78 291 P **P 00 54 32.9 -1.6**
ABKAR Akbulak array 15.86 43 *e*Pn **Pn 00 54 31.7 +0.4**
comp=Z,17nm,0.7s
ABKAR Akbulak array 15.86 43 *e*Pn **Pn 00 54 31.7 +0.4**
comp=Z,17nm,0.7s
BURAR Bucovina Array 15.92 310⇑*i*P **P 00 54 36.2 +0.2**
BURAR Bucovina Array 15.92 310 P **P 00 54 36.2 +0.2**
BUR08 Bucovina Ar. S 15.94 310 *e*Pn **P 00 54 36.7 +0.4**
LOT Lotru 16.01 301⇑*i*P **P 00 54 36.2 -0.8**
OBN Obninsk 17.02 347 P **Pn 00 54 45.5 -0.6**
comp=Z,0.9nm,0.3s,baz=180,slow=20,SNR=2.7
OBN Obninsk 17.02 347 *i*P **P 00 54 48.8 +0.9**
OBN pmax pmax
comp=Z,28nm,1.2s
OBN MLR MLR
comp=Z,45nm,16.0s
OBN Obninsk 17.02 347 *i*P **P 00 54 48.8 +0.9**
comp=Z,45nm,16.0s
OBN Obninsk 17.02 347 *e*Pn **P 00 54 50.3 +2.4**
comp=Z,16nm,0.8s
DRGR 17.15 305⇑*i*P **P 00 54 50.3 +0.7**
DRGR 17.15 305 P **P 00 54 50.3 +0.7**
DRGR 17.15 305 P **P 00 54 50.3 +0.7**
SIRR Siria 17.67 302⇑*i*P **P 00 54 57.5 +2.3**
KWP Kalwaria Pacla 18.34 313 P **Pn 00 55 02.4 -0.1**
KWP pmax pmax
comp=Z,80nm,1.2s
KWP Kalwaria Pacla 18.34 313 P **Pn 00 55 02.4 -0.1**
comp=Z,80nm,1.2s
CRVS Cervenica-Dubn 18.74 310 *e*P Pn 00 55 15.3 +7.9
CRVS Cervenica-Dubn 18.74 310 *e* Pn 00 55 15.3 +7.9
STHS Stebnicka Huta 19.09 311 *e*P **Pn 00 55 16.8 +5.2**
STHS Stebnicka Huta 19.09 311 *e* **Pn 00 55 16.8 +5.2**
PSZ Piszkesteto 19.34 306 *e*P **Pn 00 55 17.8 +3.1**
PSZ pmax pmax
comp=Z,7.0nm,1.1s
PSZ Piszkesteto 19.34 306 *e*P **Pn 00 55 17.8 +3.1**
comp=Z,7.0nm,1.1s
WSAR Wadi Sarin 20.19 136 P **P 00 55 20.9 -2.1**
comp=Z,2.3nm,0.7s,baz=323,slow=5.1,SNR=2.3
VYHS Vyhne 20.20 307 *e*P Pn 00 55 27.9 +3.0
VYHS Vyhne 20.20 307 *e*P Pn 00 55 27.9 +3.0
ARU Arti 20.37 25 P **P 00 55 25.1 +0.3**
comp=Z,10nm,0.6s,baz=237,slow=6.1,SNR=17
ARU LR LR 01 05 33.2
comp=Z,82nm,19.0s,baz=214,slow=43
ARU Arti 20.37 25*c i*P **P 00 55 24.5 -0.2**
ARU S Sn 00 59 14.9 -1.2
ARU SS **SnSn 00 59 33.8 +3.2**
ARU pmax pmax
comp=Z,24nm,1.7s
ARU Arti 20.37 25 *e*P **P 00 55 25.0 +0.3**
comp=Z,18nm,0.8s
ARU Arti 20.37 25 *e*P **P 00 55 25.0 +0.3**
comp=Z,18nm,0.8s
SUW Suwalki 20.57 325 P Pn 00 55 29.8 +0.7
SUW pmax pmax
comp=Z,22nm,0.8s
SUW Suwalki 20.57 325 P Pn 00 55 29.8 +0.7
comp=Z,22nm,0.8s
KKAR Karatay Array 20.92 69 *e*P **P 00 55 30.1 -0.7**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 20.92 69 *e*P **P 00 55 30.1 -0.7**
comp=Z,9.2nm,0.6s
KKAR Karatay Array 20.92 69 *e*P **P 00 55 30.1 -0.7**
comp=Z,9.2nm,0.6s
KBL Kabul 20.98 94 *e*P **P 00 55 31.8 -0.1**
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 20.98 94 *e*P **P 00 55 31.8 -0.1**
comp=Z,4.6nm,0.8s
KBL Kabul 20.98 94 *e*P **P 00 55 31.8 -0.1**
comp=Z,4.6nm,0.8s
SVE Sverdlovsk 21.38 27 *e*P **P 00 55 37.0 +1.3**
SVE pmax pmax
comp=Z,18nm,1.4s
SVE Sverdlovsk 21.38 27 *e*P **P 00 55 37.0 +1.3**
comp=Z,18nm,1.4s
VRAC Vranov 21.86 308 P **P 00 55 43.8 +2.8**
comp=Z,2.1nm,0.7s,baz=124,slow=15,SNR=1.8
CONA Conrad Observa 21.93 304 *e*pP **P 00 55 45.4 +3.6**
comp=Z,1.5nm,0.5s
KLMR Klimovskoe 22.27 355 *e*P **P 00 55 46.7 +1.5**
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR Klimovskoe 22.27 355 *e*P **P 00 55 46.7 +1.5**
comp=Z,39nm,1.3s
VSU Vasula 22.48 337⇓*e*P **P 00 55 51.2 +3.8**
VSU pmax pmax
comp=Z,90nm,2.5s
SOKR Solikamsk 22.56 18⇑*i*P **P 00 55 48.8 +0.6**
SOKR pmax pmax
comp=Z,16nm,1.0s
MOA Molln 22.96 303 *e*pP pP 00 55 54.8 -0.3
comp=Z,0.9nm,0.4s
BRVK Borovoye 23.39 43⇑*i*P **P 00 55 57.3 +0.4**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 23.39 43 *e*P **P 00 55 57.3 +0.4**
comp=Z,12nm,1.2s
BRVK Borovoye 23.39 43 *e*P **P 00 55 57.3 +0.4**
comp=Z,12nm,1.2s
BVAR Borovoye Array 23.43 44 P **P 00 55 57.0 -0.3**
comp=Z,4.3nm,0.9s,baz=240,slow=12,SNR=13
GERES GERESS Array B 23.55 305 P **P 00 55 59.4 +0.7**
comp=Z,0.5nm,0.6s,baz=107,slow=9.3,SNR=4.3
GERES LR LR 01 06 39.6
comp=Z,61nm,18.4s,baz=86,slow=40
KHC Kasperske Hory 23.70 306 *e*P **P 00 56 06.1 +6.0**
KHC *e*x x 00 56 17.4
KHC Kasperske Hory 23.70 306 *e*P **P 00 56 06.1 +6.0**
KHC *e* e 00 56 17.4
AAK Ala-Archa 23.84 71 P **P 00 56 00.9 -0.7**
comp=Z,1.9nm,0.8s,baz=210,slow=16,SNR=3.0
AAK LR LR 01 07 16.9
comp=Z,98nm,18.2s,baz=264,slow=42
AAK Ala-Archa 23.84 71⇓*e*P **P 00 56 02.9 +1.3**
AAK pmax pmax
comp=Z,7.0nm,1.2s
AAK Ala-Archa 23.84 71 *e*P **P 00 56 02.9 +1.3**
comp=Z,7.0nm,1.2s
WTTA Wattenberg 24.60 301 *e*pP pP 00 56 11.8 +0.6
comp=Z,0.4nm,0.2s
WATA Walderalm 24.65 301 *e*pP pP 00 56 13.0 +1.4
comp=Z,0.6nm,0.2s
CLL Collm 24.69 311 *e*P **P 00 56 10.0 +0.8**
CLL Collm 24.69 311 *e*P **P 00 56 10.0 +0.8**
CLL Collm 24.69 311 *e*(sP) **P 00 56 10.0 +0.8**
MOTA Moosalm 24.97 301 *e*pP **P 00 56 12.6 +0.7**
comp=Z,6.8nm,0.7s
FINES FINESS Array B 25.14 340 P **P 00 56 12.1 -1.0**
comp=Z,1.2nm,0.6s,baz=64,slow=3.2,SNR=2.8
FINES LR LR 01 06 10.2
comp=Z,56nm,20.4s,baz=194,slow=37
KSH Kashi 25.22 78 *e*P **P 00 56 12.0 -2.3**
KSH pP pP 00 56 16.0 -0.9
KSH sP sP 00 56 19.1 +1.2
KSH PP **PnPn 00 56 48.9 +0.7**
KSH PcP **PcP 00 59 49.8 +2.1**
KSH S **S 01 00 30.9 -9.0**
KSH sS pS 01 00 38.1 -4.5
KSH SS **SnSn 01 01 28.9 -1.1**
KSH PcS **PcS 01 03 28.1 0.0**
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH pmax pmax
comp=Z,82nm,7.3s
KSH LR LR
comp=N,110nm,7.3s
KSH LR LR
comp=E,89nm,4.4s
KSH LR LR
comp=Z,67nm,5.9s
TMCR Tamitsa 25.66 355 *e*P **P 00 56 20.2 +2.4**
TMCR pmax pmax
comp=Z,21nm,1.1s
DAVOX Davos/Dischmat 25.73 299 P **P 00 56 18.2 -0.7**
comp=Z,1.8nm,0.6s,baz=75,slow=12,SNR=3.3
DAVOX LR LR 01 06 28.4
comp=Z,27nm,20.2s,baz=94,slow=36
ATD Arta Tunnel 27.10 181 LR LR 01 06 53.3
comp=Z,54nm,20.1s,baz=28,slow=36
KURBB Kurchatov Arra 27.41 53 P **P 00 56 33.2 -0.6**
comp=Z,5.1nm,0.8s,baz=264,slow=9.0,SNR=27
KURK Kurchatov 27.48 53*d i*P **P 00 56 35.8 +1.4**
KURK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 27.48 53 *e*P **P 00 56 34.7 +0.2**
comp=Z,6.7nm,0.8s
HFS Hagfors 28.41 329 P **P 00 56 42.1 -0.6**
comp=Z,2.1nm,0.7s,baz=116,slow=13,SNR=4.3
HFS LR LR 01 08 20.3
comp=Z,57nm,19.8s,baz=71,slow=37
MKAR Makanchi Array 29.43 61 P **P 00 56 52.5 +0.7**
comp=Z,1.7nm,0.8s,baz=282,slow=6.1,SNR=8.9
NOA NORSAR Array B 29.94 329 P **P 00 56 55.4 -0.8**
comp=Z,0.6nm,0.7s,baz=126,slow=11,SNR=3.1
NOA LR LR 01 09 31.5
comp=Z,35nm,19.9s,baz=120,slow=37
NVS Novosibirsk 31.17 46 *e*P **P 00 57 08.0 +0.9**
ZALV Zalesovo Beam 31.87 48 P **P 00 57 11.3 -2.0**
comp=Z,0.4nm,0.4s,baz=257,slow=10,SNR=4.3
ZALV LR LR 01 11 59.6
comp=Z,58nm,18.2s,baz=248,slow=40
ARCES ARCESS Array B 32.31 348 P **P 00 57 16.7 -0.3**
comp=Z,2.7nm,0.8s,baz=138,slow=9.3,SNR=6.6
ARCES LR LR 01 10 52.2
comp=Z,59nm,18.9s,baz=170,slow=37
WMQ Urumqi 33.38 67 P **P 00 57 27.4 +0.7**
WMQ pP sP 00 57 33.1 +2.7
WMQ sP pP 00 57 37.4 +8.1
WMQ PP **PP 00 58 41.5 -0.5**
WMQ pmax pmax
comp=Z,4.0nm,0.9s
WMQ pmax pmax
comp=Z,46nm,4.1s
WMQ LR LR
comp=N,29nm,32.7s
WMQ LR LR
comp=E,30nm,20.3s
WMQ LR LR
comp=Z,30nm,26.5s
WMQ Urumqi 33.38 67 P **P 00 57 27.5 +0.7**
WMQ pP sP 00 57 32.6 +2.2
WMQ sP pP 00 57 37.6 +8.3
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,40nm,3.8s
WMQ LR LR
comp=N,38nm,23.1s
WMQ LR LR
comp=E,37nm,24.9s
WMQ LR LR
comp=Z,30nm,25.9s
ESDC Sonseca Array 36.37 287 P **P 00 57 51.3 -1.2**
comp=Z,1.5nm,0.8s,baz=66,slow=8.3,SNR=5.5
NRIK Noril'sk 38.58 23 P **P 00 58 11.5 +0.6**
comp=Z,3.4nm,0.9s,baz=264,slow=3.0,SNR=4.6
NRIK LR LR 01 17 48.8
comp=Z,43nm,18.3s,baz=152,slow=42
TLY Talaya 43.18 52 LR LR 01 18 47.0
comp=Z,34nm,18.8s,baz=354,slow=39
TORD Torodi Ar. Bea 44.78 247 P **P 00 59 00.1 -2.2**
comp=Z,0.4nm,0.7s,baz=42,slow=9.1,SNR=5.1
SONM Songino Array 45.60 57 LR LR 01 20 24.2
comp=Z,69nm,18.2s,baz=278,slow=39
ULN Ulaanbaatar 46.03 57⇓*e*P **P 00 59 13.2 +1.2**
ULN pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 47.33 73 *e*P **P 00 59 23.3 +0.9**
LZH pP sP 00 59 26.8 +0.7
LZH sP pP 00 59 28.3 +3.3
LZH *e*PP **PP 01 01 14.0 +0.7**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,43nm,6.2s
LZH LR LR
comp=N,130nm,14.3s
LZH LR LR
comp=E,130nm,14.5s
LZH LR LR
comp=Z,170nm,18.0s
HHC Hu-ho-hao-te 51.20 65 *e*P **P 00 59 53.1 +1.2**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,58nm,5.0s
KMI Kunming 51.35 87 P **P 00 59 54.8 +1.5**
KMI pmax pmax
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 51.98 96 P **P 00 59 57.3 -0.5**
comp=Z,1.9nm,0.7s,baz=296,slow=8.3,SNR=7.4
CMAR LR LR 01 24 48.8
comp=Z,22nm,18.3s,baz=310,slow=39
TIXI Tiksi 52.37 23⇓*e*P **P 01 00 00.1 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
YAK Yakutsk 55.01 35⇑*e*P **P 01 00 22.3 +2.9**
YAK pmax pmax
comp=Z,9.0nm,0.5s
SEY Seymchan 64.04 29 P **P 01 01 22.8 +1.1**
comp=Z,6.9nm,0.8s,baz=306,slow=6.0,SNR=12
KSAR Wonju Array Be 64.09 62 P **P 01 01 22.4 -0.1**
KSAR Wonju Array Be 64.09 62 P **P 01 01 22.4 -0.1**
KSRS Korea Array 64.11 62 P **P 01 01 22.4 -0.2**
comp=Z,3.1nm,0.8s,baz=289,slow=5.4,SNR=8.2
BOSA Boshof 69.11 197 LR LR 01 34 04.0
comp=Z,53nm,18.8s,baz=22,slow=38
MJAR Matsushiro Arr 71.55 58 LR LR 01 35 43.6
comp=Z,44nm,18.8s,baz=55,slow=38
PETK Petropavlovsk- 72.36 35 LR LR 01 38 14.4
comp=Z,32nm,19.2s,baz=327,slow=39
INK Inuvik 73.25 359 P **P 01 02 18.9 -0.2**
comp=Z,1.3nm,0.6s,baz=28,slow=15,SNR=3.4
COLA College 76.35 5⇑*e*P **P 01 02 37.2 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 76.51 5 P **P 01 02 36.5 -1.5**
comp=Z,0.4nm,0.7s,baz=295,slow=3.5,SNR=4.3
ILAR LR LR 01 39 33.7
comp=Z,7.2nm,19.6s,baz=263,slow=38
YKA Yellowknife Ar 77.57 350 P **P 01 02 43.3 -0.7**
comp=Z,1.9nm,0.9s,baz=14,slow=5.4,SNR=3.9
YKA Yellowknife Ar 77.57 350 P **P 01 02 43.3 -0.7**
YKA pmax pmax
comp=Z,1.0nm,0.7s
KDAK Kodiak Island 82.91 9 P **P 01 03 12.5 -0.3**
comp=Z,7.7nm,0.7s,baz=330,slow=8.1,SNR=7.2
KDAK Kodiak Island 82.91 9 *i*P **P 01 03 13.1 +0.3**
NEW Newport 91.66 347 LR LR 01 46 27.7
comp=Z,12nm,19.4s,baz=68,slow=36
PDAR Pinedale Array 95.24 340 P **P 01 04 10.4 -2.0**
comp=Z,0.3nm,0.7s,baz=3.7,slow=2.8,SNR=3.2
PDAR LR LR 01 48 04.1
comp=Z,23nm,18.4s,baz=28,slow=36
NWAO Narrogin (SRO) 98.87 125 LR LR 01 44 14.2
comp=Z,29nm,20.2s,baz=233,slow=32
SNAA Sanae 114.83 195 PKP PKPdf 01 09 28.4 +0.4
VNA1 Neumayer--Stat 115.20 197 PKP **PKPdf 01 09 27.9 -0.7**
VNA2 Neumayer--Watz 115.21 196 PKP **PKPdf 01 09 29.4 +0.8**
baz=330,slow=1.6

IDC ***24*** *00:51:55.8±1.9, 37.°91N×142.°49E, h0km, mb3.9/5, mb1 4.0/9, mb1mx3.6/59, mbtmp3.9/9, ML3.2/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/59, Error ellipse: s-maj=47.1km s-min=20.5km az=66.0*

NIED ***24*** *00:52:00, 37.°70N×141.°80E, h59km, Mw3.7 Best double couple: M0=3.76000×10^14 NP1:φ=225.00000°, δ50.00000°, λ127.00000°. NP2:φ=355.00000°, δ52.00000°, λ54.00000°.*

ISCJB ***24*** *00:52:03.1±0.9, 37.°71N±0.°04×141.°93E±0.°08, h56km±7km, mb4.0/8, Error ellipse: s-maj=10.7km s-min=5.6km az=14.1*

NEIC ***24*** *00:52:03.2±2.2, 37.°85N×142.°12E, h47km±17km, mb4.1/3, Error ellipse: s-maj=22.3km s-min=13.3km az=89.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

JMA ***24*** *00:52:05.2, 37.°74N×141.°74E, h51km±2km, M4.1*

JMA Felt I J1.

ISC 24 00:52:03.1±1.6, 37.°69N±0.°04×141.°99E±0.°09, h42km±16km, n36, σ1°41/43, mb4.0/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.92**	**327**	P	P		**Pn**	**00 52 20.2**	**+0.6**
JIO					S		**Sn**	**00 52 30.8**	**-0.8**
JFK	**Kawauchi**	**0.94**	**251**	P	P		**Pn**	**00 52 20.2**	**+0.2**
JFK					S		**Sn**	**00 52 30.7**	**-1.6**
JMM	**Marumori**	**0.97**	**281**	P	P		**Pn**	**00 52 19.9**	**-0.3**
JMM					S		**Sn**	**00 52 30.6**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.12**	**239**	P	P		**Pn**	**00 52 22.8**	**+0.5**
ONAJ					S		**Sn**	**00 52 35.6**	**-0.9**
JOU	**Okura**	**1.25**	**303**	P	P		**Pn**	**00 52 23.9**	**-0.2**
JFT	**Otama**	**1.33**	**263**	P	P		**Pn**	**00 52 25.7**	**+0.5**
JFT					S		**Sn**	**00 52 40.5**	**-1.1**
JMK	**Ichinoseki**	**1.40**	**335**	P	P		**Pn**	**00 52 27.2**	**+1.0**
JMK					S		**Sn**	**00 52 43.2**	**-0.3**
JYS	**Shirataka**	**1.61**	**290**	P	P		**Pn**	**00 52 29.4**	**+0.3**
JYS					*e*S		**Sn**	**00 52 47.6**	**-1.1**
JYK	**Kaneyama**	**1.78**	**314**	P	P		**Pn**	**00 52 31.8**	**+0.4**
JYK					S		**Sn**	**00 52 51.8**	**-1.0**
JFY	**Yanaizu**	**1.84**	**262**	P	P		**Pn**	**00 52 32.5**	**+0.3**
JOM	**Ohasama**	**1.87**	**343**	P	P		**Pn**	**00 52 34.0**	**+1.4**
JRG	**Rokugo**	**2.01**	**328**	P	P		**Pn**	**00 52 35.8**	**+1.2**
JRG					S		**Sn**	**00 52 59.1**	**+0.6**
JYA	**Atsumi**	**2.01**	**297**	P	P		**Pn**	**00 52 34.5**	**-0.1**
JYA					*e*S		**Sn**	**00 52 58.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.23**	**250**	Pn	Pn		**Pn**	**00 52 52.7**	**+1.4**
	3.0nm,0.3s,baz=80,slow=14,SNR=16								
MJAR					Sn		**Sn**	**00 53 31.9**	**+3.3**
	4.3nm,0.3s,baz=356,slow=17,SNR=4.9								
MJAR					LR		LR	00 54 23.5	
	comp=Z,49nm,18.8s,baz=65,slow=40								
MAJO	**Matsushiro**	**3.23**	**250**	*e*Pn	Pn		**Pn**	**00 52 53.1**	**+1.7**
MAT	**Matsushiro**	**3.23**	**250**	P	Pn		**Pn**	**00 52 52.8**	**+1.4**
MAT					S		**Sn**	**00 53 29.9**	**+1.2**

JHJ	**Hachijo jima 2**	**4.90**	**202**	Pn	**Pn**	**00 53 15.6**	**+1.3**
	13nm,0.3s,baz=307,slow=23,SNR=6.5						
JHJ				Sn	**Sn**	**00 54 06.8**	**-2.9**
	22nm,0.3s,baz=252,slow=23,SNR=11						
USRK	**Ussuriysk Ar.**	**9.97**	**314**	Pn	**Pn**	**00 54 24.3**	**+0.5**
	0.2nm,0.3s,baz=125,slow=14,SNR=5.9						
KSRS	**Korea Array**	**11.17**	**273**	Pn	**Pn**	**00 54 43.7**	**+3.5**
	0.2nm,0.3s,baz=83,slow=14,SNR=5.3						
KSAR	**Wonju Array Be**	**11.20**	**273**	Pn	**Pn**	**00 54 43.7**	**+3.1**
MDJ	**Mudanjiang**	**11.62**	**310**	*e*Pn	**Pn**	**00 54 45.4**	**-1.0**
ENH	**Enshi**	**27.85**	**264**	*e*P	**P**	**00 57 49.3**	**+0.5**
	1.8nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.10**	**123**	T	T	01 28 10.7	
	baz=315,slow=75,SNR=148						
H11N1	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	01 28 08.6	
	baz=315,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**28.12**	**123**	T	T	01 28 10.3	
	baz=315,slow=75,SNR=190						
H11S1	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	01 29 04.5	
	baz=317,slow=76,SNR=74						
H11S3	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	01 29 04.4	
	baz=317,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**28.86**	**125**	T	T	01 29 04.4	
	baz=317,slow=76,SNR=59						
ZALV	**Zalesovo Beam**	**41.82**	**312**	P	**P**	**00 59 47.3**	**-1.2**
	0.4nm,0.4s,baz=98,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**01 00 07.0**	**-0.7**
	1.1nm,0.8s,baz=79,slow=7.5,SNR=4.4						
KURK	**Kurchatov**	**45.90**	**308**	*e*P	**P**	**01 00 20.7**	**-0.6**
	6.8nm,0.4s						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**01 00 22.0**	**+0.2**
	1.1nm,0.3s,baz=81,slow=8.0,SNR=8.6						
COLA	**College**	**48.28**	**33**	*e*P	**P**	**01 00 38.0**	**-1.7**
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**57.77**	**189**	P	**P**	**01 01 50.6**	**+0.6**
	2.3nm,0.6s,baz=5.7,slow=7.2,SNR=24						
ASAR	**Alice Springs**	**61.50**	**180**	P	**P**	**01 02 16.6**	**+1.0**
	0.8nm,0.8s,baz=7.7,slow=6.9,SNR=6.1						
CLL	**Collm**	**80.76**	**330**	*e*P	**P**	**01 04 12.0**	**+0.1**

IDC ***24*** *01:03:02.5±1.3, 38°.68N×43°.63E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.6/56, mbtmp3.7/16, ML2.8/5, MS2.9/4, Ms1 3.0/4, ms1mx2.4/51, Error ellipse: s-maj=20.7km s-min=10.3km az=148.0*
MOS ***24*** *01:03:02.3±1.5, 38°.52N×43°.71E, h10km, mb4.1/8, Error ellipse: s-maj=11.1km s-min=5.6km az=93.8*
DDA ***24*** *01:03:02.9, 38°.82N×43°.77E, h15km, Ml3.8*
NEIC ***24*** *01:03:04.0±0.0, 38°.85N×43°.65E, h2km, mb4.0/2, ML4.0(ISK), After ISK.*
CSEM ***24*** *01:03:04.7±0.1, 38°.88N×43°.69E, h2km, ML3.8, Error ellipse: s-maj=4.0km s-min=2.3km az=161.0*
ISK ***24*** *01:03:04.1, 38°.90N×43°.64E, h2km, ML4.0*
AZER ***24*** *01:03:04.2±0.5, 38°.81N×43°.55E, h14km±11km, Error ellipse: s-maj=12.8km s-min=3.3km az=63.0*
ISC 24 01:03:04.5±1.1, 38°.83N±0°.02×43°.62E±0°.02, h4km±8km, n183, σ1°58/226, mb3.9/17, MS2.8/4, 22C-22D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.68**	**220**	*i* P	**Pg**	**01 03 16.3**	**-1.3**
GEVA				*i* S	**Sb**	**01 03 29.1**	**+0.2**
DYDN	**Diyadin**	**0.71**	**5**	*i* P	**Pg**	**01 03 17.2**	**-1.0**
DYDN	**Diyadin**	**0.71**	**5**	P	**Pg**	**01 03 17.2**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**327**	*e*PG	**Pg**	**01 03 20.5**	**-1.1**
AGRB				*e*SG	**Sg**	**01 03 33.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**327**	*e*Pg	**Pg**	**01 03 20.5**	**-1.1**
AGRB				*e*Sg	**Sg**	**01 03 33.2**	**+0.1**
HAKT	**HAKKARI**	**1.27**	**177**	*i* P	**Pg**	**01 03 26.8**	**-2.2**
EKAR	**Karacoban**	**1.28**	**290**	*i* P	**Pn**	**01 03 29.9**	**+0.4**
EKAR	**Karacoban**	**1.28**	**290**	P	**Pn**	**01 03 29.9**	**+0.4**
EATA	**Eleskirt**	**1.35**	**320**	*i* P	**Pg**	**01 03 29.1**	**-1.3**
EATA	**Eleskirt**	**1.35**	**320**	P	**Pg**	**01 03 29.1**	**-1.3**
NAX	**Nakhchivan**	**1.50**	**76**	⇓P	**Pn**	**01 03 31.8**	**-0.6**
	SNR=25						
NAX				⇑S	**Sb**	**01 03 52.5**	**-0.1**
NAX	**Nakhchivan**	**1.50**	**76**	P	**Pn**	**01 03 31.8**	**-0.6**
	SNR=25						
NAX				S	**Sb**	**01 03 52.5**	**-0.1**
GNI	**Garni**	**1.58**	**33**	Pn	**Pn**	**01 03 33.8**	**+0.3**
	30nm,0.3s,baz=272,slow=4.8,SNR=26						
GNI				Lg	Lg	01 03 58.3	
	31nm,0.3s,baz=288,slow=20,SNR=15						
GNI	**Garni**	**1.58**	**33**	*e*Pn	**Pn**	**01 03 33.3**	**-0.2**
GNI	**Garni**	**1.58**	**33**	*e*Pn	**Pn**	**01 03 33.3**	**-0.2**
GNI				Lg	Lg	01 03 58.3	
CUKT	**Cukurca**	**1.58**	**180**	*e*PN	**Pb**	**01 03 34.2**	**-0.2**
CUKT				*e*SN	**Sg**	**01 03 57.5**	**+2.1**
CUKT	**Cukurca**	**1.58**	**180**	*i* P	**Pg**	**01 03 35.5**	**+0.7**
CUKT	**Cukurca**	**1.58**	**180**	*e*Pn	**Pb**	**01 03 34.2**	**-0.2**
CUKT	**Cukurca**	**1.58**	**180**	P	**Pg**	**01 03 35.5**	**+0.7**
CUKT				*e*Sn	**Sg**	**01 03 57.5**	**+2.1**
DIGO	**Kars**	**1.59**	**353**	*i* P	**Pn**	**01 03 34.2**	**+0.4**
DIGO	**Kars**	**1.59**	**353**	P	**Pn**	**01 03 34.2**	**+0.4**
SIRN	**S¨–rnak**	**1.64**	**216**	*i* P	**Pn**	**01 03 34.7**	**+0.5**
SIRN	**S¨–rnak**	**1.64**	**216**	P	**Pn**	**01 03 34.7**	**+0.5**
VRTB	**Varto-Mus**	**1.71**	**282**	*e*PN	**Pn**	**01 03 35.5**	**+0.1**
VRTB				*e*SN	**Sb**	**01 03 59.2**	**+0.5**
VRTB	**Varto-Mus**	**1.71**	**282**	*i* P	**Pb**	**01 03 36.3**	**-0.4**
VRTB	**Varto-Mus**	**1.71**	**282**	*e*Pn	**Pn**	**01 03 35.5**	**+0.1**
VRTB	**Varto-Mus**	**1.71**	**282**	P	**Pb**	**01 03 36.3**	**-0.4**
VRTB				*e*Sn	**Sb**	**01 03 59.2**	**+0.5**
HOMI	**Horasan**	**1.79**	**313**	*i* P	**Pn**	**01 03 37.0**	**+0.4**
EAK	**Akyaka**	**1.85**	**360**	*i* P	**Pg**	**01 03 40.9**	**+0.8**
BNGL	**BINGOL**	**1.93**	**274**	*i* P	**Pn**	**01 03 38.0**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.98**	**331**	*e*PN	**Pn**	**01 03 39.0**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**331**	*e*Pn	**Pn**	**01 03 39.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	*e*PN	**Pb**	**01 03 41.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	*i* P	**Pn**	**01 03 40.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	P	**Pn**	**01 03 40.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	*e*Pn	**Pb**	**01 03 41.2**	**-0.6**
ERZM	**Erzurum**	**2.05**	**302**	*i* P	**Pb**	**01 03 42.9**	**+0.4**
ERZM	**Erzurum**	**2.05**	**302**	P	**Pb**	**01 03 42.9**	**+0.4**
BTMN	**Batman**	**2.07**	**244**	*i* P	**Pb**	**01 03 42.0**	**-0.8**
BTMN	**Batman**	**2.07**	**244**	P	**Pb**	**01 03 42.0**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.19**	**291**	*i* P	**Pb**	**01 03 43.5**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.19**	**291**	P	**Pb**	**01 03 43.5**	**-1.4**
BNGB	**Bing¨ºl**	**2.30**	**275**	*e*PN	**Pb**	**01 03 45.3**	**-1.3**
BGD	**Bogdanovka**	**2.43**	**360**	P	**Pb**	**01 03 49.5**	**+0.5**
BINT	**Bingol**	**2.44**	**272**	*e*Pn	**Pn**	**01 03 45.3**	**0.0**
YEDI	**Yedisu-Bingol**	**2.46**	**285**	*e*PN	**Pn**	**01 03 47.3**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.46**	**285**	*e*Pn	**Pn**	**01 03 47.3**	**+1.6**
GDB	**GEDABAY**	**2.50**	**40**	⇑P	**Pn**	**01 03 45.6**	**-0.7**
	SNR=15						
GDB				⇓S	**Sn**	**01 04 17.3**	**-0.1**
GDB	**GEDABAY**	**2.50**	**40**	P	**Pn**	**01 03 45.6**	**-0.7**
	SNR=15						
GDB				S	**Sn**	**01 04 17.3**	**-0.1**
AKH	**Akhalkalaki**	**2.58**	**358**	*e*PN	**Pn**	**01 03 47.9**	**+0.7**
AKH	**Akhalkalaki**	**2.58**	**358**	P	**Pb**	**01 03 52.4**	**+0.9**
AKH	**Akhalkalaki**	**2.58**	**358**	P	**Pb**	**01 03 52.3**	**+0.9**
AKH	**Akhalkalaki**	**2.58**	**358**	*e*Pn	**Pn**	**01 03 47.9**	**+0.7**
QZX	**Qazax, Azerbai**	**2.60**	**31**	⇑P	**Pn**	**01 03 46.4**	**-1.0**
	SNR=5.3						
QZX				⇑S	**Sn**	**01 04 18.9**	**-0.6**
QZX	**Qazax, Azerbai**	**2.60**	**31**	P	**Pn**	**01 03 46.4**	**-1.0**
	SNR=5.3						
QZX				S	**Sn**	**01 04 18.9**	**-0.6**
GANJ	**Ganja**	**2.76**	**48**	⇑P	**Pn**	**01 03 49.0**	**-0.7**
	SNR=12						
GANJ				⇓S	**Sn**	**01 04 23.7**	**+0.2**
GANJ	**Ganja**	**2.76**	**48**	P	**Pn**	**01 03 49.0**	**-0.7**
	SNR=12						
GANJ				S	**Sn**	**01 04 23.7**	**+0.2**
MAZI	**Mazidag**	**2.85**	**242**	*e*PN	**Pn**	**01 03 51.9**	**+0.9**
MAZI	**Mazidag**	**2.85**	**242**	*e*Pn	**Pn**	**01 03 51.9**	**+0.9**
TBLG	**Delisi**	**3.02**	**16**	*e*PN	**Pn**	**01 03 53.8**	**+0.6**
TBLG	**Delisi**	**3.02**	**16**	P	**Pb**	**01 03 58.9**	**-0.1**
TBLG	**Delisi**	**3.02**	**16**	P	**Pb**	**01 03 58.8**	**-0.1**
TBLG	**Delisi**	**3.02**	**16**	*e*Pn	**Pn**	**01 03 53.8**	**+0.6**
BRDA	**Brd**	**3.10**	**61**	⇓P	**Pn**	**01 03 53.3**	**-1.0**
	SNR=8.1						
BRDA				⇑S	**Sn**	**01 04 31.9**	**0.0**
BRDA	**Brd**	**3.10**	**61**	P	**Pn**	**01 03 53.3**	**-1.0**
	SNR=8.1						
BRDA				S	**Sn**	**01 04 31.9**	**0.0**
ERZN	**Erzincan**	**3.12**	**285**	*e*PN	**Pn**	**01 03 55.7**	**+1.1**
PTK	**Pertek**	**3.30**	**272**	*e*PN	**Pn**	**01 03 58.8**	**+1.6**
PTK	**Pertek**	**3.30**	**272**	*e*Pn	**Pn**	**01 03 58.8**	**+1.6**
MNGR	**Mingechevir, A**	**3.30**	**53**	⇑P	**Pn**	**01 03 56.3**	**-0.7**
	SNR=11						
MNGR				⇓S	**Sn**	**01 04 36.7**	**0.0**
MNGR	**Mingechevir, A**	**3.30**	**53**	P	**Pn**	**01 03 56.3**	**-0.7**
	SNR=11						
MNGR				S	**Sn**	**01 04 36.7**	**0.0**
SVRC	**Sivrice-ELAZID**	**3.41**	**264**	*e*PN	**Pn**	**01 04 00.0**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.41**	**264**	*e*Pn	**Pn**	**01 04 00.0**	**+1.4**
EZC	**Erzincan**	**3.43**	**287**	*e*Pn	**Pn**	**01 03 55.7**	**-3.3**
ZRD	**Zardab**	**3.46**	**64**	⇓S	**Sn**	**01 04 40.8**	**+0.2**
ZRD	**Zardab**	**3.46**	**64**	S	**Sn**	**01 04 40.8**	**+0.2**
ZKTA	**Zakatala**	**3.63**	**38**	⇑P	**Pn**	**01 04 00.8**	**-0.7**
	SNR=13						
ZKTA				⇓S	**Sn**	**01 04 44.9**	**+0.1**
SEKA	**Sheki**	**3.63**	**48**	⇑P	**Pn**	**01 04 01.6**	**-0.1**
	SNR=4.2						
SEKA				⇑S	**Sn**	**01 04 46.1**	**+1.1**
SEKA	**Sheki**	**3.63**	**48**	P	**Pn**	**01 04 01.6**	**-0.1**
	SNR=4.2						
SEKA				S	**Sn**	**01 04 46.1**	**+1.1**
KTUT	**Trabzon**	**3.66**	**307**	*e*PN	**Pn**	**01 04 03.5**	**+1.5**
KTUT	**Trabzon**	**3.66**	**307**	*e*Pn	**Pn**	**01 04 03.5**	**+1.5**
LRK	**Lerik**	**3.70**	**91**	⇓P	**Pn**	**01 04 01.7**	**-1.0**
	SNR=6.0						
LRK				⇓S	**Sn**	**01 04 46.3**	**-0.5**
LRK	**Lerik**	**3.70**	**91**	P	**Pn**	**01 04 01.7**	**-1.0**
	SNR=6.0						
LRK				S	**Sn**	**01 04 46.3**	**-0.5**
GLBA	**Clilabad**	**3.74**	**82**	⇓P	**Pn**	**01 04 02.2**	**-0.9**
	SNR=3.8						
GLBA				⇑S	**Sn**	**01 04 47.4**	**-0.2**
GLBA	**Clilabad**	**3.74**	**82**	P	**Pn**	**01 04 02.2**	**-0.9**
	SNR=3.8						
GLBA				S	**Sn**	**01 04 47.4**	**-0.2**
ONI	**Oni**	**3.76**	**358**	P	**Pg**	**01 04 14.1**	**-2.5**
ONI	**Oni**	**3.76**	**358**	P	**Pg**	**01 04 14.0**	**-2.5**
KDMR	**Kurdemir**	**3.85**	**65**	⇑S	**Sn**	**01 04 50.3**	**0.0**
KDMR	**Kurdemir**	**3.85**	**65**	S	**Sn**	**01 04 50.3**	**0.0**
SAAT	**Saatly**	**3.87**	**73**	⇑P	**Pn**	**01 04 03.4**	**-1.4**
	SNR=4.9						
SAAT				⇓S	**Sn**	**01 04 49.8**	**-0.8**
SAAT	**Saatly**	**3.87**	**73**	P	**Pn**	**01 04 03.4**	**-1.4**
	SNR=4.9						
SAAT				S	**Sn**	**01 04 49.8**	**-0.8**
QBL	**Gabala**	**3.87**	**56**	⇑P	**Pn**	**01 04 04.0**	**-0.9**
	SNR=3.4						
QBL				⇓S	**Sn**	**01 04 50.6**	**-0.3**
QBL	**Gabala**	**3.87**	**56**	P	**Pn**	**01 04 04.0**	**-0.9**
	SNR=3.4						
QBL				S	**Sn**	**01 04 50.6**	**-0.3**
ZEI	**Tsey**	**3.96**	**3**	*e*P	**Pn**	**01 04 10.0**	**+3.7**
ZEI				pmax	pmax		
	comp=Z,14nm,0.6s						
IML	**Ismayilli**	**4.03**	**59**	⇑P	**Pn**	**01 04 06.0**	**-1.0**
	SNR=5.3						
IML				⇑S	**Sn**	**01 04 54.2**	**-0.5**
IML	**Ismayilli**	**4.03**	**59**	P	**Pn**	**01 04 06.0**	**-1.0**
	SNR=5.3						
IML				S	**Sn**	**01 04 54.2**	**-0.5**
URFA	**Urfa**	**4.03**	**251**	*e*PN	**Pn**	**01 04 09.5**	**+2.4**
URFA	**Urfa**	**4.03**	**251**	*e*Pn	**Pn**	**01 04 09.5**	**+2.4**
LKRN	**Lenkeran, Azer**	**4.04**	**90**	⇑P	**Pn**	**01 04 06.3**	**-0.8**
	SNR=4.4						
LKRN				⇑S	**Sn**	**01 04 54.8**	**-0.1**
LKRN	**Lenkeran, Azer**	**4.04**	**90**	P	**Pn**	**01 04 06.3**	**-0.8**
	SNR=4.4						
LKRN				S	**Sn**	**01 04 54.8**	**-0.1**
ASTR	**Astara**	**4.06**	**92**	⇓S	**Sn**	**01 04 55.4**	**0.0**
ASTR	**Astara**	**4.06**	**92**	S	**Sn**	**01 04 55.4**	**0.0**
XNQ	**Khinaliq**	**4.19**	**55**	⇓P	**Pn**	**01 04 08.3**	**-1.1**
	SNR=9.5						
XNQ				⇓S	**Sn**	**01 04 58.3**	**-0.6**
XNQ	**Khinaliq**	**4.19**	**55**	P	**Pn**	**01 04 08.3**	**-1.1**
	SNR=9.5						
XNQ				S	**Sn**	**01 04 58.3**	**-0.6**
PQL	**Pirkuli**	**4.30**	**61**	⇓P	**Pn**	**01 04 09.8**	**-1.2**
	SNR=5.7						
PQL				⇓S	**Sn**	**01 05 01.2**	**-0.4**
PQL	**Pirkuli**	**4.30**	**61**	P	**Pn**	**01 04 09.8**	**-1.2**
	SNR=5.7						
PQL				S	**Sn**	**01 05 01.2**	**-0.4**
QSAR	**Qusar**	**4.46**	**52**	⇑P	**Pn**	**01 04 12.1**	**-0.9**
	SNR=3.9						
QSAR	**Qusar**	**4.46**	**52**	P	**Pn**	**01 04 12.1**	**-0.9**
	SNR=3.9						
NEY	**Neytrino**	**4.46**	**352**	*i* P	**Pb**	**01 04 19.0**	**-4.6**
QUBA	**Quba, Azerbaij**	**4.51**	**54**	⇓P	**Pn**	**01 04 12.7**	**-1.0**
	SNR=6.2						
QUBA	**Quba, Azerbaij**	**4.51**	**54**	P	**Pn**	**01 04 12.7**	**-1.0**
	SNR=6.2						
ATGJ	**Altiaghaj**	**4.57**	**62**	⇓P	**Pn**	**01 04 13.5**	**-1.1**
	SNR=4.5						
ATGJ	**Altiaghaj**	**4.57**	**62**	P	**Pn**	**01 04 13.5**	**-1.1**
	SNR=4.5						
SIZA	**Siyzn**	**4.64**	**59**	⇓P	**Pn**	**01 04 14.4**	**-1.1**
SIZA	**Siyzn**	**4.64**	**59**	P	**Pn**	**01 04 14.4**	**-1.1**
NCK	**Nalchik**	**4.66**	**360**	*i* P	**Pn**	**01 04 19.4**	**+3.7**
NCK	**Nalchik**	**4.66**	**360**	*i* P	**Pn**	**01 04 19.4**	**+3.7**
GROC	**Groznyy**	**4.67**	**20**	*e*P	**Pb**	**01 04 28.3**	**+1.3**
GROC				pmax	pmax		
	comp=Z,42nm,1.2s						
DARE	**Darende-Malaty**	**4.80**	**269**	*e*PN	**Pn**	**01 04 20.3**	**+2.5**
DARE	**Darende-Malaty**	**4.80**	**269**	*e*Pn	**Pn**	**01 04 20.3**	**+2.5**
KBZ	**Khabaz**	**4.92**	**354**	Pn	**Pn**	**01 04 22.6**	**+3.3**
	comp=Z,0.0nm,0.3s,baz=267,slow=17,SNR=2.4						
KBZ				Pg	**Pb**	**01 04 31.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=3.3,SNR=4.0						
RSDY	**Resadiye-TOKAT**	**5.10**	**290**	*e*PN	**Pn**	**01 04 24.1**	**+2.3**
RSDY	**Resadiye-TOKAT**	**5.10**	**290**	*e*Pn	**Pn**	**01 04 24.1**	**+2.3**
KVAR	**Kislovodsk Arr**	**5.17**	**353**	Pn	**Pn**	**01 04 27.0**	**+4.2**
	baz=180,slow=12,SNR=3.1						
KVAR				LR	LR	01 06 58.7	
	comp=Z,116nm,20.4s,baz=123,slow=44						
KVAR	**Kislovodsk Arr**	**5.17**	**353**	Pn	**Pn**	**01 04 27.0**	**+4.2**
KIV	**Kislovodsk**	**5.17**	**353**	*e*P	**Pn**	**01 04 26.6**	**+3.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,14nm,7.0s						
KIV	**Kislovodsk**	**5.17**	**353**	*e*Pn	**Pn**	**01 04 22.2**	**-0.5**
	comp=Z,26nm,1.0s						
KIV	**Kislovodsk**	**5.17**	**353**	*e*P	**Pn**	**01 04 26.6**	**+3.8**
	comp=Z,14nm,7.0s						
KIV	**Kislovodsk**	**5.17**	**353**	*e*Pn	**Pn**	**01 04 22.2**	**-0.5**
	comp=Z,26nm,1.0s						
NDR	**Nardaran**	**5.21**	**68**	⇓P	**Pn**	**01 04 22.2**	**-1.1**
NDR	**Nardaran**	**5.21**	**68**	P	**Pn**	**01 04 22.2**	**-1.1**
SVSK	**Karacayir**	**5.24**	**284**	*e*PN	**Pn**	**01 04 25.9**	**+2.2**
SVSK	**Karacayir**	**5.24**	**284**	*e*Pn	**Pn**	**01 04 25.9**	**+2.2**
KMRS	**Kahramanmaras**	**5.46**	**258**	*e*PN	**Pn**	**01 04 29.3**	**+2.6**
KMRS	**Kahramanmaras**	**5.46**	**258**	*e*Pn	**Pn**	**01 04 29.3**	**+2.6**
SARI	**SarD1z-Kayseri**	**5.65**	**268**	*e*PN	**Pn**	**01 04 32.3**	**+2.8**
BRTR	**Keskin Array B**	**7.79**	**280**	Pn	**Pn**	**01 05 01.3**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=93,slow=12,SNR=3.9						
ASF	**Jabal al Asfar**	**8.61**	**222**	Pn	**Pn**	**01 05 09.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=97,slow=2.0,SNR=2.0						
ASF				Lg	Lg	01 07 38.9	
	comp=Z,0.1nm,0.3s,baz=18,slow=20,SNR=3.4						
MMAI	**Mount Meron Ar**	**8.83**	**231**	Pn	**Pn**	**01 05 14.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=68,slow=16,SNR=3.6						
MMAI				Lg	Lg	01 07 54.4	
	comp=Z,0.3nm,0.3s,baz=16,slow=27,SNR=3.2						
GEYT	**Alibeck**	**11.42**	**90**	Pn	**Pn**	**01 05 49.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=277,slow=19,SNR=2.2						
VSR	**Storozhevoye**	**12.77**	**347**	⇑*i*P	**Pn**	**01 06 10.7**	**+3.8**
RAYN	**Ar Rayn**	**15.35**	**173**	*e*Pn	**Pn**	**01 06 36.8**	**-5.3**
	comp=Z,2.9nm,0.8s						
AKTO	**Aktyubinsk**	**15.45**	**37**	Pn	**Pn**	**01 06 42.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=5.4						
AKASG	**Malin Array Be**	**15.63**	**324**	Pn	**Pn**	**01 06 45.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=6.1						
AKASG	**Malin Array Be**	**15.63**	**324**	*e*P	**Pn**	**01 06 46.8**	**+1.3**
KIEV	**Kiev**	**15.63**	**324**	⇓*i*P	**P**	**01 06 48.2**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KIEV	**Kiev**	**15.63**	**324**	*i* P	**P**	**01 06 48.2**	**-1.6**
	comp=Z,7.0nm,1.4s						
OBN	**Obninsk**	**16.97**	**346**	⇑*i*P	**Pn**	**01 07 02.9**	**+0.3**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
OBN	**Obninsk**	**16.97**	**346**	*i* P	**Pn**	**01 07 02.9**	**+0.3**
	comp=Z,9.0nm,1.2s						
STHS	**Stebnicka Huta**	**19.16**	**311**	*e*P	**Pn**	**01 07 31.8**	**+2.1**
STHS	**Stebnicka Huta**	**19.16**	**311**	*e*P	**Pn**	**01 07 31.8**	**+2.1**
STHS	**Stebnicka Huta**	**19.16**	**311**	*e*P	**Pn**	**01 07 31.8**	**+2.1**
ARU	**Arti**	**20.20**	**25**	P	**P**	**01 07 40.0**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=247,slow=9.1,SNR=6.2						
ARU	**Arti**	**20.20**	**25**	*c i*P	**P**	**01 07 39.9**	**-0.3**
ARU				S	Sn	01 11 31.1	+1.4
ARU				SS	**SnSn**	**01 11 50.9**	**+6.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**20.20**	**25**	*i* P	**P**	**01 07 39.9**	**-0.3**
	comp=Z,11nm,1.7s						
ARU	**Arti**	**20.20**	**25**	*e*P	**P**	**01 07 40.6**	**+0.5**
	comp=Z,22nm,1.3s						
VRAC	**Vranov**	**21.95**	**307**	P	**P**	**01 07 58.5**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=133,slow=7.3,SNR=4.7						
VRAC				LR	LR	01 18 22.1	
	comp=Z,15nm,18.4s,baz=12,slow=42						
KLMR	**Klimovskoe**	**22.20**	**355**	*e*P	**P**	**01 08 04.8**	**+3.2**
KLMR				pmax	pmax		
	comp=Z,35nm,1.5s						
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**01 08 06.1**	**+1.5**
DPC				*e*x	x	01 08 13.5	
DPC				*e*x	x	01 08 21.8	
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**01 08 06.1**	**+1.5**
DPC				*e*		01 08 13.5	
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**01 08 06.1**	**+1.5**
BRVK	**Borovoye**	**23.19**	**43**	*i* P	**P**	**01 08 13.6**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	**23.24**	**44**	P	**P**	**01 08 12.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=201,slow=7.6,SNR=4.0						
AAK	**Ala-Archa**	**23.64**	**71**	*i* P	**P**	**01 08 15.1**	**-1.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GERES	**GERESS Array B**	**23.65**	**305**	P	**P**	**01 08 16.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=109,slow=8.8,SNR=5.3						
KHC	**Kasperske Hory**	**23.80**	**305**	*e*P	**P**	**01 08 18.3**	**0.0**
KHC	**Kasperske Hory**	**23.80**	**305**	*e*P	**P**	**01 08 18.3**	**0.0**
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**01 08 27.0**	**-0.1**
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**01 08 27.0**	**-0.1**
KSH	**Kashi**	**25.03**	**78**	*e*P	**P**	**01 08 28.6**	**-1.2**
KSH				*e*PP	**PnPn**	**01 09 04.0**	**+1.3**
KSH				*e*PcP	**PcP**	**01 12 07.6**	**+3.0**
KSH				S	**S**	**01 12 48.8**	**-5.7**
KSH				SS	**SnSn**	**01 13 44.4**	**+1.8**
KSH				PcS	**PcS**	**01 15 48.3**	**+3.4**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,56nm,5.1s						
KSH				LR	LR		
	comp=N,57nm,5.8s						
KSH				LR	LR		
	comp=E,62nm,5.1s						
KSH				LR	LR		
	comp=Z,79n

ERZM			*i* S		Sn	01 09 10.5	+0.8
ERZM	**Erzurum**	**1.96**	**309**	P	Pn	01 08 44.8	+0.3
ERZM				S	Sn	01 09 10.5	+0.8
EAK	**Akyaka**	**2.00**	**6**	⇓*i*P	Pb	01 08 47.1	-0.1
EAK	**Akyaka**	**2.00**	**6**	P	Pb	01 08 47.1	-0.1
SENK	**Senkaya-Erzuru**	**2.02**	**338**	*e*PN	Pn	01 08 45.0	-0.2
SENK	**Senkaya-Erzuru**	**2.02**	**338**	*e*Pn	Pn	01 08 45.0	-0.2
BNGB	**Bing¶l**	**2.11**	**279**	*e*PN	Pn	01 08 47.8	+1.5
BINT	**Bingol**	**2.24**	**275**	*e*Pn	Pn	01 08 47.8	-0.5
YEDI	**Yedisu-Bingol**	**2.31**	**290**	*e*PN	Pn	01 08 50.4	+1.2
YEDI	**Yedisu-Bingol**	**2.31**	**290**	*e*Pn	Pn	01 08 50.4	+1.2
DDEM	**Demirkent**	**2.52**	**331**	*i* P	Pn	01 08 54.1	+2.1
DDEM	**Demirkent**	**2.52**	**331**	P	Pn	01 08 54.1	+2.1
BGD	**Bogdanovka**	**2.57**	**4**	P	Pb	01 08 58.1	+1.1
KOPT	**Kop Dagi**	**2.58**	**302**	⇓*i*P	Pb	01 08 55.4	-1.7
KOPT	**Kop Dagi**	**2.58**	**302**	P	Pb	01 08 55.4	-1.7
MAZI	**Mazidag**	**2.60**	**243**	*e*PN	Pb	01 08 55.7	-1.7
MAZI	**Mazidag**	**2.60**	**243**	*e*Pn	Pb	01 08 55.7	-1.7
DIYA	**Diyarbakir**	**2.66**	**254**	*i* P	Pn	01 08 55.2	+1.4
DIYA	**Diyarbakir**	**2.66**	**254**	P	Pn	01 08 55.2	+1.4
AKH	**Akhalkalaki**	**2.71**	**2**	*e*PN	Pn	01 08 53.9	-0.9
AKH	**Akhalkalaki**	**2.71**	**2**	P	Pb	01 09 00.8	+1.4
AKH	**Akhalkalaki**	**2.71**	**2**	*e*Pn	Pn	01 08 53.9	-0.9
GDB	**GEDABAY**	**2.74**	**42**	⇑P	Pb	01 08 59.6	-0.3
	SNR=5.8						
GDB				⇑S	Sg	01 09 37.0	-1.3
GDB	**GEDABAY**	**2.74**	**42**	P	Pb	01 08 59.6	-0.3
	SNR=5.8						
QZX	**Qazax, Azerbai**	**2.83**	**33**	⇑P	Pb	01 09 00.3	-0.9
	SNR=7.1						
QZX				⇑S	Sg	01 09 41.3	+0.4
QZX	**Qazax, Azerbai**	**2.83**	**33**	P	Pb	01 09 00.3	-0.9
	SNR=7.1						
EPOS	**Posof**	**2.84**	**351**	*i* P	Pn	01 08 59.1	+2.6
EPOS	**Posof**	**2.84**	**351**	P	Pn	01 08 59.1	+2.6
ERZN	**Erzincan**	**2.96**	**289**	*e*PN	Pn	01 08 59.6	+1.5
GANJ	**Ganja**	**3.01**	**49**	⇓P	Pn	01 09 01.3	+2.6
GANJ				⇑S	Sb	01 09 43.9	+2.4
GANJ	**Ganja**	**3.01**	**49**	P	Pn	01 09 01.3	+2.6
PTK	**Pertek**	**3.10**	**275**	*e*PN	Pn	01 09 02.0	+1.9
PTK	**Pertek**	**3.10**	**275**	*e*Pn	Pn	01 09 02.0	+1.9
SVRC	**Sivrice-ELAZID**	**3.19**	**266**	*e*PN	Pn	01 09 04.0	+2.7
SVRC	**Sivrice-ELAZID**	**3.19**	**266**	*e*Pn	Pn	01 09 04.0	+2.7
TBLG	**Delisi**	**3.21**	**19**	*e*PN	Pn	01 09 01.1	-0.4
TBLG	**Delisi**	**3.21**	**19**	P	Pb	01 09 10.0	+2.2
TBLG	**Delisi**	**3.21**	**19**	*e*Pn	Pn	01 09 01.1	-0.4
TBLG	**Delisi**	**3.21**	**19**	P	Pn	01 09 03.3	+1.8
EZC	**Erzincan**	**3.28**	**290**	*e*Pn	Pn	01 08 59.6	-2.9
BRDA	**Brd**	**3.35**	**61**	⇓P	Pn	01 09 05.4	+2.1
BRDA				⇑S	Sb	01 09 50.5	-0.8
BRDA	**Brd**	**3.35**	**61**	P	Pn	01 09 05.4	+2.1
BRDA				S	Sb	01 09 50.5	-0.8
MNGR	**Mingechevir, A**	**3.55**	**53**	⇑P	Pn	01 09 08.5	+2.4
MNGR				⇑S	Sb	01 09 56.5	-0.4
MNGR	**Mingechevir, A**	**3.55**	**53**	P	Pn	01 09 08.5	+2.4
KTUT	**Trabzon**	**3.58**	**311**	*e*PN	Pn	01 09 08.8	+2.3
KTUT	**Trabzon**	**3.58**	**311**	*e*Pn	Pn	01 09 08.8	+2.3
ZRD	**Zardab**	**3.71**	**63**	⇑P	Pn	01 09 10.1	+1.9
ZRD				⇑S	Sb	01 09 58.5	-3.0
ZRD	**Zardab**	**3.71**	**63**	P	Pn	01 09 10.1	+1.9
ZRD				S	Sb	01 09 58.5	-3.0
URFA	**Urfa**	**3.79**	**252**	*e*PN	Pn	01 09 12.2	+2.8
URFA	**Urfa**	**3.79**	**252**	*e*Pn	Pn	01 09 12.2	+2.8
GUDG	**Gudauri**	**3.86**	**12**	P	Pg	01 09 24.4	+0.3
ZKTA	**Zakatala**	**3.86**	**39**	⇑P	Pn	01 09 14.1	+3.7
ZKTA				⇑S	Sb	01 10 06.2	+0.2
SEKA	**Sheki**	**3.88**	**48**	⇑P	Pn	01 09 14.1	+3.4
SEKA				⇑S	Sb	01 10 06.9	+0.3
SEKA	**Sheki**	**3.88**	**48**	P	Pn	01 09 14.1	+3.4
ONI	**Oni**	**3.89**	**1**	P	Pb	01 09 21.4	+2.0
LRK	**Lerik**	**3.91**	**89**	⇓P	Pn	01 09 09.3	-1.8
LRK				⇑S	Sn	01 09 58.4	+0.8
LRK	**Lerik**	**3.91**	**89**	P	Pn	01 09 09.3	-1.8
LRK				S	Sn	01 09 58.4	+0.8
GLBA	**Clilabad**	**3.97**	**81**	⇑P	Pn	01 09 11.2	-0.6
GLBA				⇑S	Sn	01 10 01.6	+2.7
GLBA	**Clilabad**	**3.97**	**81**	P	Pn	01 09 11.2	-0.6
GLBA				S	Sn	01 10 01.6	+2.7
KDMR	**Kurdemir**	**4.10**	**64**	⇑S	Sb	01 10 08.8	-3.9
KDMR	**Kurdemir**	**4.10**	**64**	S	Sb	01 10 08.8	-3.9
SAAT	**Saatly**	**4.10**	**72**	⇓S	Sn	01 10 06.6	+4.4
SAAT	**Saatly**	**4.10**	**72**	S	Sn	01 10 06.6	+4.4
QBL	**Gabala**	**4.12**	**56**	⇑P	Pn	01 09 16.1	+2.1
QBL	**Gabala**	**4.12**	**56**	P	Pn	01 09 16.1	+2.1
LKRN	**Lenkeran, Azer**	**4.25**	**88**	⇑P	Pn	01 09 14.6	-1.0
LKRN				⇑S	Sn	01 10 06.7	+1.0
LKRN	**Lenkeran, Azer**	**4.25**	**88**	P	Pn	01 09 14.6	-1.0
LKRN				S	Sn	01 10 06.7	+1.0
ASTR	**Astara**	**4.26**	**90**	⇓P	Pn	01 09 14.2	-1.6
ASTR				⇓S	Sn	01 10 07.0	+0.9
ASTR	**Astara**	**4.26**	**90**	P	Pn	01 09 14.2	-1.6
ASTR				S	Sn	01 10 07.0	+0.9
IML	**Ismayilli**	**4.27**	**59**	⇑P	Pn	01 09 18.9	+2.8
IML	**Ismayilli**	**4.27**	**59**	P	Pn	01 09 18.9	+2.8
XNQ	**Khinaliq**	**4.43**	**55**	⇓P	Pn	01 09 20.4	+1.9
XNQ	**Khinaliq**	**4.43**	**55**	P	Pn	01 09 20.4	+1.9
PQL	**Pirkuli**	**4.55**	**61**	⇓P	Pn	01 09 21.1	+1.1
PQL	**Pirkuli**	**4.55**	**61**	P	Pn	01 09 21.1	+1.1
DARE	**Darende-Malaty**	**4.60**	**270**	*e*PN	Pn	01 09 23.9	+3.3
DARE	**Darende-Malaty**	**4.60**	**270**	*e*Pn	Pn	01 09 23.9	+3.3
GBS	**Qobustan**	**4.69**	**65**	⇓P	Pn	01 09 23.0	+1.1
GBS	**Qobustan**	**4.69**	**65**	P	Pn	01 09 23.0	+1.1
QSAR	**Qusar**	**4.70**	**52**	⇓P	Pn	01 09 24.3	+2.3
QSAR	**Qusar**	**4.70**	**52**	P	Pn	01 09 24.3	+2.3
QUBA	**Quba, Azerbaij**	**4.76**	**54**	⇑P	Pn	01 09 25.2	+2.5
QUBA	**Quba, Azerbaij**	**4.76**	**54**	P	Pn	01 09 25.2	+2.5
ATGJ	**Altiaghaj**	**4.82**	**62**	⇓P	Pn	01 09 25.1	+1.5
ATGJ	**Altiaghaj**	**4.82**	**62**	P	Pn	01 09 25.1	+1.5
SIZA	**Siyzn**	**4.88**	**59**	⇓P	Pn	01 09 26.0	+1.5
SIZA	**Siyzn**	**4.88**	**59**	P	Pn	01 09 26.0	+1.5
RSDY	**Resadiye-TOKAT**	**4.96**	**292**	*e*PN	Pn	01 09 28.8	+3.3
RSDY	**Resadiye-TOKAT**	**4.96**	**292**	*e*Pn	Pn	01 09 28.8	+3.3
KBZ	**Khabaz**	**5.04**	**356**	Pn	Pn	01 09 30.4	+3.9
	0.1nm,0.3s,baz=171,slow=8.7,SNR=3.8						
KVAR	**Kislovodsk Arr**	**5.28**	**355**	Pn	Pn	01 09 34.0	+4.1
	baz=132,slow=14,SNR=2.5						
NDR	**Nardaran**	**5.46**	**68**	⇓P	Pn	01 09 33.2	+0.9
NDR	**Nardaran**	**5.46**	**68**	P	Pn	01 09 33.2	+0.9
BRTR	**Keskin Array B**	**7.61**	**281**	Pn	Pn	01 10 08.0	+6.0
	0.0nm,0.3s,baz=69,slow=6.8,SNR=3.6						
ASF	**Jabal al Asfar**	**8.37**	**221**	Pn	Pn	01 10 17.2	+4.8
	0.1nm,0.3s,baz=101,slow=16,SNR=2.4						
ASF				Lg	Lg	01 12 36.5	
	0.1nm,0.3s,baz=49,slow=9.3,SNR=2.4						
MMAI	**Mount Meron Ar**	**8.59**	**231**	Pn	Pn	01 10 17.8	+2.5
	baz=68,slow=16,SNR=2.4						
MMAI				Lg	Lg	01 12 48.8	
	baz=39,slow=26,SNR=2.6						
AKASG	**Malin Array Be**	**15.62**	**325**	Pn	Pn	01 11 51.3	+0.3
	baz=131,slow=12,SNR=8.3						
AKTO	**Aktyubinsk**	**15.68**	**37**	Pn	Pn	01 11 51.6	-0.3
	0.1nm,0.3s,baz=234,slow=14,SNR=2.7						
ARU	**Arti**	**20.41**	**25**	P	P	01 12 47.2	-0.9
	1.1nm,0.4s,baz=286,slow=20,SNR=2.7						
BVAR	**Borovoye Array**	**23.48**	**44**	P	P	01 13 20.2	-0.5
	0.6nm,0.8s,baz=236,slow=16,SNR=3.3						
GERES	**GERESS Array B**	**23.55**	**305**	P	P	01 13 21.6	-0.1
	0.1nm,0.3s,baz=90,slow=5.9,SNR=2.4						
AAK	**Ala-Archa**	**23.88**	**71**	LR	LR	01 24 26.9	
	comp=Z,26nm,18.9s,baz=252,slow=41						
KURBB	**Kurchatov Arra**	**27.45**	**53**	P	P	01 13 54.6	-2.5
	0.7nm,0.6s,baz=262,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**29.47**	**61**	P	P	01 14 14.9	-0.3
	0.5nm,0.8s,baz=259,slow=6.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**52.00**	**96**	P	P	01 17 18.8	-2.2
	2.1nm,0.3s,baz=296,slow=11,SNR=4.4						
SEY	**Seymchan**	**64.09**	**29**	P	P	01 18 45.2	+0.2
	0.6nm,0.3s,baz=226,slow=18,SNR=3.4						

IDC 24** 01:09:24.1±4.0,* **45°.78N×153°.11E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/50, mbtmp3.9/7, MS2.9/2, Ms1 2.9/2, ms1mx2.3/59, Error ellipse: s-maj=122.1km s-min=38.2km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.52**	**255**	LR	LR	01 22 05.0	
	comp=Z,16nm,19.8s,baz=30,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.36**	**152**	T	T	01 46 59.5	
	baz=340,slow=76,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**28.38**	**152**	T	T	01 47 02.4	
	baz=340,slow=76,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**28.38**	**152**	T	T	01 47 00.7	
	baz=340,slow=76,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**29.44**	**153**	T	T	01 48 24.7	
	baz=341,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**29.45**	**153**	T	T	01 48 24.1	
	baz=341,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**29.46**	**153**	T	T	01 48 25.8	
	baz=341,slow=76,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.18**	**307**	LR	LR	01 36 04.6	
	comp=Z,25nm,19.0s,baz=248,slow=37						
MKAR	**Makanchi Array**	**47.39**	**298**	P	P	01 18 00.3	+0.4
	0.9nm,0.9s,baz=50,slow=9.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**47.99**	**304**	P	P	01 18 04.0	-0.5
	0.7nm,0.9s,baz=71,slow=8.7,SNR=4.3						
FINES	**FINESS Array B**	**64.92**	**335**	P	P	01 20 04.8	-0.1
	2.2nm,0.9s,baz=38,slow=7.0,SNR=3.9						
NOA	**NORSAR Array B**	**69.14**	**341**	P	P	01 20 32.2	+0.4
	1.4nm,0.9s,baz=29,slow=6.5,SNR=4.1						
HFS	**Hagfors**	**69.36**	**340**	P	P	01 20 33.5	+0.3
	1.2nm,0.6s,baz=46,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**72.35**	**326**	P	P	01 20 51.0	-0.4
	0.7nm,0.4s,baz=35,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array**	**77.97**	**60**	P	P	01 21 24.2	-0.1
	0.3nm,0.7s,baz=291,slow=3.9,SNR=3.5						

***IDC 24** 01:11:55.5±5.4, 36°.29N×70°.55E, h136km±41km, mb3.3/2, mb1 3.3/8, mb1mx3.0/63, mbtmp3.8/8, Error ellipse: s-maj=69.3km s-min=22.8km az=149.0*
*ISCJB **24** 01:11:58.1±0.6, 36°.67N±0°.04×70°.52E±0°.06, h204km, mb3.1/1, Error ellipse: s-maj=7.2km s-min=5.4km az=148.6*
*NNC **24** 01:12:03.6±3.8, 37°.01N×70°.42E, h186km±54km, mb3.1, mpv4.0, Error ellipse: s-maj=35.3km s-min=25.1km az=40.0*

ISC 24 01:11:59.4±0.8, 36°.71N±0°.07×70°.48E±0°.06, h204km, n21, σ2°59/29, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.98**	**15**	⇓P	Pn	01 13 27.1	+0.6
	13nm,0.6s						
MNAS				⇑S	S	01 14 32.4	-2.9
	29nm,0.5s						
KK31	**Karatay Array**	**6.39**	**0**	⇓P	Pn	01 13 32.6	+0.9
	7.0nm,0.3s,baz=197,slow=15,SNR=360						
KK31				⇑S	S	01 14 42.5	-2.2
	17nm,0.7s,baz=189,slow=24,SNR=10						
AAK	**Ala-Archa**	**6.68**	**26**	P	Pn	01 13 36.3	+0.6
	2.2nm,0.3s,baz=200,slow=13,SNR=22						
AAK				S	S	01 14 49.8	-2.0
	0.8nm,0.3s,baz=131,slow=20,SNR=4.4						
AAK	**Ala-Archa**	**6.68**	**26**	⇑P	Pn	01 13 36.0	+0.4
	4.4nm,0.5s						
AAK				⇓S	S	01 14 50.9	-1.0
	23nm,0.7s						
TKM2	**Tokmak 2**	**7.35**	**31**	⇓P	Pn	01 13 44.3	0.0
	5.0nm,0.6s						
TKM2				⇑S	S	01 15 06.0	-1.6
	8.4nm,0.7s						
GEYT	**Alibeck**	**9.92**	**281**	P	Pn	01 14 16.9	-0.7
	0.5nm,0.3s,baz=94,slow=15,SNR=8.8						
GEYT				S	S	01 16 04.7	-4.1
	1.1nm,0.3s,baz=106,slow=15,SNR=6.0						
MKAR	**Makanchi Array**	**13.38**	**37**	P	P	01 15 04.5	+0.6
	0.4nm,0.3s,baz=235,slow=12,SNR=14						
PYUN	**Piuthan**	**13.60**	**126**	*e*P	Pn	01 14 59.6	-4.9
	14nm,0.4s						
KOLN	**Koldanda**	**14.22**	**125**	*e*P	Pn	01 15 09.0	-3.2
AB31	**Akbulak array**	**14.70**	**332**	⇑P	P	01 15 18.9	+0.3
	1.0nm,0.3s						
AB31				⇑S	S	01 17 55.7	-4.9
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.07**	**20**	P	P	01 15 27.0	+4.5
	0.1nm,0.3s,baz=206,slow=11,SNR=6.7						
DMN	**Daman**	**15.34**	**122**	*e*P	Pn	01 15 24.1	-1.7
	20nm,0.5s						
PKIN	**Phulchoki**	**15.56**	**122**	*e*P	P	01 15 27.4	-1.1
	29nm,0.6s						
JIRN	**Jiri**	**16.05**	**120**	*e*P	P	01 15 33.6	-0.5
	141nm,0.3s						
BVAR	**Borovoye Array**	**16.32**	**360**	P	Pn	01 15 41.2	+4.1
	0.5nm,0.3s,baz=172,slow=12,SNR=9.3						
AKTO	**Aktyubinsk**	**16.39**	**331**	P	Pn	01 15 42.1	+4.1
	0.5nm,0.3s,baz=141,slow=13,SNR=12						
AKTO				S	S	01 18 34.3	-4.0
	0.0nm,0.3s,baz=115,slow=19,SNR=2.1						
AKTO	**Aktyubinsk**	**16.39**	**331**	⇓P	Pn	01 15 40.9	+2.9
	5.9nm,1.1s						
AKTO				⇑S	S	01 18 40.4	+2.1
	1.2nm,0.6s						
RAMN	**Ramite**	**16.78**	**121**	*e*P	P	01 15 41.0	-0.9
	22nm,0.5s						
TAPN	**Taplejung**	**17.31**	**118**	*e*P	Pn	01 15 49.3	-0.2
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	Pn	01 16 19.2	-0.3
	2.3nm,0.3s,baz=214,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**65.30**	**268**	P	P	01 22 23.4	+3.5
	0.3nm,0.6s,baz=52,slow=6.1,SNR=3.3						

***AZER 24** 01:12:46.1±0.6, 38°.31N×43°.33E, h7km, Error ellipse: s-maj=5.2km s-min=3.9km az=29.0*
*DDA **24** 01:12:48.2, 38°.82N×43°.47E, h3km, Ml3.4*
*ISK **24** 01:12:48.6, 38°.91N×43°.48E, h5km, ML3.1*
*CSEM **24** 01:12:50.0±0.2, 38°.75N×43°.49E, h2km, ML3.4, Error ellipse: s-maj=7.4km s-min=4.3km az=160.0*

ISC 24 01:12:48.7±1.1, 38°.80N±0°.02×43°.43E±0°.02, h6km±10km, n101, σ2°02/137, 18C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.56**	**211**	*i* P	Pb	01 13 00.5	-0.6
GEVA	**Gevas**	**0.56**	**211**	P	Pb	01 13 00.5	-0.6
DYDN	**Diyadin**	**0.77**	**15**	*i* P	Pg	01 13 02.7	-0.9
AGRB	**Hanur-Agry**	**0.85**	**337**	*e*PG	Pg	01 13 04.1	-0.9
AGRB				*e*SG	Sg	01 13 16.0	-0.1
AGRB	**Hanur-Agry**	**0.85**	**337**	*e*Pg	Pg	01 13 04.1	-0.9
AGRB				*e*Sg	Sg	01 13 16.0	-0.1
EKAR	**Karacoban**	**1.16**	**294**	*i* P	Pb	01 13 11.4	+0.2
HAKT	**HAKKARI**	**1.25**	**170**	*i* P	Pn	01 13 12.5	-0.5
HAKT	**HAKKARI**	**1.25**	**170**	P	Pn	01 13 12.5	-0.5
EATA	**Eleskirt**	**1.29**	**326**	*i* P	Pg	01 13 13.1	-0.4
SIRN	**S¨–rnak**	**1.52**	**212**	*i* P	Pg	01 13 19.4	+1.5
SIRN	**S¨–rnak**	**1.52**	**212**	P	Pg	01 13 19.4	+1.5
CUKT	**Cukurca**	**1.55**	**175**	*e*PN	Pg	01 13 19.4	+1.0
CUKT				*e*SN	Sg	01 13 43.3	+4.7
CUKT	**Cukurca**	**1.55**	**175**	*e*Pn	Pg	01 13 19.4	+1.0
VRTB	**Varto-Mus**	**1.58**	**284**	*e*PN	Pg	01 13 18.7	-0.3
VRTB				*e*SN	Sg	01 13 41.8	+2.3
VRTB	**Varto-Mus**	**1.58**	**284**	*i* P	Pb	01 13 18.3	-0.1
VRTB	**Varto-Mus**	**1.58**	**284**	P	Pb	01 13 18.3	-0.1
VRTB	**Varto-Mus**	**1.58**	**284**	*e*Pn	Pg	01 13 18.7	-0.3
VRTB				*e*Sn	Sg	01 13 41.8	+2.3
DIGO	**Kars**	**1.62**	**359**	*i* P	Pn	01 13 18.6	+0.5
DIGO	**Kars**	**1.62**	**359**	P	Pn	01 13 18.6	+0.5
NAX	**Nakhchivan**	**1.65**	**76**	⇑P	Pb	01 13 19.0	-0.7
NAX				⇓S	Sg	01 13 44.3	+2.4
NAX	**Nakhchivan**	**1.65**	**76**	P	Pb	01 13 19.0	-0.7
NAX				S	Sg	01 13 44.3	+2.4
HOMI	**Horasan**	**1.72**	**317**	*i* P	Pn	01 13 20.2	+0.8
BNGL	**BINGOL**	**1.79**	**276**	*i* P	Pg	01 13 22.3	-0.6
SVAN	**Silvan-Diyarba**	**1.86**	**251**	*e*PN	Pg	01 13 23.4	-0.9
SVAN	**Silvan-Diyarba**	**1.86**	**251**	*i* P	Pg	01 13 23.9	-0.5
SVAN	**Silvan-Diyarba**	**1.86**	**251**	*e*Pn	Pg	01 13 23.5	-0.9
SVAN	**Silvan-Diyarba**	**1.86**	**251**	P	Pg	01 13 23.9	-0.5
EAK	**Akyaka**	**1.89**	**4**	*i* P	Pb	01 13 24.3	+0.5
EAK	**Akyaka**	**1.89**	**4**	P	Pb	01 13 24.3	+0.5
BTMN	**Batman**	**1.92**	**243**	*i* P	Pg	01 13 24.7	-0.8
BTMN	**Batman**	**1.92**	**243**	P	Pg	01 13 24.7	-0.8
ERZM	**Erzurum**	**1.94**	**305**	*i* P	Pb	01 13 25.1	+0.4
ERZM	**Erzurum**	**1.94**	**305**	P	Pb	01 13 25.1	+0.4
SENK	**Senkaya-Erzuru**	**1.95**	**335**	*e*PN	Pn	01 13 23.1	+0.6
SENK	**Senkaya-Erzuru**	**1.95**	**335**	*e*Pn	Pn	01 13 23.2	+0.6
ECAT	**Cat-ERZURUM**	**2.07**	**294**	*i* P	Pb	01 13 27.4	+0.6
ECAT	**Cat-ERZURUM**	**2.07**	**294**	P	Pb	01 13 27.5	+0.6
BNGB	**Bing¶l**	**2.15**	**276**	*e*PN	Pb	01 13 27.6	-0.6
BINT	**Bingol**	**2.30**	**273**	*e*Pn	Pn	01 13 27.6	+0.3
YEDI	**Yedisu-Bingol**	**2.33**	**287**	*e*PN	Pb	01 13 29.9	-1.4
YEDI	**Yedisu-Bingol**	**2.33**	**287**	*e*Pn	Pb	01 13 29.9	-1.4
DDEM	**Demirkent**	**2.46**	**329**	*i* P	Pb	01 13 33.6	+0.2
DDEM	**Demirkent**	**2.46**	**329**	P	Pb	01 13 33.6	+0.2
MARD	**Mardin**	**2.56**	**236**	*i* P	Pn	01 13 31.6	+0.7
AKH	**Akhalkalaki**	**2.61**	**1**	*e*PN	Pn	01 13 32.2	+0.6
AKH	**Akhalkalaki**	**2.61**	**1**	*e*Pn	Pn	01 13 32.2	+0.6
GDB	**GEDABAY**	**2.63**	**42**	⇑P	Pb	01 13 36.2	-0.1
GDB				⇓S	Sg	01 14 13.2	+0.1
GDB	**GEDABAY**	**2.63**	**42**	P	Pb	01 13 36.2	-0.1
MAZI	**Mazidag**	**2.70**	**241**	*e*PN	Pb	01 13 36.1	-1.5
MAZI	**Mazidag**	**2.70**	**241**	*e*Pn	Pb	01 13 36.1	-1.5
QZX	**Qazax, Azerbai**	**2.71**	**33**	⇑P	Pb	01 13 37.1	-0.5
QZX				⇑S	Sg	01 14 15.1	-0.6
QZX	**Qazax, Azerbai**	**2.71**	**33**	P	Pb	01 13 37.1	-0.5
DIYA	**Diyarbakir**	**2.74**	**253**	*i* P	Pb	01 13 36.8	-1.4
DIYA	**Diyarbakir**	**2.74**	**253**	P	Pb	01 13 36.8	-1.4
GANJ	**Ganja**	**2.90**	**49**	⇑P	Pb	01 13 38.3	-2.5
GANJ				⇓S	Sb	01 14 18.8	+2.2
GANJ	**Ganja**	**2.90**	**49**	P	Pb	01 13 38.3	-2.5
TBLG	**Delisi**	**3.10**	**18**	*e*PN	Pn	01 13 39.3	+1.1
TBLG	**Delisi**	**3.10**	**18**	*e*Pn	Pn	01 13 39.3	+1.1
PTK	**Pertek**	**3.15**	**273**	*e*PN	Pb	01 13 42.2	-3.0
PTK	**Pertek**	**3.15**	**273**	*e*Pn	Pb	01 13 42.3	-3.0
BRDA	**Brd**	**3.25**	**62**	⇓P	Pn	01 13 42.0	+1.8
BRDA				⇑S	Sb	01 14 25.0	-1.6
BRDA	**Brd**	**3.25**	**62**	P	Pn	01 13 42.0	+1.8
BRDA				S	Sb	01 14 25.0	-1.6
SVRC	**Sivrice-ELAZID**	**3.26**	**264**	*e*PN	Pb	01 13 44.1	-2.9
SVRC	**Sivrice-ELAZID**	**3.26**	**264**	*e*Pn	Pb	01 13 44.1	-2.9
MNGR	**Mingechevir, A**	**3.44**	**54**	⇓P	Pn	01 13 45.2	+2.4
MNGR				⇑S	Sb	01 14 30.8	-1.3
MNGR	**Mingechevir, A**	**3.44**	**54**	P	Pn	01 13 45.2	+2.4
ZRD	**Zardab**	**3.61**	**64**	⇓P	Pn	01 13 46.8	+1.7
ZRD				⇓S	Sb	01 14 33.3	-3.6
ZRD	**Zardab**	**3.61**	**64**	P	Pn	01 13 46.8	+1.7
ZRD				S	Sb	01 14 33.3	-3.6
ZKTA	**Zakatala**	**3.75**	**40**	⇑P	Pn	01 13 50.2	+3.1
ZKTA				⇓S	Sb	01 14 40.1	-0.8
SEKA	**Sheki**	**3.77**	**49**	⇑P	Pn	01 13 50.7	+3.3
SEKA				⇑S	Sb	01 14 41.4	-0.2
SEKA	**Sheki**	**3.77**	**49**	P	Pn	01 13 50.7	+3.3
LRK	**Lerik**	**3.84**	**91**	⇓P	Pn	01 13 46.8	-1.8
LRK				⇑S	Sn	01 14 34.7	+0.5
LRK	**Lerik**	**3.84**	**91**	P	Pn	01 13 46.8	-1.8
LRK				S	Sn	01 14 34.7	+0.5
GLBA	**Clilabad**	**3.89**	**82**	⇑P	Pn	01 13 48.3	-0.8
GLBA			

ellipse: s-maj=21.6km s-min=16.6km az=172.0
*ISCJB **24** 01:38:47.1±0.8,23°.71S±0°.10×179°.9W±0°.1,h532km, mb3.9/10,Error ellipse: s-maj=17.8km s-min=13.0km az=1.4*
ISC 24 01:38:48.3±0.8,23°.9S±0°.1×179°.9W±0°.1,h532km,n16, σ1°73/18,mb3.9/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.54**	**39**	P	P	01 41 24.3	-8.3
	0.9nm,0.3s,baz=140,slow=7.9,SNR=2.8						
AFI				S	S	01 43 29.6	-18
	1.1nm,0.3s,baz=180,slow=20,SNR=2.0						
URZ	**Urewera**	**14.57**	**189**	P	**P**	**01 41 51.6**	**-1.8**
	1.5nm,0.3s,baz=283,slow=4.1,SNR=9.6						
URZ				S	**S**	**01 44 25.3**	**-0.7**
	0.3nm,0.3s,baz=67,slow=23,SNR=10						
CTA	**Charters Tower**	**31.55**	**270**	P	**P**	**01 44 27.6**	**+0.4**
	12nm,0.4s,baz=96,slow=11,SNR=17						
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**01 44 55.0**	**+0.5**
	1.6nm,0.4s,baz=108,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**01 45 54.0**	**0.0**
	6.6nm,0.7s,baz=95,slow=8.1,SNR=56						
ASAR				ScP	**ScP**	**01 50 38.7**	**+2.5**
	1.4nm,0.8s,baz=98,slow=4.1,SNR=8.5						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**01 45 56.4**	**-0.5**
	7.3nm,0.6s,baz=90,slow=5.9,SNR=248						
WRA				ScP	**ScP**	**01 50 41.1**	**+3.4**
	1.8nm,1.0s,baz=94,slow=4.0,SNR=7.5						
WRA				S	**S**	**01 51 37.2**	**-3.5**
	1.4nm,1.1s,baz=100,slow=14,SNR=3.4						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	**P**	**01 47 00.8**	**+0.2**
	2.7nm,0.6s,baz=85,slow=4.1,SNR=12						
VNDA	**Vanda**	**54.42**	**185**	P	**P**	**01 47 26.6**	**+1.8**
	0.9nm,0.7s,baz=5.9,slow=5.8,SNR=5.6						
MAW	**Mawson**	**77.81**	**200**	P	**P**	**01 49 51.2**	**+1.0**
	2.5nm,0.9s,baz=98,slow=6.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**01 50 50.4**	**+0.8**
	0.8nm,0.3s,baz=150,slow=3.1,SNR=4.9						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**01 50 52.2**	**-0.8**
	0.8nm,0.8s,baz=223,slow=6.3,SNR=9.1						
PDAR	**Pinedale Array**	**92.61**	**44**	P	**P**	**01 51 01.7**	**-1.6**
	0.3nm,0.7s,baz=220,slow=5.4,SNR=3.5						
HFS	**Hagfors**	**142.53**	**349**	PKhKP	PKPpre	01 57 15.2	
	0.8nm,0.3s,baz=64,slow=3.4,SNR=8.0						
AKASG	**Malin Array Be**	**144.98**	**327**	PKP	**PKPdf**	**01 57 23.2**	**-1.4**
	0.3nm,0.5s,baz=46,slow=4.0						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKPdf**	**01 57 30.5**	**+0.9**
	0.4nm,0.6s,baz=111,slow=3.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**169.23**	**188**	PKPab	**PKPab**	**01 59 11.0**	**+0.1**
	baz=161,slow=4.9						

*IDC **24** 01:38:59.8±1.2, 1°.76N×94°.54E, h0km, mb3.8/8, mb1 4.1/10,mb1mx3.7/50,mbtmp3.9/10,ML4.0/2,MS3.0/5, Ms1 3.0/5,ms1mx2.6/43,Error ellipse: s-maj=47.2km s-min=16.0km az=58.0*
*ISCJB **24** 01:39:02.8±0.7, 1°.85N±0°.04×94°.82E±0°.05,h20km, mb3.8/8,MS3.0/3,Error ellipse: s-maj=7.4km s-min=6.1km az=151.3*
*DJA **24** 01:39:08.4±0.9,2°N±3°×9°E±°,h51km±30km,M4.5/7, mB4.9/1,mb4.9/1,MLv4.3/7,Mw(mB)4.1/1*
ISC 24 01:39:04.1±0.9,1°.88N±0°.06×94°.81E±0°.09,h20km,n34, σ1°32/37,mb3.9/8,MS2.8/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.61**	**71**	P	**Pn**	**01 39 32.3**	**+0.9**
SNSI				S	**Sn**	**01 39 50.7**	**-0.9**
TPTI		**2.74**	**60**	P	**Pn**	**01 39 47.4**	**+0.4**
TPTI				S	**Sn**	**01 40 17.9**	**-1.6**
MLSI	**Meulaboh, Aceh**	**2.85**	**34**	P	**Pn**	**01 39 48.1**	**-0.5**
MLSI				S	**Sn**	**01 40 20.4**	**-2.0**
KCSI	**Kotacane, Aceh**	**3.38**	**61**	P	**Pn**	**01 39 57.5**	**+1.7**
KCSI				S	**Sn**	**01 40 36.1**	**+0.7**
LHMI	**Lhok Sumawe**	**3.95**	**33**	P	**Pn**	**01 40 04.7**	**+1.0**
LHMI				S	**Sn**	**01 40 50.0**	**+0.5**
PBSI	**Pulau Batu**	**3.97**	**119**	P	**Pn**	**01 40 05.8**	**+1.8**
PBSI				S	**Sn**	**01 40 47.3**	**-2.7**
PSI	**Prapat**	**4.21**	**77**	Pn	**Pn**	**01 40 08.9**	**+1.5**
	2.3nm,0.3s,baz=271,slow=5.4,SNR=17						
PSI				Sn	**Sn**	**01 40 52.6**	**-3.5**
	5.2nm,0.3s,baz=240,slow=19,SNR=6.2						
SISI	**Saibi**	**5.34**	**127**	P	**Pn**	**01 40 24.1**	**+1.3**
PDSI	**Padang**	**6.30**	**116**	P	Pn	01 40 42.4	+6.4
PDSI				S	**Sn**	**01 41 47.0**	**-0.5**
UTHA	**Uthaitani**	**14.34**	**18**	P	**P**	**01 42 34.4**	**+1.3**
	4.5nm,0.9s						
PALK	**Pallekele**	**15.04**	**291**	LR	LR	01 47 40.0	
	comp=Z,86nm,19.2s,baz=116,slow=35						
PBKT	**Sadao Pong**	**15.80**	**22**	P	**P**	**01 42 49.1**	**-0.3**
	10nm,0.9s,3μm						
KHON	**Khomkaen**	**16.39**	**28**	P	**P**	**01 42 57.7**	**+1.8**
	20nm,0.9s,1μm						
UTTA	**Uttaradit**	**16.74**	**19**	P	**P**	**01 43 01.1**	**+1.3**
	3.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**16.96**	**14**	P	**Pn**	**01 43 00.4**	**0.0**
	0.5nm,0.3s,baz=207,slow=11,SNR=37						
CMAR				LR	LR	01 50 13.3	
	comp=Z,36nm,19.8s,baz=214,slow=39						
LAMP	**Lampang**	**17.20**	**16**	P	**P**	**01 43 06.5**	**+1.6**
	5.1nm,0.8s						
CHTO	**Chiang Mai**	**17.31**	**13**	P	**P**	**01 43 06.8**	**+0.7**
	55nm,1.0s						
PANO	**Nakornpanom**	**17.97**	**32**	P	**Pn**	**01 43 14.5**	**+1.5**
	22nm,0.7s						
CMAI	**Chiengmai2**	**18.41**	**13**	P	**P**	**01 43 18.8**	**+0.4**
H08S2	**Diego Garcia H**	**24.19**	**247**	T	T	02 10 07.7	
	baz=66,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**24.19**	**247**	T	T	02 10 13.1	
	baz=66,slow=76,SNR=19						
H08S1	**Diego Garcia H**	**24.20**	**247**	T	T	02 10 09.1	
	baz=66,slow=76,SNR=21						
FITZ	**Fitzroy Crossi**	**36.28**	**125**	P	**P**	**01 46 06.0**	**-0.5**
	3.9nm,0.8s,baz=286,slow=5.0,SNR=11						
FITZ				PcP	**PcP**	**01 48 29.9**	**-1.6**
	0.8nm,0.7s,baz=338,slow=19,SNR=5.2						
WRA	**Warramunga Arr**	**44.43**	**121**	P	**P**	**01 47 14.2**	**+0.1**
	2.3nm,0.9s,baz=301,slow=9.1,SNR=10						
WRA				PcP	**PcP**	**01 48 57.3**	**-0.4**
	0.4nm,0.8s,baz=308,slow=3.0,SNR=2.8						
ASAR	**Alice Springs**	**45.72**	**126**	P	**P**	**01 47 24.6**	**+0.3**
	1.9nm,0.7s,baz=297,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**01 49 02.0**	**-0.1**
	0.6nm,0.7s,baz=298,slow=3.9,SNR=4.2						
MKAR	**Makanchi Array**	**46.04**	**348**	P	**P**	**01 47 26.0**	**-0.5**
	0.4nm,0.5s,baz=158,slow=9.0,SNR=3.0						
KSRS	**Korea Array**	**46.69**	**37**	LR	LR	02 09 32.7	
	comp=Z,11nm,19.0s,baz=20,slow=39						
SONM	**Songino Array**	**46.86**	**11**	P	**P**	**01 47 33.1**	**+0.1**
	0.7nm,0.6s,baz=188,slow=9.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**50.48**	**347**	P	**P**	**01 47 59.7**	**-1.0**
	0.5nm,0.6s,baz=162,slow=6.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.54**	**353**	P	**P**	**01 48 16.1**	**+0.2**
	0.6nm,0.4s,baz=162,slow=6.3,SNR=2.6						
MJAR	**Matsushiro Arr**	**52.83**	**44**	LR	LR	02 11 34.3	
	comp=Z,8.3nm,21.9s,baz=290,slow=37						
BVAR	**Borovoye Array**	**54.85**	**342**	P	**P**	**01 48 31.6**	**-1.4**
	0.2nm,0.4s,baz=239,slow=42,SNR=1.9						
DBIC	**Dimbokro**	**99.37**	**277**	LR	LR	02 36 33.9	
	comp=Z,12nm,18.8s,baz=76,slow=35						
TXAR	**Lajitas Array**	**144.28**	**28**	PKP	**PKPab**	**01 58 37.2**	**-0.3**
	0.3nm,0.8s,baz=230,slow=0.7,SNR=3.5						

*NSSC **24** 01:38:58.8±1.7,39°.31N×45°.09E,h37km±798km,ML3.3*
*IDC **24** 01:39:12.6±1.0,38°.37N×43°.61E,h0km,mb3.7/11, mb1 3.8/16,mb1mx3.6/42,mbtmp3.6/16,ML3.0/5,MS3.0/7, Ms1 3.1/7,ms1mx2.7/36,Error ellipse: s-maj=17.3km s-min=10.8km az=147.0*
*AZER **24** 01:39:14.8±0.5,38°.08N×43°.48E,h9km,Error ellipse: s-maj=5.5km s-min=3.2km az=177.0*
*DDA **24** 01:39:15.8,38°.74N×43°.39E,h22km,Ml4.1*
*ISK **24** 01:39:15.9,38°.80N×43°.31E,h5km,ML3.9*
*CSEM **24** 01:39:17.2±0.2,38°.74N×43°.29E,h2km,ML4.1,Error ellipse: s-maj=5.0km s-min=3.5km az=151.0*
ISC 24 01:39:16.0±1.0,38°.74N±0°.02×43°.46E±0°.02,h11km±7km, n165,σ2°23/217,mb3.8/10,27C-34D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.53**	**216**	⇑*i*P	**Pg**	**01 39 25.2**	**-1.1**
GEVA				*i* S	**Sg**	**01 39 34.0**	**+0.6**
GEVA	**Gevas**	**0.53**	**216**	P	**Pg**	**01 39 25.2**	**-1.1**
GEVA				S	**Sg**	**01 39 34.0**	**+0.6**
BASK	**Baskale_VAN**	**0.81**	**148**	*e*P	**Pg**	**01 39 31.4**	**-0.2**
BASK				*i* S	**Sn**	**01 39 45.3**	**-0.4**
DYDN	**Diyadin**	**0.82**	**13**	⇑*i*P	**Pg**	**01 39 31.5**	**-0.5**
DYDN				*i* S	**Sb**	**01 39 43.6**	**-0.1**
DYDN	**Diyadin**	**0.82**	**13**	P	**Pg**	**01 39 31.5**	**-0.5**
DYDN				S	**Sb**	**01 39 43.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.91**	**337**	*e*PG	**Pg**	**01 39 32.4**	**-1.2**
AGRB				*e*SG	**Sg**	**01 39 44.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**337**	*e*Pg	**Pg**	**01 39 32.4**	**-1.2**
AGRB				*e*Sg	**Sg**	**01 39 44.8**	**-0.7**
HAKT	**HAKKARI**	**1.20**	**170**	⇓*i*P	**Pb**	**01 39 37.5**	**-1.3**
HAKT				*i* S	**Sn**	**01 39 56.8**	**+1.5**
EKAR	**Karacoban**	**1.20**	**296**	⇓*i*P	**Pb**	**01 39 37.8**	**-1.2**
EKAR				*i* S	**Sn**	**01 39 55.6**	**+0.1**
EKAR	**Karacoban**	**1.20**	**296**	P	**Pb**	**01 39 37.8**	**-1.2**
EATA	**Eleskirt**	**1.35**	**327**	⇓*i*P	**Pn**	**01 39 40.2**	**-0.9**
EATA				*i* S	**Sn**	**01 39 59.6**	**+0.4**
EATA	**Eleskirt**	**1.35**	**327**	P	**Pn**	**01 39 40.2**	**-0.9**
EATA				S	**Sn**	**01 39 59.6**	**+0.4**
SIRN	**S¨–rnak**	**1.49**	**214**	⇑*i*P	**Pn**	**01 39 42.0**	**-0.8**
SIRN	**S¨–rnak**	**1.49**	**214**	P	**Pn**	**01 39 42.0**	**-0.8**
CUKT	**Cukurca**	**1.49**	**175**	*e*PN	**Pg**	**01 39 45.6**	**+0.9**
CUKT				*e*SN	**Sg**	**01 40 08.0**	**+3.9**
CUKT	**Cukurca**	**1.49**	**175**	⇓*i*P	**Pg**	**01 39 44.8**	**+0.1**
CUKT				*i* S	**Sg**	**01 40 09.4**	**+5.4**
CUKT	**Cukurca**	**1.49**	**175**	P	**Pg**	**01 39 44.8**	**+0.1**
CUKT	**Cukurca**	**1.49**	**175**	*e*Pn	**Pg**	**01 39 45.6**	**+0.9**
CUKT				*e*Sn	**Sg**	**01 40 08.0**	**+3.9**
VRTB	**Varto-Mus**	**1.62**	**286**	*e*PN	**Pn**	**01 39 44.5**	**-0.1**
VRTB	**Varto-Mus**	**1.62**	**286**	⇓*i*P	**Pn**	**01 39 44.2**	**-0.4**
VRTB				*i* S	**Sg**	**01 40 08.5**	**+0.5**
VRTB	**Varto-Mus**	**1.62**	**286**	P	**Pn**	**01 39 44.2**	**-0.4**
VRTB	**Varto-Mus**	**1.62**	**286**	*e*Pn	**Pn**	**01 39 44.6**	**-0.1**
NAX	**Nakhchivan**	**1.65**	**74**	⇑P	**Pg**	**01 39 47.9**	**+0.3**
	SNR=96						
NAX				⇓S	**Sg**	**01 40 14.0**	**+5.0**
NAX	**Nakhchivan**	**1.65**	**74**	P	**Pg**	**01 39 47.9**	**+0.3**
	SNR=96						
NAX				S	**Sg**	**01 40 14.0**	**+5.0**
DIGO	**Kars**	**1.68**	**358**	⇓*i*P	**Pb**	**01 39 46.7**	**-0.3**
DIGO				*i* S	**Sg**	**01 40 12.9**	**+2.9**
DIGO	**Kars**	**1.68**	**358**	P	**Pb**	**01 39 46.7**	**-0.3**
GNI	**Garni**	**1.72**	**35**	Pn	**Pg**	**01 39 48.9**	**-0.2**
	78nm,0.3s,baz=273,slow=3.7,SNR=66						
GNI				Lg	Lg	01 40 15.9	
	57nm,0.3s,baz=108,slow=6.4,SNR=8.5						
HOMI	**Horasan**	**1.77**	**318**	⇓*i*P	**Pn**	**01 39 47.3**	**+0.4**
HOMI				*i* S	**Sg**	**01 40 16.1**	**+3.0**
BNGL	**BINGOL**	**1.81**	**277**	⇓*i*P	**Pn**	**01 39 48.1**	**+0.7**
BNGL				*i* S	**Sb**	**01 40 13.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	*e*PN	**Pn**	**01 39 48.7**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	⇑*i*P	**Pn**	**01 39 47.9**	**-0.1**
SVAN				*i* S	**Sb**	**01 40 14.8**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	P	**Pn**	**01 39 47.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.87**	**252**	*e*Pn	**Pn**	**01 39 48.7**	**+0.7**
BTMN	**Batman**	**1.92**	**244**	⇑*i*P	**Pn**	**01 39 48.8**	**+0.1**
BTMN				*i* S	**Sb**	**01 40 16.2**	**+1.2**
BTMN	**Batman**	**1.92**	**244**	P	**Pn**	**01 39 48.8**	**+0.1**
EAK	**Akyaka**	**1.95**	**3**	⇓*i*P	**Pg**	**01 39 52.8**	**-0.6**
EAK				*i* S	**Sg**	**01 40 24.3**	**+5.6**
EAK	**Akyaka**	**1.95**	**3**	P	**Pg**	**01 39 52.8**	**-0.6**
ERZM	**Erzurum**	**2.00**	**306**	⇑*i*P	**Pn**	**01 39 50.5**	**+0.5**
ERZM				*i* S	**Sg**	**01 40 20.3**	**+0.1**
ERZM	**Erzurum**	**2.00**	**306**	P	**Pn**	**01 39 50.5**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.01**	**335**	*e*PN	**Pn**	**01 39 50.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**335**	*e*Pn	**Pn**	**01 39 50.7**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.12**	**295**	⇓*i*P	**Pn**	**01 39 52.9**	**+1.3**
ECAT				*i* S	**Sg**	**01 40 22.9**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.12**	**295**	P	**Pn**	**01 39 52.9**	**+1.3**
BNGB	**Bing¨¶l**	**2.18**	**277**	*e*PN	**Pn**	**01 39 53.2**	**+0.8**
BINT	**Bingol**	**2.32**	**274**	*e*Pn	**Pn**	**01 39 53.2**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*PN	**Pn**	**01 39 55.7**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*Pn	**Pn**	**01 39 55.7**	**+0.7**
BGD	**Bogdanovka**	**2.52**	**2**	P	**Pg**	**01 40 03.4**	**-1.0**
MARD	**Mardin**	**2.55**	**237**	⇑*i*P	**Pn**	**01 39 57.6**	**+0.1**
MARD				*i* S	**Sg**	**01 40 36.5**	**-1.4**
GDB	**GEDABAY**	**2.66**	**41**	⇓P	**Pb**	**01 40 04.9**	**+1.2**
	SNR=7.9						
GDB				⇑S	**Sg**	**01 40 44.8**	**+3.4**
GDB	**GEDABAY**	**2.66**	**41**	P	**Pb**	**01 40 04.9**	**+1.2**
	SNR=7.9						
AKH	**Akhalkalaki**	**2.67**	**1**	*e*PN	**Pn**	**01 40 01.3**	**+2.2**
AKH	**Akhalkalaki**	**2.67**	**1**	P	**Pg**	**01 40 06.3**	**-0.9**
AKH	**Akhalkalaki**	**2.67**	**1**	*e*Pn	**Pn**	**01 40 01.3**	**+2.2**
MAZI	**Mazidag**	**2.70**	**243**	*e*PN	**Pn**	**01 39 59.0**	**-0.4**
MAZI	**Mazidag**	**2.70**	**243**	*e*Pn	**Pn**	**01 39 59.0**	**-0.4**
QZX	**Qazax, Azerbai**	**2.75**	**32**	⇑P	**Pg**	**01 40 06.8**	**-1.8**
	SNR=76						
QZX				⇑S	**Sg**	**01 40 45.7**	**+1.6**
QZX	**Qazax, Azerbai**	**2.75**	**32**	P	**Pg**	**01 40 06.8**	**-1.8**
	SNR=76						
DIYA	**Diyarbakir**	**2.75**	**254**	*i* P	**Pn**	**01 40 01.3**	**+1.2**
DIYA				*i* S	**Sb**	**01 40 39.5**	**+0.6**
DIYA	**Diyarbakir**	**2.75**	**254**	P	**Pn**	**01 40 01.3**	**+1.2**
GANJ	**Ganja**	**2.92**	**48**	⇑P	**Pb**	**01 40 07.9**	**-0.2**
	SNR=54						
GANJ				⇑S	**Sg**	**01 40 49.2**	**-0.5**
GANJ	**Ganja**	**2.92**	**48**	P	**Pb**	**01 40 07.9**	**-0.2**
	SNR=54						
ERZN	**Erzincan**	**3.02**	**287**	*e*PN	**Pn**	**01 40 05.1**	**+1.1**
EUZM	**Uzumlu**	**3.08**	**289**	⇑*i*P	**Pb**	**01 40 10.1**	**-0.7**
EUZM				*i* S	**Sg**	**01 40 54.1**	**-0.7**
DGRG	**David-gareji**	**3.08**	**28**	P	**Pb**	**01 40 11.0**	**+0.1**
TBLG	**Delisi**	**3.15**	**18**	*e*PN	**Pn**	**01 40 08.5**	**+3.0**
TBLG	**Delisi**	**3.15**	**18**	P	**Pb**	**01 40 13.2**	**+1.3**
TBLG	**Delisi**	**3.15**	**18**	*e*Pn	**Pn**	**01 40 08.5**	**+3.0**
PTK	**Pertek**	**3.18**	**274**	*e*PN	**Pn**	**01 40 07.3**	**+1.1**
PTK	**Pertek**	**3.18**	**274**	*e*Pn	**Pn**	**01 40 07.3**	**+1.1**
BRDA	**Brd**	**3.26**	**61**	⇓P	**Pb**	**01 40 11.2**	**-2.6**
	SNR=19						
BRDA				⇓S	**Sb**	**01 40 54.7**	**+1.2**
BRDA	**Brd**	**3.26**	**61**	P	**Pb**	**01 40 11.2**	**-2.6**
	SNR=19						
BRDA				S	**Sb**	**01 40 54.7**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	*e*PN	**Pn**	**01 40 08.8**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.27**	**265**	*e*Pn	**Pn**	**01 40 08.8**	**+1.4**
EZC	**Erzincan**	**3.34**	**289**	*e*Pn	**Pn**	**01 40 05.1**	**-3.3**
MNGR	**Mingechevir, A**	**3.46**	**53**	⇓P	**Pb**	**01 40 15.2**	**-2.0**
	SNR=3.3						
MNGR				⇓S	**Sb**	**01 41 01.2**	**+2.0**
MNGR	**Mingechevir, A**	**3.46**	**53**	P	**Pb**	**01 40 15.2**	**-2.0**
	SNR=3.3						
ZRD	**Zardab**	**3.61**	**63**	⇓P	**Pb**	**01 40 15.7**	**-4.2**
	SNR=9.4						
ZRD				⇑S	**Sb**	**01 41 03.0**	**-0.7**
ZRD	**Zardab**	**3.61**	**63**	P	**Pb**	**01 40 15.7**	**-4.2**
	SNR=9.4						
ZRD				S	**Sb**	**01 41 03.0**	**-0.7**
KTUT	**Trabzon**	**3.62**	**309**	*e*PN	**Pn**	**01 40 13.8**	**+1.8**
KTUT	**Trabzon**	**3.62**	**309**	*e*Pn	**Pn**	**01 40 13.8**	**+1.8**
ZKTA	**Zakatala**	**3.78**	**39**	⇑P	**Pb**	**01 40 20.7**	**-1.9**
	SNR=17						
ZKTA				⇑S	**Sb**	**01 41 12.3**	**+3.8**
SEKA	**Sheki**	**3.79**	**48**	⇓P	**Pb**	**01 40 21.3**	**-1.6**
	SNR=8.8						
SEKA				⇑S	**Sb**	**01 41 12.2**	**+3.4**
SEKA	**Sheki**	**3.79**	**48**	P	**Pb**	**01 40 21.3**	**-1.6**
	SNR=8.8						
LRK	**Lerik**	**3.82**	**90**	⇓P	**Pn**	**01 40 14.7**	**-0.2**
	SNR=10						
LRK				⇓S	**Sn**	**01 41 00.9**	**+0.9**
LRK	**Lerik**	**3.82**	**90**	P	**Pn**	**01 40 14.7**	**-0.2**
	SNR=10						
LRK				S	**Sn**	**01 41 00.9**	**+0.9**
ONI	**Oni**	**3.85**	**360**	P	**Pg**	**01 40 26.7**	**-3.0**
GLBA	**Cilabad**	**3.88**	**81**	⇓P	**Pn**	**01 40 16.5**	**+1.0**
	SNR=8.5						
GLBA				⇑S	**Sn**	**01 41 05.0**	**+3.9**
GLBA	**Cilabad**	**3.88**	**81**	P	**Pn**	**01 40 16.5**	**+1.0**
	SNR=8.5						
GLBA				S	**Sn**	**01 41 05.0**	**+3.9**
URFA	**Urfa**	**3.88**	**252**	*e*PN	**Pn**	**01 40 17.6**	**+1.9**
URFA	**Urfa**	**3.88**	**252**	*e*Pn	**Pn**	**01 40 17.6**	**+1.9**
KDMR	**Kurdemir**	**4.00**	**64**	⇓P	**Pn**	**01 40 20.2**	**+3.0**
	SNR=4.6						
KDMR				⇑S	**Sb**	**01 41 12.0**	**-2.9**
KDMR	**Kurdemir**	**4.00**	**64**	P	**Pn**	**01 40 20.2**	**+3.0**
	SNR=4.6						
KDMR				S	**Sb**	**01 41 12.0**	**-2.9**
SAAT	**Saatly**	**4.01**	**72**	⇑P	**Pn**	**01 40 19.4**	**+2.0**
	SNR=4.7						
SAAT				⇓S	**Sb**	**01 41 09.6**	**-5.6**
SAAT	**Saatly**	**4.01**	**72**	P	**Pn**	**01 40 19.4**	**+2.0**
	SNR=4.7						
SAAT				S	**Sb**	**01 41 09.6**	**-5.6**
QBL	**Gabala**	**4.03**	**55**	⇓P	**Pn**	**01 40 21.4**	**+3.7**
	SNR=13						
QBL				⇓S	**Sb**	**01 41 14.4**	**-1.3**
QBL	**Gabala**	**4.03**	**55**	P	**Pn**	**01 40 21.4**	**+3.7**
	SNR=13						
QBL				S	**Sb**	**01 41 14.4**	**-1.3**
LKRN	**Lenkeran, Azer**	**4.16**	**89**	⇓P	**Pn**	**01 40 19.5**	**+0.1**
	SNR=3.4						
LKRN				⇓S	**Sn**	**01 41 09.5**	**+1.4**
LKRN	**Lenkeran, Azer**	**4.16**	**89**	P	**Pn**	**01 40 19.5**	**+0.1**
	SNR=3.4						
LKRN				S	**Sn**	**01 41 09.5**	**+1.4**
ASTR	**Astara**	**4.18**	**91**	⇓P	**Pn**	**01 40 19.1**	**-0.6**
	SNR=5.6						
ASTR				⇑S	**Sn**	**01 41 09.0**	**+0.5**
ASTR	**Astara**	**4.18**	**91**	P	**Pn**	**01 40 19.1**	**-0.6**
	SNR=5.6						
IML	**Ismayilli**	**4.18**	**59**	⇑P	**Pn**	**01 40 23.6**	**+3.9**
	SNR=5.9						
IML				⇓S	**Sb**	**01 41 17.2**	**-2.9**
IML	**Ismayilli**	**4.18**	**59**	P	**Pn**	**01 40 23.6**	**+3.9**
	SNR=5.9						
IML				S	**Sb**	**01 41 17.2**	**-2.9**
XNQ	**Khinaliq**	**4.34**	**54**	⇓P	Pb	01 40 27.2	-5.3
	SNR=13						
XNQ				⇓S	**Sb**	**01 41 22.4**	**-2.5**
XNQ	**Khinaliq**	**4.34**	**54**	P	Pb	01 40 27.2	-5.2
	SNR=13						
XNQ				S	**Sb**	**01 41 22.4**	**-2.5**
PQL	**Pirkuli**	**4.46**	**61**	⇓P	**Pn**	**01 40 27.2**	**+3.5**
	SNR=19						
PQL				⇑S	**Sb**	**01 41 23.2**	**-4.9**
PQL	**Pirkuli**	**4.46**	**61**	P	**Pn**	**01 40 27.2**	**+3.5**
	SNR=19						
PQL				S	**Sb**	**01 41 23.2**	**-4.9**
ALIB	**Äli-Bayra**	**4.47**	**72**	⇓P	**Pn**	**01 40 26.1**	**+2.4**
	SNR=2.8						
ALIB				⇓S	**Sn**	**01 41 21.4**	**+5.7**
ALIB	**Äli-Bayra**	**4.47**	**72**	P	**Pn**	**01 40 26.1**	**+2.4**
	SNR=2.8						
ALIB				S	**Sn**	**01 41 21.4**	**+5.7**
QSAR	**Qusar**	**4.61**	**52**	⇑P	**Pn**	**01 40 30.1**	**+4.4**
	SNR=4.9						
QSAR	**Qusar**	**4.61**	**52**	P	**Pn**	**01 40 30.1**	**+4.4**
	SNR=4.9						
QUBA	**Quba, Azerbaij**	**4.66**	**54**	⇑P	**Pn**	**01 40 30.9**	**+4.5**
	SNR=8.7						
QUBA	**Quba, Azerbaij**	**4.66**	**54**	P	**Pn**	**01 40 30.9**	**+4.5**
	SNR=8.7						
DARE	**Darende-Malaty**	**4.68**	**270**	*e*PN	**Pn**	**01 40 28.8**	**+2.1**
DARE	**Darende-Malaty**	**4.68**	**270**	*e*Pn	**Pn**	**01 40 28.8**	**+2.1**
ATGJ	**Altiaghaj**	**4.72**	**62**	⇑P	**Pn**	**01 40 30.1**	**+2.8**
	SNR=5.5						
ATGJ	**Altiaghaj**	**4.72**	**62**	P	**Pn**	**01 40 30.1**	**+2.8**
	SNR=5.5						
KBZ	**Khabaz**	**5.00**	**355**	Pn	Pb

comp=N,1.7nm,0.4s,baz=260,slow=16,SNR=2.7
BVAR Borovoye Array 23.39 44 P P 01 44 26.0 +1.4
comp=N,0.3nm,0.7s,baz=230,slow=11,SNR=2.8
GERES GERESS Array B 23.60 305 P P 01 44 27.9 +1.1
comp=N,0.2nm,0.5s,baz=94,slow=7.1,SNR=2.3
FINES FINESS Array B 25.15 340 P P 01 44 40.9 0.0
comp=N,7.2nm,1.1s,baz=131,slow=15,SNR=4.4
DAVOX Davos/Dischmat 25.78 299 P P 01 44 47.3 +0.3
comp=N,1.9nm,0.8s,baz=174,slow=18,SNR=2.4
KURBB Kurchatov Arra 27.36 53 P P 01 45 01.1 +0.1
comp=N,0.4nm,0.5s,baz=263,slow=9.1,SNR=2.5
HFS Hagfors 28.44 329 P P 01 45 11.2 +0.6
comp=N,2.9nm,0.9s,baz=126,slow=15,SNR=2.9
MKAR Makanchi Array 29.38 61 P P 01 45 16.4 -2.7
comp=N,0.2nm,0.5s,baz=263,slow=9.5,SNR=2.2
NOA NORSAR Array B 29.96 329 LR LR 01 59 04.6
comp=N,20nm,18.9s,baz=135,slow=39
ESDC Sonseca Array 36.42 287 P P 01 46 19.4 -1.2
comp=N,1.0nm,0.6s,baz=66,slow=8.8,SNR=6.8
KMBO Kilima Mbogo 40.08 190 LR LR 02 04 10.4
comp=N,38nm,19.6s,baz=80,slow=38
TORD Torodi Ar. Bea 44.84 247 P P 01 47 28.6 -1.7
comp=N,0.6nm,0.5s,baz=39,slow=9.7,SNR=13
CMAR Chiang Mai Arr 51.92 96 P P 01 48 22.7 -2.3
comp=N,0.6nm,0.3s,baz=306,slow=11,SNR=2.6

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*CSEM **24** 01:39:50.1±0.2, 44°.93N×22°.90E, h2km, ML1.6, Error ellipse: s-maj=4.8km s-min=3.2km az=120.0*
*BUC **24** 01:39:50.8±0.6, 45°.02N×22°.91E, h3km±8km, MD2.5/3, Error ellipse: s-maj=5.4km s-min=3.3km az=38.0*
*BEO **24** 01:39:50.1±0.5, 44°.94N×22°.92E, h4km±4km, M1.6/9*
ISC 24 01:39:50.4±1.1, 44°.97N±0°.02×22°.88E±0°.02, h4km±9km, n48, σ1§17/74, 12C-11D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRE	**Strehaia**	**0.39**	**144**	*i* S		**Sg**	**01 40 05.5**	**+2.6**
SRE	**Strehaia**	**0.39**	**144**	S		**Sg**	**01 40 05.5**	**+2.6**
DJES	**Djerdap**	**0.40**	**220**	*e*Sg		**Sg**	**01 40 04.2**	**+0.8**
GZR	**Gura Zlata**	**0.43**	**350**	⇑*i*P		**Pg**	**01 39 59.0**	**+0.3**
GZR				*i* S		**Sb**	**01 40 05.1**	**-2.2**
GZR	**Gura Zlata**	**0.43**	**350**	⇑*i*P		**Pg**	**01 39 59.0**	**+0.3**
GZR				S		**Sb**	**01 40 05.1**	**-2.2**
GZR	**Gura Zlata**	**0.43**	**350**	⇑*i*P		**Pg**	**01 39 59.0**	**+0.3**
GZR				S		**Sb**	**01 40 05.1**	**-2.2**
LOT	**Lotru**	**0.79**	**52**	⇑*i*P		**Pg**	**01 40 05.4**	**-0.1**
LOT				*i* S		**Sg**	**01 40 15.7**	**0.0**
LOT	**Lotru**	**0.79**	**52**	⇑*i*P		**Pg**	**01 40 05.4**	**-0.1**
LOT				S		**Sg**	**01 40 15.7**	**0.0**
LOT	**Lotru**	**0.79**	**52**	⇑*i*P		**Pg**	**01 40 05.4**	**-0.1**
LOT				S		**Sg**	**01 40 15.7**	**0.0**
MDVR	**Moldovita**	**0.85**	**257**	⇑*i*P		**Pb**	**01 40 08.7**	**+0.9**
MDVR	**Moldovita**	**0.85**	**257**	⇑*i*P		**Pb**	**01 40 08.7**	**+0.9**
MDVR	**Moldovita**	**0.85**	**257**	⇑*i*P		**Pb**	**01 40 08.7**	**+0.9**
DEV	**Deva**	**0.91**	**1**	*i* S		**Sb**	**01 40 20.9**	**-0.3**
DEV	**Deva**	**0.91**	**1**	S		**Sb**	**01 40 20.9**	**-0.3**
DEV	**Deva**	**0.91**	**1**	S		**Sb**	**01 40 20.9**	**-0.3**
KUBS	**Kucevo**	**1.03**	**237**	*e*Sg		**Sg**	**01 40 24.2**	**+0.8**
KUBS	**Kucevo**	**1.03**	**237**	*e*Sg		**Sg**	**01 40 24.2**	**+0.8**
BZS	**Buzias**	**1.10**	**306**	*e*Pg		**Pg**	**01 40 11.1**	**-0.4**
BZS				*e*Sg		**Sg**	**01 40 26.2**	**+0.4**
BZS	**Buzias**	**1.10**	**306**	⇓*i*P		**Pg**	**01 40 11.1**	**-0.4**
BZS	**Buzias**	**1.10**	**306**	⇓*i*P		**Pg**	**01 40 11.1**	**-0.4**
BZS	**Buzias**	**1.10**	**306**	⇓*i*P		**Pg**	**01 40 11.1**	**-0.4**
BZS				*e*Sg		**Sg**	**01 40 26.2**	**+0.4**
ZAGS	**Zajecar**	**1.25**	**202**	*e*Pg		**Pg**	**01 40 12.9**	**-1.5**
ZAGS				*e*Sg		**Sg**	**01 40 28.7**	**-1.9**
ZAGS	**Zajecar**	**1.25**	**202**	*e*Pg		**Pg**	**01 40 12.9**	**-1.5**
ZAGS				*e*Sg		**Sg**	**01 40 28.7**	**-1.9**
ARR	**Arges**	**1.30**	**72**	⇓*i*P		**Pn**	**01 40 16.1**	**+0.8**
ARR				*i* S		**Sn**	**01 40 32.9**	**-0.2**
ARR	**Arges**	**1.30**	**72**	⇓*i*P		**Pn**	**01 40 16.1**	**+0.8**
ARR	**Arges**	**1.30**	**72**	⇓*i*P		**Pn**	**01 40 16.1**	**+0.8**
ARR				S		**Sn**	**01 40 32.9**	**-0.2**
BANR	**Banloc**	**1.30**	**289**	*i* S		**Sn**	**01 40 34.5**	**+1.4**
BANR	**Banloc**	**1.30**	**289**	S		**Sn**	**01 40 34.5**	**+1.4**
BANR	**Banloc**	**1.30**	**289**	S		**Sn**	**01 40 34.5**	**+1.4**
SVIS	**Svilajnac**	**1.39**	**240**	*e*Pg		**Pn**	**01 40 16.0**	**-0.4**
SVIS				*e*Sg		**Sb**	**01 40 33.5**	**-1.3**
SIRR	**Siria**	**1.55**	**327**	⇓*i*P		**Pb**	**01 40 19.4**	**-0.3**
SIRR				*i* S		**Sg**	**01 40 40.7**	**+0.4**
SIRR	**Siria**	**1.55**	**327**	⇓*i*P		**Pb**	**01 40 19.4**	**-0.3**
SIRR	**Siria**	**1.55**	**327**	⇓*i*P		**Pb**	**01 40 19.4**	**-0.3**
SIRR				S		**Sg**	**01 40 40.7**	**+0.4**
BOVS	**Bovan**	**1.58**	**213**	*e*Pg		**Pn**	**01 40 17.8**	**-1.3**
BOVS				*e*Sg		**Sn**	**01 40 40.6**	**+0.6**
BOVS	**Bovan**	**1.58**	**213**	*e*Pg		**Pn**	**01 40 17.8**	**-1.3**
BOVS				*e*Sg		**Sn**	**01 40 40.6**	**+0.6**
VOIR		**1.60**	**72**	⇑*i*P		**Pb**	**01 40 20.2**	**-0.3**
VOIR				*i* S		**Sg**	**01 40 41.4**	**-0.4**
VOIR		**1.60**	**72**	⇑*i*P		**Pb**	**01 40 20.2**	**-0.3**
VOIR		**1.60**	**72**	⇑*i*P		**Pb**	**01 40 20.2**	**-0.3**
VOIR				S		**Sg**	**01 40 41.4**	**-0.4**
ZAPS	**Zavoj**	**1.71**	**186**	*e*Pg		**Pn**	**01 40 21.0**	**+0.1**
ZAPS				*e*Sg		**Sn**	**01 40 43.3**	**+0.1**
DRGR		**1.82**	**356**	*e*Pg		**Pn**	**01 40 22.7**	**+0.2**
DRGR				*e*Sg		**Sg**	**01 40 48.4**	**-0.6**
DRGR		**1.82**	**356**	⇓*i*P		**Pn**	**01 40 22.7**	**+0.2**
DRGR				*i* S		**Sb**	**01 40 47.1**	**-0.4**
DRGR		**1.82**	**356**	⇓*i*P		**Pn**	**01 40 22.7**	**+0.2**
DRGR		**1.82**	**356**	*e*Pg		**Pn**	**01 40 22.7**	**+0.2**
DRGR				S		**Sb**	**01 40 47.1**	**-0.4**
DRGR				*e*Sg		**Sg**	**01 40 48.4**	**-0.6**
GRUS	**Gruza**	**1.90**	**236**	*e*Sg		**Sn**	**01 40 49.3**	**+1.6**
GRUS	**Gruza**	**1.90**	**236**	*e*Sg		**Sn**	**01 40 49.3**	**+1.6**
SELS	**Selova**	**2.17**	**217**	*e*Pn		**Pn**	**01 40 28.4**	**+1.2**
BARS	**Barje**	**2.29**	**200**	*e*Pn		**Pn**	**01 40 27.7**	**-1.2**
BARS				*e*Sg		**Sn**	**01 41 01.0**	**+3.5**
BARS	**Barje**	**2.29**	**200**	*e*Pn		**Pn**	**01 40 27.7**	**-1.2**
BARS				*e*Sg		**Sn**	**01 41 01.0**	**+3.5**

BUC 24 01:41:57.6±1.0, 44°.94N×26°.83E, h11km±8km, MD2.5/2, 8C-6D, Error ellipse: s-maj=9.8km s-min=5.4km az=28.0, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PGOR	**Pogoanele**	**0.12**	**103**	⇑*i*P		Pg	01 41 59.8	-0.7
PGOR				*i* S		Sg	01 42 04.1	+1.6
PGOR	**Pogoanele**	**0.12**	**103**	S		Sg	01 42 04.1	+1.6
PGOR	**Pogoanele**	**0.12**	**103**	⇑*i*P		Pg	01 41 59.8	-0.7
ISR	**Istrita**	**0.27**	**313**	⇓*i*P		Pg	01 42 03.8	+0.6
ISR				*i* S		Sb	01 42 09.2	-0.1
ISR	**Istrita**	**0.27**	**313**	⇓*i*P		Pg	01 42 03.8	+0.6
ISR	**Istrita**	**0.27**	**313**	S		Sb	01 42 09.2	-0.1
SULR		**0.48**	**238**	*i* S		Sb	01 42 14.6	-0.5
SULR		**0.48**	**238**	S		Sb	01 42 14.6	-0.5
PETR	**Petresti**	**0.84**	**20**	*i* S		Sb	01 42 26.5	+1.0
PETR	**Petresti**	**0.84**	**20**	S		Sb	01 42 26.5	+1.0
PLOR	**Plostina**	**0.93**	**352**	⇓*i*P		Pg	01 42 15.5	+0.1
PLOR	**Plostina**	**0.93**	**352**	⇓*i*P		Pg	01 42 15.5	+0.1
VRI	**Vrincioaia**	**0.93**	**356**	⇑*i*P		Pn	01 42 17.2	+0.5
VRI				*i* S		Sn	01 42 30.3	+0.1
VRI	**Vrincioaia**	**0.93**	**356**	⇑*i*P		Pn	01 42 17.2	+0.5
CFR	**Carcaliu**	**0.96**	**75**	⇑*i*P		Pb	01 42 16.4	+0.1
CFR				*i* S		Sn	01 42 30.2	-0.5
CFR	**Carcaliu**	**0.96**	**75**	⇑*i*P		Pb	01 42 16.4	+0.1
TIRR	**Tirgusor**	**1.23**	**112**	⇑*i*P		Pg	01 42 21.0	-0.2
TIRR				*i* S		Sn	01 42 37.6	+0.3
TIRR	**Tirgusor**	**1.23**	**112**	⇑*i*P		Pg	01 42 21.0	-0.2
VOIR		**1.35**	**292**	⇓*i*P		Pb	01 42 22.8	-0.2
VOIR				*i* S		Sg	01 42 41.8	+0.7
VOIR		**1.35**	**292**	⇓*i*P		Pb	01 42 22.8	-0.2
TLCR		**1.43**	**79**	*i* S		Sg	01 42 45.0	+1.3
TLCR		**1.43**	**79**	S		Sg	01 42 45.0	+1.3

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*CSEM **24** 01:52:55.1±0.4, 38°.62N×43°.14E, h5km, ML3.2, Error ellipse: s-maj=11.0km s-min=5.4km az=76.0*
*DDA **24** 01:52:55.2, 38°.63N×43°.08E, h7km, Ml3.2*
*ISCJB **24** 01:52:56.5±0.7, 38°.66N±0°.03×43°.11E±0°.09, h15km, Error ellipse: s-maj=9.7km s-min=4.9km az=174.5*
*ISK **24** 01:52:56.4, 38°.69N×42°.97E, h9km, MD3.1*
ISC 24 01:52:56.1±0.9, 38°.65N±0°.03×43°.13E±0°.06, h15km, n40, σ0§90/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.34**	**189**	*i* P		**Pg**	**01 53 01.3**	**-1.9**
GEVA	**Gevas**	**0.34**	**189**	P		**Pg**	**01 53 01.3**	**-1.9**
AGRB	**Hanur-Agry**	**0.93**	**354**	*e*PG		**Pg**	**01 53 13.8**	**-0.4**
AGRB				*e*SG		**Sn**	**01 53 26.7**	**-1.4**
EKAR	**Karacoban**	**1.03**	**307**	*i* P		**Pb**	**01 53 15.8**	**0.0**
EKAR	**Karacoban**	**1.03**	**307**	P		**Pb**	**01 53 15.8**	**0.0**
HAKT	**HAKKARI**	**1.18**	**157**	*i* P		**Pn**	**01 53 17.7**	**-0.6**
HAKT	**HAKKARI**	**1.18**	**157**	P		**Pn**	**01 53 17.7**	**-0.6**
SIRN	**S¨–rnak**	**1.28**	**206**	*i* P		**Pn**	**01 53 19.3**	**-0.2**
SIRN	**S¨–rnak**	**1.28**	**206**	P		**Pn**	**01 53 19.3**	**-0.2**
EATA	**Eleskirt**	**1.31**	**338**	*i* P		**Pn**	**01 53 20.2**	**0.0**
EATA	**Eleskirt**	**1.31**	**338**	P		**Pn**	**01 53 20.2**	**0.0**
VRTB	**Varto-Mus**	**1.40**	**292**	*e*PN		**Pn**	**01 53 21.0**	**-0.3**
VRTB	**Varto-Mus**	**1.40**	**292**	*i* P		**Pn**	**01 53 21.3**	**0.0**
VRTB	**Varto-Mus**	**1.40**	**292**	*e*Pn		**Pn**	**01 53 21.0**	**-0.3**
VRTB	**Varto-Mus**	**1.40**	**292**	P		**Pn**	**01 53 21.3**	**0.0**
CUKT	**Cukurca**	**1.45**	**165**	*e*PN		**Pg**	**01 53 24.6**	**+0.6**
CUKT				*e*SN		**Sg**	**01 53 45.0**	**+2.1**
CUKT	**Cukurca**	**1.45**	**165**	*e*Sn		**Sg**	**01 53 45.0**	**+2.1**
BNGL	**BINGOL**	**1.57**	**282**	*i* P		**Pn**	**01 53 24.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*e*PN		**Pn**	**01 53 23.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*i* P		**Pn**	**01 53 24.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*e*Pn		**Pn**	**01 53 23.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	P		**Pn**	**01 53 24.2**	**+0.4**
BTMN	**Batman**	**1.65**	**243**	*i* P		**Pn**	**01 53 25.5**	**+0.9**
BTMN	**Batman**	**1.65**	**243**	P		**Pn**	**01 53 25.5**	**+0.9**
HOMI	**Horasan**	**1.69**	**326**	*i* P		**Pb**	**01 53 26.8**	**-0.2**
ERZM	**Erzurum**	**1.86**	**313**	*i* P		**Pg**	**01 53 31.4**	**-0.4**
ECAT	**Cat-ERZURUM**	**1.93**	**300**	*i* P		**Pb**	**01 53 30.7**	**-0.4**
ECAT	**Cat-ERZURUM**	**1.93**	**300**	P		**Pb**	**01 53 30.7**	**-0.4**
BNGB	**Bing¶ll**	**1.94**	**281**	*e*PN		**Pn**	**01 53 28.7**	**0.0**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*PN		**Pn**	**01 53 30.4**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*Pn		**Pn**	**01 53 30.4**	**+0.8**
BINT	**Bingol**	**2.08**	**277**	*e*Pn		**Pn**	**01 53 28.7**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.16**	**292**	*e*PN		**Pn**	**01 53 32.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.16**	**292**	*e*Pn		**Pn**	**01 53 32.2**	**+0.5**
MAZI	**Mazidag**	**2.43**	**242**	*e*PN		**Pn**	**01 53 36.1**	**+0.7**
MAZI	**Mazidag**	**2.43**	**242**	*e*Pn		**Pn**	**01 53 36.1**	**+0.7**
PTK	**Pertek**	**2.93**	**276**	*e*PN		**Pn**	**01 53 43.0**	**+0.7**
PTK	**Pertek**	**2.93**	**276**	*e*Pn		**Pn**	**01 53 43.0**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.01**	**266**	*e*PN		**Pn**	**01 53 44.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.01**	**266**	*e*Pn		**Pn**	**01 53 44.3**	**+0.9**

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*AZER **24** 01:57:55.8±1.3, 38°.04N×43°.17E, h18km±33km, Error ellipse: s-maj=36.2km s-min=8.6km az=54.0*
*IDC **24** 01:57:58.8±1.3, 38°.61N×43°.58E, h0km, mb3.6/8, mb1 3.6/13, mb1mx3.5/38, mbtmp3.5/13, ML2.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.2/36, Error ellipse: s-maj=22.1km s-min=11.5km az=148.0*
*DDA **24** 01:57:59.3, 38°.79N×43°.46E, h6km, Ml3.8*
*ISK **24** 01:57:59.2, 38°.83N×43°.43E, h5km, ML3.4*
*CSEM **24** 01:58:01.0±0.2, 38°.80N×43°.39E, h2km, ML3.8, Error ellipse: s-maj=6.6km s-min=4.0km az=167.0*
ISC 24 01:57:59.9±1.4, 38°.76N±0°.03×43°.46E±0°.02, h0km±10km, n128, σ1§73/149, mb3.4/7, 20C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.55**	**215**	*i* P		Pg	01 58 08.5	-1.0
DYDN	**Diyadin**	**0.80**	**13**	*i* P		Pg	**01 58 14.3**	**-1.0**
DYDN	**Diyadin**	**0.80**	**13**	P		Pg	**01 58 14.3**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**336**	*e*PG		Pg	**01 58 15.7**	**-1.3**
AGRB				*e*SG		**Sg**	**01 58 28.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.89**	**336**	*e*Pg		**Pg**	**01 58 15.7**	**-1.3**
AGRB				*e*Sg		**Sg**	**01 58 28.2**	**-0.4**
EKAR	**Karacoban**	**1.20**	**295**	*i* P		**Pb**	**01 58 22.4**	**-1.2**
EKAR	**Karacoban**	**1.20**	**295**	P		**Pb**	**01 58 22.4**	**-1.2**
HAKT	**HAKKARI**	**1.22**	**171**	*i* P		**Pn**	**01 58 21.9**	**-2.5**
EATA	**Eleskirt**	**1.33**	**326**	*i* P		**Pn**	**01 58 23.9**	**-2.1**
EATA	**Eleskirt**	**1.33**	**326**	P		**Pn**	**01 58 23.9**	**-2.1**
SIRN	**S¨–rnak**	**1.51**	**214**	*i* P		**Pn**	**01 58 29.0**	**+0.8**
SIRN	**S¨–rnak**	**1.51**	**214**	P		**Pn**	**01 58 29.0**	**+0.8**
CUKT	**Cukurca**	**1.51**	**176**	*e*PN		**Pn**	**01 58 29.4**	**+1.1**
CUKT				*e*SN		**Sn**	**01 58 51.4**	**+2.6**
CUKT	**Cukurca**	**1.51**	**176**	*i* P		**Pn**	**01 58 29.5**	**+1.1**
CUKT	**Cukurca**	**1.51**	**176**	P		**Pn**	**01 58 29.5**	**+1.1**
CUKT				*e*Sn		**Sn**	**01 58 51.4**	**+2.6**
VRTB	**Varto-Mus**	**1.61**	**285**	*e*PN		**Pn**	**01 58 29.1**	**-0.6**
VRTB	**Varto-Mus**	**1.61**	**285**	*i* P		**Pn**	**01 58 29.8**	**+0.1**
VRTB	**Varto-Mus**	**1.61**	**285**	*e*Pn		**Pn**	**01 58 29.2**	**-0.6**
VRTB	**Varto-Mus**	**1.61**	**285**	P		**Pn**	**01 58 29.8**	**+0.1**
NAX	**Nakhchivan** SNR=69	**1.64**	**75**	⇓P		**Pn**	**01 58 30.6**	**+0.6**
NAX				⇑S		**Sg**	**01 58 57.0**	**+4.4**
NAX	**Nakhchivan** SNR=69	**1.64**	**75**	P		**Pn**	**01 58 30.6**	**+0.6**
NAX				S		**Sg**	**01 58 57.0**	**+4.4**
DIGO	**Kars**	**1.65**	**358**	*i* P		**Pb**	**01 58 30.5**	**-0.9**
DIGO	**Kars**	**1.65**	**358**	P		**Pb**	**01 58 30.5**	**-0.9**
GNI	**Garni** 57nm,0.3s,baz=259,slow=2.8,SNR=146	**1.71**	**35**	Pn		**Pb**	**01 58 31.2**	**-1.0**
GNI				Lg		Lg	01 58 55.6	
HOMI	**Horasan**	**1.76**	**317**	*i* P		**Pn**	**01 58 31.9**	**+0.1**
BNGL	**BINGOL**	**1.81**	**277**	*i* P		**Pn**	**01 58 33.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.88**	**252**	*e*PN		**Pn**	**01 58 33.7**	**+0.4**
SVAN				*e*SN		**Sn**	**01 58 59.0**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.88**	**252**	*i* P		**Pn**	**01 58 33.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.88**	**252**	P		**Pn**	**01 58 33.9**	**+0.6**
SVAN				*e*Sn		**Sn**	**01 58 59.0**	**+1.3**
EAK	**Akyaka**	**1.93**	**3**	*i* P		**Pg**	**01 58 37.0**	**+0.1**
BTMN	**Batman**	**1.93**	**244**	*i* P		**Pn**	**01 58 34.5**	**+0.5**
BTMN	**Batman**	**1.93**	**244**	P		**Pn**	**01 58 34.5**	**+0.5**
ERZM	**Erzurum**	**1.99**	**306**	*i* P		**Pn**	**01 58 35.9**	**+0.9**
ERZM	**Erzurum**	**1.99**	**306**	P		**Pn**	**01 58 35.9**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.99**	**335**	*e*PN		**Pn**	**01 58 34.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.99**	**335**	*e*Pn		**Pn**	**01 58 34.9**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.11**	**294**	*i* P		**Pn**	**01 58 37.5**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.11**	**294**	P		**Pn**	**01 58 37.5**	**+0.9**
BNGB	**Bing¶ll**	**2.18**	**277**	*e*PN		**Pn**	**01 58 37.9**	**+0.3**
BINT	**Bingol**	**2.32**	**274**	*e*Pn		**Pn**	**01 58 37.9**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*PN		**Pn**	**01 58 40.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.37**	**288**	*e*Pn		**Pn**	**01 58 40.3**	**+0.2**
BGD	**Bogdanovka**	**2.50**	**2**	P		**Pg**	**01 58 48.6**	**+0.7**
MARD	**Mardin**	**2.56**	**237**	*i* P		**Pn**	**01 58 42.9**	**+0.1**
GDB	**GEDABAY**	**2.64**	**41**	⇓P		**Pb**	**01 58 48.1**	**0.0**
GDB				⇑S		**Sg**	**01 59 25.7**	**+1.0**
GDB	**GEDABAY**	**2.64**	**41**	P		**Pb**	**01 58 48.1**	**0.0**
AKH	**Akhalkalaki**	**2.65**	**1**	*e*PN		**Pn**	**01 58 44.2**	**+0.2**
AKH	**Akhalkalaki**	**2.65**	**1**	P		**Pg**	**01 58 51.2**	**+0.5**
AKH	**Akhalkalaki**	**2.65**	**1**	*e*Pn		**Pn**	**01 58 44.2**	**+0.2**
MAZI	**Mazidag**	**2.71**	**242**	*e*PN		**Pn**	**01 58 44.1**	**-0.7**
MAZI	**Mazidag**	**2.71**	**242**	*e*Pn		**Pn**	**01 58 44.1**	**-0.7**
QZX	**Qazax, Azerbai**	**2.73**	**32**	⇑P		**Pb**	**01 58 48.8**	**-0.7**
QZX				⇑S		**Sg**	**01 59 29.9**	**+2.4**
QZX	**Qazax, Azerbai**	**2.73**	**32**	P		**Pb**	**01 58 48.8**	**-0.7**
DIYA	**Diyarbakir**	**2.76**	**253**	*i* P		**Pn**	**01 58 48.8**	**+3.5**
GANJ	**Ganja** SNR=24	**2.90**	**49**	⇓P		**Pb**	**01 58 52.5**	**0.0**
GANJ				⇑S		**Sg**	**01 59 34.8**	**+1.7**
GANJ	**Ganja** SNR=24	**2.90**	**49**	P		**Pb**	**01 58 52.5**	**0.0**
ERZN	**Erzincan**	**3.02**	**287**	*e*PN		**Pn**	**01 58 49.2**	**+0.1**
TBLG	**Delisi**	**3.12**	**18**	*e*PN		**Pb**	**01 58 50.5**	**+0.1**
TBLG	**Delisi**	**3.12**	**18**	P		**Pb**	**01 58 56.2**	**-0.1**
TBLG	**Delisi**	**3.12**	**18**	*e*Pn		**Pn**	**01 58 50.5**	**+0.1**
PTK	**Pertek**	**3.18**	**274**	*e*PN		**Pn**	**01 58 51.6**	**+0.3**
PTK	**Pertek**	**3.18**	**274**	*e*Pn		**Pn**	**01 58 51.6**	**+0.3**
BRDA	**Brd** SNR=8.7	**3.24**	**61**	⇑P		**Pn**	**01 58 53.6**	**+1.6**
BRDA				⇓S		**Sb**	**01 59 39.2**	**+0.9**
BRDA	**Brd** SNR=8.7	**3.24**	**61**	P		**Pn**	**01 58 53.6**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.28**	**265**	*e*PN		**Pn**	**01 58 53.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.28**	**265**	*e*Pn		**Pn**	**01 58 53.2**	**+0.5**
EZC	**Erzincan**	**3.34**	**289**	*e*Pn		**Pn**	**01 58 49.2**	**-4.3**
MNGR	**Mingechevir, A** SNR=14	**3.44**	**53**	⇓P		**Pn**	**01 58 57.0**	**+2.3**
MNGR				⇓S		**Sb**	**01 59 45.2**	**+1.2**
MNGR	**Mingechevir, A** SNR=14	**3.44**	**53**	P		**Pn**	**01 58 57.0**	**+2.3**
ZRD	**Zardab**	**3.60**	**64**	⇓P		**Pn**	**01 58 58.0**	**+1.1**
ZRD				⇓S		**Sb**	**01 59 47.2**	**-1.4**
ZRD	**Zardab**	**3.60**	**64**	P		**Pn**	**01 58 58.0**	**+1.1**
KTUT	**Trabzon**	**3.61**	**309**	*e*PN		**Pn**	**01 58 57.3**	**+0.3**
KTUT	**Trabzon**	**3.61**	**309**	*e*Pn		**Pn**	**01 58 57.3**	**+0.3**
ZKTA	**Zakatala** SNR=20	**3.76**	**39**	⇑P		**Pb**	**01 59 02.9**	**-4.3**
ZKTA				⇑S		**Sb**	**01 59 54.7**	**+1.5**
SEKA	**Sheki**	**3.77**	**48**	⇑P		**Pb**	**01 59 03.2**	**-4.2**
SNR=13								
SEKA				⇓S		**Sb**	**01 59 55.6**	**+2.0**
SEKA	**Sheki** SNR=13	**3.77**	**48**	P		**Pb**	**01 59 03.2**	**-4.2**
GUDG	**Gudauri**	**3.78**	**11**	P		**Pg**	**01 59 11.1**	**-1.2**
LRK	**Lerik**	**3.82**	**90**	⇓P		**Pn**	**01 58 58.1**	**-2.0**
LRK				⇑S		**Sn**	**01 59 46.9**	**+1.1**
LRK	**Lerik**	**3.82**	**90**	P		**Pn**	**01 58 58.1**	**-2.0**
LRK				S		**Sn**	**01 59 46.9**	**+1.1**
ONI	**Oni**	**3.83**	**360**	P		**Pg**	**01 59 13.1**	**-0.2**
GLBA	**Clilabad**	**3.87**	**81**	⇓P		**Pn**	**01 58 59.5**	**-1.1**
GLBA				⇑S		**Sn**	**01 59 49.9**	**+3.1**
GLBA	**Clilabad**	**3.87**	**81**	P		**Pn**	**01 58 59.5**	**-1.1**
GLBA				S		**Sn**	**01 59 49.9**	**+3.1**
URFA	**Urfa**	**3.89**	**252**	*e*PN		**Pn**	**01 59 02.3**	**+1.3**
URFA	**Urfa**	**3.89**	**252**	*e*Pn		**Pn**	**01 59 02.3**	**+1.3**
SAAT	**Saatly**	**4.00**	**73**	⇓P		**Pn**	**01 59 02.7**	**+0.3**
SAAT				⇑S		**Sb**	**01 59 54.9**	**-5.3**
SAAT	**Saatly**	**4.00**	**73**	P		**Pn**	**01 59 02.7**	**+0.3**
SAAT				S		**Sb**	**01 59 54.9**	**-5.3**
QBL	**Gabala** SNR=8.0	**4.01**	**56**	⇑P		**Pn**	**01 59 04.8**	**+2.1**
QBL	**Gabala** SNR=8.0	**4.01**	**56**	P		**Pn**	**01 59 04.8**	**+2.1**
LKRN	**Lenkeran, Azer**	**4.16**	**89**	⇓S		**Sn**	**01 59 54.1**	**+0.2**
LKRN	**Lenkeran, Azer**	**4.16**	**89**	S		**Sn**	**01 59 54.1**	**+0.2**
ASTR	**Astara**	**4.18**	**91**	⇑P		**Pn**	**01 59 02.5**	**-2.3**
ASTR				⇑S		**Sn**	**01 59 53.9**	**-0.5**
ASTR	**Astara**	**4.18**	**91**	P		**Pn**	**01 59 02.5**	**-2.3**
ASTR				S		**Sn**	**01 59 53.9**	**-0.5**
XNQ

VRTB	Varto-Mus	1.72 281	*e*Pn	Pb	02 01 24.1	-0.8
VRTB			*e*Sn	Sg	02 01 47.8	-0.5
SENK	Senkaya-Erzuru	1.97 330	*e*PN	Pb	02 01 27.8	-1.4
SENK	Senkaya-Erzuru	1.97 330	*e*Pn	Pb	02 01 27.8	-1.4
SVAN	Silvan-Diyarba	2.04 251	*e*PN	Pn	02 01 28.6	+1.0
SVAN	Silvan-Diyarba	2.04 251	*e*Pn	Pn	02 01 28.6	+1.0
BNGB	Bing¶ll	2.31 274	*e*PN	Pn	02 01 32.7	+1.3
BGD	Bogdanovka	2.41 359	P	Pg	02 01 38.1	-0.9
BINT	Bingol	2.46 272	*e*Pn	Pn	02 01 32.7	-0.7
YEDI	Yedisu-Bingol	2.47 285	*e*PN	Pb	02 01 35.1	-2.6
YEDI	Yedisu-Bingol	2.47 285	*e*Pn	Pb	02 01 35.1	-2.6
GDB	GEDABAY	2.48 41	⇓P	Pg	02 01 38.4	-1.9
GDB			⇑S	Sg	02 02 15.1	+2.6
GDB	GEDABAY	2.48 41	P	Pg	02 01 38.4	-1.9
GDB			S	Sg	02 02 15.1	+2.6
AKH	Akhalkalaki	2.56 358	*e*PN	Pb	02 01 35.7	-3.4
AKH	Akhalkalaki	2.56 358	P	Pg	02 01 41.3	-0.5
QZX	Qazax, Azerbai	2.58 31	⇑P	Pg	02 01 40.2	-2.0
QZX			⇓S	Sg	02 02 17.4	+1.8
QZX	Qazax, Azerbai	2.58 31	P	Pg	02 01 40.2	-2.0
QZX			S	Sg	02 02 17.4	+1.8
GANJ	Ganja	2.74 48	⇑P	Pb	02 01 41.6	-0.6
GANJ			⇑S	Sg	02 02 19.4	-1.4
GANJ	Ganja	2.74 48	P	Pb	02 01 41.6	-0.6
GANJ			S	Sg	02 02 19.4	-1.4
MAZI	Mazidag	2.87 242	*e*PN	Pn	02 01 41.3	+2.1
MAZI	Mazidag	2.87 242	*e*Pn	Pn	02 01 41.3	+2.1
DGRG	David-gareji	2.92 27	P	Pg	02 01 46.9	-1.8
TBLG	Delisi	3.00 16	*e*PN	Pn	02 01 41.9	+1.1
TBLG	Delisi	3.00 16	P	Pb	02 01 46.3	-0.2
TBLG	Delisi	3.00 16	*e*Pn	Pn	02 01 41.9	+1.1
TBLG	Delisi	3.00 16	P	Pb	02 01 46.3	-0.2
BRDA	Brd	3.08 62	⇑P	Pb	02 01 44.3	-3.6
BRDA	Brd	3.08 62	P	Pb	02 01 44.3	-3.6
ERZN	Erzincan	3.12 285	*e*PN	Pn	02 01 44.4	+1.7
MNGR	Mingechevir, A	3.28 53	⇑P	Pb	02 01 48.6	-2.7
	SNR=5.6					
MNGR	Mingechevir, A	3.28 53	P	Pb	02 01 48.6	-2.7
	SNR=5.6					
PTK	Pertek	3.31 272	*e*PN	Pn	02 01 47.5	+2.3
PTK	Pertek	3.31 272	*e*Pn	Pn	02 01 47.5	+2.3
SVRC	Sivrice-ELAZID	3.42 263	*e*PN	Pn	02 01 49.4	+2.6
SVRC	Sivrice-ELAZID	3.42 263	*e*Pn	Pn	02 01 49.4	+2.6
ZKTA	Zakatala	3.60 38	⇓P	Pb	02 01 56.4	-0.5
	SNR=12					
SEKA	Sheki	3.61 48	⇓P	Pb	02 01 55.6	-1.4
	SNR=11					
SEKA	Sheki	3.61 48	P	Pb	02 01 55.6	-1.4
	SNR=11					
KTUT	Trabzon	3.66 307	*e*PN	Pn	02 01 52.1	+2.3
KTUT	Trabzon	3.66 307	*e*Pn	Pn	02 01 52.1	+2.3
LRK	Lerik	3.69 92	⇓P	Pn	02 01 48.4	-2.0
LRK	Lerik	3.69 92	P	Pn	02 01 48.4	-2.0
GLBA	Ciilabad	3.73 83	⇓P	Pn	02 01 51.9	+1.1
	SNR=4.6					
GLBA	Ciilabad	3.73 83	P	Pn	02 01 51.9	+1.1
	SNR=4.6					
ONI	Oni	3.74 358	P	Pg	02 02 04.3	-0.1
QBL	Gabala	3.85 56	⇑P	Pb	02 01 55.9	-5.2
	SNR=6.2					
QBL	Gabala	3.85 56	P	Pb	02 01 55.9	-5.2
	SNR=6.2					
IML	Ismayilli	4.00 60	⇓P	Pn	02 01 58.1	+3.5
	SNR=3.1					
IML	Ismayilli	4.00 60	P	Pn	02 01 58.1	+3.5
	SNR=3.1					
LKRN	Lenkeran, Azer	4.02 90	⇑P	Pn	02 01 54.3	-0.6
	SNR=8.0					
LKRN	Lenkeran, Azer	4.02 90	P	Pn	02 01 54.3	-0.6
	SNR=8.0					
ASTR	Astara	4.04 93	⇓P	Pn	02 01 54.6	-0.6
	SNR=6.0					
ASTR	Astara	4.04 93	P	Pn	02 01 54.6	-0.6
	SNR=6.0					
URFA	Urfa	4.05 251	*e*PN	Pn	02 01 58.2	+2.9
URFA	Urfa	4.05 251	*e*Pn	Pn	02 01 58.2	+2.9
XNQ	Khinaliq	4.16 55	⇓P	Pn	02 01 59.7	+2.7
	SNR=6.2					
XNQ	Khinaliq	4.16 55	P	Pn	02 01 59.7	+2.7
	SNR=6.2					
PQL	Pirkuli	4.28 62	⇓P	Pn	02 02 01.5	+3.0
	SNR=4.9					
PQL	Pirkuli	4.28 62	P	Pn	02 02 01.5	+3.0
	SNR=4.9					
QSAR	Qusar	4.43 52	⇑P	Pb	02 02 05.1	-5.9
	SNR=6.0					
QSAR	Qusar	4.43 52	P	Pb	02 02 05.1	-5.9
	SNR=6.0					
QUBA	Quba, Azerbaij	4.49 55	⇓P	Pn	02 02 05.6	+4.3
	SNR=7.1					
QUBA	Quba, Azerbaij	4.49 55	P	Pn	02 02 05.6	+4.3
	SNR=7.1					
ATGJ	Altiaghaj	4.55 62	⇓P	Pn	02 02 05.1	+2.9
	SNR=6.7					
ATGJ	Altiaghaj	4.55 62	P	Pn	02 02 05.1	+2.9
	SNR=6.7					
SIZA	Siyzn	4.61 60	⇓P	Pn	02 02 06.4	+3.3
	SNR=5.0					
SIZA	Siyzn	4.61 60	P	Pn	02 02 06.4	+3.3
	SNR=5.0					
DARE	Darende-Malaty	4.82 269	*e*PN	Pn	02 02 09.0	+3.1
DARE	Darende-Malaty	4.82 269	*e*Pn	Pn	02 02 09.0	+3.1
KBZ	Khabaz	4.90 354	Pn	Pb	02 02 12.0	-7.0
	0.0nm,0.3s,baz=188,slow=18,SNR=1.7					
RSDY	Resadiye-TOKAT	5.11 290	*e*PN	Pn	02 02 12.9	+3.1
RSDY	Resadiye-TOKAT	5.11 290	*e*Pn	Pn	02 02 12.9	+3.1
KVAR	Kislovodsk Arr	5.15 352	Pn	Pn	02 02 14.4	+4.0
	baz=171,slow=3.9,SNR=2.1					
SVSK	Karacayir	5.25 284	*e*PN	Pn	02 02 15.2	+3.5
SVSK	Karacayir	5.25 284	*e*Pn	Pn	02 02 15.2	+3.5
KMRS	Kahramanmaras	5.47 258	*e*PN	Pn	02 02 18.7	+3.9
BRTR	Keskin Array B	7.80 280	Pn	Pn	02 02 49.5	+2.6
	0.0nm,0.3s,baz=113,slow=14,SNR=2.3					
MMAI	Mount Meron Ar	8.86 231	Pn	Pn	02 02 60.0	-1.3
	0.8nm,0.3s,baz=67,slow=15,SNR=5.3					
MMAI			LR	LR	02 06 52.5	
	comp=Z,153nm,19.0s,baz=25,slow=41					
GEYT	Alibeck	11.41 90	Pn	Pn	02 03 34.5	-1.7
	0.2nm,0.3s,baz=282,slow=18,SNR=2.3					
GEYT			LR	LR	02 09 37.5	
	comp=Z,57nm,19.4s,baz=235,slow=46					
EIL	Elat	11.63 221	LR	LR	02 08 38.6	
	comp=Z,182nm,18.4s,baz=18,slow=41					
AKTO	Aktyubinsk	15.42 37	Pn	Pn	02 04 29.4	-1.3
	0.0nm,0.3s,baz=232,slow=12,SNR=6.1					
AKTO			LR	LR	02 12 08.9	
	comp=Z,77nm,18.1s,baz=234,slow=44					
AKASG	Malin Array Be	15.62 324	Pn	Pn	02 04 33.1	-0.2
	0.2nm,0.3s,baz=132,slow=11,SNR=3.6					
CRVS	Cervenica-Dubn	18.81 309	*e*P	Pn	02 05 16.9	+3.5
CRVS	Cervenica-Dubn	18.81 309	*e*P	Pn	02 05 16.9	+3.5
STHS	Stebnicka Huta	19.16 311	*e*P	Pn	02 05 20.8	+3.3
STHS	Stebnicka Huta	19.16 311	*e*P	Pn	02 05 20.8	+3.3
WSAR	Wadi Sarin	20.14 136	LR	LR	02 15 25.3	
	comp=Z,68nm,19.0s,baz=318,slow=44					
ARU	Arti	20.18 25	P	Pn	02 05 29.3	-0.3
	2.4nm,0.5s,baz=225,slow=6.4,SNR=5.7					
VYHS	Vyhne	20.28 306	*e*P	Pn	02 05 31.8	+0.9
VYHS	Vyhne	20.28 306	*e*P	Pn	02 05 31.8	+0.9
BVAR	Borovoye Array	23.21 44	P	P	02 05 59.2	-1.0
	0.5nm,0.7s,baz=266,slow=14,SNR=2.8					
GERES	GERESS Array B	23.65 305	P	P	02 06 05.5	+0.7
	0.6nm,0.6s,baz=67,slow=3.3,SNR=3.6					
FINES	FINESS Array B	25.09 340	P	P	02 06 19.5	+1.7
	1.2nm,0.7s,baz=146,slow=10,SNR=3.0					
FINES			LR	LR	02 16 59.9	
	comp=Z,50nm,20.1s,baz=195,slow=38					
KURBB	Kurchatov Arra	27.18 53	P	P	02 06 38.0	+1.1
	2.3nm,0.2s,baz=264,slow=9.0,SNR=8.4					
HFS	Hagfors	28.41 328	P	P	02 06 49.0	+1.2
	4.5nm,0.9s,baz=88,slow=11,SNR=3.5					
MKAR	Makanchi Array	29.20 62	P	P	02 06 55.0	+0.1
	1.0nm,0.7s,baz=282,slow=5.7,SNR=6.1					
MKAR			LR	LR	02 20 58.2	
	comp=Z,27nm,18.8s,baz=238,slow=41					
NOA	NORSAR Array B	29.94 328	LR	LR	02 20 10.7	
	comp=Z,25nm,18.7s,baz=265,slow=38					
ZALV	Zalesovo Beam	31.65 48	P	P	02 07 16.8	+0.4
	0.5nm,0.4s,baz=262,slow=3.9,SNR=2.9					
ZALV			LR	LR	02 22 16.6	
	comp=Z,34nm,19.1s,baz=74,slow=40					
ESDC	Sonseca Array	36.52 287	P	P	02 07 57.0	-2.0
	0.4nm,0.5s,baz=66,slow=8.5,SNR=4.8					
TORD	Torodi Ar. Bea	45.01 247	P	P	02 09 05.7	-3.5
	0.9nm,0.9s,baz=64,slow=6.7,SNR=6.4					
TORD			LR	LR	02 31 44.4	
	comp=Z,14nm,19.8s,baz=155,slow=41					
CMAR	Chiang Mai Arr	51.80 97	LR	LR	02 34 25.5	
	comp=Z,11nm,19.3s,baz=220,slow=39					
KSRS	Korea Array	63.89 62	P	P	02 11 26.7	+0.5
	0.8nm,0.4s,baz=276,slow=4.4,SNR=4.0					

CSEM ***24*** *02:06:46.7±0.7, 38°.78N×43°.66E, h10km, ML3.0, Error ellipse: s-maj=15.0km s-min=8.1km az=97.0*
DDA ***24*** *02:06:46.6, 38°.74N×43°.51E, h20km, Ml3.0*
ISK ***24*** *02:06:47.6, 38°.86N×43°.42E, h5km, MD3.2*
ISC 24 02:06:47.2±1.2, 38°.81N±0°.02×43°.53E±0°.04, h8km±11km, n41, σ1§50/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.62	217	*i* P	Pg	02 06 57.6	-1.5
GEVA	Gevas	0.62	217	P	Pg	02 06 57.6	-1.5
DYDN	Diyadin	0.75	10	*i* P	Pg	02 07 00.5	-1.1
DYDN	Diyadin	0.75	10	P	Pg	02 07 00.5	-1.1
AGRB	Hanur-Agry	0.87	332	*e*PG	Pg	02 07 03.9	-0.1
AGRB				*e*SG	Sg	02 07 15.8	+0.5
AGRB	Hanur-Agry	0.87	332	*e*Pg	Pg	02 07 03.9	-0.1
AGRB				*e*Sg	Sg	02 07 15.8	+0.5
EKAR	Karacoban	1.22	292	*i* P	Pg	02 07 11.1	+0.4
EKAR				*i* S	Sn	02 07 28.1	+0.4
EKAR	Karacoban	1.22	292	P	Pg	02 07 11.1	+0.4
EKAR				S	Sn	02 07 28.1	+0.4
HAKT	HAKKARI	1.26	173	*i* P	Pb	02 07 09.3	-1.9
HAKT	HAKKARI	1.26	173	P	Pb	02 07 09.3	-1.9
EATA	Eleskirt	1.32	323	*i* P	Pn	02 07 11.7	-0.7
EATA				*i* S	Sg	02 07 31.4	+1.6
EATA	Eleskirt	1.32	323	P	Pn	02 07 11.6	-0.7
EATA				S	Sg	02 07 31.4	+1.6
CUKT	Cukurca	1.56	178	*e*PN	Pg	02 07 18.3	+1.2
CUKT				*e*SN	Sg	02 07 40.9	+3.6
CUKT	Cukurca	1.56	178	*e*Pn	Pg	02 07 18.3	+1.2
DIGO	Kars	1.61	356	*i* P	Pg	02 07 18.2	+0.1
DIGO	Kars	1.61	356	P	Pg	02 07 18.2	+0.1
VRTB	Varto-Mus	1.65	283	*e*PN	Pb	02 07 17.6	-0.4
VRTB	Varto-Mus	1.65	283	*i* P	Pb	02 07 16.9	-1.1
VRTB	Varto-Mus	1.65	283	P	Pb	02 07 16.9	-1.1
VRTB	Varto-Mus	1.65	283	*e*Pn	Pb	02 07 17.6	-0.4
HOMI	Horasan	1.76	315	*i* P	Pb	02 07 19.6	-0.2
BNGL	BINGOL	1.86	275	*i* P	Pb	02 07 20.1	-1.5
SVAN	Silvan-Diyarba	1.94	251	*e*PN	Pb	02 07 21.3	-1.5
SVAN	Silvan-Diyarba	1.94	251	*i* P	Pb	02 07 21.4	-1.5
SVAN				*i* S	Sb	02 07 46.3	-0.9
SVAN	Silvan-Diyarba	1.94	251	*e*Pn	Pb	02 07 21.3	-1.5
SVAN				S	Sb	02 07 46.3	-0.9
SENK	Senkaya-Erzuru	1.97	333	*e*PN	Pb	02 07 22.4	-1.1
SENK	Senkaya-Erzuru	1.97	333	*e*Pn	Pb	02 07 22.4	-1.1
BTMN	Batman	2.00	243	*i* P	Pn	02 07 21.3	0.0
BTMN				*i* S	Sb	02 07 48.5	-0.3
BTMN	Batman	2.00	243	P	Pn	02 07 21.3	0.0
BTMN				S	Sb	02 07 48.5	-0.3
ERZM	Erzurum	2.00	304	*i* P	Pb	02 07 23.8	-0.2
ERZM	Erzurum	2.00	304	P	Pb	02 07 23.8	-0.2
BNGB	Bing¶ll	2.23	276	*e*PN	Pb	02 07 26.1	-1.7
BINT	Bingol	2.37	273	*e*Pn	Pn	02 07 28.1	-0.4
YEDI	Yedisu-Bingol	2.40	286	*e*PN	Pb	02 07 28.4	-2.4
YEDI	Yedisu-Bingol	2.40	286	*e*Pn	Pb	02 07 28.4	-2.4
MAZI	Mazidag	2.78	242	*e*PN	Pb	02 07 34.1	-3.0
MAZI	Mazidag	2.78	242	*e*Pn	Pb	02 07 34.1	-3.0
PTK	Pertek	3.23	273	*e*PN	Pn	02 07 40.6	+2.2
PTK	Pertek	3.23	273	*e*Pn	Pn	02 07 40.6	+2.2
SVRC	Sivrice-ELAZID	3.33	264	*e*PN	Pn	02 07 42.3	+2.5
SVRC	Sivrice-ELAZID	3.33	264	*e*Pn	Pn	02 07 42.3	+2.5

ISK ***24*** *02:08:32.2, 38°.71N×43°.19E, h5km, MD2.8*
CSEM ***24*** *02:08:33.2±0.3, 38°.71N×43°.16E, h2km, ML2.7, Error ellipse: s-maj=9.1km s-min=4.9km az=99.0*
DDA ***24*** *02:08:33.1, 38°.72N×43°.12E, h7km, Ml2.7*
ISC 24 02:08:33.6±1.2, 38°.69N±0°.02×43°.14E±0°.04, h9km±13km, n26, σ0§81/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.39	190	*i* P	Pg	02 08 40.6	-0.6
GEVA				*i* S	Sb	02 08 48.1	-0.7
GEVA	Gevas	0.39	190	P	Pg	02 08 40.6	-0.6
GEVA				S	Sb	02 08 48.1	-0.7
AGRB	Hanur-Agry	0.89	352	*e*PG	Pg	02 08 50.0	-0.7
AGRB				*e*SG	Sb	02 09 03.4	+0.1
AGRB	Hanur-Agry	0.89	352	*e*Pg	Pg	02 08 50.0	-0.7
AGRB				*e*Sg	Sb	02 09 03.4	+0.1
DYDN	Diyadin	0.95	26	*i* P	Pg	02 08 51.2	-0.6
DYDN	Diyadin	0.95	26	P	Pg	02 08 51.2	-0.6
EATA	Eleskirt	1.27	337	*i* P	Pg	02 08 56.9	-1.1
EATA	Eleskirt	1.27	337	P	Pg	02 08 56.9	-1.1
VRTB	Varto-Mus	1.40	290	*e*PN	Pg	02 09 00.3	-0.1
VRTB	Varto-Mus	1.40	290	*e*Pn	Pg	02 09 00.3	-0.1
CUKT	Cukurca	1.49	166	*e*PN	Pb	02 09 01.4	-0.1
CUKT				*e*SN	Sg	02 09 22.6	+1.2
CUKT	Cukurca	1.49	166	*e*Pn	Pb	02 09 01.4	-0.1
CUKT				*e*Sn	Sg	02 09 22.6	+1.2
SVAN	Silvan-Diyarba	1.62	251	*e*PN	Pb	02 09 03.6	-0.1
SVAN	Silvan-Diyarba	1.62	251	*i* P	Pn	02 09 03.0	+0.7
SVAN				*i* S	Sg	02 09 26.0	+0.3
SVAN	Silvan-Diyarba	1.62	251	P	Pn	02 09 03.0	+0.7
SVAN	Silvan-Diyarba	1.62	251	*e*Pn	Pb	02 09 03.6	-0.1
SVAN				S	Sg	02 09 26.0	+0.3
BTMN	Batman	1.68	242	*i* P	Pn	02 09 02.4	-0.8
BTMN				*i* S	Sg	02 09 28.9	+1.4
BTMN	Batman	1.68	242	P	Pn	02 09 02.4	-0.8
BTMN				S	Sg	02 09 28.9	+1.4
DIGO	Kars	1.73	6	*i* P	Pb	02 09 05.4	-0.2
DIGO	Kars	1.73	6	P	Pb	02 09 05.4	-0.2
BNGB	Bing¶ll	1.95	280	*e*PN	Pb	02 09 08.2	-1.1
SENK	Senkaya-Erzuru	1.96	342	*e*PN	Pn	02 09 08.0	+0.8
SENK	Senkaya-Erzuru	1.96	342	*e*Pn	Pn	02 09 08.0	+0.8
BINT	Bingol	2.08	276	*e*Pn	Pn	02 09 08.2	-0.6
YEDI	Yedisu-Bingol	2.16	291	*e*PN	Pn	02 09 11.1	+1.3
YEDI	Yedisu-Bingol	2.16	291	*e*Pn	Pn	02 09 11.1	+1.3

IDC ***24*** *02:12:05.9±6.0, 17°.30N×95°.85W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/29, mbtmp3.5/3, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=492.2km s-min=59.6km az=58.0*
ISCJB ***24*** *02:12:10.5±1.7, 16°.52N±0°.06×99°.51W±0°.04, h12km±11km, mb3.6/2, MS3.5/1, Error ellipse: s-maj=9.5km s-min=5.5km az=11.8*
MEX ***24*** *02:12:12.2±0.8, 16°.36N×99°.51W, h20km±999km, MD4.2*
ISC 24 02:12:09.1±1.7, 16°.47N±0°.06×99°.48W±0°.04, h3km±12km, n16, σ1§94/29, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.95	307	*e*P	Pg	02 12 27.8	+0.5
CAIG				*e*S	Sg	02 12 39.0	-0.6
PNIG	Pinotepa	1.30	93	*e*P	Pn	02 12 32.8	-1.4
PNIG				*e*S	Sb	02 12 47.6	-3.7
MEIG	Mezcala	1.45	355	*e*P	Pn	02 12 35.8	-0.5
MEIG				*e*S	Sn	02 12 53.7	-2.2
PLIG	Platanillo	1.91	359	*e*P	Pn	02 12 42.9	+0.3
PLIG				*e*S	Sn	02 13 06.1	-1.1
ARIG	Puente Sto Nin	1.98	335	*e*P	Pn	02 12 43.6	+0.1
ARIG				*e*S	Sn	02 13 07.0	-1.9
ZIIG	Zihuatanejo	2.21	301	*e*P	Pn	02 12 45.6	-1.0
ZIIG				*e*S	Sn	02 13 12.1	-2.3
YAIG	Yautepec	2.41	9	*e*P	Pn	02 12 50.2	+0.6
YAIG				*e*S	Sn	02 13 19.1	-0.6
PPM	Popocatepetl	2.71	17	*e*P	Pn	02 12 53.5	-0.4
PPM				*e*S	Sn	02 13 27.0	-0.4
TPIG	Tehuac#an	2.80	46	*e*P	Pn	02 12 58.0	+3.1
TPIG				*e*S	Sn	02 13 29.3	0.0
UNM	Universidad Na	2.86	6	*e*P	Pb	02 13 00.1	-0.8
UNM				*e*S	Sb	02 13 37.9	+1.5
HUIG	Huatulco	3.32	102	*e*P	Pb	02 13 07.6	-0.9
HUIG				*e*S	Sn	02 13 44.7	+2.9
MMIG	Aquila	4.11	297	*e*P	Pn	02 13 14.8	+2.0
MMIG				*e*S	Sn	02 14 04.0	+2.6
R15V		5.06	303	*e*P	Pn	02 13 27.9	+2.0
R15V				*i* S	Sn	02 14 20.4	-4.6
TXAR	Lajitas Array	13.37	344	Pn	P	02 15 30.4	+0.7
	0.0nm,0.3s,baz=147,slow=12,SNR=3.9						
TXAR				Lg	Lg	02 19 23.1	
	0.0nm,0.3s,baz=157,slow=30,SNR=7.2						
PDAR	Pinedale Array	27.59	344	P	P	02 17 59.2	+1.4
	2.2nm,1.0s,baz=140,slow=11,SNR=14						
PDAR				LR	LR	02 30 16.8	
	comp=Z,117nm,18.1s,baz=178,slow=39						
ILAR	Eielson Array	57.80	338	P	P	02 22 01.6	+0.2
	0.4nm,1.0s,baz=151,slow=6.1,SNR=4.5						

MEX 24 02:15:56.9±0.9, 16°.43N×99°.50W, h16km±10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.96	310	*e*P	Pb	02 16 11.8	-3.3
CAIG				*i* S	Sb	02 16 23.4	-4.3
PNIG	Pinotepa	1.32	91	*e*P	Pn	02 16 17.0	-3.6
PNIG				*e*S	Sn	02 16 32.9	-5.1
MEIG	Mezcala	1.50	356	*e*P	Pn	02 16 19.5	-3.7
MEIG				*e*S	Sn	02 16 36.9	-5.5
PLIG	Platanillo	1.96	360	*e*P	Pn	02 16 26.7	-2.8
PLIG				*e*S	Sn	02 16 49.4	-4.3
ARIG	Puente Sto Nin	2.01	336	*e*P	Pn	02 16 27.8	-2.5
ARIG				*e*S	Sn	02 16 50.5	-4.6
ZIIG	Zihuatanejo	2.22	302	*e*P	Pn	02 16 30.4	-2.6
ZIIG				*e*S	Sn	02 16 55.5	-4.6
YAIG	Yautepec	2.46	10	*e*P	Pn	02 16 34.1	-2.3
YAIG				*e*S	Sn	02 17 02.3	-3.9
VHO	Vista Hermosa	2.73	76	*e*P	Pn	02 16 37.4	-2.9
VHO				*e*S	Sn	02 17 09.9	-3.1
PPM	Popocatepetl	2.75	17	*e*P	Pn	02 16 41.7	+0.8
PPM				*e*S	Sb	02 17 18.0	-1.8
TPIG	Tehuac#an	2.84	46	*i* P	Pn	02 16 43.4	+1.6
TPIG				*e*P	Pb	02 16 43.5	-4.0
TPIG				*e*S	Sb	02 17 21.0	-1.1
HUIG	Huatulco	3.33	101	*e*P	Pb	02 16 53.4	-2.1

MEX 24 02:21:40.6±0.7, 16°.41N×99°.49W, h16km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.98	310	*e*P	Pb	02 21 55.8	-3.4
CAIG				*i* S	Sb	02 22 07.5	-4.4
PNIG	Pinotepa	1.31	91	*e*P	Pn	02 22 00.8	-3.4
PNIG				*e*S	Sn	02 22 15.8	-5.5
MEIG	Mezcala	1.51	355	*e*P	Pn	02 22 03.7	-3.4
MEIG				*e*S	Sn	02 22 21.0	-5.5
PLIG	Platanillo	1.97	360	*e*P	Pn	02 22 10.6	-2.8
PLIG				*e*S	Sn	02 22 33.8	-4.0
ARIG	Puente Sto Nin	2.03	336	*e*P	Pn	02 22 11.7	-2.5
ARIG				*e*S	Sn	02 22 34.7	-4.6
ZIIG	Zihuatanejo	2.23	302	*e*P	Pn	02 22 13.7	-3.3
ZIIG				*e*S	Sn	02 22 40.0	-4.1
YAIG	Yautepec	2.47	9	*e*P	Pn	02 22 18.1	-2.3
YAIG				*e*S	Sn	02 22 46.5	-3.8
VHO	Vista Hermosa	2.72	76	*e*P	Pn	02 22 21.6	-2.3
VHO				*e*S	Sn	02 22 52.4	-4.1
PPM	Popocatepetl	2.77	17	*e*P	Pn	02 22 21.9	-2.8
PPM				*e*S	Sn	02 22 55.1	-3.0
TPIG	Tehuac#an	2.85	45	*e*P	Pn	02 22 22.8	-2.7
TPIG				*e*S	Sn	02 22 56.5	-3.1
UNM	Universidad Na	2.92	6	*e*P	Pn	02 22 28.7	+2.1
UNM				*e*S	Sn	02 22 56.9	-4.5
HUIG	Huatulco	3.31	101	*e*P	Pb	02 22 39.7	+0.7
HUIG				*e*S	Sg	02 23 23.4	-3.7

AZER ***24*** *02:23:11.5±1.1, 37°.96N×43°.10E, h7km, Error ellipse: s-maj=7.4km s-min=3.5km az=56.0*
MOS ***24*** *02:23:12.6±2.9, 38°.42N×43°.13E, h10km, mb4.2/9, Error ellipse: s-maj=11.0km s-min=5.9km az=83.8*
IDC ***24*** *02:23:13.1±0.9, 38°.70N×43°.14E, h0km, mb3.8/11, mb1 3.7/18, mb1mx3.6/41, mbtmp3.6/18, ML3.0/6, MS3.0/12, Ms1 3.0/12, ms1mx2.7/44, Error ellipse: s-maj=16.3km s-min=10.5km az=156.0*
ISK ***24*** *02:23:14.4, 38°.74N×43°.16E, h2km, ML3.9*
NEIC ***24*** *02:23:14.3±0.0, 38°.74N×43°.16E, h2km, mb4.0/4, ML3.9(ISK), After ISK.*
DDA ***24*** *02:23:14.5, 38°.72N×43°.25E, h21km, Ml3.9*
ISCJB ***24*** *02:23:15.3±0.7, 38°.70N±0°.02×43°.16E±0°.02, h6km±5km, mb3.9/15, MS3.1/9, Error ellipse: s-maj=3.4km s-min=3.0km az=160.8*
CSEM ***24*** *02:23:16.2±0.2, 38°.69N×43°.13E, h10km, mb4.0/8, Error ell

YEDI	Yedisu-Bingol	2.18	291	Pn		Pn	02 23 52.5	+0.5
MARD	Mardin	2.34	235	*i* P		Pn	02 23 55.0	+0.6
MARD	Mardin	2.34	235	*e*Pn		Pn	02 23 54.9	+0.6
MARD	Mardin	2.34	235	*e*Pn		Pn	02 23 54.9	+0.6
DDEM	Demirkent	2.45	334	*i* P		Pn	02 23 56.8	+1.0
DDEM	Demirkent	2.45	334	P		Pn	02 23 56.8	+1.0
KOPT	Kop Dagi	2.46	303	*i* P		Pn	02 23 57.7	+1.7
KOPT	Kop Dagi	2.46	303	P		Pn	02 23 57.7	+1.7
KOPT	Kop Dagi	2.46	303	*e*Pn		Pb	02 24 00.8	+0.8
KOPT	Kop Dagi	2.46	303	*e*Pn		Pb	02 24 00.8	+0.8
MAZI	Mazidag	2.48	241	*e*PN		Pn	02 23 56.4	+0.2
MAZI	Mazidag	2.48	241	*e*Pn		Pn	02 23 56.4	+0.2
MAZI	Mazidag	2.48	241	Pn		Pn	02 23 56.4	+0.2
DIYA	Diyarbakir	2.52	253	*i* P		Pn	02 23 57.3	+0.6
DIYA	Diyarbakir	2.52	253	P		Pn	02 23 57.3	+0.6
DAGI	Agillar	2.57	338	*i* P		Pn	02 23 58.4	+1.0
BGD	Bogdanovka	2.58	7	P		Pb	02 24 02.6	+0.6
ARTV	Artvin	2.66	339	*i* P		Pn	02 23 59.8	+1.0
ARTV	Artvin	2.66	339	P		Pn	02 23 59.8	+1.0
AKH	Akhalkalaki	2.72	5	*e*PN		Pn	02 24 00.0	+0.5
AKH	Akhalkalaki	2.72	5	P		Pb	02 24 04.8	+0.4
AKH	Akhalkalaki	2.72	5	P		Pb	02 24 04.8	+0.4
AKH	Akhalkalaki	2.72	5	*e*Pn		Pn	02 24 00.0	+0.5
AKH	Akhalkalaki	2.72	5	P		Pb	02 24 04.8	+0.4
EPOS	Posof	2.82	353	*i* P		Pn	02 24 01.3	+0.4
EPOS	Posof	2.82	353	P		Pn	02 24 01.3	+0.4
ERZN	Erzincan	2.83	289	*e*PN		Pn	02 24 01.7	+0.8
ERZN	Erzincan	2.83	289	Pn		Pn	02 24 01.7	+0.8
ERZN	Erzincan	2.83	289	Pn		Pn	02 24 01.7	+0.8
GDB	GEDABAY SNR=28	2.83	44	⇑P		Pb	02 24 05.6	-0.7
GDB				⇑S		Sg	02 24 47.8	+1.3
GDB	GEDABAY SNR=28	2.83	44	P		Pb	02 24 05.6	-0.7
TNCL	Tunceli-Merkez	2.87	279	*i* P		Pn	02 24 02.4	+0.9
TNCL	Tunceli-Merkez	2.87	279	P		Pn	02 24 02.4	+0.9
QZX	Qazax, Azerbai SNR=3.5	2.90	35	⇓P		Pb	02 24 07.1	-0.2
QZX				⇑S		Sg	02 24 50.5	+2.0
QZX	Qazax, Azerbai SNR=3.5	2.90	35	P		Pb	02 24 07.1	-0.2
PTK	Pertek	2.96	275	*e*PN		Pn	02 24 03.8	+0.9
PTK	Pertek	2.96	275	*e*Pn		Pn	02 24 03.8	+0.9
PTK	Pertek	2.96	275	Pn		Pn	02 24 03.8	+0.9
SVRC	Sivrice-ELAZID	3.05	265	*e*PN		Pn	02 24 05.2	+1.2
SVRC	Sivrice-ELAZID	3.05	265	*e*Pn		Pn	02 24 05.2	+1.2
SVRC	Sivrice-ELAZID	3.05	265	Pn		Pn	02 24 05.2	+1.2
GANJ	Ganja SNR=24	3.11	50	⇓P		Pb	02 24 09.6	-1.3
GANJ				⇑S		Sg	02 24 54.1	-1.2
GANJ	Ganja SNR=24	3.11	50	P		Pb	02 24 09.6	-1.3
EZC	Erzincan	3.15	291	*e*Pn		Pn	02 24 01.7	-3.7
DGRG	David-gareji	3.23	31	P		Pn	02 24 08.5	+2.1
DGRG	David-gareji	3.23	31	P		Pn	02 24 08.4	+2.1
DGRG	David-gareji	3.23	31	P		Pn	02 24 08.4	+2.1
TBLG	Delisi	3.26	21	*e*PN		Pn	02 24 07.9	+1.1
TBLG	Delisi	3.26	21	P		Pb	02 24 13.2	-0.3
TBLG	Delisi	3.26	21	P		Pb	02 24 13.1	-0.3
TBLG	Delisi	3.26	21	*e*Pn		Pn	02 24 07.9	+1.1
ELZG	Elazig	3.29	268	*i* P		Pn	02 24 06.8	-0.5
ELZG	Elazig	3.29	268	P		Pn	02 24 06.8	-0.5
BRDA	Brd SNR=11	3.47	62	⇑P		Pn	02 24 12.2	+2.6
BRDA				⇓S		Sb	02 24 59.3	-0.1
BRDA	Brd SNR=11	3.47	62	P		Pn	02 24 12.2	+2.6
KTUT	Trabzon	3.48	312	*e*PN		Pn	02 24 10.9	+1.1
KTUT	Trabzon	3.48	312	*e*Pn		Pn	02 24 10.9	+1.1
KTUT	Trabzon	3.48	312	Pn		Pn	02 24 10.9	+1.1
MNGR	Mingechevir, A SNR=5.3	3.66	54	⇑P		Pn	02 24 15.6	+3.4
MNGR				⇑S		Sb	02 25 05.5	+0.8
MNGR	Mingechevir, A SNR=5.3	3.66	54	P		Pn	02 24 15.6	+3.4
ZRD	Zardab SNR=9.1	3.83	64	⇑P		Pn	02 24 16.8	+2.2
ZRD				⇓S		Sb	02 25 07.3	-2.3
ZRD	Zardab SNR=9.1	3.83	64	P		Pn	02 24 16.8	+2.2
GUDG	Gudauri	3.89	14	P		Pn	02 24 18.0	+2.3
ONI	Oni	3.89	3	P		Pb	02 24 25.6	+1.3
ONI	Oni	3.89	3	P		Pb	02 24 25.6	+1.3
ZKTA	Zakatala SNR=22	3.95	41	⇑P		Pn	02 24 21.1	+4.8
ZKTA				⇓S		Sb	02 25 15.1	+1.9
SEKA	Sheki SNR=11	3.98	50	⇑P		Pn	02 24 21.3	+4.5
SEKA				⇓S		Sb	02 25 15.6	+1.5
SEKA	Sheki SNR=11	3.98	50	P		Pn	02 24 21.3	+4.5
ATAB	Bozova	4.04	254	*i* P		Pb	02 24 26.3	-0.5
LRK	Lerik SNR=3.5	4.04	89	⇓P		Pn	02 24 15.6	-2.1
LRK				⇓S		Sn	02 25 05.4	+0.1
LRK	Lerik SNR=3.5	4.04	89	P		Pn	02 24 15.6	-2.1
LRK				S		Sn	02 25 05.4	+0.1
GLBA	Clilabad SNR=7.9	4.10	81	⇑P		Pn	02 24 17.9	-0.5
GLBA				⇑S		Sn	02 25 09.3	+2.8
GLBA	Clilabad SNR=7.9	4.10	81	P		Pn	02 24 17.9	-0.5
GLBA				S		Sn	02 25 09.3	+2.8
ZEI	Tsey	4.12	7	*e*P		Pn	02 24 20.9	+2.1
ZEI				pmax	pmax			
	comp=Z,27nm,0.8s							
QBL	Gabala SNR=14	4.23	57	⇑P		Pn	02 24 23.0	+2.8
QBL				⇓S		Sb	02 25 19.0	-2.4
QBL	Gabala SNR=14	4.23	57	P		Pn	02 24 23.0	+2.8
SAAT	Saatly	4.24	72	⇑S		Sn	02 25 14.9	+5.1
SAAT	Saatly	4.24	72	S		Sn	02 25 14.9	+5.1
LKRN	Lenkeran, Azer SNR=3.0	4.38	88	⇓P		Pn	02 24 20.4	-1.8
LKRN				⇑S		Sn	02 25 14.6	+1.2
LKRN	Lenkeran, Azer SNR=3.0	4.38	88	P		Pn	02 24 20.4	-1.8
LKRN				S		Sn	02 25 14.6	+1.2
IML	Ismayilli SNR=4.4	4.39	60	⇓P		Pn	02 24 24.8	+2.5
IML	Ismayilli SNR=4.4	4.39	60	P		Pn	02 24 24.8	+2.5
ASTR	Astara SNR=3.6	4.40	90	⇑P		Pn	02 24 20.2	-2.2
ASTR				⇓S		Sn	02 25 14.0	+0.1
ASTR	Astara SNR=3.6	4.40	90	P		Pn	02 24 20.2	-2.2
ASTR				S		Sn	02 25 14.0	+0.1
XNQ	Khinaliq SNR=13	4.55	56	⇑P		Pn	02 24 27.3	+2.6
XNQ				⇑S		Sb	02 25 27.3	-3.2
XNQ	Khinaliq SNR=13	4.55	56	P		Pn	02 24 27.3	+2.6
PQL	Pirkuli SNR=5.8	4.67	62	⇓P		Pn	02 24 28.2	+1.9
PQL				⇓P		Pn	02 24 28.2	+1.9
	SNR=5.8							
PQL	Pirkuli SNR=5.8	4.67	62	P		Pn	02 24 28.2	+1.9
ALIB	Äli-Bayra	4.69	73	⇓S		Sn	02 25 26.9	+5.8
QSAR	Qusar SNR=5.6	4.81	53	⇓P		Pn	02 24 31.6	+3.5
QSAR	Qusar SNR=5.6	4.81	53	P		Pn	02 24 31.6	+3.5
QUBA	Quba, Azerbaij SNR=6.7	4.87	55	⇑P		Pn	02 24 32.0	+3.1
QUBA	Quba, Azerbaij SNR=6.7	4.87	55	P		Pn	02 24 32.0	+3.1
GROC	Groznyy	4.92	23	P		Pn	02 24 29.3	-0.2
GROC				*e*			02 25 23.6	
GROC	Groznyy	4.92	23	P		Pn	02 24 29.3	-0.2
GROC				*e*S		Sn	02 25 23.6	-3.0
ATGJ	Altiaghaj SNR=3.4	4.94	62	⇓P		Pn	02 24 32.0	+2.1
ATGJ				⇓P		Pn	02 24 32.0	+2.1
	SNR=3.4							
ATGJ	Altiaghaj SNR=3.4	4.94	62	P		Pn	02 24 32.0	+2.1
KBZ	Khabaz	5.03	358	Pn		Pn	02 24 31.6	+0.6
	comp=Z,0.1nm,0.3s,baz=219,slow=19,SNR=2.3							
KBZ				LR		LR	02 26 19.3	
	comp=Z,64nm,19.3s,baz=178,slow=37							
KIV	Kislovodsk	5.27	356	*e*P		Pn	02 24 39.0	+4.6
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIV	Kislovodsk	5.27	356	*e*Pn		Pn	02 24 37.1	+2.7
KIV	Kislovodsk	5.27	356	*e*P		Pn	02 24 39.0	+4.6
	comp=Z,5.0nm,0.9s							
KIV	Kislovodsk	5.27	356	*e*Pn		Pn	02 24 37.1	+2.7
KIV				*e*S		Sb	02 25 44.2	-6.9
KVAR	Kislovodsk Arr	5.27	356	Pn		Pn	02 24 36.1	+1.7
	baz=190,slow=6.1,SNR=2.2							
KVAR				LR		LR	02 27 08.7	
	comp=Z,161nm,21.8s,baz=168,slow=45							
GOF	Gofitskoye	6.36	359	⇑P		Pn	02 24 57.3	+8.0
GOF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRTR	Keskin Array B	7.48	281	Pn		Pn	02 25 05.3	+0.5
	comp=Z,0.1nm,0.3s,baz=115,slow=15,SNR=3.3							
ASF	Jabal al Asfar	8.28	220	Pn		Pn	02 25 15.8	-0.1
	comp=Z,0.3nm,0.3s,baz=350,slow=12,SNR=3.4							
MMAI	Mount Meron Ar	8.48	230	Pn		Pn	02 25 18.9	+0.3
	comp=Z,1.1nm,0.3s,baz=63,slow=15,SNR=5.0							
MMAI				LR		LR	02 29 06.0	
	comp=Z,164nm,21.3s,baz=45,slow=42							
RAYN	Ar Rayn	15.26	172	*e*Pn		Pn	02 26 47.2	-4.0
RAYN				*e*S		Sn	02 29 25.5	-15
AKASG	Malin Array Be	15.54	325	Pn		Pn	02 26 51.5	-3.1
	comp=Z,1.2nm,0.3s,baz=128,slow=12,SNR=6.0							
AKTO	Aktyubinsk	15.76	37	Pn		Pn	02 26 56.1	-1.4
	comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=6.2							
AKTO				LR		LR	02 34 40.9	
	comp=Z,80nm,19.4s,baz=231,slow=44							
BUR08	Bucovina Ar. S	15.84	310	*e*Pn		Pn	02 27 01.0	+2.3
BUR08	Bucovina Ar. S	15.84	310	*e*Pn		Pn	02 27 01.0	+2.3
ABKAR	Akbulak array	16.00	43	*e*Pn		Pn	02 27 02.5	+1.9
	comp=Z,17nm,0.9s							
ABKAR	Akbulak array	16.00	43	*e*Pn		Pn	02 27 02.5	+1.9
	comp=Z,17nm,0.9s							
OBN	Obninsk	17.02	347	LR		LR	02 34 43.3	
	comp=Z,26nm,20.1s,baz=304,slow=41							
PSZ	Piszkesteto	19.23	306	P		P	02 27 41.0	+1.1
PSZ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
PSZ	Piszkesteto	19.23	306	P		P	02 27 41.0	+1.1
	comp=Z,7.1nm,1.3s							
PSZ	Piszkesteto	19.23	306	P		P	02 27 41.0	+1.1
	comp=Z,7.1nm,1.3s							
VYHS	Vyhne	20.09	307	*e*P		P	02 27 50.5	+1.3
VYHS	Vyhne	20.09	307	*e*P		P	02 27 50.5	+1.3
VYHS	Vyhne	20.09	307	*e*P		P	02 27 50.5	+1.3
WSAR	Wadi Sarin	20.28	135	LR		LR	02 37 43.2	
	comp=Z,42nm,21.5s,baz=324,slow=43							
ARU	Arti	20.47	25	P		P	02 27 52.5	-0.7
	comp=Z,1.9nm,0.4s,baz=286,slow=5.1,SNR=4.2							
ARU	Arti	20.47	25	*e*P		P	02 27 53.1	-0.2
ARU				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARU	Arti	20.47	25	*e*P		P	02 27 53.1	-0.2
	comp=Z,5.8nm,0.8s							
ARU	Arti	20.47	25	*e*P		P	02 27 53.1	-0.2
	comp=Z,5.8nm,0.8s							
KKAR	Karatay Array	21.09	69	*e*P		P	02 28 03.4	+3.3
KKAR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KKAR	Karatay Array	21.09	69	*e*P		P	02 28 03.4	+3.3
	comp=Z,7.1nm,0.9s							
VRAC	Vranov	21.75	308	LR		LR	02 38 36.0	
	comp=Z,25nm,19.6s,baz=110,slow=42							
GERES	GERESS Array B	23.44	305	P		P	02 28 25.0	-0.1
	comp=Z,0.4nm,0.5s,baz=96,slow=9.0,SNR=2.7							
GERES	GERESS Array B	23.44	305	P		P	02 28 25.0	-0.1
GERES	GERESS Array B	23.44	305	P		P	02 28 25.0	-0.1
BVAR	Borovoye Array	23.57	44	P		P	02 28 26.5	+0.3
	comp=Z,0.7nm,0.6s,baz=258,slow=10,SNR=4.4							
AAK	Ala-Archa	24.01	71	LR		LR	02 40 10.2	
	comp=Z,37nm,18.4s,baz=258,slow=42							
FINES	FINESS Array B	25.12	341	P		P	02 28 38.7	-1.7
	comp=Z,1.3nm,0.6s,baz=142,slow=12,SNR=8.2							
KSH	Kashi	25.39	78	*e*P		P	02 28 42.9	-0.4
KSH				PP		PcP	02 32 19.0	+3.5
KSH				S		S	02 33 06.8	-3.3
KSH				SS		SnSn	02 34 04.8	+3.2
ATD	Arta Tunnel	27.06	181	LR		LR	02 40 34.4	
	comp=Z,34nm,19.9s,baz=352,slow=38							
KURBB	Kurchatov Arra	27.56	53	P		P	02 29 02.5	-0.1
	comp=Z,1.1nm,0.2s,baz=262,slow=9.2,SNR=6.9							
KURK	Kurchatov	27.64	53	P		P	02 29 02.5	-0.8
KURK				pmax	pmax			
	comp=Z,1.0nm,0.2s							
KURK	Kurchatov	27.64	53	P		P	02 29 02.5	-0.8
	comp=Z,1.0nm,0.2s							
KURK	Kurchatov	27.64	53	P		P	02 29 02.5	-0.8
HFS	Hagfors	28.36	329	P		P	02 29 08.6	-1.0
	comp=Z,4.7nm,1.0s,baz=126,slow=7.4,SNR=6.3							
MKAR	Makanchi Array	29.59	61	P		P	02 29 20.3	-0.5
	comp=Z,0.6nm,0.7s,baz=267,slow=7.2,SNR=3.2							
NOA	NORSAR Array B	29.88	329	P		P	02 29 21.4	-1.8
	comp=Z,0.7nm,0.6s,baz=144,slow=7.8,SNR=2.6							
NOA				LR		LR	02 43 02.8	
	comp=Z,18nm,18.3s,baz=120,slow=40							
ARCES	ARCESS Array B	32.32	348	P		P	02 29 43.2	-1.3
	comp=Z,2.7nm,0.8s,baz=137,slow=8.1,SNR=8.4							
WMQ	Urumqi	33.54	67	P		P	02 29 56.5	+0.9
WMQ				pP		sP	02 30 00.8	+1.8
WMQ				sP		pP	02 30 03.6	+5.6
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,84nm,5.5s							
WMQ				LR	LR			
	comp=N,84nm,5.1s							
WMQ				LR	LR			
	comp=E,79nm,6.7s							
WMQ				LR	LR			
	comp=Z,18nm,17.3s							
ESDC	Sonseca Array	36.22	287	P		P	02 30 17.0	-1.7
	comp=Z,0.4nm,0.4s,baz=68,slow=9.0,SNR=4.5							
NRIK	Noril'sk	38.68	23	LR		LR	02 50 53.6	
	comp=Z,57nm,18.1s,baz=102,slow=43							
KMBO	Kilima Mbogo	40.00	189	LR		LR	02 48 03.6	
	comp=Z,34nm,18.2s,baz=88,slow=37							
TORD	Torodi Ar. Bea	44.62	247	P		P	02 31 26.2	-2.2
	comp=Z,0.5nm,0.8s,baz=52,slow=9.6,SNR=5.2							
HHC	Hu-ho-hao-te	51.37	65	*e*P		P	02 32 21.8	+1.3
HHC				pmax	pmax			
	comp=Z,22nm,1.4s							
HHC				pmax	pmax			
	comp=Z,46nm,4.3s							
CMAR	Chiang Mai Arr	52.14	96	P		P	02 32 24.1	-2.3
	comp=Z,1.1nm,0.4s,baz=296,slow=8.0,SNR=6.2							
JNU	Nakatsue	68.60	64	LR		LR	03 09 01.5	
	comp=Z,261nm,19.8s,baz=99,slow=40							

MEX 24 02:26:02.6±1.0, 16°.36N×99°.51W, h10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.61	327	*e*P		Pg	02 26 07.6	-6.9
ACX				*e*S		Sg	02 26 16.7	-5.9
CAIG	El Cayaco	1.00	313	*e*P		Pg	02 26 18.2	-3.7
CAIG				*e*S		Sg	02 26 32.0	-3.0
PNIG	Pinotepa	1.32	88	*e*P		Pn	02 26 23.4	-3.8
PNIG				*e*S		Sb	02 26 40.5	-4.1
MEIG	Mezcala	1.56	356	*e*P		Pn	02 26 26.2	-4.3
MEIG				*e*S		Sn	02 26 44.2	-6.7
PLIG	Platanillo	2.02	0	*e*P		Pn	02 26 33.4	-3.5
PLIG				*e*S		Sn	02 26 58.6	-3.7
ARIG	Puente Sto Nin	2.08	337	*e*P		Pn	02 26 34.9	-2.6
ARIG				*e*S		Sn	02 26 59.6	-3.9
ZIIG	Zihuatanejo	2.25	304	*e*P		Pn	02 26 37.0	-2.9
ZIIG				*e*S		Sn	02 27 03.9	-3.8
YAIG	Yautepec	2.53	9	*e*P		Pn	02 26 42.1	-1.8
YAIG				*e*S		Sn	02 27 14.3	-0.5
VHO	Vista Hermosa	2.75	75	*e*P		Pn	02 26 45.2	-1.8
VHO				*e*S		Sn	02 27 17.2	-3.2
PPM	Popocatepetl	2.82	17	*e*P		Pn	02 26 47.7	-0.6
PPM				*i* S		Sn	02 27 25.1	+2.5
TPIG	Tehuac#an	2.90	45	*e*P		Pn	02 26 50.1	+1.1
TPIG				*e*S		Sn	02 27 24.1	+0.1
HUIG	Huatulco	3.32	100	*e*P		Pb	02 27 00.3	-1.3
HUIG				*e*S		Sg	02 27 52.0	+2.7

*AZER **24** 02:28:39.9±1.4, 38°.26N×43°.47E, h4km, Error ellipse:*
s-maj=12.0km s-min=10.0km az=40.0
*ISK **24** 02:28:41.7, 38°.91N×43°.68E, h5km, ML3.3*
*DDA **24** 02:28:43.2, 38°.81N×43°.52E, h7km, Ml3.3*
*CSEM **24** 02:28:44.4±0.2, 38°.85N×43°.55E, h2km, ML3.3, Error ellipse: s-maj=7.5km s-min=5.4km az=160.0*

ISC 24 02:28:43.3±1.1, 38°.82N±0°.02×43°.56E±0°.02, h3km±10km, n76, σ1°56/98, 13C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.65	218	*i* P		Pg	02 28 54.3	-1.4
DYDN	Diyadin	0.72	8	*i* P		Pg	02 28 56.4	-0.8
DYDN	Diyadin	0.72	8	P		Pg	02 28 56.4	-0.8
AGRB	Hanur-Agry	0.87	330	*e*PG		Pg	02 28 58.8	-1.2
AGRB				*e*SG		Sb	02 29 12.2	-1.1
AGRB	Hanur-Agry	0.87	330	*e*Pg		Pg	02 28 58.8	-1.2
AGRB				*e*Sg		Sb	02 29 12.2	-1.1
HAKT	HAKKARI	1.27	175	*i* P		Pg	02 29 05.2	-2.4
EATA	Eleskirt	1.33	322	*i* P		Pg	02 29 07.9	-0.9
EATA				*i* S		Sn	02 29 28.1	+0.7
EATA	Eleskirt	1.33	322	P		Pg	02 29 07.9	-0.9
EATA				S		Sn	02 29 28.1	+0.7
NAX	Nakhchivan SNR=12	1.55	76	P		Pn	02 29 12.0	+0.2
NAX				⇓S		Sg	02 29 35.1	+2.2
NAX	Nakhchivan SNR=12	1.55	76	P		Pn	02 29 12.0	+0.2
NAX				S		Sg	02 29 35.1	+2.2
CUKT	Cukurca	1.57	179	*e*PN		Pb	02 29 13.2	+0.1
CUKT				*e*SN		Sg	02 29 36.2	+2.4
CUKT	Cukurca	1.57	179	*i* P		Pn	02 29 12.7	+0.5
CUKT				*i* S		Sg	02 29 36.5	+2.6
CUKT	Cukurca	1.57	179	P		Pn	02 29 12.7	+0.5
CUKT	Cukurca	1.57	179	*e*Pn		Pb	02 29 13.2	+0.1
CUKT				*e*Sn		Sg	02 29 36.2	+2.4
DIGO	Kars	1.59	355	*i* P		Pg	02 29 13.7	-0.2
DIGO	Kars	1.59	355	P		Pg	02 29 13.7	-0.2
SIRN	S¨–rnak	1.61	215	*i* P		Pg	02 29 14.3	+0.2
SIRN	S¨–rnak	1.61	215	P		Pg	02 29 14.3	+0.2
HOMI	Horasan	1.77	314	*i* P		Pg	02 29 16.5	-0.7
EAK	Akyaka	1.86	1	*i* P		Pg	02 29 20.9	+2.0
SENK	Senkaya-Erzuru	1.97	332	*e*PN		Pn	02 29 17.6	-0.2
SENK	Senkaya-Erzuru	1.97	332	*e*Pn		Pn	02 29 17.6	-0.2
SVAN	Silvan-Diyarba	1.97	251	*e*PN		Pn	02 29 18.4	+0.8
SVAN	Silvan-Diyarba	1.97	251	*i* P		Pb	02 29 19.3	-0.6
SVAN				*i* S		Sg	02 29 46.6	0.0
SVAN	Silvan-Diyarba	1.97	251	*e*Pn		Pn	02 29 18.4	+0.8
SVAN	Silvan-Diyarba	1.97	251	P		Pb	02 29 19.3	-0.6
SVAN				S		Sg	02 29 46.6	0.0
ERZM	Erzurum	2.02	303	*i* P		Pg	02 29 20.9	-1.0
ERZM	Erzurum	2.02	303	P		Pg	02 29 20.9	-1.0
BTMN	Batman	2.03	243	*i* P		Pb	02 29 19.7	-1.1
BTMN	Batman	2.03	243	P		Pb	02 29 19.7	-1.1
ECAT	Cat-ERZURUM	2.16	292	*i* P		Pb	02 29 22.2	-0.9
ECAT	Cat-ERZURUM	2.16	292	P		Pb	02 29 22.2	-0.9
BNGB	Bing¶l	2.26	275	*e*PN		Pb	02 29 23.2	-1.5
BINT	Bingol	2.40	272	*e*Pn		Pn	02 29 23.2	-0.4
YEDI	Yedisu-Bingol	2.43	286	*e*PN		Pb	02 29 25.4	-2.2
YEDI	Yedisu-Bingol	2.43	286	*e*Pn		Pb	02 29 25.4	-2.2
GDB	GEDABAY SNR=7.8	2.54	41	⇑P		Pb	02 29 28.8	-0.8
GDB				⇓S		Sg	02 30 05.5	+0.7
GDB	GEDABAY SNR=7.8	2.54	41	P		Pb	02 29 28.8	-0.8
DAGI	Agillar	2.58	331	*i* P		Pb	02 29 30.2	-0.1
AKH	Akhalkalaki	2.58	359	*e*PN		Pn	02 29 24.8	-1.4
AKH	Akhalkalaki	2.58	359	*e*Pn		Pn	02 29 24.8	-1.4
QZX	Qazax, Azerbai SNR=3.2	2.63	31	⇑P		Pb	02 29 29.9	-1.2
QZX				⇑S		Sg	02 30 09.9	+2.1
QZX	Qazax, Azerbai SNR=3.2	2.63	31	P		Pb	02 29 29.9	-1.2
GANJ	Ganja SNR=6.8	2.80	49	⇑P		Pb	02 29 32.1	-1.8
GANJ				⇓S		Sg	02 30 13.5	+0.3
GANJ	Ganja SNR=6.8	2.80	49	P		Pb	02 29 32.1	-1.8
MAZI	Mazidag	2.81	242	*e*PN		Pn	02 29 31.1	+1.9
MAZI	Mazidag	2.81	242	*e*Pn		Pn	02 29 31.1	+1.9
BRDA	Brd	3.14	62	⇓P		Pn	02 29 35.3	+1.7
BRDA				⇑S		Sb	02 30 18.6	+0.1
BRDA	Brd	3.14	62	P		Pn	02 29 35.3	+1.7
PTK	Pertek	3.26	272	*e*PN		Pn	02 29 37.0	+1.6
PTK	Pertek	3.26	272	*e*Pn		Pn	02 29 37.0	+1.6
MNGR	Mingechevir, A	3.34	53	⇑P		Pn	02 29 37.9	+1.6
MNGR				⇑S		Sb	02 30 24.7	+0.6
MNGR	Mingechevir, A	3.34	53	P		Pn	02 29 37.9	+1.6
SVRC	Sivrice-ELAZID	3.36	264	*e*PN		Pn	02 29 39.1	+2.2
SVRC	Sivrice-ELAZID	3.36	264	*e*

HOMI	Horasan	1.61	328	*i* P	Pg	02 34 26.0	+0.6
DIGO	Kars	1.74	9	*i* P	Pb	02 34 26.2	-0.7
DIGO	Kars	1.74	9	P	Pb	02 34 26.2	-0.7
ECAT	Cat-ERZURUM	1.84	300	*i* P	Pb	02 34 28.1	-0.5
ECAT	Cat-ERZURUM	1.84	300	P	Pb	02 34 28.1	-0.5
BNGB	Bing¶ll	1.86	280	*e*PN	Pb	02 34 28.6	-0.3
SENK	Senkaya-Erzuru	1.94	345	*e*PN	Pb	02 34 29.1	-1.1
SENK	Senkaya-Erzuru	1.94	345	*e*Pn	Pb	02 34 29.2	-1.1
BINT	Bingol	1.99	276	*e*Pn	Pn	02 34 28.6	-0.1
EAK	Akyaka	2.04	12	*i* P	Pg	02 34 33.0	-0.6
YEDI	Yedisu-Bingol	2.07	292	*e*PN	Pb	02 34 31.2	-1.4
YEDI	Yedisu-Bingol	2.07	292	*e*Pn	Pb	02 34 31.2	-1.4
MARD	Mardin	2.25	233	*i* P	Pb	02 34 33.3	-2.2
MAZI	Mazidag	2.38	240	*e*PN	Pb	02 34 36.3	-1.5
MAZI	Mazidag	2.38	240	*e*Pn	Pb	02 34 36.3	-1.5
DDEM	Demirkent	2.41	336	*i* P	Pg	02 34 40.1	-0.6
DIYA	Diyarbakir	2.41	252	*i* P	Pb	02 34 36.7	-1.6
DIYA	Diyarbakir	2.41	252	P	Pb	02 34 36.7	-1.6
PTK	Pertek	2.85	275	*e*PN	Pn	02 34 42.2	+1.6
PTK	Pertek	2.85	275	*e*Pn	Pn	02 34 42.2	+1.6
SVRC	Sivrice-ELAZID	2.94	265	*e*PN	Pb	02 34 44.0	-3.3
SVRC	Sivrice-ELAZID	2.94	265	*e*Pn	Pb	02 34 44.0	-3.3
URFA	Urfa	3.55	251	*e*PN	Pn	02 34 52.6	+2.6
URFA	Urfa	3.55	251	*e*Pn	Pn	02 34 52.6	+2.6

*CSEM **24** 02:41:44.9, 38°.73N×43°.32E, h6km, ML3.6*
*DDA **24** 02:41:44.9, 38°.73N×43°.32E, h6km, Ml3.6*
*ISK **24** 02:41:47.2, 38°.79N×43°.22E, h6km, MD3.3*
ISC 24 02:41:45.1±1.3, 38°.77N±0°.02×43°.42E±0°.04, h3km±11km, n78, σ0°85/90, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.54	212	*i* P	Pg	02 41 54.6	-0.9
GEVA				*i* S	Sg	02 42 02.8	+0.3
GEVA	Gevas	0.54	212	P	Pg	02 41 54.6	-0.9
GEVA				S	Sg	02 42 02.8	+0.3
DYDN	Diyadin	0.80	15	*i* P	Pb	02 42 00.9	-0.8
DYDN	Diyadin	0.80	15	P	Pb	02 42 00.9	-0.8
AGRB	Hanur-Agry	0.87	337	*e*PG	Pb	02 42 03.1	+0.2
AGRB				*e*SG	Sb	02 42 14.6	-0.4
AGRB	Hanur-Agry	0.87	337	*e*Pg	Pb	02 42 03.1	+0.2
AGRB				*e*Sg	Sb	02 42 14.6	-0.4
EKAR	Karacoban	1.16	295	*i* P	Pg	02 42 07.1	-0.3
EKAR	Karacoban	1.16	295	*i* P	Pn	02 42 08.7	+0.3
EKAR	Karacoban	1.16	295	P	Pn	02 42 08.7	+0.3
EKAR	Karacoban	1.16	295	P	Pg	02 42 07.1	-0.3
HAKT	HAKKARI	1.23	169	*i* P	Pg	02 42 06.6	-2.1
HAKT	HAKKARI	1.23	169	*i* P	Pg	02 42 07.2	-1.5
HAKT	HAKKARI	1.23	169	P	Pg	02 42 07.2	-1.5
HAKT	HAKKARI	1.23	169	P	Pg	02 42 06.6	-2.1
EATA	Eleskirt	1.31	327	*i* P	Pn	02 42 09.4	-1.1
EATA				*i* S	Sn	02 42 28.1	-0.5
EATA	Eleskirt	1.31	327	*i* P	Pn	02 42 10.1	-0.4
EATA	Eleskirt	1.31	327	P	Pn	02 42 10.1	-0.4
EATA	Eleskirt	1.31	327	P	Pn	02 42 09.4	-1.1
EATA				S	Sn	02 42 28.1	-0.5
SIRN	S¨–rnak	1.50	212	*i* P	Pb	02 42 13.5	-0.1
SIRN	S¨–rnak	1.50	212	*i* P	Pb	02 42 13.5	-0.1
SIRN	S¨–rnak	1.50	212	P	Pb	02 42 13.5	-0.1
SIRN	S¨–rnak	1.50	212	P	Pb	02 42 13.5	-0.1
CUKT	Cukurca	1.53	174	*e*PN	Pg	02 42 16.3	+1.9
CUKT	Cukurca	1.53	174	*i* P	Pg	02 42 15.0	+0.7
CUKT	Cukurca	1.53	174	*i* P	Pg	02 42 15.1	+0.7
CUKT	Cukurca	1.53	174	P	Pg	02 42 15.1	+0.7
CUKT	Cukurca	1.53	174	*e*Pn	Pg	02 42 16.3	+1.9
CUKT	Cukurca	1.53	174	P	Pg	02 42 15.0	+0.7
VRTB	Varto-Mus	1.58	285	*e*PN	Pn	02 42 13.9	-0.1
VRTB				*e*SN	Sn	02 42 34.0	-1.2
VRTB	Varto-Mus	1.58	285	*i* P	Pn	02 42 14.2	+0.1
VRTB	Varto-Mus	1.58	285	*i* P	Pn	02 42 14.4	+0.3
VRTB	Varto-Mus	1.58	285	*e*Pn	Pn	02 42 14.0	-0.1
VRTB	Varto-Mus	1.58	285	P	Pn	02 42 14.4	+0.3
VRTB				*e*Sn	Sn	02 42 34.0	-1.2
VRTB	Varto-Mus	1.58	285	P	Pn	02 42 14.2	+0.1
DIGO	Kars	1.64	359	*i* P	Pg	02 42 16.5	0.0
DIGO	Kars	1.64	359	*i* P	Pg	02 42 17.6	+1.1
DIGO	Kars	1.64	359	P	Pg	02 42 17.6	+1.1
DIGO	Kars	1.64	359	P	Pg	02 42 16.5	0.0
HOMI	Horasan	1.73	318	*i* P	Pn	02 42 16.4	+0.2
HOMI	Horasan	1.73	318	*i* P	Pb	02 42 17.9	+0.2
BNGL	BINGOL	1.78	276	*i* P	Pn	02 42 16.9	0.0
BNGL	BINGOL	1.78	276	*i* P	Pn	02 42 17.2	+0.2
SVAN	Silvan-Diyarba	1.85	251	*e*PN	Pn	02 42 18.0	+0.3
SVAN	Silvan-Diyarba	1.85	251	*i* P	Pn	02 42 17.6	-0.1
SVAN				*i* S	Sn	02 42 42.3	+0.6
SVAN	Silvan-Diyarba	1.85	251	*i* P	Pn	02 42 18.1	+0.3
SVAN	Silvan-Diyarba	1.85	251	*e*Pn	Pn	02 42 18.0	+0.3
SVAN	Silvan-Diyarba	1.85	251	P	Pn	02 42 17.6	-0.1
SVAN				S	Sn	02 42 42.3	+0.6
BTMN	Batman	1.91	243	*i* P	Pn	02 42 18.1	-0.4
BTMN				*i* S	Sn	02 42 43.8	+0.7
BTMN	Batman	1.91	243	*i* P	Pn	02 42 18.8	+0.3
BTMN	Batman	1.91	243	P	Pn	02 42 18.8	+0.3
BTMN	Batman	1.91	243	P	Pn	02 42 18.1	-0.4
BTMN				S	Sn	02 42 43.8	+0.7
EAK	Akyaka	1.92	4	*i* P	Pg	02 42 23.3	+1.5
EAK	Akyaka	1.92	4	P	Pg	02 42 23.3	+1.5
ERZM	Erzurum	1.96	306	*i* P	Pb	02 42 21.7	+0.3
ERZM	Erzurum	1.96	306	P	Pb	02 42 21.7	+0.3
SENK	Senkaya-Erzuru	1.97	335	*e*PN	Pb	02 42 20.8	-0.8
SENK	Senkaya-Erzuru	1.97	335	*e*Pn	Pb	02 42 20.8	-0.8
ECAT	Cat-ERZURUM	2.08	294	*i* P	Pn	02 42 21.5	+0.5
ECAT	Cat-ERZURUM	2.08	294	P	Pn	02 42 21.5	+0.5
BNGB	Bing¶ll	2.15	277	*e*PN	Pn	02 42 22.5	+0.6
BINT	Bingol	2.29	273	*e*Pn	Pn	02 42 22.5	-1.4
YEDI	Yedisu-Bingol	2.34	287	*e*PN	Pn	02 42 25.0	+0.5
YEDI	Yedisu-Bingol	2.34	287	*e*Pn	Pn	02 42 25.0	+0.5
DDEM	Demirkent	2.48	329	*i* P	Pb	02 42 30.3	+0.1
DDEM	Demirkent	2.48	329	P	Pb	02 42 30.3	+0.1
DAGI	Agillar	2.58	334	*i* P	Pg	02 42 33.6	-0.9
KOPT	Kop Dagi	2.59	300	*i* P	Pb	02 42 31.3	-0.9
KOPT	Kop Dagi	2.59	300	P	Pb	02 42 31.3	-0.9
MAZI	Mazidag	2.69	242	*e*PN	Pn	02 42 30.6	+1.3
MAZI	Mazidag	2.69	242	*e*Pn	Pn	02 42 30.6	+1.3
TNCL	Tunceli-Merkez	3.05	278	*i* P	Pb	02 42 39.5	-0.5
TNCL	Tunceli-Merkez	3.05	278	P	Pb	02 42 39.5	-0.5
PTK	Pertek	3.15	273	*e*PN	Pn	02 42 36.7	+1.0
PTK	Pertek	3.15	273	*e*Pn	Pn	02 42 36.7	+1.0
SVRC	Sivrice-ELAZID	3.25	264	*e*PN	Pn	02 42 38.2	+1.1
SVRC	Sivrice-ELAZID	3.25	264	*e*Pn	Pn	02 42 38.2	+1.1
URFA	Urfa	3.87	251	*e*PN	Pn	02 42 47.0	+1.5
URFA	Urfa	3.87	251	*e*Pn	Pn	02 42 47.0	+1.5

*ATH **24** 02:43:05.4, 36°.21N×21°.53E, h30km±2km, ML1.7/2, Error ellipse: s-maj=6.8km s-min=2.1km az=61.0*
CSEM 24 02:43:05.4, 36°.21N×21°.53E, h30km, ML1.7/2, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	Methoni	0.62	13	P	Pn	02 43 18.4	+0.2
MES2				S	Sn	02 43 27.8	+0.6
MES2				AML	AML	02 43 33.0	
	comp=N,166µm,0.7s						
MES2				AML	AML	02 43 33.1	
	comp=E,241µm,0.7s						
MES2	Methoni	0.62	13	P	Pn	02 43 18.4	+0.2
MES2				S	Sn	02 43 27.8	+0.6
PYL	PYLOS	0.70	14	P	Pb	02 43 19.1	-0.1
PYL				S	Sn	02 43 29.9	+0.8
PYL				AML	AML	02 43 34.1	
	comp=N,89µm,0.5s						
PYL				AML	AML	02 43 35.1	
	comp=E,71µm,0.3s						
PYL	PYLOS	0.70	14	P	Pb	02 43 19.1	-0.1
PYL				S	Sn	02 43 29.9	+0.8
ITM	Ithomi	1.01	18	P	Pn	02 43 23.9	+0.3
ITM	Ithomi	1.01	18	P	Pn	02 43 23.9	+0.3
VLI	Veliai	1.24	66	P	Pb	02 43 28.9	+0.7
VLI	Veliai	1.24	66	P	Pb	02 43 28.9	+0.7
AMT	Artemida-Makis	1.32	6	P	Pb	02 43 30.6	+0.9
AMT	Artemida-Makis	1.32	6	P	Pb	02 43 30.6	+1.0

AZER 24 02:43:55.6±0.8, 37°.98N×43°.83E, h5km, 13C-12D, Error ellipse: s-maj=7.8km s-min=4.8km az=179.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAX	Nakhchivan	1.77	47	P	Pn	02 44 26.8	-0.2
	SNR=7.6						
NAX				⇑S	Sb	02 44 51.8	+0.6
GDB	GEDABAY	3.12	28	⇑P	Pn	02 44 44.5	-1.2
	SNR=7.1						
GDB				⇑S	Sn	02 45 25.5	+2.1
GANJ	Ganja	3.29	35	⇓P	Pn	02 44 48.8	+0.9
	SNR=4.5						
GANJ				⇓S	Sn	02 45 28.8	+1.3
QZX	Qazax, Azerbai	3.30	21	P	Pn	02 44 48.1	+0.1
	SNR=4.8						
QZX				⇑S	Sn	02 45 27.4	-0.3
BRDA	Brd	3.47	48	⇑S	Sn	02 45 32.5	+0.9
LRK	Lerik	3.61	78	⇓P	Pn	02 44 53.0	+0.7
LRK				⇓S	Sn	02 45 35.9	+0.5
MNGR	Mingechevir, A	3.77	41	⇓S	Sn	02 45 40.1	+1.1
ZRD	Zardab	3.78	51	⇓S	Sn	02 45 40.2	+0.9
GLBA	Ciilabad	3.79	69	⇑P	Pn	02 44 55.5	+0.8
GLBA				⇑S	Sn	02 45 40.7	+1.0
ASTR	Astara	3.95	80	⇓P	Pn	02 44 57.1	+0.2
LKRN	Lenkeran, Azer	3.96	78	⇓P	Pn	02 44 57.5	+0.5
SEKA	Sheki	4.15	38	⇑P	Pn	02 45 01.0	+1.4
ZKTA	Zakatala	4.24	30	⇑P	Pn	02 45 01.8	+0.9
ZKTA				⇓S	Sn	02 45 51.2	+0.4
QBL	Gabala	4.29	45	⇑S	Sn	02 45 52.9	+0.8
IML	Ismayilli	4.39	49	⇓S	Sn	02 45 55.5	+0.9
XNQ	Khinaliq	4.61	45	⇓P	Pn	02 45 06.8	+0.6
XNQ				⇑S	Sn	02 46 00.9	+0.7
PQL	Pirkuli	4.64	51	⇑P	Pn	02 45 07.0	+0.5
PQL				⇓S	Sn	02 46 01.4	+0.6
ATGJ	Altiaghaj	4.89	52	⇑P	Pn	02 45 08.7	-1.3

*DDA **24** 02:44:41.0, 38°.73N×43°.30E, h4km, Ml3.9*
*ISK **24** 02:44:41.4, 38°.81N×43°.31E, h5km, ML3.9*
*CSEM **24** 02:44:42.7±0.3, 38°.78N×43°.32E, h2km, ML3.9, Error ellipse: s-maj=8.9km s-min=5.2km az=106.0*
*ISCJB **24** 02:44:43.7±0.6, 38°.81N±0°.03×43°.30E±0°.06, h13km, Error ellipse: s-maj=7.3km s-min=4.5km az=8.2*
ISC 24 02:44:41.7±0.9, 38°.79N±0°.02×43°.49E±0°.04, h13km, n66, σ1°45/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.58	216	*i* P	Pg	02 44 50.7	-2.4
GEVA	Gevas	0.58	216	P	Pg	02 44 50.7	-2.4
DYDN	Diyadin	0.77	12	*i* P	Pn	02 44 58.0	-0.5
DYDN	Diyadin	0.77	12	P	Pn	02 44 58.0	-0.5
AGRB	Hanur-Agry	0.88	334	*e*PG	Pg	02 44 57.6	-1.0
AGRB				*e*SG	Sb	02 45 10.1	-0.5
AGRB	Hanur-Agry	0.88	334	*e*Pg	Pg	02 44 57.6	-1.0
AGRB				*e*Sg	Sb	02 45 10.1	-0.5
EKAR	Karacoban	1.20	293	*i* P	Pb	02 45 04.0	-0.5
EKAR	Karacoban	1.20	293	P	Pb	02 45 04.0	-0.5
HAKT	HAKKARI	1.24	172	*i* P	Pn	02 45 03.7	-1.3
EATA	Eleskirt	1.32	325	*i* P	Pn	02 45 05.5	-0.7
EATA	Eleskirt	1.32	325	P	Pn	02 45 05.5	-0.7
CUKT	Cukurca	1.54	176	*e*PN	Pg	02 45 11.3	0.0
CUKT				*e*SN	Sg	02 45 34.1	+2.8
CUKT	Cukurca	1.54	176	*e*Pn	Pg	02 45 11.3	0.0
CUKT				*e*Sn	Sg	02 45 34.1	+2.8
SIRN	S¨–rnak	1.54	214	*i* P	Pn	02 45 09.4	+0.4
SIRN	S¨–rnak	1.54	214	P	Pn	02 45 09.4	+0.4
DIGO	Kars	1.63	357	*i* P	Pg	02 45 13.0	+0.1
DIGO	Kars	1.63	357	P	Pg	02 45 13.0	+0.1
VRTB	Varto-Mus	1.63	284	*e*PN	Pn	02 45 10.3	+0.1
VRTB	Varto-Mus	1.63	284	*i* P	Pn	02 45 08.9	-1.3
VRTB	Varto-Mus	1.63	284	P	Pn	02 45 08.9	-1.3
VRTB	Varto-Mus	1.63	284	*e*Pn	Pn	02 45 10.3	+0.1
HOMI	Horasan	1.75	316	*i* P	Pb	02 45 13.1	-0.8
BNGL	BINGOL	1.83	276	*i* P	Pn	02 45 13.2	+0.1
EAK	Akyaka	1.90	3	*i* P	Pg	02 45 18.7	+0.6
EAK	Akyaka	1.90	3	P	Pg	02 45 18.7	+0.6
SVAN	Silvan-Diyarba	1.91	251	*e*PN	Pn	02 45 13.7	-0.2
SVAN	Silvan-Diyarba	1.91	251	*i* P	Pn	02 45 14.5	+0.6
SVAN	Silvan-Diyarba	1.91	251	*e*Pn	Pn	02 45 13.7	-0.2
SVAN	Silvan-Diyarba	1.91	251	P	Pn	02 45 14.5	+0.6
BTMN	Batman	1.96	244	*i* P	Pn	02 45 15.1	+0.4
BTMN	Batman	1.96	244	P	Pn	02 45 15.1	+0.4
SENK	Senkaya-Erzuru	1.98	334	*e*PN	Pb	02 45 16.4	-1.2
SENK	Senkaya-Erzuru	1.98	334	*e*Pn	Pb	02 45 16.4	-1.2
ERZM	Erzurum	1.99	305	*i* P	Pb	02 45 16.6	-1.3
ERZM	Erzurum	1.99	305	P	Pb	02 45 16.6	-1.3
ECAT	Cat-ERZURUM	2.12	293	*i* P	Pb	02 45 18.5	-1.5
ECAT	Cat-ERZURUM	2.12	293	P	Pb	02 45 18.5	-1.5
BNGB	Bing¶ll	2.20	276	*e*PN	Pn	02 45 18.6	+0.6
BINT	Bingol	2.34	273	*e*Pn	Pn	02 45 18.6	-1.4
YEDI	Yedisu-Bingol	2.38	287	*e*PN	Pn	02 45 21.3	+0.8
YEDI	Yedisu-Bingol	2.38	287	*e*Pn	Pn	02 45 21.3	+0.8
AKH	Akhalkalaki	2.62	0	*e*PN	Pn	02 45 26.2	+2.4
AKH	Akhalkalaki	2.62	0	*e*Pn	Pn	02 45 26.2	+2.4
MAZI	Mazidag	2.74	242	*e*PN	Pn	02 45 26.7	+1.2
MAZI	Mazidag	2.74	242	*e*Pn	Pn	02 45 26.7	+1.2
DIYA	Diyarbakir	2.79	253	*i* P	Pn	02 45 26.8	+0.8
DIYA	Diyarbakir	2.79	253	P	Pn	02 45 26.8	+0.8
ERZN	Erzincan	3.03	286	*e*PN	Pb	02 45 30.5	+1.0
TBLG	Delisi	3.09	18	*e*PN	Pb	02 45 33.6	-2.9
TBLG	Delisi	3.09	18	*e*Pn	Pb	02 45 33.6	-2.9
PTK	Pertek	3.20	273	*e*PN	Pn	02 45 33.0	+1.1
PTK	Pertek	3.20	273	*e*Pn	Pn	02 45 33.0	+1.1
SVRC	Sivrice-ELAZID	3.30	264	*e*PN	Pn	02 45 34.4	+1.1
SVRC	Sivrice-ELAZID	3.30	264	*e*Pn	Pn	02 45 34.4	+1.1
EZC	Erzincan	3.35	288	*e*Pn	Pn	02 45 30.5	-3.4
KTUT	Trabzon	3.61	309	*e*PN	Pn	02 45 38.9	+1.7
KTUT	Trabzon	3.61	309	*e*Pn	Pn	02 45 38.9	+1.7
URFA	Urfa	3.92	251	*e*PN	Pn	02 45 43.5	+1.9
URFA	Urfa	3.92	251	*e*Pn	Pn	02 45 43.5	+1.9
DARE	Darende-Malaty	4.71	269	*e*PN	Pn	02 45 54.1	+1.7
DARE	Darende-Malaty	4.71	269	*e*Pn	Pn	02 45 54.1	+1.7
RSDY	Resadiye-TOKAT	5.02	291	*e*PN	Pn	02 45 58.7	+2.0
RSDY	Resadiye-TOKAT	5.02	291	*e*Pn	Pn	02 45 58.7	+2.0
SVSK	Karacayir	5.16	285	*e*PN	Pn	02 46 00.3	+1.8
SVSK	Karacayir	5.16	285	*e*Pn	Pn	02 46 00.3	+1.8
KMRS	Kahramanmaras	5.35	258	*e*PN	Pn	02 46 03.3	+2.1

*AZER **24** 02:48:59.8±7.6, 38°.14N×43°.24E, h29km±229km, Error ellipse: s-maj=166.3km s-min=39.5km az=52.0*
*DDA **24** 02:49:02.1, 38°.83N×43°.52E, h4km, Ml4.1*
*ISK **24** 02:49:03.4, 38°.91N×43°.49E, h5km, MD3.3*
*CSEM **24** 02:49:05.0±0.3, 38°.91N×43°.43E, h2km, ML3.1, Error ellipse: s-maj=8.7km s-min=6.5km az=150.0*
ISC 24 02:49:03.8±1.1, 38°.86N±0°.02×43°.50E±0°.02, h11km±13km, n55, σ1°45/66, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.65	213	*i* P	Pg	02 49 14.5	-1.9
DYDN	Diyadin	0.70	12	*i* P	Pg	02 49 16.4	-1.0
DYDN	Diyadin	0.70	12	P	Pg	02 49 16.4	-1.0
AGRB	Hanur-Agry	0.82	331	*e*PG	Pb	02 49 19.0	-1.1
AGRB				*e*SG	Sb	02 49 30.9	-0.4
AGRB	Hanur-Agry	0.82	331	*e*Pg	Pb	02 49 19.0	-1.1
AGRB				*e*Sg	Sb	02 49 30.9	-0.4
EKAR	Karacoban	1.19	290	*i* P	Pn	02 49 26.5	-0.1
EKAR	Karacoban	1.19	290	P	Pn	02 49 26.5	-0.1
EATA	Eleskirt	1.27	322	*i* P	Pg	02 49 26.4	-1.9
EATA	Eleskirt	1.27	322	P	Pg	02 49 26.4	-1.9
HAKT	HAKKARI	1.31	173	*i* P	Pn	02 49 26.5	-1.7
DIGO	Kars	1.56	356	*i* P	Pg	02 49 32.6	-1.1
DIGO	Kars	1.56	356	P	Pg	02 49 32.6	-1.1
NAX	Nakhchivan	1.58	78	⇓P	Pn	02 49 32.0	+0.1
NAX				⇑S	Sg	02 49 57.6	+2.9
NAX	Nakhchivan	1.58	78	P	Pn	02 49 32.0	+0.1
NAX				S	Sg	02 49 57.6	+2.9
CUKT	Cukurca	1.61	177	*e*PN	Pg	02 49 34.9	+0.2
CUKT				*e*SN	Sg	02 49 57.7	+2.1
CUKT	Cukurca	1.61	177	*e*Pn	Pg	02 49 34.9	+0.2
CUKT				*e*Sn	Sg	02 49 57.7	+2.1
VRTB	Varto-Mus	1.62	281	*e*PN	Pb	02 49 33.6	-0.2
VRTB				*e*SN	Sg	02 49 56.9	+0.9
VRTB	Varto-Mus	1.62	281	*i* P	Pb	02 49 33.3	-0.5
VRTB	Varto-Mus	1.62	281	P	Pb	02 49 33.3	-0.5
VRTB	Varto-Mus	1.62	281	*e*Pn	Pb	02 49 33.7	-0.2
VRTB				*e*Sn	Sg	02 49 56.9	+0.9
HOMI	Horasan	1.71	314	*i* P	Pg	02 49 35.1	-1.5
EAK	Akyaka	1.83	2	*i* P	Pg	02 49 38.8	0.0
EAK	Akyaka	1.83	2	P	Pg	02 49 38.8	0.0
SENK	Senkaya-Erzuru	1.92	333	*e*PN	Pb	02 49 38.0	-0.8
SENK	Senkaya-Erzuru	1.92	333	*e*Pn	Pb	02 49 38.1	-0.8
SVAN	Silvan-Diyarba	1.94	249	*e*PN	Pn	02 49 38.1	+1.4
SVAN	Silvan-Diyarba	1.94	249	*i* P	Pb	02 49 38.6	-0.6
SVAN	Silvan-Diyarba	1.94	249	*e*Pn	Pn	02 49 38.1	+1.4
SVAN	Silvan-Diyarba	1.94	249	P	Pb	02 49 38.6	-0.6
ERZM	Erzurum	1.96	303	*i* P	Pg	02 49 40.2	-1.2
ERZM	Erzurum	1.96	303	P	Pg	02 49 40.2	-1.2
BTMN	Batman	2.00	242	*i* P	Pb	02 49 39.8	-0.5
BTMN	Batman	2.00	242	P	Pb	02 49 39.8	-0.5
ECAT	Cat-ERZURUM	2.10	292	*i* P	Pb	02 49 41.4	-0.6
ECAT	Cat-ERZURUM	2.10	292	P	Pb	02 49 41.4	-0.6
BNGB	Bing¶ll	2.21	274	*e*PN	Pb	02 49 42.5	-1.3
BINT	Bingol	2.35	271	*e*PN	Pn	02 49 42.5	0.0
YEDI	Yedisu-Bingol	2.37	285	*e*PN	Pn	02 49 43.9	+1.1
YEDI	Yedisu-Bingol	2.37	285	*e*Pn	Pn	02 49 43.9	+1.1
GDB	GEDABAY	2.54	42	⇑P	Pb	02 49 48.6	-0.9
GDB				⇑S	Sg	02 50 25.6	+0.2
GDB	GEDABAY	2.54	42	P	Pb	02 49 48.6	-0.9
QZX	Qazax, Azerbai	2.62	33	⇓P	Pb	02 49 50.4	-0.4
QZX				⇑S	Sg	02 50 30.4	+2.3
QZX	Qazax, Azerbai	2.62	33	P	Pb	02 49 50.4	-0.4
MAZI	Mazidag	2.79	241	*e*PN	Pb	02 49 51.5	-2.1
MAZI	Mazidag	2.79	241	*e*Pn	Pb	02 49 51.5	-2.1
GANJ	Ganja	2.81	50	⇓P	Pb	02 49 53.2	-0.8
GANJ				⇓S	Sg	02 50 34.6	+0.5
GANJ	Ganja	2.81	50	P	Pb	02 49 53.2	-0.8
PTK	Pertek	3.21	272	*e*PN	Pn	02 49 57.3	+3.0
PTK	Pertek	3.21	272	*e*Pn	Pn	02 49 57.3	+3.0
SVRC	Sivrice-ELAZID	3.32	263	*e*PN	Pn	02 49 58.4	+2.5
SVRC	Sivrice-ELAZID	3.32	263	*e*Pn	Pn	02 49 58.4	+2.5
LRK	Lerik	3.79	92	⇓P	Pn	02 49 59.9	-2.4
LRK	Lerik	3.79	92	P	Pn	02 49 59.9	-2.4
XNQ	Khinaliq	4.24	56	⇑P	Pn	02 50 10.4	+1.9
XNQ	Khinaliq	4.24	56	P	Pn	02 50 10.4	+1.9

*ISCJB **24** 02:50:35.7±0.7, 5°.02S±0°.09×152°.9E±0°.1, h43km, mb4.0/14, MS3.0/7, Error ellipse: s-maj=17.8km s-min=9.4km az=33.4*
*IDC **24** 02:50:40.7±4.1, 5°.09S×152°.95E, h75km±37km, mb3.7/14, mb1 3.8/15, mb1mx3.7/38, mbtmp4.1/15, ML2.0/1, MS3.0/9, Ms1 3.0/9, ms1mx2.9/32, Error ellipse: s-maj=25.1km s-min=20.6km az=98.0*
ISC 24 02:50:37.5±0.9, 5°.0S±0°.1×153°.0E±0°.1, h43km, n22, σ1°25/17, mb4.0/14, MS3.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.31	233	P	Pn	02 52 24.7	+3.0
	1.6nm,0.3s,baz=43,slow=19,SNR=2.5						
PMG				S	Sn	02 53 41.7	-1.7
	1.7nm,0.3s,baz=136,slow=18,SNR=2.7						
PMG				LR	LR	02 55 14.4	
	comp=Z,72nm,21.8s,baz=58,slow=38						
HNR	Honiara	8.17	123	LR	LR	02 56 01.0	
	comp=Z,163nm,20.2s,baz=289,slow=39						
GUMO	Guam	20

DRO	**Drossia**	**0.40**	**356**	P	Pg	03 16 41.1	-0.5
DRO				S	Sb	03 16 48.5	-1.7
ITM	**Ithomi**	**0.40**	**159**	P	Pg	03 16 41.9	+0.3
ITM				S	Sg	03 16 47.2	+0.4
ITM				AML	AML	03 16 48.9	
	comp=E,127μm,0.3s						
ITM				AML	AML	03 16 50.0	
	comp=N,157μm,0.4s						
ITM	**Ithomi**	**0.40**	**159**	P	Pg	03 16 41.5	-0.2
ITM				S	Sb	03 16 48.8	-1.5
ITM				AML	AML	03 16 48.9	
	comp=E,127μm,0.3s						
ITM				AML	AML	03 16 49.8	
	comp=N,157μm,0.4s						
ITM	**Ithomi**	**0.40**	**159**	P	Pg	03 16 41.9	+0.2
ITM				S	Sg	03 16 47.2	+0.3
TRIP	**Tripoli**	**0.42**	**94**	P	Pg	03 16 42.1	0.0
TRIP				S	Sb	03 16 49.7	-1.2
TRIP	**Tripoli**	**0.42**	**94**	P	Pb	03 16 44.2	+0.1
TRIP	**Tripoli**	**0.42**	**94**	P	Pg	03 16 42.1	+0.1
TRIP				S	Sb	03 16 49.7	-1.2
RLS	**Riolos of Patr**	**0.55**	**337**	P	Pg	03 16 44.6	+0.1
RLS				S	Sg	03 16 52.9	+1.3
RLS				AML	AML	03 16 55.2	
	comp=N,520μm,0.4s						
RLS				AML	AML	03 16 55.5	
	comp=E,361μm,0.5s						
RLS	**Riolos of Patr**	**0.55**	**337**	P	Pg	03 16 44.5	0.0
RLS				S	Sg	03 16 52.1	+0.5
RLS				AML	AML	03 16 55.2	
	comp=N,520μm,0.4s						
RLS				AML	AML	03 16 55.5	
	comp=E,361μm,0.5s						
RLS	**Riolos of Patr**	**0.55**	**337**	P	Pg	03 16 44.6	+0.1
RLS				S	Sg	03 16 52.9	+1.3
VTN	**Vitineika**	**0.57**	**309**	P	Pg	03 16 45.3	+0.4
VTN	**Vitineika**	**0.57**	**309**	P	Pg	03 16 45.5	+0.7
VTN				S	Sg	03 16 53.3	+1.0
VTN	**Vitineika**	**0.57**	**309**	P	Pg	03 16 45.3	+0.4
KLV	**Kalavryta, Ach**	**0.58**	**33**	P	Pg	03 16 44.8	-0.4
KLV				S	Sg	03 16 53.7	+0.9
KLV				AML	AML	03 16 56.6	
	comp=N,48μm,0.2s						
KLV				AML	AML	03 16 58.3	
	comp=E,61μm,0.4s						
KLV	**Kalavryta, Ach**	**0.58**	**33**	P	Pg	03 16 44.4	-0.8
KLV				S	Sb	03 16 54.4	-1.2
KLV				AML	AML	03 16 56.6	
	comp=N,48μm,0.2s						
KLV				AML	AML	03 16 58.3	
	comp=E,61μm,0.4s						
KLV	**Kalavryta, Ach**	**0.58**	**33**	P	Pg	03 16 44.8	-0.4
KLV				S	Sg	03 16 53.7	+0.9
GUR	**Goura**	**0.61**	**51**	P	Pg	03 16 45.4	-0.2
GUR	**Goura**	**0.61**	**51**	P	Pg	03 16 44.9	-0.7
GUR	**Goura**	**0.61**	**51**	P	Pg	03 16 45.4	-0.2
PYL	**PYLOS**	**0.66**	**180**	P	Pg	03 16 45.0	-1.5
PYL				S	Sg	03 16 56.0	+0.9
PYL				AML	AML	03 16 59.3	
	comp=E,65μm,0.5s						
PYL				AML	AML	03 16 59.6	
	comp=N,68μm,0.5s						
PYL	**PYLOS**	**0.66**	**180**	P	Pg	03 16 45.4	-1.1
PYL				P	Pb	03 16 46.2	-1.9
PYL				S	Sg	03 16 55.3	+0.3
PYL				S	Sb	03 16 57.4	-0.2
PYL				AML	AML	03 16 59.3	
	comp=N,68μm,0.5s						
PYL				AML	AML	03 17 00.4	
	comp=E,56μm,0.3s						
PYL	**PYLOS**	**0.66**	**180**	P	Pg	03 16 45.0	-1.6
PYL				S	Sg	03 16 56.0	+0.9
AXS	**Araxos**	**0.70**	**336**	P	Pg	03 16 47.2	-0.2
AXS				S	Sb	03 16 58.7	-0.2
LAKA	**Lakka**	**0.71**	**15**	P	Pg	03 16 47.0	-0.6
LAKA				S	Sg	03 16 57.6	+0.8
LAKA				AML	AML	03 17 00.8	
	comp=E,70μm,0.4s						
LAKA				AML	AML	03 17 00.9	
	comp=N,100μm,0.3s						
LAKA	**Lakka**	**0.71**	**15**	P	Pg	03 16 46.9	-0.7
LAKA				S	Sg	03 16 57.8	+1.0
LAKA				AML	AML	03 17 00.8	
	comp=E,70μm,0.4s						
LAKA				AML	AML	03 17 00.9	
	comp=N,100μm,0.3s						
LAKA	**Lakka**	**0.71**	**15**	P	Pg	03 16 47.0	-0.6
LAKA				S	Sg	03 16 57.6	+0.8
MES2	**Methoni**	**0.73**	**182**	P	Pg	03 16 46.6	-1.3
MES2	**Methoni**	**0.73**	**182**	P	Pg	03 16 46.6	-1.3
MES2	**Methoni**	**0.73**	**182**	P	Pg	03 16 46.6	-1.3
TRIZ	**Trizonia**	**0.85**	**18**	P	Pg	03 16 49.6	-0.6
TRIZ	**Trizonia**	**0.85**	**18**	P	Pg	03 16 49.6	-0.7
TRIZ	**Trizonia**	**0.85**	**18**	P	Pg	03 16 49.7	-0.6
EFP	**Efpalio**	**0.88**	**8**	P	Pg	03 16 50.7	-0.2
EFP	**Efpalio**	**0.88**	**8**	P	Pg	03 16 50.3	-0.5
EFP	**Efpalio**	**0.88**	**8**	P	Pg	03 16 50.7	-0.1
KALE	**Kalithea**	**0.89**	**20**	P	Pg	03 16 50.3	-0.7
KALE	**Kalithea**	**0.89**	**20**	P	Pg	03 16 50.5	-0.5
KALE				AML	AML	03 17 06.5	
	comp=N,96μm,0.3s						
KALE				AML	AML	03 17 06.6	
	comp=E,45μm,0.6s						
KALE	**Kalithea**	**0.89**	**20**	P	Pg	03 16 50.3	-0.8
ANX	**Ano Chora**	**1.05**	**8**	P	Pg	03 16 54.1	+0.1
PVO	**Paravola**	**1.07**	**351**	P	Pg	03 16 54.8	+0.2
PDO	**Prodromos**	**1.13**	**337**	P	Pg	03 16 55.2	-0.4
PDO	**Prodromos**	**1.13**	**337**	P	Pg	03 16 55.4	-0.2
PDO	**Prodromos**	**1.13**	**337**	P	Pg	03 16 55.2	-0.4
DID	**Didima**	**1.19**	**92**	P	Pb	03 16 57.3	+0.2

*AZER **24** 03:25:07.5±4.6, 37°.84N×43°.88E, h7km±116km, Error ellipse: s-maj=128.7km s-min=18.9km az=51.0*
*ISK **24** 03:25:09.0, 38°.68N×43°.56E, h5km, ML3.2*
*CSEM **24** 03:25:11.6±0.4, 38°.64N×43°.43E, h5km, ML3.2, Error ellipse: s-maj=11.0km s-min=9.3km az=152.0*
*ISCJB **24** 03:25:12.2±0.5, 38°.66N±0°.04×43°.40E±0°.05, h10km, Error ellipse: s-maj=5.7km s-min=5.6km az=17.6*
ISC 24 03:25:09.4±0.8, 38°.65N±0°.03×43°.65E±0°.03, h10km, n32, σ2§77/48, 2C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**1.06**	**331**	*e*PG	**Pn**	**03 25 29.0**	**-1.5**
AGRB				*e*SG	**Sn**	**03 25 44.4**	**-1.0**
AGRB	**Hanur-Agry**	**1.06**	**331**	*e*Pg	**Pn**	**03 25 29.0**	**-1.5**
AGRB				*e*Sg	**Sn**	**03 25 44.4**	**-1.0**
CUKT	**Cukurca**	**1.40**	**182**	*e*PN	**Pg**	**03 25 36.9**	**+0.7**
CUKT				*e*SN	**Sg**	**03 25 57.8**	**+3.4**
CUKT	**Cukurca**	**1.40**	**182**	*e*Pn	**Pg**	**03 25 36.9**	**+0.7**
CUKT				*e*Sn	**Sg**	**03 25 57.8**	**+3.4**
NAX	**Nakhchivan**	**1.53**	**69**	P	**Pg**	**03 25 39.9**	**+1.1**
	SNR=29						
NAX				⇓S	**Sg**	**03 26 05.4**	**+6.8**
NAX	**Nakhchivan**	**1.53**	**69**	P	**Pg**	**03 25 39.9**	**+1.1**
	SNR=29						
NAX				S	**Sg**	**03 26 05.4**	**+6.8**
VRTB	**Varto-Mus**	**1.79**	**287**	*e*PN	**Pb**	**03 25 41.2**	**-1.2**
VRTB	**Varto-Mus**	**1.79**	**287**	*e*Pn	**Pb**	**03 25 41.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.99**	**256**	*e*PN	**Pb**	**03 25 44.1**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.99**	**256**	*e*Pn	**Pb**	**03 25 44.2**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.16**	**333**	*e*PN	**Pb**	**03 25 47.0**	**-1.7**
SENK	**Senkaya-Erzuru**	**2.16**	**333**	*e*Pn	**Pb**	**03 25 47.0**	**-1.7**
BNGB	**Bing¶ll**	**2.35**	**279**	*e*PN	**Pb**	**03 25 49.4**	**-2.5**
BINT	**Bingol**	**2.48**	**276**	*e*Pn	**Pn**	**03 25 49.4**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.55**	**289**	*e*PN	**Pb**	**03 25 52.1**	**-3.2**
YEDI	**Yedisu-Bingol**	**2.55**	**289**	*e*Pn	**Pb**	**03 25 52.1**	**-3.2**
GDB	**GEDABAY**	**2.63**	**37**	⇓P	**Pg**	**03 25 58.7**	**-1.1**
	SNR=16						
GDB				⇓S	**Sg**	**03 26 38.2**	**+4.3**
GDB	**GEDABAY**	**2.63**	**37**	P	**Pg**	**03 25 58.7**	**-1.1**
	SNR=16						
GDB				S	**Sg**	**03 26 38.2**	**+4.3**
QZX	**Qazax, Azerbai**	**2.75**	**28**	P	**Pg**	**03 26 01.8**	**-0.2**
	SNR=10						
QZX				⇓S	**Sg**	**03 26 43.7**	**+6.0**
QZX	**Qazax, Azerbai**	**2.75**	**28**	P	**Pg**	**03 26 01.8**	**-0.2**
	SNR=10						
QZX				S	**Sg**	**03 26 43.7**	**+6.0**
MAZI	**Mazidag**	**2.79**	**246**	*e*PN	**Pn**	**03 25 54.5**	**+0.2**
MAZI	**Mazidag**	**2.79**	**246**	*e*Pn	**Pn**	**03 25 54.5**	**+0.2**
GANJ	**Ganja**	**2.87**	**45**	P	**Pb**	**03 26 00.9**	**+0.2**
	SNR=7.2						
GANJ				⇑S	**Sg**	**03 26 42.4**	**+0.8**
GANJ	**Ganja**	**2.87**	**45**	P	**Pb**	**03 26 00.9**	**+0.2**
	SNR=7.2						
GANJ				S	**Sg**	**03 26 42.4**	**+0.8**
PTK	**Pertek**	**3.34**	**276**	*e*PN	**Pn**	**03 26 03.4**	**+1.6**
PTK	**Pertek**	**3.34**	**276**	*e*Pn	**Pn**	**03 26 03.4**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.42**	**267**	*e*PN	**Pn**	**03 26 04.1**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.42**	**267**	*e*Pn	**Pn**	**03 26 04.1**	**+1.2**
LRK	**Lerik**	**3.67**	**89**	⇓P	**Pn**	**03 26 03.8**	**-2.6**
LRK				⇓S	**Sn**	**03 26 47.8**	**-2.0**
LRK	**Lerik**	**3.67**	**89**	P	**Pn**	**03 26 03.8**	**-2.6**
LRK				S	**Sn**	**03 26 47.8**	**-2.0**
ASTR	**Astara**	**4.03**	**90**	⇓P	**Pn**	**03 26 08.0**	**-3.1**
ASTR				⇑S	**Sn**	**03 26 55.4**	**-2.9**
ASTR	**Astara**	**4.03**	**90**	P	**Pn**	**03 26 08.0**	**-3.1**
ASTR				S	**Sn**	**03 26 55.4**	**-2.9**

*CSEM **24** 03:43:19.1, 12°.04N×44°.13E, h8km, ML3.5*
DHMR 24 03:43:19.1±1.6, 12°.04N×44°.13E, h8km±15km, ML3.5, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.11**	**48**	⇑*i*P	Pg	03 43 40.0	-0.5
ADEN				*i* S	Sg	03 43 54.9	0.0
ADEN				AML	AML	03 44 07.5	
	comp=N,1μm,0.3s						
ADEN	**Aden**	**1.11**	**48**	⇑*i*P	Pg	03 43 40.0	-0.4
ADEN				*i* S	Sg	03 43 54.9	0.0
	comp=N,601nm,0.3s						
TRBA	**At Turbah**	**1.19**	**359**	⇑*i*P	Pg	03 43 41.2	-0.8
TRBA				*i* S	Sn	03 43 58.7	0.0
TRBA				AML	AML	03 44 05.6	
	comp=Z,757nm,0.3s						
UDYN	**Al 'Udayn**	**1.93**	**355**	*i* P	Pn	03 43 52.3	0.0
UDYN				*i* S	Sb	03 44 19.7	+0.9
UDYN				AML	AML	03 44 26.5	
	comp=Z,388nm,0.5s						
UDYN	**Al 'Udayn**	**1.93**	**355**	*i* P	Pn	03 43 52.3	0.0
UDYN				*i* S	Sb	03 44 19.7	+0.8
	comp=Z,194nm,0.5s						
BDHA	**Al Bayda'**	**2.38**	**36**	*i* P	Pb	03 44 01.6	-0.8
BDHA				*i* S	Sb	03 44 33.1	+1.0
BDHA				AML	AML	03 44 40.6	
	comp=E,488nm,0.4s						
BDHA	**Al Bayda'**	**2.38**	**36**	*i* P	Pb	03 44 01.5	-0.9
BDHA				*i* S	Sb	03 44 33.1	+1.1
	comp=E,244nm,0.4s						
DHBB	**Dhamar BB**	**2.53**	**6**	*i* P	Pb	03 44 03.0	-2.0
DHBB				*i* S	Sb	03 44 38.0	+1.6

*AZER **24** 03:45:27.5±1.2, 37°.71N×42°.96E, h4km, Error ellipse: s-maj=11.9km s-min=9.4km az=4.0*
*NEIC **24** 03:45:35.8±0.0, 38°.61N×43°.11E, h5km, mb4.1/5, ML3.9(ISK), After ISK.*
*DDA **24** 03:45:36.0, 38°.66N×43°.11E, h9km, Ml4.2*
*MOS **24** 03:45:35.3±1.8, 38°.42N×43°.21E, h10km, mb4.3/17, Error ellipse: s-maj=7.6km s-min=5.4km az=102.2*
*ISK **24** 03:45:35.3, 38°.69N×43°.15E, h5km, ML3.9*
*ISCJB **24** 03:45:35.8±0.7, 38°.60N±0°.02×43°.24E±0°.02, h7km±5km, mb3.9/27, MS3.0/7, Error ellipse: s-maj=3.8km s-min=2.7km az=159.7*
*IDC **24** 03:45:35.0±0.7, 38°.59N×43°.14E, h0km, mb3.9/16, mb1 3.9/23, mb1mx3.8/55, mbtmp3.8/23, ML3.2/5, MS3.2/8, Ms1 3.2/8, ms1mx2.7/41, Error ellipse: s-maj=13.9km s-min=9.7km az=159.0*
*CSEM **24** 03:45:36.4±0.1, 38°.59N×43°.21E, h5km, mb4.0/15, Error ellipse: s-maj=4.5km s-min=3.2km az=156.0*
ISC 24 03:45:36.9±1.0, 38°.62N±0°.02×43°.19E±0°.02, h10km±7km, n266, σ1§61/288, mb4.0/27, MS3.1/7, 40C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.33**	**198**	⇓*i*P	**Pg**	**03 45 42.3**	**-1.2**
GEVA				*i* S	**Sg**	**03 45 48.8**	**+0.9**
GEVA	**Gevas**	**0.33**	**198**	P	**Pg**	**03 45 42.3**	**-1.2**
GEVA				S	**Sg**	**03 45 48.8**	**+0.9**
AGRB	**Hanur-Agry**	**0.96**	**351**	*e*PG	**Pb**	**03 45 53.3**	**-2.6**
AGRB				*e*SG	**Sb**	**03 46 07.0**	**-1.7**
AGRB	**Hanur-Agry**	**0.96**	**351**	*e*Pg	**Pb**	**03 45 53.3**	**-2.6**
AGRB				Sg	**Sb**	**03 46 10.3**	**+1.6**
AGRB	**Hanur-Agry**	**0.96**	**351**	Pg	**Pb**	**03 45 53.3**	**-2.6**
AGRB				Sg	**Sb**	**03 46 10.3**	**+1.6**
EKAR	**Karacoban**	**1.08**	**306**	⇓*i*P	**Pn**	**03 45 55.7**	**-2.7**
HAKT	**HAKKARI**	**1.14**	**159**	⇑*i*P	**Pb**	**03 45 56.8**	**-2.0**
HAKT	**HAKKARI**	**1.14**	**159**	P	**Pb**	**03 45 56.8**	**-2.0**
SIRN	**S¨–rnak**	**1.28**	**209**	*i* P	**Pn**	**03 46 00.6**	**-0.3**
SIRN	**S¨–rnak**	**1.28**	**209**	P	**Pn**	**03 46 00.6**	**-0.3**
EATA	**Eleskirt**	**1.35**	**337**	⇓*i*P	**Pn**	**03 46 00.2**	**-1.9**
EATA				*i* S	**Sn**	**03 46 18.3**	**-2.0**
CUKT	**Cukurca**	**1.41**	**166**	*e*PN	**Pg**	**03 46 04.2**	**+0.2**
CUKT				*e*SN	**Sg**	**03 46 25.3**	**+2.9**
CUKT	**Cukurca**	**1.41**	**166**	*i* P	**Pg**	**03 46 03.6**	**-0.4**
CUKT	**Cukurca**	**1.41**	**166**	P	**Pg**	**03 46 03.7**	**-0.4**
CUKT	**Cukurca**	**1.41**	**166**	*e*Pn	**Pg**	**03 46 04.2**	**+0.2**
CUKT	**Cukurca**	**1.41**	**166**	Pn	**Pg**	**03 46 04.2**	**+0.2**
VRTB	**Varto-Mus**	**1.45**	**292**	*e*PN	**Pn**	**03 46 02.9**	**-0.5**
VRTB	**Varto-Mus**	**1.45**	**292**	*i* P	**Pn**	**03 46 02.8**	**-0.6**
VRTB	**Varto-Mus**	**1.45**	**292**	P	**Pn**	**03 46 02.8**	**-0.6**
VRTB	**Varto-Mus**	**1.45**	**292**	Pn	**Pn**	**03 46 03.6**	**+0.2**
VRTB	**Varto-Mus**	**1.45**	**292**	Pn	**Pn**	**03 46 03.6**	**+0.2**
BNGL	**BINGOL**	**1.62**	**282**	*i* P	**Pn**	**03 46 05.1**	**-0.7**
BNGL				*i* S	**Sn**	**03 46 28.4**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*e*PN	**Pn**	**03 46 05.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	⇑*i*P	**Pn**	**03 46 05.3**	**-0.4**
SVAN				*i* S	**Sb**	**03 46 28.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*e*Pn	**Pn**	**03 46 05.5**	**-0.2**
SVAN				S	**Sb**	**03 46 28.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	Pn	**Pn**	**03 46 05.5**	**-0.2**
BTMN	**Batman**	**1.68**	**245**	⇑*i*P	**Pn**	**03 46 06.2**	**-0.2**
BTMN				*i* S	**Sb**	**03 46 29.5**	**+0.4**
BTMN	**Batman**	**1.68**	**245**	P	**Pn**	**03 46 06.2**	**-0.2**
BTMN				S	**Sb**	**03 46 29.5**	**+0.4**
HOMI	**Horasan**	**1.73**	**325**	⇓*i*P	**Pn**	**03 46 07.1**	**-0.2**
HOMI				*i* S	**Sn**	**03 46 31.1**	**+1.5**
DIGO	**Kars**	**1.80**	**5**	⇓*i*P	**Pn**	**03 46 08.3**	**+0.2**
DIGO	**Kars**	**1.80**	**5**	P	**Pn**	**03 46 08.4**	**+0.2**
NAX	**Nakhchivan**	**1.88**	**72**	⇑P	**Pn**	**03 46 09.9**	**+0.6**
	SNR=72						
NAX				⇑S	**Sg**	**03 46 39.8**	**+2.2**
NAX	**Nakhchivan**	**1.88**	**72**	P	**Pn**	**03 46 09.9**	**+0.6**
	SNR=72						
ERZM	**Erzurum**	**1.91**	**313**	⇑*i*P	**Pn**	**03 46 10.3**	**+0.6**
ERZM	**Erzurum**	**1.91**	**313**	P	**Pn**	**03 46 10.3**	**+0.6**
GNI	**Garni**	**1.94**	**38**	Pn	**Pn**	**03 46 10.8**	**+0.7**
	27nm,0.3s,baz=243,slow=3.1,SNR=90						
GNI	**Garni**	**1.94**	**38**	*e*Pn	**Pn**	**03 46 10.9**	**+0.7**
GNI				*e*S	**Sg**	**03 46 41.0**	**+1.6**
ECAT	**Cat-ERZURUM**	**1.98**	**300**	*i* P	**Pn**	**03 46 10.6**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.98**	**300**	P	**Pn**	**03 46 10.6**	**-0.1**
BNGB	**Bing¶ll**	**1.99**	**281**	*e*PN	**Pn**	**03 46 10.8**	**0.0**
BNGB	**Bing¶ll**	**1.99**	**281**	Pn	**Pn**	**03 46 12.2**	**+1.4**
BNGB	**Bing¶ll**	**1.99**	**281**	Pn	**Pn**	**03 46 12.2**	**+1.4**
SENK	**Senkaya-Erzuru**	**2.04**	**342**	*e*PN	**Pn**	**03 46 11.5**	**0.0**
SENK	**Senkaya-Erzuru**	**2.04**	**342**	*e*Pn	**Pn**	**03 46 11.5**	**0.0**
EAK	**Akyaka**	**2.09**	**9**	⇓*i*P	**Pn**	**03 46 13.1**	**+1.0**
EAK	**Akyaka**	**2.09**	**9**	P	**Pn**	**03 46 13.1**	**+1.0**
BINT	**Bingol**	**2.12**	**278**	P	**Pn**	**03 46 12.2**	**-0.4**
BINT	**Bingol**	**2.12**	**278**	*e*Pn	**Pn**	**03 46 10.8**	**-1.8**
BINT	**Bingol**	**2.12**	**278**	P	**Pn**	**03 46 12.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	*e*PN	**Pn**	**03 46 13.7**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	Pn	**Pn**	**03 46 14.5**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	Pn	**Pn**	**03 46 14.5**	**+0.7**
MARD	**Mardin**	**2.31**	**236**	⇑*i*P	**Pn**	**03 46 14.6**	**-0.5**
MAZI	**Mazidag**	**2.45**	**243**	*e*PN	**Pn**	**03 46 17.5**	**+0.4**
MAZI	**Mazidag**	**2.45**	**243**	*e*Pn	**Pn**	**03 46 17.5**	**+0.4**
MAZI	**Mazidag**	**2.45**	**243**	Pn	**Pn**	**03 46 16.1**	**-1.0**
KOPT	**Kop Dagi**	**2.51**	**305**	*i* P	**Pn**	**03 46 19.2**	**+1.2**
KOPT	**Kop Dagi**	**2.51**	**305**	P	**Pn**	**03 46 19.2**	**+1.2**
DIYA	**Diyarbakir**	**2.51**	**255**	*i* P	**Pn**	**03 46 17.7**	**-0.1**
DIYA	**Diyarbakir**	**2.51**	**255**	P	**Pn**	**03 46 17.7**	**-0.1**
DDEM	**Demirkent**	**2.52**	**334**	⇓*i*P	**Pn**	**03 46 17.6**	**-0.5**
DDEM	**Demirkent**	**2.52**	**334**	P	**Pn**	**03 46 17.6**	**-0.5**
DAGI	**Agillar**	**2.64**	**339**	*i* P	**Pn**	**03 46 19.9**	**+0.2**
BGD	**Bogdanovka**	**2.66**	**7**	P	**Pn**	**03 46 21.3**	**+1.2**
ARTV	**Artvin**	**2.74**	**340**	*i* P	**Pn**	**03 46 20.7**	**-0.4**
ARTV	**Artvin**	**2.74**	**340**	P	**Pn**	**03 46 20.7**	**-0.4**
AKH	**Akhalkalaki**	**2.79**	**5**	*e*PN	**Pn**	**03 46 22.0**	**+0.1**
AKH	**Akhalkalaki**	**2.79**	**5**	P	**Pb**	**03 46 26.8**	**-0.3**
AKH	**Akhalkalaki**	**2.79**	**5**	⇑*i*P	**Pb**	**03 46 26.7**	**-0.3**
AKH	**Akhalkalaki**	**2.79**	**5**	P	**Pb**	**03 46 26.7**	**-0.3**
AKH	**Akhalkalaki**	**2.79**	**5**	*e*Pn	**Pn**	**03 46 22.0**	**+0.1**
AKH	**Akhalkalaki**	**2.79**	**5**	P	**Pb**	**03 46 26.7**	**-0.3**
GDB	**GEDABAY**	**2.88**	**43**	P	**Pn**	**03 46 24.2**	**+1.1**
	SNR=34						
GDB				⇓S	**Sg**	**03 47 11.3**	**+1.7**
GDB	**GEDABAY**	**2.88**	**43**	P	**Pn**	**03 46 24.2**	**+1.1**
	SNR=34						
TNCL	**Tunceli-Merkez**	**2.89**	**281**	*i* P	**Pb**	**03 46 27.3**	**-1.2**
EPOS	**Posof**	**2.90**	**353**	*i* P	**Pn**	**03 46 24.4**	**+1.1**
EPOS	**Posof**	**2.90**	**353**	P	**Pn**	**03 46 24.4**	**+1.1**
QZX	**Qazax, Azerbai**	**2.96**	**34**	P	**Pn**	**03 46 25.3**	**+1.3**
	SNR=22						
QZX				⇑S	**Sg**	**03 47 13.4**	**+1.4**
QZX	**Qazax, Azerbai**	**2.96**	**34**	P	**Pn**	**03 46 25.3**	**+1.3**
	SNR=22						
PTK	**Pertek**	**2.98**	**276**	*e*PN	**Pn**	**03 46 25.4**	**+1.0**
PTK	**Pertek**	**2.98**	**276**	*e*Pn	**Pn**	**03 46 25.4**	**+1.0**
PTK	**Pertek**	**2.98**	**276**	Pn	**Pn**	**03 46 25.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.05**	**267**	*e*PN	**Pn**	**03 46 26.5**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.05**	**267**	*e*Pn	**Pn**	**03 46 26.5**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.05**	**267**	Pn	**Pn**	**03 46 26.5**	**+1.1**
GANJ	**Ganja**	**3.15**	**49**	P	**Pn**	**03 46 28.9**	**+2.2**
	SNR=12						
GANJ				⇓S	**Sg**	**03 47 16.5**	**-1.8**
GANJ	**Ganja**	**3.15**	**49**	P	**Pn**	**03 46 28.9**	**+2.2**
	SNR=12						
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**03 46 30.9**	**+2.3**
DGRG				S	**Sn**	**03 47 03.6**	**-4.0**
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**03 46 30.8**	**+2.3**
DGRG				S	**Sn**	**03 47 03.6**	**-4.0**
DGRG	**David-gareji**	**3.29**	**30**	P	**Pn**	**03 46 30.5**	**+2.0**
DGRG				S	**Sn**	**03 47 03.6**	**-4.0**
ELZG	**Elazig**	**3.30**	**269**	*i* P	**Pn**	**03 46 29.3**	**+0.6**
ELZG	**Elazig**	**3.30**	**269**	P	**Pn**	**03 46 29.3**	**+0.6**
TBLG	**Delisi**	**3.33**	**20**	*e*PN	**Pn**	**03 46 29.4**	**+0.4**
TBLG	**Delisi**	**3.33**	**20**	P	**Pb**	**03 46 35.7**	**-0.3**
TBLG	**Delisi**	**3.33**	**20**	P	**Pb**	**03 46 35.7**	**-0.3**
TBLG	**Delisi**	**3.33**	**20**	*e*Pn	**Pn**	**03 46 29.4**	**+0.4**
KELT	**Kelkit**	**3.41**	**298**	*i* P	**Pb**	**03 46 37.7**	**+0.2**
BRDA	**Brd**	**3.50**	**61**	⇑P	**Pn**	**03 46 31.0**	**-0.4**
	SNR=9.7						
BRDA				⇓S	**Sb**	**03 47 22.0**	**+0.6**
BRDA	**Brd**	**3.50**	**61**	P	**Pn**	**03 46 31.0**	**-0.4**
	SNR=9.7						
KTUT	**Trabzon**	**3.54**	**313**	*e*PN	**Pn**	**03 46 33.1**	**+1.2**
KTUT	**Trabzon**	**3.54**	**313**	*e*Pn	**Pn**	**03 46 33.1**	**+1.2**
KTUT	**Trabzon**	**3.54**	**313**	Pn	**Pn**	**03 46 33.8**	**+1.9**
URFA	**Urfa**	**3.64**	**252**	*e*PN	**Pn**	**03 46 34.6**	**+1.2**
URFA	**Urfa**	**3.64**	**252**	*e*Pn	**Pn**	**03 46 34.6**	**+1.2**
URFA	**Urfa**	**3.64**	**252**	Pn	**Pn**	**03 46 34.6**	**+1.2**
MNGR	**Mingechevir, A**	**3.70**	**53**	⇑P	**Pn**	**03 46 34.3**	**+0.2**
	SNR=9.9						
MNGR	**Mingechevir, A**	**3.70**	**53**	P	**Pn**	**03 46 34.3**	**+0.2**
	SNR=9.9						
KEMA	**Kemaliye**	**3.72**	**281**	*i* P	**Pn**	**03 46 35.4**	**+1.0**
KEMA	**Kemaliye**	**3.72**	**281**	P	**Pn**	**03 46 35.4**	**+1.0**
ZRD	**Zardab**	**3.85**	**63**	⇓P	**Pn**	**03 46 35.5**	**-0.8**
	SNR=6

comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=6.1
ASF Jabal al Asfar 8.23 220 Pn Pn 03 47 35.7 -0.7
comp=Z,0.2nm,0.3s,baz=180,slow=6.5,SNR=2.6
MMAI Mount Meron Ar 8.44 231 Pn Pn 03 47 39.3 0.0
comp=Z,0.4nm,0.3s,baz=60,slow=16,SNR=2.0
CFR Carcaliu 12.98 305⇑iP P 03 48 49.3 -2.5
CFR Carcaliu 12.98 305⇑P P 03 48 49.3 -2.5
VRI Vrincioaia 14.16 306⇑iP P 03 49 04.1 -1.0
VRI Vrincioaia 14.16 306⇑P P 03 49 04.1 -1.0
VRI Vrincioaia 14.16 306 P P 03 49 04.1 -1.0
SORM Soroca 14.36 316⇓iP Pn 03 49 02.6 +2.5
SORM Soroca 14.36 316⇑P Pn 03 48 59.7 -0.4
MLR Muntele Rosu 14.52 304⇑iP Pn 03 49 06.4 +3.9
MLR Muntele Rosu 14.52 304⇑P P 03 49 11.8 +2.6
MLR Muntele Rosu 14.52 304 P P 03 49 11.8 +2.6
VOIR 15.09 303⇑iP Pn 03 49 13.0 +2.9
VOIR 15.09 303⇑P Pn 03 49 13.0 +2.9
RAYN Ar Rayn 15.18 172 *e*Pn **Pn 03 49 08.3 -3.1**
comp=Z,7.2nm,0.8s
RAYN Ar Rayn 15.18 172 *e*Pn **Pn 03 49 08.3 -3.1**
comp=Z,7.2nm,0.8s
ARR Arges 15.34 302⇑iP P 03 49 17.1 -1.1
ARR Arges 15.34 302⇑iP P 03 49 17.1 -1.1
AKASG Malin Array Be 15.60 325 Pn **Pn 03 49 17.3 +0.5**
comp=Z,1.4nm,0.3s,baz=134,slow=11,SNR=8.3
VTS Vitosha 15.68 291⇓iP Pn 03 49 19.5 +1.5
VTS Vitosha 15.68 291⇓P Pn 03 49 19.5 +1.5
AKTO Aktyubinsk 15.82 37 Pn **Pn 03 49 18.6 -1.0**
comp=Z,0.2nm,0.3s,baz=237,slow=9.7,SNR=10
AKTO LR LR 03 57 07.2
comp=Z,98nm,18.7s,baz=225,slow=44
BURAR Bucovina Array 15.87 310⇑iP Pn 03 49 23.2 +2.8
BURAR Bucovina Array 15.87 310⇑P Pn 03 49 23.2 +2.8
BURAR Bucovina Array 15.87 310⇑iP Pn 03 49 23.2 +2.8
ABKAR Akbulak array 16.05 43 *e*Pn **Pn 03 49 22.6 +0.1**
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 16.05 43 *e*Pn **Pn 03 49 22.6 +0.1**
comp=Z,1.8nm,0.8s
DRGR 17.09 305⇓iP Pn 03 49 36.0 +0.2
DRGR 17.09 305⇓P Pn 03 49 36.0 +0.2
DRGR 17.09 305 P Pn 03 49 36.0 +0.2
OBN Obninsk 17.09 347 *e*P **P 03 49 37.7 +0.2**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 17.09 347 *e*P **P 03 49 37.7 +0.2**
comp=Z,13nm,1.0s
SIRR Siria 17.59 303⇑iP Pn 03 49 39.3 -2.8
CRVS Cervenica-Dubn 18.69 310 *e*P **Pn 03 49 57.1 +1.5**
CRVS Cervenica-Dubn 18.69 310 *e*P **Pn 03 49 57.1 +1.5**
CRVS Cervenica-Dubn 18.69 310 *e*P **Pn 03 49 57.1 +1.5**
PSZ Piszkesteto 19.28 306⇑iP P 03 49 58.6 -3.1
PSZ Piszkesteto 19.28 306 *e*P **Pn 03 50 04.4 +1.7**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 19.28 306 *e*P **Pn 03 50 04.4 +1.7**
comp=Z,11nm,1.1s
PSZ Piszkesteto 19.28 306 *e*P **Pn 03 50 04.4 +1.7**
comp=Z,11nm,1.1s
NIE Niedzica 19.60 311 P **Pn 03 50 09.3 +2.7**
NIE pmax pmax
comp=Z,4.0nm,1.3s
VYHS Vyhne 20.14 307 *e*P **P 03 50 12.6 +1.5**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 20.14 307 *e*P **P 03 50 12.6 +1.5**
comp=Z,8.0nm,1.3s
VYHS Vyhne 20.14 307 *e*P **P 03 50 12.6 +1.5**
WSAR Wadi Sarin 20.22 135 P **P 03 50 11.9 -0.1**
comp=Z,4.8nm,0.7s,baz=282,slow=7.6,SNR=4.6
ARU Arti 20.54 25 P **P 03 50 15.7 +0.4**
comp=Z,4.9nm,0.3s,baz=229,slow=5.3,SNR=7.7
ARU LR LR 04 00 27.4
comp=Z,54nm,20.4s,baz=217,slow=43
ARU Arti 20.54 25*c iP* **P 03 50 15.8 +0.6**
ARU S **S 03 54 03.8 -0.9**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 20.54 25 *i P* **P 03 50 15.8 +0.6**
comp=Z,15nm,1.2s
ARU S **S 03 54 03.8 -0.9**
ARU Arti 20.54 25 *e*P **P 03 50 16.3 +1.0**
KKAR Karatay Array 21.10 69 *e*P **P 03 50 22.6 +1.1**
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 21.10 69 *e*P **P 03 50 22.6 +1.1**
comp=Z,12nm,0.8s
KKAR Karatay Array 21.10 69 *e*P **P 03 50 22.6 +1.1**
comp=Z,12nm,0.8s
SOP Sopron 21.35 304 P **P 03 50 28.2 +4.1**
SOP pmax pmax
comp=Z,14nm,1.2s
CONA Conrad Observa 21.86 304 *e*pP **P 03 50 31.1 +1.3**
comp=Z,4.8nm,0.8s
CONA Conrad Observa 21.86 304 P **P 03 50 31.1 +1.3**
comp=Z,4.8nm,0.8s
TREC Trest 22.49 307 P **P 03 50 40.9 +4.5**
TREC pmax pmax
comp=Z,12nm,2.1s
MNAS Manas 22.55 71 P **P 03 50 40.9 +3.6**
MNAS pmax pmax
comp=Z,3.0nm,1.5s
MOA Molln 22.89 303 *e*P **P 03 50 40.8 +0.2**
comp=Z,1.5nm,0.6s
MOA Molln 22.89 303 P **P 03 50 40.8 +0.2**
comp=Z,1.5nm,0.6s
GERES GERESS Array B 23.49 305 P **P 03 50 46.9 0.0**
comp=Z,1.0nm,0.8s,baz=102,slow=12,SNR=4.0
BRVK Borovoye 23.58 43 *e*P **P 03 50 49.0 +1.5**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 23.58 43 *e*P **P 03 50 49.0 +1.5**
comp=Z,5.0nm,0.8s
BRVK Borovoye 23.58 43 *e*P **P 03 50 49.0 +1.5**
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 23.62 44 P **P 03 50 48.7 +0.8**
comp=Z,2.6nm,0.8s,baz=258,slow=5.9,SNR=11
KHC Kasperske Hory 23.64 306 *e*P **P 03 50 48.0 -0.2**
KHC Kasperske Hory 23.64 306 *e*P **P 03 50 48.0 -0.2**
KHC Kasperske Hory 23.64 306 *e*P **P 03 50 48.0 -0.2**
AAK Ala-Archa 24.02 70 LR LR 04 02 27.7
comp=Z,28nm,19.2s,baz=272,slow=42
WET Wettzell 24.09 306 P **P 03 50 55.8 +3.3**
WET pmax pmax
comp=Z,10.0nm,2.5s
WTTA Wattenberg 24.52 301 *e*pP **P 03 50 57.2 +0.6**
comp=Z,1.1nm,0.3s
WTTA Wattenberg 24.52 301 P **P 03 50 57.2 +0.6**
comp=Z,1.1nm,0.3s
CLL Collm 24.64 311 *e*(P) **P 03 50 58.0 +0.5**
MOTA Moosalm 24.89 301 *e*P **P 03 51 00.2 +0.2**
comp=Z,3.7nm,0.6s
MOTA Moosalm 24.89 301 P **P 03 51 00.2 +0.2**
comp=Z,3.7nm,0.6s
FINES FINESS Array B 25.19 341 P **P 03 51 00.8 -1.4**
comp=Z,6.9nm,1.1s,baz=142,slow=9.5,SNR=6.1
FINES LR LR 04 02 01.0
comp=Z,61nm,19.0s,baz=208,slow=39
GRF Grafenberg Arr 25.27 306 P **P 03 51 07.8 +4.6**
GRF pmax pmax
comp=Z,37nm,1.3s
JOF Joensuu 25.37 347 P **P 03 51 07.7 +3.8**
JOF pmax pmax
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 25.65 299 P **P 03 51 05.8 -1.0**
comp=Z,2.1nm,0.7s,baz=177,slow=19,SNR=2.5
KURBB Kurchatov Arra 27.60 53 P **P 03 51 24.6 +0.4**
comp=Z,2.2nm,0.6s,baz=264,slow=9.2,SNR=14
KURK Kurchatov 27.68 53 P **P 03 51 24.6 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 27.68 53 P **P 03 51 24.6 -0.3**
comp=Z,2.0nm,0.6s
KURK Kurchatov 27.68 53 P **P 03 51 24.6 -0.3**
MKAR Makanchi Array 29.62 61 P **P 03 51 43.3 +1.0**
comp=Z,1.3nm,0.8s,baz=286,slow=5.6,SNR=5.2
ZALV Zalesovo Beam 32.06 48 P **P 03 52 04.5 +0.8**
comp=Z,0.9nm,0.3s,baz=258,slow=7.2,SNR=3.5
ZALV LR LR 04 07 22.6
comp=Z,40nm,18.2s,baz=260,slow=41
ARCES ARCESS Array B 32.39 348 LR LR 04 04 28.1
comp=Z,28nm,19.4s,baz=199,slow=35
EKA Eskdalemuir Ar 35.00 314 P **P 03 52 28.6 -0.7**
comp=Z,3.4nm,0.6s,baz=107,slow=8.7,SNR=11
ESDC Sonseca Array 36.25 287 P **P 03 52 39.5 -0.7**
comp=Z,0.5nm,0.5s,baz=62,slow=8.4,SNR=3.6
NRIK Noril'sk 38.75 23 LR LR 04 13 03.4
comp=Z,52nm,18.7s,baz=294,slow=42
KMBO Kilima Mbogo 39.93 189 LR LR 04 10 39.9
comp=Z,29nm,20.0s,baz=358,slow=38
TORD Torodi Ar. Bea 44.60 247 P **P 03 53 46.7 -2.8**
comp=Z,0.9nm,0.9s,baz=51,slow=9.5,SNR=12
TORD PcP **PcP 03 55 30.6 -1.8**
comp=Z,0.6nm,1.0s,baz=29,slow=4.1,SNR=2.7
SONM Songino Array 45.80 57 P **P 03 53 60.0 +1.2**
comp=Z,0.2nm,0.4s,baz=290,slow=8.6,SNR=2.0
SONM Songino Array 45.80 57 P **P 03 54 00.0 +1.2**
SONM Songino Array 45.80 57 P **P 03 54 00.0 +1.2**
CMAR Chiang Mai Arr 52.12 96 P **P 03 54 46.5 -1.0**
comp=Z,1.6nm,0.4s,baz=298,slow=8.4,SNR=9.8
KSAR Wonju Array Be 64.28 62 P **P 03 56 12.4 0.0**
KSAR Wonju Array Be 64.28 62 P **P 03 56 12.4 0.0**
KSAR Wonju Array Be 64.28 62 P **P 03 56 12.4 0.0**
KSRS Korea Array 64.30 62 P **P 03 56 12.4 -0.1**
comp=Z,1.3nm,0.6s,baz=284,slow=7.8,SNR=4.6
ILAR Eielson Array 76.64 4 P **P 03 57 29.1 +1.7**
comp=Z,0.2nm,0.6s,baz=316,slow=3.8,SNR=4.3

DDA ***24*** *03:47:42.5,38.°62N×43.°22E,h5km,Ml3.6*
ISK ***24*** *03:47:42.6,38.°70N×43.°25E,h6km,ML3.4*
CSEM ***24*** *03:47:43.3±0.3,38.°67N×43.°19E,h2km,ML3.6,Error ellipse: s-maj=9.1km s-min=5.8km az=85.0*
ISC 24 03:47:42.2±1.2,38.°67N±0.°02×43.°25E±0.°03,h4km±11km, n51,σ0°89/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.39**	**202**	*i P*	**Pg**	**03 47 49.8**	**+0.1**
GEVA	**Gevas**	**0.39**	**202**	P	**Pg**	**03 47 49.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*PG	**Pg**	**03 48 00.2**	**+0.2**
AGRB				*e*SG	**Sb**	**03 48 13.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*Pg	**Pg**	**03 48 00.2**	**+0.2**
AGRB				*e*Sg	**Sb**	**03 48 13.1**	**-0.6**
EKAR	**Karacoban**	**1.09**	**303**	*i P*	**Pb**	**03 48 04.0**	**+0.2**
EKAR				*i* S	**Sn**	**03 48 19.6**	**-0.6**
EKAR	**Karacoban**	**1.09**	**303**	P	**Pb**	**03 48 04.0**	**+0.2**
EKAR				S	**Sn**	**03 48 19.6**	**-0.6**
HAKT	**HAKKARI**	**1.17**	**162**	*i P*	**Pg**	**03 48 02.5**	**-2.2**
EATA	**Eleskirt**	**1.33**	**334**	*i P*	**Pg**	**03 48 07.8**	**+0.1**
EATA				*i* S	**Sn**	**03 48 28.2**	**+2.0**
EATA	**Eleskirt**	**1.33**	**334**	P	**Pg**	**03 48 07.8**	**+0.1**
CUKT	**Cukurca**	**1.45**	**169**	*e*PN	**Pg**	**03 48 10.4**	**+0.4**
CUKT	**Cukurca**	**1.45**	**169**	*i P*	**Pg**	**03 48 12.0**	**+2.0**
CUKT	**Cukurca**	**1.45**	**169**	*e*Pn	**Pg**	**03 48 10.4**	**+0.4**
CUKT	**Cukurca**	**1.45**	**169**	P	**Pg**	**03 48 12.0**	**+2.0**
VRTB	**Varto-Mus**	**1.48**	**290**	*e*PN	**Pb**	**03 48 10.3**	**0.0**
VRTB				*e*SN	**Sg**	**03 48 30.6**	**+0.8**
VRTB	**Varto-Mus**	**1.48**	**290**	*i P*	**Pn**	**03 48 09.2**	**-0.6**
VRTB	**Varto-Mus**	**1.48**	**290**	P	**Pn**	**03 48 09.2**	**-0.6**
VRTB	**Varto-Mus**	**1.48**	**290**	*e*Pn	**Pb**	**03 48 10.4**	**0.0**
VRTB				*e*Sn	**Sg**	**03 48 30.6**	**+0.8**
BNGL	**BINGOL**	**1.66**	**280**	*i P*	**Pg**	**03 48 14.2**	**+0.1**
BNGL				*i* S	**Sg**	**03 48 36.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.69**	**253**	*e*PN	**Pb**	**03 48 13.7**	**-0.2**
SVAN				*e*SN	**Sg**	**03 48 36.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.69**	**253**	*i P*	**Pb**	**03 48 13.7**	**-0.2**
SVAN				*i* S	**Sb**	**03 48 35.1**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.69**	**253**	P	**Pb**	**03 48 13.7**	**-0.2**
SVAN				S	**Sb**	**03 48 35.1**	**-0.5**
SVAN				*e*Sn	**Sg**	**03 48 36.3**	**-0.3**
BTMN	**Batman**	**1.74**	**244**	*i P*	**Pn**	**03 48 13.7**	**+0.4**
BTMN	**Batman**	**1.74**	**244**	P	**Pn**	**03 48 13.7**	**+0.4**
DIGO	**Kars**	**1.75**	**3**	*i P*	**Pg**	**03 48 16.6**	**+0.9**
DIGO	**Kars**	**1.75**	**3**	P	**Pg**	**03 48 16.6**	**+0.9**
ERZM	**Erzurum**	**1.91**	**311**	*i P*	**Pb**	**03 48 17.8**	**0.0**
ERZM	**Erzurum**	**1.91**	**311**	P	**Pb**	**03 48 17.8**	**0.0**
ECAT	**Cat-ERZURUM**	**2.00**	**299**	*i P*	**Pg**	**03 48 19.9**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.00**	**299**	P	**Pg**	**03 48 19.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*PN	**Pn**	**03 48 17.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*Pn	**Pn**	**03 48 17.6**	**+0.4**
BNGB	**Bing¶‖**	**2.03**	**280**	*e*PN	**Pn**	**03 48 18.3**	**+0.9**
BINT	**Bingol**	**2.17**	**276**	*e*Pn	**Pn**	**03 48 18.3**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.24**	**291**	*e*PN	**Pn**	**03 48 21.2**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.24**	**291**	*e*Pn	**Pn**	**03 48 21.2**	**+0.9**
MARD	**Mardin**	**2.37**	**236**	*i P*	**Pb**	**03 48 24.6**	**-1.0**
MARD				*i* S	**Sg**	**03 48 57.7**	**-0.8**
DDEM	**Demirkent**	**2.50**	**333**	*i P*	**Pg**	**03 48 29.9**	**-0.3**
MAZI	**Mazidag**	**2.52**	**242**	*e*PN	**Pn**	**03 48 25.4**	**+1.4**
MAZI	**Mazidag**	**2.52**	**242**	*e*Pn	**Pn**	**03 48 25.5**	**+1.4**
BGD	**Bogdanovka**	**2.60**	**6**	P	**Pg**	**03 48 31.3**	**-0.9**
DAGI	**Agilar**	**2.61**	**337**	*i P*	**Pg**	**03 48 31.3**	**-1.0**
ARTV	**Artvin**	**2.71**	**338**	*i P*	**Pg**	**03 48 33.0**	**-1.1**
AKH	**Akhalkalaki**	**2.74**	**4**	*e*PN	**Pn**	**03 48 28.1**	**+0.9**
AKH	**Akhalkalaki**	**2.74**	**4**	P	**Pn**	**03 48 26.2**	**-1.0**
AKH	**Akhalkalaki**	**2.74**	**4**	*e*Pn	**Pn**	**03 48 28.1**	**+0.9**
EPOS	**Posof**	**2.86**	**352**	*i P*	**Pg**	**03 48 38.3**	**+1.3**
DGRG	**David-gareji**	**3.22**	**30**	P	**Pg**	**03 48 43.4**	**-0.5**
TBLG	**Delisi**	**3.26**	**20**	P	**Pb**	**03 48 39.4**	**-1.3**
TBLG	**Delisi**	**3.26**	**20**	P	**Pb**	**03 48 39.4**	**-1.3**
GUDG	**Gudauri**	**3.90**	**14**	P	**Pg**	**03 48 58.6**	**+1.6**
ONI	**Oni**	**3.92**	**2**	P	**Pb**	**03 48 51.5**	**-0.4**

AZER ***24*** *03:50:01.5±1.7,38.°50N×43.°24E,h8km, Error ellipse: s-maj=18.1km s-min=11.1km az=176.0*
IDC ***24*** *03:50:02.7±1.3,38.°67N×43.°57E,h0km,mb3.7/7, mb1 3.7/10,mb1mx3.5/51,mbtmp3.6/10,ML2.8/2,MS2.8/2, Ms1 2.9/2,ms1mx2.3/40,Error ellipse: s-maj=22.0km s-min=13.9km az=147.0*
DDA ***24*** *03:50:03.6,38.°74N×43.°62E,h13km,Ml3.7*
CSEM ***24*** *03:50:05.1±0.2,38.°69N×43.°58E,h2km,ML3.7,Error ellipse: s-maj=5.8km s-min=3.5km az=159.0*
ISK ***24*** *03:50:05.3,38.°63N×43.°42E,h5km,ML3.6*
ISCJB ***24*** *03:50:06.3±0.8,38.°65N±0.°04×43.°62E±0.°03,h27km±9km, mb3.7/7,MS2.7/2,Error ellipse: s-maj=6.3km s-min=3.5km az=164.3*
ISC 24 03:50:06.4±1.1,38.°68N±0.°02×43.°56E±0.°02,h23km±10km, n111,σ1°74/132,mb3.7/7,9C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.54**	**227**	*i P*	**Pb**	**03 50 14.8**	**-2.5**
GEVA				*i* S	**Sb**	**03 50 24.9**	**+0.1**
GEVA	**Gevas**	**0.54**	**227**	P	**Pb**	**03 50 14.8**	**-2.5**
GEVA				S	**Sb**	**03 50 24.9**	**+0.1**
HAKT	**HAKKARI**	**1.12**	**174**	*i P*	**Pn**	**03 50 25.1**	**-1.8**
EKAR	**Karacoban**	**1.30**	**297**	*i P*	**Pn**	**03 50 29.4**	**0.0**
EKAR				*i* S	**Sb**	**03 50 52.4**	**+5.7**
EKAR	**Karacoban**	**1.30**	**297**	P	**Pn**	**03 50 29.4**	**0.0**
CUKT	**Cukurca**	**1.43**	**179**	*e*PN	**Pb**	**03 50 32.8**	**+0.3**
CUKT				*e*SN	**Sb**	**03 50 53.1**	**+2.8**
CUKT	**Cukurca**	**1.43**	**179**	*i P*	**Pb**	**03 50 33.0**	**+0.5**
CUKT	**Cukurca**	**1.43**	**179**	*e*Pn	**Pb**	**03 50 32.8**	**+0.3**
CUKT				*e*Sn	**Sb**	**03 50 53.1**	**+2.8**
EATA	**Eleskirt**	**1.45**	**325**	*i P*	**Pn**	**03 50 30.2**	**-1.3**
EATA				*i* S	**Sn**	**03 50 50.4**	**+0.6**
EATA	**Eleskirt**	**1.45**	**325**	P	**Pn**	**03 50 30.2**	**-1.3**
EATA				S	**Sn**	**03 50 50.4**	**+0.6**
SIRN	**S¨–rnak**	**1.49**	**218**	*i P*	**Pb**	**03 50 33.7**	**+0.2**
SIRN				*i* S	**Sb**	**03 50 55.7**	**+3.7**
SIRN	**S¨–rnak**	**1.49**	**218**	P	**Pb**	**03 50 33.7**	**+0.2**
SIRN				S	**Sb**	**03 50 55.7**	**+3.7**
NAX	**Nakhchivan** SNR=7.2	**1.58**	**71**	⇓P	**Pb**	**03 50 34.1**	**-1.0**
NAX				⇑S	**Sb**	**03 50 59.0**	**+4.3**
NAX	**Nakhchivan** SNR=7.2	**1.58**	**71**	P	**Pb**	**03 50 34.1**	**-1.0**
NAX				S	**Sb**	**03 50 59.0**	**+4.3**
VRTB	**Varto-Mus**	**1.71**	**287**	*e*PN	**Pn**	**03 50 35.4**	**+0.4**
VRTB				*e*SN	**Sb**	**03 50 58.9**	**+0.5**
VRTB	**Varto-Mus**	**1.71**	**287**	*i P*	**Pn**	**03 50 35.6**	**+0.6**
VRTB	**Varto-Mus**	**1.71**	**287**	P	**Pn**	**03 50 35.6**	**+0.6**
VRTB				*e*Sn	**Sb**	**03 50 58.9**	**+0.5**
GNI	**Garni** 62nm,0.3s,baz=262,slow=2.6,SNR=23	**1.73**	**31**	Pn	**Pn**	**03 50 35.3**	**+0.1**
GNI				Sn	**Sb**	**03 51 01.5**	**+2.6**
	110nm,0.3s,baz=141,slow=22,SNR=13						
DIGO	**Kars**	**1.74**	**355**	*i P*	**Pn**	**03 50 35.4**	**0.0**
DIGO	**Kars**	**1.74**	**355**	P	**Pn**	**03 50 35.4**	**0.0**
HOMI	**Horasan**	**1.88**	**317**	*i P*	**Pn**	**03 50 38.0**	**+0.7**
BNGL	**BINGOL**	**1.91**	**279**	*i P*	**Pn**	**03 50 38.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*e*PN	**Pn**	**03 50 39.0**	**+1.1**
SVAN				*e*SN	**Sb**	**03 51 03.4**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*i P*	**Pn**	**03 50 39.0**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	P	**Pn**	**03 50 39.0**	**+1.1**
SVAN				*e*Sn	**Sb**	**03 51 03.4**	**-1.2**
BTMN	**Batman**	**1.97**	**247**	*i P*	**Pn**	**03 50 39.4**	**+0.9**
BTMN	**Batman**	**1.97**	**247**	P	**Pn**	**03 50 39.3**	**+0.9**
EAK	**Akyaka**	**2.00**	**1**	*i P*	**Pn**	**03 50 40.0**	**+1.0**
EAK				*i* S	**Sb**	**03 51 12.6**	**+5.7**
EAK	**Akyaka**	**2.00**	**1**	P	**Pn**	**03 50 40.0**	**+1.0**
ERZM	**Erzurum**	**2.10**	**306**	*i P*	**Pn**	**03 50 41.1**	**+0.7**
ERZM	**Erzurum**	**2.10**	**306**	P	**Pn**	**03 50 41.1**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*PN	**Pb**	**03 50 43.3**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*Pn	**Pb**	**03 50 43.3**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.22**	**296**	*i P*	**Pn**	**03 50 44.7**	**+2.8**
ECAT	**Cat-ERZURUM**	**2.22**	**296**	P	**Pn**	**03 50 44.7**	**+2.8**
BNGB	**Bing¶‖**	**2.27**	**279**	*e*PN	**Pn**	**03 50 44.2**	**+1.5**
BINT	**Bingol**	**2.41**	**276**	*e*Pn	**Pn**	**03 50 44.2**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.47**	**289**	*e*PN	**Pn**	**03 50 47.0**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.47**	**289**	*e*Pn	**Pn**	**03 50 47.0**	**+1.6**
BGD	**Bogdanovka**	**2.58**	**1**	P	**Pn**	**03 50 44.5**	**-2.5**
MARD	**Mardin**	**2.59**	**239**	*i P*	**Pn**	**03 50 47.7**	**+0.7**
GDB	**GEDABAY** SNR=22	**2.65**	**39**	P	**Pn**	**03 50 48.6**	**+0.7**
GDB				⇑S	**Sb**	**03 51 25.7**	**+0.3**
GDB	**GEDABAY** SNR=22	**2.65**	**39**	P	**Pn**	**03 50 48.6**	**+0.7**
GDB				S	**Sb**	**03 51 25.7**	**+0.3**
KOPT	**Kop Dagi**	**2.73**	**300**	*i P*	**Pb**	**03 50 54.1**	**-0.6**
AKH	**Akhalkalaki**	**2.73**	**359**	*e*PN	**Pn**	**03 50 52.7**	**+3.7**
AKH	**Akhalkalaki**	**2.73**	**359**	P	**Pb**	**03 50 55.1**	**+0.5**
AKH	**Akhalkalaki**	**2.73**	**359**	*e*Pn	**Pn**	**03 50 52.7**	**+3.7**
MAZI	**Mazidag**	**2.75**	**245**	*e*PN	**Pn**	**03 50 49.1**	**0.0**
MAZI	**Mazidag**	**2.75**	**245**	*e*Pn	**Pn**	**03 50 49.1**	**0.0**
QZX	**Qazax, Azerbai** SNR=28	**2.75**	**30**	P	**Pn**	**03 50 50.4**	**+1.3**
QZX				⇓S	**Sb**	**03 51 27.4**	**-0.9**
QZX	**Qazax, Azerbai** SNR=28	**2.75**	**30**	P	**Pn**	**03 50 50.4**	**+1.3**
QZX				S	**Sb**	**03 51 27.4**	**-0.9**
GANJ	**Ganja** SNR=17	**2.90**	**46**	P	**Pn**	**03 50 52.2**	**+1.1**
GANJ				⇑S	**Sb**	**03 51 32.0**	**-0.4**
GANJ	**Ganja** SNR=17	**2.90**	**46**	P	**Pn**	**03 50 52.2**	**+1.1**
GANJ				S	**Sb**	**03 51 32.0**	**-0.4**
DGRG	**David-gareji**	**3.10**	**26**	P	**Pn**	**03 50 55.6**	**+1.7**
ERZN	**Erzincan**	**3.12**	**288**	*e*PN	**Pn**	**03 50 55.9**	**+1.6**
TBLG	**Delisi**	**3.18**	**16**	*e*PN	**Pb**	**03 50 59.6**	**-2.6**
TBLG	**Delisi**	**3.18**	**16**	P	**Pb**	**03 51 00.4**	**-1.8**
TBLG	**Delisi**	**3.18**	**16**	*e*Pn	**Pb**	**03 50 59.6**	**-2.6**
TBLG	**Delisi**	**3.18**	**16**	P	**Pb**	**03 51 00.4**	**-1.8**
BRDA	**Brd** SNR=6.1	**3.21**	**59**	⇓P	**Pn**	**03 50 56.8**	**+1.4**
BRDA	**Brd** SNR=6.1	**3.21**	**59**	P	**Pn**	**03 50 56.8**	**+1.4**
PTK	**Pertek**	**3.27**	**275**	*e*PN	**Pn**	**03 50 58.4**	**+2.0**
PTK	**Pertek**	**3.27**	**275**	*e*Pn	**Pn**	**03 50 58.4**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.35**	**266**	*e*PN	**Pn**	**03 50 59.4**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.35**	**266**	*e*Pn	**Pn**	**03 50 59.4**	**+1.9**
MNGR	**Mingechevir, A** SNR=8.6	**3.43**	**51**	⇑P	**Pn**	**03 50 59.3**	**+0.9**
MNGR	**Mingechevir, A** SNR=8.6	**3.43**	**51**	P	**Pn**	**03 50 59.3**	**+0.9**
EZC	**Erzincan**	**3.44**	**289**	*e*Pn	**Pn**	**03 50 55.9**	**-2.8**
ZRD	**Zardab** SNR=3.1	**3.57**	**62**	⇓P	**Pn**	**03 51 01.7**	**+1.4**
ZRD	**Zardab** SNR=3.1	**3.57**	**62**	P	**Pn**	**03 51 01.7**	**+1.4**
KTUT	**Trabzon**	**3.72**	**309**	*e*PN	**Pn**	**03 51 05.1**	**+2.7**
KTUT	**Trabzon**	**3.72**	**309**	*e*Pn	**Pn**	**03 51 05.1**	**+2.7**
LRK	**Lerik** SNR=4.9	**3.74**	**89**	⇓P	**Pn**	**03 51 03.2**	**+0.4**
LRK	**Lerik** SNR=4.9	**3.74**	**89**	P	**Pn**	**03 51 03.2**	**+0.4**
SEKA	**Sheki** SNR=7.2	**3.77**	**47**	⇓P	**Pn**	**03 51 05.0**	**+1.9**
SEKA	**Sheki** SNR=7.2	**3.77**	**47**	P	**Pn**	**03 51 05.0**	**+1.9**
ZKTA	**Zakatala** SNR=7.8	**3.77**	**37**	⇓P	**Pn**	**03 51 03.9**	**+0.8**
GLBA	**Clilabad** SNR=4.5	**3.81**	**80**	⇓P	**Pn**	**03 51 04.2**	**+0.6**
GLBA	**Clilabad** SNR=4.5	**3.81**	**80**	P	**Pn**	**03 51 04.2**	**+0.6**
GUDG	**Gudauri**	**3.84**	**10**	P	**Pn**	**03 51 03.0**	**-1.3**
ONI	**Oni**	**3.91**	**359**	P	**Pb**	**03 51 16.1**	**+1.5**
QBL	**Gabala** SNR=8.6	**3.99**	**54**	⇓P	**Pn**	**03 51 07.4**	**+1.2**
QBL	**Gabala** SNR=8.6	**3.99**	**54**	P	**Pn**	**03 51 07.4**	**+1.2**
LKRN	**Lenkeran, Azer** SNR=2.8	**4.08**	**88**	⇑P	**Pn**	**03 51 07.9**	**+0.5**
LKRN	**Lenkeran, Azer** SNR=2.8	**4.08**	**88**	P	**Pn**	**03 51 07.9**	**+0.5**
ASTR	**Astara** SNR=3.0	**4.10**	**90**	⇑P	**Pn**	**03 51 07.8**	**+0.2**
ASTR	**Astara** SNR=3.0	**4.10**	**90**	P	**Pn**	**03 51 07.8**	**+0.2**
XNQ	**Khinaliq** SNR=8.6	**4.31**	**53**	⇑P	**Pn**	**03 51 10.9**	**+0.2**
XNQ	**Khinaliq** SNR=8.6	**4.31**	**53**	P	**Pn**	**03 51 10.9**	**+0.2**
PQL	**Pirkuli** SNR=4.3	**4.41**	**60**	⇓P	**Pn**	**03 51 12.9**	**+0.9**
PQL	**Pirkuli** SNR=4.3	**4.41**	**60**	P	**Pn**	**03 51 12.9**	**+0.9**
GBS	**Qobustan** SNR=3.0

SIRN	S¨–rnak	1.38	209	P	Pn	03 53 49.3 -0.8
CUKT	Cukurca	1.48	169	*e*PN	Pg	03 53 54.4 +1.0
CUKT				*e*SN	Sg	03 54 16.1 +3.5
CUKT	Cukurca	1.48	169	*i* P	Pn	03 53 50.9 -0.6
CUKT	Cukurca	1.48	169	*e*Pn	Pg	03 53 54.4 +1.0
CUKT				*e*Sn	Sg	03 54 16.1 +3.5
VRTB	Varto-Mus	1.48	289	*e*PN	Pn	03 53 51.3 -0.3
VRTB				*e*SN	Sn	03 54 10.5 -0.5
VRTB	Varto-Mus	1.48	289	*e*Pn	Pn	03 53 51.3 -0.3
VRTB				*e*Sn	Sn	03 54 10.5 -0.5
BNGL	BINGOL	1.67	279	*i* P	Pn	03 53 54.1 -0.1
HOMI	Horasan	1.71	322	*i* P	Pg	03 53 56.9 -0.9
SVAN	Silvan-Diyarba	1.71	252	*e*PN	Pn	03 53 54.8 +0.1
SVAN	Silvan-Diyarba	1.71	252	*i* P	Pn	03 53 55.7 +1.0
SVAN	Silvan-Diyarba	1.71	252	*e*Pn	Pn	03 53 54.8 +0.1
SVAN	Silvan-Diyarba	1.71	252	P	Pn	03 53 55.7 +1.0
BTMN	Batman	1.77	243	*i* P	Pn	03 53 56.2 +0.8
BTMN	Batman	1.77	243	P	Pn	03 53 56.2 +0.8
NAX	Nakhchivan	1.80	74	⇓P	Pb	03 53 56.5 -1.4
NAX				⇓S	Sg	03 54 25.2 +2.2
NAX	Nakhchivan	1.80	74	P	Pb	03 53 56.5 -1.4
NAX				S	Sg	03 54 25.2 +2.2
SENK	Senkaya-Erzuru	1.99	339	*e*PN	Pn	03 53 58.5 -0.1
SENK	Senkaya-Erzuru	1.99	339	*e*Pn	Pn	03 53 58.5 -0.1
BNGB	Bing¨¶l	2.04	279	*e*PN	Pn	03 53 59.2 0.0
BINT	Bingol	2.18	275	*e*Pn	Pn	03 53 59.3 -1.8
YEDI	Yedisu-Bingol	2.24	290	*e*PN	Pn	03 54 01.9 -0.2
YEDI	Yedisu-Bingol	2.24	290	*e*Pn	Pn	03 54 01.9 -0.2
MAZI	Mazidag	2.55	242	*e*PN	Pn	03 54 07.5 +1.3
MAZI	Mazidag	2.55	242	*e*Pn	Pn	03 54 07.5 +1.3
GDB	GEDABAY	2.78	43	⇓P	Pb	03 54 14.7 0.0
GDB				⇑S	Sg	03 54 59.5 +5.0
GDB	GEDABAY	2.78	43	P	Pb	03 54 14.7 0.0
QZX	Qazax, Azerbai	2.86	34	⇓P	Pb	03 54 16.4 +0.5
QZX				⇓S	Sg	03 55 04.3 +7.4
QZX	Qazax, Azerbai	2.86	34	P	Pb	03 54 16.4 +0.5
DBOC	Borcka	2.91	336	*i* P	Pb	03 54 17.2 +0.3
PTK	Pertek	3.03	275	*e*PN	Pn	03 54 13.1 +0.2
PTK	Pertek	3.03	275	*e*Pn	Pn	03 54 13.1 +0.2
GANJ	Ganja	3.06	50	⇓P	Pb	03 54 17.1 -2.2
GANJ				⇑S	Sg	03 55 03.7 +0.5
GANJ	Ganja	3.06	50	P	Pb	03 54 17.1 -2.2
SVRC	Sivrice-ELAZID	3.12	265	*e*PN	Pn	03 54 14.9 +0.8
SVRC	Sivrice-ELAZID	3.12	265	*e*Pn	Pn	03 54 14.9 +0.8

*IDC **24** 03:55:09.4±1.7, 1˚.14N×125˚.75E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/44, mbtmp3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/41, Error ellipse: s-maj=194.2km s-min=21.0km az=65.0*
*ISCJB **24** 03:55:10.8±1.2, 1˚.9N±0˚.1×127˚.4E±0˚.2, h35km, mb3.7/4, MS2.7/1, Error ellipse: s-maj=31.3km s-min=7.1km az=155.2*
*DJA **24** 03:55:15.1±1.8, 1˚.N±3˚×12˚.6E±˚, h35km±31km, M3.9/3, MLv3.9/3*
ISC 24 03:55:12.8±1.7, 1˚.9N±0˚.2×127˚.3E±0˚.4, h35km, n7, σ1§04/8, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	2.49	175	P	Pn	03 55 51.7	+0.9
LBMI				S	Sn	03 56 19.3	-0.6
SGSI	Sangihe	2.53	316	P	Pn	03 55 51.4	+0.1
SGSI				S	Sn	03 56 20.7	-0.2
WRA	Warramunga Arr	22.74	163	P	P	04 00 10.5	-1.5
	1.9nm,0.5s,baz=336,slow=10,SNR=23						
ASAR	Alice Springs	26.17	166	P	P	04 00 44.1	-0.1
	0.7nm,0.5s,baz=347,slow=13,SNR=17						
PSI	Prapat	28.35	272	LR	LR	04 10 49.6	
	comp=Z,23nm,21.6s,baz=3.0,slow=35						
MKAR	Makanchi Array	59.40	326	P	P	04 05 13.1	+1.3
	0.3nm,0.3s,baz=124,slow=8.4,SNR=4.5						
KURBB	Kurchatov Arra	63.61	328	P	P	04 05 39.6	-0.4
	0.6nm,0.5s,baz=129,slow=6.1,SNR=6.6						

*ISK **24** 04:03:02.8, 38˚.77N×43˚.25E, h5km, MD3.0*
*DDA **24** 04:03:03.6, 38˚.78N×43˚.34E, h4km, Ml3.6*
*CSEM **24** 04:03:04.4±0.4, 38˚.78N×43˚.28E, h8km, ML3.6, Error ellipse: s-maj=11.8km s-min=4.3km az=86.0*
ISC 24 04:03:04.2±1.3, 38˚.77N±0˚.02×43˚.29E±0˚.07, h8km±11km, n31, σ0§72/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.49	201	*i* P	Pg	04 03 13.6	-0.1
GEVA				*i* S	Sb	04 03 21.8	-0.7
GEVA	Gevas	0.49	201	P	Pg	04 03 13.6	-0.1
GEVA				S	Sb	04 03 21.8	-0.7
TUTA	Tutak	0.73	330	*i* P	Pb	04 03 18.6	-0.8
TUTA				*i* S	Sb	04 03 28.7	-1.0
TUTA	Tutak	0.73	330	P	Pb	04 03 18.6	-0.8
TUTA				S	Sb	04 03 28.7	-1.0
AGRB	Hanur-Agry	0.84	344	*e*PG	Pg	04 03 19.8	-0.6
AGRB				*e*SG	Sb	04 03 32.6	-0.1
AGRB	Hanur-Agry	0.84	344	*e*Pg	Pg	04 03 19.8	-0.6
AGRB				*e*Sg	Sb	04 03 32.6	-0.1
EATA	Eleskirt	1.25	331	*i* P	Pb	04 03 27.7	-0.6
EATA				*i* S	Sn	04 03 46.3	+0.7
EATA	Eleskirt	1.25	331	P	Pb	04 03 27.7	-0.6
EATA				S	Sn	04 03 46.3	+0.7
CUKT	Cukurca	1.54	170	*e*PN	Pb	04 03 32.6	-0.4
CUKT				*e*SN	Sg	04 03 54.3	+0.6
CUKT	Cukurca	1.54	170	*e*Pn	Pb	04 03 32.6	-0.4
CUKT				*e*Sn	Sg	04 03 54.3	+0.6
HOMI	Horasan	1.67	321	*i* P	Pg	04 03 35.6	-0.6
HOMI				*i* S	Sg	04 03 59.5	+1.7
BNGL	BINGOL	1.68	277	*i* P	Pg	04 03 35.9	-0.5
SVAN	Silvan-Diyarba	1.75	250	*e*PN	Pn	04 03 34.9	0.0
SVAN	Silvan-Diyarba	1.75	250	*i* P	Pn	04 03 34.6	-0.3
SVAN	Silvan-Diyarba	1.75	250	P	Pn	04 03 34.6	-0.3
SVAN	Silvan-Diyarba	1.75	250	*e*Pn	Pn	04 03 34.9	0.0
BTMN	Batman	1.81	242	*i* P	Pn	04 03 36.1	+0.3
BTMN	Batman	1.81	242	P	Pn	04 03 36.1	+0.3
ERZM	Erzurum	1.87	308	*i* P	Pg	04 03 40.4	+0.3
SENK	Senkaya-Erzuru	1.93	338	*e*PN	Pn	04 03 38.1	+0.5
SENK	Senkaya-Erzuru	1.93	338	*e*Pn	Pn	04 03 38.1	+0.5
BNGB	Bing¨¶l	2.05	277	*e*PN	Pn	04 03 39.3	+0.2
BINT	Bingol	2.19	274	*e*Pn	Pn	04 03 39.3	-1.7
YEDI	Yedisu-Bingol	2.23	288	*e*PN	Pn	04 03 42.4	+0.7
YEDI	Yedisu-Bingol	2.23	288	*e*Pn	Pn	04 03 42.4	+0.7
MAZI	Mazidag	2.59	241	*e*PN	Pn	04 03 46.9	+0.3
MAZI	Mazidag	2.59	241	*e*Pn	Pn	04 03 46.9	+0.3
PTK	Pertek	3.04	274	*e*PN	Pn	04 03 53.8	+0.9
PTK	Pertek	3.04	274	*e*Pn	Pn	04 03 53.8	+0.9
SVRC	Sivrice-ELAZID	3.14	264	*e*PN	Pn	04 03 55.0	+0.8
SVRC	Sivrice-ELAZID	3.14	264	*e*Pn	Pn	04 03 55.0	+0.8

*DDA **24** 04:07:21.9, 38˚.61N×43˚.02E, h7km, Ml3.6*
*ISCJB **24** 04:07:22.8±0.7, 38˚.61N±0˚.03×43˚.16E±0˚.08, h15km, Error ellipse: s-maj=8.7km s-min=4.1km az=179.6*
*CSEM **24** 04:07:22.4±0.4, 38˚.63N×43˚.19E, h10km, ML3.6, Error ellipse: s-maj=11.8km s-min=6.0km az=82.0*
*ISK **24** 04:07:23.1, 38˚.65N×43˚.17E, h18km, ML3.0*
ISC 24 04:07:22.6±0.9, 38˚.63N±0˚.02×43˚.15E±0˚.06, h15km, n39, σ1§16/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.33	193	*i* P	Pg	04 07 27.3	-2.1
GEVA				*i* S	Sg	04 07 32.7	-1.4
GEVA	Gevas	0.33	193	P	Pg	04 07 27.3	-2.1
GEVA				S	Sg	04 07 32.7	-1.4
TUTA	Tutak	0.82	341	*i* P	Pg	04 07 37.3	-1.2
TUTA				*i* S	Sg	04 07 49.0	-0.3
TUTA	Tutak	0.82	341	P	Pg	04 07 37.3	-1.2
TUTA				S	Sg	04 07 49.0	-0.3
AGRB	Hanur-Agry	0.95	352	*e*PG	Pb	04 07 41.3	+0.3
AGRB				*e*SG	Sn	04 07 55.3	+0.2
AGRB	Hanur-Agry	0.95	352	*e*Pg	Pb	04 07 41.3	+0.3
AGRB				*e*Sg	Sn	04 07 55.3	+0.2
EKAR	Karacoban	1.06	307	*i* P	Pb	04 07 42.7	0.0
EKAR	Karacoban	1.06	307	P	Pb	04 07 42.7	0.0
HAKT	HAKKARI	1.16	158	*i* P	Pg	04 07 45.2	+0.3
HAKT	HAKKARI	1.16	158	P	Pg	04 07 45.2	+0.3
EATA	Eleskirt	1.33	338	*i* P	Pn	04 07 46.8	-0.2
EATA	Eleskirt	1.33	338	P	Pn	04 07 46.8	-0.2
CUKT	Cukurca	1.43	165	*e*PN	Pb	04 07 49.1	+0.2
CUKT	Cukurca	1.43	165	*e*Pn	Pb	04 07 49.1	+0.2
VRTB	Varto-Mus	1.43	292	*e*PN	Pn	04 07 49.0	+0.9
VRTB	Varto-Mus	1.43	292	*e*Pn	Pn	04 07 49.0	+0.9
BNGL	BINGOL	1.60	282	*i* P	Pn	04 07 49.5	-1.1
SVAN	Silvan-Diyarba	1.61	253	*e*PN	Pn	04 07 51.2	+0.7
SVAN				*e*SN	Sn	04 08 12.0	+1.0
SVAN	Silvan-Diyarba	1.61	253	*i* P	Pn	04 07 50.5	0.0
SVAN	Silvan-Diyarba	1.61	253	P	Pn	04 07 50.5	0.0
SVAN	Silvan-Diyarba	1.61	253	*e*Pn	Pn	04 07 51.2	+0.7
SVAN				*e*Sn	Sn	04 08 12.0	+1.0
BTMN	Batman	1.66	244	*i* P	Pn	04 07 51.8	+0.6
BTMN	Batman	1.66	244	P	Pn	04 07 51.8	+0.6
HOMI	Horasan	1.71	326	*i* P	Pb	04 07 54.2	+0.2
ERZM	Erzurum	1.88	313	*i* P	Pb	04 07 56.9	0.0
ERZM	Erzurum	1.88	313	P	Pb	04 07 56.9	-0.2
BNGB	Bing¨¶l	1.97	281	*e*PN	Pn	04 07 56.7	+1.2
BINT	Bingol	2.10	278	*e*Pn	Pn	04 07 56.7	-0.6
YEDI	Yedisu-Bingol	2.19	292	*e*PN	Pn	04 07 59.9	+1.3
YEDI	Yedisu-Bingol	2.19	292	*e*Pn	Pn	04 07 59.9	+1.3
MARD	Mardin	2.29	236	*i* P	Pn	04 07 58.7	-1.3
MAZI	Mazidag	2.44	242	*e*PN	Pn	04 08 03.8	+1.8
MAZI	Mazidag	2.44	242	*e*Pn	Pn	04 08 03.8	+1.8
PTK	Pertek	2.95	276	*e*PN	Pn	04 08 10.8	+1.7
PTK	Pertek	2.95	276	*e*Pn	Pn	04 08 10.8	+1.7
SVRC	Sivrice-ELAZID	3.03	266	*e*PN	Pn	04 08 11.9	+1.8
SVRC	Sivrice-ELAZID	3.03	266	*e*Pn	Pn	04 08 11.9	+1.8
URFA	Urfa	3.62	252	*e*PN	Pn	04 08 20.5	+2.3
URFA	Urfa	3.62	252	*e*Pn	Pn	04 08 20.5	+2.3

*DDA **24** 04:11:40.8, 38˚.78N×43˚.59E, h13km, Ml3.3*
*ISK **24** 04:11:40.9, 38˚.79N×43˚.47E, h5km, MD3.0*
*CSEM **24** 04:11:41.9±0.5, 38˚.80N×43˚.50E, h2km, ML3.3, Error ellipse: s-maj=12.3km s-min=5.8km az=86.0*
ISC 24 04:11:41.7±1.3, 38˚.78N±0˚.03×43˚.48E±0˚.04, h2km±13km, n33, σ0§78/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.58	215	*i* P	Pg	04 11 52.5	-0.3
GEVA	Gevas	0.58	215	P	Pg	04 11 52.5	-0.3
DYDN	Diyadin	0.78	12	*i* P	Pg	04 11 56.5	-0.1
DYDN				*i* S	Sb	04 12 08.6	-0.5
DYDN	Diyadin	0.78	12	P	Pg	04 11 56.5	-0.1
TUTA	Tutak	0.81	320	*i* P	Pg	04 11 57.1	-0.1
TUTA				*i* S	Sb	04 12 08.7	-1.5
TUTA	Tutak	0.81	320	P	Pg	04 11 57.1	-0.1
TUTA				S	Sb	04 12 08.6	-1.5
AGRB	Hanur-Agry	0.88	334	*e*PG	Pg	04 11 58.3	-0.2
AGRB				*e*SG	Sb	04 12 12.1	0.0
AGRB	Hanur-Agry	0.88	334	*e*Pg	Pg	04 11 58.3	-0.2
AGRB				*e*Sg	Sb	04 12 12.1	0.0
EKAR	Karacoban	1.20	294	*i* P	Pn	04 12 05.7	-0.1
EKAR				*i* S	Sn	04 12 24.2	+1.5
EKAR	Karacoban	1.20	294	P	Pn	04 12 05.7	-0.1
HAKT	HAKKARI	1.24	172	*i* P	Pg	04 12 03.9	-1.5
EATA	Eleskirt	1.32	325	*i* P	Pn	04 12 06.2	-1.4
EATA				*i* S	Sb	04 12 24.5	-0.5
EATA	Eleskirt	1.32	325	P	Pn	04 12 06.2	-1.4
EATA				S	Sb	04 12 24.5	-0.5
CUKT	Cukurca	1.54	176	*e*PN	Pb	04 12 11.2	+0.2
CUKT				*e*SN	Sg	04 12 32.3	+1.2
CUKT	Cukurca	1.54	176	*e*Pn	Pb	04 12 11.2	+0.2
CUKT				*e*Sn	Sg	04 12 32.3	+1.2
HOMI	Horasan	1.75	316	*i* P	Pb	04 12 14.5	-0.3
BNGL	BINGOL	1.83	276	*i* P	Pb	04 12 15.7	-0.3
SVAN	Silvan-Diyarba	1.90	251	*e*PN	Pn	04 12 15.6	+0.4
SVAN	Silvan-Diyarba	1.90	251	*i* P	Pb	04 12 16.3	-0.9
SVAN	Silvan-Diyarba	1.90	251	*e*Pn	Pn	04 12 15.6	+0.4
SVAN	Silvan-Diyarba	1.90	251	P	Pb	04 12 16.3	-0.9
BTMN	Batman	1.95	244	*i* P	Pb	04 12 17.3	-0.8
BTMN				*i* S	Sg	04 12 45.1	+0.6
BTMN	Batman	1.95	244	P	Pb	04 12 17.3	-0.8
ERZM	Erzurum	1.99	305	*i* P	Pb	04 12 18.9	+0.2
ERZM	Erzurum	1.99	305	P	Pb	04 12 18.9	+0.2
BNGB	Bing¨¶l	2.20	276	*e*PN	Pn	04 12 20.0	+0.6
BINT	Bingol	2.34	273	*e*Pn	Pn	04 12 20.0	-1.3
YEDI	Yedisu-Bingol	2.38	287	*e*PN	Pn	04 12 22.7	+0.8
YEDI	Yedisu-Bingol	2.38	287	*e*Pn	Pn	04 12 22.7	+0.8
BGD	Bogdanovka	2.48	2	P	Pg	04 12 30.0	+0.8
MAZI	Mazidag	2.73	242	*e*PN	Pn	04 12 27.3	+0.6
MAZI	Mazidag	2.73	242	*e*Pn	Pn	04 12 27.3	+0.6
DGRG	David-gareji	3.03	28	P	Pb	04 12 36.1	-0.4

TIF 24 04:12:06.7, 42˚.65N×43˚.47E, h7km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.06	193	P	Pg	04 12 08.8	+0.3
ONI				S	Sg	04 12 10.3	+0.6

*ISCJB **24** 04:13:08.6±2.4, 38˚.70N±0˚.05×43˚.5E±0˚.2, h15km, Error ellipse: s-maj=23.6km s-min=6.4km az=8.7*
*CSEM **24** 04:13:09.8, 38˚.73N×43˚.20E, h2km, MD2.6*
*ISK **24** 04:13:09.8, 38˚.73N×43˚.20E, h2km, MD2.6*
ISC 24 04:13:08.7±2.3, 38˚.71N±0˚.05×43˚.3E±0˚.2, h15km, n9, σ0§96/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.45	209	*i* P	Pg	04 13 17.9	+0.1
GEVA				*i* S	Sg	04 13 24.6	+0.6
AGRB	Hanur-Agry	0.91	343	*e*PG	Pg	04 13 26.6	+0.3
AGRB				*e*SG	Sn	04 13 40.5	+0.5
AGRB	Hanur-Agry	0.91	343	*e*Pg	Pg	04 13 26.6	+0.3
AGRB				*e*Sg	Sn	04 13 40.5	+0.5
SVAN	Silvan-Diyarba	1.77	252	*e*PN	Pb	04 13 41.4	+0.5
SVAN				*e*SN	Sb	04 14 03.4	+0.4
SVAN	Silvan-Diyarba	1.77	252	*e*Pn	Pb	04 13 41.4	+0.5
SVAN				*e*Sn	Sb	04 14 03.4	+0.4
YEDI	Yedisu-Bingol	2.29	289	*e*PN	Pb	04 13 48.5	-1.4
YEDI	Yedisu-Bingol	2.29	289	*e*Pn	Pb	04 13 48.5	-1.4
MAZI	Mazidag	2.60	242	*e*PN	Pb	04 13 53.6	-1.5
MAZI	Mazidag	2.60	242	*e*Pn	Pb	04 13 53.6	-1.5

*AZER **24** 04:16:35.6±0.5, 38˚.33N×43˚.27E, h4km, Error ellipse: s-maj=3.7km s-min=2.9km az=79.0*
*IDC **24** 04:16:40.9±1.3, 38˚.97N×43˚.53E, h0km, mb3.7/3, mb1 3.5/8, mb1mx3.4/46, mbtmp3.5/8, ML3.4/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/46, Error ellipse: s-maj=20.8km s-min=12.8km az=144.0*
*DDA **24** 04:16:40.5, 38˚.85N×43˚.55E, h2km, Ml3.9*
*ISK **24** 04:16:41.1, 38˚.90N×43˚.55E, h5km, ML4.0*
*CSEM **24** 04:16:42.4±0.2, 38˚.90N×43˚.57E, h2km, ML3.9, Error ellipse: s-maj=5.3km s-min=3.2km az=165.0*
ISC 24 04:16:41.3±1.2, 38˚.88N±0˚.02×43˚.55E±0˚.02, h2km±9km, n125, σ1§51/144, mb3.6/3, 21C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.67	9	*i* P	Pb	04 16 54.5	-1.4
DYDN	Diyadin	0.67	9	P	Pb	04 16 54.5	-1.4
GEVA	Gevas	0.68	215	*i* P	Pg	04 16 53.2	-1.2
TUTA	Tutak	0.78	313	*i* P	Pg	04 16 55.7	-0.5
TUTA	Tutak	0.78	313	P	Pg	04 16 55.7	-0.5
AGRB	Hanur-Agry	0.82	328	*e*PG	Pg	04 16 56.8	-0.2
AGRB				*e*SG	Sb	04 17 09.4	-0.7
AGRB	Hanur-Agry	0.82	328	*e*Pg	Pg	04 16 56.8	-0.2
AGRB				*e*Sg	Sb	04 17 09.4	-0.7
EKAR	Karacoban	1.22	289	*i* P	Pn	04 17 06.0	+0.4
EKAR	Karacoban	1.22	289	P	Pn	04 17 06.0	+0.4
EATA	Eleskirt	1.28	320	*i* P	Pg	04 17 05.3	-0.6
EATA	Eleskirt	1.28	320	P	Pg	04 17 05.3	-0.6
HAKT	HAKKARI	1.32	175	*i* P	Pg	04 17 05.1	-1.5
NAX	Nakhchivan	1.54	78	⇑P	Pn	04 17 09.8	-0.1
	SNR=22						
NAX				⇑S	Sg	04 17 36.5	+5.7
NAX	Nakhchivan	1.54	78	P	Pn	04 17 09.8	-0.1
	SNR=22						
GNI	Garni	1.57	36	Pn	Pn	04 17 09.4	-0.9
	61nm,0.3s,baz=316,slow=1.5,SNR=22						
GNI				Sn	Sg	04 17 34.1	+2.4
	35nm,0.3s,baz=74,slow=22,SNR=14						
CUKT	Cukurca	1.63	178	*e*PN	Pb	04 17 12.1	0.0
CUKT				*e*SN	Sg	04 17 34.8	+1.3
CUKT	Cukurca	1.63	178	*i* P	Pg	04 17 12.4	-0.1
CUKT	Cukurca	1.63	178	*e*Pn	Pb	04 17 12.1	0.0
CUKT	Cukurca	1.63	178	P	Pg	04 17 12.4	-0.1
CUKT				*e*Sn	Sg	04 17 34.8	+1.3
SIRN	S¨–rnak	1.65	213	*i* P	Pb	04 17 11.8	-0.6
SIRN	S¨–rnak	1.65	213	P	Pb	04 17 11.8	-0.6
VRTB	Varto-Mus	1.66	280	*e*PN	Pb	04 17 12.1	-0.5
VRTB	Varto-Mus	1.66	280	*i* P	Pg	04 17 12.5	-0.6
VRTB	Varto-Mus	1.66	280	*e*Pn	Pb	04 17 12.1	-0.5
VRTB	Varto-Mus	1.66	280	P	Pg	04 17 12.5	-0.6
HOMI	Horasan	1.73	313	*i* P	Pg	04 17 14.1	-0.3
BNGL	BINGOL	1.88	273	*i* P	Pg	04 17 16.6	-0.6
SENK	Senkaya-Erzuru	1.92	332	*e*PN	Pb	04 17 16.1	-1.1
SENK	Senkaya-Erzuru	1.92	332	*e*Pn	Pb	04 17 16.1	-1.1
ERZM	Erzurum	1.98	302	*i* P	Pg	04 17 19.0	-0.2
ERZM	Erzurum	1.98	302	P	Pg	04 17 19.0	-0.2
SVAN	Silvan-Diyarba	1.98	249	*e*PN	Pn	04 17 16.6	+0.7
SVAN	Silvan-Diyarba	1.98	249	*i* P	Pb	04 17 17.4	-0.7
SVAN	Silvan-Diyarba	1.98	249	*e*Pn	Pn	04 17 16.6	+0.7
SVAN	Silvan-Diyarba	1.98	249	P	Pb	04 17 17.4	-0.7
BTMN	Batman	2.05	242	*i* P	Pb	04 17 18.4	-0.8
BTMN	Batman	2.05	242	P	Pb	04 17 18.4	-0.8
ECAT	Cat-ERZURUM	2.13	291	*i* P	Pg	04 17 21.4	-0.7
ECAT	Cat-ERZURUM	2.13	291	P	Pg	04 17 21.4	-0.7
BNGB	Bing¨¶l	2.24	274	*e*PN	Pb	04 17 20.8	-1.9
BGD	Bogdanovka	2.38	1	P	Pg	04 17 26.9	-0.1
BINT	Bingol	2.39	271	*e*Pn	Pn	04 17 20.8	-0.8
YEDI	Yedisu-Bingol	2.41	284	*e*PN	Pb	04 17 23.1	-2.3
YEDI	Yedisu-Bingol	2.41	284	*e*Pn	Pb	04 17 23.1	-2.3
GDB	GEDABAY	2.50	42	P	Pb	04 17 26.0	-1.1
	SNR=7.1						
GDB				⇑S	Sg	04 18 03.8	+2.1
GDB	GEDABAY	2.50	42	P	Pb	04 17 26.0	-1.1
	SNR=7.1						
AKH	Akhalkalaki	2.53	359	*e*PN	Pn	04 17 24.4	+0.8
AKH	Akhalkalaki	2.53	359	P	Pg	04 17 29.4	-0.4
AKH	Akhalkalaki	2.53	359	*e*Pn	Pn	04 17 24.4	+0.8
QZX	Qazax, Azerbai	2.59	32	⇑P	Pb	04 17 26.5	-2.0
	SNR=11						
QZX				⇑S	Sg	04 18 06.0	+1.5
QZX	Qazax, Azerbai	2.59	32	P	Pb	04 17 26.5	-2.0
	SNR=11						
GANJ	Ganja	2.77	50	⇓P	Pn	04 17 27.9	+1.1
	SNR=10						
GANJ				⇓S	Sg	04 18 09.3	-1.0
GANJ	Ganja	2.77	50	P	Pn	04 17 27.9	+1.1
	SNR=10						
MAZI	Mazidag	2.83	241	*e*PN	Pn	04 17 29.1	+1.5
MAZI	Mazidag	2.83	241	*e*Pn	Pn	04 17 29.1	+1.5
DGRG	David-gareji	2.92	28	P	Pb	04 17 32.0	-2.2
TBLG	Delisi	2.99	17	*e*PN	Pn	04 17 31.2	+1.4
TBLG	Delisi	2.99	17	P	Pb	04 17 36.2	+0.9
TBLG	Delisi	2.99	17	*e*Pn	Pn	04 17 31.2	+1.4
ERZN	Erzincan	3.06	285	*e*PN	Pn	04 17 32.5	+1.7
BRDA	Brd	3.13	63	⇑P	Pn	04 17 32.1	+0.5
	SNR=6.2						
BRDA				⇓S	Sb	04 18 15.9	-0.3
BRDA	Brd	3.13	63	P	Pn	04 17 32.1	+0.5
	SNR=6.2						
PTK	Pertek	3.25	272	*e*PN	Pn	04 17 34.8	+1.4
PTK	Pertek	3.25	272	*e*Pn	Pn	04 17 34.8	+1.4
MNGR	Mingechevir, A	3.31	54	⇑P	Pn	04 17 35.2	+1.0
	SNR=8.9						
MNGR				⇑S	Sb	04 18 21.7	+0.1
MNGR	Mingechevir, A	3.31	54	P	Pn	04 17 35.2	+1.0
	SNR=8.9						
SVRC	Sivrice-ELAZID	3.36	263	*e*PN	Pn	04 17 36.4	+1.4
SVRC	Sivrice-ELAZID	3.36	263	*e*Pn	Pn	04 17 36.4	+1.4
EZC	Erzincan	3.37	286	*e*Pn	Pn	04 17 32.5	-2.6
ZRD	Zardab	3.49	65	⇑P	Pn	04 17 36.8	+0.3
	SNR=5.9						
ZRD				⇑S	Sb	04 18 24.4	-2.1
ZRD	Zardab	3.49	65	P	Pn	04 17

0.8nm,0.7s,baz=263,slow=9.0,SNR=5.8
MKAR Makanchi Array 29.25 62 P **P 04 22 45.0 +0.4**
0.5nm,0.8s,baz=264,slow=5.2,SNR=2.7
NRIK Noril'sk 38.40 23 LR LR 04 43 52.3
comp=Z,34nm,19.3s,baz=162,slow=43
TORD Torodi Ar. Bea 44.96 247 P **P 04 24 57.4 -0.6**
0.8nm,1.1s,baz=67,slow=9.9,SNR=3.8

IDC ***24*** *04:18:43.9±0.7, 38°.50N×43°.32E, h0km, mb4.2/13, mb1 4.2/19, mb1mx4.0/47, mbtmp4.1/19, ML3.3/6, MS3.2/4, Ms1 3.2/4, ms1mx2.6/39, Error ellipse: s-maj=13.0km s-min=9.8km az=151.0*
MOS ***24*** *04:18:44.4±1.5, 38°.53N×43°.39E, h10km, mb4.3/19, Error ellipse: s-maj=10.3km s-min=7.6km az=93.8*
DDA ***24*** *04:18:45.9, 38°.68N×43°.31E, h13km, Ml4.5*
CSEM ***24*** *04:18:46.1±0.1, 38°.72N×43°.35E, h2km, mb4.1/14, Error ellipse: s-maj=3.1km s-min=2.4km az=164.0*
NEIC ***24*** *04:18:46.4±0.0, 38°.73N×43°.27E, h5km, mb4.3/15, ML4.5(DDA), After ISK.*
AZER ***24*** *04:18:46.2±0.9, 38°.74N×43°.28E, h6km±18km, Error ellipse: s-maj=19.6km s-min=4.5km az=64.0*
ISK ***24*** *04:18:47.1, 38°.78N×43°.29E, h5km, ML3.9*
ISC 24 04:18:46.8±0.9,**38°.70N**±0°.01×**43°.33E**±0°.02,**h10**km±6km, **n230**,σ1¶**66**/289,**mb4.3**/25,**MS3.1**/6,**19C-25D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.44**	**209**	*i* P		**Pg**		**04 18 54.1**	**-1.4**
GEVA	**Gevas**	**0.44**	**209**	P		**Pg**		**04 18 54.1**	**-1.4**
TUTA	**Tutak**	**0.81**	**330**	⇓*i*P		**Pg**		**04 19 01.1**	**-1.4**
TUTA				*i* S		**Sg**		**04 19 13.0**	**-0.1**
TUTA	**Tutak**	**0.81**	**330**	P		**Pg**		**04 19 01.1**	**-1.4**
TUTA				S		**Sg**		**04 19 13.0**	**-0.1**
BASK	**Baskale_VAN**	**0.83**	**140**	*i* P		**Pg**		**04 19 00.9**	**-2.0**
BASK				*i* S		**Sg**		**04 19 14.0**	**+0.2**
BASK	**Baskale_VAN**	**0.83**	**140**	P		**Pg**		**04 19 00.9**	**-2.0**
BASK				S		**Sg**		**04 19 14.0**	**+0.2**
DYDN	**Diyadin**	**0.89**	**18**	*i* P		**Pg**		**04 19 03.3**	**-0.7**
DYDN	**Diyadin**	**0.89**	**18**	P		**Pg**		**04 19 03.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*PG		**Pg**		**04 19 03.2**	**-1.2**
AGRB				*e*SG		**Sg**		**04 19 15.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*Pg		**Pg**		**04 19 03.2**	**-1.2**
AGRB				*e*Sg		**Sg**		**04 19 15.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.91**	**343**	Pg		**Pg**		**04 19 02.8**	**-1.7**
AGRB				Sg		**Sb**		**04 19 17.8**	**+0.6**
EKAR	**Karacoban**	**1.13**	**300**	*i* P		**Pg**		**04 19 08.0**	**-0.6**
EKAR				*i* S		**Sn**		**04 19 27.9**	**+3.2**
EKAR	**Karacoban**	**1.13**	**300**	P		**Pg**		**04 19 08.0**	**-0.6**
HAKT	**HAKKARI**	**1.18**	**165**	*i* P		**Pb**		**04 19 06.1**	**-3.3**
HAKT				*i* S		**Sg**		**04 19 24.7**	**0.0**
EATA	**Eleskirt**	**1.33**	**331**	⇓*i*P		**Pn**		**04 19 10.9**	**-0.9**
EATA				*i* S		**Sb**		**04 19 27.9**	**-1.4**
EATA	**Eleskirt**	**1.33**	**331**	P		**Pn**		**04 19 10.9**	**-0.9**
EATA				S		**Sb**		**04 19 27.9**	**-1.4**
SIRN	**S¨–rnak**	**1.40**	**211**	*i* P		**Pg**		**04 19 13.5**	**-0.2**
SIRN				*i* S		**Sg**		**04 19 33.0**	**+1.1**
SIRN	**S¨–rnak**	**1.40**	**211**	P		**Pg**		**04 19 13.5**	**-0.2**
SIRN				S		**Sg**		**04 19 33.0**	**+1.1**
CUKT	**Cukurca**	**1.47**	**171**	*e*PN		**Pg**		**04 19 16.0**	**+1.0**
CUKT				*e*SN		**Sg**		**04 19 36.8**	**+2.8**
CUKT	**Cukurca**	**1.47**	**171**	*i* P		**Pn**		**04 19 13.7**	**+0.3**
CUKT				*i* S		**Sn**		**04 19 32.6**	**-0.1**
CUKT	**Cukurca**	**1.47**	**171**	P		**Pn**		**04 19 13.7**	**+0.3**
CUKT	**Cukurca**	**1.47**	**171**	Pn		**Pb**		**04 19 14.5**	**+0.3**
CUKT				S		**Sn**		**04 19 32.6**	**-0.1**
CUKT				*e*Sn		**Sg**		**04 19 36.8**	**+2.8**
CUKT	**Cukurca**	**1.47**	**171**	Pn		**Pb**		**04 19 14.5**	**+0.3**
VRTB	**Varto-Mus**	**1.53**	**288**	*e*PN		**Pb**		**04 19 15.0**	**-0.4**
VRTB	**Varto-Mus**	**1.53**	**288**	⇓*i*P		**Pn**		**04 19 14.4**	**0.0**
VRTB	**Varto-Mus**	**1.53**	**288**	P		**Pn**		**04 19 14.4**	**0.0**
VRTB	**Varto-Mus**	**1.53**	**288**	*e*Pn		**Pb**		**04 19 15.0**	**-0.4**
VRTB	**Varto-Mus**	**1.53**	**288**	Pn		**Pb**		**04 19 15.0**	**-0.4**
DIGO	**Kars**	**1.71**	**1**	*i* P		**Pb**		**04 19 18.7**	**+0.2**
DIGO				*i* S		**Sg**		**04 19 44.0**	**+2.1**
DIGO	**Kars**	**1.71**	**1**	P		**Pb**		**04 19 18.7**	**+0.2**
BNGL	**BINGOL**	**1.72**	**279**	*i* P		**Pb**		**04 19 18.0**	**-0.6**
BNGL				*i* S		**Sg**		**04 19 41.7**	**-0.5**
HOMI	**Horasan**	**1.74**	**321**	*i* P		**Pb**		**04 19 18.4**	**-0.6**
HOMI				*i* S		**Sg**		**04 19 42.2**	**-0.6**
NAX	**Nakhchivan**	**1.75**	**74**	⇓S		**Sb**		**04 19 41.4**	**+0.2**
NAX	**Nakhchivan**	**1.75**	**74**	S		**Sb**		**04 19 41.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.76**	**253**	*e*PN		**Pb**		**04 19 18.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.76**	**253**	⇓*i*P		**Pn**		**04 19 18.3**	**+0.9**
SVAN				*i* S		**Sb**		**04 19 41.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.76**	**253**	P		**Pn**		**04 19 18.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.76**	**253**	*e*Pn		**Pb**		**04 19 18.6**	**-0.6**
SVAN				S		**Sb**		**04 19 41.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.76**	**253**	Pn		**Pb**		**04 19 18.6**	**-0.6**
BTMN	**Batman**	**1.81**	**244**	*i* P		**Pb**		**04 19 19.6**	**-0.5**
BTMN				*i* S		**Sb**		**04 19 43.0**	**+0.1**
BTMN	**Batman**	**1.81**	**244**	P		**Pb**		**04 19 19.6**	**-0.5**
BTMN				S		**Sb**		**04 19 43.0**	**+0.1**
GNI	**Garni**	**1.81**	**37**	Pn		**Pb**		**04 19 19.8**	**-0.4**
65nm,0.3s,baz=296,slow=2.3,SNR=7.3									
GNI				Sn		**Sg**		**04 19 47.3**	**+2.2**
42nm,0.3s,baz=75,slow=20,SNR=6.2									
GNI	**Garni**	**1.81**	**37**	*e*P		**Pn**		**04 19 18.9**	**+0.7**
GNI								04 19 47.3	
GNI	**Garni**	**1.81**	**37**	*e*P		**Pn**		**04 19 18.9**	**+0.7**
GNI	**Garni**	**1.81**	**37**	*e*Pn		**Pn**		**04 19 18.9**	**+0.7**
GNI				Sn		**Sg**		**04 19 47.3**	**+2.2**
ERZM	**Erzurum**	**1.94**	**309**	*i* P		**Pb**		**04 19 21.4**	**-1.0**
ERZM	**Erzurum**	**1.94**	**309**	P		**Pb**		**04 19 21.5**	**-1.0**
EAK	**Akyaka**	**2.00**	**6**	*i* P		**Pb**		**04 19 24.1**	**+0.8**
EAK				*i* S		**Sg**		**04 19 56.6**	**+5.6**
SENK	**Senkaya-Erzuru**	**2.01**	**338**	*e*PN		**Pn**		**04 19 21.6**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.01**	**338**	*e*Pn		**Pn**		**04 19 21.6**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.04**	**297**	*i* P		**Pn**		**04 19 22.4**	**+1.0**
ECAT	**Cat-ERZURUM**	**2.04**	**297**	P		**Pn**		**04 19 22.4**	**+1.0**
BNGB	**Bing¶ll**	**2.09**	**279**	*e*PN		**Pn**		**04 19 22.9**	**+0.9**
BNGB	**Bing¶ll**	**2.09**	**279**	Pn		**Pn**		**04 19 23.5**	**+1.5**
BNGB	**Bing¶ll**	**2.09**	**279**	Pn		**Pn**		**04 19 23.5**	**+1.5**
BINT	**Bingol**	**2.23**	**275**	*e*Pn		**Pn**		**04 19 22.9**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.29**	**290**	*e*PN		**Pn**		**04 19 26.1**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.29**	**290**	*e*Pn		**Pn**		**04 19 26.1**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.29**	**290**	Pn		**Pn**		**04 19 26.5**	**+1.7**
MARD	**Mardin**	**2.44**	**236**	*i* P		**Pn**		**04 19 26.4**	**-0.4**
MARD	**Mardin**	**2.44**	**236**	*e*Pn		**Pn**		**04 19 27.4**	**+0.5**
MARD	**Mardin**	**2.44**	**236**	*e*Pn		**Pn**		**04 19 27.4**	**+0.5**
DDEM	**Demirkent**	**2.51**	**331**	*i* P		**Pb**		**04 19 31.5**	**-0.5**
KOPT	**Kop Dagi**	**2.56**	**302**	⇓*i*P		**Pb**		**04 19 32.1**	**-0.9**
KOPT				*i* S		**Sg**		**04 20 09.2**	**0.0**
KOPT	**Kop Dagi**	**2.56**	**302**	*e*Pn		**Pb**		**04 19 33.4**	**+0.4**
KOPT	**Kop Dagi**	**2.56**	**302**	*e*Pn		**Pb**		**04 19 33.4**	**+0.4**
MAZI	**Mazidag**	**2.59**	**242**	*e*PN		**Pn**		**04 19 31.1**	**+2.2**
MAZI	**Mazidag**	**2.59**	**242**	*e*Pn		**Pn**		**04 19 31.1**	**+2.2**
MAZI	**Mazidag**	**2.59**	**242**	Pn		**Pn**		**04 19 31.1**	**+2.2**
DAGI	**Agillar**	**2.61**	**336**	*i* P		**Pn**		**04 19 31.2**	**+2.0**
ARTV	**Artvin**	**2.71**	**337**	*i* P		**Pn**		**04 19 32.1**	**+1.6**
ARTV	**Artvin**	**2.71**	**337**	P		**Pn**		**04 19 32.2**	**+1.6**
ARTV	**Artvin**	**2.71**	**337**	*e*Pn		**Pb**		**04 19 35.6**	**+0.1**
GDB	**GEDABAY**	**2.75**	**42**	⇓P		**Pn**		**04 19 31.2**	**0.0**
SNR=5.9									
GDB				⇑S		**Sn**		**04 20 06.0**	**+1.4**
GDB	**GEDABAY**	**2.75**	**42**	P		**Pn**		**04 19 31.2**	**0.0**
SNR=5.9									
GDB				S		**Sn**		**04 20 06.0**	**+1.4**
QZX	**Qazax, Azerbai**	**2.83**	**33**	⇓P		**Pn**		**04 19 31.8**	**-0.3**
SNR=11									
QZX				⇑S		**Sn**		**04 20 07.3**	**+1.0**
QZX	**Qazax, Azerbai**	**2.83**	**33**	P		**Pn**		**04 19 31.8**	**-0.3**
SNR=11									
QZX				S		**Sn**		**04 20 07.3**	**+1.0**
EPOS	**Posof**	**2.84**	**351**	*i* P		**Pb**		**04 19 38.9**	**+1.2**
DBOC	**Borcka**	**2.94**	**335**	⇓*i*P		**Pb**		**04 19 38.9**	**-0.3**
ERZN	**Erzincan**	**2.94**	**289**	*e*PN		**Pn**		**04 19 35.2**	**+1.5**
ERZN	**Erzincan**	**2.94**	**289**	Pn		**Pn**		**04 19 36.1**	**+2.3**
ERZN	**Erzincan**	**2.94**	**289**	Pn		**Pn**		**04 19 36.1**	**+2.3**
TNCL	**Tunceli-Merkez**	**2.98**	**279**	*i* P		**Pn**		**04 19 36.1**	**+1.8**
TNCL	**Tunceli-Merkez**	**2.98**	**279**	P		**Pn**		**04 19 36.1**	**+1.8**
EUZM	**Uzumlu**	**3.00**	**291**	*i* P		**Pb**		**04 19 39.3**	**-1.0**
GANJ	**Ganja**	**3.02**	**49**	⇓P		**Pn**		**04 19 34.5**	**-0.2**
SNR=13									
GANJ				⇑S		**Sn**		**04 20 12.7**	**+1.8**
GANJ	**Ganja**	**3.02**	**49**	P		**Pn**		**04 19 34.5**	**-0.2**
SNR=13									
GANJ				S		**Sn**		**04 20 12.7**	**+1.8**
PTK	**Pertek**	**3.08**	**275**	*e*PN		**Pn**		**04 19 37.2**	**+1.5**
PTK	**Pertek**	**3.08**	**275**	Pn		**Pn**		**04 19 37.2**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*PN		**Pn**		**04 19 38.5**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	Pn		**Pn**		**04 19 37.6**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	Pn		**Pn**		**04 19 37.6**	**+0.7**
TBLG	**Delisi**	**3.21**	**19**	*e*PN		**Pn**		**04 19 38.8**	**+1.4**
TBLG	**Delisi**	**3.21**	**19**	*e*Pn		**Pn**		**04 19 38.8**	**+1.4**
EZC	**Erzincan**	**3.26**	**290**	*e*Pn		**Pn**		**04 19 35.2**	**-3.0**
BRDA	**Brd**	**3.36**	**61**	⇑S		**Sn**		**04 20 21.1**	**+1.8**
BRDA	**Brd**	**3.36**	**61**	S		**Sn**		**04 20 21.1**	**+1.8**
ELZG	**Elazig**	**3.41**	**268**	*i* P		**Pn**		**04 19 36.5**	**-3.8**
KELT	**Kelkit**	**3.47**	**296**	*i* P		**Pb**		**04 19 47.2**	**-1.3**
KELT				*i* S		**Sg**		**04 20 39.0**	**+0.6**
MNGR	**Mingechevir, A**	**3.56**	**53**	⇑P		**Pn**		**04 19 42.2**	**+0.1**
SNR=7.5									
MNGR				⇓S		**Sn**		**04 20 25.9**	**+1.7**
MNGR	**Mingechevir, A**	**3.56**	**53**	P		**Pn**		**04 19 42.2**	**+0.1**
SNR=7.5									
MNGR				S		**Sn**		**04 20 25.9**	**+1.7**
KTUT	**Trabzon**	**3.57**	**311**	*e*PN		**Pn**		**04 19 43.9**	**+1.6**
KTUT	**Trabzon**	**3.57**	**311**	*e*Pn		**Pn**		**04 19 43.9**	**+1.6**
KTUT	**Trabzon**	**3.57**	**311**	Pn		**Pn**		**04 19 45.3**	**+3.1**
ZRD	**Zardab**	**3.72**	**64**	⇓P		**Pn**		**04 19 44.4**	**+0.1**
SNR=5.4									
ZRD				⇓S		**Sn**		**04 20 30.0**	**+1.9**
ZRD	**Zardab**	**3.72**	**64**	P		**Pn**		**04 19 44.4**	**+0.1**
SNR=5.4									
ZRD				S		**Sn**		**04 20 30.0**	**+1.9**
KEMA	**Kemaliye**	**3.81**	**280**	*i* P		**Pn**		**04 19 49.8**	**+4.1**
ZKTA	**Zakatala**	**3.87**	**40**	⇑P		**Pn**		**04 19 46.5**	**+0.1**
SNR=4.7									
ZKTA				⇓S		**Sn**		**04 20 33.4**	**+1.5**
SEKA	**Sheki**	**3.89**	**49**	⇓P		**Pn**		**04 19 47.4**	**+0.7**
SNR=5.5									
SEKA				⇓S		**Sn**		**04 20 35.1**	**+2.7**
SEKA	**Sheki**	**3.89**	**49**	P		**Pn**		**04 19 47.4**	**+0.7**
SNR=5.5									
SEKA				S		**Sn**		**04 20 35.1**	**+2.7**
LRK	**Lerik**	**3.92**	**89**	⇓P		**Pn**		**04 19 47.6**	**+0.4**
SNR=5.7									
LRK				⇓S		**Sn**		**04 20 35.4**	**+2.0**
LRK	**Lerik**	**3.92**	**89**	P		**Pn**		**04 19 47.6**	**+0.4**
SNR=5.7									
LRK				S		**Sn**		**04 20 35.4**	**+2.0**
GLBA	**Clilabad**	**3.98**	**81**	⇓P		**Pn**		**04 19 48.2**	**+0.3**
SNR=5.0									
GLBA				⇑S		**Sn**		**04 20 36.6**	**+2.0**
GLBA	**Clilabad**	**3.98**	**81**	P		**Pn**		**04 19 48.2**	**+0.3**
SNR=5.0									
GLBA				S		**Sn**		**04 20 36.6**	**+2.0**
ZEI	**Tsey**	**4.11**	**6**	*e*P		**Pg**		**04 20 02.4**	**-3.1**
ZEI				pmax		pmax			
comp=Z,29nm,0.9s									
KDMR	**Kurdemir**	**4.11**	**64**	⇑P		**Pn**		**04 19 49.8**	**+0.2**
SNR=3.8									
KDMR				⇑S		**Sn**		**04 20 39.6**	**+1.9**
KDMR	**Kurdemir**	**4.11**	**64**	P		**Pn**		**04 19 49.8**	**+0.2**
SNR=3.8									
KDMR				S		**Sn**		**04 20 39.6**	**+1.9**
SAAT	**Saatly**	**4.12**	**72**	⇑S		**Sn**		**04 20 39.1**	**+1.1**
SAAT	**Saatly**	**4.12**	**72**	S		**Sn**		**04 20 39.1**	**+1.1**
QBL	**Gabala**	**4.13**	**56**	⇑P		**Pn**		**04 19 50.0**	**0.0**
SNR=4.8									
QBL				⇑S		**Sn**		**04 20 39.7**	**+1.3**
QBL	**Gabala**	**4.13**	**56**	P		**Pn**		**04 19 50.0**	**0.0**
SNR=4.8									
QBL				S		**Sn**		**04 20 39.7**	**+1.3**
SUSE	**Susehri**	**4.25**	**292**	*i* P		**Pb**		**04 20 02.3**	**+0.6**
LKRN	**Lenkeran, Azer**	**4.26**	**88**	⇑P		**Pn**		**04 19 52.1**	**+0.4**
SNR=4.4									
LKRN				⇓S		**Sn**		**04 20 43.2**	**+1.7**
LKRN	**Lenkeran, Azer**	**4.26**	**88**	P		**Pn**		**04 19 52.1**	**+0.4**
SNR=4.4									
LKRN				S		**Sn**		**04 20 43.2**	**+1.7**
ASTR	**Astara**	**4.28**	**90**	⇓P		**Pn**		**04 19 52.0**	**+0.1**
SNR=4.7									
ASTR				⇓S		**Sn**		**04 20 44.0**	**+2.1**
ASTR	**Astara**	**4.28**	**90**	P		**Pn**		**04 19 52.0**	**+0.1**
SNR=4.7									
ASTR				S		**Sn**		**04 20 44.0**	**+2.1**
IML	**Ismayilli**	**4.28**	**59**	⇑P		**Pn**		**04 19 51.9**	**-0.3**
SNR=3.3									
IML				⇑S		**Sn**		**04 20 43.4**	**+1.3**
IML	**Ismayilli**	**4.28**	**59**	P		**Pn**		**04 19 51.8**	**-0.3**
SNR=3.3									
IML				S		**Sn**		**04 20 43.4**	**+1.3**
XNQ	**Khinaliq**	**4.45**	**55**	⇑P		**Pn**		**04 19 54.1**	**-0.4**
SNR=5.8									
XNQ				⇑S		**Sn**		**04 20 47.6**	**+1.2**
XNQ	**Khinaliq**	**4.45**	**55**	P		**Pn**		**04 19 54.1**	**-0.4**
SNR=5.8									
XNQ				S		**Sn**		**04 20 47.6**	**+1.2**
CUZAR	**Zara_SIVAS**	**4.47**	**287**	*i* P		**Pg**		**04 20 09.9**	**-2.6**
GRSN	**GIRESUNGRSN**	**4.49**	**301**	*i* P		**Pb**		**04 20 06.5**	**+0.8**
PQL	**Pirkuli**	**4.56**	**61**	⇓P		**Pn**		**04 19 56.0**	**0.0**
SNR=6.1									
PQL	**Pirkuli**	**4.56**	**61**	P		**Pn**		**04 19 56.0**	**0.0**
SNR=6.1									
QSAR	**Qusar**	**4.71**	**52**	⇑P		**Pn**		**04 19 58.0**	**0.0**
SNR=3.7									
QSAR	**Qusar**	**4.71**	**52**	P		**Pn**		**04 19 58.0**	**0.0**
SNR=3.7									
QUBA	**Quba, Azerbaij**	**4.77**	**55**	⇓P		**Pn**		**04 19 58.6**	**-0.2**
SNR=5.9									
QUBA	**Quba, Azerbaij**	**4.77**	**55**	P		**Pn**		**04 19 58.6**	**-0.2**
SNR=5.9									
KBZ	**Khabaz**	**5.04**	**356**	Pn		Pn		04 20 07.5	+5.2
comp=Z,0.2nm,0.3s,baz=168,slow=16,SNR=3.6									
KIV	**Kislovodsk**	**5.27**	**355**	*e*P		**Pb**		**04 20 21.4**	**+2.3**
KIV				pmax		pmax			
comp=Z,29nm,1.1s									
KIV	**Kislovodsk**	**5.27**	**355**	*e*Pg		**Pg**		**04 20 23.5**	**-4.3**
KIV	**Kislovodsk**	**5.27**	**355**	*e*Pg		**Pg**		**04 20 23.4**	**-4.3**
KVAR	**Kislovodsk Arr**	**5.27**	**355**	Pn		**Pn**		**04 20 09.7**	**+4.0**
baz=90,slow=4.0,SNR=2.2									
TOKA	**Tokat**	**5.54**	**289**	*e*Pg		**Pg**		**04 20 32.2**	**-0.7**
TOKA	**Tokat**	**5.54**	**289**	*e*Pg		**Pg**		**04 20 32.2**	**-0.7**
BR131	**Keskin Array S**	**7.59**	**281**	*e*Pn		**Pn**		**04 20 41.9**	**+4.2**
BRTR	**Keskin Array B**	**7.59**	**281**	Pn		**Pn**		**04 20 38.8**	**+1.1**
comp=Z,0.1nm,0.3s,baz=123,slow=16,SNR=3.2									
MMAI	**Mount Meron Ar**	**8.57**	**231**	Pn		**Pn**		**04 20 52.3**	**+1.2**
comp=Z,1.1nm,0.3s,baz=72,slow=15,SNR=3.2									
GEYT	**Alibeck**	**11.64**	**89**	Pn		**Pn**		**04 21 32.3**	**-0.7**
comp=Z,0.8nm,0.3s,baz=275,slow=6.6,SNR=5.4									
RAYN	**Ar Rayn**	**15.24**	**172**	*e*Pn		**Pn**		**04 22 21.8**	**-0.3**
comp=Z,18nm,1.1s									
RAYN	**Ar Rayn**	**15.24**	**172**	*e*Pn		**Pn**		**04 22 21.8**	**-0.3**
comp=Z,18nm,1.1s									
AKASG	**Malin Array Be**	**15.61**	**325**	Pn		**Pn**		**04 22 26.4**	**-0.3**
comp=Z,0.7nm,0.3s,baz=137,slow=12,SNR=7.6									
AKBB	**Malin Array Si**	**15.61**	**325**	*e*P		**P**		**04 22 30.0**	**-0.9**
AKBB	**Malin Array Si**	**15.61**	**325**	*e*P		**P**		**04 22 30.0**	**-0.9**
AKBB	**Malin Array Si**	**15.61**	**325**	*e*Pn		**P**		**04 22 30.0**	**-0.9**
KIEV	**Kiev**	**15.61**	**325**	*e*P		**Pn**		**04 22 27.1**	**+0.4**
KIEV				pmax		pmax			
comp=Z,38nm,1.8s									
KIEV	**Kiev**	**15.61**	**325**	*e*Pn		**Pn**		**04 22 27.1**	**+0.4**
comp=Z,38nm,1.8s									
KIEV	**Kiev**	**15.61**	**325**	*e*Pn		**Pn**		**04 22 27.1**	**+0.4**
comp=Z,38nm,1.8s									
AKTO	**Aktyubinsk**	**15.69**	**37**	Pn		**Pn**		**04 22 26.5**	**-1.3**
comp=Z,0.3nm,0.3s,baz=223,slow=7.2,SNR=5.5									
VTS	**Vitosha**	**15.76**	**291**	*e*P		**P**		**04 22 33.8**	**+1.0**
VTS				pmax		pmax			
comp=Z,32nm,1.6s									
VTS	**Vitosha**	**15.76**	**291**	*e*P		**P**		**04 22 33.8**	**+1.0**
comp=Z,32nm,1.6s									
VTS	**Vitosha**	**15.76**	**291**	*e*Pn		**P**		**04 22 33.8**	**+1.0**
comp=Z,32nm,1.6s									
ABKAR	**Akbulak array**	**15.91**	**43**	*e*Pn		**Pn**		**04 22 29.8**	**-0.9**
comp=Z,22nm,0.8s									
ABKAR	**Akbulak array**	**15.91**	**43**	*e*Pn		**Pn**		**04 22 29.8**	**-0.9**
comp=Z,22nm,0.8s									
BUR08	**Bucovina Ar. S**	**15.93**	**310**	*e*Pn		**P**		**04 22 34.8**	**+0.1**
OBN	**Obninsk**	**17.04**	**347**	⇑*i*P		**P**		**04 22 47.0**	**+0.2**
OBN				pmax		pmax			
comp=Z,27nm,1.1s									
OBN	**Obninsk**	**17.04**	**347**	*i* P		**P**		**04 22 47.0**	**+0.2**
comp=Z,27nm,1.1s									
CRVS	**Cervenica-Dubn**	**18.73**	**310**	*e*P		**Pn**		**04 23 13.0**	**+7.1**
CRVS	**Cervenica-Dubn**	**18.73**	**310**	*e*P		**Pn**		**04 23 13.0**	**+7.1**
PSZ	**Piszkesteto**	**19.32**	**306**	*e*P		**Pn**		**04 23 13.3**	**+0.2**
PSZ				pmax		pmax			
comp=Z,11nm,1.1s									
PSZ	**Piszkesteto**	**19.32**	**306**	*e*P		**Pn**		**04 23 13.3**	**+0.2**
comp=Z,11nm,1.1s									
PSZ	**Piszkesteto**	**19.32**	**306**	*e*Pn		**Pn**		**04 23 13.3**	**+0.2**
comp=Z,11nm,1.1s									
VYHS	**Vyhne**	**20.18**	**307**	*e*P		Pn		04 23 28.2	+4.9
VYHS				pmax		pmax			
comp=Z,9.0nm,1.2s									
VYHS	**Vyhne**	**20.18**	**307**	*e*P		Pn		04 23 28.2	+4.9
OJC	**Ojcow**	**20.27**	**312**	*e*P		Pn		04 23 26.0	+1.7
OJC				pmax		pmax			
comp=Z,17nm,1.5s									
OJC	**Ojcow**	**20.27**	**312**	*e*P		Pn		04 23 26.0	+1.6
comp=Z,17nm,1.5s									
ARU	**Arti**	**20.42**	**25**	P		**P**		**04 23 22.8**	**-1.0**
comp=Z,12nm,0.2s,baz=223,slow=6.0,SNR=12									
ARU	**Arti**	**20.42**	**25**	*d i*P		**P**		**04 23 24.5**	**+0.7**
ARU								04 23 41.7	
ARU				S		**S**		**04 27 12.5**	**+0.2**
ARU				pmax		pmax			
comp=Z,26nm,1.2s									
ARU	**Arti**	**20.42**	**25**	*e*P		**P**		**04 23 24.3**	**+0.5**
comp=Z,20nm,1.0s									
ARU				S		**S**		**04 27 12.5**	**+0.2**
ARU	**Arti**	**20.42**	**25**	*e*P		**P**		**04 23 24.3**	**+0.5**
comp=Z,20nm,1.0s									
KKAR	**Karatay Array**	**20.97**	**69**	*e*P		**P**		**04 23 30.1**	**+0.1**
KKAR				pmax		pmax			
comp=Z,10.0nm,0.8s									
KKAR	**Karatay Array**	**20.97**	**69**	*e*P		**P**		**04 23 30.1**	**+0.1**
comp=Z,9.9nm,0.8s									
KKAR	**Karatay Array**	**20.97**	**69**	*e*P		**P**		**04 23 30.1**	**+0.1**
comp=Z,9.9nm,0.8s									
KBL	**Kabul**	**21.03**	**93**	*e*P		**P**		**04 23 32.2**	**+1.3**
KBL				pmax		pmax			
comp=Z,12nm,0.9s									
KBL	**

comp=Z,24nm,18.5s,baz=306,slow=39
BOSA Boshof 69.06 197 P **P 04 29 51.3 -1.6**
comp=Z,2.9nm,0.9s,baz=51,slow=6.5,SNR=2.8
URZ Urewera 144.11 104 PKP **PKPdf 04 38 23.2 +0.6**
comp=Z,6.8nm,0.9s,baz=233,slow=5.2,SNR=4.5

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*DDA **24** 04:21:33.5, 38°.84N×43°.54E, h5km, Ml3.5*
*ISK **24** 04:21:33.7, 38°.92N×43°.60E, h5km, ML3.2*
*ISCJB **24** 04:21:35.8±0.8, 38°.94N±0°.04×43°.63E±0°.09, h13km, Error ellipse: s-maj=9.7km s-min=5.1km az=166.3*
*CSEM **24** 04:21:35.3±0.5, 38°.93N×43°.56E, h2km, ML3.5, Error ellipse: s-maj=11.2km s-min=6.6km az=92.0*
ISC 24 04:21:34.3±1.0, 38°.87N±0°.03×43°.56E±0°.04, h13km, n37, σ0°86/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.68**	**216**	*i* P	**Pg**	**04 21 46.2**	**-1.3**
DYDN	**Diyadin**	**0.68**	**8**	*i* P	**Pg**	**04 21 47.2**	**-0.4**
DYDN	**Diyadin**	**0.68**	**8**	P	**Pg**	**04 21 47.2**	**-0.4**
TUTA	**Tutak**	**0.79**	**313**	*i* P	**Pg**	**04 21 48.6**	**-1.1**
TUTA	**Tutak**	**0.79**	**313**	P	**Pg**	**04 21 48.6**	**-1.1**
AGRB	**Hanur-Agry**	**0.83**	**328**	*e*PG	**Pg**	**04 21 49.8**	**-0.7**
AGRB				*e*SG	**Sb**	**04 22 02.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.83**	**328**	*e*Pg	**Pg**	**04 21 49.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**04 22 02.5**	**+0.5**
EKAR	**Karacoban**	**1.23**	**289**	*i* P	**Pg**	**04 21 58.7**	**+0.7**
EKAR	**Karacoban**	**1.23**	**289**	P	**Pg**	**04 21 58.7**	**+0.7**
EATA	**Eleskirt**	**1.29**	**320**	*i* P	**Pn**	**04 21 58.3**	**-0.1**
EATA	**Eleskirt**	**1.29**	**320**	P	**Pn**	**04 21 58.3**	**-0.1**
HAKT	**HAKKARI**	**1.31**	**175**	*i* P	**Pn**	**04 21 57.9**	**-0.6**
DIGO	**Kars**	**1.55**	**355**	*i* P	**Pg**	**04 22 04.1**	**-0.1**
DIGO	**Kars**	**1.55**	**355**	P	**Pg**	**04 22 04.1**	**-0.1**
CUKT	**Cukurca**	**1.62**	**179**	*e*PN	**Pg**	**04 22 05.6**	**+0.3**
CUKT				*e*SN	**Sg**	**04 22 27.8**	**+1.4**
CUKT	**Cukurca**	**1.62**	**179**	*e*Pn	**Pg**	**04 22 05.6**	**+0.3**
CUKT				*e*Sn	**Sg**	**04 22 27.8**	**+1.4**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*PN	**Pb**	**04 22 05.6**	**+0.7**
VRTB				*e*SN	**Sg**	**04 22 28.7**	**+0.7**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*Pn	**Pb**	**04 22 05.6**	**+0.7**
VRTB				*e*Sn	**Sg**	**04 22 28.7**	**+0.7**
HOMI	**Horasan**	**1.74**	**313**	*i* P	**Pg**	**04 22 07.1**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	*e*PN	**Pb**	**04 22 09.0**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	*e*Pn	**Pb**	**04 22 09.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*e*PN	**Pb**	**04 22 10.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*i* P	**Pb**	**04 22 10.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*e*Pn	**Pb**	**04 22 10.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	P	**Pb**	**04 22 10.4**	**+0.1**
ERZM	**Erzurum**	**1.99**	**302**	*i* P	**Pg**	**04 22 12.0**	**-0.5**
ERZM	**Erzurum**	**1.99**	**302**	P	**Pg**	**04 22 12.0**	**-0.5**
BTMN	**Batman**	**2.05**	**242**	*i* P	**Pb**	**04 22 10.9**	**-0.5**
BTMN	**Batman**	**2.05**	**242**	P	**Pb**	**04 22 10.9**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.14**	**291**	*i* P	**Pb**	**04 22 13.2**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.14**	**291**	P	**Pb**	**04 22 13.2**	**+0.1**
BNGB	**Bing¶ll**	**2.25**	**274**	*e*PN	**Pb**	**04 22 14.2**	**-0.7**
BINT	**Bingol**	**2.40**	**271**	*e*Pn	**Pn**	**04 22 14.2**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.42**	**285**	*e*PN	**Pb**	**04 22 16.5**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.42**	**285**	*e*Pn	**Pb**	**04 22 16.5**	**-1.2**
MAZI	**Mazidag**	**2.83**	**241**	*e*PN	**Pb**	**04 22 22.5**	**-2.2**
MAZI	**Mazidag**	**2.83**	**241**	*e*Pn	**Pb**	**04 22 22.5**	**-2.2**

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*CSEM **24** 04:30:27.9±0.8, 38°.65N×43°.59E, h2km, ML2.6, Error ellipse: s-maj=20.1km s-min=8.2km az=83.0*
*DDA **24** 04:30:27.4, 38°.65N×43°.60E, h6km, Ml2.6*
*ISCJB **24** 04:30:28.9±1.3, 38°.67N±0°.04×43°.6E±0°.1, h13km, Error ellipse: s-maj=13.6km s-min=6.2km az=177.0*
*ISK **24** 04:30:32.6, 38°.75N×43°.13E, h5km, MD3.1*
ISC 24 04:30:27.6±1.4, 38°.67N±0°.04×43°.66E±0°.08, h13km, n32, σ1°33/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.59**	**233**	*i* P	**Pg**	**04 30 38.1**	**-1.0**
GEVA	**Gevas**	**0.59**	**233**	P	**Pg**	**04 30 38.1**	**-1.0**
TUTA	**Tutak**	**0.98**	**319**	*i* P	**Pg**	**04 30 45.0**	**-1.7**
TUTA	**Tutak**	**0.98**	**319**	P	**Pg**	**04 30 45.0**	**-1.7**
AGRB	**Hanur-Agry**	**1.04**	**331**	*e*PG	**Pn**	**04 30 49.1**	**+1.0**
AGRB				*e*SG	**Sb**	**04 31 01.0**	**-0.3**
AGRB	**Hanur-Agry**	**1.04**	**331**	*e*Pg	**Pn**	**04 30 49.1**	**+1.0**
AGRB				*e*Sg	**Sb**	**04 31 01.0**	**-0.3**
HAKT	**HAKKARI**	**1.11**	**178**	*i* P	**Pb**	**04 30 48.6**	**-0.1**
HAKT	**HAKKARI**	**1.11**	**178**	P	**Pb**	**04 30 48.6**	**-0.1**
EKAR	**Karacoban**	**1.37**	**296**	*i* P	**Pb**	**04 30 53.9**	**+0.6**
EKAR	**Karacoban**	**1.37**	**296**	P	**Pb**	**04 30 53.9**	**+0.6**
CUKT	**Cukurca**	**1.42**	**182**	*e*PN	Pg	04 31 01.9	+7.1
EATA	**Eleskirt**	**1.50**	**323**	*i* P	**Pn**	**04 30 55.6**	**+1.1**
EATA	**Eleskirt**	**1.50**	**323**	P	**Pn**	**04 30 55.6**	**+1.1**
VRTB	**Varto-Mus**	**1.79**	**287**	*e*PN	**Pb**	**04 30 59.7**	**-0.5**
VRTB	**Varto-Mus**	**1.79**	**287**	*e*Pn	**Pb**	**04 30 59.7**	**-0.5**
HOMI	**Horasan**	**1.93**	**316**	*i* P	**Pg**	**04 31 04.6**	**-0.1**
BNGL	**BINGOL**	**1.98**	**279**	*i* P	**Pn**	**04 31 02.1**	**+1.1**
SVAN	**Silvan-Diyarba**	**2.00**	**256**	*e*PN	**Pn**	**04 31 02.2**	**+1.1**
SVAN				*e*SN	**Sn**	**04 31 24.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.00**	**256**	*e*Pn	**Pn**	**04 31 02.2**	**+1.1**
SVAN				*e*Sn	**Sn**	**04 31 24.8**	**-1.2**
BTMN	**Batman**	**2.03**	**248**	*i* P	**Pn**	**04 31 03.3**	**+1.7**
BTMN	**Batman**	**2.03**	**248**	P	**Pn**	**04 31 03.3**	**+1.7**
ERZM	**Erzurum**	**2.17**	**306**	*i* P	**Pb**	**04 31 08.3**	**+1.5**
BNGB	**Bing¶ll**	**2.35**	**279**	*e*PN	**Pn**	**04 31 06.5**	**+0.6**
BINT	**Bingol**	**2.48**	**276**	*e*Pn	**Pn**	**04 31 06.5**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.54**	**289**	*e*PN	**Pn**	**04 31 10.5**	**+1.8**
YEDI	**Yedisu-Bingol**	**2.54**	**289**	*e*Pn	**Pn**	**04 31 10.5**	**+1.8**
MAZI	**Mazidag**	**2.80**	**246**	*e*PN	**Pn**	**04 31 14.1**	**+1.8**
MAZI	**Mazidag**	**2.80**	**246**	*e*Pn	**Pn**	**04 31 14.1**	**+1.8**
PTK	**Pertek**	**3.34**	**275**	*e*PN	**Pn**	**04 31 21.3**	**+1.6**
PTK	**Pertek**	**3.34**	**275**	*e*Pn	**Pn**	**04 31 21.3**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.42**	**267**	*e*PN	**Pn**	**04 31 22.8**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.42**	**267**	*e*Pn	**Pn**	**04 31 22.8**	**+2.0**

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*NEIC **24** 04:30:59.9±0.0, 41°.32S×172°.39E, h5km, ML4.5(WEL), After WEL.*
NEIC Felt at Karamea.
WEL 24 04:30:59.9±0.1, 41°.33S×172°.43E, h5km, ML4.5/72, Mw4.1, 9C-5D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, 6., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.51**	**8**	⇑Pg	Pg	04 31 09.9	+0.3
QRZ				Sg	Sg	04 31 16.5	+0.4
QRZ	**Quartz Range**	**0.51**	**8**	⇑PG	Pg	04 31 09.9	+0.3
QRZ				SG	Sg	04 31 16.5	+0.4
QRZ				AML	AML	04 31 17.1	
QRZ				AML	AML	04 31 17.7	
QRZ				AML	AML	04 31 17.7	
THZ	**Tophouse**	**0.56**	**141**	P*	Pg	04 31 11.1	+0.4
THZ				Sg	Sg	04 31 18.9	+0.9
THZ	**Tophouse**	**0.56**	**141**	PG	Pg	04 31 11.1	+0.4
THZ				SG	Sg	04 31 18.9	+0.9
THZ				AML	AML	04 31 20.0	
DSZ	**Denniston Nort**	**0.63**	**228**	⇑P*	Pg	04 31 12.0	0.0
DSZ				Sg	Sg	04 31 19.9	-0.2
DSZ	**Denniston Nort**	**0.63**	**228**	⇑P*	Pg	04 31 12.0	0.0
DSZ				SG	Sg	04 31 19.9	-0.2
DSZ				AML	AML	04 31 20.7	
DSZ				AML	AML	04 31 20.7	
DSZ				AML	AML	04 31 21.3	
NNZ	**Nelson**	**0.72**	**82**	P*	Pg	04 31 14.0	+0.2
NNZ	**Nelson**	**0.72**	**82**	⇑P*	Pg	04 31 14.0	+0.2
NNZ				AML	AML	04 31 25.9	
NNZ				AML	AML	04 31 29.7	
NNZ				AML	AML	04 31 29.8	
NNZ				AML	AML	04 31 30.6	
TUWZ	**Tuamarina**	**1.14**	**96**	P*	Pg	04 31 21.2	-0.5
TUWZ	**Tuamarina**	**1.14**	**96**	P*	Pg	04 31 21.2	-0.5
TUWZ				AML	AML	04 31 41.3	
TUWZ				AML	AML	04 31 42.8	
BSWZ	**Blackbirch Sta**	**1.15**	**110**	P*	Pb	04 31 22.4	+0.2
BSWZ	**Blackbirch Sta**	**1.15**	**110**	⇓P*	Pb	04 31 22.4	+0.2
BSWZ				AML	AML	04 31 40.1	
BSWZ				AML	AML	04 31 43.1	
DUWZ	**D'Urville Isla**	**1.24**	**66**	P*	Pg	04 31 23.0	-0.7
DUWZ	**D'Urville Isla**	**1.24**	**66**	P*	Pg	04 31 23.0	-0.7
DUWZ				AML	AML	04 31 44.0	
DUWZ				AML	AML	04 31 45.5	
KHZ	**Kahutara**	**1.37**	**143**	⇓Pn	Pg	04 31 26.9	+0.8
KHZ	**Kahutara**	**1.37**	**143**	⇓PN	Pg	04 31 26.9	+0.8
KHZ				AML	AML	04 31 49.8	
KHZ				AML	AML	04 31 49.8	
KHZ				AML	AML	04 31 49.8	
TCW	**Tory Channel**	**1.40**	**86**	Pn	Pn	04 31 25.8	-0.2
TCW	**Tory Channel**	**1.40**	**86**	PN	Pn	04 31 25.8	-0.2
TCW				AML	AML	04 31 47.4	
TCW				AML	AML	04 31 48.5	
CMWZ	**Cape Campbell**	**1.40**	**108**	Pn	Pg	04 31 27.9	+1.1
CMWZ	**Cape Campbell**	**1.40**	**108**	PN	Pg	04 31 27.9	+1.1
CMWZ				AML	AML	04 31 51.8	
CMWZ				AML	AML	04 31 58.6	
LTZ	**Lake Taylor**	**1.46**	**185**	Pn	Pn	04 31 26.9	0.0
LTZ	**Lake Taylor**	**1.46**	**185**	PN	Pn	04 31 26.9	0.0
LTZ				AML	AML	04 31 48.4	
INZ	**Inchbonnie**	**1.58**	**207**	PN	Pn	04 31 27.4	-1.1
SNZO	**South Karori**	**1.71**	**90**	*e*Pn	Pb	04 31 31.5	-0.3
SNZO				*e*S	Sg	04 31 54.6	-0.3
WEL	**Wellington**	**1.76**	**89**	AML	AML	04 31 59.3	
WEL				AML	AML	04 31 59.3	
WEL				AML	AML	04 32 00.1	
WEL				AML	AML	04 32 00.3	
BHW	**Baring Head**	**1.84**	**93**	Pn	Pb	04 31 33.7	-0.3
BHW	**Baring Head**	**1.84**	**93**	PN	Pb	04 31 33.7	-0.3
BHW				AML	AML	04 32 02.8	
BHW				AML	AML	04 32 03.0	
KIW	**Kapiti Island**	**1.93**	**77**	Pn	Pb	04 31 35.0	-0.6
KIW	**Kapiti Island**	**1.93**	**77**	PN	Pb	04 31 35.0	-0.6
KIW				AML	AML	04 32 05.0	
KIW				AML	AML	04 32 05.9	
CAW	**Cannon Point**	**2.00**	**85**	Pn	Pb	04 31 36.1	-0.6
CAW	**Cannon Point**	**2.00**	**85**	PN	Pb	04 31 36.1	-0.6
CAW				AML	AML	04 32 07.6	
CAW				AML	AML	04 32 08.6	
OXZ	**Oxford**	**2.02**	**188**	Pn	Pn	04 31 34.9	+0.3
OXZ	**Oxford**	**2.02**	**188**	PN	Pn	04 31 34.9	+0.3
OXZ				AML	AML	04 32 08.5	
OXZ				AML	AML	04 32 08.5	
OXZ				AML	AML	04 32 08.5	
OXZ				AML	AML	04 32 08.5	
MSWZ	**Moikau Station**	**2.12**	**93**	Pn	Pn	04 31 37.0	+1.0
MSWZ	**Moikau Station**	**2.12**	**93**	PN	Pn	04 31 37.0	+1.0
MSWZ				AML	AML	04 32 06.6	
MSWZ				AML	AML	04 32 15.9	
OGWZ	**Otaki Gorge**	**2.13**	**77**	Pn	Pb	04 31 38.2	-0.7
OGWZ	**Otaki Gorge**	**2.13**	**77**	PN	Pb	04 31 38.2	-0.7
OGWZ				AML	AML	04 32 09.5	
OGWZ				AML	AML	04 32 10.3	
PLWZ	**Palliser**	**2.14**	**97**	Pn	Pn	04 31 36.9	+0.7
PLWZ	**Palliser**	**2.14**	**97**	PN	Pn	04 31 36.9	+0.7
PLWZ				AML	AML	04 32 11.9	
PLWZ				AML	AML	04 32 12.1	
WVZ	**Waitaha Valley**	**2.15**	**215**	Pn	Pn	04 31 35.2	-1.2
WVZ	**Waitaha Valley**	**2.15**	**215**	PN	Pn	04 31 35.2	-1.2
WVZ				AML	AML	04 32 08.9	
WVZ				AML	AML	04 32 11.7	
NMEZ	**Namu Road**	**2.21**	**31**	Pn	Pn	04 31 37.8	+0.7
NMEZ	**Namu Road**	**2.21**	**31**	PN	Pn	04 31 37.8	+0.7
PAWZ	**Paruwai Farm**	**2.26**	**92**	AML	AML	04 32 16.7	
PAWZ				AML	AML	04 32 18.0	
NWEZ	**Newall Road**	**2.33**	**29**	Pn	Pn	04 31 39.2	+0.4
NWEZ	**Newall Road**	**2.33**	**29**	PN	Pn	04 31 39.2	+0.4
KHEZ	**Kahui Hut**	**2.36**	**31**	Pn	Pn	04 31 40.2	+0.8
KHEZ	**Kahui Hut**	**2.36**	**31**	PN	Pn	04 31 40.2	+0.8
HOWZ	**Holdsworth Sta**	**2.37**	**81**	Pn	Pn	04 31 40.4	+1.0
HOWZ	**Holdsworth Sta**	**2.37**	**81**	PN	Pn	04 31 40.4	+1.0
HOWZ				AML	AML	04 32 17.2	
HOWZ				AML	AML	04 32 17.3	
PREZ	**Palmer Road**	**2.38**	**34**	Pn	Pn	04 31 40.5	+0.9
PREZ	**Palmer Road**	**2.38**	**34**	PN	Pn	04 31 40.5	+0.9
PREZ				AML	AML	04 32 29.2	
PREZ				AML	AML	04 32 29.6	
MQZ	**McQueen's Vall**	**2.38**	**176**	Pn	Pn	04 31 38.6	-1.0
MQZ	**McQueen's Vall**	**2.38**	**176**	PN	Pn	04 31 38.6	-1.0
MQZ				AML	AML	04 32 15.0	
MQZ				AML	AML	04 32 18.7	
LREZ	**Lake Rotokare**	**2.40**	**40**	AML	AML	04 32 25.3	
LREZ				AML	AML	04 32 38.8	
NEZ	**North Egmont**	**2.42**	**32**	Pn	Pn	04 31 40.9	+0.8
NEZ	**North Egmont**	**2.42**	**32**	⇑PN	Pn	04 31 40.9	+0.8
PKE	**Pukeiti**	**2.44**	**30**	Pn	Pn	04 31 41.1	+0.7
PKE	**Pukeiti**	**2.44**	**30**	PN	Pn	04 31 41.1	+0.7
PKE				AML	AML	04 32 21.6	
PKE				AML	AML	04 32 24.1	
TRWZ	**Traveller**	**2.45**	**93**	Pn	Pn	04 31 41.4	+0.8
TRWZ	**Traveller**	**2.45**	**93**	PN	Pn	04 31 41.3	+0.8
TRWZ				AML	AML	04 32 13.3	
TRWZ				AML	AML	04 32 44.1	
OHWZ	**Ohakea**	**2.46**	**64**	PN	Pb	04 31 43.5	-1.1
MRZ	**Mangatainoka R**	**2.47**	**75**	Pn	Pn	04 31 42.0	+1.2
MRZ	**Mangatainoka R**	**2.47**	**75**	PN	Pn	04 31 42.0	+1.2
MRZ				AML	AML	04 32 17.7	
MRZ				AML	AML	04 32 19.9	
WAZ	**Wanganui**	**2.50**	**52**	Pn	Pn	04 31 43.1	+1.9
WAZ	**Wanganui**	**2.50**	**52**	PN	Pn	04 31 43.1	+1.8
WAZ				AML	AML	04 32 28.5	
WAZ				AML	AML	04 32 30.0	
RPZ	**Rata Peaks**	**2.59**	**203**	Pn	Pn	04 31 42.5	0.0
RPZ	**Rata Peaks**	**2.59**	**203**	PN	Pn	04 31 42.5	0.0
RPZ				AML	AML	04 32 33.5	
RPZ				AML	AML	04 32 41.1	
PRWZ	**Pori Road**	**2.79**	**75**	Pn	Pn	04 31 46.0	+0.8
PRWZ	**Pori Road**	**2.79**	**75**	PN	Pn	04 31 46.0	+0.8
PRWZ				AML	AML	04 32 38.1	
PRWZ				AML	AML	04 32 38.8	
VRZ	**Vera Road**	**2.83**	**40**	Pn	Pn	04 31 46.4	+0.7
VRZ	**Vera Road**	**2.83**	**40**	PN	Pn	04 31 46.4	+0.7
VRZ				AML	AML	04 32 39.2	
VRZ				AML	AML	04 32 46.9	
FOZ	**Fox Glacier**	**2.93**	**220**	Pn	Pn	04 31 45.8	-1.3
FOZ	**Fox Glacier**	**2.93**	**220**	⇑PN	Pn	04 31 45.8	-1.3
FOZ				AML	AML	04 32 35.9	
FOZ				AML	AML	04 32 35.9	
FOZ				AML	AML	04 32 36.0	
FOZ				AML	AML	04 32 40.9	
BFZ	**Birch Farm**	**2.96**	**79**	AML	AML	04 32 38.7	
BFZ				AML	AML	04 32 39.8	
TSZ	**Takapari Road**	**2.97**	**66**	AML	AML	04 32 42.7	
TSZ				AML	AML	04 32 42.8	
DVHZ	**Dannevirke**	**3.02**	**71**	AML	AML	04 32 41.7	
DVHZ				AML	AML	04 32 42.4	
MTVZ	**Mangateitei**	**3.03**	**51**	AML	AML	04 32 52.5	
MTVZ				AML	AML	04 32 52.7	
TRVZ	**Turoa**	**3.13**	**51**	Pn	Pn	04 31 51.6	+1.6
TRVZ	**Turoa**	**3.13**	**51**	PN	Pn	04 31 51.6	+1.6
TRVZ				AML	AML	04 32 43.7	
TRVZ				AML	AML	04 32 52.7	
WNVZ	**Wahianoa**	**3.14**	**52**	Pn	Pn	04 31 51.9	+1.8
WNVZ	**Wahianoa**	**3.14**	**52**	⇑PN	Pn	04 31 51.9	+1.8
DRZ	**Dome Shelter**	**3.15**	**50**	AML	AML	04 32 48.2	
DRZ				AML	AML	04 32 51.1	
FWVZ	**Far West T-bar**	**3.16**	**50**	Pn	Pn	04 31 51.7	+1.2
FWVZ	**Far West T-bar**	**3.16**	**50**	PN	Pn	04 31 51.7	+1.2
FWVZ				AML	AML	04 32 47.4	
FWVZ				AML	AML	04 32 47.7	
WHVZ	**Whangaehu Hut**	**3.16**	**51**	AML	AML	04 32 46.8	
WHVZ				AML	AML	04 32 58.9	
MOVZ	**Moawhango**	**3.18**	**54**	Pn	Pn	04 31 52.7	+2.1
MOVZ	**Moawhango**	**3.18**	**54**	PN	Pn	04 31 52.7	+2.1
MOVZ				AML	AML	04 32 46.1	
MOVZ				AML	AML	04 32 51.7	
PNHZ	**Pukenui**	**3.20**	**65**	AML	AML	04 32 50.1	
PNHZ				AML	AML	04 32 51.4	
TUVZ	**Tukino**	**3.21**	**51**	Pn	Pn	04 31 53.5	+2.4
TUVZ	**Tukino**	**3.21**	**51**	PN	Pn	04 31 53.5	+2.4
TUVZ				AML	AML	04 32 52.4	
TUVZ				AML	AML	04 32 58.7	
TWVZ	**Taurewa**	**3.22**	**47**	Pn	Pn	04 31 52.5	+1.2
TWVZ	**Taurewa**	**3.22**	**47**	PN	Pn	04 31 52.5	+1.2
TWVZ				AML	AML	04 32 50.8	
TWVZ				AML	AML	04 32 54.5	
NGZ	**Ngauruhoe**	**3.24**	**50**	AML	AML	04 32 55.3	
NGZ				AML	AML	04 33 02.2	
WTVZ	**West Tongariro**	**3.27**	**49**	AML	AML	04 32 57.7	
WTVZ				AML	AML	04 33 00.3	
OTVZ	**Oturere**	**3.29**	**50**	Pn	Pn	04 31 54.3	+2.1
OTVZ	**Oturere**	**3.29**	**50**	PN	Pn	04 31 54.3	+2.1
OTVZ				AML	AML	04 32 51.0	
OTVZ				AML	AML	04 33 07.2	
KRVZ	**Karewarewa**	**3.32**	**49**	Pn	Pn	04 31 54.3	+1.7
KRVZ	**Karewarewa**	**3.32**	**49**	PN	Pn	04 31 54.3	+1.7
KRVZ				AML	AML	04 32 50.1	
KRVZ				AML	AML	04 33 04.8	
BHHZ	**Black Hill Sta**	**3.33**	**58**	AML	AML	04 32 48.4	
BHHZ				AML	AML	04 32 51.3	
HIZ	**Hauiti**	**3.37**	**34**	Pn	Pn	04 31 55.0	+1.8
HIZ	**Hauiti**	**3.37**	**34**	PN	Pn	04 31 55.0	+1.8
HIZ				AML	AML	04 32 50.5	
HIZ				AML	AML	04 32 50.7	
KATZ	**Kakaramea**	**3.43**	**48**	AML	AML	04 32 56.3	
KATZ				AML	AML	04 33 03.6	
KRHZ	**Kereru**	**3.44**	**62**	PN	Pn	04 31 54.7	+0.5
KRHZ				AML	AML	04 32 50.6	
KRHZ				AML	AML	04 33 04.3	
LBZ	**Lake Benmore**	**3.48**	**208**	AML	AML	04 32 56.6	
LBZ				AML	AML	04 33 00.2	
RATZ	**Rangitukua**	**3.55**	**47**	AML	AML	04 33 31.8	
RATZ				AML	AML	04 33 31.8	
KWHZ	**Kaweka Forest**	**3.59**	**59**	PN	Pn	04 31 57.0	+0.7
KWHZ				AML	AML	04 33 05.3	
KWHZ				AML	AML	04 33 07.9	
PXZ	**Pawanui**	**3.61**	**70**	AML	AML	04 33 07.6	
PXZ				AML	AML	04 33 17.8	
KAHZ	**Kahuranaki**	**3.72**	**67**	AML	AML	04 33 14.9	
KAHZ				AML	AML	04 33 23.5	
BKZ	**Black Stump Fm**	**3.78**	**57**	AML	AML	04 33 09.7	
BKZ				AML	AML	04 33 09.7	
TLZ	**Tolley Road**	**3.83**	**40**	Pn	Pn	04 31 59.9	+0.4
TLZ	**Tolley Road**	**3.83**	**40**	⇑PN	Pn	04 31 59.9	+0.4
TLZ				AML	AML	04 33 04.7	
TLZ				AML	AML	04 33 11.9	
JCZ	**Jackson Bay**	**3.84**	**223**	PN	Pn	04 31 58.3	-1.4
JCZ				AML	AML	04 33 17.3	
JCZ				AML	AML	04 33 18.6	
ODZ	**Otahua Downs**	**3.94**	**199**	Pn	Pn	04 31 60.0	-1.0
ODZ	**Otahua Downs**	**3.94**	**199**	⇓PN	Pn	04 31 60.0	-1.0
ODZ				AML	AML	04 33 03.7	
ODZ				AML	AML	04 33 10.4	
WKZ	**Wanaka**	**4.30**	**214**	AML	AML	04 33 30.4	
WKZ				AML	AML	04 33 30.8	
TOZ	**Tahuroa Road**	**4.30**	**34**	AML	AML	04 33 18.5	
TOZ				AML	AML	04 33 21.7	
EAZ	**Earnscleugh**	**4.52**	**209**	AML	AML	04 33 02.8	
EAZ				AML	AML	04 33 42.6	
AWAZ	**Awhitu Peninsu**	**4.59**	**23**	PN	Pn	04 32 10.3	+0.4
KNZ	**Kokohu**	**4.63**	**62**	AML	AML	04 33 51.0	
KNZ				AML	AML	04 34 13.0	
MSZ	**Milford Sound**	**4.70**	**223**	Pn	Pn	04 32 11.0	-0.4
MSZ	**Milford Sound**	**4.70**	**223**	PN	Pn	04 32 11.0	-0.4
MSZ				AML	AML	04 33 04.5	
MSZ				AML	AML	04 33 16.8	
MKAZ	**Moumakai**	**4.72**	**28**	Pn	Pn	04 32 12.1	+0.4
MKAZ	**Moumakai**	**4.72**	**28**	PN	Pn	04 32 12.1	+0.4
MKAZ				AML	AML	04 33 54.3	
MKAZ				AML	AML	04 33 57.5	
URZ	**Urewera**	**4.73**	**51**	AML	AML	04 33 43.0	
URZ				AML	AML	04 33 43.3	
ETAZ	**East Tamaki Re**	**4.78**	**25**	Pn	Pn	04 32 13.1	+0.5
ETAZ	**East Tamaki Re**	**4.78**	**25**	PN	Pn	04 32 13.0	+0.5
RVAZ	**Riverhead Bore**	**4.85**	**21**	Pn	Pn	04 32 14.1	+0.6
RVAZ	**Riverhead Bore**	**4.85**	**21**	PN	Pn	04 32 14.1	+0.6
WIAZ	**Waiheke Island**	**4.99**	**26**	⇓PN	Pn	04 32 16.2	+0.8
WIAZ				AML	AML	04 32 30.5	
WIAZ				AML	AML	04 33 13.5	
TUZ	**Tuapeka**	**5.05**	**203**	AML	AML	04 33 49.2	
TUZ				AML	AML	04 34 46.7	
KUZ	**Kuaotunu**	**5.24**	**30**	Pn	Pn	04 32 18.5	-0.3
KUZ	**Kuaotunu**	**5.24**	**30**	PN	Pn	04 32 18.5	-0.3
WCZ	**Waipu Caves**	**5.58**	**16**	AML	AML	04 33 28.6	
OUZ	**Omahuta**	**6.17**	**9**	P

SVAN Silvan-Diyarba 1.66 255 *e*Pn **Pn 04 43 32.0 +0.9**
SVAN S **Sb 04 43 54.1 +0.6**
SVAN *e*Sn **Sg 04 43 55.1 -0.3**
SVAN Silvan-Diyarba 1.66 255 Pn **Pn 04 43 31.9 +0.9**
BNGL BINGOL 1.66 283⇑*i*P **Pn 04 43 31.6 +0.2**
BNGL *i* S **Sb 04 43 54.7 +0.9**
BTMN Batman 1.69 246⇑*i*P **Pn 04 43 31.9 +0.2**
BTMN *i* S **Sg 04 43 56.4 -0.3**
BTMN Batman 1.69 246 P **Pn 04 43 31.9 +0.2**
HOMI Horasan 1.77 325⇑*i*P **Pn 04 43 32.7 -0.2**
DIGO Kars 1.82 4⇑*i*P **Pn 04 43 33.5 0.0**
DIGO *i* S **Sg 04 44 00.0 -0.8**
DIGO Kars 1.82 4 P **Pn 04 43 33.5 0.0**
DIGO S **Sg 04 44 00.0 -0.8**
NAX Nakhchivan 1.86 71⇑P **Pn 04 43 34.6 +0.6**
SNR=16
NAX ⇓S **Sb 04 43 58.3 -1.1**
NAX Nakhchivan 1.86 71 P **Pn 04 43 34.6 +0.6**
SNR=16
NAX S **Sb 04 43 58.3 -1.1**
ISHB Shabestar 1.90 99 *e*Pn **Pn 04 43 35.3 +0.7**
ISHB *e*AMB AMB 04 43 40.9
comp=Z,27µm,0.2s
IMRD Marand 1.94 86 *e*Pn **Pn 04 43 35.8 +0.7**
IMRD *e*AMB AMB 04 44 23.0
comp=Z,83µm,0.4s
IMRD Marand 1.94 86 *e*Pn **Pn 04 43 35.8 +0.7**
GNI Garni 1.95 37 Pn **Pn 04 43 35.3 +0.1**
comp=Z,18nm,0.3s,baz=259,slow=2.8,SNR=94
GNI LR LR 04 44 39.2
comp=Z,2µm,18.4s,baz=222,slow=51
ERZM Erzurum 1.95 313⇑*i*P **Pn 04 43 36.1 +0.7**
ERZM Erzurum 1.95 313 P **Pn 04 43 36.1 +0.7**
ECAT Cat-ERZURUM 2.02 301⇑*i*P **Pn 04 43 36.5 +0.2**
ECAT Cat-ERZURUM 2.02 301 P **Pn 04 43 36.5 +0.2**
BNGB Bing¶ll 2.03 282 *e*PN **Pn 04 43 35.9 -0.4**
BNGB Bing¶ll 2.03 282 Pn **Pb 04 43 38.1 -1.0**
BNGB Bing¶ll 2.03 282 Pn **Pb 04 43 38.1 -1.0**
SENK Senkaya-Erzuru 2.08 341 *e*PN **Pn 04 43 37.0 -0.1**
SENK Senkaya-Erzuru 2.08 341 *e*Pn **Pn 04 43 37.0 -0.1**
EAK Akyaka 2.11 8⇑*i*P **Pn 04 43 37.9 +0.4**
EAK Akyaka 2.11 8 P **Pn 04 43 37.8 +0.4**
BINT Bingol 2.16 278 P **Pn 04 43 38.0 -0.1**
BINT Bingol 2.16 278 *e*Pn **Pn 04 43 35.9 -2.2**
BINT Bingol 2.16 278 P **Pn 04 43 38.0 -0.1**
YEDI Yedisu-Bingol 2.25 293 *e*PN **Pn 04 43 40.2 +0.8**
YEDI Yedisu-Bingol 2.25 293 *e*Pn **Pn 04 43 40.2 +0.8**
YEDI Yedisu-Bingol 2.25 293 Pn **Pb 04 43 41.6 -1.3**
MARD Mardin 2.32 237⇑*i*P **Pn 04 43 40.4 +0.2**
MARD *i* S **Sg 04 44 16.5 -0.3**
MARD Mardin 2.32 237 *e*Pn **Pn 04 43 40.5 +0.2**
MARD Mardin 2.32 237 *e*Pn **Pn 04 43 40.5 +0.2**
ITBZ Tabriz 2.32 98 *e*Pn **Pn 04 43 41.2 +0.9**
ITBZ *e*AMB AMB 04 43 54.3
comp=Z,10µm,0.4s
ITBZ Tabriz 2.32 98 *e*Pn **Pn 04 43 41.2 +0.9**
MAZI Mazidag 2.47 244 *e*PN **Pn 04 43 43.4 +1.0**
MAZI Mazidag 2.47 244 *e*Pn **Pn 04 43 43.4 +1.0**
MAZI Mazidag 2.47 244 Pn **Pb 04 43 44.8 -1.8**
KOPT Kop Dagi 2.55 305⇑*i*P **Pn 04 43 44.2 +0.6**
KOPT Kop Dagi 2.55 305 P **Pn 04 43 44.2 +0.6**
KOPT Kop Dagi 2.55 305 *e*Pn **Pn 04 43 44.8 +1.2**
KOPT Kop Dagi 2.55 305 *e*Pn **Pn 04 43 44.8 +1.2**
DDEM Demirkent 2.56 334 *i* P **Pn 04 43 45.0 +1.4**
DDEM Demirkent 2.56 334 P **Pn 04 43 45.0 +1.4**
DAGI Agillar 2.68 338 *i* P **Pb 04 43 47.9 -2.2**
BGD Bogdanovka 2.68 6 P **Pb 04 43 49.8 -0.5**
BGD S **Sg 04 44 35.5 +7.2**
ARTV Artvin 2.77 339 *i* P **Pn 04 43 46.5 -0.1**
ARTV Artvin 2.77 339 P **Pn 04 43 46.5 -0.1**
ARTV Artvin 2.77 339 *e*Pn **Pn 04 43 47.3 +0.7**
ARTV Artvin 2.77 339 *e*Pn **Pn 04 43 47.3 +0.7**
AKH Akhalkalaki 2.82 4 *e*PN **Pn 04 43 47.5 +0.3**
AKH Akhalkalaki 2.82 4 P **Pb 04 43 51.8 -0.8**
AKH S **Sb 04 44 29.7 +2.5**
AKH Akhalkalaki 2.82 4⇓*i*P **Pb 04 43 52.1 -0.5**
AKH Akhalkalaki 2.82 4 P **Pb 04 43 51.7 -0.8**
AKH S **Sb 04 44 29.6 +2.5**
AKH Akhalkalaki 2.82 4 *e*Pn **Pn 04 43 47.5 +0.3**
AKH Akhalkalaki 2.82 4 P **Pb 04 43 51.7 -0.8**
GDB GEDABAY 2.88 42⇑P **Pn 04 43 49.5 +1.4**
SNR=32
GDB ⇑S **Sn 04 44 24.7 +2.0**
GDB GEDABAY 2.88 42 P **Pn 04 43 49.5 +1.4**
SNR=32
GDB S **Sn 04 44 24.7 +2.0**
ERZN Erzincan 2.90 291 *e*PN **Pn 04 43 48.8 +0.5**
ERZN Erzincan 2.90 291 Pn **Pn 04 43 50.1 +1.8**
ERZN Erzincan 2.90 291 Pn **Pn 04 43 50.1 +1.8**
TNCL Tunceli-Merkez 2.92 281 *i* P **Pb 04 43 52.3 -2.0**
EPOS Posof 2.93 353 *i* P **Pn 04 43 49.3 +0.6**
EPOS Posof 2.93 353 P **Pn 04 43 49.3 +0.6**
EUZM Uzumlu 2.96 293⇓*i*P **Pb 04 43 53.5 -1.5**
QZX Qazax, Azerbai 2.96 33⇑P **Pn 04 43 50.5 +1.5**
SNR=55
QZX ⇑S **Sn 04 44 26.5 +2.0**
QZX Qazax, Azerbai 2.96 33 P **Pn 04 43 50.5 +1.5**
SNR=55
QZX S **Sn 04 44 26.5 +2.0**
DBOC Borcka 3.00 337 *i* P **Pn 04 43 50.3 +0.8**
DBOC Borcka 3.00 337 P **Pn 04 43 50.3 +0.8**
IHRS Heris 3.01 94 *e*Pn **Pn 04 43 51.0 +1.2**
IHRS *e*AMB AMB 04 44 02.5
comp=Z,10µm,0.3s
IHRS *e*Sg **Sg 04 44 39.2 +0.4**
IHRS Heris 3.01 94 *e*Pn **Pn 04 43 51.0 +1.2**
IHRS *e*Sg **Sg 04 44 39.2 +0.4**
PTK Pertek 3.01 277 *e*PN **Pn 04 43 51.2 +1.4**
PTK Pertek 3.01 277 *e*Pn **Pn 04 43 51.3 +1.4**
PTK Pertek 3.01 277 Pn **Pn 04 43 52.5 +2.6**
IBST Bostanabad 3.02 106 *e*Pn **Pn 04 43 52.0 +1.9**
IBST *e*AMB AMB 04 44 00.8
comp=Z,3µm,0.3s
IBST Bostanabad 3.02 106 *e*Pn **Pn 04 43 52.0 +1.9**
SVRC Sivrice-ELAZID 3.08 267 *e*PN **Pn 04 43 52.0 +1.1**
SVRC Sivrice-ELAZID 3.08 267 *e*Pn **Pn 04 43 52.0 +1.1**
SVRC Sivrice-ELAZID 3.08 267 Pn **Pn 04 43 53.3 +2.5**
GANJ Ganja 3.15 48⇑P **Pn 04 43 52.8 +1.2**
SNR=83
GANJ ⇑S **Sn 04 44 31.2 +2.1**
GANJ Ganja 3.15 48 P **Pn 04 43 52.8 +1.2**
SNR=83
GANJ S **Sn 04 44 31.2 +2.1**
EZC Erzincan 3.23 292 *e*Pn **Pn 04 43 48.8 -4.0**
DGRG David-gareji 3.29 29 P **Pn 04 43 55.7 +2.1**
DGRG S **Sg 04 44 56.4 +8.4**
DGRG David-gareji 3.29 29 P **Pn 04 43 55.7 +2.1**
DGRG David-gareji 3.29 29 P **Pn 04 43 55.5 +1.9**
ELZG Elazig 3.33 270 *i* P **Pn 04 43 55.3 +1.1**
ELZG Elazig 3.33 270 P **Pn 04 43 55.3 +1.1**
TBLG Delisi 3.34 20 *e*PN **Pn 04 43 55.2 +1.0**
TBLG Delisi 3.34 20 P **Pb 04 44 00.7 -0.7**
TBLG S **Sg 04 44 48.9 -0.6**
TBLG Delisi 3.34 20 P **Pb 04 44 00.6 -0.7**
TBLG Delisi 3.34 20 P **Pn 04 43 54.0 -0.2**
TBLG Delisi 3.34 20 *e*Pn **Pn 04 43 55.2 +1.0**
BRDA Brd 3.48 60⇑P **Pn 04 43 57.1 +1.0**
SNR=37
BRDA ⇑S **Sn 04 44 38.8 +1.5**
BRDA Brd 3.48 60 P **Pn 04 43 57.1 +1.0**
SNR=37
BRDA S **Sn 04 44 38.8 +1.5**
ISRB Sarab 3.58 101 *e*Pn **Pn 04 43 59.5 +1.8**
ISRB *e*AMB AMB 04 44 29.3
comp=Z,6µm,0.4s
ISRB Sarab 3.58 101 *e*Pn **Pn 04 43 59.5 +1.8**
KTUT Trabzon 3.58 313 *e*PN **Pn 04 43 58.0 +0.5**
KTUT Trabzon 3.58 313 *e*Pn **Pn 04 43 58.0 +0.5**
KTUT Trabzon 3.58 313 Pn **Pn 04 44 00.3 +2.8**
URFA Urfa 3.67 253 *e*PN **Pn 04 44 00.9 +2.1**
URFA Urfa 3.67 253 *e*Pn **Pn 04 44 00.9 +2.1**
URFA Urfa 3.67 253 Pn **Pn 04 44 02.1 +3.4**
MNGR Mingechevir, A 3.69 53⇑P **Pn 04 44 00.1 +1.2**
SNR=7.5
MNGR ⇓S **Sn 04 44 44.0 +1.7**
MNGR Mingechevir, A 3.69 53 P **Pn 04 44 00.1 +1.2**
SNR=7.5
MNGR S **Sn 04 44 44.0 +1.7**
KEMA Kemaliye 3.75 282 *i* P **Pn 04 44 04.0 +4.0**
ZRD Zardab 3.84 63⇓P **Pn 04 44 01.9 +0.9**
SNR=8.4
ZRD ⇑S **Sn 04 44 47.6 +1.6**
ZRD Zardab 3.84 63 P **Pn 04 44 01.9 +0.9**
SNR=8.4
ZRD S **Sn 04 44 47.6 +1.6**
GUDG Gudauri 3.98 13 P **Pb 04 44 11.5 -0.8**
ONI Oni 4.00 2 P **Pb 04 44 12.5 0.0**
ONI S **Sg 04 45 11.4 +0.9**
ONI Oni 4.00 2 P **Pb 04 44 12.5 0.0**
ZKTA Zakatala 4.00 39⇑P **Pn 04 44 04.8 +1.4**
SNR=52
ZKTA ⇑S **Sn 04 44 52.4 +2.2**
LRK Lerik 4.00 88⇑P **Pn 04 44 03.7 +0.2**
SNR=13
LRK ⇑S **Sn 04 44 50.5 +0.1**
LRK Lerik 4.00 88 P **Pn 04 44 03.7 +0.2**
SNR=13
LRK S **Sn 04 44 50.5 +0.1**
SEKA Sheki 4.02 48⇑P **Pn 04 44 05.7 +2.1**
SNR=53
SEKA ⇓S **Sn 04 44 53.9 +3.3**
SEKA Sheki 4.02 48 P **Pn 04 44 05.7 +2.1**
SNR=53
SEKA S **Sn 04 44 53.9 +3.3**
GLBA Clilabad 4.08 79⇓P **Pn 04 44 04.6 +0.2**
SNR=18
GLBA ⇓S **Sn 04 44 52.6 +0.6**
GLBA Clilabad 4.08 79 P **Pn 04 44 04.6 +0.2**
SNR=18
GLBA S **Sn 04 44 52.6 +0.6**
ZEI Tsey 4.22 7 *e*P **Pn 04 44 07.4 +0.9**
ZEI pmax pmax
comp=Z,29nm,0.6s
KDMR Kurdemir 4.23 64⇑S **Sn 04 44 56.9 +1.3**
KDMR Kurdemir 4.23 64 S **Sn 04 44 56.9 +1.3**
SAAT Saatly 4.23 71⇓S **Sn 04 44 56.2 +0.6**
SAAT Saatly 4.23 71 S **Sn 04 44 56.2 +0.6**
QBL Gabala 4.26 55⇑P **Pn 04 44 08.1 +1.2**
SNR=46
QBL ⇑S **Sn 04 44 58.5 +2.0**
QBL Gabala 4.26 55 P **Pn 04 44 08.1 +1.2**
SNR=46
QBL S **Sn 04 44 58.5 +2.0**
LKRN Lenkeran, Azer 4.35 87⇓P **Pn 04 44 08.3 +0.3**
SNR=5.3
LKRN ⇓S **Sn 04 44 59.0 +0.4**
LKRN Lenkeran, Azer 4.35 87 P **Pn 04 44 08.3 +0.3**
SNR=5.3
LKRN S **Sn 04 44 59.0 +0.4**
ASTR Astara 4.36 89⇓P **Pn 04 44 08.4 +0.2**
SNR=5.8
ASTR ⇑S **Sn 04 44 58.9 0.0**
ASTR Astara 4.36 89 P **Pn 04 44 08.4 +0.2**
SNR=5.8
ASTR S **Sn 04 44 58.9 0.0**
IML Ismayilli 4.41 59⇑P **Pn 04 44 09.8 +0.9**
SNR=24
IML ⇑S **Sn 04 45 01.6 +1.4**
IML Ismayilli 4.41 59 P **Pn 04 44 09.8 +0.9**
SNR=24
IML S **Sn 04 45 01.6 +1.4**
GRSN GIRESUNGRSN 4.47 303 *i* P **Pb 04 44 21.1 +0.4**
DARE Darende-Malaty 4.50 271 *e*PN **Pn 04 44 11.9 +1.7**
DARE Darende-Malaty 4.50 271 *e*Pn **Pn 04 44 11.9 +1.7**
DARE Darende-Malaty 4.50 271 Pn **Pn 04 44 13.3 +3.1**
XNQ Khinaliq 4.57 54⇑P **Pn 04 44 12.3 +1.0**
SNR=18
XNQ ⇓S **Sn 04 45 05.9 +1.4**
XNQ Khinaliq 4.57 54 P **Pn 04 44 12.3 +1.0**
SNR=18
XNQ S **Sn 04 45 05.9 +1.4**
IDHR Dehrash 4.64 146 *e*Pn **Pn 04 44 14.2 +1.9**
IDHR *e*AMB AMB 04 46 07.0
comp=Z,8µm,0.7s
IDHR Dehrash 4.64 146 *e*Pn **Pn 04 44 14.2 +1.9**
NEY Neytrino 4.67 355⇓*e*P **Pn 04 44 15.5 +2.9**
NEY Neytrino 4.67 355 *e*P **Pn 04 44 15.5 +2.9**
PQL Pirkuli 4.68 60⇑P **Pn 04 44 13.6 +0.8**
SNR=8.0
PQL ⇓S **Sn 04 45 08.4 +1.3**
PQL Pirkuli 4.68 60 P **Pn 04 44 13.6 +0.8**
SNR=8.0
PQL S **Sn 04 45 08.4 +1.3**
ALIB Äli-Bayra 4.69 71⇑S **Sn 04 45 06.9 0.0**
ALIB Äli-Bayra 4.69 71 S **Sn 04 45 06.9 0.0**
ILIN Lien 4.74 140 *e*Pn **Pn 04 44 15.9 +2.3**
ILIN Lien 4.74 140 *e*Pn **Pn 04 44 15.9 +2.3**
GBS Qobustan 4.82 65⇑P **Pn 04 44 15.6 +1.0**
SNR=3.3
GBS Qobustan 4.82 65 P **Pn 04 44 15.6 +1.0**
SNR=3.3
QSAR Qusar 4.84 51⇑P **Pn 04 44 15.9 +1.0**
SNR=8.3
QSAR Qusar 4.84 51 P **Pn 04 44 15.9 +1.0**
SNR=8.3
QUBA Quba, Azerbaij 4.89 54⇓P **Pn 04 44 16.5 +0.9**
SNR=15
QUBA Quba, Azerbaij 4.89 54 P **Pn 04 44 16.5 +0.9**
SNR=15
RSDY Resadiye-TOKAT 4.91 293 *e*PN **Pn 04 44 18.0 +2.2**
RSDY Resadiye-TOKAT 4.91 293 *e*Pn **Pn 04 44 18.0 +2.2**
RSDY Resadiye-TOKAT 4.91 293 Pn **Pn 04 44 19.0 +3.2**
ATGJ Altiaghaj 4.95 61⇓P **Pn 04 44 17.3 +0.9**
SNR=5.8
ATGJ Altiaghaj 4.95 61 P **Pn 04 44 17.3 +0.9**
SNR=5.8
GROC Groznyy 5.00 22 *e*P Pb 04 44 23.5 -6.1
GROC pmax pmax
comp=Z,233nm,0.1s
IVIS Veis 5.00 143 *e*Pn **Pn 04 44 18.9 +1.8**
IVIS *e*AMB AMB 04 46 08.2
comp=Z,2µm,0.5s
IVIS Veis 5.00 143 *e*Pn **Pn 04 44 18.9 +1.8**
SVSK Karacayir 5.01 287 *e*PN **Pn 04 44 19.1 +1.9**
SVSK Karacayir 5.01 287 *e*Pn **Pn 04 44 19.1 +1.9**
SVSK Karacayir 5.01 287 Pn **Pn 04 44 20.9 +3.7**
SIZA Siyzn 5.02 59⇓P **Pn 04 44 18.1 +0.7**
SNR=3.3
SIZA Siyzn 5.02 59 P **Pn 04 44 18.1 +0.7**
SNR=3.3
IGHG Ghaleghazi 5.04 147 *e*Pn **Pn 04 44 19.8 +2.1**
IGHG *e*AMB AMB 04 45 25.0
comp=Z,4µm,0.5s
IGHG Ghaleghazi 5.04 147 *e*Pn **Pn 04 44 19.8 +2.1**
KBZ Khabaz 5.14 357 Pn **Pn 04 44 20.7 +1.9**
comp=Z,0.1nm,0.3s,baz=186,slow=8.6,SNR=12
KBZ LR LR 04 46 39.9
comp=Z,1µm,18.1s,baz=134,slow=43
SARI SarD1z-Kayseri 5.34 270 *e*PN **Pn 04 44 24.8 +2.8**
KVAR Kislovodsk Arr 5.37 356 Pn **Pn 04 44 24.8 +2.5**
baz=280,slow=3.1,SNR=11
KVAR LR LR 04 46 57.5
comp=Z,1µm,20.7s,baz=122,slow=44
KIV Kislovodsk 5.37 356 *e*P **Pn 04 44 26.3 +4.1**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,237nm,7.0s
KIV Kislovodsk 5.37 356 *e*Pn **Pn 04 44 26.7 +4.5**
MAK Makhachkala 5.44 35 *e*P **Pn 04 44 21.8 -1.2**
MAK *e*S **Sn 04 45 25.3 -0.1**
MAK pmax pmax
comp=Z,22nm,0.3s
MAK MLR MLR
comp=Z,1µm,15.0s
MAK Makhachkala 5.44 35 *e*P **Pn 04 44 21.8 -1.2**
comp=Z,22nm,0.3s
MAK *e*S **Sn 04 45 25.3 -0.1**
comp=Z,1µm,15.0s
TOKA Tokat 5.50 290 *e*Pn Pb 04 44 31.5 -6.7
SOC Sochi 5.64 333 *e*P Pn 04 44 32.6 +6.8
SOC *e* 04 45 35.0
SOC pmax pmax
comp=Z,29nm,1.1s
SOC MLR MLR
comp=Z,448nm,13.0s
BNN Bunyan 5.78 275 *e*PN **Pn 04 44 30.5 +2.6**
BNN Bunyan 5.78 275 Pn **Pn 04 44 31.8 +4.0**
KOZT Kozan 5.95 262 *e*PN **Pn 04 44 33.7 +3.6**
GOF Gofitskoye 6.46 359⇑*e*P Pb 04 44 48.0 -6.5
GOF *e*S **Sn 04 45 48.1 -2.5**
GOF pmax pmax
comp=Z,17nm,0.6s
GOF smax smax
comp=N,117nm,1.3s
BR131 Keskin Array S 7.54 282 *e*Pn Pn 04 44 56.9 +5.0
BRTR Keskin Array B 7.54 282 Pn **Pn 04 44 54.7 +2.7**
comp=N,0.1nm,0.3s,baz=123,slow=16,SNR=3.6
ANN Anapa 7.56 327 *e*P **Pn 04 44 54.3 +2.1**
ANN *e*S **Sn 04 46 19.1 +1.3**
ANN pmax pmax
comp=Z,48nm,1.2s
ANN Anapa 7.56 327 *e*P **Pn 04 44 54.3 +2.1**
comp=Z,48nm,1.2s
ANN *e*S **Sn 04 46 19.1 +1.3**
ANTO Ankara 8.20 282 *e*P **Pn 04 45 02.0 +1.0**
ANTO Ankara 8.20 282 *e*Pn **Pn 04 45 02.0 +1.0**
ANTO Ankara 8.20 282 *e*Pn **Pn 04 45 02.0 +1.0**
ASF Jabal al Asfar 8.23 221 Pn **Pn 04 45 01.1 -0.4**
comp=Z,0.2nm,0.3s,baz=353,slow=19,SNR=2.5
MMAI Mount Meron Ar 8.45 231 Pn **Pn 04 45 05.5 +1.1**
comp=Z,0.7nm,0.3s,baz=72,slow=18,SNR=2.2
MMAI LR LR 04 48 52.7
comp=Z,278nm,20.3s,baz=45,slow=42
EIL Elat 11.23 220 LR LR 04 50 30.2
comp=Z,284nm,18.5s,baz=19,slow=40
GEYT Alibeck 11.73 89 Pn **Pn 04 45 49.7 +0.4**
comp=Z,0.4nm,0.3s,baz=261,slow=17,SNR=2.8
GEYT LR LR 04 51 46.6
comp=Z,67nm,20.0s,baz=265,slow=45
ISR Istrita 14.03 303 P **Pn 04 46 24.4 +3.7**
ISR pmax pmax
comp=Z,35nm,1.3s
VRI Vrincioaia 14.21 306⇑*i*P **P 04 46 31.8 +1.3**
VRI Vrincioaia 14.21 306⇑P **P 04 46 31.8 +1.3**
LPSR Galich'ya Gora 14.32 349 *e*P **Pn 04 46 24.4 -0.2**
LPSR pmax pmax
comp=Z,30nm,1.0s
TESR Tescani 14.54 308⇑*i*P **Pn 04 46 29.0 +1.4**
MLR Muntele Rosu 14.56 304⇓*i*P **P 04 46 33.2 -1.4**
MLR Muntele Rosu 14.56 304⇓P **P 04 46 33.2 -1.4**
MLR Muntele Rosu 14.56 304 P **P 04 46 33.2 -1.4**
IDI Anoyia 15.03 263 LR LR 04 52 26.1
comp=Z,61nm,21.3s,baz=65,slow=38
DOPR Dopca 15.10 305⇓*i*P **P 04 46 38.5 -2.0**
DOPR Dopca 15.10 305⇓*i*P **P 04 46 38.5 -2.0**
VOIR 15.13 303⇓*i*P **P 04 46 39.2 -1.6**
VOIR 15.13 303⇓P **P 04 46 39.2 -1.6**
VOIR 15.13 303 P **P 04 46 39.2 -1.6**
RAYN Ar Rayn 15.15 172 *e*Pn **Pn 04 46 32.3 -3.8**
comp=Z,13nm,0.8s
RAYN *e*S **Sn 04 49 15.1 -8.7**
ARR Arges 15.38 302⇑*i*P **Pn 04 46 40.2 +1.2**
AKASG Malin Array Be 15.64 325 Pn **Pn 04 46 40.1 -2.2**
comp=Z,0.7nm,0.3s,baz=132,slow=12,SNR=13
AKASG LR LR 04 53 34.1
comp=Z,118nm,18.6s,baz=100,slow=40
AKBB Malin Array Si 15.64 325 *e*P **Pn 04 46 43.4 +1.1**
AKBB pmax pmax
comp=Z,18nm,1.1s
AKBB Malin Array Si 15.64 325 *e*Pn **Pn 04 46 43.4 +1.1**
comp=Z,18nm,1.1s
AKBB Malin Array Si 15.64 325 *e*Pn **Pn 04 46 43.4 +1.1**
comp=Z,18nm,1.1s
KIEV Kiev 15.65 325⇑*e*P **P 04 46 45.8 -0.7**
KIEV Kiev 15.65 325 *e*Pn **Pn 04 46 41.6 -0.8**
comp=Z,15nm,1.0s
KIEV Kiev 15.65 325 *e*P **P 04 46 45.8 -0.7**
KIEV Kiev 15.65 325 *e*Pn **Pn 04 46 41.6 -0.8**
comp=Z,15nm,1.0s
VTS Vitosha 15.72 291⇑*i*P **P 04 46 50.3 +2.8**
VTS Vitosha 15.72 291 *e*P **P 04 46 46.7 -0.8**
VTS pmax pmax
comp=Z,13nm,1.1s
VTS Vitosha 15.72 291 *e*P **P 04 46 46.7 -0.8**
comp=Z,13nm,1.1s
VTS Vitosha 15.72 291 *e*Pn **P 04 46 46.7 -0.8**
comp=Z,13nm,1.1s
AKTO Aktyubinsk 15.82 37 Pn **Pn 04 46 42.1 -2.5**
comp=Z,0.2nm,0.3s,baz=227,slow=15,SNR=10
AKTO LR LR 04 54 20.5
comp=Z,260nm,18.9s,baz=220,slow=43
BURAR Bucovina Array 15.92 310⇑*i*P **Pn 04 46 46.1 +0.1**
BURAR Bucovina Array 15.92 310⇑P **Pn 04 46 46.1 +0.1**
BUR08 Bucovina Ar. S 15.94 310 *e*Pn **Pn 04 46 46.3 0.0**
BUR08 Bucovina Ar. S 15.94 310 *e*Pn **Pn 04 46 46.3 0.0**
AB31 Akbulak array 16.04 43 *i* P **Pn 04 46 46.2 -1.3**
AB31 pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 16.04 43 *e*Pn **Pn 04 46 46.9 -0.6**
comp=Z,38nm,0.8s
ABKAR Akbulak array 16.04 43 *e*Pn **Pn 04 46 46.9 -0.6**
comp=Z,38nm,0.8s
ZAGS Zajecar 16.62 295 *e*P **P 04 46 59.3 +1.9**
BANOM Banah 16.76 135 Pn **Pn 04 46 54.9 -2.0**
SNR=5.1
BANOM Banah 16.76 135 P **Pn 04 46 54.9 -2.0**
SNR=5.1
BANOM Banah 16.76 135 Pn **Pn 04 46 54.9 -2.0**
SNR=5.1
OBN Obninsk 17.13 347 P **Pn 04 47 00.5 -0.7**
comp=Z,5.9nm,0.3s,baz=149,slow=20,SNR=4.9
OBN LR LR 04 54 00.4
comp=Z,227nm,19.3s,baz=104,slow=38
OBN Obninsk 17.13 347⇑*i*P **P 04 47 02.9 +0.1**
OBN pmax pmax
comp=Z,38nm,1.2s
OBN MLR MLR
comp=Z,232nm,17.0s
OBN Obninsk 17.13 347 *e*Pn **Pn 04 47 01.9 +0.8**
comp=Z,68nm,0.3s
OBN Obninsk 17.13 347 *i* P **P 04 47 02.9 +0.1**
comp=Z,232nm,17.0s
OBN Obninsk 17.13 347 *e*Pn **Pn 04 47 01.9 +0.8**
comp=Z,68nm,0.3s
DRGR 17.13 305⇑*i*P **P 04 47 04.2 +1.2**
DRGR 17.13 305⇑P **P 04 47 04.2 +1.2**
DRGR 17.13 305 P **P 04 47 04.2 +1.2**
SELS Selova 17.33 292 *e*P **Pn 04 47 04.2 +0.4**
UOSS Minazif 17.49 137 *e*Pn **Pn 04 47 03.8 -2.1**
comp=Z,26nm,0.9s
UOSS Minazif 17.49 137 *e*Pn **Pn 04 47 03.9 -2.1**
comp=Z,26nm,0.9s
MOS Moscow 17.56 349 *e*P **Pn 04 47 04.5 -2.0**
MOS pmax pmax
comp=Z,71nm,1.2s
ASHO Ashiyiah 17.63 138 Pn **Pn 04 47 05.5 -2.2**
SNR=6.4
ASHO Ashiyiah 17.63 138 P **Pn 04 47 05.5 -2.2**
SNR=6.4
ASHO Ashiyiah 17.63 138 Pn **Pn 04 47 05.5 -2.2**
SNR=6.4
DIVS Divibare 18.27 295 *e*P **P 04 47 18.0 +2.4**
KWP Kalwaria Pacla 18.34 314 *e*P **P 04 47 16.6 +0.2**
KWP Kalwaria Pacla 18.34 314 *e*P **P 04 47 16.6 +0.2**
KWP Kalwaria Pacla 18.34 314 *e*P **P 04 47 16.6 +0.2**
BBLS Lazići 18.65 294 *e*P **Pn 04 47 21.2 +1.1**
CRVS Cervenica-Dubn 18.74 310 *e*P **P 04 47 16.1 -4.6**
CRVS Cervenica-Dubn 18.74 310 *e*P **Pn 04 47 21.7 +0.6**
CRVS Cervenica-Dubn 18.74 310 *e*PN **P 04 47 16.1 -4.6**
CRVS Cervenica-Dubn 18.74 310 *e*P **Pn 04 47 21.7 +0.6**
PSZ Piszkesteto 19.32 306 *e*P **Pn 04 47 28.6 +0.4**
PSZ pmax pmax
comp=Z,26nm,1.3s
PSZ Piszkesteto 19.32 306 *e*P **Pn 04 47 28.6 +0.4**
comp=Z,26nm,1.3s
PSZ Piszkesteto 19.32 306 *e*P **Pn 04 47 28.6 +0.4**
comp=Z,26nm,1.3s
NIE Niedzica 19.65 311 *e*P **Pn 04 47 33.3 +1.2**
NIE Niedzica 19.65 311 *e*P **Pn 04 47 33.3 +1.2**
NIE Niedzica 19.65 311 *e*P **Pn 04 47 33.3 +1.2**
NACGM Naroch 19.74 331 *e* **P 04 47 26.0 -5.6**
WSAR Wadi Sarin 20.18 135 P **P 04 47 35.8 -0.8**
comp=Z,4.2nm,0.6s,baz=166,slow=12,SNR=3.1
WSAR LR LR 04 55 09.3
comp=Z,56nm,21.2s,baz=338,slow=36
VYHS Vyhne 20.18 307 *e*P Pn 04 47 38.0 -0.4
VYHS pmax pmax
comp=Z,14nm,1.5s
VYHS Vyhne 20.18 307 *e*P Pn 04 47 38.0 -0.4
comp=Z,14nm,1.5s
VYHS Vyhne 20.18 307 *e*P Pn 04 47 38.0 -0.4
OJC Ojcow 20.28 313 *e*P Pn 04 47 39.2 -0.3
OJC pmax pmax
comp=Z,22nm,1.4s
OJC Ojcow 20.28 313 *e*P Pn 04 47 39.2 -0.3
comp=Z,22nm,1.4s
OJC Ojcow 20.28 313 *e*P Pn 04 47 39.2 -0.3
comp=Z,22nm,1.4s
ARU Arti 20.55 25 P **P 04 47 40.4 0.0**
comp=Z,4.4nm,0.3s,baz=219,slow=9.1,SNR=12

ARU LR LR 04 57 30.8
comp=Z,189nm,20.2s,baz=214,slow=42
ARU Arti 20.55 25c *i*P **P 04 47 40.0 -0.3**
ARU 04 47 56.3
ARU S **S 04 51 29.8 +0.1**
ARU SS **SnSn 04 51 46.5 -2.0**
ARU pmax pmax
comp=Z,31nm,1.2s
ARU Arti 20.55 25 *e*P **P 04 47 40.5 +0.2**
comp=Z,29nm,0.8s
ARU S **S 04 51 29.8 +0.1**
ARU Arti 20.55 25 *e*P **P 04 47 40.5 +0.2**
comp=Z,29nm,0.8s
SUW Suwalki 20.61 325 P Pn 04 47 43.7 +0.4
SUW Suwalki 20.61 325 P Pn 04 47 43.7 +0.4
KK31 Karatay Array 21.08 69 *i*P **P 04 47 47.4 +1.1**
KK31 pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 21.08 69 *i*P **P 04 47 47.4 +1.1**
comp=Z,23nm,0.7s
KKAR Karatay Array 21.08 69 *e*P **P 04 47 47.5 +1.2**
KKAR Karatay Array 21.08 69 *e*P **P 04 47 47.5 +1.2**
comp=Z,231nm,0.7s
KKAR Karatay Array 21.08 69 *e*P **P 04 47 47.5 +1.2**
comp=Z,231nm,0.7s
KBL Kabul 21.10 93 *e*P **P 04 47 48.4 +1.7**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 21.10 93 *e*P **P 04 47 48.4 +1.7**
comp=Z,12nm,0.9s
KBL Kabul 21.10 93 *e*P **P 04 47 48.4 +1.7**
comp=Z,12nm,0.9s
CUC Castrocucco 21.23 282 *e*P **P 04 47 48.9 +0.9**
comp=Z,10nm,1.1s
CUC Castrocucco 21.23 282 *e*P **P 04 47 48.9 +0.9**
comp=Z,10nm,1.1s
SOP Sopron 21.39 304 P **P 04 47 52.0 +2.5**
SOP pmax pmax
comp=Z,13nm,1.3s
SOP Sopron 21.39 304 P **P 04 47 52.0 +2.5**
comp=Z,13nm,1.3s
SVE Sverdlovsk 21.57 27 *e*P **P 04 47 52.0 +0.7**
SVE pmax pmax
comp=Z,34nm,1.0s
SVE Sverdlovsk 21.57 27 *e*P **P 04 47 52.0 +0.7**
comp=Z,34nm,1.0s
CONA Conrad Observa 21.91 304 *e*pP **P 04 47 56.1 +0.9**
comp=Z,2.0nm,0.5s
CONA Conrad Observa 21.91 304 P **P 04 47 56.1 +0.9**
comp=Z,2.0nm,0.5s
DPC Dobruska-Polom 22.38 310 *e*P **P 04 48 02.7 +2.5**
DPC *ex* x 04 48 14.8
DPC Dobruska-Polom 22.38 310 *e*P **P 04 48 02.7 +2.5**
DPC Dobruska-Polom 22.38 310 *e*P **P 04 48 02.7 +2.5**
KLMR Klimovskoe 22.40 355 *e*P **P 04 47 57.4 -2.8**
KLMR pmax pmax
comp=Z,58nm,1.5s
OBKA Obir 22.47 300 *e*P P 04 48 24.3 +23
comp=Z,0.9nm,0.3s
MNAS Manas 22.53 71 *i*P **P 04 48 02.0 0.0**
MNAS pmax pmax
comp=Z,10.0nm,1.2s
MNAS Manas 22.53 71 *i*P **P 04 48 02.0 0.0**
comp=Z,10.0nm,1.2s
VSU Vasula 22.57 337⇓ *i*P **P 04 48 02.9 +0.9**
VSU pmax pmax
comp=Z,147nm,2.5s
VSU Vasula 22.57 337 *i*P **P 04 48 02.9 +0.9**
comp=Z,147nm,2.5s
KSP Ksiaz 22.58 312 P **P 04 48 03.8 +1.6**
KSP pmax pmax
comp=Z,10.0nm,1.7s
KSP Ksiaz 22.58 312 P **P 04 48 03.8 +1.6**
comp=Z,10.0nm,1.7s
UPC Upice 22.62 311 *e*P **P 04 48 05.1 +2.4**
UPC Upice 22.62 311 *e*P **P 04 48 05.1 +2.4**
UPC Upice 22.62 311 *e*P **P 04 48 05.1 +2.4**
SOKR Solikamsk 22.73 18⇑ *i*P **P 04 48 01.5 -2.2**
SOKR pmax pmax
comp=Z,24nm,1.3s
MOA Molln 22.93 303 *e*P **P 04 48 05.2 -0.8**
comp=Z,0.6nm,0.2s
MOA Molln 22.93 303 P **P 04 48 05.2 -0.8**
comp=Z,0.6nm,0.2s
AQU L'Aquila 22.94 289 *e*P **P 04 48 06.1 -0.1**
AQU pmax pmax
comp=Z,29nm,1.1s
AQU L'Aquila 22.94 289 *e*P **P 04 48 06.1 -0.1**
comp=Z,29nm,1.1s
AQU L'Aquila 22.94 289 *e*P **P 04 48 06.1 -0.1**
comp=Z,29nm,1.1s
KBA Koelnbreinsper 23.39 301 *e*pP **P 04 48 11.0 +0.2**
comp=Z,1.4nm,0.5s
KBA Koelnbreinsper 23.39 301 P **P 04 48 11.0 +0.2**
comp=Z,1.4nm,0.5s
GERES GERESS Array B 23.54 305 P **P 04 48 11.4 -0.8**
comp=Z,0.5nm,0.5s,baz=67,slow=11,SNR=3.2
GERES LR LR 04 58 42.7
comp=Z,66nm,18.1s,baz=56,slow=40
BRVK Borovoye 23.57 43⇓ *e*P **P 04 48 12.6 +0.2**
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 23.57 43 *e*P **P 04 48 12.7 +0.3**
comp=Z,17nm,1.0s
BRVK Borovoye 23.57 43 *e*P **P 04 48 12.7 +0.3**
comp=Z,17nm,1.0s
BVA0 Borovoye Array 23.62 43 P **P 04 48 11.8 -1.0**
BVA0 pmax pmax
comp=Z,20nm,1.3s
BVA0 Borovoye Array 23.62 43 P **P 04 48 11.8 -1.0**
comp=Z,20nm,1.3s
BVAR Borovoye Array 23.62 43 P **P 04 48 12.9 +0.1**
comp=Z,2.5nm,0.8s,baz=232,slow=7.3,SNR=9.9
BVAR LR LR 04 59 40.5
comp=Z,131nm,20.4s,baz=253,slow=42
BVAR Borovoye Array 23.62 43 P **P 04 48 12.9 +0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR MLR MLR
comp=Z,131nm,20.4s
KHC Kasperske Hory 23.69 306 *e*P **P 04 48 14.8 +1.2**
KHC Kasperske Hory 23.69 306 *e*P **P 04 48 14.8 +1.2**
KHC Kasperske Hory 23.69 306 *e*P **P 04 48 13.8 +0.2**
comp=Z,11nm,1.6s
KHC Kasperske Hory 23.69 306 *e*P **P 04 48 13.8 +0.2**
comp=Z,11nm,1.6s
DAMY Dhamar 23.95 177 *e*P **P 04 48 16.1 -0.5**
comp=Z,39nm,1.5s
DAMY Dhamar 23.95 177 *e*P **P 04 48 16.1 -0.5**
comp=Z,39nm,1.5s
AAK Ala-Archa 24.00 70 P **P 04 48 17.7 +0.9**
comp=Z,1.7nm,0.5s,baz=222,slow=8.5,SNR=6.7
AAK LR LR 04 59 18.3
comp=Z,74nm,18.6s,baz=272,slow=41
AAK Ala-Archa 24.00 70⇓ *i*P **P 04 48 18.3 +1.5**
AAK pmax pmax
comp=Z,33nm,1.4s
AAK Ala-Archa 24.00 70 *e*P **P 04 48 18.0 +1.2**
comp=Z,8.7nm,0.9s
AAK Ala-Archa 24.00 70 *e*P **P 04 48 18.0 +1.2**
comp=Z,8.7nm,0.9s
FRU Bishkek 24.09 70 *e*P **P 04 48 18.0 +0.5**
FRU *e* 04 48 48.0
FRU pmax pmax
comp=Z,53nm,1.9s
FRU Bishkek 24.09 70 *e*P **P 04 48 18.0 +0.5**
comp=Z,53nm,1.9s
MOTA Moosalm 24.93 301 *e*pP **P 04 48 25.8 +0.5**
comp=Z,3.1nm,0.5s
MOTA Moosalm 24.93 301 P **P 04 48 25.8 +0.5**
comp=Z,3.1nm,0.5s
FETA Feichten 25.14 300 *e*pP **P 04 48 27.8 +0.6**
comp=Z,0.8nm,0.4s
FETA Feichten 25.14 300 P **P 04 48 27.8 +0.6**
comp=Z,0.8nm,0.4s
FINES FINESS Array B 25.23 341 P **P 04 48 27.2 -0.4**
comp=Z,10.0nm,1.1s,baz=141,slow=12,SNR=7.7
FINES LR LR 04 59 04.1
comp=Z,176nm,18.8s,baz=108,slow=38
GRA1 Grafenberg Arr 25.32 306 P **P 04 48 30.4 +1.8**
comp=Z,30nm,1.3s
GRF Grafenberg Arr 25.32 306 P **P 04 48 30.4 +1.8**
GRF pmax pmax
comp=Z,30nm,1.3s
GRFO Grafenberg 25.32 306 *e*P **P 04 48 29.2 +0.6**
GRFO pmax pmax
comp=Z,72nm,1.6s
GRFO Grafenberg 25.32 306 *e*P **P 04 48 29.1 +0.6**
comp=Z,72nm,1.6s
GRFO Grafenberg 25.32 306 *e*P **P 04 48 29.1 +0.6**
comp=Z,72nm,1.6s
KSH Kashi 25.37 78 *e*P **P 04 48 28.4 -0.9**
KSH pP sP 04 48 35.3 +0.8
KSH sP pP 04 48 39.4 +6.4
KSH PcP **PcP 04 52 03.8 +2.2**
KSH S **S 04 52 48.6 -7.0**
KSH sS sS 04 53 01.0 -0.7
KSH SS **SnSn 04 53 47.8 +0.7**
KSH PcS **PcS 04 55 43.1 +1.0**
KSH pmax pmax
comp=Z,15nm,1.2s
KSH pmax pmax
comp=Z,110nm,4.5s
KSH LR LR
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,96nm,7.2s
KSH LR LR
comp=Z,120nm,6.2s
JOF Joensuu 25.41 347 P **P 04 48 29.3 +0.1**
JOF pmax pmax
comp=Z,27nm,1.2s
JOF Joensuu 25.41 347 P **P 04 48 29.3 +0.1**
comp=Z,27nm,1.2s
DAVOX Davos/Dischmat 25.69 299 P **P 04 48 33.0 +0.9**
comp=Z,1.9nm,0.7s,baz=198,slow=19,SNR=2.8
DAVOX LR LR 04 59 48.8
comp=Z,41nm,21.5s,baz=78,slow=39
TMCR Tamitsa 25.79 355 *e*P **P 04 48 34.3 +1.7**
TMCR pmax pmax
comp=Z,29nm,1.2s
TMCR Tamitsa 25.79 355 *e*P **P 04 48 34.3 +1.7**
comp=Z,29nm,1.2s
ATD Arta Tunnel 26.95 181 LR LR 05 00 01.6
comp=Z,168nm,18.4s,baz=342,slow=38
KURBB Kurchatov Arra 27.59 53 P **P 04 48 50.0 +0.9**
comp=Z,2.7nm,0.9s,baz=264,slow=9.0,SNR=19
KURBB PcP **PcP 04 52 05.5 -0.9**
comp=Z,1.0nm,0.7s,baz=264,slow=2.9,SNR=6.8
PDGK Podgornoye 27.64 68 P **P 04 48 50.7 +0.9**
PDGK pmax pmax
comp=Z,5.0nm,0.5s
PDGK Podgornoye 27.64 68 P **P 04 48 50.7 +0.9**
comp=Z,5.0nm,0.5s
KURK Kurchatov 27.67 52⇓ *i*P **P 04 48 50.7 +1.0**
KURK pmax pmax
comp=Z,30nm,1.7s
KURK Kurchatov 27.67 52 *i*P **P 04 48 50.7 +1.0**
comp=Z,30nm,1.7s
KURK Kurchatov 27.67 52 PcP **PcP 04 52 05.4 -1.1**
KURK Kurchatov 27.67 52 *e*P **P 04 48 50.2 +0.5**
comp=Z,7.2nm,0.9s
KURK PcP **PcP 04 52 05.5 -1.1**
HFS Hagfors 28.47 329 LR LR 05 00 37.5
comp=Z,74nm,20.0s,baz=104,slow=37
MK31 Makanchi Array 29.61 61 *i*P **P 04 49 08.2 +1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 29.61 61 *i*P **P 04 49 08.2 +1.1**
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 29.61 61 *e*P **P 04 49 08.6 +1.5**
MKAR Makanchi Array 29.61 61 P **P 04 49 08.4 +1.3**
comp=Z,2.0nm,0.7s,baz=264,slow=7.2,SNR=4.5
MKAR Makanchi Array 29.61 61 *e*P **P 04 49 09.3 +2.2**
MKAR pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 29.61 61 *e*P **P 04 49 09.3 +2.2**
comp=Z,20nm,0.9s
MKAR Makanchi Array 29.61 61 *e*P **P 04 49 09.3 +2.2**
comp=Z,20nm,0.9s
NOA NORSAR Array B 29.99 329 LR LR 05 02 01.6
comp=Z,45nm,20.9s,baz=125,slow=38
ZALV Zalesovo Beam 32.06 48 P **P 04 49 28.2 -0.3**
comp=Z,0.5nm,0.3s,baz=294,slow=11,SNR=3.9
ARCES ARCESS Array B 32.43 348 P **P 04 49 30.9 -0.8**
comp=Z,1.9nm,0.7s,baz=129,slow=3.4,SNR=4.4
ARCES LR LR 05 03 13.2
comp=Z,197nm,18.7s,baz=156,slow=37
WMQ Urumqi 33.55 67 P **P 04 49 43.9 +2.1**
WMQ pP sP 04 49 51.6 +4.5
WMQ sP pP 04 49 54.9 +9.3
WMQ SS SS 04 57 12.0 -16
WMQ pmax pmax
comp=Z,5.0nm,0.7s
WMQ pmax pmax
comp=Z,46nm,4.3s
WMQ LR LR
comp=Z,78nm,8.3s
WMQ LR LR
comp=Z,92nm,5.1s
TAM Tamanrasset 35.76 255 *e*P **P 04 50 02.4 +1.1**
TAM pmax pmax
comp=Z,7.0nm,1.2s
TAM Tamanrasset 35.76 255 *e*P **P 04 50 02.4 +1.1**
comp=Z,6.7nm,1.2s
TAM Tamanrasset 35.76 255 *e*P **P 04 50 02.4 +1.1**
comp=Z,6.7nm,1.2s
ESDC Sonseca Array 36.29 287 P **P 04 50 04.3 -1.2**
comp=Z,0.8nm,0.7s,baz=62,slow=9.3,SNR=3.7
MDT Midelt 38.92 277 P **P 04 50 26.1 -1.8**
comp=Z,4.3nm,1.0s,baz=336,slow=6.2,SNR=3.5
KMBO Kilima Mbogo 39.91 189 LR LR 05 07 40.0
comp=Z,124nm,19.1s,baz=54,slow=37
GTA Gaotai 43.35 70 *e*P **P 04 51 05.5 +1.2**
GTA pP sP 04 51 12.9 +3.2
GTA sP pP 04 51 15.9 +7.7
GTA S **S 04 57 31.9 0.0**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,80nm,4.9s
GTA LR LR
comp=Z,120nm,20.9s
GTA LR LR
comp=Z,210nm,21.4s
TOA0 Torodi Ar. Sit 44.62 247 *e*P **P 04 51 13.2 -1.3**
comp=Z,37nm,2.0s
TOA0 Torodi Ar. Sit 44.62 247 *e*P **P 04 51 13.2 -1.3**
comp=Z,37nm,2.0s
TORD Torodi Ar. Bea 44.62 247 P **P 04 51 13.4 -1.1**
comp=Z,2.3nm,0.9s,baz=61,slow=5.9,SNR=10
SONM Songino Array 45.78 57 PcP **PcP 04 52 59.5 -1.6**
comp=Z,0.6nm,0.6s,baz=298,slow=3.1,SNR=3.4
ULN Ulaanbaatar 46.21 57⇓ *i*P **P 04 51 28.0 +1.0**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 46.21 57 *i*P **P 04 51 28.0 +1.0**
comp=Z,7.0nm,1.7s
LZH Lanzhou 47.49 73 *e*P **P 04 51 34.5 -2.7**
LZH pP pP 04 51 42.1 +1.0
LZH sP sP 04 51 45.3 +2.7
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,71nm,6.5s
LZH LR LR
comp=Z,370nm,15.0s
LZH LR LR
comp=Z,380nm,14.7s
LZH LR LR
comp=Z,460nm,18.3s
CD2 Chengdu 49.54 80 *e*P **P 04 51 53.0 +0.1**
HHC Hu-ho-hao-te 51.38 64 *e*P **P 04 52 08.1 +1.4**
HHC PP **PP 04 54 04.3 +0.7**
HHC S **S 04 59 25.3 -0.7**
HHC pmax pmax
comp=Z,22nm,1.6s
HHC pmax pmax
comp=Z,39nm,4.3s
HHC LR LR
comp=Z,130nm,14.9s
HHC LR LR
comp=Z,200nm,16.2s
KMI Kunming 51.49 87 P **P 04 52 09.6 +1.7**
KMI pmax pmax
comp=Z,12nm,0.5s
CHTO Chiang Mai 51.88 96 *e*P **P 04 52 10.3 -0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 51.88 96 *e*P **P 04 52 10.3 -0.4**
comp=Z,3.8nm,0.6s
CHTO Chiang Mai 51.88 96 *e*P **P 04 52 10.3 -0.4**
comp=Z,3.8nm,0.6s
CMAR Chiang Mai Arr 52.09 96 P **P 04 52 10.8 -1.3**
comp=Z,2.5nm,0.3s,baz=297,slow=6.3,SNR=16
XAN Xi'an 52.12 73 P **P 04 52 11.9 -0.4**
XAN pP sP 04 52 25.9 +8.2
XAN pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 52.55 23⇑ *e*P **P 04 52 16.5 +1.7**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 52.55 23 *e*P **P 04 52 16.5 +1.7**
comp=Z,2.0nm,0.9s
GYA Guiyang 53.88 83 *e*P **P 04 52 26.0 +0.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 55.20 35 *e*P **P 04 52 35.6 +1.2**
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 55.20 35 *e*P **P 04 52 35.6 +1.2**
comp=Z,10.0nm,0.8s
NJ2 Nanjing 60.44 71 *e*P **P 04 53 12.4 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
KLR Kul'dur 61.16 48 P **P 04 53 15.8 -0.5**
comp=Z,0.2nm,0.8s,baz=313,slow=6.4,SNR=6.7
SEY Seymchan 64.23 29 P **P 04 53 36.1 -0.4**
comp=Z,1.7nm,0.3s,baz=268,slow=5.3,SNR=11
SEY Seymchan 64.23 29⇓ *i*P **P 04 53 37.7 +1.2**
SEY Seymchan 64.23 29 *i*P **P 04 53 37.7 +1.2**
KSAR Wonju Array Be 64.27 62 P **P 04 53 37.2 0.0**
KSAR Wonju Array Be 64.27 62 P **P 04 53 37.2 0.0**
KSAR Wonju Array Be 64.27 62 P **P 04 53 37.1 0.0**
KSRS Korea Array 64.29 62 P **P 04 53 37.1 -0.2**
comp=Z,4.4nm,0.8s,baz=290,slow=6.5,SNR=15
JNU Nakatsue 68.60 64 P **P 04 54 04.5 -0.6**
comp=Z,3.2nm,0.7s,baz=287,slow=1.5,SNR=4.7
MJAR Matsushiro Arr 71.73 58 P **P 04 54 24.1 -0.1**
comp=Z,0.9nm,0.4s,baz=296,slow=5.3,SNR=4.3
COLD Coldfoot 74.01 5 *e*P **P 04 54 37.1 -0.1**
comp=Z,4.3nm,0.8s
COLD Coldfoot 74.01 5 *e*P **P 04 54 37.1 -0.1**
comp=Z,4.3nm,0.8s
MDM Murphy Dome 76.39 5 *e*P **P 04 54 50.5 -0.4**
comp=Z,29nm,1.9s
MDM Murphy Dome 76.39 5 *e*P **P 04 54 50.5 -0.4**
comp=Z,29nm,1.9s
COLA College 76.50 5 *e*P **P 04 54 51.7 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.7s
COLA College 76.50 5 *e*P **P 04 54 51.7 +0.2**
comp=Z,4.2nm,0.7s
COLA College 76.50 5 *e*P **P 04 54 51.7 +0.2**
comp=Z,4.2nm,0.7s
ILAR Eielson Array 76.66 4 P **P 04 54 52.2 -0.2**
comp=Z,0.6nm,0.7s,baz=346,slow=3.2,SNR=7.0
ILAR LR LR 05 32 53.1
comp=Z,24nm,18.9s,baz=284,slow=39
CCB Clear Creek Bu 76.73 5 *e*P **P 04 54 52.8 0.0**
comp=Z,16nm,1.6s
CCB Clear Creek Bu 76.73 5 *e*P **P 04 54 52.8 0.0**
comp=Z,16nm,1.6s
EGAK Eagle 76.91 2 *e*P **P 04 54 54.1 +0.3**
comp=Z,13nm,1.4s
EGAK Eagle 76.91 2 *e*P **P 04 54 54.1 +0.3**
comp=Z,13nm,1.4s
HDA Harding Lake 77.02 5 *e*P **P 04 54 54.7 +0.2**
comp=Z,5.8nm,0.8s
HDA Harding Lake 77.02 5 *e*P **P 04 54 54.7 +0.2**
comp=Z,5.8nm,0.8s
BPAW Bear Paw Mtn. 77.03 6 *e*P **P 04 54 54.3 -0.2**
comp=Z,6.7nm,1.1s
BPAW Bear Paw Mtn. 77.03 6 *e*P **P 04 54 54.3 -0.2**
comp=Z,6.7nm,1.1s
MCK McKinley 77.56 6 *e*P **P 04 54 57.4 -0.1**
MCK pmax pmax
comp=Z,37nm,1.9s
MCK McKinley 77.56 6 *e*P **P 04 54 57.4 -0.1**
comp=Z,37nm,1.9s
MCK McKinley 77.56 6 *e*P **P 04 54 57.4 -0.1**
comp=Z,37nm,1.9s
CAST Castle Rocks 77.59 7 *e*P **P 04 54 58.1 +0.3**
comp=Z,9.3nm,0.8s
CAST Castle Rocks 77.59 7 *e*P **P 04 54 58.1 +0.3**
comp=Z,9.3nm,0.8s
DAWY Dawson 77.66 1 *e*P **P 04 54 58.4 +0.3**
comp=Z,4.4nm,0.8s
DAWY Dawson 77.66 1 *e*P **P 04 54 58.4 +0.3**
comp=Z,4.4nm,0.8s
TT01 Tatalina 77.67 9 *e*P **P 04 54 59.3 +1.2**
TT01 Tatalina 77.67 9 *e*P **P 04 54 59.3 +1.2**
YKA Yellowknife Ar 77.69 350 P **P 04 54 58.5 +0.3**
comp=Z,1.3nm,0.9s,baz=17,slow=6.5,SNR=3.2
TRF Thorofare Moun 77.72 6 *e*P **P 04 54 59.2 +0.5**
comp=Z,21nm,1.6s
TRF Thorofare Moun 77.72 6 *e*P **P 04 54 59.2 +0.5**
comp=Z,21nm,1.6s
RND Reindeer 77.88 6 *e*P **P 04 54 58.9 -0.5**
RND pmax pmax
comp=Z,15nm,1.6s
RND Reindeer 77.88 6 *e*P **P 04 54 58.9 -0.5**
comp=Z,15nm,1.6s
RND Reindeer 77.88 6 *e*P **P 04 54 58.9 -0.5**
comp=Z,15nm,1.6s
PPLA Purkeypile 78.10 7 *e*P **P 04 55 02.2 +1.5**
comp=Z,65nm,1.9s
PPLA Purkeypile 78.10 7 *e*P **P 04 55 02.1 +1.5**
comp=Z,65nm,1.9s
MENT Mentasta 78.66 3 *e*P **P 04 55 04.4 +0.7**
comp=Z,4.6nm,0.7s
MENT Mentasta 78.66 3 *e*P **P 04 55 04.4 +0.7**
comp=Z,4.6nm,0.7s
SML Sawmill 79.51 6 *e*P **P 04 55 08.2 -0.1**
SML pmax pmax
comp=Z,12nm,0.8s
SML Sawmill 79.51 6 *e*P **P 04 55 08.2 -0.1**
comp=Z,12nm,0.8s
SML Sawmill 79.51 6 *e*P **P 04 55 08.2 -0.1**
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 79.55 5 *e*P **P 04 55 09.5 +0.8**
SCM pmax pmax
comp=Z,48nm,1.8s
SCM Sheep Creek Mo 79.55 5 *e*P **P 04 55 09.5 +0.8**
comp=Z,48nm,1.8s
SCM Sheep Creek Mo 79.55 5 *e*P **P 04 55 09.5 +0.8**
comp=Z,48nm,1.8s
SUA Susitna One 79.64 7 *e*P **P 04 55 09.4 +0.2**
comp=Z,14nm,1.0s
SUA Susitna One 79.64 7 *e*P **P 04 55 09.4 +0.2**
comp=Z,14nm,1.0s
KLU Klutina 79.98 4 *e*P **P 04 55 12.0 +1.0**
comp=Z,7.5nm,0.9s
KLU Klutina 79.98 4 *e*P **P 04 55 12.0 +1.0**
comp=Z,7.5nm,0.9s
RC01 Rabbit Creek A 80.10 6 *e*P **P 04 55 12.1 +0.6**
comp=Z,9.9nm,0.8s
RC01 Rabbit Creek A 80.10 6 *e*P **P 04 55 12.1 +0.6**
comp=Z,9.9nm,0.8s
DIV Divide 80.36 4 *e*P **P 04 55 13.6 +0.6**
comp=Z,8.4nm,0.8s
DIV Divide 80.36 4 *e*P **P 04 55 13.6 +0.6**
comp=Z,8.4nm,0.8s
BALM Baldy 80.62 3 *e*P **P 04 55 15.1 +0.7**
BALM pmax pmax
comp=Z,12nm,1.2s
BALM Baldy 80.62 3 *e*P **P 04 55 15.1 +0.7**
comp=Z,12nm,1.2s
BALM Baldy 80.62 3 *e*P **P 04 55 15.1 +0.7**
comp=Z,12nm,1.2s
HYT Haines Junctio 80.93 0 *e*P **P 04 55 17.0 +0.8**
comp=Z,7.1nm,0.9s
HYT Haines Junctio 80.93 0 *e*P **P 04 55 17.0 +0.8**
comp=Z,7.1nm,0.9s
WHY Whitehorse 81.09 359 *e*P **P 04 55 16.1 -0.9**
comp=Z,24nm,1.8s
WHY Whitehorse 81.09 359 *e*P **P 04 55 16.1 -0.9**
comp=Z,24nm,1.8s
KDAK Kodiak Island 83.07 8 *i*P **P 04 55 28.2 +1.0**
KDAK Kodiak Island 83.07 8 *e*P **P 04 55 28.1 +0.9**
comp=Z,137nm,2.0s
KDAK Kodiak Island 83.07 8 *e*P **P 04 55 28.1 +0.9**
comp=Z,137nm,2.0s
ULM Lac du Bonnet 84.49 335 P **P 04 55 34.8 +0.2**
comp=Z,2.0nm,0.7s,baz=295,slow=5.9,SNR=3.0
LAO LASA Array 90.80 340 *e*P **P 04 56 06.9 +1.6**
comp=Z,9.5nm,1.0s
LAO LASA Array 90.80 340 *e*P **P 04 56 06.9 +1.6**
comp=Z,9.5nm,1.0s

NEW	Newport	91.77	347	eP	P	04 56 11.0 +1.2
NEW				pmax	pmax	
	comp=Z,11nm,1.5s					
NEW	Newport	91.77	347	eP	P	04 56 10.9 +1.2
	comp=Z,11nm,1.5s					
NEW	Newport	91.77	347	eP	P	04 56 10.9 +1.2
	comp=Z,11nm,1.5s					
UTMT	University of	93.30	323	eP	P	04 56 16.6 -0.3
	comp=Z,41nm,0.7s					
UTMT	University of	93.30	323	eP	P	04 56 16.6 -0.3
	comp=Z,41nm,0.7s					
REDW	Red Top Meadow	95.11	341	eP	P	04 56 25.7 +0.3
	comp=Z,12nm,1.8s					
REDW	Red Top Meadow	95.11	341	eP	P	04 56 25.7 +0.3
	comp=Z,12nm,1.8s					
PD31	Pinedale Array	95.33	340	eP	P	04 56 25.4 -1.0
PD31	Pinedale Array	95.33	340	eP	P	04 56 25.4 -1.0
PDAR	Pinedale Array	95.33	340	P	P	04 56 26.8 +0.3
	comp=Z,0.3nm,0.7s,baz=1.4,slow=3.8,SNR=3.3					

*IDC **24** 04:47:24.9±2.7, 27°.61N×91°.01E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.2/57, mbtmp3.8/3, ML4.5/1, Error ellipse: s-maj=184.1km s-min=34.7km az=57.0*

ISC 24 04:47:26.7±1.2, 27.7N±0.2×91.2E±0.4, h10km, n4, σ0§87/5, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.21	164	ePN	Pn	04 48 04.5	+0.8
SHL				eSN	Sn	04 48 30.5	-0.7
CMAR	Chiang Mai Arr	11.64	141	Pn	Pn	04 50 12.8	-0.2
	0.9nm,0.3s,baz=320,slow=14,SNR=4.1						
MKAR	Makanchi Array	20.31	342	P	P	04 52 03.0	+0.3
	0.8nm,0.5s,baz=160,slow=9.2,SNR=6.8						
FINES	FINESS Array B	54.21	327	P	P	04 56 51.8	-0.4
	0.8nm,0.6s,baz=114,slow=9.2,SNR=4.4						

*AZER **24** 05:00:22.8±2.9, 37°.91N×43°.24E, h6km, Error ellipse: s-maj=31.9km s-min=21.6km az=125.0*
*ISK **24** 05:00:29.1, 38°.94N×43°.70E, h6km, ML2.9*
*CSEM **24** 05:00:32.8±0.3, 38°.72N×43°.47E, h5km, ML2.9, Error ellipse: s-maj=16.4km s-min=9.8km az=139.0*

ISC 24 05:00:32.6±2.0, 38.76N±0.05×43.44E±0.04, h4km±21km, n15, σ1§46/23, 5C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.88	337	ePG	Pg	05 00 45.6	-4.0
AGRB				eSG	Sg	05 00 57.8	-3.2
CUKT	Cukurca	1.52	175	ePN	Pn	05 00 59.9	-0.8
CUKT	Cukurca	1.52	175	ePn	Pn	05 00 59.9	-0.8
VRTB	Varto-Mus	1.59	285	ePN	Pn	05 01 01.0	-0.7
NAX	Nakhchivan	1.66	75	⇑P	Pn	05 00 59.8	-2.8
	SNR=4.8						
NAX				⇓S	Sg	05 01 27.6	+1.8
SVAN	Silvan-Diyarba	1.86	252	ePN	Pn	05 01 06.5	+1.2
SVAN				eSN	Sg	05 01 32.9	+0.5
SVAN	Silvan-Diyarba	1.86	252	ePn	Pn	05 01 06.5	+1.2
YEDI	Yedisu-Bingol	2.35	288	ePN	Pn	05 01 12.1	-0.1
YEDI	Yedisu-Bingol	2.35	288	ePn	Pn	05 01 12.1	-0.1
GDB	GEDABAY	2.65	42	⇓P	Pn	05 01 17.2	+0.9
	SNR=4.6						
GDB				⇑S	Sg	05 01 59.3	+1.5
GDB	GEDABAY	2.65	42	P	Pn	05 01 17.2	+0.9
	SNR=4.6						
GDB				S	Sg	05 01 59.3	+1.5
QZX	Qazax, Azerbai	2.73	32	⇑P	Pn	05 01 17.5	+0.2
	SNR=6.3						
QZX				⇑S	Sg	05 02 01.7	+1.2
QZX	Qazax, Azerbai	2.73	32	P	Pn	05 01 17.5	+0.2
	SNR=6.3						
QZX				S	Sg	05 02 01.7	+1.2
GANJ	Ganja	2.91	49	⇑P	Pn	05 01 20.0	+0.2
	SNR=3.6						
GANJ				⇓S	Sg	05 02 04.7	-1.5
GANJ	Ganja	2.91	49	P	Pn	05 01 20.0	+0.2
	SNR=3.6						
GANJ				S	Sg	05 02 04.7	-1.5

*AZER **24** 05:06:29.8±4.9, 38°.30N×43°.34E, h6km, Error ellipse: s-maj=35.7km s-min=31.4km az=85.0*
*ISK **24** 05:06:31.0, 38°.92N×43°.67E, h5km, ML3.5*
*DDA **24** 05:06:33.4, 38°.86N×43°.39E, h10km, Ml3.6*
*CSEM **24** 05:06:34.5±0.3, 38°.84N×43°.41E, h2km, ML3.6, Error ellipse: s-maj=7.5km s-min=5.8km az=120.0*

ISC 24 05:06:33.3±1.2, 38.83N±0.02×43.44E±0.02, h1km±13km, n62, σ1§21/83, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.60	210	i P	Pg	05 06 44.1	-0.6
GEVA				i S	Sb	05 06 54.8	-0.8
GEVA	Gevas	0.60	210	P	Pg	05 06 44.1	-0.6
GEVA				S	Sb	05 06 54.8	-0.8
TUTA	Tutak	0.75	320	i P	Pg	05 06 46.9	-0.8
TUTA				i S	Sg	05 06 57.2	-0.2
TUTA	Tutak	0.75	320	P	Pg	05 06 46.9	-0.8
TUTA				S	Sg	05 06 57.2	-0.2
AGRB	Hanur-Agry	0.82	335	PG	Pg	05 06 48.2	-0.9
AGRB				SG	Sb	05 07 01.1	-1.1
AGRB	Hanur-Agry	0.82	335	i Pg	Pg	05 06 48.2	-0.9
AGRB				i Sg	Sb	05 07 01.1	-1.1
EKAR	Karacoban	1.15	292	i P	Pg	05 06 55.0	-0.4
EKAR	Karacoban	1.15	292	P	Pg	05 06 55.0	-0.4
EATA	Eleskirt	1.27	325	i P	Pg	05 06 56.2	-1.3
HAKT	HAKKARI	1.29	170	i P	Pg	05 06 56.1	-1.9
SIRN	S¨–rnak	1.56	212	i P	Pg	05 07 03.3	+0.2
SIRN	S¨–rnak	1.56	212	P	Pg	05 07 03.3	+0.2
VRTB	Varto-Mus	1.58	283	ePN	Pg	05 07 03.6	+0.1
VRTB	Varto-Mus	1.58	283	i P	Pg	05 07 03.4	-0.2
VRTB	Varto-Mus	1.58	283	P	Pg	05 07 03.4	-0.2
VRTB	Varto-Mus	1.58	283	ePn	Pg	05 07 03.7	+0.1
DIGO	Kars	1.58	358	i P	Pn	05 07 02.4	-0.4
DIGO				i S	Sg	05 07 25.8	+1.6
DIGO	Kars	1.58	358	P	Pn	05 07 02.4	-0.4
DIGO				S	Sg	05 07 25.8	+1.6
CUKT	Cukurca	1.59	175	ePN	Pn	05 07 02.4	-0.3
CUKT				eSN	Sg	05 07 25.8	+1.6
CUKT	Cukurca	1.59	175	ePn	Pn	05 07 02.4	-0.3
CUKT				eSn	Sg	05 07 25.8	+1.6
NAX	Nakhchivan	1.64	77	⇓P	Pn	05 07 03.1	-0.3
NAX				⇑S	Sg	05 07 28.3	+2.3
NAX	Nakhchivan	1.64	77	P	Pn	05 07 03.1	-0.3
NAX				S	Sg	05 07 28.3	+2.3
HOMI	Horasan	1.70	316	i P	Pn	05 07 04.3	-0.1
HOMI				i S	Sg	05 07 30.6	+2.8
BNGL	BINGOL	1.79	275	i P	Pb	05 07 06.3	-0.7
BNGL				i S	Sg	05 07 31.4	+0.6
EAK	Akyaka	1.86	4	i P	Pb	05 07 08.2	0.0
EAK	Akyaka	1.86	4	P	Pb	05 07 08.2	0.0
SVAN	Silvan-Diyarba	1.88	250	ePN	Pb	05 07 08.0	-0.6
SVAN	Silvan-Diyarba	1.88	250	i P	Pn	05 07 07.2	+0.5
SVAN				i S	Sg	05 07 33.5	-0.3
SVAN	Silvan-Diyarba	1.88	250	P	Pn	05 07 07.2	+0.5
SVAN	Silvan-Diyarba	1.88	250	ePn	Pb	05 07 08.0	-0.6
SVAN				S	Sg	05 07 33.5	-0.3
ERZM	Erzurum	1.93	304	i P	Pb	05 07 09.0	-0.5
ERZM	Erzurum	1.93	304	P	Pb	05 07 09.0	-0.5
BTMN	Batman	1.94	242	i P	Pb	05 07 08.3	-1.3
BTMN				i S	Sb	05 07 34.0	-0.4
BTMN	Batman	1.94	242	P	Pb	05 07 08.3	-1.3
BTMN				S	Sb	05 07 34.0	-0.4
BNGB	Bing¨¶l	2.16	275	ePN	Pb	05 07 12.3	-1.0
BINT	Bingol	2.30	272	ePn	Pn	05 07 12.3	-0.3
YEDI	Yedisu-Bingol	2.33	286	ePN	Pn	05 07 13.8	+0.9
YEDI	Yedisu-Bingol	2.33	286	ePn	Pn	05 07 13.8	+0.9
BGD	Bogdanovka	2.43	3	P	Pg	05 07 19.3	-0.7
DDEM	Demirkent	2.44	328	i P	Pb	05 07 17.2	-0.8
DDEM	Demirkent	2.44	328	P	Pb	05 07 17.2	-0.8
AKH	Akhalkalaki	2.58	1	P	Pg	05 07 24.2	+1.5
MARD	Mardin	2.59	235	i P	Pn	05 07 17.4	+0.9
GDB	GEDABAY	2.60	43	⇑P	Pb	05 07 19.6	-1.2
	SNR=6.0						
GDB				⇑S	Sg	05 07 56.9	0.0
GDB	GEDABAY	2.60	43	P	Pb	05 07 19.6	-1.2
	SNR=6.0						
QZX	Qazax, Azerbai	2.68	33	⇑P	Pb	05 07 20.6	-1.4
	SNR=2.9						
QZX				⇑S	Sg	05 08 00.2	+0.9
QZX	Qazax, Azerbai	2.68	33	P	Pb	05 07 20.6	-1.4
	SNR=2.9						
MAZI	Mazidag	2.73	241	ePN	Pn	05 07 20.3	+1.9
MAZI	Mazidag	2.73	241	ePn	Pn	05 07 20.3	+1.9
GANJ	Ganja	2.87	50	⇑P	Pn	05 07 21.0	+0.7
GANJ				⇓S	Sb	05 08 02.1	+1.1
GANJ	Ganja	2.87	50	P	Pn	05 07 21.0	+0.7
ERZN	Erzincan	2.98	286	ePN	Pn	05 07 23.5	+1.6
DGRG	David-gareji	3.01	29	P	Pb	05 07 28.8	+1.1
TBLG	Delisi	3.06	19	P	Pg	05 07 30.4	-1.7
PTK	Pertek	3.16	272	ePN	Pn	05 07 26.3	+1.9
PTK	Pertek	3.16	272	ePn	Pn	05 07 26.3	+1.9
SVRC	Sivrice-ELAZID	3.27	263	ePN	Pn	05 07 27.8	+1.9
SVRC	Sivrice-ELAZID	3.27	263	ePn	Pn	05 07 27.8	+1.9
EZC	Erzincan	3.30	287	ePn	Pn	05 07 23.5	-2.8
ONI	Oni	3.76	0	P	Pg	05 07 45.2	-0.1
URFA	Urfa	3.90	251	ePN	Pn	05 07 37.0	+2.6
URFA	Urfa	3.90	251	ePn	Pn	05 07 37.0	+2.6

*DDA **24** 05:11:01.6, 38°.73N×43°.42E, h7km, Ml3.3*
*CSEM **24** 05:11:01.1±0.5, 38°.73N×43°.54E, h2km, ML3.3, Error ellipse: s-maj=12.0km s-min=4.6km az=82.0*
*ISK **24** 05:11:02.6, 38°.80N×43°.26E, h5km, ML2.7*

ISC 24 05:11:03.0±1.3, 38.74N±0.03×43.32E±0.06, h8km±11km, n20, σ1§31/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.47	206	i P	Pg	05 11 11.4	-0.8
GEVA				i S	Sg	05 11 19.2	+0.8
GEVA	Gevas	0.47	206	P	Pg	05 11 11.4	-0.8
GEVA				S	Sg	05 11 19.2	+0.8
TUTA	Tutak	0.77	329	i P	Pg	05 11 17.6	-0.3
TUTA				i S	Sb	05 11 29.1	-0.5
TUTA	Tutak	0.77	329	P	Pg	05 11 17.6	-0.3
TUTA				S	Sb	05 11 29.1	-0.5
AGRB	Hanur-Agry	0.88	343	ePG	Pg	05 11 19.2	-0.7
AGRB				eSG	Sb	05 11 31.9	-0.6
AGRB	Hanur-Agry	0.88	343	ePg	Pg	05 11 19.2	-0.7
AGRB				eSg	Sb	05 11 31.9	-0.6
EKAR	Karacoban	1.11	298	i P	Pn	05 11 26.0	+1.0
EKAR	Karacoban	1.11	298	P	Pn	05 11 26.0	+1.0
HAKT	HAKKARI	1.22	165	i P	Pg	05 11 23.9	-2.4
HAKT	HAKKARI	1.22	165	P	Pg	05 11 24.0	-2.4
EATA	Eleskirt	1.29	330	i P	Pb	05 11 27.6	-0.2
EATA				i S	Sn	05 11 45.5	+0.1
EATA	Eleskirt	1.29	330	P	Pb	05 11 27.6	-0.2
EATA				S	Sn	05 11 45.5	+0.1
CUKT	Cukurca	1.50	171	ePN	Pg	05 11 32.4	+0.5
CUKT				eSN	Sg	05 11 55.5	+4.1
CUKT	Cukurca	1.50	171	ePn	Pg	05 11 32.4	+0.5
HOMI	Horasan	1.71	320	i P	Pg	05 11 35.0	-0.8
BNGL	BINGOL	1.71	278	i P	Pn	05 11 33.2	-0.1
SVAN	Silvan-Diyarba	1.77	251	ePN	Pn	05 11 34.5	+0.6
SVAN				eSN	Sb	05 11 59.0	+1.0
SVAN	Silvan-Diyarba	1.77	251	ePn	Pn	05 11 34.5	+0.6
SVAN				eSn	Sb	05 11 59.0	+1.0
MAZI	Mazidag	2.60	242	ePN	Pb	05 11 48.0	-2.0
MAZI	Mazidag	2.60	242	ePn	Pb	05 11 48.0	-2.0

*CSEM **24** 05:18:24.8±0.6, 38°.74N×43°.32E, h2km, ML3.7, Error ellipse: s-maj=16.9km s-min=7.9km az=81.0*
*DDA **24** 05:18:24.0, 38°.70N×43°.24E, h7km, Ml3.7*
*ISK **24** 05:18:25.2, 38°.81N×43°.20E, h2km, ML3.0*
*ISCJB **24** 05:18:27.5±0.8, 38°.82N±0.04×43°.16E±0.10, h13km, Error ellipse: s-maj=11.1km s-min=5.0km az=175.3*

ISC 24 05:18:25.5±0.9, 38.76N±0.02×43.30E±0.05, h13km, n31, σ1§35/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.48	203	i P	Pg	05 18 33.1	-2.0
GEVA	Gevas	0.48	203	P	Pg	05 18 33.1	-2.0
TUTA	Tutak	0.74	330	i P	Pg	05 18 38.7	-1.3
TUTA	Tutak	0.74	330	P	Pg	05 18 38.7	-1.3
AGRB	Hanur-Agry	0.85	344	ePG	Pg	05 18 41.1	-0.9
AGRB				eSG	Sg	05 18 53.0	-0.2
AGRB	Hanur-Agry	0.85	344	ePg	Pg	05 18 41.1	-0.9
AGRB				eSg	Sg	05 18 53.0	-0.2
EKAR	Karacoban	1.08	298	i P	Pg	05 18 46.2	-0.2
EKAR	Karacoban	1.08	298	P	Pg	05 18 46.2	-0.2
HAKT	HAKKARI	1.24	165	i P	Pn	05 18 46.4	-2.4
HAKT	HAKKARI	1.24	165	P	Pn	05 18 46.4	-2.4
EATA	Eleskirt	1.27	331	i P	Pn	05 18 48.6	-0.6
EATA	Eleskirt	1.27	331	P	Pn	05 18 48.6	-0.6
CUKT	Cukurca	1.53	171	ePN	Pg	05 18 55.4	+0.5
CUKT				eSN	Sg	05 19 17.0	+2.2
CUKT	Cukurca	1.53	171	ePn	Pg	05 18 55.4	+0.5
CUKT				eSn	Sg	05 19 17.0	+2.2
DIGO	Kars	1.65	2	i P	Pg	05 18 56.8	-0.5
DIGO	Kars	1.65	2	P	Pg	05 18 56.8	-0.5
HOMI	Horasan	1.68	320	i P	Pb	05 18 56.0	-0.4
SVAN	Silvan-Diyarba	1.75	250	ePN	Pb	05 18 56.5	-1.1
SVAN	Silvan-Diyarba	1.75	250	ePn	Pb	05 18 56.5	-1.1
BTMN	Batman	1.81	242	i P	Pn	05 18 56.5	0.0
BTMN	Batman	1.81	242	P	Pn	05 18 56.5	0.0
ERZM	Erzurum	1.88	308	i P	Pb	05 18 59.6	-0.4
ERZM	Erzurum	1.88	308	P	Pb	05 18 59.6	-0.4
DAGI	Agillar	2.55	336	i P	Pb	05 19 10.8	-0.4
MAZI	Mazidag	2.60	241	ePN	Pn	05 19 09.2	+1.9
MAZI	Mazidag	2.60	241	ePn	Pn	05 19 09.2	+1.9
PTK	Pertek	3.05	274	ePN	Pn	05 19 15.1	+1.4
PTK	Pertek	3.05	274	ePn	Pn	05 19 15.1	+1.4
DGRG	David-gareji	3.12	30	P	Pb	05 19 22.7	+1.7
SVRC	Sivrice-ELAZID	3.15	264	ePN	Pn	05 19 16.6	+1.6
SVRC	Sivrice-ELAZID	3.15	264	ePn	Pn	05 19 16.6	+1.6

*CSEM **24** 05:25:17.7, 38°.81N×43°.20E, h4km, ML3.0*

ISK 24 05:25:17.7, 38.81N×43.20E, h4km, ML3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.79	348	ePG	Pg	05 25 33.4	+0.6
AGRB				eSG	Sb	05 25 44.9	-0.3
AGRB	Hanur-Agry	0.79	348	ePg	Pg	05 25 33.4	+0.6
AGRB				eSg	Sb	05 25 44.9	-0.3
CUKT	Cukurca	1.59	168	ePN	Pb	05 25 47.3	-0.4
CUKT				eSN	Sg	05 26 08.9	+0.1
CUKT	Cukurca	1.59	168	ePn	Pb	05 25 47.3	-0.4
CUKT				eSn	Sg	05 26 08.9	+0.2
SVAN	Silvan-Diyarba	1.70	248	ePN	Pb	05 25 49.0	-0.7
SVAN	Silvan-Diyarba	1.70	248	ePn	Pb	05 25 49.0	-0.6
MAZI	Mazidag	2.56	239	ePN	Pn	05 26 01.0	+1.0
MAZI	Mazidag	2.56	239	ePn	Pn	05 26 01.0	+1.0

*ISCJB **24** 05:26:50.2±0.6, 24°.53N±0.04×122°.91E±0.02, h97km±5km, Error ellipse: s-maj=7.3km s-min=2.8km az=173.9*
*TAP **24** 05:26:50.5, 24°.60N×122°.81E, h110km, ML3.7, D*
*JMA **24** 05:26:50.1±0.2, 24°.51N×122°.88E, h102km±2km, M2.9*

ISC 24 05:26:50.1±1.4, 24.52N±0.06×122.91E±0.03, h100km±9km, n43, σ0§92/75, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.08	155	P	Pn	05 27 04.5	+0.4
JYNG				eS	Sn	05 27 14.7	+0.2
YOJ	Yonaguni jima	0.11	123	P	Pn	05 27 04.5	+0.4
YOJ				S	Sn	05 27 14.6	0.0
IRIF	Iriomote-Funau	0.77	104	P	Pn	05 27 08.6	+0.4
IRIF				S	Sn	05 27 21.9	+0.1
HATJ	Hateruma jima	0.94	119	P	Pn	05 27 10.8	+0.9
HATJ				S	Sn	05 27 25.3	+0.5
EGS		0.94	290	eP	Pn	05 27 10.4	+0.5
	baz=283						
EGS				eS	Sn	05 27 26.0	+1.1
	baz=283						
TWB1	Santiao Chiao	0.97	300	eP	Pn	05 27 09.7	-0.6
	baz=293						
TWC	Suao	0.97	275	eP	Pn	05 27 10.0	-0.2
	baz=269						
TWC				S	Sn	05 27 24.1	-1.2
	baz=269						
JKRS	Kuro-shima	1.04	106	P	Pn	05 27 11.8	+0.8
JKRS				S	Sn	05 27 27.5	+0.7
ENA	Nanau	1.07	265	eP	Pn	05 27 11.2	-0.1
	baz=255						
ENA				eS	Sn	05 27 27.5	+0.2
	baz=255						
JIJ	Ishigaki jima	1.14	98	P	Pn	05 27 12.3	+0.2
JIJ				S	Sn	05 27 28.0	-0.6
NWF	Wu-fen Shan	1.16	298	P	Pn	05 27 12.7	+0.2
	baz=289						
NWF				eS	Sn	05 27 28.6	-0.7
	baz=289						
ENTT	Nioudou	1.23	276	eP	Pn	05 27 13.2	0.0
	baz=268						
ENTT				eS	Sn	05 27 29.9	-0.7
	baz=268						
TWD	Chiawan	1.28	250	eP	Pn	05 27 13.5	-0.2
	baz=243						
TWD				S	Sn	05 27 30.5	-1.0
	baz=243						
JISG	Ishigakijimahi	1.28	87	P	Pn	05 27 13.9	+0.2
JISG				S	Sn	05 27 30.9	-0.7
NNS	Nan Shan	1.40	267	eP	Pn	05 27 15.6	+0.2
	baz=256						
NNS				eS	Sn	05 27 33.5	-1.0
	baz=256						
NSK	Sanguang	1.42	276	eP	Pn	05 27 16.0	+0.5
	baz=266						
NSK				eS	Sn	05 27 33.8	-1.0
	baz=266						
ESL	Shilin	1.52	243	eP	Pn	05 27 16.2	-0.5
	baz=237						
WHF	Hehuan Shan	1.55	256	P	Pn	05 27 17.7	+0.3
	baz=256						
WHF				S	Sn	05 27 37.3	-0.8
	baz=256						
TWT	Tachien	1.60	261	eP	Pn	05 27 18.7	+0.8
	baz=254						
TWT				eS	Sn	05 27 38.8	-0.1
	baz=254						
JTJ	Tarama	1.64	86	P	Pn	05 27 18.6	+0.5
JTJ				S	Sn	05 27 39.3	0.0
NSTT	Nanjuang	1.74	274	eP	Pn	05 27 19.6	+0.2
	baz=270						
NSTT				eS	Sn	05 27 40.8	-0.9
	baz=270						
EHY	Hungye	1.77	235	eP	Pn	05 27 19.6	-0.3
	baz=229						
EHY				eS	Sn	05 27 40.7	-1.7
	baz=229						
WDT	Danda	1.79	245	⇓iP	Pn	05 27 20.7	+0.3
	baz=234						
WDT				i S	Sn	05 27 42.0	-1.3
	baz=234						
TWF1	Yuli	1.88	232	⇓P	Pn	05 27 21.4	+0.2
	baz=234						
TWF1				eS	Sn	05 27 43.9	-1.0
	baz=234						
SMLT	Sun Moon Lake	1.94	251	eP	Pn	05 27 23.1	+1.0
	baz=242						
SMLT				eS	Sn	05 27 46.8	+0.3
	baz=242						
TWQ1	Liyutan	1.96	265	eP	Pn	05 27 23.1	+0.9
	baz=262						
TYC	Yuchr	1.97	252	eP	Pn	05 27 23.0	+0.6
	baz=242						
TYC				eS	Sn	05 27 47.8	+0.9
	baz=242						
CHKT	Chengkung	2.00	225	eP	Pn	05 27 21.9	-0.9
	baz=215						
CHKT				eS	Sn	05 27 45.6	-2.0
	baz=215						
YUS	Yu-Shan	2.06	240	⇓iP	Pn	05 27 24.9	+0.8
	baz=230						
YUS				S	Sn	05 27 49.5	-0.4
	baz=230						
JIRB	Irabujima	2.08	81	P	Pn	05 27 24.2	+0.4
JIRB				S	Sn	05 27 48.8	-0.7
ALS	Alishan	2.17	243	eP	Pn	05 27 26.7	+1.4
	baz=232						
ALS				eS	Sn	05 27 52.3	+0.3
	baz=232						
ELDTW	Lidau	2.18	233	eP	Pn	05 27 25.2	0.0
	baz=232						
CHN5	Tsauling	2.24	246	P	Pn	05 27 27.8	+1.9
	baz=241						
CHN5				S	Sn	05 27 55.0	+1.7
	baz=241						
TWG	Pinlang	2.39	225	eP	Pn	05 27 26.4	-1.4
	baz=226						
STYT	Tauyuan	2.39	236	eP	Pn	05 27 28.8	+0.9
	baz=226						
CHN4	Tsaushan	2.42	242	P	Pn	05 27 29.9	+1.7
	baz=236						
CHN4				eS	Sn	05 27 58.5	+1.1
	baz=236						
WTP	Ta-pu	2.46	239	eP	Pn	05 27 30.3	+1.5
	baz=228						
WTP				eS	Sn	05 27 59.9	+1.5
	baz=228						
CHN1	Nanshi	2.56	239	eP	Pn	05 27 31.1	+1.1
	baz=243						
CHN1				eS	Sn	05 28 02.1	+1.4
	baz=243						
SGST	Jiashian	2.57	237	eP	Pn	05 27 30.8	+0.6
	baz=232						
LAY	Lan-yu	2.77	207	eP	Pn	05 27 31.8	-1.1
	baz=203						
EAST	Anshuo	2.85	222	eP	Pn	05 27 33.7	-0.3
	baz=222						
SCZT	Fangliau	3.00	225	eP	Pn	05 27 37.1	+1.2
	baz=217						
JTK	Tokunoshima	6.33	58	P	Pn	05 28 18.7	-2.2

*CSEM **24** 05:28:48.4, 38°.71N×43°.10E, h8km, ML3.5*

DDA 24 05:28:48.4, 38.71N×43.10E, h8km, Ml3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.40	184	i P	Pg	05 28 55.8	-0.3
GEVA	Gevas	0.40	184	P	Pg	05 28 55.8	-0.3
TUTA	Tutak	0.73	343	i P	Pg	05 29 02.3	-0.1
TUTA				i S	Sb	05 29 12.8	-0.9
TUTA	Tutak	0.73	343	P	Pg	05 29 02.3	-0.1
TUTA				S	Sb	05 29 12.9	-0.8
EKAR	Karacoban	0.97	305	i P	Pn	05 29 08.3	-0.3
EKAR				i S	Sn	05 29 25.4	+2.7
EKAR	Karacoban	0.97	305	P	Pn	05 29 08.3	-0.3
EKAR				S	Sn	05 29 25.4	+2.7
EATA	Eleskirt	1.24	338	i P	Pg	05 29 11.5	-0.8
EATA				i S	Sn	05 29 29.6	0.0
EATA	Eleskirt	1.24	338	P	Pg	05 29 11.5	-0.8
EATA				S	Sn	05 29 29.6	0.0
CUKT	Cukurca	1.51	164	i P	Pg	05 29 17.3	-0.1
CUKT	Cukurca	1.51	164	P	Pg	05 29 17.3	-0.1
BNGL	BINGOL	1.54	280	i P	Pg	05 29 17.8	0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR				*i* S	Sn	05 32 43.4	+3.9
EKAR	**Karacoban**	**1.14**	**299**	P	Pg	05 32 22.6	+0.2
EATA	**Eleskirt**	**1.32**	**330**	*i* P	Pg	05 32 25.2	-0.8
EATA				*i* S	Sg	05 32 44.7	+1.5
EATA	**Eleskirt**	**1.32**	**330**	P	Pg	05 32 25.2	-0.8
EATA				S	Sg	05 32 44.7	+1.5
CUKT	**Cukurca**	**1.48**	**172**	*e*Pn	Pg	05 32 29.2	+0.2
CUKT				*e*SN	Sg	05 32 50.2	+2.0
CUKT	**Cukurca**	**1.48**	**172**	*e*Pn	Sg	05 32 29.2	+0.2
CUKT				*e*Sn	Sg	05 32 50.2	+2.0
VRTB	**Varto-Mus**	**1.54**	**287**	*e*PN	Pb	05 32 29.0	-0.7
VRTB	**Varto-Mus**	**1.54**	**287**	*e*Pn	Pb	05 32 29.0	-0.7
DIGO	**Kars**	**1.70**	**1**	*i* P	Pg	05 32 33.6	+0.5
DIGO				*i* S	Sg	05 32 55.1	-0.1
DIGO	**Kars**	**1.70**	**1**	P	Pg	05 32 33.6	+0.5
DIGO				S	Sg	05 32 55.1	-0.1
BNGL	**BINGOL**	**1.73**	**278**	*i* P	Pg	05 32 33.0	-0.8
BNGL				*i* S	Sg	05 32 59.0	+2.7
HOMI	**Horasan**	**1.73**	**320**	*i* P	Pg	05 32 32.8	-1.1
NAX	**Nakhchivan** SNR=18	**1.74**	**74**	⇓P	Pg	05 32 34.0	+0.1
NAX				⇓S	Sg	05 33 01.8	+5.4
NAX	**Nakhchivan** SNR=18	**1.74**	**74**	P	Pg	05 32 34.0	+0.1
SVAN	**Silvan-Diyarba**	**1.78**	**252**	*e*PN	Pb	05 32 32.1	-1.6
SVAN				*e*SN	Sb	05 32 56.8	+0.4
SVAN	**Silvan-Diyarba**	**1.78**	**252**	*i* P	Pb	05 32 33.0	-0.7
SVAN				*i* S	Sb	05 32 56.4	0.0
SVAN	**Silvan-Diyarba**	**1.78**	**252**	*e*Pn	Pb	05 32 32.1	-1.6
SVAN	**Silvan-Diyarba**	**1.78**	**252**	P	Pb	05 32 33.0	-0.7
SVAN				S	Sb	05 32 56.4	0.0
ERZM	**Erzurum**	**1.94**	**308**	*i* P	Pg	05 32 37.6	-0.3
ERZM	**Erzurum**	**1.94**	**308**	P	Pg	05 32 37.6	-0.3
EAK	**Akyaka**	**1.98**	**6**	*i* P	Pg	05 32 39.5	+1.0
SENK	**Senkaya-Erzuru**	**2.00**	**338**	*e*PN	Pb	05 32 36.4	-1.2
SENK	**Senkaya-Erzuru**	**2.00**	**338**	*e*Pn	Pb	05 32 36.4	-1.2
BNGB	**Bing¶ll**	**2.10**	**278**	*e*PN	Pb	05 32 36.9	-2.4
BINT	**Bingol**	**2.24**	**275**	*e*Pn	Pn	05 32 36.9	-1.6
YEDI	**Yedisu-Bingol**	**2.30**	**289**	*e*PN	Pb	05 32 39.9	-2.7
YEDI	**Yedisu-Bingol**	**2.30**	**289**	*e*Pn	Pb	05 32 39.9	-2.7
DDEM	**Demirkent**	**2.50**	**331**	*i* P	Pg	05 32 47.2	-1.2
BGD	**Bogdanovka**	**2.55**	**4**	P	Pg	05 32 50.0	+0.4
DAGI	**Agillar**	**2.60**	**335**	*i* P	Pg	05 32 49.1	-1.4
MAZI	**Mazidag**	**2.61**	**242**	*e*PN	Pn	05 32 43.1	-0.5
MAZI	**Mazidag**	**2.61**	**242**	*e*Pn	Pn	05 32 43.1	-0.5
AKH	**Akhalkalaki**	**2.69**	**2**	*e*PN	Pb	05 32 46.4	-3.0
AKH	**Akhalkalaki**	**2.69**	**2**	P	Pg	05 32 52.0	-0.3
AKH	**Akhalkalaki**	**2.69**	**2**	*e*Pn	Pb	05 32 46.4	-3.0
ARTV	**Artvin**	**2.69**	**337**	*i* P	Pg	05 32 51.1	-1.1
GDB	**GEDABAY** SNR=13	**2.73**	**42**	⇓P	Pb	05 32 47.0	-3.1
GDB				⇓S	Sg	05 33 32.1	+3.7
GDB	**GEDABAY** SNR=13	**2.73**	**42**	P	Pb	05 32 47.0	-3.1
QZX	**Qazax, Azerbai** SNR=9.9	**2.81**	**33**	⇑P	Pg	05 32 53.0	-1.5
QZX				⇑S	Sg	05 33 36.5	+5.6
QZX	**Qazax, Azerbai** SNR=9.9	**2.81**	**33**	P	Pg	05 32 53.0	-1.5
EPOS	**Posof**	**2.82**	**351**	*i* P	Pg	05 32 52.5	-2.3
DBOC	**Borcka**	**2.92**	**334**	*i* P	Pg	05 32 54.6	-2.0
ERZN	**Erzincan**	**2.95**	**288**	*e*PN	Pn	05 32 49.4	+1.1
GANJ	**Ganja** SNR=10	**3.00**	**49**	⇓P	Pb	05 32 51.1	-3.4
GANJ				⇑S	Sg	05 33 39.7	+2.8
GANJ	**Ganja** SNR=10	**3.00**	**49**	P	Pb	05 32 51.1	-3.4
PTK	**Pertek**	**3.09**	**274**	*e*PN	Pn	05 32 51.6	+1.3
PTK	**Pertek**	**3.09**	**274**	*e*Pn	Pn	05 32 51.6	+1.3
DGRG	**David-gareji**	**3.14**	**29**	P	Pb	05 32 56.5	-0.5
SVRC	**Sivrice-ELAZID**	**3.19**	**265**	*e*PN	Pn	05 32 52.1	+0.5
SVRC	**Sivrice-ELAZID**	**3.19**	**265**	*e*Pn	Pn	05 32 52.1	+0.5
TBLG	**Delisi**	**3.19**	**19**	*e*PN	Pb	05 32 53.3	-4.6
TBLG	**Delisi**	**3.19**	**19**	P	Pg	05 33 02.6	+0.8
TBLG	**Delisi**	**3.19**	**19**	*e*Pn	Pb	05 32 53.3	-4.6
EZC	**Erzincan**	**3.27**	**290**	*e*Pn	Pn	05 32 49.4	-3.3
KTUT	**Trabzon**	**3.57**	**311**	*e*PN	Pn	05 32 58.1	+1.5
KTUT	**Trabzon**	**3.57**	**311**	*e*Pn	Pn	05 32 58.1	+1.5
URFA	**Urfa**	**3.79**	**252**	*e*PN	Pn	05 33 01.3	+1.5
URFA	**Urfa**	**3.79**	**252**	*e*Pn	Pn	05 33 01.3	+1.5
ONI	**Oni**	**3.87**	**1**	P	Pb	05 33 03.6	-5.8
DARE	**Darende-Malaty**	**4.59**	**270**	*e*PN	Pn	05 33 13.2	+2.4
DARE	**Darende-Malaty**	**4.59**	**270**	*e*Pn	Pn	05 33 13.2	+2.4
RSDY	**Resadiye-TOKAT**	**4.95**	**292**	*e*PN	Pn	05 33 17.7	+2.1
RSDY	**Resadiye-TOKAT**	**4.95**	**292**	*e*Pn	Pn	05 33 17.7	+2.1

MOS ***24*** *05:33:59.1±1.6,38°.09N×43°.12E,h10km,mb4.4/7, Error ellipse: s-maj=10.7km s-min=6.6km az=94.5*
IDC ***24*** *05:33:59.9±1.1,38°.28N×43°.08E,h0km,mb3.9/10, mb1 4.0/14,mb1mx3.7/44,mbtmp3.9/14,ML3.4/4,MS3.2/12, Ms1 3.2/12,ms1mx2.8/56,Error ellipse: s-maj=19.6km s-min=12.5km az=171.0*
NEIC ***24*** *05:34:00.8±0.7,38°.13N×43°.24E,h10km,mb4.1/7, ML4.0(ISK),Error ellipse: s-maj=11.1km s-min=9.2km az=156.0*
DDA ***24*** *05:34:01.9,38°.67N×43°.17E,h3km,Ml3.5*
AZER ***24*** *05:34:02.5±18.0,38°.17N×42°.60E,h38km±99km,Error ellipse: s-maj=486.1km s-min=71.7km az=2.0*
ISK ***24*** *05:34:03.3,38°.74N×43°.10E,h9km,ML3.9*
CSEM ***24*** *05:34:03.5±0.2,38°.55N×43°.18E,h10km,mb4.0/7,Error ellipse: s-maj=8.5km s-min=5.9km az=159.0*

ISC 24 05:34:03.4±1.0,38°.62N±0°.02×43°.14E±0°.02,h8km±7km, n166,σ1§93/176,mb4.1/13,MS3.3/7,3C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.31**	**192**	*i* P	Pg	05 34 09.0	-0.6
GEVA				*i* S	Sb	05 34 15.5	-1.1
GEVA	**Gevas**	**0.31**	**192**	P	Pg	05 34 09.0	-0.6
GEVA				S	Sb	05 34 15.5	-1.1
TUTA	**Tutak**	**0.82**	**342**	*i* P	Pg	05 34 16.8	-2.5
TUTA				*i* S	Sg	05 34 28.4	-1.6
TUTA	**Tutak**	**0.82**	**342**	P	Pg	05 34 16.8	-2.5
TUTA				S	Sg	05 34 28.4	-1.6
AGRB	**Hanur-Agry**	**0.96**	**353**	*e*PG	Pg	05 34 20.0	-1.9
AGRB				*e*SG	Sg	05 34 31.9	-2.7
EKAR	**Karacoban**	**1.05**	**308**	*i* P	Pg	05 34 23.8	+0.1
EKAR				*i* S	Sn	05 34 42.7	+3.0
EKAR	**Karacoban**	**1.05**	**308**	P	Pg	05 34 23.8	+0.1
EKAR				S	Sn	05 34 42.7	+3.0
HAKT	**HAKKARI**	**1.15**	**157**	*i* P	Pg	05 34 23.3	-2.1
HAKT	**HAKKARI**	**1.15**	**157**	P	Pg	05 34 23.3	-2.1
SIRN	**S¨–rnak**	**1.26**	**207**	*i* P	Pg	05 34 28.4	+0.9
SIRN	**S¨–rnak**	**1.26**	**207**	P	Pg	05 34 28.4	+0.9
EATA	**Eleskirt**	**1.34**	**338**	*i* P	Pn	05 34 27.0	-1.7
EATA				*i* S	Sb	05 34 45.3	-1.2
EATA	**Eleskirt**	**1.34**	**338**	P	Pn	05 34 27.0	-1.7
EATA				S	Sb	05 34 45.3	-1.2
CUKT	**Cukurca**	**1.42**	**165**	*e*PN	Pg	05 34 31.8	+1.2
CUKT				*e*SN	Sg	05 34 52.5	+3.6
CUKT	**Cukurca**	**1.42**	**165**	*i* P	Pg	05 34 31.3	+0.8
CUKT				*i* S	Sg	05 34 57.0	+8.1
CUKT	**Cukurca**	**1.42**	**165**	P	Pg	05 34 31.3	+0.8
CUKT				S	Sg	05 34 57.0	+8.1
VRTB	**Varto-Mus**	**1.42**	**293**	*e*PN	Pn	05 34 28.7	-0.9
VRTB				*e*SN	Sn	05 34 47.6	-1.1
VRTB	**Varto-Mus**	**1.42**	**293**	*i* P	Pn	05 34 24.6	-5.1
VRTB	**Varto-Mus**	**1.42**	**293**	P	Pn	05 34 24.5	-5.2
VRTB	**Varto-Mus**	**1.42**	**293**	*e*Pn	Pn	05 34 28.7	-0.9
VRTB				*e*Sn	Sn	05 34 47.6	-1.1
BNGL	**BINGOL**	**1.59**	**283**	*i* P	Pn	05 34 31.0	-1.0
BNGL				*i* S	Sg	05 34 55.7	+1.1
SVAN	**Silvan-Diyarba**	**1.60**	**254**	*e*PN	Pb	05 34 31.9	0.0
SVAN				*e*SN	Sb	05 34 54.3	+0.8
SVAN	**Silvan-Diyarba**	**1.60**	**254**	*i* P	Pn	05 34 32.4	+0.5
SVAN				*i* S	Sg	05 34 55.7	+1.0
SVAN	**Silvan-Diyarba**	**1.60**	**254**	*e*Pn	Pn	05 34 31.9	0.0
SVAN	**Silvan-Diyarba**	**1.60**	**254**	P	Pn	05 34 32.4	+0.5
SVAN				*e*Sn	Sb	05 34 54.3	+0.8
SVAN				S	Sg	05 34 55.7	+1.0
BTMN	**Batman**	**1.64**	**244**	*i* P	Pn	05 34 32.3	-0.3
BTMN				*i* S	Sg	05 34 58.3	+2.1
BTMN	**Batman**	**1.64**	**244**	P	Pn	05 34 32.3	-0.3
BTMN				S	Sg	05 34 58.3	+2.1
HOMI	**Horasan**	**1.72**	**327**	*i* P	Pn	05 34 34.6	+0.8
DIGO	**Kars**	**1.81**	**6**	*i* P	Pn	05 34 34.9	-0.1
DIGO	**Kars**	**1.81**	**6**	P	Pn	05 34 34.9	-0.1
NAX	**Nakhchivan**	**1.92**	**72**	⇑P	Pb	05 34 37.8	-0.9
NAX				⇓S	Sg	05 35 10.0	+4.9
NAX	**Nakhchivan**	**1.92**	**72**	P	Pb	05 34 37.8	-0.9
BNGB	**Bing¶ll**	**1.96**	**282**	*e*PN	Pn	05 34 37.0	0.0
GNI	**Garni** 9.9nm,0.3s,baz=236,slow=4.0,SNR=4.9	**1.97**	**39**	Pn	Pb	05 34 39.2	-0.3
GNI	**Garni**	**1.97**	**39**	*e*Pn	Pb	05 34 40.0	+0.4
GNI				*e*Sn	Sg	05 35 07.6	+0.8
GNI	**Garni**	**1.97**	**39**	*e*Pn	Pb	05 34 40.0	+0.4
GNI				*e*Sn	Sg	05 35 07.5	+0.8
BINT	**Bingol**	**2.09**	**278**	P	Pn	05 34 36.9	-1.9
BINT	**Bingol**	**2.09**	**278**	*e*Pn	Pn	05 34 37.0	-1.9
YEDI	**Yedisu-Bingol**	**2.18**	**293**	*e*PN	Pn	05 34 40.0	-0.1
YEDI	**Yedisu-Bingol**	**2.18**	**293**	*e*Pn	Pn	05 34 40.0	-0.1
MARD	**Mardin**	**2.27**	**236**	*i* P	Pn	05 34 42.7	+1.4
MARD				*i* S	Sg	05 35 15.1	-1.3
MARD	**Mardin**	**2.27**	**236**	*e*PN	Pn	05 34 41.5	+0.2
MARD				*e*Sn	Sn	05 35 01.0	-8.6
MARD	**Mardin**	**2.27**	**236**	*e*Pn	Pn	05 34 41.5	+0.2
MARD				*e*Sn	Sn	05 35 01.0	-8.6
MAZI	**Mazidag**	**2.42**	**242**	*e*PN	Pn	05 34 42.9	-0.4
MAZI	**Mazidag**	**2.42**	**242**	*e*Pn	Pn	05 34 42.9	-0.4
KOPT	**Kop Dagi**	**2.48**	**305**	*i* P	Pb	05 34 49.8	+1.4
KOPT	**Kop Dagi**	**2.48**	**305**	*e*Pn	Pb	05 34 48.3	-0.1
KOPT	**Kop Dagi**	**2.48**	**305**	P	Pb	05 34 49.8	+1.4
KOPT	**Kop Dagi**	**2.48**	**305**	*e*Pn	Pb	05 34 48.3	-0.1
DDEM	**Demirkent**	**2.51**	**335**	*i* P	Pb	05 34 50.6	+1.8
DDEM	**Demirkent**	**2.51**	**335**	P	Pb	05 34 50.6	+1.8
DAGI	**Agillar**	**2.63**	**339**	*i* P	Pb	05 34 50.5	-0.4
BGD	**Bogdanovka**	**2.67**	**7**	P	Pb	05 34 53.2	+1.7
ARTV	**Artvin**	**2.73**	**340**	*i* P	Pb	05 34 51.8	-0.8
ARTV	**Artvin**	**2.73**	**340**	P	Pb	05 34 51.8	-0.8
ARTV	**Artvin**	**2.73**	**340**	*e*Pn	Pb	05 34 53.0	+0.4
ARTV				*e*Sn	Sb	05 35 26.6	+0.3
ARTV	**Artvin**	**2.73**	**340**	*e*Pn	Pb	05 34 53.0	+0.4
ARTV				*e*Sn	Sb	05 35 26.6	+0.3
AKH	**Akhalkalaki**	**2.80**	**5**	P	Pb	05 34 53.2	-0.7
AKH	**Akhalkalaki**	**2.80**	**5**	P	Pb	05 34 53.1	-0.7
AKH	**Akhalkalaki**	**2.80**	**5**	P	Pb	05 34 53.1	-0.7
ERZN	**Erzincan**	**2.83**	**291**	*e*PN	Pn	05 34 48.8	-0.2
TNCL	**Tunceli-Merkez**	**2.85**	**281**	*i* P	Pb	05 34 54.3	-0.3
TNCL	**Tunceli-Merkez**	**2.85**	**281**	P	Pb	05 34 54.3	-0.3
GDB	**GEDABAY**	**2.91**	**43**	⇑P	Pb	05 34 54.5	-1.2
GDB				⇓S	Sb	05 35 34.9	+3.4
GDB	**GEDABAY**	**2.91**	**43**	P	Pb	05 34 54.5	-1.2
GDB				S	Sb	05 35 34.9	+3.4
PTK	**Pertek**	**2.94**	**277**	*e*PN	Pn	05 34 50.7	+0.1
PTK	**Pertek**	**2.94**	**277**	*e*Pn	Pn	05 34 50.7	+0.1
DBOC	**Borcka**	**2.95**	**338**	*i* P	Pb	05 34 57.0	+0.7
DBOC	**Borcka**	**2.95**	**338**	P	Pb	05 34 57.0	+0.7
QZX	**Qazax, Azerbai**	**2.98**	**34**	⇑P	Pb	05 34 56.3	-0.5
QZX	**Qazax, Azerbai**	**2.98**	**34**	P	Pb	05 34 56.3	-0.5
SVRC	**Sivrice-ELAZID**	**3.02**	**267**	*e*PN	Pn	05 34 52.7	+1.1
SVRC	**Sivrice-ELAZID**	**3.02**	**267**	*e*Pn	Pn	05 34 52.7	+1.1
GANJ	**Ganja** SNR=4.2	**3.19**	**49**	⇓P	Pb	05 35 00.4	+0.2
GANJ	**Ganja** SNR=4.2	**3.19**	**49**	P	Pb	05 35 00.4	+0.2
DGRG	**David-gareji**	**3.31**	**30**	P	Pn	05 34 57.1	+1.6
DGRG	**David-gareji**	**3.31**	**30**	P	Pn	05 34 57.1	+1.6
DGRG	**David-gareji**	**3.31**	**30**	P	Pn	05 34 57.1	+1.6
TBLG	**Delisi**	**3.34**	**21**	*e*PN	Pn	05 34 55.2	-0.7
TBLG	**Delisi**	**3.34**	**21**	P	Pb	05 35 02.0	-0.9
TBLG	**Delisi**	**3.34**	**21**	P	Pb	05 35 02.0	-0.9
KELT	**Kelkit**	**3.38**	**298**	*i* P	Pb	05 35 05.9	+2.3
KELT	**Kelkit**	**3.38**	**298**	P	Pb	05 35 05.9	+2.3
REFA	**Refahiye_ERZ¨**	**3.50**	**284**	*i* P	Pg	05 35 10.9	+0.5
REFA	**Refahiye_ERZ¨**	**3.50**	**284**	P	Pg	05 35 10.9	+0.5
KTUT	**Trabzon**	**3.52**	**313**	*e*PN	Pn	05 34 57.7	-0.6
KTUT	**Trabzon**	**3.52**	**313**	*e*Pn	Pn	05 34 57.7	-0.6
URFA	**Urfa**	**3.61**	**252**	*e*PN	Pn	05 35 02.2	+2.6
URFA	**Urfa**	**3.61**	**252**	*e*Pn	Pn	05 35 02.2	+2.6
KEMA	**Kemaliye**	**3.68**	**282**	*i* P	Pb	05 35 09.6	+0.9
KEMA	**Kemaliye**	**3.68**	**282**	P	Pb	05 35 09.6	+0.9
SUSE	**Susehri**	**4.14**	**294**	*i* P	Pb	05 35 20.1	+3.5
SUSE	**Susehri**	**4.14**	**294**	P	Pb	05 35 20.1	+3.5
ZEI	**Tsey**	**4.21**	**8**	*e*P	Pn	05 35 13.4	+5.4
ZEI	comp=Z,7.0nm,0.6s			pmax	pmax		
CUZAR	**Zara_SIVAS**	**4.36**	**289**	*i* P	Pg	05 35 24.6	-2.3
CUZAR	**Zara_SIVAS**	**4.36**	**289**	P	Pg	05 35 24.6	-2.3
GRSN	**GIRESUNGRSN**	**4.41**	**303**	*i* P	Pb	05 35 23.3	+2.3
GRSN	**GIRESUNGRSN**	**4.41**	**303**	P	Pb	05 35 23.3	+2.3
DARE	**Darende-Malaty**	**4.43**	**271**	*e*PN	Pn	05 35 12.7	+1.7
DARE	**Darende-Malaty**	**4.43**	**271**	*e*Pn	Pn	05 35 12.7	+1.7
RSDY	**Resadiye-TOKAT**	**4.83**	**293**	*e*PN	Pn	05 35 18.1	+1.7
RSDY	**Resadiye-TOKAT**	**4.83**	**293**	*e*Pn	Pn	05 35 18.1	+1.7
KBZ	**Khabaz** comp=Z,0.2nm,0.3s,baz=49,slow=20,SNR=2.3	**5.11**	**358**	Pn	Pb	05 35 27.7	-5.3
KIV	**Kislovodsk**	**5.34**	**356**	*e*P	Pn	05 35 29.8	+6.3
KIV	comp=Z,7.0nm,1.0s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,7.0nm,1.0s	**5.34**	**356**	*e*P	Pn	05 35 29.8	+6.3
KIV				*e*Sn	Sn	05 36 32.1	+6.8
KVAR	**Kislovodsk Arr** baz=192,slow=7.6,SNR=2.2	**5.34**	**357**	Pn	Pn	05 35 29.5	+6.0
KVAR	comp=Z,294nm,21.3s,baz=133,slow=42			LR	LR	05 37 59.0	
MAK	**Makhachkala**	**5.46**	**36**	*e*P	Pn	05 35 21.4	-3.6
MAK	comp=Z,157nm,1.5s			pmax	pmax		
MAK	comp=Z,511nm,14.0s			MLR	MLR		
BR101	**Keskin Array S**	**7.46**	**282**	*e*Pn	Pn	05 35 53.2	+0.5
BR101	**Keskin Array S**	**7.46**	**282**	*e*Pn	Pn	05 35 53.2	+0.5
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=84,slow=15,SNR=2.7	**7.46**	**281**	Pn	Pn	05 35 53.2	+0.5
MMAI	**Mount Meron Ar** comp=Z,101nm,18.2s,baz=40,slow=44	**8.41**	**231**	LR	LR	05 39 60.0	
EIL	**Elat** comp=Z,81nm,19.6s,baz=108,slow=41	**11.20**	**220**	LR	LR	05 41 29.4	
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=129,slow=12,SNR=4.9	**15.59**	**325**	Pn	Pn	05 37 42.0	-1.3
AKBB	**Malin Array Si**	**15.59**	**325**	*e*P	P	05 37 47.7	+0.1
AKBB	comp=Z,8.0nm,1.0s			pmax	pmax		
AKBB	**Malin Array Si** comp=Z,8.2nm,1.0s	**15.59**	**325**	*e*Pn	P	05 37 47.7	+0.1
KIEV	**Kiev**	**15.59**	**325**	*e*P	P	05 37 47.8	+0.2
KIEV				*e*		05 40 41.9	
KIEV	comp=Z,9.0nm,1.0s			pmax	pmax		
KIEV	**Kiev**	**15.59**	**325**	*e*Sn	Sn	05 40 41.9	+5.8
KIEV	**Kiev** comp=Z,9.1nm,1.0s	**15.59**	**325**	*e*Pn	P	05 37 47.8	+0.2
KIEV				*e*Sn	Sn	05 40 41.9	+5.8
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=225,slow=16,SNR=3.6	**15.84**	**37**	Pn	Pn	05 37 47.7	+1.1
AKTO	comp=Z,102nm,18.7s,baz=217,slow=42			LR	LR	05 45 22.9	
ABKAR	**Akbulak array**	**16.07**	**43**	*e*Pn	Pn	05 37 49.6	0.0
ABKAR	**Akbulak array**	**16.07**	**43**	*e*Pn	Pn	05 37 49.6	0.0
OBN	**Obninsk** comp=Z,45nm,19.2s,baz=275,slow=36	**17.09**	**347**	LR	LR	05 44 31.8	
CRVS	**Cervenica-Dubn**	**18.67**	**310**	*e*P	Pn	05 38 22.6	+0.6
CRVS	**Cervenica-Dubn**	**18.67**	**310**	*e*P	Pn	05 38 22.6	+0.6
CRVS	**Cervenica-Dubn**	**18.67**	**310**	*e*P	Pn	05 38 22.6	+0.6
PSZ	**Piszkesteto**	**19.25**	**306**	*e*P	P	05 38 28.7	+0.5
PSZ	comp=Z,7.0nm,0.9s			pmax	pmax		
PSZ	**Piszkesteto** comp=Z,7.4nm,0.9s	**19.25**	**306**	*e*P	P	05 38 28.7	+0.5
PSZ	**Piszkesteto** comp=Z,7.4nm,0.9s	**19.25**	**306**	*e*P	P	05 38 28.7	+0.5
VYHS	**Vyhne**	**20.12**	**307**	*e*P	Pn	05 38 39.5	+0.2
VYHS	**Vyhne**	**20.12**	**307**	*e*P	Pn	05 38 39.5	+0.2
VYHS	**Vyhne**	**20.12**	**307**	*e*P	Pn	05 38 39.5	+0.2
ARU	**Arti** comp=Z,6.3nm,0.2s,baz=284,slow=19,SNR=3.4	**20.55**	**25**	P	P	05 38 42.3	+0.1
KKAR	**Karatay Array**	**21.14**	**69**	*e*P	P	05 38 51.9	+3.2
KKAR	comp=Z,57nm,0.8s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,57nm,0.8s	**21.14**	**69**	*e*P	P	05 38 51.9	+3.2
GEC2	**GERESS Array S**	**23.47**	**305**	*e*P	P	05 39 13.7	+0.4
GEC2	comp=Z,9.0nm,1.5s			pmax	pmax		
GEC2	**GERESS Array S** comp=Z,9.3nm,1.5s	**23.47**	**305**	*e*P	P	05 39 13.7	+0.4
GEC2	**GERESS Array S** comp=Z,9.3nm,1.5s	**23.47**	**305**	*e*P	P	05 39 13.7	+0.4
GERES	**GERESS Array B** comp=Z,0.4nm,0.2s,baz=108,slow=15,SNR=3.3	**23.47**	**305**	P	P	05 39 12.9	-0.5
BVAR	**Borovoye Array** comp=Z,0.6nm,0.6s,baz=258,slow=4.4,SNR=3.6	**23.65**	**44**	P	P	05 39 14.8	-0.1
FIA0	**FINESS Array S**	**25.19**	**341**	*e*P	P	05 39 28.5	-0.5
FIA0	**FINESS Array S**	**25.19**	**341**	*e*P	P	05 39 28.5	-0.5
FIA0	**FINESS Array S**	**25.19**	**341**	*e*P	P	05 39 28.5	-0.5
FINES	**FINESS Array B** comp=Z,3.6nm,1.0s,baz=176,slow=4.2,SNR=4.4	**25.19**	**341**	P	P	05 39 28.5	-0.5
FINES				LR	LR	05 50 13.8	
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.7s,baz=263,slow=9.1,SNR=5.7	**27.63**	**53**	P	P	05 39 51.1	-0.1
KURK	**Kurchatov**	**27.71**	**53**	P	P	05 39 51.2	-0.7
KURK	comp=Z,1.0nm,0.6s			pmax	pmax		
KURK	**Kurchatov** comp=Z,1.0nm,0.6s	**27.71**	**53**	P	P	05 39 51.2	-0.7
KURK	**Kurchatov**	**27.71**	**53**	*e*P	P	05 39 51.1	-0.7
HFS	**Hagfors** comp=Z,3.6nm,0.9s,baz=184,slow=4.3,SNR=3.6	**28.41**	**329**	P	P	05 39 57.6	-0.6
MK32	**Makanchi Array**	**29.66**	**61**	*e*P	P	05 40 10.1	+0.8
MK32	**Makanchi Array**	**29.66**	**61**	*e*P	P	05 40 10.1	+0.8
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=268,slow=5.3,SNR=2.1	**29.66**	**61**	P	P	05 40 10.1	+0.7
NOA	**NORSAR Array B** comp=Z,12nm,18.7s,baz=275,slow=36	**29.94**	**329**	LR	LR	05 52 20.1	
ZALV	**Zalesovo Beam** comp=Z,36nm,19.2s,baz=248,slow=40	**32.09**	**48**	LR	LR	05 55 48.2	
ARCES	**ARCESS Array B** comp=Z,60nm,18.1s,baz=141,slow=37	**32.39**	**349**	LR	LR	05 54 23.5	
NRIK	**Noril'sk** comp=Z,59nm,18.7s,baz=104,slow=41	**38.77**	**23**	LR	LR	06 00 51.2	
KMBO	**Kilima Mbogo** comp=Z,44nm,19.0s,baz=72,slow=37	**39.92**	**189**	LR	LR	05 58 39.7	
KMBO	**Kilima Mbogo**	**39.92**	**189**	*e*P	P	05 41 30.4	-7.9
KMBO	comp=Z,11nm,1.9s			pmax	pmax		
KMBO	**Kilima Mbogo** comp=Z,11nm,1.9s	**39.92**	**189**	*e*P	P	05 41 30.4	-7.9
TOA1	**Torodi Ar. Sit** comp=Z,11nm,1.5s	**44.56**	**247**	*e*P	P	05 42 11.6	-4.4
TORD	**Torodi Ar. Bea** comp=Z,2.2nm,1.2s,baz=39,slow=9.6,SNR=5.6	**44.56**	**247**	P	P	05 42 11.6	-4.4
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.3s,baz=301,slow=8.0,SNR=7.6	**52.16**	**96**	P	P	05 43 13.3	-1.2
KSAR	**Wonju Array Be**	**64.32**	**62**	P	P	05 44 37.7	-1.7
KSAR	**Wonju Array Be**	**64.32**	**62**	P	P	05 44 37.7	-1.7
KSAR	**Wonju Array Be**	**64.32**	**62**	P	P	05 44 37.7	-1.7
KSRS	**Korea Array** comp=Z,1.3nm,0.5s,baz=299,slow=5.2,SNR=4.6	**64.34**	**62**	P	P	05 44 37.7	-1.8
MA2	**Magadan** comp=Z,26nm,19.4s,baz=316,slow=40	**65.53**	**32**	LR	LR	06 17 26.8	

**IDC 24 05:35:57.7±7.0,18°.60S×176°.45W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.8/27,m

HOMI Horasan 1.69 321 ⇓ *i* P Pn 05 55 28.2 +0.7
HOMI *i* S Sg 05 55 53.1 0.0
SVAN Silvan-Diyarba 1.73 251 *e*PN Pb 05 55 29.4 -0.6
SVAN *e*SN Sg 05 55 53.4 -0.9
SVAN Silvan-Diyarba 1.73 251 ⇑ *i* P Pn 05 55 27.6 -0.4
SVAN *i* S Sg 05 55 53.1 -1.2
SVAN Silvan-Diyarba 1.73 251 P Pn 05 55 27.6 -0.4
SVAN Silvan-Diyarba 1.73 251 *e*Pn Pb 05 55 29.4 -0.6
SVAN *e*Sn Sg 05 55 53.4 -0.9
NAX Nakhchivan 1.79 75 ⇑P Pn 05 55 28.8 +0.1
SNR=33
NAX ⇑S Sb 05 55 52.3 -0.7
NAX Nakhchivan 1.79 75 P Pn 05 55 28.8 +0.1
SNR=33
BTMN Batman 1.79 243 ⇓ *i* P Pn 05 55 28.4 -0.4
BTMN *i* S Sg 05 55 55.3 -0.8
BTMN Batman 1.79 243 P Pn 05 55 28.4 -0.4
GNI Garni 1.82 38 Pn Pn 05 55 29.9 +0.6
77nm,0.3s,baz=245,slow=2.9,SNR=29
GNI Sn Sb 05 55 53.4 -0.6
55nm,0.3s,baz=356,slow=16,SNR=6.6
GNI Garni 1.82 38 *e*Pn Pn 05 55 29.4 +0.2
GNI Garni 1.82 38 *e*Pn Pn 05 55 29.4 +0.2
GNI *e*Sn Sb 05 55 53.6 -0.4
ISHB Shabestar 1.89 103 *e*Pn Pn 05 55 30.7 +0.4
ISHB *e*AMB AMB 05 55 33.7
comp=Z,20μm,0.2s
ISHB *e*Sg Sb 05 55 56.2 0.0
ERZM Erzurum 1.89 309 *i* P Pn 05 55 31.4 +1.0
ERZM Erzurum 1.89 309 P Pn 05 55 31.4 +1.0
IMRD Marand 1.90 90 *e*Pn Pn 05 55 30.4 0.0
IMRD *e*AMB AMB 05 56 05.4
comp=Z,45μm,0.3s
IMRD Marand 1.90 90 *e*Pn Pn 05 55 30.4 0.0
SENK Senkaya-Erzuru 1.96 339 *e*PN Pn 05 55 32.2 +0.9
SENK Senkaya-Erzuru 1.96 339 *e*Pn Pn 05 55 32.2 +0.9
EAK Akyaka 1.97 7 *i* P Pb 05 55 33.3 -0.8
EAK *i* S Sg 05 56 04.0 +1.9
EAK Akyaka 1.97 7 P Pb 05 55 33.3 -0.8
ECAT Cat-ERZURUM 1.99 297 ⇓ *i* P Pb 05 55 33.5 -1.0
ECAT *i* S Sb 05 56 00.1 +0.9
ECAT Cat-ERZURUM 1.99 297 P Pb 05 55 33.5 -1.0
ECAT S Sb 05 56 00.1 +0.9
BNGB Bing¨ll 2.04 278 *e*PN Pb 05 55 34.2 -1.1
BINT Bingol 2.18 275 *e*Pn Pn 05 55 34.2 -0.1
YEDI Yedisu-Bingol 2.24 289 *e*PN Pn 05 55 36.2 +1.2
YEDI Yedisu-Bingol 2.24 289 *e*Pn Pn 05 55 36.3 +1.2
ITBZ Tabriz 2.31 101 *e*Pn Pn 05 55 36.9 +0.9
ITBZ *e*AMB AMB 05 56 01.5
comp=Z,4μm,0.3s
ITBZ Tabriz 2.31 101 *e*Pn Pn 05 55 36.9 +0.9
MARD Mardin 2.43 235 *i* P Pn 05 55 36.7 -0.9
MARD Mardin 2.43 235 *e*Pn Pn 05 55 37.1 -0.5
MARD Mardin 2.43 235 *e*Pn Pn 05 55 37.1 -0.5
MARD *e*Sn Sn 05 56 04.5 -2.4
DDEM Demirkent 2.46 332 ⇓ *i* P Pb 05 55 42.3 -0.1
DDEM *i* S Sg 05 56 16.9 -0.7
KOPT Kop Dagi 2.51 302 *i* P Pb 05 55 42.9 -0.5
KOPT Kop Dagi 2.51 302 *e*Pn Pb 05 55 42.7 -0.6
KOPT *e*Sn Sn 05 56 10.7 +1.4
KOPT Kop Dagi 2.51 302 *e*Pn Pb 05 55 42.7 -0.6
KOPT *e*Sn Sn 05 56 10.7 +1.4
BGD Bogdanovka 2.54 5 P Pn 05 55 40.8 +1.5
MAZI Mazidag 2.57 241 *e*PN Pb 05 55 42.3 -2.0
MAZI Mazidag 2.57 241 *e*Pn Pb 05 55 42.3 -2.0
DAGI Agillar 2.57 336 *i* P Pb 05 55 44.4 +0.1
ARTV Artvin 2.66 338 ⇑ *i* P Pn 05 55 41.3 +0.4
ARTV Artvin 2.66 338 P Pn 05 55 41.3 +0.4
ARTV Artvin 2.66 338 *e*Pn Pn 05 55 41.6 +0.6
ARTV *e*Sn Sn 05 56 15.6 +2.7
ARTV Artvin 2.66 338 *e*Pn Pn 05 55 41.6 +0.6
ARTV *e*Sn Sn 05 56 15.7 +2.7
AKH Akhalkalaki 2.68 3 *e*PN Pb 05 55 43.1 +1.9
AKH Akhalkalaki 2.68 3 P Pb 05 55 46.3 0.0
AKH Akhalkalaki 2.68 3 P Pb 05 55 46.3 0.0
AKH Akhalkalaki 2.68 3 *e*Pn Pn 05 55 43.1 +1.9
AKH Akhalkalaki 2.68 3 P Pb 05 55 46.3 0.0
GDB GEDABAY 2.76 43 ⇓P Pn 05 55 42.9 +0.7
SNR=9.8
GDB ⇑S Sn 05 56 17.7 +2.4
GDB GEDABAY 2.76 43 P Pn 05 55 42.9 +0.7
SNR=9.8
EPOS Posof 2.80 352 *i* P Pn 05 55 37.1 -5.7
QZX Qazax, Azerbai 2.83 34 ⇑P Pn 05 55 43.8 +0.8
SNR=4.5
QZX ⇓S Sn 05 56 19.5 +2.7
QZX Qazax, Azerbai 2.83 34 P Pn 05 55 43.8 +0.8
SNR=4.5
QZX S Sn 05 56 19.5 +2.7
DBOC Borcka 2.89 335 *i* P Pn 05 55 44.3 +0.4
DBOC Borcka 2.89 335 P Pn 05 55 44.3 +0.4
ERZN Erzincan 2.89 288 *e*PN Pn 05 55 46.1 +2.0
TNCL Tunceli-Merkez 2.94 279 *i* P Pb 05 55 49.0 -1.6
EUZM Uzumlu 2.95 290 *i* P Pb 05 55 50.5 -0.3
IHRS Heris 2.98 97 *e*Pn Pn 05 55 46.1 +0.8
IHRS *e*AMB AMB 05 55 53.6
comp=Z,5μm,0.2s
IHRS Heris 2.98 97 *e*Pn Pn 05 55 46.1 +0.8
IBST Bostanabad 3.03 109 *e*Pn Pn 05 55 46.5 +0.5
IBST *e*AMB AMB 05 56 15.7
comp=Z,2μm,0.3s
IBST Bostanabad 3.03 109 *e*Pn Pn 05 55 46.5 +0.5
GANJ Ganja 3.03 50 ⇓P Pn 05 55 46.6 +0.8
SNR=19
GANJ ⇑S Sn 05 56 24.2 +2.4
GANJ Ganja 3.03 50 P Pn 05 55 46.6 +0.8
SNR=19
PTK Pertek 3.04 274 *e*PN Pn 05 55 48.9 +2.8
PTK Pertek 3.04 274 *e*Pn Pn 05 55 48.9 +2.8
SVRC Sivrice-ELAZID 3.13 265 *e*PN Pn 05 55 49.3 +2.0
SVRC Sivrice-ELAZID 3.13 265 *e*Pn Pn 05 55 49.3 +2.0
DGRG David-gareji 3.16 30 P Pn 05 55 49.7 +2.1
DGRG David-gareji 3.16 30 P Pn 05 55 49.7 +2.1
DGRG David-gareji 3.16 30 P Pn 05 55 50.5 +2.9
TBLG Delisi 3.20 20 *e*PN Pn 05 55 50.4 +2.2
TBLG Delisi 3.20 20 P Pb 05 55 55.0 0.0
TBLG Delisi 3.20 20 P Pb 05 55 55.0 0.0
TBLG Delisi 3.20 20 *e*Pn Pn 05 55 50.4 +2.2
EZC Erzincan 3.21 290 *e*Pn Pn 05 55 46.1 -2.3
BRDA Brd 3.38 62 ⇑P Pn 05 55 50.9 +0.3
SNR=9.6
BRDA ⇑S Sn 05 56 32.5 +2.1
BRDA Brd 3.38 62 P Pn 05 55 50.9 +0.3
SNR=9.6
BRDA S Sn 05 56 32.5 +2.1
KELT Kelkit 3.42 296 *i* P Pb 05 56 00.1 +1.2
KELT *i* S Sb 05 56 43.0 +2.7
KTUT Trabzon 3.52 311 *e*PN Pn 05 55 55.0 +2.5
KTUT Trabzon 3.52 311 *e*Pn Pn 05 55 55.0 +2.5
ISRB Sarab 3.57 103 *e*Pn Pn 05 55 54.5 +1.1
ISRB *e*AMB AMB 05 56 13.7
comp=Z,3μm,0.3s
ISRB Sarab 3.57 103 *e*Pn Pn 05 55 54.5 +1.1
MNGR Mingechevir, A 3.58 54 ⇓P Pn 05 55 53.8 +0.6
SNR=5.7
MNGR ⇓S Sn 05 56 37.3 +2.2
MNGR Mingechevir, A 3.58 54 P Pn 05 55 53.8 +0.6
SNR=5.7
MNGR S Sn 05 56 37.3 +2.2
URFA Urfa 3.74 251 *e*PN Pn 05 55 58.3 +2.6
URFA Urfa 3.74 251 *e*Pn Pn 05 55 58.3 +2.6
ZRD Zardab 3.74 64 ⇑P Pn 05 55 56.0 +0.5
SNR=15
ZRD ⇑S Sn 05 56 41.2 +2.0
ZRD Zardab 3.74 64 P Pn 05 55 56.0 +0.5
SNR=15
ZKTA Zakatala 3.87 40 ⇑P Pn 05 55 58.3 +0.9
SNR=12
ZKTA ⇑S Sn 05 56 45.2 +2.7
SEKA Sheki 3.90 49 ⇑P Pn 05 55 59.2 +1.4
SNR=6.7
SEKA ⇑S Sn 05 56 46.9 +3.7
SEKA Sheki 3.90 49 P Pn 05 55 59.2 +1.4
SNR=6.7
SEKA S Sn 05 56 46.9 +3.7
LRK Lerik 3.96 90 ⇑P Pn 05 55 58.4 -0.4
SNR=3.9
LRK ⇓S Sn 05 56 45.2 +0.3
LRK Lerik 3.96 90 P Pn 05 55 58.4 -0.4
SNR=3.9
LRK S Sn 05 56 45.2 +0.3
GLBA Clilabad 4.02 81 ⇓P Pn 05 55 59.3 0.0
SNR=3.0
GLBA ⇓S Sn 05 56 47.4 +1.3
GLBA Clilabad 4.02 81 P Pn 05 55 59.3 0.0
SNR=3.0
GLBA S Sn 05 56 47.4 +1.3
ZEI Tsey 4.08 6 *e*P Pn 05 56 01.7 +1.3
ZEI pmax pmax
comp=Z,44nm,0.8s
ATAB Bozova 4.13 254 *i* P Pn 05 56 01.7 +0.8
ATAB Bozova 4.13 254 P Pn 05 56 01.7 +0.8
SURC SANLIURFA_SURC 4.13 245 *i* P Pb 05 56 13.1 +2.2
KDMR Kurdemir 4.13 65 ⇑P Pn 05 56 01.0 +0.1
SNR=7.1
KDMR ⇑S Sn 05 56 50.6 +1.7
KDMR Kurdemir 4.13 65 P Pn 05 56 01.0 +0.1
SNR=7.1
KDMR S Sn 05 56 50.6 +1.7
SAAT Saatly 4.15 73 ⇓P Pn 05 56 00.8 -0.3
SNR=7.3
SAAT ⇑S Sn 05 56 49.8 +0.6
SAAT Saatly 4.15 73 P Pn 05 56 00.8 -0.3
SNR=7.3
SAAT S Sn 05 56 49.8 +0.6
QBL Gabala 4.15 56 ⇑P Pn 05 56 01.7 +0.5
SNR=20
QBL ⇑S Sn 05 56 51.2 +1.8
QBL Gabala 4.15 56 P Pn 05 56 01.7 +0.5
SNR=20
QBL S Sn 05 56 51.2 +1.8
SUSE Susehri 4.20 292 *i* P Pb 05 56 12.4 +0.4
LKRN Lenkeran, Azer 4.30 89 ⇑P Pn 05 56 03.1 -0.2
SNR=9.7
LKRN ⇑S Sn 05 56 53.7 +0.6
LKRN Lenkeran, Azer 4.30 89 P Pn 05 56 03.1 -0.2
SNR=9.7
LKRN S Sn 05 56 53.7 +0.6
IML Ismayilli 4.30 60 ⇓P Pn 05 56 03.9 +0.5
SNR=15
IML ⇑S Sn 05 56 55.1 +1.9
IML Ismayilli 4.30 60 P Pn 05 56 03.9 +0.5
SNR=15
IML S Sn 05 56 55.1 +1.9
ASTR Astara 4.32 91 ⇑P Pn 05 56 03.4 -0.1
SNR=3.1
ASTR ⇑S Sn 05 56 54.5 +1.0
ASTR Astara 4.32 91 P Pn 05 56 03.4 -0.1
SNR=3.1
ASTR S Sn 05 56 54.5 +1.0
CUZAR Zara_SIVAS 4.43 287 ⇑ *i* P Pb 05 56 18.4 +2.5
GRSN GIRESUNGRSN 4.44 301 *i* P Pb 05 56 16.7 +0.7
XNQ Khinaliq 4.46 55 ⇑P Pn 05 56 06.1 +0.4
SNR=3.4
XNQ ⇓S Sn 05 56 59.5 +2.2
XNQ Khinaliq 4.46 55 P Pn 05 56 06.1 +0.4
SNR=3.4
XNQ S Sn 05 56 59.5 +2.2
NEY Neytrino 4.54 355 *e*P Pn 05 56 08.0 +1.4
NEY Neytrino 4.54 355 *e*P Pn 05 56 08.0 +1.4
DARE Darende-Malaty 4.54 270 *e*PN Pn 05 56 09.7 +3.1
DARE Darende-Malaty 4.54 270 *e*Pn Pn 05 56 09.7 +3.1
CUKAN kangal_SIVAS 4.56 279 *i* P Pg 05 56 22.1 -3.8
CUKAN *i* S Sg 05 57 41.0 +16
PQL Pirkuli 4.58 62 ⇓P Pn 05 56 07.5 +0.2
SNR=4.0
PQL ⇓S Sn 05 57 01.7 +1.4
PQL Pirkuli 4.58 62 P Pn 05 56 07.5 +0.2
SNR=4.0
PQL S Sn 05 57 01.7 +1.4
ALIB Äli-Bayra 4.61 73 ⇑P Pn 05 56 07.7 +0.3
SNR=3.5
ALIB ⇓S Sn 05 57 02.3 +1.7
ALIB Äli-Bayra 4.61 73 P Pn 05 56 07.7 +0.3
SNR=3.5
ALIB S Sn 05 57 02.3 +1.7
CUGUR Gurin_S¨VAS 4.70 272 *i* P Pg 05 56 24.8 -3.7
GZT Gaziantep 4.71 255 *i* P Pg 05 56 25.0 -3.9
GZT *i* S Sg 05 57 32.2 +2.3
QSAR Qusar 4.73 52 ⇓P Pn 05 56 09.5 +0.4
SNR=10
QSAR Qusar 4.73 52 P Pn 05 56 09.5 +0.4
SNR=10
GBS Qobustan 4.73 66 ⇓P Pn 05 56 09.4 +0.2
SNR=3.1
GBS Qobustan 4.73 66 P Pn 05 56 09.4 +0.2
SNR=3.1
IDHR Dehrash 4.73 147 *e*Pn Pn 05 56 10.6 +1.2
IDHR *e*AMB AMB 05 57 41.7
comp=Z,3μm,0.4s
IDHR Dehrash 4.73 147 *e*Pn Pn 05 56 10.6 +1.2
ORDU Ordu-Boztepe 4.74 300 *i* P Pb 05 56 22.0 +0.8
NCK Nalchik 4.77 3 *e*P Pn 05 56 09.3 -0.4
NCK Nalchik 4.77 3 *e*P Pn 05 56 09.3 -0.4
QUBA Quba, Azerbaij 4.79 55 ⇓P Pn 05 56 10.6 +0.7
SNR=8.4
QUBA Quba, Azerbaij 4.79 55 P Pn 05 56 10.6 +0.7
SNR=8.4
ILIN Lien 4.82 141 *e*Pn Pn 05 56 12.5 +1.9
ILIN *e*AMB AMB 05 57 50.4
comp=Z,4μm,0.6s
ILIN Lien 4.82 141 *e*Pn Pn 05 56 12.5 +1.9
ATGJ Altiaghaj 4.85 62 ⇑P Pn 05 56 11.3 +0.4
SNR=4.0
ATGJ Altiaghaj 4.85 62 P Pn 05 56 11.3 +0.4
SNR=4.0
RSDY Resadiye-TOKAT 4.89 292 *e*PN Pn 05 56 13.7 +2.3
RSDY Resadiye-TOKAT 4.89 292 *e*Pn Pn 05 56 13.7 +2.3
SIZA Siyzn 4.92 60 ⇑P Pn 05 56 12.3 +0.5
SNR=9.2
SIZA Siyzn 4.92 60 P Pn 05 56 12.3 +0.5
SNR=9.2
KBZ Khabaz 5.00 357 Pn Pn 05 56 14.7 +1.8
comp=Z,0.2nm,0.3s,baz=176,slow=14,SNR=7.0
KBZ LR LR 05 58 03.7
comp=Z,316nm,19.9s,baz=190,slow=37
SVSK Karacayir 5.01 286 *e*PN Pn 05 56 16.4 +3.4
SVSK Karacayir 5.01 286 *e*Pn Pn 05 56 16.4 +3.4
IVIS Veis 5.08 145 *e*Pn Pn 05 56 15.4 +1.3
IVIS *e*AMB AMB 05 56 41.0
comp=Z,2μm,0.3s
IVIS Veis 5.08 145 *e*Pn Pn 05 56 15.4 +1.3
IGHG Ghaleghazi 5.13 148 *e*Pn Pn 05 56 15.8 +1.0
IGHG *e*AMB AMB 05 57 22.3
comp=Z,4μm,0.4s
IGHG Ghaleghazi 5.13 148 *e*Pn Pn 05 56 15.8 +1.0
KMRS Kahramanmaras 5.17 258 *e*PN Pn 05 56 19.0 +3.7
KMRS Kahramanmaras 5.17 258 *e*Pn Pn 05 56 19.0 +3.7
HCB Kahramanmara¨ 5.21 257 *i* P Pg 05 56 34.0 -4.4
KIV Kislovodsk 5.24 355 Pn Pn 05 56 20.3 +4.0
KIV Kislovodsk 5.24 355 *e*P Pn 05 56 14.9 -1.3
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,222nm,7.0s
KIV Kislovodsk 5.24 355 *e*P Pn 05 56 14.9 -1.3
comp=Z,222nm,7.0s
KIV Kislovodsk 5.24 355 *e*Pn Pn 05 56 16.9 +0.7
KIV Kislovodsk 5.24 355 *e*Pn Pn 05 56 16.9 +0.7
KVAR Kislovodsk Arr 5.24 355 Pn Pn 05 56 19.0 +2.8
baz=158,slow=9.5,SNR=8.7
KVAR LR LR 05 58 45.6
comp=Z,1μm,20.4s,baz=175,slow=44
GOBA Gobu 5.26 69 ⇑P Pn 05 56 16.7 +0.3
SNR=4.6
GOBA Gobu 5.26 69 P Pn 05 56 16.7 +0.3
SNR=4.6
MAK Makhachkala 5.30 36 *e*P Pn 05 56 16.6 -0.4
MAK *e*S Sn 05 57 17.4 -0.3
MAK pmax pmax
comp=Z,26nm,0.4s
MAK MLR MLR
comp=Z,2μm,11.0s
MAK Makhachkala 5.30 36 *e*P Pn 05 56 16.6 -0.4
comp=Z,26nm,0.4s
MAK *e*S Sn 05 57 17.4 -0.3
comp=Z,2μm,11.0s
SARI SarD1z-Kayseri 5.38 269 *e*PN Pn 05 56 21.7 +3.4
KAMA Osmaniye 5.45 256 *i* P Pb 05 56 36.0 +2.7
TOKA Tokat 5.49 289 *e*Pn Pn 05 56 19.4 -0.3
TOKA Tokat 5.49 289 *e*Pn Pn 05 56 19.4 -0.3
CUSAR Sarkisla-SIVAS 5.52 279 *i* P Pb 05 56 37.3 +2.8
SOC Sochi 5.54 332 *e*P Pn 05 56 23.8 +3.5
SOC *e* 05 57 22.7
SOC pmax pmax
comp=Z,45nm,0.8s
SOC MLR MLR
comp=Z,719nm,11.0s
SOC Sochi 5.54 332 *e*P Pn 05 56 23.8 +3.5
comp=Z,719nm,11.0s
ANDN Andirin 5.58 260 *i* P Pb 05 56 36.3 +0.7
BNN Bunyan 5.81 274 *e*PN Pn 05 56 27.1 +3.0
KOZT Kozan 6.01 260 *e*PN Pn 05 56 30.4 +3.7
CEYT Ceyhan 6.20 256 *e*PN Pn 05 56 33.1 +3.8
YAYL Yayladag 6.31 247 *i* P Pb 05 56 52.7 +4.6
GOF Gofitskoye 6.33 358 ⇑ *e*P Pn 05 56 36.1 +5.0
GOF pmax pmax
comp=Z,17nm,0.6s
DIKM Dikmen 6.80 298 *e*PN Pn 05 56 41.8 +4.2
BR101 Keskin Array S 7.55 281 *e*Pn Pn 05 56 49.9 +1.9
BR101 Keskin Array S 7.55 281 *e*Pn Pn 05 56 49.9 +1.9
BR131 Keskin Array S 7.55 281 *e*Pn Pn 05 56 49.2 +1.2
BR131 *e*Sn Sn 05 58 15.0 +1.8
BR131 Keskin Array S 7.55 281 *e*Pn Pn 05 56 49.2 +1.2
BR131 *e*Sn Sn 05 58 15.0 +1.8
BRTR Keskin Array B 7.55 281 Pn Pn 05 56 49.9 +1.9
comp=Z,0.2nm,0.3s,baz=100,slow=14,SNR=8.8
ILGA Ilgaz 7.71 291 *e*Sn Sn 05 58 18.6 +1.3
ILGA Ilgaz 7.71 291 *e*Sn Sn 05 58 18.6 +1.3
ASF Jabal al Asfar 8.36 220 Pn Pn 05 56 58.5 -0.6
comp=Z,0.9nm,0.3s,baz=1,8,slow=9,8,SNR=9.3
MMAI Mount Meron Ar 8.56 231 Pn Pn 05 57 01.2 -0.7
comp=Z,1.2nm,0.3s,baz=78,slow=21,SNR=2.8
MMAI LR LR 06 00 34.1
comp=Z,369nm,19.2s,baz=45,slow=40
EIL Elat 11.36 220 Pn Pn 05 57 40.2 +0.1
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.6
EIL LR LR 06 02 32.7
comp=Z,324nm,21.1s,baz=332,slow=40
GEYT Alibeck 11.69 89 Pn Pn 05 57 45.3 +0.7
comp=Z,0.8nm,0.3s,baz=266,slow=11,SNR=3.2
GEYT LR LR 06 02 21.2
comp=Z,84nm,21.7s,baz=260,slow=38
CFR Carcaliu 12.97 305 P Pn 05 58 04.7 +2.6
CFR pmax pmax
comp=Z,10.0nm,1.4s
CFR Carcaliu 12.97 305 P Pn 05 58 04.7 +2.6
comp=Z,10.0nm,1.4s
ISR Istrita 13.99 303 P Pn 05 58 17.6 +1.6
ISR pmax pmax
comp=Z,41nm,1.2s
ISR Istrita 13.99 303 P Pn 05 58 17.6 +1.6
comp=Z,41nm,1.2s
VRI Vrincioaia 14.16 306 ⇑ *i* P P 05 58 27.3 +1.5
VRI Vrincioaia 14.16 306 ⇑P P 05 58 27.3 +1.5
LPSR Galich'ya Gora 14.20 349 *e*P Pn 05 58 19.0 +0.2
LPSR pmax pmax
comp=Z,70nm,1.0s
PLOR Plostina 14.20 305 ⇑ *i* P P 05 58 27.5 +1.2
PLOR Plostina 14.20 305 ⇑P P 05 58 27.5 +1.2
TESR Tescani 14.49 308 ⇑ *i* P P 05 58 27.3 -2.1
MLR Muntele Rosu 14.52 303 ⇑ *i* P P 05 58 29.0 -0.9
MLR Muntele Rosu 14.52 303 ⇑P P 05 58 29.0 -0.9
MLR Muntele Rosu 14.52 303 P P 05 58 29.0 -0.9
DOPR Dopca 15.06 304 ⇑ *i* P P 05 58 37.5 +1.7
IDI Anoyia 15.09 263 LR LR 06 05 12.2
comp=Z,97nm,18.9s,baz=98,slow=41
VOIR 15.09 302 ⇑ *i* P P 05 58 39.4 +3.2
VOIR 15.09 302 ⇑P P 05 58 39.4 +3.2
VOIR 15.09 302 P P 05 58 39.4 +3.2
RAYN Ar Rayn 15.28 172 *e*Pn Pn 05 58 29.5 -4.1
comp=Z,27nm,1.1s
RAYN *e*Sn Sn 06 01 21.4 -1.0
SRS Serrai 15.29 285 P P 05 58 37.9 -0.5
SRS pmax pmax
comp=Z,19nm,0.9s
SRS Serrai 15.29 285 P P 05 58 37.9 -0.5
comp=Z,19nm,0.9s
ARR Arges 15.34 302 ⇑ *i* P P 05 58 39.6 +0.6
AKASG Malin Array Be 15.56 325 Pn Pn 05 58 36.1 -0.9
comp=Z,0.6nm,0.3s,baz=130,slow=12,SNR=23
AKASG LR LR 06 05 23.7
comp=Z,138nm,19.7s,baz=115,slow=40
AKBB Malin Array Si 15.56 325 *e*P Pn 05 58 37.9 +0.9
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 15.56 325 *e*Pn Pn 05 58 37.9 +0.9
comp=Z,15nm,0.8s
AKBB Malin Array Si 15.56 325 *e*Pn Pn 05 58 37.9 +0.9
comp=Z,15nm,0.8s
KIEV Kiev 15.56 325 *e*P Pn 05 58 36.9 -0.1
KIEV Kiev 15.56 325 Pn Pn 05 58 38.1 +1.1
KIEV Kiev 15.56 325 *e*Pn Pn 05 58 37.7 +0.7
comp=Z,14nm,0.8s
AKTO Aktyubinsk 15.69 37 Pn Pn 05 58 36.8 -1.9
comp=Z,0.1nm,0.3s,baz=230,slow=13,SNR=16
AKTO LR LR 06 06 25.6
comp=Z,415nm,18.3s,baz=222,slow=44
AKTO Aktyubinsk 15.69 37 *i* P Pn 05 58 34.8 -3.9
AKTO pmax pmax
comp=Z,31nm,1.2s
VTS Vitosha 15.71 291 ⇑ *i* P Pn 05 58 39.5 +0.3
VTS Vitosha 15.71 291 *e*P Pn 05 58 39.2 0.0
VTS pmax pmax
comp=Z,63nm,1.9s
VTS Vitosha 15.71 291 *e*Pn Pn 05 58 39.2 0.0
comp=Z,63nm,1.9s
VTS Vitosha 15.71 291 *e*Pn Pn 05 58 39.2 0.0
comp=Z,63nm,1.9s
BURAR Bucovina Array 15.86 310 ⇑ *i* P P 05 58 46.7 +2.0
BURAR Bucovina Array 15.86 310 ⇑P P 05 58 46.7 +2.0
BUR08 Bucovina Ar. S 15.88 310 *e*Pn Pn 05 58 42.9 +1.6
BUR08 Bucovina Ar. S 15.88 310 *e*Pn Pn 05 58 42.9 +1.6
AB31 Akbulak array 15.92 43 *ce*P Pn 05 58 41.0 -0.7
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 15.92 43 *e*Pn Pn 05 58 41.9 +0.2
comp=Z,56nm,0.9s
ABKAR Akbulak array 15.92 43 *e*Pn Pn 05 58 41.9 +0.2
comp=Z,56nm,0.9s
LOT Lotru 15.94 301 ⇑ *i* P Pn 05 58 43.3 +1.1
BANOM Banah 16.83 136 Pn Pn 05 58 52.6 -0.9
BANOM Banah 16.83 136 Pn Pn 05 58 52.6 -0.9
OBN Obninsk 17.00 347 P Pn 05 58 53.5 -1.9
comp=Z,10.0nm,0.3s,baz=168,slow=22,SNR=11
OBN LR LR 06 05 57.0
comp=Z,308nm,19.2s,baz=104,slow=39
OBN Obninsk 17.00 347 *i* P Pn 05 58 53.0 -2.4
OBN *i* S S 06 02 13.0 -0.7
OBN pmax pmax
comp=Z,50nm,1.0s
OBN MLR MLR
comp=Z,287nm,14.0s
OBN Obninsk 17.00 347 *e*Pn P 05 58 56.7 -0.5
comp=Z,161nm,1.4s
OBN Obninsk 17.00 347 *e*Pn P 05 58 56.7 -0.5
comp=Z,161nm,1.4s
DRGR 17.08 305 ⇑ *i* P P 05 58 58.9 +0.6
DRGR 17.08 305 ⇑P P 05 58 58.9 +0.6
DRGR 17.08 305 P P 05 58 58.9 +0.6
MDVR Moldovita 17.17 298 ⇑ *i* P P 05 59 00.6 +1.4
MOS Moscow 17.43 349 *e*P Pn 05 58 58.4 -2.4
BZS Buzias 17.44 300 ⇑ *i* P Pn 05 58 58.8 -2.2
BZS Buzias 17.44 300 ⇑P Pn 05 58 58.8 -2.2
UOSS Minazif 17.57 138 *e*Pn Pn 05 59 01.6 -1.0
comp=Z,18nm,0.8s
UOSS Minazif 17.57 138 *e*Pn Pn 05 59 01.6 -1.0
comp=Z,18nm,0.8s
SIRR Siria 17.60 302 ⇓ *i* P P 05 59 06.2 +2.3
HATD Hatta, Dubai 17.62 138 *i* Pn P 05 59 04.5 +0.2
SNR=6.1
HATD Hatta, Dubai 17.62 138 Pn P 05 59 04.5 +0.2
SNR=6.1
ASHO Ashiyiah 17.70 139 *i* Pn Pn 05 59 03.3 -1.1
SNR=8.6
ASHO Ashiyiah 17.70 139 Pn Pn 05 59 03.3 -1.1
SNR=8.6
ASHO Ashiyiah 17.70 139 P Pn 05 59 03.5 -0.8
SNR=7.8
TRPA Tarpa 17.71 309 ⇓ *e*Pn Pn 05 59 04.5 +0.3
UZH Uzhgorod 18.07 310 *e*P Pn 05 59 08.2 -0.5
UZH *e*S Sn 06 02 26.4 -3.3
UZH Uzhgorod 18.07 310 *e*P Pn 05 59 08.2 -0.5
TIR Tirane 18.11 286 *e*P P 05 59 10.5 +0.9
TIR pmax pmax
comp=Z,97nm,1.7s
TIR Tirane 18.11 286 *e*P P 05 59 10.5 +0.9
comp=Z,97nm,1.7s
TIR Tirane 18.11 286 *e*Pn P 05 59 10.4 +0.9
comp=Z,97nm,1.7s
CRVS Cervenica-Dubn 18.68 310 *e*P Pn 05 59 16.4 +0.2
CRVS Cervenica-Dubn 18.68 310 *e*P Pn 05 59 16.4 +0.2

CRVS Cervenica-Dubn 18.68 310 *eP* **Pn 05 59 16.4 +0.2**
CRVS *e* 06 20 51.4
KECS Kecovo 19.11 308 *eP* **Pn 05 59 22.4 +1.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 19.11 308 *eP* **Pn 05 59 22.4 +1.1**
comp=Z,3.0nm,1.0s
KECS Kecovo 19.11 308 *eP* **Pn 05 59 22.4 +1.1**
KECS *e* 06 20 55.2
PSZ Piszkesteto 19.27 306⇑ *iP* **Pn 05 59 23.8 +0.4**
PSZ Piszkesteto 19.27 306 *eP* **Pn 05 59 24.7 +1.3**
PSZ pmax pmax
comp=Z,38nm,1.4s
PSZ Piszkesteto 19.27 306 *eP* **Pn 05 59 24.6 +1.2**
comp=Z,38nm,1.4s
PSZ Piszkesteto 19.27 306‖ *eP* **Pn 05 59 25.6 +2.2**
PSZ Piszkesteto 19.27 306 *eP* **Pn 05 59 24.6 +1.2**
comp=Z,38nm,1.4s
NIE Niedzica 19.59 310 *eP* **Pn 05 59 27.8 +0.7**
NIE Niedzica 19.59 310 *eP* **Pn 05 59 27.8 +0.7**
VYHS Vyhne 20.13 307 *eP* Pn 05 59 33.0 -0.6
VYHS pmax pmax
comp=Z,17nm,1.5s
VYHS Vyhne 20.13 307 *eP* Pn 05 59 33.0 -0.6
comp=Z,17nm,1.5s
VYHS Vyhne 20.13 307 *eP* Pn 05 59 33.0 -0.6
CSKK Cs˙‡kako 20.15 303‖ *eP* Pn 05 59 33.7 -0.1
CSKK Cs˙‡kako 20.15 303‖ *eP* Pn 05 59 33.7 -0.1
OJC Ojcow 20.22 312 *eP* **P 05 59 32.9 +0.3**
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 20.22 312 *eP* **P 05 59 32.9 +0.3**
comp=Z,10nm,0.9s
OJC Ojcow 20.22 312 *eP* **P 05 59 32.9 +0.3**
comp=Z,10nm,0.9s
WSAR Wadi Sarin 20.24 135 P **P 05 59 33.3 +0.2**
comp=Z,4.2nm,0.8s,baz=108,slow=19,SNR=2.7
WSAR LR LR 06 09 40.3
comp=Z,313nm,18.3s,baz=342,slow=44
ARU Arti 20.41 25 P **P 05 59 35.0 +0.5**
comp=Z,25nm,0.6s,baz=220,slow=7.7,SNR=28
ARU LR LR 06 09 20.7
comp=Z,170nm,19.2s,baz=208,slow=42
ARU Arti 20.41 25⇑ *eP* **P 05 59 34.6 0.0**
ARU pmax pmax
comp=Z,101nm,1.3s
ARU Arti 20.41 25 *eP* **P 05 59 34.6 0.0**
comp=Z,101nm,1.3s
ARU Arti 20.41 25 *eP* **P 05 59 34.5 0.0**
comp=Z,63nm,0.9s
SUW Suwalki 20.53 325 *eP* Pn 05 59 38.1 0.0
SUW Suwalki 20.53 325 *eP* Pn 05 59 38.1 0.0
SUW Suwalki 20.53 325 *eP* Pn 05 59 38.1 0.0
KK31 Karatay Array 21.00 69 *ceP* **P 05 59 41.7 +0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KK31 Karatay Array 21.00 69 *eP* **P 05 59 41.7 +0.6**
comp=Z,10.0nm,0.7s
KKAR Karatay Array 21.00 69 *eP* **P 05 59 41.9 +0.8**
KKAR pmax pmax
comp=Z,104nm,0.8s
KKAR Karatay Array 21.00 69 *eP* **P 05 59 41.9 +0.8**
comp=Z,104nm,0.8s
KKAR Karatay Array 21.00 69 *eP* **P 05 59 41.9 +0.8**
comp=Z,104nm,0.8s
OKC Ostrava-Krasne 21.04 310 *eP* **P 05 59 45.6 +4.1**
OKC *ep*P **sP 05 59 50.4 +2.1**
OKC Ostrava-Krasne 21.04 310 *eP* **P 05 59 45.6 +4.1**
OKC *e* 05 59 50.4
KBL Kabul 21.07 93 *eP* **P 05 59 42.2 0.0**
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 21.07 93 *eP* **P 05 59 42.2 0.0**
comp=Z,16nm,1.1s
KBL Kabul 21.07 93 *eP* **P 05 59 42.2 0.0**
comp=Z,16nm,1.1s
SVE Sverdlovsk 21.43 27⇑ *eP* **P 05 59 46.5 +0.9**
SVE pmax pmax
comp=Z,48nm,1.1s
SVE Sverdlovsk 21.43 27 *eP* **P 05 59 46.5 +0.9**
comp=Z,48nm,1.1s
BOJS Bojanci 21.79 297 *i* P **P 05 59 51.4 +1.8**
BOJS Bojanci 21.79 297 *i* P **P 05 59 51.4 +1.8**
CONA Conrad Observa 21.86 304 *eP* **P 05 59 52.0 +1.5**
comp=Z,4.9nm,0.6s
CONA Conrad Observa 21.86 304 P **P 05 59 52.0 +1.5**
comp=Z,4.9nm,0.6s
ARSA Arzberg 21.93 302 *eP* **P 05 59 52.5 +1.4**
comp=Z,9.4nm,1.1s
ARSA Arzberg 21.93 302 P **P 05 59 52.5 +1.4**
comp=Z,9.4nm,1.1s
KRLC Kraliky 21.95 310 *eP* **P 05 59 53.8 +2.5**
KRLC Kraliky 21.95 310 *eP* **P 05 59 53.8 +2.5**
KRLC Kraliky 21.95 310 P **P 05 59 53.8 +2.5**
PERS Pernice 22.07 300 *i* P **P 05 59 55.9 +3.2**
PERS Pernice 22.07 300 *i* P **P 05 59 55.9 +3.2**
KLMR Klimovskoe 22.27 355 *eP* **P 05 59 52.3 -2.3**
KLMR *e*PPP PPP 06 00 22.5
KLMR *e*S **S 06 03 56.8 -2.0**
KLMR pmax pmax
comp=Z,67nm,0.9s
DPC Dobruska-Polom 22.32 310 *eP* **P 05 59 58.0 +2.7**
DPC *ep*P **sP 06 00 02.0 -0.2**
DPC Dobruska-Polom 22.32 310 *eP* **P 05 59 58.0 +2.7**
DPC *e* 06 00 02.0
DPC Dobruska-Polom 22.32 310 P **P 05 59 58.0 +2.7**
MNAS Manas 22.45 71 *i* P **P 05 59 54.8 -2.1**
MNAS pmax pmax
comp=Z,12nm,1.3s
VSU Vasula 22.46 337 *ceP* **P 05 59 57.9 +1.3**
VSU pmax pmax
comp=Z,104nm,0.8s
KSP Ksiaz 22.52 311 *eP* **P 05 59 59.5 +2.1**
KSP Ksiaz 22.52 311 *eP* **P 05 59 59.5 +2.1**
KSP Ksiaz 22.52 311 *eP* **P 05 59 59.5 +2.1**
UPC Upice 22.56 310 *eP* **P 05 59 59.7 +1.9**
UPC *ep*P **sP 06 00 04.9 +0.2**
UPC Upice 22.56 310 *eP* **P 05 59 59.7 +1.9**
UPC *e* 06 00 04.9
UPC Upice 22.56 310 P **P 05 59 59.7 +1.9**
SOKR Solikamsk 22.59 18⇑ *iP* **P 05 59 55.1 -2.8**
SOKR pmax pmax
comp=Z,49nm,1.7s
MOA Molln 22.89 303 *eP* **P 06 00 01.6 +0.3**
comp=Z,9.1nm,1.1s
MOA Molln 22.89 303 P **P 06 00 01.6 +0.3**
comp=Z,9.1nm,1.1s
GOPC GO Pecny, Ondr 23.11 308 *eP* **P 06 00 04.5 +1.0**
GOPC GO Pecny, Ondr 23.11 308 *eP* **P 06 00 04.5 +1.0**
GOPC GO Pecny, Ondr 23.11 308 P **P 06 00 04.5 +1.0**
KBA Koelnbreinsper 23.35 301 *eP* **P 06 00 06.9 +0.7**
comp=Z,8.8nm,0.9s
KBA Koelnbreinsper 23.35 301 P **P 06 00 06.9 +0.7**
comp=Z,8.8nm,0.9s
BRVK Borovoye 23.45 44 *ceP* **P 06 00 07.6 +0.7**
BRVK pmax pmax
comp=Z,83nm,1.2s
BRVK Borovoye 23.45 44 *eP* **P 06 00 07.1 +0.2**
comp=Z,33nm,1.1s
BRVK Borovoye 23.45 44 P **P 06 00 07.5 +0.5**
SNR=15
BRVK P **P 06 00 07.5 +0.5**
SNR=15
GEC2 GERESS Array S 23.49 305 *eP* **P 06 00 06.6 -0.9**
GEC2 pmax pmax
comp=Z,15nm,1.4s
GEC2 GERESS Array S 23.49 305 *eP* **P 06 00 06.6 -0.9**
comp=Z,15nm,1.4s
GERES GERESS Array B 23.49 305 P **P 06 00 06.0 -1.5**
comp=Z,0.8nm,0.5s,baz=138,slow=24,SNR=5.2
GERES LR LR 06 10 07.3
comp=Z,78nm,18.8s,baz=93,slow=39
GERES GERESS Array B 23.49 305 P **P 06 00 06.0 -1.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,79nm,18.8s
BVA0 Borovoye Array 23.49 44 P **P 06 00 06.5 -0.9**
BVAR Borovoye Array 23.49 44 P **P 06 00 07.5 +0.2**
comp=Z,13nm,1.0s,baz=234,slow=7.1,SNR=32
BVAR LR LR 06 10 58.6
comp=Z,186nm,19.0s,baz=252,slow=41
KHC Kasperske Hory 23.64 306 *eP* **P 06 00 09.2 +0.3**
KHC *ep*P **pP 06 00 14.1 +0.3**
KHC Kasperske Hory 23.64 306 *eP* **P 06 00 09.2 +0.3**
KHC *e* 06 00 14.1
KHC Kasperske Hory 23.64 306 P **P 06 00 09.2 +0.3**
KHC Kasperske Hory 23.64 306 *eP* **P 06 00 08.3 -0.5**
comp=Z,9.4nm,1.4s
ABTA Abfaltersbach 23.86 300 *ep*P pP 06 00 15.3 -0.7
comp=Z,16nm,1.7s
AAK Ala-Archa 23.92 71 P **P 06 00 12.7 +0.9**
comp=Z,2.5nm,0.9s,baz=243,slow=14,SNR=7.7
AAK LR LR 06 11 27.8
comp=Z,242nm,18.1s,baz=265,slow=41
AAK Ala-Archa 23.92 71 *ceP* **P 06 00 11.7 -0.1**
AAK pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 23.92 71 *eP* **P 06 00 11.0 -0.8**
comp=Z,21nm,1.4s
AAK Ala-Archa 23.92 71 P **P 06 00 13.2 +1.5**
SNR=5.2
AAK P **P 06 00 13.2 +1.5**
SNR=5.2
BRG Berggiesshubel 23.93 310 *eP* **P 06 00 12.0 +0.5**
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 23.93 310 *eP* **P 06 00 12.0 +0.5**
BRG pmax pmax
comp=Z,9.0nm,1.1s
FRU Bishkek 24.01 70 *eP* **P 06 00 13.5 +1.1**
FRU *e* 06 00 43.0
FRU pmax pmax
comp=Z,53nm,1.9s
WET Wettzell 24.09 305 P **P 06 00 13.0 -0.1**
WET pmax pmax
comp=Z,20nm,2.5s
WTTA Wattenberg 24.53 301 *eP* **P 06 00 18.3 +0.9**
comp=Z,15nm,1.2s
WTTA Wattenberg 24.53 301 P **P 06 00 18.3 +0.9**
comp=Z,15nm,1.2s
WATA Walderalm 24.58 301 *eP* **P 06 00 18.8 +1.0**
comp=Z,20nm,1.2s
WATA Walderalm 24.58 301 P **P 06 00 18.8 +1.0**
comp=Z,20nm,1.2s
CLL Collm 24.63 311 *eP* **P 06 00 18.0 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 24.63 311 *eP* **P 06 00 18.0 0.0**
comp=Z,7.0nm,0.8s
CLL *e*(S) S 06 04 50.0 +12
CLL LmV 06 11 00.0
comp=Z,100nm,18.0s
NKC Novy Kostel 24.64 308 *eP* **P 06 00 17.8 -0.4**
NKC Novy Kostel 24.64 308 *eP* **P 06 00 17.8 -0.4**
NKC Novy Kostel 24.64 308 P **P 06 00 17.8 -0.4**
MOTA Moosalm 24.90 301 *eP* **P 06 00 21.0 +0.3**
comp=Z,12nm,0.7s
MOTA Moosalm 24.90 301 P **P 06 00 21.0 +0.3**
comp=Z,12nm,0.7s
FETA Feichten 25.11 300 *eP* **P 06 00 24.2 +1.6**
comp=Z,18nm,1.5s
FETA Feichten 25.11 300 P **P 06 00 24.2 +1.6**
comp=Z,18nm,1.5s
FIA0 FINESS Array S 25.11 340 *eP* **P 06 00 21.2 -1.0**
FIA0 FINESS Array S 25.11 340 *eP* **P 06 00 21.2 -1.0**
FIA1 FINESS Array S 25.11 340 *eP* **P 06 00 23.2 +1.0**
comp=Z,22nm,0.9s
FINES FINESS Array B 25.11 340 P **P 06 00 21.2 -1.0**
comp=Z,8.4nm,0.6s,baz=146,slow=11,SNR=18
FINES LR LR 06 10 51.2
comp=Z,155nm,18.7s,baz=110,slow=38
RETA Reutte 25.15 301 *eP* **P 06 00 23.0 +0.2**
comp=Z,6.6nm,1.0s
RETA Reutte 25.15 301 P **P 06 00 23.0 +0.2**
comp=Z,6.6nm,1.0s
GRF Grafenberg Arr 25.27 306 P **P 06 00 25.4 +1.6**
GRF pmax pmax
comp=Z,48nm,1.3s
GRFO Grafenberg 25.27 306 *eP* **P 06 00 24.9 +1.1**
GRFO pmax pmax
comp=Z,46nm,1.2s
GRFO Grafenberg 25.27 306 *eP* **P 06 00 24.9 +1.1**
comp=Z,46nm,1.2s
JOF Joensuu 25.29 347 P **P 06 00 23.7 -0.1**
JOF pmax pmax
comp=Z,61nm,1.1s
KSH Kashi 25.31 78 P **P 06 00 23.8 -0.6**
KSH pP pP 06 00 27.8 -1.6
KSH sP sP 06 00 31.0 -0.5
KSH PP **PnPn 06 01 01.4 +2.4**
KSH PcP **PcP 06 04 00.1 +3.0**
KSH S **S 06 04 44.9 -4.9**
KSH sS pS 06 04 51.4 -3.9
KSH SS **SnSn 06 05 43.4 +2.3**
KSH PcS **PcS 06 07 38.8 +1.2**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,150nm,5.4s
KSH LR LR
comp=Z,97nm,7.9s
KSH LR LR
comp=Z,99nm,7.9s
KSH LR LR
comp=Z,150nm,9.3s
DAVOX Davos/Dischmat 25.66 299 P **P 06 00 26.3 -1.3**
comp=Z,1.7nm,0.3s,baz=32,slow=10.0,SNR=3.5
DAVOX LR LR 06 11 41.7
comp=Z,89nm,18.3s,baz=84,slow=39
TMCR Tamitsa 25.66 355 *eP* **P 06 00 29.6 +2.4**
TMCR pmax pmax
comp=Z,44nm,0.9s
DAVA Damuels 25.72 300 *eP* **P 06 00 28.3 +0.2**
comp=Z,20nm,1.8s
DAVA Damuels 25.72 300 P **P 06 00 28.3 +0.2**
comp=Z,20nm,1.8s
SUF Sumiainen 26.18 342 P **P 06 00 32.4 +0.5**
SUF pmax pmax
comp=Z,32nm,2.4s
ATD Arta Tunnel 27.09 181 LR LR 06 11 37.4
comp=Z,147nm,19.8s,baz=4.0,slow=37
KURBB Kurchatov Arra 27.48 53 P **P 06 00 44.7 +1.0**
comp=Z,11nm,0.8s,baz=263,slow=9.0,SNR=80
KURK Kurchatov 27.56 53 P **P 06 00 44.7 +0.3**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 27.56 53 *eP* **P 06 00 45.3 +0.8**
KURK Kurchatov 27.56 53 P **P 06 00 45.1 +0.7**
SNR=7.6
PDGK Podgornoye 27.56 69 *iP* **P 06 00 44.7 0.0**
PDGK pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 27.80 295 *eP* **P 06 00 47.7 +0.9**
BNI pmax pmax
comp=Z,10.0nm,1.1s
BNI Bardonecchia 27.80 295 *eP* **P 06 00 47.7 +0.9**
comp=Z,10nm,1.1s
HFS Hagfors 28.37 329 P **P 06 00 51.2 -0.4**
comp=Z,16nm,0.8s,baz=132,slow=11,SNR=14
HFS LR LR 06 13 37.4
comp=Z,120nm,18.9s,baz=94,slow=40
MAKZ Makanchi 29.29 61 *eP* **P 06 01 00.7 +0.7**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 29.29 61 *eP* **P 06 01 00.7 +0.7**
comp=Z,4.7nm,0.9s
MK31 Makanchi Array 29.51 61 *ceP* **P 06 01 02.4 +0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 29.51 61 *eP* **P 06 01 03.0 +1.1**
MK32 Makanchi Array 29.51 61 *eP* **P 06 01 03.0 +1.0**
MKAR Makanchi Array 29.51 61 P **P 06 01 03.0 +1.1**
comp=Z,3.8nm,0.8s,baz=268,slow=6.0,SNR=18
MKAR LR LR 06 14 41.5
comp=Z,140nm,19.5s,baz=246,slow=40
MKAR Makanchi Array 29.51 61 P **P 06 01 03.0 +1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,140nm,19.5s
MKAR Makanchi Array 29.51 61 *eP* **P 06 01 03.0 +1.1**
comp=Z,21nm,0.7s
NC602 NORSAR Array S 29.60 328 *eP* **P 06 01 03.5 +1.1**
LVZ Lovozero 29.61 353 *eP* **P 06 01 02.2 -0.4**
LVZ Lovozero 29.61 353 *eP* **P 06 01 02.1 -0.4**
comp=Z,199nm,2.0s
NC405 NORSAR Array S 29.74 329 *eP* **P 06 01 03.6 -0.1**
KONO Kongsberg 29.86 326 *eP* **P 06 01 04.5 -0.2**
KONO pmax pmax
comp=Z,58nm,1.5s
KONO Kongsberg 29.86 326 *eP* **P 06 01 04.5 -0.2**
comp=Z,58nm,1.5s
NB2 NORSAR Subarra 29.90 329 P **P 06 01 04.1 -1.1**
comp=Z,3.1nm,0.7s,baz=125,slow=9.3
NB2 NORSAR Subarra 29.90 329 P **P 06 01 04.1 -1.1**
comp=Z,3.1nm,0.7s,SNR=6.6
NB200 NORSAR Array S 29.90 329 *eP* **P 06 01 04.2 -1.1**
NOA NORSAR Array B 29.90 329 P **P 06 01 04.2 -1.1**
comp=Z,2.0nm,0.7s,baz=125,slow=8.8,SNR=7.4
NOA LR LR 06 13 40.7
comp=Z,56nm,22.0s,baz=130,slow=38
NVS Novosibirsk 31.23 46 *eP* **P 06 01 17.8 +0.8**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=E,5.0nm,0.9s
ZALV Zalesovo Beam 31.94 48 P **P 06 01 23.5 +0.3**
comp=E,1.5nm,0.6s,baz=252,slow=9.6,SNR=5.3
ZALV LR LR 06 16 41.1
comp=E,142nm,18.9s,baz=250,slow=41
ZALV Zalesovo Beam 31.94 48 P **P 06 01 23.5 +0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,142nm,18.9s
ZAA1 Zalesovo Array 31.94 48 *eP* **P 06 01 23.5 +0.3**
ARA0 ARCESS Array S 32.30 348 *eP* **P 06 01 26.0 -0.2**
ARCES ARCESS Array B 32.30 348 P **P 06 01 26.0 -0.2**
comp=Z,6.6nm,0.7s,baz=153,slow=9.2,SNR=20
ARCES LR LR 06 16 53.5
comp=Z,85nm,20.2s,baz=158,slow=41
WMQ Urumqi 33.46 67 P **P 06 01 39.6 +2.9**
WMQ pP pP 06 01 42.0 +0.2
WMQ sP sP 06 01 46.9 +3.0
WMQ pmax pmax
comp=Z,14nm,0.6s
WMQ pmax pmax
comp=Z,120nm,3.9s
ESDC Sonseca Array 36.29 287 P **P 06 01 59.6 -1.6**
comp=Z,0.8nm,0.5s,baz=70,slow=9.4,SNR=5.2
NRIK Noril'sk 38.62 23 P **P 06 02 21.4 +0.9**
comp=Z,3.0nm,0.4s,baz=253,slow=4.1,SNR=7.2
NRIK LR LR 06 21 37.6
comp=Z,148nm,18.1s,baz=200,slow=41
KMBO Kilima Mbogo 40.05 189 LR LR 06 18 40.9
comp=Z,150nm,19.5s,baz=334,slow=36
GTA Gaotai 43.27 71 *eP* **P 06 03 00.8 +1.4**
GTA pP sP 06 03 05.4 -1.2
GTA sP pP 06 03 07.8 +3.3
GTA pmax pmax
comp=Z,7.0nm,1.3s
TOA1 Torodi Ar. Sit 44.70 247 *eP* **P 06 03 08.8 -2.2**
comp=Z,8.8nm,1.2s
TORD Torodi Ar. Bea 44.70 247 P **P 06 03 08.8 -2.2**
comp=Z,4.0nm,1.1s,baz=70,slow=11,SNR=14
SONA0 Songino Array 45.68 57 *eP* **P 06 03 18.9 +0.4**
SONM Songino Array 45.68 57 P **P 06 03 18.9 +0.4**
comp=Z,0.3nm,0.4s,baz=272,slow=10.0,SNR=3.6
SONM PP **PP 06 05 07.7 +2.4**
comp=Z,0.7nm,0.8s,baz=270,slow=7.4,SNR=4.5
SONM LR LR 06 25 04.0
comp=Z,104nm,18.9s,baz=5.5,slow=40
ULN Ulaanbaatar 46.10 57 *ceP* **P 06 03 22.6 +0.7**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 46.10 57 *eP* **P 06 03 22.6 +0.7**
comp=Z,5.8nm,0.9s
LZH Lanzhou 47.41 73 *eP* **P 06 03 32.0 -0.3**
LZH pP pP 06 03 35.3 -2.2
LZH sP sP 06 03 37.0 -2.5
LZH PP **PP 06 05 23.1 -0.4**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,73nm,6.4s
LZH LR LR
comp=Z,320nm,14.6s
LZH LR LR
comp=Z,330nm,14.7s
LZH LR LR
comp=Z,410nm,18.2s
BOD Bodaibo 48.36 43 *eP* P 06 03 33.1 -6.0
BOD pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 51.10 337 *i* P **P 06 04 00.8 +0.6**
comp=Z,16nm,1.1s
SUMG Summit 51.10 337 *i* P **P 06 04 00.8 +0.6**
SUMG pmax pmax
comp=Z,16nm,1.1s
HHC Hu-ho-hao-te 51.28 65 *eP* **P 06 04 02.8 +1.1**
HHC sP sP 06 04 13.4 +4.4
HHC PP **PP 06 06 02.0 +3.5**
HHC S **S 06 11 19.1 -0.9**
HHC pmax pmax
comp=Z,18nm,1.5s
HHC LR LR
comp=Z,120nm,14.9s
HHC LR LR
comp=Z,150nm,17.4s
HHC LR LR
comp=Z,90nm,14.9s
KMI Kunming 51.44 87 P **P 06 04 05.1 +1.9**
KMI pmax pmax
comp=Z,4.0nm,0.5s
XAN Xi'an 52.05 74 P **P 06 04 07.6 +0.1**
XAN pP sP 06 04 16.1 +1.4
XAN pmax pmax
comp=Z,8.0nm,1.2s
CMAR Chiang Mai Arr 52.06 96 P **P 06 04 07.9 +0.2**
comp=Z,2.2nm,0.3s,baz=297,slow=8.2,SNR=8.8
CMAR LR LR 06 31 01.8
comp=Z,37nm,19.5s,baz=317,slow=42
TIXI Tiksi 52.41 23 P **P 06 04 09.4 -0.1**
comp=Z,2.3nm,0.6s,baz=348,slow=3.9,SNR=7.8
TIXI LR LR 06 30 00.9
comp=Z,33nm,18.3s,baz=292,slow=40
TIXI Tiksi 52.41 23 *ceP* **P 06 04 09.9 +0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 52.41 23 *eP* **P 06 04 10.0 +0.5**
HIA Hailar 53.79 52 *eP* **P 06 04 20.3 +0.2**
HIA pmax pmax
comp=Z,7.0nm,1.1s
GYA Guiyang 53.83 83 *eP* **P 06 04 22.3 +1.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 55.07 35 *eP* **P 06 04 28.8 -0.3**
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.9s
SFJD Kangerlussuaq 56.49 332 LR LR 06 28 27.4
comp=N,42nm,20.2s,baz=72,slow=36
WHN Wuhan 57.73 75 P **P 06 04 50.1 +1.6**
LHMI Lhok Sumawe 58.81 110 *eP* **P 06 04 54.4 -1.9**
comp=N,58nm,0.8s
NJ2 Nanjing 60.36 71 *eP* **P 06 05 07.3 +0.5**
NJ2 pmax pmax
comp=N,8.0nm,0.7s
KLR Kul'dur 61.04 48 P **P 06 05 11.2 0.0**
comp=N,0.3nm,0.8s,baz=266,slow=4.7,SNR=6.9
KLR LR LR 06 34 16.3
comp=N,10.0nm,19.9s,baz=296,slow=39
RES Resolute Bay 63.53 349 LR LR 06 35 22.6
comp=N,77nm,18.4s,baz=310,slow=38
MSHR Mys Shultsa 63.80 55 *ceP* **P 06 05 27.7 -2.1**
SEY Seymchan 64.09 29 P **P 06 05 31.4 +0.1**
comp=N,13nm,1.0s,baz=328,slow=9.9,SNR=18
SEY Seymchan 64.09 29 *eP* **P 06 05 31.9 +0.6**
KS15 Wonju Array Si 64.17 62 *eP* **P 06 05 31.9 -0.3**
KSRS Korea Array 64.19 62 P **P 06 05 32.0 -0.4**
comp=N,4.6nm,0.9s,baz=298,slow=5.7,SNR=10.0
BILL Bilibino 65.35 20 *eP* **P 06 05 37.3 -2.1**
BILL *i* 06 06 11.2
BILL pmax pmax
comp=Z,6.0nm,0.9s
BOSA Boshof 69.08 197 P **P 06 06 02.5 -1.1**
comp=Z,2.3nm,0.8s,baz=303,slow=6.0,SNR=3.3
BOSA LR LR 06 36 55.9
comp=Z,62nm,20.7s,baz=357,slow=36
MJAR Matsushiro Arr 71.63 58 P **P 06 06 18.2 -1.0**
comp=Z,2.4nm,0.9s,baz=307,slow=6.7,SNR=6.3
MJAR LR LR 06 40 37.5
comp=Z,84nm,18.6s,baz=320,slow=38
TGY Tagaytay City 71.76 86 LR LR 06 43 16.0

comp=Z,2μm,18.6s,baz=54,slow=40
PETK Petropavlovsk- 72.41 35 LR LR 06 42 56.0
comp=Z,74nm,18.3s,baz=306,slow=40
MDM Murphy Dome 76.25 5 *eP* **P 06 06 46.5 +0.7**
comp=Z,9.9nm,1.2s
COLA College 76.36 5 *i P* **P 06 06 46.7 +0.3**
COLA pmax pmax
comp=Z,8.0nm,1.0s
ILAR Eielson Array 76.53 4 P **P 06 06 47.1 -0.2**
comp=Z,0.2nm,0.4s,baz=343,slow=5.9,SNR=8.8
ILAR PP **PP 06 09 40.6 +2.1**
comp=Z,0.5nm,0.9s,baz=340,slow=7.5,SNR=5.0
ILAR LR LR 06 42 02.1
comp=Z,31nm,21.4s,baz=302,slow=37
ILAR Eielson Array 76.53 4 P **P 06 06 47.1 -0.2**
ILAR 06 09 40.7
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR MLR MLR
comp=Z,31nm,21.4s
ILAR Eielson Array 76.53 4 PP PP 06 09 40.6 +2.1
ILB Eielson Array 76.53 4 *eP* **P 06 06 45.7 -1.6**
CCB Clear Creek Bu 76.59 5 *eP* **P 06 06 47.5 -0.2**
comp=Z,11nm,1.5s
EGAK Eagle 76.77 2 *eP* **P 06 06 49.0 +0.2**
comp=Z,6.4nm,1.0s
CAST Castle Rocks 77.46 7 *eP* **P 06 06 52.8 +0.1**
comp=Z,15nm,1.1s
DAWY Dawson 77.52 1 *eP* **P 06 06 53.4 +0.3**
comp=Z,9.3nm,1.2s
YKA Yellowknife Ar 77.56 350 P **P 06 06 52.7 -0.4**
comp=Z,2.2nm,0.9s,baz=20,slow=5.6,SNR=5.0
YKA LR LR 06 42 26.2
comp=Z,4.7nm,18.4s,baz=0.0,slow=37
YKB5 Yellowknife Ar 77.56 350 *eP* **P 06 06 52.7 -0.4**
MENT Mentasta 78.52 3 *eP* **P 06 06 59.1 +0.6**
comp=Z,5.3nm,1.0s
KLU Klutina 79.85 4 *eP* **P 06 07 06.1 +0.2**
comp=Z,10.0nm,1.1s
DIV Divide 80.22 4 *eP* **P 06 07 08.3 +0.4**
comp=Z,10nm,1.0s
CRQM Cirque 80.73 3 *eP* **P 06 07 11.3 +0.5**
comp=Z,34nm,1.6s
HYT Haines Junctio 80.80 0 *eP* **P 06 07 11.5 +0.4**
comp=Z,7.9nm,1.1s
ULM Lac du Bonnet 84.38 335 LR LR 06 45 02.6
comp=Z,25nm,19.1s,baz=76,slow=36
NEW Newport 91.65 347 P **P 06 08 05.0 +0.2**
comp=Z,2.0nm,0.7s,baz=341,slow=5.4,SNR=7.3
NEW Newport 91.65 347 *eP* **P 06 08 05.7 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 91.65 347 *eP* **P 06 08 05.7 +0.9**
comp=Z,3.6nm,0.9s
PDAR Pinedale Array 95.22 340 LR LR 06 51 11.6
comp=Z,51nm,19.4s,baz=48,slow=36

AZER ***24*** *06:01:28.3±7.7,37.°93N×43.°32E,h14km±272km, Error ellipse: s-maj=291.0km s-min=51.5km az=40.0*
DDA ***24*** *06:01:30.6,38.°74N×43.°16E,h5km,Ml3.4*
ISK ***24*** *06:01:31.4,38.°83N×43.°26E,h5km,ML3.2*
CSEM ***24*** *06:01:33.3±0.3,38.°68N×43.°09E,h2km,ML3.4, Error ellipse: s-maj=7.2km s-min=5.3km az=91.0*
ISC 24 06:01:30.7±1.1,38.°75N±0.°02×43.°20E±0.°02,h6km±10km, n61,σ1°40/86,2C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.46**	**195**	*i P*	**Pg**	**06 01 38.9**	**-0.6**
GEVA				*i* S	**Sb**	**06 01 46.7**	**-1.6**
GEVA	**Gevas**	**0.46**	**195**	P	**Pg**	**06 01 38.9**	**-0.6**
GEVA				S	**Sb**	**06 01 46.7**	**-1.6**
TUTA	**Tutak**	**0.72**	**335**	*i P*	**Pg**	**06 01 44.7**	**+0.2**
TUTA				*i* S	**Sb**	**06 01 55.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.84**	**349**	*e*PG	**Pg**	**06 01 46.6**	**-0.2**
AGRB				*e*SG	**Sg**	**06 01 57.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**349**	*e*Pg	**Pg**	**06 01 46.6**	**-0.2**
AGRB				*e*Sg	**Sg**	**06 01 57.8**	**+0.1**
DYDN	**Diyadin**	**0.88**	**25**	*i P*	**Pb**	**06 01 48.6**	**+0.2**
DYDN				*i* S	**Sg**	**06 02 00.1**	**+1.2**
EKAR	**Karacoban**	**1.02**	**300**	*i P*	**Pn**	**06 01 52.2**	**+0.4**
EKAR				*i* S	**Sn**	**06 02 08.7**	**+2.1**
EKAR	**Karacoban**	**1.02**	**300**	P	**Pn**	**06 01 52.2**	**+0.4**
EATA	**Eleskirt**	**1.24**	**334**	*i P*	**Pg**	**06 01 54.3**	**-0.2**
EATA				*i* S	**Sn**	**06 02 13.1**	**+1.0**
HAKT	**HAKKARI**	**1.26**	**161**	*i P*	**Pg**	**06 01 52.6**	**-2.2**
HAKT				*i* S	**Sn**	**06 02 13.6**	**+1.1**
SIRN	**S¨–rnak**	**1.40**	**207**	*i P*	**Pg**	**06 01 58.1**	**+0.5**
SIRN				*i* S	**Sn**	**06 02 18.6**	**+2.8**
SIRN	**S¨–rnak**	**1.40**	**207**	P	**Pg**	**06 01 58.1**	**+0.5**
VRTB	**Varto-Mus**	**1.42**	**287**	*e*PN	**Pg**	**06 01 58.6**	**+0.6**
VRTB	**Varto-Mus**	**1.42**	**287**	*e*Pn	**Pg**	**06 01 58.6**	**+0.6**
CUKT	**Cukurca**	**1.54**	**168**	*e*PN	**Pg**	**06 02 00.9**	**+0.8**
CUKT				*e*SN	**Sg**	**06 02 22.6**	**+2.5**
CUKT	**Cukurca**	**1.54**	**168**	*i P*	**Pg**	**06 02 01.3**	**+1.2**
CUKT	**Cukurca**	**1.54**	**168**	*e*Pn	**Pg**	**06 02 00.9**	**+0.8**
CUKT	**Cukurca**	**1.54**	**168**	P	**Pg**	**06 02 01.3**	**+1.2**
CUKT				*e*Sn	**Sg**	**06 02 22.6**	**+2.5**
BNGL	**BINGOL**	**1.62**	**278**	*i P*	**Pg**	**06 02 01.7**	**+0.1**
BNGL				*i* S	**Sg**	**06 02 24.7**	**+2.0**
HOMI	**Horasan**	**1.64**	**322**	*i P*	**Pg**	**06 02 01.8**	**-0.2**
HOMI				*i* S	**Sg**	**06 02 25.7**	**+2.4**
DIGO	**Kars**	**1.67**	**4**	*i P*	**Pb**	**06 02 02.0**	**+0.1**
DIGO				*i* S	**Sg**	**06 02 28.0**	**+3.8**
DIGO	**Kars**	**1.67**	**4**	S	**Sg**	**06 02 28.0**	**+3.8**
SVAN	**Silvan-Diyarba**	**1.69**	**250**	*e*PN	**Pg**	**06 02 02.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.69**	**250**	*i P*	**Pg**	**06 02 02.6**	**-0.4**
SVAN				*i* S	**Sg**	**06 02 26.3**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.69**	**250**	P	**Pg**	**06 02 02.6**	**-0.4**
BTMN	**Batman**	**1.75**	**241**	*i P*	**Pb**	**06 02 02.7**	**-0.5**
BTMN				*i* S	**Sg**	**06 02 27.6**	**+0.8**
BTMN	**Batman**	**1.75**	**241**	P	**Pb**	**06 02 02.7**	**-0.5**
BTMN				S	**Sg**	**06 02 27.6**	**+0.8**
ERZM	**Erzurum**	**1.83**	**309**	*i P*	**Pg**	**06 02 05.6**	**-0.2**
ERZM	**Erzurum**	**1.83**	**309**	P	**Pg**	**06 02 05.6**	**-0.2**
NAX	**Nakhchivan**	**1.83**	**76**	⇑P	**Pn**	**06 02 03.0**	**+0.1**
	SNR=5.5						
NAX				⇓S	**Sg**	**06 02 30.2**	**+0.6**
NAX	**Nakhchivan**	**1.83**	**76**	P	**Pn**	**06 02 03.0**	**+0.1**
	SNR=5.5						
NAX				S	**Sg**	**06 02 30.2**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.92**	**340**	*e*PN	**Pb**	**06 02 05.3**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.92**	**340**	*e*Pn	**Pb**	**06 02 05.3**	**-1.0**
EAK	**Akyaka**	**1.96**	**9**	*i P*	**Pg**	**06 02 09.2**	**+1.0**
EAK	**Akyaka**	**1.96**	**9**	P	**Pg**	**06 02 09.2**	**+1.0**
BNGB	**Bing¨¶l**	**1.98**	**278**	*e*PN	**Pb**	**06 02 07.1**	**-0.2**
BINT	**Bingol**	**2.12**	**274**	*e*Pn	**Pn**	**06 02 07.1**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.18**	**289**	*e*PN	**Pb**	**06 02 10.2**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.18**	**289**	*e*Pn	**Pb**	**06 02 10.2**	**-0.5**
DDEM	**Demirkent**	**2.41**	**333**	*i P*	**Pg**	**06 02 15.9**	**-1.0**
DDEM	**Demirkent**	**2.41**	**333**	P	**Pg**	**06 02 15.9**	**-1.0**
DAGI	**Agillar**	**2.52**	**337**	*i P*	**Pg**	**06 02 17.8**	**-1.2**
BGD	**Bogdanovka**	**2.53**	**7**	P	**Pg**	**06 02 20.0**	**+0.8**
MAZI	**Mazidag**	**2.53**	**240**	*e*PN	**Pb**	**06 02 15.1**	**-1.5**
MAZI	**Mazidag**	**2.53**	**240**	*e*Pn	**Pb**	**06 02 15.1**	**-1.5**
ARTV	**Artvin**	**2.62**	**338**	*i P*	**Pg**	**06 02 19.8**	**-1.1**
ARTV	**Artvin**	**2.62**	**338**	P	**Pg**	**06 02 19.8**	**-1.1**
GDB	**GEDABAY**	**2.78**	**44**	⇓P	**Pb**	**06 02 20.3**	**-0.6**
	SNR=6.6						
GDB				⇓S	**Sg**	**06 03 00.2**	**+0.2**
GDB	**GEDABAY**	**2.78**	**44**	P	**Pb**	**06 02 20.3**	**-0.6**
	SNR=6.6						
GDB				S	**Sg**	**06 03 00.2**	**+0.2**
ERZN	**Erzincan**	**2.83**	**288**	*e*PN	**Pb**	**06 02 18.8**	**-3.0**
QZX	**Qazax, Azerbai**	**2.84**	**35**	P	**Pb**	**06 02 22.5**	**+0.6**
	SNR=4.0						
QZX				⇑S	**Sg**	**06 03 04.5**	**+2.5**
QZX	**Qazax, Azerbai**	**2.84**	**35**	P	**Pb**	**06 02 22.5**	**+0.6**
	SNR=4.0						
PTK	**Pertek**	**2.98**	**274**	*e*PN	**Pb**	**06 02 21.5**	**-2.9**
PTK	**Pertek**	**2.98**	**274**	*e*Pn	**Pb**	**06 02 21.5**	**-2.9**
GANJ	**Ganja**	**3.06**	**51**	⇓P	**Pb**	**06 02 24.1**	**-1.5**
	SNR=3.2						
GANJ				⇓S	**Sg**	**06 03 07.3**	**-1.6**
GANJ	**Ganja**	**3.06**	**51**	P	**Pb**	**06 02 24.1**	**-1.5**
	SNR=3.2						
GANJ				S	**Sg**	**06 03 07.3**	**-1.6**
EZC	**Erzincan**	**3.15**	**290**	*e*Pn	**Pn**	**06 02 18.8**	**-2.2**
DGRG	**David-gareji**	**3.17**	**31**	P	**Pg**	**06 02 30.2**	**-1.1**
TBLG	**Delisi**	**3.20**	**21**	P	**Pb**	**06 02 26.6**	**-1.3**
TBLG	**Delisi**	**3.20**	**21**	P	**Pb**	**06 02 26.6**	**-1.3**
ONI	**Oni**	**3.84**	**3**	P	**Pg**	**06 02 42.5**	**-1.7**

ISCJB ***24*** *06:04:32.2±0.9,21.°4S±0.°1×178.°4W±0.°2,h579km,mb3.7/7, Error ellipse: s-maj=26.4km s-min=13.1km az=15.2*
IDC ***24*** *06:04:37.3±2.7,21.°00S×178.°70W,h609km±29km,mb3.2/7, mb1 3.4/9,mb1mx3.1/32,mbtmp4.2/9,Error ellipse: s-maj=31.5km s-min=20.8km az=133.0*
ISC 24 06:04:33.9±0.9,21.°2S±0.°1×178.°5W±0.°2,h579km,n13, σ2°04/15,mb3.8/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.07**	**264**	P	**P**	**06 07 35.1**	**+1.4**
	0.3nm,0.3s,baz=135,slow=19,SNR=4.8						
URZ	**Urewera**	**17.39**	**192**	P	**P**	**06 08 08.5**	**+3.9**
	0.9nm,0.3s,baz=74,slow=19,SNR=6.1						
URZ				S	**S**	**06 10 51.5**	**-4.5**
	0.3nm,0.3s,baz=130,slow=16,SNR=2.1						
ASAR	**Alice Springs**	**43.94**	**258**	P	**P**	**06 11 51.2**	**+0.5**
	2.6nm,0.8s,baz=94,slow=7.6,SNR=21						
ASAR				PcP	**PcP**	**06 13 23.8**	**0.0**
	0.3nm,0.5s,baz=93,slow=3.8,SNR=3.6						
ASAR				ScP	**ScP**	**06 16 18.5**	**-2.3**
	0.5nm,0.9s,baz=91,slow=4.9,SNR=4.6						
WRA	**Warramunga Arr**	**44.08**	**263**	P	**P**	**06 11 51.3**	**-0.6**
	1.6nm,0.3s,baz=97,slow=7.7,SNR=35						
PETK	**Petropavlovsk-**	**76.88**	**346**	P	**P**	**06 15 26.0**	**-0.8**
	2.9nm,0.7s,baz=126,slow=7.3,SNR=3.3						
USRK	**Ussuriysk Ar.**	**79.34**	**326**	P	**P**	**06 15 40.4**	**+0.2**
	2.8nm,0.9s,baz=153,slow=10,SNR=4.0						
SEY	**Seymchan**	**87.00**	**347**	P	**P**	**06 16 17.1**	**-0.7**
	1.0nm,0.5s,baz=158,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**89.13**	**13**	P	**P**	**06 16 27.4**	**-0.3**
	0.3nm,0.4s,baz=219,slow=4.6,SNR=8.3						
PDAR	**Pinedale Array**	**89.79**	**43**	P	**P**	**06 16 33.5**	**+1.8**
	0.3nm,0.7s,baz=236,slow=6.4,SNR=4.1						
BVAR	**Borovoye Array**	**119.37**	**320**	PKP	**PKPdf**	**06 22 17.2**	**-0.6**
	0.6nm,0.3s,baz=110,slow=4.2,SNR=4.5						
ARCES	**ARCESS Array B**	**129.57**	**349**	PKP	**PKPdf**	**06 22 36.2**	**-0.6**
	4.6nm,1.0s,baz=52,slow=2.2,SNR=3.9						
AKASG	**Malin Array Be**	**143.45**	**330**	PKP	PKPab	06 22 59.8	-1.7
	2.8nm,0.4s,baz=43,slow=4.9,SNR=8.6						
BRTR	**Keskin Array B**	**147.01**	**311**	PKPbc	**PKPbc**	**06 23 11.8**	**-0.9**
	1.0nm,0.6s,baz=137,slow=4.5,SNR=3.5						

NEIC 24 06:05:35.7±0.0,52.°23N×171.°70W,h40km,ML2.9(AEIC), **After AEIC.,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.48**	**273**	P	Pn	06 06 00.5	+0.6
ATKA	**Atka Island**	**1.54**	**270**	P	Pn	06 06 00.8	+0.1
ATKA				S	Sn	06 06 20.2	+0.9
NIKH	**Nikolski High**	**1.89**	**66**	P	Pn	06 06 06.0	+0.6
NIKH				S	Sn	06 06 31.4	+3.4
OKFG	**Magazine Ridge**	**2.58**	**61**	P	Pn	06 06 15.7	+0.8
GSCK	**Great Sitkin C**	**2.76**	**267**	P	Pn	06 06 18.1	+0.7
ADK	**Adak**	**3.10**	**265**	P	Pn	06 06 23.1	+1.0
ADK				S	Sn	06 07 01.8	+4.0
MSW	**Makushin Switc**	**3.41**	**58**	P	Pn	06 06 27.6	+1.3
UNV	**Unalaska Valle**	**3.53**	**61**	P	Pn	06 06 29.6	+1.7

ISK ***24*** *06:05:51.5,39.°22N×43.°88E,h20km,ML3.2*
DDA ***24*** *06:05:52.2,38.°91N×43.°62E,h5km,Ml3.0*
CSEM ***24*** *06:05:54.1±0.6,39.°02N×43.°60E,h2km,ML3.0, Error ellipse: s-maj=12.3km s-min=7.7km az=82.0*
ISC 24 06:05:52.6±1.2,39.°00N±0.°02×43.°65E±0.°04,h9km±10km, n35,σ1°54/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.55**	**3**	*i P*	**Pb**	**06 06 05.2**	**+0.7**
DYDN				*i* S	**Sn**	**06 06 15.5**	**-0.7**
DYDN	**Diyadin**	**0.55**	**3**	P	**Pb**	**06 06 05.2**	**+0.7**
TUTA	**Tutak**	**0.77**	**302**	*i P*	**Pb**	**06 06 07.2**	**-1.1**
TUTA				*i* S	**Sb**	**06 06 17.6**	**-1.3**
TUTA	**Tutak**	**0.77**	**302**	P	**Pb**	**06 06 07.2**	**-1.1**
TUTA				S	**Sb**	**06 06 17.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.77**	**319**	*e*PG	**Pg**	**06 06 06.8**	**-0.7**
AGRB				*e*SG	**Sb**	**06 06 18.5**	**-0.5**
AGRB	**Hanur-Agry**	**0.77**	**319**	*e*Pg	**Pg**	**06 06 06.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**06 06 18.5**	**-0.5**
GEVA	**Gevas**	**0.83**	**214**	*i P*	**Pg**	**06 06 06.8**	**-1.7**
EATA	**Eleskirt**	**1.25**	**314**	*i P*	**Pn**	**06 06 16.1**	**-0.4**
EATA				*i* S	**Sn**	**06 06 35.9**	**+2.3**
EATA	**Eleskirt**	**1.25**	**314**	P	**Pn**	**06 06 16.1**	**-0.4**
EATA				S	**Sn**	**06 06 35.9**	**+2.3**
EKAR	**Karacoban**	**1.26**	**282**	*i P*	**Pn**	**06 06 17.8**	**+1.1**
EKAR				*i* S	**Sn**	**06 06 36.2**	**+2.3**
EKAR	**Karacoban**	**1.26**	**282**	P	**Pn**	**06 06 17.8**	**+1.1**
EKAR				S	**Sn**	**06 06 36.2**	**+2.3**
DIGO	**Kars**	**1.43**	**352**	*i P*	**Pg**	**06 06 22.2**	**+2.1**
DIGO	**Kars**	**1.43**	**352**	P	**Pg**	**06 06 22.2**	**+2.1**
HAKT	**HAKKARI**	**1.44**	**178**	*i P*	**Pn**	**06 06 18.7**	**-0.4**
HAKT				*i* S	**Sg**	**06 06 41.5**	**+2.6**
HOMI	**Horasan**	**1.71**	**308**	*i P*	**Pg**	**06 06 25.6**	**+0.3**
HOMI				*i* S	**Sg**	**06 06 51.1**	**+3.5**
CUKT	**Cukurca**	**1.75**	**181**	*e*PN	**Pb**	**06 06 25.1**	**+0.1**
CUKT				*e*SN	**Sg**	**06 06 49.3**	**+0.5**
CUKT	**Cukurca**	**1.75**	**181**	*e*Pn	**Pb**	**06 06 25.1**	**+0.1**
CUKT				*e*Sn	**Sg**	**06 06 49.3**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.85**	**328**	*e*PN	**Pn**	**06 06 22.2**	**-2.6**
SENK	**Senkaya-Erzuru**	**1.85**	**328**	*e*Pn	**Pn**	**06 06 22.2**	**-2.6**
BNGL	**BINGOL**	**1.95**	**269**	*i P*	**Pg**	**06 06 31.0**	**+1.0**
BNGL				*i* S	**Sg**	**06 06 56.6**	**+1.3**
ERZM	**Erzurum**	**1.99**	**298**	*i P*	**Pg**	**06 06 30.1**	**-0.6**
ERZM	**Erzurum**	**1.99**	**298**	P	**Pg**	**06 06 30.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.10**	**247**	*e*PN	**Pb**	**06 06 29.9**	**-1.0**
SVAN				*e*SN	**Sg**	**06 06 58.4**	**-1.7**
SVAN	**Silvan-Diyarba**	**2.10**	**247**	*i P*	**Pb**	**06 06 30.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.10**	**247**	*e*Pn	**Pb**	**06 06 29.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.10**	**247**	P	**Pb**	**06 06 30.6**	**-0.4**
SVAN				*e*Sn	**Sg**	**06 06 58.4**	**-1.7**
BTMN	**Batman**	**2.17**	**240**	*i P*	**Pb**	**06 06 32.0**	**-0.1**
BTMN				*i* S	**Sb**	**06 06 59.7**	**+0.5**
BTMN	**Batman**	**2.17**	**240**	P	**Pb**	**06 06 32.0**	**-0.1**
BTMN				S	**Sb**	**06 06 59.7**	**+0.5**
BNGB	**Bing¨¶l**	**2.32**	**271**	*e*PN	**Pn**	**06 06 32.4**	**+1.3**
BNGB				*e*SN	**Sb**	**06 07 01.9**	**-1.5**
AKH	**Akhalkalaki**	**2.41**	**357**	*e*PN	**Pn**	**06 06 27.9**	**-4.5**
YEDI	**Yedisu-Bingol**	**2.45**	**281**	*e*PN	**Pn**	**06 06 33.7**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.45**	**281**	*e*Pn	**Pn**	**06 06 33.7**	**+0.7**
DAGI	**Agillar**	**2.47**	**328**	*i P*	**Pg**	**06 06 38.6**	**-1.3**
BINT	**Bingol**	**2.47**	**268**	*e*Pn	**Pn**	**06 06 32.4**	**-0.8**
BINT				*e*Sn	**Sn**	**06 07 01.9**	**-1.6**
ERZN	**Erzincan**	**3.10**	**282**	*e*PN	**Pn**	**06 06 43.0**	**+1.0**

DDA ***24*** *06:11:41.2,38.°71N×43.°22E,h5km,Ml3.1*
CSEM ***24*** *06:11:42.8±0.5,38.°78N×43.°32E,h10km,ML3.1, Error ellipse: s-maj=12.6km s-min=6.3km az=89.0*
ISK ***24*** *06:11:43.5,38.°88N×43.°34E,h23km,ML2.9*
ISC 24 06:11:42.1±1.1,38.°76N±0.°02×43.°34E±0.°04,h7km±10km, n41,σ1°10/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.49**	**207**	*i P*	**Pg**	**06 11 50.5**	**-1.1**
GEVA				*i* S	**Sg**	**06 11 57.5**	**-0.6**
GEVA	**Gevas**	**0.49**	**207**	P	**Pg**	**06 11 50.5**	**-1.1**
GEVA				S	**Sg**	**06 11 57.5**	**-0.6**
TUTA	**Tutak**	**0.77**	**328**	*i P*	**Pg**	**06 11 56.0**	**-0.8**
TUTA				*i* S	**Sg**	**06 12 07.0**	**+0.3**
TUTA	**Tutak**	**0.77**	**328**	P	**Pg**	**06 11 56.0**	**-0.8**
TUTA				S	**Sg**	**06 12 07.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*PG	**Pg**	**06 11 58.3**	**-0.4**
AGRB				*e*SG	**Sg**	**06 12 10.2**	**+0.3**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*Pg	**Pg**	**06 11 58.3**	**-0.4**
AGRB				*e*Sg	**Sg**	**06 12 10.2**	**+0.3**
EKAR	**Karacoban**	**1.11**	**297**	*i P*	**Pg**	**06 12 03.5**	**0.0**
EKAR				*i* S	**Sn**	**06 12 21.2**	**+1.1**
EKAR	**Karacoban**	**1.11**	**297**	P	**Pg**	**06 12 03.5**	**0.0**
HAKT	**HAKKARI**	**1.23**	**166**	*i P*	**Pn**	**06 12 03.8**	**-2.1**
HAKT				*i* S	**Sg**	**06 12 23.5**	**+1.8**
EATA	**Eleskirt**	**1.29**	**329**	*i P*	**Pn**	**06 12 05.9**	**-0.9**
EATA				*i* S	**Sn**	**06 12 24.4**	**-0.1**
EATA	**Eleskirt**	**1.29**	**329**	P	**Pn**	**06 12 05.9**	**-0.9**
EATA				S	**Sn**	**06 12 24.4**	**-0.1**
CUKT	**Cukurca**	**1.52**	**172**	*e*PN	**Pg**	**06 12 12.2**	**+1.0**
CUKT				*e*SN	**Sg**	**06 12 32.6**	**+1.6**
CUKT	**Cukurca**	**1.52**	**172**	*e*Pn	**Pg**	**06 12 12.2**	**+1.0**
CUKT				*e*Sn	**Sg**	**06 12 32.6**	**+1.6**
DIGO	**Kars**	**1.66**	**1**	*i P*	**Pg**	**06 12 13.9**	**0.0**
DIGO				*i* S	**Sg**	**06 12 38.8**	**+3.5**
DIGO	**Kars**	**1.66**	**1**	P	**Pg**	**06 12 13.9**	**0.0**
HOMI	**Horasan**	**1.70**	**320**	*i P*	**Pn**	**06 12 12.3**	**-0.2**
HOMI				*i* S	**Sg**	**06 12 38.9**	**+2.2**
BNGL	**BINGOL**	**1.72**	**277**	*i P*	**Pn**	**06 12 13.2**	**+0.5**
BNGL				*i* S	**Sg**	**06 12 36.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*PN	**Pn**	**06 12 14.1**	**+0.6**
SVAN				*e*SN	**Sn**	**06 12 36.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*i P*	**Pb**	**06 12 14.7**	**-0.5**
SVAN				*i* S	**Sb**	**06 12 37.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*Pn	**Pn**	**06 12 14.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	P	**Pb**	**06 12 14.7**	**-0.5**
SVAN				*e*Sn	**Sn**	**06 12 36.7**	**+0.3**
SVAN				S	**Sb**	**06 12 37.5**	**-0.4**
BTMN	**Batman**	**1.84**	**243**	*i P*	**Pn**	**06 12 14.2**	**-0.1**
BTMN				*i* S	**Sn**	**06 12 37.6**	**-0.3**
BTMN	**Batman**	**1.84**	**243**	P	**Pn**	**06 12 14.1**	**-0.1**
BTMN				S	**Sn**	**06 12 37.6**	**-0.3**
ERZM	**Erzurum**	**1.91**	**307**	*i P*	**Pb**	**06 12 16.9**	**-0.6**
ERZM				*i* S	**Sn**	**06 12 39.3**	**-0.6**
ERZM	**Erzurum**	**1.91**	**307**	P	**Pb**	**06 12 16.9**	**-0.6**
ERZM				S	**Sn**	**06 12 39.3**	**-0.6**
BNGB	**Bing¨¶l**	**2.09**	**277**	*e*PN	**Pn**	**06 12 17.8**	**+0.2**
BINT	**Bingol**	**2.23**	**274**	*e*Pn	**Pn**	**06 12 17.8**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.28**	**288**	*e*PN	**Pn**	**06 12 20.5**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.28**	**288**	*e*Pn	**Pn**	**06 12 20.5**	**+0.2**
DDEM	**Demirkent**	**2.46**	**331**	*i P*	**Pb**	**06 12 27.0**	**+0.3**
DAGI	**Agillar**	**2.57**	**335**	*i P*	**Pb**	**06 12 29.1**	**+0.6**
MAZI	**Mazidag**	**2.62**	**241**	*e*PN	**Pn**	**06 12 23.9**	**-1.1**
MAZI	**Mazidag**	**2.62**	**241**	*e*Pn	**Pn**	**06 12 23.9**	**-1.1**
AKH	**Akhalkalaki**	**2.65**	**2**	*e*PN	**Pn**	**06 12 23.5**	**-2.0**
AKH	**Akhalkalaki**	**2.65**	**2**	*e*Pn	**Pn**	**06 12 23.5**	**-2.0**
PTK	**Pertek**	**3.09**	**274**	*e*PN	**Pn**	**06 12 32.6**	**+1.1**
PTK	**Pertek**	**3.09**	**274**	*e*Pn	**Pn**	**06 12 32.6**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.19**	**264**	*e*PN	**Pn**	**06 12 34.5**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.19**	**264**	*e*Pn	**Pn**	**06 12 34.5**	**+1.7**
URFA	**Urfa**	**3.80**	**251**	*e*PN	**Pn**	**06 12 42.8**	**+1.7**
URFA	**Urfa**	**3.80**	**251**	*e*Pn	**Pn**	**06 12 42.8**	**+1.7**

IDC ***24*** *06:17:51.8±1.1,6.°76S×143.°04E,h0km,mb3.8/5, mb1 4.0/8,mb1mx3.7/41,mbtmp3.8/8,ML3.8/2,MS2.9/3, Ms1 2.9/3,ms1mx2.6/35,Error ellipse: s-maj=32.9km s-min=22.4km az=96.0*
ISCJB ***24*** *06:17:54.8±0.8,6.°95S±0.°09×143.°19E±0.°07,h33km, mb3.7/4,MS2.6/2,Error ellipse: s-maj=13.5km s-min=10.6km az=2.0*
ISC 24 06:17:56.6±0.9,7.°09S±0.°09×143.°05E±0.°09,h35km,n11, σ2°35/12,mb3.8/4,Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**120**	Pn	**Pn**	**06 19 05.4**	**+0.7**
	3.6nm,0.3s,baz=356,slow=15,SNR=4.2						
PMG				Sn	**Sn**	**06 19 55.1**	**-2.6**
	1.7nm,0.3s,baz=307,slow=20,SNR=2.5						
CTA	**Charters Tower**	**13.29**	**167**	Lg	Lg	06 25 07.1	
	0.7nm,0.3s,baz=295,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**15.32**	**213**	Pn	**Pn**	**06 21 31.0**	**+0.7**
	0.4nm,0.3s,baz=31,slow=13,SNR=7.0						
WRA				Sn	**Sn**

PGOR			*i* S		Sn	06 20 22.5	+0.1
PGOR	**Pogoanele**	**0.81 149**	⇑*i*P		Pn	06 20 04.8	0.0
PGOR	**Pogoanele**	**0.81 149**	⇑*i*P		Pn	06 20 04.8	0.0
PGOR			*i* S		Sn	06 20 22.5	+0.1
TESR	**Tescani**	**0.92 11**	⇑*i*P		Pn	06 20 04.9	-0.7
TESR			*i* S		Sn	06 20 21.5	-2.6
TESR	**Tescani**	**0.92 11**	⇑*i*P		Pn	06 20 04.9	-0.7
TESR	**Tescani**	**0.92 11**	⇑*i*P		Pn	06 20 04.9	-0.7
TESR			*i* S		Sn	06 20 21.5	-2.6
SULR		**0.93 187**	⇑*i*P		Pn	06 20 05.8	+0.1
SULR			*i* S		Sn	06 20 24.1	0.0
SULR		**0.93 187**	⇑*i*P		Pn	06 20 05.8	+0.1
SULR		**0.93 187**	⇑*i*P		Pn	06 20 05.8	+0.1
SULR			*i* S		Sn	06 20 24.1	0.0
VOIR		**0.97 260**	⇑*i*P		Pn	06 20 05.6	-0.5
VOIR			*i* S		Sn	06 20 22.9	-1.9
VOIR		**0.97 260**	⇑*i*P		Pn	06 20 05.6	-0.5
VOIR		**0.97 260**	⇑*i*P		Pn	06 20 05.6	-0.5
VOIR			*i* S		Sn	06 20 22.9	-1.9
MTUR	**Matau**	**1.02 249**	⇓*i*P		Pn	06 20 06.5	-0.1
MTUR	**Matau**	**1.02 249**	⇓*i*P		Pn	06 20 06.5	-0.1
MTUR	**Matau**	**1.02 249**	⇓*i*P		Pn	06 20 06.5	-0.1
AMRR	**Amara**	**1.19 146**	⇑*i*P		Pn	06 20 08.0	0.0
AMRR			*i* S		Sn	06 20 27.3	-0.9
AMRR	**Amara**	**1.19 146**	⇑*i*P		Pn	06 20 08.0	0.0
AMRR	**Amara**	**1.19 146**	⇑*i*P		Pn	06 20 08.0	0.0
AMRR			*i* S		Sn	06 20 27.3	-0.9
ARR	**Arges**	**1.27 260**	⇑*i*P		Pn	06 20 08.7	-0.1
ARR			*i* S		Sn	06 20 28.4	-1.2
ARR	**Arges**	**1.27 260**	⇑*i*P		Pn	06 20 08.7	-0.1
ARR	**Arges**	**1.27 260**	S		Sn	06 20 28.4	-1.2
ARR	**Arges**	**1.27 260**	⇑*i*P		Pn	06 20 08.7	-0.1
ARR			*i* S		Sn	06 20 28.4	-1.2
BUC1	**Bucharest**	**1.29 192**	⇑*i*P		Pn	06 20 08.9	0.0
BUC1			*i* S		Sn	06 20 28.7	-1.1
BUC1	**Bucharest**	**1.29 192**	⇑*i*P		Pn	06 20 08.9	0.0
BUC1	**Bucharest**	**1.29 192**	⇑*i*P		Pn	06 20 08.9	0.0
BUC1			*i* S		Sn	06 20 28.7	-1.1
CFR	**Carcaliu**	**1.29 109**	⇓*i*P		Pn	06 20 08.2	-0.7
CFR			*i* S		Sn	06 20 27.4	-2.4
CFR	**Carcaliu**	**1.29 109**	⇓*i*P		Pn	06 20 08.2	-0.7
CFR	**Carcaliu**	**1.29 109**	⇓*i*P		Pn	06 20 08.2	-0.7
CFR			*i* S		Sn	06 20 27.4	-2.4
HARR	**Harsova**	**1.42 130**	⇑*i*P		Pn	06 20 09.8	-0.4
HARR	**Harsova**	**1.42 130**	⇑*i*P		Pn	06 20 09.8	-0.4
HARR	**Harsova**	**1.42 130**	⇑*i*P		Pn	06 20 09.8	-0.4
SGRR	**Singureni**	**1.42 193**	⇑*i*P		Pn	06 20 09.9	-0.3
SGRR			*i* S		Sn	06 20 30.7	-1.4
SGRR	**Singureni**	**1.42 193**	⇑*i*P		Pn	06 20 09.9	-0.3
SGRR	**Singureni**	**1.42 193**	⇑*i*P		Pn	06 20 09.9	-0.3
SGRR			*i* S		Sn	06 20 30.7	-1.4
HUMR	**Humele**	**1.48 224**	⇑*i*P		Pn	06 20 10.6	-0.3
HUMR			*i* S		Sn	06 20 32.0	-1.2
HUMR	**Humele**	**1.48 224**	⇑*i*P		Pn	06 20 10.6	-0.3
HUMR	**Humele**	**1.48 224**	⇑*i*P		Pn	06 20 10.6	-0.3
HUMR			*i* S		Sn	06 20 32.0	-1.2
LEOM	**Leova**	**1.55 55**	⇓*i*P		Pn	06 20 11.3	-0.2
LEOM			*i* S		Sn	06 20 32.9	-1.6
LEOM	**Leova**	**1.55 55**	⇓*i*P		Pn	06 20 11.3	-0.2
LEOM	**Leova**	**1.55 55**	⇓*i*P		Pn	06 20 11.3	-0.2
LEOM			*i* S		Sn	06 20 32.9	-1.6
CVDA	**Cernavoda**	**1.72 137**	⇑*i*P		Pn	06 20 13.3	-0.2
CVDA			*i* S		Sn	06 20 35.8	-2.0
CVDA	**Cernavoda**	**1.72 137**	⇑*i*P		Pn	06 20 13.3	-0.2
CVDA	**Cernavoda**	**1.72 137**	⇑*i*P		Pn	06 20 13.3	-0.2
CVDA			*i* S		Sn	06 20 35.8	-2.0
TLCR		**1.75 103**	⇑*i*P		Pn	06 20 13.3	-0.4
TLCR			*i* S		Sn	06 20 36.9	-1.5
TLCR		**1.75 103**	⇑*i*P		Pn	06 20 13.3	-0.4
TLCR		**1.75 103**	⇑*i*P		Pn	06 20 13.3	-0.4
TLCR			*i* S		Sn	06 20 36.9	-1.5
IAS	**Iasi**	**1.78 26**	*i* S		Sn	06 20 36.6	-2.5
IAS	**Iasi**	**1.78 26**	S		Sn	06 20 36.6	-2.5
IAS	**Iasi**	**1.78 26**	*i* S		Sn	06 20 36.6	-2.5
ICOR	**Ion Corvin**	**1.79 146**	⇑*i*P		Pn	06 20 14.2	0.0
ICOR			*i* S		Sn	06 20 37.8	-1.4
ICOR	**Ion Corvin**	**1.79 146**	⇑*i*P		Pn	06 20 14.2	0.0
ICOR			S		Sn	06 20 37.8	-1.4
ICOR	**Ion Corvin**	**1.79 146**	⇑*i*P		Pn	06 20 14.2	0.0
ICOR			*i* S		Sn	06 20 37.8	-1.4
TIRR	**Tirgusor**	**1.83 128**	⇑*i*P		Pn	06 20 14.4	-0.3
TIRR			*i* S		Sn	06 20 37.6	-2.4
TIRR	**Tirgusor**	**1.83 128**	⇑*i*P		Pn	06 20 14.4	-0.3
TIRR	**Tirgusor**	**1.83 128**	⇑*i*P		Pn	06 20 14.4	-0.3
LOT	**Lotru**	**1.86 266**	⇓*i*P		Pn	06 20 14.7	-0.5
LOT			*i* S		Sn	06 20 40.6	-0.3
LOT	**Lotru**	**1.86 266**	⇓*i*P		Pn	06 20 14.7	-0.5
LOT	**Lotru**	**1.86 266**	S		Sn	06 20 40.6	-0.3
LOT	**Lotru**	**1.86 266**	⇓*i*P		Pn	06 20 14.7	-0.5
LOT			*i* S		Sn	06 20 40.6	-0.3
ZIMR		**2.09 201**	⇓*i*P		Pn	06 20 17.6	-0.1
ZIMR			*i* S		Sn	06 20 43.7	-1.6
ZIMR		**2.09 201**	⇓*i*P		Pn	06 20 17.6	-0.1
MILM	**Milestii Mici**	**2.12 51**	⇓*i*P		Pn	06 20 17.6	-0.5
MILM			*i* S		Sn	06 20 43.2	-2.9
MILM	**Milestii Mici**	**2.12 51**	⇓*i*P		Pn	06 20 17.6	-0.5
MILM	**Milestii Mici**	**2.12 51**	⇓*i*P		Pn	06 20 17.6	-0.5
BURAR	**Bucovina Array**	**2.17 338**	⇓*i*P		Pn	06 20 19.9	+1.2
BURAR	**Bucovina Array**	**2.17 338**	⇓*i*P		Pn	06 20 19.9	+1.2
BURAR	**Bucovina Array**	**2.17 338**	⇓*i*P		Pn	06 20 19.9	+1.2
KIS	**Kishinev**	**2.18 49**	*e*P		Pn	06 20 19.0	+0.3
KIS			*i* S		Sn	06 20 45.0	-2.3
	2μm,0.5s						
KIS	**Kishinev**	**2.18 49**	*e*Pn		Pn	06 20 19.0	+0.3
KIS			*i* Sn		Sn	06 20 45.5	-1.8
KIS			Snm			06 20 45.5	
KIS	**Kishinev**	**2.18 49**	*e*P		Pn	06 20 19.0	+0.3
KIS			*i* S		Sn	06 20 45.0	-2.3
	2μm,0.5s						
EFOR	**EFORIE**	**2.20 133**	*i* S		Sn	06 20 46.4	-1.3
EFOR	**EFORIE**	**2.20 133**	S		Sn	06 20 46.4	-1.3
EFOR	**EFORIE**	**2.20 133**	*i* S		Sn	06 20 46.4	-1.3
CJR	**Cluj-Napoca**	**2.24 301**	⇑*i*P		Pn	06 20 19.9	+0.3
CJR	**Cluj-Napoca**	**2.24 301**	⇑*i*P		Pn	06 20 19.9	+0.3
CJR	**Cluj-Napoca**	**2.24 301**	⇑*i*P		Pn	06 20 19.9	+0.3
CRAR	**CRAIOVA**	**2.25 236**	*i* S		Sn	06 20 47.0	-1.8
CRAR	**CRAIOVA**	**2.25 236**	S		Sn	06 20 47.0	-1.8
CRAR	**CRAIOVA**	**2.25 236**	*i* S		Sn	06 20 47.0	-1.8
MANR	**Mangalia**	**2.37 138**	⇑*i*P		Pn	06 20 20.3	-0.8
MANR			*i* S		Sn	06 20 49.9	-1.5
MANR	**Mangalia**	**2.37 138**	⇑*i*P		Pn	06 20 20.3	-0.8
MANR	**Mangalia**	**2.37 138**	⇑*i*P		Pn	06 20 20.3	-0.8
SRE	**Strehaia**	**2.45 249**	⇓*i*P		Pn	06 20 21.9	-0.2
SRE			*i* S		Sn	06 20 52.1	-1.2
SRE	**Strehaia**	**2.45 249**	⇓*i*P		Pn	06 20 21.9	-0.2
SRE	**Strehaia**	**2.45 249**	S		Sn	06 20 52.1	-1.2
SRE	**Strehaia**	**2.45 249**	⇓*i*P		Pn	06 20 21.9	-0.2
GZR	**Gura Zlata**	**2.56 267**	⇑*i*P		Pn	06 20 23.6	+0.1
GZR	**Gura Zlata**	**2.56 267**	⇑*i*P		Pn	06 20 23.6	+0.1
GZR	**Gura Zlata**	**2.56 267**	⇑*i*P		Pn	06 20 23.6	+0.1
DRGR		**2.83 296**	⇓*i*P		Pn	06 20 26.2	-0.6
DRGR		**2.83 296**	⇓*i*P		Pn	06 20 26.2	-0.6
DRGR		**2.83 296**	⇓*i*P		Pn	06 20 26.2	-0.6
RAKU	**Rahkiv**	**2.87 328**	*i* Pn		Pn	06 20 27.7	+0.5
RAKU			Pnm			06 20 27.8	
DJES	**Djerdap**	**2.91 253**	*e*Sn		Sn	06 21 00.2	-3.1
DJES	**Djerdap**	**2.91 253**	*e*Sn		Sn	06 21 00.2	-3.1
NSLU	**Nyzhne Selyshc**	**2.92 333**	*i* Pn		Pn	06 20 33.3	+5.5
NSLU			Pnm			06 20 33.8	
KMPD	**K-Podol'skiy**	**2.96 1**	*i* Pn		Pn	06 20 28.4	+0.1
KMPD			*i* Sn		Sn	06 21 05.1	+0.6
NDNU	**Novodnistrovsk**	**3.06 12**	*i* Pn		Pn	06 20 29.3	-0.3
NDNU			Pnm			06 20 32.5	
NDNU			*i* Sn		Sn	06 21 07.3	+0.5
NDNU			Snm			06 21 11.5	
BZS	**Buzias**	**3.36 272**	*e*Pn		Pn	06 20 33.0	-0.4
BZS	**Buzias**	**3.36 272**	⇓*i*P		Pn	06 20 33.1	-0.4
BZS	**Buzias**	**3.36 272**	⇓*i*P		Pn	06 20 33.1	-0.4
BZS	**Buzias**	**3.36 272**	⇓*i*P		Pn	06 20 33.1	-0.4
SIRR	**Siria**	**3.38 283**	⇓*i*P		Pn	06 20 33.7	0.0
SIRR	**Siria**	**3.38 283**	⇓*i*P		Pn	06 20 33.7	0.0
SIRR	**Siria**	**3.38 283**	⇓*i*P		Pn	06 20 33.7	0.0
MDVR	**Moldovita**	**3.42 258**	⇑*i*P		Pn	06 20 35.4	+1.1
MDVR			*i* S		Sn	06 21 12.9	-2.2
MDVR	**Moldovita**	**3.42 258**	⇑*i*P		Pn	06 20 35.4	+1.1
MDVR			S		Sn	06 21 12.9	-2.2
MDVR	**Moldovita**	**3.42 258**	⇑*i*P		Pn	06 20 35.4	+1.1
MDVR			*i* S		Sn	06 21 12.9	-2.2
ZAGS	**Zajecar**	**3.47 240**	⇓*i*Pn		Pn	06 20 33.2	-1.7
ZAGS	**Zajecar**	**3.47 240**	*e*Pn		Pn	06 20 33.3	-1.7
ZAGS	**Zajecar**	**3.47 240**	*e*Pn		Pn	06 20 33.3	-1.7
KUBS	**Kucevo**	**3.56 252**	*e*Pn		Pn	06 20 33.7	-2.4
KUBS	**Kucevo**	**3.56 252**	*e*Pn		Pn	06 20 33.7	-2.4
KUBS	**Kucevo**	**3.56 252**	*e*Pn		Pn	06 20 33.7	-2.4
ZAPS	**Zavoj**	**3.57 231**	⇑*i*Pn		Pn	06 20 35.9	-0.3
ZAPS	**Zavoj**	**3.57 231**	*e*Pn		Pn	06 20 36.0	-0.3
BRIU	**Brid**	**3.58 321**	*i* Pn		Pn	06 20 36.3	0.0
BRIU			Pnm			06 20 36.5	
HORU	**Horodok**	**3.61 0**	*i* Pn		Pn	06 20 36.7	0.0
HORU			*i* Sn		Sn	06 21 19.9	+0.4
VTS	**Vitosha**	**3.79 219**	*e*Pn		Pn	06 20 38.9	-0.4
VTS	**Vitosha**	**3.79 219**	*e*Pn		Pn	06 20 38.9	-0.4
VTS	**Vitosha**	**3.79 219**	⇓*i*P		Pn	06 20 38.7	-0.6
VTS	**Vitosha**	**3.79 219**	⇓*i*P		Pn	06 20 38.7	-0.6
VTS	**Vitosha**	**3.79 219**	*e*Pn		Pn	06 20 38.9	-0.4
MUKU	**Mukachevo**	**3.82 320**	*i* Pn		Pn	06 20 40.1	+0.8
MUKU			Pnm			06 20 40.7	
BOVS	**Bovan**	**3.89 241**	*e*Pn		Pn	06 20 39.9	-0.5
BOVS	**Bovan**	**3.89 241**	*e*Pn		Pn	06 20 39.9	-0.5
BOVS	**Bovan**	**3.89 241**	*e*Pn		Pn	06 20 39.9	-0.5
SVIS	**Svilajnac**	**3.92 252**	*e*Pn		Pn	06 20 32.1	-8.6
ONO	**Onokovtsy**	**4.13 319**	*i* Pn		Pn	06 20 44.3	+0.8
BARS	**Barje**	**4.32 231**	*e*Pn		Pn	06 20 46.0	0.0
BARS	**Barje**	**4.32 231**	*e*Pn		Pn	06 20 45.6	-0.4
GRUS	**Gruza**	**4.40 249**	⇓*i*Pn		Pn	06 20 46.5	-0.5
GRUS	**Gruza**	**4.40 249**	*e*Pn		Pn	06 20 46.6	-0.5
GRUS	**Gruza**	**4.40 249**	*e*Pn		Pn	06 20 46.6	-0.5
SELS	**Selova**	**4.48 240**	⇓*i*Pn		Pn	06 20 47.4	-0.7
TRUS	**Trudelj**	**4.48 254**	⇓*i*Pn		Pn	06 20 47.5	-0.6
TRUS	**Trudelj**	**4.48 254**	*e*Pn		Pn	06 20 47.7	-0.4
TRUS	**Trudelj**	**4.48 254**	⇓*i*Pn		Pn	06 20 47.5	-0.6
FGSL	**Fruska Gora**	**4.67 267**	*e*Pn		Pn	06 20 48.9	-1.7
FRGS	**Fruska Gora**	**4.67 267**	*e*Pn		Pn	06 20 48.9	-1.7
DIVS	**Divibare**	**4.80 254**	*e*Pn		Pn	06 20 51.3	-1.1
DIVS	**Divibare**	**4.80 254**	*e*Pn		Pn	06 20 51.7	-0.7
DIVS	**Divibare**	**4.80 254**	*e*Pn		Pn	06 20 51.3	-1.1
IVAS	**Ivanjica**	**4.91 248**	*e*Pn		Pn	06 20 53.3	-0.5
IVAS	**Ivanjica**	**4.91 248**	*e*Pn		Pn	06 20 53.5	-0.3
IVAS	**Ivanjica**	**4.91 248**	*e*Pn		Pn	06 20 53.3	-0.5
TEKS	**Tekeris**	**4.98 260**	*i* Pn		Pn	06 20 54.5	-0.3
TEKS	**Tekeris**	**4.98 260**	*e*Pn		Pn	06 20 54.7	-0.1
TEKS	**Tekeris**	**4.98 260**	*e*Pn		Pn	06 20 54.7	-0.1
SJES	**Sjenica**	**5.17 245**	⇑*i*Pn		Pn	06 20 58.7	+1.4
BBLS	**Lazići**	**5.28 253**	*e*Pn		Pn	06 20 58.7	-0.1
BBLS	**Lazići**	**5.28 253**	*e*Pn		Pn	06 20 59.6	+0.8
BBLS	**Lazići**	**5.28 253**	*e*Pn		Pn	06 20 59.6	+0.8
AKASG	**Malin Array Be**	**5.43 19**	P		Pn	06 20 59.8	-0.9
	1.6nm,0.3s,baz=201,slow=13,SNR=5.8						
AKASG			S		Sn	06 21 58.2	-4.2
	2.4nm,0.3s,baz=200,slow=21,SNR=7.8						
BRTR	**Keskin Array B**	**7.93 135**	P		Pn	06 21 33.5	-0.7
	0.1nm,0.3s,baz=323,slow=12,SNR=4.6						
GERES	**GERESS Array B**	**9.23 295**	P		Pn	06 21 51.6	+0.2
	0.1nm,0.3s,baz=118,slow=7.9,SNR=3.6						
FINES	**FINESS Array B**	**15.87 359**	P		Pn	06 23 14.8	-1.6
	0.1nm,0.3s,baz=185,slow=13,SNR=3.6						
NOA	**NORSAR Array B**	**17.85 335**	P		P	06 23 38.6	-0.4
	0.2nm,0.3s,baz=133,slow=10,SNR=2.9						
ARCES	**ARCESS Array B**	**24.00 359**	P		P	06 24 42.4	+0.4
	1.5nm,0.8s,baz=174,slow=10.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**34.56 62**	P		P	06 26 16.9	+1.4
	0.4nm,0.4s,baz=283,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**37.65 56**	P		P	06 26 42.7	+1.0
	1.3nm,0.3s,baz=299,slow=8.2,SNR=4.0						
MKAR	**Makanchi Array**	**38.00 68**	P		P	06 26 46.0	+1.1
	0.2nm,0.3s,baz=286,slow=8.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**38.54 221**	P		P	06 26 50.6	+0.9
	0.4nm,0.4s,baz=31,slow=8.6,SNR=8.6						
DBIC	**Dimbokro**	**47.30 225**	P		P	06 28 00.1	0.0
	1.2nm,0.4s,baz=12,slow=8.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**64.91 89**	P		P	06 30 06.4	+1.3
	1.3nm,0.5s,baz=300,slow=5.9,SNR=4.4						
YKA	**Yellowknife Ar**	**67.82 342**	P		P	06 30 23.3	+0.4
	0.3nm,0.6s,baz=24,slow=6.0,SNR=2.9						

DDA ***24*** *06:22:55.6, 38.°65N×43.°25E, h3km, Ml3.5*
AZER ***24*** *06:22:56.1±4.5, 38.°05N×43.°35E, h4km, Error ellipse: s-maj=57.0km s-min=36.0km az=134.0*
CSEM ***24*** *06:22:58.2±0.6, 38.°65N×43.°11E, h2km, ML3.5, Error ellipse: s-maj=14.2km s-min=12.1km az=128.0*

ISC 24 06:22:56.3±1.1, 38.°64N±0.°02×43.°26E±0.°02, h6km±12km, n36, σ1§70/59, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.36**	**206**	*i* P	**Pg**	06 23 03.1	-0.2
GEVA	**Gevas**	**0.36**	**206**	P	**Pg**	06 23 03.1	-0.2
TUTA	**Tutak**	**0.84**	**336**	*i* P	**Pg**	06 23 11.7	-0.7
TUTA				*i* S	**Sg**	06 23 23.3	0.0
TUTA	**Tutak**	**0.84**	**336**	P	**Pg**	06 23 11.7	-0.7
TUTA				S	**Sg**	06 23 23.3	0.0
DYDN	**Diyadin**	**0.96**	**20**	*i* P	**Pb**	06 23 15.4	-0.1
DYDN	**Diyadin**	**0.96**	**20**	P	**Pb**	06 23 15.4	-0.1
EKAR	**Karacoban**	**1.12**	**304**	*i* P	**Pb**	06 23 17.9	-0.3
EKAR				*i* S	**Sn**	06 23 37.5	+3.1
EKAR	**Karacoban**	**1.12**	**304**	P	**Pb**	06 23 17.9	-0.3
EKAR				S	**Sn**	06 23 37.5	+3.1
HAKT	**HAKKARI**	**1.13**	**162**	*i* P	**Pg**	06 23 16.4	-1.7
HAKT	**HAKKARI**	**1.13**	**162**	P	**Pg**	06 23 16.4	-1.7
EATA	**Eleskirt**	**1.36**	**334**	*i* P	**Pg**	06 23 20.5	-1.9
EATA				*i* S	**Sg**	06 23 39.6	-0.5
EATA	**Eleskirt**	**1.36**	**334**	P	**Pg**	06 23 20.5	-1.9
EATA				S	**Sg**	06 23 39.6	-0.5
BNGL	**BINGOL**	**1.68**	**281**	*i* P	**Pb**	06 23 27.1	-0.6
BNGL				*i* S	**Sg**	06 23 50.9	+0.7
SVAN	**Silvan-Diyarba**	**1.69**	**254**	*i* P	**Pb**	06 23 27.5	-0.3
SVAN				*i* S	**Sg**	06 23 51.8	+1.2
SVAN	**Silvan-Diyarba**	**1.69**	**254**	P	**Pb**	06 23 27.5	-0.3
SVAN				S	**Sg**	06 23 51.8	+1.2
BTMN	**Batman**	**1.73**	**245**	*i* P	**Pg**	06 23 29.3	-0.2
BTMN				*i* S	**Sg**	06 23 53.6	+1.6
BTMN	**Batman**	**1.73**	**245**	P	**Pg**	06 23 29.3	-0.2
BTMN				S	**Sg**	06 23 53.6	+1.6
HOMI	**Horasan**	**1.75**	**324**	*i* P	**Pb**	06 23 28.5	-0.5
HOMI				*i* S	**Sg**	06 23 57.2	+4.5
DIGO	**Kars**	**1.78**	**3**	*i* P	**Pg**	06 23 30.1	-0.3
DIGO	**Kars**	**1.78**	**3**	P	**Pg**	06 23 30.1	-0.3
NAX	**Nakhchivan**	**1.82**	**72**	⇓P	**Pb**	06 23 30.4	+0.3
NAX				⇑S	**Sg**	06 23 58.5	+3.5
NAX	**Nakhchivan**	**1.82**	**72**	P	**Pb**	06 23 30.4	+0.3
NAX				S	**Sg**	06 23 58.5	+3.5
ERZM	**Erzurum**	**1.94**	**311**	*i* P	**Pb**	06 23 32.5	+0.3
ERZM	**Erzurum**	**1.94**	**311**	P	**Pb**	06 23 32.5	+0.3
EAK	**Akyaka**	**2.06**	**7**	*i* P	**Pg**	06 23 36.4	+0.6
EAK				*i* S	**Sg**	06 24 05.9	+3.3
EAK	**Akyaka**	**2.06**	**7**	P	**Pg**	06 23 36.4	+0.6
EAK				S	**Sg**	06 24 05.9	+3.3
MARD	**Mardin**	**2.36**	**237**	*i* P	**Pb**	06 23 39.4	+0.1
MARD				*i* S	**Sg**	06 24 15.2	+3.0
DAGI	**Agillar**	**2.65**	**337**	*i* P	**Pb**	06 23 44.6	+0.4
GDB	**GEDABAY**	**2.83**	**42**	⇓P	**Pb**	06 23 47.7	+0.3
GDB				⇓S	**Sg**	06 24 27.6	+0.2
GDB	**GEDABAY**	**2.83**	**42**	P	**Pb**	06 23 47.7	+0.3
GDB				S	**Sg**	06 24 27.6	+0.2
QZX	**Qazax, Azerbai**	**2.91**	**33**	⇓P	**Pg**	06 23 50.5	-1.6
QZX				⇑S	**Sg**	06 24 32.6	+2.7
QZX	**Qazax, Azerbai**	**2.91**	**33**	P	**Pg**	06 23 50.5	-1.6
QZX				S	**Sg**	06 24 32.6	+2.7
EUZM	**Uzumlu**	**2.97**	**292**	*i* P	**Pn**	06 23 41.1	-2.9
EUZM	**Uzumlu**	**2.97**	**292**	P	**Pn**	06 23 41.1	-2.9
GANJ	**Ganja**	**3.10**	**49**	⇑P	**Pb**	06 23 51.0	-0.8
GANJ				⇑S	**Sg**	06 24 35.5	-0.4
GANJ	**Ganja**	**3.10**	**49**	P	**Pb**	06 23 51.0	-0.8
GANJ				S	**Sg**	06 24 35.5	-0.4

IDC 24 06:28:40.2±3.0, 23.°54S×179.°32W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.8/3, Error ellipse: s-maj=286.1km s-min=32.5km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.71**	**260**	P	P	06 36 39.3	0.0
	0.9nm,0.8s,baz=97,slow=7.6,SNR=7.7						
WRA	**Warramunga Arr**	**43.05**	**266**	P	P	06 36 41.8	-0.3
	1.8nm,0.6s,baz=103,slow=8.2,SNR=11						
TXAR	**Lajitas Array**	**89.71**	**58**	P	P	06 41 40.7	0.0
	0.2nm,0.7s,baz=201,slow=4.8,SNR=2.8						

IDC 24 06:32:11.8±3.6, 11.°70N×57.°52E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/43, mbtmp3.9/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/44, Error ellipse: s-maj=101.3km s-min=29.6km az=77.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**40.49**	**75**	P	P	06 39 52.6	-0.2
	1.2nm,0.3s,baz=259,slow=8.2,SNR=4.3						
MKAR	**Makanchi Array**	**40.76**	**26**	P	P	06 39 54.6	0.0
	0.5nm,0.6s,baz=215,slow=9.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.46**	**20**	P	P	06 40 08.4	0.0
	1.3nm,0.7s,baz=218,slow=8.1,SNR=9.3						
ARU	**Arti**	**44.63**	**1**	LR	LR	07 01 44.2	
	comp=Z,71nm,19.0s,baz=214,slow=40						
ZALV	**Zalesovo Beam**	**47.39**	**22**	P	P	06 40 47.3	-0.3
	3.3nm,0.7s,baz=220,slow=7.7,SNR=9.2						
WRA	**Warramunga Arr**	**81.85**	**112**	P	P	06 44 33.4	-0.2
	0.6nm,0.7s,baz=295,slow=4.2,SNR=4.0						
ASAR	**Alice Springs**	**82.48**	**116**	P	P	06 44 37.1	+0.3
	0.2nm,0.4s,baz=295,slow=3.9,SNR=3.0						

CSEM ***24*** *06:35:32.8±0.1, 44.°98N×17.°19E, h2km, ML2.8/4, Error ellipse: s-maj=4.0km s-min=2.2km az=37.0*
BEO ***24*** *06:35:35.9±0.4, 44.°78N×17.°34E, h1km±3km, M2.1/8*
VIE ***24*** *06:35:36.9±1.0, 45.°16N×16.°98E, h14km±4km, mb2.1/4, ML2.4/6, Error ellipse: s-maj=5.3km s-min=4.8km az=113.0*
PRU ***24*** *06:35:37.8, 45.°28N×17.°49E, h0km*

ISC 24 06:35:33.0±0.9, 44.°96N±0.°02×17.°17E±0.°02, h9km±7km, n42, σ1§06/75, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRAK	**Mrakovica**	**0.20**	**285**	*e*Pg	**Pg**	06 35 37.2	+0.1
MRAK				*e*

MAT	**Matsushiro**	**3.34**	**263**	P	**Pn**	**06 44 06.1**	**+2.1**
MAT				S	**Sn**	**06 44 42.2**	**-1.6**
ASAJ	**Asahikawa**	**7.10**	**2**	*e*Pn	**Pn**	**06 44 54.3**	**-1.2**
ASAJ				*e*Sn	**Sn**	**06 46 19.6**	**+3.2**
JNU	**Nakatsue**	**10.16**	**251**	Pn	**Pn**	**06 45 41.5**	**+4.0**
	baz=0.0,slow=16,SNR=3.2						
USRK	**Ussuriysk Ar.**	**10.64**	**316**	Pn	Pn	06 45 48.4	+4.3
	0.3nm,0.3s,baz=115,slow=14,SNR=5.7						
KSRS	**Korea Array**	**11.50**	**277**	Pn	**Pn**	**06 45 58.8**	**+3.0**
	0.3nm,0.3s,baz=89,slow=12,SNR=2.6						
KSRS				LR	LR	06 50 23.8	
	comp=Z,41nm,18.0s,baz=58,slow=37						
KSAR	**Wonju Array Be**	**11.53**	**277**	Pn	**Pn**	**06 45 58.8**	**+2.6**
H11N2	**WAKE ISLAND Hy**	**27.51**	**122**	T	T	07 17 59.1	
	baz=314,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.52**	**122**	T	T	07 17 58.0	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.52**	**122**	T	T	07 17 53.5	
	baz=314,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.23**	**124**	T	T	07 18 44.2	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.23**	**124**	T	T	07 18 51.4	
	baz=316,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.25**	**124**	T	T	07 18 48.5	
	baz=316,slow=76,SNR=14						
SONM	**Songino Array**	**28.41**	**304**	P	**P**	**06 49 06.3**	**0.0**
	0.6nm,0.7s,baz=102,slow=8.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.48**	**312**	P	**P**	**06 51 06.4**	**-0.2**
	1.0nm,0.3s,baz=96,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**44.75**	**302**	P	**P**	**06 51 25.1**	**0.0**
	0.4nm,0.6s,baz=83,slow=10,SNR=4.3						
KURK	**Kurchatov**	**46.53**	**308**	P	**P**	**06 51 40.0**	**+0.9**
KURBB	**Kurchatov Arra**	**46.60**	**308**	P	**P**	**06 51 40.0**	**+0.3**
	1.0nm,0.5s,baz=84,slow=8.1,SNR=5.3						
ILAR	**Eielson Array**	**49.12**	**32**	P	**P**	**06 51 58.9**	**-0.2**
	0.7nm,1.0s,baz=265,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**57.14**	**189**	P	**P**	**06 52 58.1**	**-0.5**
	2.9nm,0.8s,baz=7.7,slow=7.2,SNR=7.3						
ASAR	**Alice Springs**	**60.87**	**189**	P	**P**	**06 53 24.6**	**+0.2**
	0.3nm,0.7s,baz=18,slow=9.9,SNR=4.6						
FFC	**Flin Flon**	**73.33**	**33**	*e*P	**P**	**06 54 43.2**	**0.0**
	3.1nm,0.7s						
BRTR	**Keskin Array B**	**79.42**	**312**	P	**P**	**06 55 16.4**	**-1.9**
	0.7nm,0.6s,baz=57,slow=10,SNR=3.6						
LPAZ	**La Paz**	**146.07**	**61**	PKPbc	**PKPab**	**07 02 53.1**	**-0.5**
	0.8nm,0.8s,baz=345,slow=4.3,SNR=4.6						

BJI ***24*** *06:44:54.0,39.°01N×42.°68E,h19km,mb4.6/11,mB4.8/6, Ms4.2/2,Ms7 4.0/2*
ISK ***24*** *06:44:56.4,38.°69N×43.°19E,h3km,ML3.4*
ISCJB ***24*** *06:44:57.5±0.6,38.°71N±0.°02×43.°26E±0.°04,h9km±4km, mb4.6/5,MS4.1/2,Error ellipse: s-maj=5.8km s-min=3.9km az=1.6*
CSEM ***24*** *06:44:57.4±0.3,38.°66N×43.°12E,h8km,ML3.4,Error ellipse: s-maj=8.2km s-min=5.8km az=78.0*
DDA ***24*** *06:44:58.3,38.°73N×43.°03E,h5km,Ml3.7*
ISC 24 06:44:57.6±0.8,38.°71N±0.°02×43.°14E±0.°02,h15km±5km, n51,σ2s03/77,mb4.7/5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**119**	*e*PG	**Pg**	**06 45 02.0**	**-0.7**
VANB				*e*SG	**Sg**	**06 45 06.2**	**+0.1**
VANB	**Van**	**0.22**	**119**	*e*Pg	**Pg**	**06 45 02.0**	**-0.7**
VANB				*e*Sg	**Sg**	**06 45 06.2**	**+0.1**
GEVA	**Gevas**	**0.40**	**189**	*i* P	**Pg**	**06 45 04.3**	**-1.4**
GEVA				*i* S	**Sg**	**06 45 10.3**	**-0.8**
GEVA	**Gevas**	**0.40**	**189**	P	**Pg**	**06 45 04.3**	**-1.4**
GEVA				S	**Sg**	**06 45 10.4**	**-0.8**
TUTA	**Tutak**	**0.74**	**340**	*i* P	**Pb**	**06 45 12.2**	**-0.2**
TUTA				*i* S	**Sb**	**06 45 22.2**	**-0.3**
TUTA	**Tutak**	**0.74**	**340**	P	**Pb**	**06 45 12.2**	**-0.2**
TUTA				S	**Sb**	**06 45 22.2**	**-0.3**
AGRB	**Hanur-Agry**	**0.88**	**352**	*e*PG	**Pb**	**06 45 14.2**	**-0.5**
AGRB				*e*SG	**Sn**	**06 45 27.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.88**	**352**	*e*Pg	**Pb**	**06 45 14.2**	**-0.5**
AGRB				*e*Sg	**Sn**	**06 45 27.6**	**-0.8**
DYDN	**Diyadin**	**0.94**	**27**	*i* P	**Pn**	**06 45 17.1**	**+0.5**
DYDN				*i* S	**Sn**	**06 45 33.9**	**+4.0**
DYDN	**Diyadin**	**0.94**	**27**	P	**Pn**	**06 45 17.1**	**+0.5**
DYDN				S	**Sn**	**06 45 33.9**	**+4.0**
EKAR	**Karacoban**	**1.00**	**304**	*i* P	**Pn**	**06 45 19.5**	**+2.0**
EKAR				*i* S	**Sn**	**06 45 36.8**	**+5.3**
EKAR	**Karacoban**	**1.00**	**304**	P	**Pn**	**06 45 19.5**	**+2.0**
HAKT	**HAKKARI**	**1.23**	**159**	*i* P	**Pn**	**06 45 19.3**	**-1.2**
HAKT				*i* S	**Sn**	**06 45 40.3**	**+3.2**
HAKT	**HAKKARI**	**1.23**	**159**	P	**Pn**	**06 45 19.3**	**-1.2**
HAKT				S	**Sn**	**06 45 40.3**	**+3.2**
EATA	**Eleskirt**	**1.26**	**337**	*i* P	**Pn**	**06 45 21.5**	**+0.4**
EATA				*i* S	**Sn**	**06 45 40.3**	**+2.3**
EATA	**Eleskirt**	**1.26**	**337**	P	**Pn**	**06 45 21.5**	**+0.4**
EATA				S	**Sn**	**06 45 40.3**	**+2.3**
SIRN	**S¨–rnak**	**1.34**	**206**	*i* P	**Pg**	**06 45 23.3**	**0.0**
SIRN				*i* S	**Sg**	**06 45 43.0**	**+2.2**
SIRN	**S¨–rnak**	**1.34**	**206**	P	**Pg**	**06 45 23.3**	**0.0**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*PN	**Pg**	**06 45 24.4**	**0.0**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*Pn	**Pg**	**06 45 24.4**	**0.0**
CUKT	**Cukurca**	**1.50**	**166**	*e*PN	**Pn**	**06 45 25.2**	**+1.0**
CUKT	**Cukurca**	**1.50**	**166**	*i* P	**Pg**	**06 45 29.0**	**+2.5**
CUKT				*i* S	**Sg**	**06 45 49.3**	**+3.3**
CUKT	**Cukurca**	**1.50**	**166**	*e*Pn	**Pn**	**06 45 25.2**	**+1.0**
CUKT	**Cukurca**	**1.50**	**166**	P	**Pg**	**06 45 29.0**	**+2.5**
BNGL	**BINGOL**	**1.57**	**280**	*i* P	**Pg**	**06 45 27.8**	**-0.2**
BNGL				*i* S	**Sg**	**06 45 50.7**	**+2.3**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	*e*PN	**Pn**	**06 45 26.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	*i* P	**Pn**	**06 45 24.4**	**-1.4**
SVAN				*i* S	**Sg**	**06 45 49.4**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	P	**Pn**	**06 45 24.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	*e*Pn	**Pn**	**06 45 26.5**	**+0.7**
SVAN				S	**Sg**	**06 45 49.4**	**-0.5**
HOMI	**Horasan**	**1.65**	**325**	*i* P	**Pb**	**06 45 28.0**	**+0.1**
BTMN	**Batman**	**1.68**	**242**	*i* P	**Pn**	**06 45 26.2**	**-0.4**
BTMN				*i* S	**Sg**	**06 45 52.1**	**+0.3**
BTMN	**Batman**	**1.68**	**242**	P	**Pn**	**06 45 26.2**	**-0.4**
DIGO	**Kars**	**1.72**	**6**	*i* P	**Pg**	**06 45 30.2**	**-0.5**
DIGO	**Kars**	**1.72**	**6**	P	**Pg**	**06 45 30.2**	**-0.5**
ERZM	**Erzurum**	**1.83**	**312**	*i* P	**Pn**	**06 45 29.3**	**+0.5**
ERZM	**Erzurum**	**1.83**	**312**	P	**Pn**	**06 45 29.3**	**+0.5**
BNGB	**Bing¶ll**	**1.94**	**279**	*e*PN	**Pb**	**06 45 31.8**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.95**	**342**	*e*PN	**Pb**	**06 45 31.8**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.95**	**342**	*e*Pn	**Pb**	**06 45 31.8**	**-1.3**
EAK	**Akyaka**	**2.01**	**10**	*i* P	**Pg**	**06 45 37.4**	**+1.2**
BINT	**Bingol**	**2.08**	**276**	*e*Pn	**Pn**	**06 45 31.8**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*PN	**Pb**	**06 45 34.9**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*Pn	**Pb**	**06 45 34.9**	**-1.5**
MARD	**Mardin**	**2.33**	**234**	*i* P	**Pb**	**06 45 38.0**	**-1.4**
MARD				*i* S	**Sb**	**06 46 09.7**	**+1.7**
ERZN	**Erzincan**	**2.80**	**289**	*e*PN	**Pn**	**06 45 44.1**	**+2.0**
EZC	**Erzincan**	**3.12**	**291**	*e*Pn	**Pn**	**06 45 44.1**	**-2.4**
KSH	**Kashi**	**25.41**	**78**	*e*P	**P**	**06 50 24.3**	**-0.5**
KSH				pP	pP	06 50 27.3	-1.9
KSH				sP	sP	06 50 29.8	-1.2
KSH				PP	**PnPn**	**06 51 02.8**	**+3.0**
KSH				S	**S**	**06 54 46.6**	**-4.5**
KSH				SS	**SnSn**	**06 55 45.8**	**+2.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,120nm,4.8s						
KSH				LR	LR		
	comp=N,97nm,8.4s						
KSH				LR	LR		
	comp=E,82nm,7.3s						
KSH				LR	LR		
	comp=Z,170nm,6.6s						
WMQ	**Urumqi**	**33.56**	**67**	P	**P**	**06 51 37.8**	**+0.7**
WMQ				pP	sP	06 51 42.9	-0.4
WMQ				sP	pP	06 51 45.5	+4.0
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,36nm,4.3s						
LZH	**Lanzhou**	**47.52**	**73**	*e*P	P	06 53 26.0	-6.5
LZH				pP	pP	06 53 28.0	-9.1
LZH				sP	sP	06 53 28.6	-10
LZH				*e*PP	**PP**	**06 55 17.3**	**-6.5**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,43nm,6.0s						
LZH				LR	LR		
	comp=N,130nm,14.5s						
LZH				LR	LR		
	comp=E,130nm,14.6s						
LZH				LR	LR		
	comp=Z,170nm,18.0s						
HHC	**Hu-ho-hao-te**	**51.39**	**65**	*e*P	**P**	**06 54 03.8**	**+1.9**
HHC				S	**S**	**07 01 15.0**	**-6.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.5s						
HHC				pmax	pmax		
	comp=Z,60nm,4.5s						
HHC				LR	LR		
	comp=Z,150nm,16.2s						
HHC				LR	LR		
	comp=Z,130nm,12.4s						
HHC				LR	LR		
	comp=Z,73nm,13.7s						
KMI	**Kunming**	**51.55**	**87**	P	**P**	**06 54 04.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,21nm,0.5s						

DDA ***24*** *06:46:39.8,38.°83N×43.°49E,h5km,Ml3.9*
ISK ***24*** *06:46:40.2,38.°83N×43.°55E,h5km,ML4.5*
MOS ***24*** *06:46:40.7±1.7,38.°72N×43.°60E,h10km,mb4.5/29,Error ellipse: s-maj=7.0km s-min=4.3km az=89.1*
TEH ***24*** *06:46:40.0,39.°05N×43.°29E,h18km,ML4.4*
IDC ***24*** *06:46:40.4±0.7,38.°79N×43.°59E,h0km,mb4.1/18, mb1 4.1/25,mb1mx4.0/44,mbtmp4.0/25,ML3.2/7,MS3.6/17, Ms1 3.6/17,ms1mx3.5/31,Error ellipse: s-maj=14.0km s-min=8.8km az=151.0*
AZER ***24*** *06:46:40.8±1.8,38.°53N×43.°31E,h7km,Error ellipse: s-maj=19.1km s-min=11.2km az=51.0*
ISCJB ***24*** *06:46:41.2±0.6,38.°72N±0.°02×43.°50E±0.°02,h1km±4km, mb4.2/39,MS3.6/12,Error ellipse: s-maj=3.6km s-min=2.4km az=4.7*
NEIC ***24*** *06:46:42.2±0.4,38.°84N×43.°52E,h10km,mb4.4/10, ML3.9(DDA),Error ellipse: s-maj=8.0km s-min=6.3km az=146.0*
CSEM ***24*** *06:46:42.9±0.1,38.°76N×43.°48E,h5km,mb4.4/10,Error ellipse: s-maj=4.7km s-min=3.5km az=171.0*
ISC 24 06:46:42.1±0.9,38.°82N±0.°01×43.°54E±0.°02,h5km±6km, n309,σ1s91/363,mb4.3/39,MS3.5/13,36C-19D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**208**	*e*PG	**Pg**	**06 46 47.1**	**+0.1**
VANB				*e*SG	**Sg**	**06 46 53.7**	**+3.4**
VANB	**Van**	**0.25**	**208**	*e*Pg	**Pg**	**06 46 47.1**	**+0.1**
GEVA	**Gevas**	**0.63**	**217**	*i* P	**Pg**	**06 46 51.6**	**-2.6**
GEVA				*i* S	**Sg**	**06 47 03.0**	**+0.6**
GEVA	**Gevas**	**0.63**	**217**	P	**Pg**	**06 46 51.6**	**-2.6**
GEVA				S	**Sg**	**06 47 03.0**	**+0.6**
GEVA	**Gevas**	**0.63**	**217**	*i* P	**Pg**	**06 46 51.6**	**-2.6**
GEVA				*i* S	**Sg**	**06 47 03.0**	**+0.6**
DYDN	**Diyadin**	**0.73**	**9**	*i* P	**Pg**	**06 46 54.2**	**-2.0**
DYDN				*i* S	**Sg**	**06 47 05.0**	**-0.8**
DYDN	**Diyadin**	**0.73**	**9**	P	**Pg**	**06 46 54.2**	**-2.0**
DYDN				S	**Sg**	**06 47 05.0**	**-0.8**
DYDN	**Diyadin**	**0.73**	**9**	*i* P	**Pg**	**06 46 54.2**	**-2.0**
TUTA	**Tutak**	**0.81**	**316**	*i* P	**Pg**	**06 46 54.7**	**-3.0**
TUTA				*i* S	**Sg**	**06 47 07.9**	**-0.4**
TUTA	**Tutak**	**0.81**	**316**	P	**Pg**	**06 46 54.7**	**-3.0**
TUTA				S	**Sg**	**06 47 07.9**	**-0.4**
TUTA	**Tutak**	**0.81**	**316**	*i* P	**Pg**	**06 46 54.7**	**-3.0**
AGRB	**Hanur-Agry**	**0.87**	**331**	*e*PG	**Pg**	**06 46 57.3**	**-1.5**
AGRB				*e*SG	**Sg**	**06 47 10.9**	**+0.8**
EKAR	**Karacoban**	**1.23**	**291**	*i* P	**Pg**	**06 47 05.3**	**-0.4**
EKAR				*i* S	**Sn**	**06 47 26.6**	**+3.2**
EKAR	**Karacoban**	**1.23**	**291**	P	**Pg**	**06 47 05.3**	**-0.4**
HAKT	**HAKKARI**	**1.26**	**174**	*i* P	**Pg**	**06 47 03.3**	**-3.0**
HAKT				*i* S	**Sn**	**06 47 23.6**	**-0.6**
HAKT	**HAKKARI**	**1.26**	**174**	P	**Pg**	**06 47 03.3**	**-3.0**
HAKT				S	**Sn**	**06 47 23.6**	**-0.6**
EATA	**Eleskirt**	**1.32**	**322**	*i* P	**Pg**	**06 47 05.0**	**-2.5**
EATA				*i* S	**Sn**	**06 47 26.8**	**+1.0**
EATA	**Eleskirt**	**1.32**	**322**	P	**Pg**	**06 47 05.0**	**-2.5**
EATA				S	**Sn**	**06 47 26.8**	**+1.0**
EATA	**Eleskirt**	**1.32**	**322**	*i* P	**Pg**	**06 47 05.0**	**-2.5**
NAX	**Nakhchivan**	**1.56**	**76**	⇓P	**Pn**	**06 47 10.1**	**-0.5**
	SNR=23						
NAX				⇓S	**Sg**	**06 47 36.7**	**+4.4**
NAX	**Nakhchivan**	**1.56**	**76**	P	**Pn**	**06 47 10.1**	**-0.5**
	SNR=23						
NAX				S	**Sg**	**06 47 36.7**	**+4.4**
CUKT	**Cukurca**	**1.57**	**178**	*e*PN	**Pb**	**06 47 11.1**	**-0.6**
CUKT	**Cukurca**	**1.57**	**178**	*i* P	**Pb**	**06 47 11.0**	**-0.6**
CUKT				*i* S	**Sg**	**06 47 33.8**	**+1.3**
CUKT	**Cukurca**	**1.57**	**178**	*e*Pn	**Pb**	**06 47 11.1**	**-0.6**
CUKT				S	**Sg**	**06 47 33.8**	**+1.3**
SIRN	**S¨–rnak**	**1.59**	**214**	*i* P	**Pb**	**06 47 11.4**	**-0.6**
SIRN				*i* S	**Sg**	**06 47 32.4**	**-0.8**
SIRN	**S¨–rnak**	**1.59**	**214**	P	**Pb**	**06 47 11.4**	**-0.6**
SIRN				S	**Sg**	**06 47 32.4**	**-0.8**
DIGO	**Kars**	**1.60**	**355**	*i* P	**Pn**	**06 47 10.6**	**-0.7**
DIGO	**Kars**	**1.60**	**355**	P	**Pn**	**06 47 10.6**	**-0.7**
GNI	**Garni**	**1.62**	**35**	Pg	**Pn**	**06 47 10.4**	**-1.2**
	137nm,0.3s,baz=215,slow=12,SNR=43						
GNI				Lg	Lg	06 47 32.6	
	71nm,0.3s,baz=193,slow=21,SNR=7.2						
GNI				LR	LR	06 47 53.5	
	comp=Z,921nm,20.0s,baz=210,slow=45						
GNI	**Garni**	**1.62**	**35**	P	**Pn**	**06 47 10.4**	**-1.2**
	137nm,0.3s						
GNI				*e*Sn	**Sg**	**06 47 36.6**	**+2.3**
GNI	**Garni**	**1.62**	**35**	*e*Pn	**Pn**	**06 47 10.3**	**-1.2**
GNI				*e*Sn	**Sg**	**06 47 36.6**	**+2.3**
VRTB	**Varto-Mus**	**1.66**	**283**	*e*PN	**Pn**	**06 47 11.9**	**-0.1**
VRTB				*e*SN	**Sb**	**06 47 35.0**	**+0.4**
VRTB	**Varto-Mus**	**1.66**	**283**	*i* P	**Pn**	**06 47 10.6**	**-1.4**
VRTB				*i* S	**Sg**	**06 47 38.6**	**+3.2**
VRTB	**Varto-Mus**	**1.66**	**283**	P	**Pn**	**06 47 10.6**	**-1.4**
VRTB	**Varto-Mus**	**1.66**	**283**	*e*Pn	**Pn**	**06 47 11.9**	**-0.1**
VRTB				*e*Sn	**Sb**	**06 47 35.0**	**+0.4**
IMRD	**Marand**	**1.69**	**93**	*e*Pn	**Pn**	**06 47 11.5**	**-1.0**
IMRD				*e*AMB	AMB	06 47 16.6	
	comp=Z,39μm,0.3s						
IMRD	**Marand**	**1.69**	**93**	*e*Pn	**Pn**	**06 47 11.5**	**-1.0**
ISHB	**Shabestar**	**1.71**	**107**	*e*Pn	**Pn**	**06 47 12.1**	**-0.7**
ISHB				*e*AMB	AMB	06 47 13.9	
	comp=Z,27μm,0.3s						
HOMI	**Horasan**	**1.76**	**315**	*i* P	**Pn**	**06 47 13.8**	**+0.2**
HOMI				*i* S	**Sg**	**06 47 39.1**	**+0.4**
BNGL	**BINGOL**	**1.87**	**275**	*i* P	**Pn**	**06 47 15.7**	**+0.7**
BNGL				*i* S	**Sg**	**06 47 41.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*e*PN	**Pn**	**06 47 15.6**	**-0.4**
SVAN				*e*SN	**Sn**	**06 47 41.8**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*i* P	**Pn**	**06 47 16.6**	**+0.6**
SVAN				*i* S	**Sb**	**06 47 43.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*e*Pn	**Pn**	**06 47 15.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.96**	**251**	P	**Pn**	**06 47 16.6**	**+0.6**
SVAN				*e*Sn	**Sn**	**06 47 41.8**	**+0.9**
SVAN				S	**Sb**	**06 47 43.2**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.97**	**333**	*e*PN	**Pn**	**06 47 16.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.97**	**333**	*e*Pn	**Pn**	**06 47 16.0**	**-0.3**
ERZM	**Erzurum**	**2.01**	**303**	*i* P	**Pn**	**06 47 17.9**	**+1.0**
ERZM	**Erzurum**	**2.01**	**303**	P	**Pn**	**06 47 17.9**	**+1.0**
BTMN	**Batman**	**2.01**	**243**	*i* P	**Pn**	**06 47 17.0**	**+0.2**
BTMN				*i* S	**Sb**	**06 47 45.0**	**+0.4**
BTMN	**Batman**	**2.01**	**243**	P	**Pn**	**06 47 17.0**	**+0.2**
BTMN				S	**Sb**	**06 47 45.0**	**+0.4**
ITBZ	**Tabriz**	**2.13**	**105**	*e*Pn	**Pn**	**06 47 17.7**	**-0.8**
ITBZ				*e*Sg	**Sg**	**06 47 54.5**	**+4.1**
ITBZ	**Tabriz**	**2.13**	**105**	*e*Pn	**Pn**	**06 47 17.7**	**-0.8**
ITBZ				*e*Sg	**Sg**	**06 47 54.5**	**+4.1**
ECAT	**Cat-ERZURUM**	**2.14**	**292**	*i* P	**Pn**	**06 47 19.3**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.14**	**292**	P	**Pn**	**06 47 19.3**	**+0.5**
BNGB	**Bing¶ll**	**2.24**	**275**	*e*PN	**Pn**	**06 47 19.7**	**-0.2**
BINT	**Bingol**	**2.38**	**272**	*e*Pn	**Pn**	**06 47 19.7**	**-2.3**
YEDI	**Yedisu-Bingol**	**2.41**	**286**	*e*PN	**Pn**	**06 47 22.2**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.41**	**286**	*e*Pn	**Pn**	**06 47 22.2**	**-0.2**
BGD	**Bogdanovka**	**2.44**	**1**	P	**Pb**	**06 47 26.8**	**+0.1**
BGD				S	**Sg**	**06 48 01.0**	**+0.3**
GDB	**GEDABAY**	**2.56**	**41**	⇓P	**Pb**	**06 47 27.1**	**-1.4**
	SNR=11						
GDB				⇑S	**Sg**	**06 48 04.4**	**+0.2**
GDB	**GEDABAY**	**2.56**	**41**	P	**Pb**	**06 47 27.1**	**-1.4**
	SNR=11						
AKH	**Akhalkalaki**	**2.59**	**359**	*e*PN	**Pn**	**06 47 24.8**	**0.0**
AKH	**Akhalkalaki**	**2.59**	**359**	P	**Pb**	**06 47 28.9**	**-0.2**
AKH				S	**Sb**	**06 48 00.6**	**-0.7**
AKH	**Akhalkalaki**	**2.59**	**359**	*e*Pn	**Pn**	**06 47 24.8**	**0.0**
AKH	**Akhalkalaki**	**2.59**	**359**	P	**Pb**	**06 47 28.9**	**-0.2**
AKH				S	**Sb**	**06 48 00.6**	**-0.7**
QZX	**Qazax, Azerbai**	**2.64**	**32**	⇑P	**Pb**	**06 47 28.4**	**-1.6**
	SNR=4.6						
QZX				⇓S	**Sg**	**06 48 05.8**	**-1.2**
QZX	**Qazax, Azerbai**	**2.64**	**32**	P	**Pb**	**06 47 28.4**	**-1.6**
	SNR=4.6						
QZX				S	**Sg**	**06 48 05.8**	**-1.2**
KOPT	**Kop Dagi**	**2.65**	**298**	*e*Pn	**Pb**	**06 47 28.3**	**-1.8**
KOPT	**Kop Dagi**	**2.65**	**298**	*e*Pn	**Pb**	**06 47 28.3**	**-1.8**
KOPT				*e*Sn	**Sg**	**06 48 12.9**	**+5.8**
MARD	**Mardin**	**2.65**	**236**	*i* P	**Pn**	**06 47 24.9**	**-0.7**
KZR	**Kazreti**	**2.65**	**14**	P	**Pb**	**06 47 28.6**	**-1.5**
ARTV	**Artvin**	**2.67**	**333**	*e*Pn	**Pn**	**06 47 25.5**	**-0.5**
ARTV	**Artvin**	**2.67**	**333**	*e*Pn	**Pn**	**06 47 25.5**	**-0.5**
IHRS	**Heris**	**2.79**	**99**	*e*Pn	**Pn**	**06 47 27.6**	**0.0**
IHRS				*e*AMB	AMB	06 47 47.7	
	comp=Z,16μm,0.4s						
IHRS	**Heris**	**2.79**	**99**	*e*Pn	**Pn**	**06 47 27.6**	**0.0**
MAZI	**Mazidag**	**2.79**	**242**	*e*PN	**Pn**	**06 47 28.4**	**+0.9**
MAZI	**Mazidag**	**2.79**	**242**	*e*Pn	**Pn**	**06 47 28.4**	**+0.9**
GANJ	**Ganja**	**2.82**	**49**	⇑P	**Pn**	**06 47 28.0**	**+0.2**
	SNR=13						
GANJ				⇓S	**Sb**	**06 48 09.7**	**+1.9**
GANJ	**Ganja**	**2.82**	**49**	P	**Pn**	**06 47 28.0**	**+0.2**
	SNR=13						
GANJ				S	**Sb**	**06 48 09.7**	**+1.9**
IBST	**Bostanabad**	**2.86**	**112**	*e*Pn	**Pn**	**06 47 29.1**	**+0.4**
IBST				*e*AMB	AMB	06 47 40.1	
	comp=Z,3μm,0.3s						
IBST	**Bostanabad**	**2.86**	**112**	*e*Pn	**Pn**	**06 47 29.1**	**+0.4**
DGRG	**David-gareji**	**2.98**	**28**	P	**Pb**	**06 47 33.2**	**-2.6**
DGRG				S	**Sg**	**06 48 16.0**	**-1.9**
DGRG	**David-gareji**	**2.98**	**28**	P	**Pb**	**06 47 33.1**	**-2.6**
DGRG				S	**Sg**	**06 48 15.9**	**-1.9**
DGRG	**David-gareji**	**2.98**	**28**	P	**Pb**	**06 47 33.1**	**-2.6**
TBLG	**Delisi**	**3.05**	**17**	*e*PN	**Pn**	**06 47 31.3**	**+0.3**
TBLG	**Delisi**	**3.05**	**17**	P	**Pb**	**06 47 35.5**	**-1.5**
TBLG				S	**Sb**	**06 48 15.0**	**+0.5**
TBLG	**Delisi**	**3.05**	**17**	P	**Pb**	**06 47 35.4**	**-1.5**
TBLG				S	**Sb**	**06 48 15.0**	**+0.5**
TBLG	**Delisi**	**3.05**	**17**	*e*Pn	**Pn**	**06 47 31.3**	**+0.3**
TBLG	**Delisi**	**3.05**	**17**	P	**Pb**	**06 47 35.4**	**-1.5**
TBLG				S	**Sb**	**06 48 15.0**	**+0.5**
ERZN	**Erzincan**	**3.06**	**286**	*e*PN	**Pn**	**06 47 32.1**	**+0.8**
SEAG	**Tbilisi Sea**	**3.10**	**18**	P	**Pb**	**06 47 37.9**	**+0.2**
BRDA	**Brd**	**3.16**	**62**	⇑P	**Pn**	**06 47 35.2**	**+2.7**
	SNR=3.7						
BRDA	**Brd**	**3.16**	**62**	P	**Pn**	**06 47 35.2**	**+2.7**
	SNR=3.7						
PTK	**Pertek**	**3.24**	**273**	*e*PN	**Pn**	**06 47 34.6**	**+0.8**
PTK	**Pertek**	**3.24**	**273**	*e*Pn	**Pn**	**06 47 34.6**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.35**	**264**	*e*PN	**Pn**	**06 47 35.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.35**	**264**	*e*Pn	**Pn**	**06 47 35.9**	**+0.6**
MNGR	**Mingechevir, A**	**3.36**	**53**	⇑P	**Pb**	**06 47 38.8**	**-3.3**
	SNR=6.2						
MNGR				⇓S	**Sb**	**06 48 22.8**	**-0.4**
MNGR	**

```
GROC                                    pmax   pmax
    comp=Z,39nm,0.3s
GROC                                    smax   smax
    comp=E,41nm,2.2s
GROC                                    smax   smax
    comp=E,41nm,2.2s
KBZ  Khabaz          4.93 355  Pn      Pn     06 47 59.8 +3.0
    comp=E,0.2nm,0.3s,baz=189,slow=15,SNR=2.4
KBZ                                     Lg     Lg     06 49 19.0
    baz=201,slow=18,SNR=1.5
MAK  Makhachkala     5.12  35  eP      Pn     06 48 00.8 +1.5
MAK                                     eS     Sn     06 49 01.2 +2.4
MAK                                     pmax   pmax
    comp=Z,87nm,1.2s
MAK                                     MLR    MLR
    comp=Z,3μm,14.0s
MAK  Makhachkala     5.12  35  eP      Pn     06 48 00.8 +1.5
    comp=Z,87nm,1.2s
MAK                                     eS     Sn     06 49 01.2 +2.4
    comp=Z,3μm,14.0s
KIV  Kislovodsk      5.17 353  eP      Pn     06 48 00.0 -0.3
KIV                                     pmax   pmax
    comp=Z,10.0nm,1.0s
KIV                                     MLR    MLR
    comp=Z,113nm,7.0s
KIV  Kislovodsk      5.17 353  eP      Pn     06 48 00.0 -0.3
    comp=Z,113nm,7.0s
KIV  Kislovodsk      5.17 353  ePn     Pn     06 48 00.8 +0.5
KIV  Kislovodsk      5.17 353  ePn     Pn     06 48 00.8 +0.5
KIV                                     ePg    Pg     06 48 21.1  0.0
KVAR Kislovodsk Arr  5.17 353  Pn      Pb     06 48 06.9 -6.2
    baz=211,slow=14,SNR=3.3
KVAR                                    Lg     Lg     06 49 28.8
    baz=212,slow=13,SNR=1.6
KMRS Kahramanmaras   5.39 258  ePN     Pn     06 48 05.6 +2.3
KMRS Kahramanmaras   5.39 258  ePn     Pn     06 48 05.6 +2.3
SOC  Sochi           5.57 330  eP      Pn     06 48 09.2 +3.6
SOC                                     pmax   pmax
    comp=Z,26nm,1.0s
SOC                                     MLR    MLR
    comp=Z,625nm,13.0s
SOC  Sochi           5.57 330  eP      Pn     06 48 09.2 +3.6
    comp=Z,625nm,13.0s
SARI SarD1z-Kayseri  5.59 268  ePN     Pn     06 48 07.7 +1.5
GOF  Gofitskoye      6.25 357⇑eP       Pn     06 48 23.0 +8.1
GOF                                     pmax   pmax
    comp=Z,14nm,0.6s
ANN  Anapa           7.52 325  eP      Pn     06 48 34.8 +2.5
ANN                                     eS     Sn     06 50 03.8 +5.9
ANN                                     pmax   pmax
    comp=Z,75nm,1.2s
ANN                                     MLR    MLR
    comp=Z,390nm,12.0s
ANN  Anapa           7.52 325  eP      Pn     06 48 34.8 +2.5
    comp=Z,75nm,1.2s
BRTR Keskin Array B  7.74 280  Pn      Pn     06 48 37.0 +1.5
    comp=Z,0.1nm,0.3s,baz=111,slow=13,SNR=2.8
BRTR                                    Lg     Lg     06 50 49.4
    comp=Z,0.1nm,0.3s,baz=111,slow=28,SNR=2.1
BRTR Keskin Array B  7.74 280  P       Pn     06 48 37.0 +1.5
BRTR Keskin Array B  7.74 280  P       Pn     06 48 37.0 +1.5
ANTO Ankara          8.39 281  eP      Pn     06 48 43.4 -1.1
ANTO Ankara          8.39 281  eP      Pn     06 48 43.4 -1.1
ANTO Ankara          8.39 281  ePn     Pn     06 48 43.4 -1.1
ASF  Jabal al Asfar  8.56 221  Pn      Pn     06 48 45.7 -1.0
    comp=Z,0.3nm,0.3s,baz=37,slow=5.9,SNR=3.0
ASF                                     Lg     Lg     06 51 11.4
    comp=Z,0.2nm,0.3s,baz=43,slow=19,SNR=2.3
MMAI Mount Meron Ar  8.78 231  Pn      Pn     06 48 49.3 -0.4
    comp=Z,0.8nm,0.3s,baz=72,slow=14,SNR=3.4
MMAI                                    Lg     Lg     06 51 20.9
    comp=Z,2.3nm,0.3s,baz=37,slow=34,SNR=2.3
MMAI                                    LR     LR     06 52 40.4
    comp=Z,726nm,19.3s,baz=50,slow=41
GEYT Alibeck        11.48  90  Pn      Pn     06 49 24.4 -2.3
    comp=Z,0.4nm,0.3s,baz=266,slow=18,SNR=3.3
GEYT                                    LR     LR     06 54 37.6
    comp=Z,136nm,19.7s,baz=280,slow=42
EIL  Elat           11.56 220  Lg      Lg     06 52 47.9
    comp=Z,0.3nm,0.3s,baz=107,slow=20,SNR=2.5
EIL                                     LR     LR     06 54 26.4
    comp=Z,751nm,18.3s,baz=3.0,slow=40
LPSR Galich'ya Gora 14.15 348  eP      Pn     06 50 03.6 +0.5
LPSR                                    pmax   pmax
    comp=Z,10.0nm,1.1s
PLOR Plostina       14.32 305⇑iP        P      06 50 13.6 +0.8
PLOR Plostina       14.32 305⇑P         P      06 50 13.6 +0.8
PLOR Plostina       14.32 305  P        P      06 50 13.6 +0.8
DOPR Dopca          15.18 304⇓iP        P      06 50 21.1 -1.2
DOPR Dopca          15.18 304⇓iP        P      06 50 21.1 -1.2
VOIR                15.22 302⇑iP        P      06 50 25.0 +2.2
VOIR                15.22 302⇑P         P      06 50 25.0 +2.2
VOIR                15.22 302  P        P      06 50 25.0 +2.2
IDI  Anoyia         15.30 262  LR       LR     06 56 15.8
    comp=Z,194nm,21.1s,baz=68,slow=38
RAYN Ar Rayn        15.34 173  ePn     Pn     06 50 15.4 -3.9
ARR  Arges          15.47 301⇑iP        P      06 50 26.6 +1.0
ARR  Arges          15.47 301⇑iP        P      06 50 26.6 +1.0
AKTO Aktyubinsk     15.49  37  Pn      Pn     06 50 18.0 -3.2
    comp=Z,0.1nm,0.3s,baz=233,slow=14,SNR=6.4
AKTO                                    LR     LR     06 57 49.0
    comp=Z,361nm,19.9s,baz=222,slow=43
AKTO Aktyubinsk     15.49  37  P       Pn     06 50 18.0 -3.2
AKTO                                    MLR    MLR
    comp=Z,361nm,19.9s
AKASG Malin Array Be 15.61 324  Pn      Pn     06 50 20.8 -1.8
    comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=8.3
AKASG                                   LR     LR     06 57 11.6
    comp=Z,159nm,19.3s,baz=110,slow=40
AKBB Malin Array Si 15.61 324  eP       P      06 50 27.7 +0.7
AKBB Malin Array Si 15.61 324  eP       P      06 50 27.7 +0.7
AKBB Malin Array Si 15.61 324  ePn      P      06 50 27.6 +0.7
KIEV Kiev           15.61 324  iP       Pn     06 50 22.7  0.0
KIEV Kiev           15.61 324  ePn     Pn     06 50 21.7 -1.0
    comp=Z,14nm,1.0s
KIEV Kiev           15.61 324  ePn     Pn     06 50 21.7 -1.0
    comp=Z,14nm,1.0s
ABKAR Akbulak array 15.71  43  ePn     Pn     06 50 22.5 -1.5
    comp=Z,5.6nm,0.9s
BURAR Bucovina Array 15.96 309⇑iP       P      06 50 30.7 -0.4
BURAR Bucovina Array 15.96 309⇑P        P      06 50 30.7 -0.4
BURAR Bucovina Array 15.96 309⇑iP       P      06 50 30.7 -0.4
BUR08 Bucovina Ar. S 15.98 309  ePn     P      06 50 31.0 -0.3
BUR08 Bucovina Ar. S 15.98 309  ePn     P      06 50 31.0 -0.3
BUR08                                   eSn    S      06 53 37.8 -1.7
LOT  Lotru          16.07 301⇑iP        Pn     06 50 28.1 -0.8
OBN  Obninsk        16.97 346  LR       LR     06 57 18.1
    comp=Z,160nm,19.5s,baz=113,slow=38
OBN  Obninsk        16.97 346  iP       Pn     06 50 39.4 -0.6
OBN                                     pmax   pmax
    comp=Z,21nm,1.2s
OBN                                     MLR    MLR
    comp=Z,276nm,15.0s
DRGR                17.20 304⇑iP        P      06 50 46.1 +1.3
DRGR                17.20 304⇑P         P      06 50 46.1 +1.3
DRGR                17.20 304  P        P      06 50 46.1 +1.3
MOS  Moscow         17.39 349  eP       P      06 50 48.0 +1.4
MOS                                     pmax   pmax
    comp=Z,52nm,1.3s
MOS  Moscow         17.39 349  eP       P      06 50 48.0 +1.4
    comp=Z,52nm,1.3s
SIRR Siria          17.73 302⇑iP        P      06 50 52.1 +1.6
SIRR Siria          17.73 302⇑iP        P      06 50 52.1 +1.6
CRVS Cervenica-Dubn 18.78 310  eP       Pn     06 51 04.4 +1.9
CRVS Cervenica-Dubn 18.78 310  eP       Pn     06 51 04.4 +1.9
CRVS Cervenica-Dubn 18.78 310  eP       Pn     06 51 04.4 +1.9
PSZ  Piszkesteto    19.39 306⇓iP        Pn     06 51 10.0 +0.1
PSZ  Piszkesteto    19.39 306  eP       Pn     06 51 10.0 +0.1
PSZ                                     pmax   pmax
    comp=Z,18nm,1.1s
PSZ  Piszkesteto    19.39 306  eP       Pn     06 51 10.0 +0.1
    comp=Z,18nm,1.1s
PSZ  Piszkesteto    19.39 306  eP       Pn     06 51 10.0 +0.1
    comp=Z,18nm,1.1s
WSAR Wadi Sarin     20.16 136  P        Pn     06 51 18.1 -1.1
    comp=Z,6.5nm,0.8s,baz=334,slow=3.1,SNR=4.9
WSAR                                    LR     LR     07 01 04.2
    comp=Z,198nm,20.2s,baz=340,slow=43
ARU  Arti           20.24  25  eP       P      06 51 17.0 -0.9
    comp=Z,10nm,0.2s,baz=215,slow=7.9,SNR=9.0
ARU  Arti           20.24  25c iP       P      06 51 16.6 -1.4
ARU                                     S      S      06 55 05.7 +0.4
ARU                                     pmax   pmax
    comp=Z,35nm,1.2s
ARU  Arti           20.24  25  eP       P      06 51 16.8 -1.2
    comp=Z,43nm,1.1s
VYHS Vyhne          20.25 307  eP       Pn     06 51 19.2 -0.8
VYHS                                    pmax   pmax
    comp=Z,21nm,1.8s
VYHS Vyhne          20.25 307  eP       Pn     06 51 19.2 -0.8
    comp=Z,21nm,1.8s
VYHS Vyhne          20.25 307  eP       Pn     06 51 19.2 -0.8
SUW  Suwalki        20.57 324  P        Pn     06 51 24.1 +0.3
SUW  Suwalki        20.57 324  P        Pn     06 51 24.1 +0.3
KKAR Karatay Array  20.77  69  eP       P      06 51 23.4 -0.5
KKAR                                    eS     S      06 55 10.3 -5.9
KKAR                                    pmax   pmax
    comp=Z,12nm,0.8s
KKAR Karatay Array  20.77  69  eP       P      06 51 23.4 -0.5
    comp=Z,12nm,0.8s
KKAR                                    eS     S      06 55 10.3 -5.9
SVE  Sverdlovsk     21.26  26  eP       P      06 51 29.1 +0.1
SVE                                     pmax   pmax
    comp=Z,41nm,1.5s
SVE  Sverdlovsk     21.26  26  eP       P      06 51 29.1 +0.1
    comp=Z,41nm,1.5s
KRLC Kraliky        22.05 309  eP       P      06 51 41.0 +3.4
KRLC Kraliky        22.05 309  eP       P      06 51 41.0 +3.4
KRLC Kraliky        22.05 309  eP       P      06 51 41.0 +3.4
KLMR Klimovskoe     22.20 355  eP       P      06 51 37.7 -1.4
KLMR                                    eS     S      06 55 42.6 -1.2
KLMR                                    pmax   pmax
    comp=Z,43nm,1.0s
MNAS Manas          22.23  71  P        P      06 51 40.4 +0.7
MNAS                                    pmax   pmax
    comp=Z,8.0nm,1.2s
MNAS Manas          22.23  71  P        P      06 51 40.4 +0.7
    comp=Z,8.0nm,1.2s
DPC  Dobruska-Polom 22.42 310  eP       P      06 51 47.1 +5.5
DPC  Dobruska-Polom 22.42 310  eP       P      06 51 47.1 +5.5
VSU  Vasula         22.46 337  iP       P      06 51 40.2 -1.6
VSU                                     pmax   pmax
    comp=Z,42nm,1.3s
UPC  Upice          22.66 310  eP       P      06 51 48.8 +4.7
UPC  Upice          22.66 310  eP       P      06 51 48.8 +4.7
BRVK Borovoye       23.25  43ceP        P      06 51 50.0 -0.1
BRVK                                    pmax   pmax
    comp=Z,18nm,1.2s
BRVK Borovoye       23.25  43  eP       P      06 51 51.0 +0.9
    comp=Z,17nm,0.9s
BRVK Borovoye       23.25  43  eP       P      06 51 51.0 +0.9
    comp=Z,17nm,0.9s
BRVK                                    eS     S      06 56 01.4 -1.3
BVAR Borovoye Array 23.29  44  P        P      06 51 50.8 +0.2
    comp=Z,2.3nm,0.8s,baz=228,slow=13,SNR=5.7
GERES GERESS Array B 23.61 305  P        P      06 51 53.6 -0.3
    comp=Z,1.2nm,0.7s,baz=123,slow=4.9,SNR=4.1
GERES                                   LR     LR     07 02 27.0
    comp=Z,109nm,18.8s,baz=66,slow=40
AAK  Ala-Archa      23.70  71  P        P      06 51 54.9  0.0
    comp=Z,2.4nm,0.7s,baz=258,slow=9.9,SNR=7.5
AAK                                     LR     LR     07 03 00.5
    comp=Z,172nm,19.5s,baz=264,slow=41
AAK  Ala-Archa      23.70  71ceP        P      06 51 55.0  0.0
AAK                                     pmax   pmax
    comp=Z,19nm,1.7s
AAK  Ala-Archa      23.70  71  eP       P      06 51 55.3 +0.4
    comp=Z,16nm,1.2s
AAK  Ala-Archa      23.70  71  eP       P      06 51 55.3 +0.4
    comp=Z,16nm,1.2s
KHC  Kasperske Hory 23.76 305  eP       P      06 51 55.7 +0.4
KHC  Kasperske Hory 23.76 305  eP       P      06 51 55.6 +0.3
KHC                                     pmax   pmax
    comp=Z,16nm,1.9s
KHC  Kasperske Hory 23.76 305  eP       P      06 51 55.6 +0.3
    comp=Z,16nm,1.9s
KHC  Kasperske Hory 23.76 305  eP       P      06 51 55.5 +0.3
    comp=Z,16nm,1.9s
FRU  Bishkek        23.78  70  eP       P      06 51 56.5 +0.9
FRU                                     e      06 52 26.0
FRU                                     pmax   pmax
    comp=Z,61nm,1.9s
FRU  Bishkek        23.78  70  eP       P      06 51 56.5 +0.9
    comp=Z,61nm,1.9s
CLL  Collm          24.73 310  eP       P      06 52 05.0 +0.8
CLL                                     i      06 52 11.0
CLL                                     eS     S      06 56 28.0 +1.5
CLL  Collm          24.73 310  eP       P      06 52 05.0 +0.8
CLL  Collm          24.73 310  eP       P      06 52 05.0 +0.8
CLL                                     i      06 52 11.0
    comp=Z,15nm,1.1s
CLL                                     eS     S      06 56 28.0 +1.5
CLL                                     Lm     MLR    07 02 00.0
    comp=N,200nm,19.9s
CLL                                     Lm     MLR    07 02 00.0
    comp=E,100nm,20.5s
KSH  Kashi          25.09  78  eP       P      06 52 08.6 +0.9
KSH                                     pP     sP     06 52 12.3 +2.6
KSH                                     sP     pP     06 52 13.8 +4.7
KSH                                     ePP    PnPn   06 52 45.3 +4.4
KSH                                     pmax   pmax
    comp=Z,7.0nm,1.1s
KSH                                     pmax   pmax
    comp=Z,90nm,3.5s
FINES FINESS Array B 25.10 340  P        P      06 52 07.5  0.0
    comp=Z,7.3nm,1.1s,baz=173,slow=7.7,SNR=5.3
FINES                                   LR     LR     07 02 38.9
    comp=Z,173nm,19.8s,baz=159,slow=38
JOF  Joensuu        25.25 347  P        P      06 52 10.4 +1.7
JOF                                     pmax   pmax
    comp=Z,26nm,0.8s
JOF  Joensuu        25.25 347  P        P      06 52 10.4 +1.7
    comp=Z,26nm,0.8s
DAVOX Davos/Dischmat 25.80 299  LR       LR     07 03 30.0
    comp=Z,119nm,19.3s,baz=83,slow=39
KURBB Kurchatov Arra 27.26  53  P        P      06 52 26.4 -0.7
    comp=Z,4.8nm,0.8s,baz=264,slow=9.0,SNR=12
KEST Kesra          27.29 274  P        P      06 52 26.6 -1.1
    comp=Z,3.5nm,0.8s,baz=45,slow=10.0,SNR=2.9
KEST                                    LR     LR     07 04 56.0
    comp=Z,120nm,18.4s,baz=306,slow=40
PDGK Podgornoye     27.34  69  P        P      06 52 31.1 +3.0
PDGK                                    pmax   pmax
    comp=Z,5.0nm,1.3s
KURK Kurchatov      27.34  53  iP       P      06 52 26.9 -0.9
KURK                                    pmax   pmax
    comp=Z,41nm,1.1s
KURK Kurchatov      27.34  53  eP       P      06 52 27.5 -0.3
    comp=Z,80nm,1.0s
HFS  Hagfors        28.41 328  P        P      06 52 37.4 +0.1
    comp=Z,3.2nm,0.8s,baz=123,slow=16,SNR=3.5
HFS                                     LR     LR     07 05 12.4
    comp=Z,155nm,18.4s,baz=214,slow=39
MK31 Makanchi Array 29.29  62  eP       P      06 52 37.0 -8.3
MK31 Makanchi Array 29.29  62  eP       P      06 52 37.0 -8.3
MKAR Makanchi Array 29.29  62  P        P      06 52 44.4 -0.9
    comp=Z,1.9nm,0.9s,baz=263,slow=7.1,SNR=8.9
NOA  NORSAR Array B 29.93 329  LR       LR     07 05 59.9
    comp=Z,96nm,20.1s,baz=130,slow=39
NVS  Novosibirsk    31.02  46  eP       P      06 53 04.2 +3.7
ZALV Zalesovo Beam  31.73  48  P        P      06 53 05.0 -1.6
    comp=Z,1.4nm,0.4s,baz=254,slow=10,SNR=5.6
TAM  Tamanrasset    36.06 255  eP       P      06 53 45.6 +0.7
TAM                                     pmax   pmax
    comp=Z,7.0nm,1.1s
TAM  Tamanrasset    36.06 255  eP       P      06 53 45.6 +0.7
    comp=Z,7.2nm,1.1s
ESDC Sonseca Array  36.46 287  P        P      06 53 46.0 -2.0
    comp=Z,1.2nm,0.6s,baz=67,slow=8.5,SNR=5.5
NRIK Noril'sk       38.46  23  P        P      06 54 05.7 +1.2
    comp=Z,1.9nm,0.4s,baz=245,slow=6.4,SNR=4.3
GTA  Gaotai         43.05  71  eP       P      06 54 45.6 +2.6
GTA                                     pP     sP     06 54 51.5 +6.5
GTA                                     sP     pP     06 54 54.5 +10
GTA                                     pmax   pmax
    comp=Z,6.0nm,1.3s
TORD Torodi Ar. Bea 44.93 247  P        P      06 54 56.0 -2.1
    comp=Z,2.4nm,0.9s,baz=56,slow=8.2,SNR=14
ULN  Ulaanbaatar    45.88  57  eP       P      06 55 05.0 -0.5
ULN                                     pmax   pmax
    comp=Z,11nm,1.3s
ULN  Ulaanbaatar    45.88  57  eP       P      06 54 57.2 -8.3
PALK Pallekele      45.88 123  LR       LR     07 14 52.7
    comp=Z,47nm,18.7s,baz=296,slow=37
HHC  Hu-ho-hao-te   51.06  65  eP       P      06 55 38.0 -7.5
HHC                                     sP     sP     06 55 49.0 +1.5
HHC                                     S      S      07 02 53.6 -10
HHC                                     pmax   pmax
    comp=Z,23nm,1.4s
HHC                                     pmax   pmax
    comp=Z,51nm,5.2s
HHC                                     LR     LR
    comp=N,130nm,13.7s
HHC                                     LR     LR
    comp=E,130nm,14.9s
HHC                                     LR     LR
    comp=Z,83nm,16.2s
XAN  Xi'an          51.82  74  P        P      06 55 51.3 +0.1
XAN                                     pP     sP     06 56 01.1 +7.8
XAN                                     pmax   pmax
    comp=Z,15nm,1.3s
CMAR Chiang Mai Arr 51.87  97  P        P      06 55 49.9 -1.7
    comp=Z,1.2nm,0.3s,baz=298,slow=9.0,SNR=7.6
TIXI Tiksi          52.24  24  eP       P      06 55 54.2 +0.5
TIXI                                    pmax   pmax
    comp=Z,2.0nm,1.1s
HIA  Hailar         53.58  52  eP       P      06 56 02.7 -1.2
HIA                                     pmax   pmax
    comp=Z,4.0nm,1.1s
YAK  Yakutsk        54.88  35  eP       P      06 56 13.3 +0.2
YAK                                     pmax   pmax
    comp=Z,7.0nm,0.9s
SEY  Seymchan       63.91  29  P        P      06 57 14.9 -0.7
    comp=Z,5.6nm,1.0s,baz=323,slow=4.5,SNR=8.5
SEY  Seymchan       63.91  29  eP       P      06 57 15.6  0.0
KSAR Wonju Array Be 63.95  62  P        P      06 57 14.8 -1.4
KSAR Wonju Array Be 63.95  62  P        P      06 57 14.8 -1.4
KSRS Korea Array    63.97  62  P        P      06 57 14.8 -1.5
    comp=Z,1.0nm,0.5s,baz=295,slow=8.9,SNR=3.9
BILL Bilibino       65.19  20  eP       P      06 57 22.8 -1.1
BILL                                    pmax   pmax
    comp=Z,6.0nm,1.3s
BILL                                    MLR    MLR
    comp=Z,85nm,21.0s
BOSA Boshof         69.22 197  P        P      06 57 49.5 -0.5
    comp=Z,1.1nm,0.5s,baz=350,slow=5.2,SNR=3.5
COLA College        76.26   5  iP       P      06 58 30.4 -0.8
COLA                                    pmax   pmax
    comp=Z,3.0nm,1.1s
ILAR Eielson Array  76.42   5  P        P      06 58 32.5 +0.3
    comp=Z,0.6nm,1.0s,baz=335,slow=6.0,SNR=4.6
ILAR                                    LR     LR     07 37 20.3
    comp=Z,23nm,18.2s,baz=314,slow=40
YKA  Yellowknife Ar 77.51 350  P        P      06 58 40.0 +1.6
    comp=Z,1.0nm,0.9s,baz=6.7,slow=5.8,SNR=3.3
YKA  Yellowknife Ar 77.51 350  P        P      06 58 40.0 +1.6
YKA                                     pmax   pmax
    comp=Z,1.0nm,0.9s
YKA  Yellowknife Ar 77.51 350  P        P      06 58 40.0 +1.6
ULM  Lac du Bonnet  84.39 335  P        P      06 59 16.5 +1.2
    comp=Z,2.4nm,0.8s,baz=69,slow=8.6,SNR=3.1
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*SKO **24** 06:49:22.4, 40°.94N×21°.29E, h20km, M2.8, ML3.2*
*THE **24** 06:49:23.5, 40°.95N×21°.33E, h14km, ML3.2/7, Error ellipse: s-maj=1.0km s-min=0.5km az=271.0*
*CSEM **24** 06:49:23.7±0.1, 40°.95N×21°.42E, h2km, ML3.2, Error ellipse: s-maj=4.2km s-min=2.9km az=56.0*
*IASPEI **24** 06:49:23.2±0.8, 40°.95N±0°.02×21°.34E±0°.02, h16km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=70.9, GT5 selection from ISC bulletin GT5 identified by Bond'jr and McLaughlin (2009) selection criteria Bond'jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ATH **24** 06:49:23.3, 40°.93N×21°.35E, h16km±1km, ML3.2/5, Error ellipse: s-maj=2.0km s-min=1.0km az=140.0*
*PDG **24** 06:49:24.0±0.5, 40°.94N×21°.38E, h2km±1km, ML3.2/11, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*BEO **24** 06:49:26.2±0.6, 41°.14N×21°.38E, h9km±4km, M3.1/1*

ISC 24 06:49:23.5±0.8, 40°.96N±0°.01×21°.36E±0°.02, h14km±4km, n144, σ0°93/202, 17C-21D, Greece

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time ISC h m s	Res ISC
BIA	**Bitola**	**0.07**	**335**	P	**Pg**	**06 49 26.5**	**+0.1**
BIA				S	**Sg**	**06 49 28.6**	**+0.2**
BIA	**Bitola**	**0.07**	**335**	⇑iPg	**Pg**	**06 49 26.5**	**+0.1**
BIA				iSg	**Sg**	**06 49 28.6**	**+0.2**
BIA	**Bitola**	**0.07**	**335**	⇑iPg	**Pg**	**06 49 26.4**	**+0.1**
BIA				S	**Sg**	**06 49 28.6**	**+0.2**
FNA	**Florina**	**0.17**	**177**	P	**Pg**	**06 49 27.2**	**-0.4**
FNA				S	**Sg**	**06 49 30.2**	**-0.3**
FNA	**Florina**	**0.17**	**177**	P	**Pg**	**06 49 27.0**	**-0.6**
FNA				S	**Sg**	**06 49 30.2**	**-0.3**
FNA				AML	AML	06 49 30.5	
FNA				AML	AML	06 49 30.7	
FNA	**Florina**	**0.17**	**177**	P	**Pg**	**06 49 27.2**	**-0.4**
FNA				S	**Sg**	**06 49 30.2**	**-0.3**
KRUS	**Krusevo**	**0.42**	**348**	⇑iPg	**Pg**	**06 49 31.5**	**-0.5**
KRUS				iSg	**Sg**	**06 49 37.6**	**-0.2**
KRUS	**Krusevo**	**0.42**	**348**	⇑iPg	**Pg**	**06 49 31.4**	**-0.5**
KRUS				iSg	**Sg**	**06 49 37.5**	**-0.2**
OHR	**Ohrid**	**0.45**	**290**	⇑iPg	**Pg**	**06 49 31.1**	**-1.4**
OHR				iSg	**Sg**	**06 49 37.7**	**-0.9**
OHR				eLg	Lg	06 49 38.1	
OHR				eLg	Lg	06 49 39.0	
OHR	**Ohrid**	**0.45**	**290**	⇑iPg	**Pg**	**06 49 31.1**	**-1.4**
OHR				iSg	**Sg**	**06 49 37.7**	**-0.9**
OHR				eLg	Lg	06 49 38.9	
KZN	**Kozani**	**0.72**	**154**	P	**Pg**	**06 49 37.0**	**-0.5**
KZN				S	**Sb**	**06 49 48.7**	**+1.1**
KZN	**Kozani**	**0.72**	**154**	P	**Pg**	**06 49 36.8**	**-0.7**
KZN				S	**Sg**	**06 49 47.0**	**0.0**
KZN				AML	AML	06 49 53.1	
KZN				AML	AML	06 49 53.4	
KZN	**Kozani**	**0.72**	**154**	P	**Pg**	**06 49 37.0**	**-0.5**
KZN				S	**Sg**	**06 49 47.0**	**0.0**
GRG	**Griva**	**0.79**	**90**	P	**Pb**	**06 49 39.0**	**+0.1**
GRG				S	**Sn**	**06 49 50.8**	**-0.9**
GRG	**Griva**	**0.79**	**90**	P	**Pb**	**06 49 39.0**	**+0.1**
GRG				S	**Sn**	**06 49 51.5**	**-0.3**
GRG				AML	AML	06 49 54.6	
GRG				AML	AML	06 49 56.3	
GRG	**Griva**	**0.79**	**90**	P	**Pb**	**06 49 39.0**	**+0.1**
GRG				S	**Sn**	**06 49 50.8**	**-0.9**
KTI	**Kastanea**	**0.80**	**134**	P	**Pb**	**06 49 39.2**	**-0.1**
KTI	**Kastanea**	**0.80**	**134**	P	**Pb**	**06 49 39.2**	**-0.1**
VAY	**Valandovo**	**0.98**	**68**	P	**Pn**	**06 49 42.7**	**-0.1**
VAY				S	**Sn**	**06 49 56.2**	**-0.3**
VAY	**Valandovo**	**0.98**	**68**	iPg	**Pn**	**06 49 42.8**	**-0.1**
VAY				iSg	**Sn**	**06 49 56.4**	**-0.1**
VAY				eLg	Lg	06 50 01.2	
VAY				eLg	Lg	06 50 01.3	
VAY	**Valandovo**	**0.98**	**68**	ePg	**Pg**	**06 49 42.4**	**0.0**
VAY	**Valandovo**	**0.98**	**68**	ePg	**Pg**	**06 49 42.4**	**0.0**
VAY	**Valandovo**	**0.98**	**68**	P	**Pn**	**06 49 42.7**	**-0.1**
VAY				S	**Sn**	**06 49 56.2**	**-0.3**
VAY				eLg	Lg	06 50 01.3	
KPRO	**Kipourio**	**1.00**	**180**	P	**Pb**	**06 49 41.7**	**-0.9**
KPRO				S	**Sn**	**06 49 56.6**	**-0.5**
KPRO	**Kipourio**	**1.00**	**180**	P	**Pb**	**06 49 40.9**	**-1.7**
KPRO	**Kipourio**	**1.00**	**180**	P	**Pb**	**06 49 41.7**	**-0.9**
KPRO				S	**Sn**	**06 49 56.6**	**-0.5**
SKO	**Skopje**	**1.02**	**3**	P	**Pb**	**06 49 42.5**	**-0.4**
SKO				S	**Sg**	**06 49 57.0**	**+0.6**
SKO	**Skopje**	**1.02**	**3**	iPg	**Pb**	**06 49 42.8**	**-0.1**
SKO				iSg	**Sg**	**06 49 56.5**	**+0.1**
SKO	**Skopje**	**1.02**	**3**	iPg	**Pb**	**06 49 42.7**	**-0.1**
SKO				iSg	**Sg**	**06 49 56.5**	**+0.1**
SKO				S	**Sg**	**06 49 57.0**	**+0.6**
KNT	**Kendrikon**	**1.18**	**79**	P	**Pg**	**06 49 46.0**	**-0.2**
KNT				S	**Sn**	**06 50 02.2**	**+0.8**
KNT	**Kendrikon**	**1.18**	**79**	P	**Pg**	**06 49 46.0**	**-0.2**
KNT				S	**Sn**	**06 50 02.6**	**+1.3**
KNT				AML	AML	06 50 06.7	
KNT				AML	AML	06 50 07.0	
KNT	**Kendrikon**	**1.18**	**79**	P	**Pg**	**06 49 46.0**	**-0.2**
KNT				S	**Sn**	**06 50 02.2**	**+0.8**
TIR	**Tirane**	**1.20**	**290**	ePg	**Pn**	**06 49 45.7**	**-0.1**

TIR				*e*Sg	Sg	06 50 04.2	+2.1
TIR	**Tirane**	**1.20**	**290**	⇑*i*P	Pn	06 49 45.0	-0.8
TIR	**Tirane**	**1.20**	**290**	P	Pn	06 49 45.9	+0.1
TIR	**Tirane**	**1.20**	**290**	P	Pn	06 49 45.9	+0.1
TIR				*e*Sg	Sg	06 50 04.2	+2.1
LIT	**Litokhoron**	**1.21**	**134**	P	Pn	06 49 45.6	-0.4
LIT				S	Sn	06 50 02.3	+0.1
LIT	**Litokhoron**	**1.21**	**134**	P	Pg	06 49 47.6	+0.8
LIT	**Litokhoron**	**1.21**	**134**	P	Pg	06 49 47.6	+0.8
LIT				S	Sn	06 50 02.3	+0.1
HORT	**Hortiatis**	**1.37**	**105**	P	Pb	06 49 48.8	0.0
HORT	**Hortiatis**	**1.37**	**105**	P	Pn	06 49 48.4	+0.3
HORT	**Hortiatis**	**1.37**	**105**	P	Pb	06 49 48.8	0.0
THL	**Klokotos Trika**	**1.48**	**160**	P	Pn	06 49 49.0	-0.6
THL				S	Sn	06 50 08.4	-0.3
THL	**Klokotos Trika**	**1.48**	**160**	P	Pn	06 49 48.7	-0.9
THL	**Klokotos Trika**	**1.48**	**160**	P	Pn	06 49 49.0	-0.6
THL				S	Sn	06 50 08.4	-0.3
SOH	**Sokhos**	**1.52**	**94**	P	Pg	06 49 52.2	-0.4
SOH	**Sokhos**	**1.52**	**94**	P	Pg	06 49 52.2	-0.4
SGD	**Sagiada**	**1.60**	**213**	P	Pb	06 49 52.7	0.0
SGD	**Sagiada**	**1.60**	**213**	P	Pb	06 49 52.7	0.0
SRS	**Serrai**	**1.69**	**84**	P	Pn	06 49 52.8	+0.2
SRS	**Serrai**	**1.69**	**84**	P	Pn	06 49 53.1	+0.5
SRS	**Serrai**	**1.69**	**84**	P	Pn	06 49 53.1	+0.5
KEK	**Kerkira**	**1.72**	**224**	P	Pb	06 49 54.7	-0.2
KEK	**Kerkira**	**1.72**	**224**	P	Pb	06 49 54.5	-0.4
KEK				S	Sg	06 50 19.0	0.0
KEK				AML	AML	06 50 26.8	
	comp=E,362μm,1.0s						
KEK				AML	AML	06 50 27.5	
	comp=N,268μm,0.8s						
KEK	**Kerkira**	**1.72**	**224**	P	Pb	06 49 54.5	-0.4
KEK				S	Sg	06 50 19.0	0.0
DSL	**Palaion Diasel**	**1.83**	**187**	P	Pb	06 49 57.0	+0.2
DSL	**Palaion Diasel**	**1.83**	**187**	P	Pb	06 49 57.6	+0.9
DSL	**Palaion Diasel**	**1.83**	**187**	P	Pb	06 49 57.0	+0.2
ULC	**Ulcinj**	**1.88**	**303**	⇓*i*Pn	Pb	06 49 58.0	+0.4
ULC				*e*Sn	Sg	06 50 26.0	+1.9
ULC	**Ulcinj**	**1.88**	**303**	⇓*i*Pn	Pb	06 49 58.0	+0.4
BARS	**Barje**	**1.89**	**10**	*e*Pg	Pn	06 49 56.0	+0.7
BARS				*e*Sg	Sb	06 50 20.5	-0.7
BARS	**Barje**	**1.89**	**10**	*e*Pg	Pn	06 49 56.0	+0.7
BARS				*e*Sg	Sb	06 50 20.5	-0.7
NVR	**Nevrokopi**	**1.93**	**77**	P	Pn	06 49 55.7	-0.1
NVR	**Nevrokopi**	**1.93**	**77**	P	Pn	06 49 55.7	-0.1
PVY	**Plav**	**1.94**	**328**	⇓*i*Pn	Pb	06 49 58.0	-0.8
PVY				*e*Sn	Sg	06 50 28.0	+1.9
PVY	**Plav**	**1.94**	**328**	⇓*i*Pn	Pb	06 49 58.0	-0.8
FYTO	**Fytoko, Volos**	**1.96**	**141**	P	Pb	06 49 58.2	-0.7
FYTO	**Fytoko, Volos**	**1.96**	**141**	P	Pb	06 49 58.2	-0.7
PAIG	**Paliouri**	**2.04**	**119**	P	Pn	06 49 57.3	-0.1
PAIG	**Paliouri**	**2.04**	**119**	P	Pn	06 49 57.3	-0.1
DRME	**Dracevica, Mon**	**2.05**	**308**	⇑*i*Pn	Pb	06 50 01.2	+0.8
DRME				*e*Sn	Sg	06 50 30.2	+1.0
DRME	**Dracevica, Mon**	**2.05**	**308**	⇑*i*Pn	Pb	06 50 01.2	+0.8
EVR	**Evrytania**	**2.07**	**170**	P	Pn	06 49 59.1	+1.3
EVR	**Evrytania**	**2.07**	**170**	P	Pn	06 49 59.1	+1.3
AGG	**Agios Georgios**	**2.07**	**159**	P	Pn	06 49 56.4	-1.4
AGG	**Agios Georgios**	**2.07**	**159**	P	Pn	06 49 57.7	-0.1
AGG	**Agios Georgios**	**2.07**	**159**	P	Pn	06 49 57.7	-0.1
VTS	**Vitosha**	**2.14**	**40**	P	Pn	06 49 59.4	+0.5
VTS	**Vitosha**	**2.14**	**40**	*e*Pn	Pn	06 49 59.8	+0.9
VTS	**Vitosha**	**2.14**	**40**	⇓*i*P	Pn	06 50 00.1	+1.2
VTS	**Vitosha**	**2.14**	**40**	P	Pn	06 49 59.4	+0.5
VTS	**Vitosha**	**2.14**	**40**	*e*Pn	Pn	06 49 59.8	+0.9
PDG	**Podgorica**	**2.16**	**314**	*e*Pn	Pb	06 50 02.2	-0.1
PDG				*e*Sg	Sg	06 50 31.2	-1.7
PDG	**Podgorica**	**2.16**	**314**	⇑*i*P	Pb	06 50 03.0	+0.7
PDG	**Podgorica**	**2.16**	**314**	⇓*i*Pn	Pb	06 50 02.1	-0.2
PDG	**Podgorica**	**2.16**	**314**	⇑*i*P	Pb	06 50 03.0	+0.7
PDG				*e*Sg	Sg	06 50 31.2	-1.7
TTG	**Podgorica**	**2.16**	**314**	⇓*i*Pn	Pb	06 50 02.1	-0.2
TTG				*e*Sn	Sg	06 50 32.9	0.0
NEO	**Neokhori**	**2.18**	**139**	P	Pb	06 50 01.6	-1.1
NEO	**Neokhori**	**2.18**	**139**	P	Pb	06 50 01.6	-1.1
BEY	**Berane**	**2.21**	**331**	⇓*i*Pn	Pb	06 50 01.9	-1.3
IVA	**Berane**	**2.21**	**331**	⇓*i*Pn	Pb	06 50 01.9	-1.3
IVA				*e*Sn	Sg	06 50 34.0	-0.4
LKD2	**Lefkada island**	**2.23**	**194**	P	Pb	06 50 03.0	-0.6
LKD2	**Lefkada island**	**2.23**	**194**	P	Pb	06 50 03.0	-0.6
SELS	**Selova**	**2.27**	**355**	*e*Pn	Pn	06 50 03.9	+0.4
BUM	**Brajici-Budva**	**2.29**	**307**	⇓*i*Pn	Pb	06 50 03.9	-0.6
BUM				*e*Sn	Sg	06 50 36.1	-0.9
BUM	**Brajici-Budva**	**2.29**	**307**	⇓*i*Pn	Pb	06 50 03.9	-0.6
PVO	**Paravola**	**2.34**	**177**	P	Pn	06 50 02.8	+1.3
PVO	**Paravola**	**2.34**	**177**	P	Pn	06 50 02.8	+1.3
KOME	**Kolasin**	**2.34**	**325**	*e*Pn	Pb	06 50 04.6	-0.9
KOME				*e*Sn	Sg	06 50 37.6	-1.2
KOME	**Kolasin**	**2.34**	**325**	*e*Pn	Pb	06 50 04.6	-0.9
PDO	**Prodromos**	**2.36**	**183**	P	Pb	06 50 05.3	-0.4
PDO	**Prodromos**	**2.36**	**183**	P	Pb	06 50 05.3	-0.4
CEME	**Cevo**	**2.42**	**312**	⇓*i*Pn	Pb	06 50 06.8	-0.1
CEME				*e*Sn	Sg	06 50 39.5	-1.9
CEME	**Cevo**	**2.42**	**312**	⇓*i*Pn	Pb	06 50 06.8	-0.1
ZAPS	**Zavoj**	**2.50**	**22**	*e*Pn	Pn	06 50 05.7	+1.9
SJES	**Sjenica**	**2.52**	**336**	*e*Pn	Pn	06 50 06.1	+2.0
NKME	**Niksic**	**2.55**	**316**	⇓*i*Pn	Pb	06 50 08.0	-1.1
NKME				*e*Sn	Sb	06 50 42.5	+2.2
NKME	**Niksic**	**2.55**	**316**	⇓*i*Pn	Pb	06 50 08.0	-1.1
EFP	**Efpalio**	**2.56**	**170**	P	Pn	06 50 06.4	+1.9
EFP	**Efpalio**	**2.56**	**170**	P	Pn	06 50 06.4	+1.9
NKY	**Niksic**	**2.56**	**317**	⇑*i*Pn	Pb	06 50 08.6	-0.7
NKY				*e*Sn	Sb	06 50 42.1	+1.4
NKY	**Niksic**	**2.56**	**317**	⇑*i*Pn	Pb	06 50 08.6	-0.7
NKY				*e*Sn	Sb	06 50 42.1	+1.4
SERG	**Sergoula**	**2.59**	**168**	P	Pn	06 50 05.8	+0.8
SERG	**Sergoula**	**2.59**	**168**	P	Pn	06 50 05.8	+0.8
HCY	**Herceg Novi**	**2.62**	**306**	⇓*i*Pn	Pb	06 50 09.5	-0.6
HCY				*e*Sn	Sb	06 50 44.0	+1.9
HCY	**Herceg Novi**	**2.62**	**306**	⇓*i*Pn	Pb	06 50 09.5	-0.6
BOVS	**Bovan**	**2.69**	**5**	*e*Pn	Pn	06 50 07.0	+0.7
BOVS	**Bovan**	**2.69**	**5**	*e*Pn	Pn	06 50 07.0	+0.7
IVAS	**Ivanjica**	**2.77**	**341**	*e*Pn	Pn	06 50 08.5	+1.1
IVAS	**Ivanjica**	**2.77**	**341**	*e*Pn	Pn	06 50 08.5	+1.1
PLE	**Pljevlja**	**2.79**	**329**	⇓*i*Pn	Pb	06 50 10.8	-2.3
PLE				*e*Sn	Sb	06 50 48.0	+0.8
PLE	**Pljevlja**	**2.79**	**329**	⇓*i*Pn	Pb	06 50 10.8	-2.3
TREB	**Trebinje**	**2.86**	**309**	*e*Pn	Pn	06 50 10.5	+1.9
TREB	**Trebinje**	**2.86**	**309**	*e*Pn	Pn	06 50 10.5	+1.9
BRY	**Bratogost**	**2.87**	**314**	⇓*i*Pn	Pb	06 50 12.1	-2.4
BRY				*e*Sn	Sb	06 50 49.0	-0.5
BRY	**Bratogost**	**2.87**	**314**	⇓*i*Pn	Pb	06 50 12.1	-2.4
BRY				*e*Sn	Sb	06 50 49.0	-0.5
UPM	**Unac-Piva**	**2.90**	**322**	⇑*i*Pn	Pb	06 50 13.4	-1.6
UPM				*e*Sn	Sb	06 50 50.8	+0.5
UPM	**Unac-Piva**	**2.90**	**322**	⇑*i*Pn	Pb	06 50 13.4	-1.6
ZAGS	**Zajecar**	**2.93**	**12**	*e*Pn	Pn	06 50 10.1	+0.6
ZAGS	**Zajecar**	**2.93**	**12**	*e*Pn	Pn	06 50 10.1	+0.6
GRUS	**Gruza**	**2.97**	**351**	*e*Pn	Pn	06 50 11.1	+1.0
GRUS	**Gruza**	**2.97**	**351**	*e*Pn	Pn	06 50 11.1	+1.0
KLV	**Kalavryta, Ach**	**2.97**	**168**	P	Pn	06 50 10.2	-0.1
KLV	**Kalavryta, Ach**	**2.97**	**168**	P	Pn	06 50 10.2	-0.1
DIVS	**Divibare**	**3.30**	**343**	*e*Pn	Pn	06 50 15.8	+1.0
DIVS	**Divibare**	**3.30**	**343**	*e*Pn	Pn	06 50 15.8	+1.0
STON	**Ston**	**3.34**	**306**	*e*Pn	Pn	06 50 16.9	+1.7
STON				Sn	Sn	06 50 54.7	+0.1
STON	**Ston**	**3.34**	**306**	*e*Pn	Pn	06 50 16.9	+1.7
STON				Sn	Sn	06 50 54.7	+0.1
TRUS	**Trudelj**	**3.34**	**348**	*e*Pn	Pn	06 50 14.7	-0.6
TRUS	**Trudelj**	**3.34**	**348**	*e*Pn	Pn	06 50 14.7	-0.6
MDVR	**Moldovita**	**3.83**	**4**	⇑*i*P	Pn	06 50 20.3	-1.7
MDVR	**Moldovita**	**3.83**	**4**	⇑*i*P	Pn	06 50 20.3	-1.7
TEKS	**Tekeris**	**3.84**	**340**	*e*Pn	Pn	06 50 21.7	-0.4
TEKS	**Tekeris**	**3.84**	**340**	*e*Pn	Pn	06 50 21.7	-0.4

DDA ***24*** *06:53:08.6, 36.°98N×36.°12E, h7km, Ml3.4*
ISCJB ***24*** *06:53:09.3±0.3, 36.°99N±0.°02×36.°11E±0.°02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.9km az=40.3*
CSEM ***24*** *06:53:09.6±0.2, 36.°97N×36.°11E, h10km, ML3.0, Error ellipse: s-maj=3.8km s-min=3.3km az=160.0*
ISK ***24*** *06:53:09.2, 37.°00N×36.°09E, h12km, ML3.0*
NSSC ***24*** *06:53:11.6±1.5, 36.°86N×36.°14E, h0km±5km, ML2.7*

ISC 24 06:53:09.8±0.8, 36.°99N±0.°02×36.°12E±0.°02, h14km±6km, n56, σ1°11/82, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DORT	**Dortyol-Hatay**	**0.17**	**159**	*e*PG	Pg	06 53 13.9	0.0
DORT				*e*SG	Sg	06 53 17.5	+0.8
DORT	**Dortyol-Hatay**	**0.17**	**159**	*e*Pg	Pg	06 53 13.9	0.0
DORT				*e*Sg	Sg	06 53 17.5	+0.8
CEYT	**Ceyhan**	**0.30**	**274**	PG	Pg	06 53 15.4	-0.6
CEYT				*e*SG	Sg	06 53 20.0	-0.2
CEYT	**Ceyhan**	**0.30**	**274**	*i* Pg	Pg	06 53 15.4	-0.6
CEYT				*e*Sg	Sg	06 53 20.0	-0.2
YURE	**YUREGIR**	**0.42**	**247**	*e*PG	Pg	06 53 17.9	-0.4
YURE				*e*SG	Sg	06 53 23.9	-0.1
YURE	**YUREGIR**	**0.42**	**247**	*i* P	Pg	06 53 18.1	-0.2
YURE				*i* S	Sb	06 53 30.4	+5.1
YURE	**YUREGIR**	**0.42**	**247**	*e*Pg	Pg	06 53 17.9	-0.4
YURE				*e*Sg	Sg	06 53 23.9	-0.1
KAMA	**Osmaniye**	**0.48**	**66**	*i* P	Pg	06 53 18.0	-1.3
KAMA				*i* S	Sg	06 53 24.4	-1.4
KOZT	**Kozan**	**0.54**	**335**	*e*PG	Pg	06 53 19.2	-1.3
KOZT				*e*SG	Sg	06 53 27.8	+0.1
KOZT	**Kozan**	**0.54**	**335**	*e*Pg	Pg	06 53 19.2	-1.3
KOZT				*e*Sg	Sg	06 53 27.8	+0.1
DRWC	**Darouich**	**0.57**	**130**	*e*P	Pg	06 53 20.8	-0.3
DRWC				*e*S	Sg	06 53 28.5	-0.2
DRWC				AML	AML	06 53 32.6	
	comp=N,845nm,0.5s						
ANDN	**Andirin**	**0.62**	**17**	*i* P	Pg	06 53 21.4	-0.5
ANDN				*i* S	Sb	06 53 31.1	+0.1
KRTD	**Karatas-Adana**	**0.69**	**235**	*e*PG	Pg	06 53 22.2	-1.0
KRTD	**Karatas-Adana**	**0.69**	**235**	*e*Pg	Pg	06 53 22.2	-1.0
AKO	**Adana**	**0.71**	**311**	*i* P	Pg	06 53 22.3	-1.4
AKO				*i* S	Sg	06 53 32.7	-0.4
HCB	**Kahramanmara¯**	**0.72**	**61**	*i* P	Pg	06 53 22.7	-1.2
HCB				*i* S	Sg	06 53 32.5	-0.9
KRTS	**Karatas**	**0.73**	**235**	*e*PG	Pg	06 53 23.8	-0.2
KRTS	**Karatas**	**0.73**	**235**	*e*Pg	Pg	06 53 23.8	-0.2
KUZU	**Kuzuini**	**0.80**	**105**	*i* P	Pg	06 53 24.9	-0.4
KUZU				*i* S	Sg	06 53 35.5	-0.3
KUZU	**Kuzuini**	**0.80**	**105**	P	Pg	06 53 24.9	-0.4
KUZU				S	Sg	06 53 35.5	-0.3
KMRS	**Kahramanmaras**	**0.81**	**50**	*e*PG	Pg	06 53 25.5	0.0
KMRS	**Kahramanmaras**	**0.81**	**50**	*e*Pg	Pg	06 53 25.5	0.0
YAYL	**Yayladag**	**0.95**	**181**	*i* P	Pg	06 53 25.5	-2.8
YAYL				*i* S	Sg	06 53 39.8	-1.0
YAYL	**Yayladag**	**0.95**	**181**	P	Pg	06 53 25.5	-2.8
YAYL				S	Sg	06 53 39.8	-1.0
BTCH	**Batrach**	**0.99**	**164**	*e*P	Pg	06 53 28.4	-0.5
BTCH				*e*S	Sg	06 53 40.2	-1.6
BTCH				AML	AML	06 53 48.3	
	comp=N,211nm,0.4s						
BTCH				AML	AML	06 53 50.1	
	comp=E,367nm,0.6s						
DED	**Mersin**	**1.06**	**269**	*i* P	Pg	06 53 28.0	-2.2
GULE	**Gulek**	**1.11**	**286**	*i* P	Pn	06 53 32.0	+0.9
GULE	**Gulek**	**1.11**	**286**	P	Pn	06 53 32.0	+0.9
ARNB	**Al Arnab**	**1.13**	**186**	*e*P	Pb	06 53 31.0	-0.2
ARNB				*e*S	Sb	06 53 46.0	+0.2
ARNB				AML	AML	06 53 49.2	
	comp=N,432nm,0.5s						
ARNB				AML	AML	06 53 50.2	
	comp=E,131nm,0.4s						
GZT	**Gaziantep**	**1.21**	**72**	*i* P	Pb	06 53 32.6	0.0
YAHY	**KAYSERI_Yahyal**	**1.26**	**332**	*i* P	Pn	06 53 33.3	+0.3
YAHY				*i* S	Sb	06 53 49.8	+0.4
YAHY	**KAYSERI_Yahyal**	**1.26**	**332**	P	Pn	06 53 33.3	+0.3
YAHY				S	Sb	06 53 49.8	+0.4
MERS	**Mersin**	**1.28**	**265**	*e*PN	Pn	06 53 33.0	-0.3
MERS	**Mersin**	**1.28**	**265**	*e*Pn	Pn	06 53 33.1	-0.3
SARI	**SarD1z-Kayseri**	**1.43**	**9**	*e*PN	Pn	06 53 35.5	0.0
KIZK	**Mersin**	**1.67**	**253**	*e*PN	Pn	06 53 39.5	+0.9
ATAB	**Bozova**	**1.80**	**74**	*i* P	Pg	06 53 43.9	-0.5
ATAB				*i* S	Sb	06 54 06.5	+1.5
KFRA	**Kufra**	**1.86**	**163**	*e*P	Pb	06 53 43.0	-0.5
KFRA				*e*S	Sb	06 54 06.0	-0.6
BNN	**Bunyan**	**1.87**	**353**	*e*PN	Pn	06 53 41.8	+0.3
BNN	**Bunyan**	**1.87**	**353**	*e*Pn	Pn	06 53 41.8	+0.3
DARE	**Darende-Malaty**	**1.91**	**34**	*e*PN	Pn	06 53 42.4	+0.3
DARE	**Darende-Malaty**	**1.91**	**34**	*e*Pn	Pn	06 53 42.4	+0.3
BIDA	**Albida**	**1.98**	**175**	*e*P	Pn	06 53 43.0	0.0
BIDA				*e*S	Sn	06 54 08.4	+0.8
KEBE	**Keben-Mersin**	**2.01**	**255**	*e*PN	Pn	06 53 43.5	+0.2
KEBE	**Keben-Mersin**	**2.01**	**255**	*e*Pn	Pn	06 53 43.5	+0.2
IKL	**Isikli**	**2.10**	**250**	*e*PN	Pn	06 53 44.4	-0.1
IKL	**Isikli**	**2.10**	**250**	*e*Pn	Pn	06 53 44.4	-0.1
URFA	**Urfa**	**2.20**	**77**	*e*PN	Pn	06 53 47.2	+1.2
URFA	**Urfa**	**2.20**	**77**	*e*Pn	Pn	06 53 47.2	+1.2
TEVE	**Tevekalti-Mers**	**2.22**	**256**	*e*PN	Pn	06 53 47.0	+0.7
TEVE	**Tevekalti-Mers**	**2.22**	**256**	*e*Pn	Pn	06 53 47.0	+0.7
AKKU	**Akkuyu-Mersin**	**2.23**	**249**	*e*PN	Pn	06 53 45.7	-0.6
AKKU	**Akkuyu-Mersin**	**2.23**	**249**	*e*Pn	Pn	06 53 45.7	-0.6
TEKE	**Tekeli-Mersin**	**2.56**	**252**	*e*PN	Pn	06 53 51.0	+0.1
TEKE	**Tekeli-Mersin**	**2.56**	**252**	*e*Pn	Pn	06 53 51.0	+0.1
SFNV	**Sufian**	**3.26**	**99**	*e*P	Pb	06 54 04.6	-2.9
SFNV				*e*S	Sn	06 54 42.1	+3.0
SFNV				AML	AML	06 54 59.3	
	comp=Z,66nm,0.5s						

SKO 24 06:54:35.4, 40.°93N×21.°30E, h23km, M1.2, ML1.6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.09**	**11**	*i* Pg	Pb	06 54 39.7	-0.1
BIA				*i* Sg	Sb	06 54 41.9	-0.9
OHR	**Ohrid**	**0.42**	**296**	*i* Pg	Pb	06 54 44.6	+0.3
OHR				*i* Sg	Sb	06 54 51.5	+1.2
OHR				*e*Lg	Lg	06 54 51.5	
	comp=N,50nm,0.7s						
OHR				*e*Lg	Lg	06 54 52.1	
	comp=E,49nm,0.4s						
KRUS	**Krusevo**	**0.44**	**355**	*i* Pg	Pb	06 54 44.7	+0.1
KRUS				*i* Sg	Sb	06 54 51.1	+0.2

IDC 24 06:58:19.6±4.9, 30.°00S×177.°66W, h52km±40km, mb3.6/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.9/3, Error ellipse: s-maj=59.7km s-min=52.5km az=133.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**343**	P	Pn	06 58 34.8	+0.4
	94nm,0.3s,baz=107,slow=19,SNR=7.9						
RAO				S	Sn	06 58 46.5	+1.2
	182nm,0.3s,baz=107,slow=19,SNR=11						
STKA	**Stephens Creek**	**34.86**	**256**	P	P	07 05 06.3	+0.4
	1.7nm,0.8s,baz=105,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**43.43**	**266**	P	P	07 06 16.9	-0.7
	0.3nm,0.4s,baz=106,slow=7.6,SNR=7.4						
WRA	**Warramunga Arr**	**44.38**	**272**	P	P	07 06 25.4	+0.1
	1.0nm,0.4s,baz=110,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**144.88**	**340**	PKP	PKPbc	07 17 49.6	+0.2
	1.7nm,0.5s,baz=54,slow=3.3,SNR=7.5						

ISK ***24*** *07:02:23.8, 38.°61N×43.°60E, h9km, ML4.1*
IDC ***24*** *07:02:26.4±0.9, 38.°70N×43.°37E, h0km, mb4.0/9, mb1 3.8/16, mb1mx3.6/54, mbtmp3.8/16, ML3.3/6, MS3.3/14, Ms1 3.4/14, ms1mx3.1/46, Error ellipse: s-maj=18.1km s-min=10.6km az=152.0*
DDA ***24*** *07:02:26.6, 38.°62N×43.°34E, h7km, Ml3.8*
MOS ***24*** *07:02:26.2±2.1, 38.°51N×43.°27E, h10km, mb4.2/7, Error ellipse: s-maj=9.7km s-min=6.3km az=68.0*
CSEM ***24*** *07:02:27.9±0.2, 38.°65N×43.°35E, h10km, mb4.2/7, Error ellipse: s-maj=6.0km s-min=4.6km az=165.0*
NEIC ***24*** *07:02:27.0±0.0, 38.°62N×43.°34E, h7km, mb4.2/7, ML3.8(DDA), After DDA.*
ISCJB ***24*** *07:02:27.1±0.5, 38.°48N±0.°03×43.°31E±0.°02, h9km±3km, mb4.0/11, MS3.3/11, Error ellipse: s-maj=4.4km s-min=2.6km az=165.7*
AZER ***24*** *07:02:29.6±1.0, 38.°30N×43.°40E, h20km, Error ellipse: s-maj=9.6km s-min=7.4km az=159.0*

ISC 24 07:02:27.2±0.8, 38.°64N±0.°02×43.°42E±0.°02, h5km±5km, n172, σ2°21/202, mb4.1/10, MS3.3/11, 20C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.05**	**212**	PG	Pg	07 02 27.9	-0.6
VANB				SG	Sg	07 02 31.2	+1.7
VANB	**Van**	**0.05**	**212**	*i* Pg	Pg	07 02 27.9	-0.6
VANB				*i* Sg	Sg	07 02 31.2	+1.7
GEVA	**Gevas**	**0.43**	**222**	*i* P	Pg	07 02 34.0	-1.5
GEVA				*i* S	Sg	07 02 43.2	+2.1
GEVA	**Gevas**	**0.43**	**222**	P	Pg	07 02 34.0	-1.5
GEVA				S	Sg	07 02 43.2	+2.1
GEVA	**Gevas**	**0.43**	**222**	*i* P	Pg	07 02 34.0	-1.5
GEVA				*i* S	Sg	07 02 43.2	+2.1
TUTA	**Tutak**	**0.90**	**328**	*i* P	Pg	07 02 43.7	-0.8
TUTA				*i* S	Sg	07 02 55.2	-1.0
TUTA	**Tutak**	**0.90**	**328**	P	Pg	07 02 43.7	-0.8
TUTA				S	Sg	07 02 55.2	-1.0
TUTA	**Tutak**	**0.90**	**328**	*i* P	Pg	07 02 43.7	-0.8
DYDN	**Diyadin**	**0.93**	**13**	*i* P	Pg	07 02 45.6	+0.6
DYDN				*i* S	Sn	07 03 02.8	+1.7
DYDN	**Diyadin**	**0.93**	**13**	P	Pg	07 02 45.6	+0.6
DYDN	**Diyadin**	**0.93**	**13**	*i* P	Pg	07 02 45.6	+0.6
AGRB	**Hanur-Agry**	**1.00**	**341**	*e*PG	Pg	07 02 44.9	-1.4
AGRB				*e*SG	Sb	07 02 60.0	-0.6
AGRB	**Hanur-Agry**	**1.00**	**341**	*e*Pg	Pg	07 02 44.9	-1.4
EKAR	**Karacoban**	**1.23**	**301**	*i* P	Pg	07 02 51.8	+1.0
EKAR				*i* S	Sn	07 03 14.5	+6.2
SIRN	**S¨–rnak**	**1.39**	**215**	*i* P	Pg	07 03 00.0	+6.2
CUKT	**Cukurca**	**1.39**	**174**	*i* P	Pn	07 02 52.4	-1.0
CUKT				*i* S	Sg	07 03 14.6	+2.7
CUKT	**Cukurca**	**1.39**	**174**	P	Pn	07 02 52.4	-1.0
CUKT				S	Sg	07 03 14.6	+2.7
EATA	**Eleskirt**	**1.42**	**330**	*i* P	Pn	07 02 53.6	-0.4
EATA				*i* S	Sg	07 03 14.4	+1.5
VRTB	**Varto-Mus**	**1.62**	**290**	*e*PN	Pn	07 02 56.1	-0.5
VRTB				*e*SN	Sb	07 03 18.0	-0.5
VRTB	**Varto-Mus**	**1.62**	**290**	*e*Pn	Pn	07 02 56.1	-0.5
VRTB				*e*Sn	Sb	07 03 18.0	-0.5
NAX	**Nakhchivan**	**1.71**	**71**	P	Pn	07 02 57.9	+0.2
	SNR=86						
NAX				⇓S	Sg	07 03 24.4	+2.4
NAX	**Nakhchivan**	**1.71**	**71**	P	Pn	07 02 57.9	+0.2
NAX	**Nakhchivan**	**1.71**	**71**	P	Pn	07 02 57.9	+0.2
	SNR=86						
NAX				S	Sg	07 03 24.4	+2.4
DIGO	**Kars**	**1.78**	**359**	*i* P	Pb	07 02 59.7	-0.7
DIGO				*i* S	Sg	07 03 26.3	+1.9
BNGL	**BINGOL**	**1.80**	**281**	*i* P	Pb	07 03 00.2	-0.6
SVAN	**Silvan-Diyarba**	**1.81**	**255**	PN	Pn	07 02 58.0	-1.1
SVAN	**Silvan-Diyarba**	**1.81**	**255**	*i* P	Pn	07 02 59.7	+0.6
SVAN	**Silvan-Diyarba**	**1.81**	**255**	*i* Pn	Pn	07 02 58.0	-1.1
SVAN	**Silvan-Diyarba**	**1.81**	**255**	P	Pn	07 02 59.7	+0.6
GNI	**Garni**	**1.83**	**34**	Pn	Pn	07 02 59.6	+0.2
	72nm,0.3s,baz=235,slow=3.9,SNR=149						
GNI				Sn	Sg	07 03 26.0	+0.1
	28nm,0.3s,baz=187,slow=22,SNR=5.2						
HOMI	**Horasan**	**1.83**	**321**	*i* P	Pb	07 03 00.9	-

QSAR	Quasar	4.70	51	⇑P		Pn	07 03 43.5 +4.7
	SNR=6.7						
QSAR	Quasar	4.70	51	P		Pn	07 03 43.5 +4.7
	SNR=6.7						
QUBA	Quba, Azerbaij	4.75	54	⇑P		Pn	07 03 43.9 +4.5
	SNR=14						
QUBA	Quba, Azerbaij	4.75	54	P		Pn	07 03 43.9 +4.5
	SNR=14						
ATGJ	Altiaghaj	4.80	61	⇑P		Pn	07 03 44.4 +4.2
	SNR=4.3						
SIZA	Siyzn	4.87	58	⇑P		Pn	07 03 45.5 +4.3
	SNR=9.3						
KBZ	Khabaz	5.10	356	Pn		Pn	07 03 45.3 +1.0
	comp=Z,0.1nm,0.3s,baz=165,slow=11,SNR=2.8						
KBZ				Lg		Lg	07 05 09.3
	baz=194,slow=15,SNR=1.6						
SVSK	Karacayir	5.15	286	*e*PN		Pn	07 03 46.0 +1.2
SVSK	Karacayir	5.15	286	*e*Pn		Pn	07 03 46.0 +1.2
KIV	Kislovodsk	5.34	354	*e*P		Pn	07 03 52.8 +5.1
KIV				pmax		pmax	
	comp=Z,13nm,1.1s						
KIV				MLR		MLR	
	comp=Z,162nm,7.0s						
KIV	Kislovodsk	5.34	354	*e*Pn		Pn	07 03 49.5 +1.8
KIV				*e*Sn		Sn	07 04 46.0 -3.6
KIV	Kislovodsk	5.34	354	*e*Pn		Pn	07 03 49.5 +1.8
KIV				*e*Sn		Sn	07 04 46.0 -3.6
KVAR	Kislovodsk Arr	5.34	354	Pn		Pn	07 03 52.4 +4.7
	baz=219,slow=7.5,SNR=3.2						
KVAR				Lg		Lg	07 05 16.8
	baz=231,slow=19,SNR=1.8						
SARI	SarD1z-Kayseri	5.50	270	*e*PN		Pn	07 03 50.9 +1.0
BR101	Keskin Array S	7.68	281	*e*Pn		Pn	07 04 21.4 +1.6
BR101	Keskin Array S	7.68	281	*e*Pn		Pn	07 04 21.4 +1.6
BRTR	Keskin Array B	7.68	281	Pn		Pn	07 04 21.4 +1.6
	comp=Z,0.1nm,0.3s,baz=114,slow=13,SNR=2.2						
ANTO	Ankara	8.34	282	*e*P		Pn	07 04 29.0 +0.2
ANTO	Ankara	8.34	282	*e*P		Pn	07 04 29.0 +0.2
ANTO	Ankara	8.34	282	*e*Pn		Pn	07 04 29.0 +0.2
ASF	Jabal al Asfar	8.36	222	Pn		Pn	07 04 29.7 +0.5
	comp=Z,0.3nm,0.3s,baz=333,slow=2.3,SNR=3.2						
ASF				Lg		Lg	07 06 51.5
	baz=356,slow=19,SNR=2.1						
MMAI	Mount Meron Ar	8.59	232	Pn		Pn	07 04 32.4 +0.1
	comp=Z,1.1nm,0.3s,baz=66,slow=18,SNR=4.2						
MMAI				Lg		Lg	07 07 02.6
	comp=Z,0.5nm,0.3s,baz=56,slow=33,SNR=2.2						
MMAI				LR		LR	07 07 32.6
	comp=Z,60nm,20.2s,baz=30,slow=36						
EIL	Elat	11.36	221	Lg		Lg	07 08 33.2
	comp=Z,0.2nm,0.3s,baz=60,slow=20,SNR=2.8						
GEYT	Alibeck	11.57	89	Pn		Pn	07 05 15.3 +2.2
	comp=Z,0.2nm,0.3s,baz=273,slow=13,SNR=2.2						
RAYN	Ar Rayn	15.17	173	*e*Pn		Pn	07 05 58.1 -4.1
	comp=Z,7.4nm,0.6s						
AKTO	Aktyubinsk	15.70	37	Pn		Pn	07 06 07.1 -1.8
	comp=Z,0.1nm,0.3s,baz=219,slow=16,SNR=3.1						
AKTO				LR		LR	07 13 54.5
	comp=Z,100nm,18.1s,baz=222,slow=44						
AKASG	Malin Array Be	15.70	325	Pn		Pn	07 06 08.0 -0.9
	comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=4.0						
AKASG	Malin Array Be	15.70	325	P		Pn	07 06 08.0 -0.9
AKBB	Malin Array Si	15.70	325	*e*P		Pn	07 06 08.1 -0.8
AKBB				pmax		pmax	
	comp=Z,14nm,1.3s						
AKBB	Malin Array Si	15.70	325	*e*Pn		Pn	07 06 08.1 -0.8
	comp=Z,14nm,1.3s						
AKBB	Malin Array Si	15.70	325	*e*Pn		Pn	07 06 08.1 -0.8
	comp=Z,14nm,1.3s						
KIEV	Kiev	15.70	325	*e*P		Pn	07 06 09.4 +0.4
KIEV				pmax		pmax	
	comp=Z,8.0nm,1.0s						
KIEV	Kiev	15.70	325	*e*Pn		Pn	07 06 09.4 +0.4
	comp=Z,7.9nm,1.0s						
KIEV	Kiev	15.70	325	*e*Pn		Pn	07 06 09.3 +0.4
	comp=Z,7.9nm,1.0s						
ABKAR	Akbulak array	15.91	43	*e*Pn		Pn	07 06 13.4 +1.7
ABKAR	Akbulak array	15.91	43	*e*Pn		Pn	07 06 13.4 +1.7
OBN	Obninsk	17.12	347	LR		LR	07 13 52.9
	comp=Z,128nm,18.4s,baz=96,slow=40						
OBN	Obninsk	17.12	347	*e*Pn		Pn	07 06 26.5 -0.6
	comp=Z,39nm,0.4s						
OBN	Obninsk	17.12	347	*e*Pn		Pn	07 06 26.4 -0.6
	comp=Z,39nm,0.4s						
ARU	Arti	20.45	25	P		P	07 07 04.7 -0.6
	comp=Z,7.2nm,0.2s,baz=250,slow=14,SNR=3.4						
ARU				LR		LR	07 17 05.0
	comp=Z,135nm,19.5s,baz=216,slow=43						
ARU	Arti	20.45	25	P		P	07 07 04.5 -0.8
KKAR	Karatay Array	20.93	69	*e*P		P	07 07 10.9 +0.3
KKAR				pmax		pmax	
	comp=Z,5.0nm,0.7s						
KKAR	Karatay Array	20.93	69	*e*P		P	07 07 10.9 +0.3
	comp=Z,5.3nm,0.7s						
KKAR	Karatay Array	20.93	69	*e*P		P	07 07 10.9 +0.3
	comp=Z,5.3nm,0.7s						
BVAR	Borovoye Array	23.48	43	P		P	07 07 37.2 -0.4
	comp=Z,0.5nm,0.5s,baz=232,slow=7.1,SNR=3.9						
GERES	GERESS Array B	23.63	305	LR		LR	07 17 06.6
	comp=Z,22nm,21.9s,baz=104,slow=37						
AAK	Ala-Archa	23.84	70	LR		LR	07 17 48.2
	comp=Z,41nm,19.2s,baz=250,slow=39						
FRU	Bishkek	23.93	70	*e*P		P	07 07 43.0 +0.9
FRU				*e*			07 08 14.0
FRU	Bishkek	23.93	70	*e*P		P	07 07 43.0 +0.9
FIA0	FINESS Array S	25.24	340	*e*P		P	07 07 53.4 -0.4
FIA0	FINESS Array S	25.24	340	*e*P		P	07 07 53.4 -0.4
FIA0	FINESS Array S	25.24	340	*e*P		P	07 07 53.4 -0.4
FINES	FINESS Array B	25.24	340	P		P	07 07 53.4 -0.4
	comp=Z,3.7nm,1.0s,baz=144,slow=13,SNR=3.5						
FINES				LR		LR	07 19 04.1
	comp=Z,127nm,19.7s,baz=157,slow=40						
ATD	Arta Tunnel	27.00	181	LR		LR	07 18 44.0
	comp=Z,77nm,18.9s,baz=30,slow=36						
KURBB	Kurchatov Arra	27.45	53	P		P	07 08 14.4 +0.5
	comp=Z,3.2nm,0.2s,baz=263,slow=9.4,SNR=8.0						
KURK	Kurchatov	27.52	52	*e*P		P	07 08 14.3 -0.2
KURK				pmax		pmax	
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	27.52	52	*e*P		P	07 08 14.3 -0.2
	comp=Z,3.2nm,0.8s						
KURK	Kurchatov	27.52	52	*e*P		P	07 08 14.3 -0.2
	comp=Z,3.2nm,0.8s						
HFS	Hagfors	28.51	329	P		P	07 08 23.7 +0.4
	comp=Z,1.6nm,0.8s,baz=110,slow=12,SNR=2.2						
HFS				LR		LR	07 20 43.3
	comp=Z,69nm,18.8s,baz=106,slow=39						
MK32	Makanchi Array	29.45	61	*e*P		P	07 08 32.2 +0.4
MK32	Makanchi Array	29.45	61	*e*P		P	07 08 32.2 +0.4
MKAR	Makanchi Array	29.45	61	P		P	07 08 32.2 +0.4
	comp=Z,1.0nm,0.7s,baz=272,slow=5.9,SNR=8.1						
NOA	NORSAR Array B	30.04	329	LR		LR	07 21 29.5
	comp=Z,53nm,20.7s,baz=115,slow=38						
ARCES	ARCESS Array B	32.42	348	LR		LR	07 22 41.0
	comp=Z,124nm,20.8s,baz=114,slow=38						
NRIK	Noril'sk	38.66	23	LR		LR	07 29 42.0
	comp=Z,129nm,18.9s,baz=159,slow=42						
KMBO	Kilima Mbogo	39.97	190	LR		LR	07 25 33.9
	comp=Z,94nm,18.7s,baz=306,slow=35						
TOA1	Torodi Ar. Sit	44.77	247	*e*P		P	07 10 40.3 -1.6
	comp=Z,18nm,1.8s						
TOA1	Torodi Ar. Sit	44.77	247	*e*P		P	07 10 40.4 -1.6
	comp=Z,18nm,1.8s						
TORD	Torodi Ar. Bea	44.77	247	P		P	07 10 40.4 -1.6
	comp=Z,0.5nm,0.8s,baz=46,slow=8.5,SNR=5.3						
KSAR	Wonju Array Be	64.11	62	P		P	07 13 02.6 +0.1
KSAR	Wonju Array Be	64.11	62	P		P	07 13 02.5 +0.1
KSAR	Wonju Array Be	64.11	62	P		P	07 13 02.5 +0.1
SEY	Seymchan	64.12	29	P		P	07 13 01.8 -0.2
	comp=Z,3.4nm,0.8s,baz=3.7,slow=8.3,SNR=4.3						
KSRS	Korea Array	64.14	62	P		P	07 13 02.5 0.0
	comp=Z,0.8nm,0.6s,baz=296,slow=6.9,SNR=3.2						
INK	Inuvik	73.35	359	LR		LR	07 46 43.7
	comp=Z,17nm,20.4s,baz=268,slow=36						

*ATH **24** 07:03:02.8,40°.98N×21°.24E,h12km±5km, ML2.7/2, Error ellipse: s-maj=6.6km s-min=2.1km az=130.0*
*SKO **24** 07:03:02.9,40°.95N×21°.30E,h24km,M1.9,ML2.4*
*CSEM **24** 07:03:03.7±0.3,40°.96N×21°.28E,h20km,ML2.4, Error ellipse: s-maj=9.3km s-min=5.5km az=66.0*
*BEO **24** 07:03:03.6±1.1,40°.98N×21°.93E,h0km,M1.8/4*
ISC 24 07:03:03.7±1.0,40°.97N±0°.02×21°.32E±0°.03,h18km±2km, n27,σ0°58/42,6C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	Bitola	0.05	0	⇑*i*Pg	Pg	07 03 07.3	+0.1
BIA				*i* Sg	Sg	07 03 09.4	0.0
BIA	Bitola	0.05	0	⇑*i*Pg	Pg	07 03 07.2	+0.1
BIA				*i* Sg	Sg	07 03 09.4	0.0
FNA	Florina	0.19	168	P	Pb	07 03 08.2	0.0
FNA				S	Sb	07 03 10.9	-0.2
FNA				AML	AML	07 03 11.4	
	comp=E,10565μm,0.3s						
FNA				AML	AML	07 03 11.5	
	comp=N,20502μm,0.3s						
FNA	Florina	0.19	168	P	Pb	07 03 08.2	0.0
FNA				S	Sb	07 03 10.9	-0.2
KRUS	Krusevo	0.41	352	⇑*i*Pg	Pb	07 03 12.2	-0.2
KRUS				*i* Sg	Sb	07 03 18.6	+0.3
KRUS	Krusevo	0.41	352	⇑*i*Pg	Pb	07 03 12.2	-0.2
KRUS				*i* Sg	Sb	07 03 18.6	+0.3
OHR	Ohrid	0.42	290	⇑*i*Pg	Pg	07 03 12.0	-0.5
OHR				*i* Sg	Sb	07 03 19.1	+0.3
OHR				*e*Lg	Lg	07 03 19.1	
	comp=N,348nm,0.7s						
OHR				*e*Lg	Lg	07 03 19.5	
	comp=E,299nm,0.4s						
OHR	Ohrid	0.42	290	⇑*i*Pg	Pg	07 03 11.9	-0.5
OHR				*i* Sg	Sb	07 03 19.1	+0.3
OHR				*e*Lg	Lg	07 03 19.5	
	comp=E,299nm,0.4s						
KZN	Kozani	0.74	153	P	Pb	07 03 17.3	-0.8
KZN				S	Sn	07 03 29.7	-0.5
KZN				AML	AML	07 03 31.6	
	comp=N,343μm,0.3s						
KZN				AML	AML	07 03 31.8	
	comp=E,420μm,0.5s						
KZN	Kozani	0.74	153	P	Pb	07 03 17.3	-0.8
KZN				S	Sn	07 03 29.7	-0.5
GRG	Griva	0.82	90	P	Pb	07 03 19.3	0.0
GRG	Griva	0.82	90	P	Pb	07 03 19.3	0.0
VAY	Valandovo	1.00	69	*e*Pg	Pb	07 03 15.0	-7.5
VAY				*e*Sg	Sb	07 03 22.1	-13
SKO	Skopje	1.01	5	*e*Pg	Pb	07 03 22.1	-0.5
SKO				*i* Sg	Sg	07 03 36.9	+0.4
SKO	Skopje	1.01	5	*e*Pg	Pb	07 03 21.2	-1.4
SKO				*e*Sg	Sg	07 03 37.5	+1.0
SKO	Skopje	1.01	5	*e*Pg	Pb	07 03 22.1	-0.5
SKO				*i* Sg	Sg	07 03 36.9	+0.4
KPRO	Kipourio	1.01	178	P	Pb	07 03 22.6	-0.1
KPRO	Kipourio	1.01	178	P	Pb	07 03 22.6	-0.1
KNT	Kendrikon	1.21	80	P	Pg	07 03 27.0	0.0
KNT	Kendrikon	1.21	80	P	Pg	07 03 27.0	0.0
LIT	Litokhoron	1.24	134	P	Pg	07 03 27.5	-0.2
LIT	Litokhoron	1.24	134	P	Pg	07 03 27.5	-0.2
THL	Klokotos Trika	1.50	159	P	Pb	07 03 30.7	-0.2
THL	Klokotos Trika	1.50	159	P	Pb	07 03 30.7	-0.2
BARS	Barje	1.88	11	*e*Pg	Pb	07 03 37.4	-0.1
BARS				*e*Sg	Sg	07 04 03.2	-1.2
BARS	Barje	1.88	11	*e*Pg	Pb	07 03 37.4	-0.1
BARS				*e*Sg	Sg	07 04 03.2	-1.2
ZAPS	Zavoj	2.50	22	*e*Pg	Pn	07 03 44.9	+1.4
ZAPS				*e*Sg	Sb	07 04 17.4	-1.2

*AZER **24** 07:07:12.4±5.3,37°.88N×43°.21E,h24km, Error ellipse: s-maj=49.0km s-min=34.7km az=109.0*
*ISK **24** 07:07:16.8,38°.76N×43°.54E,h5km,ML3.4*
*CSEM **24** 07:07:19.3±0.3,38°.74N×43°.37E,h2km,ML3.4, Error ellipse: s-maj=8.4km s-min=6.5km az=93.0*
*DDA **24** 07:07:20.8,38°.69N×42°.94E,h7km,Md2.9*
ISC 24 07:07:19.8±0.9,38°.75N±0°.03×43°.34E±0°.03,h11km±8km, n28,σ1°24/46,4C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	166	*e*PG	Pg	07 07 23.0	-0.5
VANB				*e*SG	Sg	07 07 27.7	+1.5
VANB	Van	0.16	166	*e*Pg	Pg	07 07 23.0	-0.5
VANB				*e*Sg	Sg	07 07 27.7	+1.5
GEVA	Gevas	0.49	207	*i* P	Pg	07 07 28.3	-1.2
GEVA				*i* S	Sg	07 07 35.1	-0.9
GEVA	Gevas	0.49	207	P	Pg	07 07 28.3	-1.2
GEVA				S	Sg	07 07 35.1	-0.9
TUTA	Tutak	0.77	328	*i* P	Pg	07 07 33.8	-0.9
TUTA				*i* S	Sb	07 07 46.1	+0.2
TUTA	Tutak	0.77	328	P	Pg	07 07 33.8	-0.9
TUTA				S	Sb	07 07 46.1	+0.2
AGRB	Hanur-Agry	0.86	342	*e*PG	Pg	07 07 35.0	-1.6
AGRB				*e*SG	Sb	07 07 49.0	+0.3
AGRB	Hanur-Agry	0.86	342	*e*Pg	Pg	07 07 35.0	-1.6
AGRB				*e*Sg	Sb	07 07 49.0	+0.3
EATA	Eleskirt	1.29	330	*i* P	Pn	07 07 44.0	-0.1
EATA				*i* S	Sn	07 08 03.2	+1.8
EATA	Eleskirt	1.29	330	P	Pn	07 07 44.0	-0.1
EATA				S	Sn	07 08 03.2	+1.8
CUKT	Cukurca	1.52	172	*e*PN	Pn	07 07 46.3	-0.7
CUKT	Cukurca	1.52	172	*e*Pn	Pn	07 07 46.3	-0.7
NAX	Nakhchivan	1.73	75	P	Pn	07 07 48.0	-1.9
	SNR=8.8						
NAX				⇓S	Sg	07 08 14.8	-0.7
NAX	Nakhchivan	1.73	75	P	Pn	07 07 48.0	-1.9
	SNR=8.8						
NAX				S	Sg	07 08 14.8	-0.7
SVAN	Silvan-Diyarba	1.79	251	*e*PN	Pb	07 07 52.2	-0.3
SVAN	Silvan-Diyarba	1.79	251	*e*Pn	Pb	07 07 52.2	-0.3
BNGB	Bing¶ll	2.09	277	*e*PN	Pb	07 07 56.8	-1.0
BINT	Bingol	2.23	274	*e*Pn	Pn	07 07 56.8	0.0
YEDI	Yedisu-Bingol	2.28	288	*e*PN	Pb	07 07 59.8	-1.3
YEDI	Yedisu-Bingol	2.28	288	*e*Pn	Pb	07 07 59.8	-1.3
MAZI	Mazidag	2.62	241	*e*PN	Pn	07 08 04.0	+1.8
MAZI	Mazidag	2.62	241	*e*Pn	Pn	07 08 04.0	+1.8
GDB	GEDABAY	2.71	43	⇑P	Pn	07 08 04.9	+1.5
	SNR=5.3						
GDB				⇑S	Sg	07 08 46.5	-0.3
GDB	GEDABAY	2.71	43	P	Pn	07 08 04.9	+1.5
	SNR=5.3						
GDB				S	Sg	07 08 46.5	-0.3
QZX	Qazax, Azerbai	2.78	34	P	Pn	07 08 06.5	+2.2
	SNR=8.3						
QZX				⇑S	Sg	07 08 48.8	-0.4
QZX	Qazax, Azerbai	2.78	34	P	Pn	07 08 06.5	+2.2
	SNR=8.3						
QZX				S	Sg	07 08 48.8	-0.4
GANJ	Ganja	2.98	50	⇑P	Pn	07 08 07.8	+0.8
	SNR=3.5						
GANJ				⇓S	Sb	07 08 50.9	+1.6
GANJ	Ganja	2.98	50	P	Pn	07 08 07.8	+0.8
	SNR=3.5						
GANJ				S	Sb	07 08 50.9	+1.6

*AZER **24** 07:15:04.5±2.2,38°.08N×43°.32E,h8km, Error ellipse: s-maj=28.8km s-min=19.8km az=116.0*
*DDA **24** 07:15:09.5,38°.72N×43°.58E,h5km,Ml3.6*
*ISK **24** 07:15:09.3,38°.78N×43°.54E,h5km,ML3.4*
*CSEM **24** 07:15:11.3±0.2,38°.77N×43°.49E,h2km,ML3.4, Error ellipse: s-maj=5.7km s-min=4.1km az=136.0*
ISC 24 07:15:11.3±0.9,38°.73N±0°.02×43°.54E±0°.02,h10km±8km, n81,σ1°64/109,6C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	222	*e*PG	Pg	07 15 15.5	+0.3
VANB	Van	0.18	222	*e*Pg	Pg	07 15 15.5	+0.3
GEVA	Gevas	0.56	223	*i* P	Pg	07 15 20.8	-1.5
GEVA				*i* S	Sb	07 15 31.0	-0.4
GEVA	Gevas	0.56	223	P	Pg	07 15 20.8	-1.5
GEVA				S	Sb	07 15 31.0	-0.4
DYDN	Diyadin	0.82	8	*i* P	Pg	07 15 25.8	-1.5
DYDN				*i* S	Sb	07 15 38.3	-0.8
DYDN	Diyadin	0.82	8	P	Pg	07 15 25.8	-1.5
DYDN				S	Sb	07 15 38.3	-0.8
TUTA	Tutak	0.88	320	*i* P	Pg	07 15 26.6	-1.7
TUTA				*i* S	Sb	07 15 40.2	-0.5
TUTA	Tutak	0.88	320	P	Pg	07 15 26.6	-1.7
TUTA				S	Sb	07 15 40.2	-0.5
AGRB	Hanur-Agry	0.95	333	*e*PG	Pg	07 15 27.6	-2.0
AGRB				*e*SG	Sg	07 15 41.0	-1.1
AGRB	Hanur-Agry	0.95	333	*e*Pg	Pg	07 15 27.6	-2.0
AGRB				*e*Sg	Sg	07 15 41.0	-1.1
HAKT	HAKKARI	1.18	174	*i* P	Pg	07 15 31.0	-2.9
HAKT				*i* S	Sn	07 15 52.5	+2.4
HAKT	HAKKARI	1.18	174	P	Pg	07 15 31.0	-2.9
HAKT				S	Sn	07 15 52.5	+2.4
EKAR	Karacoban	1.27	295	*i* P	Pg	07 15 34.0	-1.7
EKAR				*i* S	Sn	07 15 55.5	+3.0
EKAR	Karacoban	1.27	295	P	Pg	07 15 34.0	-1.7
EATA	Eleskirt	1.40	325	*i* P	Pn	07 15 35.9	-1.3
EATA				*i* S	Sn	07 15 57.9	+2.1
EATA	Eleskirt	1.40	325	P	Pn	07 15 35.9	-1.3
EATA				S	Sn	07 15 57.9	+2.1
CUKT	Cukurca	1.48	178	*e*PN	Pg	07 15 39.4	-0.3
CUKT				*e*SN	Sg	07 16 00.6	+1.7
CUKT	Cukurca	1.48	178	*e*Pn	Pg	07 15 39.4	-0.3
CUKT				*e*Sn	Sg	07 16 00.6	+1.7
SIRN	S¨–rnak	1.52	216	*i* P	Pg	07 15 39.8	-0.6
SIRN				*i* S	Sg	07 16 02.4	+2.2
SIRN	S¨–rnak	1.52	216	P	Pg	07 15 39.8	-0.6
SIRN				S	Sg	07 16 02.4	+2.2
NAX	Nakhchivan	1.59	73	⇓P	Pg	07 15 39.7	-2.1
	SNR=48						
NAX				⇑S	Sg	07 16 04.3	+2.0
NAX	Nakhchivan	1.59	73	P	Pg	07 15 39.7	-2.1
	SNR=48						
NAX				S	Sg	07 16 04.3	+2.0
VRTB	Varto-Mus	1.68	286	*e*PN	Pb	07 15 41.1	-1.4
VRTB	Varto-Mus	1.68	286	*e*Pn	Pb	07 15 41.1	-1.4
DIGO	Kars	1.69	356	*i* P	Pb	07 15 41.5	-1.2
DIGO				*i* S	Sg	07 16 10.2	+4.4
DIGO	Kars	1.69	356	P	Pb	07 15 41.5	-1.2
HOMI	Horasan	1.83	317	*i* P	Pb	07 15 44.1	-0.9
BNGL	BINGOL	1.88	278	*i* P	Pg	07 15 46.5	-1.0
BNGL				*i* S	Sg	07 16 14.8	+2.9
SVAN	Silvan-Diyarba	1.93	253	*e*PN	Pb	07 15 45.0	-1.5
SVAN				*e*SN	Sg	07 16 11.5	-1.8
SVAN	Silvan-Diyarba	1.93	253	*i* P	Pg	07 15 46.6	-1.7
SVAN				*i* S	Sg	07 16 12.7	-0.6
SVAN	Silvan-Diyarba	1.93	253	*e*Pn	Pb	07 15 45.1	-1.5
SVAN	Silvan-Diyarba	1.93	253	P	Pg	07 15 46.6	-1.7
SVAN				*e*Sn	Sg	07 16 11.5	-1.8
SVAN				S	Sg	07 16 12.7	-0.6
EAK	Akyaka	1.96	1	*i* P	Pg	07 15 47.7	-1.2
EAK				*i* S	Sg	07 16 20.4	+6.1
EAK	Akyaka	1.96	1	P	Pg	07 15 47.7	-1.2
BTMN	Batman	1.97	246	*i* P	Pb	07 15 46.4	-1.0
BTMN				*i* S	Sg	07 16 14.1	-0.6
BTMN	Batman	1.97	246	P	Pb	07 15 46.4	-1.0
BTMN				S	Sg	07 16 14.1	-0.6
ERZM	Erzurum	2.06	306	*i* P	Pb	07 15 48.3	-0.6
ERZM	Erzurum	2.06	306	P	Pb	07 15 48.3	-0.6
BNGB	Bing¶ll	2.25	278	*e*PN	Pn	07 15 49.2	+0.5
BINT	Bingol	2.39	275	*e*Pn	Pn	07 15 49.2	-1.4
YEDI	Yedisu-Bingol	2.44	288	*e*PN	Pn	07 15 51.4	+0.1
YEDI	Yedisu-Bingol	2.44	288	*e*Pn	Pn	07 15 51.4	+0.1
DDEM	Demirkent	2.56	328	*i* P	Pb	07 15 57.7	+0.2
MARD	Mardin	2.60	238	*i* P	Pn	07 15 54.1	+0.6
GDB	GEDABAY	2.62	40	⇑P	Pn	07 15 54.3	+0.5
	SNR=28						
GDB				⇑S	Sg	07 16 35.7	+0.2
GDB	GEDABAY	2.62	40	P	Pn	07 15 54.3	+0.5
	SNR=28						
DAGI	Agillar	2.66	332	*i* P	Pb	07 15 59.4	+0.3
AKH	Akhalkalaki	2.68	359	*e*PN	Pn	07 15 54.8	+0.1
AKH	Akhalkalaki	2.68	359	*e*Pn	Pn	07 15 54.8	+0.1
KOPT	Kop Dagi	2.69	300	*i* P	Pg	07 16 00.8	-2.1
QZX	Qazax, Azerbai	2.72	31	⇓P	Pb	07 15 58.1	-2.0
	SNR=14						
QZX				⇓S	Sg	07 16 39.3	+0.6
QZX	Qazax, Azerbai	2.72	31	P	Pb	07 15 58.1	-2.0
	SNR=14						
ARTV	Artvin	2.75	334	*i* P	Pg	07 16 01.2	-2.8
MAZI	Mazidag	2.75	244	*e*PN	Pn	07 15 54.7	-0.9
MAZI	Mazidag	2.75	244	*e*Pn	Pn	07 15 54.7	-0.9
GANJ	Ganja	2.88	47	⇓P	Pn	07 15 57.8	+0.6
	SNR=12						
GANJ				⇑S	Sg	07 16 43.7	-0.1
GANJ	Ganja	2.88	47	P	Pn	07 15 57.8	+0.6
	SNR=12						
ERZN	Erzincan	3.09	287	*e*PN	Pn	07 16 01.2	+0.9
BRDA	Brd	3.20	60	⇓P	Pn	07 16 01.8	+0.1
	SNR=6.3						
BRDA	Brd	3.20	60	P	Pn	07 16 01.8	+0.1
	SNR=6.3						
PTK	Pertek	3.25	274	*e*PN	Pn	07 16 03.4	+0.9
PTK	Pertek	3.25	274	*e*Pn	Pn	07 16 03.4	+0.9
SVRC	Sivrice-ELAZID	3.34	265	*e*PN	Pn	07 16 04.4	+0.7
SVRC	Sivrice-ELAZID	3.34	265	*e*Pn	Pn	07 16 04.4	+0.7
MNGR	Mingechevir, A	3.41	52	⇓P	Pn	07 16 06.1	+1.6
	SNR=4.5						
MNGR	Mingechevir, A	3.41	52	P	Pn	07 16 06.1	+1.6
	SNR=4.5						
ZRD	Zardab	3.56	63	⇓P	Pn	07

n22,σ1$32/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**207**	*e*PG	**Pb**	**07 20 12.2**	**-0.2**
VANB				*e*SG	**Sb**	**07 20 16.5**	**+0.1**
VANB	**Van**	**0.22**	**207**	*e*Pg	**Pb**	**07 20 12.2**	**-0.2**
VANB				*e*Sg	**Sb**	**07 20 16.5**	**+0.1**
TUTA	**Tutak**	**0.82**	**318**	*i* P	**Pb**	**07 20 21.1**	**-1.0**
TUTA	**Tutak**	**0.82**	**318**	P	**Pb**	**07 20 21.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*PG	**Pn**	**07 20 23.2**	**-0.6**
AGRB				*e*SG	**Sn**	**07 20 35.4**	**-0.8**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*Pg	**Pn**	**07 20 23.3**	**-0.6**
AGRB				*e*Sg	**Sn**	**07 20 35.4**	**-0.8**
EKAR	**Karacoban**	**1.22**	**293**	*i* P	**Pb**	**07 20 28.9**	**-0.1**
EKAR				*i* S	**Sn**	**07 20 48.3**	**+3.7**
EKAR	**Karacoban**	**1.22**	**293**	P	**Pb**	**07 20 28.9**	**-0.1**
EKAR				S	**Sn**	**07 20 48.3**	**+3.7**
HAKT	**HAKKARI**	**1.24**	**173**	*i* P	**Pn**	**07 20 28.6**	**-0.2**
HAKT	**HAKKARI**	**1.24**	**173**	P	**Pn**	**07 20 28.6**	**-0.2**
EATA	**Eleskirt**	**1.33**	**324**	*i* P	**Pb**	**07 20 30.4**	**-0.5**
EATA				*i* S	**Sb**	**07 20 49.5**	**+1.8**
EATA	**Eleskirt**	**1.33**	**324**	P	**Pb**	**07 20 30.4**	**-0.5**
EATA				S	**Sb**	**07 20 49.5**	**+1.8**
CUKT	**Cukurca**	**1.54**	**177**	*e*PN	**Pb**	**07 20 34.8**	**+0.4**
CUKT	**Cukurca**	**1.54**	**177**	*e*Pn	**Pb**	**07 20 34.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.93**	**251**	*e*PN	**Pn**	**07 20 36.7**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.93**	**251**	*i* P	**Pn**	**07 20 38.1**	**0.0**
SVAN				*i* S	**Sn**	**07 21 00.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.93**	**251**	*e*Pn	**Pn**	**07 20 36.7**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.93**	**251**	P	**Pn**	**07 20 38.1**	**0.0**
SVAN				S	**Sn**	**07 21 00.8**	**-0.9**
BTMN	**Batman**	**1.98**	**244**	*i* P	**Pn**	**07 20 38.9**	**0.0**
BTMN				*i* S	**Sn**	**07 21 02.8**	**-0.4**
BTMN	**Batman**	**1.98**	**244**	P	**Pn**	**07 20 38.9**	**0.0**
BTMN				S	**Sn**	**07 21 02.8**	**-0.4**
MAZI	**Mazidag**	**2.76**	**242**	*e*PN	**Pn**	**07 20 47.7**	**-1.9**
MAZI	**Mazidag**	**2.76**	**242**	*e*Pn	**Pn**	**07 20 47.7**	**-1.9**

*ISK **24** 07:32:49.8, 38.°78N×43.°56E, h5km, ML3.7*
*DDA **24** 07:32:51.3, 38.°79N×43.°44E, h5km, Ml3.4*
*ISCJB **24** 07:32:52.8±0.8, 38.°71N±0.°03×43.°53E±0.°03, h8km±6km, mb3.2/4, MS2.7/4, Error ellipse: s-maj=5.7km s-min=3.5km az=161.9*
*IDC **24** 07:32:52.5±1.3, 39.°19N×43.°18E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.2/44, mbtmp3.3/7, ML3.2/3, MS2.7/12, Ms1 2.7/12, ms1mx2.5/36, Error ellipse: s-maj=38.9km s-min=10.9km az=158.0*
*CSEM **24** 07:32:53.5±0.2, 38.°58N×43.°51E, h5km, ML3.7, Error ellipse: s-maj=7.2km s-min=4.2km az=150.0*
*AZER **24** 07:32:54.6±1.4, 38.°33N×44.°02E, h4km, Error ellipse: s-maj=9.9km s-min=6.7km az=46.0*

ISC 24 07:32:52.5±1.0, 38.°78N±0.°02×43.°53E±0.°02, h9km±7km, n107, σ1$86/126, mb3.3/4, MS2.7/4, 11C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**211**	*e*PG	**Pg**	**07 32 56.4**	**-0.5**
VANB				*e*SG	**Sg**	**07 33 02.3**	**+2.5**
VANB	**Van**	**0.21**	**211**	*e*Pg	**Pg**	**07 32 56.4**	**-0.5**
GEVA	**Gevas**	**0.59**	**218**	*i* P	**Pg**	**07 33 02.2**	**-1.8**
GEVA				*i* S	**Sb**	**07 33 12.8**	**-0.8**
GEVA	**Gevas**	**0.59**	**218**	P	**Pg**	**07 33 02.2**	**-1.8**
GEVA				S	**Sb**	**07 33 12.8**	**-0.8**
TUTA	**Tutak**	**0.83**	**319**	*i* P	**Pg**	**07 33 06.1**	**-2.5**
AGRB	**Hanur-Agry**	**0.90**	**333**	*e*PG	**Pg**	**07 33 07.5**	**-2.4**
AGRB				*e*SG	**Sb**	**07 33 21.9**	**-0.7**
HAKT	**HAKKARI**	**1.22**	**173**	*i* P	**Pg**	**07 33 14.2**	**-1.9**
HAKT				*i* S	**Sn**	**07 33 33.6**	**+0.8**
HAKT	**HAKKARI**	**1.22**	**173**	P	**Pg**	**07 33 14.2**	**-1.9**
EKAR	**Karacoban**	**1.23**	**293**	*i* P	**Pg**	**07 33 15.2**	**-1.0**
EKAR				*i* S	**Sn**	**07 33 33.4**	**+0.3**
EKAR	**Karacoban**	**1.23**	**293**	P	**Pg**	**07 33 15.2**	**-1.0**
EKAR				S	**Sn**	**07 33 33.4**	**+0.3**
EATA	**Eleskirt**	**1.35**	**324**	*i* P	**Pg**	**07 33 15.8**	**-2.7**
EATA				*i* S	**Sg**	**07 33 35.4**	**-0.6**
EATA	**Eleskirt**	**1.35**	**324**	P	**Pg**	**07 33 15.8**	**-2.7**
EATA				S	**Sg**	**07 33 35.4**	**-0.6**
CUKT	**Cukurca**	**1.53**	**178**	*e*PN	**Pn**	**07 33 19.7**	**-0.4**
CUKT	**Cukurca**	**1.53**	**178**	*i* P	**Pg**	**07 33 23.4**	**+1.6**
CUKT	**Cukurca**	**1.53**	**178**	*e*Pn	**Pn**	**07 33 19.7**	**-0.4**
CUKT	**Cukurca**	**1.53**	**178**	P	**Pg**	**07 33 23.4**	**+1.6**
NAX	**Nakhchivan**	**1.59**	**75**	⇓P	**Pb**	**07 33 22.3**	**+0.3**
	SNR=10						
NAX				⇑S	**Sn**	**07 33 40.5**	**-1.0**
NAX	**Nakhchivan**	**1.59**	**75**	P	**Pb**	**07 33 22.3**	**+0.3**
	SNR=10						
NAX				S	**Sn**	**07 33 40.5**	**-1.0**
DIGO	**Kars**	**1.64**	**356**	*i* P	**Pn**	**07 33 22.2**	**+0.4**
DIGO	**Kars**	**1.64**	**356**	P	**Pn**	**07 33 22.2**	**+0.4**
GNI	**Garni**	**1.66**	**34**	Pg	**Pn**	**07 33 22.4**	**+0.3**
	42nm,0.3s,baz=295,slow=4.7,SNR=40						
GNI				Lg	Lg	07 33 44.8	
	18nm,0.3s,baz=166,slow=21,SNR=8.2						
GNI				LR	LR	07 33 56.6	
	comp=Z,45nm,21.4s,baz=213,slow=42						
HOMI	**Horasan**	**1.78**	**316**	*i* P	**Pn**	**07 33 23.8**	**+0.1**
BNGL	**BINGOL**	**1.86**	**276**	*i* P	**Pn**	**07 33 25.4**	**+0.6**
EAK	**Akyaka**	**1.91**	**2**	*i* P	**Pb**	**07 33 28.2**	**+0.6**
EAK	**Akyaka**	**1.91**	**2**	P	**Pb**	**07 33 28.2**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**252**	*e*PN	**Pn**	**07 33 25.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.93**	**252**	*i* P	**Pn**	**07 33 26.6**	**+1.0**
SVAN				*i* S	**Sg**	**07 33 53.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.93**	**252**	*e*Pn	**Pn**	**07 33 25.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.93**	**252**	P	**Pn**	**07 33 26.6**	**+1.0**
SVAN				S	**Sg**	**07 33 53.3**	**-1.2**
BTMN	**Batman**	**1.98**	**244**	*i* P	**Pn**	**07 33 26.6**	**+0.3**
BTMN				*i* S	**Sb**	**07 33 54.1**	**+0.6**
BTMN	**Batman**	**1.98**	**244**	P	**Pn**	**07 33 26.6**	**+0.3**
BTMN				S	**Sb**	**07 33 54.2**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.00**	**333**	*e*PN	**Pn**	**07 33 26.4**	**-0.3**
ERZM	**Erzurum**	**2.02**	**305**	*i* P	**Pn**	**07 33 28.3**	**+1.3**
ERZM	**Erzurum**	**2.02**	**305**	P	**Pn**	**07 33 28.3**	**+1.3**
ECAT	**Cat-ERZURUM**	**2.15**	**294**	*i* P	**Pb**	**07 33 31.8**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.15**	**294**	P	**Pb**	**07 33 31.8**	**+0.1**
BNGB	**Bingˆ¶l**	**2.23**	**276**	*e*PN	**Pn**	**07 33 29.9**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.41**	**287**	*e*PN	**Pn**	**07 33 33.1**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.41**	**287**	*e*Pn	**Pn**	**07 33 33.1**	**+0.8**
DDEM	**Demirkent**	**2.52**	**328**	*i* P	**Pb**	**07 33 37.6**	**-0.3**
DDEM	**Demirkent**	**2.52**	**328**	P	**Pb**	**07 33 37.6**	**-0.3**
GDB	**GEDABAY**	**2.59**	**41**	⇑P	**Pb**	**07 33 39.3**	**0.0**
	SNR=40						
GDB				⇓S	**Sg**	**07 34 16.0**	**+0.1**
GDB	**GEDABAY**	**2.59**	**41**	P	**Pb**	**07 33 39.3**	**0.0**
	SNR=40						
GDB				S	**Sg**	**07 34 16.0**	**+0.1**
DAGI	**Agillar**	**2.61**	**332**	*i* P	**Pb**	**07 33 38.7**	**-0.8**
MARD	**Mardin**	**2.61**	**237**	*i* P	**Pn**	**07 33 35.0**	**0.0**
AKH	**Akhalkalaki**	**2.63**	**359**	*e*PN	**Pn**	**07 33 35.0**	**-0.3**
QZX	**Qazax, Azerbai**	**2.69**	**31**	⇑P	**Pb**	**07 33 40.9**	**+0.2**
	SNR=9.9						
QZX				⇓S	**Sg**	**07 34 20.4**	**+1.6**
QZX	**Qazax, Azerbai**	**2.69**	**31**	P	**Pb**	**07 33 40.9**	**+0.2**
	SNR=9.9						
ARTV	**Artvin**	**2.70**	**333**	*i* P	**Pb**	**07 33 39.8**	**-1.4**
ARTV	**Artvin**	**2.70**	**333**	P	**Pb**	**07 33 39.8**	**-1.4**
MAZI	**Mazidag**	**2.76**	**243**	*e*PN	**Pn**	**07 33 36.4**	**-0.6**
MAZI	**Mazidag**	**2.76**	**243**	*e*Pn	**Pn**	**07 33 36.4**	**-0.6**
EPOS	**Posof**	**2.79**	**348**	*i* P	**Pb**	**07 33 43.3**	**+0.6**
EPOS	**Posof**	**2.79**	**348**	P	**Pb**	**07 33 43.3**	**+0.6**
GANJ	**Ganja**	**2.85**	**48**	⇓P	**Pb**	**07 33 43.0**	**-0.6**
	SNR=10.0						
GANJ				⇓S	**Sb**	**07 34 19.4**	**+0.7**
GANJ	**Ganja**	**2.85**	**48**	P	**Pb**	**07 33 43.0**	**-0.6**
	SNR=10.0						
GANJ				S	**Sb**	**07 34 19.4**	**+0.7**
DBOC	**Borcka**	**2.94**	**332**	*i* P	**Pb**	**07 33 45.8**	**+0.7**
DBOC	**Borcka**	**2.94**	**332**	P	**Pb**	**07 33 45.8**	**+0.7**
ERZN	**Erzincan**	**3.06**	**287**	*e*PN	**Pn**	**07 33 41.8**	**+0.6**
BRDA	**Brd**	**3.19**	**61**	⇑P	**Pn**	**07 33 44.6**	**+1.7**
	SNR=3.8						
BRDA				⇓S	**Sn**	**07 34 23.3**	**+2.3**
BRDA	**Brd**	**3.19**	**61**	P	**Pn**	**07 33 44.6**	**+1.7**
	SNR=3.8						
BRDA				S	**Sn**	**07 34 23.3**	**+2.3**
PTK	**Pertek**	**3.23**	**273**	*e*PN	**Pn**	**07 33 44.0**	**+0.4**
PTK	**Pertek**	**3.23**	**273**	*e*Pn	**Pn**	**07 33 44.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.33**	**264**	*e*PN	**Pn**	**07 33 45.9**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.33**	**264**	*e*Pn	**Pn**	**07 33 45.9**	**+1.0**
MNGR	**Mingechevir, A**	**3.39**	**53**	⇓P	**Pn**	**07 33 48.8**	**+3.2**
	SNR=9.5						
MNGR				⇓S	**Sn**	**07 34 30.0**	**+4.1**
MNGR	**Mingechevir, A**	**3.39**	**53**	P	**Pn**	**07 33 48.8**	**+3.2**
	SNR=9.5						
MNGR				S	**Sn**	**07 34 30.0**	**+4.1**
ZRD	**Zardab**	**3.55**	**64**	⇓S	**Sn**	**07 34 31.4**	**+1.6**
ZRD	**Zardab**	**3.55**	**64**	S	**Sn**	**07 34 31.4**	**+1.6**
KELT	**Kelkit**	**3.58**	**294**	*i* P	**Pb**	**07 33 57.0**	**+0.9**
ZKTA	**Zakatala**	**3.71**	**39**	⇑P	**Pn**	**07 33 54.5**	**+4.5**
	SNR=5.9						
ZKTA				⇓S	**Sb**	**07 34 41.7**	**-1.8**
SEKA	**Sheki**	**3.72**	**48**	⇓P	**Pn**	**07 33 54.3**	**+4.1**
	SNR=4.8						
SEKA				⇓S	**Sb**	**07 34 40.7**	**-3.0**
SEKA	**Sheki**	**3.72**	**48**	P	**Pn**	**07 33 54.3**	**+4.1**
	SNR=4.8						
SEKA				S	**Sb**	**07 34 40.7**	**-3.0**
LRK	**Lerik**	**3.77**	**91**	⇓P	**Pn**	**07 33 48.5**	**-2.5**
	SNR=5.3						
LRK				⇓S	**Sn**	**07 34 30.3**	**-5.2**
LRK	**Lerik**	**3.77**	**91**	P	**Pn**	**07 33 48.5**	**-2.5**
	SNR=5.3						
GLBA	**Clilabad**	**3.82**	**81**	⇑S	**Sn**	**07 34 33.6**	**-2.9**
KDMR	**Kurdemir**	**3.94**	**65**	⇑S	**Sn**	**07 34 40.5**	**+1.1**
KDMR	**Kurdemir**	**3.94**	**65**	S	**Sn**	**07 34 40.5**	**+1.1**
URFA	**Urfa**	**3.94**	**252**	*e*PN	**Pn**	**07 33 54.2**	**+0.9**
URFA	**Urfa**	**3.94**	**252**	*e*Pn	**Pn**	**07 33 54.2**	**+0.9**
SAAT	**Saatly**	**3.95**	**73**	⇑S	**Sn**	**07 34 38.2**	**-1.5**
SAAT	**Saatly**	**3.95**	**73**	S	**Sn**	**07 34 38.2**	**-1.5**
QBL	**Gabala**	**3.96**	**55**	⇓P	**Pn**	**07 33 56.1**	**+2.6**
	SNR=11						
QBL				⇑S	**Sn**	**07 34 43.9**	**+3.8**
QBL	**Gabala**	**3.96**	**55**	P	**Pn**	**07 33 56.1**	**+2.6**
	SNR=11						
QBL				S	**Sn**	**07 34 43.9**	**+3.8**
LKRN	**Lenkeran, Azer**	**4.11**	**89**	⇑S	**Sn**	**07 34 38.6**	**-5.0**
ASTR	**Astara**	**4.13**	**91**	⇑S	**Sn**	**07 34 39.0**	**-5.0**
XNQ	**Khinaliq**	**4.28**	**55**	⇓P	**Pn**	**07 34 00.3**	**+2.3**
	SNR=7.8						
XNQ	**Khinaliq**	**4.28**	**55**	P	**Pn**	**07 34 00.3**	**+2.3**
	SNR=7.8						
KBZ	**Khabaz**	**4.97**	**355**	LR	LR	07 35 57.2	
	comp=Z,33nm,19.9s,baz=203,slow=41						
KVAR	**Kislovodsk Arr**	**5.21**	**353**	LR	LR	07 35 30.3	
	comp=Z,13nm,20.6s,baz=172,slow=33						
BRTR	**Keskin Array B**	**7.73**	**280**	Pn	**Pn**	**07 34 44.3**	**-1.1**
	0.1nm,0.3s,baz=94,slow=14,SNR=2.4						
ASF	**Jabal al Asfar**	**8.52**	**221**	Pn	**Pn**	**07 35 00.1**	**+4.0**
	0.2nm,0.3s,baz=332,slow=15,SNR=2.4						
ASF				Lg	Lg	07 37 22.8	
	0.1nm,0.3s,baz=301,slow=18,SNR=2.0						
MMAI	**Mount Meron Ar**	**8.74**	**231**	Pn	**Pn**	**07 35 00.3**	**+1.2**
	1.0nm,0.3s,baz=42,slow=15,SNR=1.9						
MMAI				LR	LR	07 38 49.3	
	comp=Z,89nm,18.7s,baz=45,slow=40						
GEYT	**Alibeck**	**11.49**	**90**	LR	LR	07 40 52.2	
	comp=Z,17nm,20.4s,baz=205,slow=41						
EIL	**Elat**	**11.52**	**221**	LR	LR	07 40 26.6	
	comp=Z,58nm,21.2s,baz=3.5,slow=39						
IDI	**Anoyia**	**15.28**	**263**	LR	LR	07 42 24.4	
	comp=Z,31nm,19.1s,baz=172,slow=38						
AKTO	**Aktyubinsk**	**15.54**	**37**	Pn	**Pn**	**07 36 33.2**	**+1.5**
	0.1nm,0.3s,baz=238,slow=7.7,SNR=3.8						
AKTO				LR	LR	07 44 10.8	
	comp=Z,45nm,19.4s,baz=230,slow=44						
OBN	**Obninsk**	**17.00**	**346**	LR	LR	07 43 55.7	
	comp=Z,43nm,19.3s,baz=42,slow=40						
ARU	**Arti**	**20.28**	**25**	P	Pn	07 37 31.4	+1.2
	3.8nm,0.2s,baz=228,slow=8.7,SNR=5.3						
BVAR	**Borovoye Array**	**23.33**	**44**	P	**P**	**07 38 00.9**	**+0.1**
	0.2nm,0.4s,baz=239,slow=12,SNR=3.3						
AAK	**Ala-Archa**	**23.72**	**71**	LR	LR	07 48 11.9	
	comp=Z,29nm,22.0s,baz=257,slow=39						
DAVOX	**Davos/Dischmat**	**25.80**	**299**	LR	LR	07 50 37.3	
	comp=Z,22nm,18.5s,baz=111,slow=42						
KURBB	**Kurchatov Arra**	**27.30**	**53**	P	**P**	**07 38 38.7**	**+1.5**
	0.7nm,0.6s,baz=263,slow=9.0,SNR=6.0						
HFS	**Hagfors**	**28.43**	**328**	LR	LR	07 51 53.7	
	comp=Z,29nm,18.0s,baz=80,slow=41						
MKAR	**Makanchi Array**	**29.32**	**61**	P	**P**	**07 38 56.7**	**+1.4**
	0.3nm,0.7s,baz=268,slow=7.2,SNR=3.1						
NOA	**NORSAR Array B**	**29.96**	**329**	LR	LR	07 50 26.8	
	comp=Z,13nm,19.3s,baz=210,slow=36						
ESDC	**Sonseca Array**	**36.46**	**287**	P	**P**	**07 39 56.1**	**-1.7**
	0.2nm,0.3s,baz=66,slow=8.8,SNR=2.5						

*DDA **24** 07:35:59.4, 38.°74N×43.°47E, h7km, Ml2.7*
*ISCJB **24** 07:36:00.7±1.1, 38.°74N±0.°04×43.°4E±0.°1, h15km, Error ellipse: s-maj=12.7km s-min=5.6km az=175.4*
*CSEM **24** 07:36:03.2±0.6, 38.°76N×43.°03E, h10km, ML2.9, Error ellipse: s-maj=17.3km s-min=11.9km az=76.0*
*ISK **24** 07:36:03.4, 38.°83N×43.°11E, h15km, ML2.9*

ISC 24 07:36:02.6±1.0, 38.°71N±0.°03×43.°15E±0.°04, h15km, n19, σ1$55/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**121**	*e*PG	**Pb**	**07 36 11.7**	**+3.3**
VANB	**Van**	**0.22**	**121**	*e*Pg	**Pb**	**07 36 11.7**	**+3.3**
GEVA	**Gevas**	**0.40**	**190**	*i* P	**Pg**	**07 36 09.9**	**-0.9**
GEVA	**Gevas**	**0.40**	**190**	P	**Pg**	**07 36 09.9**	**-0.9**
TUTA	**Tutak**	**0.74**	**340**	*i* P	**Pg**	**07 36 15.3**	**-1.7**
TUTA				*i* S	**Sg**	**07 36 26.8**	**-0.1**
TUTA	**Tutak**	**0.74**	**340**	P	**Pg**	**07 36 15.3**	**-1.7**
TUTA				S	**Sg**	**07 36 26.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*PG	**Pg**	**07 36 19.1**	**-0.5**
AGRB				*e*SG	**Sg**	**07 36 29.3**	**-1.8**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*Pg	**Pg**	**07 36 19.1**	**-0.5**
AGRB				*e*Sg	**Sg**	**07 36 29.3**	**-1.8**
HAKT	**HAKKARI**	**1.23**	**159**	*i* P	**Pn**	**07 36 23.1**	**-2.4**
HAKT	**HAKKARI**	**1.23**	**159**	P	**Pn**	**07 36 23.1**	**-2.4**
VRTB	**Varto-Mus**	**1.39**	**289**	*e*PN	**Pn**	**07 36 27.4**	**-0.2**
VRTB	**Varto-Mus**	**1.39**	**289**	*e*Pn	**Pn**	**07 36 27.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**251**	*e*PN	**Pg**	**07 36 32.2**	**-0.7**
SVAN				*e*SN	**Sg**	**07 36 54.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.63**	**251**	*e*Pn	**Pg**	**07 36 33.2**	**-0.7**
SVAN				*e*Sn	**Sg**	**07 36 54.2**	**-0.8**
BTMN	**Batman**	**1.69**	**242**	*i* P	**Sg**	**07 36 56.7**	**-0.3**
BNGB	**Bingˆ¶l**	**1.95**	**279**	*e*PN	**Pn**	**07 36 35.7**	**+0.5**
BINT	**Bingol**	**2.08**	**275**	*e*Pn	**Pn**	**07 36 35.7**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*PN	**Pn**	**07 36 38.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*Pn	**Pn**	**07 36 38.3**	**+0.2**

*ISK **24** 07:37:06.6, 38.°75N×43.°34E, h5km, MD2.8*
*CSEM **24** 07:37:07.9±0.3, 38.°75N×43.°26E, h2km, MD2.8, Error ellipse: s-maj=9.3km s-min=4.7km az=76.0*
*DDA **24** 07:37:07.0, 38.°75N×43.°20E, h1km, Ml3.6*

ISC 24 07:37:07.8±1.1, 38.°76N±0.°02×43.°24E±0.°03, h4km±10km, n38, σ0$87/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**143**	PG	**Pg**	**07 37 11.9**	**+0.1**
VANB	**Van**	**0.20**	**143**	*i* Pg	**Pg**	**07 37 11.9**	**+0.1**
GEVA	**Gevas**	**0.46**	**198**	*i* P	**Pg**	**07 37 15.3**	**-1.5**
GEVA				*i* S	**Sg**	**07 37 22.9**	**+0.1**
GEVA	**Gevas**	**0.46**	**198**	P	**Pg**	**07 37 15.3**	**-1.5**
GEVA				S	**Sg**	**07 37 22.9**	**+0.1**
TUTA	**Tutak**	**0.72**	**333**	*i* P	**Pg**	**07 37 20.7**	**-1.1**
TUTA				*i* S	**Sg**	**07 37 31.7**	**+0.5**
TUTA	**Tutak**	**0.72**	**333**	P	**Pg**	**07 37 20.7**	**-1.1**
TUTA				S	**Sg**	**07 37 31.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.84**	**347**	*e*PG	**Pg**	**07 37 23.9**	**-0.1**
AGRB				*e*SG	**Sb**	**07 37 35.6**	**-1.4**
AGRB	**Hanur-Agry**	**0.84**	**347**	*e*Pg	**Pg**	**07 37 23.9**	**-0.1**
AGRB				*e*Sg	**Sb**	**07 37 35.6**	**-1.4**
EKAR	**Karacoban**	**1.04**	**299**	*i* P	**Pn**	**07 37 29.2**	**-0.3**
EKAR				*i* S	**Sn**	**07 37 46.8**	**+2.2**
EKAR	**Karacoban**	**1.04**	**299**	P	**Pn**	**07 37 29.2**	**-0.3**
EATA	**Eleskirt**	**1.25**	**333**	*i* P	**Pg**	**07 37 31.2**	**-0.6**
EATA				*i* S	**Sn**	**07 37 49.5**	**-0.4**
EATA	**Eleskirt**	**1.25**	**333**	P	**Pg**	**07 37 31.2**	**-0.6**
EATA				S	**Sn**	**07 37 49.5**	**-0.4**
HAKT	**HAKKARI**	**1.25**	**163**	*i* P	**Pg**	**07 37 30.4**	**-1.4**
HAKT				*i* S	**Sn**	**07 37 50.4**	**+0.6**
HAKT	**HAKKARI**	**1.25**	**163**	P	**Pg**	**07 37 30.4**	**-1.4**
HAKT				S	**Sn**	**07 37 50.4**	**+0.6**
SIRN	**S¨–rnak**	**1.41**	**208**	*i* P	**Pg**	**07 37 34.2**	**-0.8**
SIRN				*i* S	**Sn**	**07 37 54.0**	**+0.4**
SIRN	**S¨–rnak**	**1.41**	**208**	P	**Pg**	**07 37 34.2**	**-0.8**
SIRN				S	**Sn**	**07 37 54.0**	**+0.4**
CUKT	**Cukurca**	**1.53**	**169**	*e*PN	**Pn**	**07 37 35.7**	**-0.5**
CUKT	**Cukurca**	**1.53**	**169**	*i* P	**Pg**	**07 37 38.5**	**+1.2**
CUKT	**Cukurca**	**1.53**	**169**	*e*Pn	**Pn**	**07 37 35.7**	**-0.5**
CUKT	**Cukurca**	**1.53**	**169**	P	**Pg**	**07 37 38.5**	**+1.2**
BNGL	**BINGOL**	**1.64**	**278**	*i* P	**Pn**	**07 37 36.7**	**-1.1**
HOMI	**Horasan**	**1.65**	**322**	*i* P	**Pn**	**07 37 37.9**	**-0.1**
HOMI				*i* S	**Sg**	**07 38 03.4**	**+2.5**
DIGO	**Kars**	**1.66**	**4**	*i* P	**Pg**	**07 37 38.9**	**-0.8**
DIGO				*i* S	**Sg**	**07 38 02.5**	**+1.3**
DIGO	**Kars**	**1.66**	**4**	P	**Pg**	**07 37 38.9**	**-0.8**
DIGO				S	**Sg**	**07 38 02.5**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	*e*PN	**Pn**	**07 37 38.5**	**0.0**
SVAN				*e*SN	**Sb**	**07 38 01.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	*i* P	**Pg**	**07 37 40.8**	**+0.2**
SVAN				*i* S	**Sb**	**07 38 02.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	*e*Pn	**Pn**	**07 37 38.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	P	**Pg**	**07 37 40.8**	**+0.2**
SVAN				*e*Sn	**Sb**	**07 38 01.8**	**0.0**
SVAN				S	**Sb**	**07 38 02.0**	**+0.2**
BTMN	**Batman**	**1.77**	**241**	*i* P	**Pb**	**07 37 40.6**	**-0.4**
BTMN				*i* S	**Sb**	**07 38 03.5**	**-0.1**
BTMN	**Batman**	**1.77**	**241**	P	**Pb**	**07 37 40.6**	**-0.4**
BTMN				S	**Sb**	**07 38 03.5**	**-0.1**
ERZM	**Erzurum**	**1.85**	**309**	*i* P	**Pg**	**07 37 42.7**	**-0.6**
ERZM	**Erzurum**	**1.85**	**309**	P	**Pg**	**07 37 42.7**	**-0.6**
BNGB	**Bingˆ¶l**	**2.01**	**278**	*e*PN	**Pn**	**07 37 43.4**	**+0.6**
BINT	**Bingol**	**2.15**	**274**	*e*Pn	**Pn**	**07 37 43.4**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.20**	**289**	*e*PN	**Pn**	**07 37 45.9**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.20**	**289**	*e*Pn	**Pn**	**07 37 45.9**	**+0.5**
MARD	**Mardin**	**2.42**	**234**	*i* P	Pg	07 38 02.5	+8.4
MARD				*i* S	**Sn**	**07 38 18.9**	**+0.4**
DAGI	**Agillar**	**2.53**	**337**	*i* P	**Pb**	**07 37 54.2**	**+0.2**

*DDA **24** 07:43:16.3, 38.°69N×43.°19E, h7km, Ml3.3*
*ISK **24** 07:43:16.0, 38.°69N×43.°15E, h2km, ML3.0*
*CSEM **24** 07:43:17.3±0.3, 38.°70N×43.°11E, h2km, ML3.0, Error ellipse: s-maj=7.1km s-min=4.9km az=80.0*

ISC 24 07:43:17.5±1.0, 38.°71N±0.°03×43.°13E±0.°03, h10km±10km, n27, σ0$88/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**119**	PG	**Pg**	**07 43 22.3**	**0.0**
VANB				*e*SG	**Sg**	**07 43 27.0**	**+1.4**
VANB	**Van**	**0.23**	**119**

PDG	**Podgorica**	**1.70**	**125**	S	**Sg**	**07 54 44.3**	**+1.2**
PDG	**Podgorica**	**1.70**	**125**	*e*Pn	**Pn**	**07 54 18.5**	**0.0**
PDG	**Podgorica**	**1.70**	**125**	*e*Pg	**Pb**	**07 54 19.6**	**-0.4**
PDG				*e*Sn	**Sb**	**07 54 41.6**	**0.0**
PDG				*e*Sg	**Sg**	**07 54 44.2**	**+1.2**
TTG	**Podgorica**	**1.70**	**125**	⇓*i*Pn	**Pb**	**07 54 19.6**	**-0.4**
TTG				*e*Sn	**Sg**	**07 54 44.6**	**+1.6**
DRME	**Dracevica, Mon**	**1.81**	**132**	*e*Pn	**Pb**	**07 54 21.4**	**-0.6**
DRME				*e*Sn	**Sg**	**07 54 47.2**	**+0.5**
DRME	**Dracevica, Mon**	**1.81**	**132**	*e*Pn	**Pn**	**07 54 20.2**	**+0.1**
DRME				*e*Sn	**Sb**	**07 54 44.4**	**-0.5**
SJES	**Sjenica**	**1.90**	**94**	*e*Pn	**Pb**	**07 54 24.1**	**+0.6**
SJES				*e*Sg	**Sg**	**07 54 50.9**	**+1.4**
TEKS	**Tekeris**	**1.92**	**53**	*e*Pn	**Pn**	**07 54 21.7**	**+0.1**
TEKS				*e*Sg	**Sg**	**07 54 51.5**	**+1.4**
TEKS	**Tekeris**	**1.92**	**53**	*e*Pn	**Pn**	**07 54 21.5**	**-0.1**
TEKS				*e*Sn	**Sn**	**07 54 46.4**	**+0.4**
TEKS				*e*Sg	**Sg**	**07 54 51.5**	**+1.4**
BEY	**Berane**	**1.92**	**106**	⇑*i*Pn	**Pb**	**07 54 23.1**	**-0.8**
IVA	**Berane**	**1.92**	**106**	⇑*i*Pn	**Pb**	**07 54 23.1**	**-0.8**
IVA				*e*Sn	**Sg**	**07 54 50.0**	**-0.2**
ULC	**Ulcinj**	**2.00**	**136**	⇓*i*Pn	**Pb**	**07 54 24.1**	**-1.2**
ULC				*e*Sn	**Sg**	**07 54 52.1**	**-0.8**
ULC	**Ulcinj**	**2.00**	**136**	⇓*i*Pn	**Pb**	**07 54 24.1**	**-1.2**
DIVS	**Divibare**	**2.01**	**69**	*e*Pn	**Pn**	**07 54 23.2**	**+0.3**
DIVS				*e*Sg	**Sg**	**07 54 54.6**	**+1.5**
DIVS	**Divibare**	**2.01**	**69**	⇑*i*Pn	**Pn**	**07 54 22.8**	**-0.1**
DIVS				*e*Sn	**Sn**	**07 54 49.7**	**+1.3**
DIVS				*e*Sg	**Sg**	**07 54 54.6**	**+1.5**
MS1	**Monte Sant'Ang**	**2.02**	**212**	*e*Pn	**Pn**	**07 54 23.5**	**+0.5**
IVAS	**Ivanjica**	**2.02**	**85**	*e*Pn	**Pn**	**07 54 24.2**	**+1.1**
IVAS				*e*Sg	**Sg**	**07 54 52.8**	**-0.7**
IVAS	**Ivanjica**	**2.02**	**85**	*e*Pn	**Pn**	**07 54 24.2**	**+1.1**
IVAS				*e*Sg	**Sg**	**07 54 52.8**	**-0.7**
PVY	**Plav**	**2.07**	**113**	⇓*i*Pn	**Pb**	**07 54 26.1**	**-0.3**
PVY				*e*Sn	**Sb**	**07 54 53.6**	**+1.3**
NVLJ	**Novalja**	**2.14**	**303**	*e*Pn	**Pb**	**07 54 26.3**	**-1.2**
NVLJ				Sn	**Sg**	**07 54 56.0**	**-1.1**
NVLJ	**Novalja**	**2.14**	**303**	*e*Pn	**Pb**	**07 54 26.3**	**-1.2**
TRUS	**Trudelj**	**2.33**	**69**	*e*Pn	**Pn**	**07 54 27.4**	**+0.1**
TRUS	**Trudelj**	**2.33**	**69**	*e*Pn	**Pn**	**07 54 27.4**	**+0.1**
BAI	**Bari**	**2.34**	**189**	*e*Pn	**Pn**	**07 54 26.5**	**-0.9**
FGSL	**Fruska Gora**	**2.46**	**44**	*e*Pn	**Pn**	**07 54 28.7**	**-0.4**
FRGS	**Fruska Gora**	**2.46**	**44**	*e*Pn	**Pn**	**07 54 28.7**	**-0.4**
GRUS	**Gruza**	**2.47**	**78**	*e*Pn	**Pn**	**07 54 29.9**	**+0.8**
GRUS				*e*Sg	**Sg**	**07 55 08.1**	**+0.4**
GRUS	**Gruza**	**2.47**	**78**	*e*Pn	**Pn**	**07 54 29.9**	**+0.8**
GRUS				*e*Sg	**Sg**	**07 55 08.1**	**+0.4**
CDT	**Castel del Mon**	**2.48**	**200**	*e*Pn	**Pn**	**07 54 28.6**	**-0.7**
OZLJ	**Ozalj**	**2.58**	**329**	*e*Pn	**Pn**	**07 54 32.6**	**+1.9**
OZLJ				Sn	**Sb**	**07 55 05.1**	**-1.9**
OZLJ	**Ozalj**	**2.58**	**329**	*e*Pn	**Pn**	**07 54 32.6**	**+1.9**
OZLJ				Sn	**Sb**	**07 55 05.1**	**-1.9**
FASA	**Fasano**	**2.60**	**180**	*e*Pn	**Pn**	**07 54 30.2**	**-0.8**
SG1	**Sgolgore (BA)**	**2.63**	**192**	*e*Pn	**Pn**	**07 54 30.5**	**-0.9**
SELS	**Selova**	**2.74**	**93**	*e*Pn	**Pn**	**07 54 33.5**	**+0.6**
SELS	**Selova**	**2.74**	**93**	*e*Pn	**Pn**	**07 54 33.5**	**+0.6**
CGL1	**Ceglie Messapi**	**2.77**	**178**	*e*Pn	**Pn**	**07 54 32.5**	**-0.7**
CRES	**Cresnjev**	**2.77**	**331**	*e*Pn	**Pn**	**07 54 32.7**	**-0.5**
CRES				*e*Sn	**Sn**	**07 55 06.1**	**-0.8**
TIR	**Tirane**	**2.77**	**138**	⇑*i*P	**Pb**	**07 54 36.0**	**-2.4**
TIR	**Tirane**	**2.77**	**138**	⇑*i*P	**Pb**	**07 54 36.0**	**-2.4**
MASS	**Massafra**	**2.79**	**184**	*e*Pn	**Pn**	**07 54 32.8**	**-0.8**
BEHE	**Becsehely**	**3.08**	**352**	*e*Pn	**Pn**	**07 54 38.0**	**+0.5**
BEHE				*e*Sn	**Sn**	**07 55 14.4**	**-0.1**
BEHE	**Becsehely**	**3.08**	**352**	⇓*ex*	**Pn**	**07 54 38.7**	**+1.2**
BEHE				*ex*	**Sn**	**07 55 14.4**	**-0.1**
CEY	**Cerknica**	**3.13**	**319**	*e*Pn	**Pn**	**07 54 38.2**	**-0.1**
CEY				*e*Sn	**Sn**	**07 55 15.4**	**-0.5**
BOVS	**Bovan**	**3.15**	**85**	*e*Pn	**Pn**	**07 54 40.6**	**+2.1**
KUBS	**Kucevo**	**3.26**	**71**	*e*Pn	**Pn**	**07 54 40.5**	**+0.5**
BARS	**Barje**	**3.31**	**99**	*e*Pn	**Pn**	**07 54 42.5**	**+1.9**
BARS	**Barje**	**3.31**	**99**	*e*Pn	**Pn**	**07 54 42.5**	**+1.9**
KRUS	**Krusevo**	**3.53**	**124**	*e*Pn	**Pn**	**07 54 45.8**	**+2.1**
KRUS	**Krusevo**	**3.53**	**124**	*e*Pn	**Pn**	**07 54 45.8**	**+2.1**
ZAGS	**Zajecar**	**3.55**	**82**	*e*Pn	**Pn**	**07 54 44.1**	**+0.2**
ZAGS	**Zajecar**	**3.55**	**82**	*e*Pn	**Pn**	**07 54 44.1**	**+0.2**
SOKA	**Soboth**	**3.66**	**334**	*i*Pn	**Pn**	**07 54 47.0**	**+1.5**
	68nm,0.4s,SNR=27						
SOKA				*e*Sn	**Sn**	**07 55 28.9**	**0.0**
	13nm,0.4s						
SOKA	**Soboth**	**3.66**	**334**	Pn	**Pn**	**07 54 47.0**	**+1.5**
	68nm,0.4s,SNR=27						
SOKA				Sn	**Sn**	**07 55 28.9**	**0.0**
	13nm,0.4s						
OBKA	**Obir**	**3.68**	**328**	*e*Pn	**Pn**	**07 54 48.4**	**+2.5**
	8.0nm,0.2s,SNR=5.7						
OBKA	**Obir**	**3.68**	**328**	Pn	**Pn**	**07 54 48.4**	**+2.5**
	8.0nm,0.2s,SNR=5.7						
BZS	**Buzias**	**3.74**	**53**	⇓*i*P	**Pn**	**07 54 47.5**	**+0.9**
BZS	**Buzias**	**3.74**	**53**	S	**Sn**	**07 55 29.6**	**-1.3**
BZS	**Buzias**	**3.74**	**53**	S	**Sn**	**07 55 29.6**	**-1.3**
ZAPS	**Zavoj**	**3.84**	**90**	*e*Pn	**Pn**	**07 54 50.6**	**+2.6**
CSKK	**Cs̈‡kako**	**3.99**	**9**	*e*Pn	**Pn**	**07 54 51.2**	**+1.2**
CSKK	**Cs̈‡kako**	**3.99**	**9**	*ex*	**Pn**	**07 54 51.2**	**+1.2**
ARSA	**Arzberg**	**4.04**	**342**	*i*Pn	**Pn**	**07 54 51.8**	**+1.0**
	18nm,0.3s						
ARSA				*e*Sn	**Sn**	**07 55 38.3**	**-0.1**
	8.7nm,0.5s						
ARSA	**Arzberg**	**4.04**	**342**	Pn	**Pn**	**07 54 51.8**	**+1.0**
	18nm,0.3s						
ARSA				Sn	**Sn**	**07 55 38.3**	**-0.1**
	8.7nm,0.5s						
MYKA	**Terra Mystica**	**4.16**	**322**	*e*Pn	**Pn**	**07 54 53.7**	**+1.3**
	3.6nm,0.2s,SNR=4.2						
MYKA	**Terra Mystica**	**4.16**	**322**	Pn	**Pn**	**07 54 53.7**	**+1.3**
	3.6nm,0.2s,SNR=4.2						
SIRR	**Siria**	**4.17**	**45**	⇓*i*P	**Pn**	**07 54 51.8**	**-0.7**
GZR	**Gura Zlata**	**4.34**	**61**	⇓*i*P	**Pn**	**07 54 55.1**	**+0.2**
GZR	**Gura Zlata**	**4.34**	**61**	⇓*i*P	**Pn**	**07 54 55.1**	**+0.2**
VTS	**Vitosha**	**4.36**	**99**	⇓*i*P	**Pn**	**07 54 55.1**	**-0.1**
VTS	**Vitosha**	**4.36**	**99**	⇓*i*P	**Pn**	**07 54 55.1**	**-0.1**
CONA	**Conrad Observa**	**4.63**	**347**	*i*Pn	**Pn**	**07 55 00.1**	**+1.2**
	4.6nm,0.2s						
CONA				*e*Sn	**Sn**	**07 55 52.6**	**-0.3**
	15nm,0.4s						
CONA	**Conrad Observa**	**4.63**	**347**	Pn	**Pn**	**07 55 00.1**	**+1.2**
	4.6nm,0.2s						
CONA				Sn	**Sn**	**07 55 52.6**	**-0.3**
	15nm,0.4s						
KBA	**Koelnbreinsper**	**4.63**	**323**	*i*Pn	**Pn**	**07 55 01.2**	**+2.1**
	4.8nm,0.3s,SNR=14						
KBA				*e*Sn	**Sn**	**07 55 55.5**	**+2.3**
	4.3nm,0.3s						
KBA	**Koelnbreinsper**	**4.63**	**323**	Pn	**Pn**	**07 55 01.2**	**+2.1**
	4.8nm,0.3s,SNR=14						
KBA				Sn	**Sn**	**07 55 55.5**	**+2.3**
	4.3nm,0.3s						
ABTA	**Abfaltersbach**	**4.79**	**316**	*e*Pn	**Pn**	**07 55 02.2**	**+1.1**
	7.0nm,0.2s						
ABTA	**Abfaltersbach**	**4.79**	**316**	Pn	**Pn**	**07 55 02.2**	**+1.1**
	7.0nm,0.2s						
PSZ	**Piszkesteto**	**4.83**	**21**	⇑*i*P	**Pn**	**07 55 01.4**	**-0.2**
PSZ	**Piszkesteto**	**4.83**	**21**	⇑*i*P	**Pn**	**07 55 01.4**	**-0.2**
PSZ	**Piszkesteto**	**4.83**	**21**	⇓*ex*	**Pn**	**07 55 01.4**	**-0.2**
PSZ				*ex*	**Sn**	**07 55 52.7**	**-5.2**
MOA	**Molln**	**4.94**	**335**	*i*Pn	**Pn**	**07 55 05.5**	**+2.4**
	27nm,0.3s,SNR=34						
MOA				*e*Sn	**Sn**	**07 56 01.8**	**+1.4**
	10nm,0.3s						
MOA	**Molln**	**4.94**	**335**	Pn	**Pn**	**07 55 05.5**	**+2.4**
	27nm,0.3s,SNR=34						
MOA				Sn	**Sn**	**07 56 01.8**	**+1.4**
	10nm,0.3s						
DRGR		**5.06**	**46**	⇑*i*P	**Pn**	**07 55 05.1**	**+0.3**
DRGR		**5.06**	**46**	⇑*i*P	**Pn**	**07 55 05.1**	**+0.3**
VYHS	**Vyhne**	**5.17**	**11**	*e*Pn	**Pn**	**07 55 07.9**	**+1.6**
VYHS				*e*Sn	**Sn**	**07 56 03.7**	**-2.5**
VYHS	**Vyhne**	**5.17**	**11**	*e*PN	**Pn**	**07 55 07.9**	**+1.6**
VYHS				*e*SN	**Sn**	**07 56 03.7**	**-2.5**
KECS	**Kecovo**	**5.50**	**22**	*e*Pn	**Pn**	**07 55 12.3**	**+1.5**
KECS	**Kecovo**	**5.50**	**22**	*e*PN	**Pn**	**07 55 12.3**	**+1.5**
KECS				*e*SN	**Sn**	**07 56 12.1**	**-2.3**
WTTA	**Wattenberg**	**5.58**	**316**	*e*Pn	**Pn**	**07 55 14.2**	**+2.1**
	10nm,0.2s,SNR=8.0						
WTTA				*e*Sn	**Sn**	**07 56 20.0**	**+3.5**
	4.0nm,0.2s						
VOIR		**5.85**	**67**	⇑*i*P	**Pn**	**07 55 17.0**	**+1.3**
VOIR		**5.85**	**67**	⇑*i*P	**Pn**	**07 55 17.0**	**+1.3**
LANS	**Liptovska Anna**	**5.91**	**13**	*e*Sn	**Sn**	**07 56 24.8**	**+0.4**
LANS	**Liptovska Anna**	**5.91**	**13**	*e*SN	**Sn**	**07 56 24.8**	**+0.4**
FETA	**Feichten**	**5.92**	**310**	*e*Pn	**Pn**	**07 55 16.1**	**-0.6**
	3.7nm,0.6s						
FETA	**Feichten**	**5.92**	**310**	Pn	**Pn**	**07 55 16.1**	**-0.6**
	3.7nm,0.6s						
KHC	**Kasperske Hory**	**6.29**	**337**	*e*PN	**Pn**	**07 55 23.9**	**+2.3**
KHC				*ex*	x	07 55 30.1	
KHC				*e*SN	**Sn**	**07 56 33.0**	**-0.7**
DPC	**Dobruska-Polom**	**6.97**	**354**	*e*SN	**Sn**	**07 56 50.0**	**-0.5**
DPC	**Dobruska-Polom**	**6.97**	**354**	Sn	**Sn**	**07 56 50.0**	**-0.5**

*ISK **24** 07:55:41.5, 38°.51N×43°.56E, h28km, ML2.9*
*DDA **24** 07:55:42.6, 38°.62N×43°.26E, h5km, Ml3.2*
*CSEM **24** 07:55:43.6±0.5, 38°.66N×43°.30E, h10km, ML2.9, Error ellipse: s-maj=12.5km s-min=8.2km az=77.0*
ISC 24 07:55:44.6±0.8, 38°.64N±0°.02×43°.20E±0°.03, h9km±7km, n32, σ1§46/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**107**	*e*PG	**Pg**	**07 55 47.4**	**-0.7**
VANB				*e*SG	**Sb**	**07 55 51.0**	**+0.5**
VANB	**Van**	**0.16**	**107**	*e*Pg	**Pg**	**07 55 47.4**	**-0.7**
VANB				*e*Sg	**Sb**	**07 55 51.0**	**+0.5**
GEVA	**Gevas**	**0.35**	**198**	*i*P	**Pg**	**07 55 50.1**	**-1.4**
GEVA				*i*S	**Sg**	**07 55 56.4**	**+0.3**
GEVA	**Gevas**	**0.35**	**198**	P	**Pg**	**07 55 50.1**	**-1.4**
GEVA				S	**Sg**	**07 55 56.4**	**+0.3**
TUTA	**Tutak**	**0.82**	**339**	*i*P	**Pg**	**07 55 59.3**	**-1.1**
TUTA	**Tutak**	**0.82**	**339**	P	**Pg**	**07 55 59.3**	**-1.1**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*PN	**Pb**	**07 56 02.0**	**-1.3**
AGRB				*e*SN	**Sn**	**07 56 17.4**	**-0.6**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*Pn	**Pb**	**07 56 02.0**	**-1.3**
AGRB				*e*Sn	**Sn**	**07 56 17.4**	**-0.6**
HAKT	**HAKKARI**	**1.15**	**159**	*i*P	**Pb**	**07 56 04.5**	**-2.3**
HAKT				*i*S	**Sn**	**07 56 24.4**	**+1.2**
HAKT	**HAKKARI**	**1.15**	**159**	P	**Pb**	**07 56 04.5**	**-2.3**
HAKT				S	**Sn**	**07 56 24.4**	**+1.2**
SIRN	**S¨–rnak**	**1.30**	**209**	*i*P	**Pg**	**07 56 09.3**	**-0.3**
SIRN				*i*S	**Sg**	**07 56 30.2**	**+3.8**
SIRN	**S¨–rnak**	**1.30**	**209**	P	**Pg**	**07 56 09.3**	**-0.3**
SIRN				S	**Sg**	**07 56 30.2**	**+3.8**
EATA	**Eleskirt**	**1.34**	**336**	*i*P	**Pn**	**07 56 08.8**	**-1.0**
EATA				*i*S	**Sg**	**07 56 29.8**	**+2.1**
EATA	**Eleskirt**	**1.34**	**336**	P	**Pn**	**07 56 08.8**	**-1.0**
EATA				S	**Sg**	**07 56 29.8**	**+2.1**
CUKT	**Cukurca**	**1.43**	**167**	*i*P	**Pg**	**07 56 14.2**	**+2.2**
CUKT	**Cukurca**	**1.43**	**167**	P	**Pg**	**07 56 14.2**	**+2.2**
BNGL	**BINGOL**	**1.63**	**282**	*i*P	**Pb**	**07 56 14.7**	**-0.2**
BNGL				*i*S	**Sg**	**07 56 39.9**	**+2.9**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	*e*PN	**Pn**	**07 56 12.7**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	*i*P	**Pb**	**07 56 14.4**	**-0.7**
SVAN				*i*S	**Sg**	**07 56 38.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	*e*Pn	**Pn**	**07 56 12.7**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.65**	**253**	P	**Pb**	**07 56 14.4**	**-0.7**
SVAN				S	**Sg**	**07 56 38.2**	**+0.7**
BTMN	**Batman**	**1.69**	**244**	*i*P	**Pb**	**07 56 14.7**	**-1.2**
BTMN				*i*S	**Sg**	**07 56 39.8**	**+0.8**
BTMN	**Batman**	**1.69**	**244**	P	**Pb**	**07 56 14.7**	**-1.2**
BTMN				S	**Sg**	**07 56 39.8**	**+0.8**
HOMI	**Horasan**	**1.72**	**325**	*i*P	**Pb**	**07 56 16.7**	**+0.1**
ERZM	**Erzurum**	**1.90**	**312**	*i*P	**Pb**	**07 56 19.5**	**-0.1**
ERZM	**Erzurum**	**1.90**	**312**	P	**Pb**	**07 56 19.5**	**-0.1**
BNGB	**Bing¨ll**	**2.00**	**281**	*e*PN	**Pn**	**07 56 18.6**	**0.0**
BINT	**Bingol**	**2.13**	**277**	*e*Pn	**Pn**	**07 56 18.7**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	*e*PN	**Pn**	**07 56 21.9**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.21**	**292**	*e*Pn	**Pn**	**07 56 21.9**	**+0.3**
MARD	**Mardin**	**2.33**	**236**	*i*P	**Pb**	**07 56 25.5**	**-1.2**
MARD				*i*S	**Sg**	**07 56 58.6**	**-0.8**
DAGI	**Agillar**	**2.63**	**338**	*i*P	**Pb**	**07 56 32.6**	**+0.7**

*CSEM **24** 08:05:38.6, 38°.82N×43°.10E, h22km, MD3.1*
ISK 24 08:05:38.6, 38°.82N×43°.10E, h22km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.76**	**353**	*e*PG	Pb	08 05 53.7	+0.4
AGRB				*e*SG	Sn	08 06 05.5	+0.3
AGRB	**Hanur-Agry**	**0.76**	**353**	*e*Pg	Pb	08 05 53.7	+0.4
AGRB				*e*Sg	Sn	08 06 05.5	+0.3
VRTB	**Varto-Mus**	**1.33**	**285**	*e*PN	Pn	08 06 01.9	-0.1
VRTB	**Varto-Mus**	**1.33**	**285**	*e*Pn	Pn	08 06 01.9	-0.1
CUKT	**Cukurca**	**1.62**	**166**	*e*PN	Pn	08 06 06.6	+0.6
CUKT	**Cukurca**	**1.62**	**166**	*e*Pn	Pn	08 06 06.6	+0.7
SVAN	**Silvan-Diyarba**	**1.64**	**247**	*e*PN	Pn	08 06 07.1	+1.0
SVAN				*e*SN	Sb	08 06 27.6	-0.7
SVAN	**Silvan-Diyarba**	**1.64**	**247**	*e*Pn	Pn	08 06 07.1	+1.0
SVAN				*e*Sn	Sb	08 06 27.7	-0.6
YEDI	**Yedisu-Bingol**	**2.08**	**288**	*e*PN	Pn	08 06 13.2	+0.9
YEDI	**Yedisu-Bingol**	**2.08**	**288**	*e*Pn	Pn	08 06 13.3	+0.9
MAZI	**Mazidag**	**2.50**	**238**	*e*PN	Pn	08 06 19.4	+1.4
MAZI	**Mazidag**	**2.50**	**238**	*e*Pn	Pn	08 06 19.4	+1.4
PTK	**Pertek**	**2.90**	**273**	*e*PN	Pn	08 06 24.6	+1.0
PTK	**Pertek**	**2.90**	**273**	*e*Pn	Pn	08 06 24.6	+1.0
SVRC	**Sivrice-ELAZID**	**3.01**	**263**	*e*PN	Pn	08 06 26.1	+1.0
SVRC	**Sivrice-ELAZID**	**3.01**	**263**	*e*Pn	Pn	08 06 26.1	+1.0

ISK 24 08:06:31.9, 38°.85N×43°.53E, h5km, MD2.5, ML3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**204**	*e*PG	Pb	08 06 40.3	+0.8
VANB				*e*SG	Sb	08 06 45.7	+1.2
AGRB	**Hanur-Agry**	**0.83**	**330**	*e*PG	Pb	08 06 48.8	-0.3
AGRB				*e*SG	Sb	08 07 01.6	+1.0
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*e*PN	Pb	08 07 07.6	-0.5

*AZER **24** 08:12:07.6±2.0, 38°.37N×43°.25E, h8km, Error ellipse: s-maj=21.4km s-min=13.5km az=66.0*
*ISN **24** 08:12:09.3±1.0, 38°.90N×43°.43E, h0km±48km, ML4.5*
*MOS **24** 08:12:09.4±1.4, 38°.49N×43°.64E, h6km, mb4.5/33, Error ellipse: s-maj=6.5km s-min=4.3km az=107.2*
*IDC **24** 08:12:10.1±0.6, 38°.68N×43°.60E, h0km, mb4.2/26, mb1 4.2/36, mb1mx4.2/48, mbtmp4.1/36, ML3.7/9, MS3.4/15, Ms1 3.4/15, ms1mx3.1/44, Error ellipse: s-maj=13.1km s-min=8.2km az=164.0*
*ISK **24** 08:12:11.6, 38°.83N×43°.49E, h5km, ML4.3*
*NEIC **24** 08:12:12.3±0.0, 38°.85N×43°.43E, h4km, mb4.5/27, ML4.5(ISK), After ISK.*
*CSEM **24** 08:12:12.6±0.1, 38°.65N×43°.61E, h10km, mb4.4/34, Error ellipse: s-maj=4.9km s-min=3.3km az=171.0*
*TEH **24** 08:12:15.1, 38°.97N×43°.68E, h18km, ML4.2*
ISC 24 08:12:14.3±0.6, 38°.75N±0°.02×43°.51E±0°.03, h24km±4km, n407, σ1§77/432, mb4.4/68, MS3.3/15, 34C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**210**	PG	**Pb**	**08 12 19.1**	**-0.7**
VANB				*e*SG	**Sb**	**08 12 25.0**	**+1.6**
VANB	**Van**	**0.18**	**210**	*i*Pg	**Pb**	**08 12 19.1**	**-0.7**
VANB				*e*Sg	**Sb**	**08 12 25.0**	**+1.6**
AGRB	**Hanur-Agry**	**0.91**	**334**	PG	**Pb**	**08 12 28.4**	**-3.2**
AGRB				*e*SG	**Sb**	**08 12 41.3**	**-2.2**
AGRB	**Hanur-Agry**	**0.91**	**334**	*i*Pg	**Pb**	**08 12 28.5**	**-3.2**
AGRB				*e*Sg	**Sb**	**08 12 41.3**	**-2.2**
AGRB	**Hanur-Agry**	**0.91**	**334**	Pg	**Pb**	**08 12 28.4**	**-3.2**
CUKT	**Cukurca**	**1.50**	**177**	*e*PN	**Pb**	**08 12 42.3**	**+0.6**
CUKT	**Cukurca**	**1.50**	**177**	*e*Pn	**Pb**	**08 12 42.3**	**+0.6**
NAX	**Nakhchivan**	**1.61**	**74**	⇓P	**Pn**	**08 12 40.8**	**-0.5**
	SNR=196						
NAX				⇓S	**Sb**	**08 13 05.9**	**+2.6**
NAX	**Nakhchivan**	**1.61**	**74**	P	**Pn**	**08 12 40.8**	**-0.5**
	SNR=196						
VRTB	**Varto-Mus**	**1.65**	**285**	*e*PN	**Pn**	**08 12 42.8**	**+0.8**
VRTB	**Varto-Mus**	**1.65**	**285**	*e*Pn	**Pn**	**08 12 42.8**	**+0.8**
GNI	**Garni**	**1.69**	**34**	Pn	**Pn**	**08 12 41.7**	**-0.9**
	baz=181,slow=6.5						
GNI				Sn	**Sb**	**08 13 05.8**	**0.0**
	155nm,0.3s,baz=299,slow=19,SNR=12						
GNI				LR	LR	08 13 25.7	
	comp=Z,1μm,20.6s,baz=166,slow=44						
IMRD	**Marand**	**1.72**	**91**	*e*Pn	**Pn**	**08 12 42.8**	**-0.1**
IMRD				*e*AMB	AMB	08 13 04.9	
	comp=Z,52μm,0.3s						
IMRD				*e*Sg	**Sn**	**08 13 05.5**	**+1.3**
IMRD	**Marand**	**1.72**	**91**	*e*Pn	**Pn**	**08 12 42.8**	**-0.1**
IMRD				*e*Sg	**Sn**	**08 13 05.5**	**+1.3**
ISHB	**Shabestar**	**1.72**	**105**	*e*Pn	**Pn**	**08 12 43.1**	**+0.1**
ISHB				*e*AMB	AMB	08 12 48.6	
	comp=Z,30μm,0.3s						
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*PN	**Pb**	**08 12 46.9**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*Pn	**Pb**	**08 12 46.9**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*PN	**Pn**	**08 12 47.0**	**0.0**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*Pn	**Pn**	**08 12 47.0**	**0.0**
ITBZ	**Tabriz**	**2.14**	**103**	*e*Pn	**Pn**	**08 12 48.7**	**0.0**
ITBZ				*e*AMB	AMB	08 12 55.4	
	comp=Z,6μm,0.2s						
ITBZ	**Tabriz**	**2.14**	**103**	*e*Pn	**Pn**	**08 12 48.7**	**0.0**
BNGB	**Bing¨ll**	**2.22**	**277**	*e*PN	**Pn**	**08 12 51.3**	**+1.6**
BINT	**Bingol**	**2.36**	**274**	*e*Pn	**Pn**	**08 12 51.3**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*PN	**Pn**	**08 12 53.5**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*Pn	**Pn**	**08 12 53.5**	**+1.2**
BGD	**Bogdanovka**	**2.51**	**2**	P	**Pn**	**08 12 56.8**	**+2.9**
BGD				S	**Sb**	**08 13 30.5**	**+1.1**
MARD	**Mardin**	**2.59**	**237**	*e*Pn	**Pn**	**08 12 55.9**	**+1.0**
MARD	**Mardin**	**2.59**	**237**	*e*Pn	**Pn**	**08 12 55.9**	**+1.0**
GDB	**GEDABAY**	**2.62**	**41**	⇑P	**Pn**	**08 12 56.1**	**+0.8**
	SNR=208						
GDB				⇑S	**Sb**	**08 13 34.8**	**+2.2**
GDB	**GEDABAY**	**2.62**	**41**	P	**Pn**	**08 12 56.1**	**+0.8**
	SNR=208						
KOPT	**Kop Dagi**	**2.65**	**299**	*e*Pn	**Pb**	**08 13 01.1**	**-0.2**
KOPT	**Kop Dagi**	**2.65**	**299**	*e*Pn	**Pb**	**08 13 01.1**	**-0.2**
AKH	**Akhalkalaki**	**2.66**	**360**	*e*PN	**Pn**	**08 12 56.2**	**+0.5**
AKH	**Akhalkalaki**	**2.66**	**360**	P	**Pb**	**08 12 59.9**	**-1.4**
AKH				S	**Sb**	**08 13 36.8**	**+3.3**
AKH	**Akhalkalaki**	**2.66**	**360**	P	**Pb**	**08 12 59.8**	**-1.4**
AKH				S	**Sb**	**08 13 36.8**	**+3.3**
AKH	**Akhalkalaki**	**2.66**	**360**	*e*Pn	**Pn**	**08 12 56.3**	**+0.5**
AKH	**Akhalkalaki**	**2.66**	**360**	P	**Pb**	**08 12 59.8**	**-1.4**
QZX	**Qazax, Azerbai**	**2.71**	**31**	⇑P	**Pn**	**08 12 57.8**	**+1.3**
	SNR=184						
QZX				⇓S	**Sb**	**08 13 35.4**	**+0.4**
QZX	**Qazax, Azerbai**	**2.71**	**31**	P	**Pn**	**08 12 57.8**	**+1.3**
	SNR=184						
ARTV	**Artvin**	**

NCK	Nalchik	4.74	1	eP	Pn	08 13 28.4	+4.1
SIZA	Siyzn	4.75	59	⇓P	Pn	08 13 24.6	0.0
	SNR=8.2						
SIZA	Siyzn	4.75	59	P	Pn	08 13 24.6	0.0
	SNR=8.2						
GROC	Groznyy	4.77	21	eP	Pb	08 13 31.7	-5.5
KBZ	Khabaz	4.99	355	Pn	Pn	08 13 31.6	+3.9
	comp=Z,0.1nm,0.3s,baz=162,slow=10,SNR=6.5						
IVIS	Veis	5.00	146	ePn	Pn	08 13 29.9	+1.9
IVIS				eAMB	AMB	08 14 00.9	
	comp=Z,1μm,0.3s						
IVIS	Veis	5.00	146	ePn	Pn	08 13 29.9	+1.9
IGHG	Ghaleghazi	5.05	150	ePn	Pn	08 13 32.0	+3.1
IGHG				eAMB	AMB	08 13 59.5	
	comp=Z,5μm,0.5s						
MAK	Makhachkala	5.18	35	eP	Pn	08 13 30.9	+0.5
MAK				eS	Sn	08 14 32.9	+3.5
MAK				pmax	pmax		
	comp=Z,156nm,0.7s						
MAK				MLR	MLR		
	comp=Z,2μm,12.0s						
MAK	Makhachkala	5.18	35	eP	Pn	08 13 30.9	+0.5
	comp=Z,156nm,0.7s						
MAK				eS	Sn	08 14 32.9	+3.5
	comp=Z,2μm,12.0s						
KIV	Kislovodsk	5.24	354	eP	Pn	08 13 34.9	+3.7
KIV				pmax	pmax		
	comp=Z,30nm,1.1s						
KIV	Kislovodsk	5.24	354	ePn	Pn	08 13 33.2	+2.0
KIV	Kislovodsk	5.24	354	eP	Pn	08 13 34.9	+3.7
	comp=Z,30nm,1.1s						
KIV	Kislovodsk	5.24	354	ePn	Pn	08 13 33.2	+2.0
KVAR	Kislovodsk Arr	5.24	354	Pn	Pn	08 13 36.2	+5.0
	baz=177,slow=4.6,SNR=5.7						
SOC	Sochi	5.61	331	eP	Pn	08 13 39.6	+3.4
SOC				pmax	pmax		
	comp=Z,21nm,0.5s						
SOC				MLR	MLR		
	comp=Z,236nm,9.0s						
SOC	Sochi	5.61	331	eP	Pn	08 13 39.6	+3.4
	comp=Z,236nm,9.0s						
RTB	Rutbah	6.27	205	ePn	Pn	08 13 46.0	+0.6
	SNR=3.0						
RTB				i Sn	Sn	08 14 54.0	-2.4
	SNR=3.0						
GOF	Gofitskoye	6.31	357⇑	eP	Pb	08 14 01.6	-1.8
GOF				eS	Sn	08 14 58.9	+1.7
GOF				pmax	pmax		
	comp=Z,27nm,0.6s						
GOF				smax	smax		
	comp=E,170nm,1.5s						
BR101	Keskin Array S	7.72	280	ePn	Pn	08 14 08.0	+2.6
BR101	Keskin Array S	7.72	280	ePn	Pn	08 14 08.0	+2.6
BR131	Keskin Array S	7.72	280	ePn	Pn	08 14 06.3	+0.9
BR131	Keskin Array S	7.72	280	ePn	Pn	08 14 06.3	+0.9
BRTR	Keskin Array B	7.72	280	Pn	Pn	08 14 08.0	+2.6
	comp=E,0.1nm,0.3s,baz=97,slow=12,SNR=11						
BRTR	Keskin Array B	7.72	280	P	Pn	08 14 08.0	+2.6
BRTR	Keskin Array B	7.72	280	P	Pn	08 14 08.0	+2.6
ANTO	Ankara	8.38	281	eP	Pn	08 14 15.8	+1.4
ANTO	Ankara	8.38	281	eP	Pn	08 14 15.8	+1.4
ANTO	Ankara	8.38	281	ePn	Pn	08 14 15.8	+1.4
BR231	Keskin MP Arra	8.39	281	ePn	Pn	08 14 17.4	+2.9
BR231	Keskin MP Arra	8.39	281	ePn	Pn	08 14 17.4	+2.9
ASF	Jabal al Asfar	8.49	221	Pn	Pn	08 14 16.8	+0.9
	comp=E,0.3nm,0.3s,baz=67,slow=18,SNR=2.4						
ASF				Lg	Lg	08 16 42.4	
	comp=E,0.2nm,0.3s,baz=342,slow=20,SNR=3.1						
MMAI	Mount Meron Ar	8.71	231	Pn	Pn	08 14 18.7	-0.3
	comp=E,1.1nm,0.3s,baz=58,slow=14,SNR=2.1						
MMAI				Lg	Lg	08 16 45.4	
	baz=43,slow=24,SNR=2.7						
MMAI				LR	LR	08 18 14.3	
	comp=E,352nm,19.6s,baz=30,slow=42						
EIL	Elat	11.49	221	Pn	Pn	08 14 57.0	+0.1
	comp=E,0.3nm,0.3s,baz=9.0,slow=19,SNR=1.9						
EIL				Lg	Lg	08 18 18.6	
	comp=E,0.4nm,0.3s,baz=90,slow=20,SNR=2.4						
EIL	Elat	11.49	221	ePn	Pn	08 14 57.0	+0.1
GEYT	Alibeck	11.51	90	Pn	Pn	08 14 55.1	-2.1
	comp=E,0.4nm,0.3s,baz=272,slow=17,SNR=2.6						
LPSR	Galich'ya Gora	14.21	349	eP	Pn	08 15 33.4	-0.5
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
VRI	Vrincioaia	14.29	305⇑	iP	P	08 15 44.5	+2.4
VRI	Vrincioaia	14.29	305	⇑P	P	08 15 44.5	+2.4
VRI	Vrincioaia	14.29	305	P	P	08 15 44.5	+2.4
PLOR	Plostina	14.34	305⇑	iP	P	08 15 46.1	+3.5
PLOR	Plostina	14.34	305	⇑P	P	08 15 46.1	+3.5
PLOR	Plostina	14.34	305	P	P	08 15 46.1	+3.5
MLR	Muntele Rosu	14.65	303	Pn	Pn	08 15 40.8	+0.6
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=2.4						
MLR	Muntele Rosu	14.65	303	⇓iP	P	08 15 46.3	0.0
MLR	Muntele Rosu	14.65	303	eP	Pn	08 15 41.0	+0.8
MLR	Muntele Rosu	14.65	303	ePn	Pn	08 15 41.0	+0.8
MLR	Muntele Rosu	14.65	303	⇓iP	P	08 15 46.3	0.0
MLR	Muntele Rosu	14.65	303	ePn	Pn	08 15 41.0	+0.8
DOPR	Dopca	15.19	304⇑	iP	P	08 15 53.9	+1.8
DOPR	Dopca	15.19	304⇑	iP	P	08 15 53.9	+1.8
VOIR		15.23	302⇑	iP	P	08 15 56.2	+3.6
VOIR		15.23	302	⇑P	P	08 15 56.2	+3.6
VOIR		15.23	302	P	P	08 15 56.2	+3.6
IDI	Anoyia	15.27	263	Pn	Pn	08 15 48.3	-0.1
	comp=Z,0.3nm,0.3s,baz=54,slow=16,SNR=2.0						
IDI	Anoyia	15.27	263	ePn	Pn	08 15 48.3	-0.1
	comp=Z,55nm,1.5s						
IDI	Anoyia	15.27	263	ePn	Pn	08 15 48.3	-0.1
	comp=Z,55nm,1.5s						
RAYN	Ar Rayn	15.28	173	ePn	Pn	08 15 44.8	-3.8
	comp=Z,37nm,1.3s						
RAYN	Ar Rayn	15.28	173	ePn	Pn	08 15 44.8	-3.8
	comp=Z,37nm,1.3s						
ARR	Arges	15.48	301	⇓iP	P	08 15 55.9	+0.5
ARR	Arges	15.48	301	⇓iP	P	08 15 55.9	+0.5
AKTO	Aktyubinsk	15.56	37	Pn	Pn	08 15 49.1	-2.9
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=9.0						
AKTO				LR	LR	08 23 37.9	
	comp=Z,197nm,18.5s,baz=225,slow=44						
AKASG	Malin Array Be	15.64	324	Pn	Pn	08 15 52.2	-0.9
	comp=Z,1.1nm,0.3s,baz=132,slow=12,SNR=9.4						
AKASG				LR	LR	08 23 32.1	
	comp=Z,101nm,20.6s,baz=115,slow=43						
AKBB	Malin Array Si	15.64	324	eP	Pn	08 15 53.7	+0.6
AKBB				pmax	pmax		
	comp=Z,17nm,1.3s						
AKBB	Malin Array Si	15.64	324	ePn	Pn	08 15 53.7	+0.6
	comp=Z,17nm,1.3s						
AKBB	Malin Array Si	15.64	324	ePn	Pn	08 15 53.7	+0.6
	comp=Z,17nm,1.3s						
KIEV	Kiev	15.64	324	eP	P	08 15 57.1	+0.1
KIEV	Kiev	15.64	324	ePn	Pn	08 15 54.0	+0.9
	comp=Z,15nm,1.2s						
KIEV	Kiev	15.64	324	eP	P	08 15 57.1	+0.1
KIEV	Kiev	15.64	324	ePn	Pn	08 15 54.0	+0.9
	comp=Z,15nm,1.2s						
ABKAR	Akbulak array	15.78	43	ePn	Pn	08 15 52.1	-2.7
	comp=Z,27nm,0.8s						
VTS	Vitosha	15.87	290	⇓iP	P	08 15 58.9	-0.8
VTS	Vitosha	15.87	290	eP	P	08 15 58.4	-1.4
VTS				pmax	pmax		
	comp=Z,16nm,1.1s						
VTS	Vitosha	15.87	290	ePn	P	08 15 58.4	-1.4
	comp=Z,16nm,1.1s						
VTS	Vitosha	15.87	290	⇓iP	P	08 15 58.9	-0.8
VTS	Vitosha	15.87	290	ePn	P	08 15 58.4	-1.4
	comp=Z,16nm,1.1s						
BURAR	Bucovina Array	15.98	310	⇓iP	P	08 16 02.9	+1.9
BURAR	Bucovina Array	15.98	310	⇓P	P	08 16 02.9	+1.9
BURAR	Bucovina Array	15.98	310	⇓iP	P	08 16 02.9	+1.9
BUR08	Bucovina Ar. S	16.00	310	ePn	P	08 16 02.4	+1.2
BUR08	Bucovina Ar. S	16.00	310	ePn	P	08 16 02.4	+1.2
DJES	Djerdap	16.73	297	eP	P	08 16 08.8	-0.3
GZR	Gura Zlata	16.74	300⇑	iP	P	08 16 09.1	-0.2
GZR	Gura Zlata	16.74	300⇑	iP	P	08 16 09.1	-0.2
ZAGS	Zajecar	16.76	294	eP	P	08 16 10.5	+1.1
BARS	Barje	16.91	291	eP	P	08 16 13.5	+2.3
OBN	Obninsk	17.02	346	P	Pn	08 16 11.0	+0.4
	comp=Z,1.6nm,0.3s,baz=169,slow=16,SNR=4.9						
OBN				LR	LR	08 22 48.4	
	comp=Z,91nm,19.1s,baz=196,slow=37						
OBN	Obninsk	17.02	346	i P	Pn	08 16 08.9	-1.7
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,122nm,13.0s						
OBN	Obninsk	17.02	346	ePn	P	08 16 11.9	-0.4
	comp=Z,39nm,1.0s						
OBN	Obninsk	17.02	346	ePn	P	08 16 11.9	-0.4
	comp=Z,39nm,1.0s						
BOVS	Bovan	17.10	294	eP	P	08 16 15.6	+2.3
DRGR		17.22	305	⇓iP	Pn	08 16 13.5	+0.3
DRGR		17.22	305	⇓P	Pn	08 16 13.5	+0.3
KUBS	Kucevo	17.26	296	eP	P	08 16 18.2	+3.1
BZS	Buzias	17.58	300⇑	iP	P	08 16 18.4	-0.2
BZS	Buzias	17.58	300	⇑P	P	08 16 18.4	-0.2
BZS	Buzias	17.58	300	P	P	08 16 18.4	-0.2
SIRR	Siria	17.74	302⇑	iP	P	08 16 22.3	+2.0
SIRR	Siria	17.74	302⇑	iP	P	08 16 22.3	+2.0
TRUS	Trudelj	18.12	295	eP	P	08 16 26.1	+1.5
KWP	Kalwaria Pacla	18.39	313	P	Pn	08 16 33.8	+6.2
KWP				pmax	pmax		
	comp=Z,237nm,1.1s						
DIVS	Divibare	18.40	294	eP	Pn	08 16 29.3	+1.5
FGSL	Fruska Gora	18.71	298	eP	Pn	08 16 32.8	+1.2
BBLS	Lazići	18.79	293	eP	P	08 16 31.2	-0.7
TEKS	Tekeris	18.80	296	eP	Pn	08 16 34.1	+1.5
CRVS	Cervenica-Dubn	18.80	310	eP	Pn	08 16 35.7	+3.1
CRVS	Cervenica-Dubn	18.80	310	eP	Pn	08 16 35.7	+3.1
CRVS	Cervenica-Dubn	18.80	310	eP	Pn	08 16 35.7	+3.1
STHS	Stebnicka Huta	19.15	311	eP	Pn	08 16 39.6	+2.8
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STHS	Stebnicka Huta	19.15	311	eP	Pn	08 16 39.6	+2.8
	comp=Z,4.0nm,0.9s						
STHS	Stebnicka Huta	19.15	311	eP	Pn	08 16 39.5	+2.8
PSZ	Piszkesteto	19.40	306⇑	iP	Pn	08 16 39.9	0.0
PSZ	Piszkesteto	19.40	306	eP	Pn	08 16 41.0	+1.1
PSZ				pmax	pmax		
	comp=Z,26nm,1.1s						
PSZ	Piszkesteto	19.40	306	eP	Pn	08 16 41.0	+1.1
	comp=Z,26nm,1.1s						
PSZ	Piszkesteto	19.40	306	eP	Pn	08 16 41.0	+1.1
	comp=Z,26nm,1.1s						
NIE	Niedzica	19.71	310	eP	Pn	08 16 44.4	+0.9
NIE	Niedzica	19.71	310	eP	Pn	08 16 44.4	+0.9
NIE	Niedzica	19.71	310	eP	Pn	08 16 44.4	+0.9
WSAR	Wadi Sarin	20.14	136	P	P	08 16 44.2	-2.5
	comp=Z,4.6nm,1.0s,baz=312,slow=14,SNR=2.5						
WSAR				LR	LR	08 25 30.2	
	comp=Z,140nm,19.0s,baz=341,slow=40						
VYHS	Vyhne	20.26	307	eP	Pn	08 16 49.7	-0.3
VYHS				pmax	pmax		
	comp=Z,15nm,1.4s						
VYHS	Vyhne	20.26	307	eP	Pn	08 16 49.7	-0.3
	comp=Z,15nm,1.4s						
VYHS	Vyhne	20.26	307	eP	Pn	08 16 49.7	-0.3
ARU	Arti	20.31	25	P	P	08 16 48.6	+0.2
	comp=Z,11nm,0.2s,baz=216,slow=6.7,SNR=16						
ARU				LR	LR	08 26 21.7	
	comp=Z,136nm,18.5s,baz=207,slow=42						
ARU	Arti	20.31	25	d iP	P	08 16 48.8	+0.4
ARU				S	Sn	08 20 37.5	-0.9
ARU				pmax	pmax		
	comp=Z,53nm,1.7s						
ARU	Arti	20.31	25	i P	P	08 16 48.8	+0.4
	comp=Z,53nm,1.7s						
ARU				S	Sn	08 20 37.5	-0.9
ARU	Arti	20.31	25	eP	P	08 16 49.3	+0.9
	comp=Z,40nm,1.2s						
OJC	Ojcow	20.34	312	eP	Pn	08 16 53.9	+3.0
OJC				pmax	pmax		
	comp=Z,14nm,0.9s						
OJC	Ojcow	20.34	312	eP	Pn	08 16 53.9	+3.1
	comp=Z,14nm,0.9s						
SUW	Suwalki	20.61	324	eP	P	08 16 52.7	+1.1
SUW	Suwalki	20.61	324	eP	P	08 16 52.7	+1.1
SUW	Suwalki	20.61	324	eP	P	08 16 52.7	+1.1
KKAR	Karatay Array	20.82	69	eP	P	08 16 54.4	+0.3
KKAR				pmax	pmax		
	comp=Z,67nm,0.8s						
KKAR	Karatay Array	20.82	69	eP	P	08 16 54.4	+0.3
	comp=Z,66nm,0.8s						
KKAR	Karatay Array	20.82	69	eP	P	08 16 54.4	+0.3
	comp=Z,66nm,0.8s						
OKC	Ostrava-Krasne	21.16	310	eP	P	08 17 01.7	+4.1
OKC				ex	x	08 17 05.5	
OKC	Ostrava-Krasne	21.16	310	eP	P	08 17 01.7	+4.1
OKC				e		08 17 05.5	
OKC	Ostrava-Krasne	21.16	310	eP	P	08 17 01.7	+4.1
SVE	Sverdlovsk	21.33	26	eP	P	08 16 59.6	+0.3
SVE				pmax	pmax		
	comp=Z,45nm,1.5s						
SVE	Sverdlovsk	21.33	26	eP	P	08 16 59.6	+0.3
	comp=Z,45nm,1.5s						
CUC	Castrocucco	21.41	282	eP	P	08 16 59.4	-1.1
	comp=Z,20nm,1.3s						
CUC	Castrocucco	21.41	282	eP	P	08 16 59.4	-1.1
	comp=Z,20nm,1.3s						
SOP	Sopron	21.48	303	P	P	08 17 05.1	+4.0
SOP				pmax	pmax		
	comp=Z,29nm,1.0s						
SOP	Sopron	21.48	303	P	P	08 17 05.1	+4.0
	comp=Z,29nm,1.0s						
MORC	Moravsky Berou	21.50	309	eP	P	08 17 03.1	+1.7
MORC				pmax	pmax		
	comp=Z,60nm,1.3s						
MORC	Moravsky Berou	21.50	309	eP	P	08 17 03.1	+1.7
	comp=Z,60nm,1.3s						
MORC	Moravsky Berou	21.50	309	eP	P	08 17 03.1	+1.7
	comp=Z,60nm,1.3s						
VRAC	Vranov	21.93	308	P	P	08 17 06.8	+0.9
	comp=Z,13nm,0.9s,baz=107,slow=8.0,SNR=8.3						
VRAC				LR	LR	08 26 27.0	
	comp=Z,33nm,19.0s,baz=100,slow=39						
CONA	Conrad Observa	22.00	304	eP	P	08 17 08.5	+1.7
	comp=Z,15nm,1.1s						
CONA	Conrad Observa	22.00	304	P	P	08 17 08.5	+1.7
	comp=Z,15nm,1.1s						
ARSA	Arzberg	22.07	302	eP	P	08 17 08.9	+1.5
	comp=Z,11nm,1.5s						
ARSA	Arzberg	22.07	302	P	P	08 17 08.9	+1.5
	comp=Z,11nm,1.5s						
KLMR	Klimovskoe	22.27	355	eP	P	08 17 09.0	-0.3
KLMR				pmax	pmax		
	comp=Z,66nm,1.3s						
MNAS	Manas	22.27	71	P	P	08 17 10.3	+0.5
MNAS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DPC	Dobruska-Polom	22.44	310	eP	P	08 17 13.8	+2.4
DPC				epP	pP	08 17 17.3	-0.7
DPC	Dobruska-Polom	22.44	310	eP	P	08 17 13.8	+2.4
DPC				e		08 17 17.3	
DPC	Dobruska-Polom	22.44	310	P	P	08 17 13.8	+2.4
VSU	Vasula	22.51	337	i P	P	08 17 15.4	+3.5
VSU				pmax	pmax		
	comp=Z,48nm,0.8s						
SOKR	Solikamsk	22.51	18⇑	iP	P	08 17 09.0	-3.0
SOKR				pmax	pmax		
	comp=Z,23nm,0.9s						
TREC	Trest	22.61	307	eP	P	08 17 15.7	+2.5
TREC	Trest	22.61	307	eP	P	08 17 15.7	+2.5
TREC	Trest	22.61	307	P	P	08 17 15.7	+2.5
KSP	Ksiaz	22.64	311	eP	P	08 17 14.7	+1.2
KSP	Ksiaz	22.64	311	eP	P	08 17 14.7	+1.2
KSP	Ksiaz	22.64	311	eP	P	08 17 14.7	+1.2
UPC	Upice	22.68	310	eP	P	08 17 16.2	+2.2
UPC				ex	x	08 17 22.4	
UPC	Upice	22.68	310	eP	P	08 17 16.2	+2.2
UPC				e		08 17 22.4	
UPC	Upice	22.68	310	P	P	08 17 16.2	+2.2
VAE	Valguarnera	22.89	276	P	P	08 17 17.4	+1.1
	comp=Z,14nm,0.4s,baz=118,slow=15,SNR=1.8						
MOA	Molln	23.03	303	eP	P	08 17 19.3	+1.7
	comp=Z,14nm,1.1s						
MOA	Molln	23.03	303	P	P	08 17 19.3	+1.7
	comp=Z,14nm,1.1s						
GOPC	GO Pecny, Ondr	23.23	308	eP	P	08 17 21.1	+1.5
GOPC	GO Pecny, Ondr	23.23	308	eP	P	08 17 21.1	+1.5
GOPC	GO Pecny, Ondr	23.23	308	P	P	08 17 21.1	+1.5
BRVK	Borovoye	23.31	43	ceP	P	08 17 22.5	+2.2
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
BRVK	Borovoye	23.31	43	eP	P	08 17 19.9	-0.4
	comp=Z,6.9nm,0.9s						
BVAR	Borovoye Array	23.35	44	P	P	08 17 20.7	-0.1
	comp=Z,1.0nm,0.8s,baz=249,slow=7.1,SNR=5.6						
PRU	Pruhonice	23.41	308	eP	P	08 17 23.6	+2.3
PRU				ex	x	08 17 33.3	
PRU	Pruhonice	23.41	308	eP	P	08 17 23.6	+2.3
PRU	Pruhonice	23.41	308	P	P	08 17 23.6	+2.3
KBA	Koelnbreinsper	23.49	301	eP	P	08 17 23.1	+0.7
	comp=Z,16nm,1.1s						
KBA	Koelnbreinsper	23.49	301	P	P	08 17 23.1	+0.7
	comp=Z,16nm,1.1s						
GEC2	GERESS Array S	23.62	305	eP	P	08 17 25.2	+1.6
GEC2				pmax	pmax		
	comp=Z,20nm,1.4s						
GEC2	GERESS Array S	23.62	305	eP	P	08 17 25.2	+1.6
	comp=Z,20nm,1.4s						
GERES	GERESS Array B	23.62	305	P	P	08 17 24.5	+1.0
	comp=Z,3.1nm,0.8s,baz=106,slow=8.5,SNR=8.5						
AAK	Ala-Archa	23.74	71	P	P	08 17 24.9	0.0
	comp=Z,3.1nm,1.0s,baz=248,slow=10,SNR=7.5						
AAK				LR	LR	08 28 57.9	
	comp=Z,69nm,18.4s,baz=244,slow=42						
AAK	Ala-Archa	23.74	71	d iP	P	08 17 23.5	-1.4
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AAK	Ala-Archa	23.74	71	eP	P	08 17 22.9	-1.9
	comp=Z,6.5nm,1.0s						
KHC	Kasperske Hory	23.77	306	eP	P	08 17 26.1	+1.2
KHC				epP	pP	08 17 30.2	-1.7
KHC	Kasperske Hory	23.77	306	eP	P	08 17 25.4	+0.5
KHC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KHC	Kasperske Hory	23.77	306	P	P	08 17 26.1	+1.2
KHC	Kasperske Hory	23.77	306	eP	P	08 17 25.4	+0.5
	comp=Z,9.7nm,1.2s						
FRU	Bishkek	23.83	70	eP	P	08 17 27.5	+1.9
FRU				pmax	pmax		
	comp=Z,68nm,2.0s						
BRG	Berggiesshubel	24.05	310	eP	P	08 17 27.8	+0.3
	comp=Z,9.9nm,1.2s						
BRG	Berggiesshubel	24.05	310	eP	P	08 17 27.8	+0.3
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WTTA	Wattenberg	24.67	301	eP	P	08 17 34.2	+0.8
	comp=Z,16nm,1.1s						
WTTA	Wattenberg	24.67	301	P	P	08 17 34.2	+0.8
	comp=Z,16nm,1.1s						
WATA	Walderalm	24.72	301	eP	P	08 17 35.3	+1.5
	comp=Z,12nm,1.0s						
WATA	Walderalm	24.72	301	P	P	08 17 35.3	+1.5
	comp=Z,12nm,1.0s						
CLL	Collm	24.75	310	eP	P	08 17 34.7	+0.9
CLL				pmax	pmax		
	comp=Z,15nm,1.0s						
CLL	Collm	24.75	310	i sP	P	08 17 34.7	+0.9
	comp=Z,13nm,0.8s						
CLL				e		08 17 48.0	
CLL				e(S)	S	08 22 12.0	+18
CLL	Collm	24.75	310	eP	P	08 17 34.6	+0.9
	comp=Z,15nm,1.0s						
MOTA	Moosalm	25.04	301	eP	P	08 17 36.9	+0.2
	comp=Z,6.8nm,0.7s						
MOTA	Moosalm	25.04	301	P	P	08 17 36.9	+0.2
	comp=Z,6.8nm,0.7s						
KSH	Kashi	25.13	78	eP	P	08 17 36.8	-0.7
KSH				pP	pP	08 17 40.9	-3.6
KSH				sP	sP	08 17 43.8	-3.7
KSH				PP	PnPn	08 18 13.9	+2.4
KSH				PcP	PcP	08 21 13.1	+1.8
KSH				S	S	08 21 56.1	-4.9
KSH				sS	pS	08 22 03.1	-5.6
KSH				SS	SnSn	08 22 53.5	+2.2
KSH				PcS	PcS	08 24 53.0	+1.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,85nm,6.6s						
KSH				LR	LR		
	comp=N,68nm,6.2s						
KSH				LR	LR		
	comp=E,82nm,6.0s						
KSH				LR	LR		
	comp=Z,90nm,7.9s						
FIA0	FINESS Array S	25.15	340	eP	P	08 17 36.7	-0.7
FIA0	FINESS Array S	25.15	340	eP	P	08 17 36.7	-0.7
FINES	FINESS Array B	25.15	340	P	P	08 17 36.7	-0.7
	comp=Z,4.5nm,0.9s,baz=202,slow=8.2,SNR=4.6						
FINES				LR	LR	08 28 10.1	
	comp=Z,72nm,20.9s,baz=140,slow=38						
FETA	Feichten	25.25	300	eP	P	08 17 38.5	-0.2
	comp=Z,19nm,1.6s						
FETA	Feichten	25.25	300	P	P	08 17 38.5	-0.2
	comp=Z,19nm,1.6s						
RETA	Reutte	25.29	301	eP	P	08 17 40.1	+1.2
	comp=Z,5.5nm,0.8s						
RETA	Reutte	25.29	301	P	P	08 17 40.1	+1.2
	comp=Z,5.5nm,0.8s						
DAVOX	Davos/Dischmat	25.80	299	P	P	08 17 43.9	+0.2
	comp=Z,10nm,1.0s,baz=112,slow=11,SNR=6.5						
DAVA	Damuels	25.86	300	eP	P	08 17 44.6	+0.5
	comp=Z,18nm,1.0s						
DAVA	Damuels	25.86	300	P	P	08 17 44.6	+0.5
	comp=Z,18nm,1.0s						
ATD	Arta Tunnel	27.12	181	LR	LR	08 29 44.4	
	comp=Z,44nm,18.3s,baz=11,slow=39						
KEST	Kesra	27.27	274	P	P	08 17 58.1	+1.3
	comp=Z,4.9nm,0.9s,baz=38,slow=7.3,SNR=4.9						
KEST	Kesra	27.27	274	eP	P	08 17 58.1	+1.3
	comp=Z,12nm,1.3s						
KURBB	Kurchatov Arra	27.32	53	P	P	08 17 57.3	+0.2
	comp=Z,6.4nm,0.9s,baz=264,slow=9.2,SNR=38						
KURK	Kurchatov	27.40	53	eP	P	08 17 58.6	+0.8
KURK				pmax	pmax		
	comp=Z,45nm,1.2s						
KURK	Kurchatov	27.40	53	eP	P	08 17 58.0	+0.2
HFS	Hagfors	28.45	329	P	P	08 18 07.2	+0.1
	comp=Z,9.5nm,1.0s,ba

	comp=Z,4.7nm,0.7s						
ESDC	**Sonseca Array**	**36.45**	**287**	P	**P**	**08 19 16.6**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=65,slow=8.3,SNR=16						
NRIK	**Noril'sk**	**38.53**	**23**	P	**P**	**08 19 34.8**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=238,slow=7.3,SNR=3.3						
NRIK				LR	LR	08 39 32.3	
	comp=Z,107nm,18.0s,baz=182,slow=43						
GTA	**Gaotai**	**43.10**	**71**	*e*P	**P**	**08 20 13.3**	**+0.6**
GTA				pP	pP	08 20 17.8	-2.1
GTA				sP	sP	08 20 20.3	-2.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TOA1	**Torodi Ar. Sit**	**44.88**	**247**	*e*P	**P**	**08 20 26.1**	**-0.9**
	comp=Z,10nm,1.0s						
TOA1	**Torodi Ar. Sit**	**44.88**	**247**	*e*P	**P**	**08 20 26.1**	**-0.9**
	comp=Z,10nm,1.0s						
TOA0	**Torodi Ar. Sit**	**44.88**	**247**	*e*P	**P**	**08 20 26.8**	**-0.3**
	comp=Z,10nm,1.1s						
TOA0	**Torodi Ar. Sit**	**44.88**	**247**	*e*P	**P**	**08 20 26.8**	**-0.3**
	comp=Z,10nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.88**	**247**	P	**P**	**08 20 26.1**	**-0.9**
	comp=Z,4.7nm,0.9s,baz=32,slow=8.1,SNR=15						
SONA0	**Songino Array**	**45.51**	**57**	*e*P	**P**	**08 20 30.9**	**-1.0**
SONA0	**Songino Array**	**45.51**	**57**	*e*P	**P**	**08 20 30.9**	**-1.0**
SONM	**Songino Array**	**45.51**	**57**	P	**P**	**08 20 30.8**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=300,slow=3.2,SNR=2.5						
ULN	**Ulaanbaatar**	**45.94**	**57**	*de*P	**P**	**08 20 36.5**	**+1.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ULN	**Ulaanbaatar**	**45.94**	**57**	*e*P	**P**	**08 20 36.5**	**+1.2**
	comp=Z,8.4nm,1.2s						
ULN	**Ulaanbaatar**	**45.94**	**57**	*e*P	**P**	**08 20 36.5**	**+1.2**
	comp=Z,8.4nm,1.2s						
LZH	**Lanzhou**	**47.23**	**73**	*e*P	**P**	**08 20 46.5**	**+0.9**
LZH				pP	pP	08 20 49.8	-3.1
LZH				sP	sP	08 20 51.3	-4.5
LZH				*e*PP	**PP**	**08 22 37.3**	**+0.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,58nm,6.2s						
LZH				LR	LR		
	comp=N,230nm,14.6s						
LZH				LR	LR		
	comp=E,230nm,14.7s						
LZH				LR	LR		
	comp=Z,270nm,18.3s						
BOD	**Bodaibo**	**48.22**	**43**	*e*P	**P**	**08 20 51.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.9s						
BOD	**Bodaibo**	**48.22**	**43**	*e*P	**P**	**08 20 51.7**	**-1.0**
	comp=Z,7.0nm,1.9s						
HHC	**Hu-ho-hao-te**	**51.11**	**65**	*e*P	**P**	**08 21 14.8**	**-0.4**
HHC				S	**S**	**08 28 33.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,16nm,1.5s						
HHC				pmax	pmax		
	comp=Z,51nm,4.8s						
HHC				LR	LR		
	comp=N,140nm,16.2s						
HHC				LR	LR		
	comp=E,120nm,16.2s						
HHC				LR	LR		
	comp=Z,66nm,12.4s						
KMI	**Kunming**	**51.26**	**87**	P	**P**	**08 21 17.9**	**+1.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
CM31	**Chiang Mai Arr**	**51.89**	**97**	*e*P	**P**	**08 21 19.0**	**-2.1**
CM31	**Chiang Mai Arr**	**51.89**	**97**	*e*P	**P**	**08 21 19.0**	**-2.1**
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P	**P**	**08 21 20.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=296,slow=8.3,SNR=4.2						
CMAR				PcP	**PcP**	**08 22 33.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=299,slow=3.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P	**P**	**08 21 20.4**	**-0.7**
CMAR						08 22 33.5	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P	**P**	**08 21 20.4**	**-0.7**
	comp=Z,3.0nm,0.3s						
TIXI	**Tiksi**	**52.31**	**24**	*ce*P	**P**	**08 21 26.0**	**+2.5**
TIXI				pmax	pmax		
	comp=Z,12nm,2.5s						
TIXI	**Tiksi**	**52.31**	**24**	*e*P	**P**	**08 21 26.0**	**+2.5**
	comp=Z,12nm,2.5s						
DBIC	**Dimbokro**	**53.99**	**247**	P	**P**	**08 21 35.1**	**-1.5**
	comp=Z,4.5nm,0.8s,baz=45,slow=5.7,SNR=4.4						
DBIC	**Dimbokro**	**53.99**	**247**	*e*P	**P**	**08 21 35.1**	**-1.5**
	comp=Z,7.5nm,0.9s						
DBIC	**Dimbokro**	**53.99**	**247**	*e*P	**P**	**08 21 35.1**	**-1.5**
	comp=Z,7.5nm,0.9s						
KIC	**Kosan Boka**	**54.12**	**246**	*e*P	**P**	**08 21 36.6**	**-1.0**
	comp=Z,45nm,1.2s						
TIC	**Toumodi**	**54.12**	**247**	*e*P	**P**	**08 21 36.6**	**-1.0**
LIC	**Lamto**	**54.42**	**246**	*e*P	**P**	**08 21 38.5**	**-1.2**
	comp=Z,31nm,0.9s						
QIZ	**Qiongzhong**	**60.07**	**89**	P	**P**	**08 22 18.5**	**-1.2**
QIZ				S	**S**	**08 30 30.3**	**-1.1**
QIZ				LR	LR		
	comp=Z,17nm,15.6s						
NJ2	**Nanjing**	**60.19**	**71**	*e*P	**P**	**08 22 20.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SEY	**Seymchan**	**63.98**	**29**	P	**P**	**08 22 45.6**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=287,slow=5.8,SNR=11						
SEY	**Seymchan**	**63.98**	**29**	*ce*P	**P**	**08 22 47.0**	**+1.7**
KSRS	**Korea Array**	**64.02**	**62**	P	**P**	**08 22 45.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=287,slow=5.1,SNR=5.7						
KSRS	**Korea Array**	**64.02**	**62**	P	**P**	**08 22 45.5**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**64.02**	**62**	P	**P**	**08 22 45.5**	**-0.5**
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**71.46**	**58**	P	**P**	**08 23 32.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=317,slow=5.7,SNR=6.0						
COLA	**College**	**76.33**	**5**	*e*P	**P**	**08 24 00.1**	**-0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
COLA	**College**	**76.33**	**5**	*e*P	**P**	**08 24 00.1**	**-0.7**
	comp=Z,4.0nm,1.0s						
ILAR	**Eielson Array**	**76.49**	**5**	P	**P**	**08 24 00.6**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=310,slow=4.2,SNR=4.7						
ILB	**Eielson Array**	**76.49**	**5**	*e*P	**P**	**08 24 00.8**	**-1.0**
ILB	**Eielson Array**	**76.49**	**5**	*e*P	**P**	**08 24 00.8**	**-1.0**
YKA	**Yellowknife Ar**	**77.57**	**350**	P	**P**	**08 24 07.3**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=16,slow=5.1,SNR=4.7						
YKB5	**Yellowknife Ar**	**77.57**	**350**	*e*P	**P**	**08 24 07.3**	**-0.6**
YKB5	**Yellowknife Ar**	**77.57**	**350**	*e*P	**P**	**08 24 07.3**	**-0.6**
KLU	**Klutina**	**79.81**	**5**	*e*P	**P**	**08 24 20.4**	**0.0**
	comp=Z,12nm,1.1s						
KLU	**Klutina**	**79.81**	**5**	*e*P	**P**	**08 24 20.4**	**0.0**
	comp=Z,12nm,1.1s						
HYT	**Haines Junctio**	**80.77**	**1**	*e*P	**P**	**08 24 26.3**	**+0.7**
	comp=Z,8.4nm,1.1s						
HYT	**Haines Junctio**	**80.77**	**1**	*e*P	**P**	**08 24 26.3**	**+0.7**
	comp=Z,8.4nm,1.1s						

SKO 24 08:15:19.6, 40.°94N×21.°30E, h26km, M1.0, ML1.4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.08**	**13**	*i* Pg	Pb	08 15 24.4	+0.1
BIA				*i* Sg	Sb	08 15 26.6	-0.9
OHR	**Ohrid**	**0.42**	**294**	*i* Pg	Pb	08 15 29.0	+0.5
OHR				*i* Sg	Sn	08 15 36.3	-0.7
OHR				*e*Lg	Lg	08 15 36.6	
	comp=E,34nm,0.4s						
OHR				*e*Lg	Lg	08 15 36.6	
	comp=N,12nm,0.3s						
KRUS	**Krusevo**	**0.43**	**355**	*i* Pg	Pb	08 15 28.7	-0.1
KRUS				*i* Sg	Sb	08 15 35.8	+0.7

*ISN **24** 08:28:20.5±1.9, 38.°99N×43.°48E, h0km±88km, ML4.7*
*BJI **24** 08:28:24.3, 38.°60N×43.°50E, h6km, mb4.7/39, mB4.9/26, Ms4.3/17, Ms7 4.1/17*
*MOS **24** 08:28:25.6±1.2, 38.°60N×43.°56E, h10km, mb4.8/43, Error ellipse: s-maj=5.7km s-min=4.0km az=108.9*
*IDC **24** 08:28:25.0±0.6, 38.°59N×43.°51E, h0km, mb4.4/24, mb1 4.4/33, mb1mx4.3/42, mbtmp4.3/33, ML3.5/9, MS3.6/16, Ms1 3.6/16, ms1mx3.4/45, Error ellipse: s-maj=11.5km s-min=8.7km az=158.0*
*DDA **24** 08:28:26.4, 38.°69N×43.°53E, h19km, Ml4.7*
*AZER **24** 08:28:26.8±0.6, 38.°62N×43.°53E, h5km±13km, Error ellipse: s-maj=14.3km s-min=3.5km az=59.0*
*NEIC **24** 08:28:26.2±1.0, 38.°62N×43.°55E, h4km±6km, mb4.8/41, ML4.6(ISK), ML4.7(DDA), Error ellipse: s-maj=5.2km s-min=4.5km az=169.0*
*ISCJB **24** 08:28:27.8±0.3, 38.°60N±0.°02×43.°53E±0.°01, h23km±2km, mb4.6/93, MS3.7/22, Error ellipse: s-maj=2.6km s-min=1.8km az=173.4*
*CSEM **24** 08:28:27.7±0.1, 38.°63N×43.°55E, h10km, mb4.6/46, Error ellipse: s-maj=2.8km s-min=2.2km az=177.0*
*GCMT **24** 08:28:27.1±0.4, 38.°57N×43.°46E, h22km±1km, MW4.8/53, Moment Tensor Solution. s26,c27; s53,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.72±.12; $M_{\theta\theta}$-1.68±.08; $M_{\phi\phi}$-0.04±.07; $M_{r\theta}$0.00±.11; $M_{\theta\phi}$-0.04±.06; $M_{\phi r}$-0.10±.14; Best double couple: $M_0$1.70300×10^{16} NP1:ϕ_s265.00000°, δ45.00000°, λ86.00000°. NP2: ϕ_s92.00000°, δ45.00000°, λ94.00000°. Principal axes: T 1.7250, Plg87.0000°, Azm89.0000°; N -0.0480, Plg3.0000°, Azm268.0000°; P -1.6810, Plg0.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISK **24** 08:28:28.5, 38.°60N×43.°30E, h2km, ML4.5*
*TEH **24** 08:28:28.3, 38.°86N×43.°45E, h18km, ML4.4*

ISC 24 08:28:27.8±0.5, 38.°68N±0.°01×43.°52E±0.°02, h12km±3km, n573, σ1§48/670, mb4.7/93, MS3.7/23, 67C-46D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**231**	PG	**Pg**	**08 28 31.1**	**-0.2**
VANB				*e*SG	**Sg**	**08 28 34.8**	**+1.0**
VANB	**Van**	**0.14**	**231**	*i* Pg	**Pg**	**08 28 31.1**	**-0.2**
VANB				*e*Sg	**Sg**	**08 28 34.8**	**+1.0**
GEVA	**Gevas**	**0.52**	**225**	⇓*i*P	**Pg**	**08 28 36.5**	**-1.4**
GEVA				*i* S	**Sb**	**08 28 45.5**	**-0.9**
GEVA	**Gevas**	**0.52**	**225**	*i* P	**Pg**	**08 28 36.6**	**-1.4**
GEVA				S	**Sb**	**08 28 45.5**	**-0.9**
GEVA	**Gevas**	**0.52**	**225**	*i* P	**Pg**	**08 28 36.6**	**-1.4**
GEVA				*i* S	**Sb**	**08 28 45.5**	**-0.9**
BASK	**Baskale_VAN**	**0.73**	**149**	⇓*i*P	**Pg**	**08 28 40.0**	**-2.0**
BASK				*i* S	**Sb**	**08 28 52.1**	**-0.6**
BASK	**Baskale_VAN**	**0.73**	**149**	P	**Pg**	**08 28 40.0**	**-2.0**
BASK				S	**Sb**	**08 28 52.1**	**-0.6**
DYDN	**Diyadin**	**0.87**	**8**	⇓*i*P	**Pg**	**08 28 42.3**	**-2.4**
DYDN				*i* S	**Sb**	**08 28 57.1**	**+0.4**
DYDN	**Diyadin**	**0.87**	**8**	P	**Pg**	**08 28 42.3**	**-2.4**
DYDN				S	**Sb**	**08 28 57.1**	**+0.4**
DYDN	**Diyadin**	**0.87**	**8**	*i* P	**Pg**	**08 28 42.3**	**-2.4**
TUTA	**Tutak**	**0.91**	**323**	⇓*i*P	**Pg**	**08 28 43.2**	**-2.2**
TUTA				*i* S	**Sg**	**08 28 57.2**	**-0.1**
TUTA	**Tutak**	**0.91**	**323**	P	**Pg**	**08 28 43.2**	**-2.2**
TUTA				S	**Sg**	**08 28 57.2**	**-0.1**
TUTA	**Tutak**	**0.91**	**323**	*i* P	**Pg**	**08 28 43.2**	**-2.2**
HAKT	**HAKKARI**	**1.13**	**173**	⇓*i*P	**Pb**	**08 28 47.1**	**-2.3**
HAKT				*i* S	**Sn**	**08 29 05.8**	**+0.6**
HAKT	**HAKKARI**	**1.13**	**173**	P	**Pb**	**08 28 47.1**	**-2.3**
HAKT				S	**Sn**	**08 29 05.8**	**+0.6**
EKAR	**Karacoban**	**1.27**	**297**	⇓*i*P	**Pn**	**08 28 51.4**	**-0.3**
EKAR				*i* S	**Sg**	**08 29 12.9**	**+4.0**
EKAR	**Karacoban**	**1.27**	**297**	P	**Pn**	**08 28 51.4**	**-0.3**
EKAR				S	**Sg**	**08 29 12.9**	**+4.0**
EKAR	**Karacoban**	**1.27**	**297**	*i* P	**Pn**	**08 28 51.4**	**-0.3**
EATA	**Eleskirt**	**1.43**	**326**	⇓*i*P	**Pn**	**08 28 52.6**	**-1.2**
EATA				*i* S	**Sg**	**08 29 14.4**	**+0.6**
EATA	**Eleskirt**	**1.43**	**326**	P	**Pn**	**08 28 52.6**	**-1.2**
EATA				S	**Sg**	**08 29 14.4**	**+0.6**
CUKT	**Cukurca**	**1.43**	**177**	*e*PN	**Pg**	**08 28 55.4**	**+0.1**
CUKT				*e*SN	**Sg**	**08 29 15.0**	**+1.1**
CUKT	**Cukurca**	**1.43**	**177**	*i* P	**Pb**	**08 28 54.4**	**-0.1**
CUKT				*i* S	**Sg**	**08 29 19.9**	**+6.0**
CUKT	**Cukurca**	**1.43**	**177**	P	**Pb**	**08 28 54.4**	**-0.1**
CUKT	**Cukurca**	**1.43**	**177**	*e*Pn	**Pg**	**08 28 55.4**	**+0.1**
SIRN	**S¨–rnak**	**1.47**	**217**	⇑*i*P	**Pb**	**08 28 55.1**	**0.0**
SIRN				*i* S	**Sg**	**08 29 16.4**	**+1.3**
SIRN	**S¨–rnak**	**1.47**	**217**	P	**Pb**	**08 28 55.1**	**0.0**
SIRN				S	**Sg**	**08 29 16.5**	**+1.3**
NAX	**Nakhchivan**	**1.61**	**72**	⇓P	**Pn**	**08 28 56.2**	**0.0**
	SNR=212						
NAX				⇓S	**Sb**	**08 29 18.5**	**+0.6**
NAX	**Nakhchivan**	**1.61**	**72**	P	**Pn**	**08 28 56.2**	**0.0**
	SNR=212						
NAX				S	**Sb**	**08 29 18.5**	**+0.6**
VRTB	**Varto-Mus**	**1.68**	**287**	*e*PN	**Pn**	**08 28 57.6**	**+0.4**
VRTB	**Varto-Mus**	**1.68**	**287**	⇑*i*P	**Pn**	**08 28 57.4**	**+0.3**
VRTB				*i* S	**Sg**	**08 29 24.7**	**+2.8**
VRTB	**Varto-Mus**	**1.68**	**287**	*e*Pn	**Pn**	**08 28 57.6**	**+0.4**
ISHB	**Shabestar**	**1.69**	**103**	*e*Pn	**Pn**	**08 28 57.9**	**+0.5**
ISHB				*e*AMB	AMB	08 29 04.0	
	comp=Z,52μm,0.2s						
IMRD	**Marand**	**1.71**	**88**	*e*Pn	**Pn**	**08 28 57.8**	**+0.3**
IMRD				*e*AMB	AMB	08 29 00.2	
	comp=Z,71μm,0.3s						
IMRD				*e*Sg	**Sg**	**08 29 23.7**	**+1.0**
IMRD	**Marand**	**1.71**	**88**	*e*Pn	**Pn**	**08 28 57.8**	**+0.3**
IMRD				*e*Sg	**Sg**	**08 29 23.7**	**+1.0**
DIGO	**Kars**	**1.73**	**356**	⇓*i*P	**Pn**	**08 28 58.6**	**+0.6**
DIGO				*i* S	**Sg**	**08 29 25.4**	**+1.7**
DIGO	**Kars**	**1.73**	**356**	P	**Pn**	**08 28 58.6**	**+0.6**
DIGO				S	**Sg**	**08 29 25.4**	**+1.7**
GNI	**Garni**	**1.74**	**32**	Pn	**Pn**	**08 28 58.8**	**+0.7**
	comp=Z,168nm,0.3s,baz=214,slow=15,SNR=209						
GNI				Sn	**Sn**	**08 29 21.3**	**+1.0**
	comp=Z,156nm,0.3s,baz=159,slow=19,SNR=6.1						
HOMI	**Horasan**	**1.85**	**318**	⇑*i*P	**Pn**	**08 29 00.0**	**+0.5**
HOMI				*i* S	**Sg**	**08 29 29.2**	**+1.8**
BNGL	**BINGOL**	**1.87**	**279**	⇑*i*P	**Pn**	**08 28 59.9**	**0.0**
BNGL				*i* S	**Sg**	**08 29 27.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.90**	**255**	*e*PN	**Pn**	**08 29 00.2**	**+0.1**
SVAN				*e*SN	**Sn**	**08 29 23.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.90**	**255**	⇑*i*P	**Pn**	**08 29 00.2**	**+0.1**
SVAN				*i* S	**Sb**	**08 29 27.2**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.90**	**255**	P	**Pn**	**08 29 00.2**	**+0.1**
SVAN				*e*Sn	**Sn**	**08 29 23.6**	**-0.4**
SVAN				S	**Sb**	**08 29 27.2**	**+1.1**
BTMN	**Batman**	**1.94**	**247**	⇑*i*P	**Pn**	**08 29 00.9**	**+0.3**
BTMN				*i* S	**Sg**	**08 29 29.8**	**-0.4**
BTMN	**Batman**	**1.94**	**247**	P	**Pn**	**08 29 00.9**	**+0.3**
BTMN				S	**Sg**	**08 29 29.8**	**-0.4**
EAK	**Akyaka**	**2.00**	**2**	⇓*i*P	**Pn**	**08 29 02.9**	**+1.3**
EAK				*i* S	**Sg**	**08 29 34.0**	**+1.8**
EAK	**Akyaka**	**2.00**	**2**	P	**Pn**	**08 29 02.9**	**+1.3**
ERZM	**Erzurum**	**2.07**	**307**	⇑*i*P	**Pn**	**08 29 03.3**	**+0.7**
ERZM	**Erzurum**	**2.07**	**307**	P	**Pn**	**08 29 03.3**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.08**	**335**	*e*PN	**Pb**	**08 29 05.4**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.08**	**335**	*e*Pn	**Pb**	**08 29 05.4**	**-0.3**
ITBZ	**Tabriz**	**2.11**	**101**	*e*AMB	AMB	08 29 16.2	
	comp=Z,8μm,0.3s						
ITBZ				*e*Pn	**Pn**	**08 29 04.1**	**+1.0**
BNGB	**Bing¨¶l**	**2.24**	**279**	*e*PN	**Pn**	**08 29 05.6**	**+0.7**
BINT	**Bingol**	**2.38**	**276**	P	**Pn**	**08 29 05.0**	**-1.7**
BINT	**Bingol**	**2.38**	**276**	P	**Pn**	**08 29 05.0**	**-1.7**
BINT	**Bingol**	**2.38**	**276**	*e*Pn	**Pn**	**08 29 05.6**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.44**	**289**	*e*PN	**Pn**	**08 29 09.2**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.44**	**289**	*e*Pn	**Pn**	**08 29 09.2**	**+1.6**
MARD	**Mardin**	**2.56**	**239**	⇑*i*P	**Pn**	**08 29 09.3**	**+0.1**
MARD				*i* S	**Sg**	**08 29 51.9**	**+1.7**
MARD	**Mardin**	**2.56**	**239**	*e*Pn	**Pn**	**08 29 09.4**	**+0.1**
MARD	**Mardin**	**2.56**	**239**	*e*Pn	**Pn**	**08 29 09.4**	**+0.2**
BGD	**Bogdanovka**	**2.58**	**1**	P	**Pb**	**08 29 14.0**	**-0.1**
BGD				S	**Sg**	**08 29 52.0**	**+1.2**
DDEM	**Demirkent**	**2.60**	**329**	*i* P	**Pb**	**08 29 12.3**	**-2.0**
DDEM				*i* S	**Sg**	**08 29 51.4**	**+0.1**
DDEM	**Demirkent**	**2.60**	**329**	P	**Pb**	**08 29 12.3**	**-2.0**
GDB	**GEDABAY**	**2.67**	**39**	⇓P	**Pn**	**08 29 11.1**	**+0.4**
	SNR=3.2						
GDB				⇑S	**Sn**	**08 29 45.6**	**+2.5**
GDB	**GEDABAY**	**2.67**	**39**	P	**Pn**	**08 29 11.1**	**+0.4**
	SNR=3.2						
GDB				S	**Sn**	**08 29 45.6**	**+2.5**
DAGI	**Agillar**	**2.69**	**333**	*i* P	**Pn**	**08 29 11.4**	**+0.3**
DAGI				*i* S	**Sg**	**08 29 55.4**	**+1.0**
KOPT	**Kop Dagi**	**2.70**	**301**	⇑*i*P	**Pn**	**08 29 12.1**	**+0.8**
KOPT				*i* S	**Sg**	**08 29 55.1**	**+0.5**
KOPT	**Kop Dagi**	**2.70**	**301**	P	**Pn**	**08 29 12.1**	**+0.8**
KOPT	**Kop Dagi**	**2.70**	**301**	*e*Pn	**Pn**	**08 29 12.6**	**+1.3**
KOPT	**Kop Dagi**	**2.70**	**301**	*e*Pn	**Pn**	**08 29 12.6**	**+1.3**
MAZI	**Mazidag**	**2.72**	**244**	*e*PN	**Pn**	**08 29 11.0**	**-0.4**
MAZI	**Mazidag**	**2.72**	**244**	*e*Pn	**Pn**	**08 29 11.0**	**-0.4**
AKH	**Akhalkalaki**	**2.73**	**360**	*e*PN	**Pb**	**08 29 16.4**	**-0.2**
AKH	**Akhalkalaki**	**2.73**	**360**	P	**Pb**	**08 29 17.0**	**+0.3**
AKH				S	**Sg**	**08 29 57.5**	**+2.1**
AKH	**Akhalkalaki**	**2.73**	**360**	P	**Pb**	**08 29 16.9**	**+0.3**
AKH	**Akhalkalaki**	**2.73**	**360**	P	**Pb**	**08 29 16.9**	**+0.3**
QZX	**Qazax, Azerbai**	**2.77**	**30**	⇓P	**Pn**	**08 29 12.4**	**+0.4**
	SNR=65						
QZX				⇓S	**Sn**	**08 29 47.5**	**+2.2**
QZX	**Qazax, Azerbai**	**2.77**	**30**	P	**Pn**	**08 29 12.4**	**+0.4**
	SNR=65						
QZX				S	**Sn**	**08 29 47.5**	**+2.2**
KZR	**Kazreti**	**2.78**	**14**	P	**Pb**	**08 29 17.8**	**+0.3**
KZR				S	**Sg**	**08 29 56.3**	**-0.9**
ARTV	**Artvin**	**2.79**	**334**	⇑*i*P	**Pn**	**08 29 12.8**	**+0.4**
ARTV				*i* S	**Sg**	**08 29 57.2**	**-0.1**
ARTV	**Artvin**	**2.79**	**334**	P	**Pn**	**08 29 12.8**	**+0.4**
ARTV	**Artvin**	**2.79**	**334**	*e*Pn	**Pn**	**08 29 13.1**	**+0.7**
ARTV	**Artvin**	**2.79**	**334**	*e*Pn	**Pn**	**08 29 13.1**	**+0.7**
IHRS	**Heris**	**2.79**	**96**	*e*Pn	**Pn**	**08 29 13.4**	**+1.0**
IHRS				*e*AMB	AMB	08 29 23.6	
	comp=Z,11μm,0.3s						
IHRS	**Heris**	**2.79**	**96**	*e*Pn	**Pn**	**08 29 13.4**	**+1.0**
IBST	**Bostanabad**	**2.83**	**109**	*e*Pn	**Pn**	**08 29 14.3**	**+1.3**
IBST				*e*AMB	AMB	08 29 24.9	
	comp=Z,6μm,0.3s						
IBST	**Bostanabad**	**2.83**	**109**	*e*Pn	**Pn**	**08 29 14.3**	**+1.3**
EPOS	**Posof**	**2.88**	**348**	*i* P	**Pn**	**08 29 14.4**	**+0.7**
EPOS	**Posof**	**2.88**	**348**	P	**Pn**	**08 29 14.4**	**+0.7**
GANJ	**Ganja**	**2.92**	**47**	⇓P	**Pn**	**08 29 14.6**	**+0.5**
	SNR=46						
GANJ				⇓S	**Sn**	**08 29 51.5**	**+2.4**
GANJ	**Ganja**	**2.92**	**47**	P	**Pn**	**08 29 14.6**	**+0.5**
	SNR=46						
GANJ				S	**Sn**	**08 29 51.5**	**+2.4**
DBOC	**Borcka**	**3.02**	**332**	*i* P	**Pn**	**08 29 15.9**	**+0.4**
DBOC	**Borcka**	**3.02**	**332**	P	**Pn**	**08 29 15.9**	**+0.4**
ERZN	**Erzincan**	**3.09**	**288**	*e*PN	**Pn**	**08 29 18.1**	**+1.6**
DGRG	**David-gareji**	**3.11**	**27**	P	**Pb**	**08 29 22.3**	**-0.7**
DGRG				S	**Sg**	**08 30 10.9**	**+3.2**
DGRG	**David-gareji**	**3.11**	**27**	P	**Pb**	**08 29 22.3**	**-0.7**
DGRG	**David-gareji**	**3.11**	**27**	P	**Pn**	**08 29 20.0**	**+3.3**
TNCL	**Tunceli-Merkez**	**3.14**	**279**	*i* P	**Pb**	**08 29 20.9**	**-2.6**
TNCL	**Tunceli-Merkez**	**3.14**	**279**	P	**Pb**	**08 29 20.9**	**-2.6**
EUZM	**Uzumlu**	**3.14**	**290**	*i* P	**Pb**	**08 29 22.7**	**-1.0**
TBLG	**Delisi**	**3.19**	**17**	*e*PN	**Pb**	**08 29 22.7**	**-1.7**
TBLG	**Delisi**	**3.19**	**17**	P	**Pb**	**08 29 23.3**	**-1.0**
TBLG				S	**Sg**	**08 30 08.9**	**-1.2**
TBLG	**Delisi**	**3.19**	**17**	P	**Pb**	**08 29 23.3**	**-1.0**
TBLG	**Delisi**	**3.19**	**17**	P	**Pn**	**08 29 19.6**	**+1.9**
SEAG	**Tbilisi Sea**	**3.23**	**17**	P	**Pb**	**08 29 24.9**	**-0.2**
PTK	**Pertek**	**3.23**	**275**	*e*PN	**Pn**	**08 29 20.0**	**+1.4**
PTK	**Pertek**	**3.23**	**275**	*e*Pn	**Pn**	**08 29 20.0**	**+1.4**
BRDA	**Brd**	**3.24**	**60**	⇓P	**Pn**	**08 29 18.8**	**+0.3**
	SNR=63						
BRDA				⇑S	**Sn**	**08 29 58.9**	**+2.0**
BRDA	**Brd**	**3.24**	**60**	P	**Pn**	**08 29 18.8**	**+0.3**
	SNR=63						
BRDA				S	**Sn**	**08 29 58.9**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.32**	**266**	*e*PN	**Pn**	**08 29 20.6**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.32**	**266**	*e*Pn	**Pn**	**08 29 20.6**	**+0.9**
ISRB	**Sarab**	**3.37**	**103**	*e*Pn	**Pn**	**08 29 22.3**	**+1.8**
ISRB				*e*AMB	AMB	08 29 34.1	
	comp=Z,5μm,0.3s						
ISRB	**Sarab**	**3.37**	**103**	*e*Pn	**Pn**	**08 29 22.3**	**+1.8**
MNGR	**Mingechevir, A**	**3.45**	**52**	⇑P	**Pn**	**08 29 21.8**	**+0.5**
	SNR=47						
MNG

SNR=2.9
GBS Qobustan 4.58 64 P **Pn 08 29 36.8 -0.1**
SNR=2.9
IDHR Dehrash 4.59 149 *e*Pn **Pn 08 29 38.8 +1.6**
IDHR *e*AMB AMB 08 31 24.8
comp=Z,10μm,0.6s
IDHR Dehrash 4.59 149 *e*Pn **Pn 08 29 38.8 +1.6**
NEY Neytrino 4.60 353 *e*P **Pn 08 29 38.7 +1.3**
NEY Neytrino 4.60 353 *e*P **Pn 08 29 38.7 +1.3**
QSAR Qusar 4.61 51 ⇑P **Pn 08 29 37.7 +0.4**
SNR=10
QSAR Qusar 4.61 51 P **Pn 08 29 37.7 +0.4**
SNR=10
QUBA Quba, Azerbaij 4.66 53 ⇑P **Pn 08 29 38.4 +0.4**
SNR=12
QUBA Quba, Azerbaij 4.66 53 P **Pn 08 29 38.4 +0.4**
SNR=12
ATGJ Altiaghaj 4.71 61 ⇑P **Pn 08 29 38.6 -0.1**
SNR=7.5
ATGJ Altiaghaj 4.71 61 P **Pn 08 29 38.6 -0.1**
SNR=7.5
DARE Darende-Malaty 4.73 271 *e*PN **Pn 08 29 41.0 +2.0**
DARE Darende-Malaty 4.73 271 *e*Pn **Pn 08 29 41.0 +2.0**
SIZA Siyzn 4.78 58 ⇓P **Pn 08 29 39.7 +0.1**
SNR=3.4
SIZA Siyzn 4.78 58 P **Pn 08 29 39.7 +0.1**
SNR=3.4
NCK Nalchik 4.81 1 *e*P **Pn 08 29 42.2 +2.2**
NCK Nalchik 4.81 1 *e*P **Pn 08 29 42.2 +2.2**
GROC Groznyy 4.83 20 *e*P Pb 08 29 46.7 -5.7
GROC pmax pmax
comp=Z,267nm,1.3s
IVIS Veis 4.94 146 *e*AMB AMB 08 30 07.4
comp=Z,2μm,0.4s
KBZ Khabaz 5.07 355 Pn **Pn 08 29 46.9 +3.4**
comp=Z,0.2nm,0.3s,baz=168,slow=9.8,SNR=12
SVSK Karacayir 5.21 286 *e*PN **Pn 08 29 48.2 +2.7**
SVSK Karacayir 5.21 286 *e*Pn **Pn 08 29 48.2 +2.7**
MAK Makhachkala 5.24 34 *e*P **Pn 08 29 44.9 -0.9**
MAK *e*S **Sn 08 30 46.1 0.0**
MAK pmax pmax
comp=Z,38nm,0.4s
MAK MLR MLR
comp=Z,5μm,11.0s
MAK Makhachkala 5.24 34 *e*P **Pn 08 29 44.9 -0.9**
comp=Z,38nm,0.4s
MAK *e*S **Sn 08 30 46.1 0.0**
comp=Z,5μm,11.0s
KIV Kislovodsk 5.31 353 *e*P **Pn 08 29 47.1 +0.2**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV MLR MLR
comp=Z,85nm,7.0s
KIV Kislovodsk 5.31 353 *e*Pn **Pn 08 29 47.2 +0.3**
KIV Kislovodsk 5.31 353 *e*Pn **Pn 08 29 47.2 +0.3**
KVAR Kislovodsk Arr 5.31 354 Pn **Pn 08 29 50.5 +3.6**
baz=270,slow=4.0,SNR=7.3
KMRS Kahramanmaras 5.35 259 *e*PN **Pn 08 29 49.3 +1.7**
KMRS Kahramanmaras 5.35 259 *e*Pn **Pn 08 29 49.3 +1.7**
BHD Baghdad 5.44 172 *e*Pn **Pn 08 29 48.0 -0.7**
SNR=3.0
BHD *i* Sn **Sn 08 30 50.5 -0.8**
SNR=3.0
SARI SarD1z-Kayseri 5.58 269 *e*PN **Pn 08 29 52.6 +1.8**
SOC Sochi 5.68 331 *e*P **Pn 08 29 54.2 +2.3**
SOC pmax pmax
comp=Z,33nm,0.9s
SOC MLR MLR
comp=Z,823nm,11.0s
SOC Sochi 5.68 331 *e*P **Pn 08 29 54.2 +2.3**
comp=Z,823nm,11.0s
RTB Rutbah 6.21 206 *e*Pn **Pn 08 29 59.0 -0.4**
SNR=3.0
RTB *i* Sn **Sn 08 31 08.0 -2.3**
SNR=3.0
GOF Gofitskoye 6.38 357⇑*e*P Pn 08 30 07.1 +5.5
GOF pmax pmax
comp=Z,27nm,0.6s
ANN Anapa 7.62 325 *e*P **Pn 08 30 19.1 +0.5**
ANN *e*S **Sn 08 31 46.8 +2.0**
ANN pmax pmax
comp=Z,66nm,1.3s
ANN MLR MLR
comp=Z,690nm,15.0s
ANN Anapa 7.62 325 *e*P **Pn 08 30 19.1 +0.5**
comp=Z,66nm,1.3s
ANN *e*S **Sn 08 31 46.8 +2.0**
comp=Z,690nm,15.0s
BR101 Keskin Array S 7.75 281 *e*Pn **Pn 08 30 22.0 +1.5**
BR101 Keskin Array S 7.75 281 *e*Pn **Pn 08 30 22.0 +1.5**
BRTR Keskin Array B 7.75 281 Pn **Pn 08 30 22.0 +1.5**
comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=3.8
ILGA Ilgaz 7.91 291 *e*Pn **Pn 08 30 23.6 +0.9**
ILGA Ilgaz 7.91 291 *e*Pn **Pn 08 30 23.6 +0.9**
NSR Nassriya 7.95 164 *e*Pn **Pn 08 30 23.0 -0.1**
SNR=3.0
NSR *i* Sn **Sn 08 31 50.5 -2.5**
SNR=3.0
ASF Jabal al Asfar 8.45 222 Pn **Pn 08 30 29.8 -0.2**
comp=Z,0.4nm,0.3s,baz=7.3,slow=11,SNR=6.9
ASF Lg Lg 08 32 52.3
comp=Z,0.5nm,0.3s,baz=184,slow=17,SNR=2.2
MMAI Mount Meron Ar 8.68 232 Pn **Pn 08 30 33.3 0.0**
comp=Z,1.3nm,0.3s,baz=61,slow=17,SNR=2.2
MMAI Lg Lg 08 33 01.6
comp=Z,2.9nm,0.3s,baz=57,slow=28,SNR=2.3
SIM Simferopol' 9.40 315 *e*P Pn 08 30 38.2 -4.9
SIM S **Sn 08 32 29.5 +0.8**
EIL Elat 11.45 221 Pn **Pn 08 31 15.2 +4.1**
comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=3.2
EIL Lg Lg 08 34 33.6
comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=2.8
EIL LR LR 08 35 48.8
comp=Z,390nm,18.7s,baz=6.0,slow=39
GEYT Alibeck 11.49 89 Pn **Pn 08 31 11.0 -0.7**
baz=275,slow=16,SNR=10
HARR Harsova 13.10 302⇑*i*P **P 08 31 44.6 +0.7**
HARR Harsova 13.10 302 ⇑P **P 08 31 44.6 +0.7**
SZH Strazhica 14.05 295 P **P 08 31 55.8 +1.3**
KDZ Kurdzhali 14.16 288 P **P 08 31 58.1 +2.4**
LPSR Galich'ya Gora 14.28 349 *e*P **Pn 08 31 50.0 +0.3**
LPSR pmax pmax
comp=Z,40nm,1.2s
VRI Vrincioaia 14.34 305⇑*i*P **P 08 32 01.3 +3.6**
VRI Vrincioaia 14.34 305 ⇑P **P 08 32 01.3 +3.6**
PLOR Plostina 14.39 305⇓*i*P **P 08 32 00.8 +2.6**
PLOR Plostina 14.39 305 ⇓P **P 08 32 00.8 +2.6**
PLOR Plostina 14.39 305 P **P 08 32 00.8 +2.6**
TESR Tescani 14.67 308⇑*i*P **P 08 32 02.0 +0.7**
TESR Tescani 14.67 308⇑*i*P **P 08 32 02.0 +0.7**
MLR Muntele Rosu 14.70 303 Pn **Pn 08 31 57.2 +1.6**
comp=Z,0.0nm,0.3s,baz=93,slow=17,SNR=3.1
MLR Muntele Rosu 14.70 303⇑*i*P **P 08 32 03.8 +2.0**
MLR Muntele Rosu 14.70 303 *e*P **Pn 08 31 56.1 +0.4**
MLR Muntele Rosu 14.70 303 *e*Pn **Pn 08 31 56.0 +0.4**
MLR Muntele Rosu 14.70 303⇑*i*P **P 08 32 03.8 +2.0**
MLR Muntele Rosu 14.70 303 *e*Pn **Pn 08 31 56.0 +0.4**
MTUR Matau 15.20 301⇑*i*P **P 08 32 10.1 +2.8**
MTUR Matau 15.20 301 ⇑P **P 08 32 10.1 +2.8**
MTUR Matau 15.20 301 P **P 08 32 10.1 +2.8**
PGB Panagyurishte 15.20 291 P **P 08 32 06.0 -1.2**
RAYN Ar Rayn 15.21 173 *e*Pn **Pn 08 31 58.0 -4.4**
comp=Z,50nm,1.0s
DOPR Dopca 15.24 304⇑*i*P **P 08 32 10.2 +2.5**
DOPR Dopca 15.24 304⇑*i*P **P 08 32 10.2 +2.5**
IDI Anoyia 15.27 263 Pn **P 08 32 05.8 -2.3**
comp=Z,0.4nm,0.3s,baz=87,slow=8.5,SNR=3.1
IDI LR LR 08 37 56.5
comp=Z,47nm,20.0s,baz=94,slow=38
IDI Anoyia 15.27 263 *e*Pn **Pn 08 32 04.0 +0.8**
comp=Z,58nm,1.3s
IDI Anoyia 15.27 263 *e*Pn **Pn 08 32 04.0 +0.8**
comp=Z,58nm,1.3s
VOIR 15.28 302⇑*i*P **P 08 32 11.3 +3.2**
VOIR 15.28 302 ⇑P **P 08 32 11.3 +3.2**
VOIR 15.28 302 P **P 08 32 11.3 +3.2**
SRS Serrai 15.49 285 P **P 08 32 12.6 +2.2**
SRS pmax pmax
comp=Z,26nm,1.3s
SRS Serrai 15.49 285 P **P 08 32 12.6 +2.2**
comp=Z,26nm,1.3s
ARR Arges 15.53 302⇓*i*P **P 08 32 13.7 +2.8**
ARR Arges 15.53 302⇓*i*P **P 08 32 13.7 +2.8**
AKTO Aktyubinsk 15.61 36 Pn **Pn 08 32 05.2 -2.4**
comp=Z,0.2nm,0.3s,baz=229,slow=13,SNR=16
AKTO LR LR 08 39 55.7
comp=Z,438nm,18.9s,baz=225,slow=44
AKTO Aktyubinsk 15.61 36 *i* P **Pn 08 32 04.6 -2.9**
AKTO pmax pmax
comp=Z,33nm,1.1s
AKASG Malin Array Be 15.71 325 Pn **Pn 08 32 07.2 -1.5**
comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=24
AKASG LR LR 08 38 08.7
comp=Z,160nm,21.2s,baz=120,slow=37
AKBB Malin Array Si 15.71 325 *e*P **Pn 08 32 08.8 0.0**
AKBB pmax pmax
comp=Z,25nm,1.1s
AKBB Malin Array Si 15.71 325 *e*Pn **Pn 08 32 08.8 0.0**
comp=Z,25nm,1.1s
AKBB Malin Array Si 15.71 325 *e*Pn **Pn 08 32 08.8 0.0**
comp=Z,25nm,1.1s
KIEV Kiev 15.71 324 *e*P **Pn 08 32 08.7 -0.1**
KIEV pmax pmax
comp=Z,23nm,1.4s
KIEV Kiev 15.71 324 *e*Pn **Pn 08 32 09.4 +0.6**
comp=Z,24nm,1.1s
KIEV Kiev 15.71 324 *e*Pn **Pn 08 32 09.4 +0.6**
comp=Z,24nm,1.1s
AB31 Akbulak array 15.82 43 *ce*P **Pn 08 32 09.0 -1.3**
AB31 pmax pmax
comp=Z,15nm,1.1s
ABKAR Akbulak array 15.82 43 *e*Pn **Pn 08 32 10.2 -0.1**
comp=Z,97nm,1.1s
ABKAR Akbulak array 15.82 43 *e*Pn **Pn 08 32 10.2 -0.1**
comp=Z,97nm,1.1s
VTS Vitosha 15.90 291⇑*i*P **P 08 32 14.3 -0.9**
VTS Vitosha 15.90 291 *e*P **Pn 08 32 13.1 +1.6**
VTS pmax pmax
comp=Z,39nm,1.2s
VTS Vitosha 15.90 291 *e*Pn **Pn 08 32 13.1 +1.6**
comp=Z,39nm,1.2s
VTS Vitosha 15.90 291⇑*i*P **P 08 32 14.3 -0.9**
VTS Vitosha 15.90 291 *e*Pn **Pn 08 32 13.1 +1.6**
comp=Z,39nm,1.2s
KKB Krupnik 15.92 288 P **P 08 32 20.3 +5.1**
BURAR Bucovina Array 16.04 310⇑*i*P **P 08 32 18.4 +1.8**
BURAR Bucovina Array 16.04 310 ⇑P **P 08 32 18.4 +1.8**
BURAR Bucovina Array 16.04 310⇑*i*P **P 08 32 18.4 +1.8**
BUR08 Bucovina Ar. S 16.06 310 *e*Pn **Pn 08 32 14.4 +0.9**
BUR08 Bucovina Ar. S 16.06 310 *e*Pn **Pn 08 32 14.4 +0.9**
GZR Gura Zlata 16.79 300⇑*i*P **P 08 32 24.6 -0.2**
GZR Gura Zlata 16.79 300⇑*i*P **P 08 32 24.6 -0.2**
ZAGS Zajecar 16.80 295 *e*P **P 08 32 24.1 -0.8**
OBN Obninsk 17.10 346 P **Pn 08 32 24.9 -1.5**
comp=Z,2.8nm,0.3s,baz=141,slow=12,SNR=8.1
OBN Obninsk 17.10 346 *i* P **Pn 08 32 23.7 -2.7**
OBN *i* S **S 08 35 44.0 -1.8**
OBN pmax pmax
comp=Z,23nm,1.5s
OBN MLR MLR
comp=Z,201nm,12.0s
OBN Obninsk 17.10 346 *e*Pn **Pn 08 32 25.3 -1.1**
comp=Z,135nm,1.3s
OBN Obninsk 17.10 346 *e*Pn **Pn 08 32 25.3 -1.1**
comp=Z,135nm,1.3s
BOVS Bovan 17.14 294 *e*P **P 08 32 29.8 +1.1**
DRGR 17.27 305⇑*i*P **P 08 32 36.2 +6.0**
DRGR 17.27 305 ⇑P **P 08 32 36.2 +6.0**
UOSS Minazif 17.40 138 *e*Pn **Pn 08 32 27.7 -2.7**
comp=Z,26nm,1.0s
UOSS Minazif 17.40 138 *e*Pn **Pn 08 32 27.7 -2.7**
comp=Z,26nm,1.0s
MOS Moscow 17.52 349 *e*P **Pn 08 32 29.1 -2.5**
MOS pmax pmax
comp=Z,66nm,1.2s
BZS Buzias 17.63 300⇓*i*P **P 08 32 34.2 +0.1**
BZS Buzias 17.63 300 ⇓P **P 08 32 34.2 +0.1**
BZS Buzias 17.63 300 P **P 08 32 34.2 +0.1**
SIRR Siria 17.79 302⇑*i*P **P 08 32 37.6 +1.7**
SIRR Siria 17.79 302⇑*i*P **P 08 32 37.6 +1.7**
GRUS Gruza 17.89 294 *e*P **P 08 32 37.1 +0.1**
IVAS Ivanjica 18.25 293 *e*P **P 08 32 41.6 +0.5**
KWP Kalwaria Pacla 18.45 313 *e*P **Pn 08 32 44.0 +0.7**
KWP Kalwaria Pacla 18.45 313 *e*P **Pn 08 32 44.0 +0.7**
KWP Kalwaria Pacla 18.45 313 *e*P **Pn 08 32 44.0 +0.7**
FGSL Fruska Gora 18.76 298 *e*P **Pn 08 32 47.7 +0.7**
BBLS Lazići 18.83 294 *e*P **Pn 08 32 48.1 +0.2**
TEKS Tekeris 18.84 296 *e*P **Pn 08 32 49.4 +1.4**
STHS Stebnicka Huta 19.20 311 *e*P **Pn 08 32 52.5 +0.1**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 19.20 311 *e*P **Pn 08 32 52.5 +0.1**
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 19.20 311 *e*P **Pn 08 32 52.5 +0.1**
KECS Kecovo 19.29 308 *e*P **Pn 08 32 54.5 +1.2**
KECS pmax pmax
comp=Z,7.0nm,1.2s
KECS Kecovo 19.29 308 *e*P **Pn 08 32 54.5 +1.2**
comp=Z,7.0nm,1.2s
KECS Kecovo 19.29 308 *e*P **Pn 08 32 54.5 +1.2**
PSZ Piszkesteto 19.45 306⇑*i*P **Pn 08 32 57.2 +1.8**
PSZ Piszkesteto 19.45 306 *e*P **P 08 32 54.0 -0.3**
PSZ pmax pmax
comp=Z,29nm,1.2s
PSZ Piszkesteto 19.45 306 *e*P **P 08 32 54.0 -0.3**
comp=Z,29nm,1.2s
PSZ Piszkesteto 19.45 306⇓*e*P **Pn 08 32 56.2 +0.8**
PSZ Piszkesteto 19.45 306 *e*P **P 08 32 54.0 -0.3**
comp=Z,29nm,1.2s
DZET Dzherino 19.73 82 P **Pn 08 33 01.8 +3.0**
DZET pmax pmax
comp=Z,9.0nm,0.8s
NIE Niedzica 19.77 310 *e*P **Pn 08 32 59.5 +0.3**
NIE Niedzica 19.77 310 *e*P **Pn 08 32 59.4 +0.3**
NIE Niedzica 19.77 310 *e*P **Pn 08 32 59.4 +0.3**
NACGM Naroch 19.78 331 *e* **P 08 32 57.0 -0.6**
WSAR Wadi Sarin 20.07 136 P Pn 08 33 02.6 -0.3
comp=Z,6.6nm,0.9s,baz=312,slow=8.9,SNR=5.2
WSAR LR LR 08 42 46.2
comp=Z,273nm,18.8s,baz=338,slow=43
LANS Liptovska Anna 20.16 309 *e*P Pn 08 33 06.0 +2.2
LANS Liptovska Anna 20.16 309 *e*P Pn 08 33 06.0 +2.2
VYHS Vyhne 20.32 307 *e*P Pn 08 33 04.6 -1.0
VYHS pmax pmax
comp=Z,362nm,3.9s
VYHS Vyhne 20.32 307 *e*P Pn 08 33 04.6 -1.0
comp=Z,362nm,3.9s
VYHS Vyhne 20.32 307 *e*P Pn 08 33 04.6 -1.0
CSKK Cs^‡kako 20.34 303⇓*e*P Pn 08 33 05.4 -0.4
CSKK Cs^‡kako 20.34 303⇓*e*P Pn 08 33 05.4 -0.4
ARU Arti 20.37 24 P **P 08 33 04.1 +0.1**
comp=Z,4.6nm,0.3s,baz=224,slow=6.4,SNR=27
ARU Arti 20.37 24 *d i*P **P 08 33 04.6 +0.6**
ARU 08 33 21.2
ARU S Sn 08 36 57.1 +1.8
ARU SS **SnSn 08 37 12.9 +3.0**
ARU pmax pmax
comp=Z,53nm,1.2s
ARU Arti 20.37 24 *e*P **P 08 33 05.0 +1.0**
comp=Z,50nm,1.0s
ARU Arti 20.37 24 *e*P **P 08 33 05.0 +1.0**
comp=Z,50nm,1.0s
OJC Ojcow 20.40 312 *e*P Pn 08 33 08.9 +2.4
OJC Ojcow 20.40 312 *e*P **P 08 33 04.6 +0.2**
OJC pmax pmax
comp=Z,25nm,0.9s
OJC Ojcow 20.40 312 *e*P **P 08 33 04.6 +0.2**
comp=Z,25nm,0.9s
OJC Ojcow 20.40 312 *e*P **P 08 33 04.6 +0.2**
comp=Z,25nm,0.9s
BLY Banja Luka 20.53 296 *e*P **P 08 33 06.9 +1.0**
comp=Z,14nm,1.0s
BLY Banja Luka 20.53 296 *e*P **P 08 33 06.9 +1.0**
comp=Z,14nm,1.0s
SUW Suwalki 20.68 324 *e*P **P 08 33 08.6 +1.2**
SUW Suwalki 20.68 324 *e*P Pn 08 33 08.6 -1.1
SUW Suwalki 20.68 324 *e*P Pn 08 33 08.6 -1.1
KK31 Karatay Array 20.84 69 *ce*P **P 08 33 09.4 +0.1**
KK31 pmax pmax
comp=Z,15nm,0.7s
KK31 Karatay Array 20.84 69 *e*P **P 08 33 09.4 +0.1**
comp=Z,15nm,0.7s
KKAR Karatay Array 20.84 69 *e*P **P 08 33 09.7 +0.4**
KKAR pmax pmax
comp=Z,156nm,0.8s
KKAR Karatay Array 20.84 69 *e*P **P 08 33 09.7 +0.4**
comp=Z,156nm,0.8s
KKAR Karatay Array 20.84 69 *e*P **P 08 33 09.7 +0.4**
comp=Z,156nm,0.8s
KBL Kabul 20.88 94 *e*P **P 08 33 08.7 -1.3**
KBL pmax pmax
comp=Z,34nm,1.4s
KBL Kabul 20.88 94 *e*P **P 08 33 08.7 -1.3**
comp=Z,34nm,1.4s
KBL Kabul 20.88 94 *e*P **P 08 33 08.7 -1.3**
comp=Z,34nm,1.4s
OKC Ostrava-Krasne 21.22 310 *e*P **P 08 33 14.0 +0.7**
OKC *ex* x 08 33 18.5
OKC AMS AMS 08 44 50.0
comp=Z,300nm,12.2s
OKC Ostrava-Krasne 21.22 310 *e*P **P 08 33 14.0 +0.7**
OKC *e* 08 33 18.5
OKC MLR MLR
comp=Z,300nm,12.2s
OKC Ostrava-Krasne 21.22 310 *e*P **P 08 33 14.0 +0.7**
comp=Z,300nm,12.2s
SVE Sverdlovsk 21.39 26 *e*P **P 08 33 16.0 +1.0**
SVE *e*S Sn 08 37 20.3 +0.6
SVE pmax pmax
comp=Z,71nm,1.3s
SVE MLR MLR
comp=Z,654nm,15.0s
SVE Sverdlovsk 21.39 26 *e*P **P 08 33 16.0 +1.0**
comp=Z,71nm,1.3s
SVE Sverdlovsk 21.39 26 *e*PcP **PcP 08 37 20.3 +2.0**
comp=Z,654nm,15.0s
CUC Castrocucco 21.44 282 *e*P **P 08 33 16.2 +0.4**
comp=Z,10nm,0.8s
CUC Castrocucco 21.44 282 *e*P **P 08 33 16.2 +0.4**
comp=Z,10nm,0.8s
SOP Sopron 21.53 303 P **P 08 33 19.4 +2.7**
SOP pmax pmax
comp=Z,40nm,1.1s
MORC Moravsky Berou 21.56 309⇓*i*P **P 08 33 17.4 +0.4**
MORC Moravsky Berou 21.56 309 ⇓P **P 08 33 17.4 +0.4**
MORC Moravsky Berou 21.56 309 P **P 08 33 17.4 +0.4**
VRAC Vranov 21.98 308 P **P 08 33 23.9 +2.4**
comp=Z,18nm,0.8s,baz=110,slow=8.5,SNR=14
BOJS Bojanci 21.99 297 *i* P **P 08 33 23.3 +1.8**
BOJS Bojanci 21.99 297 P **P 08 33 23.3 +1.8**
CONA Conrad Observa 22.05 304 *ep*P **P 08 33 23.7 +1.4**
comp=Z,17nm,1.1s,SNR=7.3
CONA Conrad Observa 22.05 304 P **P 08 33 23.7 +1.4**
comp=Z,17nm,1.1s,SNR=7.3
ARSA Arzberg 22.11 302 *ep*P **P 08 33 24.4 +1.4**
comp=Z,17nm,1.4s
ARSA Arzberg 22.11 302 P **P 08 33 24.4 +1.4**
comp=Z,17nm,1.4s
KRLC Kraliky 22.12 310 *e*P **P 08 33 24.6 +1.5**
KRLC *ep*P **sP 08 33 28.2 +0.1**
KRLC Kraliky 22.12 310 *e*P **P 08 33 24.6 +1.5**
KRLC *e* 08 33 28.2
KRLC Kraliky 22.12 310 P **P 08 33 24.6 +1.5**
PERS Pernice 22.26 300 *i* P **P 08 33 26.3 +1.7**
PERS Pernice 22.26 300 *i* P **P 08 33 26.3 +1.7**
MNAS Manas 22.29 71 P **P 08 33 25.6 +0.6**
MNAS pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 22.34 355 *e*P **P 08 33 24.1 -1.1**
KLMR *e*S **S 08 37 28.4 -1.9**
KLMR pmax pmax
comp=Z,257nm,1.2s
DPC Dobruska-Polom 22.50 310 *e*P **P 08 33 28.5 +1.4**
DPC *ep*P **sP 08 33 32.0 -0.1**
DPC *ex* x 08 33 40.4
DPC Dobruska-Polom 22.50 310 *e*P **P 08 33 28.5 +1.4**
DPC *e* 08 33 32.0
DPC Dobruska-Polom 22.50 310 P **P 08 33 28.5 +1.4**
SOKR Solikamsk 22.58 18⇑*i*P **P 08 33 26.9 -0.8**
SOKR pmax pmax
comp=Z,47nm,1.1s
SOKR MLR MLR
comp=Z,258nm,16.0s
VSU Vasula 22.58 337 *ce*P **P 08 33 27.9 +0.2**
VSU pmax pmax
comp=Z,96nm,1.7s
OBKA Obir 22.63 300 *ep*P **P 08 33 30.5 +2.0**
comp=Z,16nm,1.3s
OBKA Obir 22.63 300 P **P 08 33 30.5 +2.0**
comp=Z,16nm,1.3s
TREC Trest 22.66 307 *e*P **P 08 33 30.8 +2.0**
TREC AMS AMS 08 45 40.0
TREC Trest 22.66 307 *e*P **P 08 33 30.8 +2.0**
TREC Trest 22.66 307 P **P 08 33 30.8 +2.0**
KSP Ksiaz 22.70 311 *e*P **P 08 33 30.0 +0.9**
KSP Ksiaz 22.70 311 *e*P **P 08 33 30.0 +0.9**
KSP Ksiaz 22.70 311 *e*P **P 08 33 30.0 +0.9**
UPC Upice 22.74 310 *e*P **P 08 33 31.1 +1.5**
UPC *ep*P **sP 08 33 34.5 -0.2**
UPC AMS AMS 08 46 10.0
comp=Z,300nm,11.0s
UPC Upice 22.74 310 *e*P **P 08 33 31.1 +1.5**
UPC *e* 08 33 34.5
UPC MLR MLR
comp=Z,300nm,11.0s
UPC Upice 22.74 310 P **P 08 33 31.1 +1.5**
MOA Molln 23.08 303 *ep*P **P 08 33 34.1 +1.0**
comp=Z,22nm,1.0s
MOA Molln 23.08 303 P **P 08 33 34.1 +1.0**
comp=Z,22nm,1.0s
GOPC GO Pecny, Ondr 23.29 308 *e*P **P 08 33 36.4 +1.1**
GOPC AMS AMS 08 46 30.0
GOPC GO Pecny, Ondr 23.29 308 *e*P **P 08 33 36.4 +1.1**
GOPC GO Pecny, Ondr 23.29 308 P **P 08 33 36.4 +1.1**
BRVK Borovoye 23.35 43 *ce*P **P 08 33 36.2 +0.3**
BRVK pmax pmax
comp=Z,43nm,1.0s
BRVK Borovoye 23.35 43 *e*P **P 08 33 36.1 +0.3**
comp=Z,16nm,0.9s
BVA0 Borovoye Array 23.39 43 *i* P **P 08 33 36.7 +0.4**
BVA0 pmax pmax
comp=Z,15nm,1.1s
BVAR Borovoye Array 23.39 43 P **P 08 33 36.4 +0.1**
comp=Z,9.8nm,0.9s,baz=238,slow=8.3,SNR=36
PRU Pruhonice 23.46 308 *e*P **P 08 33 38.8 +1.8**
PRU *ex* x 08 33 56.5
PRU Pruhonice 23.46 308 *e*P **P 08 33 38.8 +1.8**
PRU Pruhonice 23.46 308 P **P 08 33 38.8 +1.8**
KBA Koelnbreinsper 23.54 301 P **P 08 33 38.7 +0.7**
KBA pmax pmax
comp=Z,16nm,1.3s
KBA Koelnbreinsper 23.54 301 *e*P **P 08 33 38.4 +0.5**
comp=Z,22nm,1.2s,SNR=8.0
KBA Koelnbreinsper 23.54 301 P **P 08 33 38.4 +0.5**
comp=Z,22nm,1.2s,SNR=8.0
PVCC Panska Ves 23.61 310 *e*P **P 08 33 38.0 -0.5**
PVCC AMS AMS 08 45 40.0
comp=Z,300nm,14.6s
PVCC Panska Ves 23.61 310 *e*P **P 08 33 38.0 -0.5**
PVCC MLR MLR
comp=Z,300nm,14.6s
PVCC Panska Ves 23.61 310 P **P 08 33 38.0 -0.5**
GEC2 GERESS Array S 23.67 305 *e*P **P 08 33 39.3 +0.1**
GEC2 pmax pmax
comp=Z,19nm,1.0s
GEC2 GERESS Array S 23.67 305 *e*P **P 08 33 39.3 +0.1**
comp=Z,19nm,1.0s
GERES GERESS Array B 23.67 305 P **P 08 33 38.5 -0.7**
comp=Z,4.8nm,0.9s,baz=106,slow=9.0,SNR=8.8
GERES LR LR 08 44 12.8
comp=Z,70nm,19.9s,baz=63,slow=40
AAK Ala-Archa 23.75 71 P **P 08 33 40.9 +0.8**
comp=Z,8.9nm,1.0s,baz=246,slow=10,SNR=15
AAK Ala-Archa 23.75 71 *ce*P **P 08 33 40.6 +0.5**
AAK pmax pmax
comp=Z,22nm,1.3s
AAK Ala-Archa 23.75 71 *e*P **P 08 33 41.6 +1.5**
KHC Kasperske Hory 23.82 306 *e*P **P 08 33 40.3 -0.3**
KHC *ex* x 08 33 53.2
KHC *e*S Sn 08 38 08.6 -10
KHC AMS AMS 08 45 30.0
comp=Z,300nm,13.4s
KHC Kasperske Hory 23.82 306 *e*P **P 08 33 40.7 +0.1**
KHC pmax pmax
comp=Z,13nm,1.2s
KHC Kasperske Hory 23.82 306 P **P 08 33 40.3 -0.3**
KHC Kasperske Hory 23.82 306 *e*P **P 08 33 40.7 +0.1**
comp=Z,13nm,1.2s
FRU Bishkek 23.84 70 *e*P **P 08 33 41.5 +0.7**
FRU *i* 08 33 48.5
FRU pmax pmax
comp=Z,108nm,2.0s
ABTA Abfaltersbach 24.05 300 *e*P **P 08 33 43.1 +0.3**
comp=Z,13nm,1.3s
ABTA Abfaltersbach 24.05 300 P **P 08 33 43.1 +0.3**

comp=Z,13nm,1.3s
BRG Berggiesshubel 24.10 310 *e*P **P 08 33 42.9 -0.2**
comp=Z,11nm,1.0s
BRG Berggiesshubel 24.10 310 *e*P **P 08 33 42.9 -0.2**
BRG pmax pmax
comp=Z,11nm,1.0s
WTTA Wattenberg 24.72 301 *e*P **P 08 33 48.6 -0.4**
comp=Z,28nm,1.0s
WTTA Wattenberg 24.72 301 P **P 08 33 48.6 -0.4**
comp=Z,28nm,1.0s
WATA Walderalm 24.77 301 *e*pP **P 08 33 50.3 +0.9**
comp=Z,23nm,0.9s
WATA Walderalm 24.77 301 P **P 08 33 50.3 +0.9**
comp=Z,23nm,0.9s
CLL Collm 24.80 311 *i* P **P 08 33 49.3 -0.2**
CLL *i* 08 33 53.7
CLL *e*S **S 08 38 19.0 +7.4**
CLL pmax pmax
comp=Z,28nm,1.0s
CLL Collm 24.80 311 *i* P **P 08 33 49.3 -0.2**
comp=Z,28nm,1.0s
CLL *i* sP **pP 08 33 53.7 +0.5**
comp=Z,35nm,1.0s
CLL *e* 08 34 04.0
CLL *e*PPP PPP 08 34 27.0
CLL *e*S **S 08 38 19.0 +7.4**
CLL *e* 08 38 42.0
CLL Collm 24.80 311 *e*P **P 08 33 49.0 -0.5**
comp=Z,38nm,1.1s
NKC Novy Kostel 24.82 308 *e*P **P 08 33 49.7 0.0**
NKC *e*pP **sP 08 33 54.4 -0.5**
NKC Novy Kostel 24.82 308 *e*P **P 08 33 49.7 0.0**
NKC *e* 08 33 54.4
NKC Novy Kostel 24.82 308 P **P 08 33 49.7 0.0**
MOTA Moosalm 25.09 301 *e*P **P 08 33 51.8 -0.5**
comp=Z,24nm,1.1s,SNR=12
MOTA Moosalm 25.09 301 P **P 08 33 51.8 -0.5**
comp=Z,24nm,1.1s,SNR=12
KSH Kashi 25.13 78 *e*P **P 08 33 51.9 -0.8**
KSH PP **PnPn 08 34 27.8 +1.5**
KSH *e*PcP **PcP 08 37 30.1 +3.4**
KSH S **S 08 38 12.5 -4.8**
KSH SS **SnSn 08 39 09.1 +2.3**
KSH PcS **PcS 08 41 08.3 +1.2**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH pmax pmax
comp=Z,140nm,4.6s
KSH LR LR
comp=Z,220nm,11.1s
KSH LR LR
comp=Z,280nm,13.5s
KSH LR LR
comp=Z,130nm,10.2s
FIA0 FINESS Array S 25.23 340 *e*P **P 08 33 52.2 -0.9**
FIA0 FINESS Array S 25.23 340 *e*P **P 08 33 52.2 -0.9**
FIA1 FINESS Array S 25.23 340 *e*P **P 08 33 54.3 +1.1**
comp=Z,33nm,1.3s
FINES FINESS Array B 25.23 340 P **P 08 33 52.2 -0.9**
comp=Z,5.3nm,1.0s,baz=140,slow=15,SNR=5.8
FINES LR LR 08 44 51.8
comp=Z,130nm,19.0s,baz=122,slow=39
FETA Feichten 25.30 300 *e*P **P 08 33 56.5 +2.3**
comp=Z,23nm,1.3s
FETA Feichten 25.30 300 P **P 08 33 56.5 +2.3**
comp=Z,23nm,1.3s
RETA Reutte 25.34 301 *e*P **P 08 33 54.1 -0.4**
comp=Z,14nm,1.0s
RETA Reutte 25.34 301 P **P 08 33 54.1 -0.4**
comp=Z,14nm,1.0s
GRFO Grafenberg 25.45 306 *e*P **P 08 33 55.8 +0.4**
GRFO pmax pmax
comp=Z,83nm,1.2s
GRFO Grafenberg 25.45 306 *e*P **P 08 33 55.8 +0.4**
comp=Z,83nm,1.2s
TMCR Tamitsa 25.73 354 *e*P **P 08 33 59.0 +1.3**
DAVOX Davos/Dischmat 25.85 299 P **P 08 33 58.5 -0.7**
comp=Z,13nm,0.8s,baz=142,slow=8.9,SNR=9.3
DAVA Damuels 25.91 300 *e*P **P 08 33 59.7 0.0**
comp=Z,18nm,1.4s
DAVA Damuels 25.91 300 P **P 08 33 59.7 0.0**
comp=Z,18nm,1.4s
TUE Stuetta 26.18 298 *e*P **P 08 34 02.0 -0.3**
comp=Z,40nm,1.8s
KEST Kesra 27.29 275 P **P 08 34 12.2 0.0**
comp=Z,7.4nm,0.9s,baz=116,slow=8.5,SNR=3.9
KEST Kesra 27.29 275 *e*P **P 08 34 12.2 0.0**
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 27.36 53 P **P 08 34 12.8 +0.3**
comp=Z,15nm,0.9s,baz=264,slow=9.1,SNR=101
KURK Kurchatov 27.43 53*ce*P **P 08 34 14.1 +0.9**
KURK pmax pmax
comp=Z,93nm,1.0s
KURK Kurchatov 27.43 53 *e*P **P 08 34 14.0 +0.7**
HFS Hagfors 28.52 329 P **P 08 34 22.3 -0.5**
comp=Z,7.4nm,0.9s,baz=117,slow=8.3,SNR=6.0
HFS LR LR 08 45 52.1
comp=Z,128nm,19.8s,baz=126,slow=37
MAKZ Makanchi 29.15 61 *e*P **P 08 34 29.2 +0.6**
MAKZ pmax pmax
comp=Z,28nm,1.8s
MAKZ Makanchi 29.15 61 *e*P **P 08 34 29.2 +0.6**
comp=Z,28nm,1.8s
MK31 Makanchi Array 29.36 61*ce*P **P 08 34 31.0 +0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 29.36 61 *e*P **P 08 34 31.2 +0.7**
MK32 Makanchi Array 29.36 61 *e*P **P 08 34 30.8 +0.2**
MKAR Makanchi Array 29.36 61 P **P 08 34 30.8 +0.2**
comp=Z,2.8nm,0.8s,baz=268,slow=6.8,SNR=14
MKAR Makanchi Array 29.36 61 *e*P **P 08 34 31.3 +0.8**
MKAR pmax pmax
comp=Z,32nm,0.9s
MKAR Makanchi Array 29.36 61 *e*P **P 08 34 31.3 +0.8**
comp=Z,32nm,0.9s
NB2 NORSAR Subarra 30.04 329 P **P 08 34 34.6 -1.8**
comp=Z,8.9nm,1.4s,baz=121,slow=7.9
NB2 NORSAR Subarra 30.04 329 P **P 08 34 34.6 -1.8**
comp=Z,8.9nm,1.4s,SNR=3.9
NB200 NORSAR Array S 30.04 329 *e*P **P 08 34 35.7 -0.7**
NB200 NORSAR Array S 30.04 329 *e*P **P 08 34 35.6 -0.7**
NOA NORSAR Array B 30.04 329 P **P 08 34 35.7 -0.7**
comp=Z,1.0nm,0.7s,baz=126,slow=8.9,SNR=3.8
NOA LR LR 08 48 18.7
comp=Z,71nm,20.5s,baz=130,slow=40
NOA NORSAR Array B 30.04 329 P **P 08 34 35.7 -0.7**
NOA pmax pmax
comp=Z,4.0nm,1.1s
NOA MLR MLR
comp=Z,71nm,20.5s
NVS Novosibirsk 31.13 46 *e*P **P 08 34 46.5 +0.5**
NVS pmax pmax
comp=Z,20nm,1.4s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS Novosibirsk 31.13 46 *e*P **P 08 34 46.5 +0.5**
comp=E,20nm,1.4s
ZALV Zalesovo Beam 31.83 48 P **P 08 34 51.7 -0.5**
comp=E,3.4nm,0.7s,baz=264,slow=9.6,SNR=8.7
ZALV LR LR 08 49 13.7
comp=E,94nm,19.1s,baz=248,slow=39
ZALV Zalesovo Beam 31.83 48 P **P 08 34 51.7 -0.5**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV MLR MLR
comp=Z,94nm,19.1s
ZAA1 Zalesovo Array 31.83 48 *e*P **P 08 34 51.7 -0.5**
ZAA1 Zalesovo Array 31.83 48 *e*P **P 08 34 51.7 -0.5**
ARA0 ARCESS Array S 32.39 348 *e*P **P 08 34 56.1 -0.9**
ARA0 ARCESS Array S 32.39 348 *e*P **P 08 34 56.1 -0.9**
ARCES ARCESS Array B 32.39 348 P **P 08 34 56.1 -0.9**
comp=Z,3.9nm,0.8s,baz=143,slow=12,SNR=6.7
ARCES LR LR 08 50 02.8
comp=Z,78nm,21.8s,baz=126,slow=40
WMQ Urumqi 33.30 67 P **P 08 35 06.3 +1.0**
WMQ pP pP 08 35 09.4 +0.4
WMQ sP sP 08 35 14.5 +3.9
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,170nm,3.8s
WMQ LR LR
comp=Z,110nm,25.1s
WMQ LR LR
comp=Z,160nm,18.1s
WMQ LR LR
comp=Z,78nm,16.7s
PYUN Piuthan 34.37 96 *e*P **P 08 35 15.1 +0.2**
comp=Z,42nm,0.8s
DANN Dangsing 34.85 95 *e*P **P 08 35 20.0 +0.8**
KOLN Koldanda 35.00 96 *e*P **P 08 35 20.6 +0.3**
comp=Z,19nm,0.8s
GKN Gorkha 35.70 95 *e*P **P 08 35 26.3 0.0**
comp=Z,41nm,0.8s
TAM Tamanrasset 36.01 255 *e*P **P 08 35 28.7 -0.3**
TAM pmax pmax
comp=Z,14nm,1.1s
TAM Tamanrasset 36.01 255 *e*P **P 08 35 28.7 -0.3**
comp=Z,14nm,1.1s
TAM Tamanrasset 36.01 255 *e*P **P 08 35 28.7 -0.3**
comp=Z,14nm,1.1s
DMN Daman 36.25 95 *e*P **P 08 35 31.4 +0.3**
comp=Z,99nm,1.2s
KKN Kakani 36.30 95 *e*P **P 08 35 31.3 -0.2**
ESDC Sonseca Array 36.49 287 P **P 08 35 31.1 -1.7**
comp=Z,6.8nm,0.9s,baz=66,slow=8.8,SNR=18
ESDC LR LR 08 51 07.2
comp=Z,54nm,19.3s,baz=305,slow=37
PKIN Phulchoki 36.49 95 *e*P **P 08 35 32.8 -0.4**
comp=Z,26nm,0.8s
PKI Pulchoki 36.50 95 *e*P **P 08 35 33.5 +0.1**
comp=Z,70nm,1.2s
GUN Gumba 36.71 94 *e*P **P 08 35 35.3 +0.1**
comp=Z,96nm,1.0s
JIRN Jiri 37.07 94 *e*P **P 08 35 38.5 +0.2**
comp=Z,578nm,1.0s
RAMN Ramite 37.73 95 *e*P **P 08 35 43.7 0.0**
comp=Z,63nm,0.7s
ODAN Odare 38.39 95 *e*P **P 08 35 49.5 +0.2**
comp=Z,150nm,1.2s
TAPN Taplejung 38.41 94 *e*P **P 08 35 49.6 +0.1**
comp=Z,55nm,0.9s
NRIK Noril'sk 38.59 23 P **P 08 35 50.7 +0.5**
comp=Z,5.9nm,0.8s,baz=236,slow=6.1,SNR=5.3
NRIK LR LR 08 55 50.0
comp=Z,162nm,18.2s,baz=177,slow=42
LSA Lhasa 40.02 88 *e*P **P 08 36 04.1 +0.9**
LSA pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 40.02 88 *e*P **P 08 36 04.1 +0.9**
comp=Z,18nm,0.9s
LSA Lhasa 40.02 88 *e*P **P 08 36 04.1 +0.9**
comp=Z,18nm,0.9s
GTA Gaotai 43.11 71 *e*P **P 08 36 28.9 +0.9**
GTA pP sP 08 36 33.4 +0.1
GTA sP pP 08 36 36.0 +4.2
GTA S **S 08 42 53.9 -0.1**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,71nm,5.0s
GTA LR LR
comp=Z,130nm,17.6s
GTA LR LR
comp=Z,150nm,18.1s
GTA LR LR
comp=Z,150nm,16.2s
TOA1 Torodi Ar. Sit 44.86 247 *e*P **P 08 36 40.2 -1.9**
comp=Z,24nm,1.4s
TOA1 Torodi Ar. Sit 44.86 247 *e*P **P 08 36 40.2 -1.9**
comp=Z,24nm,1.4s
TOA0 Torodi Ar. Sit 44.86 247 *e*P **P 08 36 40.7 -1.5**
comp=Z,13nm,1.1s
TOA0 Torodi Ar. Sit 44.86 247 *e*P **P 08 36 40.6 -1.5**
comp=Z,13nm,1.1s
TORD Torodi Ar. Bea 44.86 247 P **P 08 36 40.2 -1.9**
comp=Z,11nm,1.1s,baz=56,slow=7.7,SNR=33
TORD LR LR 08 57 48.4
comp=Z,83nm,20.5s,baz=50,slow=39
SONA0 Songino Array 45.54 57 *e*P **P 08 36 46.9 -0.4**
SONA0 Songino Array 45.54 57 *e*P **P 08 36 46.9 -0.4**
SONA0 *e*PcP **PcP 08 38 25.3 -0.6**
SONM Songino Array 45.54 57 P **P 08 36 46.9 -0.4**
comp=Z,0.3nm,0.4s,baz=282,slow=7.1,SNR=3.1
SONM PcP **PcP 08 38 25.3 -0.6**
comp=Z,1.5nm,1.0s,baz=270,slow=2.9,SNR=4.1
ULN Ulaanbaatar 45.97 57*ce*P **P 08 36 51.6 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 45.97 57 *e*P **P 08 36 51.2 +0.5**
comp=Z,17nm,1.3s
ULN Ulaanbaatar 45.97 57 *e*P **P 08 36 51.2 +0.5**
comp=Z,17nm,1.3s
LZH Lanzhou 47.24 73 *e*P **P 08 37 01.5 +0.6**
LZH pP pP 08 37 03.4 -1.4
LZH sP sP 08 37 04.6 -1.6
LZH PP **PP 08 38 52.8 +1.0**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,75nm,6.2s
LZH LR LR
comp=Z,370nm,14.5s
LZH LR LR
comp=Z,380nm,14.4s
LZH LR LR
comp=Z,440nm,18.0s
HHC Hu-ho-hao-te 51.13 65 *e*P **P 08 37 31.4 +0.9**
HHC S **S 08 44 47.4 -0.9**
HHC pmax pmax
comp=Z,29nm,1.5s
HHC pmax pmax
comp=Z,75nm,4.7s
HHC LR LR
comp=Z,140nm,13.7s
HHC LR LR
comp=Z,120nm,14.9s
HHC LR LR
comp=Z,61nm,14.9s
KMI Kunming 51.25 87 P **P 08 37 33.1 +1.3**
KMI pmax pmax
comp=Z,15nm,0.5s
CHTO Chiang Mai 51.66 96 P **P 08 37 34.1 -0.6**
comp=Z,47nm,1.1s
CHTO Chiang Mai 51.66 96 *e*P **P 08 37 34.1 -0.6**
CHTO pmax pmax
comp=Z,14nm,1.3s
CHTO Chiang Mai 51.66 96 *e*P **P 08 37 34.1 -0.6**
comp=Z,14nm,1.3s
CHTO Chiang Mai 51.66 96 *e*P **P 08 37 34.1 -0.6**
comp=Z,14nm,1.3s
CM31 Chiang Mai Arr 51.87 96 *e*P **P 08 37 34.9 -1.3**
CM31 Chiang Mai Arr 51.87 96 *e*P **P 08 37 34.9 -1.3**
CMAR Chiang Mai Arr 51.87 96 P **P 08 37 35.0 -1.2**
comp=Z,7.3nm,1.0s,baz=301,slow=8.2,SNR=27
CMAR LR LR 09 03 16.2
comp=Z,38nm,19.0s,baz=287,slow=40
XAN Xi'an 51.88 74 P **P 08 37 35.9 -0.2**
XAN pmax pmax
comp=Z,32nm,0.9s
LAMP Lampang 52.36 96 P **P 08 37 40.7 +0.8**
comp=Z,4.0nm,1.1s
TIXI Tiksi 52.37 23*ce*P **P 08 37 39.6 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 52.37 23 *e*P **P 08 37 39.6 +0.4**
comp=Z,8.0nm,1.0s
UTTA Uttaradit 53.53 96 P **P 08 37 48.5 +0.1**
comp=Z,2.4nm,0.9s
GYA Guiyang 53.64 83 *e*P **P 08 37 50.6 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 53.67 52 *e*P **P 08 37 48.9 -0.3**
HIA pmax pmax
comp=Z,5.0nm,0.9s
HIA Hailar 53.67 52 *e*P **P 08 37 48.9 -0.3**
comp=Z,5.0nm,0.9s
UTHA Uthaitani 53.94 99 P **P 08 37 52.4 +0.9**
comp=Z,3.9nm,1.0s
DBIC Dimbokro 53.97 247 P **P 08 37 50.0 -1.8**
comp=Z,8.0nm,1.0s,baz=36,slow=8.7,SNR=6.2
DBIC Dimbokro 53.97 247 *e*P **P 08 37 50.1 -1.6**
DBIC pmax pmax
comp=Z,28nm,1.4s
DBIC Dimbokro 53.97 247 *e*P **P 08 37 50.1 -1.6**
comp=Z,28nm,1.4s
DBIC Dimbokro 53.97 247 *e*P **P 08 37 50.1 -1.6**
comp=Z,28nm,1.4s
KIC Kosan Boka 54.10 246 *e*P **P 08 37 50.7 -2.0**
comp=Z,64nm,1.1s
TIC Toumodi 54.10 247 *e*P **P 08 37 50.7 -2.0**
LIC Lamto 54.40 246 *e*P **P 08 37 52.8 -2.1**
comp=Z,42nm,1.1s
PBKT Sadao Pong 54.53 97 P **P 08 37 55.2 -0.6**
comp=Z,17nm,1.0s
YAK Yakutsk 55.00 35 LR LR 09 06 39.1
comp=Z,63nm,18.0s,baz=272,slow=42
YAK Yakutsk 55.00 35 *e*P **P 08 37 58.7 +0.2**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 55.00 35 *e*P **P 08 37 58.7 +0.2**
comp=Z,10.0nm,1.0s
LSZ Lusaka 55.56 198 *e*P **P 08 38 03.7 +0.5**
LSZ pmax pmax
comp=Z,12nm,1.4s
LSZ Lusaka 55.56 198 *e*P **P 08 38 03.7 +0.5**
comp=Z,12nm,1.4s
LSZ Lusaka 55.56 198 *e*P **P 08 38 03.7 +0.5**
comp=Z,12nm,1.4s
NAYO Nakonayok 56.13 99 P **P 08 38 07.6 +0.2**
comp=Z,6.7nm,1.5s
SKNT Sakolnakorn 56.64 95 P **P 08 38 10.8 -0.2**
comp=Z,11nm,1.2s,comp=Z,3μm
SRAK Srakaew 56.88 99 P **P 08 38 15.5 +2.9**
comp=Z,52nm,1.1s,comp=Z,499nm
ABPO Ambohimpanom 57.50 176 *i* P **P 08 38 19.0 +2.0**
ABPO Ambohimpanom 57.50 176 *i* P **P 08 38 19.0 +2.0**
WHN Wuhan 57.55 75 P **P 08 38 15.5 -1.8**
QIZ Qiongzhong 60.06 89 P **P 08 38 33.6 -1.3**
QIZ S **S 08 46 47.8 +0.1**
NJ2 Nanjing 60.20 71 *e*P **P 08 38 37.6 +2.0**
NJ2 pmax pmax
comp=Z,9.0nm,1.1s
KS15 Wonju Array Si 64.02 62 *e*P **P 08 39 01.4 +0.1**
KS15 Wonju Array Si 64.02 62 *e*P **P 08 39 01.4 +0.1**
KSRS Korea Array 64.04 62 P **P 08 39 00.2 -1.2**
comp=Z,12nm,1.1s,baz=291,slow=6.2,SNR=13
BOSA Boshof 69.09 197 P **P 08 39 32.8 -0.9**
comp=Z,3.6nm,0.6s,baz=359,slow=5.7,SNR=7.9
MJAR Matsushiro Arr 71.49 58 P **P 08 39 47.7 -0.7**
comp=Z,4.6nm,1.0s,baz=314,slow=5.6,SNR=8.3
MJAR Matsushiro Arr 71.49 58 P **P 08 39 47.7 -0.7**
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR Matsushiro Arr 71.49 58 P **P 08 39 47.7 -0.7**
comp=Z,6.0nm,1.1s
SBUM Sibu 71.91 102 *e*P **P 08 39 51.2 0.0**
comp=Z,19nm,1.2s
SBUM Sibu 71.91 102 *e*P **P 08 39 51.1 0.0**
comp=Z,19nm,1.2s
COLD Coldfoot 73.90 6 *e*P **P 08 40 02.5 +0.3**
comp=Z,8.9nm,1.1s
COLD Coldfoot 73.90 6 *e*P **P 08 40 02.5 +0.3**
comp=Z,8.9nm,1.1s
PQI Presque Isle 75.32 319 *e*P **P 08 40 10.7 0.0**
comp=Z,14nm,1.1s
PQI Presque Isle 75.32 319 *e*P **P 08 40 10.7 0.0**
comp=Z,14nm,1.1s
COLA College 76.39 5 *e*P **P 08 40 14.5 -2.0**
COLA pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 76.56 5 P **P 08 40 16.2 -1.3**
comp=Z,0.8nm,0.9s,baz=340,slow=4.2,SNR=6.5
ILB Eielson Array 76.56 5 *e*P **P 08 40 14.0 -3.5**
EGAK Eagle 76.81 2 *e*P **P 08 40 19.2 +0.3**
comp=Z,13nm,1.5s
EGAK Eagle 76.81 2 *e*P **P 08 40 19.2 +0.3**
comp=Z,13nm,1.5s
CAST Castle Rocks 77.48 7 *e*P **P 08 40 22.4 -0.4**
comp=Z,13nm,1.2s
CAST Castle Rocks 77.48 7 *e*P **P 08 40 22.4 -0.4**
comp=Z,13nm,1.2s
DAWY Dawson 77.57 1 *e*P **P 08 40 21.2 -2.0**
comp=Z,7.4nm,1.0s
YKA Yellowknife Ar 77.64 350 P **P 08 40 22.4 -1.2**
comp=Z,2.5nm,1.0s,baz=22,slow=6.6,SNR=3.6
YKB5 Yellowknife Ar 77.64 350 *e*P **P 08 40 22.4 -1.2**
YKB5 Yellowknife Ar 77.64 350 *e*P **P 08 40 22.4 -1.2**
KLU Klutina 79.88 5 *e*P **P 08 40 36.2 +0.2**
comp=Z,8.6nm,1.0s
KLU Klutina 79.88 5 *e*P **P 08 40 36.2 +0.2**
comp=Z,8.6nm,1.0s
HYT Haines Junctio 80.84 1 *e*P **P 08 40 41.2 -0.1**
comp=Z,9.3nm,1.0s
HYT Haines Junctio 80.84 1 *e*P **P 08 40 41.1 -0.1**
comp=Z,9.3nm,1.0s
KDAK Kodiak Island 82.95 9*ce*P **P 08 40 53.0 +0.8**
KDAK Kodiak Island 82.95 9 *e*P **P 08 40 53.0 +0.8**
FITZ Fitzroy Crossi 95.17 109 *e*P **P 08 41 48.7 -2.6**
FITZ Fitzroy Crossi 95.17 109 *e*P **P 08 41 48.7 -2.6**
URZ Urewera 143.96 104 PKhKP PKPpre 08 47 57.7
comp=Z,12nm,0.9s,baz=281,slow=5.2,SNR=5.3

DDA ***24*** *08:30:31.7,39.°14N±25.°89E,h7km,Ml2.9*
CSEM ***24*** *08:30:32.4±0.2,39.°17N±25.°86E,h8km,ML2.4,Error ellipse: s-maj=4.0km s-min=2.7km az=68.0*
ISCJB ***24*** *08:30:32.7±0.4,39.°16N±0.°02×25.°92E±0.°03,h7km±3km, Error ellipse: s-maj=4.6km s-min=2.9km az=165.6*
ATH ***24*** *08:30:32.7,39.°19N×25.°90E,h12km±1km,ML2.4/6,Error ellipse: s-maj=2.0km s-min=1.1km az=246.0*
ISK ***24*** *08:30:32.4,39.°17N×25.°91E,h8km,MD2.9,ML2.8*
THE ***24*** *08:30:33.2,39.°18N×25.°92E,h7km±1km,ML2.5/5,Error ellipse: s-maj=1.1km s-min=0.5km az=245.0*
ISC 24 08:30:32.1±0.8,**39.°12N**±0.°02×**25.°90E**±0.°02,**h11**km±5km,
n68,σ0**56**/103,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.09**	**339**	P	**Pg**	**08 30 34.9**	**+0.1**
SIGR				S	**Sg**	**08 30 36.4**	**-0.3**
SIGR	**SIGRI**	**0.09**	**339**	P	**Pg**	**08 30 34.8**	**0.0**
SIGR				S	**Sg**	**08 30 36.2**	**-0.6**
SIGR				AML	AML	08 30 36.7	
	comp=N,16741μm,0.1s						
SIGR				AML	AML	08 30 37.0	
	comp=E,7130μm,0.2s						
SIGR	**SIGRI**	**0.09**	**339**	P	**Pg**	**08 30 34.9**	**+0.1**
SIGR				S	**Sg**	**08 30 36.4**	**-0.3**
PRK	**Paraskevi**	**0.31**	**67**	P	**Pg**	**08 30 38.7**	**+0.2**
PRK				S	**Sg**	**08 30 43.1**	**+0.4**
PRK	**Paraskevi**	**0.31**	**67**	P	**Pg**	**08 30 38.9**	**+0.4**
PRK				S	**Sg**	**08 30 42.8**	**+0.1**
PRK				AML	AML	08 30 44.0	
	comp=N,2075μm,0.3s						
PRK				AML	AML	08 30 45.3	
	comp=E,4063μm,0.3s						
PRK	**Paraskevi**	**0.31**	**67**	P	**Pg**	**08 30 38.9**	**+0.4**
PRK				S	**Sg**	**08 30 43.1**	**+0.4**
GPNR	**Gulpinar-Canak**	**0.38**	**29**	*e*PG	**Pg**	**08 30 39.9**	**+0.2**
GPNR				*e*SG	**Sg**	**08 30 44.6**	**0.0**
GPNR	**Gulpinar-Canak**	**0.38**	**29**	*e*Pg	**Pg**	**08 30 39.9**	**+0.2**
GPNR				*e*Sg	**Sg**	**08 30 44.7**	**0.0**
CUND	**Cunda Adasi-Ba**	**0.63**	**70**	*e*PG	**Pg**	**08 30 44.3**	**-0.2**
CUND	**Cunda Adasi-Ba**	**0.63**	**70**	*e*Pg	**Pg**	**08 30 44.3**	**-0.2**
AYVA	**Ayvalik**	**0.64**	**73**	*i* P	**Pg**	**08 30 44.5**	**-0.1**
AYVA				*i* S	**Sg**	**08 30 53.3**	**+0.3**
AYVA	**Ayvalik**	**0.64**	**73**	P	**Pg**	**08 30 44.5**	**-0.1**
AYVA				S	**Sg**	**08 30 53.3**	**+0.3**
BOZC	**Bozcaada**	**0.73**	**9**	*e*PG	**Pg**	**08 30 45.7**	**-0.5**
BOZC	**Bozcaada**	**0.73**	**9**	*i* P	**Pg**	**08 30 45.8**	**-0.5**
BOZC				*i* S	**Sg**	**08 30 55.9**	**+0.1**
BOZC	**Bozcaada**	**0.73**	**9**	*e*Pg	**Pg**	**08 30 45.7**	**-0.5**
KRBN	**Karaburun**	**0.74**	**136**	*e*PG	**Pn**	**08 30 47.9**	**-0.5**
KRBN				*e*SG	**Sn**	**08 30 58.5**	**-1.1**
KRBN	**Karaburun**	**0.74**	**136**	*e*Pg	**Pn**	**08 30 47.9**	**-0.5**
KRBN				*e*Sg	**Sn**	**08 30 58.5**	**-1.1**
CHOS	**Chios island**	**0.75**	**171**	*e*PG	**Pn**	**08 30 48.1**	**-0.5**
CHOS	**Chios island**	**0.75**	**171**	P	**Pb**	**08 30 48.0**	**+0.8**
CHOS				S	**Sn**	**08 31 00.3**	**+0.3**
CHOS	**Chios island**	**0.75**	**171**	P	**Pb**	**08 30 47.8**	**+0.6**
CHOS				S	**Sn**	**08 31 00.2**	**+0.3**
CHOS				AML	AML	08 31 01.8	
	comp=E,1677μm,0.3s						
CHOS				AML	AML	08 31 03.3	
	comp=N,1202μm,0.4s						
CHOS	**Chios island**	**0.75**	**171**	*e*Pg	**Pn**	**08 30 48.1**	**-0.5**
CHOS				S	**Sn**	**08 31 00.2**	**+0.3**
FOCM	**Foˆ§a**	**0.77**	**122**	*e*PG	**Pn**	**08 30 48.5**	**-0.4**
FOCM	**Foˆ§a**	**0.77**	**122**	*e*Pg	**Pn**	**08 30 48.5**	**-0.4**
EZN	**Ezine**	**0.78**	**25**	*e*PG	**Pg**	**08 30 46.6**	**-0.5**
EZN	**Ezine**	**0.78**	**25**	P	**Pg**	**08 30 46.8**	**-0.3**
EZN				S	**Sg**	**08 30 57.9**	**+0.6**
EZN	**Ezine**	**0.78**	**25**	P	**Pg**	**08 30 46.8**	**-0.3**
EZN				S	**Sg**	**08 30 57.9**	**+0.6**
DKL	**Dikili**	**0.79**	**94**	*e*PG	**Pb**	**08 30 48.1**	**+0.3**

DKL	Dikili	0.79	94	*e*Pg		Pb	08 30 48.1	+0.3
BAYC	CANAKKALE_Bayr	0.80	39	*i* P		Pg	08 30 46.6	-0.9
BAYC				*i* S		Sb	08 30 58.8	0.0
BAYC	CANAKKALE_Bayr	0.80	39	P		Pg	08 30 46.6	-0.9
BAYC				S		Sb	08 30 58.8	0.0
CESE	¯e¯me	0.85	158	*e*PG		Pn	08 30 50.2	+0.2
CESE	¯e¯me	0.85	158	*e*Pg		Pn	08 30 50.2	+0.2
URLA	Izmir	0.94	144	*e*PG		Pb	08 30 50.9	+0.5
URLA	Izmir	0.94	144	*i* P		Pg	08 30 50.1	-0.1
URLA				*i* S		Sn	08 31 04.5	-0.1
URLA	Izmir	0.94	144	P		Pg	08 30 50.1	-0.1
URLA	Izmir	0.94	144	*e*Pg		Pb	08 30 50.9	+0.5
URLA				S		Sn	08 31 04.6	-0.1
LIA	Limnos Island	0.95	325	P		Pg	08 30 51.0	+0.5
LIA				S		Sg	08 31 03.5	+0.6
LIA	Limnos Island	0.95	325	P		Pg	08 30 50.8	+0.3
LIA				S		Sg	08 31 01.5	-1.4
LIA				AML		AML	08 31 05.2	
	comp=N,374μm,0.2s							
LIA				AML		AML	08 31 05.4	
	comp=E,414μm,0.4s							
LIA	Limnos Island	0.95	325	P		Pg	08 30 50.8	+0.3
LIA				S		Sg	08 31 03.5	+0.6
GADA	Gvkgeada	1.07	360	*e*PG		Pg	08 30 52.1	-0.5
GADA	Gvkgeada	1.07	360	P		Pg	08 30 51.9	-0.8
GADA				S		Sg	08 31 07.0	+0.5
GADA	Gvkgeada	1.07	360	P		Pg	08 30 51.9	-0.8
GADA				S		Sg	08 31 07.0	+0.5
SMTH	Samothraki Isl	1.38	348	P		Pn	08 30 57.9	+0.6
SMTH				S		Sb	08 31 15.4	0.0
SMTH	Samothraki Isl	1.38	348	P		Pn	08 30 56.8	-0.5
SMTH				S		Sb	08 31 15.5	0.0
SMTH				AML		AML	08 31 18.1	
	comp=E,107μm,0.2s							
SMTH				AML		AML	08 31 20.1	
	comp=N,121μm,0.4s							
SMTH	Samothraki Isl	1.38	348	P		Pn	08 30 56.8	-0.5
SMTH				S		Sb	08 31 15.4	0.0
LPK	Lapseki	1.41	28	*e*PN		Pn	08 30 57.9	+0.1
LPK	Lapseki	1.41	28	*e*Pn		Pn	08 30 57.9	+0.1
STEP	BALIKESIR_Sava	1.44	79	*i* P		Pg	08 30 59.6	-0.1
STEP				*i* S		Sb	08 31 16.9	-0.3
STEP	BALIKESIR_Sava	1.44	79	P		Pg	08 30 59.6	-0.1
STEP				S		Sb	08 31 16.9	-0.3
ERIK	Erikli-Kesan	1.61	17	*e*PN		Pn	08 31 01.1	+0.6
ERIK	Erikli-Kesan	1.61	17	*e*Pn		Pn	08 31 01.1	+0.6
BALB	Balikesir	1.62	71	*e*PN		Pn	08 31 01.1	+0.5
BALB	Balikesir	1.62	71	*e*Pn		Pn	08 31 01.1	+0.5
ENEZ	Enez	1.62	7	*e*PN		Pn	08 31 01.5	+0.9
ENEZ	Enez	1.62	7	*e*Pn		Pn	08 31 01.5	+0.9
GONE	Gonen-Balikesi	1.66	56	*e*PN		Pb	08 31 02.3	-0.4
GONE	Gonen-Balikesi	1.66	56	*e*Pn		Pb	08 31 02.3	-0.4
KRBG	Karabiga-Canak	1.66	40	*e*PN		Pn	08 31 01.1	-0.1
KRBG	Karabiga-Canak	1.66	40	*e*Pn		Pn	08 31 01.1	-0.1
ALN	Alexandroupoli	1.77	4	*e*PN		Pn	08 31 03.8	+1.1
ALN	Alexandroupoli	1.77	4	P		Pn	08 31 03.8	+1.1
ALN				S		Sb	08 31 28.1	+1.1
ALN				AML		AML	08 31 29.3	
	comp=N,63μm,0.8s							
ALN				AML		AML	08 31 29.6	
	comp=E,40μm,0.5s							
ALN	Alexandroupoli	1.77	4	P		Pn	08 31 03.8	+1.1
KESN	Edirne-Kesan	1.80	19	*i* P		Pn	08 31 02.9	-0.6
KESN				*i* S		Sn	08 31 25.6	-0.9
KESN	Edirne-Kesan	1.80	19	P		Pn	08 31 02.9	-0.6
KESN				S		Sn	08 31 25.6	-0.9
MRMT	Marmara Adasi	1.97	41	*e*PN		Pn	08 31 06.8	+1.3
MRMT	Marmara Adasi	1.97	41	*e*Pn		Pn	08 31 06.8	+1.3
APE	Apeiranthos	2.07	188	*e*PN		Pb	08 31 09.4	-0.4
APE	Apeiranthos	2.07	188	*e*Pn		Pb	08 31 09.4	-0.4

CSEM ***24*** *08:31:41.1,40˚.96N×21˚.25E, h21km, ML2.3/4*
ATH ***24*** *08:31:41.1,40˚.96N×21˚.25E, h21km±1km, ML2.3/4, Error ellipse: s-maj=3.3km s-min=1.5km az=123.0*
SKO ***24*** *08:31:41.5,40˚.93N×21˚.29E, h22km, M2.0, ML2.4*
ISCJB ***24*** *08:31:42.3±0.5,40˚.95N±0˚.03×21˚.28E±0˚.05, h14km±4km, Error ellipse: s-maj=6.7km s-min=4.4km az=174.5*
ISC 24 08:31:42.3±0.9,40˚.92N±0˚.02×21˚.25E±0˚.03,h17km±8km, n31,σ0§76/42,5C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	Bitola	0.11	29	⇑*i*Pg		Pb	08 31 45.9	-0.1
BIA				*i* Sg		Sb	08 31 48.0	-0.4
BIA	Bitola	0.11	29	⇑*i*Pg		Pb	08 31 45.8	-0.1
FNA	Florina	0.17	147	P		Pg	08 31 46.7	-0.1
FNA				S		Sb	08 31 49.3	-0.7
FNA				AML		AML	08 31 50.0	
	comp=E,11074μm,0.3s							
FNA				AML		AML	08 31 50.1	
	comp=N,20571μm,0.3s							
FNA	Florina	0.17	147	P		Pg	08 31 46.7	-0.1
FNA				S		Sb	08 31 49.3	-0.7
OHR	Ohrid	0.39	299	⇑*i*Pg		Pb	08 31 50.5	-0.3
OHR				*i* Sg		Sb	08 31 57.5	+1.0
OHR				*e*Lg		Lg	08 31 57.9	
	comp=N,245nm,0.3s							
OHR				*e*Lg		Lg	08 31 58.1	
	comp=E,313nm,0.4s							
OHR	Ohrid	0.39	299	*e*Lg		Lg	08 31 58.1	
	comp=E,313nm,0.4s							
KRUS	Krusevo	0.44	359	⇑*i*Pg		Pg	08 31 50.8	-0.6
KRUS				*i* Sg		Sg	08 31 56.9	-0.6
KRUS	Krusevo	0.44	359	⇑*i*Pg		Pg	08 31 50.8	-0.6
KZN	Kozani	0.73	147	P		Pb	08 31 55.4	-1.2
KZN				S		Sg	08 32 07.7	+1.3
KZN				AML		AML	08 32 12.1	
	comp=E,498μm,0.4s							
KZN				AML		AML	08 32 12.4	
	comp=N,343μm,0.4s							
KZN	Kozani	0.73	147	P		Pb	08 31 55.4	-1.2
KZN				S		Sg	08 32 07.7	+1.3
GRG	Griva	0.87	87	P		Pb	08 31 58.4	-0.5
GRG	Griva	0.87	87	P		Pb	08 31 58.4	-0.5
KPRO	Kipourio	0.97	175	P		Pb	08 32 00.4	-0.3
KPRO				S		Sg	08 32 13.9	-0.1
KPRO				AML		AML	08 32 22.3	
	comp=E,204μm,0.4s							
KPRO				AML		AML	08 32 22.9	
	comp=N,178μm,0.6s							
KPRO	Kipourio	0.97	175	P		Pb	08 32 00.4	-0.3
KPRO				S		Sg	08 32 13.9	-0.1
SKO	Skopje	1.06	8	*e*Pg		Pb	08 32 01.5	-0.6
SKO				*i* Sg		Sb	08 32 15.8	+0.2
SKO	Skopje	1.06	8	*e*Pg		Pb	08 32 01.5	-0.6
LIT	Litokhoron	1.25	131	P		Pn	08 32 05.4	+0.5
LIT	Litokhoron	1.25	131	P		Pn	08 32 05.4	+0.5
KNT	Kendrikon	1.27	79	P		Pb	08 32 05.9	+0.3
KNT				S		Sb	08 32 21.4	-0.2
KNT				AML		AML	08 32 26.3	
	comp=N,122μm,0.7s							
KNT				AML		AML	08 32 26.7	
	comp=E,69μm,0.7s							
KNT	Kendrikon	1.27	79	P		Pb	08 32 05.9	+0.3
KNT				S		Sb	08 32 21.4	-0.2
HORT	Hortiatis	1.44	102	P		Pn	08 32 08.1	+0.5
HORT	Hortiatis	1.44	102	P		Pn	08 32 08.1	+0.5
THL	Klokotos Trika	1.48	157	P		Pn	08 32 08.5	+0.5
THL	Klokotos Trika	1.48	157	P		Pn	08 32 08.5	+0.5
MMB	Musomiste	1.98	70	P		Pn	08 32 13.8	-1.2
AGG	Agios Georgios	2.07	156	P		Pn	08 32 17.6	+1.4
AGG	Agios Georgios	2.07	156	P		Pn	08 32 17.6	+1.4
PDG	Podgorica	2.12	316	⇓*i*P		Pg	08 32 22.3	-0.7
VTS	Vitosha	2.22	41	P		Pn	08 32 20.3	+2.0
ANX	Ano Chora	2.38	167	P		Pn	08 32 20.8	+0.2
ANX	Ano Chora	2.38	167	P		Pn	08 32 20.8	+0.2

AZER ***24*** *08:42:04.4±4.6,38˚.03N×42˚.67E, h10km, Error ellipse: s-maj=38.1km s-min=29.0km az=163.0*
ISK ***24*** *08:42:11.8,38˚.76N×43˚.28E, h9km, ML3.5*
CSEM ***24*** *08:42:14.2±0.3,38˚.64N×43˚.22E, h12km, ML3.5, Error ellipse: s-maj=13.8km s-min=7.4km az=165.0*
ISC 24 08:42:13.6±1.0,38˚.74N±0˚.05×43˚.21E±0˚.04,h12km±9km, n27,σ1§43/36,4C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	137	*e*PG		Pg	08 42 17.3	-0.8
VANB				*e*SG		Sb	08 42 22.1	+0.9
VANB	Van	0.20	137	*e*Pg		Pg	08 42 17.3	-0.8
VANB				*e*Sg		Sb	08 42 22.1	+0.9
CUKT	Cukurca	1.53	168	*e*PN		Pn	08 42 40.2	-0.6
CUKT	Cukurca	1.53	168	*e*Pn		Pn	08 42 40.2	-0.6
SVAN	Silvan-Diyarba	1.69	250	*e*PN		Pn	08 42 42.3	-0.7
SVAN				*e*SN		Sn	08 43 05.4	+0.9
SVAN	Silvan-Diyarba	1.69	250	*e*Pn		Pn	08 42 42.3	-0.7
SVAN				*e*Sn		Sn	08 43 05.4	+0.9
NAX	Nakhchivan	1.83	76	⇑P		Pn	08 42 43.9	-1.0
	SNR=8.2							
NAX				⇓S		Sg	08 43 16.6	+4.1
NAX	Nakhchivan	1.83	76	P		Pn	08 42 43.9	-1.0
	SNR=8.2							
SENK	Senkaya-Erzuru	1.93	340	*e*PN		Pn	08 42 45.4	-1.1
BNGB	Bing¯¶l	1.99	278	*e*PN		Pn	08 42 47.4	+0.2
BNGB				*e*SN		Sn	08 43 12.7	+0.6
YEDI	Yedisu-Bingol	2.19	289	*e*PN		Pn	08 42 49.9	-0.1
YEDI	Yedisu-Bingol	2.19	289	*e*Pn		Pn	08 42 49.9	-0.1
MAZI	Mazidag	2.53	240	*e*PN		Pn	08 42 55.5	+0.9
MAZI	Mazidag	2.53	240	*e*Pn		Pn	08 42 55.5	+0.9
GDB	GEDABAY	2.78	44	⇑P		Pn	08 42 59.6	+1.5
	SNR=11							
GDB				⇓S		Sg	08 43 43.6	+0.6
GDB	GEDABAY	2.78	44	P		Pn	08 42 59.6	+1.5
	SNR=11							
ERZN	Erzincan	2.84	288	*e*PN		Pn	08 42 59.5	+0.7
QZX	Qazax, Azerbai	2.85	35	⇑P		Pb	08 43 02.2	-2.2
	SNR=9.2							
QZX				⇓S		Sg	08 43 46.0	+0.9
QZX	Qazax, Azerbai	2.85	35	P		Pb	08 43 02.2	-2.2
	SNR=9.2							
PTK	Pertek	2.99	274	*e*PN		Pn	08 43 02.2	+1.2
PTK	Pertek	2.99	274	*e*Pn		Pn	08 43 02.2	+1.2
GANJ	Ganja	3.06	51	⇑P		Pn	08 43 04.3	+2.5
	SNR=5.3							
GANJ				⇓S		Sg	08 43 50.2	-1.7
GANJ	Ganja	3.06	51	P		Pn	08 43 04.3	+2.5
	SNR=5.3							
SVRC	Sivrice-ELAZID	3.08	264	*e*PN		Pn	08 43 03.1	+0.8
SVRC	Sivrice-ELAZID	3.08	264	*e*Pn		Pn	08 43 03.1	+0.8
URFA	Urfa	3.70	251	*e*PN		Pn	08 43 11.7	+1.1
URFA	Urfa	3.70	251	*e*Pn		Pn	08 43 11.7	+1.1

MEX 24 08:43:27.3±1.1,17˚.40N×94˚.87W,h142km±12km,MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	182	*e*P		Pn	08 43 45.4	-1.5
TUIG	Tuzandepetl	0.76	34	*e*P		Pn	08 43 47.9	-1.4
TUIG				*i* S		Sn	08 44 04.0	-2.1
VHO	Vista Hermosa	1.81	260	*e*P		Pn	08 43 59.2	-0.8
VHO				*e*S		Sn	08 44 23.6	-1.3
HUIG	Huatulco	2.01	216	*e*P		Pn	08 43 59.2	-2.9
HUIG				*i* S		Sn	08 44 26.9	-2.0
PCIG		2.31	137	*e*P		Pn	08 44 05.2	-0.6
PCIG				*e*S		Sn	08 44 33.7	-1.6
TPIG	Tehuac#an	2.58	293	*e*P		Pn	08 44 08.1	-1.1
TPIG				*e*S		Sn	08 44 39.3	-2.1
CCIG	Comitan	2.84	113	*e*P		Pn	08 44 11.8	-0.8
CCIG				*e*S		Sn	08 44 45.5	-1.9
PNIG	Pinotepa	3.28	253	*e*P		Pn	08 44 14.7	-3.2
PNIG				*e*S		Sn	08 44 47.6	-9.5
SCIG	Sabancuy	3.83	65	*i* P		Pn	08 44 23.0	-2.2
SCIG				*i* S		Sn	08 45 05.5	-4.6

IDC 24 08:47:41.3±3.0,17˚.27S×174˚.17W,h104km±28km, mb3.7/8,mb1 4.0/9,mb1mx3.7/32,mbtmp4.1/9,MS3.2/3, Ms1 3.2/3,ms1mx2.7/30,Error ellipse: s-maj=39.2km s-min=16.5km az=134.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.06	35	P		Pn	08 48 41.4	-0.1
	44nm,0.3s,baz=259,slow=19,SNR=107							
AFI				S		Sn	08 49 23.6	-4.4
	144nm,0.3s,baz=38,slow=22,SNR=28							
RAR	Rarotonga	14.15	108	LR		LR	08 55 02.2	
	comp=Z,66nm,20.0s,baz=218,slow=31							
URZ	Urewera	22.27	198	P		P	08 52 30.0	+0.2
	4.6nm,0.6s,baz=301,slow=1.2,SNR=8.3							
PPT	Papeete	23.46	94	LR		LR	09 00 53.7	
	comp=Z,18nm,18.9s,baz=140,slow=34							
H11S2	WAKE ISLAND Hy 40.21	331		T		T	09 36 46.2	
	baz=146,slow=76,SNR=7.0							
H11S3	WAKE ISLAND Hy 40.22	331		T		T	09 36 42.4	
	baz=146,slow=76,SNR=8.1							
H11S1	WAKE ISLAND Hy 40.22	331		T		T	09 36 44.9	
	baz=146,slow=76,SNR=5.3							
H11N3	WAKE ISLAND Hy 41.19	332		T		T	09 38 49.3	
	baz=150							
H11N1	WAKE ISLAND Hy 41.19	332		T		T	09 38 51.1	
	baz=150							
H11N2	WAKE ISLAND Hy 41.20	332		T		T	09 38 45.2	
	baz=150							
STKA	Stephens Creek	42.48	241	P		P	08 55 26.6	+0.2
	4.5nm,1.0s,baz=45,slow=5.7,SNR=3.2							
WRA	Warramunga Arr	48.72	258	P		P	08 56 15.2	-0.6
	1.2nm,0.7s,baz=97,slow=7.0,SNR=5.1							
ASAR	Alice Springs	48.85	253	P		P	08 56 16.5	-0.2
	5.2nm,0.7s,baz=88,slow=8.8,SNR=67							
PETK	Petropavlovsk-	74.18	343	P		P	08 59 06.8	+0.4
	2.0nm,0.7s,baz=123,slow=5.3,SNR=3.3							
USRK	Ussuriysk Ar.	78.43	324	LR		LR	09 30 13.7	
	comp=Z,66nm,19.3s,baz=288,slow=32							
TXAR	Lajitas Array	82.26	56	P		P	08 59 51.3	-0.3
	0.6nm,1.0s,baz=229,slow=5.5,SNR=4.8							
PDAR	Pinedale Array	84.14	42	P		P	09 00 01.2	+0.1
	0.6nm,0.8s,baz=224,slow=4.7,SNR=5.4							
ILAR	Eielson Array	84.41	11	P		P	09 00 01.7	0.0
	0.5nm,0.6s,baz=234,slow=6.2,SNR=11							

CSEM ***24*** *08:47:54.9±0.5,38˚.78N×43˚.61E, h5km, MD2.5, Error ellipse: s-maj=12.3km s-min=6.5km az=71.0*
DDA ***24*** *08:47:55.1,38˚.72N×43˚.46E, h5km, Ml3.8*
ISK ***24*** *08:47:58.0,38˚.63N×43˚.34E, h9km, MD2.5*
ISC 24 08:47:56.2±0.9,38˚.75N±0˚.02×43˚.47E±0˚.03,h14km±6km, n35,σ1§75/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	202	*e*PG		Pg	08 48 00.4	+0.1
VANB				*e*SG		Sg	08 48 04.0	+1.0
VANB	Van	0.16	202	*e*Pg		Pg	08 48 00.4	+0.1
VANB				*e*Sg		Sg	08 48 04.0	+1.0
GEVA	Gevas	0.54	217	*i* P		Pg	08 48 04.9	-2.0
GEVA				*i* S		Sg	08 48 11.9	-2.2
GEVA	Gevas	0.54	217	P		Pg	08 48 04.9	-2.0
GEVA				S		Sg	08 48 11.9	-2.2
BASK	Baskale_VAN	0.81	148	*i* P		Pg	08 48 09.4	-2.6
BASK				*i* S		Sb	08 48 23.2	+0.1
BASK	Baskale_VAN	0.81	148	P		Pg	08 48 09.4	-2.6
BASK				S		Sb	08 48 23.2	+0.1
DYDN	Diyadin	0.82	12	*i* P		Pg	08 48 10.4	-1.7
DYDN				*i* S		Sb	08 48 24.0	+0.7
DYDN	Diyadin	0.82	12	P		Pg	08 48 10.4	-1.7
TUTA	Tutak	0.83	322	*i* P		Pg	08 48 11.3	-1.1
TUTA				*i* S		Sb	08 48 24.3	+0.6
TUTA	Tutak	0.83	322	P		Pg	08 48 11.3	-1.1
TUTA				S		Sb	08 48 24.3	+0.6
HAKT	HAKKARI	1.20	171	*i* P		Pg	08 48 16.2	-3.2
HAKT				*i* S		Sn	08 48 36.1	+1.1
HAKT	HAKKARI	1.20	171	P		Pg	08 48 16.2	-3.2
HAKT				S		Sn	08 48 36.1	+1.1
EKAR	Karacoban	1.21	295	*i* P		Pn	08 48 19.1	+0.2
EKAR				*i* S		Sn	08 48 41.1	+5.9
EKAR	Karacoban	1.21	295	P		Pn	08 48 19.1	+0.2
EATA	Eleskirt	1.35	326	*i* P		Pn	08 48 20.5	-0.4
EATA				*i* S		Sn	08 48 41.1	+2.3
EATA	Eleskirt	1.35	326	P		Pn	08 48 20.5	-0.4
EATA				S		Sn	08 48 41.1	+2.3
SIRN	S¯¯rnak	1.50	214	*i* P		Pg	08 48 24.4	-0.6
SIRN				*i* S		Sg	08 48 47.0	+2.5
SIRN	S¯¯rnak	1.50	214	P		Pg	08 48 24.4	-0.6
SIRN				S		Sg	08 48 47.0	+2.5
CUKT	Cukurca	1.50	176	*e*PN		Pg	08 48 24.4	-0.7
CUKT	Cukurca	1.50	176	*i* P		Pg	08 48 24.9	-0.2
CUKT				*i* S		Sg	08 48 48.2	+3.6
CUKT	Cukurca	1.50	176	*e*Pn		Pg	08 48 24.4	-0.7
CUKT	Cukurca	1.50	176	P		Pg	08 48 24.9	-0.2
CUKT				S		Sg	08 48 48.2	+3.6
HOMI	Horasan	1.77	317	*i* P		Pb	08 48 28.7	0.0
HOMI				*i* S		Sg	08 48 53.5	+0.1
BNGL	BINGOL	1.82	277	*i* P		Pb	08 48 28.9	-0.6
BNGL				*i* S		Sg	08 48 53.2	-1.7
SVAN	Silvan-Diyarba	1.88	252	*e*PN		Pb	08 48 29.6	-0.7
SVAN				*e*SN		Sn	08 48 51.8	+0.3
SVAN	Silvan-Diyarba	1.88	252	*e*P		Pn	08 48 26.2	-1.8
SVAN				*i* S		Sg	08 48 57.3	+0.6
SVAN	Silvan-Diyarba	1.88	252	P		Pn	08 48 26.2	-1.8
SVAN	Silvan-Diyarba	1.88	252	*e*Pn		Pb	08 48 29.6	-0.7
SVAN				S		Sg	08 48 57.3	+0.6
BTMN	Batman	1.93	244	*i* P		Pn	08 48 29.4	+0.7
BTMN				*i* S		Sg	08 48 57.7	-0.5
BTMN	Batman	1.93	244	P		Pn	08 48 29.4	+0.7
BTMN				S		Sg	08 48 57.7	-0.5
BNGB	Bing¯¶l	2.19	277	*e*PN		Pb	08 48 34.1	-1.6
BINT	Bingol	2.33	274	*e*Pn		Pb	08 48 34.1	-0.2
YEDI	Yedisu-Bingol	2.38	288	*e*PN		Pb	08 48 37.9	-1.0
YEDI	Yedisu-Bingol	2.38	288	*e*Pn		Pb	08 48 37.9	-1.0
MARD	Mardin	2.56	237	*i* P		Pn	08 48 37.3	-0.1
MARD				*i* S		Sg	08 49 16.0	-2.5

BJI ***24*** *08:49:17.5,38˚.50N×43˚.50E, h7km, mb4.9/44, mB4.9/26, Ms4.4/23, Ms7 4.2/23*
IDC ***24*** *08:49:18.4±0.5,38˚.62N×43˚.48E, h0km, mb4.6/36, mb1 4.6/45, mb1mx4.6/54, mbtmp4.5/45, ML3.9/9, MS3.7/26, Ms1 3.7/26, ms1mx3.5/45, Error ellipse: s-maj=10.5km s-min=7.8km az=168.0*
ISCJB ***24*** *08:49:19.6±0.1,38˚.63N±0˚.01×43˚.59E±0˚.01, h10km, mb4.8/126, MS3.9/32, Error ellipse: s-maj=2.2km s-min=1.6km az=176.3*
DSN ***24*** *08:49:19.7±0.6,38˚.41N×43˚.33E, h7km, mb4.9/1, Error ellipse: s-maj=19.6km s-min=4.9km az=60.0*
DDA ***24*** *08:49:19.5,38˚.71N×43˚.58E, h17km, Ml5.0*
MOS ***24*** *08:49:19.3±1.3,38˚.72N×43˚.59E, h10km, mb4.9/53, Error ellipse: s-maj=5.2km s-min=3.5km az=111.5*
TEH ***24*** *08:49:20.7,38˚.90N×43˚.35E, h18km, ML4.6*
ISK ***24*** *08:49:20.3,38˚.70N×43˚.46E, h5km, ML4.5*
CSEM ***24*** *08:49:21.2±0.1,38˚.65N×43˚.52E, h10km, mb4.8/70, Error ellipse: s-maj=3.3km s-min=2.8km az=2.0*
GCMT ***24*** *08:49:21.1±0.3,38˚.61N×43˚.48E, h20km, MW4.8/73, Moment Tensor Solution. s31,c36; s73,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.17±.12; Mθθ-1.96±.08; Mφφ-0.21±.07; Mrθ0.26±.13; Mrφ-0.15±.06; Mθφ0.15±.17; Best double couple: M0=2.09200×10^16 NP1:φs=82.00000°, δ49.00000°, λ86.00000°. NP2: φs=268.00000°, δ41.00000°, λ94.00000°. Principal axes: T 2.1940, Plg85.0000°, Azm317.0000°; N -0.2040, Plg3.0000°, Azm85.0000°; P -1.9900, Plg4.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *08:49:21.1±0.0,38˚.67N×43˚.52E, h8km, mb4.9/60, ML4.6(ISK), ML5.0(DDA), After ISK.*
ISN ***24*** *08:49:21.4±1.3,38˚.46N×43˚.63E, h0km±4km, ML4.7*
AZER ***24*** *08:49:30.2±0.6,38˚.83N×44˚.22E, h6km±2km, Error ellipse: s-maj=4.6km s-min=3.4km az=63.0*
ISC 24 08:49:21.2±0.6,38˚.69N±0˚.01×43˚.52E±0˚.02,h13km±3km, n674,σ1§64/770,mb4.8/125,MS3.9/34,58C-40D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	227	PG		Pg	08 49 25.0	+0.1
VANB				*e*SG		Sb	08 49 28.7	-0.3
VANB	Van	0.14	227	*i* Pg		Pg	08 49 25.0	+0.1
VANB				*e*Sg		Sb	08 49 28.7	-0.3
GEVA	Gevas	0.53	224	⇓*i*P		Pg	08 49 30.4	-1.2
GEVA				*i* S		Sb	08 49 39.3	-0.7
GEVA	Gevas	0.53	224	P		Pg	08 49 30.4	-1.2
GEVA				S		Sb	08 49 39.3	-0.7
GEVA	Gevas	0.53	224	*i* P		Pg	08 49 30.4	-1.2
GEVA				*i* S		Sb	08 49 39.3	-0.7
BASK	Baskale_VAN	0.74	149	⇓*i*P		Pg	08 49 33.8	-1.9
BASK				*i* S		Sb	08 49 47.0	+0.7
BASK	Baskale_VAN	0.74	149	P		Pg	08 49 33.8	-1.9
BASK				S		Sb	08 49 47.0	+0.7
DYDN	Diyadin	0.86	9	⇓*i*P		Pg	08 49 35.9	-2.0
DYDN				*i* S		Sg	08 49 47.6	-1.6
DYDN	Diyadin	0.86	9	*i* P		Pg	08 49 35.9	-2.0
TUTA	Tutak	0.90	322	⇓*i*P		Pg	08 49 36.8	-1.8
TUTA				*i* S		Sb	08 49 50.9	+0.1
TUTA	Tutak	0.90	322	*i* P		Pg	08 49 36.8	-1.8
HAKT	HAKKARI	1.14	173	⇓*i*P		Pb	08 49 40.8	-2.2
HAKT				*i* S		Sn	08 50 00.7	+1.9
HAKT	HAKKARI	1.14	173	P		Pb	08 49 40.8	-2.2
HAKT				S		Sn	08 50 00.7	+1.9
EKAR	Karacoban	1.27	297	⇓*i*P		Pn

SENK eSN Sb 08 50 24.2 -0.4
SENK Senkaya-Erzuru 2.07 334 ePn Pb 08 49 57.6 -1.3
SENK eSn Sb 08 50 24.2 -0.4
ITBZ Tabriz 2.11 102 ePn Pn 08 49 57.1 +0.7
ITBZ eAMB AMB 08 50 04.1
comp=Z,12µm,0.3s
ITBZ Tabriz 2.11 102 ePn Pn 08 49 57.1 +0.7
ECAT Cat-ERZURUM 2.18 295 i P Pn 08 49 58.7 +1.3
ECAT i S Sg 08 50 31.4 +0.1
ECAT Cat-ERZURUM 2.18 295 P Pn 08 49 58.7 +1.3
BNGB Bing¶ll 2.24 278 ePN Pn 08 49 59.6 +1.5
BINT Bingol 2.38 275 P Pn 08 49 59.6 -0.5
BINT Bingol 2.38 275 ePn Pn 08 49 59.6 -0.5
YEDI Yedisu-Bingol 2.44 289 ePN Pn 08 50 02.4 +1.5
YEDI Yedisu-Bingol 2.44 289 ePn Pn 08 50 02.4 +1.5
BGD Bogdanovka 2.57 1 P Pb 08 50 07.4 +0.1
BGD S Sg 08 50 44.8 +1.1
MARD Mardin 2.57 238⇑ i P Pn 08 50 03.2 +0.5
MARD i S Sn 08 50 32.4 -1.4
MARD Mardin 2.57 238 ePn Pn 08 50 03.2 +0.5
MARD Mardin 2.57 238 ePn Pn 08 50 03.2 +0.5
DDEM Demirkent 2.58 329⇓ i P Pn 08 50 04.1 +1.2
DDEM i S Sg 08 50 44.8 +0.5
DDEM Demirkent 2.58 329 P Pn 08 50 04.1 +1.2
GDB GEDABAY 2.66 40⇑ P Pb 08 50 07.2 -1.6
SNR=93
GDB ⇓S Sn 08 50 37.0 +0.9
GDB GEDABAY 2.66 40 P Pb 08 50 07.2 -1.6
SNR=93
GDB S Sn 08 50 37.0 +0.9
DAGI Agillar 2.68 333 i P Pb 08 50 08.4 -0.8
DAGI i S Sg 08 50 47.8 +0.3
KOPT Kop Dagi 2.69 300⇓ i P Pb 08 50 09.5 +0.1
KOPT i S Sg 08 50 48.8 +1.1
KOPT Kop Dagi 2.69 300 P Pb 08 50 09.5 +0.1
KOPT Kop Dagi 2.69 300 ePn Pb 08 50 09.6 +0.1
KOPT eSn Sn 08 50 30.1 -7.0
AKH Akhalkalaki 2.71 360 ePN Pn 08 50 06.4 +1.7
AKH Akhalkalaki 2.71 360 P Pb 08 50 10.5 +0.8
AKH S Sg 08 50 49.0 +0.6
AKH Akhalkalaki 2.71 360 P Pb 08 50 10.5 +0.8
AKH Akhalkalaki 2.71 360 ePn Pn 08 50 06.4 +1.7
AKH Akhalkalaki 2.71 360 P Pb 08 50 10.5 +0.8
MAZI Mazidag 2.72 244 ePN Pn 08 50 04.7 -0.1
MAZI Mazidag 2.72 244 ePn Pn 08 50 04.7 -0.1
QZX Qazax, Azerbai 2.76 30⇑ P Pb 08 50 09.9 -0.5
SNR=8.8
QZX ⇓S Sn 08 50 40.9 +2.5
QZX Qazax, Azerbai 2.76 30 P Pb 08 50 09.9 -0.5
SNR=8.8
QZX S Sn 08 50 40.9 +2.5
KZR Kazreti 2.77 14 P Pb 08 50 10.7 +0.1
KZR S Sg 08 50 49.1 -1.1
ARTV Artvin 2.77 334 i P Pn 08 50 06.1 +0.5
ARTV i S Sg 08 50 52.0 +1.6
ARTV Artvin 2.77 334 P Pn 08 50 06.1 +0.5
ARTV Artvin 2.77 334 ePn Pn 08 50 06.7 +1.1
ARTV Artvin 2.77 334 ePn Pn 08 50 06.7 +1.1
DIYA Diyarbakir 2.79 255 i P Pb 08 50 10.7 -0.2
DIYA i S Sg 08 50 48.2 -2.5
DIYA Diyarbakir 2.79 255 P Pb 08 50 10.7 -0.2
IHRS Heris 2.79 97 eAMB AMB 08 50 19.5
comp=Z,19µm,0.4s
IHRS ePn Pn 08 50 07.1 +1.3
IBST Bostanabad 2.83 109 eAMB AMB 08 50 55.5
comp=Z,14µm,0.5s
IBST ePn Pn 08 50 07.7 +1.3
EPOS Posof 2.87 348 i P Pn 08 50 08.8 +1.9
EPOS i S Sb 08 50 46.8 -0.7
EPOS Posof 2.87 348 P Pn 08 50 08.8 +1.9
EPOS S Sb 08 50 46.8 -0.7
GANJ Ganja 2.91 47⇑ P Pn 08 50 09.2 +1.9
SNR=5.7
GANJ ⇑S Sn 08 50 41.5 -0.6
GANJ Ganja 2.91 47 P Pn 08 50 09.2 +1.9
SNR=5.7
GANJ S Sn 08 50 41.5 -0.6
DBOC Borcka 3.01 332 i P Pb 08 50 13.2 -1.4
DBOC i S Sg 08 50 57.4 -0.4
DBOC Borcka 3.01 332 P Pb 08 50 13.2 -1.4
ERZN Erzincan 3.09 288 ePN Pn 08 50 11.7 +1.9
DGRG David-gareji 3.10 27 P Pb 08 50 15.4 -0.9
DGRG S Sg 08 51 07.4 +6.7
DGRG David-gareji 3.10 27 P Pb 08 50 15.3 -0.9
DGRG David-gareji 3.10 27 P Pb 08 50 14.8 -1.4
TNCL Tunceli-Merkez 3.13 279 i P Pb 08 50 16.1 -0.8
TNCL i S Sg 08 50 59.9 -2.0
TNCL Tunceli-Merkez 3.13 279 P Pb 08 50 16.1 -0.8
EUZM Uzumlu 3.14 290 i P Pb 08 50 17.3 +0.3
EUZM i S Sg 08 51 00.9 -1.2
TBLG Delisi 3.17 17 ePN Pn 08 50 13.3 +2.4
TBLG Delisi 3.17 17 P Pb 08 50 14.9 -2.6
TBLG S Sg 08 51 02.0 -1.1
TBLG Delisi 3.17 17 P Pb 08 50 14.9 -2.6
TBLG Delisi 3.17 17 ePn Pn 08 50 13.3 +2.4
TBLG Delisi 3.17 17 P Pb 08 50 14.3 -3.2
SEAG Tbilisi Sea 3.22 17 P Pb 08 50 15.9 -2.3
SEAG S Sg 08 51 03.3 -1.3
BRDA Brd 3.23 60⇓ P Pn 08 50 14.1 +2.5
SNR=59
BRDA ⇓S Sn 08 50 47.7 -2.3
BRDA Brd 3.23 60 P Pn 08 50 14.1 +2.5
SNR=59
BRDA S Sn 08 50 47.7 -2.3
PTK Pertek 3.23 275 ePN Pn 08 50 13.3 +1.4
PTK Pertek 3.23 275 ePn Pn 08 50 13.3 +1.4
SVRC Sivrice-ELAZID 3.32 266 ePN Pn 08 50 15.0 +1.9
SVRC Sivrice-ELAZID 3.32 266 ePn Pn 08 50 15.0 +1.9
ISRB Sarab 3.38 104 ePn Pn 08 50 15.7 +1.9
ISRB eAMB AMB 08 50 36.2
comp=Z,11µm,0.3s
ISRB Sarab 3.38 104 ePn Pn 08 50 15.7 +1.9
EZC Erzincan 3.41 289 ePn Pn 08 50 11.7 -2.5
MNGR Mingechevir, A 3.44 52⇑ P Pn 08 50 17.6 +3.0
SNR=42
MNGR ⇑S Sn 08 50 54.1 -1.1
MNGR Mingechevir, A 3.44 52 P Pn 08 50 17.6 +3.0
SNR=42
MNGR S Sn 08 50 54.1 -1.1
ZRD Zardab 3.59 63⇑ P Pn 08 50 18.8 +2.3
SNR=49
ZRD ⇓S Sn 08 50 57.1 -1.6
ZRD Zardab 3.59 63 P Pn 08 50 18.8 +2.3
SNR=49
ZRD S Sn 08 50 57.1 -1.6
KELT Kelkit 3.61 295 i P Pb 08 50 24.9 -0.1
KELT i S Sg 08 51 16.7 -0.4
MACK Trabzon 3.66 309 i P Pb 08 50 26.0 +0.2
MACK i S Sg 08 51 19.6 +0.8
KTUT Trabzon 3.69 310 ePN Pn 08 50 19.8 +1.9
KTUT Trabzon 3.69 310 ePn Pn 08 50 19.8 +1.9
REFA Refahiye_ERZ¨ 3.77 282 i P Pb 08 50 28.9 +1.2
REFA i S Sg 08 51 29.1 +6.7
LRK Lerik 3.77 89⇓ P Pn 08 50 21.6 +2.4
SNR=28
LRK ⇑S Sn 08 51 00.8 -2.8
LRK Lerik 3.77 89 P Pn 08 50 21.6 +2.4
SNR=28
LRK S Sn 08 51 00.8 -2.8
ZKTA Zakatala 3.78 38⇑ P Pn 08 50 23.3 +4.1
SNR=72
ZKTA ⇓S Sn 08 51 04.3 +0.8
SEKA Sheki 3.78 47⇑ P Pn 08 50 23.3 +4.0
SNR=7.3
SEKA ⇑S Sn 08 51 04.2 +0.6
SEKA Sheki 3.78 47 P Pn 08 50 23.3 +4.0
SNR=7.3
SEKA S Sn 08 51 04.2 +0.6
GLBA Clilabad 3.83 80⇓ P Pn 08 50 22.0 +2.1
SNR=7.7
GLBA ⇑S Sn 08 51 02.5 -2.4
GLBA Clilabad 3.83 80 P Pn 08 50 22.0 +2.1
SNR=7.7
GLBA S Sn 08 51 02.5 -2.4
GUDG Gudauri 3.84 11 P Pb 08 50 26.0 -2.9
ONI Oni 3.89 359 P Pb 08 50 28.3 -1.5
ONI S Sg 08 51 25.6 -0.6
ONI Oni 3.89 359 P Pb 08 50 28.3 -1.5
URFA Urfa 3.92 253 ePN Pn 08 50 23.1 +1.9
URFA Urfa 3.92 253 ePn Pn 08 50 23.1 +1.9
KEMA Kemaliye 3.96 280 i P Pb 08 50 30.1 -0.9
KEMA i S Sg 08 51 30.1 +1.7

KDMR Kurdemir 3.98 64⇓ P Pn 08 50 24.3 +2.5
SNR=13
KDMR Kurdemir 3.98 64 P Pn 08 50 24.3 +2.5
SNR=13
QBL Gabala 4.01 55⇑ P Pn 08 50 24.9 +2.5
SNR=70
QBL Gabala 4.01 55 P Pn 08 50 24.9 +2.5
SNR=70
ZEI Tsey 4.10 4 eP Pn 08 50 26.1 +2.3
ZEI pmax pmax
comp=Z,141nm,0.8s
LKRN Lenkeran, Azer 4.11 88⇓ P Pn 08 50 25.9 +2.1
SNR=30
LKRN Lenkeran, Azer 4.11 88 P Pn 08 50 25.9 +2.1
SNR=30
ASTR Astara 4.13 90⇑ P Pn 08 50 26.6 +2.7
SNR=20
ASTR Astara 4.13 90 P Pn 08 50 26.6 +2.7
SNR=20
IML Ismayilli 4.16 58⇓ P Pn 08 50 26.9 +2.4
SNR=16
IML Ismayilli 4.16 58 P Pn 08 50 26.9 +2.4
SNR=16
SURC SANLIURFA_SURC 4.29 247 i P Pn 08 50 25.9 -0.4
SURC i S Sg 08 51 38.7 -0.3
SURC SANLIURFA_SURC 4.29 247 P Pn 08 50 25.9 -0.4
XNQ Khinaliq 4.33 54⇑ P Pn 08 50 29.7 +2.8
SNR=4.8
XNQ Khinaliq 4.33 54 P Pn 08 50 29.7 +2.8
SNR=4.8
PQL Pirkuli 4.43 60⇑ P Pn 08 50 30.5 +2.2
SNR=10.0
PQL Pirkuli 4.43 60 P Pn 08 50 30.5 +2.2
SNR=10.0
ALIB Äli-Bayra 4.43 72⇑ P Pn 08 50 30.2 +2.0
SNR=8.2
ALIB Äli-Bayra 4.43 72 P Pn 08 50 30.2 +2.0
SNR=8.2
GBS Qoqustan 4.57 65⇑ P Pn 08 50 32.5 +2.4
SNR=4.1
GBS Qobustan 4.57 65 P Pn 08 50 32.5 +2.4
SNR=4.1
NEY Neytrino 4.59 353 eP Pn 08 50 29.0 -1.5
NEY Neytrino 4.59 353 eP Pn 08 50 29.0 -1.5
QSAR Qusar 4.60 51⇑ P Pn 08 50 33.2 +2.7
SNR=26
QSAR Qusar 4.60 51 P Pn 08 50 33.2 +2.7
SNR=26
IDHR Dehrash 4.60 149 ePn Pn 08 50 32.4 +1.7
IDHR Dehrash 4.60 149 ePn Pn 08 50 32.4 +1.7
QUBA Quba, Azerbaij 4.65 54⇑ P Pn 08 50 33.7 +2.5
SNR=4.5
QUBA Quba, Azerbaij 4.65 54 P Pn 08 50 33.7 +2.5
SNR=4.5
ATGJ Altiaghaj 4.70 61⇓ P Pn 08 50 34.2 +2.3
SNR=13
ATGJ Altiaghaj 4.70 61 P Pn 08 50 34.2 +2.3
SNR=13
DARE Darende-Malaty 4.73 270 ePN Pn 08 50 35.2 +2.9
DARE Darende-Malaty 4.73 270 ePn Pn 08 50 35.3 +2.9
SIZA Siyzn 4.77 58⇑ P Pn 08 50 35.2 +2.3
SNR=6.4
SIZA Siyzn 4.77 58 P Pn 08 50 35.2 +2.3
SNR=6.4
NCK Nalchik 4.80 1 eP Pn 08 50 32.8 -0.4
NCK Nalchik 4.80 1 eP Pn 08 50 32.8 -0.4
GROC Groznyy 4.82 20 eP Pb 08 50 42.4 -3.1
GROC pmax pmax
comp=Z,418nm,1.1s
IVIS Veis 4.95 146 ePn Pn 08 50 37.1 +1.8
IVIS eAMB AMB 08 52 18.7
comp=Z,4µm,0.6s
IVIS Veis 4.95 146 ePn Pn 08 50 37.1 +1.8
KBZ Khabaz 5.05 355 Pn Pn 08 50 39.7 +3.0
comp=Z,0.2nm,0.3s,baz=161,slow=8.8,SNR=19
KBZ Lg Lg 08 51 55.3
comp=Z,0.2nm,0.3s,baz=191,slow=19,SNR=1.3
KBZ LR LR 08 53 12.3
comp=Z,734nm,21.9s,baz=235,slow=46
SVSK Karacayir 5.21 286 ePN Pn 08 50 41.6 +2.8
SVSK Karacayir 5.21 286 ePn Pn 08 50 41.6 +2.8
MAK Makhachkala 5.22 34 eP Pn 08 50 37.7 -1.3
MAK eS Sn 08 51 42.9 +3.8
MAK pmax pmax
comp=Z,24nm,0.4s
MAK MLR MLR
comp=Z,7µm,11.0s
MAK Makhachkala 5.22 34 eP Pn 08 50 37.7 -1.3
comp=Z,24nm,0.4s
MAK eS Sn 08 51 42.9 +3.8
comp=Z,7µm,11.0s
KIV Kislovodsk 5.29 353 i P Pn 08 50 43.7 +3.6
SNR=14
KIV Kislovodsk 5.29 353 eP Pn 08 50 38.9 -1.2
KIV pmax pmax
comp=Z,32nm,0.9s
KIV MLR MLR
comp=Z,162nm,7.0s
KIV Kislovodsk 5.29 353 P Pn 08 50 43.7 +3.6
SNR=14
KIV eSn Sn 08 51 44.8 +3.8
KIV Kislovodsk 5.29 353 ePn Pn 08 50 43.9 +3.8
KIV eSn Sn 08 51 44.8 +3.8
KIV Kislovodsk 5.29 353 P Pn 08 50 45.8 +5.7
SNR=43
KVAR Kislovodsk Arr 5.29 354 Pn Pn 08 50 43.6 +3.5
baz=171,slow=2.6,SNR=4.3
KVAR Lg Lg 08 52 09.4
baz=218,slow=19,SNR=1.5
KVAR LR LR 08 53 20.7
comp=Z,706nm,20.8s,baz=102,slow=45
KMRS Kahramanmaras 5.36 259 ePN Pn 08 50 43.6 +2.7
KMRS Kahramanmaras 5.36 259 ePn Pn 08 50 43.6 +2.7
BHD Baghdad 5.46 172 ePn Pn 08 50 42.0 -0.2
SNR=3.0
SARI SarD1z-Kayseri 5.58 269 ePN Pn 08 50 46.8 +2.8
SOC Sochi 5.67 331 eP Pn 08 50 45.6 +0.5
SOC pmax pmax
comp=Z,42nm,0.9s
SOC MLR MLR
comp=Z,1µm,11.0s
SOC Sochi 5.67 331 eP Pn 08 50 45.6 +0.5
comp=Z,1µm,11.0s
RTB Rutbah 6.23 206 ePn Pn 08 50 53.9 +1.0
SNR=3.0
GOF Gofitskoye 6.37 357⇑ eP Pn 08 50 59.5 +4.8
GOF eS Sn 08 52 06.1 -1.2
GOF pmax pmax
comp=Z,39nm,0.6s
GOF smax smax
comp=N,39nm,0.6s
GOF Gofitskoye 6.37 357 eP Pn 08 50 59.5 +4.8
HWQ Hawqa 7.53 236 eP Pn 08 51 11.5 +0.7
HWQ Hawqa 7.53 236 eP Pn 08 51 11.5 +0.7
ANN Anapa 7.61 325 eP Pn 08 51 10.2 -1.6
ANN eS Sn 08 52 37.4 -0.4
ANN pmax pmax
comp=Z,33nm,0.9s
ANN MLR MLR
comp=Z,987nm,16.0s
BR101 Keskin Array S 7.74 281 ePn Pn 08 51 14.5 +0.7
BR101 Keskin Array S 7.74 281 ePn Pn 08 51 14.5 +0.7
BR131 Keskin Array S 7.74 281 ePn Pn 08 51 18.4 +4.6
BR131 eSn Sn 08 52 39.0 -2.4
BRTR Keskin Array B 7.74 281 Pn Pn 08 51 14.5 +0.7
comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=9.8
NSR Nassriya 7.96 164 ePn Pn 08 51 17.0 +0.4
SNR=3.0
SHBL Chebaa 8.25 232 eP Pn 08 51 20.3 -0.5
SHBL Chebaa 8.25 232 eP Pn 08 51 20.3 -0.5
ASF Jabal al Asfar 8.46 222 Pn Pn 08 51 24.1 +0.5
comp=Z,0.4nm,0.3s,baz=348,slow=5.7,SNR=10
ASF Lg Lg 08 53 48.0
comp=Z,0.4nm,0.3s,baz=233,slow=20,SNR=3.3
ASF LR LR 08 54 59.7
comp=Z,232nm,20.0s,baz=30,slow=41
MMAI Mount Meron Ar 8.69 232 Pn Pn 08 51 25.5 -1.2
comp=Z,1.8nm,0.3s,baz=74,slow=15,SNR=3.2
MMAI Lg Lg 08 53 54.4
comp=Z,1.6nm,0.3s,baz=45,slow=21,SNR=2.7
SIM Simferopol' 9.40 315 eP Pn 08 51 42.2 +5.9
SIM pmax pmax
comp=Z,20nm,0.9s
EIL Elat 11.46 221 Pn Pn 08 52 07.0 +2.4
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.3

EIL Lg Lg 08 55 25.1
comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=2.4
EIL LR LR 08 56 43.3
comp=Z,446nm,19.4s,baz=32,slow=39
EIL Elat 11.46 221 ePn Pn 08 52 07.0 +2.4
GEYT Alibeck 11.49 89 Pn Pn 08 52 04.7 -0.3
comp=Z,0.3nm,0.3s,baz=264,slow=13,SNR=11
LPSR Galich'ya Gora 14.27 349 eP Pn 08 52 43.2 +0.4
LPSR pmax pmax
comp=Z,80nm,1.0s
APE Apeiranthos 14.31 269 eP Pn 08 52 44.6 +1.1
VRI Vrincioaia 14.34 305⇑ i P P 08 52 51.1 +0.2
VRI Vrincioaia 14.34 305⇑ i P P 08 52 51.1 +0.2
PLOR Plostina 14.38 305⇑ i P P 08 52 54.0 +2.6
PLOR Plostina 14.38 305⇑ i P P 08 52 54.0 +2.6
TESR Tescani 14.66 308⇓ i P P 08 52 56.3 +1.8
TESR Tescani 14.66 308⇓ i P P 08 52 56.3 +1.8
MLR Muntele Rosu 14.70 303 Pn Pn 08 52 50.3 +1.4
comp=Z,0.1nm,0.3s,baz=100,slow=17,SNR=4.8
MLR Muntele Rosu 14.70 303⇓ i P Pn 08 52 50.4 +1.5
MLR Muntele Rosu 14.70 303 eP Pn 08 52 51.1 +2.2
MLR Muntele Rosu 14.70 303 ePn Pn 08 52 51.1 +2.2
MLR Muntele Rosu 14.70 303 ePn Pn 08 52 51.1 +2.2
RAYN Ar Rayn 15.22 173 ePn Pn 08 52 51.6 -4.3
comp=Z,71nm,1.0s
DOPR Dopca 15.24 304⇓ i P P 08 53 03.5 +2.6
DOPR Dopca 15.24 304⇓ i P P 08 53 03.5 +2.6
VOIR 15.27 302⇑ i P Pn 08 52 58.4 +1.9
IDI Anoyia 15.27 263 Pn Pn 08 52 53.5 -3.0
comp=Z,0.7nm,0.3s,baz=77,slow=18,SNR=3.6
IDI LR LR 08 59 30.9
comp=Z,98nm,21.3s,baz=78,slow=40
IDI Anoyia 15.27 263 ePn Pn 08 52 53.2 -3.3
comp=Z,67nm,1.4s
AKTO Aktyubinsk 15.60 37 Pn Pn 08 52 59.1 -1.6
comp=Z,0.4nm,0.3s,baz=230,slow=12,SNR=22
AKTO LR LR 09 00 49.3
comp=Z,582nm,18.6s,baz=225,slow=44
AKASG Malin Array Be 15.70 325 Pn Pn 08 53 00.4 -1.5
comp=Z,0.6nm,0.3s,baz=133,slow=12,SNR=29
AKASG LR LR 08 59 13.2
comp=Z,163nm,20.9s,baz=95,slow=38
AKBB Malin Array Si 15.70 325 eP Pn 08 53 02.4 +0.5
AKBB pmax pmax
comp=Z,37nm,1.1s
AKBB Malin Array Si 15.70 325 ePn Pn 08 53 02.4 +0.5
comp=Z,37nm,1.1s
AKBB Malin Array Si 15.70 325 ePn Pn 08 53 02.4 +0.5
comp=Z,37nm,1.1s
KIEV Kiev 15.70 324 eP Pn 08 53 02.1 +0.1
KIEV pmax pmax
comp=Z,24nm,1.6s
KIEV Kiev 15.70 324 ePn Pn 08 53 02.5 +0.5
comp=Z,36nm,1.1s
AB31 Akbulak array 15.81 43 *ce*P Pn 08 53 02.1 -1.4
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 15.81 43 ePn Pn 08 53 01.1 -2.4
comp=Z,98nm,0.8s
VTS Vitosha 15.90 291⇑ i P P 08 53 07.1 -1.3
VTS Vitosha 15.90 291 eP Pn 08 53 05.4 +0.6
VTS pmax pmax
comp=Z,36nm,1.1s
VTS Vitosha 15.90 291 ePn Pn 08 53 05.4 +0.6
comp=Z,36nm,1.1s
VTS Vitosha 15.90 291⇑ i P P 08 53 07.1 -1.3
VTS Vitosha 15.90 291 ePn Pn 08 53 05.4 +0.6
comp=Z,36nm,1.1s
BURAR Bucovina Array 16.03 310⇑ i P P 08 53 12.0 +2.2
BURAR Bucovina Array 16.03 310⇑ P P 08 53 12.0 +2.2
BURAR Bucovina Array 16.03 310⇑ i P P 08 53 12.0 +2.2
BUR08 Bucovina Ar. S 16.05 310 ePn Pn 08 53 07.0 +0.3
BUR08 Bucovina Ar. S 16.05 310 ePn Pn 08 53 07.0 +0.3
BANOM Banah 16.67 136 P Pn 08 53 12.6 -2.0
BANOM Banah 16.67 136 P Pn 08 53 13.5 -1.1
SNR=7.5
BARS Barje 16.95 291 eP P 08 53 21.5 +1.6
OBN Obninsk 17.08 346 P Pn 08 53 18.5 -1.0
comp=Z,4.5nm,0.3s,baz=166,slow=16,SNR=14
OBN Obninsk 17.08 346 i P Pn 08 53 18.3 -1.3
OBN i S S 08 56 36.7 -2.1
OBN pmax pmax
comp=Z,63nm,1.0s
OBN MLR MLR
comp=Z,305nm,13.0s
OBN Obninsk 17.08 346 ePn Pn 08 53 20.3 +0.7
comp=Z,166nm,1.2s
OBN Obninsk 17.08 346 ePn Pn 08 53 20.3 +0.7
comp=Z,166nm,1.2s
BOVS Bovan 17.14 294 eP P 08 53 22.5 +0.5
SKO Skopje 17.15 288 P P 08 53 25.4 +3.3
SKO pmax pmax
comp=Z,3.0nm,1.1s
DRGR 17.26 305⇑ i P P 08 53 27.4 +4.0
DRGR 17.26 305⇑ P P 08 53 27.4 +4.0
MDVR Moldovita 17.35 297⇑ i P P 08 53 25.9 +1.5
MDVR Moldovita 17.35 297⇑ i P P 08 53 25.9 +1.5
UOSS Minazif 17.41 138 ePn Pn 08 53 23.9 0.0
comp=Z,49nm,1.0s
UOSS Minazif 17.41 138 ePn Pn 08 53 23.9 0.0
comp=Z,49nm,1.0s
UOSS Minazif 17.41 138 P Pn 08 53 24.0 0.0
HATD Hatta, Dubai 17.47 139 P Pn 08 53 23.2 -1.4
HATD Hatta, Dubai 17.47 139 P Pn 08 53 23.2 -1.4
MOS Moscow 17.50 349 eP Pn 08 53 23.5 -1.3
MOS eS S 08 56 47.6 +0.2
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,99nm,1.4s
ASHO Ashiyiah 17.55 139 i P Pn 08 53 24.3 -1.3
SNR=7.9
ASHO Ashiyiah 17.55 139 P Pn 08 53 24.3 -1.3
SNR=7.9
BZS Buzias 17.62 300⇑ i P Pn 08 53 26.1 -0.3
BZS Buzias 17.62 300⇑ P Pn 08 53 26.1 -0.3
BZS Buzias 17.62 300 P Pn 08 53 26.1 -0.3
SIRR Siria 17.78 302⇓ i P P 08 53 31.3 +2.2
SIRR Siria 17.78 302⇓ i P P 08 53 31.3 +2.2
GRUS Gruza 17.89 294 eP P 08 53 31.3 +1.0
TRUS Trudelj 18.16 295 eP P 08 53 34.5 +1.2
UZH Uzhgorod 18.24 310 eP Pn 08 53 33.8 -0.1
UZH Uzhgorod 18.24 310 eP Pn 08 53 33.8 -0.1
IVAS Ivanjica 18.25 293 eP P 08 53 35.1 +0.8
DIVS Divibare 18.44 295 eP Pn 08 53 37.7 +1.2
KWP Kalwaria Pacla 18.44 313 eP Pn 08 53 37.1 +0.6
KWP Kalwaria Pacla 18.44 313 eP Pn 08 53 37.1 +0.6
KWP Kalwaria Pacla 18.44 313 eP Pn 08 53 37.1 +0.6
FGSL Fruska Gora 18.75 298 eP Pn 08 53 41.9 +1.6
PDG Podgorica 18.79 289⇓ i P Pn 08 53 41.9 +1.2
PDG Podgorica 18.79 289⇓ i P Pn 08 53 41.9 +1.2
BBLS Lazići 18.82 294 eP Pn 08 53 41.9 +0.7
TEKS Tekeris 18.84 296 eP Pn 08 53 42.0 +0.7
CRVS Cervenica-Dubn 18.85 310 eP Pn 08 53 42.4 +1.0
CRVS Cervenica-Dubn 18.85 310 eP Pn 08 53 42.4 +1.0
CRVS Cervenica-Dubn 18.85 310 eP Pn 08 53 42.4 +1.0
NKY Niksic 19.01 290 P Pn 08 53 44.6 +1.1
NKY Niksic 19.01 290 P Pn 08 53 44.6 +1.1
STHS Stebnicka Huta 19.20 311 eP Pn 08 53 48.9 +3.3
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 19.20 311 eP Pn 08 53 48.9 +3.3
KECS Kecovo 19.28 308 eP P 08 53 44.2 -1.3
KECS Kecovo 19.28 308 eP P 08 53 44.2 -1.3
KECS Kecovo 19.28 308 ePN P 08 53 44.2 -1.3
KECS *e* 08 53 53.4
BRY Bratogost 19.35 291 P Pn 08 53 48.9 +1.3
BRY Bratogost 19.35 291 P Pn 08 53 48.9 +1.3
PSZ Piszkesteto 19.45 306⇓ i P Pn 08 53 51.1 +2.4
PSZ Piszkesteto 19.45 306 eP P 08 53 47.3 -0.2
PSZ pmax pmax
comp=Z,26nm,1.0s
PSZ Piszkesteto 19.45 306 eP P 08 53 47.3 -0.2
comp=Z,26nm,1.0s
PSZ Piszkesteto 19.45 306⇓ eP Pn 08 53 49.6 +0.9
PSZ Piszkesteto 19.45 306 eP P 08 53 47.3 -0.2
comp=Z,26nm,1.0s
NIE Niedzica 19.76 310 eP Pn 08 53 53.0 +0.7
NIE Niedzica 19.76 310 eP Pn 08 53 53.0 +0.7
NIE Niedzica 19.76 310 eP Pn 08 53 53.0 +0.7
NACGM Naroch 19.77 331 *e* P 08 53 49.0 -1.8
SMDO Samad 19.92 137 P P 08 53 53.2 +0.4
SMDO Samad 19.92 137 P P 08 53 53.2 +0.4
WSAR Wadi Sarin 20.09 136 P P 08 53 54.0 -0.5

comp=Z,5.0nm,0.6s,baz=342,slow=6.9,SNR=9.2
WSAR LR LR 09 02 36.5
comp=Z,297nm,18.6s,baz=335,slow=40
WSAR Wadi Sarin 20.09 136 *e*P **P 08 53 54.0 -0.5**
WSAR Wadi Sarin 20.09 136 P Pn 08 53 55.6 -0.7
LANS Liptovska Anna 20.15 309 *e*P Pn 08 53 57.0 0.0
LANS *e* 08 54 01.0
LANS Liptovska Anna 20.15 309 *e*P Pn 08 53 57.0 0.0
LANS Liptovska Anna 20.15 309 *e*P Pn 08 53 57.0 0.0
LANS *e* 08 54 01.0
VYHS Vyhne 20.31 307 *e*P Pn 08 53 58.5 -0.3
VYHS *e* 08 54 02.6
VYHS pmax pmax
comp=Z,26nm,1.3s
VYHS Vyhne 20.31 307 *e*P Pn 08 53 58.5 -0.3
comp=Z,26nm,1.3s
VYHS Vyhne 20.31 307 *e*PN Pn 08 53 58.5 -0.3
VYHS Vyhne 20.31 307 *e*P Pn 08 54 02.6 +3.8
CSKK Cs˘‡kako 20.33 303⇓*e*P Pn 08 53 59.0 0.0
CSKK Cs˘‡kako 20.33 303⇓*e*P Pn 08 53 59.0 0.0
ARU Arti 20.36 24 P **P 08 53 57.1 -0.1**
comp=Z,39nm,0.6s,baz=224,slow=6.4,SNR=42
ARU LR LR 09 03 33.3
comp=Z,217nm,20.1s,baz=214,slow=42
ARU Arti 20.36 24 *e*P **P 08 53 57.3 +0.1**
ARU pmax pmax
comp=Z,99nm,1.3s
ARU Arti 20.36 24 *e*P **P 08 53 57.3 +0.1**
comp=Z,160nm,1.1s
ARU Arti 20.36 24 *e*P **P 08 53 57.3 +0.1**
comp=Z,160nm,1.1s
OJC Ojcow 20.39 312 *e*P Pn 08 53 58.9 -0.9
OJC Ojcow 20.39 312 *e*P **P 08 53 58.1 +0.5**
OJC pmax pmax
comp=Z,37nm,1.0s
OJC Ojcow 20.39 312 *e*P **P 08 53 58.1 +0.5**
comp=Z,37nm,1.0s
OJC Ojcow 20.39 312 *e*P **P 08 53 58.1 +0.5**
comp=Z,37nm,1.0s
SUW Suwalki 20.67 324 *e*P Pn 08 54 02.7 -0.2
SUW Suwalki 20.67 324 *e*P Pn 08 54 02.7 -0.2
SUW Suwalki 20.67 324 *e*P Pn 08 54 02.7 -0.2
KK31 Karatay Array 20.83 69 *ce*P **P 08 54 03.0 +0.5**
KK31 pmax pmax
comp=Z,50nm,0.7s
KKAR Karatay Array 20.83 69 *e*P **P 08 54 03.0 +0.5**
KKAR Karatay Array 20.83 69 *e*P **P 08 54 03.0 +0.5**
comp=Z,469nm,0.7s
KBL Kabul 20.88 94 *e*P **P 08 54 04.5 +1.2**
KBL pmax pmax
comp=Z,32nm,1.0s
KBL Kabul 20.88 94 *e*P **P 08 54 04.5 +1.2**
comp=Z,32nm,1.0s
OKC Ostrava-Krasne 21.21 310 *e*P **P 08 54 09.2 +2.7**
OKC *e*S Sn 08 58 14.4 +5.5
OKC AMS AMS 09 05 50.0
comp=Z,400nm,13.2s
OKC Ostrava-Krasne 21.21 310 *e*P **P 08 54 09.2 +2.7**
OKC *e*S Sn 08 58 14.4 +5.5
OKC MLR MLR
comp=Z,400nm,13.2s
OKC Ostrava-Krasne 21.21 310 P **P 08 54 09.2 +2.7**
SVE Sverdlovsk 21.37 26 *e*P **P 08 54 09.2 +1.0**
SVE *e*S **S 08 58 05.6 +0.6**
SVE pmax pmax
comp=Z,101nm,1.1s
SVE MLR MLR
comp=Z,843nm,15.0s
CUC Castrocucco 21.44 282 *e*P **P 08 54 08.5 -0.6**
comp=Z,12nm,0.8s
SOP Sopron 21.53 303 P **P 08 54 13.0 +3.1**
SOP pmax pmax
comp=Z,34nm,1.3s
MORC Moravsky Berou 21.55 309⇓*i*P **P 08 54 13.3 +3.1**
MORC Moravsky Berou 21.55 309 *e*P **P 08 54 10.6 +0.4**
MORC pmax pmax
comp=Z,45nm,1.0s
MORC Moravsky Berou 21.55 309⇓*i*P **P 08 54 13.3 +3.1**
MORC Moravsky Berou 21.55 309 *e*P **P 08 54 10.6 +0.4**
comp=Z,45nm,1.0s
VRAC Vranov 21.97 308 P **P 08 54 16.3 +1.6**
comp=Z,30nm,0.9s,baz=106,slow=8.5,SNR=19
BOJS Bojanci 21.98 297 *i*P **P 08 54 16.3 +1.5**
BOJS Bojanci 21.98 297 P **P 08 54 16.3 +1.5**
CONA Conrad Observa 22.04 304 *e*P **P 08 54 16.0 +0.4**
comp=Z,29nm,1.2s
CONA Conrad Observa 22.04 304 P **P 08 54 16.0 +0.4**
comp=Z,29nm,1.2s
ARSA Arzberg 22.11 302 *i*P **P 08 54 18.8 +2.6**
comp=Z,21nm,1.6s
ARSA Arzberg 22.11 302 P **P 08 54 18.8 +2.6**
comp=Z,21nm,1.6s
KRLIC Kraliky 22.12 310 *e*P **P 08 54 18.6 +2.3**
KRLC Kraliky 22.12 310 *e*P **P 08 54 18.6 +2.3**
KRLC Kraliky 22.12 310 P **P 08 54 18.6 +2.3**
PERS Pernice 22.26 300 *i*P **P 08 54 17.8 -0.1**
PERS Pernice 22.26 300 *i*P **P 08 54 17.8 -0.1**
VISS Visnje 22.31 298 *i*P **P 08 54 22.1 +3.7**
KLMR Klimovskoe 22.32 355 *e*P **P 08 54 15.8 -2.5**
KLMR *e*PPP PPP 08 54 45.4
KLMR *e*S **S 08 58 20.2 -3.1**
KLMR pmax pmax
comp=Z,330nm,1.1s
DPC Dobruska-Polom 22.49 310 *e*P **P 08 54 22.4 +2.1**
DPC *e*pP **sP 08 54 26.9 +1.3**
DPC *e*x x 08 54 33.3
DPC AMS AMS 09 06 50.0
comp=Z,400nm,11.5s
DPC Dobruska-Polom 22.49 310 *e*P **P 08 54 22.4 +2.1**
DPC *e* 08 54 26.9
DPC MLR MLR
comp=Z,400nm,11.5s
DPC Dobruska-Polom 22.49 310 P **P 08 54 22.4 +2.1**
SOKR Solikamsk 22.56 18 *d i*P **P 08 54 18.8 -2.1**
SOKR pmax pmax
comp=Z,44nm,1.3s
SOKR MLR MLR
comp=Z,356nm,16.0s
VSU Vasula 22.57 337 *ce*P **P 08 54 19.7 -1.2**
VSU pmax pmax
comp=Z,67nm,1.1s
TREC Trest 22.66 307 *e*P **P 08 54 23.5 +1.4**
TREC Trest 22.66 307 *e*P **P 08 54 23.5 +1.4**
TREC Trest 22.66 307 P **P 08 54 23.5 +1.4**
KSP Ksiaz 22.69 311 *e*P **P 08 54 23.2 +0.9**
KSP Ksiaz 22.69 311 *e*P **P 08 54 23.3 +0.9**
KSP Ksiaz 22.69 311 *e*P **P 08 54 23.2 +0.9**
UPC Upice 22.73 310 *e*P **P 08 54 24.7 +1.9**
UPC *ex* x 08 54 28.1
UPC AMS AMS 09 07 00.0
comp=Z,400nm,10.4s
UPC Upice 22.73 310 *e*P **P 08 54 24.7 +1.9**
UPC *e* 08 54 28.1
UPC MLR MLR
comp=Z,400nm,10.4s
UPC Upice 22.73 310 P **P 08 54 24.7 +1.9**
MOA Molln 23.07 303 *e*P **P 08 54 27.3 +0.9**
comp=Z,26nm,1.2s
MOA Molln 23.07 303 P **P 08 54 27.3 +0.9**
comp=Z,26nm,1.2s
AQU L'Aquila 23.13 289 *e*P **P 08 54 27.0 0.0**
AQU pmax pmax
comp=Z,32nm,0.9s
AQU L'Aquila 23.13 289 *e*P **P 08 54 27.0 0.0**
comp=Z,32nm,0.9s
GOPC GO Pecny, Ondr 23.28 308 *e*P **P 08 54 29.6 +1.1**
GOPC GO Pecny, Ondr 23.28 308 *e*P **P 08 54 29.6 +1.1**
GOPC GO Pecny, Ondr 23.28 308 P **P 08 54 29.6 +1.1**
BRVK Borovoye 23.34 43 *ce*P **P 08 54 29.0 -0.1**
BRVK pmax pmax
comp=Z,59nm,1.0s
BRVK Borovoye 23.34 43 *e*P **P 08 54 29.3 +0.2**
comp=Z,23nm,0.8s
BRVK Borovoye 23.34 43 P **P 08 54 29.2 +0.2**
SNR=12
BVA0 Borovoye Array 23.39 43 *i*P **P 08 54 29.6 +0.1**
BVA0 pmax pmax
comp=Z,29nm,1.0s
BVAR Borovoye Array 23.39 43 P **P 08 54 29.5 0.0**
comp=Z,17nm,0.9s,baz=237,slow=8.1,SNR=47
PRU Pruhonice 23.45 308 *e*P **P 08 54 32.2 +2.0**
PRU *e*S **S 08 58 51.8 +8.6**
PRU AMS AMS 09 06 10.0
comp=Z,300nm,10.1s
PRU Pruhonice 23.45 308 *e*P **P 08 54 32.2 +2.0**
PRU MLR MLR
comp=Z,300nm,10.1s
PRU Pruhonice 23.45 308 *e*P **P 08 54 32.2 +2.0**
comp=Z,300nm,10.1s
KBA Koelnbreinsper 23.53 301 P **P 08 54 32.1 +0.9**
KBA Koelnbreinsper 23.53 301 *e*P **P 08 54 32.0 +0.9**
comp=Z,21nm,1.1s
KBA Koelnbreinsper 23.53 301 P **P 08 54 32.1 +0.9**
PVCC Panska Ves 23.61 310 *e*P **P 08 54 32.4 +0.7**
PVCC AMS AMS 09 06 40.0
comp=Z,300nm,12.4s
PVCC Panska Ves 23.61 310 *e*P **P 08 54 32.4 +0.7**
PVCC MLR MLR
comp=Z,300nm,12.4s
PVCC Panska Ves 23.61 310 *e*P **P 08 54 32.4 +0.7**
comp=Z,300nm,12.4s
GEC2 GERESS Array S 23.67 305 *e*P **P 08 54 32.9 +0.5**
GEC2 pmax pmax
comp=Z,22nm,1.2s
GEC2 GERESS Array S 23.67 305 *e*P **P 08 54 32.9 +0.5**
comp=Z,22nm,1.2s
GEC2 GERESS Array S 23.67 305 *e*P **P 08 54 32.9 +0.5**
comp=Z,22nm,1.2s
GERES GERESS Array B 23.67 305 P **P 08 54 32.6 +0.2**
comp=Z,5.1nm,0.8s,baz=113,slow=10,SNR=14
GERES LR LR 09 05 07.1
comp=Z,101nm,18.1s,baz=83,slow=40
AAK Ala-Archa 23.75 71 P **P 08 54 34.1 +0.7**
comp=Z,12nm,0.9s,baz=249,slow=10,SNR=24
AAK Ala-Archa 23.75 71 P **P 08 54 34.6 +1.2**
AAK pmax pmax
comp=Z,42nm,1.5s
AAK Ala-Archa 23.75 71 *e*P **P 08 54 34.4 +1.1**
AAK Ala-Archa 23.75 71 P **P 08 54 32.2 -1.2**
SNR=23
KHC Kasperske Hory 23.82 306 *e*P **P 08 54 34.5 +0.6**
KHC *ex* x 08 54 46.2
KHC *e*S **S 08 58 56.9 +7.8**
KHC Kasperske Hory 23.82 306 *e*P **P 08 54 34.4 +0.6**
KHC pmax pmax
comp=Z,27nm,1.5s
KHC Kasperske Hory 23.82 306 *e*P **P 08 54 34.4 +0.6**
comp=Z,27nm,1.5s
KHC Kasperske Hory 23.82 306 *e*P **P 08 54 34.4 +0.6**
comp=Z,27nm,1.5s
FRU Bishkek 23.84 70 *e*P **P 08 54 35.0 +0.9**
FRU *i* 08 54 41.0
FRU pmax pmax
comp=Z,140nm,1.9s
FRU Bishkek 23.84 70 *e*P **P 08 54 35.0 +0.9**
comp=Z,140nm,1.9s
ABTA Abfaltersbach 24.04 300 *e*P **P 08 54 36.3 +0.2**
comp=Z,13nm,1.3s
ABTA Abfaltersbach 24.04 300 P **P 08 54 36.3 +0.2**
comp=Z,13nm,1.3s
BRG Berggiesshubel 24.09 310 *i*P **P 08 54 36.5 +0.2**
comp=Z,10nm,0.9s
BRG *i* 08 54 40.3
comp=Z,10nm,0.9s
BRG *i* 08 54 40.3
comp=Z,46nm,1.7s
BRG Berggiesshubel 24.09 310 *i*P **P 08 54 36.5 +0.2**
BRG *i* 08 54 40.3
BRG *i* 08 54 40.3
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 24.09 310 *i*P **P 08 54 36.5 +0.2**
comp=Z,10.0nm,0.9s
WTTA Wattenberg 24.71 301 *i*P **P 08 54 42.5 +0.3**
SNR=6.6
WTTA Wattenberg 24.71 301 P **P 08 54 42.5 +0.3**
SNR=6.6
WATA Walderalm 24.76 301 *e*P **P 08 54 42.5 -0.2**
comp=Z,38nm,1.2s
WATA Walderalm 24.76 301 P **P 08 54 42.5 -0.2**
comp=Z,38nm,1.2s
CLL Collm 24.80 311⇑*i*P **P 08 54 42.9 +0.2**
CLL *e* 08 54 48.0
CLL pmax pmax
comp=Z,29nm,0.8s
CLL Collm 24.80 311⇑*i*P **P 08 54 42.9 +0.2**
comp=Z,29nm,0.8s
CLL *es*P **sP 08 54 48.0 -0.2**
CLL *e* 08 54 54.0
CLL *e*S S 08 59 21.0 +16
CLL Collm 24.80 311 *e*P **P 08 54 43.1 +0.3**
comp=Z,34nm,1.0s
NKC Novy Kostel 24.81 308 *e*P **P 08 54 43.6 +0.7**
NKC *ex* x 08 54 47.3
NKC AMS AMS 09 07 10.0
comp=Z,300nm,10.3s
NKC Novy Kostel 24.81 308 *e*P **P 08 54 43.6 +0.7**
NKC *e* 08 54 47.3
NKC MLR MLR
comp=Z,300nm,10.3s
NKC Novy Kostel 24.81 308 P **P 08 54 43.6 +0.7**
MOTA Moosalm 25.08 301 *i*P **P 08 54 45.2 -0.4**
SNR=12
MOTA Moosalm 25.08 301 P **P 08 54 45.2 -0.4**
SNR=12
KSH Kashi 25.12 78 P **P 08 54 45.4 -0.6**
KSH *ep*P pP 08 54 49.8 -0.1
KSH *es*P sP 08 54 52.4 +0.9
KSH PP **PnPn 08 55 21.5 +1.9**
KSH PcP **PcP 08 58 23.3 +3.3**
KSH S **S 08 59 06.3 -4.2**
KSH SS **SnSn 09 00 02.4 +2.4**
KSH PcS **PcS 09 02 01.1 +0.7**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,170nm,9.0s
KSH LR LR
comp=Z,300nm,10.7s
KSH LR LR
comp=Z,140nm,9.7s
KSH LR LR
comp=Z,250nm,9.1s
FIA0 FINESS Array S 25.21 340 *e*P **P 08 54 45.8 -0.6**
FIA0 FINESS Array S 25.21 340 *e*P **P 08 54 45.8 -0.6**
FINES FINESS Array B 25.21 340 P **P 08 54 45.8 -0.6**
comp=Z,5.0nm,0.8s,baz=150,slow=12,SNR=10
FETA Feichten 25.29 300 *e*P **P 08 54 47.5 0.0**
comp=Z,9.4nm,1.0s
FETA Feichten 25.29 300 P **P 08 54 47.5 0.0**
comp=Z,9.4nm,1.0s
RETA Reutte 25.33 301 *e*P **P 08 54 46.9 -0.8**
comp=Z,22nm,1.1s
RETA Reutte 25.33 301 P **P 08 54 46.9 -0.8**
comp=Z,22nm,1.1s
GRFO Grafenberg 25.45 306 *e*P **P 08 54 49.5 +0.9**
GRFO pmax pmax
comp=Z,103nm,1.2s
GRFO Grafenberg 25.45 306 *e*P **P 08 54 49.5 +0.9**
comp=Z,103nm,1.2s
FUORN Ofenpass-Fuorn 25.56 299 *e*P **P 08 54 50.6 +0.5**
comp=Z,44nm,1.7s
TMCR Tamitsa 25.71 354 *e*P **P 08 54 49.8 -1.1**
TMCR *e*S **S 08 59 16.3 -2.8**
TMCR pmax pmax
comp=Z,50nm,1.0s
DAVOX Davos/Dischmat 25.84 299 P **P 08 54 51.7 -0.8**
comp=Z,9.6nm,0.7s,baz=117,slow=9.2,SNR=10.0
DAVOX LR LR 09 06 01.0
comp=Z,120nm,18.9s,baz=79,slow=39
DAVA Damuels 25.90 300 *e*P **P 08 54 52.6 -0.4**
comp=Z,12nm,0.8s
DAVA Damuels 25.90 300 P **P 08 54 52.6 -0.4**
comp=Z,12nm,0.8s
TUE Stuetta 26.18 298 *e*P **P 08 54 55.6 0.0**
comp=Z,12nm,1.0s
KEST Kesra 27.29 274 P **P 08 55 04.7 -0.8**
comp=Z,6.7nm,0.9s,baz=129,slow=6.5,SNR=6.8
KEST Kesra 27.29 274 *e*P **P 08 55 04.8 -0.7**
comp=Z,34nm,1.5s
KURBB Kurchatov Arra 27.35 53 P **P 08 55 06.6 +0.8**
comp=Z,38nm,0.8s,baz=263,slow=9.1,SNR=132
KURBB PcP **PcP 08 58 23.8 -0.9**
comp=Z,2.2nm,0.8s,baz=278,slow=2.6,SNR=5.2
KURK Kurchatov 27.42 53 *ce*P **P 08 55 07.4 +1.0**
KURK pmax pmax
comp=Z,136nm,0.9s
KURK Kurchatov 27.42 53 *e*P **P 08 55 07.5 +1.0**
KURK *e*PcP **PcP 08 58 23.8 -1.1**
KURK Kurchatov 27.42 53 P **P 08 55 07.6 +1.1**
SNR=21
BNI Bardonecchia 27.98 295 *e*P **P 08 55 11.5 -0.3**
BNI pmax pmax
comp=Z,44nm,1.6s
BNI Bardonecchia 27.98 295 *e*P **P 08 55 11.5 -0.3**
comp=Z,44nm,1.6s
HFS Hagfors 28.50 329 P **P 08 55 15.6 -0.4**
comp=Z,17nm,0.9s,baz=143,slow=11,SNR=8.0
HFS LR LR 09 08 34.2
comp=Z,113nm,19.9s,baz=116,slow=40
MAKZ Makanchi 29.14 61 *e*P **P 08 55 21.4 -0.5**
MAKZ pmax pmax
comp=Z,13nm,1.1s
MAKZ Makanchi 29.14 61 *e*P **P 08 55 21.4 -0.5**
comp=Z,13nm,1.1s
MK31 Makanchi Array 29.36 61 *e*P **P 08 55 24.5 +0.7**
MK31 Makanchi Array 29.36 61 *e*P **P 08 55 24.5 +0.7**
MK32 Makanchi Array 29.36 61 *e*P **P 08 55 24.1 +0.3**
MKAR Makanchi Array 29.36 61 P **P 08 55 24.1 +0.3**
comp=Z,4.6nm,0.7s,baz=273,slow=6.5,SNR=25
MKAR LR LR 09 09 05.8
comp=Z,256nm,18.1s,baz=260,slow=40
MKAR Makanchi Array 29.36 61 *e*P **P 08 55 24.5 +0.7**
MKAR pmax pmax
comp=Z,46nm,0.8s
MKAR Makanchi Array 29.36 61 *e*P **P 08 55 24.5 +0.7**
comp=Z,46nm,0.8s
LVZ Lovozero 29.67 353 *i*P **P 08 55 26.9 +0.6**
LVZ pmax pmax
comp=Z,20nm,1.2s
LVZ Lovozero 29.67 353 *i*P **P 08 55 26.9 +0.6**
comp=Z,20nm,1.2s
KONO Kongsberg 29.99 325 *i*P **P 08 55 28.9 -0.3**
KONO pmax pmax
comp=Z,42nm,0.8s
KONO Kongsberg 29.99 325 *i*P **P 08 55 28.9 -0.3**
comp=Z,42nm,0.8s
NB2 NORSAR Subarra 30.03 329 P **P 08 55 28.5 -1.1**
comp=Z,7.6nm,1.0s,baz=124,slow=9.3
NB2 NORSAR Subarra 30.03 329 P **P 08 55 28.5 -1.1**
comp=Z,7.6nm,1.0s,SNR=9.4
NB200 NORSAR Array S 30.03 329 *e*P **P 08 55 28.7 -0.9**
NB200 NORSAR Array S 30.03 329 *e*P **P 08 55 28.7 -0.9**
NOA NORSAR Array B 30.03 329 P **P 08 55 28.7 -0.9**
comp=Z,3.3nm,0.9s,baz=126,slow=8.8,SNR=3.8
NOA LR LR 09 09 12.1
comp=Z,90nm,18.5s,baz=130,slow=40
NOA NORSAR Array B 30.03 329 P **P 08 55 28.7 -0.9**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,90nm,18.5s
NC204 NORSAR Array S 30.34 329 *e*P **P 08 55 33.2 +0.8**
NC204 NORSAR Array S 30.34 329 *e*P **P 08 55 33.2 +0.8**
NVS Novosibirsk 31.12 46 *e*P **P 08 55 40.1 +0.9**
NVS pmax pmax
comp=Z,25nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,12nm,0.9s
NVS Novosibirsk 31.12 46 *e*P **P 08 55 40.1 +0.9**
comp=E,8.0nm,0.9s
ZAA0 Zalesovo Array 31.82 48 *e*P **P 08 55 45.7 +0.3**
comp=E,16nm,1.3s
ZAA0 Zalesovo Array 31.82 48 *e*P **P 08 55 45.7 +0.3**
comp=E,16nm,1.3s
ZALV Zalesovo Beam 31.82 48 P **P 08 55 45.2 -0.1**
comp=E,6.1nm,0.6s,baz=260,slow=10,SNR=20
ZALV LR LR 09 10 07.0
comp=E,128nm,19.2s,baz=250,slow=39
ZAA1 Zalesovo Array 31.82 48 *e*P **P 08 55 45.2 -0.2**
ZAA1 Zalesovo Array 31.82 48 *e*P **P 08 55 45.2 -0.2**
ARA0 ARCESS Array S 32.38 348 *e*P **P 08 55 49.8 -0.3**
ARA0 ARCESS Array S 32.38 348 *e*P **P 08 55 49.8 -0.3**
ARCES ARCESS Array B 32.38 348 P **P 08 55 49.8 -0.4**
comp=E,6.8nm,0.9s,baz=166,slow=9.0,SNR=8.0
ARCES LR LR 09 10 57.6
comp=E,108nm,21.4s,baz=156,slow=40
WMQ Urumqi 33.30 67 P **P 08 56 00.3 +1.7**
WMQ pP sP 08 56 04.6 +0.5
WMQ sP pP 08 56 07.5 +5.0
WMQ PcP **PcP 08 58 41.4 +0.9**
WMQ pmax pmax
comp=E,33nm,1.1s
WMQ pmax pmax
comp=E,38nm,3.7s
WMQ LR LR
comp=E,140nm,25.9s
WMQ LR LR
comp=E,110nm,16.5s
PYUN Piuthan 34.37 96 *e*P **P 08 56 08.7 +0.5**
comp=E,63nm,0.7s
DANN Dangsing 34.85 95 *e*P **P 08 56 13.2 +0.7**
KOLN Koldanda 35.00 96 *e*P **P 08 56 14.0 +0.3**
comp=E,52nm,1.0s
GKN Gorkha 35.70 95 *e*P **P 08 56 20.1 +0.5**
comp=E,51nm,0.6s
TAM Tamanrasset 36.01 255 *e*P **P 08 56 23.4 +1.1**
TAM pmax pmax
comp=Z,21nm,1.2s
TAM Tamanrasset 36.01 255 *e*P **P 08 56 23.4 +1.1**
comp=Z,21nm,1.2s
TAM Tamanrasset 36.01 255 *e*P **P 08 56 23.4 +1.1**
comp=Z,21nm,1.2s
DMN Daman 36.25 95 *e*P **P 08 56 25.0 +0.5**
comp=Z,144nm,1.1s
KKN Kakani 36.30 95 *e*P **P 08 56 25.2 +0.4**
ESDC Sonseca Array 36.48 287 P **P 08 56 25.0 -1.1**
comp=Z,7.5nm,0.8s,baz=67,slow=8.9,SNR=24
ESDC Sonseca Array 36.48 287 *e*P **P 08 56 25.0 -1.1**
PKIN Phulchoki 36.49 95 *e*P **P 08 56 26.9 +0.4**
comp=Z,32nm,0.6s
PKI Pulchoki 36.50 95 *e*P **P 08 56 27.1 +0.4**
comp=Z,126nm,1.1s
GUN Gumba 36.71 94 *e*P **P 08 56 28.9 +0.4**
comp=Z,212nm,1.2s
JIRN Jiri 37.07 94 *e*P **P 08 56 32.1 +0.5**
comp=Z,938nm,1.1s
RAMN Ramite 37.73 95 *e*P **P 08 56 37.3 +0.2**
comp=Z,120nm,0.8s
ODAN Odare 38.39 95 *e*P **P 08 56 43.3 +0.7**
comp=Z,245nm,1.2s
TAPN Taplejung 38.41 94 *e*P **P 08 56 43.3 +0.5**
comp=Z,104nm,1.1s
NRIK Noril'sk 38.58 23 P **P 08 56 43.5 +0.1**
comp=Z,6.8nm,0.7s,baz=244,slow=2.4,SNR=6.5
NRIK LR LR 09 17 09.9
comp=Z,212nm,18.1s,baz=183,slow=43
MDT Midelt 39.14 277 P **P 08 56 47.9 -0.8**
comp=Z,3.6nm,0.9s,baz=50,slow=9.6,SNR=3.5
LSA Lhasa 40.02 88 *e*P **P 08 56 57.4 +0.9**
LSA pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 40.02 88 *e*P **P 08 56 57.4 +0.9**
comp=Z,30nm,0.7s
LSA Lhasa 40.02 88 *e*P **P 08 56 57.4 +0.9**
comp=Z,30nm,0.7s
KMBO Kilima Mbogo 40.04 190 P **P 08 56 58.5 +2.1**
comp=Z,1.0nm,0.4s,baz=27,slow=6.4,SNR=3.3
KMBO LR LR 09 12 14.2
comp=Z,193nm,19.2s,baz=280,slow=34
KMBO Kilima Mbogo 40.04 190 *e*P **P 08 56 56.8 +0.3**
comp=Z,14nm,1.9s
KMBO Kilima Mbogo 40.04 190 *e*P **P 08 56 56.8 +0.3**
comp=Z,14nm,1.9s
GTA Gaotai 43.10 71 *e*P **P 08 57 22.5 +1.2**
GTA pP sP 08 57 26.9 0.0
GTA sP pP 08 57 29.5 +4.2
GTA S **S 09 03 49.9 +2.8**
GTA pmax pmax
comp=Z,16nm,1.4s
GTA pmax pmax
comp=Z,87nm,5.7s
GTA LR LR
comp=Z,140nm,17.6s
GTA LR LR
comp=Z,230nm,18.1s
GTA LR LR
comp=Z,190nm,16.2s
TLY Talaya 43.12 52 P **P 08 57 21.0 -0.1**
comp=Z,2.7nm,0.7s,baz=285,slow=9.8,SNR=3.6
TLY Talaya 43.12 52 *e*P **P 08 57 22.3 +1.2**
TLY pmax pmax
comp=Z,13nm,1.0s
TLY MLR MLR
comp=Z,206nm,18.0s

TLY	Talaya	43.12	52	eP		P	08 57 21.0	-0.1
TOA1	Torodi Ar. Sit	44.87	247	eP		P	08 57 33.9	-1.6
	comp=Z,34nm,1.4s							
TOA1	Torodi Ar. Sit	44.87	247	eP		P	08 57 33.9	-1.6
	comp=Z,34nm,1.4s							
TOA0	Torodi Ar. Sit	44.87	247	eP		P	08 57 34.2	-1.3
	comp=Z,34nm,1.4s							
TOA0	Torodi Ar. Sit	44.87	247	eP		P	08 57 34.2	-1.3
	comp=Z,34nm,1.4s							
TORD	Torodi Ar. Bea	44.87	247	P		P	08 57 33.9	-1.6
	comp=Z,14nm,1.1s,baz=44,slow=8.3,SNR=46							
TORD				LR		LR	09 18 53.6	
	comp=Z,67nm,21.6s,baz=30,slow=40							
SONA0	Songino Array	45.53	57	eP		P	08 57 40.6	0.0
SONA0	Songino Array	45.53	57	eP		P	08 57 40.6	0.0
SONA0				ePcP		PcP	08 59 18.1	-1.0
SONM	Songino Array	45.53	57	P		P	08 57 40.6	0.0
	comp=Z,0.6nm,0.6s,baz=270,slow=10,SNR=4.7							
SONM				PcP		PcP	08 59 18.1	-1.0
	comp=Z,1.8nm,1.0s,baz=251,slow=4.4,SNR=4.8							
SONM				LR		LR	09 18 19.6	
	comp=Z,80nm,18.5s,baz=281,slow=38							
PALK	Pallekele	45.83	123	ceP		P	08 57 43.8	+0.7
PALK	Pallekele	45.83	123	eP		P	08 57 43.8	+0.7
ULN	Ulaanbaatar	45.96	57	ceP		P	08 57 45.1	+1.0
ULN				pmax		pmax		
	comp=Z,21nm,1.7s							
ULN	Ulaanbaatar	45.96	57	eP		P	08 57 45.0	+1.0
	comp=Z,18nm,1.3s							
ULN	Ulaanbaatar	45.96	57	eP		P	08 57 45.0	+1.0
	comp=Z,18nm,1.3s							
ULN	Ulaanbaatar	45.96	57	P		P	08 57 43.3	-0.7
	SNR=5.1							
LZH	Lanzhou	47.24	73	eP		P	08 57 54.6	+0.4
LZH				pP		pP	08 57 56.5	-1.7
LZH				sP		sP	08 57 57.8	-2.0
LZH				PP		PP	08 59 45.4	+0.4
LZH				pmax		pmax		
	comp=Z,23nm,1.3s							
LZH				pmax		pmax		
	comp=Z,85nm,6.2s							
LZH				LR		LR		
	comp=Z,390nm,14.6s							
LZH				LR		LR		
	comp=Z,380nm,14.7s							
LZH				LR		LR		
	comp=Z,460nm,18.2s							
CD2	Chengdu	49.30	80	eP		P	08 58 10.0	0.0
HHC	Hu-ho-hao-te	51.12	65	eP		P	08 58 25.1	+1.3
HHC				PP		PP	09 00 23.1	+2.8
HHC				S		S	09 05 46.4	+5.0
HHC				pmax		pmax		
	comp=Z,31nm,1.3s							
HHC				pmax		pmax		
	comp=Z,120nm,4.5s							
HHC				LR		LR		
	comp=Z,160nm,13.7s							
HHC				LR		LR		
	comp=Z,130nm,14.9s							
HHC				LR		LR		
	comp=Z,94nm,13.7s							
SUMG	Summit	51.20	337	eP		P	08 58 24.7	+0.4
SUMG				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SUMG	Summit	51.20	337	eP		P	08 58 24.7	+0.4
	comp=Z,8.2nm,0.9s							
SUMG	Summit	51.20	337	eP		P	08 58 24.7	+0.4
	comp=Z,8.2nm,0.9s							
KMI	Kunming	51.25	87	P		P	08 58 25.3	+0.2
KMI				pmax		pmax		
	comp=Z,22nm,1.0s							
CHTO	Chiang Mai	51.66	96	P		P	08 58 27.2	-0.7
	comp=Z,91nm,1.2s							
CHTO	Chiang Mai	51.66	96	eP		P	08 58 27.3	-0.7
CHTO				pmax		pmax		
	comp=Z,16nm,0.9s							
CHTO	Chiang Mai	51.66	96	eP		P	08 58 27.3	-0.7
	comp=Z,16nm,0.9s							
CHTO	Chiang Mai	51.66	96	eP		P	08 58 27.3	-0.7
	comp=Z,16nm,0.9s							
CHTO	Chiang Mai	51.66	96	P		P	08 58 27.4	-0.6
	SNR=9.5							
CM31	Chiang Mai Arr	51.87	97	eP		P	08 58 29.1	-0.4
CM31	Chiang Mai Arr	51.87	97	eP		P	08 58 29.1	-0.4
CMAR	Chiang Mai Arr	51.87	97	P		P	08 58 28.9	-0.6
	comp=Z,10nm,0.9s,baz=298,slow=8.1,SNR=41							
CMAR				PcP		PcP	08 59 41.8	-0.5
	comp=Z,1.0nm,0.4s,baz=302,slow=5.1,SNR=2.6							
CMAR				LR		LR	09 24 10.8	
	comp=Z,46nm,19.3s,baz=298,slow=40							
XAN	Xi'an	51.87	74	P		P	08 58 29.4	0.0
XAN				pP		sP	08 58 39.1	+4.0
XAN				pmax		pmax		
	comp=Z,51nm,0.9s							
XAN				LR		LR		
	comp=Z,66nm,13.1s							
XAN				LR		LR		
	comp=Z,130nm,16.5s							
XAN				LR		LR		
	comp=Z,150nm,13.1s							
TIXI	Tiksi	52.36	23	P		P	08 58 32.2	-0.3
	comp=Z,6.1nm,1.0s,baz=330,slow=4.2							
TIXI	Tiksi	52.36	23	ceP		P	08 58 32.7	+0.3
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.0s							
TIXI	Tiksi	52.36	23	eP		P	08 58 32.7	+0.3
	comp=Z,7.0nm,1.0s							
TIXI	Tiksi	52.36	23	eP		P	08 58 32.6	+0.2
LAMP	Lampang	52.37	96	P		P	08 58 33.6	+0.4
	comp=Z,7.4nm,1.1s							
NANT	Nan	53.04	95	P		P	08 58 37.6	-0.6
	comp=Z,5.1nm,0.9s,comp=Z,4μm							
UTTA	Uttaradit	53.53	96	P		P	08 58 41.7	-0.1
	comp=Z,5.1nm,0.8s,comp=Z,56nm							
GYA	Guiyang	53.64	83	P		P	08 58 42.0	-0.7
GYA				PP		PP	09 00 45.3	+1.9
GYA				S		S	09 06 16.0	-0.2
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.8s							
HIA	Hailar	53.66	52	i P		P	08 58 42.5	+0.1
HIA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
HIA	Hailar	53.66	52	i P		P	08 58 42.5	+0.1
	comp=Z,9.0nm,0.9s							
UTHA	Uthaitani	53.95	99	P		P	08 58 45.2	+0.4
	comp=Z,6.4nm,1.0s							
DBIC	Dimbokro	53.98	247	P		P	08 58 43.6	-1.5
	comp=Z,12nm,1.0s,baz=46,slow=9.5,SNR=6.6							
ENH	Enshi	53.98	78	eP		P	08 58 44.8	-0.2
	comp=Z,16nm,1.0s							
ENH	Enshi	53.98	78	eP		P	08 58 44.9	-0.2
	comp=Z,16nm,1.0s							
KIC	Kosan Boka	54.11	246	eP		P	08 58 44.1	-1.9
	comp=Z,114nm,1.2s							
TIC	Toumodi	54.11	247	eP		P	08 58 44.3	-1.8
LIC	Lamto	54.41	246	eP		P	08 58 46.4	-1.8
	comp=Z,92nm,1.3s							
PBKT	Sadao Pong	54.53	97	P		P	08 58 48.7	-0.4
	comp=Z,24nm,1.0s,comp=Z,821nm							
BJI	Beijing	54.68	64	P		P	08 58 50.0	+0.1
BJI				pmax		pmax		
	comp=Z,16nm,1.5s							
YAK	Yakutsk	54.98	35	i P		P	08 58 51.5	-0.3
YAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
YAK	Yakutsk	54.98	35	i P		P	08 58 51.5	-0.3
	comp=Z,9.0nm,0.8s							
NONG	Nongkai	55.37	94	P		P	08 58 50.4	-4.7
LSZ	Lusaka	55.58	198	eP		P	08 58 56.3	-0.4
LSZ				pmax		pmax		
	comp=Z,27nm,1.4s							
LSZ	Lusaka	55.58	198	eP		P	08 58 56.3	-0.4
	comp=Z,27nm,1.4s							
LSZ	Lusaka	55.58	198	eP		P	08 58 56.3	-0.4
	comp=Z,27nm,1.4s							
KHON	Khomkaen	56.11	96	P		P	08 59 00.5	0.0
	comp=Z,17nm,0.9s							
NAYO	Nakonayok	56.14	99	P		P	08 59 00.5	-0.2
	comp=Z,12nm,1.3s							
SKNT	Sakolnakorn	56.64	95	P		P	08 59 03.6	-0.7
	comp=Z,14nm,1.1s,comp=Z,2μm							
SRAK	Srakaew	56.88	99	P		P	08 59 08.9	+2.9
	comp=Z,98nm,1.0s,comp=Z,790nm							
PANO	Nakornpanom	57.03	94	P		P	08 59 06.9	-0.2
	comp=Z,14nm,1.4s,comp=Z,1μm							
ABPO	Ambohimpanom	57.51	176	i P		P	08 59 12.6	+2.2
NJ2	Nanjing	60.19	71	eP		P	08 59 29.6	+0.7
NJ2				pmax		pmax		
	comp=Z,14nm,1.5s							
RER	Riviere de l'E	60.63	167	eP		P	08 59 32.7	+0.8
	comp=Z,50nm,1.1s							
RER	Riviere de l'E	60.63	167	eP		P	08 59 32.7	+0.8
	comp=Z,50nm,1.1s							
KLR	Kul'dur	60.92	49	P		P	08 59 33.6	0.0
	comp=Z,0.5nm,0.8s,baz=298,slow=10,SNR=9.0							
PSI	Prapat	61.70	111	eP		P	08 59 38.3	-1.2
PSI				pmax		pmax		
	comp=Z,14nm,1.1s							
PSI	Prapat	61.70	111	eP		P	08 59 38.3	-1.2
	comp=Z,14nm,1.1s							
IPM	Ipoh	62.13	108	eP		P	08 59 40.5	-1.8
	comp=Z,20nm,0.9s							
IPM	Ipoh	62.13	108	eP		P	08 59 40.5	-1.8
	comp=Z,20nm,0.9s							
USRK	Ussuriysk Ar.	63.41	54	P		P	08 59 50.0	-0.4
	comp=Z,3.6nm,0.8s,baz=307,slow=5.2,SNR=6.8							
KS15	Wonju Array Si	64.02	62	eP		P	08 59 53.0	-1.5
KS15	Wonju Array Si	64.02	62	eP		P	08 59 53.0	-1.5
KSAR	Wonju Array Be	64.02	62	P		P	08 59 53.9	-0.6
KSAR	Wonju Array Be	64.02	62	P		P	08 59 53.9	-0.6
KSAR	Wonju Array Be	64.02	62	P		P	08 59 53.9	-0.6
KSRS	Korea Array	64.04	62	P		P	08 59 53.9	-0.7
	comp=Z,9.3nm,0.8s,baz=291,slow=6.5,SNR=26							
MA2	Magadan	65.30	32	P		P	09 00 01.7	-0.9
	comp=Z,9.2nm,1.0s,baz=232,slow=1.6,SNR=4.1							
MA2	Magadan	65.30	32	ceP		P	09 00 02.6	+0.1
MA2	Magadan	65.30	32	eP		P	09 00 02.6	+0.1
BILL	Bilibino	65.31	20	eP		P	09 00 00.7	-1.8
BILL				pmax		pmax		
	comp=Z,7.0nm,1.1s							
JNU	Nakatsue	68.35	64	P		P	09 00 21.8	-0.7
	comp=Z,6.2nm,0.7s,baz=300,slow=6.1,SNR=5.9							
JNU	Nakatsue	68.35	64	eP		P	09 00 22.2	-0.3
	comp=Z,9.2nm,1.0s							
JNU	Nakatsue	68.35	64	eP		P	09 00 22.2	-0.3
	comp=Z,9.2nm,1.0s							
BOSA	Boshof	69.10	197	P		P	09 00 26.6	-0.4
	comp=Z,9.6nm,0.7s,baz=9.9,slow=5.4,SNR=30							
BOSA				LR		LR	09 32 40.3	
	comp=Z,70nm,18.6s,baz=358,slow=38							
MDSI	Maura Dua	70.49	113	P		P	09 00 33.1	-2.7
MAT	Matsushiro	71.48	58	P		P	09 00 40.0	-1.6
MJAR	Matsushiro Arr	71.48	58	P		P	09 00 40.8	-0.8
	comp=Z,5.1nm,0.9s,baz=311,slow=5.4,SNR=14							
MJAR	Matsushiro Arr	71.48	58	P		P	09 00 40.8	-0.8
MJAR				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MJAR	Matsushiro Arr	71.48	58	P		P	09 00 40.8	-0.8
	comp=Z,7.0nm,1.1s							
TGY	Tagaytay City	71.57	87	LR		LR	09 36 14.9	
	comp=Z,28nm,19.3s,baz=238,slow=39							
PEA1	Petropavlovsk-	72.33	35	eP		P	09 00 45.1	-1.3
PEA1	Petropavlovsk-	72.33	35	eP		P	09 00 45.1	-1.3
PETK	Petropavlovsk-	72.33	35	P		P	09 00 45.1	-1.3
	comp=Z,6.9nm,0.9s,baz=55,slow=6.6,SNR=5.7							
PETK				LR		LR	09 36 44.2	
	comp=Z,87nm,18.6s,baz=311,slow=39							
STKI	Sintang	72.88	104	P		P	09 00 50.8	+0.6
COLD	Coldfoot	73.89	6	eP		P	09 00 55.9	+0.5
	comp=Z,6.3nm,0.9s							
COLD	Coldfoot	73.89	6	eP		P	09 00 55.9	+0.5
	comp=Z,6.3nm,0.9s							
CNJI	Cibinong	74.55	113	P		P	09 00 57.6	-2.4
PQI	Presque Isle	75.31	319	eP		P	09 01 04.2	+0.2
	comp=Z,10nm,0.9s							
PQI	Presque Isle	75.31	319	eP		P	09 01 04.2	+0.2
	comp=Z,10nm,0.9s							
MDM	Murphy Dome	76.27	5	eP		P	09 01 09.8	+0.6
	comp=Z,12nm,1.3s							
MDM	Murphy Dome	76.27	5	eP		P	09 01 09.8	+0.6
	comp=Z,12nm,1.3s							
COLA	College	76.38	5	eP		P	09 01 10.3	+0.6
COLA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
COLA	College	76.38	5	eP		P	09 01 10.3	+0.6
	comp=Z,10nm,0.9s							
COLA	College	76.38	5	eP		P	09 01 10.3	+0.6
	comp=Z,10nm,0.9s							
ILAR	Eielson Array	76.55	5	P		P	09 01 09.8	-0.9
	comp=Z,1.4nm,1.0s,baz=309,slow=2.9,SNR=9.0							
ILAR				LR		LR	09 36 53.3	
	comp=Z,38nm,21.5s,baz=350,slow=37							
ILB	Eielson Array	76.55	5	eP		P	09 01 09.8	-0.9
ILB	Eielson Array	76.55	5	eP		P	09 01 09.8	-0.9
CCB	Clear Creek Bu	76.61	5	eP		P	09 01 10.6	-0.4
	comp=Z,6.0nm,1.0s							
CCB	Clear Creek Bu	76.61	5	eP		P	09 01 10.6	-0.4
	comp=Z,6.0nm,1.0s							
EGAK	Eagle	76.80	2	eP		P	09 01 12.7	+0.6
	comp=Z,8.2nm,0.9s							
EGAK	Eagle	76.80	2	eP		P	09 01 12.7	+0.6
	comp=Z,8.2nm,0.9s							
CAST	Castle Rocks	77.47	7	eP		P	09 01 16.1	+0.1
	comp=Z,15nm,0.9s							
CAST	Castle Rocks	77.47	7	eP		P	09 01 16.1	+0.1
	comp=Z,15nm,0.9s							
DAWY	Dawson	77.55	1	eP		P	09 01 16.2	-0.3
	comp=Z,9.5nm,0.9s							
DAWY	Dawson	77.55	1	eP		P	09 01 16.2	-0.3
	comp=Z,9.5nm,0.9s							
YKA	Yellowknife Ar	77.63	350	P		P	09 01 15.9	-0.9
	comp=Z,2.4nm,0.8s,baz=15,slow=5.4,SNR=6.9							
YKB5	Yellowknife Ar	77.63	350	eP		P	09 01 15.9	-0.9
YKB5	Yellowknife Ar	77.63	350	eP		P	09 01 15.9	-0.9
DOT	Dot Lake	77.82	3	eP		P	09 01 18.1	+0.2
	comp=Z,14nm,0.8s							
DOT	Dot Lake	77.82	3	eP		P	09 01 18.1	+0.2
	comp=Z,14nm,0.8s							
MENT	Mentasta	78.55	3	eP		P	09 01 22.6	+0.6
	comp=Z,8.3nm,0.8s							
MENT	Mentasta	78.55	3	eP		P	09 01 22.6	+0.6
	comp=Z,8.3nm,0.8s							
SML	Sawmill	79.38	6	eP		P	09 01 26.4	-0.2
SML				pmax		pmax		
	comp=Z,15nm,0.8s							
SML	Sawmill	79.38	6	eP		P	09 01 26.4	-0.2
	comp=Z,15nm,0.8s							
SML	Sawmill	79.38	6	eP		P	09 01 26.4	-0.2
	comp=Z,15nm,0.8s							
KLU	Klutina	79.87	5	eP		P	09 01 29.8	+0.5
	comp=Z,12nm,0.8s							
KLU	Klutina	79.87	5	eP		P	09 01 29.8	+0.5
	comp=Z,12nm,0.8s							
LONY	Lake Ozonia	80.06	320	eP		P	09 01 30.6	0.0
	comp=Z,21nm,1.4s							
LONY	Lake Ozonia	80.06	320	eP		P	09 01 30.6	0.0
	comp=Z,21nm,1.4s							
HYT	Haines Junctio	80.83	1	eP		P	09 01 35.0	+0.5
	comp=Z,13nm,1.0s							
HYT	Haines Junctio	80.83	1	eP		P	09 01 35.0	+0.5
	comp=Z,13nm,1.0s							
KDAK	Kodiak Island	82.94	9	P		P	09 01 45.3	-0.1
	comp=Z,9.1nm,0.6s,baz=347,slow=2.4,SNR=11							
KDAK	Kodiak Island	82.94	9	ceP		P	09 01 45.7	+0.3
KDAK	Kodiak Island	82.94	9	eP		P	09 01 45.7	+0.3
KDAK	Kodiak Island	82.94	9	eP		P	09 01 45.8	+0.3
	comp=Z,58nm,1.4s							
DLBC	Dease Lake	83.08	357	P		P	09 01 46.1	-0.2
	comp=Z,3.2nm,0.8s,baz=43,slow=2.6,SNR=6.0							
ULM	Lac du Bonnet	84.50	335	P		P	09 01 53.0	-0.6
	comp=Z,3.5nm,0.6s,baz=22,slow=5.3,SNR=7.0							
ULM	Lac du Bonnet	84.50	335	P		P	09 01 53.0	-0.6
ULM				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ULM	Lac du Bonnet	84.50	335	P		P	09 01 53.0	-0.6
	comp=Z,4.0nm,0.6s							
SSPA	Standing Stone	84.63	319	eP		P	09 01 54.3	-0.2
	comp=Z,11nm,0.9s							
SSPA	Standing Stone	84.63	319	eP		P	09 01 54.3	-0.2
	comp=Z,11nm,0.9s							
LAO	LASA Array	90.79	340	eP		P	09 02 25.1	+1.0
	comp=Z,24nm,1.4s							
LAO	LASA Array	90.79	340	eP		P	09 02 25.1	+1.0
	comp=Z,24nm,1.4s							
NEW	Newport	91.73	347	P		P	09 02 28.0	-0.4
	comp=Z,2.9nm,0.8s,baz=352,slow=7.1,SNR=4.5							
SNOW	Snow King Moun	94.97	342	eP		P	09 02 45.3	+1.6
	comp=Z,22nm,1.5s							
SNOW	Snow King Moun	94.97	342	eP		P	09 02 45.3	+1.6
	comp=Z,22nm,1.5s							
FITZ	Fitzroy Crossi	95.17	109	eP		P	09 02 42.9	-1.7
FITZ	Fitzroy Crossi	95.17	109	eP		P	09 02 42.9	-1.7
PDAR	Pinedale Array	95.31	340	LR		LR	09 45 45.7	
	comp=Z,51nm,19.0s,baz=37,slow=36							
TCBU	Trout Butte	96.51	350	eP		P	09 02 50.6	0.0
TCBU	Trout Butte	96.51	350	eP		P	09 02 50.6	0.0
Q16A	Castle Valley	99.34	340	eP		Pdif	09 03 03.5	0.0
	comp=Z,14nm,1.9s							
Q16A	Castle Valley	99.34	340	eP		Pdif	09 03 03.5	0.0
	comp=Z,14nm,1.9s							
QSPA	South Pole Qui	128.52	180	ePKPdf		PKPdf	09 08 25.7	-1.1
URZ	Urewera	143.97	104	PKhKP		PKPpre	09 08 50.4	
	comp=Z,16nm,0.8s,baz=277,slow=1.4,SNR=7.6							
URZ				PKP		PKPbc	09 08 54.2	+0.1
	comp=Z,15nm,0.9s,baz=270,slow=5.1,SNR=7.8							

*CSEM **24** 08:51:11.3,38.°75N×43.°55E,h7km,ML3.7*
DDA 24 08:51:11.3,38.°75N×43.°55E,h7km,Ml3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.58	222	i P	Pg	08 51 22.1	-0.5
GEVA				i S	Sb	08 51 31.9	-0.7
GEVA	Gevas	0.58	222	P	Pg	08 51 22.0	-0.6
GEVA				S	Sb	08 51 31.9	-0.6
BASK	Baskale_VAN	0.78	153	i P	Pg	08 51 25.8	-0.6
BASK				i S	Sb	08 51 38.8	+0.4
BASK	Baskale_VAN	0.78	153	P	Pg	08 51 25.8	-0.6
BASK				S	Sb	08 51 38.8	+0.5
TUTA	Tutak	0.87	319	i P	Pb	08 51 28.6	-0.3
TUTA				i S	Sb	08 51 40.5	-0.3
TUTA	Tutak	0.87	319	P	Pb	08 51 28.6	-0.3
TUTA				S	Sb	08 51 40.5	-0.3
HAKT	HAKKARI	1.20	174	eP	Pg	08 51 33.7	-0.6
HAKT				i S	Sn	08 51 53.8	+2.5
HAKT	HAKKARI	1.20	174	P	Pg	08 51 33.7	-0.6
HAKT				S	Sn	08 51 53.8	+2.4
CUKT	Cukurca	1.50	178	i P	Pg	08 51 42.0	+1.9
CUKT				i S	Sg	08 52 03.7	+4.1
CUKT	Cukurca	1.50	178	P	Pg	08 51 42.0	+1.9
CUKT				S	Sg	08 52 03.7	+4.1

*CSEM **24** 08:52:14.9,38.°71N×43.°52E,h7km,ML3.5*
DDA 24 08:52:14.9,38.°71N×43.°52E,h7km,Ml3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.54	222	i P	Pg	08 52 24.6	-0.7
GEVA				i S	Sb	08 52 34.9	+0.1
GEVA	Gevas	0.54	222	P	Pg	08 52 24.6	-0.7
GEVA				S	Sb	08 52 34.8	0.0
BASK	Baskale_VAN	0.76	150	i P	Pg	08 52 28.6	-1.0
BASK				i S	Sb	08 52 42.2	+0.9
BASK	Baskale_VAN	0.76	150	P	Pg	08 52 28.6	-1.0
BASK				S	Sb	08 52 42.2	+0.9
DYDN	Diyadin	0.84	9	i P	Pg	08 52 31.2	+0.1
DYDN				i S	Sb	08 52 44.2	+0.6
DYDN	Diyadin	0.84	9	P	Pg	08 52 31.2	+0.1
DYDN				S	Sb	08 52 44.2	+0.6
TUTA	Tutak	0.88	322	i P	Pg	08 52 31.3	-0.6
TUTA				i S	Sb	08 52 44.8	0.0
TUTA	Tutak	0.88	322	P	Pg	08 52 31.3	-0.5
TUTA				S	Sb	08 52 44.8	+0.1
HAKT	HAKKARI	1.16	172	i P	Pg	08 52 35.6	-1.6
HAKT				i S	Sn	08 52 57.0	+2.9
HAKT	HAKKARI	1.16	172	P	Pg	08 52 35.6	-1.6
HAKT				S	Sn	08 52 57.0	+2.9
EATA	Eleskirt	1.40	326	i P	Pn	08 52 41.3	+0.1
EATA				i S	Sn	08 53 01.7	+1.7
EATA	Eleskirt	1.40	326	P	Pn	08 52 41.3	+0.2
EATA				S	Sn	08 53 01.7	+1.7

*CSEM **24** 08:55:27.5±0.3,38.°70N×43.°11E,h2km,MD2.7,Error ellipse: s-maj=10.1km s-min=5.1km az=55.0*
*DDA **24** 08:55:27.2,38.°72N×43.°13E,h7km,Ml3.7*
*ISCJB **24** 08:55:28.1±0.7,38.°71N±0.°03×43.°12E±0.°05,h5km±6km, Error ellipse: s-maj=7.5km s-min=3.8km az=146.8*
*ISK **24** 08:55:28.1,38.°70N×43.°16E,h12km,MD2.7*
ISC 24 08:55:27.9±1.2,38.°68N±0.°02×43.°08E±0.°03,h3km±10km, n21,σ0.°99/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	110	ePG	Pg	08 55 33.8	+0.8
VANB				eSG	Sb	08 55 38.8	-1.5
VANB	Van	0.26	110	ePg	Pg	08 55 33.8	+0.8
VANB				eSg	Sb	08 55 38.8	-1.5
GEVA	Gevas	0.37	182	i P	Pg	08 55 35.1	0.0
GEVA				i S	Sb	08 55 42.4	-1.1
GEVA	Gevas	0.37	182	P	Pg	08 55 35.1	0.0
GEVA				S	Sb	08 55 42.4	-1.1
TUTA	Tutak	0.75	344	i P	Pg	08 55 41.5	-0.8
TUTA				i S	Sg	08 55 52.2	+0.2
TUTA	Tutak	0.75	344	P	Pg	08 55 41.5	-0.8
TUTA				S	Sg	08 55 52.2	+0.2
BASK	Baskale_VAN	0.96	131	i P	Pg	08 55 45.2	-1.2
BASK				i S	Sg	08 55 60.0	+1.1
BASK	Baskale_VAN	0.96	131	P	Pg	08 55 45.2	-1.2
BASK				S	Sg	08 56 00.0	+1.1
EKAR	Karacoban	0.97	306	i P	Pg	08 55 46.5	-0.1
EKAR				i S	Sn	08 56 03.5	+0.3
EKAR	Karacoban	0.97	306	P	Pg	08 55 46.5	-0.1
EKAR				S	Sn	08 56 03.5	+0.3
HAKT	HAKKARI	1.23	156	i P	Pg	08 55 49.5	-2.0
HAKT				i S	Sn	08 56 11.0	+1.5
HAKT	HAKKARI	1.23	156	P	Pg	08 55 49.5	-2.0
HAKT				S	Sn	08 56 11.0	+1.5
EATA	Eleskirt	1.26	339	i P	Pg	08 55 50.8	-1.4
EATA				i S	Sb	08 56 09.2	-0.2
EATA	Eleskirt	1.26

HAKT				S	Sg	08 56 50.4	+0.6
EATA	**Eleskirt**	**1.29 334**	*i*	P	Pn	08 56 34.1	-0.6
EATA			*i*	S	Sg	08 56 54.0	+1.1
EATA	**Eleskirt**	**1.29 334**		P	Pn	08 56 34.2	-0.6
EATA				S	Sg	08 56 54.0	+1.1
SIRN	**S¯–rnak**	**1.35 208**	*i*	P	Pn	08 56 35.2	-0.2
SIRN			*i*	S	Sn	08 56 53.5	+0.3
SIRN	**S¯–rnak**	**1.35 208**		P	Pn	08 56 35.2	-0.2
SIRN				S	Sn	08 56 53.5	+0.3
VRTB	**Varto-Mus**	**1.45 289**	*e*	PN	Pn	08 56 36.7	-0.1
VRTB			*e*	SN	Sn	08 56 56.5	+0.9
VRTB	**Varto-Mus**	**1.45 289**	*e*	Pn	Pn	08 56 36.7	-0.1
VRTB			*e*	Sn	Sn	08 56 56.5	+0.9
CUKT	**Cukurca**	**1.48 168**	*e*	PN	Pb	08 56 38.3	+0.1
CUKT	**Cukurca**	**1.48 168**	*e*	P	Pg	08 56 39.0	-0.4
CUKT			*i*	S	Sg	08 57 04.2	+5.5
CUKT	**Cukurca**	**1.48 168**	*e*	Pn	Pb	08 56 38.3	+0.1
CUKT	**Cukurca**	**1.48 168**		P	Pg	08 56 39.0	-0.4
BNGL	**BINGOL**	**1.64 280**	*i*	P	Pn	08 56 39.6	+0.3
BNGL			*i*	S	Sn	08 57 01.5	+1.2
SVAN	**Silvan-Diyarba**	**1.68 252**	*e*	PN	Pn	08 56 40.2	+0.4
SVAN	**Silvan-Diyarba**	**1.68 252**	*i*	P	Pn	08 56 40.2	+0.4
SVAN			*i*	S	Sn	08 57 02.1	+1.1
SVAN	**Silvan-Diyarba**	**1.68 252**		P	Pn	08 56 40.2	+0.4
SVAN				S	Sn	08 57 02.1	+1.1
HOMI	**Horasan**	**1.69 323**	*i*	P	Pb	08 56 41.0	-0.9
HOMI			*i*	S	Sg	08 57 06.8	+1.4
DIGO	**Kars**	**1.72 4**	*i*	P	Pg	08 56 43.0	-1.1
DIGO			*i*	S	Sg	08 57 09.5	+3.0
DIGO	**Kars**	**1.72 4**		P	Pg	08 56 43.0	-1.1
BTMN	**Batman**	**1.73 243**	*i*	P	Pn	08 56 40.8	+0.2
BTMN			*i*	S	Sn	08 57 04.2	+1.8
BTMN	**Batman**	**1.73 243**		P	Pn	08 56 40.8	+0.2
BTMN				S	Sn	08 57 04.2	+1.8
ERZM	**Erzurum**	**1.88 311**	*i*	P	Pb	08 56 44.7	-0.4
ERZM			*i*	S	Sg	08 57 11.1	-0.3
ERZM	**Erzurum**	**1.88 311**		P	Pb	08 56 44.7	-0.4
ERZM				S	Sg	08 57 11.1	-0.3
SENK	**Senkaya-Erzuru**	**1.98 341**	*e*	PN	Pn	08 56 42.7	-1.4
SENK	**Senkaya-Erzuru**	**1.98 341**	*e*	Pn	Pn	08 56 42.7	-1.4
BNGB	**Bing¯¶l**	**2.00 279**	*e*	PN	Pn	08 56 45.2	+0.8
BINT	**Bingol**	**2.14 276**	*e*	Pn	Pn	08 56 45.2	-1.0
YEDI	**Yedisu-Bingol**	**2.21 290**	*e*	PN	Pn	08 56 47.6	+0.4
YEDI	**Yedisu-Bingol**	**2.21 290**	*e*	Pn	Pn	08 56 47.6	+0.4
AKH	**Akhalkalaki**	**2.72 4**	*e*	PN	Pn	08 56 52.7	-1.6
AKH	**Akhalkalaki**	**2.72 4**	*e*	Pn	Pn	08 56 52.7	-1.6
ERZN	**Erzincan**	**2.86 289**	*e*	PN	Pn	08 56 56.9	+0.7

IDC 24 08:57:10.7±10.0, 13.°95S×170.°03E, h652km±120km, mb2.9/5, mb1 3.0/5, mb1mx2.7/36, mbtmp4.0/5, Error ellipse: s-maj=100.8km s-min=37.9km az=112.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.54**	**231**	P	P	09 02 43.6	+0.7
	1.8nm,0.9s,baz=53,slow=9.4,SNR=4.8						
WRA	**Warramunga Arr**	**34.61**	**255**	P	P	09 03 08.2	-0.5
	0.7nm,0.3s,baz=86,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**35.45**	**249**	P	P	09 03 15.7	+0.1
	1.5nm,0.3s,baz=75,slow=9.4,SNR=47						
PETK	**Petropavlovsk-**	**67.62**	**352**	P	P	09 07 05.3	+0.7
	1.6nm,0.8s,baz=108,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**84.98**	**17**	P	P	09 08 37.6	-1.2
	0.2nm,0.5s,baz=227,slow=4.7,SNR=4.5						
ARCES	**ARCESS Array B 120.16**	**346**		PKP	PKPdf	09 14 48.9	+0.2
	5.6nm,1.1s,baz=67,slow=3.0,SNR=6.2						

MAN 24 08:58:57, 7.°71N×126.°80E, h17km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.93**	**216**	*e* P	Pb	08 59 14.7	0.0
MATI				*e* S	Sb	08 59 27.0	+0.3
DMPH	**Davao City--Mi**	**1.43**	**244**	*e* P	Pn	08 59 21.6	-0.5
DMPH				*e* S	Sb	08 59 42.0	+0.9
BUKP	**Musuan**	**1.73**	**276**	*e* P	Pn	08 59 26.5	0.0
BUKP				*e* S	Sn	08 59 49.0	+0.7
SCPH	**Surigao**	**2.44**	**328**	*e* P	Pn	08 59 36.2	+0.1
SCPH				*e* S	Sn	09 00 02.1	-3.5
BESP	**Borongan**	**4.10**	**341**	*e* P	Pn	09 00 02.2	+3.3
BESP				*e* S	Sn	09 00 52.2	+5.7

*DDA **24** 09:03:29.9, 38.°73N×43.°62E, h18km, Ml3.1*
*CSEM **24** 09:03:30.3±0.5, 38.°75N×43.°65E, h2km, ML3.1, Error ellipse: s-maj=11.0km s-min=5.9km az=85.0*
*ISK **24** 09:03:31.4, 38.°71N×43.°44E, h3km, ML3.1*
ISC 24 09:03:30.4±1.3, 38.°75N±0.°02×43.°69E±0.°05, h4km±10km, n36, σ1§12/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**237**	*e* PG	Pg	09 03 36.4	+0.5
VANB				*e* SG	Sg	09 03 39.7	0.0
VANB	**Van**	**0.28**	**237**	*e* Pg	Pg	09 03 36.4	+0.5
VANB				*e* Sg	Sg	09 03 39.7	0.0
GEVA	**Gevas**	**0.66**	**229**	*i* P	Pg	09 03 40.6	-2.5
GEVA				*i* S	Sg	09 03 51.5	-0.2
GEVA	**Gevas**	**0.66**	**229**	P	Pg	09 03 40.6	-2.5
GEVA				S	Sg	09 03 51.5	-0.2
DYDN	**Diyadin**	**0.79**	**360**	*i* P	Pb	09 03 46.5	-0.3
DYDN				*i* S	Sn	09 04 00.3	-0.6
DYDN	**Diyadin**	**0.79**	**360**	P	Pb	09 03 46.5	-0.3
DYDN				S	Sn	09 04 00.3	-0.6
TUTA	**Tutak**	**0.94**	**314**	*i* P	Pg	09 03 47.3	-1.2
TUTA				*i* S	Sg	09 04 02.0	+1.2
TUTA	**Tutak**	**0.94**	**314**	P	Pg	09 03 47.3	-1.2
TUTA				S	Sg	09 04 02.0	+1.2
HAKT	**HAKKARI**	**1.19**	**179**	*i* P	Pg	09 03 52.1	-1.1
HAKT				*i* S	Sn	09 04 09.3	-1.4
HAKT	**HAKKARI**	**1.19**	**179**	P	Pg	09 03 52.1	-1.1
HAKT				S	Sn	09 04 09.3	-1.4
EKAR	**Karacoban**	**1.37**	**292**	*i* P	Pn	09 03 55.7	-0.7
EKAR				*i* S	Sg	09 04 15.2	+0.9
EKAR	**Karacoban**	**1.37**	**292**	P	Pn	09 03 55.7	-0.7
EKAR				S	Sg	09 04 15.2	+0.9
EATA	**Eleskirt**	**1.45**	**320**	*i* P	Pn	09 03 55.8	-1.8
EATA				*i* S	Sb	09 04 17.8	+0.8
EATA	**Eleskirt**	**1.45**	**320**	P	Pn	09 03 55.8	-1.8
EATA				S	Sb	09 04 17.8	+0.8
CUKT	**Cukurca**	**1.50**	**183**	*e* PN	Pg	09 04 00.1	+0.9
CUKT				*e* SN	Sg	09 04 20.3	+1.7
CUKT	**Cukurca**	**1.50**	**183**	*e* Pn	Pg	09 04 00.1	+0.9
CUKT				*e* Sn	Sg	09 04 20.3	+1.7
HOMI	**Horasan**	**1.89**	**314**	*i* P	Pn	09 04 03.4	-0.3
HOMI				*i* S	Sg	09 04 32.9	+1.6
BNGL	**BINGOL**	**2.00**	**277**	*i* P	Pn	09 04 03.9	-1.2
SVAN	**Silvan-Diyarba**	**2.05**	**254**	*e* PN	Pn	09 04 05.5	-0.1
SVAN	**Silvan-Diyarba**	**2.05**	**254**	*i* P	Pn	09 04 05.9	+0.3
SVAN				*i* S	Sn	09 04 32.9	+1.3
SVAN	**Silvan-Diyarba**	**2.05**	**254**	*e* Pn	Pn	09 04 05.5	-0.1
SVAN	**Silvan-Diyarba**	**2.05**	**254**	P	Pn	09 04 05.9	+0.3
SVAN				S	Sn	09 04 32.9	+1.3
SENK	**Senkaya-Erzuru**	**2.08**	**331**	*e* PN	Pn	09 04 07.3	+1.1
SENK	**Senkaya-Erzuru**	**2.08**	**331**	*e* Pn	Pn	09 04 07.3	+1.1
BTMN	**Batman**	**2.09**	**247**	*i* P	Pn	09 04 06.0	-0.1
BTMN				*i* S	Sn	09 04 33.4	+0.6
BTMN	**Batman**	**2.09**	**247**	P	Pn	09 04 06.1	-0.1
BTMN				S	Sn	09 04 33.3	+0.6
ERZM	**Erzurum**	**2.14**	**303**	*i* P	Pn	09 04 08.5	+1.4
ERZM	**Erzurum**	**2.14**	**303**	P	Pn	09 04 08.5	+1.4
BNGB	**Bing¯¶l**	**2.37**	**277**	*e* PN	Pn	09 04 09.5	-0.6
BINT	**Bingol**	**2.51**	**274**	*e* Pn	Pn	09 04 09.5	-2.5
YEDI	**Yedisu-Bingol**	**2.54**	**287**	*e* PN	Pn	09 04 12.0	-0.5
YEDI	**Yedisu-Bingol**	**2.54**	**287**	*e* Pn	Pn	09 04 12.0	-0.5
MAZI	**Mazidag**	**2.87**	**244**	*e* PN	Pn	09 04 17.3	+0.4
MAZI	**Mazidag**	**2.87**	**244**	*e* Pn	Pn	09 04 17.3	+0.4
PTK	**Pertek**	**3.36**	**274**	*e* PN	Pn	09 04 23.7	-0.1
PTK	**Pertek**	**3.36**	**274**	*e* Pn	Pn	09 04 23.7	-0.1

JMA 24 09:04:23.0±0.3, 36.°56N×141.°92E, h34km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.05**	**301**	P	Pn	09 04 41.8	+0.4
JHO	**Hitachi**	**1.09**	**273**	P	Pn	09 04 42.0	+0.2
JHO				*e* S	Sn	09 04 56.4	+0.7
JFK	**Kawauchi**	**1.16**	**314**	P	Pb	09 04 43.9	-0.7
CHOJ	**Chosi**	**1.21**	**225**	P	Pb	09 04 44.8	-0.6
JMM	**Marumori**	**1.58**	**326**	P	Pn	09 04 49.0	+0.4
JMM				*e* S	Sn	09 05 08.7	+0.8
JFT	**Otama**	**1.59**	**308**	P	Pn	09 04 49.6	+0.9
JFT				*e* S	Sb	09 05 10.7	-0.8
JIO	**Ouri**	**1.94**	**347**	P	Pn	09 04 53.6	0.0
JIO				*e* S	Sn	09 05 18.7	+1.9
JAG	**Ashikaga**	**1.99**	**267**	P	Pn	09 04 56.2	+1.9
JOU	**Okura**	**2.06**	**331**	P	Pn	09 04 56.8	+1.6
JOU				*e* S	Sn	09 05 21.7	+1.9
MAT	**Matsushiro**	**2.99**	**271**	P	Pn	09 05 10.2	+2.2
MAT				*e* S	Sb	09 05 47.5	-4.2

*DDA **24** 09:17:50.6, 38.°63N×43.°18E, h7km, Ml3.5*
*ISK **24** 09:17:50.1, 38.°66N×43.°19E, h2km, ML3.3*
*CSEM **24** 09:17:51.2±0.2, 38.°65N×43.°21E, h2km, ML3.3, Error ellipse: s-maj=5.5km s-min=3.8km az=87.0*
ISC 24 09:17:51.8±0.9, 38.°64N±0.°02×43.°16E±0.°03, h9km±8km, n54, σ1§13/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**104**	PG	Pg	09 17 55.5	-0.3
VANB				*e* SG	Sg	09 17 59.5	+1.0
VANB	**Van**	**0.18**	**104**	*i* Pg	Pg	09 17 55.5	-0.3
GEVA	**Gevas**	**0.34**	**194**	*i* P	Pg	09 17 57.8	-0.7
GEVA				*i* S	Sb	09 18 04.2	-1.4
GEVA	**Gevas**	**0.34**	**194**	P	Pg	09 17 57.8	-0.7
GEVA				S	Sb	09 18 04.2	-1.4
TUTA	**Tutak**	**0.81**	**341**	*i* P	Pg	09 18 06.2	-1.2
TUTA				*i* S	Sb	09 18 17.9	-1.4
TUTA	**Tutak**	**0.81**	**341**	P	Pg	09 18 06.2	-1.2
TUTA				S	Sb	09 18 17.9	-1.4
DYDN	**Diyadin**	**0.99**	**24**	*i* P	Pb	09 18 10.1	-1.2
DYDN	**Diyadin**	**0.99**	**24**	P	Pb	09 18 10.1	-1.2
EKAR	**Karacoban**	**1.05**	**306**	*i* P	Pg	09 18 11.4	-0.7
EKAR				*i* S	Sn	09 18 29.2	+1.3
EKAR	**Karacoban**	**1.05**	**306**	P	Pg	09 18 11.4	-0.7
EKAR				S	Sn	09 18 29.2	+1.3
HAKT	**HAKKARI**	**1.16**	**158**	*i* P	Pg	09 18 11.9	-2.2
HAKT	**HAKKARI**	**1.16**	**158**	P	Pg	09 18 11.9	-2.2
SIRN	**S¯–rnak**	**1.28**	**208**	*i* P	Pn	09 18 17.2	+1.2
SIRN				*i* S	Sn	09 18 35.1	+1.8
SIRN	**S¯–rnak**	**1.28**	**208**	P	Pn	09 18 17.2	+1.2
SIRN				S	Sn	09 18 35.1	+1.8
EATA	**Eleskirt**	**1.33**	**337**	*i* P	Pg	09 18 15.6	-1.7
EATA				*i* S	Sn	09 18 35.9	+1.1
EATA	**Eleskirt**	**1.33**	**337**	P	Pg	09 18 15.6	-1.7
EATA				S	Sn	09 18 35.9	+1.1
CUKT	**Cukurca**	**1.43**	**166**	*e* PN	Pb	09 18 18.4	-0.3
CUKT	**Cukurca**	**1.43**	**166**	*e* Pn	Pb	09 18 18.4	-0.3
BNGL	**BINGOL**	**1.60**	**282**	*i* P	Pb	09 18 21.1	-0.6
BNGL				*i* S	Sg	09 18 43.5	+0.2
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e* PN	Pn	09 18 21.0	+0.5
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*i* P	Pb	09 18 21.3	-0.5
SVAN				*i* S	Sg	09 18 44.1	+0.3
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e* Pn	Pn	09 18 21.0	+0.5
SVAN	**Silvan-Diyarba**	**1.62**	**253**	P	Pb	09 18 21.3	-0.5
SVAN				S	Sg	09 18 44.1	+0.3
BTMN	**Batman**	**1.66**	**244**	*i* P	Pb	09 18 22.5	-0.1
BTMN				*i* S	Sg	09 18 45.6	+0.3
BTMN	**Batman**	**1.66**	**244**	P	Pb	09 18 22.5	-0.1
BTMN				S	Sg	09 18 45.6	+0.3
HOMI	**Horasan**	**1.71**	**326**	*i* P	Pg	09 18 23.5	-1.1
HOMI				*i* S	Sg	09 18 50.1	+3.4
DIGO	**Kars**	**1.78**	**5**	*i* P	Pg	09 18 24.2	-1.8
DIGO	**Kars**	**1.78**	**5**	P	Pg	09 18 24.2	-1.8
ERZM	**Erzurum**	**1.88**	**313**	*i* P	Pb	09 18 26.1	-0.4
ERZM	**Erzurum**	**1.88**	**313**	P	Pb	09 18 26.1	-0.4
BNGB	**Bing¯¶l**	**1.97**	**281**	*e* PN	Pn	09 18 25.4	0.0
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e* PN	Pn	09 18 26.4	+0.3
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e* Pn	Pn	09 18 26.5	+0.3
EAK	**Akyaka**	**2.07**	**9**	*i* P	Pg	09 18 31.4	-0.2
EAK	**Akyaka**	**2.07**	**9**	P	Pg	09 18 31.4	-0.2
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e* PN	Pn	09 18 28.7	+0.2
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e* Pn	Pn	09 18 28.7	+0.2
MARD	**Mardin**	**2.30**	**236**	*i* P	Pn	09 18 30.7	+0.7
MARD				*i* S	Sb	09 19 01.0	-1.1
MAZI	**Mazidag**	**2.44**	**242**	*e* PN	Pn	09 18 32.8	+0.8
MAZI	**Mazidag**	**2.44**	**242**	*e* Pn	Pn	09 18 32.8	+0.8
KOPT	**Kop Dagi**	**2.48**	**305**	*i* P	Pb	09 18 37.3	+0.6
KOPT	**Kop Dagi**	**2.48**	**305**	P	Pb	09 18 37.3	+0.6
DDEM	**Demirkent**	**2.50**	**335**	*i* P	Pb	09 18 36.8	-0.1
DDEM	**Demirkent**	**2.50**	**335**	P	Pb	09 18 36.8	-0.1
DAGI	**Agillar**	**2.62**	**339**	*i* P	Pb	09 18 39.2	+0.3
ARTV	**Artvin**	**2.71**	**340**	*i* P	Pn	09 18 36.6	+0.8
ARTV	**Artvin**	**2.71**	**340**	P	Pn	09 18 36.6	+0.8
PTK	**Pertek**	**2.96**	**276**	*e* PN	Pn	09 18 40.1	+1.0
PTK	**Pertek**	**2.96**	**276**	*e* Pn	Pn	09 18 40.1	+1.0
SVRC	**Sivrice-ELAZID**	**3.03**	**266**	*e* PN	Pn	09 18 40.6	+0.5
SVRC	**Sivrice-ELAZID**	**3.03**	**266**	*e* Pn	Pn	09 18 40.6	+0.5
KELT	**Kelkit**	**3.38**	**298**	*i* P	Pg	09 18 54.4	-2.2
URFA	**Urfa**	**3.63**	**252**	*e* PN	Pn	09 18 49.6	+1.4
URFA	**Urfa**	**3.63**	**252**	*e* Pn	Pn	09 18 49.6	+1.4

*NIED **24** 09:24:00, 37.°30N×141.°90E, h32km, Mw4.0 Best double couple: M0=9.56000×10^14 NP1:φ=97.00000°, δ=40.00000°, λ=-68.00000°. NP2:φ=250.00000°, δ=53.00000°, λ=-107.00000°.*
*JMA **24** 09:24:15.2±0.2, 37.°29N×141.°86E, h44km±4km, M4.2*
JMA Felt I J1.
*IDC **24** 09:24:17.5±2.2, 37.°23N×141.°86E, h45km±21km, mb3.6/10, mb1 3.8/14, mb1mx3.6/53, mbtmp3.9/14, ML3.8/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/54, Error ellipse: s-maj=21.4km s-min=16.4km az=91.0*
ISC 24 09:24:12.0±1.9, 37.°29N±0.°04×141.°94E±0.°06, h6km±11km, n36, σ1§30/39, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**276**	P	Pn	09 24 30.1	-0.4
ONAJ	**Iwakimizuishiy**	**0.93**	**259**	P	Pn	09 24 31.1	-0.5
ONAJ				*e* S	Sb	09 24 42.2	-0.9
JMM	**Marumori**	**1.08**	**303**	P	Pn	09 24 33.6	0.0
JMM				S	Sb	09 24 46.5	-0.8
JIO	**Ouri**	**1.25**	**338**	P	Pg	09 24 36.2	+0.1
JIO				*e* S	Sb	09 24 50.5	-1.9
JFT	**Otama**	**1.29**	**281**	P	Pg	09 24 37.4	+0.6
JFT				*e* S	Sb	09 24 52.8	-0.8
JOU	**Okura**	**1.48**	**317**	P	Pg	09 24 39.7	-0.6
JOU				S	Sn	09 24 57.8	-0.9
JYS	**Shiratake**	**1.75**	**303**	*e* S	Sb	09 25 05.7	-1.0
JMK	**Ichinoseki**	**1.75**	**341**	P	Pb	09 24 43.7	-0.9
JMK				*e* S	Sn	09 25 04.6	-0.9
JFY	**Yanaizu**	**1.78**	**274**	P	Pb	09 24 44.2	-0.9
JFY				*e* S	Sn	09 25 05.6	-0.7
JYK	**Kaneyama**	**2.05**	**323**	P	Pb	09 24 47.9	-1.7
JYK				*e* S	Sn	09 25 11.9	-0.9
JAG	**Ashikaga**	**2.17**	**247**	P	Pb	09 24 49.2	-2.4
MJAR	**Matsushiro Arr**	**3.08**	**257**	P	Pn	09 25 02.9	+1.7
	4.1nm,0.3s,baz=93,slow=16,SNR=21						
MJAR				S	Sn	09 25 39.2	+0.9
	12nm,0.3s,baz=81,slow=15,SNR=6.8						
MJAR				LR	LR	09 26 24.9	
	comp=Z,117nm,21.3s,baz=75,slow=43						
MAT	**Matsushiro**	**3.08**	**257**	P	Pn	09 25 02.9	+1.8
MAT				S	Sn	09 25 39.7	+1.4
JHJ	**Hachijo jima 2**	**4.52**	**204**	P	Pn	09 25 21.9	+1.0
	34nm,0.3s,baz=333,slow=23,SNR=39						
JHJ				S	Sn	09 26 10.8	-2.9
	61nm,0.3s,baz=306,slow=22,SNR=11						
ASAJ	**Asahikawa**	**6.84**	**4**	P	Pn	09 25 55.2	+2.4
	2.2nm,0.3s,baz=200,slow=12,SNR=16						
ASAJ				S	Sn	09 27 10.1	-0.8
	1.1nm,0.3s,baz=307,slow=20,SNR=4.4						
USRK	**Ussuriysk Ar.**	**10.22**	**316**	P	Pn	09 26 42.6	+3.4
	0.4nm,0.3s,baz=119,slow=14,SNR=6.1						
KSRS	**Korea Array**	**11.16**	**275**	LR	LR	09 30 45.5	
	comp=Z,128nm,18.1s,baz=313,slow=35						
KLR	**Kul'dur**	**14.04**	**331**	LR	LR	09 33 00.3	
	comp=Z,13nm,18.1s,baz=299,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	09 59 43.2	
	baz=315,slow=75,SNR=236						
H11N1	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	09 59 34.9	
	baz=315,slow=75,SNR=260						
H11N3	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	09 59 47.0	
	baz=315,slow=75,SNR=235						
SONM	**Songino Array**	**27.99**	**303**	P	P	09 30 03.5	-0.1
	0.6nm,0.5s,baz=104,slow=8.8,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	10 00 30.2	
	baz=316,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	10 00 38.5	
	baz=316,slow=76,SNR=113						
H11S2	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	10 00 27.4	
	baz=316,slow=76,SNR=118						
TLY	**Talaya**	**30.48**	**310**	LR	LR	09 43 10.7	
	comp=Z,43nm,20.8s,baz=72,slow=37						
ZALV	**Zalesovo Beam**	**42.05**	**312**	P	P	09 32 04.6	+0.4
	0.8nm,0.4s,baz=89,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	**44.34**	**302**	P	P	09 32 22.9	+0.1
	0.8nm,0.5s,baz=90,slow=8.6,SNR=7.2						
KURBB	**Kurchatov Arra**	**46.18**	**308**	P	P	09 32 37.3	+0.1
	0.9nm,0.3s,baz=82,slow=8.1,SNR=10						
ILAR	**Eielson Array**	**49.06**	**32**	P	P	09 33 00.0	+0.6
	1.4nm,0.7s,baz=266,slow=6.5,SNR=16						
WRA	**Warramunga Arr**	**57.37**	**188**	P	P	09 34 00.5	-0.6
	1.2nm,0.5s,baz=6.2,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**61.10**	**188**	P	P	09 34 26.4	-0.5
	0.4nm,0.7s,baz=16,slow=5.2,SNR=6.3						
AKASG	**Malin Array Be**	**74.35**	**322**	P	P	09 35 49.8	-0.4
	0.5nm,0.4s,baz=46,slow=5.9,SNR=3.4						
PDAR	**Pinedale Array**	**77.19**	**46**	P	P	09 36 07.2	+0.3
	0.4nm,0.6s,baz=299,slow=1.3,SNR=6.1						
TXAR	**Lajitas Array**	**89.64**	**53**	P	P	09 37 11.6	+0.6
	0.3nm,0.6s,baz=302,slow=2.6,SNR=7.1						
LPAZ	**La Paz**	**146.20**	**60**	PKPbc	PKPab	09 43 54.4	-0.7
	1.2nm,0.6s,baz=346,slow=4.2,SNR=6.8						

*IDC **24** 09:24:35.7±1.2, 37.°70N×23.°45E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.4/44, mbtmp3.5/7, ML2.9/2, MS1.7/1, Ms1 1.7/1, ms1mx1.5/46, Error ellipse: s-maj=31.6km s-min=21.1km az=149.0*
*ISCJB **24** 09:24:37.6±0.5, 37.°61N±0.°02×23.°54E±0.°02, h13km±3km, mb3.6/5, Error ellipse: s-maj=2.8km s-min=2.8km az=173.8*
*ATH **24** 09:24:37.3, 37.°61N×23.°51E, h27km, ML3.5/14, Error ellipse: s-maj=0.9km s-min=0.7km az=74.0*
*THE **24** 09:24:38.1, 37.°59N×23.°52E, h14km, ML3.7/18, Error ellipse: s-maj=0.6km s-min=0.3km az=342.0*
*CSEM **24** 09:24:38.1±0.1, 37.°61N×23.°52E, h15km, ML3.5, Error ellipse: s-maj=2.2km s-min=2.2km az=155.0*
ISC 24 09:24:37.6±0.8, 37.°61N±0.°02×23.°51E±0.°01, h13km±6km, n159, σ0§54/212, mb3.6/5, 7C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.24**	**245**	P	Pg	09 24 42.9	+0.2
DID				S	Sg	09 24 46.6	+0.4
DID	**Didima**	**0.24**	**245**	P	Pg	09 24 42.0	-0.8
DID				S	Sg	09 24 45.5	-0.7
DID				AML	AML	09 24 47.4	
	comp=E,28738μm,0.3s						
DID				AML	AML	09 24 47.4	
	comp=N,53799μm,0.3s						
DID	**Didima**	**0.24**	**245**	P	Pg	09 24 42.9	+0.2
DID				S	Sg	09 24 45.5	-0.7
VLY	**Voula,Athens**	**0.33**	**42**	P	Pg	09 24 44.9	+0.5
VLY				S	Sb	09 24 50.2	-0.4
VLY	**Voula,Athens**	**0.33**	**42**	P	Pg	09 24 44.7	+0.4
VLY				S	Sg	09 24 49.5	+0.7
VLY				AML	AML	09 24 52.3	
	comp=E,19720μm,0.3s						
VLY				AML	AML	09 24 53.4	
	comp=N,12485μm,0.3s						
VLY	**Voula,Athens**	**0.33**	**42**	P	Pg	09 24 44.9	+0.5
VLY				S	Sb	09 24 50.2	-0.4
ATH	**Athens Observa**	**0.40**	**24**	P	Pb	09 24 46.2	-0.3
ATH				S	Sb	09 24 52.6	0.0
ATH	**Athens Observa**	**0.40**	**24**	P	Pb	09 24 46.4	-0.1
ATH				S	Sb

TRIP			AML	AML	09 25 12.2
	comp=N,4231μm,0.7s				
TRIP			AML	AML	09 25 12.5
	comp=E,3548μm,0.6s				
TRIP	**Tripoli**	**0.99 266**	P	**Pb**	**09 24 55.7 -0.9**
TRIP			S	**Sb**	**09 25 10.1 +0.5**
VLI	**Veliai**	**1.00 208**	P	**Pb**	**09 24 56.7 0.0**
VLI			S	**Sn**	**09 25 10.8 -0.5**
VLI	**Veliai**	**1.00 208**	P	**Pg**	**09 24 56.9 0.0**
VLI			S	**Sg**	**09 25 10.6 +0.7**
VLI			AML	AML	09 25 14.7
	comp=E,4380μm,0.8s				
VLI			AML	AML	09 25 15.3
	comp=N,6993μm,0.6s				
VLI	**Veliai**	**1.00 208**	P	**Pg**	**09 24 56.9 0.0**
VLI			S	**Sg**	**09 25 10.6 +0.7**
LKR	**Lokris**	**1.12 339**	P	**Pb**	**09 24 58.7 -0.1**
LKR			S	**Sn**	**09 25 14.2 0.0**
LKR	**Lokris**	**1.12 339**	P	**Pb**	**09 24 58.9 +0.1**
LKR			S	**Sb**	**09 25 12.9 -0.3**
LKR			AML	AML	09 25 16.7
	comp=E,4718μm,0.4s				
LKR			AML	AML	09 25 16.9
	comp=N,4702μm,0.4s				
LKR	**Lokris**	**1.12 339**	P	**Pb**	**09 24 58.9 +0.1**
LKR			S	**Sb**	**09 25 12.9 -0.3**
DSF	**Desfina**	**1.12 316**	P	**Pb**	**09 24 58.4 -0.4**
DSF	**Desfina**	**1.12 316**	P	**Pb**	**09 24 58.8 0.0**
DSF	**Desfina**	**1.12 316**	P	**Pb**	**09 24 58.8 0.0**
MHLA	**Plaka, Milos I**	**1.13 140**	P	**Pg**	**09 24 60.0 +0.7**
MHLA	**Plaka, Milos I**	**1.13 140**	P	**Pg**	**09 25 00.0 +0.7**
MHLO	**Agia Marina, M**	**1.16 142**	P	**Pb**	**09 24 58.5 -1.0**
MHLO			S	**Sb**	**09 25 14.3 -0.1**
MHLO	**Agia Marina, M**	**1.16 142**	P	**Pn**	**09 24 59.6 +0.1**
MHLO			S	**Sb**	**09 25 14.7 +0.3**
MHLO			AML	AML	09 25 20.5
	comp=N,7372μm,0.2s				
MHLO			AML	AML	09 25 21.5
	comp=E,9130μm,0.2s				
MHLO	**Agia Marina, M**	**1.16 142**	P	**Pn**	**09 24 59.6 +0.1**
MHLO			S	**Sb**	**09 25 14.7 +0.3**
KLV	**Kalavryta, Ach**	**1.16 292**	P	**Pb**	**09 24 59.3 -0.3**
KLV			S	**Sn**	**09 25 15.5 +0.1**
KLV	**Kalavryta, Ach**	**1.16 292**	P	**Pb**	**09 24 59.5 -0.1**
KLV			S	**Sn**	**09 25 16.7 +1.3**
KLV			AML	AML	09 25 19.3
	comp=N,1123μm,0.4s				
KLV			AML	AML	09 25 19.8
	comp=E,758μm,0.6s				
KLV	**Kalavryta, Ach**	**1.16 292**	P	**Pb**	**09 24 59.5 -0.1**
KLV			S	**Sn**	**09 25 15.5 +0.1**
SMIA	**Simia**	**1.29 349**	P	**Pn**	**09 25 01.6 +0.2**
SMIA			S	**Sb**	**09 25 18.5 +0.2**
SMIA	**Simia**	**1.29 349**	P	**Pb**	**09 25 01.8 0.0**
SMIA	**Simia**	**1.29 349**	P	**Pn**	**09 25 01.6 +0.2**
SMIA			S	**Sb**	**09 25 18.5 +0.2**
ITM	**Ithomi**	**1.33 252**	P	**Pb**	**09 25 02.4 -0.1**
ITM	**Ithomi**	**1.33 252**	P	**Pb**	**09 25 02.4 -0.1**
ITM	**Ithomi**	**1.33 252**	P	**Pb**	**09 25 02.4 -0.1**
KALE	**Kalithea**	**1.34 306**	P	**Pn**	**09 25 02.2 +0.2**
KALE	**Kalithea**	**1.34 306**	P	**Pn**	**09 25 01.7 -0.4**
KALE	**Kalithea**	**1.34 306**	P	**Pn**	**09 25 02.2 +0.2**
LAKA	**Lakka**	**1.37 298**	P	**Pn**	**09 25 02.3 -0.1**
LAKA	**Lakka**	**1.37 298**	P	**Pn**	**09 25 02.4 0.0**
LAKA	**Lakka**	**1.37 298**	P	**Pn**	**09 25 02.4 0.0**
KYTH	**Kithira**	**1.39 196**	P	**Pn**	**09 25 02.6 -0.1**
KYTH	**Kithira**	**1.39 196**	P	**Pn**	**09 25 02.8 +0.1**
SERG	**Sergoula**	**1.40 305**	P	**Pn**	**09 25 03.3 +0.4**
SERG	**Sergoula**	**1.40 305**	P	**Pn**	**09 25 03.3 +0.4**
DRO	**Drossia**	**1.47 284**	P	**Pb**	**09 25 04.7 -0.1**
DRO	**Drossia**	**1.47 284**	P	**Pb**	**09 25 05.3 +0.6**
DRO	**Drossia**	**1.47 284**	P	**Pb**	**09 25 04.7 -0.1**
SKY	**Skiros Island**	**1.51 32**	P	**Pn**	**09 25 03.4 -0.9**
SKY	**Skiros Island**	**1.51 32**	P	**Pn**	**09 25 03.4 -0.9**
EFP	**Efpalio**	**1.51 303**	P	**Pn**	**09 25 04.6 +0.3**
EFP	**Efpalio**	**1.51 303**	P	**Pb**	**09 25 05.2 -0.2**
EFP	**Efpalio**	**1.51 303**	P	**Pn**	**09 25 04.6 +0.3**
SKIA	**Skiathos**	**1.56 359**	P	**Pn**	**09 25 05.0 0.0**
SKIA			S	**Sn**	**09 25 24.4 -0.7**
SKIA	**Skiathos**	**1.56 359**	P	**Pn**	**09 25 04.5 -0.5**
SKIA	**Skiathos**	**1.56 359**	P	**Pn**	**09 25 05.0 0.0**
SKIA			S	**Sn**	**09 25 24.4 -0.7**
PYL	**PYLOS**	**1.58 244**	P	**Pb**	**09 25 06.9 +0.2**
PYL	**PYLOS**	**1.58 244**	P	**Pg**	**09 25 07.4 -0.5**
PYL	**PYLOS**	**1.58 244**	P	**Pb**	**09 25 06.9 +0.2**
ANX	**Ano Chora**	**1.59 309**	P	**Pn**	**09 25 05.9 +0.3**
ANX	**Ano Chora**	**1.59 309**	P	**Pn**	**09 25 05.9 +0.3**
RLS	**Riolos of Patr**	**1.68 286**	P	**Pb**	**09 25 08.4 0.0**
RLS	**Riolos of Patr**	**1.68 286**	P	**Pb**	**09 25 08.4 0.0**
AGG	**Agios Georgios**	**1.69 327**	P	**Pn**	**09 25 07.2 +0.3**
AGG	**Agios Georgios**	**1.69 327**	P	**Pb**	**09 25 08.1 -0.5**
AGG	**Agios Georgios**	**1.69 327**	P	**Pn**	**09 25 07.2 +0.3**
APE	**Apeiranthos**	**1.70 108**	P	**Pn**	**09 25 06.7 -0.2**
APE			S	**Sn**	**09 25 28.0 -0.5**
APE	**Apeiranthos**	**1.70 108**	⇑P	**Pn**	**09 25 06.9 0.0**
APE	**Apeiranthos**	**1.70 108**	P	**Pn**	**09 25 06.5 -0.4**
APE	**Apeiranthos**	**1.70 108**	P	**Pn**	**09 25 06.7 -0.2**
APE			S	**Sn**	**09 25 28.0 -0.5**
NEO	**Neokhori**	**1.71 352**	P	**Pn**	**09 25 07.1 -0.1**
NEO	**Neokhori**	**1.71 352**	P	**Pn**	**09 25 06.4 -0.8**
NEO	**Neokhori**	**1.71 352**	P	**Pn**	**09 25 07.1 -0.1**
ANKY	**Antikythira Is**	**1.75 186**	P	**Pn**	**09 25 07.7 +0.1**
ANKY	**Antikythira Is**	**1.75 186**	P	**Pn**	**09 25 07.4 -0.1**
ANKY	**Antikythira Is**	**1.75 186**	P	**Pn**	**09 25 07.7 +0.1**
XOR	**Xorichti**	**1.77 352**	P	**Pn**	**09 25 07.6 -0.4**
XOR	**Xorichti**	**1.77 352**	P	**Pn**	**09 25 07.2 -0.8**
XOR	**Xorichti**	**1.77 352**	P	**Pn**	**09 25 07.6 -0.4**
FYTO	**Fytoko, Volos**	**1.85 346**	P	**Pn**	**09 25 09.2 +0.1**
FYTO	**Fytoko, Volos**	**1.85 346**	P	**Pn**	**09 25 08.8 -0.3**
FYTO	**Fytoko, Volos**	**1.85 346**	P	**Pn**	**09 25 09.2 +0.1**
EVR	**Evrytania**	**1.87 315**	P	**Pn**	**09 25 10.0 +0.6**
EVR	**Evrytania**	**1.87 315**	P	**Pn**	**09 25 10.6 +1.2**
EVR	**Evrytania**	**1.87 315**	P	**Pn**	**09 25 10.0 +0.6**
PDO	**Prodromos**	**2.09 299**	P	**Pb**	**09 25 14.4 -0.9**
PDO	**Prodromos**	**2.09 299**	P	**Pb**	**09 25 14.4 -0.9**
CHOS	**Chios island**	**2.15 68**	P	**Pn**	**09 25 13.5 +0.2**
CHOS	**Chios island**	**2.15 68**	P	**Pn**	**09 25 12.6 -0.7**
CHOS	**Chios island**	**2.15 68**	P	**Pn**	**09 25 13.5 +0.2**
IMMV	**Iera Moni Meta**	**2.17 170**	P	**Pn**	**09 25 12.9 -0.6**
IMMV	**Iera Moni Meta**	**2.17 170**	P	**Pn**	**09 25 12.9 -0.6**
THL	**Klokotos Trika**	**2.28 329**	P	**Pn**	**09 25 15.5 +0.5**
THL	**Klokotos Trika**	**2.28 329**	P	**Pn**	**09 25 15.4 +0.5**
THL	**Klokotos Trika**	**2.28 329**	P	**Pn**	**09 25 15.4 +0.5**
PAIG	**Paliouri**	**2.32 3**	P	**Pn**	**09 25 14.2 -1.3**
PAIG	**Paliouri**	**2.32 3**	P	**Pn**	**09 25 14.2 -1.3**
DSL	**Palaion Diasel**	**2.44 310**	P	**Pn**	**09 25 18.2 +1.1**
DSL	**Palaion Diasel**	**2.44 310**	P	**Pn**	**09 25 18.2 +1.1**
LKD2	**Lefkada island**	**2.54 299**	P	**Pn**	**09 25 18.8 +0.3**
LKD2	**Lefkada island**	**2.54 299**	P	**Pn**	**09 25 18.8 +0.3**
IDI	**Anoyia**	**2.57 154**	Pn	**Pn**	**09 25 19.6 +0.7**
	comp=E,4.1nm,0.3s,baz=321,slow=13,SNR=23				
IDI			Sn	**Sn**	**09 25 49.1 -1.0**
	comp=E,20nm,0.3s,baz=297,slow=6.3,SNR=8.9				
IDI			LR	LR	09 26 21.1
	comp=E,15nm,20.6s,baz=354,slow=40				
IDI	**Anoyia**	**2.57 154**	P	**Pn**	**09 25 19.6 +0.7**
LIT	**Litokhoron**	**2.62 343**	P	**Pn**	**09 25 19.9 +0.3**
LIT	**Litokhoron**	**2.62 343**	P	**Pn**	**09 25 19.5 -0.1**
LIT	**Litokhoron**	**2.62 343**	P	**Pn**	**09 25 19.9 +0.3**
OUR	**Ouranopolis**	**2.75 8**	P	**Pn**	**09 25 20.5 -0.8**
OUR	**Ouranopolis**	**2.75 8**	P	**Pn**	**09 25 20.5 -0.8**
KPRO	**Kipourio**	**2.88 325**	P	**Pn**	**09 25 23.2 -0.1**
KPRO	**Kipourio**	**2.88 325**	P	**Pn**	**09 25 23.2 -0.1**
HORT	**Hortiatis**	**3.00 354**	P	**Pn**	**09 25 24.9 -0.1**
HORT	**Hortiatis**	**3.00 354**	P	**Pn**	**09 25 24.9 -0.1**
BARS	**Barje**	**5.36 347**	*e*Pn	**Pn**	**09 25 58.3 +1.0**
ZAGS	**Zajecar**	**6.28 351**	*e*Pn	**Pn**	**09 26 10.3 +0.5**
IVAS	**Ivanjica**	**6.49 338**	*e*Pn	**Pn**	**09 26 13.4 +0.6**
TEKS	**Tekeris**	**7.56 338**	*e*Pn	**Pn**	**09 26 27.3 -0.2**
ARR	**Arges**	**7.80 6**	⇑*i*P	**Pn**	**09 26 31.1 +0.3**
ARR	**Arges**	**7.80 6**	⇑*i*P	**Pn**	**09 26 31.1 +0.3**
GZR	**Gura Zlata**	**7.80 356**	⇑*i*P	**Pn**	**09 26 29.9 -0.9**
GZR	**Gura Zlata**	**7.80 356**	⇑*i*P	**Pn**	**09 26 29.9 -0.9**
VOIR		**7.91 8**	⇓*i*P	**Pn**	**09 26 33.0 +0.7**
VOIR		**7.91 8**	⇓*i*P	**Pn**	**09 26 33.0 +0.7**
BRTR	**Keskin Array B**	**8.20 72**	Pn	**Pn**	**09 26 38.1 +1.7**
	comp=E,0.1nm,0.3s,baz=266,slow=12,SNR=3.0				
VRI	**Vrincioaia**	**8.60 15**	⇑*i*P	**Pn**	**09 26 43.2 +1.5**
VRI	**Vrincioaia**	**8.60 15**	⇑*i*P	**Pn**	**09 26 43.2 +1.5**
ESDC	**Sonseca Array**	**21.53 284**	P	**P**	**09 29 25.4 -1.1**
	comp=E,1.0nm,0.6s,baz=79,slow=10,SNR=3.1				
TORD	**Torodi Ar. Bea**	**31.18 224**	P	**P**	**09 30 57.1 +0.6**
	comp=E,0.4nm,0.8s,baz=30,slow=9.7,SNR=3.0				
BVAR	**Borovoye Array**	**35.69 49**	P	**P**	**09 31 34.5 -0.9**
	comp=E,0.3nm,0.3s,baz=280,slow=4.2,SNR=2.3				
KURBB	**Kurchatov Arra**	**40.67 53**	P	**P**	**09 32 17.8 +0.4**
	comp=E,1.0nm,0.7s,baz=279,slow=8.7,SNR=6.1				
ZALV	**Zalesovo Beam**	**44.31 48**	P	**P**	**09 32 47.1 +0.1**
	comp=E,0.9nm,0.4s,baz=278,slow=7.0,SNR=2.4				

*ISK **24** 09:36:50.6, 38°.99N×43°.76E, h22km, ML3.6*
*ISCJB **24** 09:36:51.8±0.9, 38°.94N±0°.03×43°.71E±0°.07, h9km±7km, Error ellipse: s-maj=9.1km s-min=5.0km az=176.4*
*CSEM **24** 09:36:51.7±0.6, 38°.95N×43°.65E, h10km, ML3.6, Error ellipse: s-maj=15.8km s-min=7.4km az=84.0*
*DDA **24** 09:36:52.3, 38°.95N×43°.65E, h5km, Ml3.0*
ISC 24 09:36:52.3±1.2, 38°.95N±0°.02×43°.65E±0°.04, h8km±10km, n29, σ1§33/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.40**	**210**	*e*PG	**Pb**	**09 37 02.2**	**+0.5**
VANB				*e*SG	**Sb**	**09 37 10.5**	**+2.4**
VANB	**Van**	**0.40**	**210**	*e*Pg	**Pb**	**09 37 02.2**	**+0.5**
VANB				*e*Sg	**Sb**	**09 37 10.5**	**+2.4**
DYDN	**Diyadin**	**0.60**	**3**	*i* P	**Pb**	**09 37 05.0**	**-0.1**
DYDN				*i* S	**Sg**	**09 37 12.3**	**+0.6**
DYDN	**Diyadin**	**0.60**	**3**	P	**Pb**	**09 37 05.0**	**-0.1**
DYDN				S	**Sg**	**09 37 12.3**	**+0.6**
GEVA	**Gevas**	**0.78**	**216**	*i* P	**Pg**	**09 37 06.7**	**-0.6**
GEVA				*i* S	**Sb**	**09 37 19.5**	**+0.4**
GEVA	**Gevas**	**0.78**	**216**	P	**Pg**	**09 37 06.7**	**-0.6**
GEVA				S	**Sb**	**09 37 19.5**	**+0.4**
TUTA	**Tutak**	**0.79**	**305**	*i* P	**Pg**	**09 37 07.2**	**-0.3**
TUTA				*i* S	**Sb**	**09 37 19.1**	**-0.3**
TUTA	**Tutak**	**0.79**	**305**	P	**Pg**	**09 37 07.2**	**-0.3**
TUTA				S	**Sb**	**09 37 19.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.81**	**321**	*e*PG	**Pg**	**09 37 07.6**	**-0.3**
AGRB				*e*SG	**Sb**	**09 37 19.5**	**-0.4**
AGRB	**Hanur-Agry**	**0.81**	**321**	*e*Pg	**Pg**	**09 37 07.6**	**-0.3**
AGRB				*e*Sg	**Sb**	**09 37 19.5**	**-0.4**
EKAR	**Karacoban**	**1.27**	**285**	*i* P	**Pg**	**09 37 16.8**	**+0.1**
EKAR				*i* S	**Sn**	**09 37 35.9**	**+1.9**
EKAR	**Karacoban**	**1.27**	**285**	P	**Pg**	**09 37 16.8**	**+0.1**
EKAR				S	**Sn**	**09 37 35.9**	**+1.9**
EATA	**Eleskirt**	**1.28**	**316**	*i* P	**Pn**	**09 37 15.9**	**-0.9**
EATA				*i* S	**Sn**	**09 37 34.8**	**+0.5**
EATA	**Eleskirt**	**1.28**	**316**	P	**Pn**	**09 37 15.9**	**-0.9**
EATA				S	**Sn**	**09 37 34.8**	**+0.5**
HAKT	**HAKKARI**	**1.39**	**178**	*i* P	**Pg**	**09 37 18.8**	**-0.1**
HAKT	**HAKKARI**	**1.39**	**178**	P	**Pg**	**09 37 18.8**	**-0.1**
DIGO	**Kars**	**1.48**	**352**	*i* P	**Pg**	**09 37 21.7**	**+0.9**
CUKT	**Cukurca**	**1.70**	**181**	*e*PN	**Pn**	**09 37 19.9**	**-2.4**
CUKT	**Cukurca**	**1.70**	**181**	*e*Pn	**Pn**	**09 37 19.9**	**-2.4**
EAK	**Akyaka**	**1.74**	**359**	*i* P	**Pg**	**09 37 27.7**	**+2.1**
SENK	**Senkaya-Erzuru**	**1.90**	**329**	*e*PN	**Pn**	**09 37 22.7**	**-2.5**
SENK	**Senkaya-Erzuru**	**1.90**	**329**	*e*Pn	**Pn**	**09 37 22.7**	**-2.5**
BNGL	**BINGOL**	**1.95**	**271**	*i* P	**Pb**	**09 37 27.5**	**-0.6**
BNGL				*i* S	**Sg**	**09 37 56.2**	**+1.3**
SVAN	**Silvan-Diyarba**	**2.08**	**248**	*e*PN	**Pn**	**09 37 26.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.08**	**248**	*e*Pn	**Pn**	**09 37 26.3**	**-1.2**
BNGB	**Bing¶ll**	**2.31**	**272**	*e*PN	**Pn**	**09 37 29.9**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.46**	**282**	*e*PN	**Pn**	**09 37 31.7**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.46**	**282**	*e*Pn	**Pn**	**09 37 31.7**	**-1.2**
BINT	**Bingol**	**2.46**	**269**	*e*Pn	**Pn**	**09 37 29.9**	**-3.0**

*AZER **24** 09:42:21.8±1.8, 37°.79N×42°.09E, h18km±54km, Error ellipse: s-maj=56.9km s-min=12.5km az=56.0*
*ISK **24** 09:42:30.9, 38°.68N×43°.31E, h5km, ML3.5*
*CSEM **24** 09:42:34.5±0.3, 38°.47N×43°.08E, h10km, ML3.5, Error ellipse: s-maj=12.2km s-min=6.0km az=167.0*
ISC 24 09:42:31.6±0.8, 38°.69N±0°.04×43°.26E±0°.02, h10km±9km, n38, σ2§23/47, 10C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**132**	*e*PG	**Pg**	**09 42 35.2**	**+0.4**
VANB				*e*SG	**Sg**	**09 42 38.6**	**+1.4**
AGRB	**Hanur-Agry**	**0.91**	**347**	*e*PG	**Pb**	**09 42 49.2**	**-0.4**
AGRB				*e*SG	**Sb**	**09 43 02.4**	**+0.5**
CUKT	**Cukurca**	**1.46**	**169**	*e*PN	**Pg**	**09 42 58.8**	**-0.9**
CUKT	**Cukurca**	**1.46**	**169**	*e*Pn	**Pg**	**09 42 58.8**	**-0.9**
VRTB	**Varto-Mus**	**1.49**	**289**	*e*PN	**Pg**	**09 43 00.0**	**-0.1**
VRTB				*e*SN	**Sg**	**09 43 20.5**	**+1.0**
VRTB	**Varto-Mus**	**1.49**	**289**	*e*Pn	**Pg**	**09 43 00.0**	**-0.1**
VRTB				*e*Sn	**Sg**	**09 43 20.5**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.71**	**252**	*e*PN	**Pn**	**09 43 02.5**	**+1.1**
SVAN				*e*SN	**Sb**	**09 43 25.8**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.71**	**252**	*e*Pn	**Pn**	**09 43 02.5**	**+1.1**
NAX	**Nakhchivan**	**1.81**	**74**	⇓P	**Pg**	**09 43 08.5**	**+2.2**
	SNR=6.6						
NAX				⇑S	Sg	09 43 45.4	+16
NAX	**Nakhchivan**	**1.81**	**74**	P	**Pg**	**09 43 08.5**	**+2.2**
	SNR=6.6						
SENK	**Senkaya-Erzuru**	**2.00**	**340**	*e*PN	**Pb**	**09 43 07.2**	**-1.1**
BNGB	**Bing¶ll**	**2.04**	**279**	*e*PN	**Pn**	**09 43 07.7**	**+1.6**
BINT	**Bingol**	**2.17**	**276**	*e*PN	**Pn**	**09 43 07.7**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*PN	**Pn**	**09 43 10.0**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*Pn	**Pn**	**09 43 10.0**	**+1.1**
MAZI	**Mazidag**	**2.54**	**242**	*e*PN	**Pn**	**09 43 13.8**	**+0.9**
MAZI	**Mazidag**	**2.54**	**242**	*e*Pn	**Pn**	**09 43 13.8**	**+0.9**
GDB	**GEDABAY**	**2.80**	**43**	⇑P	**Pg**	**09 43 23.5**	**-1.8**
	SNR=7.6						
GDB				⇑S	Sg	09 44 11.8	+10
GDB	**GEDABAY**	**2.80**	**43**	P	**Pg**	**09 43 23.5**	**-1.8**
	SNR=7.6						
QZX	**Qazax, Azerbai**	**2.87**	**34**	P	**Pg**	**09 43 24.0**	**-2.7**
	SNR=5.9						
QZX				⇑S	Sg	09 44 13.5	+10
QZX	**Qazax, Azerbai**	**2.87**	**34**	P	**Pg**	**09 43 24.0**	**-2.7**
	SNR=5.9						
PTK	**Pertek**	**3.03**	**275**	*e*PN	**Pn**	**09 43 21.5**	**+1.7**
PTK	**Pertek**	**3.03**	**275**	*e*Pn	**Pn**	**09 43 21.5**	**+1.7**
GANJ	**Ganja**	**3.07**	**49**	P	**Pg**	**09 43 27.6**	**-2.8**
	SNR=7.7						
GANJ				⇑S	Sg	09 44 18.4	+8.2
GANJ	**Ganja**	**3.07**	**49**	P	**Pg**	**09 43 27.6**	**-2.8**
	SNR=7.7						
SVRC	**Sivrice-ELAZID**	**3.12**	**266**	*e*PN	**Pn**	**09 43 22.9**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.12**	**266**	*e*Pn	**Pn**	**09 43 22.9**	**+1.9**
BRDA	**Brd**	**3.42**	**61**	⇑P	**Pb**	**09 43 31.2**	**-1.0**
	SNR=3.2						
BRDA				⇓S	**Sg**	**09 44 26.6**	**+5.2**
MNGR	**Mingechevir, A**	**3.61**	**54**	⇑P	**Pb**	**09 43 34.1**	**-1.4**
	SNR=4.6						
MNGR				⇑S	**Sg**	**09 44 31.9**	**+4.3**
MNGR	**Mingechevir, A**	**3.61**	**54**	P	**Pb**	**09 43 34.1**	**-1.4**
	SNR=4.6						
ZRD	**Zardab**	**3.77**	**64**	⇓S	**Sg**	**09 44 34.3**	**+1.4**
ZKTA	**Zakatala**	**3.92**	**40**	⇓P	**Pb**	**09 43 38.7**	**-2.0**
	SNR=3.4						
ZKTA				⇑S	**Sg**	**09 44 38.3**	**+0.9**
SEKA	**Sheki**	**3.94**	**49**	⇓P	**Pb**	**09 43 39.8**	**-1.3**
	SNR=3.1						
SEKA				⇓S	**Sg**	**09 44 41.7**	**+3.6**
SEKA	**Sheki**	**3.94**	**49**	P	**Pb**	**09 43 39.8**	**-1.3**
	SNR=3.1						
LRK	**Lerik**	**3.98**	**89**	⇓P	**Pn**	**09 43 36.1**	**+3.3**
	SNR=3.2						
LRK				⇑S	**Sg**	**09 44 33.9**	**-5.4**
LRK	**Lerik**	**3.98**	**89**	P	**Pn**	**09 43 36.1**	**+3.3**
	SNR=3.2						
GLBA	**Clilabad**	**4.04**	**80**	P	Pb	09 43 37.9	-4.9
	SNR=3.0						
GLBA				⇓S	**Sg**	**09 44 38.0**	**-3.3**
GLBA	**Clilabad**	**4.04**	**80**	P	Pb	09 43 37.9	-4.9
	SNR=3.0						

*ISK **24** 09:47:02.2, 38°.76N×43°.34E, h5km, ML3.2*
*DDA **24** 09:47:02.7, 38°.74N×43°.21E, h6km, Ml3.5*
*CSEM **24** 09:47:03.1±0.3, 38°.73N×43°.28E, h2km, ML3.2, Error ellipse: s-maj=7.9km s-min=4.6km az=73.0*
ISC 24 09:47:03.9±0.9, 38°.74N±0°.02×43°.26E±0°.03, h12km±7km, n57, σ1§13/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**145**	*e*PG	**Pg**	**09 47 07.7**	**-0.2**
VANB				*e*SG	**Sg**	**09 47 12.0**	**+1.3**
VANB	**Van**	**0.17**	**145**	*e*Pg	**Pg**	**09 47 07.7**	**-0.2**
VANB				*e*Sg	**Sg**	**09 47 12.0**	**+1.3**
GEVA	**Gevas**	**0.45**	**201**	*i* P	**Pg**	**09 47 10.9**	**-2.0**
GEVA				*i* S	**Sg**	**09 47 18.6**	**-0.4**
GEVA	**Gevas**	**0.45**	**201**	P	**Pg**	**09 47 10.9**	**-2.0**
GEVA				S	**Sg**	**09 47 18.6**	**-0.4**
TUTA	**Tutak**	**0.75**	**332**	*i* P	**Pg**	**09 47 17.4**	**-1.1**
TUTA				*i* S	**Sg**	**09 47 26.5**	**-1.9**
TUTA	**Tutak**	**0.75**	**332**	P	**Pg**	**09 47 17.4**	**-1.1**
AGRB	**Hanur-Agry**	**0.86**	**346**	*e*PG	**Pg**	**09 47 19.2**	**-1.4**
AGRB				*e*SG	**Sg**	**09 47 31.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.86**	**346**	*e*Pg	**Pg**	**09 47 19.2**	**-1.4**
AGRB				*e*Sg	**Sg**	**09 47 31.7**	**-0.3**
DYDN	**Diyadin**	**0.87**	**22**	*i* P	**Pg**	**09 47 20.4**	**-0.4**
DYDN				*i* S	**Sg**	**09 47 30.1**	**-2.1**
DYDN	**Diyadin**	**0.87**	**22**	P	**Pg**	**09 47 20.4**	**-0.4**
BASK	**Baskale_VAN**	**0.90**	**139**	*i* P	**Pg**	**09 47 19.1**	**-2.2**
BASK				*i* S	**Sg**	**09 47 33.4**	**+0.3**
BASK	**Baskale_VAN**	**0.90**	**139**	P	**Pg**	**09 47 19.1**	**-2.2**
BASK				S	**Sg**	**09 47 33.4**	**+0.3**
EKAR	**Karacoban**	**1.07**	**299**	*i* P	**Pn**	**09 47 25.8**	**+0.8**
EKAR				*i* S	**Sn**	**09 47 42.3**	**+2.4**
EKAR	**Karacoban**	**1.07**	**299**	P	**Pn**	**09 47 25.8**	**+0.8**
HAKT	**HAKKARI**	**1.23**	**163**	*i* P	**Pn**	**09 47 24.5**	**-2.7**
HAKT				*i* S	**Sn**	**09 47 44.7**	**+0.8**
HAKT	**HAKKARI**	**1.23**	**163**	P	**Pn**	**09 47 24.5**	**-2.7**
HAKT				S	**Sn**	**09 47 44.7**	**+0.8**
EATA	**Eleskirt**	**1.27**	**332**	*i* P	**Pn**	**09 47 26.9**	**-1.0**
EATA				*i* S	**Sn**	**09 47 44.9**	**-0.2**
EATA	**Eleskirt**	**1.27**	**332**	P	**Pn**	**09 47 26.9**	**-1.0**
EATA				S	**Sn**	**09 47 44.9**	**-0.2**
SIRN	**S¨–rnak**	**1.41**	**209**	*i* P	**Pb**	**09 47 29.8**	**-0.5**
SIRN				*i* S	**Sb**	**09 47 48.2**	**0.0**
SIRN	**S¨–rnak**	**1.41**	**209**	P	**Pb**	**09 47 29.8**	**-0.5**
SIRN				S	**Sb**	**09 47 48.2**	**0.0**
CUKT	**Cukurca**	**1.51**	**169**	*e*PN	**Pn**	**09 47 30.8**	**-0.2**
CUKT	**Cukurca**	**1.51**	**169**	*i* P	**Pg**	**09 47 34.0**	**+1.0**
CUKT				*i* S	**Sg**	**09 47 54.5**	**+1.9**
CUKT	**Cukurca**	**1.51**	**169**	*e*Pn	**Pn**	**09 47 30.8**	**-0.2**
CUKT	**Cukurca**	**1.51**	**169**	P	**Pg**	**09 47 34.0**	**+1.0**
CUKT				S	**Sg**	**09 47 54.5**	**+1.9**
BNGL	**BINGOL**	**1.66**	**278**	*i* P	**Pb**	**09 47 33.8**	**-0.8**
BNGL				*i* S	**Sg**	**09 47 56.6**	**-0.9**
HOMI	**Horasan**	**1.68**	**322**	*i* P	**Pb**	**09 47 34.7**	**-0.2**
DIGO	**Kars**	**1.68 3**		*i* P	**Pb**	**09 47 34.9**	**0.0**
DIGO				*i* S	**Sg**	**09 47 57.3**	**-0.6**
DIGO	**Kars**	**1.68 3**		P	**Pb**	**09 47 34.9**	**0.0**
DIGO				S	**Sg**	**09 47 57.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.72**	**251**	*e*PN	**Pn**	**09 47 34.4**	**+0.6**
SVAN				*e*SN	**Sb**	**09 47 57.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**251**	*i* P	**Pb**	**09 47 34.6**	**-0.9**
SVA

ARG				AML	AML	10 02 38.9
	comp=E,4371μm,0.6s					
ARG				AML	AML	10 02 40.7
	comp=N,2734μm,0.4s					
ARG	**Arkhangelos**	**0.55**	**239**	P	**Pb**	**10 02 27.1 -0.5**
ARG				S	**Sg**	**10 02 34.3 +0.2**
AKAS	**Kas**	**0.78**	**110**	*e*PG	**Pb**	**10 02 31.4 -0.2**
AKAS	**Kas**	**0.78**	**110**	*i* P	**Pb**	**10 02 31.5 -0.1**
AKAS	**Kas**	**0.78**	**110**	P	**Pb**	**10 02 31.5 -0.1**
KSL	**Kastellorizon**	**0.79**	**116**	P	**Pb**	**10 02 31.7 -0.1**
KSL				S	**Sn**	**10 02 43.5 -1.2**
KSL	**Kastellorizon**	**0.79**	**116**	P	**Pb**	**10 02 31.9 +0.2**
KSL				S	**Sb**	**10 02 43.1 +0.6**
KSL				AML	AML	10 02 48.1
	comp=E,3746μm,0.5s					
KSL				AML	AML	10 02 49.7
	comp=N,2765μm,0.6s					
GLHS	**Glhisar (BURDU**	**0.91**	**44**	*e*PG	**Pg**	**10 02 33.2 -0.4**
GLHS	**Glhisar (BURDU**	**0.91**	**44**	*e*Pg	**Pg**	**10 02 33.3 -0.4**
DAT	**Datca**	**0.94**	**284**	*e*PG	**Pg**	**10 02 33.8 -0.3**
DAT	**Datca**	**0.94**	**284**	*i* P	**Pb**	**10 02 34.1 -0.2**
DAT	**Datca**	**0.94**	**284**	*e*Pg	**Pg**	**10 02 33.8 -0.3**
DAT	**Datca**	**0.94**	**284**	P	**Pb**	**10 02 34.1 -0.2**
TAVA	**DENIZLI_Tavas**	**0.98**	**10**	*i* P	**Pg**	**10 02 34.6 -0.3**
TAVA	**DENIZLI_Tavas**	**0.98**	**10**	P	**Pg**	**10 02 34.7 -0.3**
ELL	**Elmali**	**1.00**	**75**	*e*PG	**Pb**	**10 02 35.5 +0.1**
ELL	**Elmali**	**1.00**	**75**	*e*Pg	**Pb**	**10 02 35.5 +0.1**
GOLH	**Golhisar**	**1.00**	**43**	*i* P	**Pb**	**10 02 35.6 +0.1**
GOLH				*i* S	**Sn**	**10 02 50.5 +0.3**
GOLH	**Golhisar**	**1.00**	**43**	P	**Pb**	**10 02 35.6 +0.1**
GOLH				S	**Sn**	**10 02 50.5 +0.3**
BDRM	**Kayabasi**	**1.16**	**299**	*i* P	**Pb**	**10 02 37.9 -0.2**
BDRM	**Kayabasi**	**1.16**	**299**	P	**Pb**	**10 02 37.9 -0.2**
NIS1	**Nisyros Isl.**	**1.23**	**275**	*e*PN	**Pn**	**10 02 38.4 -0.7**
NIS1	**Nisyros Isl.**	**1.23**	**275**	P	**Pb**	**10 02 39.2 -0.1**
NIS1	**Nisyros Isl.**	**1.23**	**275**	P	**Pg**	**10 02 40.0 +0.2**
NIS1	**Nisyros Isl.**	**1.23**	**275**	*e*Pn	**Pn**	**10 02 38.4 -0.7**
NIS1	**Nisyros Isl.**	**1.23**	**275**	P	**Pb**	**10 02 39.2 -0.1**
BODT	**Bodrum**	**1.25**	**297**	*e*PN	**Pn**	**10 02 38.5 -0.8**
BODT	**Bodrum**	**1.25**	**297**	P	**Pn**	**10 02 39.3 -0.1**
BODT				S	**Sn**	**10 02 56.7 +0.5**
BODT	**Bodrum**	**1.25**	**297**	*e*Pn	**Pn**	**10 02 38.6 -0.8**
BODT	**Bodrum**	**1.25**	**297**	P	**Pn**	**10 02 39.3 -0.1**
BODT				S	**Sn**	**10 02 56.7 +0.5**
NISR	**Nisiros**	**1.27**	**275**	P	**Pn**	**10 02 39.0 -0.7**
NISR	**Nisiros**	**1.27**	**275**	P	**Pn**	**10 02 39.0 -0.7**
DENT	**Denizli**	**1.28**	**12**	*e*PN	**Pn**	**10 02 39.8 0.0**
DENT	**Denizli**	**1.28**	**12**	*e*Pn	**Pn**	**10 02 39.8 0.0**
YKAV	**Yalikavak-Bodr**	**1.30**	**299**	*e*PN	**Pn**	**10 02 39.3 -0.7**
YKAV	**Yalikavak-Bodr**	**1.30**	**299**	*e*Pn	**Pn**	**10 02 39.3 -0.7**
KORT	**Korkueli**	**1.41**	**69**	*e*PN	**Pn**	**10 02 41.5 -0.2**
KORT	**Korkueli**	**1.41**	**69**	*i* P	**Pg**	**10 02 43.0 -0.2**
KORT	**Korkueli**	**1.41**	**69**	*e*Pn	**Pn**	**10 02 41.5 -0.2**
KORT	**Korkueli**	**1.41**	**69**	P	**Pg**	**10 02 43.0 -0.2**
KARP	**Karpathos**	**1.57**	**233**	*e*PN	**Pn**	**10 02 44.2 +0.4**
KARP	**Karpathos**	**1.57**	**233**	P	**Pn**	**10 02 44.0 +0.2**
KARP				S	**Sb**	**10 03 05.2 +0.2**
KARP	**Karpathos**	**1.57**	**233**	P	**Pn**	**10 02 44.0 +0.2**
KARP				S	**Sn**	**10 03 04.1 0.0**
KARP				AML	AML	10 03 09.8
	comp=E,2514μm,0.8s					
KARP				AML	AML	10 03 15.2
	comp=N,1706μm,0.8s					
KARP	**Karpathos**	**1.57**	**233**	P	**Pn**	**10 02 44.0 +0.2**
KARP				S	**Sb**	**10 03 05.2 +0.2**
BRDR	**BURDUR-Merkez**	**1.61**	**42**	*i* P	**Pb**	**10 02 45.4 -0.4**
BRDR	**BURDUR-Merkez**	**1.61**	**42**	P	**Pb**	**10 02 45.4 -0.4**
ANTB	**Antalya**	**1.62**	**75**	*e*PN	**Pn**	**10 02 44.1 -0.3**
ANTB	**Antalya**	**1.62**	**75**	*e*Pn	**Pn**	**10 02 44.1 -0.3**
BCK	**Bucak**	**1.79**	**57**	*e*PN	**Pn**	**10 02 47.3 +0.5**
BCK	**Bucak**	**1.79**	**57**	*e*Pn	**Pn**	**10 02 47.3 +0.5**
MANT	**Manisa**	**1.99**	**357**	*i* P	**Pn**	**10 02 49.1 -0.6**
MANT	**Manisa**	**1.99**	**357**	P	**Pn**	**10 02 49.1 -0.6**
KULA	**Kula-Manisa**	**2.01**	**359**	*e*PN	**Pn**	**10 02 49.1 -0.8**
KULA	**Kula-Manisa**	**2.01**	**359**	P	**Pn**	**10 02 49.7 -0.2**
KULA	**Kula-Manisa**	**2.01**	**359**	*e*Pn	**Pn**	**10 02 49.1 -0.8**
KULA	**Kula-Manisa**	**2.01**	**359**	P	**Pn**	**10 02 49.7 -0.2**
SUTC	**Sutluce-Ispart**	**2.08**	**61**	*e*PN	**Pn**	**10 02 50.8 -0.1**
SUTC	**Sutluce-Ispart**	**2.08**	**61**	*e*Pn	**Pn**	**10 02 50.8 -0.1**
KZIL	**AFYON_Kizioren**	**2.09**	**33**	*i* P	**Pn**	**10 02 51.2 +0.1**
KZIL	**AFYON_Kizioren**	**2.09**	**33**	P	**Pn**	**10 02 51.2 +0.1**
GMLD	**Gumuldur**	**2.12**	**318**	*e*PN	**Pn**	**10 02 50.8 -0.6**
GMLD	**Gumuldur**	**2.12**	**318**	*e*Pn	**Pn**	**10 02 50.8 -0.6**
BAGO	**Egridir - ISPA**	**2.23**	**48**	*i* P	**Pn**	**10 02 51.6 -1.3**
ZKR	**Zakros**	**2.45**	**236**	P	**Pn**	**10 02 56.2 +0.3**
ZKR	**Zakros**	**2.45**	**236**	P	**Pn**	**10 02 56.2 +0.3**
AKHS	**Akhisar**	**2.48**	**344**	*i* P	**Pn**	**10 02 55.6 -0.6**
AKHS	**Akhisar**	**2.48**	**344**	P	**Pn**	**10 02 55.6 -0.6**
AKS	**Akhisar**	**2.48**	**344**	*e*PN	**Pn**	**10 02 56.1 -0.1**
AKS	**Akhisar**	**2.48**	**344**	*e*Pn	**Pn**	**10 02 56.1 -0.1**
URLA	**Izmir**	**2.50**	**318**	*e*PN	**Pn**	**10 02 56.3 -0.3**
URLA	**Izmir**	**2.50**	**318**	*i* P	**Pn**	**10 02 57.7 +1.1**
URLA				*i* S	**Sn**	**10 03 27.0 -0.1**
URLA	**Izmir**	**2.50**	**318**	*e*Pn	**Pn**	**10 02 56.3 -0.3**
URLA	**Izmir**	**2.50**	**318**	P	**Pn**	**10 02 57.7 +1.1**
URLA				S	**Sn**	**10 03 27.0 -0.1**
SHUT	**Suhut-Afyon**	**2.52**	**35**	*e*PN	**Pn**	**10 02 56.5 -0.4**
SHUT	**Suhut-Afyon**	**2.52**	**35**	*e*Pn	**Pn**	**10 02 56.5 -0.4**
DEMI	**Demirci**	**2.54**	**0**	*i* P	**Pn**	**10 02 56.7 -0.4**
DEMI	**Demirci**	**2.54**	**0**	P	**Pn**	**10 02 56.7 -0.4**
SIMA	**Simav-Kutahya**	**2.59**	**5**	*e*PN	**Pn**	**10 02 57.7 -0.1**
SIMA	**Simav-Kutahya**	**2.59**	**5**	*e*Pn	**Pn**	**10 02 57.7 -0.1**
APE	**Apeiranthos**	**2.61**	**283**	*e*PN	**Pn**	**10 02 58.0 -0.1**
APE	**Apeiranthos**	**2.61**	**283**	P	**Pn**	**10 02 58.3 +0.2**
APE	**Apeiranthos**	**2.61**	**283**	P	**Pn**	**10 02 57.8 -0.3**
APE	**Apeiranthos**	**2.61**	**283**	*e*Pn	**Pn**	**10 02 58.0 -0.1**
APE	**Apeiranthos**	**2.61**	**283**	P	**Pn**	**10 02 58.3 +0.2**
GDZ	**Gediz**	**2.65**	**13**	*i* P	**Pn**	**10 02 58.4 -0.4**
GDZ	**Gediz**	**2.65**	**13**	P	**Pn**	**10 02 58.4 -0.4**
NPS	**Neapolis**	**2.80**	**245**	P	**Pn**	**10 03 01.2 +0.5**
NPS				S	**Sn**	**10 03 34.2 -0.2**
NPS				AML	AML	10 03 42.0
	comp=E,634μm,0.5s					
NPS				AML	AML	10 03 45.0
	comp=N,414μm,0.7s					
NPS	**Neapolis**	**2.80**	**245**	P	**Pn**	**10 03 01.2 +0.5**
NPS				S	**Sn**	**10 03 34.2 -0.2**
CHOS	**Chios island**	**2.83**	**313**	*e*PN	**Pn**	**10 03 02.1 +1.0**
CHOS	**Chios island**	**2.83**	**313**	P	**Pn**	**10 03 01.3 +0.2**
CHOS	**Chios island**	**2.83**	**313**	P	**Pn**	**10 03 01.1 0.0**
CHOS				S	**Sn**	**10 03 35.4 +0.3**
CHOS				AML	AML	10 03 38.7
	comp=E,797μm,0.6s					
CHOS				AML	AML	10 03 41.1
	comp=N,460μm,0.7s					
CHOS	**Chios island**	**2.83**	**313**	P	**Pn**	**10 03 01.1 0.0**
CHOS	**Chios island**	**2.83**	**313**	*e*Pn	**Pn**	**10 03 02.1 +1.0**
CHOS				S	**Sn**	**10 03 35.4 +0.3**
BOLV	**Bolvadin**	**2.84**	**38**	*i* P	**Pn**	**10 03 01.4 0.0**
BOLV	**Bolvadin**	**2.84**	**38**	P	**Pn**	**10 03 01.4 0.0**
DOGA	**KONYA_Doganhis**	**2.85**	**55**	*i* P	**Pn**	**10 03 01.3 -0.2**
DOGA	**KONYA_Doganhis**	**2.85**	**55**	P	**Pn**	**10 03 01.3 -0.2**
LAST	**Lasithi**	**2.94**	**244**	P	**Pn**	**10 03 02.9 +0.2**
LAST	**Lasithi**	**2.94**	**244**	P	**Pn**	**10 03 02.9 +0.2**
STEP	**BALIKESIR_Sava**	**2.97**	**345**	*i* P	**Pn**	**10 03 02.3 -0.8**
STEP	**BALIKESIR_Sava**	**2.97**	**345**	P	**Pn**	**10 03 02.3 -0.8**
TVSB	**Tavsanli**	**3.00**	**11**	*e*PN	**Pn**	**10 03 03.1 -0.5**
TVSB	**Tavsanli**	**3.00**	**11**	*e*Pn	**Pn**	**10 03 03.1 -0.5**
KMER	**Konya-Meram**	**3.19**	**66**	*i* P	**Pn**	**10 03 07.3 +1.2**
KMER	**Konya-Meram**	**3.19**	**66**	P	**Pn**	**10 03 07.3 +1.2**
BALB	**Balikesir**	**3.20**	**349**	*e*PN	**Pn**	**10 03 06.8 +0.6**
BALB	**Balikesir**	**3.20**	**349**	*e*Pn	**Pn**	**10 03 06.8 +0.6**
KONT	**Konya--Tatoy**	**3.25**	**63**	*e*PN	**Pn**	**10 03 07.4 +0.4**
KONT	**Konya--Tatoy**	**3.25**	**63**	*i* P	**Pn**	**10 03 08.2 +1.2**
KONT	**Konya--Tatoy**	**3.25**	**63**	*e*Pn	**Pn**	**10 03 07.4 +0.4**
IDI	**Anoyia**	**3.33**	**250**	P	**Pn**	**10 03 06.7 -1.3**
IDI				S	**Sn**	**10 03 47.4 0.0**
IDI				AML	AML	10 03 53.8
	comp=E,136μm,0.5s					
IDI				AML	AML	10 03 59.0
	comp=N,160μm,0.6s					
IDI	**Anoyia**	**3.33**	**250**	P	**Pn**	**10 03 06.7 -1.3**
IDI				S	**Sn**	**10 03 47.4 0.0**
SIGR	**SIGRI**	**3.52**	**321**	*e*PN	**Pn**	**10 03 10.9 +0.3**
SIGR	**SIGRI**	**3.52**	**321**	P	**Pn**	**10 03 09.9 -0.7**
SIGR	**SIGRI**	**3.52**	**321**	P	**Pn**	**10 03 09.9 -0.7**
SIGR	**SIGRI**	**3.52**	**321**	*e*Pn	**Pn**	**10 03 10.9 +0.3**
TEKE	**Tekeli-Mersin**	**3.58**	**94**	*e*PN	**Pn**	**10 03 12.4 +1.0**
TEKE	**Tekeli-Mersin**	**3.58**	**94**	*e*Pn	**Pn**	**10 03 12.4 +1.0**
BERE	**Bereket-Mersin**	**3.65**	**91**	*e*PN	**Pn**	**10 03 13.6 +1.1**
BERE	**Bereket-Mersin**	**3.65**	**91**	*e*Pn	**Pn**	**10 03 13.6 +1.1**
TEVE	**Tevekalti-Mers**	**3.82**	**90**	*e*PN	**Pn**	**10 03 15.9 +1.1**
TEVE	**Tevekalti-Mers**	**3.82**	**90**	*e*Pn	**Pn**	**10 03 15.9 +1.1**
AKKU	**Akkuyu-Mersin**	**3.93**	**94**	*e*PN	**Pn**	**10 03 17.0 +0.8**
AKKU	**Akkuyu-Mersin**	**3.93**	**94**	*e*Pn	**Pn**	**10 03 17.0 +0.8**
IMMV	**Iera Moni Meta**	**3.97**	**256**	P	**Pn**	**10 03 16.2 -0.5**
IMMV	**Iera Moni Meta**	**3.97**	**256**	P	**Pn**	**10 03 16.2 -0.5**
IKL	**Isikli**	**4.03**	**92**	*e*PN	**Pn**	**10 03 18.6 +1.1**
IKL	**Isikli**	**4.03**	**92**	*e*Pn	**Pn**	**10 03 18.7 +1.1**
KEBE	**Keben-Mersin**	**4.04**	**89**	*e*PN	**Pn**	**10 03 19.3 +1.5**
KEBE	**Keben-Mersin**	**4.04**	**89**	*e*Pn	**Pn**	**10 03 19.3 +1.5**
GVD	**Gavdhos**	**4.11**	**248**	P	**Pn**	**10 03 15.2 -3.5**
GVD	**Gavdhos**	**4.11**	**248**	P	**Pn**	**10 03 15.2 -3.5**
VLI	**Veliai**	**4.64**	**274**	P	**Pn**	**10 03 28.4 +2.4**
VLI	**Veliai**	**4.64**	**274**	P	**Pn**	**10 03 28.4 +2.4**
SMTH	**Samothraki Isl**	**4.68**	**329**	P	**Pn**	**10 03 26.1 -0.4**
SMTH	**Samothraki Isl**	**4.68**	**329**	P	**Pn**	**10 03 26.1 -0.4**
SKIA	**Skiathos**	**4.93**	**304**	P	**Pn**	**10 03 31.5 +1.6**
SKIA	**Skiathos**	**4.93**	**304**	P	**Pn**	**10 03 31.5 +1.6**

IDC ***24*** *10:06:56.1±1.3, 36°.43N×28°.71E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.4/44, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=28.0km s-min=18.1km az=148.0*
HLW ***24*** *10:06:57.8, 36°.39N×28°.77E, h17km±10km*
DDA ***24*** *10:06:58.7, 36°.53N×28°.67E, h26km, Ml4.0*
ISCJB ***24*** *10:06:58.7±0.3, 36°.44N±0°.02×28°.77E±0°.02, h29km±3km, mb3.5/3, Error ellipse: s-maj=3.2km s-min=2.5km az=8.0*
THE ***24*** *10:06:58.6, 36°.49N×28°.70E, h0km, ML3.7/1, Error ellipse: s-maj=0.8km s-min=0.3km az=157.0*
NIC ***24*** *10:06:58.8±0.3, 36°.53N×28°.66E, h25km, mb4.3, ML3.9*
ATH ***24*** *10:06:58.5, 36°.52N×28°.69E, h28km±1km, ML3.5/5, Error ellipse: s-maj=1.7km s-min=0.8km az=162.0*
CSEM ***24*** *10:06:59.3±0.1, 36°.48N×28°.75E, h20km, ML4.0, Error ellipse: s-maj=3.3km s-min=2.5km az=5.0*
ISK ***24*** *10:06:59.0, 36°.54N×28°.71E, h16km, ML3.7*
NSSC ***24*** *10:07:01.0±1.4, 35°.66N×28°.99E, h25km±263km, ML3.0*
ISC 24 10:06:58.8±0.9,**36°.48N**±0°.02×**28°.73E**±0°.01,**h19**km±2km,
n177,σ1§**24**/234,**mb3.5**/3,**3C-3D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.33**	**61**	*e*PG	**Pg**	**10 07 05.8**	**-0.1**
FETY				*e*SG	**Sb**	**10 07 10.9**	**-0.1**
FETY	**Fethiye**	**0.33**	**61**	P	**Pb**	**10 07 06.1**	**0.0**
FETY				S	**Sb**	**10 07 11.9**	**+0.9**
FETY	**Fethiye**	**0.33**	**61**	*e*Pg	**Pg**	**10 07 05.8**	**-0.1**
FETY	**Fethiye**	**0.33**	**61**	P	**Pb**	**10 07 06.1**	**0.0**
FETY				*e*Sg	**Sb**	**10 07 10.9**	**-0.1**
FETY				S	**Sg**	**10 07 11.5**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.34**	**350**	*e*PG	**Pg**	**10 07 05.7**	**-0.4**
DALY				*e*SG	**Sg**	**10 07 10.7**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.34**	**350**	*i* P	**Pg**	**10 07 05.8**	**-0.3**
DALY				*i* S	**Sb**	**10 07 11.4**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.34**	**350**	*e*Pg	**Pg**	**10 07 05.7**	**-0.4**
DALY				*e*Sg	**Sg**	**10 07 10.7**	**-0.4**
DALY				S	**Sb**	**10 07 11.4**	**-0.1**
FETI	**Fethiye-Mugla**	**0.37**	**54**	*e*PG	**Pb**	**10 07 06.7**	**-0.1**
FETI	**Fethiye-Mugla**	**0.37**	**54**	*e*Pg	**Pb**	**10 07 06.7**	**-0.1**
TURN	**Turunc**	**0.41**	**346**	⇓*i*P	**Pb**	**10 07 08.2**	**+0.7**
TURN				*i* S	**Sn**	**10 07 15.1**	**-1.6**
TURN	**Turunc**	**0.41**	**346**	P	**Pb**	**10 07 08.2**	**+0.7**
TURN				S	**Sn**	**10 07 15.1**	**-1.6**
ARG	**Arkhangelos**	**0.55**	**242**	P	**Pb**	**10 07 09.8**	**+0.1**
ARG				S	**Sn**	**10 07 18.9**	**-1.4**
ARG	**Arkhangelos**	**0.55**	**242**	P	**Pb**	**10 07 09.7**	**-0.1**
ARG				S	**Sn**	**10 07 19.2**	**-1.0**
ARG				AML	AML	10 07 23.0
	comp=E,8764μm,0.4s					
ARG				AML	AML	10 07 23.2
	comp=N,4938μm,0.4s					
ARG	**Arkhangelos**	**0.55**	**242**	P	**Pb**	**10 07 09.8**	**+0.1**
ARG				S	**Sn**	**10 07 18.9**	**-1.4**
AKAS	**Kas**	**0.75**	**109**	*e*PG	**Pn**	**10 07 15.0**	**+0.5**
AKAS	**Kas**	**0.75**	**109**	⇓*i*P	**Pn**	**10 07 14.5**	**0.0**
AKAS				*i* S	**Sn**	**10 07 27.4**	**+2.0**
AKAS	**Kas**	**0.75**	**109**	P	**Pn**	**10 07 14.5**	**0.0**
AKAS	**Kas**	**0.75**	**109**	*e*Pg	**Pn**	**10 07 15.0**	**+0.5**
KSL	**Kastellorizon**	**0.77**	**115**	P	**Pn**	**10 07 14.7**	**+0.1**
KSL	**Kastellorizon**	**0.77**	**115**	P	**Pn**	**10 07 14.7**	**+0.1**
KSL	**Kastellorizon**	**0.77**	**115**	P	**Pn**	**10 07 14.6**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.92**	**42**	*e*PG	**Pb**	**10 07 16.0**	**-0.1**
GLHS	**Glhisar (BURDU**	**0.92**	**42**	*e*Pg	**Pb**	**10 07 16.0**	**-0.1**
DAT	**Datca**	**0.96**	**286**	*e*PG	**Pn**	**10 07 17.4**	**+0.1**
DAT	**Datca**	**0.96**	**286**	*i* P	**Pb**	**10 07 16.1**	**-0.7**
DAT				*i* S	**Sb**	**10 07 28.9**	**-0.3**
DAT	**Datca**	**0.96**	**286**	P	**Pb**	**10 07 16.1**	**-0.7**
DAT	**Datca**	**0.96**	**286**	*e*Pg	**Pn**	**10 07 17.4**	**+0.1**
DAT				S	**Sb**	**10 07 28.9**	**-0.3**
ELL	**Elmali**	**0.99**	**74**	*e*PG	**Pg**	**10 07 18.5**	**+0.4**
ELL	**Elmali**	**0.99**	**74**	*e*Pg	**Pg**	**10 07 18.5**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.00**	**9**	⇑*i*P	**Pb**	**10 07 17.1**	**-0.4**
TAVA				*i* S	**Sb**	**10 07 30.4**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.00**	**9**	P	**Pb**	**10 07 17.1**	**-0.4**
TAVA				S	**Sb**	**10 07 30.4**	**+0.1**
GOLH	**Golhisar**	**1.01**	**41**	⇑*i*P	**Pb**	**10 07 17.8**	**+0.1**
GOLH				*i* S	**Sn**	**10 07 32.8**	**+1.0**
GOLH	**Golhisar**	**1.01**	**41**	P	**Pb**	**10 07 17.8**	**+0.1**
BDRM	**Kayabasi**	**1.18**	**300**	⇓*i*P	**Pn**	**10 07 20.3**	**-0.1**
BDRM				*i* S	**Sn**	**10 07 35.9**	**-0.1**
BDRM	**Kayabasi**	**1.18**	**300**	P	**Pn**	**10 07 20.3**	**-0.1**
BDRM				S	**Sn**	**10 07 35.9**	**-0.1**
NIS1	**Nisyros Isl.**	**1.25**	**276**	*e*PN	**Pb**	**10 07 22.0**	**+0.2**
NIS1	**Nisyros Isl.**	**1.25**	**276**	P	**Pb**	**10 07 21.7**	**-0.1**
NIS1	**Nisyros Isl.**	**1.25**	**276**	P	**Pb**	**10 07 21.7**	**-0.1**
NIS1	**Nisyros Isl.**	**1.25**	**276**	*e*Pn	**Pb**	**10 07 22.0**	**+0.2**
BODT	**Bodrum**	**1.28**	**298**	*e*PN	**Pb**	**10 07 22.4**	**+0.2**
BODT	**Bodrum**	**1.28**	**298**	P	**Pn**	**10 07 21.9**	**+0.3**
BODT				S	**Sg**	**10 07 39.8**	**-0.4**
BODT	**Bodrum**	**1.28**	**298**	P	**Pn**	**10 07 21.9**	**+0.3**
BODT	**Bodrum**	**1.28**	**298**	*e*Pn	**Pb**	**10 07 22.4**	**+0.2**
BODT				S	**Sg**	**10 07 39.8**	**-0.4**
NISR	**Nisiros**	**1.29**	**276**	P	**Pn**	**10 07 21.9**	**+0.1**
NISR	**Nisiros**	**1.29**	**276**	P	**Pn**	**10 07 21.9**	**+0.1**
DENT	**Denizli**	**1.30**	**11**	*e*PN	**Pb**	**10 07 22.6**	**0.0**
DENT	**Denizli**	**1.30**	**11**	*e*Pn	**Pb**	**10 07 22.6**	**0.0**
YKAV	**Yalikavak-Bodr**	**1.33**	**300**	*e*PN	**Pb**	**10 07 22.8**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.33**	**300**	*e*Pn	**Pb**	**10 07 22.8**	**-0.3**
AYDN	**Tasoluk**	**1.36**	**330**	*i* P	**Pn**	**10 07 23.2**	**+0.4**
AYDN				*i* S	**Sb**	**10 07 41.3**	**+0.6**
AYDN	**Tasoluk**	**1.36**	**330**	P	**Pn**	**10 07 23.2**	**+0.4**
AYDN				S	**Sb**	**10 07 41.3**	**+0.6**
KORT	**Korkueli**	**1.41**	**68**	*e*PN	**Pb**	**10 07 24.9**	**+0.4**
KORT	**Korkueli**	**1.41**	**68**	⇑*i*P	**Pb**	**10 07 25.1**	**+0.6**
KORT				*i* S	**Sg**	**10 07 45.0**	**+0.7**
KORT	**Korkueli**	**1.41**	**68**	*e*Pn	**Pb**	**10 07 24.9**	**+0.4**
KARP	**Karpathos**	**1.57**	**234**	*e*PN	**Pb**	**10 07 27.8**	**+0.5**
KARP	**Karpathos**	**1.57**	**234**	P	**Pb**	**10 07 26.8**	**-0.5**
KARP				S	**Sb**	**10 07 47.4**	**+0.6**
KARP	**Karpathos**	**1.57**	**234**	P	**Pn**	**10 07 26.6**	**+0.9**
KARP				S	**Sb**	**10 07 47.5**	**+0.6**
KARP				AML	AML	10 07 55.4
	comp=E,2591μm,0.9s					
KARP				AML	AML	10 07 57.2
	comp=N,2287μm,0.7s					
KARP	**Karpathos**	**1.57**	**234**	P	**Pb**	**10 07 26.8**	**-0.5**
KARP	**Karpathos**	**1.57**	**234**	*e*Pn	**Pb**	**10 07 27.8**	**+0.5**
KARP				S	**Sb**	**10 07 47.4**	**+0.6**
ANTB	**Antalya**	**1.61**	**74**	*e*PN	**Pb**	**10 07 27.7**	**-0.1**
ANTB	**Antalya**	**1.61**	**74**	*e*Pn	**Pb**	**10 07 27.7**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.62**	**41**	*i* P	**Pn**	**10 07 27.0**	**+0.6**
BRDR				*i* S	**Sg**	**10 07 50.8**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.62**	**41**	P	**Pn**	**10 07 27.0**	**+0.6**
BCK	**Bucak**	**1.79**	**56**	*e*PN	**Pn**	**10 07 29.8**	**+1.1**
BCK	**Bucak**	**1.79**	**56**	*e*Pn	**Pn**	**10 07 29.8**	**+1.1**
KUSD	**Kusadasi-Aydin**	**1.80**	**321**	*e*PN	**Pn**	**10 07 29.3**	**+0.5**
KUSD	**Kusadasi-Aydin**	**1.80**	**321**	*e*Pn	**Pn**	**10 07 29.3**	**+0.5**
MANT	**Manisa**	**2.01**	**356**	*i* P	**Pn**	**10 07 32.1**	**+0.1**
MANT				*i* S	**Sn**	**10 07 55.4**	**-1.3**
MANT	**Manisa**	**2.01**	**356**	P	**Pn**	**10 07 32.1**	**+0.1**
MANT				S	**Sn**	**10 07 55.4**	**-1.3**
KULA	**Kula-Manisa**	**2.03**	**359**	*e*PN	**Pn**	**10 07 33.0**	**+0.9**
KULA	**Kula-Manisa**	**2.03**	**359**	P	**Pn**	**10 07 32.0**	**-0.1**
KULA	**Kula-Manisa**	**2.03**	**359**	P	**Pn**	**10 07 32.0**	**-0.1**
KULA	**Kula-Manisa**	**2.03**	**359**	*e*Pn	**Pn**	**10 07 33.0**	**+0.9**
SUTC	**Sutluce-Ispart**	**2.08**	**61**	*e*PN	**Pn**	**10 07 33.9**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.08**	**61**	*e*Pn	**Pn**	**10 07 33.9**	**+1.2**
KZIL	**AFYON_Kizioren**	**2.10**	**32**	*i* P	**Pn**	**10 07 34.2**	**+1.1**
KZIL				*i* S	**Sb**	**10 08 01.8**	**-0.4**
KZIL	**AFYON_Kizioren**	**2.10**	**32**	P	**Pn**	**10 07 34.2**	**+1.1**
BAGO	**Egridir - ISPA**	**2.23**	**47**	*i* P	**Pn**	**10 07 35.2**	**+0.3**
BAGO				*i* S	**Sb**	**10 08 06.7**	**+0.8**
ZKR	**Zakros**	**2.45**	**237**	P	**Pn**	**10 07 38.2**	**+0.4**
ZKR	**Zakros**	**2.45**	**237**	P	**Pn**	**10 07 38.2**	**+0.4**
AKHS	**Akhisar**	**2.50**	**343**	*i* P	**Pn**	**10 07 38.7**	**+0.2**
AKHS	**Akhisar**	**2.50**	**343**	P	**Pn**	**10 07 38.7**	**+0.2**
SHUT	**Suhut-Afyon**	**2.53**	**34**	*e*PN	**Pn**	**10 07 39.7**	**+0.7**
SHUT	**Suhut-Afyon**	**2.53**	**34**	*e*Pn	**Pn**	**10 07 39.7**	**+0.7**
URLA	**Izmir**	**2.53**	**319**	*e*PN	**Pn**	**10 07 39.0**	**+0.1**
URLA	**Izmir**	**2.53**	**319**	*i* P	**Pn**	**10 07 39.5**	**+0.6**
URLA				*i* S	**Sn**	**10 08 08.2**	**-1.1**
URLA	**Izmir**	**2.53**	**319**	*e*Pn	**Pn**	**10 07 39.0**	**+0.1**
URLA	**Izmir**	**2.53**	**319**	P	**Pn**	**10 07 39.5**	**+0.6**
URLA				S	**Sn**	**10 08 08.1**	**-1.1**
DEMI	**Demirci**	**2.56**	**360**	*i* P	**Pn**	**10 07 39.6**	**+0.2**
DEMI	**Demirci**	**2.56**	**360**	P	**Pn**	**10 07 39.6**	**+0.2**
SIMA	**Simav-Kutahya**	**2.61**	**4**	*e*PN	**Pn**	**10 07 39.9**	**-0.1**
SIMA	**Simav-Kutahya**	**2.61**	**4**	*e*Pn	**Pn**	**10 07 39.9**	**-0.1**
APE	**Apeiranthos**	**2.63**	**284**	P	**

SWA2		7.72 202	P	Pn	10 08 49.3	-0.8
ASF	Jabal al Asfar	8.01 120	Pn	Pn	10 08 56.9	+2.7
	comp=N,0.6nm,0.3s,baz=262,slow=5.2,SNR=3.6					
EIL	Elat	8.56 141	P	Pn	10 09 01.2	-0.5
	comp=N,0.9nm,0.3s,baz=285,slow=19,SNR=3.9					
FINES	FINESS Array B	25.04 357	P	P	10 12 21.7	+0.2
	comp=N,1.7nm,0.7s,baz=168,slow=14,SNR=2.8					
TORD	Torodi Ar. Bea	33.58 233	P	P	10 13 36.5	-1.3
	comp=N,0.2nm,0.4s,baz=36,slow=7.9,SNR=2.0					
MKAR	Makanchi Array	40.62 58	P	P	10 14 39.8	+2.4
	comp=N,0.6nm,0.6s,baz=260,slow=8.6,SNR=2.8					

AZER ***24*** *10:10:46.3±1.5,38°.15N×42°.99E,h4km±1.41km, Error ellipse: s-maj=43.9km s-min=12.4km az=58.0*
DDA ***24*** *10:10:52.4,38°.72N×43°.52E,h2km,Ml4.0*
IDC ***24*** *10:10:52.4±1.2,38°.61N×43°.39E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.7/42,mbtmp3.7/11,ML3.6/2,MS2.9/1, Ms1 2.9/1,ms1mx2.1/49,Error ellipse: s-maj=28.7km s-min=17.0km az=169.0*
ISK ***24*** *10:10:53.0,38°.74N×43°.48E,h2km,ML3.8*
ISCJB ***24*** *10:10:55.0±0.6,38°.66N±0°.02×43°.52E±0°.03,h15km±4km, mb3.5/8,MS2.9/1,Error ellipse: s-maj=4.2km s-min=3.7km az=160.4*
CSEM ***24*** *10:10:54.1±0.2,38°.67N×43°.49E,h2km,ML3.8,Error ellipse: s-maj=5.3km s-min=4.6km az=152.0*
ISC 24 10:10:55.4±0.8,38°.64N±0°.02×43°.43E±0°.02,h19km±3km, n117,σ1§83/148,mb3.5/8,15C-25D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.05	219	*e*PG	Pg	10 10 58.1	-1.0
VANB				*e*SG	Sg	10 11 02.7	+1.1
VANB	Van	0.05	219	*e*Pg	Pg	10 10 58.1	-1.0
GEVA	Gevas	0.44	222	⇑*i*P	Pb	10 11 03.5	-1.1
GEVA				*i* S	Sn	10 11 11.8	-2.4
GEVA	Gevas	0.44	222	P	Pb	10 11 03.5	-1.1
GEVA				S	Sn	10 11 11.8	-2.4
BASK	Baskale_VAN	0.74	142	⇓*i*P	Pg	10 11 07.8	-2.1
BASK	Baskale_VAN	0.74	142	P	Pg	10 11 07.8	-2.1
TUTA	Tutak	0.90	328	*i* P	Pb	10 11 09.4	-3.2
TUTA				*i* S	Sb	10 11 22.6	-1.7
TUTA	Tutak	0.90	328	P	Pb	10 11 09.4	-3.2
TUTA				S	Sb	10 11 22.6	-1.7
DYDN	Diyadin	0.93	12	⇓*i*P	Pb	10 11 09.0	-4.0
DYDN				*i* S	Sb	10 11 23.9	-1.1
DYDN	Diyadin	0.93	12	P	Pb	10 11 09.0	-4.0
DYDN				S	Sb	10 11 23.9	-1.1
AGRB	Hanur-Agry	1.00	340	*e*PG	Pb	10 11 11.5	-2.7
AGRB				*e*SG	Sb	10 11 24.8	-2.2
AGRB	Hanur-Agry	1.00	340	*e*Pg	Pb	10 11 11.5	-2.7
AGRB				*e*Sg	Sb	10 11 24.8	-2.2
HAKT	HAKKARI	1.10	169	⇓*i*P	Pb	10 11 14.5	-1.4
HAKT				*i* S	Sn	10 11 31.6	+0.9
HAKT	HAKKARI	1.10	169	P	Pb	10 11 14.5	-1.4
HAKT				S	Sn	10 11 31.6	+0.9
EKAR	Karacoban	1.23	301	*i* P	Pn	10 11 18.0	+0.2
EKAR	Karacoban	1.23	301	P	Pn	10 11 18.0	+0.2
CUKT	Cukurca	1.39	174	*e*PN	Pg	10 11 22.0	-0.3
CUKT	Cukurca	1.39	174	⇓*i*P	Pg	10 11 21.9	-0.5
CUKT	Cukurca	1.39	174	*e*Pn	Pg	10 11 22.0	-0.3
EATA	Eleskirt	1.43	329	⇓*i*P	Pn	10 11 18.9	-1.6
EATA				*i* S	Sn	10 11 38.9	0.0
EATA	Eleskirt	1.43	329	P	Pn	10 11 18.9	-1.6
EATA				S	Sn	10 11 38.9	0.0
VRTB	Varto-Mus	1.63	289	*e*PN	Pn	10 11 23.9	+0.8
VRTB	Varto-Mus	1.63	289	*e*Pn	Pn	10 11 23.9	+0.8
VRTB				S	Sg	10 11 49.1	+1.1
NAX	Nakhchivan SNR=52	1.70	71	⇓P	Pn	10 11 24.5	+0.5
NAX				⇑S	Sg	10 11 51.3	+1.1
NAX	Nakhchivan SNR=52	1.70	71	P	Pn	10 11 24.5	+0.5
DIGO	Kars	1.78	359	*i* P	Pn	10 11 25.1	-0.2
DIGO	Kars	1.78	359	P	Pn	10 11 25.1	-0.2
BNGL	BINGOL	1.81	281	*i* S	Sg	10 11 53.9	+0.1
GNI	Garni 78nm,0.3s,baz=274,slow=3.6,SNR=60	1.82	33	Pg	Pn	10 11 25.9	+0.1
GNI	29nm,0.3s,baz=266,slow=22,SNR=17			Lg	Lg	10 11 52.0	
SVAN	Silvan-Diyarba	1.82	255	*e*PN	Pb	10 11 27.5	-0.6
SVAN	Silvan-Diyarba	1.82	255	*e*Pn	Pb	10 11 27.5	-0.6
HOMI	Horasan	1.84	320	⇑*i*P	Pn	10 11 26.5	+0.4
HOMI				*i* S	Sb	10 11 53.6	+2.3
BTMN	Batman	1.86	247	⇑*i*P	Pb	10 11 27.6	-1.1
BTMN	Batman	1.86	247	P	Pb	10 11 27.6	-1.1
ERZM	Erzurum	2.04	309	*i* P	Pn	10 11 30.6	+1.6
ERZM				*i* S	Sn	10 11 54.5	+0.4
ERZM	Erzurum	2.04	309	P	Pn	10 11 30.6	+1.6
ERZM				S	Sn	10 11 54.5	+0.4
EAK	Akyaka	2.05	4	*i* P	Pb	10 11 31.3	-0.8
EAK	Akyaka	2.05	4	P	Pb	10 11 31.3	-0.8
SENK	Senkaya-Erzuru	2.10	337	*e*PN	Pn	10 11 29.5	-0.1
SENK	Senkaya-Erzuru	2.10	337	*e*Pn	Pn	10 11 29.5	-0.1
BNGB	Bing¶l	2.18	280	*e*PN	Pn	10 11 31.8	+1.1
YEDI	Yedisu-Bingol	2.39	290	*e*PN	Pn	10 11 35.0	+1.4
YEDI	Yedisu-Bingol	2.39	290	*e*Pn	Pn	10 11 35.0	+1.4
DDEM	Demirkent	2.60	331	*i* P	Pn	10 11 38.4	+1.9
DDEM	Demirkent	2.60	331	P	Pn	10 11 38.4	+1.9
BGD	Bogdanovka	2.63	3	P	Pb	10 11 41.2	-0.8
BGD				S	Sg	10 12 19.1	-0.8
MAZI	Mazidag	2.63	244	*e*PN	Pn	10 11 37.4	+0.5
MAZI	Mazidag	2.63	244	*e*Pn	Pn	10 11 37.4	+0.5
GDB	GEDABAY SNR=39	2.75	40	⇑P	Pn	10 11 39.7	+1.1
GDB				⇓S	Sb	10 12 19.3	+2.0
GDB	GEDABAY SNR=39	2.75	40	P	Pn	10 11 39.7	+1.1
AKH	Akhalkalaki	2.77	1	*e*PN	Pn	10 11 38.1	-0.8
AKH	Akhalkalaki	2.77	1	P	Pb	10 11 45.3	+1.0
AKH				S	Sg	10 12 24.8	+0.3
AKH	Akhalkalaki	2.77	1	*e*Pn	Pn	10 11 38.1	-0.8
ARTV	Artvin	2.80	336	*i* P	Pn	10 11 42.4	+3.1
ARTV	Artvin	2.80	336	P	Pn	10 11 42.4	+3.1
QZX	Qazax, Azerbai SNR=16	2.84	31	⇑P	Pn	10 11 40.7	+1.0
QZX				⇑S	Sb	10 12 23.2	+3.3
QZX	Qazax, Azerbai SNR=16	2.84	31	P	Pn	10 11 40.7	+1.0
GANJ	Ganja SNR=12	3.00	47	⇓P	Pn	10 11 42.9	+1.0
GANJ				⇑S	Sg	10 12 29.7	-2.2
GANJ	Ganja SNR=12	3.00	47	P	Pn	10 11 42.9	+1.0
ERZN	Erzincan	3.04	289	*e*PN	Pn	10 11 43.3	+0.8
TNCL	Tunceli-Merkez	3.07	280	*i* P	Pb	10 11 46.3	-3.2
TNCL	Tunceli-Merkez	3.07	280	P	Pb	10 11 46.3	-3.2
PTK	Pertek	3.17	276	*e*PN	Pn	10 11 46.6	+2.3
PTK	Pertek	3.17	276	*e*Pn	Pn	10 11 46.6	+2.3
DGRG	David-gareji	3.18	27	P	Pb	10 11 50.7	-0.6
DGRG				S	Sg	10 12 36.9	-0.7
DGRG	David-gareji	3.18	27	P	Pn	10 11 45.7	+1.3
SVRC	Sivrice-ELAZID	3.25	267	*e*PN	Pn	10 11 47.3	+1.9
SVRC	Sivrice-ELAZID	3.25	267	*e*Pn	Pn	10 11 47.3	+1.9
TBLG	Delisi	3.25	18	P	Pb	10 11 54.9	+2.5
TBLG				S	Sb	10 12 37.0	+5.4
BRDA	Brd SNR=3.3	3.33	60	⇓P	Pn	10 11 46.6	+0.3
BRDA				⇓S	Sb	10 12 33.3	-0.4
BRDA	Brd SNR=3.3	3.33	60	P	Pn	10 11 46.6	+0.3
MNGR	Mingechevir, A SNR=10	3.54	52	⇓P	Pn	10 11 50.0	+0.8
MNGR				⇓S	Sb	10 12 39.6	-0.1
MNGR	Mingechevir, A SNR=10	3.54	52	P	Pn	10 11 50.0	+0.8
ZRD	Zardab SNR=3.8	3.68	62	⇓P	Pn	10 11 51.4	+0.3
ZRD				⇑S	Sb	10 12 42.4	-1.5
ZRD	Zardab SNR=3.8	3.68	62	P	Pn	10 11 51.4	+0.3
URFA	Urfa	3.83	253	*e*PN	Pn	10 11 55.7	+2.3
URFA	Urfa	3.83	253	*e*Pn	Pn	10 11 55.7	+2.3
LRK	Lerik SNR=8.1	3.84	88	⇓P	Pn	10 11 51.6	-2.0
LRK				⇓S	Sn	10 12 43.0	+4.7
LRK	Lerik SNR=8.1	3.84	88	P	Pn	10 11 51.6	-2.0
LRK				S	Sn	10 12 43.0	+4.7
ZKTA	Zakatala SNR=6.0	3.87	38	⇓P	Pn	10 11 54.8	+1.0
ZKTA				⇓S	Sb	10 12 48.1	-1.3
SEKA	Sheki SNR=4.3	3.87	47	⇓P	Pn	10 11 55.3	+1.4
SEKA				⇑S	Sb	10 12 49.1	-0.4
SEKA	Sheki SNR=4.3	3.87	47	P	Pn	10 11 55.3	+1.4
ONI	Oni	3.95	0	P	Pb	10 12 07.7	+3.3
ONI				S	Sg	10 13 02.7	+0.5
QBL	Gabala SNR=12	4.10	54	⇓P	Pn	10 11 57.7	+0.6
QBL	Gabala SNR=12	4.10	54	P	Pn	10 11 57.7	+0.6
LKRN	Lenkeran, Azer SNR=2.8	4.18	87	⇓P	Pn	10 11 56.5	-1.6
LKRN	Lenkeran, Azer SNR=2.8	4.18	87	P	Pn	10 11 56.5	-1.6
ASTR	Astara SNR=3.4	4.20	89	⇓P	Pn	10 11 56.1	-2.2
ASTR	Astara SNR=3.4	4.20	89	P	Pn	10 11 56.1	-2.2
IML	Ismayilli SNR=3.0	4.25	58	⇓P	Pn	10 11 59.6	+0.5
IML	Ismayilli SNR=3.0	4.25	58	P	Pn	10 11 59.6	+0.5
XNQ	Khinaliq SNR=8.2	4.42	54	⇓P	Pn	10 12 02.1	+0.6
XNQ	Khinaliq SNR=8.2	4.42	54	P	Pn	10 12 02.1	+0.6
PQL	Pirkuli SNR=5.0	4.52	60	⇓P	Pn	10 12 03.3	+0.4
PQL	Pirkuli SNR=5.0	4.52	60	P	Pn	10 12 03.3	+0.4
QUBA	Quba, Azerbaij SNR=5.4	4.74	53	⇑P	Pn	10 12 06.4	+0.6
QUBA	Quba, Azerbaij SNR=5.4	4.74	53	P	Pn	10 12 06.4	+0.6
ATGJ	Altiaghaj SNR=3.6	4.79	61	⇓P	Pn	10 12 06.7	+0.1
ATGJ	Altiaghaj SNR=3.6	4.79	61	P	Pn	10 12 06.7	+0.1
GZT	Gaziantep	4.81	256	*i* P	Pn	10 12 11.0	+4.2
KBZ	Khabaz 0.3nm,0.3s,baz=153,slow=6.8,SNR=2.4	5.10	356	Pn	Pn	10 12 17.2	+6.5
VOIR		15.24	302	⇑*i*P	P	10 14 38.2	+3.9
AKTO	Aktyubinsk 0.1nm,0.3s,baz=236,slow=16,SNR=3.2	15.69	37	Pn	Pn	10 14 32.6	-2.6
AKASG	Malin Array Be 0.6nm,0.3s,baz=136,slow=11,SNR=5.1	15.70	325	Pn	Pn	10 14 33.1	-2.3
BURAR	Bucovina Array	16.01	310	⇑*i*P	P	10 14 45.2	+2.3
MDVR	Moldovita	17.32	298	⇑*i*P	P	10 15 03.6	+6.3
SIRR	Siria	17.75	302	⇑*i*P	P	10 15 03.7	+1.7
ARU	Arti 6.2nm,0.2s,baz=126,slow=0.4,SNR=3.5	20.44	25	P	P	10 15 30.7	-0.6
BVAR	Borovoye Array 0.8nm,0.5s,baz=239,slow=10,SNR=4.5	23.48	43	P	P	10 16 04.0	+0.4
GERES	GERESS Array B 0.4nm,0.5s,baz=90,slow=12,SNR=1.9	23.64	305	P	P	10 16 06.3	+1.0
KURBB	Kurchatov Arra 1.9nm,0.6s,baz=263,slow=9.0,SNR=13	27.44	53	P	P	10 16 40.8	+1.0
MKAR	Makanchi Array 0.3nm,0.5s,baz=224,slow=43,SNR=1.2	29.45	61	P	P	10 16 58.6	+0.8
ESDC	Sonseca Array 0.5nm,0.4s,baz=66,slow=8.5,SNR=5.0	36.43	287	P	P	10 17 58.5	-0.3
TORD	Torodi Ar. Bea 0.7nm,0.9s,baz=66,slow=6.6,SNR=6.1	44.78	247	P	P	10 19 07.5	-0.5
PALK	Pallekele comp=Z,13nm,18.1s,baz=294,slow=36	45.85	123	LR	LR	10 38 16.3	
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=298,slow=8.6,SNR=6.1	51.93	96	P	P	10 20 02.6	-0.4
ILAR	Eielson Array 0.3nm,0.9s,baz=357,slow=5.7,SNR=2.2	76.61	5	P	P	10 22 44.2	+0.1

IDC ***24*** *10:14:38.5±1.1,36°.44N×28°.83E,h0km,mb3.7/4, mb1 3.9/10,mb1mx3.5/79,mbtmp3.8/10,ML3.8/6,MS3.1/8, Ms1 3.1/8,ms1mx2.7/53,Error ellipse: s-maj=21.2km s-min=16.3km az=146.0*
HLW ***24*** *10:14:41.0,36°.36N×28°.70E,h27km±11km,Md4.4,Ml4.2*
NEIC ***24*** *10:14:41.8±0.0,36°.50N×28°.71E,h1km,ML4.2(THE), After THE.*
NSSC ***24*** *10:14:41.3±1.6,36°.21N×28°.72E,h37km±999km,ML3.1*
ISCJB ***24*** *10:14:41.2±0.3,36°.42N±0°.02×28°.88E±0°.02,h32km±3km, mb3.6/4,MS3.1/2,Error ellipse: s-maj=3.6km s-min=2.3km az=13.2*
THE ***24*** *10:14:41.8,36°.50N×28°.71E,h1km,ML4.2/9,Error ellipse: s-maj=0.9km s-min=0.4km az=159.0*
DDA ***24*** *10:14:41.6,36°.52N×28°.71E,h23km,Ml4.2*
ISK ***24*** *10:14:41.6,36°.52N×28°.69E,h12km,ML3.9*
CSEM ***24*** *10:14:42.2±0.1,36°.43N×28°.80E,h20km,ML3.9,Error ellipse: s-maj=3.6km s-min=2.7km az=12.0*
ATH ***24*** *10:14:42.3,36°.46N×28°.74E,h2km,ML4.1/10,Error ellipse: s-maj=0.8km s-min=0.3km az=41.0*
NIC ***24*** *10:14:43.7±0.2,36°.31N×28°.90E,h17km,mb4.4,ML4.1*
ISC 24 10:14:41.9±0.8,36°.47N±0°.02×28°.78E±0°.02,h25km±6km, n252,σ1§82/313,mb3.7/4,7C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.29	56	PG	Pb	10 14 48.8	0.0
FETY				*e*SG	Sb	10 14 54.8	+1.2
FETY	Fethiye	0.29	56	P	Pb	10 14 48.8	0.0
FETY				S	Sb	10 14 54.3	+0.7
FETY	Fethiye	0.29	56	P	Pb	10 14 48.8	0.0
FETY				S	Sb	10 14 54.3	+0.7
FETY	Fethiye	0.29	56	P	Pb	10 14 48.8	0.0
FETY				S	Sb	10 14 54.3	+0.7
FETI	Fethiye-Mugla	0.34	49	*e*PG	Pb	10 14 49.9	+0.5
FETI	Fethiye-Mugla	0.34	49	*e*Pg	Pb	10 14 49.9	+0.5
DALY	Dalyan (Mu¯la	0.36	344	PG	Pb	10 14 48.6	-1.1
DALY				*e*SG	Sb	10 14 53.0	-2.2
DALY	Dalyan (Mu¯la	0.36	344	⇓*i*P	Pb	10 14 48.8	-1.0
DALY				*i* S	Sb	10 14 53.6	-1.6
DALY	Dalyan (Mu¯la	0.36	344	P	Pb	10 14 48.8	-1.0
DALY				*e*Sg	Sb	10 14 53.0	-2.2
TURN	Turunc	0.42	340	⇓*i*P	Pb	10 14 51.4	+0.5
TURN				*i* S	Sn	10 14 58.6	-0.9
TURN	Turunc	0.42	340	P	Pb	10 14 51.4	+0.5
TURN				S	Sn	10 14 58.6	-0.9
ARG	Arkhangelos	0.59	244	P	Pb	10 14 53.2	-0.3
ARG				S	Sb	10 15 01.9	+0.4
ARG	Arkhangelos	0.59	244	P	Pb	10 14 52.5	-1.0
ARG				S	Sb	10 15 01.7	+0.2
ARG	comp=N,23900μm,0.3s			AML	AML	10 15 05.9	
ARG	comp=E,34616μm,0.3s			AML	AML	10 15 05.9	
ARG	Arkhangelos	0.59	244	P	Pb	10 14 53.2	-0.3
ARG				S	Sb	10 15 01.7	+0.2
ARG	Arkhangelos	0.59	244	P	Pb	10 14 53.2	-0.3
AKAS	Kas	0.71	109	*e*PG	Pn	10 14 57.0	+0.6
AKAS	Kas	0.71	109	⇓*i*P	Pn	10 14 57.0	+0.6
AKAS	Kas	0.71	109	P	Pn	10 14 57.0	+0.6
KSL	Kastellorizon	0.72	116	P	Pn	10 14 57.4	+0.9
KSL				S	Sn	10 15 10.1	+3.3
KSL	Kastellorizon	0.72	116	P	Pn	10 14 57.8	+1.3
KSL				S	Sn	10 15 07.5	+0.7
KSL	comp=E,25025μm,0.5s			AML	AML	10 15 11.7	
KSL	comp=N,6910μm,0.6s			AML	AML	10 15 12.6	
KSL	Kastellorizon	0.72	116	P	Pn	10 14 57.4	+0.9
KSL				S	Sn	10 15 10.1	+3.3
GLHS	Glhisar (BURDU	0.89	40	*e*PG	Pn	10 14 59.1	+0.1
GLHS	Glhisar (BURDU	0.89	40	*e*Pg	Pn	10 14 59.1	+0.1
ELL	Elmali	0.95	73	*e*PG	Pb	10 15 00.9	+1.2
ELL	Elmali	0.95	73	*e*Pg	Pb	10 15 00.9	+1.2
DAT	Datca	1.00	285	*e*PG	Pn	10 14 59.7	-0.8
DAT	Datca	1.00	285	*e*Pg	Pn	10 14 59.7	-0.8
DENT	Denizli	1.30	9	*e*PN	Pb	10 15 05.4	-0.2
DENT	Denizli	1.30	9	*e*Pn	Pb	10 15 05.4	-0.2
NIS1	Nisyros Isl.	1.30	276	*e*PN	Pb	10 15 05.0	-0.6
NIS1	Nisyros Isl.	1.30	276	P	Pb	10 15 05.0	-0.6
NIS1				S	Sb	10 15 22.8	+1.0
NIS1	Nisyros Isl.	1.30	276	P	Pn	10 15 04.7	+0.3
NIS1				S	Sb	10 15 22.1	+0.3
NIS1				AML	AML	10 15 26.2	
NIS1	comp=N,47667μm,0.5s			AML	AML	10 15 30.0	
NIS1	comp=E,44144μm,0.5s						
NIS1	Nisyros Isl.	1.30	276	P	Pb	10 15 05.0	-0.6
NIS1				S	Sb	10 15 22.1	+0.3
NIS1	Nisyros Isl.	1.30	276	P	Pb	10 15 05.0	-0.6
NIS1				S	Sb	10 15 22.8	+1.0
BODT	Bodrum	1.32	297	*e*PN	Pn	10 15 05.0	+0.2
BODT	Bodrum	1.32	297	P	Pn	10 15 05.2	+0.4
BODT				S	Sb	10 15 22.5	0.0
BODT	Bodrum	1.32	297	P	Pn	10 15 05.2	+0.4
BODT				S	Sb	10 15 22.5	0.0
BODT	Bodrum	1.32	297	P	Pn	10 15 05.2	+0.4
BODT				S	Sb	10 15 22.5	0.0
NISR	Nisiros	1.34	276	P	Pb	10 15 05.7	-0.6
NISR				S	Sb	10 15 23.5	+0.5
NISR	Nisiros	1.34	276	P	Pn	10 15 05.5	+0.5
NISR				S	Sb	10 15 22.5	-0.5
NISR	comp=N,9869μm,0.7s			AML	AML	10 15 34.2	
NISR	comp=E,20317μm,1.0s			AML	AML	10 15 35.8	
NISR	Nisiros	1.34	276	P	Pn	10 15 05.5	+0.5
NISR				S	Sb	10 15 22.5	-0.5
NISR	Nisiros	1.34	276	P	Pb	10 15 05.7	-0.6
NISR				S	Sb	10 15 23.5	+0.5
KORT	Korkueli	1.37	67	*e*PN	Pb	10 15 08.3	+1.4
KORT	Korkueli	1.37	67	*e*Pn	Pb	10 15 08.3	+1.4
YKAV	Yalikavak-Bodr	1.37	299	*e*PN	Pn	10 15 05.2	-0.2
YKAV	Yalikavak-Bodr	1.37	299	*e*Pn	Pn	10 15 05.2	-0.2
DIDI	Didim-Aydin	1.53	307	*e*PN	Pn	10 15 08.3	+0.7
DIDI	Didim-Aydin	1.53	307	*e*Pn	Pn	10 15 08.3	+0.7
ANTB	Antalya	1.56	74	*e*PN	Pb	10 15 10.7	+0.6
ANTB	Antalya	1.56	74	*e*Pn	Pb	10 15 10.7	+0.6
KARP	Karpathos	1.60	235	*e*PN	Pb	10 15 10.2	-0.6
KARP				*e*SN	Sb	10 15 31.3	+0.6
KARP	Karpathos	1.60	235	P	Pb	10 15 09.8	-1.0
KARP				S	Sb	10 15 31.2	+0.5
KARP	Karpathos	1.60	235	P	Pb	10 15 10.1	-0.7
KARP				S	Sb	10 15 31.4	+0.8
KARP	comp=E,14857μm,0.7s			AML	AML	10 15 35.1	
KARP	comp=N,12500μm,0.7s			AML	AML	10 15 39.8	
KARP	Karpathos	1.60	235	P	Pb	10 15 09.8	-1.0
KARP	Karpathos	1.60	235	*e*Pn	Pb	10 15 10.2	-0.6
KARP				S	Sb	10 15 31.2	+0.5
KARP	Karpathos	1.60	235	P	Pb	10 15 09.8	-1.0
KARP				S	Sb	10 15 31.2	+0.5
BCK	Bucak	1.75	55	*e*PN	Pb	10 15 13.1	-0.3
BCK	Bucak	1.75	55	*e*Pn	Pb	10 15 13.1	-0.3
KUSD	Kusadasi-Aydin	1.83	320	*e*PN	Pn	10 15 12.4	+0.7
KUSD	Kusadasi-Aydin	1.83	320	*e*Pn	Pn	10 15 12.4	+0.7
KHL	Karahalli	1.94	18	*e*PN	Pn	10 15 14.3	+0.9
KHL	Karahalli	1.94	18	*e*Pn	Pn	10 15 14.3	+0.9
KULA	Kula-Manisa	2.04	357	*e*PN	Pn	10 15 15.5	+0.7
KULA	Kula-Manisa	2.04	357	P	Pn	10 15 14.9	+0.1
KULA	Kula-Manisa	2.04	357	P	Pn	10 15 14.9	+0.1
KULA	Kula-Manisa	2.04	357	*e*Pn	Pn	10 15 15.5	+0.7
KULA	Kula-Manisa	2.04	357	P	Pn	10 15 14.9	+0.1
KZIL	AFYON_Kizioren	2.09	31	*i* P	Pb	10 15 19.1	0.0
KZIL				*i* S	Sb	10 15 44.6	-0.1
KZIL	AFYON_Kizioren	2.09	31	P	Pb	10 15 19.1	0.0
KZIL				S	Sb	10 15 44.6	-0.1
ZKR	Zakros	2.48	238	P	Pn	10 15 22.5	+1.7
ZKR	Zakros	2.48	238	P	Pn	10 15 22.4	+1.6
ZKR				S	Sn	10 15 50.9	+0.6
ZKR	comp=N,3158μm,0.7s			AML	AML	10 16 11.9	
ZKR	comp=E,3962μm,0.8s			AML	AML	10 16 14.8	
ZKR	Zakros	2.48	238	P	Pn	10 15 22.4	+1.7
ZKR				S	Sn	10 15 50.9	+0.6
ZKR	Zakros	2.48	238	P	Pn	10 15 22.5	+1.7
APE	Apeiranthos	2.68	284	P	Pn	10 15 24.1	+0.7
APE	Apeiranthos	2.68	284	⇑*i*P	Pn	10 15 23.9	+0.4
APE	Apeiranthos	2.68	284	P	Pn	10 15 23.9	+0.4
APE	Apeiranthos	2.68	284	P	Pn	10 15 24.1	+0.7
APE	Apeiranthos	2.68	284	P	Pn	10 15 24.1	+0.7
THR2	Thira Island,	2.70	270	P	Pn	10 15 25.0	+1.3
THR2	Thira Island,	2.70	270	P	Pn	10 15 25.0	+1.3
THT1	Athinios (Pele	2.70	269	P	Pn	10 15 24.5	+0.7
THT1	Athinios (Pele	2.70	269	P	Pn	10 15 24.5	+0.7
THR3	Thira Island,	2.73	270	P	Pn	10 15 24.9	+0.8
THR3	Thira Island,	2.73	270	P	Pn	10 15 25.7	+1.7
THR3	Thira Island,	2.73	270	P	Pn	10 15 24.9	+0.8
THR3	Thira Island,	2.73	270	P	Pn	10 15 24.9	+0.8
THR6	Thira Island,	2.73	269	P	Pn	10 15 25.7	+1.5
THR6	Thira Island,	2.73	269	P	Pn	10 15 25.7	+1.5
SAP1	Santorini-Akro	2.73	269	P	Pn	10 15 25.5	+1.3
SAP1	Santorini-Akro	2.73	269	P	Pn	10 15 25.5	+1.3
NPS	Neapolis	2.84	246	P	Pn	10 15 26.3	+0.6
NPS				S	Sn	10 16 00.9	+1.8
NPS	Neapolis	2.84	246	P	Pn	10 15 25.9	+0.3
NPS				S	Sn	10 15 59.7	+0.6
NPS	comp=N,3613μm,0.5s			AML	AML	10 16 08.0	
NPS	comp=E,4923μm,0.4s			AML	AML	10 16 08.2	
NPS	Neapolis	2.84	246	P	Pn	10 15 26.0	+0.3
NPS				S	Sn	10 15 59.7	+0.6
NPS	Neapolis	2.84	246	P	Pn	10 15 26.3	+0.6
CHOS	Chios island	2.89	312	P	Pn	10 15 27.1	+0.7
CHOS				S	Sn	10 16 01.7	+1.2
CHOS	Chios island	2.89	312	P	Pn	10 15 26.9	+0.5
CHOS				S	Sn	10 16 00.8	+0.3

SZAC **Souni** 3.75 116 P Pn 10 15 38.4 +0.1
SZAC S Sn 10 16 20.7 -1.0
SZAC **Souni** 3.75 116 P Pn 10 15 38.4 +0.1
baz=296
SZAC S Sn 10 16 20.7 -1.0
KARY **Karystos** 3.80 296 P Pn 10 15 40.2 +1.4
KARY **Karystos** 3.80 296 P Pn 10 15 40.2 +1.4
IMMV **Iera Moni Meta** 4.02 257 P Pn 10 15 43.8 +1.9
IMMV **Iera Moni Meta** 4.02 257 P Pn 10 15 43.8 +1.9
GVD **Gavdhos** 4.15 248 P Pn 10 15 45.3 +1.6
GVD **Gavdhos** 4.15 248 P Pn 10 15 46.1 +2.4
GVD **Gavdhos** 4.15 248 P Pn 10 15 45.3 +1.6
GVD **Gavdhos** 4.15 248 P Pn 10 15 45.3 +1.6
VLY **Voula,Athens** 4.21 291 P Pn 10 15 46.6 +2.1
VLY **Voula,Athens** 4.21 291 P Pn 10 15 46.7 +2.1
PTL **Penteli** 4.23 293 P Pn 10 15 45.3 +0.6
PTL **Penteli** 4.23 293 P Pn 10 15 45.3 +0.6
ATHU **Athens Univers** 4.26 292 P Pn 10 15 47.0 +1.8
ATHU **Athens Univers** 4.26 292 P Pn 10 15 47.0 +1.8
EREA **Eretria** 4.32 298 P Pn 10 15 48.2 +2.2
EREA **Eretria** 4.32 298 P Pn 10 15 48.2 +2.2
LIA **Limnos Island** 4.44 321 P Pn 10 15 48.4 +0.7
LIA **Limnos Island** 4.44 321 P Pn 10 15 48.3 +0.7
ANKY **Antikythira Is** 4.47 264 P Pn 10 15 49.6 +1.5
ANKY **Antikythira Is** 4.47 264 P Pn 10 15 49.6 +1.5
DID **Didima** 4.56 285 P Pn 10 15 51.5 +2.2
DID **Didima** 4.56 285 P Pn 10 15 51.5 +2.2
VLI **Veliai** 4.71 275 P Pn 10 15 54.5 +3.2
VLI **Veliai** 4.71 275 P Pn 10 15 54.5 +3.2
SMTH **Samothraki Isl** 4.74 328 P Pn 10 15 51.6 -0.1
SMTH **Samothraki Isl** 4.74 328 P Pn 10 15 51.6 -0.1
LOUT **Loutraki** 4.87 290 P Pn 10 15 56.3 +2.7
LTK **Loutraki** 4.89 290 P Pn 10 15 55.8 +2.0
ALN **Alexandroupoli** 4.91 335 P Pn 10 15 55.1 +1.0
ALN **Alexandroupoli** 4.91 335 P Pn 10 15 55.1 +1.0
SKIA **Skiathos** 4.99 304 P Pn 10 15 57.8 +2.5
BRTR **Keskin Array B** 5.02 48 Pn Pn 10 15 56.9 +1.1
comp=N,1.0nm,0.3s,baz=213,slow=14,SNR=15
BRTR Sn Sn 10 16 53.8 +0.7
comp=N,1.1nm,0.3s,baz=215,slow=27,SNR=6.7
XOR **Xorichti** 5.28 305 P Pn 10 15 58.1 -1.1
XOR **Xorichti** 5.28 305 P Pn 10 15 58.1 -1.1
PAIG **Paliouri** 5.29 312 P Pn 10 16 01.5 +2.1
PAIG **Paliouri** 5.29 312 P Pn 10 16 01.5 +2.1
RDO **Rodhopi** 5.31 333 P Pn 10 16 01.1 +1.5
RDO **Rodhopi** 5.31 333 P Pn 10 16 01.1 +1.5
DSF **Desfina** 5.34 293 P Pn 10 16 03.1 +3.0
DSF **Desfina** 5.34 293 P Pn 10 16 03.1 +3.0
GUR **Goura** 5.34 288 P Pn 10 16 03.7 +3.5
GUR **Goura** 5.34 288 P Pn 10 16 03.7 +3.5
FYTO **Fytoko, Volos** 5.47 304 P Pn 10 16 05.0 +3.2
FYTO **Fytoko, Volos** 5.47 304 P Pn 10 16 05.0 +3.2
KLV **Kalavryta, Ach** 5.52 289 P Pn 10 16 05.3 +2.8
KLV **Kalavryta, Ach** 5.52 289 P Pn 10 16 05.3 +2.8
KAVA **Kavala** 5.62 325 P Pn 10 16 04.4 +0.6
KAVA **Kavala** 5.62 325 P Pn 10 16 04.4 +0.6
KALE **Kalithea** 5.62 292 P Pn 10 16 07.3 +3.3
LAKA **Lakka** 5.70 290 P Pn 10 16 05.8 +0.8
LAKA **Lakka** 5.70 290 P Pn 10 16 05.8 +0.8
AGG **Agios Georgios** 5.71 298 P Pn 10 16 08.4 +3.2
SLUM **Salum** 5.78 212 P Pn 10 16 04.2 -1.9
baz=212
SLUM AMP 10 17 00.0
comp=N,390μm,0.5s,logA/T=5.9,baz=212
SLUM S Sn 10 17 04.9 -6.8
baz=212
SLUM **Salum** 5.78 212 P Pn 10 16 04.2 -1.9
EFP **Efpalio** 5.81 292 P Pn 10 16 10.1 +3.7
DRO **Drossia** 5.83 287 P Pn 10 16 06.2 -0.6
DRO **Drossia** 5.83 287 P Pn 10 16 06.2 -0.6
ANX **Ano Chora** 5.85 293 P Pn 10 16 10.4 +3.3
EVR **Evrytania** 6.04 296 P Pn 10 16 13.7 +3.9
HORT **Hortiatis** 6.07 314 P Pn 10 16 12.2 +2.2
HORT **Hortiatis** 6.07 314 P Pn 10 16 12.2 +2.2
LIT **Litokhoron** 6.13 308 P Pn 10 16 13.4 +2.5
LIT **Litokhoron** 6.13 308 P Pn 10 16 13.4 +2.5
PVO **Paravola** 6.15 293 P Pn 10 16 12.9 +1.8
PVO **Paravola** 6.15 293 P Pn 10 16 12.9 +1.8
SRS **Serrai** 6.16 320 P Pn 10 16 14.4 +3.1
SRS **Serrai** 6.16 320 P Pn 10 16 14.4 +3.1
HWQ **Hawqa** 6.25 108 eP Pn 10 16 12.8 +0.1
HWQ **Hawqa** 6.25 108 eP Pn 10 16 12.8 +0.1
BIDA **Albida** 6.30 101 eP Pn 10 16 12.4 -1.0
BIDA eS Sn 10 17 18.2 -6.4
BIDA AML AML 10 17 23.8
comp=N,116nm,0.5s
BIDA AML AML 10 17 23.8
comp=E,169nm,0.5s
DRWC **Darouich** 6.35 86 eP Pn 10 16 15.1 +1.1
DRWC eS Sn 10 17 21.2 -4.5
DRWC AML AML 10 17 35.4
comp=N,25nm,0.5s
DRWC AML AML 10 17 36.1
comp=E,19nm,0.6s
PDO **Prodromos** 6.40 292 P Pn 10 16 17.8 +3.2
MMAI **Mount Meron Ar** 6.45 120 Pn Pn 10 16 14.7 -0.6
comp=E,18nm,0.3s,baz=307,slow=12,SNR=48
MMAI Sn Sn 10 17 24.3 -3.9
comp=E,9.7nm,0.3s,baz=306,slow=27,SNR=6.5
MMAI LR LR 10 20 03.6
comp=E,68nm,20.1s,baz=280,slow=51
RCY **Rachaya** 6.51 115 eP Pn 10 16 15.4 -0.8
RCY **Rachaya** 6.51 115 eP Pn 10 16 15.4 -0.8
HAWK **Haweek** 6.52 105 eP Pn 10 16 15.9 -0.3
HAWK eS Sn 10 17 23.9 -6.0
HAWK AML AML 10 17 29.1
comp=E,20nm,0.5s
HAWK AML AML 10 17 32.8
comp=N,26nm,0.5s
BRBR **Barbar** 6.63 115 eP Pn 10 16 17.2 -0.8
BRBR eS Sn 10 17 24.7 -8.2
BRBR AML AML 10 17 36.1
comp=N,20nm,0.6s
BRBR AML AML 10 17 36.6
comp=E,36nm,0.7s
DSL **Palaion Diasel** 6.64 296 P Pn 10 16 18.4 +0.5
DSL **Palaion Diasel** 6.64 296 P Pn 10 16 18.4 +0.5
GRG **Griva** 6.70 314 P Pn 10 16 22.8 +4.0
VLS **Valsamata** 6.75 287 P Pn 10 16 20.8 +1.5
VLS **Valsamata** 6.75 287 P Pn 10 16 20.8 +1.5
MARH **Ras Al Marh** 6.76 109 eP Pn 10 16 17.3 -2.4
MARH eS Sn 10 17 29.6 -6.5
MARH AML AML 10 17 33.2
comp=N,16nm,0.4s
MARH AML AML 10 17 38.4
comp=E,32nm,0.7s
KPRO **Kipourio** 6.80 303 P Pn 10 16 23.8 +3.7
RSH 6.87 142 P Pn 10 16 20.3 -0.7
baz=140
RSH 6.87 142 P Pn 10 16 20.3 -0.7
TOTH **TOTAH** 7.01 114 eP Pn 10 16 22.3 -0.7
TOTH eS Sn 10 17 34.5 -7.4
TOTH AML AML 10 17 46.0
comp=N,33nm,0.7s
TOTH AML AML 10 17 52.2
comp=E,21nm,0.6s
RABH **Abou Rabah** 7.17 104 eP Pn 10 16 25.5 +0.3
RABH eS Sn 10 17 40.0 -5.9
RABH AML AML 10 17 49.1
comp=E,14nm,0.4s
RABH AML AML 10 18 01.2
comp=N,15nm,0.5s
GLL **Jalalah** 7.30 160 P Pn 10 16 26.1 -0.9
baz=158
GLL **Jalalah** 7.30 160 P Pn 10 16 26.1 -0.9
ROOS **tl_alroos** 7.32 106 eP Pn 10 16 26.6 -0.7
ROOS eS Sn 10 17 42.9 -6.8
ROOS AML AML 10 17 51.1
comp=E,40nm,0.5s
ROOS AML AML 10 17 51.4
comp=N,50nm,0.7s
SUZ **Suez** 7.43 152 P Pn 10 16 28.0 -0.8
baz=150
SUZ **Suez** 7.43 152 P Pn 10 16 28.0 -0.8
SGD **Sagiada** 7.44 298 P Pn 10 16 32.0 +3.2
SGD **Sagiada** 7.44 298 P Pn 10 16 32.0 +3.2
VTS **Vitosha** 7.47 327 iP Pb 10 16 41.9 -9.0
ZAF **Zafarana** 7.84 155 P Pn 10 16 33.1 -1.2
baz=154
ZAF **Zafarana** 7.84 155 P Pn 10 16 33.1 -1.2
BARS **Barje** 8.30 322 ePn Pn 10 16 42.7 +2.0
EIL **Elat** 8.53 141 Pn Pn 10 16 44.0 +0.1
comp=N,1.4nm,0.3s,baz=270,slow=17,SNR=4.6
EIL Sn Sn 10 18 14.8 -4.5
comp=N,3.1nm,0.3s,baz=307,slow=13,SNR=7.0
EIL **Elat** 8.53 141 Pn Pn 10 16 44.0 +0.1
GRB **Gharib** 8.85 156 P Pn 10 16 47.7 -0.5
baz=155
GRB **Gharib** 8.85 156 P Pn 10 16 47.7 -0.5
BOVS **Bovan** 8.97 325 ePn Pn 10 16 52.3 +2.4
HDHB **Dhahab** 9.16 146 P Pn 10 16 52.5 0.0
baz=145
HDHB **Dhahab** 9.16 146 P Pn 10 16 52.5 0.0
MLR **Muntele Rosu** 9.26 348 Pn Pn 10 16 55.8 +1.9
comp=N,0.1nm,0.3s,baz=236,slow=10,SNR=3.8
MLR **Muntele Rosu** 9.26 348 ⇑iP Pn 10 16 55.5 +1.6
MLR **Muntele Rosu** 9.26 348 ⇑iP Pn 10 16 55.5 +1.6
PDG **Podgorica** 9.47 312 ⇑iP Pn 10 17 02.0 +5.4
GZR **Gura Zlata** 10.00 335 ⇑iP Pn 10 17 04.1 +0.1
GZR **Gura Zlata** 10.00 335 ⇑iP Pn 10 17 04.1 +0.1
QZX **Qazax, Azerbai** 13.73 65 S Sn 10 20 25.9 -0.7
QZX **Qazax, Azerbai** 13.73 65 ⇓S Sn 10 20 25.9 -0.7
VRAC **Vranov** 15.60 329 LR LR 10 25 09.5
comp=N,74nm,18.4s,baz=150,slow=40
GERES **GERESS Array B** 16.57 323 Pn P 10 18 35.9 +0.9
comp=N,0.2nm,0.3s,baz=136,slow=13,SNR=2.9
GERES LR LR 10 25 26.4
comp=N,61nm,19.3s,baz=87,slow=39
DAVOX **Davos/Dischmat** 17.44 312 LR LR 10 25 55.0
comp=N,68nm,20.0s,baz=83,slow=39
OBN **Obninsk** 19.40 14 LR LR 10 27 35.3
comp=N,51nm,18.1s,baz=264,slow=40
FINES **FINESS Array B** 25.05 357 P P 10 20 03.6 -0.3
comp=N,2.9nm,0.7s,baz=163,slow=10.0,SNR=7.8
FINES LR LR 10 30 31.8
comp=N,50nm,18.6s,baz=160,slow=38
HFS **Hagfors** 25.59 342 LR LR 10 30 44.0
comp=N,59nm,18.6s,baz=137,slow=38
TORD **Torodi Ar. Bea** 33.61 233 P P 10 21 19.8 -0.5
comp=N,1.5nm,0.7s,baz=35,slow=8.6,SNR=12
KURBB **Kurchatov Arra** 38.00 52 P P 10 21 58.1 +0.4
comp=N,0.3nm,0.5s,baz=274,slow=8.8,SNR=1.6
KURK **Kurchatov** 38.06 52 P P 10 21 58.1 -0.1
KURK **Kurchatov** 38.06 52 P P 10 21 58.1 -0.1
MKAR **Makanchi Array** 40.59 58 P P 10 22 19.3 -0.1
comp=N,0.3nm,0.5s,baz=270,slow=7.1,SNR=2.2

*ISCJB **24** 10:16:59.9±1.4, 16°.57N±0°.04×99°.28W±0°.03, h9km±9km, mb4.0/47, MS3.1/2, Error ellipse: s-maj=6.9km s-min=4.2km az=12.6*
*IDC **24** 10:17:00.3±3.1, 16°.57N×99°.39W, h0km, mb4.1/7, mb1 4.2/10, mb1mx3.9/55, mbtmp3.9/10, ML3.1/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/47, Error ellipse: s-maj=59.7km s-min=20.9km az=10.0*
*MEX **24** 10:17:03.0±0.8, 16°.39N×99°.51W, h20km±34km, MD4.2*
*NEIC **24** 10:17:06.9±1.4, 16°.56N×99°.13W, h47km±7km, mb4.0/53, Error ellipse: s-maj=16.7km s-min=6.3km az=188.0*
ISC 24 10:16:59.4±3.0, 16°.45N±0°.06×99°.46W±0°.03, h4km±20km, n272, σ1§51/280, mb4.1/49, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.97**	**308**	*eP*	**Pb**	**10 17 18.2**	**-0.7**
CAIG				*i S*	**Sb**	**10 17 29.8**	**-2.3**
PNIG	**Pinotepa**	**1.28**	**92**	*eP*	**Pn**	**10 17 23.4**	**-0.8**
PNIG				*eS*	**Sb**	**10 17 38.6**	**-2.5**
MEIG	**Mezcala**	**1.48**	**354**	*eP*	**Pn**	**10 17 26.1**	**-0.8**
MEIG				*eS*	**Sn**	**10 17 44.9**	**-1.8**
PLIG	**Platanillo**	**1.93**	**359**	*eP*	**Pn**	**10 17 32.9**	**-0.3**
PLIG				*eS*	**Sn**	**10 17 56.1**	**-1.9**
ARIG	**Puente Sto Nin**	**2.01**	**335**	*eP*	**Pn**	**10 17 34.0**	**-0.1**
ARIG				*eS*	**Sn**	**10 17 56.9**	**-2.9**
ZIIG	**Zihuatanejo**	**2.23**	**301**	*eP*	**Pn**	**10 17 36.9**	**-0.4**
ZIIG				*eS*	**Sn**	**10 18 01.1**	**-4.1**
YAIG	**Yautepec**	**2.43**	**9**	*eP*	**Pn**	**10 17 40.4**	**+0.3**
YAIG				*eS*	**Sn**	**10 18 09.4**	**-1.0**
VHO	**Vista Hermosa**	**2.69**	**76**	*eP*	**Pn**	**10 17 44.2**	**+0.6**
VHO				*eS*	**Sn**	**10 18 16.0**	**-0.8**
PPM	**Popocatepetl**	**2.72**	**17**	*eP*	**Pn**	**10 17 43.9**	**-0.6**
PPM				*i S*	**Sn**	**10 18 16.7**	**-1.4**
TPIG	**Tehuac#an**	**2.80**	**45**	*eP*	**Pn**	**10 17 44.5**	**-0.8**
TPIG				*eS*	**Sn**	**10 18 18.7**	**-0.9**
UNM	**Universidad Na**	**2.88**	**5**	*eP*	**Pn**	**10 17 49.5**	**+3.2**
UNM				*eS*	**Sb**	**10 18 26.4**	**-0.8**
UNM	**Universidad Na**	**2.88**	**5**	*ePn*	**Pn**	**10 17 49.6**	**+3.2**
HUIG	**Huatulco**	**3.29**	**101**	*eP*	**Pn**	**10 17 52.4**	**+0.6**
HUIG				*eS*	**Sn**	**10 18 29.5**	**-2.0**
MOIG	**Morelia**	**3.61**	**333**	*ePn*	**Pb**	**10 18 01.5**	**-2.4**
MMIG	**Aquila**	**4.13**	**297**	*eP*	**Pn**	**10 18 03.5**	**+0.1**
MMIG				*eS*	**Sn**	**10 18 49.0**	**-3.2**
LVIG	**Laguna Verde**	**4.36**	**41**	*ePn*	**Pn**	**10 18 05.4**	**-1.0**
CMIG	**Matias Romero**	**4.43**	**81**	Pn	**Pn**	**10 18 07.4**	**0.0**
CMIG				Lg	Lg	10 19 20.5	
R15V		**5.08**	**303**	*eP*	**Pn**	**10 18 17.4**	**+0.9**
H06E1	**SOCORRO T-PHASE**	**11.17**	**284**	T	T	10 30 56.5	
LPIG	**La Paz**	**12.70**	**309**	LR	LR	10 24 36.9	
637A	**Eagle Lake**	**13.25**	**12**	P	**Pn**	**10 20 07.9**	**-0.4**
TXAR	**Lajitas Array**	**13.39**	**344**	Pn	**Pn**	**10 20 12.8**	**+2.3**
TXAR				Lg	Lg	10 24 10.7	
TX31	**Lajitas Ar. Si**	**13.39**	**344**	*ePn*	**Pn**	**10 20 15.2**	**+4.8**
JCT	**Junction City**	**13.97**	**359**	P	**Pn**	**10 20 19.4**	**+1.1**
JCT	**Junction City**	**13.97**	**359**	Pn	**Pn**	**10 20 20.7**	**+2.4**
436A	**Wall Ranch, Ga**	**14.46**	**9**	P	**Pn**	**10 20 25.4**	**+0.4**
338A	**Crockett**	**15.32**	**14**	P	**Pn**	**10 20 36.8**	**+0.3**
WHTX	**Lake Whitney,**	**15.58**	**6**	P	**Pn**	**10 20 41.0**	**+1.1**
WHTX	**Lake Whitney,**	**15.58**	**6**	*ePn*	**P**	**10 20 45.1**	**+0.7**
ABTX	**Abilene, Hawle**	**16.11**	**359**	P	**Pn**	**10 20 48.6**	**+1.8**
MNTX	**Cornudas Mount**	**16.11**	**342**	P	**Pn**	**10 20 49.0**	**+2.1**
139A	**Bunkhouse Ranc**	**16.80**	**15**	P	**Pn**	**10 20 57.2**	**+1.6**
Z36A	**Blue Ridge**	**16.97**	**9**	P	**Pn**	**10 20 58.0**	**+0.2**
Z39A	**Irene McRaven,**	**17.39**	**15**	P	**Pn**	**10 21 03.5**	**+0.5**
244A	**Avery, Jackson**	**17.45**	**26**	P	**Pn**	**10 21 03.2**	**-0.6**
Y35A	**Marietta**	**17.52**	**7**	P	**P**	**10 21 06.2**	**+0.4**
Z40A	**Long Farm, Mag**	**17.61**	**17**	P	**Pn**	**10 21 06.0**	**+0.2**
VBMS	**Vicksburg**	**17.67**	**26**	P	**Pn**	**10 21 05.1**	**-1.5**
MSTX	**Muleshoe**	**17.70**	**351**	P	**P**	**10 21 08.9**	**+1.0**
MSTX	**Muleshoe**	**17.70**	**351**	*ePn*	**P**	**10 21 09.3**	**+1.4**
121A	**Cookes Peak, D**	**17.70**	**336**	P	**P**	**10 21 09.6**	**+1.6**
121A	**Cookes Peak, D**	**17.70**	**336**	*ePn*	**P**	**10 21 11.1**	**+3.0**
143A	**Socs Landing,**	**17.75**	**23**	P	**Pn**	**10 21 06.9**	**-0.6**
Z41A	**Richland Creek**	**17.78**	**19**	P	**Pn**	**10 21 08.0**	**+0.1**
X35A	**Drake**	**18.02**	**7**	P	**Pn**	**10 21 10.6**	**-0.2**
WMOK	**Wichita Mounta**	**18.22**	**2**	P	**Pn**	**10 21 12.7**	**-0.7**
X36A	**Centrahoma**	**18.26**	**8**	P	**Pn**	**10 21 13.1**	**-0.7**
Y40A	**Okolona**	**18.35**	**17**	P	**P**	**10 21 13.5**	**-1.5**
X37A	**Clayton**	**18.43**	**11**	P	**P**	**10 21 16.3**	**+0.3**
AMTX	**Amarillo**	**18.47**	**354**	*eP*	**Pn**	**10 21 17.5**	**+1.1**
X38A	**Whitesboro**	**18.61**	**12**	P	**P**	**10 21 17.7**	**-0.2**
	baz=193						
X39A	**Fountain Ranch**	**18.62**	**14**	P	**P**	**10 21 17.8**	**-0.1**
	baz=195						
W35A	**Tecumseh**	**18.77**	**7**	P	**P**	**10 21 19.4**	**-0.2**
	baz=187						
MIAR	**Mount Ida**	**18.78**	**15**	P	**P**	**10 21 19.0**	**-0.7**
	baz=197						
TUC	**Tucson**	**18.84**	**329**	P	**Pn**	**10 21 21.7**	**+0.7**
	baz=143						
TUC	**Tucson**	**18.84**	**329**	*eP*	**Pn**	**10 21 24.4**	**+3.4**
	1.9nm,0.9s						
W37B	**Quinton**	**18.96**	**10**	P	**P**	**10 21 21.4**	**-0.3**
	baz=191						
Z46A	**Louisville**	**19.19**	**28**	P	**P**	**10 21 23.2**	**-1.0**
	baz=211						
W39A	**Magazine**	**19.35**	**14**	P	**P**	**10 21 25.3**	**-0.7**
	baz=196						
X42A	**Stuttgart**	**19.35**	**20**	P	**P**	**10 21 25.7**	**-0.3**
	baz=202						
ANMO	**Albuquerque**	**19.46**	**343**	P	**Pn**	**10 21 28.6**	**+0.1**
	0.1nm,0.3s,baz=339,slow=13,SNR=6.5						
ANMO				LR	LR	10 29 58.8	
	comp=Z,159nm,18.2s,baz=348,slow=40						
ANMO	**Albuquerque**	**19.46**	**343**	P	**P**	**10 21 27.5**	**+0.1**
	baz=158						
ANMO	**Albuquerque**	**19.46**	**343**	*eP*	**Pn**	**10 21 29.1**	**+0.6**
	1.6nm,0.9s						
Y45A	**Yeager Farm, C**	**19.51**	**25**	P	**P**	**10 21 26.6**	**-1.1**
	baz=209						
V36A	**Jenks**	**19.51**	**9**	P	**P**	**10 21 26.8**	**-0.9**
	baz=189						
TUL1	**Leonard**	**19.66**	**9**	P	**P**	**10 21 28.7**	**-0.6**
	baz=190						
TUL1	**Leonard**	**19.66**	**9**	*eP*	**P**	**10 21 28.9**	**-0.4**
	6.7nm,0.8s						
V37A	**Hulbert**	**19.73**	**10**	P	**P**	**10 21 29.2**	**-1.0**
	baz=191,SNR=5.3						
Y46A	**Houston**	**19.81**	**27**	P	**P**	**10 21 28.6**	**-2.4**
	baz=211,SNR=7.1						
WHAR	**Wooly Hollow**	**19.83**	**18**	*eP*	**P**	**10 21 32.4**	**+1.2**
	35nm,1.9s						
V38A	**Canehill**	**19.85**	**12**	P	**P**	**10 21 31.6**	**+0.1**
	baz=194						
Z48A	**Northport**	**19.99**	**30**	P	**P**	**10 21 31.6**	**-1.3**
	baz=215						
U35A	**Pawnee**	**19.99**	**6**	P	**P**	**10 21 32.9**	**0.0**
	baz=187						
V39A	**Pettigrew**	**20.00**	**14**	P	**P**	**10 21 32.7**	**-0.4**
	baz=196						
U36A	**Oologah**	**20.14**	**9**	P	**P**	**10 21 34.1**	**-0.5**
	baz=190						
V40A	**Witts Springs**	**20.17**	**16**	P	**P**	**10 21 34.6**	**-0.3**
	baz=198						
U37A	**Salina**	**20.25**	**10**	P	**P**	**10 21 34.8**	**-1.0**
	baz=191						
Y47A	**UCPARC, Winfie**	**20.28**	**29**	P	**P**	**10 21 34.4**	**-1.7**
	baz=213						
X18A	**Snowflake**	**20.32**	**334**	*eP*	Pn	10 21 42.0	+3.4
	5.2nm,0.8s						
V41A	**Mountainview**	**20.33**	**17**	P	**P**	**10 21 36.2**	**-0.5**
	baz=200						
HHAR	**Hobbs**	**20.36**	**13**	*eP*	Pn	10 21 38.8	-0.2
	5.7nm,1.0s						
U38A	**Gravette**	**20.42**	**12**	P	**P**	**10 21 35.7**	**-1.9**
	baz=193						
T35A	**Sooner Cattle**	**20.55**	**7**	P	**P**	**10 21 37.8**	**-1.3**
	baz=187						
U39A	**Green Forest**	**20.55**	**14**	P	**P**	**10 21 37.5**	**-1.7**
	baz=196						
V42A	**Cord**	**20.58**	**19**	P	**P**	**10 21 37.7**	**-1.6**
	baz=202						
T34A	**McClaskey Farm**	**20.59**	**5**	P	**P**	**10 21 38.5**	**-1.0**
	baz=185						
U40A	**Yellville**	**20.68**	**15**	P	**P**	**10 21 39.8**	**-0.7**
	baz=197						
113A	**Mohawk Valley,**	**20.77**	**324**	*eP*	Pn	10 21 44.4	+0.5
	3.3nm,0.8s						
T36A	**Boggs Farm, Ca**	**20.77**	**8**	P	**P**	**10 21 40.7**	**-0.7**
	baz=189						
W45A	**Hickory Valley**	**20.77**	**24**	P	**P**	**10 21 40.2**	**-1.3**
	baz=208						
X16A	**Lo Mia Camp, P**	**20.88**	**331**	*eP*	Pn	10 21 45.7	+0.4
	3.7nm,0.8s						
U41A	**Viola**	**20.92**	**17**	P	**P**	**10 21 42.1**	**-0.9**
	baz=200						
T37A	**Cheneyville 18**	**20.98**	**10**	P	**P**	**10 21 42.5**	**-1.2**
	baz=191						
T38A	**Diamond**	**21.01**	**12**	P	**P**	**10 21 42.9**	**-1.2**
	baz=193						
T25A	**Trinidad**	**21.07**	**349**	P	**P**	**10 21 44.6**	**-0.3**
	baz=166,SNR=5.5						
T25A	**Trinidad**	**21.07**	**349**	*eP*	**P**	**10 21 47.1**	**+2.2**
	7.2nm,0.8s						
PLAL	**Pickwick Lake**	**21.09**	**27**	*eP*	**P**	**10 21 43.9**	**-1.0**
	7.0nm,0.7s						
U42A	**Revenden**	**21.13**	**19**	P	**P**	**10 21 43.8**	**-1.5**
	baz=202,SNR=5.7						
T39A	**Clever**	**21.19**	**14**	P	**P**	**10 21 45.1**	**-0.9**
	baz=196						
Y14A	**Wickenburg**	**21.25**	**328**	*eP*	**P**	**10 21 49.6**	**+2.8**
	18nm,1.0s						
S34A	**Willow Spring**	**21.27**	**5**	P	**P**	**10 21 45.5**	**-1.3**
	baz=185						
S35A	**Otter Creek Ra**	**21.33**	**7**	P	**P**	**10 21 45.9**	**-1.6**
	baz=187						
V45A	**Humboldt**	**21.37**	**24**	P	**P**	**10 21 46.5**	**-1.5**
	baz=208						
U43A	**Rector**	**21.41**	**20**	P	**P**	**10 21 46.5**	**-1.8**
	baz=204						
S36A	**Lake Cedric, C**	**21.47**	**8**	P	**P**	**10 21 47.8**	**-1.2**
	baz=189,SNR=5.2						
T40A	**Mansfield**	**21.52**	**15**	P	**P**	**10 21 47.4**	**-2.1**
	baz=198						
GLA	**Glamis**	**21.59**	**323**	P	**P**	**10 21 52.6**	**+2.3**
	baz=136,SNR=5.3						
GLA	**Glamis**	**21.59**	**323**	*eP*	**P**	**10 21 53.4**	**+3.1**
	5.8nm,0.8s						
T41A	**Mountain View**	**21.62**	**17**	P	**P**	**10 21 48.4**	**-2.2**
	baz=200						
S37A	**Fort Scott**	**21.62**	**10**	P	**P**	**10 21 49.4**	**-1.1**
	baz=191						
S38A	**Stockton**	**21.66**	**12**	P	**P**	**10 21 50.5**	**-0.6**
	baz=194						
WUAZ	**Wupatki**	**21.76**	**333**	P	**P**	**10 21 52.7**	**+0.4**
	baz=147,SNR=7.1						
WUAZ	**Wupatki**	**21.76**	**333**	*eP*	**P**	**10 21 55.5**	**+3.2**
	12nm,0.9s						
PBMO	**Poplar Bluff**	**21.78**	**20**	*eP*	**P**	**10 21 54.3**	**+2.1**
	8.9nm,0.9s						
S39A	**Bolivar**	**21.84**	**13**	P	**P**	**10 21 52.6**	**-0.4**
	baz=195						
R34A	**Isabella, Hill**	**21.86**	**5**	P	**P**	**10 21 53.3**	**+0.2**
	baz=185						
SDCO	**Great Sand Dun**	**21.87**	**347**	P	**P**	**10 21 53.5**	**-0.2**
	baz=163						
PARMO	**Parma**	**21.90**	**21**	*eP*	**P**	**10 21 55.9**	**+2.3**
	28nm,0.6s						
Y12C	**Blythe**	**21.93**	**325**	P	**P**	**10 21 54.7**	**+0.8**
	baz=137						
Y12C	**Blythe**	**21.93**	**325**	*eP*	**P**	**10 21 56.9**	**+3.0**
	3.3nm,0.8s						
S40A	**Lebanon**	**21.95**	**15**	P	**P**	**10 21 53.3**	**-0.8**
	baz=197						
U45A	**Rockin P Farm,**	**21.98**	**24**	P	**P**	**10 21 53.4**	**-1.1**
	baz=208						
R36A	**Gordon, Harris**	**22.07**	**8**	P	**P**	**10 21 54.4**	**-1.0**
	baz=189						
IKP	**In-Ko-Pah, Jac**	**22.07**	**320**	P	**P**	**10 21 57.2**	**+1.6**
	baz=132						
SWSC	**Sam W. Stewart**	**22.09**	**321**	P	**P**	**10 21 57.2**	**+1.6**
	baz=133						
T43A	**Greenville**	**22.10**	**20**	P	**P**	**10 21 54.5**	**-1.2**
	baz=203						
S41A	**Jillco Farms,**	**22.13**	**16**	P	**P**	**10 21 54.5**	**-1.6**
	baz=199						
PDMCI	**Parker Dam,Lak**	**22.13**	**326**	P	**P**	**10 21 58.0**	**+1.9**
	baz=139						
WVT	**Waverly**	**22.17**	**26**	*eP*	**P**	**10 21 55.3**	**-1.2**
	9.0nm,0.8s						
MVCO	**Mesa Verde**	**22.17**	**341**	P	**P**	**10 21 57.2**	**+0.4**
	baz=156						
MVCO	**Mesa Verde**	**22.17**	**341**	*eP*	**P**	**10 21 58.3**	**+1.5**
	4.7nm,0.8s						
S22A	**4UR Ranch, Cre**	**22.19**	**344**	P	**P**	**10 21 58.5**	**+1.5**
	baz=160,SNR=5.6						
S22A	**4UR Ranch, Cre**	**22.19**	**344**	*eP*	**P**	**10 21 58.6**	**+1.6**
	5.2nm,1.2s						
R38A	**Fenwick Farm,**	**22.20**	**12**	P	**P**	**10 21 55.7**	**-1.1**
	baz=193						

CBKS	Cedar Bluff	22.28	359	P	P	10 21 58.5	+0.8
	baz=178						
T44A	Benton	22.34	21	P	P	10 21 57.5	-0.8
	baz=205						
BC3	Big Chuckawall	22.38	323	P	P	10 22 00.7	+1.7
	baz=135						
MONP2	Monument Peak	22.43	320	P	P	10 22 01.6	+2.0
	baz=132						
Q35A	Mercer Eighty,	22.53	7	P	P	10 22 00.8	+0.5
	baz=188						
IRM	Iron Mountain	22.57	324	P	P	10 22 01.9	+1.1
	baz=137						
S42A	Caledonia	22.57	18	P	P	10 22 00.9	+0.1
	baz=201						
W13A	Hualapai Mount	22.61	328	eP	P	10 22 05.3	+3.8
	3.5nm,0.9s						
KSCO	Kaye Shedlock'	22.65	354	P	P	10 22 02.1	+0.3
	baz=171						
R40A	Maddies Statio	22.66	15	P	P	10 22 01.9	+0.2
	baz=197						
CCM	Cathedral Cave	22.71	17	eP	P	10 22 06.5	+4.3
	25nm,1.8s						
U15A	North Rim	22.93	333	eP	P	10 22 07.9	+3.0
	3.8nm,1.0s						
PFO	Pinyon Flats O	22.95	321	P	P	10 22 06.9	+2.0
	baz=133						
BELC	Belle Mtn. Jos	22.95	323	P	P	10 22 06.5	+1.6
	baz=135						
S44A	Carbondale	23.00	21	P	P	10 22 03.8	-1.5
	baz=205,SNR=5.1						
Q38A	Cooks Store, C	23.00	12	P	P	10 22 04.6	-0.8
	baz=194						
R42A	Luebbering	23.05	18	P	P	10 22 04.8	-1.0
	baz=201						
CPCT	Cooper Cave	23.15	32	eP	P	10 22 07.4	+0.5
	10.0nm,0.8s						
P35A	Duane Minner,	23.19	7	P	P	10 22 08.0	+0.7
	baz=188						
S45A	Carrier Mills	23.22	22	P	P	10 22 06.9	-0.7
	baz=207,SNR=8.0						
LDFC	Landfair	23.24	326	eP	P	10 22 12.0	+4.1
	5.7nm,0.8s						
R43A	Red Bud	23.30	19	P	P	10 22 08.1	-0.3
	baz=203						
GMRC	Granite Mounta	23.32	325	P	P	10 22 10.2	+1.4
	baz=137						
Q40A	Laux Farm, Aux	23.38	15	P	P	10 22 08.5	-0.6
	baz=197						
PV04	Paradox Valley	23.38	341	eP	P	10 22 10.7	+1.3
P36A	Good Intent, A	23.38	8	P	P	10 22 09.0	-0.2
	baz=190						
P37A	Lathrop	23.48	10	P	P	10 22 10.3	+0.1
	baz=192						
R44A	Waltonville	23.56	21	P	P	10 22 09.4	-1.5
	baz=205,SNR=5.4						
SMCO	Snowmass	23.58	345	eP	P	10 22 14.1	+2.5
	2.8nm,0.8s						
KNB	Kanab	23.66	333	eP	P	10 22 15.0	+2.8
	3.4nm,1.0s						
P38A	Dawn	23.66	11	P	P	10 22 11.3	-0.7
	baz=194						
P39B	Salisbury	23.69	13	P	P	10 22 12.0	-0.2
	baz=195						
TKL	Tuckaleechee C	23.70	33	P	P	10 22 12.4	0.0
	6.5nm,1.0s,baz=182,slow=12,SNR=5.3						
TKL				LR	LR	10 33 00.8	
	comp=Z,32nm,18.7s,baz=308,slow=41						
Q42A	Golden Eagle	23.71	18	P	P	10 22 11.8	-0.6
	baz=201						
HEC	Hector,Ludlow	23.73	324	P	P	10 22 13.7	+0.9
	baz=136						
O34A	Beatrice	23.77	5	P	P	10 22 13.2	+0.1
	baz=186						
SCI2	San Clemente I	23.84	317	P	P	10 22 15.0	+1.3
	baz=128						
LCMT	Little Creek M	23.84	332	eP	P	10 22 16.2	+2.3
	2.0nm,0.9s						
ISCO	Idaho Springs	23.88	348	P	P	10 22 14.6	+0.2
	baz=164						
ISCO	Idaho Springs	23.88	348	eP	P	10 22 16.0	+1.6
	20nm,1.9s						
P40A	Paris	23.89	14	P	P	10 22 13.8	-0.4
	baz=197						
O36A	Bolckow	23.92	9	P	P	10 22 13.6	-0.8
	baz=190						
O35A	Humboldt	23.93	7	P	P	10 22 14.5	-0.1
	baz=188						
TUQ	Turquoise Moun	23.95	325	P	P	10 22 17.3	+2.3
	baz=137						
Q43A	New Douglas	23.98	19	P	P	10 22 14.1	-1.0
	baz=203						
O37A	Wolven Farm, M	24.08	10	P	P	10 22 15.6	-0.3
	baz=192						
BFSC	Mount Baldy Ra	24.10	321	P	P	10 22 17.8	+1.4
	baz=132						
Q44A	Meyer Farm, Va	24.17	20	P	P	10 22 16.1	-0.7
	baz=204						
MTPU	Mount Pierson	24.25	335	eP	P	10 22 20.6	+2.6
	7.4nm,0.9s						
CCUT	Cedar City	24.34	332	eP	P	10 22 21.7	+3.0
	1.9nm,0.9s						
GSC	Goldstone, Bar	24.34	324	P	P	10 22 21.3	+2.7
	baz=135						
GSC	Goldstone, Bar	24.34	324	eP	P	10 22 21.6	+3.1
	8.1nm,1.5s						
SHPR	Sheep Range	24.36	328	eP	P	10 22 21.3	+2.6
	2.3nm,0.9s						
P42A	Winchester	24.39	17	P	P	10 22 18.0	-0.8
	baz=201						
N34A	Lincoln	24.44	5	P	P	10 22 18.7	-0.6
	baz=186						
O39A	Kirksville	24.47	13	P	P	10 22 18.8	-0.8
	baz=196						
O40A	La Belle	24.49	14	P	P	10 22 18.8	-1.0
	baz=197						
N35A	Tabor	24.55	7	P	P	10 22 20.6	+0.3
	baz=188						
N36A	Muff Farm, Cla	24.59	8	P	P	10 22 20.9	+0.3
	baz=190						
Q16A	Castle Valley	24.62	338	eP	P	10 22 23.1	+1.9
	3.9nm,0.9s						
KMSC	Kings Mountain	24.68	38	P	P	10 22 19.8	-1.7
	baz=225						
O41A	Passleys Farm,	24.73	16	P	P	10 22 21.4	-0.5
	baz=199						
O20A	White River Ci	24.80	344	P	P	10 22 24.1	+1.3
	baz=159						
P44A	Sand Creek, Wi	24.81	20	P	P	10 22 22.8	+0.1
	baz=205						
N38A	Joes South For	24.85	11	P	P	10 22 23.2	+0.2
	baz=194						
P18A	Preston Nutter	24.94	340	eP	P	10 22 26.5	+2.4
	3.7nm,1.0s						
TMUT	Trail Mountain	24.97	338	eP	P	10 22 26.5	+2.1
	4.4nm,1.1s						
N23A	Red Feather La	25.00	348	P	P	10 22 25.6	+1.0
	baz=164						
N39A	Derby Farms, D	25.08	13	P	P	10 22 25.0	0.0
	baz=195						
M34A	Aspy Farms, Fr	25.09	5	P	P	10 22 26.2	+1.0
	baz=186						
M35A	Neola	25.14	7	P	P	10 22 25.6	0.0
	baz=188						
SCZ2	Santa Cruz Isl	25.18	318	P	P	10 22 27.5	+1.4
	baz=128						
M36A	Felix, Anita	25.24	8	P	P	10 22 26.6	+0.1
	baz=190						
TPNV	Topopah Spring	25.26	327	P	P	10 22 28.3	+1.4
	baz=139						
TPNV	Topopah Spring	25.26	327	eP	P	10 22 30.6	+3.6
	4.5nm,0.8s						
MPMC	Manual Prospec	25.27	324	P	P	10 22 28.7	+1.6
	baz=135						
N40A	Mertquake, Sal	25.29	14	P	P	10 22 26.2	-0.7
	baz=197						
M37A	Trindle Farm,	25.30	10	P	P	10 22 27.3	+0.3
	baz=192						
PHWY	Pilot Hill	25.30	349	eP	P	10 22 29.2	+1.7
	2.6nm,0.8s						
M38A	Pleasantville	25.46	11	P	P	10 22 28.2	-0.3
	baz=193						
O44A	Mansfield	25.48	20	P	P	10 22 28.7	0.0
	baz=204						
HDIL	Hopedale	25.59	18	P	P	10 22 29.7	0.0
	baz=202						
M40A	Post Highland	25.80	14	P	P	10 22 31.8	+0.2
	baz=197						
O45A	Potomac	25.82	21	P	P	10 22 32.0	+0.2
	baz=206,SNR=5.5						
M41A	Milan	26.00	15	P	P	10 22 33.0	-0.5
	baz=199						
R11A	Troy Canyon, C	26.01	330	P	P	10 22 35.6	+1.9
	baz=142,SNR=5.6						
R11A	Troy Canyon, C	26.01	330	eP	P	10 22 36.5	+2.7
	2.7nm,0.9s						
VES	Vestal, Richgr	26.05	322	P	P	10 22 35.3	+1.5
	baz=132						
DUG	Dugway, Tooele	26.35	337	P	P	10 22 37.4	+0.6
	baz=149						
DUG	Dugway, Tooele	26.35	337	eP	P	10 22 39.1	+2.3
	2.0nm,0.9s						
N45A	Kentland	26.42	21	P	P	10 22 37.2	-0.1
	baz=206						
RCTC	Rector, Farmer	26.46	322	P	P	10 22 39.1	+1.5
	baz=133						
TCUT	Toone Canyon	26.66	340	eP	P	10 22 42.1	+2.3
	5.9nm,0.8s						
K37A	Belmond	26.70	10	P	P	10 22 38.7	-1.0
	baz=192,SNR=5.3						
K22A	Casper	26.80	348	P	P	10 22 41.3	+0.4
	baz=164						
K39A	Oelwein	26.96	12	P	P	10 22 41.5	-0.5
	baz=196						
K40A	Colesburg	27.12	14	P	P	10 22 43.0	-0.5
	baz=197						
J36A	Seneca 1, Swea	27.15	8	P	P	10 22 42.8	-0.9
	baz=190						
HWUT	Hardware Ranch	27.15	340	eP	P	10 22 45.9	+1.8
	3.0nm,0.8s						
J38A	Wedel Dairy, R	27.44	11	P	P	10 22 44.6	-1.7
	baz=194						
J39A	Decorah	27.60	12	P	P	10 22 46.0	-1.8
	baz=196						
PD31	Pinedale Array	27.61	344	eP	P	10 22 49.6	+1.4
PDAR	Pinedale Array	27.61	344	P	P	10 22 49.4	+1.1
	2.2nm,0.9s,baz=139,slow=9.8,SNR=17						
PDAR				LR	LR	10 35 08.1	
	comp=Z,101nm,19.2s,baz=172,slow=40						
BW06	Boulder Array	27.61	344	P	P	10 22 46.5	-1.8
	baz=158						
BW06	Boulder Array	27.61	344	eP	P	10 22 49.6	+1.4
	6.1nm,1.1s						
HVU	Hansel Valley	27.72	338	eP	P	10 22 51.3	+2.1
	3.2nm,0.9s						
I37A	Lemond, Waseca	27.95	9	P	P	10 22 50.0	-1.0
	baz=192						
H32A	Carlson Farm,	28.02	3	P	P	10 22 51.4	-0.2
	baz=184						
I39A	Houston	28.14	12	P	P	10 22 51.6	-1.1
	baz=196						
I38A	Scanlan Farm,	28.16	11	P	P	10 22 51.8	-1.0
	baz=194						
REDW	Red Top Meadow	28.53	342	eP	P	10 22 57.8	+1.5
	16nm,1.9s						
SNOW	Snow King Moun	28.59	343	eP	P	10 22 58.9	+1.9
	5.0nm,1.1s						
LOHW	Long Hollow	28.68	343	eP	P	10 22 59.5	+1.7
	11nm,1.8s						
G32A	Webster	28.77	3	P	P	10 22 58.3	0.0
	baz=183						
G33A	Ortonville	28.77	4	P	P	10 22 58.1	-0.1
	baz=185						
FXWY	Fox Creek	28.83	342	eP	P	10 23 01.1	+2.0
	1.9nm,0.9s						
RLMT	Red Lodge	29.75	346	P	P	10 23 07.6	+0.4
	baz=160						
HLID	Hailey	29.87	338	P	P	10 23 08.7	+0.5
	baz=150						
O56A	Blue Knob Stat	29.87	33	P	P	10 23 06.7	-1.5
	baz=223						
E35A	Pequot Lakes	30.31	7	P	P	10 23 11.3	-0.6
	baz=189						
G43A	Wallace	30.38	17	P	P	10 23 12.1	-0.3
	baz=202						
BOZ	Bozeman (W)	30.80	343	P	P	10 23 16.5	+0.1
	baz=156						
BOZ	Bozeman (W)	30.80	343	eP	P	10 23 18.5	+2.1
	3.2nm,1.0s						
DLMT	Dillon	30.86	342	eP	P	10 23 19.5	+2.6
	4.8nm,0.9s						
LRM	Limekiln Ridge	31.24	342	eP	P	10 23 22.9	+2.6
C31A	Landman Farms,	31.29	2	P	P	10 23 19.6	-0.9
	baz=183						
AGMN	Agassiz Nation	31.90	5	P	P	10 23 25.3	-0.5
	baz=186						
AGMN	Agassiz Nation	31.90	5	eP	P	10 23 26.5	+0.6
	6.1nm,0.8s						
B32A	Ashes, Strandq	31.95	4	P	P	10 23 25.3	-1.0
	baz=185						
B35A	Bob, Littlefor	32.17	7	P	P	10 23 27.8	-0.4
	baz=190						
A32A	Rocking H Ranc	32.47	4	P	P	10 23 30.6	-0.3
	baz=185						
MSO	Missoula	32.59	341	P	P	10 23 33.1	+1.0
	baz=153						
SADO	Sadowa	33.02	27	P	P	10 23 34.9	-0.8
	5.2nm,0.9s,baz=278,slow=7.8,SNR=3.3						
SWMT	Swartz Lake	33.22	342	eP	P	10 23 39.5	+1.9
ULM	Lac du Bonnet	33.84	4	P	P	10 23 42.3	-0.5
	1.1nm,0.7s,baz=203,slow=13,SNR=4.2						
YKA	Yellowknife Ar	47.21	350	P	P	10 25 33.3	+0.2
	2.0nm,0.8s,baz=158,slow=7.2,SNR=4.9						
INK	Inuvik	56.16	345	P	P	10 26 40.8	+0.8
	4.1nm,0.9s,baz=116,slow=6.6,SNR=3.9						
ILAR	Eielson Array	57.83	338	P	P	10 26 53.1	+1.3
	0.5nm,0.9s,baz=139,slow=7.0,SNR=5.6						
ILAR				PcP	PcP	10 27 45.3	+0.9
	0.4nm,0.7s,baz=162,slow=3.5,SNR=5.2						

AZER ***24*** *10:18:40.4±1.0, 37°.55N×43°.49E, h4km, Error ellipse: s-maj=9.7km s-min=8.2km az=137.0*
ISK ***24*** *10:18:45.1, 38°.74N×43°.36E, h10km, ML3.7*
CSEM ***24*** *10:18:47.6±0.3, 38°.59N×43°.20E, h8km, ML3.7, Error ellipse: s-maj=13.0km s-min=5.4km az=166.0*
ISC 24 10:18:47.5±0.9, 38°.64N±0°.03×43°.26E±0°.03, h17km±7km, n59, σ2.9 09/75, 13C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.11	112	ePG	Pg	10 18 50.0	-1.4
VANB				eSG	Sb	10 18 54.3	+0.6
VANB	Van	0.11	112	ePg	Pg	10 18 50.0	-1.3
VANB				eSg	Sb	10 18 54.3	+0.6
AGRB	Hanur-Agry	0.96	348	ePG	Pb	10 19 02.7	-3.1
AGRB				eSG	Sb	10 19 15.2	-3.1
CUKT	Cukurca	1.41	169	ePN	Pb	10 19 13.4	0.0
CUKT	Cukurca	1.41	169	ePn	Pb	10 19 13.4	0.0
VRTB	Varto-Mus	1.50	291	ePN	Pn	10 19 13.2	-0.5
VRTB				eSN	Sb	10 19 33.7	-0.1
VRTB	Varto-Mus	1.50	291	ePn	Pn	10 19 13.2	-0.5
VRTB				eSn	Sb	10 19 33.7	-0.1
SVAN	Silvan-Diyarba	1.69	254	ePN	Pn	10 19 16.9	+0.6
SVAN	Silvan-Diyarba	1.69	254	ePn	Pn	10 19 16.9	+0.6
NAX	Nakhchivan	1.82	72	⇓P	Pn	10 19 18.4	+0.2
	SNR=41						
NAX				⇓S	Sg	10 19 48.0	+1.7
NAX	Nakhchivan	1.82	72	P	Pn	10 19 18.4	+0.2
	SNR=41						
NAX				S	Sg	10 19 48.0	+1.7
BNGB	Bing¶‖	2.05	281	ePN	Pn	10 19 21.2	0.0
SENK	Senkaya-Erzuru	2.05	340	ePN	Pn	10 19 19.0	-2.3
YEDI	Yedisu-Bingol	2.26	292	ePN	Pn	10 19 24.9	+0.7
YEDI	Yedisu-Bingol	2.26	292	ePn	Pn	10 19 24.9	+0.7
MAZI	Mazidag	2.51	243	ePN	Pn	10 19 28.3	+0.7
MAZI	Mazidag	2.51	243	ePn	Pn	10 19 28.3	+0.7
BGD	Bogdanovka	2.64	6	P	Pb	10 19 35.4	+1.1
BGD				S	Sg	10 20 15.4	+3.0
AKH	Akhalkalaki	2.78	4	P	Pb	10 19 37.7	+1.0
AKH				S	Sg	10 20 20.4	+3.7
GDB	GEDABAY	2.84	42	⇓P	Pb	10 19 37.5	-0.2
	SNR=22						
GDB				⇑S	Sg	10 20 21.9	+3.3
GDB	GEDABAY	2.84	42	P	Pb	10 19 37.5	-0.2
	SNR=22						
QZX	Qazax, Azerbai	2.92	33	⇓P	Pb	10 19 39.3	+0.3
	SNR=26						
QZX	Qazax, Azerbai	2.92	33	P	Pb	10 19 39.3	+0.3
	SNR=26						
PTK	Pertek	3.03	276	ePN	Pn	10 19 35.6	+0.7
PTK	Pertek	3.03	276	ePn	Pn	10 19 35.6	+0.7
GANJ	Ganja	3.10	49	⇓P	Pb	10 19 40.0	-2.2
	SNR=10						
GANJ				⇓S	Sg	10 20 26.2	-0.9
GANJ	Ganja	3.10	49	P	Pb	10 19 40.0	-2.2
	SNR=10						
SVRC	Sivrice-ELAZID	3.11	266	ePN	Pn	10 19 36.7	+0.8
SVRC	Sivrice-ELAZID	3.11	266	ePn	Pn	10 19 36.7	+0.8
DGRG	David-gareji	3.25	29	P	Pb	10 19 45.4	+0.8
DGRG				S	Sg	10 20 35.3	+3.5
TBLG	Delisi	3.29	20	P	Pg	10 19 48.2	-2.4
TBLG				S	Sg	10 20 31.5	-1.7
BRDA	Brd	3.44	61	⇑P	Pn	10 19 41.8	+1.6
	SNR=8.7						
BRDA				⇓S	Sb	10 20 29.8	+0.3
BRDA	Brd	3.44	61	P	Pn	10 19 41.8	+1.6
	SNR=8.7						
BRDA				S	Sb	10 20 29.8	+0.3
MNGR	Mingechevir, A	3.64	53	⇓P	Pn	10 19 45.8	+2.8
	SNR=13						
MNGR				⇑S	Sb	10 20 37.0	+1.8
MNGR	Mingechevir, A	3.64	53	P	Pn	10 19 45.8	+2.8
	SNR=13						
URFA	Urfa	3.70	253	ePN	Pn	10 19 45.7	+1.8
URFA	Urfa	3.70	253	ePn	Pn	10 19 45.7	+1.8
ZRD	Zardab	3.80	63	⇑S	Sb	10 20 36.9	-2.8
ZRD	Zardab	3.80	63	S	Sb	10 20 36.9	-2.8
ONI	Oni	3.95	2	P	Pb	10 19 58.3	+1.6
ONI				S	Sg	10 20 56.9	+2.5
ZKTA	Zakatala	3.95	40	⇑P	Pb	10 19 53.1	-3.6
	SNR=8.6						
SEKA	Sheki	3.97	48	⇓P	Pn	10 19 51.7	+4.1
	SNR=4.9						
LRK	Lerik	3.98	88	⇑P	Pn	10 19 42.1	-5.7
	SNR=7.0						
LRK				⇓S	Sn	10 20 29.9	-4.2
GLBA	Clilabad	4.05	80	⇓P	Pn	10 19 45.3	-3.3
	SNR=3.3						
SAAT	Saatly	4.19	71	⇓S	Sn	10 20 42.8	+3.7
SAAT	Saatly	4.19	71	S	Sn	10 20 42.8	+3.7
QBL	Gabala	4.21	55	⇓P	Pn	10 19 53.3	+2.3
	SNR=10						
LKRN	Lenkeran, Azer	4.32	87	⇑P	Pn	10 19 47.0	-5.3
	SNR=4.1						
LKRN				⇓S	Sn	10 20 38.8	-3.5
ASTR	Astara	4.33	89	⇑P	Pn	10 19 46.2	-6.3
	SNR=5.4						
IML	Ismayilli	4.37	59	⇑P	Pn	10 19 54.6	+1.6
	SNR=3.6						
XNQ	Khinaliq	4.53	54	⇑P	Pn	10 19 58.1	+2.7
	SNR=3.1						
XNQ	Khinaliq	4.53	54	P	Pn	10 19 58.1	+2.7
	SNR=3.1						
GBS	Qobustan	4.78	65	⇓P	Pn	10 19 58.6	-0.2
	SNR=3.3						
QSAR	Qusar	4.80	52	⇑P	Pn	10 20 01.6	+2.7
	SNR=3.2						
QSAR	Qusar	4.80	52	P	Pn	10 20 01.6	+2.7
	SNR=3.2						
QUBA	Quba, Azerbaij	4.85	54	⇑P	Pn	10 20 02.1	+2.4
	SNR=3.9						
QUBA	Quba, Azerbaij	4.85	54	P	Pn	10 20 02.1	+2.4
	SNR=3.9						
ATGJ	Altiaghaj	4.91	61	⇑P	Pn	10 20 01.0	+0.5
	SNR=3.3						
ATGJ	Altiaghaj	4.91	61	P	Pn	10 20 01.0	+0.5
	SNR=3.3						

THE ***24*** *10:24:25.9, 36°.51N×28°.71E, h3km±1km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=0.5km az=94.0*
ATH ***24*** *10:24:25.3, 35°.70N×28°.56E, h23km±2km, ML2.4/3, Error ellipse: s-maj=3.0km s-min=0.6km az=82.0*
ISK ***24*** *10:24:25.5, 36°.51N×28°.68E, h16km, ML2.7*
CSEM ***24*** *10:24:26.1±0.1, 36°.51N×28°.70E, h15km, ML3.4, Error ellipse: s-maj=3.0km s-min=1.8km az=173.0*
ISCJB ***24*** *10:24:26.2±0.5, 36°.50N±0°.03×28°.69E±0°.02, h10km±3km, Error ellipse: s-maj=4.7km s-min=3.1km az=179.6*
DDA ***24*** *10:24:26.4, 36°.54N×28°.70E, h7km, Ml3.4*
ISC 24 10:24:26.1±0.9, 36°.51N±0°.02×28°.70E±0°.02, h16km±7km, n60, σ0.9 46/86, 3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mu¨la	0.31	353	ePG	Pg	10 24 32.6	-0.1
DALY				eSG	Sg	10 24 37.4	+0.2
DALY	Dalyan (Mu¨la	0.31	353	⇓iP	Pg	10 24 32.9	+0.2
DALY				i S	Sg	10 24 37.5	+0.3
DALY	Dalyan (Mu¨la	0.31	353	ePg	Pg	10 24 32.6	-0.1
DALY				S	Sg	10 24 37.5	+0.3
FETY	Fethiye	0.33	68	ePG	Pg	10 24 32.7	-0.5
FETY	Fethiye	0.33	68	P	Pg	10 24 32.5	-0.7
FETY				S	Sg	10 24 38.1	+0.1
FETY	Fethiye	0.33	68	ePg	Pg	10 24 32.7	-0.5
FETY				S	Sg	10 24 38.1	+0.1
FETI	Fethiye-Mugla	0.37	61	ePG	Pg	10 24 33.6	0.0
FETI	Fethiye-Mugla	0.37	61	ePg	Pg	10 24 33.7	0.0
TURN	Turunc	0.37	348	⇓iP	Pb	10 24 35.2	+0.9
TURN				i S	Sn	10 24 42.0	-1.7
TURN	Turunc	0.37	348	P	Pb	10 24 35.2	+0.9
ARG	Arkhangelos	0.55	238	P	Pg	10 24 37.1	+0.1
ARG				S	Sb	10 24 45.4	+0.5
ARG	Arkhangelos	0.55	238	P	Pb	10 24 37.3	0.0
ARG				S	Sb	10 24 45.5	+0.5
ARG				AML	AML	10 24 50.5	
	comp=N,434μm,0.3s						
ARG				AML	AML	10 24 51.2	
	comp=E,777μm,0.4s						
ARG	Arkhangelos	0.55	238	P	Pg	10 24 37.1	+0.1
ARG				S	Sb	10 24 45.4	+0.5
AKAS	Kas	0.78	110	ePG	Pb	10 24 41.3	-0.2
AKAS	Kas	0.78	110	⇓iP	Pb	10 24 41.4	-0.1
AKAS				i S	Sn	10 24 54.0	-0.1
AKAS	Kas	0.78	110	ePg	Pb	10 24 41.3	-0.2
KSL	Kastellorizon	0.80	116	P	Pb	10 24 41.2	-0.5
KSL				S	Sn	10 24 53.9	-0.3
KSL	Kastellorizon	0.80	116	P	Pb	10 24 41.3	-0.3
KSL				S	Sn	10 24 54.0	-0.3
KSL				AML	AML	10 24 55.6	
	comp=E,864μm,0.5s						
KSL				AML	AML	10 24 57.5	
	comp=N,458μm,0.9s						
GLHS	Glhisar (BURDU	0.91	45	ePG	Pn	10 24 44.1	-0.3
GLHS	Glhisar (BURDU	0.91	45	ePg	Pn	10 24 44.1	-0.3
DAT	Datca	0.93	284	ePG	Pb	10 24 43.8	-0.1
DAT	Datca	0.93	284	i P	Pg	10 24 44.1	0.0
DAT				i S	Sn	10 24 57.6	0.0
DAT	Datca	0.93	284	ePg	Pb	10 24 43.8	-0.1
DAT	Datca	0.93	284	P	Pg	10 24 44.2	0.0
DAT				S	Sn	10 24 57.6	0.0
TAVA	DENIZLI_Tavas	0.97	10	i P	Pb	10 24 44.2	-0.4
TAVA				i S	Sb	10 24 57.2	0.0
TAVA	DENIZLI_Tavas	0.97	10	P	Pb	10 24 44.2	-0.4
TAVA				S	Sb	10 24 57.2	0.0
ELL	Elmali	1.00	76	ePG	Pn	10 24 46.1	+0.4
ELL	Elmali	1.00	76	ePg	Pn	10 24 46.1	+0.4
GOLH	Golhisar	1.00	43	i P	Pb	10 24 44.9	-0.3
GOLH				i S	Sn	10 25 00.7	+1.2
GOLH	Golhisar	1.00	43	P	Pb	10 24 44.9	-0.3
BDRM	Kayabasi	1.15	299	i P	Pb	10 24 47.5	-0.1
BDRM				i S	Sg	10 25 03.5	+0.1
BDRM	Kayabasi	1.15	299	P	Pb	10 24 47.5	-0.1
BDRM				S	Sg	10 25 03.5	+0.1
NIS1	Nisyros Isl.	1.23	275

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KORT	Korkueli	1.41	69	P	Pb		10 24 52.3	+0.1
KARP	Karpathos	1.57	233	*e*PN	Pn		10 24 53.4	0.0
KARP	Karpathos	1.57	233	P	Pn		10 24 53.1	-0.3
KARP				S	Sb		10 25 14.5	0.0
KARP	Karpathos	1.57	233	P	Pn		10 24 44.1	-9.4
KARP				S	Sn		10 24 58.6	-15
KARP				AML	AML		10 25 21.0	
	comp=N,232μm,0.5s							
KARP				AML	AML		10 25 21.9	
	comp=E,273μm,0.8s							
KARP	Karpathos	1.57	233	P	Pn		10 24 53.1	-0.3
KARP	Karpathos	1.57	233	*e*Pn	Pn		10 24 53.4	0.0
KARP				S	Sb		10 25 14.5	0.0
ANTB	Antalya	1.62	76	*e*PN	Pb		10 24 54.8	-0.8
ANTB	Antalya	1.62	76	*e*Pn	Pb		10 24 54.8	-0.8
KULA	Kula-Manisa	2.00	359	*e*PN	Pn		10 24 58.7	-0.6
KULA	Kula-Manisa	2.00	359	*e*Pn	Pn		10 24 58.7	-0.6
SUTC	Sutluce-Ispart	2.08	62	*e*PN	Pn		10 25 00.8	+0.3
SUTC	Sutluce-Ispart	2.08	62	*e*Pn	Pn		10 25 00.8	+0.3

NEIC ***24*** *10:30:15.0±0.0,38°.69N×43°.32E,h2km,mb4.4/22, ML4.1(DDA), After DDA.*
DDA ***24*** *10:30:15.8,38°.69N×43°.31E,h6km,Ml4.1*
IDC ***24*** *10:30:15.2±0.7,38°.48N×43°.38E,h0km,mb4.1/23, mb1 4.3/31,mb1mx4.2/44,mbtmp4.1/31,ML3.9/7,MS3.6/31, Ms1 3.6/31,ms1mx3.5/52,Error ellipse: s-maj=13.7km s-min=11.1km az=160.0*
MOS ***24*** *10:30:16.9±2.3,38°.46N×43°.40E,h13km,mb4.4/32,Error ellipse: s-maj=6.7km s-min=4.2km az=96.1*
ISK ***24*** *10:30:16.0,38°.72N×43°.41E,h5km,ML4.2*
TEH ***24*** *10:30:17.5,39°.08N×43°.23E,h18km,ML4.4*
ISCJB ***24*** *10:30:17.4±0.5,38°.64N±0°.02×43°.49E±0°.02,h9km±3km, mb4.3/58,MS3.6/31,Error ellipse: s-maj=3.2km s-min=2.1km az=171.4*
CSEM ***24*** *10:30:18.0±0.1,38°.58N×43°.43E,h10km,mb4.3/28,Error ellipse: s-maj=4.0km s-min=2.8km az=168.0*
AZER ***24*** *10:30:20.1±0.6,38°.56N×43°.49E,h28km±16km,Error ellipse: s-maj=12.0km s-min=3.1km az=62.0*
ISN ***24*** *10:30:22.1±1.1,38°.44N×43°.03E,h0km±3km,ML4.6*
ISC 24 10:30:18.8±0.8,38°.65N±0°.02×43°.39E±0°.02,h13km±4km, n396,σ2°14/453,mb4.3/63,MS3.6/31,43C-37D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	Van	0.05	182	*e*PG	Pg		10 30 20.3	-1.0
VANB	Van	0.05	182	*e*Pg	Pg		10 30 20.3	-1.0
GEVA	Gevas	0.42	218	⇓*i*P	Pg		10 30 24.6	-2.6
GEVA				*i* S	Sb		10 30 34.6	0.0
GEVA	Gevas	0.42	218	P	Pg		10 30 24.6	-2.6
GEVA				S	Sb		10 30 34.6	0.0
GEVA	Gevas	0.42	218	*i* P	Pg		10 30 24.6	-2.6
GEVA				*i* S	Sb		10 30 34.6	0.0
BASK	Baskale_VAN	0.76	141	*i* P	Pg		10 30 31.4	-2.2
BASK				*i* S	Sb		10 30 44.1	-0.4
BASK	Baskale_VAN	0.76	141	P	Pg		10 30 31.4	-2.2
TUTA	Tutak	0.88	329	⇑*i*P	Pg		10 30 30.4	-5.4
TUTA				*i* S	Sg		10 30 42.3	-5.0
TUTA	Tutak	0.88	329	P	Pg		10 30 30.4	-5.4
TUTA	Tutak	0.88	329	*i* P	Pg		10 30 30.4	-5.4
DYDN	Diyadin	0.93	14	⇓*i*P	Pg		10 30 33.2	-3.5
DYDN				*i* S	Sg		10 30 46.8	-2.0
DYDN	Diyadin	0.93	14	P	Pg		10 30 33.2	-3.5
DYDN				S	Sg		10 30 46.8	-2.0
DYDN	Diyadin	0.93	14	*i* P	Pg		10 30 33.1	-3.5
AGRB	Hanur-Agry	0.98	342	*e*PG	Pg		10 30 33.8	-3.9
AGRB				*e*SG	Sg		10 30 46.6	-3.9
HAKT	HAKKARI	1.11	167	⇓*i*P	Pb		10 30 37.2	-2.8
HAKT				*i* S	Sn		10 30 57.2	+1.5
HAKT	HAKKARI	1.11	167	P	Pb		10 30 37.2	-2.8
EKAR	Karacoban	1.20	301	⇓*i*P	Pn		10 30 38.3	-3.2
EKAR				*i* S	Sn		10 30 59.9	+2.0
EKAR	Karacoban	1.20	301	P	Pn		10 30 38.3	-3.2
EKAR				S	Sn		10 30 59.9	+2.0
EKAR	Karacoban	1.20	301	*i* P	Pn		10 30 38.3	-3.2
SIRN	S¨–rnak	1.38	214	⇓*i*P	Pn		10 30 41.5	-2.4
SIRN				*i* S	Sg		10 31 03.1	-0.2
SIRN	S¨–rnak	1.38	214	P	Pn		10 30 41.5	-2.4
SIRN				S	Sg		10 31 03.1	-0.2
EATA	Eleskirt	1.40	330	⇓*i*P	Pn		10 30 41.8	-2.6
EATA				*i* S	Sn		10 31 01.8	-1.1
EATA	Eleskirt	1.40	330	P	Pn		10 30 41.8	-2.6
EATA				S	Sn		10 31 01.8	-1.1
CUKT	Cukurca	1.41	173	*e*PN	Pn		10 30 44.2	0.0
CUKT	Cukurca	1.41	173	⇓*i*P	Pn		10 30 44.2	0.0
CUKT				*i* S	Sg		10 31 07.2	+3.2
CUKT	Cukurca	1.41	173	P	Pn		10 30 44.2	0.0
VRTB	Varto-Mus	1.60	289	*e*PN	Pn		10 30 45.5	-1.3
VRTB	Varto-Mus	1.60	289	*i* P	Pn		10 30 45.5	-1.3
VRTB				*i* S	Sg		10 31 13.6	+3.4
VRTB	Varto-Mus	1.60	289	*e*Pn	Pn		10 30 45.6	-1.3
VRTB				S	Sg		10 31 13.6	+3.4
NAX	Nakhchivan	1.72	72	⇓P	Pn		10 30 47.5	-1.1
	SNR=266							
NAX				⇓S	Sn		10 31 08.9	-1.7
NAX	Nakhchivan	1.72	72	P	Pn		10 30 47.5	-1.1
	SNR=266							
NAX				S	Sn		10 31 08.9	-1.7
DIGO	Kars	1.77	360	⇑*i*P	Pn		10 30 48.3	-1.1
DIGO				*i* S	Sg		10 31 14.6	-1.1
DIGO	Kars	1.77	360	P	Pn		10 30 48.3	-1.1
DIGO				S	Sg		10 31 14.6	-1.1
BNGL	BINGOL	1.78	281	⇑*i*P	Pn		10 30 48.6	-0.9
ISHB	Shabestar	1.78	101	*e*Pn	Pn		10 30 49.9	+0.3
ISHB				*e*AMB	AMB		10 31 02.6	
	comp=Z,32μm,0.3s							
SVAN	Silvan-Diyarba	1.79	255	*e*PN	Pn		10 30 48.9	-0.6
SVAN				*e*SN	Sn		10 31 12.7	+0.5
SVAN	Silvan-Diyarba	1.79	255	⇓*i*P	Pn		10 30 48.0	-1.5
SVAN				*i* S	Sn		10 31 12.8	+0.7
SVAN	Silvan-Diyarba	1.79	255	P	Pn		10 30 48.0	-1.5
SVAN	Silvan-Diyarba	1.79	255	*e*Pn	Pn		10 30 48.9	-0.6
SVAN				*e*Sn	Sn		10 31 12.7	+0.5
IMRD	Marand	1.81	87	*e*Pn	Pn		10 30 50.7	+0.8
IMRD				*e*AMB	AMB		10 30 54.9	
	comp=Z,63μm,0.2s							
IMRD				*e*Sg	Sg		10 31 19.0	+2.0
IMRD	Marand	1.81	87	*e*Pn	Pn		10 30 50.7	+0.8
HORI	Horasan	1.81	321	⇑*i*P	Pn		10 30 48.5	-1.4
GNI	Garni	1.83	34	Pn	Pn		10 30 49.4	-0.8
	comp=Z,127nm,0.3s,baz=230,slow=3.6,SNR=125							
GNI				Lg	Lg		10 31 18.8	
	comp=Z,165nm,0.3s,baz=195,slow=21,SNR=4.8							
BTMN	Batman	1.83	246	⇓*i*P	Pn		10 30 49.0	-1.1
BTMN				*i* S	Sb		10 31 14.6	-0.5
BTMN	Batman	1.83	246	P	Pn		10 30 49.0	-1.1
BTMN				S	Sb		10 31 14.6	-0.5
ERZM	Erzurum	2.01	309	*i* P	Pn		10 30 51.8	-0.9
ERZM				*i* S	Sb		10 31 21.2	+0.7
ERZM	Erzurum	2.01	309	P	Pn		10 30 51.8	-0.9
ERZM				S	Sb		10 31 21.2	+0.7
EAK	Akyaka	2.04	5	⇑*i*P	Pn		10 30 52.8	-0.3
EAK				*i* S	Sg		10 31 25.3	+0.8
EAK	Akyaka	2.04	5	P	Pn		10 30 52.8	-0.3
SENK	Senkaya-Erzuru	2.08	338	*e*PN	Pn		10 30 51.9	-1.7
SENK	Senkaya-Erzuru	2.08	338	*e*Pn	Pn		10 30 51.9	-1.7
ECAT	Cat-ERZURUM	2.11	298	*i* P	Pn		10 30 53.5	-0.5
ECAT	Cat-ERZURUM	2.11	298	P	Pn		10 30 53.5	-0.5
BNGB	Bing¨¶l	2.15	280	*e*PN	Pn		10 30 52.9	-1.5
ITBZ	Tabriz	2.20	100	*e*Pn	Pn		10 30 55.8	+0.6
ITBZ				*e*AMB	AMB		10 31 07.5	
	comp=Z,7μm,0.2s							
ITBZ	Tabriz	2.20	100	*e*Pn	Pn		10 30 55.8	+0.6
YEDI	Yedisu-Bingol	2.35	291	*e*PN	Pn		10 30 56.8	-0.5
YEDI	Yedisu-Bingol	2.35	291	*e*Pn	Pn		10 30 56.8	-0.5
MARD	Mardin	2.46	238	⇓*i*P	Pn		10 30 57.1	-1.5
MARD	Mardin	2.46	238	*e*Pn	Pn		10 30 57.3	-1.4
MARD	Mardin	2.46	238	*e*Pn	Pn		10 30 57.3	-1.4
DDEM	Demirkent	2.58	331	*i* P	Pn		10 31 00.3	0.0
DDEM	Demirkent	2.58	331	P	Pn		10 31 00.3	0.0
MAZI	Mazidag	2.61	244	*e*PN	Pn		10 30 59.0	-1.7
MAZI	Mazidag	2.61	244	*e*Pn	Pn		10 30 59.1	-1.7
BGD	Bogdanovka	2.62	3	P	Pn		10 31 00.4	-0.7
BGD				S	Sg		10 31 41.5	-1.5
DAGI	Agillar	2.68	335	⇑*i*P	Pn		10 31 00.5	-1.3
DAGI				*i* S	Sg		10 31 48.9	+4.0
GDB	GEDABAY	2.76	41	⇓P	Pn		10 31 03.0	+0.1
	SNR=52							
GDB				⇑S	Sn		10 31 36.4	+0.1
GDB	GEDABAY	2.76	41	P	Pn		10 31 03.0	+0.1
	SNR=52							
GDB				S	Sn		10 31 36.4	+0.1
AKH	Akhalkalaki	2.76	2	*e*PN	Pn		10 31 01.1	-1.8
AKH	Akhalkalaki	2.76	2	P	Pn		10 31 05.1	+2.1
AKH				S	Sg		10 31 47.7	+0.2
AKH	Akhalkalaki	2.76	2	P	Pn		10 31 05.1	+2.1
AKH				S	Sg		10 31 47.7	+0.2
AKH	Akhalkalaki	2.76	2	*e*Pn	Pn		10 31 01.1	-1.8
AKH	Akhalkalaki	2.76	2	P	Pn		10 31 05.1	+2.1
ARTV	Artvin	2.77	337	*i* P	Pn		10 31 01.2	-1.9
ARTV				*i* S	Sg		10 31 48.7	+0.8
ARTV	Artvin	2.77	337	P	Pn		10 31 01.2	-1.9
ARTV	Artvin	2.77	337	*e*PN	Pn		10 31 02.4	-0.8
ARTV	Artvin	2.77	337	*e*Pn	Pn		10 31 02.4	-0.8
QZX	Qazax, Azerbai	2.85	32	⇓P	Pn		10 31 04.3	+0.2
	SNR=79							
QZX				⇓S	Sn		10 31 38.9	+0.6
QZX	Qazax, Azerbai	2.85	32	P	Pn		10 31 04.3	+0.2
	SNR=79							
QZX				S	Sn		10 31 38.9	+0.6
IHRS	Heris	2.88	95	*e*Pn	Pn		10 31 05.3	+0.6
IHRS	Heris	2.88	95	*e*Pn	Pn		10 31 05.3	+0.6
EPOS	Posof	2.90	350	*i* P	Pn		10 31 04.1	-0.7
EPOS	Posof	2.90	350	P	Pn		10 31 04.1	-0.7
IBST	Bostanabad	2.92	108	*e*AMB	AMB		10 31 14.8	
	comp=Z,3μm,0.2s							
IBST				*e*Pn	Pn		10 31 06.9	+1.8
DBOC	Borcka	3.00	334	*i* P	Pn		10 31 06.3	+0.1
DBOC	Borcka	3.00	334	P	Pn		10 31 06.3	+0.1
GANJ	Ganja	3.02	48	⇓P	Pn		10 31 06.1	-0.2
	SNR=110							
GANJ				⇑S	Sn		10 31 42.4	0.0
GANJ	Ganja	3.02	48	P	Pn		10 31 06.1	-0.2
	SNR=110							
GANJ				S	Sn		10 31 42.4	0.0
TNCL	Tunceli-Merkez	3.04	280	*i* P	Pb		10 31 10.7	-2.2
TNCL				*i* S	Sg		10 31 55.0	-1.4
TNCL	Tunceli-Merkez	3.04	280	P	Pb		10 31 10.7	-2.2
PTK	Pertek	3.14	276	*e*PN	Pn		10 31 08.1	0.0
PTK	Pertek	3.14	276	*e*Pn	Pn		10 31 08.1	0.0
DGRG	David-gareji	3.19	28	P	Pb		10 31 13.0	-2.3
DGRG				S	Sg		10 31 59.5	-1.6
DGRG	David-gareji	3.19	28	P	Pb		10 31 13.0	-2.3
DGRG				S	Sg		10 31 59.5	-1.6
DGRG	David-gareji	3.19	28	P	Pn		10 31 11.4	+2.7
SVRC	Sivrice-ELAZID	3.22	267	*e*PN	Pn		10 31 09.5	+0.3
SVRC	Sivrice-ELAZID	3.22	267	*e*Pn	Pn		10 31 09.5	+0.3
TBLG	Delisi	3.25	18	*e*PN	Pn		10 31 08.2	-1.3
TBLG	Delisi	3.25	18	P	Pn		10 31 10.2	+0.7
TBLG				S	Sg		10 32 02.6	-0.5
TBLG	Delisi	3.25	18	P	Pn		10 31 10.2	+0.7
TBLG				S	Sg		10 32 02.6	-0.5
TBLG	Delisi	3.25	18	*e*Pn	Pn		10 31 08.2	-1.3
TBLG	Delisi	3.25	18	P	Pn		10 31 10.2	+0.7
BRDA	Brd	3.35	60	⇑P	Pn		10 31 10.2	-0.6
	SNR=7.1							
BRDA				⇓S	Sn		10 31 49.5	-0.9
BRDA	Brd	3.35	60	P	Pn		10 31 10.2	-0.6
	SNR=7.1							
BRDA				S	Sn		10 31 49.5	-0.9
ISRB	Sarab	3.46	102	*e*Pn	Pn		10 31 13.9	+1.3
ISRB				*e*AMB	AMB		10 31 33.1	
	comp=Z,8μm,0.3s							
ISRB	Sarab	3.46	102	*e*Pn	Pn		10 31 13.9	+1.3
KELT	Kelkit	3.54	296	*i* P	Pb		10 31 18.9	-2.5
MNGR	Mingechevir, A	3.55	52	⇑P	Pn		10 31 13.3	-0.4
	SNR=52							
MNGR				⇓S	Sn		10 31 54.8	-0.7
MNGR	Mingechevir, A	3.55	52	P	Pn		10 31 13.3	-0.4
	SNR=52							
MNGR				S	Sn		10 31 54.8	-0.7
KTUT	Trabzon	3.64	311	*e*PN	Pn		10 31 14.5	-0.4
KTUT	Trabzon	3.64	311	*e*Pn	Pn		10 31 14.5	-0.4
ZRD	Zardab	3.70	62	⇓P	Pn		10 31 15.1	-0.6
	SNR=28							
ZRD				⇓S	Sn		10 31 58.1	-1.1
ZRD	Zardab	3.70	62	P	Pn		10 31 15.1	-0.6
	SNR=28							
ZRD				S	Sn		10 31 58.1	-1.1
URFA	Urfa	3.80	253	*e*PN	Pn		10 31 17.8	+0.6
URFA	Urfa	3.80	253	*e*Pn	Pn		10 31 17.8	+0.6
LRK	Lerik	3.88	88	⇓P	Pn		10 31 16.5	-1.7
	SNR=37							
LRK				⇑S	Sn		10 32 00.9	-2.8
LRK	Lerik	3.88	88	P	Pn		10 31 16.5	-1.7
	SNR=37							
LRK				S	Sn		10 32 00.9	-2.8
ZKTA	Zakatala	3.88	39	⇓P	Pn		10 31 18.5	+0.3
	SNR=43							
ZKTA				⇑S	Sn		10 32 03.9	+0.3
SEKA	Sheki	3.89	48	⇓P	Pn		10 31 18.8	+0.5
	SNR=54							
SEKA				⇓S	Sn		10 32 04.9	+1.0
SEKA	Sheki	3.89	48	P	Pn		10 31 18.8	+0.5
	SNR=54							
SEKA				S	Sn		10 32 04.9	+1.0
GUDG	Gudauri	3.90	12	P	Pn		10 31 20.9	+2.2
GUDG				S	Sb		10 32 19.1	+4.3
ONI	Oni	3.94	1	P	Pn		10 31 20.9	+1.9
ONI				S	Sb		10 32 18.3	+2.5
ONI	Oni	3.94	1	P	Pn		10 31 20.9	+1.9
ONI				S	Sb		10 32 18.3	+2.5
GLBA	Clilabad	3.94	80	⇓P	Pn		10 31 17.7	-1.3
	SNR=11							
GLBA				⇓S	Sn		10 32 03.2	-2.0
GLBA	Clilabad	3.94	80	P	Pn		10 31 17.7	-1.3
	SNR=11							
GLBA				S	Sn		10 32 03.2	-2.0
KDMR	Kurdemir	4.09	63	⇓S	Sn		10 32 07.3	-1.4
KDMR	Kurdemir	4.09	63	S	Sn		10 32 07.3	-1.4
SAAT	Saatly	4.09	71	⇑S	Sn		10 32 06.4	-2.3
SAAT	Saatly	4.09	71	S	Sn		10 32 06.4	-2.3
QBL	Gabala	4.12	55	⇓P	Pn		10 31 21.4	-0.2
	SNR=9.6							
QBL				⇓S	Sn		10 32 08.8	-0.9
QBL	Gabala	4.12	55	P	Pn		10 31 21.4	-0.2
	SNR=9.6							
QBL				S	Sn		10 32 08.8	-0.9
ZEI	Tsey	4.16	5	*e*P	Pn		10 31 22.3	+0.2
ZEI				pmax	pmax			
	comp=Z,35nm,0.6s							
LKRN	Lenkeran, Azer	4.22	87	⇓P	Pn		10 31 21.5	-1.3
	SNR=8.6							
LKRN				⇑S	Sn		10 32 09.5	-2.4
LKRN	Lenkeran, Azer	4.22	87	P	Pn		10 31 21.5	-1.3
	SNR=8.6							
LKRN				S	Sn		10 32 09.5	-2.4
ASTR	Astara	4.23	89	⇓P	Pn		10 31 21.5	-1.4
	SNR=12							
ASTR				⇑S	Sn		10 32 09.8	-2.4
ASTR	Astara	4.23	89	P	Pn		10 31 21.5	-1.4
	SNR=12							
ASTR				S	Sn		10 32 09.8	-2.4
ESPY	Espiye-Giresun	4.25	304	*e*PN	Pn		10 31 23.3	+0.1
ESPY	Espiye-Giresun	4.25	304	*e*Pn	Pn		10 31 23.3	+0.1
IML	Ismayilli	4.27	58	⇑P	Pn		10 31 22.9	-0.7
	SNR=5.6							
IML				⇑S	Sn		10 32 12.5	-0.9
IML	Ismayilli	4.27	58	P	Pn		10 31 22.9	-0.7
	SNR=5.6							
IML				S	Sn		10 32 12.5	-0.9
SUSE	Susehri	4.31	293	*i* P	Pb		10 31 35.7	+1.2
XNQ	Khinaliq	4.44	54	⇑P	Pn		10 31 25.5	-0.5
	SNR=4.9							
XNQ				⇑S	Sn		10 32 16.9	-0.8
XNQ	Khinaliq	4.44	54	P	Pn		10 31 25.5	-0.5
	SNR=4.9							
XNQ				S	Sn		10 32 16.9	-0.8
CUZAR	Zara_SIVAS	4.54	288	*i* P	Pb		10 31 35.0	-3.4
PQL	Pirkuli	4.55	60	⇓P	Pn		10 31 26.9	-0.6
	SNR=26							
PQL	Pirkuli	4.55	60	P	Pn		10 31 26.9	-0.6
	SNR=26							
ALIB	Äli-Bayra	4.55	71	⇓P	Pn		10 31 26.3	-1.0
	SNR=4.8							
ALIB	Äli-Bayra	4.55	71	P	Pn		10 31 26.3	-1.0
	SNR=4.8							
IDHR	Dehrash	4.62	148	*e*Pn	Pn		10 31 31.6	+3.1
IDHR				*e*AMB	AMB		10 33 18.9	
	comp=Z,4μm,0.5s							
NEY	Neytrino	4.63	354	*i* P	Pn		10 31 30.1	+1.5
NEY	Neytrino	4.63	354	*i* P	Pn		10 31 30.1	+1.5
DARE	Darende-Malaty	4.63	271	*e*PN	Pn		10 31 29.4	+0.8
DARE	Darende-Malaty	4.63	271	*e*Pn	Pn		10 31 29.4	+0.8
CUKAN	kangal_SIVAS	4.67	280	*i* P	Pb		10 31 39.6	-1.0
QSAR	Qusar	4.71	51	⇑P	Pn		10 31 29.3	-0.3
	SNR=12							
QSAR	Qusar	4.71	51	P	Pn		10 31 29.3	-0.3
	SNR=12							
QUBA	Quba, Azerbaij	4.76	54	⇓P	Pn		10 31 29.7	-0.6
	SNR=13							
QUBA	Quba, Azerbaij	4.76	54	P	Pn		10 31 29.7	-0.6
	SNR=13							
ATGJ	Altiaghaj	4.81	61	⇑P	Pn		10 31 30.4	-0.7
	SNR=12							
ATGJ	Altiaghaj	4.81	61	P	Pn		10 31 30.4	-0.7
	SNR=12							
NCK	Nalchik	4.85	2	*i* P	Pn		10 31 36.4	+4.9
NCK	Nalchik	4.85	2	*i* P	Pn		10 31 36.4	+4.9
SIZA	Siyzn	4.88	58	⇓P	Pn		10 31 31.3	-0.7
	SNR=16							
SIZA	Siyzn	4.88	58	P	Pn		10 31 31.3	-0.7
	SNR=16							
GROC	Groznyy	4.90	21	*e*P	Pb		10 31 46.0	+1.5
GROC				pmax	pmax			
	comp=Z,144nm,1.0s							
IVIS	Veis	4.96	145	*e*Pn	Pn		10 31 37.1	+3.9
KBZ	Khabaz	5.09	356	Pn	Pn		10 31 37.0	+2.3
	comp=Z,0.3nm,0.3s,baz=175,slow=5.7,SNR=8.8							
KBZ				LR	LR		10 34 06.1	
	comp=Z,808nm,20.2s,baz=150,slow=44							
SVSK	Karacayir	5.12	286	*e*PN	Pn		10 31 36.0	+0.8
SVSK	Karacayir	5.12	286	*e*Pn	Pn		10 31 36.0	+0.8
KMRS	Kahramanmaras	5.25	259	*e*PN	Pn		10 31 38.2	+1.2
KMRS	Kahramanmaras	5.25	259	*e*Pn	Pn		10 31 38.2	+1.2
HCB	Kahramanmara¯	5.28	258	*i* P	Pb		10 31 51.9	+0.9
MAK	Makhachkala	5.32	35	*e*P	Pn		10 31 38.1	+0.2
MAK				*e*S	Sn		10 32 38.9	-0.2
MAK				pmax	pmax			
	comp=Z,16nm,0.3s							
MAK				MLR	MLR			
	comp=Z,2μm,10.0s							
MAK	Makhachkala	5.32	35	*e*P	Pn		10 31 38.1	+0.2
	comp=Z,16nm,0.3s							
KIV	Kislovodsk	5.33	355	*e*P	Pn		10 31 42.3	+4.1
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV				MLR	MLR			
	comp=Z,184nm,7.0s							
KIV	Kislovodsk	5.33	355	P	Pn		10 31 43.4	+5.2
	SNR=10							
KIV	Kislovodsk	5.33	355	*e*Pn	Pn		10 31 43.5	+5.3
KIV	Kislovodsk	5.33	355	P	Pn		10 31 43.4	+5.2
	SNR=10							
KVAR	Kislovodsk Arr	5.33	355	Pn	Pn		10 31 42.9	+4.8
	baz=152,slow=15,SNR=5.8							
KVAR				Lg	Lg		10 33 16.1	
	baz=141,slow=14,SNR=1.3							
KVAR				LR	LR		10 34 23.1	
	comp=Z,611nm,21.6s,baz=129,slow=45							
KUZU	Kuzuini	5.34	251	*i* P	Pg		10 31 57.1	-4.0
KUZU				*i* S	Sg		10 33 05.6	-4.8
ANDN	Andirin	5.66	261	*i* P	Pb		10 31 58.1	+0.6
SOC	Sochi	5.66	332	*e*P	Pb		10 31 51.9	-5.5
SOC				pmax	pmax			
	comp=Z,83nm,1.5s							
SOC				MLR	MLR			
	comp=Z,590nm,11.0s							
GOF	Gofitskoye	6.41	358	⇑*e*P	Pb		10 32 01.7	-8.5
GOF				*e*S	Sn		10 33 13.0	+7.0
GOF				pmax	pmax			
	comp=Z,12nm,0.4s							
GOF				smax	smax			
	comp=N,55nm,0.9s							
BR131	Keskin Array S	7.65	281	*e*Pn	Pn		10 32 14.0	+3.9
BRTR	Keskin Array B	7.65	281	Pn	Pn		10 32 14.0	+3.9
	comp=N,0.1nm,0.3s,baz=137,slow=53,SNR=3.5							
BRTR				Lg	Lg		10 34 33.2	
	comp=N,0.1nm,0.3s,baz=98,slow=25,SNR=0.9							
BRTR	Keskin Array B	7.65	281	P	Pn		10 32 14.0	+3.9
ASF	Jabal al Asfar	8.35	221	Pn	Pn		10 32 17.4	-2.3
	comp=N,0.5nm,0.3s,baz=294,slow=3.7,SNR=5.1							
ASF				Lg	Lg		10 34 48.1	
	comp=N,0.3nm,0.3s,baz=321,slow=22,SNR=3.2							
MMAI	Mount Meron Ar	8.58	232	Pn	Pn		10 32 21.3	-1.

OBN MLR MLR
comp=Z,152nm,14.0s
DRGR 17.20 305⇑ *i*P **P** **10 34 23.0 +2.6**
DRGR 17.20 305 P **P** **10 34 26.7 +6.3**
DRGR pmax pmax
comp=Z,16nm,1.4s
DRGR 17.20 305⇑ *i*P **P** **10 34 23.0 +2.6**
UOSS Minazif 17.44 138 P **P** **10 34 28.0 +4.9**
UOSS Minazif 17.44 138 *e*Pn **P** **10 34 23.3 +0.2**
comp=Z,28nm,0.9s
UOSS Minazif 17.44 138 P **P** **10 34 28.0 +4.9**
BZS Buzias 17.56 300⇑ *i*P **Pn** **10 34 17.5 -5.7**
SIRR Siria 17.72 302⇑ *i*P **P** **10 34 27.2 +1.2**
SIRR Siria 17.72 302⇑ *i*P **P** **10 34 27.2 +1.2**
IVAS Ivanjica 18.17 293 *e*P **P** **10 34 31.8 +0.7**
UZH Uzhgorod 18.19 310 *e*P **P** **10 34 31.2 +0.1**
UZH Uzhgorod 18.19 310 *e*P **P** **10 34 31.2 +0.1**
DIVS Divibare 18.36 295 *e*P **Pn** **10 34 32.9 -0.3**
KWP Kalwaria Pacla 18.40 313 P **Pn** **10 34 37.9 +4.4**
KWP pmax pmax
comp=Z,272nm,1.4s
FGSL Fruska Gora 18.69 298 *e*P **Pn** **10 34 38.7 +1.7**
BBLS Lazići 18.75 294 *e*P **Pn** **10 34 39.5 +1.7**
TEKS Tekeris 18.77 296 *e*P **Pn** **10 34 39.4 +1.4**
CRVS Cervenica-Dubn 18.80 310 *e*P **Pn** **10 34 41.7 +3.3**
CRVS Cervenica-Dubn 18.80 310 *e*P **Pn** **10 34 41.7 +3.3**
PSZ Piszkesteto 19.39 306⇑ *i*P **Pn** **10 34 45.1 -0.5**
PSZ Piszkesteto 19.39 306 *e*P **Pn** **10 34 45.4 -0.2**
PSZ pmax pmax
comp=Z,39nm,1.5s
PSZ Piszkesteto 19.39 306 *e*P **Pn** **10 34 45.4 -0.2**
comp=Z,39nm,1.5s
PSZ Piszkesteto 19.39 306 *e*P **Pn** **10 34 45.4 -0.2**
comp=Z,39nm,1.5s
NACGM Naroch 19.76 331 *e* **P** **10 34 47.0 -1.3**
SMDO Samad 19.95 137 P **Pn** **10 34 54.1 +1.7**
SNR=5.1
SMDO Samad 19.95 137 P **Pn** **10 34 54.1 +1.7**
SNR=5.1
WSAR Wadi Sarin 20.12 135 P **P** **10 34 52.8 +0.3**
comp=Z,3.4nm,0.8s,baz=328,slow=6.4,SNR=3.3
WSAR LR LR 10 43 33.6
comp=Z,216nm,19.1s,baz=324,slow=40
VYHS Vyhne 20.25 307 *e*P Pn 10 34 56.7 +0.9
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 20.25 307 *e*P Pn 10 34 56.7 +0.9
comp=Z,13nm,1.5s
VYHS Vyhne 20.25 307 *e*P Pn 10 34 56.7 +0.9
OJC Ojcow 20.34 312 *e*P Pn 10 34 57.2 +0.4
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 20.34 312 *e*P Pn 10 34 57.2 +0.4
comp=Z,9.6nm,0.9s
OJC Ojcow 20.34 312 *e*P Pn 10 34 57.2 +0.5
comp=Z,9.6nm,0.9s
ARU Arti 20.45 25 P **P** **10 34 55.1 -0.7**
comp=Z,8.6nm,0.4s,baz=238,slow=6.3,SNR=16
ARU LR LR 10 44 43.5
comp=Z,289nm,20.3s,baz=212,slow=42
ARU Arti 20.45 25*d* *i*P **P** **10 34 55.0 -0.7**
ARU S **S** **10 38 42.4 -1.9**
ARU pmax pmax
comp=Z,19nm,0.7s
ARU MLR MLR
comp=Z,333nm,21.0s
ARU Arti 20.45 25 *e*P **P** **10 34 56.0 +0.2**
comp=Z,61nm,1.4s
ARU Arti 20.45 25 *e*P **P** **10 34 56.0 +0.2**
comp=Z,61nm,1.4s
KKAR Karatay Array 20.95 69 *e*P **P** **10 35 01.3 0.0**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 20.95 69 *e*P **P** **10 35 01.3 0.0**
comp=Z,12nm,0.6s
KKAR Karatay Array 20.95 69 *e*P **P** **10 35 01.3 0.0**
comp=Z,12nm,0.6s
KBL Kabul 20.98 93 *e*P Pn 10 35 03.2 -1.3
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 20.98 93 *e*P Pn 10 35 03.2 -1.3
comp=Z,16nm,0.9s
KBL Kabul 20.98 93 *e*P **P** **10 35 03.2 +1.3**
comp=Z,16nm,0.9s
CUC Castrocucco 21.35 282 *e*P **P** **10 35 09.9 +4.2**
comp=Z,10nm,1.0s
SOP Sopron 21.47 304 P **P** **10 35 13.7 +6.8**
SOP pmax pmax
comp=Z,17nm,1.2s
BOJS Bojanci 21.91 297 *i*P **P** **10 35 15.9 +4.3**
VRAC Vranov 21.92 308 P **P** **10 35 12.4 +0.7**
comp=Z,2.2nm,0.4s,baz=85,slow=11,SNR=2.7
VRAC LR LR 10 45 49.0
comp=Z,55nm,20.4s,baz=94,slow=42
CONA Conrad Observa 21.98 304 *e*P **P** **10 35 15.9 +3.4**
comp=Z,10nm,1.2s
ARSA Arzberg 22.05 302 *e*pP **P** **10 35 18.7 +5.6**
comp=Z,12nm,1.2s
KRLC Kraliky 22.07 310 *e*P **P** **10 35 17.9 +4.5**
KRLC Kraliky 22.07 310 *e*P **P** **10 35 17.9 +4.5**
PERS Pernice 22.19 300 *i*P **P** **10 35 18.2 +3.5**
VISS Visnje 22.24 298 *i*P P 10 35 22.6 +7.4
KLMR Klimovskoe 22.36 355 *e*P **P** **10 35 18.0 +1.7**
KLMR pmax pmax
comp=Z,72nm,1.5s
KLMR Klimovskoe 22.36 355 *e*P **P** **10 35 18.0 +1.7**
comp=Z,72nm,1.5s
MNAS Manas 22.39 71 P **P** **10 35 20.9 +3.8**
MNAS pmax pmax
comp=Z,6.0nm,1.3s
DPC Dobruska-Polom 22.44 310 *e*P **P** **10 35 20.7 +3.3**
DPC Dobruska-Polom 22.44 310 *e*P **P** **10 35 20.7 +3.3**
VSU Vasula 22.57 337*c*eP **P** **10 35 21.7 +3.2**
VSU Vasula 22.57 337 *e*P **P** **10 35 21.7 +3.2**
TREC Trest 22.61 307 *e*P **P** **10 35 25.7 +6.6**
TREC Trest 22.61 307 *e*P **P** **10 35 25.7 +6.6**
UPC Upice 22.68 310 *e*P **P** **10 35 24.0 +4.1**
UPC Upice 22.68 310 *e*P **P** **10 35 24.0 +4.1**
MOA Molln 23.01 303 *e*P **P** **10 35 25.2 +1.9**
comp=Z,7.3nm,1.1s
MOA Molln 23.01 303 P **P** **10 35 25.2 +1.9**
comp=Z,7.3nm,1.1s
BRVK Borovoye 23.45 43*c*eP **P** **10 35 31.7 +4.0**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 23.45 43 *e*P **P** **10 35 28.1 +0.4**
comp=Z,17nm,1.3s
BRVK Borovoye 23.45 43 *e*P **P** **10 35 28.1 +0.4**
comp=Z,17nm,1.3s
BRVK Borovoye 23.45 43 P P 10 35 36.4 +8.7
SNR=5.4
KBA Koelnbreinsper 23.47 301 *e*pP **P** **10 35 32.4 +4.2**
comp=Z,11nm,1.5s
BVAR Borovoye Array 23.49 43 P **P** **10 35 28.4 +0.3**
comp=Z,0.8nm,0.4s,baz=243,slow=6.0,SNR=6.1
GERES GERESS Array B 23.61 305 P **P** **10 35 29.0 -0.4**
comp=Z,1.1nm,0.7s,baz=94,slow=8.0,SNR=3.8
GERES LR LR 10 47 40.1
comp=Z,64nm,19.1s,baz=91,slow=44
KHC Kasperske Hory 23.76 306 *e*P **P** **10 35 32.9 +2.0**
KHC *ex* x 10 36 08.1
KHC Kasperske Hory 23.76 306 *e*P **P** **10 35 31.3 +0.4**
KHC pmax pmax
comp=Z,10.0nm,1.6s
KHC Kasperske Hory 23.76 306 *e*P **P** **10 35 31.3 +0.4**
comp=Z,10nm,1.6s
KHC Kasperske Hory 23.76 306 *e*P **P** **10 35 31.3 +0.4**
comp=Z,10nm,1.6s
AAK Ala-Archa 23.86 70 P **P** **10 35 31.9 -0.1**
comp=Z,0.7nm,0.3s,baz=234,slow=15,SNR=3.7
AAK LR LR 10 46 30.1
comp=Z,79nm,19.2s,baz=276,slow=41
AAK Ala-Archa 23.86 70 *i*P **P** **10 35 34.7 +2.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 23.86 70 *e*P **P** **10 35 32.2 +0.2**
comp=Z,19nm,1.4s
AAK Ala-Archa 23.86 70 *e*P **P** **10 35 32.2 +0.2**
comp=Z,19nm,1.4s
FRU Bishkek 23.95 70 *e*P **P** **10 35 36.0 +3.3**
FRU *e* 10 35 43.5
ABTA Abfaltersbach 23.98 300 *e*pP **P** **10 35 37.2 +4.2**
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 24.05 310 *e*P **P** **10 35 34.2 +0.7**
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 24.05 310 *e*P **P** **10 35 34.2 +0.7**
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 24.05 310 *e*P **P** **10 35 34.2 +0.7**
comp=Z,9.0nm,1.2s
WET Wettzell 24.21 306 P **P** **10 35 38.7 +3.6**
WET pmax pmax
comp=Z,21nm,1.4s
WTTA Wattenberg 24.65 301 *e*pP **P** **10 35 41.3 +2.0**
comp=Z,12nm,1.1s
WTTA Wattenberg 24.65 301 P **P** **10 35 41.3 +2.0**
comp=Z,12nm,1.1s
WATA Walderalm 24.70 301 *e*pP **P** **10 35 41.6 +1.9**
comp=Z,12nm,1.1s
WATA Walderalm 24.70 301 P **P** **10 35 41.6 +1.9**
comp=Z,12nm,1.1s
CLL Collm 24.75 311 *e*P **P** **10 35 40.0 +0.1**
CLL *e* 10 35 44.0
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 24.75 311 *e*P **P** **10 35 40.4 +0.5**
comp=Z,17nm,1.2s
CLL Collm 24.75 311 *e*(P) **P** **10 35 40.0 +0.1**
comp=Z,9.0nm,0.9s
CLL *e* 10 35 44.0
comp=Z,16nm,1.2s
CLL *e*(S) S 10 40 24.0 +22
CLL Collm 24.75 311 *e*P **P** **10 35 40.4 +0.5**
comp=Z,17nm,1.2s
NKC Novy Kostel 24.76 308 *e*P **P** **10 35 38.6 -1.5**
NKC Novy Kostel 24.76 308 *e*P **P** **10 35 38.6 -1.5**
NKC Novy Kostel 24.76 308 *e*P **P** **10 35 38.6 -1.5**
MOTA Moosalm 25.02 301 *e*P **P** **10 35 43.4 +0.8**
comp=Z,18nm,0.9s
MOTA Moosalm 25.02 301 P **P** **10 35 43.4 +0.8**
comp=Z,18nm,0.9s
FIA1 FINESS Array S 25.22 340 *e*P **P** **10 35 43.8 -0.3**
comp=Z,22nm,1.1s
FINES FINESS Array B 25.22 340 P **P** **10 35 42.6 -1.5**
comp=Z,13nm,0.9s,baz=142,slow=13,SNR=13
FETA Feichten 25.23 300 *e*pP **P** **10 35 49.8 +5.3**
comp=Z,12nm,1.2s
KSH Kashi 25.24 78 *e*P **P** **10 35 45.4 +0.8**
KSH *e*pP sP 10 35 49.4 -0.6
KSH sP pP 10 35 52.9 +4.5
KSH PP **PnPn** **10 36 22.8 +4.1**
KSH PcP **PcP** **10 39 22.8 +5.0**
KSH S **S** **10 40 06.5 -3.4**
KSH sS pS 10 40 13.3 -0.7
KSH SS **SnSn** **10 41 01.9 +1.6**
KSH PcS **PcS** **10 43 01.5 +3.2**
KSH pmax pmax
comp=Z,9.0nm,1.3s
KSH pmax pmax
comp=Z,110nm,5.6s
KSH LR LR
comp=N,160nm,13.0s
KSH LR LR
comp=E,120nm,11.5s
KSH LR LR
comp=Z,110nm,9.1s
RETA Reutte 25.27 301 *e*P **P** **10 35 48.8 +4.0**
comp=Z,6.8nm,1.0s
DAVOX Davos/Dischmat 25.78 299 P **P** **10 35 49.6 +0.2**
comp=Z,3.9nm,0.7s,baz=9.7,slow=8.3,SNR=4.2
DAVA Damuels 25.84 300 *e*pP **P** **10 35 53.2 +3.2**
comp=Z,23nm,1.6s
SUF Sumiainen 26.29 342 P **P** **10 35 58.6 +4.9**
SUF pmax pmax
comp=Z,47nm,1.0s
ATD Arta Tunnel 27.01 181 LR LR 10 47 11.7
comp=Z,208nm,18.7s,baz=354,slow=38
KURBB Kurchatov Arra 27.46 53 P **P** **10 36 03.9 -0.5**
comp=Z,3.4nm,0.6s,baz=263,slow=8.9,SNR=16
KURK Kurchatov 27.54 52*de*P **P** **10 36 10.3 +5.2**
KURK pmax pmax
comp=Z,26nm,0.9s
KURK Kurchatov 27.54 52 *e*P **P** **10 36 04.9 -0.1**
comp=Z,13nm,1.1s
HFS Hagfors 28.49 329 P **P** **10 36 12.0 -1.5**
comp=Z,17nm,0.9s,baz=141,slow=5.5,SNR=8.9
MAKZ Makanchi 29.25 61 *e*P **P** **10 36 20.4 -0.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ Makanchi 29.25 61 *e*P **P** **10 36 20.4 -0.1**
comp=Z,5.2nm,1.0s
MK31 Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
MK31 Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
MK31 Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
MKAR Makanchi Array 29.47 61 P **P** **10 36 20.8 -1.6**
comp=Z,0.8nm,0.6s,baz=268,slow=8.4,SNR=7.3
MKAR LR LR 10 49 16.2
comp=Z,98nm,18.2s,baz=264,slow=39
MKAR Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
MKAR pmax pmax
comp=Z,16nm,0.8s
MKAR Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
comp=Z,16nm,0.8s
MKAR Makanchi Array 29.47 61 *e*P **P** **10 36 22.1 -0.3**
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 30.02 329 P **P** **10 36 26.9 -0.2**
comp=Z,1.6nm,0.8s,baz=125,slow=9.3
NB2 NORSAR Subarra 30.02 329 P **P** **10 36 26.9 -0.2**
comp=Z,1.6nm,0.8s,SNR=4.9
NOA NORSAR Array B 30.02 329 P **P** **10 36 25.8 -1.3**
comp=Z,4.2nm,0.9s,baz=126,slow=8.8,SNR=5.1
NOA LR LR 10 48 50.0
comp=Z,74nm,21.7s,baz=130,slow=37
NOA NORSAR Array B 30.02 329 P **P** **10 36 25.8 -1.3**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA MLR MLR
comp=Z,74nm,21.7s
ZALV Zalesovo Beam 31.93 48 P **P** **10 36 43.8 -0.2**
comp=Z,0.5nm,0.3s,baz=260,slow=9.5,SNR=3.0
ZALV LR LR 10 52 07.7
comp=Z,96nm,18.0s,baz=250,slow=41
ARCES ARCESS Array B 32.40 348 P **P** **10 36 46.1 -1.8**
comp=Z,4.6nm,0.7s,baz=152,slow=5.5,SNR=11
ARCES LR LR 10 50 29.6
comp=Z,125nm,20.4s,baz=150,slow=37
WMQ Urumqi 33.41 67 P **P** **10 36 58.4 +1.3**
WMQ pP sP 10 37 04.0 +1.4
WMQ sP pP 10 37 07.3 +6.3
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.9s
WMQ LR LR
comp=N,120nm,28.9s
WMQ LR LR
comp=E,62nm,28.9s
WMQ LR LR
comp=Z,87nm,21.3s
TAM Tamanrasset 35.90 255 *e*P **P** **10 37 15.3 -3.7**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 35.90 255 *e*P **P** **10 37 15.3 -3.7**
comp=Z,5.0nm,0.8s
ESDC Sonseca Array 36.40 287 P **P** **10 37 21.3 -1.7**
comp=Z,1.7nm,0.6s,baz=72,slow=8.8,SNR=6.0
NRIK Noril'sk 38.66 23 LR LR 10 56 51.4
comp=Z,135nm,20.0s,baz=224,slow=41
KMBO Kilima Mbogo 39.98 190 LR LR 10 54 50.8
comp=Z,141nm,19.7s,baz=100,slow=37
GTA Gaotai 43.22 70 *e*P **P** **10 38 20.8 +1.0**
GTA pP sP 10 38 26.4 +1.2
GTA sP pP 10 38 29.3 +5.6
GTA S **S** **10 44 46.5 +0.1**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,37nm,5.3s
GTA LR LR
comp=N,80nm,17.1s
GTA LR LR
comp=E,87nm,18.5s
GTA LR LR
comp=Z,110nm,14.7s
TORD Torodi Ar. Bea 44.75 247 P **P** **10 38 29.5 -2.6**
comp=Z,4.8nm,1.1s,baz=64,slow=8.5,SNR=11
SONM Songino Array 45.65 57 LR LR 11 01 04.5
comp=Z,73nm,18.1s,baz=280,slow=40
ULN Ulaanbaatar 46.07 57*c*eP **P** **10 38 46.4 +3.9**
ULN pmax pmax
comp=Z,5.0nm,1.0s
LZH Lanzhou 47.35 73 *e*P **P** **10 38 55.0 +2.4**
LZH pP sP 10 39 00.3 +2.2
LZH sP pP 10 39 02.9 +6.3
LZH *e*PP **PP** **10 40 45.3 +1.6**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,42nm,6.0s
LZH LR LR
comp=N,170nm,14.8s
LZH LR LR
comp=E,170nm,14.7s
LZH LR LR
comp=Z,200nm,18.0s
BOD Bodaibo 48.36 42 *e*P **P** **10 38 55.9 -4.0**
BOD pmax pmax
comp=Z,9.0nm,1.5s
HHC Hu-ho-hao-te 51.24 65 *e*P **P** **10 39 23.4 +1.2**
HHC PP **PP** **10 41 16.0 -2.9**
HHC S **S** **10 46 39.3 -1.3**
HHC pmax pmax
comp=Z,20nm,1.5s
HHC pmax pmax
comp=Z,74nm,4.5s
HHC LR LR
comp=N,120nm,14.9s
HHC LR LR
comp=E,170nm,14.9s
HHC LR LR
comp=Z,67nm,13.7s
KMI Kunming 51.35 87 P **P** **10 39 24.8 +1.3**
KMI pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 51.76 96 *e*P **P** **10 39 24.9 -1.4**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 51.76 96 *e*P **P** **10 39 24.9 -1.4**
comp=Z,3.2nm,0.8s
CHTO Chiang Mai 51.76 96 *e*P **P** **10 39 24.9 -1.4**
comp=Z,3.2nm,0.8s
CMAR Chiang Mai Arr 51.96 96 P **P** **10 39 25.7 -2.1**
comp=Z,1.7nm,0.6s,baz=296,slow=8.4,SNR=10
CMAR LR LR 11 05 08.6
comp=Z,40nm,19.4s,baz=303,slow=40
XAN Xi'an 51.98 74 P **P** **10 39 31.9 +4.1**
XAN pP sP 10 39 42.3 +8.9
XAN pmax pmax
comp=Z,13nm,0.9s
TIXI Tiksi 52.45 23 LR LR 11 06 12.5
comp=Z,77nm,19.5s,baz=302,slow=41
TIXI Tiksi 52.45 23 *e*P **P** **10 39 33.6 +3.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 52.45 23 *e*P **P** **10 39 33.6 +3.0**
comp=Z,2.0nm,0.9s
DBIC Dimbokro 53.86 247 P **P** **10 39 39.5 -2.4**
comp=Z,5.8nm,1.0s,baz=84,slow=10,SNR=3.4
DBIC LR LR 11 05 18.5
comp=Z,44nm,18.1s,baz=30,slow=39
KIC Kosan Boka 53.99 246 *e*PKP2 **P** **10 39 40.6 -2.2**
comp=Z,45nm,1.2s
TIC Toumodi 54.00 247 *e*PKP2 **P** **10 39 40.5 -2.3**
LIC Lamto 54.29 246 *e*PKP2 **P** **10 39 41.8 -3.2**
comp=Z,50nm,1.3s
YAK Yakutsk 55.08 35 LR LR 11 05 41.1
comp=Z,56nm,20.1s,baz=50,slow=38
YAK Yakutsk 55.08 35 *e*P P 10 39 57.2 +7.1
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
KSAR Wonju Array Be 64.13 62 P **P** **10 40 51.8 -1.1**
KSAR Wonju Array Be 64.13 62 P **P** **10 40 51.8 -1.1**
KSAR Wonju Array Be 64.13 62 P **P** **10 40 51.8 -1.1**
KSRS Korea Array 64.15 62 P **P** **10 40 51.8 -1.2**
comp=E,1.5nm,0.8s,baz=291,slow=6.9,SNR=3.5
KSRS LR LR 11 12 29.4
comp=E,25nm,18.8s,baz=330,slow=40
BILL Bilibino 65.39 20 *e*P **P** **10 41 03.6 +3.0**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,98nm,22.0s
BILL Bilibino 65.39 20 *e*P **P** **10 41 03.6 +3.0**
comp=Z,98nm,22.0s
BOSA Boshof 69.02 197 P **P** **10 41 25.4 +1.2**
comp=Z,3.2nm,0.7s,baz=351,slow=5.7,SNR=7.7
BOSA LR LR 11 11 06.9
comp=Z,63nm,19.1s,baz=22,slow=36
MJAR Matsushiro Arr 71.59 58 P **P** **10 41 41.0 +1.1**
comp=Z,0.7nm,0.6s,baz=291,slow=7.4,SNR=4.6
MJAR LR LR 11 15 05.0
comp=Z,37nm,20.1s,baz=270,slow=38
PETK Petropavlovsk- 72.43 35 LR LR 11 18 05.3
comp=Z,58nm,18.4s,baz=311,slow=40
ILAR Eielson Array 76.60 5 P **P** **10 42 07.0 -1.6**
comp=Z,0.5nm,1.0s,baz=325,slow=8.4,SNR=4.4
ILAR LR LR 11 20 06.4
comp=Z,33nm,18.5s,baz=90,slow=39
YKA Yellowknife Ar 77.66 350 P **P** **10 42 12.4 -2.2**
comp=Z,1.6nm,0.8s,baz=16,slow=6.0,SNR=2.7
YKA LR LR 11 18 14.0
comp=Z,5.2nm,18.4s,baz=0.0,slow=37
ULM Lac du Bonnet 84.50 335 P **P** **10 42 50.2 -1.1**
comp=Z,3.3nm,1.0s,baz=43,slow=9.9,SNR=2.5
ULM LR LR 11 20 33.5
comp=Z,32nm,20.0s,baz=22,slow=36
PDAR Pinedale Array 95.32 340 P **P** **10 43 43.1 +0.2**
comp=Z,0.3nm,0.8s,baz=41,slow=4.8,SNR=2.6
PDAR LR LR 11 28 09.7
comp=Z,39nm,18.5s,baz=48,slow=36

DDA ***24*** *10:39:18.6,38.°73N×43.°30E,h2km,Ml3.3*
ISK ***24*** *10:39:18.3,38.°73N×43.°26E,h2km,ML3.2*
CSEM ***24*** *10:39:19.5±0.3,38.°75N×43.°31E,h10km,ML3.2,Error ellipse: s-maj=9.4km s-min=4.3km az=63.0*
ISC 24 10:39:19.7±0.9,38.°74N±0.°02×43.°32E±0.°03,h15km±7km,
n40,σ1§28/68,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**160**	*e*PG	**Pb**	**10 39 24.0**	**-0.4**
VANB				*e*SG	**Sg**	**10 39 28.1**	**+1.6**
VANB	**Van**	**0.16**	**160**	*e*Pg	**Pb**	**10 39 24.0**	**-0.4**
VANB				*e*Sg	**Sg**	**10 39 28.1**	**+1.6**
GEVA	**Gevas**	**0.48**	**206**	*i* P	**Pg**	**10 39 28.1**	**-1.1**
GEVA				*i* S	**Sg**	**10 39 35.8**	**+0.1**
GEVA	**Gevas**	**0.48**	**206**	P	**Pg**	**10 39 28.1**	**-1.1**
GEVA				S	**Sg**	**10 39 35.8**	**+0.1**
TUTA	**Tutak**	**0.77**	**329**	*i* P	**Pb**	**10 39 34.6**	**-0.4**
TUTA				*i* S	**Sb**	**10 39 44.7**	**-0.7**
TUTA	**Tutak**	**0.77**	**329**	P	**Pb**	**10 39 34.6**	**-0.4**
TUTA				S	**Sb**	**10 39 44.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.87**	**343**	*e*PG	**Pb**	**10 39 36.2**	**-0.5**
AGRB				*e*SG	**Sn**	**10 39 48.7**	**-1.5**
AGRB	**Hanur-Agry**	**0.87**	**343**	*e*Pg	**Pb**	**10 39 36.2**	**-0.5**
AGRB				*e*Sg	**Sn**	**10 39 48.7**	**-1.5**
BASK	**Baskale_VAN**	**0.87**	**142**	*i* P	**Pg**	**10 39 35.1**	**-1.5**
BASK				*i* S	**Sg**	**10 39 48.2**	**0.0**
BASK	**Baskale_VAN**	**0.87**	**142**	P	**Pg**	**10 39 35.2**	**-1.5**
BASK				S	**Sg**	**10 39 48.2**	**0.0**
EKAR	**Karacoban**	**1.11**	**298**	*i* P	**Pg**	**10 39 40.2**	**-0.9**
EKAR				*i* S	**Sn**	**10 39 59.2**	**+3.2**
EKAR	**Karacoban**	**1.11**	**298**	P	**Pg**	**10 39 40.2**	**-0.9**
HAKT	**HAKKARI**	**1.22**	**165**	*i* P	**Pn**	**10 39 40.9**	**-1.6**
HAKT				*i* S	**Sn**	**10 40 01.8**	**+2.9**
HAKT	**HAKKARI**	**1.22**	**165**	P	**Pn**	**10 39 40.9**	**-1.6**
HAKT				S	**Sn**	**10 40 01.8**	**+2.9**
EATA	**Eleskirt**	**1.29**	**330**	*i* P	**Pg**	**10 39 44.2**	**-0.5**
EATA				*i* S	**Sn**	**10 40 01.9**	**+1.2**
EATA	**Eleskirt**	**1.29**	**330**	P	**Pg**	**10 39 44.2**	**-0.5**
EATA				S	**Sn**	**10 40 01.9**	**+1.2**
CUKT	**Cukurca**	**1.51**	**171**	*e*PN	**Pb**	**10 39 47.6**	**+0.1**
CUKT				*e*SN	**Sg**	**10 40 08.4**	**0.0**
CUKT	**Cukurca**	**1.51**	**171**	*i* P	**Pg**	**10 39 48.5**	**-0.2**
CUKT				*i* S	**Sg**	**10 40 12.9**	**+4.5**
CUKT	**Cukurca**	**1.51**	**171**	*e*Pn	**Pb**	**10 39 47.6**	**+0.1**
CUKT	**Cukurca**	**1.51**	**171**	P	**Pg**	**10 39 48.5**	**-0.2**
CUKT				*e*Sn	**Sg**	**10 40 08.4**	**0.0**
HOMI	**Horasan**	**1.70**	**320**	*i* P	**Pg**	**10 39 51.5**	**-0.9**
HOMI				*i* S	**Sg**	**10 40 17.9**	**+3.3**

BNGL	**BINGOL**	**1.71 278**	*i* P	**Pb**	**10 39 51.0**	**0.0**
BNGL			*i* S	**Sg**	**10 40 15.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.77 251**	*e*PN	**Pn**	**10 39 50.0**	**+0.2**
SVAN			*e*SN	**Sb**	**10 40 13.2**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.77 251**	*i* P	**Pn**	**10 39 50.0**	**+0.2**
SVAN			*i* S	**Sg**	**10 40 15.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.77 251**	P	**Pn**	**10 39 50.0**	**+0.2**
SVAN			*e*Sn	**Sb**	**10 40 13.2**	**-0.7**
SVAN			S	**Sg**	**10 40 15.8**	**-0.9**
BTMN	**Batman**	**1.82 243**	*i* P	**Pb**	**10 39 52.0**	**-0.8**
BTMN			*i* S	**Sg**	**10 40 17.7**	**-0.7**
BTMN	**Batman**	**1.82 243**	P	**Pb**	**10 39 52.0**	**-0.8**
BTMN			S	**Sg**	**10 40 17.7**	**-0.7**
ERZM	**Erzurum**	**1.91 308**	*i* P	**Pg**	**10 39 55.6**	**-0.8**
ERZM			*i* S	**Sg**	**10 40 23.4**	**+2.1**
ERZM	**Erzurum**	**1.91 308**	P	**Pg**	**10 39 55.6**	**-0.8**
BNGB	**Bing¶‖**	**2.08 278**	*e*PN	**Pn**	**10 39 54.5**	**+0.4**
BINT	**Bingol**	**2.22 274**	*e*Pn	**Pn**	**10 39 54.5**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.27 289**	*e*PN	**Pn**	**10 39 57.3**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.27 289**	*e*Pn	**Pn**	**10 39 57.3**	**+0.4**
MARD	**Mardin**	**2.46 235**	*i* P	**Pn**	**10 40 00.2**	**+0.7**
MARD			*i* S	**Sn**	**10 40 30.0**	**+0.6**
MAZI	**Mazidag**	**2.60 241**	*e*PN	**Pn**	**10 40 02.2**	**+0.8**
MAZI	**Mazidag**	**2.60 241**	*e*Pn	**Pn**	**10 40 02.2**	**+0.8**
PTK	**Pertek**	**3.07 274**	*e*PN	**Pn**	**10 40 08.4**	**+0.5**
PTK	**Pertek**	**3.07 274**	*e*Pn	**Pn**	**10 40 08.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.17 265**	*e*PN	**Pn**	**10 40 09.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.17 265**	*e*Pn	**Pn**	**10 40 09.8**	**+0.6**

ISK ***24*** *10:43:54.6, 38.71N×43.28E, h3km, ML3.1*
CSEM ***24*** *10:43:55.6±0.4, 38.72N×43.32E, h2km, ML3.1, Error ellipse: s-maj=11.3km s-min=5.0km az=66.0*
DDA ***24*** *10:43:55.4, 38.70N×43.30E, h7km, Ml3.3*
ISC 24 10:43:56.2±1.0, 38.72N±0.02×43.28E±0.04, h7km±8km, n27, σ1°54/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**145**	*e*PG	**Pg**	**10 43 59.6**	**+0.2**
VANB				*e*SG	**Sg**	**10 44 03.7**	**+2.2**
VANB	**Van**	**0.15**	**145**	*e*Pg	**Pg**	**10 43 59.6**	**+0.2**
GEVA	**Gevas**	**0.44**	**203**	*i* P	**Pg**	**10 44 03.5**	**-1.3**
GEVA				*i* S	**Sg**	**10 44 10.9**	**+0.3**
GEVA	**Gevas**	**0.44**	**203**	P	**Pg**	**10 44 03.5**	**-1.3**
GEVA				S	**Sg**	**10 44 10.9**	**+0.3**
TUTA	**Tutak**	**0.77**	**332**	*i* P	**Pg**	**10 44 10.8**	**-0.3**
TUTA				*i* S	**Sg**	**10 44 21.7**	**+0.5**
TUTA	**Tutak**	**0.77**	**332**	P	**Pg**	**10 44 10.8**	**-0.3**
TUTA				S	**Sg**	**10 44 21.7**	**+0.5**
BASK	**Baskale_VAN**	**0.88**	**139**	*i* P	**Pg**	**10 44 11.4**	**-1.7**
BASK				*i* S	**Sb**	**10 44 24.9**	**-1.0**
BASK	**Baskale_VAN**	**0.88**	**139**	P	**Pg**	**10 44 11.4**	**-1.7**
BASK				S	**Sb**	**10 44 24.9**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*PG	**Pg**	**10 44 12.6**	**-0.6**
AGRB				*e*SG	**Sb**	**10 44 25.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*Pg	**Pg**	**10 44 12.6**	**-0.6**
AGRB				*e*Sg	**Sb**	**10 44 25.5**	**-0.7**
EKAR	**Karacoban**	**1.09**	**300**	*i* P	**Pn**	**10 44 18.2**	**0.0**
EKAR				*i* S	**Sn**	**10 44 36.2**	**+2.5**
EKAR	**Karacoban**	**1.09**	**300**	P	**Pn**	**10 44 18.2**	**0.0**
EKAR				S	**Sn**	**10 44 36.2**	**+2.5**
HAKT	**HAKKARI**	**1.21**	**164**	*i* P	**Pg**	**10 44 16.6**	**-2.8**
HAKT				*i* S	**Sn**	**10 44 36.8**	**+0.3**
HAKT	**HAKKARI**	**1.21**	**164**	P	**Pg**	**10 44 16.6**	**-2.8**
HAKT				S	**Sn**	**10 44 36.8**	**+0.3**
EATA	**Eleskirt**	**1.30**	**332**	*i* P	**Pg**	**10 44 20.1**	**-1.0**
EATA				*i* S	**Sn**	**10 44 39.6**	**+0.8**
EATA	**Eleskirt**	**1.30**	**332**	P	**Pg**	**10 44 20.1**	**-1.0**
EATA				S	**Sn**	**10 44 39.7**	**+0.8**
CUKT	**Cukurca**	**1.49**	**170**	*e*PN	**Pb**	**10 44 23.5**	**-0.9**
CUKT	**Cukurca**	**1.49**	**170**	*i* P	**Pg**	**10 44 25.5**	**+0.7**
CUKT				*i* S	**Sn**	**10 44 49.9**	**+6.5**
CUKT	**Cukurca**	**1.49**	**170**	*e*Pn	**Pb**	**10 44 23.5**	**-0.9**
CUKT	**Cukurca**	**1.49**	**170**	P	**Pg**	**10 44 25.5**	**+0.7**
BNGL	**BINGOL**	**1.68**	**279**	*i* P	**Pb**	**10 44 26.7**	**-0.9**
BNGL				*i* S	**Sg**	**10 44 51.7**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*PN	**Pn**	**10 44 26.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*Pn	**Pn**	**10 44 26.1**	**-0.7**
BTMN	**Batman**	**1.78**	**243**	*i* P	**Pn**	**10 44 27.9**	**+0.3**
BTMN				*i* S	**Sg**	**10 44 53.8**	**+0.2**
BTMN	**Batman**	**1.78**	**243**	P	**Pn**	**10 44 27.9**	**+0.3**
BTMN				S	**Sg**	**10 44 53.8**	**+0.2**
MAZI	**Mazidag**	**2.56**	**242**	*e*PN	**Pn**	**10 44 38.4**	**0.0**
MAZI	**Mazidag**	**2.56**	**242**	*e*Pn	**Pn**	**10 44 38.4**	**0.0**

ISCJB ***24*** *10:45:56.5±1.4, 30.61S±0.06×177.9W±0.3, h150km, mb4.4/5, Error ellipse: s-maj=32.1km s-min=6.9km az=9.0*
NEIC ***24*** *10:45:59.4±1.2, 30.51S×178.22W, h136km±10km, mb4.3/1, Error ellipse: s-maj=24.7km s-min=16.5km az=120.0*
IDC ***24*** *10:45:59.5±1.2, 30.47S×178.23W, h133km±8km, mb4.2/4, mb1 4.2/5, mb1mx3.6/30, mbtmp4.4/5, Error ellipse: s-maj=27.8km s-min=15.4km az=121.0*
ISC 24 10:45:59.5±1.0, 30.56S±0.09×178.1W±0.2, h150km, n21, σ1°89/26, mb4.3/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.31**	**5**	P	**Pn**	**10 46 26.0**	**-1.2**
	97nm,0.3s,baz=35,slow=20,SNR=31						
RAO				S	**Sn**	**10 46 44.4**	**-3.9**
	166nm,0.3s,baz=253,slow=23,SNR=7.3						
HAZ	**Te Kaha**	**7.96**	**205**	*e*PN	**Pn**	**10 47 50.4**	**-2.0**
HAZ				*e*SN	**Sn**	**10 49 22.9**	**+1.9**
PUZ	**Puketiti**	**8.09**	**201**	*e*PN	**Pn**	**10 47 51.8**	**-2.2**
PUZ				*e*SN	**Sn**	**10 49 20.6**	**-3.5**
RUGZ	**Raukumara Rang**	**8.19**	**204**	*e*PN	**Pn**	**10 47 55.2**	**-0.3**
CNGZ	**Carnagh Statio**	**8.48**	**200**	*e*PN	**Pn**	**10 47 57.8**	**-1.5**
URZ	**Urewera**	**8.65**	**206**	P	**Pn**	**10 48 00.0**	**-1.5**
	0.2nm,0.3s,baz=11,slow=10,SNR=1.4						
URZ				S	**Sn**	**10 49 36.3**	**-1.4**
	2.8nm,0.3s,baz=169,slow=22,SNR=13						
URZ	**Urewera**	**8.65**	**206**	*e*PN	**Pn**	**10 47 59.8**	**-1.7**
URZ				SN	**Sn**	**10 49 35.9**	**-1.8**
MOZ	**McQueen's Vall**	**15.05**	**207**	*e*SN	Sn	10 51 56.8	-15
CTA	**Charters Tower**	**33.78**	**279**	P	**P**	**10 52 28.3**	**+1.0**
	8.8nm,0.5s,baz=103,slow=11,SNR=17						
CTAO	**Charters Tower**	**33.78**	**279**	*e*P	**P**	**10 52 27.2**	**-0.1**
	29nm,0.4s						
STKA	**Stephens Creek**	**34.40**	**257**	P	**P**	**10 52 34.5**	**+2.0**
	2.8nm,0.5s,baz=100,slow=12,SNR=10						
ASAR	**Alice Springs**	**43.06**	**267**	P	**P**	**10 53 44.4**	**-0.4**
	1.9nm,0.4s,baz=104,slow=7.6,SNR=65						
ASAR				PcP	**PcP**	**10 55 33.2**	**+1.1**
	0.3nm,0.5s,baz=110,slow=4.0,SNR=4.6						
WRAB	**Tennant Creek**	**44.06**	**272**	*e*P	**P**	**10 53 52.0**	**-0.8**
	2.3nm,0.3s						
WRA	**Warramunga Arr**	**44.06**	**272**	P	**P**	**10 53 52.1**	**-0.7**
	4.6nm,0.4s,baz=111,slow=8.0,SNR=16						
KURK	**Kurchatov**	**121.13**	**314**	PKP	**PKPdf**	**11 04 34.5**	**+0.5**
KURBB	**Kurchatov Arra**	**121.17**	**314**	PKP	**PKPdf**	**11 04 34.5**	**+0.4**
	0.6nm,0.3s,baz=95,slow=2.1,SNR=2.1						
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	**PKPab**	**11 05 19.1**	**+0.1**
	4.2nm,0.5s,baz=50,slow=3.9,SNR=30						
NOA	**NORSAR Array B**	**148.91**	**351**	PKPbc	**PKPbc**	**11 05 29.9**	**+1.0**
	1.2nm,0.7s,baz=15,slow=4.2,SNR=3.4						
AKASG	**Malin Array Be**	**151.41**	**322**	PKPbc	**PKPbc**	**11 05 35.8**	**+0.7**
	1.1nm,0.5s,baz=47,slow=2.9,SNR=4.5						
MMAI	**Mount Meron Ar**	**151.53**	**284**	PKPbc	**PKPbc**	**11 05 36.8**	**+0.6**
	1.9nm,0.4s,baz=88,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**162.67**	**179**	PKPab	**PKPab**	**11 06 37.5**	**+4.3**
	0.7nm,0.6s,baz=168,slow=4.7,SNR=4.6						

IDC 24 10:52:47.5±8.9, 55.60N×85.15E, h0km, Error ellipse: s-maj=50.6km s-min=27.1km az=7.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**187**	*i*		11 03 30.0	
	baz=8.1,slow=326,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.67**	**187**	Pg	Pn	10 53 17.9	+0.1
	2.6nm,0.3s,baz=3.5,slow=17,SNR=15						
ZALV				Lg	Lg	10 53 40.0	
	3.1nm,0.3s,baz=4.3,slow=30,SNR=15						
I34MN	**SONGINO INFRAS**	**15.28**	**112**	*i*		12 22 00.0	
	baz=312,slow=328,SNR=0.5						

ISCJB ***24*** *11:00:11.5±1.0, 38.67N±0.03×43.53E±0.09, h19km±5km, Error ellipse: s-maj=11.8km s-min=5.6km az=4.3*
DDA ***24*** *11:00:11.7, 38.71N×43.30E, h8km, Ml3.0*
ISK ***24*** *11:00:11.0, 38.69N×43.44E, h15km, ML2.9*
CSEM ***24*** *11:00:11.0±0.6, 38.71N×43.49E, h12km, ML2.9, Error ellipse: s-maj=13.5km s-min=5.9km az=89.0*
ISC 24 11:00:11.7±1.1, 38.70N±0.02×43.43E±0.06, h13km±7km, n23, σ1°42/42, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**196**	*e*PG	**Pb**	**11 00 16.1**	**+0.3**
VANB				*e*SG	**Sg**	**11 00 19.1**	**+1.9**
VANB	**Van**	**0.11**	**196**	*e*Pg	**Pb**	**11 00 16.1**	**+0.3**
VANB				*e*Sg	**Sg**	**11 00 19.1**	**+1.9**
GEVA	**Gevas**	**0.48**	**217**	⇓*i* P	**Pg**	**11 00 19.3**	**-2.0**
GEVA				*i* S	**Sg**	**11 00 28.0**	**+0.2**
GEVA	**Gevas**	**0.48**	**217**	P	**Pg**	**11 00 19.3**	**-2.0**
GEVA				S	**Sg**	**11 00 28.0**	**+0.2**
TUTA	**Tutak**	**0.85**	**326**	*i* P	**Pg**	**11 00 27.1**	**-1.1**
TUTA				*i* S	**Sg**	**11 00 38.9**	**-0.4**
TUTA	**Tutak**	**0.85**	**326**	P	**Pg**	**11 00 27.1**	**-1.1**
TUTA				S	**Sg**	**11 00 38.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.94**	**339**	*e*PG	**Pb**	**11 00 29.7**	**-0.2**
AGRB				*e*SG	**Sn**	**11 00 43.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.94**	**339**	*e*Pg	**Pb**	**11 00 29.7**	**-0.2**
AGRB				*e*Sg	**Sn**	**11 00 43.4**	**-0.7**
HAKT	**HAKKARI**	**1.16**	**169**	*i* P	**Pb**	**11 00 33.1**	**-0.7**
HAKT				*i* S	**Sn**	**11 00 52.7**	**+3.0**
HAKT	**HAKKARI**	**1.16**	**169**	P	**Pb**	**11 00 33.1**	**-0.7**
EKAR	**Karacoban**	**1.20**	**298**	*i* P	**Pg**	**11 00 34.6**	**-0.2**
EKAR				*i* S	**Sn**	**11 00 53.7**	**+3.1**
EATA	**Eleskirt**	**1.37**	**328**	*i* P	**Pn**	**11 00 36.5**	**-0.3**
EATA				*i* S	**Sg**	**11 00 56.1**	**+0.3**
EATA	**Eleskirt**	**1.37**	**328**	P	**Pn**	**11 00 36.5**	**-0.3**
EATA				S	**Sg**	**11 00 56.2**	**+0.3**
HOMI	**Horasan**	**1.79**	**319**	*i* P	**Pb**	**11 00 43.9**	**-0.5**
HOMI				*i* S	**Sg**	**11 01 15.0**	**+5.8**
BNGL	**BINGOL**	**1.80**	**279**	*i* P	**Pn**	**11 00 43.2**	**+0.6**
BNGL				*i* S	**Sb**	**11 01 07.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*PN	**Pn**	**11 00 42.9**	**-0.1**
SVAN				*e*SN	**Sn**	**11 01 06.5**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*i* P	**Pn**	**11 00 42.7**	**-0.2**
SVAN				*i* S	**Sb**	**11 01 07.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*Pn	**Pn**	**11 00 42.9**	**-0.1**
SVAN				*e*Sn	**Sn**	**11 01 06.5**	**+0.4**
SVAN				S	**Sb**	**11 01 07.5**	**-0.5**
BTMN	**Batman**	**1.88**	**245**	*i* P	**Pb**	**11 00 44.8**	**-1.2**
BTMN				*i* S	**Sb**	**11 01 08.4**	**-0.9**
MAZI	**Mazidag**	**2.66**	**243**	*e*PN	**Pn**	**11 00 54.9**	**+0.5**
MAZI	**Mazidag**	**2.66**	**243**	*e*Pn	**Pn**	**11 00 54.9**	**+0.5**
PTK	**Pertek**	**3.16**	**275**	*e*PN	**Pn**	**11 01 01.7**	**+0.4**
PTK	**Pertek**	**3.16**	**275**	*e*Pn	**Pn**	**11 01 01.7**	**+0.4**

IDC ***24*** *11:02:33.8±9.6, 7.50S×128.27E, h125km±96km, mb3.8/7, mb1 3.8/9, mb1mx3.4/46, mbtmp4.2/9, ML4.2/2, Error ellipse: s-maj=62.4km s-min=31.9km az=65.0*
ISC 24 11:02:35.7±0.9, 7.7S±0.2×128.6E±0.4, h151km, n9, σ2°83/11, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.38**	**156**	P	**Pn**	**11 05 41.8**	**+2.0**
	1.2nm,0.3s,baz=324,slow=14,SNR=8.1						
WRA				S	**Sn**	**11 08 02.8**	**-5.3**
	2.9nm,0.3s,baz=325,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**16.67**	**163**	P	**Pn**	**11 06 24.4**	**+3.6**
	0.7nm,0.3s,baz=339,slow=11,SNR=37						
ASAR				S	**S**	**11 09 25.5**	**-0.6**
	0.7nm,0.3s,baz=322,slow=18,SNR=5.3						
STKA	**Stephens Creek**	**26.93**	**155**	P	**P**	**11 08 06.4**	**+3.4**
	1.6nm,0.5s,baz=333,slow=9.1,SNR=7.9						
SONM	**Songino Array**	**58.67**	**343**	P	**P**	**11 12 17.4**	**0.0**
	0.5nm,0.6s,baz=168,slow=8.4,SNR=3.2						
PETK	**Petropavlovsk-**	**65.42**	**19**	P	**P**	**11 13 02.2**	**+0.1**
	2.2nm,0.7s,baz=178,slow=3.9,SNR=4.1						
MKAR	**Makanchi Array**	**68.06**	**328**	P	**P**	**11 13 17.9**	**-1.1**
	0.9nm,0.4s,baz=120,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**11 13 38.8**	**-1.7**
	1.8nm,0.4s,baz=118,slow=6.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**11 13 44.0**	**-1.2**
	2.4nm,0.6s,baz=131,slow=5.1,SNR=20						
BVAR	**Borovoye Array**	**77.92**	**328**	P	**P**	**11 14 15.5**	**-1.4**
	0.7nm,0.4s,baz=128,slow=9.6,SNR=5.0						

CSEM ***24*** *11:07:50.2±0.1, 40.25N×23.92E, h8km, ML1.8, Error ellipse: s-maj=2.4km s-min=2.2km az=118.0*
ATH ***24*** *11:07:50.1, 40.27N×23.87E, h6km±2km, ML1.6/2, Error ellipse: s-maj=2.5km s-min=0.4km az=73.0*
THE 24 11:07:50.8, 40.26N×23.89E, h4km±5km, ML1.8/7, Error ellipse: s-maj=5.6km s-min=0.7km az=102.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.10**	**45**	P	Pg	11 07 53.0	+0.1
OUR				S	Sg	11 07 54.5	+0.1
OUR	**Ouranopolis**	**0.10**	**45**	P	Pg	11 07 53.2	+0.3
OUR				S	Sg	11 07 54.5	+0.2
OUR	**Ouranopolis**	**0.10**	**45**	P	Pg	11 07 53.0	+0.1
OUR				S	Sg	11 07 54.5	+0.1
PLG	**Polygyros**	**0.36**	**289**	P	Pg	11 07 58.0	+0.3
PLG				S	Sg	11 08 02.6	+0.2
PLG	**Polygyros**	**0.36**	**289**	P	Pg	11 07 57.6	-0.1
PLG				S	Sg	11 08 02.5	+0.1
PLG				AML	AML	11 08 03.4	
	comp=E,227μm,0.2s						
PLG				AML	AML	11 08 03.5	
	comp=N,359μm,0.2s						
PLG	**Polygyros**	**0.36**	**289**	P	Pg	11 07 58.0	+0.3
PLG				S	Sg	11 08 02.6	+0.2
PAIG	**Paliouri**	**0.37**	**206**	P	Pg	11 07 57.8	-0.1
PAIG				S	Sg	11 08 02.7	0.0
PAIG	**Paliouri**	**0.37**	**206**	P	Pg	11 07 57.9	0.0
PAIG				S	Sg	11 08 03.2	+0.5
PAIG				AML	AML	11 08 03.7	
	comp=N,390μm,0.1s						
PAIG				AML	AML	11 08 03.8	
	comp=E,412μm,0.1s						
PAIG	**Paliouri**	**0.37**	**206**	P	Pg	11 07 57.8	-0.1
PAIG				S	Sg	11 08 02.7	0.0
HORT	**Hortiatis**	**0.69**	**299**	P	Pg	11 08 03.9	-0.1
HORT				S	Sg	11 08 13.4	+0.4
HORT	**Hortiatis**	**0.69**	**299**	P	Pg	11 08 03.9	-0.1
HORT				S	Sg	11 08 13.4	+0.4
SOH	**Sokhos**	**0.69**	**324**	P	Pg	11 08 04.2	+0.1
SOH				S	Sg	11 08 13.5	+0.4
SOH	**Sokhos**	**0.69**	**324**	P	Pg	11 08 04.2	+0.1
SOH				S	Sg	11 08 13.5	+0.4
KAVA	**Kavala**	**0.88**	**33**	P	Pg	11 08 07.0	-0.6
KAVA				S	Sg	11 08 19.2	+0.2
KAVA	**Kavala**	**0.88**	**33**	P	Pg	11 08 06.5	-1.2
KAVA	**Kavala**	**0.88**	**33**	P	Pg	11 08 07.0	-0.6
KAVA				S	Sg	11 08 19.2	+0.2
SRS	**Serrai**	**0.88**	**345**	P	Pg	11 08 07.6	-0.2
SRS				S	Sb	11 08 20.4	-0.5
SRS	**Serrai**	**0.88**	**345**	P	Pg	11 08 07.4	-0.4
SRS	**Serrai**	**0.88**	**345**	P	Pg	11 08 07.4	-0.4
SRS				S	Sb	11 08 20.4	-0.5

IDC ***24*** *11:14:11.5±1.2, 38.35N×43.35E, h0km, mb3.9/10, mb1 4.0/14, mb1mx3.8/47, mbtmp3.9/14, ML3.1/4, MS2.9/8, Ms1 2.9/8, ms1mx2.6/48, Error ellipse: s-maj=20.9km s-min=16.0km az=169.0*
ISK ***24*** *11:14:12.3, 38.73N×43.42E, h5km, ML4.1*
DDA ***24*** *11:14:13.1, 38.71N×43.37E, h4km, Ml4.0*
TEH ***24*** *11:14:14.3, 38.84N×43.24E, h18km, ML3.5*
CSEM ***24*** *11:14:20.4±0.2, 38.61N×42.73E, h5km, ML4.1, Error ellipse: s-maj=7.6km s-min=4.6km az=166.0*
AZER ***24*** *11:14:34.6±0.5, 39.03N×43.91E, h7km, Error ellipse: s-maj=4.7km s-min=3.7km az=18.0*
ISC 24 11:14:14.8±0.8, 38.69N±0.02×43.35E±0.02, h14km±5km, n129, σ1°72/165, mb3.9/9, MS2.7/4, 22C-29D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**162**	*e*PG	**Pg**	**11 14 17.3**	**-0.8**
VANB				*e*SG	**Sg**	**11 14 22.2**	**+2.0**
GEVA	**Gevas**	**0.44**	**212**	⇑*i* P	**Pg**	**11 14 22.3**	**-1.3**
GEVA				*i* S	**Sb**	**11 14 30.5**	**-0.5**
BASK	**Baskale_VAN**	**0.81**	**141**	*i* P	**Pg**	**11 14 28.9**	**-1.8**
BASK				*i* S	**Sg**	**11 14 41.5**	**+0.1**
BASK	**Baskale_VAN**	**0.81**	**141**	S	**Sg**	**11 14 41.5**	**+0.1**
TUTA	**Tutak**	**0.83**	**330**	⇓*i* P	**Pg**	**11 14 29.1**	**-1.8**
TUTA				*i* S	**Sg**	**11 14 37.5**	**-4.4**
DYDN	**Diyadin**	**0.90**	**17**	⇓*i* P	**Pg**	**11 14 29.7**	**-2.5**
DYDN				*i* S	**Sg**	**11 14 42.5**	**-1.5**
AGRB	**Hanur-Agry**	**0.93**	**343**	*e*PG	**Pb**	**11 14 30.6**	**-2.3**
AGRB				*e*SG	**Sg**	**11 14 44.2**	**-0.9**
EKAR	**Karacoban**	**1.15**	**300**	⇓*i* P	**Pb**	**11 14 36.0**	**-0.7**
EKAR				*i* S	**Sn**	**11 14 57.2**	**+4.7**
EKAR	**Karacoban**	**1.15**	**300**	P	**Pb**	**11 14 36.0**	**-0.7**
HAKT	**HAKKARI**	**1.16**	**166**	⇓*i* P	**Pb**	**11 14 34.4**	**-2.5**
HAKT				*i* S	**Sn**	**11 14 54.6**	**+1.9**
EATA	**Eleskirt**	**1.35**	**331**	⇓*i* P	**Pn**	**11 14 38.8**	**-0.8**
EATA				*i* S	**Sn**	**11 14 57.7**	**+0.2**
EATA	**Eleskirt**	**1.35**	**331**	P	**Pn**	**11 14 38.8**	**-0.8**
EATA				S	**Sn**	**11 14 57.7**	**+0.2**
SIRN	**S¨–rnak**	**1.40**	**212**	⇑*i* P	**Pn**	**11 14 40.5**	**+0.4**
SIRN				*i* S	**Sg**	**11 15 01.9**	**+1.9**
SIRN	**S¨–rnak**	**1.40**	**212**	P	**Pn**	**11 14 40.5**	**+0.4**
SIRN				S	**Sg**	**11 15 01.9**	**+1.9**
CUKT	**Cukurca**	**1.45**	**172**	*e*PN	**Pb**	**11 14 41.7**	**0.0**
CUKT	**Cukurca**	**1.45**	**172**	⇓*i* P	**Pg**	**11 14 44.6**	**+1.8**
CUKT				*i* S	**Sg**	**11 15 05.4**	**+3.8**
VRTB	**Varto-Mus**	**1.55**	**288**	*e*PN	**Pb**	**11 14 43.3**	**-0.2**
VRTB	**Varto-Mus**	**1.55**	**288**	*i* P	**Pn**	**11 14 41.9**	**-0.3**
VRTB				*i* S	**Sg**	**11 15 06.6**	**+1.7**
VRTB	**Varto-Mus**	**1.55**	**288**	P	**Pn**	**11 14 41.9**	**-0.3**
VRTB	**Varto-Mus**	**1.55**	**288**	*e*Pn	**Pb**	**11 14 43.3**	**-0.2**
DIGO	**Kars**	**1.73**	**1**	⇓*i* P	**Pn**	**11 14 45.4**	**+0.7**
DIGO				*i* S	**Sb**	**11 15 08.0**	**-0.2**
BNGL	**BINGOL**	**1.74**	**279**	⇓*i* P	**Pb**	**11 14 46.1**	**-0.6**
BNGL				*i* S	**Sg**	**11 15 12.0**	**+1.2**
NAX	**Nakhchivan**	**1.74**	**73**	⇑P	Pg	11 14 55.7	+7.5
	SNR=12						
NAX				⇓S	**Sg**	**11 15 15.3**	**+4.4**
NAX	**Nakhchivan**	**1.74**	**73**	P	Pg	11 14 55.7	+7.4
	SNR=12						
HOMI	**Horasan**	**1.76**	**321**	⇓*i* P	**Pn**	**11 14 45.9**	**+0.8**
HOMI				*i* S	**Sg**	**11 15 14.1**	**+2.6**
SVAN	**Silvan-Diyarba**	**1.77**	**253**	*e*PN	**Pb**	**11 14 46.8**	**-0.4**
SVAN				*e*SN	**Sb**	**11 15 10.5**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.77**	**253**	⇑*i* P	**Pn**	**11 14 45.8**	**+0.6**
SVAN				*i* S	**Sg**	**11 15 11.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.77**	**253**	P	**Pn**	**11 14 45.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.77**	**253**	*e*Pn	**Pb**	**11 14 46.8**	**-0.4**
GNI	**Garni**	**1.81**	**36**	Pn	**Pn**	**11 14 46.1**	**+0.2**
	20nm,0.3s,baz=214,slow=1.5,SNR=20						
GNI				Lg	Lg	11 15 14.0	
	44nm,0.3s,baz=220,slow=18,SNR=5.2						
BTMN	**Batman**	**1.82**	**245**	⇑*i* P	**Pn**	**11 14 46.6**	**+0.7**
BTMN				*i* S	**Sg**	**11 15 13.5**	**+0.1**
BTMN	**Batman**	**1.82**	**245**	P	**Pn**	**11 14 46.6**	**+0.7**
ISHB	**Shabestar**	**1.82**	**102**	*e*Pn	**Pn**	**11 14 46.4**	**+0.4**
ISHB				*e*AMB	AMB	11 14 51.1	
	comp=Z,9μm,0.2s						
IMRD	**Marand**	**1.84**	**88**	*e*Pn	**Pn**	**11 14 46.2**	**0.0**
IMRD				*e*AMB	AMB	11 14 54.9	
	comp=Z,17μm,0.3s						
IMRD				*e*Sg	**Sg**	**11 15 14.6**	**+0.5**
IMRD	**Marand**	**1.84**	**88**	*e*Pn	**Pn**	**11 14 46.2**	**0.0**
IMRD				*e*Sg	**Sg**	**11 15 14.6**	**+0

QBL	Gabala	4.12	55	P		Pg	11 15 30.8	-3.0
	SNR=8.7							
LKRN	Lenkeran, Azer	4.25	88	⇓P		Pg	11 15 33.7	-2.5
	SNR=3.0							
LKRN	Lenkeran, Azer	4.25	88	P		Pg	11 15 33.7	-2.5
	SNR=3.0							
ASTR	Astara	4.26	90	⇓P		Pg	11 15 34.1	-2.3
	SNR=3.6							
ASTR	Astara	4.26	90	P		Pg	11 15 34.1	-2.3
	SNR=3.6							
XNQ	Khinaliq	4.44	55	⇑P		Pb	11 15 34.4	+1.7
	SNR=6.2							
XNQ	Khinaliq	4.44	55	P		Pb	11 15 34.4	+1.7
	SNR=6.2							
PQL	Pirkuli	4.55	61	⇑P		Pb	11 15 36.3	+1.7
	SNR=7.8							
PQL	Pirkuli	4.55	61	P		Pb	11 15 36.3	+1.7
	SNR=7.8							
QSAR	Qusar	4.71	52	⇑P		Pb	11 15 38.3	+1.1
	SNR=4.2							
QSAR	Qusar	4.71	52	P		Pb	11 15 38.3	+1.1
	SNR=4.2							
QUBA	Quba, Azerbaij	4.76	54	⇓P		Pb	11 15 39.0	+0.9
	SNR=5.2							
QUBA	Quba, Azerbaij	4.76	54	P		Pb	11 15 39.0	+0.9
	SNR=5.2							
ATGJ	Altiaghaj	4.82	61	⇓P		Pb	11 15 40.1	+1.0
	SNR=3.7							
ATGJ	Altiaghaj	4.82	61	P		Pb	11 15 40.1	+1.0
	SNR=3.7							
SIZA	Siyzn	4.89	59	⇑P		Pb	11 15 40.8	+0.5
	SNR=4.3							
SIZA	Siyzn	4.89	59	P		Pb	11 15 40.8	+0.5
	SNR=4.3							
KBZ	Khabaz	5.05	356	Pn		Pn	11 15 36.5	+6.4
	comp=Z,0.2nm,0.3s,baz=160,slow=12,SNR=2.3							
KBZ				LR		LR	11 18 02.1	
	comp=Z,188nm,19.2s,baz=186,slow=43							
KVAR	Kislovodsk Arr	5.29	355	Pn		Pn	11 15 40.1	+6.6
	baz=208,slow=6.1,SNR=2.0							
KVAR				LR		LR	11 18 10.1	
	comp=Z,172nm,19.1s,baz=188,slow=42							
BRTR	Keskin Array B	7.61	281	Pn		Pn	11 16 08.7	+3.2
	comp=Z,0.1nm,0.3s,baz=95,slow=16,SNR=2.1							
ASF	Jabal al Asfar	8.36	221	Pn		Pn	11 16 14.4	-1.3
	comp=Z,0.2nm,0.3s,baz=70,slow=10,SNR=1.7							
ASF				Lg		Lg	11 18 38.8	
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=1.5							
MMAI	Mount Meron Ar	8.58	231	Pn		Pn	11 16 17.9	-0.9
	baz=58,slow=19,SNR=1.6							
MMAI				Lg		Lg	11 18 52.2	
	baz=35,slow=31,SNR=1.3							
MMAI				LR		LR	11 20 02.3	
	comp=Z,93nm,19.9s,baz=35,slow=42							
EIL	Elat	11.36	220	LR		LR	11 21 57.8	
	comp=Z,99nm,21.2s,baz=50,slow=42							
DOPR	Dopca	15.13	304	⇑i P		P	11 17 56.5	+3.3
VOIR		15.16	302	⇑i P		P	11 17 57.1	+3.5
AKASG	Malin Array Be	15.62	325	Pn		Pn	11 17 53.6	-0.9
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=2.5							
AKTO	Aktyubinsk	15.69	37	Pn		P	11 17 57.6	-1.7
	comp=Z,0.2nm,0.3s,baz=231,slow=6.5,SNR=3.4							
BURAR	Bucovina Array	15.93	310	⇓i P		P	11 18 04.5	+2.3
OBN	Obninsk	17.06	347	P		P	11 18 15.2	+0.7
	comp=Z,11nm,0.3s,baz=9.7,slow=22,SNR=2.2							
VYHS	Vyhne	20.20	307	eP		Pn	11 18 51.1	0.0
ARU	Arti	20.42	25	P		Pn	11 18 55.1	+1.5
	comp=Z,2.7nm,0.5s,baz=184,slow=7.1,SNR=1.9							
ARU				LR		LR	11 29 21.0	
	comp=Z,9.7nm,21.4s,baz=223,slow=44							
GERES	GERESS Array B	23.56	305	P		P	11 19 25.4	+0.5
	comp=Z,0.4nm,0.3s,baz=98,slow=6.0,SNR=1.6							
FINES	FINESS Array B	25.17	340	P		P	11 19 39.2	-0.3
	comp=Z,2.1nm,0.7s,baz=148,slow=11,SNR=2.7							
DAVOX	Davos/Dischmat	25.73	299	LR		LR	11 31 14.7	
	comp=Z,24nm,19.8s,baz=273,slow=40							
KURBB	Kurchatov Arra	27.46	53	P		P	11 20 00.8	+0.6
	comp=Z,1.6nm,0.6s,baz=262,slow=9.1,SNR=9.6							
HFS	Hagfors	28.44	329	P		P	11 20 09.1	+0.2
	comp=Z,1.9nm,0.5s,baz=134,slow=12,SNR=2.5							
MKAR	Makanchi Array	29.48	61	P		P	11 20 18.3	0.0
	comp=Z,0.2nm,0.4s,baz=271,slow=10.0,SNR=2.1							
NOA	NORSAR Array B	29.96	329	LR		LR	11 32 22.2	
	comp=Z,15nm,16.6s,baz=290,slow=36							
EKA	Eskdalemuir Ar	35.05	314	P		P	11 21 06.9	-0.1
	comp=Z,1.0nm,0.5s,baz=102,slow=10,SNR=3.5							
ESDC	Sonseca Array	36.36	287	P		P	11 21 17.3	-1.1
	comp=Z,0.3nm,0.4s,baz=62,slow=8.3,SNR=1.9							
TORD	Torodi Ar. Bea	44.74	247	P		P	11 22 26.1	-1.9
	comp=Z,0.9nm,0.9s,baz=61,slow=9.4,SNR=5.9							
CMAR	Chiang Mai Arr	52.00	96	P		P	11 23 22.4	-1.5
	comp=Z,1.5nm,0.4s,baz=298,slow=8.2,SNR=1.8							
TIXI	Tiksi	52.42	23	LR		LR	11 49 33.6	
	comp=Z,10nm,18.6s,baz=84,slow=40							

*ISCJB **24** 11:14:16.8±0.8, 24°.72N±0°.07×122°.52E±0°.02, h97km±7km, Error ellipse: s-maj=11.6km s-min=3.6km az=175.6*
*TAP **24** 11:14:16.5, 24°.72N×122°.47E, h104km, ML3.1, C*
*JMA **24** 11:14:16.5±0.2, 24°.56N×122°.49E, h103km±2km, M1.5*
ISC 24 11:14:17.0±1.8, 24°.68N±0°.09×122°.51E±0°.03, h99km±12km, n26, σ0s49/44, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.45	119	P	Pn	11 14 32.4	+0.1
JYNG				S	Sn	11 14 44.4	+0.6
YOJ	Yonaguni jima	0.50	115	P	Pn	11 14 32.7	0.0
YOJ				eS	Sn	11 14 44.2	-0.2
EGS		0.55	288	eP	Pn	11 14 33.2	+0.1
	baz=276						
TWB1	Santiao Chiao	0.58	305	eP	Pn	11 14 33.9	+0.6
	baz=299						
TWC	Suao	0.61	264	P	Pn	11 14 33.5	0.0
	baz=256						
TWC				i S	Sn	11 14 45.0	-0.9
	baz=256						
ENA	Nanau	0.74	251	i P	Pn	11 14 34.8	0.0
	baz=244						
ENA				eS	Sn	11 14 48.2	+0.2
	baz=244						
NWF	Wu-fen Shan	0.77	301	eP	Pn	11 14 34.8	-0.3
	baz=291						
ENTT	Nioudou	0.86	268	eP	Pn	11 14 36.3	+0.4
	baz=267						
ENTT				eS	Sn	11 14 49.8	-0.3
	baz=267						
TWD	Chiawan	1.02	235	P	Pn	11 14 37.6	0.0
	baz=227						
TWD				eS	Sn	11 14 52.7	-0.5
	baz=227						
NSK	Sanguang	1.05	270	P	Pn	11 14 37.9	-0.1
	baz=273						
NSK				S	Sn	11 14 53.3	-0.4
	baz=273						
NNS	Nan Shan	1.06	258	i P	Pn	11 14 38.3	+0.1
	baz=249						
NNS				S	Sn	11 14 54.3	+0.2
	baz=249						
IRIF	Iriomote-Funau	1.16	107	eS	Sn	11 14 56.6	+0.8
WHF	Hehuan Shan	1.25	245	eP	Pn	11 14 40.6	-0.1
	baz=242						
WHF				eS	Sn	11 14 58.2	-0.3
	baz=242						
TWT	Tachien	1.29	251	⇑i P	Pn	11 14 41.4	+0.6
	baz=242						
TWT				S	Sn	11 14 59.0	+0.2
	baz=242						
NSTT	Nanjuang	1.38	268	eP	Pn	11 14 41.8	+0.1
	baz=266						
NSTT				eS	Sn	11 14 59.6	-0.8
	baz=266						
JKRS	Kuro-shima	1.43	107	P	Pn	11 14 43.0	+0.7
JKRS				S	Sn	11 15 01.7	+0.1
JIJ	Ishigaki jima	1.52	101	P	Pn	11 14 43.2	-0.2
JIJ				eS	Sn	11 15 02.6	-0.8
JISG	Ishigakijimahi	1.64	93	P	Pn	11 14 44.9	0.0
JISG				S	Sn	11 15 05.6	-0.5
SMLT	Sun Moon Lake	1.67	242	eP	Pn	11 14 46.2	+0.8
	baz=236						
SMLT				eS	Sn	11 15 07.2	+0.2
	baz=236						
TYC	Yuchr	1.69	243	eP	Pn	11 14 46.1	+0.5
	baz=241						
TYC				eS	Sn	11 15 07.8	+0.4
	baz=241						
TWF1	Yuli	1.72	220	eP	Pn	11 14 44.9	-1.1
	baz=225						
YUS	Yu-Shan	1.85	231	eP	Pn	11 14 48.5	+0.4
	baz=222						
YUS				eS	Sn	11 15 11.9	+0.2
	baz=222						
ALS	Alishan	1.94	234	eP	Pn	11 14 49.5	+0.4
	baz=226						
CHN5	Tsauling	1.99	238	eP	Pn	11 14 49.7	+0.2
	baz=245						
CHN5				eS	Sn	11 15 14.9	+0.6
	baz=245						
JTJ	Tarama	1.99	91	eS	Sn	11 15 14.0	-0.2
ELDTW	Lidau	2.02	223	eP	Pn	11 14 48.9	-0.9
	baz=219						

*IDC **24** 11:16:26.6±2.2, 19°.18N×39°.01E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/75, mbtmp3.7/7, MS3.2/8, Ms1 3.2/8, ms1mx2.8/51, Error ellipse: s-maj=60.4km s-min=23.8km az=160.0*
*SGS **24** 11:16:35.7, 19°.73N×39°.33E, h36km*
ISC 24 11:16:32.5±2.2, 19°.7N±0°.1×39°.3E±0°.1, h10km, n21, σ0s84/12, mb3.7/6, MS3.2/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBS		1.37	15	P	Pn	11 16 59.2	+1.5
LBNS	Jabal Laban	1.47	22	S	Sn	11 17 17.5	-0.9
LBNS				P	Pn	11 17 00.0	+0.9
SHMS		1.80	11	P	Pn	11 17 03.2	-0.4
BLJS	Baljurashi	2.18	82	S	Sn	11 17 36.1	-0.2
BLJS				P	Pn	11 17 09.7	+0.5
FDAS		2.36	24	P	Pn	11 17 12.3	+1.0
DJNS	Zahran al Janu	4.47	115	P	Pg	11 18 22.6	+24
WSAR	Wadi Sarin	18.33	75	LR	LR	11 28 54.2	
	comp=Z,145nm,18.9s,baz=323,slow=40						
BRTR	Keskin Array B	20.57	347	P	P	11 21 11.8	+0.2
	1.7nm,0.8s,baz=163,slow=10,SNR=6.5						
KMBO	Kilima Mbogo	20.77	186	LR	LR	11 28 53.2	
	comp=Z,63nm,20.1s,baz=84,slow=37						
GNI	Garni	20.93	12	LR	LR	11 30 02.1	
	comp=Z,30nm,21.1s,baz=212,slow=38						
KVAR	Kislovodsk Arr	24.38	6	LR	LR	11 31 36.4	
	comp=Z,31nm,19.8s,baz=180,slow=36						
GEYT	Alibeck	24.46	38	LR	LR	11 32 45.4	
	comp=Z,80nm,20.0s,baz=255,slow=39						
KEST	Kesra	30.82	308	LR	LR	11 36 19.6	
	comp=Z,52nm,18.2s,baz=328,slow=39						
TORD	Torodi Ar. Bea	36.60	266	P	P	11 23 32.1	-7.1
	2.5nm,1.0s,baz=76,slow=8.3,SNR=9.6						
ESDC	Sonseca Array	42.07	308	P	P	11 24 20.6	-4.0
	0.2nm,0.4s,baz=103,slow=7.2,SNR=1.7						
KURBB	Kurchatov Arra	43.70	36	P	P	11 24 38.1	+0.5
	0.9nm,0.7s,baz=251,slow=8.7,SNR=1.4						
MKAR	Makanchi Array	44.21	42	P	P	11 24 41.5	-0.3
	1.0nm,0.7s,baz=243,slow=6.7,SNR=5.0						
DBIC	Dimbokro	44.76	259	LR	LR	11 43 35.1	
	comp=Z,32nm,19.4s,baz=70,slow=37						
ZALV	Zalesovo Beam	48.68	34	P	P	11 25 16.3	-0.4
	1.3nm,0.6s,baz=273,slow=10,SNR=4.6						
SONM	Songino Array	60.36	46	P	P	11 26 41.4	-0.6
	0.4nm,0.6s,baz=267,slow=5.8,SNR=2.3						
KSRS	Korea Array	77.24	55	LR	LR	12 06 46.8	
	comp=Z,24nm,20.1s,baz=25,slow=39						

*AZER **24** 11:17:35.3±3.3, 38°.17N×42°.58E, h15km±75km, Error ellipse: s-maj=83.7km s-min=21.4km az=60.0*
*ISK **24** 11:17:44.4, 38°.80N×43°.59E, h5km, ML3.7*
*CSEM **24** 11:17:47.0±0.2, 38°.73N×43°.54E, h10km, ML3.7, Error ellipse: s-maj=8.3km s-min=5.2km az=154.0*
ISC 24 11:17:48.2±1.0, 38°.70N±0°.04×43°.46E±0°.03, h31km±8km, n50, σ2s46/53, 6C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.12	207	ePG	Pb	11 17 51.5	-2.4
VANB	Van	0.12	207	ePg	Pb	11 17 51.5	-2.4
AGRB	Hanur-Agry	0.94	338	ePG	Pn	11 18 02.1	-3.5
AGRB				eSG	Sn	11 18 16.8	-1.4
CUKT	Cukurca	1.46	175	ePN	Pb	11 18 14.3	-0.5
CUKT	Cukurca	1.46	175	ePn	Pb	11 18 14.3	-0.5
VRTB	Varto-Mus	1.63	287	ePN	Pb	11 18 16.4	-1.3
VRTB	Varto-Mus	1.63	287	ePn	Pb	11 18 16.4	-1.3
NAX	Nakhchivan	1.66	73	P	Pb	11 18 15.3	-2.9
	SNR=29						
NAX				⇑S	Sb	11 18 44.7	+6.0
NAX	Nakhchivan	1.66	73	P	Pb	11 18 15.3	-2.9
	SNR=29						
SVAN	Silvan-Diyarba	1.86	254	ePN	Pb	11 18 20.3	-1.2
SVAN	Silvan-Diyarba	1.86	254	ePn	Pb	11 18 20.3	-1.2
SENK	Senkaya-Erzuru	2.04	336	ePN	Pb	11 18 21.0	-3.9
SENK	Senkaya-Erzuru	2.04	336	ePn	Pb	11 18 21.0	-3.9
BNGB	Bing¶ll	2.19	278	ePN	Pb	11 18 25.0	-2.2
BINT	Bingol	2.33	275	ePn	Pn	11 18 25.0	+0.5
YEDI	Yedisu-Bingol	2.38	289	ePN	Pb	11 18 27.5	-3.0
YEDI	Yedisu-Bingol	2.38	289	ePn	Pb	11 18 27.5	-3.0
BGD	Bogdanovka	2.56	2	P	Pb	11 18 31.8	-1.9
BGD				S	Sb	11 19 08.3	+3.5
MAZI	Mazidag	2.68	243	ePN	Pb	11 18 32.3	-3.3
MAZI	Mazidag	2.68	243	ePn	Pb	11 18 32.3	-3.3
GDB	GEDABAY	2.69	41	⇑P	Pb	11 18 30.4	-5.3
	SNR=32						
GDB				⇓S	Sb	11 19 10.8	+2.5
GDB	GEDABAY	2.69	41	P	Pb	11 18 30.4	-5.3
	SNR=32						
AKH	Akhalkalaki	2.71	1	ePN	Pn	11 18 29.5	-0.3
AKH	Akhalkalaki	2.71	1	P	Pb	11 18 34.8	-1.2
AKH				S	Sb	11 19 17.4	+8.5
AKH	Akhalkalaki	2.71	1	⇓i P	Pb	11 18 34.9	-1.2
AKH	Akhalkalaki	2.71	1	ePn	Pn	11 18 29.5	-0.3
AKH	Akhalkalaki	2.71	1	⇓i P	Pb	11 18 34.9	-1.2
QZX	Qazax, Azerbai	2.78	31	⇓P	Pb	11 18 32.7	-4.5
	SNR=14						
QZX				⇓S	Sb	11 19 13.5	+2.7
QZX	Qazax, Azerbai	2.78	31	P	Pb	11 18 32.7	-4.5
	SNR=14						
GANJ	Ganja	2.94	48	⇑P	Pb	11 18 33.9	-6.1
	SNR=12						
GANJ				⇓S	Sb	11 19 20.2	+4.7
GANJ	Ganja	2.94	48	P	Pb	11 18 33.9	-6.1
	SNR=12						
ERZN	Erzincan	3.04	288	ePN	Pn	11 18 36.5	+2.2
DGRG	David-gareji	3.12	28	P	Pb	11 18 41.9	-1.0
DGRG				S	Sb	11 19 25.5	+5.0
TBLG	Delisi	3.18	18	P	Pb	11 18 41.7	-2.4
TBLG				S	Sb	11 19 27.6	+5.2
MNGR	Mingechevir, A	3.48	52	⇑P	Pn	11 18 40.2	0.0
	SNR=3.1						
MNGR	Mingechevir, A	3.48	52	P	Pn	11 18 40.2	0.0
	SNR=3.1						
ZKTA	Zakatala	3.81	39	⇓P	Pn	11 18 45.2	+0.4
	SNR=8.8						
SEKA	Sheki	3.81	48	⇓P	Pn	11 18 45.6	+0.7
	SNR=5.1						
SEKA	Sheki	3.81	48	P	Pn	11 18 45.6	+0.7
	SNR=5.1						
LRK	Lerik	3.82	89	⇑P	Pn	11 18 43.4	-1.7
	SNR=5.6						
LRK	Lerik	3.82	89	P	Pn	11 18 43.4	-1.7
	SNR=5.6						
ONI	Oni	3.88	360	P	Pb	11 18 56.4	+0.3
ONI				S	Sb	11 19 53.8	+11
ASTR	Astara	4.18	90	⇑P	Pn	11 18 48.5	-1.4
	SNR=2.9						
ASTR	Astara	4.18	90	P	Pn	11 18 48.5	-1.4
	SNR=2.9						
XNQ	Khinaliq	4.36	54	⇓P	Pn	11 18 52.9	+0.3
	SNR=5.9						
XNQ	Khinaliq	4.36	54	P	Pn	11 18 52.9	+0.3
	SNR=5.9						
PQL	Pirkuli	4.47	61	⇓P	Pn	11 18 54.6	+0.5
	SNR=2.8						
PQL	Pirkuli	4.47	61	P	Pn	11 18 54.6	+0.5
	SNR=2.8						
QSAR	Qusar	4.63	51	⇓P	Pn	11 18 56.6	+0.4
	SNR=3.1						
QSAR	Qusar	4.63	51	P	Pn	11 18 56.6	+0.4
	SNR=3.1						

*ISK **24** 11:32:34.4, 38°.74N×43°.66E, h5km, ML3.4*
*DDA **24** 11:32:36.6, 38°.72N×43°.54E, h16km, Ml3.5*
*AZER **24** 11:32:36.4±2.9, 38°.20N×43°.48E, h8km, Error ellipse: s-maj=35.6km s-min=15.8km az=93.0*
*CSEM **24** 11:32:38.3±0.2, 38°.64N×43°.37E, h2km, ML3.4, Error ellipse: s-maj=6.0km s-min=5.7km az=76.0*
ISC 24 11:32:38.0±0.9, 38°.72N±0°.02×43°.48E±0°.02, h16km±7km, n67, σ1s90/100, 10C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	209	ePG	Pg	11 32 41.6	-0.5
VANB				eSG	Sb	11 32 47.0	+1.6
VANB	Van	0.14	209	ePg	Pg	11 32 41.6	-0.5
GEVA	Gevas	0.53	219	⇓i P	Pg	11 32 46.7	-1.8
GEVA				i S	Sb	11 32 56.6	+0.2
GEVA	Gevas	0.53	219	P	Pg	11 32 46.7	-1.8
GEVA				S	Sb	11 32 56.6	+0.2
BASK	Baskale_VAN	0.79	148	i P	Pg	11 32 51.7	-1.7
BASK				i S	Sb	11 33 03.7	-0.2
BASK	Baskale_VAN	0.79	148	P	Pg	11 32 51.7	-1.7
BASK				S	Sb	11 33 03.7	-0.2
DYDN	Diyadin	0.84	11	i P	Pg	11 32 52.6	-1.8
DYDN				i S	Sg	11 33 04.6	-0.9
DYDN	Diyadin	0.84	11	P	Pg	11 32 52.6	-1.8
DYDN				S	Sg	11 33 04.6	-0.9
TUTA	Tutak	0.85	323	⇑i P	Pg	11 32 53.1	-1.6
TUTA				i S	Sb	11 33 06.6	+0.6
TUTA	Tutak	0.85	323	P	Pg	11 32 53.1	-1.6
TUTA				S	Sb	11 33 06.6	+0.6
AGRB	Hanur-Agry	0.93	336	ePG	Pg	11 32 54.4	-1.8
AGRB				eSG	Sb	11 33 09.2	+1.0
HAKT	HAKKARI	1.18	171	⇑i P	Pb	11 32 57.9	-2.2
HAKT				i S	Sn	11 33 17.0	+1.1
HAKT	HAKKARI	1.18	171	P	Pb	11 32 57.9	-2.2
HAKT				S	Sn	11 33 17.0	+1.1
EKAR	Karacoban	1.23	296	i P	Pn	11 33 00.5	-0.3
EKAR				i S	Sg	11 33 23.0	+5.3
EKAR	Karacoban	1.23	296	P	Pn	11 33 00.5	-0.3
EATA	Eleskirt	1.37	326	⇑i P	Pn	11 33 02.5	-0.3
EATA				i S	Sg	11 33 23.9	+1.5
EATA	Eleskirt	1.37	326	P	Pn	11 33 02.5	-0.3
EATA				S	Sg	11 33 24.0	+1.5
CUKT	Cukurca	1.48	176	ePN	Pn	11 33 03.3	-0.8
CUKT	Cukurca	1.48	176	i P	Pb	11 33 05.2	0.0
CUKT				i S	Sg	11 33 30.1	+4.5
CUKT	Cukurca	1.48	176	ePn	Pn	11 33 03.3	-0.8
CUKT	Cukurca	1.48	176	P	Pb	11 33 05.2	0.0
NAX	Nakhchivan	1.64	73	⇓P	Pb	11 33 07.6	-0.2
	SNR=50						
NAX				⇓S	Sg	11 33 34.0	+3.2
NAX	Nakhchivan	1.64	73	P	Pb	11 33 07.6	-0.2
	SNR=50						
NAX				S	Sg	11 33 34.0	+3.2
DIGO	Kars	1.69	357	i P	Pb	11 33 08.2	-0.7
DIGO				i S	Sg	11 33 32.0	-0.6
DIGO	Kars	1.69	357	P	Pb	11 33 08.2	-0.7
DIGO				S	Sg	11 33 32.0	-0.6
HOMI	Horasan	1.80	318	⇑i P	Pb	11 33 10.3	-0.4
HOMI				i S	Sg	11 33 40.6	+4.6
BNGL	BINGOL	1.83	278	i P	Pb	11 33 10.6	-0.7
BNGL				i S	Sg	11 33 36.6	-0.5
SVAN	Silvan-Diyarba	1.88	253	ePN	Pb	11 33 11.0	-1.0
SVAN	Silvan-Diyarba	1.88	253	i P	Pb	11 33 11.4	-0.6
SVAN				i S	Sg	11 33 37.4	-1.1
SVAN	Silvan-Diyarba	1.88	253	ePn	Pb	11 33 11.0	-1.0
SVAN	Silvan-Diyarba	1.88	253	P	Pb	11 33 11.4	-0.6
SVAN				S	Sg	11 33 37.4	-1.1
BTMN	Batman	1.93	245	i P	Pn	11 33 11.2	+1.0
BTMN				i S	Sg	11 33 38.8	-1.2
BTMN	Batman	1.93	245	P	Pn	11 33 11.2	+1.0
BTMN				S	Sg	11 33 38.8	-1.2
EAK	Akyaka	1.96	3	i P	Pg	11 33 14.4	-1.3
EAK				i S	Sg	11 33 50.2	+8.9
EAK	Akyaka	1.96	3	P	Pg	11 33 14.4	-1.3
ERZM	Erzurum	2.02	306	i P	Pb	11 33 14.2	-0.3
ERZM				i S	Sg	11 33 41.8	-1.3
ERZM	Erzurum	2.02	306	P	Pb	11 33 14.2	-0.3
ERZM				S	Sg	11 33 41.8	-1.3
SENK	Senkaya-Erzuru	2.03	335	ePN	Pn	11 33 12.1	+0.3
BNGB	Bing¶ll	2.20	278	ePN	Pn	11 33 15.6	+1.5
BINT	Bingol	2.34	275	ePn	Pn	11 33 15.6	-0.4
YEDI	Yedisu-Bingol	2.39	288	ePN	Pn	11 33 18.1	+1.4
YEDI	Yedisu-Bingol	2.39	288	ePn	Pn	11 33 18.1	+1.4
GDB	GEDABAY	2.66	41	⇓P	Pb	11 33 25.2	-0.1
	SNR=17						
GDB				⇓S	Sg	11 34 03.1	-0.4
GDB	GEDABAY	2.66	41	P	Pb	11 33 25.2	-0.1
	SNR=17						
GDB				S	Sg	11 34 03.1	-0.4
MAZI	Mazidag	2.70	243	ePN	Pn	11 33 21.1	+0.1
MAZI	Mazidag	2.70	243	ePn	Pn	11 33 21.1	+0.1
QZX	Qazax, Azerbai	2.75	31	⇓P	Pb	11 33 26.8	-0.1
	SNR=14						
QZX				⇑S	Sg	11 34 08.5	+2.1
QZX	Qazax, Azerbai	2.75	31	P	Pb	11 33 26.8	-0.1
	SNR=14						
GANJ	Ganja	2.92	48	⇑P	Pb	11 33 28.6	-1.1
	SNR=9.0						
GANJ				⇓S	Sg	11 34 09.7	-2.0
GANJ	Ganja	2.92	48	P	Pb	11 33 28.6	-1.1
	SNR=9.0						
GANJ				S	Sg	11 34 09.7	-2.0
PTK	Pertek	3.20	274	ePN	Pn	11 33 29.7	+1.9
PTK	Pertek	3.20	274	ePn	Pn	11 33 29.7	+1.9
BRDA	Brd	3.25	61	⇓P	Pb	11 33 31.7	-3.6
	SNR=3.1						
BRDA	Brd	3.25	61	P	Pb	11 33 31.7	-3.6
	SNR=3.1						
SVRC	Sivrice-ELAZID	3.29	265	ePN	Pn	11 33 31.3	+2.2
SVRC	Sivrice-ELAZID	3.29	265	ePn	Pn	11 33 31.3	+2.2
ZKTA	Zakatala	3.78	39	⇑P	Pb	11 33 40.6	-3.8

IDC ***24*** *11:49:53.2±0.6,29°.59S×176°.24W,h0km,mb4.6/16, mb1 4.7/17,mb1mx4.6/26,mbtmp4.6/17,ML5.0/1,MS4.3/19, Ms1 4.4/19,ms1mx4.3/28,Error ellipse: s-maj=18.1km s-min=16.8km az=156.0*

ISCJB ***24*** *11:49:56.0±0.1,30°.11S±0°.03×176°.26W±0°.04,h33km, mb4.9/92,MS4.5/23,Error ellipse: s-maj=5.5km s-min=2.8km az=42.7*

BJI ***24*** *11:49:57.4,29°.22S×175°.84W,h36km,mb5.2/15, mB5.5/14,Ms5.0/15,Ms7 4.7/17*

NEIC ***24*** *11:49:59.8±0.7,29°.74S×176°.33W,h46km±6km,mb4.9/74, Error ellipse: s-maj=6.0km s-min=4.6km az=138.0*

MOS ***24*** *11:49:59.8±1.1,29°.61S×176°.41W,h51km,mb4.9/12, Error ellipse: s-maj=13.5km s-min=10.9km az=116.2*

GCMT ***24*** *11:49:59.8±0.2,29°.69S×176°.00W,h16km,MW5.2/90, Moment Tensor Solution. s70,c108; s90,c149; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58±.02; $M_{\theta\theta}$-0.16±.01; $M_{\phi\phi}$0.73±.01; $M_{r\theta}$-0.28±.04; $M_{\theta\phi}$-0.02±.01; $M_{\phi r}$-0.40±.04; Best double couple: $M_0$0.82900×10^{17} NP1:ϕ_s20.00000°,δ64.00000°, λ-67.00000°. NP2:ϕ_s156.00000°,δ34.00000°, λ-130.00000°. Principal axes: T 0.8530, Plg16.0000°, Azm93.0000°; N -0.0480, Plg21.0000°, Azm190.0000°; P -0.8060, Plg63.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 11:49:57.7±0.3,29°.85S±0°.05×176°.08W±0°.05,h35km, n337,σ1s93/335,mb4.9/92,MS4.5/23,7C-3D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.71**	**290**	Pn	**Pn**	**11 50 23.5**	**-1.5**
	941nm,0.3s,baz=104,slow=8.1,SNR=65						
RAO				Sn	**Sn**	**11 50 41.8**	**-3.8**
	3μm,0.3s,baz=109,slow=23,SNR=17						
RAO				LR	LR	11 50 53.1	
	comp=Z,9μm,21.7s,baz=23,slow=40						
RAO	**Raoul Island**	**1.71**	**290**	*e*Pn	**Pn**	**11 50 23.5**	**-1.5**
RAO				*e*Pn	Pn	11 50 23.9	-1.0
RAO				*e*Sn	**Sn**	**11 50 41.9**	**-3.8**
RAO				*e*		11 50 53.1	
MXZ	**Matakaoa Point**	**9.00**	**210**	*e*Pn	**Pn**	**11 52 04.6**	**-0.5**
MXZ	**Matakaoa Point**	**9.00**	**210**	*e*Pn	**Pn**	**11 52 00.9**	**-4.3**
WMGZ	**Waiomatatini S**	**9.17**	**208**	*e*Pn	**Pn**	**11 52 03.7**	**-3.8**
WMGZ				SN	**Sn**	**11 53 48.1**	**-1.4**
PKGZ	**Pakihiroa**	**9.38**	**210**	PN	**Pn**	**11 52 06.0**	**-4.2**
PKGZ				SN	**Sn**	**11 53 50.4**	**-4.1**
HAZ	**Te Kaha**	**9.40**	**211**	PN	**Pn**	**11 52 06.9**	**-3.6**
HAZ				SN	**Sn**	**11 53 52.6**	**-2.3**
PUZ	**Puketiti**	**9.45**	**208**	PN	**Pn**	**11 52 07.0**	**-4.3**
RUGZ	**Raukumara Rang**	**9.62**	**211**	PN	**Pn**	**11 52 09.7**	**-4.0**
TWGZ	**Tauwhareparae**	**9.66**	**209**	PN	**Pn**	**11 52 10.0**	**-4.1**
CNGZ	**Carnagh Statio**	**9.83**	**207**	PN	**Pn**	**11 52 12.5**	**-3.9**
MWZ	**Matawai**	**9.99**	**210**	PN	Pn	11 52 13.7	-4.9
MWZ				SN	**Sn**	**11 54 04.5**	**-4.9**
URZ	**Urewera**	**10.11**	**212**	Pn	**Pn**	**11 52 15.6**	**-4.7**
	1.5nm,0.3s,baz=252,slow=4.8,SNR=28						
URZ				Sn	**Sn**	**11 54 07.4**	**-5.1**
	30nm,0.3s,baz=229,slow=20,SNR=15						
URZ	**Urewera**	**10.11**	**212**	*e*Pn	**Pn**	**11 52 15.6**	**-4.7**
URZ				*e*Pn	Pn	11 52 20.9	+0.6
URZ				*e*Sn	**Sn**	**11 54 07.4**	**-5.1**
URZ	**Urewera**	**10.11**	**212**	PN	Pn	11 52 15.2	-5.1
RIGZ	**Rimuhau**	**10.20**	**208**	PN	**Pn**	**11 52 17.3**	**-4.2**
OUZ	**Omahuta**	**10.23**	**236**	*e*Pn	**Pn**	**11 52 25.3**	**+3.3**
SNGZ	**Shannon Statio**	**10.44**	**210**	PN	**Pn**	**11 52 20.2**	**-4.7**
MUGZ	**Murupara**	**10.45**	**213**	PN	Pn	11 52 19.5	-5.4
MUGZ				SN	**Sn**	**11 54 12.9**	**-7.8**
MRHZ	**Matea Rd**	**10.90**	**213**	PN	Pn	11 52 25.3	-5.8
BKZ	**Black Stump Fm**	**11.13**	**211**	*e*Pn	Pn	11 52 29.4	-4.9
BKZ				*e*Pn	Pn	11 52 35.7	+1.4
PXZ	**Pawanui**	**11.69**	**208**	*e*PN	Pn	11 52 34.6	-7.3
PXZ				*e*SN	Sn	11 54 41.4	-10
NIUE	**Niue**	**12.09**	**29**	P	Pn	11 52 38.1	-9.4
	baz=12,SNR=5.9						
MRZ	**Mangatainoka R**	**12.76**	**210**	SN	Sn	11 55 06.6	-11
HOWZ	**Holdsworth Sta**	**12.98**	**210**	*e*SN	Sn	11 55 12.3	-10
MSVF	**Nonsavu**	**13.20**	**335**	*e*P	**Pn**	**11 53 02.0**	**-0.7**
MSVF	**Nonsavu**	**13.20**	**335**	*e*Pn	**Pn**	**11 53 01.7**	**-1.0**
THZ	**Tophouse**	**14.86**	**214**	*e*Pn	**Pn**	**11 53 26.3**	**+1.1**
THZ				*e*Sn	Sn	11 55 59.8	-8.8
THZ	**Tophouse**	**14.86**	**214**	PN	Pn	11 53 18.6	-6.5
THZ				*e*SN	Sn	11 55 55.3	-13
KHZ	**Kahutara**	**15.07**	**211**	*e*Pn	**Pn**	**11 53 27.3**	**-0.6**
	84nm,0.7s						
KHZ	**Kahutara**	**15.07**	**211**	*e*PN	Pn	11 53 19.9	-8.0
KHZ				SN	Sn	11 55 58.0	-16
LTZ	**Lake Taylor**	**15.94**	**213**	*e*Pn	**Pn**	**11 53 39.3**	**0.0**
	33nm,0.7s						
INZ	**Inchbonnie**	**16.30**	**215**	PN	**Pn**	**11 53 37.2**	**-6.5**
INZ				SN	Sn	11 56 25.6	-18
AFI	**Afiamalu**	**16.35**	**15**	Pn	**Pn**	**11 53 37.6**	**-7.1**
	2.3nm,0.3s,baz=29,slow=17,SNR=5.9						
AFI				Sn	Sn	11 56 24.0	-21
	6.6nm,0.3s,baz=189,slow=16,SNR=5.6						
AFI				LR	LR	12 01 10.3	
	comp=Z,234nm,19.1s,baz=194,slow=42						
AFI	**Afiamalu**	**16.35**	**15**	Pn	**Pn**	**11 53 37.6**	**-7.1**
AFI				*e*Pn	**Pn**	**11 53 43.8**	**-0.8**
AFI				Sn	Sn	11 56 24.0	-21
AFI				*e*Sn	Sn	11 56 31.2	-14
OXZ	**Oxford**	**16.47**	**212**	*e*Pn	**Pn**	**11 53 46.5**	**+0.5**
	67nm,0.8s						
MQZ	**McQueen's Vall**	**16.49**	**210**	*e*PN	Pn	11 53 38.4	-7.8
MQZ				SN	Sn	11 56 29.3	-19
RAR	**Rarotonga**	**17.03**	**63**	Pn	**Pn**	**11 53 48.4**	**-4.6**
	4.0nm,0.3s,baz=290,slow=9.0,SNR=9.5						
RAR				LR	LR	12 00 26.1	
	comp=Z,1μm,18.5s,baz=250,slow=37						
RAR	**Rarotonga**	**17.03**	**63**	Pn	**Pn**	**11 53 48.4**	**-4.6**
RAR				*e*Pn	**P**	**11 53 54.4**	**-0.2**
RPZ	**Rata Peaks**	**17.23**	**213**	P	**P**	**11 53 56.9**	**+0.2**
	5.6nm,0.3s,baz=79,slow=16,SNR=4.3						
RPZ	**Rata Peaks**	**17.23**	**213**	*e*Pn	**P**	**11 53 56.9**	**+0.2**
RPZ				*e*Pn	**Pn**	**11 53 57.2**	**+1.8**
DZM	**Mont Dzumac**	**17.51**	**292**	Pn	**P**	**11 54 01.1**	**+1.0**
	1.0nm,0.3s,baz=124,slow=16,SNR=7.9						
DZM				LR	LR	11 59 26.1	
	comp=Z,2μm,20.2s,baz=111,slow=33						
DZM	**Mont Dzumac**	**17.51**	**292**	*e*P	**P**	**11 54 00.5**	**+0.4**
	72nm,1.4s						
DZM				*e*LQ	LQ	11 57 19.7	
	5μm,28.7s						
DZM				*e*LR	LR	11 58 10.5	
	5μm,23.9s						
DZM	**Mont Dzumac**	**17.51**	**292**	*e*Pn	**P**	**11 53 58.0**	**-2.0**
	73nm,1.5s						
TBI	**Tubuai**	**24.63**	**81**	*e*S	S	11 59 22.2	-12
	560nm,24.6s						
TBI				*e*LQ	LQ	11 59 49.5	
	838nm,34.2s						
TBI				*e*LR	LR	12 01 02.1	
	3μm,29.0s,baz=249						
TBI	**Tubuai**	**24.63**	**81**	*e*T	T	12 20 09.3	
	8.5nm,0.3s						
PAE	**Paea**	**27.04**	**69**	*e*T	T	12 23 30.1	
	2.6nm,0.3s						
PPT2	**Papeete2**	**27.08**	**69**	*e*S	**S**	**12 00 04.0**	**-9.2**
	332nm,25.8s						
PPT2				*e*LQ	LQ	12 00 51.9	
	2μm,25.2s						
PPT2				*e*LR	LR	12 02 15.9	
	2μm,29.0s,baz=235						
PPT	**Papeete**	**27.09**	**69**	LR	LR	12 05 26.4	
	comp=Z,725nm,18.5s,baz=244,slow=34						
ARMA	**Armidale**	**27.89**	**261**	P	**P**	**11 55 46.6**	**+2.2**
	baz=28,SNR=5.8						
MGCD	**Mangrove Creek**	**28.11**	**255**	P	**P**	**11 55 48.9**	**+2.6**
	baz=28,SNR=5.6						
EIDS	**Eidsvold**	**29.39**	**271**	P	**P**	**11 55 58.0**	**+0.4**
	baz=29,SNR=4.8						
EIDS	**Eidsvold**	**29.39**	**271**	*e*P	**P**	**11 55 58.1**	**+0.4**
	15nm,0.9s						
CAN	**Canberra**	**29.83**	**250**	P	**P**	**11 56 02.5**	**+0.9**
	baz=30						
RMQ	**Roma**	**31.11**	**267**	P	**P**	**11 56 14.6**	**+1.6**
	baz=31,SNR=8.3						
TOO	**Toolangi**	**32.71**	**246**	P	**P**	**11 56 29.3**	**+2.4**
	baz=33,SNR=6.2						
CMSA	**Cobar Meteorol**	**32.81**	**257**	P	**P**	**11 56 28.9**	**+1.1**
	baz=33,SNR=28						
QLP	**Quilpie**	**35.01**	**265**	P	**P**	**11 56 46.1**	**-0.9**
	baz=35,SNR=13						
CTAO	**Charters Tower**	**35.37**	**277**	*e*P	**P**	**11 56 49.9**	**-0.3**
	18nm,0.6s						
STKA	**Stephens Creek**	**36.23**	**256**	P	**P**	**11 56 57.5**	**+0.1**
	11nm,0.5s,baz=98,slow=11,SNR=56						
STKA				LR	LR	12 12 03.0	
	comp=Z,1μm,18.1s,baz=103,slow=37						
STKA	**Stephens Creek**	**36.23**	**256**	P	**P**	**11 56 57.4**	**+0.1**
	baz=36,SNR=46						
STKA	**Stephens Creek**	**36.23**	**256**	*e*P	**P**	**11 56 57.5**	**+0.1**
	3.3nm,0.7s						
MTSU	**Mount Surprise**	**37.84**	**279**	P	**P**	**11 57 10.5**	**-0.8**
	baz=38,SNR=19						
HTT	**Hallett**	**38.26**	**253**	P	**P**	**11 57 13.8**	**-0.8**
	baz=38,SNR=19						
TAOE	**Nuku Hiva Isla**	**39.56**	**66**	*e*S	S	12 03 16.8	-10
	322nm,25.8s						
TAOE				*e*LR	LR	12 07 59.3	
	1μm,28.5s						
BBOO	**Buckleboo**	**40.72**	**253**	P	**P**	**11 57 33.9**	**-1.2**
	baz=41,SNR=12						
COEN	**Coen**	**40.74**	**284**	P	**P**	**11 57 35.1**	**-0.4**
	baz=41,SNR=7.5						
QIS	**Mount Isa**	**40.95**	**273**	P	**P**	**11 57 35.7**	**-1.4**
	baz=41,SNR=6.0						
AS31	**Alice Springs**	**44.81**	**266**	*e*P	**P**	**11 58 07.3**	**-1.2**
	2.1nm,0.4s						
ASAR	**Alice Springs**	**44.81**	**266**	P	**P**	**11 58 06.2**	**-2.3**
	4.0nm,0.5s,baz=103,slow=6.4,SNR=93						
ASAR				LR	LR	12 16 49.9	
	comp=Z,2μm,18.2s,baz=110,slow=36						
WB2	**Warramunga Arr**	**45.74**	**271**	*e*P	**P**	**11 58 14.5**	**-1.3**
	25nm,0.6s						
WRAB	**Tennant Creek**	**45.75**	**271**	*ce*P	**P**	**11 58 14.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,51nm,0.6s						
WRAB	**Tennant Creek**	**45.75**	**271**	*e*P	**P**	**11 58 15.0**	**-0.8**
	comp=Z,22nm,0.7s						
WR1	**Warramunga Arr**	**45.75**	**271**	*e*P	**P**	**11 58 14.8**	**-1.1**
	comp=Z,29nm,0.6s						
WRA	**Warramunga Arr**	**45.75**	**271**	P	**P**	**11 58 14.8**	**-1.1**
	comp=Z,23nm,0.6s,baz=110,slow=7.7,SNR=65						
WRA				LR	LR	12 16 39.2	
	comp=Z,480nm,18.4s,baz=100,slow=35						
FORT	**Forrest**	**47.80**	**254**	P	**P**	**11 58 30.9**	**-0.8**
	baz=48,SNR=18						
FORT	**Forrest**	**47.80**	**254**	*e*P	**P**	**11 58 30.8**	**-1.0**
	comp=Z,662nm,1.3s						
SBA	**Scott Base**	**48.72**	**185**	P	P	11 58 43.8	+5.6
SBA				pmax	pmax		
	comp=Z,30nm,1.5s						
SBA	**Scott Base**	**48.72**	**185**	*e*P	P	11 58 43.3	+5.1
	comp=Z,30nm,1.5s						
VNDA	**Vanda**	**48.82**	**186**	P	**P**	**11 58 43.0**	**+4.1**
	comp=Z,2.1nm,1.0s,baz=14,slow=8.1,SNR=7.2						
VNDA				LR	LR	12 15 51.7	
	comp=Z,225nm,20.2s,baz=12,slow=32						
VNDA	**Vanda**	**48.82**	**186**	*e*P	**P**	**11 58 42.3**	**+3.4**
WRKA	**Warakurna**	**49.21**	**261**	P	**P**	**11 58 40.2**	**-2.6**
	baz=49,SNR=21						
KNRA	**Kununurra**	**52.34**	**273**	P	**P**	**11 59 06.1**	**-0.2**
	baz=52,SNR=8.3						
FITZ	**Fitzroy Crossi**	**54.03**	**269**	P	**P**	**11 59 17.4**	**-1.4**
	baz=54						
FAKI	**Fak Fak**	**55.73**	**289**	*e*P	**P**	**11 59 31.3**	**+0.1**
	comp=Z,13nm,0.5s						
GUMO	**Guam**	**57.29**	**313**	P	**P**	**11 59 40.0**	**-2.1**
	comp=Z,65nm,0.6s,baz=162,slow=9.3,SNR=16						
GUMO				LR	LR	12 25 31.4	
	comp=Z,151nm,18.0s,baz=153,slow=38						
GUMO	**Guam**	**57.29**	**313**	*e*P	**P**	**11 59 40.3**	**-1.8**
GUMO	**Guam**	**57.29**	**313**	*e*P	**P**	**11 59 40.0**	**-2.1**
GUMO				*e*P	**P**	**11 59 40.3**	**-1.8**
MORW	**Morawa**	**58.29**	**252**	P	**P**	**11 59 47.4**	**-1.7**
	baz=58,SNR=6.1						
QSPA	**South Pole Qui**	**60.26**	**180**	*e*P	**P**	**12 00 05.4**	**+3.1**
GIRL	**Giralia**	**62.09**	**259**	P	**P**	**12 00 15.4**	**+0.2**
	baz=62,SNR=3.7						
PMSA	**Palmer Station**	**72.07**	**155**	LR	LR	12 25 27.7	
	comp=Z,663nm,20.1s,baz=268,slow=30						
MAW	**Mawson**	**73.40**	**200**	P	**P**	**12 01 28.1**	**+2.4**
	comp=Z,4.8nm,0.8s,baz=113,slow=9.2,SNR=11						
MAW	**Mawson**	**73.40**	**200**	P	**P**	**12 01 28.0**	**+2.4**
	baz=74,SNR=7.2						
MAW	**Mawson**	**73.40**	**200**	*e*P	**P**	**12 01 28.0**	**+2.3**
	comp=Z,3.8nm,1.2s						
TGY	**Tagaytay City**	**74.75**	**296**	LR	LR	12 31 57.4	
	comp=Z,50nm,20.6s,baz=122,slow=34						
KSM	**Kuching**	**76.57**	**280**	*e*P	**P**	**12 01 44.0**	**-0.8**
	comp=Z,9.0nm,0.7s						
JOW	**Kunigami**	**77.54**	**311**	*e*P	**P**	**12 01 50.2**	**+0.2**
	comp=Z,30nm,0.7s						
SYO	**Syowa Base**	**78.02**	**192**	↓*e*P	**P**	**12 01 52.8**	**+0.7**
SNAA	**Sanae**	**78.65**	**178**	P	**P**	**12 01 56.6**	**+0.9**
SNAA	**Sanae**	**78.65**	**178**	*d*↑*i*P	**P**	**12 01 57.3**	**+1.6**
SNAA	**Sanae**	**78.65**	**178**	*e*P	**P**	**12 01 57.1**	**+1.5**
	comp=Z,53nm,1.7s						
VNA3	**Neumayer Olymp**	**78.73**	**176**	P	**P**	**12 01 57.6**	**+1.5**
MJAR	**Matsushiro Arr**	**78.76**	**324**	P	**P**	**12 01 55.5**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=154,slow=5.4,SNR=15						
MJAR				LR	LR	12 33 10.7	
	comp=Z,54nm,21.0s,baz=145,slow=33						
MAJO	**Matsushiro**	**78.76**	**324**	*i*P	**P**	**12 01 57.3**	**+0.7**
MAJO	**Matsushiro**	**78.76**	**324**	*e*P	**P**	**12 01 57.0**	**+0.4**
	comp=Z,40nm,1.8s						
MAT	**Matsushiro**	**78.76**	**324**	P	**P**	**12 01 55.7**	**-0.9**
MAT				S	**S**	**12 11 49.6**	**-2.1**
MJB9	**Matsu-Tunnel**	**78.76**	**324**	*e*P	**P**	**12 01 56.5**	**-0.1**
	comp=Z,11nm,1.9s						
VNA2	**Neumayer--Watz**	**79.19**	**176**	P	**P**	**12 01 59.1**	**+0.6**
	baz=167,slow=4.3						
VNA1	**Neumayer--Stat**	**79.41**	**176**	P	**P**	**12 02 01.6**	**+1.9**
JNU	**Nakatsue**	**80.27**	**317**	P	**P**	**12 02 05.5**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=139,slow=2.5,SNR=5.7						
JNU	**Natsitue**	**80.27**	**317**	*e*P	**P**	**12 02 04.9**	**0.0**
	comp=Z,8.6nm,0.9s						
EFI	**East Falkland**	**82.33**	**146**	*e*P	**P**	**12 02 18.2**	**+2.5**
EFI				pmax	pmax		
	comp=Z,40nm,1.3s						
ASAJ	**Asahikawa**	**82.74**	**331**	P	**P**	**12 02 18.5**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=198,slow=9.1,SNR=4.7						
ASAJ	**Asahikawa**	**82.74**	**331**	P	**P**	**12 02 18.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAJ	**Asahikawa**	**82.74**	**331**	*e*P	**P**	**12 02 18.5**	**+0.9**
	comp=Z,9.2nm,1.0s						
SCI2	**San Clemente I**	**82.89**	**46**	P	**P**	**12 02 19.9**	**+1.1**
	baz=228						
SCZ2	**Santa Cruz Isl**	**82.91**	**44**	P	**P**	**12 02 20.3**	**+1.5**
	baz=227						
QZH	**Quanzhou**	**83.02**	**304**	↓*i*P	**P**	**12 02 19.3**	**-0.3**
QZH				S	**S**	**12 12 35.8**	**-0.8**
QZH				LR	LR		
	comp=Z,420nm,19.5s						
CIS	**Catalina Islan**	**83.25**	**45**	P	**P**	**12 02 21.5**	**+0.8**
	baz=228						
SRIG	**Santa Rosalia**	**83.41**	**53**	*e*P	**P**	**12 02 22.8**	**+1.3**
	comp=Z,9.1nm,0.7s						
SMMC	**Simmler**	**83.60**	**43**	P	**P**	**12 02 24.0**	**+1.6**
	baz=227						
BAR	**Barrett**	**83.87**	**47**	*e*P	**P**	**12 02 25.3**	**+1.5**
	comp=Z,14nm,1.6s						
SKR	**Severo-Kuril's**	**83.87**	**343**	*e*P	**P**	**12 02 23.8**	**+0.5**
SKR				*e*S	**S**	**12 12 46.0**	**+2.1**
SKR				MLR	MLR		
	comp=Z,200nm,19.0s						
DECC	**Green Verdugo**	**83.88**	**45**	P	**P**	**12 02 24.8**	**+1.0**
	baz=228						
MWC	**Mount Wilson**	**84.03**	**45**	P	**P**	**12 02 25.7**	**+0.9**
MWC	**Mount Wilson**	**84.03**	**45**	*e*P	**P**	**12 02 25.7**	**+0.9**
	comp=Z,3.7nm,0.8s						
MURC	**Murrieta**	**84.14**	**46**	P	**P**	**12 02 26.0**	**+0.8**
	baz=228						
ARVC	**Arvin**	**84.17**	**44**	P	**P**	**12 02 25.9**	**+0.7**
	baz=227						
MONP2	**Monument Peak**	**84.17**	**47**	P	**P**	**12 02 26.7**	**+1.2**
	baz=229,SNR=8.8						
IKP	**In-Ko-Pah, Jac**	**84.20**	**47**	P	**P**	**12 02 26.7**	**+1.1**
	baz=229,SNR=6.8						
BFSC	**Mount Baldy Ra**	**84.28**	**45**	P	**P**	**12 02 26.9**	**+0.9**
	baz=228,SNR=5.7						
VES	**Vestal, Richgr**	**84.50**	**43**	P	**P**	**12 02 27.8**	**+0.9**
	baz=227						
EDW2	**Edwards Air Fo**	**84.51**	**45**	P	**P**	**12 02 28.0**	**+0.9**
	baz=228,SNR=6.3						
SWSC	**Sam W. Stewart**	**84.59**	**47**	P	**P**	**12 02 28.3**	**+0.8**
	baz=229						
PFO	**Pinyon Flats O**	**84.61**	**46**	P	**P**	**12 02 28.6**	**+0.9**
	baz=229,SNR=6.8						
PFO	**Pinyon Flats O**	**84.61**	**46**↑	*e*P	**P**	**12 02 29.1**	**+1.4**
PFO	**Pinyon Flats O**	**84.61**	**46**	*e*P	**P**	**12 02 28.8**	**+1.1**
	comp=Z,7.1nm,1.1s						
XPFO	**Piæon Flat**	**84.61**	**46**	*e*P	**P**	**12 02 28.8**	**+1.1**
	comp=Z,7.4nm,1.1s						
ISA	**Isabella, Lake**	**84.74**	**44**	P	**P**	**12 02 29.1**	**+0.9**
	baz=228						
BBRC	**Big Bear Solar**	**84.75**	**46**	P	**P**	**12 02 28.8**	**+0.3**
	baz=229						
YSS	**Yuzh-Sakhalins**	**84.99**	**333**	*e*P	P	12 02 35.4	+6.3
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
LRMC	**Laurel Mtn Rad**	**85.10**	**44**	P	**P**	**12 02 31.1**	**+1.1**
	baz=228						
RRX	**Edison Barstow**	**85.11**	**45**	P	**P**	**12 02 31.0**	**+0.9**
	baz=228						
BELC	**Belle Mtn. Jos**	**85.16**	**46**	P	**P**	**12 02 31.7**	**+1.3**
	baz=229,SNR=16						
CMB	**Columbia Colle**	**85.25**	**41**	*e*P	**P**	**12 02 31.8**	**+1.2**
	comp=Z,5.4nm,0.8s						
BC3	**Big Chuckawall**	**85.28**	**47**	P	**P**	**12 02 32.5**	**+1.5**
	baz=230,SNR=8.2						
GLA	**Glamis**	**85.29**	**48**	P	**P**	**12 02 31.3**	**+0.3**
	baz=230						
GLA	**Glamis**	**85.29**	**48**	P	**P**	**12 02 32.0**	**+1.0**
GLA	**Glamis**	**85.29**	**48**	*e*P	**P**	**12 02 32.0**	**+1.0**
	comp=Z,8.2nm,1.0s						
HSIG		**85.35**	**53**	*e*P	**P**	**12 02 31.7**	**+0.4**
	comp=Z,17nm,1.5s						
PET	**Petropavlovsk**	**85.42**	**345**	*e*P	P	12 02 34.8	+3.8
PET				*e*S	**S**	**12 13 02.4**	**+3.2**
PET				*e*PS	**PnS**	**12 13 56.3**	**-2.9**
PET				pmax	pmax		
	comp=Z,100nm,10.6s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
HEC	**Hector,Ludlow**	**85.49**	**45**	P	**P**	**12 02 32.1**	**+0.1**
	baz=229						
CWC	**Cottonwood Cre**	**85.50**	**43**	P	**P**	**12 02 33.2**	**+1.0**
	baz=228						
GSC	**Goldstone, Bar**	**85.51**	**45**	P	**P**	**12 02 33.1**	**+1.0**
	baz=229,SNR=6.2						
GSC	**Goldstone, Bar**	**85.51**	**45**	*e*P	**P**	**12 02 33.2**	**+1.1**
	comp=Z,15nm,1.4s						
AFDM	**Forest Hills D**	**85.55**	**40**	*e*P	**P**	**12 02 32.9**	**+0.7**
	comp=Z,7.7nm,1.4s						
MPMC	**Manual Prospec**	**85.60**	**44**	P	**P**	**12 02 33.6**	**+1.0**
	baz=228,SNR=10						
ORV	**Oroville**	**85.68**	**39**	*e*P	**P**	**12 02 33.8**	**+1.1**
	comp=Z,3.6nm,0.8s						
PETK	**Petropavlovsk-**	**85.71**	**345**	P	**P**	**12 02 32.7**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=83,slow=8.9,SNR=8.8						
PETK				LR	LR	12 36 45.9	
	comp=Z,123nm,19.4s,baz=160,slow=33						
PEA1	**Petropavlovsk-**	**85.72**	**345**	*e*P	**P**	**12 02 32.7**	**+0.2**
113A	**Mohawk Valley,**	**85.79**	**48**	*e*P	**P**	**12 02 35.0**	**+1.5**
	comp=Z,17nm,1.6s						
IRM	**Iron Mountain**	**85.80**	**47**	P	**P**	**12 02 35.0**	**+1.5**
	baz=230,SNR=9.4						
TIN	**Tinemaha, Big**	**85.83**	**43**	P	**P**	**12 02 35.0**	**+1.4**
	baz=228						
WDC	**Whiskeytown Da**	**85.85**	**38**	P	**P**	**12 02 35.3**	**+1.8**
WDC	**Whiskeytown Da**	**85.85**	**38**	*e*P	**P**	**12 02 34.9**	**+1.4**
	comp=Z,4.9nm,2.0s						
MLAC	**Mammoth, Mammo**	**85.86**	**42**	P	**P**	**12 02 34.6**	**+0.6**
	baz=227						
GMRC	**Granite Mounta**	**85.88**	**46**	P	**P**	**12 02 34.8**	**+0.8**
	baz=229						
214A	**Organ Pipe Nat**	**85.90**	**50**	P	**P**	**12 02 35.1**	**+1.0**
	baz=231						
214A	**Organ Pipe Nat**	**85.90**	**50**	*e*P	**P**	**12 02 35.4**	**+1.3**
	comp=Z,12nm,0.6s						
Y12C	**Blythe**	**85.93**	**47**	P	**P**	**12 02 35.5**	**+1.4**
	baz=230						
Y12C	**Blythe**	**85.93**	**47**	*e*P	**P**	**12 02 35.5**	**+1.4**
	comp=Z,4.7nm,0.8s						
N02D	**Trinity Center**	**86.04**	**38**	P	**P**	**12 02 35.7**	**+1.2**
	baz=224						
O03D	**Paynes Creek**	**86.04**	**38**	P	**P**	**12 02 35.5**	**+0.9**
	baz=225						
WAKR	**Walker**	**86.11**	**41**	*e*P	**P**	**12 02 36.7**	**+1.5**
	comp=Z,12nm,1.2s						
TUQ	**Turquoise Moun**	**86.14**	**45**	P	**P**	**12 02 36.2**	**+0.9**
	baz=229						
SHOC	**Shoshone, Teco**	**86.23**	**45**	P	**P**	**12 02 36.6**	**+1.1**
	baz=229						
FURC	**Furnace Creek,**	**86.25**	**44**	P	**P**	**12 02 37.0**	**+1.4**
	ba

	baz=225						
SZCU	Shurtz Canyon	89.28	45	eP	P	12 02 52.0	+1.6
	comp=Z,23nm,2.0s						
WHN	Wuhan	89.36	306	P	P	12 02 51.5	+0.9
121A	Cookes Peak, D	89.63	52	P	P	12 02 53.0	+0.8
	baz=234						
G05D	Wamic, OR	89.79	35	P	P	12 02 53.7	+1.4
	baz=225						
W18A	Petrified Fore	89.87	49	P	P	12 02 54.2	+1.0
	baz=233						
MTPU	Mount Pierson	90.11	45	eP	P	12 02 56.5	+2.1
	comp=Z,6.0nm,0.8s						
G06A	Carlson Farm,	90.12	36	eP	P	12 02 55.0	+1.0
	comp=Z,14nm,1.3s						
MSU	Marysvale	90.41	45	eP	P	12 02 57.2	+1.5
TX31	Lajitas Ar. Si	90.69	56	eP	P	12 02 58.3	+1.3
TXAR	Lajitas Array	90.69	56	P	P	12 02 57.6	+0.6
	comp=Z,0.8nm,0.9s,baz=207,slow=7.0,SNR=7.4						
TXAR				LR	LR	12 38 05.6	
	comp=Z,284nm,18.0s,baz=0.0,slow=32						
CN2	Changchun	90.72	322	eP	P	12 02 54.6	-2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MNTX	Cornudas Mount	90.81	54	P	P	12 02 58.5	+1.1
	baz=235						
KLR	Kul'dur	91.42	329	P	P	12 02 59.9	+0.2
	comp=Z,0.2nm,0.7s,baz=96,slow=3.7,SNR=5.7						
E07A	Sunnyside	91.44	35	eP	P	12 03 01.6	+1.7
	comp=Z,11nm,0.8s						
TMUT	Trail Mountain	91.49	45	eP	P	12 03 02.2	+1.4
	comp=Z,5.6nm,0.9s						
B05A	Bryant	91.55	33	P	P	12 03 01.3	+0.9
	baz=225						
BMO	Blue Mountains	91.58	37	eP	P	12 03 02.6	+1.8
	comp=Z,4.6nm,1.0s						
A04D	Lummi Island	91.59	32	P	P	12 03 02.3	+1.8
	baz=224						
SRU	San Rafael Swe	91.80	45	eP	P	12 03 03.4	+1.3
	comp=Z,4.2nm,0.8s						
MVCO	Mesa Verde	91.93	48	P	P	12 03 04.0	+1.2
	baz=234						
ANMO	Albuquerque	91.94	50	P	P	12 03 03.3	+0.5
	baz=235						
ANMO	Albuquerque	91.94	50	ceP	P	12 03 03.1	+0.3
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	Albuquerque	91.94	50	eP	P	12 03 04.0	+1.2
	comp=Z,2.6nm,0.9s						
SPUT	South Promonto	92.00	42	eP	P	12 03 04.2	+1.3
	comp=Z,9.7nm,1.3s						
HVU	Hansel Valley	92.11	42	P	P	12 03 04.4	+1.0
HVU	Hansel Valley	92.11	42	eP	P	12 03 04.4	+1.0
	comp=Z,4.2nm,0.8s						
D08A	Wollman Farm,	92.25	35	eP	P	12 03 04.8	+1.2
	comp=Z,9.9nm,0.8s						
E09A	Wood Farm, Sta	92.27	36	eP	P	12 03 04.5	+0.8
	comp=Z,6.1nm,0.9s						
HLID	Hailey	92.31	40	P	P	12 03 05.1	+0.8
	baz=230						
HLID	Hailey	92.31	40	eP	P	12 03 05.5	+1.2
	comp=Z,5.0nm,1.1s						
PV01	Paradox Valley	92.43	47	eP	P	12 03 05.9	+0.8
ENH	Enshi	92.68	303	eP	P	12 03 07.5	+1.3
	comp=Z,177nm,2.0s						
GYA	Guiyang	92.73	299	eP	P	12 03 08.0	+1.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
034A	Hebbronville	93.15	61	P	P	12 03 09.1	+0.8
	baz=238						
S22A	4UR Ranch, Cre	93.31	48	P	P	12 03 09.8	+0.6
	baz=235						
934A	Benavides	93.56	60	P	P	12 03 11.0	+0.8
	baz=238						
O20A	White River Ci	93.82	45	P	P	12 03 12.5	+1.2
	baz=234						
MSTX	Muleshoe	93.90	53	P	P	12 03 12.9	+1.1
	baz=237						
NEW	Newport	93.96	35	P	P	12 03 13.1	+1.5
	baz=228						
SDCO	Great Sand Dun	94.17	49	P	P	12 03 14.2	+1.0
	baz=235						
REDW	Red Top Meadow	94.20	42	eP	P	12 03 14.9	+1.8
	comp=Z,3.5nm,0.8s						
TPAW	Teton Pass	94.22	41	eP	P	12 03 13.6	+0.3
	comp=Z,3.3nm,0.9s						
FXWY	Fox Creek	94.27	41	eP	P	12 03 15.1	+1.7
	comp=Z,2.2nm,0.8s						
IMW	Indian Meadow	94.48	41	eP	P	12 03 19.3	+4.9
T25A	Trinidad	94.55	50	P	P	12 03 15.6	+0.8
	baz=236						
PD31	Pinedale Array	94.59	43	eP	P	12 03 16.1	+1.2
PDAR	Pinedale Array	94.59	43	P	P	12 03 16.1	+1.2
	comp=Z,0.5nm,0.7s,baz=187,slow=3.7,SNR=7.1						
PDAR				LR	LR	12 39 45.3	
	comp=Z,446nm,19.4s,baz=250,slow=32						
CM31	Chiang Mai Arr	94.80	288	eP	P	12 03 17.5	+1.4
CMAR	Chiang Mai Arr	94.80	288	P	P	12 03 17.5	+1.4
	comp=Z,0.8nm,0.7s,baz=134,slow=3.5,SNR=9.4						
CMAR				LR	LR	12 48 51.1	
	comp=Z,45nm,19.1s,baz=152,slow=37						
YMR	Madison River	94.94	41	eP	P	12 03 17.4	+1.0
	comp=Z,8.1nm,1.1s						
CHTO	Chiang Mai	94.98	289	eP	P	12 03 18.1	+1.2
	comp=Z,3.6nm,0.8s						
KMI	Kunming	95.07	296	P	P	12 03 19.5	+2.0
BOZ	Bozeman (W)	95.13	39	P	P	12 03 18.4	+1.2
	baz=232						
BOZ	Bozeman (W)	95.13	39	eP	P	12 03 18.3	+1.1
	comp=Z,3.7nm,0.8s						
SEY	Seymchan	95.83	346	P	P	12 03 19.5	-0.3
	comp=Z,1.1nm,0.6s,baz=116,slow=17,SNR=4.4						
SEY	Seymchan	95.83	346	i P	P	12 03 20.3	+0.6
COLA	College	96.95	12	i P	P	12 03 27.3	+2.6
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	Eielson Array	97.03	12	P	P	12 03 24.7	-0.4
	comp=Z,1.1nm,0.6s,baz=220,slow=5.5,SNR=20						
ILAR				LR	LR	12 41 38.3	
	comp=Z,104nm,19.3s,baz=180,slow=32						
ILB	Eielson Array	97.03	12	eP	P	12 03 25.2	+0.1
HHC	Hu-ho-hao-te	97.06	313	eP	P	12 03 28.3	+2.3
HHC				sP	sP	12 03 42.4	+1.2
HHC				SKS	SKSac	12 14 01.8	+1.3
HHC				S	ScS	12 14 46.5	-0.3
HHC				sS	pS	12 15 01.4	+0.6
HHC				pmax	pmax		
	comp=Z,18nm,1.7s						
HHC				pmax	pmax		
	comp=Z,93nm,4.9s						
HHC				LR	LR		
	comp=Z,150nm,21.1s						
HHC				LR	LR		
	comp=Z,240nm,21.1s						
HHC				LR	LR		
	comp=Z,260nm,17.4s						
CD2	Chengdu	97.22	301	eP	Pdif	12 03 27.0	0.0
CD2				S	S	12 14 47.6	-0.5
CD2				LR	LR		
	comp=Z,190nm,23.8s						
CD2				LR	LR		
	comp=Z,190nm,22.9s						
RSSD	Black Hills	98.66	44	Pdiff	Pdif	12 03 34.3	+1.0
	baz=237						
CPUP	Villa Florida	99.00	127	LR	LR	12 42 36.7	
	comp=Z,259nm,18.9s,baz=216,slow=32						
LZH	Lanzhou	99.74	306	eP	Pdif	12 03 37.6	-0.6
LZH				pP	pP	12 03 49.0	-0.4
LZH				sP	sP	12 03 53.3	-0.1
LZH				ePP	PP	12 07 41.5	-1.8
LZH				pmax	pmax		
	comp=Z,78nm,9.2s						
LZH				LR	LR		
	comp=Z,220nm,16.7s						
LZH				LR	LR		
	comp=Z,220nm,17.0s						
LZH				LR	LR		
	comp=Z,300nm,19.8s						
YAK	Yakutsk	101.38	337	i P	Pdif	12 03 46.0	+1.4
WMQ	Urumqi	114.20	308	ePKP	PKPdf	12 08 33.3	0.0
WMQ				LR	LR		
	comp=Z,97nm,20.7s						
WMQ				LR	LR		
	comp=Z,110nm,25.7s						
WMQ				LR	LR		
	comp=Z,130nm,23.1s						
MK31	Makanchi Array	118.70	310	ePKPdf	PKPdf	12 08 41.5	-0.3
MK32	Makanchi Array	118.70	310	ePKPdf	PKPdf	12 08 41.0	-0.7
MKAR	Makanchi Array	118.70	310	PKP	PKPdf	12 08 41.0	-0.7
	comp=Z,1.4nm,0.8s,baz=159,slow=0.8,SNR=9.7						
MKAR	Makanchi Array	118.70	310	ePKPdf	PKPdf	12 08 41.5	-0.3
NVS	Novosibirsk	119.81	319	ePKIKP	PKPdf	12 08 56.0	+12
NVS				e		12 09 11.7	
KSH	Kashi	121.40	300	ePKP	PKPdf	12 08 48.3	+0.9
KSH				sPKP		12 09 04.1	
KSH				PP	PP	12 10 24.3	+4.9
KSH				PKS	PKSdf	12 12 25.8	+1.7
KSH				SKS	SKSdf	12 15 55.5	-1.3
KSH				SKKS	SKKSac	12 17 12.5	-3.3
KSH				SS	SS	12 26 55.1	+3.0
KSH				AMB	AMB		
	comp=Z,85nm,5.0s						
KSH				LR	LR		
	comp=Z,73nm,8.2s						
KSH				LR	LR		
	comp=Z,45nm,6.7s						
KSH				LR	LR		
	comp=Z,140nm,6.1s						
KURK	Kurchatov	121.87	314	c iPKIKP	PKPdf	12 08 48.0	+0.3
KURK				pmax	pmax		
	comp=Z,11nm,0.8s						
KURK	Kurchatov	121.87	314	ePKPdf	PKPdf	12 08 46.8	-0.9
AAK	Ala-Archa	123.19	304	i PKIKP	PKPdf	12 08 50.6	-0.2
KKAR	Karatay Array	126.16	304	ePKPdf	PKPdf	12 08 56.5	+0.3
BVAR	Borovoye Array	127.17	316	PKP	PKPdf	12 08 58.1	+0.3
	comp=Z,1.6nm,0.7s,baz=96,slow=1.5,SNR=6.4						
BRVK	Borovoye	127.24	316	c iPKIKP	PKPdf	12 08 57.5	-0.4
BRVK				pmax	pmax		
	comp=Z,22nm,2.5s						
LSZ	Lusaka	129.40	211	ePKPdf	PKPdf	12 09 04.9	+1.5
ARU	Arti	133.72	321	i PKIKP	PKPdf	12 09 10.6	+0.5
ARU						12 11 36.4	
AKTO	Aktyubinsk	134.96	313	PKP	PKPdf	12 09 14.2	+1.6
	comp=Z,1.9nm,0.7s,baz=109,slow=6.8,SNR=4.8						
H10S3	ASCENSION HYDR	137.48	152	T	T	14 45 05.2	
	baz=204,slow=75,SNR=4.2						
H10S2	ASCENSION HYDR	137.48	152	T	T	14 45 07.8	
	baz=204,slow=75,SNR=3.5						
H10S1	ASCENSION HYDR	137.49	152	T	T	14 45 07.0	
	baz=204,slow=75,SNR=4.0						
ARA0	ARCESS Array S	138.39	349	ePKPdf	PKPdf	12 09 19.2	+0.7
ARCES	ARCESS Array B	138.39	349	PKP	PKPdf	12 09 19.2	+0.7
	comp=Z,2.5nm,0.7s,baz=49,slow=2.2,SNR=7.3						
H10N3	ASCENSION HYDR	138.55	152	T	T	14 46 28.3	
	baz=204,slow=75,SNR=5.1						
H10N1	ASCENSION HYDR	138.55	152	T	T	14 46 18.8	
	baz=204,slow=75,SNR=4.0						
H10N2	ASCENSION HYDR	138.57	152	T	T	14 46 26.0	
	baz=204,slow=75,SNR=5.2						
FIA0	FINESS Array S	145.18	342	ePKPbc	PKPdf	12 09 29.8	-0.9
FINES	FINESS Array B	145.18	342	PKP	PKPdf	12 09 29.8	-0.9
	comp=Z,6.0nm,0.5s,baz=58,slow=3.6,SNR=44						
ZEI	Tsey	145.61	303	ePKIKP	PKPab	12 09 32.1	-0.9
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OBN	Obninsk	145.65	327	PKPbc	PKPab	12 09 31.9	-0.5
	comp=Z,32nm,0.3s,baz=74,slow=2.4,SNR=8.0						
OBN	Obninsk	145.65	327	i PKP2	PKPdf	12 09 29.2	-2.5
OBN				pmax	pmax		
	comp=Z,23nm,0.7s						
NCK	Nalchik	145.72	304	i PKIKP	PKPab	12 09 33.4	+0.2
LPSR	Galich'ya Gora	145.74	322	ePKIKP	PKPab	12 09 32.4	-0.4
LPSR				pmax	pmax		
	comp=Z,110nm,1.8s						
GOF	Gofitskoye	145.80	307⇑	ePKIKP	PKPab	12 09 33.1	-0.3
KBZ	Khabaz	146.18	305	PKPbc	PKPab	12 09 34.9	+0.1
	comp=Z,5.6nm,0.8s,baz=207,slow=3.0,SNR=10.0						
KIV	Kislovodsk	146.28	305	ePKP2	PKPab	12 09 34.0	-1.4
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
NEY	Neytrino	146.39	304	i PKP2	PKPab	12 09 35.6	-0.3
VSU	Vasula	147.37	338	c iPKIKP	PKPbc	12 09 35.5	-1.5
VSU				pmax	pmax		
	comp=Z,28nm,0.6s						
NC303	NORSAR Array S	148.23	353	ePKPbc	PKPbc	12 09 39.5	+0.2
NB2	NORSAR Subarra	148.43	353	PKP	PKPbc	12 09 39.5	-0.3
	comp=Z,4.6nm,0.6s,baz=10,slow=2.9						
NB200	NORSAR Array S	148.43	353	ePKPbc	PKPbc	12 09 39.5	-0.3
NOA	NORSAR Array B	148.43	353	PKPbc	PKPbc	12 09 39.5	-0.3
	comp=Z,3.6nm,0.6s,baz=13,slow=4.4,SNR=12						
HFS	Hagfors	149.01	351	PKPbc	PKPbc	12 09 40.9	-0.4
	comp=Z,7.2nm,0.8s,baz=29,slow=3.3,SNR=13						
ANN	Anapa	149.71	309	ePKIKP	PKPdf	12 09 37.2	-1.6
ASF	Jabal al Asfar	151.71	283	PKPbc	PKPbc	12 09 49.8	+1.0
	comp=Z,5.5nm,0.7s,baz=124,slow=1.0,SNR=5.4						
AKASG	Malin Array Be	151.84	325	PKPbc	PKPbc	12 09 48.1	-0.2
	comp=Z,5.9nm,0.7s,baz=44,slow=2.8,SNR=16						
AKBB	Malin Array Si	151.84	325	ePKPbc	PKPbc	12 09 48.3	0.0
KIEV	Kiev	151.85	325	i PKIKP	PKPbc	12 09 44.4	-4.0
KIEV	Kiev	151.85	325	ePKPbc	PKPbc	12 09 48.3	0.0
BR101	Keskin Array S	153.78	300	ePKPbc	PKPbc	12 09 53.3	+0.1
BRTR	Keskin Array B	153.79	300	PKPbc	PKPbc	12 09 53.3	+0.1
	comp=Z,1.2nm,0.6s,baz=113,slow=2.8,SNR=5.0						
ANTO	Ankara	154.39	301	ePKPbc	PKPbc	12 09 54.8	+0.4
DPC	Dobruska-Polom	157.49	339	ePKPAB	PKPab	12 10 21.8	+0.2
DPC	Dobruska-Polom	157.49	339	ePKP2	PKPab	12 10 21.8	+0.2
CLL	Collm	157.52	345	ePKP2	PKPab	12 10 21.0	-0.6
CLL	Collm	157.52	345	ePKPab	PKPab	12 10 21.0	-0.6
VYHS	Vyhne	158.16	333	ePKP2	PKPab	12 10 25.6	+1.1
VYHS	Vyhne	158.16	333	ePKP	PKPab	12 10 25.6	+1.1
GERES	GERESS Array B	159.61	341	PKPab	PKPab	12 10 29.7	-1.2
	comp=Z,0.6nm,0.4s,baz=67,slow=15,SNR=3.6						
TORD	Torodi Ar. Bea	163.25	172	PKP	PKPdf	12 09 56.3	-0.9
	comp=Z,0.4nm,0.7s,baz=149,slow=0.8,SNR=3.6						
TORD				PKPab	PKPab	12 10 48.9	+1.5
	comp=Z,10.0nm,0.7s,baz=190,slow=3.9,SNR=30						
TOA1	Torodi Ar. Sit	163.26	172	ePKPdf	PKPdf	12 09 56.3	-0.9
TOA1				ePKPab	PKPab	12 10 48.9	+1.5

*SOME **24** 11:53:36.3, 44°.70N×82°.27E, h15km*
*NNC **24** 11:53:38.2±1.5, 44°.72N×81°.90E, h0km, mb3.0, mpv2.5,*
Error ellipse: s-maj=19.2km s-min=7.1km az=119.0

ISC 24 11:53:31.2±3.1, 44°.49N±0°.10×82°.6E±0°.1, h1km±18km, n8, σ0.995/15, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DJR	Jarkent	2.03	267	eP	Pg	11 54 09.9	-0.1
	17nm,0.2s						
DJR				eS	Sb	11 54 34.1	-0.6
	8.7nm,0.3s						
MK31	Makanchi Array	2.32	355	⇓Pn	Pb	11 54 14.9	+1.2
	1.6nm,0.3s,baz=184,slow=15,SNR=31						
MK31				⇓Sn	Sb	11 54 42.6	-0.2
	3.0nm,0.3s,baz=189,slow=26,SNR=26						
MAKZ	Makanchi	2.36	349	⇑Pn	Pb	11 54 14.4	-0.1
	1.7nm,0.5s						
MAKZ				⇓Sn	Sb	11 54 42.1	-2.0
	6.8nm,0.6s						
PDGK	Podgornoye	2.54	244	⇑Pg	Pb	11 54 18.1	+0.6
	1.2nm,0.5s						
PDGK				⇓Lg	Lg	11 54 51.1	
	14nm,0.7s						
SHLS	Shalkode	2.64	241	eP	Pb	11 54 18.3	-1.0
	8.6nm,0.2s						
SHLS				eS	Sn	11 54 48.4	+0.7
	20nm,0.4s						
UZB	Uzynbulak	2.92	244	eP	Pb	11 54 24.7	+0.5
	2.4nm,0.3s						
UZB				eS	Sb	11 54 59.7	-0.8
	2.5nm,0.2s						
MNBS	Baschi	3.05	264	eP	Pb	11 54 26.9	+0.6
	5.8nm,0.2s						
MNBS				eS	Sb	11 55 03.5	-0.6
	9.4nm,0.3s						
ARXS	Arharly	3.44	267	eP	Pb	11 54 33.8	+0.9
	2.5nm,0.3s						
ARXS				eS	Sb	11 55 15.1	-0.2
	8.0nm,0.4s						

*ISK **24** 11:55:36.8, 38°.97N×43°.66E, h11km, ML3.9*
*ISCJB **24** 11:55:38.6±0.7, 39°.01N±0°.03×43°.63E±0.03, h10km±5km,*
mb3.9/14, MS3.5/16, Error ellipse: s-maj=5.5km
s-min=3.6km az=160.7
*CSEM **24** 11:55:38.3±0.2, 39°.02N×43°.51E, h10km, ML3.9, Error*
ellipse: s-maj=7.3km s-min=4.5km az=156.0
*IDC **24** 11:55:40.1±0.8, 38°.77N×43°.67E, h0km, mb3.9/13,*
mb1 4.0/20, mb1mx3.8/53, mbtmp3.9/20, ML3.3/7, MS3.5/21,
Ms1 3.5/21, ms1mx3.4/40, Error ellipse: s-maj=14.8km
s-min=11.2km az=161.0
*AZER **24** 11:55:43.2±0.5, 39°.55N×43°.69E, h6km±7km, Error ellipse:*
s-maj=7.9km s-min=2.2km az=72.0

ISC 24 11:55:40.9±1.1, 39°.03N±0°.02×43°.53E±0°.03, h8km±8km, n112, σ3.995/131, mb3.9/14, MS3.5/16, 18C-26D, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VANB	Van	0.45	194	ePG	Pg	11 55 47.8	-1.8
VANB				eSG	Sg	11 55 54.5	-1.0
VANB	Van	0.45	194	ePg	Pg	11 55 47.8	-1.8
VANB				eSg	Sg	11 55 54.5	-1.0
AGRB	Hanur-Agry	0.69	323	ePG	Pg	11 55 52.9	-1.2
AGRB				eSG	Sg	11 56 03.6	+0.5
AGRB	Hanur-Agry	0.69	323	ePg	Pg	11 55 52.9	-1.2
AGRB				eSg	Sg	11 56 03.6	+0.5
GNI	Garni	1.46	40	Pn	Pn	11 56 08.5	+0.8
	219nm,0.3s,baz=264,slow=2.2,SNR=54						
GNI				Lg	Lg	11 56 32.0	
	139nm,0.3s,baz=334,slow=22,SNR=18						
GNI				LR	LR	11 57 06.3	
	comp=Z,1μm,21.3s,baz=216,slow=54						
NAX	Nakhchivan	1.54	84	⇓P	Pn	11 56 09.5	+0.9
	SNR=238						
NAX				⇓S	Sb	11 56 30.3	+1.0
NAX	Nakhchivan	1.54	84	P	Pn	11 56 09.5	+0.9
	SNR=238						
VRTB	Varto-Mus	1.62	275	ePN	Pn	11 56 06.8	-3.0
VRTB				eSN	Sn	11 56 30.6	-0.4
VRTB	Varto-Mus	1.62	275	ePn	Pn	11 56 06.8	-3.0
SENK	Senkaya-Erzuru	1.78	330	ePN	Pn	11 56 09.7	-2.4
SENK	Senkaya-Erzuru	1.78	330	ePn	Pn	11 56 09.7	-2.4
CUKT	Cukurca	1.78	178	ePN	Pn	11 56 07.0	-5.0
CUKT	Cukurca	1.78	178	ePn	Pn	11 56 07.0	-5.0
SVAN	Silvan-Diyarba	2.03	245	ePN	Pn	11 56 12.0	-3.3
SVAN	Silvan-Diyarba	2.03	245	ePn	Pn	11 56 12.0	-3.3
BNGB	Bing¶ll	2.22	270	ePN	Pn	11 56 15.2	-2.9
BGD	Bogdanovka	2.23	1	P	Pn	11 56 18.7	+0.3
BGD				S	Sg	11 56 57.6	+5.0
YEDI	Yedisu-Bingol	2.35	281	ePN	Pn	11 56 17.4	-2.6
YEDI	Yedisu-Bingol	2.35	281	ePn	Pn	11 56 17.4	-2.6
BINT	Bingol	2.38	267	ePn	Pn	11 56 15.2	-5.0
AKH	Akhalkalaki	2.38	359	ePN	Pn	11 56 18.3	-2.0
AKH	Akhalkalaki	2.38	359	P	Pn	11 56 20.5	+0.2
AKH				S	Sg	11 57 02.0	+4.7
AKH	Akhalkalaki	2.38	359	ePn	Pn	11 56 18.3	-2.0
GDB	GEDABAY	2.40	45	⇓P	Pn	11 56 17.4	-3.3
	SNR=148						
GDB				⇓S	Sn	11 56 43.3	-7.1
GDB	GEDABAY	2.40	45	P	Pn	11 56 17.4	-3.3
	SNR=148						
GDB				S	Sn	11 56 43.3	-7.1
QZX	Qazax, Azerbai	2.47	34	⇓P	Pn	11 56 17.2	-4.2
	SNR=14						
QZX				⇑S	Sn	11 56 43.2	-8.7
QZX	Qazax, Azerbai	2.47	34	P	Pn	11 56 17.2	-4.2
	SNR=14						
GANJ	Ganja	2.69	52	⇓P	Pn	11 56 21.7	-2.7
	SNR=13						
GANJ				⇓S	Sn	11 56 51.2	-6.0
GANJ	Ganja	2.69	52	P	Pn	11 56 21.7	-2.7
	SNR=13						
GANJ				S	Sn	11 56 51.2	-6.0
DGRG	David-gareji	2.80	30	P	Pn	11 56 27.4	+1.4
DGRG				S	Sg	11 57 13.8	+3.0
TBLG	Delisi	2.85	19	P	Pn	11 56 30.8	-1.2
TBLG				S	Sg	11 57 14.5	+2.0
MAZI	Mazidag	2.89	238	ePN	Pn	11 56 24.2	-3.1
MAZI	Mazidag	2.89	238	ePn	Pn	11 56 24.2	-3.1
ERZN	Erzincan	3.01	282	ePN	Pn	11 56 26.9	-2.0
BRDA	Brd	3.07	65	⇓P	Pn	11 56 28.2	-1.5
	SNR=31						
BRDA				⇓S	Sn	11 57 03.0	-3.6
BRDA	Brd	3.07	65	P	Pn	11 56 28.2	-1.5
	SNR=31						
BRDA				S	Sn	11 57 03.0	-3.6
MNGR	Mingechevir, A	3.24	56	⇑P	Pn	11 56 29.4	-2.6
	SNR=20						
MNGR				⇓S	Sn	11 57 05.6	-5.2
MNGR	Mingechevir, A	3.24	56	P	Pn	11 56 29.4	-2.6
	SNR=20						
MNGR				S	Sn	11 57 05.6	-5.2
ZRD	Zardab	3.44	67	⇓P	Pn	11 56 33.3	-1.4
	SNR=20						
ZRD				⇓S	Sn	11 57 12.2	-3.4
ZRD	Zardab	3.44	67	P	Pn	11 56 33.3	-1.4
	SNR=20						
ZRD				S	Sn	11 57 12.2	-3.4
ZKTA	Zakatala	3.52	41	⇓P	Pn	11 56 32.1	-3.7
	SNR=3.8						
ZKTA				⇓S	Sn	11 57 10.1	-7.5
SEKA	Sheki	3.56	51	⇑P	Pn	11 56 34.1	-2.3
	SNR=5.8						
SEKA				⇑S	Sn	11 57 13.6	-5.0
SEKA	Sheki	3.56	51	P	Pn	11 56 34.1	-2.3
	SNR=5.8						
SEKA				S	Sn	11 57 13.6	-5.0
ONI	Oni	3.56	359	P	Pb	11 56 42.5	-1.6
ONI				S	Sg	11 57 40.0	+4.9
LRK	Lerik	3.78	94	⇓P	Pn	11 56 41.2	+1.7
	SNR=11						
LRK				⇓S	Sn	11 57 26.6	+2.3
LRK	Lerik	3.78	94	P	Pn	11 56 41.2	+1.7
	SNR=11						
GLBA	Clilabad	3.79	85	⇓P	Pn	11 56 40.2	+0.7
	SNR=6.7						
GLBA				⇓S	Sn	11 57 24.5	+0.3
GLBA	Clilabad	3.79	85	P	Pn	11 56 40.2	+0.7
	SNR=6.7						
GLBA				S	Sn	11 57 24.5	+0.3
QBL	Gabala	3.82	59	⇑P	Pn	11 56 37.7	-2.3
	SNR=34						
QBL				⇑S	Sn	11 57 19.9	-5.3
QBL	Gabala	3.82	59	P	Pn	11 56 37.7	-2.3
	SNR=34						
QBL				S	Sn	11 57 19.9	-5.3
KDMR	Kurdemir	3.83	68	⇓P	Pn	11 56 38.8	-1.3
	SNR=6.8						
KDMR				⇑S	Sn	11 57 22.2	-3.2
KDMR	Kurdemir

GBS	**Qobustan**	4.43	68	P		Pn	11 56 46.9	-1.5
	SNR=3.1							
QUBA	**Quba, Azerbaij**	4.45	57	⇓P		Pn	11 56 46.2	-2.5
	SNR=5.7							
QUBA	**Quba, Azerbaij**	4.45	57	P		Pn	11 56 46.2	-2.5
	SNR=5.7							
ATGJ	**Altiaghaj**	4.54	65	⇓P		Pn	11 56 47.7	-2.3
	SNR=3.1							
ATGJ	**Altiaghaj**	4.54	65	P		Pn	11 56 47.7	-2.3
	SNR=3.1							
SIZA	**Siyzn**	4.60	62	⇑P		Pn	11 56 48.5	-2.3
	SNR=5.4							
SIZA	**Siyzn**	4.60	62	P		Pn	11 56 48.5	-2.3
	SNR=5.4							
KBZ	**Khabaz**	4.72	354	Pn		Pb	11 56 58.9	-4.9
	0.1nm,0.3s,baz=130,slow=8.8,SNR=3.9							
KVAR	**Kislovodsk Arr**	4.96	353	Pn		Pb	11 57 03.3	-4.7
	baz=286,slow=9.3,SNR=5.7							
KVAR				LR		LR	11 59 28.7	
	comp=Z,352nm,21.9s,baz=164,slow=44							
BRTR	**Keskin Array B**	7.69	278	Pn		Pn	11 57 38.2	+4.9
	0.1nm,0.3s,baz=102,slow=12,SNR=7.6							
BRTR				LR		LR	12 01 04.7	
	comp=Z,246nm,18.3s,baz=94,slow=41							
ASF	**Jabal al Asfar**	8.71	220	Pn		Pn	11 57 47.0	-0.3
	0.3nm,0.3s,baz=160,slow=24,SNR=3.9							
ASF				Lg		Lg	12 00 16.9	
	0.3nm,0.3s,baz=53,slow=22,SNR=1.4							
MMAI	**Mount Meron Ar**	8.90	230	Pn		Pn	11 57 49.3	-0.5
	1.6nm,0.3s,baz=64,slow=20,SNR=2.0							
MMAI				LR		LR	12 01 50.6	
	comp=Z,409nm,18.7s,baz=45,slow=42							
EIL	**Elat**	11.72	220	LR		LR	12 03 27.6	
	comp=Z,415nm,19.2s,baz=52,slow=40							
IDI	**Anoyia**	15.32	262	LR		LR	12 05 59.6	
	comp=Z,107nm,20.2s,baz=60,slow=40							
AKTO	**Aktyubinsk**	15.33	37	Pn		Pn	11 59 18.1	+0.7
	0.1nm,0.3s,baz=230,slow=14,SNR=5.7							
AKTO				LR		LR	12 06 54.3	
	comp=Z,215nm,18.2s,baz=222,slow=44							
AKASG	**Malin Array Be**	15.43	324	Pn		Pn	11 59 21.0	+2.4
	0.4nm,0.3s,baz=134,slow=11,SNR=11							
OBN	**Obninsk**	16.76	346	LR		LR	12 06 02.5	
	comp=Z,77nm,21.5s,baz=100,slow=36							
DRGR		17.08	304	⇑P		P	11 59 44.3	+2.6
CRVS	**Cervenica-Dubn**	18.64	309	*e*P		Pn	12 00 01.5	+2.4
ARU	**Arti**	20.05	25	P		P	12 00 15.6	+1.4
	3.8nm,0.6s,baz=261,slow=5.3,SNR=6.7							
ARU				LR		LR	12 10 09.9	
	comp=Z,69nm,19.8s,baz=212,slow=43							
VYHS	**Vyhne**	20.11	306	*e*P		Pn	12 00 17.9	+1.1
WSAR	**Wadi Sarin**	20.32	136	LR		LR	12 08 58.5	
	comp=Z,96nm,18.6s,baz=326,slow=40							
VRAC	**Vranov**	21.77	307	P		P	12 00 37.6	+4.7
	1.9nm,0.3s,baz=121,slow=8.0,SNR=3.9							
BVAR	**Borovoye Array**	23.14	44	P		P	12 00 48.5	+1.2
	1.7nm,0.8s,baz=230,slow=13,SNR=4.5							
GERES	**GERESS Array B**	23.48	304	P		P	12 00 53.5	+2.6
	2.5nm,0.9s,baz=120,slow=5.1,SNR=6.9							
GERES				LR		LR	12 12 25.0	
	comp=Z,63nm,18.1s,baz=92,slow=42							
AAK	**Ala-Archa**	23.64	71	P		P	12 00 54.2	+1.6
	2.1nm,0.8s,baz=216,slow=11,SNR=4.2							
AAK				LR		LR	12 12 06.3	
	comp=Z,94nm,18.1s,baz=266,slow=42							
FINES	**FINESS Array B**	24.90	340	LR		LR	12 11 09.0	
	comp=Z,126nm,18.3s,baz=145,slow=37							
KSH	**Kashi**	25.05	79	*e*P		P	12 01 04.6	-1.1
KSH				pP		sP	12 01 11.3	+2.2
KSH				sP		pP	12 01 14.3	+6.2
KSH				pmax		pmax		
	comp=Z,82nm,4.2s							
KSH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KURBB	**Kurchatov Arra**	27.14	53	P		P	12 01 25.2	+0.9
	comp=Z,1.9nm,0.4s,baz=263,slow=8.9,SNR=8.7							
HFS	**Hagfors**	28.22	328	P		P	12 01 35.3	+1.5
	comp=Z,3.3nm,0.7s,baz=139,slow=9.6,SNR=4.5							
MKAR	**Makanchi Array**	29.19	62	P		P	12 01 43.3	+0.6
	comp=Z,1.6nm,0.7s,baz=272,slow=7.2,SNR=14							
MKAR				LR		LR	12 15 11.6	
	comp=Z,105nm,19.4s,baz=256,slow=40							
NOA	**NORSAR Array B**	29.74	328	LR		LR	12 14 10.4	
	comp=Z,55nm,21.8s,baz=140,slow=37							
ZALV	**Zalesovo Beam**	31.59	48	P		P	12 02 03.9	+0.1
	comp=Z,0.6nm,0.5s,baz=279,slow=5.7,SNR=1.7							
ZALV				LR		LR	12 17 02.2	
	comp=Z,94nm,18.8s,baz=250,slow=40							
ARCES	**ARCESS Array B**	32.05	348	LR		LR	12 16 10.5	
	comp=Z,77nm,18.6s,baz=146,slow=38							
ESDC	**Sonseca Array**	36.39	286	P		P	12 02 47.6	+1.9
	comp=Z,1.3nm,0.7s,baz=73,slow=8.8,SNR=5.7							
NRIK	**Norilʼsk**	38.27	23	LR		LR	12 23 06.0	
	comp=Z,92nm,18.5s,baz=150,slow=43							
KMBO	**Kilima Mbogo**	40.38	190	LR		LR	12 18 47.7	
	comp=Z,143nm,18.5s,baz=93,slow=35							
TORD	**Torodi Ar. Bea**	45.00	247	P		P	12 03 56.2	-0.8
	comp=Z,1.5nm,1.0s,baz=44,slow=7.2,SNR=7.3							
SONM	**Songino Array**	45.35	57	LR		LR	12 24 56.8	
	comp=Z,93nm,20.3s,baz=288,slow=39							
XAN	**Xiʼan**	51.77	74	P		P	12 04 49.3	+0.2
XAN				pP		sP	12 04 54.9	+2.3
XAN				pmax		pmax		
	comp=Z,11nm,1.2s							
XAN				LR		LR		
	comp=N,82nm,21.8s							
XAN				LR		LR		
	comp=E,120nm,24.5s							
XAN				LR		LR		
	comp=Z,230nm,21.2s							
CMAR	**Chiang Mai Arr**	51.90	97	P		P	12 04 49.0	-1.1
	comp=Z,0.9nm,0.7s,baz=296,slow=8.7,SNR=6.2							
CMAR				LR		LR	12 29 50.3	
	comp=Z,23nm,18.4s,baz=125,slow=40							
BOSA	**Boshof**	69.42	197	P		P	12 06 50.2	+0.7
	comp=Z,2.4nm,1.0s,baz=57,slow=7.6,SNR=3.5							
YKA	**Yellowknife Ar**	77.30	350	LR		LR	12 45 17.9	
	comp=Z,23nm,19.2s,baz=180,slow=38							
ULM	**Lac du Bonnet**	84.19	335	LR		LR	12 46 45.6	
	comp=Z,270nm,19.4s,baz=240,slow=36							

WEL 24 11:57:08.0±0.2, 38°.30S×178°.33E, h49km±1km, ML3.5/26, 6C-9D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	0.21	207	⇓PN	Pn	11 57 16.6	+0.3
CNGZ				AML	AML	11 57 25.3	
CNGZ				AML	AML	11 57 25.4	
PUZ	**Puketiti**	0.23	347	⇓PN	Pn	11 57 16.1	-0.5
PUZ				SN	Sn	11 57 22.2	-0.4
PUZ				AML	AML	11 57 22.8	
TWGZ	**Tauwhareparae**	0.30	294	⇑PN	Pn	11 57 17.0	-0.1
TWGZ				SN	Sn	11 57 23.7	+0.2
TWGZ				AML	AML	11 57 25.7	
TKGZ	**Te Karaka**	0.40	250	⇑PN	Pn	11 57 17.9	-0.2
TKGZ				*e*SN	Sn	11 57 24.7	-0.5
TKGZ				AML	AML	11 57 25.9	
PKGZ	**Pakihiroa**	0.46	334	⇓PN	Pn	11 57 18.5	-0.3
PKGZ				SN	Sn	11 57 26.0	-0.4
PKGZ				AML	AML	11 57 26.8	
WMGZ	**Waiomatatini S**	0.48	8	⇓PN	Pn	11 57 18.9	-0.1
WMGZ				AML	AML	11 57 28.1	
WMGZ				AML	AML	11 57 30.3	
RIGZ	**Rimuhau**	0.60	227	⇓PN	Pn	11 57 20.3	-0.2
RIGZ				AML	AML	11 57 31.1	
RIGZ				AML	AML	11 57 32.1	
MWZ	**Matawai**	0.63	267	⇑PN	Pn	11 57 20.3	-0.6
MWZ				SN	Sn	11 57 29.3	-0.8
MWZ				AML	AML	11 57 30.0	
HAZ	**Te Kaha**	0.69	322	PN	Pn	11 57 21.1	-0.5
HAZ				*e*SN	Sn	11 57 30.5	-0.9
HAZ				AML	AML	11 57 30.8	
HAZ				AML	AML	11 57 31.4	
HAZ				AML	AML	11 57 31.5	
PRGZ	**Paritu Road**	0.71	209	PN	Pn	11 57 21.5	-0.5
PRGZ				AML	AML	11 57 33.5	
PRGZ				AML	AML	11 57 35.5	
MXZ	**Matakaoa Point**	0.74	359	⇓PN	Pn	11 57 22.1	-0.1
MXZ				AML	AML	11 57 34.2	
MXZ				AML	AML	11 57 34.7	
KNZ	**Kokohu**	0.88	215	⇓PN	Pn	11 57 23.4	-0.8
SNGZ	**Shannon Statio**	0.91	238	PN	Pn	11 57 24.1	-0.4
SNGZ				AML	AML	11 57 37.8	
SNGZ				AML	AML	11 57 38.1	
MHGZ	**Mahia Peninsul**	0.91	201	⇓PN	Pn	11 57 24.2	-0.4
URZ	**Urewera**	0.96	272	PN	Pn	11 57 25.0	-0.1
URZ				AML	AML	11 57 39.1	
URZ				AML	AML	11 57 41.9	
RTZ	**Ruatahuna**	1.10	253	PN	Pn	11 57 27.1	0.0
WHHZ	**Waihua**	1.15	227	PN	Pn	11 57 27.4	-0.4
WHHZ				AML	AML	11 57 45.8	
WHHZ				AML	AML	11 57 46.2	
WHRZ	**Whale Island**	1.16	292	PN	Pn	11 57 27.8	0.0
MUGZ	**Murupara**	1.23	261	PN	Pn	11 57 28.8	-0.2
EDRZ	**Edgecumbe**	1.27	278	PN	Pn	11 57 29.4	0.0
ARHZ	**Aropaoanui**	1.42	227	PN	Pn	11 57 30.8	-0.6
ARHZ				AML	AML	11 57 51.1	
ARHZ				AML	AML	11 57 51.5	
RRRZ	**Republican Roa**	1.43	268	PN	Pn	11 57 31.4	-0.1
NMHZ	**Naumai**	1.43	236	PN	Pn	11 57 31.6	0.0
NMHZ				AML	AML	11 57 51.1	
NMHZ				AML	AML	11 57 53.0	
TARZ	**Mount Tarawera**	1.43	272	⇑PN	Pn	11 57 31.7	0.0
OPRZ	**Ohinepanea**	1.47	287	⇑PN	Pn	11 57 31.3	-0.8
ALRZ	**Allen Road**	1.58	260	PN	Pn	11 57 33.3	-0.3
MRHZ	**Matea Rd**	1.59	250	PN	Pn	11 57 33.6	-0.2
MRHZ				AML	AML	11 57 54.0	
MRHZ				AML	AML	11 57 54.3	
CKHZ	**Cape Kidnapper**	1.67	215	*e*PN	Pn	11 57 33.6	-1.2
CKHZ				AML	AML	11 57 55.7	
CKHZ				AML	AML	11 57 55.9	
BKZ	**Black Stump Fm**	1.67	238	⇓PN	Pn	11 57 34.8	-0.2
BKZ				AML	AML	11 57 55.9	
BKZ				AML	AML	11 57 56.7	
MCHZ	**McNeill Hill**	1.71	228	⇑PN	Pn	11 57 35.0	-0.4
MCHZ				AML	AML	11 57 58.6	
MCHZ				AML	AML	11 58 00.3	
KWHZ	**Kaweka Forest**	1.86	232	PN	Pn	11 57 36.9	-0.6
KWHZ				AML	AML	11 58 00.8	
KWHZ				AML	AML	11 58 00.9	
KAHZ	**Kahuranaki**	1.87	217	PN	Pn	11 57 36.3	-1.3
KRHZ	**Kereru**	2.03	228	PN	Pn	11 57 38.8	-1.0
KRHZ				AML	AML	11 58 03.8	
KRHZ				AML	AML	11 58 04.5	
PXZ	**Pawanui**	2.07	213	PN	Pn	11 57 38.1	-2.2
PXZ				AML	AML	11 58 07.1	
BHHZ	**Black Hill Sta**	2.13	235	PN	Pn	11 57 40.5	-0.7
BHHZ				AML	AML	11 58 05.9	
KRVZ	**Karewarewa**	2.25	248	*e*PN	Pn	11 57 42.2	-0.7
TOZ	**Tahuroa Road**	2.30	283	PN	Pn	11 57 42.6	-0.8
PNHZ	**Pukenui**	2.31	225	PN	Pn	11 57 41.9	-1.8
PNHZ				AML	AML	11 58 16.2	
FWVZ	**Far West T-bar**	2.37	245	PN	Pn	11 57 44.2	-0.5
TSZ	**Takapari Road**	2.54	226	PN	Pn	11 57 44.8	-2.1
KUZ	**Kuaotunu**	2.59	306	PN	Pn	11 57 46.0	-1.4
GRZ	**Great Barrier**	3.07	311	PN	Pn	11 57 53.3	-0.7
HOWZ	**Holdsworth Sta**	3.38	219	PN	Pn	11 57 55.1	-3.2
MTW	**Mount Morrison**	3.59	216	PN	Pn	11 57 57.4	-3.8
TCW	**Tory Channel**	4.26	226	*e*PN	Pn	11 58 06.6	-3.8
TCW				AML	AML	11 58 55.7	
TUWZ	**Tuamarina**	4.60	226	*e*PN	Pn	11 58 10.6	-4.4
NNZ	**Nelson**	4.80	231	PN	Pn	11 58 14.5	-3.2
KHZ	**Kahutara**	5.50	220	PN	Pn	11 58 23.3	-4.1
MQZ	**McQueen's Vall**	6.90	217	*e*PN	Pn	11 58 40.9	-5.6

DDA ***24*** *11:58:41.1, 38°.71N×43°.30E, h9km, Ml3.1*
ISK ***24*** *11:58:41.1, 38°.68N×43°.24E, h5km, ML3.4*
ISCJB ***24*** *11:58:42.5±0.6, 38°.68N±0°.03×43°.20E±0°.06, h8km±6km, Error ellipse: s-maj=7.6km s-min=4.4km az=158.8*
CSEM ***24*** *11:58:42.1±0.3, 38°.67N×43°.20E, h2km, ML3.4, Error ellipse: s-maj=8.2km s-min=5.0km az=60.0*
ISC 24 11:58:42.4±0.9, 38°.70N±0°.02×43°.24E±0°.04, h15km±6km, n28, σ1§69/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	0.16	130	*e*PG	Pg	11 58 46.4	-0.1
VANB				*e*SG	Sg	11 58 50.2	+1.0
VANB	**Van**	0.16	130	*e*Pg	Pg	11 58 46.4	-0.1
VANB				*e*Sg	Sg	11 58 50.2	+1.0
GEVA	**Gevas**	0.41	200	*i* P	Pg	11 58 48.7	-2.0
GEVA				*i* S	Sb	11 58 56.0	-1.6
GEVA	**Gevas**	0.41	200	P	Pg	11 58 48.7	-2.0
GEVA				S	Sb	11 58 56.0	-1.6
TUTA	**Tutak**	0.78	335	*i* P	Pg	11 58 56.5	-1.0
TUTA				*i* S	Sb	11 59 07.8	-0.4
TUTA	**Tutak**	0.78	335	P	Pg	11 58 56.5	-1.0
TUTA				S	Sb	11 59 07.8	-0.4
BASK	**Baskale_VAN**	0.88	137	*i* P	Pg	11 58 58.2	-1.3
BASK				*i* S	Sn	11 59 12.2	-1.0
BASK	**Baskale_VAN**	0.88	137	P	Pg	11 58 58.2	-1.3
BASK				S	Sn	11 59 12.2	-1.0
AGRB	**Hanur-Agry**	0.90	348	*e*PG	Pb	11 58 59.2	-0.6
AGRB				*e*SG	Sn	11 59 13.8	+0.3
AGRB	**Hanur-Agry**	0.90	348	*e*Pg	Pb	11 58 59.2	-0.6
AGRB				*e*Sg	Sn	11 59 13.8	+0.3
HAKT	**HAKKARI**	1.20	162	*i* P	Pg	11 59 03.2	-2.3
HAKT				*i* S	Sn	11 59 24.7	+3.8
HAKT	**HAKKARI**	1.20	162	P	Pg	11 59 03.2	-2.3
HAKT				S	Sn	11 59 24.7	+3.8
SIRN	**S¨–rnak**	1.36	209	*i* P	Pg	11 59 07.7	-0.9
SIRN				*i* S	Sn	11 59 28.5	+3.7
SIRN	**S¨–rnak**	1.36	209	P	Pg	11 59 07.7	-0.9
SIRN				S	Sn	11 59 28.5	+3.7
VRTB	**Varto-Mus**	1.46	289	*e*PN	Pg	11 59 10.1	-0.5
VRTB	**Varto-Mus**	1.46	289	*e*Pn	Pg	11 59 10.1	-0.5
CUKT	**Cukurca**	1.48	168	*e*PN	Pg	11 59 09.8	-1.0
CUKT	**Cukurca**	1.48	168	*e*Pn	Pg	11 59 09.8	-1.0
SVAN	**Silvan-Diyarba**	1.69	252	*e*PN	Pb	11 59 12.1	-1.1
SVAN	**Silvan-Diyarba**	1.69	252	*e*Pn	Pb	11 59 12.1	-1.1
SENK	**Senkaya-Erzuru**	1.98	340	*e*PN	Pb	11 59 18.0	-0.3
SENK	**Senkaya-Erzuru**	1.98	340	*e*Pn	Pb	11 59 18.0	-0.3
BNGB	**Bingˆ¶l**	2.02	279	*e*PN	Pb	11 59 17.6	-1.2
BINT	**Bingol**	2.15	276	*e*Pn	Pn	11 59 17.7	-0.2
YEDI	**Yedisu-Bingol**	2.22	290	*e*PN	Pb	11 59 20.9	-1.5
YEDI	**Yedisu-Bingol**	2.22	290	*e*Pn	Pb	11 59 20.9	-1.5
MAZI	**Mazidag**	2.52	242	*e*PN	Pn	11 59 24.7	+1.7
MAZI	**Mazidag**	2.52	242	*e*Pn	Pn	11 59 24.7	+1.7

IDC 24 12:08:29.3±9.1, 55°.58N×85°.33E, h0km, Error ellipse: s-maj=51.2km s-min=26.4km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	1.66	190	*i*		12 19 20.0	
	baz=9.9,slow=330,SNR=7.1						
ZALV	**Zalesovo Beam**	1.66	190	Pg	Pn	12 08 59.7	+0.1
	0.9nm,0.3s,baz=13,slow=16,SNR=7.8						
ZALV				Lg	Lg	12 09 21.7	
	1.8nm,0.3s,baz=8.7,slow=28,SNR=19						
I34MN	**SONGINO INFRAS**	15.17	112	*i*		13 34 30.0	
	baz=312,slow=328,SNR=0.5						

ISK ***24*** *12:12:13.1, 38°.97N×43°.78E, h5km, ML3.4*
CSEM ***24*** *12:12:15.5±0.5, 38°.94N×43°.67E, h2km, ML3.4, Error ellipse: s-maj=12.5km s-min=6.4km az=84.0*
DDA ***24*** *12:12:15.7, 38°.95N×43°.61E, h4km, Ml3.5*
ISC 24 12:12:17.2±1.3, 38°.96N±0°.02×43°.53E±0°.04, h4km±10km, n38, σ1§21/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	0.38	197	*e*PG	Pg	12 12 24.6	+0.1
VANB	**Van**	0.38	197	*e*Pg	Pg	12 12 24.6	+0.1
DYDN	**Diyadin**	0.60	12	*i* P	Pg	12 12 28.0	-0.8
DYDN	**Diyadin**	0.60	12	P	Pg	12 12 28.0	-0.8
TUTA	**Tutak**	0.71	309	*i* P	Pg	12 12 29.8	-1.1
TUTA				*i* S	Sg	12 12 41.4	+1.2
TUTA	**Tutak**	0.71	309	P	Pg	12 12 29.8	-1.1
TUTA				S	Sg	12 12 41.4	+1.2
GEVA	**Gevas**	0.74	210	*i* P	Pg	12 12 29.3	-2.1
GEVA				*i* S	Sb	12 12 43.3	0.0
GEVA	**Gevas**	0.74	210	P	Pg	12 12 29.3	-2.1
GEVA				S	Sb	12 12 43.3	0.0
AGRB	**Hanur-Agry**	0.75	326	*e*PG	Pg	12 12 30.6	-0.9
AGRB				*e*SG	Sb	12 12 43.9	+0.3
AGRB	**Hanur-Agry**	0.75	326	*e*Pg	Pg	12 12 30.6	-0.9
AGRB				*e*Sg	Sb	12 12 43.9	+0.3
EKAR	**Karacoban**	1.18	285	*i* P	Pb	12 12 40.3	0.0
EKAR				*i* S	Sn	12 12 59.4	+2.0
EKAR	**Karacoban**	1.18	285	P	Pb	12 12 40.3	0.0
EKAR				S	Sn	12 12 59.4	+2.0
EATA	**Eleskirt**	1.21	319	*i* P	Pg	12 12 39.2	-1.3
EATA				*i* S	Sn	12 12 58.8	+0.5
EATA	**Eleskirt**	1.21	319	P	Pg	12 12 39.2	-1.3
EATA				S	Sn	12 12 58.8	+0.5
HAKT	**HAKKARI**	1.40	174	*i* P	Pn	12 12 41.5	-2.3
HAKT				*i* S	Sn	12 13 04.0	+1.1
HAKT	**HAKKARI**	1.40	174	P	Pn	12 12 41.5	-2.3
HAKT				S	Sn	12 13 04.0	+1.1
DIGO	**Kars**	1.46	355	*i* P	Pg	12 12 44.8	-0.5
DIGO	**Kars**	1.46	355	P	Pg	12 12 44.8	-0.5
HOMI	**Horasan**	1.66	311	*i* P	Pb	12 12 48.4	-0.1
CUKT	**Cukurca**	1.71	178	*e*PN	Pn	12 12 45.8	-2.0
CUKT	**Cukurca**	1.71	178	*i* P	Pg	12 12 50.6	+0.7
CUKT				*i* S	Sg	12 13 14.3	+2.3
CUKT	**Cukurca**	1.71	178	*e*Pn	Pn	12 12 45.8	-2.0
CUKT	**Cukurca**	1.71	178	P	Pg	12 12 50.6	+0.7
EAK	**Akyaka**	1.73	2	*i* P	Pg	12 12 52.0	+1.7
SENK	**Senkaya-Erzuru**	1.84	331	*e*PN	Pn	12 12 48.2	-1.6
SENK	**Senkaya-Erzuru**	1.84	331	*e*Pn	Pn	12 12 48.2	-1.6
BNGL	**BINGÖL**	1.86	271	*i* P	Pb	12 12 51.8	0.0
ERZM	**Erzurum**	1.93	300	*i* P	Pb	12 12 52.9	-0.1
ERZM	**Erzurum**	1.93	300	P	Pb	12 12 52.9	-0.1
SVAN	**Silvan-Diyarba**	2.00	247	*e*PN	Pn	12 12 52.3	+0.5
SVAN	**Silvan-Diyarba**	2.00	247	*e*Pn	Pn	12 12 52.3	+0.5
BTMN	**Batman**	2.07	240	*i* P	Pb	12 12 54.8	-0.6
BTMN				*i* S	Sn	12 13 18.6	-0.5
BTMN	**Batman**	2.07	240	P	Pb	12 12 54.8	-0.6
BTMN				S	Sn	12 13 18.6	-0.5
BNGB	**Bingˆ¶l**	2.22	272	*e*PN	Pn	12 12 56.0	+1.1
DDEM	**Demirkent**	2.37	325	*i* P	Pg	12 13 01.5	-1.1
BINT	**Bingol**	2.37	269	*e*Pn	Pn	12 12 56.0	-1.0
MAZI	**Mazidag**	2.85	239	*e*PN	Pn	12 13 03.6	0.0
MAZI	**Mazidag**	2.85	239	*e*Pn	Pn	12 13 03.6	0.0

IDC ***24*** *12:23:36.7±0.8, 60°.52S×49°.93W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4. 1/27, mbtmp4.2/8, ML5.4/2, MS4.0/7, Ms1 4.0/7, ms1mx3.7/21, Error ellipse: s-maj=25.6km s-min=23.1km az=74.0*
ISCJB ***24*** *12:23:38.4±0.5, 60°.42S±0°.06×50°.3W±0°.1, h10km, mb4.4/14, MS3.9/6, Error ellipse: s-maj=10.0km s-min=8.3km az=16.4*
NEIC ***24*** *12:23:46.8±1.9, 60°.50S×50°.74W, h76km±19km, mb4.3/1, Error ellipse: s-maj=23.8km s-min=10.9km az=71.0*
ISC 24 12:23:40.0±0.5, 60°.40S±0°.08×50°.16W±0°.09, h10km, n33, σ1§54/26, mb4.4/14, MS3.8/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	7.76	230	Pn	Pn	12 25 31.9	-0.9
	3.9nm,0.3s,baz=63,slow=10,SNR=14						
PMSA				Sn	Sn	12 27 02.3	+1.8
	0.6nm,0.3s,baz=129,slow=17,SNR=2.2						
EFI	**East Falkland**	9.79	330	*e*Pn	Pn	12 26 03.7	+3.0
USHA	**Ushuaia**	11.25	292	Pn	Pn	12 26 21.5	+0.9
	29nm,0.3s,baz=90,slow=11,SNR=4.1						
USHA				LR	LR	12 29 33.8	
	comp=Z,7μm,19.6s,baz=192,slow=31						
SNAA	**Sanae**	21.57	141	P	P	12 28 29.6	+0.3
	18nm,1.1s,baz=280,slow=8.5,SNR=29						
SNAA	**Sanae**	21.57	141	P	P	12 28 29.6	+0.3
SNAA				*e*P	P	12 28 29.9	+0.6
PLCA	**Paso Flores**	23.38	318	P	P	12 28 47.5	-1.1
	3.3nm,0.8s,baz=191,slow=6.6,SNR=5.0						
PLCA				LR	LR	12 36 19.1	
	comp=Z,195nm,21.4s,baz=182,slow=32						
TRQA	**Tornquist**	23.58	336	*e*P	P	12 28 50.6	0.0
	71nm,1.6s						
QSPA	**South Pole Qui**	29.84	180	*e*P	P	12 29 47.4	+0.3
	37nm,0.8s						
VNDA	**Vanda**	40.91	190	LR	LR	12 48 32.6	
	comp=Z,113nm,18.6s,baz=166,slow=37						
MAW	**Mawson**	43.34	149	P	P	12 31 43.3	+1.8
	0.9nm,0.3s,baz=214,slow=7.3,SNR=4.4						
MAW				LR	LR	12 48 18.3	
	comp=Z,365nm,19.4s,baz=240,slow=34						
BDFB	**Brasilia**	44.72	3	P	P	12 31 52.5	-0.8
	2.1nm,0.4s,baz=220,slow=15,SNR=2.5						
SIV	**San Ignacio**	45.05	345	P	P	12 31 54.7	-1.2
	2.0nm,0.6s,baz=155,slow=8.0,SNR=4.0						
LP

EATA S **Sn** **12 24 46.8 -1.1**
HAKT HAKKARI 1.41 173 *i* P **Pn** **12 24 30.3 -3.4**
HAKT *i* S **Sn** **12 24 50.2 -2.8**
GNI Garni 1.53 38 Pn **Pn** **12 24 34.5 -0.9**
44nm,0.3s,baz=238,slow=2.1,SNR=47
GNI Lg Lg 12 24 55.5
34nm,0.3s,baz=166,slow=21,SNR=3.1
GNI LR LR 12 25 15.8
comp=Z,177nm,18.8s,baz=212,slow=46
NAX Nakhchivan 1.57 81 ⇓P **Pn** **12 24 34.8 -1.0**
SNR=39
NAX ⇑S **Sg** **12 24 59.2 +2.0**
NAX Nakhchivan 1.57 81 P **Pn** **12 24 34.8 -1.0**
SNR=39
NAX S **Sg** **12 24 59.2 +2.0**
HOMI Horasan 1.65 312 *i* P **Pb** **12 24 37.6 -0.4**
HOMI *i* S **Sg** **12 24 60.0 +0.2**
SIRN S¨–rnak 1.69 211 *i* P **Pb** **12 24 39.8 +1.0**
SIRN *i* S **Sb** **12 25 01.5 +0.9**
SIRN S¨–rnak 1.69 211 P **Pb** **12 24 39.8 +1.0**
SIRN S **Sb** **12 25 01.5 +0.9**
CUKT Cukurca 1.71 177 *i* P **Pb** **12 24 39.5 +0.4**
CUKT *i* S **Sn** **12 24 60.0 -0.3**
CUKT Cukurca 1.71 177 P **Pb** **12 24 39.5 +0.4**
CUKT S **Sn** **12 25 00.0 -0.3**
BNGL BINGOL 1.83 271 *i* P **Pb** **12 24 41.4 +0.2**
BNGL *i* S **Sg** **12 25 08.7 +2.9**
ERZM Erzurum 1.91 300 *i* P **Pb** **12 24 41.9 -0.7**
ERZM Erzurum 1.91 300 P **Pb** **12 24 41.9 -0.7**
SVAN Silvan-Diyarba 1.98 247 *i* P **Pn** **12 24 42.5 +1.1**
SVAN *i* S **Sb** **12 25 08.8 +0.1**
SVAN Silvan-Diyarba 1.98 247 P **Pn** **12 24 42.5 +1.1**
SVAN S **Sb** **12 25 08.8 +0.1**
BTMN Batman 2.05 239 *i* P **Pb** **12 24 44.1 -0.8**
BTMN *i* S **Sb** **12 25 11.8 +0.9**
BTMN Batman 2.05 239 P **Pb** **12 24 44.1 -0.8**
BTMN S **Sb** **12 25 11.8 +0.9**
BGD Bogdanovka 2.31 2 P **Pg** **12 24 50.2 -0.9**
BGD S **Sg** **12 25 25.6 +4.6**
AKH Akhalkalaki 2.45 360 P **Pg** **12 24 52.8 -1.0**
AKH S **Sg** **12 25 27.1 +1.5**
GDB GEDABAY 2.47 44 ⇑P **Pn** **12 24 47.8 -0.6**
SNR=43
GDB ⇓S **Sb** **12 25 22.9 -0.2**
GDB GEDABAY 2.47 44 P **Pn** **12 24 47.8 -0.6**
SNR=43
GDB S **Sb** **12 25 22.9 -0.2**
QZX Qazax, Azerbai 2.54 34 ⇑P **Pn** **12 24 47.0 -2.2**
SNR=26
QZX Qazax, Azerbai 2.54 34 P **Pn** **12 24 47.0 -2.2**
SNR=26
MARD Mardin 2.70 233 *i* P **Pb** **12 24 54.1 -2.0**
GANJ Ganja 2.75 51 ⇓P **Pn** **12 24 52.4 +0.4**
SNR=16
GANJ Ganja 2.75 51 P **Pn** **12 24 52.4 +0.4**
SNR=16
DGRG David-gareji 2.87 29 P **Pb** **12 24 58.6 -0.3**
DGRG S **Sg** **12 25 40.1 +0.9**
TBLG Delisi 2.93 18 P **Pg** **12 25 02.0 -1.0**
TBLG S **Sg** **12 25 41.6 +0.7**
BRDA Brd 3.12 64 ⇑P **Pn** **12 24 59.0 +1.9**
SNR=5.2
BRDA ⇑S **Sb** **12 25 40.9 -0.8**
BRDA Brd 3.12 64 P **Pn** **12 24 59.0 +1.9**
SNR=5.2
MNGR Mingechevir, A 3.30 56 ⇓P **Pn** **12 25 00.2 +0.7**
SNR=5.9
MNGR ⇑S **Sb** **12 25 45.1 -1.7**
MNGR Mingechevir, A 3.30 56 P **Pn** **12 25 00.2 +0.7**
SNR=5.9
ZRD Zardab 3.49 66 ⇑P **Pn** **12 25 04.2 +2.1**
SNR=7.6
ZRD ⇑S **Sb** **12 25 51.5 -0.6**
ZRD Zardab 3.49 66 P **Pn** **12 25 04.2 +2.1**
SNR=7.6
ZKTA Zakatala 3.59 41 ⇑P **Pn** **12 25 02.1 -1.4**
SNR=5.4
ZKTA ⇑S **Sn** **12 25 49.0 +2.5**
SEKA Sheki 3.62 50 ⇓P **Pn** **12 25 04.8 +0.8**
SNR=6.9
SEKA ⇑S **Sb** **12 25 53.3 -2.7**
SEKA Sheki 3.62 50 P **Pn** **12 25 04.8 +0.8**
SNR=6.9
ONI Oni 3.63 359 P **Pg** **12 25 14.2 -2.3**
ONI S **Sg** **12 26 07.3 +3.8**
LRK Lerik 3.79 93 ⇑S **Sb** **12 26 02.1 +1.0**
GLBA Clilabad 3.82 84 ⇑P **Pn** **12 25 10.4 +3.8**
SNR=4.3
GLBA ⇑S **Sb** **12 26 01.8 +0.2**
GLBA Clilabad 3.82 84 P **Pn** **12 25 10.4 +3.8**
SNR=4.3
QBL Gabala 3.88 58 ⇓P **Pn** **12 25 08.4 +0.8**
SNR=12
QBL ⇑S **Sb** **12 25 59.5 -3.9**
QBL Gabala 3.88 58 P **Pn** **12 25 08.4 +0.8**
SNR=12
KDMR Kurdemir 3.88 67 ⇓S **Sb** **12 26 00.8 -2.6**
ASTR Astara 4.15 94 ⇑P **Pn** **12 25 15.8 +4.5**
SNR=4.8
ASTR Astara 4.15 94 P **Pn** **12 25 15.8 +4.5**
SNR=4.8
XNQ Khinaliq 4.19 57 ⇓P **Pn** **12 25 12.6 +0.6**
SNR=11
XNQ Khinaliq 4.19 57 P **Pn** **12 25 12.6 +0.6**
SNR=11
KBZ Khabaz 4.79 355 Pn Pb 12 25 26.8 -4.7
0.2nm,0.3s,baz=92,slow=4.5,SNR=1.8
KBZ LR LR 12 26 47.4
comp=Z,46nm,20.6s,baz=190,slow=32
KVAR Kislovodsk Arr 5.03 353 Pn Pb 12 25 30.4 -5.3
baz=175,slow=15,SNR=1.4
BRTR Keskin Array B 7.68 279 Pn Pn 12 26 06.8 +6.9
0.1nm,0.3s,baz=102,slow=13,SNR=2.8
ASF Jabal al Asfar 8.64 220 Pn **Pn** **12 26 10.9 -2.1**
baz=354,slow=23,SNR=1.6
ASF Lg Lg 12 28 42.0
0.3nm,0.3s,baz=349,slow=22,SNR=1.4
MMAI Mount Meron Ar 8.84 230 LR LR 12 30 17.4
comp=Z,130nm,18.1s,baz=5.0,slow=42
EIL Elat 11.65 220 LR LR 12 31 54.3
comp=Z,112nm,18.4s,baz=2.5,slow=40
DOPR Dopca 15.07 304 ⇑*i*P **P** **12 27 47.2 +0.9**
VOIR 15.12 301 ⇑*i*P **P** **12 27 50.0 +3.1**
AKTO Aktyubinsk 15.40 37 LR LR 12 35 21.4
comp=Z,60nm,18.8s,baz=231,slow=44
AKASG Malin Array Be 15.47 324 Pn **Pn** **12 27 47.1 +1.1**
baz=132,slow=12,SNR=1.9
BURAR Bucovina Array 15.85 309 ⇓*i*P **P** **12 27 57.4 +2.4**
ARU Arti 20.13 25 P Pn 12 28 43.6 -0.1
1.5nm,0.4s,baz=221,slow=4.6,SNR=2.2
BVAR Borovoye Array 23.21 44 P **P** **12 29 17.7 +2.8**
0.3nm,0.4s,baz=264,slow=39,SNR=1.7
KURBB Kurchatov Arra 27.20 53 P **P** **12 29 51.0 -0.8**
0.9nm,0.2s,baz=95,slow=31,SNR=1.8
HFS Hagfors 28.27 328 LR LR 12 42 26.0
comp=Z,64nm,18.1s,baz=101,slow=38
MKAR Makanchi Array 29.25 62 P **P** **12 30 08.8 -1.3**
0.4nm,0.7s,baz=270,slow=6.1,SNR=4.2
NOA NORSAR Array B 29.80 328 LR LR 12 44 03.0
comp=Z,10nm,19.4s,baz=25,slow=40
ESDC Sonseca Array 36.39 287 P **P** **12 31 12.4 -0.3**
0.2nm,0.4s,baz=72,slow=12,SNR=2.2
TORD Torodi Ar. Bea 44.96 247 P **P** **12 32 22.1 -1.5**
0.5nm,0.9s,baz=60,slow=7.0,SNR=3.5

KRNET 24 12:26:20.0±0.1, 41°.31N×71°.16E, h7km, mb2.1, 9C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.78**	**51**	⇑*i*P	Pg	12 26 35.4	+0.4
	baz=52						
ARK				⇑*e*S	Sb	12 26 46.2	-0.6
	baz=52						
BTK	**Batken**	**1.27**	**192**	⇓*i*P	Pg	12 26 45.0	+0.6
	baz=192						
BTK				⇓*i*S	Sn	12 27 02.8	+1.1
	baz=192						
MNAS	**Manas**	**1.55**	**40**	⇓*i*P	Pg	12 26 49.9	+0.2
	baz=40						
MNAS				⇓*e*S	Sg	12 27 11.6	+1.8
	baz=40						
MNAS	**Manas**	**1.55**	**40**	⇑P	Pg	12 26 49.4	-0.3
	0.6nm,0.3s						
MNAS				⇑S	Sg	12 27 13.3	+3.5
	1.5nm,0.7s						
KK31	**Karatay Array**	**1.86**	**345**	⇑Pn	Pb	12 26 54.6	+0.3
	1.5nm,0.4s,baz=166,slow=18,SNR=12						
KK31				⇓Sn	Sg	12 27 21.1	+1.4
	2.6nm,0.4s,baz=174,slow=34,SNR=9.5						
AML	**Almayashu**	**2.07**	**66**	⇑*i*P	Pb	12 26 58.1	0.0
	baz=66						
AML				⇑*i*S	Sg	12 27 27.0	+0.5
	baz=66						
ARLS	**Aral**	**2.44**	**76**	⇑*i*P	Pb	12 27 04.1	-0.1
	baz=76						
ARLS				⇑*i*S	Sg	12 27 36.5	-1.8
	baz=76						

IDC 24 12:36:48.9±3.3, 5°.75S×151°.22E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, ML1.3/1, Error ellipse: s-maj=143.2km s-min=41.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**228**	Pn	Pn	12 38 12.7	+1.6
	0.6nm,0.3s,baz=24,slow=12,SNR=2.3						
PMG				Sn	Sn	12 39 12.6	-1.7
	1.3nm,0.3s,baz=287,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**21.64**	**228**	P	P	12 41 40.7	-0.4
	0.5nm,0.4s,baz=52,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.40**	**221**	P	P	12 42 09.2	0.0
	0.9nm,0.8s,baz=60,slow=8.8,SNR=12						
TORD	**Torodi Ar. Bea**	**149.08**	**286**	PKPbc	PKPbc	12 56 39.7	-0.5
	0.2nm,0.5s,baz=89,slow=3.1,SNR=1.3						

*IDC **24** 12:42:41.7±1.2, 38°.48N×43°.23E, h0km, mb3.6/7, mb1 3.6/11, mb1mx3.5/44, mbtmp3.6/11, ML1.9/2, MS2.7/3, Ms1 2.7/3, ms1mx2.3/43, Error ellipse: s-maj=21.1km s-min=14.5km az=138.0*
*ISK **24** 12:42:41.9, 38°.68N×43°.13E, h5km, ML3.6*
*DDA **24** 12:42:42.9, 38°.68N×43°.14E, h12km, Ml3.9*
*ISCJB **24** 12:42:43.2±0.6, 38°.70N±0°.02×43°.20E±0°.03, h4km±4km, mb3.4/6, MS2.9/1, Error ellipse: s-maj=4.3km s-min=3.2km az=168.8*
*CSEM **24** 12:42:43.3±0.2, 38°.70N×43°.14E, h2km, ML3.6, Error ellipse: s-maj=5.7km s-min=3.7km az=69.0*
ISC 24 12:42:44.0±0.9, 38°.69N±0°.02×43°.13E±0°.02, h12km±6km, n67, σ1§02/87, mb3.4/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**115**	*e*PG	**Pg**	**12 42 48.5**	**-0.2**
VANB				*e*SG	**Sg**	**12 42 53.4**	**+1.4**
VANB	**Van**	**0.22**	**115**	*e*Pg	**Pg**	**12 42 48.6**	**-0.2**
VANB				*e*Sg	**Sg**	**12 42 53.4**	**+1.4**
GEVA	**Gevas**	**0.38**	**189**	*i* P	**Pg**	**12 42 50.2**	**-1.5**
GEVA				*i* S	**Sg**	**12 42 56.7**	**-0.1**
GEVA	**Gevas**	**0.38**	**189**	P	**Pg**	**12 42 50.2**	**-1.5**
GEVA				S	**Sg**	**12 42 56.7**	**-0.1**
TUTA	**Tutak**	**0.75**	**341**	*i* P	**Pg**	**12 42 57.7**	**-1.0**
TUTA				*i* S	**Sg**	**12 43 07.5**	**-1.1**
TUTA	**Tutak**	**0.75**	**341**	P	**Pg**	**12 42 57.7**	**-1.0**
TUTA				S	**Sg**	**12 43 07.5**	**-1.1**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*PG	**Pg**	**12 43 00.1**	**-1.2**
AGRB				*e*SG	**Sb**	**12 43 13.9**	**+0.4**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*Pg	**Pg**	**12 43 00.1**	**-1.2**
BASK	**Baskale_VAN**	**0.93**	**133**	*i* P	**Pg**	**12 43 00.2**	**-1.9**
BASK				*i* S	**Sg**	**12 43 13.8**	**-0.5**
BASK	**Baskale_VAN**	**0.93**	**133**	P	**Pg**	**12 43 00.2**	**-1.9**
BASK				S	**Sg**	**12 43 13.8**	**-0.5**
DYDN	**Diyadin**	**0.96**	**27**	*i* P	**Pg**	**12 43 01.1**	**-1.4**
DYDN	**Diyadin**	**0.96**	**27**	P	**Pg**	**12 43 01.1**	**-1.4**
EKAR	**Karacoban**	**1.01**	**304**	*i* P	**Pg**	**12 43 03.0**	**-0.5**
EKAR				*i* S	**Sn**	**12 43 19.0**	**+0.4**
EKAR	**Karacoban**	**1.01**	**304**	P	**Pg**	**12 43 03.0**	**-0.5**
EKAR				S	**Sn**	**12 43 19.0**	**+0.4**
HAKT	**HAKKARI**	**1.22**	**158**	*i* P	**Pn**	**12 43 04.8**	**-2.4**
HAKT				*i* S	**Sn**	**12 43 24.0**	**+0.3**
HAKT	**HAKKARI**	**1.22**	**158**	P	**Pn**	**12 43 04.8**	**-2.4**
HAKT				S	**Sn**	**12 43 24.0**	**+0.3**
EATA	**Eleskirt**	**1.27**	**337**	*i* P	**Pn**	**12 43 07.0**	**-1.0**
EATA				*i* S	**Sn**	**12 43 25.3**	**+0.1**
EATA	**Eleskirt**	**1.27**	**337**	P	**Pn**	**12 43 07.0**	**-1.0**
EATA				S	**Sn**	**12 43 25.3**	**+0.1**
SIRN	**S¨–rnak**	**1.32**	**206**	*i* P	**Pg**	**12 43 09.4**	**0.0**
SIRN				*i* S	**Sb**	**12 43 25.6**	**-0.2**
SIRN	**S¨–rnak**	**1.32**	**206**	P	**Pg**	**12 43 09.4**	**0.0**
SIRN				S	**Sb**	**12 43 25.6**	**-0.2**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*PN	**Pb**	**12 43 09.9**	**-0.2**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*Pn	**Pb**	**12 43 09.9**	**-0.2**
CUKT	**Cukurca**	**1.49**	**165**	*e*PN	**Pn**	**12 43 11.0**	**+0.2**
CUKT	**Cukurca**	**1.49**	**165**	*i* P	**Pb**	**12 43 12.1**	**+0.4**
CUKT				*i* S	**Sg**	**12 43 34.1**	**+2.1**
CUKT	**Cukurca**	**1.49**	**165**	*e*Pn	**Pn**	**12 43 11.0**	**+0.2**
CUKT	**Cukurca**	**1.49**	**165**	P	**Pb**	**12 43 12.1**	**+0.4**
CUKT				S	**Sg**	**12 43 34.1**	**+2.1**
BNGL	**BINGOL**	**1.57**	**280**	*i* P	**Pb**	**12 43 13.0**	**-0.2**
BNGL				*i* S	**Sg**	**12 43 35.0**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*PN	**Pn**	**12 43 12.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*i* P	**Pb**	**12 43 13.5**	**-0.3**
SVAN				*i* S	**Sg**	**12 43 34.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*Pn	**Pn**	**12 43 12.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	P	**Pb**	**12 43 13.5**	**-0.3**
SVAN				S	**Sg**	**12 43 34.9**	**-1.0**
HOMI	**Horasan**	**1.66**	**325**	*i* P	**Pb**	**12 43 14.2**	**-0.4**
BTMN	**Batman**	**1.67**	**242**	*i* P	**Pn**	**12 43 13.8**	**+0.6**
BTMN				*i* S	**Sg**	**12 43 37.7**	**0.0**
BTMN	**Batman**	**1.67**	**242**	P	**Pn**	**12 43 13.8**	**+0.6**
BTMN				S	**Sg**	**12 43 37.7**	**0.0**
DIGO	**Kars**	**1.73**	**6**	*i* P	**Pb**	**12 43 15.5**	**-0.5**
DIGO	**Kars**	**1.73**	**6**	P	**Pb**	**12 43 15.5**	**-0.5**
ERZM	**Erzurum**	**1.83**	**312**	*i* P	**Pb**	**12 43 17.6**	**-0.1**
ERZM	**Erzurum**	**1.83**	**312**	P	**Pb**	**12 43 17.6**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.91**	**299**	*i* P	**Pg**	**12 43 21.6**	**+0.9**
ECAT	**Cat-ERZURUM**	**1.91**	**299**	P	**Pg**	**12 43 21.6**	**+0.9**
GNI	**Garni**	**1.92**	**40**	Pn	**Pn**	**12 43 17.8**	**+1.1**
	8.8nm,0.3s,baz=265,slow=3.5,SNR=17						
GNI				Lg	Lg	12 43 46.0	
	19nm,0.3s,baz=168,slow=22,SNR=5.6						
GNI				LR	LR	12 44 26.4	
	comp=Z,201nm,21.6s,baz=174,slow=51						
BNGB	**Bing¨¶l**	**1.94**	**280**	*e*PN	**Pn**	**12 43 17.8**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*PN	**Pn**	**12 43 18.3**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*Pn	**Pn**	**12 43 18.3**	**+0.9**
BINT	**Bingol**	**2.08**	**276**	*e*Pn	**Pn**	**12 43 17.8**	**-1.1**
MARD	**Mardin**	**2.31**	**234**	*i* P	**Pn**	**12 43 22.3**	**+0.2**
MARD				*i* S	**Sb**	**12 43 54.5**	**+0.1**
MAZI	**Mazidag**	**2.45**	**241**	*e*PN	**Pn**	**12 43 25.0**	**+1.0**
MAZI	**Mazidag**	**2.45**	**241**	*e*Pn	**Pn**	**12 43 25.0**	**+1.0**
BGD	**Bogdanovka**	**2.60**	**8**	P	**Pn**	**12 43 28.1**	**+2.0**
AKH	**Akhalkalaki**	**2.73**	**6**	P	**Pb**	**12 43 33.8**	**+0.8**
DGRG	**David-gareji**	**3.25**	**31**	P	**Pb**	**12 43 42.6**	**+0.9**
TBLG	**Delisi**	**3.28**	**22**	P	**Pb**	**12 43 42.8**	**+0.6**
ONI	**Oni**	**3.90**	**3**	P	**Pb**	**12 43 50.1**	**-2.8**
KBZ	**Khabaz**	**5.04**	**358**	Pn	Pn	12 44 05.3	+5.9
	0.1nm,0.3s,baz=166,slow=11,SNR=4.0						
KVAR	**Kislovodsk Arr**	**5.27**	**357**	LR	LR	12 45 56.9	
	comp=Z,25nm,20.1s,baz=138,slow=36						
BRTR	**Keskin Array B**	**7.45**	**281**	Pn	Pn	12 44 39.8	+7.2
	0.1nm,0.3s,baz=100,slow=16,SNR=2.2						
ASF	**Jabal al Asfar**	**8.26**	**220**	Lg	Lg	12 47 12.4	
	0.1nm,0.3s,baz=264,slow=24,SNR=7.3						
AKASG	**Malin Array Be**	**15.52**	**325**	Pn	**Pn**	**12 46 24.6**	**+2.0**
	0.4nm,0.3s,baz=134,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**15.79**	**37**	Pn	**Pn**	**12 46 26.5**	**+0.4**
	0.2nm,0.3s,baz=223,slow=12,SNR=6.2						
WSAR	**Wadi Sarin**	**20.30**	**135**	LR	LR	12 57 04.7	
	comp=Z,52nm,20.9s,baz=138,slow=43						
ARU	**Arti**	**20.49**	**25**	P	**P**	**12 47 22.4**	**+0.8**
	2.0nm,0.4s,baz=255,slow=6.7,SNR=5.1						
BVAR	**Borovoye Array**	**23.60**	**44**	P	**P**	**12 47 55.8**	**+1.2**
	0.4nm,0.4s,baz=240,slow=7.6,SNR=3.1						
FINES	**FINESS Array B**	**25.11**	**341**	P	**P**	**12 48 08.4**	**0.0**
	4.4nm,1.0s,baz=153,slow=12,SNR=3.3						
KURBB	**Kurchatov Arra**	**27.59**	**53**	P	**P**	**12 48 31.9**	**+0.9**
	0.5nm,0.5s,baz=260,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**29.63**	**61**	P	**P**	**12 48 49.3**	**+0.1**
	0.3nm,0.5s,baz=264,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**44.59**	**247**	P	**P**	**12 50 54.8**	**-1.5**
	0.3nm,0.7s,baz=32,slow=8.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**52.17**	**96**	P	**P**	**12 51 54.0**	**-0.8**
	0.4nm,0.7s,baz=298,slow=8.4,SNR=5.3						

*AZER **24** 12:49:06.4±0.9, 37°.36N×43°.43E, h8km, Error ellipse: s-maj=8.5km s-min=8.3km az=48.0*
*IDC **24** 12:49:14.6±1.0, 38°.52N×43°.34E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.7/39, mbtmp3.7/13, ML3.1/5, MS3.0/3, Ms1 3.0/3, ms1mx2.7/43, Error ellipse: s-maj=17.0km s-min=11.2km az=150.0*
*ISK **24** 12:49:15.6, 38°.70N×43°.37E, h4km, ML4.0*
*DDA **24** 12:49:15.4, 38°.70N×43°.34E, h3km, Ml4.3*
*CSEM **24** 12:49:16.5±0.1, 38°.69N×43°.38E, h2km, ML4.0, Error ellipse: s-maj=4.0km s-min=3.4km az=125.0*
*NEIC **24** 12:49:16.0±0.0, 38°.70N×43°.35E, h5km, ML4.0(ISK), ML4.3(DDA), After ISK.*
*ISCJB **24** 12:49:16.4±0.5, 38°.67N±0°.02×43°.40E±0°.03, h8km±4km, mb3.7/9, Error ellipse: s-maj=3.6km s-min=3.0km az=137.2*
ISC 24 12:49:17.4±0.8, 38°.68N±0°.01×43°.39E±0°.02, h12km±5km, n139, σ1§78/179, mb3.8/9, 19C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**179**	*e*PG	**Pg**	**12 49 19.9**	**-0.3**
VANB				*e*SG	**Sg**	**12 49 23.4**	**+1.1**
VANB	**Van**	**0.09**	**179**	*e*Pg	**Pg**	**12 49 19.9**	**-0.3**
GEVA	**Gevas**	**0.45**	**215**	⇓*i*P	**Pg**	**12 49 24.5**	**-1.8**
GEVA				*i* S	**Sg**	**12 49 30.9**	**-1.4**
GEVA	**Gevas**	**0.45**	**215**	P	**Pg**	**12 49 24.5**	**-1.8**
GEVA				S	**Sg**	**12 49 30.9**	**-1.4**
GEVA	**Gevas**	**0.45**	**215**	*i* P	**Pg**	**12 49 24.2**	**-2.1**
GEVA				*i* S	**Sg**	**12 49 30.9**	**-1.4**
BASK	**Baskale_VAN**	**0.79**	**142**	*i* P	**Pg**	**12 49 31.7**	**-1.1**
BASK				*i* S	**Sg**	**12 49 43.0**	**-0.2**
BASK	**Baskale_VAN**	**0.79**	**142**	P	**Pg**	**12 49 31.7**	**-1.1**
BASK				S	**Sg**	**12 49 43.0**	**-0.2**
TUTA	**Tutak**	**0.85**	**328**	⇑*i*P	**Pg**	**12 49 31.6**	**-2.3**
TUTA	**Tutak**	**0.85**	**328**	P	**Pg**	**12 49 31.6**	**-2.3**
TUTA	**Tutak**	**0.85**	**328**	*i* P	**Pg**	**12 49 31.6**	**-2.3**
DYDN	**Diyadin**	**0.89**	**15**	⇓*i*P	**Pg**	**12 49 32.7**	**-2.0**
DYDN				*i* S	**Sg**	**12 49 45.4**	**-1.0**
DYDN	**Diyadin**	**0.89**	**15**	*i* P	**Pg**	**12 49 33.0**	**-1.7**
DYDN				S	**Sg**	**12 49 45.4**	**-1.0**
DYDN	**Diyadin**	**0.89**	**15**	*i* P	**Pg**	**12 49 33.0**	**-1.7**
AGRB	**Hanur-Agry**	**0.94**	**341**	*e*PG	**Pg**	**12 49 33.6**	**-2.1**
AGRB				*e*SG	**Sg**	**12 49 47.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.94**	**341**	*e*Pg	**Pg**	**12 49 33.6**	**-2.1**
AGRB				*e*Sg	**Sg**	**12 49 47.0**	**-1.0**
HAKT	**HAKKARI**	**1.15**	**167**	⇓*i*P	**Pb**	**12 49 37.0**	**-2.4**
HAKT				*i* S	**Sn**	**12 49 56.5**	**+1.2**
HAKT	**HAKKARI**	**1.15**	**167**	P	**Pb**	**12 49 37.0**	**-2.4**
HAKT				S	**Sn**	**12 49 56.5**	**+1.2**
EKAR	**Karacoban**	**1.18**	**300**	*i* P	**Pb**	**12 49 39.9**	**0.0**
EKAR				*i* S	**Sn**	**12 49 57.9**	**+1.8**
EKAR	**Karacoban**	**1.18**	**300**	P	**Pb**	**12 49 39.9**	**0.0**
EKAR				S	**Sn**	**12 49 57.9**	**+1.8**
EATA	**Eleskirt**	**1.37**	**330**	⇑*i*P	**Pn**	**12 49 41.2**	**-1.4**
EATA				*i* S	**Sb**	**12 49 59.7**	**-1.0**
EATA	**Eleskirt**	**1.37**	**330**	P	**Pn**	**12 49 41.2**	**-1.4**
EATA				S	**Sb**	**12 49 59.7**	**-1.0**
SIRN	**S¨–rnak**	**1.41**	**213**	*i* P	**Pn**	**12 49 42.2**	**-0.8**
SIRN				*i* S	**Sg**	**12 50 02.9**	**+0.1**
SIRN	**S¨–rnak**	**1.41**	**213**	P	**Pn**	**12 49 42.2**	**-0.8**
SIRN				S	**Sg**	**12 50 02.9**	**+0.1**
CUKT	**Cukurca**	**1.44**	**173**	*e*PN	**Pb**	**12 49 44.0**	**-0.3**
CUKT	**Cukurca**	**1.44**	**173**	*i* P	**Pg**	**12 49 45.3**	**+0.2**
CUKT				*i* S	**Sg**	**12 50 07.5**	**+3.7**
CUKT	**Cukurca**	**1.44**	**173**	*e*Pn	**Pb**	**12 49 44.0**	**-0.3**
CUKT	**Cukurca**	**1.44**	**173**	P	**Pg**	**12 49 45.3**	**+0.2**
VRTB	**Varto-Mus**	**1.58**	**288**	*e*PN	**Pn**	**12 49 45.4**	**0.0**
VRTB	**Varto-Mus**	**1.58**	**288**	*i* P	**Pn**	**12 49 45.3**	**0.0**
VRTB				*i* S	**Sn**	**12 50 05.4**	**-0.5**
VRTB	**Varto-Mus**	**1.58**	**288**	*e*Pn	**Pn**	**12 49 45.4**	**0.0**
VRTB				S	**Sn**	**12 50 05.4**	**-0.5**
NAX	**Nakhchivan**	**1.72**	**73**	⇑P	**Pn**	**12 49 46.9**	**-0.3**
	SNR=43						
NAX				⇑S	**Sg**	**12 50 15.2**	**+2.5**
NAX	**Nakhchivan**	**1.72**	**73**	P	**Pn**	**12 49 46.9**	**-0.3**
	SNR=43						
DIGO	**Kars**	**1.73**	**360**	⇑*i*P	**Pn**	**12 49 47.8**	**+0.2**
DIGO	**Kars**	**1.73**	**360**	P	**Pn**	**12 49 47.8**	**+0.2**
BNGL	**BINGOL**	**1.77**	**279**	⇑*i*P	**Pn**	**12 49 48.2**	**+0.1**
BNGL				*i* S	**Sb**	**12 50 11.5**	**-0.6**
HOMI	**Horasan**	**1.78**	**320**	⇑*i*P	**Pn**	**12 49 48.4**	**+0.1**
HOMI				*i* S	**Sn**	**12 50 11.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.80**	**254**	*e*PN	**Pn**	**12 49 48.1**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.80**	**254**	⇓*i*P	**Pn**	**12 49 47.7**	**-0.6**
SVAN				*i* S	**Sb**	**12 50 12.7**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.80**	**254**	P	**Pn**	**12 49 47.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.80**	**254**	*e*Pn	**Pn**	**12 49 48.1**	**-0.2**
SVAN				S	**Sb**	**12 50 12.7**	**-0.1**
GNI	**Garni**	**1.80**	**35**	Pn	**Pb**	**12 49 49.7**	**-0.8**
	32nm,0.3s,baz=200,slow=4.9,SNR=17						
GNI				Lg	Lg	12 50 17.0	
	55nm,0.3s,baz=327,slow=22,SNR=9.9						
BTMN	**Batman**	**1.84**	**245**	⇓*i*P	**Pn**	**12 49 48.8**	**-0.1**
BTMN				*i* S	**Sb**	**12 50 14.0**	**-0.1**
BTMN	**Batman**	**1.84**	**245**	P	**Pn**	**12 49 48.8**	**-0.1**
BTMN				S	**Sb**	**12 50 14.0**	**-0.1**
ERZM	**Erzurum**	**1.99**	**309**	*i* P	**Pn**	**12 49 52.1**	**+1.0**
ERZM	**Erzurum**	**1.99**	**309**	P	**Pn**	**12 49 52.1

ZKTA				⇑S	Sg	12 51 19.2	-2.0
KEMA	**Kemaliye**	**3.86**	**280**	*i* P	Pb	12 50 23.3	-2.2
KEMA				*i* S	Sg	12 51 18.1	-3.3
SEKA	**Sheki**	**3.87**	**48**	⇑P	Pn	12 50 20.8	+4.1
SEKA				⇓S	Sg	12 51 17.8	-3.8
SEKA	**Sheki**	**3.87**	**48**	P	Pn	12 50 20.8	+4.1
LRK	**Lerik**	**3.88**	**89**	⇑P	Pn	12 50 08.7	-8.3
LRK				⇓S	Sn	12 50 57.3	-5.2
QBL	**Gabala**	**4.11**	**55**	⇑P	Pn	12 50 21.1	+1.1
QBL	**Gabala**	**4.11**	**55**	P	Pn	12 50 21.1	+1.1
SURC	**SANLIURFA_SURC**	**4.19**	**246**	*i* P	Pb	12 50 27.9	-3.2
SURC				*i* S	Sb	12 51 25.4	+3.8
LKRN	**Lenkeran, Azer**	**4.22**	**88**	⇓P	Pn	12 50 14.0	-7.5
LKRN				⇑S	Sn	12 51 06.6	-4.0
ASTR	**Astara**	**4.24**	**90**	⇓P	Pn	12 50 13.4	-8.4
ASTR				⇓S	Sn	12 51 05.7	-5.3
IML	**Ismayilli**	**4.26**	**59**	⇓P	Pn	12 50 22.3	+0.2
IML	**Ismayilli**	**4.26**	**59**	P	Pn	12 50 22.3	+0.2
XNQ	**Khinaliq**	**4.42**	**54**	⇓P	Pn	12 50 25.8	+1.3
XNQ	**Khinaliq**	**4.42**	**54**	P	Pn	12 50 25.8	+1.3
GBS	**Qobustan**	**4.67**	**65**	⇓P	Pn	12 50 27.0	-0.8
GBS	**Qobustan**	**4.67**	**65**	P	Pn	12 50 27.0	-0.8
QSAR	**Qusar**	**4.69**	**51**	⇓P	Pn	12 50 30.5	+2.5
QSAR	**Qusar**	**4.69**	**51**	P	Pn	12 50 30.5	+2.5
ATGJ	**Altiaghaj**	**4.80**	**61**	⇑P	Pn	12 50 30.1	+0.5
ATGJ	**Altiaghaj**	**4.80**	**61**	P	Pn	12 50 30.1	+0.5
SIZA	**Siyzn**	**4.87**	**59**	⇓P	Pn	12 50 30.9	+0.4
SIZA	**Siyzn**	**4.87**	**59**	P	Pn	12 50 30.9	+0.4
KBZ	**Khabaz**	**5.06**	**356**	Pn	Pn	12 50 36.7	+3.7
	0.3nm,0.3s,baz=202,slow=5.4,SNR=3.7						
KBZ				LR	LR	12 52 30.5	
	comp=Z,84nm,18.9s,baz=149,slow=38						
KVAR	**Kislovodsk Arr**	**5.29**	**355**	Pn	Pn	12 50 40.6	+4.2
	baz=180,slow=8.7,SNR=4.1						
BRTR	**Keskin Array B**	**7.64**	**281**	Pn	Pn	12 51 08.7	+0.1
	0.1nm,0.3s,baz=237,slow=13,SNR=2.3						
ASF	**Jabal al Asfar**	**8.38**	**221**	Pn	Pn	12 51 18.8	+0.1
	0.3nm,0.3s,baz=344,slow=17,SNR=2.9						
ASF				Lg	Lg	12 53 45.0	
	0.4nm,0.3s,baz=219,slow=20,SNR=1.7						
MMAI	**Mount Meron Ar**	**8.60**	**231**	Pn	Pn	12 51 23.7	+2.0
	1.3nm,0.3s,baz=67,slow=16,SNR=3.6						
MMAI				Lg	Lg	12 53 57.7	
	0.5nm,0.3s,baz=62,slow=30,SNR=1.8						
MMAI				LR	LR	12 55 21.3	
	comp=Z,192nm,18.1s,baz=45,slow=43						
EIL	**Elat**	**11.38**	**220**	Pn	Pn	12 52 01.3	+1.6
	0.5nm,0.3s,baz=270,slow=20,SNR=3.0						
EIL				Lg	Lg	12 55 24.9	
	0.2nm,0.3s,baz=88,slow=22,SNR=1.8						
VOIR		**15.19**	**302**	⇓*i*P	P	12 53 00.1	+3.4
AKASG	**Malin Array Be**	**15.64**	**325**	Pn	Pn	12 52 57.5	0.0
	0.6nm,0.3s,baz=130,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**15.68**	**37**	Pn	Pn	12 52 56.9	-1.1
	0.1nm,0.3s,baz=214,slow=13,SNR=3.0						
AKTO				LR	LR	12 59 35.3	
	comp=Z,59nm,20.6s,baz=121,slow=39						
BURAR	**Bucovina Array**	**15.96**	**310**	⇓*i*P	P	12 53 06.8	+1.5
VYHS	**Vyhne**	**20.23**	**307**	*e*P	Pn	12 53 53.2	-1.0
VYHS	**Vyhne**	**20.23**	**307**	*e*P	Pn	12 53 53.2	-1.0
ARU	**Arti**	**20.41**	**25**	P	P	12 53 54.7	+0.6
	8.6nm,0.5s,baz=226,slow=7.0,SNR=13						
BVAR	**Borovoye Array**	**23.47**	**44**	P	P	12 54 27.2	+0.5
	0.5nm,0.5s,baz=325,slow=4.4,SNR=7.5						
CLL	**Collm**	**24.72**	**311**	*e*P	P	12 54 38.0	-0.4
FINES	**FINESS Array B**	**25.19**	**340**	P	P	12 54 39.6	-2.8
	5.1nm,0.9s,baz=171,slow=14,SNR=7.0						
KURBB	**Kurchatov Arra**	**27.44**	**53**	P	P	12 55 04.0	+1.0
	1.1nm,0.7s,baz=263,slow=8.8,SNR=8.5						
KURK	**Kurchatov**	**27.52**	**53**	P	P	12 55 04.0	+0.4
KURK	**Kurchatov**	**27.52**	**53**	P	P	12 55 04.0	+0.4
MKAR	**Makanchi Array**	**29.46**	**61**	P	P	12 55 21.5	+0.5
	0.3nm,0.6s,baz=328,slow=4.4,SNR=3.5						
ARCES	**ARCESS Array B**	**32.37**	**348**	P	P	12 55 45.5	-0.9
	3.5nm,0.8s,baz=153,slow=6.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**44.77**	**247**	P	P	12 57 29.4	-1.6
	1.3nm,0.8s,baz=42,slow=9.2,SNR=6.3						
CMAR	**Chiang Mai Arr**	**51.97**	**96**	P	P	12 58 25.5	-1.1
	1.1nm,0.9s,baz=298,slow=8.6,SNR=8.6						
DBIC	**Dimbokro**	**53.87**	**247**	P	P	12 58 42.7	+2.1
	3.4nm,1.1s,baz=53,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**76.57**	**5**	P	P	13 01 08.5	+1.4
	0.3nm,0.6s,baz=343,slow=4.9,SNR=3.6						

*ISCJB **24** 12:53:02.9±0.4, 23°.17N±0°.02×121°.63E±0°.02, h27km±3km,*
Error ellipse: s-maj=3.3km s-min=2.7km az=41.5
*JMA **24** 12:53:02.6±0.1, 23°.18N×121°.55E, h41km±3km, M2.8*
*TAP **24** 12:53:04.0, 23°.20N×121°.52E, h37km, ML3.2, C*
ISC 24 12:53:03.5±0.9, 23°.16N±0°.02×121°.59E±0°.03, h31km±8km,
n52, σ0°.98/94, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.22**	**255**	⇓*i*P	Pn	12 53 10.7	+0.1
	baz=230						
CHKT				*i* S	Sb	12 53 15.7	+1.3
	baz=230						
TWF1	**Yuli**	**0.33**	**306**	*e*P	Pb	12 53 11.7	+0.2
	baz=294						
TWF1				S	Sb	12 53 17.0	0.0
	baz=294						
EHY	**Hungye**	**0.43**	**325**	⇑*i*P	Pb	12 53 12.6	-0.3
	baz=318						
EHY				*i* S	Sb	12 53 18.8	-0.5
	baz=318						
ELDTW	**Lidau**	**0.53**	**274**	⇑*i*P	Pb	12 53 13.8	-0.8
	baz=266						
ELDTW				*e*S	Sb	12 53 20.3	-1.8
	baz=266						
TTN	**Taitung**	**0.57**	**226**	*e*P	Pb	12 53 14.7	-0.4
	baz=227						
TTN				*e*S	Sb	12 53 24.2	+1.1
	baz=227						
TWG	**Pinlang**	**0.58**	**235**	⇑*i*P	Pb	12 53 14.7	-0.6
	baz=236						
TWG				S	Sb	12 53 22.8	-0.6
	baz=236						
ESL	**Shilin**	**0.67**	**347**	*e*P	Pn	12 53 15.6	-1.2
	baz=346						
ESL				*e*S	Sb	12 53 23.6	-2.2
	baz=346						
YUS	**Yu-Shan**	**0.68**	**299**	⇑*i*P	Pn	12 53 16.7	-0.6
	baz=299						
YUS				*i* S	Sb	12 53 25.0	-1.4
	baz=299						
STYT	**Tauyuan**	**0.77**	**271**	⇑*i*P	Pn	12 53 17.7	-0.5
	baz=266						
STYT				*e*S	Sn	12 53 27.1	-1.6
	baz=266						
ALS	**Alishan**	**0.80**	**296**	⇑*i*P	Pn	12 53 18.8	-0.1
	baz=295						
ALS				*i* S	Sn	12 53 29.0	-1.0
	baz=295						
ECL	**Taimali**	**0.81**	**227**	*e*P	Pn	12 53 17.4	-1.3
	baz=219						
ECL				*e*S	Sn	12 53 27.6	-2.1
	baz=219						
HWA	**Hwalien**	**0.82**	**1**	*e*P	Pn	12 53 20.1	+1.3
	baz=18						
WTP	**Ta-pu**	**0.90**	**276**	⇑*i*P	Pn	12 53 20.4	+0.3
	baz=272						
WTP				S	Sn	12 53 32.2	+0.1
	baz=272						
TWD	**Chiawan**	**0.92**	**0**	*e*P	Pn	12 53 19.4	-0.8
	baz=355						
TWD				*e*S	Sn	12 53 31.1	-1.2
	baz=355						
SGST	**Jiashian**	**0.93**	**266**	*e*P	Pn	12 53 21.1	+0.7
	baz=261						
SGST				*e*S	Sn	12 53 33.4	+0.7
	baz=261						
CHN4	**Tsaushan**	**0.94**	**282**	⇑P	Pn	12 53 21.0	+0.5
	baz=279						
CHN4				S	Sn	12 53 33.5	+0.6
	baz=279						
CHN5	**Tsauling**	**0.95**	**298**	*i* P	Pn	12 53 21.2	+0.5
	baz=296						
CHN5				S	Sn	12 53 33.8	+0.6
	baz=296						
SMLT	**Sun Moon Lake**	**0.96**	**319**	⇓*i*P	Pn	12 53 21.1	+0.1
	baz=325						
SMLT				S	Sn	12 53 32.5	-1.2
	baz=325						
CHN1	**Nanshi**	**0.98**	**272**	⇑*i*P	Pn	12 53 21.8	+0.7
	baz=268						
CHN1				*i* S	Sn	12 53 34.9	+1.0
	baz=268						
TYC	**Yuchr**	**1.00**	**318**	*i* P	Pn	12 53 21.5	+0.1
	baz=329						
TYC				*i* S	Sn	12 53 34.5	+0.1
	baz=329						
TWK	**Hsinying**	**1.02**	**276**	⇓*i*P	Pn	12 53 22.3	+0.6
	baz=272						
TWK				*i* S	Sn	12 53 36.3	+1.3
	baz=272						
WHF	**Hehuan Shan**	**1.03**	**343**	P	Pn	12 53 21.3	-0.8
	baz=349						
WHF				*e*S	Sn	12 53 33.4	-2.3
	baz=349						
EAST	**Anshuo**	**1.03**	**222**	*e*P	Pn	12 53 21.4	-0.4
	baz=209						
WGK	**Gukeng**	**1.08**	**299**	*e*P	Pn	12 53 23.3	+0.8
	baz=309						
WGK				*e*S	Sn	12 53 37.7	+1.3
	baz=309						
WNT	**Mingjian**	**1.10**	**311**	P	Pn	12 53 23.3	+0.6
	baz=311						
WNT				*e*S	Sn	12 53 37.5	+0.7
	baz=311						
LAY	**Lan-yu**	**1.11**	**182**	*e*P	Pn	12 53 21.9	-1.1
	baz=170						
LAY				*e*S	Sn	12 53 37.4	+0.1
	baz=170						
CHY	**Chiayi**	**1.13**	**288**	*e*P	Pn	12 53 23.4	+0.3
	baz=285						
CHY				*e*S	Sn	12 53 38.3	+0.9
	baz=285						
TWM1	**Shoushan**	**1.13**	**253**	*e*P	Pb	12 53 25.5	+1.0
	baz=249						
CHN3	**Shinhua**	**1.13**	**266**	*e*P	Pn	12 53 24.9	+1.7
	baz=275						
TWT	**Tachien**	**1.16**	**341**	*e*P	Pn	12 53 23.9	+0.2
	baz=345						
TWT				*e*S	Sn	12 53 36.8	-1.8
	baz=345						
SCZT	**Fangliau**	**1.19**	**229**	*e*P	Pn	12 53 24.8	+0.9
	baz=223						
ENA	**Nanau**	**1.27**	**6**	P	Pn	12 53 24.9	-0.2
	baz=24						
ENA				*e*S	Sn	12 53 41.4	+0.3
	baz=24						
CHN8	**Yiju**	**1.28**	**279**	*e*P	Pn	12 53 25.6	+0.4
	baz=275						
CHN8				*e*S	Sn	12 53 42.9	+1.6
	baz=275						
NNS	**Nan Shan**	**1.29**	**351**	*e*P	Pn	12 53 25.9	+0.4
	baz=7.0						
TCU	**Taichung**	**1.29**	**320**	*e*P	Pn	12 53 26.4	+1.0
	baz=307						
TCU				*e*S	Sn	12 53 42.0	+0.3
	baz=307						
TWQ1	**Liyutan**	**1.40**	**328**	P	Pn	12 53 28.2	+1.3
	baz=331						
TWQ1				*e*S	Sn	12 53 45.9	+1.5
	baz=331						
TSEB	**Hengchuen, Pin**	**1.41**	**207**	*e*P	Pb	12 53 30.1	+1.0
	baz=198						
TWK1	**Hengchun**	**1.41**	**211**	*e*P	Pn	12 53 27.2	+0.2
	baz=197						
TWK1				*e*S	Sn	12 53 44.0	-0.5
	baz=197						
TWC	**Suao**	**1.46**	**9**	*e*P	Pn	12 53 28.8	+1.1
	baz=17						
TWC				*e*S	Sn	12 53 45.6	-0.3
	baz=17						
NSY	**Sanyi**	**1.47**	**329**	*e*P	Pn	12 53 28.8	+1.0
	baz=332						
NSY				*e*S	Sn	12 53 47.9	+2.0
	baz=332						
ENTT	**Nioudou**	**1.48**	**359**	*e*P	Pn	12 53 28.1	+0.2
	baz=6.0						
ENTT				*e*S	Sn	12 53 45.6	-0.6
	baz=6.0						
NSK	**Sanguang**	**1.53**	**352**	*e*P	Pn	12 53 29.3	+0.7
	baz=8.0						
NSK				*e*S	Sn	12 53 46.9	-0.7
	baz=8.0						
NSTT	**Nanjuang**	**1.56**	**340**	*e*P	Pn	12 53 30.5	+1.4
	baz=345						
NSTT				*e*S	Sn	12 53 49.1	+0.8
	baz=345						
EGS		**1.71**	**10**	*e*P	Pn	12 53 33.2	+2.1
	baz=26						
YOJ	**Yonaguni jima**	**1.84**	**45**	P	Pn	12 53 33.7	+0.8
YOJ				*e*S	Sn	12 53 55.3	+0.3
PNG	**Penghu**	**1.92**	**283**	*e*P	Pn	12 53 32.8	-1.2
	baz=280						
HATJ	**Hateruma jima**	**2.22**	**66**	P	Pn	12 53 38.7	+0.6
HATJ				*e*S	Sn	12 54 04.7	+0.2
IRIF	**Iriomote-Funau**	**2.28**	**59**	P	Pn	12 53 39.8	+0.8
JKRS	**Kuro-shima**	**2.46**	**64**	P	Pn	12 53 42.4	+0.9
JKRS				S	Sn	12 54 11.3	+0.8
JIJ	**Ishigaki jima**	**2.63**	**62**	P	Pn	12 53 44.0	+0.3
JIJ				*e*S	Sn	12 54 14.5	-0.1
JISG	**Ishigakijimahi**	**2.87**	**60**	P	Pn	12 53 47.0	0.0
JISG				*e*S	Sn	12 54 19.4	-1.1
JTJ	**Tarama**	**3.21**	**62**	P	Pn	12 53 52.4	+0.7
JTJ				*e*S	Sn	12 54 28.8	0.0

*ISK **24** 13:07:54.8, 38°.94N×43°.55E, h5km, ML4.3*
*IDC **24** 13:07:55.5±0.8, 38°.69N×43°.70E, h0km, mb4.1/17,*
mb1 4.1/24, mb1mx4.0/51, mbtmp4.1/24, ML3.2/6, MS3.6/20,
Ms1 3.7/20, ms1mx3.5/42, Error ellipse: s-maj=15.0km
s-min=10.3km az=174.0
*DDA **24** 13:07:55.8, 38°.93N×43°.55E, h13km, Ml4.4*
*AZER **24** 13:07:55.8±0.4, 38°.79N×43°.64E, h4km±8km, Error ellipse:*
s-maj=8.9km s-min=2.2km az=62.0
*MOS **24** 13:07:56.1±1.5, 38°.79N×43°.72E, h10km, mb4.4/27, Error*
ellipse: s-maj=6.8km s-min=4.3km az=99.9
*NEIC **24** 13:07:56.0±0.0, 38°.94N×43°.54E, h7km, mb4.3/16,*
ML4.3(ISK), ML4.4(DDA), After DDA,
*CSEM **24** 13:07:56.7±0.1, 38°.91N×43°.61E, h5km, ML4.3, Error*
ellipse: s-maj=3.7km s-min=2.9km az=161.0
ISC 24 13:07:56.1±1.0, 38°.89N±0°.01×43°.60E±0°.02, h0km±6km,
n312, σ1°.39/384, mb4.3/38, MS3.7/21, 42C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**209**	*e*PG	Pb	13 08 04.2	-0.9
VANB				*e*SG	Sb	13 08 11.6	+0.6
VANB	**Van**	**0.34**	**209**	*e*Pg	Pb	13 08 04.2	-0.9
VANB	**Van**	**0.34**	**209**	Pg	Pb	13 08 04.2	-0.9
DYDN	**Diyadin**	**0.66**	**6**	*i* P	Pg	13 08 07.6	-1.2
DYDN				*i* S	Sg	13 08 17.1	-0.2
DYDN	**Diyadin**	**0.66**	**6**	P	Pg	13 08 07.6	-1.2
DYDN				S	Sg	13 08 17.1	-0.2
DYDN	**Diyadin**	**0.66**	**6**	*i* P	Pg	13 08 07.6	-1.2
DYDN				*i* S	Sg	13 08 17.1	-0.2
GEVA	**Gevas**	**0.71**	**216**	⇑*i*P	Pg	13 08 08.7	-1.1
GEVA				*i* S	Sb	13 08 21.1	-0.9
GEVA	**Gevas**	**0.71**	**216**	*i* P	Pg	13 08 09.1	-0.7
GEVA				S	Sb	13 08 21.1	-0.9
GEVA	**Gevas**	**0.71**	**216**	*i* P	Pg	13 08 09.1	-0.7
TUTA	**Tutak**	**0.80**	**310**	⇓*i*P	Pg	13 08 09.6	-1.8
TUTA				*i* S	Sg	13 08 20.9	-0.8
TUTA	**Tutak**	**0.80**	**310**	P	Pg	13 08 09.6	-1.8
TUTA				S	Sg	13 08 20.9	-0.8
TUTA	**Tutak**	**0.80**	**310**	*i* P	Pg	13 08 09.6	-1.8
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*PG	Pg	13 08 10.6	-1.5
AGRB				*e*SG	Sg	13 08 22.3	-0.6
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*Pg	Pg	13 08 10.6	-1.5
AGRB				*e*Sg	Sg	13 08 22.3	-0.6
AGRB	**Hanur-Agry**	**0.83**	**326**	Pg	Pg	13 08 10.6	-1.5
BASK	**Baskale_VAN**	**0.89**	**159**	*i* P	Pg	13 08 13.4	+0.1
BASK				*i* S	Sn	13 08 29.2	-0.7
BASK	**Baskale_VAN**	**0.89**	**159**	P	Pg	13 08 13.4	+0.1
BASK				S	Sn	13 08 29.2	-0.7
EKAR	**Karacoban**	**1.25**	**288**	*i* P	Pg	13 08 18.4	-1.7
EKAR				*i* S	Sb	13 08 37.5	+0.1
EKAR	**Karacoban**	**1.25**	**288**	P	Pg	13 08 18.4	-1.7
EKAR				S	Sb	13 08 37.5	+0.1
EATA	**Eleskirt**	**1.30**	**319**	⇓*i*P	Pg	13 08 18.7	-2.3
EATA				*i* S	Sb	13 08 38.3	-0.6
EATA	**Eleskirt**	**1.30**	**319**	P	Pg	13 08 18.7	-2.3
EATA				S	Sb	13 08 38.3	-0.6
EATA	**Eleskirt**	**1.30**	**319**	*i* P	Pg	13 08 18.7	-2.3
HAKT	**HAKKARI**	**1.33**	**176**	⇓*i*P	Pg	13 08 19.7	-2.0
HAKT				*i* S	Sn	13 08 41.9	+1.2
HAKT	**HAKKARI**	**1.33**	**176**	P	Pg	13 08 19.7	-2.0
HAKT				S	Sn	13 08 41.9	+1.2
NAX	**Nakhchivan**	**1.50**	**78**	⇑P	Pn	13 08 23.5	-1.0
	SNR=279						
NAX				⇓S	Sg	13 08 44.5	0.0
NAX	**Nakhchivan**	**1.50**	**78**	P	Pn	13 08 23.5	-1.0
	SNR=279						
NAX				S	Sg	13 08 44.5	0.0
DIGO	**Kars**	**1.53**	**354**	⇓*i*P	Pn	13 08 24.2	-0.8
DIGO				*i* S	Sn	13 08 49.1	+3.3
DIGO	**Kars**	**1.53**	**354**	P	Pn	13 08 24.2	-0.8
GNI	**Garni**	**1.54**	**35**	Pn	Pn	13 08 24.2	-0.8
	181nm,0.3s,baz=231,slow=2.9,SNR=240						
GNI				Lg	Lg	13 08 48.8	
	248nm,0.3s,baz=333,slow=23,SNR=18						
GNI				LR	LR	13 09 22.7	
	comp=Z,2μm,21.1s,baz=215,slow=52						
CUKT	**Cukurca**	**1.64**	**180**	*e*PN	Pb	13 08 27.1	-0.2
CUKT	**Cukurca**	**1.64**	**180**	*i* P	Pg	13 08 28.8	+1.3
CUKT				*i* S	Sg	13 08 52.8	+4.0
CUKT	**Cukurca**	**1.64**	**180**	*e*Pn	Pb	13 08 27.1	-0.2
CUKT	**Cukurca**	**1.64**	**180**	P	Pg	13 08 28.8	+1.3
CUKT				S	Sg	13 08 52.8	+4.0
SIRN	**S¨–rnak**	**1.67**	**214**	*i* P	Pn	13 08 26.9	+0.1
SIRN				*i* S	Sg	13 08 49.7	-0.2
SIRN	**S¨–rnak**	**1.67**	**214**	P	Pn	13 08 26.9	+0.1
SIRN				S	Sg	13 08 49.7	-0.2
VRTB	**Varto-Mus**	**1.69**	**280**	*e*PN	Pn	13 08 26.2	-0.9
VRTB	**Varto-Mus**	**1.69**	**280**	*i* P	Pn	13 08 26.4	-0.6
VRTB				*i* S	Sg	13 08 53.0	+2.5
VRTB	**Varto-Mus**	**1.69**	**280**	P	Pn	13 08 26.4	-0.6
VRTB				S	Sg	13 08 53.0	+2.5
HOMI	**Horasan**	**1.75**	**312**	⇓*i*P	Pn	13 08 27.0	-0.9
HOMI				*i* S	Sg	13 08 54.7	+2.4
EAK	**Akyaka**	**1.80**	**0**	⇑*i*P	Pb	13 08 29.4	-0.6
EAK				*i* S	Sg	13 08 58.2	+4.4
EAK	**Akyaka**	**1.80**	**0**	P	Pb	13 08 29.4	-0.6
BNGL	**BINGOL**	**1.91**	**273**	⇓*i*P	Pn	13 08 30.2	+0.1
BNGL				*i* S	Sg	13 08 57.4	-0.1
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*PN	Pn	13 08 29.3	-1.1
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*Pn	Pn	13 08 29.3	-1.1
ERZM	**Erzurum**	**2.00**	**301**	⇓*i*P	Pn	13 08 31.2	-0.3
ERZM	**Erzurum**	**2.00**	**301**	P	Pn	13 08 31.2	-0.3
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*PN	Pn	13 08 31.4	-0.1
SVAN				*e*SN	Sb	13 08 58.3	-1.2
SVAN	**Silvan-Diyarba**	**2.02**	**249**	⇑*i*P	Pn	13 08 32.4	+0.9
SVAN				*i* S	Sb	13 08 59.9	+0.4
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*Pn	Pn	13 08 31.4	-0.1
SVAN	**Silvan-Diyarba**	**2.02**	**249**	P	Pn	13 08 32.4	+0.9
SVAN				*e*Sn	Sb	13 08 58.3	-1.2
SVAN				S	Sb	13 08 59.8	+0.4
BTMN	**Batman**	**2.08**	**242**	⇑*i*P	Pn	13 08 33.1	+0.7
BTMN				*i* S	Sb	13 09 01.8	+0.5
BTMN	**Batman**	**2.08**	**242**	P	Pn	13 08 33.1	+0.7
BTMN				S	Sb	13 09 01.8	+0.5
BNGB	**Bing˜¶‖**	**2.28**	**274**	*e*PN	Pn	13 08 34.6	-0.5
BGD	**Bogdanovka**	**2.37**	**0**	P	Pn	13 08 37.5	+1.0
BGD				S	Sg	13 09 15.8	+3.4
YEDI	**Yedisu-Bingol**	**2.44**	**284**	*e*PN	Pn	13 08 36.5	-0.8
YEDI	**Yedisu-Bingol**	**2.44**	**284**	*e*Pn	Pn	13 08 36.5	-0.8
DDEM	**Demirkent**	**2.45**	**325**	*i* P	Pn	13 08 37.2	-0.4
DDEM	**Demirkent**	**2.45**	**325**	P	Pn	13 08 37.2	-0.4
GDB	**GEDABAY**	**2.47**	**42**	⇑P	Pn	13 08 37.9	+0.1
	SNR=20						
GDB				⇑S	Sn	13 09 10.2	+1.4
GDB	**GEDABAY**	**2.47**	**42**	P	Pn	13 08 37.9	+0.1
	SNR=20						
GDB				S	Sn	13 09 10.2	+1.4
AKH	**Akhalkalaki**	**2.52**	**358**	*e*PN	Pn	13 08 37.9	-0.6
AKH	**Akhalkalaki**	**2.52**	**358**	P	Pb	13 08 42.3	-0.1
AKH				S	Sg	13 09 18.2	+1.1
AKH	**Akhalkalaki**	**2.52**	**358**	P	Pb	13 08 42.3	-0.1
AKH				S	Sg	13 09 18.2	+1.1
AKH	**Akhalkalaki**	**2.52**	**358**	*e*Pn	Pn	13 08 37.9	-0.6
AKH	**Akhalkalaki**	**2.52**	**358**	P	Pb	13 08 42.3	-0.1
DAGI	**Agillar**	**2.54**	**330**	*i* P	Pn	13 08 40.1	+1.4
QZX	**Qazax, Azerbai**	**2.56**	**32**	⇓P	Pn	13 08 39.1	+0.2
	SNR=76						
QZX				⇑S	Sn	13 09 12.3	+1.5
QZX	**Qazax, Azerbai**	**2.56**	**32**	P	Pn	13 08 39.1	+0.2
	SNR=76						
QZX				S	Sn	13 09 12.3	+1.5
ARTV	**Artvin**	**2.63**	**331**	⇓*i*P	Pn	13 08 39.4	-0.6
ARTV	**Artvin**	**2.63**	**331**	P	Pn	13 08 39.4	-0.6
ARTV	**Artvin**	**2.63**	**331**	*e*Pn	Pn	13 08 39.4	-0.6
KOPT	**Kop Dagi**	**2.65**	**296**	⇓*i*P	Pb	13 08 42.3	-2.4
KOPT	**Kop Dagi**	**2.65**	**296**	*e*Pn	Pn	13 08 41.3	+0.9
KOPT	**Kop Dagi**	**2.65**	**296**	P	Pb	13 08 42.3	-2.4
KOPT	**Kop Dagi**	**2.65**	**296**	*e*Pn	Pn	13 08 41.3	+0.9
EPOS	**Posof**	**2.70**	**346**	*i* P	Pn	13 08 41.4	+0.5
EPOS	**Posof**	**2.70**	**346**	P	Pn	13 08 41.4	+0.5
MARD	**Mardin**	**2.72**	**236**	*i* P	Pn	13 08 42.0	+0.8
MARD	**

SNR=3.7
KDMR S **Sn** **13 09 42.6 +0.3**
QBL Gabala 3.85 56 ⇓P Pn 13 08 56.3 -0.4
SNR=62
QBL ⇑S **Sn** **13 09 43.4 +0.7**
QBL Gabala 3.85 56 P Pn 13 08 56.3 -0.4
SNR=62
QBL S **Sn** **13 09 43.4 +0.7**
ZEI Tsey 3.90 3 *e*P **Pn 13 08 59.7 +2.2**
ZEI pmax pmax
comp=Z,39nm,0.6s
IML Ismayilli 4.01 60 ⇑P Pn 13 08 58.4 -0.5
SNR=11
IML ⇑S **Sn** **13 09 47.1 +0.5**
IML Ismayilli 4.01 60 P Pn 13 08 58.4 -0.5
SNR=11
IML S **Sn** **13 09 47.1 +0.5**
LKRN Lenkeran, Azer 4.05 91 ⇑P Pn 13 08 58.1 -1.3
SNR=9.5
LKRN ⇓S **Sn** **13 09 46.7 -0.8**
LKRN Lenkeran, Azer 4.05 91 P Pn 13 08 58.1 -1.3
SNR=9.5
LKRN S **Sn** **13 09 46.7 -0.8**
ASTR Astara 4.08 93 ⇑P Pn 13 08 58.4 -1.3
SNR=9.0
ASTR ⇓S **Sn** **13 09 47.1 -1.0**
ASTR Astara 4.08 93 P Pn 13 08 58.4 -1.3
SNR=9.0
ASTR S **Sn** **13 09 47.1 -1.0**
XNQ Khinaliq 4.17 55 ⇓P Pn 13 09 00.7 -0.5
SNR=34
XNQ ⇓S **Sn** **13 09 51.3 +0.6**
XNQ Khinaliq 4.17 55 P Pn 13 09 00.7 -0.5
SNR=34
XNQ S **Sn** **13 09 51.3 +0.6**
PQL Pirkuli 4.29 62 ⇓P Pn 13 09 02.2 -0.6
SNR=12
PQL Pirkuli 4.29 62 P Pn 13 09 02.2 -0.6
SNR=12
ALIB Äli-Bayra 4.32 74 ⇓P Pn 13 09 02.3 -0.8
SNR=4.8
ALIB ⇑S **Sn** **13 09 54.3 +0.1**
ALIB Äli-Bayra 4.32 74 P Pn 13 09 02.3 -0.8
SNR=4.8
ALIB S **Sn** **13 09 54.3 +0.1**
SUSE Susehri 4.37 289 *i* S **Sg** **13 10 16.1 -0.6**
NEY Neytrino 4.41 352 *e*P **Pn** **13 09 07.5 +3.1**
NEY Neytrino 4.41 352 *e*P **Pn** **13 09 07.5 +3.1**
QSAR Qusar 4.43 52 ⇓P Pn 13 09 04.4 -0.3
SNR=6.8
QSAR Qusar 4.43 52 P Pn 13 09 04.4 -0.3
SNR=6.8
GBS Qobustan 4.44 67 ⇓P Pn 13 09 04.1 -0.6
SNR=4.4
GBS Qobustan 4.44 67 P Pn 13 09 04.1 -0.6
SNR=4.4
QUBA Quba, Azerbaij 4.49 55 ⇑P Pn 13 09 05.0 -0.4
SNR=16
QUBA Quba, Azerbaij 4.49 55 P Pn 13 09 05.0 -0.4
SNR=16
ATGJ Altiaghaj 4.56 63 ⇓P Pn 13 09 05.8 -0.6
SNR=25
ATGJ Altiaghaj 4.56 63 P Pn 13 09 05.8 -0.6
SNR=25
NCK Nalchik 4.60 360 *e*P **Pn** **13 09 08.3 +1.3**
NCK Nalchik 4.60 360 *e*P **Pn** **13 09 08.3 +1.3**
GROC Groznyy 4.62 20 P Pb 13 09 19.4 +1.4
GROC pmax pmax
comp=Z,20nm,0.4s
SIZA Siyzn 4.62 60 ⇓P Pn 13 09 06.8 -0.5
SNR=8.1
SIZA Siyzn 4.62 60 P Pn 13 09 06.8 -0.5
SNR=8.1
KBZ Khabaz 4.87 354 Pn Pn 13 09 16.1 +5.6
comp=Z,0.1nm,0.3s,baz=177,slow=8.2,SNR=9.9
MAK Makhachkala 5.03 35 *e*P **Pn** **13 09 11.6 -1.2**
MAK *e*S **Sn** **13 10 09.9 -1.7**
MAK pmax pmax
comp=Z,85nm,0.6s
MAK MLR MLR
comp=Z,1μm,13.0s
MAK Makhachkala 5.03 35 *e*P **Pn** **13 09 11.6 -1.2**
comp=Z,85nm,0.6s
MAK *e*S **Sn** **13 10 09.9 -1.7**
comp=Z,1μm,13.0s
KVAR Kislovodsk Arr 5.11 353 Pn Pn 13 09 19.1 +5.1
baz=244,slow=3.9,SNR=6.6
KVAR Lg Lg 13 10 48.7
baz=96,slow=15,SNR=1.6
KVAR LR LR 13 11 45.2
comp=Z,576nm,21.8s,baz=158,slow=43
KIV Kislovodsk 5.11 353 *e*P **Pn** **13 09 16.5 +2.5**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,115nm,7.0s
KIV Kislovodsk 5.11 353 *e*Pn **Pn** **13 09 13.4 -0.6**
KIV Kislovodsk 5.11 353 *e*P **Pn** **13 09 16.5 +2.5**
comp=Z,115nm,7.0s
KIV Kislovodsk 5.11 353 *e*Pn **Pn** **13 09 13.4 -0.6**
SOC Sochi 5.53 329 *e*P **Pn** **13 09 20.9 +1.3**
SOC *e* 13 10 25.1
SOC pmax pmax
comp=Z,18nm,0.5s
SOC Sochi 5.53 329 *e*P **Pn** **13 09 20.9 +1.3**
comp=Z,18nm,0.5s
SOC *e*S **Sn** **13 10 25.1 +1.2**
TOKA Tokat 5.68 287 *e*Pn **Pn** **13 09 22.2 +0.4**
TOKA Tokat 5.68 287 *e*Pn **Pn** **13 09 22.2 +0.4**
GOF Gofitskoye 6.18 356 ⇑*e*P Pb 13 09 38.8 -5.8
GOF *e*S **Sn** **13 10 43.3 +3.4**
GOF pmax pmax
comp=Z,17nm,0.9s
GOF smax smax
comp=E,38nm,0.7s
GOF smax smax
comp=N,17nm,0.5s
BRTR Keskin Array B 7.77 279 Pn **Pn** **13 09 54.5 +4.0**
comp=N,0.1nm,0.3s,baz=96,slow=12,SNR=7.4
BRTR Lg Lg 13 11 57.6
comp=N,0.1nm,0.3s,baz=112,slow=19,SNR=2.6
ASF Jabal al Asfar 8.64 221 Pn **Pn** **13 10 05.1 +2.6**
comp=N,0.3nm,0.3s,baz=11,slow=8.0,SNR=3.9
ASF Lg Lg 13 12 28.2
comp=N,0.2nm,0.3s,baz=319,slow=21,SNR=1.0
MMAI Mount Meron Ar 8.86 231 Pn **Pn** **13 10 07.1 +1.6**
comp=N,3.1nm,0.3s,baz=45,slow=14,SNR=3.9
MMAI Lg Lg 13 12 50.0
comp=N,1.4nm,0.3s,baz=49,slow=33,SNR=2.8
MMAI LR LR 13 13 57.9
comp=N,578nm,20.3s,baz=45,slow=41
GEYT Alibeck 11.44 90 Pn **Pn** **13 10 40.6 -0.1**
comp=N,0.5nm,0.3s,baz=269,slow=16,SNR=5.3
GEYT LR LR 13 15 31.0
comp=N,217nm,21.6s,baz=275,slow=40
EIL Elat 11.64 220 LR LR 13 15 43.9
comp=N,519nm,18.3s,baz=44,slow=41
LPSR Galich'ya Gora 14.09 348 *e*P **Pn** **13 11 18.5 +1.6**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 14.09 348 *e*P **Pn** **13 11 18.5 +1.6**
comp=Z,20nm,1.1s
PLOR Plostina 14.32 305 ⇑*i*P **P** **13 11 30.8 +3.4**
PLOR Plostina 14.32 305 ⇑P **P** **13 11 30.8 +3.4**
TESR Tescani 14.59 307 ⇓*i*P **P** **13 11 29.6 -0.8**
MLR Muntele Rosu 14.64 302 ⇑*i*P **P** **13 11 34.7 +3.5**
MLR Muntele Rosu 14.64 302 ⇑P **P** **13 11 34.7 +3.5**
VOIR 15.22 301 ⇑*i*P **P** **13 11 39.0 +1.5**
VOIR 15.22 301 ⇑P **P** **13 11 39.0 +1.5**
VOIR 15.22 301 P **P** **13 11 39.0 +1.5**
RAYN Ar Rayn 15.40 173 *e*Pn **Pn** **13 11 29.1 -5.8**
comp=Z,8.6nm,0.8s
AKTO Aktyubinsk 15.41 37 Pn **Pn** **13 11 32.4 -2.4**
comp=Z,0.1nm,0.3s,baz=212,slow=9.0,SNR=7.5
AKASG Malin Array Be 15.57 324 Pn **Pn** **13 11 36.5 -0.4**
comp=Z,0.5nm,0.3s,baz=136,slow=10.0,SNR=4.9
AKASG LR LR 13 18 38.0
comp=Z,180nm,19.8s,baz=65,slow=41
AKBB Malin Array Si 15.57 324 *e*P **Pn** **13 11 36.1 -0.8**
AKBB pmax pmax
comp=Z,10.0nm,1.1s
AKBB Malin Array Si 15.57 324 *e*Pn **Pn** **13 11 36.1 -0.8**
comp=Z,10nm,1.1s
AKBB Malin Array Si 15.57 324 *e*Pn **Pn** **13 11 36.1 -0.8**
comp=Z,10nm,1.1s
KIEV Kiev 15.57 324 *e*P **P** **13 11 40.7 -0.6**
KIEV Kiev 15.57 324 *e*Pn **Pn** **13 11 35.9 -1.0**
comp=Z,9.9nm,1.1s
KIEV Kiev 15.57 324 *e*P **P** **13 11 40.7 -0.6**
KIEV Kiev 15.57 324 *e*Pn **Pn** **13 11 35.9 -1.0**
comp=Z,9.9nm,1.1s
ABKAR Akbulak array 15.63 43 *e*Pn **Pn** **13 11 37.6 -0.1**
comp=Z,27nm,0.8s
ABKAR Akbulak array 15.63 43 *e*Pn **Pn** **13 11 37.6 -0.1**
comp=Z,27nm,0.8s
VTS Vitosha 15.89 290 ⇓*i*P **P** **13 11 45.3 +0.3**
VTS Vitosha 15.89 290 *e*P **P** **13 11 43.4 -1.6**
VTS pmax pmax
comp=Z,12nm,1.0s
VTS Vitosha 15.89 290 *e*P **P** **13 11 43.4 -1.6**
comp=Z,12nm,1.0s
VTS Vitosha 15.89 290 *e*Pn **P** **13 11 43.4 -1.6**
comp=Z,12nm,1.0s
BURAR Bucovina Array 15.95 309 ⇑*i*P **P** **13 11 46.0 +0.3**
BURAR Bucovina Array 15.95 309 ⇑P **P** **13 11 46.0 +0.3**
BUR08 Bucovina Ar. S 15.97 309 *e*Pn **P** **13 11 45.2 -0.7**
GZR Gura Zlata 16.73 300 ⇑*i*P **Pn** **13 11 52.7 +0.8**
OBN Obninsk 16.91 346 Pn **P** **13 11 55.3 -0.7**
comp=Z,16nm,0.3s,baz=171,slow=23,SNR=6.9
OBN Obninsk 16.91 346 *i* P **P** **13 11 54.9 -1.2**
OBN pmax pmax
comp=Z,56nm,1.0s
OBN Obninsk 16.91 346 *i* P **P** **13 11 54.9 -1.2**
comp=Z,56nm,1.0s
DRGR 17.20 304 ⇑*i*P **P** **13 12 01.2 +1.7**
DRGR 17.20 304 ⇑P **P** **13 12 01.2 +1.7**
DRGR 17.20 304 P **P** **13 12 01.2 +1.7**
UZH Uzhgorod 18.16 309 P **Pn** **13 12 08.4 -1.1**
UZH Uzhgorod 18.16 309 P **Pn** **13 12 08.4 -1.1**
KWP Kalwaria Pacla 18.36 313 P **P** **13 12 12.6 +0.5**
KWP pmax pmax
comp=Z,306nm,1.2s
KWP Kalwaria Pacla 18.36 313 P **P** **13 12 12.6 +0.5**
comp=Z,306nm,1.2s
CRVS Cervenica-Dubn 18.77 309 *e*P **Pn** **13 12 18.2 +1.1**
CRVS Cervenica-Dubn 18.77 309 *e*P **Pn** **13 12 18.2 +1.1**
CRVS Cervenica-Dubn 18.77 309 *e*P **Pn** **13 12 18.2 +1.1**
STHS Stebnicka Huta 19.11 311 *e*P **Pn** **13 12 24.0 +2.8**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 19.11 311 *e*P **Pn** **13 12 24.0 +2.8**
PSZ Piszkesteto 19.38 305 *e*P **Pn** **13 12 23.9 -0.6**
PSZ pmax pmax
comp=Z,28nm,1.3s
PSZ Piszkesteto 19.38 305 *e*P **Pn** **13 12 23.9 -0.6**
comp=Z,28nm,1.3s
PSZ Piszkesteto 19.38 305 *e*P **Pn** **13 12 23.9 -0.6**
comp=Z,28nm,1.3s
ARU Arti 20.16 25 P **P** **13 12 31.2 -0.6**
comp=Z,2.5nm,0.4s,baz=219,slow=8.2,SNR=9.6
ARU Arti 20.16 25*d i*P **P** **13 12 30.9 -0.9**
ARU S **S** **13 16 17.0 -1.7**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU Arti 20.16 25 *i* P **P** **13 12 30.9 -0.9**
comp=Z,32nm,1.7s
ARU Arti 20.16 25 *e*P **P** **13 12 30.3 -1.5**
comp=Z,56nm,1.6s
VYHS Vyhne 20.24 306 *e*P Pn 13 12 35.4 +0.8
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 20.24 306 *e*P Pn 13 12 35.4 +0.8
SUW Suwalki 20.54 324 P Pn 13 12 38.0 -0.1
SUW Suwalki 20.54 324 P Pn 13 12 38.0 -0.1
KKAR Karatay Array 20.71 70 *e*P **P** **13 12 37.6 -0.3**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 20.71 70 *e*P **P** **13 12 37.6 -0.3**
comp=Z,6.9nm,0.7s
KKAR Karatay Array 20.71 70 *e*P **P** **13 12 37.6 -0.3**
comp=Z,6.9nm,0.7s
SVE Sverdlovsk 21.17 26 *e*P **P** **13 12 45.1 +2.3**
SVE pmax pmax
comp=Z,33nm,1.4s
VRAC Vranov 21.90 307 P **P** **13 12 53.6 +2.9**
comp=Z,2.6nm,0.5s,baz=102,slow=9.6,SNR=4.0
KLMR Klimovskoe 22.14 355 *e*P **P** **13 12 53.1 0.0**
KLMR *e* 13 13 15.2
KLMR *e*S **S** **13 16 57.2 -0.4**
KLMR pmax pmax
comp=Z,49nm,1.4s
KLMR Klimovskoe 22.14 355 *e*P **P** **13 12 53.1 0.0**
comp=Z,49nm,1.4s
MNAS Manas 22.16 71 P **P** **13 12 54.1 +0.4**
MNAS pmax pmax
comp=Z,7.0nm,1.0s
MNAS Manas 22.16 71 P **P** **13 12 54.1 +0.4**
comp=Z,7.0nm,1.0s
SOKR Solikamsk 22.36 18 ⇓*i*P **P** **13 12 57.8 +2.3**
SOKR pmax pmax
comp=Z,21nm,1.7s
SOKR MLR MLR
comp=Z,219nm,21.0s
VSU Vasula 22.41 336*ce*P **P** **13 12 56.8 +0.8**
VSU pmax pmax
comp=Z,57nm,1.2s
VSU Vasula 22.41 336 *e*P **P** **13 12 56.8 +0.8**
comp=Z,57nm,1.2s
DPC Dobruska-Polom 22.41 310 *e*P **P** **13 12 58.6 +2.4**
DPC *ex* x 13 13 02.8
DPC Dobruska-Polom 22.41 310 *e*P **P** **13 12 58.6 +2.4**
DPC *e* 13 13 02.8
DPC Dobruska-Polom 22.41 310 *e*P **P** **13 12 58.6 +2.4**
TREC Trest 22.59 307 P **P** **13 13 02.2 +4.1**
BRVK Borovoye 23.16 44*ce*P **P** **13 13 04.3 +0.2**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 23.16 44 *e*P **P** **13 13 04.2 +0.2**
comp=Z,10nm,1.1s
BVAR Borovoye Array 23.20 44 P **P** **13 13 05.2 +0.7**
comp=Z,2.7nm,0.9s,baz=236,slow=11,SNR=8.4
BVAR Borovoye Array 23.20 44 P **P** **13 13 05.2 +0.7**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
GEC2 GERESS Array S 23.60 305 *e*P **P** **13 13 08.2 -0.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s
GEC2 GERESS Array S 23.60 305 *e*P **P** **13 13 08.2 -0.4**
comp=Z,10.0nm,1.1s
GERES GERESS Array B 23.60 305 P **P** **13 13 08.8 +0.2**
comp=Z,2.7nm,0.9s,baz=104,slow=11,SNR=9.2
AAK Ala-Archa 23.63 71 P **P** **13 13 09.3 +0.2**
comp=Z,3.7nm,0.9s,baz=233,slow=8.8,SNR=8.9
AAK Ala-Archa 23.63 71 *e*P **P** **13 13 08.4 -0.6**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 23.63 71 *e*P **P** **13 13 08.1 -1.0**
comp=Z,8.4nm,1.0s
FRU Bishkek 23.72 70 *e*P **P** **13 13 10.0 +0.3**
FRU pmax pmax
comp=Z,60nm,2.1s
KHC Kasperske Hory 23.75 305 *e*P **P** **13 13 10.9 +0.9**
KHC *ex* x 13 13 17.6
KHC Kasperske Hory 23.75 305 *e*P **P** **13 13 10.0 0.0**
KHC pmax pmax
comp=Z,10.0nm,1.4s
KHC Kasperske Hory 23.75 305 P **P** **13 13 10.9 +0.9**
KHC Kasperske Hory 23.75 305 *e*P **P** **13 13 10.0 0.0**
comp=Z,10.0nm,1.4s
WET Wettzell 24.20 305 P **P** **13 13 15.8 +1.5**
WET pmax pmax
comp=Z,28nm,2.5s
CLL Collm 24.71 310 *e*P **P** **13 13 22.0 +3.2**
KSH Kashi 25.03 78 P **P** **13 13 19.9 -2.1**
KSH pP 13 13 23.6
KSH *es*P 13 13 25.6
KSH PP **PnPn** **13 13 56.1 +1.3**
KSH PcP **PcP** **13 16 56.3 -0.5**
KSH S **S** **13 17 39.8 -7.3**
KSH SS **SnSn** **13 18 36.1 +1.1**
KSH PcS **PcS** **13 20 35.8 -1.4**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,69nm,5.6s
KSH LR LR
comp=N,160nm,6.6s
KSH LR LR
comp=E,110nm,5.5s
KSH LR LR
comp=Z,97nm,10.6s
FINES FINESS Array B 25.05 340 P **P** **13 13 22.0 +0.2**
comp=Z,3.7nm,0.9s,baz=298,slow=4.1,SNR=4.3
FINES LR LR 13 24 02.7
comp=Z,183nm,19.0s,baz=154,slow=38
FINES FINESS Array B 25.05 340 P **P** **13 13 22.0 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,183nm,19.0s
JOF Joensuu 25.19 347 P **P** **13 13 24.5 +1.5**
JOF pmax pmax
comp=Z,27nm,1.3s
DAVOX Davos/Dischmat 25.80 299 P **P** **13 13 29.9 +0.9**
comp=Z,1.6nm,0.3s,baz=235,slow=16,SNR=3.4
KURBB Kurchatov Arra 27.18 53 P **P** **13 13 41.5 +0.3**
comp=Z,3.8nm,0.7s,baz=263,slow=9.0,SNR=35
KURK Kurchatov 27.26 53*ce*P **P** **13 13 42.5 +0.6**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 27.26 53 *e*P **P** **13 13 41.5 -0.4**
comp=Z,5.5nm,0.9s
PDGK Podgornoye 27.27 69 P **P** **13 13 42.8 +0.6**
PDGK pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 29.21 62 *e*P **P** **13 13 59.1 -0.3**
MK31 Makanchi Array 29.21 62 *e*P **P** **13 13 59.1 -0.3**
MKAR Makanchi Array 29.21 62 P **P** **13 13 59.5 +0.1**
comp=Z,2.7nm,0.7s,baz=271,slow=6.3,SNR=26
MKAR LR LR 13 27 28.2
comp=Z,151nm,19.8s,baz=255,slow=40
MKAR Makanchi Array 29.21 62 *e*P **P** **13 13 58.8 -0.6**
comp=Z,16nm,0.8s
NOA NORSAR Array B 29.89 328 LR LR 13 27 03.7
comp=Z,69nm,19.8s,baz=110,slow=38
NVS Novosibirsk 30.94 46 *e*P **P** **13 14 14.4 -0.1**
NVS *e* 13 15 12.9
NVS pmax pmax
comp=E,3.0nm,1.2s
NVS pmax pmax
comp=Z,7.0nm,1.2s
ZALV Zalesovo Beam 31.65 48 P **P** **13 14 19.4 -1.4**
comp=Z,1.0nm,0.6s,baz=256,slow=10,SNR=5.3
ZALV LR LR 13 29 18.6
comp=Z,135nm,18.0s,baz=250,slow=40
ARCES ARCESS Array B 32.20 348 LR LR 13 28 09.7
comp=Z,114nm,19.6s,baz=152,slow=38
WMQ Urumqi 33.17 67 P **P** **13 14 35.9 +1.6**
WMQ pP 13 14 40.3
WMQ sP 13 14 42.9
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,26nm,3.6s
WMQ LR LR
comp=N,93nm,25.7s
WMQ LR LR
comp=E,45nm,17.7s
WMQ LR LR
comp=Z,74nm,20.3s
PYUN Piuthan 34.33 96 *e*P **P** **13 14 44.4 -0.4**
DANN Dangsing 34.81 95 *e*P **P** **13 14 49.5 +0.5**
KOLN Koldanda 34.96 96 *e*P **P** **13 14 50.1 -0.1**
GKN Gorkha 35.66 95 *e*P **P** **13 14 55.9 -0.2**
comp=Z,9.5nm,0.7s
DMN Daman 36.21 95 *e*P **P** **13 15 00.9 -0.1**
PKIN Phulchoki 36.45 95 *e*P **P** **13 15 02.9 -0.2**
comp=Z,20nm,1.0s
ESDC Sonseca Array 36.48 287 P **P** **13 15 03.4 +0.4**
comp=Z,3.4nm,0.8s,baz=65,slow=9.2,SNR=9.9
GUN Gumba 36.67 94 *e*P **P** **13 15 04.7 -0.3**
comp=Z,32nm,0.9s
JIRN Jiri 37.03 95 *e*P **P** **13 15 08.1 0.0**
comp=Z,121nm,0.8s
RAMN Ramite 37.69 95 *e*P **P** **13 15 13.3 -0.3**
comp=Z,15nm,0.6s
ODAN Odare 38.35 95 *e*P **P** **13 15 19.2 +0.1**
comp=Z,27nm,1.0s
TAPN Taplejung 38.36 94 *e*P **P** **13 15 19.2 -0.1**
comp=Z,11nm,0.7s
NRIK Noril'sk 38.38 23 LR LR 13 35 12.6
comp=Z,141nm,18.2s,baz=180,slow=42
GTA Gaotai 42.98 71 *e*P **P** **13 15 57.4 +0.2**
GTA pP 13 16 00.8
GTA sP 13 16 03.4
GTA S **S** **13 22 24.4 +0.8**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,58nm,5.1s
GTA LR LR
comp=N,98nm,15.7s
GTA LR LR
comp=E,75nm,16.6s
GTA LR LR
comp=Z,82nm,15.7s
TORD Torodi Ar. Bea 45.00 247 P **P** **13 16 12.0 -1.5**
comp=Z,1.6nm,0.8s,baz=51,slow=8.2,SNR=10.0
SONM Songino Array 45.38 57 LR LR 13 37 12.5
comp=Z,119nm,20.4s,baz=268,slow=39
ULN Ulaanbaatar 45.80 57*ce*P **P** **13 16 20.0 +0.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 45.80 57 *e*P **P** **13 16 19.2 -0.5**
comp=Z,6.0nm,1.0s
LZH Lanzhou 47.13 74 *e*P **P** **13 16 27.0 -3.2**
LZH pP 13 16 28.5
LZH sP 13 16 29.3
LZH *e*PP **PP** **13 18 17.3 -3.4**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,42nm,6.4s
LZH LR LR
comp=N,140nm,15.0s
LZH LR LR
comp=E,150nm,14.7s
LZH LR LR
comp=Z,190nm,18.5s
HHC Hu-ho-hao-te 50.99 65 *e*P **P** **13 17 01.4 +1.7**
HHC PP **PP** **13 18 56.4 +0.5**
HHC S **S** **13 24 19.3 +1.5**
HHC pmax pmax
comp=Z,19nm,1.5s
HHC pmax pmax
comp=Z,84nm,5.4s
HHC LR LR
comp=N,150nm,16.2s
HHC LR LR
comp=E,120nm,14.9s
HHC LR LR
comp=Z,80nm,16.2s
KMI Kunming 51.18 87 P **P** **13 17 01.5 0.0**
KMI pmax pmax
comp=Z,8.0nm,0.5s
XAN Xi'an 51.76 74 P **P** **13 17 05.3 -0.2**
XAN pP 13 17 10.8
XAN pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 51.83 97 P **P** **13 17 05.1 -1.1**
comp=Z,1.6nm,0.8s,baz=297,slow=8.4,SNR=12
CMAR LR LR 13 44 09.5
comp=Z,33nm,19.2s,baz=290,slow=42
TIXI Tiksi 52.16 24 P **P** **13 17 07.4 -0.5**
comp=Z,3.0nm,1.2s,baz=304,slow=4.5,SNR=4.0
TIXI Tiksi 52.16 24*ce*P **P** **13 17 09.5 +1.6**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 52.16 24 *e*P **P** **13 17 08.9 +1.0**
comp=Z,4.7nm,1.3s
DBIC Dimbokro 54.11 247 P **P** **13 17 22.3 -0.7**
comp=Z,3.0nm,0.8s,baz=198,slow=7.0,SNR=4.2
WHN Wuhan 57.45 75 P **P** **13 17 49.9 +3.1**
KLR Kul'dur 60.75 49 LR LR 13 47 02.6
comp=Z,10nm,18.3s,baz=179,slow=39
SEY Seymchan 63.83 29 P **P** **13 18 29.7 -0.1**
comp=Z,4.7nm,0.9s,baz=289,slow=5.3,SNR=6.5
SEY Seymchan 63.83 29*ce*P **P** **13 18 31.2 +1.4**
KSAR Wonju Array Be 63.87 62 P **P** **13 18 29.9 -0.6**
KSAR Wonju Array Be 63.87 62 P **P** **13 18 29.9 -0.6**
KSRS Korea Array 63.90 62 P **P** **13 18 29.9 -0.8**
comp=Z,2.6nm,0.8s,baz=292,slow=6.6,SNR=6.4
KSRS LR LR 13 49 08.0
comp=Z,30nm,18.7s,baz=348,slow=39
KSRS Korea Array 63.90 62 P **P** **13 18 29.9 -0.8**
KSRS pmax pmax
comp=Z,2.0nm,0.6s

KSRS MLR MLR
comp=Z,30nm,18.7s
MA2 Magadan 65.11 32 LR LR 13 51 41.6
comp=Z,54nm,18.9s,baz=310,slow=40
MJAR Matsushiro Arr 71.33 58 LR LR 13 53 15.0
comp=Z,76nm,18.8s,baz=315,slow=38
PETK Petropavlovsk- 72.14 35 LR LR 13 55 24.4
comp=Z,77nm,19.2s,baz=327,slow=39
COLA College 76.18 5 *e*P **P 13 19 46.5 +0.9**
COLA pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 76.35 5 LR LR 13 59 13.0
comp=Z,26nm,18.4s,baz=347,slow=40
PDAR Pinedale Array 95.15 340 LR LR 14 05 44.8
comp=Z,39nm,18.4s,baz=54,slow=36
SNAA Sanae 115.02 195 PKP **PKPdf 13 26 38.3 +0.4**
VNA1 Neumayer--Stat 115.39 197 PKP **PKPdf 13 26 39.0 +0.5**
VNA2 Neumayer--Watz 115.40 196 PKP **PKPdf 13 26 39.1 +0.5**
baz=268,slow=2.1

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*DDA **24** 13:30:31.2,38.°68N×43.°52E, h4km, Ml3.4*
*ISCJB **24** 13:30:32.5±0.9, 38.°74N±0.°03×43.°58E±0.°07, h9km±6km, Error ellipse: s-maj=9.3km s-min=4.3km az=177.8*
*ISK **24** 13:30:32.7, 38.°70N×43.°28E, h10km, ML3.1*
*CSEM **24** 13:30:33.0±0.4, 38.°77N×43.°43E, h10km, ML3.1, Error ellipse: s-maj=12.1km s-min=5.7km az=87.0*
ISC 24 13:30:32.7±1.1, 38.°72N±0.°03×43.°54E±0.°05, h18km±3km, n32, σ0s88/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VANB	**Van**	**0.17**	**224**	*e*PG		**Pg**	**13 30 37.3**	**-0.1**
VANB				*e*SG		**Sg**	**13 30 41.3**	**+0.7**
VANB	**Van**	**0.17**	**224**	*e*Pg		**Pg**	**13 30 37.3**	**-0.1**
VANB				*e*Sg		**Sg**	**13 30 41.3**	**+0.7**
DYDN	**Diyadin**	**0.83**	**8**	*i* P		**Pb**	**13 30 48.4**	**-0.3**
DYDN				*i* S		**Sn**	**13 31 01.2**	**-0.3**
DYDN	**Diyadin**	**0.83**	**8**	P		**Pb**	**13 30 48.4**	**-0.3**
DYDN				S		**Sn**	**13 31 01.2**	**-0.3**
TUTA	**Tutak**	**0.89**	**320**	*i* P		**Pb**	**13 30 48.3**	**-1.3**
TUTA				*i* S		**Sg**	**13 31 01.5**	**-0.3**
TUTA	**Tutak**	**0.89**	**320**	P		**Pb**	**13 30 48.3**	**-1.3**
TUTA				S		**Sg**	**13 31 01.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**334**	*e*PG		**Pb**	**13 30 49.8**	**-1.0**
AGRB				*e*SG		**Sn**	**13 31 04.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**334**	*e*Pg		**Pb**	**13 30 49.8**	**-1.0**
HAKT	**HAKKARI**	**1.17**	**174**	*i* P		**Pn**	**13 30 52.7**	**-1.6**
HAKT				*i* S		**Sg**	**13 31 11.1**	**+0.5**
HAKT	**HAKKARI**	**1.17**	**174**	P		**Pn**	**13 30 52.7**	**-1.6**
HAKT				S		**Sg**	**13 31 11.1**	**+0.5**
EKAR	**Karacoban**	**1.27**	**295**	*i* P		**Pb**	**13 30 56.0**	**-0.2**
EKAR	**Karacoban**	**1.27**	**295**	P		**Pb**	**13 30 56.0**	**-0.2**
EATA	**Eleskirt**	**1.40**	**325**	*i* P		**Pn**	**13 30 58.1**	**+0.5**
EATA				*i* S		**Sg**	**13 31 18.8**	**+0.7**
EATA	**Eleskirt**	**1.40**	**325**	P		**Pn**	**13 30 58.1**	**+0.5**
EATA				S		**Sg**	**13 31 18.8**	**+0.7**
CUKT	**Cukurca**	**1.47**	**178**	*e*PN		**Pb**	**13 31 00.1**	**+0.6**
CUKT	**Cukurca**	**1.47**	**178**	*e*Pn		**Pb**	**13 31 00.1**	**+0.6**
SIRN	**S¨–rnak**	**1.51**	**216**	*i* P		**Pg**	**13 31 01.8**	**0.0**
SIRN	**S¨–rnak**	**1.51**	**216**	P		**Pg**	**13 31 01.8**	**0.0**
HOMI	**Horasan**	**1.83**	**317**	*i* P		**Pb**	**13 31 05.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*PN		**Pn**	**13 31 03.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*Pn		**Pn**	**13 31 03.6**	**-0.9**
BTMN	**Batman**	**1.97**	**246**	*i* P		**Pb**	**13 31 06.7**	**-1.3**
BTMN				*i* S		**Sb**	**13 31 33.6**	**+1.3**
BTMN	**Batman**	**1.97**	**246**	P		**Pb**	**13 31 06.7**	**-1.3**
BTMN				S		**Sb**	**13 31 33.6**	**+1.3**
ERZM	**Erzurum**	**2.06**	**306**	*i* P		**Pb**	**13 31 10.3**	**+0.6**
ERZM	**Erzurum**	**2.06**	**306**	P		**Pb**	**13 31 10.3**	**+0.6**
BNGB	**Bing¨¶l**	**2.25**	**278**	*e*PN		**Pn**	**13 31 07.7**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	*e*PN		**Pn**	**13 31 11.2**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	*e*Pn		**Pn**	**13 31 11.2**	**-0.5**
MARD	**Mardin**	**2.59**	**238**	*i* P		**Pn**	**13 31 15.3**	**+1.5**
DAGI	**Agillar**	**2.67**	**332**	*i* P		**Pb**	**13 31 21.2**	**+1.2**
MAZI	**Mazidag**	**2.75**	**244**	*e*PN		**Pn**	**13 31 15.3**	**-0.6**
MAZI	**Mazidag**	**2.75**	**244**	*e*Pn		**Pn**	**13 31 15.3**	**-0.6**

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*CSEM **24** 13:37:00.8, 38.°61N×43.°47E, h7km, ML3.6*
*DDA **24** 13:37:00.8, 38.°61N×43.°47E, h7km, Ml3.6*
ISC 24 13:37:01.1±1.2, 38.°63N±0.°02×43.°52E±0.°03, h7km±15km, n31, σ1s23/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GEVA	**Gevas**	**0.48**	**230**	*i* P		**Pg**	**13 37 08.6**	**-1.8**
GEVA				*i* S		**Sg**	**13 37 17.0**	**+0.3**
GEVA	**Gevas**	**0.48**	**230**	P		**Pg**	**13 37 08.6**	**-1.8**
GEVA				S		**Sg**	**13 37 17.0**	**+0.3**
BASK	**Baskale_VAN**	**0.69**	**146**	*i* P		**Pg**	**13 37 13.8**	**-0.5**
BASK				*i* S		**Sb**	**13 37 25.5**	**+0.3**
BASK	**Baskale_VAN**	**0.69**	**146**	P		**Pg**	**13 37 13.8**	**-0.5**
BASK				S		**Sb**	**13 37 25.5**	**+0.3**
DYDN	**Diyadin**	**0.93**	**8**	*i* P		**Pb**	**13 37 19.4**	**-0.2**
DYDN	**Diyadin**	**0.93**	**8**	P		**Pb**	**13 37 19.4**	**-0.2**
TUTA	**Tutak**	**0.95**	**325**	*i* P		**Pg**	**13 37 18.3**	**-1.1**
TUTA	**Tutak**	**0.95**	**325**	P		**Pg**	**13 37 18.3**	**-1.1**
HAKT	**HAKKARI**	**1.07**	**172**	*i* P		**Pg**	**13 37 19.5**	**-2.2**
HAKT				*i* S		**Sb**	**13 37 35.7**	**-0.8**
HAKT	**HAKKARI**	**1.07**	**172**	P		**Pg**	**13 37 19.5**	**-2.2**
HAKT				S		**Sb**	**13 37 35.7**	**-0.8**
EKAR	**Karacoban**	**1.30**	**299**	*i* P		**Pg**	**13 37 27.0**	**+1.0**
EKAR	**Karacoban**	**1.30**	**299**	P		**Pg**	**13 37 27.0**	**+1.0**
CUKT	**Cukurca**	**1.38**	**177**	*i* P		**Pg**	**13 37 27.2**	**-0.3**
CUKT				*i* S		**Sg**	**13 37 48.4**	**+3.0**
CUKT	**Cukurca**	**1.38**	**177**	P		**Pg**	**13 37 27.2**	**-0.3**
CUKT				S		**Sg**	**13 37 48.3**	**+3.0**
SIRN	**S¨–rnak**	**1.43**	**218**	*i* P		**Pg**	**13 37 29.8**	**+1.4**
SIRN	**S¨–rnak**	**1.43**	**218**	P		**Pg**	**13 37 29.8**	**+1.4**
EATA	**Eleskirt**	**1.47**	**327**	*i* P		**Pb**	**13 37 28.2**	**-0.8**
EATA				*i* S		**Sg**	**13 37 50.2**	**+1.7**
EATA	**Eleskirt**	**1.47**	**327**	P		**Pb**	**13 37 28.2**	**-0.8**
EATA				S		**Sg**	**13 37 50.2**	**+1.7**
DIGO	**Kars**	**1.79**	**356**	*i* P		**Pg**	**13 37 35.5**	**+0.1**
DIGO	**Kars**	**1.79**	**356**	P		**Pg**	**13 37 35.5**	**+0.1**
BNGL	**BINGOL**	**1.88**	**281**	*i* P		**Pb**	**13 37 35.7**	**-0.2**
BNGL				*i* S		**Sg**	**13 38 01.7**	**+0.1**
HOMI	**Horasan**	**1.89**	**319**	*i* P		**Pb**	**13 37 36.1**	**-0.1**
BTMN	**Batman**	**1.92**	**248**	*i* P		**Pb**	**13 37 35.9**	**-0.5**
BTMN	**Batman**	**1.92**	**248**	P		**Pb**	**13 37 35.9**	**-0.5**
ERZM	**Erzurum**	**2.11**	**308**	*i* P		**Pg**	**13 37 40.9**	**-0.6**
ERZM	**Erzurum**	**2.11**	**308**	P		**Pg**	**13 37 40.9**	**-0.6**
BGD	**Bogdanovka**	**2.64**	**1**	P		**Pg**	**13 37 51.0**	**-0.6**
KOPT	**Kop Dagi**	**2.73**	**302**	*i* P		**Pg**	**13 37 52.5**	**-0.9**
KOPT	**Kop Dagi**	**2.73**	**302**	P		**Pg**	**13 37 52.5**	**-0.9**
AKH	**Akhalkalaki**	**2.78**	**360**	P		**Pg**	**13 37 54.2**	**-0.2**
ONI	**Oni**	**3.96**	**359**	P		**Pg**	**13 38 15.4**	**-1.6**

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*IDC **24** 13:42:56.2±2.3, 37.°71N×143.°84E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/42, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=48.7km s-min=26.6km az=131.0*
*JMA **24** 13:42:57.8±0.3, 37.°83N×143.°70E, h45km, M3.4*
*ISCJB **24** 13:42:58.4±0.9, 37.°84N±0.°04×143.°66E±0.°07, h33km, mb3.5/4, Error ellipse: s-maj=8.6km s-min=5.5km az=28.8*
ISC 24 13:43:01.1±1.6, 37.°83N±0.°06×143.°6E±0.°1, h35km, n19, σ1s85/26, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIO	**Ouri**	**1.84**	**290**	P		**Pn**	**13 43 29.5**	**-0.7**
JIO				*e*S		**Sn**	**13 43 53.3**	**+1.1**
OFUJ	**Ofunato**	**1.93**	**311**	P		**Pn**	**13 43 30.4**	**-1.0**
JMK	**Ichinoseki**	**2.14**	**302**	P		**Pn**	**13 43 33.1**	**-1.2**
JMK				*e*S		**Sn**	**13 44 00.6**	**+0.9**
JOM	**Ohasama**	**2.41**	**314**	P		**Pn**	**13 43 36.8**	**-1.2**
JFT	**Otama**	**2.57**	**264**	P		**Pn**	**13 43 40.6**	**+0.4**
JFT				*e*S		**Sn**	**13 44 10.6**	**+0.4**
JYK	**Kaneyama**	**2.73**	**294**	P		**Pn**	**13 43 42.8**	**+0.4**
JANG	**Nango**	**2.99**	**329**	*e*S		**Sn**	**13 44 20.7**	**+0.1**
JAG	**Ashikaga**	**3.56**	**248**	P		**Pn**	**13 43 53.8**	**0.0**
JRY	**Ryogami san**	**4.14**	**245**	P		**Pn**	**13 44 01.3**	**-0.5**
JRY				S		**Sn**	**13 44 47.3**	**-1.7**
MJAR	**Matsushiro Arr**	**4.45**	**255**	Pn		**Pn**	**13 44 07.4**	**+1.3**
	1.3nm,0.3s,baz=90,slow=15,SNR=12							
MJAR				Sn		**Sn**	**13 44 57.7**	**+1.0**
	baz=69,slow=21,SNR=1.9							
MAT	**Matsushiro**	**4.46**	**255**	P		**Pn**	**13 44 07.2**	**+1.1**
MAT				S		**Sn**	**13 44 58.9**	**+2.1**
JCH	**Churui**	**4.78**	**358**	P		**Pn**	**13 44 08.8**	**-1.7**
JCH				*e*S		**Sn**	**13 45 01.0**	**-3.6**
JOSM	**Okushiri--Mats**	**5.27**	**325**	S		**Sn**	**13 45 17.8**	**+1.0**
JHJ	**Hachijo jima 2**	**5.62**	**214**	Pn		**Pn**	**13 44 20.7**	**-1.4**
	3.4nm,0.3s,baz=349,slow=20,SNR=13							
JHJ				Sn		**Sn**	**13 45 19.1**	**-6.3**
	6.0nm,0.3s,baz=266,slow=23,SNR=1.6							
ASAJ	**Asahikawa**	**6.32**	**354**	Pn		**Pn**	**13 44 31.2**	**-0.5**
	0.8nm,0.3s,baz=198,slow=17,SNR=16							
ASAJ				Sn		**Sn**	**13 45 42.0**	**-0.6**
	baz=298,slow=30,SNR=1.7							
ZALV	**Zalesovo Beam**	**42.64**	**312**	P			13 50 57.5	+3.7
	0.9nm,0.6s,baz=86,slow=7.2,SNR=3.0							
MKAR	**Makanchi Array**	**45.14**	**302**	P			13 51 16.8	+2.7
	0.3nm,0.6s,baz=72,slow=9.5,SNR=3.0							
KURBB	**Kurchatov Arra**	**46.85**	**308**	P		**P**	**13 51 28.5**	**+1.1**
	0.4nm,0.7s,baz=80,slow=8.2,SNR=4.1							
ILAR	**Eielson Array**	**47.91**	**33**	P		**P**	**13 51 35.7**	**+0.3**
	0.5nm,0.9s,baz=261,slow=5.7,SNR=4.3							

IDC 24 13:46:12.9±2.6, 6.°23S×130.°81E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/29, mbtmp4.0/4, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/37, Error ellipse: s-maj=264.4km s-min=25.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.05**	**166**	Pn		Pn	13 49 35.1	+1.6
	1.0nm,0.3s,baz=336,slow=13,SNR=18							
WRA				Sn		Sn	13 51 57.7	-13
	3.1nm,0.3s,baz=330,slow=22,SNR=12							
PMG	**Port Moresby**	**16.50**	**102**	LR		LR	13 58 06.0	
	comp=Z,32nm,19.2s,baz=61,slow=43							
ASAR	**Alice Springs**	**17.59**	**171**	P		Pn	13 50 19.1	-0.5
	0.7nm,0.3s,baz=346,slow=9.8,SNR=91							
ASAR				S		Sn	13 53 18.0	-18
	0.6nm,0.3s,baz=342,slow=26,SNR=5.8							
STKA	**Stephens Creek**	**27.43**	**160**	P		P	13 52 00.3	-0.2
	1.5nm,0.5s,baz=340,slow=12,SNR=7.7							
MKAR	**Makanchi Array**	**68.03**	**326**	P		P	13 57 14.3	+0.1
	0.4nm,0.5s,baz=120,slow=8.2,SNR=6.9							

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*ISK **24** 13:47:24.0, 38.°60N×43.°08E, h5km, ML3.0*
*CSEM **24** 13:47:25.8±0.2, 38.°63N×43.°07E, h5km, ML3.0, Error ellipse: s-maj=6.2km s-min=4.5km az=81.0*
*DDA **24** 13:47:25.8, 38.°61N×43.°06E, h7km, Ml3.6*
ISC 24 13:47:25.9±1.2, 38.°62N±0.°02×43.°04E±0.°02, h1km±11km, n42, σ0s70/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VANB	**Van**	**0.28**	**96**	*e*PG		**Pg**	**13 47 30.6**	**-0.6**
VANB				*e*SG		**Sg**	**13 47 35.5**	**+0.7**
VANB	**Van**	**0.28**	**96**	*e*Pg		**Pg**	**13 47 30.6**	**-0.6**
VANB				*e*Sg		**Sg**	**13 47 35.5**	**+0.7**
GEVA	**Gevas**	**0.31**	**177**	*i* P		**Pg**	**13 47 30.8**	**-1.1**
GEVA				*i* S		**Sg**	**13 47 37.0**	**+1.1**
GEVA	**Gevas**	**0.31**	**177**	P		**Pg**	**13 47 30.8**	**-1.1**
GEVA				S		**Sg**	**13 47 37.0**	**+1.1**
TUTA	**Tutak**	**0.80**	**347**	*i* P		**Pg**	**13 47 40.6**	**-0.6**
TUTA				*i* S		**Sg**	**13 47 52.7**	**+1.1**
TUTA	**Tutak**	**0.80**	**347**	P		**Pg**	**13 47 40.6**	**-0.6**
TUTA				S		**Sg**	**13 47 52.7**	**+1.1**
AGRB	**Hanur-Agry**	**0.95**	**358**	*e*PG		**Pg**	**13 47 43.3**	**-0.9**
AGRB				*e*SG		**Sb**	**13 47 58.6**	**0.0**
AGRB	**Hanur-Agry**	**0.95**	**358**	*e*Pg		**Pg**	**13 47 43.3**	**-0.9**
AGRB				*e*Sg		**Sb**	**13 47 58.6**	**0.0**
EKAR	**Karacoban**	**0.99**	**310**	*i* P		**Pn**	**13 47 46.7**	**-0.5**
EKAR	**Karacoban**	**0.99**	**310**	P		**Pn**	**13 47 46.7**	**-0.5**
HAKT	**HAKKARI**	**1.19**	**153**	*i* P		**Pg**	**13 47 48.8**	**+0.1**
HAKT				*i* S		**Sn**	**13 48 07.1**	**+0.2**
HAKT	**HAKKARI**	**1.19**	**153**	P		**Pg**	**13 47 48.8**	**+0.1**
HAKT				S		**Sn**	**13 48 07.1**	**+0.2**
SIRN	**S¨–rnak**	**1.23**	**204**	*i* P		**Pn**	**13 47 51.3**	**+0.9**
SIRN				*i* S		**Sn**	**13 48 08.3**	**+0.6**
SIRN	**S¨–rnak**	**1.23**	**204**	P		**Pn**	**13 47 51.3**	**+0.9**
SIRN				S		**Sn**	**13 48 08.3**	**+0.6**
EATA	**Eleskirt**	**1.31**	**341**	*i* P		**Pg**	**13 47 50.7**	**-0.3**
EATA				*i* S		**Sg**	**13 48 08.5**	**+0.5**
EATA	**Eleskirt**	**1.31**	**341**	P		**Pg**	**13 47 50.7**	**-0.3**
EATA				S		**Sg**	**13 48 08.5**	**+0.5**
VRTB	**Varto-Mus**	**1.35**	**294**	*e*PN		**Pg**	**13 47 50.8**	**-0.9**
VRTB	**Varto-Mus**	**1.35**	**294**	*e*Pn		**Pg**	**13 47 50.8**	**-0.9**
CUKT	**Cukurca**	**1.45**	**162**	*e*PN		**Pn**	**13 47 52.2**	**-1.2**
CUKT	**Cukurca**	**1.45**	**162**	*e*Pn		**Pn**	**13 47 52.2**	**-1.2**
BNGL	**BINGOL**	**1.51**	**283**	*i* P		**Pg**	**13 47 55.0**	**+0.1**
BNGL				*i* S		**Sg**	**13 48 14.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.52**	**253**	*e*PN		**Pn**	**13 47 53.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.52**	**253**	*i* P		**Pn**	**13 47 54.0**	**-0.3**
SVAN				*i* S		**Sg**	**13 48 15.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.52**	**253**	*e*Pn		**Pn**	**13 47 53.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.52**	**253**	P		**Pn**	**13 47 54.0**	**-0.3**
SVAN				S		**Sg**	**13 48 15.2**	**+0.4**
BTMN	**Batman**	**1.57**	**243**	*i* P		**Pn**	**13 47 55.0**	**-0.1**
BTMN				*i* S		**Sg**	**13 48 16.9**	**+0.5**
BTMN	**Batman**	**1.57**	**243**	P		**Pn**	**13 47 55.0**	**-0.1**
BTMN				S		**Sg**	**13 48 16.9**	**+0.5**
HOMI	**Horasan**	**1.67**	**329**	*i* P		**Pg**	**13 47 57.8**	**-0.1**
DIGO	**Kars**	**1.81**	**8**	*i* P		**Pb**	**13 48 00.1**	**+0.1**
DIGO	**Kars**	**1.81**	**8**	P		**Pb**	**13 48 00.1**	**+0.1**
ERZM	**Erzurum**	**1.82**	**315**	*i* P		**Pg**	**13 48 02.0**	**+1.1**
ERZM	**Erzurum**	**1.82**	**315**	P		**Pg**	**13 48 02.0**	**+1.1**
BNGB	**Bing¨¶l**	**1.88**	**282**	*e*PN		**Pn**	**13 47 59.7**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.01**	**345**	*e*PN		**Pn**	**13 48 01.1**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.01**	**345**	*e*Pn		**Pn**	**13 48 01.1**	**-0.1**
BINT	**Bingol**	**2.01**	**278**	*e*Pn		**Pn**	**13 47 59.7**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.11**	**294**	*e*PN		**Pn**	**13 48 02.2**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.11**	**294**	*e*Pn		**Pn**	**13 48 02.2**	**-0.3**
MARD	**Mardin**	**2.21**	**235**	*i* P		**Pn**	**13 48 03.7**	**-0.2**
MARD				*i* S		**Sb**	**13 48 34.0**	**-0.8**
MAZI	**Mazidag**	**2.35**	**241**	*e*PN		**Pn**	**13 48 05.7**	**-0.2**
MAZI	**Mazidag**	**2.35**	**241**	*e*Pn		**Pn**	**13 48 05.7**	**-0.2**
KELT	**Kelkit**	**3.30**	**299**	*i* P		**Pg**	**13 48 28.1**	**-1.1**

IDC 24 13:55:09.7±1.9, 7.°18S×128.°72E, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.6/35, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=87.4km s-min=26.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.26**	**195**	Pn		Pn	13 57 51.4	-0.7
	0.1nm,0.3s,baz=25,slow=14,SNR=3.2							
FITZ				Sn		Sn	14 00 04.1	+5.3
	0.5nm,0.3s,baz=85,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**13.81**	**157**	Pn		Pn	13 58 26.7	-0.2
	0.8nm,0.3s,baz=340,slow=14,SNR=11							
WRA				Sn		Sn	14 00 49.1	-12
	1.4nm,0.3s,baz=332,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**17.13**	**164**	P		Pn	13 59 11.4	+0.7
	0.4nm,0.3s,baz=343,slow=9.2,SNR=18							
ASAR				S		Sn	14 02 13.9	-8.1
	0.3nm,0.3s,baz=352,slow=25,SNR=7.4							
MKAR	**Makanchi Array**	**67.69**	**327**	P		P	14 06 08.8	0.0
	0.6nm,0.4s,baz=119,slow=8.1,SNR=16							

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*ISK **24** 14:06:50.6, 38.°80N×43.°34E, h5km, ML3.9*
*CSEM **24** 14:06:51.9±0.3, 38.°78N×43.°17E, h2km, ML3.9, Error ellipse: s-maj=8.4km s-min=5.6km az=77.0*
*DDA **24** 14:06:51.2, 38.°79N×43.°18E, h7km, Ml4.1*
*AZER **24** 14:07:01.4±2.2, 38.°79N×43.°26E, h10km, Error ellipse: s-maj=26.7km s-min=19.1km az=136.0*
ISC 24 14:06:52.1±1.0, 38.°79N±0.°02×43.°19E±0.°02, h9km±9km, n66, σ1s28/87, 21C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VANB	**Van**	**0.25**	**141**	*e*PG		**Pg**	**14 06 56.7**	**-0.5**
VANB				*e*SG		**Sg**	**14 07 01.6**	**+1.0**
VANB	**Van**	**0.25**	**141**	*e*Pg		**Pg**	**14 06 56.7**	**-0.5**
VANB				*e*Sg		**Sg**	**14 07 01.6**	**+1.0**
GEVA	**Gevas**	**0.49**	**192**	↓*i*P		**Pg**	**14 07 00.2**	**-1.4**
GEVA				*i* S		**Sg**	**14 07 08.7**	**+0.7**
TUTA	**Tutak**	**0.68**	**334**	↓*i*P		**Pg**	**14 07 04.6**	**-0.7**
TUTA				*i* S		**Sg**	**14 07 14.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.80**	**349**	*e*PG		**Pg**	**14 07 06.8**	**-0.7**
AGRB				*e*SG		**Sg**	**14 07 18.2**	**+0.2**
AGRB	**Hanur-Agry**	**0.80**	**349**	*e*Pg		**Pg**	**14 07 06.8**	**-0.7**
AGRB				*e*Sg		**Sg**	**14 07 18.2**	**+0.2**
DYDN	**Diyadin**	**0.85**	**27**	*i* P		**Pg**	**14 07 07.3**	**-1.1**
EKAR	**Karacoban**	**0.99**	**298**	⇑*i*P		**Pg**	**14 07 11.2**	**0.0**
EKAR	**Karacoban**	**0.99**	**298**	P		**Pg**	**14 07 11.2**	**0.0**
EATA	**Eleskirt**	**1.20**	**333**	⇑*i*P		**Pb**	**14 07 14.4**	**-0.8**
EATA				*i* S		**Sg**	**14 07 30.9**	**+0.1**
EATA	**Eleskirt**	**1.20**	**333**	P		**Pb**	**14 07 14.4**	**-0.8**
EATA				S		**Sg**	**14 07 30.9**	**+0.1**
HAKT	**HAKKARI**	**1.29**	**162**	⇓*i*P		**Pn**	**14 07 13.4**	**-3.2**
HAKT				*i* S		**Sn**	**14 07 34.1**	**-0.1**
VRTB	**Varto-Mus**	**1.40**	**286**	*e*PN		**Pg**	**14 07 19.6**	**+0.6**
VRTB	**Varto-Mus**	**1.40**	**286**	*i* P		**Pn**	**14 07 16.8**	**-1.2**
VRTB	**Varto-Mus**	**1.40**	**286**	P		**Pn**	**14 07 16.8**	**-1.2**
VRTB	**Varto-Mus**	**1.40**	**286**	*e*Pn		**Pg**	**14 07 19.6**	**+0.6**
SIRN	**S¨–rnak**	**1.43**	**206**	*i* P		**Pn**	**14 07 18.3**	**0.0**
SIRN	**S¨–rnak**	**1.43**	**206**	P		**Pn**	**14 07 18.3**	**0.0**
CUKT	**Cukurca**	**1.57**	**168**	*e*PN		**Pn**	**14 07 19.8**	**-0.6**
CUKT	**Cukurca**	**1.57**	**168**	*i* P		**Pb**	**14 07 21.5**	**0.0**
CUKT	**Cukurca**	**1.57**	**168**	*e*Pn		**Pn**	**14 07 19.8**	**-0.6**
HOMI	**Horasan**	**1.60**	**322**	⇑*i*P		**Pn**	**14 07 21.4**	**+0.6**
HOMI				*i* S		**Sg**	**14 07 44.7**	**+1.1**
BNGL	**BINGOL**	**1.60**	**276**	⇑*i*P		**Pn**	**14 07 20.8**	**0.0**
BNGL				*i* S		**Sg**	**14 07 44.5**	**+0.9**
DIGO	**Kars**	**1.63**	**5**	*i* P		**Pn**	**14 07 21.7**	**+0.5**
DIGO	**Kars**	**1.63**	**5**	P		**Pn**	**14 07 21.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.69**	**248**	*e*PN		**Pn**	**14 07 22.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.69**	**248**	⇑*i*P		**Pn**	**14 07 22.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.69**	**248**	P		**Pn**	**14 07 22.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.69**	**248**	*e*Pn		**Pn**	**14 07 22.5**	**+0.6**
BTMN	**Batman**	**1.76**	**240**	⇑*i*P		**Pn**	**14 07 22.9**	**+0.1**
BTMN				*i* S		**Sg**	**14 07 48.8**	**+0.2**
BTMN	**Batman**	**1.76**	**240**	P		**Pn**	**14 07 22.9**	**+0.1**
ERZM	**Erzurum**	**1.80**	**309**	⇓*i*P		**Pb**	**14 07 25.0**	**-0.4**
ERZM	**Erzurum**	**1.80**	**309**	P		**Pb**	**14 07 25.0**	**-0.4**
NAX	**Nakhchivan**	**1.84**	**77**	⇓P		**Pb**	**14 07 24.6**	**-1.3**
	SNR=24							
NAX				⇑S		**Sg**	**14 07 57.2**	**+6.1**
SENK	**Senkaya-Erzuru**	**1.89**	**340**	*e*PN		**Pn**	**14 07 25.1**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.89**	**340**	*e*Pn		**Pn**	**14 07 25.2**	**+0.5**
ECAT	**Cat-ERZURUM**	**1.91**	**296**	*i* P		**Pn**	**14 07 26.2**	**+1.2**
ECAT	**Cat-ERZURUM**	**1.91**	**296**	P		**Pn**	**14 07 26.2**	**+1.2**
EAK	**Akyaka**	**1.92**	**9**	*i* P		**Pb**	**14 07 27.3**	**-0.1**
EAK				*i* S		**Sg**	**14 07 54.6**	**+0.7**
EAK	**Akyaka**	**1.92**	**9**	P		**Pb**	**14 07 27.3**	**-0.1**
EAK				S		**Sg**	**14 07 54.6**	**+0.7**
BNGB	**Bing¨¶l**	**1.97**	**277**	*e*PN		**Pn**	**14 07 26.1**	**+0.3**

GEVA			*i* S	Sb	14 18 20.6	-1.2
GEVA	**Gevas**	**0.53 220**	P	Pg	14 18 12.2	+0.4
GEVA			S	Sb	14 18 20.6	-1.3
DYDN	**Diyadin**	**0.83 11**	*i* P	Pg	14 18 18.2	+0.6
DYDN	**Diyadin**	**0.83 11**	P	Pb	14 18 18.2	-0.7
TUTA	**Tutak**	**0.86 322**	*i* P	Pg	14 18 18.2	+0.2
TUTA			*i* S	Sb	14 18 30.3	-1.0
TUTA	**Tutak**	**0.86 322**	P	Pg	14 18 18.2	+0.2
TUTA			S	Sb	14 18 30.3	-1.0
HAKT	**HAKKARI**	**1.18 172**	*i* P	Pg	14 18 23.5	-0.6
HAKT			*i* S	Sn	14 18 41.6	-0.3
HAKT	**HAKKARI**	**1.18 172**	P	Pg	14 18 23.5	-0.6
HAKT			S	Sn	14 18 41.6	-0.3
EKAR	**Karacoban**	**1.23 296**	*i* P	Pn	14 18 26.9	+0.9
EKAR	**Karacoban**	**1.23 296**	P	Pn	14 18 26.9	+0.9
EATA	**Eleskirt**	**1.38 326**	*i* P	Pg	14 18 27.8	-0.1
EATA			*i* S	Sn	14 18 48.0	+1.1
EATA	**Eleskirt**	**1.38 326**	P	Pg	14 18 27.8	-0.1
EATA			S	Sn	14 18 48.0	+1.1
CUKT	**Cukurca**	**1.48 176**	*i* P	Pg	14 18 32.1	+2.3
CUKT	**Cukurca**	**1.48 176**	P	Pg	14 18 32.1	+2.2
HOMI	**Horasan**	**1.80 318**	*i* P	Pg	14 18 35.8	-0.3
BTMN	**Batman**	**1.93 245**	*i* P	Pb	14 18 37.8	+0.2
BTMN			*i* S	Sg	14 19 03.4	-0.3
BTMN	**Batman**	**1.93 245**	P	Pb	14 18 37.8	+0.3
BTMN			S	Sg	14 19 03.4	-0.3
ERZM	**Erzurum**	**2.03 306**	*i* P	Pg	14 18 40.2	-0.1
ERZM	**Erzurum**	**2.03 306**	P	Pg	14 18 40.2	-0.2

*SOME **24** 14:27:58.5, 41.°00N×79.°47E, h5km, MS3.0*
*KRNET **24** 14:27:58.7±0.1, 40.°75N×79.°78E, mb3.4*
*BJI **24** 14:27:58.6, 41.°04N×79.°48E, h9km, mb4.1/5, ML3.8/10*
*IDC **24** 14:28:00.8±3.5, 40.°97N×79.°44E, h21km±22km, mb3.6/14, mb1 3.8/20, mb1mx3.7/43, mbtmp3.7/20, ML3.2/6, MS2.9/4, Ms1 2.9/4, ms1mx2.4/50, Error ellipse: s-maj=15.4km s-min=14.9km az=8.0*
*NNC **24** 14:28:03.6±1.6, 41.°22N×79.°47E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=14.7km s-min=9.3km az=154.0*
*MOS **24** 14:28:04.3±0.9, 41.°18N×79.°55E, h64km, mb4.3/10, Error ellipse: s-maj=12.8km s-min=7.3km az=98.6*

ISC 24 14:27:57.1±1.5, 40.°90N±0.°04×79.°22E±0.°03, h2km±9km, n82, σ1°82/115, mb3.8/13, MS3.1/3, 21C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**2.24**	**345**	*e*P	**Pg**	**14 28 39.5**	**-0.4**
	360nm,0.5s						
SATY				*e*S	**Sg**	**14 29 09.3**	**+0.4**
	1μm,0.5s						
UZB	**Uzynbulak**	**2.25**	**356**	*e*P	**Pb**	**14 28 38.6**	**+0.1**
	67nm,0.3s						
UZB				*e*S	**Sg**	**14 29 07.5**	**-1.8**
	393nm,0.3s						
SHLS	**Shalkode**	**2.26**	**5**	*e*P	**Pg**	**14 28 39.5**	**-0.9**
	146nm,0.3s						
SHLS				*e*S	**Sg**	**14 29 08.9**	**-0.8**
	3μm,0.4s						
ZHN	**Zhinishke**	**2.34**	**346**	*e*P	**Pg**	**14 28 40.8**	**-1.0**
	152nm,0.2s						
ZHN				*e*S	**Sg**	**14 29 11.5**	**-0.7**
	2μm,0.3s						
PDGK	**Podgornoye**	**2.43**	**5**	⇓*e*P	**Pb**	**14 28 40.7**	**-0.9**
	baz=355						
PDGK				⇓*i*S	**Sb**	**14 29 11.8**	**-0.3**
	baz=355						
PDGK	**Podgornoye**	**2.43**	**5**	⇓Pn	**Pb**	**14 28 40.9**	**-0.7**
	220nm,0.6s						
PDGK				⇓Lg	Lg	14 29 12.3	
	417nm,0.5s						
PDGK	**Podgornoye**	**2.43**	**5**	*i* PN	**Pb**	**14 28 40.8**	**-0.9**
PDGK				pmax	pmax		
	comp=Z,221nm,0.5s						
ULHL	**Ulahol**	**2.60**	**302**	⇑*i*P	**Pg**	**14 28 47.4**	**+0.4**
	baz=300						
ULHL				⇑*i*S	**Sg**	**14 29 22.2**	**+1.5**
	baz=300						
KURS	**Kuram**	**2.70**	**344**	*e*P	**Pg**	**14 28 47.9**	**-0.9**
KURS				*e*S	**Sg**	**14 29 23.4**	**-0.3**
TNSS	**Tian-Shan**	**2.72**	**322**	*e*P	**Pg**	**14 28 50.1**	**+0.9**
	comp=Z,125nm,0.5s						
TNSS				*e*S	**Sg**	**14 29 27.5**	**+3.0**
	comp=Z,421nm,0.6s						
MDOK	**Medeo**	**2.78**	**325**	*e*P	**Pg**	**14 28 50.2**	**-0.1**
	comp=Z,103nm,0.7s						
MDOK				*e*S	**Sg**	**14 29 27.2**	**+0.9**
	comp=Z,396nm,0.8s						
KOTS	**Kotyrbulak**	**2.81**	**327**	*e*P	**Pg**	**14 28 50.0**	**-0.8**
KOTS				*e*S	**Sg**	**14 29 27.5**	**+0.3**
KSH	**Kashi**	**2.84**	**242**	Pg	Pg	14 28 59.3	+7.8
KSH				Sn	Sg	14 29 42.8	+14
KSH				smax	smax		
	comp=Z,150nm,0.5s						
KSH				smax	smax		
	comp=Z,170nm,0.7s						
KNDC	**Almaty**	**2.85**	**325**	⇑Pn	**Pb**	**14 28 49.2**	**+0.4**
	comp=Z,82nm,0.6s						
KNDC				⇓Lg	Lg	14 29 31.2	
	comp=Z,217nm,0.6s						
AAA	**Alma-Ata**	**2.87**	**324**	*e*PN	**Pg**	**14 28 52.5**	**+0.4**
AAA				*e*S	**Sg**	**14 29 31.3**	**+2.0**
AAA				pmax	pmax		
	comp=Z,182nm,0.3s						
AAA				smax	smax		
	comp=N,912nm,0.5s						
IZV	**Izvestkoviy**	**2.88**	**319**	*e*P	**Pg**	**14 28 53.1**	**+0.8**
	comp=N,73nm,0.5s						
IZV				*e*S	**Sg**	**14 29 32.4**	**+2.7**
	comp=N,503nm,0.6s						
BOOM	**Boomskoye usch**	**2.92**	**304**	⇓*e*P	**Pg**	**14 28 51.5**	**-1.5**
	baz=302						
BOOM				⇓*e*S	**Sg**	**14 29 31.1**	**+0.2**
	baz=302						
MTBS	**Maitube**	**3.04**	**318**	*e*P	**Pg**	**14 28 54.9**	**-0.5**
	comp=N,46nm,0.4s						
MTBS				*e*S	**Sg**	**14 29 35.5**	**+0.7**
	comp=N,161nm,0.5s						
MNBS	**Baschi**	**3.23**	**350**	*e*P	**Pb**	**14 28 55.6**	**+0.4**
	comp=N,66nm,0.3s						
MNBS				*e*S	**Sb**	**14 29 36.7**	**+1.7**
	comp=N,383nm,0.3s						
KST	**Kastek**	**3.23**	**312**	*e*P	**Pg**	**14 28 58.7**	**-0.3**
	comp=N,9.8nm,0.3s						
KST				*e*S	**Sg**	**14 29 41.8**	**+0.9**
	comp=N,238nm,0.4s						
TKM2	**Tokmak 2**	**3.37**	**308**	⇓*i*P	**Pb**	**14 28 57.3**	**-0.3**
	baz=306						
TKM2				⇓*i*S	**Sb**	**14 29 40.0**	**+0.9**
	baz=306						
TKM2	**Tokmak 2**	**3.37**	**308**	⇓Pn	**Pb**	**14 28 57.5**	**-0.1**
	comp=N,15nm,0.4s						
TKM2				⇓Lg	Lg	14 29 47.5	
TKM2	**Tokmak 2**	**3.37**	**308**	*i* PN	**Pb**	**14 28 57.5**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,15nm,0.4s						
KTBS	**Karatobe**	**3.38**	**327**	*e*P	**Pg**	**14 29 01.2**	**-0.5**
KTBS				*e*S	**Sg**	**14 29 46.3**	**+0.7**
CHKK	**Chushkaly**	**3.38**	**332**	*e*P	**Pg**	**14 29 00.7**	**-1.1**
	comp=Z,55nm,0.3s						
CHKK				*e*S	**Sg**	**14 29 45.7**	**+0.1**
	comp=Z,516nm,0.3s						
DJR	**Jarkent**	**3.45**	**7**	*e*P	**Pb**	**14 28 58.9**	**-0.1**
	comp=Z,42nm,0.3s						
DJR				*e*S	**Sb**	**14 29 41.8**	**+0.4**
	comp=Z,223nm,0.4s						
ARXS	**Arharly**	**3.46**	**343**	*e*P	**Pb**	**14 29 00.9**	**+1.7**
	comp=Z,60nm,0.5s						
ARXS				*e*S	**Sg**	**14 29 45.7**	**-2.6**
	comp=Z,156nm,0.4s						
DGS	**Degeres**	**3.47**	**313**	*e*P	**Pg**	**14 29 02.0**	**-1.6**
	comp=Z,58nm,0.5s						
DGS				*e*S	**Sg**	**14 29 47.3**	**-1.2**
	comp=Z,129nm,0.5s						
KBK	**Karagaybulak**	**3.64**	**300**	⇓*i*P	**Pb**	**14 29 02.3**	**+0.1**
	baz=299						
KBK				⇓*i*S	**Sb**	**14 29 47.3**	**+0.4**
	baz=299						
KUU	**Kurty**	**3.67**	**325**	*e*P	**Pg**	**14 29 05.0**	**-2.4**
	comp=Z,7.4nm,0.3s						
KUU				*e*S	**Sg**	**14 29 53.0**	**-1.9**
	comp=Z,186nm,0.5s						
ARLS	**Aral**	**3.80**	**286**	⇑*e*P	**Pb**	**14 29 04.1**	**-0.9**
	baz=287						
ARLS				⇑*e*S	**Sb**	**14 29 51.9**	**+0.4**
	baz=287						
FRU1	**Bishkek**	**3.92**	**301**	⇓*e*P	**Pb**	**14 29 05.5**	**-1.4**
	baz=300						
FRU1				⇓*e*S	**Sb**	**14 29 54.9**	**+0.1**
	baz=300						
AAK	**Ala-Archa**	**3.93**	**298**	Pn	**Pb**	**14 29 05.7**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=131,slow=8.4,SNR=14						
AAK				Pg	**Pg**	**14 29 13.5**	**+1.1**
	comp=Z,5.6nm,0.3s,baz=106,slow=10,SNR=25						
AAK				LR	LR	14 30 04.1	
	comp=Z,24nm,21.5s,baz=82,slow=30						
AAK				Lg	Lg	14 30 06.4	
	comp=Z,6.7nm,0.3s,baz=196,slow=23,SNR=4.1						
AAK	**Ala-Archa**	**3.93**	**298**	⇑*i*P	**Pb**	**14 29 05.3**	**-1.9**
	baz=297						
AAK				⇑*i*S	**Sb**	**14 29 54.3**	**-1.0**
	baz=297						
AAK	**Ala-Archa**	**3.93**	**298**	⇑Pn	**Pb**	**14 29 05.2**	**-1.9**
	comp=Z,16nm,0.5s						
AAK				⇓Lg	Lg	14 30 07.2	
	comp=Z,24nm,0.5s						
CHMS	**Chumysh**	**3.93**	**304**	⇑*i*P	**Pb**	**14 29 05.8**	**-1.3**
	baz=303						
CHMS				⇑*i*S	**Sb**	**14 29 55.1**	**0.0**
	baz=303						
ARSB	**Arslanbob**	**4.73**	**277**	⇑*e*P	**Pb**	**14 29 16.5**	**-4.2**
	baz=279						
ARSB				⇑*e*S	**Sb**	**14 30 13.6**	**-4.5**
	baz=279						
MNAS	**Manas**	**5.27**	**290**	⇓*e*P	Pb	14 29 24.0	-5.9
	baz=290						
MNAS				⇓*e*S	**Sb**	**14 30 26.7**	**-6.9**
	baz=290						
MNAS	**Manas**	**5.27**	**290**	⇓Pn	**Pb**	**14 29 28.2**	**-1.7**
	comp=Z,13nm,0.7s						
MNAS				⇑Lg	Lg	14 30 55.6	
	comp=Z,19nm,0.8s						
MNAS	**Manas**	**5.27**	**290**	*i* PN	**Pb**	**14 29 28.2**	**-1.7**
MNAS				pmax	pmax		
	comp=Z,13nm,0.6s						
MAKZ	**Makanchi**	**6.23**	**18**	⇓Pn	**Pn**	**14 29 29.9**	**-0.2**
MAKZ				⇓Lg	Lg	14 31 09.3	
	comp=Z,6.7nm,0.6s						
MAKZ	**Makanchi**	**6.23**	**18**	*i* PN	**Pn**	**14 29 29.8**	**-0.2**
MK31	**Makanchi Array**	**6.29**	**20**	⇑Pn	**Pn**	**14 29 31.7**	**+0.8**
	comp=Z,0.9nm,0.2s,baz=201,slow=13,SNR=76						
MK31				⇑Sn	**Sn**	**14 30 39.4**	**-3.9**
	comp=Z,1.8nm,0.3s,baz=7.0,slow=41,SNR=5.6						
MK31				⇑Lg	Lg	14 31 14.7	
	comp=Z,16nm,0.7s,baz=202,slow=28						
MK31	**Makanchi Array**	**6.29**	**20**	*i* PN	**Pn**	**14 29 31.7**	**+0.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MKAR	**Makanchi Array**	**6.29**	**20**	Pn	**Pn**	**14 29 31.9**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=204,slow=13,SNR=84						
MKAR				Sn	**Sn**	**14 30 40.7**	**-2.6**
	comp=Z,3.9nm,0.3s,baz=197,slow=24,SNR=5.8						
MKAR				Lg	Lg	14 31 17.2	
	comp=Z,2.9nm,0.3s,baz=202,slow=26,SNR=3.7						
KK31	**Karatay Array**	**6.85**	**292**	Pg	**Pg**	**14 30 06.4**	**-1.8**
	comp=Z,2.7nm,0.5s,baz=113,slow=15,SNR=29						
KK31				⇑Lg	Lg	14 31 42.4	
	comp=Z,4.9nm,0.5s,baz=104,slow=26,SNR=3.9						
WMQ	**Urumqi**	**6.92**	**62**	Pn	**Pn**	**14 29 40.4**	**+0.8**
WMQ				Sn	**Sn**	**14 30 52.8**	**-6.1**
WMQ				smax	smax		
	comp=Z,23nm,0.9s						
WMQ				smax	smax		
	comp=Z,33nm,0.5s						
KURBB	**Kurchatov Arra**	**9.73**	**357**	Pn	**Pn**	**14 30 18.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=181,slow=12,SNR=16						
KURBB				Sn	**Sn**	**14 32 07.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=28,SNR=4.9						
KURBB				Lg	Lg	14 32 59.2	
	comp=Z,0.2nm,0.3s,baz=186,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**9.73**	**357**	⇑Pn	**Pn**	**14 30 20.1**	**+2.1**
	comp=Z,1.9nm,0.8s						
KURBB				⇑Lg	Lg	14 33 04.2	
	comp=Z,68nm,0.9s						
KURK	**Kurchatov**	**9.82**	**358**	⇓Pn	**Pn**	**14 30 21.8**	**+2.6**
	comp=Z,4.3nm,0.9s						
KURK				⇑Lg	Lg	14 33 05.7	
	comp=Z,43nm,1.1s						
KURK	**Kurchatov**	**9.82**	**358**	*i* P	**Pn**	**14 30 21.4**	**+2.2**
BVAR	**Borovoye Array**	**13.53**	**337**	Pn	**Pn**	**14 31 08.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=150,slow=15,SNR=4.0						
BVAR				Sn	**Sn**	**14 33 41.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=147,slow=17,SNR=2.1						
BVAR				Lg	Lg	14 35 03.9	
	comp=Z,0.2nm,0.3s,baz=145,slow=23,SNR=3.2						
ZALV	**Zalesovo Beam**	**13.59**	**14**	Pn	**Pn**	**14 31 09.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=7.9						
ZALV				Sn	**Sn**	**14 33 37.4**	**-4.6**
	comp=Z,0.4nm,0.3s,baz=207,slow=26,SNR=4.2						
BRVK	**Borovoye**	**13.59**	**336**	*i* P	**Pn**	**14 31 12.6**	**+2.0**
NVS	**Novosibirsk**	**14.20**	**10**	*e*P	**P**	**14 31 26.0**	**-0.6**
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA	**Gaotai**	**15.82**	**89**	*e*P	**P**	**14 31 44.3**	**-0.6**
GTA				pP	sP	14 31 47.8	+1.9
GTA				sP	pP	14 31 51.4	+5.8
GTA				S	**Sn**	**14 34 41.8**	**+5.0**
GTA				sS	S	14 34 46.5	-5.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AKTO	**Aktyubinsk**	**17.56**	**310**	P	**P**	**14 32 04.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=76,slow=9.1,SNR=4.3						
ARU	**Arti**	**20.55**	**326**	P	Pn	14 32 38.7	-0.1
	comp=Z,4.5nm,0.6s,baz=96,slow=3.9,SNR=8.1						
ARU	**Arti**	**20.55**	**326**	*e*P	**P**	**14 32 37.6**	**+1.0**
ARU						14 32 56.2	
ARU				S	**S**	**14 36 22.6**	**-4.3**
ARU				SS	**SnSn**	**14 36 43.5**	**-1.7**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**20.56**	**61**	P	**P**	**14 32 36.9**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=261,slow=10,SNR=20						
ULN	**Ulaanbaatar**	**21.00**	**61**	*i* P	**P**	**14 32 40.6**	**-1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CD2	**Chengdu**	**22.18**	**109**	*e*P	**P**	**14 32 55.0**	**+0.6**
GNI	**Garni**	**26.12**	**280**	LR	LR	14 44 30.1	
	comp=Z,54nm,21.1s,baz=228,slow=38						
CMAR	**Chiang Mai Arr**	**28.05**	**137**	P	**P**	**14 33 51.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=319,slow=8.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**28.05**	**137**	*e*P	P	14 33 56.2	+6.4
HIA	**Hailar**	**29.51**	**60**	*i* P	**P**	**14 34 00.4**	**-2.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WHN	**Wuhan**	**30.16**	**99**	⇓P	**P**	**14 34 08.0**	**-0.4**
BRTR	**Keskin Array B**	**34.47**	**283**	P	**P**	**14 34 49.1**	**+2.8**
	comp=Z,0.6nm,0.5s,baz=61,slow=5.9,SNR=3.0						
AKASG	**Malin Array Be**	**35.58**	**303**	P	**P**	**14 34 57.9**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=67,slow=8.8,SNR=2.8						
FINES	**FINESS Array B**	**37.77**	**321**	P	**P**	**14 35 15.1**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=97,slow=6.3,SNR=3.9						
FINES	**FINESS Array B**	**37.77**	**321**	*e*P	**P**	**14 35 16.6**	**+2.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**39.79**	**334**	P	**P**	**14 35 32.1**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=110,slow=9.2,SNR=8.6						
HFS	**Hagfors**	**43.79**	**319**	LR	LR	14 55 35.6	
	comp=Z,27nm,18.6s,baz=258,slow=38						
SPITS	**Spitsbergen Ar**	**44.80**	**345**	LR	LR	14 58 19.4	
	comp=Z,20nm,18.1s,baz=335,slow=41						
NOA	**NORSAR Array B**	**44.93**	**320**	P	**P**	**14 36 12.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=86,slow=8.0,SNR=2.7						
GERES	**GERESS Array B**	**45.80**	**303**	P	**P**	**14 36 21.5**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=59,slow=19,SNR=4.8						
ILAR	**Eielson Array**	**68.65**	**19**	P	**P**	**14 39 00.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=331,slow=6.3,SNR=7.5						
TORD	**Torodi Ar. Bea**	**72.12**	**272**	P	**P**	**14 39 24.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.7,SNR=4.0						
KDAK	**Kodiak Island**	**72.56**	**26**	*i* P	**P**	**14 39 25.2**	**0.0**
YKA	**Yellowknife Ar**	**76.35**	**7**	P	**P**	**14 39 46.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=339,slow=5.9,SNR=2.6						
WRA	**Warramunga Arr**	**79.25**	**128**	P	**P**	**14 40 04.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=331,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**81.87**	**131**	P	**P**	**14 40 17.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=318,slow=4.8,SNR=14						

*IDC **24** 14:31:15.1±1.2, 38.°85N×21.°80E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.5/55, mbtmp3.6/8, ML3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/44, Error ellipse: s-maj=32.0km s-min=18.2km az=104.0*
*ATH **24** 14:31:15.8, 38.°76N×21.°84E, h5km±1km, ML3.4/13, Error ellipse: s-maj=1.4km s-min=0.5km az=254.0*
*CSEM **24** 14:31:16.2±0.1, 38.°74N×21.°84E, h5km, ML3.4, Error ellipse: s-maj=2.7km s-min=1.7km az=66.0*
*THE **24** 14:31:16.0, 38.°75N×21.°81E, h15km, ML3.5/16, Error ellipse: s-maj=0.7km s-min=0.4km az=202.0*
*PDG **24** 14:31:16.1±0.4, 38.°76N×21.°83E, h12km, ML3.4/13, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*ISCJB **24** 14:31:16.1±0.3, 38.°75N±0.°01×21.°81E±0.°02, h14km±2km, mb3.6/4, MS2.7/1, Error ellipse: s-maj=3.0km s-min=2.0km az=151.3*

ISC 24 14:31:16.4±0.7, 38.°76N±0.°01×21.°83E±0.°02, h14km±4km, n153, σ1°28/239, mb3.6/4, 17C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.15**	**354**	P	**Pg**	**14 31 19.9**	**-0.5**
EVR				S	**Sg**	**14 31 23.4**	**+0.3**
EVR	**Evrytania**	**0.15**	**354**	P	**Pg**	**14 31 20.5**	**+0.1**
EVR				S	**Sg**	**14 31 22.7**	**-0.4**
EVR				AML	AML	14 31 23.8	
	comp=N,60252μm,0.3s						
EVR				AML	AML	14 31 24.3	
	comp=E,53912μm,0.2s						
EVR	**Evrytania**	**0.15**	**354**	P	**Pg**	**14 31 20.5**	**+0.1**
EVR				S	**Sg**	**14 31 23.4**	**+0.3**
ANX	**Ano Chora**	**0.18**	**157**	P	**Pg**	**14 31 20.4**	**-0.4**
ANX				S	**Sg**	**14 31 23.8**	**+0.1**
ANX	**Ano Chora**	**0.18**	**157**	P	**Pg**	**14 31 21.0**	**+0.2**
ANX				S	**Sg**	**14 31 23.9**	**+0.2**
ANX	**Ano Chora**	**0.18**	**157**	P	**Pg**	**14 31 20.4**	**-0.4**
ANX				S	**Sg**	**14 31 23.8**	**+0.1**
PVO	**Paravola**	**0.28**	**239**	P	**Pg**	**14 31 21.5**	**-0.8**
PVO				S	**Sg**	**14 31 25.5**	**-0.8**
PVO	**Paravola**	**0.28**	**239**	P	**Pg**	**14 31 21.2**	**-1.1**
PVO	**Paravola**	**0.28**	**239**	P	**Pg**	**14 31 21.5**	**-0.8**
PVO				S	**Sg**	**14 31 25.5**	**-0.8**
EFP	**Efpalio**	**0.34**	**170**	P	**Pg**	**14 31 22.9**	**-0.5**
EFP				S	**Sg**	**14 31 28.5**	**+0.4**
EFP	**Efpalio**	**0.34**	**170**	P	**Pg**	**14 31 22.7**	**-0.7**
EFP				S	**Sg**	**14 31 28.6**	**+0.4**
EFP	**Efpalio**	**0.34**	**170**	P	**Pg**	**14 31 22.7**	**-0.7**
EFP				S	**Sg**	**14 31 28.5**	**+0.4**
SERG	**Sergoula**	**0.39**	**153**	P	**Pg**	**14 31 23.6**	**-0.7**
SERG				S	**Sg**	**14 31 30.0**	**+0.3**
SERG	**Sergoula**	**0.39**	**153**	P	**Pg**	**14 31 23.4**	**-0.9**
SERG				S	**Sb**	**14 31 30.4**	**-0.7**
SERG	**Sergoula**	**0.39**	**153**	P	**Pg**	**14 31 23.6**	**-0.7**
SERG				S	**Sg**	**14 31 30.0**	**+0.3**
KALE	**Kalithea**	**0.44**	**147**	P	**Pg**	**14 31 24.5**	**-0.8**
KALE				S	**Sg**	**14 31 31.6**	**+0.3**
KALE	**Kalithea**	**0.44**	**147**	P	**Pg**	**14 31 24.0**	**-1.3**
KALE				S	**Sg**	**14 31 31.7**	**+0.5**
KALE				AML	AML	14 31 33.1	
	comp=N,12159μm,0.5s						
KALE				AML	AML	14 31 34.7	
	comp=E,10519μm,0.2s						
KALE	**Kalithea**	**0.44**	**147**	P	**Pg**	**14 31 24.5**	**-0.8**
KALE				S	**Sg**	**14 31 31.6**	**+0.3**
AGG	**Agios Georgios**	**0.47**	**56**	P	**Pg**	**14 31 25.4**	**-0.4**
AGG				S	**Sb**	**14 31 33.3**	**0.0**
AGG	**Agios Georgios**	**0.47**	**56**	P	**Pg**	**14 31 25.6**	**-0.2**
AGG				S	**Sb**	**14 31 32.9**	**-0.5**
AGG				AML	AML	14 31 34.3	
	comp=N,33301μm,0.2s						
AGG				AML	AML	14 31 35.4	
	comp=E,37975μm,0.2s						
AGG	**Agios Georgios**	**0.47**	**56**	P	**Pg**	**14 31 25.6**	**-0.2**
AGG				S	**Sb**	**14 31 32.8**	**-0.5**
UPR	**University Cam**	**0.48**	**184**	P	**Pg**	**14 31 25.9**	**0.0**
UPR	**University Cam**	**0.48**	**184**	P	**Pb**	**14 31 26.4**	**-0.3**
UPR	**University Cam**	**0.48**	**184**	P	**Pg**	**14 31 25.9**	**0.0**
PDO	**Prodromos**	**0.53**	**252**	P	**Pg**	**14 31 26.1**	**-0.8**
PDO				S	**Sg**	**14 31 33.7**	**-0.3**
PDO	**Prodromos**	**0.53**	**252**	P	**Pb**	**14 31 27.7**	**+0.1**
PDO	**Prodromos**	**0.53**	**252**	P	**Pg**	**14 31 26.1**	**-0.8**
PDO				S	**Sg**	**14 31 33.7**	**-0.3**
LAKA	**Lakka**	**0.53**	**167**	P	**Pg**	**14 31 26.0**	**-1.0**
LAKA	**Lakka**	**0.53**	**167**	P	**Pg**	**14 31 25.4**	**-1.6**
LAKA				S	**Sb**	**14 31 34.8**	**-0.4**
LAKA				AML	AML	14 31 35.8	
	comp=E,2337μm,0.4s						
LAKA				AML	AML	14 31 38.5	
	comp=N,2514μm,0.4s						
LAKA	**Lakka**	**0.53**	**167**	P	**Pg**	**14 31 26.0**	**-1.0**
LAKA				S	**Sb**	**14 31 34.8**	**-0.4**
DSF	**Desfina**	**0.65**	**123**	P	**Pg**	**14 31 27.4**	**-1.7**
DSF				S	**Sb**	**14 31 38.4**	**-0.1**
DSF				AML	AML	14 31 40.1	
	comp=N,8488μm,0.1s						
DSF				AML	AML	14 31 40.9	
	comp=E,7482μm,0.3s						
DSF	**Desfina**	**0.65**	**123**	P	**Pg**	**14 31 27.4**	**-1.7**
DSF				S	**Sb**	**14 31 38.4**	**

comp=N,3615μm,0.3s
LKR Lokris 0.92 97 P Pg 14 31 33.1 -1.2
LKR S **Sg** **14 31 46.0 -0.3**
THAL Thalero 0.98 138 P Pb 14 31 34.5 -0.6
THAL AML AML 14 31 54.0
comp=N,3871μm,0.5s
THAL AML AML 14 31 55.4
comp=E,5832μm,0.3s
THAL Thalero 0.98 138 P Pb 14 31 34.5 -0.6
PROD Prodromos 0.98 121 P Pb 14 31 34.1 -1.1
PROD S **Sb** **14 31 47.9 -0.1**
PROD AML AML 14 31 51.2
comp=E,4163μm,0.3s
PROD AML AML 14 31 52.8
comp=N,2924μm,0.4s
PROD Prodromos 0.98 121 P Pb 14 31 34.1 -1.1
PROD S **Sb** **14 31 47.9 -0.1**
LRSO Larissa Observ 1.01 25 P Pb 14 31 35.5 -0.2
LRSO S **Sn** **14 31 50.3 +0.2**
LRSO Larissa Observ 1.01 25 P Pb 14 31 35.5 -0.2
LRSO S **Sn** **14 31 50.3 +0.2**
VLS Valsamata 1.14 239 P Pb 14 31 36.4 -1.5
VLS Valsamata 1.14 239 P Pb 14 31 36.4 -1.5
LTK Loutraki 1.16 129 P Pb 14 31 37.0 -1.2
LTK Loutraki 1.16 129 P Pb 14 31 37.0 -1.2
XOR Xorichti 1.22 60 P Pn 14 31 38.3 -0.8
XOR S **Sn** **14 31 55.5 +0.1**
XOR Xorichti 1.22 60 P Pn 14 31 38.3 -0.8
XOR S **Sn** **14 31 55.5 +0.1**
KPRO Kipourio 1.25 343 P Pn 14 31 38.9 -0.6
KPRO S **Sn** **14 31 56.1 0.0**
KPRO Kipourio 1.25 343 P Pg 14 31 41.1 +0.7
KPRO Kipourio 1.25 343 P Pg 14 31 41.1 +0.7
KPRO S **Sn** **14 31 56.1 0.0**
LIT Litokhoron 1.43 21 P Pn 14 31 41.9 -0.1
LIT S **Sn** **14 32 01.0 +0.4**
LIT Litokhoron 1.43 21 P Pn 14 31 41.9 -0.1
LIT S **Sn** **14 32 01.0 +0.4**
DID Didima 1.67 138 P Pn 14 31 44.9 -0.5
DID Didima 1.67 138 P Pn 14 31 44.9 -0.5
BIA Bitola 2.29 350 *i* Pn **Pb 14 31 56.1 -1.4**
BIA Bitola 2.29 350 *i* Pn **Pb 14 31 56.1 -1.4**
OHR Ohrid 2.48 342 *i* Pn **Pb 14 31 59.9 -0.9**
OHR Ohrid 2.48 342 *i* Pn **Pb 14 31 59.8 -0.9**
VAY Valandovo 2.62 12 *i* Pn **Pb 14 32 02.8 -0.3**
VAY Valandovo 2.62 12 *i* Pn **Pb 14 32 02.8 -0.3**
KRUS Krusevo 2.64 350 *i* Pn **Pn 14 32 00.1 +1.3**
KRUS Krusevo 2.64 350 *i* Pn **Pn 14 32 00.0 +1.3**
TIR Tirane 2.99 330⇓*i*P **Pb 14 32 07.8 -1.7**
TIR Tirane 2.99 330⇓*i*P **Pb 14 32 07.8 -1.7**
SKO Skopje 3.22 355 *i* Pn **Pn 14 32 08.3 +1.7**
SKO Skopje 3.22 355 *i* Pn **Pn 14 32 08.3 +1.7**
APE Apeiranthos 3.38 119⇑*i*P **Pn 14 32 12.1 +3.3**
APE Apeiranthos 3.38 119⇑*i*P **Pn 14 32 12.1 +3.3**
APE S **Sn** **14 32 47.6 -1.1**
ULC Ulcinj 3.76 329⇑*i*Pn **Pn 14 32 15.5 +1.5**
ULC *e*Sn **Sn** **14 33 00.0 +1.9**
ULC Ulcinj 3.76 329⇑*i*Pn **Pn 14 32 15.5 +1.5**
ULC *e*Sn **Sn** **14 33 00.0 +1.9**
VTS Vitosha 3.97 15⇑*i*P **Pn 14 32 18.7 +1.7**
VTS Vitosha 3.97 15⇑*i*P **Pn 14 32 18.7 +1.7**
VTS S **Sn** **14 33 04.0 +0.6**
DRME Dracevica, Mon 3.97 330 *e*Pn **Pn 14 32 18.5 +1.6**
DRME *e*Sn **Sn** **14 33 04.9 +1.6**
DRME Dracevica, Mon 3.97 330 *e*Pn **Pn 14 32 18.5 +1.6**
DRME *e*Sn **Sn** **14 33 04.9 +1.6**
BARS Barje 4.05 360 *e*Pn **Pn 14 32 19.2 +1.2**
PVY Plav 4.08 340 *e*Pn **Pn 14 32 20.1 +1.5**
PVY *e*Sn **Sn** **14 33 08.0 +1.8**
PVY Plav 4.08 340 *e*Pn **Pn 14 32 20.1 +1.5**
PVY *e*Sn **Sn** **14 33 08.0 +1.8**
PDG Podgorica 4.16 333⇓*i*P **Pn 14 32 21.5 +2.1**
PDG Podgorica 4.16 333⇓*i*Pn **Pn 14 32 20.9 +1.5**
PDG Podgorica 4.16 333⇓*i*P **Pn 14 32 21.5 +2.1**
PDG *e*Sn **Sn** **14 33 09.9 +2.1**
PDG S **Sb** **14 33 11.9 -7.4**
TTG Podgorica 4.16 333⇑*i*Pn **Pn 14 32 20.9 +1.5**
TTG *e*Sn **Sn** **14 33 09.9 +2.1**
BUM Brajici-Budva 4.18 329⇑*i*Pn **Pn 14 32 21.3 +1.4**
BUM *e*Sn **Sn** **14 33 10.5 +1.9**
BUM Brajici-Budva 4.18 329⇑*i*Pn **Pn 14 32 21.3 +1.4**
BUM *e*Sn **Sn** **14 33 10.5 +1.9**
IDI Anoyia 4.25 144 Pn **Pn 14 32 22.5 +1.8**
comp=N,0.5nm,0.3s,baz=330,slow=14,SNR=4.4
IDI Sn **Sn** **14 33 11.7 +1.6**
comp=N,1.5nm,0.3s,baz=310,slow=18,SNR=2.7
BEY Berane 4.36 341⇓*i*Pn **Pn 14 32 23.8 +1.5**
BEY *e*Sn **Sn** **14 33 14.6 +1.6**
IVA Berane 4.36 341⇓*i*Pn **Pn 14 32 23.8 +1.5**
IVA *e*Sn **Sn** **14 33 14.6 +1.6**
CEME Cevo 4.38 331⇑*i*Pn **Pn 14 32 24.3 +1.7**
CEME *e*Sn **Sn** **14 33 15.5 +2.0**
CEME Cevo 4.38 331⇑*i*Pn **Pn 14 32 24.3 +1.7**
CEME *e*Sn **Sn** **14 33 15.5 +2.0**
KOME Kolasin 4.45 337 *e*Pn **Pn 14 32 24.8 +1.3**
KOME *e*Sn **Sn** **14 33 17.1 +2.0**
KOME Kolasin 4.45 337 *e*Pn **Pn 14 32 24.8 +1.3**
KOME *e*Sn **Sn** **14 33 17.1 +2.0**
HCY Herceg Novi 4.47 326 *e*Pn **Pn 14 32 25.0 +1.2**
HCY *e*Sn **Sn** **14 33 17.1 +1.5**
HCY Herceg Novi 4.47 326 *e*Pn **Pn 14 32 25.0 +1.2**
HCY *e*Sn **Sn** **14 33 17.1 +1.5**
NKME Niksic 4.56 332⇓*i*Pn **Pn 14 32 26.5 +1.5**
NKME *e*Sn **Sn** **14 33 19.5 +1.7**
NKME Niksic 4.56 332⇓*i*Pn **Pn 14 32 26.5 +1.5**
NKME *e*Sn **Sn** **14 33 19.5 +1.7**
NKY Niksic 4.58 333⇑*i*Pn **Pn 14 32 26.8 +1.4**
NKY *e*Sn **Sn** **14 33 20.2 +1.7**
NKY Niksic 4.58 333⇑*i*Pn **Pn 14 32 26.8 +1.4**
NKY *e*Sn **Sn** **14 33 20.2 +1.7**
TREB Trebinje 4.75 327 *e*Pn **Pn 14 32 28.4 +0.7**
BRY Bratogost 4.83 330⇑*i*Pn **Pn 14 32 30.3 +1.5**
BRY *e*Sn **Sn** **14 33 26.0 +1.4**
BRY Bratogost 4.83 330⇑*i*Pn **Pn 14 32 30.3 +1.5**
BRY *e*Sn **Sn** **14 33 26.0 +1.4**
BOVS Bovan 4.87 359 *i* Pn **Pn 14 32 30.1 +0.9**
UPM Unac-Piva 4.96 334⇓*i*Pn **Pn 14 32 32.3 +1.7**
UPM *e*Sn **Sn** **14 33 29.2 +1.4**
UPM Unac-Piva 4.96 334⇓*i*Pn **Pn 14 32 32.3 +1.7**
UPM *e*Sn **Sn** **14 33 29.2 +1.4**
IVAS Ivanjica 4.97 346 *e*Pn **Pn 14 32 32.4 +1.7**
ZAGS Zajecar 5.05 3⇓*i*Pn **Pn 14 32 32.5 +0.7**
BOLS Boljevac 5.06 1 *i* Pn **Pn 14 32 32.2 +0.3**
STON Ston 5.16 324 *e*Pn **Pn 14 32 34.4 +1.1**
STON Sn **Sn** **14 33 32.8 +0.1**
STON Ston 5.16 324 *e*Pn **Pn 14 32 34.3 +1.1**
STON Sn **Sn** **14 33 32.7 +0.1**
GRUS Gruza 5.19 351⇑*i*Pn **Pn 14 32 34.9 +1.3**
BBLS Lazići 5.42 341 *e*Pn **Pn 14 32 38.8 +2.0**
DIVS Divibare 5.51 346 *i* Pn **Pn 14 32 40.5 +2.4**
TEKS Tekeris 6.03 344 *e*Pn **Pn 14 32 46.9 +1.6**
GZR Gura Zlata 6.66 6⇓*i*P **Pn 14 32 53.7 -0.2**
GZR Gura Zlata 6.66 6 S **Sn 14 34 07.7 -2.0**
GZR Gura Zlata 6.66 6⇓*i*P **Pn 14 32 53.7 -0.2**
ARR Arges 6.92 17 S **Pn 14 32 58.3 +0.8**
VOIR 7.08 19 S **Pn 14 33 01.3 +1.6**
UDBI Udbina 7.33 324 *e*Pn **Pn 14 33 02.5 -0.6**
UDBI Sn **Sn** **14 34 25.6 -0.6**
UDBI Udbina 7.33 324 *e*Pn **Pn 14 33 02.5 -0.6**
MLR Muntele Rosu 7.38 23 Pn **Pn 14 33 05.4 +1.5**
comp=N,0.4nm,0.3s,baz=256,slow=11,SNR=4.6
NVLJ Novalja 7.79 320 *e*Pn **Pn 14 33 09.8 +0.5**
NVLJ Sn **Sn** **14 34 35.0 -2.3**
NVLJ Novalja 7.79 320 *e*Pn **Pn 14 33 09.8 +0.5**
PLOR Plostina 7.93 25 S Pn 14 33 18.6 +7.3
BRTR Keskin Array B 9.21 80 Pn **Pn 14 33 31.2 +2.2**
comp=N,0.2nm,0.3s,baz=267,slow=12,SNR=3.2
AKASG Malin Array Be 13.03 21 Pn **Pn 14 34 18.6 -2.5**
comp=N,0.4nm,0.3s,baz=209,slow=12,SNR=2.7
FINES FINESS Array B 22.86 5 P **P 14 36 17.0 -2.1**
comp=N,2.4nm,1.0s,baz=191,slow=7.8,SNR=3.5
NB2 NORSAR Subarra 23.27 347 P **P 14 36 23.4 +0.1**
comp=Z,0.5nm,0.5s,baz=153,slow=10
NB2 NORSAR Subarra 23.27 347 P **P 14 36 23.4 +0.1**
comp=Z,0.5nm,0.5s,SNR=3.4
NOA NORSAR Array B 23.27 347 P **P 14 36 23.8 +0.5**
comp=Z,0.6nm,0.7s,baz=162,slow=9.4,SNR=4.0
ARCES ARCESS Array B 30.90 3 P **P 14 37 32.5 +0.3**
comp=Z,4.3nm,1.1s,baz=195,slow=10,SNR=4.3
TORD Torodi Ar. Bea 31.14 220 P **P 14 37 35.5 +0.7**
comp=Z,0.5nm,0.6s,baz=29,slow=9.7,SNR=5.7

WSAR Wadi Sarin 34.87 105 LR LR 14 57 02.7
comp=Z,12nm,18.6s,baz=31,slow=44
ASAR Alice Springs 121.22 97 PKP **PKPdf 14 50 11.0 +1.8**
comp=Z,0.1nm,0.6s,baz=336,slow=2.0,SNR=2.8

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*SOME **24** 14:35:08.9, 40.95N×79.20E, h5km, MS3.1*
*KRNET **24** 14:35:09.9±0.1, 40.82N×79.85E, mb3.3*
*BJI **24** 14:35:10.2, 41.02N×79.51E, h5km, mb4.1/10, mB4.0/3, ML3.9/10*
*IDC **24** 14:35:10.7±3.7, 40.99N×79.50E, h15km±23km, mb3.8/14, mb1 3.9/20, mb1mx3.8/59, mbtmp3.9/20, ML3.3/6, MS2.6/2, Ms1 2.6/2, ms1mx2.2/41, Error ellipse: s-maj=16.3km s-min=14.9km az=64.0*
*MOS **24** 14:35:14.4±1.0, 41.08N×79.58E, h57km, mb4.2/13, Error ellipse: s-maj=12.1km s-min=6.9km az=102.1*
*NEIC **24** 14:35:14.8±1.3, 41.13N×79.55E, h44km±11km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=8.7km az=191.0*
*NNC **24** 14:35:16.2±5.2, 41.27N×79.34E, h14km±25km, mb4.2, mpv3.9, Error ellipse: s-maj=32.0km s-min=14.3km az=142.0*
ISC 24 14:35:09.0±1.3, **40.92N**±0.03×**79.11E**±0.03, **h7**km±8km, **n100**, σ1§**86**/141, **mb4.0**/18, **30C-22D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**2.20**	**346**	*e*P	**Pg**	**14 35 50.3**	**-0.8**
SATY	321nm,0.8s			*e*S	**Sg**	**14 36 19.9**	**+0.2**
UZB	1μm,0.4s **Uzynbulak**	**2.23**	**358**	*e*P	**Pb**	**14 35 49.4**	**-0.3**
UZB	65nm,0.1s			*e*S	**Sb**	**14 36 18.1**	**+0.7**
SHLS	512nm,0.3s **Shalkode**	**2.25**	**7**	*e*P	**Pb**	**14 35 50.0**	**-0.1**
SHLS	201nm,0.2s			*e*S	**Sb**	**14 36 19.6**	**+1.5**
ZHN	4μm,0.5s **Zhinishke**	**2.30**	**348**	*e*P	**Pb**	**14 35 51.8**	**+0.8**
ZHN	154nm,0.2s			*e*S	**Sg**	**14 36 22.7**	**-0.2**
PDGK	1μm,0.3s **Podgornoye**	**2.42**	**7**⇓	*e*P	**Pb**	**14 35 51.7**	**-1.3**
PDGK	baz=354			⇓*i*S	**Sb**	**14 36 22.4**	**-0.8**
PDGK	baz=354 **Podgornoye**	**2.42**	**7**	⇑Pn	**Pb**	**14 35 51.9**	**-1.1**
PDGK	307nm,0.6s			⇑Lg	Lg	14 36 23.1	
PDGK	946nm,0.7s **Podgornoye**	**2.42**	**7**	*i* PN	**Pb**	**14 35 51.8**	**-1.3**
PDGK				pmax	pmax		
ULHL	comp=Z,307nm,0.6s **Ulahol**	**2.53**	**303**⇓	*i*P	**Pg**	**14 35 58.3**	**+0.9**
ULHL	baz=299			⇓*i*S	**Sg**	**14 36 32.7**	**+2.6**
KURS	baz=299 **Kuram**	**2.66**	**345**	*e*P	**Pb**	**14 35 57.4**	**+0.4**
KURS				*e*S	**Sg**	**14 36 32.4**	**-2.0**
TNSS	**Tian-Shan**	**2.66**	**323**	*e*P	**Pg**	**14 35 59.5**	**-0.5**
TNSS	comp=Z,168nm,0.5s			*e*S	**Sg**	**14 36 35.9**	**+1.5**
MDOK	comp=Z,490nm,0.7s **Medeo**	**2.72**	**326**	*e*P	**Pb**	**14 35 58.9**	**+0.9**
MDOK	comp=Z,123nm,0.6s			*e*S	**Sg**	**14 36 35.3**	**-0.9**
KOTS	comp=Z,572nm,0.7s **Kotyrbulak**	**2.75**	**328**	*e*P	**Pg**	**14 36 00.9**	**-0.7**
KOTS				*e*S	**Sg**	**14 36 38.5**	**+1.2**
KSH	**Kashi**	**2.78**	**241**	Pn	Pg	14 36 08.8	+6.6
KSH				Sn	Sg	14 36 52.3	+14
KSH				smax	smax		
KSH	comp=Z,160nm,0.5s			smax	smax		
KNDC	comp=Z,270nm,0.9s **Almaty**	**2.80**	**326**	⇓Pn	**Pb**	**14 35 57.1**	**-2.2**
KNDC	comp=Z,131nm,0.6s			⇑Lg	Lg	14 36 41.9	
AAA	comp=Z,283nm,0.6s **Alma-Ata**	**2.81**	**325**	*e*PN	**Pg**	**14 36 03.3**	**+0.5**
AAA				*e*S	**Sg**	**14 36 41.9**	**+2.6**
AAA				pmax	pmax		
AAA	comp=Z,258nm,0.2s			smax	smax		
IZV	comp=E,1μm,0.5s **Izvestkoviy**	**2.82**	**319**	*e*P	**Pg**	**14 36 01.9**	**-1.0**
IZV	comp=E,103nm,0.5s			*e*S	**Sg**	**14 36 39.9**	**+0.4**
BOOM	comp=E,521nm,0.6s **Boomskoye usch**	**2.84**	**305**⇓	*e*P	**Pg**	**14 36 03.7**	**+0.2**
BOOM	baz=301			⇓*e*S	**Sg**	**14 36 42.9**	**+2.6**
MTBS	baz=301 **Maitube**	**2.98**	**319**	*e*P	**Pb**	**14 36 03.1**	**+0.7**
MTBS	comp=E,33nm,0.4s			*e*S	**Sg**	**14 36 42.4**	**-2.2**
KST	comp=E,198nm,0.6s **Kastek**	**3.16**	**313**	*e*P	**Pb**	**14 36 05.8**	**+0.2**
KST	comp=E,11nm,0.7s			*e*S	**Sb**	**14 36 46.8**	**+2.4**
MNBS	comp=E,94nm,0.9s **Baschi**	**3.20**	**351**	*e*P	**Pb**	**14 36 05.8**	**-0.4**
MNBS				*e*S	**Sb**	**14 36 47.1**	**+1.6**
TKM2	**Tokmak 2**	**3.30**	**308**⇑	*i*P	**Pb**	**14 36 08.1**	**+0.1**
TKM2	baz=305			⇑*i*S	**Sg**	**14 36 51.7**	**-3.1**
TKM2	baz=305 **Tokmak 2**	**3.30**	**308**	⇑Pn	**Pb**	**14 36 08.0**	**+0.1**
TKM2	comp=E,20nm,0.5s			⇑Lg	Lg	14 37 00.0	
TKM2	comp=E,61nm,0.5s **Tokmak 2**	**3.30**	**308**	*i* PN	**Pb**	**14 36 08.0**	**+0.1**
TKM2				pmax	pmax		
KTBS	comp=Z,20nm,0.4s **Karatobe**	**3.32**	**328**	*e*P	**Pg**	**14 36 10.9**	**-1.7**
KTBS				*e*S	**Sg**	**14 36 55.7**	**+0.1**
CHKK	**Chushkaly**	**3.33**	**333**	*e*P	**Pg**	**14 36 11.5**	**-1.2**
CHKK	comp=Z,65nm,0.4s			*e*S	**Sg**	**14 36 56.9**	**+1.1**
DGS	comp=Z,500nm,0.4s **Degeres**	**3.40**	**314**	*e*P	**Pg**	**14 36 12.8**	**-1.3**
DGS	comp=Z,82nm,0.6s			*e*S	**Sg**	**14 36 58.4**	**+0.3**
DJR	comp=Z,154nm,0.6s **Jarkent**	**3.45**	**8**	*e*P	**Pb**	**14 36 09.2**	**-1.2**
DJR	comp=Z,38nm,0.4s			*e*S	**Sb**	**14 36 52.8**	**+0.2**
KBK	comp=Z,159nm,0.5s **Karagaybulak**	**3.56**	**301**⇓	*i*P	**Pb**	**14 36 12.8**	**+0.4**
KBK	baz=298			⇓*i*S	**Sb**	**14 36 58.2**	**+2.2**
KUU	baz=298 **Kurty**	**3.61**	**326**	*e*P	**Pg**	**14 36 16.7**	**-1.5**
KUU	comp=Z,18nm,0.8s			*e*S	**Sg**	**14 37 05.0**	**+0.1**
ARLS	comp=Z,204nm,1.0s **Aral**	**3.72**	**286**⇑	*e*P	**Pb**	**14 36 15.8**	**+0.7**
ARLS	baz=286			⇑*e*S	**Sg**	**14 37 04.4**	**-4.1**
FRU1	baz=286 **Bishkek**	**3.84**	**301**⇑	*i*P	**Pb**	**14 36 17.3**	**+0.2**
FRU1	baz=299			⇑*e*S	**Sb**	**14 37 06.8**	**+2.9**
AAK	baz=299 **Ala-Archa**	**3.85**	**298**	Pn	**Pb**	**14 36 16.8**	**-0.6**
AAK	comp=Z,1.4nm,0.3s,baz=115,slow=12,SNR=10			Pg	**Pg**	**14 36 24.0**	**+1.2**
AAK	comp=Z,4.9nm,0.3s,baz=102,slow=11,SNR=23			Lg	Lg	14 37 17.4	
AAK	comp=Z,7.5nm,0.3s,baz=206,slow=23,SNR=3.6 **Ala-Archa**	**3.85**	**298**⇑	*i*P	**Pb**	**14 36 16.4**	**-1.0**
AAK	baz=296			⇑*i*S	**Sb**	**14 37 05.1**	**+0.8**
AAK	baz=296 **Ala-Archa**	**3.85**	**298**	⇑Pn	**Pb**	**14 36 16.8**	**-0.6**
AAK	comp=Z,18nm,0.5s			⇑Lg	Lg	14 37 22.8	
AAK	comp=Z,28nm,0.6s **Ala-Archa**	**3.85**	**298***c*	*i*PN	**Pb**	**14 36 16.5**	**-1.0**
AAK	**Ala-Archa**	**3.85**	**298**	*e*Pn	**Pb**	**14 36 16.4**	**-1.0**
AAK				Pg	**Pg**	**14 36 24.0**	**+1.2**
AAK				Lg	Lg	14 37 17.4	
CHMS	**Chumysh**	**3.86**	**304**⇑	*i*P	**Pb**	**14 36 16.0**	**-1.4**
CHMS	baz=302			⇑*i*S	**Sb**	**14 37 04.2**	**-0.1**
AML	baz=302 **Almayashu**	**4.24**	**288**⇑	*i*P	**Pb**	**14 36 21.5**	**-2.6**
AML	baz=288			⇑*i*S	**Sb**	**14 37 16.0**	**+0.3**
ARSB	baz=288 **Arslanbob**	**4.65**	**277**⇑	*i*P	**Pb**	**14 36 28.5**	**-2.4**
ARSB	baz=278			⇑*e*S	**Sb**	**14 37 26.0**	**-1.1**
MNAS	baz=278 **Manas**	**5.19**	**290**⇓	*e*P	**Pb**	**14 36 36.1**	**-4.0**
MNAS	baz=289			⇓*i*S	**Sb**	**14 37 39.6**	**-3.0**
MNAS	baz=289 **Manas**	**5.19**	**290**	⇓Pn	**Pb**	**14 36 35.3**	**-4.8**
MNAS	comp=Z,1.3nm,0.7s			⇓Pg	**Pg**	**14 36 48.1**	**-0.2**
MNAS	comp=Z,16nm,0.7s			⇑Lg	Lg	14 38 00.3	
MNAS	comp=Z,31nm,0.7s **Manas**	**5.19**	**290**	PN	**Pb**	**14 36 35.3**	**-4.8**
MNAS				pmax	pmax		
ARK	comp=Z,1.0nm,0.7s **Arkit**	**5.45**	**282**⇓	*e*P	Pb	14 36 39.3	-5.2
ARK	baz=282			⇓*e*S	**Sb**	**14 37 44.8**	**-5.4**
MAKZ	baz=282 **Makanchi**	**6.24**	**18**	⇓Pn	**Pn**	**14 36 41.9**	**+0.4**
MAKZ	comp=Z,5.2nm,0.6s			⇑Sn	**Sn**	**14 37 49.8**	**-3.3**
MAKZ	comp=Z,10nm,0.6s			⇑Lg	Lg	14 38 22.4	
MAKZ	comp=Z,25nm,0.9s **Makanchi**	**6.24**	**18**	PN	**Pn**	**14 36 41.9**	**+0.4**
MAKZ				pmax	pmax		
MK31	comp=Z,5.0nm,0.6s **Makanchi Array**	**6.31**	**20**	⇓Pn	**Pn**	**14 36 42.8**	**+0.3**
MK31	comp=Z,1.7nm,0.3s,baz=201,slow=13,SNR=105			⇑Sn	**Sn**	**14 37 51.3**	**-3.4**
MK31	comp=Z,2.1nm,0.3s,baz=194,slow=17,SNR=7.2			⇑Lg	Lg	14 38 22.1	
MK31	comp=Z,30nm,0.8s,baz=208,slow=34 **Makanchi Array**	**6.31**	**20**	*i* PN	**Pn**	**14 36 42.7**	**+0.3**
MK31				pmax	pmax		
MKAR	comp=Z,2.0nm,0.3s **Makanchi Array**	**6.31**	**20**	Pn	**Pn**	**14 36 42.5**	**+0.2**
MKAR	comp=Z,2.6nm,0.3s,baz=201,slow=13,SNR=48			Sn	**Sn**	**14 37 50.8**	**-3.9**
MKAR	comp=Z,4.4nm,0.3s,baz=190,slow=23,SNR=5.7			LR	LR	14 39 35.8	
KK31	comp=Z,33nm,21.4s,baz=103,slow=43 **Karatay Array**	**6.76**	**292**	Pg	**Pg**	**14 37 17.4**	**-1.1**
KK31	comp=Z,4.8nm,0.6s,baz=117,slow=14,SNR=31			⇑Lg	Lg	14 38 51.6	
WMQ	comp=Z,9.3nm,0.7s,baz=93,slow=25,SNR=4.4 **Urumqi**	**6.99**	**63**	Pn	**Pn**	**14 36 51.6**	**-0.2**
WMQ				Sn	**Sn**	**14 38 08.0**	**-3.5**
WMQ				smax	smax		
WMQ	comp=Z,30nm,0.7s			smax	smax		
DHRM	comp=Z,47nm,0.5s **DHARAMSHALA**	**8.94**	**195**	*e*P	Pn	14 37 23.9	+5.2
DHRM				*e*S	**Sn**	**14 39 01.0**	**+1.1**
DHRM				AML	AML	14 39 10.7	
DHRM	comp=E,53nm,0.6s			AML	AML	14 39 11.1	
KURBB	comp=N,26nm,0.4s **Kurchatov Arra**	**9.71**	**358**	Pn	**Pn**	**14 37 29.4**	**+0.4**
KURBB	comp=N,0.1nm,0.3s,baz=177,slow=12,SNR=8.9			Sn	**Sn**	**14 39 17.6**	**-0.8**
KURBB	comp=N,0.1nm,0.3s,baz=188,slow=26,SNR=4.2			Lg	Lg	14 40 13.2	
KURBB	comp=N,0.2nm,0.3s,baz=184,slow=28,SNR=5.2 **Kurchatov Arra**	**9.71**	**358**	⇑Pn	**Pn**	**14 37 27.8**	**-1.2**
KURBB	comp=N,2.9nm,0.9s			⇓Lg	Lg	14 40 13.3	
KURK	comp=N,54nm,1.0s **Kurchatov**	**9.80**	**358**	⇓Pn	**Pn**	**14 37 32.5**	**+2.2**
KURK	comp=N,4.7nm,0.8s			⇑Lg	Lg	14 40 16.9	
KURK	comp=N,11nm,0.7s **Kurchatov**	**9.80**	**358**⇑	*i*P	**Pn**	**14 37 32.7**	**+2.4**
KURK	**Kurchatov**	**9.80**	**358**	Pn	**Pn**	**14 37 29.4**	**-0.9**
KURK				Sn	**Sn**	**14 39 17.6**	**-3.0**
KURK				Lg	Lg	14 40 13.2	
SMLA	**Simla**	**9.90**	**190**	*e*P	Pn	14 37 37.0	+5.4
SMLA				*e*S	**Sn**	**14 39 22.1**	**-0.8**
SMLA				AML	AML	14 39 26.1	
SMLA	comp=N,32nm,0.5s			AML	AML	14 39 28.2	
JOSI	comp=E,35nm,0.3s **Joshimath**	**10.35**	**178**	*e*P	Pn	14 37 45.9	+7.9
JOSI				*e*S	**Sn**	**14 39 36.1**	**+1.7**
DDI	**Dehra Dun**	**10.61**	**185**	*e*S	**Sn**	**14 39 40.6**	**0.0**
DDI				AML	AML	14 39 51.2	
DDI	comp=N,69nm,0.2s			AML	AML	14 39 51.4	
KHET	comp=E,111nm,0.2s **Khetri**	**13.10**	**193**	*e*S	**Sn**	**14 40 37.0**	**-4.5**
BVAR	**Borovoye Array**	**13.48**	**337**	Pn	**Pn**	**14 38 20.5**	**-0.1**
BVAR	comp=E,0.2nm,0.3s,baz=143,slow=14,SNR=4.1			Lg	Lg	14 42 12.5	
BRVK	comp=E,0.2nm,0.3s,baz=154,slow=24,SNR=3.4 **Borovoye**	**13.54**	**337**	*i* P	**P**	**14 38 31.0**	**+0.4**
BRVK	**Borovoye**	**13.54**	**337**	*e*Pn	**Pn**	**14 38 22.4**	**+1.0**
ZALV	**Zalesovo Beam**	**13.59**	**14**	Pn	**Pn**	**14 38 21.0**	**-1.0**
ZALV	comp=E,0.5nm,0.3s,baz=205,slow=13,SNR=6.0			Sn	**Sn**	**14 40 49.1**	**-4.0**
NVS	comp=E,0.4nm,0.3s,baz=209,slow=24,SNR=5.1 **Novosibirsk**	**14.20**	**10**	*e*P	**P**	**14 38 37.9**	**0.0**
NVS				pmax	pmax		
NVS	comp=N,10.0nm,0.8s			pmax	pmax		
NVS	comp=E,4.0nm,0.8s			pmax	pmax		
GTA	comp=Z,7.0nm,0.8s **Gaotai**	**15.90**	**89**	*e*P	**P**	**14 38 56.0**	**-1.1**
GTA				pP	pP	14 38 59.3	+0.3
GTA				sP	sP	14 39 02.3	+2.5
GTA				S	**Sn**	**14 41 53.8**	**+4.0**
GTA				sS	S	14 41 58.3	-6.0
GTA	comp=Z,9.0nm,1.1s			pmax	pmax		
GTA	comp=Z,38nm,5.0s			pmax	pmax		
AKTO	**Aktyubinsk**	**17.49**	**310**	P	**P**	**14 39 15.9**	**+1.5**
SHL	comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=4.0 **Shillong**	**18.64**	**141**	*e*P	**Pn**	**14 39 29.6**	**+1.9**
SHL				*ex*	x	14 40 04.0	
ARU	**Arti**	**20.49**	**326**	P	**P**	**14 39 47.7**	**+0.5**
ARU	comp=Z,4.5nm,0.6s,baz=136,slow=5.1,SNR=8.4 **Arti**	**20.49**	**326***c*	*i*P	Pn	14 39 49.2	-0.2
ARU						14 40 12.1	
ARU				S	**S**	**14 43 35.2**	**-1.4**
ARU				SS	**SnSn**	**14 43 54.9**	**+0.1**
ARU	comp=Z,13nm,1.2s			pmax	pmax		
ARU	**Arti**	**20.49**	**326**	*e*P	Pn	14 39 49.1	-0.3
SONM	**Songino Array**	**20.62**	**61**	P	**P**	**14 39 46.0**	**-3.0**
SONM	comp=Z,4.3nm,0.7s,baz=259,slow=11,SNR=27			LR	LR	14 49 09.2	
SONM	comp=Z,23nm,18.0s,baz=244,slow=41 **Songino Array**	**20.62**	**61**	*e*P	**P**	**14 39 48.0**	**-0.9**
SONM				pmax	pmax		
ULN	comp=Z,4.0nm,0.7s **Ulaanbaatar**	**21.07**	**61**⇓	*i*P	**P**	**14 39 51.4**	**-2.4**
ULN				pmax	pmax		
CD2	comp=Z,4.0nm,1.0s **Chengdu**	**22.26**	**109**	*e*P	**P**	**14 40 06.3**	**-0.3**
XAN	**Xi'an**	**24.56**	**97**	P	**P**	**14 40 27.9**	**-1.6**
XAN				pP	sP	14 40 34.8	+2.4
XAN				pmax	pmax		
CMAR	comp=Z,7.0nm,0.8s **Chiang Mai Arr**	**28.12**	**137**	P	**P**	**14 41 01.7**	**+0.1**
CMAR	comp=Z,0.2nm,0.4s,baz=311,slow=8.2,SNR=3.5			pmax	pmax		
CMAR	comp=Z,1.0nm,0.7s **Chiang Mai Arr**	**28.12**	**137**	*e*P	**P**	**14 41 06.2**	**+4.6**
CMAR				pmax	pmax		
OBN	comp=Z,3.0nm,0.9s **Obninsk**	**31.26**	**312**	*e*P	**P**	**14 41 30.0**	**+0.9**
OBN				pmax	pmax		
KLMR	comp=Z,3.0nm,0.9s **Klimovskoe**	**31.26**	**323**	*e*P	**P**	**14 41 31.8**	**+2.8**
KLMR				*e*S	**S**	**14 46 34.3**	**-1.3**
KLMR				pmax	pmax		
BRTR	comp=Z,15nm,1.3s **Keskin Array B**	**34

AKASG	Malin Array Be	35.51	303	P	P	14 42 08.6	+2.4
	comp=Z,0.9nm,0.3s,baz=67,slow=9.3,SNR=4.2						
FINES	FINESS Array B	37.70	321	P	P	14 42 26.4	+1.7
	comp=Z,1.6nm,0.6s,baz=97,slow=7.9,SNR=4.8						
FINES	FINESS Array B	37.70	321	eP	P	14 42 27.2	+2.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	Tiksi	39.29	22	eP	P	14 42 35.9	-2.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIXI	Tiksi	39.29	22	eP	P	14 42 35.9	-2.1
	comp=Z,3.0nm,0.5s						
ARCES	ARCESS Array B	39.74	334	P	P	14 42 43.0	+1.2
	comp=Z,4.6nm,0.8s,baz=105,slow=9.2,SNR=10.0						
NB2	NORSAR Subarra	44.86	320	P	P	14 43 21.8	-1.9
	comp=Z,1.5nm,0.6s,baz=86,slow=8.6						
NOA	NORSAR Array B	44.86	320	P	P	14 43 24.8	+1.1
	comp=Z,0.8nm,0.6s,baz=86,slow=7.8,SNR=3.9						
INK	Inuvik	68.38	12	P	P	14 46 10.1	-0.6
	comp=Z,4.3nm,1.1s,baz=346,slow=4.2,SNR=2.3						
ILAR	Eielson Array	68.66	19	P	P	14 46 11.1	-1.4
	comp=Z,0.4nm,0.5s,baz=315,slow=5.8,SNR=7.9						
TORD	Torodi Ar. Bea	72.04	272	P	P	14 46 35.3	+1.3
	comp=Z,0.8nm,0.6s,baz=40,slow=5.1,SNR=5.7						
KDAK	Kodiak Island	72.58	26	i P	P	14 46 36.1	-0.4
YKA	Yellowknife Ar	76.34	7	P	P	14 46 58.0	-0.3
	comp=Z,1.0nm,0.8s,baz=13,slow=5.9,SNR=3.1						
YKA	Yellowknife Ar	76.34	7	P	P	14 46 58.0	-0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	79.32	128	P	P	14 47 15.1	-0.3
	comp=Z,0.4nm,0.5s,baz=321,slow=6.0,SNR=4.7						
WRA	Warramunga Arr	79.32	128	P	P	14 47 15.1	-0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	Tennant Creek	79.32	128	eP	P	14 47 14.7	-0.7
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	Tennant Creek	79.32	128	eP	P	14 47 14.7	-0.7
	comp=Z,1.2nm,0.7s						
ASAR	Alice Springs	81.94	131	P	P	14 47 28.8	-0.7
	comp=Z,0.9nm,0.7s,baz=321,slow=5.1,SNR=17						

*ISCJB **24** 14:35:07.3±0.6, 50°.23N×0°.05×18°.70E±0°.04, h0km, Error ellipse: s-maj=6.9km s-min=2.6km az=20.0*
*CSEM **24** 14:35:08.4±0.4, 50°.23N×18°.72E, h2km, ML2.5, Error ellipse: s-maj=10.2km s-min=4.1km az=16.0*
*WAR **24** 14:35:08.8, 50°.27N×18°.82E, h1km, Mw2.5*
*PRU **24** 14:35:09.0, 50°.26N×18°.74E, h0km*
ISC 24 14:35:08.2±0.8, 50°.20N±0°.04×18°.75E±0°.02, h0km, n36, σ0s57/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.53	227	ePG	Pb	14 35 20.5	+0.1
OKC				eSG	Sb	14 35 30.2	+1.6
	comp=Z,25nm,0.6s						
OKC	Ostrava-Krasne	0.53	227	Pg	Pb	14 35 20.5	+0.1
OJC	Ojcow	0.68	88	ePg	Pg	14 35 20.7	-0.5
OJC				eSg	Sg	14 35 29.5	-0.4
OJC	Ojcow	0.68	88	ePg	Pg	14 35 20.7	-0.5
OJC				eSg	Sg	14 35 29.5	-0.4
OJC	Ojcow	0.68	88	ePg	Pg	14 35 20.7	-0.5
OJC				eSg	Sg	14 35 29.5	-0.4
LANS	Liptovska Anna	1.15	156	ePg	Pn	14 35 31.5	-0.1
LANS	Liptovska Anna	1.15	156	eSg	Sb	14 35 47.1	+0.6
LANS	Liptovska Anna	1.15	156	ePG	Pn	14 35 31.5	-0.1
LANS				eSG	Sb	14 35 47.1	+0.6
KRLC	Kraliky	1.27	265	ePG	Pg	14 35 32.3	-0.3
KRLC				eSG	Sb	14 35 50.2	+0.2
KRLC	Kraliky	1.27	265	Pg	Pg	14 35 32.3	-0.3
KRLC				Sg	Sb	14 35 50.2	+0.2
NIE	Niedzica	1.27	127	ePg	Pb	14 35 33.1	0.0
NIE				eSg	Sn	14 35 51.2	+0.1
NIE	Niedzica	1.27	127	ePg	Pb	14 35 33.1	0.0
NIE				eSg	Sn	14 35 51.2	+0.1
NIE	Niedzica	1.27	127	ePg	Pb	14 35 33.1	0.0
NIE				eSg	Sn	14 35 51.2	+0.1
DPC	Dobruska-Polom	1.56	276	ePG	Pn	14 35 37.1	-0.2
DPC				eSG	Sn	14 35 58.3	0.0
	comp=Z,7.7nm,0.5s						
DPC	Dobruska-Polom	1.56	276	Pg	Pn	14 35 37.1	-0.2
DPC				Sg	Sn	14 35 58.3	0.0
	7.7nm,0.5s						
KSP	Ksiaz	1.69	293	ePg	Pb	14 35 40.5	+0.2
KSP				eSg	Sg	14 36 02.9	+0.3
KSP	Ksiaz	1.69	293	ePg	Pb	14 35 40.5	+0.2
KSP				eSg	Sg	14 36 02.9	+0.3
KSP	Ksiaz	1.69	293	ePg	Pb	14 35 40.5	+0.2
KSP				eSg	Sg	14 36 02.9	+0.3
VYHS	Vyhne	1.71	178	ePg	Pn	14 35 39.6	+0.3
VYHS				eSn	Sb	14 36 02.5	0.0
VYHS	Vyhne	1.71	178	ePG	Pn	14 35 39.6	+0.3
VYHS				eSN	Sn	14 36 01.8	0.0
VYHS				eLG	Lg	14 36 06.5	
VYHS	Vyhne	1.71	178	ePG	Pn	14 35 39.5	+0.3
VYHS				eSN	Sb	14 36 02.5	0.0
VYHS				eLG	Lg	14 36 06.4	
UPC	Upice	1.78	281	eSG	Sg	14 36 05.5	+0.1
	comp=Z,6.9nm,0.4s						
UPC	Upice	1.78	281	Sg	Sg	14 36 05.5	+0.1
	6.9nm,0.4s						
STHS	Stebnicka Huta	1.80	115	ePn	Pb	14 35 42.1	0.0
STHS				eSn	Sg	14 36 05.9	0.0
STHS	Stebnicka Huta	1.80	115	ePN	Pb	14 35 42.0	0.0
STHS				eSN	Sg	14 36 06.2	+0.3
STHS				eLG	Lg	14 36 11.8	
STHS	Stebnicka Huta	1.80	115	ePN	Pb	14 35 42.1	0.0
STHS				eSN	Sg	14 36 05.9	0.0
STHS				eLG	Lg	14 36 11.8	
KECS	Kecovo	2.06	146	ePn	Pb	14 35 46.5	0.0
KECS				eSg	Sg	14 36 14.5	+0.1
KECS	Kecovo	2.06	146	ePN	Pb	14 35 46.5	0.0
KECS				eSG	Sg	14 36 14.4	+0.1
KECS				eLG	Lg	14 36 27.5	
GOPC	GO Pecny, Ondr	2.57	265	eSG	Sb	14 36 28.6	+1.3
GOPC	GO Pecny, Ondr	2.57	265	Sg	Sb	14 36 28.6	+1.3
PVCC	Panska Ves	2.70	279	eSG	Sg	14 36 34.6	-0.2
	comp=Z,7.5nm,0.3s						
PVCC	Panska Ves	2.70	279	Sg	Sg	14 36 34.6	-0.2
	7.5nm,0.3s						
PRU	Pruhonice	2.72	267	eSG	Sg	14 36 33.7	-1.8
PRU	Pruhonice	2.72	267	Sg	Sg	14 36 33.7	-1.8
KHC	Kasperske Hory	3.52	254	eSG	Sg	14 37 00.3	-1.1
KHC	Kasperske Hory	3.52	254	Sg	Sg	14 37 00.3	-1.1

*CSEM **24** 14:42:45.9±0.2, 38°.75N×43°.25E, h8km, ML3.3, Error ellipse: s-maj=5.8km s-min=3.8km az=67.0*
*DDA **24** 14:42:45.6, 38°.71N×43°.16E, h4km, Ml3.7*
*ISK **24** 14:42:45.4, 38°.76N×43°.21E, h9km, ML3.3*
*ISCJB **24** 14:42:46.2±0.6, 38°.74N±0°.02×43°.20E±0°.04, h5km±6km, Error ellipse: s-maj=5.9km s-min=3.8km az=161.8*
ISC 24 14:42:46.7±0.9, 38°.74N±0°.02×43°.19E±0°.03, h16km±7km, n47, σ1s19/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	133	ePG	Pg	14 42 51.6	-0.1
VANB				eSG	Sg	14 42 56.4	+1.4
VANB	Van	0.21	133	ePg	Pg	14 42 51.6	-0.1
GEVA	Gevas	0.44	194	i P	Pg	14 42 54.1	-1.5
GEVA				i S	Sb	14 43 01.8	-0.8
GEVA	Gevas	0.44	194	P	Pg	14 42 54.1	-1.5
GEVA				S	Sb	14 43 01.8	-0.8
TUTA	Tutak	0.72	336	i P	Pb	14 43 00.4	-0.7
TUTA				i S	Sb	14 43 10.1	-0.9
TUTA	Tutak	0.72	336	P	Pb	14 43 00.4	-0.7
TUTA				S	Sb	14 43 10.1	-0.9
AGRB	Hanur-Agry	0.85	349	ePG	Pb	14 43 02.2	-1.0
AGRB				eSG	Sb	14 43 13.6	-0.9
AGRB	Hanur-Agry	0.85	349	ePg	Pb	14 43 02.2	-1.0
AGRB				eSg	Sb	14 43 13.6	-0.9
DYDN	Diyadin	0.89	25	i P	Pg	14 43 02.7	-1.4
DYDN				i S	Sn	14 43 18.6	+1.0
DYDN	Diyadin	0.89	25	P	Pg	14 43 02.7	-1.4
BASK	Baskale_VAN	0.94	137	i P	Pg	14 43 02.8	-2.1
BASK				i S	Sb	14 43 17.2	+0.3
BASK	Baskale_VAN	0.94	137	P	Pg	14 43 02.8	-2.1
BASK				S	Sb	14 43 17.2	+0.3
EKAR	Karacoban	1.02	301	i P	Pn	14 43 06.9	+0.3
EKAR				i S	Sn	14 43 25.2	+4.4
EKAR	Karacoban	1.02	301	P	Pn	14 43 06.9	+0.3
EATA	Eleskirt	1.25	334	i P	Pg	14 43 09.3	-1.5
EATA				i S	Sn	14 43 27.4	+1.0
EATA	Eleskirt	1.25	334	P	Pg	14 43 09.3	-1.5
EATA				S	Sn	14 43 27.5	+1.0
VRTB	Varto-Mus	1.42	288	ePN	Pn	14 43 12.0	0.0
VRTB	Varto-Mus	1.42	288	i P	Pg	14 43 12.9	-1.1
VRTB				i S	Sg	14 43 33.5	+1.0
VRTB	Varto-Mus	1.42	288	ePn	Pn	14 43 12.0	0.0
VRTB	Varto-Mus	1.42	288	P	Pg	14 43 12.9	-1.1
VRTB				S	Sg	14 43 33.5	+1.0
CUKT	Cukurca	1.52	167	ePN	Pb	14 43 14.0	-0.7
CUKT	Cukurca	1.52	167	ePn	Pb	14 43 14.0	-0.7
BNGL	BINGOL	1.61	278	i P	Pb	14 43 16.1	0.0
BNGL				i S	Sg	14 43 37.3	-1.4
SVAN	Silvan-Diyarba	1.67	250	ePN	Pn	14 43 15.8	+0.4
SVAN	Silvan-Diyarba	1.67	250	i P	Pb	14 43 16.8	-0.3
SVAN				i S	Sg	14 43 39.7	-0.9
SVAN	Silvan-Diyarba	1.67	250	ePn	Pn	14 43 15.8	+0.4
SVAN	Silvan-Diyarba	1.67	250	P	Pb	14 43 16.8	-0.3
SVAN				S	Sg	14 43 39.7	-0.9
ERZM	Erzurum	1.83	310	i P	Pb	14 43 19.9	-0.2
ERZM				i S	Sg	14 43 48.3	+2.5
ERZM	Erzurum	1.83	310	P	Pb	14 43 19.9	-0.2
SENK	Senkaya-Erzuru	1.93	341	ePN	Pn	14 43 19.0	-0.1
SENK	Senkaya-Erzuru	1.93	341	ePn	Pn	14 43 19.0	-0.1
EAK	Akyaka	1.97	9	i P	Pg	14 43 24.5	-0.1
BNGB	Bing¶‖	1.98	278	ePN	Pn	14 43 20.6	+0.9
BINT	Bingol	2.12	275	ePn	Pn	14 43 20.6	-1.0
YEDI	Yedisu-Bingol	2.18	290	ePN	Pn	14 43 23.5	+1.1
YEDI	Yedisu-Bingol	2.18	290	ePn	Pn	14 43 23.5	+1.1
DDEM	Demirkent	2.42	333	i P	Pb	14 43 30.5	+0.6
DDEM	Demirkent	2.42	333	P	Pb	14 43 30.5	+0.6
MAZI	Mazidag	2.52	240	ePN	Pn	14 43 27.7	+0.6
MAZI	Mazidag	2.52	240	ePn	Pn	14 43 27.7	+0.6
DAGI	Agillar	2.54	338	i P	Pg	14 43 33.1	-2.2
PTK	Pertek	2.97	274	ePN	Pn	14 43 34.3	+0.9
PTK	Pertek	2.97	274	ePn	Pn	14 43 34.3	+0.9
SVRC	Sivrice-ELAZID	3.07	264	ePN	Pn	14 43 35.8	+1.1
SVRC	Sivrice-ELAZID	3.07	264	ePn	Pn	14 43 35.8	+1.1
URFA	Urfa	3.68	251	ePN	Pn	14 43 44.4	+1.3
URFA	Urfa	3.68	251	ePn	Pn	14 43 44.4	+1.3

*ISCJB **24** 14:43:41.5±1.0, 23°.95N±0°.02×122°.31E±0°.02, h10km±7km, Error ellipse: s-maj=4.0km s-min=2.5km az=149.7*
*TAP **24** 14:43:41.5, 23°.96N×122°.28E, h10km±1km, ML2.8, D*
*JMA **24** 14:43:41.8±0.2, 23°.97N×122°.27E, h16km±5km, M2.0*
ISC 24 14:43:41.2±1.1, 23°.95N±0°.03×122°.29E±0°.02, h11km±9km, n38, σ0s63/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.64	282	P	Pb	14 43 54.9	+0.4
TWD	baz=281			eS	Sb	14 44 04.3	+0.9
	baz=281						
ENA	Nanau	0.69	314	P	Pg	14 43 54.8	+0.3
ENA	baz=314			S	Sb	14 44 05.4	+0.6
	baz=314						
TWC	Suao	0.77	329	eP	Pg	14 43 55.8	-0.3
TWC	baz=329			eS	Sg	14 44 04.8	-1.3
	baz=329						
JYNG	Yonagunijimaku	0.78	50	P	Pg	14 43 56.6	+0.3
JYNG				eS	Sg	14 44 06.1	-0.5
ESL	Shilin	0.79	260	P	Pg	14 43 56.9	+0.3
ESL	baz=259			eS	Sb	14 44 07.9	+0.2
	baz=259						
YOJ	Yonaguni jima	0.83	52	P	Pg	14 43 57.7	+0.3
YOJ				S	Sg	14 44 07.5	-0.8
EGS		0.95	340	eP	Pn	14 44 00.1	-0.3
EGS	baz=341			eS	Sg	14 44 11.7	-0.1
	baz=341						
ENTT	Nioudou	0.95	316	eP	Pn	14 44 00.2	-0.3
ENTT	baz=316			eS	Sb	14 44 12.4	+0.1
	baz=316						
WHF	Hehuan Shan	0.95	282	eP	Pg	14 43 59.2	-0.4
NNS	baz=281 Nan Shan	0.96	300	P	Pb	14 44 00.3	+0.3
	baz=300						
EHY	Hungye	0.99	244	P	Pg	14 44 00.8	+0.5
EHY	baz=242			eS	Sg	14 44 13.5	+0.4
	baz=242						
TWT	Tachien	1.06	287	eP	Pn	14 44 02.5	+0.4
TWT	baz=286			eS	Sn	14 44 17.1	+0.2
	baz=286						
TWF1	Yuli	1.08	237	i P	Pb	14 44 01.9	-0.1
TWF1	baz=235			eS	Sg	14 44 16.8	+0.5
	baz=235						
TWB1	Santiao Chiao	1.09	346	P	Pg	14 44 02.3	+0.1
TWB1	baz=346			eS	Sn	14 44 17.1	-0.3
	baz=346						
NSK	Sanguang	1.11	311	eP	Pb	14 44 02.6	+0.1
NSK	baz=310			eS	Sg	14 44 17.2	0.0
	baz=310						
CHKT	Chengkung	1.20	225	eS	Sb	14 44 17.3	-2.1
NWF	baz=224 Wu-fen Shan	1.21	338	eP	Pg	14 44 05.0	+0.6
NWF	baz=337			eS	Sb	14 44 19.1	-0.6
	baz=337						
SMLT	Sun Moon Lake	1.27	267	P	Pn	14 44 05.1	+0.1
YUS	baz=266 Yu-Shan	1.31	250	eP	Pb	14 44 06.2	+0.2
YUS	baz=248			eS	Sb	14 44 22.5	-0.5
	baz=248						
TYC	Yuchr	1.31	268	P	Pn	14 44 05.5	+0.1
NSTT	baz=267 Nanjuang	1.35	300	eP	Pg	14 44 07.1	-0.1
IRIF	baz=300 Iriomote-Funau	1.37	74	P	Pb	14 44 07.1	+0.2
IRIF				S	Sb	14 44 24.9	+0.4
ELDTW	Lidau	1.39	237	eP	Pn	14 44 06.0	-0.7
ELDTW	baz=236			eS	Sn	14 44 23.2	-1.8
	baz=236						
ALS	Alishan	1.43	252	eP	Pb	14 44 08.0	0.0
ALS	baz=251			eS	Sb	14 44 26.2	0.0
	baz=251						
TWQ1	Liyutan	1.44	286	eP	Pb	14 44 08.3	+0.3
TWQ1	baz=285						
CHN5	Tsauling	1.51	257	eP	Pb	14 44 09.6	+0.2
CHN5	baz=256			eS	Sb	14 44 29.1	+0.5
	baz=256						
TWG	Pinlang	1.58	225	eP	Pn	14 44 09.8	+0.6
TWG	baz=224			eS	Sn	14 44 28.2	-1.5
	baz=224						
WGK	Gukeng	1.60	261	eP	Pn	14 44 09.8	+0.4
WGK	baz=260			eS	Sg	14 44 32.5	-0.2
	baz=260						
JKRS	Kuro-shima	1.60	79	P	Pb	14 44 10.6	-0.2
STYT	Tauyuan	1.61	241	P	Pn	14 44 10.1	+0.5
STYT	baz=240			S	Sn	14 44 30.5	+0.1
	baz=240						
CHN4	Tsaushan	1.66	249	eP	Pb	14 44 11.8	0.0
CHN4	baz=248			eS	Sb	14 44 33.7	+0.8
	baz=248						
WTP	Ta-pu	1.69	246	eP	Pb	14 44 12.2	-0.1
WTP	baz=244			eS	Sg	14 44 35.3	-0.2
	baz=244						
JIJ	Ishigaki jima	1.75	76	P	Pn	14 44 12.1	+0.7
JIJ				eS	Sn	14 44 33.8	+0.1
CHN1	Nanshi	1.78	245	eP	Pb	14 44 14.0	+0.1
CHN1	baz=244			eS	Sb	14 44 37.0	+0.7
	baz=244						
TWK	Hsinying	1.78	248	eP	Pb	14 44 14.1	+0.2
TWK	baz=247			eS	Sg	14 44 37.7	-0.9
	baz=247						
JISG	Ishigakijimahi	1.95	71	P	Pn	14 44 14.8	+0.5
JISG				eS	Sn	14 44 38.0	-0.8
EAST	Anshuo	2.05	221	eP	Pb	14 44 17.7	-0.7
SCZT	baz=219 Fangliau	2.19	225	eS	Sn	14 44 46.2	+1.5
	baz=223						

*IDC **24** 14:48:07.0±2.5, 38°.73N×143°.29E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.3/51, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=79.0km s-min=25.6km az=72.0*
*JMA **24** 14:48:23.8±0.1, 39°.92N×142°.41E, h39km±1km, M3.3*
ISC 24 14:48:22.1±2.5, 39°.96N±0°.06×142°.5E±0°.1, h31km±12km, n16, σ0s76/22, mb3.3/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.46	268	P	Pn	14 48 33.5	+0.9
JTH				S	Sn	14 48 40.1	+0.4
MIYJ	Miyakonagasawa	0.62	233	P	Pn	14 48 35.2	+0.4
MIYJ				S	Sb	14 48 43.3	+0.1
JANG	Nango	0.84	300	P	Pb	14 48 38.5	+0.3
JANG				S	Sb	14 48 49.0	-0.2
JKZ	Kuzumaki	0.87	272	P	Pb	14 48 39.5	+0.7
JKZ				eS	Sb	14 48 50.4	+0.2
JOM	Ohasama	1.02	242	P	Pn	14 48 41.2	+0.9
JOM				eS	Sb	14 48 53.9	-0.6
OFUJ	Ofunato	1.07	215	P	Pn	14 48 41.6	+0.6
JTM	Tenmabayashi	1.35	308	P	Pb	14 48 46.7	-0.1
JTM				eS	Sb	14 49 03.9	+0.1
JMK	Ichinoseki	1.39	224	P	Pn	14 48 46.4	+1.0
JMK				S	Sn	14 49 03.6	+0.9
JAH	Hinai	1.42	280	P	Pb	14 48 47.5	-0.5
JAH				S	Sb	14 49 04.7	-1.1
JRG	Rokugo	1.52	249	P	Pb	14 48 48.7	-1.0
ASAJ	Asahikawa	4.16	1	Pn	Pn	14 49 28.7	+5.3
	1.0nm,0.3s,baz=216,slow=20,SNR=7.5						
SONM	Songino Array	26.96	299	P	P	14 53 59.9	-0.9
	0.2nm,0.3s,baz=64,slow=9.8,SNR=2.5						
ZALV	Zalesovo Beam	40.61	310	P	P	14 55 59.5	+0.7
	0.5nm,0.4s,baz=89,slow=5.9,SNR=2.5						
MKAR	Makanchi Array	43.33	300	P	P	14 56 20.5	-0.6
	0.3nm,0.6s,baz=93,slow=9.1,SNR=3.1						
KURBB	Kurchatov Arra	44.91	306	P	P	14 56 32.6	-1.0
	0.6nm,0.4s,baz=80,slow=8.8,SNR=3.7						
ASAR	Alice Springs	63.80	189	P	P	14 58 33.5	-18
	0.1nm,0.4s,baz=14,slow=8.7,SNR=9.7						

*ISK **24** 14:48:38.8, 38°.68N×43°.21E, h9km, MD3.0*
*CSEM **24** 14:48:39.9±0.4, 38°.69N×43°.21E, h10km, MD3.0, Error ellipse: s-maj=10.4km s-min=6.7km az=69.0*
*DDA **24** 14:48:41.1, 38°.66N×43°.10E, h7km, Ml2.9*
ISC 24 14:48:40.2±1.1, 38°.68N±0°.02×43°.16E±0°.03, h2km±11km, n29, σ1s21/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	114	ePG	Pg	14 48 44.0	0.0
VANB				eSG	Sg	14 48 47.4	+0.9
VANB	Van	0.19	114	ePg	Pg	14 48 44.0	0.0
VANB				eSg	Sg	14 48 47.4	+0.9
GEVA	Gevas	0.37	193	i P	Pg	14 48 46.8	-0.6
GEVA				i S	Sg	14 48 53.2	+0.9
GEVA	Gevas	0.37	193	P	Pg	14 48 46.8	-0.6
GEVA				S	Sg	14 48 53.2	+0.9
AGRB	Hanur-Agry	0.91	352	ePG	Pg	14 48 57.1	-0.5
AGRB				eSG	Sg	14 49 09.7	+0.2
AGRB	Hanur-Agry	0.91	352	ePg	Pg	14 48 57.1	-0.5
AGRB				eSg	Sg	14 49 09.7	+0.2
EKAR	Karacoban	1.03	304	i P	Pn	14 49 01.6	-0.3
EKAR				i S	Sn	14 49 18.2	+1.1
EKAR	Karacoban	1.03	304	P	Pn	14 49 01.6	-0.3
HAKT	HAKKARI	1.20	159	i P	Pg	14 49 01.2	-1.9
HAKT				i S	Sn	14 49 22.3	+1.3
HAKT	HAKKARI	1.20	159	P	Pg	14 49 01.2	-1.9
HAKT				S	Sn	14 49 22.3	+1.3
EATA	Eleskirt	1.29	336	i P	Pn	14 49 04.7	-0.9
EATA				i S	Sn	14 49 24.9	+1.2
EATA	Eleskirt	1.29	336	P	Pn	14 49 04.7	-0.9
EATA				S	Sn	14 49 24.9	+1.2
SIRN	S¯–rnak	1.32	207	i P	Pg	14 49 05.4	-0.1
SIRN				i S	Sg	14 49 24.5	+1.9
SIRN	S¯–rnak	1.32	207	P	Pg	14 49 05.4	-0.1
SIRN				S	Sg	14 49 24.5	+1.9
VRTB	Varto-Mus	1.42	290	ePN	Pn	14 49 05.8	-1.3
VRTB	Varto-Mus	1.42	290	ePn	Pn	14 49 05.8	-1.3
CUKT	Cukurca	1.47	166	i P	Pg	14 49 09.1	+0.7
CUKT	Cukurca	1.47	166	P	Pg	14 49 09.1	+0.7
SVAN	Silvan-Diyarba	1.63	252	ePN	Pn	14 49 08.8	-1.1
SVAN	Silvan-Diyarba	1.63	252	i P	Pb	14 49 10.2	-0.8
SVAN				i S	Sg	14 49 33.4	+0.8
SVAN	Silvan-Diyarba	1.63	252	ePn	Pn	14 49 08.8	-1.1
SVAN	Silvan-Diyarba	1.63	252	P	Pb	14 49 10.2	-0.8
SVAN				S	Sg	14 49 33.4	+0.8
HOMI	Horasan	1.68	325	i P	Pn	14 49 10.7	-0.2
HOMI				i S	Sg	14 49 37.4	+3.1
BTMN	Batman	1.68	243	i P	Pn	14 49 09.4	-1.3
BTMN				i S	Sg	14 49 35.4	+1.1
BTMN	Batman	1.68	243	P	Pn	14 49 09.4	-1.3
BTMN				S	Sg	14 49 35.4	+1.1
BNGB	Bing¶‖	1.97	280	ePN	Pn	14 49 13.8	-0.8
BINT	Bingol	2.10	276	ePn	Pn	14 49 13.8	-2.7
MAZI	Mazidag	2.46	241	ePN	Pn	14 49 20.9	-0.6
MAZI	Mazidag	2.46	241	ePn	Pn	14 49 20.9	-0.6

*DDA **24** 15:09:12.1, 38°.66N×43°.25E, h6km, Ml4.2*
*ISK **24** 15:09:12.0, 38°.69N×43°.30E, h2km, ML3.3*
*ISCJB **24** 15:09:13.6±0.6, 38°.67N±0°.02×43°.38E±0°.06, h15km±5km, Error ellipse: s-maj=8.2km s-min=4.0km az=4.5*
*CSEM **24** 15:09:13.0±0.2, 38°.68N×43°.27E, h2km, ML3.3, Error ellipse: s-maj=6.3km s-min=4.1km az=79.0*
ISC 24 15:09:13.1±1.0, 38°.67N±0°.03×43°.41E±0°.04, h19km±2km, n48, σ0s99/72, 4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.08	191	PG	Pg	15 09 16.8	-0.1
VANB				eSG	Sg	15 09 20.3	+0.8
VANB	Van	0.08	191	i Pg	Pg	15 09 16.8	-0.1
VANB				eSg	Sg	15 09 20.3	+0.8
GEVA	Gevas	0.45	217	‖i P	Pg	15 09 19.8	-2.7
GEVA				i S	Sg	15 09 27.0	-1.7
GEVA	Gevas	0.45	217	P	Pg	15 09 19.8	-2.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**1.60**	**288**	*i* P	**Pn**	**15 09 40.0**	**-0.5**
VRTB				*i* S	**Sb**	**15 10 02.6**	**+0.6**
VRTB	**Varto-Mus**	**1.60**	**288**	P	**Pn**	**15 09 40.0**	**-0.5**
VRTB	**Varto-Mus**	**1.60**	**288**	*e*Pn	**Pb**	**15 09 41.8**	**-0.3**
VRTB				S	**Sb**	**15 10 02.6**	**+0.6**
DIGO	**Kars**	**1.74**	**359**	*i* P	**Pb**	**15 09 44.6**	**0.0**
DIGO	**Kars**	**1.74**	**359**	P	**Pb**	**15 09 44.6**	**0.0**
BNGL	**BINGOL**	**1.79**	**280**	*i* P	**Pn**	**15 09 43.4**	**+0.3**
BNGL				*i* S	**Sn**	**15 10 06.6**	**+1.2**
HOMI	**Horasan**	**1.80**	**320**	*i* P	**Pb**	**15 09 44.5**	**-1.1**
HOMI				*i* S	**Sb**	**15 10 07.3**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.81**	**254**	*e*PN	**Pn**	**15 09 43.7**	**+0.4**
SVAN				*e*SN	**Sb**	**15 10 08.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.81**	**254**	⇓*i*P	**Pn**	**15 09 44.1**	**+0.8**
SVAN				*i* S	**Sb**	**15 10 07.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.81**	**254**	*e*Pn	**Pn**	**15 09 43.7**	**+0.4**
SVAN				S	**Sb**	**15 10 07.8**	**-0.2**
BTMN	**Batman**	**1.85**	**246**	*i* P	**Pn**	**15 09 44.9**	**+1.0**
BTMN				*i* S	**Sn**	**15 10 08.5**	**+1.6**
ERZM	**Erzurum**	**2.01**	**308**	*i* P	**Pn**	**15 09 47.3**	**+1.1**
ERZM	**Erzurum**	**2.01**	**308**	P	**Pn**	**15 09 47.3**	**+1.1**
BNGB	**Bing¶‖**	**2.15**	**279**	*e*PN	**Pn**	**15 09 49.2**	**+1.1**
BINT	**Bingol**	**2.29**	**276**	*e*Pn	**Pn**	**15 09 49.2**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.36**	**290**	*e*PN	**Pn**	**15 09 52.1**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.36**	**290**	*e*Pn	**Pn**	**15 09 52.1**	**+1.2**
MARD	**Mardin**	**2.48**	**238**	*i* P	**Pn**	**15 09 53.4**	**+0.8**
MARD				*i* S	**Sb**	**15 10 26.2**	**-1.1**
MAZI	**Mazidag**	**2.63**	**244**	*e*PN	**Pn**	**15 09 55.8**	**+1.2**
MAZI	**Mazidag**	**2.63**	**244**	*e*Pn	**Pn**	**15 09 55.8**	**+1.2**
DAGI	**Agillar**	**2.66**	**335**	*i* P	**Pb**	**15 10 00.5**	**+0.3**
PTK	**Pertek**	**3.15**	**275**	*e*PN	**Pn**	**15 10 03.0**	**+1.2**
PTK	**Pertek**	**3.15**	**275**	*e*Pn	**Pn**	**15 10 03.0**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.23**	**266**	*e*PN	**Pn**	**15 10 04.3**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.23**	**266**	*e*Pn	**Pn**	**15 10 04.3**	**+1.4**
KELT	**Kelkit**	**3.54**	**296**	*i* P	**Pb**	**15 10 15.7**	**+0.5**

DJA 24 15:10:53.5±0.4, 3°S±6°×14°0E±°, h26km±4km, M4.0/7, mb4.8/7, MLv3.6/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.25**	**296**	P	Pn	15 11 01.5	0.0
GENI				S	Sb	15 11 06.8	+2.6
JAY	**Jayapura**	**0.36**	**60**	P	Pn	15 11 02.6	-0.6
JAY				S	Sn	15 11 10.1	+0.6
SMPI	**Sarmi**	**1.82**	**293**	P	Pn	15 11 23.2	0.0
WAMI	**Wamena**	**2.05**	**235**	P	Pn	15 11 25.7	-0.6
BAKI	**Biak**	**4.54**	**289**	P	Pn	15 12 01.3	+0.8
MMPI	**Merauke**	**5.73**	**180**	P	Pn	15 12 17.9	+1.0
RKPI	**Ransiki, Papua**	**6.32**	**281**	P	Pn	15 12 25.2	+0.1
KMPI	**Kaimana, Papua**	**6.74**	**262**	P	Pn	15 12 31.2	+0.3
FAKI	**Fak Fak**	**8.13**	**268**	P	Pn	15 12 49.5	-0.5
SAUI	**Saumlaki**	**10.46**	**240**	P	Pn	15 13 22.1	+0.2
BNDI	**Bandanaira**	**10.62**	**260**	P	Pn	15 13 24.1	0.0
MSAI	**Masohi**	**11.46**	**266**	P	Pn	15 13 34.2	-1.5

DJA 24 15:14:00.7±0.2, 0°S±2°×12°2E±°, h10km, M4.1/19, mb4.2/7, mB5.4/3, MLv4.0/19, Mw(mB)4.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.61**	**213**	P	Pg	15 14 11.9	-0.7
APSI				S	Sg	15 14 20.9	+0.2
MRSI	**Marisa**	**0.86**	**357**	P	Pb	15 14 17.9	+0.1
MRSI				S	Sb	15 14 29.4	0.0
LUWI	**Luwuk**	**1.02**	**129**	P	Pg	15 14 20.3	-0.1
LUWI				S	Sb	15 14 34.6	+0.6
MPSI	**Mapaga**	**2.20**	**289**	P	Pn	15 14 36.2	-1.2
PCI	**Palu**	**2.20**	**257**	P	Pb	15 14 39.3	-1.4
KMSI	**Cibinong**	**2.22**	**64**	P	Pg	15 14 44.5	+1.2
TTSI	**Tana Toraja**	**3.41**	**219**	P	Pn	15 14 55.2	+1.2
KDI	**Kendari**	**3.60**	**170**	P	Pn	15 14 56.1	-0.5
SPSI	**Sidrap Palu**	**4.18**	**212**	P	Pn	15 15 05.5	+0.9
SANI	**Sanana**	**4.33**	**112**	P	Pn	15 15 06.0	-0.7
BNSI	**Bone**	**4.40**	**205**	P	Pn	15 15 07.7	+0.1
BBSI	**Bau Bau**	**5.10**	**173**	P	Pn	15 15 17.4	+0.2
BKSI	**Bulukumba**	**5.24**	**201**	P	Pn	15 15 19.0	-0.1
SGSI	**Sangihe**	**5.38**	**41**	P	Pn	15 15 20.9	-0.2
LBMI	**Labuha**	**5.53**	**93**	P	Pn	15 15 22.8	-0.3
NLAI	**Namlea**	**5.85**	**119**	P	Pn	15 15 28.0	+0.5
BSSI	**Bau Bau, Buton**	**5.91**	**195**	P	Pn	15 15 28.4	+0.1
AAI	**Ambon**	**7.02**	**118**	P	Pn	15 15 43.5	-0.2
MTKI	**Muara Teweh, K**	**7.11**	**266**	P	Pn	15 15 44.8	0.0
MSAI	**Masohi**	**7.54**	**113**	P	Pn	15 15 50.9	+0.1

*ISCJB **24** 15:14:18.5±1.3, 37.°78N±0.°06×143.°6E±0.°1, h19km, mb3.4/5, Error ellipse: s-maj=12.1km s-min=9.0km az=6.7*
*JMA **24** 15:14:19.5±0.2, 37.86N×143.63E, h37km, M3.3*
*IDC **24** 15:14:21.6±1.4, 36.°94N×143.°10E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/35, mbtmp3.4/5, Error ellipse: s-maj=45.0km s-min=27.8km az=83.0*

ISC 24 15:14:18.3±1.7, 37.83N±0.°08×143.°7E±0.°1, h19km, n21, σ0.96/20, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.96**	**289**	P	**Pn**	**15 14 50.5**	**0.0**
JIO				*e*S	**Sn**	**15 15 13.3**	**-1.2**
OFUJ	**Ofunato**	**2.02**	**309**	P	**Pn**	**15 14 51.5**	**+0.1**
JMK	**Ichinoseki**	**2.25**	**301**	P	**Pn**	**15 14 54.8**	**+0.3**
JOU	**Okura**	**2.46**	**283**	P	**Pn**	**15 14 58.3**	**+0.9**
JOM	**Ohasama**	**2.50**	**312**	P	**Pn**	**15 14 58.5**	**+0.6**
JOM				*e*S	**Sn**	**15 15 27.9**	**0.0**
JFT	**Otama**	**2.69**	**264**	P	**Pn**	**15 15 01.6**	**+1.0**
JFT				S	**Sn**	**15 15 31.9**	**-0.7**
JYK	**Kaneyama**	**2.84**	**293**	P	**Pn**	**15 15 03.7**	**+1.0**
JRG	**Rokugo**	**2.87**	**304**	P	**Pn**	**15 15 04.0**	**+1.0**
JAG	**Ashikaga**	**3.67**	**249**	P	**Pn**	**15 15 14.5**	**+0.4**
JAG				S	**Sn**	**15 15 55.4**	**-1.5**
JRY	**Ryogami san**	**4.25**	**246**	P	**Pn**	**15 15 22.3**	**+0.2**
MJAR	**Matsushiro Arr**	**4.57**	**255**	Pn	**Pn**	**15 15 27.7**	**+1.2**
	2.0nm,0.3s,baz=90,slow=15,SNR=14						
MAT	**Matsushiro**	**4.57**	**255**	P	**Pn**	**15 15 28.6**	**+2.1**
MAT				*e*S	**Sn**	**15 16 19.1**	**0.0**
MAT	**Matsushiro**	**4.57**	**255**	S	**Sb**	**15 16 32.8**	**+0.1**
H11N2	**WAKE ISLAND Hy 27.05**	**125**		T	T	15 48 14.2	
	baz=318,slow=76,SNR=8.6						
H11N1	**WAKE ISLAND Hy 27.06**	**125**		T	T	15 48 22.4	
	baz=318,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy 27.07**	**125**		T	T	15 48 18.9	
	baz=318,slow=76,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.73**	**312**	P	P	15 22 21.9	+7.9
	0.3nm,0.3s,baz=90,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**45.24**	**302**	P	P	15 22 41.2	+6.9
	0.3nm,0.8s,baz=69,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**47.84**	**33**	P	P	15 23 08.4	+14
	0.2nm,0.7s,baz=270,slow=5.4,SNR=3.5						
WRA	**Warramunga Arr**	**58.14**	**190**	P	**P**	**15 24 11.1**	**+0.3**
	0.7nm,0.9s,baz=7.7,slow=6.7,SNR=3.1						
ASAR	**Alice Springs**	**61.86**	**190**	P	**P**	**15 24 35.3**	**-1.0**
	0.2nm,0.7s,baz=2.1,slow=7.3,SNR=3.8						

SJA 24 15:16:03.3±0.6, 33.°66S×68.°28W, h15km±4km, ML2.6, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.73**	**321**	*i* P	Pb	15 16 17.9	+0.1
ARCO	**CERRO ARCO**	**0.98**	**326**	*i* P	Pg	15 16 22.4	+0.1
ARCO				*i* S	Sn	15 16 36.0	-0.3
ARCO				IAML		15 16 37.2	
	comp=Z,178nm,0.3s						
ASAL	**Salagasta**	**1.16**	**336**	*i* P	Pg	15 16 25.7	0.0
AUSP	**Uspallata**	**1.71**	**327**	*i* P	Pb	15 16 35.0	+0.5
RTCV	**Cerro Valdivia**	**1.80**	**353**	*i* P	Pb	15 16 35.7	-0.3
RTLS	**Leoncito**	**2.04**	**335**	*i* P	Pb	15 16 40.1	-0.1
RTLS				*i* S	Sg	15 17 07.5	-1.6
RTLS				IAML		15 17 08.6	
	comp=Z,37nm,0.5s						

*DDA **24** 15:16:14.9, 38.°64N×43.°09E, h7km, Ml2.8*
*ISK **24** 15:16:14.9, 38.°67N×43.°25E, h11km, ML3.0*
*ISCJB **24** 15:16:15.2±0.7, 38.°66N±0.°03×43.°12E±0.°05, h2km±8km, Error ellipse: s-maj=7.3km s-min=4.3km az=158.8*
*CSEM **24** 15:16:15.0±0.2, 38.°64N×43.°15E, h2km, ML3.0, Error ellipse: s-maj=6.2km s-min=4.7km az=65.0*

ISC 24 15:16:15.2±1.0, 38.°63N±0.°02×43.°14E±0.°03, h7km±9km, n38, σ1.06/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**99**	*e*PG	**Pg**	**15 16 19.2**	**-0.1**
VANB				*e*SG	**Sg**	**15 16 23.3**	**+1.2**
VANB	**Van**	**0.20**	**99**	*e*Pg	**Pg**	**15 16 19.2**	**-0.1**
VANB				*e*Sg	**Sg**	**15 16 23.3**	**+1.2**
GEVA	**Gevas**	**0.32**	**191**	*i* P	**Pg**	**15 16 21.0**	**-0.6**
GEVA				*i* S	**Sb**	**15 16 27.8**	**-1.0**
GEVA	**Gevas**	**0.32**	**191**	P	**Pg**	**15 16 21.0**	**-0.6**
GEVA				S	**Sb**	**15 16 27.8**	**-1.0**
TUTA	**Tutak**	**0.81**	**342**	*i* P	**Pg**	**15 16 30.8**	**-0.1**
TUTA				*i* S	**Sn**	**15 16 48.4**	**+2.6**
TUTA	**Tutak**	**0.81**	**342**	P	**Pg**	**15 16 30.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*PG	**Pb**	**15 16 33.4**	**-0.8**
AGRB				*e*SG	**Sb**	**15 16 46.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*Pg	**Pb**	**15 16 33.4**	**-0.8**
AGRB				*e*Sg	**Sb**	**15 16 46.5**	**-0.6**
DYDN	**Diyadin**	**1.01**	**25**	*i* P	**Pb**	**15 16 34.6**	**-0.6**
DYDN	**Diyadin**	**1.01**	**25**	P	**Pb**	**15 16 34.6**	**-0.6**
EKAR	**Karacoban**	**1.05**	**307**	*i* P	**Pb**	**15 16 35.5**	**-0.3**
EKAR	**Karacoban**	**1.05**	**307**	P	**Pb**	**15 16 35.5**	**-0.3**
HAKT	**HAKKARI**	**1.16**	**157**	*i* P	**Pg**	**15 16 36.1**	**-1.3**
HAKT				*i* S	**Sn**	**15 16 55.1**	**+0.9**
HAKT	**HAKKARI**	**1.16**	**157**	P	**Pg**	**15 16 36.1**	**-1.3**
HAKT				S	**Sn**	**15 16 55.1**	**+0.9**
EATA	**Eleskirt**	**1.33**	**338**	*i* P	**Pn**	**15 16 40.1**	**-0.4**
EATA	**Eleskirt**	**1.33**	**338**	P	**Pn**	**15 16 40.1**	**-0.4**
VRTB	**Varto-Mus**	**1.42**	**293**	*e*PN	**Pg**	**15 16 42.1**	**-0.3**
VRTB	**Varto-Mus**	**1.42**	**293**	*i* P	**Pn**	**15 16 39.7**	**-1.8**
VRTB	**Varto-Mus**	**1.42**	**293**	P	**Pn**	**15 16 39.7**	**-1.8**
VRTB	**Varto-Mus**	**1.42**	**293**	*e*Pn	**Pg**	**15 16 42.1**	**-0.3**
CUKT	**Cukurca**	**1.43**	**165**	*e*PN	**Pn**	**15 16 41.7**	**+0.1**
CUKT	**Cukurca**	**1.43**	**165**	*e*Pn	**Pn**	**15 16 41.7**	**+0.1**
BNGL	**BINGOL**	**1.59**	**282**	*i* P	**Pb**	**15 16 44.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*e*PN	**Pb**	**15 16 45.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*i* P	**Pb**	**15 16 44.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	P	**Pb**	**15 16 44.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.59**	**253**	*e*Pn	**Pb**	**15 16 45.1**	**+0.1**
BTMN	**Batman**	**1.64**	**244**	*i* P	**Pb**	**15 16 45.5**	**-0.4**
BTMN	**Batman**	**1.64**	**244**	P	**Pb**	**15 16 45.5**	**-0.4**
HOMI	**Horasan**	**1.71**	**326**	*i* P	**Pn**	**15 16 44.9**	**-0.7**
BNGB	**Bing¶‖**	**1.95**	**282**	*e*PN	**Pb**	**15 16 50.3**	**-0.9**
BINT	**Bingol**	**2.08**	**278**	*e*Pn	**Pn**	**15 16 50.3**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.17**	**293**	*e*PN	**Pb**	**15 16 53.4**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.17**	**293**	*e*Pn	**Pb**	**15 16 53.4**	**-1.6**
MAZI	**Mazidag**	**2.42**	**242**	*e*PN	**Pn**	**15 16 56.5**	**+1.2**
MAZI	**Mazidag**	**2.42**	**242**	*e*Pn	**Pn**	**15 16 56.5**	**+1.2**
PTK	**Pertek**	**2.94**	**276**	*e*PN	**Pn**	**15 17 04.8**	**+2.3**
PTK	**Pertek**	**2.94**	**276**	*e*Pn	**Pn**	**15 17 04.8**	**+2.3**

SGS 24 15:26:29.3, 25.°23N×37.°79E, h8km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY06	**LNY06**	**0.03**	**207**	S	Sg	15 26 32.0	-0.2
LNY06				P	Pg	15 26 30.9	-0.1
LNY12	**LNY12**	**0.04**	**335**	P	Pg	15 26 30.9	-0.2
LNY10	**LNY10**	**0.07**	**60**	P	Pg	15 26 31.3	-0.1
LNY11	**LNY11**	**0.09**	**349**	P	Pg	15 26 31.5	-0.1
LNY02	**LNY02**	**0.11**	**146**	P	Pg	15 26 31.9	-0.1
LNY04	**LNY04**	**0.14**	**286**	P	Pg	15 26 32.3	0.0
LNY01	**LNY01**	**0.15**	**95**	P	Pg	15 26 30.6	-2.0
LNY07	**LNY07**	**0.23**	**243**	P	Pg	15 26 33.8	0.0

*NSSC **24** 15:28:00.7±1.4, 38.°64N×43.°87E, h0km±483km, ML4.3*
*ISN **24** 15:28:03.0±1.7, 38.°92N×43.°33E, h0km±79km, ML4.9*
*BJI **24** 15:28:04.2, 38.°60N×43.°20E, h10km, mb4.7/43, mB5.0/31, Ms4.5/32, Ms7 4.2/33*
*MOS **24** 15:28:05.6±1.4, 38.°52N×43.°25E, h14km, mb5.0/55, MS4.0/29, Error ellipse: s-maj=4.6km s-min=3.4km az=104.0*
*ATA **24** 15:28:05.5±1.4, 38.°67N×43.°15E, h22km±6km, ML5.6, MW4.8*
*ISCJB **24** 15:28:06.6±0.4, 38.°65N±0.°01×43.°26E±0.°01, h14km±2km, mb4.8/144, MS4.0/48, Error ellipse: s-maj=2.2km s-min=1.5km az=172.9*
*NEIC **24** 15:28:06.8±0.8, 38.°67N×43.°20E, h11km±5km, mb4.9/66, ML4.9(DDA), Error ellipse: s-maj=4.3km s-min=3.5km az=166.0*
*AZER **24** 15:28:06.0±0.2, 38.°61N×43.°12E, h18km±4km, Error ellipse: s-maj=5.1km s-min=1.2km az=63.0*
*DDA **24** 15:28:06.2, 38.°69N×43.°15E, h19km, Ml4.8*
*GCMT **24** 15:28:06.7±0.2, 38.°60N×43.°06E, h18km, MW5.0/99, Moment Tensor Solution. s66,c92; s99,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.54±.14; $M_{\theta\theta}$-4.66±.10; $M_{\phi\phi}$0.12±.09; $M_{r\theta}$0.22±.19; $M_{\theta\phi}$0.10±.07; $M_{\phi r}$-0.15±.23; Best double couple: $M_0$4.60900×10^{16} NP1:ϕ_s93.00000°, δ46.00000°, λ93.00000°. NP2: ϕ_s269.00000°, δ44.00000°, λ87.00000°. Principal axes: T 4.5500, Plg88.0000°, Azm54.0000°; N 0.1200, Plg2.0000°, Azm271.0000°; P -4.6670, Plg1.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISK **24** 15:28:06.8, 38.°73N×43.°20E, h7km, ML4.7*
*DSN **24** 15:28:07.1±1.1, 38.°43N×42.°95E, h12km, mb4.9/1, Error ellipse: s-maj=35.7km s-min=8.5km az=61.0*
*CSEM **24** 15:28:07.1±0.1, 38.°66N×43.°25E, h10km, mb4.9/58*
*IDC **24** 15:28:10.0±2.4, 38.°63N×43.°13E, h30km±18km, mb4.3/30, mb1 4.3/41, mb1mx4.3/48, mbtmp4.4/41, ML3.9/9, MS4.0/36, Ms1 3.9/36, ms1mx3.8/54, Error ellipse: s-maj=11.5km s-min=7.4km az=155.0*
*TEH **24** 15:28:11.4, 38.°72N×43.°34E, h18km, ML4.5*

ISC 24 15:28:07.4±0.5, 38.°67N±0.°01×43.°21E±0.°02, h12km±3km, h12km:pP-P, n746, σ1.65/859, mb4.9/144, MS4.0/50, 66C-69D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**118**	PG	**Pb**	**15 28 12.6**	**+0.1**
VANB				*e*SG	**Sg**	**15 28 17.3**	**+3.5**
GEVA	**Gevas**	**0.38**	**198**	*i* P	**Pg**	**15 28 13.4**	**-1.6**
GEVA				*i* S	**Sb**	**15 28 21.4**	**-0.6**
GEVA				IAML		15 28 26.6	
	comp=Z,94μm,0.5s						
GEVA	**Gevas**	**0.38**	**198**	⇓*i*P	**Pg**	**15 28 13.6**	**-1.3**
GEVA				*i* S	**Sb**	**15 28 21.5**	**-0.6**
GEVA	**Gevas**	**0.38**	**198**	P	**Pg**	**15 28 13.6**	**-1.3**
GEVA				S	**Sb**	**15 28 21.5**	**-0.5**
GEVA	**Gevas**	**0.38**	**198**	*i* P	**Pg**	**15 28 13.8**	**-1.1**
GEVA				*i* S	**Sb**	**15 28 21.4**	**-0.5**
TUTA	**Tutak**	**0.79**	**337**	*i* P	**Pg**	**15 28 20.9**	**-1.8**
TUTA				*e*S	**Sg**	**15 28 32.8**	**-0.4**
TUTA				IAML		15 28 37.2	
	comp=Z,17μm,0.2s						
TUTA	**Tutak**	**0.79**	**337**	⇓*i*P	**Pg**	**15 28 20.9**	**-1.8**
TUTA				*i* S	**Sg**	**15 28 31.3**	**-1.9**
TUTA	**Tutak**	**0.79**	**337**	P	**Pg**	**15 28 21.0**	**-1.8**
TUTA				S	**Sg**	**15 28 31.3**	**-1.9**
TUTA	**Tutak**	**0.79**	**337**	*i* P	**Pg**	**15 28 20.8**	**-1.8**
BASK	**Baskale_VAN**	**0.88**	**134**	*i* P	**Pg**	**15 28 23.4**	**-1.0**
BASK				*i* S	**Sn**	**15 28 38.0**	**-0.7**
BASK	**Baskale_VAN**	**0.88**	**134**	⇓*i*P	**Pg**	**15 28 23.6**	**-0.8**
BASK				*i* S	**Sb**	**15 28 36.9**	**+0.4**
BASK	**Baskale_VAN**	**0.88**	**134**	P	**Pg**	**15 28 23.6**	**-0.8**
BASK				S	**Sb**	**15 28 36.9**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**350**	PG	**Pg**	**15 28 23.5**	**-1.6**
AGRB				*e*SG	**Sg**	**15 28 36.2**	**-1.0**
AGRB	**Hanur-Agry**	**0.92**	**350**	*i* Pg	**Pg**	**15 28 23.5**	**-1.6**
AGRB				*e*Sg	**Sg**	**15 28 36.2**	**-1.0**
DYDN	**Diyadin**	**0.95**	**23**	⇓*i*P	**Pg**	**15 28 24.1**	**-1.6**
DYDN				*i* S	**Sn**	**15 28 40.5**	**+0.2**
DYDN	**Diyadin**	**0.95**	**23**	P	**Pg**	**15 28 24.1**	**-1.6**
DYDN				S	**Sn**	**15 28 40.5**	**+0.2**
DYDN	**Diyadin**	**0.95**	**23**	*i* P	**Pg**	**15 28 23.7**	**-2.0**
EKAR	**Karacoban**	**1.07**	**304**	*i* P	**Pb**	**15 28 25.9**	**-2.0**
EKAR	**Karacoban**	**1.07**	**304**	⇓*i*P	**Pb**	**15 28 26.0**	**-1.9**
EKAR				*i* S	**Sn**	**15 28 44.3**	**+1.0**
EKAR	**Karacoban**	**1.07**	**304**	P	**Pb**	**15 28 26.0**	**-1.9**
EKAR				S	**Sn**	**15 28 44.3**	**+1.0**
HAKT	**HAKKARI**	**1.18**	**160**	*i* P	**Pb**	**15 28 28.3**	**-1.5**
HAKT				*e*S	**Sn**	**15 28 45.8**	**-0.2**
HAKT				IAML		15 29 07.3	
HAKT	**HAKKARI**	**1.18**	**160**	⇓*i*P	**Pb**	**15 28 28.3**	**-1.5**
HAKT				*i* S	**Sn**	**15 28 48.0**	**+1.9**
HAKT	**HAKKARI**	**1.18**	**160**	P	**Pb**	**15 28 28.3**	**-1.5**
EATA	**Eleskirt**	**1.31**	**335**	*i* P	**Pn**	**15 28 29.9**	**-1.9**
EATA				*i* S	**Sg**	**15 28 51.2**	**+1.5**
EATA				IAML		15 28 54.7	
	comp=Z,2μm,0.4s						
EATA	**Eleskirt**	**1.31**	**335**	⇓*i*P	**Pn**	**15 28 30.3**	**-1.6**
EATA				*i* S	**Sb**	**15 28 48.9**	**-0.2**
EATA	**Eleskirt**	**1.31**	**335**	P	**Pn**	**15 28 30.3**	**-1.6**
EATA				S	**Sb**	**15 28 48.9**	**-0.2**
SIRN	**S¨–rnak**	**1.33**	**208**	*i* P	**Pn**	**15 28 30.6**	**-1.3**
SIRN	**S¨–rnak**	**1.33**	**208**	⇓*i*P	**Pn**	**15 28 29.9**	**-2.0**
SIRN				*i* S	**Sg**	**15 28 50.4**	**+0.1**
SIRN	**S¨–rnak**	**1.33**	**208**	P	**Pn**	**15 28 29.9**	**-2.0**
SIRN				S	**Sg**	**15 28 50.3**	**+0.1**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*PN	**Pn**	**15 28 33.5**	**-0.1**
VRTB	**Varto-Mus**	**1.45**	**290**	⇓*i*P	**Pn**	**15 28 32.3**	**-1.3**
VRTB	**Varto-Mus**	**1.45**	**290**	P	**Pn**	**15 28 32.3**	**-1.3**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*Pn	**Pn**	**15 28 33.5**	**-0.1**
CUKT	**Cukurca**	**1.46**	**167**	*e*PN	**Pg**	**15 28 35.1**	**-0.3**
CUKT	**Cukurca**	**1.46**	**167**	⇓*i*P	**Pg**	**15 28 35.3**	**0.0**
CUKT				*i* S	**Sg**	**15 28 59.1**	**+4.8**
CUKT	**Cukurca**	**1.46**	**167**	*e*Pn	**Pg**	**15 28 35.1**	**-0.3**
BNGL	**BINGOL**	**1.63**	**281**	*i* P	**Pn**	**15 28 35.8**	**-0.3**
BNGL				*i* S	**Sb**	**15 28 58.8**	**+0.6**
BNGL	**BINGOL**	**1.63**	**281**	⇓*i*P	**Pn**	**15 28 35.5**	**-0.6**
BNGL				*i* S	**Sb**	**15 28 58.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*e*PN	**Pn**	**15 28 36.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	⇑*i*P	**Pn**	**15 28 35.7**	**-0.7**
SVAN				*i* S	**Sb**	**15 28 58.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	P	**Pn**	**15 28 35.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*e*Pn	**Pn**	**15 28 36.7**	**+0.3**
SVAN				S	**Sb**	**15 28 58.5**	**-0.4**
HOMI	**Horasan**	**1.70**	**324**	*i* P	**Pn**	**15 28 36.8**	**-0.4**
HOMI				IAML		15 28 44.0	
	comp=Z,3μm,0.6s						
HOMI	**Horasan**	**1.70**	**324**	⇓*i*P	**Pn**	**15 28 37.0**	**-0.1**
HOMI				*i* S	**Sg**	**15 29 04.4**	**+2.2**
BTMN	**Batman**	**1.71**	**244**	*i* P	**Pn**	**15 28 37.2**	**+0.1**
BTMN				*e*S	**Sn**	**15 28 59.1**	**+0.1**
BTMN				*i* S	**Sb**	**15 28 59.8**	**-0.5**
BTMN	**Batman**	**1.71**	**244**	⇑*i*P	**Pn**	**15 28 37.0**	**-0.1**
BTMN				*i* S	**Sb**	**15 28 59.7**	**-0.7**
BTMN	**Batman**	**1.71**	**244**	P	**Pn**	**15 28 37.0**	**-0.1**
BTMN				S	**Sb**	**15 28 59.7**	**-0.7**
DIGO	**Kars**	**1.75**	**4**	*i* P	**Pn**	**15 28 38.3**	**+0.5**
DIGO				*i* S	**Sg**	**15 29 04.6**	**+1.0**
DIGO	**Kars**	**1.75**	**4**	⇓*i*P	**Pn**	**15 28 38.2**	**+0.5**
DIGO	**Kars**	**1.75**	**4**	P	**Pn**	**15 28 38.2**	**+0.4**
NAX	**Nakhchivan**	**1.85**	**74**	⇑P	**Pn**	**15 28 38.0**	**-1.1**
	SNR=86						
NAX				⇑S	**Sn**	**15 29 02.6**	**+0.1**
NAX	**Nakhchivan**	**1.85**	**74**	P	**Pn**	**15 28 38.0**	**-1.1**
NAX	**Nakhchivan**	**1.85**	**74**	P	**Pn**	**15 28 38.0**	**-1.1**
	SNR=86						
NAX				S	**Sn**	**15 29 02.6**	**+

GANJ ⇓S Sn 15 29 34.2 +0.8
GANJ Ganja 3.11 50 P Pn 15 28 55.5 -0.7
GANJ Ganja 3.11 50 P Pn 15 28 55.6 -0.7
SNR=136
GANJ S Sn 15 29 34.2 +0.8
TBLG Delisi 3.27 20 *e*PN Pn 15 28 59.0 +0.5
TBLG Delisi 3.27 20 *e*Pn Pn 15 28 59.1 +0.5
TBLG Delisi 3.27 20 P Pn 15 29 00.5 +2.0
SEAG Tbilisi Sea 3.32 21 P Pb 15 29 06.1 -0.2
SFNV Sufian 3.33 229 *i* P Pn 15 28 59.4 0.0
SFNV *e*S Sb 15 29 43.0 -4.0
SFNV AML AML 15 30 12.3
comp=E,2μm,0.6s
SFNV AML AML 15 30 18.8
comp=N,4μm,0.6s
KELT Kelkit 3.40 297 *i* P Pn 15 29 01.9 +1.5
KELT Kelkit 3.40 297 P Pn 15 29 01.9 +1.5
BRDA Brd 3.46 61 ⇓P Pn 15 29 00.3 -0.8
SNR=15
BRDA ⇑S Sn 15 29 42.4 +0.4
BRDA Brd 3.46 61 P Pn 15 29 00.3 -0.8
SNR=15
BRDA S Sn 15 29 42.4 +0.4
KTUT Trabzon 3.52 312 *e*PN Pn 15 29 03.2 +1.4
KTUT Trabzon 3.52 312 *e*Pn Pn 15 29 03.3 +1.4
ISRB Sarab 3.61 102 *e*AMB AMB 15 29 31.7
comp=Z,9μm,0.3s
ISRB *e*Pn Pn 15 29 05.6 +2.3
MNGR Mingechevir, A 3.65 54 ⇑P Pn 15 29 02.9 -0.8
SNR=73
MNGR ⇑S Sn 15 29 47.4 +0.7
MNGR Mingechevir, A 3.65 54 P Pn 15 29 02.9 -0.8
MNGR Mingechevir, A 3.65 54 P Pn 15 29 02.9 -0.8
SNR=73
MNGR S Sn 15 29 47.4 +0.7
URFA Urfa 3.67 252 *e*PN Pn 15 29 05.9 +1.8
URFA Urfa 3.67 252 *e*Pn Pn 15 29 05.9 +1.8
KEMA Kemaliye 3.72 281 *i* P Pn 15 29 03.6 -1.1
KEMA Kemaliye 3.72 281 P Pn 15 29 03.7 -1.1
ZRD Zardab 3.82 64 ⇑P Pn 15 29 05.2 -0.8
SNR=24
ZRD ⇑S Sn 15 29 51.4 +0.6
ZRD Zardab 3.82 64 P Pn 15 29 05.2 -0.8
SNR=24
ZRD S Sn 15 29 51.4 +0.6
GUDG Gudauri 3.91 14 P Pn 15 29 11.2 +3.7
ONI Oni 3.92 3 P Pn 15 29 10.1 +2.6
ONI Oni 3.92 3 P Pn 15 29 10.0 +2.6
ONI Oni 3.92 3 P Pn 15 29 10.0 +2.6
ZKTA Zakatala 3.95 40 ⇓P Pn 15 29 07.4 -0.5
SNR=34
ZKTA ⇑S Sn 15 29 55.3 +1.1
ZKTA Zakatala 3.95 40 P Pn 15 29 07.3 -0.5
ZKTA Zakatala 3.95 40 P Pn 15 29 07.3 -0.5
SEKA Sheki 3.98 49 ⇓P Pn 15 29 08.3 -0.1
SNR=5.4
SEKA ⇓S Sn 15 29 56.9 +2.0
SEKA Sheki 3.98 49 P Pn 15 29 08.2 -0.1
SEKA Sheki 3.98 49 P Pn 15 29 08.2 -0.1
SEKA S Sn 15 29 56.9 +2.0
LRK Lerik 4.02 89 ⇑P Pn 15 29 07.6 -1.3
SNR=27
LRK ⇓S Sn 15 29 55.8 -0.2
LRK Lerik 4.02 89 P Pn 15 29 07.6 -1.3
SNR=27
LRK S Sn 15 29 55.8 -0.2
SURC SANLIURFA_SURC 4.06 245 *i* P Pn 15 29 10.0 +0.7
SURC SANLIURFA_SURC 4.06 245 P Pn 15 29 10.0 +0.7
GLBA Cliilabad 4.08 80 ⇑P Pn 15 29 08.5 -1.1
SNR=7.8
GLBA ⇓S Sn 15 29 57.5 +0.2
GLBA Cliilabad 4.08 80 P Pn 15 29 08.5 -1.1
SNR=7.8
GLBA S Sn 15 29 57.5 +0.2
ESPY Espiye-Giresun 4.12 304 *e*PN Pn 15 29 12.0 +1.9
ESPY Espiye-Giresun 4.12 304 *e*Pn Pn 15 29 12.0 +1.9
ZEI Tsey 4.15 7 *e*P Pn 15 29 10.6 -0.1
ZEI pmax pmax
comp=Z,138nm,0.8s
SUSE Susehri 4.17 293 *i* P Pn 15 29 12.8 +1.8
SUSE Susehri 4.17 293 P Pn 15 29 12.8 +1.8
KDMR Kurdemir 4.21 65 ⇑P Pn 15 29 10.4 -0.9
SNR=11
KDMR ⇓S Sn 15 30 00.8 +0.4
KDMR Kurdemir 4.21 65 P Pn 15 29 10.4 -0.9
SNR=11
KDMR S Sn 15 30 00.8 +0.4
SAAT Saatly 4.22 72 ⇓P Pn 15 29 10.1 -1.4
SNR=20
SAAT ⇓S Sn 15 30 00.3 -0.3
SAAT Saatly 4.22 72 P Pn 15 29 10.1 -1.4
SNR=20
SAAT S Sn 15 30 00.3 -0.3
QBL Gabala 4.23 56 ⇑P Pn 15 29 10.8 -0.9
SNR=14
QBL ⇓S Sn 15 30 01.6 +0.6
QBL Gabala 4.23 56 P Pn 15 29 10.8 -0.9
SNR=14
QBL S Sn 15 30 01.6 +0.6
LKRN Lenkeran, Azer 4.36 88 ⇑P Pn 15 29 12.3 -1.2
SNR=5.7
LKRN ⇓S Sn 15 30 04.1 0.0
LKRN Lenkeran, Azer 4.36 88 P Pn 15 29 12.2 -1.2
LKRN Lenkeran, Azer 4.36 88 P Pn 15 29 12.3 -1.2
SNR=5.7
LKRN S Sn 15 30 04.1 0.0
ASTR Astara 4.38 90 ⇓P Pn 15 29 12.4 -1.2
SNR=10
ASTR ⇑S Sn 15 30 04.5 -0.1
ASTR Astara 4.38 90 P Pn 15 29 12.4 -1.2
SNR=10
ASTR S Sn 15 30 04.5 -0.1
IML Ismayilli 4.38 60 ⇓P Pn 15 29 12.9 -0.9
SNR=8.7
IML ⇑S Sn 15 30 05.3 +0.5
IML Ismayilli 4.38 60 P Pn 15 29 12.9 -0.9
SNR=8.7
IML S Sn 15 30 05.3 +0.5
CUZAR Zara_SIVAS 4.39 288 *i* P Pb 15 29 24.4 -0.1
DARE Darende-Malaty 4.48 271 *e*PN Pn 15 29 17.0 +1.7
DARE Darende-Malaty 4.48 271 *e*Pn Pn 15 29 17.0 +1.7
XNQ Khinaliq 4.54 55 ⇑P Pn 15 29 15.1 -1.0
SNR=8.9
XNQ ⇑S Sn 15 30 09.4 +0.5
XNQ Khinaliq 4.54 55 P Pn 15 29 15.1 -1.0
SNR=8.9
XNQ S Sn 15 30 09.4 +0.5
NEY Neytrino 4.59 356*c* *i* P Pn 15 29 19.2 +2.5
NEY Neytrino 4.59 356 *i* P Pn 15 29 19.2 +2.5
GZT Gaziantep 4.65 255 *i* P Pn 15 29 18.0 +0.5
PQL Pirkuli 4.66 61 ⇑P Pn 15 29 16.7 -1.0
SNR=30
PQL ⇑S Sn 15 30 12.1 +0.3
PQL Pirkuli 4.66 61 P Pn 15 29 16.7 -1.0
SNR=30
PQL S Sn 15 30 12.1 +0.3
ALIB Äli-Bayra 4.68 72 ⇓P Pn 15 29 16.8 -1.0
SNR=2.8
ALIB ⇓S Sn 15 30 12.4 +0.4
ALIB Äli-Bayra 4.68 72 P Pn 15 29 16.8 -1.0
SNR=2.8
ALIB S Sn 15 30 12.4 +0.4
IDHR Dehrash 4.71 146 *e*Pn Pn 15 29 20.6 +2.1
IDHR *e*AMB AMB 15 31 00.8
comp=Z,22μm,0.9s
IDHR Dehrash 4.71 146 *e*Pn Pn 15 29 20.6 +2.1
GBS Qobustan 4.80 65 ⇓P Pn 15 29 18.6 -1.0
SNR=4.6
GBS Qobustan 4.80 65 P Pn 15 29 18.6 -1.0
SNR=4.6
ILIN Lien 4.81 140 *e*Pn Pn 15 29 22.9 +3.1
ILIN *e*AMB AMB 15 31 09.7
comp=Z,5μm,0.5s
ILIN Lien 4.81 140 *e*Pn Pn 15 29 22.9 +3.1
QSAR Qusar 4.81 52 ⇓P Pn 15 29 18.7 -0.9
SNR=16
QSAR Qusar 4.81 52 P Pn 15 29 18.7 -0.9
SNR=16
NCK Nalchik 4.83 3 *i* P Pn 15 29 23.1 +3.2
NCK Nalchik 4.83 3 *i* P Pn 15 29 23.1 +3.2
RSDY Resadiye-TOKAT 4.86 293 *e*PN Pn 15 29 23.1 +2.7
QUBA Quba, Azerbaij 4.86 55 ⇓P Pn 15 29 19.5 -0.9
SNR=6.3
QUBA Quba, Azerbaij 4.86 55 P Pn 15 29 19.5 -0.9
SNR=6.3
ATGJ Altiaghaj 4.93 62 ⇑P Pn 15 29 20.4 -0.9
SNR=11
ATGJ Altiaghaj 4.93 62 P Pn 15 29 20.4 -0.9
SNR=11
GROC Groznyy 4.93 23 *e*P Pn 15 29 26.7 +5.4
GROC *e* 15 30 21.4
GROC pmax pmax
comp=Z,51nm,0.8s
GROC smax smax
comp=N,73nm,1.3s
GROC smax smax
comp=N,289μm,1.8s
GROC Groznyy 4.93 23 *e*S Sn 15 30 21.4 +3.1
comp=N,289μm,1.8s
SVSK Karacayir 4.97 286 *e*PN Pn 15 29 23.9 +2.0
SVSK Karacayir 4.97 286 *e*Pn Pn 15 29 23.9 +2.0
SIZA Siyzn 4.99 59 ⇓P Pn 15 29 21.3 -0.9
SNR=3.3
SIZA Siyzn 4.99 59 P Pn 15 29 21.3 -0.9
SNR=3.3
KBZ Khabaz 5.06 357 Pn Pn 15 29 27.3 +4.3
comp=N,0.2nm,0.3s,baz=180,slow=11,SNR=7.1
KBZ Sn Sn 15 30 26.9 +5.6
comp=N,0.8nm,0.3s,baz=180,slow=20,SNR=4.1
KBZ LR LR 15 31 58.3
comp=N,2μm,21.9s,baz=212,slow=45
IVIS Veis 5.07 144 *e*Pn Pn 15 29 25.9 +2.6
IVIS *e*AMB AMB 15 31 19.3
comp=Z,5μm,0.6s
IVIS Veis 5.07 144 *e*Pn Pn 15 29 25.9 +2.6
IGHG Ghaleghazi 5.11 147 *e*Pn Pn 15 29 26.6 +2.6
IGHG *e*AMB AMB 15 31 29.7
comp=Z,17μm,0.5s
IGHG Ghaleghazi 5.11 147 *e*Pn Pn 15 29 26.6 +2.6
KMRS Kahramanmaras 5.11 259 *e*PN Pn 15 29 26.5 +2.7
KIV Kislovodsk 5.29 356 *i* P Pn 15 29 30.1 +3.7
SNR=6.6
KIV Kislovodsk 5.29 356 *e*P Pb 15 29 34.8 -5.1
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,388nm,7.0s
KIV Kislovodsk 5.29 356 *e*Pn Pn 15 29 28.5 +2.2
KIV Kislovodsk 5.29 356 P Pn 15 29 30.1 +3.7
SNR=6.6
KIV Kislovodsk 5.29 356 *e*Pn Pn 15 29 28.6 +2.2
KIV Kislovodsk 5.29 356 Pn Pb 15 29 40.2 +0.3
SNR=43
KVAR Kislovodsk Arr 5.29 356 Pn Pn 15 29 30.9 +4.5
baz=224,slow=1.3,SNR=5.4
KVAR LR LR 15 32 06.1
comp=Z,2μm,20.6s,baz=193,slow=44
SARI SarD1z-Kayseri 5.33 269 *e*PN Pn 15 29 29.2 +2.3
MAK Makhachkala 5.38 36 *e*P Pn 15 29 28.5 +1.0
MAK *e*S Sn 15 30 31.1 +1.7
MAK pmax pmax
comp=Z,26nm,0.4s
MAK MLR MLR
comp=Z,7μm,13.0s
MAK Makhachkala 5.38 36 *e*P Pn 15 29 28.5 +1.0
comp=Z,26nm,0.4s
MAK *e*S Sn 15 30 31.1 +1.7
comp=Z,7μm,13.0s
TOKA Tokat 5.46 290 *e*Pn Pn 15 29 27.2 -1.4
TOKA Tokat 5.46 290 *e*Pn Pn 15 29 27.2 -1.4
SOC Sochi 5.57 333 *e*P Pn 15 29 31.9 +1.9
SOC pmax pmax
comp=Z,30nm,0.6s
SOC MLR MLR
comp=Z,4μm,17.0s
SOC Sochi 5.57 333 *e*P Pn 15 29 31.9 +1.9
comp=Z,4μm,17.0s
IKOM Komasi 5.67 141 *e*Pn Pn 15 29 35.5 +3.9
IKOM *e*AMB AMB 15 31 31.2
comp=Z,6μm,0.4s
BNN Bunyan 5.76 274 *e*PN Pn 15 29 36.1 +3.3
KOZT Kozan 5.94 261 *e*PN Pn 15 29 38.7 +3.5
KVT Kavak 6.01 296 *e*PN Pn 15 29 38.4 +2.2
KVT Kavak 6.01 296 *e*Pn Pn 15 29 38.4 +2.2
IGZV Ghazvin 6.02 110 *e*Pn Pn 15 29 38.8 +2.3
IGZV *e*AMB AMB 15 32 06.3
comp=Z,2μm,0.0s
RTB Rutbah 6.10 204 *e*Pn Pn 15 29 39.0 +1.6
SNR=3.0
RTB *i* Sn Sn 15 30 48.0 +0.8
SNR=3.0
CEYT Ceyhan 6.13 257 *e*PN Pn 15 29 41.0 +3.3
IRAZ Razeghan 6.29 119 *e*Pn Pn 15 29 43.2 +3.1
IRAZ *e*AMB AMB 15 30 42.3
comp=Z,1μm,0.4s
RABH Abou Rabah 6.42 231 *i* P Pn 15 29 43.3 +1.5
RABH *e*S Sn 15 30 56.1 +1.0
RABH AML AML 15 31 51.5
comp=N,381nm,0.6s
RABH AML AML 15 31 56.0
comp=E,2μm,1.8s
ROOS tl_alroos 6.55 229 *i* P Pn 15 29 44.6 +1.0
ROOS *e*S Sn 15 30 58.7 +0.3
ROOS AML AML 15 31 49.6
comp=N,662nm,0.6s
ROOS AML AML 15 31 54.8
comp=E,659nm,0.7s
BIDA Albida 6.62 239 *i* P Pn 15 29 46.5 +2.0
HAWK Haweek 6.86 235 *i* P Pn 15 29 48.9 +1.0
ANN Anapa 7.49 327 *e*P Pn 15 29 57.1 +0.7
ANN *e*S Sn 15 31 25.5 +4.3
ANN pmax pmax
comp=Z,68nm,1.4s
ANN MLR MLR
comp=Z,3μm,14.0s
ANN Anapa 7.49 327 *e*P Pn 15 29 57.1 +0.7
comp=Z,68nm,1.4s
BR131 Keskin Array S 7.50 281 *e*Pn Pn 15 29 57.1 +0.3
BR131 Keskin Array S 7.50 281 *e*Pn Pn 15 29 57.1 +0.3
BRTR Keskin Array B 7.50 281 Pn Pn 15 29 58.2 +1.5
comp=Z,0.1nm,0.3s,baz=99,slow=15,SNR=9.9
BRTR Lg Lg 15 32 14.5
baz=141,slow=17,SNR=1.9
QASN Qassioun 7.60 230 AML AML 15 32 37.9
comp=E,263nm,0.7s
QASN AML AML 15 32 38.6
comp=N,573nm,0.7s
TOTH TOTAH 7.63 228 *i* P Pn 15 30 00.0 +1.6
TOTH *e*S Sn 15 31 25.4 +0.6
TOTH AML AML 15 32 42.3
comp=E,210nm,0.8s
TOTH AMP 15 32 57.8
BRBR Barbar 7.88 230 *i* P Pn 15 30 02.3 +0.3
SALA Sala 7.94 223 *i* P Pn 15 30 03.8 +0.9
SALA *e*S Sn 15 31 33.1 +0.4
SALA AML AML 15 32 41.6
comp=E,31nm,0.7s
SALA AML AML 15 32 50.3
comp=N,164nm,0.7s
NSR Nassriya 8.01 162 *e*Pn Pn 15 30 05.0 +1.4
SNR=3.0
NSR *i* Sn Sn 15 31 32.0 -2.2
SNR=3.0
IALA Alasht 8.07 106 *e*AMB AMB 15 30 44.0
comp=Z,378nm,0.1s
IALA *e*Pn Pn 15 30 08.8 +4.1
BR231 Keskin MP Arra 8.18 281 *e*Pn Pn 15 30 04.9 -1.1
BR231 Keskin MP Arra 8.18 281 *e*Pn Pn 15 30 04.9 -1.1
ASF Jabal al Asfar 8.28 220 Pn Pn 15 30 08.7 +1.3
comp=Z,1.8nm,0.3s,baz=350,slow=15,SNR=10.0
ASF Lg Lg 15 32 36.1
comp=Z,2.2nm,0.3s,baz=198,slow=23,SNR=11
ASF LR LR 15 33 44.6
comp=Z,2μm,18.7s,baz=354,slow=41
TCHB Talchebab 8.40 227 *i* P Pn 15 30 10.5 +1.6
TCHB *e*S Sn 15 31 42.6 -1.1
TCHB AML AML 15 33 00.2
comp=E,275nm,0.7s
TCHB AML AML 15 33 06.3
comp=N,202nm,0.7s
MMAI Mount Meron Ar 8.48 231 Pn Pn 15 30 11.7 +1.6
comp=N,3.2nm,0.3s,baz=67,slow=15,SNR=10
MMAI Lg Lg 15 32 44.9
comp=N,4.8nm,0.3s,baz=34,slow=26,SNR=5.1
MMAI LR LR 15 34 01.5
comp=N,3μm,18.1s,baz=45,slow=42
IGLO Ghaloghah 8.71 101 *e*Pn Pn 15 30 16.4 +3.1
IGLO *e*AMB AMB 15 30 39.5
comp=Z,976nm,0.3s
CSS Mathiatis 8.74 248 *e*Pn Pn 15 30 14.2 +0.6
CSS Mathiatis 8.74 248 *e*Pn Pn 15 30 14.2 +0.6
IANJ Anjilo 9.13 107 *e*Pn Pn 15 30 24.4 +5.2
IANJ *e*AMB AMB 15 30 40.5
comp=Z,296nm,0.4s
SIM Simferopol' 9.24 316 *e*P Pn 15 30 37.5 +17
EIL Elat 11.28 220 Pn Pn 15 30 49.7 +1.3
comp=Z,0.3nm,0.3s,baz=277,slow=23,SNR=2.6
EIL Lg Lg 15 34 14.5
comp=Z,1.0nm,0.3s,baz=294,slow=19,SNR=3.3
EIL LR LR 15 35 48.2
comp=Z,2μm,18.5s,baz=45,slow=41
GEYT Alibeck 11.74 89 Pn Pn 15 30 58.0 +3.3
comp=Z,0.3nm,0.3s,baz=276,slow=15,SNR=8.5
CFR Carcaliu 12.96 305 ⇓*i* P P 15 31 24.1 +2.2
CFR Carcaliu 12.96 305 ⇓P P 15 31 24.1 +2.2
KIS Kishinev 13.43 313 *e*P P 15 31 30.0 +2.9
KIS Kishinev 13.43 313 *e*PP P 15 31 34.0 +6.9
KIS *e*S S 15 34 00.0 -11
KIS LRM MLR 15 38 10.0
comp=Z,1μm,16.0s
KIS Kishinev 13.43 313 *e*P P 15 31 30.0 +2.9
KIS *e*S S 15 34 00.0 -11
KIS MLR MLR
comp=Z,900nm,13.0s
KIS MLR MLR
comp=E,700nm,14.0s
KIS MLR MLR
comp=Z,1μm,16.0s
APE Apeiranthos 14.06 269 *i* P Pn 15 31 27.1 +0.7
APE Apeiranthos 14.06 269 *i* P Pn 15 31 27.1 +0.7
VRI Vrincioaia 14.15 306 ⇓*i* P P 15 31 33.6 -1.5
VRI Vrincioaia 14.15 306 ⇓P P 15 31 33.6 -1.5
VRI Vrincioaia 14.15 306 P P 15 31 33.6 -1.5
PLOR Plostina 14.19 306 ⇑*i* P P 15 31 39.5 +3.9
PLOR Plostina 14.19 306 ⇑P P 15 31 39.5 +3.9
LPSR Galich'ya Gora 14.24 349 *e*P P 15 31 33.7 -2.4
LPSR pmax pmax
comp=Z,60nm,1.1s
LPSR Galich'ya Gora 14.24 349 *e*P P 15 31 33.7 -2.4
comp=Z,60nm,1.1s
MLR Muntele Rosu 14.50 304 ⇑*i* P P 15 31 41.3 +2.1
MLR Muntele Rosu 14.50 304 *e*P Pn 15 31 35.1 +2.6
MLR Muntele Rosu 14.50 304 *e*Pn Pn 15 31 35.1 +2.6
MLR Muntele Rosu 14.50 304 ⇑*i* P P 15 31 41.3 +2.1
MLR Muntele Rosu 14.50 304 *e*Pn Pn 15 31 35.1 +2.6
IDI Anoyia 15.02 263 Pn Pn 15 31 40.9 +1.3
comp=Z,0.4nm,0.3s,baz=47,slow=11,SNR=5.6
IDI Anoyia 15.02 263 *e*Pn Pn 15 31 39.8 +0.3
IDI Anoyia 15.02 263 *e*Pn Pn 15 31 39.8 +0.3
DOPR Dopca 15.04 305 ⇓*i* P P 15 31 47.5 +2.4
DOPR Dopca 15.04 305 ⇓*i* P P 15 31 47.5 +2.4
VOIR 15.07 302 ⇓*i* P P 15 31 45.8 +0.3
VOIR 15.07 302 ⇓P P 15 31 45.8 +0.3
VOIR 15.07 302 P P 15 31 45.8 +0.3
RAYN Ar Rayn 15.23 172 *e*Pn Pn 15 31 37.7 -4.6
comp=Z,159nm,1.7s
ARR Arges 15.32 302 ⇑*i* P P 15 31 50.2 +1.9
ARR Arges 15.32 302 ⇑*i* P P 15 31 50.2 +1.9
AKASG Malin Array Be 15.57 325 Pn Pn 15 31 46.4 -0.2
comp=Z,0.7nm,0.3s,baz=133,slow=11,SNR=12
AKASG LR LR 15 37 45.5
comp=Z,287nm,21.4s,baz=145,slow=37
AKBB Malin Array Si 15.57 325 *e*P Pn 15 31 46.0 -0.6
AKBB pmax pmax
comp=Z,33nm,0.8s
AKBB Malin Array Si 15.57 325 *e*Pn Pn 15 31 46.0 -0.6
comp=Z,33nm,0.8s
AKBB Malin Array Si 15.57 325 *e*Pn Pn 15 31 46.0 -0.6
comp=Z,33nm,0.8s
KIEV Kiev 15.57 325 *i* P P 15 31 49.8 -1.1
KIEV Kiev 15.57 325 *e*Pn Pn 15 31 45.8 -0.9
comp=Z,32nm,0.8s
KIEV Kiev 15.57 325 *i* P P 15 31 49.8 -1.1
KIEV Kiev 15.57 325 *e*Pn Pn 15 31 45.8 -0.9
comp=Z,32nm,0.8s
VTS Vitosha 15.68 291 ⇓*i* P P 15 31 53.9 +1.6
VTS Vitosha 15.68 291 ⇓P P 15 31 53.9 +1.6
VTS Vitosha 15.68 291 *e*Pn Pn 15 31 47.9 -0.3
comp=Z,25nm,1.1s
VTS Vitosha 15.68 291 P P 15 31 53.9 +1.6
VTS Vitosha 15.68 291 *e*Pn Pn 15 31 47.9 -0.3
comp=Z,25nm,1.1s
AKTO Aktyubinsk 15.77 37 Pn Pn 15 31 48.5 -0.6
comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=12
AKTO Aktyubinsk 15.77 37 *i* P Pn 15 31 48.0 -1.2
AKTO pmax pmax
comp=Z,44nm,1.0s
BURAR Bucovina Array 15.86 310 ⇓*i* P P 15 31 55.8 +1.6
BURAR Bucovina Array 15.86 310 ⇓P P 15 31 55.8 +1.6
BURAR Bucovina Array 15.86 310 ⇓*i* P P 15 31 55.8 +1.6
BUR08 Bucovina Ar. S 15.88 310 *e*Pn Pn 15 31 50.7 0.0
BUR08 Bucovina Ar. S 15.88 310 *e*Pn Pn 15 31 50.7 0.0
LOT Lotru 15.93 301 ⇑*i* P P 15 31 54.5 -0.5
LOT Lotru 15.93 301 ⇑*i* P P 15 31 54.5 -0.5
AB31 Akbulak array 16.00 43*c*e*P Pn 15 31 52.5 +0.4
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 16.00 43 *e*Pn Pn 15 31 50.3 -1.8
comp=Z,99nm,0.8s
ABKAR Akbulak array 16.00 43 *e*Pn Pn 15 31 50.3 -1.8
comp=Z,99nm,0.8s
AGG Agios Georgios 16.27 278 *e*P Pn 15 31 53.9 -1.8
AGG pmax pmax
comp=Z,93nm,1.2s
AGG Agios Georgios 16.27 278 *e*Pn Pn 15 31 53.9 -1.8
comp=Z,93nm,1.2s
AGG Agios Georgios 16.27 278 *e*Pn Pn 15 31 53.9 -1.8
comp=Z,93nm,1.2s
CJR Cluj-Napoca 16.48 305 ⇓*i* P P 15 32 05.0 +4.0
CJR Cluj-Napoca 16.48 305 ⇓P P 15 32 05.0 +4.0
GZR Gura Zlata 16.58 300 ⇑*i* P P 15 32 01.6 -0.5
GZR Gura Zlata 16.58 300 ⇑*i* P P 15 32 01.6 -0.5
BARS Barje 16.72 291 *e*P P 15 32 04.5 +0.8
BOLS Boljevac 16.78 295 *e*P P 15 32 05.3 +1.0
BANOM Banah 16.83 135 P Pn 15 32 02.1 -0.8
BANOM Banah 16.83 135 P Pn 15 32 02.1 -0.8
BOVS Bovan 16.92 294 *e*P P 15 32 05.6 -0.3
OBN Obninsk 17.05 347 P Pn 15 32 05.1 -0.3
comp=Z,6.5nm,0.3s,baz=140,slow=17,SNR=3.1
OBN LR LR 15 39 11.4
comp=Z,383nm,18.7s,baz=196,slow=39
OBN Obninsk 17.05 347 *i* P Pn 15 32 04.7 -0.7
OBN *i* S Sn 15 35 11.4 -3.3
OBN pmax pmax
comp=Z,21nm,0.7s
OBN MLR MLR
comp=Z,802nm,13.0s
DRGR 17.07 305 ⇑*i* P P 15 32 09.2 +1.6
DRGR 17.07 305 ⇑P P 15 32 09.2 +1.6
DRGR 17.07 305 P P 15 32 09.2 +1.6
MDVR Moldovita 17.15 298 ⇓*i* P Pn 15 32 07.5 +0.7
MDVR Moldovita 17.15 298 ⇓*i* P Pn 15 32 07.5 +0.7
NAZ Nazwa, Dubai 17.24 139 P P 15 32 14.0 +4.4
SNR=6.6
NAZ Nazwa, Dubai 17.24 139 Pn P 15 32 14.0 +4.4
SNR=6.6
SELS Selova 17.28 292 *e*P P 15 32 09.4 -0.5
SVIS Svilajnac 17.38 296 *e*P P 15 32 11.3 +0.3
FAQ Al Faqa, Dubai 17.40 139 P Pn 15 32 10.3 +0.2
FAQ Al Faqa, Dubai 17.40 139 P Pn 15 32 10.3 +0.2
MOS Moscow 17.48 349 *e*P P 15 32 12.0 0.0
MOS *e*S S 15 35 34.0 +0.7
MOS pmax pmax
comp=Z,89nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,900nm,13.0s
MOS Moscow 17.48 349 *e*P P 15 32 12.0 0.0
comp=Z,100nm,1.3s
MOS *e*S S 15 35 34.0 +0.7
comp=Z,900nm,13.0s
UOSS Minazif 17.56 137 *e*Pn Pn 15 32 10.9 -1.1
comp=Z,28nm,0.8s
UOSS Minazif 17.56 137 P Pn 15 32 12.1 +0.1
UOSS Minazif 17.56 137 *e*Pn Pn 15 32 10.9 -1.1
comp=Z,28nm,0.8s
UOSS Minazif 17.56 137 P Pn 15 32 12.1 +0.1
SIRR Siria 17.58 302 ⇓*i* P P 15 32 14.9 +1.7
SIRR Siria 17.58 302 ⇓*i* P P 15 32 14.9 +1.7
HATD Hatta, Dubai 17.62 138 P P 15 32 13.4 -0.3
HATD Hatta, Dubai 17.62 138 P P 15 32 13.4 -0.3
LVV L'vov 17.64 315 *e*P P 15 32 19.7 +6.0
LVV *e*S Sn 15 35 31.1 +2.1

LVV MLR MLR
comp=Z,400nm,12.0s
GRUS Gruza 17.67 294⇑ *i*P **P 15 32 15.4 +1.2**
ASHO Ashiyiah 17.70 138 *i* P **Pn 15 32 12.8 -0.9**
SNR=13
ASHO Ashiyiah 17.70 138 P **P 15 32 14.5 -0.1**
SNR=10
ASHO Ashiyiah 17.70 138 P **P 15 32 14.5 -0.1**
SNR=10
ASHO Ashiyiah 17.70 138 Pn **P 15 32 14.5 -0.1**
SNR=10
TRPA Tarpa 17.70 309⇑ *e*P **Pn 15 32 13.4 -0.2**
TRPA Tarpa 17.70 309⇑ *e*Pn **Pn 15 32 13.4 -0.2**
TRUS Trudelj 17.95 295 *e*P **P 15 32 18.3 +1.1**
IVAS Ivanjica 18.03 293 *e*P **P 15 32 18.3 +0.1**
UZH Uzhgorod 18.06 310 *e*P **Pn 15 32 16.0 -2.0**
DIVS Divibare 18.22 295 *e*P **P 15 32 20.5 +0.1**
KWP Kalwaria Pacla 18.28 313 *e*P **P 15 32 21.4 +0.6**
KWP Kalwaria Pacla 18.28 313 *e*P **P 15 32 21.4 +0.5**
KWP Kalwaria Pacla 18.28 313 *e*P **P 15 32 21.4 +0.5**
FGSL Fruska Gora 18.55 298 *e*P **P 15 32 23.5 -0.3**
PDG Podgorica 18.57 289⇓ *i*P **Pn 15 32 26.7 +2.4**
PDG Podgorica 18.57 289⇓ *i*P **Pn 15 32 26.7 +2.4**
BBLS Lazići 18.61 294 *e*P **Pn 15 32 25.4 +0.6**
TEKS Tekeris 18.62 296 *e*P **Pn 15 32 25.6 +0.6**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn 15 32 26.5 +0.9**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn 15 32 26.5 +0.9**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn 15 32 26.5 +0.9**
CRVS *e* 15 32 30.0
STHS Stebnicka Huta 19.03 311 *e*P **Pn 15 32 30.1 +0.3**
STHS pmax pmax
comp=Z,19nm,1.4s
STHS Stebnicka Huta 19.03 311 *e*P **Pn 15 32 30.1 +0.3**
comp=Z,19nm,1.4s
STHS Stebnicka Huta 19.03 311 *e*P **Pn 15 32 30.1 +0.3**
KECS Kecovo 19.10 308 *e*P **Pn 15 32 31.8 +1.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 19.10 308 *e*P **Pn 15 32 31.8 +1.1**
comp=Z,5.0nm,0.9s
KECS Kecovo 19.10 308 *e*P **Pn 15 32 31.8 +1.1**
BRY Bratogost 19.13 291 P **Pn 15 32 34.5 +3.3**
PSZ Piszkesteto 19.26 306⇑ *i*P **Pn 15 32 34.5 +1.8**
PSZ Piszkesteto 19.26 306⇑ P **Pn 15 32 34.5 +1.8**
PSZ Piszkesteto 19.26 306 *e*P **P 15 32 32.0 +0.2**
comp=Z,54nm,1.1s
PSZ Piszkesteto 19.26 306⇓ *e*P **Pn 15 32 34.7 +2.0**
PSZ Piszkesteto 19.26 306 *e*P **P 15 32 32.0 +0.2**
comp=Z,54nm,1.1s
NIE Niedzica 19.58 311 *e*P **Pn 15 32 37.0 +0.4**
NIE Niedzica 19.58 311 *e*P **Pn 15 32 37.0 +0.5**
NIE Niedzica 19.58 311 *e*P **Pn 15 32 37.0 +0.5**
NACGM Naroch 19.67 331 *e* **Pn 15 32 37.0 -0.4**
NACGM *e*LQ LQ 15 36 18.0
NACGM *e*LR LR 15 40 03.0
BUD Budapest 19.68 304 P **Pn 15 32 37.1 -0.5**
BUD pmax pmax
comp=Z,83nm,1.5s
BUD Budapest 19.68 304 P **Pn 15 32 37.1 -0.5**
comp=Z,83nm,1.5s
BUD Budapest 19.68 304⇑ *e*P **Pn 15 32 41.2 +3.6**
BIDO Bidbid 19.74 136 P **Pn 15 32 38.8 +0.3**
SMDO Samad 20.07 137 P Pn 15 32 43.6 +1.0
SNR=11
SMDO Samad 20.07 137 P Pn 15 32 43.6 +1.0
SNR=11
VYHS Vyhne 20.12 307 *e*P Pn 15 32 42.2 -0.7
VYHS *e* 15 32 46.8
VYHS pmax pmax
comp=Z,38nm,1.2s
VYHS Vyhne 20.12 307 *e*P Pn 15 32 42.2 -0.7
comp=Z,38nm,1.2s
VYHS Vyhne 20.12 307 *e*P Pn 15 32 42.2 -0.7
VYHS *e* 15 32 46.8
CSKK Cs^‡kako 20.14 304⇓ *e*P Pn 15 32 42.8 -0.3
CSKK Cs^‡kako 20.14 304⇓ *e*P Pn 15 32 42.8 -0.3
OJC Ojcow 20.22 312 *e*P Pn 15 32 44.9 +0.8
OJC Ojcow 20.22 312 *e*P Pn 15 32 44.9 +0.9
OJC Ojcow 20.22 312 *e*P **P 15 32 42.3 +0.2**
comp=Z,16nm,0.9s
OJC Ojcow 20.22 312 *e*P **P 15 32 42.3 +0.2**
comp=Z,16nm,0.9s
WSAR Wadi Sarin 20.24 135 P **P 15 32 43.3 +0.8**
comp=Z,9.5nm,0.6s,baz=341,slow=7.5,SNR=18
WSAR LR LR 15 42 54.3
comp=Z,498nm,18.3s,baz=333,slow=44
WSAR Wadi Sarin 20.24 135 P Pn 15 32 45.8 +1.3
BLY Banja Luka 20.31 296 *e*P **P 15 32 41.0 -2.1**
comp=Z,21nm,0.8s
BLY Banja Luka 20.31 296 *e*P **P 15 32 41.0 -2.1**
comp=Z,21nm,0.8s
ARU Arti 20.48 25 P **P 15 32 45.6 +0.7**
comp=Z,22nm,0.5s,baz=223,slow=5.8,SNR=38
ARU LR LR 15 42 23.5
comp=Z,581nm,19.0s,baz=217,slow=42
ARU Arti 20.48 25⇑ *e*P **P 15 32 45.7 +0.8**
ARU pmax pmax
comp=Z,26nm,0.8s
ARU Arti 20.48 25 *e*P **P 15 32 44.9 0.0**
comp=Z,81nm,1.0s
ARU Arti 20.48 25 *e*P **P 15 32 44.9 0.0**
comp=Z,81nm,1.0s
SUW Suwalki 20.54 325 P Pn 15 32 49.4 +1.7
SUW pmax pmax
comp=Z,595nm,0.5s
BEHE Becsehely 20.90 300⇑ *e*P Pn 15 32 55.0 +3.0
SMOL Smolenice 21.01 306 *e*P P 15 32 58.1 +7.4
SMOL Smolenice 21.01 306 *e* P 15 32 58.1 +7.4
OKC Ostrava-Krasne 21.04 310 *e*P **P 15 32 55.4 +4.5**
OKC *e*S **S 15 36 47.4 +2.6**
OKC AMS AMS 15 43 30.0
comp=Z,700nm,13.5s
OKC Ostrava-Krasne 21.04 310 *e*P **P 15 32 55.4 +4.5**
OKC *e*S **S 15 36 47.4 +2.6**
OKC MLR MLR
comp=Z,700nm,13.5s
KK31 Karatay Array 21.07 69 *ce*P **P 15 32 51.7 +0.3**
KK31 pmax pmax
comp=Z,53nm,0.8s
KKAR Karatay Array 21.07 69 *e*P **P 15 32 51.6 +0.2**
KKAR pmax pmax
comp=Z,51nm,0.8s
KKAR Karatay Array 21.07 69 *e*P **P 15 32 51.6 +0.2**
comp=Z,51nm,0.8s
RAC Raciborz 21.10 311 *e*P **P 15 32 55.5 +3.9**
RAC MLR MLR
comp=Z,700nm,15.6s
KBL Kabul 21.12 93 *e*P **P 15 32 52.8 +0.6**
KBL pmax pmax
comp=Z,39nm,1.3s
KBL Kabul 21.12 93 *e*P **P 15 32 52.8 +0.6**
comp=Z,39nm,1.3s
CUC Castrocucco 21.20 282 *e*P **P 15 32 53.8 +1.0**
comp=Z,86nm,1.8s
SOP Sopron 21.33 304 P **P 15 32 54.4 +0.3**
SOP pmax pmax
comp=Z,47nm,1.1s
SOP Sopron 21.33 304⇑ *e*P **P 15 32 55.0 +0.9**
SOP Sopron 21.33 304⇑ *e*P **P 15 32 55.0 +0.9**
MORC Moravsky Berou 21.38 310⇓ *i*P **P 15 32 57.3 +2.7**
MORC Moravsky Berou 21.38 310 *e*P **P 15 32 56.6 +2.0**
MORC pmax pmax
comp=Z,266nm,1.7s
MORC Moravsky Berou 21.38 310⇓ *i*P **P 15 32 57.3 +2.7**
MORC Moravsky Berou 21.38 310 *e*P **P 15 32 56.6 +2.0**
comp=Z,266nm,1.7s
SVE Sverdlovsk 21.50 27 *e*P **P 15 32 56.3 +0.4**
SVE *e*S **S 15 36 54.5 +0.5**
SVE pmax pmax
comp=Z,67nm,1.3s
SVE MLR MLR
comp=Z,870nm,14.0s
BOJS Bojanci 21.77 297 *i* P **P 15 33 04.6 +5.7**
VRAC Vranov 21.79 308 P **P 15 33 00.9 +1.9**
comp=Z,18nm,0.8s,baz=104,slow=12,SNR=4.9
VRAC Vranov 21.79 308 P **P 15 33 01.0 +1.9**
VRAC pmax pmax
comp=Z,18nm,0.8s
CONA Conrad Observa 21.85 304 *e*P **P 15 33 01.0 +1.2**
comp=Z,56nm,0.9s,SNR=10
CONA Conrad Observa 21.85 304 P **P 15 33 01.0 +1.2**
comp=Z,56nm,0.9s,SNR=10
ARSA Arzberg 21.91 302 *e*P **P 15 33 03.6 +3.2**
comp=Z,34nm,1.1s
KRLC Kraliky 21.94 310 *e*P **P 15 33 02.3 +1.6**
KRLC *e*pP **sP 15 33 05.9 +0.3**
KRLC Kraliky 21.94 310 *e*P **P 15 33 02.3 +1.6**
KRLC *e* 15 33 05.9
KRLC Kraliky 21.94 310 P **P 15 33 02.3 +1.6**
PERS Pernice 22.05 300 *i* P **P 15 33 04.9 +2.9**
VISS Visnje 22.10 298 *i* P P 15 33 09.9 +7.5
SOKA Soboth 22.12 300 *e*P **P 15 33 05.5 +2.8**
comp=Z,22nm,1.6s,SNR=6.3
SOKA Soboth 22.12 300 P **P 15 33 05.5 +2.8**
comp=Z,22nm,1.6s,SNR=6.3
DPC Dobruska-Polom 22.32 310 *e*P **P 15 33 07.5 +2.8**
DPC *e*pP **sP 15 33 10.8 +1.1**
DPC *e*S Sn 15 37 16.7 -5.2
DPC AMS AMS 15 44 50.0
comp=Z,800nm,13.2s
DPC Dobruska-Polom 22.32 310 *e*P **P 15 33 07.5 +2.8**
DPC *e* 15 33 10.8
DPC MLR MLR
comp=Z,800nm,13.2s
DPC Dobruska-Polom 22.32 310 P **P 15 33 07.5 +2.8**
KLMR Klimovskoe 22.33 355 *e*P **P 15 33 04.3 -0.4**
KLMR *e*S **S 15 37 11.6 +1.9**
KLMR pmax pmax
comp=Z,97nm,1.4s
KLMR MLR MLR
comp=Z,433nm,12.0s
TREC Trest 22.47 307 AMS AMS 15 45 50.0
comp=Z,700nm,11.4s
TREC Trest 22.47 307 P **P 15 33 05.9 -0.5**
TREC pmax pmax
comp=Z,17nm,1.8s
VSU Vasula 22.49 337 *ce*P **P 15 33 08.3 +1.9**
VSU pmax pmax
comp=Z,85nm,0.7s
KSP Ksiaz 22.52 311 *e*P **P 15 33 07.3 +0.5**
KSP Ksiaz 22.52 311 *e*P **P 15 33 07.3 +0.5**
KSP Ksiaz 22.52 311 *e*P **P 15 33 07.3 +0.5**
MNAS Manas 22.52 71 *i* P **P 15 33 08.2 +1.1**
MNAS pmax pmax
comp=Z,19nm,0.9s
UPC Upice 22.56 310 *e*P **P 15 33 08.8 +1.5**
UPC *e*pP **sP 15 33 12.2 0.0**
UPC *e*x x 15 33 22.9
UPC AMS AMS 15 45 00.0
comp=Z,500nm,14.9s
UPC Upice 22.56 310 *e*P **P 15 33 08.8 +1.5**
UPC *e* 15 33 12.2
UPC MLR MLR
comp=Z,500nm,14.9s
UPC Upice 22.56 310 P **P 15 33 08.8 +1.5**
SOKR Solikamsk 22.66 18⇑ *i*P **P 15 33 13.7 +5.5**
SOKR pmax pmax
comp=Z,39nm,1.2s
VAE Valguarnera 22.66 276 LR LR 15 42 40.9
comp=Z,220nm,19.4s,baz=120,slow=38
MOA Molln 22.87 303 *e*P **P 15 33 11.3 +0.6**
comp=Z,30nm,0.9s,SNR=7.0
MOA Molln 22.87 303 P **P 15 33 11.3 +0.6**
comp=Z,30nm,0.9s,SNR=7.0
AQU L'Aquila 22.90 289 *e*P **P 15 33 08.6 -2.4**
AQU pmax pmax
comp=Z,69nm,1.0s
AQU L'Aquila 22.90 289 *e*P **P 15 33 08.6 -2.4**
comp=Z,69nm,1.0s
MYKA Terra Mystica 23.05 300 *e*P **P 15 33 16.0 +3.4**
comp=Z,15nm,0.8s
GOPC GO Pecny, Ondr 23.10 308 *e*S **S 15 37 23.8 -0.1**
GOPC AMS AMS 15 44 50.0
comp=Z,300nm,13.9s
GOPC GO Pecny, Ondr 23.10 308 S **S 15 37 23.8 -0.1**
PRU Pruhonice 23.27 308 *e*P **P 15 33 13.6 -1.1**
PRU *e*pP **pP 15 33 18.6 +0.5**
PRU *e*S **S 15 37 32.8 +6.1**
PRU Pruhonice 23.27 308 *e*P **P 15 33 13.6 -1.1**
PRU *e* 15 33 18.6
PRU *e*S **S 15 37 32.8 +6.1**
PRU Pruhonice 23.27 308 P **P 15 33 13.6 -1.1**
KBA Koelnbreinsper 23.33 301 P **P 15 33 17.4 +1.9**
KBA pmax pmax
comp=Z,35nm,1.2s
KBA Koelnbreinsper 23.33 301 *e*pP **P 15 33 17.6 +2.1**
comp=Z,24nm,0.9s,SNR=7.5
KBA Koelnbreinsper 23.33 301 P **P 15 33 17.6 +2.1**
comp=Z,24nm,0.9s,SNR=7.5
PVCC Panska Ves 23.43 310 AMS AMS 15 45 00.0
comp=Z,700nm,15.0s
GEC2 GERESS Array S 23.48 305 *e*P **P 15 33 14.9 -2.0**
GEC2 pmax pmax
comp=Z,18nm,1.1s
GEC2 GERESS Array S 23.48 305 *e*P **P 15 33 14.9 -2.0**
comp=Z,18nm,1.1s
GERES GERESS Array B 23.48 305 P **P 15 33 16.5 -0.3**
comp=Z,4.2nm,0.9s,baz=110,slow=12,SNR=9.6
GERES LR LR 15 43 45.9
comp=Z,204nm,20.3s,baz=107,slow=40
BRVK Borovoye 23.53 43 *ce*P **P 15 33 19.1 +1.9**
BRVK pmax pmax
comp=Z,64nm,1.0s
BRVK Borovoye 23.53 43 *e*P **P 15 33 16.9 -0.4**
comp=Z,29nm,0.9s
BRVK Borovoye 23.53 43 P **P 15 33 19.1 +1.9**
SNR=16
BRVK P **P 15 33 19.1 +1.9**
SNR=16
BRVK Borovoye 23.53 43 P **P 15 33 19.1 +1.9**
SNR=16
BVA0 Borovoye Array 23.57 44 P **P 15 33 16.6 -1.1**
BVA0 pmax pmax
comp=Z,38nm,1.3s
BVAR Borovoye Array 23.57 44 P **P 15 33 18.5 +0.8**
comp=Z,4.8nm,0.7s,baz=232,slow=9.3,SNR=22
KHC Kasperske Hory 23.63 306 *e*P **P 15 33 18.5 +0.2**
KHC *e*pP **pP 15 33 22.4 +0.6**
KHC *e*S **S 15 37 33.6 +1.0**
KHC AMS AMS 15 46 10.0
comp=Z,700nm,15.1s
KHC Kasperske Hory 23.63 306 *e*P **P 15 33 18.5 +0.2**
KHC *e* 15 33 22.4
KHC *e*S **S 15 37 33.6 +1.0**
KHC MLR MLR
comp=Z,700nm,15.1s
KHC Kasperske Hory 23.63 306 P **P 15 33 18.5 +0.2**
KHC *e*S **S 15 37 33.6 +1.0**
comp=Z,700nm,15.1s
KHC Kasperske Hory 23.63 306 *e*P **P 15 33 17.7 -0.6**
comp=Z,6.3nm,1.1s
ABTA Abfaltersbach 23.84 300 *e*pP **P 15 33 21.2 +0.8**
comp=Z,23nm,1.2s
ABTA Abfaltersbach 23.84 300 P **P 15 33 21.2 +0.8**
comp=Z,23nm,1.2s
BRG Berggiesshubel 23.92 310 *e*P **P 15 33 22.9 +1.9**
comp=Z,7.8nm,1.3s
BRG *e* 15 33 25.1
comp=Z,19nm,1.3s
BRG S **S 15 37 43.0 +5.9**
comp=N,475nm,16.6s
comp=E,443nm,15.7s
comp=Z,813nm,14.6s
BRG Berggiesshubel 23.92 310 *e*P **P 15 33 22.9 +1.9**
BRG *e* 15 33 25.1
BRG S **S 15 37 43.0 +5.9**
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,19nm,1.3s
BRG MLR MLR
comp=N,475nm,16.6s
BRG MLR MLR
comp=E,443nm,15.7s
BRG MLR MLR
comp=Z,813nm,14.6s
AAK Ala-Archa 23.99 70 P **P 15 33 23.5 +1.5**
comp=Z,4.3nm,0.8s,baz=237,slow=7.4,SNR=16
AAK LR LR 15 44 30.8
comp=Z,477nm,18.3s,baz=270,slow=41
AAK Ala-Archa 23.99 70 *ce*P **P 15 33 22.9 +0.9**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 23.99 70 *e*P **P 15 33 23.1 +1.2**
comp=Z,36nm,1.4s
AAK Ala-Archa 23.99 70 P **P 15 33 23.6 +1.6**
SNR=22
AAK Ala-Archa 23.99 70 P **P 15 33 23.6 +1.6**
SNR=22
WET Wettzell 24.08 306 P **P 15 33 20.9 -1.7**
WET pmax pmax
comp=Z,53nm,1.7s
FRU Bishkek 24.08 70⇑ *i*P **P 15 33 24.0 +1.4**
FRU pmax pmax
comp=Z,180nm,2.2s
FRU MLR MLR
comp=E,500nm,16.0s
WTTA Wattenberg 24.51 301 *e*P **P 15 33 27.0 +0.3**
comp=E,49nm,1.0s,SNR=6.9
WTTA Wattenberg 24.51 301 P **P 15 33 27.0 +0.3**
comp=E,49nm,1.0s,SNR=6.9
WATA Walderalm 24.56 301 *e*P **P 15 33 27.8 +0.6**
comp=E,54nm,0.9s,SNR=8.0
WATA Walderalm 24.56 301 P **P 15 33 27.8 +0.6**
comp=E,54nm,0.9s,SNR=8.0
CLL Collm 24.62 311 *e*P **P 15 33 27.0 -0.5**
CLL *i* 15 33 31.3
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 24.62 311 *e*P **P 15 33 27.0 -0.5**
CLL *i* pP **pP 15 33 29.0 -2.1**
comp=Z,13nm,0.9s
CLL *i* sP **sP 15 33 31.3 -1.3**
comp=Z,19nm,1.0s
CLL *i* 15 33 44.4
CLL *e*(S) **S 15 37 58.0 +10**
CLL Collm 24.62 311 *e*P **P 15 33 25.3 -2.1**
comp=Z,22nm,1.1s
NKC Novy Kostel 24.63 308 AMS AMS 15 46 10.0
comp=Z,800nm,11.5s
MOTA Moosalm 24.88 301 *e*P **P 15 33 30.2 +0.2**
comp=Z,78nm,0.8s,SNR=34
MOTA Moosalm 24.88 301 P **P 15 33 30.2 +0.2**
comp=Z,78nm,0.8s,SNR=34
FUR Furstenfeldbru 24.90 303 P **P 15 33 29.8 -0.3**
FUR pmax pmax
comp=Z,214nm,1.0s
FETA Feichten 25.09 300 *e*P **P 15 33 31.8 -0.1**
comp=Z,23nm,0.9s
FETA Feichten 25.09 300 P **P 15 33 31.8 -0.1**
comp=Z,23nm,0.9s
RETA Reutte 25.13 301 *e*P **P 15 33 32.1 -0.1**
comp=Z,12nm,0.6s
RETA Reutte 25.13 301 P **P 15 33 32.1 -0.1**
comp=Z,12nm,0.6s
FINES FINESS Array B 25.15 341 P **P 15 33 31.9 -0.3**
comp=Z,6.8nm,0.7s,baz=149,slow=9.8,SNR=16
FINES LR LR 15 43 52.0
comp=Z,232nm,18.0s,baz=144,slow=37
FIA1 FINESS Array S 25.15 341 *e*P **P 15 33 30.4 -1.7**
comp=Z,31nm,1.1s
GRF Grafenberg Arr 25.26 306 P **P 15 33 35.6 +2.3**
GRF pmax pmax
comp=Z,189nm,1.1s
MOX Moxa 25.26 309 P **P 15 33 32.1 -1.1**
MOX pmax pmax
comp=Z,11nm,1.6s
GRFO Grafenberg 25.26 306 *e*P **P 15 33 32.5 -0.8**
GRFO pmax pmax
comp=Z,132nm,1.0s
GRFO Grafenberg 25.26 306 *e*P **P 15 33 32.5 -0.8**
comp=Z,132nm,1.0s
JOF Joensuu 25.33 347 P **P 15 33 32.5 -1.2**
JOF pmax pmax
comp=Z,36nm,1.2s
KSH Kashi 25.37 78 P **P 15 33 33.8 -0.7**
KSH pP pP 15 33 37.8 -0.3
KSH sP sP 15 33 41.0 +1.4
KSH PP **PnPn 15 34 12.3 +3.0**
KSH PcP **PcP 15 37 07.3 +0.5**
KSH S **S 15 37 55.8 -5.0**
KSH sS pS 15 38 02.9 -1.8
KSH SS **SnSn 15 38 56.3 +3.9**
KSH PcS **PcS 15 40 47.8 +0.4**
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,320nm,5.8s
KSH LR LR
comp=Z,290nm,11.4s
KSH LR LR
comp=Z,210nm,12.3s
KSH LR LR
comp=Z,190nm,11.7s
DAVOX Davos/Dischmat 25.64 299 P **P 15 33 36.0 -1.0**
comp=Z,12nm,0.6s,baz=119,slow=10,SNR=5.1
DAVOX Davos/Dischmat 25.64 299 P **P 15 33 36.0 -1.0**
DAVOX pmax pmax
comp=Z,12nm,0.6s
DAVA Damuels 25.70 300 *e*P **P 15 33 37.5 0.0**
comp=Z,13nm,0.8s
DAVA Damuels 25.70 300 P **P 15 33 37.5 0.0**
comp=Z,13nm,0.8s
TMCR Tamitsa 25.71 355 *e*P **P 15 33 40.5 +3.3**
TMCR pmax pmax
comp=Z,59nm,1.3s
TUE Stuetta 25.97 298 *e*P **P 15 33 39.6 -0.5**
comp=Z,80nm,2.0s
ATD Arta Tunnel 27.03 181 LR LR 15 45 21.9
comp=Z,475nm,18.2s,baz=340,slow=38
KEST Kesra 27.04 274 P **P 15 33 50.1 +0.5**
comp=Z,14nm,0.9s,baz=70,slow=4.7,SNR=4.5
KEST Kesra 27.04 274 *e*P **P 15 33 47.2 -2.4**
comp=Z,16nm,0.9s
BHJ Bhuj 27.27 117 *e*P **P 15 33 51.1 -0.5**
BHJ AMB AMB 15 33 55.3
comp=Z,23nm,0.3s
SENIN Lac Senin/Sane 27.38 298 *e*P **P 15 33 52.4 -0.3**
comp=Z,110nm,1.9s
KURBB Kurchatov Arra 27.56 53 P **P 15 33 55.2 +1.2**
comp=Z,11nm,0.7s,baz=264,slow=9.0,SNR=59
DHRM DHARAMSHALA 27.61 93 *e*P **P 15 33 54.4 -0.5**
DHRM AMB AMB 15 33 56.8
comp=Z,33nm,1.3s
KURK Kurchatov 27.63 53 *ce*P **P 15 33 56.1 +1.4**
KURK pmax pmax
comp=Z,33nm,0.7s
KURK Kurchatov 27.63 53 *e*P **P 15 33 55.1 +0.4**
comp=Z,14nm,0.8s
LPG La Plagne 27.73 296 *e*P **P 15 33 55.9 0.0**
LPG pmax pmax
comp=Z,31nm,1.3s
LPL La Plagne 27.74 296 *e*P **P 15 33 58.0 +2.0**
LPL pmax pmax
comp=Z,11nm,1.0s
BNI Bardonecchia 27.77 295 *e*P **P 15 33 56.0 -0.1**
BNI pmax pmax
comp=Z,36nm,1.2s
BNI Bardonecchia 27.77 295 *e*P **P 15 33 56.0 -0.1**
comp=Z,36nm,1.2s
CABF La Chapelle 28.23 298 *e*P **P 15 34 00.7 +0.6**
CABF pmax pmax
comp=Z,111nm,1.6s
HFS Hagfors 28.39 329 P **P 15 34 01.1 -0.2**
comp=Z,16nm,0.8s,baz=128,slow=9.3,SNR=15
HFS LR LR 15 47 15.8
comp=Z,202nm,18.6s,baz=121,slow=40
SMLA Simla 28.73 95 *e*P **P 15 34 04.9 +0.3**
SMLA AMB AMB 15 34 06.2
comp=Z,29nm,1.2s
VIVF Saint-Julien-I 29.20 295 *e*P **P 15 34 11.9 +3.2**
VIVF pmax pmax
comp=Z,55nm,1.7s
MAKZ Makanchi 29.37 61 *e*P **P 15 34 11.4 +1.2**
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 29.37 61 *e*P **P 15 34 11.4 +1.2**
comp=Z,13nm,1.0s
MK31 Makanchi Array 29.58 61 *ce*P **P 15 34 12.9 +0.8**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 29.58 61 *e*P **P 15 34 12.9 +0.8**
MKAR Makanchi Array 29.58 61 P **P 15 34 13.2 +1.1**
comp=Z,7.3nm,0.7s,baz=267,slow=7.6,SNR=44
MKAR LR LR 15 48 02.6
comp=Z,234nm,18.6s,baz=264,slow=40
MKAR Makanchi Array 29.58 61 *e*P **P 15 34 12.9 +0.8**
MKAR pmax pmax
comp=Z,45nm,0.6s
MKAR Makanchi Array 29.58 61 *e*P **P 15 34 12.9 +0.8**
comp=Z,45nm,0.6s
LVZ Lovozero 29.66 353 *i*P **P 15 34 13.7 +1.1**
LVZ pmax pmax
comp=Z,19nm,0.9s
LVZ Lovozero 29.66 353 *e*P **P 15 34 11.4 -1.1**

comp=Z,183nm,1.9s
DDI Dehra Dun 29.76 96 *e*P **P 15 34 13.0 -0.9**
NB2 NORSAR Subarra 29.92 329 P **P 15 34 13.6 -1.3**
comp=Z,3.5nm,0.7s,baz=126,slow=9.3
NB2 NORSAR Subarra 29.92 329 P **P 15 34 13.4 -1.5**
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 29.92 329 P **P 15 34 13.6 -1.3**
comp=Z,3.5nm,0.7s,SNR=1.0
NOA NORSAR Array B 29.92 329 P **P 15 34 13.9 -1.0**
comp=Z,2.1nm,0.7s,baz=126,slow=8.9,SNR=12
NOA LR LR 15 47 03.6
comp=Z,117nm,19.9s,baz=125,slow=38
AVF Avril sur Loir 30.11 299 *e*P **P 15 34 20.9 +4.1**
AVF pmax pmax
comp=Z,31nm,1.3s
NVS Novosibirsk 31.31 46 *e*P **P 15 34 27.4 +0.2**
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s
NVS Novosibirsk 31.31 46 *e*P **P 15 34 27.4 +0.2**
ZAA0 Zalesovo Array 32.02 48 *e*P **P 15 34 32.2 -1.2**
ZAA0 Zalesovo Array 32.02 48 *e*P **P 15 34 32.2 -1.2**
ZALV Zalesovo Beam 32.02 48 P **P 15 34 33.8 +0.4**
comp=Z,3.5nm,0.6s,baz=258,slow=9.2,SNR=14
ZALV LR LR 15 49 12.8
comp=Z,234nm,18.4s,baz=248,slow=39
ARCES ARCESS Array B 32.35 348 P **P 15 34 36.0 -0.1**
comp=Z,6.4nm,0.7s,baz=155,slow=8.8,SNR=16
ARCES LR LR 15 49 13.8
comp=Z,257nm,21.0s,baz=156,slow=39
WMQ Urumqi 33.53 67 P **P 15 34 48.3 +1.4**
WMQ pP sP 15 34 52.8 +0.8
WMQ sP pP 15 34 56.3 +5.7
WMQ PP **PP 15 36 00.8 -1.9**
WMQ S **S 15 40 09.5 +0.8**
WMQ ScP **ScP 15 41 11.8 0.0**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=Z,130nm,19.5s
WMQ LR LR
comp=Z,170nm,17.7s
WMQ LR LR
comp=Z,140nm,17.7s
PYUN Piuthan 34.61 96 *e*P **P 15 34 57.2 +0.6**
comp=Z,50nm,1.0s
DANN Dangsing 35.10 95 *e*P **P 15 35 02.3 +1.4**
KOLN Koldanda 35.24 96 *e*P **P 15 35 02.7 +0.6**
comp=Z,12nm,0.7s
TAM Tamanrasset 35.77 255 *e*P **P 15 35 05.9 -0.7**
TAM pmax pmax
comp=Z,12nm,0.9s
TAM Tamanrasset 35.77 255 *e*P **P 15 35 05.9 -0.7**
comp=Z,12nm,0.9s
TAM Tamanrasset 35.77 255 *e*P **P 15 35 05.9 -0.7**
comp=Z,12nm,0.9s
GKN Gorkha 35.94 95 *e*P **P 15 35 08.7 +0.7**
comp=Z,24nm,0.6s
ESDC Sonseca Array 36.25 287 P **P 15 35 10.0 -0.5**
comp=Z,6.0nm,0.8s,baz=66,slow=9.0,SNR=12
ESDC Sonseca Array 36.25 287 P **P 15 35 10.0 -0.5**
ESLA Sonseca Array 36.25 287 *e*P **P 15 35 09.4 -1.0**
comp=Z,38nm,1.5s
ESLA Sonseca Array 36.25 287 *e*P **P 15 35 09.4 -1.0**
comp=Z,38nm,1.5s
DMN Daman 36.49 95 *e*P **P 15 35 13.9 +1.0**
comp=Z,104nm,1.3s
KKN Kakani 36.54 94 *e*P **P 15 35 13.8 +0.6**
comp=Z,16nm,0.8s
PKIN Phulchoki 36.74 95 *e*P **P 15 35 15.5 +0.6**
GUN Gumba 36.96 94 *e*P **P 15 35 17.5 +0.6**
comp=Z,130nm,1.2s
JIRN Jiri 37.32 94 *e*P **P 15 35 20.9 +0.9**
HYB Hyderabad 37.37 115 *i*P **P 15 35 21.5 +1.4**
RAMN Ramite 37.98 95 *e*P **P 15 35 26.0 +0.6**
comp=Z,70nm,0.7s
ODAN Odare 38.64 94 *e*P **P 15 35 31.9 +0.9**
TAPN Taplejung 38.65 93 *e*P **P 15 35 31.9 +0.7**
comp=Z,32nm,0.8s
NRIK Noril'sk 38.70 23 P **P 15 35 31.8 +1.1**
comp=Z,10nm,0.8s,baz=241,slow=7.0,SNR=12
NRIK LR LR 15 55 47.5
comp=Z,394nm,18.7s,baz=224,slow=43
MTE Manteigas 38.74 289 *e*P **P 15 35 30.4 -1.1**
MTE Manteigas 38.74 289 *e*P **P 15 35 29.9 -1.7**
comp=Z,32nm,0.8s
MTE Manteigas 38.74 289 *e*P **P 15 35 29.9 -1.7**
comp=Z,32nm,0.8s
PCBR Castelo Branco 38.84 288 *e*P **P 15 35 35.6 +3.4**
PVIS Viseu 38.92 290 *e*P **P 15 35 36.7 +3.7**
PBAR Barrancos 38.96 286 *e*P **P 15 35 34.5 +1.2**
PBAR Barrancos 38.96 286 *e*P **P 15 35 34.5 +1.2**
BOK Bokaro 39.03 100 *e*P **P 15 35 33.8 -0.3**
BOK AMB AMB 15 35 39.2
comp=Z,14nm,0.9s
PESTR Estremoz 39.18 287 *e*P **P 15 35 38.0 +2.8**
PBEJ Beja 39.63 286 *e*P **P 15 35 42.1 +3.2**
KMBO Kilima Mbogo 39.98 189 LR LR 15 51 49.1
comp=Z,377nm,19.5s,baz=307,slow=36
LSA Lhasa 40.27 88 P **P 15 35 46.0 +1.1**
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 40.27 88 *e*P **P 15 35 45.3 +0.4**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 40.27 88 *e*P **P 15 35 45.3 +0.4**
comp=Z,12nm,0.8s
LSA Lhasa 40.27 88 *e*P **P 15 35 45.3 +0.4**
comp=Z,12nm,0.8s
MNCY Minicoy 40.45 131 *e*P **P 15 35 45.5 -0.3**
VIS Vishakhapatnam 40.64 109 *e*P **P 15 35 48.0 +0.5**
MDRS Chennai 41.52 118 *e*P **P 15 35 54.3 -0.4**
MDRS AMB AMB 15 36 00.6
comp=Z,19nm,2.0s
SHL Shillong 42.78 93 *e*P **P 15 36 04.0 -1.1**
GTA Gaotai 43.34 70 *e*P **P 15 36 10.8 +1.3**
GTA pP sP 15 36 15.3 +0.6
GTA sP pP 15 36 17.8 +4.6
GTA PP **PP 15 37 52.9 +2.8**
GTA S **S 15 42 39.3 +2.2**
GTA sS sS 15 42 46.8 +3.6
GTA SS **SS 15 45 45.8 -4.6**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.1s
GTA LR LR
comp=Z,210nm,13.8s
GTA LR LR
comp=Z,220nm,15.4s
GTA LR LR
comp=Z,200nm,15.2s
TOA0 Torodi Ar. Sit 44.63 247 *e*P **P 15 36 17.6 -2.3**
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 44.63 247 *e*P **P 15 36 17.6 -2.3**
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 44.63 247 P **P 15 36 18.2 -1.7**
comp=Z,7.4nm,1.1s,baz=60,slow=8.6,SNR=14
TORD PcP **PcP 15 38 01.5 -1.2**
comp=Z,1.6nm,0.9s,baz=58,slow=2.5,SNR=2.4
TORD LR LR 15 57 29.8
comp=Z,94nm,19.3s,baz=65,slow=40
SONM Songino Array 45.75 57 P **P 15 36 28.8 +0.1**
comp=Z,0.9nm,0.6s,baz=271,slow=8.8,SNR=5.9
SONM PcP **PcP 15 38 06.0 -0.2**
comp=Z,0.7nm,0.6s,baz=265,slow=2.4,SNR=2.4
SONM LR LR 15 57 01.2
comp=Z,280nm,18.4s,baz=282,slow=38
ULN Ulaanbaatar 46.18 57 *ce*P **P 15 36 33.4 +1.4**
ULN pmax pmax
comp=Z,15nm,1.7s
ULN Ulaanbaatar 46.18 57 *e*P **P 15 36 33.4 +1.4**
comp=Z,15nm,1.7s
ULN Ulaanbaatar 46.18 57 *e*P **P 15 36 29.6 -2.5**
comp=Z,46nm,2.0s
DAG Danmarks Havn 46.32 344 *i*P **P 15 36 32.4 -0.2**
DAG Danmarks Havn 46.32 344 *e*P **P 15 36 32.4 -0.2**
LZH Lanzhou 47.48 73 *e*P **P 15 36 44.0 +1.6**
LZH pP sP 15 36 48.0 +0.4
LZH sP pP 15 36 50.3 +4.2
LZH PP **PP 15 38 35.0 +1.4**
LZH *e*S **S 15 43 37.0 0.0**
LZH sS sS 15 43 44.3 +1.2
LZH SS **SS 15 46 55.8 -8.7**
LZH pmax pmax
comp=Z,39nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.2s
LZH LR LR
comp=Z,360nm,14.6s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,560nm,16.4s
CD2 Chengdu 49.54 80 *e*P **P 15 36 57.5 -0.7**
CD2 S **S 15 44 05.6 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,120nm,6.8s
CD2 LR LR
comp=Z,230nm,13.9s
CD2 LR LR
comp=Z,170nm,9.9s
DGPR DIGLIPUR 50.66 106 *e*P **P 15 37 08.0 +1.3**
SUMG Summit 51.13 337 *i*P **P 15 37 10.4 +0.4**
SUMG Summit 51.13 337 *e*P **P 15 37 10.4 +0.4**
SUMG Summit 51.13 337 *e*P **P 15 37 10.4 +0.4**
SUMG Summit 51.13 337 *e*P **P 15 37 08.9 -1.1**
comp=Z,19nm,1.0s
CMAI Chiengmai2 51.36 95 P **P 15 37 16.1 +3.9**
comp=Z,94nm,0.9s
PBA Port Blair 51.49 108 *e*P P 15 37 12.9 -0.1
PBA AMB AMB 15 37 19.0
comp=Z,57nm,1.5s
KMI Kunming 51.50 87 P **P 15 37 14.3 +1.1**
KMI pmax pmax
comp=Z,14nm,0.5s
CHTO Chiang Mai 51.91 96 P **P 15 37 15.6 -0.5**
comp=Z,93nm,0.7s,comp=Z,1μm
CHTO Chiang Mai 51.91 96 *e*P **P 15 37 15.3 -0.8**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 51.91 96 *e*P **P 15 37 15.3 -0.8**
comp=Z,15nm,0.7s
CHTO Chiang Mai 51.91 96 *e*P **P 15 37 15.2 -0.8**
comp=Z,15nm,0.7s
CHTO Chiang Mai 51.91 96 P **P 15 37 15.8 -0.3**
SNR=8.0
CHTO P **P 15 37 15.8 -0.3**
SNR=8.0
CHTO Chiang Mai 51.91 96 P **P 15 37 15.8 -0.3**
SNR=8.0
CM31 Chiang Mai Arr 52.11 96 *e*P **P 15 37 15.9 -1.7**
CM31 Chiang Mai Arr 52.11 96 *e*P **P 15 37 15.8 -1.7**
CMAR Chiang Mai Arr 52.11 96 P **P 15 37 17.4 -0.2**
comp=Z,9.3nm,0.7s,baz=299,slow=8.4,SNR=56
CMAR LR LR 16 03 06.3
comp=Z,84nm,19.1s,baz=287,slow=40
XAN Xi'an 52.12 74 P **P 15 37 17.6 +0.1**
XAN pP pP 15 37 21.5 +0.2
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN LR LR
comp=Z,110nm,21.8s
XAN LR LR
comp=Z,140nm,20.1s
XAN LR LR
comp=Z,230nm,15.7s
TIXI Tiksi 52.48 23 *ce*P **P 15 37 20.4 +0.8**
TIXI pmax pmax
comp=Z,18nm,2.5s
TIXI Tiksi 52.48 23 *e*P **P 15 37 19.8 +0.2**
comp=Z,5.8nm,0.9s
TIXI Tiksi 52.48 23 *e*P **P 15 37 19.8 +0.2**
comp=Z,5.8nm,0.9s
LAMP Lampang 52.61 96 P **P 15 37 23.2 +1.9**
comp=Z,7.5nm,0.9s
NANT Nan 53.28 95 P **P 15 37 26.1 -0.2**
comp=Z,5.8nm,0.7s
DBIC Dimbokro 53.74 246 P **P 15 37 27.8 -1.8**
comp=Z,5.6nm,0.7s,baz=10.0,slow=8.6,SNR=7.8
DBIC LR LR 16 02 52.8
comp=Z,83nm,18.4s,baz=42,slow=39
DBIC Dimbokro 53.74 246 P **P 15 37 27.8 -1.8**
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC MLR MLR
comp=Z,83nm,18.4s
UTTA Uttaradit 53.77 96 P **P 15 37 30.5 +0.7**
comp=Z,4.3nm,0.7s,comp=Z,41nm
HIA Hailar 53.87 52 *i*P **P 15 37 30.3 0.0**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 53.87 52 *i*P **P 15 37 30.3 0.0**
comp=Z,5.0nm,0.8s
HIA Hailar 53.87 52 *e*P **P 15 37 29.2 -1.0**
comp=Z,18nm,1.2s
GYA Guiyang 53.89 83 P **P 15 37 31.3 +0.5**
GYA PP **PP 15 39 34.3 +2.4**
GYA S **S 15 45 04.0 -2.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.8s
UTHA Uthaitani 54.19 99 P **P 15 37 33.3 +0.4**
comp=Z,6.7nm,0.8s,comp=Z,56nm
ENH Enshi 54.23 77 *e*P **P 15 37 32.9 -0.2**
comp=Z,16nm,1.3s
ENH Enshi 54.23 77 *e*P **P 15 37 32.9 -0.2**
comp=Z,16nm,1.3s
PBKT Sadao Pong 54.77 97 P **P 15 37 37.2 0.0**
comp=Z,28nm,0.9s
YAK Yakutsk 55.15 35 *e*P **P 15 37 40.6 +1.4**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK Yakutsk 55.15 35 *e*P **P 15 37 40.6 +1.4**
comp=E,3.0nm,0.9s
YAK Yakutsk 55.15 35 *e*P **P 15 37 38.2 -1.0**
comp=E,16nm,0.6s
LSZ Lusaka 55.48 198 *e*P **P 15 37 40.6 -1.7**
LSZ pmax pmax
comp=Z,8.0nm,1.3s
LSZ Lusaka 55.48 198 *e*P **P 15 37 40.6 -1.7**
comp=Z,7.9nm,1.3s
LSZ Lusaka 55.48 198 *e*P **P 15 37 40.6 -1.7**
comp=Z,7.9nm,1.3s
CHAI Chaiyaphum 55.95 97 P **P 15 37 46.2 +0.5**
comp=Z,5.2nm,0.7s
KHON Khomkaen 56.35 96 P **P 15 37 50.2 +1.7**
comp=Z,18nm,1.0s
NAYO Nakonayok 56.38 99 P **P 15 37 49.0 +0.3**
comp=Z,102nm,0.7s
SKNT Sakolnakorn 56.88 94 P **P 15 37 56.0 +3.7**
comp=Z,16nm,1.4s
SRAK Srakaew 57.12 99 P **P 15 37 57.4 +3.4**
comp=Z,96nm,0.8s,comp=Z,790nm
ABPO Ambohimpanom 57.51 175 *e*P **P 15 37 55.9 -0.8**
ABPO pmax pmax
comp=Z,8.0nm,1.0s
ABPO Ambohimpanom 57.51 175 *e*P **P 15 37 55.9 -0.8**
comp=Z,8.0nm,1.0s
ABPO Ambohimpanom 57.51 175 *e*P **P 15 37 55.9 -0.8**
comp=Z,7.6nm,1.0s
WHN Wuhan 57.80 75 ⇑P **P 15 37 59.1 +0.5**
QIZ Qiongzhong 60.31 89 P **P 15 38 14.6 -1.6**
QIZ S **S 15 46 29.1 -1.4**
QIZ LR LR
comp=Z,48nm,21.8s
NJ2 Nanjing 60.43 71 *e*P **P 15 38 18.0 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 61.92 111 *e*P **P 15 38 25.5 -1.8**
PSI pmax pmax
comp=Z,14nm,1.0s
PSI Prapat 61.92 111 *e*P **P 15 38 25.5 -1.8**
comp=Z,14nm,1.0s
IPM Ipoh 62.36 108 *e*P **P 15 38 27.8 -2.3**
comp=Z,23nm,0.9s
IPM Ipoh 62.36 108 *e*P **P 15 38 27.8 -2.3**
comp=Z,23nm,0.9s
USRK Ussuriysk Ar. 63.62 53 P **P 15 38 38.6 +0.5**
comp=Z,6.7nm,1.0s,baz=296,slow=3.4,SNR=6.4
USRK LR LR 16 09 05.7
comp=Z,97nm,18.9s,baz=289,slow=39
SEY Seymchan 64.17 29 *ce*P **P 15 38 41.1 -0.3**
SEY Seymchan 64.17 29 *e*P **P 15 38 41.1 -0.3**
KS15 Wonju Array Si 64.25 62 *e*P **P 15 38 42.0 -0.3**
KS15 Wonju Array Si 64.25 62 *e*P **P 15 38 42.0 -0.3**
KSAR Wonju Array Be 64.25 62 P **P 15 38 42.3 -0.1**
KSAR Wonju Array Be 64.25 62 P **P 15 38 42.2 -0.1**
KSAR Wonju Array Be 64.25 62 P **P 15 38 42.2 -0.1**
KSRS Korea Array 64.27 62 P **P 15 38 42.2 -0.2**
comp=Z,9.0nm,0.6s,baz=288,slow=7.0,SNR=34
KSRS LR LR 16 08 55.9
comp=Z,58nm,18.3s,baz=307,slow=38
BILL Bilibino 65.42 20 *i*P **P 15 38 49.8 +0.3**
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL MLR MLR
comp=Z,104nm,18.0s
BILL Bilibino 65.42 20 *i*P **P 15 38 49.8 +0.3**
comp=Z,104nm,18.0s
BOSA Boshof 69.01 197 P **P 15 39 12.4 -0.3**
comp=Z,5.8nm,0.8s,baz=0.3,slow=5.3,SNR=9.7
BOSA LR LR 16 08 45.3
comp=Z,216nm,18.1s,baz=36,slow=35
SCHQ Schefferville 69.37 324 P **P 15 39 14.6 -0.1**
comp=Z,5.7nm,0.6s,baz=23,slow=6.8,SNR=2.4
SCHQ LR LR 16 10 34.7
comp=Z,38nm,18.6s,baz=104,slow=37
MAJO Matsushiro 71.70 58 *i*P **P 15 39 29.2 -0.1**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 71.70 58 *i*P **P 15 39 29.2 -0.1**
comp=Z,36nm,1.1s
MAT Matsushiro 71.70 58 P **P 15 39 28.2 -1.1**
MAT S **S 15 48 48.0 -1.0**
MJAR Matsushiro Arr 71.70 58 P **P 15 39 28.4 -0.8**
comp=Z,3.8nm,0.9s,baz=308,slow=6.2,SNR=6.7
MJAR LR LR 16 12 56.3
comp=Z,143nm,19.9s,baz=310,slow=37
SBUM Sibu 72.15 101 *e*P **P 15 39 31.5 -0.7**
comp=Z,14nm,1.0s
SBUM Sibu 72.15 101 *e*P **P 15 39 31.5 -0.7**
comp=Z,14nm,1.0s
PETK Petropavlovsk- 72.49 35 LR LR 16 15 17.9
comp=Z,142nm,19.1s,baz=307,slow=39
COLD Coldfoot 73.93 5 *e*P **P 15 39 41.6 -0.4**
comp=Z,8.2nm,1.0s
COLD Coldfoot 73.93 5 *e*P **P 15 39 41.6 -0.4**
comp=Z,8.2nm,1.0s
PQI Presque Isle 75.16 318 *e*P **P 15 39 48.7 -0.8**
comp=Z,18nm,1.0s
PQI Presque Isle 75.16 318 *e*P **P 15 39 48.7 -0.8**
comp=Z,18nm,1.0s
MDM Murphy Dome 76.32 5 *e*P **P 15 39 56.0 +0.2**
comp=Z,24nm,1.7s
MDM Murphy Dome 76.32 5 *e*P **P 15 39 56.0 +0.2**
comp=Z,24nm,1.7s
COLA College 76.43 5 *e*P **P 15 39 54.7 -1.6**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 76.43 5 *e*P **P 15 39 54.7 -1.6**
comp=Z,12nm,0.9s
COLA College 76.43 5 *e*P **P 15 39 54.7 -1.6**
comp=Z,12nm,0.9s
ILAR Eielson Array 76.59 4 P **P 15 39 57.5 +0.2**
comp=Z,1.3nm,0.9s,baz=347,slow=2.8,SNR=9.3
CCB Clear Creek Bu 76.65 5 *e*P **P 15 39 56.8 -0.8**
comp=Z,13nm,1.2s
CCB Clear Creek Bu 76.65 5 *e*P **P 15 39 56.8 -0.8**
comp=Z,13nm,1.2s
EGAK Eagle 76.83 2 *e*P **P 15 39 58.0 -0.6**
comp=Z,12nm,1.0s
EGAK Eagle 76.83 2 *e*P **P 15 39 58.0 -0.6**
comp=Z,12nm,1.0s
HDA Harding Lake 76.94 5 *e*P **P 15 39 58.4 -0.9**
comp=Z,31nm,1.6s
HDA Harding Lake 76.94 5 *e*P **P 15 39 58.4 -0.9**
comp=Z,31nm,1.6s
CAST Castle Rocks 77.52 7 *e*P **P 15 40 02.1 -0.5**
comp=Z,19nm,1.0s
CAST Castle Rocks 77.52 7 *e*P **P 15 40 02.1 -0.5**
comp=Z,19nm,1.0s
DAWY Dawson 77.58 1 *e*P **P 15 40 02.4 -0.5**
comp=Z,14nm,1.1s
DAWY Dawson 77.58 1 *e*P **P 15 40 02.4 -0.5**
comp=Z,14nm,1.1s
YKA Yellowknife Ar 77.61 350 P **P 15 40 03.1 0.0**
comp=Z,1.1nm,0.7s,baz=15,slow=4.8,SNR=4.2
YKA LR LR 16 15 21.4
comp=Z,10nm,19.1s,baz=0.0,slow=36
DOT Dot Lake 77.86 3 *e*P **P 15 40 04.1 -0.4**
comp=Z,36nm,1.2s
DOT Dot Lake 77.86 3 *e*P **P 15 40 04.1 -0.4**
comp=Z,36nm,1.2s
MENT Mentasta 78.58 3 *e*P **P 15 40 08.4 -0.1**
comp=Z,39nm,1.6s
MENT Mentasta 78.58 3 *e*P **P 15 40 08.4 -0.1**
comp=Z,39nm,1.6s
SML Sawmill 79.43 6 *e*P **P 15 40 13.5 +0.3**
SML pmax pmax
comp=Z,19nm,0.8s
SML Sawmill 79.43 6 *e*P **P 15 40 13.5 +0.3**
comp=Z,19nm,0.8s
SML Sawmill 79.43 6 *e*P **P 15 40 13.5 +0.3**
comp=Z,19nm,0.8s
BMRM Bremner River 80.51 4 *e*P **P 15 40 18.6 -0.4**
comp=Z,24nm,0.5s
BMRM Bremner River 80.51 4 *e*P **P 15 40 18.6 -0.4**
comp=Z,24nm,0.5s
BALM Baldy 80.54 3 *e*P **P 15 40 19.5 +0.2**
BALM pmax pmax
comp=Z,26nm,1.1s
BALM Baldy 80.54 3 *e*P **P 15 40 19.5 +0.2**
comp=Z,26nm,1.1s
BALM Baldy 80.54 3 *e*P **P 15 40 19.5 +0.2**
comp=Z,26nm,1.1s
HYT Haines Junctio 80.85 0 *e*P **P 15 40 20.2 -0.8**
comp=Z,24nm,1.2s
HYT Haines Junctio 80.85 0 *e*P **P 15 40 20.2 -0.8**
comp=Z,24nm,1.2s
KDAK Kodiak Island 83.00 8 *ce*P **P 15 40 32.6 +0.5**
KDAK Kodiak Island 83.00 8 *e*P **P 15 40 32.2 +0.1**
comp=Z,21nm,0.8s
KDAK Kodiak Island 83.00 8 *e*P **P 15 40 32.2 +0.1**
comp=Z,21nm,0.8s
ULM Lac du Bonnet 84.41 335 P **P 15 40 40.3 +0.7**
comp=Z,1.9nm,0.8s,baz=11,slow=5.2,SNR=2.2
ULM LR LR 16 18 07.2
comp=Z,30nm,19.0s,baz=75,slow=36
SSPA Standing Stone 84.49 319 *e*P **P 15 40 38.9 -1.2**
SSPA Standing Stone 84.49 319 *e*P **P 15 40 38.9 -1.2**
LAO LASA Array 90.72 340 *e*P **P 15 41 10.5 +0.4**
comp=Z,22nm,1.3s
LAO LASA Array 90.72 340 *e*P **P 15 41 10.5 +0.4**
comp=Z,22nm,1.3s
PDAR Pinedale Array 95.25 340 P **P 15 41 31.7 +0.3**
comp=Z,0.2nm,0.5s,baz=53,slow=9.7,SNR=2.7
PDAR LR LR 16 24 59.1
comp=Z,77nm,19.9s,baz=29,slow=36
FITZ Fitzroy Crossi 95.40 109 LR LR 16 29 28.2
comp=Z,16nm,19.9s,slow=38
CTU Camp Tracy 97.76 341 *e*P **P 15 41 41.6 -1.1**
comp=Z,3.6nm,0.8s
CTU Camp Tracy 97.76 341 *e*P **P 15 41 41.6 -1.1**
comp=Z,3.6nm,0.8s
ELK Elko 98.54 344 LR LR 16 28 49.7
comp=Z,46nm,18.1s,baz=41,slow=37

SGS 24 15:30:59.8, 25°.26N×37°.79E, h7km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY12	**LNY12**	**0.02**	**310**	P	Pg	15 31 01.1	-0.1
LNY11	**LNY11**	**0.06**	**345**	P	Pg	15 31 01.8	+0.1
LNY10	**LNY10**	**0.07**	**79**	P	Pg	15 31 01.6	-0.1
LNY04	**LNY04**	**0.13**	**276**	P	Pg	15 31 02.7	0.0
LNY05	**LNY05**	**0.23**	**202**	P	Pg	15 31 03.8	-0.6
LNY05	**LNY05**	**0.23**	**202**	P	Pg	15 31 04.4	0.0
LNY08	**LNY08**	**0.23**	**167**	P	Pg	15 31 06.2	+1.8
LNY07	**LNY07**	**0.24**	**238**	P	Pg	15 31 03.6	-1.0
LNY07	**LNY07**	**0.24**	**238**	P	Pg	15 31 03.6	-1.0

ISK ***24*** *15:36:35.7, 38°.69N×43°.13E, h4km, ML3.4*

*CSEM **24** 15:36:36.4±0.2,38°.68N×43°.13E, h2km, ML3.4, Error ellipse: s-maj=6.1km s-min=4.0km az=63.0*
*DDA **24** 15:36:36.2,38°.70N×43°.11E, h5km, Ml3.5*
ISC 24 15:36:37.0±1.1,38°.69N±0°.02×43°.11E±0°.02, h1km±10km, n53, σ1º23/75, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.24	113	ePG	Pg	15 36 42.0	+0.4
VANB				eSG	Sg	15 36 46.7	+2.0
VANB	Van	0.24	113	ePg	Pg	15 36 42.0	+0.4
GEVA	Gevas	0.38	186	i P	Pg	15 36 43.6	-0.7
GEVA				i S	Sg	15 36 50.5	+1.3
GEVA	Gevas	0.38	186	P	Pg	15 36 43.6	-0.7
GEVA				S	Sg	15 36 50.5	+1.3
TUTA	Tutak	0.75	342	i P	Pg	15 36 51.3	-0.1
TUTA				i S	Sb	15 37 03.2	-0.7
TUTA	Tutak	0.75	342	P	Pg	15 36 51.3	-0.1
TUTA				S	Sb	15 37 03.2	-0.7
AGRB	Hanur-Agry	0.89	354	ePG	Pg	15 36 53.5	-0.6
AGRB				eSG	Sg	15 37 06.5	+0.8
AGRB	Hanur-Agry	0.89	354	ePg	Pg	15 36 53.5	-0.6
AGRB				eSg	Sg	15 37 06.5	+0.8
BASK	Baskale_VAN	0.95	132	i P	Pg	15 36 53.3	-1.9
BASK				i S	Sg	15 37 07.8	+0.3
BASK	Baskale_VAN	0.95	132	P	Pg	15 36 53.3	-1.9
BASK				S	Sg	15 37 07.8	+0.3
EKAR	Karacoban	0.99	305	i P	Pg	15 36 55.4	-0.7
EKAR				i S	Sn	15 37 15.4	+2.3
EKAR	Karacoban	0.99	305	P	Pg	15 36 55.4	-0.7
HAKT	HAKKARI	1.22	157	i P	Pg	15 36 58.2	-2.3
HAKT				i S	Sn	15 37 19.5	+0.7
HAKT	HAKKARI	1.22	157	P	Pg	15 36 58.2	-2.3
HAKT				S	Sn	15 37 19.5	+0.7
EATA	Eleskirt	1.27	338	i P	Pg	15 37 00.2	-1.1
EATA				i S	Sn	15 37 19.4	-0.7
SIRN	S¨–rnak	1.31	205	i P	Pg	15 37 02.3	+0.1
SIRN				i S	Sn	15 37 22.8	+2.0
SIRN	S¨–rnak	1.31	205	P	Pg	15 37 02.3	+0.1
SIRN				S	Sn	15 37 22.8	+2.0
VRTB	Varto-Mus	1.37	291	ePN	Pn	15 37 02.5	-1.0
VRTB	Varto-Mus	1.37	291	i P	Pn	15 37 02.1	-1.4
VRTB	Varto-Mus	1.37	291	P	Pn	15 37 02.1	-1.4
VRTB	Varto-Mus	1.37	291	ePn	Pn	15 37 02.5	-1.0
CUKT	Cukurca	1.49	165	ePN	Pn	15 37 04.0	-1.0
CUKT	Cukurca	1.49	165	i P	Pn	15 37 04.1	-1.0
CUKT				i S	Sg	15 37 29.6	+4.6
CUKT	Cukurca	1.49	165	P	Pn	15 37 04.1	-1.0
BNGL	BINGOL	1.55	280	i P	Pb	15 37 06.0	-0.7
BNGL				i S	Sg	15 37 27.9	+0.9
SVAN	Silvan-Diyarba	1.59	251	ePN	Pn	15 37 06.0	-0.5
SVAN	Silvan-Diyarba	1.59	251	i P	Pb	15 37 07.3	-0.1
SVAN				i S	Sb	15 37 27.5	-0.5
SVAN	Silvan-Diyarba	1.59	251	ePn	Pn	15 37 06.0	-0.5
SVAN	Silvan-Diyarba	1.59	251	P	Pb	15 37 07.3	-0.1
SVAN				S	Sb	15 37 27.5	-0.5
HOMI	Horasan	1.65	326	i P	Pn	15 37 07.1	-0.2
HOMI				i S	Sg	15 37 32.2	+2.3
BTMN	Batman	1.65	242	i P	Pb	15 37 07.4	-0.9
BTMN				i S	Sg	15 37 31.9	+1.8
BTMN	Batman	1.65	242	P	Pb	15 37 07.4	-0.9
BTMN				S	Sg	15 37 31.9	+1.8
DIGO	Kars	1.74	7	i P	Pn	15 37 08.8	+0.3
DIGO	Kars	1.74	7	P	Pn	15 37 08.9	+0.3
ECAT	Cat-ERZURUM	1.90	300	i P	Pb	15 37 11.4	-1.2
ECAT	Cat-ERZURUM	1.90	300	P	Pb	15 37 11.4	-1.2
BNGB	Bing¨¶l	1.92	280	ePN	Pn	15 37 10.4	-0.6
SENK	Senkaya-Erzuru	1.96	343	ePN	Pn	15 37 10.8	-0.8
SENK	Senkaya-Erzuru	1.96	343	ePn	Pn	15 37 10.8	-0.8
EAK	Akyaka	2.03	11	i P	Pb	15 37 15.1	+0.3
EAK	Akyaka	2.03	11	P	Pb	15 37 15.1	+0.3
BINT	Bingol	2.06	276	ePn	Pn	15 37 10.4	-2.5
YEDI	Yedisu-Bingol	2.13	291	ePN	Pn	15 37 13.1	-0.9
YEDI	Yedisu-Bingol	2.13	291	ePn	Pn	15 37 13.1	-0.9
KOPT	Kop Dagi	2.42	304	i P	Pb	15 37 21.4	-0.2
KOPT	Kop Dagi	2.42	304	P	Pb	15 37 21.4	-0.2
MAZI	Mazidag	2.44	241	ePN	Pn	15 37 17.6	-0.5
MAZI	Mazidag	2.44	241	ePn	Pn	15 37 17.6	-0.5
ERZN	Erzincan	2.78	290	ePN	Pn	15 37 22.3	-0.6
PTK	Pertek	2.91	275	ePN	Pn	15 37 24.6	-0.1
PTK	Pertek	2.91	275	ePn	Pn	15 37 24.6	-0.1
SVRC	Sivrice-ELAZID	3.00	265	ePN	Pn	15 37 25.3	-0.6
SVRC	Sivrice-ELAZID	3.00	265	ePn	Pn	15 37 25.3	-0.6

*DDA **24** 15:39:48.9,38°.66N×43°.12E, h4km, Ml3.7*
*ISCJB **24** 15:39:49.3±0.6,38°.69N±0°.02×43°.16E±0°.03, h1km±5km, mb3.6/6, Error ellipse: s-maj=4.1km s-min=3.4km az=164.4*
*CSEM **24** 15:39:49.2±0.2,38°.68N×43°.18E, h2km, ML3.6, Error ellipse: s-maj=5.1km s-min=3.5km az=70.0*
*ISK **24** 15:39:49.0,38°.70N×43°.19E, h6km, ML3.6*
*IDC **24** 15:39:51.7±1.0,38°.64N×43°.59E, h0km, mb3.6/7, mb1 3.6/14, mb1mx3.5/43, mbtmp3.6/14, ML3.3/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/51, Error ellipse: s-maj=17.1km s-min=11.0km az=146.0*
ISC 24 15:39:49.6±1.1,38°.69N±0°.02×43°.15E±0°.02, h3km±8km, n71, σ1º03/86, mb3.6/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	117	ePG	Pg	15 39 54.5	+0.8
VANB				eSG	Sg	15 39 58.4	+2.0
VANB	Van	0.21	117	ePg	Pg	15 39 54.5	+0.8
GEVA	Gevas	0.38	191	i P	Pg	15 39 56.2	-0.8
GEVA				i S	Sg	15 40 02.8	+0.8
GEVA	Gevas	0.38	191	P	Pg	15 39 56.2	-0.8
GEVA				S	Sg	15 40 02.8	+0.8
TUTA	Tutak	0.76	340	i P	Pg	15 40 04.2	0.0
TUTA				i S	Sb	15 40 16.0	-0.6
TUTA	Tutak	0.76	340	P	Pg	15 40 04.2	0.0
TUTA				S	Sb	15 40 16.0	-0.6
AGRB	Hanur-Agry	0.89	352	ePG	Pb	15 40 06.6	-1.4
AGRB				eSG	Sb	15 40 19.3	-1.1
AGRB	Hanur-Agry	0.89	352	ePg	Pb	15 40 06.6	-1.4
AGRB				eSg	Sb	15 40 19.3	-1.1
BASK	Baskale_VAN	0.92	133	i P	Pg	15 40 06.3	-1.1
BASK				i S	Sb	15 40 20.5	-0.7
BASK	Baskale_VAN	0.92	133	P	Pg	15 40 06.3	-1.1
BASK				S	Sb	15 40 20.5	-0.7
DYDN	Diyadin	0.95	26	i P	Pg	15 40 07.1	-0.8
DYDN				i S	Sn	15 40 26.5	+2.1
DYDN	Diyadin	0.95	26	P	Pg	15 40 07.1	-0.8
EKAR	Karacoban	1.02	304	i P	Pg	15 40 09.1	-0.1
EKAR				i S	Sn	15 40 27.0	+0.9
EKAR	Karacoban	1.02	304	P	Pg	15 40 09.1	-0.1
EKAR				S	Sn	15 40 27.0	+0.9
HAKT	HAKKARI	1.21	159	i P	Pg	15 40 10.3	-2.6
HAKT				i S	Sn	15 40 31.0	+0.1
HAKT	HAKKARI	1.21	159	P	Pg	15 40 10.3	-2.6
EATA	Eleskirt	1.28	337	i P	Pg	15 40 13.4	-0.7
EATA				i S	Sn	15 40 31.9	-0.7
EATA	Eleskirt	1.28	337	P	Pg	15 40 13.4	-0.7
EATA				S	Sn	15 40 31.9	-0.7
VRTB	Varto-Mus	1.40	290	ePN	Pn	15 40 15.3	-1.1
VRTB	Varto-Mus	1.40	290	ePn	Pn	15 40 15.3	-1.1
CUKT	Cukurca	1.48	166	ePN	Pb	15 40 16.9	-1.1
CUKT	Cukurca	1.48	166	i P	Pg	15 40 17.4	-0.7
CUKT				i S	Sg	15 40 40.8	+3.5
CUKT	Cukurca	1.48	166	ePn	Pb	15 40 16.9	-1.1
CUKT	Cukurca	1.48	166	P	Pg	15 40 17.4	-0.7
BNGL	BINGOL	1.59	280	i P	Pb	15 40 18.9	-0.9
BNGL				i S	Sg	15 40 40.9	+0.3
SVAN	Silvan-Diyarba	1.63	251	ePN	Pb	15 40 19.4	-0.9
SVAN	Silvan-Diyarba	1.63	251	i P	Pb	15 40 19.4	-0.9
SVAN				i S	Sb	15 40 40.9	-0.4
SVAN	Silvan-Diyarba	1.63	251	P	Pb	15 40 19.4	-0.9
SVAN				S	Sb	15 40 40.9	-0.4
HOMI	Horasan	1.66	325	i P	Pb	15 40 20.5	-0.6
BTMN	Batman	1.68	242	i P	Pn	15 40 19.8	-0.3
BTMN				i S	Sg	15 40 44.0	+0.3
BTMN	Batman	1.68	242	P	Pn	15 40 19.8	-0.3
BTMN				S	Sg	15 40 44.0	+0.3
DIGO	Kars	1.73	6	i P	Pb	15 40 21.6	-0.8
DIGO	Kars	1.73	6	P	Pb	15 40 21.5	-0.8
ERZM	Erzurum	1.84	312	i P	Pb	15 40 23.8	-0.4
ERZM	Erzurum	1.84	312	P	Pb	15 40 23.8	-0.4
GNI	Garni	1.91	40	Pn	Pg	15 40 24.7	-1.5
	20nm,0.3s,baz=112,slow=9.4,SNR=14						
GNI				Sn	Sg	15 40 50.4	-0.6
	18nm,0.3s,baz=192,slow=20,SNR=5.9						
BNGB	Bing¨¶l	1.95	280	ePN	Pn	15 40 24.3	+0.5
SENK	Senkaya-Erzuru	1.97	342	ePN	Pn	15 40 23.7	-0.5
SENK	Senkaya-Erzuru	1.97	342	ePn	Pn	15 40 23.7	-0.5
EAK	Akyaka	2.02	10	i P	Pg	15 40 28.7	+0.2
EAK	Akyaka	2.02	10	P	Pg	15 40 28.7	+0.2
BINT	Bingol	2.09	276	ePn	Pn	15 40 24.3	-1.4
YEDI	Yedisu-Bingol	2.16	291	ePN	Pn	15 40 26.8	0.0
YEDI	Yedisu-Bingol	2.16	291	ePn	Pn	15 40 26.8	0.0
MARD	Mardin	2.32	235	i P	Pn	15 40 28.3	-0.6
MAZI	Mazidag	2.46	241	ePN	Pn	15 40 31.1	+0.2
MAZI	Mazidag	2.46	241	ePn	Pn	15 40 31.1	+0.2
AKH	Akhalkalaki	2.73	5	ePN	Pn	15 40 34.6	0.0
AKH	Akhalkalaki	2.73	5	ePn	Pn	15 40 34.6	0.0
ERZN	Erzincan	2.81	290	ePN	Pn	15 40 36.5	+0.8
PTK	Pertek	2.94	275	ePN	Pn	15 40 38.3	+0.7
PTK	Pertek	2.94	275	ePn	Pn	15 40 38.3	+0.7
SVRC	Sivrice-ELAZID	3.03	265	ePN	Pn	15 40 39.3	+0.5
SVRC	Sivrice-ELAZID	3.03	265	ePn	Pn	15 40 39.3	+0.5
URFA	Urfa	3.64	251	ePN	Pn	15 40 47.8	+0.8
URFA	Urfa	3.64	251	ePn	Pn	15 40 47.8	+0.8
KBZ	Khabaz	5.04	358	Pn	Pb	15 41 12.6	-5.8
	0.1nm,0.3s,baz=311,slow=5.5,SNR=2.3						
KVAR	Kislovodsk Arr	5.27	356	Pn	Pb	15 41 15.3	-7.2
	baz=149,slow=12,SNR=2.1						
BRTR	Keskin Array B	7.46	281	Pn	Pn	15 41 47.8	+8.3
	0.1nm,0.3s,baz=92,slow=15,SNR=3.8						
ASF	Jabal al Asfar	8.26	220	Lg	Lg	15 44 18.7	
	0.3nm,0.3s,baz=14,slow=23,SNR=8.1						
ASF				LR	LR	15 45 48.2	
	comp=Z,122nm,18.4s,baz=108,slow=42						
MMAI	Mount Meron Ar	8.46	230	Pn	Pn	15 42 00.9	+7.6
	0.5nm,0.3s,baz=72,slow=14,SNR=2.3						
MMAI				Lg	Lg	15 44 26.4	
	1.0nm,0.3s,baz=23,slow=27,SNR=3.0						
IDI	Anoyia	14.98	263	Pn	P	15 43 30.9	+2.8
	0.2nm,0.3s,baz=58,slow=13,SNR=2.6						
AKASG	Malin Array Be	15.53	325	Pn	P	15 43 34.1	0.0
	0.5nm,0.3s,baz=134,slow=11,SNR=11						
AKTO	Aktyubinsk	15.78	37	Pn	Pn	15 43 32.5	-0.2
	0.2nm,0.3s,baz=225,slow=15,SNR=3.2						
ARU	Arti	20.48	25	P	Pn	15 44 29.4	-1.2
	1.8nm,0.4s,baz=251,slow=12,SNR=4.3						
BVAR	Borovoye Array	23.59	44	P	P	15 45 03.2	+1.7
	0.4nm,0.4s,baz=240,slow=8.4,SNR=5.1						
KURBB	Kurchatov Arra	27.58	53	P	P	15 45 38.8	+1.0
	0.6nm,0.5s,baz=264,slow=8.9,SNR=5.8						
MKAR	Makanchi Array	29.61	61	P	P	15 45 55.4	-0.6
	0.3nm,0.4s,baz=260,slow=11,SNR=6.4						
TORD	Torodi Ar. Bea	44.60	247	P	P	15 48 10.0	+6.7
	0.7nm,1.1s,baz=64,slow=3.4,SNR=3.6						
CMAR	Chiang Mai Arr	52.15	96	P	P	15 49 00.8	-0.9
	1.1nm,0.9s,baz=297,slow=8.1,SNR=8.4						
KSRS	Korea Array	64.30	62	P	P	15 50 26.2	-0.2
	0.9nm,0.7s,baz=295,slow=7.1,SNR=3.5						

*ISCJB **24** 15:45:54.9±1.0,36°.68N±0°.04×140°.74E±0°.08, h13km±4km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=12.4km s-min=4.9km az=30.4*
*IDC **24** 15:45:54.4±3.5,36°.82N×140°.71E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/49, mbtmp3.6/4, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/37, Error ellipse: s-maj=50.5km s-min=31.8km az=110.0*
*JMA **24** 15:45:56.2,36°.73N×140°.62E, h6km±1km, M3.3*
JMA Felt II J1.
ISC 24 15:45:55.3±1.3,36°.76N±0°.09×140°.66E±0°.08, h5km±15km, n12, σ0º52/19, mb3.5/3, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.17	206	⇑P	Pg	15 45 58.9	+0.3
JHO				S	Sg	15 46 00.7	-0.1
ONAJ	Iwakimizuishiy	0.36	18	P	Pb	15 46 04.0	-0.2
ONAJ				S	Sb	15 46 09.9	-0.3
JSB	Shiboa	0.63	290	⇑P	Pb	15 46 08.6	-0.2
JSB				S	Sb	15 46 17.4	-0.5
JFK	Kawauchi	0.63	16	⇑P	Pb	15 46 08.8	0.0
JFK				S	Sb	15 46 17.8	-0.2
JYT	Yasato	0.65	215	⇓P	Pg	15 46 07.8	0.0
JYT				S	Sg	15 46 15.7	-0.5
JFT	Otama	0.80	341	⇑P	Pb	15 46 11.8	+0.1
JFT				S	Sb	15 46 22.9	+0.1
MJAR	Matsushiro Arr	1.98	264	Pn	Pn	15 46 30.1	+0.6
	15nm,0.3s,baz=84,slow=11,SNR=137						
MJAR				Sn	Sn	15 46 55.7	+1.0
	24nm,0.3s,baz=81,slow=31,SNR=18						
MJAR				LR	LR	15 47 31.0	
	comp=Z,37nm,21.6s,baz=95,slow=48						
MAT	Matsushiro	1.98	264	P	Pn	15 46 30.1	+0.6
MAT				S	Sb	15 46 56.3	-0.6
SONM	Songino Array	27.44	305	P	P	15 51 41.1	-1.0
	0.6nm,0.8s,baz=93,slow=8.9,SNR=2.9						
ZALV	Zalesovo Beam	41.65	313	P	P	15 53 44.7	+0.4
	0.5nm,0.5s,baz=110,slow=7.8,SNR=2.8						
KURBB	Kurchatov Arra	45.70	308	P	P	15 54 16.6	-0.4
	0.6nm,0.6s,baz=82,slow=7.8,SNR=7.5						
RAO	Raoul Island	76.32	143	LR	LR	16 29 59.7	
	comp=Z,21nm,18.9s,baz=312,slow=35						

*ISK **24** 15:46:36.2,38°.65N×43°.21E, h3km, ML3.5*
*DDA **24** 15:46:36.2,38°.60N×43°.18E, h5km, Ml3.5*
*IDC **24** 15:46:37.7±1.3,38°.48N×43°.30E, h0km, mb3.6/7, mb1 3.5/12, mb1mx3.4/47, mbtmp3.5/12, ML2.3/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/38, Error ellipse: s-maj=20.6km s-min=12.1km az=164.0*
*CSEM **24** 15:46:37.5±0.2,38°.64N×43°.17E, h2km, ML3.5, Error ellipse: s-maj=5.2km s-min=4.4km az=73.0*
ISC 24 15:46:38.0±1.0,38°.61N±0°.02×43°.18E±0°.02, h5km±7km, n71, σ1º52/92, mb3.4/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	95	ePG	Pg	15 46 41.1	-0.1
VANB				eSG	Sg	15 46 44.8	+1.3
VANB	Van	0.16	95	ePg	Pg	15 46 41.2	-0.1
VANB				eSg	Sg	15 46 44.8	+1.3
GEVA	Gevas	0.31	198	i P	Pg	15 46 42.9	-1.2
GEVA				i S	Sg	15 46 49.7	+1.4
BASK	Baskale_VAN	0.85	131	i P	Pg	15 46 52.0	-2.3
BASK				i S	Sb	15 47 06.3	-0.9
AGRB	Hanur-Agry	0.97	351	ePG	Pg	15 46 55.1	-1.7
AGRB				eSG	Sb	15 47 08.9	-1.9
AGRB	Hanur-Agry	0.97	351	ePg	Pg	15 46 55.1	-1.7
AGRB				eSg	Sb	15 47 08.9	-1.9
DYDN	Diyadin	1.01	23	i P	Pg	15 46 56.3	-1.2
DYDN				i S	Sn	15 47 14.5	+0.8
DYDN	Diyadin	1.01	23	P	Pg	15 46 56.3	-1.2
EKAR	Karacoban	1.08	307	i P	Pg	15 46 57.7	-1.2
EKAR				i S	Sb	15 47 14.5	+0.6
EKAR	Karacoban	1.08	307	P	Pg	15 46 57.7	-1.2
EKAR				S	Sb	15 47 14.5	+0.6
HAKT	HAKKARI	1.13	158	i P	Pg	15 46 57.0	-2.7
HAKT				i S	Sn	15 47 16.9	+0.2
HAKT	HAKKARI	1.13	158	P	Pg	15 46 57.0	-2.7
HAKT				S	Sn	15 47 16.9	+0.2
SIRN	S¨–rnak	1.27	209	i P	Pg	15 47 01.6	-0.7
SIRN	S¨–rnak	1.27	209	P	Pg	15 47 01.6	-0.7
EATA	Eleskirt	1.36	337	i P	Pg	15 47 01.9	-2.2
EATA				i S	Sn	15 47 22.2	-0.3
EATA	Eleskirt	1.36	337	P	Pg	15 47 01.9	-2.2
EATA				S	Sn	15 47 22.2	-0.3
CUKT	Cukurca	1.40	166	ePN	Pn	15 47 03.9	-0.5
CUKT	Cukurca	1.40	166	i P	Pn	15 47 03.8	-0.5
CUKT	Cukurca	1.40	166	P	Pn	15 47 03.8	-0.5
VRTB	Varto-Mus	1.46	293	ePN	Pn	15 47 04.3	-0.8
VRTB	Varto-Mus	1.46	293	i P	Pn	15 47 03.8	-1.3
VRTB	Varto-Mus	1.46	293	P	Pn	15 47 03.8	-1.3
VRTB	Varto-Mus	1.46	293	ePn	Pn	15 47 04.3	-0.8
BNGL	BINGOL	1.62	283	i P	Pn	15 47 06.3	-1.1
BNGL				i S	Sg	15 47 30.7	+0.4
SVAN	Silvan-Diyarba	1.62	254	ePN	Pn	15 47 07.0	-0.3
SVAN	Silvan-Diyarba	1.62	254	i P	Pn	15 47 07.0	-0.3
SVAN				i S	Sn	15 47 29.0	+0.4
SVAN	Silvan-Diyarba	1.62	254	P	Pn	15 47 07.0	-0.3
SVAN				S	Sn	15 47 29.0	+0.4
BTMN	Batman	1.67	245	i P	Pn	15 47 08.0	0.0
BTMN				i S	Sg	15 47 33.2	+1.6
BTMN	Batman	1.67	245	P	Pn	15 47 08.0	0.0
BTMN				S	Sg	15 47 33.2	+1.6
HOMI	Horasan	1.74	326	i P	Pn	15 47 08.9	-0.2
HOMI				i S	Sg	15 47 34.9	+0.9
DIGO	Kars	1.81	5	i P	Pb	15 47 10.3	-1.4
DIGO				i S	Sg	15 47 39.8	+3.7
DIGO	Kars	1.81	5	P	Pb	15 47 10.3	-1.4
GNI	Garni	1.96	38	Pn	Pb	15 47 13.4	-0.7
	6.9nm,0.3s,baz=226,slow=4.3,SNR=26						
GNI				Sn	Sg	15 47 43.2	+2.3
	7.0nm,0.3s,baz=32,slow=22,SNR=12						
GNI				LR	LR	15 48 08.3	
	comp=Z,132nm,20.8s,baz=186,slow=45						
BNGB	Bing¨¶l	1.99	282	ePN	Pn	15 47 12.1	-0.3
SENK	Senkaya-Erzuru	2.05	342	ePN	Pn	15 47 12.4	-0.9
SENK	Senkaya-Erzuru	2.05	342	ePn	Pn	15 47 12.4	-0.9
EAK	Akyaka	2.10	9	i P	Pg	15 47 16.6	-1.6
EAK				i S	Sg	15 47 50.4	+4.9
EAK	Akyaka	2.10	9	P	Pg	15 47 16.6	-1.6
BINT	Bingol	2.12	278	ePn	Pn	15 47 12.1	-2.1
YEDI	Yedisu-Bingol	2.21	293	ePN	Pn	15 47 15.3	-0.2
YEDI	Yedisu-Bingol	2.21	293	ePn	Pn	15 47 15.3	-0.2
MARD	Mardin	2.30	236	i P	Pn	15 47 17.1	+0.5
MAZI	Mazidag	2.45	243	ePN	Pn	15 47 18.8	+0.1
MAZI	Mazidag	2.45	243	ePn	Pn	15 47 18.8	+0.1
KOPT	Kop Dagi	2.51	305	i P	Pb	15 47 22.7	-1.1
KOPT				i S	Sg	15 48 00.9	+2.1
KOPT	Kop Dagi	2.51	305	P	Pb	15 47 22.7	-1.1
DDEM	Demirkent	2.53	335	i P	Pb	15 47 22.0	-2.0
DDEM	Demirkent	2.53	335	P	Pb	15 47 22.0	-2.0
DAGI	Agillar	2.65	339	i P	Pb	15 47 24.1	-1.9
AKH	Akhalkalaki	2.81	5	ePN	Pn	15 47 22.8	-0.9
AKH	Akhalkalaki	2.81	5	ePn	Pn	15 47 22.8	-0.9
ERZN	Erzincan	2.86	291	ePN	Pn	15 47 24.4	0.0
PTK	Pertek	2.98	277	ePN	Pn	15 47 26.4	+0.4
PTK	Pertek	2.98	277	ePn	Pn	15 47 26.4	+0.4
SVRC	Sivrice-ELAZID	3.05	267	ePN	Pn	15 47 27.2	+0.2
SVRC	Sivrice-ELAZID	3.05	267	ePn	Pn	15 47 27.2	+0.2
URFA	Urfa	3.64	253	ePN	Pn	15 47 35.9	+0.9
URFA	Urfa	3.64	253	ePn	Pn	15 47 35.9	+0.9
KBZ	Khabaz	5.12	358	Pn	Pn	15 48 00.8	+5.5
	0.1nm,0.3s,baz=149,slow=14,SNR=2.1						
KBZ				LR	LR	15 50 36.8	
	comp=Z,173nm,18.0s,baz=107,slow=46						
KVAR	Kislovodsk Arr	5.35	356	LR	LR	15 50 44.1	
	comp=Z,97nm,18.6s,baz=136,slow=45						
BRTR	Keskin Array B	7.50	282	Pn	Pn	15 48 32.9	+4.8
	0.1nm,0.3s,baz=217,slow=26,SNR=3.2						
ASF	Jabal al Asfar	8.22	220	Pn	Pn	15 48 41.9	+4.0
	0.1nm,0.3s,baz=56,slow=15,SNR=2.1						
AKASG	Malin Array Be	15.61	325	Pn	P	15 50 21.2	-1.7
	0.4nm,0.3s,baz=134,slow=11,SNR=7.3						
AKTO	Aktyubinsk	15.83	37	Pn	Pn	15 50 20.5	-0.9
	0.1nm,0.3s,baz=214,slow=7.3,SNR=3.5						
ARU	Arti	20.55	25	P	P	15 51 17.4	+0.3
	1.5nm,0.5s,baz=89,slow=23,SNR=3.7						
ARU				LR	LR	16 01 18.5	
	comp=Z,74nm,18.2s,baz=220,slow=43						
BVAR	Borovoye Array	23.63	44	P	P	15 51 52.0	+2.2
	0.1nm,0.4s,baz=248,slow=6.1,SNR=2.1						
FINES	FINESS Array B	25.20	341	P	P	15 52 04.3	+0.1
	1.8nm,0.7s,baz=143,slow=26,SNR=3.5						
KURBB	Kurchatov Arra	27.61	53	P	P	15 52 27.3	+1.2
	0.2nm,0.3s,baz=253,slow=9.7,SNR=3.1						
HFS	Hagfors	28.44	329	P	P	15 52 34.2	+0.9
	2.6nm,0.8s,baz=119,slow=10,SNR=2.9						
MKAR	Makanchi Array	29.63	61	P	P	15 52 45.8	+1.7
	0.3nm,0.7s,baz=259,slow=7.0,SNR=2.7						
CMAR	Chiang Mai Arr	52.12	96	P	P	15 55 48.8	-0.5
	0.2nm,0.4s,baz=302,slow=8.4,SNR=5.6						

*ISCJB **24** 15:54:04.3±0.5,21°.68N±0°.07×143°.7E±0°.2, h250km, mb3.6/17, Error ellipse: s-maj=19.7km s-min=8.6km az=169.5*
*IDC **24** 15:54:04.9±2.6,21°.65N×143°.72E, h240km±26km, mb3.4/18, mb1 3.5/21, mb1mx3.4/39, mbtmp4.0/21, Error ellipse: s-maj=18.8km s-min=10.5km az=81.0*
**ISC 24 15:54:05.7±0.7,21°.65N±0°.08×143°.7E±0°.2, h250km, n23, σ0º71/26, mb3.6

VCA	**Vinchina**	**2.24**	**37**⇑	*iP*	**Pn**	**16 06 08.0**	**+0.3**
VCA				*i*S	**Sn**	**16 06 36.8**	**+1.6**
VCA				IAML		16 06 41.4	
	comp=N,168nm,0.3s						
ROCH	**El Roble**	**2.65**	**204**	*eP*	**Pn**	**16 06 12.2**	**-0.9**
ROCH				*i*S	**Sn**	**16 06 44.6**	**-0.2**
FCH	**Farellones**	**2.81**	**190**	*eP*	**Pn**	**16 06 15.3**	**0.0**
FCH				*i*S	**Sn**	**16 06 49.8**	**+1.0**
FCH				IAML		16 06 56.9	
	comp=E,64nm,0.3s						

CSEM ***24*** *16:07:00.3,38.°67N×43.°09E,h7km,Ml3.5*

DDA 24 16:07:00.3,38.°67N×43.°09E,h7km,Ml3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.35**	**184**	*i*P	Pg	16 07 07.0	-0.3
GEVA				*i*S	Sb	16 07 13.6	-1.3
GEVA	**Gevas**	**0.35**	**184**	P	Pg	16 07 07.0	-0.3
GEVA				S	Sb	16 07 13.6	-1.3
TUTA	**Tutak**	**0.77**	**344**	*i*P	Pg	16 07 15.4	+0.3
TUTA				*i*S	Sb	16 07 26.2	-0.7
TUTA	**Tutak**	**0.77**	**344**	P	Pg	16 07 15.4	+0.3
TUTA				S	Sb	16 07 26.2	-0.7
EKAR	**Karacoban**	**0.99**	**307**	*i*P	Pn	16 07 20.8	-0.1
EKAR				*i*S	Sn	16 07 35.6	+0.3
EKAR	**Karacoban**	**0.99**	**307**	P	Pn	16 07 20.8	-0.1
EKAR				S	Sn	16 07 35.6	+0.3
BNGL	**BINGOL**	**1.54**	**281**	*i*P	Pb	16 07 28.9	-0.4
BNGL				*i*S	Sg	16 07 51.6	+1.8
SVAN	**Silvan-Diyarba**	**1.57**	**251**	*i*P	Pb	16 07 29.9	+0.1
SVAN				*i*S	Sg	16 07 51.9	+1.1
SVAN	**Silvan-Diyarba**	**1.57**	**251**	P	Pb	16 07 29.9	+0.2
SVAN				S	Sg	16 07 51.9	+1.1
BTMN	**Batman**	**1.63**	**242**	*i*P	Pb	16 07 30.6	-0.1
BTMN				*i*S	Sg	16 07 54.2	+1.6
BTMN	**Batman**	**1.63**	**242**	P	Pb	16 07 30.6	-0.1
BTMN				S	Sg	16 07 54.2	+1.6
HOMI	**Horasan**	**1.65**	**327**	*i*P	Pg	16 07 31.9	-0.2

CSEM ***24*** *16:18:17.6,38.°74N×43.°48E,h7km,Ml2.6*

DDA 24 16:18:17.6,38.°74N×43.°48E,h7km,Ml2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.54**	**218**	*i*P	Pg	16 18 28.2	+0.2
GEVA				*i*S	Sg	16 18 36.1	+1.1
GEVA	**Gevas**	**0.54**	**218**	P	Pg	16 18 28.2	+0.3
GEVA				S	Sg	16 18 36.1	+1.1
TUTA	**Tutak**	**0.84**	**322**	*i*P	Pg	16 18 33.8	+0.1
TUTA				*i*S	Sg	16 18 45.1	+0.4
TUTA	**Tutak**	**0.84**	**322**	P	Pg	16 18 33.8	+0.1
TUTA				S	Sg	16 18 45.1	+0.4
HAKT	**HAKKARI**	**1.19**	**171**	*i*P	Pg	16 18 40.3	-0.2
HAKT				*i*S	Sn	16 19 00.9	+3.4
HAKT	**HAKKARI**	**1.19**	**171**	P	Pg	16 18 40.3	-0.1
HAKT				S	Sn	16 19 00.9	+3.4
EKAR	**Karacoban**	**1.22**	**296**	*i*P	Pg	16 18 40.9	-0.1
EKAR				*i*S	Sn	16 19 03.0	+4.9
EKAR	**Karacoban**	**1.22**	**296**	P	Pg	16 18 40.8	-0.1
EKAR				S	Sn	16 19 03.0	+4.9
EATA	**Eleskirt**	**1.36**	**326**	*i*P	Pn	16 18 43.2	0.0
EATA				*i*S	Sn	16 19 02.4	+0.7
EATA	**Eleskirt**	**1.36**	**326**	P	Pn	16 18 43.2	-0.1
EATA				S	Sn	16 19 02.4	+0.7
SIRN	**S¨–rnak**	**1.50**	**214**	*i*P	Pg	16 18 47.6	+1.3
SIRN				*i*S	Sg	16 19 08.9	+3.3
SIRN	**S¨–rnak**	**1.50**	**214**	P	Pg	16 18 47.6	+1.3
SIRN				S	Sg	16 19 08.9	+3.2
BTMN	**Batman**	**1.93**	**245**	*i*P	Pb	16 18 52.6	-0.6
BTMN				*i*S	Sg	16 19 18.6	-1.0
BTMN	**Batman**	**1.93**	**245**	P	Pb	16 18 52.6	-0.5
BTMN				S	Sb	16 19 18.5	+1.1

TIF 24 16:18:58.2,41.°07N×43.°93E,h10km±5km,
Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.47**	**316**	P	Pb	16 19 08.3	-0.4
AKH				S	Sg	16 19 14.0	+0.4
TBLG	**Delisi**	**0.90**	**43**	P	Pg	16 19 14.1	-1.4
TBLG				S	Sn	16 19 29.1	-1.0
DGRG	**David-gareji**	**1.15**	**71**	P	Pn	16 19 21.9	+1.3
DGRG				S	Sn	16 19 39.9	+3.5

IDC 24 16:21:05.1±2.0,29.°94S×178.°16W,h0km,mb4.1/4,
mb1 4.2/4,mb1mx3.8/30,mbtmp4.1/4,Error ellipse:
s-maj=39.0km s-min=15.2km az=132.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.71**	**17**	Pn	Pn	16 21 22.9	+0.4
	133nm,0.3s,baz=197,slow=22,SNR=8.5						
RAO				Sn	Sn	16 21 34.1	0.0
	814nm,0.3s,baz=32,slow=21,SNR=21						
CTA	**Charters Tower**	**33.59**	**279**	P	P	16 27 48.6	+1.4
	2.2nm,0.5s,baz=99,slow=13,SNR=5.8						
STKA	**Stephens Creek**	**34.45**	**256**	P	P	16 27 55.0	+0.4
	1.0nm,0.8s,baz=104,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**43.00**	**267**	P	P	16 29 05.5	-1.0
	0.6nm,0.4s,baz=104,slow=7.5,SNR=27						
WRA	**Warramunga Arr**	**43.94**	**272**	P	P	16 29 13.4	-0.7
	1.3nm,0.3s,baz=110,slow=8.1,SNR=21						

AZER ***24*** *16:24:15.2±0.7,38.°44N×43.°32E,h8km,Error ellipse:*
s-maj=5.9km s-min=3.5km az=84.0
DDA ***24*** *16:24:19.0,38.°92N×43.°54E,h3km,Ml3.8*
ISK ***24*** *16:24:19.2,38.°92N×43.°51E,h4km,ML3.6*
CSEM ***24*** *16:24:20.1±0.2,38.°92N×43.°51E,h2km,ML3.6,Error*
ellipse: s-maj=4.9km s-min=4.2km az=131.0

ISC 24 16:24:19.4±1.1,38.°92N±0.°02×43.°53E±0.°02,h7km±11km,
n93,σ1§29/104,16C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**199**	*e*PG	**Pb**	**16 24 28.0**	**+0.1**
VANB	**Van**	**0.34**	**199**	*e*Pg	**Pb**	**16 24 28.0**	**+0.1**
DYDN	**Diyadin**	**0.64**	**11**	*i*P	**Pg**	**16 24 31.3**	**-0.4**
DYDN	**Diyadin**	**0.64**	**11**	P	**Pg**	**16 24 31.3**	**-0.4**
GEVA	**Gevas**	**0.71**	**212**	*i*P	**Pg**	**16 24 32.6**	**-0.4**
GEVA	**Gevas**	**0.71**	**212**	P	**Pg**	**16 24 32.6**	**-0.4**
TUTA	**Tutak**	**0.74**	**311**	*i*P	**Pg**	**16 24 32.7**	**-0.9**
TUTA	**Tutak**	**0.74**	**311**	P	**Pg**	**16 24 32.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.78**	**328**	*e*PG	**Pg**	**16 24 34.0**	**-0.4**
AGRB				*e*SG	**Sb**	**16 24 45.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.78**	**328**	*e*Pg	**Pg**	**16 24 34.0**	**-0.4**
AGRB				*e*Sg	**Sb**	**16 24 45.9**	**-0.4**
BASK	**Baskale_VAN**	**0.94**	**157**	*i*P	**Pb**	**16 24 37.9**	**-0.3**
BASK	**Baskale_VAN**	**0.94**	**157**	P	**Pb**	**16 24 37.9**	**-0.3**
EKAR	**Karacoban**	**1.19**	**287**	*i*P	**Pn**	**16 24 42.7**	**-0.1**
EKAR	**Karacoban**	**1.19**	**287**	P	**Pn**	**16 24 42.7**	**-0.1**
EATA	**Eleskirt**	**1.24**	**320**	*i*P	**Pg**	**16 24 42.7**	**-0.5**
EATA	**Eleskirt**	**1.24**	**320**	P	**Pg**	**16 24 42.7**	**-0.5**
HAKT	**HAKKARI**	**1.36**	**174**	*i*P	**Pn**	**16 24 44.6**	**-0.5**
HAKT	**HAKKARI**	**1.36**	**174**	P	**Pn**	**16 24 44.6**	**-0.5**
DIGO	**Kars**	**1.50**	**355**	*i*P	**Pg**	**16 24 47.8**	**-0.4**
DIGO	**Kars**	**1.50**	**355**	P	**Pg**	**16 24 47.8**	**-0.4**
NAX	**Nakhchivan**	**1.55**	**80**	⇓S	**Sg**	**16 25 12.1**	**+2.8**
NAX	**Nakhchivan**	**1.55**	**80**	S	**Sg**	**16 25 12.1**	**+2.8**
VRTB	**Varto-Mus**	**1.63**	**279**	*e*PN	**Pb**	**16 24 49.4**	**-0.6**
VRTB				*e*SN	**Sg**	**16 25 11.4**	**-0.5**
VRTB	**Varto-Mus**	**1.63**	**279**	*i*P	**Pg**	**16 24 50.6**	**-0.1**
VRTB	**Varto-Mus**	**1.63**	**279**	*e*Pn	**Pb**	**16 24 49.4**	**-0.6**
VRTB	**Varto-Mus**	**1.63**	**279**	P	**Pg**	**16 24 50.6**	**-0.1**
VRTB				*e*Sn	**Sg**	**16 25 11.4**	**-0.5**
CUKT	**Cukurca**	**1.67**	**178**	*e*PN	**Pn**	**16 24 50.0**	**+0.8**
CUKT	**Cukurca**	**1.67**	**178**	*i*P	**Pg**	**16 24 52.6**	**+1.2**
CUKT	**Cukurca**	**1.67**	**178**	*e*Pn	**Pn**	**16 24 50.0**	**+0.8**
CUKT	**Cukurca**	**1.67**	**178**	P	**Pg**	**16 24 52.6**	**+1.2**
SIRN	**S¨–rnak**	**1.67**	**212**	*i*P	**Pg**	**16 24 51.0**	**-0.4**
SIRN	**S¨–rnak**	**1.67**	**212**	P	**Pg**	**16 24 51.0**	**-0.4**
HOMI	**Horasan**	**1.69**	**312**	*i*P	**Pb**	**16 24 50.8**	**-0.2**
EAK	**Akyaka**	**1.77**	**2**	*i*P	**Pg**	**16 24 54.2**	**+0.9**
EAK	**Akyaka**	**1.77**	**2**	P	**Pg**	**16 24 54.2**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.88**	**331**	*e*PN	**Pn**	**16 24 52.9**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.88**	**331**	*e*Pn	**Pn**	**16 24 52.9**	**+0.7**
ERZM	**Erzurum**	**1.94**	**301**	*i*P	**Pb**	**16 24 54.2**	**-1.2**
ERZM	**Erzurum**	**1.94**	**301**	P	**Pb**	**16 24 54.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	*e*PN	**Pn**	**16 24 54.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	*e*Pn	**Pn**	**16 24 54.4**	**+0.9**
BTMN	**Batman**	**2.05**	**241**	*i*P	**Pb**	**16 24 56.7**	**-0.4**
BTMN	**Batman**	**2.05**	**241**	P	**Pb**	**16 24 56.7**	**-0.4**
BNGB	**Bing¶ll**	**2.22**	**273**	*e*PN	**Pn**	**16 24 57.8**	**+1.0**
BINT	**Bingol**	**2.37**	**270**	*e*Pn	**Pn**	**16 24 57.8**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*PN	**Pn**	**16 24 59.9**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*Pn	**Pn**	**16 24 59.9**	**+0.9**
DDEM	**Demirkent**	**2.40**	**326**	*i*P	**Pb**	**16 25 02.5**	**-0.5**
DDEM	**Demirkent**	**2.40**	**326**	P	**Pb**	**16 25 02.5**	**-0.5**
GDB	**GEDABAY**	**2.49**	**43**	⇑P	**Pn**	**16 25 02.3**	**+1.8**
GDB				⇑S	**Sg**	**16 25 39.2**	**-0.1**
GDB	**GEDABAY**	**2.49**	**43**	P	**Pn**	**16 25 02.3**	**+1.8**
DAGI	**Agillar**	**2.49**	**331**	*i*P	**Pb**	**16 25 04.3**	**-0.3**
AKH	**Akhalkalaki**	**2.49**	**359**	*e*PN	**Pn**	**16 25 01.6**	**+1.0**
AKH	**Akhalkalaki**	**2.49**	**359**	*e*Pn	**Pn**	**16 25 01.6**	**+1.0**
QZX	**Qazax, Azerbai**	**2.56**	**33**	⇓P	**Pn**	**16 25 03.5**	**+2.0**
QZX				⇑S	**Sg**	**16 25 41.5**	**-0.3**
QZX	**Qazax, Azerbai**	**2.56**	**33**	P	**Pn**	**16 25 03.5**	**+2.0**
ARTV	**Artvin**	**2.58**	**332**	*i*P	**Pb**	**16 25 06.2**	**+0.1**
ARTV	**Artvin**	**2.58**	**332**	P	**Pb**	**16 25 06.2**	**+0.1**
GANJ	**Ganja**	**2.76**	**50**	⇑P	**Pn**	**16 25 05.7**	**+1.6**
GANJ				⇑S	**Sb**	**16 25 44.9**	**+1.8**
GANJ	**Ganja**	**2.76**	**50**	P	**Pn**	**16 25 05.7**	**+1.6**
MAZI	**Mazidag**	**2.83**	**240**	*e*PN	**Pn**	**16 25 06.4**	**+1.2**
MAZI	**Mazidag**	**2.83**	**240**	*e*Pn	**Pn**	**16 25 06.4**	**+1.2**
DGRG	**David-gareji**	**2.90**	**29**	P	**Pb**	**16 25 09.2**	**-2.3**
TBLG	**Delisi**	**2.96**	**18**	*e*PN	**Pn**	**16 25 08.5**	**+1.6**
TBLG	**Delisi**	**2.96**	**18**	*e*Pn	**Pn**	**16 25 08.5**	**+1.6**
ERZN	**Erzincan**	**3.03**	**284**	*e*PN	**Pn**	**16 25 09.2**	**+1.2**
BRDA	**Brd**	**3.12**	**63**	⇑P	**Pn**	**16 25 10.0**	**+0.9**
BRDA				⇑S	**Sb**	**16 25 52.5**	**-1.1**
BRDA	**Brd**	**3.12**	**63**	P	**Pn**	**16 25 10.0**	**+0.9**
BRDA				S	**Sb**	**16 25 52.5**	**-1.1**
PTK	**Pertek**	**3.23**	**271**	*e*PN	**Pn**	**16 25 12.1**	**+1.3**
PTK	**Pertek**	**3.23**	**271**	*e*Pn	**Pn**	**16 25 12.1**	**+1.3**
MNGR	**Mingechevir, A**	**3.31**	**55**	⇑S	**Sb**	**16 25 58.0**	**-0.8**
ZRD	**Zardab**	**3.48**	**66**	⇑S	**Sb**	**16 26 00.9**	**-3.1**
ZRD	**Zardab**	**3.48**	**66**	S	**Sb**	**16 26 00.9**	**-3.1**
SEKA	**Sheki**	**3.63**	**50**	⇓P	**Pn**	**16 25 18.1**	**+1.9**
SEKA	**Sheki**	**3.63**	**50**	P	**Pn**	**16 25 18.0**	**+1.9**
LRK	**Lerik**	**3.77**	**93**	⇓P	**Pn**	**16 25 15.7**	**-2.5**
LRK				⇓S	**Sn**	**16 26 03.5**	**+0.6**
LRK	**Lerik**	**3.77**	**93**	P	**Pn**	**16 25 15.7**	**-2.5**
LRK				S	**Sn**	**16 26 03.5**	**+0.6**
QBL	**Gabala**	**3.88**	**57**	⇑P	**Pn**	**16 25 20.5**	**+0.9**
QBL	**Gabala**	**3.88**	**57**	P	**Pn**	**16 25 20.5**	**+0.9**
URFA	**Urfa**	**3.99**	**250**	*e*PN	**Pn**	**16 25 23.0**	**+1.9**
URFA	**Urfa**	**3.99**	**250**	*e*Pn	**Pn**	**16 25 23.0**	**+1.9**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	⇑P	**Pn**	**16 25 20.6**	**-2.0**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	P	**Pn**	**16 25 20.6**	**-2.0**
ASTR	**Astara**	**4.13**	**93**	⇑P	**Pn**	**16 25 19.8**	**-3.1**
ASTR	**Astara**	**4.13**	**93**	P	**Pn**	**16 25 19.8**	**-3.1**
QSAR	**Qusar**	**4.46**	**53**	⇑P	**Pn**	**16 25 28.6**	**+1.1**
QSAR	**Qusar**	**4.46**	**53**	P	**Pn**	**16 25 28.6**	**+1.1**
GBS	**Qobustan**	**4.47**	**67**	⇑P	**Pn**	**16 25 28.2**	**+0.4**
GBS	**Qobustan**	**4.47**	**67**	P	**Pn**	**16 25 28.2**	**+0.4**
QUBA	**Quba, Azerbaij**	**4.52**	**56**	⇑P	**Pn**	**16 25 29.5**	**+1.2**
QUBA	**Quba, Azerbaij**	**4.52**	**56**	P	**Pn**	**16 25 29.5**	**+1.2**
ATGJ	**Altiaghaj**	**4.59**	**63**	⇑P	**Pn**	**16 25 29.6**	**+0.2**
ATGJ	**Altiaghaj**	**4.59**	**63**	P	**Pn**	**16 25 29.6**	**+0.2**

ISCJB ***24*** *16:26:36.8±0.5,5.°35S±0.°05×146.°98E±0.°09,h195km,*
mb4.3/9,Error ellipse: s-maj=13.4km s-min=7.0km
az=13.8
NEIC ***24*** *16:26:37.5±0.9,5.°31S×146.°88E,h188km±19km,mb4.5/4,*
Error ellipse: s-maj=24.5km s-min=13.8km az=104.0
IDC ***24*** *16:26:38.7±2.0,5.°57S×147.°13E,h205km±21km,mb3.7/3,*
mb1 3.9/6,mb1mx3.2/43,mbtmp4.3/6,Error ellipse:
s-maj=42.8km s-min=15.1km az=117.0

ISC 24 16:26:37.9±0.7,5.°39S±0.°06×146.°9E±0.°1,h195km,n22,
σ1§91/29,mb4.5/9,1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.35**	**8**	*e*Pn	**Pn**	**16 27 29.2**	**-2.3**
PMG	**Port Moresby**	**4.00**	**177**	P	**Pn**	**16 27 39.2**	**-0.4**
	21nm,0.3s,baz=0.0,slow=5.1,SNR=244						
PMG				S	**Sn**	**16 28 24.8**	**-3.2**
	16nm,0.3s,baz=135,slow=16,SNR=5.2						
PMG	**Port Moresby**	**4.00**	**177**	*e*Pn	**Pn**	**16 27 39.5**	**0.0**
RABL	**Rabaul**	**5.35**	**77**	*e*Pn	**Pn**	**16 27 57.5**	**+0.8**
COEN	**Coen**	**9.29**	**203**	*e*Pn	**Pn**	**16 28 49.8**	**+1.8**
CTA	**Charters Tower**	**14.63**	**183**	P	**Pn**	**16 29 54.5**	**-1.3**
	0.2nm,0.3s,baz=345,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**14.63**	**183**	*e*Pn	**Pn**	**16 29 54.7**	**-1.2**
WRAB	**Tennant Creek**	**18.94**	**219**	*e*P	**P**	**16 30 45.0**	**+0.6**
	16nm,0.6s						
WB2	**Warramunga Arr**	**18.95**	**219**	*e*P	**P**	**16 30 45.3**	**+0.9**
	14nm,0.7s						
WRA	**Warramunga Arr**	**18.96**	**219**	P	**P**	**16 30 45.5**	**+0.9**
	3.4nm,0.3s,baz=38,slow=11,SNR=64						
WRA				S	**S**	**16 34 07.8**	**-1.8**
	0.1nm,0.3s,baz=37,slow=21,SNR=5.5						
AS31	**Alice Springs**	**22.08**	**213**	*e*P	**P**	**16 31 18.2**	**+0.7**
	5.0nm,0.4s						
ASAR	**Alice Springs**	**22.09**	**213**	P	**P**	**16 31 18.4**	**+0.9**
	9.5nm,0.8s,baz=44,slow=8.4,SNR=122						
ASAR				S	**S**	**16 35 06.6**	**-0.2**
	0.4nm,0.8s,baz=34,slow=22,SNR=3.6						
FITZ	**Fitzroy Crossi**	**24.34**	**237**	P	**P**	**16 31 38.5**	**+0.5**
	7.3nm,0.5s,baz=52,slow=8.3,SNR=34						
FITZ	**Fitzroy Crossi**	**24.34**	**237**	*e*P	**P**	**16 31 38.1**	**+0.1**
	8.8nm,0.6s						
NJ2	**Nanjing**	**45.83**	**326**	*e*P	**P**	**16 34 39.8**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,1.4s						
KMI	**Kunming**	**52.57**	**307**	P	**P**	**16 35 32.0**	**0.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**56.28**	**328**	*e*P	**P**	**16 36 00.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,25nm,1.4s						
HHC				pmax	pmax		
	comp=Z,31nm,4.7s						
LZH	**Lanzhou**	**57.70**	**319**	⇓P	**P**	**16 36 09.5**	**+1.0**
LZH				pP	pP	16 36 52.4	-0.5
LZH				sP	sP	16 37 12.6	-1.7
LZH				PP	**PP**	**16 38 21.5**	**+2.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,65nm,7.2s						
WMQ	**Urumqi**	**72.28**	**319**	P	**P**	**16 37 43.1**	**+0.9**
WMQ				pP	pP	16 38 28.0	-0.6
WMQ				sP	sP	16 38 48.3	-1.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,43nm,3.7s						
WMQ				LR	LR		
	comp=N,52nm,22.9s						
WMQ				LR	LR		
	comp=E,34nm,31.9s						
WMQ				LR	LR		
	comp=Z,38nm,27.5s						
KSH	**Kashi**	**78.92**	**312**	*e*P	**P**	**16 38 21.0**	**+0.9**
KSH				*e*PcP	**PcP**	**16 38 29.8**	**+1.8**
KSH				pP	pP	16 39 08.8	+1.6
KSH				sP	sP	16 39 28.8	+0.9
KSH				PP	**PP**	**16 41 24.6**	**+2.9**
KSH				S	**S**	**16 47 57.1**	**-5.3**
KSH				SKS	SKSac	16 48 07.6	-10
KSH				ScS	**SKKSac**	**16 48 16.1**	**-2.8**
KSH	**Kashi**	**78.92**	**312**	SS	SS	16 53 09.8	-2.5
KSH				pmax	pmax		
	comp=Z,86nm,6.9s						
KSH				LR	LR		
	comp=N,71nm,4.8s						
KSH				LR	LR		
	comp=E,89nm,5.3s						
KSH				LR	LR		
	comp=Z,110nm,6.3s						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**16 38 49.7**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.6,SNR=3.4						

GUC 24 16:27:14.8±0.6,21.°43S×67.°58W,h222km±10km,ML3.5,

2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.59**	**257**	*e*P	Pn	16 27 53.0	+1.6
PB09				*e*S	S	16 28 21.8	+1.9
PB09				IAML		16 28 24.9	
	comp=N,308nm,0.1s						
LVC	**Limon Verde**	**1.71**	**226**	*e*P	Pn	16 27 53.8	+1.2
LVC				*e*S	S	16 28 23.4	+1.4
PB01	**IPOC Station P**	**1.83**	**282**	*e*P	Pn	16 27 54.4	+1.0
PB01				*e*S	S	16 28 24.9	+1.5
PB01				IAML		16 28 26.0	
	comp=E,138nm,0.2s						
PB07	**IPOC Station P**	**2.17**	**262**	*e*P	Pn	16 27 58.6	+1.8
PB07				*e*S	S	16 28 31.1	+1.6
PB07				IAML		16 28 31.5	
	comp=N,258nm,0.2s						
PB06	**IPOC Station P**	**2.24**	**235**	⇓*i*P	Pn	16 27 59.2	+1.7
PB06				*e*S	S	16 28 33.1	+2.3
PB06				IAML		16 28 34.6	
	comp=E,111nm,0.2s						
HMBC	**Humberstone**	**2.45**	**298**	⇓*i*P	Pn	16 28 00.2	+0.5
HMBC				*i*S	S	16 28 34.6	0.0
HMBC				IAML		16 28 35.8	
	comp=E,160nm,0.1s						
PB04	**IPOC Station P**	**2.55**	**249**	*e*P	Pn	16 28 02.9	+2.1
PB04				*e*S	S	16 28 38.5	+1.8
PB04				IAML		16 28 41.7	
	comp=E,114nm,0.1s						

AZER ***24*** *16:40:18.8±3.4,38.°60N×42.°52E,h9km,Error ellipse:*
s-maj=36.8km s-min=13.5km az=66.0
NEIC ***24*** *16:40:25.6±0.0,38.°91N×43.°50E,h5km,mb4.1/7,*
ML3.9(DDA),ML4.1(ISK),After ISK.
DDA ***24*** *16:40:25.1,38.°89N×43.°56E,h5km,Ml3.9*
ISK ***24*** *16:40:25.6,38.°92N×43.°50E,h5km,ML4.1*
IDC ***24*** *16:40:26.4±0.7,39.°09N×43.°55E,h0km,mb3.8/12,*
mb1 3.8/19,mb1mx3.7/43,mbtmp3.7/19,ML3.3/6,MS3.3/22,
Ms1 3.3/22,ms1mx3.1/50,Error ellipse: s-maj=15.9km
s-min=9.2km az=158.0
ISCJB ***24*** *16:40:26.6±0.7,38.°90N±0.°02×43.°53E±0.°03,h4km±5km,*
mb4.1/26,MS3.4/19,Error ellipse: s-maj=4.1km
s-min=3.3km az=159.1
CSEM ***24*** *16:40:27.7±0.2,38.°97N×43.°54E,h5km,mb4.1/7,Error*
ellipse: s-maj=6.1km s-min=4.7km az=140.0
MOS ***24*** *16:40:27.0±2.3,38.°77N×43.°69E,h16km,mb4.3/18,Error*
ellipse: s-maj=7.8km s-min=5.0km az=96.9

ISC 24 16:40:26.4±1.1,38.°92N±0.°02×43.°57E±0.°02,h0km±7km,
n223,σ1§93/228,mb4.3/26,MS3.3/19,25C-14D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.35**	**204**	*e*PG	**Pg**	**16 40 34.0**	**+0.8**
VANB				*e*SG	**Sg**	**16 40 41.3**	**+3.5**
VANB	**Van**	**0.35**	**204**	*e*Pg	**Pg**	**16 40 34.0**	**+0.8**
VANB				*e*Sg	**Sg**	**16 40 41.3**	**+3.5**
VANB	**Van**	**0.35**	**204**	Pg	**Pg**	**16 40 34.0**	**+0.8**
DYDN	**Diyadin**	**0.63**	**8**	*i*P	**Pg**	**16 40 37.8**	**-0.7**
DYDN	**Diyadin**	**0.63**	**8**	P	**Pg**	**16 40 37.8**	**-0.7**
DYDN	**Diyadin**	**0.63**	**8**	*i*P	**Pg**	**16 40 37.8**	**-0.7**
GEVA	**Gevas**	**0.73**	**214**	*i*P	**Pg**	**16 40 38.7**	**-1.6**
GEVA	**Gevas**	**0.73**	**214**	P	**Pg**	**16 40 38.7**	**-1.6**
GEVA	**Gevas**	**0.73**	**214**	*i*P	**Pg**	**16 40 38.7**	**-1.6**
TUTA	**Tutak**	**0.76**	**310**	*i*P	**Pg**	**16 40 39.7**	**-1.3**
TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**16 40 39.7**	**-1.3**
TUTA	**Tutak**	**0.76**	**310**	*i*P	**Pg**	**16 40 39.7**	**-1.3**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*PG	**Pg**	**16 40 40.8**	**-0.9**
AGRB				*e*SG	**Sb**	**16 40 53.0**	**-1.6**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*Pg	**Pg**	**16 40 40.8**	**-0.9**
AGRB				*e*Sg	**Sb**	**16 40 53.0**	**-1.6**
AGRB	**Hanur-Agry**	**0.79**	**326**	Pg	**Pg**	**16 40 40.8**	**-0.9**
BASK	**Baskale_VAN**	**0.93**	**158**	*i*P	**Pg**	**16 40 43.1**	**-1.2**
BASK	**Baskale_VAN**	**0.93**	**158**	P	**Pg**	**16 40 43.1**	**-1.2**
EKAR	**Karacoban**	**1.22**	**286**	*

PTK	**Pertek**	**3.26**	**271**	*e*Pn		**Pn**		**16 41 19.6 +0.6**
MNGR	**Mingechevir, A**	**3.28**	**55**	⇑P		**Pb**		**16 41 22.5 -2.9**
	SNR=32							
MNGR				⇓S		**Sg**		**16 42 11.7 0.0**
MNGR	**Mingechevir, A**	**3.28**	**55**	P		**Pb**		**16 41 22.5 -2.9**
	SNR=32							
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*PN		**Pn**		**16 41 21.0 +0.4**
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*Pn		**Pn**		**16 41 21.0 +0.4**
ZRD	**Zardab**	**3.46**	**66**	⇑P		**Pn**		**16 41 25.0 +3.6**
ZRD				⇓S		**Sg**		**16 42 16.4 -1.0**
ZRD	**Zardab**	**3.46**	**66**	P		**Pn**		**16 41 25.0 +3.6**
KTUT	**Trabzon**	**3.58**	**306**	*e*PN		**Pn**		**16 41 23.7 +0.6**
KTUT	**Trabzon**	**3.58**	**306**	*e*Pn		**Pn**		**16 41 23.7 +0.6**
ZKTA	**Zakatala**	**3.58**	**40**	⇓P		**Pn**		**16 41 25.4 +2.2**
ZKTA				⇓S		**Sb**		**16 42 17.3 +2.7**
SEKA	**Sheki**	**3.60**	**49**	⇓P		**Pn**		**16 41 27.2 +3.7**
SEKA				⇓S		**Sg**		**16 42 20.3 -1.9**
LRK	**Lerik**	**3.74**	**93**	⇑P		**Pn**		**16 41 28.2 +2.7**
LRK				⇑S		**Sb**		**16 42 22.0 +2.7**
LRK	**Lerik**	**3.74**	**93**	P		**Pn**		**16 41 28.2 +2.7**
GLBA	**Cililabad**	**3.77**	**84**	⇑P		**Pn**		**16 41 28.9 +3.2**
GLBA	**Cililabad**	**3.77**	**84**	P		**Pn**		**16 41 28.9 +3.2**
KDMR	**Kurdemir**	**3.85**	**66**	⇑P		**Pn**		**16 41 30.4 +3.6**
QBL	**Gabala**	**3.85**	**57**	⇑P		**Pn**		**16 41 30.2 +3.2**
QBL	**Gabala**	**3.85**	**57**	P		**Pn**		**16 41 30.2 +3.2**
ZEI	**Tsey**	**3.87**	**4**	*e*P		**Pn**		**16 41 30.0 +2.6**
ZEI				pmax	pmax			
	comp=Z,43nm,0.9s							
SAAT	**Saatly**	**3.88**	**74**	⇑P		**Pn**		**16 41 30.3 +3.1**
SAAT	**Saatly**	**3.88**	**74**	P		**Pn**		**16 41 30.3 +3.1**
IML	**Ismayilli**	**4.01**	**61**	⇓P		**Pn**		**16 41 32.5 +3.3**
IML	**Ismayilli**	**4.01**	**61**	P		**Pn**		**16 41 32.5 +3.3**
URFA	**Urfa**	**4.02**	**250**	*e*PN		**Pn**		**16 41 30.3 +1.0**
URFA	**Urfa**	**4.02**	**250**	*e*Pn		**Pn**		**16 41 30.3 +1.0**
NEY	**Neytrino**	**4.37**	**352**	*ce*P		**Pb**		**16 41 40.8 -3.4**
NCK	**Nalchik**	**4.57**	**0**	*e*P		**Pb**		**16 41 43.5 -4.0**
GROC	**Groznyy**	**4.60**	**21**	*e*P		**Pb**		**16 41 49.4 +1.5**
GROC				pmax	pmax			
	comp=Z,20nm,0.5s							
DARE	**Darende-Malaty**	**4.77**	**268**	*e*PN		**Pn**		**16 41 40.5 +0.9**
DARE	**Darende-Malaty**	**4.77**	**268**	*e*Pn		**Pn**		**16 41 40.6 +0.9**
KBZ	**Khabaz**	**4.83**	**354**	Pn		**Pn**		**16 41 38.9 -1.5**
	comp=Z,0.0nm,0.3s,baz=52,slow=20,SNR=1.6							
KBZ				LR	LR			16 43 28.7
	comp=Z,98nm,21.1s,baz=180,slow=39							
MAK	**Makhachkala**	**5.02**	**35**	*e*P		**Pn**		**16 41 44.7 +1.8**
MAK				*e*S		**Sn**		**16 42 45.9 +4.4**
MAK				pmax	pmax			
	comp=Z,15nm,0.4s							
MAK				MLR	MLR			
	comp=Z,843nm,15.0s							
MAK	**Makhachkala**	**5.02**	**35**	*e*P		**Pn**		**16 41 44.7 +1.8**
	comp=Z,15nm,0.4s							
KVAR	**Kislovodsk Arr**	**5.07**	**353**	Pn		**Pn**		**16 41 43.5 -0.3**
	baz=354,slow=12,SNR=2.4							
KIV	**Kislovodsk**	**5.08**	**353**	*e*P		Pb		16 41 50.2 -5.9
KIV				pmax	pmax			
	comp=Z,17nm,1.1s							
KIV	**Kislovodsk**	**5.08**	**353**	*e*Pn		**Pn**		**16 41 45.8 +2.0**
KIV	**Kislovodsk**	**5.08**	**353**	*e*Pn		**Pn**		**16 41 45.8 +2.0**
SVSK	**Karacayir**	**5.19**	**283**	*e*PN		**Pn**		**16 41 46.6 +1.5**
SVSK	**Karacayir**	**5.19**	**283**	*e*Pn		**Pn**		**16 41 46.7 +1.5**
KMRS	**Kahramanmaras**	**5.44**	**257**	*e*PN		**Pn**		**16 41 50.1 +1.3**
KMRS	**Kahramanmaras**	**5.44**	**257**	*e*Pn		**Pn**		**16 41 50.1 +1.3**
SOC	**Sochi**	**5.49**	**329**	*e*P		Pn		16 41 55.6 +6.2
SOC				*e*				16 43 05.0
SOC				pmax	pmax			
	comp=Z,19nm,0.5s							
GOF	**Gofitskoye**	**6.15**	**357**	⇑*e*P		Pn		16 41 43.9 -15
BRTR	**Keskin Array B**	**7.74**	**279**	Pn		**Pn**		**16 42 21.9 +1.4**
	comp=Z,0.0nm,0.3s,baz=328,slow=12,SNR=2.2							
BRTR				LR	LR			16 45 10.4
	comp=Z,84nm,19.7s,baz=92,slow=37							
ASF	**Jabal al Asfar**	**8.65**	**221**	Pn		**Pn**		**16 42 35.8 +2.9**
	comp=Z,0.3nm,0.3s,baz=44,slow=1.2,SNR=2.1							
ASF				Lg	Lg			16 45 04.1
	comp=Z,0.4nm,0.3s,baz=114,slow=19,SNR=3.1							
ASF				LR	LR			16 46 19.4
	comp=Z,256nm,19.2s,baz=353,slow=40							
MMAI	**Mount Meron Ar**	**8.86**	**231**	Pn		**Pn**		**16 42 38.7 +3.0**
	comp=Z,0.9nm,0.3s,baz=40,slow=23,SNR=4.2							
MMAI				Lg	Lg			16 45 10.7
	comp=Z,1.0nm,0.3s,baz=22,slow=35,SNR=3.3							
MMAI				LR	LR			16 46 27.6
	comp=Z,336nm,20.3s,baz=45,slow=40							
GEYT	**Alibeck**	**11.46**	**90**	Pn		**Pn**		**16 43 09.6 -1.7**
	comp=Z,0.2nm,0.3s,baz=272,slow=16,SNR=2.8							
VOIR		**15.18**	**301**	⇓*i*P		**P**		**16 44 10.9 +3.5**
VOIR		**15.18**	**301**	⇓P		**P**		**16 44 10.9 +3.5**
IDI	**Anoyia**	**15.34**	**262**	LR	LR			16 50 45.5
	comp=Z,82nm,19.9s,baz=58,slow=40							
AKTO	**Aktyubinsk**	**15.40**	**37**	Pn		**Pn**		**16 44 01.9 -3.0**
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=5.6							
AKTO				LR	LR			16 51 31.8
	comp=Z,148nm,18.7s,baz=223,slow=44							
RAYN	**Ar Rayn**	**15.44**	**173**	*e*Pn		**Pn**		**16 43 59.4 -6.1**
	comp=Z,8.4nm,1.1s							
AKASG	**Malin Array Be**	**15.54**	**324**	Pn		**Pn**		**16 44 05.4 -1.2**
	comp=Z,0.7nm,0.3s,baz=136,slow=11,SNR=8.4							
KIEV	**Kiev**	**15.54**	**324**	*ce*P		**P**		**16 44 09.9 -1.3**
KIEV				pmax	pmax			
	comp=Z,13nm,1.7s							
KIEV	**Kiev**	**15.54**	**324**	*e*P		**P**		**16 44 09.9 -1.3**
	comp=Z,13nm,1.7s							
ABKAR	**Akbulak array**	**15.62**	**43**	*e*Pn		**Pn**		**16 44 06.9 -0.9**
	comp=Z,31nm,1.0s							
ABKAR	**Akbulak array**	**15.62**	**43**	*e*Pn		**Pn**		**16 44 07.0 -0.9**
	comp=Z,31nm,1.0s							
BURAR	**Bucovina Array**	**15.91**	**309**	⇑*i*P		**P**		**16 44 18.3 +2.8**
BURAR	**Bucovina Array**	**15.91**	**309**	⇑P		**P**		**16 44 18.3 +2.8**
BUR08	**Bucovina Ar. S**	**15.94**	**309**	*e*Pn		**Pn**		**16 44 10.5 -1.5**
BUR08	**Bucovina Ar. S**	**15.94**	**309**	*e*Pn		**Pn**		**16 44 10.5 -1.5**
GZR	**Gura Zlata**	**16.70**	**299**	⇑*i*P		**Pn**		**16 44 22.3 +0.6**
OBN	**Obninsk**	**16.87**	**346**	Pn		**Pn**		**16 44 23.1 -0.7**
	comp=Z,2.5nm,0.3s,baz=119,slow=19,SNR=6.4							
OBN				LR	LR			16 51 43.9
	comp=Z,77nm,21.0s,baz=92,slow=41							
OBN	**Obninsk**	**16.87**	**346**	*c i*P		**P**		**16 44 26.4 +0.5**
OBN				pmax	pmax			
	comp=Z,36nm,1.0s							
OBN				MLR	MLR			
	comp=Z,165nm,16.0s							
OBN	**Obninsk**	**16.87**	**346**	*i* P		**P**		**16 44 26.4 +0.5**
	comp=Z,165nm,16.0s							
MOS	**Moscow**	**17.29**	**349**	*e*P		**P**		**16 44 32.7 +2.2**
MOS				pmax	pmax			
	comp=Z,43nm,1.1s							
CRVS	**Cervenica-Dubn**	**18.73**	**309**	*e*P		**Pn**		**16 44 48.3 +1.4**
CRVS	**Cervenica-Dubn**	**18.73**	**309**	*e*P		**Pn**		**16 44 48.3 +1.4**
CRVS	**Cervenica-Dubn**	**18.73**	**309**	*e*P		**Pn**		**16 44 48.3 +1.4**
CRVS				*e*				16 44 50.5
CRVS				*e*				16 55 50.1
STHS	**Stebnicka Huta**	**19.08**	**311**	*e*P		**Pn**		**16 44 52.8 +1.8**
STHS	**Stebnicka Huta**	**19.08**	**311**	*e*P		**Pn**		**16 44 52.8 +1.8**
STHS	**Stebnicka Huta**	**19.08**	**311**	*e*P		**Pn**		**16 44 52.8 +1.8**
STHS				*e*				16 55 53.5
BRY	**Bratogost**	**19.31**	**290**	P		**Pn**		**16 44 56.7 +2.7**
PSZ	**Piszkesteto**	**19.35**	**305**	⇑*i*P		**Pn**		**16 44 56.3 +2.0**
PSZ	**Piszkesteto**	**19.35**	**305**	*e*P		**P**		**16 44 53.1 -0.3**
PSZ				pmax	pmax			
	comp=Z,18nm,1.3s							
PSZ	**Piszkesteto**	**19.35**	**305**	*e*P		**P**		**16 44 53.1 -0.3**
	comp=Z,18nm,1.3s							
PSZ	**Piszkesteto**	**19.35**	**305**	*e*P		**P**		**16 44 53.1 -0.3**
	comp=Z,18nm,1.3s							
ARU	**Arti**	**20.14**	**25**	P		**P**		**16 45 01.7 -0.2**
	comp=Z,0.0nm,0.3s,baz=227,slow=4.8,SNR=11							
ARU				LR	LR			16 54 55.2
	comp=Z,74nm,18.8s,baz=214,slow=44							
ARU	**Arti**	**20.14**	**25**	*d i*P		**P**		**16 45 00.5 -1.3**
ARU								16 45 16.9
ARU				S		**S**		**16 48 48.0 -0.6**
ARU				pmax	pmax			
	comp=Z,24nm,1.7s							
ARU	**Arti**	**20.14**	**25**	*e*P		**P**		**16 45 00.6 -1.3**
	comp=Z,40nm,1.5s							
ARU	**Arti**	**20.14**	**25**	*e*P		**P**		**16 45 00.6 -1.2**
	comp=Z,40nm,1.5s							
VYHS	**Vyhne**	**20.20**	**306**	*e*P		Pn		16 45 04.8 +0.3
VYHS				pmax	pmax			
	comp=Z,6.0nm,1.3s							
VYHS	**Vyhne**	**20.20**	**306**	*e*P		Pn		16 45 04.8 +0.3
	comp=Z,6.0nm,1.3s							
VYHS	**Vyhne**	**20.20**	**306**	*e*P		Pn		16 45 04.8 +0.3
WSAR	**Wadi Sarin**	**20.22**	**136**	P		Pn		16 45 05.6 +0.7
	comp=Z,3.2nm,0.9s,baz=344,slow=7.4,SNR=2.9							
WSAR				LR	LR			16 54 51.5
	comp=Z,101nm,18.8s,baz=342,slow=42							
SUW	**Suwalki**	**20.50**	**324**	P		**P**		**16 45 05.7 -0.1**
SUW				pmax	pmax			
	comp=Z,44nm,1.0s							
SUW	**Suwalki**	**20.50**	**324**	P		**P**		**16 45 05.7 -0.1**
	comp=Z,44nm,1.0s							
KKAR	**Karatay Array**	**20.72**	**70**	*e*P		**P**		**16 45 07.0 -1.3**
KKAR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KKAR	**Karatay Array**	**20.72**	**70**	*e*P		**P**		**16 45 07.0 -1.3**
	comp=Z,8.8nm,0.8s							
KKAR	**Karatay Array**	**20.72**	**70**	*e*P		**P**		**16 45 07.0 -1.3**
	comp=Z,8.8nm,0.8s							
OKC	**Ostrava-Krasne**	**21.09**	**309**	*e*P		**P**		**16 45 18.0 +5.8**
OKC	**Ostrava-Krasne**	**21.09**	**309**	*e*P		**P**		**16 45 18.0 +5.8**
SVE	**Sverdlovsk**	**21.16**	**27**	*e*P		**P**		**16 45 14.0 +1.2**
SVE				pmax	pmax			
	comp=Z,19nm,1.1s							
SVE	**Sverdlovsk**	**21.16**	**27**	*e*P		**P**		**16 45 14.0 +1.2**
	comp=Z,19nm,1.1s							
VRAC	**Vranov**	**21.86**	**307**	LR	LR			16 56 24.3
	comp=Z,32nm,19.2s,baz=118,slow=44							
KRLC	**Kraliky**	**22.00**	**309**	*e*P		**P**		**16 45 27.3 +5.2**
KRLC	**Kraliky**	**22.00**	**309**	*e*P		**P**		**16 45 27.3 +5.2**
KLMR	**Klimovskoe**	**22.10**	**355**	*e*P		**P**		**16 45 23.5 +0.5**
KLMR				*e*				16 45 47.1
KLMR				pmax	pmax			
	comp=Z,36nm,1.2s							
KLMR	**Klimovskoe**	**22.10**	**355**	*e*P		**P**		**16 45 23.5 +0.5**
	comp=Z,36nm,1.2s							
DPC	**Dobruska-Polom**	**22.37**	**310**	*e*P		P		16 45 33.2 +7.1
DPC	**Dobruska-Polom**	**22.37**	**310**	*e*P		P		16 45 33.2 +7.1
BRVK	**Borovoye**	**23.16**	**44**	*ce*P		**P**		**16 45 33.9 -0.3**
BRVK				pmax	pmax			
	comp=Z,17nm,1.7s							
BRVK	**Borovoye**	**23.16**	**44**	*e*P		**P**		**16 45 33.9 -0.3**
	comp=Z,17nm,1.7s							
BVAR	**Borovoye Array**	**23.20**	**44**	P		**P**		**16 45 33.7 -0.9**
	comp=Z,0.5nm,0.6s,baz=235,slow=5.2,SNR=6.4							
GERES	**GERESS Array B**	**23.57**	**305**	P		**P**		**16 45 37.1 -1.4**
	comp=Z,1.4nm,0.7s,baz=126,slow=6.9,SNR=6.8							
GERES				LR	LR			16 57 21.5
	comp=Z,39nm,18.3s,baz=69,slow=43							
AAK	**Ala-Archa**	**23.64**	**71**	P		**P**		**16 45 39.3 -0.1**
	comp=Z,0.6nm,0.3s,baz=319,slow=16,SNR=4.0							
AAK				LR	LR			16 56 33.7
	comp=Z,65nm,19.8s,baz=261,slow=41							
AAK	**Ala-Archa**	**23.64**	**71**	*e*P		**P**		**16 45 39.2 -0.2**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.2s							
AAK	**Ala-Archa**	**23.64**	**71**	P		**P**		**16 45 38.5 -0.9**
	comp=Z,4.2nm,1.0s							
AAK	**Ala-Archa**	**23.64**	**71**	P		**P**		**16 45 38.5 -0.9**
	comp=Z,4.2nm,1.0s							
KHC	**Kasperske Hory**	**23.71**	**305**	*e*P		**P**		**16 45 41.5 +1.6**
KHC				*ex*		x		16 45 46.8
KHC	**Kasperske Hory**	**23.71**	**305**	*e*P		**P**		**16 45 41.5 +1.6**
KHC				*e*				16 45 46.8
KHC	**Kasperske Hory**	**23.71**	**305**	*e*P		**P**		**16 45 41.5 +1.6**
FRU	**Bishkek**	**23.73**	**71**	*e*P		**P**		**16 45 41.5 +1.4**
FRU	**Bishkek**	**23.73**	**71**	*e*P		**P**		**16 45 41.5 +1.4**
WET	**Wettzell**	**24.16**	**305**	P		**P**		**16 45 46.3 +2.1**
WET				pmax	pmax			
	comp=Z,31nm,1.9s							
WET	**Wettzell**	**24.16**	**305**	P		**P**		**16 45 46.3 +2.1**
	comp=Z,31nm,1.9s							
FINES	**FINESS Array B**	**25.01**	**340**	P		**P**		**16 45 49.9 -1.7**
	comp=Z,3.5nm,1.0s,baz=155,slow=6.3,SNR=4.7							
FINES				LR	LR			16 55 57.0
	comp=Z,95nm,18.1s,baz=162,slow=37							
KSH	**Kashi**	**25.04**	**78**	*e*P		**P**		**16 45 51.1 -1.3**
KSH				pP				16 45 55.3
KSH				sP				16 45 58.4
KSH				PP		**PnPn**		**16 46 28.0 +2.8**
KSH				PcP		**PcP**		**16 49 28.0 +0.9**
KSH				S		**S**		**16 50 12.3 -5.3**
KSH				sS				16 50 19.3
KSH				SS		**SnSn**		**16 51 09.1 +3.5**
KSH	**Kashi**	**25.04**	**78**	ScS		ScS		16 56 54.1 -1.6
KSH				pmax	pmax			
	comp=Z,43nm,2.2s							
KSH				pmax	pmax			
	comp=Z,82nm,5.4s							
KSH				LR	LR			
	comp=N,110nm,10.4s							
KSH				LR	LR			
	comp=E,100nm,14.3s							
KSH				LR	LR			
	comp=Z,79nm,9.6s							
KURBB	**Kurchatov Arra**	**27.18**	**53**	P		**P**		**16 46 11.6 +0.1**
	comp=Z,2.0nm,0.8s,baz=264,slow=9.1,SNR=15							
KURK	**Kurchatov**	**27.26**	**53**	*ce*P		**P**		**16 46 12.4 +0.3**
KURK				pmax	pmax			
	comp=Z,25nm,1.2s							
KURK	**Kurchatov**	**27.26**	**53**	*e*P		**P**		**16 46 10.6 -1.5**
	comp=Z,3.2nm,0.9s							
KEST	**Kesra**	**27.31**	**274**	LR	LR			16 58 51.8
	comp=Z,71nm,19.2s,baz=172,slow=40							
HFS	**Hagfors**	**28.33**	**328**	P		**P**		**16 46 20.5 -1.1**
	comp=Z,3.6nm,0.7s,baz=156,slow=12,SNR=5.3							
HFS				LR	LR			16 58 12.9
	comp=Z,56nm,21.3s,baz=86,slow=38							
MKAR	**Makanchi Array**	**29.22**	**62**	P		**P**		**16 46 29.6 -0.1**
	comp=Z,1.1nm,0.7s,baz=269,slow=5.8,SNR=8.7							
MKAR				LR	LR			16 59 57.8
	comp=Z,91nm,18.9s,baz=251,slow=40							
NOA	**NORSAR Array B**	**29.86**	**328**	LR	LR			16 59 44.4
	comp=Z,41nm,18.7s,baz=130,slow=39							
ZALV	**Zalesovo Beam**	**31.64**	**48**	P		**P**		**16 46 49.8 -1.2**
	comp=Z,0.5nm,0.5s,baz=253,slow=10,SNR=3.5							
ZALV				LR	LR			17 01 47.8
	comp=Z,70nm,18.1s,baz=250,slow=41							
WMQ	**Urumqi**	**33.17**	**67**	P		**P**		**16 47 04.3 -0.3**
WMQ				pP				16 47 08.3
WMQ				sP				16 47 11.3
WMQ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,73nm,3.9s							
WMQ				LR	LR			
	comp=N,18nm,20.3s							
WMQ				LR	LR			
	comp=E,25nm,21.7s							
WMQ				LR	LR			
	comp=Z,46nm,21.7s							
ESDC	**Sonseca Array**	**36.45**	**287**	P		**P**		**16 47 31.5 -1.5**
	comp=Z,2.1nm,0.8s,baz=66,slow=8.4,SNR=5.5							
NRIK	**Noril'sk**	**38.36**	**23**	LR	LR			17 07 41.7
	comp=Z,71nm,18.5s,baz=174,slow=43							
SPITS	**Spitsbergen Ar**	**40.95**	**352**	LR	LR			17 07 46.4
	comp=Z,44nm,18.1s,baz=140,slow=40							
JMIC	**Jan Mayen**	**41.56**	**337**	LR	LR			17 05 26.5
	comp=Z,52nm,20.4s,baz=50,slow=36							
TORD	**Torodi Ar. Bea**	**44.99**	**247**	P		**P**		**16 48 43.1 -0.6**
	comp=Z,1.0nm,0.9s,baz=45,slow=5.6,SNR=5.2							
ULN	**Ulaanbaatar**	**45.81**	**57**	*ce*P		**P**		**16 48 49.5 -0.5**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LZH	**Lanzhou**	**47.14**	**74**	*e*P		**P**		**16 48 59.3 -1.3**
LZH				pP				16 49 04.6
LZH				sP				16 49 06.5
LZH				*e*PP		**PP**		**16 50 49.5 -1.6**
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
LZH				pmax	pmax			
	comp=Z,45nm,6.5s							
LZH				LR	LR			
	comp=N,140nm,15.0s							
LZH				LR	LR			
	comp=E,150nm,14.8s							
LZH				LR	LR			
	comp=Z,190nm,18.4s							
HHC	**Hu-ho-hao-te**	**50.99**	**65**	*e*P		**P**		**16 49 28.1 -1.9**
HHC				S		**S**		**16 56 46.8 -1.3**
HHC				pmax	pmax			
	comp=Z,16nm,1.7s							
HHC				pmax	pmax			
	comp=Z,75nm,5.2s							
HHC				LR	LR			
	comp=N,130nm,16.2s							
HHC				LR	LR			
	comp=E,75nm,13.7s							
HHC				LR	LR			
	comp=Z,63nm,14.9s							
KMI	**Kunming**	**51.20**	**87**	P		**P**		**16 49 30.0 -1.9**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.5s							
XAN	**Xi'an**	**51.77**	**74**	P		**P**		**16 49 37.3 +1.4**
XAN				pP				16 49 43.4
XAN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**51.86**	**97**	P		**P**		**16 49 36.4 -0.2**
	comp=Z,0.8nm,0.7s,baz=309,slow=8.1,SNR=6.4							
TIXI	**Tiksi**	**52.14**	**24**	*ce*P		**P**		**16 49 39.5 +1.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.4s							
YAK	**Yakutsk**	**54.78**	**35**	*e*P		**P**		**16 49 58.6 +1.1**
YAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SEY	**Seymchan**	**63.81**	**29**	*e*P		**P**		**16 51 01.8 +1.8**
MJAR	**Matsushiro Arr**	**71.33**	**58**	LR	LR			17 25 44.9
	comp=Z,52nm,18.2s,baz=330,slow=38							
COLA	**College**	**76.15**	**5**	*e*P		**P**		**16 52 17.7 +2.0**
COLA				pmax	pmax			
	comp=Z,3.0nm,1.0s							

CSEM ***24*** *16:42:41.9, 38°.40N×21°.92E, h6km, ML1.2/2*

ATH 24 16:42:41.9, 38°.40N×21°.92E, h6km±2km, ML1.2/2, Error ellipse: s-maj=4.7km s-min=1.5km az=252.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.03**	**345**	P	Pg	16 42 43.2	0.0
EFP				S	Sg	16 42 44.1	0.0
EFP				AML	AML	16 42 44.5	
	comp=E,1175μm,0.1s						
EFP				AML	AML	16 42 44.6	
	comp=N,1627μm,0.1s						
EFP	**Efpalio**	**0.03**	**345**	P	Pg	16 42 43.2	0.0
EFP				S	Sg	16 42 44.1	0.0
TRIZ	**Trizonia**	**0.13**	**104**	P	Pg	16 42 44.9	+0.3
TRIZ	**Trizonia**	**0.13**	**104**	P	Pg	16 42 44.9	+0.3
LAKA	**Lakka**	**0.16**	**163**	P	Pg	16 42 45.3	+0.1
LAKA	**Lakka**	**0.16**	**163**	P	Pg	16 42 45.3	+0.1
KALE	**Kalithea**	**0.18**	**92**	P	Pg	16 42 45.5	0.0
KALE	**Kalithea**	**0.18**	**92**	P	Pg	16 42 45.5	0.0
ANX	**Ano Chora**	**0.20**	**1**	P	Pg	16 42 45.9	0.0
ANX				S	Sg	16 42 49.0	+0.4
ANX				AML	AML	16 42 49.9	
	comp=N,164μm,0.3s						
ANX				AML	AML	16 42 51.4	
	comp=E,99μm,0.5s						
ANX	**Ano Chora**	**0.20**	**1**	P	Pg	16 42 45.9	0.0
ANX				S	Sg	16 42 49.0	+0.4

ATH 24 16:42:54.5, 37°.55N×23°.52E, h17km±7km, ML1.4/3, Error ellipse: s-maj=7.2km s-min=1.2km az=192.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.23**	**260**	P	Pg	16 42 59.5	-0.4
DID				S	Sb	16 43 04.3	+0.1
DID				AML	AML	16 43 04.7	
	comp=N,674μm,0.2s						
DID				AML	AML	16 43 04.8	
	comp=E,295μm,0.1s						
DID	**Didima**	**0.23**	**260**	P	Pg	16 42 59.5	-0.4
DID				S	Sb	16 43 04.3	+0.1
VLY	**Voula,Athens**	**0.37**	**35**	P	Pg	16 43 02.4	+0.2
VLY				S	Sg	16 43 07.7	+0.1
VLY				AML	AML	16 43 08.6	
	comp=E,155μm,0.2s						
VLY				AML	AML	16 43 10.6	
	comp=N,135μm,0.3s						
VLY	**Voula,Athens**	**0.37**	**35**	P	Pg	16 43 02.4	+0.1
VLY				S	Sg	16 43 07.7	+0.2
PTL	**Penteli**	**0.57**	**28**	P	Pb	16 43 06.2	+0.1
PTL				S	Sg	16 43 13.2	-0.3
PTL				AML	AML	16 43 15.4	
	comp=N,60μm,0.2s						
PTL				AML	AML	16 43 16.5	
	comp=E,60μm,0.3s						
PTL	**Penteli**	**0.57**	**28**	P	Pb	16 43 06.2	+0.1
PTL				S	Sg	16 43 13.2	-0.3
LTK	**Loutraki**	**0.65**	**317**	P	Pg	16 43 07.2	-0.1
LTK	**Loutraki**	**0.65**	**317**	P	Pg	16 43 07.2	-0.1

ISK ***24*** *16:43:43.9, 38°.62N×43°.11E, h5km, ML3.1*
DDA ***24*** *16:43:44.5, 38°.66N×43°.23E, h7km, Ml3.1*
CSEM ***24*** *16:43:44.9±0.3, 38°.63N×43°.13E, h12km, ML3.1, Error ellipse: s-maj=9.4km s-min=6.8km az=59.0*
ISCJB ***24*** *16:43:45.0±0.5, 38°.64N±0°.04×43°.14E±0°.06, h15km, Error ellipse: s-maj=6.8km s-min=5.0km az=151.2*

DYDN				*i* S	Sg	16 51 46.5	-0.2
GEVA	**Gevas**	**0.68**	**213**	⇓*i*P	Pg	16 51 37.8	-0.6
GEVA				*i* S	Sb	16 51 48.6	-1.6
GEVA	**Gevas**	**0.68**	**213**	P	Pg	16 51 37.8	-0.6
GEVA				S	Sb	16 51 48.6	-1.6
GEVA	**Gevas**	**0.68**	**213**	*i* P	Pg	16 51 37.8	-0.6
GEVA				*i* S	Sb	16 51 48.6	-1.6
TUTA	**Tutak**	**0.75**	**313**	*i* P	Pg	16 51 38.6	-1.1
TUTA				*i* S	Sg	16 51 50.3	+0.7
TUTA	**Tutak**	**0.75**	**313**	P	Pg	16 51 38.6	-1.1
TUTA				S	Sg	16 51 50.3	+0.7
TUTA	**Tutak**	**0.75**	**313**	*i* P	Pg	16 51 38.7	-1.1
AGRB	**Hanur-Agry**	**0.80**	**329**	*e*PG	Pg	16 51 39.9	-0.8
AGRB				*e*SG	Sg	16 51 51.4	+0.4
AGRB	**Hanur-Agry**	**0.80**	**329**	*e*Pg	Pg	16 51 39.9	-0.8
AGRB				*e*Sg	Sg	16 51 51.4	+0.4
BASK	**Baskale_VAN**	**0.92**	**156**	*i* P	Pg	16 51 42.1	-0.8
BASK	**Baskale_VAN**	**0.92**	**156**	P	Pg	16 51 42.1	-0.8
EKAR	**Karacoban**	**1.20**	**288**	*i* P	Pb	16 51 47.9	-1.1
EKAR				*i* S	Sn	16 52 08.5	+2.0
EKAR	**Karacoban**	**1.20**	**288**	*i* P	Pb	16 51 47.5	-1.5
EKAR				S	Sn	16 52 08.5	+2.0
EKAR	**Karacoban**	**1.20**	**288**	*i* P	Pb	16 51 47.5	-1.5
EATA	**Eleskirt**	**1.26**	**321**	⇓*i*P	Pn	16 51 48.0	-2.4
EATA				*i* S	Sn	16 52 07.3	-0.9
EATA	**Eleskirt**	**1.26**	**321**	P	Pn	16 51 48.0	-2.4
EATA				S	Sn	16 52 07.3	-0.9
HAKT	**HAKKARI**	**1.34**	**174**	⇓*i*P	Pn	16 51 48.9	-2.5
HAKT				*i* S	Sg	16 52 11.9	+3.6
HAKT	**HAKKARI**	**1.34**	**174**	P	Pn	16 51 48.9	-2.5
HAKT				S	Sg	16 52 11.9	+3.6
DIGO	**Kars**	**1.53**	**356**	⇓*i*P	Pb	16 51 53.5	-1.1
DIGO				*i* S	Sg	16 52 19.1	+4.7
DIGO	**Kars**	**1.53**	**356**	P	Pb	16 51 53.5	-1.1
NAX	**Nakhchivan**	**1.56**	**79**	P	Pb	16 51 53.9	-1.2
SNR=217							
NAX				⇑S	Sg	16 52 19.0	+3.6
NAX	**Nakhchivan**	**1.56**	**79**	P	Pb	16 51 53.9	-1.2
SNR=217							
GNI	**Garni**	**1.57**	**36**	Pn	Pn	16 51 53.9	-0.6
128nm,0.3s,baz=218,slow=3.0,SNR=66							
GNI				Lg	Lg	16 52 17.7	
84nm,0.3s,baz=332,slow=21,SNR=8.0							
GNI				LR	LR	16 52 36.1	
comp=Z,465nm,20.4s,baz=217,slow=47							
VRTB	**Varto-Mus**	**1.64**	**280**	*e*PN	Pn	16 51 54.4	-1.0
VRTB				*e*SN	Sg	16 52 17.3	-0.5
VRTB	**Varto-Mus**	**1.64**	**280**	*i* P	Pb	16 51 55.8	-0.6
VRTB				*i* S	Sg	16 52 21.3	+3.5
VRTB	**Varto-Mus**	**1.64**	**280**	*e*Pn	Pn	16 51 54.4	-1.0
VRTB	**Varto-Mus**	**1.64**	**280**	P	Pb	16 51 55.8	-0.6
VRTB				*e*Sn	Sg	16 52 17.3	-0.5
VRTB				S	Sg	16 52 21.3	+3.5
CUKT	**Cukurca**	**1.64**	**178**	*e*PN	Pb	16 51 55.4	-1.1
CUKT	**Cukurca**	**1.64**	**178**	*i* P	Pb	16 51 56.1	-0.4
CUKT	**Cukurca**	**1.64**	**178**	*e*Pn	Pb	16 51 55.4	-1.1
CUKT	**Cukurca**	**1.64**	**178**	P	Pb	16 51 56.1	-0.4
SIRN	**S¨–rnak**	**1.65**	**213**	⇓*i*P	Pb	16 51 55.7	-0.8
SIRN				*i* S	Sg	16 52 20.2	+2.1
SIRN	**S¨–rnak**	**1.65**	**213**	P	Pb	16 51 55.7	-0.8
SIRN				S	Sg	16 52 20.2	+2.1
HOMI	**Horasan**	**1.71**	**313**	⇓*i*P	Pb	16 51 56.5	-1.1
HOMI				*i* S	Sg	16 52 25.0	+4.9
EAK	**Akyaka**	**1.79**	**2**	*i* P	Pb	16 51 58.5	-0.6
EAK				*i* S	Sg	16 52 26.4	+3.4
EAK	**Akyaka**	**1.79**	**2**	P	Pb	16 51 58.5	-0.6
BNGL	**BINGOL**	**1.85**	**273**	⇑*i*P	Pb	16 51 58.7	-1.5
BNGL				*i* S	Sg	16 52 26.3	+1.4
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*PN	Pn	16 51 58.8	-0.3
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*Pn	Pn	16 51 58.8	-0.3
ERZM	**Erzurum**	**1.96**	**302**	*i* P	Pb	16 52 00.1	-1.9
ERZM	**Erzurum**	**1.96**	**302**	P	Pb	16 52 00.1	-1.9
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*PN	Pn	16 51 59.2	-0.7
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*i* P	Pb	16 52 00.1	-1.9
SVAN				*i* S	Sb	16 52 27.0	-0.1
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*Pn	Pn	16 51 59.3	-0.7
SVAN	**Silvan-Diyarba**	**1.97**	**249**	P	Pb	16 52 00.1	-1.9
SVAN				S	Sb	16 52 27.0	-0.1
BTMN	**Batman**	**2.03**	**241**	⇑*i*P	Pb	16 52 02.5	-0.7
BTMN				*i* S	Sg	16 52 29.7	-0.9
BTMN	**Batman**	**2.03**	**241**	P	Pb	16 52 02.5	-0.7
BTMN				S	Sg	16 52 29.7	-0.9
ECAT	**Cat-ERZURUM**	**2.11**	**291**	*i* P	Pb	16 52 02.6	-1.9
ECAT				*i* S	Sg	16 52 33.1	+0.1
ECAT	**Cat-ERZURUM**	**2.11**	**291**	P	Pb	16 52 02.6	-1.9
ECAT				S	Sg	16 52 33.1	+0.1
BNGB	**Bing¨¶l**	**2.22**	**274**	*e*PN	Pn	16 52 03.0	-0.5
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*PN	Pn	16 52 05.1	-0.6
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*Pn	Pn	16 52 05.1	-0.6
DDEM	**Demirkent**	**2.42**	**326**	*i* P	Pb	16 52 08.3	-1.5
DDEM				*i* S	Sg	16 52 44.0	+0.9
DDEM	**Demirkent**	**2.42**	**326**	P	Pb	16 52 08.3	-1.5
GDB	**GEDABAY**	**2.51**	**42**	⇑P	Pn	16 52 07.8	+0.3
SNR=18							
GDB				⇓S	Sn	16 52 37.6	-1.2
GDB	**GEDABAY**	**2.51**	**42**	P	Pn	16 52 07.8	+0.3
SNR=18							
GDB				S	Sn	16 52 37.6	-1.2
DAGI	**Agillar**	**2.51**	**331**	*i* P	Pn	16 52 07.4	0.0
DAGI				*i* S	Sg	16 52 53.7	+7.7
AKH	**Akhalkalaki**	**2.52**	**359**	*e*PN	Pn	16 52 07.8	+0.2
AKH	**Akhalkalaki**	**2.52**	**359**	*e*Pn	Pn	16 52 07.8	+0.2
QZX	**Qazax, Azerbai**	**2.59**	**33**	⇑P	Pn	16 52 09.1	+0.7
SNR=6.6							
QZX				⇑S	Sn	16 52 39.1	-1.5
QZX	**Qazax, Azerbai**	**2.59**	**33**	P	Pn	16 52 09.1	+0.7
SNR=6.6							
QZX				S	Sn	16 52 39.1	-1.5
ARTV	**Artvin**	**2.60**	**332**	⇓*i*P	Pb	16 52 10.9	-2.0
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	Pn	16 52 09.2	+0.4
ARTV	**Artvin**	**2.60**	**332**	P	Pb	16 52 10.9	-2.0
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	Pn	16 52 09.2	+0.4
KOPT	**Kop Dagi**	**2.60**	**297**	⇑*i*P	Pb	16 52 12.7	-0.2
KOPT				*i* S	Sg	16 52 47.2	-1.7
KOPT	**Kop Dagi**	**2.60**	**297**	*e*Pn	Pb	16 52 11.3	-1.7
KOPT	**Kop Dagi**	**2.60**	**297**	P	Pb	16 52 12.7	-0.2
KOPT	**Kop Dagi**	**2.60**	**297**	*e*Pn	Pb	16 52 11.3	-1.7
MARD	**Mardin**	**2.68**	**235**	*i* P	Pn	16 52 10.3	+0.6
MARD				*i* S	Sb	16 52 48.6	+0.9
MARD	**Mardin**	**2.68**	**235**	*e*Pn	Pn	16 52 09.8	0.0
MARD	**Mardin**	**2.68**	**235**	*e*Pn	Pn	16 52 09.8	0.0
EPOS	**Posof**	**2.68**	**347**	*i* P	Pn	16 52 10.6	+0.8
EPOS	**Posof**	**2.68**	**347**	P	Pn	16 52 10.6	+0.8
GANJ	**Ganja**	**2.78**	**50**	⇓P	Pn	16 52 11.8	+0.8
SNR=67							
GANJ				⇑S	Sn	16 52 44.7	-0.6
GANJ	**Ganja**	**2.78**	**50**	P	Pn	16 52 11.8	+0.8
SNR=67							
GANJ				S	Sn	16 52 44.7	-0.6
MAZI	**Mazidag**	**2.82**	**240**	*e*PN	Pn	16 52 11.1	-0.5
MAZI	**Mazidag**	**2.82**	**240**	*e*Pn	Pn	16 52 11.1	-0.5
DBOC	**Borcka**	**2.84**	**330**	*i* P	Pb	16 52 14.5	-2.3
DBOC	**Borcka**	**2.84**	**330**	P	Pb	16 52 14.5	-2.3
DIYA	**Diyarbakir**	**2.84**	**251**	*i* P	Pn	16 52 11.7	-0.3
DIYA				*i* S	Sg	16 52 55.8	-0.9
DIYA	**Diyarbakir**	**2.84**	**251**	P	Pn	16 52 11.7	-0.3
DGRG	**David-gareji**	**2.92**	**28**	P	Pn	16 52 14.5	+1.5
TBLG	**Delisi**	**2.98**	**18**	P	Pb	16 52 16.3	-3.0
ERZN	**Erzincan**	**3.04**	**284**	*e*PN	Pn	16 52 15.2	+0.6
EUZM	**Uzumlu**	**3.08**	**287**	*i* P	Pb	16 52 20.1	-0.9
EUZM	**Uzumlu**	**3.08**	**287**	P	Pb	16 52 20.1	-0.9
TNCL	**Tunceli-Merkez**	**3.11**	**275**	*i* P	Pb	16 52 19.6	-1.9
TNCL	**Tunceli-Merkez**	**3.11**	**275**	P	Pb	16 52 19.6	-1.9
BRDA	**Brd**	**3.14**	**63**	⇑P	Pn	16 52 17.8	+1.9
SNR=15							
BRDA				⇑S	Sn	16 52 54.2	+0.1
BRDA	**Brd**	**3.14**	**63**	P	Pn	16 52 17.8	+1.9
SNR=15							
BRDA				S	Sn	16 52 54.2	+0.1
PTK	**Pertek**	**3.23**	**271**	*e*PN	Pn	16 52 18.0	+0.7
PTK	**Pertek**	**3.23**	**271**	*e*Pn	Pn	16 52 18.0	+0.7
MNGR	**Mingechevir, A**	**3.32**	**54**	⇑P	Pn	16 52 19.6	+1.1
SNR=9.8							
MNGR				⇑S	Sn	16 52 58.2	-0.4
MNGR	**Mingechevir, A**	**3.32**	**54**	P	Pn	16 52 19.6	+1.1
SNR=9.8							
MNGR				S	Sn	16 52 58.2	-0.4
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*PN	Pn	16 52 18.7	-0.2
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*Pn	Pn	16 52 18.7	-0.2
ZRD	**Zardab**	**3.50**	**65**	⇑P	Pb	16 52 23.8	-4.2
SNR=8.5							
ZRD				⇑S	Sn	16 53 02.7	-0.3
ZRD	**Zardab**	**3.50**	**65**	P	Pb	16 52 23.8	-4.2
SNR=8.5							
ZRD				S	Sn	16 53 02.7	-0.3
KELT	**Kelkit**	**3.53**	**292**	*i* P	Pb	16 52 29.4	+0.6
KTUT	**Trabzon**	**3.57**	**307**	*e*PN	Pn	16 52 22.4	+0.5
KTUT	**Trabzon**	**3.57**	**307**	*e*Pn	Pn	16 52 22.4	+0.5
ELZG	**Elazig**	**3.58**	**265**	*i* P	Pb	16 52 29.2	-0.3
ZKTA	**Zakatala**	**3.62**	**40**	⇓P	Pn	16 52 23.2	+0.5
SNR=22							
ZKTA				⇓S	Sn	16 53 05.3	-0.9
SEKA	**Sheki**	**3.65**	**49**	⇑P	Pn	16 52 25.1	+2.1
SNR=36							
SEKA				⇓S	Sn	16 53 08.5	+1.7
SEKA	**Sheki**	**3.65**	**49**	P	Pn	16 52 25.1	+2.1
SNR=36							
SEKA				S	Sn	16 53 08.5	+1.7
SFNV	**Sufian**	**3.67**	**229**	*i* P	Pn	16 52 23.1	-0.1
SFNV				*e*S	Sg	16 53 22.0	-1.1
SFNV				AML	AML	16 53 34.4	
comp=E,188nm,0.7s							
SFNV				AML	AML	16 53 42.5	
comp=N,291nm,0.6s							
LRK	**Lerik**	**3.77**	**92**	⇑P	Pn	16 52 27.3	+2.5
SNR=13							
LRK	**Lerik**	**3.77**	**92**	P	Pn	16 52 27.3	+2.5
SNR=13							
GLBA	**Clilabad**	**3.80**	**83**	⇑P	Pn	16 52 27.7	+2.6
SNR=14							
GLBA	**Clilabad**	**3.80**	**83**	P	Pn	16 52 27.7	+2.6
SNR=14							
QBL	**Gabala**	**3.90**	**57**	⇑P	Pn	16 52 28.3	+1.8
SNR=32							
QBL	**Gabala**	**3.90**	**57**	P	Pn	16 52 28.3	+1.8
SNR=32							
ZEI	**Tsey**	**3.91**	**4**	*e*P	Pn	16 52 27.6	+0.9
ZEI				pmax	pmax		
comp=Z,39nm,1.0s							
SAAT	**Saatly**	**3.92**	**74**	⇑P	Pn	16 52 28.1	+1.5
SNR=4.1							
SAAT	**Saatly**	**3.92**	**74**	P	Pn	16 52 28.1	+1.5
SNR=4.1							
KEMA	**Kemaliye**	**3.94**	**277**	*i* P	Pb	16 52 33.2	-2.4
KEMA				*i* S	Sg	16 53 34.6	+2.9
URFA	**Urfa**	**3.98**	**250**	*e*PN	Pn	16 52 28.2	+0.6
URFA	**Urfa**	**3.98**	**250**	*e*Pn	Pn	16 52 28.2	+0.6
IML	**Ismayilli**	**4.06**	**61**	⇓P	Pn	16 52 30.2	+1.6
SNR=9.7							
IML	**Ismayilli**	**4.06**	**61**	P	Pn	16 52 30.2	+1.6
SNR=9.7							
LKRN	**Lenkeran, Azer**	**4.11**	**91**	⇑P	Pn	16 52 32.0	+2.7
SNR=7.9							
LKRN	**Lenkeran, Azer**	**4.11**	**91**	P	Pn	16 52 32.0	+2.7
SNR=7.9							
ASTR	**Astara**	**4.13**	**93**	⇓P	Pn	16 52 32.5	+2.9
SNR=6.9							
ASTR	**Astara**	**4.13**	**93**	P	Pn	16 52 32.5	+2.9
SNR=6.9							
XNQ	**Khinaliq**	**4.21**	**56**	⇓P	Pn	16 52 32.2	+1.3
SNR=15							
XNQ	**Khinaliq**	**4.21**	**56**	P	Pn	16 52 32.2	+1.3
SNR=15							
SUSE	**Susehri**	**4.32**	**289**	*i* P	Pb	16 52 43.5	+1.3
SUSE				*i* S	Sg	16 53 39.1	-5.0
PQL	**Pirkuli**	**4.34**	**62**	⇓P	Pn	16 52 34.0	+1.4
SNR=6.4							
PQL	**Pirkuli**	**4.34**	**62**	P	Pn	16 52 34.0	+1.4
SNR=6.4							
ALIB	**Äli-Bayra**	**4.38**	**74**	⇑P	Pn	16 52 34.8	+1.8
SNR=4.4							
ALIB	**Äli-Bayra**	**4.38**	**74**	P	Pn	16 52 34.8	+1.8
SNR=4.4							
NEY	**Neytrino**	**4.40**	**352**	*e*P	Pb	16 52 38.7	-4.8
QSAR	**Qusar**	**4.47**	**53**	⇑P	Pn	16 52 35.7	+1.4
SNR=6.4							
QSAR	**Qusar**	**4.47**	**53**	P	Pn	16 52 35.7	+1.4
SNR=6.4							
GBS	**Qobustan**	**4.49**	**67**	⇑P	Pn	16 52 36.2	+1.6
SNR=5.1							
GBS	**Qobustan**	**4.49**	**67**	P	Pn	16 52 36.2	+1.6
SNR=5.1							
QUBA	**Quba, Azerbaij**	**4.53**	**56**	⇓P	Pn	16 52 36.5	+1.3
SNR=9.3							
QUBA	**Quba, Azerbaij**	**4.53**	**56**	P	Pn	16 52 36.5	+1.3
SNR=9.3							
CUZAR	**Zara_SIVAS**	**4.57**	**284**	*i* P	Pb	16 52 45.5	-0.9
CUZAR				*i* S	Sg	16 53 49.8	-2.3
NCK	**Nalchik**	**4.60**	**1**	*i* P	Pb	16 52 41.0	-5.9
ATGJ	**Altiaghaj**	**4.61**	**63**	⇓P	Pn	16 52 37.6	+1.4
SNR=5.0							
ATGJ	**Altiaghaj**	**4.61**	**63**	P	Pn	16 52 37.6	+1.4
SNR=5.0							
GROC	**Groznyy**	**4.64**	**21**	*e*P	Pb	16 52 49.1	+1.6
GROC				pmax	pmax		
comp=Z,15nm,0.7s							
SIZA	**Siyzn**	**4.67**	**60**	⇑P	Pn	16 52 38.8	+1.7
SNR=3.8							
SIZA	**Siyzn**	**4.67**	**60**	P	Pn	16 52 38.8	+1.7
SNR=3.8							
KBZ	**Khabaz**	**4.86**	**355**	Pn	Pn	16 52 40.9	+1.3
comp=Z,0.0nm,0.3s,baz=25,slow=15,SNR=2.1							
KBZ				LR	LR	16 54 55.1	
comp=Z,367nm,18.2s,baz=184,slow=43							
MAK	**Makhachkala**	**5.06**	**35**	*e*P	Pn	16 52 38.8	-3.5
MAK				*e*S	Sn	16 53 39.6	-1.9
MAK				pmax	pmax		
comp=Z,19nm,0.4s							
MAK				MLR	MLR		
comp=Z,579nm,10.0s							
MAK	**Makhachkala**	**5.06**	**35**	*e*P	Pn	16 52 38.8	-3.5
comp=Z,19nm,0.4s							
MAK				*e*S	Sn	16 53 39.6	-1.9
comp=Z,579nm,10.0s							
KIV	**Kislovodsk**	**5.10**	**353**	*e*P	Pn	16 52 47.9	+4.9
KIV				pmax	pmax		
comp=Z,13nm,1.1s							
KIV	**Kislovodsk**	**5.10**	**353**	*e*Pn	Pn	16 52 45.2	+2.2
KIV	**Kislovodsk**	**5.10**	**353**	*e*Pn	Pn	16 52 45.2	+2.2
KVAR	**Kislovodsk Arr**	**5.10**	**353**	Pn	Pn	16 52 45.0	+2.0
baz=0.0,slow=20,SNR=3.1							
KVAR				LR	LR	16 55 14.5	
comp=Z,336nm,21.9s,baz=170,slow=45							
SOC	**Sochi**	**5.50**	**330**	*e*P	Pn	16 52 54.0	+5.6
SOC				*e*		16 53 54.7	
SOC				pmax	pmax		
comp=Z,17nm,0.8s							
TOKA	**Tokat**	**5.63**	**287**	*e*Pn	Pn	16 52 52.3	+2.1
RABH	**Abou Rabah**	**6.75**	**231**	*i* P	Pn	16 53 04.7	-0.9
RABH				*e*S	Sb	16 54 34.4	-10
RABH				AML	AML	16 55 20.3	
comp=N,35nm,0.8s							
RABH				AML	AML	16 55 24.1	
comp=E,28nm,0.9s							
ROOS	**tl_alroos**	**6.88**	**229**	*i* P	Pn	16 53 07.4	-0.1
ROOS				*e*S	Sb	16 54 38.8	-10
ROOS				AML	AML	16 55 26.1	
comp=E,50nm,0.8s							
ROOS				AML	AML	16 55 31.4	
comp=N,62nm,0.7s							
BIDA	**Albida**	**6.95**	**238**	*i* P	Pn	16 53 06.0	-2.3
BIDA				*e*S	Sn	16 54 34.3	+6.2
BIDA				AML	AML	16 55 25.3	
comp=N,99nm,0.8s							
BIDA				AML	AML	16 55 37.2	
comp=E,100nm,0.8s							
HAWK	**Haweek**	**7.19**	**235**	*i* P	Pn	16 53 09.9	-1.8
HAWK				*e*S	Sn	16 54 43.0	+8.9
HAWK				AML	AML	16 55 30.1	
comp=N,48nm,0.7s							
HAWK				AML	AML	16 55 32.4	
comp=E,18nm,0.8s							
MARH	**Ras Al Marh**	**7.47**	**232**	*i* P	Pn	16 53 15.8	+0.1
MARH				*e*S	Sn	16 54 51.7	+10
MARH				AML	AML	16 55 44.2	
comp=N,33nm,0.7s							
MARH				AML	AML	16 55 44.4	
comp=E,40nm,0.7s							
BRTR	**Keskin Array B**	**7.71**	**279**	Pn	Pn	16 53 22.4	+3.5
comp=E,0.1nm,0.3s,baz=103,slow=11,SNR=2.4							
BRTR				LR	LR	16 56 49.3	
comp=E,186nm,20.7s,baz=95,slow=42							
BRBR	**Barbar**	**8.21**	**231**	*i* P	Pn	16 53 24.9	-0.9
BRBR				*e*S	Sn	16 55 09.5	+10
BRBR				AML	AML	16 55 56.4	
comp=N,22nm,0.7s							
BRBR				AML	AML	16 56 04.9	
comp=E,23nm,0.7s							
SALA	**Sala**	**8.27**	**224**	*i* P	Pn	16 53 27.8	+1.1
SALA				*e*S	Sb	16 55 13.8	-15
SALA				AML	AML	16 56 06.8	
comp=E,2.6nm,0.7s							
SALA				AML	AML	16 56 13.2	
comp=N,15nm,0.7s							
ASF	**Jabal al Asfar**	**8.61**	**221**	Pn	Pn	16 53 31.0	-0.1
comp=N,0.2nm,0.3s,baz=45,slow=5.6,SNR=3.8							
ASF				Lg	Lg	16 55 54.8	
comp=N,0.3nm,0.3s,baz=323,slow=20,SNR=2.4							
MMAI	**Mount Meron Ar**	**8.81**	**231**	Pn	Pn	16 53 35.3	+1.3
comp=N,0.5nm,0.3s,baz=54,slow=14,SNR=3.3							
MMAI				Lg	Lg	16 56 03.9	
baz=71,slow=24,SNR=2.8							
MMAI				LR	LR	16 57 25.3	
comp=N,344nm,19.7s,baz=45,slow=41							
GEYT	**Alibeck**	**11.49**	**90**	Pn	Pn	16 54 07.5	-3.1
comp=N,0.1nm,0.3s,baz=322,slow=9.4,SNR=3.7							
DOPR	**Dopca**	**15.13**	**304**	⇓*i*P	P	16 55 07.5	+1.9
DOPR	**Dopca**	**15.13**	**304**	⇓*i*P	P	16 55 07.5	+1.9
VOIR		**15.17**	**301**	⇑*i*P	P	16 55 06.3	+0.2
VOIR		**15.17**	**301**	⇑*i*P	P	16 55 06.3	+0.2
RAYN	**Ar Rayn**	**15.41**	**173**	*e*Pn	Pn	16 54 58.8	-5.3
comp=N,7.8nm,1.0s							
AKTO	**Aktyubinsk**	**15.44**	**37**	Pn	Pn	16 55 01.3	-3.0
comp=N,0.0nm,0.3s,baz=236,slow=15,SNR=8.3							
AKTO				LR	LR	17 02 30.8	
comp=N,122nm,18.2s,baz=222,slow=43							
AKASG	**Malin Array Be**	**15.54**	**324**	Pn	Pn	16 55 05.7	+0.2
comp=N,0.2nm,0.3s,baz=134,slow=11,SNR=7.3							
KIEV	**Kiev**	**15.54**	**324**	*e*P	P	16 55 10.4	+0.3
KIEV				pmax	pmax		
comp=Z,5.0nm,1.0s							
KIEV	**Kiev**	**15.54**	**324**	*e*P	P	16 55 10.6	+0.5
comp=Z,4.6nm,0.8s							
ABKAR	**Akbulak array**	**15.67**	**43**	*e*Pn	Pn	16 55 05.2	-2.0
comp=Z,28nm,0.8s							
BURAR	**Bucovina Array**	**15.91**	**309**	⇑*i*P	P	16 55 16.0	+1.7
BURAR	**Bucovina Array**	**15.91**	**309**	⇑*i*P	P	16 55 16.0	+1.7
BUR08	**Bucovina Ar. S**	**15.93**	**309**	*e*Pn	P	16 55 14.6	+0.1
OBN	**Obninsk**	**16.89**	**346**	Pn	Pn	16 55 22.4	-0.5
comp=Z,5.8nm,0.3s,baz=225,slow=8.6,SNR=6.1							
OBN				LR	LR	17 02 43.9	
comp=Z,57nm,18.9s,baz=90,slow=40							
OBN	**Obninsk**	**16.89**	**346**	*i* P	P	16 55 25.4	+0.4
OBN				pmax	pmax		
comp=Z,32nm,1.0s							
OBN				MLR	MLR		
comp=Z,120nm,16.0s							
DRGR		**17.15**	**304**	⇑*i*P	P	16 55 40.0	+12
BZS	**Buzias**	**17.53**	**300**	⇑*i*P	P	16 55 33.3	+1.2
BZS	**Buzias**	**17.53**	**300**	⇑*i*P	P	16 55 33.3	+1.2
PSZ	**Piszkesteto**	**19.34**	**305**	*e*P	Pn	16 55 54.1	+1.0
PSZ				pmax	pmax		
comp=Z,7.0nm,1.0s							
PSZ	**Piszkesteto**	**19.34**	**305**	*e*P	Pn	16 55 54.1	+1.0
comp=Z,7.3nm,1.0s							
ARU	**Arti**	**20.18**	**25**	P	P	16 55 59.8	-1.4
comp=Z,3.3nm,0.6s,baz=192,slow=4.7,SNR=8.5							
ARU				LR	LR	17 05 22.3	
comp=Z,74nm,18.9s,baz=208,slow=42							
ARU	**Arti**	**20.18**	**25***d*	*i*P	Pn	16 56 03.1	+0.1
ARU						16 56 18.9	
ARU				S	Sn	16 59 52.8	+2.3
ARU				SS	**SnSn**	**17 00 11.8**	**+6.9**
ARU				pmax	pmax		
comp=Z,18nm,1.2s							
ARU	**Arti**	**20.18**	**25**	*e*P	P	16 56 00.7	-0.5
comp=Z,23nm,1.2s							
VYHS	**Vyhne**	**20.19**	**306**	*e*P	Pn	16 56 04.9	+1.7
VYHS				pmax	pmax		
comp=Z,12nm,1.7s							
VYHS	**Vyhne**	**20.19**	**306**	*e*P	Pn	16 56 04.9	+1.7
WSAR	**Wadi Sarin**	**20.22**	**136**	LR	LR	17 04 56.1	
comp=Z,55nm,21.7s,baz=329,slow=40							
KKAR	**Karatay Array**	**20.76**	**70**	*e*P	P	16 56 06.5	-1.1
KKAR				pmax	pmax		
comp=Z,5.0nm,0.7s							
KKAR	**Karatay Array**	**20.76**	**70**	*e*P	P	16 56 06.

MKAR	**Makanchi Array**	**29.26**	**62**	P		**P**		**16 57 28.0**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=272,slow=6.7,SNR=15								
MKAR				LR		LR		17 10 57.9	
	comp=Z,82nm,20.8s,baz=252,slow=40								
MKAR	**Makanchi Array**	**29.26**	**62**	P		**P**		**16 57 28.0**	**-0.9**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR				MLR		MLR			
	comp=Z,82nm,20.8s								
MKAR	**Makanchi Array**	**29.26**	**62**	P		**P**		**16 57 28.0**	**-0.9**
	comp=Z,82nm,20.8s								
MKAR	**Makanchi Array**	**29.26**	**62**	P		**P**		**16 57 28.0**	**-0.9**
NOA	**NORSAR Array B**	**29.86**	**329**	LR		LR		17 09 57.7	
	comp=Z,45nm,20.2s,baz=145,slow=37								
ZALV	**Zalesovo Beam**	**31.69**	**48**	P		**P**		**16 57 48.2**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=248,slow=7.8,SNR=4.4								
ZALV				LR		LR		17 12 37.8	
	comp=Z,69nm,19.6s,baz=250,slow=40								
ARCES	**ARCESS Array B**	**32.19**	**348**	LR		LR		17 11 39.4	
	comp=Z,67nm,20.3s,baz=148,slow=38								
WMQ	**Urumqi**	**33.22**	**67**	P		**P**		**16 58 04.4**	**+0.6**
WMQ				pP				16 58 08.9	
WMQ				sP				16 58 11.5	
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,74nm,5.3s								
WMQ				LR		LR			
	comp=N,37nm,23.1s								
WMQ				LR		LR			
	comp=E,34nm,30.7s								
WMQ				LR		LR			
	comp=Z,41nm,20.5s								
ESDC	**Sonseca Array**	**36.43**	**287**	P		**P**		**16 58 31.3**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=69,slow=8.4,SNR=8.9								
NRIK	**Noril'sk**	**38.40**	**23**	LR		LR		17 19 00.8	
	comp=Z,83nm,18.2s,baz=190,slow=43								
KMBO	**Kilima Mbogo**	**40.24**	**190**	LR		LR		17 15 33.7	
	comp=Z,72nm,18.3s,baz=308,slow=36								
TORD	**Torodi Ar. Bea**	**44.95**	**247**	P		**P**		**16 59 39.7**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=45,slow=9.0,SNR=2.7								
SONM	**Songino Array**	**45.43**	**57**	P		**P**		**16 59 42.5**	**-3.3**
	comp=Z,0.2nm,0.6s,baz=246,slow=7.2,SNR=2.1								
ULN	**Ulaanbaatar**	**45.85**	**57**	*e*P		**P**		**16 59 49.9**	**+0.7**
ULN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ULN	**Ulaanbaatar**	**45.85**	**57**	*e*P		**P**		**16 59 49.0**	**-0.2**
	comp=Z,1.6nm,0.6s								
ULN	**Ulaanbaatar**	**45.85**	**57**	*e*P		**P**		**16 59 49.0**	**-0.2**
	comp=Z,1.6nm,0.6s								
LZH	**Lanzhou**	**47.18**	**74**	*e*P		**P**		**16 59 57.5**	**-2.3**
LZH				pP		pP		17 00 00.3	
LZH				sP		sP		17 00 01.4	
LZH				*e*PP		PP		17 00 47.6	-63
LZH				pmax		pmax			
	comp=Z,19nm,1.3s								
LZH				pmax		pmax			
	comp=Z,45nm,6.0s								
LZH				LR		LR			
	comp=N,140nm,14.9s								
LZH				LR		LR			
	comp=E,150nm,14.6s								
LZH				LR		LR			
	comp=Z,190nm,18.2s								
HHC	**Hu-ho-hao-te**	**51.04**	**65**	*e*P		**P**		**17 00 27.0**	**-2.2**
HHC				pmax		pmax			
	comp=Z,17nm,1.4s								
HHC				pmax		pmax			
	comp=Z,32nm,4.9s								
KMI	**Kunming**	**51.24**	**87**	P		**P**		**17 00 30.4**	**-0.6**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
XAN	**Xi'an**	**51.81**	**74**	P		**P**		**17 00 34.6**	**-0.4**
XAN				pP				17 00 43.4	
XAN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P		**P**		**17 00 34.0**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=302,slow=9.5,SNR=7.0								
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P		**P**		**17 00 34.0**	**-1.7**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P		**P**		**17 00 34.0**	**-1.7**
	comp=Z,1.0nm,0.8s								
TIXI	**Tiksi**	**52.18**	**24**	*i* P		**P**		**17 00 39.0**	**+1.9**
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.1s								
TIXI	**Tiksi**	**52.18**	**24**	*i* P		**P**		**17 00 39.0**	**+1.9**
	comp=Z,1.0nm,1.1s								
HIA	**Hailar**	**53.54**	**52**	*e*P		**P**		**17 00 48.9**	**+1.3**
HIA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
HIA	**Hailar**	**53.54**	**52**	*e*P		**P**		**17 00 48.9**	**+1.3**
	comp=Z,2.0nm,0.8s								
YAK	**Yakutsk**	**54.82**	**35**	*i* P		**P**		**17 00 59.1**	**+2.4**
YAK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SEY	**Seymchan**	**63.86**	**29**	*i* P		**P**		**17 02 00.5**	**+1.4**
SEY	**Seymchan**	**63.86**	**29**	*i* P		**P**		**17 02 00.5**	**+1.4**
COLA	**College**	**76.19**	**5**	*e*P		**P**		**17 03 18.0**	**+3.2**
COLA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FFC	**Flin Flon**	**82.17**	**341⇑**	*e*P		P		17 03 51.7	+4.0
FFC				pmax		pmax			
	comp=Z,32nm,1.7s								

IDC 24 16:59:29.7±2.2, 5°.86S×130°.16E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=95.6km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.95**	**200**	Pn		17 02 35.8	+0.7
	0.0nm,0.3s,baz=27,slow=12,SNR=2.1						
FITZ				Sn		17 04 51.9	-8.1
	0.3nm,0.3s,baz=168,slow=18,SNR=5.5						
WRA	**Warramunga Arr**	**14.58**	**164**	Pn		17 02 56.2	-1.3
	0.1nm,0.3s,baz=343,slow=11,SNR=3.3						
WRA				Sn		17 05 24.6	-15
	0.2nm,0.3s,baz=343,slow=20,SNR=5.2						
ASAR	**Alice Springs**	**18.07**	**169**	P		17 03 42.5	0.0
	0.3nm,0.3s,baz=350,slow=10,SNR=24						
ASAR				S		17 06 50.2	-15
	0.1nm,0.3s,baz=345,slow=24,SNR=3.6						
MKAR	**Makanchi Array**	**67.36**	**326**	P		P	17 10 26.9	0.0
	0.4nm,0.4s,baz=125,slow=7.6,SNR=7.8						

*UPP **24** 17:01:13.6±0.1, 67°.05N×20°.97E, h0km, ML1.8*
*ISCJB **24** 17:01:13.2±0.4, 67°.07N±0°.02×21°.00E±0°.07, h0km, Error ellipse: s-maj=4.1km s-min=2.8km az=168.0*
*HEL **24** 17:01:14.6±0.1, 67°.06N×20°.93E, h0km, ML2.3, ML1.8(UPP), Explosion*
*IDC **24** 17:01:14.7±0.9, 67°.03N×21°.21E, h0km, mb1 2.9/4, mb1mx2.8/53, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=17.3km s-min=7.8km az=118.0*
*CSEM **24** 17:01:14.3±0.2, 67°.07N×20°.95E, h2km, ML1.8, Error ellipse: s-maj=5.3km s-min=3.9km az=72.0, Mining explosion.*
*NAO **24** 17:01:14.7±1.0, 67°.08N×21°.08E, ML2.5*
*BER **24** 17:01:16.9±2.9, 67°.07N×20°.76E, h0km, ML1.7, ML2.5(NAO), Suspected explosion*

ISC 24 17:01:13.8±0.8, 67°.04N±0°.02×20°.93E±0°.03, h0km, n81, σ0§97/110, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.70**	**134**	P		**Pg**	**17 01 26.7**	**-0.5**
ERTU				S		**Sg**	**17 01 36.7**	**+0.4**
ERTU	**Ertsjaerv**	**0.70**	**134**	*e*P		**Pg**	**17 01 26.7**	**-0.5**
	baz=315							
ERTU				*e*S		**Sg**	**17 01 36.7**	**+0.4**
ERTU	**Ertsjaerv**	**0.70**	**134**	P		**Pg**	**17 01 26.7**	**-0.5**
ERTU				S		**Sg**	**17 01 36.7**	**+0.4**
PAJU	**Pajala**	**0.86**	**90**	P		**Pg**	**17 01 29.3**	**-0.9**
PAJU	**Pajala**	**0.86**	**90**	*i* P		**Pg**	**17 01 29.3**	**-0.9**
PAJU	**Pajala**	**0.86**	**90**	P		**Pg**	**17 01 29.3**	**-0.9**
RATU	**Laukkuluspa**	**0.94**	**327**	P		**Pg**	**17 01 31.1**	**-0.7**
KUA	**Kurravaara**	**0.94**	**346**	P		**Pg**	**17 01 31.3**	**-0.6**
KUA	**Kurravaara**	**0.94**	**346**	*e*P		**Pg**	**17 01 31.3**	**-0.6**
KUA	**Kurravaara**	**0.94**	**346**	P		**Pg**	**17 01 31.3**	**-0.6**
SALU	**Saltoluokta**	**1.00**	**291**	P		**Pg**	**17 01 32.6**	**-0.4**
SALU	**Saltoluokta**	**1.00**	**291**	*e*P		**Pg**	**17 01 32.6**	**-0.4**
SALU	**Saltoluokta**	**1.00**	**291**	P		**Pg**	**17 01 32.6**	**-0.4**
LANU	**Lannavaara**	**1.09**	**22**	P		**Pg**	**17 01 33.6**	**-1.1**
LANU	**Lannavaara**	**1.09**	**22**	*e*P		**Pg**	**17 01 33.6**	**-1.1**
	baz=195							
LANU	**Lannavaara**	**1.09**	**22**	P		**Pg**	**17 01 33.6**	**-1.1**
NIKU	**Nikkaluokta**	**1.10**	**320**	P		**Pg**	**17 01 34.1**	**-0.8**
NIKU	**Nikkaluokta**	**1.10**	**320**	*e*P		**Pg**	**17 01 34.1**	**-0.8**
NIKU	**Nikkaluokta**	**1.10**	**320**	P		**Pg**	**17 01 34.1**	**-0.8**
KALU	**Kalix**	**1.54**	**139**	P		**Pn**	**17 01 42.2**	**-0.2**
KALU	**Kalix**	**1.54**	**139**	*e*P		**Pn**	**17 01 42.0**	**-0.4**
KALU				*e*SN		**Sg**	**17 02 04.3**	**+1.1**
KALU	**Kalix**	**1.54**	**139**	P		**Pn**	**17 01 42.2**	**-0.2**
KALU				Sn		**Sg**	**17 02 04.3**	**+1.1**
SJUU	**Sjulsmark**	**1.57**	**170**	P		**Pn**	**17 01 42.5**	**-0.4**
SJUU	**Sjulsmark**	**1.57**	**170**	*e*P		**Pn**	**17 01 42.5**	**-0.4**
SJUU	**Sjulsmark**	**1.57**	**170**	P		**Pn**	**17 01 42.5**	**-0.4**
TOF	**Tornio**	**1.67**	**124**	*e*P		**Pn**	**17 01 44.3**	**0.0**
TOF				*e*SG		**Sn**	**17 02 06.3**	**0.0**
TOF	**Tornio**	**1.67**	**124**	P		**Pn**	**17 01 44.2**	**0.0**
TOF				Sg		**Sn**	**17 02 06.3**	**0.0**
HEF	**Hetta**	**1.72**	**36**	*e*P		**Pn**	**17 01 44.5**	**-0.5**
	baz=217							
HEF				MSG			17 02 06.4	
	comp=Z,26nm,0.2s							
HEF				*e*SN		**Sg**	**17 02 09.7**	**+0.5**
HEF	**Hetta**	**1.72**	**36**	P		**Pn**	**17 01 44.5**	**-0.5**
HEF				Sn		**Sg**	**17 02 09.6**	**+0.5**
LILU	**Lilltraesk**	**1.82**	**194**	P		**Pn**	**17 01 46.8**	**+0.4**
LILU	**Lilltraesk**	**1.82**	**194**	*e*P		**Pn**	**17 01 46.8**	**+0.4**
LILU	**Lilltraesk**	**1.82**	**194**	P		**Pn**	**17 01 46.7**	**+0.4**
KIF	**Kilpisjarvi**	**1.97**	**359**	Pn		**Pb**	**17 01 49.9**	**-0.6**
KIF				Lg		Lg	17 02 17.0	
KIF	**Kilpisjarvi**	**1.97**	**359**	Pn		**Pb**	**17 01 49.9**	**-0.6**
KIF				Lg		Lg	17 02 17.0	
KIF	**Kilpisjarvi**	**1.97**	**359**	*e*PB		**Pb**	**17 01 49.6**	**-0.9**
	baz=170							
KIF				MSG			17 02 13.1	
	comp=Z,21nm,0.2s							
KIF				*e*SG		**Sg**	**17 02 17.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.97**	**359**	Pb		**Pb**	**17 01 49.6**	**-0.9**
KIF	**Kilpisjarvi**	**1.97**	**359**	Pn		**Pb**	**17 01 49.9**	**-0.6**
	SNR=50							
KIF				Lg		Lg	17 02 17.0	
KTK1	**Kautokeino**	**2.16**	**23**	*e*P		**Pb**	**17 01 53.5**	**-0.3**
KTK1				*e*Sg		**Sg**	**17 02 23.1**	**0.0**
KTK1				IAML			17 02 27.4	
	comp=Z,9.8nm,0.2s							
KTK1	**Kautokeino**	**2.16**	**23**	*e*P		**Pb**	**17 01 53.5**	**-0.3**
	SNR=50							
KTK1				*e*Sg		**Sg**	**17 02 23.1**	**0.0**
	SNR=90							
SGF	**Sodankyl**	**2.21**	**77**	*e*PB		**Pn**	**17 01 52.7**	**+1.0**
	baz=256							
SGF				*e*SG		**Sb**	**17 02 23.7**	**+1.1**
SGF	**Sodankyl**	**2.21**	**77**	Pb		**Pn**	**17 01 52.7**	**+1.0**
SGF				Sg		**Sb**	**17 02 23.7**	**+1.1**
BURU	**Burvik**	**2.48**	**175**	*e*P		**Pn**	**17 01 56.9**	**+1.5**
	baz=347							
BURU	**Burvik**	**2.48**	**175**	P		**Pn**	**17 01 56.8**	**+1.5**
TRO	**Tromso**	**2.71**	**345**	*e*P		**Pg**	**17 02 05.6**	**0.0**
OUL	**Oulu**	**2.82**	**132**	*e*P		**Pn**	**17 02 01.4**	**+1.3**
	baz=304							
OUL	**Oulu**	**2.82**	**132**	P		**Pn**	**17 02 01.4**	**+1.3**
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn		**Pn**	**17 02 03.5**	**+0.6**
	baz=208,slow=16							
ARA0				Sn		**Sn**	**17 02 39.5**	**-0.4**
	baz=221,slow=22							
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn		**Pn**	**17 02 03.5**	**+0.6**
	baz=208,slow=16							
ARA0				Sn		**Sn**	**17 02 39.5**	**-0.4**
	baz=221,slow=22							
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn		**Pn**	**17 02 03.5**	**+0.6**
	SNR=50							
ARA0				Sn		**Sn**	**17 02 39.5**	**-0.4**
	SNR=50							
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn		**Pn**	**17 02 03.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=213,slow=15,SNR=39							
ARCES				Sn		**Sn**	**17 02 39.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=225,slow=19,SNR=6.0							
ARE0	**ARCESS Array S**	**3.03**	**32**	*e*P		**Pn**	**17 02 02.8**	**-0.1**
	baz=207							
ARE0	**ARCESS Array S**	**3.03**	**32**	P		**Pn**	**17 02 02.8**	**-0.1**
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 02 04.2**	**+1.2**
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 02 04.2**	**+1.2**
	SNR=50							
OUFX	**Oulainen**	**3.11**	**148**	*e*P		**Pn**	**17 02 05.9**	**+1.9**
	baz=323							
OUFX				*e*SG		**Sg**	**17 02 52.0**	**-1.6**
OUFX	**Oulainen**	**3.11**	**148**	P		**Pn**	**17 02 05.9**	**+1.9**
OUFX				Sg		**Sg**	**17 02 52.0**	**-1.6**
MSF	**Maaselka**	**3.45**	**105**	*e*P		**Pn**	**17 02 10.3**	**+1.6**
	baz=291							
MSF	**Maaselka**	**3.45**	**105**	P		**Pn**	**17 02 10.3**	**+1.6**
KEV	**Kevo**	**3.53**	**37**	*e*P		**Pn**	**17 02 11.8**	**+1.9**
	baz=236							
KEV	**Kevo**	**3.53**	**37**	P		**Pn**	**17 02 11.7**	**+1.9**
KU6	**Riekki**	**3.73**	**102**	*e*P		**Pn**	**17 02 13.3**	**+0.8**
	baz=275							
KU6	**Riekki**	**3.73**	**102**	P		**Pn**	**17 02 13.3**	**+0.8**
VAF	**Ylistaro**	**4.08**	**169**	*e*P		**Pn**	**17 02 19.4**	**+2.0**
	baz=356							
VAF	**Ylistaro**	**4.08**	**169**	P		**Pn**	**17 02 19.4**	**+2.0**
HEMU	**Hemsoen**	**4.55**	**197**	*e*P		**Pn**	**17 02 25.3**	**+1.4**
HEMU	**Hemsoen**	**4.55**	**197**	P		**Pn**	**17 02 25.2**	**+1.4**
APA0	**Apatity Array**	**4.71**	**78**	Pn		**Pn**	**17 02 26.2**	**+0.3**
	baz=258,slow=12							
APA0				Sn		**Sn**	**17 03 21.4**	**+0.3**
APA0	**Apatity Array**	**4.71**	**78**	Pn		**Pn**	**17 02 26.2**	**+0.3**
	baz=258,slow=12							
APA0				Sn		**Sn**	**17 03 21.4**	**+0.3**
APA0	**Apatity Array**	**4.71**	**78**	Pn		**Pn**	**17 02 26.2**	**+0.3**
	SNR=50							
APA0				Sn		**Sn**	**17 03 21.5**	**+0.3**
	SNR=50							
FIA0	**FINESS Array S**	**6.05**	**156**	Pn		**Pn**	**17 02 45.9**	**+1.4**
	baz=344,slow=16							
FIA0				Sn		**Sn**	**17 03 54.9**	**+0.5**
	baz=347,slow=22							
FIA0	**FINESS Array S**	**6.05**	**156**	Pn		**Pn**	**17 02 45.9**	**+1.4**
	baz=344,slow=16							
FIA0				Sn		**Sn**	**17 03 54.9**	**+0.5**
	baz=347,slow=22							
FIA0	**FINESS Array S**	**6.05**	**156**	Pn		**Pn**	**17 02 45.8**	**+1.4**
	SNR=50							
FIA0				Sn		**Sn**	**17 03 54.8**	**+0.5**
	SNR=50							
FINES	**FINESS Array B**	**6.05**	**156**	Pn		**Pn**	**17 02 45.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=9.6							
FINES				Sn		**Sn**	**17 03 52.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=347,slow=22,SNR=6.1							
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn		**Pn**	**17 03 02.6**	**0.0**
	baz=22,slow=11							
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn		**Pn**	**17 03 02.6**	**0.0**
	baz=22,slow=11							
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn		**Pn**	**17 03 02.6**	**0.0**
	SNR=50							
NOA	**NORSAR Array B**	**7.37**	**220**	Pn		**Pn**	**17 03 02.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=61,slow=11,SNR=3.6							
NOA				Sn		**Sn**	**17 04 26.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=70,slow=18,SNR=2.7							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**17 03 06.5**	**+0.2**
	baz=20,slow=14							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**17 03 05.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=3.3							
HFS				Sn		**Sn**	**17 04 29.6**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=21,slow=28,SNR=3.1							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**17 03 06.5**	**+0.2**
	baz=20,slow=14							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**17 03 06.5**	**+0.2**
	SNR=50							

*TIF **24** 17:05:46.6, 39°.97N×45°.00E, h22km±3km*
*TEH **24** 17:05:51.3, 39°.69N×44°.87E, h5km, ML2.7*
*CSEM **24** 17:05:51.3, 39°.69N×44°.87E, h5km, ML2.7*

ISC 24 17:05:46.2±1.3, 39°.94N±0°.05×45°.08E±0°.08, h3km±12km, n14, σ0§77/22, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**1.32**	**158**	*e*Pg		**Pn**	**17 06 12.0**	**+0.2**
IMRD				*e*AMB		AMB	17 06 16.7	
	comp=Z,4μm,0.1s							
IMRD	**Marand**	**1.32**	**158**	*e*Pg		**Pn**	**17 06 12.0**	**+0.2**
DGRG	**David-gareji**	**1.52**	**8**	P		**Pb**	**17 06 15.3**	**+0.1**
DGRG				S		**Sn**	**17 06 35.2**	**+0.4**
ISHB	**Shabestar**	**1.71**	**166**	*e*Pn		**Pg**	**17 06 19.3**	**+0.3**
ISHB				*e*AMB		AMB	17 06 25.3	
	comp=Z,1μm,0.2s							
ISHB				*e*Sg		**Sn**	**17 06 38.7**	**-1.0**
BGD	**Bogdanovka**	**1.73**	**320**	P		**Pg**	**17 06 19.2**	**-0.2**
BGD				S		**Sg**	**17 06 42.0**	**+0.1**
TBLG	**Delisi**	**1.81**	**352**	P		**Pb**	**17 06 19.6**	**-0.4**
TBLG				S		**Sn**	**17 06 42.2**	**+0.5**
ITBZ	**Tabriz**	**1.90**	**154**	*e*Pn		**Pg**	**17 06 22.5**	**-0.1**
ITBZ				*e*AMB		AMB	17 06 25.5	
	comp=Z,431nm,0.1s							
ITBZ	**Tabriz**	**1.90**	**154**	*e*Pn		**Pg**	**17 06 22.5**	**-0.1**
IHRS	**Heris**	**2.23**	**136**	*e*Pn		**Pg**	**17 06 28.3**	**-0.7**
IHRS				*e*AMB		AMB	17 06 33.6	
	comp=N,929nm,0.2s							
IHRS				*e*Sg		**Sg**	**17 06 58.9**	**+1.0**
IHRS	**Heris**	**2.23**	**136**	*e*Pn		**Pg**	**17 06 28.3**	**-0.7**
IHRS				*e*Sg		**Sg**	**17 06 58.9**	**+1.0**
IBST	**Bostanabad**	**2.65**	**147**	*e*AMB		AMB	17 06 39.3	
	comp=Z,160nm,0.1s							
ONI	**Oni**	**2.91**	**336**	P		**Pb**	**17 06 38.3**	**-0.6**
ONI				S		**Sb**	**17 07 15.2**	**+0.3**
ISRB	**Sarab**	**2.93**	**135**	*e*Pn		**Pg**	**17 06 40.9**	**-1.4**
ISRB				*e*Sg		**Sg**	**17 07 21.1**	**+0.9**
ISRB				*e*AMB		AMB	17 07 26.6	
	comp=Z,247nm,0.2s							
ISRB	**Sarab**	**2.93**	**135**	*e*Pn		**Pg**	**17 06 40.9**	**-1.4**
ISRB				*e*Sg		**Sg**	**17 07 21.1**	**+0.9**

*IDC **24** 17:08:21.2±2.2, 1°.52N×126°.95E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/49, mbtmp3.6/3, Error ellipse: s-maj=178.4km s-min=26.2km az=66.0*
*ISCJB **24** 17:08:33.6±1.0, 1°.61N±0°.09×127°.31E±0°.08, h128km, mb3.5/3, Error ellipse: s-maj=13.5km s-min=9.2km az=37.4*
*DJA **24** 17:08:36.1±0.7, 1°.N±4°.×12°.7E±°, h102km±9km, M4.1/11, mB4.6/1, mb4.1/4, MLv4.1/11, Mw(mB)3.9/1*

ISC 24 17:08:34.9±1.3, 1.55N±0°.07×127°.27E±0°.09, h128km, n12, σ1§32/14, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.19**	**174**	P		**Pn**	**17 09 13.0**	**+1.9**
SGSI	**Sangihe**	**2.75**	**321**	P		**Pn**	**17 09 17.2**	**-1.0**
KMSI	**Cibinong**	**3.43**	**254**	P		**Pn**	**17 09 27.9**	**+0.8**
KMSI				S		**Sn**	**17 10 08.2**	**+0.8**
SANI	**Sanana**	**3.80**	**200**	P		**Pn**	**17 09 31.5**	**-0.5**
SANI				S		**Sn**	**17 10 12.8**	**-3.4**
NLAI	**Namlea**	**4.76**	**182**	P		**Pn**	**17 09 44.6**	**-0.2**
LUWI	**Luwuk**	**5.18**	**240**	P		**Pn**	**17 09 50.9**	**+0.5**
AAI	**Ambon**	**5.28**	**170**	P		**Pn**	**17 09 52.3**	**+0.5**
MRSI	**Marisa**	**5.44**	**259**	P		**Pn**	**17 09 54.6**	**+0.8**
APSI	**Ampana**	**6.13**	**247**	P		**Pn**	**17 10 03.5**	**+0.3**
WRA	**Warramunga Arr**	**22.46**	**162**	P		**P**	**17 13 23.4**	**-0.2**
	1.2nm,0.4s,baz=340,slow=11,SNR=9.6							
ASAR	**Alice Springs**	**25.88**	**166**	P		**P**	**17 13 55.0**	**0.0**
	0.4nm,0.5s,baz=350,slow=7.4,SNR=8.6							
MKAR	**Makanchi Array**	**59.65**	**326**	P		**P**	**17 18 26.2**	**+0.6**
	0.3nm,0.4s,baz=109,slow=8.4,SNR=4.8							

*IDC **24** 17:15:16.1±3.0, 38°.81S×177°.26E, h33km±18km, mb4.1/6, mb1 4.2/8, mb1mx3.9/26, mbtmp4.2/8, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/25, Error ellipse: s-maj=33.8km s-min=27.0km az=135.0*
*ISCJB **24** 17:15:17.6±0.2, 38°.74S±0°.02×177°.16E±0°.03, h59km±3km, mb4.4/8, MS3.5/4, Error ellipse: s-maj=4.1km s-min=2.8km az=13.4*
*WEL **24** 17:15:19.2±0.1, 38°.67S×177°.14E, h42km±1km, ML4.6/54, Mw4.2, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, maximum reported intensity MM 4.*
WEL Felt from Bay of Plenty to Hawkes Bay, and from King Country to Gisborne.
*NEIC **24** 17:15:19.1±0.0, 38°.67S×177°.14E, h42km, mb4.7/3, ML4.5(WEL), After WEL.*

ISC 24 17:15:17.9±0.7, 38°.75S±0°.03×177°.27E±0°.04, h50km±5km, n198, σ1§70/197, mb4.4/8, MS3.4/4, 32C-27D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGZ	**Shannon Statio**	**0.07**	**119**	PN		**Pn**	**17 15 26.0**	**+0.3**
SNGZ				AML	AML	17 15 35.1	
SNGZ				AML	AML	17 15 36.3	
RTZ	**Ruatahuna**	**0.26**	**301**	⇑PN		**Pn**	**17 15 25.8**	**-1.0**
RTZ				SN		**Sn**	**17 15 31.4**	**-1.8**
RAGZ	**Rawiri**	**0.28**	**25**	⇓PN		**Pn**	**17 15 27.1**	**+0.1**
RAGZ				AML	AML	17 15 34.8	
RAGZ				AML	AML	17 15 36.6	
WHHZ	**Waihua**	**0.33**	**184**	⇑PN		Pn	17 15 28.7	+1.4
WHHZ				AML	AML	17 15 39.7	
WHH

HLRZ	**Highlands Stat**	**0.87 304**	PN	**Pn**	**17 15 33.0**	**-0.9**
MKRZ	**Makatiti**	**0.88 314**	*e*PN	**Pn**	**17 15 34.1**	**+0.1**
MARZ	**Manawahe**	**0.89 329**	PN	**Pn**	**17 15 33.4**	**-0.8**
WPRZ	**Whakapapatarin**	**0.89 285**	⇓PN	**Pn**	**17 15 33.4**	**-0.8**
HSRZ	**Hossack Road**	**0.91 298**	⇑PN	**Pn**	**17 15 33.6**	**-0.9**
CKHZ	**Cape Kidnapper**	**0.92 189**	⇓PN	Pn	17 15 35.9	+1.4
CKHZ			AML	AML	17 15 51.3	
CKHZ			AML	AML	17 15 55.3	
WHRZ	**Whale Island**	**0.92 346**	⇑PN	**Pn**	**17 15 34.1**	**-0.5**
HATZ	**Hinemaiaia**	**0.93 261**	PN	**Pn**	**17 15 34.1**	**-0.6**
KWHZ	**Kaweka Forest**	**0.94 224**	⇓PN	**Pn**	**17 15 36.0**	**+1.1**
KWHZ			AML	AML	17 15 52.1	
KWHZ			AML	AML	17 15 53.8	
OMRZ	**Omania**	**0.95 312**	⇑PN	**Pn**	**17 15 33.9**	**-1.0**
GRRZ	**Galatos Road**	**0.99 293**	⇑PN	**Pn**	**17 15 34.9**	**-0.6**
LIRZ	**Lichensteins R**	**1.02 317**	⇑PN	**Pn**	**17 15 34.9**	**-1.0**
UTU	**Utuhina**	**1.02 304**	PN	**Pn**	**17 15 35.3**	**-0.6**
WHTZ	**Whakaora**	**1.03 274**	*e*Pn	**Pn**	**17 15 35.6**	**-0.5**
WHTZ	**Whakaora**	**1.03 274**	PN	**Pn**	**17 15 35.6**	**-0.5**
PUZ	**Puketiti**	**1.03 49**	PN	**Pn**	**17 15 37.7**	**+1.7**
PUZ			AML	AML	17 15 54.2	
PUZ			AML	AML	17 15 55.9	
OPRZ	**Ohinepanea**	**1.06 328**	PN	**Pn**	**17 15 35.1**	**-1.3**
HAZ	**Te Kaha**	**1.07 22**	⇑PN	**Pn**	**17 15 36.8**	**+0.2**
HAZ			AML	AML	17 15 57.6	
HAZ			AML	AML	17 15 57.6	
HAZ			AML	AML	17 16 00.2	
HAZ			AML	AML	17 16 00.2	
KARZ	**Kaharoa**	**1.08 312**	⇑PN	**Pn**	**17 15 35.5**	**-1.3**
KAHZ	**Kahuranaki**	**1.09 196**	⇓PN	**Pn**	**17 15 38.0**	**+1.2**
KAHZ			AML	AML	17 16 03.0	
KAHZ			AML	AML	17 16 18.6	
RITZ	**Rihia Road**	**1.12 258**	⇑PN	**Pn**	**17 15 37.2**	**-0.1**
KRHZ	**Kereru**	**1.13 218**	⇓PN	**Pn**	**17 15 38.2**	**+0.8**
KRHZ			AML	AML	17 16 00.9	
KRHZ			AML	AML	17 16 01.2	
KUTZ	**Kaahu Road**	**1.16 283**	⇑PN	**Pn**	**17 15 37.0**	**-0.8**
RATZ	**Rangitukua**	**1.17 264**	⇑PN	**Pn**	**17 15 37.4**	**-0.6**
BHHZ	**Black Hill Sta**	**1.19 231**	⇓PN	**Pn**	**17 15 39.3**	**+1.0**
BHHZ			AML	AML	17 15 56.5	
BHHZ			AML	AML	17 15 57.7	
WATZ	**Wairara**	**1.20 272**	⇑PN	**Pn**	**17 15 37.7**	**-0.6**
WIZ	**White Island**	**1.22 357**	⇓PN	**Pn**	**17 15 38.1**	**-0.5**
KATZ	**Kakaramea**	**1.25 259**	*e*Pn	**Pn**	**17 15 38.9**	**-0.2**
KATZ	**Kakaramea**	**1.25 259**	PN	**Pn**	**17 15 38.8**	**-0.2**
TGRZ	**Tauranga**	**1.29 322**	⇑PN	**Pn**	**17 15 38.1**	**-1.4**
WMGZ	**Waiomatatini S**	**1.30 45**	⇓PN	**Pn**	**17 15 41.3**	**+1.7**
WMGZ			AML	AML	17 16 12.0	
WMGZ			AML	AML	17 16 16.3	
KRVZ	**Karewarewa**	**1.31 254**	⇑PN	**Pn**	**17 15 39.7**	**-0.2**
OTVZ	**Oturere**	**1.31 251**	*e*Pn	**Pn**	**17 15 39.9**	**-0.1**
OTVZ	**Oturere**	**1.31 251**	PN	**Pn**	**17 15 39.9**	**-0.1**
PXZ	**Pawanui**	**1.32 194**	⇑PN	**Pn**	**17 15 40.2**	**+0.3**
PXZ			AML	AML	17 16 12.9	
PXZ			AML	AML	17 16 12.9	
PXZ			AML	AML	17 16 23.3	
PXZ			AML	AML	17 16 23.3	
MOVZ	**Moawhango**	**1.35 240**	*e*Pn	**Pn**	**17 15 40.6**	**+0.2**
MOVZ	**Moawhango**	**1.35 240**	⇑PN	**Pn**	**17 15 40.6**	**+0.2**
WTVZ	**West Tongariro**	**1.36 254**	*e*Pn	**Pn**	**17 15 40.4**	**-0.2**
WTVZ	**West Tongariro**	**1.36 254**	PN	**Pn**	**17 15 40.4**	**-0.2**
TUVZ	**Tukino**	**1.36 247**	⇑PN	**Pn**	**17 15 40.7**	**+0.1**
NGZ	**Ngauruhoe**	**1.36 251**	*e*Pn	**Pn**	**17 15 40.6**	**-0.1**
NGZ	**Ngauruhoe**	**1.36 251**	⇑PN	**Pn**	**17 15 40.6**	**-0.1**
TLZ	**Tolley Road**	**1.42 287**	⇑PN	**Pn**	**17 15 40.2**	**-1.1**
WNVZ	**Wahianoa**	**1.42 246**	*e*Pn	**Pn**	**17 15 41.5**	**+0.1**
WNVZ	**Wahianoa**	**1.42 246**	⇑PN	**Pn**	**17 15 41.5**	**+0.1**
DRZ	**Dome Shelter**	**1.43 248**	*e*Pn	**Pn**	**17 15 41.7**	**0.0**
DRZ	**Dome Shelter**	**1.43 248**	PN	**Pn**	**17 15 41.7**	**0.0**
PNHZ	**Pukenui**	**1.43 215**	⇓PN	**Pn**	**17 15 41.7**	**+0.3**
PNHZ			AML	AML	17 16 06.0	
PNHZ			AML	AML	17 16 13.3	
FWVZ	**Far West T-bar**	**1.43 249**	⇑PN	**Pn**	**17 15 41.5**	**-0.1**
MXZ	**Matakaoa Point**	**1.44 35**	*e*Pn	**Pn**	**17 15 43.2**	**+1.7**
MXZ			*e*Sn	Sn	17 16 13.1	+14
MXZ			*e*		17 16 18.0	
MXZ	**Matakaoa Point**	**1.44 35**	⇓PN	**Pn**	**17 15 43.2**	**+1.7**
MXZ			AML	AML	17 16 13.1	
MXZ			AML	AML	17 16 18.0	
TRVZ	**Turoa**	**1.45 247**	*e*Pn	**Pn**	**17 15 41.8**	**-0.1**
TRVZ	**Turoa**	**1.45 247**	⇑PN	**Pn**	**17 15 41.8**	**-0.1**
WPHZ	**Waipukurau**	**1.46 206**	⇓PN	**Pn**	**17 15 42.1**	**+0.3**
WPHZ			AML	AML	17 16 26.3	
WPHZ			AML	AML	17 16 26.5	
TWVZ	**Taurewa**	**1.46 257**	*e*Pn	**Pn**	**17 15 41.4**	**-0.6**
TWVZ	**Taurewa**	**1.46 257**	PN	**Pn**	**17 15 41.3**	**-0.6**
PKVZ	**Pokaka**	**1.59 250**	PN	**Pn**	**17 15 43.6**	**0.0**
PRHZ	**Porangahau**	**1.59 198**	⇓PN	**Pn**	**17 15 43.7**	**+0.1**
PRHZ			AML	AML	17 16 13.9	
PRHZ			AML	AML	17 16 26.2	
TSZ	**Takapari Road**	**1.65 217**	PN	**Pn**	**17 15 44.3**	**-0.2**
TSZ			AML	AML	17 16 14.0	
TSZ			AML	AML	17 16 19.0	
TOZ	**Tahuroa Road**	**1.72 306**	*e*Pn	**Pn**	**17 15 44.1**	**-1.3**
TOZ	**Tahuroa Road**	**1.72 306**	⇑PN	**Pn**	**17 15 44.1**	**-1.3**
DVHZ	**Dannevirke**	**1.77 208**	PN	**Pn**	**17 15 45.5**	**-0.6**
DVHZ			AML	AML	17 16 27.9	
DVHZ			AML	AML	17 16 27.9	
ANWZ	**Angora Road**	**1.81 199**	PN	**Pn**	**17 15 46.3**	**-0.3**
ANWZ			AML	AML	17 16 11.7	
ANWZ			AML	AML	17 16 34.8	
HIZ	**Hauiti**	**1.90 276**	*e*Pn	**Pn**	**17 15 49.9**	**+2.0**
HIZ	**Hauiti**	**1.90 276**	PN	**Pn**	**17 15 49.7**	**+1.9**
VRZ	**Vera Road**	**1.99 258**	PN	**Pn**	**17 15 49.3**	**+0.2**
POWZ	**Post Office Ro**	**2.01 215**	⇓PN	**Pn**	**17 15 48.8**	**-0.5**
POWZ			AML	AML	17 16 37.2	
POWZ			AML	AML	17 16 40.9	
WAZ	**Wanganui**	**2.04 240**	PN	**Pn**	**17 15 50.7**	**+1.0**
PRWZ	**Pori Road**	**2.06 209**	PN	**Pn**	**17 15 49.6**	**-0.5**
PRWZ			AML	AML	17 16 21.7	
PRWZ			AML	AML	17 16 50.3	
BFZ	**Birch Farm**	**2.08 202**	*e*Pn	**Pn**	**17 15 49.5**	**-0.8**
BFZ			*e*Sn	**Sn**	**17 16 16.2**	**+1.1**
BFZ	**Birch Farm**	**2.08 202**	PN	**Pn**	**17 15 49.5**	**-0.8**
BFZ			AML	AML	17 16 16.2	
BFZ			AML	AML	17 16 16.2	
BFZ			AML	AML	17 16 16.8	
BFZ			AML	AML	17 16 16.8	
OHWZ	**Ohakea**	**2.10 225**	PN	**Pn**	**17 15 51.2**	**+0.7**
TIWZ	**Tintock**	**2.29 207**	PN	**Pn**	**17 15 52.2**	**-0.9**
TIWZ			AML	AML	17 16 21.3	
TIWZ			AML	AML	17 16 21.9	
CPWZ	**Castlepoint**	**2.31 200**	⇓PN	**Pn**	**17 15 53.0**	**-0.4**
CPWZ			AML	AML	17 16 23.5	
CPWZ			AML	AML	17 16 25.7	
MRZ	**Mangatainoka R**	**2.31 214**	⇓PN	**Pn**	**17 15 52.3**	**-1.2**
MRZ			AML	AML	17 16 20.8	
MRZ			AML	AML	17 16 21.1	
MHEZ	**Mangahewa**	**2.32 261**	PN	**Pn**	**17 15 55.5**	**+1.9**
LREZ	**Lake Rotokare**	**2.34 251**	PN	**Pn**	**17 15 54.9**	**+1.1**
MKAZ	**Moumakai**	**2.34 314**	*e*Pn	**Pn**	**17 15 52.6**	**-1.2**
MKAZ	**Moumakai**	**2.34 314**	PN	**Pn**	**17 15 52.6**	**-1.2**
KUZ	**Kuaotunu**	**2.35 328**	PN	**Pn**	**17 15 52.7**	**-1.3**
DREZ	**Durham Road**	**2.43 259**	PN	**Pn**	**17 15 57.1**	**+2.0**
PREZ	**Palmer Road**	**2.49 255**	PN	**Pn**	**17 15 58.0**	**+2.1**
NEZ	**North Egmont**	**2.52 257**	⇑PN	**Pn**	**17 15 58.2**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.53 212**	⇓PN	**Pn**	**17 15 54.9**	**-1.7**
HOWZ			AML	AML	17 16 25.0	
HOWZ			AML	AML	17 16 25.3	
ETAZ	**East Tamaki Re**	**2.58 313**	PN	**Pn**	**17 15 56.6**	**-0.4**
TMWZ	**Te Maipa**	**2.58 204**	PN	**Pn**	**17 15 55.6**	**-1.5**
TMWZ			AML	AML	17 16 26.9	
TMWZ			AML	AML	17 16 27.0	
WIAZ	**Waiheke Island**	**2.58 318**	PN	**Pn**	**17 15 56.2**	**-1.0**
KHEZ	**Kahui Hut**	**2.59 257**	PN	**Pn**	**17 15 59.0**	**+1.6**
PKE	**Pukeiti**	**2.59 259**	*e*Pn	**Pn**	**17 15 58.7**	**+1.4**
PKE	**Pukeiti**	**2.59 259**	PN	**Pn**	**17 15 58.7**	**+1.4**
OGWZ	**Otaki Gorge**	**2.62 217**	⇓PN	**Pn**	**17 15 56.2**	**-1.4**
OGWZ			AML	AML	17 16 32.8	
OGWZ			AML	AML	17 16 50.7	
MTW	**Mount Morrison**	**2.76 209**	*e*Pn	**Pn**	**17 15 57.5**	**-2.1**
MTW			*e*Sn	**Sn**	**17 16 30.3**	**-1.5**
MTW	**Mount Morrison**	**2.76 209**	PN	**Pn**	**17 15 57.5**	**-2.1**
MTW			AML	AML	17 16 30.3	
MTW			AML	AML	17 16 30.8	
KIW	**Kapiti Island**	**2.78 220**	*e*Pn	**Pn**	**17 15 58.5**	**-1.4**
KIW			*e*Sn	**Sn**	**17 16 33.3**	**+1.0**
KIW	**Kapiti Island**	**2.78 220**	⇓PN	**Pn**	**17 15 58.5**	**-1.4**
KIW			AML	AML	17 16 33.3	
KIW			AML	AML	17 16 35.7	
WTAZ	**Waiatarua**	**2.80 310**	*e*PN	**Pn**	**17 15 59.8**	**-0.3**
GRZ	**Great Barrier**	**2.88 329**	PN	**Pn**	**17 16 00.6**	**-0.7**
ABAZ	**Army Bay**	**2.89 317**	PN	**Pn**	**17 16 01.0**	**-0.3**
CAW	**Cannon Point**	**2.90 215**	*e*Pn	**Pn**	**17 15 59.5**	**-2.0**
CAW			*e*Sn	**Sn**	**17 16 39.2**	**+4.1**
CAW	**Cannon Point**	**2.90 215**	PN	**Pn**	**17 15 59.5**	**-2.0**
CAW			AML	AML	17 16 34.9	
CAW			AML	AML	17 16 39.2	
RVAZ	**Riverhead Bore**	**2.91 312**	PN	**Pn**	**17 16 02.2**	**+0.6**
TRWZ	**Traveller**	**2.91 204**	*e*Pn	**Pn**	**17 15 59.6**	**-2.1**
TRWZ			*e*Sn	**Sn**	**17 16 34.8**	**-0.6**
TRWZ	**Traveller**	**2.91 204**	PN	**Pn**	**17 15 59.6**	**-2.1**
TRWZ			AML	AML	17 16 34.3	
TRWZ			AML	AML	17 16 34.7	
PAWZ	**Paruwai Farm**	**2.98 208**	*e*Pn	**Pn**	**17 16 00.4**	**-2.3**
PAWZ			*e*Sn	**Sn**	**17 16 36.0**	**-1.2**
PAWZ	**Paruwai Farm**	**2.98 208**	PN	**Pn**	**17 16 00.4**	**-2.3**
PAWZ			AML	AML	17 16 36.0	
PAWZ			AML	AML	17 16 38.5	
MSWZ	**Moikau Station**	**3.08 210**	PN	**Pn**	**17 16 01.3**	**-2.7**
MSWZ			AML	AML	17 16 42.2	
MSWZ			AML	AML	17 16 42.6	
WEL	**Wellington**	**3.18 216**	PN	**Pn**	**17 16 03.0**	**-2.3**
PLWZ	**Palliser**	**3.21 208**	PN	**Pn**	**17 16 03.0**	**-2.8**
PLWZ			AML	AML	17 16 41.0	
PLWZ			AML	AML	17 16 42.0	
SNZO	**South Karori**	**3.23 217**	*e*Pn	**Pn**	**17 16 03.4**	**-2.6**
BHW	**Baring Head**	**3.23 214**	*e*Sn	**Sn**	**17 16 46.6**	**+3.4**
BHW	**Baring Head**	**3.23 214**	PN	**Pn**	**17 16 03.3**	**-2.7**
BHW			AML	AML	17 16 43.9	
BHW			AML	AML	17 16 46.6	
DUWZ	**D'Urville Isla**	**3.29 230**	*e*Pn	**Pn**	**17 16 05.5**	**-1.5**
DUWZ	**D'Urville Isla**	**3.29 230**	PN	**Pn**	**17 16 05.4**	**-1.5**
TCW	**Tory Channel**	**3.36 222**	*e*Pn	**Pn**	**17 16 05.5**	**-2.3**
TCW			*e*Sn	Sn	17 17 03.0	+16
TCW	**Tory Channel**	**3.36 222**	PN	**Pn**	**17 16 05.5**	**-2.3**
TCW			AML	AML	17 17 03.0	
TCW			AML	AML	17 17 04.2	
WCZ	**Waipu Caves**	**3.65 319**	*e*Pn	**Pn**	**17 16 11.4**	**-0.3**
WCZ	**Waipu Caves**	**3.65 319**	PN	**Pn**	**17 16 11.4**	**-0.3**
TUWZ	**Tuamarina**	**3.70 223**	AML	AML	17 17 12.0	
TUWZ			AML	AML	17 17 12.0	
NNZ	**Nelson**	**3.87 229**	*e*PN	**Pn**	**17 16 12.9**	**-1.9**
BSWZ	**Blackbirch Sta**	**3.94 220**	PN	**Pn**	**17 16 12.8**	**-3.0**
BSWZ			AML	AML	17 17 01.5	
BSWZ			AML	AML	17 17 48.6	
QRZ	**Quartz Range**	**4.20 239**	PN	**Pn**	**17 16 22.0**	**+2.7**
THZ	**Tophouse**	**4.49 227**	*e*Pn	**Pn**	**17 16 20.8**	**-2.6**
THZ	**Tophouse**	**4.49 227**	PN	**Pn**	**17 16 21.0**	**-2.5**
OUZ	**Omahuta**	**4.59 319**	*e*Pn	**Pn**	**17 16 24.7**	**+0.1**
OUZ	**Omahuta**	**4.59 319**	PN	**Pn**	**17 16 24.8**	**+0.2**
KHZ	**Kahutara**	**4.63 217**	*e*Sn	**Sn**	**17 17 11.6**	**-6.1**
KHZ	**Kahutara**	**4.63 217**	PN	**Pn**	**17 16 21.2**	**-4.0**
KHZ			AML	AML	17 17 15.3	
KHZ			AML	AML	17 17 15.3	
KHZ			AML	AML	17 17 16.0	
KHZ			AML	AML	17 17 16.0	
DSZ	**Denniston Nort**	**5.14 233**	PN	**Pn**	**17 16 32.2**	**-0.1**
LTZ	**Lake Taylor**	**5.53 222**	*e*Pn	**Pn**	**17 16 33.8**	**-3.8**
CRLZ	**Canterbury Las**	**5.96 215**	*e*Pn	**Pn**	**17 16 41.5**	**-1.9**
CRLZ	**Canterbury Las**	**5.96 215**	PN	**Pn**	**17 16 41.8**	**-1.6**
OXZ	**Oxford**	**6.04 219**	*e*Pn	**Pn**	**17 16 41.7**	**-2.9**
OXZ			*e*Sn	**Sn**	**17 17 58.4**	**+6.0**
OXZ	**Oxford**	**6.04 219**	PN	**Pn**	**17 16 41.3**	**-3.3**
MQZ	**McQueen's Vall**	**6.05 214**	*e*Pn	**Pn**	**17 16 40.4**	**-4.2**
MQZ	**McQueen's Vall**	**6.05 214**	*e*Pn	Pn	17 16 39.6	-5.1
CTZ	**Chatham Island**	**6.79 139**	PN	Pn	17 16 55.3	+0.6
CTZ			*e*SN	**Sn**	**17 18 03.8**	**-6.8**
RPZ	**Rata Peaks**	**6.82 221**	Pn	**Pn**	**17 16 52.5**	**-2.8**
	3.6nm,0.3s,baz=186,slow=0.8,SNR=13					
RPZ			Sn	Sn	17 18 01.9	-10
	4.7nm,0.3s,baz=329,slow=22,SNR=12					
RPZ			LR	LR	17 19 49.0	
	comp=Z,80nm,21.0s,baz=52,slow=40					
RPZ	**Rata Peaks**	**6.82 221**	*e*Pn	**Pn**	**17 16 53.0**	**-2.3**
RPZ			*e*Sn	Sn	17 18 01.9	-10
FOZ	**Fox Glacier**	**7.38 227**	*e*Pn	**Pn**	**17 17 02.7**	**-0.2**
ODZ	**Otahua Downs**	**7.99 216**	*e*Pn	**Pn**	**17 17 07.5**	**-3.8**
ODZ	**Otahua Downs**	**7.99 216**	*e*PN	**Pn**	**17 17 06.6**	**-4.7**
DZM	**Mont Dzumac**	**19.04 328**	Pn	**P**	**17 19 36.4**	**+0.5**
	0.3nm,0.3s,baz=274,slow=19,SNR=3.3					
STKA	**Stephens Creek**	**29.77 272**	LR	LR	17 32 00.1	
	comp=Z,49nm,20.1s,baz=41,slow=34					
CTA	**Charters Tower**	**32.57 296**	P	**P**	**17 21 45.5**	**+1.0**
	4.4nm,0.9s,baz=132,slow=9.7,SNR=4.7					
ASAR	**Alice Springs**	**39.64 279**	P	**P**	**17 22 45.0**	**+0.1**
	5.0nm,0.6s,baz=125,slow=8.2,SNR=105					
ASAR			PcP	**PcP**	**17 24 50.4**	**-0.7**
	0.3nm,0.4s,baz=121,slow=4.2,SNR=3.5					
ASAR			ScP	**ScP**	**17 28 32.0**	**-3.5**
	0.2nm,0.8s,baz=117,slow=4.0,SNR=4.2					
ASAR			LR	LR	17 39 18.3	
	comp=Z,46nm,18.9s,baz=108,slow=36					
PMG	**Port Moresby**	**39.76 309**	LR	LR	17 39 04.9	
	comp=Z,290nm,20.1s,baz=182,slow=36					
WR1	**Warramunga Arr**	**41.41 284**	*e*P	**P**	**17 22 59.0**	**-0.4**
	23nm,1.9s					
WRA	**Warramunga Arr**	**41.41 284**	P	**P**	**17 22 59.0**	**-0.4**
	1.0nm,0.5s,baz=122,slow=8.2,SNR=18					
FITZ	**Fitzroy Crossi**	**49.14 280**	P	**P**	**17 24 00.7**	**0.0**
	2.7nm,0.6s,baz=153,slow=7.4,SNR=12					
FITZ			LR	LR	17 44 32.9	
	comp=Z,42nm,21.3s,baz=94,slow=36					
FITZ	**Fitzroy Crossi**	**49.14 280**	*e*P	**P**	**17 24 00.4**	**-0.3**
	9.9nm,1.3s					
QSPA	**South Pole Qui**	**51.38 180**	*e*P	P	17 24 21.2	+4.0
SYO	**Syowa Base**	**68.09 195**	*e*P	**P**	**17 26 11.6**	**-0.1**
KSRS	**Korea Array**	**88.40 323**	P	**P**	**17 28 04.8**	**+0.7**
	1.3nm,0.7s,baz=149,slow=4.6,SNR=2.5					
KSAR	**Wonju Array Be**	**88.41 323**	P	**P**	**17 28 04.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**92.63 291**	P	**P**	**17 28 25.2**	**+0.9**
	0.9nm,0.8s,baz=144,slow=3.6,SNR=8.7					
ORV	**Oroville**	**96.00 43**	*e*P	**P**	**17 28 39.7**	**+0.5**
	4.1nm,0.6s					
KBZ	**Khabaz**	**145.67 293**	PKPbc	**PKPdf**	**17 34 50.3**	**+0.1**
	1.5nm,0.8s,baz=132,slow=8.7,SNR=3.7					
ARA0	**ARCESS Array S**	**145.67 343**	*e*PKPdf	**PKPdf**	**17 34 49.3**	**-0.1**
ARCES	**ARCESS Array B**	**145.67 343**	PKPbc	**PKPdf**	**17 34 49.3**	**-0.1**
	2.8nm,0.8s,baz=79,slow=2.9,SNR=8.3					
FIA0	**FINESS Array S**	**151.15 331**	*e*PKPbc	**PKPbc**	**17 35 03.8**	**-0.7**
FINES	**FINESS Array B**	**151.15 331**	PKPbc	**PKPbc**	**17 35 03.8**	**-0.7**
	3.3nm,0.9s,baz=48,slow=3.8,SNR=8.4					
BR101	**Keskin Array S**	**151.93 284**	*e*PKPbc	**PKPbc**	**17 35 07.7**	**+0.6**
BRTR	**Keskin Array B**	**151.93 284**	PKPbc	**PKPbc**	**17 35 07.7**	**+0.6**
	0.7nm,0.8s,baz=132,slow=2.1,SNR=3.2					
TORD	**Torodi Ar. Bea**	**154.20 190**	PKPbc	**PKPbc**	**17 35 14.0**	**+1.3**
	0.4nm,0.5s,baz=156,slow=3.0,SNR=4.0					
TOA1	**Torodi Ar. Sit**	**154.21 190**	*e*PKPbc	**PKPbc**	**17 35 14.0**	**+1.3**
AKASG	**Malin Array Be**	**154.55 308**	PKPbc	**PKPbc**	**17 35 12.8**	**+0.5**
	0.2nm,0.3s,baz=92,slow=1.8,SNR=3.4					

DDA ***24*** *17:17:34.8,38.°66N×43.°18E,h5km,Ml3.2*
ISK ***24*** *17:17:34.7,38.°67N×43.°22E,h5km,ML3.3*
ISCJB ***24*** *17:17:35.9±0.5,38.°66N±0.°02×43.°19E±0.°04,h2km±5km, mb3.2/3,Error ellipse: s-maj=5.4km s-min=3.3km az=160.6*
CSEM ***24*** *17:17:35.6±0.2,38.°64N×43.°20E,h2km,ML3.3,Error ellipse: s-maj=6.6km s-min=4.2km az=61.0*
IDC ***24*** *17:17:35.6±1.4,38.°47N×43.°60E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.1/74,mbtmp3.3/4,ML3.8/1,MS2.7/3, Ms1 2.6/3,ms1mx2.2/29,Error ellipse: s-maj=28.2km s-min=19.6km az=137.0*

ISC 24 17:17:36.2±0.8,38.°65N±0.°02×43.°23E±0.°02,h13km±6km, n66,σ1§38/88,mb3.3/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**113**	*e*PG	**Pg**	**17 17 39.7**	**-0.1**
VANB				*e*SG	**Sg**	**17 17 43.4**	**+1.1**
VANB	**Van**	**0.14**	**113**	*e*Pg	**Pg**	**17 17 39.7**	**-0.1**
VANB				*e*Sg	**Sg**	**17 17 43.4**	**+1.1**
GEVA	**Gevas**	**0.36**	**202**	*i* P	**Pg**	**17 17 42.2**	**-1.4**
GEVA				*i* S	**Sb**	**17 17 49.2**	**-1.0**
GEVA	**Gevas**	**0.36**	**202**	P	**Pg**	**17 17 42.2**	**-1.4**
GEVA				S	**Sb**	**17 17 49.2**	**-1.0**
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pg**	**17 17 50.7**	**-1.4**
TUTA				*i* S	**Sb**	**17 18 02.8**	**-0.7**
TUTA	**Tutak**	**0.82**	**337**	P	**Pg**	**17 17 50.7**	**-1.4**
TUTA				S	**Sb**	**17 18 02.8**	**-0.7**
BASK	**Baskale_VAN**	**0.85**	**134**	*i* P	**Pg**	**17 17 51.0**	**-1.7**
BASK				*i* S	**Sn**	**17 18 06.6**	**0.0**
BASK	**Baskale_VAN**	**0.85**	**134**	P	**Pg**	**17 17 51.0**	**-1.7**
BASK				S	**Sn**	**17 18 06.6**	**0.0**
AGRB	**Hanur-Agry**	**0.94**	**349**	*e*PG	**Pg**	**17 17 52.9**	**-1.6**
AGRB				*e*SG	**Sb**	**17 18 06.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.94**	**349**	*e*Pg	**Pg**	**17 17 52.9**	**-1.6**
AGRB				*e*Sg	**Sb**	**17 18 06.1**	**-1.0**
EKAR	**Karacoban**	**1.09**	**304**	*i* P	**Pg**	**17 17 55.9**	**-1.4**
EKAR				*i* S	**Sn**	**17 18 18.1**	**+5.6**
EKAR	**Karacoban**	**1.09**	**304**	P	**Pg**	**17 17 55.9**	**-1.4**
HAKT	**HAKKARI**	**1.15**	**161**	*i* P	**Pb**	**17 17 55.8**	**-2.3**
HAKT				*i* S	**Sg**	**17 18 11.2**	**-2.3**
HAKT	**HAKKARI**	**1.15**	**161**	P	**Pb**	**17 17 55.8**	**-2.3**
HAKT				S	**Sg**	**17 18 11.2**	**-2.3**
SIRN	**S¯–rnak**	**1.32**	**209**	*i* P	**Pn**	**17 18 00.1**	**-0.3**
SIRN				*i* S	**Sg**	**17 18 21.4**	**+2.7**
SIRN	**S¯–rnak**	**1.32**	**209**	P	**Pn**	**17 18 00.1**	**-0.3**
SIRN				S	**Sg**	**17 18 21.4**	**+2.7**
EATA	**Eleskirt**	**1.34**	**335**	*i* P	**Pn**	**17 18 00.3**	**-0.6**
EATA				*i* S	**Sn**	**17 18 20.0**	**+1.3**
EATA	**Eleskirt**	**1.34**	**335**	P	**Pn**	**17 18 00.3**	**-0.6**
EATA				S	**Sn**	**17 18 20.0**	**+1.3**
CUKT	**Cukurca**	**1.43**	**168**	*e*PN	**Pb**	**17 18 02.4**	**-0.4**
CUKT	**Cukurca**	**1.43**	**168**	*i* P	**Pg**	**17 18 03.4**	**-0.4**
CUKT				*i* S	**Sg**	**17 18 24.2**	**+1.9**
CUKT	**Cukurca**	**1.43**	**168**	*e*Pn	**Pb**	**17 18 02.4**	**-0.4**
CUKT	**Cukurca**	**1.43**	**168**	P	**Pg**	**17 18 03.3**	**-0.4**
CUKT				S	**Sg**	**17 18 24.2**	**+1.9**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*PN	**Pn**	**17 18 02.2**	**-0.4**
VRTB	**Varto-Mus**	**1.47**	**291**	*i* P	**Pb**	**17 18 02.5**	**-1.1**
VRTB				*i* S	**Sg**	**17 18 23.4**	**-0.3**
VRTB	**Varto-Mus**	**1.47**	**291**	*e*Pn	**Pb**	**17 18 02.2**	**-0.4**
VRTB	**Varto-Mus**	**1.47**	**291**	P	**Pb**	**17 18 02.5**	**-1.1**
VRTB				S	**Sg**	**17 18 23.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*e*PN	**Pb**	**17 18 05.6**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*i* P	**Pb**	**17 18 06.0**	**-0.8**
SVAN				*i* S	**Sg**	**17 18 28.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*e*Pn	**Pb**	**17 18 05.6**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	P	**Pb**	**17 18 06.0**	**-0.8**
SVAN				S	**Sg**	**17 18 28.6**	**-1.4**
BTMN	**Batman**	**1.72**	**244**	*i* P	**Pb**	**17 18 06.4**	**-1.2**
BTMN				*i* S	**Sg**	**17 18 30.3**	**-1.2**
BTMN	**Batman**	**1.72**	**244**	P	**Pb**	**17 18 06.4**	**-1.2**
BTMN				S	**Sg**	**17 18 30.3**

*DDA **24** 17:21:36.1,38.50N×44.02E,h7km,Ml3.1*
*ISK **24** 17:21:37.1,38.48N×43.90E,h16km,ML3.0*
ISC 24 17:21:36.7±1.3,38.49N±0.03×43.95E±0.04,h5km±10km, n24,σ0.95/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	**Baskale_VAN**	**0.43**	**175**	*i* P	**Pg**	**17 21 44.8**	**-0.3**
BASK				*i* S	**Sg**	**17 21 51.9**	**+1.0**
BASK	**Baskale_VAN**	**0.43**	**175**	P	**Pg**	**17 21 44.8**	**-0.3**
BASK				S	**Sg**	**17 21 51.9**	**+1.0**
VANB	**Van**	**0.46**	**284**	*e*PG	**Pg**	**17 21 45.1**	**-0.4**
VANB				*e*SG	**Sg**	**17 21 51.7**	**+0.2**
VANB	**Van**	**0.46**	**284**	*e*Pg	**Pg**	**17 21 45.1**	**-0.4**
VANB				*e*Sg	**Sg**	**17 21 51.7**	**+0.2**
GEVA	**Gevas**	**0.72**	**256**	*i* P	**Pg**	**17 21 49.5**	**-1.1**
GEVA				*i* S	**Sg**	**17 22 00.8**	**+0.8**
GEVA	**Gevas**	**0.72**	**256**	P	**Pg**	**17 21 49.5**	**-1.1**
GEVA				S	**Sg**	**17 22 00.9**	**+0.8**
HAKT	**HAKKARI**	**0.95**	**192**	*i* P	**Pg**	**17 21 53.1**	**-1.8**
HAKT				*i* S	**Sb**	**17 22 08.2**	**-0.5**
HAKT	**HAKKARI**	**0.95**	**192**	P	**Pg**	**17 21 53.1**	**-1.8**
HAKT				S	**Sb**	**17 22 08.2**	**-0.5**
DYDN	**Diyadin**	**1.08**	**349**	*i* P	**Pg**	**17 21 56.8**	**-0.5**
DYDN				*i* S	**Sn**	**17 22 15.1**	**+1.0**
DYDN	**Diyadin**	**1.08**	**349**	P	**Pg**	**17 21 56.8**	**-0.5**
DYDN				S	**Sn**	**17 22 15.1**	**+1.0**
CUKT	**Cukurca**	**1.27**	**193**	*e*PN	**Pg**	**17 22 01.1**	**+0.1**
CUKT				*e*SN	**Sb**	**17 22 17.4**	**-0.4**
CUKT	**Cukurca**	**1.27**	**193**	*i* P	**Pn**	**17 22 00.4**	**-0.8**
CUKT				*i* S	**Sn**	**17 22 19.1**	**+0.5**
CUKT	**Cukurca**	**1.27**	**193**	P	**Pn**	**17 22 00.4**	**-0.8**
CUKT	**Cukurca**	**1.27**	**193**	*e*Pn	**Pg**	**17 22 01.1**	**+0.1**
CUKT				*e*Sn	**Sb**	**17 22 17.4**	**-0.4**
CUKT				S	**Sn**	**17 22 19.1**	**+0.5**
AGRB	**Hanur-Agry**	**1.32**	**326**	*e*PN	**Pn**	**17 22 01.1**	**-0.9**
AGRB	**Hanur-Agry**	**1.32**	**326**	*e*Pn	**Pn**	**17 22 01.1**	**-0.9**
SIRN	**S¨–rnak**	**1.57**	**231**	*i* P	**Pg**	**17 22 06.2**	**-0.5**
SIRN				*i* S	**Sg**	**17 22 29.5**	**+2.4**
SIRN	**S¨–rnak**	**1.57**	**231**	P	**Pg**	**17 22 06.2**	**-0.5**
SIRN				S	**Sg**	**17 22 29.5**	**+2.4**
SVAN	**Silvan-Diyarba**	**2.19**	**262**	*e*PN	**Pn**	**17 22 13.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.19**	**262**	*e*Pn	**Pn**	**17 22 13.3**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.42**	**330**	*e*PN	**Pn**	**17 22 17.0**	**0.0**
SENK	**Senkaya-Erzuru**	**2.42**	**330**	*e*Pn	**Pn**	**17 22 17.0**	**0.0**
MAZI	**Mazidag**	**2.96**	**251**	*e*PN	**Pn**	**17 22 24.1**	**-0.3**
MAZI	**Mazidag**	**2.96**	**251**	*e*Pn	**Pn**	**17 22 24.1**	**-0.3**

GUC 24 17:29:03.2±0.4,36.72S×73.84W,h35km±6km,ML3.9,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.03**	**56**	⇑*i*P	Pn	17 29 21.1	-0.1
COCH				*e*S	Sn	17 29 34.2	-0.1
COCH				IAML		17 29 40.4	
	comp=N,4μm,0.4s						
CCHI	**Chillan**	**1.43**	**86**	*e*P	Pn	17 29 27.1	+0.6
CCHI				*i* S	Sn	17 29 45.3	+1.2
CCHI				IAML		17 29 58.1	
	comp=E,3μm,0.8s						
GO05	**HualaæØ**	**2.31**	**43**	*e*P	Pn	17 29 39.7	+1.0
GO05				IAML		17 30 28.5	
	comp=E,1μm,1.1s						
ROCH	**El Roble**	**4.40**	**33**	*e*P	Pn	17 30 08.6	+0.9

*BJI **24** 17:34:55.8,31.38S×178.52W,h92km,mb5.3/28, mB5.3/18*
*ISCJB **24** 17:34:56.8±0.2,32.12S±0.02×179.14W±0.04,h100km, mb5.0/66,Error ellipse: s-maj=5.4km s-min=3.0km az=25.2*
*MOS **24** 17:34:58.0±1.1,31.66S×179.21W,h103km,mb5.1/16, Error ellipse: s-maj=11.6km s-min=9.1km az=81.2*
*IDC **24** 17:34:59.9±1.2,31.56S×179.10W,h114km±9km,mb4.5/19, mb1 4.6/20,mb1mx4.5/34,mbtmp4.8/20,MS3.3/17, Ms1 3.3/17,ms1mx3.2/30,Error ellipse: s-maj=13.1km s-min=10.4km az=146.0*
*NEIC **24** 17:35:00.0±0.7,31.72S×179.08W,h116km±6km,mb5.0/40, Error ellipse: s-maj=8.2km s-min=6.2km az=142.0*
*GCMT **24** 17:35:00.0±0.4,31.66S×178.98W,h116km±3km, MW5.0/76,Moment Tensor Solution. s34,c37; s76,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.50±.16; $M_{\theta\theta}$-0.41±.18; $M_{\phi\phi}$1.91±.17; $M_{r\theta}$-1.49±.10; $M_{\theta\phi}$-0.35±.14; $M_{\phi r}$-2.25±.10; Best double couple: $M_0$3.22000×10^{16} NP1:φs24.00000°,δ76.00000°,λ-69.00000°. NP2: φs146.00000°,δ25.00000°,λ-146.00000°. Principal axes: T 3.0680, Plg28.0000°, Azm97.0000°; N 0.3030, Plg21.0000°, Azm199.0000°; P -3.3720, Plg54.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 17:34:57.9±0.7,31.81S±0.04×178.85W±0.06, h104km±5km,n384,σ1.81/371,mb5.0/63,15C-13D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**18**	P	**Pn**	**17 35 38.5**	**-1.0**
	156nm,0.3s,baz=75,slow=9.9,SNR=14						
RAO				LR	LR	17 36 06.2	
	comp=Z,112nm,18.6s,baz=334,slow=26						
RAO				S	**Sn**	**17 36 09.2**	**-2.1**
	586nm,0.3s,baz=123,slow=23,SNR=16						
RAO	**Raoul Island**	**2.67**	**18**	*e*P	**Pn**	**17 35 38.9**	**-0.6**
RAO				*e*		17 36 09.2	
RAO	**Raoul Island**	**2.67**	**18**	*e*Pn	**Pn**	**17 35 38.9**	**-0.6**
RAO				*e*Sn	**Sn**	**17 36 06.2**	**-5.2**
RAO				*e*		17 36 09.2	
MXZ	**Matakaoa Point**	**6.20**	**201**	*e*Pn	**Pn**	**17 36 29.1**	**+2.3**
MXZ	**Matakaoa Point**	**6.20**	**201**	PN	Pn	17 36 22.4	-4.5
MXZ				SN	**Sn**	**17 37 29.4**	**-6.8**
WMGZ	**Waiomatatini S**	**6.40**	**200**	*e*PN	Pn	17 36 23.1	-6.5
WMGZ				SN	**Sn**	**17 37 35.3**	**-5.9**
HAZ	**Te Kaha**	**6.54**	**204**	PN	Pn	17 36 27.9	-3.6
PUZ	**Puketiti**	**6.68**	**200**	*e*PN	Pn	17 36 28.1	-5.4
PUZ				*e*SN	Sn	17 37 40.6	-7.5
RUGZ	**Raukumara Rang**	**6.77**	**204**	PN	Pn	17 36 30.5	-4.2
TWGZ	**Tauwhareparae**	**6.86**	**201**	PN	Pn	17 36 31.6	-4.3
CNGZ	**Carnagh Statio**	**7.08**	**199**	*e*PN	Pn	17 36 34.2	-4.7
MWZ	**Matawai**	**7.15**	**204**	PN	Pn	17 36 35.1	-4.8
OUZ	**Omahuta**	**7.17**	**240**	*e*Pn	**Pn**	**17 36 42.3**	**+2.3**
OUZ	**Omahuta**	**7.17**	**240**	PN	**Pn**	**17 36 42.3**	**+2.3**
URZ	**Urewera**	**7.24**	**206**	P	Pn	17 36 36.7	-4.3
	4.4nm,0.3s,baz=275,slow=5.6,SNR=46						
URZ				S	**Sn**	**17 37 56.3**	**-5.2**
	10nm,0.3s,baz=336,slow=20,SNR=4.9						
URZ	**Urewera**	**7.24**	**206**	*e*PN	Pn	17 36 35.1	-5.8
URZ				*e*SN	**Sn**	**17 37 55.7**	**-5.8**
RIGZ	**Rimuhau**	**7.42**	**201**	*e*PN	Pn	17 36 38.2	-5.2
RTZ	**Ruatahuna**	**7.60**	**206**	PN	Pn	17 36 40.0	-5.9
SNGZ	**Shannon Statio**	**7.62**	**203**	PN	Pn	17 36 41.1	-5.1
KNZ	**Kokohu**	**7.73**	**201**	*e*PN	Pn	17 36 41.0	-6.6
KNZ				SN	Sn	17 38 02.7	-11
MRHZ	**Matea Rd**	**8.00**	**208**	*e*PN	Pn	17 36 45.4	-6.0
NMHZ	**Naumai**	**8.09**	**205**	PN	Pn	17 36 46.2	-6.4
BKZ	**Black Stump Fm**	**8.26**	**206**	*e*Pn	**Pn**	**17 36 55.6**	**+0.7**
HIZ	**Hauiti**	**8.44**	**216**	*e*Pn	**Pn**	**17 36 58.9**	**+1.6**
KAHZ	**Kahuranaki**	**8.69**	**202**	*e*PN	Pn	17 36 53.6	-7.1
KRHZ	**Kereru**	**8.73**	**205**	PN	Pn	17 36 53.8	-7.5
PXZ	**Pawanui**	**8.91**	**202**	*e*PN	Pn	17 36 55.3	-8.3
PXZ				SN	Sn	17 38 29.3	-13
PNHZ	**Pukenui**	**9.03**	**205**	PN	Pn	17 36 57.3	-8.0
PRHZ	**Porangahau**	**9.19**	**202**	PN	Pn	17 36 56.9	-11
BFZ	**Birch Farm**	**9.70**	**203**	*e*Pn	**Pn**	**17 37 11.2**	**-3.2**
MRZ	**Mangatainoka R**	**9.91**	**205**	PN	Pn	17 37 09.2	-8.0
HOWZ	**Holdsworth Sta**	**10.14**	**205**	*e*PN	Pn	17 37 10.9	-9.5
HOWZ				SN	Sn	17 39 00.6	-12
OGWZ	**Otaki Gorge**	**10.20**	**207**	*e*PN	Pn	17 37 11.6	-10
KIW	**Kapiti Island**	**10.34**	**207**	*e*PN	Pn	17 37 13.4	-10
DUWZ	**D'Urville Isla**	**10.70**	**211**	*e*PN	Pn	17 37 19.5	-8.5
SNZO	**South Karori**	**10.80**	**207**	*e*Pn	Pn	17 37 23.4	-6.0
TCW	**Tory Channel**	**10.88**	**209**	PN	Pn	17 37 20.3	-10
NNZ	**Nelson**	**11.27**	**211**	*e*SN	Sn	17 39 27.6	-12
THZ	**Tophouse**	**11.92**	**211**	*e*Pn	Pn	17 37 38.5	-5.9
THZ	**Tophouse**	**11.92**	**211**	PN	Pn	17 37 35.1	-9.4
THZ				SN	Sn	17 39 43.1	-12
KHZ	**Kahutara**	**12.20**	**208**	*e*PN	Pn	17 37 38.3	-10
OXZ	**Oxford**	**13.57**	**210**	*e*Pn	Pn	17 37 58.6	-7.3
OXZ	**Oxford**	**13.57**	**210**	*e*PN	Pn	17 37 57.5	-8.4
OXZ				SN	Sn	17 40 17.6	-18
MQZ	**McQueen's Vall**	**13.63**	**207**	PN	Pn	17 37 56.7	-10
MQZ				SN	Sn	17 40 18.3	-18
MSVF	**Nonsavu**	**14.30**	**348**	*e*P	**Pn**	**17 38 13.5**	**-2.2**
MSVF	**Nonsavu**	**14.30**	**348**	*e*Pn	**Pn**	**17 38 16.0**	**+0.4**
RPZ	**Rata Peaks**	**14.30**	**211**	P	Pn	17 38 10.7	-4.8
	0.8nm,0.3s,baz=32,slow=19,SNR=2.6						
RPZ				S	Sn	17 40 34.8	-18
	2.3nm,0.3s,baz=37,slow=20,SNR=6.5						
FOZ	**Fox Glacier**	**14.73**	**214**	*e*Pn	Pn	17 38 16.9	-4.0
ODZ	**Otahua Downs**	**15.55**	**209**	PN	Pn	17 38 21.5	-10
DZM	**Mont Dzumac**	**16.30**	**303**	P	**P**	**17 38 42.8**	**+0.9**
	0.6nm,0.3s,baz=108,slow=13,SNR=11						
DZM				LR	LR	17 42 45.2	
	comp=Z,148nm,20.3s,baz=171,slow=29						
DZM	**Mont Dzumac**	**16.30**	**303**	*e*P	**P**	**17 38 43.0**	**+1.1**
	154nm,1.4s						
DZM				*e*LR	LR	17 42 27.2	
	955nm,29.4s						
DZM	**Mont Dzumac**	**16.30**	**303**	*e*Pn	**P**	**17 38 43.0**	**+1.1**
	43nm,0.9s						
AFI	**Afiamalu**	**18.96**	**22**	LR	LR	17 46 05.9	
	comp=Z,80nm,18.6s,baz=188,slow=35						
RAR	**Rarotonga**	**20.04**	**63**	P	Pn	17 39 30.0	+4.6
	14nm,0.7s,baz=295,slow=14,SNR=2.8						
RAR				S	**S**	**17 42 54.1**	**-8.2**
	15nm,0.8s,baz=94,slow=16,SNR=2.3						
RAR				LR	LR	17 47 58.1	
	comp=Z,53nm,18.9s,baz=248,slow=39						
RAR	**Rarotonga**	**20.04**	**63**	*e*P	Pn	17 39 26.6	+1.1
	86nm,1.4s						
RAR				S	**S**	**17 42 54.1**	**-8.2**
ARMA	**Armidale**	**25.28**	**265**	P	**P**	**17 40 14.7**	**-0.1**
	baz=25,SNR=4.5						
ARMA	**Armidale**	**25.28**	**265**	*e*P	**P**	**17 40 15.3**	**+0.5**
	40nm,1.5s						
MGCD	**Mangrove Creek**	**25.34**	**259**	P	**P**	**17 40 15.8**	**+0.7**
	baz=25,SNR=6.8						
EIDS	**Eidsvold**	**27.12**	**276**	P	**P**	**17 40 31.8**	**+0.6**
	baz=27,SNR=5.9						
EIDS	**Eidsvold**	**27.12**	**276**	*e*P	**P**	**17 40 31.0**	**-0.3**
	19nm,1.1s						
TBI	**Tubuai**	**27.31**	**79**	*e*LR	LR	17 47 23.9	
	349nm,35.8s,baz=240						
TBI	**Tubuai**	**27.31**	**79**	*e*T	T	18 08 49.5	
	16nm,0.3s						
RMQ	**Roma**	**28.72**	**272**	P	**P**	**17 40 46.9**	**+1.4**
	baz=29,SNR=11						
HNR	**Honiara**	**29.71**	**314**	P	**P**	**17 40 53.9**	**-0.5**
	83nm,0.7s,baz=14,slow=17,SNR=3.7						
PAE	**Paea**	**29.97**	**69**	*e*T	T	18 12 02.8	
	6.6nm,0.3s						
PPT2	**Papeete2**	**30.01**	**69**	*e*LR	LR	17 48 34.9	
	512nm,32.8s,baz=232						
PPT2	**Papeete2**	**30.01**	**69**	*e*T	T	18 12 06.3	
	5.1nm,0.3s						
PPT	**Papeete**	**30.02**	**69**	LR	LR	17 50 00.5	
	comp=Z,58nm,20.9s,baz=244,slow=30						
CMSA	**Cobar Meteorol**	**30.10**	**261**	P	**P**	**17 40 58.5**	**+0.8**
	baz=30,SNR=40						
QLP	**Quilpie**	**32.54**	**270**	P	**P**	**17 41 19.4**	**+0.2**
	baz=33,SNR=8.7						
CTA	**Charters Tower**	**33.34**	**282**	P	**P**	**17 41 26.9**	**+0.6**
	46nm,0.7s,baz=109,slow=11,SNR=57						
CTAO	**Charters Tower**	**33.34**	**282**	*e*P	**P**	**17 41 26.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,50nm,0.8s						
CTAO	**Charters Tower**	**33.34**	**282**	*e*P	**P**	**17 41 26.7**	**+0.5**
	comp=Z,50nm,0.8s						
STKA	**Stephens Creek**	**33.48**	**259**	P	**P**	**17 41 27.8**	**+0.6**
	comp=Z,11nm,0.8s,baz=104,slow=12,SNR=15						
STKA				LR	LR	17 53 27.1	
	comp=Z,52nm,20.0s,baz=30,slow=33						
STKA	**Stephens Creek**	**33.48**	**259**	P	**P**	**17 41 28.1**	**+0.9**
	baz=34,SNR=11						
STKA	**Stephens Creek**	**33.48**	**259**	*e*P	**P**	**17 41 28.2**	**+0.9**
STKA	**Stephens Creek**	**33.48**	**259**	*e*P	**P**	**17 41 27.9**	**+0.7**
	comp=Z,2.2nm,0.8s						
STKA				*e*		17 53 27.1	
HTT	**Hallett**	**35.43**	**256**	P	**P**	**17 41 45.5**	**+1.3**
	baz=36,SNR=7.0						
MTSU	**Mount Surprise**	**35.88**	**283**	P	**P**	**17 41 49.1**	**+1.0**
	baz=36,SNR=22						
BBOO	**Buckleboo**	**37.91**	**256**	P	**P**	**17 42 05.2**	**+0.1**
	baz=38,SNR=7.6						
PMG	**Port Moresby**	**38.59**	**298**	P	**P**	**17 42 11.2**	**+0.2**
	comp=Z,31nm,0.9s,baz=124,slow=7.1,SNR=8.2						
PMG	**Port Moresby**	**38.59**	**298**	*de*P	**P**	**17 42 11.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,135nm,1.0s						
PMG	**Port Moresby**	**38.59**	**298**	*e*P	**P**	**17 42 11.1**	**+0.1**
	comp=Z,46nm,1.0s						
RABL	**Rabaul**	**38.67**	**309**	*e*P	**P**	**17 42 11.5**	**-0.2**
	comp=Z,99nm,0.8s						
QIS	**Mount Isa**	**38.72**	**276**	P	**P**	**17 42 11.8**	**-0.3**
	baz=39,SNR=3.4						
COEN	**Coen**	**38.99**	**288**	P	**P**	**17 42 15.0**	**+0.7**
	baz=39,SNR=16						
COEN	**Coen**	**38.99**	**288**	*e*P	**P**	**17 42 14.9**	**+0.6**
	comp=Z,36nm,0.8s						
AS31	**Alice Springs**	**42.33**	**269**	*e*P	**P**	**17 42 41.1**	**-0.8**
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**42.33**	**269**	P	**P**	**17 42 41.3**	**-0.5**
	comp=Z,21nm,0.7s,baz=104,slow=7.6,SNR=398						
ASAR				PcP	**PcP**	**17 44 32.9**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=106,slow=5.9,SNR=2.9						
ASAR				ScP	**ScP**	**17 48 10.2**	**-4.5**
	comp=Z,0.5nm,0.8s,baz=108,slow=3.3,SNR=2.9						
ASAR				S	**S**	**17 48 50.0**	**-5.3**
	comp=Z,1.4nm,0.9s,baz=114,slow=16,SNR=6.8						
ASAR				PKiKP	**PKiKP**	**17 51 38.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=106,slow=1.2,SNR=6.5						
ASAR				LR	LR	17 58 19.9	
	comp=Z,59nm,19.7s,baz=101,slow=33						
WB2	**Warramunga Arr**	**43.44**	**274**	*e*P	**P**	**17 42 50.0**	**-0.8**
	comp=Z,39nm,0.6s						
WRAB	**Tennant Creek**	**43.44**	**274**	*ce*P	**P**	**17 42 49.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,79nm,1.0s						
WRAB	**Tennant Creek**	**43.44**	**274**	*e*P	**P**	**17 42 50.0**	**-0.8**
	comp=Z,34nm,0.7s						
WR1	**Warramunga Arr**	**43.45**	**274**	*e*P	**P**	**17 42 50.2**	**-0.7**
	comp=Z,42nm,0.6s						
WR1				*e*PcP	**PcP**	**17 44 36.5**	**-0.8**
WR1				*e*ScP	**ScP**	**17 48 15.4**	**-3.9**
WR1				*e*S	**S**	**17 49 06.0**	**-5.7**
WR1				*e*		17 51 40.0	
WRA	**Warramunga Arr**	**43.45**	**274**	P	**P**	**17 42 50.2**	**-0.7**
	comp=Z,31nm,0.6s,baz=114,slow=7.6,SNR=138						
WRA				PcP	**PcP**	**17 44 36.5**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=120,slow=3.1,SNR=3.1						
WRA				ScP	**ScP**	**17 48 15.4**	**-3.9**
	comp=Z,0.6nm,0.3s,baz=116,slow=3.3,SNR=14						
WRA				S	**S**	**17 49 06.0**	**-5.7**
	comp=Z,1.1nm,0.9s,baz=110,slow=16,SNR=3.7						
WRA				PKiKP	**PKiKP**	**17 51 40.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=58,slow=0.5,SNR=4.8						
SBA	**Scott Base**	**46.58**	**184**	*e*P	**P**	**17 43 19.2**	**+4.4**
SBA				*e*		17 44 49.7	
SBA				pmax	pmax		
	comp=Z,24nm,1.0s						
SBA	**Scott Base**	**46.58**	**184**	*e*P	**P**	**17 43 19.2**	**+4.4**
	comp=Z,24nm,1.0s						
SBA				*e*PcP	**PcP**	**17 44 49.6**	**+2.5**
WRKA	**Warakurna**	**46.60**	**264**	P	**P**	**17 43 14.5**	**-1.3**
	baz=47,SNR=12						
VNDA	**Vanda**	**46.62**	**186**	P	**P**	**17 43 17.8**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=4.5,slow=7.5,SNR=10						
VNDA				PcP	**PcP**	**17 44 49.0**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=311,slow=5.1,SNR=6.3						
VNDA				ScP	**ScP**	**17 48 28.9**	**-2.4**
	comp=Z,2.0nm,0.9s,baz=31,slow=5.8,SNR=5.8						
VNDA	**Vanda**	**46.62**	**186**	*e*P	**P**	**17 43 17.7**	**+2.6**
VNDA				PcP	**PcP**	**17 44 49.0**	**+1.7**
VNDA				*e*ScP	**ScP**	**17 48 31.4**	**+0.1**
KDU	**Kakadu**	**48.47**	**282**	P	**P**	**17 43 28.8**	**-1.5**
	baz=48,SNR=5.0						
MTN	**Manton Dam**	**49.51**	**281**	P	**P**	**17 43 37.3**	**-0.9**
	baz=50,SNR=42						
MTN	**Manton Dam**	**49.51**	**281**	*e*P	**P**	**17 43 37.8**	**-0.4**
	comp=Z,72nm,0.6s						
KMBL	**Kambalda**	**49.92**	**254**	P	**P**	**17 43 40.1**	**-1.1**
	baz=50,SNR=4.3						
KNRA	**Kununurra**	**50.11**	**276**	P	**P**	**17 43 42.6**	**-0.2**
	baz=50,SNR=7.5						
FITZ	**Fitzroy Crossi**	**51.65**	**271**	P	**P**	**17 43 53.5**	**-0.7**
	comp=Z,4.0nm,0.3s,baz=130,slow=5.9,SNR=32						
KLBR	**Kellerberrin**	**53.22**	**252**	P	**P**	**17 44 05.2**	**-0.6**
	baz=53,SNR=11						
NWAO	**Narrogin (SRO)**	**53.23**	**251**	P	**P**	**17 44 04.7**	**-1.1**
	comp=Z,15nm,1.0s,baz=349,slow=10,SNR=3.6						
FAKI	**Fak Fak**	**54.17**	**292**	*e*P	**P**	**17 44 11.9**	**-1.0**
	comp=Z,48nm,0.9s						
MBWA	**Marble Bar**	**55.36**	**265**	*e*P	**P**	**17 44 20.5**	**-0.9**
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**55.45**	**255**	P	**P**	**17 44 21.4**	**-0.5**
	baz=56,SNR=4.1						
SOEI	**Soe**	**56.85**	**280**	*e*P	**P**	**17 44 32.8**	**+0.5**
	comp=Z,61nm,0.9s						
QSPA	**South Pole Qui**	**58.30**	**180**	*e*P	**P**	**17 44 44.5**	**+2.8**
MMRI	**Maumere**	**59.15**	**279**	*e*P	**P**	**17 44 47.4**	**-0.7**
	comp=Z,80nm,1.2s						
PALU	**Palau**	**59.15**	**303**	P	**P**	**17 44 46.9**	**-1.2**
	baz=59,SNR=4.9						
GIRL	**Giralia**	**59.39**	**261**	P	**P**	**17 44 50.9**	**+1.2**
	baz=59,SNR=3.7						
MIR	**Mirnyy**	**60.54**	**207**	*i* P	**P**	**17 44 56.0**	**-0.8**
MIR				pmax	pmax		
	comp=Z,4.0nm,1.6s						
LUWI	**Luwuk**	**62.89**	**287**	*e*P	**P**	**17 45 12.8**	**-0.6**
	comp=Z,36nm,0.8s						
MAW	**Mawson**	**70.73**	**201**	P	**P**	**17 46 02.3**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=132,slow=7.5,SNR=14						
MAW	**Mawson**	**70.73**	**201**	P	**P**	**17 46 03.4**	**+1.0**
	baz=71,SNR=7.5						
MAW	**Mawson**	**70.73**	**201**	*e*P	**P**	**17 46 03.3**	**+1.0**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MAW	**Mawson**	**70.73**	**201**	*e*P	**P**	**17 46 03.3**	**+1.0**
	comp=Z,3.7nm,1.2s						
KKM	**Kota Kinabalu**	**72.32**	**289**	*e*P	**P**	**17 46 12.0**	**-0.8**
	comp=Z,21nm,1.1s						
SBUM	**Sibu**	**73.53**	**284**	*e*P	**P**	**17 46 18.9**	**-1.0**
	comp=Z,7.7nm,1.0s						
SYO	**Syowa Base**	**75.58**	**193**	⇑*e*P	**P**	**17 46 28.8**	**-2.0**
SYO	**Syowa Base**	**75.58**	**193**	⇓*e*PcP	**PcP**	**17 46 42.0**	**-1.2**
SNAA	**Sanae**	**76.77**	**179**	P	**P**	**17 46 39.0**	**+1.4**
SNAA	**Sanae**	**76.77**	**179**	*e*P	**P**	**17 46 38.7**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,43nm,1.4s						
SNAA	**Sanae**	**76.77**	**179**	*e*P	**P**	**17 46 38.7**	**+1.1**
	comp=Z,43nm,1.4s						
VNA3	**Neumayer Olymp**	**76.95**	**176**	P	**P**	**17 46 39.7**	**+1.1**
VNA2	**Neumayer--Watz**	**77.37**	**177**	P	**P**	**17 46 42.4**	**+1.5**
	baz=176,slow=4.3						
NVL	**N'lazarevskaya**	**77.43**	**184**	*e*P	**P**	**17 46 41.2**	**0.0**
VNA1	**Neumayer--Stat**	**77.61**	**177**	P	**P**	**17 46 43.9**	**+1.7**
INU	**Inuyama**	**78.62**	**325**	*e*P	**P**	**17 46 47.7**	**-0.5**
	comp=Z,27nm,1.2s						
MJAR	**Matsushiro Arr**	**79.00**	**326**	P	**P**	**17 46 49.1**	**-1.2**
	comp=Z,9.9nm,1.1s,baz=161,slow=6.0,SNR=15						
MJAR				LR	LR	18 18 25.0	
	comp=Z,10nm,19.9s,baz=105,slow=33						
MAJO	**Matsushiro**	**79.00**	**326**	*d i* P	**P**	**17 46 48.8**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,81nm,1.1s						
MAJO	**Matsushiro**	**79.00**	**326**	*e*P	**P**	**17 46 49.0**	**-1.2**
	comp=Z,17nm,1.1s						
MAT	**Matsushiro**	**79.00**	**326**	P	**P**	**17 46 49.2**	**-1.1**
MJB9	**Matsu-Tunnel**	**79.00**	**326**	*e*P	**P**	**17 46 49.2**	**-1.0**
	comp=Z,4.1nm,1.1s						
JNU	**Nakatsue**	**80.14**	**319**	*e*P	**P**	**17 46 55.9**	**-0.7**
	comp=Z,24nm,0.8s						
PLCA	**Paso Flores**	**82.07**	**133**	LR	LR	18 16 24.0	
	comp=Z,27nm,21.5s,baz=201,slow=30						
QIZ	**Qiongzhong**	**84.95**	**296**	P	**P**	**17 47 25.0**	**+3.2**
QIZ				S	**S**	**17 57 41.9**	**-0.4**
QIZ				LR	LR		
	comp=Z,59nm,37.3s						
KSRS	**Korea Array**	**84.96**	**320**	P	**P**	**17 47 21.6**	**+0.3**
	comp=Z,12nm,0.8s,baz=137,slow=5.8,SNR=26						
KSRS				LR	LR	18 23 56.8	
	comp=Z,8.0nm,18.3s,baz=154,slow=35				

comp=Z,3.0nm,0.8s
PAHR Pah Rah Range 90.00 42 *e*P **P 17 47 47.6 +1.8**
comp=Z,10nm,1.2s
Y14A Wickenburg 90.11 49 *e*P **P 17 47 49.4 +3.0**
comp=Z,32nm,0.9s
Y14A *e*S **S 17 58 31.2 +0.1**
TIA Tai'an 90.40 313 ||P **P 17 47 47.9 +0.3**
TIA pmax pmax
comp=Z,30nm,1.0s
PBKT Sadao Pong 90.54 289 P **P 17 47 49.9 +1.3**
TUC Tucson 90.56 52 P **P 17 47 51.7 +3.3**
baz=232
TUC Tucson 90.56 52 *e*P **P 17 47 52.0 +3.5**
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 90.56 52 *e*P **P 17 47 52.0 +3.5**
comp=Z,6.5nm,0.8s
CN2 Changchun 90.83 323 *e*P **P 17 47 49.3 0.0**
CN2 pmax pmax
comp=Z,30nm,0.9s
J04D Umpqua Nationa 90.97 38 P **P 17 47 51.8 +1.6**
baz=226
R11A Troy Canyon, C 91.31 45 P **P 17 47 53.3 +1.3**
baz=230
X16A Lo Mia Camp, P 91.42 50 *e*P **P 17 47 55.9 +3.3**
comp=Z,5.7nm,1.0s
J05D Fort Rock, OR 91.45 38 P **P 17 47 54.2 +1.7**
baz=226
GYA Guiyang 91.63 300 *e*P **P 17 47 55.3 +1.7**
GYA pP pP 17 48 22.4 +1.5
GYA sP sP 17 48 33.0 +1.1
GYA PP **PP 17 51 37.4 +3.7**
GYA SKS **SKSac 17 58 17.3 +0.3**
GYA S **S 17 58 44.8 -0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
ENH Enshi 91.80 305 *e*P **P 17 47 54.2 -0.1**
comp=Z,40nm,1.6s
KDAK Kodiak Island 91.95 14 LR LR 18 21 38.7
comp=Z,21nm,20.8s,baz=114,slow=30
U15A North Rim 92.12 48 *e*P **P 17 47 59.0 +3.1**
comp=Z,4.9nm,0.8s
WUAZ Wupatki 92.14 49 P **P 17 47 58.4 +2.5**
baz=232
CMAR Chiang Mai Arr 93.19 290 P **P 17 48 01.1 +0.2**
comp=Z,0.5nm,0.6s,baz=126,slow=3.8,SNR=4.6
CMAR PP **PP 17 51 44.5 -1.5**
comp=Z,3.4nm,1.0s,baz=132,slow=7.2,SNR=16
CMAR LR LR 18 33 37.9
comp=Z,11nm,18.9s,baz=150,slow=38
LON Longmire 93.58 35 P **P 17 48 03.9 +1.9**
LON pmax pmax
comp=Z,12nm,1.5s
LTX Lajitas 93.76 58 *e*P **P 17 48 05.6 +2.2**
LTX Lajitas 93.76 58 *e*P **P 17 48 05.5 +2.2**
TXAR Lajitas Array 93.76 58 P **P 17 48 05.5 +2.2**
comp=Z,0.3nm,0.5s,baz=207,slow=8.0,SNR=7.2
TXAR LR LR 18 21 25.7
comp=Z,15nm,21.1s,baz=0.0,slow=30
TXAR Lajitas Array 93.76 58 P **P 17 48 05.6 +2.2**
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,15nm,21.2s
KMI Kunming 93.81 297 P **P 17 48 05.4 +1.5**
KMI pmax pmax
comp=Z,8.0nm,0.5s
MNTX Cornudas Mount 93.89 55 P **P 17 48 05.7 +1.9**
baz=235
XAN Xi'an 94.39 308 P **P 17 48 06.5 +0.4**
XAN pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 96.23 302 *e*P **P 17 48 15.3 +0.7**
HHC Hu-ho-hao-te 96.69 314 *e*P **P 17 48 19.0 +2.5**
HHC pP pP 17 48 47.3 +3.5
HHC sP sP 17 48 57.1 +2.3
HHC S **S 17 59 31.3 +2.2**
HHC SS **SS 18 06 08.9 +1.9**
HHC pmax pmax
comp=Z,36nm,1.5s
HHC pmax pmax
comp=Z,76nm,5.0s
HHC LR LR
comp=Z,120nm,14.9s
HHC LR LR
comp=Z,110nm,14.9s
HHC LR LR
comp=Z,63nm,14.9s
TRF Thorofare Moun 97.62 13 *e*P Pdif 17 48 22.2 +2.0
comp=Z,59nm,2.0s
PDAR Pinedale Array 97.65 44 P Pdif 17 48 22.7 +1.7
comp=Z,0.3nm,0.6s,baz=201,slow=7.9,SNR=3.4
PDAR LR LR 18 28 31.2
comp=Z,16nm,19.5s,baz=248,slow=33
LPAZ La Paz 98.22 115 LR LR 18 26 29.4
comp=Z,20nm,18.1s,baz=276,slow=31
LZH Lanzhou 98.98 307 *e*P **P 17 48 24.5 -2.5**
LZH pP pP 17 48 52.0 -2.3
LZH sP sP 17 49 03.0 -2.3
LZH PP **PP 17 52 29.8 -0.9**
LZH pmax pmax
comp=Z,19nm,1.5s
LZH pmax pmax
comp=Z,93nm,9.3s
LZH LR LR
comp=Z,130nm,17.5s
LZH LR LR
comp=Z,130nm,17.2s
LZH LR LR
comp=Z,210nm,19.8s
COLA College 99.37 13 *e*P **Pdif 17 48 29.3 +1.6**
ILAR Eielson Array 99.46 13 P **Pdif 17 48 28.4 +0.2**
comp=Z,1.7nm,1.0s,baz=220,slow=6.5,SNR=8.8
ILB Eielson Array 99.46 13 *e*Pdif **Pdif 17 48 28.4 +0.2**
CPUP Villa Florida 99.67 129 LR LR 18 25 14.0
comp=Z,25nm,19.4s,baz=210,slow=30
SONA0 Songino Array 103.70 318 *e*Pdif **Pdif 17 48 46.5 -1.2**
SONM Songino Array 103.70 318 Pdiff **Pdif 17 48 46.5 -1.2**
comp=Z,0.2nm,0.4s,baz=108,slow=4.7,SNR=2.5
WMQ Urumqi 113.53 308 *e*PKP **PKiKP 17 53 23.9 +0.2**
WMQ LR LR
comp=Z,16nm,18.7s
WMQ LR LR
comp=Z,18nm,20.9s
WMQ LR LR
comp=Z,10.0nm,23.3s
MK31 Makanchi Array 118.12 310 *e*PKIKP **PKPdf 17 53 32.6 +0.2**
MK31 Makanchi Array 118.12 310 *e*PKPdf **PKPdf 17 53 32.6 +0.2**
MK32 Makanchi Array 118.12 310 *e*PKPdf **PKPdf 17 53 31.0 -1.4**
MKAR Makanchi Array 118.12 310 PKP **PKPdf 17 53 31.0 -1.4**
comp=Z,3.7nm,0.6s,baz=175,slow=0.5,SNR=29
MKAR Makanchi Array 118.12 310 *e*PKPdf **PKPdf 17 53 32.6 +0.2**
MAKZ Makanchi 118.33 310 *e*PKIKP **PKPdf 17 53 32.8 0.0**
MAKZ Makanchi 118.33 310 *e*PKPdf **PKPdf 17 53 32.8 0.0**
ZAA0 Zalesovo Array 118.60 318 *e*PKPdf **PKPdf 17 53 32.9 -0.1**
ZALV Zalesovo Beam 118.60 318 PKP **PKPdf 17 53 32.1 -0.9**
comp=Z,3.7nm,0.7s,baz=139,slow=1.7,SNR=17
ZAA1 Zalesovo Array 118.60 318 *e*PKPdf **PKPdf 17 53 32.1 -0.9**
NVS Novosibirsk 119.72 319 *e*PKIKP **PKPdf 17 53 35.0 -0.1**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,8.0nm,1.2s
KSH Kashi 120.33 300 *e*PKP **PKPdf 17 53 37.8 +0.8**
KSH sPKP 17 54 16.1
KSH PP **PP 17 55 10.3 +5.4**
KSH PKS **PKSdf 17 57 13.8 0.0**
KSH SKS **SKSdf 18 00 39.9 +0.3**
KSH SKKS **SKKSac 18 01 52.3 -1.9**
KSH AMB AMB
comp=Z,100nm,4.8s
KSH LR LR
comp=Z,74nm,5.4s
KSH LR LR
comp=Z,66nm,6.8s
KSH LR LR
comp=Z,54nm,7.7s
KURK Kurchatov 121.49 313 *c i*PKIKP **PKPdf 17 53 38.8 +0.1**
KURK pmax pmax
comp=Z,81nm,1.2s
KURK Kurchatov 121.49 313 *e*PKPdf **PKPdf 17 53 37.9 -0.8**
AAK Ala-Archa 122.29 303 *e*PKIKP **PKPdf 17 53 38.1 -2.6**

AAK Ala-Archa 122.29 303 *e*PKPdf **PKPdf 17 53 39.8 -1.0**
KBL Kabul 124.10 293 *e*PKIKP **PKPdf 17 53 44.3 -0.3**
KBL Kabul 124.10 293 *e*PKPdf **PKPdf 17 53 44.2 -0.3**
KKAR Karatay Array 125.24 303 *e*PKIKP **PKPdf 17 53 45.7 -0.5**
KKAR Karatay Array 125.24 303 *e*PKPdf **PKPdf 17 53 45.7 -0.5**
LSZ Lusaka 126.48 213 *e*PKIKP **PKPdf 17 53 50.1 +0.5**
LSZ Lusaka 126.48 213 *e*PKPdf **PKPdf 17 53 50.1 +0.5**
BRVK Borovoye 126.97 315 *c i*PKIKP **PKPdf 17 53 47.3 -1.8**
BRVK pmax pmax
comp=Z,52nm,1.2s
BRVK Borovoye 126.97 315 *e*PKPdf **PKPdf 17 53 48.4 -0.7**
KBS Kingsbay 132.56 357⇑ *e*PKIKP **PKPdf 17 53 57.6 -1.5**
KBS pmax pmax
comp=Z,534nm,2.5s
ABKAR Abkulak array 133.26 310 *e*PKPdf **PKPdf 17 54 01.9 +0.7**
GEYT Alibeck 133.48 294 PKP **PKPdf 17 54 01.0 -1.0**
comp=Z,5.6nm,0.8s,baz=116,slow=3.4,SNR=11
GEYT SKPbc **SKPbc 17 57 19.6 -1.5**
comp=Z,7.3nm,1.1s,baz=93,slow=7.2,SNR=11
ARU Arti 133.71 320 *i* PKIKP **PKPdf 17 54 02.2 +0.4**
ARU 17 56 29.1
ARU Arti 133.71 320 *e*PKPdf **PKPdf 17 54 01.8 0.0**
ARA0 ARCESS Array S 139.81 347 *e*PKPpre PKPpre 17 54 05.7
ARA0 *e*PKPdf **PKPdf 17 54 11.6 -1.2**
ARCES ARCESS Array B 139.81 347 PKHKP PKPpre 17 54 05.7
comp=Z,2.6nm,0.9s,baz=53,slow=1.7,SNR=8.9
ARCES pmax **PKPdf 17 54 11.6 -1.2**
comp=Z,7.6nm,1.1s,baz=66,slow=1.3,SNR=10
ARCES ARCESS Array B 139.81 347 PKHKP PKPpre 17 54 05.7
ARCES 17 54 11.6
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 141.65 331 *e*PKHKP PKPpre 17 54 12.2
KLMR pmax pmax
comp=Z,21nm,1.4s
GNI Garni 144.06 296 *e*PKIKP PKPbc 17 54 20.2 +0.5
GNI Garni 144.06 296 *e*PKPdf PKPbc 17 54 20.2 +0.5
ZEI Tsey 144.62 300 *e*PHKKP PKPpre 17 54 18.6
ZEI pmax pmax
comp=Z,7.0nm,0.8s
NCK Nalchik 144.79 302 *e*PKIKP **PKPab 17 54 20.9 -0.8**
GOF Gofitskoye 145.01 304⇑ *e*PKIKP PKPbc 17 54 22.1 -0.2
GOF pmax pmax
comp=Z,71nm,0.9s
KBZ Khabaz 145.27 302 PKP **PKPbc 17 54 22.4 -0.8**
comp=Z,16nm,0.9s,baz=107,slow=1.6,SNR=31
KIV Kislovodsk 145.40 303 *e*PKP2 **PKPbc 17 54 22.8 -0.9**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 145.40 303 *e*PKPbc **PKPbc 17 54 23.1 -0.6**
NEY Neytrino 145.44 301 *e*PKIKP **PKPab 17 54 24.4 +0.1**
LPSR Galich'ya Gora 145.71 318 *e*PKP2 **PKPdf 17 54 23.6 0.0**
LPSR pmax pmax
comp=Z,100nm,0.9s
OBN Obninsk 145.89 324 *i* PKIKP **PKPdf 17 54 23.3 -0.6**
OBN pmax pmax
comp=Z,165nm,1.0s
OBN Obninsk 145.89 324 *e*PKPdf **PKPdf 17 54 23.7 -0.2**
PUL Pulkovo 145.96 334 *c i*PKP2 **PKPbc 17 54 24.8 0.0**
PUL pmax pmax
comp=Z,90nm,0.4s
ARTV Artvin 146.18 298 *e*PKPdf **PKPdf 17 54 23.5 -1.7**
FIA1 FINESS Array S 146.21 339 *e*PKPdf **PKPdf 17 54 24.7 +0.5**
FIA0 FINESS Array S 146.21 339 *e*PKIKP **PKPdf 17 54 24.5 +0.3**
FIA0 FINESS Array S 146.21 339 *e*PKPdf **PKPdf 17 54 24.4 +0.3**
FINES FINESS Array B 146.21 339 PKPbc **PKPdf 17 54 24.4 +0.3**
comp=Z,27nm,0.5s,baz=45,slow=3.7,SNR=62
MARD Mardin 147.08 291 *e*PKPdf **PKPdf 17 54 27.7 +1.1**
VSU Vasula 148.20 334 *c i*PKIKP **PKPdf 17 54 29.3 +1.7**
VSU pmax pmax
comp=Z,119nm,0.6s
KSRV Kasrt alli 148.44 288 *i* P **PKPbc 17 54 32.6 +0.2**
MOL Molde 148.96 354 *e*P **PKPbc 17 54 31.2 -1.7**
AKN Aaknes 149.39 355 *e*P **PKPbc 17 54 35.0 +1.0**
ROOS tl_alroos 149.70 284 *i* P **PKPbc 17 54 34.9 -0.9**
RABH Abou Rabah 149.79 285 *i* P **PKPbc 17 54 35.9 -0.1**
NC303 NORSAR Array S 149.82 350 *e*PKPbc **PKPbc 17 54 34.9 -0.2**
NC405 NORSAR Array S 149.88 350 *e*PKPbc **PKPbc 17 54 34.7 -0.5**
NB201 NORSAR Array S 150.00 350 *e*PKPbc **PKPbc 17 54 35.2 -0.4**
NB2 NORSAR Subarra150.03 350 PKP **PKPbc 17 54 34.9 -0.7**
comp=Z,15nm,0.8s,baz=17,slow=2.6
NB2 NORSAR Subarra150.03 350 PKP **PKPbc 17 54 34.9 -0.7**
comp=Z,15nm,0.8s,baz=17,slow=2.6
NB200 NORSAR Array S 150.03 350 *e*PKPbc **PKPbc 17 54 35.2 -0.5**
NOA NORSAR Array B 150.03 350 PKPbc **PKPbc 17 54 35.2 -0.5**
comp=Z,9.1nm,0.6s,baz=15,slow=4.1,SNR=31
NBO00 NORSAR Array S 150.10 351 *e*PKPbc **PKPbc 17 54 35.9 +0.1**
NAO01 NORSAR Array S 150.26 350 *e*PKPbc **PKPbc 17 54 38.0 +1.8**
NC602 NORSAR Array S 150.27 350 *e*P **PKPbc 17 54 35.6 -0.6**
TOTH TOTAH 150.32 283 *i* P **PKPbc 17 54 36.5 -0.8**
MARH Ras Al Marh 150.35 284 *i* P **PKPbc 17 54 37.7 +0.1**
BIDA Albida 150.56 286 *i* P **PKPbc 17 54 37.4 -0.4**
NACGM Naroch 150.64 329 *e* **PKPbc 17 54 37.0 -0.2**
SUE Sulen 150.65 356 *e*P **PKPbc 17 54 39.5 +2.5**
BRBR Barbar 150.72 283 *i* P **PKPbc 17 54 38.5 +0.1**
SIM Simferopol' 151.24 307 *e*PKIKP **PKPbc 17 54 39.4 +0.5**
SIM pmax pmax
comp=Z,30nm,0.9s
KONO Kongsberg 151.59 351 *e*P **PKPbc 17 54 39.1 -0.1**
KONO Kongsberg 151.59 351 *e*PKIKP **PKPbc 17 54 41.6 +2.3**
ODD1 Odda 151.66 354 *e*P **PKPbc 17 54 39.9 +0.4**
AKASG Malin Array Be 151.95 320 PKP **PKPdf 17 54 34.1 +0.3**
comp=Z,1.6nm,0.7s,baz=59,slow=2.7,SNR=7.9
AKASG PKPbc **PKiKP 17 54 40.9 +0.2**
comp=Z,23nm,0.7s,baz=59,slow=2.5,SNR=50
AKBB Malin Array Si 151.95 320 *e*PKIKP **PKPbc 17 54 39.6 -0.8**
AKBB Malin Array Si 151.95 320 *e*PKPbc **PKPbc 17 54 39.6 -0.8**
KIEV Kiev 151.97 320 *e*PKIKP **PKPbc 17 54 37.6 -2.8**
KIEV Kiev 151.97 320 *e*PKPbc **PKPbc 17 54 39.7 -0.7**
ILGA Ilgaz 152.36 299 *e*PKPbc **PKPbc 17 54 43.0 +1.1**
KMY Karmoy 152.46 355 *e*P **PKPbc 17 54 41.4 +0.2**
BR101 Keskin Array S 152.60 296 *e*PKPdf **PKPdf 17 54 36.4 +1.1**
BR101 *e*PKPbc **PKPbc 17 54 42.1 -0.3**
BR131 Keskin Array S 152.60 296 *e*PKPbc **PKPbc 17 54 42.2 -0.2**
BRTR Keskin Array B 152.60 296 PKP **PKPdf 17 54 36.4 +1.1**
comp=Z,3.6nm,1.2s,baz=66,slow=1.5,SNR=5.4
BRTR PKPbc **PKPbc 17 54 42.1 -0.2**
comp=Z,7.7nm,0.5s,baz=148,slow=4.2,SNR=44
STAV Stavanger 152.70 355 *e*P **PKPbc 17 54 41.0 -0.8**
SUW Suwalki 152.78 331 PKIKP **PKPbc 17 54 43.7 +1.6**
CSS Mathiatis 153.01 285 *e*PKPbc **PKPbc 17 54 42.9 -0.4**
ANTO Ankara 153.23 296 *e*PKIKP **PKPbc 17 54 44.2 +0.5**
ANTO Ankara 153.23 296 *e*PKPbc **PKPbc 17 54 44.2 +0.5**
BR231 Keskin MP Arra 153.24 296 *e*PKPbc **PKPbc 17 54 41.6 -2.2**
DBIC Dimbokro 154.36 166 PKP **PKPdf 17 54 39.7 +1.3**
comp=Z,7.5nm,1.1s,baz=66,slow=1.5,SNR=4.8
DBIC PKPbc **PKiKP 17 54 50.1 +3.3**
comp=Z,5.0nm,0.5s,baz=172,slow=2.2,SNR=12
DBIC Dimbokro 154.36 166 PKP **PKPdf 17 54 39.7 +1.3**
DBIC *e*PKPbc **PKiKP 17 54 52.3 +5.5**
LVV L'vov 155.19 323 *e*PKP2 **PKPab 17 55 05.9 +2.1**
TESR Tescani 155.52 314 ||*i* P **PKPab 17 55 05.2 -0.2**
VRI Vrincioaia 155.77 313 ||*i* P **PKPab 17 55 07.6 +1.1**
VRI Vrincioaia 155.77 313 ||PKP2 **PKPab 17 55 07.6 +1.1**
BURAR Bucovina Array 155.82 318⇑*i* P PKPdf 17 54 50.3 +11
BURAR Bucovina Array 155.82 318⇑PKIKP PKPdf 17 54 50.3 +11
KWP Kalwaria Pacla 155.98 324 *e*PKP **PKPab 17 55 07.5 +0.2**
KWP Kalwaria Pacla 155.98 324 *e*PKP2 **PKPab 17 55 07.4 +0.2**
DOPR Dopca 156.55 314⇑*i* P **PKPab 17 55 10.3 +0.5**
UZH Uzhgorod 156.83 323 *e*PKIKP PKPdf 17 54 50.6 +10
VOIR 157.01 313 ||*i* P **PKPab 17 55 11.6 -0.3**
VOIR 157.01 313 ||PKP2 **PKPab 17 55 11.7 -0.2**
CRVS Cervenica-Dubn 157.08 324 *e*PKP2 **PKPab 17 55 11.7 -0.3**
CRVS Cervenica-Dubn 157.08 324 *e*PKP **PKPab 17 55 11.7 -0.3**
ARR Arges 157.30 313⇑*i* P **PKPab 17 55 14.0 +0.9**
DRGR 157.70 318 ||*i* P **PKPab 17 55 14.6 -0.2**
DRGR 157.70 318 ||PKP2 **PKPab 17 55 14.6 -0.2**
KECS Kecovo 157.84 324 *e*PKP2 **PKPab 17 55 14.8 -0.4**
KECS Kecovo 157.84 324 *e*PKP **PKPab 17 55 14.8 -0.4**
LANS Liptovska Anna 157.87 327 *e*PKP2 **PKPab 17 55 16.0 +0.6**
LANS Liptovska Anna 157.87 327 *e*PKP **PKPab 17 55 16.0 +0.6**
KSP Ksiaz 157.93 334 *e*PKP **PKPab 17 55 15.4 -0.1**
KSP Ksiaz 157.93 334 *e*PKP2 **PKPab 17 55 15.4 -0.1**
OKC Ostrava-Krasne 157.97 330 *e*PKPAB **PKPab 17 55 15.7 0.0**
OKC Ostrava-Krasne 157.97 330 *e*PKP2 **PKPab 17 55 15.7 0.0**
UPC Upice 158.30 334 *e*PKPAB **PKPab 17 55 17.5 +0.3**
UPC Upice 158.30 334 *e*PKP2 **PKPab 17 55 17.5 +0.3**
DPC Dobruska-Polom 158.31 333 *e*PKPAB **PKPab 17 55 17.6 +0.3**
DPC Dobruska-Polom 158.31 333 *e*PKP2 **PKPab 17 55 17.6 +0.3**
KRLC Kraliky 158.35 332 *e*PKPAB **PKPab 17 55 17.2 -0.2**

KRLC Kraliky 158.35 332 *e*PKP2 **PKPab 17 55 17.2 -0.2**
SIRR Siria 158.59 318⇑ *i* P **PKPab 17 55 19.0 +0.4**
VYHS Vyhne 158.63 326 *e*PKP2 **PKPab 17 55 18.8 +0.1**
VYHS Vyhne 158.63 326 *e*PKP **PKPab 17 55 18.8 +0.1**
CLL Collm 158.65 339 *e*PKP2 **PKPab 17 55 19.0 +0.4**
CLL Collm 158.65 339⇑ *i*PKPab **PKPab 17 55 19.0 +0.4**
comp=Z,8.0nm,0.8s
CLL Collm 158.65 339 *e*PKPab **PKPab 17 55 19.0 +0.4**
BRG Berggiesshubel 158.73 337 *e*PKP **PKPab 17 55 19.5 +0.5**
comp=Z,7.4nm,0.9s
BRG Berggiesshubel 158.73 337 *e*PKP2 **PKPab 17 55 19.5 +0.5**
BRG pmax pmax
comp=Z,7.0nm,0.9s
PVCC Panska Ves 158.81 336 *e*PKPAB **PKPab 17 55 19.3 0.0**
PVCC *ex* x 17 55 23.3
PVCC Panska Ves 158.81 336 *e*PKP2 **PKPab 17 55 19.3 0.0**
BZS Buzias 158.99 317 ||*i* P **PKPab 17 55 19.7 -0.6**
BZS Buzias 158.99 317 ||PKP2 **PKPab 17 55 19.7 -0.6**
PRU Pruhonice 159.27 335 *e*PKPAB **PKPab 17 55 22.0 +0.6**
PRU Pruhonice 159.27 335 *e*PKP2 **PKPab 17 55 22.0 +0.6**
NKC Novy Kostel 159.76 339 *e*PKPAB **PKPab 17 55 24.2 +0.7**
NKC Novy Kostel 159.76 339 *e*PKP2 **PKPab 17 55 24.2 +0.7**
KHC Kasperske Hory 160.33 335 *e*PKPDF **PKPdf 17 54 46.1 +1.2**
KHC *e*PKPAB **PKPab 17 55 25.2 -0.9**
KHC Kasperske Hory 160.33 335 *e*PKIKP **PKPdf 17 54 46.1 +1.2**
KHC *e* 17 55 25.2
CONA Conrad Observa 160.40 329 *e*PKPab **PKPab 17 55 26.1 -0.4**
comp=Z,7.7nm,0.8s
GERES GERESS Array B 160.53 334 PKP **PKPdf 17 54 43.4 -1.8**
comp=Z,1.0nm,0.7s,baz=308,slow=2.4,SNR=2.8
GERES PKPab **PKPab 17 55 27.3 +0.3**
comp=Z,2.8nm,0.7s,baz=41,slow=4.3,SNR=7.7
ARSA Arzberg 161.06 329 *i* sPKPdf **PKPab 17 55 29.7 +0.4**
comp=Z,4.6nm,0.7s
MOA Molln 161.13 332 *i* PKPab **PKPab 17 55 29.4 -0.2**
comp=Z,4.4nm,0.9s
TOA0 Torodi Ar. Sit 161.41 182 *e*PKPdf **PKPdf 17 54 46.7 -0.3**
TOA0 *e*PKPab **PKPab 17 55 31.6 +0.1**
TORD Torodi Ar. Bea 161.41 182 PKP **PKPdf 17 54 45.4 -1.6**
comp=Z,3.6nm,1.0s,baz=294,slow=1.0,SNR=14
TORD PKPab **PKPab 17 55 32.1 +0.6**
comp=Z,6.5nm,0.8s,baz=168,slow=3.7,SNR=14
TOA1 Torodi Ar. Sit 161.42 182 *e*PKPdf **PKPdf 17 54 45.4 -1.6**
TOA1 *e*PKPab **PKPab 17 55 32.1 +0.6**
SOKA Soboth 161.72 328 *i* PKPab **PKPab 17 55 32.4 +0.1**
comp=Z,4.9nm,1.1s
MYKA Terra Mystica 162.36 331 *i* PKPab **PKPab 17 55 34.0 -1.0**
comp=Z,5.6nm,0.8s
RETA Reutte 162.71 338 *i* PKPab **PKPab 17 55 37.3 +0.7**
comp=Z,13nm,1.1s
ABTA Abfaltersbach 162.72 333 *i* PKPab **PKPab 17 55 35.4 -1.2**
comp=Z,7.3nm,0.7s
MOTA Moosalm 162.72 337 *i* PKPab **PKPab 17 55 37.1 +0.4**
comp=Z,7.6nm,0.8s
FETA Feichten 163.13 337 *i* PKPab **PKPab 17 55 38.5 -0.1**
comp=Z,6.6nm,0.9s
ESDC Sonseca Array 171.12 26 PKP **PKPdf 17 54 54.4 +0.4**
comp=Z,3.0nm,0.9s,baz=340,slow=2.9,SNR=9.2
ESDC PKPab **PKPab 17 56 14.2 +0.3**
comp=Z,0.9nm,0.5s,baz=340,slow=3.9,SNR=7.1

ISK ***24*** *17:37:31.2,38.°80N×43.°38E,h10km, MD2.9*
ISCJB ***24*** *17:37:33.0±0.7,38.°79N±0.°04×43.°23E±0.°10,h5km±9km,*
Error ellipse: s-maj=13.2km s-min=5.1km az=161.5
DDA ***24*** *17:37:32.9,38.°75N×43.°31E,h7km, Ml2.7*
CSEM ***24*** *17:37:33.0±0.3,38.°78N×43.°28E,h10km,MD2.9, Error ellipse: s-maj=13.5km s-min=6.3km az=75.0*
ISC 24 17:37:32.5±1.1,**38.79N**±0.°03×**43.38E**±0.°06,**h15**km±9km,
n28,σ0.48/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**177**	*e*PG	**Pg**	**17 37 37.5**	**+0.3**
VANB				*e*SG	**Sb**	**17 37 42.0**	**+0.4**
VANB	**Van**	**0.20**	**177**	*e*Pg	**Pg**	**17 37 37.5**	**+0.3**
VANB				*e*Sg	**Sb**	**17 37 42.0**	**+0.4**
TUTA	**Tutak**	**0.75**	**324**	*i* P	**Pg**	**17 37 46.8**	**-0.4**
TUTA	**Tutak**	**0.75**	**324**	P	**Pg**	**17 37 46.8**	**-0.4**
DYDN	**Diyadin**	**0.79**	**18**	*i* P	**Pn**	**17 37 49.9**	**+0.5**
DYDN	**Diyadin**	**0.79**	**18**	P	**Pn**	**17 37 49.9**	**+0.5**
AGRB	**Hanur-Agry**	**0.84**	**339**	*e*PG	**Pg**	**17 37 48.1**	**-0.7**
AGRB				*e*SG	**Sg**	**17 37 59.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**339**	*e*Pg	**Pg**	**17 37 48.1**	**-0.7**
AGRB				*e*Sg	**Sg**	**17 37 59.3**	**-0.6**
EKAR	**Karacoban**	**1.12**	**295**	*i* P	**Pn**	**17 37 54.7**	**+0.7**
EKAR	**Karacoban**	**1.12**	**295**	P	**Pn**	**17 37 54.7**	**+0.7**
HAKT	**HAKKARI**	**1.26**	**168**	*i* P	**Pn**	**17 37 55.0**	**-0.8**
HAKT	**HAKKARI**	**1.26**	**168**	P	**Pn**	**17 37 55.0**	**-0.8**
EATA	**Eleskirt**	**1.27**	**328**	*i* P	**Pb**	**17 37 56.6**	**+0.2**
EATA	**Eleskirt**	**1.27**	**328**	P	**Pb**	**17 37 56.6**	**+0.2**
SIRN	**S¨–rnak**	**1.50**	**211**	*i* P	**Pb**	**17 38 00.1**	**-0.1**
SIRN	**S¨–rnak**	**1.50**	**211**	P	**Pb**	**17 38 00.1**	**-0.1**
CUKT	**Cukurca**	**1.55**	**173**	*e*PN	**Pn**	**17 37 59.4**	**-0.4**
CUKT	**Cukurca**	**1.55**	**173**	*i* P	**Pg**	**17 38 02.6**	**+0.2**
CUKT	**Cukurca**	**1.55**	**173**	*e*Pn	**Pn**	**17 37 59.4**	**-0.4**
CUKT	**Cukurca**	**1.55**	**173**	P	**Pg**	**17 38 02.6**	**+0.2**
DIGO	**Kars**	**1.62**	**360**	*i* P	**Pg**	**17 38 04.0**	**+0.3**
DIGO	**Kars**	**1.62**	**360**	P	**Pg**	**17 38 04.0**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	*e*PN	**Pn**	**17 38 03.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	*e*Pn	**Pn**	**17 38 03.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.94**	**336**	*e*PN	**Pn**	**17 38 05.1**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.94**	**336**	*e*Pn	**Pn**	**17 38 05.1**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*PN	**Pn**	**17 38 10.2**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*Pn	**Pn**	**17 38 10.3**	**+0.2**

DDA ***24*** *17:38:45.1,38.°71N×43.°53E,h7km, Ml3.1*
ISCJB ***24*** *17:38:46.5±0.7,38.°68N±0.°04×43.°50E±0.°08,h17km±6km,*
Error ellipse: s-maj=11.1km s-min=6.0km az=177.0
ISK ***24*** *17:38:46.2,38.°66N×43.°26E,h5km,ML3.0*
CSEM ***24*** *17:38:47.5±0.4,38.°73N×43.°31E,h10km,ML3.0, Error ellipse: s-maj=12.7km s-min=6.4km az=77.0*
ISC 24 17:38:46.1±1.0,**38.72N**±0.°02×**43.52E**±0.°04,**h17**km±8km,
n42,σ0.94/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**220**	*e*PG	**Pb**	**17 38 50.5**	**-0.3**
VANB				*e*SG	**Sg**	**17 38 53.9**	**+0.4**
VANB	**Van**	**0.16**	**220**	*e*Pg	**Pb**	**17 38 50.5**	**-0.3**
VANB				*e*Sg	**Sg**	**17 38 53.9**	**+0.4**
GEVA	**Gevas**	**0.54**	**222**	*i* P	**Pg**	**17 38 55.6**	**-1.4**
GEVA	**Gevas**	**0.54**	**222**	P	**Pg**	**17 38 55.6**	**-1.4**
BASK	**Baskale_VAN**	**0.77**	**150**	*i* P	**Pb**	**17 38 59.8**	**-1.3**
BASK	**Baskale_VAN**	**0.77**	**150**	P	**Pb**	**17 38 59.8**	**-1.3**
DYDN	**Diyadin**	**0.83**	**9**	*i* P	**Pb**	**17 39 01.6**	**-0.8**
DYDN	**Diyadin**	**0.83**	**9**	P	**Pb**	**17 39 01.5**	**-0.8**
TUTA	**Tutak**	**0.88**	**321**	*i* P	**Pb**	**17 39 02.0**	**-1.1**
TUTA	**Tutak**	**0.88**	**321**	P	**Pb**	**17 39 02.0**	**-1.1**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*PG	**Pb**	**17 39 04.7**	**+0.4**
AGRB				*e*SG	**Sg**	**17 39 18.0**	**+0.8**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*Pg	**Pb**	**17 39 04.7**	**+0.4**
AGRB				*e*Sg	**Sg**	**17 39 18.0**	**+0.8**
HAKT	**HAKKARI**	**1.17**	**173**	*i* P	**Pn**	**17 39 06.7**	**-1.2**
HAKT	**HAKKARI**	**1.17**	**173**	P	**Pn**	**17 39 06.7**	**-1.2**
EKAR	**Karacoban**	**1.26**	**296**	*i* P	**Pg**	**17 39 11.0**	**+0.5**
EKAR	**Karacoban**	**1.26**	**296**	P	**Pg**	**17 39 11.0**	**+0.5**
EATA	**Eleskirt**	**1.40**	**325**	*i* P	**Pn**	**17 39 11.3**	**+0.2**
EATA	**Eleskirt**	**1.40**	**325**	P	**Pn**	**17 39 11.3**	**+0.2**
CUKT	**Cukurca**	**1.47**	**177**	*e*PN	**Pb**	**17 39 13.8**	**+0.8**
CUKT	**Cukurca**	**1.47**	**177**	*i* P	**Pg**	**17 39 16.1**	**+1.6**
CUKT	**Cukurca**	**1.47

YEDI	Yedisu-Bingol	2.43 288	*e*Pn	Pn	17 39 25.1	-0.1
MAZI	Mazidag	2.73 244	*e*PN	Pn	17 39 28.7	-0.6
MAZI	Mazidag	2.73 244	*e*Pn	Pn	17 39 28.7	-0.6

*DDA **24** 17:43:59.8, 38°.77N×43°.54E, 7km, Ml3.1*
*ISCJB **24** 17:44:00.3±0.8, 38°.82N±0°.03×43°.52E±0°.09, h13km, Error ellipse: s-maj=10.0km s-min=4.4km az=170.8*
*CSEM **24** 17:44:00.9±0.4, 38°.82N×43°.42E, h10km, ML3.0, Error ellipse: s-maj=13.1km s-min=6.0km az=79.0*
*ISK **24** 17:44:00.2, 38°.79N×43°.39E, h5km, ML3.0*
ISC 24 17:44:00.5±1.0, 38°.82N±0°.03×43°.55E±0°.05, h13km, n34, σ0s91/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	209	*e*PG	Pg	17 44 06.2	+0.2
VANB				*e*SG	Sg	17 44 10.6	+0.9
VANB	Van	0.26	209	*e*Pg	Pg	17 44 06.2	+0.2
VANB				*e*Sg	Sg	17 44 10.6	+0.9
GEVA	Gevas	0.64	217	*i* P	Pg	17 44 11.5	-1.4
GEVA	Gevas	0.64	217	P	Pg	17 44 11.5	-1.4
DYDN	Diyadin	0.73	9	*i* P	Pb	17 44 15.6	+0.5
DYDN	Diyadin	0.73	9	P	Pb	17 44 15.6	+0.5
TUTA	Tutak	0.81	316	*i* P	Pg	17 44 15.2	-1.1
TUTA	Tutak	0.81	316	P	Pg	17 44 15.2	-1.1
BASK	Baskale_VAN	0.85	155	*i* P	Pg	17 44 15.2	-1.7
BASK	Baskale_VAN	0.85	155	P	Pg	17 44 15.2	-1.7
AGRB	Hanur-Agry	0.87	330	*e*PG	Pg	17 44 17.0	-0.3
AGRB				*e*SG	Sg	17 44 28.7	0.0
AGRB	Hanur-Agry	0.87	330	*e*Pg	Pg	17 44 17.0	-0.3
AGRB				*e*Sg	Sg	17 44 28.7	0.0
EKAR	Karacoban	1.23	291	*i* P	Pn	17 44 24.4	+0.8
EKAR	Karacoban	1.23	291	P	Pn	17 44 24.5	+0.8
HAKT	HAKKARI	1.27	174	*i* P	Pn	17 44 22.9	-1.2
HAKT	HAKKARI	1.27	174	P	Pn	17 44 22.9	-1.2
EATA	Eleskirt	1.32	322	*i* P	Pn	17 44 24.8	-0.2
EATA	Eleskirt	1.32	322	P	Pn	17 44 24.8	-0.2
CUKT	Cukurca	1.57	178	*e*PN	Pn	17 44 29.2	+1.0
CUKT	Cukurca	1.57	178	*i* P	Pg	17 44 31.4	+0.7
CUKT	Cukurca	1.57	178	*e*Pn	Pn	17 44 29.2	+1.0
CUKT	Cukurca	1.57	178	P	Pg	17 44 31.4	+0.7
VRTB	Varto-Mus	1.67	282	*e*PN	Pn	17 44 29.0	-0.5
VRTB	Varto-Mus	1.67	282	*e*Pn	Pn	17 44 29.0	-0.5
SVAN	Silvan-Diyarba	1.96	251	*e*PN	Pn	17 44 33.2	-0.2
SVAN	Silvan-Diyarba	1.96	251	*e*Pn	Pn	17 44 33.2	-0.2
SENK	Senkaya-Erzuru	1.97	332	*e*PN	Pn	17 44 34.4	+0.7
SENK	Senkaya-Erzuru	1.97	332	*e*Pn	Pn	17 44 34.4	+0.7
BNGB	Bing¶ll	2.25	275	*e*PN	Pn	17 44 37.1	-0.3
BINT	Bingol	2.39	272	*e*Pn	Pn	17 44 37.1	-2.3
YEDI	Yedisu-Bingol	2.42	286	*e*PN	Pn	17 44 39.7	-0.1
YEDI	Yedisu-Bingol	2.42	286	*e*Pn	Pn	17 44 39.7	-0.1
MAZI	Mazidag	2.80	242	*e*PN	Pn	17 44 45.0	0.0
MAZI	Mazidag	2.80	242	*e*Pn	Pn	17 44 45.0	0.0

*TAP **24** 17:46:52.5, 24°.22N×122°.43E, h77km±1km, ML2.6, D*
*JMA **24** 17:46:52.0±0.1, 24°.15N×122°.52E, h58km±3km, M1.6*
ISC 24 17:46:50.6±1.3, 24°.14N±0°.05×122°.53E±0°.02, h16km±10km, n22, σ0s64/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49	50	P	Pn	17 47 03.9	+0.9
JYNG				S	Sn	17 47 11.7	+0.5
YOJ	Yonaguni jima	0.55	53	P	Pn	17 47 04.2	+0.5
YOJ				*e*S	Sn	17 47 12.8	+0.3
ENA	Nanau	0.78	292	P	Pn	17 47 07.8	+0.8
ENA	baz=293			*e*S	Sn	17 47 18.6	+0.2
TWC	Suao	0.78	307	*e*P	Pn	17 47 06.7	-0.3
TWD	baz=312 Chiawan	0.86	266	*e*P	Pn	17 47 09.3	+1.3
TWD	baz=255			*e*S	Sn	17 47 19.9	-0.3
ENTT	baz=255 Nioudou	1.01	300	P	Pn	17 47 10.8	+0.6
ENTT	baz=299			S	Sn	17 47 23.7	-0.5
ESL	baz=299 Shilin	1.05	253	*e*P	Pg	17 47 10.8	-0.3
ESL	baz=252			*e*S	Sn	17 47 25.0	-0.2
NNS	baz=252 Nan Shan	1.10	286	*e*P	Pg	17 47 12.6	+0.6
NNS	baz=284			*e*S	Sn	17 47 26.1	-0.4
IRIF	baz=284 Iriomote-Funau	1.11	79	P	Pb	17 47 11.6	+0.1
IRIF				*e*S	Sb	17 47 26.1	+0.4
WHF	Hehuan Shan	1.16	271	*e*P	Pg	17 47 13.2	+0.1
WHF	baz=259			*e*S	Sg	17 47 27.4	-0.9
NSK	baz=259 Sanguang	1.20	297	*e*P	Pb	17 47 12.8	-0.2
NSK	baz=291			*e*S	Sn	17 47 28.1	-0.7
TWT	baz=291 Tachien	1.24	276	*e*P	Pg	17 47 15.1	+0.5
TWT	baz=272			S	Sn	17 47 29.7	-0.3
EHY	baz=272 Hungye	1.27	241	*e*P	Pg	17 47 15.5	+0.3
EHY	baz=243			*e*S	Sn	17 47 31.1	+0.6
JKRS	baz=243 Kuro-shima	1.35	85	P	Pn	17 47 15.5	+0.6
JKRS				*e*S	Sn	17 47 32.8	+0.3
TWF1	Yuli	1.37	236	*e*P	Pb	17 47 15.9	0.0
TWF1	baz=240			*e*S	Sn	17 47 32.8	-0.2
JIJ	baz=240 Ishigaki jima	1.49	81	P	Pn	17 47 16.7	0.0
JIJ				S	Sn	17 47 34.6	-1.2
SMLT	Sun Moon Lake	1.51	261	*e*P	Pb	17 47 17.9	-0.5
SMLT	baz=253			*e*S	Sn	17 47 35.9	-0.7
TYC	baz=253 Yuchr	1.55	262	*e*P	Pb	17 47 18.5	-0.4
TYC	baz=254			*e*S	Sn	17 47 37.1	-0.2
YUS	baz=254 Yu-Shan	1.58	246	*e*P	Pb	17 47 20.1	+0.2
YUS	baz=236			*e*S	Sn	17 47 38.3	-0.6
JISG	baz=236 Ishigakijimahi	1.68	74	P	Pn	17 47 19.1	-0.3
JISG				*e*S	Sn	17 47 38.8	-1.9
ALS	Alishan	1.70	249	*e*P	Pb	17 47 21.0	-0.7
CHN5	baz=245 Tsauling	1.78	253	*e*P	Pn	17 47 21.4	+0.5
	baz=250						

*ISCJB **24** 17:58:29.5±0.6, 24°.77N±0°.05×122°.33E±0°.02, h7km±4km, Error ellipse: s-maj=8.1km s-min=2.9km az=1.8*
*JMA **24** 17:58:30.4±0.1, 24°.69N×122°.31E, h11km, M1.8*
*TAP **24** 17:58:31.1, 24°.75N×122°.27E, h4km±1km, ML2.5, D*
ISC 24 17:58:28.9±1.3, 24°.81N±0°.07×122°.34E±0°.03, h7km±11km, n15, σ0s62/28, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.38	301	P	Pb	17 58 37.9	0.0
TWB1	baz=316			S	Sb	17 58 43.0	-0.9
TWC	baz=316 Suao	0.49	246	*i* P	Pg	17 58 38.6	+0.2
TWC	baz=249			*e*S	Sg	17 58 44.2	-0.6
JYNG	baz=249 Yonagunijimaku	0.66	123	P	Pb	17 58 42.5	-0.1
JYNG				S	Sb	17 58 51.9	0.0
ENA	Nanau	0.67	235	P	Pg	17 58 42.3	+0.6
ENA	baz=235			*e*S	Sg	17 58 49.6	-0.8
YOJ	baz=235 Yonaguni jima	0.70	120	P	Pb	17 58 43.3	-0.1
YOJ				*e*S	Sb	17 58 53.1	-0.1
ENTT	Nioudou	0.73	257	P	Pg	17 58 43.3	+0.4
ENTT	baz=259			*e*S	Sg	17 58 52.2	-0.1
	baz=259						

NSK	Sanguang	0.91	262	P	Pb	17 58 46.8	-0.1
NSK	baz=264			*e*S	Sg	17 58 58.5	+0.5
NNS	baz=264 Nan Shan	0.96	247	*e*P	Pg	17 58 47.6	+0.3
NNS	baz=248			S	Sg	17 58 59.8	+0.1
WHF	baz=248 Hehuan Shan	1.19	236	*e*P	Pg	17 58 51.7	+0.1
WHF	baz=236			*e*S	Sg	17 59 05.7	-1.4
TWT	baz=236 Tachien	1.20	243	*e*P	Pn	17 58 52.6	+0.4
TWT	baz=243			*e*S	Sg	17 59 06.8	-0.7
ESL	baz=243 Shilin	1.29	220	*e*S	Sn	17 59 11.6	+0.7
IRIF	baz=218 Iriomote-Funau	1.35	110	P	Pg	17 58 55.0	+0.2
IRIF				S	Sn	17 59 12.2	0.0
JKRS	Kuro-shima	1.62	110	P	Pg	17 59 00.3	+0.3
JKRS				*e*S	Sn	17 59 17.3	-1.6
JIJ	Ishigaki jima	1.70	105	P	Pn	17 58 59.3	+0.4
JIJ				*e*S	Sn	17 59 21.1	+0.3
JISG	Ishigakijimahi	1.80	97	S	Sb	17 59 25.0	0.0

*SJA **24** 18:00:46.3±0.8, 30°.19S×67°.51W, h73km±16km, ML3.0, MW4.2*
GUC 24 18:00:51.6±0.7, 32°.97S×71°.58W, h45km±16km, ML2.5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.48	90	⇓*i* P	Pn	18 01 02.8	+0.3
ROCH				*e*S	Sn	18 01 10.9	+0.6
ROCH				IAML		18 01 14.5	
PEL	comp=E,258nm,0.2s Peldehue	0.77	103	*e*P	Pn	18 01 06.8	+0.6
PEL				*e*S	Sn	18 01 18.1	+1.2
PEL				IAML		18 01 20.6	
CLCH	comp=N,326nm,0.2s Cerro Calan	0.97	116	*e*P	Pn	18 01 09.4	+0.5
CLCH				*e*S	Sn	18 01 23.1	+1.4
CLCH				IAML		18 01 24.0	
FCH	comp=E,360nm,0.2s Farellones	1.14	109	⇑*i* P	Pn	18 01 12.4	+0.9
FCH				*i* S	Sn	18 01 28.5	+2.3
FCH				IAML		18 01 31.7	
AUSP	comp=E,249nm,0.2s Uspallata	2.00	69	*i* P	Pn	18 01 28.5	+5.4
ARCO	CERRO ARCO	2.23	87	*i* P	Pn	18 01 32.4	+6.1
ARCO				IAML		18 01 43.7	
ARCO	comp=Z,41nm,0.3s			*i* S	Sn	18 02 06.8	+14
AAGR	Agrelo	2.32	94	*i* P	Pn	18 01 35.0	+7.7
ASAL	Salagasta	2.35	81	*i* P	Pn	18 01 29.7	+2.0

*IDC **24** 18:02:58.4±2.1, 43°.25N×105°.21W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.5/54, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=48.2km s-min=9.2km az=157.0*
*ISCJB **24** 18:02:59.8±0.6, 43°.69N±0°.05×105°.13W±0°.08, h0km, mb4.5/2, Error ellipse: s-maj=9.1km s-min=6.3km az=18.4*
*NEIC **24** 18:03:01.8±0.6, 43°.67N×105°.22W, h0km, ML3.2, Error ellipse: s-maj=10.2km s-min=7.6km az=104.0, Suspected Mining explosion.*
NEIC 74 km [46 miles] SSE of Gillette.
ISC 24 18:02:59.4±0.8, 43°.54N±0°.05×104°.97W±0°.07, h0km, n25, σ2s10/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	Casper	1.45	232	*e*P	Pn	18 03 25.9	-1.2
PHWY	Pilot Hill	2.27	189	*e*Pn	Pg	18 03 42.5	-0.4
RWWY	Rawlins	2.49	223	*e*Pn	Pb	18 03 43.7	-1.4
LAO	LASA Array	3.27	345	*e*Pn	Pn	18 03 51.5	-0.5
OGNE	Ogallala	3.39	139	*e*Pn	Pb	18 04 00.4	0.0
BW06	Boulder Array	3.45	259	*e*Pn	Pn	18 03 55.5	+0.9
PDAR	Pinedale Array	3.45	259	Pn	Pn	18 03 54.1	-0.5
	7.1nm,0.3s,baz=91,slow=15,SNR=65						
PDAR				Lg	Lg	18 04 38.1	
	27nm,0.3s,baz=79,slow=34,SNR=11						
RLMT	Red Lodge	3.47	299	*e*Pn	Pn	18 03 53.3	-1.5
ISCO	Idaho Springs	3.77	188	*e*Pn	Pb	18 04 03.6	-3.4
LOHW	Long Hollow	4.10	273	*e*Pn	Pn	18 04 04.9	+1.4
H17A	Grant Village	4.14	284	*e*Pn	Pn	18 04 05.2	+1.2
O20A	White River Ci	4.19	217	*e*Pn	Pn	18 04 04.2	-0.6
MOOW	Moose Ponds	4.20	275	*e*Pn	Pn	18 04 04.8	-0.1
IMW	Indian Meadow	4.34	277	*e*Pn	Pn	18 04 06.1	-0.8
DGMT	Dagmar	4.96	6	*e*Pn	Pn	18 04 16.9	+1.7
BOZ	Bozeman (W)	5.18	296	*e*Pn	Pn	18 04 16.5	-1.9
HWUT	Hardware Ranch	5.24	251	*e*Pn	Pn	18 04 19.7	+0.5
	7.2nm,0.4s						
PV04	Paradox Valley	5.95	211	*e*Pn	Pn	18 04 32.5	+3.6
PV01	Paradox Valley	6.05	208	*e*Pn	Pn	18 04 32.0	+1.6
	189nm,0.3s						
I10CA	LAC DU BONNET	9.04	39	*i*		18 56 50.0	
	baz=222,slow=329,SNR=1.5						
ULM	Lac du Bonnet	9.14	40	Pn	Pn	18 05 13.5	+0.9
	1.6nm,0.3s,baz=236,slow=12,SNR=11						
ULM				Sn	Sn	18 06 50.8	-5.3
	0.3nm,0.3s,baz=260,slow=12,SNR=2.4						
ULM				Lg	Lg	18 07 45.4	
	0.6nm,0.3s,baz=246,slow=18,SNR=2.3						
WUAZ	Wupatki	9.42	214	*e*Pn	Pn	18 05 20.5	+4.0
	21nm,0.5s						
YKA	Yellowknife Ar	19.81	347	P	Pn	18 07 34.6	+2.0
	0.3nm,0.3s,baz=154,slow=9.1,SNR=3.2						
ARCES	ARCESS Array B	61.53	18	P	P	18 13 18.4	+0.8
	3.7nm,1.0s,baz=336,slow=7.9,SNR=5.3						
FINES	FINESS Array B	68.12	23	P	P	18 14 01.6	+0.9
	2.8nm,1.0s,baz=342,slow=8.7,SNR=2.8						

*NIED **24** 18:11:00, 40°.70N×141°.30E, h71km, Mw3.8 Best double couple: $M_0$5.84000×10^14 NP1:ϕ_s38.00000°, δ18.00000°, λ82.00000°. NP2:ϕ_d227.00000°, δ72.00000°, λ93.00000°.*
*ISCJB **24** 18:11:38.4±0.5, 40°.75N±0°.03×141°.36E±0°.08, h100km±3km, mb3.8/10, Error ellipse: s-maj=10.3km s-min=4.7km az=2.5*
*IDC **24** 18:11:39.3±1.7, 40°.72N×141°.35E, h96km±16km, mb3.6/10, mb1 3.7/13, mb1mx3.5/49, mbtmp3.9/13, MS3.0/3, Ms1 3.0/3, ms1mx2.5/50, Error ellipse: s-maj=19.8km s-min=12.6km az=98.0*
*JMA **24** 18:11:39.4±0.1, 40°.75N×141°.32E, h92km±1km, M3.6*
JMA Felt II J1.
ISC 24 18:11:39.1±0.8, 40°.72N±0°.03×141°.34E±0°.07, h91km±6km, n35, σ1s60/38, mb4.0/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	Tenmabayashi	0.21	289	P	Pn	18 11 52.4	+0.3
JTM				S	Sn	18 12 02.2	+0.3
JANG	Nango	0.37	158	P	Pn	18 11 53.5	+0.5
JANG				S	Sn	18 12 03.9	+0.6
JOT	Ohata	0.70	342	P	Pn	18 11 56.0	+0.4
JOT				*e*S	Sn	18 12 08.6	+0.7
JAH	Hinai	0.75	226	P	Pn	18 11 56.9	+0.8
JAH				*e*S	Sn	18 12 10.1	+1.3
JIW	Iwasaki	1.02	263	P	Pn	18 11 59.5	+0.5
JIW				*e*S	Sn	18 12 14.9	+0.9
JSR	Shiriuchi	1.07	320	P	Pn	18 11 59.7	+0.2
JKB	Kayabe	1.19	349	P	Pn	18 12 01.6	+0.6
JKB				*e*S	Sn	18 12 18.4	+0.9
JOM	Ohasama	1.25	182	P	Pn	18 12 03.0	+1.3
JOM				*e*S	Sn	18 12 20.2	+1.5
JRG	Rokugo	1.43	202	P	Pn	18 12 05.2	+1.3
JYM2	Yakumo 2	1.57	333	P	Pn	18 12 06.4	+0.6
JYM2				*e*S	Sn	18 12 26.4	+0.4
JMK	Ichinoseki	1.77	183	P	Pn	18 12 09.2	+1.0
JMK				*e*S	Sn	18 12 32.1	+1.7
ASAJ	Asahikawa	3.52	15	P	Pn	18 12 32.5	+1.0
	4.1nm,0.3s,baz=210,slow=14,SNR=45						
ASAJ				S	Sn	18 13 12.5	+0.3
	7.8nm,0.3s,baz=209,slow=9.8,SNR=4.0						
MAT	Matsushiro	4.84	211	P	Pn	18 12 51.3	+1.8
MAT				*e*S	Sn	18 13 48.4	+4.2
MJAR	Matsushiro Arr	4.84	211	P	Pn	18 12 49.7	+0.2
	1.3nm,0.3s,baz=22,slow=12,SNR=13						

JHJ	Hachijo jima 2	7.69	190	P	Pn	18 13 24.8	-3.4
	5.6nm,0.3s,baz=336,slow=23,SNR=9.5						
JHJ				S	Sn	18 14 48.1	-5.6
	2.8nm,0.3s,baz=60,slow=20,SNR=3.4						
USRK	Ussuriysk Ar.	7.74	300	P	Pn	18 13 30.3	+1.4
	1.6nm,0.3s,baz=109,slow=14,SNR=24						
SONM	Songino Array	25.84	298	P	P	18 17 01.4	-0.7
	0.5nm,0.5s,baz=225,slow=49,SNR=3.6						
H11N2	WAKE ISLAND Hy	30.23	126	T	T	18 48 45.3	
	baz=318,slow=75,SNR=38						
H11N1	WAKE ISLAND Hy	30.24	126	T	T	18 48 46.2	
	baz=318,slow=75,SNR=52						
H11N3	WAKE ISLAND Hy	30.25	126	T	T	18 48 53.1	
	baz=318,slow=75,SNR=33						
H11S1	WAKE ISLAND Hy	31.04	128	T	T	18 49 47.6	
	baz=323,slow=76						
H11S3	WAKE ISLAND Hy	31.05	128	T	T	18 49 45.9	
	baz=323,slow=76						
H11S2	WAKE ISLAND Hy	31.06	128	T	T	18 49 47.6	
	baz=323,slow=76						
TIXI	Tiksi	31.63	353	LR	LR	18 30 28.3	
	comp=Z,26nm,20.9s,baz=189,slow=36						
ZALV	Zalesovo Beam	39.47	309	P	P	18 18 59.8	-0.4
	1.7nm,0.4s,baz=91,slow=8.0,SNR=10						
MKAR	Makanchi Array	42.20	299	P	P	18 19 22.5	-0.3
	2.4nm,0.7s,baz=85,slow=11,SNR=25						
CMAR	Chiang Mai Arr	42.50	251	P	P	18 19 25.9	+0.5
	0.7nm,0.6s,baz=41,slow=6.9,SNR=7.6						
ILAR	Eielson Array	46.45	34	P	P	18 19 57.2	+0.8
	0.5nm,0.7s,baz=276,slow=7.1,SNR=5.5						
BVAR	Borovoye Array	48.11	310	P	P	18 20 09.0	-0.4
	1.0nm,0.4s,baz=68,slow=8.2,SNR=6.8						
WRA	Warramunga Arr	60.70	188	P	P	18 21 40.0	-0.9
	1.6nm,0.4s,baz=5.8,slow=7.1,SNR=31						
ASAR	Alice Springs	64.43	188	P	P	18 22 05.3	-0.4
	0.9nm,0.4s,baz=2.8,slow=7.2,SNR=42						
FINES	FINESS Array B	65.54	331	P	P	18 22 11.9	-0.6
	0.9nm,0.5s,baz=36,slow=10,SNR=4.9						
NOA	NORSAR Array B	70.78	337	LR	LR	18 57 56.6	
	comp=Z,7.0nm,18.7s,baz=20,slow=39						
AKASG	Malin Array Be	71.36	322	P	P	18 22 48.2	-0.7
	0.2nm,0.3s,baz=45,slow=6.9,SNR=3.6						
IDI	Anoyia	84.45	313	LR	LR	19 09 49.0	
	comp=Z,12nm,18.1s,baz=86,slow=41						

*ATH **24** 18:11:52.7, 37°.62N×26°.15E, h31km±2km, ML2.6/3, Error ellipse: s-maj=7.1km s-min=1.3km az=113.0*
*ISCJB **24** 18:11:54.4±0.8, 37°.71N±0°.03×25°.82E±0°.04, h4km±7km, Error ellipse: s-maj=5.4km s-min=4.2km az=14.9*
*THE **24** 18:11:54.7, 37°.70N×25°.82E, h1km±1km, ML2.8/6, Error ellipse: s-maj=1.8km s-min=0.5km az=120.0*
*CSEM **24** 18:11:54.6±0.2, 37°.72N×25°.83E, h10km, ML2.8, Error ellipse: s-maj=5.8km s-min=4.2km az=104.0*
ISC 24 18:11:54.5±1.1, 37°.70N±0°.02×25°.84E±0°.03, h12km±10km, n34, σ0s61/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	Apeiranthos	0.68	201	P	Pg	18 12 07.2	-0.5
APE				S	Sb	18 12 17.6	-0.1
APE	Apeiranthos	0.68	201	P	Pg	18 12 06.9	-0.8
APE				S	Sb	18 12 17.4	-0.4
APE				AML	AML	18 12 20.2	
APE	comp=N,764μm,0.3s			AML	AML	18 12 21.2	
APE	comp=E,706μm,0.2s Apeiranthos	0.68	201	P	Pg	18 12 07.2	-0.5
APE				S	Sb	18 12 17.6	-0.1
CHOS	Chios island	0.70	14	P	Pg	18 12 08.3	+0.1
CHOS				S	Sb	18 12 18.9	+0.5
CHOS	Chios island	0.70	14	P	Pb	18 12 08.8	+0.1
CHOS				S	Sb	18 12 19.3	+0.9
CHOS				AML	AML	18 12 23.8	
CHOS	comp=N,604μm,0.3s			AML	AML	18 12 23.8	
CHOS	comp=E,1829μm,0.4s Chios island	0.70	14	P	Pb	18 12 08.9	+0.1
CHOS				S	Sb	18 12 18.9	+0.5
KARY	Karystos	1.16	287	P	Pn	18 12 16.9	+0.3
KARY				S	Sn	18 12 32.2	-0.1
KARY	Karystos	1.16	287	P	Pn	18 12 16.9	+0.3
KARY				S	Sn	18 12 32.2	-0.1
SERI	Serifos	1.21	244	P	Pg	18 12 18.1	+0.4
SERI	Serifos	1.21	244	P	Pg	18 12 18.1	+0.4
CMBO	Columbo, Santo	1.28	196	P	Pn	18 12 17.1	-1.1
CMBO	Columbo, Santo	1.28	196	P	Pn	18 12 17.1	-1.1
BODT	Bodrum	1.33	118	P	Pg	18 12 20.2	+0.1
BODT				S	Sg	18 12 38.1	+0.6
BODT	Bodrum	1.33	118	P	Pg	18 12 20.2	+0.1
BODT				S	Sg	18 12 38.1	+0.6
THR3	Thira Island,	1.34	195	P	Pg	18 12 20.0	-0.3
THR3	Thira Island,	1.34	195	P	Pg	18 12 20.0	-0.3
THR5	Thira Island,	1.34	197	P	Pn	18 12 19.5	+0.4
THR5	Thira Island,	1.34	197	P	Pn	18 12 19.5	+0.4
THR6	Thira Island,	1.39	195	P	Pb	18 12 20.7	+0.3
THR6	Thira Island,	1.39	195	P	Pb	18 12 20.7	+0.3
MHLA	Plaka, Milos I	1.48	230	P	Pn	18 12 21.6	+0.6
MHLA				S	Sg	18 12 42.1	-0.2
MHLA	Plaka, Milos I	1.48	230	P	Pn	18 12 21.6	+0.6
MHLA				S	Sg	18 12 42.1	-0.2
SIGR	SIGRI	1.51	0	P	Pn	18 12 20.2	-1.1
SIGR				S	Sg	18 12 43.4	+0.4
SIGR	SIGRI	1.51	0	P	Pn	18 12 19.5	-1.8
SIGR	SIGRI	1.51	0	P	Pn	18 12 20.2	-1.1
SIGR				S	Sg	18 12 43.4	+0.4
MHLO	Agia Marina, M	1.53	229	P	Pb	18 12 22.5	-0.3
MHLO	Agia Marina, M	1.53	229	P	Pb	18 12 23.2	+0.4
MHLO				S	Sb	18 12 42.7	+0.5
MHLO	Agia Marina, M	1.53	229	P	Pb	18 12 22.5	-0.3
MHLO				S	Sb	18 12 42.7	+0.5
PRK	Paraskevi	1.58	12	P	Pn	18 12 21.3	-1.0
PRK				AML	AML	18 12 52.7	
PRK	comp=N,360μm,0.7s			AML	AML	18 12 53.8	
PRK	comp=E,477μm,0.8s Paraskevi	1.58	12	P	Pn	18 12 21.3	-1.0
PTL	Penteli	1.60	283	P	Pn	18 12 22.2	-0.5
PTL				S	Sb	18 12 44.0	-0.3
PTL	Penteli	1.60	283	P	Pn	18 12 22.2	-0.5
PTL				S	Sb	18 12 44.0	-0.3
VLY	Voula,Athens	1.63	276	P	Pn	18 12 22.4	-0.6
VLY				S	Sn	18 12 44.5	+0.6
VLY	Voula,Athens	1.63	276	P	Pn	18 12 22.4	-0.6
VLY				S	Sn	18 12 44.5	+0.6

IDC 24 18:15:23.5±1.5, 15°.63N×93°.88E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.2/52, mbtmp3.2/5, ML2.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/33, Error ellipse: s-maj=42.2km s-min=21.1km az=62.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.61	59	Pn	Pn	18 16 49.4	+1.2
	0.1nm,0.3s,baz=242,slow=15,SNR=4.3						
CMAR				Sn	Sn	18 17 52.7	-0.7
	0.1nm,0.3s,baz=244,slow=33,SNR=3.2						
MKAR	Makanchi Array	32.54	345	P	P	18 21 56.6	+0.3
	0.2nm,0.5s,baz=153,slow=9.7,SNR=2.8						
ZALV	Zalesovo Beam	38.89	351	P	P	18 22 50.2	-0.4
	0.7nm,0.5s,baz=184,slow=8.7,SNR=

THN	**Thein Dam**	**6.04**	**140**	*e*P	Pg	18 20 39.0	+4.2
THN				*e*S	Sn	18 21 27.2	+7.7
AAK	**Ala-Archa**	**6.05**	**24**	⇑Pn	Pn	18 20 09.9	-0.2
	1.6nm,0.6s						
AAK				⇓Sn	Sn	18 21 20.2	0.0
	3.2nm,0.9s						

ISK ***24*** *18:22:37.8, 38°.79N×43°.34E, h5km, ML3.0*
DDA ***24*** *18:22:38.3, 38°.76N×43°.19E, h3km, Ml3.0*
CSEM ***24*** *18:22:39.0±0.2, 38°.77N×43°.24E, h2km, ML3.0, Error ellipse: s-maj=5.4km s-min=3.1km az=85.0*
ISC 24 18:22:39.2±0.9, 38°.75N±0°.02×43°.23E±0°.03, h12km±7km, n45, σ1§50/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**142**	*e*PG	**Pg**	**18 22 43.8**	**+0.2**
VANB				*e*SG	**Sg**	**18 22 48.3**	**+1.7**
VANB	**Van**	**0.20**	**142**	*e*Pg	**Pg**	**18 22 43.8**	**+0.2**
VANB				*e*Sg	**Sg**	**18 22 48.3**	**+1.7**
GEVA	**Gevas**	**0.46**	**197**	*i* P	**Pg**	**18 22 47.2**	**-1.1**
GEVA				*i* S	**Sb**	**18 22 55.4**	**-1.0**
GEVA	**Gevas**	**0.46**	**197**	P	**Pg**	**18 22 47.2**	**-1.1**
GEVA				S	**Sb**	**18 22 55.4**	**-1.0**
TUTA	**Tutak**	**0.72**	**333**	*i* P	**Pb**	**18 22 52.9**	**-1.1**
TUTA				*i* S	**Sg**	**18 23 02.3**	**-0.6**
TUTA	**Tutak**	**0.72**	**333**	P	**Pb**	**18 22 52.9**	**-1.1**
TUTA				S	**Sg**	**18 23 02.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**347**	*e*PG	**Pg**	**18 22 54.5**	**-1.0**
AGRB				*e*SG	**Sb**	**18 23 06.2**	**-1.1**
AGRB	**Hanur-Agry**	**0.84**	**347**	*e*Pg	**Pg**	**18 22 54.5**	**-1.0**
AGRB				*e*Sg	**Sb**	**18 23 06.2**	**-1.1**
DYDN	**Diyadin**	**0.86**	**24**	*i* P	**Pg**	**18 22 54.7**	**-1.3**
DYDN				*i* S	**Sb**	**18 23 06.7**	**-1.3**
DYDN	**Diyadin**	**0.86**	**24**	P	**Pg**	**18 22 54.7**	**-1.3**
DYDN				S	**Sb**	**18 23 06.7**	**-1.3**
EKAR	**Karacoban**	**1.04**	**299**	*i* P	**Pn**	**18 22 59.6**	**-0.3**
EKAR				*i* S	**Sn**	**18 23 19.9**	**+5.3**
EKAR	**Karacoban**	**1.04**	**299**	P	**Pn**	**18 22 59.6**	**-0.3**
EATA	**Eleskirt**	**1.25**	**333**	*i* P	**Pg**	**18 23 02.1**	**-1.1**
EATA				*i* S	**Sn**	**18 23 20.8**	**+1.0**
EATA	**Eleskirt**	**1.25**	**333**	P	**Pg**	**18 23 02.1**	**-1.1**
EATA				S	**Sn**	**18 23 20.8**	**+1.0**
HAKT	**HAKKARI**	**1.25**	**162**	*i* P	**Pg**	**18 22 59.6**	**-3.7**
HAKT				*i* S	**Sg**	**18 23 19.0**	**-0.6**
HAKT	**HAKKARI**	**1.25**	**162**	P	**Pg**	**18 22 59.6**	**-3.7**
HAKT				S	**Sg**	**18 23 19.0**	**-0.6**
SIRN	**S¨–rnak**	**1.41**	**207**	*i* P	**Pn**	**18 23 05.0**	**0.0**
SIRN				*i* S	**Sn**	**18 23 25.0**	**+1.5**
SIRN	**S¨–rnak**	**1.41**	**207**	P	**Pn**	**18 23 04.9**	**0.0**
SIRN				S	**Sn**	**18 23 25.0**	**+1.5**
VRTB	**Varto-Mus**	**1.44**	**287**	*e*PN	**Pg**	**18 23 06.2**	**-0.8**
VRTB	**Varto-Mus**	**1.44**	**287**	*i* P	**Pg**	**18 23 06.0**	**-0.9**
VRTB				*i* S	**Sn**	**18 23 29.8**	**+5.4**
VRTB	**Varto-Mus**	**1.44**	**287**	*e*Pn	**Pg**	**18 23 06.2**	**-0.8**
CUKT	**Cukurca**	**1.53**	**169**	*e*PN	**Pn**	**18 23 06.8**	**+0.2**
CUKT	**Cukurca**	**1.53**	**169**	*i* P	**Pg**	**18 23 08.3**	**-0.4**
CUKT				*i* S	**Sg**	**18 23 29.3**	**+0.7**
CUKT	**Cukurca**	**1.53**	**169**	*e*Pn	**Pn**	**18 23 06.8**	**+0.2**
CUKT	**Cukurca**	**1.53**	**169**	P	**Pg**	**18 23 08.3**	**-0.4**
CUKT				S	**Sg**	**18 23 29.3**	**+0.7**
DIGO	**Kars**	**1.66**	**4**	*i* P	**Pn**	**18 23 08.7**	**+0.2**
DIGO				*i* S	**Sg**	**18 23 33.5**	**+0.8**
DIGO	**Kars**	**1.66**	**4**	P	**Pn**	**18 23 08.7**	**+0.2**
DIGO				S	**Sg**	**18 23 33.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	*e*PN	**Pb**	**18 23 10.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	*i* P	**Pb**	**18 23 10.1**	**-0.5**
SVAN				*i* S	**Sg**	**18 23 33.2**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.71**	**250**	P	**Pb**	**18 23 10.1**	**-0.5**
SVAN				S	**Sg**	**18 23 33.2**	**-0.9**
BTMN	**Batman**	**1.77**	**241**	*i* P	**Pb**	**18 23 10.8**	**-0.9**
BTMN				*i* S	**Sg**	**18 23 35.0**	**-1.1**
BTMN	**Batman**	**1.77**	**241**	P	**Pb**	**18 23 10.8**	**-0.9**
BTMN				S	**Sg**	**18 23 35.0**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.93**	**340**	*e*PN	**Pn**	**18 23 12.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.93**	**340**	*e*Pn	**Pn**	**18 23 12.3**	**+0.2**
EAK	**Akyaka**	**1.95**	**8**	*i* P	**Pb**	**18 23 14.5**	**-0.3**
EAK				*i* S	**Sg**	**18 23 42.8**	**+0.8**
EAK	**Akyaka**	**1.95**	**8**	P	**Pb**	**18 23 14.5**	**-0.3**
BNGB	**Bing¶‖**	**2.01**	**278**	*e*PN	**Pb**	**18 23 14.4**	**-1.4**
BINT	**Bingol**	**2.15**	**274**	*e*Pn	**Pb**	**18 23 14.4**	**-0.6**
DAGI	**Agillar**	**2.53**	**337**	*i* P	**Pb**	**18 23 24.3**	**-0.4**
MAZI	**Mazidag**	**2.55**	**240**	*e*PN	**Pn**	**18 23 22.2**	**+1.7**
MAZI	**Mazidag**	**2.55**	**240**	*e*Pn	**Pn**	**18 23 22.2**	**+1.7**
PTK	**Pertek**	**3.00**	**274**	*e*PN	**Pn**	**18 23 28.6**	**+1.7**
PTK	**Pertek**	**3.00**	**274**	*e*Pn	**Pn**	**18 23 28.6**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.10**	**264**	*e*PN	**Pn**	**18 23 30.1**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.10**	**264**	*e*Pn	**Pn**	**18 23 30.1**	**+1.9**

DDA ***24*** *18:24:23.7, 38°.69N×43°.28E, h12km, Ml3.2*
ISCJB ***24*** *18:24:24.7±0.6, 38°.69N±0°.03×43°.29E±0°.05, h8km±5km, Error ellipse: s-maj=7.0km s-min=4.0km az=162.8*
CSEM ***24*** *18:24:24.3±0.2, 38°.68N×43°.27E, h2km, ML3.1, Error ellipse: s-maj=6.4km s-min=3.7km az=63.0*
ISK ***24*** *18:24:24.0, 38°.67N×43°.30E, h5km, ML3.1*
ISC 24 18:24:24.9±0.9, 38°.69N±0°.02×43°.25E±0°.03, h11km±7km, n43, σ1§25/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**130**	PG	**Pg**	**18 24 28.2**	**0.0**
VANB				*e*SG	**Sg**	**18 24 31.0**	**+0.3**
VANB	**Van**	**0.14**	**130**	*i* Pg	**Pg**	**18 24 28.3**	**0.0**
VANB				*e*Sg	**Sg**	**18 24 31.0**	**+0.3**
GEVA	**Gevas**	**0.40**	**202**	*i* P	**Pg**	**18 24 31.4**	**-1.5**
GEVA				*i* S	**Sb**	**18 24 39.0**	**-1.4**
GEVA	**Gevas**	**0.40**	**202**	P	**Pg**	**18 24 31.4**	**-1.5**
GEVA				S	**Sb**	**18 24 39.0**	**-1.4**
TUTA	**Tutak**	**0.79**	**335**	*i* P	**Pg**	**18 24 39.1**	**-1.1**
TUTA				*i* S	**Sg**	**18 24 50.2**	**-0.4**
TUTA	**Tutak**	**0.79**	**335**	P	**Pg**	**18 24 39.1**	**-1.1**
TUTA				S	**Sg**	**18 24 50.2**	**-0.4**
BASK	**Baskale_VAN**	**0.87**	**137**	*i* P	**Pg**	**18 24 40.1**	**-1.6**
BASK				*i* S	**Sb**	**18 24 52.9**	**-0.9**
BASK	**Baskale_VAN**	**0.87**	**137**	P	**Pg**	**18 24 40.1**	**-1.6**
BASK				S	**Sb**	**18 24 52.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.91**	**347**	*e*PG	**Pb**	**18 24 42.3**	**-0.6**
AGRB				*e*SG	**Sb**	**18 24 55.1**	**+0.1**
AGRB	**Hanur-Agry**	**0.91**	**347**	*e*Pg	**Pb**	**18 24 42.3**	**-0.6**
AGRB				*e*Sg	**Sb**	**18 24 55.1**	**+0.1**
EKAR	**Karacoban**	**1.09**	**302**	*i* P	**Pn**	**18 24 46.7**	**+0.4**
EKAR	**Karacoban**	**1.09**	**302**	P	**Pn**	**18 24 46.7**	**+0.4**
HAKT	**HAKKARI**	**1.18**	**162**	*i* P	**Pg**	**18 24 44.6**	**-3.0**
HAKT	**HAKKARI**	**1.18**	**162**	P	**Pg**	**18 24 44.7**	**-3.0**
EATA	**Eleskirt**	**1.31**	**334**	*i* P	**Pg**	**18 24 48.7**	**-1.5**
EATA				*i* S	**Sn**	**18 25 08.4**	**+1.2**
EATA	**Eleskirt**	**1.31**	**334**	P	**Pg**	**18 24 48.7**	**-1.5**
EATA				S	**Sn**	**18 25 08.4**	**+1.2**
SIRN	**S¨–rnak**	**1.36**	**209**	*i* P	**Pg**	**18 24 50.3**	**-0.7**
SIRN	**S¨–rnak**	**1.36**	**209**	P	**Pg**	**18 24 50.3**	**-0.7**
CUKT	**Cukurca**	**1.47**	**169**	*e*PN	**Pb**	**18 24 51.6**	**-0.7**
CUKT	**Cukurca**	**1.47**	**169**	*i* P	**Pg**	**18 24 52.6**	**-0.4**
CUKT				*i* S	**Sg**	**18 25 14.9**	**+2.9**
CUKT	**Cukurca**	**1.47**	**169**	*e*Pn	**Pb**	**18 24 51.6**	**-0.7**
CUKT	**Cukurca**	**1.47**	**169**	P	**Pg**	**18 24 52.6**	**-0.4**
CUKT				S	**Sg**	**18 25 14.9**	**+2.9**
VRTB	**Varto-Mus**	**1.48**	**289**	*e*PN	**Pb**	**18 24 52.4**	**-0.1**
VRTB	**Varto-Mus**	**1.48**	**289**	*e*Pn	**Pb**	**18 24 52.4**	**-0.1**
BNGL	**BINGOL**	**1.66**	**280**	*i* P	**Pn**	**18 24 54.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.70**	**252**	*e*PN	**Pn**	**18 24 55.2**	**+0.6**
SVAN				*e*SN	**Sb**	**18 25 18.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.70**	**252**	*i* P	**Pn**	**18 24 54.5**	**0.0**
SVAN				*i* S	**Sg**	**18 25 19.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.70**	**252**	P	**Pn**	**18 24 54.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.70**	**252**	*e*Pn	**Pn**	**18 24 55.2**	**+0.6**
SVAN				*e*Sn	**Sb**	**18 25 18.5**	**+0.9**
SVAN				S	**Sg**	**18 25 19.0**	**-0.5**
DIGO	**Kars**	**1.73**	**3**	*i* P	**Pb**	**18 24 56.1**	**-0.7**
DIGO	**Kars**	**1.73**	**3**	P	**Pb**	**18 24 56.1**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.00**	**340**	*e*PN	**Pn**	**18 25 00.0**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.00**	**340**	*e*Pn	**Pn**	**18 25 00.0**	**+1.2**
BNGB	**Bing¶‖**	**2.03**	**279**	*e*PN	**Pn**	**18 25 00.6**	**+1.4**
BINT	**Bingol**	**2.17**	**276**	*e*Pn	**Pn**	**18 25 00.6**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*PN	**Pn**	**18 25 03.5**	**+1.4**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*Pn	**Pn**	**18 25 03.5**	**+1.4**
MAZI	**Mazidag**	**2.53**	**242**	*e*PN	**Pn**	**18 25 06.8**	**+0.8**
MAZI	**Mazidag**	**2.53**	**242**	*e*Pn	**Pn**	**18 25 06.8**	**+0.8**
PTK	**Pertek**	**3.02**	**275**	*e*PN	**Pn**	**18 25 14.6**	**+1.7**
PTK	**Pertek**	**3.02**	**275**	*e*Pn	**Pn**	**18 25 14.6**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.11**	**266**	*e*PN	**Pn**	**18 25 15.7**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.11**	**266**	*e*Pn	**Pn**	**18 25 15.7**	**+1.7**

IDC 24 18:33:23.7±4.3, 6°.43S×128°.35E, h329km±46km, mb3.3/3, mb1 3.6/6, mb1mx3.1/39, mbtmp4.2/6, Error ellipse: s-maj=54.4km s-min=13.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.90**	**193**	P	Pn	18 36 02.4	-2.2
	0.6nm,0.3s,baz=18,slow=12,SNR=30						
FITZ				S	S	18 38 16.5	-0.8
	0.3nm,0.3s,baz=25,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**14.64**	**157**	P	P	18 36 35.9	+0.5
	2.6nm,0.3s,baz=340,slow=12,SNR=95						
WRA				S	S	18 39 25.8	+11
	0.3nm,0.3s,baz=336,slow=16,SNR=4.6						
ASAR	**Alice Springs**	**17.95**	**163**	P	P	18 37 12.1	+0.7
	2.1nm,0.3s,baz=346,slow=11,SNR=280						
ASAR				S	S	18 40 20.2	0.0
	0.1nm,0.3s,baz=343,slow=21,SNR=6.5						
STKA	**Stephens Creek**	**28.18**	**156**	P	P	18 38 47.6	+0.8
	1.5nm,0.4s,baz=332,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**66.86**	**327**	P	P	18 43 41.5	+0.4
	0.8nm,0.4s,baz=120,slow=8.2,SNR=20						
ZALV	**Zalesovo Beam**	**70.36**	**334**	P	P	18 44 01.4	-0.9
	0.5nm,0.4s,baz=139,slow=6.6,SNR=3.5						

ISCJB ***24*** *18:40:29.8±0.7, 38°.76N±0°.02×43°.51E±0°.05, h7km±5km, Error ellipse: s-maj=7.1km s-min=3.9km az=173.5*
CSEM ***24*** *18:40:29.9±0.4, 38°.76N×43°.52E, h10km, ML3.0, Error ellipse: s-maj=10.1km s-min=5.7km az=78.0*
DDA ***24*** *18:40:29.7, 38°.74N×43°.48E, h18km, Ml3.2*
ISK ***24*** *18:40:29.3, 38°.74N×43°.36E, h5km, ML3.0*
ISC 24 18:40:30.6±0.9, 38°.74N±0°.02×43°.48E±0°.04, h17km±6km, n33, σ1§59/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**207**	*e*PG	**Pg**	**18 40 34.8**	**-0.2**
VANB				*e*SG	**Sg**	**18 40 39.2**	**+1.1**
VANB	**Van**	**0.16**	**207**	*e*Pg	**Pg**	**18 40 34.8**	**-0.2**
VANB				*e*Sg	**Sg**	**18 40 39.2**	**+1.1**
GEVA	**Gevas**	**0.54**	**218**	*i* P	**Pg**	**18 40 39.7**	**-1.8**
GEVA				*i* S	**Sb**	**18 40 48.4**	**-0.8**
GEVA	**Gevas**	**0.54**	**218**	P	**Pg**	**18 40 39.7**	**-1.8**
GEVA				S	**Sb**	**18 40 48.4**	**-0.8**
BASK	**Baskale_VAN**	**0.80**	**149**	*i* P	**Pg**	**18 40 44.3**	**-1.9**
BASK				*i* S	**Sb**	**18 40 57.8**	**+1.1**
BASK	**Baskale_VAN**	**0.80**	**149**	P	**Pg**	**18 40 44.3**	**-1.9**
BASK				S	**Sb**	**18 40 57.8**	**+1.1**
DYDN	**Diyadin**	**0.82**	**11**	*i* P	**Pg**	**18 40 44.8**	**-1.7**
DYDN				*i* S	**Sb**	**18 40 57.5**	**+0.3**
DYDN	**Diyadin**	**0.82**	**11**	P	**Pg**	**18 40 44.8**	**-1.7**
DYDN				S	**Sb**	**18 40 57.5**	**+0.3**
TUTA	**Tutak**	**0.84**	**322**	*i* P	**Pg**	**18 40 45.8**	**-1.2**
TUTA				*i* S	**Sn**	**18 40 59.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.92**	**335**	*e*PG	**Pg**	**18 40 47.2**	**-1.2**
AGRB				*e*SG	**Sb**	**18 41 00.7**	**+0.7**
AGRB	**Hanur-Agry**	**0.92**	**335**	*e*Pg	**Pg**	**18 40 47.2**	**-1.2**
AGRB				*e*Sg	**Sb**	**18 41 00.7**	**+0.7**
HAKT	**HAKKARI**	**1.20**	**171**	*i* P	**Pb**	**18 40 51.2**	**-1.6**
HAKT				*i* S	**Sn**	**18 41 09.3**	**+0.7**
HAKT	**HAKKARI**	**1.20**	**171**	P	**Pb**	**18 40 51.2**	**-1.6**
HAKT				S	**Sn**	**18 41 09.3**	**+0.7**
EKAR	**Karacoban**	**1.22**	**295**	*i* P	**Pb**	**18 40 53.0**	**-0.3**
EKAR				*i* S	**Sn**	**18 41 13.8**	**+4.6**
EKAR	**Karacoban**	**1.22**	**295**	P	**Pb**	**18 40 53.0**	**-0.3**
EKAR				S	**Sn**	**18 41 13.8**	**+4.6**
CUKT	**Cukurca**	**1.50**	**176**	*e*PN	**Pg**	**18 40 58.4**	**-1.0**
CUKT	**Cukurca**	**1.50**	**176**	*i* P	**Pg**	**18 40 59.3**	**-0.1**
CUKT				*i* S	**Sg**	**18 41 23.0**	**+4.1**
CUKT	**Cukurca**	**1.50**	**176**	*e*Pn	**Pg**	**18 40 58.4**	**-1.0**
CUKT	**Cukurca**	**1.50**	**176**	P	**Pg**	**18 40 59.3**	**-0.1**
VRTB	**Varto-Mus**	**1.64**	**285**	*e*PN	**Pn**	**18 40 59.0**	**+0.3**
VRTB	**Varto-Mus**	**1.64**	**285**	*e*Pn	**Pn**	**18 40 59.0**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.89**	**253**	*e*PN	**Pn**	**18 41 02.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.89**	**253**	*e*Pn	**Pn**	**18 41 02.6**	**+0.6**
BTMN	**Batman**	**1.94**	**245**	*i* P	**Pb**	**18 41 04.2**	**-1.2**
BTMN				*i* S	**Sg**	**18 41 30.7**	**-2.3**
BTMN	**Batman**	**1.94**	**245**	P	**Pb**	**18 41 04.2**	**-1.2**
BTMN				S	**Sg**	**18 41 30.7**	**-2.3**
SENK	**Senkaya-Erzuru**	**2.02**	**335**	*e*PN	**Pb**	**18 41 05.8**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.02**	**335**	*e*Pn	**Pb**	**18 41 05.8**	**-1.1**
BNGB	**Bing¶‖**	**2.20**	**277**	*e*PN	**Pn**	**18 41 07.0**	**+0.6**
BINT	**Bingol**	**2.34**	**274**	*e*Pn	**Pn**	**18 41 07.0**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*PN	**Pn**	**18 41 10.0**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*Pn	**Pn**	**18 41 10.0**	**+1.0**
MAZI	**Mazidag**	**2.72**	**243**	*e*PN	**Pn**	**18 41 13.5**	**0.0**
MAZI	**Mazidag**	**2.72**	**243**	*e*Pn	**Pn**	**18 41 13.5**	**0.0**

IDC ***24*** *18:41:41.4±1.0, 2°.68S×75°.45W, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.9/44, mbtmp4.0/8, ML3.9/4, MS3.0/6, Ms1 3.0/6, ms1mx2.7/40, Error ellipse: s-maj=34.7km s-min=21.2km az=79.0*
ISCJB ***24*** *18:41:45.4±0.4, 2°.90S±0°.04×75°.52W±0°.07, h35km, mb4.0/4, MS3.6/1, Error ellipse: s-maj=9.4km s-min=5.7km az=3.0*
NEIC ***24*** *18:41:48.7±0.9, 2°.83S×75°.56W, h57km±10km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=8.3km az=75.0*
ISC 24 18:41:47.1±0.7, 2°.91S±0°.06×75°.57W±0°.09, h35km, n31, σ1§63/26, mb3.9/4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**4.25**	**317**	*e*P	**Pn**	**18 42 50.8**	**+1.0**
OTAV	**Otavalo**	**4.25**	**317**	*e*Pn	**Pn**	**18 42 51.2**	**+1.4**
CMBC	**Cumbal**	**4.44**	**329**	*e*S	Sn	18 43 59.7	+17
FLOC	**Florencia**	**4.46**	**359**	*e*P	**Pn**	**18 42 52.7**	**+0.4**
FLOC				*i*		18 44 18.4	
	comp=Z,446nm,0.4s						
CRUC	**La Cruz**	**4.66**	**343**	*e*P	**Pn**	**18 42 56.7**	**+1.4**
CRUC				*i*		18 44 29.8	
	comp=Z,72nm,0.7s						
ATAH	**Atahualpa**	**5.05**	**214**	Pn	**Pn**	**18 43 03.1**	**+2.3**
	comp=Z,4.3nm,0.3s,baz=61,slow=5.2,SNR=17						
ATAH				Sn	**Sn**	**18 43 58.8**	**+0.6**
	comp=Z,8.0nm,0.3s,baz=17,slow=18,SNR=9.3						
ATAH				LR	LR	18 44 59.2	
	comp=Z,44nm,21.5s,baz=57,slow=37						
PRAC	**Prado**	**6.61**	**6**	*e*Pn	**Pn**	**18 43 22.5**	**+0.5**
ROSC	**El Rosal**	**7.80**	**9**	Lg	Lg	18 45 44.0	
	comp=Z,4.3nm,0.3s,baz=225,slow=20,SNR=2.8						
RUSC	**La Rusia**	**9.09**	**16**	*e*Pn	**Pn**	**18 43 58.5**	**+2.2**
NNA	**Nana**	**9.11**	**188**	Pn	**Pn**	**18 43 57.0**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=2.6,slow=12,SNR=4.0						
NNA				Sn	**Sn**	**18 45 33.6**	**-4.0**
	comp=Z,2.0nm,0.3s,baz=311,slow=20,SNR=2.5						
NNA				LR	LR	18 48 16.7	
	comp=Z,77nm,21.4s,baz=318,slow=42						
SDV	**Santo Domingo**	**12.71**	**23**	*e*Pn	**Pn**	**18 44 44.0**	**-1.6**
SAML	**Samuel**	**13.70**	**117**	*e*Pn	**Pn**	**18 44 58.5**	**-0.5**
LPAZ	**La Paz**	**15.18**	**152**	Pn	**Pn**	**18 45 19.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=348,slow=10.0,SNR=6.1						
LPAZ				Lg	Lg	18 49 43.9	
	comp=Z,0.1nm,0.3s,baz=12,slow=14,SNR=3.0						
LPAZ				LR	LR	18 52 39.9	
	comp=Z,64nm,18.7s,baz=308,slow=43						
PTGA	**Pitinga**	**15.74**	**82**	Pn	**Pn**	**18 45 27.7**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=2.2						
PTGA				Sn	Sn	18 48 08.8	-11
	comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=2.8						
PTGA				Lg	Lg	18 49 55.0	
	comp=Z,0.7nm,0.3s,baz=329,slow=19,SNR=2.2						
PTGA				LR	LR	18 51 43.5	
	comp=Z,88nm,20.2s,baz=264,slow=39						
PTGA	**Pitinga**	**15.74**	**82**	*e*Pn	**Pn**	**18 45 27.9**	**+1.5**
	comp=Z,6.7nm,0.5s						
PTGA				Sn	Sn	18 48 08.8	-11
PTGA				Lg	Lg	18 49 55.0	
MNMC	**Minye Minye**	**17.15**	**161**	*e*Pn	**Pn**	**18 45 47.3**	**+2.8**
	comp=Z,14nm,0.7s						
PB11	**IPOC Station P**	**17.72**	**161**	*e*Pn	**Pn**	**18 45 52.8**	**+1.5**
	comp=Z,18nm,0.7s						
SIV	**San Ignacio**	**19.30**	**133**	P	**P**	**18 46 10.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=3.2						
SIV				Lg	Lg	18 51 52.9	
	comp=Z,0.2nm,0.3s,baz=258,slow=19,SNR=3.3						
SIV				LR	LR	18 53 06.2	
	comp=Z,34nm,21.2s,baz=41,slow=35						
LVC	**Limon Verde**	**20.62**	**162**	P	**P**	**18 46 23.6**	**-0.3**
	comp=Z,19nm,0.6s,baz=326,slow=3.3,SNR=4.7						
LMCR	**Lookout Mounta**	**56.98**	**320**	*e*P	P	18 51 25.9	-3.8
NEW	**Newport**	**62.49**	**330**	LR	LR	19 20 47.4	
	comp=Z,41nm,20.0s,baz=136,slow=38						
YKA	**Yellowknife Ar**	**71.61**	**342**	P	**P**	**18 53 03.2**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=140,slow=6.3,SNR=3.6						
YKB5	**Yellowknife Ar**	**71.61**	**342**	*e*P	**P**	**18 53 03.2**	**-1.5**
TOA1	**Torodi Ar. Sit**	**78.28**	**76**	*e*P	**P**	**18 53 42.8**	**-1.4**
	comp=Z,15nm,1.7s						
TORD	**Torodi Ar. Bea**	**78.28**	**76**	P	**P**	**18 53 42.8**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=278,slow=5.5,SNR=16						
ILAR	**Eielson Array**	**84.75**	**336**	P	**P**	**18 54 16.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=99,slow=3.9,SNR=4.1						
MK32	**Makanchi Array**	**132.24**	**20**	*e*PKPdf	**PKPdf**	**19 00 57.2**	**-0.4**
MKAR	**Makanchi Array**	**132.24**	**20**	PKP	**PKPdf**	**19 00 57.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=337,slow=2.7,SNR=4.1						
ASAR	**Alice Springs**	**141.00**	**226**	PKhKP	PKPpre	19 01 06.3	
	comp=Z,0.3nm,0.8s,baz=122,slow=3.9,SNR=4.1						
WR1	**Warramunga Arr**	**142.88**	**231**	*e*PKPpre	PKPpre	19 01 13.1	
WRA	**Warramunga Arr**	**142.88**	**231**	PKhKP	PKPpre	19 01 13.1	
	comp=Z,0.6nm,0.8s,baz=119,slow=3.0,SNR=4.8						

ISCJB ***24*** *18:45:44.4±0.4, 44°.55N±0°.03×9°.42E±0°.03, h20km±4km, Error ellipse: s-maj=5.9km s-min=3.6km az=8.0*
CSEM ***24*** *18:45:44.4±0.1, 44°.54N×9°.41E, h15km, ML2.4/9, Error ellipse: s-maj=3.6km s-min=1.9km az=13.0*
GEN ***24*** *18:45:44.7, 44°.57N×9°.42E, h4km, ML2.1*
LDG ***24*** *18:45:44.9±0.1, 44°.55N×9°.47E, h10km, Md2.7/1, Ml2.4/6, Error ellipse: s-maj=2.0km s-min=1.5km az=53.0*
ROM ***24*** *18:45:44.2±0.1, 44°.55N×9°.46E, h11km, Ml2.5/4, Error ellipse: s-maj=7.3km s-min=1.1km az=84.0*
ISC 24 18:45:44.2±0.8, 44°.52N±0°.03×9°.39E±0°.02, h14km±6km, n44, σ0§74/75, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.16**	**139**	Pg	**Pb**	**18 45 48.4**	**-0.5**
SC2M				Sg	**Sg**	**18 45 51.4**	**+0.5**
	2μm,0.3s						
SC2M	**Scurtabo**	**0.16**	**139**	Pg	**Pb**	**18 45 48.4**	**-0.5**
SC2M				Sg	**Sg**	**18 45 51.4**	**+0.5**
	2μm,0.3s						
MSSA	**Maissana**	**0.23**	**156**	Pg	**Pb**	**18 45 49.7**	**-0.4**
MSSA				Sg	**Sg**	**18 45 53.8**	**+1.1**
	415nm,0.

VANB				eSG	Sb	18 52 26.7	+2.7
VANB	**Van**	**0.12**	**135**	*i* Pg	Pb	18 52 22.2	+0.5
VANB				eSg	Sb	18 52 26.7	+2.7
GEVA	**Gevas**	**0.41**	**205**	⇓*i*P	Pb	18 52 24.4	-2.3
GEVA				*i* S	Sb	18 52 31.6	-1.0
GEVA	**Gevas**	**0.41**	**205**	*i* P	Pb	18 52 24.5	-2.3
GEVA				S	Sb	18 52 31.6	-1.0
GEVA	**Gevas**	**0.41**	**205**	*i* P	Pb	18 52 24.4	-2.3
GEVA				*i* S	Sb	18 52 31.2	-1.5
TUTA	**Tutak**	**0.80**	**334**	*i* P	Pb	18 52 30.9	-2.7
TUTA				*i* S	Sb	18 52 41.4	-2.7
TUTA	**Tutak**	**0.80**	**334**	P	Pb	18 52 30.9	-2.7
TUTA				S	Sb	18 52 41.4	-2.7
TUTA	**Tutak**	**0.80**	**334**	*i* P	Pb	18 52 30.9	-2.7
BASK	**Baskale_VAN**	**0.85**	**138**	⇓*i*P	Pb	18 52 33.5	-0.8
BASK				*i* S	Sb	18 52 45.7	+0.3
BASK	**Baskale_VAN**	**0.85**	**138**	P	Pb	18 52 33.5	-0.8
BASK				S	Sb	18 52 45.7	+0.3
DYDN	**Diyadin**	**0.92**	**20**	⇓*i*P	Pb	18 52 33.5	-2.0
DYDN	**Diyadin**	**0.92**	**20**	*i* P	Pb	18 52 33.6	-1.9
DYDN	**Diyadin**	**0.92**	**20**	*i* P	Pb	18 52 33.6	-1.9
AGRB	**Hanur-Agry**	**0.92**	**346**	PG	Pb	18 52 33.2	-2.2
AGRB				eSG	Sb	18 52 45.9	-1.5
EKAR	**Karacoban**	**1.10**	**302**	⇓*i*P	Pb	18 52 36.8	-1.9
EKAR				*i* S	Sn	18 52 54.5	+1.0
EKAR	**Karacoban**	**1.10**	**302**	*i* P	Pb	18 52 37.1	-1.6
EKAR				S	Sn	18 52 54.5	+1.0
EKAR	**Karacoban**	**1.10**	**302**	*i* P	Pb	18 52 37.1	-1.6
HAKT	**HAKKARI**	**1.17**	**163**	*i* P	Pn	18 52 38.1	-1.6
HAKT				*i* S	Sn	18 52 58.4	+3.2
HAKT	**HAKKARI**	**1.17**	**163**	P	Pn	18 52 38.1	-1.6
EATA	**Eleskirt**	**1.32**	**333**	⇓*i*P	Pn	18 52 40.4	-1.4
EATA				*i* S	Sn	18 52 58.9	-0.1
EATA	**Eleskirt**	**1.32**	**333**	P	Pn	18 52 40.4	-1.4
EATA				S	Sn	18 52 58.9	-0.1
SIRN	**S¨–rnak**	**1.37**	**210**	*i* P	Pn	18 52 41.4	-0.8
SIRN				*i* S	Sb	18 53 02.7	+2.6
SIRN	**S¨–rnak**	**1.37**	**210**	P	Pn	18 52 41.4	-0.8
SIRN				S	Sb	18 53 02.7	+2.6
CUKT	**Cukurca**	**1.46**	**170**	*e*PN	Pb	18 52 45.5	+0.9
CUKT	**Cukurca**	**1.46**	**170**	*i* P	Pb	18 52 45.5	+0.9
CUKT	**Cukurca**	**1.46**	**170**	P	Pb	18 52 45.5	+0.9
VRTB	**Varto-Mus**	**1.50**	**289**	*e*PN	Pn	18 52 43.6	-0.4
VRTB				eSN	Sb	18 53 04.8	+0.8
VRTB	**Varto-Mus**	**1.50**	**289**	⇑*i*P	Pn	18 52 42.6	-1.4
VRTB				*i* S	Sb	18 53 03.7	-0.3
VRTB	**Varto-Mus**	**1.50**	**289**	P	Pn	18 52 42.6	-1.4
VRTB	**Varto-Mus**	**1.50**	**289**	*e*Pn	Pn	18 52 43.6	-0.4
VRTB				S	Sb	18 53 03.7	-0.3
VRTB				eSn	Sb	18 53 04.8	+0.8
BNGL	**BINGOL**	**1.68**	**280**	*i* P	Pn	18 52 46.1	-0.5
BNGL				*i* S	Sb	18 53 08.7	-0.7
SVAN	**Silvan-Diyarba**	**1.72**	**253**	*e*PN	Pn	18 52 47.7	+0.8
SVAN				eSN	Sb	18 53 10.6	+0.5
SVAN	**Silvan-Diyarba**	**1.72**	**253**	*i* P	Pn	18 52 46.4	-0.5
SVAN				*i* S	Sn	18 53 08.4	+0.1
SVAN	**Silvan-Diyarba**	**1.72**	**253**	P	Pn	18 52 46.4	-0.5
SVAN	**Silvan-Diyarba**	**1.72**	**253**	*e*Pn	Pn	18 52 47.7	+0.8
SVAN				S	Sn	18 53 08.4	+0.1
SVAN				eSn	Sb	18 53 10.6	+0.5
HOMI	**Horasan**	**1.73**	**322**	*i* P	Pn	18 52 47.5	+0.3
HOMI				*i* S	Sb	18 53 13.0	+2.4
DIGO	**Kars**	**1.73**	**2**	*i* P	Pn	18 52 48.1	+0.8
DIGO				*i* S	Sb	18 53 11.0	+0.2
DIGO	**Kars**	**1.73**	**2**	P	Pn	18 52 48.1	+0.8
DIGO				S	Sb	18 53 11.0	+0.2
BTMN	**Batman**	**1.77**	**244**	⇑*i*P	Pn	18 52 47.6	0.0
BTMN				*i* S	Sb	18 53 11.6	0.0
BTMN	**Batman**	**1.77**	**244**	P	Pn	18 52 47.6	0.0
BTMN				S	Sb	18 53 11.6	0.0
NAX	**Nakhchivan**	**1.80**	**74**	⇑P	Pn	18 52 44.9	-3.2
	SNR=15						
NAX				⇓S	Sn	18 53 00.2	-10
NAX	**Nakhchivan**	**1.80**	**74**	P	Pn	18 52 44.9	-3.2
	SNR=15						
GNI	**Garni**	**1.85**	**37**	Pn	Pb	18 52 50.8	-0.6
	72nm,0.3s,baz=272,slow=4.3,SNR=85						
GNI	**Garni**	**1.85**	**37**	*e*P	Pb	18 52 50.2	-1.2
GNI	**Garni**	**1.85**	**37**	*e*P	Pb	18 52 50.2	-1.2
GNI	**Garni**	**1.85**	**37**	*e*Pn	Pb	18 52 50.2	-1.2
ERZM	**Erzurum**	**1.92**	**310**	⇑*i*P	Pn	18 52 50.7	+0.8
ERZM				*i* S	Sn	18 53 14.9	+1.3
ERZM	**Erzurum**	**1.92**	**310**	P	Pn	18 52 50.7	+0.8
ERZM				S	Sn	18 53 14.9	+1.3
SENK	**Senkaya-Erzuru**	**2.01**	**339**	*e*PN	Pn	18 52 51.6	+0.5
SENK	**Senkaya-Erzuru**	**2.01**	**339**	*e*Pn	Pn	18 52 51.6	+0.5
ECAT	**Cat-ERZURUM**	**2.01**	**298**	*i* P	Pn	18 52 51.2	0.0
ECAT	**Cat-ERZURUM**	**2.01**	**298**	P	Pn	18 52 51.2	0.0
EAK	**Akyaka**	**2.02**	**7**	*i* P	Pb	18 52 52.9	-1.3
EAK	**Akyaka**	**2.02**	**7**	P	Pb	18 52 52.9	-1.3
BNGB	**Bing¨¶l**	**2.05**	**279**	*e*PN	Pn	18 52 51.0	-0.6
BINT	**Bingol**	**2.19**	**276**	P	Pn	18 52 52.7	-0.8
BINT				S	Sn	18 53 18.7	-1.3
BINT	**Bingol**	**2.19**	**276**	P	Pn	18 52 52.7	-0.8
BINT				S	Sn	18 53 18.7	-1.3
YEDI	**Yedisu-Bingol**	**2.26**	**290**	*e*PN	Pn	18 52 55.0	+0.6
YEDI	**Yedisu-Bingol**	**2.26**	**290**	*e*Pn	Pn	18 52 55.0	+0.6
MARD	**Mardin**	**2.40**	**236**	*i* P	Pn	18 52 56.0	-0.4
MARD	**Mardin**	**2.40**	**236**	*e*Pn	Pn	18 52 56.2	-0.2
MARD	**Mardin**	**2.40**	**236**	*e*Pn	Pn	18 52 56.2	-0.2
DDEM	**Demirkent**	**2.50**	**332**	*i* P	Pn	18 52 58.5	+0.8
DDEM	**Demirkent**	**2.50**	**332**	P	Pn	18 52 58.5	+0.8
KOPT	**Kop Dagi**	**2.53**	**303**	*i* P	Pb	18 53 02.2	-0.9
KOPT	**Kop Dagi**	**2.53**	**303**	*e*Pn	Pn	18 52 59.1	+0.7
KOPT	**Kop Dagi**	**2.53**	**303**	P	Pb	18 53 02.2	-0.9
KOPT	**Kop Dagi**	**2.53**	**303**	*e*Pn	Pn	18 52 59.1	+0.7
MAZI	**Mazidag**	**2.54**	**242**	*e*PN	Pn	18 52 57.8	-0.6
MAZI	**Mazidag**	**2.54**	**242**	*e*Pn	Pn	18 52 57.8	-0.6
DIYA	**Diyarbakir**	**2.59**	**254**	*i* P	Pn	18 52 59.1	0.0
DIYA	**Diyarbakir**	**2.59**	**254**	P	Pn	18 52 59.1	0.0
DAGI	**Agillar**	**2.61**	**337**	*i* P	Pn	18 53 00.5	+1.2
ARTV	**Artvin**	**2.71**	**338**	*i* P	Pn	18 53 01.6	+0.9
ARTV	**Artvin**	**2.71**	**338**	P	Pn	18 53 01.6	+0.9
ARTV	**Artvin**	**2.71**	**338**	*e*Pn	Pn	18 53 01.9	+1.2
ARTV	**Artvin**	**2.71**	**338**	*e*Pn	Pn	18 53 01.9	+1.2
AKH	**Akhalkalaki**	**2.73**	**3**	*e*PN	Pn	18 53 01.7	+0.7
AKH	**Akhalkalaki**	**2.73**	**3**	*e*Pn	Pn	18 53 01.7	+0.7
GDB	**GEDABAY**	**2.79**	**42**	⇑P	Pb	18 53 06.2	-1.2
	SNR=5.6						
GDB				⇑S	Sn	18 53 37.4	+2.4
GDB	**GEDABAY**	**2.79**	**42**	P	Pb	18 53 06.2	-1.2
	SNR=5.6						
GDB				S	Sn	18 53 37.4	+2.4
QZX	**Qazax, Azerbai**	**2.87**	**34**	⇑P	Pb	18 53 09.7	+1.1
	SNR=66						
QZX				⇓S	Sb	18 53 44.5	+1.2
ERZN	**Erzincan**	**2.91**	**289**	*e*PN	Pn	18 53 03.4	0.0
DBOC	**Borcka**	**2.93**	**336**	*i* P	Pn	18 53 04.0	+0.4
DBOC	**Borcka**	**2.93**	**336**	P	Pn	18 53 04.0	+0.4
TNCL	**Tunceli-Merkez**	**2.94**	**280**	*i* P	Pn	18 53 03.4	-0.5
TNCL	**Tunceli-Merkez**	**2.94**	**280**	P	Pn	18 53 03.4	-0.5
EUZM	**Uzumlu**	**2.96**	**291**	*i* P	Pn	18 53 04.1	0.0
EUZM	**Uzumlu**	**2.96**	**291**	P	Pn	18 53 04.1	0.0
PTK	**Pertek**	**3.04**	**275**	*e*PN	Pn	18 53 06.3	+1.0
PTK	**Pertek**	**3.04**	**275**	*e*Pn	Pn	18 53 06.3	+1.0
GANJ	**Ganja**	**3.06**	**49**	⇑P	Pn	18 53 07.9	+2.5
	SNR=28						
GANJ				⇑S	Sn	18 53 39.6	-1.9
GANJ	**Ganja**	**3.06**	**49**	P	Pn	18 53 07.9	+2.5
	SNR=28						
GANJ				S	Sn	18 53 39.6	-1.9
SVRC	**Sivrice-ELAZID**	**3.13**	**266**	*e*PN	Pn	18 53 07.6	+1.2
SVRC	**Sivrice-ELAZID**	**3.13**	**266**	*e*Pn	Pn	18 53 07.6	+1.2
DGRG	**David-gareji**	**3.20**	**30**	P	Pn	18 53 10.2	+2.9
TBLG	**Delisi**	**3.24**	**20**	*e*PN	Pn	18 53 09.9	+2.0
TBLG	**Delisi**	**3.24**	**20**	*e*Pn	Pn	18 53 09.9	+2.0
BRDA	**Brd**	**3.41**	**61**	⇓P	Pn	18 53 08.0	-2.1
	SNR=10						
BRDA				⇑S	Sn	18 53 43.0	-6.9
BRDA	**Brd**	**3.41**	**61**	P	Pn	18 53 08.0	-2.1
	SNR=10						
KELT	**Kelkit**	**3.44**	**296**	*i* P	Pn	18 53 10.9	+0.1
KELT	**Kelkit**	**3.44**	**296**	P	Pn	18 53 10.9	+0.1
KTUT	**Trabzon**	**3.55**	**312**	*e*PN	Pn	18 53 13.2	+1.1
KTUT	**Trabzon**	**3.55**	**312**	*e*Pn	Pn	18 53 13.2	+1.1
MNGR	**Mingechevir, A**	**3.60**	**53**	⇓P	Pn	18 53 13.3	+0.5
	SNR=14						
MNGR				⇓S	Sn	18 53 50.7	-4.0
MNGR	**Mingechevir, A**	**3.60**	**53**	P	Pn	18 53 13.3	+0.5
	SNR=14						
MNGR				S	Sn	18 53 50.7	-4.0
URFA	**Urfa**	**3.73**	**252**	*e*PN	Pn	18 53 16.0	+1.4
URFA	**Urfa**	**3.73**	**252**	*e*Pn	Pn	18 53 16.0	+1.4
ZRD	**Zardab**	**3.77**	**64**	⇑P	Pn	18 53 13.3	-1.7
	SNR=11						
ZRD				⇓S	Sn	18 53 49.5	-9.2
ZRD	**Zardab**	**3.77**	**64**	P	Pn	18 53 13.3	-1.7
	SNR=11						
ZKTA	**Zakatala**	**3.91**	**40**	⇑P	Pn	18 53 21.6	+4.6
	SNR=14						
ZKTA				⇓S	Sn	18 54 02.5	+0.1
SEKA	**Sheki**	**3.93**	**49**	⇑P	Pn	18 53 19.6	+2.2
	SNR=12						
SEKA	**Sheki**	**3.93**	**49**	P	Pn	18 53 19.6	+2.2
	SNR=12						
LRK	**Lerik**	**3.96**	**89**	⇓P	Pn	18 53 09.9	-8.1
	SNR=6.3						
LRK				⇓S	Sn	18 53 45.2	-19
GLBA	**Clilabad**	**4.03**	**80**	⇑P	Pn	18 53 12.2	-6.5
	SNR=7.1						
GLBA				⇓S	Sn	18 53 48.8	-16
ZEI	**Tsey**	**4.13**	**6**	*e*P	Pn	18 53 21.8	+1.6
ZEI				pmax	pmax		
	comp=Z,20nm,0.8s						
ESPY	**Espiye-Giresun**	**4.15**	**304**	*e*PN	Pn	18 53 21.9	+1.5
ESPY	**Espiye-Giresun**	**4.15**	**304**	*e*Pn	Pn	18 53 21.9	+1.5
KDMR	**Kurdemir**	**4.16**	**64**	⇓P	Pn	18 53 17.4	-3.0
	SNR=3.3						
KDMR	**Kurdemir**	**4.16**	**64**	P	Pn	18 53 17.4	-3.0
	SNR=3.3						
SAAT	**Saatly**	**4.16**	**72**	⇑P	Pn	18 53 15.6	-4.9
	SNR=3.9						
SAAT	**Saatly**	**4.16**	**72**	P	Pn	18 53 15.6	-4.9
	SNR=3.9						
QBL	**Gabala**	**4.18**	**56**	⇓P	Pn	18 53 20.4	-0.3
	SNR=11						
QBL	**Gabala**	**4.18**	**56**	P	Pn	18 53 20.4	-0.3
	SNR=11						
ASTR	**Astara**	**4.32**	**90**	⇓P	Pn	18 53 15.2	-7.5
	SNR=3.6						
IML	**Ismayilli**	**4.33**	**59**	⇑P	Pn	18 53 21.6	-1.3
	SNR=6.3						
IML	**Ismayilli**	**4.33**	**59**	P	Pn	18 53 21.6	-1.3
	SNR=6.3						
XNQ	**Khinaliq**	**4.49**	**55**	⇓P	Pn	18 53 25.0	-0.2
	SNR=14						
XNQ	**Khinaliq**	**4.49**	**55**	P	Pn	18 53 25.0	-0.2
	SNR=14						
DARE	**Darende-Malaty**	**4.54**	**270**	*e*PN	Pn	18 53 27.5	+1.8
DARE	**Darende-Malaty**	**4.54**	**270**	*e*Pn	Pn	18 53 27.5	+1.8
NEY	**Neytrino**	**4.58**	**355**	*ce*P	Pb	18 53 32.9	-5.0
PQL	**Pirkuli**	**4.61**	**61**	⇑P	Pn	18 53 24.9	-1.8
	SNR=2.9						
PQL	**Pirkuli**	**4.61**	**61**	P	Pn	18 53 24.9	-1.8
	SNR=2.9						
GBS	**Qobustan**	**4.75**	**65**	⇓P	Pn	18 53 25.1	-3.5
	SNR=8.8						
GBS	**Qobustan**	**4.75**	**65**	P	Pn	18 53 25.1	-3.5
	SNR=8.8						
QSAR	**Qusar**	**4.76**	**52**	⇑P	Pn	18 53 29.2	+0.5
	SNR=4.9						
QSAR	**Qusar**	**4.76**	**52**	P	Pn	18 53 29.2	+0.5
	SNR=4.9						
QUBA	**Quba, Azerbaij**	**4.81**	**55**	⇑P	Pn	18 53 29.0	-0.5
	SNR=4.9						
QUBA	**Quba, Azerbaij**	**4.81**	**55**	P	Pn	18 53 29.0	-0.5
	SNR=4.9						
NCK	**Nalchik**	**4.81**	**3**	*i* P	Pb	18 53 36.5	-5.3
GROC	**Groznyy**	**4.90**	**22**	P	Pb	18 53 41.1	-2.1
GROC				pmax	pmax		
	comp=Z,24nm,1.0s						
RSDY	**Resadiye-TOKAT**	**4.91**	**292**	*e*PN	Pn	18 53 32.0	+1.2
RSDY	**Resadiye-TOKAT**	**4.91**	**292**	*e*Pn	Pn	18 53 32.0	+1.2
SIZA	**Siyzn**	**4.94**	**59**	⇑P	Pn	18 53 29.1	-2.2
	SNR=3.8						
SIZA	**Siyzn**	**4.94**	**59**	P	Pn	18 53 29.1	-2.2
	SNR=3.8						
SVSK	**Karacayir**	**5.02**	**286**	*e*PN	Pn	18 53 34.0	+1.7
SVSK	**Karacayir**	**5.02**	**286**	*e*Pn	Pn	18 53 34.0	+1.7
KBZ	**Khabaz**	**5.05**	**357**	Pn	Pn	18 53 36.4	+3.8
	comp=Z,0.1nm,0.3s,baz=197,slow=18,SNR=4.9						
KBZ				LR	LR	18 55 22.5	
	comp=Z,49nm,21.9s,baz=92,slow=36						
KMRS	**Kahramanmaras**	**5.17**	**259**	*e*PN	Pn	18 53 36.9	+2.5
KIV	**Kislovodsk**	**5.29**	**355**	*e*P	Pn	18 53 42.5	+6.5
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KVAR	**Kislovodsk Arr**	**5.29**	**355**	Pn	Pn	18 53 40.2	+4.2
	baz=184,slow=8.2,SNR=2.0						
MAK	**Makhachkala**	**5.34**	**36**	*e*P	Pn	18 53 35.7	-1.0
MAK				*e*S	Sn	18 54 39.6	+2.0
MAK				pmax	pmax		
	comp=Z,11nm,0.4s						
MAK				MLR	MLR		
	comp=Z,405nm,12.0s						
MAK	**Makhachkala**	**5.34**	**36**	*e*P	Pn	18 53 35.7	-1.0
	comp=Z,11nm,0.4s						
MAK				*e*S	Sn	18 54 39.6	+2.0
	comp=Z,405nm,12.0s						
SARI	**SarD1z-Kayseri**	**5.38**	**269**	*e*PN	Pn	18 53 39.4	+1.9
SOC	**Sochi**	**5.58**	**332**	*e*P	Pb	18 53 53.8	-1.1
SOC				*e*		18 54 52.2	
SOC				pmax	pmax		
	comp=Z,28nm,0.7s						
KOZT	**Kozan**	**6.00**	**261**	*e*PN	Pn	18 53 48.7	+2.9
BR101	**Keskin Array S**	**7.55**	**281**	*e*Pn	Pn	18 54 07.8	+0.5
BR101	**Keskin Array S**	**7.55**	**281**	*e*Pn	Pn	18 54 07.8	+0.5
BRTR	**Keskin Array B**	**7.56**	**281**	Pn	Pn	18 54 07.8	+0.5
	comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=5.7						
ASF	**Jabal al Asfar**	**8.32**	**221**	Pn	Pn	18 54 16.0	-1.7
	comp=Z,0.2nm,0.3s,baz=11,slow=1.6,SNR=2.2						
ASF				Lg	Lg	18 56 30.0	
	comp=Z,0.5nm,0.3s,baz=24,slow=19,SNR=3.4						
MMAI	**Mount Meron Ar**	**8.53**	**231**	Pn	Pn	18 54 22.0	+1.4
	comp=Z,1.2nm,0.3s,baz=65,slow=14,SNR=6.0						
MMAI				LR	LR	18 57 55.6	
	comp=Z,100nm,20.1s,baz=55,slow=41						
MMAI	**Mount Meron Ar**	**8.53**	**231**	Pn	Pn	18 54 22.0	+1.4
IDI	**Anoyia**	**15.08**	**263**	Pn	Pn	18 55 48.3	-1.8
	comp=Z,0.2nm,0.3s,baz=100,slow=17,SNR=2.7						
DOPR	**Dopca**	**15.08**	**305**	⇓*i*P	P	18 55 57.6	+2.5
DOPR	**Dopca**	**15.08**	**305**	⇓*i*P	P	18 55 57.6	+2.5
VOIR		**15.11**	**302**	⇓*i*P	P	18 55 58.4	+2.9
VOIR		**15.11**	**302**	⇓P	P	18 55 58.4	+2.9
VOIR		**15.11**	**302**	P	P	18 55 58.4	+2.9
RAYN	**Ar Rayn**	**15.23**	**172**	*e*Pn	Pn	18 55 49.3	-2.8
	comp=Z,5.8nm,1.0s						
RAYN	**Ar Rayn**	**15.23**	**172**	*e*Pn	Pn	18 55 49.3	-2.8
	comp=Z,5.8nm,1.0s						
AKASG	**Malin Array Be**	**15.59**	**325**	Pn	Pn	18 55 55.6	-1.0
	comp=Z,0.7nm,0.3s,baz=130,slow=11,SNR=4.1						
AKBB	**Malin Array Si**	**15.59**	**325**	*e*P	Pn	18 55 56.8	+0.2
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AKBB	**Malin Array Si**	**15.59**	**325**	*e*Pn	Pn	18 55 56.8	+0.2
	comp=Z,8.2nm,1.0s						
AKBB	**Malin Array Si**	**15.59**	**325**	*e*Pn	Pn	18 55 56.8	+0.2
	comp=Z,8.2nm,1.0s						
KIEV	**Kiev**	**15.60**	**325**	*ce*P	P	18 56 06.1	+5.4
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KIEV	**Kiev**	**15.60**	**325**	*e*Pn	Pn	18 55 57.8	+1.2
	comp=Z,7.0nm,0.9s						
KIEV	**Kiev**	**15.60**	**325**	*e*Pn	Pn	18 55 57.8	+1.2
	comp=Z,7.0nm,0.9s						
AKTO	**Aktyubinsk**	**15.72**	**37**	Pn	Pn	18 55 58.4	+0.1
	comp=Z,0.2nm,0.3s,baz=230,slow=9.7,SNR=5.2						
AKTO				LR	LR	19 03 32.2	
	comp=Z,77nm,18.2s,baz=233,slow=43						
BURAR	**Bucovina Array**	**15.89**	**310**	⇑*i*P	P	18 56 05.8	+1.7
BURAR	**Bucovina Array**	**15.89**	**310**	⇑P	P	18 56 05.9	+1.8
BURAR	**Bucovina Array**	**15.89**	**310**	⇑*i*P	P	18 56 05.8	+1.7
BUR08	**Bucovina Ar. S**	**15.91**	**310**	*e*Pn	Pn	18 56 01.4	+0.5
BUR08	**Bucovina Ar. S**	**15.91**	**310**	*e*Pn	Pn	18 56 01.4	+0.5
ABKAR	**Akbulak array**	**15.95**	**43**	*e*Pn	Pn	18 56 02.7	+1.4
	comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**15.95**	**43**	*e*Pn	Pn	18 56 02.7	+1.4
	comp=Z,12nm,0.8s						
GZR	**Gura Zlata**	**16.62**	**300**	⇓*i*P	P	18 56 11.3	-0.9
GZR	**Gura Zlata**	**16.62**	**300**	⇓*i*P	P	18 56 11.3	-0.9
OBN	**Obninsk**	**17.05**	**347**	*i* P	P	18 56 16.1	-0.7
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
OBN	**Obninsk**	**17.05**	**347**	*i* P	P	18 56 16.1	-0.7
	comp=Z,9.0nm,1.1s						
SIRR	**Siria**	**17.62**	**302**	⇑*i*P	P	18 56 25.1	+1.8
SIRR	**Siria**	**17.62**	**302**	⇑*i*P	P	18 56 25.1	+1.8
VYHS	**Vyhne**	**20.16**	**307**	*e*P	P	18 56 52.0	+0.9
VYHS				pmax	pmax		
	comp=Z,109nm,4.0s						
VYHS	**Vyhne**	**20.16**	**307**	*e*P	P	18 56 52.0	+0.9
	comp=Z,109nm,4.0s						
VYHS	**Vyhne**	**20.16**	**307**	*e*P	P	18 56 52.0	+0.9
WSAR	**Wadi Sarin**	**20.21**	**135**	LR	LR	19 06 43.5	
	comp=Z,44nm,19.3s,baz=326,slow=43						
ARU	**Arti**	**20.45**	**25**	P	P	18 56 54.0	-0.1
	comp=Z,3.5nm,0.5s,baz=243,slow=6.5,SNR=11						
ARU	**Arti**	**20.45**	**25**	⇑*e*P	Pn	18 56 57.8	+1.5
ARU				pmax	pmax		
	comp=Z,11nm,1.4s						
ARU	**Arti**	**20.45**	**25**	*e*P	P	18 56 54.5	+0.4
	comp=Z,13nm,1.3s						
ARU	**Arti**	**20.45**	**25**	*e*P	P	18 56 54.5	+0.4
	comp=Z,13nm,1.3s						
KKAR	**Karatay Array**	**21.02**	**69**	*e*P	P	18 57 02.3	+1.8
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**21.02**	**69**	*e*P	P	18 57 02.2	+1.8
	comp=Z,6.4nm,0.8s						
KKAR	**Karatay Array**	**21.02**	**69**	*e*P	P	18 57 02.2	+1.8
	comp=Z,6.5nm,0.8s						
SVE	**Sverdlovsk**	**21.47**	**27**	*e*P	P	18 57 06.2	+1.1
SVE	**Sverdlovsk**	**21.47**	**27**	*e*P	P	18 57 06.2	+1.1
VRAC	**Vranov**	**21.83**	**308**	P	P	18 57 08.9	-0.2
	comp=Z,3.2nm,0.4s,baz=206,slow=6.4,SNR=3.2						
KLMR	**Klimovskoe**	**22.32**	**355**	*e*P	P	18 57 13.5	-0.7
KLMR				pmax	pmax		
	comp=Z,18nm,1.5s						
KLMR	**Klimovskoe**	**22.32**	**355**	*e*P	P	18 57 13.5	-0.7
	comp=Z,18nm,1.5s						
BRVK	**Borovoye**	**23.48**	**43**	*ce*P	P	18 57 27.6	+1.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**23.48**	**43**	*e*P	P	18 57 27.6	+1.3
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**23.48**	**43**	*e*P	P	18 57 28.5	+2.2
	comp=Z,5.4nm,1.2s						
GERES	**GERESS Array B**	**23.51**	**305**	P	P	18 57 26.9	+0.1
	comp=Z,0.6nm,0.5s,baz=102,slow=9.7,SNR=4.0						
BVAR	**Borovoye Array**	**23.53**	**44**	P	P	18 57 27.3	+0.6
	comp=Z,0.9nm,0.7s,baz=230,slow=9.3,SNR=5.9						
AAK	**Ala-Archa**	**23.94**	**71**	LR	LR	19 08 37.1	
	comp=Z,31nm,18.7s,baz=229,slow=41						
FIA0	**FINESS Array S**	**25.16**	**340**	*e*P	P	18 57 41.5	-0.2
FIA0	**FINESS Array S**	**25.16**	**340**	*e*P	P	18 57 41.5	-0.2
FIA0	**FINESS Array S**	**25.16**	**340**	*e*P	P	18 57 41.5	-0.2
FINES	**FINESS Array B**	**25.16**	**340**	P	P	18 57 41.5	-0.2
	comp=Z,2.1nm,0.7s,baz=140,slow=7.4,SNR=6.3						
KURBB	**Kurchatov Arra**	**27.51**	**53**	P	P	18 58 03.9	+0.9
	comp=Z,1.1nm,0.2s,baz=262,slow=9.0,SNR=7.7						
KURK	**Kurchatov**	**27.58**	**53**	*ce*P	P	18 58 06.5	+2.8
KURK		

6.0nm,0.5s
GOPC GO Pecny, Ondr 1.77 211 *e*PG Pb 19 00 38.0 -0.4
GOPC *e*SG Sb 19 01 00.9 -0.2
GOPC GO Pecny, Ondr 1.77 211 Pg Pb 19 00 38.0 -0.4
GOPC Sg Sb 19 01 00.9 -0.2
PRU Pruhonice 1.79 217 *e*SG Sb 19 01 01.4 -0.3
PRU Pruhonice 1.79 217 Sg Sb 19 01 01.4 -0.3
OKC Ostrava-Krasne 2.03 141 *e*SG Sb 19 01 08.9 +0.4
OKC Ostrava-Krasne 2.03 141 Sg Sb 19 01 08.9 +0.4
KHC Kasperske Hory 2.85 217 *e*SG Sg 19 01 35.1 -1.7
KHC Kasperske Hory 2.85 217 Sg Sg 19 01 35.1 -1.7

*IDC **24** 19:03:13.2±1.1,4°.27S×131°.14E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/36, mbtmp3.8/9, ML4.1/3, Error ellipse: s-maj=56.2km s-min=17.7km az=66.0*
*ISCJB **24** 19:03:14.5±0.5,4°.17S±0°.05×131°.45E±0°.05, h29km, mb3.5/6, Error ellipse: s-maj=8.3km s-min=6.9km az=139.1*
*DJA **24** 19:03:15.5±0.5,4°.5S±5°.×13°.2E±°, h10km, M4.2/6, mB4.8/2, mb4.5/1, MLv4.1/6, Mw(mB)4.1/2*
ISC 24 19:03:16.1±0.7,**4°.23**S±0°.05×**131°.52E**±0°.05,**h29**km,**n29,** σ2°**09**/31,**mb3.6/6,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.49**	**29**	P	**Pn**	**19 03 38.7**	**-2.3**
FAKI	**Fak Fak**	**1.49**	**29**	P	**Pn**	**19 03 38.3**	**-2.7**
BNDI	**Bandanaira**	**1.63**	**260**	P	**Pb**	**19 03 45.7**	**+0.1**
BNDI	**Bandanaira**	**1.63**	**260**	P	**Pb**	**19 03 45.4**	**-0.2**
KMPI	**Kaimana, Papua**	**2.25**	**76**	P	**Pb**	**19 03 54.8**	**-1.4**
MSAI	**Masohi**	**2.73**	**289**	P	**Pn**	**19 03 58.3**	**+0.3**
MSAI	**Masohi**	**2.73**	**289**	P	**Pb**	**19 04 03.1**	**-1.2**
AAI	**Ambon**	**3.36**	**279**	P	**Pn**	**19 04 08.0**	**+1.3**
AAI	**Ambon**	**3.36**	**279**	P	**Pn**	**19 04 07.9**	**+1.3**
SAUI	**Saumlaki**	**3.73**	**183**	P	**Pb**	**19 04 21.3**	**-0.1**
RKPI	**Ransiki, Papua**	**3.79**	**45**	P	**Pn**	**19 04 11.7**	**-0.9**
NLAI	**Namlea**	**4.52**	**282**	P	**Pn**	**19 04 22.5**	**-0.1**
NLAI	**Namlea**	**4.52**	**282**	P	Pn	19 04 27.9	+5.3
LBMI	**Labuha**	**5.37**	**312**	P	**Pn**	**19 04 32.4**	**-2.0**
LBMI	**Labuha**	**5.37**	**312**	P	**Pn**	**19 04 32.2**	**-2.2**
SANI	**Sanana**	**5.93**	**291**	P	**Pn**	**19 04 40.0**	**-2.1**
SANI	**Sanana**	**5.93**	**291**	P	**Pn**	**19 04 40.2**	**-1.9**
SMPI	**Sarmi**	**7.52**	**73**	P	**Pn**	**19 05 06.7**	**+2.8**
KDI	**Kendari**	**8.88**	**271**	P	**Pn**	**19 05 24.1**	**+1.5**
KMSI	**Cibinong**	**8.92**	**302**	P	**Pn**	**19 05 21.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.94**	**202**	Pn	**Pn**	**19 06 42.1**	**-3.3**
	0.6nm,0.3s,baz=28,slow=11,SNR=24						
FITZ				Sn	**Sn**	**19 09 27.0**	**-3.1**
	0.1nm,0.3s,baz=150,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**15.86**	**170**	Pn	**Pn**	**19 06 56.2**	**-1.2**
	0.6nm,0.3s,baz=338,slow=15,SNR=22						
WRA				Sn	**Sn**	**19 09 48.6**	**-3.8**
	0.4nm,0.3s,baz=358,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**19.46**	**173**	P	**P**	**19 07 41.8**	**+1.2**
	1.1nm,0.3s,baz=350,slow=10,SNR=107						
ASAR				S	**S**	**19 11 15.3**	**-3.9**
	0.1nm,0.3s,baz=356,slow=27,SNR=4.0						
CTA	**Charters Tower**	**21.32**	**139**	P	**P**	**19 08 04.1**	**+3.2**
	1.9nm,0.7s,baz=32,slow=9.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**39.23**	**306**	P	**P**	**19 10 42.0**	**-0.2**
	0.2nm,0.4s,baz=137,slow=7.7,SNR=5.2						
SONM	**Songino Array**	**56.34**	**340**	P	**P**	**19 12 56.1**	**+1.5**
	0.1nm,0.3s,baz=141,slow=7.1,SNR=2.2						
MKAR	**Makanchi Array**	**66.78**	**326**	P	**P**	**19 14 04.8**	**-0.3**
	0.4nm,0.7s,baz=96,slow=9.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**70.98**	**327**	P	**P**	**19 14 30.6**	**-0.4**
	1.0nm,0.8s,baz=132,slow=5.8,SNR=6.4						
VNDA	**Vanda**	**75.00**	**173**	P	**P**	**19 14 57.2**	**+2.8**
	1.0nm,0.9s,baz=321,slow=6.0,SNR=4.3						

*NDI **24** 19:07:23.9±0.9,25°.64N×93°.98E, h20km±8km, ML3.1*
ISC 24 19:07:24.9±1.4,**25°.61N**±0°.05×**94°.01E**±0°.06,**h35**km,**n8,** σ0°**79**/13,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.77**	**184**	*e*P	**Pn**	**19 07 39.6**	**+0.2**
IMP				*e*S	**Sn**	**19 07 50.2**	**+0.3**
IMP				AML	AML	19 07 50.7	
	comp=N,61nm,0.3s						
MOKO	**MOKOCHONG**	**0.84**	**33**	*e*P	**Pn**	**19 07 39.7**	**-0.8**
MOKO				*e*S	**Sn**	**19 07 51.4**	**-0.4**
MOKO				AML	AML	19 07 57.2	
	comp=E,408nm,0.2s						
MOKO				AML	AML	19 07 57.4	
	comp=N,436nm,0.3s						
TEZP	**TEZPUR**	**1.48**	**313**	*e*P	**Pn**	**19 07 48.9**	**-0.2**
TEZP				*e*S	**Sn**	**19 08 07.1**	**-0.1**
TEZP				AML	AML	19 08 10.0	
	comp=N,409nm,0.2s						
TEZP				AML	AML	19 08 10.3	
	comp=E,247nm,0.1s						
ITAN	**ITANAGAR**	**1.55**	**351**	*e*P	**Pn**	**19 07 50.7**	**+0.7**
ITAN				*e*S	**Sn**	**19 08 09.7**	**+0.7**
ITAN				AML	AML	19 08 14.0	
	comp=N,452nm,0.1s						
ITAN				AML	AML	19 08 14.1	
	comp=E,422nm,0.3s						
ZIRO	**ZIRO**	**1.92**	**356**	*e*P	**Pn**	**19 07 55.5**	**+0.3**
ZIRO				*e*S	**Sn**	**19 08 18.8**	**+0.5**
ZIRO				AML	AML	19 08 25.8	
	comp=N,296nm,0.4s						
ZIRO				AML	AML	19 08 26.1	
	comp=E,259nm,0.3s						
SHL	**Shillong**	**1.92**	**269**	*ex*	x	19 07 50.4	
SHL				*e*S	**Sn**	**19 08 19.2**	**+0.9**
SHL				AML	AML	19 08 26.1	
	comp=E,194nm,0.1s						
SHL				AML	AML	19 08 26.1	
	comp=N,127nm,0.2s						
TURI	**Tura**	**3.32**	**270**	*ex*	x	19 08 17.6	
TURI				*e*S	**Sn**	**19 08 52.2**	**-0.4**
TURI				AML	AML	19 09 11.7	
	comp=N,95nm,0.3s						
TURI				AML	AML	19 09 12.0	
	comp=E,99nm,0.1s						
DHUB	**DHUBRI**	**3.64**	**277**	*ex*	x	19 08 29.8	
DHUB				*e*S	**Sn**	**19 08 58.8**	**-1.7**

*DDA **24** 19:19:42.4,38°.67N×43°.31E, h7km, Ml3.2*
*ISK **24** 19:19:42.5,38°.72N×43°.36E, h5km, ML3.1*
*ISCJB **24** 19:19:43.5±0.6,38°.72N±0°.03×43°.32E±0°.07, h8km±6km, Error ellipse: s-maj=9.8km s-min=4.9km az=168.2*
*CSEM **24** 19:19:43.1±0.3,38°.71N×43°.33E, h2km, ML3.1, Error ellipse: s-maj=8.2km s-min=4.5km az=72.0*
ISC 24 19:19:43.1±1.0,**38°.72N**±0°.02×**43°.40E**±0°.04,**h19**km±4km, **n49,** σ1°**03**/53,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**182**	*e*PG	**Pg**	**19 19 47.2**	**-0.1**
VANB				*e*SG	**Sg**	**19 19 50.3**	**+0.2**
VANB	**Van**	**0.12**	**182**	*e*Pg	**Pg**	**19 19 47.2**	**-0.1**
VANB				*e*Sg	**Sg**	**19 19 50.3**	**+0.2**
GEVA	**Gevas**	**0.48**	**213**	*i* P	**Pg**	**19 19 51.4**	**-1.7**
GEVA	**Gevas**	**0.48**	**213**	P	**Pg**	**19 19 51.4**	**-1.7**
TUTA	**Tutak**	**0.82**	**327**	*i* P	**Pb**	**19 19 58.0**	**-0.9**
TUTA	**Tutak**	**0.82**	**327**	P	**Pb**	**19 19 58.0**	**-0.9**
BASK	**Baskale_VAN**	**0.82**	**144**	*i* P	**Pb**	**19 19 58.2**	**-0.7**
BASK	**Baskale_VAN**	**0.82**	**144**	P	**Pb**	**19 19 58.2**	**-0.7**
DYDN	**Diyadin**	**0.85**	**15**	*i* P	**Pg**	**19 20 00.3**	**+0.4**
DYDN	**Diyadin**	**0.85**	**15**	P	**Pg**	**19 20 00.3**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**340**	*e*PG	**Pb**	**19 19 60.0**	**-0.5**
AGRB				*e*SG	**Sg**	**19 20 12.8**	**-0.2**
AGRB	**Hanur-Agry**	**0.91**	**340**	*e*Pg	**Pb**	**19 20 00.0**	**-0.5**
AGRB				*e*Sg	**Sg**	**19 20 12.8**	**-0.2**
EKAR	**Karacoban**	**1.17**	**298**	*i* P	**Pn**	**19 20 04.8**	**0.0**
EKAR	**Karacoban**	**1.17**	**298**	P	**Pn**	**19 20 04.8**	**0.0**
HAKT	**HAKKARI**	**1.19**	**168**	*i* P	**Pn**	**19 20 04.0**	**-1.0**
HAKT	**HAKKARI**	**1.19**	**168**	P	**Pn**	**19 20 04.0**	**-1.0**
EATA	**Eleskirt**	**1.34**	**329**	*i* P	**Pb**	**19 20 08.0**	**+0.1**
EATA	**Eleskirt**	**1.34**	**329**	P	**Pb**	**19 20 08.0**	**+0.1**
SIRN	**S¨–rnak**	**1.45**	**213**	*i* P	**Pg**	**19 20 11.0**	**-0.1**
SIRN	**S¨–rnak**	**1.45**	**213**	P	**Pg**	**19 20 11.0**	**-0.1**
CUKT	**Cukurca**	**1.48**	**173**	*e*Pn	**Pb**	**19 20 11.1**	**+1.0**
CUKT	**Cukurca**	**1.48**	**173**	*i* P	**Pg**	**19 20 11.4**	**-0.3**
CUKT	**Cukurca**	**1.48**	**173**	*e*Pn	**Pb**	**19 20 11.1**	**+1.0**
CUKT	**Cukurca**	**1.48**	**173**	P	**Pg**	**19 20 11.4**	**-0.3**
VRTB	**Varto-Mus**	**1.58**	**287**	*e*Pn	**Pn**	**19 20 10.8**	**+0.6**
VRTB	**Varto-Mus**	**1.58**	**287**	*e*Pn	**Pn**	**19 20 10.8**	**+0.6**
DIGO	**Kars**	**1.69**	**359**	*i* P	**Pg**	**19 20 15.2**	**-0.6**
DIGO	**Kars**	**1.69**	**359**	P	**Pg**	**19 20 15.2**	**-0.6**
HOMI	**Horasan**	**1.76**	**319**	*i* P	**Pb**	**19 20 15.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.82**	**252**	*e*PN	**Pb**	**19 20 14.8**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.82**	**252**	*i* P	**Pb**	**19 20 14.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.82**	**252**	*e*Pn	**Pb**	**19 20 14.8**	**-1.0**
BTMN	**Batman**	**1.86**	**244**	*i* P	**Pn**	**19 20 15.3**	**+1.1**
BTMN	**Batman**	**1.86**	**244**	P	**Pn**	**19 20 15.3**	**+1.1**
ERZM	**Erzurum**	**1.97**	**308**	*i* P	**Pb**	**19 20 18.6**	**0.0**
ERZM	**Erzurum**	**1.97**	**308**	P	**Pb**	**19 20 18.6**	**0.0**
SENK	**Senkaya-Erzuru**	**2.01**	**337**	*e*PN	**Pb**	**19 20 18.3**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.01**	**337**	*e*Pn	**Pb**	**19 20 18.3**	**-0.9**
BNGB	**Bing¶‖**	**2.14**	**278**	*e*PN	**Pn**	**19 20 19.3**	**+1.3**
BINT	**Bingol**	**2.28**	**275**	*e*Pn	**Pn**	**19 20 19.3**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.33**	**289**	*e*PN	**Pn**	**19 20 22.4**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.33**	**289**	*e*Pn	**Pn**	**19 20 22.4**	**+1.7**
DAGI	**Agillar**	**2.62**	**335**	*i* P	**Pg**	**19 20 31.6**	**-1.7**
MAZI	**Mazidag**	**2.65**	**243**	*e*PN	**Pn**	**19 20 26.5**	**+1.6**
MAZI	**Mazidag**	**2.65**	**243**	*e*Pn	**Pn**	**19 20 26.5**	**+1.6**
PTK	**Pertek**	**3.13**	**274**	*e*PN	**Pn**	**19 20 33.6**	**+1.9**
PTK	**Pertek**	**3.13**	**274**	*e*Pn	**Pn**	**19 20 33.6**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.22**	**265**	*e*PN	**Pn**	**19 20 34.8**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.22**	**265**	*e*Pn	**Pn**	**19 20 34.8**	**+1.9**

*ISCJB **24** 19:23:53.7±0.6,32°.11S±0°.03×179°.0W±0°.1, h96km, mb4.3/13, Error ellipse: s-maj=14.2km s-min=4.3km az=10.0*
*IDC **24** 19:23:54.7±1.5,31°.91S×178°.92W, h83km±12km, mb4.0/8, mb1 4.2/10, mb1mx4.0/23, mbtmp4.4/10, MS2.9/2, Ms1 2.9/2, ms1mx2.5/26, Error ellipse: s-maj=27.0km s-min=10.6km az=115.0*
*NEIC **24** 19:23:55.1±0.8,31°.87S×178°.95W, h88km±6km, mb4.7/4, Error ellipse: s-maj=12.4km s-min=7.0km az=109.0*
ISC 24 19:23:55.6±0.6,**32°.02S**±0°.05×**178°.96W**±0°.10,**h96**km,**n78,** σ2°**12**/79,**mb4.4**/12,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.90**	**18**	P	**Pn**	**19 24 38.3**	**-1.6**
	106nm,0.3s,baz=59,slow=13,SNR=12						
RAO				S	**Sn**	**19 25 10.4**	**-3.6**
	644nm,0.3s,baz=126,slow=22,SNR=11						
MXZ	**Matakaoa Point**	**5.97**	**201**	*e*Pn	**Pn**	**19 25 21.0**	**-0.4**
MXZ	**Matakaoa Point**	**5.97**	**201**	*e*Pn	**Pn**	**19 25 21.3**	**-0.1**
MXZ				*e*SN	**Sn**	**19 26 27.6**	**-0.8**
WMGZ	**Waiomatatini S**	**6.18**	**200**	PN	**Pn**	**19 25 24.8**	**+0.6**
HAZ	**Te Kaha**	**6.32**	**204**	PN	**Pn**	**19 25 26.5**	**+0.4**
HAZ				SN	**Sn**	**19 26 32.7**	**-4.1**
PKGZ	**Pakihiroa**	**6.34**	**202**	*e*PN	**Pn**	**19 25 26.3**	**-0.2**
PKGZ				*e*SN	**Sn**	**19 26 36.9**	**-0.6**
PUZ	**Puketiti**	**6.46**	**200**	*e*PN	**Pn**	**19 25 27.0**	**-1.1**
RUGZ	**Raukumara Rang**	**6.54**	**204**	*e*PN	**Pn**	**19 25 29.3**	**-0.1**
TWGZ	**Tauwhareparae**	**6.64**	**201**	*e*PN	**Pn**	**19 25 30.2**	**-0.3**
TKGZ	**Te Karaka**	**6.92**	**201**	*e*PN	**Pn**	**19 25 33.3**	**-1.0**
MWZ	**Matawai**	**6.93**	**204**	*e*PN	**Pn**	**19 25 33.6**	**-0.9**
OUZ	**Omahuta**	**6.98**	**241**	*e*Pn	**Pn**	**19 25 36.2**	**+1.0**
URZ	**Urewera**	**7.01**	**206**	P	**Pn**	**19 25 35.3**	**-0.2**
	6.2nm,0.3s,baz=270,slow=4.1,SNR=55						
URZ				S	**Sn**	**19 26 55.7**	**+2.0**
	28nm,0.3s,baz=333,slow=19,SNR=16						
URZ	**Urewera**	**7.01**	**206**	*e*PN	**Pn**	**19 25 35.3**	**-0.2**
RIGZ	**Rimuhau**	**7.19**	**201**	*e*PN	**Pn**	**19 25 36.5**	**-1.6**
PRGZ	**Paritu Road**	**7.36**	**200**	*e*PN	**Pn**	**19 25 39.3**	**-1.0**
SNGZ	**Shannon Statio**	**7.39**	**203**	*e*PN	**Pn**	**19 25 40.4**	**-0.4**
KNZ	**Kokohu**	**7.51**	**203**	*e*PN	**Pn**	**19 25 40.1**	**-2.2**
WHNZ	**Waihua**	**7.70**	**203**	*e*SN	**Sn**	**19 27 10.2**	**-0.2**
MRHZ	**Matea Rd**	**7.78**	**208**	*e*PN	**Pn**	**19 25 44.5**	**-1.5**
NMHZ	**Naumai**	**7.86**	**205**	*e*PN	**Pn**	**19 25 45.9**	**-1.3**
ARHZ	**Aropaoanui**	**7.94**	**203**	*e*PN	**Pn**	**19 25 46.1**	**-2.2**
BKZ	**Black Stump Fm**	**8.04**	**206**	*e*Pn	**Pn**	**19 25 47.9**	**-1.7**
BKZ	**Black Stump Fm**	**8.04**	**206**	*e*PN	**Pn**	**19 25 46.0**	**-3.6**
MCHZ	**McNeill Hill**	**8.21**	**204**	*e*PN	**Pn**	**19 25 49.9**	**-1.9**
HIZ	**Hauiti**	**8.22**	**216**	*e*Pn	**Pn**	**19 25 54.9**	**+2.9**
PXZ	**Pawanui**	**8.68**	**202**	*e*SN	**Sn**	**19 27 30.7**	**-3.6**
PNHZ	**Pukenui**	**8.80**	**205**	*e*PN	**Pn**	**19 25 56.8**	**-3.2**
BFZ	**Birch Farm**	**9.47**	**203**	*e*Pn	**Pn**	**19 26 06.0**	**-3.0**
MRZ	**Mangatainoka R**	**9.68**	**205**	*e*PN	Pn	19 26 07.3	-4.6
OGWZ	**Otaki Gorge**	**9.97**	**207**	*e*PN	Pn	19 26 11.2	-4.6
OGWZ				*e*SN	**Sn**	**19 28 01.8**	**-4.0**
KIW	**Kapiti Island**	**10.11**	**207**	*e*PN	**Pn**	**19 26 13.5**	**-4.3**
TCW	**Tory Channel**	**10.66**	**209**	*e*PN	Pn	19 26 19.3	-5.9
NNZ	**Nelson**	**11.05**	**212**	*e*SN	**Sn**	**19 28 26.4**	**-5.6**
THZ	**Tophouse**	**11.70**	**211**	*e*Pn	**Pn**	**19 26 37.3**	**-2.0**
THZ	**Tophouse**	**11.70**	**211**	*e*PN	Pn	19 26 34.2	-5.1
THZ				SN	**Sn**	**19 28 42.0**	**-5.9**
KHZ	**Kahutara**	**11.97**	**208**	*e*Pn	**Pn**	**19 26 39.3**	**-3.5**
OXZ	**Oxford**	**13.34**	**210**	*e*Pn	Pn	19 26 56.3	-4.7
OXZ				*e*Sn	Sn	19 29 17.2	-10
MQZ	**McQueen's Vall**	**13.41**	**207**	*e*SN	Sn	19 29 17.6	-12
RPZ	**Rata Peaks**	**14.08**	**211**	P	**Pn**	**19 27 07.5**	**-3.1**
RPZ				S	Sn	19 29 34.8	-11
	3.5nm,0.3s,baz=338,slow=21,SNR=10						
MSVF	**Nonsavu**	**14.48**	**349**	*e*Pn	**Pn**	**19 27 13.5**	**-2.4**
DZM	**Mont Dzumac**	**16.33**	**304**	P	**P**	**19 27 43.4**	**+2.9**
	0.2nm,0.3s,baz=122,slow=19,SNR=3.8						
DZM				LR	LR	19 32 00.1	
	comp=Z,65nm,19.2s,baz=178,slow=30						
CTA	**Charters Tower**	**33.29**	**282**	P	**P**	**19 30 25.9**	**+1.8**
	5.4nm,0.7s,baz=114,slow=9.8,SNR=8.3						
STKA	**Stephens Creek**	**33.34**	**260**	P	**P**	**19 30 28.6**	**+4.1**
	2.0nm,0.8s,baz=96,slow=9.2,SNR=3.0						
STKA				LR	LR	19 41 32.4	
	comp=Z,14nm,19.0s,baz=22,slow=32						
AS31	**Alice Springs**	**42.23**	**269**	*e*P	**P**	**19 31 39.9**	**+0.4**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**42.23**	**269**	P	**P**	**19 31 39.6**	**+0.2**
	3.9nm,0.8s,baz=104,slow=7.5,SNR=52						
WB2	**Warramunga Arr**	**43.36**	**274**	*e*P	**P**	**19 31 49.0**	**+0.4**
	22nm,1.6s						
WR1	**Warramunga Arr**	**43.37**	**274**	*e*P	**P**	**19 31 49.0**	**+0.3**
	13nm,1.4s						
WR1				*e*S	**S**	**19 38 06.2**	**-3.4**
WRA	**Warramunga Arr**	**43.37**	**274**	P	**P**	**19 31 49.0**	**+0.3**
	2.4nm,0.3s,baz=114,slow=7.5,SNR=38						
WRA				S	**S**	**19 38 06.2**	**-3.4**
	0.1nm,0.5s,baz=97,slow=13,SNR=2.5						
MTN	**Manton Dam**	**49.45**	**281**	*e*P	**P**	**19 32 36.5**	**+0.2**
	9.6nm,0.6s						
QSPA	**South Pole Qui**	**58.10**	**180**	*e*P	**P**	**19 33 42.2**	**+3.5**
MAW	**Mawson**	**70.51**	**201**	P	**P**	**19 35 01.0**	**+1.5**
	0.5nm,0.4s,baz=119,slow=7.0,SNR=6.3						
SNAA	**Sanae**	**76.56**	**179**	P	**P**	**19 35 38.5**	**+3.4**
VNA3	**Neumayer Olymp**	**76.75**	**176**	P	P	19 35 40.9	+4.9
VNA2	**Neumayer--Watz**	**77.17**	**177**	P	P	19 35 44.2	+5.9
	baz=182,slow=4.0						
KSRS	**Korea Array**	**85.05**	**320**	P	**P**	**19 36 20.4**	**-0.1**
	2.3nm,0.9s,baz=250,slow=22,SNR=5.3						
KSAR	**Wonju Array Be**	**85.06**	**320**	P	**P**	**19 36 20.4**	**-0.2**
PETK	**Petropavlovsk-**	**87.17**	**346**	P	**P**	**19 36 29.6**	**-0.9**
	3.2nm,0.7s,baz=101,slow=3.7,SNR=2.9						
PEA1	**Petropavlovsk-**	**87.18**	**346**	*e*P	**P**	**19 36 29.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**88.06**	**327**	P	**P**	**19 36 35.4**	**+0.5**
	2.0nm,0.8s,baz=129,slow=14,SNR=3.1						
ILAR	**Eielson Array**	**99.68**	**13**	P	**Pdif**	**19 37 27.8**	**0.0**
	0.3nm,0.8s,baz=238,slow=6.1,SNR=2.8						
MK32	**Makanchi Array**	**118.17**	**310**	*e*PKPdf	**PKPdf**	**19 42 30.9**	**-0.3**
MKAR	**Makanchi Array**	**118.17**	**310**	PKP	**PKPdf**	**19 42 30.9**	**-0.3**
	0.8nm,0.6s,baz=174,slow=1.3,SNR=7.5						
ZALV	**Zalesovo Beam**	**118.68**	**318**	PKP	**PKPdf**	**19 42 31.6**	**-0.2**
	0.3nm,0.4s,baz=101,slow=1.5,SNR=2.7						
ZAA1	**Zalesovo Array**	**118.69**	**318**	*e*PKPdf	**PKPdf**	**19 42 31.6**	**-0.2**
BVAR	**Borovoye Array**	**126.97**	**315**	PKP	**PKPdf**	**19 42 48.4**	**+0.6**
	1.8nm,0.6s,baz=118,slow=2.5,SNR=8.7						
AKTO	**Aktyubinsk**	**134.56**	**311**	PKP	**PKPdf**	**19 43 02.1**	**-0.1**
	0.4nm,0.3s,baz=37,slow=6.7,SNR=4.8						
KBZ	**Khabaz**	**145.29**	**302**	PKPbc	**PKPab**	**19 43 22.5**	**+0.4**
	0.9nm,0.4s,baz=160,slow=2.5,SNR=5.3						
FIA0	**FINESS Array S**	**146.36**	**338**	*e*PKPdf	**PKPdf**	**19 43 23.4**	**+0.3**
FINES	**FINESS Array B**	**146.36**	**338**	PKPbc	**PKPdf**	**19 43 23.4**	**+0.3**
	7.4nm,0.6s,baz=44,slow=3.4,SNR=32						
NB2	**NORSAR Subarra**	**150.21**	**350**	PKP	**PKPbc**	**19 43 35.7**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=17,slow=2.6						
NB200	**NORSAR Array S**	**150.21**	**350**	*e*PKPbc	**PKPbc**	**19 43 36.0**	**+1.3**
NOA	**NORSAR Array B**	**150.21**	**350**	PKPbc	**PKPbc**	**19 43 36.0**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=15,slow=4.1,SNR=7.7						
AKASG	**Malin Array Be**	**152.05**	**320**	PKPbc	**PKPbc**	**19 43 39.2**	**0.0**
	comp=Z,2.4nm,0.6s,baz=56,slow=2.5,SNR=14						
BR101	**Keskin Array S**	**152.60**	**295**	*e*PKPbc	**PKPbc**	**19 43 41.2**	**+0.2**
BRTR	**Keskin Array B**	**152.60**	**295**	PKPbc	**PKPbc**	**19 43 41.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=148,slow=3.8,SNR=9.8						
TORD	**Torodi Ar. Bea**	**161.21**	**182**	PKPab	**PKPab**	**19 44 30.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=167,slow=3.3,SNR=5.5						
TOA1	**Torodi Ar. Sit**	**161.21**	**182**	*e*PKPab	**PKPab**	**19 44 30.8**	**+1.6**

*ISK **24** 19:24:05.6,38°.78N×43°.55E, h5km, ML3.6*
*AZER **24** 19:24:06.3±1.0,38°.50N×43°.03E, h10km, Error ellipse: s-maj=10.4km s-min=8.4km az=71.0*
*DDA **24** 19:24:06.1,38°.76N×43°.44E, h2km, Ml3.7*
*CSEM **24** 19:24:09.4±0.2,38°.64N×43°.31E, h2km, ML3.6, Error ellipse: s-maj=6.2km s-min=4.1km az=157.0*
ISC 24 19:24:08.6±0.8,**38°.72N**±0°.02×**43°.22E**±0°.02,**h6**km±8km, **n98,** σ1°**95**/118,**12C-16D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**133**	*e*PG	**Pg**	**19 24 12.0**	**-0.3**
VANB				*e*SG	**Sg**	**19 24 17.6**	**+2.8**
VANB	**Van**	**0.18**	**133**	*e*Pg	**Pg**	**19 24 12.0**	**-0.3**
GEVA	**Gevas**	**0.43**	**197**	*i* P	**Pb**	**19 24 17.1**	**-1.6**
GEVA	**Gevas**	**0.43**	**197**	P	**Pb**	**19 24 17.1**	**-1.6**
TUTA	**Tutak**	**0.75**	**335**	*i* P	**Pg**	**19 24 21.7**	**-1.3**
TUTA	**Tutak**	**0.75**	**335**	P	**Pg**	**19 24 21.7**	**-1.3**
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*PG	**Pg**	**19 24 23.3**	**-2.1**
AGRB				*e*SG	**Sb**	**19 24 37.3**	**-1.0**
DYDN	**Diyadin**	**0.90**	**24**	*i* P	**Pg**	**19 24 21.9**	**-4.1**
BASK	**Baskale_VAN**	**0.91**	**137**	*i* P	**Pg**	**19 24 22.0**	**-4.1**
BASK	**Baskale_VAN**	**0.91**	**137**	P	**Pg**	**19 24 22.0**	**-4.1**
EKAR	**Karacoban**	**1.04**	**301**	*i* P	**Pn**	**19 24 29.0**	**-1.1**
EKAR	**Karacoban**	**1.04**	**301**	P	**Pn**	**19 24 29.0**	**-1.1**
HAKT	**HAKKARI**	**1.22**	**161**	*i* P	**Pb**	**19 24 28.8**	**-3.5**
HAKT	**HAKKARI**	**1.22**	**161**	P	**Pb**	**19 24 28.8**	**-3.5**
EATA	**Eleskirt**	**1.27**	**334**	*i* P	**Pn**	**19 24 30.8**	**-2.5**
EATA	**Eleskirt**	**1.27**	**334**	P	**Pn**	**19 24 30.8**	**-2.5**
SIRN	**S¨–rnak**	**1.38**	**208**	*i* P	**Pg**	**19 24 36.3**	**+1.3**
SIRN	**S¨–rnak**	**1.38**	**208**	P	**Pg**	**19 24 36.3**	**+1.3**
VRTB	**Varto-Mus**	**1.44**	**288**	*e*PN	**Pg**	**19 24 36.8**	**+0.6**
VRTB	**Varto-Mus**	**1.44**	**288**	*i* P	**Pn**	**19 24 33.6**	**-1.8**
VRTB	**Varto-Mus**	**1.44**	**288**	P	**Pn**	**19 24 33.7**	**-1.8**
VRTB	**Varto-Mus**	**1.44**	**288**	*e*Pn	**Pg**	**19 24 36.8

PQL	Pirkuli	4.63	62	⇑P	Pn	19 25 20.0	+0.7
	SNR=3.8						
PQL	Pirkuli	4.63	62	P	Pn	19 25 20.0	+0.7
	SNR=3.8						
QSAR	Qusar	4.77	53	⇑P	Pn	19 25 22.4	+1.3
	SNR=3.1						
QSAR	Qusar	4.77	53	P	Pn	19 25 22.4	+1.3
	SNR=3.1						

IDC 24 19:46:38.5±5.5, 16°01S×172°94W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/38, mbtmp3.9/4, ML2.8/1, Error ellipse: s-maj=209.4km s-min=28.3km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.37	28	Pn	Pn	19 47 18.8	0.0
	2.5nm,0.3s,baz=270,slow=20,SNR=2.7						
AFI				Sn	Sn	19 47 41.7	-6.9
	7.9nm,0.3s,baz=117,slow=7.4,SNR=8.0						
STKA	Stephens Creek	44.12	241	P	P	19 54 49.3	+0.3
	1.9nm,1.0s,baz=103,slow=14,SNR=3.1						
WRA	Warramunga Arr	50.14	257	P	P	19 55 35.5	-0.7
	0.4nm,0.5s,baz=95,slow=6.9,SNR=6.9						
ASAR	Alice Springs	50.35	252	P	P	19 55 37.2	-0.5
	3.6nm,0.6s,baz=89,slow=8.1,SNR=86						
FITZ	Fitzroy Crossi	58.52	258	P	P	19 56 37.6	+0.4
	0.8nm,0.8s,baz=68,slow=6.7,SNR=2.8						

DDA 24 20:03:53.7, 38°85N×43°59E, h5km, Ml3.3
AZER 24 20:03:53.5±1.5, 38°37N×43°71E, h6km, Error ellipse: s-maj=11.3km s-min=10.0km az=27.0
ISK 24 20:03:54.6, 38°88N×43°48E, h5km, ML3.3
CSEM 24 20:03:55.6±0.2, 38°85N×43°51E, h2km, ML3.3, Error ellipse: s-maj=6.1km s-min=5.0km az=138.0
ISC 24 20:03:54.6±1.1, 38°86N±0°02×43°60E±0°02, h4km±11km, n84, σ1§37/98, 7C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.31	212	ePG	Pb	20 04 02.7	-0.1
VANB				eSG	Sb	20 04 09.2	+1.0
VANB	Van	0.31	212	ePg	Pb	20 04 02.7	-0.1
DYDN	Diyadin	0.69	6	i P	Pg	20 04 07.4	-0.5
DYDN	Diyadin	0.69	6	P	Pg	20 04 07.4	-0.5
GEVA	Gevas	0.69	218	i P	Pg	20 04 07.7	-0.2
GEVA	Gevas	0.69	218	P	Pg	20 04 07.7	-0.2
TUTA	Tutak	0.81	312	i P	Pg	20 04 09.6	-0.7
TUTA	Tutak	0.81	312	P	Pg	20 04 09.6	-0.7
AGRB	Hanur-Agry	0.86	327	ePG	Pg	20 04 10.6	-0.5
AGRB				eSG	Sg	20 04 22.7	+0.5
AGRB	Hanur-Agry	0.86	327	ePg	Pg	20 04 10.6	-0.5
AGRB				eSg	Sg	20 04 22.7	+0.5
BASK	Baskale_VAN	0.87	158	i P	Pg	20 04 11.3	0.0
BASK	Baskale_VAN	0.87	158	P	Pg	20 04 11.3	0.0
EKAR	Karacoban	1.26	289	i P	Pb	20 04 18.9	-0.2
EKAR	Karacoban	1.26	289	P	Pb	20 04 18.9	-0.2
HAKT	HAKKARI	1.30	176	i P	Pg	20 04 18.3	-1.3
HAKT	HAKKARI	1.30	176	P	Pg	20 04 18.3	-1.3
EATA	Eleskirt	1.32	320	i P	Pg	20 04 18.7	-1.2
EATA	Eleskirt	1.32	320	P	Pg	20 04 18.7	-1.2
NAX	Nakhchivan	1.51	77	⇓P	Pb	20 04 23.0	-0.3
	SNR=24						
NAX				⇓S	Sg	20 04 47.0	+3.7
NAX	Nakhchivan	1.51	77	P	Pb	20 04 23.0	-0.3
	SNR=24						
NAX				S	Sg	20 04 47.0	+3.7
DIGO	Kars	1.56	354	i P	Pb	20 04 24.4	+0.1
DIGO	Kars	1.56	354	P	Pb	20 04 24.4	+0.1
CUKT	Cukurca	1.61	180	ePN	Pg	20 04 25.7	+0.2
CUKT	Cukurca	1.61	180	i P	Pg	20 04 25.8	+0.4
CUKT	Cukurca	1.61	180	ePn	Pg	20 04 25.7	+0.2
SIRN	S¨¨rnak	1.65	215	i P	Pb	20 04 25.1	-0.5
SIRN	S¨¨rnak	1.65	215	P	Pb	20 04 25.1	-0.5
VRTB	Varto-Mus	1.69	281	ePN	Pn	20 04 25.1	0.0
VRTB	Varto-Mus	1.69	281	i P	Pb	20 04 25.9	-0.6
VRTB	Varto-Mus	1.69	281	ePn	Pn	20 04 25.1	0.0
VRTB	Varto-Mus	1.69	281	P	Pb	20 04 25.9	-0.6
HOMI	Horasan	1.77	313	i P	Pg	20 04 28.4	-0.1
EAK	Akyaka	1.83	0	i P	Pg	20 04 29.8	+0.1
EAK	Akyaka	1.83	0	P	Pg	20 04 29.8	+0.1
BNGL	BINGOL	1.91	274	i P	Pb	20 04 29.8	-0.4
SENK	Senkaya-Erzuru	1.95	331	ePN	Pn	20 04 29.3	+0.5
SENK	Senkaya-Erzuru	1.95	331	ePn	Pn	20 04 29.3	+0.5
SVAN	Silvan-Diyarba	2.01	250	ePN	Pn	20 04 29.8	+0.4
SVAN	Silvan-Diyarba	2.01	250	ePn	Pn	20 04 29.8	+0.4
ERZM	Erzurum	2.02	302	i P	Pg	20 04 32.8	-0.6
ERZM	Erzurum	2.02	302	P	Pg	20 04 32.8	-0.6
BTMN	Batman	2.07	243	i P	Pb	20 04 32.6	-0.2
BTMN	Batman	2.07	243	P	Pb	20 04 32.6	-0.2
BNGB	Bing¶ll	2.28	274	ePN	Pn	20 04 33.5	+0.4
BINT	Bingol	2.42	271	ePn	Pn	20 04 33.5	-1.7
YEDI	Yedisu-Bingol	2.44	285	ePN	Pn	20 04 35.8	+0.4
YEDI	Yedisu-Bingol	2.44	285	ePn	Pn	20 04 35.8	+0.4
DDEM	Demirkent	2.48	326	i P	Pb	20 04 40.0	+0.2
DDEM	Demirkent	2.48	326	P	Pb	20 04 40.0	+0.2
GDB	GEDABAY	2.50	41	⇑P	Pb	20 04 39.7	-0.4
	SNR=16						
GDB				⇓S	Sg	20 05 14.7	-0.1
GDB	GEDABAY	2.50	41	P	Pb	20 04 39.7	-0.4
	SNR=16						
GDB				S	Sg	20 05 14.7	-0.1
AKH	Akhalkalaki	2.55	358	ePN	Pn	20 04 38.4	+1.5
AKH	Akhalkalaki	2.55	358	ePn	Pn	20 04 38.4	+1.5
DAGI	Agillar	2.57	330	i P	Pb	20 04 40.8	-0.5
QZX	Qazax, Azerbai	2.59	31	⇓P	Pb	20 04 41.4	-0.2
	SNR=3.6						
QZX				⇑S	Sg	20 05 17.2	-0.5
QZX	Qazax, Azerbai	2.59	31	P	Pb	20 04 41.4	-0.2
	SNR=3.6						
QZX				S	Sg	20 05 17.2	-0.5
GANJ	Ganja	2.76	49	⇓P	Pb	20 04 42.4	-2.1
	SNR=9.9						
GANJ				⇓S	Sg	20 05 22.4	-0.9
GANJ	Ganja	2.76	49	P	Pb	20 04 42.4	-2.1
	SNR=9.9						
MAZI	Mazidag	2.85	242	ePN	Pn	20 04 42.0	+1.0
MAZI	Mazidag	2.85	242	ePn	Pn	20 04 42.0	+1.0
TBLG	Delisi	3.00	17	ePN	Pn	20 04 45.3	+2.3
TBLG	Delisi	3.00	17	ePn	Pn	20 04 45.3	+2.3
BRDA	Brd	3.10	62	⇑P	Pn	20 04 45.8	+1.5
	SNR=2.7						
BRDA				⇓S	Sb	20 05 26.0	-2.6
BRDA	Brd	3.10	62	P	Pn	20 04 45.8	+1.5
	SNR=2.7						
BRDA				S	Sb	20 05 26.0	-2.6
PTK	Pertek	3.28	272	ePN	Pn	20 04 47.7	+0.7
PTK	Pertek	3.28	272	ePn	Pn	20 04 47.7	+0.7
MNGR	Mingechevir, A	3.30	53	⇑S	Sb	20 05 32.4	-1.7
MNGR	Mingechevir, A	3.30	53	S	Sb	20 05 32.4	-1.7
SVRC	Sivrice-ELAZID	3.39	263	ePN	Pn	20 04 49.4	+0.9
SVRC	Sivrice-ELAZID	3.39	263	ePn	Pn	20 04 49.4	+0.9
ZRD	Zardab	3.46	65	⇓S	Sn	20 05 34.1	+3.4
ZRD	Zardab	3.46	65	S	Sn	20 05 34.1	+3.4
ZKTA	Zakatala	3.62	39	⇓P	Pn	20 04 54.9	+3.5
	SNR=3.8						
SEKA	Sheki	3.63	49	⇓P	Pn	20 04 54.5	+2.9
	SNR=4.9						
SEKA	Sheki	3.63	49	P	Pn	20 04 54.5	+2.9
	SNR=4.9						
LRK	Lerik	3.71	92	⇓P	Pn	20 04 50.6	-2.3
	SNR=3.4						
LRK				⇑S	Sn	20 05 34.2	-3.0
GLBA	Clilabad	3.75	83	⇓P	Pn	20 04 52.1	-1.2
	SNR=4.7						
GLBA				⇑S	Sn	20 05 36.9	-1.0
GLBA	Clilabad	3.75	83	P	Pn	20 04 52.1	-1.2
	SNR=4.7						
QBL	Gabala	3.87	56	⇓P	Pn	20 04 56.1	+1.1
	SNR=3.7						
QBL	Gabala	3.87	56	P	Pn	20 04 56.1	+1.1
	SNR=3.7						
XNQ	Khinaliq	4.18	55	⇑P	Pn	20 05 00.9	+1.5
	SNR=4.4						
XNQ	Khinaliq	4.18	55	P	Pn	20 05 00.9	+1.5
	SNR=4.4						
PQL	Pirkuli	4.30	62	⇓P	Pn	20 05 01.8	+0.8
	SNR=3.2						
PQL	Pirkuli	4.30	62	P	Pn	20 05 01.8	+0.8
	SNR=3.2						

ISCJB 24 20:12:35.2±0.4, 40°36N±0°02×25°93E±0°04, h10km±5km, Error ellipse: s-maj=4.9km s-min=3.6km az=179.8
CSEM 24 20:12:35.4±0.2, 40°36N×25°93E, h10km, MD2.9, Error ellipse: s-maj=3.8km s-min=3.0km az=88.0
ATH 24 20:12:35.0, 40°37N×25°88E, h22km±4km, ML1.9/1, Error ellipse: s-maj=4.4km s-min=1.1km az=287.0
ISK 24 20:12:35.3, 40°35N×25°97E, h8km, MD2.9
ISC 24 20:12:35.4±0.9, 40°37N±0°02×25°92E±0°02, h14km±8km, n39, σ0§74/53, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	Gvkgeada	0.18	186	ePG	Pg	20 12 39.8	+0.2
GADA	Gvkgeada	0.18	186	ePg	Pg	20 12 39.8	+0.2
SMTH	Samothraki Isl	0.32	289	P	Pg	20 12 41.9	-0.1
SMTH				S	Sg	20 12 45.7	-0.7
SMTH				AML	AML	20 12 46.4	
	comp=E,654μm,0.1s						
SMTH				AML	AML	20 12 46.5	
	comp=N,509μm,0.1s						
ENEZ	Enez	0.41	25	ePG	Pg	20 12 43.8	+0.2
ENEZ				eSG	Sb	20 12 50.3	-0.2
ENEZ	Enez	0.41	25	ePg	Pg	20 12 43.8	+0.2
ENEZ				eSg	Sb	20 12 50.3	-0.2
GELI	Tayfur-Gelibol	0.42	86	ePG	Pg	20 12 43.4	-0.4
GELI	Tayfur-Gelibol	0.42	86	ePg	Pg	20 12 43.4	-0.4
BOZC	Bozcaada	0.54	169	ePG	Pg	20 12 45.6	-0.3
BOZC				eSG	Sg	20 12 53.2	+0.2
BOZC	Bozcaada	0.54	169	ePg	Pg	20 12 45.7	-0.3
BOZC				eSg	Sg	20 12 53.2	+0.2
ALN	Alexandroupoli	0.54	10	ePG	Pg	20 12 45.9	-0.1
ALN	Alexandroupoli	0.54	10	P	Pg	20 12 46.0	0.0
ALN				S	Sb	20 12 54.2	0.0
ALN	Alexandroupoli	0.54	10	P	Pg	20 12 46.0	0.0
ALN				S	Sb	20 12 54.2	0.0
ERIK	Erikli-Kesan	0.54	56	ePG	Pg	20 12 46.0	-0.1
ERIK				eSG	Sg	20 12 53.8	+0.5
ERIK	Erikli-Kesan	0.54	56	ePg	Pg	20 12 46.0	-0.1
ERIK				eSg	Sg	20 12 53.8	+0.5
EZN	Ezine	0.62	150	ePG	Pg	20 12 47.3	-0.3
EZN				eSG	Sg	20 12 55.9	+0.1
EZN	Ezine	0.62	150	ePg	Pg	20 12 47.3	-0.3
EZN				eSg	Sg	20 12 55.9	+0.1
LPK	Lapseki	0.64	89	ePG	Pg	20 12 47.6	-0.3
LPK	Lapseki	0.64	89	ePg	Pg	20 12 47.6	-0.3
LIA	Limnos Island	0.74	231	P	Pg	20 12 49.8	0.0
LIA				S	Sb	20 12 59.6	-0.2
RDO	Rodhopi	0.83	340	P	Pg	20 12 51.4	-0.1
RDO				S	Sg	20 13 01.5	-1.0
RDO	Rodhopi	0.83	340	P	Pg	20 12 51.4	-0.1
RDO				S	Sg	20 13 01.5	-1.0
KRBG	Karabiga-Canak	1.05	88	ePG	Pg	20 12 55.0	-0.7
KRBG	Karabiga-Canak	1.05	88	ePg	Pg	20 12 55.0	-0.7
PRK	Paraskevi	1.15	166	P	Pb	20 12 57.0	-0.1
PRK	Paraskevi	1.15	166	P	Pb	20 12 57.0	-0.1
SIGR	SIGRI	1.16	183	ePN	Pg	20 12 57.3	-0.4
SIGR	SIGRI	1.16	183	P	Pb	20 12 56.2	-0.9
SIGR	SIGRI	1.16	183	P	Pb	20 12 56.2	-0.9
SIGR	SIGRI	1.16	183	ePn	Pg	20 12 57.3	-0.4
KAVA	Kavala	1.24	301	P	Pn	20 12 57.1	-1.2
KAVA	Kavala	1.24	301	P	Pn	20 12 57.1	-1.2
MRMT	Marmara Adasi	1.30	79	ePN	Pn	20 12 59.6	+0.5
MRMT	Marmara Adasi	1.30	79	ePn	Pn	20 12 59.6	+0.5
EDRB	Edirne	1.60	23	ePN	Pn	20 13 04.3	+1.0
EDRB	Edirne	1.60	23	ePn	Pn	20 13 04.3	+1.0
SRS	Serrai	1.92	294	P	Pn	20 13 08.7	+1.0
SRS	Serrai	1.92	294	P	Pn	20 13 08.7	+1.0
KNT	Kendrikon	2.43	290	ePN	Pn	20 13 17.2	+2.5
KNT	Kendrikon	2.43	290	ePn	Pn	20 13 17.2	+2.5

AZER 24 20:15:43.5±0.7, 38°39N×43°24E, h4km, Error ellipse: s-maj=6.6km s-min=6.1km az=161.0
DDA 24 20:15:48.7, 38°86N×43°53E, h5km, Ml3.7
CSEM 24 20:15:49.7±0.2, 38°87N×43°57E, h2km, ML3.6, Error ellipse: s-maj=5.4km s-min=4.2km az=154.0
ISK 24 20:15:49.1, 38°88N×43°46E, h5km, ML3.6
ISC 24 20:15:49.5±1.2, 38°87N±0°02×43°54E±0°02, h1km±11km, n108, σ1§17/125, 16C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.30	204	ePG	Pb	20 15 57.1	-0.6
VANB				eSG	Sb	20 16 03.7	+0.5
VANB	Van	0.30	204	ePg	Pb	20 15 57.1	-0.6
GEVA	Gevas	0.68	214	i P	Pg	20 16 02.1	-0.3
GEVA	Gevas	0.68	214	P	Pg	20 16 02.1	-0.3
DYDN	Diyadin	0.68	9	i P	Pg	20 16 01.1	-1.4
DYDN	Diyadin	0.68	9	P	Pg	20 16 01.1	-1.4
TUTA	Tutak	0.78	313	i P	Pg	20 16 03.4	-1.0
TUTA	Tutak	0.78	313	P	Pg	20 16 03.4	-1.0
AGRB	Hanur-Agry	0.82	329	ePG	Pg	20 16 05.0	-0.3
AGRB				eSG	Sb	20 16 17.0	-1.4
AGRB	Hanur-Agry	0.82	329	ePg	Pg	20 16 05.0	-0.3
AGRB				eSg	Sb	20 16 17.0	-1.4
BASK	Baskale_VAN	0.89	156	i P	Pg	20 16 06.3	-0.3
BASK	Baskale_VAN	0.89	156	P	Pg	20 16 06.3	-0.3
EKAR	Karacoban	1.21	289	i P	Pn	20 16 13.2	-0.6
EKAR	Karacoban	1.21	289	P	Pn	20 16 13.2	-0.6
EATA	Eleskirt	1.28	321	i P	Pg	20 16 12.9	-1.2
EATA	Eleskirt	1.28	321	P	Pg	20 16 12.9	-1.2
HAKT	HAKKARI	1.32	174	i P	Pg	20 16 13.6	-1.1
HAKT	HAKKARI	1.32	174	P	Pg	20 16 13.6	-1.1
DIGO	Kars	1.55	355	i P	Pg	20 16 18.7	-0.4
DIGO	Kars	1.55	355	P	Pg	20 16 18.7	-0.4
NAX	Nakhchivan	1.55	78	⇓P	Pn	20 16 17.9	-0.4
	SNR=72						
NAX				⇑S	Sg	20 16 42.9	+3.6
NAX	Nakhchivan	1.55	78	P	Pn	20 16 17.9	-0.4
	SNR=72						
NAX				S	Sg	20 16 42.9	+3.6
CUKT	Cukurca	1.62	178	ePN	Pg	20 16 20.4	-0.2
CUKT	Cukurca	1.62	178	i P	Pg	20 16 21.0	+0.5
CUKT	Cukurca	1.62	178	ePn	Pg	20 16 20.4	-0.2
CUKT	Cukurca	1.62	178	P	Pg	20 16 21.0	+0.5
SIRN	S¨¨rnak	1.64	213	i P	Pb	20 16 19.9	-0.6
SIRN	S¨¨rnak	1.64	213	P	Pb	20 16 19.9	-0.6
VRTB	Varto-Mus	1.65	281	ePN	Pb	20 16 19.8	-1.0
VRTB	Varto-Mus	1.65	281	i P	Pb	20 16 20.1	-0.7
VRTB	Varto-Mus	1.65	281	ePn	Pb	20 16 19.8	-1.0
VRTB	Varto-Mus	1.65	281	P	Pb	20 16 20.1	-0.7
HOMI	Horasan	1.73	313	i P	Pg	20 16 22.5	-0.1
EAK	Akyaka	1.81	2	i P	Pg	20 16 24.4	+0.2
EAK	Akyaka	1.81	2	P	Pg	20 16 24.4	+0.2
BNGL	BINGOL	1.87	273	i P	Pb	20 16 24.1	-0.5
SENK	Senkaya-Erzuru	1.92	332	ePN	Pb	20 16 23.9	-1.6
SENK	Senkaya-Erzuru	1.92	332	ePn	Pb	20 16 23.9	-1.6
SVAN	Silvan-Diyarba	1.98	249	ePN	Pb	20 16 24.6	-1.7
SVAN	Silvan-Diyarba	1.98	249	i P	Pb	20 16 25.1	-1.1
SVAN	Silvan-Diyarba	1.98	249	ePn	Pb	20 16 24.6	-1.7
SVAN	Silvan-Diyarba	1.98	249	P	Pb	20 16 25.1	-1.1
ERZM	Erzurum	1.98	302	i P	Pg	20 16 27.4	0.0
ERZM	Erzurum	1.98	302	P	Pg	20 16 27.4	0.0
BTMN	Batman	2.04	242	i P	Pb	20 16 26.9	-0.4
BTMN	Batman	2.04	242	P	Pb	20 16 26.9	-0.4
ECAT	Cat-ERZURUM	2.13	291	i P	Pb	20 16 28.3	-0.6
ECAT	Cat-ERZURUM	2.13	291	P	Pb	20 16 28.3	-0.6
BNGB	Bing¶ll	2.24	274	ePN	Pn	20 16 27.9	+0.1
BINT	Bingol	2.38	271	ePn	Pn	20 16 27.9	-1.9
YEDI	Yedisu-Bingol	2.40	285	ePN	Pn	20 16 30.2	+0.1
YEDI	Yedisu-Bingol	2.40	285	ePn	Pn	20 16 30.2	+0.1
DDEM	Demirkent	2.44	326	i P	Pg	20 16 35.5	-0.8
DDEM	Demirkent	2.44	326	P	Pg	20 16 35.5	-0.8
GDB	GEDABAY	2.51	42	⇓P	Pn	20 16 32.4	+0.7
	SNR=25						
GDB				⇓S	Sg	20 17 09.9	-0.3
GDB	GEDABAY	2.51	42	P	Pn	20 16 32.4	+0.7
	SNR=25						
DAGI	Agillar	2.54	331	i P	Pb	20 16 36.1	+0.2
AKH	Akhalkalaki	2.54	359	ePN	Pn	20 16 33.1	+1.1
AKH	Akhalkalaki	2.54	359	ePn	Pn	20 16 33.1	+1.1
QZX	Qazax, Azerbai	2.60	32	⇑P	Pn	20 16 33.6	+0.9
	SNR=10						
QZX				⇓S	Sg	20 17 14.4	+1.5
QZX	Qazax, Azerbai	2.60	32	P	Pn	20 16 33.6	+0.9
	SNR=10						
KOPT	Kop Dagi	2.62	297	i P	Pg	20 16 39.0	-0.7
MARD	Mardin	2.68	235	i P	Pn	20 16 35.0	+1.1
GANJ	Ganja	2.78	50	⇑P	Pn	20 16 35.8	+0.6
	SNR=22						
GANJ				⇓S	Sb	20 17 16.1	+1.5
GANJ	Ganja	2.78	50	P	Pn	20 16 35.8	+0.6
	SNR=22						
MAZI	Mazidag	2.82	241	ePN	Pn	20 16 35.6	-0.1
MAZI	Mazidag	2.82	241	ePn	Pn	20 16 35.7	-0.1
DIYA	Diyarbakir	2.85	252	i P	Pb	20 16 40.1	-1.1
DIYA	Diyarbakir	2.85	252	P	Pb	20 16 40.1	-1.1
TBLG	Delisi	3.00	17	ePN	Pn	20 16 39.9	+1.7
TBLG	Delisi	3.00	17	ePn	Pn	20 16 39.9	+1.7
ERZN	Erzincan	3.05	285	ePN	Pn	20 16 39.5	+0.5
TNCL	Tunceli-Merkez	3.13	276	i P	Pb	20 16 46.5	+0.5
BRDA	Brd	3.13	63	⇓P	Pn	20 16 39.9	-0.2
	SNR=7.7						
BRDA				⇑S	Sb	20 17 23.5	-1.2
BRDA	Brd	3.13	63	P	Pn	20 16 39.8	-0.2
	SNR=7.7						
PTK	Pertek	3.24	272	ePN	Pn	20 16 41.5	-0.2
PTK	Pertek	3.24	272	ePn	Pn	20 16 41.5	-0.2
MNGR	Mingechevir, A	3.32	54	⇑P	Pn	20 16 43.0	+0.4
	SNR=8.2						
MNGR				⇓S	Sb	20 17 28.7	-1.5
MNGR	Mingechevir, A	3.32	54	P	Pn	20 16 43.0	+0.4
	SNR=8.2						
SVRC	Sivrice-ELAZID	3.35	263	ePN	Pn	20 16 43.8	+0.6
SVRC	Sivrice-ELAZID	3.35	263	ePn	Pn	20 16 43.8	+0.6
ZRD	Zardab	3.50	65	⇓P	Pn	20 16 44.5	-0.4
	SNR=6.4						
ZRD				⇑S	Sb	20 17 32.3	-2.8
ZRD	Zardab	3.50	65	P	Pn	20 16 44.5	-0.4
	SNR=6.4						
ZKTA	Zakatala	3.63	39	⇓P	Pn	20 16 47.8	+1.0
	SNR=11						
ZKTA				⇑S	Sb	20 17 36.9	-2.1
SEKA	Sheki	3.65	49	⇓P	Pn	20 16 48.3	+1.1
	SNR=7.9						
SEKA				⇓S	Sb	20 17 38.4	-1.2
SEKA	Sheki	3.65	49	P	Pn	20 16 48.3	+1.1
	SNR=7.9						
LRK	Lerik	3.76	92	⇓P	Pn	20 16 45.8	-2.9
	SNR=6.7						
LRK				⇓S	Sn	20 17 34.1	+0.4
LRK	Lerik	3.76	92	P	Pn	20 16 45.8	-2.9
	SNR=6.7						
LRK				S	Sn	20 17 34.1	+0.4
GLBA	Clilabad	3.79	83	⇑P	Pn	20 16 47.2	-1.9
	SNR=8.2						
GLBA				⇑S	Sn	20 17 36.8	+2.5
GLBA	Clilabad	3.79	83	P	Pn	20 16 47.2	-1.9
	SNR=8.2						
GLBA				S	Sn	20 17 36.8	+2.5
QBL	Gabala	3.90	57	⇑P	Pn	20 16 50.7	+0.1
	SNR=14						
QBL	Gabala	3.90	57	P	Pn	20 16 50.7	+0.1
	SNR=14						
URFA	Urfa	3.99	250	ePN	Pn	20 16 52.3	+0.5
URFA	Urfa	3.99	250	ePn	Pn	20 16 52.3	+0.5
IML	Ismayilli	4.05	60	⇓P	Pn	20 16 52.6	-0.1
	SNR=4.2						
IML	Ismayilli	4.05	60	P	Pn	20 16 52.6	-0.1
	SNR=4.2						
ASTR	Astara	4.12	93	⇑P	Pn	20 16 50.7	-2.8
	SNR=3.9						
ASTR	Astara	4.12	93	P	Pn	20 16 50.7	-2.8
	SNR=3.9						
XNQ	Khinaliq	4.21	55	⇑P	Pn	20 16 54.9	-0.1
	SNR=5.8						
XNQ	Khinaliq	4.21	55	P	Pn	20 16 54.9	-0.1
	SNR=5.8						
PQL	Pirkuli	4.33	62	⇑P	Pn	20 16 56.4	-0.2
	SNR=5.8						
PQL	Pirkuli	4.33	62	P	Pn	20 16 56.4	-0.2
	SNR=5.8						
QSAR	Qusar	4.48	52	⇑P	Pn	20 16 58.6	+0.1
	SNR=3.1						
QSAR	Qusar	4.48	52	P	Pn	20 16 58.6	+0.1
	SNR=3.1						
QUBA	Quba, Azerbaij	4.53	55	⇑P	Pn	20 16 59.5	+0.2
	SNR=4.7						
QUBA	Quba, Azerbaij	4.53	55	P	Pn	20 16 59.5	+0.2
	SNR=4.7						
ATGJ	Altiaghaj	4.60	63	⇑P	Pn	20 16 59.8	-0.5
	SNR=5.2						
ATGJ	Altiaghaj	4.60	63	P	Pn	20 16 59.8	-0.5
	SNR=5.2						

ISCJB 24 20:18:31.2±0.7, 51°51N±0°04×16°13E±0°03, h0km, Error ellipse: s-maj=5.5km s-min=2.8km az=9.5
CSEM 24 20:18:33.4±0.4, 51°48N×16°08E, h2km, ML3.0/7
WAR 24 20:18:34.3, 51°48N×16°09E, h1km, Mw2.3
ISC 24 20:18:33.8±1.0, 51°49N±0°05×16°08E±0°02, h0km, n34, σ0§63/69, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	168	ePg	Pg	20 18 46.5	+0.1
KSP				eSg	Sg	20 18 55.5	+0.5
KSP	Ksiaz

KHC	Kasperske Hory	2.85	215	*e*PN	Pn	20 19 20.4 -0.2
KHC				*e*PG	Pb	20 19 26.4 +0.8
KHC				*e*SN	Sn	20 19 55.0 -0.6
KHC				*e*SG	Sg	20 20 04.6 -0.8
KHC	Kasperske Hory	2.85	215	Pn	Pn	20 19 20.4 -0.2
KHC	Kasperske Hory	2.85	215	Pg	Pb	20 19 26.4 +0.8
KHC				Sn	Sn	20 19 55.0 -0.6
KHC				Sg	Sg	20 20 04.6 -0.8
LANS	Liptovska Anna	3.20	136	*e*Pg	Pg	20 19 34.6 -0.4
LANS				*e*Sg	Sg	20 20 15.6 -0.8
LANS	Liptovska Anna	3.20	136	*e*PG	Pg	20 19 34.6 -0.4
LANS				*e*SG	Sg	20 20 15.6 -0.8
VYHS	Vyhne	3.49	148	*e*Sg	Sb	20 20 21.4 +2.1
VYHS	Vyhne	3.49	148	*e*SG	Sb	20 20 21.4 +2.1
STHS	Stebnicka Huta	3.90	120	*e*Pg	Pg	20 19 48.8 +0.3
STHS				*e*Sg	Sg	20 20 39.3 +0.3
STHS	Stebnicka Huta	3.90	120	*e*PG	Pg	20 19 48.8 +0.3
STHS				*e*SG	Sg	20 20 39.3 +0.3
STHS				*e*LG	Lg	20 20 44.5

MEX 24 20:24:02.2±0.7, 15°.99N×93°.94W, h16km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.74	112	*e*P	Pg	20 24 13.8	-3.0
PCIG				*e*S	Sg	20 24 23.5	-3.1
CCIG	Comitan	1.75	80	*e*P	Pn	20 24 29.0	-3.1
CCIG				*e*S	Sn	20 24 47.7	-6.5
HUIG	Huatulco	2.10	264	*e*P	Pn	20 24 33.8	-3.0
HUIG				*e*S	Sn	20 24 57.6	-5.0
VHO	Vista Hermosa	2.89	292	*e*P	Pn	20 24 36.6	-11

*DDA **24** 20:33:07.9, 38°.77N×43°.27E, h8km, Ml2.8*
*CSEM **24** 20:33:10.9±0.5, 38°.69N×43°.48E, h2km, ML2.8, Error ellipse: s-maj=16.8km s-min=8.4km az=76.0*
*ISK **24** 20:33:10.4, 38°.72N×43°.37E, h3km, ML2.8*
*ISCJB **24** 20:33:12.1±0.8, 38°.66N±0°.05×43°.5E±0°.1, h16km±6km, Error ellipse: s-maj=14.0km s-min=8.2km az=167.4*
ISC 24 20:33:11.5±1.1, 38°.69N±0°.03×43°.34E±0°.05, h19km±4km, n31, σ1§74/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	157	*e*PG	Pg	20 33 15.3	-0.2
VANB				*e*SG	Sg	20 33 19.0	+0.9
VANB	Van	0.10	157	*e*Pg	Pg	20 33 15.3	-0.2
GEVA	Gevas	0.43	211	*i* P	Pg	20 33 17.5	-3.0
GEVA	Gevas	0.43	211	P	Pg	20 33 17.5	-3.0
BASK	Baskale_VAN	0.82	140	*i* P	Pg	20 33 25.5	-2.1
BASK	Baskale_VAN	0.82	140	P	Pg	20 33 25.5	-2.1
TUTA	Tutak	0.82	330	*i* P	Pg	20 33 22.1	-5.5
AGRB	Hanur-Agry	0.93	343	*e*PG	Pg	20 33 28.3	-1.3
AGRB	Hanur-Agry	0.93	343	*e*Pg	Pg	20 33 28.3	-1.3
HAKT	HAKKARI	1.16	165	*i* P	Pg	20 33 31.2	-2.9
HAKT	HAKKARI	1.16	165	P	Pg	20 33 31.2	-2.9
SIRN	S¨–rnak	1.40	212	*i* P	Pg	20 33 37.9	-0.5
SIRN	S¨–rnak	1.40	212	P	Pg	20 33 37.9	-0.5
CUKT	Cukurca	1.45	172	*e*PN	Pg	20 33 39.4	-0.1
CUKT	Cukurca	1.45	172	*i* P	Pn	20 33 37.9	+1.1
CUKT	Cukurca	1.45	172	P	Pn	20 33 37.9	+1.1
CUKT	Cukurca	1.45	172	*e*Pn	Pg	20 33 39.4	-0.1
VRTB	Varto-Mus	1.54	288	*e*PN	Pb	20 33 39.6	0.0
VRTB	Varto-Mus	1.54	288	*e*Pn	Pb	20 33 39.6	0.0
BNGL	BINGOL	1.73	279	*i* P	Pn	20 33 39.1	-1.7
SVAN	Silvan-Diyarba	1.77	253	*e*PN	Pb	20 33 43.3	0.0
SVAN	Silvan-Diyarba	1.77	253	*e*Pn	Pb	20 33 43.3	0.0
EAK	Akyaka	2.01	6	*i* P	Pb	20 33 47.4	-0.1
EAK	Akyaka	2.01	6	P	Pb	20 33 47.4	-0.1
SENK	Senkaya-Erzuru	2.02	338	*e*PN	Pn	20 33 46.4	+1.6
SENK	Senkaya-Erzuru	2.02	338	*e*Pn	Pn	20 33 46.4	+1.6
DDEM	Demirkent	2.52	331	*i* P	Pb	20 33 54.9	-1.4
DDEM	Demirkent	2.52	331	P	Pb	20 33 54.8	-1.4
MAZI	Mazidag	2.59	243	*e*PN	Pn	20 33 55.6	+3.1
MAZI	Mazidag	2.59	243	*e*Pn	Pn	20 33 55.6	+3.1
DAGI	Agillar	2.63	336	*i* P	Pb	20 33 58.5	+0.5

*ISK **24** 20:34:30.6, 38°.71N×43°.16E, h4km, ML2.5*
*ISCJB **24** 20:34:31.7±0.6, 38°.73N±0°.04×43°.18E±0°.07, h15km, Error ellipse: s-maj=8.0km s-min=5.0km az=158.6*
*CSEM **24** 20:34:31.0±0.3, 38°.68N×43°.07E, h2km, ML2.5, Error ellipse: s-maj=9.5km s-min=5.9km az=76.0*
*DDA **24** 20:34:31.2, 38°.68N×43°.02E, h7km, Ml2.5*
ISC 24 20:34:31.4±0.9, 38°.70N±0°.03×43°.10E±0°.04, h15km, n18, σ0§63/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.24	114	*e*PG	Pg	20 34 36.5	-0.3
VANB				*e*SG	Sg	20 34 41.1	+0.6
VANB	Van	0.24	114	*e*Pg	Pg	20 34 36.5	-0.3
VANB				*e*Sg	Sg	20 34 41.1	+0.6
GEVA	Gevas	0.39	185	*i* P	Pg	20 34 38.0	-1.2
GEVA	Gevas	0.39	185	P	Pg	20 34 38.0	-1.2
TUTA	Tutak	0.74	342	*i* P	Pg	20 34 45.6	-0.3
TUTA	Tutak	0.74	342	P	Pg	20 34 45.6	-0.3
AGRB	Hanur-Agry	0.88	354	*e*PG	Pb	20 34 48.0	-0.5
AGRB				*e*SG	Sb	20 35 00.9	+0.7
AGRB	Hanur-Agry	0.88	354	*e*Pg	Pb	20 34 48.1	-0.5
AGRB				*e*Sg	Sb	20 35 00.9	+0.7
HAKT	HAKKARI	1.23	157	*i* P	Pg	20 34 55.5	+0.3
HAKT	HAKKARI	1.23	157	P	Pg	20 34 55.5	+0.3
SIRN	S¨–rnak	1.32	205	*i* P	Pn	20 34 55.4	+0.1
SIRN	S¨–rnak	1.32	205	P	Pn	20 34 55.4	+0.1
CUKT	Cukurca	1.50	164	*e*PN	Pb	20 34 59.2	+0.2
CUKT	Cukurca	1.50	164	*i* P	Pn	20 34 57.0	-0.9
CUKT	Cukurca	1.50	164	P	Pn	20 34 57.0	-0.9
CUKT	Cukurca	1.50	164	*e*Pn	Pb	20 34 59.2	+0.2
SVAN	Silvan-Diyarba	1.59	251	*e*PN	Pb	20 35 01.0	+0.4
SVAN				*e*SN	Sg	20 35 23.1	+0.4
SVAN	Silvan-Diyarba	1.59	251	*e*Pn	Pb	20 35 01.0	+0.4

*AZER **24** 20:39:49.2±3.0, 37°.52N×43°.32E, h8km, Error ellipse: s-maj=32.9km s-min=20.2km az=81.0*
*DDA **24** 20:39:51.9, 38°.62N×43°.10E, h5km, Ml3.8*
*ISK **24** 20:39:51.4, 38°.64N×43°.13E, h5km, ML3.7*
*IDC **24** 20:39:52.0±1.0, 38°.62N×43°.04E, h0km, mb3.6/10, mb1 3.7/14, mb1mx3.5/43, mbtmp3.5/14, ML2.9/3, MS3.0/6, Ms1 3.0/6, ms1mx2.6/41, Error ellipse: s-maj=23.2km s-min=11.1km az=160.0*
*CSEM **24** 20:39:53.1±0.2, 38°.63N×43°.09E, h2km, ML3.7, Error ellipse: s-maj=5.7km s-min=5.4km az=53.0*
ISC 24 20:39:53.2±1.1, 38°.63N±0°.02×43°.10E±0°.02, h7km±8km, n108, σ1§85/113, mb3.6/9, MS3.0/4, 3C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	99	PG	Pg	20 39 57.8	+0.1
VANB				*e*SG	Sg	20 40 02.2	+1.4
VANB	Van	0.23	99	*i* Pg	Pg	20 39 57.8	+0.1
VANB				*e*Sg	Sg	20 40 02.2	+1.4
GEVA	Gevas	0.32	186	*i* P	Pg	20 39 58.0	-1.5
GEVA	Gevas	0.32	186	P	Pg	20 39 58.0	-1.5
TUTA	Tutak	0.80	344	*i* P	Pg	20 40 07.8	-0.9
TUTA	Tutak	0.80	344	P	Pg	20 40 07.8	-0.9
BASK	Baskale_VAN	0.91	129	*i* P	Pg	20 40 09.7	-1.1
BASK	Baskale_VAN	0.91	129	P	Pg	20 40 09.7	-1.1
AGRB	Hanur-Agry	0.95	355	PG	Pb	20 40 10.3	-1.1
AGRB				*e*SG	Sb	20 40 24.9	0.0
AGRB	Hanur-Agry	0.95	355	*i* Pg	Pg	20 40 10.4	-1.1
AGRB				*e*Sg	Sb	20 40 25.0	0.0
DYDN	Diyadin	1.02	26	*i* P	Pg	20 40 11.5	-1.3
DYDN	Diyadin	1.02	26	P	Pg	20 40 11.5	-1.3
EKAR	Karacoban	1.02	308	*i* P	Pb	20 40 12.3	-1.2
EKAR	Karacoban	1.02	308	P	Pb	20 40 12.3	-1.2
HAKT	HAKKARI	1.17	156	*i* P	Pg	20 40 13.9	-1.8
HAKT	HAKKARI	1.17	156	P	Pg	20 40 13.9	-1.8
SIRN	S¨–rnak	1.26	206	*i* P	Pn	20 40 19.7	+2.4
SIRN	S¨–rnak	1.26	206	P	Pn	20 40 19.7	+2.4
EATA	Eleskirt	1.32	339	*i* P	Pg	20 40 17.0	-1.6
EATA	Eleskirt	1.32	339	P	Pg	20 40 17.0	-1.6
VRTB	Varto-Mus	1.39	293	*e*PN	Pg	20 40 18.7	-1.2
VRTB				*e*SN	Sn	20 40 39.6	+1.6
VRTB	Varto-Mus	1.39	293	*i* P	Pn	20 40 18.0	-1.2
VRTB	Varto-Mus	1.39	293	P	Pn	20 40 18.0	-1.2
VRTB	Varto-Mus	1.39	293	*e*Pn	Pg	20 40 18.7	-1.2
VRTB				*e*Sn	Sn	20 40 39.6	+1.6
CUKT	Cukurca	1.44	164	*e*PN	Pg	20 40 19.8	-1.0
CUKT	Cukurca	1.44	164	*i* P	Pg	20 40 21.0	+0.2
CUKT	Cukurca	1.44	164	*e*Pn	Pg	20 40 19.8	-1.0
CUKT	Cukurca	1.44	164	P	Pg	20 40 21.0	+0.2
BNGL	BINGOL	1.56	282	*i* P	Pb	20 40 21.4	-1.2
SVAN	Silvan-Diyarba	1.57	253	*e*PN	Pb	20 40 21.1	-1.6
SVAN	Silvan-Diyarba	1.57	253	*i* P	Pb	20 40 21.5	-1.2
SVAN	Silvan-Diyarba	1.57	253	*e*Pn	Pb	20 40 21.1	-1.6
SVAN	Silvan-Diyarba	1.57	253	P	Pb	20 40 21.5	-1.2
BTMN	Batman	1.62	243	*i* P	Pb	20 40 22.3	-1.2
BTMN	Batman	1.62	243	P	Pb	20 40 22.3	-1.2
HOMI	Horasan	1.69	327	*i* P	Pb	20 40 23.9	-1.0
DIGO	Kars	1.79	7	*i* P	Pb	20 40 25.9	-0.7
DIGO	Kars	1.79	7	P	Pb	20 40 25.9	-0.7
ERZM	Erzurum	1.85	314	*i* P	Pb	20 40 26.9	-0.8
ERZM	Erzurum	1.85	314	P	Pb	20 40 26.9	-0.8
BNGB	Bing¨¶l	1.93	282	*e*PN	Pb	20 40 27.0	-1.9
NAX	Nakhchivan SNR=9.4	1.94	73	P	Pb	20 40 28.5	-0.5
NAX				⇓S	Sg	20 40 59.1	+3.4
NAX	Nakhchivan SNR=9.4	1.94	73	P	Pb	20 40 28.5	-0.5
GNI	Garni 7.6nm,0.3s,baz=266,slow=3.5,SNR=42	1.98	39	Pn	Pb	20 40 28.5	-1.2
SENK	Senkaya-Erzuru	2.01	343	*e*PN	Pn	20 40 27.9	0.0
SENK	Senkaya-Erzuru	2.01	343	*e*Pn	Pn	20 40 27.9	0.0
BINT	Bingol	2.06	278	*e*Pn	Pn	20 40 27.0	-1.4
EAK	Akyaka	2.09	11	*i* P	Pb	20 40 30.9	-0.7
EAK	Akyaka	2.09	11	P	Pb	20 40 30.9	-0.7
YEDI	Yedisu-Bingol	2.15	293	*e*PN	Pb	20 40 30.3	-2.3
YEDI	Yedisu-Bingol	2.15	293	*e*Pn	Pb	20 40 30.3	-2.3
MARD	Mardin	2.26	235	*i* P	Pn	20 40 31.1	-0.1
MAZI	Mazidag	2.40	242	*e*PN	Pn	20 40 31.8	-1.3
MAZI	Mazidag	2.40	242	*e*Pn	Pn	20 40 31.8	-1.3
DDEM	Demirkent	2.49	336	*i* P	Pb	20 40 37.0	-1.4
DDEM	Demirkent	2.49	336	P	Pb	20 40 37.0	-1.4
AKH	Akhalkalaki	2.79	6	*e*PN	Pn	20 40 38.6	+0.1
AKH	Akhalkalaki	2.79	6	*e*Pn	Pn	20 40 38.6	+0.1
ERZN	Erzincan	2.80	291	*e*PN	Pn	20 40 39.5	+1.0
PTK	Pertek	2.91	276	*e*PN	Pn	20 40 41.2	+1.0
PTK	Pertek	2.91	276	*e*Pn	Pn	20 40 41.2	+1.0
GDB	GEDABAY SNR=12	2.92	44	⇓P	Pg	20 40 46.7	-2.5
GDB				⇓S	Sg	20 41 32.4	+5.3
QZX	Qazax, Azerbai SNR=3.1	2.99	35	⇓P	Pg	20 40 48.2	-2.3
QZX				⇓S	Sg	20 41 36.1	+6.9
SVRC	Sivrice-ELAZID	2.99	266	*e*PN	Pn	20 40 42.3	+1.0
SVRC	Sivrice-ELAZID	2.99	266	*e*Pn	Pn	20 40 42.3	+1.0
GANJ	Ganja SNR=12	3.20	50	⇑P	Pb	20 40 48.4	-2.0
GANJ				⇑S	Sg	20 41 35.8	-0.1
GANJ	Ganja SNR=12	3.20	50	P	Pb	20 40 48.4	-2.0
TBLG	Delisi	3.34	21	*e*PN	Pn	20 40 45.9	0.0
TBLG	Delisi	3.34	21	*e*Pn	Pn	20 40 45.9	0.0
KTUT	Trabzon	3.48	314	*e*PN	Pn	20 40 49.3	+1.4
KTUT	Trabzon	3.48	314	*e*Pn	Pn	20 40 49.3	+1.4
BRDA	Brd	3.55	61	⇓P	Pb	20 40 51.6	-4.8
BRDA	Brd	3.55	61	P	Pb	20 40 51.6	-4.8
URFA	Urfa	3.58	252	*e*PN	Pn	20 40 50.0	+0.6
URFA	Urfa	3.58	252	*e*Pn	Pn	20 40 50.0	+0.6
ZRD	Zardab	3.91	64	⇓P	Pn	20 40 55.8	+2.1
ZRD	Zardab	3.91	64	P	Pn	20 40 55.8	+2.1
ZKTA	Zakatala	4.04	41	⇓P	Pb	20 41 02.8	-1.8
SEKA	Sheki	4.07	49	⇑P	Pb	20 41 02.0	-3.2
LRK	Lerik	4.10	88	⇓P	Pn	20 40 52.5	-4.0
LRK	Lerik	4.10	88	P	Pn	20 40 52.5	-4.0
DARE	Darende-Malaty	4.40	271	*e*PN	Pn	20 41 02.3	+1.7
DARE	Darende-Malaty	4.40	271	*e*Pn	Pn	20 41 02.3	+1.7
SVSK	Karacayir	4.91	287	*e*PN	Pn	20 41 09.4	+2.0
SVSK	Karacayir	4.91	287	*e*Pn	Pn	20 41 09.4	+2.0
KMRS	Kahramanmaras	5.02	259	*e*PN	Pn	20 41 10.7	+1.6
KMRS	Kahramanmaras	5.02	259	*e*Pn	Pn	20 41 10.7	+1.6
KBZ	Khabaz 0.1nm,0.3s,baz=184,slow=4.7,SNR=4.1	5.10	358	Pn	Pb	20 41 19.7	-3.0
KVAR	Kislovodsk Arr baz=166,slow=4.2,SNR=2.1	5.33	357	Pn	Pb	20 41 23.7	-3.1
BRTR	Keskin Array B 0.1nm,0.3s,baz=103,slow=13,SNR=2.7	7.43	281	Pn	Pn	20 41 42.7	+0.4
ASF	Jabal al Asfar 0.2nm,0.3s,baz=334,slow=14,SNR=4.0	8.20	220	Pn	Pn	20 41 52.5	-0.2
MMAI	Mount Meron Ar 0.2nm,0.3s,baz=299,slow=37,SNR=2.2	8.39	230	Pn	Pn	20 41 54.2	-1.2
MMAI				Lg	Lg	20 44 15.1	
MMAI	0.3nm,0.3s,baz=38,slow=32,SNR=2.8			LR	LR	20 45 37.2	
AKASG	Malin Array Be comp=Z,73nm,18.3s,baz=115,slow=41	15.56	325	Pn	P	20 43 37.5	+0.1
AKTO	Aktyubinsk 0.1nm,0.3s,baz=218,slow=17,SNR=2.3	15.85	37	Pn	P	20 43 38.1	-2.4
AKTO				LR	LR	20 51 05.4	
ARU	comp=Z,56nm,20.3s,baz=208,slow=42 Arti 1.5nm,0.5s,baz=225,slow=7.5,SNR=4.8	20.55	25	P	Pn	20 44 33.7	-0.7
GERES	GERESS Array B 0.5nm,0.7s,baz=96,slow=12,SNR=4.1	23.43	305	P	P	20 45 04.0	+1.0
BVAR	Borovoye Array 0.2nm,0.5s,baz=253,slow=3.9,SNR=2.6	23.66	44	P	P	20 45 06.4	+1.3
AAK	Ala-Archa comp=Z,22nm,19.8s,baz=245,slow=41	24.08	70	LR	LR	20 56 16.0	
FINES	FINESS Array B 3.1nm,0.9s,baz=148,slow=13,SNR=2.8	25.16	341	P	P	20 45 16.8	-2.1
KURBB	Kurchatov Arra 0.4nm,0.6s,baz=264,slow=8.8,SNR=3.0	27.65	53	P	P	20 45 43.2	+1.8
HFS	Hagfors 3.6nm,0.9s,baz=140,slow=11,SNR=3.5	28.39	329	P	P	20 45 48.8	+0.8
MKAR	Makanchi Array 0.4nm,0.8s,baz=250,slow=7.5,SNR=3.5	29.67	61	P	P	20 45 59.6	0.0
MKAR				LR	LR	20 59 50.1	
ZALV	comp=Z,29nm,18.5s,baz=326,slow=40 Zalesovo Beam comp=Z,32nm,18.4s,baz=70,slow=40	32.10	48	LR	LR	21 01 11.4	
ESDC	Sonseca Array 1.0nm,0.8s,baz=84,slow=14,SNR=4.6	36.19	287	P	P	20 46 56.0	-0.5
SONM	Songino Array comp=Z,15nm,18.5s,baz=282,slow=38	45.84	57	LR	LR	21 09 02.1	
CMAR	Chiang Mai Arr 0.6nm,0.8s,baz=301,slow=7.7,SNR=6.2	52.19	96	P	P	20 49 04.2	-0.7
PDAR	Pinedale Array 0.1nm,0.4s,baz=83,slow=2.8,SNR=2.5	95.26	340	P	P	20 53 19.0	+0.9

*CSEM **24** 20:43:05.6, 38°.69N×43°.38E, h7km, ML2.6*
DDA 24 20:43:05.6, 38°.69N×43°.38E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUTA	Tutak	0.84	328	*i* P	Pg	20 43 21.8	+0.1
TUTA	Tutak	0.84	328	P	Pg	20 43 21.8	+0.1
EATA	Eleskirt	1.36	330	*i* P	Pn	20 43 31.0	-0.2
EATA	Eleskirt	1.36	330	P	Pn	20 43 31.0	-0.3
CUKT	Cukurca	1.45	173	*i* P	Pb	20 43 33.0	0.0
CUKT	Cukurca	1.45	173	P	Pb	20 43 33.0	0.0
ERZM	Erzurum	1.98	308	*i* P	Pg	20 43 43.6	+0.1
ERZM	Erzurum	1.98	308	P	Pg	20 43 43.6	+0.1

*AZER **24** 20:49:25.6±4.2, 38°.12N×43°.25E, h36km±99km, Error ellipse: s-maj=114.9km s-min=31.7km az=168.0*
*DDA **24** 20:49:27.6, 38°.78N×43°.60E, h7km, Ml3.4*
*ISK **24** 20:49:28.2, 38°.84N×43°.58E, h5km, ML3.3*
*CSEM **24** 20:49:29.9±0.3, 38°.88N×43°.45E, h2km, ML3.3, Error ellipse: s-maj=6.5km s-min=5.5km az=96.0*
ISC 24 20:49:29.0±1.1, 38°.82N±0°.02×43°.56E±0°.03, h11km±13km, n44, σ1§33/53, 5C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	210	*e*PG	Pb	20 49 35.5	-0.4
VANB				*e*SG	Sb	20 49 41.0	+0.5
VANB	Van	0.26	210	*e*Pg	Pb	20 49 35.5	-0.4
VANB				*e*Sg	Sb	20 49 41.0	+0.5
GEVA	Gevas	0.64	218	*i* P	Pg	20 49 39.5	-2.0
GEVA	Gevas	0.64	218	P	Pg	20 49 39.5	-2.0
DYDN	Diyadin	0.73	8	*i* P	Pg	20 49 42.3	-0.9
DYDN	Diyadin	0.73	8	P	Pg	20 49 42.3	-0.9
TUTA	Tutak	0.82	315	*i* P	Pg	20 49 44.1	-0.7
TUTA	Tutak	0.82	315	P	Pg	20 49 44.1	-0.7
BASK	Baskale_VAN	0.84	155	*i* P	Pg	20 49 43.3	-2.1
AGRB	Hanur-Agry	0.87	330	*e*PG	Pg	20 49 45.0	-0.9
AGRB				*e*SG	Sb	20 49 57.4	-0.7
AGRB	Hanur-Agry	0.87	330	*e*Pg	Pg	20 49 45.0	-0.9
AGRB				*e*Sg	Sb	20 49 57.4	-0.7
EKAR	Karacoban	1.24	291	*i* P	Pn	20 49 52.5	-0.1
EKAR	Karacoban	1.24	291	P	Pn	20 49 52.5	-0.1
HAKT	HAKKARI	1.27	175	*i* P	Pn	20 49 50.6	-2.3
EATA	Eleskirt	1.33	322	*i* P	Pg	20 49 53.9	-0.7
EATA	Eleskirt	1.33	322	P	Pg	20 49 53.9	-0.7
NAX	Nakhchivan SNR=7.9	1.55	76	P	Pg	20 49 57.7	-1.1
NAX				⇑S	Sg	20 50 22.5	+3.6
NAX	Nakhchivan SNR=7.9	1.55	76	P	Pg	20 49 57.7	-1.1
NAX				S	Sg	20 50 22.5	+3.6
CUKT	Cukurca	1.57	179	*e*PN	Pb	20 49 57.9	-0.4
CUKT	Cukurca	1.57	179	*i* P	Pg	20 50 00.5	+1.3
CUKT	Cukurca	1.57	179	P	Pg	20 50 00.5	+1.3
DIGO	Kars	1.60	355	*i* P	Pg	20 49 58.7	-1.0
DIGO	Kars	1.60	355	P	Pg	20 49 58.7	-1.0
SIRN	S¨–rnak	1.60	215	*i* P	Pb	20 49 58.8	+0.1
SIRN	S¨–rnak	1.60	215	P	Pb	20 49 58.8	+0.1
VRTB	Varto-Mus	1.67	282	*e*PN	Pb	20 49 59.4	-0.6
VRTB	Varto-Mus	1.67	282	*e*Pn	Pb	20 49 59.4	-0.6
HOMI	Horasan	1.77	314	*i* P	Pg	20 50 02.1	-0.8
SVAN	Silvan-Diyarba	1.97	251	*e*PN	Pb	20 50 03.6	-1.3
SVAN	Silvan-Diyarba	1.97	251	*e*Pn	Pb	20 50 03.6	-1.3
SENK	Senkaya-Erzuru	1.97	332	*e*PN	Pn	20 50 03.1	+0.5
SENK	Senkaya-Erzuru	1.97	332	*e*Pn	Pn	20 50 03.1	+0.5
BNGB	Bing¨¶l	2.25	275	*e*PN	Pn	20 50 07.6	+1.2
BINT	Bingol	2.40	272	*e*Pn	Pn	20 50 07.6	-0.8
YEDI	Yedisu-Bingol	2.42	286	*e*PN	Pn	20 50 09.9	+1.1
YEDI	Yedisu-Bingol	2.42	286	*e*Pn	Pn	20 50 09.9	+1.1
GDB	GEDABAY SNR=8.6	2.54	41	⇑P	Pb	20 50 14.8	0.0
GDB				⇓S	Sg	20 50 52.2	+1.5
GDB	GEDABAY SNR=8.6	2.54	41	P	Pb	20 50 14.8	0.0
QZX	Qazax, Azerbai SNR=11	2.63	31	P	Pb	20 50 16.6	+0.3
QZX				⇑S	Sg	20 50 54.4	+0.8
QZX	Qazax, Azerbai SNR=11	2.63	31	P	Pb	20 50 16.6	+0.3
GANJ	Ganja SNR=8.5	2.80	49	⇑P	Pb	20 50 16.6	-2.6
GANJ				⇑S	Sg	20 50 59.3	+0.2
GANJ	Ganja SNR=8.5	2.80	49	P	Pb	20 50 16.6	-2.6
PTK	Pertek	3.25	273	*e*PN	Pn	20 50 21.4	+1.2
PTK	Pertek	3.25	273	*e*Pn	Pn	20 50 21.4	+1.2

*AZER **24** 20:53:07.4±3.0, 38°.05N×43°.43E, h12km, Error ellipse: s-maj=33.4km s-min=14.1km az=87.0*
*DDA **24** 20:53:08.2, 38°.69N×43°.50E, h8km, Ml3.4*
*ISK **24** 20:53:08.2, 38°.70N×43°.52E, h5km, ML3.3*
*CSEM **24** 20:53:10.2±0.2, 38°.60N×43°.40E, h2km, ML3.3, Error ellipse: s-maj=7.1km s-min=6.2km az=166.0*
ISC 24 20:53:09.8±1.0, 38°.65N±0°.03×43°.49E±0°.02, h20km±4km, n72, σ1§82/81, 7C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	234	PG	Pg	20 53 12.9	-0.9
VANB				*e*SG	Sg	20 53 17.3	+0.8
VANB	Van	0.10	234	*i* Pg	Pg	20 53 13.0	-0.9
GEVA	Gevas	0.48	225	*i* P	Pg	20 53 18.4	-1.3
GEVA	Gevas	0.48	225	P	Pg	20 53 18.4	-1.3
BASK	Baskale_VAN	0.72	146	*i* P	Pb	20 53 22.6	-1.2
BASK	Baskale_VAN	0.72	146	P	Pb	20 53 22.6	-1.2
DYDN	Diyadin	0.90	10	*i* P	Pb	20 53 25.0	-1.9
DYDN	Diyadin	0.90	10	P	Pb	20 53 25.0	-1.9
TUTA	Tutak	0.92	325	*i* P	Pb	20 53 25.0	-2.1
TUTA	Tutak	0.92	325	P	Pb	20 53 25.0	-2.1
AGRB	Hanur-Agry	1.00	337	*e*PG	Pb	20 53 28.0	-0.6
AGRB				*e*SG	Sn	20 53 42.1	-0.4
AGRB	Hanur-Agry	1.00	337	*e*Pg	Pb	20 53 28.0	-0.6
AGRB				*e*Sg	Sn	20 53 42.1	-0.4
HAKT	HAKKARI	1.11	171	*i* P	Pn	20 53 29.2	-1.2
HAKT	HAKKARI	1.11	171	P	Pn	20 53 29.2	-1.2
EKAR	Karacoban	1.27	299	*i* P	Pb	20 53 32.

SNR=4.0
XNQ Khinaliq 4.37 53 P **Pn 20 54 19.3 +4.1**
SNR=4.0

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*NSSC **24** 20:58:14.2±1.3, 39°.89N×44°.33E, h37km±999km, ML3.6*
*DDA **24** 20:58:28.8, 38°.46N×43°.25E, h5km, Ml3.9*
*IDC **24** 20:58:31.4±1.1, 38°.44N×43°.12E, h0km, mb3.6/10, mb1 3.6/16, mb1mx3.5/40, mbtmp3.5/16, ML2.4/5, MS2.9/12, Ms1 2.9/12, ms1mx2.7/58, Error ellipse: s-maj=19.5km s-min=12.4km az=168.0*
*NEIC **24** 20:58:32.7±0.0, 38°.71N×43°.09E, h8km, mb4.0/8, ML3.8(ISK), ML3.9(DDA), After ISK.*
*ISK **24** 20:58:32.9, 38°.68N×43°.10E, h11km, ML3.9*
*CSEM **24** 20:58:34.9±0.2, 38°.65N×43°.04E, h10km, ML3.9, Error ellipse: s-maj=6.6km s-min=3.6km az=169.0*
*ISCJB **24** 20:58:34.3±0.5, 38°.61N±0°.03×43°.10E±0°.03, h22km±4km, mb3.7/10, MS2.9/7, Error ellipse: s-maj=4.9km s-min=3.1km az=161.3*
*AZER **24** 20:58:44.7±0.5, 38°.95N×43°.85E, h12km, Error ellipse: s-maj=5.1km s-min=2.8km az=40.0*
ISC 24 20:58:34.4±0.9, 38°.72N±0°.02×43°.14E±0°.03, h10km±7km, n173, σ2°12/180, mb3.5/10, MS3.0/7, 25C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**123**	*e*PG	**Pg**	**20 58 39.0**	**-0.2**
VANB				*e*SG	**Sg**	**20 58 44.2**	**+1.7**
VANB	**Van**	**0.23**	**123**	*e*Pg	**Pg**	**20 58 39.0**	**-0.2**
VANB				*e*Sg	**Sg**	**20 58 44.2**	**+1.7**
VANB	**Van**	**0.23**	**123**	Pg	**Pg**	**20 58 39.0**	**-0.2**
TUTA	**Tutak**	**0.72**	**339**	*i* P	**Pg**	20 58 38.5	-10
AGRB	**Hanur-Agry**	**0.86**	**352**	*e*PG	**Pg**	**20 58 50.8**	**-0.2**
AGRB				*e*SG	**Sb**	**20 59 03.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.86**	**352**	*e*Pg	**Pg**	**20 58 50.8**	**-0.2**
AGRB				*e*Sg	**Sb**	**20 59 03.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.86**	**352**	Pg	**Pg**	**20 58 50.8**	**-0.2**
DYDN	**Diyadin**	**0.92**	**27**	*i* P	**Pg**	**20 58 51.6**	**-0.6**
DYDN	**Diyadin**	**0.92**	**27**	P	**Pg**	**20 58 51.6**	**-0.6**
BASK	**Baskale_VAN**	**0.95**	**134**	*i* P	**Pg**	**20 58 50.2**	**-2.5**
EKAR	**Karacoban**	**0.99**	**303**	*i* P	Pg	20 58 47.2	-6.3
EATA	**Eleskirt**	**1.24**	**336**	*i* P	Pb	20 58 49.2	-9.0
VRTB	**Varto-Mus**	**1.39**	**289**	*e*PN	**Pn**	**20 58 58.4**	**-1.5**
VRTB	**Varto-Mus**	**1.39**	**289**	*i* P	**Pn**	**20 58 58.8**	**-1.1**
VRTB	**Varto-Mus**	**1.39**	**289**	*e*Pn	**Pn**	**20 58 58.4**	**-1.5**
VRTB	**Varto-Mus**	**1.39**	**289**	P	**Pn**	**20 58 58.8**	**-1.1**
CUKT	**Cukurca**	**1.52**	**166**	*e*PN	**Pn**	**20 59 00.5**	**-1.2**
CUKT	**Cukurca**	**1.52**	**166**	*i* P	Pn	20 58 52.7	-9.0
CUKT	**Cukurca**	**1.52**	**166**	*e*Pn	**Pn**	**20 59 00.5**	**-1.2**
BNGL	**BINGOL**	**1.57**	**279**	*i* P	**Pn**	**20 59 00.9**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.63**	**250**	*e*PN	**Pn**	**20 59 01.3**	**-1.8**
SVAN	**Silvan-Diyarba**	**1.63**	**250**	*i* P	**Pn**	**20 59 01.6**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.63**	**250**	*e*Pn	**Pn**	**20 59 01.3**	**-1.8**
SVAN	**Silvan-Diyarba**	**1.63**	**250**	P	**Pn**	**20 59 01.6**	**-1.5**
HOMI	**Horasan**	**1.63**	**324**	*i* P	**Pb**	**20 59 04.3**	**-0.4**
BTMN	**Batman**	**1.69**	**241**	*i* P	**Pn**	**20 59 02.8**	**-1.2**
BTMN	**Batman**	**1.69**	**241**	P	**Pn**	**20 59 02.8**	**-1.2**
DIGO	**Kars**	**1.70**	**6**	*i* P	**Pg**	**20 59 06.4**	**-0.6**
DIGO	**Kars**	**1.70**	**6**	P	**Pg**	**20 59 06.4**	**-0.6**
ERZM	**Erzurum**	**1.81**	**311**	*i* P	**Pb**	**20 59 07.5**	**-0.3**
ERZM	**Erzurum**	**1.81**	**311**	P	**Pb**	**20 59 07.5**	**-0.3**
GNI	**Garni**	**1.89**	**41**	Pn	**Pb**	**20 59 09.1**	**+0.1**
	7.4nm,0.3s,baz=249,slow=2.8,SNR=22						
NAX	**Nakhchivan**	**1.89**	**75**	⇑P	**Pb**	**20 59 09.2**	**+0.2**
	SNR=22						
NAX				⇓S	**Sn**	**20 59 27.2**	**-3.5**
NAX	**Nakhchivan**	**1.89**	**75**	P	**Pb**	**20 59 09.2**	**+0.2**
	SNR=22						
ECAT	**Cat-ERZURUM**	**1.90**	**298**	*i* P	**Pn**	**20 59 07.7**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.90**	**298**	P	**Pn**	**20 59 07.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.94**	**342**	*e*PN	**Pn**	**20 59 07.0**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**342**	*e*Pn	**Pn**	**20 59 07.0**	**-0.5**
BNGB	**Bing¶ll**	**1.94**	**279**	*e*PN	**Pn**	**20 59 06.3**	**-1.2**
EAK	**Akyaka**	**1.99**	**10**	*i* P	**Pg**	**20 59 13.7**	**+1.1**
BINT	**Bingol**	**2.08**	**275**	*e*Pn	**Pn**	**20 59 06.3**	**-3.1**
YEDI	**Yedisu-Bingol**	**2.14**	**290**	*e*PN	**Pn**	**20 59 09.2**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.14**	**290**	*e*Pn	**Pn**	**20 59 09.2**	**-1.1**
MARD	**Mardin**	**2.34**	**234**	*i* P	**Pn**	**20 59 11.4**	**-1.5**
MARD	**Mardin**	**2.34**	**234**	*e*PN	**Pn**	**20 59 11.4**	**-1.5**
MARD	**Mardin**	**2.34**	**234**	*e*Pn	**Pn**	**20 59 11.4**	**-1.5**
DDEM	**Demirkent**	**2.42**	**334**	*i* P	**Pg**	**20 59 19.6**	**-1.1**
KOPT	**Kop Dagi**	**2.42**	**303**	*i* P	**Pb**	**20 59 18.6**	**+0.4**
KOPT	**Kop Dagi**	**2.42**	**303**	*e*PN	**Pb**	**20 59 15.9**	**-2.3**
KOPT	**Kop Dagi**	**2.42**	**303**	*e*Pn	**Pb**	**20 59 15.9**	**-2.3**
MAZI	**Mazidag**	**2.47**	**240**	*e*PN	**Pn**	**20 59 12.7**	**-2.1**
MAZI	**Mazidag**	**2.47**	**240**	*e*Pn	**Pn**	**20 59 12.7**	**-2.1**
DIYA	**Diyarbakir**	**2.51**	**252**	*i* P	**Pn**	**20 59 14.9**	**-0.3**
DIYA	**Diyarbakir**	**2.51**	**252**	P	**Pn**	**20 59 14.9**	**-0.3**
DAGI	**Agillar**	**2.53**	**339**	*i* P	**Pb**	**20 59 18.7**	**-1.3**
ARTV	**Artvin**	**2.63**	**340**	*e*Pn	**Pb**	**20 59 19.1**	**-2.6**
ARTV	**Artvin**	**2.63**	**340**	*e*Pn	**Pb**	**20 59 19.1**	**-2.6**
AKH	**Akhalkalaki**	**2.70**	**6**	*e*PN	**Pn**	**20 59 18.0**	**+0.1**
AKH	**Akhalkalaki**	**2.70**	**6**	*e*Pn	**Pn**	**20 59 18.0**	**+0.1**
ERZN	**Erzincan**	**2.79**	**289**	*e*PN	**Pn**	**20 59 18.7**	**-0.5**
GDB	**GEDABAY**	**2.83**	**44**	⇓P	**Pn**	**20 59 22.5**	**+2.6**
	SNR=7.5						
GDB				⇑S	**Sn**	**20 59 52.0**	**-2.1**
GDB	**GEDABAY**	**2.83**	**44**	P	**Pn**	**20 59 22.5**	**+2.6**
	SNR=7.5						
TNCL	**Tunceli-Merkez**	**2.83**	**279**	*i* P	**Pb**	**20 59 22.3**	**-2.8**
TNCL	**Tunceli-Merkez**	**2.83**	**279**	P	**Pb**	**20 59 22.3**	**-2.8**
EUZM	**Uzumlu**	**2.85**	**291**	*i* P	**Pb**	**20 59 24.4**	**-1.0**
QZX	**Qazax, Azerbai**	**2.90**	**36**	⇓P	**Pb**	**20 59 23.7**	**-2.4**
	SNR=4.5						
QZX				⇑S	**Sn**	**20 59 53.3**	**-2.1**
QZX	**Qazax, Azerbai**	**2.90**	**36**	P	**Pb**	**20 59 23.7**	**-2.4**
	SNR=4.5						
PTK	**Pertek**	**2.93**	**274**	*e*PN	**Pn**	**20 59 20.8**	**-0.4**
PTK	**Pertek**	**2.93**	**274**	*e*Pn	**Pn**	**20 59 20.8**	**-0.4**
SVRC	**Sivrice-ELAZID**	**3.03**	**265**	*e*PN	**Pn**	**20 59 21.6**	**-0.9**
SVRC	**Sivrice-ELAZID**	**3.03**	**265**	*e*Pn	**Pn**	**20 59 21.6**	**-0.9**
EZC	**Erzincan**	**3.12**	**290**	*e*Pn	Pn	20 59 18.7	-5.0
GANJ	**Ganja**	**3.12**	**51**	⇑P	**Pn**	**20 59 26.0**	**+2.4**
	SNR=6.3						
GANJ				⇑S	**Sn**	**20 59 58.0**	**-2.8**
GANJ	**Ganja**	**3.12**	**51**	P	**Pn**	**20 59 26.0**	**+2.4**
	SNR=6.3						
TBLG	**Delisi**	**3.24**	**22**	*e*PN	**Pn**	**20 59 25.7**	**+0.4**
TBLG	**Delisi**	**3.24**	**22**	*e*Pn	**Pn**	**20 59 25.7**	**+0.4**
SFNV	**Sufian**	**3.33**	**227**	*i* P	**Pn**	**20 59 25.0**	**-1.6**
SFNV				*e*S	**Sb**	**21 00 15.9**	**+1.8**
SFNV				AML	AML	21 00 24.1	
	comp=E,257nm,0.9s						
SFNV				AML	AML	21 00 26.2	
	comp=N,416nm,0.5s						
KTUT	**Trabzon**	**3.44**	**312**	*e*PN	**Pn**	**20 59 28.0**	**0.0**
KTUT	**Trabzon**	**3.44**	**312**	*e*Pn	**Pn**	**20 59 28.0**	**0.0**
BRDA	**Brd**	**3.48**	**63**	⇑P	**Pn**	**20 59 30.7**	**+2.2**
	SNR=8.6						
BRDA				⇓S	**Sn**	**21 00 06.3**	**-3.4**
BRDA	**Brd**	**3.48**	**63**	P	**Pn**	**20 59 30.7**	**+2.2**
	SNR=8.6						
URFA	**Urfa**	**3.64**	**251**	*e*PN	**Pn**	**20 59 30.9**	**0.0**
URFA	**Urfa**	**3.64**	**251**	*e*Pn	**Pn**	**20 59 30.9**	**0.0**
MNGR	**Mingechevir, A**	**3.67**	**55**	⇓P	**Pn**	**20 59 33.4**	**+2.3**
	SNR=8.3						
MNGR				⇑S	**Sn**	**21 00 10.9**	**-3.4**
MNGR	**Mingechevir, A**	**3.67**	**55**	P	**Pn**	**20 59 33.4**	**+2.3**
	SNR=8.3						
ZRD	**Zardab**	**3.84**	**65**	⇓P	**Pn**	**20 59 35.6**	**+2.1**
	SNR=7.9						
ZRD				⇑S	**Sn**	**21 00 14.5**	**-4.2**
ZRD	**Zardab**	**3.84**	**65**	P	**Pn**	**20 59 35.6**	**+2.1**
	SNR=7.9						
ZKTA	**Zakatala**	**3.95**	**41**	⇑P	**Pn**	**20 59 37.7**	**+2.8**
	SNR=5.4						
ZKTA				⇑S	**Sn**	**21 00 19.7**	**-1.6**
SEKA	**Sheki**	**3.98**	**50**	⇓P	**Pn**	**20 59 38.6**	**+3.1**
	SNR=7.8						
SEKA				⇓S	**Sn**	**21 00 20.6**	**-1.7**
SEKA	**Sheki**	**3.98**	**50**	P	**Pn**	**20 59 38.6**	**+3.1**
	SNR=7.8						
ESPY	**Espiye-Giresun**	**4.04**	**304**	*e*PN	**Pn**	**20 59 36.4**	**+0.1**
ESPY	**Espiye-Giresun**	**4.04**	**304**	*e*Pn	**Pn**	**20 59 36.4**	**+0.1**
LRK	**Lerik**	**4.07**	**90**	⇑P	**Pn**	**20 59 39.4**	**+2.6**
	SNR=4.1						
LRK				⇑S	**Sn**	**21 00 21.6**	**-3.0**
LRK	**Lerik**	**4.07**	**90**	P	**Pn**	**20 59 39.4**	**+2.6**
	SNR=4.1						
GLBA	**Clilabad**	**4.12**	**81**	⇑P	**Pn**	**20 59 39.6**	**+2.2**
	SNR=7.0						
GLBA				⇑S	**Sn**	**21 00 22.7**	**-2.9**
GLBA	**Clilabad**	**4.12**	**81**	P	**Pn**	**20 59 39.6**	**+2.2**
	SNR=7.0						
KDMR	**Kurdemir**	**4.23**	**65**	⇑S	**Sn**	**21 00 25.0**	**-3.3**
QBL	**Gabala**	**4.24**	**57**	⇑P	**Pn**	**20 59 41.1**	**+2.0**
	SNR=3.6						
QBL				⇑S	**Sn**	**21 00 25.2**	**-3.4**
QBL	**Gabala**	**4.24**	**57**	P	**Pn**	**20 59 41.1**	**+2.0**
	SNR=3.6						
SAAT	**Saatly**	**4.25**	**73**	⇓S	**Sn**	**21 00 24.3**	**-4.5**
IML	**Ismayilli**	**4.40**	**60**	⇑P	**Pn**	**20 59 43.4**	**+2.1**
	SNR=4.6						
IML	**Ismayilli**	**4.40**	**60**	P	**Pn**	**20 59 43.4**	**+2.1**
	SNR=4.6						
LKRN	**Lenkeran, Azer**	**4.41**	**88**	⇑P	**Pn**	**20 59 43.8**	**+2.5**
	SNR=6.0						
LKRN	**Lenkeran, Azer**	**4.41**	**88**	P	**Pn**	**20 59 43.8**	**+2.5**
	SNR=6.0						
ASTR	**Astara**	**4.43**	**90**	⇑P	**Pn**	**20 59 44.2**	**+2.6**
	SNR=2.9						
ASTR	**Astara**	**4.43**	**90**	P	**Pn**	**20 59 44.2**	**+2.6**
	SNR=2.9						
DARE	**Darende-Malaty**	**4.43**	**270**	*e*PN	**Pn**	**20 59 41.7**	**0.0**
DARE	**Darende-Malaty**	**4.43**	**270**	*e*Pn	**Pn**	**20 59 41.7**	**0.0**
XNQ	**Khinaliq**	**4.55**	**56**	⇑P	**Pn**	**20 59 45.5**	**+2.0**
	SNR=5.3						
XNQ	**Khinaliq**	**4.55**	**56**	P	**Pn**	**20 59 45.5**	**+2.0**
	SNR=5.3						
PQL	**Pirkuli**	**4.68**	**62**	⇑P	**Pn**	**20 59 47.1**	**+1.9**
	SNR=3.6						
PQL	**Pirkuli**	**4.68**	**62**	P	**Pn**	**20 59 47.1**	**+1.9**
	SNR=3.6						
RSDY	**Resadiye-TOKAT**	**4.79**	**292**	*e*PN	**Pn**	**20 59 47.5**	**+0.8**
RSDY	**Resadiye-TOKAT**	**4.79**	**292**	*e*Pn	**Pn**	**20 59 47.5**	**+0.8**
QUBA	**Quba, Azerbaij**	**4.88**	**56**	⇑P	**Pn**	**20 59 49.9**	**+2.2**
	SNR=3.5						
QUBA	**Quba, Azerbaij**	**4.88**	**56**	P	**Pn**	**20 59 49.9**	**+2.2**
	SNR=3.5						
SVSK	**Karacayir**	**4.91**	**286**	*e*PN	**Pn**	**20 59 48.8**	**+0.6**
SVSK	**Karacayir**	**4.91**	**286**	*e*Pn	**Pn**	**20 59 48.8**	**+0.6**
KBZ	**Khabaz**	**5.00**	**358**	Pn	Pb	20 59 55.8	-6.2
	comp=N,0.1nm,0.3s,baz=208,slow=17,SNR=2.7						
KMRS	**Kahramanmaras**	**5.07**	**258**	*e*PN	**Pn**	**20 59 50.9**	**+0.5**
KMRS	**Kahramanmaras**	**5.07**	**258**	*e*Pn	**Pn**	**20 59 50.9**	**+0.5**
KIV	**Kislovodsk**	**5.24**	**356**	*e*PN	**Pn**	**20 59 50.4**	**-2.4**
KIV	**Kislovodsk**	**5.24**	**356**	*e*Pn	**Pn**	**20 59 50.4**	**-2.4**
KVAR	**Kislovodsk Arr**	**5.24**	**356**	Pn	Pn	20 59 58.6	+5.7
	baz=304,slow=10,SNR=2.4						
KVAR				LR	LR	21 02 38.7	
	comp=N,51nm,20.2s,baz=132,slow=45						
RABH	**Abou Rabah**	**6.41**	**230**	*i* P	**Pn**	**21 00 07.5**	**-1.4**
RABH				*e*S	**Sn**	**21 01 29.8**	**+7.6**
RABH				AML	AML	21 02 05.0	
	comp=N,40nm,0.7s						
RABH				AML	AML	21 02 05.5	
	comp=E,48nm,0.6s						
ROOS	**tI_alroos**	**6.55**	**228**	*i* P	**Pn**	**21 00 09.6**	**-1.2**
ROOS				*e*S	**Sn**	**21 01 32.4**	**+6.8**
ROOS				AML	AML	21 02 17.0	
	comp=N,66nm,0.7s						
ROOS				AML	AML	21 02 23.4	
	comp=E,57nm,0.8s						
BIDA	**Albida**	**6.60**	**238**	*i* P	**Pn**	**21 00 08.8**	**-2.7**
BIDA				*e*S	**Sn**	**21 01 32.4**	**+5.5**
BIDA				AML	AML	21 02 14.5	
	comp=N,141nm,0.7s						
BIDA				AML	AML	21 02 17.0	
	comp=E,113nm,0.6s						
MARH	**Ras Al Marh**	**7.13**	**231**	*i* P	**Pn**	**21 00 18.3**	**-0.7**
MARH				*e*S	**Sn**	**21 01 45.8**	**+5.7**
MARH				AML	AML	21 02 32.7	
	comp=E,42nm,0.8s						
MARH				AML	AML	21 02 45.8	
	comp=N,42nm,0.7s						
BRTR	**Keskin Array B**	**7.45**	**281**	Pn	**Pn**	**21 00 23.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=117,slow=12,SNR=3.5						
BRBR	**Barbar**	**7.87**	**230**	*i* P	**Pn**	**21 00 28.1**	**-1.0**
BRBR				*e*S	**Sn**	**21 02 05.2**	**+6.9**
BRBR				AML	AML	21 03 02.9	
	comp=N,25nm,0.7s						
BRBR				AML	AML	21 03 10.8	
	comp=E,24nm,0.7s						
ASF	**Jabal al Asfar**	**8.29**	**220**	Pn	**Pn**	**21 00 32.3**	**-2.3**
	comp=E,0.1nm,0.3s,baz=106,slow=7.4,SNR=2.8						
ASF				Lg	Lg	21 02 51.4	
	comp=E,0.3nm,0.3s,baz=313,slow=19,SNR=2.3						
MMAI	**Mount Meron Ar**	**8.48**	**230**	Pn	**Pn**	**21 00 36.7**	**-0.5**
	comp=E,0.6nm,0.3s,baz=66,slow=14,SNR=3.5						
MMAI				Lg	Lg	21 02 56.3	
	comp=E,0.5nm,0.3s,baz=15,slow=23,SNR=3.4						
MMAI				LR	LR	21 04 14.0	
	comp=E,87nm,21.2s,baz=60,slow=41						
EIL	**Elat**	**11.29**	**219**	LR	LR	21 06 08.9	
	comp=E,122nm,18.0s,baz=46,slow=41						
IDI	**Anoyia**	**14.98**	**262**	LR	LR	21 07 53.6	
	comp=E,34nm,18.8s,baz=106,slow=38						
VOIR		**15.00**	**302**	⇑*i*P	**P**	**21 02 14.1**	**+2.2**
VOIR		**15.00**	**302**	⇑*i*P	**P**	**21 02 14.1**	**+2.2**
RAYN	**Ar Rayn**	**15.29**	**172**	*e*Pn	**Pn**	**21 02 05.6**	**-4.7**
	comp=E,4.6nm,1.0s						
AKASG	**Malin Array Be**	**15.50**	**325**	Pn	**Pn**	**21 02 13.4**	**+0.5**
	comp=E,0.6nm,0.3s,baz=133,slow=11,SNR=10						
AKBB	**Malin Array Si**	**15.50**	**325**	*e*Pn	**P**	**21 02 17.5**	**+0.2**
	comp=E,10nm,0.8s						
KIEV	**Kiev**	**15.50**	**325**	*e*Pn	**Pn**	**21 02 13.1**	**+0.2**
	comp=E,9.4nm,0.8s						
KIEV	**Kiev**	**15.50**	**325**	*e*Pn	**Pn**	**21 02 13.1**	**+0.2**
	comp=E,9.4nm,0.8s						
AKTO	**Aktyubinsk**	**15.76**	**37**	Pn	**Pn**	**21 02 14.7**	**-1.6**
	comp=E,0.1nm,0.3s,baz=234,slow=13,SNR=5.1						
AKTO				LR	LR	21 09 33.3	
	comp=E,39nm,18.8s,baz=211,slow=41						
BURAR	**Bucovina Array**	**15.78**	**310**	⇓*i*P	**P**	**21 02 22.7**	**+2.1**
BURAR	**Bucovina Array**	**15.78**	**310**	⇓*i*P	**P**	**21 02 22.7**	**+2.1**
BUR08	**Bucovina Ar. S**	**15.80**	**310**	*e*Pn	**P**	**21 02 20.1**	**-0.7**
ABKAR	**Akbulak array**	**16.00**	**43**	*e*Pn	**Pn**	**21 02 20.7**	**+1.4**
	comp=E,9.4nm,0.8s						
ABKAR	**Akbulak array**	**16.00**	**43**	*e*Pn	**Pn**	**21 02 20.7**	**+1.4**
	comp=E,9.4nm,0.8s						
DRGR		**17.00**	**305**	⇓*i*P	**P**	**21 02 36.9**	**+2.8**
DRGR		**17.00**	**305**	⇓*i*P	**P**	**21 02 36.9**	**+2.8**
PSZ	**Piszkesteto**	**19.19**	**306**	*e*P	**Pn**	**21 02 59.7**	**+0.6**
	comp=E,12nm,1.3s						
PSZ	**Piszkesteto**	**19.19**	**306**	*e*P	**Pn**	**21 02 59.7**	**+0.6**
	comp=E,12nm,1.3s						
VYHS	**Vyhne**	**20.05**	**307**	*e*P	Pn	21 03 09.4	+0.1
	comp=E,6.3nm,1.3s						
VYHS	**Vyhne**	**20.05**	**307**	*e*P	Pn	21 03 09.4	+0.1
ARU	**Arti**	**20.46**	**25**	P	**P**	**21 03 12.8**	**+1.0**
	comp=E,5.7nm,0.9s,baz=227,slow=8.7,SNR=8.0						
ARU				LR	LR	21 12 53.3	
	comp=E,37nm,19.9s,baz=220,slow=42						
ARU	**Arti**	**20.46**	**25**	*e*P	**P**	**21 03 12.8**	**+1.0**
	comp=E,7.1nm,0.8s						
ARU	**Arti**	**20.46**	**25**	*e*P	**P**	**21 03 12.8**	**+1.0**
	comp=E,7.1nm,0.8s						
KKAR	**Karatay Array**	**21.10**	**69**	*e*P	**P**	**21 03 20.3**	**+1.3**
	comp=E,63nm,0.8s						
KKAR	**Karatay Array**	**21.10**	**69**	*e*P	**P**	**21 03 20.3**	**+1.3**
	comp=E,63nm,0.8s						
GERES	**GERESS Array B**	**23.41**	**305**	P	**P**	**21 03 42.0**	**-1.4**
	comp=E,0.8nm,0.7s,baz=100,slow=7.3,SNR=4.4						
GERES				LR	LR	21 13 14.6	
	comp=E,22nm,19.5s,baz=54,slow=38						
BVAR	**Borovoye Array**	**23.57**	**44**	P	**P**	**21 03 45.6**	**+0.7**
	comp=E,1.2nm,0.9s,baz=231,slow=7.1,SNR=6.3						
AAK	**Ala-Archa**	**24.02**	**71**	P	**P**	**21 03 48.5**	**-1.0**
	comp=E,1.7nm,0.9s,baz=233,slow=4.1,SNR=4.8						
AAK				LR	LR	21 15 50.8	
	comp=E,17nm,20.3s,baz=238,slow=43						
AAK	**Ala-Archa**	**24.02**	**71**	*e*P	**P**	**21 03 51.6**	**+2.1**
	comp=E,5.3nm,1.3s						
AAK	**Ala-Archa**	**24.02**	**71**	*e*P	**P**	**21 03 51.6**	**+2.1**
	comp=E,5.3nm,1.3s						
FINES	**FINESS Array B**	**25.09**	**341**	P	**P**	**21 03 59.0**	**+0.2**
	comp=E,6.2nm,1.0s,baz=142,slow=9.5,SNR=6.6						
KURBB	**Kurchatov Arra**	**27.57**	**53**	P	**P**	**21 04 22.3**	**+0.9**
	comp=E,0.8nm,0.8s,baz=265,slow=9.2,SNR=7.9						
MKAR	**Makanchi Array**	**29.60**	**61**	P	**P**	**21 04 40.4**	**+0.8**
	comp=E,0.8nm,0.8s,baz=270,slow=7.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**32.02**	**48**	LR	LR	21 20 22.0	
	comp=E,26nm,18.4s,baz=252,slow=41						
ESDC	**Sonseca Array**	**36.19**	**287**	P	**P**	**21 05 35.9**	**-1.2**
	comp=E,0.2nm,0.4s,baz=64,slow=8.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**44.60**	**247**	P	**P**	**21 06 44.4**	**-2.5**
	comp=E,0.6nm,1.0s,baz=58,slow=9.5,SNR=2.9						
SONM	**Songino Array**	**45.77**	**57**	LR	LR	21 30 38.1	
	comp=E,20nm,18.1s,baz=258,slow=42						
CMAR	**Chiang Mai Arr**	**52.17**	**96**	P	**P**	**21 07 44.6**	**-0.7**
	comp=E,0.5nm,0.8s,baz=306,slow=7.1,SNR=5.9						
BBTS	**Babate**	**57.39**	**263**	LR	LR	21 37 08.3	
	comp=E,13nm,18.5s,baz=80,slow=40						
GUMO	**Guam**	**90.52**	**72**	LR	LR	21 56 20.4	
	comp=E,9.4nm,18.9s,baz=52,slow=38						

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*ISK **24** 21:06:44.3, 38°.70N×43°.23E, h5km, ML3.1*
*CSEM **24** 21:06:46.0±0.3, 38°.68N×43°.19E, h2km, ML3.1, Error ellipse: s-maj=8.8km s-min=5.6km az=60.0*
*DDA **24** 21:06:46.3, 38°.68N×43°.13E, h7km, Ml3.3*
ISC 24 21:06:46.6±1.0, 38°.68N±0°.03×43°.16E±0°.05, h9km±12km, n45, σ1°04/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**115**	*e*PG	**Pg**	**21 06 49.4**	**-1.3**
VANB				*e*SG	**Sg**	**21 06 54.5**	**+1.0**
VANB	**Van**	**0.20**	**115**	*e*Pg	**Pg**	**21 06 49.4**	**-1.3**
VANB				*e*Sg	**Sg**	**21 06 54.5**	**+1.0**
TVAN	**Van**	**0.24**	**128**	*i* P	**Pg**	**21 06 52.1**	**+0.5**
TVAN	**Van**	**0.24**	**128**	P	**Pg**	**21 06 52.1**	**+0.5**
GEVA	**Gevas**	**0.37**	**192**	*i* P	**Pg**	**21 06 52.7**	**-1.3**
GEVA	**Gevas**	**0.37**	**192**	P	**Pg**	**21 06 52.7**	**-1.3**
TUTA	**Tutak**	**0.77**	**340**	*i* P	**Pg**	**21 07 00.4**	**-1.1**
TUTA	**Tutak**	**0.77**	**340**	P	**Pg**	**21 07 00.4**	**-1.1**
AGRB	**Hanur-Agry**	**0.91**	**352**	*e*PG	**Pg**	**21 07 02.7**	**-1.4**
AGRB				*e*SG	**Sg**	**21 07 15.9**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**352**	*e*Pg	**Pg**	**21 07 02.7**	**-1.4**
AGRB				*e*Sg	**Sg**	**21 07 15.9**	**0.0**
EKAR	**Karacoban**	**1.03**	**304**	*i* P	**Pn**	**21 07 09.0**	**+1.5**
EKAR	**Karacoban**	**1.03**	**304**	P	**Pn**	**21 07 09.0**	**+1.5**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pg**	**21 07 07.0**	**-2.6**
HAKT	**HAKKARI**	**1.20**	**159**	P	**Pg**	**21 07 07.0**	**-2.6**
EATA	**Eleskirt**	**1.29**	**336**	*i* P	**Pg**	**21 07 10.5**	**-0.9**
EATA	**Eleskirt**	**1.29**	**336**	P	**Pg**	**21 07 10.5**	**-0.9**
VRTB	**Varto-Mus**	**1.42**	**290**	*e*PN	**Pb**	**21 07 13.3**	**0.0**
VRTB	**Varto-Mus**	**1.42**	**290**	*e*Pn	**Pb**	**21 07 13.3**	**0.0**
CUKT	**Cukurca**	**1.47**	**166**	*e*PN	**Pn**	**21 07 13.5**	**+0.1**
CUKT	**Cukurca**	**1.47**	**166**	*i* P	**Pg**	**21 07 15.1**	**+0.3**
CUKT	**Cukurca**	**1.47**	**166**	*e*Pn	**Pn**	**21 07 13.5**	**+0.1**
CUKT	**Cukurca**	**1.47**	**166**	P	**Pg**	**21 07 15.1**	**+0.3**
BNGL	**BINGOL**	**1.59**	**281**	*i* P	**Pb**	**21 07 16.3**	**-0.1**
SVAN	**Sil

VRTB eSN Sg 21 23 17.6 +1.0
VRTB Varto-Mus 1.52 288 *i* P Pn 21 22 54.9 +0.4
VRTB Varto-Mus 1.52 288 P Pn 21 22 54.9 +0.4
VRTB Varto-Mus 1.52 288 *e*Pn Pb 21 22 56.2 +0.5
BNGL BINGOL 1.71 279 *i* P Pb 21 22 58.7 -0.2
SVAN Silvan-Diyarba 1.75 252 *e*PN Pn 21 22 58.7 +1.1
SVAN eSN Sg 21 23 24.5 +0.5
SVAN Silvan-Diyarba 1.75 252 *i* P Pn 21 22 58.8 +1.1
SVAN Silvan-Diyarba 1.75 252 P Pn 21 22 58.8 +1.2
NAX Nakhchivan 1.76 74 ⇑P Pn 21 22 58.4 +0.7
SNR=42
NAX ⇑S Sg 21 23 26.0 +1.8
NAX Nakhchivan 1.76 74 P Pn 21 22 58.4 +0.7
SNR=42
NAX S Sg 21 23 26.0 +1.8
BTMN Batman 1.81 244 *i* P Pb 21 22 59.7 -0.8
BTMN Batman 1.81 244 P Pb 21 22 59.7 -0.8
GNI Garni 1.81 37 Pn Pb 21 23 01.1 +0.4
9.5nm,0.3s,baz=277,slow=6.3,SNR=2.4
GNI Sn Sg 21 23 30.3 +4.3
22nm,0.3s,baz=24,slow=20,SNR=4.2
GNI LR LR 21 24 09.3
comp=Z,92nm,20.5s,baz=251,slow=51
SENK Senkaya-Erzuru 2.00 338 *e*PN Pb 21 23 02.4 -1.4
SENK Senkaya-Erzuru 2.00 338 *e*Pn Pb 21 23 02.4 -1.4
BNGB Bing˜ll 2.08 279 *e*PN Pb 21 23 04.4 -0.7
BINT Bingol 2.22 275 *e*Pn Pn 21 23 04.4 +0.3
YEDI Yedisu-Bingol 2.28 290 *e*PN Pb 21 23 07.4 -1.2
YEDI Yedisu-Bingol 2.28 290 *e*Pn Pb 21 23 07.4 -1.2
MAZI Mazidag 2.59 242 *e*PN Pn 21 23 09.8 +0.7
MAZI Mazidag 2.59 242 *e*Pn Pn 21 23 09.8 +0.7
AKH Akhalkalaki 2.70 3 *e*PN Pn 21 23 11.9 +1.1
AKH Akhalkalaki 2.70 3 *e*Pn Pn 21 23 11.9 +1.1
GDB GEDABAY 2.75 42 ⇓P Pb 21 23 17.0 +0.4
SNR=14
GDB ⇓S Sg 21 23 56.5 +0.5
GDB GEDABAY 2.75 42 P Pb 21 23 17.0 +0.4
SNR=14
QZX Qazax, Azerbai 2.83 33 ⇑P Pg 21 23 20.8 -1.0
SNR=21
QZX ⇓S Sg 21 24 03.4 +4.9
ERZN Erzincan 2.93 289 *e*PN Pn 21 23 16.3 +2.4
GANJ Ganja 3.02 49 ⇑P Pb 21 23 21.8 +0.6
SNR=11
GANJ ⇓S Sb 21 24 00.1 +2.2
GANJ Ganja 3.02 49 P Pb 21 23 21.8 +0.6
SNR=11
PTK Pertek 3.07 275 *e*PN Pn 21 23 18.0 +2.2
PTK Pertek 3.07 275 *e*Pn Pn 21 23 18.0 +2.1
SVRC Sivrice-ELAZID 3.16 265 *e*PN Pn 21 23 19.5 +2.4
SVRC Sivrice-ELAZID 3.16 265 *e*Pn Pn 21 23 19.5 +2.4
TBLG Delisi 3.21 19 *e*PN Pn 21 23 18.5 +0.9
TBLG Delisi 3.21 19 *e*Pn Pn 21 23 18.5 +0.9
BRDA Brd 3.37 61 ⇑P Pn 21 23 22.9 +3.2
SNR=11
BRDA Brd 3.37 61 P Pn 21 23 22.9 +3.2
SNR=11
KTUT Trabzon 3.56 311 *e*PN Pn 21 23 24.4 +2.1
KTUT Trabzon 3.56 311 *e*Pn Pn 21 23 24.5 +2.1
MNGR Mingechevir, A 3.56 53 ⇑P Pb 21 23 27.4 -2.9
SNR=7.8
MNGR Mingechevir, A 3.56 53 P Pb 21 23 27.4 -2.9
SNR=7.8
ZRD Zardab 3.73 64 ⇑P Pn 21 23 27.1 +2.5
SNR=6.4
ZRD Zardab 3.73 64 P Pn 21 23 27.1 +2.5
SNR=6.4
URFA Urfa 3.77 252 *e*PN Pn 21 23 28.1 +2.8
URFA Urfa 3.77 252 *e*Pn Pn 21 23 28.1 +2.8
ZKTA Zakatala 3.87 40 ⇑P Pb 21 23 34.2 -1.4
SNR=12
SEKA Sheki 3.89 49 ⇓P Pb 21 23 33.4 -2.6
SNR=9.5
SEKA Sheki 3.89 49 P Pb 21 23 33.4 -2.6
SNR=9.5
LRK Lerik 3.93 89 ⇓P Pn 21 23 24.6 -3.0
SNR=5.5
GLBA Cilabad 3.99 81 ⇓P Pn 21 23 27.5 -0.8
SNR=7.5
GLBA Cilabad 3.99 81 P Pn 21 23 27.5 -0.8
SNR=7.5
KDMR Kurdemir 4.11 65 ⇑P Pn 21 23 33.2 +3.2
SNR=4.1
KDMR Kurdemir 4.11 65 P Pn 21 23 33.2 +3.2
SNR=4.1
ASTR Astara 4.29 90 ⇓P Pn 21 23 29.0 -3.3
SNR=4.1
IML Ismayilli 4.29 59 ⇓P Pn 21 23 35.6 +3.2
SNR=3.2
IML Ismayilli 4.29 59 P Pn 21 23 35.6 +3.2
SNR=3.2
XNQ Khinaliq 4.45 55 ⇑P Pn 21 23 38.9 +4.1
SNR=5.2
XNQ Khinaliq 4.45 55 P Pn 21 23 38.9 +4.1
SNR=5.2
PQL Pirkuli 4.57 61 ⇓P Pn 21 23 39.4 +3.0
SNR=6.2
PQL Pirkuli 4.57 61 P Pn 21 23 39.4 +3.0
SNR=6.2
QSAR Qusar 4.72 52 ⇓P Pn 21 23 43.6 +5.3
SNR=4.3
QSAR Qusar 4.72 52 P Pn 21 23 43.6 +5.3
SNR=4.3
QUBA Quba, Azerbaij 4.77 55 ⇑P Pn 21 23 43.6 +4.5
SNR=3.1
QUBA Quba, Azerbaij 4.77 55 P Pn 21 23 43.6 +4.5
SNR=3.1
ATGJ Altiaghaj 4.83 62 ⇑P Pn 21 23 42.6 +2.6
SNR=4.6
ATGJ Altiaghaj 4.83 62 P Pn 21 23 42.6 +2.6
SNR=4.6
KBZ Khabaz 5.03 357 Pn Pn 21 23 46.6 +4.1
0.0nm,0.3s,baz=115,slow=14,SNR=2.3
KBZ LR LR 21 26 20.7
comp=Z,52nm,20.9s,baz=179,slow=45
KMRS Kahramanmaras 5.20 259 *e*PN Pn 21 23 48.2 +3.2
KVAR Kislovodsk Arr 5.27 355 Pn Pn 21 23 48.5 +2.6
baz=183,slow=13,SNR=1.7
KVAR LR LR 21 26 15.9
comp=Z,92nm,20.8s,slow=42
BTCH Batrach 6.08 246 *e*P Pn 21 23 59.0 +2.0
BTCH *e*S Sb 21 25 32.5 +6.6
BTCH AML AML 21 25 50.5
comp=N,80nm,0.7s
BTCH AML AML 21 26 01.8
comp=E,37nm,0.6s
RABH Abou Rabah 6.51 231 *e*P Pn 21 24 03.7 +0.8
RABH *e*S Sb 21 25 37.2 -1.1
RABH AML AML 21 26 06.1
comp=N,18nm,0.7s
RABH AML AML 21 26 14.7
comp=E,17nm,0.6s
ROOS tl_alroos 6.64 229 *e*P Pn 21 24 04.5 -0.3
ROOS *e*S Sb 21 25 40.2 -1.9
ROOS AML AML 21 26 12.2
comp=N,32nm,0.7s
ROOS AML AML 21 26 18.2
comp=E,18nm,0.7s
BIDA Albida 6.71 239 *e*P Pn 21 24 05.6 -0.2
BIDA *e*S Sb 21 25 45.9 +1.8
BIDA AML AML 21 26 10.8
comp=E,45nm,0.6s
BIDA AML AML 21 26 21.7
comp=N,48nm,0.6s
HAWK Haweek 6.95 235 *e*P Pn 21 24 09.8 +0.7
HAWK *e*S Sb 21 25 50.8 -0.2
HAWK AML AML 21 26 19.4
comp=N,13nm,0.6s
HAWK AML AML 21 26 35.7
comp=E,10nm,0.6s
MARH Ras Al Marh 7.23 232 *e*P Pn 21 24 12.3 -0.7
MARH *e*S Sb 21 25 54.9 -4.2
MARH AML AML 21 26 31.5
comp=E,25nm,0.6s
MARH AML AML 21 26 42.2
comp=N,18nm,0.8s
BRTR Keskin Array B 7.58 281 Pn Pn 21 24 17.3 -0.5
comp=N,0.1nm,0.3s,baz=240,slow=18,SNR=2.6
BRBR Barbar 7.97 231 *e*P Pn 21 24 22.8 -0.3
BRBR *e*S Sb 21 26 13.3 -7.0
BRBR AML AML 21 26 59.6
comp=N,11nm,0.7s
BRBR AML AML 21 27 10.9
comp=E,10nm,0.8s
ASF Jabal al Asfar 8.36 221 Pn Pn 21 24 23.4 -5.0
comp=E,0.2nm,0.3s,baz=36,slow=19,SNR=2.0
GEYT Alibeck 11.65 89 LR LR 21 31 26.2
comp=E,22nm,19.9s,baz=255,slow=46
IDI Anoyia 15.12 263 LR LR 21 32 44.4
comp=E,22nm,21.9s,baz=72,slow=41
VOIR 15.13 302 *j* P **P 21 26 10.0 +4.0**
AKASG Malin Array Be 15.59 325 Pn **Pn 21 26 06.9 +0.1**
comp=E,0.2nm,0.3s,baz=132,slow=12,SNR=4.2
BURAR Bucovina Array 15.90 310 ⇑*iP* P 21 26 23.1 +8.6
VYHS Vyhne 20.17 307 *e*P Pn 21 27 04.1 +0.7
ARU Arti 20.41 25 P Pn 21 27 07.0 +0.9
comp=E,1.5nm,0.4s,baz=279,slow=6.0,SNR=4.9
KEST Kesra 27.13 274 LR LR 21 40 17.3
comp=E,36nm,21.2s,baz=240,slow=40
KURBB Kurchatov Arra 27.47 53 P **P 21 28 14.1 +1.0**
comp=E,1.8nm,0.3s,baz=264,slow=9.5,SNR=9.6
NOA NORSAR Array B 29.93 329 LR LR 21 41 21.1
comp=E,12nm,18.2s,baz=250,slow=38
ZALV Zalesovo Beam 31.93 48 P **P 21 28 51.5 -1.0**
comp=E,0.3nm,0.3s,baz=300,slow=12,SNR=2.2
ZALV LR LR 21 44 43.1
comp=E,18nm,20.7s,baz=74,slow=42
EKA Eskdalemuir Ar 35.02 314 P **P 21 29 18.9 -0.5**
comp=E,1.7nm,0.6s,baz=100,slow=8.0,SNR=5.7
ESDC Sonseca Array 36.33 287 P **P 21 29 29.6 -1.3**
comp=E,1.0nm,0.7s,baz=76,slow=8.7,SNR=4.0
TORD Torodi Ar. Bea 44.73 247 P **P 21 30 37.8 -2.7**
comp=E,0.2nm,0.4s,baz=43,slow=9.3,SNR=4.3
PALK Pallekele 45.97 123 LR LR 21 50 03.0
comp=E,20nm,18.3s,baz=295,slow=36

MEX 24 21:26:32.6±0.6, 15°.05N×92°.62W, h80km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.87**	**318**	*e*P	Pn	21 26 48.3	-1.8
PCIG				*e*S	Sn	21 27 01.9	-1.2
CCIG	**Comitan**	**1.31**	**21**	*e*P	Pn	21 26 55.2	-0.4
CCIG				*e*S	Sn	21 27 10.8	-2.1
CCIG				*e*S	Sn	21 27 11.1	-1.8
HUIG	**Huatulco**	**3.44**	**282**	*e*P	Pn	21 27 23.9	0.0

*ISK **24** 21:33:33.9, 38°.74N×43°.56E, h5km, ML3.0*
*DDA **24** 21:33:34.7, 38°.72N×43°.52E, h7km, Ml3.2*
*CSEM **24** 21:33:34.9±0.5, 38°.75N×43°.58E, h2km, ML3.0, Error ellipse: s-maj=12.7km s-min=6.3km az=81.0*
*ISCJB **24** 21:33:35.2±0.9, 38°.76N±0°.04×43°.63E±0°.09, h13km, Error ellipse: s-maj=10.5km s-min=5.4km az=174.5*
ISC 24 21:33:33.9±1.1, 38°.77N±0°.03×43°.64E±0°.06, h13km, n32, σ0°.93/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB Van		**0.26**	**228**	*e*PG	Pb	21 33 39.9	-0.7
VANB Van		**0.26**	**228**	*e*Pg	Pb	21 33 39.9	-0.7
TVAN Van		**0.30**	**217**	*i* P	Pb	21 33 42.4	+1.1
TVAN Van		**0.30**	**217**	P	Pb	21 33 42.4	+1.1
GEVA Gevas		**0.64**	**225**	*i* P	Pg	21 33 45.4	-1.1
GEVA Gevas		**0.64**	**225**	P	Pg	21 33 45.4	-1.1
DYDN Diyadin		**0.77**	**3**	*i* P	Pn	21 33 51.1	+0.3
DYDN Diyadin		**0.77**	**3**	P	Pn	21 33 51.1	+0.3
TUTA Tutak		**0.90**	**315**	*i* P	Pg	21 33 50.9	-0.4
TUTA Tutak		**0.90**	**315**	P	Pg	21 33 50.9	-0.4
AGRB Hanur-Agry		**0.95**	**328**	*e*PG	Pn	21 33 52.6	-0.5
AGRB				*e*SG	Sn	21 34 07.2	+0.6
AGRB Hanur-Agry		**0.95**	**328**	*e*Pg	Pn	21 33 52.6	-0.5
AGRB				*e*Sg	Sn	21 34 07.2	+0.6
HAKT HAKKARI		**1.21**	**177**	*i* P	Pn	21 33 56.1	-0.7
HAKT HAKKARI		**1.21**	**177**	P	Pn	21 33 56.1	-0.7
EKAR Karacoban		**1.32**	**292**	*i* P	Pg	21 33 59.1	-0.1
EKAR Karacoban		**1.32**	**292**	P	Pg	21 33 59.2	-0.1
CUKT Cukurca		**1.52**	**181**	*e*PN	Pg	21 34 03.0	-0.1
CUKT Cukurca		**1.52**	**181**	*i* P	Pg	21 34 03.5	+0.4
CUKT Cukurca		**1.52**	**181**	*e*Pn	Pg	21 34 03.0	-0.1
CUKT Cukurca		**1.52**	**181**	P	Pg	21 34 03.5	+0.4
VRTB Varto-Mus		**1.74**	**284**	*e*PN	Pb	21 34 06.1	+0.2
VRTB Varto-Mus		**1.74**	**284**	*e*Pn	Pb	21 34 06.1	+0.2
SVAN Silvan-Diyarba		**2.01**	**253**	*e*PN	Pb	21 34 09.6	-0.8
SVAN				*e*SN	Sb	21 34 35.2	-0.1
SVAN Silvan-Diyarba		**2.01**	**253**	*e*Pn	Pb	21 34 09.6	-0.8
SVAN				*e*Sn	Sb	21 34 35.2	-0.1
SENK Senkaya-Erzuru		**2.04**	**331**	*e*PN	Pb	21 34 10.9	-0.1
SENK Senkaya-Erzuru		**2.04**	**331**	*e*Pn	Pb	21 34 10.9	-0.1
BNGB Bing˜ll		**2.32**	**276**	*e*PN	Pb	21 34 14.4	-1.2
BINT Bingol		**2.46**	**273**	*e*Pn	Pn	21 34 14.4	+0.5
YEDI Yedisu-Bingol		**2.50**	**286**	*e*PN	Pb	21 34 17.3	-1.4
YEDI Yedisu-Bingol		**2.50**	**286**	*e*Pn	Pb	21 34 17.3	-1.4
PTK Pertek		**3.32**	**273**	*e*PN	Pn	21 34 28.2	+2.5
PTK Pertek		**3.32**	**273**	*e*Pn	Pn	21 34 28.2	+2.5

*ISCJB **24** 21:34:58.6±0.5, 18°.82N±0°.07×145°.3E±0°.1, h550km, mb3.9/28, Error ellipse: s-maj=15.9km s-min=8.7km az=3.9*
*IDC **24** 21:35:01.1±1.0, 18°.78N×145°.31E, h568km±12km, mb3.5/27, mb1 3.6/30, mb1mx3.5/68, mbtmp4.5/30, Error ellipse: s-maj=13.4km s-min=7.9km az=90.0*
ISC 24 21:34:59.8±0.5, 18°.82N±0°.07×145°.3E±0°.1, h550km, n34, σ1°.08/39, mb4.0/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO Guam		**5.22**	**185**	P	**P**	**21 36 33.1**	**+1.5**
12nm,0.3s,baz=181,slow=9.5,SNR=7.3							
GUMO				S	**S**	**21 37 47.8**	**+1.3**
12nm,0.3s,baz=0.0,slow=20,SNR=3.9							
JHJ Hachijo jima 2		**15.08**	**342**	P	**P**	**21 38 11.0**	**+1.0**
22nm,0.3s,baz=54,slow=22,SNR=31							
JNU Nakatsue		**19.24**	**321**	P	**P**	**21 38 49.3**	**+0.3**
1.7nm,0.3s,baz=81,slow=0.8,SNR=14							
KSRS Korea Array		**24.01**	**324**	P	**P**	**21 39 32.1**	**+0.4**
5.2nm,0.6s,baz=145,slow=9.1,SNR=18							
KLR Kul'dur		**32.25**	**343**	P	**P**	**21 40 43.8**	**+0.5**
0.3nm,0.3s,baz=136,slow=4.2,SNR=15							
PETK Petropavlovsk-		**35.55**	**13**	P	**P**	**21 41 12.8**	**+1.9**
3.7nm,0.7s,baz=188,slow=6.8,SNR=3.8							
WRA Warramunga Arr		**40.00**	**196**	P	**P**	**21 41 47.6**	**0.0**
0.9nm,0.3s,baz=19,slow=8.3,SNR=19							
WRA				PcP	**PP**	**21 43 37.7**	**+1.5**
0.8nm,0.5s,baz=8.1,slow=3.4,SNR=6.2							
FITZ Fitzroy Crossi		**41.48**	**209**	P	**P**	**21 41 59.4**	**+0.1**
0.9nm,0.3s,baz=0.9,slow=6.8,SNR=8.5							
SONM Songino Array		**42.83**	**321**	P	**P**	**21 42 10.8**	**+1.0**
4.5nm,0.6s,baz=136,slow=6.8,SNR=37							
SONM				PcP	**pP**	**21 43 48.1**	**+0.1**
1.2nm,0.6s,baz=156,slow=3.6,SNR=4.5							
ASAR Alice Springs		**43.68**	**195**	P	**P**	**21 42 16.2**	**-0.3**
0.4nm,0.4s,baz=11,slow=8.1,SNR=11							
ASAR				PcP	**PcP**	**21 43 51.0**	**-0.3**
0.4nm,0.4s,baz=38,slow=2.3,SNR=4.9							
CMAR Chiang Mai Arr		**43.85**	**277**	P	**P**	**21 42 18.9**	**+0.8**
3.7nm,0.7s,baz=71,slow=6.5,SNR=42							
CMAR				PcP	**PcP**	**21 43 52.0**	**-0.3**
0.6nm,0.7s,baz=69,slow=2.7,SNR=4.3							
SEY Seymchan		**44.34**	**5**	P	**P**	**21 42 22.1**	**+1.1**
2.4nm,0.2s,baz=176,slow=10,SNR=4.8							
YAK Yakutsk		**44.53**	**350**	P	**P**	**21 42 22.7**	**+0.2**
28nm,0.5s,baz=218,slow=0.6,SNR=9.5							
STKA Stephens Creek		**50.54**	**184**	P	**P**	**21 43 06.8**	**-1.1**
1.8nm,0.6s,baz=331,slow=10,SNR=3.8							
TIXI Tiksi		**53.71**	**354**	P	**P**	**21 43 29.6**	**-0.4**
1.4nm,0.3s,baz=140,slow=7.1,SNR=7.8							
ZALV Zalesovo Beam		**57.70**	**323**	P	**P**	**21 43 57.5**	**-0.5**
4.4nm,0.4s,baz=114,slow=8.1,SNR=31							
MKAR Makanchi Array		**58.12**	**314**	P	**P**	**21 44 01.3**	**+0.2**
4.7nm,0.4s,baz=90,slow=8.2,SNR=124							
KDAK Kodiak Island		**59.45**	**33**	P	**P**	**21 44 10.2**	**+0.6**
13nm,1.1s,baz=298,slow=1.9,SNR=5.6							
ILAR Eielson Array		**63.69**	**26**	P	**P**	**21 44 36.8**	**-0.5**
1.5nm,0.5s,baz=246,slow=6.1,SNR=22							
INK Inuvik		**69.40**	**23**	P	**P**	**21 45 12.7**	**+0.3**
2.8nm,1.0s,baz=282,slow=11,SNR=3.0							
GEYT Alibeck		**76.54**	**306**	P	**P**	**21 45 53.8**	**-0.3**
0.9nm,0.5s,baz=72,slow=4.7,SNR=5.3							
YKA Yellowknife Ar		**78.04**	**28**	P	**P**	**21 46 01.5**	**-0.1**
1.3nm,0.4s,baz=287,slow=5.0,SNR=7.9							
SPITS Spitsbergen Ar		**78.99**	**351**	P	**P**	**21 46 06.7**	**+0.3**
6.1nm,0.8s,baz=69,slow=7.9,SNR=5.9							
RES Resolute Bay		**79.39**	**14**	P	**P**	**21 46 09.2**	**+0.7**
1.5nm,0.5s,baz=352,slow=3.8,SNR=6.3							
ARCES ARCESS Array B		**82.27**	**342**	P	**P**	**21 46 23.1**	**-0.4**
6.4nm,0.7s,baz=82,slow=8.0,SNR=28							
ELK Elko		**84.80**	**49**	P	**P**	**21 46 36.1**	**-0.9**
0.5nm,0.4s,baz=332,slow=10,SNR=4.9							
KBZ Khabaz		**85.81**	**315**	P	**P**	**21 46 39.9**	**-1.5**
3.4nm,0.9s,baz=197,slow=3.2,SNR=8.5							
FINES FINESS Array B		**86.63**	**335**	P	**P**	**21 46 43.0**	**-1.9**
2.3nm,0.4s,baz=61,slow=4.8,SNR=32							
HFS Hagfors		**92.14**	**338**	P	**P**	**21 47 08.4**	**-2.2**
1.4nm,0.5s,baz=98,slow=2.0,SNR=7.9							
NOA NORSAR Array B		**92.33**	**340**	P	**P**	**21 47 09.3**	**-2.2**
0.8nm,0.7s,baz=56,slow=7.8,SNR=3.3							
BRTR Keskin Array B		**93.77**	**314**	P	**P**	**21 47 16.9**	**-1.9**
0.8nm,0.6s,baz=103,slow=4.4,SNR=4.6							
TORD Torodi Ar. Bea		**132.10**	**309**	PKP	**PKPdf**	**21 53 10.4**	**-1.8**
0.3nm,0.4s,baz=54,slow=0.9,SNR=10							
LPAZ La Paz		**148.03**	**91**	PKPbc	**PKPbc**	**21 53 45.8**	**+0.4**
1.9nm,0.6s,baz=298,slow=4.4,SNR=7.5							
PTGA Pitinga		**149.36**	**57**	PKPbc	**PKPbc**	**21 53 47.1**	**-0.9**
4.2nm,0.7s,baz=20,slow=1.3,SNR=6.8							

*NIED **24** 21:37:00, 38°.60N×141°.90E, h47km, Mw4.2 Best double couple: M0=2.65000×10^15 NP1:φ=174.00000°, δ=19.00000°, λ=53.00000°. NP2:φ=33.00000°, δ=75.00000°, λ=102.00000°.*
*ISCJB **24** 21:37:25.5±0.5, 38°.60N±0°.03×141°.98E±0°.05, h53km±3km, mb4.4/60, MS3.6/10, Error ellipse: s-maj=7.1km s-min=3.8km az=17.9*
*MOS **24** 21:37:25.5±1.0, 38°.63N×142°.07E, h55km, mb4.5/29, Error ellipse: s-maj=8.8km s-min=6.5km az=98.9*
*JMA **24** 21:37:27.0, 38°.64N×141°.91E, h49km±1km, M4.1*
JMA Felt II J1.
*IDC **24** 21:37:28.7±1.9, 38°.62N×141°.88E, h64km±17km, mb3.8/25, mb1 4.0/30, mb1mx3.8/75, mbtmp4.1/30, MS3.2/12, Ms1 3.2/12, ms1mx3.0/48, Error ellipse: s-maj=17.0km s-min=13.6km az=106.0*
*NEIC **24** 21:37:28.1±0.8, 38°.59N×141°.87E, h59km±7km, mb4.6/16, Error ellipse: s-maj=9.7km s-min=6.6km az=107.0*
NEIC Felt at Ofunato. Recorded [2 JMA] in Iwate and Miyagi.
*BJI **24** 21:37:28.1, 38°.50N×141°.66E, h73km, mb4.5/41, mB4.8/25, Ms4.3/17, Ms7 3.9/17*
ISC 24 21:37:27.1±0.7, 38°.62N±0°.04×141°.95E±0°.04, h52km±5km, n143, σ1°.85/160, mb4.4/60, MS3.5/10, 6C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO Ouri		**0.50**	**251**	P	**Pn**	**21 37 37.9**	**-0.6**
JIO				S	**Sn**	**21 37 45.4**	**-1.2**
OFUJ Ofunato		**0.51**	**335**	P	**Pn**	**21 37 38.0**	**-0.6**
OFUJ				*e*S	**Sn**	**21 37 45.8**	**-1.1**
JMK Ichinoseki		**0.66**	**300**	P	**Pn**	**21 37 39.9**	**-0.5**
JMK				*e*S	**Sn**	**21 37 49.1**	**-0.9**
JOM Ohasama		**0.99**	**329**	P	**Pn**	**21 37 44.4**	**-0.4**
JOM				*e*S	**Sn**	**21 37 57.4**	**-0.4**
JOU Okura		**1.04**	**256**	P	**Pn**	**21 37 45.0**	**-0.4**
JOU				*e*S	**Sn**	**21 37 58.3**	**-0.7**
JMM Marumori		**1.18**	**231**	P	**Pn**	**21 37 46.6**	**-0.7**
JMM				*e*S	**Sn**	**21 38 01.2**	**-1.1**
JYK Kaneyama		**1.28**	**284**	P	**Pn**	**21 37 48.2**	**-0.4**
JRG Rokugo		**1.28**	**307**	P	**Pn**	**21 37 48.2**	**-0.5**
JRG				*e*S	**Sn**	**21 38 03.5**	**-1.3**
JFK Kawauchi		**1.51**	**214**	P	**Pn**	**21 37 51.5**	**-0.4**
JFK				*e*S	**Sn**	**21 38 09.5**	**-1.0**
JYS Shirataka		**1.53**	**255**	P	**Pn**	**21 37 52.0**	**-0.1**
JYS				*e*S	**Sn**	**21 38 11.0**	**+0.1**
MJAR Matsushiro Arr		**3.62**	**236**	P	**Pn**	**21 38 22.3**	**+1.5**
6.0nm,0.3s,baz=39,slow=12,SNR=62							
MJAR				LR	LR	21 40 07.6	
comp=Z,208nm,19.3s,baz=50,slow=45							
MAJO Matsushiro		**3.62**	**236**	*d* P	**Pn**	**21 38 22.3**	**+1.6**
MAJO Matsushiro		**3.62**	**236**	*e*Pn	**Pn**	**21 38 21.7**	**+1.0**
MAT Matsushiro		**3.62**	**236**	P	**Pn**	**21 38 22.1**	**+1.4**
MAT				*e*S	**Sn**	**21 39 03.0**	**+0.7**
MJB9 Matsu-Tunnel		**3.62**	**236**	*e*Pn	**Pn**	**21 38 20.9**	**+0.2**
INU Inuyama		**5.12**	**232**	*e*Pn	**Pn**	**21 38 39.3**	**-1.9**
ASAJ Asahikawa		**5.51**	**5**	P	**Pn**	**21 38 46.7**	**+0.1**
4.0nm,0.3s,baz=218,slow=12,SNR=20							
ASAJ				S	**Sn**	**21 39 48.0**	**-0.5**
3.1nm,0.3s,baz=83,slow=21,SNR=4.1							
ASAJ Asahikawa		**5.51**	**5**	*e*Pn	**Pn**	**21 38 46.0**	**-0.6**
ASAJ				*e*S	**Sn**	**21 39 48.9**	**+0.3**
JHJ2 Mitsune		**5.76**	**198**	*e*Pn	**Pn**	**21 38 50.7**	**+0.7**
JHJ2				*e*S	**Sn**	**21 39 54.6**	**-0.2**
JHJ Hachijo jima 2		**5.76**	**198**	P	**Pn**	**21 38 50.4**	**+0.3**
7.9nm,0.3s,baz=53,slow=20,SNR=4.0							
JHJ				S	**Sn**	**21 39 53.4**	**-1.5**
24nm,0.3s,baz=240,slow=23,SNR=5.8							
YUK Yuzh-Kuril'sk		**6.16**	**27**	*e*P	**Pn**	**21 38 55.4**	**0.0**
YUK				*e*S	**Sn**	**21 40 01.4**	**-3.0**
YUK				pmax	pmax		
comp=Z,138nm,0.5s							
YUK				pmax	pmax		
comp=N,122nm,0.2s							
YUK				pmax	pmax		
comp=E,81nm,0.4s							
YUK				smax	smax		
comp=N,459nm,0.5s							
YUK				smax	smax		
comp=E,482nm,0.3s							
SHO Shikotan		**6.40**	**33**	*e*P	**Pn**	**21 38 56.5**	**-2.3**
SHO				*e*S	**Sn**	**21 40 03.6**	**-6.9**
SHO				pmax	pmax		
comp=Z,40nm,0.4s							
SHO				smax	smax		
comp=E,356nm,0.4s							
SHO				smax	smax		
comp=N,308nm,0.5s							
KUR Kuril'sk		**7.94**	**32**	*e*P	**Pn**	**21 39 19.7**	**-0.1**
KUR				*e*S	**Sn**	**21 40 45.0**	**-3.2**
KUR				pmax	pmax		
comp=Z,34nm,0.4s							
USRK Ussuriysk Ar.		**9.32**	**310**	P	**Pn**	**21 39 38.8**	**0.0**
comp=Z,0.8nm,0.3s,baz=116,slow=15,SNR=12							
USRK				LR	LR	21 43 15.0	
comp=Z,141nm,18.4s,baz=146,slow=37							
JNU Nakatsue		**10.52**	**242**	*e*Pn	**Pn**	**21 39 52.9**	**-2.4**
KSRS Korea Array		**11.12**	**268**	P	**Pn**	**21 40 06.2**	**+2.8**
comp=Z,0.4nm,0.3s,baz=79,slow=14,SNR=5.6							
KSRS				LR	LR	21 44 00.3	
comp=Z,95nm,21.3s,baz=80,slow=35							
KSAR Wonju Array Be		**11.16**	**268**	P	**Pn**	**21 40 06.2**	**+2.4**
KSAR Wonju Array Be		**11.16**	**268**	P	**Pn**	**21 40 06.2**	**+2.4**
KLR Kul'dur		**12.89**	**329**	P	**Pn**	**21 40 30.1**	**+2.7**
comp=Z,0.0nm,0.3s,baz=92,slow=12,SNR=4.1							
KLR				LR	LR	21 45 30.4	
comp=Z,14nm,18.1s,baz=149,slow=37							
PETK Petropavlovsk-		**18.11**	**32**	LR	LR	21 48 02.8	
comp=Z,35nm,21.9s,baz=219,slow=35							
HIA Hailar		**19.14**	**311**	*i* P	**Pn**	**21 41 48.6**	**+1.5**
HIA				pmax	pmax		
comp=Z,4.0nm,0.9s							
NJ2 Nanjing		**19.92**	**258**	*e*P	**P**	**21 41 53.5**	**-0.9**
NJ2				pmax	pmax		
comp=Z,11nm,0.9s							
MA2 Magadan		**21.71**	**12**	LR	LR	21 50 20.2	
comp=Z,31nm,20.0s,baz=202,slow=36							
HHC Hu-ho-hao-te		**23.42**	**285**	*e*P	**P**	**21 42 30.5**	**-1.1**
HHC				sP	sP	21 42 57.3	+6.8
H

comp=Z,0.7nm,0.4s,baz=100,slow=8.7,SNR=5.1
SONM LR LR 21 54 23.2
comp=Z,32nm,18.8s,baz=122,slow=37
ENH Enshi 27.92 263 *eP* **P 21 43 11.5 -0.9**
comp=Z,13nm,0.6s
H11N2 WAKE ISLAND Hy 28.64 124 T T 22 13 47.2
baz=317,slow=75,SNR=3816
H11N1 WAKE ISLAND Hy 28.65 124 T T 22 13 45.2
baz=317,slow=75,SNR=3733
H11N3 WAKE ISLAND Hy 28.66 124 T T 22 13 44.0
baz=317,slow=75,SNR=3042
H11S1 WAKE ISLAND Hy 29.41 126 T T 22 14 44.4
baz=319,slow=76,SNR=702
H11S3 WAKE ISLAND Hy 29.41 126 T T 22 14 45.8
baz=319,slow=76,SNR=955
H11S2 WAKE ISLAND Hy 29.42 126 T T 22 14 45.7
baz=319,slow=76,SNR=732
TLY Talaya 29.64 309 LR LR 21 56 09.8
comp=Z,68nm,18.1s,baz=167,slow=38
LZH Lanzhou 30.25 277 *eP* **P 21 43 33.0 -0.2**
LZH sP sP 21 43 58.0 +5.3
LZH PP **PnPn 21 44 32.5 0.0**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,93nm,5.2s
LZH LR LR
comp=Z,380nm,12.9s
LZH LR LR
comp=Z,360nm,13.2s
LZH LR LR
comp=Z,420nm,16.7s
GYA Guiyang 31.93 258 *eP* **P 21 43 48.0 0.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 32.12 268 *eP* **P 21 43 47.6 -2.0**
BILL Bilibino 32.39 17 *eP* **P 21 43 50.1 -1.3**
BILL pmax pmax
comp=Z,4.0nm,1.1s
GTA Gaotai 32.53 285 *eP* **P 21 43 53.4 +0.2**
GTA S **S 21 48 59.3 -5.5**
GTA sS sS 21 49 29.4 +2.0
GTA SS **SnSn 21 50 55.1 -7.3**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,59nm,5.1s
GTA LR LR
comp=Z,29nm,13.8s
GTA LR LR
comp=Z,78nm,14.7s
GTA LR LR
comp=Z,110nm,17.6s
ATKA Atka Island 33.12 51 *eP* P 21 44 04.7 +6.8
comp=Z,104nm,1.1s
TIXI Tiksi 33.77 353 P **P 21 44 02.7 -0.7**
comp=Z,2.2nm,0.7s,baz=133,slow=9.8,SNR=5.4
TIXI Tiksi 33.77 353 *ceP* **P 21 44 03.0 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
QIZ Qiongzhong 33.98 244 P P 21 44 00.9 -4.9
KMI Kunming 35.64 260 P **P 21 44 18.9 -1.4**
KMI pmax pmax
comp=Z,8.0nm,0.5s
WMQ Urumqi 40.52 295 P **P 21 45 01.3 +0.3**
WMQ pP sP 21 45 18.9 -2.0
WMQ sP pP 21 45 28.8 +14
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,78nm,4.3s
ZAA0 Zalesovo Array 41.17 311 *eP* **P 21 45 06.3 +0.2**
ZALV Zalesovo Beam 41.17 311 P **P 21 45 06.2 0.0**
comp=Z,3.9nm,0.4s,baz=87,slow=7.2,SNR=17
ZALV PcP **PcP 21 47 04.8 +0.3**
comp=Z,1.2nm,0.3s,baz=94,slow=2.7,SNR=5.2
ZALV LR LR 22 02 56.2
comp=Z,48nm,19.4s,baz=66,slow=37
CHTO Chiang Mai 42.11 254 *eP* **P 21 45 13.1 -1.1**
CHTO pmax pmax
comp=Z,12nm,1.6s
CHTO Chiang Mai 42.11 254 *eP* **P 21 45 13.1 -1.1**
comp=Z,12nm,1.6s
CMAR Chiang Mai Arr 42.32 254 P **P 21 45 15.8 -0.1**
comp=Z,0.3nm,0.6s,baz=49,slow=7.1,SNR=3.8
LSA Lhasa 42.51 274 *eP* **P 21 45 18.7 +0.8**
LSA pmax pmax
comp=Z,5.0nm,1.4s
LSA Lhasa 42.51 274 *eP* **P 21 45 18.7 +0.8**
comp=Z,5.4nm,1.4s
CHGN Chignik 42.54 45 *eP* P 21 45 23.0 +5.7
comp=Z,140nm,1.4s
LUWI Luwuk 43.24 209 *eP* **P 21 45 22.9 -0.4**
comp=Z,20nm,1.1s
MK31 Makanchi Array 43.65 301 *eP* **P 21 45 27.0 +0.6**
MK31 Makanchi Array 43.65 301 *eP* **P 21 45 27.0 +0.6**
MKAR Makanchi Array 43.65 301 P **P 21 45 25.8 -0.6**
comp=Z,2.3nm,0.6s,baz=84,slow=11,SNR=15
MKAR Makanchi Array 43.65 301 P **P 21 45 25.8 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 43.86 301 *eP* **P 21 45 28.7 +0.6**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 43.86 301 *eP* **P 21 45 28.7 +0.6**
comp=Z,9.7nm,1.1s
KURK Kurchatov 45.30 307 *ceP* **P 21 45 39.6 +0.1**
KURK pmax pmax
comp=Z,53nm,0.6s
BPAW Bear Paw Mtn. 46.17 34 *eP* P 21 45 51.9 +5.7
comp=Z,9.9nm,1.1s
KSM Kuching 46.96 226 *eP* **P 21 45 51.0 -1.9**
comp=Z,13nm,1.1s
ILAR Eielson Array 47.93 33 P **P 21 46 00.9 +1.0**
comp=Z,1.1nm,0.7s,baz=269,slow=6.4,SNR=10
ILB Eielson Array 47.93 33 *eP* P 21 46 05.5 +5.6
BVAR Borovoye Array 49.83 311 P **P 21 46 14.8 +0.2**
comp=Z,2.8nm,0.5s,baz=68,slow=8.7,SNR=5.1
BVAR PcP **PcP 21 47 34.5 0.0**
comp=Z,1.0nm,0.5s,baz=104,slow=3.6,SNR=4.2
BRVK Borovoye 49.88 311 *ceP* **P 21 46 14.4 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 49.88 311 *eP* **P 21 46 15.3 +0.3**
comp=Z,3.6nm,0.6s
AAK Ala-Archa 50.12 297 *eP* **P 21 46 16.6 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 50.12 297 *eP* **P 21 46 17.3 +0.1**
comp=Z,0.6nm,0.4s
KSH Kashi 50.16 293 *eP* **P 21 46 21.8 +4.3**
KSH pP sP 21 46 40.1 +2.6
KSH sP pP 21 46 48.4 +17
KSH *e*PcP **PcP 21 47 39.8 +3.6**
KSH PP **PP 21 48 18.4 +5.6**
KSH PcS **PcS 21 51 36.3 +2.9**
KSH S **S 21 53 25.4 -0.1**
KSH sS sS 21 53 58.8 +10
KSH ScS **ScS 21 56 02.3 -1.8**
KSH SS **SS 21 56 56.8 -2.2**
KSH pmax pmax
comp=Z,2.0nm,1.0s
KSH pmax pmax
comp=Z,100nm,7.8s
KSH LR LR
comp=Z,62nm,8.6s
KSH LR LR
comp=Z,66nm,7.0s
KSH LR LR
comp=Z,47nm,8.6s
KKAR Karatay Array 52.71 299 *eP* **P 21 46 36.2 -0.1**
KKAR pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 52.71 299 *eP* **P 21 46 36.2 -0.1**
comp=Z,27nm,0.8s
ARU Arti 55.46 318 P **P 21 46 56.0 -0.1**
comp=Z,2.9nm,0.6s,baz=356,slow=3.1,SNR=7.0
ARU Arti 55.46 318 *c iP* **P 21 46 55.6 -0.5**
ARU *PP **sP 21 47 13.7 -2.6**
ARU 21 48 57.3
ARU S **S 21 54 36.4 -0.6**
ARU SS **SS 21 58 20.2 -1.5**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 55.46 318 *eP* **P 21 46 56.1 0.0**
ABKAR Akbulak array 57.25 310 *eP* **P 21 47 08.8 -0.1**
comp=Z,40nm,0.6s
KBL Kabul 57.25 290 *eP* **P 21 47 09.3 -0.2**
KBL pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 57.25 290 *eP* **P 21 47 09.3 -0.2**
comp=Z,2.7nm,0.8s
AKTO Aktyubinsk 57.94 311 P **P 21 47 13.2 -0.6**
comp=Z,3.0nm,0.8s,baz=76,slow=11,SNR=7.2
WRA Warramunga Arr 58.69 188 P **P 21 47 19.3 +0.1**
comp=Z,1.1nm,1.0s,baz=7.2,slow=7.5,SNR=5.0
RES Resolute Bay 60.96 15 P **P 21 47 34.6 +0.4**
comp=Z,1.8nm,0.7s,baz=217,slow=20,SNR=3.3
ASAR Alice Springs 62.42 188 P **P 21 47 44.8 +0.1**
comp=Z,0.3nm,0.6s,baz=16,slow=31,SNR=4.6
ARCES ARCESS Array B 62.66 339 P **P 21 47 45.6 -0.1**
comp=Z,3.8nm,0.8s,baz=52,slow=9.9,SNR=4.6
GEYT Alibeck 63.44 298 P **P 21 47 51.4 -0.1**
comp=Z,1.6nm,0.7s,baz=70,slow=1.7,SNR=4.3
OBN Obninsk 67.08 323 *eP* **P 21 48 14.3 -0.3**
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 67.61 332 P **P 21 48 17.5 -0.4**
comp=Z,4.1nm,0.9s,baz=25,slow=12,SNR=6.5
ZEI Tsey 70.12 309 *eP* P 21 48 25.1 -9.0
ZEI pmax pmax
comp=Z,4.0nm,0.6s
KVAR Kislovodsk Arr 70.18 311 P **P 21 48 34.8 +0.5**
comp=Z,7.5nm,1.0s,baz=204,slow=8.0,SNR=6.1
KIV Kislovodsk 70.19 311 *eP* **P 21 48 34.6 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 70.19 311 *eP* **P 21 48 35.8 +1.4**
KBZ Khabaz 70.19 310 P **P 21 48 35.0 +0.7**
comp=Z,2.4nm,0.9s,baz=10,slow=9.8,SNR=5.9
KBZ Khabaz 70.19 310 P **P 21 48 35.0 +0.7**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
BMO Blue Mountains 70.55 48 *eP* **P 21 48 41.2 +4.6**
BMO pmax pmax
comp=Z,4.0nm,0.8s
BMO Blue Mountains 70.55 48 *eP* **P 21 48 41.2 +4.6**
comp=Z,3.9nm,0.8s
NEY Neytrino 70.57 310 *i* P **P 21 48 38.1 +1.3**
NEY pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 72.82 336 P **P 21 48 49.9 +0.2**
comp=Z,3.6nm,0.7s,baz=64,slow=5.0,SNR=12
HFS LR LR 22 22 37.0
comp=Z,30nm,20.6s,baz=54,slow=37
HFS Hagfors 72.82 336 P **P 21 48 50.0 +0.2**
NB2 NORSAR Subarra 72.89 337 P **P 21 48 50.6 +0.3**
comp=Z,1.3nm,0.7s,baz=36,slow=6.2
NOA NORSAR Array B 72.89 337 P **P 21 48 50.5 +0.2**
comp=Z,2.7nm,0.8s,baz=38,slow=5.9,SNR=6.2
NOA LR LR 22 23 16.9
comp=Z,29nm,21.6s,baz=115,slow=38
AKASG Malin Array Be 73.30 322 P **P 21 48 52.6 -0.2**
comp=Z,1.1nm,0.4s,baz=46,slow=6.0,SNR=8.7
AKASG LR LR 22 24 34.9
comp=Z,120nm,18.2s,baz=105,slow=39
KIEV Kiev 73.31 322 *i* P **P 21 48 52.3 -0.6**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
TCUT Toone Canyon 76.25 48 *eP* **P 21 49 13.1 +2.7**
comp=Z,14nm,0.7s
PDAR Pinedale Array 76.26 46 P **P 21 49 11.1 +0.7**
comp=Z,0.5nm,0.6s,baz=252,slow=2.5,SNR=6.2
BUR08 Bucovina Ar. S 77.32 322 *eP* **P 21 49 16.9 +0.8**
BURAR Bucovina Array 77.33 322 ||*i* P **P 21 49 16.9 +0.8**
BURAR Bucovina Array 77.33 322 ||P **P 21 49 16.9 +0.8**
TESR Tescani 77.39 320 ||*i* P pP 21 49 31.0 -0.2
STHS Stebnicka Huta 77.90 325 *eP* **P 21 49 20.9 +1.7**
STHS Stebnicka Huta 77.90 325 *eP* **P 21 49 20.9 +1.7**
BRTR Keskin Array B 78.12 312 P **P 21 49 21.1 +0.3**
comp=Z,0.6nm,0.4s,baz=100,slow=3.8,SNR=5.6
DOPR Dopca 78.39 320 ↑*i* P **P 21 49 25.1 +3.1**
ARR Arges 79.19 320 ||*i* P **P 21 49 28.3 +1.9**
VYHS Vyhne 79.66 326 *eP* **P 21 49 29.0 +0.1**
VYHS Vyhne 79.66 326 *eP* **P 21 49 29.0 +0.1**
CLL Collm 79.93 330 *i* P **P 21 49 30.2 0.0**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 79.93 330 *i* P **P 21 49 30.2 0.0**
comp=Z,10.0nm,1.0s
BZS Buzias 80.49 322 ||*i* P **P 21 49 36.0 +2.6**
BZS Buzias 80.49 322 ||P **P 21 49 36.0 +2.6**
KHC Kasperske Hory 81.41 329 *eP* **P 21 49 39.4 +1.1**
KHC Kasperske Hory 81.41 329 *eP* **P 21 49 39.4 +1.1**
GERES GERESS Array B 81.58 328 P **P 21 49 39.0 -0.3**
comp=Z,0.6nm,0.4s,baz=38,slow=6.4,SNR=5.9
GERES GERESS Array B 81.58 328 P **P 21 49 39.0 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.4s
VTS Vitosha 81.89 319 ||*i* P **P 21 49 42.2 +1.1**
VTS Vitosha 81.89 319 ||P **P 21 49 42.2 +1.1**
FUORN Ofenpass-Fuorn 84.76 329 *eP* **P 21 49 56.7 +0.8**
comp=Z,8.1nm,0.8s
BFZ Birch Farm 84.92 155 *eP* **P 21 49 58.4 +2.3**
comp=Z,86nm,0.7s
TXAR Lajitas Array 88.82 53 P **P 21 50 15.8 +0.1**
comp=Z,0.2nm,0.6s,baz=300,slow=2.7,SNR=3.4
LPAZ La Paz 145.51 58 PKPbc **PKPdf 21 57 00.2 -0.4**
comp=Z,0.8nm,0.7s,baz=338,slow=5.4,SNR=3.2

*DDA **24** 21:41:27.9, 38.°74N×43.°60E, h7km, Ml3.1*
*ISK **24** 21:41:27.9, 38.°73N×43.°59E, h5km, ML3.0*
*ISCJB **24** 21:41:28.8±0.9, 38.°75N±0.°04×43.°69E±0.°08, h13km, Error ellipse: s-maj=9.5km s-min=5.3km az=2.8*
*CSEM **24** 21:41:28.4±0.5, 38.°75N×43.°65E, h2km, ML3.0, Error ellipse: s-maj=12.5km s-min=6.7km az=85.0*
ISC 24 21:41:27.7±1.1, **38.°82N**±0.°03×**43.°67E**±0.°05, **h13**km, **n36,** σ1§**32**/41, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.32**	**224**	PG	**Pg**	**21 41 33.8**	**-0.4**
VANB				*e*SG	**Sg**	**21 41 39.1**	**+0.5**
VANB	**Van**	**0.32**	**224**	*i* Pg	**Pg**	**21 41 33.8**	**-0.4**
VANB				*e*Sg	**Sg**	**21 41 39.2**	**+0.5**
TVAN	**Van**	**0.36**	**215**	*i* P	**Pb**	**21 41 36.5**	**+0.4**
TVAN	**Van**	**0.36**	**215**	P	**Pb**	**21 41 36.5**	**+0.4**
GEVA	**Gevas**	**0.70**	**223**	*i* P	**Pg**	**21 41 38.8**	**-2.6**
GEVA	**Gevas**	**0.70**	**223**	P	**Pg**	**21 41 38.8**	**-2.6**
DYDN	**Diyadin**	**0.72**	**1**	*i* P	**Pn**	**21 41 44.0**	**+0.2**
DYDN	**Diyadin**	**0.72**	**1**	P	**Pn**	**21 41 44.0**	**+0.2**
TUTA	**Tutak**	**0.88**	**311**	*i* P	**Pn**	**21 41 45.3**	**-0.7**
TUTA	**Tutak**	**0.88**	**311**	P	**Pn**	**21 41 45.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.92**	**325**	*e*PG	**Pn**	**21 41 47.0**	**+0.5**
AGRB				*e*SG	**Sn**	**21 42 02.2**	**+2.5**
AGRB	**Hanur-Agry**	**0.92**	**325**	*e*Pg	**Pn**	**21 41 47.0**	**+0.5**
HAKT	**HAKKARI**	**1.26**	**179**	*i* P	**Pn**	**21 41 49.8**	**-1.5**
HAKT	**HAKKARI**	**1.26**	**179**	P	**Pn**	**21 41 49.8**	**-1.5**
EKAR	**Karacoban**	**1.32**	**290**	*i* P	**Pg**	**21 41 53.3**	**+0.1**
EKAR	**Karacoban**	**1.32**	**290**	P	**Pg**	**21 41 53.3**	**+0.1**
CUKT	**Cukurca**	**1.57**	**182**	*e*PN	**Pn**	**21 41 56.9**	**+1.4**
CUKT	**Cukurca**	**1.57**	**182**	*i* P	**Pb**	**21 41 57.4**	**+0.6**
CUKT	**Cukurca**	**1.57**	**182**	*e*Pn	**Pn**	**21 41 56.9**	**+1.4**
CUKT	**Cukurca**	**1.57**	**182**	P	**Pb**	**21 41 57.4**	**+0.6**
VRTB	**Varto-Mus**	**1.76**	**282**	*e*PN	**Pg**	**21 42 00.3**	**-1.2**
VRTB	**Varto-Mus**	**1.76**	**282**	*i* P	**Pg**	**21 42 00.6**	**-0.9**
VRTB	**Varto-Mus**	**1.76**	**282**	*e*Pn	**Pg**	**21 42 00.3**	**-1.2**
VRTB	**Varto-Mus**	**1.76**	**282**	P	**Pg**	**21 42 00.6**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.01**	**330**	*e*PN	**Pg**	**21 42 05.3**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.01**	**330**	*e*Pn	**Pg**	**21 42 05.3**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	*e*PN	**Pb**	**21 42 03.8**	**-1.1**
SVAN				*e*SN	**Sb**	**21 42 29.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	*i* P	**Pn**	**21 42 03.3**	**+1.3**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	P	**Pn**	**21 42 03.3**	**+1.3**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	*e*Pn	**Pb**	**21 42 03.8**	**-1.1**
SVAN				*e*Sn	**Sb**	**21 42 29.6**	**-0.7**
BNGB	**Bing^¶l**	**2.34**	**275**	*e*PN	**Pb**	**21 42 08.4**	**-1.4**
BINT	**Bingol**	**2.49**	**272**	*e*Pn	**Pn**	**21 42 08.4**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.51**	**285**	*e*PN	**Pb**	**21 42 11.5**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.51**	**285**	*e*Pn	**Pb**	**21 42 11.5**	**-1.2**
PTK	**Pertek**	**3.34**	**273**	*e*PN	**Pn**	**21 42 22.6**	**+2.8**
PTK	**Pertek**	**3.34**	**273**	*e*Pn	**Pn**	**21 42 22.6**	**+2.8**

*ISCJB **24** 21:41:37.5±0.7, 6.°86N±0.°04×73.°12W±0.°05, h153km±5km, mb3.4/2, Error ellipse: s-maj=8.3km s-min=6.3km az=13.3*
*RSNC **24** 21:41:39.2±1.0, 6.°83N×73.°13W, h144km±5km, ML3.7*
*IDC **24** 21:41:40.8±3.2, 6.°67N×73.°28W, h181km±24km, mb3.0/2, mb1 3.5/3, mb1mx3.0/36, mbtmp3.6/3, Error ellipse: s-maj=56.5km s-min=27.6km az=76.0*
ISC 24 21:41:37.7±0.9, **6.°85N**±0.°04×**73.°10W**±0.°06, **h152**km±6km, **n21,** σ0§**82**/34, **1C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.18**	**294**	*e*P	**Pn**	**21 41 59.0**	**+0.6**
BTLC				*e*S	**Sn**	**21 42 14.0**	**-0.1**
BARC	**Barichara**	**0.27**	**197**	||*i* P	**Pn**	**21 41 58.7**	**0.0**
BARC				*e*S	**Sn**	**21 42 13.5**	**-1.1**
BARC				*i*		21 42 14.6	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**39**	||*i* P	**Pn**	**21 42 01.5**	**+0.9**
PAMC				*e*S	**Sn**	**21 42 17.7**	**-0.2**
PAMC				*i*		21 42 20.7	
	comp=Z,712nm,0.4s						
BRRC	**Barranca, Sant**	**0.66**	**293**	↑*i* P	**Pn**	**21 42 00.5**	**+0.4**
BRRC				*e*S	**Sn**	**21 42 17.1**	**-0.1**
BRRC				*i*		21 42 20.9	
	comp=Z,799nm,0.1s						
RUSC	**La Rusia**	**0.95**	**179**	||*i* P	**Pn**	**21 42 02.8**	**0.0**
RUSC				*e*S	**Sn**	**21 42 20.7**	**-1.2**
RUSC				*i*		21 42 23.1	
	comp=Z,865nm,0.4s						
OCAC	**Ocana**	**1.40**	**351**	*e*P	**Pn**	**21 42 06.9**	**+0.4**
OCAC				*e*S	**Sn**	**21 42 28.4**	**-0.3**
OCAC				*i*		21 42 33.4	
	comp=Z,434nm,0.3s						
YOPC	**Yopal, Colombi**	**1.63**	**155**	*e*P	**Pn**	**21 42 09.5**	**+0.6**
YOPC				*e*S	**Sn**	**21 42 33.2**	**+0.3**
YOPC				*i*		21 42 34.3	
	comp=Z,502nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P	**Pn**	**21 42 11.5**	**+0.2**
ZARC				*e*S	**Sn**	**21 42 36.7**	**-0.4**
ZARC				*i*		21 42 43.2	
	comp=Z,589nm,0.3s						
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**21 42 14.6**	**-0.4**
NORC				*e*S	**Sn**	**21 42 42.7**	**-0.9**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**21 42 18.5**	**+1.2**
	comp=Z,52nm,0.3s,baz=43,slow=21,SNR=69						
ROSC				S	**Sn**	**21 42 49.6**	**+1.9**
	comp=Z,67nm,0.3s,baz=4.6,slow=22,SNR=18						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**21 42 18.4**	**+1.2**
ROSC				*i*		21 42 52.6	
	comp=Z,341nm,0.3s						
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**21 42 19.4**	**+0.2**
HELC				*e*S	**Sn**	**21 42 50.6**	**-0.5**
HELC				*i*		21 42 57.4	
	comp=Z,285nm,0.5s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**21 42 22.2**	**-0.3**
VILC				*i*		21 43 08.2	
	comp=Z,138nm,0.2s						
GUYC	**Guyana, Colomb**	**2.79**	**235**	*e*P	**Pn**	**21 42 23.3**	**+0.4**
GUYC				*e*S	**Sn**	**21 42 58.4**	**+0.6**
GUYC				*i*		21 43 05.6	
	comp=Z,430nm,0.3s						
DBBC	**Dabeiba**	**3.09**	**273**	*e*P	**Pn**	**21 42 26.8**	**+0.5**
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**21 42 27.9**	**+0.5**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**21 42 32.2**	**-0.5**
PRAC				*e*S	**Sn**	**21 43 15.6**	**+0.3**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**21 48 29.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=130,slow=9.8,SNR=5.7						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**21 51 50.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=140,slow=4.6,SNR=3.6						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**22 01 07.2**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=115,slow=3.8,SNR=6.5						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**22 01 10.9**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.8,SNR=6.9						

*AZER **24** 21:46:58.8±2.0, 38.°12N×42.°18E, h8km, Error ellipse: s-maj=18.5km s-min=12.8km az=122.0*
*DDA **24** 21:47:03.7, 38.°56N×43.°64E, h21km, Ml3.3*
*ISK **24** 21:47:04.5, 38.°53N×43.°54E, h5km, ML3.3*
*CSEM **24** 21:47:11.1±0.3, 38.°60N×43.°04E, h10km, ML3.3, Error ellipse: s-maj=10.9km s-min=4.8km az=167.0*
ISC 24 21:47:05.6±0.9, **38.°46N**±0.°03×**43.°39E**±0.°02, **h8**km±7km, **n64,** σ1§**90**/71, **17C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.07**	**14**	*i* P	**Pg**	**21 47 09.5**	**+1.6**
VANB	**Van**	**0.13**	**1**	*e*PG	**Pg**	**21 47 06.5**	**-2.2**
VANB				*e*SG	**Sg**	**21 47 09.5**	**-1.3**
GEVA	**Gevas**	**0.30**	**240**	*i* P	**Pb**	**21 47 12.6**	**-0.7**
BASK	**Baskale_VAN**	**0.64**	**130**	*i* P	**Pg**	**21 47 15.3**	**-2.6**
HAKT	**HAKKARI**	**0.94**	**164**	*i* P	**Pg**	**21 47 21.9**	**-1.8**
TUTA	**Tutak**	**1.04**	**335**	*i* P	**Pg**	**21 47 23.2**	**-2.4**
TUTA	**Tutak**	**1.04**	**335**	P	**Pg**	**21 47 23.2**	**-2.4**
DYDN	**Diyadin**	**1.11**	**12**	*i* P	**Pg**	**21 47 22.8**	**-4.2**
AGRB	**Hanur-Agry**	**1.15**	**345**	*e*PN	**Pb**	**21 47 27.1**	**-0.8**
AGRB				*e*SN	**Sn**	**21 47 43.9**	**-0.4**
CUKT	**Cukurca**	**1.23**	**172**	*e*PN	**Pg**	**21 47 30.0**	**+0.9**
CUKT				*e*SN	**Sn**	**21 47 49.0**	**+3.1**
CUKT	**Cukurca**	**1.23**	**172**	*i* P	**Pn**	**21 47 29.1**	**-0.1**
SIRN	**S¨–rnak**	**1.23**	**219**	*i* P	**Sb**	**21 47 43.6**	**-1.6**
EKAR	**Karacoban**	**1.30**	**308**	*i* P	**Pg**	**21 47 30.7**	**0.0**
EKAR	**Karacoban**	**1.30**	**308**	P	**Pg**	**21 47 30.7**	**0.0**
VRTB	**Varto-Mus**	**1.66**	**295**	*e*PN	**Pb**	**21 47 36.4**	**-0.2**
VRTB	**Varto-Mus**	**1.66**	**295**	*i* P	**Pb**	**21 47 36.3**	**-0.2**
VRTB	**Varto-Mus**	**1.66**	**295**	P	**Pb**	**21 47 36.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.75**	**260**	*e*PN	**Pg**	**21 47 38.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.75**	**260**	*i* P	**Pg**	**21 47 38.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.75**	**260**	*e*Pn	**Pg**	**21 47 38.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.75**	**260**	P	**Pg**	**21 47 38.9**	**-0.3**
BTMN	**Batman**	**1.76**	**252**	*i* P	**Pg**	**21 47 39.2**	**-0.2**
BTMN	**Batman**	**1.76**	**252**	P	**Pg**	**21 47 39.2**	**-0.2**
NAX	**Nakhchivan**	**1.79**	**66**	⇑P	**Pg**	**21 47 41.4**	**+1.3**
	SNR=8.7						
NAX				||S	**Sg**	21 48 19.1	+16
NAX	**Nakhchivan**	**1.79**	**66**	P	**Pg**	**21 47 41.4**	**+1.3**
	SNR=8.7						
BNGB	**Bing^¶l**	**2.18**	**285**	*e*PN	**Pb**	**21 47 44.3**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.24**	**339**	*e*PN	**Pn**	**21 47 43.6**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.24**	**339**	*e*Pn	**Pn**	**21 47 43.6**	**+0.3**
BINT	**Bingol**	**2.31**	**281**	*e*Pn	**Pn**	**21 47 44.3**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.42**	**295**	*e*PN	**Pb**	**21 47 47.7**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.42**	**295**	*e*Pn	**Pb**	**21 47 47.7**	**-1.8**
MAZI	**Mazidag**	**2.53**	**248**	*e*PN	**Pb**	**21 47 49.0**	**-2.3**
MAZI	**Mazidag**	**2.53**	**248**	*e*Pn	**Pb**	**21 47 49.1**	**-2.3**
GDB	**GEDABAY**	**2.91**	**38**	⇑P	**Pb**	**21 47 57.5**	**-0.3**
	SNR=6.5						
GDB				⇑S	**Sg**	**21 48 43.9**	**+4.9**
GDB	**GEDABAY**	**2.91**	**38**	P	**Pb**	**21 47 57.5**	**-0.3**
	SNR=6.5						
QZX	**Qazax, Azerbai**	**3.01**	**30**	⇑P	**Pb**	**21 47 59.2**	**-0.3**
	SNR=14						
QZX				⇑S	**Sg**	**21 48 44.5**	**+2.2**
QZX	**Qazax, Azerbai**	**3.01**	**30**	P	**Pb**	**21 47 59.2**	**-0.3**
	SNR=14						
GANJ	**Ganja**	**3.15**	**45**	||P	**Pb**	**21 48 02.6**	**+0.8**
	SNR=9.2						
GANJ				⇑S	**Sg**	**21 48 50.1**	**+3.3**
GANJ	**Ganja**	**3.15**	**45**	P	**Pb**	**21 48 02.6**	**+0.8**
	SNR=9.2						
PTK	**Pertek**	**3.15**	**279**	*e*PN	**Pn**	**21 47 58.2**	**+2.5**
PTK	**Pertek**	**3.15**	**279**	*e*Pn	**Pn**	**21 47 58.3**	**+2.5**
BRDA	**Brd**	**3.45**	**57**	⇑S	**Sg**	**21 48 59.6**	**+3.3**
MNGR	**Mingechevir, A**	**3.67**	**50**	||S	**Sg**	**21 49 04.0**	**+0.5**
ZRD	**Zardab**	**3.79**	**60**	⇑S	**Sg**	**21 49 07.9**	**+0.4**
LRK	**Lerik**	**3.89**	**86**	⇑P	**Pb**	**21 48 13.1**	**-1.4**
	SNR=8.7						
LRK				⇑S	**Sg**	**21 49 10.2**	**-0.3**
LRK	**Lerik**	**3.89**	**86**	P	**Pb**	**21 48 13.1**	**-1.4**
	SNR=8.7						
GLBA	**Cilabad**	**3.99**	**77**	⇑P	**Pb**	**21 48

ASTR	**Astara**	**4.24**	**87**	P	**Pb**	**21 48 18.3**	**-2.1**
	SNR=2.9						
IML	**Ismayilli**	**4.37**	**56**	⇑P	**Pb**	**21 48 20.6**	**-2.2**
	SNR=25						
IML	**Ismayilli**	**4.37**	**56**	P	**Pb**	**21 48 20.6**	**-2.2**
	SNR=25						
XNQ	**Khinaliq**	**4.55**	**52**	⇑P	**Pb**	**21 48 23.1**	**-2.8**
	SNR=3.6						
XNQ	**Khinaliq**	**4.55**	**52**	P	**Pb**	**21 48 23.1**	**-2.8**
	SNR=3.6						
PQL	**Pirkuli**	**4.64**	**58**	⇑P	**Pb**	**21 48 24.3**	**-3.1**
	SNR=3.5						
PQL	**Pirkuli**	**4.64**	**58**	P	**Pb**	**21 48 24.3**	**-3.1**
	SNR=3.5						
GBS	**Qobustan**	**4.77**	**63**	⇓P	**Pb**	**21 48 26.4**	**-3.1**
	SNR=3.2						
GBS	**Qobustan**	**4.77**	**63**	P	**Pb**	**21 48 26.4**	**-3.1**
	SNR=3.2						

GUC 24 21:48:44.1±0.7, 21°28′S×69°01′W, h126km±5km, ML3.5, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.51**	**297**	⇑*iP*	Pn	21 49 03.5	+0.6
PB01				*i* S	Sn	21 49 17.7	+0.7
PB01				IAML		21 49 18.7	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.56**	**203**	⇑*iP*	Pn	21 49 03.9	+0.6
PB09				*e*S	Sn	21 49 18.4	+0.6
PB09				IAML		21 49 19.6	
	comp=N,3μm,0.3s						
HMBC	**Humberstone**	**1.29**	**320**	⇑*iP*	Pn	21 49 10.5	+0.7
HMBC				*i* S	Sn	21 49 30.4	+1.1
HMBC				IAML		21 49 31.9	
	comp=N,959nm,0.2s						
LVC	**Limon Verde**	**1.33**	**176**	*e*P	Pn	21 49 11.0	+0.6
PB06	**IPOC Station P**	**1.52**	**200**	⇑*iP*	Pn	21 49 13.4	+1.1
PB06				*i* S	Sn	21 49 34.9	+1.1
PB06				IAML		21 49 36.0	
	comp=E,438nm,0.2s						
PSGC	**Pisagua**	**1.97**	**328**	⇑*iP*	Pn	21 49 17.9	+0.2
PSGC				*i* S	Sn	21 49 43.2	-0.1
PSGC				IAML		21 49 45.5	
	comp=E,175nm,0.3s						
MNMC	**Minye Minye**	**2.21**	**345**	⇓*iP*	Pn	21 49 21.6	+0.9
MNMC				*i* S	Sn	21 49 50.2	+1.5
MNMC				IAML		21 49 52.5	
	comp=E,398nm,0.3s						

WEL 24 21:51:02.8±0.1, 43°61′S×172°77′E, h8km, ML3.5/9, 3C-1D, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.11**	**287**	⇑PG	Pg	21 51 05.3	0.0
CRLZ				SG	Sg	21 51 07.2	+0.2
CRLZ				AML	AML	21 51 07.4	
CRLZ				AML	AML	21 51 07.4	
CRLZ				AML	AML	21 51 07.7	
MQZ	**McQueen's Vall**	**0.13**	**221**	⇑PG	Pg	21 51 05.7	+0.1
MQZ				SG	Sg	21 51 07.8	+0.3
MQZ				AML	AML	21 51 08.0	
MQZ				AML	AML	21 51 08.0	
OXZ	**Oxford**	**0.60**	**298**	⇓P*	Pg	21 51 14.4	-0.1
OXZ				S*	Sg	21 51 22.9	+0.6
OXZ				AML	AML	21 51 24.5	
OXZ				AML	AML	21 51 24.5	
OXZ				AML	AML	21 51 24.6	
LTZ	**Lake Taylor**	**0.90**	**336**	⇑P*	Pg	21 51 19.9	-0.2
LTZ				S*	Sg	21 51 32.1	+0.2
LTZ				AML	AML	21 51 37.3	
RPZ	**Rata Peaks**	**1.25**	**264**	*e*P*	Pn	21 51 24.7	-1.9
RPZ				AML	AML	21 51 44.7	
RPZ				AML	AML	21 51 50.0	
INZ	**Inchbonnie**	**1.31**	**312**	*e*P*	Pn	21 51 26.1	-1.3
KHZ	**Kahutara**	**1.32**	**26**	PN	Pn	21 51 25.3	-2.2
THZ	**Tophouse**	**1.85**	**3**	PN	Pn	21 51 32.9	-2.0
THZ				AML	AML	21 52 07.8	
THZ				AML	AML	21 52 10.6	
LBZ	**Lake Benmore**	**2.02**	**246**	*e*PN	Pn	21 51 36.0	-1.3
LBZ				AML	AML	21 52 14.3	
LBZ				AML	AML	21 52 19.1	
ODZ	**Otahua Downs**	**2.10**	**226**	PN	Pn	21 51 36.5	-1.7
ODZ				AML	AML	21 51 39.6	
ODZ				AML	AML	21 52 11.0	
ODZ				AML	AML	21 52 11.3	
ODZ				AML	AML	21 52 13.9	
FOZ	**Fox Glacier**	**2.15**	**271**	*e*PN	Pn	21 51 38.6	-0.4
NNZ	**Nelson**	**2.43**	**11**	PN	Pn	21 51 41.5	-1.4
EAZ	**Earnscleugh**	**2.96**	**236**	*e*PN	Pn	21 51 48.6	-1.6
EAZ				AML	AML	21 52 40.8	

*DDA **24** 21:53:21.8, 38°73N×43°25E, h7km, Ml2.8*
*ISK **24** 21:53:21.8, 38°72N×43°21E, h5km, ML2.8*
*CSEM **24** 21:53:22.6±0.3, 38°75N×43°24E, h10km, ML2.8, Error ellipse: s-maj=9.6km s-min=5.5km az=70.0*
*ISCJB **24** 21:53:23.3±0.5, 38°74N±0°04×43°3E±0°1, h18km±9km, Error ellipse: s-maj=13.5km s-min=5.7km az=169.8*
ISC 24 21:53:22.9±1.0, 38°74N±0°03×43°20E±0°04, h18km±7km, n37, σ1§24/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**133**	*e*PG	**Pg**	**21 53 27.5**	**-0.5**
VANB				*e*SG	**Sg**	**21 53 31.6**	**+0.2**
VANB	**Van**	**0.21**	**133**	*e*Pg	**Pg**	**21 53 27.5**	**-0.5**
VANB				*e*Sg	**Sg**	**21 53 31.6**	**+0.2**
TVAN	**Van**	**0.26**	**141**	*i* P	**Pg**	**21 53 29.9**	**+1.0**
TVAN	**Van**	**0.26**	**141**	P	**Pg**	**21 53 29.9**	**+1.0**
GEVA	**Gevas**	**0.44**	**194**	*i* P	**Pg**	**21 53 30.0**	**-1.8**
GEVA	**Gevas**	**0.44**	**194**	P	**Pg**	**21 53 30.0**	**-1.8**
TUTA	**Tutak**	**0.73**	**336**	*i* P	**Pg**	**21 53 36.6**	**-0.6**
TUTA	**Tutak**	**0.73**	**336**	P	**Pg**	**21 53 36.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.85**	**349**	*e*PG	**Pg**	**21 53 38.9**	**-0.7**
AGRB				*e*SG	**Sb**	**21 53 51.4**	**+0.9**
AGRB	**Hanur-Agry**	**0.85**	**349**	*e*Pg	**Pg**	**21 53 38.9**	**-0.7**
AGRB				*e*Sg	**Sb**	**21 53 51.4**	**+0.9**
DYDN	**Diyadin**	**0.89**	**25**	*i* P	**Pg**	**21 53 38.5**	**-1.8**
DYDN	**Diyadin**	**0.89**	**25**	P	**Pg**	**21 53 38.5**	**-1.8**
EKAR	**Karacoban**	**1.02**	**301**	*i* P	**Pn**	**21 53 44.4**	**+1.8**
EKAR	**Karacoban**	**1.02**	**301**	P	**Pn**	**21 53 44.4**	**+1.8**
HAKT	**HAKKARI**	**1.24**	**161**	*i* P	**Pg**	**21 53 44.9**	**-2.0**
HAKT	**HAKKARI**	**1.24**	**161**	P	**Pg**	**21 53 44.9**	**-2.0**
EATA	**Eleskirt**	**1.25**	**334**	*i* P	**Pg**	**21 53 46.2**	**-0.9**
EATA	**Eleskirt**	**1.25**	**334**	P	**Pg**	**21 53 46.2**	**-0.9**
VRTB	**Varto-Mus**	**1.42**	**288**	*e*PN	**Pn**	**21 53 48.9**	**+0.9**
VRTB	**Varto-Mus**	**1.42**	**288**	*e*Pn	**Pn**	**21 53 48.9**	**+0.9**
CUKT	**Cukurca**	**1.52**	**168**	*e*PN	**Pb**	**21 53 50.1**	**-0.5**
CUKT	**Cukurca**	**1.52**	**168**	*i* P	**Pg**	**21 53 51.0**	**-1.2**
CUKT	**Cukurca**	**1.52**	**168**	*e*Pn	**Pb**	**21 53 50.1**	**-0.5**
CUKT	**Cukurca**	**1.52**	**168**	P	**Pg**	**21 53 51.0**	**-1.2**
BNGL	**BINGOL**	**1.61**	**278**	*i* P	**Pg**	**21 53 53.0**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*PN	**Pb**	**21 53 52.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*Pn	**Pb**	**21 53 52.7**	**-0.5**
BTMN	**Batman**	**1.73**	**241**	*i* P	**Pb**	**21 53 54.6**	**+0.4**
BTMN	**Batman**	**1.73**	**241**	P	**Pb**	**21 53 54.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.94**	**341**	*e*PN	**Pb**	**21 53 56.8**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.94**	**341**	*e*Pn	**Pb**	**21 53 56.8**	**-1.0**
BNGB	**Bing¶ll**	**1.98**	**278**	*e*PN	**Pn**	**21 53 56.8**	**+1.2**
BINT	**Bingol**	**2.12**	**275**	*e*Pn	**Pn**	**21 53 56.8**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*PN	**Pn**	**21 54 00.1**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*Pn	**Pn**	**21 54 00.1**	**+1.7**
MAZI	**Mazidag**	**2.52**	**240**	*e*PN	**Pn**	**21 54 04.5**	**+1.6**
MAZI	**Mazidag**	**2.52**	**240**	*e*Pn	**Pn**	**21 54 04.6**	**+1.6**

*CSEM **24** 21:59:32.8, 37°18N×22°03E, h7km, ML1.4/1*
ATH 24 21:59:32.8, 37°18N×22°03E, h7km±2km, ML1.4/1, Error ellipse: s-maj=2.2km s-min=1.2km az=97.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**267**	P	Pg	21 59 34.7	-0.1
ITM				S	Sg	21 59 36.0	-0.3
ITM				AML	AML	21 59 36.4	
	comp=E,961μm,0.3s						
ITM				AML	AML	21 59 37.1	
	comp=N,683μm,0.1s						
ITM	**Ithomi**	**0.08**	**267**	P	Pg	21 59 34.7	-0.1
ITM				S	Sg	21 59 36.0	-0.3
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	21 59 39.1	-0.3
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	21 59 39.1	-0.3
PYL	**PYLOS**	**0.37**	**219**	P	Pg	21 59 40.0	+0.1
PYL				S	Sg	21 59 45.8	+1.0
PYL	**PYLOS**	**0.37**	**219**	P	Pg	21 59 40.0	0.0
PYL				S	Sg	21 59 45.8	+1.0
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	21 59 41.5	+0.3
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	21 59 41.5	+0.3
MES2	**Methoni**	**0.44**	**216**	P	Pg	21 59 40.9	-0.5
MES2	**Methoni**	**0.44**	**216**	P	Pg	21 59 40.9	-0.4

*CSEM **24** 22:00:10.8±0.4, 36°41N×25°43E, h6km±2km, ML1.2, Error ellipse: s-maj=17.6km s-min=10.2km az=85.0*
*ATH **24** 22:00:11.5, 36°41N×25°41E, h4km±3km, ML1.2/2, Error ellipse: s-maj=3.3km s-min=1.1km az=107.0*
THE 24 22:00:11.6, 36°41N×25°42E, h2km, ML1.1/3, Error ellipse: s-maj=0.8km s-min=0.3km az=82.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR7	**Fira-Santorini**	**0.01**	**44**	P	Pg	22 00 12.2	+0.1
THR7	**Fira-Santorini**	**0.01**	**44**	P	Pg	22 00 12.2	+0.1
THR7	**Fira-Santorini**	**0.01**	**44**	P	Pg	22 00 12.2	+0.1
THR3	**Thira Island,**	**0.01**	**253**	P	Pg	22 00 12.1	0.0
THR3	**Thira Island,**	**0.01**	**253**	P	Pg	22 00 11.9	-0.1
THR3	**Thira Island,**	**0.01**	**253**	P	Pg	22 00 12.1	0.0
SAP2K	**Karterados**	**0.02**	**96**	P	Pg	22 00 12.5	+0.3
SAP2K				AML	AML	22 00 13.7	
	comp=E,2010μm,0.2s						
SAP2K				S	Sg	22 00 13.8	+1.2
SAP2K				AML	AML	22 00 14.4	
	comp=N,2784μm,0.1s						
THT1	**Athinios (Pele**	**0.03**	**160**	P	Pg	22 00 12.2	0.0
THT1				S	Sg	22 00 12.9	+0.2
THT1	**Athinios (Pele**	**0.03**	**160**	P	Pg	22 00 12.0	-0.2
THT1				P	Pg	22 00 12.1	-0.1
THT1				S	Sg	22 00 12.7	+0.1
THT1				S	Pg	22 00 12.9	+0.7
THT1	**Athinios (Pele**	**0.03**	**160**	P	Pg	22 00 12.0	-0.2
THR2	**Thira island,**	**0.04**	**23**	P	Pg	22 00 12.5	+0.1
THR2	**Thira island,**	**0.04**	**23**	P	Pg	22 00 12.3	-0.1
THR2	**Thira island,**	**0.04**	**23**	P	Pg	22 00 12.5	+0.1
SANT	**Santorini**	**0.05**	**142**	P	Pg	22 00 12.8	+0.1
SANT				S	Sg	22 00 14.0	+0.5
SANT	**Santorini**	**0.05**	**142**	P	Pg	22 00 12.7	0.0
SANT				S	Sg	22 00 14.1	+0.7
SANT	**Santorini**	**0.05**	**142**	P	Pg	22 00 12.7	0.0
SANT				S	Sg	22 00 14.1	+0.6
THR5	**Thira Island,**	**0.06**	**274**	P	Pg	22 00 12.9	+0.2
THR5	**Thira Island,**	**0.06**	**274**	P	Pg	22 00 12.9	+0.2
THR5	**Thira Island,**	**0.06**	**274**	P	Pg	22 00 12.9	+0.2
CMBO	**Columbo, Santo**	**0.06**	**351**	P	Pg	22 00 13.1	+0.3
CMBO				S	Sg	22 00 14.1	+0.5
CMBO	**Columbo, Santo**	**0.06**	**351**	P	Pg	22 00 13.1	+0.3
CMBO	**Columbo, Santo**	**0.06**	**351**	P	Pg	22 00 13.1	+0.3
CMBO				S	Sg	22 00 14.1	+0.5
SAP1	**Santorini-Akro**	**0.06**	**198**	P	Pg	22 00 13.3	+0.6
SAP1				S	Sg	22 00 14.5	+1.0
SAP1				AML	AML	22 00 15.1	
	comp=N,473μm,0.1s						
SAP1				AML	AML	22 00 15.1	
	comp=E,531μm,0.1s						
SAP1	**Santorini-Akro**	**0.06**	**198**	P	Pg	22 00 13.1	+0.3
SAP1				S	Sg	22 00 14.5	+1.0
THR6	**Thira Island,**	**0.06**	**196**	P	Pg	22 00 13.1	+0.3
THR6	**Thira Island,**	**0.06**	**196**	P	Pg	22 00 12.4	-0.3
THR6	**Thira Island,**	**0.06**	**196**	P	Pg	22 00 12.4	-0.4

*ISCJB **24** 22:03:00.9±0.5, 86°01N±0°06×3°1E±°, h10km, mb3.8/17, MS3.4/11, Error ellipse: s-maj=11.2km s-min=9.2km az=7.4*
*IDC **24** 22:03:01.1±0.6, 86°03N×31°70E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.8/58, mbtmp3.8/19, ML3.9/3, MS3.4/14, Ms1 3.4/14, ms1mx3.1/39, Error ellipse: s-maj=16.8km s-min=13.4km az=80.0*
*CSEM **24** 22:03:02.7, 85°99N×30°78E, h10km, mb4.2/1*
*NEIC **24** 22:03:02.7±0.5, 85°99N×30°78E, h10km, mb4.2/1, Error ellipse: s-maj=11.7km s-min=8.7km az=102.0*
ISC 24 22:03:02.8±0.6, 85°93N±0°07×30°66E±0°09, h10km, n36, σ1§25/31, mb3.9/17, MS3.5/11, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**7.38**	**209**	*e*Pn	**Pn**	**22 04 50.1**	**-0.3**
KBS				*e*S	**Sn**	**22 06 12.9**	**-1.1**
KBS	**Kingsbay**	**7.38**	**209**	*e*Pn	**Pn**	**22 04 50.1**	**-0.3**
KBS				*e*S	**Sn**	**22 06 12.8**	**-1.1**
SPITS	**Spitsbergen Ar**	**7.99**	**201**	Pn	**Pn**	**22 04 57.0**	**-1.7**
	baz=28,slow=13,SNR=32						
SPITS				Sn	**Sn**	**22 06 25.6**	**-3.4**
	baz=20,slow=17,SNR=2.7						
JMIC	**Jan Mayen**	**16.16**	**228**	Pn	**Pn**	**22 06 50.9**	**+1.5**
	11nm,0.3s,baz=157,slow=9.3,SNR=3.0						
KEV	**Kevo**	**16.29**	**185**	*e*Pn	**P**	**22 06 53.3**	**-0.8**
KEV	**Kevo**	**16.29**	**185**	*e*Pn	**P**	**22 06 53.3**	**-0.8**
ARCES	**ARCESS Array B**	**16.52**	**186**	Pn	**Pn**	**22 06 54.6**	**+0.5**
	0.3nm,0.3s,baz=352,slow=11,SNR=8.1						
ARCES				LR	LR	22 13 15.5	
	comp=Z,56nm,18.3s,baz=356,slow=37						
RES	**Resolute Bay**	**18.09**	**316**	LR	LR	22 14 21.1	
	comp=Z,138nm,18.3s,baz=32,slow=38						
NRIK	**Noril'sk**	**18.85**	**113**	P	**P**	**22 07 20.6**	**-1.8**
	0.5nm,0.3s,baz=32,slow=6.0,SNR=3.5						
NRIK				LR	LR	22 15 18.4	
	comp=Z,65nm,18.8s,baz=306,slow=39						
SFJD	**Kangerlussuaq**	**22.86**	**271**	LR	LR	22 16 30.9	
	comp=Z,57nm,19.7s,baz=8.0,slow=35						
FINES	**FINESS Array B**	**24.64**	**185**	P	**P**	**22 08 23.0**	**+0.1**
	1.9nm,0.8s,baz=358,slow=22,SNR=4.6						
FINES	**FINESS Array B**	**24.64**	**185**	P	**P**	**22 08 23.0**	**+0.1**
NOA	**NORSAR Array B**	**25.30**	**202**	P	**P**	**22 08 30.6**	**+1.8**
	1.4nm,0.8s,baz=326,slow=5.0,SNR=3.3						
INK	**Inuvik**	**25.79**	**347**	P	**P**	**22 08 32.7**	**-0.5**
	4.7nm,0.9s,baz=6.5,slow=17,SNR=3.9						
ILAR	**Eielson Array**	**29.47**	**358**	P	**P**	**22 09 06.3**	**+0.2**
	0.6nm,0.7s,baz=354,slow=6.7,SNR=7.3						
ARU	**Arti**	**30.18**	**149**	LR	LR	22 22 24.7	
	comp=Z,111nm,20.1s,baz=354,slow=38						
YKA	**Yellowknife Ar**	**31.11**	**329**	LR	LR	22 22 18.2	
	comp=Z,11nm,18.3s,baz=0.0,slow=37						
ZALV	**Zalesovo Beam**	**33.98**	**121**	P	**P**	**22 09 45.7**	**-0.1**
	1.2nm,0.7s,baz=340,slow=8.6,SNR=5.7						
BVAR	**Borovoye Array**	**34.10**	**136**	P	**P**	**22 09 47.9**	**+1.0**
	1.3nm,0.8s,baz=340,slow=8.1,SNR=11						
AKASG	**Malin Array Be**	**35.39**	**182**	P	**P**	**22 09 58.2**	**+0.1**
	1.7nm,0.7s,baz=360,slow=9.2,SNR=5.5						
GERES	**GERESS Array B**	**37.44**	**198**	P	**P**	**22 10 17.8**	**+2.1**
	0.2nm,0.5s,baz=358,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**40.96**	**125**	P	**P**	**22 10 44.4**	**-0.7**
	1.8nm,0.8s,baz=345,slow=7.5,SNR=13						
MKAR				LR	LR	22 30 36.9	
	comp=Z,87nm,19.1s,baz=329,slow=40						
SONM	**Songino Array**	**41.50**	**100**	P	**P**	**22 10 49.0**	**-0.6**
	0.4nm,0.5s,baz=337,slow=6.8,SNR=4.2						
BBB	**Bella Bella**	**41.84**	**340**	LR	LR	22 29 55.4	
	comp=Z,47nm,19.2s,baz=261,slow=39						
ULM	**Lac du Bonnet**	**42.48**	**310**	LR	LR	22 27 31.4	
	comp=Z,87nm,22.0s,baz=92,slow=35						
AAK	**Ala-Archa**	**44.67**	**133**	*e*P	**P**	**22 11 16.8**	**+1.5**
	3.8nm,1.1s						
AAK	**Ala-Archa**	**44.67**	**133**	*e*P	**P**	**22 11 16.8**	**+1.5**
	3.8nm,1.1s						
ESDC	**Sonseca Array**	**47.19**	**217**	P	**P**	**22 11 35.7**	**+0.7**
	1.3nm,0.8s,baz=2.1,slow=9.2,SNR=4.4						
GEYT	**Alibeck**	**48.65**	**151**	P	**P**	**22 11 47.7**	**+1.3**
	1.2nm,0.7s,baz=29,slow=6.8,SNR=3.8						
PDAR	**Pinedale Array**	**50.62**	**322**	P	**P**	**22 12 00.5**	**-1.1**
	1.3nm,0.9s,baz=28,slow=6.7,SNR=5.1						
PDAR				LR	LR	22 32 47.8	
	comp=Z,36nm,18.4s,baz=20,slow=35						
TKL	**Tuckaleechee C**	**56.30**	**297**	LR	LR	22 36 34.5	
	comp=Z,35nm,18.1s,slow=36						
PFO	**Pinyon Flats O**	**60.03**	**328**	LR	LR	22 39 24.6	
	comp=Z,56nm,21.4s,baz=334,slow=36						
TXAR	**Lajitas Array**	**63.73**	**316**	P	**P**	**22 13 33.5**	**-0.7**
	0.3nm,0.7s,baz=27,slow=0.3,SNR=4.1						
TXAR				PcP	**PcP**	**22 14 10.6**	**+0.4**
	0.4nm,0.8s,baz=64,slow=2.9,SNR=3.5						
TXAR				LR	LR	22 41 54.2	
	comp=Z,79nm,18.2s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**70.19**	**110**	P	**P**	**22 14 14.2**	**-1.0**
	2.0nm,0.9s,baz=346,slow=7.4,SNR=15						
TORD	**Torodi Ar. Bea**	**73.36**	**209**	P	**P**	**22 14 33.9**	**-0.5**
	0.7nm,0.8s,baz=354,slow=6.6,SNR=5.8						
CMIG	**Matias Romero**	**75.42**	**306**	LR	LR	22 52 22.4	
	comp=Z,25nm,18.6s,baz=314,slow=39						

*ISK **24** 22:03:29.0, 38°67N×43°19E, h6km, ML3.0*
*CSEM **24** 22:03:29.4±0.2, 38°66N×43°11E, h2km, ML3.0, Error ellipse: s-maj=5.3km s-min=4.7km az=57.0*
*DDA **24** 22:03:29.5, 38°64N×43°03E, h8km, Ml3.0*
*ISCJB **24** 22:03:30.2±0.5, 38°68N±0°04×43°18E±0°05, h15km, Error ellipse: s-maj=5.9km s-min=4.8km az=137.2*
ISC 24 22:03:30.0±0.9, 38°65N±0°03×43°12E±0°03, h15km, n34, σ1§12/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**105**	PG	**Pg**	**22 03 33.8**	**-1.3**
VANB				*e*SG	**Sg**	**22 03 38.0**	**-0.5**
VANB	**Van**	**0.22**	**105**	*i* Pg	**Pg**	**22 03 33.8**	**-1.3**
VANB				*e*Sg	**Sg**	**22 03 38.0**	**-0.5**
TVAN	**Van**	**0.26**	**119**	*i* P	**Pg**	**22 03 36.2**	**+0.4**
GEVA	**Gevas**	**0.34**	**188**	*i* P	**Pg**	**22 03 35.4**	**-1.7**
GEVA	**Gevas**	**0.34**	**188**	P	**Pg**	**22 03 35.4**	**-1.7**
BASK	**Baskale_VAN**	**0.92**	**130**	*i* P	Pb	22 03 40.2	-7.6
AGRB	**Hanur-Agry**	**0.93**	**354**	*e*PG	**Pb**	**22 03 47.1**	**-0.8**
AGRB				*e*SG	**Sg**	**22 04 00.8**	**+0.6**
AGRB	**Hanur-Agry**	**0.93**	**354**	*e*Pg	**Pb**	**22 03 47.1**	**-0.8**
AGRB				*e*Sg	**Sg**	**22 04 00.8**	**+0.6**
DYDN	**Diyadin**	**0.99**	**26**	*i* P	**Pb**	**22 03 49.2**	**+0.1**
DYDN	**Diyadin**	**0.99**	**26**	P	**Pb**	**22 03 49.2**	**+0.1**
EKAR	**Karacoban**	**1.02**	**307**	*i* P	**Pb**	**22 03 48.1**	**-1.4**
EKAR	**Karacoban**	**1.02**	**307**	P	**Pb**	**22 03 48.1**	**-1.4**
VRTB	**Varto-Mus**	**1.39**	**292**	*e*PN	**Pb**	**22 03 56.0**	**+0.2**
VRTB	**Varto-Mus**	**1.39**	**292**	*e*Pn	**Pb**	**22 03 56.0**	**+0.2**
CUKT	**Cukurca**	**1.46**	**164**	*e*PN	**Pn**	**22 03 56.5**	**+0.6**
CUKT	**Cukurca**	**1.46**	**164**	*i* P	**Pb**	**22 03 57.1**	**+0.2**
CUKT	**Cukurca**	**1.46**	**164**	*e*Pn	**Pn**	**22 03 56.5**	**+0.6**
CUKT	**Cukurca**	**1.46**	**164**	P	**Pb**	**22 03 57.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.59**	**252**	*e*PN	**Pb**	**22 03 58.8**	**-0.3**
SVAN				*e*SN	**Sg**	**22 04 21.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.59**	**252**	*i* P	**Pn**	**22 03 58.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.59**	**252**	P	**Pn**	**22 03 58.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.59**	**252**	*e*Pn	**Pb**	**22 03 58.8**	**-0.3**
SVAN				*e*Sn	**Sg**	**22 04 21.6**	**+0.4**
BTMN	**Batman**	**1.64**	**243**	*i* P	**Pn**	**22 03 59.4**	**+1.0**
BTMN	**Batman**	**1.64**	**243**	P	**Pn**	**22 03 59.4**	**+1.0**
BNGB	**Bing¶ll**	**1.98**	**281**	*e*PN	**Pb**	**22 04 04.0**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*PN	**Pn**	**22 04 04.0**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*Pn	**Pn**	**22 04 04.0**	**+0.6**
BINT	**Bingol**	**2.07**	**277**	*e*Pn	**Pn**	**22 04 04.0**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.15**	**292**	*e*PN	**Pn**	**22 04 07.2**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.15**	**292**	*e*Pn	**Pn**	**22 04 07.2**	**+1.7**
MAZI	**Mazidag**	**2.42**	**241**	*e*PN	**Pn**	**22 04 11.3**	**+2.1**
MAZI	**Mazidag**	**2.42**	**241**	*e*Pn	**Pn**	**22 04 11.3**	**+2.1**
PTK	**Pertek**	**2.92**	**276**	*e*PN	**Pn**	**22 04 18.1**	**+2.0**
PTK	**Pertek**	**2.92**	**276**	*e*Pn	**Pn**	**22 04 18.1**	**+2.0**

*NSSC **24** 22:13:12.9±5.1, 40°89N×42°47E, h0km±999km, ML4.1*
*ISN **24** 22:13:26.1±1.2, 38°96N×43°23E, h0km±54km, ML4.7*
*IDC **24** 22:13:29.2±0.6, 38°67N×43°09E, h0km, mb4.2/26, mb1 4.2/33, mb1mx4.1/48, mbtmp4.1/33, ML3.6/6, MS3.5/15, Ms1 3.5/15, ms1mx3.3/32, Error ellipse: s-maj=12.6km s-min=8.5km az=163.0*
*MOS **24** 22:13:29.2±1.1, 38°60N×43°14E, h8km, mb4.5/40, Error ellipse: s-maj=6.0km s-min=4.1km az=91.6*
*DDA **24** 22:13:30.7, 38°71N×43°10E, h19km, Ml4.5*
*NEIC **24** 22:13:31.1±0.0, 38°77N×43°18E, h2km, mb4.4/30, ML4.4(ISK), After ISK.*
*ISK **24** 22:13:31.3, 38°76N×43°14E, h6km, ML4.4*
*ISCJB **24** 22:13:32.4±0.4, 38°69N±0°01×43°16E±0°01, h23km±3km, mb4.4/75, MS3.6/15, Error ellipse: s-maj=2.4km s-min=1.8km az=28.0*
*TEH **24

SVAN Sn **Sg** **22 14 23.4 -1.1**
BTMN Batman 1.68 241⇑*i*P Pn 22 14 01.5 +0.4
BTMN *i*S **Sb** **22 14 24.3 +0.5**
BTMN Batman 1.68 241 P **Pn** **22 14 01.5 +0.4**
BTMN S **Sb** **22 14 24.3 +0.5**
DIGO Kars 1.69 7⇓*i*P Pb 22 14 02.4 -0.9
DIGO Kars 1.69 7 P **Pb** **22 14 02.4 -0.9**
ERZM Erzurum 1.79 311⇑*i*P Pb 22 14 04.3 -0.8
ERZM Erzurum 1.79 311 P **Pb** **22 14 04.3 -0.8**
ECAT Cat-ERZURUM 1.88 298⇓*i*P Pn 22 14 04.6 +0.6
ECAT Cat-ERZURUM 1.88 298 P **Pn** **22 14 04.6 +0.6**
GNI Garni 1.90 41 Pn **Pb** **22 14 05.2 -1.5**
72nm,0.3s,baz=259,slow=3.2,SNR=159
NAX Nakhchivan 1.91 76⇓P Pn 22 14 04.5 +0.1
NAX ⇑S **Sb** **22 14 29.4 -1.1**
NAX Nakhchivan 1.91 76 P **Pn** **22 14 04.5 +0.1**
NAX S **Sb** **22 14 29.4 -1.1**
BNGB Bing˜‖l 1.92 279 *e*PN **Pn** **22 14 05.0 +0.6**
BNGB *e*SN **Sb** **22 14 31.5 +0.8**
BNGB Bing˜‖l 1.92 279 Pn **Pb** **22 14 05.8 -1.3**
BNGB Bing˜‖l 1.92 279 Pn **Pb** **22 14 05.8 -1.3**
BNGB Sn **Sg** **22 14 32.8 -1.5**
SENK Senkaya-Erzuru 1.92 342 *e*PN **Pn** **22 14 04.6 0.0**
SENK Senkaya-Erzuru 1.92 342 *e*Pn **Pn** **22 14 04.6 0.0**
EAK Akyaka 1.99 11⇓*i*P Pb 22 14 07.0 -1.4
EAK Akyaka 1.99 11 P **Pb** **22 14 06.9 -1.4**
ISHB Shabestar 2.02 102 *e*P **Pn** **22 14 06.2 +0.3**
IMRD Marand 2.03 90 *e*P **Pn** **22 14 06.4 +0.4**
IMRD Marand 2.03 90 *e*P **Pn** **22 14 06.4 +0.4**
BINT Bingol 2.06 275 P **Pn** **22 14 05.8 -0.6**
BINT S **Sn** **22 14 32.8 +1.1**
BINT Bingol 2.06 275 *e*Pn **Pn** **22 14 05.1 -1.3**
BINT Bingol 2.06 275 P **Pn** **22 14 05.8 -0.6**
BINT *e*Sn **Sn** **22 14 31.5 -0.2**
BINT S **Sn** **22 14 32.8 +1.1**
YEDI Yedisu-Bingol 2.12 290 *e*PN **Pn** **22 14 08.7 +1.4**
YEDI Yedisu-Bingol 2.12 290 *e*Pn **Pn** **22 14 08.7 +1.4**
YEDI Yedisu-Bingol 2.12 290 Pn **Pn** **22 14 08.7 +1.4**
MARD Mardin 2.32 233⇑*i*P Pn 22 14 10.2 0.0
MARD *i*S **Sn** **22 14 38.9 +0.6**
MARD Mardin 2.32 233 *e*Pn **Pn** **22 14 10.1 0.0**
MARD Mardin 2.32 233 *e*Pn **Pn** **22 14 10.1 0.0**
DDEM Demirkent 2.40 334⇓*i*P Pn 22 14 11.8 +0.7
DDEM Demirkent 2.40 334 P **Pn** **22 14 11.8 +0.7**
ITBZ Tabriz 2.43 101 *e*P **Pn** **22 14 12.3 +0.7**
ITBZ Tabriz 2.43 101 *e*P **Pn** **22 14 12.3 +0.7**
MAZI Mazidag 2.46 240 *e*PN **Pn** **22 14 11.2 -0.7**
MAZI Mazidag 2.46 240 Pn **Pb** **22 14 14.5 -1.8**
MAZI Mazidag 2.46 240 Pn **Pb** **22 14 14.5 -1.8**
DIYA Diyarbakir 2.49 252 *i*P **Pn** **22 14 12.1 -0.2**
DIYA *i*S **Sb** **22 14 47.7 +0.6**
DIYA Diyarbakir 2.49 252 P **Pn** **22 14 12.1 -0.2**
DIYA S **Sb** **22 14 47.7 +0.6**
DAGI Agillar 2.52 339⇓*i*P Pn 22 14 13.3 +0.5
ARTV Artvin 2.61 340⇓*i*P Pn 22 14 14.9 +0.7
ARTV Artvin 2.61 340 *e*Pn **Pn** **22 14 15.0 +0.8**
ARTV Artvin 2.61 340 *e*Pn **Pn** **22 14 15.0 +0.8**
AKH Akhalkalaki 2.69 6 *e*PN **Pn** **22 14 15.5 +0.3**
AKH Akhalkalaki 2.69 6 *e*Pn **Pn** **22 14 15.5 +0.3**
ERZN Erzincan 2.77 289 *e*PN **Pn** **22 14 17.2 +1.0**
ERZN Erzincan 2.77 289 Pn **Pb** **22 14 18.9 -2.7**
ERZN Erzincan 2.77 289 Pn **Pb** **22 14 18.9 -2.7**
EPOS Posof 2.78 354⇓*i*P Pn 22 14 17.6 +1.1
EPOS Posof 2.78 354 P **Pn** **22 14 17.6 +1.1**
TNCL Tunceli-Merkez 2.81 279 *i*P **Pn** **22 14 17.0 +0.2**
TNCL Tunceli-Merkez 2.81 279 P **Pn** **22 14 17.0 +0.2**
EUZM Uzumlu 2.83 291 *i*P **Pb** **22 14 21.6 -1.0**
EUZM Uzumlu 2.83 291 P **Pb** **22 14 21.6 -1.0**
DBOC Borcka 2.84 337⇓*i*P Pb 22 14 22.4 -0.3
DBOC Borcka 2.84 337 P **Pb** **22 14 22.4 -0.3**
GDB GEDABAY 2.84 45⇑P Pn 22 14 18.6 +1.3
GDB ⇑S **Sb** **22 14 54.5 -3.0**
GDB GEDABAY 2.84 45 P **Pn** **22 14 18.6 +1.3**
GDB S **Sb** **22 14 54.5 -3.0**
QZX Qazax, Azerbai 2.90 36⇑P Pn 22 14 19.2 +1.3
QZX ⇑S **Sb** **22 14 55.8 -3.2**
QZX Qazax, Azerbai 2.90 36 P **Pn** **22 14 19.2 +1.3**
QZX S **Sb** **22 14 55.8 -3.2**
PTK Pertek 2.91 274 *e*PN **Pn** **22 14 19.4 +1.2**
PTK Pertek 2.91 274 *e*Pn **Pn** **22 14 19.4 +1.2**
PTK Pertek 2.91 274 Pn **Pn** **22 14 20.5 +2.2**
SVRC Sivrice-ELAZID 3.00 264 *e*PN **Pn** **22 14 20.2 +0.8**
SVRC Sivrice-ELAZID 3.00 264 *e*Pn **Pn** **22 14 20.3 +0.8**
SVRC Sivrice-ELAZID 3.00 264 Pn **Pn** **22 14 22.0 +2.5**
EZC Erzincan 3.09 290 *e*Pn **Pn** **22 14 17.2 -3.5**
IHRS Heris 3.11 96 *e*P **Pn** **22 14 21.9 +0.9**
IHRS Heris 3.11 96 *e*P **Pn** **22 14 21.9 +0.9**
GANJ Ganja 3.13 51⇑P Pn 22 14 22.1 +1.1
GANJ ⇑S **Sn** **22 15 00.9 +2.9**
GANJ Ganja 3.13 51 P **Pn** **22 14 22.1 +1.1**
GANJ S **Sn** **22 15 00.9 +2.9**
IBST Bostanabad 3.15 108 *e*P **Pn** **22 14 22.3 +0.8**
IBST Bostanabad 3.15 108 *e*P **Pn** **22 14 22.3 +0.8**
DGRG David-gareji 3.22 32 P **Pn** **22 14 24.9 +2.5**
DGRG David-gareji 3.22 32 P **Pn** **22 14 24.9 +2.5**
DGRG David-gareji 3.22 32 P **Pn** **22 14 24.7 +2.3**
TBLG Delisi 3.24 22 *e*PN **Pn** **22 14 23.6 +1.0**
TBLG Delisi 3.24 22 P **Pn** **22 14 24.1 +1.5**
TBLG Delisi 3.24 22 P **Pn** **22 14 24.1 +1.5**
TBLG Delisi 3.24 22 *e*Pn **Pn** **22 14 23.6 +1.0**
KELT Kelkit 3.31 297 *i*P **Pb** **22 14 28.7 -2.1**
KELT Kelkit 3.31 297 P **Pb** **22 14 28.7 -2.1**
MACK Trabzon 3.39 312 *i*P **Pb** **22 14 31.2 -1.0**
MACK Trabzon 3.39 312 P **Pb** **22 14 31.2 -1.0**
KTUT Trabzon 3.42 312 *e*PN **Pn** **22 14 26.8 +1.7**
KTUT Trabzon 3.42 312 *e*Pn **Pn** **22 14 26.8 +1.7**
KTUT Trabzon 3.42 312 Pn **Pn** **22 14 27.1 +2.1**
BRDA Brd 3.50 63⇓P Pn 22 14 26.8 +0.7
BRDA Brd 3.50 63 P **Pn** **22 14 26.8 +0.7**
URFA Urfa 3.62 250 *e*PN **Pn** **22 14 30.2 +2.3**
URFA Urfa 3.62 250 *e*Pn **Pn** **22 14 30.2 +2.3**
URFA Urfa 3.62 250 Pn **Pn** **22 14 31.4 +3.4**
KEMA Kemaliye 3.64 280 *i*P **Pn** **22 14 29.1 +0.9**
KEMA Kemaliye 3.64 280 P **Pn** **22 14 29.0 +0.9**
MNGR Mingechevir, A 3.68 55⇓P Pn 22 14 29.4 +0.9
MNGR Mingechevir, A 3.68 55 P **Pn** **22 14 29.4 +0.9**
ISRB Sarab 3.70 103 *e*P **Pn** **22 14 30.5 +1.5**
ISRB Sarab 3.70 103 *e*P **Pn** **22 14 30.5 +1.5**
ZRD Zardab 3.86 65⇓P Pn 22 14 31.6 +0.6
ZRD Zardab 3.86 65 P **Pn** **22 14 31.6 +0.6**
ONI Oni 3.86 4 P **Pn** **22 14 32.8 +1.5**
ONI Oni 3.86 4 P **Pn** **22 14 32.7 +1.5**
GUDG Gudauri 3.87 15 P **Pn** **22 14 33.6 +2.2**
ZKTA Zakatala 3.96 42⇑P Pn 22 14 33.8 +1.4
SEKA Sheki 4.00 50⇑P Pn 22 14 34.8 +1.8
SEKA ⇑S **Sn** **22 15 23.7 +4.2**
SEKA Sheki 4.00 50 P **Pn** **22 14 34.8 +1.8**
SEKA S **Sn** **22 15 23.7 +4.2**
ESPY Espiye-Giresun 4.02 304 *e*PN **Pn** **22 14 35.8 +2.5**
ESPY Espiye-Giresun 4.02 304 *e*Pn **Pn** **22 14 35.8 +2.5**
LRK Lerik 4.09 90⇓P Pn 22 14 34.1 -0.3
LRK ⇑S **Sn** **22 15 22.4 +0.4**
LRK Lerik 4.09 90 P **Pn** **22 14 34.1 -0.3**
LRK S **Sn** **22 15 22.4 +0.4**
ZEI Tsey 4.10 8 *e*P **Pn** **22 14 34.4 -0.1**
ZEI pmax pmax
comp=Z,101nm,0.8s
GLBA Clilabad 4.15 81⇑P Pn 22 14 35.0 0.0
GLBA ⇑S **Sn** **22 15 24.2 +1.2**
GLBA Clilabad 4.15 81 P **Pn** **22 14 35.0 0.0**
GLBA S **Sn** **22 15 24.2 +1.2**
DIGR Digorskoe uzhe 4.18 5⇑*e*P Pn 22 14 38.3 +2.6
DIGR Digorskoe uzhe 4.18 5 *e*P **Pn** **22 14 38.3 +2.6**
KDMR Kurdemir 4.25 66⇑P Pn 22 14 37.0 +0.6
KDMR Kurdemir 4.25 66 P **Pn** **22 14 37.0 +0.6**
QBL Gabala 4.26 57⇑P Pn 22 14 37.5 +0.9
QBL Gabala 4.26 57 P **Pn** **22 14 37.5 +0.9**
SAAT Saatly 4.27 73⇑P Pn 22 14 36.6 -0.1
SAAT ⇑S **Sn** **22 15 27.3 +1.2**
SAAT Saatly 4.27 73 P **Pn** **22 14 36.6 -0.1**
SAAT S **Sn** **22 15 27.3 +1.2**
DARE Darende-Malaty 4.41 270 *e*PN **Pn** **22 14 42.0 +3.2**
DARE Darende-Malaty 4.41 270 *e*Pn **Pn** **22 14 42.0 +3.2**
DARE Darende-Malaty 4.41 270 Pn **Pn** **22 14 42.7 +3.9**
IML Ismayilli 4.42 61⇑P Pn 22 14 39.4 +0.6
IML ⇑S **Sn** **22 15 31.9 +2.1**
IML Ismayilli 4.42 61 P **Pn** **22 14 39.4 +0.6**
IML S **Sn** **22 15 31.9 +2.1**
LKRN Lenkeran, Azer 4.43 89⇑P Pn 22 14 38.8 -0.1
LKRN Lenkeran, Azer 4.43 89 P **Pn** **22 14 38.8 -0.1**
ASTR Astara 4.45 90⇓P Pn 22 14 39.0 -0.2
ASTR ⇓S **Sn** **22 15 31.1 +0.6**
ASTR Astara 4.45 90 P **Pn** **22 14 39.0 -0.2**
ASTR S **Sn** **22 15 31.1 +0.6**
NEY Neytrino 4.52 356*ce*P **Pn** **22 14 42.7 +2.3**
NEY pmax pmax
comp=Z,286nm,1.0s
NEY Neytrino 4.52 356 *e*P **Pn** **22 14 42.7 +2.3**
comp=Z,286nm,1.0s
XNQ Khinaliq 4.57 56⇓P Pn 22 14 41.8 +0.8
XNQ ⇓S **Sn** **22 15 36.1 +2.3**
XNQ Khinaliq 4.57 56 P **Pn** **22 14 41.8 +0.8**
XNQ S **Sn** **22 15 36.1 +2.3**
GZT Gaziantep 4.59 254 *i*P **Pn** **22 14 41.3 0.0**
GNBR Gunib 4.68 38⇑*e*P Pn 22 14 45.9 +3.4
GNBR pmax pmax
comp=Z,99nm,1.3s
PQL Pirkuli 4.70 62⇓P Pn 22 14 43.2 +0.5
PQL ⇓S **Sn** **22 15 38.7 +1.9**
PQL Pirkuli 4.70 62 P **Pn** **22 14 43.2 +0.5**
PQL S **Sn** **22 15 38.7 +1.9**
ALIB Äli-Bayra 4.73 73⇓P Pn 22 14 43.3 +0.3
ALIB Äli-Bayra 4.73 73 P **Pn** **22 14 43.3 +0.3**
RSDY Resadiye-TOKAT 4.77 292 *e*PN **Pn** **22 14 46.3 +2.7**
RSDY Resadiye-TOKAT 4.77 292 *e*Pn **Pn** **22 14 46.3 +2.7**
RSDY Resadiye-TOKAT 4.77 292 Pn **Pn** **22 14 47.5 +3.9**
NCK Nalchik 4.77 4*ce*P **Pn** **22 14 45.4 +1.7**
NCK Nalchik 4.77 4 *e*P **Pn** **22 14 45.4 +1.7**
QSAR Qusar 4.83 53⇓P Pn 22 14 45.2 +0.8
QSAR Qusar 4.83 53 P **Pn** **22 14 45.2 +0.8**
GBS Qobustan 4.85 66⇓P Pn 22 14 45.1 +0.4
GBS Qobustan 4.85 66 P **Pn** **22 14 45.1 +0.4**
SVSK Karacayir 4.89 286 *e*PN **Pn** **22 14 47.6 +2.4**
SVSK Karacayir 4.89 286 *e*Pn **Pn** **22 14 47.6 +2.4**
SVSK Karacayir 4.89 286 Pn **Pn** **22 14 49.3 +4.2**
QUBA Quba, Azerbaij 4.89 56⇓P Pn 22 14 46.0 +0.7
QUBA Quba, Azerbaij 4.89 56 P **Pn** **22 14 46.0 +0.7**
ILIN Lien 4.90 140 *e*P **Pn** **22 14 46.9 +1.3**
ILIN Lien 4.90 140 *e*P **Pn** **22 14 46.9 +1.3**
GROC Groznyy 4.91 24 *e*P **Pn** **22 14 45.5 +0.1**
GROC Groznyy 4.91 24 *e*P **Pn** **22 14 45.5 +0.1**
ATGJ Altiaghaj 4.96 63⇑P Pn 22 14 46.9 +0.5
ATGJ Altiaghaj 4.96 63 P **Pn** **22 14 46.9 +0.5**
KBZ Khabaz 5.00 358 Pn **Pn** **22 14 48.1 +1.5**
comp=Z,0.1nm,0.3s,baz=176,slow=7.5,SNR=5.9
KBZ LR LR 22 17 15.3
comp=Z,737nm,21.9s,baz=198,slow=45
SIZA Siyzn 5.03 60⇓P Pn 22 14 47.9 +0.7
SIZA Siyzn 5.03 60 P **Pn** **22 14 47.9 +0.7**
KMRS Kahramanmaras 5.05 258 *e*PN **Pn** **22 14 51.1 +3.6**
KMRS Kahramanmaras 5.05 258 *e*Pn **Pn** **22 14 51.1 +3.6**
KMRS Kahramanmaras 5.05 258 Pn **Pn** **22 14 52.0 +4.5**
IVIS Veis 5.16 143 *e*P **Pn** **22 14 50.1 +1.0**
IVIS Veis 5.16 143 *e*P **Pn** **22 14 50.1 +1.0**
IGHG Ghaleghazi 5.20 147 *e*P **Pn** **22 14 50.9 +1.2**
IGHG Ghaleghazi 5.20 147 *e*P **Pn** **22 14 50.9 +1.2**
KIV Kislovodsk 5.23 357 *e*P **Pn** **22 14 53.2 +3.3**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,166nm,7.0s
KIV Kislovodsk 5.23 357 *e*P **Pn** **22 14 53.2 +3.3**
comp=Z,166nm,7.0s
KIV Kislovodsk 5.23 357 *e*Pn **Pn** **22 14 53.3 +3.3**
KVAR Kislovodsk Arr 5.23 357 Pn **Pn** **22 14 51.4 +1.5**
baz=213,slow=2.9,SNR=4.8
KVAR LR LR 22 17 21.5
comp=Z,921nm,18.1s,baz=170,slow=44
SARI SarD1z-Kayseri 5.26 269 *e*PN **Pn** **22 14 53.2 +2.8**
TOKA Tokat 5.37 289 *e*Pn **Pn** **22 14 54.4 +2.5**
TOKA Tokat 5.37 289 *e*Pn **Pn** **22 14 54.4 +2.5**
TOKA *e*Pg **Pg** **22 15 10.7 -4.7**
MAK Makhachkala 5.38 37 *e*P **Pn** **22 14 51.1 -0.8**
MAK *e*S **Sn** **22 15 55.2 +1.8**
MAK pmax pmax
comp=Z,30nm,1.5s
MAK MLR MLR
comp=Z,1μm,14.0s
MAK Makhachkala 5.38 37 *e*P **Pn** **22 14 51.1 -0.8**
comp=Z,30nm,1.5s
MAK *e*S **Sn** **22 15 55.2 +1.8**
comp=Z,1μm,14.0s
SOC Sochi 5.48 333 *e*P **Pn** **22 14 51.3 -2.1**
SOC *e* 22 15 55.2
SOC pmax pmax
comp=Z,25nm,1.0s
SOC MLR MLR
comp=Z,651nm,12.0s
BHD Baghdad 5.55 169 *e*Pn **Pn** **22 14 54.0 -0.2**
SNR=3.0
BHD *i*Sn **Sn** **22 15 56.0 -1.6**
SNR=3.0
BNN Bunyan 5.68 273 *e*PN **Pn** **22 14 58.9 +2.7**
BNN Bunyan 5.68 273 *e*Pn **Pn** **22 14 58.9 +2.7**
BNN Bunyan 5.68 273 Pn **Pn** **22 15 00.2 +4.0**
KOZT Kozan 5.88 260 *e*PN **Pn** **22 15 02.8 +3.9**
RTB Rutbah 6.13 203 *e*Pn **Pn** **22 15 03.0 +0.7**
SNR=3.0
RTB *i*Sn **Sn** **22 16 11.0 -1.0**
SNR=3.0
KFRA Kufra 6.15 237 *e*P **Pn** **22 15 00.2 -2.5**
KFRA *e*S **Sn** **22 16 20.4 +7.7**
KFRA AML AML 22 17 00.4
comp=N,362nm,0.6s
KFRA AML AML 22 17 01.8
comp=E,734nm,0.9s
GOF Gofitskoye 6.32 360⇑*e*P Pn 22 15 06.0 +1.1
GOF Gofitskoye 6.32 360 *e*P **Pn** **22 15 06.0 +1.1**
IRAZ Razeghan 6.38 119 *e*P **Pn** **22 15 07.5 +1.6**
IRAZ Razeghan 6.38 119 *e*P **Pn** **22 15 07.5 +1.6**
ROOS tl_alroos 6.54 228 *e*P **Pn** **22 15 09.1 +1.2**
ROOS *e*S Sb 22 16 34.3 -9.4
ROOS AML AML 22 17 19.1
comp=E,204nm,0.7s
ROOS AML AML 22 17 23.3
comp=N,355nm,0.6s
BIDA Albida 6.59 238 *e*P **Pn** **22 15 05.7 -2.9**
BIDA *e*S **Sn** **22 16 26.9 +3.5**
BIDA AML AML 22 17 11.2
comp=E,478nm,0.6s
BIDA AML AML 22 17 20.7
comp=N,442nm,0.7s
HAWK Haweek 6.84 234 *e*P **Pn** **22 15 11.5 -0.6**
HAWK *e*S **Sn** **22 16 38.3 +8.8**
HAWK AML AML 22 17 16.4
comp=E,101nm,0.6s
HAWK AML AML 22 17 17.2
comp=N,144nm,0.6s
MARH Ras Al Marh 7.12 231 *e*P **Pn** **22 15 17.2 +1.1**
MARH *e*S Sn 22 16 45.9 +9.2
MARH AML AML 22 17 28.4
comp=N,211nm,0.7s
MARH AML AML 22 17 30.0
comp=E,191nm,0.7s
BR131 Keskin Array S 7.42 281 *e*Pn **Pn** **22 15 22.2 +2.1**
BR131 Keskin Array S 7.42 281 *e*Pn **Pn** **22 15 22.2 +2.1**
BRTR Keskin Array B 7.42 281 Pn **Pn** **22 15 21.2 +1.1**
comp=E,0.3nm,0.3s,baz=110,slow=14,SNR=12
ILGA Ilgaz 7.59 291 *e*Pn **Pn** **22 15 24.2 +1.7**
ILGA Ilgaz 7.59 291 *e*Pn **Pn** **22 15 24.2 +1.7**
TOTH TOTAH 7.62 227 *e*P **Pn** **22 15 25.0 +2.3**
TOTH *e*S Sn 22 17 01.4 +13
TOTH AML AML 22 17 50.1
comp=N,105nm,0.8s
TOTH AML AML 22 18 09.2
comp=E,77nm,0.8s
IDMV Damavand 7.79 111 *e*P **Pn** **22 15 28.4 +3.1**
IDMV *e*AMB AMB 22 15 30.3
comp=Z,201nm,0.5s
BRBR Barbar 7.86 230 *e*P **Pn** **22 15 27.0 +0.8**
BRBR *e*S **Sn** **22 16 57.2 +2.3**
BRBR AML AML 22 18 04.3
comp=E,116nm,0.7s
BRBR AML AML 22 18 04.4
comp=N,119nm,0.7s
NSR Nassriya 8.09 161 *e*Pn **Pn** **22 15 30.0 +0.8**
SNR=3.0
ASF Jabal al Asfar 8.28 220 Pn **Pn** **22 15 31.9 0.0**
comp=N,0.2nm,0.3s,baz=56,slow=7.3,SNR=3.8
TCHB Talchebab 8.38 226 *e*P **Pn** **22 15 34.9 +1.6**
TCHB *e*S Sn 22 17 19.8 +12
TCHB AML AML 22 18 11.0
comp=N,48nm,0.7s
TCHB AML AML 22 18 27.9
comp=E,120nm,0.7s
MMAI Mount Meron Ar 8.46 230 Pn **Pn** **22 15 35.5 +1.1**
comp=E,2.1nm,0.3s,baz=68,slow=15,SNR=11
MMAI LR LR 22 19 20.1
comp=E,501nm,19.9s,baz=45,slow=42
CSS Mathiatis 8.70 247 *e*Pn **Pn** **22 15 39.0 +1.5**
CSS Mathiatis 8.70 247 *e*Pn **Pn** **22 15 39.0 +1.5**
IGLO Ghaloghah 8.79 101 *e*P **Pn** **22 15 41.1 +2.1**
ISP Isparta 9.94 269*ce*P Pn 22 16 06.9 +12
ISP pmax pmax
comp=Z,31nm,0.7s
EIL Elat 11.28 219 LR LR 22 21 07.1
comp=Z,364nm,19.6s,baz=52,slow=41
GEYT Alibeck 11.81 89 Pn **Pn** **22 16 20.2 0.0**
comp=Z,0.1nm,0.3s,baz=289,slow=14,SNR=3.2
GEYT LR LR 22 21 50.4
comp=Z,32nm,21.5s,baz=310,slow=42
MLR Muntele Rosu 14.41 303⇓*i*P P 22 17 07.6 +5.0
MLR Muntele Rosu 14.41 303⇓P P 22 17 07.6 +5.0
MTUR Matau 14.90 302⇓*i*P P 22 17 11.0 +3.1
MTUR Matau 14.90 302⇓P P 22 17 11.0 +3.1
MTUR Matau 14.90 302 P **P** **22 17 11.0 +3.1**
IDI Anoyia 14.96 262 Pn **P** **22 17 07.5 -1.1**
comp=Z,1.7nm,0.3s,baz=96,slow=8.0,SNR=14
IDI Anoyia 14.96 262 *e*Pn **Pn** **22 17 03.1 -0.1**
IDI Anoyia 14.96 262 *e*Pn **Pn** **22 17 03.1 -0.1**
VOIR 14.98 302⇑*i*P P 22 17 10.5 +1.7
VOIR 14.98 302⇑P P 22 17 10.5 +1.7
VOIR 14.98 302 P **P** **22 17 10.5 +1.7**
SRS Serrai 15.17 285 P **P** **22 17 13.1 +2.2**
SRS pmax pmax
comp=Z,19nm,1.3s
SRS Serrai 15.17 285 P **P** **22 17 13.1 +2.2**
comp=Z,19nm,1.3s
ARR Arges 15.23 302⇓*i*P P 22 17 14.1 +2.5
ARR Arges 15.23 302⇓*i*P P 22 17 14.1 +2.5
RAYN Ar Rayn 15.30 172 *e*Pn **Pn** **22 17 02.8 -4.9**
comp=Z,25nm,0.9s
RAYN *e*S Sn 22 19 45.8 -11
AKASG Malin Array Be 15.48 325 Pn **Pn** **22 17 08.9 -0.9**
comp=Z,1.2nm,0.3s,baz=133,slow=11,SNR=10
AKASG Malin Array Be 15.48 325 P **Pn** **22 17 09.0 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 15.48 325 *e*P **Pn** **22 17 12.1 +2.2**
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 15.48 325 *e*Pn **Pn** **22 17 12.1 +2.2**
comp=Z,13nm,0.8s
AKBB Malin Array Si 15.48 325 *e*Pn **Pn** **22 17 12.1 +2.2**
comp=Z,13nm,0.8s
KIEV Kiev 15.48 325*ce*P **P** **22 17 15.0 +0.7**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV Kiev 15.48 325 *e*Pn **Pn** **22 17 11.2 +1.3**
comp=Z,2.3nm,0.6s
KIEV Kiev 15.48 325 *e*P **P** **22 17 15.0 +0.7**
comp=Z,18nm,1.2s
KIEV Kiev 15.48 325 *e*Pn **Pn** **22 17 11.2 +1.3**
comp=Z,2.3nm,0.6s
VTS Vitosha 15.59 291⇓*i*P P 22 17 16.2 +0.5
VTS Vitosha 15.59 291⇓P P 22 17 16.2 +0.5
VTS Vitosha 15.59 291 *e*Pn **Pn** **22 17 13.2 +1.7**
comp=Z,12nm,1.3s
VTS Vitosha 15.59 291 P **P** **22 17 16.2 +0.5**
VTS Vitosha 15.59 291 *e*Pn **Pn** **22 17 13.2 +1.7**
comp=Z,12nm,1.3s
BURAR Bucovina Array 15.76 310⇑*i*P P 22 17 20.1 +2.6
BURAR Bucovina Array 15.76 310⇑P P 22 17 20.1 +2.6
BURAR Bucovina Array 15.76 310⇑*i*P P 22 17 20.1 +2.6
AKTO Aktyubinsk 15.76 37 Pn **Pn** **22 17 13.4 -0.1**
comp=Z,0.8nm,0.3s,baz=224,slow=12,SNR=12
BUR08 Bucovina Ar. S 15.78 310 *e*Pn **Pn** **22 17 15.8 +1.8**
BUR08 Bucovina Ar. S 15.78 310 *e*Pn **Pn** **22 17 15.8 +1.8**
ABKAR Akbulak array 16.00 43 *e*Pn **Pn** **22 17 17.3 +0.6**
comp=Z,38nm,0.7s
ABKAR Akbulak array 16.00 43 *e*Pn **Pn** **22 17 17.3 +0.6**
comp=Z,38nm,0.7s
ZAGS Zajecar 16.48 295 *e*P **P** **22 17 24.7 -0.8**
BARS Barje 16.63 291 *e*P **P** **22 17 28.4 +1.3**
BOVS Bovan 16.83 294 *e*P **P** **22 17 32.9 +3.6**
OBN Obninsk 16.97 347 P **P** **22 17 30.4 -0.3**
comp=Z,2.2nm,0.3s,baz=336,slow=17,SNR=5.4
OBN Obninsk 16.97 347 *i*P **Pn** **22 17 26.2 -2.7**
OBN *i*S **S** **22 20 49.2 +2.3**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,219nm,15.0s
OBN Obninsk 16.97 347 *e*Pn **P** **22 17 30.8 +0.1**
comp=Z,34nm,1.1s
OBN *i*S **S** **22 20 49.2 +2.3**
OBN Obninsk 16.97 347 *e*Pn **P** **22 17 30.8 +0.1**
comp=Z,34nm,1.1s
DRGR 16.98 305⇓*i*P P 22 17 33.9 +2.9
DRGR 16.98 305⇓P P 22 17 33.9 +2.9
DRGR 16.98 305 P **P** **22 17 33.9 +2.9**
SELS Selova 17.19 292 *e*P **P** **22 17 35.5 +2.2**
BZS Buzias 17.33 300⇓*i*P P 22 17 37.3 +2.5
BZS Buzias 17.33 300⇓P P 22 17 37.3 +2.5
BZS Buzias 17.33 300 P **P** **22 17 37.3 +2.5**
MOS Moscow 17.41 350 *e*P **Pn** **22 17 32.6 -1.7**
MOS pmax pmax
comp=Z,43nm,1.4s
GRUS Gruza 17.58 294 *e*P **P** **22 17 41.2 +3.6**
UOSS Minazif 17.65 137 *e*Pn **Pn** **22 17 36.8 -0.8**
comp=Z,15nm,1.0s
UOSS Minazif 17.65 137 *e*Pn **Pn** **22 17 36.8 -0.8**
comp=Z,15nm,1.0s
BEO Beograd 17.92 297 *e*P **P** **22 17 42.5 +1.2**
BEO Beograd 17.92 297 *e*Pn **P** **22 17 42.5 +1.2**
IVAS Ivanjica 17.94 293 *e*P **P** **22 17 42.8 +1.2**
UZH Uzhgorod 17.97 310 *e*P **Pn** **22 17 37.8 -3.5**
TIR Tirane 17.98 286 *e*P **P** **22 17 43.3 +1.2**
TIR pmax pmax
comp=Z,88nm,1.9s
TIR Tirane 17.98 286 *e*P **P** **22 17 43.3 +1.2**
comp=Z,88nm,1.9s
TIR Tirane 17.98 286 *e*Pn **P** **22 17 43.2 +1.2**
comp=Z,88nm,1.9s
DIVS Divibare 18.13 295 *e*P **P** **22 17 44.7 +1.0**
KWP Kalwaria Pacla 18.18 313 P **P** **22 17 44.7 +0.5**
KWP pmax pmax
comp=Z,177nm,1.1s
KWP Kalwaria Pacla 18.18 313 P **P** **22 17 44.7 +0.5**
comp=Z,177nm,1.1s
TEKS Tekeris 18.53 296 *e*P **Pn** **22 17 49.7 +1.4**
CRVS Cervenica-Dubn 18.58 310 *e*P **Pn** **22 17 50.1 +1.2**
CRVS Cervenica-Dubn 18.58 310 *e*P **Pn** **22 17 50.1 +1.2**
CRVS Cervenica-Dubn 18.58 310 *e*P **Pn** **22 17 50.1 +1.2**
STHS Stebnicka Huta 18.93 311 *e*P **Pn** **22 17 53.9 +0.8**
STHS Stebnicka Huta 18.93 311 *e*P **Pn** **22 17 53.9 +0.8**
STHS Stebnicka Huta 18.93 311 *e*P **Pn** **22 17 53.8 +0.7**
PSZ Piszkesteto 19.17 306 *e*P **Pn** **22 17 57.3 +1.2**
PSZ pmax pmax
comp=Z,19nm,1.3s
PSZ Piszkesteto 19.17 306 *e*P **Pn** **22 17 57.2 +1.2**
comp=Z,19nm,1.3s
PSZ Piszkesteto 19.17 306 *e*P **Pn** **22 17 57.2 +1.2**
comp=Z,19nm,1.3s
NIE Niedzica 19.49 311 P **Pn** **22 18 02.6 +2.8**
VYHS Vyhne 20.03 307 *e*P Pn 22 18 06.2 0.0
VYHS pmax pmax
comp=Z,15nm,1.8s
VYHS Vyhne 20.03 307 *e*P Pn 22 18 06.2 0.0
comp=Z,15nm,1.8s
VYHS Vyhne 20.03 307 *e*P Pn 22 18 06.2 0.0
CSKK Cs˘‡kako 20.04 304⇓*e*P Pn 22 18 06.6 +0.2
CSKK Cs˘‡kako 20.04 304⇓*e*P Pn 22 18 06.6 +0.2
OJC Ojcow 20.12 312 *e*P Pn 22 18 07.1 -0.2
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 20.12 312 *e*P Pn 22 18 07.1 -0.2
comp=Z,7.0nm,0.9s
OJC Ojcow 20.12 312 *e*P Pn 22 18 07.1 -0.3
comp=Z,6.6nm,0.9s
WSAR Wadi Sarin 20.34 135 P Pn 22 18 09.6 -0.4
comp=Z,5.2nm,0.7s,baz=334,slow=11,SNR=5.8
ARU Arti 20.46 25 P **P** **22 18 09.3 +0.3**
comp=Z,10nm,0.6s,baz=223,slow=5.8,SNR=13
ARU Arti 20.46 25 *i*P **P** **22 18 09.1 +0.1**
ARU pmax pmax
comp=Z,17nm,0.8s

ARU	**Arti**	**20.46**	**25**	*eP*	**P**		**22 18 09.5 +0.5**
	comp=Z,19nm,1.0s						
ARU	**Arti**	**20.46**	**25**	*eP*	**P**		**22 18 09.5 +0.5**
	comp=Z,19nm,1.0s						
SMOL	**Smolenice**	**20.92**	**306**	P	Pn		22 18 19.0 +2.3
KKAR	**Karatay Array**	**21.12**	**69**	*eP*	**P**		**22 18 17.0 +0.7**
KKAR	**Karatay Array**	**21.12**	**69**	*eP*	**P**		**22 18 17.0 +0.7**
	comp=Z,205nm,0.9s						
KKAR	**Karatay Array**	**21.12**	**69**	*eP*	**P**		**22 18 17.0 +0.7**
	comp=Z,205nm,0.9s						
KBL	**Kabul**	**21.20**	**93**	*eP*	**P**		**22 18 19.4 +2.0**
KBL				pmax	pmax		
	comp=Z,20nm,1.1s						
KBL	**Kabul**	**21.20**	**93**	*eP*	**P**		**22 18 19.4 +2.0**
	comp=Z,20nm,1.1s						
KBL	**Kabul**	**21.20**	**93**	*eP*	**P**		**22 18 19.4 +2.0**
	comp=Z,20nm,1.1s						
SOP	**Sopron**	**21.24**	**304**	P	**P**		**22 18 20.0 +2.5**
SOP				pmax	pmax		
	comp=Z,13nm,1.1s						
SOP	**Sopron**	**21.24**	**304**	P	**P**		**22 18 20.0 +2.5**
	comp=Z,13nm,1.1s						
SVE	**Sverdlovsk**	**21.48**	**27**	*eP*	**P**		**22 18 20.8 +0.8**
SVE				pmax	pmax		
	comp=Z,41nm,1.6s						
SVE	**Sverdlovsk**	**21.48**	**27**	*eP*	**P**		**22 18 20.8 +0.8**
	comp=Z,41nm,1.6s						
BOJS	**Bojanci**	**21.68**	**297**	*i P*	**P**		**22 18 23.1 +0.8**
BOJS	**Bojanci**	**21.68**	**297**	*i P*	**P**		**22 18 23.1 +0.8**
VRAC	**Vranov**	**21.70**	**308**	P	**P**		**22 18 24.6 +2.2**
	comp=Z,6.0nm,1.0s,baz=107,slow=9.6,SNR=8.1						
VRAC	**Vranov**	**21.70**	**308**	P	**P**		**22 18 24.6 +2.2**
VRAC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRAC	**Vranov**	**21.70**	**308**	P	**P**		**22 18 24.6 +2.2**
	comp=Z,5.0nm,0.8s						
CONA	**Conrad Observa**	**21.76**	**304**	*i P*	**P**		**22 18 24.8 +1.6**
	comp=Z,7.2nm,0.8s						
CONA	**Conrad Observa**	**21.76**	**304**	P	**P**		**22 18 24.8 +1.6**
	comp=Z,7.2nm,0.8s						
ARSA	**Arzberg**	**21.82**	**302**	*i P*	**P**		**22 18 29.5 +5.8**
	comp=Z,6.1nm,0.9s						
PERS	**Pernice**	**21.96**	**300**	*i P*	**P**		**22 18 27.2 +1.9**
PERS	**Pernice**	**21.96**	**300**	*i P*	**P**		**22 18 27.2 +1.9**
VISS	**Visnje**	**22.01**	**298**	*i P*	P		22 18 35.7 +10
KLMR	**Klimovskoe**	**22.26**	**355**	*eP*	**P**		**22 18 28.4 +0.1**
KLMR				*e*			22 18 50.0
KLMR				pmax	pmax		
	comp=Z,25nm,1.1s						
KLMR	**Klimovskoe**	**22.26**	**355**	*eP*	**P**		**22 18 28.4 +0.1**
	comp=Z,25nm,1.1s						
VSU	**Vasula**	**22.41**	**337**	*i P*	**P**		**22 18 31.1 +1.2**
VSU				pmax	pmax		
	comp=Z,23nm,0.8s						
VSU	**Vasula**	**22.41**	**337**	*i P*	**P**		**22 18 31.1 +1.2**
	comp=Z,23nm,0.8s						
MNAS	**Manas**	**22.57**	**71**	P	**P**		**22 18 32.8 +0.7**
MNAS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MNAS	**Manas**	**22.57**	**71**	P	**P**		**22 18 32.8 +0.7**
	comp=Z,8.0nm,1.1s						
SOKR	**Solikamsk**	**22.63**	**18⇑**	*iP*	P		22 18 40.4 +8.2
SOKR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SOKR				MLR	MLR		
	comp=Z,160nm,17.0s						
MOA	**Molln**	**22.78**	**303**	*i* pP	**P**		**22 18 34.9 +0.9**
	comp=Z,12nm,1.3s						
MOA	**Molln**	**22.78**	**303**	P	**P**		**22 18 34.9 +0.9**
	comp=Z,12nm,1.3s						
AQU	**L'Aquila**	**22.81**	**289**	*eP*	**P**		**22 18 34.3 -0.2**
AQU				pmax	pmax		
	comp=Z,76nm,1.5s						
AQU	**L'Aquila**	**22.81**	**289**	*eP*	**P**		**22 18 34.3 -0.2**
	comp=Z,76nm,1.5s						
AQU	**L'Aquila**	**22.81**	**289**	*eP*	**P**		**22 18 34.3 -0.2**
	comp=Z,76nm,1.5s						
KBA	**Koelnbreinsper**	**23.24**	**301**	*i P*	**P**		**22 18 40.1 +1.2**
	comp=Z,6.0nm,0.8s						
KBA	**Koelnbreinsper**	**23.24**	**301**	P	**P**		**22 18 40.1 +1.2**
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**23.38**	**305**	P	**P**		**22 18 40.1 -0.2**
	comp=Z,1.0nm,0.7s,baz=104,slow=11,SNR=5.4						
GERES				LR	LR		22 27 50.9
	comp=Z,52nm,21.8s,baz=132,slow=37						
CLTB	**Caltabellotta**	**23.49**	**277**	*eP*	**P**		**22 18 42.8 +1.3**
	comp=Z,27nm,1.1s						
CLTB	**Caltabellotta**	**23.49**	**277**	*eP*	**P**		**22 18 42.8 +1.3**
	comp=Z,27nm,1.1s						
KHC	**Kasperske Hory**	**23.53**	**306**	*eP*	**P**		**22 18 41.5 -0.2**
KHC				*ex*	x		22 18 47.6
KHC	**Kasperske Hory**	**23.53**	**306**	*eP*	**P**		**22 18 42.4 +0.7**
KHC				pmax	pmax		
	comp=Z,11nm,1.8s						
KHC	**Kasperske Hory**	**23.53**	**306**	*eP*	**P**		**22 18 42.4 +0.7**
	comp=Z,11nm,1.8s						
KHC	**Kasperske Hory**	**23.53**	**306**	*eP*	**P**		**22 18 42.4 +0.7**
	comp=Z,11nm,1.8s						
BRVK	**Borovoye**	**23.54**	**44**	*ceP*	**P**		**22 18 42.0 +0.3**
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK	**Borovoye**	**23.54**	**44**	*eP*	**P**		**22 18 42.3 +0.6**
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**23.54**	**44**	*eP*	**P**		**22 18 42.3 +0.6**
	comp=Z,11nm,1.0s						
BVAR	**Borovoye Array**	**23.58**	**44**	P	**P**		**22 18 42.6 +0.5**
	comp=Z,4.6nm,1.0s,baz=235,slow=5.2,SNR=19						
AAK	**Ala-Archa**	**24.04**	**71**	P	**P**		**22 18 47.6 +0.8**
	comp=Z,7.6nm,1.2s,baz=243,slow=9.5,SNR=9.3						
AAK	**Ala-Archa**	**24.04**	**71**	*i P*	**P**		**22 18 45.8 -1.0**
AAK				pmax	pmax		
	comp=Z,11nm,1.1s						
AAK	**Ala-Archa**	**24.04**	**71**	*eP*	**P**		**22 18 47.8 +1.0**
	comp=Z,13nm,1.4s						
AAK	**Ala-Archa**	**24.04**	**71**	*eP*	**P**		**22 18 47.8 +1.0**
	comp=Z,13nm,1.4s						
DAMY	**Dhamar**	**24.09**	**177**	*eP*	**P**		**22 18 48.0 +0.5**
	comp=Z,31nm,1.4s						
DAMY	**Dhamar**	**24.09**	**177**	*eP*	**P**		**22 18 48.0 +0.5**
	comp=Z,31nm,1.4s						
FRU	**Bishkek**	**24.13**	**70**	*eP*	**P**		**22 18 49.0 +1.6**
FRU				pmax	pmax		
	comp=Z,49nm,1.9s						
FRU	**Bishkek**	**24.13**	**70**	*eP*	**P**		**22 18 49.0 +1.6**
	comp=Z,49nm,1.9s						
WTTA	**Wattenberg**	**24.42**	**301**	*i P*	**P**		**22 18 50.3 +0.1**
	comp=Z,12nm,0.8s						
WTTA	**Wattenberg**	**24.42**	**301**	P	**P**		**22 18 50.3 +0.1**
	comp=Z,12nm,0.8s						
WATA	**Walderalm**	**24.47**	**301**	*i P*	**P**		**22 18 50.6 -0.1**
	comp=Z,20nm,1.2s						
WATA	**Walderalm**	**24.47**	**301**	P	**P**		**22 18 50.6 -0.1**
	comp=Z,20nm,1.2s						
CLL	**Collm**	**24.53**	**311**	*eP*	**P**		**22 18 52.7 +1.7**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**24.53**	**311**	*eP*	**P**		**22 18 52.7 +1.7**
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**24.53**	**311**	*i P*	**P**		**22 18 51.9 +1.0**
	comp=Z,7.0nm,1.0s						
CLL				*e*			22 18 58.0
CLL	**Collm**	**24.53**	**311**	*eP*	**P**		**22 18 52.7 +1.7**
	comp=Z,6.9nm,1.0s						
NKC	**Novy Kostel**	**24.54**	**308**	*eP*	**P**		**22 18 51.8 +0.7**
NKC	**Novy Kostel**	**24.54**	**308**	*eP*	**P**		**22 18 51.8 +0.7**
NKC	**Novy Kostel**	**24.54**	**308**	*eP*	**P**		**22 18 51.8 +0.7**
MOTA	**Moosalm**	**24.79**	**301**	*i P*	**P**		**22 18 53.8 +0.3**
	comp=Z,23nm,0.8s						
MOTA	**Moosalm**	**24.79**	**301**	P	**P**		**22 18 53.8 +0.3**
	comp=Z,23nm,0.8s						
FUR	**Furstenfeldbru**	**24.81**	**303**	P	**P**		**22 18 55.2 +1.6**
FUR				pmax	pmax		
	comp=Z,77nm,0.8s						
FUR	**Furstenfeldbru**	**24.81**	**303**	P	**P**		**22 18 55.2 +1.6**
	comp=Z,77nm,0.8s						
RETA	**Reutte**	**25.04**	**301**	*i P*	**P**		**22 18 55.9 +0.2**
	comp=Z,2.3nm,0.6s						
RETA	**Reutte**	**25.04**	**301**	P	**P**		**22 18 55.9 +0.2**
	comp=Z,2.3nm,0.6s						
FINES	**FINESS Array B**	**25.07**	**341**	P	**P**		**22 18 55.7 0.0**
	comp=Z,2.9nm,0.6s,baz=142,slow=11,SNR=19						
FINES				LR	LR		22 29 27.4
	comp=Z,81nm,19.7s,baz=144,slow=38						
GRFO	**Grafenberg**	**25.16**	**306**	*eP*	**P**		**22 18 58.3 +1.6**
GRFO				pmax	pmax		
	comp=Z,30nm,1.0s						
GRFO	**Grafenberg**	**25.16**	**306**	*eP*	**P**		**22 18 58.3 +1.6**
	comp=Z,30nm,1.0s						
GRFO	**Grafenberg**	**25.16**	**306**	*eP*	**P**		**22 18 58.3 +1.6**
	comp=Z,30nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**25.27**	**299**	*eP*	**P**		**22 18 59.1 +1.1**
	comp=Z,24nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**25.27**	**299**	*eP*	**P**		**22 18 59.1 +1.1**
	comp=Z,24nm,1.5s						
KSH	**Kashi**	**25.43**	**78**	P	**P**		**22 18 58.9 -0.5**
KSH				pP	sP		22 19 03.4 -3.4
KSH				sP	pP		22 19 05.9 +1.3
KSH				PP	**PnPn**		**22 19 38.1 +3.5**
KSH				S	**S**		**22 23 21.0 -4.6**
KSH				sS	pS		22 23 28.1 -3.2
KSH				SS	**SnSn**		**22 24 21.4 +3.4**
KSH				PcS	**PcS**		**22 26 12.4 +0.6**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,86nm,4.8s						
KSH				LR	LR		
	comp=N,50nm,6.4s						
KSH				LR	LR		
	comp=E,66nm,7.5s						
KSH				LR	LR		
	comp=Z,110nm,6.4s						
DAVOX	**Davos/Dischmat**	**25.55**	**299**	P	**P**		**22 19 00.3 -0.1**
	comp=Z,4.7nm,0.6s,baz=102,slow=7.4,SNR=12						
DAVA	**Damuels**	**25.60**	**300**	*eP*	**P**		**22 19 00.7 -0.2**
	comp=Z,7.1nm,0.9s						
DAVA	**Damuels**	**25.60**	**300**	P	**P**		**22 19 00.7 -0.2**
	comp=Z,7.1nm,0.9s						
VSL	**Villasalto**	**26.10**	**282**	*eP*	**P**		**22 19 05.4 +0.1**
	comp=Z,20nm,0.8s						
VSL	**Villasalto**	**26.10**	**282**	*eP*	**P**		**22 19 05.4 +0.1**
	comp=Z,20nm,0.8s						
KEST	**Kesra**	**26.96**	**274**	P	**P**		**22 19 13.5 +0.3**
	comp=Z,6.3nm,1.0s,baz=118,slow=2.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**27.58**	**53**	P	**P**		**22 19 19.3 +0.8**
	comp=Z,3.2nm,0.7s,baz=263,slow=9.0,SNR=31						
KURK	**Kurchatov**	**27.66**	**53**	*i P*	**P**		**22 19 19.5 +0.3**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**27.66**	**53**	*i P*	**P**		**22 19 19.5 +0.3**
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**27.66**	**53**	*eP*	**P**		**22 19 19.9 +0.7**
	comp=Z,6.0nm,1.0s						
BNI	**Bardonecchia**	**27.68**	**295**	*eP*	**P**		**22 19 20.5 +0.9**
BNI				pmax	pmax		
	comp=Z,14nm,1.3s						
BNI	**Bardonecchia**	**27.68**	**295**	*eP*	**P**		**22 19 20.5 +0.9**
	comp=Z,14nm,1.3s						
BNI	**Bardonecchia**	**27.68**	**295**	*eP*	**P**		**22 19 20.5 +0.9**
	comp=Z,14nm,1.3s						
HFS	**Hagfors**	**28.30**	**329**	P	**P**		**22 19 24.9 0.0**
	comp=Z,5.2nm,0.6s,baz=134,slow=10,SNR=12						
MAKZ	**Makanchi**	**29.41**	**61**	*eP*	**P**		**22 19 36.0 +1.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAKZ	**Makanchi**	**29.41**	**61**	*eP*	**P**		**22 19 36.0 +1.1**
	comp=Z,4.0nm,1.0s						
MAKZ	**Makanchi**	**29.41**	**61**	*eP*	**P**		**22 19 36.0 +1.1**
	comp=Z,4.0nm,1.0s						
MK31	**Makanchi Array**	**29.62**	**61**	*eP*	**P**		**22 19 37.8 +1.0**
MK31	**Makanchi Array**	**29.62**	**61**	*eP*	**P**		**22 19 37.8 +1.0**
MK31	**Makanchi Array**	**29.62**	**61**	*eP*	**P**		**22 19 37.8 +1.0**
MKAR	**Makanchi Array**	**29.62**	**61**	P	**P**		**22 19 37.4 +0.6**
	comp=Z,2.3nm,0.7s,baz=273,slow=6.8,SNR=19						
NC405	**NORSAR Array S**	**29.67**	**329**	*eP*	**P**		**22 19 38.0 +1.0**
NC405	**NORSAR Array S**	**29.67**	**329**	*eP*	**P**		**22 19 38.0 +1.0**
NB2	**NORSAR Subarra**	**29.83**	**329**	P	**P**		**22 19 37.9 -0.6**
	comp=Z,1.7nm,0.7s,baz=124,slow=9.3						
NB2	**NORSAR Subarra**	**29.83**	**329**	P	**P**		**22 19 37.9 -0.6**
	comp=Z,1.7nm,0.7s,SNR=6.2						
NOA	**NORSAR Array B**	**29.83**	**329**	P	**P**		**22 19 37.8 -0.7**
	comp=Z,1.3nm,0.6s,baz=125,slow=8.9,SNR=6.8						
NOA				LR	LR		22 33 26.1
	comp=Z,53nm,19.3s,baz=80,slow=40						
NAO01	**NORSAR Array S**	**29.86**	**328**	*eP*	**P**		**22 19 38.1 -0.6**
NAO01	**NORSAR Array S**	**29.86**	**328**	*eP*	**P**		**22 19 38.1 -0.6**
NC303	**NORSAR Array S**	**29.87**	**329**	*eP*	**P**		**22 19 39.8 +1.0**
NC303	**NORSAR Array S**	**29.87**	**329**	*eP*	**P**		**22 19 39.8 +1.0**
NVS	**Novosibirsk**	**31.32**	**46**	*eP*	P		22 19 43.5 -8.2
ZALV	**Zalesovo Beam**	**32.03**	**48**	P	**P**		**22 19 57.5 -0.4**
	comp=Z,0.8nm,0.6s,baz=243,slow=9.8,SNR=4.4						
ARCES	**ARCESS Array B**	**32.27**	**349**	P	**P**		**22 19 58.8 -1.1**
	comp=Z,2.4nm,0.8s,baz=144,slow=10,SNR=9.5						
ARCES				LR	LR		22 34 03.7
	comp=Z,101nm,19.5s,baz=192,slow=38						
WMQ	**Urumqi**	**33.58**	**67**	P	**P**		**22 20 13.0 +1.4**
WMQ				pP	sP		22 20 19.0 -0.1
WMQ				sP	pP		22 20 21.6 +4.7
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,86nm,4.5s						
WMQ				LR	LR		
	comp=N,87nm,22.9s						
WMQ				LR	LR		
	comp=E,26nm,26.7s						
WMQ				LR	LR		
	comp=Z,48nm,16.5s						
TAM	**Tamanrasset**	**35.71**	**255**	*eP*	**P**		**22 20 30.6 +0.2**
TAM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TAM	**Tamanrasset**	**35.71**	**255**	*eP*	**P**		**22 20 30.6 +0.2**
	comp=Z,5.0nm,0.9s						
TAM	**Tamanrasset**	**35.71**	**255**	*eP*	**P**		**22 20 30.6 +0.2**
	comp=Z,4.7nm,0.9s						
ESDC	**Sonseca Array**	**36.16**	**287**	P	**P**		**22 20 32.9 -1.1**
	comp=Z,3.5nm,0.8s,baz=66,slow=9.1,SNR=15						
NRIK	**Noril'sk**	**38.67**	**23**	P	**P**		**22 20 55.6 +0.8**
	comp=Z,5.2nm,0.8s,baz=246,slow=7.1,SNR=4.6						
MDT	**Midelt**	**38.82**	**276**	P	**P**		**22 20 55.5 -1.1**
	comp=Z,5.2nm,1.0s,baz=41,slow=5.8,SNR=4.5						
LSA	**Lhasa**	**40.34**	**88**	*eP*	**P**		**22 21 10.2 +0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
LSA	**Lhasa**	**40.34**	**88**	*eP*	**P**		**22 21 10.2 +0.4**
	comp=Z,7.0nm,1.3s						
LSA	**Lhasa**	**40.34**	**88**	*eP*	**P**		**22 21 10.2 +0.4**
	comp=Z,7.1nm,1.3s						
SPITS	**Spitsbergen Ar**	**41.08**	**352**	P	**P**		**22 21 14.7 0.0**
	comp=Z,21nm,1.0s,baz=116,slow=7.5,SNR=4.2						
GTA	**Gaotai**	**43.39**	**70**	*eP*	**P**		**22 21 34.8 +0.6**
GTA				pP	sP		22 21 39.4 -2.3
GTA				sP	pP		22 21 41.8 +2.2
GTA				S	**S**		**22 28 03.9 +2.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,44nm,5.9s						
GTA				LR	LR		
	comp=N,86nm,16.6s						
GTA				LR	LR		
	comp=E,58nm,17.6s						
GTA				LR	LR		
	comp=Z,86nm,18.1s						
TORD	**Torodi Ar. Bea**	**44.59**	**247**	P	**P**		**22 21 42.0 -1.9**
	comp=Z,2.3nm,0.9s,baz=52,slow=9.8,SNR=19						
TORD	**Torodi Ar. Bea**	**44.59**	**247**	P	**P**		**22 21 42.0 -1.9**
MSEY	**Mahe Island**	**44.68**	**162**	*eP*	**P**		**22 21 42.6 -2.0**
MSEY				pmax	pmax		
	comp=Z,92nm,1.8s						
MSEY	**Mahe Island**	**44.68**	**162**	*eP*	**P**		**22 21 42.6 -2.0**
	comp=Z,92nm,1.8s						
MSEY	**Mahe Island**	**44.68**	**162**	*eP*	**P**		**22 21 42.6 -2.0**
	comp=Z,92nm,1.8s						
SCO	**Scoresbysund**	**45.76**	**335**	P	**P**		**22 21 52.4 -0.1**
SCO				pmax	pmax		
	comp=Z,43nm,1.8s						
SCO	**Scoresbysund**	**45.76**	**335**	P	**P**		**22 21 52.4 -0.1**
	comp=Z,43nm,1.8s						
SONM	**Songino Array**	**45.78**	**57**	P	**P**		**22 21 53.0 -0.2**
	comp=Z,0.5nm,0.6s,baz=271,slow=8.8,SNR=4.5						
SONM				LR	LR		22 43 10.0
	comp=Z,74nm,18.8s,baz=266,slow=39						
SONM	**Songino Array**	**45.78**	**57**	P	**P**		**22 21 53.0 -0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,74nm,18.8s						
SONM	**Songino Array**	**45.78**	**57**	P	**P**		**22 21 53.0 -0.2**
	comp=Z,74nm,18.8s						
ULN	**Ulaanbaatar**	**46.21**	**57**	*i P*	**P**		**22 21 55.9 -0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**46.21**	**57**	*eP*	**P**		**22 21 56.8 +0.2**
	comp=Z,5.2nm,1.1s						
ULN	**Ulaanbaatar**	**46.21**	**57**	*eP*	**P**		**22 21 56.8 +0.2**
	comp=Z,5.3nm,1.1s						
LZH	**Lanzhou**	**47.53**	**73**	*eP*	**P**		**22 22 07.8 +0.7**
LZH				pP	sP		22 22 11.0 -3.7
LZH				sP	pP		22 22 12.5 0.0
LZH				*e*PP	**PP**		**22 23 58.3 -0.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,6.0s						
LZH				LR	LR		
	comp=N,170nm,15.0s						
LZH				LR	LR		
	comp=E,170nm,14.8s						
LZH				LR	LR		
	comp=Z,220nm,18.2s						
HHC	**Hu-ho-hao-te**	**51.40**	**65**	*eP*	**P**		**22 22 38.0 +1.5**
HHC				S	**S**		**22 29 55.5 +0.1**
HHC				pmax	pmax		
	comp=Z,22nm,1.3s						
HHC				pmax	pmax		
	comp=Z,51nm,5.1s						
HHC				LR	LR		
	comp=N,74nm,13.7s						
HHC				LR	LR		
	comp=E,160nm,14.9s						
HHC				LR	LR		
	comp=Z,88nm,14.9s						
KMI	**Kunming**	**51.57**	**87**	P	**P**		**22 22 39.6 +1.5**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHTO	**Chiang Mai**	**51.99**	**96**	*eP*	**P**		**22 22 39.2 -1.8**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**51.99**	**96**	*eP*	**P**		**22 22 39.2 -1.8**
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**51.99**	**96**	*eP*	**P**		**22 22 39.2 -1.8**
	comp=Z,3.8nm,0.8s						
XAN	**Xi'an**	**52.17**	**74**	P	**P**		**22 22 42.3 +0.1**
XAN				pP	sP		22 22 50.8 +1.0
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.19**	**96**	P	**P**		**22 22 41.2 -1.3**
	comp=Z,1.7nm,0.4s,baz=298,slow=8.0,SNR=23						
TIXI	**Tiksi**	**52.46**	**23**	*i P*	**P**		**22 22 44.5 +0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**52.46**	**23**	*i P*	**P**		**22 22 44.5 +0.8**
	comp=Z,2.0nm,1.0s						
DGAR	**Diego Garcia**	**53.39**	**143**	*eP*	**P**		**22 22 50.8 -0.5**
DGAR	**Diego Garcia**	**53.39**	**143**	*eP*	**P**		**22 22 50.8 -0.5**
	comp=Z,215nm,1.5s						
DGAR	**Diego Garcia**	**53.39**	**143**	*eP*	**P**		**22 22 50.8 -0.5**
	comp=Z,215nm,1.5s						
DBIC	**Dimbokro**	**53.70**	**246**	P	**P**		**22 22 52.0 -1.6**
	comp=Z,4.9nm,0.9s,baz=58,slow=6.1,SNR=3.5						
HIA	**Hailar**	**53.89**	**52**	*i P*	**P**		**22 22 54.8 +0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**53.89**	**52**	*i P*	**P**		**22 22 54.8 +0.1**
	comp=Z,5.0nm,0.9s						
WHN	**Wuhan**	**57.85**	**75**	P	P		22 23 35.4 +12
NJ2	**Nanjing**	**60.48**	**71**	*eP*	**P**		**22 23 42.3 +0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SEY	**Seymchan**	**64.15**	**29**	*i P*	**P**		**22 24 05.6 0.0**
SEY	**Seymchan**	**64.15**	**29**	*i P*	**P**		**22 24 05.6 0.0**
KSAR	**Wonju Array Be**	**64.28**	**62**	P	**P**		**22 24 06.3 -0.5**
KSAR	**Wonju Array Be**	**64.28**	**62**	P	**P**		**22 24 06.3 -0.5**
KSAR	**Wonju Array Be**	**64.28**	**62**	P	**P**		**22 24 06.3 -0.5**
KSRS	**Korea Array**	**64.30**	**62**	P	**P**		**22 24 06.3 -0.7**
	comp=Z,5.9nm,0.8s,baz=286,slow=6.7,SNR=10						
KSRS				LR	LR		22 54 55.2
	comp=Z,14nm,20.4s,baz=335,slow=39						
BILL	**Bilibino**	**65.39**	**20**	*eP*	P		22 24 20.2 +6.6
BILL				*i*			22 24 51.5
BILL				*i*			22 26 41.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**69.04**	**197**	P	**P**		**22 24 35.9 -1.4**
	comp=Z,3.1nm,0.8s,baz=305,slow=3.5,SNR=4.8						
BOSA				LR	LR		22 55 03.5
	comp=Z,61nm,18.7s,baz=22,slow=36						
MJAR	**Matsushiro Arr**	**71.73**	**58**	P	**P**		**22 24 53.4 -0.4**
	comp=Z,0.9nm,0.4s,baz=309,slow=3.6,SNR=3.8						
MJAR				LR	LR		22 59 02.1
	comp=Z,46nm,18.4s,baz=50,slow=38						
PETK	**Petropavlovsk-**	**72.48**	**35**	LR	LR		23 01 29.0
	comp=Z,38nm,19.1s,baz=289,slow=40						
ILAR	**Eielson Array**	**76.53**	**4**	P	**P**		**22 25 20.9 -0.4**
	comp=Z,0.5nm,0.8s,baz=211,slow=4.9,SNR=4.6						
KDAK	**Kodiak Island**	**82.95**	**8**	*i P*	**P**		**22 25 56.5 +0.4**
KDAK	**Kodiak Island**	**82.95**	**8**	*i P*	**P**		**22 25 56.5 +0.4**
ULM	**Lac du Bonnet**	**84.33**	**335**	P	**P**		**22 26 02.4 -1.0**
	comp=Z,2.9nm,0.8s,baz=354,slow=6.3,SNR=3.5						
PDAR	**Pinedale Array**	**95.17**	**340**	LR	LR		23 09 55.6
	comp=Z,29nm,19.0s,baz=20,slow=36						

DDA ***24*** *22:29:15.8, 38.°68N×43.°36E, h7km, Ml2.9*
ISK ***24*** *22:29:15.7, 38.°70N×43.°36E, h8km, ML3.0*
ISCJB ***24*** *22:29:17.0±0.7, 38.°68N±0.°04×43.°4E±0.°1, h18km±7km,*
Error ellipse: s-maj=15.4km s-min=6.5km az=165.4
CSEM

TVAN	**Van**	**0.36 204**	*i* P		**Pb**	**22 38 56.4 +0.6**
TVAN	**Van**	**0.36 204**	P		**Pb**	**22 38 56.4 +0.6**
DYDN	**Diyadin**	**0.69 6**	*i* P		**Pg**	**22 39 00.4 -0.4**
DYDN	**Diyadin**	**0.69 6**	P		**Pg**	**22 39 00.4 -0.4**
GEVA	**Gevas**	**0.69 218**	*i* P		**Pg**	**22 38 59.0 -1.8**
GEVA	**Gevas**	**0.69 218**	P		**Pg**	**22 38 59.0 -1.8**
TUTA	**Tutak**	**0.81 312**	*i* P		**Pg**	**22 39 02.5 -0.7**
TUTA	**Tutak**	**0.81 312**	P		**Pg**	**22 39 02.5 -0.7**
BASK	**Baskale_VAN**	**0.87 158**	*i* P		**Pg**	**22 39 03.0 -1.1**
BASK	**Baskale_VAN**	**0.87 158**	P		**Pg**	**22 39 03.0 -1.1**
EKAR	**Karacoban**	**1.26 289**	*i* P		**Pn**	**22 39 10.9 +0.1**
EKAR	**Karacoban**	**1.26 289**	P		**Pn**	**22 39 10.9 +0.1**
EATA	**Eleskirt**	**1.32 320**	*i* P		**Pn**	**22 39 12.3 +0.5**
EATA	**Eleskirt**	**1.32 320**	P		**Pn**	**22 39 12.3 +0.5**
CUKT	**Cukurca**	**1.61 180**	*e*PN		**Pb**	**22 39 17.1 +0.2**
CUKT	**Cukurca**	**1.61 180**	*i* P		**Pn**	**22 39 16.2 +0.6**
CUKT	**Cukurca**	**1.61 180**	P		**Pn**	**22 39 16.2 +0.6**
CUKT	**Cukurca**	**1.61 180**	*e*Pn		**Pb**	**22 39 17.2 +0.2**
VRTB	**Varto-Mus**	**1.69 281**	*e*PN		**Pb**	**22 39 18.7 +0.3**
VRTB	**Varto-Mus**	**1.69 281**	*i* P		**Pb**	**22 39 18.7 +0.3**
VRTB	**Varto-Mus**	**1.69 281**	P		**Pb**	**22 39 18.7 +0.3**
BNGL	**BINGOL**	**1.91 274**	*i* P		**Pb**	**22 39 22.1 -0.1**
SENK	**Senkaya-Erzuru**	**1.95 331**	*e*PN		**Pb**	**22 39 23.5 +0.6**
SENK	**Senkaya-Erzuru**	**1.95 331**	*e*Pn		**Pb**	**22 39 23.5 +0.6**
SVAN	**Silvan-Diyarba**	**2.01 250**	*e*PN		**Pb**	**22 39 23.1 -0.6**
SVAN	**Silvan-Diyarba**	**2.01 250**	*i* P		**Pb**	**22 39 23.4 -0.4**
SVAN	**Silvan-Diyarba**	**2.01 250**	*e*Pn		**Pb**	**22 39 23.1 -0.6**
SVAN	**Silvan-Diyarba**	**2.01 250**	P		**Pb**	**22 39 23.4 -0.4**
BTMN	**Batman**	**2.07 243**	*i* P		**Pb**	**22 39 24.2 -0.6**
BTMN	**Batman**	**2.07 243**	P		**Pb**	**22 39 24.2 -0.6**
BNGB	**Bing¶ll**	**2.28 274**	*e*PN		**Pb**	**22 39 27.4 -1.0**
BINT	**Bingol**	**2.42 271**	*e*Pn		**Pn**	**22 39 27.4 +0.6**
YEDI	**Yedisu-Bingol**	**2.44 285**	*e*PN		**Pb**	**22 39 30.3 -0.9**
YEDI	**Yedisu-Bingol**	**2.44 285**	*e*Pn		**Pb**	**22 39 30.3 -0.9**
AKH	**Akhalkalaki**	**2.55 358**	*e*PN		**Pb**	**22 39 32.8 -0.3**
AKH	**Akhalkalaki**	**2.55 358**	*e*Pn		**Pb**	**22 39 32.8 -0.3**
MAZI	**Mazidag**	**2.85 242**	*e*PN		**Pn**	**22 39 34.3 +1.7**
MAZI	**Mazidag**	**2.85 242**	*e*Pn		**Pn**	**22 39 34.3 +1.7**
TBLG	**Delisi**	**3.00 17**	*e*PN		**Pb**	**22 39 40.2 -0.4**
TBLG	**Delisi**	**3.00 17**	*e*Pn		**Pb**	**22 39 40.2 -0.4**
ERZN	**Erzincan**	**3.10 285**	*e*PN		**Pb**	**22 39 39.9 -2.5**
PTK	**Pertek**	**3.28 272**	*e*PN		**Pn**	**22 39 41.9 +3.2**
PTK	**Pertek**	**3.28 272**	*e*Pn		**Pn**	**22 39 41.9 +3.2**
SVRC	**Sivrice-ELAZID**	**3.39 263**	*e*PN		**Pn**	**22 39 43.1 +2.9**
SVRC	**Sivrice-ELAZID**	**3.39 263**	*e*Pn		**Pn**	**22 39 43.1 +2.9**

*GUC **24** 22:41:38.1±0.5,24°.34S×69°.81W,h36km±20km,ML4.7*
*NEIC **24** 22:41:38.0±0.0,24°.34S×69°.81W,h36km,mb4.5/2,After GUC.*
NEIC Felt [II] at Copiapo and Tierra Amarilla.
*IDC **24** 22:41:38.4±0.7,24°.56S×69°.78W,h71km±5km,mb4.1/7, mb1 4.1/11,mb1mx4.0/24,mbtmp4.3/11,MS3.0/7, Ms1 3.1/7,ms1mx2.9/19,Error ellipse: s-maj=30.6km s-min=8.1km az=108.0*
*SJA **24** 22:41:56.7±1.0,24°.60S×68°.31W,h69km±18km,ML2.9, MW4.4*
ISC 24 22:41:36.6±0.6,24°.56S±0°.04×69°.78W±0°.05,h52km±5km, n184,σ1§90/62,mb4.4/13,5C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.57**	**264**	⇓*i*P	**Pn**	**22 41 50.5**	**+1.4**
PB14				*i* S	**Sn**	**22 41 59.9**	**+1.8**
PB14				IAML		22 42 00.4	
	comp=E,113μm,0.3s						
ANCH	**Antofagasta**	**1.05**	**327**	⇑*i*P	**Pn**	**22 41 56.1**	**+1.1**
ANCH				*i* S	**Sn**	**22 42 07.4**	**-1.1**
ANCH				IAML		22 42 10.9	
	comp=E,72μm,0.1s						
PB10	**IPOC Station P**	**1.26**	**326**	⇑*i*P	**Pn**	**22 41 56.9**	**-1.0**
PB10				*i* S	**Sn**	**22 42 11.3**	**-2.4**
PB10				IAML		22 42 13.3	
	comp=N,26μm,0.4s						
PB06	**IPOC Station P**	**1.86**	**6**	⇑*i*P	**Pn**	**22 42 06.6**	**+0.4**
LVC	**Limon Verde**	**2.10**	**23**	P	**Pn**	**22 42 11.8**	**+2.1**
	comp=N,1μm,0.3s,baz=189,slow=7.7,SNR=436						
LVC				S	**Sn**	**22 42 37.5**	**+2.6**
	comp=N,7μm,0.3s,baz=90,slow=20,SNR=28						
LVC	**Limon Verde**	**2.10**	**23**	*e*P	**Pn**	**22 42 11.7**	**+2.0**
LVC				*i* S	**Sn**	**22 42 33.2**	**-1.7**
LVC	**Limon Verde**	**2.10**	**23**	*e*Pn	**Pn**	**22 42 12.1**	**+2.4**
LVC				*e*S	**Sn**	**22 42 36.8**	**+2.0**
LVC				S	**Sn**	**22 42 37.5**	**+2.6**
PB09	**IPOC Station P**	**2.80**	**10**	⇓*i*P	**Pn**	**22 42 19.4**	**+0.3**
CPCH	**Copiapo**	**2.83**	**190**	⇑*i*P	**Pn**	**22 42 20.3**	**+1.0**
PB02	**IPOC Station P**	**3.23**	**358**	⇓*i*P	**Pn**	**22 42 23.3**	**-1.6**
PB02				IAML		22 43 04.4	
	comp=E,829nm,0.3s						
PB01	**IPOC Station P**	**3.51**	**5**	⇑*i*P	**Pn**	**22 42 27.9**	**-0.9**
FSA	**Cafayete**	**3.77**	**115**	*i* P	Pn	22 42 38.5	+6.1
FSA				*i* S	**Sn**	**22 43 10.0**	**-5.7**
FSA				IAML		22 43 12.9	
	comp=Z,30nm,0.6s						
SLA	**San Lorenzo**	**3.90**	**93**	*i* P	**Pn**	**22 42 38.3**	**+4.2**
SLA				*i* S	Sn	22 43 08.6	-10
SLA				IAML		22 43 13.7	
	comp=Z,81nm,0.6s						
HJA	**Humahuaca**	**4.22**	**72**	*i* P	Pn	22 42 45.7	+6.9
LCO	**Las Campanas**	**4.51**	**190**	*e*Pn	**Pn**	**22 42 43.1**	**+0.5**
LCO				*e*S	**Sn**	**22 43 33.4**	**-0.4**
YJA	**Yavi**	**4.59**	**60**	*i* P	Pn	22 42 51.5	+7.7
YJA				*i* S	**Sn**	**22 43 33.5**	**-2.6**
ASTB	**Santa Barbara**	**4.90**	**84**	*i* P	**Pn**	**22 42 51.9**	**+3.9**
ALOL	**LOMAS DE OLMED**	**5.35**	**83**	*i* P	**Pn**	**22 42 58.2**	**+4.3**
LPAZ	**La Paz**	**8.38**	**11**	P	**Pn**	**22 43 36.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=208,slow=6.4,SNR=26						
LPAZ				LR	LR	22 47 49.2	
	comp=Z,73nm,20.3s,baz=223,slow=44						
CPUP	**Villa Florida**	**11.39**	**102**	P	**Pn**	**22 44 18.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=280,slow=13,SNR=4.9						
CPUP				LR	LR	22 48 21.5	
	comp=Z,73nm,20.9s,baz=267,slow=35						
SIV	**San Ignacio**	**11.81**	**45**	P	**Pn**	**22 44 19.0**	**-3.4**
	comp=Z,2.3nm,0.3s,baz=245,slow=9.5,SNR=18						
SIV				LR	LR	22 48 33.8	
	comp=Z,29nm,21.0s,baz=195,slow=35						
NNA	**Nana**	**14.18**	**331**	LR	LR	22 49 30.6	
	comp=Z,52nm,19.6s,baz=164,slow=33						
TRQA	**Tornquist**	**15.01**	**156**	*e*Pn	**P**	**22 45 11.0**	**+1.2**
PLCA	**Paso Flores**	**16.14**	**182**	P	**Pn**	**22 45 19.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=3.3						
PLCA				LR	LR	22 51 36.1	
	comp=Z,115nm,19.0s,baz=340,slow=37						
PLCA	**Paso Flores**	**16.14**	**182**	*e*Pn	**Pn**	**22 45 20.0**	**0.0**
	comp=Z,29nm,1.0s						
SAML	**Samuel**	**16.76**	**23**	Pn	**Pn**	**22 45 28.5**	**+0.7**
	comp=Z,2.3nm,0.8s						
BDFB	**Brasilia**	**22.26**	**71**	P	**P**	**22 46 27.2**	**-2.4**
	comp=Z,9.5nm,0.7s,baz=50,slow=4.2,SNR=9.0						
BDFB	**Brasilia**	**22.26**	**71**	*e*P	**P**	**22 46 29.3**	**-0.2**
	comp=Z,25nm,1.0s						
PTGA	**Pitinga**	**25.53**	**23**	P	**P**	**22 47 01.7**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=158,slow=19,SNR=2.8						
PTGA				LR	LR	22 57 57.5	
	comp=Z,60nm,19.6s,baz=216,slow=38						
ROSC	**El Rosal**	**29.56**	**351**	LR	LR	23 00 16.2	
	comp=Z,69nm,21.2s,baz=190,slow=38						
HOPE	**Hope Point**	**38.64**	**149**	*e*P	**P**	**22 48 56.2**	**+1.5**
	comp=Z,121nm,1.3s						
VNA3	**Neumayer Olymp**	**57.46**	**161**	P	**P**	**22 51 20.6**	**+0.8**
VNA1	**Neumayer--Stat**	**57.69**	**160**	P	**P**	**22 51 20.0**	**-1.4**
VNA2	**Neumayer--Watz**	**58.05**	**160**	P	**P**	**22 51 24.6**	**+0.6**
	baz=290,slow=8.5						
SNAA	**Sanae**	**59.67**	**160**	P	**P**	**22 51 35.3**	**0.0**
SNAA	**Sanae**	**59.67**	**160**	P	**P**	**22 51 35.6**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=273,slow=6.7,SNR=13						
SNAA	**Sanae**	**59.67**	**160**	*e*P	**P**	**22 51 35.1**	**-0.2**
	comp=Z,116nm,0.6s						
Z40A	**Long Farm, Mag**	**61.74**	**338**	P	pP	22 52 06.2	+2.1
	baz=156						
138A	**Matatall Enter**	**61.81**	**336**	P	pP	22 52 06.2	+1.7
	baz=154						
JCT	**Junction City**	**61.84**	**331**	P	pP	22 52 06.9	+2.1
	baz=149						
137A	**Heron Place, G**	**62.01**	**335**	P	pP	22 52 07.8	+2.0
	baz=153						
WHTX	**Lake Whitney,**	**62.14**	**333**	P	pP	22 52 08.6	+1.9
	baz=151						
136A	**Ennis**	**62.20**	**335**	P	pP	22 52 08.7	+1.6
	baz=152						
TXAR	**Lajitas Array**	**62.70**	**327**	pP	pP	22 52 13.5	+2.8
	comp=Z,1.2nm,0.8s,baz=146,slow=7.7,SNR=10.0						
MIAR	**Mount Ida**	**62.97**	**338**	P	pP	22 52 13.8	+1.5
	baz=156						
W41B	**Gary Mavity, V**	**63.11**	**339**	P	pP	22 52 14.3	+1.1
	baz=157						
X39A	**Fountain Ranch**	**63.13**	**338**	P	pP	22 52 15.0	+1.7
	baz=155						
W40A	**Ferguson Farm,**	**63.39**	**339**	P	pP	22 52 16.2	+1.2
	baz=156						
X38A	**Whitesboro**	**63.52**	**337**	P	pP	22 52 17.8	+1.9
	baz=154						
ABTX	**Abilene, Hawle**	**63.60**	**332**	P	pP	22 52 19.0	+2.4
	baz=150						
W39A	**Magazine**	**63.63**	**338**	P	pP	22 52 18.7	+2.1
	baz=156						
V41A	**Mountainview**	**63.64**	**340**	P	pP	22 52 18.0	+1.2
	baz=157						
X37A	**Clayton**	**63.64**	**337**	P	pP	22 52 18.7	+2.0
	baz=154						
Y35A	**Marietta**	**63.66**	**335**	P	pP	22 52 19.1	+2.2
	baz=152						
W38A	**Poteau**	**63.77**	**338**	P	pP	22 52 19.2	+1.6
	baz=155						
V40A	**Witts Springs**	**63.87**	**339**	P	pP	22 52 19.8	+1.5
	baz=157						
U42A	**Revenden**	**63.88**	**341**	P	pP	22 52 19.3	+1.1
	baz=158						
X36A	**Centrahoma**	**63.99**	**336**	P	pP	22 52 20.0	+1.0
	baz=153						
X35A	**Drake**	**64.07**	**335**	P	pP	22 52 20.8	+1.3
	baz=152						
U41A	**Viola**	**64.08**	**340**	P	pP	22 52 20.5	+0.9
	baz=158						
W37B	**Quinton**	**64.16**	**337**	P	pP	22 52 21.9	+1.8
	baz=154						
V39A	**Pettigrew**	**64.17**	**339**	P	pP	22 52 21.9	+1.6
	baz=156,SNR=7.0						
T43A	**Greenville**	**64.29**	**342**	P	pP	22 52 22.1	+1.2
	baz=159						
S45A	**Carrier Mills**	**64.38**	**344**	P	pP	22 52 22.4	+0.9
	baz=161						
U40A	**Yellville**	**64.39**	**339**	P	pP	22 52 23.0	+1.4
	baz=157,SNR=5.3						
W36A	**Wetumka**	**64.45**	**336**	P	pP	22 52 23.2	+1.2
	baz=153						
V38A	**Canehill**	**64.45**	**338**	P	pP	22 52 23.5	+1.5
	baz=155,SNR=6.6						
S44A	**Carbondale**	**64.58**	**343**	P	pP	22 52 23.9	+1.1
	baz=160						
U39A	**Green Forest**	**64.61**	**339**	P	pP	22 52 24.4	+1.3
	baz=156						
T41A	**Mountain View**	**64.68**	**341**	P	pP	22 52 24.9	+1.4
	baz=158						
S43A	**Fulton Ridge,**	**64.69**	**342**	P	pP	22 52 24.8	+1.3
	baz=160						
W35A	**Tecumseh**	**64.70**	**336**	P	pP	22 52 25.4	+1.7
	baz=153						
V37A	**Hulbert**	**64.72**	**337**	P	pP	22 52 25.3	+1.5
	baz=154						
V36A	**Jenks**	**64.92**	**337**	P	pP	22 52 26.7	+1.6
	baz=154						
U38A	**Gravette**	**64.97**	**338**	P	pP	22 52 26.9	+1.5
	baz=155						
TUL1	**Leonard**	**64.98**	**337**	P	pP	22 52 27.0	+1.5
	baz=154						
T40A	**Mansfield**	**65.01**	**340**	P	pP	22 52 27.0	+1.3
	baz=157						
R44A	**Waltonville**	**65.05**	**343**	P	pP	22 52 26.6	+0.8
	baz=161						
S42A	**Caledonia**	**65.07**	**342**	P	pP	22 52 27.1	+1.0
	baz=159						
T39A	**Clever**	**65.17**	**339**	P	pP	22 52 28.1	+1.4
	baz=156						
S41A	**Jillco Farms,**	**65.18**	**341**	P	pP	22 52 28.0	+1.2
	baz=158						
U37A	**Salina**	**65.19**	**338**	P	pP	22 52 28.6	+1.8
	baz=155						
V35A	**Meyer Ranch, C**	**65.23**	**336**	P	pP	22 52 28.6	+1.5
	baz=153						
R43A	**Red Bud**	**65.30**	**343**	P	pP	22 52 28.8	+1.3
	baz=160						
N59A	**State Game Lan**	**65.38**	**355**	P	pP	22 52 26.8	-1.2
	baz=174						
U36A	**Oologah**	**65.39**	**337**	P	pP	22 52 29.6	+1.5
	baz=154						
S40A	**Lebanon**	**65.42**	**340**	P	pP	22 52 29.7	+1.4
	baz=157						
T38A	**Diamond**	**65.48**	**339**	P	pP	22 52 30.3	+1.6
	baz=156,SNR=7.1						
MNTX	**Cornudas Mount**	**65.48**	**327**	P	pP	22 52 31.1	+2.2
	baz=144						
R42A	**Luebbering**	**65.55**	**342**	P	pP	22 52 30.3	+1.2
	baz=159						
QSPA	**South Pole Qui**	**65.64**	**180**	*e*P	**P**	**22 52 15.7**	**+0.5**
	comp=Z,20nm,0.5s						
U35A	**Pawnee**	**65.73**	**336**	P	pP	22 52 32.1	+1.7
	baz=153						
R41A	**Rosebud**	**65.73**	**341**	P	pP	22 52 31.6	+1.3
	baz=158						
S39A	**Bolivar**	**65.76**	**340**	P	pP	22 52 32.1	+1.6
	baz=156,SNR=9.1						
T37A	**Cheneyville 18**	**65.77**	**338**	P	pP	22 52 32.1	+1.6
	baz=155,SNR=6.2						
S38A	**Stockton**	**65.89**	**339**	P	pP	22 52 32.8	+1.4
	baz=156,SNR=5.5						
R40A	**Maddies Statio**	**65.99**	**341**	P	pP	22 52 33.5	+1.6
	baz=158						
T36A	**Boggs Farm, Ca**	**66.04**	**337**	P	pP	22 52 34.1	+1.8
	baz=154						
Q42A	**Golden Eagle**	**66.06**	**342**	P	pP	22 52 33.7	+1.3
	baz=159						
P44A	**Sand Creek, Wi**	**66.08**	**344**	P	pP	22 52 33.3	+0.7
	baz=161						
MSTX	**Muleshoe**	**66.12**	**330**	P	pP	22 52 35.1	+2.0
	baz=147						
R39A	**Chumby, Stover**	**66.24**	**340**	P	pP	22 52 35.1	+1.5
	baz=157						
S37A	**Fort Scott**	**66.31**	**339**	P	pP	22 52 35.6	+1.5
	baz=155						
R38A	**Fenwick Farm,**	**66.40**	**339**	P	pP	22 52 36.1	+1.4
	baz=156,SNR=5.5						
S36A	**Lake Cedric, C**	**66.54**	**338**	P	pP	22 52 37.2	+1.6
	baz=154,SNR=5.7						
S35A	**Otter Creek Ra**	**66.75**	**337**	P	pP	22 52 38.3	+1.4
	baz=154						
R37A	**Teagarden Farm**	**66.81**	**339**	P	pP	22 52 38.6	+1.3
	baz=155						
Q39A	**Willow Grove F**	**66.89**	**341**	P	pP	22 52 38.9	+1.1
	baz=157						
Q38A	**Cooks Store, C**	**67.02**	**340**	P	pP	22 52 40.2	+1.7
	baz=156,SNR=5.3						
P40A	**Paris**	**67.07**	**341**	P	pP	22 52 40.3	+1.5
	baz=158						
P39B	**Salisbury**	**67.24**	**341**	P	pP	22 52 41.3	+1.4
	baz=157						
R35A	**Emporia Munici**	**67.28**	**338**	P	pP	22 52 42.1	+1.8
	baz=154						
O40A	**La Belle**	**67.56**	**342**	P	pP	22 52 43.3	+1.3
	baz=158						
P38A	**Dawn**	**67.60**	**340**	P	pP	22 52 43.5	+1.3
	baz=157						
N39A	**Derby Farms, D**	**68.44**	**342**	P	pP	22 52 49.0	+1.5
	baz=158						
P34A	**Walnut Farm, R**	**68.60**	**338**	P	pP	22 52 50.4	+1.8
	baz=154						
ANMO	**Albuquerque**	**68.64**	**328**	P	pP	22 52 52.1	+2.9
	baz=144						
TUC	**Tucson**	**68.78**	**323**	P	pP	22 52 53.0	+3.0
	baz=140						
L41A	**Preston**	**69.02**	**344**	P	pP	22 52 52.2	+1.1
	baz=160						
O34A	**Beatrice**	**69.12**	**338**	P	pP	22 52 52.9	+1.0
	baz=154						
M38A	**Pleasantville**	**69.14**	**341**	P	pP	22 52 52.9	+1.0
	baz=157						
L40A	**Anamosa**	**69.19**	**343**	P	pP	22 52 52.9	+0.7
	baz=159						
M37A	**Trindle Farm,**	**69.39**	**341**	P	pP	22 52 54.5	+1.1
	baz=156						
K42A	**Prairie Point,**	**69.39**	**345**	P	pP	22 52 53.8	+0.4
	baz=161						
T25A	**Trinidad**	**69.50**	**331**	P	pP	22 52 56.6	+2.1
	baz=146						
214A	**Organ Pipe Nat**	**69.63**	**322**	P	pP	22 52 58.7	+3.5
	baz=138						
N34A	**Lincoln**	**69.64**	**339**	P	pP	22 52 56.8	+1.7
	baz=154						
K40A	**Colesburg**	**69.77**	**343**	P	pP	22 52 57.1	+1.4
	baz=159						
K39A	**Oelwein**	**69.97**	**343**	P	pP	22 52 59.1	+2.1
	baz=159						
I42A	**Draeger Farm,**	**70.34**	**345**	P	pP	22 53 00.9	+1.6
	baz=162						
DBIC	**Dimbokro**	**70.39**	**73**	P	**P**	**22 52 45.2**	**-0.4**
	comp=Z,9.2nm,1.1s,baz=201,slow=6.2,SNR=2.5						
SDCO	**Great Sand Dun**	**70.48**	**331**	P	pP	22 53 03.9	+3.3
	baz=146,SNR=6.8						
S22A	**4UR Ranch, Cre**	**71.09**	**330**	P	pP	22 53 07.5	+3.1
	baz=145						
Q24A	**Divide**	**71.34**	**332**	P	pP	22 53 08.9	+3.1
	baz=146						
F45A	**CMU Biological**	**71.36**	**348**	P	pP	22 53 07.4	+1.9
	baz=165						
MVCO	**Mesa Verde**	**71.44**	**328**	P	pP	22 53 09.8	+3.4
	baz=143						
WUAZ	**Wupatki**	**71.55**	**325**	P	pP	22 53 10.6	+3.6
	baz=140						
G39A	**Holcombe**	**72.20**	**344**	P	pP	22 53 12.8	+2.3
	baz=160						
ISCO	**Idaho Springs**	**72.23**	**332**	P	pP	22 53 13.9	+2.7
	baz=146						
ECSD	**EROS Data Cent**	**72.29**	**340**	P	pP	22 53 13.1	+2.1
	baz=154						
E44A	**Grand Marais A**	**72.34**	**348**	P	pP	22 53 13.1	+1.8
	baz=165						
BC3	**Big Chuckawall**	**72.38**	**321**	P	pP	22 53 14.9	+2.9
	baz=137						
GMRC	**Granite Mounta**	**73.32**	**322**	P	pP	22 53 21.2	+3.6
	baz=137						
F36A	**Milaca**	**73.34**	**343**	P	pP	22 53 19.1	+1.9
	baz=158						
VNDA	**Vanda**	**73.71**	**190**	P	**P**	**22 53 04.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=129,slow=4.4,SNR=5.2						
SYO	**Syowa Base**	**73.93**	**159**	‖*e*X	**P**	**22 53 05.0**	**-0.9**
EDW2	**Edwards Air Fo**	**74.72**	**321**	P	pP	22 53 29.4	+3.7
	baz=135						
SCZ2	**Santa Cruz Isl**	**75.06**	**319**	P	pP	22 53 30.8	+3.1
	baz=134						
RSSD	**Black Hills**	**75.21**	**335**	P	pP	22 53 31.5	+3.0
	baz=148						
TPNV	**Topopah Spring**	**75.22**	**323**	P	pP	22 53 32.2	+3.5
	baz=137						
MPMC	**Manual Prospec**	**75.27**	**322**	P	pP	22 53 32.3	+3.3
	baz=136						
ISA	**Isabella, Lake**	**75.55**	**321**	P	pP	22 53 34.4	+3.9
	baz=135						
PKM	**Mcpherson Peak**	**75.79**	**319**	P	pP	22 53 35.6	+3.5
	baz=134						
DUG	**Dugway, Tooele**	**75.87**	**327**	P	pP	22 53 35.8	+3.5
	baz=140						
CWC	**Cottonwood Cre**	**75.88**	**322**	P	pP	22 53 36.4	+3.9
	baz=136						
R11A	**Troy Canyon, C**	**75.89**	**324**	P	pP	22 53 36.3	+3.7
	baz=138						
B34A	**Aery, Baudette**	**76.05**	**343**	P	pP	22 53 35.0	+2.0
	baz=157						
PDAR	**Pinedale Array**	**76.37**	**331**	pP	pP	22 53 38.1	+2.9
	comp=Z,0.5nm,0.8s,baz=110,slow=5.2,SNR=2.5						
A33A	**Warroad**	**76.66**	**343**	P	pP	22 53 38.5	+2.1
	baz=156						
H17A	**Grant Village**	**78.11**	**331**	P	pP	22 53 47.6	+2.6
	baz=143						
LAO	**LASA Array**	**78.20**	**335**	P	pP	22 53 48.0	+2.8
	baz=146						
DGMT	**Dagmar**	**78.97**	**337**	P	pP	22 53 51.7	+2.3
	baz=148						
TORD	**Torodi Ar. Bea**	**79.14**	**70**	P	**P**	**22 53 35.5**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=259,slow=4.9,SNR=56						
TORD				pP	**sP**	**22 53 54.9**	**-2.0**
	comp=Z,2.9nm,0.6s,baz=257,slow=4.9,SNR=6.6						
HLID	**Hailey**	**79.21**	**329**	P	pP	22 53 54.7	+3.7
	baz=139						
BOZ	**Bozeman (W)**	**79.52**	**332**	P	pP	22 53 55.6	+2.9
	baz=142						
EGMT	**Eagleton**	**80.67**	**334**	P	pP	22 54 01.3	+2.6
	baz=144						
MAW	**Mawson**	**81.64**	**163**	P	**P**	**22 53 49.0**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=214,slow=5.8,SNR=9.8						
BOSA	**Boshof**	**82.73**	**118**	P	**P**	**22 53 54.6**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=271,slow=2.9,SNR=11						
YKA	**Yellowknife Ar**	**93.80**	**341**	pP	pP	22 55 04.9	+2.3
	comp=Z,1.0nm,0.6s,baz=142,slow=4.4,SNR=4.0						
ASAR	**Alice Springs**	**126.84**	**207**	PKP	**PKPdf**	**23 00 33.4**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=146,slow=2.2,SNR=12						
ASAR				pPKP	**sPKPdf**	**23 00 54.6**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=148,slow=1.5,SNR=2.8						
H11S2	**WAKE ISLAND Hyl**	**27.40**	**275**	T	T	01 20 24.3	
	baz=108,slow=75,SNR=154						
H11S1	**WAKE ISLAND Hyl**	**27.41**	**275**	T	T	01 20 33.3	
	baz=108,slow=75,SNR=140						
H11S3	**WAKE ISLAND Hyl**	**27.42**	**275**	T	T	01 20 33.6	
	baz=108,slow=75,SNR=138						
H11N3	**WAKE ISLAND Hyl**	**27.57**	**277**	T	T	01 20 37.3	
	baz=108,slow=74,SNR=36						
H11N1	**WAKE ISLAND Hyl**	**27.58**	**277**	T	T	01 20 38.8	
	baz=108,slow=74,SNR=41						
H11N2	**WAKE ISLAND Hyl**	**27.58**	**277**	T	T	01 20 36.3	
	baz=108,slow=74,SNR=30					

HAKT	HAKKARI	1.21 174	P	Pn	22 42 06.8	-2.4
EKAR	Karacoban	1.25 294	*i* P	Pg	22 42 11.2	+0.7
EKAR	Karacoban	1.25 294	P	Pg	22 42 11.2	+0.7
EATA	Eleskirt	1.37 324	*i* P	Pg	22 42 12.6	-0.1
EATA	Eleskirt	1.37 324	P	Pg	22 42 12.6	-0.1
CUKT	Cukurca	1.51 178	*e*PN	Pn	22 42 14.3	+1.1
CUKT	Cukurca	1.51 178	*i* P	Pb	22 42 14.6	+0.3
CUKT	Cukurca	1.51 178	*e*Pn	Pn	22 42 14.3	+1.1
CUKT	Cukurca	1.51 178	P	Pb	22 42 14.6	+0.3
VRTB	Varto-Mus	1.67 284	*e*PN	Pn	22 42 15.2	-0.3
VRTB	Varto-Mus	1.67 284	*i* P	Pn	22 42 15.0	-0.5
VRTB	Varto-Mus	1.67 284	*e*Pn	Pn	22 42 15.2	-0.3
SVAN	Silvan-Diyarba	1.94 252	*e*PN	Pn	22 42 18.3	-0.7
SVAN	Silvan-Diyarba	1.94 252	*i* P	Pn	22 42 18.5	-0.5
SVAN	Silvan-Diyarba	1.94 252	P	Pn	22 42 18.5	-0.5
BTMN	Batman	1.98 245	*i* P	Pn	22 42 19.3	-0.4
BTMN	Batman	1.98 245	P	Pn	22 42 19.3	-0.4
SENK	Senkaya-Erzuru	2.02 333	*e*PN	Pb	22 42 22.8	-0.2
SENK	Senkaya-Erzuru	2.02 333	*e*Pn	Pb	22 42 22.8	-0.2
BNGB	Bing¶ll	2.24 277	*e*PN	Pn	22 42 23.4	+0.1
BINT	Bingol	2.39 274	*e*Pn	Pn	22 42 23.4	-1.9
YEDI	Yedisu-Bingol	2.43 287	*e*PN	Pn	22 42 26.3	+0.4
YEDI	Yedisu-Bingol	2.43 287	*e*Pn	Pn	22 42 26.3	+0.4
AKH	Akhalkalaki	2.65 359	*e*PN	Pb	22 42 32.7	-1.0
AKH	Akhalkalaki	2.65 359	*e*Pn	Pb	22 42 32.7	-1.0
MAZI	Mazidag	2.76 243	*e*PN	Pn	22 42 29.9	-0.5
MAZI	Mazidag	2.76 243	*e*Pn	Pn	22 42 29.9	-0.5
PTK	Pertek	3.24 274	*e*PN	Pn	22 42 37.7	+0.6
PTK	Pertek	3.24 274	*e*Pn	Pn	22 42 37.7	+0.6
SVRC	Sivrice-ELAZID	3.34 265	*e*PN	Pn	22 42 39.2	+0.8
SVRC	Sivrice-ELAZID	3.34 265	*e*Pn	Pn	22 42 39.2	+0.8
URFA	Urfa	3.95 252	*e*PN	Pn	22 42 47.1	+0.4
URFA	Urfa	3.95 252	*e*Pn	Pn	22 42 47.1	+0.4
DARE	Darende-Malaty	4.74 270	*e*PN	Pn	22 42 59.2	+1.5
DARE	Darende-Malaty	4.74 270	*e*Pn	Pn	22 42 59.2	+1.5
KMRS	Kahramanmaras	5.38 259	*e*PN	Pn	22 43 07.7	+1.3
KMRS	Kahramanmaras	5.38 259	*e*Pn	Pn	22 43 07.7	+1.3

*ISK **24** 22:46:09.5,38°.65N×43°.12E,h5km,MD3.1*
*CSEM **24** 22:46:10.8±0.3,38°.65N×43°.06E,h2km,MD3.1,Error ellipse: s-maj=8.0km s-min=5.6km az=50.0*
*DDA **24** 22:46:10.6,38°.64N×43°.00E,h9km,Ml2.7*
*ISCJB **24** 22:46:11.6±0.5,38°.68N±0°.04×43°.13E±0°.05,h15km,Error ellipse: s-maj=7.1km s-min=4.9km az=135.6*
ISC 24 22:46:10.9±0.9,38°.65N±0°.03×43°.08E±0°.03,h15km,n31, σ1ᵒ11/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.25	103	*e*PG	Pg	22 46 15.4	-1.0
VANB				*e*SG	Sb	22 46 20.9	-0.4
VANB	Van	0.25	103	*e*Pg	Pg	22 46 15.4	-1.0
VANB				*e*Sg	Sb	22 46 20.9	-0.4
TVAN	Van	0.28	116	*i* P	Pb	22 46 17.6	-0.2
TVAN	Van	0.28	116	P	Pb	22 46 17.6	-0.2
GEVA	Gevas	0.34	183	*i* P	Pg	22 46 15.9	-2.0
GEVA	Gevas	0.34	183	P	Pg	22 46 15.9	-2.0
TUTA	Tutak	0.78	345	*i* P	Pg	22 46 25.1	-0.9
TUTA	Tutak	0.78	345	P	Pg	22 46 25.1	-0.9
AGRB	Hanur-Agry	0.93	356	*e*PG	Pb	22 46 28.2	-0.5
AGRB				*e*SG	Sn	22 46 42.5	-0.2
AGRB	Hanur-Agry	0.93	356	*e*Pg	Pb	22 46 28.2	-0.5
AGRB				*e*Sg	Sn	22 46 42.5	-0.2
EKAR	Karacoban	1.00	308	*i* P	Pb	22 46 29.5	-0.5
EKAR	Karacoban	1.00	308	P	Pb	22 46 29.5	-0.5
SIRN	S¨–rnak	1.27	205	*i* P	Pg	22 46 43.7	+8.4
VRTB	Varto-Mus	1.36	292	*e*PN	Pg	22 46 37.5	+0.4
VRTB	Varto-Mus	1.36	292	*e*Pn	Pg	22 46 37.6	+0.4
CUKT	Cukurca	1.46	163	*e*PN	Pb	22 46 38.0	+0.2
CUKT	Cukurca	1.46	163	*i* P	Pg	22 46 39.6	+0.7
CUKT	Cukurca	1.46	163	*e*Pn	Pb	22 46 38.0	+0.2
CUKT	Cukurca	1.46	163	P	Pg	22 46 39.7	+0.7
SVAN	Silvan-Diyarba	1.56	252	*e*PN	Pb	22 46 39.0	-0.5
SVAN	Silvan-Diyarba	1.56	252	*e*Pn	Pb	22 46 39.0	-0.5
BNGB	Bing¶ll	1.91	281	*e*PN	Pb	22 46 45.2	-0.2
SENK	Senkaya-Erzuru	1.99	344	*e*PN	Pb	22 46 46.1	-0.8
SENK	Senkaya-Erzuru	1.99	344	*e*Pn	Pb	22 46 46.1	-0.8
BINT	Bingol	2.04	277	*e*Pn	Pn	22 46 45.2	+0.4
YEDI	Yedisu-Bingol	2.12	292	*e*PN	Pb	22 46 48.2	-0.9
YEDI	Yedisu-Bingol	2.12	292	*e*Pn	Pb	22 46 48.2	-0.9
MAZI	Mazidag	2.40	241	*e*PN	Pb	22 46 51.9	-1.9
MAZI	Mazidag	2.40	241	*e*Pn	Pb	22 46 51.9	-1.9
PTK	Pertek	2.89	276	*e*PN	Pn	22 46 59.1	+2.5
PTK	Pertek	2.89	276	*e*Pn	Pn	22 46 59.1	+2.5

*ISK **24** 22:49:08.1,38°.58N×43°.29E,h5km,MD2.5*
*ISCJB **24** 22:49:09.5±0.8,38°.60N±0°.05×43°.3E±0°.1,h2km±10km, Error ellipse: s-maj=14.7km s-min=6.5km az=156.6*
*CSEM **24** 22:49:09.1±0.3,38°.60N×43°.31E,h5km,MD2.5,Error ellipse: s-maj=11.8km s-min=6.7km az=72.0*
*DDA **24** 22:49:09.1,38°.62N×43°.24E,h6km,Ml2.4*
ISC 24 22:49:09.1±1.3,38°.65N±0°.05×43°.32E±0°.06,h3km±13km, n17,σ0ᵒ71/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.08	136	*e*PG	Pg	22 49 10.2	-0.6
VANB	Van	0.08	136	*e*Pg	Pg	22 49 10.2	-0.6
TVAN	Van	0.14	151	*i* P	Pg	22 49 12.5	+0.6
TVAN	Van	0.14	151	P	Pg	22 49 12.5	+0.6
GEVA	Gevas	0.40	211	*i* P	Pg	22 49 16.4	-0.3
GEVA	Gevas	0.40	211	P	Pg	22 49 16.4	-0.3
AGRB	Hanur-Agry	0.96	345	*e*PG	Pn	22 49 29.2	-0.4
AGRB				*e*SG	Sn	22 49 44.1	+0.3
AGRB	Hanur-Agry	0.96	345	*e*Pg	Pn	22 49 29.2	-0.4
AGRB				*e*Sg	Sn	22 49 44.1	+0.3
EATA	Eleskirt	1.37	332	*i* P	Pb	22 49 35.5	0.0
EATA	Eleskirt	1.37	332	P	Pb	22 49 35.5	0.0
CUKT	Cukurca	1.42	171	*e*PN	Pn	22 49 34.9	-1.0
CUKT				*e*SN	Sg	22 49 55.8	+1.1
CUKT	Cukurca	1.42	171	*e*Pn	Pn	22 49 34.9	-1.0
CUKT				*e*Sn	Sg	22 49 55.8	+1.1
VRTB	Varto-Mus	1.54	290	*e*PN	Pn	22 49 37.7	+0.1
VRTB	Varto-Mus	1.54	290	*i* P	Pn	22 49 36.7	-0.9
VRTB	Varto-Mus	1.54	290	P	Pn	22 49 36.7	-0.9
VRTB	Varto-Mus	1.54	290	*e*Pn	Pn	22 49 37.7	+0.1
BNGL	BINGOL	1.72	281	*i* P	Pn	22 49 35.5	-4.6

*ISK **24** 22:52:19.2,38°.75N×43°.63E,h8km,ML2.9*
*ISCJB **24** 22:52:20.5±0.9,38°.77N±0°.03×43°.64E±0°.09,h13km,Error ellipse: s-maj=10.7km s-min=4.9km az=178.6*
*CSEM **24** 22:52:20.7±0.4,38°.78N×43°.62E,h10km,ML3.0,Error ellipse: s-maj=10.9km s-min=5.0km az=87.0*
*DDA **24** 22:52:20.1,38°.70N×43°.56E,h7km,Ml3.0*
ISC 24 22:52:20.4±1.0,38°.73N±0°.03×43°.60E±0°.05,h13km,n38, σ0ᵒ87/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	231	*e*PG	Pg	22 52 25.1	-0.1
VANB				*e*SG	Sb	22 52 30.5	+0.4
VANB	Van	0.21	231	*e*Pg	Pg	22 52 25.1	-0.1
VANB				*e*Sg	Sb	22 52 30.5	+0.4
TVAN	Van	0.25	218	*i* P	Pb	22 52 27.8	+0.8
TVAN	Van	0.25	218	P	Pb	22 52 27.8	+0.8
GEVA	Gevas	0.59	226	*i* P	Pg	22 52 29.2	-2.9
DYDN	Diyadin	0.82	5	*i* P	Pg	22 52 36.1	-0.2
DYDN	Diyadin	0.82	5	P	Pg	22 52 36.1	-0.2
TUTA	Tutak	0.91	318	*i* P	Pg	22 52 37.3	-0.8
TUTA	Tutak	0.91	318	P	Pg	22 52 37.3	-0.8
AGRB	Hanur-Agry	0.97	331	*e*PG	Pg	22 52 38.8	-0.4
AGRB				*e*SG	Sg	22 52 51.6	-0.3
AGRB	Hanur-Agry	0.97	331	*e*Pg	Pg	22 52 38.8	-0.4
AGRB				*e*Sg	Sg	22 52 51.6	-0.3
HAKT	HAKKARI	1.17	176	*i* P	Pb	22 52 41.3	-1.4
EKAR	Karacoban	1.31	294	*i* P	Pg	22 52 45.6	0.0
EKAR	Karacoban	1.31	294	P	Pg	22 52 45.6	0.0
EATA	Eleskirt	1.42	323	*i* P	Pb	22 52 47.4	+0.4
EATA	Eleskirt	1.42	323	P	Pb	22 52 47.4	+0.4
CUKT	Cukurca	1.48	180	*e*PN	Pn	22 52 47.1	+0.3
CUKT	Cukurca	1.48	180	*i* P	Pb	22 52 48.6	+0.7
CUKT	Cukurca	1.48	180	*e*Pn	Pn	22 52 47.2	+0.3
CUKT	Cukurca	1.48	180	P	Pb	22 52 48.6	+0.7
SIRN	S¨–rnak	1.55	218	*i* P	Pb	22 52 49.7	+0.7
SIRN	S¨–rnak	1.55	218	P	Pb	22 52 49.7	+0.7
VRTB	Varto-Mus	1.73	285	*e*PN	Pn	22 52 50.8	+0.5
VRTB	Varto-Mus	1.73	285	*i* P	Pb	22 52 52.0	-0.1
VRTB	Varto-Mus	1.73	285	*e*Pn	Pn	22 52 50.8	+0.5
VRTB	Varto-Mus	1.73	285	P	Pb	22 52 52.0	-0.1
SVAN	Silvan-Diyarba	1.97	254	*e*PN	Pn	22 52 54.2	+0.6
SVAN	Silvan-Diyarba	1.97	254	*i* P	Pb	22 52 55.4	-0.8
SVAN	Silvan-Diyarba	1.97	254	*e*Pn	Pn	22 52 54.2	+0.6
SVAN	Silvan-Diyarba	1.97	254	P	Pb	22 52 55.4	-0.8
BTMN	Batman	2.02	246	*i* P	Pn	22 52 56.0	+1.8
BTMN	Batman	2.02	246	P	Pn	22 52 56.0	+1.8
SENK	Senkaya-Erzuru	2.07	333	*e*PN	Pn	22 52 54.8	-0.3
SENK	Senkaya-Erzuru	2.07	333	*e*Pn	Pn	22 52 54.8	-0.3
BNGB	Bing¶ll	2.30	277	*e*PN	Pn	22 52 58.7	+0.6
BINT	Bingol	2.44	274	*e*Pn	Pn	22 52 58.7	-1.4
YEDI	Yedisu-Bingol	2.48	288	*e*PN	Pn	22 53 01.6	+0.9
YEDI	Yedisu-Bingol	2.48	288	*e*Pn	Pn	22 53 01.6	+0.9

*DDA **24** 22:58:14.6,38°.80N×43°.31E,h7km,Ml3.0*
*ISK **24** 22:58:14.0,38°.82N×43°.43E,h5km,ML2.9*
*ISCJB **24** 22:58:15.4±0.7,38°.85N±0°.03×43°.39E±0°.09,h13km,Error ellipse: s-maj=10.0km s-min=4.1km az=168.0*
*CSEM **24** 22:58:15.4±0.3,38°.84N×43°.31E,h5km,ML2.9,Error ellipse: s-maj=8.4km s-min=4.4km az=75.0*
ISC 24 22:58:15.3±0.9,38°.82N±0°.02×43°.30E±0°.04,h13km,n43, σ0ᵒ92/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	162	*e*PG	Pg	22 58 20.6	+0.2
VANB				*e*SG	Sb	22 58 25.4	-0.1
VANB	Van	0.23	162	*e*Pg	Pg	22 58 20.6	+0.2
VANB				*e*Sg	Sb	22 58 25.4	-0.1
TVAN	Van	0.30	163	*i* P	Pb	22 58 23.6	+1.0
TVAN	Van	0.30	163	P	Pb	22 58 23.6	+1.0
GEVA	Gevas	0.54	201	*i* P	Pg	22 58 24.4	-1.5
GEVA	Gevas	0.54	201	P	Pg	22 58 24.4	-1.5
TUTA	Tutak	0.70	327	*i* P	Pg	22 58 28.3	-0.6
TUTA	Tutak	0.70	327	P	Pg	22 58 28.3	-0.6
DYDN	Diyadin	0.79	23	*i* P	Pg	22 58 30.0	-0.6
DYDN	Diyadin	0.79	23	P	Pg	22 58 30.0	-0.6
AGRB	Hanur-Agry	0.80	343	*e*PG	Pg	22 58 30.4	-0.4
AGRB				*e*SG	Sb	22 58 42.3	+0.4
AGRB	Hanur-Agry	0.80	343	*e*Pg	Pg	22 58 30.4	-0.4
AGRB				*e*Sg	Sb	22 58 42.3	+0.4
EKAR	Karacoban	1.06	295	*i* P	Pb	22 58 35.9	+0.3
EKAR	Karacoban	1.06	295	P	Pb	22 58 35.9	+0.3
EATA	Eleskirt	1.22	329	*i* P	Pn	22 58 37.9	-0.4
EATA	Eleskirt	1.22	329	P	Pn	22 58 37.9	-0.4
HAKT	HAKKARI	1.30	165	*i* P	Pn	22 58 37.4	-2.0
HAKT	HAKKARI	1.30	165	P	Pn	22 58 37.3	-2.0
VRTB	Varto-Mus	1.48	284	*e*PN	Pb	22 58 43.2	+0.5
VRTB	Varto-Mus	1.48	284	*i* P	Pb	22 58 42.6	-0.1
VRTB	Varto-Mus	1.48	284	P	Pb	22 58 42.6	-0.1
VRTB	Varto-Mus	1.48	284	*e*Pn	Pb	22 58 43.2	+0.5
SIRN	S¨–rnak	1.49	208	*i* P	Pb	22 58 43.0	+0.1
SIRN	S¨–rnak	1.49	208	P	Pb	22 58 43.0	+0.1
CUKT	Cukurca	1.58	171	*e*PN	Pn	22 58 43.3	+0.1
CUKT	Cukurca	1.58	171	*i* P	Pb	22 58 45.0	+0.5
CUKT	Cukurca	1.58	171	*e*Pn	Pn	22 58 43.3	+0.1
CUKT	Cukurca	1.58	171	P	Pb	22 58 45.0	+0.5
BNGL	BINGOL	1.68	275	*i* P	Pb	22 58 46.9	+0.7
SVAN	Silvan-Diyarba	1.78	249	*e*PN	Pn	22 58 46.9	+1.2
SVAN	Silvan-Diyarba	1.78	249	*i* P	Pb	22 58 47.8	+0.1
SVAN	Silvan-Diyarba	1.78	249	*e*Pn	Pn	22 58 46.9	+1.2
SVAN	Silvan-Diyarba	1.78	249	P	Pb	22 58 47.8	+0.1
BTMN	Batman	1.84	241	*i* P	Pb	22 58 48.8	-0.1
BTMN	Batman	1.84	241	P	Pb	22 58 48.8	-0.1
SENK	Senkaya-Erzuru	1.89	338	*e*PN	Pn	22 58 48.6	+1.1
SENK	Senkaya-Erzuru	1.89	338	*e*Pn	Pn	22 58 48.6	+1.1
BNGB	Bing¶ll	2.05	276	*e*PN	Pb	22 58 51.6	-0.8
BINT	Bingol	2.19	272	*e*Pn	Pn	22 58 51.6	0.0
YEDI	Yedisu-Bingol	2.23	287	*e*PN	Pb	22 58 54.2	-1.3
YEDI	Yedisu-Bingol	2.23	287	*e*Pn	Pb	22 58 54.2	-1.3
MAZI	Mazidag	2.62	240	*e*PN	Pn	22 58 59.6	+2.1
MAZI	Mazidag	2.62	240	*e*Pn	Pn	22 58 59.6	+2.1

*ISK **24** 23:03:33.9,38°.63N×43°.21E,h7km,MD2.9*
*ISCJB **24** 23:03:34.7±0.8,38°.64N±0°.04×43°.13E±0°.08,h5km±11km, Error ellipse: s-maj=11.6km s-min=5.9km az=160.5*
*CSEM **24** 23:03:34.7±0.2,38°.62N×43°.17E,h8km,MD2.9,Error ellipse: s-maj=7.2km s-min=5.0km az=63.0*
*DDA **24** 23:03:35.1,38°.61N×43°.15E,h7km,Ml2.6*
ISC 24 23:03:35.0±1.1,38°.64N±0°.03×43°.15E±0°.04,h7km±12km, n28,σ0ᵒ96/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	104	PG	Pg	23 03 38.5	-0.5
VANB				*e*SG	Sg	23 03 41.8	+0.2
VANB	Van	0.19	104	*i* Pg	Pg	23 03 38.5	-0.5
VANB				*e*Sg	Sg	23 03 41.8	+0.2
TVAN	Van	0.23	119	*i* P	Pg	23 03 40.5	+0.9
TVAN	Van	0.23	119	P	Pg	23 03 40.5	+0.9
GEVA	Gevas	0.34	193	*i* P	Pg	23 03 40.8	-0.9
GEVA	Gevas	0.34	193	P	Pg	23 03 40.8	-0.9
TUTA	Tutak	0.81	341	*i* P	Pg	23 03 51.0	+0.4
TUTA	Tutak	0.81	341	P	Pg	23 03 51.0	+0.4
AGRB	Hanur-Agry	0.94	352	*e*PG	Pg	23 03 52.7	-0.5
AGRB				*e*SG	Sb	23 04 06.4	-0.2
AGRB	Hanur-Agry	0.94	352	*e*Pg	Pg	23 03 52.7	-0.5
AGRB				*e*Sg	Sb	23 04 06.4	-0.2
HAKT	HAKKARI	1.17	158	*i* P	Pg	23 03 55.6	-1.8
HAKT	HAKKARI	1.17	158	P	Pg	23 03 55.6	-1.8
SIRN	S¨–rnak	1.28	207	*i* P	Pg	23 04 00.0	+0.4
SIRN	S¨–rnak	1.28	207	P	Pg	23 04 00.0	+0.4
VRTB	Varto-Mus	1.42	292	*e*PN	Pn	23 04 01.4	0.0
VRTB	Varto-Mus	1.42	292	*e*Pn	Pn	23 04 01.4	0.0
CUKT	Cukurca	1.44	165	*e*PN	Pn	23 04 01.2	-0.4
CUKT	Cukurca	1.44	165	*i* P	Pg	23 04 04.9	+2.3
CUKT	Cukurca	1.44	165	*e*Pn	Pn	23 04 01.2	-0.4
CUKT	Cukurca	1.44	165	P	Pg	23 04 04.9	+2.3
SVAN	Silvan-Diyarba	1.61	253	*e*PN	Pn	23 04 04.1	+0.2
SVAN	Silvan-Diyarba	1.61	253	*e*Pn	Pn	23 04 04.1	+0.2
BNGB	Bing¶ll	1.96	281	*e*PN	Pn	23 04 09.1	+0.3
SENK	Senkaya-Erzuru	2.02	342	*e*PN	Pn	23 04 09.5	-0.1
SENK	Senkaya-Erzuru	2.02	342	*e*Pn	Pn	23 04 09.5	-0.1
BINT	Bingol	2.10	277	*e*Pn	Pn	23 04 09.1	-1.5
YEDI	Yedisu-Bingol	2.18	292	*e*PN	Pn	23 04 12.4	+0.6
YEDI	Yedisu-Bingol	2.18	292	*e*Pn	Pn	23 04 12.4	+0.6

MEX 24 23:05:58.8±0.3,19°.36N×103°.94W,h15km±2km,MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		0.19	191	*i* P	Pg	23 06 02.9	-0.5
R15V				*e*S	Sg	23 06 06.1	-0.4
CJM	Chamela	1.05	278	*i* P	Pb	23 06 15.2	-3.4
CJM				*e*S	Sb	23 06 28.1	-4.2
MMIG	Aquila	1.21	152	*e*P	Pn	23 06 17.6	-3.6
MMIG				*e*S	Sb	23 06 32.1	-4.8
MOIG	Morelia	2.62	83	*e*P	Pg	23 06 51.7	+2.6

*DDA **24** 23:14:01.9,38°.70N×43°.58E,h7km,Ml3.1*
*ISCJB **24** 23:14:02.2±1.0,38°.72N±0°.04×43°.67E±0°.07,h7km±6km, Error ellipse: s-maj=9.8km s-min=5.9km az=177.0*
*ISK **24** 23:14:02.7,38°.70N×43°.49E,h5km,MD2.9*
*CSEM **24** 23:14:03.1±0.4,38°.74N×43°.55E,h2km,MD2.9,Error ellipse: s-maj=11.6km s-min=6.4km az=80.0*
ISC 24 23:14:03.5±1.1,38°.73N±0°.03×43°.56E±0°.05,h16km±7km, n34,σ1ᵒ47/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	225	*e*PG	Pg	23 14 07.1	-1.0
VANB				*e*SG	Sg	23 14 11.3	+0.2
VANB	Van	0.18	225	*e*Pg	Pg	23 14 07.1	-1.0
VANB				*e*Sg	Sg	23 14 11.3	+0.2
TVAN	Van	0.23	211	*i* P	Pg	23 14 09.4	+0.6
TVAN	Van	0.23	211	P	Pg	23 14 09.4	+0.6
GEVA	Gevas	0.57	223	*i* P	Pg	23 14 12.2	-2.6
GEVA	Gevas	0.57	223	P	Pg	23 14 12.2	-2.6
BASK	Baskale_VAN	0.76	152	*i* P	Pg	23 14 17.2	-1.1
BASK	Baskale_VAN	0.76	152	P	Pg	23 14 17.2	-1.1
DYDN	Diyadin	0.82	7	*i* P	Pg	23 14 17.9	-1.6
DYDN	Diyadin	0.82	7	P	Pg	23 14 17.9	-1.6
TUTA	Tutak	0.89	320	*i* P	Pg	23 14 19.2	-1.6
TUTA	Tutak	0.89	320	P	Pg	23 14 19.2	-1.6
AGRB	Hanur-Agry	0.95	333	*e*PG	Pb	23 14 21.8	0.0
AGRB				*e*SG	Sb	23 14 35.9	+1.6
AGRB	Hanur-Agry	0.95	333	*e*Pg	Pb	23 14 21.8	0.0
AGRB				*e*Sg	Sb	23 14 35.9	+1.6
HAKT	HAKKARI	1.17	174	*i* P	Pg	23 14 22.6	-3.6
HAKT	HAKKARI	1.17	174	P	Pg	23 14 22.6	-3.6
EKAR	Karacoban	1.28	295	*i* P	Pn	23 14 27.6	+0.7
EKAR	Karacoban	1.28	295	P	Pn	23 14 27.6	+0.7
CUKT	Cukurca	1.48	178	*e*PN	Pg	23 14 31.6	-0.3
CUKT	Cukurca	1.48	178	*i* P	Pg	23 14 33.0	+1.1
CUKT	Cukurca	1.48	178	*e*Pn	Pg	23 14 31.6	-0.3
CUKT	Cukurca	1.48	178	P	Pg	23 14 33.0	+1.1
SIRN	S¨–rnak	1.52	217	*i* P	Pb	23 14 31.0	-0.4
SIRN	S¨–rnak	1.52	217	P	Pb	23 14 31.0	-0.4
VRTB	Varto-Mus	1.69	285	*e*PN	Pb	23 14 34.3	-0.1
VRTB	Varto-Mus	1.69	285	*e*Pn	Pb	23 14 34.3	-0.1
SVAN	Silvan-Diyarba	1.94	253	*e*PN	Pb	23 14 37.3	-1.1
SVAN				*e*SN	Sb	23 15 02.8	+0.4
SVAN	Silvan-Diyarba	1.94	253	*e*Pn	Pb	23 14 37.3	-1.1
SVAN				*e*Sn	Sb	23 15 02.8	+0.4
SENK	Senkaya-Erzuru	2.06	333	*e*PN	Pb	23 14 39.9	-0.7
SENK	Senkaya-Erzuru	2.06	333	*e*Pn	Pb	23 14 39.9	-0.7
BNGB	Bing¶ll	2.26	278	*e*PN	Pn	23 14 42.0	+1.7
BINT	Bingol	2.40	275	*e*Pn	Pn	23 14 42.0	-0.3
YEDI	Yedisu-Bingol	2.45	288	*e*PN	Pn	23 14 44.9	+1.9
YEDI	Yedisu-Bingol	2.45	288	*e*Pn	Pn	23 14 44.9	+1.9

*CSEM **24** 23:15:12.4±0.4,38°.75N×43°.64E,h2km,ML3.5,Error ellipse: s-maj=9.7km s-min=5.3km az=76.0*
*DDA **24** 23:15:12.0,38°.67N×43°.54E,h7km,Ml3.6*
*ISK **24** 23:15:12.1,38°.74N×43°.48E,h5km,ML3.5*
ISC 24 23:15:13.3±1.2,38°.73N±0°.03×43°.55E±0°.04,h18km±4km, n45,σ1ᵒ56/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	223	PG	Pg	23 15 17.3	-1.0
VANB				*e*SG	Sg	23 15 22.2	+0.6
VANB	Van	0.19	223	*i* Pg	Pg	23 15 17.3	-1.0
VANB				*e*Sg	Sg	23 15 22.2	+0.6
TVAN	Van	0.23	209	*i* P	Pg	23 15 19.7	+0.6
TVAN	Van	0.23	209	P	Pg	23 15 19.7	+0.6
GEVA	Gevas	0.57	223	*i* P	Pg	23 15 21.9	-2.9
GEVA	Gevas	0.57	223	P	Pg	23 15 21.9	-2.9
BASK	Baskale_VAN	0.77	152	*i* P	Pg	23 15 26.6	-1.8
BASK	Baskale_VAN	0.77	152	P	Pg	23 15 26.6	-1.8
DYDN	Diyadin	0.81	7	*i* P	Pb	23 15 28.3	-0.8
DYDN	Diyadin	0.81	7	P	Pb	23 15 28.3	-0.8
AGRB	Hanur-Agry	0.95	333	*e*PG	Pb	23 15 30.8	-0.5
AGRB				*e*SG	Sb	23 15 44.4	+0.8
AGRB	Hanur-Agry	0.95	333	*e*Pg	Pb	23 15 30.8	-0.5
AGRB				*e*Sg	Sb	23 15 44.4	+0.8
HAKT	HAKKARI	1.18	174	*i* P	Pg	23 15 33.2	-3.0
HAKT	HAKKARI	1.18	174	P	Pg	23 15 33.2	-3.0
EKAR	Karacoban	1.27	295	*i* P	Pn	23 15 37.8	+1.4
EKAR	Karacoban	1.27	295	P	Pn	23 15 37.8	+1.4
EATA	Eleskirt	1.40	324	*i* P	Pg	23 15 39.2	-1.1
EATA	Eleskirt	1.40	324	P	Pg	23 15 39.2	-1.1
CUKT	Cukurca	1.48	178	*e*PN	Pg	23 15 41.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.23**	**271**	*i* P	**Pg**	**23 23 37.9**	**+0.3**
DGB				*i* S	**Sg**	**23 23 41.3**	**+0.6**
GCAM	**G?zelcaml?**	**0.35**	**172**	*i* P	**Pg**	**23 23 40.2**	**+0.3**
GCAM				*i* S	**Sg**	**23 23 45.3**	**+0.7**
GCAM	**G?zelcaml?**	**0.35**	**172**	P	**Pg**	**23 23 40.2**	**+0.3**
GCAM				S	**Sg**	**23 23 45.3**	**+0.7**
URLA	**Izmir**	**0.55**	**304**	*e*PG	**Pg**	**23 23 43.4**	**-0.3**
URLA				*e*SG	**Sg**	**23 23 51.8**	**+0.8**
URLA	**Izmir**	**0.55**	**304**	*i* P	**Pg**	**23 23 43.6**	**-0.1**
URLA				*i* S	**Sg**	**23 23 51.7**	**+0.8**
URLA	**Izmir**	**0.55**	**304**	P	**Pg**	**23 23 43.6**	**-0.1**
URLA				S	**Sg**	**23 23 51.7**	**+0.8**
ZEY	**˜zmir**	**0.56**	**290**	*i* P	**Pg**	**23 23 43.7**	**-0.2**
ZEY				*i* S	**Sg**	**23 23 52.1**	**+0.8**
AYDN	**Tasoluk**	**0.68**	**125**	*i* P	**Pg**	**23 23 46.5**	**+0.3**
AYDN				*i* S	**Sb**	**23 23 57.3**	**+0.4**
AYDN	**Tasoluk**	**0.68**	**125**	P	**Pg**	**23 23 46.5**	**+0.3**
AYDN				S	**Sb**	**23 23 57.3**	**+0.4**
CHOS	**Chios island**	**0.94**	**291**	*e*PG	**Pg**	**23 23 51.6**	**+0.3**
CHOS	**Chios island**	**0.94**	**291**	P	**Pg**	**23 23 51.2**	**0.0**
CHOS				S	**Sb**	**23 24 04.5**	**0.0**
CHOS	**Chios island**	**0.94**	**291**	P	**Pg**	**23 23 51.5**	**+0.3**
CHOS				S	**Sg**	**23 24 02.1**	**-1.3**
CHOS				AML	AML	23 24 07.5	
	comp=N,1194μm,0.3s						
CHOS				AML	AML	23 24 07.8	
	comp=E,1573μm,0.4s						
CHOS	**Chios island**	**0.94**	**291**	P	**Pg**	**23 23 51.5**	**+0.3**
CHOS				S	**Sb**	**23 24 04.5**	**0.0**
AKHS	**Akhisar**	**0.97**	**31**	*i* P	**Pg**	**23 23 50.6**	**-1.1**
AKHS				*i* S	**Sg**	**23 24 04.0**	**-0.3**
AKHS	**Akhisar**	**0.97**	**31**	P	**Pg**	**23 23 50.6**	**-1.1**
AKHS				S	**Sg**	**23 24 04.0**	**-0.3**
BODT	**Bodrum**	**0.99**	**174**	*e*PG	**Pg**	**23 23 51.9**	**-0.2**
BODT				*e*SG	**Sb**	**23 24 06.0**	**+0.2**
BODT	**Bodrum**	**0.99**	**174**	P	**Pg**	**23 23 52.0**	**-0.1**
BODT				S	**Sn**	**23 24 07.8**	**+0.2**
BODT	**Bodrum**	**0.99**	**174**	P	**Pg**	**23 23 52.0**	**-0.1**
BODT				*e*Sg	**Sb**	**23 24 06.0**	**+0.2**
BODT				S	**Sn**	**23 24 07.8**	**+0.2**
BDRM	**Kayabasi**	**1.01**	**168**	*i* P	**Pg**	**23 23 51.2**	**-1.1**
BDRM				*i* S	**Sb**	**23 24 06.6**	**+0.4**
BDRM	**Kayabasi**	**1.01**	**168**	P	**Pg**	**23 23 51.2**	**-1.1**
BDRM				S	**Sb**	**23 24 06.6**	**+0.4**
DKL	**Dikili**	**1.04**	**348**	*e*PG	**Pg**	**23 23 52.9**	**-0.1**
DKL				*e*SG	**Sb**	**23 24 08.4**	**+1.2**
DKL	**Dikili**	**1.04**	**348**	*e*Pg	**Pg**	**23 23 52.9**	**-0.1**
DKL				*e*Sg	**Sb**	**23 24 08.4**	**+1.2**
KULA	**Kula-Manisa**	**1.26**	**68**	*e*PN	**Pg**	**23 23 56.6**	**-0.6**
KULA	**Kula-Manisa**	**1.26**	**68**	P	**Pg**	**23 23 56.0**	**-1.2**
KULA				S	**Sg**	**23 24 13.4**	**-0.2**
KULA	**Kula-Manisa**	**1.26**	**68**	P	**Pg**	**23 23 56.0**	**-1.2**
KULA	**Kula-Manisa**	**1.26**	**68**	*e*Pn	**Pg**	**23 23 56.6**	**-0.6**
KULA				S	**Sg**	**23 24 13.4**	**-0.2**
DAT	**Datca**	**1.36**	**166**	*e*PN	**Pg**	**23 23 58.5**	**-0.6**
DAT	**Datca**	**1.36**	**166**	*e*Pn	**Pg**	**23 23 58.5**	**-0.6**
PRK	**Paraskevi**	**1.39**	**330**	P	**Pn**	**23 23 58.9**	**+0.1**
PRK				S	**Sg**	**23 24 17.2**	**-0.5**
PRK	**Paraskevi**	**1.39**	**330**	P	**Pn**	**23 23 58.1**	**-0.7**
PRK				S	**Sg**	**23 24 15.5**	**-2.2**
PRK				AML	AML	23 24 19.1	
	comp=E,1424μm,0.5s						
PRK				AML	AML	23 24 22.2	
	comp=N,1290μm,0.7s						
PRK	**Paraskevi**	**1.39**	**330**	P	**Pn**	**23 23 58.9**	**+0.1**
PRK				S	**Sg**	**23 24 17.2**	**-0.5**
NIS1	**Nisyros Isl.**	**1.45**	**180**	*e*PN	**Pn**	**23 23 59.7**	**+0.1**
NIS1	**Nisyros Isl.**	**1.45**	**180**	P	**Pg**	**23 24 01.5**	**+0.7**
NIS1	**Nisyros Isl.**	**1.45**	**180**	*e*Pn	**Pn**	**23 23 59.7**	**+0.1**
NIS1	**Nisyros Isl.**	**1.45**	**180**	P	**Pg**	**23 24 01.5**	**+0.7**
SIGR	**SIGRI**	**1.55**	**319**	*e*PN	**Pn**	**23 24 01.7**	**+0.6**
SIGR	**SIGRI**	**1.55**	**319**	P	**Pn**	**23 24 00.3**	**-0.8**
SIGR				S	**Sn**	**23 24 21.9**	**+0.5**
SIGR	**SIGRI**	**1.55**	**319**	P	**Pn**	**23 24 00.2**	**-0.8**
SIGR				S	**Sn**	**23 24 17.9**	**-3.5**
SIGR				AML	AML	23 24 23.8	
	comp=N,695μm,0.5s						
SIGR				AML	AML	23 24 26.7	
	comp=E,670μm,0.5s						
SIGR	**SIGRI**	**1.55**	**319**	P	**Pn**	**23 24 00.3**	**-0.8**
SIGR	**SIGRI**	**1.55**	**319**	*e*Pn	**Pn**	**23 24 01.7**	**+0.6**
SIGR				S	**Sn**	**23 24 21.9**	**+0.5**
APE	**Apeiranthos**	**1.63**	**234**	*e*PN	**Pn**	**23 24 02.6**	**+0.4**
APE	**Apeiranthos**	**1.63**	**234**	P	**Pn**	**23 24 01.4**	**-0.8**
APE				S	**Sb**	**23 24 24.5**	**+0.3**
APE	**Apeiranthos**	**1.63**	**234**	P	**Pn**	**23 24 00.9**	**-1.3**
APE	**Apeiranthos**	**1.63**	**234**	P	**Pn**	**23 24 01.4**	**-0.8**
APE	**Apeiranthos**	**1.63**	**234**	*e*Pn	**Pn**	**23 24 02.6**	**+0.4**
APE				S	**Sb**	**23 24 24.5**	**+0.3**
BALB	**Balikesir**	**1.68**	**19**	*e*PN	**Pn**	**23 24 03.8**	**+1.0**
BALB	**Balikesir**	**1.68**	**19**	*e*Pn	**Pn**	**23 24 03.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**1.70**	**136**	*e*PN	**Pn**	**23 24 03.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**1.70**	**136**	*e*Pn	**Pn**	**23 24 03.5**	**+0.4**
SIMA	**Simav-Kutahya**	**1.75**	**53**	*e*PN	**Pn**	**23 24 04.7**	**+0.8**
SIMA	**Simav-Kutahya**	**1.75**	**53**	*e*Pn	**Pn**	**23 24 04.7**	**+0.8**
EZN	**Ezine**	**1.89**	**340**	*e*PN	**Pn**	**23 24 06.6**	**+0.9**
EZN				*e*SN	**Sn**	**23 24 31.7**	**+1.9**
EZN	**Ezine**	**1.89**	**340**	*e*Pn	**Pn**	**23 24 06.6**	**+0.9**
EZN				*e*Sn	**Sn**	**23 24 31.7**	**+1.9**
ARG	**Arkhangelos**	**1.98**	**157**	P	**Pg**	**23 24 10.3**	**-0.7**
ARG	**Arkhangelos**	**1.98**	**157**	P	**Pg**	**23 24 10.4**	**-0.7**
BOZC	**Bozcaada**	**1.99**	**334**	*e*PN	**Pn**	**23 24 08.4**	**+1.3**
BOZC	**Bozcaada**	**1.99**	**334**	*e*Pn	**Pn**	**23 24 08.4**	**+1.3**
GONE	**Gonen-Balikesi**	**2.03**	**11**	*e*PN	**Pn**	**23 24 08.8**	**+1.1**
GONE	**Gonen-Balikesi**	**2.03**	**11**	*e*Pn	**Pn**	**23 24 08.8**	**+1.1**
FETY	**Fethiye**	**2.08**	**132**	*e*PN	**Pn**	**23 24 08.7**	**+0.5**
FETY	**Fethiye**	**2.08**	**132**	P	**Pn**	**23 24 08.8**	**+0.5**
FETY				S	**Sn**	**23 24 35.8**	**+1.4**
FETY	**Fethiye**	**2.08**	**132**	P	**Pn**	**23 24 08.8**	**+0.5**
FETY				S	**Sn**	**23 24 35.8**	**+1.4**
TVSB	**Tavsanli**	**2.27**	**51**	*e*PN	**Pn**	**23 24 12.0**	**+0.9**
TVSB	**Tavsanli**	**2.27**	**51**	*e*Pn	**Pn**	**23 24 12.0**	**+0.9**
LPK	**Lapseki**	**2.34**	**352**	*e*PN	**Pn**	**23 24 13.8**	**+1.9**
LPK	**Lapseki**	**2.34**	**352**	*e*Pn	**Pn**	**23 24 13.8**	**+1.9**
KRBG	**Karabiga-Canak**	**2.34**	**2**	*e*PN	**Pn**	**23 24 13.3**	**+1.4**
KRBG	**Karabiga-Canak**	**2.34**	**2**	*e*Pn	**Pn**	**23 24 13.3**	**+1.4**
EDC	**Edincik**	**2.36**	**13**	*e*PN	**Pn**	**23 24 12.9**	**+0.8**
EDC	**Edincik**	**2.36**	**13**	*e*Pn	**Pn**	**23 24 12.9**	**+0.8**
GADA	**Gvkgeada**	**2.36**	**336**	*e*PN	**Pn**	**23 24 13.8**	**+1.7**
GADA	**Gvkgeada**	**2.36**	**336**	*e*Pn	**Pn**	**23 24 13.8**	**+1.7**
KCTX	**Karacabey (Bur**	**2.40**	**22**	*e*PN	**Pn**	**23 24 14.2**	**+1.5**
KCTX	**Karacabey (Bur**	**2.40**	**22**	*e*Pn	**Pn**	**23 24 14.2**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.41**	**347**	*e*PN	**Pn**	**23 24 13.8**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.41**	**347**	*e*Pn	**Pn**	**23 24 13.8**	**+1.0**
LIA	**Limnos Island**	**2.41**	**321**	P	**Pn**	**23 24 12.3**	**-0.5**
LIA	**Limnos Island**	**2.41**	**321**	P	**Pn**	**23 24 12.3**	**-0.5**
ERIK	**Erikli-Kesan**	**2.67**	**349**	*e*PN	**Pn**	**23 24 18.2**	**+1.9**
ERIK	**Erikli-Kesan**	**2.67**	**349**	*e*Pn	**Pn**	**23 24 18.2**	**+1.9**
KSL	**Kastellorizon**	**2.70**	**134**	P	**Pb**	**23 24 19.9**	**-1.8**
SMTH	**Samothraki Isl**	**2.73**	**333**	P	**Pn**	**23 24 18.5**	**+1.2**
SMTH	**Samothraki Isl**	**2.73**	**333**	P	**Pn**	**23 24 18.5**	**+1.2**
ALN	**Alexandroupoli**	**2.98**	**343**	*e*PN	**Pn**	**23 24 21.8**	**+1.2**
ALN	**Alexandroupoli**	**2.98**	**343**	P	**Pn**	**23 24 20.3**	**-0.3**
ALN	**Alexandroupoli**	**2.98**	**343**	P	**Pn**	**23 24 20.3**	**-0.3**
ALN	**Alexandroupoli**	**2.98**	**343**	*e*Pn	**Pn**	**23 24 21.8**	**+1.2**
RDO	**Rodhopi**	**3.34**	**338**	P	**Pn**	**23 24 25.5**	**-0.1**
RDO	**Rodhopi**	**3.34**	**338**	P	**Pn**	**23 24 25.5**	**-0.1**

*CSEM **24** 23:31:25.3, 38˚.70N×43˚.12E, h7km, ML2.9*

DDA 24 23:31:25.3, 38˚.70N×43˚.12E, h7km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28**	**128**	*i* P	Pg	23 31 31.3	+0.3
TVAN				*i* S	Sg	23 31 35.9	+1.1
TVAN	**Van**	**0.28**	**128**	P	Pg	23 31 31.3	+0.3
TVAN				S	Sg	23 31 35.9	+1.1
GEVA	**Gevas**	**0.39**	**187**	*i* P	Pg	23 31 32.2	-0.8
GEVA				*i* S	Sb	23 31 40.0	-1.1
GEVA	**Gevas**	**0.39**	**187**	P	Pg	23 31 32.2	-0.9
GEVA				S	Sb	23 31 40.0	-1.1
TUTA	**Tutak**	**0.74**	**341**	*i* P	Pg	23 31 39.8	+0.2
TUTA				*i* S	Sb	23 31 50.5	-0.6
TUTA	**Tutak**	**0.74**	**341**	P	Pg	23 31 39.8	+0.3
TUTA				S	Sb	23 31 50.5	-0.5
EKAR	**Karacoban**	**0.99**	**304**	*i* P	Pn	23 31 47.3	+1.4
EKAR				*i* S	Sn	23 32 08.7	+8.4
EKAR	**Karacoban**	**0.99**	**304**	P	Pn	23 31 47.3	+1.4
EKAR				S	Sn	23 32 08.7	+8.4
HAKT	**HAKKARI**	**1.23**	**158**	*i* P	Pg	23 31 45.9	-3.1
HAKT				*i* S	Sn	23 32 08.0	+1.8
HAKT	**HAKKARI**	**1.23**	**158**	P	Pg	23 31 45.9	-3.1
HAKT				S	Sn	23 32 08.0	+1.7
CUKT	**Cukurca**	**1.50**	**165**	*i* P	Pg	23 31 55.0	+0.9
CUKT				*i* S	Sg	23 32 17.4	+3.7
CUKT	**Cukurca**	**1.50**	**165**	P	Pg	23 31 55.0	+0.8
CUKT				S	Sg	23 32 17.4	+3.7

*ISK **24** 23:31:57.6, 38˚.74N×43˚.36E, h5km, ML3.0*
*DDA **24** 23:31:59.0, 38˚.74N×43˚.20E, h7km, Ml3.7*
*CSEM **24** 23:31:59.0±0.2, 38˚.76N×43˚.25E, h2km, ML3.0, Error ellipse: s-maj=6.1km s-min=3.1km az=73.0*

ISC 24 23:31:59.3±0.9, 38˚.75N±0˚.02×43˚.28E±0˚.04, h12km±7km, n36, σ1§40/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**150**	*e*PG	**Pg**	**23 32 02.7**	**-0.7**
VANB				*e*SG	**Sg**	**23 32 06.8**	**+0.5**
VANB	**Van**	**0.18**	**150**	*e*Pg	**Pg**	**23 32 02.7**	**-0.7**
VANB				*e*Sg	**Sg**	**23 32 06.8**	**+0.5**
TVAN	**Van**	**0.24**	**155**	*i* P	**Pg**	**23 32 05.1**	**+0.5**
TVAN				*i* S	**Sg**	**23 32 08.9**	**+0.8**
TVAN	**Van**	**0.24**	**155**	P	**Pg**	**23 32 05.1**	**+0.5**
TVAN				S	**Sg**	**23 32 08.9**	**+0.8**
GEVA	**Gevas**	**0.47**	**202**	*i* P	**Pg**	**23 32 06.4**	**-2.2**
GEVA				*i* S	**Sg**	**23 32 14.6**	**-0.3**
GEVA	**Gevas**	**0.47**	**202**	P	**Pg**	**23 32 06.4**	**-2.2**
GEVA				S	**Sg**	**23 32 14.6**	**-0.3**
TUTA	**Tutak**	**0.75**	**331**	*i* P	**Pg**	**23 32 13.0**	**-0.9**
TUTA				*i* S	**Sg**	**23 32 21.9**	**-1.8**
TUTA	**Tutak**	**0.75**	**331**	P	**Pg**	**23 32 13.0**	**-0.9**
TUTA				S	**Sg**	**23 32 21.9**	**-1.8**
AGRB	**Hanur-Agry**	**0.86**	**345**	*e*PG	**Pg**	**23 32 15.3**	**-0.7**
AGRB				*e*SG	**Sb**	**23 32 27.7**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**345**	*e*Pg	**Pg**	**23 32 15.3**	**-0.7**
AGRB				*e*Sg	**Sb**	**23 32 27.7**	**0.0**
DYDN	**Diyadin**	**0.86**	**22**	*i* P	**Pg**	**23 32 15.1**	**-0.9**
DYDN	**Diyadin**	**0.86**	**22**	P	**Pg**	**23 32 15.1**	**-0.9**
BASK	**Baskale_VAN**	**0.90**	**140**	*i* P	**Pg**	**23 32 13.6**	**-3.1**
BASK	**Baskale_VAN**	**0.90**	**140**	P	**Pg**	**23 32 13.6**	**-3.1**
EKAR	**Karacoban**	**1.07**	**299**	*i* P	**Pb**	**23 32 19.9**	**-0.1**
EKAR				*i* S	**Sn**	**23 32 38.6**	**+3.3**
EKAR	**Karacoban**	**1.07**	**299**	P	**Pb**	**23 32 19.9**	**-0.1**
HAKT	**HAKKARI**	**1.23**	**164**	*i* P	**Pg**	**23 32 19.4**	**-3.7**
HAKT				*i* S	**Sn**	**23 32 40.6**	**+1.3**
HAKT	**HAKKARI**	**1.23**	**164**	P	**Pg**	**23 32 19.4**	**-3.7**
HAKT				S	**Sn**	**23 32 40.6**	**+1.3**
EATA	**Eleskirt**	**1.27**	**331**	*i* P	**Pg**	**23 32 22.6**	**-1.2**
EATA				*i* S	**Sn**	**23 32 41.5**	**+1.3**
EATA	**Eleskirt**	**1.27**	**331**	P	**Pg**	**23 32 22.6**	**-1.2**
EATA				S	**Sn**	**23 32 41.5**	**+1.3**
SIRN	**S¨–rnak**	**1.42**	**209**	*i* P	**Pb**	**23 32 25.6**	**-0.2**
SIRN				*i* S	**Sn**	**23 32 44.7**	**+1.0**
SIRN	**S¨–rnak**	**1.42**	**209**	P	**Pb**	**23 32 25.6**	**-0.2**
SIRN				S	**Sn**	**23 32 44.7**	**+1.0**
VRTB	**Varto-Mus**	**1.48**	**287**	*e*PN	**Pn**	**23 32 26.2**	**+0.3**
VRTB	**Varto-Mus**	**1.48**	**287**	*i* P	**Pg**	**23 32 26.9**	**-0.8**
VRTB	**Varto-Mus**	**1.48**	**287**	*e*Pn	**Pn**	**23 32 26.2**	**+0.3**
VRTB	**Varto-Mus**	**1.48**	**287**	P	**Pg**	**23 32 27.0**	**-0.8**
CUKT	**Cukurca**	**1.52**	**170**	*e*PN	**Pn**	**23 32 26.6**	**+0.2**
CUKT	**Cukurca**	**1.52**	**170**	*i* P	**Pg**	**23 32 28.1**	**-0.5**
CUKT				*i* S	**Sg**	**23 32 50.0**	**+1.7**
CUKT	**Cukurca**	**1.52**	**170**	*e*Pn	**Pn**	**23 32 26.6**	**+0.2**
CUKT	**Cukurca**	**1.52**	**170**	P	**Pg**	**23 32 28.1**	**-0.5**
CUKT				S	**Sg**	**23 32 50.0**	**+1.7**
BNGL	**BINGOL**	**1.68**	**278**	*i* P	**Pb**	**23 32 29.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.74**	**251**	*e*PN	**Pb**	**23 32 30.5**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.74**	**251**	*i* P	**Pb**	**23 32 30.4**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.74**	**251**	P	**Pb**	**23 32 30.4**	**-0.8**
BTMN	**Batman**	**1.80**	**242**	*i* P	**Pn**	**23 32 30.6**	**+0.4**
BTMN				*i* S	**Sb**	**23 32 55.2**	**+0.5**
BTMN	**Batman**	**1.80**	**242**	P	**Pn**	**23 32 30.6**	**+0.4**
BTMN				S	**Sb**	**23 32 55.2**	**+0.5**

*ISK **24** 23:32:50.2, 37˚.07N×26˚.81E, h12km, ML2.8*
*ATH **24** 23:32:50.2, 37˚.09N×26˚.88E, h28km±1km, ML2.6/11, Error ellipse: s-maj=1.7km s-min=0.8km az=94.0*
*DDA **24** 23:32:50.5, 37˚.11N×26˚.85E, h7km, Ml3.6*
*CSEM **24** 23:32:51.1±0.1, 37˚.07N×26˚.85E, h12km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.3km az=11.0*
*THE **24** 23:32:51.0, 37˚.07N×26˚.86E, h0km±1km, ML2.7/4, Error ellipse: s-maj=1.3km s-min=0.6km az=4.0*
*ISCJB **24** 23:32:51.6±0.3, 37˚.08N±0˚.02×26˚.88E±0˚.03, h22km±5km, Error ellipse: s-maj=4.3km s-min=3.3km az=155.3*

ISC 24 23:32:50.9±1.0, 37˚.09N±0˚.02×26˚.89E±0˚.02, h16km±9km, n88, σ0§85/129, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.34**	**95**	*e*PG	**Pb**	**23 32 58.6**	**+0.1**
BODT				*e*SG	**Sb**	**23 33 04.4**	**+0.7**
BODT	**Bodrum**	**0.34**	**95**	P	**Pb**	**23 32 58.5**	**0.0**
BODT				S	**Sb**	**23 33 04.2**	**+0.5**
BODT	**Bodrum**	**0.34**	**95**	*e*Pg	**Pb**	**23 32 58.6**	**+0.1**
BODT				S	**Sb**	**23 33 04.2**	**+0.5**
BDRM	**Kayabasi**	**0.44**	**93**	*i* P	**Pb**	**23 33 00.3**	**0.0**
BDRM				*i* S	**Sb**	**23 33 07.2**	**+0.4**
BDRM	**Kayabasi**	**0.44**	**93**	P	**Pb**	**23 33 00.3**	**0.0**
BDRM				S	**Sb**	**23 33 07.2**	**+0.4**
NISR	**Nisiros**	**0.52**	**158**	P	**Pg**	**23 33 00.3**	**-0.8**
NISR				S	**Sb**	**23 33 09.9**	**+1.1**
NISR				AML	AML	23 33 13.8	
	comp=N,912μm,0.2s						
NISR				AML	AML	23 33 16.6	
	comp=E,1378μm,0.5s						
NISR	**Nisiros**	**0.52**	**158**	P	**Pg**	**23 33 00.3**	**-0.8**
NISR				S	**Sb**	**23 33 09.9**	**+1.1**
NIS1	**Nisyros Isl.**	**0.54**	**155**	*e*PG	**Pg**	**23 33 01.3**	**-0.2**
NIS1	**Nisyros Isl.**	**0.54**	**155**	P	**Pg**	**23 33 01.4**	**-0.2**
NIS1				S	**Sb**	**23 33 10.2**	**+0.6**
NIS1	**Nisyros Isl.**	**0.54**	**155**	P	**Pb**	**23 33 01.8**	**-0.3**
NIS1				S	**Sb**	**23 33 09.2**	**-0.4**
NIS1				AML	AML	23 33 13.9	
	comp=E,1013μm,0.3s						
NIS1				AML	AML	23 33 18.1	
	comp=N,1603μm,0.3s						
NIS1	**Nisyros Isl.**	**0.54**	**155**	P	**Pg**	**23 33 01.4**	**-0.2**
NIS1				S	**Sb**	**23 33 09.2**	**-0.4**
DAT	**Datca**	**0.66**	**123**	*e*PG	**Pb**	**23 33 04.6**	**+0.5**
DAT				*e*SG	**Sb**	**23 33 14.6**	**+1.5**
DAT	**Datca**	**0.66**	**123**	*i* P	**Pb**	**23 33 03.9**	**-0.2**
DAT				*i* S	**Sb**	**23 33 14.3**	**+1.2**
DAT	**Datca**	**0.66**	**123**	P	**Pb**	**23 33 03.9**	**-0.2**
DAT	**Datca**	**0.66**	**123**	*e*Pg	**Pb**	**23 33 04.6**	**+0.5**
DAT				S	**Sb**	**23 33 14.3**	**+1.2**
GCAM	**G?zelcaml?**	**0.66**	**24**	*i* P	**Pb**	**23 33 04.6**	**+0.5**
GCAM				*i* S	**Sn**	**23 33 15.5**	**-0.2**
GCAM	**G?zelcaml?**	**0.66**	**24**	P	**Pb**	**23 33 04.6**	**+0.5**
GCAM				S	**Sn**	**23 33 15.5**	**-0.2**
DGB	**˜zmir**	**0.96**	**360**	*i* P	**Pg**	**23 33 09.2**	**-0.2**
DGB				*i* S	**Sb**	**23 33 21.9**	**+0.3**
APE	**Apeiranthos**	**1.09**	**269**	*e*PG	**Pb**	**23 33 10.5**	**-0.9**
APE				*e*SG	**Sb**	**23 33 24.8**	**-0.6**
APE	**Apeiranthos**	**1.09**	**269**	P	**Pb**	**23 33 11.0**	**-0.4**
APE				S	**Sn**	**23 33 26.9**	**+0.6**
APE	**Apeiranthos**	**1.09**	**269**	P	**Pb**	**23 33 10.8**	**-0.6**
APE				S	**Sn**	**23 33 26.2**	**-0.1**
APE				AML	AML	23 33 27.8	
	comp=N,864μm,0.6s						
APE				AML	AML	23 33 29.3	
	comp=E,683μm,0.2s						
APE	**Apeiranthos**	**1.09**	**269**	*e*Pg	**Pb**	**23 33 10.5**	**-0.9**
APE	**Apeiranthos**	**1.09**	**269**	P	**Pb**	**23 33 11.0**	**-0.4**
APE				*e*Sg	**Sb**	**23 33 24.8**	**-0.6**
APE				S	**Sn**	**23 33 26.2**	**-0.1**
ZEY	**˜zmir**	**1.18**	**345**	*i* P	**Pn**	**23 33 12.2**	**-0.6**
ZEY				*i* S	**Sg**	**23 33 29.0**	**-0.2**
ARG	**Arkhangelos**	**1.32**	**131**	P	**Pg**	**23 33 15.2**	**-0.2**
ARG				S	**Sg**	**23 33 35.4**	**+1.8**
ARG	**Arkhangelos**	**1.32**	**131**	P	**Pb**	**23 33 15.6**	**+0.2**
ARG				S	**Sn**	**23 33 32.8**	**+0.7**
ARG				AML	AML	23 33 36.9	
	comp=E,470μm,0.4s						
ARG				AML	AML	23 33 37.5	
	comp=N,223μm,0.6s						
ARG	**Arkhangelos**	**1.32**	**131**	P	**Pb**	**23 33 15.6**	**+0.2**
ARG				S	**Sn**	**23 33 32.8**	**+0.7**
THR2	**Thira island,**	**1.33**	**242**	P	**Pn**	**23 33 14.1**	**-0.8**
THR2	**Thira island,**	**1.33**	**242**	P	**Pn**	**23 33 14.1**	**-0.8**
CMBO	**Columbo, Santo**	**1.34**	**243**	P	**Pb**	**23 33 15.6**	**-0.1**
CMBO	**Columbo, Santo**	**1.34**	**243**	P	**Pb**	**23 33 15.6**	**-0.1**
SAP2K	**Karterados**	**1.35**	**240**	P	**Pg**	**23 33 16.8**	**0.0**
THR7	**Fira-Santorini**	**1.35**	**241**	P	**Pb**	**23 33 15.6**	**-0.2**
THR7	**Fira-Santorini**	**1.35**	**241**	P	**Pn**	**23 33 15.2**	**0.0**
THR7	**Fira-Santorini**	**1.35**	**241**	P	**Pb**	**23 33 15.6**	**-0.2**
SANT	**Santorini**	**1.36**	**238**	P	**Pb**	**23 33 15.6**	**-0.3**
SANT	**Santorini**	**1.36**	**238**	P	**Pb**	**23 33 15.6**	**-0.3**
THR3	**Thira Island,**	**1.38**	**241**	P	**Pg**	**23 33 16.5**	**-0.9**
THR3	**Thira Island,**	**1.38**	**241**	P	**Pb**	**23 33 15.8**	**-0.5**
THR3	**Thira Island,**	**1.38**	**241**	P	**Pb**	**23 33 15.8**	**-0.5**
TURN	**Turunc**	**1.39**	**99**	*i* P	**Pn**	**23 33 12.6**	**-3.0**
TURN				*i* S	**Sn**	**23 33 29.2**	**-4.4**
TURN	**Turunc**	**1.39**	**99**	P	**Pn**	**23 33 12.6**	**-3.0**
SAP1	**Santorini-Akro**	**1.41**	**239**	P	**Pn**	**23 33 16.0**	**+0.1**
SAP1				S	**Sb**	**23 33 34.3**	**-0.2**
SAP1				AML	AML	23 33 42.5	
	comp=E,944μm,0.7s						
SAP1				AML	AML	23 33 45.5	
	comp=N,982μm,0.6s						
SAP1	**Santorini-Akro**	**1.41**	**239**	P	**Pn**	**23 33 16.0**	**+0.1**
SAP1				S	**Sb**	**23 33 34.3**	**-0.2**
THR6	**Thira Island,**	**1.41**	**239**	P	**Pb**	**23 33 16.8**	**0.0**
THR6	**Thira Island,**	**1.41**	**239**	P	**Pn**	**23 33 14.8**	**-1.1**
THR6	**Thira Island,**	**1.41**	**239**	P	**Pb**	**23 33 16.8**	**0.0**
THR5	**Thira Island,**	**1.41**	**242**	P	**Pg**	**23 33 17.0**	**-1.0**
THR5	**Thira Island,**	**1.41**	**242**	P	**Pg**	**23 33 17.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**1.44**	**101**	*e*PN	**Pb**	**23 33 17.4**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.44**	**101**	*e*Pn	**Pb**	**23 33 17.4**	**+0.1**
CHOS	**Chios island**	**1.45**	**333**	*e*PN	**Pn**	**23 33 16.9**	**+0.4**
CHOS	**Chios island**	**1.45**	**333**	P	**Pb**	**23 33 17.9**	**+0.3**
CHOS				S	**Sg**	**23 33 38.8**	**+1.1**
CHOS	**Chios island**	**1.45**	**333**	P	**Pn**	**23 33 16.1**	**-0.4**
CHOS				S	**Sb**	**23 33 36.6**	**+0.7**
CHOS				AML	AML	23 33 41.6	
	comp=N,232μm,0.7s						
CHOS				AML	AML	23 33 44.4	
	comp=E,180μm,0.4s						
CHOS	**Chios island**	**1.45**	**333**	*e*Pn	**Pn**	**23 33 17.0**	**+0.4**
CHOS	**Chios island**	**1.45**	**333**

PET AMB AMB 23 35 37.5
comp=E,20nm,0.3s
PET *e*S **Sn** **23 36 10.4 -0.6**
PET A A 23 36 12.3
comp=E,200nm,0.4s
PET A A 23 36 12.3
comp=E,114nm,0.4s
PET Petropavlovsk 2.83 26 *e*P **Pn** **23 35 37.4 +0.7**
PET *e*S **Sn** **23 36 11.4 +0.4**
DALK Dalny 2.86 27 PN **Pn** **23 35 38.0 +0.8**
DALK S **Sn** **23 36 12.6 +0.8**
DALK Dalny 2.86 27 *e*P **Pn** **23 35 38.0 +0.8**
DALK *e*S **Sn** **23 36 12.6 +0.8**
UGLR Uglovaya 3.04 26 PN **Pn** **23 35 41.3 +1.7**
UGLR S **Sn** **23 36 16.9 +0.8**
UGLR Uglovaya 3.04 26 *e*P **Pn** **23 35 41.3 +1.7**
UGLR *e*S **Sn** **23 36 16.9 +0.8**
KOK Koryaka 3.06 23 PN Pn 23 35 41.8 +1.9
KOK S **Sn** **23 36 17.4 +0.7**
KOK Koryaka 3.06 23 *e*P Pn 23 35 41.8 +1.9
KOK *e*S **Sn** **23 36 17.4 +0.7**
AVH Avacha 3.07 25 PN **Pn** **23 35 41.7 +1.8**
AVH S **Sn** **23 36 19.1 +2.4**
AVH Avacha 3.07 25 *e*P **Pn** **23 35 41.7 +1.8**
AVH *e*S **Sn** **23 36 19.1 +2.4**
SDLR Sedlovina 3.12 26 PN **Pn** **23 35 41.7 +1.1**
SDLR S **Sn** **23 36 17.5 -0.5**
SDLR Sedlovina 3.12 26 *e*P **Pn** **23 35 41.7 +1.1**
SDLR *e*S **Sn** **23 36 17.5 -0.5**
KRX Arik 3.13 23 PN **Pn** **23 35 42.3 +1.5**
KRX S **Sn** **23 36 19.6 +1.4**
KRX Arik 3.13 23 *e*P **Pn** **23 35 42.3 +1.5**
KRX *e*S **Sn** **23 36 19.6 +1.4**
NLC Nalytchevo 3.17 31 PN **Pn** **23 35 40.9 -0.2**
NLC S **Sn** **23 36 16.1 -2.7**
NLC Nalytchevo 3.17 31 *e*P **Pn** **23 35 40.9 -0.2**
NLC *e*S **Sn** **23 36 16.1 -2.7**
GNL Ganaly 3.30 14 PN Pn 23 35 43.6 +0.6
GNL Ganaly 3.30 14 *e*P Pn 23 35 43.6 +0.6
SPN Mys Shipunski 3.35 38 PN **Pn** **23 35 44.0 +0.5**
SPN S **Sn** **23 36 21.7 -1.5**
SPN Mys Shipunski 3.35 38 *e*P **Pn** **23 35 44.0 +0.5**
SPN *e*S **Sn** **23 36 21.7 -1.5**
MKZ Mys Kozlova 5.12 36 PN **Pn** **23 36 06.4 -0.5**
MKZ Mys Kozlova 5.12 36 *e*P **Pn** **23 36 06.4 -0.5**
MKZ *e*S **Sn** **23 37 00.7 -4.4**
KBTR Krutoberegovo 6.82 31 PN **Pn** **23 36 29.4 -0.2**
KBTR Krutoberegovo 6.82 31 *e*P **Pn** **23 36 29.4 -0.2**
KBG Krutoberegovo 6.82 30 *e*P **Pn** **23 36 32.5 +2.9**
BKI Bering 7.37 47 *e*P **Pn** **23 36 37.5 +0.5**
BKI Bering 7.37 47 *e*S Sn 23 37 50.9 -8.1
KUR Kuril'sk 7.89 232 *e*P Pn 23 36 53.1 +8.9
TYV Tymovskoe 8.88 278 *e*P Pn 23 37 10.4 +13
MJAR Matsushiro Arr 19.23 231 P **Pn** **23 39 09.9 +1.5**
comp=E,0.5nm,0.3s,baz=24,slow=7.7,SNR=2.8
H11N2 WAKE ISLAND Hy 31.77 161 T T 00 15 06.3
baz=348,slow=76,SNR=28
H11N3 WAKE ISLAND Hy 31.78 161 T T 00 15 07.4
baz=348,slow=76,SNR=37
H11N1 WAKE ISLAND Hy 31.78 161 T T 00 15 07.7
baz=348,slow=76,SNR=16
SONM Songino Array 32.44 285 P **P** **23 41 08.2 -1.4**
comp=E,0.2nm,0.4s,baz=64,slow=7.3,SNR=2.9
H11S1 WAKE ISLAND Hy 32.92 162 T T 00 16 34.3
baz=348,slow=76,SNR=85
H11S3 WAKE ISLAND Hy 32.93 162 T T 00 16 03.9
baz=348,slow=76,SNR=92
H11S2 WAKE ISLAND Hy 32.94 162 T T 00 16 11.0
baz=348,slow=76,SNR=58
MKAR Makanchi Array 47.34 296 P **P** **23 43 11.1 -1.2**
comp=E,0.3nm,0.4s,baz=61,slow=7.0,SNR=10
BVAR Borovoye Array 50.31 308 P **P** **23 43 33.6 -1.2**
comp=E,0.4nm,0.5s,baz=64,slow=3.4,SNR=3.5
ARCES ARCESS Array B 55.06 341 P **P** **23 44 06.5 -3.0**
comp=E,2.8nm,0.9s,baz=41,slow=8.4,SNR=2.9
CMAR Chiang Mai Arr 55.51 257 P **P** **23 44 15.6 +2.3**
comp=E,0.6nm,0.4s,baz=33,slow=7.3,SNR=5.3
PDAR Pinedale Array 60.71 57 P **P** **23 44 53.6 +4.1**
comp=E,0.2nm,0.6s,baz=331,slow=5.9,SNR=2.7
FINES FINESS Array B 61.62 335 P **P** **23 44 52.9 -2.1**
comp=E,3.6nm,1.1s,baz=38,slow=7.0,SNR=3.0
TXAR Lajitas Array 73.68 64 P P 23 46 15.4 +4.0
comp=E,0.2nm,0.5s,baz=299,slow=5.8,SNR=5.3
BRTR Keskin Array B 77.19 318 P **P** **23 46 30.5 -0.8**
comp=E,0.9nm,0.9s,baz=25,slow=4.6,SNR=2.9

LDG ***24*** *23:35:24.5±0.1, 37.°32N×1.°94W, h2km, Ml3.6/4, Error ellipse: s-maj=3.3km s-min=1.6km az=149.0*
SFS ***24*** *23:35:24.0, 37.°31N×1.°87W, h11km, ML3.7*
CSEM ***24*** *23:35:24.6±0.2, 37.°43N×2.°08W, h10km, ML3.9/39, Error ellipse: s-maj=3.5km s-min=2.0km az=158.0*
INMG ***24*** *23:35:24.3±1.0, 37.°33N×1.°87W, h19km±2km, ML3.6, Error ellipse: s-maj=2.7km s-min=1.5km az=135.0*
NEIC ***24*** *23:35:24.1±0.0, 37.°32N×1.°87W, h11km, ML3.7(MDD), After MDD.*
NEIC Felt at Zurgena.
MDD ***24*** *23:35:24.4±0.3, 37.°31N×1.°94W, h11km, mbLg3.6/49, Error ellipse: s-maj=3.6km s-min=1.9km az=140.0, PRXIMO*
MDD EMS: IV INTENSIDAD MAXIMA.
IGIL ***24*** *23:35:24.8, 37.°31N×1.°94W, h11km*
ISC 24 23:35:22.6±1.1, 37.°35N±0.°02×1.°97W±0.°02, h8km±9km, n248, σ1§68/427, 9C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.42**	**206**	⇑Pg	**Pg**	**23 35 32.0**	**+1.1**
	448nm,0.1s,SNR=18						
ENIJ				Lg	Lg	23 35 37.1	
	13μm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.42**	**206**	Pg	**Pg**	**23 35 32.0**	**+1.1**
EMUR	**La Murta**	**0.76**	**50**	⇑Pg	**Pg**	**23 35 38.2**	**+1.0**
	40nm,0.5s,SNR=18						
EMUR				Lg	Lg	23 35 49.2	
	4μm,0.5s,SNR=11						
EMUR	**La Murta**	**0.76**	**50**	Pg	**Pg**	**23 35 38.2**	**+1.0**
	40nm,0.5s,SNR=18						
EMUR				Lg	Lg	23 35 49.2	
	4μm,0.5s,SNR=11						
EMUR	**La Murta**	**0.76**	**50**	Pg	**Pg**	**23 35 38.2**	**+1.0**
CART	**Cartagena**	**0.81**	**73**	⇑Pg	**Pb**	**23 35 39.0**	**+0.2**
CART				Lg	Lg	23 35 50.2	
CART	**Cartagena**	**0.81**	**73**	*i*P	**Pb**	**23 35 39.0**	**+0.2**
CART				*e*S	**Sb**	**23 35 50.2**	**+0.3**
GORA	**Gorafe**	**0.86**	**279**	⇑Pg	**Pb**	**23 35 39.1**	**-0.8**
	108nm,0.7s,SNR=18						
GORA				Lg	Lg	23 35 53.7	
	2μm,0.3s,SNR=7.9						
GORA	**Gorafe**	**0.86**	**279**	Pg	**Pb**	**23 35 39.1**	**-0.8**
	108nm,0.7s,SNR=18						
GORA				Lg	Lg	23 35 53.7	
	2μm,0.3s,SNR=7.9						
EBER	**Berja**	**0.86**	**238**	⇑Pg	**Pb**	**23 35 39.6**	**-0.3**
	571nm,0.3s,SNR=18						
EBER				Lg	Lg	23 35 51.4	
	2μm,0.4s,SNR=7.9						
EBER	**Berja**	**0.86**	**238**	Pg	**Pb**	**23 35 39.6**	**-0.3**
	571nm,0.3s,SNR=18						
EBER				Lg	Lg	23 35 51.4	
	2μm,0.4s,SNR=7.9						
EBER	**Berja**	**0.86**	**238**	Pg	**Pb**	**23 35 39.6**	**-0.3**
SESP	**Santiago Espad**	**0.89**	**329**	⇓Pg	**Pb**	**23 35 40.0**	**-0.4**
	127nm,0.4s,SNR=18						
SESP				Lg	Lg	23 35 55.1	
	766nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**0.89**	**329**	Pg	**Pb**	**23 35 40.0**	**-0.4**
	127nm,0.4s,SNR=18						
SESP				Lg	Lg	23 35 55.1	
	766nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**0.89**	**329**	Pg	**Pb**	**23 35 40.0**	**-0.4**
EQES	**Quesada**	**0.98**	**297**	Pg	**Pb**	**23 35 42.4**	**+0.5**
	7.7nm,0.1s,SNR=497						
EQES				Pn	**Pn**	**23 35 43.9**	**+1.1**
	42nm,0.1s,SNR=7.9						
EQES				Lg	Lg	23 35 57.5	
	935nm,0.3s,SNR=36						
EQES	**Quesada**	**0.98**	**297**	Pg	**Pb**	**23 35 42.4**	**+0.5**
	7.7nm,0.1s,SNR=497						
EQES	**Quesada**	**0.98**	**297**	Pg	**Pb**	**23 35 42.4**	**+0.5**
EQUE	**Quentar**	**1.18**	**263**	⇑Pg	**Pn**	**23 35 45.1**	**-0.4**
	263nm,0.4s,SNR=18						
EQUE				Lg	Lg	23 36 02.7	
	806nm,0.6s,SNR=20						
EQUE	**Quentar**	**1.18**	**263**	Pg	**Pn**	**23 35 45.1**	**-0.4**
	263nm,0.4s,SNR=18						
EQUE				Lg	Lg	23 36 02.7	
	806nm,0.6s,SNR=20						
ETOB	**Tobarra**	**1.33**	**14**	⇓Pg	**Pn**	**23 35 48.9**	**+1.3**
	43nm,0.4s,SNR=18						
ETOB				Lg	Lg	23 36 06.8	
	647nm,0.3s,SNR=220						
ETOB	**Tobarra**	**1.33**	**14**	Pg	**Pn**	**23 35 48.9**	**+1.3**
	43nm,0.4s,SNR=18						
ETOB				Lg	Lg	23 36 06.8	
	647nm,0.3s,SNR=220						
ETOB	**Tobarra**	**1.33**	**14**	Pg	**Pn**	**23 35 48.9**	**+1.3**
SELV	**Sierra Elvira**	**1.41**	**266**	⇑Pg	**Pn**	**23 35 48.9**	**+0.3**
	22nm,0.4s,SNR=18						
SELV				Lg	Lg	23 36 10.6	
	803nm,0.8s,SNR=7.9						
SELV	**Sierra Elvira**	**1.41**	**266**	Pg	**Pn**	**23 35 48.9**	**+0.3**
	22nm,0.4s,SNR=18						
SELV				Lg	Lg	23 36 10.6	
	803nm,0.8s,SNR=7.9						
SELV	**Sierra Elvira**	**1.41**	**266**	Pg	**Pn**	**23 35 48.9**	**+0.3**
EGOR	**Sierra Gorda,**	**1.72**	**263**	Pn	**Pb**	**23 35 54.5**	**-0.1**
	1.0nm,0.2s,SNR=7.9						
EGOR				Pg	**Pg**	**23 35 56.9**	**+1.2**
	71nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	23 36 20.9	
	665nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.72**	**263**	Pn	**Pb**	**23 35 54.5**	**-0.1**
	1.0nm,0.2s,SNR=7.9						
AFON	**Font Roja**	**1.73**	**40**	Pn	**Pn**	**23 35 53.6**	**+0.6**
	1.0nm,0.2s,SNR=15						
AFON				Pg	**Pb**	**23 35 55.2**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
AFON				Lg	Lg	23 36 17.9	
	299nm,0.6s,SNR=9.6						
AFON	**Font Roja**	**1.73**	**40**	Pn	**Pn**	**23 35 53.6**	**+0.6**
	1.0nm,0.2s,SNR=15						
AFON				Lg	Lg	23 36 17.9	
	299nm,0.6s,SNR=9.6						
EMAL	**Malaga-Limoner**	**2.05**	**254**	*e*P	**Pb**	**23 35 59.9**	**-0.2**
MELI	**Melilla**	**2.20**	**201**	Pn	**Pn**	**23 36 00.1**	**+0.7**
MELI				Lg	Lg	23 36 31.4	
MELI	**Melilla**	**2.20**	**201**	*e*P	**Pn**	**23 36 00.1**	**+0.7**
MELI				*e*S	**Sb**	**23 36 31.4**	**+1.5**
EADA	**Adamuz**	**2.22**	**292**	Pn	**Pn**	**23 36 00.4**	**+0.7**
	46nm,0.3s,SNR=560						
EADA				Sn	**Sn**	**23 36 28.3**	**+0.9**
	50nm,0.3s,SNR=6.2						
EADA				Lg	Lg	23 36 34.3	
	637nm,0.4s,SNR=13						
EADA	**Adamuz**	**2.22**	**292**	Pn	**Pn**	**23 36 00.4**	**+0.7**
	46nm,0.3s,SNR=560						
EADA	**Adamuz**	**2.22**	**292**	Pg	**Pg**	**23 36 06.1**	**+1.0**
EADA				Sn	**Sn**	**23 36 28.3**	**+0.9**
	50nm,0.3s,SNR=6.2						
EADA				Lg	Lg	23 36 34.3	
	637nm,0.4s,SNR=13						
EADA	**Adamuz**	**2.22**	**292**	Pn	**Pn**	**23 36 00.4**	**+0.7**
EADA				Pg	**Pg**	**23 36 06.1**	**+1.0**
EADA				Sn	**Sn**	**23 36 28.3**	**+0.9**
EMIJ	**Mijas**	**2.38**	**252**	Pn	**Pn**	**23 36 01.8**	**-0.1**
	1.3nm,0.3s,SNR=25						
EMIJ				Pg	**Pb**	**23 36 05.6**	**-0.1**
	23nm,0.4s,SNR=11						
EMIJ				Lg	Lg	23 36 40.3	
	94nm,0.3s,SNR=6.2						
EMIJ	**Mijas**	**2.38**	**252**	Pn	**Pn**	**23 36 02.5**	**+0.6**
EMIJ	**Mijas**	**2.38**	**252**	Pg	**Pb**	**23 36 06.5**	**+0.8**
EMIJ				Lg	Lg	23 36 40.3	
	94nm,0.3s,SNR=6.2						
EMIJ	**Mijas**	**2.38**	**252**	Pn	**Pn**	**23 36 02.5**	**+0.6**
EMIJ				Pg	**Pb**	**23 36 06.5**	**+0.8**
EMIJ				Sn	**Sn**	**23 36 30.8**	**-0.5**
ESDC	**Sonseca Array**	**2.79**	**327**	Pn	**Pn**	**23 36 08.6**	**+1.0**
	11nm,0.3s,baz=141,slow=13,SNR=220						
ESDC				Pg	**Pb**	**23 36 15.2**	**+2.4**
	18nm,0.3s,baz=142,slow=17,SNR=26						
ESDC				Sn	**Sn**	**23 36 41.5**	**0.0**
	7.8nm,0.3s,baz=145,slow=27,SNR=10						
ESDC				Lg	Lg	23 36 53.0	
	17nm,0.1s,baz=141,slow=30,SNR=14						
ESDC	**Sonseca Array**	**2.79**	**327**	Pn	**Pn**	**23 36 08.6**	**+1.0**
	11nm,0.3s,SNR=220						
ESDC	**Sonseca Array**	**2.79**	**327**	Pg	**Pb**	**23 36 15.2**	**+2.4**
	18nm,0.3s,SNR=26						
ESDC				Sn	**Sn**	**23 36 41.5**	**0.0**
	7.8nm,0.3s,SNR=10						
ESDC				Lg	Lg	23 36 53.0	
	17nm,0.1s,SNR=14						
ESDC	**Sonseca Array**	**2.79**	**327**	Pn	**Pn**	**23 36 08.6**	**+1.0**
ESDC				Pg	**Pb**	**23 36 15.2**	**+2.4**
ECAB	**El Cabril**	**2.83**	**286**	⇓Pn	**Pn**	**23 36 08.6**	**+0.5**
	8.3nm,0.2s,SNR=18						
ECAB				Pg	**Pb**	**23 36 15.8**	**+2.5**
	36nm,0.3s,SNR=9.5						
ECAB				Sn	**Sn**	**23 36 42.5**	**+0.2**
	15nm,0.4s,SNR=31						
ECAB				Lg	Lg	23 36 52.4	
	335nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**2.83**	**286**	Pn	**Pn**	**23 36 08.6**	**+0.5**
	8.3nm,0.2s,SNR=18						
ECAB	**El Cabril**	**2.83**	**286**	Pg	**Pb**	**23 36 16.1**	**+2.8**
ECAB				Sn	**Sn**	**23 36 42.5**	**+0.2**
	15nm,0.4s,SNR=31						
ECAB				Lg	Lg	23 36 52.4	
	335nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**2.83**	**286**	Pn	**Pn**	**23 36 08.6**	**+0.5**
ECAB				Pg	**Pb**	**23 36 16.1**	**+2.8**
PAB	**San Pablo**	**2.88**	**320**	*e*Pn	**Pn**	**23 36 09.1**	**+0.3**
PAB	**San Pablo**	**2.88**	**320**	*e*Pn	**Pn**	**23 36 09.1**	**+0.3**
PAB				*e*Sn	**Sb**	**23 36 50.8**	**+1.2**
EJIF	**Jimena Fronter**	**2.94**	**253**	Pg	**Pb**	**23 36 16.9**	**+1.6**
	79nm,0.6s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.94**	**253**	Pg	**Pg**	**23 36 18.6**	**-0.4**
EJIF	**Jimena Fronter**	**2.94**	**253**	Pg	**Pg**	**23 36 18.6**	**-0.4**
EIBI	**Ibiza**	**3.10**	**56**	Pn	**Pn**	**23 36 12.5**	**+0.7**
	17nm,0.3s,SNR=20						
EIBI				Sn	**Sn**	**23 36 47.0**	**-2.0**
	46nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.10**	**56**	Pn	**Pn**	**23 36 12.5**	**+0.7**
	17nm,0.3s,SNR=20						
EIBI	**Ibiza**	**3.10**	**56**	Pn	**Pn**	**23 36 12.5**	**+0.7**
ESPR	**Espera**	**3.14**	**262**	Pn	**Pn**	**23 36 15.0**	**+2.6**
	3.4nm,0.3s,SNR=11						
ESPR				Pg	**Pg**	**23 36 21.9**	**-1.0**
	47nm,0.8s,SNR=11						
ESPR				Sn	**Sn**	**23 36 49.6**	**-0.4**
	24nm,0.3s,SNR=4.6						
ESPR				Lg	Lg	23 37 05.2	
	49nm,0.4s,SNR=4.0						
ESPR	**Espera**	**3.14**	**262**	Pn	**Pn**	**23 36 15.0**	**+2.6**
	3.4nm,0.3s,SNR=11						
ESPR	**Espera**	**3.14**	**262**	Pn	**Pn**	**23 36 15.0**	**+2.6**
ESPR				Pg	**Pg**	**23 36 21.9**	**-1.0**
EMOS	**Mosqueruela**	**3.23**	**21**	Pn	**Pn**	**23 36 14.3**	**+0.6**
	9.1nm,0.7s,SNR=9.2						
EMOS				Pg	**Pg**	**23 36 25.1**	**+0.7**
	26nm,0.5s,SNR=7.9						
EMOS				Lg	Lg	23 37 05.4	
	267nm,0.9s,SNR=5.0						
EMOS	**Mosqueruela**	**3.23**	**21**	Pn	**Pn**	**23 36 14.3**	**+0.6**
	9.1nm,0.7s,SNR=9.2						
EMOS	**Mosqueruela**	**3.23**	**21**	Pn	**Pn**	**23 36 13.4**	**-0.2**
GUD	**Guadarrama**	**3.70**	**333**	Pn	**Pn**	**23 36 20.5**	**+0.4**
	3.7nm,0.3s,SNR=17						
GUD				Pg	**Pg**	**23 36 33.1**	**-0.3**
	30nm,0.5s,SNR=19						
GUD				Sn	**Sn**	**23 37 02.2**	**-1.7**
	7.9nm,0.2s,SNR=6.3						
GUD				Lg	Lg	23 37 20.2	
	99nm,0.4s,SNR=5.0						
GUD	**Guadarrama**	**3.70**	**333**	Pn	**Pn**	**23 36 20.5**	**+0.4**
	3.7nm,0.3s,SNR=17						
GUD	**Guadarrama**	**3.70**	**333**	Pn	**Pn**	**23 36 20.5**	**+0.4**
GUD				Pg	**Pg**	**23 36 33.1**	**-0.3**
EMIN	**Mina Concepcio**	**3.76**	**278**	Pn	**Pn**	**23 36 21.5**	**+0.7**
	5.4nm,0.3s,SNR=61						
EMIN				Pg	**Pg**	**23 36 33.2**	**-1.4**
	8.7nm,0.3s,SNR=8.8						
EMIN				Sn	**Sn**	**23 37 04.6**	**-0.7**
	29nm,0.3s,SNR=82						
EMIN				Lg	Lg	23 37 20.1	
	86nm,0.4s,SNR=5.0						
EMIN	**Mina Concepcio**	**3.76**	**278**	Pn	**Pn**	**23 36 21.5**	**+0.7**
	5.4nm,0.3s,SNR=61						
EMIN	**Mina Concepcio**	**3.76**	**278**	Pn	**Pn**	**23 36 21.5**	**+0.7**
EMIN				Pg	**Pg**	**23 36 33.2**	**-1.4**
ERTA	**Horta de San J**	**4.02**	**26**	Pn	**Pn**	**23 36 26.4**	**+2.0**
	5.6nm,0.3s,SNR=10						
ERTA				Pg	**Pb**	**23 36 35.2**	**+1.5**
	6.4nm,0.3s,SNR=8.7						
ERTA				Sn	**Sn**	**23 37 10.4**	**-1.3**
	6.8nm,0.3s,SNR=7.9						
ERTA				Lg	Lg	23 37 28.0	
	11nm,0.4s,SNR=5.0						
ERTA	**Horta de San J**	**4.02**	**26**	Pn	**Pn**	**23 36 26.4**	**+2.0**
	5.6nm,0.3s,SNR=10						
ERTA				Lg	Lg	23 37 28.0	
	11nm,0.4s,SNR=5.0						
ERTA	**Horta de San J**	**4.02**	**26**	Pn	**Pn**	**23 36 26.4**	**+2.0**
ERTA				Pg	**Pb**	**23 36 35.2**	**+1.5**
PBAR	**Barrancos**	**4.10**	**283**	*e*Pn	**Pn**	**23 36 26.3**	**+0.8**
PBAR				*e*Sn	**Sn**	**23 37 12.9**	**-0.7**
PBAR				*e*Sg	**Sg**	**23 37 32.1**	**-2.1**
PBAR				A	A	23 37 35.8	
	151nm,0.4s						
PBAR	**Barrancos**	**4.10**	**283**	Pn	**Pn**	**23 36 26.3**	**+0.8**
PBAR				Sn	**Sn**	**23 37 12.9**	**-0.7**
PBAR				Lg	Lg	23 37 32.1	
	151nm,0.4s						
PBAR	**Barrancos**	**4.10**	**283**	Pn	**Pn**	**23 36 26.3**	**+0.8**
PBAR				Sn	**Sn**	**23 37 12.9**	**-0.7**
PBAR				*e*Sg	**Sg**	**23 37 32.1**	**-2.1**
	151nm,0.4s						
EPLA	**Plasencia**	**4.20**	**311**	Pn	**Pn**	**23 36 27.9**	**+0.9**
	3.4nm,0.3s,SNR=22						
EPLA				Pg	**Pb**	**23 36 40.5**	**+3.7**
	18nm,0.4s,SNR=12						
EPLA				Sn	**Sn**	**23 37 15.9**	**-0.3**
	3.2nm,0.4s,SNR=9.1						
EPLA				Lg	Lg	23 37 36.0	
	60nm,0.4s,SNR=5.0						
EPLA	**Plasencia**	**4.20**	**311**	Pn	**Pn**	**23 36 27.9**	**+0.9**
	3.4nm,0.3s,SNR=22						
EPLA	**Plasencia**	**4.20**	**311**	Pn	**Pn**	**23 36 27.9**	**+0.9**
EPLA				Pg	**Pb**	**23 36 40.5**	**+3.7**
EBAD	**Badajoz**	**4.22**	**291**	⇑Pn	**Pn**	**23 36 27.6**	**+0.4**
	9.3nm,0.3s,SNR=18						
EBAD				Pg	**Pb**	**23 36 38.7**	**+1.7**
	9.5nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**23 37 15.1**	**-1.5**
	18nm,0.2s,SNR=6.8						
EBAD				Lg	Lg	23 37 36.8	
	135nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**4.22**	**291**	Pn	**Pn**	**23 36 27.6**	**+0.4**
	9.3nm,0.3s,SNR=18						
EBAD				Sn	**Sn**	**23 37 15.1**	**-1.5**
	18nm,0.2s,SNR=6.8						
EBAD				Lg	Lg	23 37 36.8	
	135nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**4.22**	**291**	Pn	**Pn**	**23 36 27.8**	**+0.6**
EGRO	**El Granado**	**4.39**	**274**	Pn	**Pn**	**23 36 30.3**	**+0.8**
	7.2nm,0.3s,SNR=20						
EGRO				Sn	**Sn**	**23 37 20.1**	**-0.7**
	10nm,0.2s,SNR=9.1						
EGRO				Lg	Lg	23 37 41.1	
	28nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**4.39**	**274**	Pn	**Pn**	**23 36 30.3**	**+0.8**
	7.2nm,0.3s,SNR=20						
EGRO				Sn	**Sn**	**23 37 20.1**	**-0.7**
	10nm,0.2s,SNR=9.1						
EGRO				Lg	Lg	23 37 41.2	
	28nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**4.39**	**274**	Pn	**Pn**	**23 36 30.3**	**+0.8**
ETOS	**Mallorca**	**4.46**	**56**	Pn	**Pn**	**23 36 31.4**	**+0.9**
	15nm,0.6s,SNR=20						
ETOS				Sn	**Sn**	**23 37 19.9**	**-2.7**
	2.0nm,0.4s,SNR=5.3						
ETOS	**Mallorca**	**4.46**	**56**	Pn	**Pn**	**23 36 31.9**	**+1.4**
ETOS	**Mallorca**	**4.46**	**56**	Pn	**Pn**	**23 36 31.9**	**+1.4**
ESAC	**San Caprasio**	**4.51**	**14**	Pn	**Pn**	**23 36 32.6**	**+1.3**
	13nm,0.3s,SNR=4.7						
ESAC				Pg	**Pb**	**23 36 45.0**	**+2.9**
	33nm,0.3s,SNR=11						
ESAC				Sn	**Sn**	**23 37 21.3**	**-2.7**
	41nm,0.4s,SNR=6.7						
ESAC				Lg	Lg	23 37 45.9	
	74nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**4.51**	**14**	Pn	**Pn**	**23 36 32.6**	**+1.3**
	13nm,0.3s,SNR=4.7						
ESAC				Lg	Lg	23 37 45.9	
	74nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**4.51**	**14**	Pn	**Pn**	**23 36 32.6**	**+1.3**
ESAC				Pg	**Pb**	**23 36 45.0**	**+2.9**
ESAC				Sn	**Sn**	**23 37 21.3**	**-2.7**
PVAQ	**Vaqueiros**	**4.58**	**272**	*e*Pn	**Pn**	**23 36 32.6**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 37 24.3**	**-1.1**
PVAQ				A	A	23 37 55.7	
	38nm,0.7s						
PVAQ	**Vaqueiros**	**4.58**	**272**	Pn	**Pn**	**23 36 32.6**	**+0.5**
PVAQ				Sn	**Sn**	**23 37 24.3**	**-1.1**
	38nm,0.7s						
PVAQ	**Vaqueiros**	**4.58**	**272**	Pn	**Pn**	**23 36 32.6**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 37 24.3**	**-1.1**
	38nm,0.7s						
EPOB	**Poblet**	**4.64**	**30**	Pn	**Pn**	**23 36 34.2**	**+1.2**
	2.8nm,0.3s,SNR=6.5						
EPOB				Sn	**Sn**	**23 37 24.7**	**-2.4**
	2.7nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**4.64**	**30**	Pn	**Pn**	**23 36 34.2**	**+1.2**
	2.8nm,0.3s,SNR=6.5						
EPOB	**Poblet**	**4.64**	**30**	Pn	**Pn**	**23 36 34.2**	**+1.2**
EPOB				Sn	**Sn**	**23 37 24.7**	**-2.4**
PESTR	**Estremoz**	**4.68**	**291**	*e*Pn	**Pn**	**23 36 34.5**	**+0.9**
PESTR				*e*Sn	**Sn**	**23 37 26.8**	**-1.3**
PESTR				*e*Sg	**Sg**	**23 37 50.6**	**-2.4**
PESTR				A	A	23 38 00.1	
	85nm,0.5s						
PESTR	**Estremoz**	**4.68**	**291**	*e*Pn	**Pn**	**23 36 34.5**	**+0.9**
PEST

39nm,0.5s
EVO Evora 4.92 286 ePn **Pn 23 36 37.8 +1.0**
EVO eSn **Sn 23 37 33.8 -0.1**
EVO eSg **Sg 23 37 57.3 -3.2**
EVO A A 23 38 07.5
68nm,0.6s
EVO Evora 4.92 286 Pn **Pn 23 36 37.8 +1.0**
EVO Sn **Sn 23 37 33.8 -0.1**
EVO Lg Lg 23 37 57.3
68nm,0.6s
EVO Evora 4.92 286 Pn **Pn 23 36 37.8 +1.0**
EVO Sn **Sn 23 37 33.8 -0.1**
EVO eSg **Sg 23 37 57.3 -3.2**
68nm,0.6s
PCBR Castelo Branco 4.98 302 ePn **Pn 23 36 38.4 +0.8**
PCBR eSn **Sn 23 37 33.9 -1.4**
PCBR eSg **Sg 23 38 00.3 -2.1**
PCBR A A 23 38 10.1
74nm,0.7s
PCBR Castelo Branco 4.98 302 Pn **Pn 23 36 38.4 +0.8**
PCBR Sn **Sn 23 37 33.9 -1.4**
PCBR Lg Lg 23 38 00.3
37nm,0.7s
PCBR Castelo Branco 4.98 302 Pn **Pn 23 36 38.4 +0.8**
PCBR Sn **Sn 23 37 33.9 -1.4**
PCBR eSg **Sg 23 38 00.3 -2.1**
74nm,0.7s
PMTG Montargil 5.21 291 ePn **Pn 23 36 41.8 +1.0**
PMTG eSn **Sn 23 37 40.0 -1.1**
PMTG eSg **Sg 23 38 06.1 -3.9**
PMTG A A 23 38 13.0
56nm,0.4s
PMTG Montargil 5.21 291 ePn **Pn 23 36 41.8 +1.0**
PMTG eSn **Sn 23 37 40.0 -1.1**
PMTG eSg **Sg 23 38 06.1 -3.9**
56nm,0.4s
PNCL Nicolau / Gran 5.25 280 ePn **Pn 23 36 42.2 +0.8**
PNCL eSn **Sn 23 37 41.2 -0.9**
PNCL eSg **Sg 23 38 08.3 -3.0**
PNCL A A 23 38 11.7
38nm,0.4s
PNCL Nicolau / Gran 5.25 280 ePn **Pn 23 36 42.2 +0.8**
PNCL eSn **Sn 23 37 41.2 -0.9**
PNCL eSg **Sg 23 38 08.3 -3.0**
38nm,0.4s
EMIR Miracle 5.29 30 Pn **Pn 23 36 42.9 +0.9**
11nm,0.5s,SNR=7.9
EMIR Miracle 5.29 30 Pn **Pn 23 36 42.9 +0.9**
11nm,0.5s,SNR=7.9
EMIR Miracle 5.29 30 Pn **Pn 23 36 42.9 +0.9**
MTE Manteigas 5.31 307 ePn **Pn 23 36 43.5 +1.3**
MTE eSn **Sn 23 37 43.1 -0.4**
MTE eSg **Sg 23 38 09.9 -3.1**
MTE A A 23 38 16.0
74nm,0.6s
MTE Manteigas 5.31 307 Pn **Pn 23 36 43.5 +1.3**
MTE Sn **Sn 23 37 43.1 -0.4**
MTE Lg Lg 23 38 09.9
37nm,0.6s
MTE Manteigas 5.31 307 Pn **Pn 23 36 43.5 +1.3**
MTE Sn **Sn 23 37 43.1 -0.4**
MTE eSg **Sg 23 38 09.9 -3.1**
74nm,0.6s
MORF Marmelete 5.32 272 eP **Pn 23 36 42.5 +0.1**
MORF Marmelete 5.32 272 ePn **Pn 23 36 43.4 +1.0**
MORF eSn **Sn 23 37 42.3 -1.6**
MORF A A 23 38 23.4
24nm,0.5s
MORF Marmelete 5.32 272 Pn **Pn 23 36 43.4 +1.0**
MORF Sn **Sn 23 37 42.3 -1.6**
24nm,0.5s
MORF Marmelete 5.32 272 Pn **Pn 23 36 43.4 +1.0**
MORF eSn **Sn 23 37 42.3 -1.6**
24nm,0.5s
MVO Moncorvo 5.47 316 ePn **Pn 23 36 45.5 +1.1**
MVO eSn **Sn 23 37 46.0 -1.5**
MVO eSg **Sg 23 38 14.5 -3.6**
MVO A A 23 38 36.3
60nm,0.5s
MVO Moncorvo 5.47 316 Pn **Pn 23 36 45.5 +1.1**
3.9nm,0.3s,SNR=16
MVO Sn **Sn 23 37 45.4 -2.1**
2.9nm,0.2s,SNR=7.9
MVO Lg Lg 23 38 15.8
137nm,0.7s,SNR=7.9
MVO Moncorvo 5.47 316 Pn **Pn 23 36 45.5 +1.1**
3.9nm,0.3s,SNR=16
MVO eSn **Sn 23 37 46.0 -1.5**
MVO eSg **Sg 23 38 14.5 -3.6**
60nm,0.5s
MVO Lg Lg 23 38 15.8
137nm,0.7s,SNR=7.9
MVO Moncorvo 5.47 316 Pn **Pn 23 36 45.5 +1.1**
PFVI Vila Bisbo 5.47 270 ePn **Pn 23 36 46.0 +1.6**
PFVI eSn **Sn 23 37 45.7 -1.9**
PFVI A A 23 38 29.3
30nm,0.5s
PFVI Vila Bisbo 5.47 270 Pn **Pn 23 36 45.5 +1.1**
2.7nm,0.2s,SNR=6.2
PFVI Sn **Sn 23 37 45.3 -2.2**
26nm,0.3s,SNR=7.9
PFVI Vila Bisbo 5.47 270 Pn **Pn 23 36 45.5 +1.1**
2.7nm,0.2s,SNR=6.2
PFVI eSn **Sn 23 37 45.7 -1.9**
30nm,0.5s
PFVI Vila Bisbo 5.47 270 Pn **Pn 23 36 45.5 +1.1**
IELO Elcoad 5.51 6 Pn **Pn 23 36 47.6 +2.6**
11nm,0.6s,SNR=7.9
IELO Pg **Pb 23 36 58.4 -0.7**
21nm,0.9s,SNR=7.9
IELO Elcoad 5.51 6 Pn **Pn 23 36 47.6 +2.6**
11nm,0.6s,SNR=7.9
PTOM Tomar 5.54 296 ePn **Pn 23 36 46.4 +1.2**
PTOM eSn **Sn 23 37 47.8 -1.2**
PTOM A A 23 38 29.2
93nm,0.7s
PTOM Tomar 5.54 296 Pn **Pn 23 36 46.4 +1.2**
PTOM Sn **Sn 23 37 47.8 -1.2**
47nm,0.7s
PTOM Tomar 5.54 296 Pn **Pn 23 36 46.4 +1.2**
PTOM eSn **Sn 23 37 47.8 -1.2**
93nm,0.7s
CSOR Sort 5.55 24 Pn **Pn 23 36 47.4 +1.8**
2.9nm,0.6s,SNR=15
CSOR Sort 5.55 24 Pn **Pn 23 36 47.4 +1.8**
2.9nm,0.6s,SNR=15
CSOR Sort 5.55 24 Pn **Pn 23 36 47.4 +1.8**
EORO Oroz-Betelu 5.56 5 ⇑Pn **Pn 23 36 48.4 +2.8**
16nm,0.3s,SNR=18
EORO Sn **Sn 23 37 47.0 -2.7**
18nm,0.6s,SNR=6.0
EORO Lg Lg 23 38 19.4
242nm,1.5s,SNR=7.9
EORO Oroz-Betelu 5.56 5 Pn **Pn 23 36 48.4 +2.8**
16nm,0.3s,SNR=18
EORO Sn **Sn 23 37 47.0 -2.7**
18nm,0.6s,SNR=6.0
EORO Lg Lg 23 38 19.4
242nm,1.5s,SNR=7.9
CFON Fontmartina 5.56 36 Pn **Pn 23 36 45.6 -0.1**
2μm,3.6s,SNR=7.9
CFON Sn **Sn 23 37 46.8 -3.1**
20nm,0.8s,SNR=7.9
CFON Fontmartina 5.56 36 Pn **Pn 23 36 45.6 -0.1**
2μm,3.6s,SNR=7.9
CFON Fontmartina 5.56 36 Pn **Pn 23 36 45.6 -0.1**
CFON Sn **Sn 23 37 46.8 -3.1**
ETSF Etsaut 5.64 11 ePn **Pn 23 36 49.2 +2.4**
ETSF eSn **Sn 23 37 49.5 -2.3**
ETSF eSg **Sg 23 38 22.0 -1.8**
51nm,0.9s
ETSF Etsaut 5.64 11 Pn **Pn 23 36 49.2 +2.4**
ETSF Sn **Sn 23 37 49.5 -2.3**
ETSF Lg Lg 23 38 22.0
26nm,0.9s
ETSF Etsaut 5.64 11 Pn **Pn 23 36 49.2 +2.4**
ETSF Sn **Sn 23 37 49.5 -2.3**
ETSF eSg **Sg 23 38 22.0 -1.8**
26nm,0.9s
PVIS Viseu 5.70 308 ePn **Pn 23 36 48.5 +0.9**
PVIS eSn **Sn 23 37 51.9 -1.4**
PVIS eSg **Sg 23 38 24.4 -1.3**
PVIS A A 23 38 38.5
37nm,0.7s
PVIS Viseu 5.70 308 Pn **Pn 23 36 48.5 +0.9**
PVIS Sn **Sn 23 37 51.9 -1.4**
PVIS Lg Lg 23 38 24.4
18nm,0.7s
PVIS Viseu 5.70 308 Pn **Pn 23 36 48.5 +0.9**
PVIS Sn **Sn 23 37 51.9 -1.4**
PVIS eSg **Sg 23 38 24.4 -1.3**
37nm,0.7s
PBRG Braganca 5.77 322 ePn **Pn 23 36 50.0 +1.4**
PBRG eSn **Sn 23 37 53.3 -1.7**
PBRG eSg **Sg 23 38 24.1 -3.8**
PBRG A A 23 38 35.3
31nm,0.7s
PBRG Braganca 5.77 322 Pn **Pn 23 36 50.0 +1.4**
PBRG Sn **Sn 23 37 53.3 -1.7**
PBRG Lg Lg 23 38 24.1
16nm,0.7s
PBRG Braganca 5.77 322 Pn **Pn 23 36 50.0 +1.4**
PBRG Sn **Sn 23 37 53.3 -1.7**
PBRG eSg **Sg 23 38 24.1 -3.8**
31nm,0.7s
PCAS Casmilo, Conde 5.77 300 ePn **Pn 23 36 49.8 +1.3**
PCAS eSn **Sn 23 37 53.2 -1.7**
PCAS eSg **Sg 23 38 26.3 -1.6**
PCAS A A 23 38 32.9
84nm,0.6s
PCAS Casmilo, Conde 5.77 300 ePn **Pn 23 36 49.8 +1.3**
PCAS eSn **Sn 23 37 53.2 -1.7**
PCAS eSg **Sg 23 38 26.3 -1.6**
84nm,0.6s
SJPF Ste Jean 5.78 5 ePn **Pn 23 36 51.2 +2.6**
SJPF eSn **Sn 23 37 52.6 -2.5**
SJPF eSg **Sg 23 38 26.4 -1.8**
73nm,1.0s
SJPF Ste Jean 5.78 5 Pn **Pn 23 36 51.2 +2.6**
SJPF Sn **Sn 23 37 52.6 -2.5**
SJPF Lg Lg 23 38 26.4
37nm,1.0s
SJPF Ste Jean 5.78 5 Pn **Pn 23 36 51.2 +2.6**
SJPF Sn **Sn 23 37 52.6 -2.5**
SJPF eSg **Sg 23 38 26.4 -1.8**
37nm,1.0s
COI Coimbra 5.78 301 Pn **Pn 23 36 50.2 +1.6**
COI Sn **Sn 23 37 53.9 -1.2**
13nm,0.3s
COI Lg Lg 23 38 27.5
COI Coimbra 5.78 301 Pn **Pn 23 36 50.2 +1.6**
COI eSn **Sn 23 37 53.9 -1.2**
26nm,0.3s
COI eSg **Sg 23 38 27.5 -0.8**
ATE Arette 5.81 9 Pn **Pn 23 36 51.5 +2.5**
1.5nm,0.2s,SNR=7.9
ATE Lg Lg 23 38 25.9
25nm,0.8s,SNR=7.9
ATE Arette 5.81 9 Pn **Pn 23 36 51.5 +2.5**
1.5nm,0.2s,SNR=7.9
ATE Lg Lg 23 38 25.9
25nm,0.8s,SNR=7.9
ATE Arette 5.81 9 Pn **Pn 23 36 51.5 +2.5**
PMST Lisbon--Monsan 5.86 286 eSn **Sn 23 37 56.7 -0.3**
PMST A A 23 38 40.3
43nm,1.0s
PMST Lisbon--Monsan 5.86 286 eSn **Sn 23 37 56.7 -0.3**
43nm,1.0s
EALK Alkurruntz 5.87 3 Pn **Pn 23 36 52.9 +3.0**
12nm,0.4s,SNR=35
EALK Lg Lg 23 38 27.3
257nm,1.2s,SNR=7.9
EALK Alkurruntz 5.87 3 Pn **Pn 23 36 52.9 +3.0**
12nm,0.4s,SNR=35
EALK Lg Lg 23 38 27.3
257nm,1.2s,SNR=7.9
EALK Alkurruntz 5.87 3 Pn **Pn 23 36 52.9 +3.0**
ECAL Calabor 5.87 323 Pn **Pn 23 36 51.8 +1.8**
5.3nm,0.2s,SNR=6.9
ECAL Sn **Sn 23 37 55.2 -2.3**
5.1nm,0.5s,SNR=7.9
ECAL Lg Lg 23 38 28.5
46nm,0.4s,SNR=7.9
ECAL Calabor 5.87 323 Pn **Pn 23 36 51.8 +1.8**
5.3nm,0.2s,SNR=6.9
ECAL Sn **Sn 23 37 55.2 -2.3**
5.1nm,0.5s,SNR=7.9
ECAL Lg Lg 23 38 28.5
46nm,0.4s,SNR=7.9
ECAL Calabor 5.87 323 Pn **Pn 23 36 52.5 +2.5**
PVRL Vila Real 5.93 313 ePn **Pn 23 36 50.9 +0.2**
PVRL eSn **Sn 23 37 57.5 -1.4**
PVRL eSg **Sg 23 38 33.5 +0.5**
PVRL A A 23 38 39.4
30nm,0.5s
PVRL Vila Real 5.93 313 Pn **Pn 23 36 50.9 +0.2**
PVRL Sn **Sn 23 37 57.5 -1.4**
PVRL Lg Lg 23 38 33.5
15nm,0.5s
PVRL Vila Real 5.93 313 Pn **Pn 23 36 50.9 +0.2**
PVRL Sn **Sn 23 37 57.5 -1.4**
PVRL Lg Lg 23 38 33.5
15nm,0.5s
EPF Esparros 5.94 17 ePn **Pn 23 36 53.0 +2.1**
EPF eSn **Sn 23 37 56.3 -2.8**
EPF eSg **Sg 23 38 31.6 -1.7**
52nm,0.9s
EPF Esparros 5.94 17 Pn **Pn 23 36 53.0 +2.1**
EPF Sn **Sn 23 37 56.3 -2.8**
EPF Lg Lg 23 38 31.6
26nm,0.9s
EPF Esparros 5.94 17 Pn **Pn 23 36 53.0 +2.1**
EPF eSg **Sg 23 38 31.6 -1.7**
26nm,0.9s
CLLI Llivia 5.95 29 Pn **Pn 23 36 53.2 +2.1**
871nm,4.0s,SNR=7.9
CLLI Llivia 5.95 29 Pn **Pn 23 36 53.2 +2.1**
871nm,4.0s,SNR=7.9
CLLI Llivia 5.95 29 Pn **Pn 23 36 50.8 -0.3**
ELAN Lanestosa 5.98 350 Pn **Pn 23 36 53.6 +2.3**
2.3nm,0.2s,SNR=14
ELAN Sn **Sn 23 37 57.0 -3.0**
0.8nm,0.4s,SNR=5.5
ELAN Lg Lg 23 38 32.3
76nm,0.9s,SNR=7.9
ELAN Lanestosa 5.98 350 Pn **Pn 23 36 53.6 +2.3**
2.3nm,0.2s,SNR=14
ELAN Sn **Sn 23 37 57.0 -3.0**
0.8nm,0.4s,SNR=5.5
ELAN Lg Lg 23 38 32.3
76nm,0.9s,SNR=7.9
ELAN Lanestosa 5.98 350 Pn **Pn 23 36 53.6 +2.3**
ELAN Sn **Sn 23 37 57.0 -3.0**
PMAFR Mafra 5.98 288 ePn **Pn 23 36 53.1 +1.7**
PMAFR eSn **Sn 23 37 58.6 -1.4**
PMAFR eSg **Sg 23 38 35.0 +0.4**
PMAFR A A 23 38 52.2
55nm,0.7s
PMAFR Mafra 5.98 288 Pn **Pn 23 36 52.4 +1.0**
21nm,0.3s,SNR=12
PMAFR Sn **Sn 23 37 57.7 -2.3**
126nm,0.5s,SNR=7.9
PMAFR Lg Lg 23 38 35.2
571nm,1.0s,SNR=7.9
PMAFR Mafra 5.98 288 Pn **Pn 23 36 52.4 +1.0**
21nm,0.3s,SNR=12
PMAFR eSn **Sn 23 37 58.6 -1.4**
PMAFR Lg Lg 23 38 35.2
571nm,1.0s,SNR=7.9
PMAFR Mafra 5.98 288 Pn **Pn 23 36 53.1 +1.7**
POLO Lamas de Olo 6.04 313 ePn **Pn 23 36 53.6 +1.3**
POLO eSn **Sn 23 38 00.0 -1.6**
POLO eSg **Sg 23 38 35.3 -1.2**
POLO A A 23 38 45.6
18nm,0.5s
POLO Lamas de Olo 6.04 313 ePn **Pn 23 36 53.6 +1.3**
POLO eSn **Sn 23 38 00.0 -1.6**
POLO eSg **Sg 23 38 35.3 -1.2**
18nm,0.5s
EARI Arriondas 6.43 338 Pn **Pn 23 36 59.5 +1.8**
0.7nm,0.2s,SNR=19
EARI Sn **Sn 23 38 08.4 -2.9**
0.7nm,0.4s,SNR=11
EARI Lg Lg 23 38 46.0
226nm,2.3s,SNR=7.9
EARI Arriondas 6.43 338 Pn **Pn 23 36 59.5 +1.8**
0.7nm,0.2s,SNR=19
EARI Sn **Sn 23 38 08.4 -2.9**
0.7nm,0.4s,SNR=11
EARI Lg Lg 23 38 46.0
226nm,2.3s,SNR=7.9
EARI Arriondas 6.43 338 Pn **Pn 23 36 59.5 +1.8**
EARI Sn **Sn 23 38 08.4 -2.9**
ELOB Lobios 6.51 316 Pn **Pn 23 36 59.2 +0.4**
0.3nm,0.1s,SNR=5.7
ELOB Sn **Sn 23 38 09.9 -3.4**
2.6nm,0.3s,SNR=7.9
ELOB Lg Lg 23 38 50.0
229nm,1.4s,SNR=7.9
ELOB Lobios 6.51 316 Pn **Pn 23 36 59.2 +0.4**
0.3nm,0.1s,SNR=5.7
ELOB Sn **Sn 23 38 09.9 -3.4**
2.6nm,0.3s,SNR=7.9
ELOB Lg Lg 23 38 50.0
229nm,1.4s,SNR=7.9
ELOB Lobios 6.51 316 Pn **Pn 23 36 59.2 +0.4**
PGAV Gavieira, Arco 6.69 315 ePn **Pn 23 37 02.1 +0.8**
PGAV eSn **Sn 23 38 15.6 -2.1**
PGAV eSg **Sg 23 38 55.3 -2.2**
PGAV A A 23 39 04.9
26nm,0.6s
PGAV Gavieira, Arco 6.69 315 ePn **Pn 23 37 02.1 +0.8**
PGAV eSn **Sn 23 38 15.6 -2.1**
PGAV eSg **Sg 23 38 55.3 -2.2**
26nm,0.6s
MTLF Montolieu 6.78 27 eP Pn 23 37 07.7 +5.3
MTLF Montolieu 6.78 27 Pn Pn 23 37 07.7 +5.3
EPON Pontenova 7.16 328 Pn **Pn 23 37 09.4 +1.9**
0.9nm,0.1s,SNR=5.3
EPON Lg Lg 23 39 08.5
63nm,1.1s,SNR=7.9
EPON Pontenova 7.16 328 Pn **Pn 23 37 09.4 +1.9**
0.9nm,0.1s,SNR=5.3
EPON Lg Lg 23 39 08.5
63nm,1.1s,SNR=7.9
EPON Pontenova 7.16 328 Pn **Pn 23 37 09.4 +1.9**
EAGO Agolada(Pontev 7.18 321 Pn **Pn 23 37 08.9 +1.0**
0.2nm,0.2s,SNR=7.9
EAGO Sn **Sn 23 38 26.3 -3.3**
2.0nm,0.3s,SNR=7.9
EAGO Lg Lg 23 39 09.3
34nm,0.7s,SNR=7.9
EAGO Agolada(Pontev 7.18 321 Pn **Pn 23 37 08.9 +1.0**
0.2nm,0.2s,SNR=7.9
EAGO Sn **Sn 23 38 26.3 -3.3**
2.0nm,0.3s,SNR=7.9
EAGO Lg Lg 23 39 09.3
34nm,0.7s,SNR=7.9
EMAZ Mazaricos 7.75 318 Lg Lg 23 39 32.1
117nm,1.3s,SNR=7.9
EMAZ Mazaricos 7.75 318 Lg Lg 23 39 32.1
117nm,1.3s,SNR=7.9
LFF La Frestale 7.85 14 ePn **Pn 23 37 18.3 +1.3**
LFF La Frestale 7.85 14 Pn **Pn 23 37 18.3 +1.3**
LFF La Frestale 7.85 14 Pn **Pn 23 37 18.3 +1.3**
CAF Calviac 8.15 21 ePn **Pn 23 37 23.1 +1.9**
CAF eSn **Sn 23 38 49.1 -4.4**
1.0nm,0.3s
CAF Calviac 8.15 21 Pn **Pn 23 37 23.1 +1.9**
CAF Sn **Sn 23 38 49.1 -4.4**
0.0nm,0.3s
CAF Calviac 8.15 21 Pn **Pn 23 37 23.1 +1.9**
VSL Villasalto 9.16 73 ePn **Pn 23 37 34.5 -0.6**
MFF Saint Martin d 9.34 8 ePn **Pn 23 37 38.5 +1.1**
MFF Saint Martin d 9.34 8 Pn **Pn 23 37 38.5 +1.1**
MFF Saint Martin d 9.34 8 Pn **Pn 23 37 38.5 +1.1**
TCF Toulx Ste Croi 9.46 18 ePn **Pn 23 37 39.7 +0.6**
TCF Toulx Ste Croi 9.46 18 Pn **Pn 23 37 39.7 +0.6**
TCF Toulx Ste Croi 9.46 18 Pn **Pn 23 37 39.7 +0.6**
PGF Pioggiola 9.89 55 eP **Pn 23 37 48.8 +3.7**
PGF Pioggiola 9.89 55 Pn **Pn 23 37 48.8 +3.7**
PGF Pioggiola 9.89 55 Pn **Pn 23 37 48.8 +3.7**
QUIF Quistinic 10.59 356 ePn **Pn 23 37 55.8 +1.2**
QUIF Quistinic 10.59 356 Pn **Pn 23 37 55.8 +1.2**
QUIF Quistinic 10.59 356 Pn **Pn 23 37 55.8 +1.2**
SGMF Saint Gilles 10.90 358 ePn **Pn 23 37 59.7 +0.9**
SGMF Saint Gilles 10.90 358 Pn **Pn 23 37 59.7 +0.9**
SGMF Saint Gilles 10.90 358 Pn **Pn 23 37 59.7 +0.9**
CABF La Chapelle 11.02 30 ePn **Pn 23 38 00.7 +0.2**
CABF La Chapelle 11.02 30 Pn **Pn 23 38 00.7 +0.2**
CABF La Chapelle 11.02 30 Pn **Pn 23 38 00.7 +0.2**
ROSF Rostrenen 11.02 355 ePn **Pn 23 38 01.4 +1.0**
ROSF Rostrenen 11.02 355 Pn **Pn 23 38 01.4 +1.0**
ROSF Rostrenen 11.02 355 Pn **Pn 23 38 01.4 +1.0**
GRR Gorron 11.06 4 ePn **Pn 23 38 01.3 +0.3**
GRR Gorron 11.06 4 Pn **Pn 23 38 01.3 +0.3**
GRR Gorron 11.06 4 Pn **Pn 23 38 01.3 +0.3**
LDF La Druitiere 11.31 6 ePn **Pn 23 38 05.1 +0.6**
LDF La Druitiere 11.31 6 ePn **Pn 23 38 05.1 +0.6**
KECS Kecovo 19.78 49 eP **Pn 23 39 55.7 +1.2**
KECS Kecovo 19.78 49 eP **Pn 23 39 55.7 +1.2**

IDC 24 23:38:04.9±3.0, 4°.57N×127°.18E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, Error ellipse: s-maj=260.0km s-min=26.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.36**	**164**	P	P	23 43 34.1	+0.3
	0.9nm,0.4s,baz=345,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**28.82**	**167**	P	P	23 44 04.7	-0.3
	0.4nm,0.6s,baz=335,slow=6.8,SNR=5.6						
MKAR	**Makanchi Array**	**57.12**	**325**	P	P	23 47 53.3	0.0
	0.7nm,1.0s,baz=114,slow=7.9,SNR=3.2						

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*DDA **24** 23:39:42.3, 38°.77N×43°.62E, h7km, Ml2.9*
*CSEM **24** 23:39:43.8±0.3, 38°.80N×43°.45E, h10km, MD2.8, Error ellipse: s-maj=12.1km s-min=4.6km az=89.0*
*ISK **24** 23:39:43.8, 38°.72N×43°.31E, h9km, MD2.8*
*ISCJB **24** 23:39:44.4±0.7, 38°.81N±0°.02×43°.43E±0°.08, h11km±5km, Error ellipse: s-maj=11.0km s-min=4.1km az=177.6*
ISC 24 23:39:42.7±1.2, 38°.80N±0°.02×43°.60E±0°.05, h12km±8km, n28, σ1°24/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**		**0.26 219**	*e*PG	**Pg**	**23 39 47.8**	**-0.5**
VANB				*e*SG	**Sg**	**23 39 52.7**	**+0.7**
VANB	**Van**		**0.26 219**	*e*Pg	**Pg**	**23 39 47.8**	**-0.5**
VANB				*e*Sg	**Sg**	**23 39 52.7**	**+0.7**
TVAN	**Van**		**0.31 210**	*i* P	**Pb**	**23 39 50.5**	**+0.2**
TVAN				*i* S	**Sb**	**23 39 56.4**	**+1.0**
TVAN	**Van**		**0.31 210**	P	**Pb**	**23 39 50.5**	**+0.2**
TVAN				S	**Sb**	**23 39 56.4**	**+1.0**
GEVA	**Gevas**		**0.65 221**	*i* P	**Pg**	**23 39 54.0**	**-1.3**
GEVA				*i* S	**Sg**	**23 40 03.4**	**-0.5**
GEVA	**Gevas**		**0.65 221**	P	**Pg**	**23 39 54.0**	**-1.3**
GEVA				S	**Sg**	**23 40 03.4**	**-0.5**
DYDN	**Diyadin**	**0.75**	**5**	*i* P	**Pb**	**23 39 57.5**	**-0.3**
DYDN				*i* S	**Sn**	**23 40 10.2**	**-0.4**
DYDN	**Diyadin**	**0.75**	**5**	P	**Pb**	**23 39 57.5**	**-0.3**
DYDN				S	**Sn**	**23 40 10.2**	**-0.4**
TUTA	**Tutak**		**0.86 315**	*i* P	**Pb**	**23 39 59.3**	**-0.4**
TUTA				*i* S	**Sn**	**23 40 13.7**	**+0.3**
TUTA	**Tutak**		**0.86 315**	P	**Pb**	**23 39 59.3**	**-0.4**
TUTA				S	**Sn**	**23 40 13.7**	**+0.3**
AGRB	**Hanur-Agry**		**0.91 329**	*e*PG	**Pn**	**23 40 01.2**	**-0.2**
AGRB				*e*SG	**Sn**	**23 40 14.3**	**-0.3**
AGRB	**Hanur-Agry**		**0.91 329**	*e*Pg	**Pn**	**23 40 01.3**	**-0.2**
HAKT	**HAKKARI**		**1.24 176**	*i* P	**Pn**	**23 40 03.4**	**-2.7**
HAKT				*i* S	**Sn**	**23 40 24.4**	**+1.6**
HAKT	**HAKKARI**		**1.24 176**	P	**Pn**	**23 40 03.4**	**-2.7**
HAKT				S	**Sn**	**23 40 24.4**	**+1.6**
EATA	**Eleskirt**		**1.37 321**	*i* P	**Pb**	**23 40 08.2**	**-0.2**
EATA				*i* S	**Sg**	**23 40 29.2**	**+2.4**
EATA	**Eleskirt**		**1.37 321**	P	**Pb**	**23 40 08.2**	**-0.2**
EATA				S	**Sg**	**23 40 29.2**	**+2.4**
CUKT	**Cukurca**		**1.55 180**	*e*PN	**Pb**	**23 40 11.3**	**0.0**
CUKT	**Cukurca**		**1.55 180**	*i* P	**Pb**	**23 40 11.3**	**0.0**
CUKT				*i* S	**Sg**	**23 40 36.0**	**+3.4**
CUKT	**Cukurca**		**1.55 180**	P	**Pb**	**23 40 11.4**	**0.0**
CUKT				S	**Sg**	**23 40 36.0**	**+3.4**
SIRN	**S¨–rnak**		**1.60 216**	*i* P	**Pb**	**23 40 12.1**	**-0.2**
SIRN				*i* S	**Sg**	**23 40 35.0**	**+0.7**
SIRN	**S¨–rnak**		**1.60 216**	P	**Pb**	**23 40 12.1**	**-0.2**
SIRN				S	**Sg**	**23 40 35.0**	**+0.7**
VRTB	**Varto-Mus**		**1.71 283**	*e*PN	**Pn**	**23 40 11.5**	**-0.9**
VRTB	**Varto-Mus**		**1.71 283**	*e*Pn	**Pn**	**23 40 11.5**	**-0.9**
SENK	**Senkaya-Erzuru**		**2.01 332**	*e*PN	**Pb**	**23 40 18.8**	**-0.5**
SENK	**Senkaya-Erzuru**		**2.01 332**	*e*Pn	**Pb**	**23 40 18.8**	**-0.5**

BNGB	**Bing¶‖**	**2.29 276**	*e*PN	**Pn**	**23 40 19.7**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.46 286**	*e*PN	**Pn**	**23 40 22.5**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.46 286**	*e*Pn	**Pn**	**23 40 22.5**	**-0.3**

DDA ***24*** *23:40:34.1,38.′70N×43.′20E, h7km, Ml3.7*
ISK ***24*** *23:40:34.9,38.′75N×43.′32E, h5km, ML3.2*
CSEM ***24*** *23:40:35.4±0.3,38.′75N×43.′28E, h5km, ML3.2, Error ellipse: s-maj=8.5km s-min=4.9km az=65.0*
ISC 24 23:40:36.1±0.9,**38.′71N**±0.′02×**43.′29E**±0.′03,**h26**km±6km, **n42**,σ1♀**53**/58,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**145**	PG	**Pb**	**23 40 40.4**	**-1.0**
VANB				*e*SG	**Sb**	**23 40 44.3**	**-0.6**
VANB	**Van**	**0.14**	**145**	*i* Pg	**Pb**	**23 40 40.4**	**-1.0**
VANB				*e*Sg	**Sb**	**23 40 44.3**	**-0.6**
TVAN	**Van**	**0.21**	**153**	*i* P	**Pb**	**23 40 42.9**	**+0.7**
TVAN				*i* S	**Sb**	**23 40 47.5**	**+1.2**
TVAN	**Van**	**0.21**	**153**	P	**Pb**	**23 40 42.9**	**+0.7**
TVAN				S	**Sb**	**23 40 47.5**	**+1.2**
GEVA	**Gevas**	**0.44**	**204**	*i* P	**Pb**	**23 40 42.6**	**-2.9**
GEVA				*i* S	**Sb**	**23 40 47.6**	**-4.2**
GEVA	**Gevas**	**0.44**	**204**	P	**Pb**	**23 40 42.6**	**-2.9**
TUTA	**Tutak**	**0.78**	**332**	*i* P	**Pb**	**23 40 49.3**	**-1.9**
TUTA	**Tutak**	**0.78**	**332**	P	**Pb**	**23 40 49.3**	**-1.9**
BASK	**Baskale_VAN**	**0.87**	**139**	*i* P	**Pn**	**23 40 51.4**	**-1.5**
BASK				*i* S	**Sb**	**23 41 04.2**	**+0.2**
BASK	**Baskale_VAN**	**0.87**	**139**	P	**Pn**	**23 40 51.4**	**-1.5**
BASK				S	**Sb**	**23 41 04.2**	**+0.2**
DYDN	**Diyadin**	**0.89**	**21**	*i* P	**Pn**	**23 40 52.0**	**-1.2**
DYDN				*i* S	**Sn**	**23 41 08.2**	**+2.8**
DYDN	**Diyadin**	**0.89**	**21**	P	**Pn**	**23 40 52.0**	**-1.2**
AGRB	**Hanur-Agry**	**0.89**	**345**	PG	**Pn**	**23 40 51.9**	**-1.3**
AGRB				*e*SG	**Sb**	**23 41 04.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.89**	**345**	*i* Pg	**Pn**	**23 40 51.9**	**-1.3**
AGRB				*e*Sg	**Sb**	**23 41 04.3**	**-0.3**
HAKT	**HAKKARI**	**1.20**	**164**	*i* P	**Pn**	**23 40 57.4**	**-0.1**
HAKT	**HAKKARI**	**1.20**	**164**	P	**Pn**	**23 40 57.4**	**-0.1**
EATA	**Eleskirt**	**1.30**	**332**	*i* P	**Pn**	**23 40 58.8**	**-0.2**
EATA				*i* S	**Sb**	**23 41 17.1**	**+0.6**
EATA	**Eleskirt**	**1.30**	**332**	P	**Pn**	**23 40 58.8**	**-0.2**
EATA				S	**Sb**	**23 41 17.1**	**+0.6**
SIRN	**S¨–rnak**	**1.40**	**210**	*i* P	**Pn**	**23 41 00.3**	**+0.2**
SIRN				*i* S	**Sb**	**23 41 19.5**	**+0.5**
SIRN	**S¨–rnak**	**1.40**	**210**	P	**Pn**	**23 41 00.3**	**+0.2**
SIRN				S	**Sb**	**23 41 19.5**	**+0.5**
CUKT	**Cukurca**	**1.49**	**170**	*e*PN	**Pb**	**23 41 03.4**	**+0.3**
CUKT	**Cukurca**	**1.49**	**170**	*e*Pn	**Pb**	**23 41 03.4**	**+0.3**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*PN	**Pb**	**23 41 03.4**	**+0.1**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*Pn	**Pb**	**23 41 03.4**	**+0.1**
BNGL	**BINGOL**	**1.68**	**279**	*i* P	**Pn**	**23 41 04.5**	**+0.4**
HOMI	**Horasan**	**1.71**	**322**	*i* P	**Pn**	**23 41 05.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*PN	**Pb**	**23 41 06.2**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*i* P	**Pn**	**23 41 05.3**	**+0.6**
SVAN				*i* S	**Sb**	**23 41 28.7**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	P	**Pn**	**23 41 05.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*Pn	**Pb**	**23 41 06.2**	**-1.1**
SVAN				S	**Sb**	**23 41 28.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*PN	**Pn**	**23 41 09.4**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*Pn	**Pn**	**23 41 09.4**	**+1.2**
BNGB	**Bing¶‖**	**2.05**	**279**	*e*PN	**Pb**	**23 41 11.4**	**-1.4**
BINT	**Bingol**	**2.19**	**275**	*e*Pn	**Pn**	**23 41 11.4**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*PN	**Pb**	**23 41 14.0**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*Pn	**Pb**	**23 41 14.0**	**-2.2**
MAZI	**Mazidag**	**2.57**	**242**	*e*PN	**Pb**	**23 41 19.1**	**-2.4**
MAZI	**Mazidag**	**2.57**	**242**	*e*Pn	**Pb**	**23 41 19.1**	**-2.4**
PTK	**Pertek**	**3.05**	**275**	*e*PN	**Pn**	**23 41 25.1**	**+2.2**
PTK	**Pertek**	**3.05**	**275**	*e*Pn	**Pn**	**23 41 25.1**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.14**	**265**	*e*PN	**Pn**	**23 41 26.9**	**+2.8**
SVRC	**Sivrice-ELAZID**	**3.14**	**265**	*e*Pn	**Pn**	**23 41 26.9**	**+2.8**

NIED ***24*** *23:43:00,30.′80N×131.′20E, h44km, Mw3.8 Best double couple: M0=4.78000×10^14 NP1:φs=349.00000°, δ71.00000°, λ172.00000°. NP2:φs=82.00000°, δ83.00000°, λ19.00000°.*
JMA 24 23:43:21.6±0.1,**30.′82N×131.′24E, h40**km±1km,**M3.7, 5C-2D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.28**	**234**	⇓P	Pn	23 43 29.5	-0.2
JTN				*e*S	Sn	23 43 35.6	+0.3
JTSR	**Tashiro 2**	**0.44**	**322**	⇑P	Pn	23 43 31.3	-0.3
JTSR				S	Sn	23 43 38.5	-0.1
JNAR	**Kushima--Naru**	**0.70**	**2**	⇓P	Pn	23 43 35.3	+0.2
JNAR				*e*S	Sn	23 43 46.1	+1.3
JYAK	**Yakushimahirau**	**0.86**	**228**	P	Pn	23 43 37.4	+0.2
JYAK				*e*S	Sn	23 43 49.5	+1.0
JSU	**Suzuyama**	**0.96**	**316**	⇑P	Pn	23 43 38.3	-0.3
JSU				*e*S	Sn	23 43 51.6	+0.5
JKC	**Kuchinoerabu**	**0.97**	**249**	P	Pn	23 43 38.8	+0.1
JKC				*e*S	Sn	23 43 52.0	+0.8
JTZ	**Takazaki**	**1.09**	**353**	⇑P	Pn	23 43 41.1	+0.8
JTZ				*e*S	Sn	23 43 56.4	+2.2
JZO	**Okuchi**	**1.43**	**338**	⇑P	Pn	23 43 45.4	+0.4
JZO				*e*S	Sn	23 44 03.7	+1.1
JTSN	**Tsuno**	**1.44**	**9**	P	Pn	23 43 45.1	-0.1
JTSN				*e*S	Sn	23 44 03.7	+0.8
JNN	**Nakanoshima**	**1.53**	**231**	P	Pn	23 43 47.1	+0.6
JSJ	**Shimokoshiki**	**1.56**	**304**	⇑P	Pn	23 43 45.9	-1.0

NSSC ***24*** *23:54:57.9±1.0,39.′69N×44.′41E, h0km±871km, ML3.7*
IDC ***24*** *23:55:13.1±0.6,38.′70N×43.′47E, h0km, mb4.2/23, mb1 4.2/31, mb1mx4.2/50, mbtmp4.2/31, ML3.5/8, MS3.6/29, Ms1 3.6/29, ms1mx3.5/45, Error ellipse: s-maj=11.2km s-min=8.2km az=156.0*
ISK ***24*** *23:55:13.8,38.′77N×43.′49E, h2km, ML4.5*
MOS ***24*** *23:55:13.4±1.8,38.′56N×43.′63E, h6km, mb4.6/38, Error ellipse: s-maj=5.2km s-min=3.6km az=101.5*
AZER ***24*** *23:55:15.0±0.2,38.′46N×43.′60E, h10km±4km, Error ellipse: s-maj=4.5km s-min=1.1km az=59.0*
NEIC ***24*** *23:55:14.4±0.0,38.′74N×43.′56E, h5km, mb4.6/36, ML4.6(ISK), After ISK.*
ISCJB ***24*** *23:55:15.8±0.4,38.′68N±0.′02×43.′55E±0.′01, h18km±3km, mb4.4/68, MS3.7/26, Error ellipse: s-maj=2.7km s-min=1.9km az=172.9*
CSEM ***24*** *23:55:15.6±0.1,38.′74N×43.′54E, h5km, mb4.4/16, Error ellipse: s-maj=3.8km s-min=2.8km az=171.0*
DDA ***24*** *23:55:15.2,38.′79N×43.′39E, h26km, Ml4.6*
BJI ***24*** *23:55:15.8,38.′50N×43.′60E, h8km, mb4.5/24, mB4.8/15, Ms4.2/10, Ms7 4.1/10*
TEH ***24*** *23:55:20.5,38.′84N×43.′84E, h18km, ML4.4*
ISC 24 23:55:15.1±0.8,**38.′77N**±0.′01×**43.′59E**±0.′01,**h4**km±5km, **n519**,σ1♀**95**/597,**mb4.5**/71,**MS3.6**/27,**42C-43D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**222**	PG	**Pg**	**23 55 19.7**	**0.0**
VANB	**Van**	**0.23**	**222**	Pg	**Pg**	**23 55 20.4**	**+0.8**
VANB	**Van**	**0.23**	**222**	Pg	**Pg**	**23 55 20.4**	**+0.8**
TVAN	**Van**	**0.28**	**211**	⇓*i*P	**Pb**	**23 55 22.3**	**-0.5**
TVAN				*i* S	**Sb**	**23 55 27.9**	**-0.1**
TVAN	**Van**	**0.28**	**211**	P	**Pb**	**23 55 22.3**	**-0.5**
TVAN				S	**Sb**	**23 55 27.9**	**-0.1**
GEVA	**Gevas**	**0.62**	**223**	⇑*i*P	**Pg**	**23 55 24.7**	**-2.3**
GEVA				*i* S	**Sg**	**23 55 35.2**	**+0.3**
DYDN	**Diyadin**	**0.78**	**6**	⇓*i*P	**Pg**	**23 55 28.7**	**-1.3**
DYDN				*i* S	**Sb**	**23 55 43.2**	**+0.9**
DYDN	**Diyadin**	**0.78**	**6**	P	**Pg**	**23 55 28.7**	**-1.3**
DYDN				S	**Sb**	**23 55 43.2**	**+0.9**
BASK	**Baskale_VAN**	**0.79**	**155**	⇓*i*P	**Pg**	**23 55 29.3**	**-0.9**
BASK				*i* S	**Sn**	**23 55 44.4**	**-1.1**
BASK	**Baskale_VAN**	**0.79**	**155**	P	**Pg**	**23 55 29.3**	**-0.9**
BASK				S	**Sn**	**23 55 44.4**	**-1.1**
TUTA	**Tutak**	**0.87**	**317**	⇓*i*P	**Pg**	**23 55 29.2**	**-2.7**
TUTA				*i* S	**Sg**	**23 55 42.3**	**-0.9**
AGRB	**Hanur-Agry**	**0.93**	**330**	PG	**Pg**	**23 55 31.8**	**-1.1**
AGRB				*e*SG	**Sg**	**23 55 44.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.93**	**330**	Pg	**Pg**	**23 55 30.6**	**-2.3**
AGRB				Sg	**Sb**	**23 55 47.6**	**+0.9**
AGRB	**Hanur-Agry**	**0.93**	**330**	Pg	**Pg**	**23 55 30.6**	**-2.3**
AGRB				Sg	**Sb**	**23 55 47.6**	**+0.9**
HAKT	**HAKKARI**	**1.21**	**176**	⇓*i*P	**Pg**	**23 55 36.1**	**-2.2**
HAKT				*i* S	**Sn**	**23 55 57.7**	**+1.7**
HAKT	**HAKKARI**	**1.21**	**176**	P	**Pg**	**23 55 36.1**	**-2.2**
HAKT				S	**Sn**	**23 55 57.7**	**+1.7**
EKAR	**Karacoban**	**1.28**	**293**	⇓*i*P	**Pg**	**23 55 37.0**	**-2.7**
EKAR				*i* S	**Sg**	**23 55 56.7**	**+0.3**
EKAR	**Karacoban**	**1.28**	**293**	P	**Pg**	**23 55 37.0**	**-2.7**
EKAR				S	**Sg**	**23 55 56.7**	**+0.3**
EATA	**Eleskirt**	**1.39**	**322**	⇓*i*P	**Pn**	**23 55 38.4**	**-3.1**
EATA				*i* S	**Sb**	**23 56 00.2**	**+0.3**
EATA	**Eleskirt**	**1.39**	**322**	P	**Pn**	**23 55 38.4**	**-3.1**
EATA				S	**Sb**	**23 56 00.2**	**+0.3**
CUKT	**Cukurca**	**1.52**	**179**	*e*PN	**Pn**	**23 55 43.4**	**+0.2**
CUKT	**Cukurca**	**1.52**	**179**	⇓*i*P	**Pn**	**23 55 43.4**	**+0.2**
CUKT				*i* S	**Sg**	**23 56 07.0**	**+3.2**
CUKT	**Cukurca**	**1.52**	**179**	Pn	**Pb**	**23 55 43.5**	**-0.4**
CUKT	**Cukurca**	**1.52**	**179**	Pn	**Pb**	**23 55 43.5**	**-0.4**
NAX	**Nakhchivan**	**1.54**	**74**	⇑P	**Pb**	**23 55 44.0**	**-0.2**
NAX				⇑S	**Sg**	**23 56 06.1**	**+1.6**
NAX	**Nakhchivan**	**1.54**	**74**	P	**Pb**	**23 55 44.0**	**-0.2**
NAX				S	**Sg**	**23 56 06.1**	**+1.6**
SIRN	**S¨–rnak**	**1.57**	**217**	*i* P	**Pn**	**23 55 41.8**	**-2.1**
SIRN				*i* S	**Sg**	**23 56 07.2**	**+1.6**
SIRN	**S¨–rnak**	**1.57**	**217**	P	**Pn**	**23 55 41.8**	**-2.1**
SIRN				S	**Sg**	**23 56 07.2**	**+1.6**
GNI	**Garni**	**1.64**	**33**	Pn	**Pn**	**23 55 45.4**	**+0.5**
	260nm,0.3s,baz=251,slow=2.4,SNR=324						
GNI				Sn	**Sg**	**23 56 11.7**	**+3.9**
	179nm,0.3s,baz=309,slow=13,SNR=8.6						
GNI				LR	LR	23 56 46.8	
	comp=Z,2μm,20.7s,baz=215,slow=54						
GNI	**Garni**	**1.64**	**33**	P	**Pn**	**23 55 45.4**	**+0.5**
	260nm,0.3s						
GNI				*e*S	**Sn**	**23 56 04.7**	**-1.9**
GNI	**Garni**	**1.64**	**33**	*e*Pn	**Pn**	**23 55 45.4**	**+0.5**
GNI				*e*S	**Sn**	**23 56 04.7**	**-1.9**
DIGO	**Kars**	**1.65**	**354**	⇓*i*P	**Pn**	**23 55 44.8**	**-0.3**
DIGO				*i* S	**Sg**	**23 56 09.5**	**+1.3**
DIGO	**Kars**	**1.65**	**354**	P	**Pn**	**23 55 44.8**	**-0.3**
DIGO				S	**Sg**	**23 56 09.5**	**+1.3**
IMRD	**Marand**	**1.65**	**91**	*e*Pn	**Pn**	**23 55 45.5**	**+0.4**
IMRD				*e*AMB	AMB	23 55 48.9	
	comp=Z,72μm,0.3s						
IMRD	**Marand**	**1.65**	**91**	*e*Pn	**Pn**	**23 55 45.5**	**+0.4**
ISHB	**Shabestar**	**1.66**	**106**	*e*Pn	**Pb**	**23 55 46.3**	**-0.1**
ISHB				*e*AMB	AMB	23 55 48.3	
	comp=Z,82μm,0.2s						
ISHB				*e*Sg	**Sb**	**23 56 07.7**	**-0.1**
VRTB	**Varto-Mus**	**1.71**	**284**	*e*PN	**Pn**	**23 55 44.3**	**-1.5**
VRTB	**Varto-Mus**	**1.71**	**284**	*i* P	**Pn**	**23 55 44.0**	**-1.8**
VRTB				*i* S	**Sg**	**23 56 11.3**	**+1.3**
VRTB	**Varto-Mus**	**1.71**	**284**	P	**Pn**	**23 55 44.0**	**-1.8**
VRTB	**Varto-Mus**	**1.71**	**284**	Pn	**Pn**	**23 55 45.9**	**+0.1**
VRTB	**Varto-Mus**	**1.71**	**284**	Pn	**Pn**	**23 55 45.9**	**+0.1**
HOMI	**Horasan**	**1.82**	**315**	⇓*i*P	**Pn**	**23 55 46.4**	**-1.0**
HOMI				*i* S	**Sg**	**23 56 15.5**	**+1.8**
BNGL	**BINGOL**	**1.91**	**276**	⇓*i*P	**Pn**	**23 55 47.6**	**-1.1**
BNGL				*i* S	**Sb**	**23 56 14.7**	**-0.3**
EAK	**Akyaka**	**1.92**	**0**	⇓*i*P	**Pn**	**23 55 49.4**	**+0.7**
EAK	**Akyaka**	**1.92**	**0**	P	**Pn**	**23 55 49.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**253**	*e*PN	**Pn**	**23 55 48.5**	**-0.9**
SVAN				*e*SN	**Sn**	**23 56 13.6**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.98**	**253**	⇑*i*P	**Pn**	**23 55 47.4**	**-2.0**
SVAN				*i* S	**Sn**	**23 56 15.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**253**	P	**Pn**	**23 55 47.4**	**-2.0**
SVAN	**Silvan-Diyarba**	**1.98**	**253**	Pn	**Pn**	**23 55 49.4**	**0.0**
SVAN				*e*Sn	**Sn**	**23 56 13.6**	**-1.1**
SVAN				S	**Sn**	**23 56 15.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**253**	Pn	**Pn**	**23 55 49.4**	**0.0**
SVAN				Sn	**Sn**	**23 56 15.4**	**+0.8**
BTMN	**Batman**	**2.02**	**245**	⇑*i*P	**Pn**	**23 55 48.6**	**-1.5**
BTMN				*i* S	**Sb**	**23 56 18.1**	**0.0**
BTMN	**Batman**	**2.02**	**245**	P	**Pn**	**23 55 48.6**	**-1.5**
BTMN				S	**Sb**	**23 56 18.1**	**0.0**
SENK	**Senkaya-Erzuru**	**2.03**	**332**	*e*PN	**Pn**	**23 55 49.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.03**	**332**	*e*Pn	**Pn**	**23 55 49.9**	**-0.4**
ERZM	**Erzurum**	**2.06**	**304**	⇓*i*P	**Pn**	**23 55 50.0**	**-0.8**
ERZM	**Erzurum**	**2.06**	**304**	P	**Pn**	**23 55 50.0**	**-0.8**
ITBZ	**Tabriz**	**2.08**	**104**	*e*Pn	**Pb**	**23 55 52.2**	**-1.2**
ITBZ				*e*AMB	AMB	23 55 57.8	
	comp=Z,16μm,0.4s						
ITBZ	**Tabriz**	**2.08**	**104**	*e*Pn	**Pb**	**23 55 52.2**	**-1.2**
ECAT	**Cat-ERZURUM**	**2.20**	**293**	⇓*i*P	**Pn**	**23 55 51.0**	**-1.6**
ECAT				*i* S	**Sn**	**23 56 21.6**	**+1.3**
ECAT	**Cat-ERZURUM**	**2.20**	**293**	P	**Pn**	**23 55 51.0**	**-1.6**
ECAT				S	**Sn**	**23 56 21.6**	**+1.3**
BNGB	**Bing¶‖**	**2.28**	**276**	*e*PN	**Pn**	**23 55 52.9**	**-0.8**
BNGB	**Bing¶‖**	**2.28**	**276**	Pn	**Pn**	**23 55 54.9**	**+1.2**
BNGB	**Bing¶‖**	**2.28**	**276**	Pn	**Pn**	**23 55 54.9**	**+1.2**
BINT	**Bingol**	**2.42**	**273**	P	**Pn**	**23 55 54.9**	**-0.7**
BINT	**Bingol**	**2.42**	**273**	P	**Pn**	**23 55 54.9**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*PN	**Pn**	**23 55 55.9**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*Pn	**Pn**	**23 55 55.9**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	Pn	**Pn**	**23 55 57.2**	**+1.1**
DDEM	**Demirkent**	**2.55**	**327**	*i* P	**Pn**	**23 55 56.6**	**-0.7**
DDEM	**Demirkent**	**2.55**	**327**	P	**Pn**	**23 55 56.6**	**-0.7**
GDB	**GEDABAY**	**2.57**	**40**	⇑P	**Pb**	**23 56 00.2**	**-1.6**
	SNR=255						
GDB				⇓S	**Sb**	**23 56 35.2**	**+1.5**
GDB	**GEDABAY**	**2.57**	**40**	P	**Pb**	**23 56 00.2**	**-1.6**
	SNR=255						
AKH	**Akhalkalaki**	**2.64**	**358**	*e*PN	**Pn**	**23 55 59.5**	**+0.9**
AKH	**Akhalkalaki**	**2.64**	**358**	P	**Pg**	**23 56 04.7**	**-0.9**
AKH	**Akhalkalaki**	**2.64**	**358**	P	**Pg**	**23 56 04.7**	**-0.9**
AKH	**Akhalkalaki**	**2.64**	**358**	*e*Pn	**Pn**	**23 55 59.5**	**+0.9**
DAGI	**Agillar**	**2.64**	**331**	*i* P	**Pn**	**23 55 59.7**	**+1.1**
MARD	**Mardin**	**2.65**	**238**	⇑*i*P	**Pn**	**23 55 57.3**	**-1.4**
MARD	**Mardin**	**2.65**	**238**	*e*Pn	**Pn**	**23 55 57.4**	**-1.4**
MARD	**Mardin**	**2.65**	**238**	*e*Pn	**Pn**	**23 55 57.4**	**-1.4**
QZX	**Qazax, Azerbai**	**2.67**	**30**	⇑P	**Pb**	**23 56 01.7**	**-1.7**
	SNR=16						
QZX				⇑S	**Sb**	**23 56 37.9**	**+1.4**
QZX	**Qazax, Azerbai**	**2.67**	**30**	P	**Pb**	**23 56 01.7**	**-1.7**
	SNR=16						
KOPT	**Kop Dagi**	**2.70**	**298**	⇓*i*P	**Pn**	**23 56 01.7**	**+2.1**
KOPT	**Kop Dagi**	**2.70**	**298**	P	**Pn**	**23 56 01.7**	**+2.1**
KOPT	**Kop Dagi**	**2.70**	**298**	*e*Pn	**Pb**	**23 56 02.9**	**-1.3**
KOPT	**Kop Dagi**	**2.70**	**298**	*e*Pn	**Pb**	**23 56 02.9**	**-1.3**
ARTV	**Artvin**	**2.73**	**333**	⇓*i*P	**Pn**	**23 55 59.0**	**-0.9**
ARTV	**Artvin**	**2.73**	**333**	P	**Pn**	**23 55 59.0**	**-0.9**
ARTV	**Artvin**	**2.73**	**333**	*e*Pn	**Pn**	**23 56 02.2**	**+2.3**
ARTV	**Artvin**	**2.73**	**333**	*e*Pn	**Pn**	**23 56 02.2**	**+2.3**
IHRS	**Heris**	**2.74**	**98**	*e*AMB	AMB	23 56 15.6	
	comp=Z,14μm,0.4s						
IHRS				*e*Pn	**Pn**	**23 56 02.0**	**+1.9**
MAZI	**Mazidag**	**2.80**	**243**	*e*PN	**Pn**	**23 55 58.9**	**-1.9**
MAZI	**Mazidag**	**2.80**	**243**	Pn	**Pn**	**23 56 01.1**	**+0.3**
MAZI	**Mazidag**	**2.80**	**243**	Pn	**Pn**	**23 56 01.1**	**+0.3**
EPOS	**Posof**	**2.81**	**347**	⇓*i*P	**Pn**	**23 56 03.5**	**+2.6**
EPOS	**Posof**	**2.81**	**347**	P	**Pn**	**23 56 03.5**	**+2.6**
IBST	**Bostanabad**	**2.81**	**111**	*e*AMB	AMB	23 56 12.8	
	comp=Z,9μm,0.3s						
IBST				*e*Pn	**Pn**	**23 56 02.3**	**+1.3**
GANJ	**Ganja**	**2.82**	**47**	⇑P	**Pn**	**23 56 03.2**	**+2.2**
	SNR=158						
GANJ				⇓S	**Sb**	**23 56 40.7**	**-0.3**
GANJ	**Ganja**	**2.82**	**47**	P	**Pn**	**23 56 03.2**	**+2.2**
GANJ	**Ganja**	**2.82**	**47**	P	**Pn**	**23 56 03.2**	**+2.2**
	SNR=158						
DIYA	**Diyarbakir**	**2.85**	**254**	*i* P	**Pn**	**23 56 01.1**	**-0.4**
DIYA				*i* S	**Sb**	**23 56 42.9**	**+0.9**
DIYA	**Diyarbakir**	**2.85**	**254**	P	**Pn**	**23 56 01.1**	**-0.4**
DBOC	**Borcka**	**2.97**	**331**	*i* P	**Pn**	**23 56 01.8**	**-1.2**
DBOC	**Borcka**	**2.97**	**331**	P	**Pn**	**23 56 01.8**	**-1.2**
DGRG	**David-gareji**	**3.01**	**26**	P	**Pb**	**23 56 09.7**	**+0.5**
DGRG	**David-gareji**	**3.01**	**26**	P	**Pb**	**23 56 09.7**	**+0.5**
DGRG	**David-gareji**	**3.01**	**26**	P	**Pb**	**23 56 07.9**	**-1.3**
TBLG	**Delisi**	**3.09**	**16**	*e*PN	**Pn**	**23 56 05.2**	**+0.7**
TBLG	**Delisi**	**3.09**	**16**	P	**Pb**	**23 56 08.5**	**-2.1**
TBLG	**Delisi**	**3.09**	**16**	P	**Pb**	**23 56 08.4**	**-2.1**
TBLG	**Delisi**	**3.09**	**16**	*e*Pn	**Pn**	**23 56 05.3**	**+0.7**
ERZN	**Erzincan**	**3.12**	**286**	*e*PN	**Pn**	**23 56 05.5**	**+0.4**
ERZN	**Erzincan**	**3.12**	**286**	Pn	**Pn**	**23 56 06.7**	**+1.6**
ERZN	**Erzincan**	**3.12**	**286**	Pn	**Pn**	**23 56 06.7**	**+1.6**
SEAG	**Tbilisi Sea**	**3.13**	**17**	P	**Pb**	**23 56 13.0**	**+1.6**
BRDA	**Brd**	**3.15**	**61**	⇑P	**Pn**	**23 56 06.9**	**+1.4**
	SNR=85						
BRDA				⇑S	**Sb**	**23 56 47.1**	**-3.3**
BRDA	**Brd**	**3.15**	**61**	P	**Pn**	**23 56 06.9**	**+1.4**
	SNR=85						
BRDA				S	**Sb**	**23 56 47.1**	**-3.3**
EUZM	**Uzumlu**	**3.16**	**288**	⇓*i*P	**Pn**	**23 56 07.6**	**+1.8**
EUZM	**Uzumlu**	**3.16**	**288**	P	**Pn**	**23 56 07.6**	**+1.8**
TNCL	**Tunceli-Merkez**	**3.17**	**278**	*i* P	**Pn**	**23 56 05.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**3.17**	**278**	P	**Pn**	**23 56 05.0**	**-0.9**
PTK	**Pertek**	**3.28**	**273**	*e*PN	**Pn**	**23 56 07.5**	**0.0**
PTK	**Pertek**	**3.28**	**273**	*e*Pn	**Pn**	**23 56 07.5**	**0.0**
PTK	**Pertek**	**3.28**	**273**	Pn	**Pn**	**23 56 09.3**	**+1.8**
ISRB	**Sarab**	**3.34**	**105**	*e*Pn	**Pn**	**23 56 10.4**	**+2.1**
ISRB				*e*AMB	AMB	23 56 11.8	
	comp=Z,9μm,0.2s						
ISRB	**Sarab**	**3.34**	**105**	*e*Pn	**Pn**	**23 56 10.4**	**+2.1**
MNGR	**Mingechevir, A**	**3.35**	**52**	⇑P	**Pn**	**23 56 10.2**	**+1.9**
	SNR=65						
MNGR				⇓S	**Sb**	**23 56 53.0**	**-3.3**
MNGR	**Mingechevir, A**	**3.35**	**52**	P	**Pn**	**23 56 10.1**	**+1.9**
MNGR	**Mingechevir, A**	**3.35**	**52**	P	**Pn**	**23 56 10.1**	**+1.9**
MNGR				S	**Sb**	**23 56 53.0**	**-3.3**
SVRC	**Sivrice-ELAZID**	**3.38**	**265**	*e*PN	**Pn**	**23 56 08.0**	**-0.8**
SVRC	**Sivrice-ELAZID**	**3.38**	**265**	*e*Pn	**Pn**	**23 56 08.0**	**-0.8**
SVRC	**Sivrice-ELAZID**	**3.38**	**265**	Pn	**Pn**	**23 56 09.8**	**+0.9**
ZRD	**Zardab**	**3.51**	**63**	⇑P	**Pn**	**23 56 11.5**	**+1.2**
	SNR=8.9						
ZRD				⇓S	**Sn**	**23 56 55.5**	**+3.2**
ZRD	**Zardab**	**3.51**	**63**	P	**Pn**	**23 56 11.5**	**+1.2**
	SNR=8.9						
ZRD				S	**Sn**	**23 56 55.5**	**+3.2**
KELT	**Kelkit**	**3.63**	**294**	*i* P	**Pb**	**23 56 17.9**	**-1.9**
MACK	**Trabzon**	**3.66**	**308**	⇓*i*P	**Pb**	**23 56 18.9**	**-1.3**
KTUT	**Trabzon**	**3.68**	**308**	*e*PN	**Pn**	**23 56 13.0**	**+0.2**
KTUT	**Trabzon**	**3.68**	**308**	*e*Pn	**Pn**	**23 56 13.0**	**+0.2**
KTUT	**Trabzon**	**3.68**	**308**	Pn	**Pn**	**23 56 15.2**	**+2.5**
ZKTA	**Zakatala**	**3.69**	**38**	⇑P	**Pn**	**23 56 15.6**	**+2.6**
	SNR=18						
ZKTA				⇓S	**Sb**	**23 57 02.7**	**-3.2**
ZKTA	**Zakatala**	**3.69**	**38**	P	**Pn**	**23 56 15

IGHG Ghaleghazi 5.04 151 *e*Pn **Pn 23 56 34.6 +3.0**
IGHG *e*AMB AMB 23 58 19.5
comp=Z,7µm,0.5s
IGHG Ghaleghazi 5.04 151 *e*Pn **Pn 23 56 34.6 +3.0**
RSDY Resadiye-TOKAT 5.10 291 *e*PN **Pn 23 56 32.7 +0.3**
RSDY Resadiye-TOKAT 5.10 291 *e*Pn **Pn 23 56 32.7 +0.3**
RSDY Resadiye-TOKAT 5.10 291 Pn **Pn 23 56 35.0 +2.7**
SCER sogukcermik 5.13 284 *i* P **Pb 23 56 44.4 -1.0**
MAK Makhachkala 5.13 34 *e*P **Pn 23 56 33.3 +0.6**
MAK *e*S **Sn 23 57 36.2 +3.9**
MAK pmax pmax
comp=Z,45nm,1.4s
MAK MLR MLR
comp=Z,2µm,10.0s
MAK Makhachkala 5.13 34 *e*P **Pn 23 56 33.3 +0.6**
comp=Z,45nm,1.4s
MAK *e*S **Sn 23 57 36.2 +3.9**
comp=Z,2µm,10.0s
KIV Kislovodsk 5.23 353 *e*P **Pn 23 56 37.0 +2.9**
KIV Kislovodsk 5.23 353 *e*P **Pn 23 56 37.0 +2.9**
KIV Kislovodsk 5.23 353 *e*Pn **Pn 23 56 37.0 +2.9**
KIV *e*Pg **Pg 23 56 53.6 -1.6**
KIV *e*S **Sn 23 57 29.7 -5.2**
KVAR Kislovodsk Arr 5.23 353 Pn **Pn 23 56 36.1 +2.1**
baz=4.4,slow=4.4,SNR=11
SVSK Karacayir 5.24 285 *e*PN **Pn 23 56 35.2 +1.1**
SVSK Karacayir 5.24 285 *e*Pn **Pn 23 56 35.2 +1.1**
SVSK Karacayir 5.24 285 Pn **Pn 23 56 36.9 +2.7**
KMRS Kahramanmaras 5.42 259 *e*PN **Pn 23 56 37.7 +1.0**
KMRS Kahramanmaras 5.42 259 *e*Pn **Pn 23 56 37.7 +1.0**
KMRS Kahramanmaras 5.42 259 Pn **Pn 23 56 38.7 +1.9**
HCB Kahramanmara¯ 5.46 257 *i* P **Pn 23 56 36.1 -1.1**
KUZU Kuzuini 5.53 251 *i* P Pn 23 56 45.0 +6.7
SOC Sochi 5.63 330 *e*P **Pn 23 56 38.7 -0.8**
SOC *e* 23 57 41.9
SOC pmax pmax
comp=Z,29nm,1.0s
SOC MLR MLR
comp=Z,652nm,12.0s
SOC Sochi 5.63 330 *e*P **Pn 23 56 38.7 -0.8**
comp=Z,652nm,12.0s
SOC *e*S **Sn 23 57 41.9 -2.7**
SARI SarD1z-Kayseri 5.63 269 *e*PN **Pn 23 56 40.8 +1.0**
TOKA Tokat 5.71 288 *i* P Pn 23 56 47.5 +6.8
TOKA Tokat 5.71 288 *e*Pn **Pn 23 56 43.2 +2.5**
TOKA Tokat 5.71 288 *e*Pn **Pn 23 56 43.2 +2.5**
BNN Bunyan 6.05 273 *e*PN **Pn 23 56 46.8 +1.4**
BNN Bunyan 6.05 273 *e*Pn **Pn 23 56 46.8 +1.4**
BNN Bunyan 6.05 273 Pn **Pn 23 56 48.0 +2.6**
KVT Kavak 6.24 294 *e*PN **Pn 23 56 49.3 +1.3**
KVT Kavak 6.24 294 P **Pn 23 56 51.4 +3.4**
KVT Kavak 6.24 294 *e*Pn **Pn 23 56 49.3 +1.3**
KVT Kavak 6.24 294 Pn **Pn 23 56 51.4 +3.4**
KOZT Kozan 6.25 261 *e*PN **Pn 23 56 48.8 +0.7**
KOZT Kozan 6.25 261 *e*Pn **Pn 23 56 48.8 +0.7**
CEYT Ceyhan 6.45 257 *e*PN **Pn 23 56 52.9 +2.1**
CEYT Ceyhan 6.45 257 *e*Pn **Pn 23 56 52.9 +2.1**
CEYT Ceyhan 6.45 257 Pn **Pn 23 56 54.0 +3.3**
HAVZ Havza 6.47 293 *i* P **Pn 23 56 46.5 -4.6**
KFRA Kufra 6.49 239 *e*P **Pn 23 56 50.3 -1.2**
KFRA *e*S **Sn 23 58 10.9 +5.0**
KFRA AML AML 23 59 01.8
comp=E,499nm,0.7s
KFRA AML AML 23 59 15.6
comp=N,350nm,0.7s
YAYL Yayladag 6.55 248 *i* P **Pn 23 56 56.7 +4.4**
RABH Abou Rabah 6.71 232 *e*P **Pn 23 56 53.7 -0.8**
RABH *e*S **Sn 23 58 17.1 +5.6**
RABH AML AML 23 59 03.3
comp=N,71nm,0.7s
RABH AML AML 23 59 05.8
comp=E,70nm,0.6s
ROOS tl_alroos 6.84 230 *e*P **Pn 23 56 55.6 -0.6**
ROOS *e*S **Sn 23 58 21.3 +6.6**
ROOS AML AML 23 59 20.8
comp=N,106nm,0.8s
ROOS AML AML 23 59 43.4
comp=E,106nm,0.7s
KRTS Karatas 6.87 254 *e*PN **Pn 23 56 58.4 +1.8**
KRTS Karatas 6.87 254 *e*Pn **Pn 23 56 58.4 +1.8**
BIDA Albida 6.92 239 *e*P **Pn 23 56 55.6 -1.8**
BIDA *e*S **Sn 23 58 21.0 +4.3**
BIDA AML AML 23 59 07.9
comp=E,211nm,0.7s
BIDA AML AML 23 59 21.1
comp=N,162nm,0.6s
DIKM Dikmen 7.00 297 *e*PN **Pn 23 56 59.9 +1.6**
DIKM Dikmen 7.00 297 *e*Pn **Pn 23 56 59.9 +1.6**
CORM Corum 7.07 284 *e*PN **Pn 23 57 00.9 +1.4**
CORM Corum 7.07 284 *e*Pn **Pn 23 57 00.9 +1.4**
CORM Corum 7.07 284 Pn **Pn 23 57 02.4 +2.9**
HAWK Haweek 7.16 236 *e*P **Pn 23 56 59.8 -0.9**
HAWK *e*S **Sn 23 58 27.3 +4.7**
HAWK AML AML 23 59 16.0
comp=N,98nm,0.6s
HAWK AML AML 23 59 24.1
comp=E,31nm,0.6s
FKH Fakeheh 7.33 234 *e*P **Pn 23 57 02.1 -0.9**
MARH Ras Al Marh 7.43 233 *e*P **Pn 23 57 04.1 -0.5**
MARH *e*S **Sn 23 58 34.2 +4.6**
MARH AML AML 23 59 22.4
comp=E,34nm,0.7s
MARH AML AML 23 59 32.5
comp=N,74nm,0.8s
IDMV Damavand 7.45 113 *e*Pn **Pn 23 57 08.3 +3.4**
IDMV *e*AMB AMB 23 59 52.4
comp=Z,913nm,0.9s
IDMV Damavand 7.45 113 *e*Pn **Pn 23 57 08.3 +3.4**
BR131 Keskin Array S 7.78 280 *e*Pn **Pn 23 57 09.9 +0.7**
BR131 Keskin Array S 7.78 280 *e*Pn **Pn 23 57 09.9 +0.7**
BRTR Keskin Array B 7.78 280 Pn **Pn 23 57 09.1 -0.2**
comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=15
TOTH TOTAH 7.92 229 *e*P **Pn 23 57 11.1 +0.1**
TOTH *e*S **Sn 23 58 46.9 +5.7**
TOTH AML AML 23 59 47.0
comp=N,35nm,0.7s
TOTH AML AML 23 59 49.6
comp=E,45nm,0.8s
BRBR Barbar 8.17 231 *e*P **Pn 23 57 13.3 -1.3**
BRBR *e*S **Sn 23 58 52.0 +4.4**
BRBR AML AML 23 59 52.4
comp=E,30nm,0.7s
BRBR AML AML 00 00 07.1
comp=N,46nm,0.7s
SHBL Chebaa 8.34 232 *e*P **Pn 23 57 16.8 -0.1**
ASF Jabal al Asfar 8.55 222 Pn **Pn 23 57 18.6 -1.1**
comp=N,0.4nm,0.3s,baz=356,slow=16,SNR=9.7
MMAI Mount Meron Ar 8.78 232 Pn **Pn 23 57 23.6 +0.8**
comp=N,2.5nm,0.3s,baz=65,slow=16,SNR=24
MMAI LR LR 00 01 12.4
comp=N,482nm,19.5s,baz=40,slow=42
SIM Simferopol' 9.38 314 *e*P Pn 23 57 47.1 +16
SIM pmax pmax
comp=Z,14nm,1.2s
AKAS Kas 11.39 261 *e*Pn **Pn 23 57 58.9 +0.2**
AKAS Kas 11.39 261 *e*Pn **Pn 23 57 58.9 +0.2**
GEYT Alibeck 11.44 90 Pn **Pn 23 57 59.0 -0.2**
comp=Z,0.7nm,0.3s,baz=291,slow=14,SNR=7.4
GEYT LR LR 00 03 51.7
comp=Z,177nm,19.3s,baz=220,slow=45
EIL Elat 11.55 221 Pn **Pn 23 58 01.4 +0.7**
comp=Z,0.1nm,0.3s,baz=82,slow=18,SNR=1.4
EIL LR LR 00 02 58.2
comp=Z,477nm,18.4s,baz=48,slow=41
LPSR Galich'ya Gora 14.21 348 *e*P **Pn 23 58 38.0 +1.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
SANT Santorini 14.58 266 *e*Pn **Pn 23 58 42.5 +0.3**
SANT Santorini 14.58 266 *e*Pn **Pn 23 58 42.5 +0.3**
TESR Tescani 14.65 307 ⇓*i*P **P 23 58 48.9 -0.7**
DOPR Dopca 15.24 304 ⇑*i*P **P 23 58 57.8 +1.7**
VOIR 15.27 302 ⇓*i*P **P 23 58 58.4 +1.9**
VOIR 15.27 302 ⇓P **P 23 58 58.4 +1.9**
VOIR 15.27 302 P **P 23 58 58.4 +1.9**
RAYN Ar Rayn 15.29 173 *e*Pn **Pn 23 58 47.8 -4.0**
RAYN *e*S **Sn 00 01 34.0 -7.5**
IDI Anoyia 15.33 263 Pn **Pn 23 58 53.4 +1.0**
comp=Z,0.8nm,0.3s,baz=75,slow=13,SNR=6.7
IDI LR LR 00 04 47.9
comp=Z,158nm,18.9s,baz=74,slow=38
MMB Musomiste 15.44 287 *i* P **P 23 59 01.1 +2.7**
AKTO Aktyubinsk 15.51 37 Pn **Pn 23 58 52.5 -2.0**
comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=14
AKTO LR LR 00 06 24.9
comp=Z,204nm,19.5s,baz=224,slow=43
AKASG Malin Array Be 15.67 324 Pn **Pn 23 58 53.7 -2.8**
comp=Z,0.3nm,0.3s,baz=129,slow=13,SNR=14
AKASG LR LR 00 05 58.0
comp=Z,164nm,21.2s,baz=130,slow=41
AKBB Malin Array Si 15.67 324 *e*P **Pn 23 58 56.0 -0.5**
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 15.67 324 *e*Pn **Pn 23 58 56.0 -0.5**
comp=Z,15nm,0.9s
AKBB Malin Array Si 15.67 324 *e*Pn **Pn 23 58 56.0 -0.5**
comp=Z,15nm,0.9s
KIEV Kiev 15.67 324 *ce*P **Pn 23 58 54.3 -2.2**
KIEV pmax pmax
comp=Z,19nm,1.7s
KIEV Kiev 15.67 324 *e*Pn **Pn 23 58 55.8 -0.8**
comp=Z,16nm,1.0s
KIEV Kiev 15.67 324 *e*Pn **Pn 23 58 55.8 -0.8**
comp=Z,16nm,1.0s
ABKAR Akbulak array 15.72 43 *e*Pn **Pn 23 58 55.3 -1.9**
comp=Z,45nm,0.8s
VTS Vitosha 15.92 290 *e*P **Pn 23 59 01.5 +1.4**
VTS pmax pmax
comp=Z,22nm,1.4s
VTS Vitosha 15.92 290 *i* P **Pn 23 58 59.8 -0.3**
VTS Vitosha 15.92 290 *e*P **Pn 23 59 01.5 +1.4**
comp=Z,22nm,1.4s
VTS Vitosha 15.92 290 *e*Pn **Pn 23 59 01.5 +1.4**
comp=Z,22nm,1.4s
KKB Krupnik 15.94 288 *i* P **P 23 59 04.2 +0.3**
BUR4R Bucovina Array 16.02 309 ⇓P **P 23 59 05.6 +0.8**
BUR08 Bucovina Ar. S 16.05 309 *e*Pn **P 23 59 05.2 +0.1**
BANOM Banah 16.69 136 Pn **Pn 23 59 07.8 -2.1**
SNR=5.7
BANOM Banah 16.69 136 Pn **Pn 23 59 07.8 -2.1**
SNR=5.7
OBN Obninsk 17.02 346 P **Pn 23 59 13.9 +0.1**
comp=Z,1.4nm,0.3s,baz=182,slow=15,SNR=11
OBN LR LR 00 06 36.0
comp=Z,106nm,20.5s,baz=101,slow=40
OBN Obninsk 17.02 346 *i* P **Pn 23 59 13.4 -0.4**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,302nm,16.0s
OBN Obninsk 17.02 346 *i* P **Pn 23 59 13.4 -0.4**
comp=Z,302nm,16.0s
OBN Obninsk 17.02 346 *e*Pn **Pn 23 59 14.6 +0.8**
comp=Z,194nm,1.8s
OBN Obninsk 17.02 346 *e*Pn **Pn 23 59 14.6 +0.8**
comp=Z,194nm,1.8s
DRGR 17.26 304 ⇓P **P 23 59 19.4 +0.8**
DRGR 17.26 304 P **P 23 59 19.4 +0.8**
UOSS Minazif 17.43 139 P **P 23 59 22.3 +1.8**
UOSS Minazif 17.43 139 *e*Pn **Pn 23 59 16.6 -2.6**
comp=Z,17nm,0.8s
UOSS Minazif 17.43 139 P **P 23 59 22.3 +1.8**
MOS Moscow 17.44 349 *e*P **P 23 59 23.1 +2.7**
MOS pmax pmax
comp=Z,63nm,1.5s
BZS Buzias 17.63 300 ⇑P **Pn 23 59 21.3 -0.2**
BZS Buzias 17.63 300 P **Pn 23 59 21.3 -0.2**
UZH Uzhgorod 18.23 310 *e*P **Pn 23 59 28.0 -0.8**
UZH Uzhgorod 18.23 310 *e*P **Pn 23 59 28.0 -0.8**
KWP Kalwaria Pacla 18.43 313 *e*P **Pn 23 59 30.9 -0.4**
KWP Kalwaria Pacla 18.43 313 *e*P **Pn 23 59 31.0 -0.4**
KWP Kalwaria Pacla 18.43 313 *e*P **Pn 23 59 31.0 -0.4**
STHS Stebnicka Huta 19.19 311 *e*P **Pn 23 59 47.2 +6.7**
STHS Stebnicka Huta 19.19 311 *e* **Pn 23 59 47.2 +6.7**
KECS Kecovo 19.27 308 *e*P **Pn 23 59 44.4 +2.8**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 19.27 308 *e*P **Pn 23 59 44.3 +2.7**
BRY Bratogost 19.37 290 P **Pn 23 59 44.7 +1.7**
PSZ Piszkesteto 19.45 306 *e*P **Pn 23 59 44.4 +0.7**
PSZ pmax pmax
comp=Z,47nm,1.6s
PSZ Piszkesteto 19.45 306 *e*P **Pn 23 59 44.4 +0.7**
comp=Z,47nm,1.6s
PSZ Piszkesteto 19.45 306 *e*P **Pn 23 59 44.4 +0.7**
comp=Z,47nm,1.6s
NACGM Naroch 19.73 330 *e* **P 23 59 43.0 -2.5**
NIE Niedzica 19.75 310 *e*P **Pn 23 59 48.6 +1.3**
NIE Niedzica 19.75 310 *e*P **Pn 23 59 48.6 +1.3**
SMDO Samad 19.94 138 P **Pn 23 59 50.0 +0.3**
SNR=5.3
SMDO Samad 19.94 138 P **Pn 23 59 50.0 +0.3**
SNR=5.3
SMDO Samad 19.94 138 P **Pn 23 59 50.0 +0.3**
SNR=5.3
WSAR Wadi Sarin 20.10 136 P **P 23 59 49.3 -0.5**
comp=Z,2.3nm,0.6s,baz=331,slow=10,SNR=2.7
WSAR LR LR 00 09 46.9
comp=Z,154nm,18.1s,baz=342,slow=43
ARU Arti 20.27 24 P **P 23 59 51.0 -0.4**
comp=Z,17nm,0.7s,baz=219,slow=5.7,SNR=23
ARU LR LR 00 09 48.2
comp=Z,171nm,19.3s,baz=215,slow=43
ARU Arti 20.27 24 *d*iP **P 23 59 50.4 -1.0**
ARU S **S 00 03 40.0 +1.0**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 20.27 24 *e*P **P 23 59 51.4 0.0**
comp=Z,31nm,0.8s
ARU Arti 20.27 24 *e*P **P 23 59 51.4 0.0**
comp=Z,31nm,0.8s
VYHS Vyhne 20.30 307 *e*P **P 23 59 52.6 +0.7**
VYHS *e* 23 59 55.4
VYHS pmax pmax
comp=Z,25nm,1.8s
VYHS Vyhne 20.30 307 *e*P **P 23 59 52.6 +0.7**
comp=Z,25nm,1.8s
VYHS Vyhne 20.30 307 *e*PN **P 23 59 52.6 +0.7**
VYHS Vyhne 20.30 307 *e*P Pn 23 59 55.4 +1.6
OJC Ojcow 20.38 312 *e*P Pn 23 59 54.9 +0.2
OJC Ojcow 20.38 312 *e*P Pn 23 59 55.3 +0.6
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 20.38 312 *e*P Pn 23 59 55.3 +0.7
comp=Z,14nm,1.0s
BLY Banja Luka 20.54 295 *e*P Pn 23 59 56.3 -0.3
comp=Z,8.0nm,0.8s
SUW Suwalki 20.64 324 *e*P **P 23 59 55.7 +0.3**
SUW Suwalki 20.64 324 *e*P **P 23 59 55.7 +0.3**
KKAR Karatay Array 20.76 69 *e*P **P 23 59 57.8 +1.0**
KKAR pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 20.76 69 *e*P **P 23 59 57.8 +1.0**
comp=Z,14nm,0.6s
KBL Kabul 20.83 94 *e*P **P 23 59 58.2 +0.3**
KBL pmax pmax
comp=Z,19nm,1.1s
KBL Kabul 20.83 94 *e*P **P 23 59 58.2 +0.3**
comp=Z,19nm,1.1s
OKC Ostrava-Krasne 21.20 310 *e*P **P 00 00 06.2 +4.7**
OKC Ostrava-Krasne 21.20 310 ⇓*e*P **P 00 00 06.2 +4.7**
SVE Sverdlovsk 21.28 26 *e*P **P 00 00 02.7 +0.4**
SVE pmax pmax
comp=Z,42nm,1.7s
CUC Castrocucco 21.47 282 *e*P **P 00 00 04.7 0.0**
comp=Z,19nm,1.3s
SOP Sopron 21.53 303 P **P 00 00 09.2 +4.1**
SOP pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 21.54 309 *e*P **P 00 00 07.1 +1.8**
MORC pmax pmax
comp=Z,33nm,1.1s
MORC Moravsky Berou 21.54 309 *e*P **P 00 00 07.1 +1.8**
comp=Z,33nm,1.1s
VRAC Vranov 21.97 307 P **P 00 00 10.6 +0.8**
comp=Z,10nm,1.0s,baz=144,slow=19,SNR=3.7
CONA Conrad Observa 22.05 304 *e*pP **P 00 00 14.1 +3.3**
comp=Z,21nm,1.6s
ARSA Arzberg 22.11 302 *e*pP **P 00 00 17.2 +5.8**
comp=Z,4.5nm,0.9s
MNAS Manas 22.21 71 P **P 00 00 13.6 +1.0**
MNAS pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 22.25 355 *e*P **P 00 00 12.1 -0.6**
KLMR *e*S **S 00 04 18.5 +0.5**
KLMR pmax pmax
comp=Z,55nm,1.1s
SOKA Soboth 22.33 300 *e*P **P 00 00 16.6 +2.8**
comp=Z,11nm,1.8s
SOKR Solikamsk 22.48 18 ⇑*i*P **P 00 00 15.1 0.0**
SOKR pmax pmax
comp=Z,13nm,0.9s
SOKR MLR MLR
comp=Z,204nm,18.0s
DPC Dobruska-Polom 22.48 310 *e*P **P 00 00 18.6 +3.2**
DPC Dobruska-Polom 22.48 310 *e*P **P 00 00 18.6 +3.2**
VSU Vasula 22.52 337 *e*P **P 00 00 15.8 +0.3**
VSU pmax pmax
comp=Z,53nm,0.9s
KSP Ksiaz 22.68 311 *e*P **P 00 00 21.4 +4.0**
UPC Upice 22.72 310 *e*P **P 00 00 21.7 +3.8**
UPC Upice 22.72 310 *e*P **P 00 00 21.7 +3.8**
MOA Molln 23.07 303 *e*pP **P 00 00 24.4 +2.9**
comp=Z,8.0nm,0.9s
AQU L'Aquila 23.15 289 *e*P **P 00 00 23.2 +0.7**
AQU pmax pmax
comp=Z,30nm,1.0s
AQU L'Aquila 23.15 289 *e*P **P 00 00 23.2 +0.7**
comp=Z,30nm,1.0s
BRVK Borovoye 23.25 43 *ce*P **P 00 00 24.3 +1.0**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 23.25 43 *e*P **P 00 00 23.6 +0.2**
comp=Z,8.8nm,0.8s
GOPC GO Pecny, Ondr 23.27 308 *e*P **P 00 00 27.2 +3.6**
GOPC GO Pecny, Ondr 23.27 308 *e*P **P 00 00 27.2 +3.6**
BVAR Borovoye Array 23.30 44 P **P 00 00 23.3 -0.5**
comp=Z,3.6nm,0.9s,baz=233,slow=9.1,SNR=15
PRU Pruhonice 23.45 308 *e*P **P 00 00 28.7 +3.4**
PRU Pruhonice 23.45 308 *e*P **P 00 00 28.7 +3.4**
KBA Koelnbreinsper 23.54 300 P **P 00 00 30.1 +3.6**
KBA pmax pmax
comp=Z,17nm,1.2s
KBA Koelnbreinsper 23.54 300 *e*pP pP 00 00 29.4 +1.8
comp=Z,17nm,1.3s
PVCC Panska Ves 23.60 309 *e*P **P 00 00 26.1 -0.7**
PVCC Panska Ves 23.60 309 *e*P **P 00 00 26.1 -0.7**
GEC2 GERESS Array S 23.67 305 *e*P **P 00 00 31.0 +3.4**
GEC2 pmax pmax
comp=Z,24nm,1.7s
GEC2 GERESS Array S 23.67 305 *e*P **P 00 00 31.0 +3.4**
comp=Z,24nm,1.7s
GERES GERESS Array B 23.67 305 P **P 00 00 26.3 -1.3**
comp=Z,1.4nm,0.5s,baz=93,slow=8.0,SNR=14
GERES LR LR 00 11 00.5
comp=Z,89nm,20.5s,baz=96,slow=40
AAK Ala-Archa 23.68 71 P **P 00 00 28.4 +0.5**
comp=Z,3.6nm,0.7s,baz=240,slow=9.6,SNR=9.3
AAK Ala-Archa 23.68 71 *ce*P **P 00 00 28.8 +0.9**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 23.68 71 *e*P **P 00 00 28.6 +0.8**
comp=Z,18nm,1.3s
FRU Bishkek 23.76 70 *i* P **P 00 00 30.5 +1.9**
FRU pmax pmax
comp=Z,95nm,2.1s
KHC Kasperske Hory 23.82 306 *e*P **P 00 00 28.2 -0.8**
KHC *ex* x 00 00 31.2
KHC Kasperske Hory 23.82 306 *e*P **P 00 00 28.2 -0.8**
KHC *e* 00 00 31.2
KHC Kasperske Hory 23.82 306 *e*P **P 00 00 30.2 +1.2**
comp=Z,15nm,1.4s
ABTA Abfaltersbach 24.05 299 *e*P **P 00 00 31.7 +0.3**
comp=Z,5.9nm,1.2s
WTTA Wattenberg 24.72 300 *e*P **P 00 00 39.7 +2.2**
comp=Z,14nm,1.0s
CLL Collm 24.79 310 *e*P **P 00 00 39.3 +1.4**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 24.79 310 *e*P **P 00 00 35.0 -2.9**
CLL *i* (sP) **pP 00 00 39.0 0.0**
CLL *e*S **S 00 05 09.0 +8.3**
CLL Lm MLR 00 10 00.0
comp=Z,100nm,21.9s
CLL Collm 24.79 310 *e*P **P 00 00 39.3 +1.4**
comp=Z,11nm,0.9s
NKC Novy Kostel 24.81 308 *e*P **P 00 00 36.7 -1.4**
NKC *ex* x 00 00 39.9
NKC Novy Kostel 24.81 308 *e*P **P 00 00 36.7 -1.4**
NKC *e* 00 00 39.9
KSH Kashi 25.06 78 P **P 00 00 39.4 -1.2**
KSH pP sP 00 00 43.5 +1.3
KSH sP pP 00 00 46.3 +4.6
KSH PP **PnPn 00 01 16.5 +2.8**
KSH S **S 00 04 59.0 -6.6**
KSH ScS **ScS 00 11 41.3 -2.1**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,4.4s
KSH LR LR
comp=Z,130nm,6.6s
KSH LR LR
comp=Z,170nm,7.4s
KSH LR LR
comp=Z,170nm,7.2s
FIA1 FINESS Array S 25.16 340 *e*P **P 00 00 44.6 +3.6**
comp=Z,36nm,1.4s
FINES FINESS Array B 25.16 340 P **P 00 00 39.6 -1.5**
comp=Z,4.7nm,0.7s,baz=141,slow=10,SNR=15
FINES LR LR 00 11 25.4
comp=Z,229nm,18.5s,baz=150,slow=39
FINES FINESS Array B 25.16 340 *e*P **P 00 00 40.7 -0.4**
FETA Feichten 25.30 300 *e*P **P 00 00 44.2 +1.4**
comp=Z,9.4nm,0.9s
RETA Reutte 25.34 301 *e*P **P 00 00 44.4 +1.4**
comp=Z,6.5nm,0.9s
GRFO Grafenberg 25.44 306 *e*P **P 00 00 46.3 +2.4**
GRFO pmax pmax
comp=Z,53nm,1.4s
GRFO Grafenberg 25.44 306 *e*P **P 00 00 46.3 +2.4**
comp=Z,53nm,1.4s
FUORN Ofenpass-Fuorn 25.57 299 *e*P **P 00 00 47.4 +2.1**
comp=Z,47nm,1.7s
DAVOX Davos/Dischmat 25.85 299 P **P 00 00 45.8 -2.0**
comp=Z,4.2nm,0.7s,baz=132,slow=7.6,SNR=8.4
DAVOX LR LR 00 12 03.4
comp=Z,129nm,20.2s,baz=85,slow=39
DAVA Damuels 25.91 300 *e*P **P 00 00 49.4 +1.2**
comp=Z,9.1nm,0.8s
TUE Stuetta 26.19 298 *e*P **P 00 00 52.4 +1.5**
comp=Z,31nm,1.8s
ATD Arta Tunnel 27.14 182 LR LR 00 10 57.6
comp=Z,82nm,19.6s,baz=10.0,slow=35
KURBB Kurchatov Arra 27.26 53 P **P 00 01 01.1 +0.8**
comp=Z,6.9nm,0.6s,baz=262,slow=9.0,SNR=37
KEST Kesra 27.33 274 P **P 00 01 00.8 -0.3**
comp=Z,4.5nm,0.9s,baz=176,slow=23,SNR=4.4
KURK Kurchatov 27.34 53 *ce*P **P 00 01 01.9 +1.0**
KURK pmax pmax
comp=Z,57nm,0.8s
KURK Kurchatov 27.34 53 *e*P **P 00 01 01.5 +0.6**
comp=Z,8.5nm,0.9s
ECH Echery 27.84 302 *e*P **P 00 01 07.0 +1.5**
ECH pmax pmax
comp=Z,55nm,2.0s
ECH Echery 27.84 302 *e*P **P 00 01 07.0 +1.5**
comp=Z,55nm,2.0s
BNI Bardonecchia 28.00 295 *e*P **P 00 01 06.2 -0.9**
BNI pmax pmax
comp=Z,3.0nm,0.8s
BNI Bardonecchia 28.00 295 *e*P **P 00 01 06.2 -0.9**
comp=Z,3.2nm,0.8s
HFS Hagfors 28.47 328 P **P 00 01 09.8 -1.2**
comp=Z,14nm,0.8s,baz=139,slow=11,SNR=9.6
HFS LR LR 00 13 28.2
comp=Z,128nm,18.7s,baz=111,slow=38
WLF Walferdange 28.68 305 *e*P **P 00 01 14.1 +1.2**
WLF pmax pmax
comp=Z,49nm,1.6s
WLF Walferdange 28.68 305 *e*P **P 00 01 14.1 +1.2**
comp=Z,49nm,1.6s
MAKZ Makanchi 29.06 61 *e*P **P 00 01 17.7 +1.3**
MAKZ pmax pmax
comp=Z,21nm,1.8s
MAKZ Makanchi 29.06 61 *e*P **P 00 01 17.7 +1.3**
comp=Z,21nm,1.8s
MK31 Makanchi Array 29.27 61 *e*P **P 00 01 19.2 +0.9**
MK31 Makanchi Array 29.27 61 *e*P **P 00 01 19.2 +0.9**
MKAR Makanchi Array 29.27 61 P **P 00 01 18.4 +0.1**
comp=Z,2.4nm,0.7s,baz=269,slow=6.6,SNR=12
MKAR LR LR 00 14 51.1
comp=Z,106nm,19.5s,baz=254,slow=40
MKAR Makanchi Array 29.27 61 *e*P **P 00 01 19.2 +0.9**
comp=Z,22nm,1.0s
SSB Saint Sauveur 29.51 295 *e*P **P 00 01 23.0 +2.6**

SSB pmax pmax
comp=Z,49nm,1.6s
SSB Saint Sauveur 29.51 295 *e*P **P 00 01 23.0 +2.6**
comp=Z,49nm,1.6s
NC405 NORSAR Array S 29.83 329 *e*P **P 00 01 26.5 +3.5**
NB201 NORSAR Array S 29.96 329 *e*P **P 00 01 26.6 +2.4**
NB2 NORSAR Subarra 29.99 329 P **P 00 01 22.4 -2.1**
comp=Z,3.0nm,0.8s,baz=126,slow=9.3
NB2 NORSAR Subarra 29.99 329 P **P 00 01 25.6 +1.1**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 29.99 329 P **P 00 01 22.4 -2.1**
comp=Z,3.0nm,0.8s,SNR=7.1
NOA NORSAR Array B 29.99 329 P **P 00 01 22.6 -1.8**
comp=Z,1.5nm,0.8s,baz=154,slow=19,SNR=7.2
NOA LR LR 00 14 25.0
comp=Z,92nm,19.1s,baz=125,slow=38
NAO01 NORSAR Array S 30.02 328 *e*P **P 00 01 26.8 +2.1**
NVS Novosibirsk 31.03 46 *e*P **P 00 01 34.4 +0.7**
NVS pmax pmax
comp=E,6.0nm,1.2s
NVS pmax pmax
comp=Z,8.0nm,1.2s
NVS Novosibirsk 31.03 46 *e*P **P 00 01 34.4 +0.7**
ZALV Zalesovo Beam 31.73 48 P **P 00 01 38.8 -1.0**
comp=Z,1.4nm,0.5s,baz=262,slow=10,SNR=8.7
ZALV LR LR 00 16 41.3
comp=Z,144nm,18.1s,baz=250,slow=40
KEV Kevo 32.28 349 *e*P **P 00 01 45.3 +0.8**
KEV pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 32.28 349 *e*P **P 00 01 45.3 +0.8**
comp=Z,10.0nm,1.0s
KEV Kevo 32.28 349 *e*P **P 00 01 45.3 +0.8**
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 32.31 348 P **P 00 01 43.4 -1.4**
comp=Z,2.4nm,0.7s,baz=120,slow=4.3,SNR=8.9
ARCES LR LR 00 14 42.9
comp=Z,116nm,18.4s,baz=148,slow=36
WMQ Urumqi 33.22 67 P **P 00 01 54.3 +1.2**
WMQ pP sP 00 01 59.8 +5.0
WMQ sP pP 00 02 02.0 +7.7
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,95nm,5.3s
WMQ LR LR
comp=Z,48nm,23.1s
WMQ LR LR
comp=Z,42nm,32.9s
WMQ LR LR
comp=Z,52nm,24.3s
PYUN Piuthan 34.33 96 *e*P **P 00 02 03.5 +0.4**
comp=Z,23nm,0.6s
DANN Dangsing 34.81 95 *e*P **P 00 02 08.2 +0.9**
comp=Z,2.6nm,0.8s
KOLN Koldanda 34.96 96 *e*P **P 00 02 08.8 +0.3**
comp=Z,6.4nm,0.5s
EKA Eskdalemuir Ar 35.13 314 P **P 00 02 07.3 -2.2**
comp=Z,2.4nm,0.6s,baz=108,slow=7.9,SNR=7.6
EKA Eskdalemuir Ar 35.13 314 P **P 00 02 07.3 -2.2**
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 35.13 314 P **P 00 02 07.3 -2.2**
comp=Z,3.0nm,0.6s
GKN Gorkha 35.65 95 *e*P **P 00 02 14.5 0.0**
TAM Tamanrasset 36.08 255 *e*P **P 00 02 17.9 -0.3**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 36.08 255 *e*P **P 00 02 17.9 -0.3**
comp=Z,4.4nm,1.0s
TAM Tamanrasset 36.08 255 *e*P **P 00 02 17.9 -0.3**
comp=Z,4.4nm,1.0s
DMN Daman 36.20 95 *e*P **P 00 02 20.0 +0.7**
comp=Z,45nm,1.2s
KKN Kakani 36.25 95 *e*P **P 00 02 20.0 +0.3**
PKIN Phulchoki 36.45 95 *e*P **P 00 02 21.6 +0.2**
comp=Z,14nm,0.6s
PKI Pulchoki 36.46 95 *e*P **P 00 02 21.6 0.0**
comp=Z,26nm,1.0s
ESDC Sonseca Array 36.51 287 P **P 00 02 19.2 -2.4**
comp=Z,4.6nm,0.7s,baz=67,slow=8.5,SNR=22
ESLA Sonseca Array 36.51 287 *e*P **P 00 02 22.1 +0.5**
comp=Z,10nm,0.8s
ESLA Sonseca Array 36.51 287 *e*P **P 00 02 22.1 +0.5**
comp=Z,10nm,0.8s
GUN Gumba 36.66 94 *e*P **P 00 02 23.6 +0.3**
comp=Z,38nm,1.0s
JIRN Jiri 37.02 94 *e*P **P 00 02 26.6 +0.2**
comp=Z,130nm,0.7s
RAMN Ramite 37.69 95 *e*P **P 00 02 32.0 +0.1**
comp=Z,26nm,0.6s
ODAN Odare 38.34 95 *e*P **P 00 02 38.0 +0.5**
TAPN Taplejung 38.36 94 *e*P **P 00 02 38.0 +0.4**
comp=Z,17nm,0.7s
NRIK Noril'sk 38.49 23 P **P 00 02 37.7 -0.2**
comp=Z,2.1nm,0.5s,baz=219,slow=6.5,SNR=2.4
NRIK LR LR 00 22 25.5
comp=Z,182nm,18.6s,baz=230,slow=42
LSA Lhasa 39.97 88 *e*P **P 00 02 52.2 +0.9**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 39.97 88 *e*P **P 00 02 52.2 +0.9**
comp=Z,7.6nm,0.7s
LSA Lhasa 39.97 88 *e*P **P 00 02 52.2 +0.9**
comp=Z,7.6nm,0.7s
KMBO Kilima Mbogo 40.13 190 LR LR 00 18 17.8
comp=Z,217nm,18.5s,baz=284,slow=35
GTA Gaotai 43.03 71 *e*P **P 00 03 16.0 +0.1**
GTA pP sP 00 03 20.5 +2.9
GTA sP pP 00 03 23.0 +5.9
GTA S **S 00 09 42.9 +0.7**
GTA sS sS 00 09 51.9 +7.7
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,50nm,5.1s
GTA LR LR
comp=Z,88nm,17.1s
GTA LR LR
comp=Z,76nm,16.6s
GTA LR LR
comp=Z,81nm,16.6s
TORD Torodi Ar. Bea 44.95 247 P **P 00 03 28.1 -3.3**
comp=Z,3.3nm,0.9s,baz=42,slow=6.7,SNR=14
TORD LR LR 00 24 45.2
comp=Z,31nm,21.8s,baz=330,slow=40
SONM Songino Array 45.45 57 P **P 00 03 35.6 +0.4**
comp=Z,0.3nm,0.5s,baz=303,slow=11,SNR=3.1
SONM LR LR 00 24 35.9
comp=Z,127nm,19.3s,baz=288,slow=39
ULN Ulaanbaatar 45.88 57 *ce*P **P 00 03 38.1 -0.5**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 45.88 57 *e*P **P 00 03 38.1 -0.5**
comp=Z,7.0nm,1.7s
LZH Lanzhou 47.17 74 *e*P **P 00 03 46.1 -2.8**
LZH pP pP 00 03 48.5 -1.6
LZH sP sP 00 03 50.0 -0.6
LZH PP **PP 00 05 36.3 -3.2**
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,76nm,6.2s
LZH LR LR
comp=N,340nm,15.0s
LZH LR LR
comp=E,320nm,14.8s
LZH LR LR
comp=Z,390nm,18.3s
HHC Hu-ho-hao-te 51.04 65 *e*P **P 00 04 18.3 -0.2**
HHC PP **PP 00 06 13.3 -1.5**
HHC S **S 00 11 35.3 -1.2**
HHC pmax pmax
comp=Z,25nm,1.5s
HHC pmax pmax
comp=Z,69nm,4.5s
HHC LR LR
comp=Z,390nm,13.7s
HHC LR LR
comp=Z,340nm,14.9s
HHC LR LR
comp=Z,390nm,14.9s
CHTO Chiang Mai 51.62 96 *e*P **P 00 04 22.3 -0.6**
CHTO pmax pmax
comp=Z,14nm,1.5s
CHTO Chiang Mai 51.62 96 *e*P **P 00 04 22.3 -0.6**
comp=Z,14nm,1.5s
CHTO Chiang Mai 51.62 96 *e*P **P 00 04 22.3 -0.6**
comp=Z,14nm,1.5s
CMAR Chiang Mai Arr 51.82 97 P **P 00 04 22.9 -1.6**
comp=Z,1.7nm,0.8s,baz=294,slow=8.0,SNR=14
CMAR LR LR 00 31 14.5
comp=Z,34nm,20.1s,baz=300,slow=42
TIXI Tiksi 52.27 24 *ce*P **P 00 04 28.9 +1.9**
TIXI Tiksi 52.27 24 *e*P **P 00 04 28.9 +1.9**
GYA Guiyang 53.58 83 *e*P **P 00 04 39.3 +1.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 54.05 247 LR LR 00 34 13.7
comp=Z,26nm,18.2s,baz=45,slow=43
ROSA Rosais 54.61 294 *e*P **P 00 04 46.3 +1.6**
comp=Z,272nm,1.4s
NRS Narsarsuaq 56.50 324 P **P 00 04 59.3 +1.4**
NRS pmax pmax
comp=Z,80nm,0.8s
NRS Narsarsuaq 56.50 324 P **P 00 04 59.3 +1.4**
comp=Z,80nm,0.8s
WHN Wuhan 57.48 75 P P 00 05 15.1 +10
KSAR Wonju Array Be 63.94 62 P **P 00 05 48.4 -0.9**
KSAR Wonju Array Be 63.94 62 P **P 00 05 48.4 -0.9**
KSAR Wonju Array Be 63.94 62 P **P 00 05 48.4 -0.9**
SEY Seymchan 63.94 29 *i* P **P 00 05 51.0 +2.1**
SEY Seymchan 63.94 29 *i* P **P 00 05 51.0 +2.1**
KSRS Korea Array 63.96 62 P **P 00 05 48.4 -1.0**
comp=Z,2.7nm,0.8s,baz=292,slow=6.9,SNR=4.6
BOSA Boshof 69.19 197 P **P 00 06 21.0 -1.9**
comp=Z,2.1nm,0.8s,baz=77,slow=14,SNR=2.6
MJAR Matsushiro Arr 71.40 58 LR LR 00 40 38.5
comp=Z,75nm,18.8s,baz=290,slow=38
PETK Petropavlovsk- 72.24 35 LR LR 00 42 47.5
comp=Z,85nm,18.3s,baz=315,slow=40
COLA College 76.30 5⇑ *e*P **P 00 07 04.5 -0.1**
COLA pmax pmax
comp=Z,15nm,1.7s
COLA College 76.30 5 *e*P **P 00 07 04.5 -0.1**
comp=Z,15nm,1.7s
YKA Yellowknife Ar 77.56 350 P **P 00 07 11.3 -0.5**
comp=Z,2.0nm,0.9s,baz=17,slow=5.9,SNR=4.6
ULM Lac du Bonnet 84.45 335 LR LR 00 45 16.2
comp=Z,54nm,18.7s,baz=298,slow=36
PDAR Pinedale Array 95.26 340 LR LR 00 53 14.2
comp=Z,39nm,18.3s,baz=52,slow=36
SNAA Sanae 114.91 195 PKiKP PKiKP 00 14 11.6 +16
VNA2 Neumayer--Watz 115.29 196 PKiKP **PKiKP 00 14 01.1 +4.4**
baz=220,slow=1.2
KIP Kipapa 116.79 23⇑ *e*PKIKP **PKPdf 00 13 57.1 -4.1**
RPN Rapa Nui 154.58 289 *i* PKIKP **PKPbc 00 15 13.5 -3.8**

SJA 24 23:59:13.7±0.9, 31°23S×69°20W, h112km±7km, ML2.8, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.58**	**188**	*i* P	P	Pn	23 59 32.7	+1.0
RTLS				IAML			23 59 46.4	
	comp=Z,172nm,0.7s							
RTLS				*i* S		Sn	23 59 46.5	+1.3
SJA	**San Juan**	**0.62**	**119**	*i* P	P	Pn	23 59 32.3	+0.6
RTLL	**Cerro Villicun**	**0.63**	**100**	*i* P	P	Pn	23 59 32.1	+0.4
AMOG	**MOGNA**	**0.67**	**65**	*i* P	P	Pn	23 59 33.4	+1.3
RTCV	**Cerro Valdivia**	**0.85**	**139**	*i* P	P	Pn	23 59 34.3	+0.7
AUSP	**Uspallata**	**1.01**	**189**	*i* P	P	Pn	23 59 36.6	+1.2
ASAL	**Salagasta**	**1.40**	**167**	*i* P	P	Pn	23 59 40.4	+0.9
AVFE	**Valle Fertil**	**1.60**	**70**	*i* P	P	Pn	23 59 43.1	+1.2
AVFE				*i* S	S	Sn	00 00 04.5	+1.1
ARCO	**CERRO ARCO**	**1.63**	**172**	*i* P	P	Pn	23 59 43.4	+1.1
ARCO				IAML			23 59 44.0	
	comp=Z,83nm,0.3s							
ARCO				*i* S		Sn	00 00 05.9	+1.8
AAGR	**Agrelo**	**1.88**	**170**	*i* P	P	Pn	23 59 46.3	+0.9
ACAN	**Cantantal**	**2.01**	**122**	*i* P	P	Pn	23 59 47.4	+0.5

*ISCJB **25** 00:06:45.6±0.3, 32°29N±0°02×115°29W±0°02, h22km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=23.6*
*NEIC **25** 00:06:46.8±0.0, 32°27N×115°35W, h6km, ML3.2(ECX), ML3.3(PAS), After ECX.*
*ECX **25** 00:06:46.8±0.5, 32°27N×115°34W, h6km, MD3.2, ML3.4*
*MEX **25** 00:06:47.3±0.8, 32°31N×115°31W, h5km±5km, MD3.8*

ISC 25 00:06:45.6±0.9, 32°26N±0°02×115°35W±0°02, h15km±6km, n47, σ1§70/72, 9C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**15⇑**	*e*P	**Pg**		**00 06 49.2**	**-0.5**
CPBX				*e*S	**Sg**		**00 06 52.3**	**-0.1**
CPBX				IAML			00 06 57.0	
	comp=N,28μm,0.3s							
CPBX				⇑*e*			00 06 57.0	
MBIG	**Mexicali**	**0.20**	**42**	*i* P	**Pg**		**00 06 50.2**	**0.0**
MBIG				*e*S	**Sg**		**00 06 52.1**	**-1.1**
MBIG	**Mexicali**	**0.20**	**42⇓**	*e*P	**Pg**		**00 06 50.3**	**+0.1**
ERPC	**Ernies Place**	**0.55**	**332⇓**	*i*P	**Pg**		**00 06 56.7**	**+0.3**
DREC	**Desert Rsrch C**	**0.55**	**352**	*e*P	**Pg**		**00 06 56.8**	**+0.4**
EMSC	**East Mesa**	**0.57**	**33⇑**	*i*P	**Pg**		**00 06 57.0**	**+0.2**
WESC	**Westside Schoo**	**0.59**	**327⇓**	*i*P	**Pg**		**00 06 57.3**	**+0.1**
YUH	**Yuha Desert**	**0.62**	**309⇓**	*i*P	**Pg**		**00 06 57.2**	**-0.5**
COA	**Coachella**	**0.63**	**18⇑**	*i*P	**Pg**		**00 06 57.8**	**-0.2**
COK	**Cook Ranch**	**0.67**	**332⇓**	*i*P	**Pg**		**00 06 58.4**	**-0.2**
RMX	**La Rumorosa**	**0.70**	**299⇓**	*e*P	**Pg**		**00 06 58.3**	**-1.0**
RMX				*e*S	**Sg**		**00 07 07.5**	**-1.2**
YMD	**Yuma Desert**	**0.74**	**67⇑**	*i*P	**Pg**		**00 06 59.4**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.75**	**301**	P	**Pg**		**00 06 59.7**	**-0.5**
	baz=125,SNR=159							
IKP				S	**Sg**		**00 07 10.0**	**-0.1**
	baz=125							
IKP	**In-Ko-Pah, Jac**	**0.75**	**301⇓**	*e*P	**Pg**		**00 06 59.7**	**-0.5**
BTCC	**Brunts Corner**	**0.76**	**8**	*e*P	**Pg**		**00 06 59.5**	**-0.9**
SWSC	**Sam W. Stewart**	**0.78**	**331**	P	**Pg**		**00 06 59.8**	**-1.0**
	baz=153,SNR=110							
SWSC				S	**Sg**		**00 07 10.8**	**-0.2**
	baz=153							
ECBX	**El Chinero**	**0.83**	**162⇓**	*e*P	**Pg**		**00 07 00.9**	**-0.7**
ECBX				*e*S	**Sg**		**00 07 12.4**	**-0.1**
GLA	**Glamis**	**0.91**	**29**	P	**Pg**		**00 07 01.6**	**-1.6**
	baz=208,SNR=100							
GLA				S	**Sg**		**00 07 13.9**	**-1.2**
	baz=208							
ZAX	**El Zacaton**	**1.08**	**227⇑**	*e*P	**Pg**		**00 07 05.7**	**-0.8**
ZAX				*e*S	**Sg**		**00 07 20.6**	**0.0**
MONP2	**Monument Peak**	**1.10**	**305**	Pb	**Pg**		**00 07 06.0**	**-1.0**
	baz=127							
MONP2				S	**Sg**		**00 07 20.1**	**-1.2**
	baz=127							
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pg**		**00 07 06.5**	**-0.6**
CBX				*e*S	**Sg**		**00 07 20.6**	**-1.0**
CBX	**Cerro Bola**	**1.11**	**273⇑**	*e*P	**Pg**		**00 07 06.5**	**-0.6**
CBX				*e*S	**Sg**		**00 07 21.1**	**-0.5**
CBX				IAML			00 07 28.2	
	comp=E,1μm,0.7s							
TJIG	**Tijuana**	**1.13**	**279**	*i* P	**Pg**		**00 07 06.6**	**-0.8**
TJIG				*e*S	**Sg**		**00 07 21.1**	**-1.1**
SPIG	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pg**		**00 07 08.1**	**-1.0**
SPIG				*e*S	**Sg**		**00 07 24.4**	**-0.6**
SPX	**San Pedro Mart**	**1.22**	**184⇑**	*e*P	**Pg**		**00 07 08.1**	**-1.0**
SPX				*e*S	**Sg**		**00 07 24.7**	**-0.2**
SPX				IAML			00 07 29.4	
	comp=E,636nm,0.5s							
SPX				*e*			00 07 29.4	
BC3	**Big Chuckawall**	**1.39**	**357**	P	**Pn**		**00 07 08.8**	**-1.8**
	baz=177,SNR=34							
BC3				S	**Sb**		**00 07 26.1**	**-3.0**
	baz=177							
113A	**Mohawk Valley,**	**1.43**	**69**	*e*P	**Pn**		**00 07 09.9**	**-1.2**
113A				*e*S	**Sb**		**00 07 26.7**	**-3.4**
109C	**Camp Elliot, M**	**1.61**	**293**	Pb	**Pn**		**00 07 14.5**	**+1.0**
	baz=114							
109C				Sb	**Sn**		**00 07 35.3**	**+1.4**
	baz=114							
PFO	**Pinyon Flats O**	**1.64**	**326**	P	**Pn**		**00 07 12.5**	**-1.5**
	baz=146,SNR=24							
PFO				S	**Sn**		**00 07 32.6**	**-2.4**
	baz=146							
PFO	**Pinyon Flats O**	**1.64**	**326**	*e*Pn	**Pn**		**00 07 12.6**	**-1.5**
PFO				*e*S	**Sn**		**00 07 32.4**	**-2.6**
Y12C	**Blythe**	**1.64**	**25**	Pb	**Pn**		**00 07 14.5**	**+0.5**
	baz=204							
IRM	**Iron Mountain**	**1.90**	**5**	P	**Pn**		**00 07 16.1**	**-1.4**
	baz=185							
MURC	**Murrieta**	**2.05**	**311**	Pb	**Pn**		**00 07 22.5**	**+2.9**
	baz=132							
MURC				Sb	**Sb**		**00 07 48.9**	**+1.1**
	baz=132							
214A	**Organ Pipe Nat**	**2.18**	**97**	P	**Pn**		**00 07 19.9**	**-1.4**
	baz=277,SNR=12							
214A				S	**Sn**		**00 07 45.9**	**-2.2**
	baz=277							
214A	**Organ Pipe Nat**	**2.18**	**97**	*e*P	**Pn**		**00 07 19.9**	**-1.4**
214A	**Organ Pipe Nat**	**2.18**	**97**	*e*Pn	**Pn**		**00 07 20.0**	**-1.4**
214A				*e*S	**Sg**		**00 07 56.0**	**+0.3**
BFSC	**Mount Baldy Ra**	**2.76**	**316**	Pb	**Pb**		**00 07 35.2**	**+0.4**
	baz=136							
SCI2	**San Clemente I**	**2.79**	**286**	Sb	**Sb**		**00 08 10.2**	**+1.1**
	baz=105							
CIS	**Catalina Islan**	**2.82**	**295**	Sb	**Sb**		**00 08 11.3**	**+1.3**
	baz=114							
FMP	**Fort Macarthur**	**2.87**	**301**	Sb	**Sb**		**00 08 13.0**	**+1.7**
	baz=121							
DECC	**Green Verdugo**	**3.19**	**309**	Sb	**Sb**		**00 08 23.2**	**+2.5**
	baz=129							
EDW2	**Edwards Air Fo**	**3.42**	**321**	Sb	**Sb**		**00 08 29.7**	**+2.4**
	baz=140							
SNCC	**San Nicolas Is**	**3.65**	**287**	Sb	**Sb**		**00 08 36.2**	**+2.2**
	baz=105							
OSI	**Osito Audit: C**	**3.67**	**311**	Sb	**Sb**		**00 08 36.9**	**+2.4**
	baz=130							
TUC	**Tucson**	**3.87**	**88**	*e*Pn	**Pn**		**00 07 47.0**	**+2.4**
TUC				*e*S	**Sb**		**00 08 44.9**	**+4.6**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**		**00 07 56.6**	**+1.3**
WUAZ				*e*S	**Sb**		**00 09 09.6**	**+7.1**
121A	**Cookes Peak, D**	**6.41**	**86**	*e*Pn	**Pn**		**00 08 20.0**	**+0.4**
	comp=E,3.3nm,0.3s							
121A				*e*S	**Sg**		**00 10 11.4**	**+0.2**

*DDA **25** 00:07:27.4, 38°69N×43°31E, h7km, Ml3.6*
*ISK **25** 00:07:27.2, 38°71N×43°29E, h5km, MD3.1*
*ISCJB **25** 00:07:28.6±0.5, 38°71N±0°03×43°26E±0°06, h13km±4km, Error ellipse: s-maj=7.6km s-min=4.4km az=160.5*
*CSEM **25** 00:07:28.3±0.2, 38°72N×43°29E, h10km, MD3.1, Error ellipse: s-maj=6.8km s-min=3.9km az=68.0*

ISC 25 00:07:28.2±1.0, 38°72N±0°03×43°29E±0°05, h19km±3km, n40, σ1§11/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**147**	*e*PG	**Pg**		**00 07 32.2**	**-0.4**
VANB				*e*SG	**Sg**		**00 07 35.4**	**-0.2**
VANB	**Van**	**0.14**	**147**	*e*Pg	**Pg**		**00 07 32.2**	**-0.4**
VANB				*e*Sg	**Sg**		**00 07 35.4**	**-0.2**
TVAN	**Van**	**0.21**	**154**	*i* P	**Pg**		**00 07 34.9**	**+1.3**
TVAN				*i* S	**Sg**		**00 07 38.3**	**+1.2**
TVAN	**Van**	**0.21**	**154**	P	**Pg**		**00 07 34.8**	**+1.3**
TVAN				S	**Sg**		**00 07 38.3**	**+1.2**
GEVA	**Gevas**	**0.44**	**204**	*i* P	**Pg**		**00 07 36.4**	**-1.0**
GEVA				*i* S	**Sg**		**00 07 41.7**	**-1.8**
GEVA	**Gevas**	**0.44**	**204**	P	**Pg**		**00 07 36.4**	**-1.0**
GEVA				S	**Sg**		**00 07 41.7**	**-1.8**
TUTA	**Tutak**	**0.78**	**332**	*i* P	**Pb**		**00 07 43.2**	**-0.2**
TUTA				*i* S	**Sb**		**00 07 54.3**	**+0.6**
TUTA	**Tutak**	**0.78**	**332**	P	**Pb**		**00 07 43.2**	**-0.2**
TUTA				S	**Sb**		**00 07 54.3**	**+0.6**
BASK	**Baskale_VAN**	**0.87**	**139**	*i* P	**Pg**		**00 07 43.3**	**-1.9**
BASK				*i* S	**Sg**		**00 07 55.3**	**-1.4**
BASK	**Baskale_VAN**	**0.87**	**139**	P	**Pg**		**00 07 43.3**	**-1.9**
BASK				S	**Sg**		**00 07 55.3**	**-1.4**
DYDN	**Diyadin**	**0.88**	**20**	*i* P	**Pg**		**00 07 44.5**	**-1.0**
DYDN	**Diyadin**	**0.88**	**20**	P	**Pg**		**00 07 44.5**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*PG	**Pb**		**00 07 45.1**	**-0.1**
AGRB				*e*SG	**Sb**		**00 07 57.6**	**+0.8**
AGRB	**Hanur-Agry**	**0.89**	**345**	*e*Pg	**Pb**		**00 07 45.1**	**-0.1**
AGRB				*e*Sg	**Sb**		**00 07 57.6**	**+0.8**
EKAR	**Karacoban**	**1.10**	**300**	*i* P	**Pn**		**00 07 50.0**	**+1.1**
EKAR	**Karacoban**	**1.10**	**300**	P	**Pn**		**00 07 50.0**	**+1.1**
EATA	**Eleskirt**	**1.30**	**332**	*i* P	**Pn**		**00 07 52.4**	**+0.6**
EATA	**Eleskirt**	**1.30**	**332**	P	**Pn**		**00 07 52.4**	**+0.6**
CUKT	**Cukurca**	**1.49**	**170**	*e*PN	**Pg**		**00 07 55.6**	**-1.3**
CUKT	**Cukurca**	**1.49**	**170**	*i* P	**Pg**		**00 07 56.4**	**-0.6**
CUKT	**Cukurca**	**1.49**	**170**	*e*Pn	**Pg**		**00 07 55.6**	**-1.3**
CUKT	**Cukurca**	**1.49**	**170**	P	**Pg**		**00 07 56.3**	**-0.6**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*PN	**Pn**		**00 07 54.6**	**+0.4**
VRTB	**Varto-Mus**	**1.50**	**288**	*i* P	**Pb**		**00 07 55.4**	**-0.1**
VRTB	**Varto-Mus**	**1.50**	**288**	*e*Pn	**Pn**		**00 07 54.7**	**+0.4**
VRTB	**Varto-Mus**	**1.50**	**288**	P	**Pb**		**00 07 55.4**	**-0.1**
DIGO	**Kars**	**1.70**	**2**	*i* P	**Pg**		**00 07 59.8**	**-1.2**
DIGO	**Kars**	**1.70**	**2**	P	**Pg**		**00 07 59.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*PN	**Pn**		**00 07 58.5**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*i* P	**Pb**		**00 07 59.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*Pn	**Pn**		**00 07 58.5**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	P	**Pb**		**00 07 59.4**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*PN	**Pn**		**00 08 02.4**	**+1.4**
SENK	**Senkaya-Erzuru**	**1.98**	**339**	*e*Pn	**Pn**		**00 08 02.4**	**+1.4**
BNGB	**Bing¶ll**	**2.06**	**279**	*e*PN	**Pn**		**00 08 03.5**	**+1.6**
BINT	**Bingol**	**2.19**	**275**	*e*Pn	**Pn**		**00 08 03.5**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*PN	**Pn**		**00 08 06.3**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.25**	**290**	*e*Pn	**Pn**		**00 08 06.3**	**+1.6**
MAZI	**Mazidag**	**2.57**	**242**	*e*PN	**Pn**		**00 08 10.6**	**+1.6**
MAZI	**Mazidag**	**2.57**	**242**	*e*Pn	**Pn**		**00 08 10.6**	**+1.6**

*NSSC **25** 00:08:10.6±1.0, 39°70N×44°52E, h0km±490km, ML3.5*
*DDA **25** 00:08:29.5, 38°64N×43°08E, h5km, Ml4.0*
*ISK **25** 00:08:29.6, 38°62N×43°22E, h5km, ML3.9*
*ISCJB **25** 00:08:30.4±0.5, 38°66N±0°02×43°18E±0°03, h6km±4km, mb3.5/9, MS3.3/1, Error ellipse: s-maj=3.6km s-min=2.9km az=170.2*
*CSEM **25** 00:08:30.4±0.2, 38°63N×43°17E, h2km, ML3.9, Error ellipse: s-maj=5.7km s-min=4.7km az=76.0*
*IDC **25** 00:08:31.2±0.9, 38°77N×43°31E, h0km, mb3.6/10, mb1 3.6/16, mb1mx3.5/46, mbtmp3.5/16, ML2.7/5, MS3.0/4, Ms1 3.0/4, ms1mx2.5/56, Error ellipse: s-maj=16.5km s-min=10.9km az=163.0*

ISC 25 00:08:30.2±1.1, 38°62N±0°02×43°16E±0°02, h3km±8km, n119, σ1§98/143, mb3.5/9, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**98**	PG	**Pg**		**00 08 34.0**	**+0.2**
VANB				*e*SG	**Sg**		**00 08 36.1**	**-0.1**
VANB	**Van**	**0.18**	**98**	*i* Pg	**Pg**		**00 08 34.0**	**+0.2**
VANB				*e*Sg	**Sg**		**00 08 36.1**	**-0.1**
TVAN	**Van**	**0.22**	**115⇓**	*i*P	**Pg**		**00 08 36.5**	**+2.1**
TVAN				*i* S	**Sg**		**00 08 40.1**	**+2.8**
GEVA	**Gevas**	**0.32**	**194⇑**	*i*P	**Pg**		**00 08 35.3**	**-1.0**
GEVA				*i* S	**Sb**		**00 08 43.1**	**-1.1**
TUTA	**Tutak**	**0.82**	**341⇑**	*i*P	**Pg**		**00 08 44.8**	**-1.2**
TUTA				*i* S	**Sg**		**00 08 57.5**	**+0.8**
TUTA	**Tutak**	**0.82**	**341**	P	**Pg**		**00 08 44.8**	**-1.2**
TUTA				S	**Sg**		**00 08 57.5**	**+0.8**
BASK	**Baskale_VAN**	**0.88**	**130**	*i* P	**Pg**		**00 08 44.3**	**-2.6**
BASK				*i* S	**Sn**		**00 08 59.2**	**-3.7**
AGRB	**Hanur-Agry**	**0.96**	**352**	*e*PG	**Pb**		**00 08 48.6**	**-1.0**
AGRB				*e*SG	**Sb**		**00 09 02.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.96**	**352**	*e*Pg	**Pb**		**00 08 48.6**	**-1.0**
AGRB				*e*Sg	**Sb**		**00 09 02.2**	**-0.6**
DYDN	**Diyadin**	**1.01**	**24**	*i* P	**Pg**		**00 08 48.6**	**-0.9**
DYDN	**Diyadin**	**1.01**	**24**	P	**Pg**		**00 08 48.6**	**-0.9**
EKAR	**Karacoban**	**1.06**	**307**	*i* P	**Pg**		**00 08 49.7**	**-0.8**
EKAR	**Karacoban**	**1.06**	**307**	P	**Pg**		**00 08 49.7**	**-0.8**
HAKT	**HAKKARI**	**1.15**	**158**	*i* P	**Pg**		**00 08 50.7**	**-1.5**
HAKT				*i* S	**Sn**

VRTB	Varto-Mus	1.43 293	P	Pn	00 08 55.3	-1.9
VRTB	Varto-Mus	1.43 293	*e*Pn	Pn	00 08 56.2	-1.0
VRTB			S	Sb	00 09 16.7	+0.5
BNGL	BINGOL	1.60 283	*i* P	Pn	00 08 58.5	-1.0
SVAN	Silvan-Diyarba	1.61 254	*e*Pn	Pb	00 08 59.5	-1.0
SVAN			*e*SN	Sb	00 09 22.0	+0.8
SVAN	Silvan-Diyarba	1.61 254	⇓*i*P	Pn	00 08 59.2	-0.3
SVAN			*i* S	Sb	00 09 20.8	-0.4
SVAN	Silvan-Diyarba	1.61 254	P	Pn	00 08 59.2	-0.3
SVAN	Silvan-Diyarba	1.61 254	*e*Pn	Pb	00 08 59.5	-1.0
SVAN			S	Sb	00 09 20.8	-0.4
SVAN			*e*Sn	Sb	00 09 22.0	+0.8
BTMN	Batman	1.66 244	⇓*i*P	Pn	00 09 00.1	0.0
BTMN			*i* S	Sn	00 09 21.0	-0.9
BTMN	Batman	1.66 244	P	Pn	00 09 20.1	0.0
BTMN			S	Sn	00 09 21.0	-0.9
HOMI	Horasan	1.72 326	*i* P	Pb	00 08 59.9	-1.3
DIGO	Kars	1.80 5	*i* P	Pb	00 09 02.8	-1.1
DIGO	Kars	1.80 5	P	Pb	00 09 02.8	-1.1
ERZM	Erzurum	1.89 313	*i* P	Pn	00 09 03.6	0.0
ERZM	Erzurum	1.89 313	P	Pn	00 09 03.6	0.0
GNI	Garni	1.96 38	Pn	Pb	00 09 05.0	-1.5
	13nm,0.3s,baz=272,slow=4.4,SNR=14					
BNGB	Bing¶ll	1.97 282	*e*PN	Pn	00 09 04.9	+0.4
SENK	Senkaya-Erzuru	2.04 342	*e*PN	Pb	00 09 06.1	-1.8
SENK	Senkaya-Erzuru	2.04 342	*e*Pn	Pb	00 09 06.1	-1.8
EAK	Akyaka	2.09 9	*i* P	Pg	00 09 10.3	+0.1
EAK	Akyaka	2.09 9	P	Pg	00 09 10.3	+0.1
BINT	Bingol	2.10 278	*e*Pn	Pn	00 09 04.9	-1.4
YEDI	Yedisu-Bingol	2.19 293	*e*PN	Pb	00 09 08.6	-1.9
YEDI	Yedisu-Bingol	2.19 293	*e*Pn	Pb	00 09 08.6	-1.9
MARD	Mardin	2.29 236	*i* P	Pn	00 09 07.9	-1.0
MAZI	Mazidag	2.43 242	*e*PN	Pn	00 09 11.4	+0.5
MAZI	Mazidag	2.43 242	*e*Pn	Pn	00 09 11.4	+0.5
DIYA	Diyarbakir	2.49 255	*i* P	Pn	00 09 11.2	-0.4
DIYA	Diyarbakir	2.49 255	P	Pn	00 09 11.2	-0.4
DDEM	Demirkent	2.51 335	*i* P	Pb	00 09 14.8	-1.2
DDEM	Demirkent	2.51 335	P	Pb	00 09 14.8	-1.2
DAGI	Agillar	2.63 339	*i* P	Pb	00 09 18.0	0.0
ARTV	Artvin	2.73 340	*i* P	Pb	00 09 17.4	-2.3
ARTV	Artvin	2.73 340	P	Pb	00 09 17.4	-2.3
AKH	Akhalkalaki	2.80 5	*e*PN	Pn	00 09 16.3	+0.3
AKH	Akhalkalaki	2.80 5	*e*Pn	Pn	00 09 16.3	+0.3
ERZN	Erzincan	2.84 291	*e*PN	Pn	00 09 17.6	+1.1
TNCL	Tunceli-Merkez	2.86 281	*i* P	Pn	00 09 17.1	+0.3
TNCL	Tunceli-Merkez	2.86 281	P	Pn	00 09 17.1	+0.3
EPOS	Posof	2.90 354	*i* P	Pb	00 09 21.9	-0.6
EPOS	Posof	2.90 354	P	Pb	00 09 21.9	-0.6
EUZM	Uzumlu	2.90 293	*i* P	Pb	00 09 20.7	-1.8
EUZM	Uzumlu	2.90 293	P	Pb	00 09 20.7	-1.8
DBOC	Borcka	2.95 338	*i* P	Pb	00 09 22.8	-0.6
DBOC	Borcka	2.95 338	P	Pb	00 09 22.8	-0.6
PTK	Pertek	2.96 276	*e*PN	Pn	00 09 19.5	+1.4
PTK	Pertek	2.96 276	*e*Pn	Pn	00 09 19.5	+1.4
SVRC	Sivrice-ELAZID	3.03 267	*e*PN	Pn	00 09 20.3	+1.1
SVRC	Sivrice-ELAZID	3.03 267	*e*Pn	Pn	00 09 20.3	+1.1
DGRG	David-gareji	3.30 30	P	Pn	00 09 22.7	0.0
TBLG	Delisi	3.33 21	*e*PN	Pn	00 09 24.3	+1.1
TBLG	Delisi	3.33 21	*e*Pn	Pn	00 09 24.3	+1.1
TBLG	Delisi	3.33 21	P	Pb	00 09 26.6	-3.3
KELT	Kelkit	3.38 298	*i* P	Pn	00 09 25.7	+1.6
KELT	Kelkit	3.38 298	P	Pn	00 09 25.7	+1.6
KTUT	Trabzon	3.52 313	*e*PN	Pn	00 09 28.1	+2.4
KTUT	Trabzon	3.52 313	*e*Pn	Pn	00 09 28.1	+2.4
URFA	Urfa	3.62 252	*e*PN	Pn	00 09 28.9	+1.7
URFA	Urfa	3.62 252	*e*Pn	Pn	00 09 28.9	+1.7
KEMA	Kemaliye	3.69 282	*i* P	Pb	00 09 35.9	-0.1
ATAB	Bozova	4.01 255	*i* P	Pb	00 09 39.7	-1.7
ESPY	Espiye-Giresun	4.11 305	*e*PN	Pn	00 09 35.6	+1.7
ESPY	Espiye-Giresun	4.11 305	*e*Pn	Pn	00 09 35.6	+1.7
DARE	Darende-Malaty	4.45 271	*e*PN	Pn	00 09 40.1	+1.6
DARE	Darende-Malaty	4.45 271	*e*Pn	Pn	00 09 40.1	+1.6
RSDY	Resadiye-TOKAT	4.84 293	*e*PN	Pn	00 09 46.1	+2.2
RSDY	Resadiye-TOKAT	4.84 293	*e*Pn	Pn	00 09 46.1	+2.2
SVSK	Karacayir	4.95 287	*e*PN	Pn	00 09 48.8	+3.4
KMRS	Kahramanmaras	5.06 259	*e*PN	Pn	00 09 49.9	+2.9
KBZ	Khabaz	5.11 358	Pn	Pn	00 09 49.0	+1.5
	0.0nm,0.3s,baz=131,slow=9.3,SNR=1.9					
SARI	SarD1z-Kayseri	5.29 270	*e*PN	Pn	00 09 53.2	+3.1
KVAR	Kislovodsk Arr	5.34 356	Pn	Pn	00 09 51.4	+0.6
	baz=150,slow=20,SNR=1.9					
KVAR			LR	LR	00 12 25.7	
	comp=Z,66nm,20.7s,baz=246,slow=45					
BNN	Bunyan	5.72 275	*e*PN	Pn	00 09 58.9	+2.8
KOZT	Kozan	5.90 261	*e*PN	Pn	00 10 02.2	+3.9
BTCH	Batrach	5.93 246	*i* P	Pn	00 10 01.1	+2.2
BTCH			*e*S	Sb	00 11 19.1	-6.4
BTCH			AML	AML	00 11 51.0	
	comp=E,74nm,0.7s					
BTCH			AML	AML	00 11 54.2	
	comp=N,155nm,0.6s					
RABH	Abou Rabah	6.36 231	*i* P	Pn	00 10 08.1	+3.4
RABH			*e*S	Sb	00 11 31.9	-6.0
RABH			AMP		00 12 07.5	
RABH			AML	AML	00 12 23.8	
	comp=N,32nm,0.8s					
BIDA	Albida	6.56 239	*i* P	Pn	00 10 09.4	+1.8
BIDA			*e*S	Sb	00 11 35.5	-8.3
BIDA			AML	AML	00 12 06.7	
	comp=N,91nm,0.6s					
BIDA			AML	AML	00 12 14.2	
	comp=E,161nm,0.7s					
HAWK	Haweek	6.80 235	*i* P	Pn	00 10 13.1	+2.2
HAWK			*e*S	Sb	00 11 41.8	-8.9
HAWK			AML	AML	00 12 19.2	
	comp=N,44nm,0.6s					
HAWK			AML	AML	00 12 40.1	
	comp=E,16nm,0.6s					
MARH	Ras Al Marh	7.07 232	*i* P	Pn	00 10 17.2	+2.4
MARH			*e*S	Sb	00 11 49.2	-10
MARH			AML	AML	00 12 28.2	
	comp=E,25nm,0.7s					
MARH			AML	AML	00 12 39.7	
	comp=N,43nm,0.7s					
BRTR	Keskin Array B	7.48 281	Pn	Pn	00 10 25.4	+5.3
	comp=N,0.1nm,0.3s,baz=99,slow=18,SNR=3.3					
BRBR	Barbar	7.82 230	*i* P	Pn	00 10 27.0	+2.1
BRBR			*e*S	Sb	00 12 07.3	-13
BRBR			AML	AML	00 13 03.2	
	comp=N,25nm,0.8s					
BRBR			AML	AML	00 13 07.6	
	comp=E,14nm,0.7s					
MMAI	Mount Meron Ar	8.42 231	Pn	Pn	00 10 35.1	+2.0
	comp=E,0.6nm,0.3s,baz=75,slow=16,SNR=5.9					
MMAI			LR	LR	00 14 15.3	
	comp=E,115nm,19.5s,baz=10,0.slow=40					
AKASG	Malin Array Be	15.59 325	Pn	Pn	00 12 11.4	+0.7
	comp=E,0.6nm,0.3s,baz=134,slow=10,SNR=4.3					
AKTO	Aktyubinsk	15.83 37	Pn	Pn	00 12 12.0	-1.8
	comp=E,0.2nm,0.3s,baz=234,slow=10,SNR=8.7					
AKTO			LR	LR	00 19 28.9	
	comp=E,32nm,21.6s,baz=221,slow=42					
VYHS	Vyhne	20.12 307	*e*P	Pn	00 13 07.3	+0.4
ARU	Arti	20.54 25	P	Pn	00 13 10.5	-1.2
	comp=E,2.0nm,0.4s,baz=231,slow=5.3,SNR=5.4					
GERES	GERESS Array B	23.47 305	P	P	00 13 43.6	+2.7
	comp=E,0.6nm,0.8s,baz=96,slow=11,SNR=4.0					
BVAR	Borovoye Array	23.64 44	P	P	00 13 42.7	+0.4
	comp=E,1.0nm,0.8s,baz=209,slow=2.7,SNR=5.2					
BVAR			LR	LR	00 25 40.1	
	comp=E,117nm,21.5s,baz=253,slow=44					
AAK	Ala-Archa	24.05 70	P	P	00 13 47.2	+0.6
	comp=E,0.3nm,0.3s,baz=293,slow=7.7,SNR=2.2					
FINES	FINESS Array B	25.18 341	P	P	00 13 57.0	+0.6
	comp=E,1.3nm,0.7s,baz=149,slow=13,SNR=5.1					
KURBB	Kurchatov Arra	27.62 53	P	P	00 14 18.9	+0.2
	comp=E,1.4nm,0.7s,baz=264,slow=9.2,SNR=11					
MKAR	Makanchi Array	29.64 61	P	P	00 14 36.5	-0.3
	comp=E,0.5nm,0.7s,baz=276,slow=5.9,SNR=4.0					
ZALV	Zalesovo Beam	32.08 48	P	P	00 14 58.1	0.0
	comp=E,0.6nm,0.5s,baz=255,slow=5.5,SNR=2.5					
TORD	Torodi Ar. Bea	44.58 247	P	P	00 16 46.8	+3.2
	comp=E,0.5nm,0.8s,baz=82,slow=9.7,SNR=3.0					
CMAR	Chiang Mai Arr	52.14 96	P	P	00 17 41.0	-1.1
	comp=E,0.7nm,0.3s,baz=297,slow=8.4,SNR=5.5					

*DDA **25** 00:13:05.2,38.°70N×43.°30E,h7km,Ml3.8*
*ISK **25** 00:13:05.3,38.°71N×43.°34E,h5km,ML3.5*
*ISCJB **25** 00:13:06.5±0.5,38.°72N±0.°03×43.°28E±0.°05,h10km±4km, Error ellipse: s-maj=6.3km s-min=4.2km az=168.4*
*CSEM **25** 00:13:06.1±0.2,38.°72N×43.°28E,h2km,ML3.5, Error ellipse: s-maj=6.1km s-min=3.8km az=70.0*

ISC 25 00:13:06.6±0.8,38.°72N±0.°02×43.°29E±0.°04,h16km±6km, n47,σ1°49/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	147	PG	Pg	00 13 10.0	-0.7
VANB				*e*SG	Sg	00 13 12.9	-0.5
VANB	Van	0.14	147	*i* Pg	Pg	00 13 10.0	-0.7
VANB				*e*Sg	Sg	00 13 12.9	-0.5
TVAN	Van	0.21	154	*i* P	Pg	00 13 12.4	+0.7
TVAN				*i* S	Sg	00 13 16.1	+1.0
TVAN	Van	0.21	154	P	Pg	00 13 12.4	+0.7
TVAN				S	Sg	00 13 16.1	+1.0
GEVA	Gevas	0.44	204	*i* P	Pg	00 13 13.6	-2.0
GEVA				*i* S	Sg	00 13 19.9	-1.7
GEVA	Gevas	0.44	204	P	Pg	00 13 13.6	-2.0
GEVA				S	Sg	00 13 20.0	-1.7
TUTA	Tutak	0.78	332	*i* P	Pg	00 13 20.6	-1.2
TUTA				*i* S	Sb	00 13 32.1	-0.2
TUTA	Tutak	0.78	332	P	Pg	00 13 20.6	-1.2
TUTA				S	Sb	00 13 32.1	-0.2
BASK	Baskale_VAN	0.87	140	*i* P	Pg	00 13 21.0	-2.5
BASK				*i* S	Sg	00 13 33.7	-1.3
BASK	Baskale_VAN	0.87	140	P	Pg	00 13 21.0	-2.5
BASK				S	Sg	00 13 33.7	-1.3
DYDN	Diyadin	0.88	20	*i* P	Pg	00 13 22.6	-1.2
DYDN				*i* S	Sb	00 13 35.2	-0.1
DYDN	Diyadin	0.88	20	P	Pg	00 13 22.6	-1.2
DYDN				S	Sb	00 13 35.2	-0.1
AGRB	Hanur-Agry	0.89	345	PG	Pg	00 13 22.9	-1.0
AGRB				*e*SG	Sb	00 13 35.7	+0.3
AGRB	Hanur-Agry	0.89	345	*i* Pg	Pg	00 13 22.9	-1.0
AGRB				*e*Sg	Sb	00 13 35.7	+0.3
EKAR	Karacoban	1.10	300	*i* P	Pn	00 13 27.6	+0.1
EKAR				*i* S	Sn	00 13 46.7	+4.3
EKAR	Karacoban	1.10	300	P	Pn	00 13 27.6	+0.1
EATA	Eleskirt	1.30	332	*i* P	Pg	00 13 30.1	-1.6
EATA	Eleskirt	1.30	332	P	Pg	00 13 30.1	-1.6
CUKT	Cukurca	1.49	170	*e*PN	Pg	00 13 33.9	-1.4
CUKT	Cukurca	1.49	170	*i* P	Pg	00 13 34.4	-0.8
CUKT	Cukurca	1.49	170	*e*Pn	Pg	00 13 33.9	-1.4
CUKT	Cukurca	1.49	170	P	Pg	00 13 34.4	-0.8
VRTB	Varto-Mus	1.50	288	*e*PN	Pb	00 13 33.8	-0.3
VRTB	Varto-Mus	1.50	288	*i* P	Pn	00 13 33.1	+0.2
VRTB	Varto-Mus	1.50	288	P	Pn	00 13 33.1	+0.2
VRTB	Varto-Mus	1.50	288	*e*Pn	Pb	00 13 33.8	-0.3
DIGO	Kars	1.70	2	*i* P	Pg	00 13 37.7	-1.5
DIGO	Kars	1.70	2	P	Pg	00 13 37.7	-1.5
SVAN	Silvan-Diyarba	1.74	252	*e*PN	Pb	00 13 37.2	-0.9
SVAN	Silvan-Diyarba	1.74	252	*i* P	Pb	00 13 37.1	-1.0
SVAN	Silvan-Diyarba	1.74	252	*e*Pn	Pb	00 13 37.2	-0.9
SENK	Senkaya-Erzuru	1.98	339	*e*PN	Pb	00 13 41.0	-1.3
SENK	Senkaya-Erzuru	1.98	339	*e*Pn	Pb	00 13 41.0	-1.3
BNGB	Bing¶ll	2.06	278	*e*PN	Pb	00 13 42.2	-1.4
BINT	Bingol	2.19	275	*e*Pn	Pn	00 13 42.2	-0.3
YEDI	Yedisu-Bingol	2.25	289	*e*PN	Pn	00 13 44.8	+1.4
YEDI	Yedisu-Bingol	2.25	289	*e*Pn	Pn	00 13 44.8	+1.4
MAZI	Mazidag	2.57	242	*e*PN	Pn	00 13 48.6	+0.9
MAZI	Mazidag	2.57	242	*e*Pn	Pn	00 13 48.6	+0.9
AKH	Akhalkalaki	2.69	3	*e*PN	Pn	00 13 51.1	+1.7
AKH	Akhalkalaki	2.69	3	*e*Pn	Pn	00 13 51.1	+1.7
PTK	Pertek	3.05	275	*e*PN	Pn	00 13 56.6	+2.3
PTK	Pertek	3.05	275	*e*Pn	Pn	00 13 56.6	+2.3
SVRC	Sivrice-ELAZID	3.14	265	*e*PN	Pn	00 13 57.8	+2.2
SVRC	Sivrice-ELAZID	3.14	265	*e*Pn	Pn	00 13 57.8	+2.2
URFA	Urfa	3.75	252	*e*PN	Pn	00 14 06.3	+2.5
URFA	Urfa	3.75	252	*e*Pn	Pn	00 14 06.3	+2.5

*IDC **25** 00:13:59.6±2.7,13.°82N×93.°87W,h0km,mb3.9/6, mb1 4.2/8,mb1mx3.9/43,mbtmp3.9/8,ML3.9/2,MS3.2/9, Ms1 3.2/9,ms1mx2.9/43,Error ellipse: s-maj=64.8km s-min=45.0km az=48.0*
*NEIC **25** 00:14:12.0±0.0,14.°97N×93.°69W,h9km,mb4.1/8, MD4.2(MEX),After MEX.*
*MEX **25** 00:14:12.3±0.3,14.°97N×93.°69W,h9km±14km,MD4.2*

ISC 25 00:14:13.8±1.4,14.°9N±0.°1×93.°42W±0.°07,h57km,n29, σ2°37/29,mb4.1/10,MS3.2/6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.79	14	*e*P	Pn	00 14 26.6	-2.4
PCIG				*e*S	Sn	00 14 37.8	-2.3
CCIG	Comitan	1.82	42	*e*P	Pn	00 14 43.0	0.0
CCIG				*e*S	Sn	00 15 06.6	+1.6
TGIG		1.85	9	*i* P	Pn	00 14 43.9	+0.6
TGIG				*e*S	Sn	00 15 07.6	+1.9
CMIG	Matias Romero	2.57	327	Pn	Pn	00 14 52.6	-0.4
	15nm,0.3s,baz=156,slow=13,SNR=86						
CMIG				Sn	Sn	00 15 26.4	+3.4
	52nm,0.3s,baz=74,slow=11,SNR=11						
CMIG				LR	LR	00 16 11.8	
	comp=Z,171nm,21.7s,baz=163,slow=39						
HUIG	Huatulco	2.73	288	*e*P	Pn	00 14 49.6	-5.6
SCIG	Sabancuy	4.54	28	*e*P	Pn	00 15 20.1	0.0
SCIG				*i* S	Sn	00 16 13.3	+1.7
TEIG	Tepich	7.19	42	*e*Pn	Pn	00 15 56.4	+0.1
	20nm,0.8s						
TEIG				*e*S	Sn	00 17 17.6	+0.9
JCT	Junction City	16.55	340	*e*Pn	P	00 18 03.7	-0.2
	5.6nm,0.5s						
TXAR	Lajitas Array	17.17	328	P	P	00 18 11.5	+0.6
	0.1nm,0.3s,baz=151,slow=13,SNR=17						
TXAR				LR	LR	00 26 00.6	
	comp=Z,42nm,18.4s,baz=0.0,slow=40						
LPIG	La Paz	18.33	302	LR	LR	00 25 23.0	
	comp=Z,80nm,18.4s,baz=53,slow=37						
MIAR	Mount Ida	19.53	360	*e*P	Pn	00 18 37.4	-0.9
	2.3nm,0.8s						
MIAR				*e*S	S	00 22 06.6	-7.6
MNTX	Cornudas Mount	19.95	329	*e*P	Pn	00 18 43.3	-0.1
	2.1nm,0.6s						
MSTX	Muleshoe	20.75	338	*e*P	P	00 18 51.8	+1.8
	9.8nm,0.9s						
AMTX	Amarillo	21.21	341	*e*P	P	00 18 55.9	+1.0
	20nm,0.6s						
121A	Cookes Peak, D	21.86	326	*e*P	P	00 19 04.3	+2.3
	14nm,1.0s						
TKL	Tuckaleechee C	22.38	21	P	P	00 19 12.8	+5.5
	6.3nm,1.1s,baz=182,slow=16,SNR=3.6						
TKL				LR	LR	00 28 59.2	
	comp=Z,42nm,19.9s,baz=239,slow=38						
ANMO	Albuquerque	23.12	332	P	P	00 19 15.9	+0.7
	1.5nm,0.5s,baz=323,slow=9.5,SNR=7.4						
TUC	Tucson	23.44	321	*e*P	P	00 19 18.6	+0.3
	6.5nm,0.9s						
SJG	San Juan	26.32	79	LR	LR	00 29 54.3	
	comp=Z,50nm,18.5s,baz=258,slow=35						
ATAH	Atahualpa	26.51	145	LR	LR	00 28 07.7	
	comp=Z,45nm,21.1s,baz=297,slow=33						
PFO	Pinyon Flats O	27.94	316	LR	LR	00 31 30.5	
	comp=Z,68nm,19.4s,baz=148,slow=37						
PCRV	Puerto La Cruz	28.47	96	LR	LR	00 32 33.2	
	comp=Z,72nm,18.6s,baz=243,slow=39						
RSSD	Black Hills	30.46	345	*e*P	P	00 20 22.6	+1.3
	2.8nm,0.6s						
PDAR	Pinedale Array	31.01	337	P	P	00 20 26.5	+0.2
	0.2nm,0.4s,baz=152,slow=10,SNR=3.8						
YKA	Yellowknife Ar	49.81	347	P	P	00 23 00.7	+0.1
	2.4nm,0.7s,baz=156,slow=7.1,SNR=8.6						
ILAR	Eielson Array	61.45	337	P	P	00 24 23.4	-0.6
	0.8nm,1.0s,baz=123,slow=5.1,SNR=5.3						
NOA	NORSAR Array B	83.98	28	LR	LR	01 04 39.3	
	comp=Z,14nm,18.1s,baz=265,slow=36						
ARCES	ARCESS Array B	85.68	18	P	P	00 26 45.5	-0.7
	3.7nm,0.9s,baz=307,slow=4.4,SNR=5.7						
CMAR	Chiang Mai Arr	144.65	339	PKPbc	PKPab	00 33 40.1	-3.5
	0.8nm,0.4s,baz=328,slow=2.3,SNR=7.5						

*ISK **25** 00:16:39.6,38.°61N×43.°13E,h5km,ML3.7*
*ISCJB **25** 00:16:41.9±0.5,38.°58N±0.°02×43.°13E±0.°04,h14km±4km, mb3.5/3,Error ellipse: s-maj=5.2km s-min=4.1km az=171.9*
*CSEM **25** 00:16:41.1±0.2,38.°62N×43.°12E,h2km,ML3.7,Error ellipse: s-maj=5.7km s-min=4.2km az=57.0*
*IDC **25** 00:16:41.3±1.3,38.°61N×43.°17E,h0km,mb3.7/3, mb1 3.4/7,mb1mx3.2/41,mbtmp3.2/7,ML3.0/4,Error ellipse: s-maj=21.7km s-min=13.6km az=168.0*
*DDA **25** 00:16:41.7,38.°61N×43.°12E,h7km,Ml3.6*

ISC 25 00:16:42.1±0.9,38.°64N±0.°02×43.°14E±0.°03,h9km±7km, n59,σ1°94/77,mb3.6/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	102	PG	Pg	00 16 45.5	-0.8
VANB				*e*SG	Sg	00 16 49.5	+0.3
VANB	Van	0.20	102	*i* Pg	Pg	00 16 45.5	-0.8
VANB				*e*Sg	Sg	00 16 49.5	+0.3
TVAN	Van	0.24	118	*i* P	Pg	00 16 48.0	+1.0
TVAN				*i* S	Sg	00 16 53.0	+2.7
TVAN	Van	0.24	118	P	Pg	00 16 48.0	+1.0
TVAN				S	Sg	00 16 53.0	+2.7
GEVA	Gevas	0.33	191	*i* P	Pg	00 16 47.3	-1.4
GEVA				*i* S	Sg	00 16 52.8	-0.3
GEVA	Gevas	0.33	191	P	Pg	00 16 47.3	-1.4
GEVA				S	Sg	00 16 52.8	-0.3
TUTA	Tutak	0.80	342	*i* P	Pg	00 16 56.5	-1.1
TUTA				*i* S	Sn	00 17 11.5	-0.6
TUTA	Tutak	0.80	342	P	Pg	00 16 56.5	-1.1
TUTA				S	Sn	00 17 11.5	-0.6
BASK	Baskale_VAN	0.90	130	*i* P	Pg	00 16 57.3	-2.1
BASK				*i* S	Sn	00 17 17.0	+2.6
BASK	Baskale_VAN	0.90	130	P	Pg	00 16 57.3	-2.1
AGRB	Hanur-Agry	0.94	353	*e*PG	Pg	00 16 58.2	-2.0
AGRB				*e*SG	Sn	00 17 14.1	-1.4
AGRB	Hanur-Agry	0.94	353	*e*Pg	Pg	00 16 58.2	-2.0
AGRB				*e*Sg	Sn	00 17 14.1	-1.4
DYDN	Diyadin	1.00	25	*i* P	Pb	00 17 01.5	-0.2
DYDN	Diyadin	1.00	25	P	Pb	00 17 01.5	-0.2
EKAR	Karacoban	1.04	307	*i* P	Pg	00 17 01.6	-0.5
EKAR				*i* S	Sn	00 17 26.6	+8.6
EKAR	Karacoban	1.04	307	P	Pg	00 17 01.6	-0.5
HAKT	HAKKARI	1.17	157	*i* P	Pb	00 17 01.7	-2.9
HAKT				*i* S	Sg	00 17 15.4	-4.3
HAKT	HAKKARI	1.17	157	P	Pb	00 17 01.7	-2.9
HAKT				S	Sg	00 17 15.4	-4.3
SIRN	S¨–rnak	1.28	207	*i* P	Pn	00 17 05.5	-0.7
SIRN				*i* S	Sn	00 17 29.7	+6.2
SIRN	S¨–rnak	1.28	207	P	Pn	00 17 05.5	-0.7
EATA	Eleskirt	1.32	338	*i* P	Pn	00 17 05.9	-1.1
EATA				*i* S	Sn	00 17 26.6	+1.6
EATA	Eleskirt	1.32	338	P	Pn	00 17 05.9	-1.1
EATA				S	Sn	00 17 26.6	+1.6
VRTB	Varto-Mus	1.41	292	*e*PN	Pn	00 17 06.9	-1.3
VRTB	Varto-Mus	1.41	292	*i* P	Pn	00 17 07.3	-0.9
VRTB				*i* S	Sg	00 17 30.0	+2.4
VRTB	Varto-Mus	1.41	292	*e*Pn	Pn	00 17 06.9	-1.3
VRTB	Varto-Mus	1.41	292	P	Pn	00 17 07.3	-0.9
VRTB				S	Sg	00 17 30.0	+2.4
CUKT	Cukurca	1.44	165	*e*PN	Pb	00 17 08.3	-0.8
CUKT	Cukurca	1.44	165	*i* P	Pg	00 17 08.9	-0.8
CUKT				*i* S	Sg	00 17 36.3	+8.0
CUKT	Cukurca	1.44	165	*e*Pn	Pb	00 17 08.3	-0.8
CUKT	Cukurca	1.44	165	P	Pg	00 17 08.9	-0.8
SVAN	Silvan-Diyarba	1.60	253	*e*PN	Pn	00 17 09.7	-0.9
SVAN	Silvan-Diyarba	1.60	253	*e*Pn	Pn	00 17 09.7	-0.9
BNGB	Bing¶ll	1.95	281	*e*PN	Pn	00 17 15.8	+0.2
GNI	Garni	1.95 39	Pn	Pb	00 17 17.4	-0.6
	4.9nm,0.3s,baz=260,slow=3.3,SNR=13					
SENK	Senkaya-Erzuru	2.02	343	*e*PN	Pn	00 17 17.1	+0.6
SENK	Senkaya-Erzuru	2.02	343	*e*Pn	Pn	00 17 17.1	+0.6
BINT	Bingol	2.09	277	*e*Pn	Pn	00 17 15.8	-1.6
YEDI	Yedisu-Bingol	2.17	292	*e*PN	Pn	00 17 18.5	-0.1
YEDI	Yedisu-Bingol	2.17	292	*e*Pn	Pn	00 17 18.5	-0.1
MAZI	Mazidag	2.43	242	*e*PN	Pn	00 17 21.3	-0.8
MAZI	Mazidag	2.43	242	*e*Pn	Pn	00 17 21.3	-0.8
PTK	Pertek	2.94	276	*e*PN	Pn	00 17 29.0	-0.2
PTK	Pertek	2.94	276	*e*Pn	Pn	00 17 29.0	-0.2
SVRC	Sivrice-ELAZID	3.02	266	*e*PN	Pn	00 17 30.3	0.0
SVRC	Sivrice-ELAZID	3.02	266	*e*Pn	Pn	00 17 30.3	0.0
URFA	Urfa	3.61	252	*e*PN	Pn	00 17 39.1	+0.7
URFA	Urfa	3.61	252	*e*Pn

VANB	Van	0.34	196	*e*PG	Pb	00 26 34.4	-0.2
VANB				*e*SG	Sb	00 26 41.6	+1.2
VANB	Van	0.34	196	*e*Pg	Pb	00 26 34.4	-0.2
VANB				*e*Sg	Sb	00 26 41.6	+1.2
TVAN	Van	0.40	191	*i* P	Pb	00 26 36.0	+0.3
TVAN				*i* S	Sb	00 26 44.1	+1.8
TVAN	Van	0.40	191	P	Pb	00 26 36.0	+0.3
TVAN				S	Sb	00 26 44.1	+1.8
DYDN	Diyadin	0.64	13	*i* P	Pg	00 26 37.3	-0.9
DYDN				*i* S	Sg	00 26 46.4	-0.1
DYDN	Diyadin	0.64	13	P	Pg	00 26 37.3	-0.9
DYDN				S	Sg	00 26 46.4	-0.1
GEVA	Gevas	0.70	210	*i* P	Pg	00 26 38.9	-0.4
GEVA				*i* S	Sg	00 26 49.1	+0.7
GEVA	Gevas	0.70	210	P	Pg	00 26 38.9	-0.4
GEVA				S	Sg	00 26 49.1	+0.7
TUTA	Tutak	0.72	312	*i* P	Pg	00 26 39.2	-0.5
TUTA				*i* S	Sb	00 26 50.4	-1.2
TUTA	Tutak	0.72	312	P	Pg	00 26 39.2	-0.5
TUTA				S	Sb	00 26 50.4	-1.2
AGRB	Hanur-Agry	0.77	329	*e*PG	Pg	00 26 40.5	-0.1
AGRB				*e*SG	Sg	00 26 50.7	+0.2
AGRB	Hanur-Agry	0.77	329	*e*Pg	Pg	00 26 40.5	-0.1
AGRB				*e*Sg	Sg	00 26 50.7	+0.2
BASK	Baskale_VAN	0.95	156	*i* P	Pg	00 26 43.0	-1.1
BASK	Baskale_VAN	0.95	156	P	Pg	00 26 43.0	-1.1
EKAR	Karacoban	1.17	287	*i* P	Pg	00 26 47.5	-0.8
EKAR	Karacoban	1.17	287	P	Pg	00 26 47.5	-0.8
EATA	Eleskirt	1.23	320	*i* P	Pg	00 26 48.5	-0.9
EATA				*i* S	Sn	00 27 07.5	+0.1
EATA	Eleskirt	1.23	320	P	Pg	00 26 48.5	-0.9
EATA				S	Sn	00 27 07.5	+0.1
HAKT	HAKKARI	1.37	173	*i* P	Pn	00 26 50.6	-1.5
HAKT				*i* S	Sg	00 27 12.4	+2.5
HAKT	HAKKARI	1.37	173	P	Pn	00 26 50.6	-1.5
HAKT				S	Sg	00 27 12.4	+2.5
DIGO	Kars	1.50	356	*i* P	Pb	00 26 54.0	-0.4
DIGO	Kars	1.50	356	P	Pb	00 26 54.0	-0.4
NAX	Nakhchivan	1.57	80	⇓P	Pn	00 26 53.8	-0.9
NAX				⇓S	Sg	00 27 19.1	+2.8
NAX	Nakhchivan	1.57	80	P	Pn	00 26 53.8	-0.9
NAX				S	Sg	00 27 19.1	+2.8
VRTB	Varto-Mus	1.61	279	*e*PN	Pb	00 26 55.7	-0.6
VRTB	Varto-Mus	1.61	279	*i* P	Pb	00 26 55.8	-0.6
VRTB	Varto-Mus	1.61	279	P	Pb	00 26 55.8	-0.6
SIRN	S¨–rnak	1.66	211	*i* P	Pb	00 26 56.8	-0.4
SIRN	S¨–rnak	1.66	211	P	Pb	00 26 56.8	-0.4
HOMI	Horasan	1.67	313	*i* P	Pb	00 26 57.1	-0.3
CUKT	Cukurca	1.67	177	*e*PN	Pb	00 26 57.3	0.0
CUKT	Cukurca	1.67	177	*i* P	Pg	00 26 58.1	+0.2
CUKT	Cukurca	1.67	177	*e*Pn	Pb	00 26 57.3	0.0
CUKT	Cukurca	1.67	177	P	Pg	00 26 58.1	+0.2
EAK	Akyaka	1.77	3	*i* P	Pg	00 26 59.5	-0.2
EAK	Akyaka	1.77	3	P	Pg	00 26 59.5	-0.2
SENK	Senkaya-Erzuru	1.86	332	*e*PN	Pn	00 26 59.1	+0.2
SENK	Senkaya-Erzuru	1.86	332	*e*Pn	Pn	00 26 59.1	+0.2
SVAN	Silvan-Diyarba	1.96	248	*e*PN	Pb	00 27 01.1	-1.3
SVAN	Silvan-Diyarba	1.96	248	*i* P	Pb	00 27 01.0	-1.3
SVAN				*i* S	Sg	00 27 28.8	-0.2
SVAN	Silvan-Diyarba	1.96	248	P	Pb	00 27 01.0	-1.3
SVAN				S	Sg	00 27 28.8	-0.2
BTMN	Batman	2.03	240	*i* P	Pb	00 27 02.5	-1.0
BTMN				*i* S	Sg	00 27 30.1	-1.1
BTMN	Batman	2.03	240	P	Pb	00 27 02.5	-1.0
BTMN				S	Sg	00 27 30.1	-1.1
BNGB	Bing¨¶l	2.20	273	*e*PN	Pb	00 27 04.3	-2.1
BINT	Bingol	2.35	273	*e*Pn	Pn	00 27 04.3	-1.2
YEDI	Yedisu-Bingol	2.36	284	*e*PN	Pb	00 27 06.5	+0.9
YEDI	Yedisu-Bingol	2.36	284	*e*Pn	Pn	00 27 06.5	+0.9
AKH	Akhalkalaki	2.49	360	*e*PN	Pn	00 27 08.1	+0.7
AKH	Akhalkalaki	2.49	360	*e*Pn	Pn	00 27 08.1	+0.7
GDB	GEDABAY	2.50	43	⇓P	Pb	00 27 10.3	-1.1
GDB				⇑S	Sg	00 27 49.0	+2.9
GDB	GEDABAY	2.50	43	P	Pb	00 27 10.3	-1.1
QZX	Qazax, Azerbai	2.57	33	⇑P	Pb	00 27 11.8	-0.8
QZX				⇓S	Sg	00 27 51.5	+3.0
QZX	Qazax, Azerbai	2.57	33	P	Pb	00 27 11.8	-0.8
GANJ	Ganja	2.77	51	⇑P	Pb	00 27 13.4	-2.6
GANJ				⇓S	Sg	00 27 56.7	+1.8
GANJ	Ganja	2.77	51	P	Pb	00 27 13.4	-2.6
MAZI	Mazidag	2.82	240	*e*PN	Pn	00 27 13.2	+1.3
MAZI	Mazidag	2.82	240	*e*Pn	Pn	00 27 13.2	+1.3
TBLG	Delisi	2.96	18	*e*PN	Pn	00 27 14.9	+1.1
TBLG	Delisi	2.96	18	*e*Pn	Pn	00 27 14.9	+1.1
ERZN	Erzincan	3.01	284	*e*PN	Pn	00 27 15.4	+0.8
BRDA	Brd	3.14	64	P	Pn	00 27 16.7	+0.5
BRDA	Brd	3.14	64	P	Pn	00 27 16.7	+0.5
PTK	Pertek	3.21	271	*e*PN	Pn	00 27 18.7	+1.4
PTK	Pertek	3.21	271	*e*Pn	Pn	00 27 18.7	+1.4
MNGR	Mingechevir, A	3.32	55	⇓P	Pn	00 27 20.1	+1.5
MNGR	Mingechevir, A	3.32	55	P	Pn	00 27 20.1	+1.5
SVRC	Sivrice-ELAZID	3.33	262	*e*PN	Pn	00 27 20.5	+1.5
SVRC	Sivrice-ELAZID	3.33	262	*e*Pn	Pn	00 27 20.5	+1.5
ZRD	Zardab	3.50	66	⇓P	Pn	00 27 21.2	+0.1
ZRD	Zardab	3.50	66	P	Pn	00 27 21.2	+0.1
ZKTA	Zakatala	3.61	40	⇑P	Pn	00 27 25.8	+3.1
SEKA	Sheki	3.64	50	⇑P	Pn	00 27 25.7	+2.6
SEKA	Sheki	3.64	50	P	Pn	00 27 25.7	+2.6
LRK	Lerik	3.79	93	⇑P	Pn	00 27 21.2	-4.1
LRK	Lerik	3.79	93	P	Pn	00 27 21.2	-4.1
GLBA	Clilabad	3.82	84	⇑P	Pn	00 27 23.1	-2.4
GLBA	Clilabad	3.82	84	P	Pn	00 27 23.1	-2.4
KDMR	Kurdemir	3.89	67	⇓P	Pn	00 27 26.3	-0.2
KDMR	Kurdemir	3.89	67	P	Pn	00 27 26.3	-0.2
QBL	Gabala	3.90	57	⇓P	Pn	00 27 27.7	+1.1
QBL	Gabala	3.90	57	P	Pn	00 27 27.7	+1.1
IML	Ismayilli	4.06	61	⇑P	Pn	00 27 29.4	+0.5
IML	Ismayilli	4.06	61	P	Pn	00 27 29.4	+0.5
LKRN	Lenkeran, Azer	4.12	91	⇑P	Pn	00 27 26.2	-3.5
LKRN	Lenkeran, Azer	4.12	91	P	Pn	00 27 26.2	-3.5
ASTR	Astara	4.15	93	⇓P	Pn	00 27 26.1	-3.9
ASTR	Astara	4.15	93	P	Pn	00 27 26.1	-3.9
XNQ	Khinaliq	4.21	56	⇑P	Pn	00 27 32.6	+1.5
XNQ	Khinaliq	4.21	56	P	Pn	00 27 32.6	+1.5
PQL	Pirkuli	4.34	63	⇑P	Pn	00 27 32.7	-0.1
PQL	Pirkuli	4.34	63	P	Pn	00 27 32.7	-0.1
ALIB	Äli-Bayra	4.38	75	⇓P	Pn	00 27 32.0	-1.2
ALIB	Äli-Bayra	4.38	75	P	Pn	00 27 32.0	-1.2
GBS	Qobustan	4.49	67	⇑P	Pn	00 27 34.6	-0.2
GBS	Qobustan	4.49	67	P	Pn	00 27 34.6	-0.2

ISK ***25*** *00:28:32.2, 38.°77N×43.°26E, h5km, ML3.2*
CSEM ***25*** *00:28:32.5±0.2, 38.°77N×43.°28E, h2km, ML3.2, Error ellipse: s-maj=6.0km s-min=3.6km az=81.0*
ISCJB ***25*** *00:28:33.3±0.5, 38.°80N±0.°02×43.°25E±0.°05, h5km±5km, Error ellipse: s-maj=6.1km s-min=3.1km az=166.7*
DDA ***25*** *00:28:33.3, 38.°75N×43.°15E, h7km, Ml3.6*
ISC 25 00:28:32.6±1.0, 38.°79N±0.°02×43.°38E±0.°03, h14km±9km, n42, σ1°19/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	177	PG	Pb	00 28 38.3	+0.4
VANB				*e*SG	Sb	00 28 42.8	+1.2
VANB	Van	0.19	177	*i* Pg	Pb	00 28 38.3	+0.4
TVAN	Van	0.26	175	*i* P	Pn	00 28 40.8	-1.4
TVAN				*i* S	Sb	00 28 45.1	+1.5
GEVA	Gevas	0.54	208	*i* P	Pg	00 28 41.8	-1.4
GEVA				*i* S	Sg	00 28 49.6	-0.7
GEVA	Gevas	0.54	208	P	Pg	00 28 41.8	-1.4
GEVA				S	Sg	00 28 49.6	-0.7
TUTA	Tutak	0.75	325	*i* P	Pg	00 28 46.9	-0.4
TUTA				*i* S	Sg	00 28 57.4	+0.2
TUTA	Tutak	0.75	325	P	Pg	00 28 46.9	-0.4
TUTA				S	Sg	00 28 57.4	+0.2
DYDN	Diyadin	0.79	18	*i* P	Pn	00 28 48.8	-0.7
DYDN				*i* S	Sn	00 28 59.5	-1.8
DYDN	Diyadin	0.79	18	P	Pn	00 28 48.8	-0.7
DYDN				S	Sn	00 28 59.5	-1.8
AGRB	Hanur-Agry	0.84	339	*e*PG	Pb	00 28 48.8	-0.3
AGRB				*e*SG	Sb	00 29 00.1	-0.2
AGRB	Hanur-Agry	0.84	339	*e*Pg	Pb	00 28 48.8	-0.3
AGRB				*e*Sg	Sb	00 29 00.1	-0.2
BASK	Baskale_VAN	0.88	146	*i* P	Pn	00 28 49.3	-1.5
BASK				*i* S	Sn	00 29 03.5	0.0
BASK	Baskale_VAN	0.88	146	P	Pn	00 28 49.3	-1.5
BASK				S	Sn	00 29 03.5	0.0
HAKT	HAKKARI	1.25	168	*i* P	Pn	00 28 54.9	-1.0
HAKT				*i* S	Sg	00 29 16.5	+3.4
HAKT	HAKKARI	1.25	168	P	Pn	00 28 54.9	-1.0
HAKT				S	Sg	00 29 16.5	+3.4
EATA	Eleskirt	1.27	328	*i* P	Pb	00 28 56.2	-0.3
EATA				*i* S	Sg	00 29 14.5	+0.7
EATA	Eleskirt	1.27	328	P	Pb	00 28 56.2	-0.3
EATA				S	Sg	00 29 14.5	+0.7
SIRN	S¨–rnak	1.50	211	*i* P	Pb	00 28 60.0	-0.2
SIRN				*i* S	Sg	00 29 20.8	0.0
SIRN	S¨–rnak	1.50	211	P	Pb	00 29 00.0	-0.2
SIRN				S	Sg	00 29 20.8	0.0
VRTB	Varto-Mus	1.54	285	*e*PN	Pn	00 28 59.5	-0.3
VRTB	Varto-Mus	1.54	285	*e*Pn	Pn	00 28 59.5	-0.3
CUKT	Cukurca	1.55	173	*e*PN	Pg	00 29 01.6	-0.7
CUKT	Cukurca	1.55	173	*e*Pn	Pg	00 29 01.6	-0.7
DIGO	Kars	1.62	360	*i* P	Pg	00 29 04.0	+0.3
DIGO				*i* S	Sg	00 29 30.2	+5.2
DIGO	Kars	1.62	360	P	Pg	00 29 04.1	+0.3
HOMI	Horasan	1.70	318	*i* P	Pb	00 29 03.7	0.0
HOMI				*i* S	Sg	00 29 27.4	+0.2
SVAN	Silvan-Diyarba	1.82	250	*e*PN	Pn	00 29 03.6	+0.1
SVAN	Silvan-Diyarba	1.82	250	*i* P	Pn	00 29 03.5	-0.1
SVAN				*i* S	Sn	00 29 27.0	+0.5
SVAN	Silvan-Diyarba	1.82	250	P	Pn	00 29 03.5	-0.1
SVAN	Silvan-Diyarba	1.82	250	*e*Pn	Pn	00 29 03.7	+0.1
SVAN				S	Sn	00 29 27.0	+0.5
BTMN	Batman	1.88	242	*i* P	Pn	00 29 04.9	+0.5
BTMN				*i* S	Sb	00 29 30.4	+0.2
BTMN	Batman	1.88	242	P	Pn	00 29 04.9	+0.5
BTMN				S	Sb	00 29 30.4	+0.2
SENK	Senkaya-Erzuru	1.94	336	*e*PN	Pb	00 29 06.9	-0.9
SENK	Senkaya-Erzuru	1.94	336	*e*Pn	Pb	00 29 06.9	-0.9
BNGB	Bing¨¶l	2.12	276	*e*PN	Pn	00 29 08.1	+0.4
BINT	Bingol	2.26	273	*e*Pn	Pn	00 29 08.1	-1.5
YEDI	Yedisu-Bingol	2.30	287	*e*PN	Pn	00 29 10.6	+0.4
YEDI	Yedisu-Bingol	2.30	287	*e*Pn	Pn	00 29 10.6	+0.4
MAZI	Mazidag	2.66	241	*e*PN	Pn	00 29 16.2	+1.0
MAZI	Mazidag	2.66	241	*e*Pn	Pn	00 29 16.2	+1.0
SVRC	Sivrice-ELAZID	3.22	264	*e*PN	Pn	00 29 23.4	+0.6
SVRC	Sivrice-ELAZID	3.22	264	*e*Pn	Pn	00 29 23.4	+0.6

MOS ***25*** *00:32:15.5±1.4, 38.°40N×43.°23E, h7km, mb4.5/23, Error ellipse: s-maj=6.2km s-min=4.7km az=87.7*
IDC ***25*** *00:32:15.8±0.7, 38.°47N×43.°17E, h0km, mb3.9/15, mb1 4.0/24, mb1mx3.8/80, mbtmp3.9/24, ML3.4/7, MS3.4/16, Ms1 3.4/16, ms1mx3.1/48, Error ellipse: s-maj=13.0km s-min=9.4km az=160.0*
AZER ***25*** *00:32:17.0±0.2, 38.°30N×43.°22E, h11km±5km, Error ellipse: s-maj=5.3km s-min=1.3km az=59.0*
ISK ***25*** *00:32:17.0, 38.°61N×43.°21E, h5km, ML4.1*
NEIC ***25*** *00:32:17.1±0.0, 38.°47N×43.°27E, h4km, mb4.3/25, ML4.0(ISK), After ISK.*
ISCJB ***25*** *00:32:17.4±0.5, 38.°43N±0.°02×43.°23E±0.°02, h15km±3km, mb4.2/47, MS3.4/14, Error ellipse: s-maj=3.8km s-min=2.3km az=167.5*
DDA ***25*** *00:32:18.1, 38.°65N×43.°07E, h7km, Ml4.2*
CSEM ***25*** *00:32:18.1±0.1, 38.°48N×43.°21E, h10km, mb4.3/36, Error ellipse: s-maj=4.7km s-min=2.9km az=171.0*
ISC 25 00:32:18.0±0.8, 38.°56N±0.°02×43.°19E±0.°02, h13km±4km, n360, σ2°04/435, mb4.2/48, MS3.4/14, 34C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	77	PG	Pg	00 32 20.8	-1.1
VANB				*e*SG	Sg	00 32 24.9	+0.3
VANB	Van	0.16	77	*i* Pg	Pg	00 32 20.8	-1.1
VANB				*e*Sg	Sg	00 32 25.0	+0.3
VANB	Van	0.16	77	Pg	Pg	00 32 20.3	-1.7
TVAN	Van	0.17	101	*i* P	Pb	00 32 23.9	+0.6
TVAN				*i* S	Sb	00 32 28.3	+1.6
TVAN	Van	0.17	101	P	Pb	00 32 23.9	+0.6
TVAN				S	Sb	00 32 28.3	+1.6
GEVA	Gevas	0.27	203	*i* P	Pg	00 32 22.8	-0.9
GEVA				*i* S	Sb	00 32 30.4	+1.0
GEVA	Gevas	0.27	203	P	Pg	00 32 22.8	-0.9
GEVA				S	Sb	00 32 30.4	+1.0
BASK	Baskale_VAN	0.82	128	*i* P	Pg	00 32 33.0	-0.9
BASK				*i* S	Sn	00 32 47.1	-0.5
BASK	Baskale_VAN	0.82	128	P	Pg	00 32 33.0	-0.9
BASK				S	Sn	00 32 47.1	-0.5
TUTA	Tutak	0.89	341	*i* P	Pb	00 32 32.5	-3.0
TUTA				*i* S	Sb	00 32 44.5	-2.9
TUTA	Tutak	0.89	341	P	Pb	00 32 32.5	-3.0
TUTA				S	Sb	00 32 44.5	-2.9
AGRB	Hanur-Agry	1.02	351	*e*PG	Pb	00 32 35.1	-2.6
AGRB				*e*SG	Sb	00 32 51.2	0.0
AGRB	Hanur-Agry	1.02	351	Pn	Pb	00 32 35.7	-2.1
AGRB	Hanur-Agry	1.02	351	Pn	Pb	00 32 35.7	-2.1
DYDN	Diyadin	1.06	21	*i* P	Pb	00 32 37.8	-0.5
DYDN				*i* S	Sb	00 32 53.1	+0.9
DYDN	Diyadin	1.06	21	P	Pb	00 32 37.8	-0.5
DYDN				S	Sb	00 32 53.1	+0.9
EKAR	Karacoban	1.12	309	*i* P	Pn	00 32 40.5	+0.9
EKAR				*i* S	Sg	00 32 59.4	+5.2
EKAR	Karacoban	1.12	309	P	Pn	00 32 40.5	+0.9
EKAR				S	Sg	00 32 59.4	+5.2
SIRN	S¨–rnak	1.23	210	*i* P	Pg	00 32 42.8	+1.2
SIRN	S¨–rnak	1.23	210	P	Pg	00 32 42.8	+1.2
CUKT	Cukurca	1.35	166	*e*PN	Pg	00 32 44.7	+0.7
CUKT	Cukurca	1.35	166	*i* P	Pg	00 32 47.2	+3.2
CUKT				*i* S	Sg	00 33 07.0	+5.4
CUKT	Cukurca	1.35	166	Pn	Pn	00 32 41.3	-1.4
CUKT	Cukurca	1.35	166	Pn	Pn	00 32 41.3	-1.4
EATA	Eleskirt	1.41	338	*i* P	Pn	00 32 42.6	-1.1
EATA				*i* S	Sn	00 33 01.1	-1.2
EATA	Eleskirt	1.41	338	P	Pn	00 32 42.6	-1.1
EATA				S	Sn	00 33 01.1	-1.2
VRTB	Varto-Mus	1.48	294	*e*PN	Pn	00 32 45.4	+0.8
VRTB	Varto-Mus	1.48	294	*i* P	Pn	00 32 44.0	-0.6
VRTB				*i* S	Sg	00 33 08.0	+2.3
VRTB	Varto-Mus	1.48	294	P	Pn	00 32 44.0	-0.6
VRTB	Varto-Mus	1.48	294	*e*Pn	Pn	00 32 45.4	+0.8
VRTB				S	Sg	00 33 08.0	+2.3
VRTB	Varto-Mus	1.48	294	Pn	Pn	00 32 45.4	+0.8
SVAN	Silvan-Diyarba	1.62	256	*e*PN	Pn	00 32 47.8	+1.5
SVAN				*e*SN	Sg	00 33 10.8	+0.7
SVAN	Silvan-Diyarba	1.62	256	*i* P	Pn	00 32 47.6	+1.3
SVAN				*i* S	Sg	00 33 11.8	+1.7
SVAN	Silvan-Diyarba	1.62	256	P	Pn	00 32 47.6	+1.3
SVAN				S	Sg	00 33 11.8	+1.7
SVAN	Silvan-Diyarba	1.62	256	Pn	Pn	00 32 47.8	+1.5
SVAN				Sn	Sg	00 33 10.8	+0.7
BTMN	Batman	1.65	247	*i* P	Pn	00 32 47.8	+0.9
BTMN				*i* S	Sb	00 33 11.0	+1.8
BTMN	Batman	1.65	247	P	Pn	00 32 47.8	+0.9
BTMN				S	Sb	00 33 11.0	+1.8
DIGO	Kars	1.86	4	*i* P	Pn	00 32 50.7	+0.9
DIGO				*i* S	Sg	00 33 22.6	+4.8
DIGO	Kars	1.86	4	P	Pn	00 32 50.7	+0.9
NAX	Nakhchivan	1.90	70	⇓P	Pn	00 32 50.6	+0.4
NAX				⇓S	Sb	00 33 16.3	0.0
NAX	Nakhchivan	1.90	70	P	Pn	00 32 50.6	+0.4
NAX	Nakhchivan	1.90	70	P	Pn	00 32 50.6	+0.4
NAX				S	Sb	00 33 16.3	0.0
GNI	Garni	1.99	37	Pn	Pn	00 32 52.8	+1.3
GNI				Sn	Sb	00 33 20.7	+1.7
GNI	Garni	1.99	37	*e*P	Pn	00 32 52.2	+0.6
GNI				*e*S	Sn	00 33 18.0	+1.5
GNI	Garni	1.99	37	*e*P	Pn	00 32 52.2	+0.6
GNI				*e*S	Sn	00 33 18.0	+1.5
GNI	Garni	1.99	37	*e*Pn	Pn	00 32 52.2	+0.6
GNI				*e*S	Sn	00 33 18.0	+1.5
BNGB	Bing¨¶l	2.01	283	*e*PN	Pn	00 32 54.1	+2.4
BNGB	Bing¨¶l	2.01	283	Pn	Pn	00 32 54.1	+2.4
BNGB	Bing¨¶l	2.01	283	Pn	Pn	00 32 54.1	+2.4
SENK	Senkaya-Erzuru	2.10	342	*e*PN	Pn	00 32 54.1	+1.0
SENK	Senkaya-Erzuru	2.10	342	*e*Pn	Pn	00 32 54.1	+1.0
BINT	Bingol	2.14	279	P	Pn	00 32 54.1	+0.6
BINT	Bingol	2.14	279	*e*Pn	Pn	00 32 54.1	+0.6
YEDI	Yedisu-Bingol	2.24	294	*e*PN	Pn	00 32 56.6	+1.6
YEDI	Yedisu-Bingol	2.24	294	*e*PN	Pn	00 32 56.6	+1.6
YEDI	Yedisu-Bingol	2.24	294	Pn	Pb	00 32 57.9	-0.5
MARD	Mardin	2.28	238	*e*Pn	Pn	00 32 51.7	-3.8
MARD	Mardin	2.28	238	*e*Pn	Pn	00 32 51.7	-3.8
MAZI	Mazidag	2.43	244	*e*PN	Pn	00 32 59.6	+2.0
MAZI	Mazidag	2.43	244	Pn	Pn	00 32 58.2	+0.7
MAZI				Sn	Sb	00 33 30.2	-1.4
MAZI	Mazidag	2.43	244	Pn	Pn	00 32 58.2	+0.7
MAZI				Sn	Sb	00 33 30.2	-1.4
KOPT	Kop Dagi	2.55	306	*e*Pn	Pn	00 32 58.8	-0.5
KOPT	Kop Dagi	2.55	306	*e*Pn	Pn	00 32 58.8	-0.5
ARTV	Artvin	2.79	340	*e*Pn	Pn	00 33 03.2	+0.5
ARTV	Artvin	2.79	340	*e*Pn	Pn	00 33 03.2	+0.5
AKH	Akhalkalaki	2.86	5	*e*PN	Pn	00 33 05.1	+1.6
AKH	Akhalkalaki	2.86	5	*e*Pn	Pn	00 33 05.1	+1.6
ERZN	Erzincan	2.89	292	*e*PN	Pn	00 33 05.7	+1.9
ERZN	Erzincan	2.89	292	Pn	Pn	00 33 07.0	+3.1
ERZN	Erzincan	2.89	292	Pn	Pn	00 33 07.0	+3.1
GDB	GEDABAY	2.93	42	⇓P	Pn	00 33 06.4	+2.0
GDB				⇓S	Sb	00 33 44.9	-1.1
GDB	GEDABAY	2.93	42	P	Pn	00 33 06.4	+2.0
GDB				S	Sb	00 33 44.9	-1.1
PTK	Pertek	2.99	278	*e*PN	Pn	00 33 07.8	+2.5
PTK	Pertek	2.99	278	*e*Pn	Pn	00 33 07.8	+2.5
PTK	Pertek	2.99	278	Pn	Pn	00 33 07.8	+2.5
QZX	Qazax, Azerbai	3.01	33	⇑P	Pn	00 33 07.6	+2.2
QZX				⇑S	Sb	00 33 46.9	-1.2
QZX	Qazax, Azerbai	3.01	33	P	Pn	00 33 07.6	+2.2
QZX				S	Sb	00 33 46.9	-1.2
SVRC	Sivrice-ELAZID	3.05	268	*e*PN	Pn	00 33 08.7	+2.5
SVRC	Sivrice-ELAZID	3.05	268	*e*Pn	Pn	00 33 08.7	+2.5
SVRC	Sivrice-ELAZID	3.05	268	Pn	Pn	00 33 08.7	+2.5
GANJ	Ganja	3.19	48	⇑P	Pn	00 33 09.7	+1.8
GANJ				⇑S	Sb	00 33 50.6	-2.9
GANJ	Ganja	3.19	48	P	Pn	00 33 09.7	+1.8
GANJ	Ganja	3.19	48	P	Pn	00 33 09.7	+1.8
GANJ				S	Sb	00 33 50.6	-2.9
TBLG	Delisi	3.38	20	*e*PN	Pn	00 33 13.1	+2.6
TBLG	Delisi	3.38	20	*e*Pn	Pn	00 33 13.1	+2.6
BRDA	Brd	3.53	60	⇓P	Pn	00 33 13.5	+1.0
BRDA				⇑S	Sn	00 33 57.5	+3.4
BRDA	Brd	3.53	60	P	Pn	00 33 13.5	+1.0
BRDA				S	Sn	00 33 57.5	+3.4
KTUT	Trabzon	3.58	314	*e*PN	Pn	00 33 15.5	+2.2
KTUT	Trabzon	3.58	314	*e*Pn	Pn	00 33 15.5	+2.2
KTUT	Trabzon	3.58	314	Pn	Pn	00 33 16.6	+3.3
URFA	Urfa	3.63	253	*e*PN	Pn	00 33 16.9	+2.9
URFA	Urfa	3.63	253	Pn	Pn	00 33 16.6	+2.6
URFA	Urfa	3.63	253	Pn	Pn	00 33 16.6	+2.6
MNGR	Mingechevir, A	3.73	52	⇓P	Pn	00 33 16.5	+1.2
MNGR				⇑S	Sn	00 34 03.3	+4.2
MNGR	Mingechevir, A	3.73	52	P	Pn	00 33 16.5	+1.2
MNGR	Mingechevir, A	3.73	52	P	Pn	00 33 16.5	+1.2
MNGR				S	Sn	00 34 03.3	+4.2
ZRD	Zardab	3.88	62	⇑P	Pn	00 33 18.1	+0.7
ZRD				⇓S	Sn	00 34 05.8	+3.0
ZRD	Zardab	3.88	62	P	Pn	00 33 18.1	+0.7
ZRD				S	Sn	00 34 05.8	+3.0
LRK	Lerik	4.04	87	⇑P	Pn	00 33 18.6	-1.1
LRK				⇑S	Sn	00 34 06.8	-0.1
LRK	Lerik	4.04	87	P	Pn	00 33 18.6	-1.1
LRK				S	Sn	00 34 06.8	-0.1

NCK	**Nalchik**	**4.94**	**3**	*e*P	**Pn**	**00 33 32.2**	**+0.2**
NCK	**Nalchik**	**4.94**	**3**	*e*P	**Pn**	**00 33 32.2**	**+0.2**
ATGJ	**Altiaghaj**	**4.99**	**61**	⇑P	**Pn**	**00 33 33.6**	**+0.8**
	SNR=10						
ATGJ	**Altiaghaj**	**4.99**	**61**	P	**Pn**	**00 33 33.6**	**+0.8**
	SNR=10						
SVSK	**Karacayir**	**4.99**	**288**	*e*PN	**Pn**	**00 33 36.2**	**+3.5**
SVSK	**Karacayir**	**4.99**	**288**	Pn	**Pn**	**00 33 37.4**	**+4.7**
SVSK	**Karacayir**	**4.99**	**288**	Pn	**Pn**	**00 33 37.4**	**+4.7**
KMRS	**Kahramanmaras**	**5.08**	**260**	*e*PN	**Pn**	**00 33 38.0**	**+4.1**
KMRS	**Kahramanmaras**	**5.08**	**260**	Pn	**Pn**	**00 33 38.0**	**+4.1**
KBZ	**Khabaz**	**5.17**	**358**	Pn	**Pn**	**00 33 38.8**	**+3.8**
	comp=Z,0.0nm,0.3s,baz=145,slow=16,SNR=3.7						
SARI	**SarD1z-Kayseri**	**5.32**	**270**	*e*PN	**Pn**	**00 33 41.1**	**+3.8**
KIV	**Kislovodsk**	**5.40**	**356**	*e*P	**Pn**	**00 33 38.6**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**5.40**	**356**	*e*P	**Pn**	**00 33 38.6**	**+0.2**
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**5.40**	**356**	*e*Pn	**Pn**	**00 33 41.7**	**+3.3**
KIV	**Kislovodsk**	**5.40**	**356**	*e*Pn	**Pn**	**00 33 41.7**	**+3.3**
KIV				*e*Pg	**Pg**	**00 33 58.6**	**-2.9**
KIV				*e*S	**Sn**	**00 34 37.2**	**-3.3**
KVAR	**Kislovodsk Arr**	**5.40**	**356**	Pn	**Pn**	**00 33 42.8**	**+4.4**
	baz=112,slow=5.4,SNR=2.9						
KVAR				LR	LR	00 36 13.9	
	comp=Z,643nm,21.4s,baz=121,slow=43						
MAK	**Makhachkala**	**5.48**	**35**	*e*P	**Pn**	**00 33 36.4**	**-2.9**
MAK				*e*S	**Sn**	**00 34 40.4**	**-1.8**
MAK				pmax	pmax		
	comp=Z,47nm,1.0s						
MAK				MLR	MLR		
	comp=Z,946nm,13.0s						
TOKA	**Tokat**	**5.49**	**291**	*e*Pn	**Pn**	**00 33 41.1**	**+1.6**
TOKA	**Tokat**	**5.49**	**291**	*e*Pg	**Pg**	**00 34 01.9**	**-1.2**
TOKA	**Tokat**	**5.49**	**291**	*e*Pn	**Pn**	**00 33 41.1**	**+1.6**
TOKA				*e*Pg	**Pg**	**00 34 01.9**	**-1.2**
BNN	**Bunyan**	**5.75**	**275**	*e*PN	**Pn**	**00 33 47.2**	**+4.0**
BNN	**Bunyan**	**5.75**	**275**	Pn	**Pn**	**00 33 47.2**	**+4.0**
KOZT	**Kozan**	**5.91**	**262**	*e*PN	**Pn**	**00 33 49.3**	**+4.0**
BR131	**Keskin Array S**	**7.51**	**282**	*e*Pn	**Pn**	**00 34 07.4**	**0.0**
BR131	**Keskin Array S**	**7.51**	**282**	*e*Pn	**Pn**	**00 34 07.4**	**0.0**
BRTR	**Keskin Array B**	**7.51**	**282**	Pn	**Pn**	**00 34 09.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=8.9						
BRTR	**Keskin Array B**	**7.51**	**282**	*e*P	Pn	00 34 12.5	+5.1
ILGA	**Ilgaz**	**7.71**	**292**	*e*Pn	**Pn**	**00 34 10.5**	**+0.4**
ILGA	**Ilgaz**	**7.71**	**292**	*e*Pn	**Pn**	**00 34 10.5**	**+0.4**
MMAI	**Mount Meron Ar**	**8.40**	**231**	Pn	**Pn**	**00 34 19.8**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=66,slow=16,SNR=6.4						
EIL	**Elat**	**11.19**	**220**	LR	LR	00 39 44.4	
	comp=Z,118nm,21.6s,baz=58,slow=40						
GEYT	**Alibeck**	**11.76**	**88**	LR	LR	00 41 01.5	
	comp=Z,43nm,20.0s,baz=265,slow=45						
PLOR	**Plostina**	**14.24**	**306**	⇓*i*P	**P**	**00 35 48.5**	**+1.8**
PLOR	**Plostina**	**14.24**	**306**	⇓P	**P**	**00 35 48.5**	**+1.8**
LPSR	**Galich'ya Gora**	**14.35**	**349**	*e*P	**Pn**	**00 35 41.2**	**+0.4**
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
IDI	**Anoyia**	**15.00**	**263**	Pn	**Pn**	**00 35 47.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=261,slow=2.0,SNR=3.2						
IDI	**Anoyia**	**15.00**	**263**	*e*Pn	**Pn**	**00 35 48.6**	**-1.1**
IDI	**Anoyia**	**15.00**	**263**	*e*Pn	**Pn**	**00 35 48.6**	**-1.1**
DOPR	**Dopca**	**15.10**	**305**	⇑*i*P	**P**	**00 35 59.5**	**+3.3**
DOPR	**Dopca**	**15.10**	**305**	⇑*i*P	**P**	**00 35 59.5**	**+3.3**
RAYN	**Ar Rayn**	**15.12**	**172**	*e*Pn	**Pn**	**00 35 48.9**	**-2.5**
RAYN	**Ar Rayn**	**15.12**	**172**	*e*Pn	**Pn**	**00 35 48.9**	**-2.5**
RAYN				*e*S	**Sn**	**00 38 35.3**	**-3.5**
VOIR		**15.12**	**303**	⇑*i*P	**P**	**00 36 00.2**	**+3.7**
VOIR		**15.12**	**303**	⇑P	**P**	**00 36 00.2**	**+3.7**
SRS	**Serrai**	**15.27**	**286**	P	**P**	**00 36 01.3**	**+3.2**
SRS	**Serrai**	**15.27**	**286**	P	**P**	**00 36 01.3**	**+3.2**
ARR	**Arges**	**15.37**	**302**	⇓*i*P	**P**	**00 36 04.9**	**+5.6**
AKASG	**Malin Array Be**	**15.65**	**325**	Pn	**Pn**	**00 35 57.6**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=133,slow=11,SNR=8.7						
AKASG	**Malin Array Be**	**15.65**	**325**	*e*P	**P**	**00 36 01.4**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**15.65**	**325**	*e*P	**P**	**00 36 01.4**	**-0.9**
	comp=Z,1.0nm,0.3s						
KIEV	**Kiev**	**15.66**	**325**	*e*P	**P**	**00 36 01.6**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIEV	**Kiev**	**15.66**	**325**	*e*Pn	**Pn**	**00 36 00.3**	**+2.1**
	comp=Z,12nm,1.1s						
KIEV	**Kiev**	**15.66**	**325**	*e*P	**P**	**00 36 01.6**	**-0.7**
	comp=Z,8.0nm,0.9s						
KIEV	**Kiev**	**15.66**	**325**	*e*Pn	**Pn**	**00 36 00.3**	**+2.1**
	comp=Z,12nm,1.1s						
VTS	**Vitosha**	**15.70**	**291**	⇑*i*P	**P**	**00 36 03.9**	**+0.8**
VTS	**Vitosha**	**15.70**	**291**	*e*P	**Pn**	**00 36 00.3**	**+1.2**
VTS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VTS	**Vitosha**	**15.70**	**291**	*e*Pn	**Pn**	**00 36 00.3**	**+1.2**
	comp=Z,6.9nm,1.1s						
VTS	**Vitosha**	**15.70**	**291**	⇑*i*P	**P**	**00 36 03.9**	**+0.8**
VTS	**Vitosha**	**15.70**	**291**	*e*Pn	**Pn**	**00 36 00.3**	**+1.2**
	comp=Z,6.9nm,1.1s						
AKTO	**Aktyubinsk**	**15.86**	**37**	Pn	**Pn**	**00 35 59.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=9.3						
AKTO				LR	LR	00 43 47.4	
	comp=Z,199nm,19.5s,baz=224,slow=43						
BURAR	**Bucovina Array**	**15.92**	**310**	⇑*i*P	**P**	**00 36 07.5**	**+2.1**
BURAR	**Bucovina Array**	**15.92**	**310**	⇑P	**P**	**00 36 07.5**	**+2.1**
BURAR	**Bucovina Array**	**15.92**	**310**	⇑*i*P	**P**	**00 36 07.5**	**+2.1**
BUR08	**Bucovina Ar. S**	**15.94**	**310**	*e*Pn	**P**	**00 36 05.6**	**0.0**
BUR08	**Bucovina Ar. S**	**15.94**	**310**	*e*Pn	**P**	**00 36 05.6**	**0.0**
ABKAR	**Akbulak array**	**16.09**	**43**	*e*Pn	**Pn**	**00 36 04.5**	**+0.7**
	comp=Z,24nm,1.1s						
ABKAR	**Akbulak array**	**16.09**	**43**	*e*Pn	**Pn**	**00 36 04.5**	**+0.7**
	comp=Z,24nm,1.1s						
OBN	**Obninsk**	**17.15**	**347**	P	**Pn**	**00 36 18.4**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=338,slow=19,SNR=3.3						
OBN				LR	LR	00 44 35.7	
	comp=Z,56nm,18.7s,baz=82,slow=43						
OBN	**Obninsk**	**17.15**	**347**	⇓*e*P	**Pn**	**00 36 17.7**	**+0.5**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,121nm,16.0s						
BZS	**Buzias**	**17.47**	**301**	⇑*i*P	**P**	**00 36 24.8**	**+2.4**
BZS	**Buzias**	**17.47**	**301**	⇑P	**P**	**00 36 24.8**	**+2.4**
BZS	**Buzias**	**17.47**	**301**	P	**P**	**00 36 24.8**	**+2.4**
UOSS	**Minazif**	**17.49**	**137**	*e*Pn	**P**	**00 36 22.4**	**-0.4**
	comp=Z,43nm,1.5s						
UOSS	**Minazif**	**17.49**	**137**	*e*Pn	**P**	**00 36 22.4**	**-0.4**
	comp=Z,43nm,1.5s						
MOS	**Moscow**	**17.59**	**350**	*e*P	**P**	**00 36 27.4**	**+3.8**
MOS	**Moscow**	**17.59**	**350**	*e*P	**P**	**00 36 27.4**	**+3.8**
UZH	**Uzhgorod**	**18.12**	**310**	*e*P	**Pn**	**00 36 25.3**	**-4.0**
KWP	**Kalwaria Pacla**	**18.35**	**314**	P	**Pn**	**00 36 33.3**	**+1.2**
KWP				pmax	pmax		
	comp=Z,118nm,1.0s						
KWP	**Kalwaria Pacla**	**18.35**	**314**	P	**Pn**	**00 36 33.3**	**+1.2**
	comp=Z,118nm,1.0s						
CRVS	**Cervenica-Dubn**	**18.74**	**310**	*e*P	**Pn**	**00 36 38.9**	**+2.1**
CRVS	**Cervenica-Dubn**	**18.74**	**310**	*e*P	**Pn**	**00 36 38.9**	**+2.1**
CRVS	**Cervenica-Dubn**	**18.74**	**310**	*e*	**Pn**	**00 36 38.9**	**+2.1**
KECS	**Kecovo**	**19.16**	**308**	*e*P	**P**	**00 36 41.2**	**+0.2**
KECS	**Kecovo**	**19.16**	**308**	*e*P	**P**	**00 36 41.2**	**+0.2**
KECS	**Kecovo**	**19.16**	**308**	*e*P	**P**	**00 36 41.2**	**+0.2**
PSZ	**Piszkesteto**	**19.32**	**306**	*e*P	**Pn**	**00 36 44.9**	**+1.0**
PSZ				pmax	pmax		
	comp=Z,16nm,1.2s						
PSZ	**Piszkesteto**	**19.32**	**306**	*e*P	**Pn**	**00 36 44.9**	**+1.0**
	comp=Z,16nm,1.2s						
PSZ	**Piszkesteto**	**19.32**	**306**	⇓*e*P	**P**	**00 36 42.0**	**-0.8**
PSZ	**Piszkesteto**	**19.32**	**306**	*e*P	**Pn**	**00 36 44.9**	**+1.0**
	comp=Z,16nm,1.2s						
WSAR	**Wadi Sarin**	**20.17**	**135**	P	**P**	**00 36 51.6**	**-0.7**
	comp=Z,6.1nm,0.7s,baz=4.4,slow=13,SNR=3.5						
WSAR				LR	LR	00 46 20.7	
	comp=Z,69nm,19.9s,baz=326,slow=42						
VYHS	**Vyhne**	**20.18**	**307**	*e*P	**P**	**00 36 53.7**	**+1.5**
VYHS	**Vyhne**	**20.18**	**307**	*e*P	**P**	**00 36 53.7**	**+1.5**
	comp=Z,439nm,5.5s						
VYHS	**Vyhne**	**20.18**	**307**	*e*P	**P**	**00 36 53.7**	**+1.5**
CSKK	**Cs̈̊tkako**	**20.19**	**304**	⇓*e*P	Pn	00 36 54.2	0.0
CSKK	**Cs̈̊tkako**	**20.19**	**304**	⇓*e*P	Pn	00 36 54.2	0.0
ARU	**Arti**	**20.59**	**25**	P	**P**	**00 36 57.2**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=236,slow=4.9,SNR=8.4						
ARU				LR	LR	00 46 36.7	
	comp=Z,111nm,21.0s,baz=222,slow=42						
ARU	**Arti**	**20.59**	**25**	*d*i P	**P**	**00 36 57.7**	**+1.2**
ARU						00 37 14.0	
ARU				S	**S**	**00 40 48.8**	**+2.5**
ARU				SS	**PcP**	**00 41 06.1**	**-0.8**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
ARU	**Arti**	**20.59**	**25**	*e*P	**P**	**00 36 58.0**	**+1.5**
	comp=Z,9.2nm,0.9s						
ARU				S	**S**	**00 40 48.8**	**+2.5**
ARU	**Arti**	**20.59**	**25**	PcP	**PcP**	**00 41 06.1**	**-0.8**
ARU	**Arti**	**20.59**	**25**	*e*P	**P**	**00 36 58.0**	**+1.5**
	comp=Z,9.2nm,0.9s						
KKAR	**Karatay Array**	**21.12**	**69**	*e*P	**P**	**00 37 04.0**	**+1.5**
KKAR	**Karatay Array**	**21.12**	**69**	*e*P	**P**	**00 37 04.0**	**+1.5**
KKAR	**Karatay Array**	**21.12**	**69**	*e*P	**P**	**00 37 04.0**	**+1.5**
KBL	**Kabul**	**21.13**	**93**	*e*P	**P**	**00 37 05.1**	**+2.3**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBL	**Kabul**	**21.13**	**93**	*e*P	**P**	**00 37 05.1**	**+2.3**
	comp=Z,7.9nm,1.0s						
KBL	**Kabul**	**21.13**	**93**	*e*P	**P**	**00 37 05.1**	**+2.3**
	comp=Z,7.9nm,1.0s						
CEL	**Celeste**	**21.37**	**278**	*e*P	**P**	**00 37 05.4**	**+0.3**
	comp=Z,13nm,0.8s						
CEL	**Celeste**	**21.37**	**278**	*e*P	**P**	**00 37 05.4**	**+0.3**
	comp=Z,13nm,0.8s						
SOP	**Sopron**	**21.38**	**304**	P	**P**	**00 37 07.6**	**+2.4**
SOP				pmax	pmax		
	comp=Z,12nm,1.0s						
SOP	**Sopron**	**21.38**	**304**	P	**P**	**00 37 07.6**	**+2.4**
	comp=Z,12nm,1.0s						
SVE	**Sverdlovsk**	**21.61**	**27**	*e*P	**P**	**00 37 08.9**	**+1.4**
SVE				pmax	pmax		
	comp=Z,12nm,1.2s						
SVE	**Sverdlovsk**	**21.61**	**27**	*e*P	**P**	**00 37 08.9**	**+1.4**
	comp=Z,12nm,1.2s						
VRAC	**Vranov**	**21.85**	**308**	P	**P**	**00 37 10.0**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=110,slow=12,SNR=4.5						
CONA	**Conrad Observa**	**21.90**	**304**	*e*P	**P**	**00 37 12.6**	**+1.7**
	comp=Z,8.0nm,0.8s						
CONA	**Conrad Observa**	**21.90**	**304**	P	**P**	**00 37 12.6**	**+1.7**
	comp=Z,8.0nm,0.8s						
ARSA	**Arzberg**	**21.96**	**302**	*e*pP	**P**	**00 37 16.0**	**+4.6**
	comp=Z,5.8nm,1.2s						
KLMR	**Klimovskoe**	**22.44**	**355**	*e*P	**P**	**00 37 15.9**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,20nm,1.2s						
KLMR	**Klimovskoe**	**22.44**	**355**	*e*P	**P**	**00 37 15.9**	**-0.4**
	comp=Z,20nm,1.2s						
MNAS	**Manas**	**22.57**	**71**	P	**P**	**00 37 20.9**	**+2.7**
MNAS				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MNAS	**Manas**	**22.57**	**71**	P	**P**	**00 37 20.9**	**+2.7**
	comp=Z,4.0nm,1.3s						
VSU	**Vasula**	**22.59**	**337**	*i* P	**P**	**00 37 18.4**	**+0.5**
VSU				pmax	pmax		
	comp=Z,39nm,0.9s						
VSU	**Vasula**	**22.59**	**337**	*i* P	**P**	**00 37 18.4**	**+0.5**
	comp=Z,39nm,0.9s						
MOA	**Molln**	**22.92**	**303**	*e*pP	**P**	**00 37 22.7**	**+1.1**
	comp=Z,5.8nm,1.1s						
MOA	**Molln**	**22.92**	**303**	P	**P**	**00 37 22.7**	**+1.1**
	comp=Z,5.8nm,1.1s						
GEC2	**GERESS Array S**	**23.53**	**305**	*e*P	**P**	**00 37 28.8**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,12nm,1.6s						
GEC2	**GERESS Array S**	**23.53**	**305**	*e*P	**P**	**00 37 28.8**	**+0.9**
	comp=Z,12nm,1.6s						
GEC2	**GERESS Array S**	**23.53**	**305**	*e*P	**P**	**00 37 28.8**	**+0.9**
	comp=Z,12nm,1.6s						
GERES	**GERESS Array B**	**23.53**	**305**	P	**P**	**00 37 27.6**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=112,slow=11,SNR=5.9						
GERES	**GERESS Array B**	**23.53**	**305**	*e*P	**P**	**00 37 31.8**	**+3.9**
BRVK	**Borovoye**	**23.62**	**43**	*i* P	**P**	**00 37 29.3**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**23.62**	**43**	*e*P	**P**	**00 37 29.3**	**+0.7**
	comp=Z,4.6nm,1.0s						
BRVK	**Borovoye**	**23.62**	**43**	*e*P	**P**	**00 37 29.3**	**+0.7**
	comp=Z,4.6nm,1.0s						
BVAR	**Borovoye Array**	**23.66**	**43**	P	**P**	**00 37 29.4**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=217,slow=7.2,SNR=8.8						
KHC	**Kasperske Hory**	**23.68**	**306**	*e*P	**P**	**00 37 30.7**	**+1.4**
KHC				pmax	pmax		
	comp=Z,10.0nm,2.0s						
KHC	**Kasperske Hory**	**23.68**	**306**	*e*P	**P**	**00 37 30.7**	**+1.4**
	comp=Z,10nm,2.0s						
KHC	**Kasperske Hory**	**23.68**	**306**	*e*P	**P**	**00 37 30.7**	**+1.4**
	comp=Z,10nm,2.0s						
DAMY	**Dhamar**	**23.92**	**177**	*e*P	**P**	**00 37 29.3**	**-2.8**
	comp=Z,35nm,1.5s						
DAMY	**Dhamar**	**23.92**	**177**	*e*P	**P**	**00 37 29.3**	**-2.8**
	comp=Z,35nm,1.5s						
AAK	**Ala-Archa**	**24.04**	**70**	P	**P**	**00 37 32.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=256,slow=11,SNR=5.7						
AAK				LR	LR	00 49 15.8	
	comp=Z,52nm,18.3s,baz=262,slow=42						
AAK	**Ala-Archa**	**24.04**	**70**	*e*P	**P**	**00 37 34.5**	**+1.5**
	comp=Z,18nm,1.8s						
AAK	**Ala-Archa**	**24.04**	**70**	*e*P	**P**	**00 37 34.5**	**+1.5**
	comp=Z,18nm,1.8s						
FRU	**Bishkek**	**24.13**	**70**	*i* P	**P**	**00 37 36.0**	**+2.4**
FRU				pmax	pmax		
	comp=Z,45nm,2.1s						
FRU	**Bishkek**	**24.13**	**70**	*i* P	**P**	**00 37 36.0**	**+2.4**
	comp=Z,45nm,2.1s						
WATA	**Walderalm**	**24.61**	**301**	*e*pP	**P**	**00 37 39.0**	**+0.9**
	comp=Z,1.9nm,0.6s						
WATA	**Walderalm**	**24.61**	**301**	P	**P**	**00 37 39.0**	**+0.9**
	comp=Z,1.9nm,0.6s						
CLL	**Collm**	**24.68**	**311**	*e*P	**P**	**00 37 39.4**	**+0.9**
CLL				pmax	pmax		
	comp=Z,28nm,1.9s						
CLL	**Collm**	**24.68**	**311**	*e*P	**P**	**00 37 39.4**	**+0.9**
	comp=Z,28nm,1.9s						
CLL	**Collm**	**24.68**	**311**	*e*P	**P**	**00 37 39.4**	**+0.9**
	comp=Z,28nm,1.9s						
MOTA	**Moosalm**	**24.93**	**301**	*e*P	**P**	**00 37 41.7**	**+0.7**
	comp=Z,5.0nm,0.8s						
MOTA	**Moosalm**	**24.93**	**301**	P	**P**	**00 37 41.7**	**+0.7**
	comp=Z,5.0nm,0.8s						
RETA	**Reutte**	**25.18**	**301**	*e*P	**P**	**00 37 43.2**	**+0.1**
	comp=Z,6.1nm,1.4s						
RETA	**Reutte**	**25.18**	**301**	P	**P**	**00 37 43.2**	**+0.1**
	comp=Z,6.1nm,1.4s						
FINES	**FINESS Array B**	**25.25**	**341**	P	**P**	**00 37 43.2**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=143,slow=11,SNR=7.4						
FINES				LR	LR	00 48 42.1	
	comp=Z,101nm,18.0s,baz=112,slow=39						
GRFO	**Grafenberg**	**25.31**	**306**	*e*P	**P**	**00 37 45.9**	**+1.6**
GRFO				pmax	pmax		
	comp=Z,29nm,1.3s						
GRFO	**Grafenberg**	**25.31**	**306**	*e*P	**P**	**00 37 45.9**	**+1.6**
	comp=Z,29nm,1.3s						
GRFO	**Grafenberg**	**25.31**	**306**	*e*P	**P**	**00 37 45.9**	**+1.6**
	comp=Z,29nm,1.3s						
KSH	**Kashi**	**25.41**	**77**	*e*P	**P**	**00 37 45.3**	**-0.1**
KSH				pP	pP	00 37 49.5	+0.3
KSH				sP	sP	00 37 52.4	+1.5
KSH				PP	**PnPn**	**00 38 22.1**	**+1.8**
KSH				PcP	**PcP**	**00 41 18.8**	**+1.4**
KSH				S	**S**	**00 42 08.1**	**-3.7**
KSH				sS	pS	00 42 15.3	-0.7
KSH				SS	**SnSn**	**00 43 07.8**	**+4.0**
KSH				PcS	**PcS**	**00 44 58.1**	**+0.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,120nm,6.8s						
KSH				LR	LR		
	comp=N,62nm,8.0s						
KSH				LR	LR		
	comp=E,80nm,5.9s						
KSH				LR	LR		
	comp=Z,97nm,5.4s						
DAVA	**Damuels**	**25.74**	**301**	*e*pP	**P**	**00 37 49.2**	**+0.9**
	comp=Z,4.0nm,0.9s						
DAVA	**Damuels**	**25.74**	**301**	P	**P**	**00 37 49.2**	**+0.9**
	comp=Z,4.0nm,0.9s						
RGN	**Rugen**	**25.76**	**318**	*e*P	**P**	**00 37 51.8**	**+3.6**
RGN	**Rugen**	**25.76**	**318**	*e*P	**P**	**00 37 51.9**	**+3.6**
KURBB	**Kurchatov Arra**	**27.64**	**53**	P	**P**	**00 38 06.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=264,slow=9.1,SNR=18						
KURBB				PcP	**PcP**	**00 41 22.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=259,slow=3.6,SNR=7.2						
KURK	**Kurchatov**	**27.71**	**52**	*i* P	**P**	**00 38 06.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**27.71**	**52**	*e*P	**P**	**00 38 07.3**	**+1.5**
	comp=Z,3.3nm,1.0s						
KURK	**Kurchatov**	**27.71**	**52**	PcP	**PcP**	**00 41 22.0**	**-0.4**
KURK	**Kurchatov**	**27.71**	**52**	*e*P	**P**	**00 38 07.3**	**+1.5**
	comp=Z,3.3nm,1.0s						
KURK				PcP	**PcP**	**00 41 22.0**	**-0.4**
MAKZ	**Makanchi**	**29.43**	**61**	*e*P	**P**	**00 38 22.4**	**+1.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MAKZ	**Makanchi**	**29.43**	**61**	*e*P	**P**	**00 38 22.4**	**+1.1**
	comp=Z,4.9nm,1.3s						
MAKZ	**Makanchi**	**29.43**	**61**	*e*P	**P**	**00 38 22.4**	**+1.1**
	comp=Z,4.9nm,1.3s						
MK31	**Makanchi Array**	**29.65**	**61**	*e*P	**P**	**00 38 24.1**	**+0.9**
MK31	**Makanchi Array**	**29.65**	**61**	*e*P	**P**	**00 38 24.1**	**+0.9**
MK31	**Makanchi Array**	**29.65**	**61**	*e*P	**P**	**00 38 24.1**	**+0.9**
MKAR	**Makanchi Array**	**29.65**	**61**	P	**P**	**00 38 24.4**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=257,slow=10,SNR=5.0						
MKAR				LR	LR	00 52 11.7	
	comp=Z,68nm,18.4s,baz=263,slow=40						
MKAR	**Makanchi Array**	**29.65**	**61**	*e*P	**P**	**00 38 24.9**	**+1.7**
	comp=Z,13nm,0.9s						
NOA	**NORSAR Array B**	**30.01**	**329**	P	**P**	**00 38 25.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=104,slow=8.7,SNR=2.5						
NOA				LR	LR	00 50 37.9	
	comp=Z,44nm,21.9s,baz=130,slow=37						
ZALV	**Zalesovo Beam**	**32.10**	**48**	P	**P**	**00 38 44.3**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=259,slow=9.3,SNR=4.5						
ZALV				LR	LR	00 54 11.7	
	comp=Z,72nm,18.6s,baz=250,slow=41						
ARCES	**ARCESS Array B**	**32.45**	**349**	LR	LR	00 52 29.5	
	comp=Z,112nm,18.4s,baz=194,slow=37						
WMQ	**Urumqi**	**33.59**	**67**	P	**P**	**00 38 59.8**	**+1.9**
WMQ				pP	sP	00 39 04.9	+1.5
WMQ				sP	pP	00 39 07.4	+5.6
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.3s						
WMQ				LR	LR		
	comp=N,31nm,20.5s						
WMQ				LR	LR		
	comp=E,30nm,27.3s						
WMQ				LR	LR		
	comp=Z,48nm,20.5s						
TAM	**Tamanrasset**	**35.73**	**255**	*e*P	**P**	**00 39 17.3**	**+0.6**
TAM				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TAM	**Tamanrasset**	**35.73**	**255**	*e*P	**P**	**00 39 17.3**	**+0.6**
	comp=Z,5.1nm,1.3s						
TAM	**Tamanrasset**	**35.73**	**255**	*e*P	**P**	**00 39 17.3**	**+0.6**
	comp=Z,5.1nm,1.3s						
ESDC	**Sonseca Array**	**36.27**	**287**	P	**P**	**00 39 19.9**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=65,slow=8.5,SNR=5.7						
ESDC	**Sonseca Array**	**36.27**	**287**	P	**P**	**00 39 20.0**	**-1.1**
NRIK	**Noril'sk**	**38.80**	**23**	LR	LR	00 59 25.0	
	comp=Z,86nm,18.8s,baz=222,slow=42						
SFS	**San Fernando**	**38.86**	**283**	P	**P**	**00 39 43.2**	**+0.3**
SFS	**San Fernando**	**38.86**	**283**	P	**P**	**00 39 43.2**	**+0.3**
KMBO	**Kilima Mbogo**	**39.87**	**189**	*e*P	**P**	**00 39 48.2**	**-3.6**
KMBO				pmax	pmax		
	comp=Z,15nm,1.8s						
KMBO	**Kilima Mbogo**	**39.87**	**189**	*e*P	**P**	**00 39 48.2**	**-3.6**
	comp=Z,15nm,1.8s						
GTA	**Gaotai**	**43.39**	**70**	*e*P	**P**	**00 40 22.0**	**+1.6**
GTA				pP	pP	00 40 26.6	+2.2
GTA				sP	sP	00 40 29.1	+3.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						

JOD2	Odawara 2	4.69 244	eS	Sn	00 38 14.5	-0.3
MAT	Matsushiro	4.92 262	P	Pn	00 37 27.8	+3.0
MAT			eS	Sn	00 38 23.5	+3.1
JCH	Churui	5.23 353	P	Pn	00 37 27.9	-1.2
JCH			eS	Sn	00 38 23.3	-4.8
NEM2	Nemuro 2	6.05 10	P	Pn	00 37 36.6	-3.6
NEM2			eS	Sn	00 38 40.2	-7.9

ISK ***25*** *00:37:55.5, 38.°71N×43.°38E, h5km, ML2.7*
ISCJB ***25*** *00:37:56.9±0.6, 38.°70N±0.°03×43.°34E±0.°09, h24km±6km, Error ellipse: s-maj=11.6km s-min=5.2km az=2.9*
CSEM ***25*** *00:37:56.4±0.4, 38.°73N×43.°34E, h10km, ML2.7, Error ellipse: s-maj=12.7km s-min=6.6km az=79.0*
DDA ***25*** *00:37:57.7, 38.°78N×43.°37E, h7km, Ml3.3*
ISC 25 00:37:55.7±1.0, **38.°66N**±0.°03×**43.°48E**±0.°06, **h30**km±5km, **n27**, σ**1.9°38/39**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**230**	*e*PG	**Pb**	**00 38 00.4**	**-0.7**
VANB				*e*SG	**Sb**	**00 38 04.4**	**-0.4**
VANB	**Van**	**0.10**	**230**	*e*Pg	**Pb**	**00 38 00.4**	**-0.7**
VANB				*e*Sg	**Sb**	**00 38 04.4**	**-0.4**
TVAN	**Van**	**0.14**	**205**	*i* P	**Pn**	**00 38 02.8**	**+0.7**
TVAN				*i* S	**Sn**	**00 38 07.1**	**+1.6**
TVAN	**Van**	**0.14**	**205**	P	**Pn**	**00 38 02.8**	**+0.7**
TVAN				S	**Sn**	**00 38 07.1**	**+1.6**
GEVA	**Gevas**	**0.48**	**224**	*i* P	**Pb**	**00 38 02.6**	**-3.3**
GEVA				*i* S	**Sb**	**00 38 12.2**	**-0.7**
GEVA	**Gevas**	**0.48**	**224**	P	**Pb**	**00 38 02.6**	**-3.3**
GEVA				S	**Sb**	**00 38 12.1**	**-0.7**
DYDN	**Diyadin**	**0.90**	**10**	*i* P	**Pn**	**00 38 11.6**	**-1.0**
DYDN				*i* S	**Sn**	**00 38 25.2**	**+0.5**
DYDN	**Diyadin**	**0.90**	**10**	P	**Pn**	**00 38 11.6**	**-1.0**
DYDN				S	**Sn**	**00 38 25.2**	**+0.5**
TUTA	**Tutak**	**0.91**	**325**	*i* P	**Pn**	**00 38 12.2**	**-0.5**
TUTA				*i* S	**Sb**	**00 38 22.6**	**-2.4**
TUTA	**Tutak**	**0.91**	**325**	P	**Pn**	**00 38 12.2**	**-0.5**
TUTA				S	**Sb**	**00 38 22.6**	**-2.4**
AGRB	**Hanur-Agry**	**0.99**	**338**	*e*PG	**Pn**	**00 38 13.4**	**-0.4**
AGRB				*e*SG	**Sn**	**00 38 26.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.99**	**338**	*e*Pg	**Pn**	**00 38 13.4**	**-0.4**
AGRB				*e*Sg	**Sn**	**00 38 26.6**	**-0.4**
HAKT	**HAKKARI**	**1.11**	**171**	*i* P	Pn	00 38 10.1	-5.4
EKAR	**Karacoban**	**1.26**	**299**	*i* P	**Pb**	**00 38 20.2**	**+1.2**
EKAR	**Karacoban**	**1.26**	**299**	P	**Pb**	**00 38 20.2**	**+1.2**
CUKT	**Cukurca**	**1.41**	**176**	*e*PN	**Pb**	**00 38 22.1**	**+0.6**
CUKT	**Cukurca**	**1.41**	**176**	*e*Pn	**Pb**	**00 38 22.1**	**+0.6**
EATA	**Eleskirt**	**1.43**	**328**	*i* P	**Pb**	**00 38 22.0**	**+0.1**
EATA				*i* S	**Sb**	**00 38 43.0**	**+3.1**
EATA	**Eleskirt**	**1.43**	**328**	P	**Pb**	**00 38 22.0**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.86**	**255**	*e*PN	**Pn**	**00 38 26.6**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.86**	**255**	*e*Pn	**Pn**	**00 38 26.6**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.09**	**336**	*e*PN	**Pn**	**00 38 29.9**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.09**	**336**	*e*Pn	**Pn**	**00 38 29.9**	**+0.9**
BNGB	**Bing¶ll**	**2.21**	**280**	*e*PN	**Pn**	**00 38 31.2**	**+0.7**
BINT	**Bingol**	**2.35**	**276**	*e*Pn	**Pn**	**00 38 31.2**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.42**	**290**	*e*PN	**Pn**	**00 38 34.5**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.42**	**290**	*e*Pn	**Pn**	**00 38 34.5**	**+1.1**

ISK ***25*** *00:40:01.5, 38.°75N×43.°50E, h5km, ML2.6*
ISCJB ***25*** *00:40:03.6±0.9, 38.°77N±0.°03×43.°50E±0.°10, h14km±5km, Error ellipse: s-maj=12.5km s-min=4.9km az=4.1*
CSEM ***25*** *00:40:03.2±0.5, 38.°77N×43.°48E, h12km, ML2.6, Error ellipse: s-maj=14.5km s-min=5.8km az=92.0*
DDA ***25*** *00:40:03.8, 38.°78N×43.°51E, h7km, Ml2.7*
ISC 25 00:40:00.6±1.6, **38.°78N**±0.°03×**43.°72E**±0.°07, **h3**km±11km, **n22**, σ**0.9°89/36**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.32**	**234**	*e*PG	**Pg**	**00 40 07.3**	**+0.5**
VANB				*e*SG	**Sg**	**00 40 11.9**	**+0.9**
VANB	**Van**	**0.32**	**234**	*e*Pg	**Pg**	**00 40 07.3**	**+0.5**
VANB				*e*Sg	**Sg**	**00 40 11.9**	**+0.9**
TVAN	**Van**	**0.35**	**224**	*i* P	**Pb**	**00 40 09.6**	**-0.1**
TVAN				*i* S	**Sb**	**00 40 14.8**	**-1.0**
TVAN	**Van**	**0.35**	**224**	P	**Pb**	**00 40 09.6**	**-0.1**
TVAN				S	**Sb**	**00 40 14.8**	**-1.0**
GEVA	**Gevas**	**0.70**	**228**	*i* P	**Pg**	**00 40 12.4**	**-1.6**
GEVA				*i* S	**Sg**	**00 40 23.3**	**+0.2**
GEVA	**Gevas**	**0.70**	**228**	P	**Pg**	**00 40 12.4**	**-1.6**
GEVA				S	**Sg**	**00 40 23.3**	**+0.2**
DYDN	**Diyadin**	**0.76**	**358**	*i* P	**Pn**	**00 40 17.6**	**-0.9**
DYDN				*i* S	**Sn**	**00 40 31.0**	**+0.4**
DYDN	**Diyadin**	**0.76**	**358**	P	**Pn**	**00 40 17.6**	**-0.9**
DYDN				S	**Sn**	**00 40 31.0**	**+0.4**
TUTA	**Tutak**	**0.94**	**311**	*i* P	**Pg**	**00 40 17.9**	**-0.7**
TUTA				*i* S	**Sg**	**00 40 31.2**	**+0.4**
TUTA	**Tutak**	**0.94**	**311**	P	**Pg**	**00 40 17.9**	**-0.7**
TUTA				S	**Sg**	**00 40 31.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.97**	**325**	*e*PG	**Pb**	**00 40 20.4**	**+0.1**
AGRB				*e*SG	**Sb**	**00 40 33.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.97**	**325**	*e*Pg	**Pb**	**00 40 20.4**	**+0.1**
AGRB				*e*Sg	**Sb**	**00 40 33.9**	**+0.3**
EATA	**Eleskirt**	**1.44**	**319**	*i* P	**Pg**	**00 40 28.5**	**+0.3**
EATA				*i* S	**Sn**	**00 40 49.4**	**+1.9**
EATA	**Eleskirt**	**1.44**	**319**	P	**Pg**	**00 40 28.5**	**+0.3**
EATA				S	**Sn**	**00 40 49.4**	**+1.9**
CUKT	**Cukurca**	**1.54**	**183**	*e*PN	**Pg**	**00 40 30.6**	**+0.6**
CUKT	**Cukurca**	**1.54**	**183**	*e*Pn	**Pg**	**00 40 30.6**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.07**	**330**	*e*PN	**Pb**	**00 40 38.2**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.07**	**330**	*e*Pn	**Pb**	**00 40 38.2**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.08**	**253**	*e*PN	**Pn**	**00 40 36.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.08**	**253**	*e*Pn	**Pn**	**00 40 36.5**	**+0.1**
BNGB	**Bing¶ll**	**2.38**	**276**	*e*PN	**Pn**	**00 40 40.9**	**+0.2**
BINT	**Bingol**	**2.53**	**273**	*e*Pn	**Pn**	**00 40 40.9**	**-1.8**

CSEM ***25*** *00:42:17.4±0.4, 38.°69N×43.°63E, h2km, ML3.4, Error ellipse: s-maj=9.6km s-min=4.6km az=71.0*
DDA ***25*** *00:42:17.3, 38.°64N×43.°48E, h7km, Ml3.4*
ISK ***25*** *00:42:17.0, 38.°67N×43.°55E, h5km, ML3.1*
ISC 25 00:42:17.7±1.0, **38.°68N**±0.°03×**43.°58E**±0.°04, **h13**km±6km, **n36**, σ**1.9°52/50**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**240**	*e*PG	**Pg**	**00 42 21.9**	**+0.1**
VANB				*e*SG	**Sg**	**00 42 25.6**	**+1.0**
VANB	**Van**	**0.17**	**240**	*e*Pg	**Pg**	**00 42 21.9**	**+0.1**
VANB				*e*Sg	**Sg**	**00 42 25.6**	**+1.0**
TVAN	**Van**	**0.20**	**221**	*i* P	**Pg**	**00 42 20.4**	**-1.9**
TVAN				*i* S	**Sg**	**00 42 26.0**	**+0.5**
TVAN	**Van**	**0.20**	**221**	P	**Pg**	**00 42 20.4**	**-1.9**
TVAN				S	**Sg**	**00 42 26.0**	**+0.5**
GEVA	**Gevas**	**0.55**	**228**	*i* P	Pg	00 42 19.6	-8.9
GEVA				*i* S	**Sg**	**00 42 28.4**	**-7.4**
BASK	**Baskale_VAN**	**0.71**	**152**	*i* P	**Pg**	**00 42 31.0**	**-0.6**
BASK				*i* S	**Sb**	**00 42 42.1**	**+0.3**
BASK	**Baskale_VAN**	**0.71**	**152**	P	**Pg**	**00 42 31.0**	**-0.6**
BASK				S	**Sb**	**00 42 42.1**	**+0.3**
TUTA	**Tutak**	**0.93**	**321**	*i* P	**Pg**	**00 42 35.3**	**-0.5**
TUTA				*i* S	**Sb**	**00 42 48.5**	**+0.2**
TUTA	**Tutak**	**0.93**	**321**	P	**Pg**	**00 42 35.3**	**-0.5**
TUTA				S	**Sb**	**00 42 48.5**	**+0.2**
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*PG	**Pg**	**00 42 35.7**	**-1.5**
AGRB				*e*SG	**Sn**	**00 42 51.9**	**0.0**
AGRB	**Hanur-Agry**	**1.00**	**333**	*e*Pg	**Pg**	**00 42 35.7**	**-1.5**
AGRB				*e*Sg	**Sn**	**00 42 51.9**	**0.0**
HAKT	**HAKKARI**	**1.12**	**175**	*i* P	**Pg**	**00 42 38.0**	**-1.4**
HAKT				*i* S	**Sb**	**00 42 54.3**	**+0.5**
HAKT	**HAKKARI**	**1.12**	**175**	P	**Pg**	**00 42 38.0**	**-1.4**
HAKT				S	**Sb**	**00 42 54.3**	**+0.5**
EKAR	**Karacoban**	**1.31**	**297**	*i* P	**Pb**	**00 42 42.9**	**+0.5**
EKAR	**Karacoban**	**1.31**	**297**	P	**Pb**	**00 42 42.9**	**+0.5**
CUKT	**Cukurca**	**1.43**	**179**	*e*PN	**Pg**	**00 42 44.9**	**-0.3**
CUKT	**Cukurca**	**1.43**	**179**	*e*Pn	**Pg**	**00 42 44.9**	**-0.3**
EATA	**Eleskirt**	**1.45**	**325**	*i* P	**Pn**	**00 42 44.2**	**+0.2**
EATA	**Eleskirt**	**1.45**	**325**	P	**Pn**	**00 42 44.2**	**+0.2**
SIRN	**S¨–rnak**	**1.50**	**218**	*i* P	**Pg**	**00 42 46.2**	**-0.2**
SIRN				*i* S	**Sg**	**00 43 06.7**	**+0.8**
SIRN	**S¨–rnak**	**1.50**	**218**	P	**Pg**	**00 42 46.2**	**-0.2**
SIRN				S	**Sg**	**00 43 06.7**	**+0.8**
VRTB	**Varto-Mus**	**1.72**	**287**	*e*PN	**Pg**	**00 42 49.6**	**-1.1**
VRTB	**Varto-Mus**	**1.72**	**287**	*i* P	**Pn**	**00 42 48.3**	**+0.8**
VRTB	**Varto-Mus**	**1.72**	**287**	P	**Pn**	**00 42 48.3**	**+0.8**
VRTB	**Varto-Mus**	**1.72**	**287**	*e*Pn	**Pg**	**00 42 49.7**	**-1.1**
DIGO	**Kars**	**1.74**	**355**	*i* P	**Pg**	**00 42 50.5**	**-0.7**
DIGO	**Kars**	**1.74**	**355**	P	**Pg**	**00 42 50.5**	**-0.7**
HOMI	**Horasan**	**1.88**	**317**	*i* P	**Pb**	**00 42 52.1**	**0.0**
SVAN	**Silvan-Diyarba**	**1.94**	**255**	*e*PN	**Pb**	**00 42 51.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.94**	**255**	*e*Pn	**Pb**	**00 42 51.8**	**-1.2**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*PN	**Pb**	**00 42 55.4**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.10**	**334**	*e*Pn	**Pb**	**00 42 55.4**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.48**	**289**	*e*PN	**Pn**	**00 42 59.4**	**+1.4**
YEDI	**Yedisu-Bingol**	**2.48**	**289**	*e*Pn	**Pn**	**00 42 59.4**	**+1.4**
PTK	**Pertek**	**3.28**	**275**	*e*PN	**Pn**	**00 43 11.8**	**+2.8**
PTK	**Pertek**	**3.28**	**275**	*e*Pn	**Pn**	**00 43 11.8**	**+2.8**

CSEM ***25*** *00:42:44.6, 35.°53N×54.°51E, h5km, ML2.6*
TEH 25 00:42:44.6, 35.°53N×54.°51E, h5km**, ML2.6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**0.49**	**263**	*e*Pg	Pg	00 42 52.9	-1.2
IANJ				*e*AMB	AMB	00 43 02.5	
	comp=Z,2μm,0.1s						
IANJ	**Anjilo**	**0.49**	**263**	*e*Pg	Pg	00 42 52.9	-1.2
ISHM	**Shahmirzad**	**1.03**	**286**	*e*Sg	Sg	00 43 16.6	-1.2
ISHM				*e*Pg	Pg	00 43 03.1	-1.3
ISHM				*e*AMB	AMB	00 43 18.8	
	comp=Z,2μm,0.1s						
IGLO	**Ghaloghah**	**1.12**	**331**	*e*AMB	AMB	00 43 26.6	
	comp=Z,614nm,0.2s						
IGLO				*e*Pg	Pg	00 43 04.7	-1.4
ILAS	**Lasjerd**	**1.27**	**264**	*e*AMB	AMB	00 43 31.4	
	comp=E,2μm,0.1s						
ILAS				*e*Pg	Pg	00 43 09.1	0.0
IFIR	**Firoozkooh**	**1.44**	**275**	*e*Sg	Sb	00 43 29.8	-0.9
IFIR				*e*Pn	Pn	00 43 09.9	-1.7
IFIR				*e*AMB	AMB	00 43 32.3	
	comp=Z,1μm,0.1s						
IALA	**Alasht**	**1.49**	**292**	*e*Sg	Sb	00 43 31.6	-0.7
IALA				*e*AMB	AMB	00 43 36.6	
	comp=Z,656nm,0.1s						
IALA	**Alasht**	**1.49**	**292**	*e*Sg	Sb	00 43 31.6	-0.7
IPRN	**Peran**	**1.90**	**293**	*e*Pn	Pn	00 43 18.4	+0.5
IPRN				*e*AMB	AMB	00 43 51.6	
	comp=Z,448nm,0.1s						
IDMV	**Damavand**	**2.02**	**272**	*e*Pn	Pn	00 43 19.2	-0.4
IDMV				*e*AMB	AMB	00 43 51.6	
	comp=Z,524nm,0.1s						
IDMV	**Damavand**	**2.02**	**272**	*e*Pn	Pn	00 43 19.2	-0.4
IVRN	**Varamin**	**2.34**	**258**	*e*Pn	Pn	00 43 24.2	+0.4
IVRN				*e*AMB	AMB	00 44 00.1	
	comp=Z,2μm,0.1s						
IVRN	**Varamin**	**2.34**	**258**	*e*Pn	Pn	00 43 24.2	+0.4
IZEF	**Zefreh**	**3.19**	**215**	*e*Pn	Pn	00 43 36.8	+1.2
IZEF				*e*AMB	AMB	00 44 31.9	
	comp=Z,142nm,0.2s						
IZEF	**Zefreh**	**3.19**	**215**	*e*Pn	Pn	00 43 36.8	+1.2
IKLH	**Kolahrood**	**3.27**	**229**	*e*Pn	Pb	00 43 41.4	-2.0
IKLH				*e*AMB	AMB	00 44 38.0	
	comp=Z,120nm,0.3s						
IKLH	**Kolahrood**	**3.27**	**229**	*e*Pn	Pb	00 43 41.4	-2.0

IDC ***25*** *00:43:41.0±1.5, 44.°25N×81.°02E, h0km, mb3.5/3, mb1 3.4/8, mb1mx3.3/44, mbtmp3.4/8, ML3.0/5, Error ellipse: s-maj=21.9km s-min=9.4km az=127.0*
NNC ***25*** *00:43:41.9±1.8, 44.°31N×81.°23E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=26.3km s-min=6.5km az=129.0*
ISCJB ***25*** *00:43:42.1±0.9, 44.°29N±0.°06×81.°40E±0.°08, h10km, mb3.4/3, Error ellipse: s-maj=11.1km s-min=5.0km az=140.9*
SOME ***25*** *00:43:42.5, 44.°38N×81.°03E, h15km*
ISC 25 00:43:41.8±0.9, **44.°29N**±0.°05×**81.°12E**±0.°05, **h10**km, **n39**, σ**1.9°88/62**, **mb3.4/3**, **8C-13D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.96**	**273**	*e*P	**Pg**	**00 43 59.5**	**-0.8**
	150nm,0.4s						
DJR				*e*S	**Sg**	**00 44 10.8**	**-1.9**
	171nm,0.2s						
PDGK	**Podgornoye**	**1.52**	**231**	⇓Pg	**Pg**	**00 44 10.5**	**-0.5**
	38nm,0.6s						
PDGK				⇓Lg	Lg	00 44 32.0	
	139nm,0.7s						
SHLS	**Shalkode**	**1.65**	**227**	*e*P	**Pn**	**00 44 09.8**	**-1.2**
	82nm,0.2s						
SHLS				*e*S	**Sn**	**00 44 30.5**	**-1.8**
	211nm,0.5s						
UZB	**Uzynbulak**	**1.90**	**234**	*e*P	**Pg**	**00 44 16.8**	**-1.5**
	87nm,0.2s						
UZB				*e*S	**Sg**	**00 44 22.2**	**-0.8**
	141nm,0.5s						
MNBS	**Baschi**	**1.97**	**265**	*e*P	**Pg**	**00 44 18.1**	**-1.5**
	147nm,0.3s						
MNBS				*e*S	**Sg**	**00 44 45.2**	**+0.1**
	209nm,0.3s						
TDK	**Taldyqorghan**	**2.06**	**291**	*e*P	**Pb**	**00 44 18.9**	**-0.5**
	55nm,0.4s						
TDK				*e*S	**Sg**	**00 44 47.0**	**-1.2**
	117nm,0.9s						
ZHN	**Zhinishke**	**2.25**	**241**	*e*P	**Pb**	**00 44 21.9**	**-0.7**
	58nm,0.3s						
ZHN				*e*S	**Sb**	**00 44 50.9**	**+0.4**
	217nm,0.3s						
KURS	**Kuram**	**2.28**	**250**	*e*P	**Pb**	**00 44 23.0**	**-0.1**
	14nm,0.2s						
KURS				*e*S	**Sg**	**00 44 53.4**	**-1.7**
	62nm,0.4s						
SATY	**Saty**	**2.32**	**239**	*e*P	**Pb**	**00 44 23.7**	**-0.2**
	176nm,0.3s						
SATY				*e*S	**Sg**	**00 44 54.7**	**-1.8**
	185nm,0.3s						
ARXS	**Arharly**	**2.37**	**269**	*e*P	**Pb**	**00 44 23.3**	**-1.3**
	84nm,0.4s						
ARXS				*e*S	**Sb**	**00 44 54.9**	**+0.9**
	154nm,0.3s						
MAKZ	**Makanchi**	**2.59**	**13**	⇑Pg	**Pb**	**00 44 26.6**	**-1.7**
	6.2nm,0.5s						
MAKZ				⇑Lg	Lg	00 45 01.2	
	24nm,0.8s						
MK31	**Makanchi Array**	**2.64**	**18**	⇑Pn	**Pb**	**00 44 27.4**	**-1.8**
	1.9nm,0.2s,baz=201,slow=13,SNR=179						
MK31				⇓Lg	Lg	00 45 02.9	
	20nm,0.6s,baz=200,slow=27,SNR=14						
MKAR	**Makanchi Array**	**2.64**	**18**	Pn	**Pb**	**00 44 27.4**	**-1.7**
	5.1nm,0.3s,baz=200,slow=13,SNR=208						
MKAR				Sn	**Sb**	**00 45 01.2**	**-0.4**
	10.0nm,0.3s,baz=199,slow=26,SNR=8.1						
CHKK	**Chushkaly**	**3.01**	**263**	*e*P	**Pb**	**00 44 34.7**	**-0.8**
	63nm,0.3s						
CHKK				*e*S	**Sb**	**00 45 13.8**	**+1.5**
	100nm,0.2s						
KOTS	**Kotyrbulak**	**3.09**	**251**	*e*P	**Pb**	**00 44 37.0**	**0.0**
	21nm,0.2s						
KOTS				*e*S	**Sg**	**00 45 17.6**	**-3.5**
	51nm,0.5s						
MDOK	**Medeo**	**3.16**	**251**	⇓Pn	**Pb**	**00 44 34.5**	**-3.6**
MDOK				⇑Pg	**Pg**	**00 44 41.5**	**-0.8**
MDOK				⇑Lg	Lg	00 45 26.6	
MDOK	**Medeo**	**3.16**	**251**	*e*P	**Pb**	**00 44 37.2**	**-1.0**
	36nm,0.5s						
MDOK				*e*S	**Sb**	**00 45 18.5**	**+1.7**
	34nm,0.9s						
KNDC	**Almaty**	**3.20**	**252**	⇓Pg	**Pg**	**00 44 41.0**	**-2.0**
	17nm,0.3s						
KNDC				⇓Lg	Lg	00 45 26.8	
	31nm,0.5s						
KTBS	**Karatobe**	**3.25**	**261**	*e*P	**Pb**	**00 44 39.3**	**-0.4**
	13nm,0.5s						
KTBS				*e*S	**Sb**	**00 45 21.6**	**+2.2**
	19nm,0.4s						
TNSS	**Tian-Shan**	**3.28**	**249**	*e*P	**Pb**	**00 44 40.8**	**+0.4**
	22nm,0.5s						
TNSS				*e*S	**Sg**	**00 45 24.1**	**-3.0**
	50nm,0.5s						
KUU	**Kurty**	**3.47**	**265**	*e*P	**Pb**	**00 44 41.4**	**-1.9**
	12nm,0.5s						
KUU				*e*S	**Sb**	**00 45 24.8**	**-0.7**
	39nm,0.5s						
IZV	**Izvestkoviy**	**3.50**	**251**	*e*P	**Pb**	**00 44 44.4**	**+0.3**
	22nm,0.3s						
IZV				*e*S	**Sg**	**00 45 30.7**	**-3.6**
	51nm,0.5s						
MTBS	**Maitube**	**3.59**	**253**	*e*P	**Pb**	**00 44 45.7**	**+0.1**
	32nm,0.2s						
MTBS				*e*S	**Sg**	**00 45 32.4**	**-4.9**
	50nm,0.4s						
KST	**Kastek**	**3.94**	**253**	*e*P	**Pg**	**00 44 54.2**	**-3.2**
	8.7nm,0.5s						
KST				*e*S	**Sg**	**00 45 46.9**	**-1.6**
	35nm,0.5s						
DGS	**Degeres**	**4.01**	**257**	*e*P	**Pb**	**00 44 52.6**	**-0.1**
	35nm,0.4s						
DGS				*e*S	**Sb**	**00 45 44.6**	**+3.2**
	39nm,0.5s						
ZSN	**Zaisan**	**4.10**	**38**	*e*P	**Pb**	**00 44 56.1**	**+2.0**
	3.0nm,0.4s						
ZSN				*e*S	**Sg**	**00 45 51.1**	**-2.4**
	3.4nm,0.6s						
TKM2	**Tokmak 2**	**4.24**	**253**	⇓Pg	**Pb**	**00 44 58.8**	**+2.2**
	14nm,0.5s						
TKM2				⇓Sn	**Sb**	**00 45 44.8**	**-3.1**
	5.6nm,0.4s						
TKM2				⇓Lg	Lg	00 45 57.1	
	26nm,0.8s						
AAK	**Ala-Archa**	**5.10**	**253**	Pn	**Pn**	**00 44 59.4**	**+1.0**
	0.2nm,0.3s,baz=52,slow=19,SNR=2.9						
AAK				Pg	**Pb**	**00 45 11.2**	**0.0**
	0.7nm,0.3s,baz=15,slow=5.7,SNR=3.7						
AAK				Lg	Lg	00 46 22.6	
	1.6nm,0.3s,baz=296,slow=21,SNR=9.2						
AAK	**Ala-Archa**	**5.10**	**253**	⇑Pg	**Pb**	**00 45 13.0**	**+1.8**
	4.0nm,0.5s						
AAK				⇑Lg	Lg	00 46 24.4	
	8.9nm,0.6s						
MNAS	**Manas**	**6.53**	**257**	⇓Pg	**Pb**	**00 45 39.5**	**+3.9**
	2.3nm,0.8s						
MNAS				⇑Lg	Lg	00 47 11.2	
	6.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.58**	**345**	Pn	**Pn**	**00 45 19.4**	**+0.9**
	0.2nm,0.3s,baz=173,slow=12,SNR=11						
KURBB				Sn	**Sn**	**00 46 33.7**	**+0.2**
	0.2nm,0.3s,baz=191,slow=29,SNR=5.3						
KURBB				Lg	Lg	00 47 13.0	
	0.2nm,0.3s,baz=167,slow=30,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.58**	**345**	⇓Pn	**Pn**	**00 45 20.9**	**+2.4**
	0.8nm,0.3s						
KURBB				⇓Lg	Lg	00 47 10.4	
	13nm,0.8s						
KK31	**Karatay Array**	**7.78**	**265**	Pg	Pg	00 46 03.0	-7.8
	1.7nm,0.7s,baz=74,slow=17,SNR=3.8						
KK31				Lg	Lg	00 47 51.4	
	3.1nm,0.6s,baz=80,slow=28,SNR=6.8						
ZALV	**Zalesovo Beam**	**9.96**	**13**	Pn	**Pn**	**00 46 06.2**	**+1.2**
	0.5nm,0.3s,baz=194,slow=13,SNR=8.0						
BVA0	**Borovoye Array**	**11.25**	**325**	⇓Lg	Lg	00 49 39.5	
	4.3nm,1.3s,baz=136,slow=28,SNR=3.7						
BVAR	**Borovoye Array**	**11.25**	**325**	Pn	**Pn**	**00 46 22.2**	**-0.3**
	0.3nm,0.3s,baz=142,slow=13,SNR=7.4						
BVAR				Lg	Lg	00 49 39.8	
	0.1nm,0.3s,baz=141,slow=29,SNR=5.5						
BRTR	**Keskin Array B**	**35.19**	**279**	P	**P**	**00 50 38.0**	**+1.9**
	0.5nm,0.8s,baz=74,slow=8.1,SNR=3.0						
NOA	**NORSAR Array B**	**43.28**	**318**	P	**P**	**00 51 44.9**	**+1.5**
	0.9nm,0.8s,baz=80,slow=8.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**73.40**	**272**	P	**P**	**00 55 15.4**	**+1.1**
	0.1nm,0.4s,baz=40,slow=5.2,SNR=5.4						

ISCJB ***25*** *00:44:20.2±0.5, 18.°0S±0.°1×66.°11E±0.°07, h10km, mb4.2/14, MS4.0/24, Error ellipse: s-maj=16.6km s-min=9.5km az=168.8*
IDC ***25*** *00:44:21.7±0.8, 17.°70S×66.°42E, h0km, mb4.1/11, mb1 4.2/12, mb1mx3.9/45, mbtmp4.1/12, ML3.7/1, MS3.9/25, Ms1 3.9/25, ms1mx3.8/36, Error ellipse: s-maj=25.3km s-min=18.4km az=45.0*
GCMT ***25*** *00:44:22.6±0.2, 17.°33S×66.°25E, h26km±1km, MW5.1/90, Moment Tensor Solution. s45,c61; s90,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.16; $M_{\theta\theta}$-4.43±.13; $M_{\phi\phi}$4.56±.14; $M_{r\theta}$-0.91±.28; $M_{\theta\phi}$2.51±.13; $M_{\phi r}$-1.39±.28; Best double couple: $M_0$5.39300×10^{16} NP1:ϕ_s240.00000°, δ84.00000°, λ15.00000°. NP2: ϕ_s149.00000°, δ75.00000°, λ174.00000°. Principal axes: T 5.6440, Plg15.0000°, Azm105.0000°; N -0.5040, Plg73.0000°, Azm262.0000°; P -5.1420, Plg6.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*

comp=Z,75nm,19.7s,baz=252,slow=34
ARR Arges 73.34 331 ⇑*i*P **P 00 55 56.2 +1.8**
VNDA Vanda 73.92 167 LR LR 01 24 57.2
comp=Z,102nm,19.7s,baz=252,slow=33
DBIC Dimbokro 74.13 283 LR LR 01 27 20.5
comp=Z,125nm,19.3s,baz=100,slow=35
SONM Songino Array 74.70 27 P **P 00 56 02.2 -0.2**
1.0nm,0.8s,baz=224,slow=4.1,SNR=5.0
SONM LR LR 01 27 55.7
comp=Z,61nm,20.2s,baz=195,slow=35
BURAR Bucovina Array 74.78 333 ⇓*i*P P 00 55 55.8 -7.1
AKASG Malin Array Be 75.58 337 P **P 00 56 08.2 +1.0**
0.2nm,0.3s,baz=132,slow=5.2,SNR=4.9
KEST Kesra 75.67 315 LR LR 01 28 33.0
comp=Z,113nm,19.8s,baz=315,slow=35
PMG Port Moresby 78.72 96 LR LR 01 31 06.0
comp=Z,76nm,18.7s,baz=318,slow=36
KSRS Korea Array 80.03 45 LR LR 01 29 35.0
comp=Z,55nm,20.4s,baz=241,slow=34
MJAR Matsushiro Arr 86.86 50 LR LR 01 35 29.2
comp=Z,32nm,20.4s,baz=215,slow=35
NRIK Noril'sk 88.32 7 LR LR 01 36 36.0
comp=Z,75nm,19.8s,baz=194,slow=36
HNR Honiara 90.77 100 LR LR 01 36 58.9
comp=Z,84nm,19.5s,baz=188,slow=35
ARCES ARCESS Array B 91.79 347 LR LR 01 38 00.6
comp=Z,28nm,21.3s,baz=108,slow=35
RSSD Black Hills 152.54 344 *e*PKPbc **PKPbc 01 04 20.7 +1.1**

IDC 25 00:59:38.9±1.9, 9°.49S×150°.23E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/30, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=42.9km s-min=21.0km az=170.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.03**	**271**	Pn	Pn	01 00 27.2	-1.0
	3.8nm,0.3s,baz=69,slow=8.6,SNR=4.1						
PMG				Pg	Pg	01 00 35.4	-1.6
	11nm,0.3s,baz=105,slow=9.8,SNR=14						
PMG				Lg	Lg	01 01 13.7	
	6.5nm,0.3s,baz=227,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**18.54**	**234**	P	Pn	01 03 58.0	+0.7
	0.1nm,0.3s,baz=60,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**21.03**	**226**	P	P	01 04 24.1	-0.3
	1.3nm,0.8s,baz=63,slow=11,SNR=13						
ILAR	**Eielson Array**	**87.44**	**22**	P	P	01 12 28.1	+0.1
	0.7nm,1.0s,baz=255,slow=5.5,SNR=4.6						

GUC 25 01:03:45.7±1.1, 22°.23S×70°.34W, h14km±66km, ML3.5, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**IPOC Station P**	**0.66**	**40**	*e*P	Pg	01 03 57.8	-0.8
PB07				*e*S	Sg	01 04 06.8	-0.5
PB09	**IPOC Station P**	**1.11**	**67**	*e*P	Pb	01 04 06.0	-0.8
PB09				*e*S	Sb	01 04 19.8	-1.3
PB09				IAML		01 04 23.7	
	comp=N,3μm,0.5s						
PB10	**IPOC Station P**	**1.29**	**189**	*e*P	Pn	01 04 07.8	-1.5
PB10				*e*S	Sb	01 04 24.6	-1.7
PB10				IAML		01 04 31.4	
	comp=N,1μm,0.7s						
LVC	**Limon Verde**	**1.38**	**106**	*e*S	Sn	01 04 28.0	-1.1
PB01	**IPOC Station P**	**1.43**	**34**	*e*P	Pn	01 04 10.2	-1.0
PB01				*e*S	Sn	01 04 28.4	-1.4
PB01				IAML		01 04 31.8	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**1.45**	**182**	*e*P	Pb	01 04 12.3	-0.1
ANCH				*i*S	Sn	01 04 29.8	-0.4
HMBC	**Humberstone**	**1.99**	**12**	*e*P	Pn	01 04 18.5	-0.5

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*THE **25** 01:04:02.4, 36°.66N×30°.39E, h0km±1km, ML2.6/1, Error ellipse: s-maj=6.9km s-min=1.4km az=123.0*
*DDA **25** 01:04:02.5, 36°.69N×30°.29E, h7km, Ml3.1*
*CSEM **25** 01:04:04.6±0.2, 36°.81N×30°.16E, h2km, MD3.0, Error ellipse: s-maj=4.7km s-min=3.1km az=153.0*
*ISK **25** 01:04:04.0, 36°.86N×30°.22E, h5km, MD3.0*
ISC 25 01:04:02.5±1.2, 36°.69N±0°.03×30°.31E±0°.02, h1km±10km, n55, σ1§04/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.32**	**6**	*e*PG	**Pg**	**01 04 08.5**	**-0.1**
KORT	**Korkueli**	**0.32**	**6**	*i*P	**Pg**	**01 04 08.4**	**-0.3**
KORT				*i*S	**Sg**	**01 04 12.4**	**-0.4**
KORT	**Korkueli**	**0.32**	**6**	*e*Pg	**Pg**	**01 04 08.5**	**-0.1**
KORT				S	**Sg**	**01 04 12.4**	**-0.4**
ANTB	**Antalya**	**0.35**	**52**	*e*PG	**Pb**	**01 04 12.2**	**+0.6**
ANTB				*e*SG	**Sb**	**01 04 18.3**	**+0.6**
ANTB	**Antalya**	**0.35**	**52**	*e*Pg	**Pb**	**01 04 12.2**	**+0.6**
ANTB				*e*Sg	**Sb**	**01 04 18.3**	**+0.6**
AKAS	**Kas**	**0.72**	**232**	*i*P	**Pb**	**01 04 17.4**	**-0.5**
AKAS				*i*S	**Sn**	**01 04 31.8**	**0.0**
AKAS	**Kas**	**0.72**	**232**	P	**Pb**	**01 04 17.5**	**-0.5**
AKAS				S	**Sn**	**01 04 31.8**	**0.0**
KSL	**Kastellorizon**	**0.79**	**228**	P	**Pn**	**01 04 19.2**	**-1.6**
KSL				S	**Sn**	**01 04 32.0**	**-1.3**
GLHS	**Glhisar (BURDU**	**0.80**	**306**	*e*PG	**Pg**	**01 04 17.4**	**-0.5**
GLHS				*e*SG	**Sg**	**01 04 28.2**	**0.0**
GLHS	**Glhisar (BURDU**	**0.80**	**306**	*e*Pg	**Pg**	**01 04 17.4**	**-0.5**
BCK	**Bucak**	**0.81**	**16**	*e*PG	**Pg**	**01 04 17.6**	**-0.4**
BCK	**Bucak**	**0.81**	**16**	*e*Pg	**Pg**	**01 04 17.6**	**-0.4**
GOLH	**Golhisar**	**0.81**	**313**	*i*P	**Pg**	**01 04 17.3**	**-0.8**
GOLH				*i*S	**Sg**	**01 04 29.2**	**+0.6**
GOLH	**Golhisar**	**0.81**	**313**	P	**Pg**	**01 04 17.3**	**-0.8**
GOLH				S	**Sg**	**01 04 29.2**	**+0.6**
SUTC	**Sutluce-Ispart**	**0.96**	**35**	*e*PG	**Pn**	**01 04 22.5**	**-0.9**
SUTC	**Sutluce-Ispart**	**0.96**	**35**	*e*Pg	**Pn**	**01 04 22.5**	**-0.9**
FETY	**Fethiye**	**0.98**	**267**	*e*PG	**Pb**	**01 04 21.9**	**-0.5**
FETY	**Fethiye**	**0.98**	**267**	P	**Pb**	**01 04 21.7**	**-0.7**
FETY				S	**Sn**	**01 04 38.6**	**+0.5**
FETY	**Fethiye**	**0.98**	**267**	P	**Pb**	**01 04 21.7**	**-0.7**
BRDR	**BURDUR-Merkez**	**1.03**	**349**	*i*P	**Pg**	**01 04 22.0**	**-0.3**
BRDR				*i*S	**Sn**	**01 04 38.5**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.03**	**349**	P	**Pg**	**01 04 22.0**	**-0.3**
ISP	**Isparta**	**1.15**	**9**	*e*PG	**Pg**	**01 04 23.9**	**-0.7**
ISP	**Isparta**	**1.15**	**9**	P	**Pg**	**01 04 23.9**	**-0.7**
ISP				S	**Sn**	**01 04 42.2**	**-0.1**
ISP	**Isparta**	**1.15**	**9**	P	**Pg**	**01 04 23.9**	**-0.7**
ISP				S	**Sn**	**01 04 42.2**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.33**	**276**	*e*PN	**Pg**	**01 04 28.6**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.33**	**276**	*i*P	**Pg**	**01 04 27.8**	**-0.3**
DALY				*i*S	**Sn**	**01 04 48.8**	**+2.2**
DALY	**Dalyan (Mu¨la**	**1.33**	**276**	P	**Pg**	**01 04 27.8**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.33**	**276**	*e*Pn	**Pg**	**01 04 28.6**	**+0.5**
BAGO	**Egridir - ISPA**	**1.36**	**16**	*i*P	**Pb**	**01 04 28.3**	**-0.5**
BAGO				*i*S	**Sn**	**01 04 49.4**	**+1.9**
TAVA	**DENIZLI_Tavas**	**1.36**	**305**	*i*P	**Pn**	**01 04 27.2**	**-1.5**
TAVA				*i*S	**Sn**	**01 04 47.9**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.36**	**305**	P	**Pn**	**01 04 27.2**	**-1.5**
TURN	**Turunc**	**1.38**	**278**	*i*P	**Pg**	**01 04 33.2**	**+4.2**
TURN				*i*S	Sg	01 04 56.1	+9.2
TURN	**Turunc**	**1.38**	**278**	P	**Pg**	**01 04 33.2**	**+4.2**
KZIL	**AFYON_Kizioren**	**1.57**	**355**	*i*P	**Pn**	**01 04 31.4**	**-0.4**
KZIL				*i*S	**Sg**	**01 04 54.4**	**+1.2**
KZIL	**AFYON_Kizioren**	**1.57**	**355**	P	**Pn**	**01 04 31.4**	**-0.4**
KZIL				S	**Sg**	**01 04 54.4**	**+1.2**
DOGA	**KONYA_Doganhis**	**1.79**	**37**	*i*P	**Pg**	**01 04 36.5**	**-0.3**
DOGA				*i*S	**Sg**	**01 05 01.1**	**+1.2**
DOGA	**KONYA_Doganhis**	**1.79**	**37**	P	**Pg**	**01 04 36.5**	**-0.3**
DOGA				S	**Sg**	**01 05 01.1**	**+1.2**
ARG	**Arkhangelos**	**1.82**	**256**	P	**Pb**	**01 04 36.1**	**-0.5**
ARG	**Arkhangelos**	**1.82**	**256**	P	**Pb**	**01 04 36.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.88**	**6**	*e*PN	**Pb**	**01 04 36.4**	**-1.2**
SHUT	**Suhut-Afyon**	**1.88**	**6**	*e*Pn	**Pb**	**01 04 36.4**	**-1.2**
KONT	**Konya--Tatoy**	**2.06**	**52**	*e*PN	**Pb**	**01 04 40.6**	**-0.3**
KONT	**Konya--Tatoy**	**2.06**	**52**	*e*Pn	**Pb**	**01 04 40.6**	**-0.3**
DAT	**Datca**	**2.19**	**272**	*e*PN	**Pb**	**01 04 42.2**	**-0.8**
DAT	**Datca**	**2.19**	**272**	*e*Pn	**Pb**	**01 04 42.2**	**-0.8**
KULA	**Kula-Manisa**	**2.25**	**325**	*e*PN	**Pn**	**01 04 41.5**	**+0.6**
KULA	**Kula-Manisa**	**2.25**	**325**	*e*Pn	**Pn**	**01 04 41.5**	**+0.6**
TEKE	**Tekeli-Mersin**	**2.33**	**103**	*e*PN	**Pg**	**01 04 46.8**	**-0.4**
TEKE	**Tekeli-Mersin**	**2.33**	**103**	*e*Pn	**Pg**	**01 04 46.8**	**-0.4**
KEBE	**Keben-Mersin**	**2.75**	**94**	*e*PN	**Pb**	**01 04 52.1**	**-0.5**
KEBE	**Keben-Mersin**	**2.75**	**94**	*e*Pn	**Pb**	**01 04 52.1**	**-0.5**
IKL	**Isikli**	**2.76**	**98**	*e*PN	**Pb**	**01 04 53.0**	**+0.3**
IKL	**Isikli**	**2.76**	**98**	*e*Pn	**Pb**	**01 04 53.0**	**+0.3**
TVSB	**Tavsanli**	**2.84**	**347**	*e*PN	**Pn**	**01 04 49.2**	**+0.1**
TVSB	**Tavsanli**	**2.84**	**347**	*e*Pn	**Pn**	**01 04 49.2**	**+0.1**

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*DDA **25** 01:06:17.0, 38°.81N×43°.50E, h7km, Ml2.7*
*CSEM **25** 01:06:17.8±0.6, 38°.84N×43°.48E, h5km, ML2.6, Error ellipse: s-maj=15.3km s-min=7.7km az=86.0*
*ISK **25** 01:06:17.9, 38°.78N×43°.35E, h5km, ML2.6*
*ISCJB **25** 01:06:18.9±0.6, 38°.83N±0°.03×43°.47E±0°.08, h19km±6km, Error ellipse: s-maj=11.0km s-min=4.7km az=171.8*
ISC 25 01:06:17.7±1.1, 38°.83N±0°.03×43°.52E±0°.05, h13km±8km, n26, σ1§80/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**204**	*e*PG	**Pg**	**01 06 24.6**	**+1.5**
VANB				*e*SG	**Sg**	**01 06 27.6**	**+0.8**
VANB	**Van**	**0.25**	**204**	*e*Pg	**Pg**	**01 06 24.6**	**+1.5**
VANB				*e*Sg	**Sg**	**01 06 27.6**	**+0.8**
TVAN	**Van**	**0.31**	**197**	*i*P	**Pn**	**01 06 28.4**	**+0.2**
TVAN				*i*S	**Sb**	**01 06 34.9**	**+4.5**
TVAN	**Van**	**0.31**	**197**	P	**Pn**	**01 06 28.4**	**+0.2**
GEVA	**Gevas**	**0.63**	**215**	*i*P	**Pg**	**01 06 26.8**	**-3.2**
GEVA				*i*S	**Sg**	**01 06 33.4**	**-4.9**
GEVA	**Gevas**	**0.63**	**215**	P	**Pg**	**01 06 26.8**	**-3.2**
DYDN	**Diyadin**	**0.73**	**10**	*i*P	**Pg**	**01 06 31.3**	**-0.6**
DYDN				*i*S	**Sb**	**01 06 42.2**	**-0.2**
DYDN	**Diyadin**	**0.73**	**10**	P	**Pg**	**01 06 31.3**	**-0.6**
DYDN				S	**Sb**	**01 06 42.2**	**-0.2**
TUTA	**Tutak**	**0.79**	**316**	*i*P	**Pb**	**01 06 33.0**	**-0.6**
TUTA				*i*S	**Sb**	**01 06 43.4**	**-0.9**
AGRB	**Hanur-Agry**	**0.85**	**331**	*e*PG	**Pb**	**01 06 34.3**	**-0.2**
AGRB				*e*SG	**Sb**	**01 06 46.4**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**331**	*e*Pg	**Pb**	**01 06 34.3**	**-0.2**
AGRB				*e*Sg	**Sb**	**01 06 46.4**	**+0.4**
EKAR	**Karacoban**	**1.21**	**291**	*i*P	**Pn**	**01 06 42.6**	**+2.0**
EKAR				*i*S	**Sn**	**01 07 00.3**	**+3.2**
EKAR	**Karacoban**	**1.21**	**291**	P	**Pn**	**01 06 42.6**	**+2.0**
EKAR				S	**Sn**	**01 07 00.3**	**+3.2**
HAKT	**HAKKARI**	**1.28**	**173**	*i*P	**Pn**	**01 06 41.6**	**+0.1**
HAKT				*i*S	**Sn**	**01 06 58.5**	**-0.1**
CUKT	**Cukurca**	**1.58**	**177**	*e*PN	**Pg**	**01 06 46.8**	**-1.2**
CUKT	**Cukurca**	**1.58**	**177**	*e*Pn	**Pg**	**01 06 46.8**	**-1.2**
VRTB	**Varto-Mus**	**1.64**	**282**	*e*PN	**Pn**	**01 06 46.4**	**-0.1**
VRTB	**Varto-Mus**	**1.64**	**282**	*e*Pn	**Pn**	**01 06 46.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	*e*PN	**Pn**	**01 06 50.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	*e*Pn	**Pn**	**01 06 50.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*PN	**Pb**	**01 06 52.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*Pn	**Pb**	**01 06 52.7**	**-0.6**
BNGB	**Bing¨ll**	**2.22**	**275**	*e*PN	**Pn**	**01 06 54.4**	**0.0**
BINT	**Bingol**	**2.37**	**272**	*e*Pn	**Pn**	**01 06 54.4**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.39**	**286**	*e*PN	**Pn**	**01 06 57.0**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.39**	**286**	*e*Pn	**Pn**	**01 06 57.0**	**+0.2**

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*ISK **25** 01:07:58.1, 38°.72N×43°.44E, h5km, ML3.2*
*ISCJB **25** 01:07:60.0±0.6, 38°.75N±0°.03×43°.36E±0°.07, h10km±5km, Error ellipse: s-maj=9.3km s-min=4.5km az=0.4*
*CSEM **25** 01:07:59.5±0.3, 38°.74N×43°.35E, h2km, ML3.2, Error ellipse: s-maj=7.7km s-min=3.8km az=81.0*
*DDA **25** 01:07:59.2, 38°.74N×43°.29E, h7km, Ml3.1*
ISC 25 01:07:59.8±0.9, 38°.72N±0°.02×43°.38E±0°.04, h18km±4km, n42, σ1§60/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**178**	PG	**Pg**	**01 08 03.1**	**-0.8**
VANB				*e*SG	**Sg**	**01 08 07.0**	**+0.3**
VANB	**Van**	**0.13**	**178**	*i*Pg	**Pg**	**01 08 03.1**	**-0.8**
VANB				*e*Sg	**Sg**	**01 08 07.0**	**+0.3**
TVAN	**Van**	**0.20**	**175**	*i*P	**Pg**	**01 08 05.5**	**+0.6**
TVAN				*i*S	**Sg**	**01 08 09.2**	**+0.9**
TVAN	**Van**	**0.20**	**175**	P	**Pg**	**01 08 05.5**	**+0.6**
TVAN				S	**Sg**	**01 08 09.2**	**+0.9**
GEVA	**Gevas**	**0.48**	**212**	*i*P	**Pg**	**01 08 07.5**	**-2.2**
GEVA				*i*S	**Sg**	**01 08 15.3**	**-1.0**
GEVA	**Gevas**	**0.48**	**212**	P	**Pg**	**01 08 07.5**	**-2.2**
GEVA				S	**Sg**	**01 08 15.3**	**-1.0**
TUTA	**Tutak**	**0.81**	**327**	*i*P	**Pg**	**01 08 14.3**	**-1.4**
TUTA				*i*S	**Sg**	**01 08 25.4**	**-1.1**
TUTA	**Tutak**	**0.81**	**327**	P	**Pg**	**01 08 14.3**	**-1.4**
TUTA				S	**Sg**	**01 08 25.4**	**-1.1**
DYDN	**Diyadin**	**0.85**	**16**	*i*P	**Pg**	**01 08 15.2**	**-1.3**
DYDN				*i*S	**Sg**	**01 08 27.1**	**-0.8**
DYDN	**Diyadin**	**0.85**	**16**	P	**Pg**	**01 08 15.2**	**-1.3**
DYDN				S	**Sg**	**01 08 27.0**	**-0.8**
AGRB	**Hanur-Agry**	**0.90**	**340**	*e*PG	**Pg**	**01 08 16.2**	**-1.3**
AGRB				*e*SG	**Sb**	**01 08 29.5**	**+0.6**
AGRB	**Hanur-Agry**	**0.90**	**340**	*e*Pg	**Pg**	**01 08 16.2**	**-1.3**
AGRB				*e*Sg	**Sb**	**01 08 29.5**	**+0.6**
EKAR	**Karacoban**	**1.16**	**298**	*i*P	**Pg**	**01 08 20.5**	**-1.8**
EKAR				*i*S	**Sn**	**01 08 39.9**	**+3.0**
EKAR	**Karacoban**	**1.16**	**298**	P	**Pg**	**01 08 20.5**	**-1.8**
EKAR				S	**Sn**	**01 08 39.9**	**+3.0**
HAKT	**HAKKARI**	**1.19**	**168**	*i*P	**Pg**	**01 08 19.2**	**-3.7**
HAKT	**HAKKARI**	**1.19**	**168**	P	**Pg**	**01 08 19.2**	**-3.7**
EATA	**Eleskirt**	**1.33**	**329**	*i*P	**Pg**	**01 08 23.8**	**-1.8**
EATA				*i*S	**Sn**	**01 08 42.5**	**+1.2**
EATA	**Eleskirt**	**1.33**	**329**	P	**Pg**	**01 08 23.8**	**-1.8**
EATA				S	**Sn**	**01 08 42.5**	**+1.2**
SIRN	**S¨–rnak**	**1.45**	**212**	*i*P	**Pn**	**01 08 25.9**	**+0.7**
SIRN	**S¨–rnak**	**1.45**	**212**	P	**Pn**	**01 08 25.9**	**+0.7**
CUKT	**Cukurca**	**1.48**	**173**	*e*PN	**Pn**	**01 08 27.2**	**+1.4**
CUKT	**Cukurca**	**1.48**	**173**	*i*P	**Pn**	**01 08 26.8**	**+1.0**
CUKT	**Cukurca**	**1.48**	**173**	P	**Pn**	**01 08 26.8**	**+1.0**
CUKT	**Cukurca**	**1.48**	**173**	*e*Pn	**Pn**	**01 08 27.2**	**+1.4**
VRTB	**Varto-Mus**	**1.57**	**287**	*e*PN	**Pg**	**01 08 28.7**	**-1.3**
VRTB	**Varto-Mus**	**1.57**	**287**	*i*P	**Pn**	**01 08 27.6**	**+0.7**
VRTB	**Varto-Mus**	**1.57**	**287**	P	**Pn**	**01 08 27.6**	**+0.7**
VRTB	**Varto-Mus**	**1.57**	**287**	*e*Pn	**Pg**	**01 08 28.7**	**-1.3**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*e*PN	**Pb**	**01 08 31.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*i*P	**Pn**	**01 08 31.2**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	P	**Pn**	**01 08 31.2**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*e*Pn	**Pb**	**01 08 32.0**	**-0.5**
BTMN	**Batman**	**1.86**	**244**	*i*P	**Pn**	**01 08 31.6**	**+0.7**
BTMN	**Batman**	**1.86**	**244**	P	**Pn**	**01 08 31.6**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.00**	**337**	*e*PN	**Pb**	**01 08 35.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.00**	**337**	*e*Pn	**Pb**	**01 08 35.2**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.32**	**289**	*e*PN	**Pb**	**01 08 39.8**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.32**	**289**	*e*Pn	**Pb**	**01 08 39.8**	**-1.5**
MAZI	**Mazidag**	**2.64**	**242**	*e*PN	**Pn**	**01 08 43.8**	**+2.2**
MAZI	**Mazidag**	**2.64**	**242**	*e*Pn	**Pn**	**01 08 43.8**	**+2.2**
PTK	**Pertek**	**3.12**	**274**	*e*PN	**Pn**	**01 08 51.2**	**+2.8**
PTK	**Pertek**	**3.12**	**274**	*e*Pn	**Pn**	**01 08 51.2**	**+2.8**

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*ISK **25** 01:22:56.2, 38°.78N×43°.45E, h5km, ML3.1*
*CSEM **25** 01:22:57.1±0.4, 38°.78N×43°.40E, h2km, ML3.1, Error ellipse: s-maj=10.6km s-min=4.5km az=66.0*
*DDA **25** 01:22:57.6, 38°.77N×43°.19E, h7km, Ml3.3*
ISC 25 01:22:57.3±0.9, 38°.77N±0°.02×43°.41E±0°.04, h13km±5km, n46, σ1§32/67, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**186**	*e*PG	**Pg**	**01 23 01.4**	**-0.1**
VANB				*e*SG	**Sb**	**01 23 05.8**	**-0.2**
VANB	**Van**	**0.18**	**186**	*e*Pg	**Pg**	**01 23 01.4**	**-0.1**
VANB				*e*Sg	**Sb**	**01 23 05.8**	**-0.2**
TVAN	**Van**	**0.24**	**181**	*i*P	**Pb**	**01 23 03.9**	**+0.1**
TVAN				*i*S	**Sb**	**01 23 08.3**	**+0.3**
TVAN	**Van**	**0.24**	**181**	P	**Pb**	**01 23 03.9**	**+0.1**
TVAN				S	**Sb**	**01 23 08.3**	**+0.3**
GEVA	**Gevas**	**0.54**	**211**	*i*P	**Pg**	**01 23 05.4**	**-2.5**
GEVA				*i*S	**Sg**	**01 23 13.7**	**-1.4**
GEVA	**Gevas**	**0.54**	**211**	P	**Pg**	**01 23 05.4**	**-2.5**
GEVA				S	**Sg**	**01 23 13.7**	**-1.4**
TUTA	**Tutak**	**0.78**	**324**	*i*P	**Pg**	**01 23 11.5**	**-1.1**
TUTA				*i*S	**Sg**	**01 23 20.4**	**-2.5**
TUTA	**Tutak**	**0.78**	**324**	P	**Pg**	**01 23 11.5**	**-1.1**
TUTA				S	**Sg**	**01 23 20.4**	**-2.5**
BASK	**Baskale_VAN**	**0.86**	**147**	*i*P	**Pg**	**01 23 12.1**	**-1.9**
BASK				*i*S	**Sb**	**01 23 26.6**	**+0.9**
BASK	**Baskale_VAN**	**0.86**	**147**	P	**Pg**	**01 23 12.1**	**-1.9**
BASK				S	**Sb**	**01 23 26.6**	**+0.9**
AGRB	**Hanur-Agry**	**0.87**	**338**	*e*PG	**Pg**	**01 23 13.4**	**-0.8**
AGRB				*e*SG	**Sg**	**01 23 24.9**	**-0.6**
AGRB	**Hanur-Agry**	**0.87**	**338**	*e*Pg	**Pg**	**01 23 13.4**	**-0.8**
AGRB				*e*Sg	**Sg**	**01 23 24.9**	**-0.6**
EKAR	**Karacoban**	**1.16**	**295**	*i*P	**Pg**	**01 23 20.2**	**+0.6**
EKAR				*i*S	**Sn**	**01 23 35.1**	**-0.2**
EKAR	**Karacoban**	**1.16**	**295**	P	**Pg**	**01 23 20.2**	**+0.6**
EKAR				S	**Sn**	**01 23 35.1**	**-0.2**
HAKT	**HAKKARI**	**1.23**	**169**	*i*P	**Pn**	**01 23 17.8**	**-2.7**
HAKT				*i*S	**Sg**	**01 23 39.3**	**+2.1**
HAKT	**HAKKARI**	**1.23**	**169**	P	**Pn**	**01 23 17.8**	**-2.7**
HAKT				S	**Sg**	**01 23 39.3**	**+2.1**
EATA	**Eleskirt**	**1.30**	**327**	*i*P	**Pn**	**01 23 21.1**	**-0.5**
EATA				*i*S	**Sg**	**01 23 40.3**	**+0.9**
SIRN	**S¨–rnak**	**1.50**	**212**	*i*P	**Pn**	**01 23 23.6**	**-0.4**
SIRN	**S¨–rnak**	**1.50**	**212**	P	**Pn**	**01 23 23.6**	**-0.4**
CUKT	**Cukurca**	**1.53**	**174**	*e*PN	**Pb**	**01 23 25.4**	**-0.2**
CUKT	**Cukurca**	**1.53**	**174**	*i*P	**Pg**	**01 23 28.0**	**+1.3**
CUKT				*i*S	**Sg**	**01 23 48.5**	**+1.9**
CUKT	**Cukurca**	**1.53**	**174**	*e*Pn	**Pb**	**01 23 25.4**	**-0.2**
CUKT				S	**Sg**	**01 23 48.5**	**+1.9**
VRTB	**Varto-Mus**	**1.57**	**285**	*e*PN	**Pb**	**01 23 25.9**	**-0.5**
VRTB	**Varto-Mus**	**1.57**	**285**	*e*Pn	**Pb**	**01 23 25.9**	**-0.5**
DIGO	**Kars**	**1.64**	**359**	*i*P	**Pg**	**01 23 28.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.84**	**251**	*e*PN	**Pn**	**01 23 29.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.84**	**251**	*i*P	**Pn**	**01 23 29.0**	**+0.3**
SVAN				*i*S	**Sb**	**01 23 53.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.84**	**251**	P	**Pn**	**01 23 29.0**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.84**	**251**	*e*Pn	**Pn**	**01 23 29.5**	**+0.7**
SVAN				S	**Sb**	**01 23 53.6**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*PN	**Pn**	**01 23 31.6**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*Pn	**Pn**	**01 23 31.6**	**+1.0**
ECAT	**Cat-ERZURUM**	**2.07**	**294**	*i*P	**Pb**	**01 23 34.2**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.07**	**294**	P	**Pb**	**01 23 34.2**	**-0.7**
BNGB	**Bing¨ll**	**2.14**	**277**	*e*PN	**Pn**	**01 23 34.2**	**+1.3**
BINT	**Bingol**	**2.29**	**274**	*e*Pn	**Pn**	**01 23 34.2**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.33**	**287**	*e*PN	**Pn**	**01 23 37.1**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.33**	**287**	*e*Pn	**Pn**	**01 23 37.1**	**+1.6**
DDEM	**Demirkent**	**2.47**	**329**	*i*P	**Pb**	**01 23 42.1**	**+0.5**
DDEM	**Demirkent**	**2.47**	**329**	P	**Pb**	**01 23 42.2**	**+0.5**
MARD	**Mardin**	**2.54**	**236**	*i*P	**Pn**	**01 23 37.6**	**-0.7**
MAZI	**Mazidag**	**2.68**	**242**	*e*PN	**Pn**	**01 23 42.1**	**+1.8**
MAZI	**Mazidag**	**2.68**	**242**	*e*Pn	**Pn**	**01 23 42.1**	**+1.8**
PTK	**Pertek**	**3.14**	**273**	*e*PN	**Pn**	**01 23 48.5**	**+1.9**
PTK	**Pertek**	**3.14**	**273**	*e*Pn	**Pn**	**01 23 48.6**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.24**	**264**	*e*PN	**Pn**	**01 23 50.0**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.24**	**264**	*e*Pn	**Pn**	**01 23 50.0**	**+1.9**

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*AZER **25** 01:45:42.6±4.6, 37°.77N×43°.15E, h5km, Error ellipse: s-maj=55.9km s-min=29.5km az=115.0*
*ISK **25** 01:45:47.1, 38°.61N×43°.49E, h5km, ML3.0*
*DDA **25**

EKAR			*i* S		**Sn**	01 54 08.2	+4.1
EKAR	**Karacoban**	**1.07 299**	P		**Pg**	01 53 48.4	-1.3
HAKT	**HAKKARI**	**1.23 163**	*i* P		**Pg**	01 53 49.6	-3.0
HAKT			*i* S		**Sg**	01 54 06.3	-2.4
HAKT	**HAKKARI**	**1.23 163**	P		**Pg**	01 53 49.7	-3.0
HAKT			S		**Sg**	01 54 06.3	-2.4
EATA	**Eleskirt**	**1.27 332**	*i* P		**Pg**	01 53 51.8	-1.8
EATA			*i* S		**Sn**	01 54 11.3	+2.1
EATA	**Eleskirt**	**1.27 332**	P		**Pg**	01 53 51.8	-1.8
EATA			S		**Sn**	01 54 11.3	+2.1
SIRN	**S¨–rnak**	**1.41 209**	*i* P		**Pn**	01 53 53.7	-0.2
SIRN			*i* S		**Sg**	01 54 14.0	-0.4
SIRN	**S¨–rnak**	**1.41 209**	P		**Pn**	01 53 53.7	-0.2
SIRN			S		**Sg**	01 54 14.0	-0.4
VRTB	**Varto-Mus**	**1.47 287**	*e*PN		**Pn**	01 53 54.2	-0.6
VRTB	**Varto-Mus**	**1.47 287**	*i* P		**Pn**	01 53 54.5	-0.4
VRTB			*i* S		**Sg**	01 54 17.7	+1.2
VRTB	**Varto-Mus**	**1.47 287**	P		**Pn**	01 53 54.5	-0.4
CUKT	**Cukurca**	**1.51 170**	*e*PN		**Pn**	01 53 55.6	+0.3
CUKT	**Cukurca**	**1.51 170**	*i* P		**Pb**	01 53 56.8	+0.2
CUKT	**Cukurca**	**1.51 170**	*e*Pn		**Pn**	01 53 55.6	+0.3
CUKT	**Cukurca**	**1.51 170**	P		**Pb**	01 53 56.8	+0.2
BNGL	**BINGOL**	**1.67 278**	*i* P		**Pn**	01 53 57.8	+0.3
BNGL			*i* S		**Sg**	01 54 21.5	-1.2
SVAN	**Silvan-Diyarba**	**1.72 251**	*e*PN		**Pn**	01 53 58.0	-0.2
SVAN	**Silvan-Diyarba**	**1.72 251**	*i* P		**Pn**	01 53 58.6	+0.4
SVAN			*i* S		**Sb**	01 54 22.8	+1.2
SVAN	**Silvan-Diyarba**	**1.72 251**	*e*Pn		**Pn**	01 53 58.0	-0.2
SVAN	**Silvan-Diyarba**	**1.72 251**	P		**Pn**	01 53 58.6	+0.4
SVAN			S		**Sb**	01 54 22.8	+1.2
BTMN	**Batman**	**1.78 242**	*i* P		**Pn**	01 53 59.7	+0.7
BTMN			*i* S		**Sn**	01 54 22.6	+1.3
BTMN	**Batman**	**1.78 242**	P		**Pn**	01 53 59.7	+0.7
BTMN			S		**Sn**	01 54 22.6	+1.3
BNGB	**Bing¨¶l**	**2.03 278**	*e*PN		**Pn**	01 54 03.0	+0.4
BINT	**Bingol**	**2.17 275**	*e*Pn		**Pn**	01 54 03.0	-1.5
YEDI	**Yedisu-Bingol**	**2.23 289**	*e*PN		**Pn**	01 54 05.4	+0.1
YEDI	**Yedisu-Bingol**	**2.23 289**	*e*Pn		**Pn**	01 54 05.4	+0.1
MAZI	**Mazidag**	**2.56 241**	*e*PN		**Pn**	01 54 10.9	+1.1
MAZI	**Mazidag**	**2.56 241**	*e*Pn		**Pn**	01 54 10.9	+1.1
PTK	**Pertek**	**3.03 274**	*e*PN		**Pn**	01 54 17.2	+0.9
PTK	**Pertek**	**3.03 274**	*e*Pn		**Pn**	01 54 17.2	+0.9
SVRC	**Sivrice-ELAZID**	**3.12 265**	*e*PN		**Pn**	01 54 18.8	+1.2
SVRC	**Sivrice-ELAZID**	**3.12 265**	*e*Pn		**Pn**	01 54 18.8	+1.2

DDA ***25*** *01:56:55.9, 38°.63N×43°.70E, h7km, Ml2.7*
ISK ***25*** *01:56:56.2, 38°.59N×43°.54E, h5km, ML2.6*
CSEM ***25*** *01:56:56.7±0.6, 38°.57N×43°.47E, h10km, ML2.6, Error ellipse: s-maj=18.4km s-min=7.4km az=74.0*
ISC 25 01:56:56.4±1.5, 38°.63N±0°.03×43°.64E±0°.06, h7km±9km, n24, σ1§25/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**260**	*e*PG	**Pg**	01 56 59.0	-1.4
VANB				*e*SG	**Sg**	01 57 02.4	-0.7
VANB	**Van**	**0.20**	**260**	*e*Pg	**Pg**	01 56 59.0	-1.4
VANB				*e*Sg	**Sg**	01 57 02.4	-0.7
TVAN	**Van**	**0.21**	**241**	*i* P	**Pg**	01 57 01.1	+0.5
TVAN				*i* S	**Sg**	01 57 05.1	+1.7
TVAN	**Van**	**0.21**	**241**	P	**Pg**	01 57 01.1	+0.5
TVAN				S	**Sg**	01 57 05.1	+1.7
GEVA	**Gevas**	**0.55**	**235**	*i* P	**Pg**	01 57 04.9	-2.2
GEVA				*i* S	**Sb**	01 57 16.9	+0.2
GEVA	**Gevas**	**0.55**	**235**	P	**Pg**	01 57 04.9	-2.2
GEVA				S	**Sb**	01 57 16.9	+0.2
TUTA	**Tutak**	**1.00**	**321**	*i* P	**Pg**	01 57 15.4	-0.3
TUTA				*i* S	**Sn**	01 57 31.4	-0.2
TUTA	**Tutak**	**1.00**	**321**	P	**Pg**	01 57 15.4	-0.3
TUTA				S	**Sn**	01 57 31.4	-0.2
AGRB	**Hanur-Agry**	**1.07**	**332**	*e*PG	**Pn**	01 57 17.9	0.0
AGRB	**Hanur-Agry**	**1.07**	**332**	*e*Pg	**Pn**	01 57 18.0	0.0
HAKT	**HAKKARI**	**1.07**	**177**	*i* P	**Pg**	01 57 15.9	-1.1
HAKT				*i* S	**Sn**	01 57 32.7	-0.6
HAKT	**HAKKARI**	**1.07**	**177**	P	**Pg**	01 57 15.9	-1.1
HAKT				S	**Sn**	01 57 32.7	-0.6
EKAR	**Karacoban**	**1.38**	**298**	*i* P	**Pn**	01 57 22.2	-0.1
EKAR				*i* S	**Sg**	01 57 45.0	+4.3
EKAR	**Karacoban**	**1.38**	**298**	P	**Pn**	01 57 22.2	-0.1
CUKT	**Cukurca**	**1.38**	**181**	*e*PN	**Pg**	01 57 23.2	+0.3
CUKT	**Cukurca**	**1.38**	**181**	*e*Pn	**Pg**	01 57 23.2	+0.3
SIRN	**S¨–rnak**	**1.49**	**221**	*i* P	**Pb**	01 57 24.4	0.0
SIRN				*i* S	**Sg**	01 57 46.2	+2.0
SIRN	**S¨–rnak**	**1.49**	**221**	P	**Pb**	01 57 24.4	0.0
VRTB	**Varto-Mus**	**1.78**	**288**	*e*PN	**Pn**	01 57 28.3	+0.5
VRTB	**Varto-Mus**	**1.78**	**288**	*e*Pn	**Pn**	01 57 28.3	+0.5
SENK	**Senkaya-Erzuru**	**2.17**	**333**	*e*PN	**Pb**	01 57 35.3	-0.8
SENK	**Senkaya-Erzuru**	**2.17**	**333**	*e*Pn	**Pb**	01 57 35.3	-0.8
BNGB	**Bing¨¶l**	**2.34**	**280**	*e*PN	**Pn**	01 57 36.2	+0.8
BINT	**Bingol**	**2.47**	**277**	*e*Pn	**Pn**	01 57 36.2	-1.0

IDC 25 02:01:58.3±7.9, 4°.79S×152°.81E, h105km±54km, mb3.5/5, mb1 3.7/6, mb1mx3.5/29, mbtmp3.9/6, MS2.9/4, Ms1 2.9/4, ms1mx2.6/33, Error ellipse: s-maj=85.5km s-min=27.9km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.25**	**230**	P	Pn	02 03 40.4	-1.3
	1.4nm,0.3s,baz=6.0,slow=19,SNR=2.4						
PMG				S	Sn	02 05 04.4	+2.0
	3.0nm,0.3s,baz=193,slow=6.2,SNR=3.8						
PMG				LR	LR	02 06 06.1	
	comp=Z,50nm,20.4s,baz=312,slow=34						
DZM	**Mont Dzumac**	**21.67**	**144**	LR	LR	02 14 04.0	
	comp=Z,41nm,18.6s,baz=244,slow=34						
WRA	**Warramunga Arr**	**23.46**	**228**	P	P	02 06 58.7	0.0
	2.4nm,0.5s,baz=53,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**26.17**	**222**	P	P	02 07 24.0	+0.8
	1.2nm,0.5s,baz=58,slow=8.8,SNR=13						
ASAR				LR	LR	02 17 18.5	
	comp=Z,28nm,19.2s,baz=84,slow=35						
STKA	**Stephens Creek**	**28.93**	**200**	LR	LR	02 20 01.1	
	comp=Z,32nm,19.2s,baz=22,slow=37						
FITZ	**Fitzroy Crossi**	**29.68**	**241**	P	P	02 07 53.8	-0.7
	1.1nm,0.4s,baz=52,slow=8.4,SNR=7.9						
SONM	**Songino Array**	**66.32**	**328**	P	P	02 12 36.9	+1.1
	0.4nm,0.6s,baz=134,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**80.32**	**319**	P	P	02 13 57.1	-0.9
	0.5nm,0.8s,baz=116,slow=6.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**150.32**	**288**	PKPbc	PKPbc	02 21 37.7	-0.7
	1.9nm,0.7s,baz=80,slow=2.3,SNR=16						

ISK ***25*** *02:06:50.2, 38°.62N×43°.33E, h8km, ML2.3*
CSEM ***25*** *02:06:51.3±0.2, 38°.59N×43°.24E, h8km, ML2.3, Error ellipse: s-maj=7.7km s-min=5.5km az=72.0*
DDA ***25*** *02:06:51.2, 38°.70N×43°.57E, h5km, Ml3.1*
ISC 25 02:06:51.7±0.9, 38°.64N±0°.03×43°.39E±0°.06, h16km±6km, n20, σ1§96/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.04**	**179**	*e*PG	**Pg**	02 06 53.7	-1.1
VANB				*e*SG	**Sg**	02 06 55.6	-1.2
VANB	**Van**	**0.04**	**179**	*e*Pg	**Pg**	02 06 53.7	-1.1
VANB				*e*Sg	**Sg**	02 06 55.6	-1.2
TVAN	**Van**	**0.11**	**172**	*i* P	**Pg**	02 06 56.7	+1.3
TVAN				*i* S	**Sg**	02 06 59.1	+1.3
TVAN	**Van**	**0.11**	**172**	P	**Pg**	02 06 56.7	+1.3
TVAN				S	**Sg**	02 06 59.1	+1.3
GEVA	**Gevas**	**0.41**	**219**	*i* P	Pg	02 06 56.9	-3.2
GEVA				*i* S	**Sg**	02 07 02.2	-3.7
GEVA	**Gevas**	**0.41**	**219**	P	Pg	02 06 56.9	-3.2
GEVA				S	**Sg**	02 07 02.2	-3.7
TUTA	**Tutak**	**0.89**	**330**	*i* P	**Pg**	02 07 08.7	-0.3
TUTA				*i* S	**Sg**	02 07 21.4	+0.7
TUTA	**Tutak**	**0.89**	**330**	P	**Pg**	02 07 08.7	-0.3
TUTA				S	**Sg**	02 07 21.4	+0.7
DYDN	**Diyadin**	**0.94**	**14**	*i* P	**Pg**	02 07 07.4	-2.5
DYDN				*i* S	**Sb**	02 07 19.9	-2.1
DYDN	**Diyadin**	**0.94**	**14**	P	**Pg**	02 07 07.4	-2.5
DYDN				S	**Sb**	02 07 19.9	-2.1
AGRB	**Hanur-Agry**	**0.99**	**342**	*e*PG	**Pg**	02 07 09.6	-1.3
AGRB				*e*SG	**Sb**	02 07 23.7	+0.2
AGRB	**Hanur-Agry**	**0.99**	**342**	*e*Pg	**Pg**	02 07 09.6	-1.3
AGRB				*e*Sg	**Sb**	02 07 23.7	+0.2
CUKT	**Cukurca**	**1.40**	**173**	*e*PN	**Pn**	02 07 16.7	0.0
CUKT	**Cukurca**	**1.40**	**173**	*e*Pn	**Pn**	02 07 16.7	0.0
EATA	**Eleskirt**	**1.41**	**331**	*i* P	**Pn**	02 07 18.1	+1.0
EATA				*i* S	**Sn**	02 07 39.9	+4.4
EATA	**Eleskirt**	**1.41**	**331**	P	**Pn**	02 07 18.1	+1.0
EATA				S	**Sn**	02 07 39.9	+4.4
VRTB	**Varto-Mus**	**1.60**	**290**	*e*PN	**Pn**	02 07 18.8	-0.7
VRTB	**Varto-Mus**	**1.60**	**290**	*e*Pn	**Pn**	02 07 18.8	-0.7
SVAN	**Silvan-Diyarba**	**1.79**	**255**	*e*PN	**Pn**	02 07 21.3	-0.7
SVAN	**Silvan-Diyarba**	**1.79**	**255**	*e*Pn	**Pn**	02 07 21.3	-0.7

ISK ***25*** *02:07:42.6, 38°.77N×43°.43E, h5km, ML2.9*
ISCJB ***25*** *02:07:44.0±0.9, 38°.82N±0°.03×43°.5E±0°.1, h13km, Error ellipse: s-maj=11.5km s-min=4.0km az=173.4*
CSEM ***25*** *02:07:44.3±0.5, 38°.81N×43°.43E, h10km, ML2.9, Error ellipse: s-maj=18.0km s-min=7.6km az=78.0*
DDA ***25*** *02:07:44.4, 38°.84N×43°.28E, h7km, Ml3.1*
ISC 25 02:07:43.0±0.9, 38°.84N±0°.03×43°.42E±0°.05, h13km, n28, σ0§94/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**185**	*e*PG	**Pb**	02 07 48.7	-0.7
VANB				*e*SG	**Sb**	02 07 53.7	+0.1
VANB	**Van**	**0.25**	**185**	*e*Pg	**Pb**	02 07 48.7	-0.7
VANB				*e*Sg	**Sb**	02 07 53.7	+0.1
TVAN	**Van**	**0.31**	**182**	*i* P	**Pb**	02 07 51.5	+0.9
TVAN				*i* S	**Sb**	02 07 56.9	+1.3
TVAN	**Van**	**0.31**	**182**	P	**Pb**	02 07 51.5	+0.9
TVAN				S	**Sb**	02 07 56.9	+1.3
GEVA	**Gevas**	**0.60**	**208**	*i* P	**Pg**	02 07 53.8	-0.9
GEVA	**Gevas**	**0.60**	**208**	P	**Pg**	02 07 53.8	-0.9
TUTA	**Tutak**	**0.73**	**320**	*i* P	**Pn**	02 07 58.5	-0.8
TUTA				*i* S	**Sn**	02 08 10.7	+0.2
TUTA	**Tutak**	**0.73**	**320**	P	**Pn**	02 07 58.5	-0.8
TUTA				S	**Sn**	02 08 10.7	+0.2
DYDN	**Diyadin**	**0.73**	**17**	*i* P	**Pn**	02 07 58.5	-0.8
DYDN	**Diyadin**	**0.73**	**17**	P	**Pn**	02 07 58.5	-0.8
AGRB	**Hanur-Agry**	**0.81**	**336**	*e*PG	**Pn**	02 08 00.1	-0.2
AGRB				*e*SG	**Sn**	02 08 13.9	+1.7
AGRB	**Hanur-Agry**	**0.81**	**336**	*e*Pg	**Pn**	02 08 00.1	-0.2
AGRB				*e*Sg	**Sn**	02 08 13.9	+1.7
HAKT	**HAKKARI**	**1.30**	**170**	*i* P	**Pn**	02 08 05.6	-1.5
HAKT	**HAKKARI**	**1.30**	**170**	P	**Pn**	02 08 05.6	-1.5
VRTB	**Varto-Mus**	**1.56**	**282**	*e*PN	**Pg**	02 08 13.2	+0.2
VRTB	**Varto-Mus**	**1.56**	**282**	*e*Pn	**Pg**	02 08 13.2	+0.2
CUKT	**Cukurca**	**1.60**	**175**	*e*PN	**Pg**	02 08 12.8	-0.9
CUKT	**Cukurca**	**1.60**	**175**	*i* P	**Pg**	02 08 15.2	+1.5
CUKT	**Cukurca**	**1.60**	**175**	*e*Pn	**Pg**	02 08 12.8	-0.9
CUKT	**Cukurca**	**1.60**	**175**	P	**Pg**	02 08 15.2	+1.5
SVAN	**Silvan-Diyarba**	**1.87**	**249**	*e*PN	**Pb**	02 08 16.7	-0.4
SVAN	**Silvan-Diyarba**	**1.87**	**249**	*e*Pn	**Pb**	02 08 16.7	-0.4
SENK	**Senkaya-Erzuru**	**1.91**	**335**	*e*PN	**Pg**	02 08 19.1	-0.5
SENK	**Senkaya-Erzuru**	**1.91**	**335**	*e*Pn	**Pg**	02 08 19.1	-0.5
BNGB	**Bing¨¶l**	**2.14**	**275**	*e*PN	**Pb**	02 08 21.3	-0.5
BINT	**Bingol**	**2.29**	**272**	*e*Pn	**Pn**	02 08 21.3	+0.7
YEDI	**Yedisu-Bingol**	**2.31**	**286**	*e*PN	**Pb**	02 08 24.0	-0.7
YEDI	**Yedisu-Bingol**	**2.31**	**286**	*e*Pn	**Pb**	02 08 24.0	-0.7

CSEM ***25*** *02:11:14.3±0.3, 36°.41N×25°.42E, h5km±1km, ML1.0, Error ellipse: s-maj=11.6km s-min=7.9km az=90.0*
ATH ***25*** *02:11:14.2, 36°.42N×25°.41E, h7km±4km, ML1.0/4, Error ellipse: s-maj=4.2km s-min=1.8km az=93.0*
THE 25 02:11:14.7, 36°.41N×25°.41E, h1km, ML0.6/2, Error ellipse: s-maj=0.6km s-min=0.3km az=51.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR3	**Thira Island,**	**0.01**	**262**	P	Pg	02 11 15.3	+0.3
THR3	**Thira Island,**	**0.01**	**262**	P	Pg	02 11 15.1	+0.1
THR3	**Thira Island,**	**0.01**	**262**	P	Pg	02 11 15.3	+0.3
THR7	**Fira-Santorini**	**0.02**	**47**	P	Pg	02 11 15.3	+0.1
THR7	**Fira-Santorini**	**0.02**	**47**	P	Pg	02 11 15.2	0.0
THR7	**Fira-Santorini**	**0.02**	**47**	P	Pg	02 11 15.3	+0.1
SAP2K	**Karterados**	**0.03**	**89**	P	Pg	02 11 15.4	+0.2
SAP2K				AML	AML	02 11 17.4	
	comp=N,1594μm,0.1s						
SAP2K				AML	AML	02 11 17.4	
	comp=E,1284μm,0.1s						
SAP2K				S	Sg	02 11 18.0	+2.4
THT1	**Athinios (Pele**	**0.03**	**151**	P	Pg	02 11 15.4	+0.1
THT1				S	Sg	02 11 16.1	+0.5
THT1	**Athinios (Pele**	**0.03**	**151**	P	Pg	02 11 15.2	-0.1
THT1				S	Sg	02 11 15.8	+0.2
THT1				AML	AML	02 11 16.2	
	comp=E,215μm,0.1s						
THT1				AML	AML	02 11 16.2	
	comp=N,273μm,0.1s						
THT1	**Athinios (Pele**	**0.03**	**151**	P	Pg	02 11 15.4	+0.1
THT1				S	Sg	02 11 16.1	+0.5
THR2	**Thira island,**	**0.04**	**27**	P	Pg	02 11 15.7	+0.2
THR2	**Thira island,**	**0.04**	**27**	P	Pg	02 11 15.9	+0.4
THR2	**Thira island,**	**0.04**	**27**	P	Pg	02 11 15.7	+0.2
THR5	**Thira Island,**	**0.05**	**277**	P	Pg	02 11 15.9	+0.2
THR5	**Thira Island,**	**0.05**	**277**	P	Pg	02 11 15.9	+0.2
THR5	**Thira Island,**	**0.05**	**277**	P	Pg	02 11 15.9	+0.2
SANT	**Santorini**	**0.05**	**136**	P	Pg	02 11 16.0	+0.2
SANT				S	Sg	02 11 17.3	+0.8
SANT	**Santorini**	**0.05**	**136**	P	Pg	02 11 15.9	+0.1
SANT				AML	AML	02 11 16.7	
	comp=N,194μm,0.1s						
SANT				S	Sg	02 11 17.5	+1.0
SANT				AML	AML	02 11 17.5	
	comp=E,418μm,0.1s						
SANT	**Santorini**	**0.05**	**136**	P	Pg	02 11 16.0	+0.2
SANT				S	Sg	02 11 17.3	+0.8
SAP1	**Santorini-Akro**	**0.05**	**194**	P	Pg	02 11 15.8	0.0
SAP1				AML	AML	02 11 17.9	
	comp=N,488μm,0.1s						
SAP1				S	Sg	02 11 18.1	+1.7
SAP1				AML	AML	02 11 18.7	
	comp=E,405μm,0.1s						
SAP1	**Santorini-Akro**	**0.05**	**194**	P	Pg	02 11 16.1	+0.3
SAP1				S	Sg	02 11 17.4	+0.9
THR6	**Thira Island,**	**0.06**	**193**	P	Pg	02 11 16.1	+0.3
THR6	**Thira Island,**	**0.06**	**193**	P	Pg	02 11 16.1	+0.3
THR6	**Thira Island,**	**0.06**	**193**	P	Pg	02 11 16.1	+0.3
CMBO	**Columbo, Santo**	**0.06**	**355**	P	Pg	02 11 16.4	+0.5
CMBO	**Columbo, Santo**	**0.06**	**355**	P	Pg	02 11 15.3	-0.6
CMBO	**Columbo, Santo**	**0.06**	**355**	P	Pg	02 11 16.4	+0.5

IDC 25 02:12:00.9±6.0, 4°.74S×152°.63E, h108km±48km, mb3.2/4, mb1 3.4/5, mb1mx3.2/32, mbtmp3.6/5, Error ellipse: s-maj=77.1km s-min=26.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.14**	**229**	P	Pn	02 13 44.4	+1.6
	2.8nm,0.3s,baz=58,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**23.36**	**228**	P	P	02 17 00.0	-0.1
	0.4nm,0.5s,baz=57,slow=9.7,SNR=3.9						
ASAR	**Alice Springs**	**26.08**	**222**	P	P	02 17 23.6	-1.1
	0.2nm,0.3s,baz=59,slow=9.8,SNR=3.9						
KSRS	**Korea Array**	**47.87**	**333**	P	P	02 20 27.0	-1.1
	1.3nm,0.7s,baz=160,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**82.17**	**22**	P	P	02 24 09.3	-0.2
	0.4nm,0.9s,baz=246,slow=5.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.13**	**288**	PKPbc	PKPbc	02 31 41.3	+1.1
	0.3nm,0.3s,baz=75,slow=1.9,SNR=11						

DDA ***25*** *02:13:35.0, 38°.66N×43°.18E, h7km, Ml3.9*
ISK ***25*** *02:13:34.9, 38°.71N×43°.23E, h2km, ML3.4*
CSEM ***25*** *02:13:35.7±0.2, 38°.69N×43°.18E, h2km, ML3.4, Error ellipse: s-maj=7.0km s-min=4.8km az=63.0*
ISC 25 02:13:36.4±1.0, 38°.69N±0°.02×43°.14E±0°.03, h11km±9km, n47, σ1§52/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**115**	PG	**Pg**	02 13 40.5	-0.5
VANB				*e*SG	**Sg**	02 13 44.9	+0.7
VANB	**Van**	**0.22**	**115**	*i* Pg	**Pg**	02 13 40.5	-0.5
VANB				*e*Sg	**Sg**	02 13 44.9	+0.7
TVAN	**Van**	**0.27**	**126**	*i* P	**Pg**	02 13 43.0	+1.1
TVAN				*i* S	**Sg**	02 13 47.6	+2.0
TVAN	**Van**	**0.27**	**126**	P	**Pg**	02 13 43.0	+1.1
TVAN				S	**Sg**	02 13 47.6	+2.0
GEVA	**Gevas**	**0.38**	**189**	*i* P	**Pg**	02 13 42.7	-1.3
GEVA				*i* S	**Sg**	02 13 46.8	-2.2
GEVA	**Gevas**	**0.38**	**189**	P	**Pg**	02 13 42.7	-1.3
GEVA				S	**Sg**	02 13 46.8	-2.2
TUTA	**Tutak**	**0.76**	**341**	*i* P	**Pg**	02 13 50.2	-0.9
TUTA	**Tutak**	**0.76**	**341**	P	**Pg**	02 13 50.2	-0.9
AGRB	**Hanur-Agry**	**0.90**	**353**	*e*PG	**Pb**	02 13 52.8	-1.3
AGRB				*e*SG	**Sb**	02 14 05.6	-0.5
AGRB	**Hanur-Agry**	**0.90**	**353**	*e*Pg	**Pb**	02 13 52.8	-1.3
AGRB				*e*Sg	**Sb**	02 14 05.6	-0.5
BASK	**Baskale_VAN**	**0.93**	**133**	*i* P	**Pg**	02 13 52.4	-2.0
BASK				*i* S	**Sb**	02 14 06.2	-1.0
BASK	**Baskale_VAN**	**0.93**	**133**	P	**Pg**	02 13 52.4	-2.0
BASK				S	**Sb**	02 14 06.2	-1.0
DYDN	**Diyadin**	**0.96**	**27**	*i* P	**Pb**	02 13 52.9	-2.3
DYDN				*i* S	**Sn**	02 14 13.6	+3.8
DYDN	**Diyadin**	**0.96**	**27**	P	**Pb**	02 13 52.9	-2.3
HAKT	**HAKKARI**	**1.21**	**158**	*i* P	**Pg**	02 13 57.0	-2.7
HAKT	**HAKKARI**	**1.21**	**158**	P	**Pg**	02 13 57.0	-2.7
EATA	**Eleskirt**	**1.28**	**337**	*i* P	**Pg**	02 13 59.3	-1.7
EATA	**Eleskirt**	**1.28**	**337**	P	**Pg**	02 13 59.3	-1.7
VRTB	**Varto-Mus**	**1.39**	**290**	*e*PN	**Pb**	02 14 03.1	+0.6
VRTB	**Varto-Mus**	**1.39**	**290**	*i* P	**Pb**	02 14 02.9	+0.4
VRTB	**Varto-Mus**	**1.39**	**290**	*e*Pn	**Pb**	02 14 03.1	+0.6
CUKT	**Cukurca**	**1.48**	**165**	*e*PN	**Pg**	02 14 03.6	-1.3
CUKT	**Cukurca**	**1.48**	**165**	*i* P	**Pg**	02 14 03.6	-1.3
CUKT	**Cukurca**	**1.48**	**165**	P	**Pg**	02 14 03.6	-1.3
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*PN	**Pb**	02 14 06.2	0.0
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*i* P	**Pn**	02 14 05.8	+1.0
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*Pn	**Pb**	02 14 06.2	0.0
HOMI	**Horasan**	**1.66**	**325**	*i* P	**Pb**	02 14 06.9	-0.2
BTMN	**Batman**	**1.67**	**242**	*i* P	**Pn**	02 14 06.7	+1.0
DIGO	**Kars**	**1.74**	**6**	*i* P	**Pg**	02 14 08.0	-1.7
DIGO	**Kars**	**1.74**	**6**	P	**Pg**	02 14 08.0	-1.7
BNGB	**Bing¨¶l**	**1.94**	**280**	*e*PN	**Pb**	02 14 11.3	-0.5
SENK	**Senkaya-Erzuru**	**1.97**	**342**	*e*PN	**Pn**	02 14 10.2	+0.3
SENK	**Senkaya-Erzuru**	**1.97**	**342**	*e*Pn	**Pn**	02 14 10.2	+0.3
EAK	**Akyaka**	**2.03**	**10**	*i* P	**Pg**	02 14 14.5	-0.8
EAK	**Akyaka**	**2.03**	**10**	P	**Pg**	02 14 14.5	-0.8
BINT	**Bingol**	**2.08**	**276**	*e*Pn	**Pn**	02 14 11.3	0.0
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*PN	**Pn**	02 14 13.8	+1.4
YEDI	**Yedisu-Bingol**	**2.15**	**291**	*e*Pn	**Pn**	02 14 13.8	+1.4
MAZI	**Mazidag**	**2.45**	**241**	*e*PN	**Pn**	02 14 17.1	+0.6
MAZI	**Mazidag**	**2.45**	**241**	*e*Pn	**Pn**	02 14 17.1	+0.6
PTK	**Pertek**	**2.93**	**275**	*e*PN	**Pn**	02 14 24.7	+1.5
PTK	**Pertek**	**2.93**	**275**	*e*Pn	**Pn**	02 14 24.7	+1.5
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*PN	**Pn**	02 14 26.2	+2.0
SVRC	**Sivrice-ELAZID**	**3.02**	**265**	*e*Pn	**Pn**	02 14 26.3	+2.0
URFA	**Urfa**	**3.62**	**251**	*e*PN	**Pn**	02 14 34.5	+1.9
URFA	**Urfa**	**3.62**	**251**	*e*Pn	**Pn**	02 14 34.5	+1.9

ISCJB ***25*** *02:20:08.1±0.6, 8°.95S±0°.07×110°.22E±0°.04, h33km, mb3.7/4, MS3.1/3, Error ellipse: s-maj=10.3km s-min=4.9km az=22.4*
IDC ***25*** *02:20:08.4±2.8, 9

NEIC ***25*** *02:23:32.3±1.0, 29°.39S×176°.33W, h44km±8km, mb5.0/34, MS5.0/86, Error ellipse: s-maj=8.5km s-min=6.9km az=135.0*

GCMT ***25*** *02:23:32.3±0.3, 28°.99S×175°.85W, h13km±1km, MW5.0/80, Moment Tensor Solution. s26,c30; s80,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.98±.20; Mθθ=0.17±.13; Mφφ=2.80±.14; Mrθ=-0.04±.41; Mφθ=0.41±.09; Mφr=1.63±.33; Best double couple: M0=3.34500×10^16 NP1:φs=5.00000°, δ=60.00000°, λ=-93.00000°. NP2: φs=192.00000°, δ=31.00000°, λ=-84.00000°. Principal axes: T 3.2810, Plg=15.0000°, Azm=98.0000°; N 0.1220, Plg=3.0000°, Azm=7.0000°; P -3.4090, Plg=75.0000°, Azm=266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***25*** *02:23:34.0±3.0, 29°.17S×176°.35W, h56km±24km, mb4.3/14, mb1 4.5/14, mb1mx4.2/42, mbtmp4.6/14, MS4.0/9, Ms1 4.0/9, ms1mx3.7/31 Error ellipse: s-maj=23.5km s-min=19.6km az=158.0*

ISC 25 02:23:30.1±0.4, 29°.36S±0°.06×176°.20W±0°.05, h28km, n219, σ1$69/154, mb5.0/46, MS5.0/94, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.51**	**274**	P	**Pb**	**02 23 57.0**	**-0.4**
	1μm,0.3s,baz=99,slow=2.8,SNR=55						
RAO				S	**Sb**	**02 24 17.9**	**+1.7**
	2μm,0.3s,baz=90,slow=20,SNR=13						
RAO	**Raoul Island**	**1.51**	**274**	*e*Pn	**Pb**	**02 23 57.0**	**-0.4**
RAO				*e*Sn	**Sb**	**02 24 17.9**	**+1.7**
RAO				*e*Sn	**Sn**	**02 24 18.1**	**+4.1**
MXZ	**Matakaoa Point**	**9.38**	**208**	*e*Pn	**Pn**	**02 25 42.6**	**-0.8**
OUZ	**Omahuta**	**10.43**	**233**	*e*Pn	Pn	02 26 04.1	+6.3
URZ	**Urewera**	**10.47**	**210**	P	**Pn**	**02 25 55.2**	**-3.2**
	2.1nm,0.3s,baz=294,slow=3.7,SNR=12						
URZ				S	**Sn**	**02 27 54.5**	**-0.3**
	12nm,0.3s,baz=94,slow=20,SNR=12						
URZ				LR	LR	02 30 08.0	
	comp=Z,477nm,18.9s,baz=27,slow=37						
URZ	**Urewera**	**10.47**	**210**	*e*Pn	**Pn**	**02 25 58.2**	**-0.2**
URZ				*e*Sn	**Sn**	**02 27 54.4**	**-0.4**
BKZ	**Black Stump Fm**	**11.49**	**210**	*e*Pn	**Pn**	**02 26 07.9**	**-4.5**
HIZ	**Hauiti**	**11.76**	**217**	*e*Pn	**Pn**	**02 26 17.4**	**+1.4**
MSVF	**Nonsavu**	**12.71**	**334**	*e*Pn	**Pn**	**02 26 29.2**	**0.0**
THZ	**Tophouse**	**15.21**	**213**	*e*Pn	**Pn**	**02 27 01.8**	**-1.1**
	39nm,0.6s						
THZ				*e*Sn	**Sn**	**02 29 45.8**	**-4.8**
KHZ	**Kahutara**	**15.44**	**210**	*e*Pn	**Pn**	**02 27 01.0**	**-4.9**
	268nm,1.8s						
OXZ	**Oxford**	**16.83**	**211**	*e*Sn	Sn	02 30 16.8	-13
RAR	**Rarotonga**	**16.91**	**65**	LR	LR	02 32 37.0	
	comp=Z,197nm,19.7s,baz=256,slow=32						
DZM	**Mont Dzumac**	**17.23**	**291**	P	**P**	**02 27 30.7**	**+0.4**
	0.5nm,0.3s,baz=93,slow=16,SNR=6.9						
DZM				LR	LR	02 33 22.8	
	comp=Z,920nm,18.4s,baz=190,slow=35						
DZM	**Mont Dzumac**	**17.23**	**291**	*e*P	**P**	**02 27 32.7**	**+2.4**
	56nm,1.4s						
DZM				*e*LR	LR	02 31 29.8	
	1μm,27.3s						
DZM	**Mont Dzumac**	**17.23**	**291**	*e*Pn	**P**	**02 27 33.1**	**+2.8**
	119nm,2.0s						
DZM				*e*Sn	**Sn**	**02 30 31.8**	**-8.2**
RPZ	**Rata Peaks**	**17.58**	**212**	P	**Pn**	**02 27 32.4**	**-0.7**
	3.1nm,0.3s,baz=47,slow=3.5,SNR=11						
RPZ				LR	LR	02 34 50.3	
	comp=Z,336nm,19.2s,baz=32,slow=38						
WKZ	**Wanaka**	**19.38**	**213**	*e*P	**P**	**02 27 52.7**	**-1.1**
	148nm,1.5s						
MLZ	**Mavora Lakes**	**20.21**	**213**	*e*P	**P**	**02 28 02.3**	**-0.4**
	208nm,2.0s						
PPT2	**Papeete2**	**27.01**	**70**	*e*LQ	LQ	02 34 19.9	
	551nm,25.5s						
PPT2				*e*LR	LR	02 35 36.7	
	1μm,28.2s,baz=238						
PPT	**Papeete**	**27.02**	**70**	LR	LR	02 38 48.4	
	comp=Z,209nm,18.1s,baz=240,slow=34						
ARMA	**Armidale**	**27.87**	**260**	PFAKE		02 29 30.0	+12
ARMA				LR	LR		
	comp=Z,800nm,19.0s						
EIDS	**Eidsvold**	**29.28**	**270**	*e*P	**P**	**02 29 31.7**	**+1.6**
	comp=Z,7.7nm,0.6s						
EIDS				LR	LR		
	comp=Z,600nm,20.0s						
CTA	**Charters Tower**	**35.21**	**277**	P	**P**	**02 30 21.5**	**-0.7**
	comp=Z,9.9nm,0.6s,baz=111,slow=13,SNR=18						
CTAO	**Charters Tower**	**35.21**	**277**	*e*P	**P**	**02 30 22.9**	**+0.7**
	comp=Z,10nm,0.7s						
CTAO				LR	LR		
	comp=Z,900nm,18.0s						
STKA	**Stephens Creek**	**36.25**	**255**	P	**P**	**02 30 31.1**	**+0.1**
	comp=Z,9.2nm,0.6s,baz=100,slow=11,SNR=21						
STKA				LR	LR	02 44 47.7	
	comp=Z,633nm,18.1s,baz=67,slow=35						
STKA	**Stephens Creek**	**36.25**	**255**	*e*P	**P**	**02 30 32.0**	**+1.0**
	comp=Z,1.9nm,0.6s						
RKT	**Rikitea**	**37.35**	**90**	*e*LR	LR	02 40 42.0	
	comp=Z,711nm,29.2s						
TAOE	**Nuku Hiva Isla**	**39.46**	**66**	*e*LR	LR	02 41 18.5	
	comp=Z,550nm,27.8s						
PMG	**Port Moresby**	**39.62**	**293**	PFAKE		02 31 10.0	+10
PMG				LR	LR		
	comp=Z,300nm,20.0s						
COEN	**Coen**	**40.52**	**283**	PFAKE		02 31 20.0	+13
COEN				LR	LR		
	comp=Z,1μm,18.0s						
BBOO	**Buckleboo**	**40.76**	**253**	*e*P	**P**	**02 31 09.8**	**+0.9**
	comp=Z,115nm,1.9s						
MANU	**Manus Island**	**44.02**	**301**	*e*P	**P**	**02 31 35.1**	**-0.4**
	comp=Z,14nm,0.6s						
AS31	**Alice Springs**	**44.74**	**265**	*e*P	**P**	**02 31 40.8**	**-0.5**
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**44.74**	**265**	P	**P**	**02 31 40.5**	**-0.8**
	comp=Z,9.8nm,0.5s,baz=99,slow=6.7,SNR=93						
ASAR				LR	LR	02 50 15.2	
	comp=Z,687nm,18.1s,baz=112,slow=36						
WR2	**Warramunga Arr**	**45.62**	**270**	PFAKE		02 32 00.0	+12
WR2				LR	LR		
	comp=Z,400nm,18.0s						
WB2	**Warramunga Arr**	**45.63**	**270**	*e*P	**P**	**02 31 47.5**	**-0.9**
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**45.63**	**270**	*e*P	**P**	**02 31 47.4**	**-1.0**
	comp=Z,16nm,0.6s						
WR1	**Warramunga Arr**	**45.64**	**270**	*e*P	**P**	**02 31 47.5**	**-0.9**
	comp=Z,24nm,0.6s						
WRA	**Warramunga Arr**	**45.64**	**270**	P	**P**	**02 31 47.5**	**-0.9**
	comp=Z,18nm,0.6s,baz=109,slow=8.0,SNR=50						
FORT	**Forrest**	**47.83**	**254**	*e*P	**P**	**02 32 04.5**	**-1.0**
	comp=Z,194nm,0.6s						
VNDA	**Vanda**	**49.29**	**186**	LR	LR	02 53 00.8	
	comp=Z,42nm,18.1s,baz=360,slow=36						
MTN	**Manton Dam**	**51.39**	**277**	PFAKE		02 32 40.0	+7.3
MTN				LR	LR		
	comp=Z,800nm,18.0s						
MWH	**Moku'aweowe**	**52.47**	**25**	PFAKE		02 32 50.0	+8.8
MWH				LR	LR		
	comp=Z,2μm,21.0s						
RIM	**Rim**	**52.51**	**25**	PFAKE		02 32 50.0	+9.0
RIM				LR	LR		
	comp=Z,2μm,18.0s						
FITZ	**Fitzroy Crossi**	**53.94**	**268**	P	**P**	**02 32 50.9**	**-0.7**
	comp=Z,8.7nm,0.7s,baz=149,slow=6.9,SNR=22						
MBWA	**Marble Bar**	**57.91**	**262**	*e*P	**P**	**02 33 19.1**	**-0.9**
	comp=Z,13nm,0.7s						
MBWA				LR	LR		
	comp=Z,600nm,18.0s						
QSPA	**South Pole Qui**	**60.75**	**180**	*e*P	**P**	**02 33 42.9**	**+3.7**
MMRI	**Maumere**	**61.07**	**277**	PFAKE		02 33 50.0	+8.1
MMRI				LR	LR		
	comp=Z,400nm,18.0s						
CBIJ	**Chichi jima**	**68.85**	**321**	PFAKE		02 34 40.0	+7.8
CBIJ				LR	LR		
	comp=Z,500nm,20.0s						
MAW	**Mawson**	**73.82**	**200**	P	**P**	**02 35 03.3**	**+1.7**
	comp=Z,3.2nm,0.7s,baz=122,slow=7.9,SNR=4.8						
MAW				LR	LR	03 09 41.9	
	comp=Z,58nm,18.5s,baz=60,slow=37						
MAW	**Mawson**	**73.82**	**200**	*e*P	**P**	**02 35 04.9**	**+3.2**
	comp=Z,1.2nm,1.0s						
KSM	**Kuching**	**76.38**	**280**	PFAKE		02 35 30.0	+13
KSM				LR	LR		
	comp=Z,100nm,18.0s						
MJAR	**Matsushiro Arr**	**78.30**	**324**	P	**P**	**02 35 25.9**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=153,slow=6.6,SNR=4.0						
SYO	**Syowa Base**	**78.47**	**192**	*e*X	**P**	**02 35 30.6**	**+2.5**
SYO	**Syowa Base**	**78.47**	**192**	*e*PcP	**PcP**	**02 35 35.4**	**-1.8**
SNAA	**Sanae**	**79.14**	**178**	P	**P**	**02 35 33.4**	**+1.5**
SNAA	**Sanae**	**79.14**	**178**	*e*P	**P**	**02 35 32.1**	**+0.2**
VNA3	**Neumayer Olymp**	**79.23**	**176**	P	**P**	**02 35 33.6**	**+1.3**
VNA2	**Neumayer--Watz**	**79.68**	**176**	P	**P**	**02 35 36.3**	**+1.6**
	baz=172,slow=4.5						
VNA1	**Neumayer--Stat**	**79.90**	**176**	P	P	02 35 30.2	-5.6
PLCA	**Paso Flores**	**82.06**	**132**	P	**P**	**02 35 49.2**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=266,slow=4.8,SNR=5.1						
PLCA	**Paso Flores**	**82.06**	**132**	*e*P	**P**	**02 35 49.2**	**+1.1**
	comp=Z,31nm,1.8s						
MYKOM	**Kota Tinggi**	**82.12**	**277**	PFAKE		02 36 00.0	+11
MYKOM				LR	LR		
	comp=Z,100nm,20.0s						
SRIG	**Santa Rosalia**	**83.20**	**54**	PFAKE		02 36 10.0	+16
SRIG				LR	LR		
	comp=Z,700nm,18.0s						
SAC	**San Andreas**	**83.48**	**40**	*e*P	**P**	**02 35 55.7**	**+0.5**
OSI	**Osito Audit: C**	**83.61**	**44**	PFAKE		02 36 10.0	+14
OSI				LR	LR		
	comp=Z,1μm,19.0s						
MONP2	**Monument Peak**	**83.91**	**47**	P	**P**	**02 35 57.5**	**-0.3**
	baz=229						
PFO	**Pinyon Flats O**	**84.35**	**46**	P	**P**	**02 35 59.7**	**-0.2**
	baz=229						
TPFO	**Pinon Flats**	**84.35**	**46**	P	**P**	**02 35 59.7**	**-0.2**
	baz=229						
BELC	**Belle Mtn. Jos**	**84.90**	**46**	P	**P**	**02 36 02.8**	**+0.1**
	baz=229						
CMB	**Columbia Colle**	**84.95**	**41**	PFAKE		02 36 10.0	+7.3
CMB				LR	LR		
	comp=Z,300nm,20.0s						
BC3	**Big Chuckawall**	**85.02**	**47**	P	**P**	**02 36 03.6**	**+0.4**
	baz=230						
GLA	**Glamis**	**85.04**	**48**	PFAKE		02 36 20.0	+17
GLA				LR	LR		
	comp=Z,500nm,20.0s						
HSIG		**85.14**	**53**	PFAKE		02 36 20.0	+16
HSIG				LR	LR		
	comp=Z,700nm,18.0s						
PETK	**Petropavlovsk-**	**85.21**	**345**	P	**P**	**02 36 02.6**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=108,slow=9.0,SNR=6.6						
PEA1	**Petropavlovsk-**	**85.22**	**345**	*e*P	**P**	**02 36 02.6**	**-1.0**
CWC	**Cottonwood Cre**	**85.22**	**43**	P	**P**	**02 36 03.8**	**-0.5**
	baz=228						
HEC	**Hector,Ludlow**	**85.22**	**46**	P	**P**	**02 36 04.0**	**-0.2**
	baz=229						
GSC	**Goldstone, Bar**	**85.24**	**45**	P	**P**	**02 36 04.5**	**+0.2**
	baz=229						
GSC	**Goldstone, Bar**	**85.24**	**45**	*e*P	**P**	**02 36 04.7**	**+0.4**
	comp=Z,19nm,1.9s						
GSC				LR	LR		
	comp=Z,500nm,20.0s						
AFDM	**Forest Hills D**	**85.25**	**40**	PFAKE		02 36 20.0	+16
AFDM				LR	LR		
	comp=Z,600nm,18.0s						
MPMC	**Manual Prospec**	**85.32**	**44**	P	**P**	**02 36 04.9**	**+0.1**
	baz=228						
ORV	**Oroville**	**85.37**	**39**	PFAKE		02 36 20.0	+15
ORV				LR	LR		
	comp=Z,1μm,18.0s						
MDPB	**Devils Postpil**	**85.43**	**42**	PFAKE		02 36 20.0	+15
MDPB				LR	LR		
	comp=Z,800nm,20.0s						
IRM	**Iron Mountain**	**85.54**	**47**	P	**P**	**02 36 05.1**	**-0.7**
	baz=230						
113A	**Mohawk Valley,**	**85.55**	**49**	PFAKE		02 36 20.0	+14
113A				LR	LR		
	comp=Z,500nm,20.0s						
GMRC	**Granite Mounta**	**85.62**	**46**	P	**P**	**02 36 06.9**	**+0.6**
	baz=230						
214A	**Organ Pipe Nat**	**85.67**	**50**	P	**P**	**02 36 06.8**	**+0.4**
	baz=231						
WAKR	**Walker**	**85.81**	**41**	*e*P	**P**	**02 36 09.9**	**+2.7**
	comp=Z,26nm,1.7s						
WAKR				LR	LR		
	comp=Z,800nm,21.0s						
IPM	**Ipoh**	**85.89**	**277**	*e*P	**P**	**02 36 08.4**	**+0.4**
	comp=Z,16nm,0.6s						
GRAC	**Grapevine Rang**	**86.02**	**43**	P	**P**	**02 36 08.5**	**+0.4**
	baz=228						
PNTR	**Pine Nut**	**86.12**	**41**	PFAKE		02 36 20.0	+11
PNTR				LR	LR		
	comp=Z,600nm,18.0s						
LDFC	**Landfair**	**86.15**	**46**	*e*P	**P**	**02 36 11.5**	**+2.7**
	comp=Z,42nm,1.9s						
LDFC				LR	LR		
	comp=Z,400nm,20.0s						
YERR	**Yerington**	**86.25**	**41**	PFAKE		02 36 20.0	+11
YERR				LR	LR		
	comp=Z,600nm,20.0s						
KULM	**Kulim**	**86.62**	**278**	PFAKE		02 36 20.0	+8.5
KULM				LR	LR		
	comp=Z,200nm,19.0s						
TPNV	**Topopah Spring**	**86.66**	**44**	P	**P**	**02 36 11.5**	**+0.1**
	baz=229						
TPNV	**Topopah Spring**	**86.66**	**44**	PFAKE		02 36 20.0	+8.6
TPNV				LR	LR		
	comp=Z,600nm,18.0s						
NJ2	**Nanjing**	**86.77**	**310**	*e*P	**P**	**02 36 11.6**	**-0.2**
Y14A	**Wickenburg**	**86.78**	**48**	*e*P	**P**	**02 36 12.7**	**+0.8**
	comp=Z,51nm,1.6s						
Y14A				LR	LR		
	comp=Z,3μm,21.0s						
PSI	**Prapat**	**86.89**	**275**	P	**P**	**02 36 11.7**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=139,slow=3.5,SNR=8.4						
PSI	**Prapat**	**86.89**	**275**	*e*P	**P**	**02 36 12.5**	**-0.6**
	comp=Z,8.4nm,0.9s						
W13A	**Hualapai Mount**	**86.94**	**47**	PFAKE		02 36 20.0	+7.2
W13A				LR	LR		
	comp=Z,800nm,18.0s						
SHPR	**Sheep Range**	**87.04**	**45**	*e*P	**P**	**02 36 16.2**	**+3.0**
	comp=Z,15nm,1.8s						
USRK	**Ussuriysk Ar.**	**87.17**	**326**	P	**P**	**02 36 12.3**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=110,slow=12,SNR=3.4						
TUC	**Tucson**	**87.24**	**50**	P	**P**	**02 36 15.1**	**+0.9**
	baz=233						
TUC	**Tucson**	**87.24**	**50**	*e*P	**P**	**02 36 15.3**	**+1.0**
	comp=Z,28nm,2.0s						
TUC				LR	LR		
	comp=Z,800nm,18.0s						
319A	**Douglas**	**87.71**	**52**	PFAKE		02 36 30.0	+13
319A				LR	LR		
	comp=Z,600nm,21.0s						
X16A	**Lo Mia Camp, P**	**88.09**	**48**	*e*P	**P**	**02 36 19.4**	**+1.1**
	comp=Z,3.9nm,1.1s						
X16A				LR	LR		
	comp=Z,900nm,20.0s						
MOON	**Moon Mountain**	**88.44**	**36**	*e*P	**P**	**02 36 20.9**	**+1.4**
LCMT	**Little Creek M**	**88.55**	**45**	*e*P	**P**	**02 36 21.8**	**+1.4**
	comp=Z,2.6nm,1.1s						
LCMT				LR	LR		
	comp=Z,900nm,19.0s						
U15A	**North Rim**	**88.78**	**46**	*e*P	**P**	**02 36 23.2**	**+1.6**
	comp=Z,23nm,1.8s						
WUAZ	**Wupatki**	**88.81**	**48**	P	**P**	**02 36 22.5**	**+0.8**
	baz=232						
WUAZ	**Wupatki**	**88.81**	**48**	PFAKE		02 36 30.0	+8.3
WUAZ				LR	LR		
	comp=Z,900nm,20.0s						
KNB	**Kanab**	**88.81**	**46**	*e*P	**P**	**02 36 23.2**	**+1.5**
	comp=Z,16nm,1.5s						
KNB				LR	LR		
	comp=Z,600nm,20.0s						
X18A	**Snowflake**	**89.14**	**49**	PFAKE		02 36 40.0	+17
X18A				LR	LR		
	comp=Z,900nm,19.0s						
CN2	**Changchun**	**90.28**	**322**	*e*P	**P**	**02 36 28.9**	**+0.8**
CN2				*e*S	**S**	**02 47 21.8**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
CN2				LR	LR		
	comp=Z,400nm,21.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
LTX	**Lajitas**	**90.51**	**56**	*e*P	**P**	**02 36 30.0**	**+0.3**
TX31	**Lajitas Ar. Si**	**90.51**	**56**	*e*P	**P**	**02 36 32.1**	**+2.4**
TXAR	**Lajitas Array**	**90.51**	**56**	P	**P**	**02 36 30.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=210,slow=5.1,SNR=6.8						
KLR	**Kul'dur**	**90.94**	**329**	P	**P**	**02 36 30.9**	**-0.2**
	comp=Z,0.1nm,0.7s,baz=132,slow=4.9,SNR=3.6						
NLU	**North Lily Min**	**91.10**	**44**	PFAKE		02 36 40.0	+7.6
NLU				LR	LR		
	comp=Z,600nm,18.0s						
HAWA	**Hanford**	**91.15**	**35**	*e*P	**P**	**02 36 33.1**	**+0.9**
	comp=Z,12nm,1.5s						
B05A	**Bryant**	**91.20**	**33**	P	**P**	**02 36 32.4**	**+0.1**
	baz=225						
TMUT	**Trail Mountain**	**91.22**	**45**	PFAKE		02 36 40.0	+6.9
TMUT				LR	LR		
	comp=Z,700nm,19.0s						
A04D	**Lummi Island**	**91.23**	**32**	P	**P**	**02 36 33.2**	**+0.8**
	baz=225						
BMO	**Blue Mountains**	**91.26**	**38**	PFAKE		02 36 40.0	+7.2
BMO				LR	LR		
	comp=Z,600nm,22.0s						
LNIG	**Linares**	**91.28**	**62**	PFAKE		02 36 50.0	+17
LNIG				LR	LR		
	comp=Z,300nm,19.0s						
ANMO	**Albuquerque**	**91.71**	**50**	P	**P**	**02 36 35.5**	**+0.3**
	baz=235						
CTU	**Camp Tracy**	**91.75**	**43**	PFAKE		02 36 50.0	+15
CTU				LR	LR		
	comp=Z,600nm,20.0s						
JLU	**Jordanelle**	**91.87**	**44**	*e*P	**P**	**02 36 33.2**	**-2.7**
	comp=Z,4.4nm,1.1s						
D08A	**Wollman Farm,**	**91.91**	**35**	*e*P	**P**	**02 36 36.1**	**+0.4**
	comp=Z,4.5nm,0.6s						
E09A	**Wood Farm, Sta**	**91.94**	**36**	*e*P	**P**	**02 36 35.7**	**-0.1**
	comp=Z,4.9nm,0.9s						
HLID	**Hailey**	**92.00**	**40**	P	**P**	**02 36 36.8**	**+0.4**
	baz=230						
HLID	**Hailey**	**92.00**	**40**	*e*P	**P**	**02 36 37.0**	**+0.6**
	comp=Z,2.8nm,1.1s						
ENH	**Enshi**	**92.32**	**304**	*e*P	**P**	**02 36 39.4**	**+1.4**
	comp=Z,12nm,0.8s						
ENH				LR	LR		
	comp=Z,500nm,22.0s						
GYA	**Guiyang**	**92.41**	**299**	*e*P	**P**	**02 36 39.4**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
034A	**Hebbronville**	**93.01**	**61**	P	**P**	**02 36 41.3**	**+0.1**
	baz=238						
BJT	**Baijiatuau**	**93.29**	**315**	PFAKE		02 36 50.0	+7.8
BJT				LR	LR		
	comp=Z,600nm,21.0s						
MSTX	**Muleshoe**	**93.69**	**53**	PFAKE		02 37 00.0	+16
MSTX				LR	LR		
	comp=Z,800nm,20.0s						
HGTCO	**Madrid Canyon**	**94.12**	**49**	PFAKE		02 37 00.0	+14
HGTCO				LR	LR		
	comp=Z,200nm,18.0s						
PD31	**Pinedale Array**	**94.31**	**43**	*e*P	**P**	**02 36 47.1**	**0.0**
PDAR	**Pinedale Array**	**94.31**	**43**	P	**P**	**02 36 47.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=200,slow=3.0,SNR=3.9						
XAN	**Xi'an**	**94.74**	**306**	P	**P**	**02 36 51.5**	**+2.4**
XAN				pmax	pmax		
	comp=Z,17nm,1.1s						
KMI	**Kunming**	**94.76**	**296**	P	**P**	**02 36 49.9**	**+0.3**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,46nm,4.4s						
BOZ	**Bozeman (W)**	**94.83**	**40**	P	**P**	**02 36 49.2**	**-0.2**
	baz=232						
PAX	**Paxson**	**95.22**	**14**	PFAKE		02 37 00.0	+9.4
PAX				LR	LR		
	comp=Z,200nm,18.0s						
BPAW	**Bear Paw Mtn.**	**95.24**	**11**	PFAKE		02 37 00.0	+9.4
BPAW				LR	LR		
	comp=Z,200nm,22.0s						
MCK	**McKinley**	**95.25**	**12**	PFAKE		02 37 00.0	+9.3
MCK				LR	LR		
	comp=Z,100nm,18.0s						
WRH	**Wood River Hil**	**96.08**	**12**	PFAKE		02 37 10.0	+16
WRH				LR	LR		
	comp=Z,200nm,19.0s						
CCB	**Clear Creek Bu**	**96.29**	**12**	PFAKE		02 37 10.0	+15
CCB				LR	LR		
	comp=Z,200nm,18.0s						
COLA	**College**	**96.49**	**12**	PFAKE		02 37 10.0	+14
COLA				LR	LR		
	comp=Z,100nm,18.0s						
MDM	**Murphy Dome**	**96.50**	**12**	PFAKE		02 37 10.0	+14
MDM				LR	LR		
	comp=Z,200nm,20.0s						
ILAR	**Eielson Array**	**96.57**	**12**	P	**P**	**02 36 55.7**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=221,slow=5.5,SNR=19						
ILB	**Eielson Array**	**96.57**	**12**	*e*P	**P**	**02 36 55.7**	**-0.9**
HHC	**Hu-ho-hao-te**	**96.65**	**313**	*e*P	**P**	**02 36 57.1**	**-0.6**
HHC				S	**S**	**02 48 14.3**	**-2.9**
HHC				SS	**SS**	**02 54 54.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,62nm,8.9s						
HHC				LR	LR		
	comp=Z,380nm,14.8s						
HHC				LR	LR		
	comp=Z,320nm,14.5s						
HHC				LR	LR		
	comp=Z,440nm,13.6s						
CD2	**Chengdu**	**96.87**	**301**	*e*P	**P**	**02 36 58.0**	**-0.9**
COLD	**Coldfoot**	**98.27**	**10**	PFAKE		02 37 20.0	+16
COLD				LR	LR		
	comp=Z,602nm,18.0s						
FYU	**Fort Yukon**	**98.49**	**12**	PFAKE		02 37 20.0	+15
FYU				LR	LR		
	comp=Z,200nm,20.0s						
SLM	**Saint Louis**	**104.78**	**54**	PFAKE		02 37 50.0	+16
SLM				LR	LR		
	comp=Z,500nm,21.0s						
PALK	**Pallekele**	**104.93**	**270**	PFAKE		02 37 50.0	+15
PALK				LR	LR		
	comp=Z,300nm,18.0s						
LSA	**Lhasa**	**106.00**	**295**	PFAKE		02 42 00.0	
LSA				LR	LR		
	comp=Z,400nm,22.0s						
IP07	**Quail**	**113.37**	**59**	PFAKE		02 42 20.0	
IP07				LR	LR		
	comp=Z,600nm,21.0s						
CVRD	**Centerville Ro**	**113.58**	**58**	PFAKE		02 42 20.0	
CVRD				LR	LR		
	comp=Z,600nm,21.0s						
WMQ	**Urumqi**	**113.81**	**308**	*e*PKP	**PKiKP**	**02 42 02.8**	**-3.3**
WMQ				LR	LR		
	comp=Z,57nm,15.5s						
WMQ				LR	LR		
	comp=Z,60nm,19.1s						
WMQ				LR	LR		
	comp=Z,59nm,15.5s						
PLVO	**Plevna**	**116.24**	**51**	PFAKE		02 42 20.0	+9.4
PLVO				LR	LR		
	comp=Z,600nm,21.0s						
STVI	**Saint Thomas**	**116.94**	**83**	PFAKE		02 42 20.0	+7.3
STVI				LR	LR		
	comp=Z,800nm,20.0s						
PAL	**Palisades**	**117.35**	**56**	PFAKE		02 42 20.0	+7.1
PAL

comp=Z,1.6nm,0.7s,baz=98,slow=1.9,SNR=8.2
TULEG Thule 122.36 15 PFAKE 02 42 30.0 +8.5
TULEG LR LR
comp=Z,800nm,21.0s
PQI Presque Isle 122.77 51 PFAKE 02 42 30.0 +6.9
PQI LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 126.75 316 PKP **PKPdf 02 42 30.0 -0.6**
comp=Z,1.6nm,0.6s,baz=90,slow=0.6,SNR=3.7
BVAR Borovoye Array 126.75 316 PKP **PKPdf 02 42 30.0 -0.6**
SFJD Kangerlussuaq 130.40 25 PFAKE 02 42 50.0 +13
SFJD LR LR
comp=Z,1μm,19.0s
SUMG Summit 131.28 16 PFAKE 02 42 50.0 +11
SUMG LR LR
comp=Z,900nm,19.0s
GEYT Alibeck 134.53 296 PKhKP PKPpre 02 42 39.0
comp=Z,12nm,1.2s,baz=317,slow=6.3,SNR=6.6
GEYT PKP **PKPdf 02 42 45.9 0.0**
comp=Z,5.6nm,0.8s,baz=304,slow=11,SNR=5.3
NRS Narsarsuaq 134.67 31 *e*PKPpre PKPpre 02 42 39.3
KEV Kevo 137.44 348 PFAKE 02 43 00.0 +10
KEV LR LR
comp=Z,700nm,22.0s
ARA0 ARCESS Array S 137.89 349 *e*PKPdf **PKPdf 02 42 51.9 +0.8**
ARCES ARCESS Array B 137.89 349 PKP **PKPdf 02 42 51.9 +0.8**
comp=Z,3.0nm,0.6s,baz=37,slow=3.0,SNR=7.8
ARE0 ARCESS Array S 137.89 349 PFAKE 02 43 00.0 +8.9
ARE0 LR LR
comp=Z,200nm,18.0s
FIA0 FINESS Array S 144.68 342 *e*PKPdf **PKPab 02 43 01.6 -0.6**
FINES FINESS Array B 144.68 342 PKP **PKPab 02 43 01.6 -0.6**
comp=Z,8.7nm,0.8s,baz=90,slow=4.2,SNR=9.6
GNI Garni 144.96 299 PFAKE 02 43 20.0 +15
GNI LR LR
comp=Z,400nm,20.0s
NC303 NORSAR Array S 147.74 353 *e*PKPbc **PKPbc 02 43 11.4 -0.1**
NB2 NORSAR Subarra 147.93 353 PKP **PKPbc 02 43 11.3 -0.8**
comp=Z,9.1nm,0.6s,baz=8.7,slow=2.9
NB200 NORSAR Array S 147.93 353 *e*PKPbc **PKPbc 02 43 11.6 -0.6**
NOA NORSAR Array B 147.93 353 PKPbc **PKPbc 02 43 11.6 -0.6**
comp=Z,9.7nm,0.7s,baz=12,slow=4.4,SNR=19
AKASG Malin Array Be 151.38 325 PKPbc **PKPbc 02 43 20.4 -0.5**
comp=Z,4.4nm,0.6s,baz=47,slow=2.9,SNR=12
AKASG PKPab **PKPab 02 43 28.3 -0.8**
comp=Z,4.8nm,0.6s,baz=43,slow=3.5,SNR=11
AKBB Malin Array Si 151.38 325 *e*PKPbc **PKPbc 02 43 20.4 -0.5**
AKBB *e*PKPab **PKPab 02 43 28.3 -0.8**
KIEV Kiev 151.39 325 PFAKE 02 43 30.0 +0.8
KIEV LR LR
comp=Z,400nm,18.0s
ASF Jabal al Asfar 151.49 284 PKPbc **PKPbc 02 43 22.5 +0.6**
comp=Z,5.4nm,0.7s,baz=97,slow=5.3,SNR=7.9
MMAI Mount Meron Ar 152.78 286 PKPbc **PKPbc 02 43 25.6 +0.8**
comp=Z,4.1nm,0.6s,baz=90,slow=6.7,SNR=6.8
BR101 Keskin Array S 153.45 301 *e*PKPbc **PKPbc 02 43 25.6 -0.4**
BR101 *e*PKPab **sPKPbc 02 43 38.6 +0.1**
BR131 Keskin Array S 153.45 301 *e*PKPab **PKPab 02 43 39.1 +0.7**
BRTR Keskin Array B 153.45 301 PKPbc **PKPbc 02 43 25.6 -0.4**
comp=Z,0.9nm,0.7s,baz=108,slow=4.0,SNR=3.6
BRTR PKPab **sPKPbc 02 43 38.6 +0.1**
comp=Z,1.6nm,0.7s,baz=103,slow=4.1,SNR=5.6
EKA Eskdalemuir Ar 153.56 9 PKPbc **PKPbc 02 43 25.2 -0.4**
comp=Z,2.2nm,0.7s,baz=317,slow=1.8,SNR=6.7
ANTO Ankara 154.04 302 PFAKE 02 43 30.0 +2.7
ANTO LR LR
comp=Z,400nm,20.0s
CSS Mathiatis 154.44 290 PFAKE 02 43 30.0 +1.8
CSS LR LR
comp=Z,100nm,20.0s
TIRR Tirgusor 155.34 314 PFAKE 02 43 30.0 +9.3
TIRR LR LR
comp=Z,299nm,22.0s
ISP Isparta 156.25 298 PFAKE 02 43 30.0 +7.7
ISP LR LR
comp=Z,300nm,18.0s
MLR Muntele Rosu 156.27 319 PFAKE 02 43 30.0 +7.9
MLR LR LR
comp=Z,400nm,22.0s
CLL Collm 157.02 345 PFAKE 02 43 30.0 +7.3
CLL LR LR
comp=Z,700nm,22.0s
MORC Moravsky Berou 157.09 337 PFAKE 02 43 30.0 +7.1
MORC LR LR
comp=Z,3μm,21.0s
PSZ Piszkesteto 157.69 331 PFAKE 02 43 30.0 +6.2
PSZ LR LR
comp=Z,998nm,22.0s
GEC2 GERESS Array S 159.11 341 *e*PKPab **PKPab 02 44 00.7 -1.5**
GERES GERESS Array B 159.11 341 PKPab **PKPab 02 44 00.7 -1.5**
comp=Z,0.4nm,0.6s,baz=45,slow=5.8,SNR=3.9
KARP Karpathos 159.37 293 PFAKE 02 43 40.0 +14
KARP LR LR
comp=Z,100nm,19.0s
VTS Vitosha 159.54 315 PFAKE 02 43 40.0 +14
VTS LR LR
comp=Z,400nm,22.0s
TORD Torodi Ar. Bea 163.75 173 PKPab **PKPab 02 44 23.1 0.0**
comp=Z,1.8nm,0.8s,baz=195,slow=4.0,SNR=7.7
TOA1 Torodi Ar. Sit 163.75 173 *e*PKPab **PKPab 02 44 23.1 0.0**
ESDC Sonseca Array 167.89 30 PKPab **PKPab 02 44 40.5 -0.5**
comp=Z,0.5nm,0.6s,baz=313,slow=4.0,SNR=3.2

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*SOME **25** 02:24:01.7,40.4°N×77.4°E,h5km*
*KRNET **25** 02:24:04.6±0.1,40.2°N×77.3°E,mb2.6*
ISC 25 02:24:01.0±3.0,40.4°N±0.1×77.38°E±0.05,h6km±17km,n15,
σ1°45/30,12C,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.05**	**336**	⇑*i*	P		**Pg**	**02 24 41.1**	**+0.7**
	baz=337								
ULHL				⇑*i*	S		**Sg**	**02 25 08.2**	**+1.2**
	baz=337								
BOOM	**Boomskoye usch**	**2.37**	**333**	⇑*e*	P		**Pb**	**02 24 45.8**	**+1.6**
BOOM	baz=335			⇑*e*	S		**Sb**	**02 25 15.6**	**+1.8**
	baz=335								
TNSS	**Tian-Shan**	**2.68**	**353**	*e*	P		**Pg**	**02 24 52.2**	**-0.1**
	4.9nm,0.3s								
TNSS				*e*	S		**Sg**	**02 25 28.6**	**+1.6**
	17nm,0.9s								
IZV	**Izvestkoviy**	**2.72**	**348**	*e*	P		**Pg**	**02 24 52.3**	**-0.8**
	3.1nm,0.2s								
IZV				*e*	S		**Sg**	**02 25 28.3**	**0.0**
	8.7nm,0.4s								
ARLS	**Aral**	**2.74**	**304**	⇑*e*	P		**Pb**	**02 24 50.6**	**0.0**
	baz=306								
ARLS				⇑*i*	S		**Sb**	**02 25 23.7**	**-0.8**
	baz=306								
MDOK	**Medeo**	**2.79**	**355**	*e*	P		**Pg**	**02 24 53.5**	**-1.1**
	3.2nm,0.6s								
MDOK				*e*	S		**Sg**	**02 25 30.4**	**-0.3**
	13nm,0.5s								
MTBS	**Maitube**	**2.84**	**346**	*e*	P		**Pb**	**02 24 53.6**	**+1.4**
	2.3nm,0.2s								
MTBS				*e*	S		**Sg**	**02 25 30.8**	**-1.5**
	8.4nm,0.4s								
KST	**Kastek**	**2.87**	**339**	*e*	P		**Pg**	**02 24 55.0**	**-0.9**
	1.0nm,0.3s								
KST				*e*	S		**Sg**	**02 25 33.4**	**+0.3**
	6.0nm,0.4s								
TKM2	**Tokmak 2**	**2.87**	**333**	⇑*i*	P		**Pb**	**02 24 53.3**	**+0.5**
	baz=334								
TKM2				⇑*i*	S		**Sb**	**02 25 28.4**	**+0.2**
	baz=334								
KBK	**Karagaybulak**	**2.92**	**322**	⇑*i*	P		**Pb**	**02 24 53.3**	**-0.2**
	baz=324								
KBK				⇑*i*	S		**Sb**	**02 25 29.2**	**-0.3**
	baz=324								
UZB	**Uzynbulak**	**3.03**	**23**	*e*	P		**Pb**	**02 24 56.4**	**+1.0**
	1.1nm,0.5s								
UZB				*e*	S		**Sg**	**02 25 35.4**	**-2.9**
	2.4nm,0.4s								
DGS	**Degeres**	**3.10**	**338**	*e*	P		**Pg**	**02 24 59.6**	**-0.9**
	2.1nm,0.4s								
DGS				*e*	S		**Sg**	**02 25 41.3**	**+0.6**
	6.6nm,0.4s								
SHLS	**Shalkode**	**3.18**	**29**	*e*	P		**Pg**	**02 25 03.2**	**+1.2**
	2.2nm,0.2s								
SHLS				*e*	S		**Sg**	**02 25 47.2**	**+3.9**
	3.1nm,0.4s								
PDGK	**Podgornoye**	**3.34**	**27**	⇑*e*	P		**Pb**	**02 24 59.6**	**-1.2**
	baz=27								
PDGK				⇑*i*	S		**Sb**	**02 25 40.0**	**-1.7**
	baz=27								
CHKK	**Chushkaly**	**3.49**	**355**	*e*	P		**Pg**	**02 25 05.7**	**-2.1**
	2.4nm,0.1s								
CHKK				*e*	S		**Sg**	**02 25 51.8**	**-1.1**
	7.5nm,0.1s								

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*ISK **25** 02:24:09.0,38.72°N×43.21°E,h7km,ML2.4*
*ISCJB **25** 02:24:10.2±0.5,38.73°N±0.03×43.13°E±0.08,h11km±9km,*
Error ellipse: s-maj=10.9km s-min=4.3km az=161.3
*CSEM **25** 02:24:10.0±0.2,38.73°N×43.18°E,h15km,ML2.4,Error*
ellipse: s-maj=8.2km s-min=4.0km az=69.0
*DDA **25** 02:24:10.4,38.71°N×43.10°E,h7km,Ml2.9*
ISC 25 02:24:10.0±1.1,38.71°N±0.03×43.12°E±0.05,h8km±10km,
n18,σ0°72/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**118**	*e*PG			**Pg**	**02 24 14.8**	**+0.1**
VANB				*e*SG			**Sg**	**02 24 18.6**	**+0.6**
VANB	**Van**	**0.24**	**118**	*e*Pg			**Pg**	**02 24 14.8**	**+0.1**
VANB				*e*Sg			**Sg**	**02 24 18.6**	**+0.6**
TVAN	**Van**	**0.28**	**128**	*i* P			**Pb**	**02 24 17.3**	**-0.2**
TVAN				*i* S			**Sb**	**02 24 21.3**	**-1.2**
TVAN	**Van**	**0.28**	**128**	P			**Pb**	**02 24 17.3**	**-0.2**
TVAN				S			**Sb**	**02 24 21.3**	**-1.2**
GEVA	**Gevas**	**0.40**	**187**	*i* P			**Pg**	**02 24 17.5**	**-0.3**
GEVA				*i* S			**Sb**	**02 24 25.4**	**-0.3**
GEVA	**Gevas**	**0.40**	**187**	P			**Pg**	**02 24 17.5**	**-0.3**
GEVA				S			**Sb**	**02 24 25.4**	**-0.3**
TUTA	**Tutak**	**0.74**	**341**	*i* P			**Pg**	**02 24 24.2**	**0.0**
TUTA				*i* S			**Sb**	**02 24 35.1**	**-0.5**
TUTA	**Tutak**	**0.74**	**341**	P			**Pg**	**02 24 24.2**	**0.0**
TUTA				S			**Sb**	**02 24 35.1**	**-0.5**
AGRB	**Hanur-Agry**	**0.88**	**353**	*e*PG			**Pg**	**02 24 26.3**	**-0.6**
AGRB				*e*SG			**Sg**	**02 24 38.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.88**	**353**	*e*Pg			**Pg**	**02 24 26.3**	**-0.6**
AGRB				*e*Sg			**Sg**	**02 24 38.5**	**+0.2**
EATA	**Eleskirt**	**1.25**	**337**	*i* P			**Pg**	**02 24 32.9**	**-1.3**
EATA				*i* S			**Sn**	**02 24 52.9**	**+1.4**
EATA	**Eleskirt**	**1.25**	**337**	P			**Pg**	**02 24 32.8**	**-1.3**
EATA				S			**Sn**	**02 24 52.9**	**+1.4**
VRTB	**Varto-Mus**	**1.38**	**290**	*e*PN			**Pn**	**02 24 36.3**	**+0.6**
VRTB	**Varto-Mus**	**1.38**	**290**	*e*Pn			**Pn**	**02 24 36.3**	**+0.6**
CUKT	**Cukurca**	**1.50**	**165**	*e*PN			**Pn**	**02 24 37.3**	**-0.2**
CUKT	**Cukurca**	**1.50**	**165**	*e*Pn			**Pn**	**02 24 37.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.61**	**250**	*e*PN			**Pn**	**02 24 38.7**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.61**	**250**	*e*Pn			**Pn**	**02 24 38.7**	**-0.1**

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*IDC **25** 02:26:33.3±2.0,28.27°S×176.66°W,h0km,mb4.4/5,*
mb1 4.5/5,mb1mx3.9/47,mbtmp4.3/5,Error ellipse:
s-maj=77.2km s-min=22.1km az=137.0
ISC 25 02:26:37.2±2.4,28.4°S±0.5×176.6°W±0.5,h29km,n10,
σ0°93/11,mb4.4/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.45**	**235**	Pn			**Pn**	**02 27 01.8**	**+0.3**
	102nm,0.3s,baz=73,slow=19,SNR=2.5								
RAO				Sn			**Sb**	**02 27 21.8**	**+0.1**
	231nm,0.3s,baz=73,slow=19,SNR=3.9								
STKA	**Stephens Creek**	**36.19**	**254**	P			**P**	**02 33 36.7**	**-0.7**
	2.8nm,0.6s,baz=105,slow=6.5,SNR=4.1								
ASAR	**Alice Springs**	**44.51**	**264**	P			**P**	**02 34 46.1**	**-0.3**
	2.1nm,0.6s,baz=102,slow=7.4,SNR=6.4								
WRA	**Warramunga Arr**	**45.33**	**269**	P			**P**	**02 34 52.0**	**-1.0**
	5.0nm,0.9s,baz=107,slow=7.9,SNR=6.3								
FITZ	**Fitzroy Crossi**	**53.66**	**268**	P			**P**	**02 35 56.2**	**-0.3**
	0.9nm,0.7s,baz=106,slow=5.9,SNR=4.0								
CMAR	**Chiang Mai Arr**	**93.94**	**289**	P			**P**	**02 39 54.6**	**+1.9**
	1.3nm,0.4s,baz=164,slow=4.5,SNR=5.2								
KURBB	**Kurchatov Arra**	**120.61**	**314**	PKP			**PKPdf**	**02 45 24.6**	**-1.2**
	0.5nm,0.9s,baz=83,slow=2.9,SNR=3.9								
NOA	**NORSAR Array B**	**146.96**	**353**	PKPbc			**PKPbc**	**02 46 16.2**	**-0.2**
	1.6nm,0.7s,baz=14,slow=4.5,SNR=3.7								
HFS	**Hagfors**	**147.53**	**350**	PKPbc			**PKPbc**	**02 46 18.0**	**+0.1**
	3.2nm,0.8s,baz=323,slow=3.6,SNR=4.0								
AKASG	**Malin Array Be**	**150.42**	**326**	PKPbc			**PKPbc**	**02 46 25.6**	**0.0**
	1.0nm,0.5s,baz=46,slow=2.4,SNR=4.0								

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*ISK **25** 02:30:37.1,38.75N×43.44E,h15km,ML2.5*
*CSEM **25** 02:30:38.9±0.3,38.73N×43.25E,h12km,ML2.5,Error*
ellipse: s-maj=9.4km s-min=5.5km az=79.0
*DDA **25** 02:30:39.0,38.72N×43.13E,h7km,Ml2.8*
*ISCJB **25** 02:30:39.1±0.6,38.75N±0.03×43.19E±0.06,h6km±8km,*
Error ellipse: s-maj=8.4km s-min=5.8km az=1.4
ISC 25 02:30:38.9±0.9,38.73N±0.03×43.27E±0.04,h15km±8km,
n20,σ0°80/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**147**	*e*PG			**Pg**	**02 30 42.9**	**-0.2**
VANB				*e*SG			**Sg**	**02 30 46.6**	**+0.8**
VANB	**Van**	**0.16**	**147**	*e*Pg			**Pg**	**02 30 42.9**	**-0.2**
VANB				*e*Sg			**Sg**	**02 30 46.6**	**+0.8**
TVAN	**Van**	**0.23**	**153**	*i* P			**Pb**	**02 30 45.2**	**+0.3**
TVAN				*i* S			**Sb**	**02 30 49.4**	**+0.4**
TVAN	**Van**	**0.23**	**153**	P			**Pb**	**02 30 45.2**	**+0.3**
TVAN				S			**Sb**	**02 30 49.3**	**+0.4**
GEVA	**Gevas**	**0.45**	**202**	*i* P			**Pg**	**02 30 46.4**	**-1.6**
GEVA				*i* S			**Sg**	**02 30 54.0**	**-0.1**
GEVA	**Gevas**	**0.45**	**202**	P			**Pg**	**02 30 46.4**	**-1.6**
GEVA				S			**Sg**	**02 30 54.0**	**-0.1**
TUTA	**Tutak**	**0.76**	**332**	*i* P			**Pg**	**02 30 53.2**	**-0.5**
TUTA				*i* S			**Sb**	**02 31 04.6**	**+0.4**
TUTA	**Tutak**	**0.76**	**332**	P			**Pg**	**02 30 53.2**	**-0.5**
TUTA				S			**Sb**	**02 31 04.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.87**	**345**	*e*PG			**Pb**	**02 30 54.6**	**-1.2**
AGRB				*e*SG			**Sb**	**02 31 07.8**	**+0.4**
AGRB	**Hanur-Agry**	**0.87**	**345**	*e*Pg			**Pb**	**02 30 54.6**	**-1.2**
AGRB				*e*Sg			**Sb**	**02 31 07.8**	**+0.4**
DYDN	**Diyadin**	**0.87**	**22**	*i* P			**Pn**	**02 30 57.0**	**+0.1**
DYDN				*i* S			**Sb**	**02 31 07.8**	**+0.4**
DYDN	**Diyadin**	**0.87**	**22**	P			**Pn**	**02 30 57.0**	**+0.1**
DYDN				S			**Sb**	**02 31 07.8**	**+0.4**
EKAR	**Karacoban**	**1.08**	**299**	*i* P			**Pg**	**02 31 01.4**	**+1.6**
EKAR	**Karacoban**	**1.08**	**299**	P			**Pg**	**02 31 01.4**	**+1.6**
VRTB	**Varto-Mus**	**1.48**	**287**	*e*PN			**Pb**	**02 31 05.8**	**-0.4**
VRTB	**Varto-Mus**	**1.48**	**287**	*e*Pn			**Pb**	**02 31 05.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.73**	**251**	*e*PN			**Pn**	**02 31 08.8**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.73**	**251**	*e*Pn			**Pn**	**02 31 08.8**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**339**	*e*PN			**Pn**	**02 31 11.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.96**	**339**	*e*Pn			**Pn**	**02 31 11.2**	**-0.6**

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*NAO **25** 02:32:15.6±2.8,70.76N×6.74W,h11km±35km,ML5.1*
*IDC **25** 02:32:16.3±0.4,70.81N×6.68W,h0km,mb4.3/43,*
mb1 4.4/47,mb1mx4.3/88,mbtmp4.3/47,ML4.2/3,MS4.4/35,
Ms1 4.4/35,ms1mx4.4/39,Error ellipse: s-maj=11.5km
s-min=8.1km az=33.0
*BJI **25** 02:32:16.8,71.17N×5.98W,h6km,mb4.8/49,mB5.2/41,*
Ms4.9/34,Ms7 4.6/33
*CSEM **25** 02:32:17.2±0.1,70.87N×6.63W,h10km,mb5.0/80,Ms4.6,*
Error ellipse: s-maj=3.9km s-min=3.0km az=21.0
*BER **25** 02:32:17.2±2.9,70.79N×6.79W,h10km,ML4.3,*
ML5.1(NAO)
*NEIC **25** 02:32:17.8±0.2,70.88N×6.79W,h10km,mb5.1/193,Error*
ellipse: s-maj=5.3km s-min=3.1km az=208.0
*MOS **25** 02:32:19.0±1.4,70.85N×5.27W,h10km,mb5.1/102,*
MS4.4/39,Error ellipse: s-maj=11.1km s-min=3.4km
az=99.1
*REY **25** 02:32:20.4,70.78N×8.43W,h10km*
*ISCJB **25** 02:32:20.6±0.1,70.81N±0.02×5.33W±0.04,h20km,*
mb4.9/289,MS4.5/59,Error ellipse: s-maj=2.8km
s-min=1.4km az=24.9
*GCMT **25** 02:32:21.5±0.2,70.89N×6.61W,h12km,MW5.1/108,*
Moment Tensor Solution. s47,c56; s108,c192;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.88±.11;
$M_{\theta\theta}$3.06±.12; $M_{\phi\phi}$-0.17±.10; $M_{r\theta}$-0.25±.31; $M_{\theta\phi}$4.58±.08;
$M_{\phi r}$-0.52±.29; Best double couple: M_0=4.93500×10^{16}
NP1:ϕ_s13.00000°,δ76.00000°,λ-160.00000°. NP2:
ϕ_s278.00000°,δ71.00000°,λ-15.00000°. Principal axes:
T 6.3270, Plg3.0000°, Azm145.0000°; N -2.7810,
Plg66.0000°, Azm48.0000°; P -3.5420, Plg24.0000°,
Azm236.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.

ISC 25 02:32:17.8±0.4,70.75N±0.03×6.38W±0.02,h6km±2km,
h6km:pP-P,n1251,σ2°50/844,mb5.0/294,MS4.5/62,
22C-15D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.68**	**291**	*e*P			Pg	02 32 26.9	-3.9
JNE	**Jan Mayen East**	**0.68**	**291**	*e*P			Pg	02 32 26.9	-3.9
SNR=100									
JNE	**Jan Mayen East**	**0.68**	**291**	*e*P			Pg	02 32 26.8	-3.9
JNW	**Jan Mayen West**	**0.73**	**293**	*e*P			Pg	02 32 27.5	-4.3
JNW	**Jan Mayen West**	**0.73**	**293**	*e*P			Pg	02 32 27.5	-4.3
SNR=99									
JNW	**Jan Mayen West**	**0.73**	**293**	*e*P			Pg	02 32 27.5	-4.3
JMIC	**Jan Mayen**	**0.74**	**289**	Pg			Pg	02 32 27.8	-4.2
JMIC				Lg			Lg	02 32 36.4	
JMIC	**Jan Mayen**	**0.74**	**289**	Pn			Pg	02 32 27.7	-4.3
	2μm,0.3s,baz=97,slow=2.8,SNR=510								
JMIC				Sn			**Sg**	**02 32 35.0**	**-6.6**
	10μm,0.3s,baz=233,slow=20,SNR=153								
JMIC	**Jan Mayen**	**0.74**	**289**	Pg			Pg	02 32 27.8	-4.2
JMIC				Lg			Lg	02 32 36.4	
JMIC	**Jan Mayen**	**0.74**	**289**	Pg			Pg	02 32 27.8	-4.2
SNR=99									
JMIC				Lg			Lg	02 32 36.4	
SNR=30									
JMI	**Jan Mayen**	**0.80**	**284**	*e*P			Pg	02 32 29.1	-4.0
JMI				*e*S			**Sg**	**02 32 38.1**	**-5.2**
JMI				IAML				02 32 40.9	
	comp=Z,17μm,0.4s								
JMI	**Jan Mayen**	**0.80**	**284**	*e*P			Pg	02 32 29.1	-4.0
SNR=70									
JMI				*e*S			**Sg**	**02 32 38.2**	**-5.2**
SNR=70									
JMI	**Jan Mayen**	**0.80**	**284**	*e*P			Pg	02 32 29.1	-4.0
JMI				*e*S			**Sg**	**02 32 38.1**	**-5.2**
SCO	**Scoresbysund**	**5.19**	**274**	*i* P			**Pn**	**02 33 36.8**	**+0.9**
SCO	**Scoresbysund**	**5.19**	**274**	*e*P			**Pn**	**02 33 36.8**	**+0.9**
ILEI	**Leirhofn**	**5.72**	**225**	P			**Pn**	**02 33 40.6**	**-2.4**
baz=218									
ILEI				S			**Sn**	**02 34 44.4**	**-4.6**
baz=218									
ILEI	**Leirhofn**	**5.72**	**225**	P			**Pn**	**02 33 40.7**	**-2.4**
IGIL	**Gilhagi**	**5.96**	**223**	P			**Pn**	**02 33 44.0**	**-2.4**
baz=216									
IGIL				S			**Sn**	**02 34 52.3**	**-2.6**
baz=216									
IGIL	**Gilhagi**	**5.96**	**223**	P			**Pn**	**02 33 44.0**	**-2.4**
IGRI	**Grimsey**	**5.99**	**231**	P			**Pn**	**02 33 45.1**	**-1.6**
baz=224									
IGRI				S			**Sn**	**02 34 48.6**	**-6.9**
baz=224									
IGRI	**Grimsey**	**5.99**	**231**	P			**Pn**	**02 33 45.2**	**-1.6**
IHED	**Heoinshofoi**	**6.18**	**226**	P			**Pn**	**02 33 46.9**	**-2.5**
baz=219									
IHED				S			**Sn**	**02 34 55.5**	**-4.8**
baz=219									
IHED	**Heoinshofoi**	**6.18**	**226**	P			**Pn**	**02 33 46.9**	**-2.5**
IDIM	**Dimmadals¨js**	**6.19**	**224**	P			**Pn**	**02 33 47.4**	**-2.2**
baz=217									
IDIM				S			**Sn**	**02 34 55.8**	**-4.7**
baz=217									
IDIM	**Dimmadals¨js**	**6.19**	**224**	P			**Pn**	**02 33 47.4**	**-2.2**
IGHA	**Grjothals**	**6.23**	**223**	P			**Pn**	**02 33 48.4**	**-1.7**
baz=216									
IGHA	**Grjothals**	**6.23**	**223**	P			**Pn**	**02 33 48.4**	**-1.7**
IGRS	**Grimsstaoir**	**6.28**	**220**	P			**Pn**	**02 33 49.4**	**-1.5**
baz=213									
IGRS				S			**Sn**	**02 35 00.8**	**-2.1**
baz=213									
IGRS	**Grimsstaoir**	**6.28**	**220**	S			**Sn**	**02 35 00.8**	**-2.1**
ISKI	**Skildingah¨‡ls**	**6.29**	**224**	P			**Pn**	**02 33 49.8**	**-1.1**
baz=217									
ISKI				S			**Sn**	**02 34 59.7**	**-3.2**
baz=217									
ISKI	**Skildingah¨‡ls**	**6.29**	**224**	P			**Pn**	**02 33 49.8**	**-1.1**
IGRA	**Granastaoir**	**6.38**	**226**	P			**Pn**	**02 33 50.6**	**-1.5**
baz=219									
IGRA				S			**Sn**	**02 35 00.7**	**-4.4**
baz=219									
IGRA	**Granastaoir**	**6.38**	**226**	P			**Pn**	**02 33 50.6**	**-1.5**
IKVO	**Krokottuvotn**	**6.38**	**223**	P			**Pn**	**02 33 52.5**	**+0.2**
baz=216									
IKVO				S			**Sn**	**02 35 00.3**	**-5.1**
baz=216									
IREN	**Reynihlio**	**6.45**	**222**	P			**Pn**	**02 33 52.0**	**-1.1**
baz=216									
IHLA	**Hella**	**6.55**	**228**	P			**Pn**	**02 33 51.6**	**-2.9**
baz=222									
IHLA				S			**Sn**	**02 35 05.0**	**-4.4**
baz=222									
IHLA	**Hella**	**6.55**	**228**	P			**Pn**	**02 33 51.6**	**-2.9**
IASK	**Askja**	**6.90**	**219**	P			**Pn**	**02 33 57.9**	**-1.5**
baz=212									
IASK	**Askja**	**6.90**	**219**	P			**Pn**	**02 33 57.9**	**-1.5**
IMKO	**Mokollar**	**6.91**	**218**	P			**Pn**	**02 33 58.2**	**-1.2**
baz=211									
IMKO	**Mokollar**	**6.91**	**218**	P			**Pn**	**02 33 58.2**	**-1.2**
DAG	**Danmarks Havn**	**6.94**	**336**	*i* P			Pn	02 33 54.2	-5.6
DAG				*i* S			Sn	02 35 03.5	-15
	comp=Z,6μm,15.0s								
DAG	**Danmarks Havn**	**6.94**	**336**	*e*P			Pn	02 33 54.2	-5.6
DAG				MLR			MLR		
	comp=Z,6μm,15.0s								
IVSH	**V-Sauoahnukur**	**6.94**	**215**	P			**Pn**	**02 33 58.6**	**-1.3**
baz=208									
IVSH	**V-Sauoahnukur**	**6.94**	**215**	P			**Pn**	**02 33 58.6**	**-1.3**
IKRE	**Kreppuhraun**	**7.09**	**217**	P			**Pn**	**02 34 00.6**	**-1.3**
baz=210									
IKRE	**Kreppuhraun**	**7.09**	**217**	P			**Pn**	**02 34 00.6**	**-1.3**
LOF	**Lofoten**	**7.47**	**101**	*e*			**Pn**	**02 34 05.4**	**-1.7**
LOF				*e*Pn			**Pn**	**02

HAMF	Hammerfest	9.89	76	*e*Pn	Pn	02 34 37.3	-3.0
HAMF	Hammerfest	9.89	76	*e*Pn	Pn	02 34 37.3	-3.0
	SNR=50						
TBLU	Trondheim	9.91	131	*e*Pn	Pn	02 34 39.8	-0.7
TBLU				*e*Sn	Sn	02 36 23.3	-8.6
TBLU	Trondheim	9.91	131	*e*Pn	Pn	02 34 39.8	-0.7
	SNR=50						
AKN	Aaknes	10.10	142	Pn	Pn	02 34 41.1	-2.1
AKN				Sn	Sn	02 36 32.2	-4.4
AKN	Aaknes	10.10	142	Pn	Pn	02 34 41.1	-2.1
AKN				Sn	Sn	02 36 32.2	-4.4
SUMG	Summit	10.19	295	*i* P	Pn	02 34 43.4	-1.3
SUMG				*i* S	Sn	02 36 27.3	-12
SUMG	Summit	10.19	295	*i* P	Pn	02 34 43.4	-1.3
SUMG	Summit	10.19	295	*e*Pn	Pn	02 34 43.3	-1.3
SUMG	Summit	10.19	295	*e*Pn	Pn	02 34 43.3	-1.3
FOO	Floro	10.26	148	*e*Pn	Pn	02 34 44.6	-0.7
FOO				*e*Sn	Sn	02 36 32.7	-7.7
FOO	Floro	10.26	148	*e*Pn	Pn	02 34 44.6	-0.7
	SNR=50						
KTK1	Kautokeino	10.29	86	*e*Pn	Pn	02 34 43.7	-2.0
KTK1	Kautokeino	10.29	86	*e*Pn	Pn	02 34 43.7	-2.0
	SNR=50						
SUE	Sulen	10.72	150	*e*Pn	Pn	02 34 50.4	-1.3
SUE				*e*Sn	Sn	02 36 45.3	-6.4
SUE	Sulen	10.72	150	*e*Pn	Pn	02 34 50.3	-1.3
	SNR=50						
ARA0	ARCESS Array S	10.83	81	Pn	Pn	02 34 51.0	-2.1
	baz=286,slow=12						
ARA0				Sn	Sn	02 36 53.7	-0.8
	baz=283,slow=22						
ARA0	ARCESS Array S	10.83	81	Pn	Pn	02 34 51.0	-2.1
	baz=286,slow=12						
ARA0				Sn	Sn	02 36 53.7	-0.8
	baz=283,slow=22						
ARA0	ARCESS Array S	10.83	81	*e*Pn	Pn	02 34 51.7	-1.5
ARA0				*e*Sn	Sn	02 36 55.2	+0.7
ARA0	ARCESS Array S	10.83	81	*e*Pn	Pn	02 34 51.7	-1.5
ARA0				*e*Sn	Sn	02 36 55.2	+0.7
ARCES	ARCESS Array B	10.83	81	Pn	Pn	02 34 51.7	-1.5
	comp=Z,2.3nm,0.3s,baz=289,slow=11,SNR=78						
ARCES				Sn	Sn	02 36 55.2	+0.7
	comp=Z,2.4nm,0.3s,baz=290,slow=22,SNR=4.6						
ARCES				LR	LR	02 38 22.8	
	comp=Z,1μm,20.1s,baz=292,slow=34						
ARE0	ARCESS Array S	10.83	81	*e*Pn	Pn	02 34 52.2	-1.0
ARE0	ARCESS Array S	10.83	81	*e*Pn	Pn	02 34 52.2	-1.0
	SNR=50						
ARE0	ARCESS Array S	10.83	81	*e*Pn	Pn	02 34 51.9	-1.3
HYA	Hoyanger	10.87	146	*e*Pn	Pn	02 34 52.7	-1.0
HYA				*e*Sn	Sn	02 36 49.7	-5.7
HYA	Hoyanger	10.87	146	*e*Pn	Pn	02 34 52.7	-1.0
	SNR=50						
KEV	Kevo	11.24	79	*e*P	Pn	02 34 56.3	-2.4
KEV	Kevo	11.24	79	*e*Pn	Pn	02 34 56.3	-2.4
KEV	Kevo	11.24	79	*e*Pn	Pn	02 34 56.3	-2.4
ASK	Askoy	11.34	150	*e*Pn	Pn	02 34 59.3	-0.7
ASK				*e*Sn	Sn	02 36 59.6	-7.2
NC204	NORSAR Array S	11.73	136	*e*Pn	Pn	02 35 04.1	-1.4
NC303	NORSAR Array S	11.92	134	*e*Pn	Pn	02 35 07.0	-1.0
NC303	NORSAR Array S	11.92	134	*e*Pn	Pn	02 35 07.0	-1.0
NBO00	NORSAR Array S	11.95	136	*e*Pn	Pn	02 35 07.0	-1.4
NB2	NORSAR Subarra	12.04	135	Pn	Pn	02 35 10.8	+1.0
	baz=325,slow=16						
NB2	NORSAR Subarra	12.04	135	Pn	Pn	02 35 10.8	+1.0
	baz=325,slow=16						
NB2	NORSAR Subarra	12.04	135	Pn	Pn	02 35 10.8	+1.0
	SNR=50						
NB200	NORSAR Array S	12.04	135	*e*Pn	Pn	02 35 09.2	-0.6
NB200	NORSAR Array S	12.04	135	*e*Pn	Pn	02 35 09.2	-0.6
NOA	NORSAR Array B	12.04	135	Pn	Pn	02 35 09.2	-0.6
	comp=Z,1.1nm,0.3s,baz=214,slow=23,SNR=13						
NB201	NORSAR Array S	12.05	135	*e*Pn	Pn	02 35 11.2	+1.3
NB201	NORSAR Array S	12.05	135	*e*Pn	Pn	02 35 11.2	+1.3
SGF	Sodankyl	12.10	90	P	Pn	02 35 10.0	-0.4
SGF				pmax	pmax		
	comp=Z,64nm,0.7s						
SGF	Sodankyl	12.10	90	P	Pn	02 35 10.0	-0.4
	comp=Z,64nm,0.7s						
NC405	NORSAR Array S	12.10	134	*e*Pn	Pn	02 35 10.6	+0.1
NC405	NORSAR Array S	12.10	134	*e*Pn	Pn	02 35 10.6	+0.1
ODD1	Odda	12.12	147	*e*Pn	Pn	02 35 08.2	-2.7
NAO01	NORSAR Array S	12.14	136	*e*Pn	Pn	02 35 09.3	-1.7
NC602	NORSAR Array S	12.39	135	*e*Pn	Pn	02 35 09.6	-4.9
BLS5	Blasjo	12.55	148	*e*Pn	Pn	02 35 15.8	-0.8
BLS5	Blasjo	12.55	148	*e*Pn	Pn	02 35 15.8	-0.8
	SNR=50						
KMY	Karmoy	12.55	152	*e*Pn	Pn	02 35 13.8	-2.8
STAV	Stavanger	12.89	151	*e*Pn	Pn	02 35 22.9	+1.7
STAV	Stavanger	12.89	151	*e*Pn	Pn	02 35 22.9	+1.7
	SNR=50						
KONO	Kongsberg	12.94	141	*e*Pn	Pn	02 35 23.6	+1.7
KONO	Kongsberg	12.94	141	*e*P	Pn	02 35 22.8	+0.9
KONO	Kongsberg	12.94	141	*e*P	Pn	02 35 22.8	+0.9
KONO	Kongsberg	12.94	141	*e*Pn	Pn	02 35 23.6	+1.7
	SNR=50						
KONO	Kongsberg	12.94	141	*e*Pn	Pn	02 35 18.4	-3.6
OUL	Oulu	13.25	99	P	Pn	02 35 24.9	-1.3
OUL				pmax	pmax		
	comp=Z,72nm,1.6s						
OUL	Oulu	13.25	99	P	Pn	02 35 24.9	-1.3
	comp=Z,72nm,1.6s						
HFS	Hagfors	13.43	132	Pn	Pn	02 35 28.5	-0.2
	baz=331,slow=11						
HFS	Hagfors	13.43	132	LR	LR	02 40 19.8	
	comp=Z,5μm,22.0s,baz=328,slow=36						
HFS	Hagfors	13.43	132	Pn	Pn	02 35 28.5	-0.2
	baz=331,slow=11						
HFS	Hagfors	13.43	132	Pn	Pn	02 35 28.5	-0.2
	SNR=50						
VAF	Ylistaro	13.62	110	P	Pn	02 35 33.3	+2.1
VAF				pmax	pmax		
	comp=Z,66nm,1.0s						
VAF	Ylistaro	13.62	110	P	Pn	02 35 33.3	+2.1
	comp=Z,66nm,1.0s						
SNART	Snartemo	13.71	148	*e*Pn	Pn	02 35 31.8	-0.6
SNART	Snartemo	13.71	148	*e*Pn	Pn	02 35 31.8	-0.6
	SNR=50						
MSF	Maaselka	13.78	93	P	Pn	02 35 32.5	-0.9
MSF				pmax	pmax		
	comp=Z,65nm,0.9s						
MSF	Maaselka	13.78	93	P	Pn	02 35 32.5	-0.9
	comp=Z,65nm,0.9s						
APA0	Apatity Array	14.15	84	Pn	Pn	02 35 37.0	-1.5
	baz=304,slow=18						
APA0	Apatity Array	14.15	84	Pn	Pn	02 35 37.0	-1.5
	baz=304,slow=18						
APA0	Apatity Array	14.15	84	Pn	Pn	02 35 37.0	-1.5
	SNR=50						
APA	Apatity	14.31	84	‖ *i*P	Pn	02 35 44.3	+3.7
APA				*i* S	Sn	02 38 22.0	+2.7
APA				pmax	pmax		
	comp=Z,17nm,1.0s						
APA				MLR	MLR		
	comp=Z,1μm,13.0s						
LVZ	Lovozero	14.55	81	*ce*P	Pn	02 35 41.6	-2.3
LVZ				pmax	pmax		
	comp=Z,29nm,1.0s						
LVZ	Lovozero	14.55	81	*e*Pn	Pn	02 35 41.1	-2.9
SUF	Sumiainen	14.96	106	P	P	02 35 53.2	-1.9
SUF				pmax	pmax		
	comp=Z,101nm,0.9s						
SUF	Sumiainen	14.96	106	P	P	02 35 53.2	-1.9
	comp=Z,101nm,0.9s						
EKA	Eskdalemuir Ar	15.54	173	Pn	Pn	02 35 57.5	+0.3
	baz=352,slow=13,SNR=8.2						
EKA				Sn	Sn	02 38 43.9	-5.6
	baz=8.7,slow=22,SNR=7.3						
EKA				LR	LR	02 41 19.3	
	comp=Z,2μm,18.2s,baz=355,slow=35						
FIA0	FINESS Array S	15.88	110	P	Pn	02 36 00.5	-1.1
	baz=329,slow=14						
FIA0	FINESS Array S	15.88	110	P	Pn	02 36 00.5	-1.1
	baz=329,slow=14						
FIA0	FINESS Array S	15.88	110	*e*P	Pn	02 36 00.5	-1.1
FIA0				*e*		02 38 50.6	
FIA0	FINESS Array S	15.88	110	*e*Pn	Pn	02 36 00.4	-1.1
FIA0	FINESS Array S	15.88	110	*e*Pn	Pn	02 36 00.5	-1.1
FIA0				*e*Sn	Sn	02 38 50.6	-7.0
FIA1	FINESS Array S	15.88	110	*e*Pn	Pn	02 36 00.1	-1.5
	comp=Z,121nm,1.1s						
FIA1	FINESS Array S	15.88	110	*e*Pn	Pn	02 36 00.1	-1.5
	comp=Z,121nm,1.1s						
FINES	FINESS Array B	15.88	110	Pn	Pn	02 36 00.5	-1.1
	comp=Z,1.1nm,0.3s,baz=329,slow=11,SNR=29						
FINES				Sn	Sn	02 38 50.6	-7.0
	comp=Z,1.0nm,0.3s,baz=327,slow=22,SNR=3.6						
FINES				LR	LR	02 41 40.4	
	comp=Z,2μm,18.2s,baz=322,slow=35						
SFJD	Kangerlussuaq	16.08	278	LR	LR	02 41 35.1	
	comp=Z,1μm,18.8s,baz=54,slow=35						
SFJD	Kangerlussuaq	16.08	278	*e*P	P	02 36 11.4	+3.9
SFJD				pmax	pmax		
	comp=Z,336nm,1.8s						
SFJD	Kangerlussuaq	16.08	278	*e*P	P	02 36 06.6	-0.9
	SNR=64						
SFJD	Kangerlussuaq	16.08	278	*e*Pn	P	02 36 11.4	+3.9
	comp=Z,336nm,1.8s						
JOF	Joensuu	16.48	100	P	Pn	02 36 09.4	+0.2
JOF				pmax	pmax		
	comp=Z,70nm,1.4s						
COP	Copenhagen	17.19	142	*i* P	Pn	02 36 18.3	+0.1
COP	Copenhagen	17.19	142	*i* P	Pn	02 36 18.3	+0.1
COP	Copenhagen	17.19	142	*i* P	Pn	02 36 18.3	+0.1
	SNR=53						
TMCR	Tamitsa	17.86	89	*e*P	Pn	02 36 24.8	-1.6
TMCR				*e*		02 39 40.9	
TMCR				pmax	pmax		
	comp=Z,37nm,0.9s						
SLIT	Slitere, Latvi	17.86	123	*e*P	Pn	02 36 25.7	-0.8
	SNR=40						
NRS	Narsarsuaq	18.20	258	*e*P	P	02 36 38.9	+8.0
NRS	Narsarsuaq	18.20	258	*e*P	P	02 36 38.9	+8.0
BSD	Bornholm Skovb	18.25	138	*i* P	Pn	02 36 30.7	-0.6
	comp=Z,2μm,14.0s						
BSD	Bornholm Skovb	18.25	138	*i* P	Pn	02 36 30.7	-0.6
BSD				MLR	MLR		
	comp=Z,2μm,14.0s						
BSD	Bornholm Skovb	18.25	138	*e*P	P	02 36 31.8	+0.3
	SNR=39						
VSU	Vasula	18.45	115	*ce*P	P	02 36 33.8	+0.1
VSU				pmax	pmax		
	comp=Z,329nm,2.5s						
VSU	Vasula	18.45	115	*e*P	Pn	02 36 34.8	+1.0
	SNR=39						
PUL	Pulkovo	18.51	108	*e*P	Pn	02 36 35.7	+1.2
	SNR=39						
BUG	Bochum--Univer	20.37	155	P	Pn	02 36 58.3	+1.6
BUG				pmax	pmax		
	comp=Z,33nm,1.2s						
GKP	Gorka Klasztor	20.48	137	*e*P	P	02 36 54.9	-1.0
GKP	Gorka Klasztor	20.48	137	*e*P	P	02 36 54.9	-1.0
GKP	Gorka Klasztor	20.48	137	*e*P	P	02 36 54.9	-1.0
KLMR	Klimovskoe	20.67	95	*e*P	P	02 36 55.5	-2.4
KLMR				*e*S	S	02 40 42.0	-6.8
KLMR				pmax	pmax		
	comp=Z,204nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,222nm,11.0s						
MEM	Membach	21.01	158	P	P	02 37 03.1	+1.4
	comp=Z,32nm,1.1s						
MEM	Membach	21.01	158	P	P	02 37 03.8	+2.1
MEM				pmax	pmax		
	comp=Z,68nm,0.9s						
MEM	Membach	21.01	158	P	P	02 37 03.8	+2.1
	comp=Z,68nm,0.9s						
BCLA	Clavier	21.11	159	P	P	02 37 07.1	+4.3
	comp=Z,64nm,3.0s						
SUW	Suwalki	21.28	127	*e*P	P	02 37 04.0	-0.4
SUW	Suwalki	21.28	127	*e*P	P	02 37 04.1	-0.4
SUW	Suwalki	21.28	127	*e*P	P	02 37 04.1	-0.4
BAIF	Baives	21.34	161	*e*P	P	02 37 10.6	+5.3
BAIF				pmax	pmax		
	comp=Z,166nm,1.8s						
DOU	Dourbes	21.35	160	P	P	02 37 09.4	+4.0
	comp=Z,43nm,3.2s						
GIVF	Givet	21.37	160	*e*P	P	02 37 08.8	+3.2
GIVF				pmax	pmax		
	comp=Z,46nm,1.2s						
CLL	Collm	21.45	145	*e*P	P	02 37 07.2	+0.8
CLL				pmax	pmax		
	comp=Z,82nm,1.6s						
CLL	Collm	21.45	145	*e*P	P	02 37 07.2	+0.8
	comp=Z,82nm,1.6s						
CLL	Collm	21.45	145	*e*P	P	02 37 07.0	+0.7
	comp=Z,24nm,1.5s						
CLL				*i* sP	sP	02 37 10.7	+1.9
	comp=Z,61nm,1.6s						
CLL				*i*		02 37 17.3	
CLL				*e*S	S	02 41 04.0	-0.2
CLL				*e*SS	SnSn	02 41 29.0	+2.3
CLL	Collm	21.45	145	*e*P	P	02 37 07.2	+0.8
	comp=Z,82nm,1.6s						
NACGM	Naroch	21.49	120	*e*P	P	02 37 06.0	-0.8
NACGM				*e*S	S	02 41 01.0	-4.0
NACGM				*e*LR	LR	02 43 15.0	
ABH	Alteburg	21.93	155	*e*P	P	02 37 13.7	+2.1
BRG	Berggiesshubel	22.04	144	*i* P	P	02 37 14.3	+1.6
	comp=Z,24nm,1.5s						
BRG				S	S	02 41 08.0	-7.8
	comp=N,1μm,14.5s						
	comp=E,611nm,19.3s						
	comp=Z,1μm,15.0s						
BRG	Berggiesshubel	22.04	144	*i* P	P	02 37 14.4	+1.6
BRG				S	S	02 41 08.0	-7.8
BRG				pmax	pmax		
	comp=Z,25nm,1.5s						
BRG				MLR	MLR		
	comp=N,1μm,14.5s						
BRG				MLR	MLR		
	comp=E,611nm,19.3s						
BRG				MLR	MLR		
	comp=Z,1μm,15.0s						
BRG	Berggiesshubel	22.04	144	*i* P	P	02 37 14.4	+1.6
	comp=Z,25nm,1.5s						
RUP	Ruppelstein	22.04	156	*e*P	P	02 37 14.8	+2.0
MICGM	Minsk	22.15	119	*e*P	P	02 37 14.0	+0.1
MICGM				*e*S	S	02 41 16.0	-1.9
MICGM				*e*LR	LR	02 42 44.0	
MICGM				LRM	MLR	02 45 12.0	
	comp=E,3.7nm,12.0s						
MICGM				LRM	MLR	02 45 20.0	
	comp=Z,3.3nm,18.0s						
MNK	Minsk	22.15	119	*e*P	P	02 37 14.0	+0.1
MNK				*e*S	S	02 41 16.0	-1.9
MNK				MLR	MLR		
	comp=E,4μm,12.0s						
MNK				MLR	MLR		
	comp=Z,3μm,18.0s						
NKC	Novy Kostel	22.37	147	*e*P	P	02 37 17.5	+1.2
NKC				*e*pP	sP	02 37 23.6	+4.8
NKC				AMS	AMS	02 48 20.0	
	comp=Z,2μm,14.0s						
NKC	Novy Kostel	22.37	147	*e*P	P	02 37 17.5	+1.2
NKC				*e*		02 37 23.6	
NKC				MLR	MLR		
	comp=Z,2μm,14.0s						
NKC	Novy Kostel	22.37	147	*e*P	P	02 37 17.5	+1.2
	comp=Z,2μm,14.0s						
TOD	Tromm	22.38	153	*e*P	P	02 37 18.4	+2.0
LDF	La Druitiere	22.43	169	*e*P	P	02 37 18.7	+1.8
LDF				pmax	pmax		
	comp=Z,72nm,1.4s						
LDF	La Druitiere	22.43	169	*e*P	P	02 37 18.7	+1.8
	comp=Z,72nm,1.4s						
PVCC	Panska Ves	22.49	143	*e*P	P	02 37 18.7	+1.1
PVCC				*e*pP	sP	02 37 26.4	+6.3
PVCC				AMS	AMS	02 47 50.0	
	comp=Z,1μm,13.6s						
PVCC	Panska Ves	22.49	143	*e*P	P	02 37 18.7	+1.1
PVCC				*e*		02 37 26.4	
PVCC				MLR	MLR		
	comp=Z,1μm,13.6s						
PVCC	Panska Ves	22.49	143	*e*P	P	02 37 18.7	+1.1
	comp=Z,1μm,13.6s						
KSP	Ksiaz	22.55	140	*e*P	P	02 37 19.0	+0.8
KSP	Ksiaz	22.55	140	*e*P	P	02 37 19.0	+0.8
KSP	Ksiaz	22.55	140	*e*P	P	02 37 19.0	+0.8
KTD	Kalmit	22.55	155	*e*P	P	02 37 20.2	+1.9
GRR	Gorron	22.59	170	*e*P	P	02 37 19.0	+0.4
GRR				pmax	pmax		
	comp=Z,96nm,1.8s						
GRR	Gorron	22.59	170	*e*P	P	02 37 19.0	+0.4
	comp=Z,96nm,1.8s						
SGMF	Saint Gilles	22.64	173	*e*P	P	02 37 22.5	+3.3
SGMF				pmax	pmax		
	comp=Z,139nm,1.8s						
BEL	Belsk	22.65	133	*e*P	P	02 37 19.5	+0.3
BEL	Belsk	22.65	133	*e*P	P	02 37 19.5	+0.3
BEL	Belsk	22.65	133	*e*P	P	02 37 19.5	+0.3
GRFO	Grafenberg	22.68	149	*e*P	P	02 37 21.8	+2.2
GRFO				pmax	pmax		
	comp=Z,255nm,1.9s						
GRFO	Grafenberg	22.68	149	*e*P	P	02 37 21.8	+2.2
	comp=Z,255nm,1.9s						
GRFO	Grafenberg	22.68	149	*e*P	P	02 37 21.8	+2.2
	comp=Z,255nm,1.9s						
UPC	Upice	22.80	141	*e*P	P	02 37 22.4	+1.5
UPC				*e*S	S	02 41 33.7	+3.6
UPC				AMS	AMS	02 48 10.0	
	comp=Z,1μm,12.8s						
UPC	Upice	22.80	141	*e*P	P	02 37 22.4	+1.5
UPC				*e*S	S	02 41 33.7	+3.6
UPC				MLR	MLR		
	comp=Z,1μm,12.8s						
UPC	Upice	22.80	141	*e*P	P	02 37 22.4	+1.5
	comp=Z,1μm,12.8s						
UPC				S	S	02 41 33.7	+3.6
LANF	Langenberg	22.85	155	*e*P	P	02 37 23.0	+1.6
LANF	Langenberg	22.85	155	*e*P	P	02 37 23.0	+1.6
PRA	Prague	22.90	144	*e*P	P	02 37 24.3	+2.4
PRA				*ex*	x	02 37 31.0	
PRA				*e*S	S	02 41 35.1	+3.3
PRA				AMS	AMS	02 48 10.0	
	comp=Z,1μm,12.4s						
PRA	Prague	22.90	144	*e*P	P	02 37 24.3	+2.4
PRA				*e*		02 37 31.0	
PRA				*e*S	S	02 41 35.1	+3.3
PRA				MLR	MLR		
	comp=Z,1μm,12.4s						
PRA	Prague	22.90	144	P	P	02 37 24.3	+2.4
PRA				S	S	02 41 35.1	+3.3
PRU	Pruhonice	23.00	144	*e*P	P	02 37 24.9	+2.0
PRU				*e*S	S	02 41 40.5	+7.0
PRU				AMS	AMS	02 48 10.0	
	comp=Z,1μm,13.6s						
PRU	Pruhonice	23.00	144	*e*P	P	02 37 24.9	+2.0
PRU				MLR	MLR		
	comp=Z,1μm,13.6s						
PRU	Pruhonice	23.00	144	P	P	02 37 24.9	+2.0
DPC	Dobruska-Polom	23.02	141	*e*P	P	02 37 23.8	+0.6
DPC				AMS	AMS	02 48 40.0	
	comp=Z,900nm,12.9s						
DPC	Dobruska-Polom	23.02	141	*e*P	P	02 37 23.8	+0.6
DPC				MLR	MLR		
	comp=Z,900nm,12.9s						
DPC	Dobruska-Polom	23.02	141	P	P	02 37 23.8	+0.6
GOPC	GO Pecny, Ondr	23.12	144	*e*P	P	02 37 25.8	+1.6
GOPC				*e*S	S	02 41 42.4	+6.8
GOPC				AMS	AMS	02 47 40.0	
	comp=Z,1μm,12.9s						
GOPC	GO Pecny, Ondr	23.12	144	*e*P	P	02 37 25.8	+1.6
GOPC				MLR	MLR		
	comp=Z,1μm,12.9s						
GOPC	GO Pecny, Ondr	23.12	144	P	P	02 37 25.8	+1.6
CDF	Champ du Feu	23.33	157	*e*P	P	02 37 26.6	+0.1
CDF				pmax	pmax		
	comp=Z,50nm,1.5s						
THEF	They Montfort	23.35	159	*e*P	P	02 37 28.3	+1.7
THEF	They Montfort	23.35	159	*e*P	P	02 37 28.3	+1.7
KRLC	Kraliky	23.38	140	*e*P	P	02 37 27.9	+1.1
KRLC	Kraliky	23.38	140	*e*P	P	02 37 27.9	+1.1
KRLC	Kraliky	23.38	140	P	P	02 37 27.9	+1.1
ECH	Echery	23.51	157	*e*P	P	02 37 29.9	+1.7
ECH	Echery	23.51	157	*e*P	P	02 37 29.0	+0.8
ECH				pmax	pmax		
	comp=Z,70nm,1.5s						
ECH	Echery	23.51	157	*e*P	P	02 37 29.9	+1.7
ECH	Echery	23.51	157	*e*P	P	02 37 29.0	+0.8
	comp=Z,70nm,1.5s						
BFO	Black Forest	23.56	155	*ce*P	P	02 37 30.5	+1.9
BFO	Black Forest	23.56	155	*e*P	P	02 37 30.5	+1.9
	comp=Z,51nm,1.3s						
BFO	Black Forest	23.56	155	*e*P	P	02 37 30.5	+1.9
	comp=Z,51nm,1.3s						
HAU	Haudompre	23.61	158	*e*P	P	02 37 30.0	+0.8
HAU				pmax	pmax		
	comp=Z,77nm,1.7s						
KHC	Kasperske Hory	23.64	146	*e*P	P	02 37 31.4	+2.0
KHC				*ex*	x	02 37 38.9	
KHC				*e*S	S	02 41 50.7	+6.6
KHC				AMS	AMS	02 49 30.0	
	comp=Z,1μm,13.4s						
KHC	Kasperske Hory	23.64	146	*e*P	P	02 37 31.4	+2.0
KHC				*e*		02 37 38.9	
KHC				MLR	MLR		
	comp=Z,1μm,13.4s						
KHC	Kasperske Hory	23.64	146	*e*P	P	02 37 31.5	+2.0
	comp=Z,11nm,1.2s						
KHC	Kasperske Hory	23.64	146	*e*P	P	02 37 31.4	+2.0
	comp=Z,11nm,1.2s						
RAC	Raciborz	23.67	138	*e*P	P	02 37 31.6	+1.9
RAC				MLR	MLR		
	comp=Z,3μm,13.6s						
MORC	Moravsky Berou	23.82	139	*e*P	P	02 37 31.8	+0.6
MORC				pmax	pmax		
	comp=Z,67nm,1.1s						
MORC	Moravsky Berou	23.82	139	*e*P	P	02 37 31.8	+0.6
	comp=Z,67nm,1.1s						
MORC	Moravsky Berou	23.82	139	*e*P	P	02 37 31.8	+0.6
	comp=Z,67nm,1.1s						
SPAK	Spaichingen-Ko	23.84	154	*e*P	P	02 37 33.2	+1.7
TREC	Trest	23.85	143	AMS	AMS	02 48 30.0	
	comp=Z,1μm,14.4s						
HINF	Hinteralfeld	23.86	158	*e*P	P	02 37 32.1	+0.5
HINF				pmax	pmax		
	comp=Z,223nm,2.6s						
OKC	Ostrava-Krasne	23.89	138	*e*P	P	02 37 33.4	+1.6
OKC				*ex*	x	02 37 40.5	
OKC				*e*S	S	02 41 55.1	+7.0
OKC				AMS	AMS	02 49 00.0	
	comp=Z,2μm,12.6s						
OKC	Ostrava-Krasne	23.89	138	*e*P	P	02 37 33.4	+1.6
OKC				*e*		02 37 40.5	
OKC				MLR	MLR		
	comp=Z,2μm,12.6s						
OKC	Ostrava-Krasne	23.89	138	P	P	02 37 33.4	+1.6
OJC	Ojcow	23.91	136	*e*P	P	02 37 33.1	+1.1
OJC	Ojcow	23.91	136	*e*P	P	02 37 31.3	-0.7
OJC				pmax	pmax		
	comp=Z,29nm,1.0s						
OJC	Ojcow	23.91	136	*e*P	P	02 37 31.3	-0.7
	comp=Z,29nm,1.0s						
OJC	Ojcow	23.91	136	*e*P	P	02 37 31.3	-0.7
	comp=Z,29nm,1.0s						
GEC2	GERESS Array S	23.93	146	*e*P	P	02 37 34.2

OBN 02 38 06.0
OBN *e*PPP PPP 02 38 11.8
OBN *e* 02 41 24.9
OBN *e*SSS SSS 02 42 45.4
OBN pmax pmax
comp=Z,116nm,1.7s
OBN MLR MLR
comp=Z,505nm,14.0s
MFF Saint Martin d 24.41 170 *e*P **P 02 37 36.8 +0.1**
MFF pmax pmax
comp=Z,121nm,1.6s
AVF Avril sur Loir 24.49 164 *e*P **P 02 37 37.3 -0.1**
AVF pmax pmax
comp=Z,108nm,2.0s
BGF Bois d'Agland 24.68 165 *e*P **P 02 37 38.9 -0.2**
BGF pmax pmax
comp=Z,22nm,1.0s
SMF Signal de Mont 24.68 163 *e*P **P 02 37 40.2 +1.1**
SMF pmax pmax
comp=Z,14nm,0.9s
RETA Reutte 24.74 151 *e*P **P 02 37 41.9 +2.1**
comp=Z,13nm,1.3s
RETA Reutte 24.74 151 P **P 02 37 41.9 +2.1**
comp=Z,13nm,1.3s
NIE Niedzica 24.77 136 *e*P **P 02 37 39.8 -0.2**
NIE Niedzica 24.77 136 *e*P **P 02 37 39.8 -0.2**
NIE Niedzica 24.77 136 *e*P **P 02 37 39.8 -0.2**
DAVA Damuels 24.80 153 *e*P **P 02 37 42.4 +2.0**
comp=Z,40nm,1.2s
DAVA Damuels 24.80 153 P **P 02 37 42.4 +2.0**
comp=Z,40nm,1.2s
LANS Liptovska Anna 24.84 137 *e*P **P 02 37 41.8 +1.3**
LANS Liptovska Anna 24.84 137 *e*P **P 02 37 41.8 +1.3**
TCF Toulx Ste Croi 24.89 166 *e*P **P 02 37 42.0 +1.0**
TCF pmax pmax
comp=Z,40nm,1.2s
MOTA Moosalm 24.94 151 *e*P **P 02 37 43.2 +1.6**
comp=Z,40nm,1.4s
MOTA Moosalm 24.94 151 P **P 02 37 43.2 +1.6**
comp=Z,40nm,1.4s
CABF La Chapelle 24.96 159 *e*P **P 02 37 42.1 +0.4**
CABF pmax pmax
comp=Z,151nm,1.7s
MOA Molln 25.00 146 *e*P **P 02 37 42.5 +0.5**
comp=Z,12nm,1.3s
MOA Molln 25.00 146 P **P 02 37 42.5 +0.5**
comp=Z,12nm,1.3s
STHS Stebnicka Huta 25.00 134 *e*P **P 02 37 43.4 +1.4**
STHS pmax pmax
comp=Z,14nm,0.9s
STHS Stebnicka Huta 25.00 134 *e*P **P 02 37 43.3 +1.3**
STHS *e* 02 38 01.7
WATA Walderalm 25.02 150 *e*P **P 02 37 44.6 +2.3**
comp=Z,57nm,1.3s
WATA Walderalm 25.02 150 P **P 02 37 44.6 +2.3**
comp=Z,57nm,1.3s
WTTA Wattenberg 25.10 150 *e*P **P 02 37 45.3 +2.2**
comp=Z,35nm,1.2s
WTTA Wattenberg 25.10 150 P **P 02 37 45.3 +2.2**
comp=Z,35nm,1.2s
KWP Kalwaria Pacla 25.15 132 *e*P **P 02 37 44.0 +0.7**
KWP Kalwaria Pacla 25.15 132 *e*P **P 02 37 44.0 +0.7**
KWP Kalwaria Pacla 25.15 132 *e*P **P 02 37 44.0 +0.7**
FETA Feichten 25.19 152 *e*P **P 02 37 46.1 +2.2**
comp=Z,13nm,1.2s
FETA Feichten 25.19 152 P **P 02 37 46.1 +2.2**
comp=Z,13nm,1.2s
AGO Saint Agoulin 25.20 164 *e*P **P 02 37 45.7 +1.9**
AGO Saint Agoulin 25.20 164 *e*P **P 02 37 45.7 +1.9**
CONA Conrad Observa 25.23 143 *e*P **P 02 37 45.3 +1.2**
comp=Z,14nm,1.3s
CONA Conrad Observa 25.23 143 P **P 02 37 45.3 +1.2**
comp=Z,14nm,1.3s
DAVOX Davos/Dischmat 25.30 153 P **P 02 37 44.8 0.0**
comp=Z,6.6nm,0.9s,baz=274,slow=3.4,SNR=4.0
DAVOX LR LR 02 48 19.0
comp=Z,811nm,19.5s,baz=304,slow=38
LVV L'vov 25.31 130 *e*P **P 02 37 47.7 +3.0**
LVV *e*S **S 02 42 11.7 +0.9**
VYHS Vyhne 25.31 138 *e*P **P 02 37 45.8 +1.0**
VYHS pmax pmax
comp=Z,88nm,3.0s
VYHS Vyhne 25.31 138 *e*P **P 02 37 45.8 +1.0**
VYHS *e*S **S 02 42 19.0 +8.1**
VYHS *e*L L 02 45 01.8
PLDF La Plantade 25.33 164 *e*P **P 02 37 47.5 +2.4**
PLDF La Plantade 25.33 164 *e*P **P 02 37 47.5 +2.4**
SENIN Lac Senin/Sane 25.35 158 *e*P **P 02 37 48.0 +2.6**
comp=Z,116nm,1.8s
SENIN Lac Senin/Sane 25.35 158 *e*P **P 02 37 48.0 +2.6**
comp=Z,116nm,1.8s
PYM Petit Puy Mans 25.49 165 *e*P **P 02 37 48.6 +2.1**
PYM Petit Puy Mans 25.49 165 *e*P **P 02 37 48.6 +2.1**
TUE Stuetta 25.52 154 *e*P **P 02 37 49.1 +2.2**
comp=Z,94nm,1.8s
TUE Stuetta 25.52 154 *e*P **P 02 37 49.1 +2.2**
comp=Z,94nm,1.8s
CRVS Cervenica-Dubn 25.53 134 *e*P **P 02 37 47.5 +0.7**
CRVS Cervenica-Dubn 25.53 134 *e*P **P 02 37 47.5 +0.7**
KBA Koelnbreinsper 25.57 148 *e*P **P 02 37 49.6 +2.2**
comp=Z,32nm,1.5s
KBA Koelnbreinsper 25.57 148 P **P 02 37 49.6 +2.2**
comp=Z,32nm,1.5s
SOP Sopron 25.60 142 P **P 02 37 51.6 +4.2**
KECS Kecovo 25.69 136 *e*P **P 02 37 48.9 +0.7**
KECS pmax pmax
comp=Z,11nm,1.1s
KECS Kecovo 25.69 136 *e*P **P 02 37 48.9 +0.7**
ABTA Abfaltersbach 25.75 149 *e*pP pP 02 37 55.7 +5.0
comp=Z,17nm,1.4s
ARSA Arzberg 25.81 144 *e*P **P 02 37 51.4 +2.0**
comp=Z,9.9nm,1.5s
ARSA Arzberg 25.81 144 P **P 02 37 51.4 +2.0**
comp=Z,9.9nm,1.5s
RJF Les Rejaudoux 25.82 167 *e*P **P 02 37 49.4 0.0**
RJF pmax pmax
comp=Z,53nm,1.1s
AKASG Malin Array Be 25.90 122 P **P 02 37 49.5 -0.6**
comp=Z,18nm,0.9s,baz=333,slow=9.4,SNR=6.9
AKASG LR LR 02 47 36.2
comp=Z,1μm,19.2s,baz=330,slow=35
AKBB Malin Array Si 25.90 122 *e*P **P 02 37 49.5 -0.6**
AKBB pmax pmax
comp=Z,30nm,1.0s
AKBB Malin Array Si 25.90 122 *e*P **P 02 37 49.5 -0.6**
comp=Z,30nm,1.0s
AKBB Malin Array Si 25.90 122 *e*P **P 02 37 49.5 -0.6**
comp=Z,30nm,1.0s
KIEV Kiev 25.90 122 *i*P **P 02 37 48.2 -1.9**
KIEV pmax pmax
comp=Z,28nm,1.1s
UZH Uzhgorod 25.98 133⇑ *e*P **P 02 37 48.9 -1.9**
UZH *e* 02 37 53.9
UZH *e* 02 38 29.3
UZH *e*S **S 02 42 12.3 -9.1**
UZH *e* 02 43 20.9
UZH MLR MLR
comp=N,1μm,14.0s
UZH MLR MLR
comp=E,2μm,14.0s
UZH MLR MLR
comp=Z,60nm,14.0s
LBL Lubilhac 26.03 164 *e*P **P 02 37 53.5 +2.1**
LBL Lubilhac 26.03 164 *e*P **P 02 37 53.5 +2.1**
MYKA Terra Mystica 26.06 148 *e*P **P 02 37 53.2 +1.5**
comp=Z,14nm,1.1s
MYKA Terra Mystica 26.06 148 P **P 02 37 53.2 +1.5**
comp=Z,14nm,1.1s
PSZ Piszkesteto 26.09 137⇓ *i*P **P 02 37 53.3 +1.4**
PSZ Piszkesteto 26.09 137 *e*P **P 02 37 53.4 +1.5**
PSZ pmax pmax
comp=Z,63nm,1.7s
PSZ Piszkesteto 26.09 137 *e*P **P 02 37 53.4 +1.5**
comp=Z,63nm,1.7s
PSZ Piszkesteto 26.09 137 *e*P **P 02 37 53.4 +1.5**
comp=Z,63nm,1.7s
SSB Saint Sauveur 26.11 162 *e*P **P 02 37 53.0 +0.9**
SSB pmax pmax
comp=Z,60nm,1.5s
SSB Saint Sauveur 26.11 162 *e*P **P 02 37 53.0 +0.9**
comp=Z,60nm,1.5s
SSB Saint Sauveur 26.11 162 *e*P **P 02 37 53.0 +0.9**
comp=Z,60nm,1.5s
LPL La Plagne 26.11 159 *e*P **P 02 37 53.3 +1.0**
LPL pmax pmax
comp=Z,32nm,1.0s
CAF Calviac 26.23 166 *e*P **P 02 37 53.2 0.0**
CAF pmax pmax
comp=Z,29nm,1.1s
SOKA Soboth 26.27 145 *e*P **P 02 37 54.9 +1.3**
comp=Z,16nm,1.2s
SOKA Soboth 26.27 145 P **P 02 37 54.9 +1.3**
comp=Z,16nm,1.2s
OBKA Obir 26.34 146 *e*pP **P 02 37 57.6 +3.4**
comp=Z,20nm,1.2s
VIVF Saint-Julien-l 26.54 162 *e*P **P 02 37 56.6 +0.7**
VIVF pmax pmax
comp=Z,40nm,1.1s
BNI Bardonecchia 26.56 159 *e*P **P 02 37 57.0 +0.7**
BNI pmax pmax
comp=Z,158nm,1.9s
BNI Bardonecchia 26.56 159 *e*P **P 02 37 57.0 +0.7**
comp=Z,158nm,1.9s
BNI Bardonecchia 26.56 159 *e*P **P 02 37 57.0 +0.7**
comp=Z,158nm,1.9s
ORIF Oris-en-Rattie 26.60 160 *e*P **P 02 37 58.4 +1.8**
ORIF pmax pmax
comp=Z,62nm,1.6s
MBDF Montbardon 26.89 159 *e*P **P 02 38 00.6 +1.3**
MBDF pmax pmax
comp=Z,42nm,1.2s
LPSR Galich'ya Gora 27.14 108 *e*P **P 02 38 00.6 -0.7**
LPSR pmax pmax
comp=Z,80nm,1.4s
SOKR Solikamsk 27.33 81*d i*P **P 02 38 01.0 -1.8**
SOKR S **S 02 42 44.3 +1.9**
SOKR pmax pmax
comp=Z,70nm,1.1s
SOKR MLR MLR
comp=Z,835nm,14.0s
BLY Banja Luka 28.54 143 *e*P **P 02 38 15.3 +1.5**
comp=Z,22nm,1.2s
BLY Banja Luka 28.54 143 *e*P **P 02 38 15.3 +1.5**
comp=Z,22nm,1.2s
BZS Buzias 28.66 137⇑ *i*P **P 02 38 15.4 +0.6**
BZS Buzias 28.66 137 ⇑ P **P 02 38 15.4 +0.6**
BZS Buzias 28.66 137⇑ *i*P **P 02 38 15.4 +0.6**
TESR Tescani 29.04 129⇑ *i*P **P 02 38 19.2 +0.9**
TESR Tescani 29.04 129⇑ *i*P **P 02 38 19.2 +0.9**
NRIK Noril'sk 29.08 47 P **P 02 38 18.5 +0.1**
comp=Z,8.6nm,0.9s,baz=300,slow=8.6,SNR=6.0
GZR Gura Zlata 29.13 135⇑ *i*P **P 02 38 20.3 +1.1**
GZR Gura Zlata 29.13 135 ⇑ P **P 02 38 20.3 +1.1**
GZR Gura Zlata 29.13 135⇑ *i*P **P 02 38 20.3 +1.1**
ARR Arges 29.60 133⇓ *i*P **P 02 38 25.5 +2.2**
ARR Arges 29.60 133⇓ *i*P **P 02 38 25.5 +2.2**
PLOR Plostina 29.65 130⇓ *i*P **P 02 38 25.5 +1.7**
PLOR Plostina 29.65 130 ⇓ P **P 02 38 25.5 +1.7**
PLOR Plostina 29.65 130⇓ *i*P **P 02 38 25.5 +1.7**
VRI Vrincioaia 29.66 130⇑ *i*P **P 02 38 25.4 +1.6**
VRI Vrincioaia 29.66 130 ⇑ P **P 02 38 25.4 +1.6**
VRI Vrincioaia 29.66 130⇑ *i*P **P 02 38 25.4 +1.6**
AQU L'Aquila 30.17 150 *e*P **P 02 38 29.9 +1.5**
AQU pmax pmax
comp=Z,21nm,0.9s
AQU L'Aquila 30.17 150 *e*P **P 02 38 29.9 +1.5**
comp=Z,21nm,0.9s
AQU L'Aquila 30.17 150 *e*P **P 02 38 29.9 +1.5**
comp=Z,21nm,0.9s
SCHQ Schefferville 30.22 270 P **P 02 38 27.0 -1.7**
comp=Z,3.8nm,0.9s,baz=73,slow=19,SNR=2.2
SCHQ LR LR 02 49 22.2
comp=Z,909nm,18.7s,baz=41,slow=34
SCHQ Schefferville 30.22 270 *e*P **P 02 38 27.0 -1.7**
comp=Z,18nm,1.0s
SCHQ Schefferville 30.22 270 *e*P **P 02 38 27.0 -1.7**
comp=Z,18nm,1.0s
ARU Arti 30.40 84 P **P 02 38 30.2 0.0**
comp=Z,6.1nm,0.2s,baz=313,slow=4.6,SNR=23
ARU Arti 30.40 84*d i*P **P 02 38 30.1 -0.1**
ARU 02 39 25.4
ARU S **S 02 43 30.4 -0.5**
ARU SS **SnSn 02 45 04.0 -1.3**
ARU pmax pmax
comp=Z,40nm,1.2s
ARU MLR MLR
comp=Z,794nm,16.0s
ARU Arti 30.40 84 *e*P **P 02 38 30.3 0.0**
comp=Z,29nm,1.0s
ARU Arti 30.40 84 *e*P **P 02 38 30.3 0.0**
comp=Z,29nm,1.0s
CFR Carcaliu 30.66 128⇑ *i*P **P 02 38 33.2 +0.6**
CFR Carcaliu 30.66 128 ⇑ P **P 02 38 33.2 +0.6**
CFR Carcaliu 30.66 128⇑ *i*P **P 02 38 33.2 +0.6**
SVE Sverdlovsk 30.77 82 *e*P **P 02 38 33.4 0.0**
SVE pmax pmax
comp=Z,60nm,1.4s
ESDC Sonseca Array 31.17 176 P **P 02 38 36.7 -0.6**
comp=Z,2.9nm,0.9s,baz=356,slow=8.2,SNR=7.7
ESDC LR LR 02 50 05.0
comp=Z,392nm,21.9s,baz=325,slow=34
SIM Simferopol' 32.51 121 P P 02 38 57.7 +8.9
SIM pmax pmax
comp=Z,12nm,1.1s
SIM MLR MLR
comp=Z,2μm,14.6s
TIXI Tiksi 34.89 23 P **P 02 39 08.9 -0.4**
comp=Z,12nm,1.0s,baz=334,slow=7.6,SNR=14
TIXI Tiksi 34.89 23*ce*P **P 02 39 09.3 0.0**
TIXI pmax pmax
comp=Z,38nm,2.5s
TIXI Tiksi 34.89 23 *e*P **P 02 39 09.1 -0.2**
comp=Z,29nm,1.2s
TIXI Tiksi 34.89 23 *e*P **P 02 39 09.1 -0.2**
comp=Z,29nm,1.2s
AKTO Aktyubinsk 35.22 91 P **P 02 39 12.2 -0.2**
comp=Z,14nm,1.0s,baz=327,slow=9.7,SNR=14
KIV Kislovodsk 35.96 112 *e*P **P 02 39 19.8 +0.9**
KIV *e*S **S 02 44 58.0 +0.6**
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,568nm,16.0s
KIV Kislovodsk 35.96 112 *e*P **P 02 39 20.2 +1.4**
comp=Z,47nm,1.0s
KIV Kislovodsk 35.96 112 *e*P **P 02 39 20.2 +1.4**
comp=Z,47nm,1.0s
ILGA Ilgaz 35.99 124 *e*P **P 02 39 22.4 +3.0**
comp=Z,48nm,1.1s
KEST Kesra 36.08 158 P **P 02 39 20.8 +0.8**
comp=Z,9.5nm,1.0s,baz=314,slow=7.4,SNR=6.3
KEST LR LR 02 53 42.7
comp=Z,935nm,21.9s,baz=327,slow=36
KEST Kesra 36.08 158 *e*P **P 02 39 22.1 +2.1**
comp=Z,16nm,1.0s
KEST Kesra 36.08 158 *e*P **P 02 39 22.1 +2.1**
comp=Z,16nm,1.0s
KBZ Khabaz 36.23 112 P **P 02 39 22.1 +1.0**
comp=Z,21nm,1.0s,baz=328,slow=7.9,SNR=14
KBZ LR LR 02 54 27.8
comp=Z,840nm,18.2s,baz=337,slow=37
NEY Neytrino 36.61 112*d i*P **P 02 39 25.6 +1.1**
NEY pmax pmax
comp=Z,3.0nm,1.1s
NCK Nalchik 36.65 111 *e*P **P 02 39 26.8 +2.1**
NCK pmax pmax
comp=Z,58nm,1.1s
INK Inuvik 36.74 330 P **P 02 39 24.5 -0.7**
comp=Z,4.4nm,0.9s,baz=15,slow=11,SNR=4.3
INK Inuvik 36.74 330 P **P 02 39 24.5 -0.7**
INK pmax pmax
comp=Z,16nm,1.1s
BRVK Borovoye 37.02 77*d i*P **P 02 39 27.4 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 37.02 77 *e*P **P 02 39 28.5 +0.7**
comp=Z,32nm,1.1s
BRVK Borovoye 37.02 77 *e*P **P 02 39 28.5 +0.7**
comp=Z,32nm,1.1s
MANT Manisa 37.05 132 *e*P **P 02 39 30.7 +2.3**
comp=Z,65nm,1.2s
MANT Manisa 37.05 132 *e*P **P 02 39 30.7 +2.3**
comp=Z,65nm,1.2s
BVAR Borovoye Array 37.09 77 P **P 02 39 29.2 +0.8**
comp=Z,7.7nm,0.8s,baz=330,slow=8.6,SNR=17
BVAR Borovoye Array 37.09 77 P **P 02 39 29.2 +0.8**
BR101 Keskin Array S 37.21 125 *e*P **P 02 39 31.5 +1.8**
BR101 Keskin Array S 37.21 125 *e*P **P 02 39 31.5 +1.8**
BR131 Keskin Array S 37.21 125 *e*P **P 02 39 31.6 +1.9**
BR131 Keskin Array S 37.21 125 *e*P **P 02 39 31.6 +1.9**
BRTR Keskin Array B 37.21 125 P **P 02 39 31.5 +1.9**
comp=Z,4.3nm,0.8s,baz=330,slow=6.5,SNR=11
BRTR LR LR 02 55 24.5
comp=Z,684nm,21.4s,baz=314,slow=37
LMN Caledonia Moun 37.24 260 *e*P P 02 39 35.9 +6.2
comp=Z,60nm,1.9s
ZEI Tsey 37.39 111 *e*P **P 02 39 31.3 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
GROC Groznyy 37.60 109 *e*P **P 02 39 34.0 +1.2**
GROC pmax pmax
comp=Z,19nm,1.9s
YKA Yellowknife Ar 38.06 314 P **P 02 39 35.5 -0.9**
comp=Z,3.9nm,1.0s,baz=29,slow=8.4,SNR=3.6
YKA LR LR 02 54 42.8
comp=Z,179nm,18.4s,baz=0.0,slow=36
YKA Yellowknife Ar 38.06 314 P **P 02 39 35.5 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA MLR MLR
comp=Z,179nm,18.4s
YKB5 Yellowknife Ar 38.06 314 *e*P **P 02 39 35.5 -0.9**
YKB5 Yellowknife Ar 38.06 314 *e*P **P 02 39 35.5 -0.9**
ARTV Artvin 38.25 114 *e*P **P 02 39 40.7 +2.2**
comp=Z,19nm,1.0s
ARTV Artvin 38.25 114 *e*P **P 02 39 40.7 +2.2**
comp=Z,19nm,1.0s
MAK Makhachkala 38.36 107 *e*P **P 02 39 36.8 -2.3**
MAK *e*S **S 02 45 25.3 -8.4**
MAK pmax pmax
comp=Z,107nm,1.3s
MAK MLR MLR
comp=Z,681nm,16.0s
TOLK Toolik Lake Re 38.69 339 P **P 02 39 45.9 +4.2**
baz=19
KOPT Kop Dagi 38.89 117 *e*P **P 02 39 47.8 +3.8**
comp=Z,55nm,0.8s
PKME Peaks-Kenny Pk 39.23 264 *e*P P 02 39 54.0 +7.5
comp=Z,51nm,1.5s
VLDQ Val d'Or 39.44 274 *e*P P 02 39 55.0 +6.9
comp=Z,36nm,1.4s
NVS Novosibirsk 39.57 65 *e*P **P 02 39 50.1 +1.0**
NVS *e* 02 41 19.9
NVS pmax pmax
comp=Z,27nm,1.4s
GNI Garni 40.05 112 P **P 02 39 54.0 +0.5**
comp=Z,15nm,1.1s,baz=169,slow=14,SNR=6.8
GNI Garni 40.05 112 *e*P **P 02 39 54.8 +1.3**
GNI pmax pmax
comp=Z,145nm,0.9s
GNI Garni 40.05 112 *e*P **P 02 39 54.8 +1.3**
comp=Z,145nm,0.9s
GNI Garni 40.05 112 *e*P **P 02 39 54.8 +1.3**
comp=Z,145nm,0.9s
FYU Fort Yukon 40.11 336 *e*P **P 02 39 56.7 +3.2**
comp=Z,165nm,1.6s
COLD Coldfoot 40.11 339 P **P 02 39 51.6 -1.9**
comp=Z,36nm,2.0s
COLD Coldfoot 40.11 339 P **P 02 39 51.6 -1.9**
comp=Z,36nm,2.0s
COLD *e* 02 39 58.6
TRQ Mont Tremblant 40.13 270 *e*P P 02 40 00.2 +6.2
ZAA1 Zalesovo Array 40.81 65 *e*P **P 02 39 59.4 0.0**
ZAA1 Zalesovo Array 40.81 65 *e*P **P 02 39 59.4 0.0**
ZAA1 *e*PP **PnPn 02 41 36.9 -0.3**
ZAA0 Zalesovo Array 40.81 65 *e*P **P 02 39 59.3 -0.2**
ZAA0 Zalesovo Array 40.81 65 *e*P **P 02 39 59.3 -0.2**
ZALV Zalesovo Beam 40.81 65 P **P 02 39 59.4 0.0**
comp=Z,0.9nm,0.4s,baz=325,slow=9.4,SNR=8.0
ZALV PP **PnPn 02 41 36.9 -0.4**
comp=Z,1.3nm,0.6s,baz=327,slow=11,SNR=4.4
ZALV LR LR 02 59 39.4
comp=Z,309nm,21.2s,baz=256,slow=40
LBNH Lisbon 41.01 266 *e*P P 02 40 08.9 +7.7
LBNH pmax pmax
comp=Z,39nm,1.4s
LBNH Lisbon 41.01 266 *e*P P 02 40 08.9 +7.7
comp=Z,39nm,1.4s
FRNY Flat Rock 41.03 268 *e*P **P 02 40 05.5 +4.1**
comp=Z,34nm,1.4s
EGAK Eagle 41.21 333 *e*P **P 02 39 59.8 -2.8**
comp=Z,35nm,1.3s
EGAK Eagle 41.21 333 *e*P **P 02 39 59.8 -2.8**
comp=Z,35nm,1.3s
EGAK *e* 02 40 06.9
BILL Bilibino 41.37 4*ce*P **P 02 40 04.4 +0.5**
BILL *e**PP **sP 02 40 07.7 +1.2**
BILL *i **SP **pP 02 40 09.4 +3.6**
BILL *e* 02 42 01.0
BILL *e*SS SS 02 49 21.1 -0.2
BILL pmax pmax
comp=Z,20nm,1.4s
BILL MLR MLR
comp=Z,314nm,17.0s
FFC Flin Flon 41.44 299 *e*P **P 02 40 01.9 -2.7**
FFC *e* 02 40 10.2
FFC pmax pmax
comp=Z,41nm,1.4s
FFC Flin Flon 41.44 299 *e*P **P 02 40 01.9 -2.7**
comp=Z,41nm,1.4s
FFC Flin Flon 41.44 299 *e*P **P 02 40 01.9 -2.7**
comp=Z,41nm,1.4s
FFC *e* 02 40 10.2
LONY Lake Ozonia 41.55 268 *e*P P 02 40 12.8 +7.1
comp=Z,36nm,1.4s
DAWY Dawson 41.60 331 *e*P P 02 40 10.8 +4.9
comp=Z,24nm,1.4s
CSS Mathiatis 41.61 128 *e*P **P 02 40 07.7 +1.5**
comp=Z,7.6nm,1.1s
CSS Mathiatis 41.61 128 *e*P **P 02 40 07.7 +1.5**
comp=Z,7.6nm,1.1s
MDV Middlebury 41.64 267 *e*P P 02 40 13.5 +7.1
KURK Kurchatov 41.70 72*ce*P **P 02 40 05.7 -1.1**
KURK pmax pmax
comp=Z,92nm,2.5s
KURK Kurchatov 41.70 72 *e*P **P 02 40 06.7 -0.1**
comp=Z,20nm,1.2s
KURK Kurchatov 41.70 72 *e*PP PP 02 41 43.3 +0.5
KURK Kurchatov 41.70 72 *e*P **P 02 40 06.7 -0.1**
comp=Z,20nm,1.2s
KURK *e*PP **PP 02 41 43.3 +0.5**
KURBB Kurchatov Arra 41.75 72 P **P 02 40 06.8 -0.5**
comp=Z,5.5nm,1.0s,baz=327,slow=7.4,SNR=23
KURBB PP **PP 02 41 43.3 -0.1**
comp=Z,4.2nm,1.2s,baz=321,slow=12,SNR=5.9
NCB Newcomb 42.01 268 *e*P P 02 40 16.5 +7.1
comp=Z,0.4nm,1.6s
ILAR Eielson Array 42.04 336 P **P 02 40 08.5 -0.9**
comp=Z,2.0nm,0.9s,baz=7.6,slow=7.4,SNR=14
ILAR LR LR 02 58 32.1
comp=Z,681nm,21.1s,baz=38,slow=38
ILB Eielson Array 42.04 336 *e*P **P 02 40 11.8 +2.3**
MDM Murphy Dome 42.04 337 *e*P **P 02 40 13.0 +3.6**
comp=Z,57nm,1.5s
COLA College 42.07 337 P **P 02 40 10.0 +0.4**
COLA *e* 02 40 15.4
COLA pmax pmax
comp=Z,33nm,1.2s
COLA College 42.07 337 P **P 02 40 10.0 +0.4**
comp=Z,33nm,1.2s
COLA College 42.07 337 P **P 02 40 10.0 +0.4**
comp=Z,33nm,1.2s
COLA *e* 02 40 15.4
CCB Clear Creek Bu 42.28 336 *e*P P 02 40 16.0 +4.7
comp=Z,24nm,1.3s
ACCN Adirondack Com 42.35 267 *e*P P 02 40 19.9 +7.7
comp=Z,24nm,1.3s
HDA Harding Lake 42.39 336 *e*P P 02 40 17.1 +4.8
comp=Z,36nm,1.2s
WRH Wood River Hil 42.48 337 *e*P P 02 40 18.2 +5.1
comp=Z,29nm,1.4s
DOT Dot Lake 42.71 334 *e*P **P 02 40 17.4 +2.5**
comp=Z,71nm,1.2s
SADO Sadowa 42.93 273 *e*P P 02 40 23.1 +6.2
comp=Z,53nm,1.4s
MCK McKinley 43.30 337 *e*P P 02 40 24.7 +5.0
MCK pmax pmax
comp=Z,91nm,1.6s
MCK McKinley 43.30 337 *e*P P 02 40 24.7 +5.0
comp=Z,91nm,1.6s
MENT Mentasta 43.33 333 *e*P P 02 40 25.5 +5.5
comp=Z,85nm,2.0s
C40A Isle Royale Na 43.44 284 P P 02 40 26.5 +5.5
baz=28
ULM Lac du Bonnet 43.51 291 P **P 02 40 21.1 -0.4**
comp=Z,3.1nm,0.9s,baz=208,slow=15,SNR=2.5
ULM LR LR 02 57 35.0

comp=Z,312nm,19.6s,baz=20,slow=35
ULM Lac du Bonnet 43.51 291 *e*P P 02 40 27.1 +5.6
E45A Wooded Hills, 43.52 279 P P 02 40 27.3 +5.6
baz=28
E44A Grand Marais A 43.53 280 P P 02 40 27.3 +5.6
baz=28
F46A Macinaw City C 43.90 279 P P 02 40 30.2 +5.5
baz=28
YAK Yakutsk 43.99 28 *i* P **P 02 40 24.2 -1.0**
YAK pmax pmax
comp=Z,14nm,1.0s
WHY Whitehorse 43.99 326 *e*P **P 02 40 26.9 +1.4**
comp=Z,49nm,1.8s
MMAI Mount Meron Ar 44.00 126 P **P 02 40 26.9 +1.2**
comp=Z,8.8nm,0.9s,baz=338,slow=11,SNR=4.2
CAST Castle Rocks 44.00 339 *e*P P 02 40 30.5 +5.1
comp=Z,48nm,1.8s
D41A Chassel 44.00 283 P P 02 40 30.6 +5.2
baz=28
HARP HAARP 44.05 334 *e*P P 02 40 32.5 +6.8
comp=Z,60nm,1.1s
E43A Lone Tree Farm 44.10 281 P P 02 40 31.1 +4.8
baz=28
EYMN Ely 44.16 286 P P 02 40 31.8 +5.0
baz=28
F45A CMU Biological 44.23 279 P P 02 40 32.7 +5.4
baz=28
F44A Big Bay de Noc 44.27 280 P P 02 40 33.0 +5.4
baz=28
C38A Sawbill Land. 44.29 286 P P 02 40 32.8 +4.9
baz=28
HYT Haines Junctio 44.31 328 *e*P P 02 40 32.8 +4.8
comp=Z,38nm,1.6s
MMNY Mt. Morris Dam 44.34 270 *e*P P 02 40 35.6 +7.4
E42A Champion 44.35 282 P P 02 40 33.3 +5.0
baz=28
A33A Warroad 44.52 290 P P 02 40 34.4 +4.8
baz=28
C37A Embarrass 44.58 286 P P 02 40 34.8 +4.8
baz=28
F43A Flat Rock, Esc 44.63 281 P P 02 40 36.1 +5.6
baz=28,SNR=5.5
E41A Kenton 44.66 283 P P 02 40 35.4 +4.6
baz=28
B34A Aery, Baudette 44.69 289 P P 02 40 35.5 +4.6
baz=28
GLMI Grayling 44.69 278 *e*P **P 02 40 28.7 -2.3**
comp=Z,59nm,0.9s
GLMI Grayling 44.69 278 *e*P **P 02 40 28.7 -2.3**
comp=Z,59nm,0.9s
GLMI *e* 02 40 36.9
C36A Pine Crest Far 44.76 287 P **P 02 40 35.8 +4.2**
baz=28
A32A Rocking H Ranc 44.88 291 P P 02 40 37.1 +4.6
baz=28
E40A Wakefield 44.98 284 P P 02 40 38.4 +5.1
baz=28,SNR=5.3
BOD Bodaibo 44.99 41 *e*P **P 02 40 30.6 -2.7**
BOD pmax pmax
comp=Z,27nm,1.9s
F42A Maple Grove Fa 45.01 282 P P 02 40 38.5 +4.9
baz=27
SML Sawmill 45.07 336 *e*P P 02 40 39.8 +5.9
SML pmax pmax
comp=Z,50nm,1.4s
SML Sawmill 45.07 336 *e*P P 02 40 39.8 +5.9
comp=Z,50nm,1.4s
A31A Linda, St. Vin 45.08 291 P P 02 40 38.9 +4.9
baz=28
D37A Cotton 45.16 286 P P 02 40 39.7 +5.0
baz=28
B33A Robert and Kas 45.17 290 P P 02 40 39.7 +4.9
baz=28
C35A Jirik Farms, M 45.17 288 P P 02 40 39.4 +4.6
baz=28
AGMN Agassiz Nation 45.23 290 P **P 02 40 39.6 +4.3**
baz=28
AGMN Agassiz Nation 45.23 290 *e*P P 02 40 40.0 +4.7
comp=Z,32nm,1.5s
E39A Mellen 45.25 284 P P 02 40 40.5 +5.1
baz=28
N59A State Game Lan 45.25 267 P P 02 40 41.8 +6.2
baz=26
G43A Wallace 45.31 281 P P 02 40 41.1 +5.2
baz=27
F41A Three Lakes 45.35 282 P P 02 40 41.6 +5.4
baz=27
B32A Ashes, Strandq 45.35 290 P P 02 40 41.3 +5.0
baz=28
E38A The Farm, Brul 45.37 285 P P 02 40 41.6 +5.2
baz=28
D36A Goodland 45.37 287 P P 02 40 41.2 +4.7
baz=28
C34A RKJ Ranch, Bem 45.51 289 P P 02 40 42.4 +4.9
baz=28
F40A Park Falls 45.52 283 P P 02 40 42.9 +5.3
baz=27
G42A Mountain 45.57 282 P P 02 40 43.3 +5.3
baz=27
E37A Wrenshall 45.67 286 P P 02 40 43.3 +4.5
baz=27
B31A Greenbush Farm 45.67 291 P P 02 40 43.5 +4.7
baz=27
C33A Trail 45.68 289 P **P 02 40 43.3 +4.4**
baz=27
D35A Remer 45.74 288 P P 02 40 44.2 +4.8
baz=27
SEY Seymchan 45.77 13 P **P 02 40 38.5 -0.8**
comp=Z,2.0nm,0.7s,baz=318,slow=9.5,SNR=3.8
SEY Seymchan 45.77 13 *i* P **P 02 40 40.8 +1.4**
F39A Loretta 45.77 284 P P 02 40 45.1 +5.4
baz=27,SNR=6.2
G41A Antigo 45.84 282 P P 02 40 45.5 +5.4
baz=27
C32A Crookston 45.86 290 P **P 02 40 44.5 +4.3**
baz=27
E36A McGregor 45.99 287 P P 02 40 46.3 +5.0
baz=27
M54A Oil Creek Stat 46.01 271 P P 02 40 46.9 +5.4
baz=26
H43A Windswept, Lux 46.04 280 P P 02 40 47.1 +5.4
baz=27
F38A Pierce - Schro 46.04 285 P P 02 40 46.8 +5.0
baz=27
ALLY Alegheny Colle 46.05 272 *e*P P 02 40 48.8 +7.0
comp=Z,106nm,1.4s
D34A Park Rapids 46.10 289 P P 02 40 46.9 +4.8
baz=27
G40A Rib Lake 46.12 283 P P 02 40 47.2 +4.8
baz=27
SSPA Standing Stone 46.21 269 *e*P P 02 40 50.0 +7.0
comp=Z,54nm,1.5s
D33A AnnSam, Waubun 46.25 289 P P 02 40 48.3 +4.9
baz=27
H42A Shiocton 46.25 281 P P 02 40 48.4 +5.0
baz=27
C31A Landman Farms, 46.26 291 P P 02 40 48.1 +4.7
baz=27
MVL Millersville 46.27 267 *e*P P 02 40 50.2 +6.6
comp=Z,37nm,1.9s
MK31 Makanchi Array 46.31 72 *e*P **P 02 40 44.6 +0.8**
MK31 Makanchi Array 46.31 72 *e*P **P 02 40 44.6 +0.8**
MK31 Makanchi Array 46.31 72 *e*P **P 02 40 44.6 +0.8**
MK32 Makanchi Array 46.31 72 *e*P **P 02 40 44.2 +0.3**
MK32 Makanchi Array 46.31 72 *e*P **P 02 40 44.2 +0.3**
MKAR Makanchi Array 46.31 72 P **P 02 40 44.2 +0.3**
comp=Z,2.5nm,0.7s,baz=341,slow=5.5,SNR=11
MKAR LR LR 03 03 58.7
comp=Z,740nm,18.2s,baz=323,slow=41
E35A Pequot Lakes 46.32 288 P P 02 40 48.6 +4.7
baz=27
GEYT Alibeck 46.34 99 P **P 02 40 45.0 +0.8**
comp=Z,3.4nm,0.9s,baz=299,slow=10.0,SNR=9.2
GEYT LR LR 03 01 46.6
comp=Z,1μm,18.6s,baz=310,slow=38
G39A Holcombe 46.41 284 P P 02 40 49.6 +4.9
baz=27
F37A Hinrichs Farm, 46.49 285 P P 02 40 50.3 +5.0
baz=27
H41A Junction City 46.52 282 P P 02 40 50.4 +4.9
baz=27
E34A Wadena 46.60 288 P P 02 40 51.0 +4.9
baz=27
N54A Moraine State 46.61 271 P P 02 40 52.8 +6.5
baz=26,SNR=5.7
D32A Dogwood Acres, 46.62 290 P P 02 40 50.8 +4.5
baz=27
AAM Ann Arbor 46.62 275 *e*P P 02 40 53.1 +6.8
AAM pmax pmax
comp=Z,46nm,1.1s
AAM Ann Arbor 46.62 275 *e*P P 02 40 53.1 +6.7
comp=Z,46nm,1.1s
F36A Milaca 46.66 286 P P 02 40 51.5 +5.0
baz=27
G38A Ridgeland 46.74 284 P P 02 40 52.1 +4.9
baz=27
H40A Chili 46.76 283 P P 02 40 52.7 +5.3
baz=27
O56A Blue Knob Stat 46.76 269 P P 02 40 53.3 +5.7
baz=25
MDND Maddock 46.79 293 P P 02 40 52.3 +4.8
baz=27
E33A Westby DABS, E 46.87 289 P P 02 40 52.9 +4.6
baz=27
I42A Draeger Farm, 46.93 281 P P 02 40 54.1 +5.4
baz=26
SDMD Soldier's Deli 46.97 267 *e*P P 02 40 56.3 +7.3
comp=Z,29nm,1.5s
F35A Swanville 46.99 287 P P 02 40 53.9 +4.7
baz=27
H39A Augusta 46.99 284 P P 02 40 54.4 +5.2
baz=27
SPMN Marine on St. 46.99 285 P P 02 40 54.3 +5.1
baz=27
I41A Arkdale 47.09 282 P P 02 40 54.9 +5.0
baz=26
E32A Braaten, Kindr 47.12 290 P **P 02 40 54.4 +4.2**
baz=27
J43A Natural Harves 47.22 280 P P 02 40 56.0 +5.0
baz=26
F34A Alexandria 47.27 288 P P 02 40 56.1 +4.8
baz=27
G36A St. Michael 47.29 286 P P 02 40 56.3 +4.9
baz=27
H38A Maiden Rock 47.32 285 P P 02 40 56.9 +5.2
baz=26
FRU Bishkek 47.37 81 *e*P **P 02 40 53.0 +0.8**
FRU pmax pmax
comp=Z,60nm,2.0s
E31A Nome 47.41 290 P P 02 40 57.0 +4.6
baz=27
MOY Mondy 47.43 54 *e*P **P 02 40 53.8 +1.1**
MOY pmax pmax
comp=Z,92nm,1.4s
I40A Norwalk 47.48 283 P P 02 40 58.5 +5.4
baz=26
AAK Ala-Archa 47.51 81 P **P 02 40 54.6 +1.2**
comp=Z,4.3nm,0.9s,baz=295,slow=6.0,SNR=7.9
AAK Ala-Archa 47.51 81 *d i* P **P 02 40 53.6 +0.2**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 47.51 81 *e*P **P 02 40 54.8 +1.4**
comp=Z,13nm,0.9s
AAK Ala-Archa 47.51 81 *e*P **P 02 40 54.8 +1.4**
comp=Z,13nm,0.9s
J42A Columbus 47.51 281 P P 02 40 58.5 +5.3
baz=26,SNR=6.7
G35A Watkins 47.53 287 P P 02 40 58.4 +4.9
baz=26
F33A 5 Mile Ranch, 47.55 289 P P 02 40 58.4 +4.9
baz=26,SNR=6.7
H37A Dierke Farm, C 47.60 285 P P 02 40 59.5 +5.5
baz=26
DGMT Dagmar 47.61 297 P P 02 40 59.0 +4.9
baz=26
DGMT Dagmar 47.61 297 *e*P P 02 41 00.5 +6.5
comp=Z,74nm,1.8s
J41A Loganville 47.76 282 P P 02 41 01.0 +5.9
baz=26,SNR=8.2
K43A Burlington 47.80 280 P P 02 41 01.0 +5.5
baz=26
I39A Houston 47.81 283 P P 02 41 00.7 +5.2
baz=26
G34A Benson 47.88 288 P P 02 41 01.1 +5.0
baz=26
I38A Scanlan Farm, 47.90 284 P P 02 41 01.3 +5.0
baz=26
H36A Jessenland, He 47.93 286 P P 02 41 01.7 +5.2
baz=26
J40A Soldiers Grove 47.96 282 P P 02 41 02.0 +5.2
baz=26
K42A Prairie Point, 48.06 281 P P 02 41 02.9 +5.4
baz=26
H35A Sunnyside Ranc 48.11 287 P P 02 41 02.8 +4.9
baz=26
TLY Talaya 48.12 52 *e*P **P 02 40 58.9 +1.0**
TLY *e* 02 42 51.1
TLY *e*S **S 02 47 58.6 +2.1**
TLY *e*SS **SS 02 51 17.7 -7.1**
TLY *e*SSS SSS 02 52 35.8
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,292nm,15.0s
L44A Lake County Fo 48.13 279 P P 02 41 03.8 +5.7
baz=26
F31A Hecla 48.15 290 P P 02 41 02.6 +4.4
baz=26
G33A Ortonville 48.17 288 P P 02 41 03.4 +5.0
baz=26
JFWS Jewell Farm 48.24 282 P **P 02 40 56.7 -2.2**
JFWS *e* 02 41 04.8
JFWS pmax pmax
comp=Z,67nm,1.6s
JFWS Jewell Farm 48.24 282 P **P 02 40 56.7 -2.2**
comp=Z,67nm,1.6s
JFWS Jewell Farm 48.24 282 P **P 02 40 56.7 -2.2**
comp=Z,67nm,1.6s
JFWS *e* 02 41 04.8
ACSO Alum Creek Sta 48.26 274 *e*P **P 02 40 58.3 -0.8**
comp=Z,62nm,1.3s
ACSO Alum Creek Sta 48.26 274 *e*P **P 02 40 58.3 -0.8**
comp=Z,62nm,1.3s
ACSO *e* 02 41 05.3
I37A Lemond, Waseca 48.27 285 P P 02 41 04.6 +5.5
baz=26
J39A Decorah 48.33 283 P P 02 41 04.8 +5.2
baz=26
L43A Garden Prairie 48.40 280 P P 02 41 05.7 +5.5
baz=26,SNR=6.2
H34A Spellman Lake, 48.44 288 P P 02 41 05.7 +5.3
baz=26
G32A Webster 48.45 289 P P 02 41 05.5 +4.9
baz=26
I36A Fitzsimmons Fa 48.46 286 P P 02 41 05.8 +5.2
baz=26
J38A Wedel Dairy, R 48.59 284 P P 02 41 07.2 +5.5
baz=26
K40A Colesburg 48.72 282 P P 02 41 07.8 +5.2
baz=26
H33A Prehn Over Nor 48.73 288 P P 02 41 07.7 +5.0
baz=26
M44A Midewin, Midew 48.89 279 P P 02 41 09.4 +5.6
baz=26
N46A Monticello 48.90 277 P P 02 41 09.9 +5.9
baz=26
J37A Redenius Farm, 48.95 285 P P 02 41 09.2 +4.9
baz=26
K39A Oelwein 48.95 283 P P 02 41 09.5 +5.0
baz=26
L41A Preston 49.07 281 P P 02 41 10.3 +5.0
baz=26
H32A Carlson Farm, 49.11 289 P P 02 41 10.4 +4.8
baz=26
J36A Seneca 1, Swea 49.18 286 P P 02 41 11.5 +5.3
baz=26
N45A Kentland 49.20 278 P P 02 41 12.0 +5.7
baz=25
ZAK Zakamensk 49.21 53 *e*P **P 02 41 06.5 +0.1**
ZAK pmax pmax
comp=Z,11nm,1.5s
K38A Parkersburg 49.29 284 P P 02 41 11.9 +4.9
baz=26
O47A Sheridan 49.31 276 P P 02 41 12.8 +5.6
baz=25,SNR=6.3
L40A Anamosa 49.32 282 P P 02 41 12.5 +5.3
baz=26,SNR=6.3
M42A Sheffield 49.39 280 P P 02 41 13.0 +5.3
baz=26
J35A Milford 49.43 286 P P 02 41 12.8 +4.8
baz=26
N44A Piper City 49.45 279 P P 02 41 13.5 +5.3
baz=25
K37A Belmond 49.46 285 P P 02 41 13.4 +5.1
baz=26
SFIN Lafayette 49.48 277 P P 02 41 13.7 +5.2
baz=25
SFIN Lafayette 49.48 277 *e*P P 02 41 15.0 +6.6
comp=Z,78nm,1.5s
L39A Vinton 49.51 283 P P 02 41 14.2 +5.6
baz=26
ECSD EROS Data Cent 49.54 288 P P 02 41 13.6 +4.7
baz=26,SNR=5.1
ECSD EROS Data Cent 49.54 288 *e*P **P 02 41 07.1 -1.8**
comp=Z,23nm,1.4s
ECSD EROS Data Cent 49.54 288 *e*P **P 02 41 07.0 -1.8**
comp=Z,23nm,1.4s
ECSD *e* 02 41 14.2
I32A Karley and Nic 49.55 289 P P 02 41 14.0 +5.1
baz=26
EGMT Eagleton 49.63 301 P P 02 41 14.2 +4.6
baz=25,SNR=12
SUSD Miller 49.64 290 P P 02 41 14.4 +4.8
baz=26
M41A Milan 49.72 281 P P 02 41 15.6 +5.4
baz=25
J34A George 49.74 287 P P 02 41 15.5 +5.2
baz=26
L38A Oak Wood Farm, 49.81 284 P P 02 41 16.2 +5.3
baz=26
O45A Potomac 49.81 278 P P 02 41 16.4 +5.4
baz=25
LAO LASA Array 49.81 297 P P 02 41 16.5 +5.5
baz=25,SNR=6.2
LAO LASA Array 49.81 297 *e*P **P 02 41 09.7 -1.3**
comp=Z,91nm,1.7s
LAO LASA Array 49.81 297 *e*P **P 02 41 09.7 -1.3**
comp=Z,91nm,1.7s
K36A Gilmore City 49.84 285 P P 02 41 16.5 +5.3
baz=26
I31A Royce, Wessing 49.88 290 P P 02 41 16.4 +4.9
baz=26
M40A Post Highland 50.00 282 P P 02 41 17.5 +5.1
baz=25
K35A Storm Lake 50.01 286 P P 02 41 17.4 +4.9
baz=25
P47A Martinsville 50.02 276 P P 02 41 17.5 +5.0
baz=25,SNR=5.8
J33A Davis 50.03 288 P P 02 41 17.5 +4.9
baz=26
N42A Yates City 50.04 280 P P 02 41 18.1 +5.4
baz=25
HDIL Hopedale 50.05 279 P P 02 41 17.8 +5.0
baz=25
HDIL Hopedale 50.05 279 *e*P P 02 41 19.9 +7.1
comp=Z,70nm,1.4s
L37A Phoenix Point, 50.08 284 P P 02 41 17.7 +4.7
baz=25
SCIA State Center 50.10 284 P **P 02 41 13.1 -0.1**
comp=Z,67nm,1.4s
SCIA State Center 50.10 284 P **P 02 41 13.1 -0.1**
comp=Z,67nm,1.4s
O44A Mansfield 50.14 279 P P 02 41 19.1 +5.7
baz=25
BLA Blacksburg 50.14 269 P **P 02 41 12.1 -1.5**
BLA pmax pmax
comp=Z,32nm,1.3s
BLA Blacksburg 50.14 269 P **P 02 41 12.1 -1.5**
comp=Z,32nm,1.3s
BLA Blacksburg 50.14 269 P **P 02 41 12.1 -1.5**
comp=Z,32nm,1.3s
M39A Webster 50.15 283 P P 02 41 18.6 +5.1
baz=25
J32A Parkston 50.26 289 P P 02 41 19.4 +5.1
baz=25
O43A Sugar Creek Fa 50.30 279 P P 02 41 20.5 +5.9
baz=25
K34A Le Mars 50.32 287 P P 02 41 19.7 +4.9
baz=25
BLO Bloomington 50.39 276 *e*P P 02 41 21.6 +6.3
BLO pmax pmax
comp=Z,63nm,1.3s
BLO Bloomington 50.39 276 *e*P P 02 41 21.6 +6.3
comp=Z,63nm,1.3s
L36A Harm Buss Farm 50.39 285 P P 02 41 20.7 +5.3
baz=25
N41A Harden Midland 50.42 281 P P 02 41 20.5 +5.0
baz=25
LLLB Lillooet 50.49 312 *e*P P 02 41 22.7 +6.6
comp=Z,56nm,1.6s
N40A Mertquake, Sal 50.50 282 P P 02 41 21.4 +5.2
baz=25
M38A Pleasantville 50.54 283 P P 02 41 21.5 +5.0
baz=25
J31A Geddes 50.61 289 P P 02 41 21.7 +4.7
baz=25
WMQ Urumqi 50.66 69 P **P 02 41 18.0 +0.5**
WMQ pP sP 02 41 24.3 +4.2
WMQ sP pP 02 41 28.9 +10
WMQ PP **PP 02 43 16.1 +3.1**
WMQ S **S 02 48 36.6 +4.2**
WMQ SS **SS 02 52 01.1 -4.8**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,270nm,4.7s
WMQ LR LR
comp=Z,390nm,13.9s
WMQ LR LR
comp=Z,300nm,15.5s
WMQ LR LR
comp=Z,400nm,18.1s
L35A Bielow Farm, R 50.66 286 P P 02 41 22.3 +4.9
baz=25
K33A Hardington 50.68 287 P P 02 41 22.3 +4.7
baz=25
KSH Kashi 50.80 82 P **P 02 41 21.6 +3.0**
KSH pP sP 02 41 25.8 +4.6
KSH sP pP 02 41 28.8 +8.3
KSH PcP **PcP 02 42 40.3 +4.9**
KSH PP **PP 02 43 17.5 +3.1**
KSH S **S 02 48 32.8 -1.7**
KSH sS sS 02 48 41.3 +3.7
KSH ScS **ScS 02 51 09.3 -0.3**
KSH SS **SS 02 52 03.3 -5.1**
KSH pmax pmax
comp=Z,19nm,1.1s
KSH pmax pmax
comp=Z,220nm,5.5s
KSH LR LR
comp=Z,420nm,11.9s
KSH LR LR
comp=Z,350nm,13.1s
KSH LR LR
comp=Z,130nm,10.5s
N39A Derby Farms, D 50.80 283 P P 02 41 23.4 +4.9
baz=25
P44A Sand Creek, Wi 50.81 278 P P 02 41 23.8 +5.3
baz=25
M37A Trindle Farm, 50.83 284 P P 02 41 23.9 +5.2
baz=25
K32A Verdigre 50.94 288 P P 02 41 24.2 +4.7
baz=25
P43A Skaggs, Pawnee 50.95 279 P P 02 41 25.2 +5.7
baz=25,SNR=5.8
O41A Passleys Farm, 50.96 281 P P 02 41 24.3 +4.6
baz=25,SNR=5.8
M36A Felix, Anita 51.02 285 P P 02 41 25.3 +5.2
baz=25
L34A Svendsen Farm, 51.06 286 P **P 02 41 24.7 +4.3**
baz=25
N38A Joes South For 51.11 283 P P 02 41 25.7 +4.9
baz=25
JTMT Jette 51.14 304 *e*P P 02 41 26.8 +5.7
WCI Wyandotte Cave 51.16 275 *e*P P 02 41 27.0 +5.7
WCI pmax pmax
comp=Z,59nm,1.4s
WCI Wyandotte Cave 51.16 275 *e*P P 02 41 27.0 +5.8
WCI Wyandotte Cave 51.16 275 *e*P P 02 41 27.0 +5.8
comp=Z,59nm,1.4s
K31A O'Neill 51.22 289 P P 02 41 26.5 +4.9
baz=25
P42A Winchester 51.27 280 P P 02 41 27.0 +5.0
baz=25
O40A La Belle 51.28 282 P P 02 41 26.8 +4.7
baz=25
SWMT Swartz Lake 51.28 304 *e*P **P 02 41 22.9 +0.7**
SWMT Swartz Lake 51.28 304 *e*P **P 02 41 22.9 +0.7**
M35A Neola 51.29 286 P P 02 41 27.2 +5.1
baz=25
O39A Kirksville 51.38 282 P P 02 41 27.6 +4.8
baz=25
P41A Barry, Barry 51.42 281 P P 02 41 27.8 +4.7

baz=25
NEW Newport 51.43 307 P **P 02 41 21.3 -1.9**
comp=Z,1.3nm,0.9s,baz=157,slow=17,SNR=2.3
NEW Newport 51.43 307 P P 02 41 28.2 +5.0
baz=23,SNR=5.3
NEW Newport 51.43 307 *e*P P 02 41 29.0 +5.8
comp=Z,28nm,1.5s
Q44A Meyer Farm, Va 51.45 278 P P 02 41 28.6 +5.3
baz=25
N37A Lee Faris, Mou 51.46 284 P P 02 41 28.4 +5.0
baz=25
RSSD Black Hills 51.49 294 P P 02 41 28.5 +4.6
baz=25
RSSD Black Hills 51.49 294 *e*P P 02 41 29.9 +6.0
RSSD pmax pmax
comp=Z,21nm,1.4s
RSSD Black Hills 51.49 294 *e*P P 02 41 29.9 +6.0
comp=Z,21nm,1.4s
GCMT Greycliff 51.63 300 *e*P P 02 41 30.7 +5.8
Q43A New Douglas 51.64 279 P P 02 41 30.3 +5.5
baz=25
N36A Muff Farm, Cla 51.65 285 P P 02 41 29.8 +5.0
baz=25
M33A Taylor Creek F 51.68 287 P P 02 41 29.7 +4.6
baz=25
O38A Galt 51.80 283 P P 02 41 30.8 +4.9
baz=25
N35A Tabor 51.83 285 P P 02 41 31.1 +4.9
baz=25
USIN University of 51.86 277 *e*P P 02 41 32.9 +6.5
comp=Z,78nm,1.5s
P40A Paris 51.87 281 P P 02 41 31.1 +4.6
baz=25
MSO Missoula 51.89 304 P P 02 41 31.3 +4.7
baz=24,SNR=10.0
B08A Colville Reser 51.93 309 *e*P **P 02 41 28.4 +1.5**
Q42A Golden Eagle 51.94 280 P P 02 41 32.0 +5.0
baz=25
O37A Wolven Farm, M 51.97 284 P P 02 41 31.9 +4.6
baz=25
R44A Waltonville 52.06 278 P P 02 41 32.9 +4.9
baz=24,SNR=5.9
N34A Lincoln 52.12 286 P **P 02 41 32.2 +3.9**
baz=25
BGNE Belgrade 52.13 288 P **P 02 41 32.4 +3.9**
baz=25
RLMT Red Lodge 52.13 299 P P 02 41 33.7 +5.1
baz=24,SNR=8.1
RLMT Red Lodge 52.13 299 *e*P P 02 41 34.4 +5.8
comp=Z,42nm,1.6s
P39B Salisbury 52.14 282 P P 02 41 33.4 +4.9
baz=25
P38A Dawn 52.27 283 P P 02 41 34.0 +4.5
baz=25
O36A Bolckow 52.27 284 P P 02 41 34.0 +4.6
baz=25
R43A Red Bud 52.32 279 P P 02 41 34.8 +5.0
baz=24
KMSC Kings Mountain 52.33 269 P P 02 41 34.4 +4.5
baz=24
KMSC Kings Mountain 52.33 269 *e*P P 02 41 35.3 +5.3
comp=Z,53nm,1.6s
SONA0 Songino Array 52.36 52 *e*P **P 02 41 29.1 -1.1**
comp=Z,14nm,1.2s
SONA0 Songino Array 52.36 52 *e*P **P 02 41 29.1 -1.1**
comp=Z,14nm,1.2s
SONM Songino Array 52.36 52 P **P 02 41 29.1 -1.1**
comp=Z,3.3nm,1.0s,baz=324,slow=5.9,SNR=17
SONM LR LR 03 08 34.0
comp=Z,349nm,18.2s,baz=356,slow=42
Q40A Laux Farm, Aux 52.37 281 P P 02 41 34.7 +4.6
baz=24
BOZ Bozeman (W) 52.37 301 P **P 02 41 34.6 +4.2**
baz=24,SNR=6.5
BOZ Bozeman (W) 52.37 301 *e*P P 02 41 35.5 +5.2
BOZ pmax pmax
comp=Z,17nm,1.4s
BOZ Bozeman (W) 52.37 301 *e*P P 02 41 35.5 +5.2
comp=Z,17nm,1.4s
S45A Carrier Mills 52.42 277 P P 02 41 35.1 +4.6
baz=24
O35A Humboldt 52.45 285 P **P 02 41 35.0 +4.2**
baz=24
ULN Ulaanbaatar 52.50 51 *c*e**P P 02 41 31.2 -0.1**
ULN pmax pmax
comp=Z,26nm,2.5s
ULN Ulaanbaatar 52.50 51 *e*P **P 02 41 30.9 -0.4**
comp=Z,32nm,1.6s
ULN Ulaanbaatar 52.50 51 *e*P **P 02 41 30.9 -0.4**
comp=Z,32nm,1.6s
N33A J Bar K, Exete 52.51 287 P **P 02 41 35.6 +4.4**
baz=24
P37A Lathrop 52.56 283 P P 02 41 36.3 +4.6
baz=24
R42A Luebbering 52.60 280 P P 02 41 36.5 +4.6
baz=24
Q39A Willow Grove F 52.61 282 P P 02 41 36.5 +4.5
baz=24
S44A Carbondale 52.62 278 P P 02 41 37.4 +5.3
baz=24
TKL Tuckaleechee C 52.67 272 P **P 02 41 30.8 -1.6**
comp=Z,3.1nm,0.9s,baz=112,slow=14,SNR=2.9
TKL Tuckaleechee C 52.67 272 *e*P **P 02 41 36.5 +4.0**
TKL Tuckaleechee C 52.67 272 *e*P **P 02 41 30.8 -1.6**
comp=Z,58nm,1.8s
TKL Tuckaleechee C 52.67 272 *e*P **P 02 41 36.5 +4.0**
TKL Tuckaleechee C 52.67 272 *e*P **P 02 41 30.8 -1.6**
comp=Z,58nm,1.8s
C06D Leavenworth 52.73 310 P **P 02 41 36.7 +3.9**
baz=22
R41A Rosebud 52.77 280 P **P 02 41 37.0 +3.8**
baz=24,SNR=5.2
O34A Beatrice 52.78 286 P P 02 41 37.9 +4.6
baz=24
P36A Good Intent, A 52.81 284 P **P 02 41 37.7 +4.2**
baz=24
YHH Holmes Hill 52.89 300 *e*P **P 02 41 36.9 +2.6**
comp=Z,27nm,1.5s
Q38A Cooks Store, C 52.90 282 P P 02 41 38.8 +4.7
baz=24
CCM Cathedral Cave 52.95 280 *e*P **P 02 41 35.8 +1.3**
CCM pmax pmax
comp=Z,27nm,1.4s
CCM Cathedral Cave 52.95 280 *e*P **P 02 41 35.8 +1.3**
comp=Z,27nm,1.4s
BG3 Lake Jocassee 52.99 271 *e*P **P 02 41 38.4 +3.5**
comp=Z,63nm,1.6s
S43A Fulton Ridge, 53.01 279 P P 02 41 39.9 +5.0
baz=24
QLMT Earthquake Lak 53.02 301 *e*P P 02 41 40.4 +5.2
D08A Wollman Farm, 53.02 308 *e*P P 02 41 40.4 +5.4
comp=Z,18nm,1.3s
YHB Horse Butte 53.02 300 *e*P P 02 41 41.7 +6.4
comp=Z,45nm,1.5s
YMR Madison River 53.03 300 *e*P **P 02 41 38.2 +2.9**
comp=Z,36nm,1.6s
S42A Caledonia 53.06 279 P P 02 41 39.9 +4.6
baz=24
R40A Maddies Statio 53.07 281 P P 02 41 39.8 +4.4
baz=24
JSC Jenkinsville 53.09 269 *e*P P 02 41 42.9 +7.3
JSC pmax pmax
comp=Z,47nm,1.6s
JSC Jenkinsville 53.09 269 *e*P P 02 41 42.9 +7.3
comp=Z,47nm,1.6s
CPCT Cooper Cave 53.10 272 *e*P P 02 41 42.1 +6.4
comp=Z,32nm,1.4s
P35A Duane Minner, 53.16 285 P **P 02 41 40.4 +4.4**
baz=24
O33A Hebron 53.16 287 P P 02 41 40.7 +4.6
baz=24
H17A Grant Village 53.17 300 P **P 02 41 40.6 +4.2**
baz=24,SNR=6.0
H17A Grant Village 53.17 300 *e*P P 02 41 43.4 +7.0
comp=Z,40nm,1.4s
YFT Old Faithful 53.19 300 *e*P P 02 41 43.7 +7.2
comp=Z,24nm,1.2s
Q37A Longview Farm, 53.24 283 P P 02 41 41.2 +4.5
baz=24
T44A Benton 53.29 278 P P 02 41 42.0 +5.0
baz=24
R39A Chumby, Stover 53.30 282 P **P 02 41 41.4 +4.3**
baz=24,SNR=6.1
E09A Wood Farm, Sta 53.32 307 *e*P P 02 41 41.6 +4.5
comp=Z,20nm,1.5s
YPP Pitchstone Pla 53.35 300 *e*P P 02 41 45.3 +7.5
comp=Z,59nm,1.7s
P34A Walnut Farm, R 53.40 286 P P 02 41 42.3 +4.5
baz=24
MCMT McKenzie Canyo 53.42 302 *e*P **P 02 41 40.0 +1.8**
HODGE Hodges 53.47 270 *e*P **P 02 41 41.6 +3.2**
comp=Z,58nm,1.7s
Q36A Arnold C. Orve 53.49 284 P **P 02 41 42.8 +4.3**
baz=24
T43A Greenville 53.52 279 P P 02 41 43.5 +4.8
baz=24
S41A Jillo Farms, 53.54 280 P P 02 41 43.4 +4.6
baz=24
K22A Casper 53.58 296 P **P 02 41 43.3 +4.0**
baz=24,SNR=10
WVT Waverly 53.58 276 *e*P P 02 41 44.9 +5.8
WVT pmax pmax
comp=Z,64nm,2.0s
WVT Waverly 53.58 276 *e*P P 02 41 44.9 +5.8
comp=Z,64nm,2.0s
E08A Dider Farm, El 53.58 308 *e*P P 02 41 44.9 +5.9
comp=Z,54nm,1.8s
U45A Rockin P Farm, 53.69 277 P P 02 41 45.1 +5.2
baz=24
R38A Fenwick Farm, 53.69 282 P P 02 41 44.6 +4.6
baz=24
E07A Sunnyside 53.73 308 *e*P P 02 41 46.2 +6.1
comp=Z,41nm,1.3s
IMW Indian Meadow 53.73 300 P **P 02 41 37.8 -2.8**
comp=Z,24nm,1.4s
IMW Indian Meadow 53.73 300 P **P 02 41 37.8 -2.8**
comp=Z,24nm,1.4s
IMW *e* 02 41 46.7
KSU1 Kansas State U 53.73 285 P **P 02 41 44.7 +4.4**
baz=24
KSU1 Kansas State U 53.73 285 *e*P **P 02 41 37.7 -2.5**
comp=Z,29nm,1.1s
KSU1 Kansas State U 53.73 285 *e*P **P 02 41 37.7 -2.5**
comp=Z,29nm,1.1s
KSU1 *e* 02 41 44.7
OGNE Ogallala 53.76 291 P P 02 41 45.3 +4.8
baz=24
Q35A Mercer Eighty, 53.77 285 P **P 02 41 44.6 +4.0**
baz=24
S40A Lebanon 53.77 281 P **P 02 41 45.0 +4.4**
baz=24,SNR=5.6
SWET Sewanee 53.78 274 *e*P P 02 41 45.6 +4.9
comp=Z,42nm,1.5s
HAWA Hanford 53.80 308 *e*P **P 02 41 42.4 +1.7**
comp=Z,41nm,1.5s
MOOW Moose Ponds 53.81 300 *e*P P 02 41 47.7 +6.7
comp=Z,22nm,1.8s
PBMO Poplar Bluff 53.84 278 *e*P P 02 41 46.9 +5.8
comp=Z,36nm,1.4s
U44A Portageville 53.85 278 P P 02 41 45.9 +4.8
baz=24
R37A Teagarden Farm 53.88 283 P P 02 41 45.8 +4.5
baz=24
U44B Burton Farm, H 53.89 277 P P 02 41 46.5 +5.1
baz=24
LOHW Long Hollow 53.90 299 *e*P P 02 41 47.3 +5.6
comp=Z,39nm,1.9s
S39A Bolivar 53.96 282 P **P 02 41 46.1 +4.1**
baz=24,SNR=6.0
FXWY Fox Creek 53.99 300 *e*P **P 02 41 44.4 +2.0**
comp=Z,30nm,1.6s
Q34A Chapman 54.00 285 P P 02 41 46.8 +4.5
baz=24
T41A Mountain View 54.04 280 P **P 02 41 46.6 +4.1**
baz=24,SNR=5.7
LON Longmire 54.05 310 *e*P P 02 41 47.9 +5.3
LON pmax pmax
comp=Z,37nm,1.6s
LON Longmire 54.05 310 *e*P P 02 41 47.9 +5.4
comp=Z,37nm,1.6s
SNOW Snow King Moun 54.08 299 *e*P P 02 41 49.8 +6.7
comp=Z,18nm,1.4s
R36A Gordon, Harris 54.09 284 P **P 02 41 46.9 +4.1**
baz=24,SNR=5.6
REDW Red Top Meadow 54.20 299 P **P 02 41 45.0 +1.1**
comp=Z,35nm,1.4s
S38A Stockton 54.20 282 P **P 02 41 48.0 +4.3**
baz=24,SNR=8.6
U43A Rector 54.21 278 P P 02 41 48.3 +4.5
baz=24
HIA Hailar 54.21 41 *i*P **P 02 41 42.2 -1.5**
HIA pmax pmax
comp=Z,6.0nm,1.0s
V45A Humboldt 54.31 277 P P 02 41 48.9 +4.4
baz=24
R35A Emporia Munici 54.31 284 P P 02 41 48.9 +4.4
baz=24
BW06 Boulder Array 54.37 298 P **P 02 41 49.4 +4.3**
baz=23,SNR=11
BW06 Boulder Array 54.37 298 *e*P **P 02 41 43.9 -1.2**
comp=Z,25nm,1.3s
BW06 Boulder Array 54.37 298 *e*P **P 02 41 43.9 -1.2**
comp=Z,25nm,1.3s
PD31 Pinedale Array 54.37 298 *e*P **P 02 41 43.0 -2.2**
PD31 Pinedale Array 54.37 298 *e*P **P 02 41 43.0 -2.2**
PDAR Pinedale Array 54.37 298 P **P 02 41 43.0 -2.2**
comp=Z,0.5nm,0.7s,baz=32,slow=5.8,SNR=5.1
PDAR LR LR 03 04 36.1
comp=Z,819nm,19.4s,baz=30,slow=36
PDAR Pinedale Array 54.37 298 P **P 02 41 43.0 -2.2**
S37A Fort Scott 54.38 283 P **P 02 41 48.9 +3.9**
baz=24,SNR=5.2
PHWY Pilot Hill 54.49 294 *e*P P 02 41 51.3 +5.2
comp=Z,25nm,1.4s
U42A Revenden 54.50 279 P P 02 41 50.3 +4.5
baz=24,SNR=8.8
V44A Blytheville 54.53 278 P P 02 41 50.8 +4.7
baz=24
T39A Clever 54.58 281 P **P 02 41 50.3 +3.8**
baz=24,SNR=5.2
S36A Lake Cedric, C 54.66 284 P **P 02 41 51.0 +4.0**
baz=24
R34A Isabella, Hill 54.67 285 P **P 02 41 51.4 +4.3**
baz=24
PLAL Pickwick Lake 54.71 275 *e*P P 02 41 52.8 +5.4
comp=Z,40nm,1.8s
U41A Viola 54.73 280 P P 02 41 52.0 +4.5
baz=24
V43A Jonesboro 54.79 278 P **P 02 41 52.3 +4.4**
baz=24
T38A Diamond 54.87 282 P **P 02 41 52.4 +3.9**
baz=24
W45A Hickory Valley 54.91 277 P **P 02 41 52.9 +4.1**
baz=24,SNR=5.8
S35A Otter Creek Ra 54.93 284 P **P 02 41 53.1 +4.1**
baz=24
F04A Amboy 54.97 310 *e*P **P 02 41 51.5 +2.4**
comp=Z,88nm,1.7s
CBKS Cedar Bluff 54.99 288 P **P 02 41 53.6 +4.1**
baz=24
CBKS Cedar Bluff 54.99 288 *e*P P 02 41 55.1 +5.6
CBKS pmax pmax
comp=Z,83nm,1.4s
CBKS Cedar Bluff 54.99 288 *e*P P 02 41 55.1 +5.7
comp=Z,83nm,1.4s
T37A Cheneyville 18 54.99 283 P **P 02 41 52.9 +3.5**
baz=24,SNR=5.6
N23A Red Feather La 55.01 294 P **P 02 41 53.5 +3.6**
baz=23,SNR=12
U40A Yellville 55.02 280 P **P 02 41 54.1 +4.4**
baz=24
HLID Hailey 55.02 302 P **P 02 41 53.4 +3.6**
baz=22,SNR=8.0
V42A Cord 55.05 279 P P 02 41 54.6 +4.8
baz=24
G06A Carlson Farm, 55.16 308 *e*P **P 02 41 53.5 +2.9**
comp=Z,32nm,1.5s
S34A Willow Spring 55.17 285 P **P 02 41 54.8 +4.0**
baz=24
U39A Green Forest 55.20 281 P **P 02 41 55.0 +4.0**
baz=24
V41A Mountainview 55.31 280 P P 02 41 56.6 +4.8
baz=24
T36A Boggs Farm, Ca 55.36 284 P **P 02 41 56.1 +4.0**
baz=24
HHAR Hobbs 55.44 281 *e*P P 02 41 57.6 +4.9
comp=Z,23nm,1.8s
U38A Gravette 55.44 282 P **P 02 41 56.6 +3.9**
baz=24,SNR=5.5
W43A Forest City 55.48 278 P P 02 41 58.0 +5.0
baz=23
V40A Witts Springs 55.52 280 P **P 02 41 57.5 +4.3**
baz=24
MFID Camas Ranch 55.55 304 *e*P **P 02 41 58.0 +4.4**
comp=Z,16nm,1.6s
W42A Bald Knob 55.58 279 P **P 02 41 58.0 +4.4**
baz=23
OXF Oxford 55.58 276 *e*P P 02 41 58.5 +4.8
OXF pmax pmax
comp=Z,42nm,1.3s
OXF Oxford 55.58 276 *e*P P 02 41 58.5 +4.8
comp=Z,42nm,1.3s
Y47A UCPARC, Winfie 55.62 275 P **P 02 41 58.1 +4.1**
baz=23
X45A UM Field Stati 55.65 276 P **P 02 41 58.0 +3.8**
baz=23
T35A Sooner Cattle 55.70 284 P **P 02 41 57.4 +2.9**
baz=24,SNR=8.6
U37A Salina 55.71 283 P **P 02 41 58.4 +3.7**
baz=23
KSCO Kaye Shedlock' 55.71 290 P P 02 41 59.8 +5.0
baz=23,SNR=6.4
KSCO Kaye Shedlock' 55.71 290 P **P 02 41 53.2 -1.6**
comp=Z,52nm,1.3s
KSCO Kaye Shedlock' 55.71 290 P **P 02 41 53.1 -1.6**
comp=Z,52nm,1.3s
V39A Pettigrew 55.75 281 P **P 02 41 58.1 +3.1**
baz=23
T34A McClaskey Farm 55.81 285 P **P 02 41 59.7 +4.3**
baz=23,SNR=6.4
X44A Crenshaw 55.83 277 P **P 02 41 59.7 +4.2**
baz=23
G03D McMinnville, O 55.85 310 P P 02 42 00.0 +4.5
baz=21
W41B Gary Mavity, V 55.90 279 P **P 02 41 60.0 +4.0**
baz=23
PEA1 Petropavlovsk- 55.91 12 *e*P **P 02 41 54.3 -1.5**
PEA1 Petropavlovsk- 55.91 12 *e*P **P 02 41 54.4 -1.5**
ISCO Idaho Springs 55.91 293 P **P 02 42 00.0 +3.6**
baz=23,SNR=11
ISCO Idaho Springs 55.91 293 P **P 02 41 54.8 -1.6**
ISCO *e* 02 42 01.7
ISCO pmax pmax
comp=Z,23nm,1.4s
ISCO Idaho Springs 55.91 293 P **P 02 41 54.8 -1.6**
comp=Z,22nm,1.4s
ISCO Idaho Springs 55.91 293 P **P 02 41 54.8 -1.6**
comp=Z,22nm,1.4s
ISCO *e* 02 42 01.7
PETK Petropavlovsk- 55.91 12 P **P 02 41 54.4 -1.5**
comp=Z,3.4nm,0.8s,baz=169,slow=8.2,SNR=3.0
PETK LR LR 03 06 56.7
comp=Z,127nm,18.1s,baz=13,slow=37
PETK Petropavlovsk- 55.91 12 P **P 02 41 54.4 -1.5**
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK MLR MLR
comp=Z,127nm,18.1s
Y46A Houston 55.97 276 P **P 02 42 00.6 +4.1**
baz=23
V38A Canehill 55.98 282 P **P 02 42 00.2 +3.6**
baz=23
Z48A Northport 56.00 274 P P 02 42 01.2 +4.5
baz=23
X43A Marvell 56.06 278 P P 02 42 02.3 +5.2
baz=23
W40A Ferguson Farm, 56.16 280 P P 02 42 03.4 +5.6
baz=23
V37A Hulbert 56.20 282 P **P 02 42 02.0 +3.9**
baz=23
Y45A Yeager Farm, C 56.21 276 P P 02 42 02.8 +4.6
baz=23
U35A Pawnee 56.26 284 P **P 02 42 02.7 +4.1**
baz=23
X42A Stuttgart 56.27 278 P P 02 42 03.3 +4.7
baz=23
Y44A Strider, Charl 56.34 277 P P 02 42 04.0 +4.8
baz=23
W39A Magazine 56.38 281 P P 02 42 05.0 +5.6
baz=23
O20A White River Ci 56.40 296 P **P 02 42 03.4 +3.7**
baz=23,SNR=23
TCUT Toone Canyon 56.42 299 *e*P P 02 42 05.7 +5.7
comp=Z,91nm,1.7s
TIGA Tifton 56.47 270 P P 02 42 05.3 +5.3
baz=23
Q24A Divide 56.54 293 P P 02 42 05.8 +4.9
baz=23,SNR=5.7
Q24A Divide 56.54 293 *e*P P 02 42 06.0 +5.1
comp=Z,26nm,1.5s
V36A Jenks 56.55 283 P P 02 42 05.2 +4.6
baz=23
Y43A Makayla and Ka 56.63 278 P P 02 42 06.7 +5.6
baz=23
Z46A Louisville 56.63 275 P **P 02 42 05.4 +4.2**
baz=23
Z45A Winona 56.72 276 P P 02 42 07.0 +5.2
baz=23
W38A Poteau 56.74 281 P P 02 42 06.8 +4.8
baz=23
V35A Meyer Ranch, C 56.86 284 P **P 02 42 07.1 +4.3**
baz=23
147A Livingston 56.88 275 P P 02 42 08.3 +5.3
baz=23
SMCO Snowmass 56.90 294 *e*P P 02 42 09.2 +5.6
comp=Z,25nm,1.3s
JLU Jordanelle 56.91 299 *e*P P 02 42 09.2 +5.8
comp=Z,20nm,1.4s
MIAR Mount Ida 56.91 280 P P 02 42 08.2 +5.0
baz=23
MIAR Mount Ida 56.91 280 *e*P **P 02 42 01.2 -2.0**
MIAR pmax pmax
comp=Z,62nm,1.9s
MIAR Mount Ida 56.91 280 *e*P **P 02 42 01.2 -2.0**
comp=Z,62nm,1.9s
MIAR Mount Ida 56.91 280 *e*P **P 02 42 01.2 -2.0**
comp=Z,62nm,1.9s
CTU Camp Tracy 56.91 299 *e*P P 02 42 09.4 +6.0
comp=Z,12nm,1.0s
W37B Quinton 56.97 282 P P 02 42 08.1 +4.5
baz=23
U32A Winter Ranch, 56.98 286 P P 02 42 08.2 +4.5
baz=23
Z44A Pea Ridge, Bel 57.05 277 P P 02 42 09.2 +5.1
baz=23
BGU Big Grassy Mou 57.07 300 *e*P **P 02 42 07.0 +2.6**
comp=Z,26nm,1.4s
X39A Fountain Ranch 57.12 281 P P 02 42 09.9 +5.2
baz=23
J05D Fort Rock, OR 57.13 308 P **P 02 42 08.9 +4.0**
baz=21,SNR=8.1
W36A Wetumka 57.23 283 P P 02 42 10.3 +4.9
baz=23
WVOR Wild Horse Val 57.23 305 *e*P P 02 42 10.4 +4.8
WVOR pmax pmax
comp=Z,11nm,1.6s
WVOR Wild Horse Val 57.23 305 *e*P P 02 42 10.4 +4.9
comp=Z,11nm,1.6s
248A Dixon Mills 57.24 274 P P 02 42 10.2 +4.6
baz=23
Y40A Okolona 57.30 280 P P 02 42 11.6 +5.6
baz=23
Z43A Armstrong Fami 57.37 278 P P 02 42 11.8 +5.3
baz=23
J04D Umpqua Nationa 57.40 309 P **P 02 42 10.5 +3.7**
baz=21
W35A Tecumseh 57.43 284 P P 02 42 11.6 +4.7
baz=23,SNR=7.4
X37A Clayton 57.46 282 P P 02 42 12.1 +5.0
baz=23
145A Houston Renfro 57.50 276 P P 02 42 12.3 +5.0
baz=23
MPU Maple Canyon 57.51 299 *e*P P 02 42 13.8 +6.2
comp=Z,34nm,1.7s
Z42A Norrel Spur, H 57.55 278 P P 02 42 12.7 +5.0
baz=23
247A Quitman 57.57 275 P P 02 42 12.5 +4.6
baz=23
Y39A Lockesburg 57.64 280 P P 02 42 13.3 +5.0
baz=23
DUG Dugway, Tooele 57.68 300 P P 02 42 14.3 +5.5
baz=22,SNR=13
NLU North Lily Min 57.69 299 *e*P **P 02 42 11.1 +2.1**
comp=Z,22nm,1.4s
P17A Butcher Ranch, 57.75 298 *e*P P 02 42 15.6 +6.3
comp=Z,28nm,1.5s
SDCO Great Sand Dun 57.76 292 P **P 02 42 13.9 +4.3**
baz=23,SNR=5.4
SDCO Great Sand Dun 57.76 292 *e*P P 02 42 15.4 +5.9
comp=Z,12nm,1.3s
246A Jackson Lee, B 57.77 275 P P 02 42 13.9 +4.6
baz=23
TOA1 Torodi Ar. Sit 57.78 171 *e*P **P 02 42 08.8 -0.7**
comp=Z,66nm,1.6s

TOA1	Torodi Ar. Sit	57.78 171	eP	P		02 42 08.8 -0.7
	comp=Z,66nm,1.6s					
TOA0	Torodi Ar. Sit	57.79 171	eP	P		02 42 09.9 +0.3
	comp=Z,20nm,0.9s					
TOA0	Torodi Ar. Sit	57.79 171	eP	P		02 42 09.9 +0.3
	comp=Z,20nm,0.9s					
TORD	Torodi Ar. Bea	57.79 171	P	P		02 42 08.8 -0.7
	comp=Z,21nm,1.2s,baz=350,slow=4.9,SNR=29					
TORD			LR	LR		03 08 13.4
	comp=Z,643nm,18.4s,baz=345,slow=37					
X36A	Centrahoma	57.79 283	P	P		02 42 14.2 +4.8
	baz=23,SNR=6.1					
Z41A	Richland Creek	57.84 279	P	P		02 42 15.3 +5.5
	baz=23					
Y38A	Idabel	57.86 281	P	P		02 42 14.4 +4.6
	baz=23					
ELK	Elko	57.86 302	P	P		02 42 09.4 -0.8
	comp=Z,0.2nm,0.5s,baz=58,slow=9.5,SNR=3.1					
143A	Socs Landing,	57.89 277	P	P		02 42 15.2 +5.1
	baz=23					
348A	Jackson	57.92 274	P	P		02 42 16.3 +5.9
	baz=22					
T25A	Trinidad	57.99 291	P	P		02 42 15.6 +4.6
	baz=23					
T25A	Trinidad	57.99 291	eP	P		02 42 16.4 +5.4
	comp=Z,15nm,1.4s					
245A	Little AP, Sta	58.01 276	P	P		02 42 15.8 +4.8
	baz=23					
Z40A	Long Farm, Mag	58.04 279	P	P		02 42 16.6 +5.5
	baz=23					
VBMS	Vicksburg	58.05 276	P	P		02 42 17.0 +5.9
	baz=23					
TMUT	Trail Mountain	58.05 298	eP	P		02 42 17.6 +6.1
	comp=Z,23nm,1.3s					
MHTCO	State Highway	58.08 291	eP	P		02 42 17.1 +5.4
	comp=Z,18nm,1.3s					
Y37A	Hugo	58.10 282	P	P		02 42 16.9 +5.3
	baz=23					
X35A	Drake	58.15 283	P	P		02 42 16.7 +4.7
	baz=23,SNR=7.3					
S22A	4UR Ranch, Cre	58.17 293	P	P		02 42 17.8 +5.4
	baz=22,SNR=11					
PV09	Paradox Valley	58.17 296	eP	P		02 42 18.1 +5.7
MOD	Modoc Plateau	58.17 307	P	P		02 42 09.3 -2.9
	comp=Z,18nm,1.1s					
MOD	Modoc Plateau	58.17 307	P	P		02 42 09.3 -2.9
	comp=Z,18nm,1.1s					
MOD			e			02 42 18.0
244A	Avery, Jackson	58.26 276	P	P		02 42 17.9 +5.2
	baz=23					
GTA	Gaotai	58.34 61	eP	P		02 42 13.3 -0.1
GTA			pP	sP		02 42 17.8 +1.8
GTA			sP	pP		02 42 20.3 +5.0
GTA			S	S		02 50 11.1 -4.9
GTA			sS	pS		02 50 18.3 0.0
GTA			SS	SS		02 54 02.1 -5.0
GTA			pmax	pmax		
	comp=Z,15nm,1.0s					
GTA			pmax	pmax		
	comp=Z,260nm,5.0s					
GTA			LR	LR		
	comp=Z,200nm,17.1s					
GTA			LR	LR		
	comp=Z,410nm,18.1s					
GTA			LR	LR		
	comp=Z,380nm,18.8s					
Q16A	Castle Valley	58.39 298	eP	P		02 42 19.8 +6.0
	comp=Z,58nm,1.9s					
Y36A	Durant	58.39 282	P	P		02 42 18.5 +4.9
	baz=23,SNR=5.7					
WMOK	Wichita Mounta	58.42 285	P	P		02 42 18.6 +4.8
	baz=23,SNR=6.1					
346A	Big Creek Wild	58.46 275	P	P		02 42 18.9 +4.7
	baz=22					
141A	Papa Simpson,	58.48 279	P	P		02 42 18.0 +3.8
	baz=23					
PV05	Paradox Valley	58.55 296	eP	P		02 42 20.2 +5.2
Z38A	Mt. Pleasant	58.56 281	P	P		02 42 20.2 +5.4
	baz=23					
Y35A	Marietta	58.62 283	P	P		02 42 20.2 +5.0
	baz=23,SNR=5.3					
140A	Cam and Jess,	58.66 279	P	P		02 42 20.8 +5.3
	baz=23					
243A	Waterproof	58.67 277	P	P		02 42 19.5 +3.9
	baz=22					
M04C	Macdoel	58.69 308	P	P		02 42 20.0 +4.2
	baz=20					
BMN	Battle Mountai	58.71 303	eP	P		02 42 21.2 +5.2
BMN			pmax	pmax		
	comp=Z,8.0nm,1.2s					
BMN	Battle Mountai	58.71 303	eP	P		02 42 21.2 +5.2
	comp=Z,7.5nm,1.2s					
242A	Grayson	58.73 278	P	P		02 42 21.5 +5.6
	baz=22					
447A	Lucedale	58.74 274	P	P		02 42 21.2 +5.2
	baz=22					
Z37A	Pogue Cattle C	58.82 281	P	P		02 42 21.6 +5.1
	baz=23					
344A	Westbrook Farm	58.82 276	P	P		02 42 21.8 +5.2
	baz=22					
446A	Poplarville	58.98 275	P	P		02 42 23.0 +5.3
	baz=22					
Z36A	Blue Ridge	59.01 282	P	P		02 42 23.1 +5.2
	baz=23					
241A	Mo Tay, Goldon	59.01 278	P	P		02 42 23.1 +5.2
	baz=22					
MSU	Marysvale	59.06 298	eP	P		02 42 20.2 +1.7
MSU	Marysvale	59.06 298	eP	P		02 42 20.2 +1.7
138A	Matatall Enter	59.14 281	P	P		02 42 24.3 +5.5
	baz=22					
MVCO	Mesa Verde	59.17 295	P	P		02 42 24.2 +4.9
	baz=22,SNR=14					
M02C	Callahan	59.32 308	P	P		02 42 23.2 +3.1
	baz=20					
137A	Heron Place, G	59.41 281	P	P		02 42 26.0 +5.3
	baz=22					
342A	Flagon Creek P	59.41 278	P	P		02 42 26.1 +5.3
	baz=22					
MTPU	Mount Pierson	59.49 298	eP	P		02 42 24.2 +2.5
	comp=Z,38nm,1.4s					
444A	Pine Grove	59.50 276	P	P		02 42 26.8 +5.5
	baz=22					
341A	Kurthwood	59.73 278	P	P		02 42 28.3 +5.4
	baz=22					
238A	Jacksonville	59.75 280	P	P		02 42 27.3 +4.2
	baz=22					
136A	Ennis	59.78 282	P	P		02 42 27.8 +4.5
	baz=22					
NATX	Nacogdoches	59.83 280	P	P		02 42 28.8 +5.2
	baz=22					
340A	Bronson	59.89 279	P	P		02 42 29.3 +5.3
	baz=22					
237A	Washetta, Mont	59.98 281	P	P		02 42 29.6 +4.9
	baz=22					
PAHR	Pah Rah Range	59.98 305	eP	P		02 42 26.6 +1.9
	comp=Z,31nm,1.4s					
WDC	Whiskeytown Da	60.00 308	eP	P		02 42 29.5 +4.8
WDC			pmax	pmax		
	comp=Z,13nm,1.1s					
WDC	Whiskeytown Da	60.00 308	eP	P		02 42 29.5 +4.8
	comp=Z,13nm,1.1s					
442A	Mamou	60.06 277	P	P		02 42 31.0 +5.8
	baz=22					
O03D	Paynes Creek	60.08 307	P	P		02 42 29.3 +4.0
	baz=20					
BEKR	Beckworth	60.09 306	eP	P		02 42 31.3 +5.7
	comp=Z,23nm,1.5s					
SZCU	Shurtz Canyon	60.17 299	eP	P		02 42 33.3 +7.2
	comp=Z,36nm,1.5s					
339A	Huntington	60.19 280	P	P		02 42 31.0 +5.0
	baz=22					
R11A	Troy Canyon, C	60.19 301	P	P		02 42 31.3 +5.0
	baz=21,SNR=12					
HHC	Hu-ho-hao-te	60.21 51	eP	P		02 42 27.4 +1.1
HHC			sP	sP		02 42 35.1 +6.2
HHC			S	S		02 50 36.8 -3.3
HHC			SS	SS		02 54 34.0 -2.3
HHC			pmax	pmax		
	comp=Z,20nm,0.9s					
HHC			pmax	pmax		
	comp=Z,110nm,5.7s					
HHC			LR	LR		
	comp=Z,380nm,14.8s					
HHC			LR	LR		
	comp=Z,320nm,14.4s					
HHC			LR	LR		
	comp=Z,440nm,16.0s					
236A	Katherine and	60.21 282	P	P		02 42 31.2 +4.9
	baz=22					
MSTX	Muleshoe	60.40 288	P	P		02 42 32.4 +4.8
	baz=22					
MSTX	Muleshoe	60.40 288	eP	P		02 42 33.1 +5.5
	comp=Z,19nm,1.1s					
338A	Crockett	60.41 280	P	P		02 42 32.8 +5.2
	baz=22					
543A	St. Martinvill	60.45 277	P	P		02 42 33.5 +5.6
	baz=22					
WHTX	Lake Whitney,	60.52 283	P	P		02 42 33.4 +5.0
	baz=22					
WHTX	Lake Whitney,	60.52 283	eP	P		02 42 34.2 +5.8
	comp=Z,26nm,1.5s					
440A	Kirbyville	60.53 279	P	P		02 42 34.1 +5.7
	baz=22					
645A	Chauvin	60.61 275	P	P		02 42 34.4 +5.4
	baz=22					
PNTR	Pine Nut	60.61 305	eP	P		02 42 35.5 +6.3
	comp=Z,50nm,1.5s					
YERR	Yerington	60.61 304	eP	P		02 42 31.1 +2.0
	comp=Z,66nm,1.4s					
CN2	Changchun	60.62 38	eP	P		02 42 31.3 +2.4
CN2			eS	S		02 50 41.8 -3.2
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=Z,300nm,20.0s					
CN2			LR	LR		
	comp=Z,400nm,20.0s					
CN2			LR	LR		
	comp=Z,300nm,19.0s					
KNB	Kanab	60.63 298	eP	P		02 42 32.0 +2.7
KNB			pmax	pmax		
	comp=Z,36nm,1.4s					
KNB	Kanab	60.63 298	eP	P		02 42 32.0 +2.7
	comp=Z,36nm,1.4s					
337A	Centerville	60.63 281	P	P		02 42 34.3 +5.2
	baz=22					
542A	Morse	60.64 277	P	P		02 42 34.6 +5.5
	baz=22					
ANMO	Albuquerque	60.64 292	P	P		02 42 28.7 -0.7
	comp=Z,1.1nm,0.9s,baz=235,slow=5.1,SNR=4.8					
ANMO	Albuquerque	60.64 292	P	P		02 42 34.2 +4.8
	baz=22					
ANMO	Albuquerque	60.64 292	i P	P		02 42 33.6 +4.2
ANMO			pmax	pmax		
	comp=Z,6.0nm,1.2s					
ANMO	Albuquerque	60.64 292	eP	P		02 42 28.1 -1.3
	comp=Z,12nm,1.2s					
ANMO	Albuquerque	60.64 292	eP	P		02 42 28.1 -1.3
	comp=Z,12nm,1.2s					
ANMO			e			02 42 34.9
ABTX	Abilene, Hawle	60.64 285	P	P		02 42 33.6 +4.4
	baz=22,SNR=6.4					
ABTX	Abilene, Hawle	60.64 285	eP	P		02 42 29.4 +0.2
	comp=Z,40nm,1.2s					
ABTX	Abilene, Hawle	60.64 285	eP	P		02 42 29.4 +0.2
	comp=Z,40nm,1.2s					
MDJ	Mudanjiang	60.65 35	P	P		02 42 30.6 +1.5
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,72nm,4.2s					
ORV	Oroville	60.69 307	eP	P		02 42 34.9 +5.5
ORV			pmax	pmax		
	comp=Z,14nm,1.4s					
ORV	Oroville	60.69 307	eP	P		02 42 34.9 +5.5
	comp=Z,14nm,1.4s					
439A	Center Grove,	60.75 280	P	P		02 42 35.4 +5.5
	baz=22					
336A	Riesel	60.88 282	P	P		02 42 35.0 +4.2
	baz=22					
438A	Sam Houston St	61.02 280	P	P		02 42 37.5 +5.7
	baz=22					
WAKR	Walker	61.12 304	eP	P		02 42 36.4 +3.8
	comp=Z,44nm,1.7s					
437A	Phantom Ranch,	61.17 281	P	P		02 42 37.2 +4.5
	baz=22					
LAZ	Ladron	61.35 292	eP	P		02 42 37.1 +2.9
BNM	Barren Site	61.43 292	eP	P		02 42 38.0 +3.2
W18A	Petrified Fore	61.48 295	P	P		02 42 39.2 +4.1
	baz=21,SNR=9.2					
USRK	Ussuriysk Ar.	61.50 33	LR	LR		03 09 39.5
	comp=Z,265nm,21.0s,baz=339,slow=36					
WUAZ	Wupatki	61.60 296	P	P		02 42 39.9 +4.1
	baz=21,SNR=7.5					
WUAZ	Wupatki	61.60 296	eP	P		02 42 33.9 -2.0
	comp=Z,43nm,1.6s					
WUAZ	Wupatki	61.60 296	eP	P		02 42 33.9 -2.0
	comp=Z,43nm,1.6s					
WUAZ			e			02 42 41.1
435B	Jarrell	61.68 282	P	P		02 42 41.3 +5.0
	baz=22					
TPNV	Topopah Spring	61.68 301	P	P		02 42 40.7 +4.3
	baz=21,SNR=9.6					
SHPR	Sheep Range	61.78 300	eP	P		02 42 40.4 +3.3
	comp=Z,26nm,1.4s					
HKT	Hockley	61.88 280	eP	P		02 42 36.3 -1.2
HKT			pmax	pmax		
	comp=Z,22nm,1.5s					
HKT	Hockley	61.88 280	eP	P		02 42 36.3 -1.2
	comp=Z,22nm,1.5s					
HKT	Hockley	61.88 280	eP	P		02 42 36.3 -1.2
	comp=Z,22nm,1.5s					
GRAC	Grapevine Rang	61.95 302	P	P		02 42 42.5 +4.4
	baz=20					
X18A	Snowflake	62.09 295	eP	P		02 42 44.1 +4.9
	comp=Z,17nm,1.8s					
BJI	Beijing	62.12 47	P	P		02 42 39.3 +0.2
BJI			S	S		02 51 01.4 -2.8
BJI			pmax	pmax		
	comp=Z,11nm,1.0s					
BJI			pmax	pmax		
	comp=Z,190nm,4.0s					
BJI			LR	LR		
	comp=Z,670nm,15.2s					
BJI			LR	LR		
	comp=Z,210nm,9.7s					
BJI			LR	LR		
	comp=Z,550nm,22.8s					
TIN	Tinemaha, Big	62.14 303	P	P		02 42 43.7 +4.3
	baz=20					
FURC	Furnace Creek,	62.31 301	P	P		02 42 44.6 +4.3
	baz=20					
637A	Eagle Lake	62.51 280	P	P		02 42 47.2 +5.4
	baz=22					
LZH	Lanzhou	62.59 59	eP	P		02 42 42.5 0.0
LZH			pP	sP		02 42 47.6 +2.5
LZH			sP	pP		02 42 50.1 +5.7
LZH			PP	PP		02 45 01.4 +1.8
LZH			eS	S		02 51 05.6 -4.9
LZH			sS	pS		02 51 13.3 +0.4
LZH			eSS	SS		02 55 09.5 -4.3
LZH			pmax	pmax		
	comp=Z,29nm,1.0s					
LZH			pmax	pmax		
	comp=Z,120nm,5.7s					
LZH			LR	LR		
	comp=Z,700nm,15.0s					
LZH			LR	LR		
	comp=Z,610nm,15.3s					
LZH			LR	LR		
	comp=Z,850nm,18.2s					
SHOC	Shoshone, Teco	62.67 301	P	P		02 42 47.2 +4.4
	baz=20,SNR=5.7					
CWC	Cottonwood Cre	62.67 303	P	P		02 42 46.3 +3.2
	baz=20					
JCT	Junction City	62.67 284	P	P		02 42 48.0 +5.0
	baz=22,SNR=7.1					
JCT	Junction City	62.67 284	eP	P		02 42 45.4 +2.4
JCT			pmax	pmax		
	comp=Z,28nm,1.3s					
JCT	Junction City	62.67 284	eP	P		02 42 45.4 +2.4
	comp=Z,28nm,1.3s					
DAC	Darwin (Calif)	62.69 302	eP	P		02 42 42.1 -1.1
DAC			e			02 42 48.6
DAC			pmax	pmax		
	comp=Z,21nm,1.4s					
DAC	Darwin (Calif)	62.69 302	eP	P		02 42 42.1 -1.1
	comp=Z,21nm,1.4s					
DAC	Darwin (Calif)	62.69 302	eP	P		02 42 42.1 -1.1
	comp=Z,21nm,1.4s					
DAC			e			02 42 48.6
636A	Smothers Creek	62.71 281	P	P		02 42 47.5 +4.3
	baz=22					
W13A	Hualapai Mount	62.73 298	eP	P		02 42 49.5 +6.1
	comp=Z,12nm,1.3s					
MPMC	Manual Prospec	62.87 302	P	P		02 42 49.5 +5.1
	baz=20,SNR=12					
TUQ	Turquoise Moun	63.00 300	P	P		02 42 49.6 +4.4
	baz=20					
LDFC	Landfair	63.10 299	eP	P		02 42 51.8 +5.9
	comp=Z,33nm,1.3s					
RCTC	Rector, Farmer	63.12 303	P	P		02 42 50.9 +5.1
	baz=20					
737A	Port Lavaca	63.17 280	P	P		02 42 51.3 +5.1
	baz=22					
736A	Circle Diamond	63.20 281	P	P		02 42 51.9 +5.5
	baz=22					
NEE2	Needles Airpor	63.25 299	P	P		02 42 51.3 +4.6
	baz=20					
121A	Cookes Peak, D	63.29 292	P	P		02 42 52.3 +5.1
	baz=21,SNR=6.6					
MNTX	Cornudas Mount	63.32 290	P	P		02 42 52.0 +4.8
	baz=21,SNR=5.7					
GSC	Goldstone, Bar	63.38 301	P	P		02 42 52.4 +4.8
	baz=20,SNR=5.7					
GSC	Goldstone, Bar	63.38 301	eP	P		02 42 54.1 +6.4
GSC			pmax	pmax		
	comp=Z,17nm,1.5s					
GSC	Goldstone, Bar	63.38 301	eP	P		02 42 54.1 +6.5
	comp=Z,17nm,1.5s					
LRMC	Laurel Mtn Rad	63.46 302	P	P		02 42 52.0 +3.8
	baz=20					
ISA	Isabella, Lake	63.51 303	P	P		02 42 53.6 +5.1
	baz=20					
ISA	Isabella, Lake	63.51 303	eP	P		02 42 54.9 +6.4
ISA			pmax	pmax		
	comp=Z,40nm,1.4s					
ISA	Isabella, Lake	63.51 303	eP	P		02 42 54.9 +6.4
	comp=Z,40nm,1.4s					
VES	Vestal, Richgr	63.52 303	P	P		02 42 52.6 +4.2
	baz=20					
GMRC	Granite Mounta	63.54 300	P	P		02 42 53.6 +4.9
	baz=20,SNR=10.0					
PDMCI	Parker Dam,Lak	63.55 298	P	P		02 42 53.6 +5.0
	baz=20,SNR=7.2					
Y14A	Wickenburg	63.55 297	eP	P		02 42 54.7 +5.9
	comp=Z,36nm,1.2s					
PYUN	Piuthan	63.56 81	eP	P		02 42 48.8 -0.3
	comp=Z,102nm,1.2s					
DANN	Dangsing	63.58 80	eP	P		02 42 49.7 +0.4
EPT	El Paso	63.60 291	eP	P		02 42 55.7 +6.5
	comp=Z,59nm,1.7s					
PMPB	Monarch Peak	63.64 305	eP	P		02 42 56.3 +7.0
	comp=Z,66nm,1.4s					
HEC	Hector,Ludlow	63.69 300	P	P		02 42 55.1 +5.4
	baz=20,SNR=7.3					
PAGB	Antelope Grade	63.94 304	eP	P		02 42 58.0 +6.8
	comp=Z,22nm,1.2s					
IRM	Iron Mountain	63.97 299	P	P		02 42 56.8 +5.3
	baz=20,SNR=5.7					
DBIC	Dimbokro	64.02 178	LR	LR		03 11 26.0
	comp=Z,351nm,18.5s,baz=346,slow=37					
KOLN	Koldanda	64.06 80	eP	P		02 42 51.7 -0.7
835A	Beeville	64.07 281	P	P		02 42 57.9 +5.7
	baz=21					
EDW2	Edwards Air Fo	64.11 302	P	P		02 42 57.9 +5.4
	baz=20,SNR=7.8					
Y12C	Blythe	64.17 298	P	P		02 42 58.4 +5.6
	baz=20,SNR=7.4					
Y12C	Blythe	64.17 298	eP	P		02 42 59.1 +6.3
	comp=Z,36nm,1.4s					
GKN	Gorkha	64.19 79	eP	P		02 42 52.7 -0.4
SMMC	Simmler	64.26 304	P	P		02 42 58.1 +4.7
	baz=20					
BELC	Belle Mtn. Jos	64.37 300	P	P		02 42 59.5 +5.3
	baz=20,SNR=11					
BBRC	Big Bear Solar	64.39 301	P	P		02 42 57.8 +3.4
	baz=20					
TUC	Tucson	64.41 295	P	P		02 42 57.8 +3.4
	baz=21					
TUC	Tucson	64.41 295	eP	P		02 42 54.3 -0.2
TUC			pmax	pmax		
	comp=Z,26nm,1.5s					
TUC	Tucson	64.41 295	eP	P		02 42 54.2 -0.2
	comp=Z,26nm,1.5s					
TUC	Tucson	64.41 295	eP	P		02 42 54.2 -0.2
	comp=Z,26nm,1.5s					
BC3	Big Chuckawall	64.53 299	P	P		02 43 00.5 +5.2
	baz=20,SNR=7.6					
833A	Chaparral WMA,	64.54 283	P	P		02 43 00.8 +5.5
	baz=21					
KKN	Kakani	64.59 79	eP	P		02 42 55.7 -0.2
PKM	Mcpherson Peak	64.61 303	P	P		02 43 00.8 +4.9
	baz=20					
BFSC	Mount Baldy Ra	64.62 301	P	P		02 43 00.8 +5.0
	baz=20,SNR=6.6					
GUN	Gumba	64.68 78	eP	P		02 42 56.3 -0.3
	comp=Z,80nm,1.0s					
DMN	Daman	64.70 79	eP	P		02 42 56.3 -0.4
MWC	Mount Wilson	64.74 302	eP	P		02 43 03.0 +6.2
MWC			pmax	pmax		
	comp=Z,33nm,1.4s					
MWC	Mount Wilson	64.74 302	eP	P		02 43 03.0 +6.2
	comp=Z,33nm,1.4s					
DECC	Green Verdugo	64.79 302	P	P		02 43 00.4 +3.6
	baz=20					
319A	Douglas	64.82 293	eP	P		02 43 02.5 +5.3
	comp=Z,17nm,1.1s					
PKIN	Phulchoki	64.83 79	eP	P		02 42 56.7 -0.8
PKI	Pulchoki	64.84 79	eP	P		02 42 56.8 -0.8
PFO	Pinyon Flats O	64.86 300	P	P		02 43 02.6 +5.2
	baz=20					
PFO	Pinyon Flats O	64.86 300	eP	P		02 43 03.7 +6.2
PFO			pmax	pmax		
	comp=Z,12nm,1.3s					
PFO	Pinyon Flats O	64.86 300	eP	P		02 43 03.7 +6.3
	comp=Z,12nm,1.3s					
XPFO	Piæon Flat	64.86 300	eP	P		02 43 03.7 +6.2
	comp=Z,12nm,1.3s					
113A	Mohawk Valley,	64.87 297	eP	P		02 42 60.0 +2.6
	comp=Z,21nm,1.5s					
GLA	Glamis	64.92 298	P	P		02 43 02.8 +5.1
	baz=20					
GLA	Glamis	64.92 298	eP	P		02 43 04.1 +6.4
GLA			pmax	pmax		
	comp=Z,25nm,1.1s					
GLA	Glamis	64.92 298	eP	P		02 43 04.1 +6.4
	comp=Z,25nm,1.1s					
934A	Benavides	64.92 282	P	P		02 43 03.3 +5.6
	baz=21					
TXAR	Lajitas Array	64.97 287	P	P		02 42 56.0 -2.2
	comp=Z,0.8nm,0.7s,baz=48,slow=4.1,SNR=13					
TXAR			LR	LR		03 11 21.4
	comp=Z,506nm,19.2s,baz=0.0,slow=36					
JIRN	Jiri	65.01 78	eP	P		02 42 58.7 -0.1
MURC	Murrieta	65.08 301	P	P		02 43 03.8 +5.0
	baz=20					
BLG	Laguna Peak, P	65.14 302	P	P		02 43 03.9 +4.8
	baz=20					
933A	Laredo	65.16 282	P	P		02 43 05.0 +5.7
	baz=21					
SWSC	Sam W. Stewart	65.30 299	P	P		02 43 06.0 +5.9
	baz=20,SNR=6.9					
214A	Organ Pipe Nat	65.34 296	P	P		02 43 05.0 +4.5
	baz=20					
SCZ2	Santa Cruz Isl	65.40 303	P	P		02 43 05.9 +5.0
	baz=20					
035A	Encino	65.41 281	P	P		02 43 06.6 +5.8
	baz=21					
034A	Hebbronville	65.48 282	P	P		02 43 07.3 +6.0
	baz=21					
MONP2	Monument Peak	65.53 300	P	P		02 43 07.3 +5.4
	baz=20,SNR=5.8					
CIS	Catalina Islan	65.62 302	P	P		02 43 07.4 +5.2
	baz=20,SNR=5.5					
IKP	In-Ko-Pah, Jac	65.66 299	P	P		02 43 08.2 +5.6
	baz=20,SNR=7.1					
109C	Camp Elliot, M	65.72 300	P	P		02 43 08.3 +5.5
	baz=20					
TAPN	Taplejung	65.79 77	eP	P		02 43 03.6 -0.1
BAR	Barrett	65.80 300	eP	P		02 43 10.4 +7.0
	comp=Z,11nm,1.1s					
RAMN	Ramite	65.80 78	eP	P		02 43 02.7 -1.1
035Z	Hargill	65.83 281	P	P		02 43 09.5 +5.9
	baz=21					
XAN	Xi'an	65.92 55	P	P		02 43 03.3 -0.9
XAN			PP	PP		02 45 28.3 -0.4
XAN			S	S		02 51 46.6 -5.0
XAN			SS	SS		02 55 58.5 -7.1

XAN					pmax	pmax		
	comp=Z,17nm,1.2s							
XAN					pmax	pmax		
	comp=Z,170nm,5.5s							
XAN					LR	LR		
	comp=Z,120nm,22.9s							
XAN					LR	LR		
	comp=Z,450nm,22.4s							
XAN					LR	LR		
	comp=Z,510nm,19.5s							
SCI2	**San Clemente I**	**66.05**	**302**		P	P	02 43 10.6	+5.6
	baz=20,SNR=6.8							
SNCC	**San Nicolas Is**	**66.07**	**303**	*e*P	P	P	02 43 11.7	+6.6
	comp=Z,32nm,1.3s							
ODAN	**Odare**	**66.14**	**77**	*e*P	**P**	**P**	**02 43 05.4**	**-0.5**
	comp=Z,38nm,0.9s							
KSRS	**Korea Array**	**67.23**	**38**	P	**P**	**P**	**02 43 11.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=0.0,slow=7.3,SNR=2.8							
KS15	**Wonju Array Si**	**67.24**	**38**	*e*P	**P**	**P**	**02 43 11.6**	**-0.9**
KS15	**Wonju Array Si**	**67.24**	**38**	*e*P	**P**	**P**	**02 43 11.6**	**-0.9**
KSAR	**Wonju Array Be**	**67.24**	**38**	P	**P**	**P**	**02 43 11.6**	**-0.9**
KSAR	**Wonju Array Be**	**67.24**	**38**	P	**P**	**P**	**02 43 11.6**	**-0.9**
KSAR	**Wonju Array Be**	**67.24**	**38**	P	**P**	**P**	**02 43 11.6**	**-0.9**
CD2	**Chengdu**	**67.41**	**61**	*e*P	**P**	**P**	**02 43 13.6**	**-0.2**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
LNIG	**Linares**	**67.74**	**282**	*e*P	P	P	02 43 21.2	+5.4
	comp=Z,11nm,1.3s							
ENH	**Enshi**	**69.63**	**56**	*e*P	**P**	**P**	**02 43 27.0**	**-0.6**
	comp=Z,39nm,1.4s							
ENH	**Enshi**	**69.63**	**56**	*e*P	**P**	**P**	**02 43 27.0**	**-0.6**
	comp=Z,39nm,1.4s							
MJAR	**Matsushiro Arr**	**70.02**	**30**	P	**P**	**P**	**02 43 29.2**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=341,slow=7.0,SNR=7.4							
MJAR	**Matsushiro Arr**	**70.02**	**30**	P	**P**	**P**	**02 43 29.2**	**-0.7**
MJAR					pmax	pmax		
	comp=Z,4.0nm,0.8s							
NJ2	**Nanjing**	**70.38**	**47**	*e*P	**P**	**P**	**02 43 35.0**	**+2.9**
ZAIG	**Zacatecas**	**70.73**	**284**	*e*P	P	P	02 43 41.7	+6.9
	comp=Z,25nm,1.6s							
GYA	**Guiyang**	**72.44**	**60**	*e*P	**P**	**P**	**02 43 47.0**	**+2.2**
GYA				PP	**PP**	**PP**	**02 46 28.9**	**+3.6**
GYA				S	**S**	**S**	**02 53 06.3**	**-2.6**
GYA					pmax	pmax		
	comp=Z,20nm,1.0s							
GYA					pmax	pmax		
	comp=Z,120nm,6.8s							
KMI	**Kunming**	**72.55**	**64**	P	**P**	**P**	**02 43 45.6**	**0.0**
KMI					pmax	pmax		
	comp=Z,18nm,0.6s							
KMI					pmax	pmax		
	comp=Z,120nm,4.2s							
KMI					LR	LR		
	comp=Z,230nm,15.2s							
KMI					LR	LR		
	comp=Z,280nm,17.1s							
KMI					LR	LR		
	comp=Z,250nm,18.4s							
KMBO	**Kilima Mbogo**	**77.20**	**135**	P	**P**	**P**	**02 44 11.8**	**-0.7**
	comp=Z,2.8nm,1.1s,baz=8.8,slow=6.7,SNR=6.4							
KMBO					LR	LR	03 19 41.7	
	comp=Z,76nm,21.8s,baz=300,slow=37							
KMBO	**Kilima Mbogo**	**77.20**	**135**	*e*P	**P**	**P**	**02 44 11.8**	**-0.7**
	comp=Z,11nm,1.5s							
KMBO	**Kilima Mbogo**	**77.20**	**135**	*e*P	**P**	**P**	**02 44 11.8**	**-0.7**
	comp=Z,11nm,1.5s							
CHTO	**Chiang Mai**	**77.32**	**69**	*e*P	**P**	**P**	**02 44 12.6**	**-0.4**
CHTO					pmax	pmax		
	comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**77.32**	**69**	*e*P	**P**	**P**	**02 44 12.6**	**-0.4**
	comp=Z,12nm,1.0s							
CHTO	**Chiang Mai**	**77.32**	**69**	*e*P	**P**	**P**	**02 44 12.6**	**-0.4**
	comp=Z,12nm,1.0s							
HELC	**Santa Helena**	**77.39**	**252**	*e*P	P	P	02 44 20.5	+6.7
	comp=Z,109nm,1.6s							
CM31	**Chiang Mai Arr**	**77.66**	**70**	*e*P	**P**	**P**	**02 44 14.8**	**-0.1**
CM31	**Chiang Mai Arr**	**77.66**	**70**	*e*P	**P**	**P**	**02 44 14.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**77.66**	**70**	P	**P**	**P**	**02 44 14.8**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=322,slow=6.2,SNR=11							
CMAR					LR	LR	03 24 58.5	
	comp=Z,119nm,19.0s,baz=347,slow=41							
ROSC	**El Rosal**	**78.28**	**251**		LR	LR	03 15 24.3	
	comp=Z,150nm,20.6s,baz=6.5,slow=33							
ROSC	**El Rosal**	**78.28**	**251**	*e*P	**P**	**P**	**02 44 21.6**	**+2.8**
	comp=Z,14nm,1.3s							
PTGA	**Pitinga**	**79.35**	**235**	*e*P	P	P	02 44 31.1	+7.0
	comp=Z,22nm,1.5s							
PRAC	**Prado**	**79.52**	**251**	*e*P	**P**	**P**	**02 44 28.2**	**+3.1**
	comp=Z,26nm,1.3s							
LSZ	**Lusaka**	**89.05**	**147**	P	**P**	**P**	**02 45 13.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=131,slow=3.4,SNR=3.3							
LSZ	**Lusaka**	**89.05**	**147**	*e*P	**P**	**P**	**02 45 14.3**	**+0.9**
LSZ					pmax	pmax		
	comp=Z,13nm,1.6s							
LSZ	**Lusaka**	**89.05**	**147**	*e*P	**P**	**P**	**02 45 14.3**	**+0.9**
	comp=Z,13nm,1.6s							
LSZ	**Lusaka**	**89.05**	**147**	*e*P	**P**	**P**	**02 45 14.3**	**+0.9**
	comp=Z,13nm,1.6s							
BDFB	**Brasilia**	**90.80**	**220**		LR	LR	03 19 28.3	
	comp=Z,190nm,18.8s,baz=190,slow=31							
PSI	**Prapat**	**92.39**	**75**	P	**P**	**P**	**02 45 28.3**	**-0.9**
	comp=Z,11nm,1.0s,baz=252,slow=6.4,SNR=6.5							
PSI	**Prapat**	**92.39**	**75**	*e*P	**P**	**P**	**02 45 28.4**	**-0.7**
PSI					pmax	pmax		
	comp=Z,15nm,1.2s							
PSI	**Prapat**	**92.39**	**75**	*e*P	**P**	**P**	**02 45 28.4**	**-0.7**
	comp=Z,15nm,1.2s							
TAOE	**Nuku Hiva Isla**	**111.78**	**310**	*e*LR	LR	LR	03 24 11.6	
	comp=Z,199nm,28.4s							
PPT2	**Papeete2**	**122.45**	**317**	*e*SS	SS	SS	03 09 37.0	+6.5
	comp=Z,92nm,25.8s							
PPT2	**Papeete2**	**122.45**	**317**	*e*LR	LR	LR	03 29 08.3	
	comp=Z,403nm,37.0s							
RKT	**Rikitea**	**123.97**	**300**	*e*LR	LR	LR	03 29 54.6	
	comp=Z,5μm,41.2s							
WR1	**Warramunga Arr**	**124.15**	**46**	*e*PKPpre	**PKPdf**	**PKPdf**	**02 51 14.6**	**-2.1**
WRA	**Warramunga Arr**	**124.15**	**46**	PKP	**PKPdf**	**PKPdf**	**02 51 14.6**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=346,slow=3.0,SNR=3.7							
AS31	**Alice Springs**	**127.62**	**48**	*e*PKPpre	**PKPdf**	**PKPdf**	**02 51 21.2**	**-2.1**
ASAR	**Alice Springs**	**127.62**	**48**	PKP	**PKPdf**	**PKPdf**	**02 51 21.2**	**-2.1**
	comp=Z,1.7nm,1.1s,baz=59,slow=2.0,SNR=6.3							
MAW	**Mawson**	**145.73**	**140**	PKPbc	**PKPdf**	**PKPdf**	**02 51 54.8**	**-0.3**
	comp=Z,8.8nm,1.0s,baz=351,slow=4.4,SNR=13							
MAW	**Mawson**	**145.73**	**140**	*e*PKIKP	**PKPab**	**PKPab**	**02 51 55.9**	**-0.1**
MAW	**Mawson**	**145.73**	**140**	*e*PKPdf	**PKPab**	**PKPab**	**02 51 55.9**	**-0.1**

IDC ***25*** *02:33:52.6±0.7,38°.61N×43°.19E, h0km, mb4.2/11, mb1 4.1/19, mb1mx3.9/71, mbtmp4.0/19, ML3.2/8, MS3.0/5, Ms1 3.0/5, ms1mx2.8/39, Error ellipse: s-maj=13.7km s-min=8.9km az=145.0*
MOS ***25*** *02:33:52.7±1.9,38°.49N×43°.30E, h10km, mb4.7/9, Error ellipse: s-maj=9.2km s-min=6.4km az=81.3*
ISK ***25*** *02:33:53.2, 38°.76N×43°.22E, h3km, ML4.3*
NEIC ***25*** *02:33:53.1±0.0, 38°.75N×43°.17E, h5km, mb4.7/12, ML4.1(ISK), After ISK.*
ISCJB ***25*** *02:33:55.0±0.5, 38°.67N±0°.02×43°.18E±0°.02, h15km±3km, mb4.3/18, MS2.6/1, Error ellipse: s-maj=3.1km s-min=2.2km az=168.4*
DDA ***25*** *02:33:54.3, 38°.77N×43°.15E, h12km, Ml4.4*
AZER ***25*** *02:33:55.8±0.5, 38°.71N×43°.21E, h8km, Error ellipse: s-maj=4.5km s-min=3.3km az=13.0*
CSEM ***25*** *02:33:55.7±0.1, 38°.64N×43°.19E, h15km, mb4.5/14, Error ellipse: s-maj=4.2km s-min=2.9km az=166.0*
ISC 25 02:33:54.8±0.7, 38°.73N±0°.01×43°.18E±0°.02, h12km±4km, n249, σ1§77/313, mb4.6/18, 34C-33D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**130**	*e*PG	**Pg**	**02 33 59.7**	**+0.3**
VANB				*e*SG	**Sb**	02 34 04.3	+1.8
VANB	**Van**	**0.21**	**130**	*e*Pg	**Pg**	**02 33 59.7**	**+0.3**
VANB				*e*Sg	**Sb**	02 34 04.3	+1.8
TVAN	**Van**	**0.27**	**139**	||*i*P	**Pb**	**02 34 02.3**	**+0.7**
TVAN				*i* S	**Sb**	**02 34 07.1**	**+0.9**
TVAN	**Van**	**0.27**	**139**	P	**Pb**	**02 34 02.3**	**+0.7**
TVAN				S	**Sb**	**02 34 07.1**	**+0.9**
GEVA	**Gevas**	**0.43**	**193**	||*i*P	**Pg**	**02 34 02.5**	**-0.8**
GEVA				*i* S	**Sg**	**02 34 09.0**	**0.0**
GEVA	**Gevas**	**0.43**	**193**	P	**Pg**	**02 34 02.5**	**-0.8**
GEVA				S	**Sg**	**02 34 09.0**	**0.0**
TUTA	**Tutak**	**0.73**	**337**	||*i*P	**Pg**	**02 34 07.8**	**-1.2**
TUTA				*i* S	**Sg**	**02 34 17.7**	**-0.9**
TUTA	**Tutak**	**0.73**	**337**	P	**Pg**	**02 34 07.8**	**-1.2**
TUTA				S	**Sg**	**02 34 17.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.86**	**350**	*e*PG	**Pg**	**02 34 10.0**	**-1.4**
AGRB				*e*SG	**Sg**	**02 34 22.3**	**-0.3**
DYDN	**Diyadin**	**0.90**	**26**	||*i*P	**Pg**	**02 34 10.2**	**-2.1**
DYDN				*i* S	**Sg**	**02 34 23.0**	**-1.1**
DYDN	**Diyadin**	**0.90**	**26**	P	**Pg**	**02 34 10.1**	**-2.1**
DYDN				S	**Sg**	**02 34 23.0**	**-1.1**
BASK	**Baskale_VAN**	**0.94**	**136**	*i* P	**Pg**	**02 34 10.9**	**-1.9**
BASK	**Baskale_VAN**	**0.94**	**136**	P	**Pg**	**02 34 10.9**	**-1.9**
EKAR	**Karacoban**	**1.02**	**301**	||*i*P	**Pb**	**02 34 14.0**	**-0.5**
EKAR	**Karacoban**	**1.02**	**301**	P	**Pb**	**02 34 14.0**	**-0.5**
HAKT	**HAKKARI**	**1.24**	**160**	||*i*P	**Pn**	**02 34 16.1**	**-2.0**
HAKT				*i* S	**Sb**	**02 34 29.8**	**-4.5**
HAKT	**HAKKARI**	**1.24**	**160**	P	**Pn**	**02 34 16.1**	**-2.0**
HAKT				S	**Sb**	**02 34 29.8**	**-4.5**
EATA	**Eleskirt**	**1.25**	**335**	||*i*P	**Pn**	**02 34 17.3**	**-1.1**
EATA				*i* S	**Sb**	**02 34 35.1**	**+0.4**
EATA	**Eleskirt**	**1.25**	**335**	P	**Pn**	**02 34 17.3**	**-1.1**
SIRN	**S¨–rnak**	**1.37**	**207**	⇑*i*P	**Pn**	**02 34 19.8**	**0.0**
SIRN				*i* S	**Sg**	**02 34 42.1**	**+3.1**
SIRN	**S¨–rnak**	**1.37**	**207**	P	**Pn**	**02 34 19.8**	**0.0**
SIRN				S	**Sg**	**02 34 42.1**	**+3.1**
VRTB	**Varto-Mus**	**1.41**	**288**	*e*PN	**Pn**	**02 34 20.9**	**+0.4**
VRTB	**Varto-Mus**	**1.41**	**288**	*i* P	**Pn**	**02 34 20.0**	**-0.4**
VRTB				*i* S	**Sg**	**02 34 43.2**	**+2.9**
VRTB	**Varto-Mus**	**1.41**	**288**	P	**Pn**	**02 34 20.0**	**-0.4**
VRTB	**Varto-Mus**	**1.41**	**288**	*e*Pn	**Pn**	**02 34 20.9**	**+0.4**
VRTB				S	**Sg**	**02 34 43.2**	**+2.9**
CUKT	**Cukurca**	**1.52**	**167**	*e*PN	**Pb**	**02 34 22.6**	**-0.3**
CUKT	**Cukurca**	**1.52**	**167**	||*i*P	**Pb**	**02 34 23.1**	**+0.2**
CUKT				*i* S	**Sg**	**02 34 47.1**	**+3.4**
CUKT	**Cukurca**	**1.52**	**167**	*e*Pn	**Pb**	**02 34 22.6**	**-0.3**
CUKT	**Cukurca**	**1.52**	**167**	P	**Pb**	**02 34 23.1**	**+0.2**
BNGL	**BINGOL**	**1.60**	**279**	*i* P	**Pn**	**02 34 23.4**	**+0.3**
BNGL				*i* S	**Sg**	**02 34 47.2**	**+0.8**
HOMI	**Horasan**	**1.65**	**323**	||*i*P	**Pn**	**02 34 24.3**	**+0.6**
HOMI				*i* S	**Sb**	**02 34 46.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.66**	**250**	*e*PN	**Pn**	**02 34 24.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.66**	**250**	⇑*i*P	**Pn**	**02 34 24.5**	**+0.7**
SVAN				*i* S	**Sg**	**02 34 49.4**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.66**	**250**	P	**Pn**	**02 34 24.5**	**+0.7**
SVAN				S	**Sg**	**02 34 49.4**	**+1.2**
DIGO	**Kars**	**1.69**	**5**	||*i*P	**Pn**	**02 34 25.1**	**+0.8**
DIGO	**Kars**	**1.69**	**5**	P	**Pn**	**02 34 25.1**	**+0.8**
BTMN	**Batman**	**1.72**	**241**	⇑*i*P	**Pn**	**02 34 25.7**	**+1.1**
BTMN				*i* S	**Sb**	**02 34 49.0**	**+1.0**
BTMN	**Batman**	**1.72**	**241**	P	**Pn**	**02 34 25.7**	**+1.1**
BTMN				S	**Sb**	**02 34 49.0**	**+1.0**
ERZM	**Erzurum**	**1.83**	**310**	*i* P	**Pb**	**02 34 27.8**	**-0.6**
ERZM				*i* S	**Sb**	**02 34 51.1**	**-0.3**
ERZM	**Erzurum**	**1.83**	**310**	P	**Pb**	**02 34 27.8**	**-0.6**
ERZM				S	**Sb**	**02 34 51.1**	**-0.3**
NAX	**Nakhchivan**	**1.86**	**75**	||P	**Pn**	**02 34 27.0**	**+0.6**
	SNR=74							
NAX				||S	**Sb**	**02 34 52.6**	**+0.7**
NAX	**Nakhchivan**	**1.86**	**75**	P	**Pn**	**02 34 27.0**	**+0.6**
	SNR=74							
NAX				S	**Sb**	**02 34 52.6**	**+0.7**
GNI	**Garni**	**1.86**	**40**	Pn	**Pn**	**02 34 27.3**	**+0.6**
	44nm,0.3s,baz=259,slow=2.7,SNR=111							
GNI				Lg	Lg	02 34 55.4	
	68nm,0.3s,baz=252,slow=24,SNR=5.7							
GNI	**Garni**	**1.86**	**40**	*e*P	**Pn**	**02 34 27.2**	**+0.6**
GNI				*e*		02 34 51.1	
GNI	**Garni**	**1.86**	**40**	*e*P	**Pn**	**02 34 27.2**	**+0.6**
GNI				*e*S	**Sn**	**02 34 51.1**	**+1.0**
GNI	**Garni**	**1.86**	**40**	*e*Pn	**Pn**	**02 34 27.2**	**+0.6**
GNI				*e*Sn	**Sn**	**02 34 51.1**	**+1.0**
ECAT	**Cat-ERZURUM**	**1.93**	**298**	⇑*i*P	**Pn**	**02 34 28.5**	**+0.9**
ECAT				*i* S	**Sg**	**02 34 56.3**	**-0.5**
ECAT	**Cat-ERZURUM**	**1.93**	**298**	P	**Pn**	**02 34 28.5**	**+0.9**
ECAT				S	**Sg**	**02 34 56.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**341**	*e*PN	**Pn**	**02 34 27.8**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.94**	**341**	*e*Pn	**Pn**	**02 34 27.8**	**+0.1**
BNGB	**Bing¶ll**	**1.97**	**278**	*e*PN	**Pn**	**02 34 29.0**	**+0.9**
EAK	**Akyaka**	**1.98**	**9**	||*i*P	**Pn**	**02 34 29.3**	**+1.0**
EAK				*i* S	**Sg**	**02 34 57.6**	**-0.9**
EAK	**Akyaka**	**1.98**	**9**	P	**Pn**	**02 34 29.3**	**+1.0**
EAK				S	**Sg**	**02 34 57.6**	**-0.9**
BINT	**Bingol**	**2.11**	**275**	P	**Pn**	**02 34 29.0**	**-1.0**
BINT	**Bingol**	**2.11**	**275**	*e*Pn	**Pn**	**02 34 29.0**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.17**	**290**	*e*PN	**Pn**	**02 34 31.6**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.17**	**290**	*e*Pn	**Pn**	**02 34 31.6**	**+0.7**
MARD	**Mardin**	**2.37**	**234**	⇑*i*P	**Pn**	**02 34 34.2**	**+0.7**
MARD	**Mardin**	**2.37**	**234**	*e*Pn	**Pn**	**02 34 34.3**	**+0.7**
MARD				*e*Sn	**Sn**	**02 35 01.0**	**-1.6**
MARD	**Mardin**	**2.37**	**234**	*e*Pn	**Pn**	**02 34 34.3**	**+0.7**
MARD				*e*Sn	**Sn**	**02 35 01.0**	**-1.6**
DDEM	**Demirkent**	**2.42**	**333**	*i* P	**Pn**	**02 34 36.4**	**+2.1**
DDEM	**Demirkent**	**2.42**	**333**	P	**Pn**	**02 34 36.4**	**+2.1**
KOPT	**Kop Dagi**	**2.45**	**303**	||*i*P	**Pb**	**02 34 39.4**	**+0.5**
KOPT	**Kop Dagi**	**2.45**	**303**	*e*Pn	**Pb**	**02 34 38.3**	**-0.5**
KOPT	**Kop Dagi**	**2.45**	**303**	P	**Pb**	**02 34 39.4**	**+0.5**
KOPT	**Kop Dagi**	**2.45**	**303**	*e*Pn	**Pb**	**02 34 38.3**	**-0.5**
MAZI	**Mazidag**	**2.50**	**240**	*e*PN	**Pn**	**02 34 36.5**	**+1.1**
MAZI	**Mazidag**	**2.50**	**240**	*e*Pn	**Pn**	**02 34 36.5**	**+1.1**
DAGI	**Agillar**	**2.54**	**338**	*i* P	**Pn**	**02 34 36.5**	**+0.6**
DIYA	**Diyarbakir**	**2.54**	**252**	*i* P	**Pn**	**02 34 35.2**	**-0.7**
DIYA	**Diyarbakir**	**2.54**	**252**	P	**Pn**	**02 34 35.2**	**-0.7**
ARTV	**Artvin**	**2.63**	**339**	*i* P	**Pn**	**02 34 38.9**	**+1.5**
ARTV	**Artvin**	**2.63**	**339**	P	**Pn**	**02 34 38.8**	**+1.5**
ARTV	**Artvin**	**2.63**	**339**	*e*Pn	**Pn**	**02 34 38.7**	**+1.4**
AKH	**Akhalkalaki**	**2.69**	**5**	*e*PN	**Pn**	**02 34 38.1**	**+0.2**
AKH	**Akhalkalaki**	**2.69**	**5**	P	**Pb**	**02 34 43.5**	**+0.5**
AKH	**Akhalkalaki**	**2.69**	**5**	P	**Pb**	**02 34 43.4**	**+0.5**
AKH	**Akhalkalaki**	**2.69**	**5**	*e*Pn	**Pn**	**02 34 38.2**	**+0.2**
AKH	**Akhalkalaki**	**2.69**	**5**	P	**Pb**	**02 34 43.4**	**+0.5**
EPOS	**Posof**	**2.79**	**353**	*i* P	**Pb**	**02 34 42.4**	**-2.3**
EPOS	**Posof**	**2.79**	**353**	P	**Pb**	**02 34 42.4**	**-2.3**
GDB	**GEDABAY**	**2.81**	**44**	⇑P	**Pn**	**02 34 40.8**	**+1.2**
	SNR=36							
GDB				||S	**Sb**	**02 35 16.5**	**-2.9**
GDB	**GEDABAY**	**2.81**	**44**	P	**Pn**	**02 34 40.8**	**+1.2**
	SNR=36							
DBOC	**Borcka**	**2.86**	**336**	||*i*P	**Pb**	**02 34 45.6**	**-0.2**
DBOC	**Borcka**	**2.86**	**336**	P	**Pb**	**02 34 45.6**	**-0.2**
TNCL	**Tunceli-Merkez**	**2.87**	**279**	*i* P	**Pb**	**02 34 43.8**	**-2.1**
TNCL	**Tunceli-Merkez**	**2.87**	**279**	P	**Pb**	**02 34 43.8**	**-2.1**
QZX	**Qazax, Azerbai**	**2.87**	**35**	P	**Pn**	**02 34 42.0**	**+1.6**
	SNR=4.7							
QZX				||S	**Sn**	**02 35 17.6**	**+2.8**
QZX	**Qazax, Azerbai**	**2.87**	**35**	P	**Pn**	**02 34 42.0**	**+1.6**
	SNR=4.7							
QZX				S	**Sn**	**02 35 17.6**	**+2.8**
EUZM	**Uzumlu**	**2.88**	**291**	*i* P	**Pb**	**02 34 45.4**	**-0.7**
EUZM	**Uzumlu**	**2.88**	**291**	P	**Pb**	**02 34 45.4**	**-0.7**
PTK	**Pertek**	**2.97**	**274**	*e*PN	**Pn**	**02 34 42.7**	**+0.9**
PTK	**Pertek**	**2.97**	**274**	*e*Pn	**Pn**	**02 34 42.7**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.06**	**265**	*e*PN	**Pn**	**02 34 44.4**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.06**	**265**	*e*Pn	**Pn**	**02 34 44.4**	**+1.3**
GANJ	**Ganja**	**3.09**	**51**	P	**Pn**	**02 34 45.1**	**+1.8**
	SNR=25							
GANJ				⇑S	**Sn**	**02 35 23.1**	**+3.0**
GANJ	**Ganja**	**3.09**	**51**	P	**Pn**	**02 34 45.1**	**+1.8**
	SNR=25							
GANJ				S	**Sn**	**02 35 23.1**	**+3.0**
DGRG	**David-gareji**	**3.19**	**31**	P	**Pn**	**02 34 47.4**	**+2.5**
DGRG	**David-gareji**	**3.19**	**31**	P	**Pn**	**02 34 47.3**	**+2.5**
DGRG	**David-gareji**	**3.19**	**31**	P	**Pn**	**02 34 47.0**	**+2.2**
TBLG	**Delisi**	**3.23**	**21**	P	**Pn**	**02 34 47.1**	**+1.8**
TBLG	**Delisi**	**3.23**	**21**	P	**Pn**	**02 34 47.0**	**+1.8**
TBLG	**Delisi**	**3.23**	**21**	P	**Pn**	**02 34 46.6**	**+1.4**
KELT	**Kelkit**	**3.35**	**296**	*i* P	**Pb**	**02 34 56.0**	**+1.7**
MACK	**Trabzon**	**3.44**	**311**	*i* P	**Pb**	**02 34 56.5**	**+0.9**
BRDA	**Brd**	**3.45**	**62**	⇑P	**Pn**	**02 34 49.7**	**+1.4**
	SNR=11							
BRDA				⇑S	**Sn**	**02 35 31.7**	**+2.7**
BRDA	**Brd**	**3.45**	**62**	P	**Pn**	**02 34 49.7**	**+1.4**
	SNR=11							
BRDA				S	**Sn**	**02 35 31.7**	**+2.7**
MNGR	**Mingechevir, A**	**3.63**	**55**	⇑P	**Pn**	**02 34 52.4**	**+1.6**
	SNR=14							
MNGR				⇑S	**Sn**	**02 35 36.3**	**+2.8**
MNGR	**Mingechevir, A**	**3.63**	**55**	P	**Pn**	**02 34 52.4**	**+1.6**
	SNR=14							
KEMA	**Kemaliye**	**3.69**	**280**	*i* P	**Pn**	**02 34 52.7**	**+0.9**
KEMA	**Kemaliye**	**3.69**	**280**	P	**Pn**	**02 34 52.7**	**+0.9**
ZRD	**Zardab**	**3.81**	**65**	||S	**Sn**	**02 35 40.5**	**+2.6**
ZRD	**Zardab**	**3.81**	**65**	S	**Sn**	**02 35 40.5**	**+2.6**
GUDG	**Gudauri**	**3.86**	**14**	P	**Pg**	**02 35 06.4**	**-2.2**
ONI	**Oni**	**3.86**	**3**	P	**Pb**	**02 35 04.8**	**+1.9**
ONI	**Oni**	**3.86**	**3**	P	**Pb**	**02 35 04.7**	**+1.9**
ZKTA	**Zakatala**	**3.92**	**41**	||P	**Pn**	**02 34 56.5**	**+1.7**
ZKTA				⇑S	**Sn**	**02 35 43.9**	**+3.1**
SEKA	**Sheki**	**3.96**	**50**	||P	**Pn**	**02 34 57.6**	**+2.3**
	SNR=6.6							
SEKA				||S	**Sn**	**02 35 45.8**	**+4.2**
SEKA	**Sheki**	**3.96**	**50**	P	**Pn**	**02 34 57.6**	**+2.3**
	SNR=6.6							
SEKA				S	**Sn**	**02 35 45.8**	**+4.2**
LRK	**Lerik**	**4.04**	**90**	||P	**Pn**	**02 34 57.6**	**+1.1**
	SNR=3.5							
LRK				⇑S	**Sn**	**02 35 45.8**	**+2.0**
LRK	**Lerik**	**4.04**	**90**	P	**Pn**	**02 34 57.6**	**+1.1**
	SNR=3.5							
LRK				S	**Sn**	**02 35 45.8**	**+2.0**
ATAB	**Bozova**	**4.06**	**253**	*i* P	**Pn**	**02 34 58.0**	**+1.3**
ATAB	**Bozova**	**4.06**	**253**	P	**Pn**	**02 34 58.0**	**+1.3**
SURC	**SANLIURFA_SURC**	**4.06**	**244**	*i* P	**Pb**	**02 35 02.3**	**-4.0**
SURC	**SANLIURFA_SURC**	**4.06**	**244**	P	**Pb**	**02 35 02.3**	**-4.0**
ZEI	**Tsey**	**4.09**	**7**	*e*P	**Pn**	**02 34 59.0**	**+1.7**
ZEI				pmax	pmax		
	comp=Z,34nm,0.8s							
GLBA	**Clilabad**	**4.09**	**81**	⇑P	**Pn**	**02 34 58.4**	**+1.3**
	SNR=10.0							
GLBA				||S	**Sn**	**02 35 47.2**	**+2.3**
GLBA	**Clilabad**	**4.09**	**81**	P	**Pn**	**02 34 58.4**	**+1.3**
	SNR=10.0							
GLBA				S	**Sn**	**02 35 47.2**	**+2.3**
SUSE	**Susehri**	**4.13**	**293**	*i* P	**Pb**	**02 35 07.5**	**+0.1**
SUSE				*i* S	**Sg**	**02 36 06.1**	**-1.3**
KDMR	**Kurdemir**	**4.20**	**65**	⇑S	**Sn**	**02 35 50.0**	**+2.5**
KDMR	**Kurdemir**	**4.20**	**65**	S	**Sn**	**02 35 50.0**	**+2.5**
QBL	**Gabala**	**4.21**	**57**	⇑P	**Pn**	**02 35 00.1**	**+1.3**
	SNR=5.2							
QBL				||S	**Sn**	**02 35 50.4**	**+2.5**
QBL	**Gabala**	**4.21**	**57**	P	**Pn**	**02 35 00.1**	**+1.3**
	SNR=5.2							
CUZAR	**Zara_SIVAS**	**4.36**	**287**	*i* P	**Pb**	**02 35 11.2**	**-0.1**
IML	**Ismayilli**	**4.37**	**60**	⇑P	**Pn**	**02 35 02.4**	**+1.4**
	SNR=10							
IML				⇑S	**Sn**	**02 35 54.1**	**+2.3**
IML	**Ismayilli**	**4.37**	**60**	P	**Pn**	**02 35 02.4**	**+1.4**
	SNR=10							
LKRN	**Lenkeran, Azer**	**4.38**	**89**	||P	**Pn**	**02 35 02.2**	**+1.2**
	SNR=3.4							
LKRN				||S	**Sn**	**02 35 54.1**	**+2.2**
LKRN	**Len

comp=Z,30nm,1.0s
AKBB Malin Array Si 15.51 325 *e*Pn **P 02 37 39.0 +1.4**
comp=Z,30nm,1.0s
KIEV Kiev 15.52 325 *e*P **P 02 37 38.9 +1.3**
KIEV pmax pmax
comp=Z,30nm,1.0s
KIEV Kiev 15.52 325 *e*P **P 02 37 38.9 +1.3**
comp=Z,30nm,1.0s
KIEV Kiev 15.52 325 *e*Pn **P 02 37 38.9 +1.3**
comp=Z,30nm,1.0s
VTS Vitosha 15.64 291 *e*P **P 02 37 39.6 +0.4**
VTS pmax pmax
comp=Z,21nm,0.9s
VTS Vitosha 15.64 291 *e*P **P 02 37 39.6 +0.4**
comp=Z,21nm,0.9s
VTS Vitosha 15.64 291 *e*Pn **P 02 37 39.6 +0.4**
comp=Z,21nm,0.9s
AKTO Aktyubinsk 15.73 37 Pn **Pn 02 37 35.1 -1.0**
comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=9.6
AKTO LR LR 02 45 27.4
comp=Z,106nm,20.4s,baz=218,slow=44
BURAR Bucovina Array 15.80 310⇑*i*P **P 02 37 43.2 +2.3**
BURAR Bucovina Array 15.80 310⇑P **P 02 37 43.2 +2.3**
BURAR Bucovina Array 15.80 310⇑*i*P **P 02 37 43.2 +2.3**
BUR08 Bucovina Ar. S 15.83 310 *e*Pn **P 02 37 40.4 -0.8**
BUR08 Bucovina Ar. S 15.83 310 *e*Pn **P 02 37 40.4 -0.8**
ABKAR Akbulak array 15.97 43 *e*Pn **Pn 02 37 36.4 -2.7**
TIR Tirane 18.04 286 *e*P **Pn 02 38 01.3 -3.9**
TIR pmax pmax
comp=Z,41nm,1.3s
TIR Tirane 18.04 286 *e*Pn **Pn 02 38 01.3 -3.9**
comp=Z,41nm,1.3s
CUC Castrocucco 21.17 282 *e*P **P 02 38 37.4 -2.5**
GERES GERESS Array B 23.43 305 P **P 02 39 04.0 +0.3**
comp=Z,1.0nm,0.6s,baz=101,slow=7.2,SNR=3.9
GERES GERESS Array B 23.43 305 P **P 02 39 04.0 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 23.43 305 P **P 02 39 04.0 +0.3**
comp=Z,1.0nm,0.6s
BRVK Borovoye 23.50 44 *e*P **P 02 39 07.4 +3.1**
BRVK pmax pmax
comp=Z,32nm,1.1s
BRVK Borovoye 23.50 44 *e*P **P 02 39 07.4 +3.1**
comp=Z,32nm,1.1s
BRVK Borovoye 23.50 44 *e*P **P 02 39 07.4 +3.1**
comp=Z,32nm,1.1s
BVAR Borovoye Array 23.54 44 P **P 02 39 06.4 +1.6**
comp=Z,3.5nm,0.9s,baz=233,slow=17,SNR=8.4
AAK Ala-Archa 23.99 71 P **P 02 39 10.5 +1.2**
comp=Z,0.6nm,0.4s,baz=240,slow=8.1,SNR=3.3
AAK LR LR 02 49 09.8
comp=Z,23nm,21.7s,baz=9.5,slow=38
FUORN Ofenpass-Fuorn 25.31 299 *e*P **P 02 39 21.8 +0.4**
comp=Z,38nm,1.7s
FUORN Ofenpass-Fuorn 25.31 299 *e*P **P 02 39 21.8 +0.4**
comp=Z,38nm,1.7s
SENIN Lac Senin/Sane 27.33 298 *e*P **P 02 39 39.0 -0.7**
comp=Z,27nm,1.4s
SENIN Lac Senin/Sane 27.33 298 *e*P **P 02 39 39.0 -0.7**
comp=Z,27nm,1.4s
KURBB Kurchatov Arra 27.54 53 P **P 02 39 42.3 +1.2**
comp=Z,2.6nm,0.6s,baz=263,slow=9.0,SNR=26
KURK Kurchatov 27.61 53 *e*P **P 02 39 43.0 +1.2**
KURK pmax pmax
comp=Z,20nm,1.2s
KURK Kurchatov 27.61 53 *e*P **P 02 39 43.0 +1.2**
comp=Z,20nm,1.2s
KURK Kurchatov 27.61 53 *e*P **P 02 39 43.0 +1.2**
comp=Z,20nm,1.2s
MK31 Makanchi Array 29.57 61 *e*P **P 02 39 58.3 -1.1**
MK31 Makanchi Array 29.57 61 *e*P **P 02 39 58.3 -1.1**
MK31 Makanchi Array 29.57 61 *e*P **P 02 39 58.3 -1.1**
MK32 Makanchi Array 29.57 61 *e*P **P 02 39 59.3 0.0**
MK32 Makanchi Array 29.57 61 *e*P **P 02 39 59.3 0.0**
MKAR Makanchi Array 29.57 61 P **P 02 39 59.3 0.0**
comp=Z,1.4nm,0.6s,baz=261,slow=7.2,SNR=7.7
EKA Eskdalemuir Ar 34.93 314 P **P 02 40 45.5 -0.6**
comp=Z,4.8nm,0.5s,baz=106,slow=8.4,SNR=20
TAM Tamanrasset 35.77 255 *e*P **P 02 40 55.0 +1.1**
comp=Z,23nm,1.4s
TAM Tamanrasset 35.77 255 *e*P **P 02 40 55.0 +1.1**
comp=Z,23nm,1.4s
ESDC Sonseca Array 36.22 287 P **P 02 40 56.8 -0.7**
comp=Z,2.1nm,0.7s,baz=67,slow=8.5,SNR=6.0
TOA1 Torodi Ar. Sit 44.64 247 *e*P **P 02 42 06.1 -1.2**
comp=Z,66nm,1.6s
TOA1 Torodi Ar. Sit 44.64 247 *e*P **P 02 42 06.1 -1.2**
comp=Z,66nm,1.6s
TORD Torodi Ar. Bea 44.64 247 P **P 02 42 06.1 -1.2**
comp=Z,13nm,1.1s,baz=42,slow=9.5,SNR=26
BOD Bodaibo 48.40 43 *e*P **P 02 42 37.1 +0.7**
BOD pmax pmax
comp=Z,23nm,1.9s
BOD Bodaibo 48.40 43 *e*P **P 02 42 37.1 +0.7**
comp=Z,23nm,1.9s
CM31 Chiang Mai Arr 52.13 96 *e*P **P 02 43 03.7 -1.4**
CM31 Chiang Mai Arr 52.13 96 *e*P **P 02 43 03.7 -1.4**
CMAR Chiang Mai Arr 52.13 96 P **P 02 43 03.7 -1.4**
comp=Z,1.0nm,0.3s,baz=293,slow=7.7,SNR=7.5
SEY Seymchan 64.12 29 P **P 02 44 29.2 +0.8**
comp=Z,2.8nm,0.7s,baz=298,slow=6.6,SNR=4.0
BOSA Boshof 69.06 197 P **P 02 45 00.4 -0.1**
comp=Z,2.1nm,0.9s,baz=322,slow=18,SNR=3.4

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*ISK **25** 02:39:38.8, 38°.75N×43°.21E, h4km, ML3.5*
*DDA **25** 02:39:38.8, 38°.75N×43°.39E, h7km, Ml3.6*
*CSEM **25** 02:39:40.4±0.2, 38°.79N×43°.20E, h10km, ML3.5, Error ellipse: s-maj=5.7km s-min=3.5km az=73.0*
ISC 25 02:39:39.8±1.1, 38°.76N±0°.02×43°.17E±0°.04, h6km±11km, n42, σ1§00/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.24 134**		PG	**Pg**	**02 39 45.2**	**+0.7**
VANB				*e*SG	**Sg**	**02 39 49.4**	**+1.7**
VANB	**Van**	**0.24 134**		*i* Pg	**Pg**	**02 39 45.2**	**+0.7**
VANB				*e*Sg	**Sg**	**02 39 49.4**	**+1.7**
TVAN	**Van**	**0.30 142**		*i* P	**Pb**	**02 39 47.7**	**0.0**
TVAN				*i* S	**Sb**	**02 39 52.4**	**-0.6**
TVAN	**Van**	**0.30 142**		P	**Pb**	**02 39 47.7**	**0.0**
TVAN				S	**Sb**	**02 39 52.4**	**-0.6**
GEVA	**Gevas**	**0.46 191**		*i* P	**Pb**	**02 39 48.8**	**-1.6**
GEVA				*i* S	**Sb**	**02 39 56.4**	**-1.1**
GEVA	**Gevas**	**0.46 191**		P	**Pb**	**02 39 48.8**	**-1.6**
GEVA				S	**Sb**	**02 39 56.4**	**-1.1**
TUTA	**Tutak**	**0.70 337**		*i* P	**Pb**	**02 39 53.7**	**-0.9**
TUTA				*i* S	**Sb**	**02 40 04.0**	**-0.5**
TUTA	**Tutak**	**0.70 337**		P	**Pb**	**02 39 53.7**	**-0.9**
TUTA				S	**Sb**	**02 40 04.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.82 350**		*e*PG	**Pg**	**02 39 55.5**	**-0.2**
AGRB				*e*SG	**Sb**	**02 40 08.1**	**0.0**
AGRB	**Hanur-Agry**	**0.82 350**		*e*Pg	**Pg**	**02 39 55.5**	**-0.2**
AGRB				*e*Sg	**Sb**	**02 40 08.1**	**0.0**
DYDN	**Diyadin**	**0.88 27**		*i* P	**Pg**	**02 39 56.0**	**-0.7**
DYDN				*i* S	**Sg**	**02 40 07.6**	**-0.6**
DYDN	**Diyadin**	**0.88 27**		P	**Pg**	**02 39 56.0**	**-0.7**
DYDN				S	**Sg**	**02 40 07.6**	**-0.6**
BASK	**Baskale_VAN**	**0.96 137**		*i* P	**Pg**	**02 39 56.0**	**-2.4**
BASK	**Baskale_VAN**	**0.96 137**		P	**Pg**	**02 39 56.0**	**-2.4**
EKAR	**Karacoban**	**0.99 300**		*i* P	**Pn**	**02 40 00.9**	**+0.4**
EKAR				*i* S	**Sn**	**02 40 17.5**	**+2.5**
EKAR	**Karacoban**	**0.99 300**		P	**Pn**	**02 40 00.9**	**+0.4**
EATA	**Eleskirt**	**1.22 335**		*i* P	**Pn**	**02 40 03.4**	**-0.3**
EATA				*i* S	**Sn**	**02 40 22.0**	**+1.3**
EATA	**Eleskirt**	**1.22 335**		P	**Pn**	**02 40 03.4**	**-0.3**
EATA				S	**Sn**	**02 40 22.0**	**+1.3**
VRTB	**Varto-Mus**	**1.40 287**		*e*PN	**Pg**	**02 40 06.1**	**-0.5**
VRTB	**Varto-Mus**	**1.40 287**		*e*Pn	**Pg**	**02 40 06.1**	**-0.5**
SIRN	**S¨–rnak**	**1.40 206**		*i* P	Pg	02 40 11.5	+4.9
SIRN	**S¨–rnak**	**1.40 206**		P	Pg	02 40 11.5	+4.9
CUKT	**Cukurca**	**1.55 167**		*e*PN	**Pg**	**02 40 08.9**	**-0.7**
CUKT	**Cukurca**	**1.55 167**		*i* P	**Pg**	**02 40 09.3**	**-0.3**
CUKT	**Cukurca**	**1.55 167**		*e*Pn	**Pg**	**02 40 08.9**	**-0.7**
CUKT	**Cukurca**	**1.55 167**		P	**Pg**	**02 40 09.3**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67 249**		*e*PN	**Pn**	**02 40 09.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.67 249**		*e*Pn	**Pn**	**02 40 09.6**	**0.0**
SENK	**Senkaya-Erzuru**	**1.91 341**		*e*PN	**Pn**	**02 40 13.6**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.91 341**		*e*Pn	**Pn**	**02 40 13.6**	**+0.5**
BNGB	**Bing¶ll**	**1.96 277**		*e*PN	**Pn**	**02 40 14.3**	**+0.6**
BINT	**Bingol**	**2.10 274**		*e*Pn	**Pn**	**02 40 14.3**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.15 289**		*e*PN	**Pn**	**02 40 16.9**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.15 289**		*e*Pn	**Pn**	**02 40 16.9**	**+0.5**
MAZI	**Mazidag**	**2.51 240**		*e*PN	**Pn**	**02 40 21.6**	**+0.3**
MAZI	**Mazidag**	**2.51 240**		*e*Pn	**Pn**	**02 40 21.6**	**+0.3**
PTK	**Pertek**	**2.96 274**		*e*PN	**Pn**	**02 40 27.9**	**+0.4**
PTK	**Pertek**	**2.96 274**		*e*Pn	**Pn**	**02 40 27.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.05 264**		*e*PN	**Pn**	**02 40 29.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.05 264**		*e*Pn	**Pn**	**02 40 29.8**	**+1.0**
URFA	**Urfa**	**3.68 250**		*e*PN	**Pn**	**02 40 38.7**	**+1.4**
URFA	**Urfa**	**3.68 250**		*e*Pn	**Pn**	**02 40 38.7**	**+1.4**

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*ISK **25** 02:46:32.2, 38°.70N×42°.93E, h5km, MD2.5*
*CSEM **25** 02:46:33.1±0.6, 38°.70N×42°.83E, h5km, ML2.8, Error ellipse: s-maj=19.9km s-min=10.6km az=64.0*
*DDA **25** 02:46:34.8, 38°.89N×43°.49E, h7km, Ml2.8*
ISC 25 02:46:34.5±1.2, 38°.78N±0°.03×43°.00E±0°.06, h12km±10km, n19, σ1§60/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.35 121**		*e*PG	**Pg**	**02 46 40.8**	**-0.9**
VANB	**Van**	**0.35 121**		*e*Pg	**Pg**	**02 46 40.8**	**-0.9**
TVAN	**Van**	**0.40 128**		*i* P	**Pb**	**02 46 43.5**	**-0.1**
TVAN				*i* S	**Sb**	**02 46 50.6**	**+0.8**
TVAN	**Van**	**0.40 128**		P	**Pb**	**02 46 43.5**	**-0.1**
TVAN				S	**Sb**	**02 46 50.6**	**+0.8**
GEVA	**Gevas**	**0.47 175**		*i* P	**Pb**	**02 46 44.1**	**-0.6**
GEVA	**Gevas**	**0.47 175**		P	**Pb**	**02 46 44.1**	**-0.6**
TUTA	**Tutak**	**0.64 347**		*i* P	**Pb**	**02 46 48.1**	**+0.3**
TUTA				*i* S	**Sn**	**02 47 00.5**	**+0.7**
TUTA	**Tutak**	**0.64 347**		P	**Pb**	**02 46 48.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.80 359**		*e*PG	**Pg**	**02 46 49.6**	**-0.4**
AGRB				*e*SG	**Sg**	**02 47 01.9**	**+1.5**
AGRB	**Hanur-Agry**	**0.80 359**		*e*Pg	**Pg**	**02 46 49.6**	**-0.4**
AGRB				*e*Sg	**Sg**	**02 47 01.9**	**+1.5**
EKAR	**Karacoban**	**0.87 303**		*i* P	Pn	02 46 57.6	+4.8
EKAR				*i* S	Sn	02 47 18.4	+13
DYDN	**Diyadin**	**0.93 35**		*i* P	Pg	02 46 46.7	-5.8
DYDN				*i* S	Sg	02 46 58.6	-6.2
VRTB	**Varto-Mus**	**1.27 288**		*e*PN	**Pn**	**02 46 56.2**	**-1.9**
VRTB	**Varto-Mus**	**1.27 288**		*e*Pn	**Pn**	**02 46 56.2**	**-1.9**
HAKT	**HAKKARI**	**1.34 155**		*i* P	**Pn**	**02 46 56.4**	**-2.8**
HAKT				*i* S	**Sn**	**02 47 19.9**	**+3.0**
HAKT	**HAKKARI**	**1.34 155**		P	**Pn**	**02 46 56.4**	**-2.8**
CUKT	**Cukurca**	**1.60 162**		*e*PN	**Pn**	**02 47 01.0**	**-1.7**
CUKT	**Cukurca**	**1.60 162**		*i* P	**Pg**	**02 47 06.5**	**+1.2**
CUKT				*i* S	**Sg**	**02 47 27.9**	**+1.9**
CUKT	**Cukurca**	**1.60 162**		*e*Pn	**Pn**	**02 47 01.0**	**-1.7**

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*ISK **25** 02:47:29.9, 38°.64N×43°.18E, h5km, MD3.3*
*ISCJB **25** 02:47:31.2±0.6, 38°.68N±0°.03×43°.11E±0°.06, h3km±9km, Error ellipse: s-maj=8.4km s-min=4.7km az=157.0*
*DDA **25** 02:47:31.2, 38°.68N×43°.08E, h7km, Ml3.2*
*CSEM **25** 02:47:31.1±0.2, 38°.66N×43°.16E, h5km, MD3.3, Error ellipse: s-maj=7.1km s-min=4.8km az=58.0*
ISC 25 02:47:31.7±0.9, 38°.65N±0°.03×43°.13E±0°.04, h13km±10km, n30, σ1§27/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.21 104**		*e*PG	**Pg**	**02 47 35.0**	**-1.4**
VANB				*e*SG	**Sg**	**02 47 39.3**	**-0.3**
VANB	**Van**	**0.21 104**		*e*Pg	**Pg**	**02 47 35.0**	**-1.4**
VANB				*e*Sg	**Sg**	**02 47 39.3**	**-0.3**
TVAN	**Van**	**0.25 118**		*i* P	**Pg**	**02 47 37.5**	**+0.5**
TVAN				*i* S	**Sg**	**02 47 41.9**	**+1.2**
TVAN	**Van**	**0.25 118**		P	**Pg**	**02 47 37.5**	**+0.5**
TVAN				S	**Sg**	**02 47 41.9**	**+1.2**
GEVA	**Gevas**	**0.34 189**		*i* P	**Pg**	**02 47 37.0**	**-1.6**
GEVA				*i* S	**Sg**	**02 47 44.2**	**+0.9**
GEVA	**Gevas**	**0.34 189**		P	**Pg**	**02 47 37.0**	**-1.6**
GEVA				S	**Sg**	**02 47 44.2**	**+0.9**
TUTA	**Tutak**	**0.79 342**		*i* P	**Pg**	**02 47 45.9**	**-1.2**
TUTA				*i* S	**Sg**	**02 47 56.3**	**-1.3**
TUTA	**Tutak**	**0.79 342**		P	**Pg**	**02 47 45.9**	**-1.2**
TUTA				S	**Sg**	**02 47 56.3**	**-1.3**
BASK	**Baskale_VAN**	**0.91 131**		*i* P	**Pg**	**02 47 46.9**	**-2.4**
BASK	**Baskale_VAN**	**0.91 131**		P	**Pg**	**02 47 46.9**	**-2.4**
AGRB	**Hanur-Agry**	**0.93 354**		*e*PG	**Pg**	**02 47 49.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.93 354**		*e*Pg	**Pg**	**02 47 49.2**	**-0.6**
SIRN	**S¨–rnak**	**1.28 206**		*i* P	**Pn**	**02 47 56.0**	**+0.7**
SIRN	**S¨–rnak**	**1.28 206**		P	**Pn**	**02 47 56.0**	**+0.7**
EATA	**Eleskirt**	**1.31 338**		*i* P	**Pg**	**02 47 55.4**	**-1.5**
EATA	**Eleskirt**	**1.31 338**		P	**Pg**	**02 47 55.4**	**-1.5**
VRTB	**Varto-Mus**	**1.40 292**		*e*PN	**Pb**	**02 47 58.1**	**+0.3**
VRTB	**Varto-Mus**	**1.40 292**		*e*Pn	**Pb**	**02 47 58.1**	**+0.3**
CUKT	**Cukurca**	**1.45 165**		*e*PN	**Pn**	**02 47 57.8**	**+0.1**
CUKT	**Cukurca**	**1.45 165**		*e*Pn	**Pn**	**02 47 57.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.59 253**		*e*PN	**Pn**	**02 48 00.9**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.59 253**		*i* P	**Pn**	**02 48 00.6**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.59 253**		P	**Pn**	**02 48 00.6**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.59 253**		*e*Pn	**Pn**	**02 48 00.9**	**+1.3**
BNGB	**Bing¶ll**	**1.94 281**		*e*PN	**Pn**	**02 48 06.2**	**+1.8**
SENK	**Senkaya-Erzuru**	**2.00 343**		*e*PN	**Pn**	**02 48 06.7**	**+1.3**
SENK	**Senkaya-Erzuru**	**2.00 343**		*e*Pn	**Pn**	**02 48 06.7**	**+1.3**
BINT	**Bingol**	**2.08 277**		*e*Pn	**Pn**	**02 48 06.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.16 292**		*e*PN	**Pn**	**02 48 09.2**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.16 292**		*e*Pn	**Pn**	**02 48 09.2**	**+1.7**

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*ISK **25** 02:49:09.6, 38°.67N×43°.22E, h5km, ML3.8*
*DDA **25** 02:49:10.2, 38°.66N×43°.15E, h17km, Ml4.0*
*ISCJB **25** 02:49:11.8±0.4, 38°.63N±0°.02×43°.20E±0°.02, h12km±3km, Error ellipse: s-maj=4.0km s-min=2.6km az=173.0*
*CSEM **25** 02:49:12.1±0.1, 38°.54N×43°.18E, h10km, ML3.8, Error ellipse: s-maj=4.9km s-min=3.1km az=160.0*
*AZER **25** 02:49:14.4±0.7, 38°.49N×43°.48E, h7km, Error ellipse: s-maj=5.9km s-min=4.2km az=28.0*
ISC 25 02:49:11.8±0.9, 38°.65N±0°.02×43°.18E±0°.02, h9km±6km, n120, σ1§58/174, 30C-26D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17 108**		PG	**Pg**	**02 49 14.7**	**-0.7**
VANB				*e*SG	**Sg**	**02 49 18.7**	**+0.7**
VANB	**Van**	**0.17 108**		*i* Pg	**Pg**	**02 49 14.7**	**-0.7**
VANB				*e*Sg	**Sg**	**02 49 18.7**	**+0.7**
TVAN	**Van**	**0.21 124**		⇑*i*P	**Pg**	**02 49 17.3**	**+1.1**
TVAN				*i* S	**Sg**	**02 49 20.7**	**+1.5**
TVAN	**Van**	**0.21 124**		P	**Pg**	**02 49 17.3**	**+1.1**
TVAN				S	**Sg**	**02 49 20.7**	**+1.5**
GEVA	**Gevas**	**0.35 196**		⇓*i*P	**Pg**	**02 49 16.7**	**-2.0**
GEVA				*i* S	**Sg**	**02 49 22.9**	**-0.5**
GEVA	**Gevas**	**0.35 196**		P	**Pg**	**02 49 16.7**	**-2.0**
GEVA				S	**Sg**	**02 49 22.9**	**-0.5**
TUTA	**Tutak**	**0.81 339**		⇓*i*P	**Pg**	**02 49 25.5**	**-1.9**
TUTA				*i* S	**Sg**	**02 49 37.1**	**-0.8**
TUTA	**Tutak**	**0.81 339**		P	**Pg**	**02 49 25.5**	**-1.9**
TUTA				S	**Sg**	**02 49 37.1**	**-0.8**
BASK	**Baskale_VAN**	**0.88 132**		*i* P	**Pg**	**02 49 26.2**	**-2.5**
BASK				*i* S	**Sg**	**02 49 40.0**	**-0.1**
BASK	**Baskale_VAN**	**0.88 132**		P	**Pg**	**02 49 26.2**	**-2.5**
BASK				S	**Sg**	**02 49 40.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.94 351**		PG	**Pg**	**02 49 27.9**	**-2.0**
DYDN	**Diyadin**	**0.98 24**		⇓*i*P	**Pg**	**02 49 28.4**	**-2.2**
DYDN	**Diyadin**	**0.98 24**		P	**Pg**	**02 49 28.4**	**-2.2**
EKAR	**Karacoban**	**1.06 305**		⇓*i*P	**Pg**	**02 49 30.6**	**-1.6**
EKAR	**Karacoban**	**1.06 305**		P	**Pg**	**02 49 30.6**	**-1.6**
HAKT	**HAKKARI**	**1.16 159**		⇓*i*P	**Pb**	**02 49 31.1**	**-3.1**
HAKT	**HAKKARI**	**1.16 159**		P	**Pb**	**02 49 31.0**	**-3.1**
SIRN	**S¨–rnak**	**1.30 208**		⇑*i*P	**Pn**	**02 49 35.6**	**-0.5**
SIRN				*i* S	**Sg**	**02 49 55.0**	**+1.4**
SIRN	**S¨–rnak**	**1.30 208**		P	**Pn**	**02 49 35.6**	**-0.5**
SIRN				S	**Sg**	**02 49 55.0**	**+1.4**
EATA	**Eleskirt**	**1.33 336**		⇓*i*P	**Pn**	**02 49 34.7**	**-2.1**
EATA				*i* S	**Sb**	**02 49 52.9**	**-1.3**
EATA	**Eleskirt**	**1.33 336**		P	**Pn**	**02 49 34.7**	**-2.1**
EATA				S	**Sb**	**02 49 52.9**	**-1.3**
CUKT	**Cukurca**	**1.44 166**		*e*PN	**Pb**	**02 49 38.8**	**0.0**
CUKT	**Cukurca**	**1.44 166**		*i* P	**Pn**	**02 49 38.1**	**0.0**
CUKT	**Cukurca**	**1.44 166**		P	**Pn**	**02 49 38.1**	**0.0**
CUKT	**Cukurca**	**1.44 166**		*e*Pn	**Pb**	**02 49 38.8**	**0.0**
VRTB	**Varto-Mus**	**1.44 291**		*e*PN	**Pn**	**02 49 37.6**	**-0.6**
VRTB	**Varto-Mus**	**1.44 291**		*i* P	**Pn**	**02 49 36.5**	**-1.7**
VRTB	**Varto-Mus**	**1.44 291**		P	**Pn**	**02 49 36.5**	**-1.7**
VRTB	**Varto-Mus**	**1.44 291**		*e*Pn	**Pn**	**02 49 37.6**	**-0.6**
BNGL	**BINGOL**	**1.62 281**		⇑*i*P	**Pn**	**02 49 40.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.64 253**		*e*PN	**Pn**	**02 49 40.8**	**+0.1**
SVAN				*e*SN	**Sb**	**02 50 04.3**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.64 253**		*i* P	**Pn**	**02 49 40.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.64 253**		P	**Pn**	**02 49 40.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.64 253**		*e*Pn	**Pn**	**02 49 40.8**	**+0.1**
SVAN				*e*Sn	**Sb**	**02 50 04.3**	**+1.4**
BTMN	**Batman**	**1.68 244**		*i* P	**Pn**	**02 49 41.2**	**-0.3**
BTMN	**Batman**	**1.68 244**		P	**Pn**	**02 49 41.2**	**-0.3**
HOMI	**Horasan**	**1.71 325**		*i* P	**Pn**	**02 49 41.6**	**-0.3**
DIGO	**Kars**	**1.77 5**		*i* P	**Pn**	**02 49 42.6**	**-0.2**
DIGO	**Kars**	**1.77 5**		P	**Pn**	**02 49 42.6**	**-0.2**
NAX	**Nakhchivan**	**1.88 73**		⇑P	**Pb**	**02 49 45.0**	**-1.3**
NAX				⇑S	**Sn**	**02 50 08.0**	**0.0**
NAX	**Nakhchivan**	**1.88 73**		P	**Pb**	**02 49 45.0**	**-1.3**
NAX				S	**Sn**	**02 50 08.0**	**0.0**
ERZM	**Erzurum**	**1.89 312**		*i* P	**Pn**	**02 49 44.5**	**+0.1**
ERZM	**Erzurum**	**1.89 312**		P	**Pn**	**02 49 44.5**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.97 300**		*i* P	**Pn**	**02 49 45.1**	**-0.3**
ECAT	**Cat-ERZURUM**	**1.97 300**		P	**Pn**	**02 49 45.1**	**-0.3**
BNGB	**Bing¶ll**	**1.99 281**		*e*PN	**Pn**	**02 49 46.4**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.02 342**		*e*PN	**Pn**	**02 49 46.1**	**0.0**
SENK	**Senkaya-Erzuru**	**2.02 342**		*e*Pn	**Pn**	**02 49 46.2**	**0.0**
EAK	**Akyaka**	**2.06 9**		*i* P	**Pb**	**02 49 48.6**	**-0.9**
EAK	**Akyaka**	**2.06 9**		P	**Pb**	**02 49 48.6**	**-0.9**
BINT	**Bingol**	**2.12 277**		*e*Pn	**Pn**	**02 49 46.4**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.20 292**		*e*PN	**Pn**	**02 49 49.3**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.20 292**		*e*Pn	**Pn**	**02 49 49.3**	**+0.6**
MARD	**Mardin**	**2.32 236**		*i* P	**Pn**	**02 49 51.1**	**+0.9**
MAZI	**Mazidag**	**2.46 242**		*e*PN	**Pn**	**02 49 53.4**	**+1.2**
MAZI	**Mazidag**	**2.46 242**		*e*Pn	**Pn**	**02 49 53.4**	**+1.2**
DDEM	**Demirkent**	**2.50 334**		*i* P	**Pn**	**02 49 53.8**	**+1.1**
DDEM	**Demirkent**	**2.50 334**		P	**Pn**	**02 49 53.8**	**+1.1**
DIYA	**Diyarbakir**	**2.52 254**		*i* P	**Pn**	**02 49 54.2**	**+1.3**
DIYA	**Diyarbakir**	**2.52 254**		P	**Pn**	**02 49 54.2**	**+1.3**
DAGI	**Agillar**	**2.62 338**		*i* P	**Pn**	**02 49 56.1**	**+1.8**
GDB	**GEDABAY** SNR=17	**2.87 43**		⇓P	**Pn**	**02 50 00.1**	**+2.3**
GDB				⇓S	**Sb**	**02 50 36.2**	**-2.2**
GDB	**GEDABAY** SNR=17	**2.87 43**		P	**Pn**	**02 50 00.1**	**+2.3**
GDB				S	**Sb**	**02 50 36.2**	**-2.2**
TNCL	**Tunceli-Merkez**	**2.88 280**		*i* P	**Pn**	**02 49 59.1**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.88 280**		P	**Pn**	**02 49 59.1**	**+1.2**
QZX	**Qazax, Azerbai** SNR=5.7	**2.94 34**		⇑P	**Pb**	**02 50 02.1**	**-2.2**
QZX				⇑S	**Sb**	**02 50 38.4**	**-1.9**
QZX	**Qazax, Azerbai** SNR=5.7	**2.94 34**		P	**Pb**	**02 50 02.1**	**-2.2**
QZX				S	**Sb**	**02 50 38.4**	**-1.9**
PTK	**Pertek**	**2.97 276**		*e*PN	**Pn**	**02 50 00.4**	**+1.1**
PTK	**Pertek**	**2.97 276**		*e*Pn	**Pn**	**02 50 00.4**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.05 266**		*e*PN	**Pn**	**02 50 01.9**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.05 266**		*e*Pn	**Pn**	**02 50 02.0**	**+1.6**
GANJ	**Ganja** SNR=11	**3.14 50**		⇓P	**Pn**	**02 50 03.7**	**+2.3**
GANJ				⇓S	**Sn**	**02 50 41.8**	**+2.8**
GANJ	**Ganja** SNR=11	**3.14 50**		P	**Pn**	**02 50 03.7**	**+2.3**
GANJ				S	**Sn**	**02 50 41.8**	**+2.8**
DGRG	**David-gareji**	**3.27 30**		P	**Pn**	**02 50 06.0**	**+2.8**
TBLG	**Delisi**	**3.30 21**		*e*PN	**Pn**	**02 50 04.3**	**+0.7**
TBLG	**Delisi**	**3.30 21**		*e*Pn	**Pn**	**02 50 04.3**	**+0.7**
BRDA	**Brd** SNR=8.4	**3.49 61**		⇑P	**Pn**	**02 50 07.5**	**+1.4**
BRDA				⇑S	**Sn**	**02 50 48.6**	**+1.1**
BRDA	**Brd** SNR=8.4	**3.49 61**		P	**Pn**	**02 50 07.5**	**+1.4**
BRDA				S	**Sn**	**02

VIE 25 02:56:14.9±1.8, 49°.97N×19°.18E, h0km, mb2.4/2, ML2.5/4, Error ellipse: s-maj=12.1km s-min=9.5km az=112.0, Suspected Mining induced.

ISC 25 02:56:12.4±0.8, 50°.14N±0°.03×19°.26E±0°.02, h0km, n39, σ0.84/68, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**02 56 18.8**	**-0.5**
OJC				*e*Sg	**Sg**	**02 56 23.2**	**-0.7**
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**02 56 18.8**	**-0.5**
OJC				*e*Sg	**Sg**	**02 56 23.2**	**-0.7**
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**02 56 18.8**	**-0.5**
OJC				*e*Sg	**Sg**	**02 56 23.2**	**-0.7**
OKC	**Ostrava-Krasne**	**0.78**	**247**	*e*PG	**Pb**	**02 56 28.8**	**0.0**
OKC				*e*SG	**Sb**	**02 56 40.1**	**+0.2**
	comp=Z,39nm,0.3s						
OKC	**Ostrava-Krasne**	**0.78**	**247**	Pg	**Pb**	**02 56 28.8**	**0.0**
OKC				Sg	**Sb**	**02 56 40.1**	**+0.2**
	39nm,0.3s						
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**02 56 31.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 56 45.6**	**-0.5**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**02 56 31.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 56 45.6**	**-0.5**
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	**Pg**	**02 56 31.7**	**+0.3**
NIE				*e*Sg	**Sb**	**02 56 45.6**	**-0.5**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*Pg	**Pb**	**02 56 32.7**	**0.0**
LANS	**Liptovska Anna**	**1.00**	**172**	*e*PG	**Pb**	**02 56 32.7**	**0.0**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*Pn	**Pb**	**02 56 41.1**	**+0.3**
STHS				*e*Sn	**Sn**	**02 57 01.7**	**+1.3**
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*PN	**Pb**	**02 56 41.1**	**+0.3**
STHS				*e*SN	**Sn**	**02 57 01.7**	**+1.3**
STHS				*e*LG	Lg	02 57 03.1	
KRLC	**Kraliky**	**1.59**	**268**	*e*PG	**Pn**	**02 56 41.8**	**-0.1**
KRLC				*e*SG	**Sn**	**02 57 02.2**	**-1.1**
KRLC	**Kraliky**	**1.59**	**268**	Pg	**Pn**	**02 56 41.8**	**-0.1**
VYHS	**Vyhne**	**1.67**	**190**	*e*Pg	**Pn**	**02 56 43.0**	**0.0**
VYHS				*e*Sn	**Sn**	**02 57 05.1**	**-0.1**
VYHS	**Vyhne**	**1.67**	**190**	*e*PG	**Pn**	**02 56 43.0**	**0.0**
VYHS				*e*SN	**Sn**	**02 57 05.1**	**-0.1**
VYHS				*e*LG	Lg	02 57 08.6	
VYHS				*e*		03 17 42.9	
DPC	**Dobruska-Polom**	**1.89**	**277**	*e*PG	**Pn**	**02 56 46.1**	**0.0**
DPC				*e*SG	**Sb**	**02 57 11.8**	**-0.3**
	comp=Z,34nm,0.4s						
DPC	**Dobruska-Polom**	**1.89**	**277**	Pg	**Pn**	**02 56 46.1**	**0.0**
CRVS	**Cervenica-Dubn**	**1.90**	**130**	*e*Pn	**Pb**	**02 56 48.0**	**0.0**
CRVS				*e*Sn	**Sg**	**02 57 13.1**	**-0.3**
CRVS	**Cervenica-Dubn**	**1.90**	**130**	*e*PN	**Pb**	**02 56 48.0**	**0.0**
CRVS				*e*SN	**Sg**	**02 57 13.1**	**-0.3**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**02 56 50.8**	**-0.3**
KSP				*e*Sg	**Sg**	**02 57 17.7**	**+0.5**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**02 56 50.8**	**-0.3**
KSP				*e*Sg	**Sg**	**02 57 17.7**	**+0.5**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**02 56 50.8**	**-0.3**
KSP				*e*Sg	**Sg**	**02 57 17.7**	**+0.5**
UPC	**Upice**	**2.11**	**281**	*e*PG	**Pb**	**02 56 51.2**	**-0.4**
UPC				*e*SG	**Sg**	**02 57 20.2**	**0.0**
	comp=Z,15nm,0.5s						
UPC	**Upice**	**2.11**	**281**	Pg	**Pb**	**02 56 51.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	*e*SG	**Sg**	**02 57 43.2**	**-2.1**
GOPC	**GO Pecny, Ondr**	**2.89**	**267**	Sg	**Sg**	**02 57 43.2**	**-2.1**
PVCC	**Panska Ves**	**3.03**	**279**	*e*SG	**Sg**	**02 57 48.5**	**-1.1**
	comp=Z,20nm,0.5s						
PVCC	**Panska Ves**	**3.03**	**279**	Sg	**Sg**	**02 57 48.5**	**-1.1**
	20nm,0.5s						
PRU	**Pruhonice**	**3.04**	**269**	*e*PG	**Pb**	**02 57 07.3**	**-0.1**
PRU				*e*SG	**Sg**	**02 57 48.1**	**-2.0**
	comp=Z,10nm,0.4s						
PRU	**Pruhonice**	**3.04**	**269**	Pg	**Pb**	**02 57 07.3**	**-0.1**
PRU				Sg	**Sg**	**02 57 48.1**	**-2.0**
	10nm,0.4s						
CONA	**Conrad Observa**	**3.15**	**226**	Pn	**Pn**	**02 57 04.9**	**+1.6**
	0.5nm,0.3s						
CONA				Sn	**Sn**	**02 57 41.5**	**-0.1**
	0.4nm,0.2s						
CONA				Sg	**Sg**	**02 57 52.4**	**-1.1**
	2.8nm,0.4s						
BRG	**Berggiesshubel**	**3.47**	**284**	Pg	**Pg**	**02 57 21.2**	**+2.3**
BRG				SG	**Sg**	**02 58 03.3**	**-0.6**
	7.5nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	*e*PN	**Pn**	**02 57 13.4**	**+0.8**
KHC				*e*PG	**Pb**	**02 57 21.6**	**+0.8**
KHC				*e*SG	**Sg**	**02 58 14.1**	**-1.2**
	comp=Z,8.9nm,0.4s						
KHC	**Kasperske Hory**	**3.83**	**257**	Pn	**Pn**	**02 57 13.4**	**+0.8**
KHC	**Kasperske Hory**	**3.83**	**257**	Pg	**Pb**	**02 57 21.6**	**+0.8**
KHC				Sg	**Sg**	**02 58 14.1**	**-1.2**
	8.9nm,0.4s						
MOA	**Molln**	**4.01**	**237**	Pn	**Pn**	**02 57 15.9**	**+0.8**
	0.3nm,0.2s						
MOA				Sg	**Sg**	**02 58 20.1**	**-1.0**
	6.1nm,0.7s						
CLL	**Collm**	**4.14**	**289**	*e*Sg	**Sg**	**02 58 26.0**	**+0.6**
RETA	**Reutte**	**6.21**	**248**	Sg	**Sg**	**02 59 31.0**	**-0.7**
	1.6nm,0.4s						

ISCJB 25 02:57:32.6±0.9, 71°.5N±0°.1×9°.4W±0°.4, h10km, Error ellipse: s-maj=25.1km s-min=5.4km az=143.7
CSEM 25 02:57:33.4±0.3, 71°.52N×9°.01W, h5km, ML2.9, Error ellipse: s-maj=19.0km s-min=4.0km az=62.0
BER 25 02:57:35.2±0.5, 71°.26N×9°.48W, h0km±82km, MD2.4, ML2.9

ISC 25 02:57:31.1±1.2, 71°.37N±0°.10×9°.7W±0°.1, h10km, n11, σ1.28/18, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.53**	**130**	⇑*i*P	**Pn**	**02 57 44.2**	**-0.5**
JNW				*e*S	**Sb**	**02 57 50.9**	**+0.8**
JNW				IAML		02 57 52.2	
	comp=Z,995nm,0.3s						
JNW	**Jan Mayen West**	**0.53**	**130**	⇑*i*P	**Pn**	**02 57 44.2**	**-0.5**
	SNR=30						
JNW				*e*S	**Sb**	**02 57 50.9**	**+0.8**
	SNR=30						
JMI	**Jan Mayen**	**0.54**	**145**	*e*P	**Pn**	**02 57 44.3**	**-0.5**
JMI				*e*S	**Sg**	**02 57 50.5**	**+1.9**
JMI	**Jan Mayen**	**0.54**	**145**	*e*P	**Pn**	**02 57 44.3**	**-0.5**
	SNR=30						
JMIC	**Jan Mayen**	**0.54**	**135**	⇑*i*P	**Pn**	**02 57 44.1**	**-0.7**
JMIC				*e*S	**Sb**	**02 57 50.8**	**+0.3**
JMIC				IAML		02 57 51.1	
	comp=Z,363nm,0.3s						
JMIC	**Jan Mayen**	**0.54**	**135**	⇑*i*P	**Pn**	**02 57 44.1**	**-0.7**
	SNR=30						
JMIC				*e*S	**Sb**	**02 57 50.8**	**+0.3**
	SNR=30						
JNE	**Jan Mayen East**	**0.59**	**130**	*e*P	**Pn**	**02 57 44.9**	**-0.6**
JNE				*e*S	**Sb**	**02 57 52.2**	**+0.4**
JNE				IAML		02 57 53.2	
	comp=Z,897nm,0.2s						
JNE	**Jan Mayen East**	**0.59**	**130**	*e*P	**Pn**	**02 57 44.9**	**-0.6**
	SNR=30						
JNE				*e*S	**Sb**	**02 57 52.2**	**+0.4**
	SNR=30						
DAG	**Danmarks Havn**	**5.96**	**340**	*i*P	**Pn**	**02 59 01.2**	**+2.1**
DAG				*e*S	**Sn**	**03 00 03.9**	**-3.4**
SUMG	**Summit**	**8.95**	**291**	*i*P	Pn	02 59 46.3	+5.7
SUMG				*e*S	**Sn**	**03 01 20.4**	**-1.1**
SUMG	**Summit**	**8.95**	**291**	*i*P	Pn	02 59 46.3	+5.7

ISK 25 03:06:04.7, 38°.52N×43°.46E, h5km, ML3.2
CSEM 25 03:06:06.0±0.5, 38°.53N×43°.46E, h5km, ML3.2, Error ellipse: s-maj=14.0km s-min=8.1km az=95.0
DDA 25 03:06:12.3, 38°.82N×43°.40E, h7km, Md3.0

ISC 25 03:06:07.8±1.3, 38°.61N±0°.05×43°.57E±0°.07, h13km, n27, σ1.59/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.15**	**238**	*i*P	Pg	03 06 19.3	+7.7
TVAN				*i*S	Sg	03 06 24.0	+10
TVAN	**Van**	**0.15**	**238**	P	Pg	03 06 19.3	+7.7
TVAN				S	Sg	03 06 24.0	+10
GEVA	**Gevas**	**0.49**	**234**	*i*P	**Pn**	**03 06 22.1**	**+1.4**
GEVA				*i*S	**Sn**	**03 06 31.4**	**+2.1**
GEVA	**Gevas**	**0.49**	**234**	P	**Pn**	**03 06 22.1**	**+1.4**
GEVA				S	**Sn**	**03 06 31.4**	**+2.1**
DYDN	**Diyadin**	**0.94**	**6**	*i*P	**Pb**	**03 06 26.4**	**+0.4**
DYDN	**Diyadin**	**0.94**	**6**	P	**Pb**	**03 06 26.5**	**+0.4**
TUTA	**Tutak**	**0.99**	**324**	*i*P	**Pb**	**03 06 26.2**	**-0.7**
TUTA				*i*S	**Sg**	**03 06 37.8**	**-2.0**
TUTA	**Tutak**	**0.99**	**324**	P	**Pb**	**03 06 26.2**	**-0.7**
TUTA				S	**Sg**	**03 06 37.8**	**-2.0**
AGRB	**Hanur-Agry**	**1.06**	**335**	*e*PN	**Pb**	**03 06 27.3**	**-0.9**
AGRB	**Hanur-Agry**	**1.06**	**335**	*e*Pn	**Pb**	**03 06 27.3**	**-0.9**
EKAR	**Karacoban**	**1.34**	**299**	*i*P	**Pg**	**03 06 35.2**	**+1.6**
EKAR	**Karacoban**	**1.34**	**299**	P	**Pg**	**03 06 35.2**	**+1.6**
CUKT	**Cukurca**	**1.36**	**179**	*e*PN	**Pn**	**03 06 30.5**	**-2.0**
CUKT	**Cukurca**	**1.36**	**179**	*e*Pn	**Pn**	**03 06 30.5**	**-2.1**
SIRN	**S¨–rnak**	**1.43**	**220**	*i*P	Pg	03 06 40.2	+4.9
VRTB	**Varto-Mus**	**1.74**	**289**	*e*PN	**Pn**	**03 06 36.4**	**-1.4**
VRTB	**Varto-Mus**	**1.74**	**289**	*e*Pn	**Pn**	**03 06 36.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.92**	**257**	*e*PN	**Pn**	**03 06 38.5**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.92**	**257**	*e*Pn	**Pn**	**03 06 38.6**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.17**	**335**	*e*PN	**Pn**	**03 06 44.2**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.17**	**335**	*e*Pn	**Pn**	**03 06 44.3**	**+0.5**
BNGB	**Bing¨¶l**	**2.29**	**281**	*e*PN	**Pn**	**03 06 44.1**	**-1.2**
BINT	**Bingol**	**2.42**	**277**	*e*Pn	**Pn**	**03 06 44.1**	**-3.1**
YEDI	**Yedisu-Bingol**	**2.50**	**290**	*e*PN	**Pn**	**03 06 47.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.50**	**290**	*e*Pn	**Pn**	**03 06 47.5**	**-0.7**
MAZI	**Mazidag**	**2.72**	**246**	*e*PN	**Pn**	**03 06 49.8**	**-1.4**
MAZI	**Mazidag**	**2.72**	**246**	*e*Pn	**Pn**	**03 06 49.8**	**-1.4**

DDA 25 03:08:40.5, 38°.80N×43°.67E, h7km, Ml3.1
ISK 25 03:08:40.4, 38°.74N×43°.45E, h5km, ML3.0
CSEM 25 03:08:41.5±0.3, 38°.72N×43°.51E, h12km, ML3.0, Error ellipse: s-maj=9.6km s-min=4.9km az=82.0

ISC 25 03:08:40.0±1.3, 38°.74N±0°.02×43°.70E±0°.05, h7km±10km, n32, σ1.26/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**239**	PG	**Pg**	**03 08 46.0**	**+0.4**
VANB				*e*SG	**Sg**	**03 08 50.3**	**+1.0**
VANB	**Van**	**0.28**	**239**	*i*Pg	**Pg**	**03 08 46.0**	**+0.4**
VANB				*e*Sg	**Sg**	**03 08 50.3**	**+1.0**
TVAN	**Van**	**0.31**	**228**	*i*P	**Pb**	**03 08 48.5**	**+0.4**
TVAN				*i*S	**Sg**	**03 08 52.6**	**+2.3**
TVAN	**Van**	**0.31**	**228**	P	**Pb**	**03 08 48.5**	**+0.4**
TVAN				S	**Sg**	**03 08 52.6**	**+2.3**
GEVA	**Gevas**	**0.66**	**230**	*i*P	**Pg**	**03 08 50.5**	**-2.2**
GEVA				*i*S	**Sg**	**03 08 58.2**	**-3.1**
GEVA	**Gevas**	**0.66**	**230**	P	**Pg**	**03 08 50.5**	**-2.2**
GEVA				S	**Sg**	**03 08 58.2**	**-3.1**
BASK	**Baskale_VAN**	**0.73**	**161**	*i*P	**Pn**	**03 08 56.0**	**-0.9**
BASK	**Baskale_VAN**	**0.73**	**161**	P	**Pn**	**03 08 56.0**	**-0.9**
DYDN	**Diyadin**	**0.80**	**359**	*i*P	**Pn**	**03 08 57.7**	**-0.3**
DYDN				*i*S	**Sn**	**03 09 09.7**	**-0.6**
DYDN	**Diyadin**	**0.80**	**359**	P	**Pn**	**03 08 57.7**	**-0.3**
DYDN				S	**Sn**	**03 09 09.7**	**-0.6**
TUTA	**Tutak**	**0.95**	**314**	*i*P	**Pg**	**03 08 57.6**	**-0.7**
TUTA				*i*S	**Sg**	**03 09 10.4**	**-0.3**
TUTA	**Tutak**	**0.95**	**314**	P	**Pg**	**03 08 57.6**	**-0.7**
TUTA				S	**Sg**	**03 09 10.4**	**-0.3**
AGRB	**Hanur-Agry**	**1.00**	**327**	*e*PG	**Pg**	**03 08 58.7**	**-0.5**
AGRB				*e*SG	**Sg**	**03 09 12.4**	**+0.2**
AGRB	**Hanur-Agry**	**1.00**	**327**	*e*Pg	**Pg**	**03 08 58.7**	**-0.5**
AGRB				*e*Sg	**Sg**	**03 09 12.4**	**+0.2**
HAKT	**HAKKARI**	**1.18**	**180**	*i*P	**Pn**	**03 09 03.0**	**-0.2**
HAKT	**HAKKARI**	**1.18**	**180**	P	**Pn**	**03 09 03.0**	**-0.2**
EKAR	**Karacoban**	**1.38**	**293**	*i*P	**Pn**	**03 09 06.0**	**+0.1**
EKAR				*i*S	**Sn**	**03 09 27.1**	**+2.7**
EKAR	**Karacoban**	**1.38**	**293**	P	**Pn**	**03 09 06.0**	**+0.1**
EKAR				S	**Sn**	**03 09 27.1**	**+2.7**
EATA	**Eleskirt**	**1.46**	**320**	*i*P	**Pn**	**03 09 07.6**	**+0.5**
EATA				*i*S	**Sn**	**03 09 26.3**	**-0.4**
EATA	**Eleskirt**	**1.46**	**320**	P	**Pn**	**03 09 07.6**	**+0.5**
EATA				S	**Sn**	**03 09 26.3**	**-0.4**
CUKT	**Cukurca**	**1.49**	**183**	*e*PN	**Pg**	**03 09 09.3**	**+0.7**
CUKT	**Cukurca**	**1.49**	**183**	*e*Pn	**Pg**	**03 09 09.3**	**+0.7**
VRTB	**Varto-Mus**	**1.80**	**284**	*e*PN	**Pn**	**03 09 11.0**	**-0.6**
VRTB	**Varto-Mus**	**1.80**	**284**	*e*Pn	**Pn**	**03 09 11.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.05**	**254**	*e*PN	**Pn**	**03 09 14.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.05**	**254**	*e*Pn	**Pn**	**03 09 14.5**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.10**	**331**	*e*PN	**Pn**	**03 09 16.4**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.10**	**331**	*e*Pn	**Pn**	**03 09 16.4**	**+0.7**
BNGB	**Bing¨¶l**	**2.37**	**277**	*e*PN	**Pn**	**03 09 19.0**	**-0.4**
BINT	**Bingol**	**2.51**	**274**	*e*Pn	**Pn**	**03 09 19.0**	**-2.4**
YEDI	**Yedisu-Bingol**	**2.55**	**287**	*e*PN	**Pn**	**03 09 21.6**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.55**	**287**	*e*Pn	**Pn**	**03 09 21.6**	**-0.4**

CSEM 25 03:10:35.4±0.7, 51°.48N×16°.09E, h1km, Error ellipse: s-maj=9.9km s-min=5.2km az=10.0
PRU 25 03:10:35.9, 51°.47N×16°.11E, h0km

WAR 25 03:10:35.8, 51°.48N×16°.11E, h1km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	Pg	03 10 48.0	-0.2
KSP				*e*Sg	Sg	03 10 56.8	+0.2
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	Pg	03 10 48.0	-0.2
KSP				*e*Sg	Sg	03 10 56.8	+0.2
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	Pg	03 10 48.0	-0.2
KSP				*e*Sg	Sg	03 10 56.8	+0.2
UPC	**Upice**	**0.98**	**184**	*e*PG	Pg	03 10 54.3	-0.2
UPC				*e*SG	Sg	03 11 07.0	-0.1
	comp=Z,14nm,0.4s						
UPC	**Upice**	**0.98**	**184**	Pg	Pg	03 10 54.3	-0.2
UPC				Sg	Sg	03 11 07.0	-0.1
	14nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	Pg	03 10 56.7	-0.9
DPC				*e*SG	Sg	03 11 11.9	-0.5
DPC	**Dobruska-Polom**	**1.14**	**173**	Pg	Pg	03 10 56.7	-0.9
DPC				Sg	Sg	03 11 11.9	-0.5
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	Pg	03 11 01.8	-0.1
PVCC				*e*SG	Sb	03 11 20.1	+0.1
	comp=Z,14nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**226**	Pg	Pg	03 11 01.8	-0.1
PVCC				Sg	Sb	03 11 20.1	+0.1
	14nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**247**	PG	Pn	03 11 03.7	-0.1
BRG				SG	Sn	03 11 23.9	0.0
	5.5nm,0.3s						
PRA	**Prague**	**1.77**	**218**	*e*SG	Sb	03 11 31.7	+0.1
PRA	**Prague**	**1.77**	**218**	Sg	Sb	03 11 31.7	+0.1
PRU	**Pruhonice**	**1.79**	**214**	*e*PG	Pb	03 11 09.1	-0.3
PRU				*e*SG	Sn	03 11 31.5	+0.2
PRU	**Pruhonice**	**1.79**	**214**	Pg	Pb	03 11 09.1	-0.3
PRU				Sg	Sn	03 11 31.5	+0.2
CLL	**Collm**	**1.95**	**266**	*e*Pg	Pb	03 11 12.0	-0.1
CLL				*e*Sg	Sg	03 11 38.0	-0.5
NKC	**Novy Kostel**	**2.63**	**243**	*e*SG	Sg	03 11 59.3	-1.1
	comp=Z,4.8nm,0.4s						
NKC	**Novy Kostel**	**2.63**	**243**	Sg	Sg	03 11 59.3	-1.1
	4.8nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*SG	Sg	03 12 06.6	-0.9
KHC	**Kasperske Hory**	**2.86**	**216**	Sg	Sg	03 12 06.6	-0.9

DDA 25 03:12:58.7, 38°.83N×43°.69E, h7km, Ml3.7
IDC 25 03:13:00.8±1.6, 38°.97N×43°.28E, h0km, mb3.7/5, mb1 3.6/9, mb1mx3.4/43, mbtmp3.6/9, ML2.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/38, Error ellipse: s-maj=28.2km s-min=14.2km az=175.0
ISK 25 03:13:00.1, 38°.70N×43°.47E, h5km, ML3.7
ISCJB 25 03:13:01.3±0.7, 38°.60N±0°.04×43°.62E±0°.03, h16km±8km, mb3.4/4, Error ellipse: s-maj=6.7km s-min=4.0km az=173.4
CSEM 25 03:13:01.4±0.1, 38°.58N×43°.59E, h10km, ML3.7, Error ellipse: s-maj=4.8km s-min=2.9km az=157.0
AZER 25 03:13:03.1±0.5, 38°.61N×43°.87E, h2km, Error ellipse: s-maj=4.6km s-min=2.7km az=45.0

ISC 25 03:13:01.7±1.0, 38°.74N±0°.03×43°.58E±0°.03, h13km±7km, n81, σ1.82/115, mb3.4/4, 21C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**227**	PG	**Pg**	**03 13 04.6**	**-1.7**
VANB	**Van**	**0.21**	**227**	*i*Pg	**Pg**	**03 13 04.6**	**-1.7**
TVAN	**Van**	**0.25**	**214**	*i*P	**Pg**	**03 13 06.7**	**-0.4**
TVAN				*i*S	**Sg**	**03 13 12.8**	**+2.0**
TVAN	**Van**	**0.25**	**214**	P	**Pg**	**03 13 06.7**	**-0.4**
TVAN				S	**Sg**	**03 13 12.8**	**+2.0**
BASK	**Baskale_VAN**	**0.76**	**154**	*i*P	**Pg**	**03 13 13.7**	**-2.8**
BASK				*i*S	**Sb**	**03 13 27.1**	**-0.3**
BASK	**Baskale_VAN**	**0.76**	**154**	P	**Pg**	**03 13 13.7**	**-2.8**
DYDN	**Diyadin**	**0.81**	**6**	*i*P	**Pg**	**03 13 13.3**	**-4.1**
AGRB	**Hanur-Agry**	**0.95**	**331**	*e*PG	**Pg**	**03 13 17.5**	**-2.6**
HAKT	**HAKKARI**	**1.18**	**175**	*i*P	**Pg**	**03 13 21.1**	**-3.4**
HAKT	**HAKKARI**	**1.18**	**175**	P	**Pg**	**03 13 21.1**	**-3.4**
EATA	**Eleskirt**	**1.41**	**323**	*i*P	**Pn**	**03 13 24.8**	**-2.6**
EATA	**Eleskirt**	**1.41**	**323**	P	**Pn**	**03 13 24.8**	**-2.6**
CUKT	**Cukurca**	**1.49**	**179**	*e*PN	**Pg**	**03 13 28.8**	**-1.5**
CUKT	**Cukurca**	**1.49**	**179**	*i*P	**Pg**	**03 13 30.7**	**+0.4**
CUKT				*i*S	**Sg**	**03 13 53.7**	**+4.1**
SIRN	**S¨–rnak**	**1.54**	**217**	*i*P	**Pn**	**03 13 29.0**	**-0.1**
SIRN	**S¨–rnak**	**1.54**	**217**	P	**Pn**	**03 13 29.0**	**-0.1**
NAX	**Nakhchivan**	**1.55**	**73**	P	**Pn**	**03 13 29.3**	**+0.1**
	SNR=34						
NAX				⇑S	**Sn**	**03 13 49.7**	**+0.4**
NAX	**Nakhchivan**	**1.55**	**73**	P	**Pn**	**03 13 29.3**	**+0.1**
	SNR=34						
NAX				S	**Sn**	**03 13 49.7**	**+0.4**
VRTB	**Varto-Mus**	**1.71**	**285**	*e*PN	**Pn**	**03 13 30.9**	**-0.5**
VRTB				*e*SN	**Sn**	**03 13 53.0**	**-0.3**
VRTB	**Varto-Mus**	**1.71**	**285**	*e*Pn	**Pn**	**03 13 30.9**	**-0.5**
VRTB				*e*Sn	**Sn**	**03 13 53.0**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*PN	**Pn**	**03 13 35.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*Pn	**Pn**	**03 13 35.1**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.06**	**333**	*e*PN	**Pn**	**03 13 36.8**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.06**	**333**	*e*Pn	**Pn**	**03 13 36.8**	**+0.6**
BNGB	**Bing¨¶l**	**2.28**	**277**	*e*PN	**Pn**	**03 13 39.9**	**+0.6**
BINT	**Bingol**	**2.42**	**274**	*e*Pn	**Pn**	**03 13 39.9**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*PN	**Pn**	**03 13 42.5**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*Pn	**Pn**	**03 13 42.5**	**+0.7**
GDB	**GEDABAY**	**2.59**	**40**	⇑P	**Pn**	**03 13 45.0**	**+1.4**
	SNR=9.3						
GDB				⇑S	**Sb**	**03 14 19.3**	**-0.8**
GDB	**GEDABAY**	**2.59**	**40**	P	**Pn**	**03 13 45.0**	**+1.4**
	SNR=9.3						
GDB				S	**Sb**	**03 14 19.3**	**-0.8**
AKH	**Akhalkalaki**	**2.67**	**359**	*e*PN	**Pn**	**03 13 47.0**	**+2.4**
AKH	**Akhalkalaki**	**2.67**	**359**	*e*Pn	**Pn**	**03 13 47.0**	**+2.4**
QZX	**Qazax, Azerbai**	**2.70**	**30**	⇓P	**Pn**	**03 13 47.4**	**+2.6**
	SNR=27						
QZX				⇑S	**Sb**	**03 14 22.1**	**-0.8**
QZX	**Qazax, Azerbai**	**2.70**	**30**	P	**Pn**	**03 13 47.4**	**+2.6**
	SNR=27						
QZX				S	**Sb**	**03 14 22.1**	**-0.8**
MAZI	**Mazidag**	**2.78**	**244**	*e*PN	**Pn**	**03 13 46.7**	**+0.6**
MAZI	**Mazidag**	**2.78**	**244**	*e*Pn	**Pn**	**03 13 46.7**	**+0.6**
GANJ	**Ganja**	**2.85**	**47**	⇑P	**Pn**	**03 13 47.8**	**+0.9**
	SNR=21						
GANJ				⇑S	**Sn**	**03 14 24.3**	**+3.2**
GANJ	**Ganja**	**2.85**	**47**	P	**Pn**	**03 13 47.8**	**+0.9**
	SNR=21						
GANJ				S	**Sn**	**03 14 24.3**	**+3.2**
BRDA	**Brd**	**3.17**	**60**	⇑P	**Pn**	**03 13 52.1**	**+0.7**
	SNR=11						
BRDA				⇓S	**Sn**	**03 14 30.9**	**+1.8**
BRDA	**Brd**	**3.17**	**60**	P	**Pn**	**03 13 52.1**	**+0.7**
	SNR=11						
BRDA				S	**Sn**	**03 14 30.9**	**+1.8**
MNGR	**Mingechevir, A**	**3.38**	**52**	⇓P	**Pn**	**03 13 55.6**	**+1.4**
	SNR=7.8						
MNGR				⇑S	**Sn**	**03 14 36.7**	**+2.5**
MNGR	**Mingechevir, A**	**3.38**	**52**	P	**Pn**	**03 13 55.6**	**+1.4**
	SNR=7.8						
MNGR				S	**Sn**	**03 14 36.7**	**+2.5**
ZRD	**Zardab**	**3.53**	**63**	⇑P	**Pn**	**03 13 56.9**	**+0.7**
	SNR=6.5						
ZRD				⇓S	**Sn**	**03 14 38.8**	**+1.0**
ZRD	**Zardab**	**3.53**	**

mb3.5/4, Error ellipse: s-maj=3.1km s-min=2.8km az=163.0
CSEM ***25*** *03:16:51.1±0.1, 38°.79N×43°.20E, h2km, ML3.8, Error ellipse: s-maj=3.8km s-min=3.1km az=156.0*
AZER ***25*** *03:16:53.1±0.9, 38°.62N×43°.41E, h10km, Error ellipse: s-maj=6.1km s-min=4.9km az=50.0*
ISC 25 03:16:51.9±0.8, 38°.76N±0°.02×43°.22E±0°.02, h17km±5km, n119, σ1§92/165, mb3.7/4, 19C-19D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**141**	PG	**Pg**	**03 16 56.1**	**-1.0**
VANB				*e*SG	**Sg**	03 17 01.4	+0.9
VANB	**Van**	**0.21**	**141**	*i* Pg	**Pg**	**03 16 56.1**	**-1.0**
VANB				*e*Sg	**Sg**	03 17 01.4	+0.9
TVAN	**Van**	**0.27**	**148**	*i* P	**Pg**	**03 16 58.4**	**+0.2**
TVAN				*i* S	**Sg**	03 17 03.0	+0.7
TVAN	**Van**	**0.27**	**148**	P	**Pg**	**03 16 58.3**	**+0.2**
TVAN				S	**Sg**	03 17 03.0	+0.7
GEVA	**Gevas**	**0.46**	**196**	⇓*i*P	**Pg**	**03 16 59.2**	**-2.2**
GEVA				*i* S	**Sb**	03 17 07.2	-1.1
GEVA	**Gevas**	**0.46**	**196**	P	**Pg**	**03 16 59.2**	**-2.2**
GEVA				S	**Sb**	03 17 07.2	-1.1
TUTA	**Tutak**	**0.72**	**334**	⇓*i*P	**Pg**	**03 17 03.6**	**-2.5**
TUTA				*i* S	**Sg**	03 17 13.9	-1.8
TUTA	**Tutak**	**0.72**	**334**	P	**Pg**	**03 17 03.6**	**-2.5**
TUTA				S	**Sg**	03 17 13.9	-1.8
AGRB	**Hanur-Agry**	**0.84**	**348**	PG	**Pg**	**03 17 05.4**	**-2.9**
AGRB				*e*SG	**Sg**	03 17 17.0	-2.4
AGRB	**Hanur-Agry**	**0.84**	**348**	*i* Pg	**Pg**	**03 17 05.4**	**-2.9**
AGRB				*e*Sg	**Sg**	03 17 17.0	-2.4
DYDN	**Diyadin**	**0.86**	**25**	⇓*i*P	**Pg**	**03 17 05.2**	**-3.7**
DYDN				*i* S	**Sg**	03 17 17.2	-3.1
DYDN	**Diyadin**	**0.86**	**25**	P	**Pg**	**03 17 05.2**	**-3.7**
DYDN				S	**Sg**	03 17 17.2	-3.1
EKAR	**Karacoban**	**1.03**	**299**	*i* P	**Pg**	**03 17 10.6**	**-1.3**
EKAR	**Karacoban**	**1.03**	**299**	P	**Pg**	**03 17 10.6**	**-1.3**
EATA	**Eleskirt**	**1.24**	**333**	⇓*i*P	**Pg**	**03 17 13.2**	**-2.7**
EATA	**Eleskirt**	**1.24**	**333**	P	**Pg**	**03 17 13.2**	**-2.7**
HAKT	**HAKKARI**	**1.26**	**162**	*i* P	**Pg**	**03 17 12.7**	**-3.6**
HAKT	**HAKKARI**	**1.26**	**162**	P	**Pg**	**03 17 12.7**	**-3.6**
SIRN	**S¨–rnak**	**1.41**	**207**	*i* P	**Pn**	**03 17 17.1**	**+0.2**
SIRN				*i* S	**Sn**	03 17 37.7	+2.6
SIRN	**S¨–rnak**	**1.41**	**207**	P	**Pn**	**03 17 17.1**	**+0.2**
SIRN				S	**Sn**	03 17 37.7	+2.6
VRTB	**Varto-Mus**	**1.43**	**287**	*e*PN	**Pn**	**03 17 16.9**	**-0.3**
VRTB	**Varto-Mus**	**1.43**	**287**	*i* P	**Pn**	**03 17 16.8**	**-0.4**
VRTB	**Varto-Mus**	**1.43**	**287**	P	**Pn**	**03 17 16.8**	**-0.4**
CUKT	**Cukurca**	**1.54**	**168**	*e*PN	**Pg**	**03 17 20.4**	**-1.2**
CUKT	**Cukurca**	**1.54**	**168**	*i* P	**Pg**	**03 17 19.7**	**-1.9**
CUKT				*i* S	**Sg**	03 17 40.9	-0.7
CUKT	**Cukurca**	**1.54**	**168**	P	**Pg**	**03 17 19.7**	**-1.9**
CUKT	**Cukurca**	**1.54**	**168**	*e*Pn	**Pg**	**03 17 20.4**	**-1.2**
CUKT				S	**Sg**	03 17 40.9	-0.7
BNGL	**BINGOL**	**1.63**	**277**	*i* P	**Pn**	**03 17 20.0**	**0.0**
BNGL				*i* S	**Sb**	03 17 44.4	+2.5
HOMI	**Horasan**	**1.64**	**322**	*i* P	**Pn**	**03 17 20.8**	**+0.6**
HOMI				*i* S	**Sb**	03 17 45.3	+3.0
DIGO	**Kars**	**1.66**	**4**	*i* P	**Pn**	**03 17 21.3**	**+0.8**
DIGO				*i* S	**Sg**	03 17 47.5	+2.0
DIGO	**Kars**	**1.66**	**4**	P	**Pn**	**03 17 21.3**	**+0.8**
DIGO				S	**Sg**	03 17 47.5	+2.0
SVAN	**Silvan-Diyarba**	**1.70**	**250**	*e*PN	**Pn**	**03 17 21.6**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.70**	**250**	*i* P	**Pn**	**03 17 21.8**	**+1.0**
SVAN				*i* S	**Sb**	03 17 45.3	+1.5
SVAN	**Silvan-Diyarba**	**1.70**	**250**	P	**Pn**	**03 17 21.8**	**+1.0**
SVAN				S	**Sb**	03 17 45.3	+1.5
BTMN	**Batman**	**1.76**	**241**	*i* P	**Pn**	**03 17 22.7**	**+1.0**
BTMN	**Batman**	**1.76**	**241**	P	**Pn**	**03 17 22.7**	**+1.0**
NAX	**Nakhchivan**	**1.82**	**76**	⇓P	**Pn**	**03 17 22.4**	**-0.1**
NAX				⇑S	**Sn**	03 17 46.0	+0.8
NAX	**Nakhchivan**	**1.82**	**76**	P	**Pn**	**03 17 22.4**	**-0.1**
NAX				S	**Sn**	03 17 46.0	+0.8
ERZM	**Erzurum**	**1.84**	**309**	*i* P	**Pn**	**03 17 24.4**	**+1.5**
ERZM	**Erzurum**	**1.84**	**309**	P	**Pn**	**03 17 24.4**	**+1.5**
SENK	**Senkaya-Erzuru**	**1.92**	**340**	*e*PN	**Pn**	**03 17 23.8**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.92**	**340**	*e*Pn	**Pn**	**03 17 23.8**	**-0.2**
EAK	**Akyaka**	**1.95**	**9**	*i* S	**Sg**	**03 17 56.5**	**+1.7**
BNGB	**Bing¶l**	**2.00**	**277**	*e*PN	**Pn**	**03 17 25.9**	**+1.0**
BINT	**Bingol**	**2.14**	**274**	*e*Pn	**Pn**	**03 17 25.9**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.19**	**289**	*e*PN	**Pn**	**03 17 28.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.19**	**289**	*e*Pn	**Pn**	**03 17 28.1**	**+0.4**
DDEM	**Demirkent**	**2.41**	**332**	*i* P	**Pn**	**03 17 34.4**	**+3.7**
DDEM	**Demirkent**	**2.41**	**332**	P	**Pn**	**03 17 34.4**	**+3.7**
KOPT	**Kop Dagi**	**2.46**	**302**	*i* P	**Pn**	**03 17 33.6**	**+2.2**
KOPT	**Kop Dagi**	**2.46**	**302**	P	**Pn**	**03 17 33.6**	**+2.2**
DAGI	**Agillar**	**2.53**	**337**	*i* P	**Pb**	**03 17 36.5**	**-0.3**
MAZI	**Mazidag**	**2.54**	**240**	*e*PN	**Pn**	**03 17 33.9**	**+1.4**
MAZI	**Mazidag**	**2.54**	**240**	*e*Pn	**Pn**	**03 17 33.9**	**+1.4**
GDB	**GEDABAY**	**2.77**	**44**	⇓P	**Pn**	**03 17 37.7**	**+2.1**
GDB				⇑S	**Sn**	03 18 12.4	+3.7
GDB	**GEDABAY**	**2.77**	**44**	P	**Pn**	**03 17 37.7**	**+2.1**
GDB				S	**Sn**	03 18 12.4	+3.7
QZX	**Qazax, Azerbai**	**2.83**	**35**	⇓P	**Pn**	**03 17 39.3**	**+2.9**
QZX				⇑S	**Sn**	03 18 14.4	+4.4
QZX	**Qazax, Azerbai**	**2.83**	**35**	P	**Pn**	**03 17 39.3**	**+2.9**
QZX				S	**Sn**	03 18 14.4	+4.4
PTK	**Pertek**	**2.99**	**274**	*e*PN	**Pn**	**03 17 38.4**	**-0.3**
PTK	**Pertek**	**2.99**	**274**	*e*Pn	**Pn**	**03 17 38.4**	**-0.3**
GANJ	**Ganja**	**3.05**	**51**	⇑P	**Pn**	**03 17 41.2**	**+1.9**
GANJ				⇑S	**Sn**	03 18 18.5	+3.1
GANJ	**Ganja**	**3.05**	**51**	P	**Pn**	**03 17 41.2**	**+1.9**
GANJ				S	**Sn**	03 18 18.5	+3.1
SVRC	**Sivrice-ELAZID**	**3.09**	**264**	*e*PN	**Pn**	**03 17 41.3**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.09**	**264**	*e*Pn	**Pn**	**03 17 41.3**	**+1.2**
TBLG	**Delisi**	**3.19**	**21**	*e*PN	**Pn**	**03 17 41.5**	**+0.2**
TBLG	**Delisi**	**3.19**	**21**	*e*Pn	**Pn**	**03 17 41.5**	**+0.2**
BRDA	**Brd**	**3.41**	**63**	⇑P	**Pn**	**03 17 45.5**	**+1.2**
BRDA				⇑S	**Sn**	03 18 26.2	+1.9
BRDA	**Brd**	**3.41**	**63**	P	**Pn**	**03 17 45.5**	**+1.2**
BRDA				S	**Sn**	03 18 26.2	+1.9
KTUT	**Trabzon**	**3.47**	**311**	*e*PN	**Pn**	**03 17 46.0**	**+0.9**
KTUT	**Trabzon**	**3.47**	**311**	*e*Pn	**Pn**	**03 17 46.0**	**+0.9**
MNGR	**Mingechevir, A**	**3.59**	**55**	⇑S	**Sn**	03 18 31.2	+2.4
MNGR	**Mingechevir, A**	**3.59**	**55**	S	**Sn**	03 18 31.2	+2.4
URFA	**Urfa**	**3.71**	**251**	*e*PN	**Pn**	**03 17 50.0**	**+1.5**
URFA	**Urfa**	**3.71**	**251**	*e*Pn	**Pn**	**03 17 50.0**	**+1.5**
ZKTA	**Zakatala**	**3.88**	**41**	⇑P	**Pn**	**03 17 53.2**	**+2.5**
ZKTA				⇑S	**Sn**	03 18 40.1	+4.1
SEKA	**Sheki**	**3.92**	**50**	⇓P	**Pn**	**03 17 53.9**	**+2.6**
SEKA				⇑S	**Sn**	03 18 41.3	+4.4
SEKA	**Sheki**	**3.92**	**50**	P	**Pn**	**03 17 53.9**	**+2.6**
SEKA				S	**Sn**	03 18 41.3	+4.4
LRK	**Lerik**	**4.01**	**90**	⇓P	**Pn**	**03 17 52.4**	**-0.3**
LRK				⇓S	**Sn**	03 18 38.8	-0.5
LRK	**Lerik**	**4.01**	**90**	P	**Pn**	**03 17 52.4**	**-0.3**
LRK				S	**Sn**	03 18 38.8	-0.5
GLBA	**Clilabad**	**4.06**	**82**	⇑P	**Pn**	**03 17 53.6**	**+0.4**
GLBA				⇓S	**Sn**	03 18 40.6	+0.4
GLBA	**Clilabad**	**4.06**	**82**	P	**Pn**	**03 17 53.6**	**+0.4**
GLBA				S	**Sn**	03 18 40.6	+0.4
ESPY	**Espiye-Giresun**	**4.08**	**303**	*e*PN	**Pn**	**03 17 54.9**	**+1.4**
ESPY	**Espiye-Giresun**	**4.08**	**303**	*e*Pn	**Pn**	**03 17 54.9**	**+1.4**
QBL	**Gabala**	**4.17**	**57**	⇑P	**Pn**	**03 17 56.2**	**+1.4**
QBL				⇓S	**Sn**	03 18 45.4	+2.3
QBL	**Gabala**	**4.17**	**57**	P	**Pn**	**03 17 56.2**	**+1.4**
QBL				S	**Sn**	03 18 45.4	+2.3
IML	**Ismayilli**	**4.33**	**60**	⇑S	**Sn**	03 18 48.9	+1.8
IML	**Ismayilli**	**4.33**	**60**	S	**Sn**	03 18 48.9	+1.8
LKRN	**Lenkeran, Azer**	**4.35**	**89**	⇑P	**Pn**	**03 17 57.0**	**-0.1**
LKRN				⇓S	**Sn**	03 18 47.1	-0.2
LKRN	**Lenkeran, Azer**	**4.35**	**89**	P	**Pn**	**03 17 57.0**	**-0.1**
LKRN				S	**Sn**	03 18 47.1	-0.2
ASTR	**Astara**	**4.37**	**91**	⇑P	**Pn**	**03 17 57.3**	**-0.1**
ASTR	**Astara**	**4.37**	**91**	P	**Pn**	**03 17 57.3**	**-0.1**
XNQ	**Khinaliq**	**4.48**	**56**	⇓P	**Pn**	**03 18 00.8**	**+1.6**
XNQ				⇓S	**Sn**	03 18 53.1	+2.0
XNQ	**Khinaliq**	**4.48**	**56**	P	**Pn**	**03 18 00.8**	**+1.6**
XNQ				S	**Sn**	03 18 53.1	+2.0
DARE	**Darende-Malaty**	**4.50**	**269**	*e*PN	**Pn**	**03 18 01.4**	**+2.0**
DARE	**Darende-Malaty**	**4.50**	**269**	*e*Pn	**Pn**	**03 18 01.3**	**+2.0**
PQL	**Pirkuli**	**4.61**	**62**	⇑P	**Pn**	**03 18 01.9**	**+1.0**
PQL				⇓S	**Sn**	03 18 55.8	+1.7
PQL	**Pirkuli**	**4.61**	**62**	P	**Pn**	**03 18 01.9**	**+1.0**
PQL				S	**Sn**	03 18 55.8	+1.7
ALIB	**Äli-Bayra**	**4.64**	**73**	⇓S	**Sn**	03 18 55.4	+0.8
ALIB	**Äli-Bayra**	**4.64**	**73**	S	**Sn**	03 18 55.4	+0.8
QSAR	**Qusar**	**4.75**	**53**	⇑P	**Pn**	**03 18 04.3**	**+1.6**
QSAR	**Qusar**	**4.75**	**53**	P	**Pn**	**03 18 04.3**	**+1.6**
QUBA	**Quba, Azerbaij**	**4.80**	**56**	⇑P	**Pn**	**03 18 05.1**	**+1.6**
QUBA	**Quba, Azerbaij**	**4.80**	**56**	P	**Pn**	**03 18 05.1**	**+1.6**
ATGJ	**Altiaghaj**	**4.88**	**63**	⇓P	**Pn**	**03 18 05.5**	**+1.0**
ATGJ	**Altiaghaj**	**4.88**	**63**	P	**Pn**	**03 18 05.5**	**+1.0**
SIZA	**Siyzn**	**4.94**	**60**	⇓P	**Pn**	**03 18 06.6**	**+1.2**
SIZA	**Siyzn**	**4.94**	**60**	P	**Pn**	**03 18 06.6**	**+1.2**
KBZ	**Khabaz**	**4.97**	**357**	Pn	**Pn**	**03 18 07.9**	**+2.2**
	0.1nm,0.3s,baz=195,slow=15,SNR=2.3						
KMRS	**Kahramanmaras**	**5.14**	**258**	*e*PN	**Pn**	**03 18 10.9**	**+2.8**
KMRS	**Kahramanmaras**	**5.14**	**258**	*e*Pn	**Pn**	**03 18 10.9**	**+2.8**
KVAR	**Kislovodsk Arr**	**5.21**	**356**	LR		03 20 00.9	
	comp=Z,36nm,18.6s,baz=159,slow=36						
AKASG	**Malin Array Be**	**15.51**	**325**	Pn	**Pn**	**03 20 29.1**	**-0.5**
	0.3nm,0.3s,baz=131,slow=12,SNR=3.4						
AKTO	**Aktyubinsk**	**15.69**	**37**	Pn	**Pn**	**03 20 32.4**	**+0.3**
	0.0nm,0.3s,baz=207,slow=9.0,SNR=2.2						
VYHS	**Vyhne**	**20.08**	**307**	*e*P	**P**	**03 21 26.1**	**+1.7**
ARU	**Arti**	**20.40**	**25**	P	**P**	**03 21 27.3**	**-0.5**
	9.6nm,0.2s,baz=276,slow=15,SNR=2.2						
BVAR	**Borovoye Array**	**23.50**	**44**	P	**P**	**03 22 00.1**	**-0.6**
	0.2nm,0.4s,baz=249,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**25.07**	**340**	P	**P**	**03 22 14.5**	**-0.6**
	2.3nm,0.9s,baz=136,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**29.53**	**61**	P	**P**	**03 22 55.0**	**-0.4**
	0.6nm,0.6s,baz=262,slow=9.8,SNR=2.3						
ESDC	**Sonseca Array**	**36.24**	**287**	P	**P**	**03 23 51.6**	**-2.4**
	2.2nm,0.9s,baz=80,slow=11,SNR=6.0						

ISK ***25*** *03:19:37.4, 38°.71N×43°.36E, h4km, ML3.1*
ISCJB ***25*** *03:19:38.5±0.6, 38°.72N±0°.03×43°.29E±0°.07, h7km±6km, Error ellipse: s-maj=9.1km s-min=4.0km az=158.2*
CSEM ***25*** *03:19:38.8±0.3, 38°.71N×43°.22E, h2km, ML3.1, Error ellipse: s-maj=9.8km s-min=5.0km az=65.0*
DDA ***25*** *03:19:41.6, 38°.55N×43°.22E, h7km, Ml3.1*
ISC 25 03:19:38.8±0.9, 38°.70N±0°.03×43°.23E±0°.04, h13km±9km, n34, σ1§42/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**130**	*e*PG	**Pg**	**03 19 41.8**	**-0.9**
VANB	**Van**	**0.16**	**130**	*e*Pg	**Pg**	**03 19 41.8**	**-0.9**
TVAN	**Van**	**0.21**	**141**	*i* P	**Pg**	**03 19 44.0**	**+0.3**
TVAN				*i* S	**Sg**	03 19 47.9	+0.9
TVAN	**Van**	**0.21**	**141**	P	**Pg**	**03 19 44.0**	**+0.3**
TVAN				S	**Sg**	03 19 47.9	+0.9
GEVA	**Gevas**	**0.41**	**200**	*i* P	**Pg**	**03 19 44.9**	**-2.1**
GEVA				*i* S	**Sg**	03 19 52.4	-0.2
GEVA	**Gevas**	**0.41**	**200**	P	**Pg**	**03 19 44.9**	**-2.1**
TUTA	**Tutak**	**0.78**	**335**	*i* P	**Pg**	**03 19 52.4**	**-1.5**
TUTA				*i* S	**Sg**	03 20 04.0	-0.2
TUTA	**Tutak**	**0.78**	**335**	P	**Pg**	**03 19 52.4**	**-1.5**
TUTA				S	**Sg**	03 20 04.0	-0.2
BASK	**Baskale_VAN**	**0.88**	**136**	*i* P	**Pg**	**03 19 53.3**	**-2.6**
BASK				*i* S	**Sg**	03 20 04.9	-2.6
BASK	**Baskale_VAN**	**0.88**	**136**	P	**Pg**	**03 19 53.3**	**-2.6**
AGRB	**Hanur-Agry**	**0.90**	**348**	*e*PG	**Pg**	**03 19 55.5**	**-0.8**
AGRB				*e*SG	**Sg**	03 20 08.2	+0.2
AGRB	**Hanur-Agry**	**0.90**	**348**	*e*Pg	**Pg**	**03 19 55.5**	**-0.8**
AGRB				*e*Sg	**Sg**	03 20 08.2	+0.2
EKAR	**Karacoban**	**1.07**	**302**	*i* P	**Pn**	**03 20 00.5**	**+0.8**
EKAR	**Karacoban**	**1.07**	**302**	P	**Pn**	**03 20 00.5**	**+0.8**
HAKT	**HAKKARI**	**1.20**	**162**	*i* P	**Pn**	**03 20 02.9**	**+1.4**
HAKT	**HAKKARI**	**1.20**	**162**	P	**Pn**	**03 20 02.9**	**+1.4**
SIRN	**S¨–rnak**	**1.36**	**209**	*i* P	**Pn**	**03 20 04.0**	**+0.3**
SIRN	**S¨–rnak**	**1.36**	**209**	P	**Pn**	**03 20 04.0**	**+0.3**
VRTB	**Varto-Mus**	**1.46**	**289**	*e*PN	**Pn**	**03 20 06.1**	**+1.0**
VRTB	**Varto-Mus**	**1.46**	**289**	*e*Pn	**Pn**	**03 20 06.1**	**+1.0**
CUKT	**Cukurca**	**1.48**	**168**	*e*PN	**Pn**	**03 20 06.0**	**+0.8**
CUKT	**Cukurca**	**1.48**	**168**	*i* P	**Pg**	**03 20 08.0**	**+0.8**
CUKT	**Cukurca**	**1.48**	**168**	*e*Pn	**Pn**	**03 20 06.0**	**+0.8**
CUKT	**Cukurca**	**1.48**	**168**	P	**Pg**	**03 20 08.0**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	*e*PN	**Pn**	**03 20 08.9**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	*e*Pn	**Pn**	**03 20 08.9**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.98**	**340**	*e*PN	**Pn**	**03 20 13.7**	**+1.4**
SENK	**Senkaya-Erzuru**	**1.98**	**340**	*e*Pn	**Pn**	**03 20 13.7**	**+1.4**
BNGB	**Bing¶l**	**2.02**	**279**	*e*PN	**Pb**	**03 20 15.0**	**-0.4**
BINT	**Bingol**	**2.15**	**276**	*e*Pn	**Pn**	**03 20 15.0**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.22**	**290**	*e*PN	**Pn**	**03 20 17.6**	**+2.1**
YEDI	**Yedisu-Bingol**	**2.22**	**290**	*e*Pn	**Pn**	**03 20 17.6**	**+2.1**
MAZI	**Mazidag**	**2.52**	**242**	*e*PN	**Pn**	**03 20 22.3**	**+2.7**
MAZI	**Mazidag**	**2.52**	**242**	*e*Pn	**Pn**	**03 20 22.3**	**+2.7**

CSEM ***25*** *03:20:43.8, 45°.91N×15°.40E, h0km, ML0.1*
LJU 25 03:20:43.8, 45°.91N×15°.40E, h4km, ML0.1, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEGS	**Legarje**	**0.07**	**303**	*i* Pg	Pg	03 20 45.4	0.0
LEGS				*i* Sg	Sg	03 20 46.7	+0.2
LEGS	**Legarje**	**0.07**	**303**	*i* Pg	Pg	03 20 45.4	0.0
LEGS				*i* Sg	Sg	03 20 46.7	+0.3
CESS	**Cesta pri Krsk**	**0.08**	**35**	*i* Pg	Pg	03 20 45.4	-0.1
CESS				*i* Sg	Sg	03 20 46.6	0.0
	comp=Z,17nm,0.1s						
CESS	**Cesta pri Krsk**	**0.08**	**35**	*i* Pg	Pg	03 20 45.3	-0.2
CESS				*i* Sg	Sg	03 20 46.7	+0.1
	comp=Z,17nm,0.1s						
CRES	**Cresnjev**	**0.09**	**155**	⇓*i*Pg	Pg	03 20 45.7	0.0
CRES				*i* Sg	Sg	03 20 47.4	+0.3
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.09**	**155**	⇓*i*Pg	Pg	03 20 45.7	-0.1
CRES				*i* Sg	Sg	03 20 47.4	+0.3
	comp=Z,2.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.17**	**105**	*i* Pg	Pg	03 20 46.9	-0.1
GCIS				*i* Sg	Sg	03 20 49.6	+0.4
GCIS	**Gornji Cirnik**	**0.17**	**105**	*i* Pg	Pg	03 20 46.9	-0.2
GCIS				*i* Sg	Sg	03 20 49.6	+0.4
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.19**	**57**	*i* Sg	Sg	03 20 50.7	+0.8
	comp=Z,2.0nm,0.1s						
GOLS	**Golise**	**0.19**	**57**	*i* Sg	Sg	03 20 50.7	+0.8
	comp=Z,2.0nm,0.1s						

BJI ***25*** *03:24:48.7, 52°.27N×171°.80W, h58km, mb5.5/80, mB5.4/60, Ms5.5/85, Ms7 5.4/82*
NEIC ***25*** *03:24:49.6±0.1, 52°.16N×171°.83W, h38km, mb5.9/296, ME5.2, MS5.3/278, MW5.6, MW5.7, MW5.7, ML5.5(AEIC), Error ellipse: s-maj=3.5km s-min=1.9km az=172.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}2.35; $M_{\theta\theta}$1.08; $M_{\phi\phi}$-3.43; $M_{r\theta}$-0.66; $M_{\theta\phi}$1.75; $M_{\phi r}$-0.63; Best double couple: $M_0$3.60000×10^{17} NP1: ϕ_s311.00000°, δ51.00000°, λ45.00000°. NP2: ϕ_s189.00000°, δ57.00000°, λ131.00000°. Principal axes: T 2.9300, Plg56.0000°, Azm156.0000°; N 1.1300, Plg33.0000°, Azm344.0000°; P -4.0500, Plg3.0000°, Azm252.0000°; Moment Tensor Solution. s91 Moment tensor: Scale 10^{17} Nm; M_{rr}3.57; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-2.47; $M_{r\theta}$-1.64; $M_{\theta\phi}$1.17; $M_{\phi r}$-0.47; Best double couple: $M_0$3.80000×10^{17} NP1:ϕ_s168.00000°, δ44.00000°, λ119.00000°. NP2:ϕ_s310.00000°, δ52.00000°, λ65.00000°. Principal axes: T 4.1800, Plg70.0000°, Azm159.0000°; N -1.0200, Plg20.0000°, Azm326.0000°; P -3.1600, Plg4.0000°, Azm58.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s35.00000°, δ45.00000°, λ126.00000°. NP2:ϕ_s170.00000°, δ55.00000°, λ60.00000°. Principal axes: T Plg65.0000°, Azm23.0000°; N Plg0.0000°, Azm0.0000°; P Plg6.0000°, Azm281.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
GCMT ***25*** *03:24:49.6±0.1, 52°.04N×171°.72W, h42km, MW5.8/141, Moment Tensor Solution. s130,c265; s141,c402; Duration: 1§8 Moment tensor: Scale 10^{17}Nm; M_{rr}4.46±.05; $M_{\theta\theta}$0.28±.04; $M_{\phi\phi}$-4.74±.04; $M_{r\theta}$-1.32±.04; $M_{\theta\phi}$1.66±.03; $M_{\phi r}$-1.69±.04; Best double couple: $M_0$5.34400×10^{17} NP1:ϕ_s183.00000°, δ56.00000°, λ115.00000°. NP2:ϕ_s323.00000°, δ42.00000°, λ58.00000°. Principal axes: T 5.2860, Plg68.0000°, Azm146.0000°; N 0.1210, Plg21.0000°, Azm348.0000°; P -5.4030, Plg8.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***25*** *03:24:49.9±1.1, 52°.16N×171°.79W, h46km±8km, mb5.2/34, mb1 5.3/37, mb1mx5.3/39, mbtmp5.4/37, ML5.2/3, MS5.0/42, Ms1 5.0/42, ms1mx5.0/44 Error ellipse: s-maj=12.0km s-min=8.6km az=168.0*
ISCJB ***25*** *03:24:50.9±0.2, 52°.22N±0°.02×171°.75W±0°.01, h69km±2km, mb5.7/557, Error ellipse: s-maj=3.0km s-min=1.5km az=177.5*
MOS ***25*** *03:24:51.7±1.0, 52°.23N×171°.84W, h78km, mb5.8/161, MS5.1/89, Error ellipse: s-maj=6.1km s-min=5.0km az=79.2*
NEIC ***25*** *03:24:52.0±0.0, 52°.45N×172°.13W, h45km, Moment Tensor Solution. s101 Moment tensor: Scale 10^{17}Nm; M_{rr}4.92; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-3.56; $M_{r\theta}$-1.11; $M_{\theta\phi}$1.30; $M_{\phi r}$0.03; Best double couple: $M_0$4.70000×10^{17} NP1:ϕ_s325.00000°, δ49.00000°, λ77.00000°. NP2:ϕ_s164.00000°, δ43.00000°, λ104.00000°. Principal axes: T 5.1200, Plg79.0000°, Azm172.0000°; N -0.9300, Plg9.0000°, Azm333.0000°; P -4.1900, Plg3.0000°, Azm64.0000°;*
ISC 25 03:24:50.3±0.3, 52°.14N±0°.03×171°.83W±0°.02, h49km±2km, h49km:pP-P, n1904, σ1§46/2083, mb5.8/571, MS5.3/370, 54C-31D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.38**	**280**	*e*Pn	**Pn**	**03 25 15.9**	**+2.7**
KOFP	**Korovin Flat P**	**1.40**	**277**	*e*Pn	**Pn**	**03 25 15.8**	**+2.3**
KONE	**Korovin Northe**	**1.43**	**281**	*e*Pn	**Pn**	**03 25 16.8**	**+3.0**
ATKA	**Atka Island**	**1.46**	**274**	*e*Pn	**Pn**	**03 25 15.4**	**+1.3**
ATKA				*e*Sn	**Sn**	03 25 31.8	-0.3
KOKL	**Mount Kliuchef**	**1.47**	**278**	*e*Pn	**Pn**	**03 25 16.9**	**+2.5**
NIKH	**Nikolski High**	**2.00**	**64**	*e*Pn	**Pn**	**03 25 21.8**	**+0.1**
NIKH				*e*Sn	**Sn**	03 25 45.9	+0.4
OKSO	**Okmok South**	**2.55**	**60**	*e*Pn	**Pn**	**03 25 30.1**	**+1.0**
OKSO				*e*Sn	**Sn**	03 26 01.7	+2.8
OKCE	**Okmok Cone E**	**2.58**	**58**	*e*Pn	**Pn**	**03 25 31.1**	**+1.6**
OKCE				*e*Sn	**Sn**	03 26 01.9	+2.3
GSTR	**Great Sitkin T**	**2.61**	**271**	*e*Pn	**Pn**	**03 25 32.5**	**+2.5**
OKNC	**Okmok New Cone**	**2.61**	**58**	P	**Pn**	**03 25 31.7**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**2.62**	**60**	*e*Pn	**Pn**	**03 25 31.7**	**+1.5**
GSTD	**Great Sitkin T**	**2.66**	**270**	*e*Pn	**Pn**	**03 25 32.5**	**+1.7**
GSCK	**Great Sitkin C**	**2.68**	**269**	*e*Pn	**Pn**	**03 25 32.6**	**+1.7**
OKFG

DHY	Denali Highway	16.95	40	ePn	P	03 28 48.6 +3.3
	comp=Z,517nm,1.7s					
RAGM	Ragged Mountai	17.09	50	ePn	P	03 28 52.9 +6.2
	comp=Z,274nm,0.8s					
BMRM	Bremner River	17.30	49	ePn	Pn	03 28 48.5 +0.4
	comp=Z,175nm,1.0s					
BMRM				eScP	ScP	03 37 05.4 +6.8
WRH	Wood River Hil	17.41	36	ePn	Pn	03 28 48.7 -0.7
	comp=Z,420nm,1.4s					
HARP	HAARP	17.57	44	ePn	Pn	03 28 51.0 -0.4
	comp=Z,236nm,0.9s					
CCB	Clear Creek Bu	17.61	35	ePn	Pn	03 28 50.1 -1.8
	comp=Z,120nm,1.1s					
CCB				eScP	ScP	03 36 58.3 -0.8
MDM	Murphy Dome	17.64	34	ePn	Pn	03 28 52.3 0.0
	comp=Z,622nm,1.8s					
PAX	Paxson	17.68	42	eP	Pn	03 28 52.6 -0.2
PAX				pmax	pmax	
	comp=Z,315nm,1.3s					
PAX	Paxson	17.68	42	ePn	Pn	03 28 52.5 -0.2
	comp=Z,315nm,1.3s					
COLA	College	17.73	35	eP	Pn	03 28 52.9 -0.3
COLA				pmax	pmax	
	comp=Z,346nm,1.4s					
COLA	College	17.73	35	ePn	Pn	03 28 52.9 -0.3
	comp=Z,346nm,1.4s					
HDA	Harding Lake	17.80	37	ePn	P	03 28 55.9 +1.5
	comp=Z,205nm,1.2s					
PET	Petropavlovsk	17.91	285	deP	Pn	03 28 55.4 -0.1
PET				i S	Sn	03 32 10.4 -3.7
PET				pmax	pmax	
	comp=Z,2μm,15.7s					
PET				pmax	pmax	
	comp=Z,123nm,1.3s					
PET				MLR	MLR	
	comp=Z,4μm,19.0s					
PET				MLR	MLR	
	comp=Z,4μm,18.0s					
PET	Petropavlovsk	17.91	285	ePn	P	03 28 57.9 +2.3
	comp=Z,97nm,0.9s					
CRQM	Cirque	17.92	50	ePn	Pn	03 28 55.7 -0.2
	comp=Z,391nm,1.0s					
ILAR	Eielson Array	18.01	36	P	P	03 28 55.0 -1.8
	comp=Z,5.5nm,0.3s,baz=232,slow=11,SNR=170					
ILAR				PcP	PcP	03 33 28.8 -0.3
	comp=Z,1.0nm,0.3s,baz=282,slow=3.1,SNR=8.5					
ILAR				LR	LR	03 35 58.0
	comp=Z,7μm,21.9s,baz=250,slow=37					
ILAR				ScP	ScP	03 36 59.3 -0.6
	comp=Z,0.4nm,0.3s,baz=272,slow=3.2,SNR=7.5					
ILAR				PKiKP	PKiKP	03 41 17.8 -2.3
	comp=Z,0.1nm,0.3s,baz=306,slow=2.7,SNR=6.7					
ILAR	Eielson Array	18.01	36	P	P	03 28 55.0 -1.8
ILAR				pmax	pmax	
	comp=Z,6.0nm,0.3s					
ILAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
ILAR				MLR	MLR	
	comp=Z,7μm,21.9s					
ILB	Eielson Array	18.01	36	ePn	P	03 28 54.8 -2.0
ILB				ePcP	PcP	03 33 28.8 -0.3
ILB				eScP	ScP	03 36 59.4 -0.6
TGL	Tana Glacier	18.07	50	ePn	P	03 28 56.3 -1.2
	comp=Z,340nm,1.0s					
BALM	Baldy	18.37	49	eP	P	03 29 00.4 -0.5
BALM				pmax	pmax	
	comp=Z,156nm,0.8s					
BALM	Baldy	18.37	49	eP	P	03 29 00.4 -0.5
	comp=Z,156nm,0.8s					
MENT	Mentasta	18.39	43	eP	P	03 28 59.7 -1.2
	comp=Z,92nm,0.9s					
PEA1	Petropavlovsk-	18.46	285	eP	Pn	03 29 03.5 +1.2
PEA1				ePcP	PcP	03 33 30.4 +0.4
PEA1				ePcS	PcS	03 37 00.8 -5.7
PEA0B	Petropavlovsk-	18.46	285	eP	Pn	03 29 04.2 +1.8
	comp=Z,216nm,1.0s					
PETK	Petropavlovsk-	18.46	285	P	Pn	03 29 03.5 +1.2
	comp=Z,18nm,0.3s,baz=86,slow=14,SNR=125					
PETK				PcP	PcP	03 33 30.4 +0.4
	comp=Z,0.7nm,0.3s,baz=86,slow=6.8,SNR=3.7					
PETK				LR	LR	03 36 22.2
	comp=Z,3μm,20.6s,baz=88,slow=38					
PETK				ScP	ScP	03 37 00.8 -0.4
	comp=Z,0.5nm,0.3s,baz=99,slow=9.2,SNR=4.2					
COLD	Coldfoot	18.49	27	eP	Pn	03 29 04.7 +2.2
	comp=Z,71nm,0.7s					
COLD				eScP	ScP	03 37 03.7 +2.7
DOT	Dot Lake	18.54	41	eP	P	03 29 02.1 -0.6
	comp=Z,1μm,2.0s					
DOT				eScP	ScP	03 37 03.0 +1.8
BILL	Bilibino	19.14	335	c iP	Pn	03 29 10.5 +0.2
BILL				pmax	pmax	
	comp=Z,37nm,0.7s					
BILL				MLR	MLR	
	comp=Z,4μm,15.0s					
PCA	Pinnacle	19.16	53	eP	Pn	03 29 11.2 +0.5
	comp=Z,659nm,0.7s					
FYU	Fort Yukon	19.58	32	eP	P	03 29 14.8 +0.9
	comp=Z,476nm,1.2s					
TOLK	Toolik Lake Re	19.66	24	P	Pn	03 29 16.0 -0.5
	baz=224,SNR=117					
SKR	Severo-Kuril's	19.96	279	eP	P	03 29 17.5 -0.6
SKR				pmax	pmax	
	comp=Z,176nm,0.8s					
SKR				pmax	pmax	
	comp=Z,2μm,6.9s					
SKR				pmax	pmax	
	comp=Z,1μm,9.4s					
SKR				MLR	MLR	
	comp=Z,5μm,19.0s					
SKR				MLR	MLR	
	comp=Z,6μm,18.0s					
DHAK	Deception Hill	20.05	56	eP	Pn	03 29 20.9 -0.4
	comp=Z,503nm,0.7s					
EGAK	Eagle	20.17	39	eP	P	03 29 19.9 -0.4
	comp=Z,170nm,0.6s					
EGAK				LR	LR	
	comp=Z,16μm,20.0s					
DAWY	Dawson	20.61	42	eP	P	03 29 24.3 -0.9
	comp=Z,105nm,1.1s					
DAWY				eScP	ScP	03 37 07.0 +1.0
DAWY				LR	LR	
	comp=Z,14μm,20.0s					
HYT	Haines Junctio	20.63	52	eP	P	03 29 26.6 +1.1
	comp=Z,282nm,0.8s					
HYT				LR	LR	
	comp=Z,10μm,19.0s					
SKAG	Skagway	21.56	56	eP	P	03 29 35.8 +0.5
	comp=Z,365nm,0.8s					
SEY	Seymchan	21.73	314	P	P	03 29 37.0 -0.1
	comp=Z,61nm,0.9s,baz=111,slow=8.4,SNR=28					
SEY				PcP	PcP	03 33 36.5 +0.7
	comp=Z,33nm,0.6s,baz=131,slow=3.8,SNR=15					
SEY				ScP	ScP	03 37 08.3 -0.3
	comp=Z,23nm,0.7s,baz=112,slow=4.8,SNR=14					
SEY				LR	LR	03 37 32.9
	comp=Z,7μm,21.2s,baz=99,slow=35					
SEY	Seymchan	21.73	314	ceP	P	03 29 39.2 +2.2
BESE	Bessie Mountai	21.77	58	eP	P	03 29 37.9 +0.3
	comp=Z,288nm,1.2s					
WHY	Whitehorse	21.89	53	eP	P	03 29 38.9 -0.1
	comp=Z,141nm,0.8s					
WHY				LR	LR	
	comp=Z,9μm,18.0s					
MA2	Magadan	22.02	304	P	P	03 29 41.5 +1.3
	comp=Z,46nm,0.8s,baz=92,slow=11,SNR=13					
CRAG	Craig	22.90	66	eP	P	03 29 50.0 +0.5
	comp=Z,116nm,0.8s					
H02N1	VAN INLET T-PH	23.64	72	T	T	03 54 47.3
	SNR=11					
H02S1	DAWSON INLET T	23.69	72	T	T	03 54 41.6
	SNR=13					
MIDW	Midway	24.25	192	PFAKE		03 30 10.0 +7.5
MIDW				LR	LR	
	comp=Z,4μm,21.0s					
DLBC	Dease Lake	24.30	58	P	P	03 30 03.9 +0.9
	comp=Z,379nm,0.8s,baz=276,slow=9.1,SNR=289					
INK	Inuvik	24.38	34	P	P	03 30 02.8 -0.6
	comp=Z,72nm,0.6s,baz=239,slow=8.2,SNR=148					
INK				PcP	PcP	03 33 41.8 +0.6
	comp=Z,61nm,0.6s,baz=316,slow=4.0,SNR=22					
INK				ScP	ScP	03 37 14.8 -0.7
	comp=Z,11nm,1.1s,baz=271,slow=6.0,SNR=3.6					
INK				LR	LR	03 39 32.8
	comp=Z,5μm,21.8s,baz=242,slow=36					
BBB	Bella Bella	26.52	72	P	P	03 30 23.2 +0.3
	comp=Z,89nm,1.0s,baz=298,slow=9.5,SNR=20					
KUR	Kuril'sk	27.21	271	c iP	P	03 30 30.5 +1.3
KUR				e		03 31 12.8
KUR				e		03 33 55.2
KUR				i S	S	03 35 03.8 -0.6
KUR				pmax	pmax	
	comp=Z,388nm,1.1s					
KUR				pmax	pmax	
	comp=N,296nm,1.3s					
KUR				MLR	MLR	
	comp=Z,872nm,12.0s					
NKL	Nikolayevsk	28.42	291	eP	P	03 30 39.0 -1.0
NKL				e		03 31 36.0
NKL				pmax	pmax	
	comp=Z,340nm,0.9s					
NKL				MLR	MLR	
	comp=N,1μm,18.0s					
NKL				MLR	MLR	
	comp=E,2μm,18.0s					
NKL				MLR	MLR	
	comp=Z,5μm,18.0s					
YUK	Yuzh-Kuril'sk	29.05	271	d iP	P	03 30 45.8 +0.2
YUK				i		03 31 37.7
YUK				i S	S	03 35 33.4 0.0
YUK				eSS	SnSn	03 37 05.7 +5.4
YUK				pmax	pmax	
	comp=Z,1μm,1.6s					
YUK				pmax	pmax	
	comp=E,744nm,1.5s					
YUK				pmax	pmax	
	comp=N,766nm,0.8s					
YUK				pmax	pmax	
	comp=Z,2μm,2.0s					
B927	Port Alberni	29.53	77	eScP	ScP	03 37 30.3 -1.0
YSS	Yuzh-Sakhalins	29.53	278	eP	P	03 30 51.5 +1.6
YSS				pmax	pmax	
	comp=Z,57nm,1.0s					
YSS	Yuzh-Sakhalins	29.53	278	PFAKE		03 31 00.0 +10
YSS				LR	LR	
	comp=Z,1μm,20.0s					
PGC	Sidney	30.58	77	eP	P	03 31 00.7 +1.6
	comp=Z,360nm,1.8s					
PGC				LR	LR	
	comp=Z,5μm,21.0s					
LLLB	Lillooet	30.73	73	eP	P	03 31 02.1 +1.7
	comp=Z,83nm,0.8s					
LLLB				eScP	ScP	03 37 36.0 +0.8
LLLB				LR	LR	
	comp=Z,4μm,20.0s					
NLWA	Neilton Lookou	30.88	79	eP	P	03 31 03.7 +1.8
	comp=Z,402nm,1.7s					
NLWA				ePcP	PcP	03 33 58.8 +1.4
NLWA				LR	LR	
	comp=Z,6μm,21.0s					
A04D	Lummi Island	31.00	76	P	P	03 31 04.3 +1.4
	baz=295,SNR=20					
ASAJ	Asahikawa	31.02	273	ScP	ScP	03 37 36.2 -0.1
	comp=Z,8.5nm,0.8s,baz=302,slow=8.9,SNR=3.5					
ASAJ				LR	LR	03 42 06.8
	comp=Z,13nm,21.9s,baz=90,slow=33					
ASAJ	Asahikawa	31.02	273	eP	P	03 31 04.1 +1.1
	comp=Z,64nm,1.0s					
ASAJ				eScP	ScP	03 37 36.2 -0.1
MBW	Mount Baker	31.46	76	P	P	03 31 08.2 +1.2
E03A	Lebam	31.46	81	eP	P	03 31 08.6 +1.7
	comp=Z,706nm,1.8s					
E03A				LR	LR	
	comp=Z,6μm,20.0s					
KEKH	Kekaha	31.52	158	eP	P	03 31 08.4 +0.8
	comp=Z,172nm,1.0s					
YKA	Yellowknife Ar	31.53	48	P	P	03 31 06.9 -0.5
	comp=Z,38nm,0.6s,baz=274,slow=7.9,SNR=89					
YKA				PcP	PcP	03 33 59.4 +0.6
	comp=Z,40nm,0.7s,baz=286,slow=2.7,SNR=30					
YKA				ScP	ScP	03 37 37.6 0.0
	comp=Z,7.2nm,0.8s,baz=292,slow=3.1,SNR=8.7					
YKA				LR	LR	03 45 04.1
	comp=Z,1μm,20.7s,baz=0.0,slow=39					
YKA				P3KPbc		04 02 41.9
	comp=Z,1.7nm,0.6s,baz=93,slow=5.3,SNR=9.2					
YKA	Yellowknife Ar	31.53	48	P	P	03 31 06.9 -0.5
YKA						03 33 59.4
YKA				pmax	pmax	
	comp=Z,35nm,0.6s					
YKA				MLR	MLR	
	comp=Z,1μm,20.7s					
YKB5	Yellowknife Ar	31.53	48	eP	P	03 31 06.9 -0.5
YKB5				ePcP	PcP	03 33 59.4 +0.6
YKB5				eScP	ScP	03 37 37.6 0.0
B05A	Bryant	31.57	77	P	P	03 31 09.1 +1.3
	baz=296,SNR=80					
JCW	Jim Creek	31.70	77	P	P	03 31 10.2 +1.1
F03A	Seaside	31.76	82	eP	P	03 31 11.6 +2.1
	comp=Z,757nm,1.8s					
F03A				LR	LR	
	comp=Z,6μm,21.0s					
ERM	Erimo	31.81	270	PFAKE		03 31 20.0 +10
ERM				LR	LR	
	comp=Z,3μm,20.0s					
B06A	Marblemount	31.82	76	eP	P	03 31 10.9 +0.9
	comp=Z,103nm,1.0s					
B06A				ePcP	PcP	03 34 00.7 +0.8
B06A				LR	LR	
	comp=Z,5μm,20.0s					
HTW	Haystack Looko	31.97	78	eP	P	03 31 12.7 +1.3
F04D	Rainier, OR	32.02	81	P	P	03 31 12.7 +0.9
	baz=299,SNR=9.2					
D05A	Enumclaw	32.12	79	eP	P	03 31 14.7 +2.0
	comp=Z,1μm,1.5s					
D05A				LR	LR	
	comp=Z,3μm,20.0s					
TIXI	Tiksi	32.16	329	ceP	P	03 31 12.9 +0.2
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.2s					
TIXI	Tiksi	32.16	329	eP	P	03 31 12.8 +0.1
	comp=Z,24nm,1.2s					
TIXI				LR	LR	
	comp=Z,3μm,20.0s					
YAK	Yakutsk	32.19	311	eP	P	03 31 14.2 +1.1
YAK				e*PP	sP	03 31 29.7 -1.9
YAK				e		03 32 20.9
YAK				e		03 34 00.1
YAK				eS	S	03 36 22.8 +0.6
YAK				e		03 41 34.1
YAK				pmax	pmax	
	comp=Z,40nm,0.8s					
YAK				pmax	pmax	
	comp=N,8.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,19nm,1.5s					
YAK				pmax	pmax	
	comp=Z,82nm,1.0s					
YAK				pmax	pmax	
	comp=N,15nm,1.1s					
YAK				pmax	pmax	
	comp=E,188nm,2.1s					
YAK				smax	smax	
	comp=E,238nm,3.3s					
YAK				smax	smax	
	comp=N,65nm,2.2s					
YAK				MLR	MLR	
	comp=Z,6μm,24.0s					
YAK				MLR	MLR	
	comp=E,2μm,25.0s					
YAK				MLR	MLR	
	comp=N,8μm,24.0s					
YAK	Yakutsk	32.19	311	eP	P	03 31 15.2 +2.1
	comp=N,63nm,0.6s					
YAK				ePcP	PcP	03 34 00.6 0.0
YAK				eScP	ScP	03 37 38.5 -1.4
YAK				LR	LR	
	comp=Z,4μm,20.0s					
OPA	Opana	32.22	155	eP	P	03 31 15.0 +1.2
OPA				pmax	pmax	
	comp=Z,378nm,1.2s					
OPA				MLR	MLR	
	comp=Z,4μm,21.0s					
OPA	Opana	32.22	155	eP	P	03 31 15.0 +1.2
	comp=Z,378nm,1.2s					
OPA				LR	LR	
	comp=Z,4μm,21.0s					
G03D	McMinnville, O	32.29	83	P	P	03 31 15.7 +1.4
	baz=300,SNR=8.2					
OBSR	Observation Ro	32.35	79	eP	P	03 31 16.6 +1.5
OBSR				eScP	ScP	03 37 57.1 +16
TDL	Tradedollar La	32.37	80	eP	P	03 31 16.6 +1.5
B203	Quarry, Mount	32.39	81	eP	P	03 31 16.5 +1.4
LON	Longmire	32.43	79	eP	P	03 31 16.5 +1.0
LON				pmax	pmax	
	comp=Z,406nm,1.8s					
LON				MLR	MLR	
	comp=Z,4μm,21.0s					
LON	Longmire	32.43	79	eP	P	03 31 16.5 +1.0
	comp=Z,406nm,1.8s					
LON				LR	LR	
	comp=Z,4μm,21.0s					
C06D	Leavenworth	32.44	77	P	P	03 31 16.3 +0.8
	baz=297,SNR=8.4					
F04A	Amboy	32.45	81	eP	P	03 31 16.8 +1.2
	comp=Z,108nm,0.8s					
F04A				LR	LR	
	comp=Z,4μm,21.0s					
KIP	Kipapa	32.47	156	ceP	P	03 31 17.2 +1.2
KIP	Kipapa	32.47	156	eP	P	03 31 16.9 +0.9
	comp=Z,618nm,1.3s					
MTMW	Mount Mitchell	32.53	81	eP	P	03 31 17.9 +1.4
HON	Honolulu	32.57	156	eP	P	03 31 18.5 +1.7
HON				pmax	pmax	
	comp=Z,578nm,1.1s					
HON	Honolulu	32.57	156	eP	P	03 31 18.5 +1.7
	comp=Z,578nm,1.1s					
COR	Corvallis	32.59	84	eP	P	03 31 18.8 +2.0
COR				pmax	pmax	
	comp=Z,447nm,1.6s					
COR				MLR	MLR	
	comp=Z,8μm,21.0s					
COR	Corvallis	32.59	84	eP	P	03 31 18.8 +2.0
	comp=Z,447nm,1.6s					
COR				LR	LR	
	comp=Z,8μm,21.0s					
ASR	Mount Adams--S	32.85	80	eP	P	03 31 20.4 +1.2
KEBM	Edson Butte	32.86	87	eP	P	03 31 21.4 +2.1
	comp=Z,240nm,1.3s					
KEBM				LR	LR	
	comp=Z,6μm,20.0s					
ETW	Entiat	32.92	77	eP	P	03 31 20.6 +0.7
I03D	Drain, OR	33.02	85	P	P	03 31 21.6 +0.9
	baz=302,SNR=12					
WTV	Waterville	33.10	77	eP	P	03 31 22.2 +0.8
B08A	Colville Reser	33.18	75	eP	P	03 31 22.9 +0.9
	comp=Z,118nm,0.6s					
B08A				eScP	ScP	03 37 44.1 +0.5
B08A				LR	LR	
	comp=Z,4μm,21.0s					
KBO	Bosley Butte	33.30	88	eP	P	03 31 25.3 +2.2
	comp=Z,229nm,1.3s					
KBO				LR	LR	
	comp=Z,5μm,20.0s					
VFP	Flag Point	33.34	81	P	P	03 31 24.8 +1.2
VBEM	Beaver Butte	33.40	82	P	P	03 31 25.2 +1.1
TRW	Toppenish Ridg	33.42	79	P	P	03 31 25.3 +1.2
G05D	Wamic, OR	33.47	81	P	P	03 31 25.5 +0.9
	baz=300,SNR=34					
HABR	Khabarovsk	33.49	285	eP	P	03 31 24.0 -0.6
HABR				e*PP	pP	03 31 38.9 +1.5
HABR				e		03 32 37.4
HABR				e		03 34 03.0
HABR				eS	S	03 36 42.8 +0.1
HABR				eSS	SnSn	03 38 52.6 +4.4
HABR				e		03 41 42.6
HABR				pmax	pmax	
	comp=N,111nm,1.9s					
HABR				pmax	pmax	
	comp=Z,234nm,1.9s					
HABR				pmax	pmax	
	comp=E,231nm,1.9s					
HABR				MLR	MLR	
	comp=Z,2μm,19.0s					
IRO	Indian Ridge	33.53	84	eP	P	03 31 26.5 +1.2
E07A	Sunnyside	33.70	78	eP	P	03 31 27.7 +1.1
	comp=Z,293nm,1.4s					
E07A				ePcP	PcP	03 34 06.3 +1.2
E07A				LR	LR	
	comp=Z,4μm,21.0s					
L02D	Cave Junction,	33.71	88	P	P	03 31 27.9 +1.3
	baz=304,SNR=14					
BENWA	Benson Ranch	33.80	78	P	P	03 31 28.5 +1.1
GBB	Gable Butte	33.82	78	P	P	03 31 28.4 +0.9
HUMO	Hull Mountain	33.86	87	eP	P	03 31 29.5 +1.6
	comp=Z,258nm,1.8s					
HUMO				ePcP	PcP	03 34 06.7 +1.0
HUMO				eScP	ScP	03 37 46.4 +0.4
HUMO				LR	LR	
	comp=Z,7μm,22.0s					
KRMB	Red Mountain	33.88	89	eP	P	03 31 30.3 +2.1
	comp=Z,393nm,1.7s					
KRMB				LR	LR	
	comp=Z,5μm,22.0s					
G06A	Carlson Farm,	33.89	81	eP	P	03 31 29.1 +0.9
	comp=Z,296nm,1.7s					
G06A				LR	LR	
	comp=Z,5μm,20.0s					
I05D	Terrebonne, OR	33.92	83	P	P	03 31 29.5 +1.0
	baz=302,SNR=44					
HAWA	Hanford	33.98	78	eP	P	03 31 29.8 +0.9
	comp=Z,130nm,0.7s					
HAWA				LR	LR	
	comp=Z,4μm,21.0s					
D08A	Wollman Farm,	34.02	77	eP	P	03 31 30.0 +0.6
	comp=Z,76nm,0.8s					
D08A				LR	LR	
	comp=Z,4μm,21.0s					
J04D	Umpqua Nationa	34.03	85	P	P	03 31 30.9 +1.2
	baz=303,SNR=24					
C09A	Chrisman Ranch	34.06	76	eP	P	03 31 30.2 +0.5
	comp=Z,91nm,0.8s					
C09A				eScP	ScP	03 37 47.4 +0.7
JCC	Jacoby Creek,	34.21	90	PFAKE		03 31 40.0 +9.0
JCC				LR	LR	
	comp=Z,3μm,22.0s					
E08A	Dider Farm, El	34.22	78	eP	P	03 31 31.8 +0.9
	comp=Z,324nm,1.5s					
E08A				LR	LR	
	comp=Z,5μm,21.0s					
KHMM	Horse Mountain	34.36	90	eP	P	03 31 34.8 +2.3
	comp=Z,202nm,1.2s					
KHMM				LR	LR	
	comp=Z,4μm,20.0s					
HPAH	Hawaii Prepara	34.43	152	eP	P	03 31 33.7 +0.6
	comp=Z,518nm,1.2s					
YBH	Yreka Blue Hor	34.50	88	eP	P	03 31 35.5 +1.9
YBH				pmax	pmax	
	comp=Z,280nm,1.8s					
YBH				MLR	MLR	
	comp=Z,6μm,22.0s					
YBH	Yreka Blue Hor	34.50	88	eP	P	03 31 35.5 +1.9
	comp=Z,280nm,1.8s					
YBH				LR	LR	
	comp=Z,6μm,22.0s					
NEW	Newport	34.53	74	P	P	03 31 34.4 +0.7
	baz=298,SNR=171					
NEW	Newport	34.53	74	eP	P	03 31 34.3 +0.5
NEW				pmax	pmax	
	comp=Z,136nm,0.6s					
NEW				MLR	MLR	
	comp=Z,4μm,20.0s					
NEW	Newport	34.53	74	eP	P	03 31 34.2 +0.5
	comp=Z,136nm,0.6s					
NEW				eScP	ScP	03 37 48.5 +0.1
NEW				LR	LR	
	comp=Z,4μm,20.0s					
J05D	Fort Rock, OR	34.54	84	P	P	03 31 35.7 +1.7
	baz=303,SNR=110					
K04D	Chiloquin, OR	34.59	86	P	P	03 31 35.6 +1.2
	baz=304,SNR=18					
M02C	Callahan	34.60	88	P	P	03 31 35.9 +1.4
	baz=305,SNR=21					
POHA	Pohakuloa	34.73	152	eP	P	03 31 36.3 +0.4
	comp=Z,419nm,1.1s					
E09A	Wood Farm, Sta	34.76	77	eP	P	03 31 36.2 +0.6
	comp=Z,158nm,1.2s					
E09A				eScP	ScP	03 37 49.9 +0.7
E09A				LR	LR	
	comp=Z,4μm,21.0s					
KMRM	Mail Ridge	34.76	91	eP	P	03 31 38.0 +2.2
	comp=Z,92nm,0.7s					
KMRM				LR	LR	
	comp=Z,4μm,20.0s					
MLOA	Mauna Loa Obse	34.93	153	eP	P	03 31 39.0 +1.1
	comp=Z,305nm,1.2s					
N02D	Trinity Center	34.94	89	P	P	03 31 38.7 +1.3
	baz=306,SNR=20					
MWH	Moku'aweowe	34.97	153	eP	P	03 31 39.6 +1.3
	comp=Z,250nm,1.2s					

MWH LR LR
comp=Z,4μm,21.0s
M04C Macdoel 35.01 87 P **P 03 31 39.1 +1.1**
baz=305,SNR=39
MLH Mauna Loa 35.02 152 *e*P **P 03 31 39.5 +1.1**
MLH pmax pmax
comp=Z,549nm,1.2s
MLH Mauna Loa 35.02 152 *e*P **P 03 31 39.5 +1.1**
comp=Z,549nm,1.2s
KLR Kul'dur 35.10 288 P **P 03 31 37.4 -1.2**
comp=Z,1.2nm,0.7s,baz=70,slow=8.5,SNR=28
AIN Ainahou 35.12 152 *e*P **P 03 31 40.4 +1.2**
comp=Z,664nm,1.5s
OBL Observatory Le 35.13 152 PFAKE 03 31 50.0 +11
OBL LR LR
comp=Z,4μm,21.0s
WRMHI West Rim 35.13 152 PFAKE 03 31 50.0 +11
WRMHI LR LR
comp=Z,4μm,20.0s
BYL Byron's Ledge 35.14 152 PFAKE 03 31 50.0 +11
BYL LR LR
comp=Z,3μm,21.0s
SDHHI Sand Hill 35.15 152 PFAKE 03 31 50.0 +11
SDHHI LR LR
comp=Z,3μm,21.0s
KCPM Cahto Peak 35.16 91 *e*P **P 03 31 41.2 +1.9**
comp=Z,456nm,1.7s
KCPM LR LR
comp=Z,4μm,20.0s
NPOC North of Pu'u 35.20 152 *e*P **P 03 31 41.1 +1.4**
comp=Z,387nm,1.2s
STCH Steam Cracks 35.20 152 *e*P **P 03 31 41.1 +1.3**
comp=Z,437nm,1.3s
STCH LR LR
comp=Z,3μm,20.0s
HULD Heiheiahulu Di 35.22 152 *e*P **P 03 31 41.3 +1.4**
comp=Z,381nm,1.2s
HULD LR LR
comp=Z,3μm,20.0s
HLP Hilina Pali 35.23 152 *e*P **P 03 31 41.8 +1.8**
WDC Whiskeytown Da 35.27 89 *e*P **P 03 31 41.6 +1.5**
WDC pmax pmax
comp=Z,372nm,1.8s
WDC MLR MLR
comp=Z,3μm,21.0s
WDC Whiskeytown Da 35.27 89 *e*P **P 03 31 41.6 +1.5**
comp=Z,372nm,1.8s
WDC LR LR
comp=Z,3μm,21.0s
LBCM Butte Creek Ri 35.85 88 *e*P **P 03 31 46.4 +1.1**
MOD Modoc Plateau 35.88 86 *e*P **P 03 31 46.9 +1.3**
comp=Z,515nm,1.6s
MOD *e*ScP **ScP 03 37 53.5 -0.1**
MOD LR LR
comp=Z,6μm,20.0s
HOPS Hopland Field 35.89 92 *e*P **P 03 31 47.0 +1.5**
comp=Z,251nm,1.4s
HOPS LR LR
comp=Z,6μm,21.0s
O03D Paynes Creek 35.89 89 P **P 03 31 46.2 +0.6**
baz=306,SNR=53
O03D Paynes Creek 35.89 89 *e*P **P 03 31 46.4 +0.8**
LRDM Redding Peak 36.00 89 *e*P **P 03 31 48.4 +1.9**
WALA Waterton Lakes 36.06 71 *e*P **P 03 31 47.6 +0.7**
comp=Z,380nm,1.5s
BMO Blue Mountains 36.10 79 *e*P **P 03 31 48.0 +0.6**
BMO pmax pmax
comp=Z,169nm,1.5s
BMO MLR MLR
comp=Z,4μm,20.0s
BMO Blue Mountains 36.10 79 *e*P **P 03 31 48.0 +0.6**
comp=Z,169nm,1.5s
BMO *e*ScP **ScP 03 37 53.8 -0.5**
BMO LR LR
comp=Z,4μm,20.0s
BSMT Bassoo Peak 36.11 74 *e*P **P 03 31 48.0 +0.5**
GDXM Geysers 36.18 92 PFAKE 03 32 00.0 +12
GDXM LR LR
comp=Z,6μm,20.0s
GCRM Castle Rock Sp 36.25 92 *e*ScP **ScP 03 38 00.4 +5.6**
BLMT Blacktail Moun 36.28 73 *e*P **P 03 31 49.7 +0.7**
H11N2 WAKE ISLAND Hy 36.36 215 T T 04 10 27.0
baz=21,slow=75,SNR=7776
H11N3 WAKE ISLAND Hy 36.36 215 T T 04 10 25.4
baz=21,slow=75,SNR=4742
H11N1 WAKE ISLAND Hy 36.38 215 T T 04 10 21.3
baz=21,slow=75,SNR=3368
JTMT Jette 36.46 73 *e*P **P 03 31 51.0 +0.6**
ORV Oroville 36.52 90 *e*P **P 03 31 51.2 +0.4**
ORV *e* 03 34 13.5
ORV pmax pmax
comp=Z,35nm,0.8s
ORV Oroville 36.52 90 *e*P **P 03 31 51.2 +0.4**
comp=Z,35nm,0.8s
ORV *e*PcP **PcP 03 34 13.5 0.0**
MCCM Marconi Confer 36.53 93 PFAKE 03 32 00.0 +9.1
MCCM LR LR
comp=Z,5μm,20.0s
YBMT Yellow Bay 36.56 73 *e*P **P 03 31 51.8 +0.5**
WVOR Wild Horse Val 36.61 84 *e*P **P 03 31 52.6 +0.9**
WVOR pmax pmax
comp=Z,231nm,1.4s
WVOR Wild Horse Val 36.61 84 *e*P **P 03 31 52.6 +0.9**
comp=Z,231nm,1.4s
SWMT Swartz Lake 36.74 74 *e*P **P 03 31 53.0 +0.2**
WAKE Wake Island 36.86 215 PFAKE 03 32 10.0 +16
WAKE LR LR
comp=Z,5μm,22.0s
BEKR Beckworth 37.04 88 *e*P **P 03 31 56.2 +0.8**
comp=Z,462nm,1.9s
BEKR *e*ScP **ScP 03 37 57.0 -0.9**
CPIM Pinole Ridge 37.04 92 *e*P **P 03 31 56.1 +0.8**
CPIM *e*ScP **ScP 03 38 06.7 +9.0**
MSO Missoula 37.11 75 P **P 03 31 55.9 0.0**
baz=300,SNR=91
MSO Missoula 37.11 75 *e*P **P 03 31 55.8 -0.2**
comp=Z,216nm,1.3s
SLMT Seeley Lake 37.17 74 *e*P **P 03 31 56.6 +0.1**
CMCM Mills College 37.20 93 *e*ScP **ScP 03 38 01.2 +2.9**
AFDM Forest Hills D 37.21 90 *e*P **P 03 31 57.4 +0.7**
comp=Z,132nm,1.4s
AFDM *e*ScP **ScP 03 37 57.4 -1.0**
USRK Ussuriysk Ar. 37.45 281 P **P 03 31 58.2 -0.5**
comp=Z,15nm,0.7s,baz=58,slow=8.2,SNR=22
USRK PcP **PcP 03 34 16.9 +0.6**
comp=Z,12nm,0.6s,baz=51,slow=4.0,SNR=9.6
USRK LR LR 03 46 19.9
comp=Z,2μm,21.2s,baz=56,slow=34
CHMT Chamberlain Mo 37.48 74 *e*P **P 03 31 58.9 -0.3**
H11S1 WAKE ISLAND Hy 37.55 215 T T 04 11 54.1
baz=21,slow=76
H11S2 WAKE ISLAND Hy 37.57 215 T T 04 11 54.8
baz=21,slow=76
H11S3 WAKE ISLAND Hy 37.57 215 T T 04 11 52.4
baz=21,slow=76,SNR=4637
PAHR Pah Rah Range 37.73 88 *e*P **P 03 32 02.1 +0.8**
comp=Z,802nm,1.7s
MFID Camas Ranch 37.77 80 *e*P **P 03 32 02.0 +0.4**
comp=Z,422nm,1.9s
MFID *e*ScP **ScP 03 38 00.4 -0.1**
JLAB Laurel Hill 37.86 93 *e*ScP **ScP 03 38 09.0 +8.2**
PNTR Pine Nut 37.97 89 *e*P **P 03 32 04.8 +1.4**
comp=Z,301nm,0.7s
VLA Vladivostok 38.11 279 *c i*P **P 03 32 06.3 +2.1**
VLA pmax pmax
comp=Z,66nm,0.8s
CMB Columbia Colle 38.14 91 *e*P **P 03 32 05.6 +1.0**
CMB *e*S **S 03 38 01.2 +7.0**
CMB pmax pmax
comp=Z,220nm,1.6s
CMB Columbia Colle 38.14 91 *e*P **P 03 32 05.6 +1.0**
comp=Z,220nm,1.6s
CMB *e*S **S 03 38 01.2 +7.0**
CMB *e*ScP **ScP 03 38 10.7 +8.8**
MJAR Matsushiro Arr 38.17 266 P **P 03 32 05.5 +0.7**
comp=Z,50nm,0.7s,baz=49,slow=7.1,SNR=11
MJAR PcP **PcP 03 34 19.2 +0.6**
comp=Z,16nm,0.7s,baz=91,slow=2.8,SNR=7.3
MJAR ScP **ScP 03 38 02.0 0.0**
comp=Z,3.4nm,0.8s,baz=65,slow=4.1,SNR=4.1
MJAR LR LR 03 45 55.0
comp=Z,4μm,21.6s,baz=65,slow=33
MJB9 Matsu-Tunnel 38.17 266 *e*P **P 03 32 06.9 +2.0**
comp=Z,45nm,0.9s
MJB9 LR LR
comp=Z,1μm,22.0s

MAJO Matsushiro 38.17 266 *c i*P **P 03 32 06.9 +2.0**
MAJO Matsushiro 38.17 266 *e*P **P 03 32 06.8 +2.0**
comp=Z,171nm,0.9s
MAJO LR LR
comp=Z,5μm,22.0s
MAT Matsushiro 38.17 266 P **P 03 32 05.6 +0.7**
MAT S **S 03 37 55.6 +0.9**
YERR Yerington 38.26 89 *e*P **P 03 32 06.3 +0.5**
comp=Z,944nm,1.8s
YERR *e*S **S 03 38 02.4 +6.1**
SAO San Andreas Ge 38.29 93 *e*P **P 03 32 06.5 +0.6**
SAO pmax pmax
comp=Z,222nm,1.7s
SAO MLR MLR
comp=Z,4μm,20.0s
SAO San Andreas Ge 38.29 93 *e*P **P 03 32 06.5 +0.6**
comp=Z,222nm,1.7s
SAO LR LR
comp=Z,4μm,20.0s
HRY Holter Researc 38.42 74 *e*P **P 03 32 07.3 +0.3**
WAKR Walker 38.43 90 *e*P **P 03 32 08.7 +1.4**
comp=Z,681nm,1.8s
LRM Limekiln Ridge 38.52 75 *e*P **P 03 32 08.0 0.0**
HLID Hailey 38.55 79 P **P 03 32 08.6 +0.4**
baz=304,SNR=123
HLID Hailey 38.55 79 *e*P **P 03 32 08.8 +0.6**
comp=Z,320nm,1.8s
HLID *e*S **S 03 38 03.7 +3.1**
BMN Battle Mountai 38.63 85 *e*P **P 03 32 09.7 +0.8**
BMN pmax pmax
comp=Z,68nm,0.6s
BMN Battle Mountai 38.63 85 *e*P **P 03 32 09.7 +0.8**
comp=Z,68nm,0.6s
BPIM Pinnacles 38.64 93 *e*P **P 03 32 09.4 +0.7**
DLMT Dillon 38.67 76 *e*P **P 03 32 09.7 +0.6**
comp=Z,87nm,1.1s
DLMT *e*PcP **PcP 03 34 21.5 +1.3**
MDJ Mudanjiang 38.68 283 P **P 03 32 12.3 +3.3**
MDJ pP sP 03 32 25.3 -2.4
MDJ sP pP 03 32 31.5 +10
MDJ PP **PnPn 03 33 42.0 +1.5**
MDJ PcP **PcP 03 34 22.4 +2.4**
MDJ S **S 03 38 01.8 -0.3**
MDJ sS sS 03 38 29.3 +5.5
MDJ ScS **ScS 03 42 15.3 +1.0**
MDJ pmax pmax
comp=Z,18nm,0.9s
MDJ LR LR
comp=Z,2μm,25.6s
MDJ LR LR
comp=Z,3μm,27.1s
MDJ LR LR
comp=Z,3μm,27.1s
MDJ Mudanjiang 38.68 283 PFAKE 03 32 20.0 +11
MDJ LR LR
comp=Z,3μm,20.0s
MCMT McKenzie Canyo 38.81 77 *e*P **P 03 32 10.6 +0.2**
MSHR Mys Shultsa 38.86 279 *c e*P **P 03 32 11.6 +1.1**
EGMT Eagleton 38.98 71 P **P 03 32 11.8 +0.2**
baz=300,SNR=199
EGMT Eagleton 38.98 71 *e*P **P 03 32 11.6 0.0**
comp=Z,262nm,0.8s
PMPB Monarch Peak 39.04 93 *e*P **P 03 32 13.3 +1.1**
comp=Z,190nm,1.4s
PMPB LR LR
comp=Z,4μm,20.0s
BGMT Barton Gulch 39.07 76 *e*P **P 03 32 12.7 +0.1**
BOZ Bozeman (W) 39.12 75 P **P 03 32 13.1 +0.2**
baz=302,SNR=186
BOZ Bozeman (W) 39.12 75 *e*P **P 03 32 13.0 +0.1**
BOZ pmax pmax
comp=Z,867nm,1.9s
BOZ Bozeman (W) 39.12 75 *e*P **P 03 32 13.0 +0.1**
comp=Z,867nm,1.9s
MDPB Devils Postpil 39.20 90 *e*P **P 03 32 15.2 +1.4**
comp=Z,150nm,1.0s
MDPB LR LR
comp=Z,5μm,22.0s
MLAC Mammoth, Mammo 39.35 90 P **P 03 32 16.4 +1.4**
baz=309,SNR=24
JHJ2 Mitsune 39.47 261 *e*P **P 03 32 19.1 +3.4**
comp=Z,106nm,0.7s
QLMT Earthquake Lak 39.65 76 *e*P **P 03 32 17.6 +0.2**
QLMT *e*ScP **ScP 03 38 09.1 +1.3**
INU Inuyama 39.68 266 *e*P **P 03 32 19.0 +1.5**
comp=Z,53nm,0.9s
PAGB Antelope Grade 39.70 94 *e*P **P 03 32 18.8 +1.1**
comp=Z,603nm,1.7s
PAGB LR LR
comp=Z,3μm,20.0s
YHB Horse Butte 39.84 76 *e*P **P 03 32 19.4 +0.4**
comp=Z,182nm,1.0s
YHB *e*ScP **ScP 03 38 10.6 +2.0**
RCTC Rector, Farmer 39.94 92 P **P 03 32 19.9 +0.3**
baz=310,SNR=30
YMR Madison River 40.02 76 *e*P **P 03 32 20.9 +0.5**
comp=Z,210nm,1.0s
YMR *e*ScP **ScP 03 38 10.6 +1.3**
YHH Holmes Hill 40.02 76 *e*P **P 03 32 21.0 +0.4**
comp=Z,148nm,0.8s
YHH *e*ScP **ScP 03 38 10.6 +1.2**
CRMT Chrome Mountai 40.08 74 *e*P **P 03 32 21.3 +0.2**
YPM Purple Mountai 40.08 76 *e*P **P 03 32 21.9 +0.9**
TIN Tinemaha, Big 40.09 90 P **P 03 32 22.2 +1.3**
baz=310
SMMC Simmler 40.12 94 P **P 03 32 22.1 +0.9**
baz=311,SNR=11
FFC Flin Flon 40.13 58 *e*P **P 03 32 21.0 0.0**
FFC pmax pmax
comp=Z,81nm,0.6s
FFC MLR MLR
comp=Z,3μm,20.0s
FFC Flin Flon 40.13 58 *e*P **P 03 32 21.0 0.0**
comp=Z,81nm,0.6s
FFC LR LR
comp=Z,3μm,20.0s
YNR Norris Junctio 40.16 76 *e*P **P 03 32 22.8 +1.1**
comp=Z,204nm,1.0s
YNR *e*ScP **ScP 03 38 11.8 +2.0**
GCMT Greycliff 40.18 74 *e*P **P 03 32 22.3 +0.6**
YFT Old Faithful 40.22 76 *e*P **P 03 32 23.7 +1.5**
comp=Z,347nm,1.8s
YFT *e*ScP **ScP 03 38 13.3 +3.2**
YPP Pitchstone Pla 40.34 76 *e*P **P 03 32 24.3 +1.2**
comp=Z,169nm,1.6s
VES Vestal, Richgr 40.34 92 P **P 03 32 23.3 +0.4**
baz=311,SNR=43
H17A Grant Village 40.40 76 P **P 03 32 25.2 +1.5**
baz=304,SNR=36
H17A Grant Village 40.40 76 *e*P **P 03 32 25.5 +1.9**
comp=Z,323nm,1.4s
LKWY Lake 40.41 76 *e*P **P 03 32 25.9 +2.1**
LKWY pmax pmax
comp=Z,126nm,0.6s
LKWY Lake 40.41 76 *e*P **P 03 32 25.9 +2.1**
comp=Z,126nm,0.6s
IMW Indian Meadow 40.46 77 *e*P **P 03 32 24.9 +0.6**
comp=Z,461nm,1.9s
PKM Mcpherson Peak 40.52 94 P **P 03 32 25.2 +0.6**
baz=312,SNR=63
FXWY Fox Creek 40.55 77 *e*P **P 03 32 25.6 +0.7**
comp=Z,196nm,1.8s
FXWY *e*ScP **ScP 03 38 12.6 +1.2**
HVU Hansel Valley 40.56 81 *e*P **P 03 32 25.7 +0.8**
HVU pmax pmax
comp=Z,54nm,0.8s
HVU Hansel Valley 40.56 81 *e*P **P 03 32 25.7 +0.8**
comp=Z,54nm,0.8s
CWC Cottonwood Cre 40.57 91 P **P 03 32 25.9 +0.9**
baz=310
YTP The Promontory 40.58 76 *e*P **P 03 32 26.4 +1.2**
WLHM Little Horse 40.61 91 *e*P **ScP 03 38 03.0 -8.8**
GRAC Grapevine Rang 40.66 90 P **P 03 32 26.9 +1.3**
baz=310,SNR=93
MOOW Moose Ponds 40.66 77 *e*P **P 03 32 26.2 +0.4**
comp=Z,148nm,1.8s
TPAW Teton Pass 40.68 77 *e*P **P 03 32 26.9 +0.9**
comp=Z,217nm,1.4s
RLMT Red Lodge 40.78 74 P **P 03 32 27.3 +0.6**
baz=303,SNR=217
RLMT Red Lodge 40.78 74 *e*P **P 03 32 27.3 +0.6**
comp=Z,205nm,0.8s
MTUT Morton Thiokol 40.79 80 *e*P **P 03 32 27.5 +0.7**
MLI Malad Range 40.81 80 *e*ScP **ScP 03 38 20.2 +7.8**
REDW Red Top Meadow 40.81 77 *e*P **P 03 32 27.7 +0.6**
comp=Z,291nm,1.5s

REDW *e*ScP **ScP 03 38 13.9 +1.5**
LOHW Long Hollow 40.82 77 *e*P **P 03 32 27.8 +0.6**
comp=Z,38nm,0.8s
ISA Isabella, Lake 40.83 92 P **P 03 32 26.9 -0.2**
baz=311,SNR=15
ISA Isabella, Lake 40.83 92 *e*P **P 03 32 23.9 -3.2**
ISA pmax pmax
comp=Z,325nm,1.7s
ISA MLR MLR
comp=Z,4μm,20.0s
ISA Isabella, Lake 40.83 92 *e*P **P 03 32 23.9 -3.2**
comp=Z,325nm,1.7s
ISA LR LR
comp=Z,4μm,20.0s
SBC Santa Barbara 40.88 95 P **P 03 32 28.0 +0.7**
baz=312
R11A Troy Canyon, C 40.90 87 P **P 03 32 27.9 +0.1**
baz=309,SNR=178
R11A Troy Canyon, C 40.90 87 *e*P **P 03 32 28.2 +0.5**
comp=Z,442nm,1.9s
R11A *e*ScP **ScP 03 38 12.2 -0.6**
BGU Big Grassy Mou 40.91 82 *e*P **P 03 32 28.4 +0.7**
comp=Z,336nm,1.9s
ARVC Arvin 40.97 93 P **P 03 32 28.1 0.0**
baz=312,SNR=8.4
DAC Darwin (Calif) 40.98 91 *e*P **P 03 32 29.0 +0.6**
DAC pmax pmax
comp=Z,56nm,0.8s
DAC MLR MLR
comp=Z,5μm,22.0s
DAC Darwin (Calif) 40.98 91 *e*P **P 03 32 28.9 +0.6**
comp=Z,56nm,0.8s
DAC *e*ScP **ScP 03 38 13.7 +0.6**
DAC LR LR
comp=Z,5μm,22.0s
WVUT Wellsville 41.15 80 *e*P **P 03 32 29.4 -0.4**
HDU Hyde Park 41.16 80 *e*P **P 03 32 30.5 +0.7**
MPMC Manual Prospec 41.18 91 P **P 03 32 30.8 +0.7**
baz=311,SNR=125
SCZ2 Santa Cruz Isl 41.23 95 P **P 03 32 30.7 +0.4**
baz=312,SNR=16
FURC Furnace Creek, 41.30 90 P **P 03 32 31.4 +0.6**
baz=310,SNR=132
OSI Osito Audit: C 41.37 94 P **P 03 32 32.1 +0.6**
baz=312,SNR=8.0
OSI Osito Audit: C 41.37 94 *e*P **P 03 32 32.5 +1.0**
comp=Z,330nm,1.6s
TPNV Topopah Spring 41.37 89 P **P 03 32 32.5 +0.8**
baz=310,SNR=192
TPNV Topopah Spring 41.37 89 *e*P **P 03 32 32.2 +0.6**
TPNV pmax pmax
comp=Z,102nm,0.8s
TPNV MLR MLR
comp=Z,4μm,20.0s
TPNV Topopah Spring 41.37 89 *e*P **P 03 32 32.2 +0.6**
comp=Z,102nm,0.8s
TPNV *e*ScP **ScP 03 38 14.6 -0.1**
TPNV LR LR
comp=Z,4μm,20.0s
BMUT Black Mountain 41.39 79 *e*P **P 03 32 32.6 +0.8**
HWUT Hardware Ranch 41.40 80 *e*P **P 03 32 32.1 +0.3**
comp=Z,214nm,1.7s
HWUT *e*ScP **ScP 03 38 14.9 +0.2**
FSU Fish Springs 41.41 84 *e*P **P 03 32 32.3 +0.5**
LRMC Laurel Mtn Rad 41.44 92 P **P 03 32 32.0 -0.2**
baz=311,SNR=8.9
DUG Dugway, Tooele 41.47 83 P **P 03 32 33.0 +0.6**
baz=307,SNR=100
DUG Dugway, Tooele 41.47 83 *e*P **P 03 32 32.9 +0.5**
DUG pmax pmax
comp=Z,360nm,1.6s
DUG Dugway, Tooele 41.47 83 PFAKE 03 32 40.0 +7.6
DUG LR LR
comp=Z,5μm,21.0s
BLG Laguna Peak, P 41.50 94 P **P 03 32 32.9 +0.4**
baz=312,SNR=26
MCU Monte Cristo P 41.52 80 *e*P **P 03 32 33.4 +0.4**
CN2 Changchun 41.61 284 *e*P **P 03 32 32.5 -0.8**
CN2 PP **PnPn 03 34 15.3 +0.3**
CN2 *e*S **S 03 38 44.0 -1.9**
CN2 SS **SS 03 41 42.8 -9.1**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,22.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,4μm,20.0s
EDW2 Edwards Air Fo 41.64 93 P **P 03 32 33.9 +0.2**
baz=312,SNR=82
LAO LASA Array 41.72 70 P **P 03 32 34.9 +0.6**
baz=303,SNR=79
LAO LASA Array 41.72 70 *e*P **P 03 32 34.9 +0.6**
comp=Z,166nm,0.9s
TCUT Toone Canyon 41.78 80 *e*P **P 03 32 35.6 +0.6**
comp=Z,566nm,1.6s
TCUT *e*ScP **ScP 03 38 17.4 +1.1**
SNCC San Nicolas Is 41.80 96 P **P 03 32 35.4 +0.4**
baz=313,SNR=22
SNCC San Nicolas Is 41.80 96 *e*P **P 03 32 35.6 +0.7**
comp=Z,274nm,1.5s
SNCC *e*PcP **PcP 03 34 30.8 +0.5**
CTU Camp Tracy 41.82 81 *e*P **P 03 32 35.6 +0.3**
comp=Z,334nm,1.9s
CTU *e*ScP **ScP 03 38 17.4 +1.0**
DECC Green Verdugo 41.85 94 P **P 03 32 35.8 +0.5**
baz=312
PSUT Pine Spring 41.85 85 *e*P **P 03 32 36.5 +0.9**
comp=Z,56nm,0.7s
PSUT LR LR
comp=Z,3μm,20.0s
GMU Granite Mounta 41.89 81 *e*P **P 03 32 36.2 +0.4**
BW06 Boulder Array 41.93 77 P **P 03 32 36.5 +0.3**
baz=305,SNR=229
BW06 Boulder Array 41.93 77 *e*P **P 03 32 36.3 +0.1**
comp=Z,145nm,0.8s
BW06 LR LR
comp=Z,4μm,20.0s
PD31 Pinedale Array 41.93 77 *e*P **P 03 32 36.3 +0.1**
PD31 *e*ScP **ScP 03 38 16.6 -0.2**
PDAR Pinedale Array 41.93 77 P **P 03 32 36.2 0.0**
comp=Z,93nm,0.7s,baz=299,slow=4.4,SNR=888
PDAR ScP **ScP 03 38 16.6 -0.2**
comp=Z,2.0nm,0.8s,baz=321,slow=1.9,SNR=3.8
PDAR LR LR 03 47 46.5
comp=Z,4μm,21.2s,baz=322,slow=33
DGMT Dagmar 41.94 67 P **P 03 32 36.0 0.0**
baz=302,SNR=34
DGMT Dagmar 41.94 67 *e*P **P 03 32 36.1 +0.2**
comp=Z,524nm,1.5s
HIA Hailar 41.98 294 *e*P **P 03 32 35.3 -1.0**
HIA pmax pmax
comp=Z,82nm,0.7s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 41.98 294 *e*P **P 03 32 35.3 -1.0**
comp=Z,82nm,0.7s
HIA LR LR
comp=Z,4μm,20.0s
PASC Pasadena Art C 42.00 94 *e*P **P 03 32 36.9 +0.4**
comp=Z,204nm,1.5s
PASC LR LR
comp=Z,2μm,20.0s
RCJ Ross Creek 42.03 81 *e*P **P 03 32 37.6 +0.6**
SHOC Shoshone, Teco 42.03 90 P **P 03 32 37.3 +0.4**
baz=311,SNR=49
MWC Mount Wilson 42.04 93 *e*P **P 03 32 37.6 +0.5**
MWC pmax pmax
comp=Z,314nm,1.4s
MWC Mount Wilson 42.04 93 *e*P **P 03 32 37.6 +0.5**
comp=Z,314nm,1.4s
JLU Jordanelle 42.06 81 *e*P **P 03 32 37.8 +0.5**
comp=Z,452nm,1.8s
JLU *e*ScP **ScP 03 38 17.8 +0.4**
NLU North Lily Min 42.07 82 *e*P **P 03 32 37.9 +0.5**
comp=Z,491nm,2.0s
NLU *e*ScP **ScP 03 38 17.7 +0.3**
NLU LR LR
comp=Z,6μm,21.0s
KLJ Keetly 42.07 81 *e*P **P 03 32 38.0 +0.6**
HLJ Hailstone 42.09 81 *e*P **P 03 32 38.0 +0.6**
GSC Goldstone, Bar 42.10 91 P **P 03 32 37.9 +0.5**
baz=311,SNR=240
GSC Goldstone, Bar 42.10 91 *e*P **P 03 32 38.0 +0.5**

GSC pmax pmax
comp=Z,447nm,1.4s
GSC MLR MLR
comp=Z,4µm,22.0s
GSC Goldstone, Bar 42.10 91 *eP* **P 03 32 38.0 +0.5**
comp=Z,447nm,1.4s
GSC *e*ScP **ScP 03 38 16.6 -0.8**
GSC LR LR
comp=Z,4µm,22.0s
HTU Hoyt Peak 42.16 81 *eP* **P 03 32 38.7 +0.6**
FMP Fort Macarthur 42.24 94 P **P 03 32 38.5 0.0**
baz=313
FCC Fort Churchill 42.25 49 PFAKE 03 32 50.0 +12
FCC LR LR
comp=Z,9µm,22.0s
RRX Edison Barstow 42.26 92 P **P 03 32 39.4 +0.6**
baz=312
BFSC Mount Baldy Ra 42.27 93 P **P 03 32 39.3 +0.3**
baz=312,SNR=88
MPU Maple Canyon 42.30 82 *eP* **P 03 32 39.8 +0.6**
comp=Z,47nm,0.9s
MPU *e*ScP **ScP 03 38 19.0 +0.6**
SHPR Sheep Range 42.33 89 *eP* **P 03 32 39.8 +0.4**
comp=Z,170nm,1.8s
SHPR *e*ScP **ScP 03 38 18.7 +0.3**
SHPR LR LR
comp=Z,4µm,22.0s
CIS Catalina Islan 42.37 95 P **P 03 32 39.4 -0.3**
baz=313,SNR=21
CBIJ Chichi jima 42.39 252 PFAKE 03 32 50.0 +10
CBIJ LR LR
comp=Z,3µm,22.0s
TUQ Turquoise Moun 42.55 90 P **P 03 32 41.5 +0.3**
baz=311,SNR=61
SCI2 San Clemente I 42.58 95 P **P 03 32 41.5 +0.2**
baz=313,SNR=28
TCRU Three Creeks R 42.67 84 *e*ScP **ScP 03 38 21.0 +1.1**
TCRU LR LR
comp=Z,4µm,20.0s
HEC Hector,Ludlow 42.70 91 P **P 03 32 42.8 +0.5**
baz=312,SNR=97
BBRC Big Bear Solar 42.71 92 P **P 03 32 43.4 +0.7**
baz=312,SNR=26
CCUT Cedar City 42.77 86 *eP* **P 03 32 43.8 +0.7**
comp=Z,423nm,1.8s
SNO Snow College 42.79 83 *eP* **P 03 32 44.7 +1.4**
SGU Sterling 42.80 83 *eP* **P 03 32 44.7 +1.3**
TULEG Thule 42.86 20 *eP* **P 03 32 42.7 -0.3**
comp=Z,73nm,0.7s
TULEG LR LR
comp=Z,3µm,19.0s
MSU Marysvale 42.89 84 *eP* **P 03 32 44.4 +0.3**
MSU Marysvale 42.89 84 *eP* **P 03 32 44.4 +0.3**
MSU *e*ScP **ScP 03 38 21.0 +0.2**
SZCU Shurtz Canyon 42.91 86 *eP* **P 03 32 44.6 +0.4**
comp=Z,79nm,1.3s
MURC Murrieta 42.99 93 P **P 03 32 44.7 +0.1**
baz=313,SNR=36
ARGU Argyle Ridge 43.08 81 *eP* **P 03 32 46.6 +0.8**
GMRC Granite Mounta 43.14 91 P **P 03 32 46.3 +0.3**
baz=312,SNR=113
P17A Butcher Ranch, 43.18 82 *eP* **P 03 32 46.9 +0.6**
comp=Z,512nm,1.9s
P17A *e*ScP **ScP 03 38 21.7 -0.2**
P17A LR LR
comp=Z,4µm,21.0s
MTPU Mount Pierson 43.18 85 *eP* **P 03 32 47.6 +1.0**
comp=Z,393nm,1.9s
LCMT Little Creek M 43.19 87 *eP* **P 03 32 47.2 +0.9**
comp=Z,497nm,1.9s
LCMT *e*ScP **ScP 03 38 23.1 +1.2**
Q16A Castle Valley 43.26 83 *eP* **P 03 32 47.8 +0.9**
comp=Z,585nm,1.7s
Q16A *e*ScP **ScP 03 38 22.8 +0.6**
LDFC Landfair 43.29 90 *eP* **P 03 32 47.4 +0.3**
comp=Z,675nm,1.5s
LDFC *e*ScP **ScP 03 38 23.1 +0.8**
ROA Roan Cliffs 43.29 81 *eP* **P 03 32 48.2 +0.8**
P18A Preston Nutter 43.38 81 *eP* **P 03 32 48.8 +0.7**
comp=Z,512nm,1.7s
P18A *e*ScP **ScP 03 38 24.1 +1.2**
P18A LR LR
comp=Z,4µm,21.0s
PFO Pinyon Flats O 43.43 93 P **P 03 32 48.6 +0.2**
baz=313,SNR=48
PFO Pinyon Flats O 43.43 93 *eP* **P 03 32 48.4 0.0**
PFO pmax pmax
comp=Z,93nm,1.1s
PFO MLR MLR
comp=Z,4µm,22.0s
PFO Pinyon Flats O 43.43 93 *eP* **P 03 32 48.4 0.0**
comp=Z,93nm,1.1s
PFO LR LR
comp=Z,4µm,22.0s
XPFO Piæon Flat 43.44 93 *eP* **P 03 32 48.4 0.0**
comp=Z,109nm,1.2s
KNB Kanab 43.44 86 *eP* **P 03 32 49.4 +0.9**
KNB pmax pmax
comp=Z,101nm,0.9s
KNB Kanab 43.44 86 *eP* **P 03 32 49.4 +0.9**
comp=Z,101nm,0.9s
KNB *e*ScP **ScP 03 38 23.4 +0.5**
BELC Belle Mtn. Jos 43.46 92 P **P 03 32 48.5 -0.1**
baz=312,SNR=72
PKCU Pink Cliffs 43.48 85 *eP* **P 03 32 50.2 +1.2**
comp=Z,144nm,1.5s
109C Camp Elliot, M 43.53 94 P **P 03 32 49.2 +0.3**
baz=313,SNR=16
SRU San Rafael Swe 43.53 82 *eP* **P 03 32 49.7 +0.5**
SRU pmax pmax
comp=Z,171nm,1.1s
SRU MLR MLR
comp=Z,4µm,21.0s
SRU San Rafael Swe 43.53 82 *eP* **P 03 32 49.7 +0.5**
comp=Z,171nm,1.1s
SRU LR LR
comp=Z,4µm,21.0s
EKU East Kanab 43.60 86 *eP* **P 03 32 50.9 +1.1**
MMU Miners Mountai 43.63 84 *eP* **P 03 32 50.9 +0.8**
NEE2 Needles Airpor 43.80 90 P **P 03 32 51.1 0.0**
baz=312
K22A Casper 43.82 75 P **P 03 32 51.1 -0.3**
baz=306,SNR=68
K22A Casper 43.82 75 *eP* **P 03 32 50.8 -0.6**
comp=Z,199nm,1.1s
IRM Iron Mountain 43.88 91 P **P 03 32 52.1 +0.3**
baz=312,SNR=70
KSRS Korea Array 43.92 275 P **P 03 32 53.3 +1.2**
comp=Z,46nm,1.0s,baz=58,slow=7.6,SNR=21
KSRS PcP **PcP 03 34 37.8 +0.5**
comp=Z,10nm,0.7s,baz=72,slow=3.8,SNR=6.3
KSRS LR LR 03 51 35.9
comp=Z,609nm,20.4s,baz=49,slow=36
KSRS Korea Array 43.92 275 P **P 03 32 53.3 +1.2**
KSRS 03 34 37.8
KSRS pmax pmax
comp=Z,46nm,1.0s
KSRS MLR MLR
comp=Z,609nm,20.4s
BAR Barrett 43.94 94 *eP* **P 03 32 52.8 +0.6**
comp=Z,386nm,1.8s
MONP2 Monument Peak 43.94 94 P **P 03 32 52.7 +0.1**
baz=313,SNR=60
KS15 Wonju Array Si 43.95 275 *eP* **P 03 32 53.8 +1.5**
KS15 *e*PP **PcP 03 34 37.8 +0.4**
KSAR Wonju Array Be 43.95 275 P **P 03 32 53.3 +1.0**
KSAR Wonju Array Be 43.95 275 P **P 03 32 53.3 +1.0**
BC3 Big Chuckawall 44.02 92 P **P 03 32 52.5 -0.6**
baz=313,SNR=33
W13A Hualapai Mount 44.03 89 *eP* **P 03 32 53.5 +0.2**
comp=Z,448nm,1.8s
W13A *e*ScP **ScP 03 38 24.7 -0.8**
U15A North Rim 44.15 87 *eP* **P 03 32 54.9 +0.7**
comp=Z,944nm,2.0s
U15A *e*ScP **ScP 03 38 26.8 +0.8**
SWSC Sam W. Stewart 44.29 93 P **P 03 32 55.1 0.0**
baz=313,SNR=29
O20A White River Ci 44.29 80 P **P 03 32 55.5 +0.2**
baz=308,SNR=205
O20A White River Ci 44.29 80 *eP* **P 03 32 55.1 -0.1**
comp=Z,1µm,1.8s
IKP In-Ko-Pah, Jac 44.30 94 P **P 03 32 55.4 +0.2**
baz=313,SNR=68
PDMCI Parker Dam,Lak 44.40 90 P **P 03 32 56.0 +0.1**
baz=312,SNR=83
RSSD Black Hills 44.43 72 P **P 03 32 56.0 -0.4**
baz=306

RSSD Black Hills 44.43 72 *eP* **P 03 32 56.1 -0.3**
RSSD pmax pmax
comp=Z,132nm,0.6s
RSSD Black Hills 44.43 72 *eP* **P 03 32 56.1 -0.3**
comp=Z,132nm,0.6s
Y12C Blythe 44.53 91 P **P 03 32 57.3 +0.3**
baz=312,SNR=45
Y12C Blythe 44.53 91 *eP* **P 03 32 57.5 +0.5**
comp=Z,607nm,1.8s
Y12C *e*ScP **ScP 03 38 28.0 +0.8**
INCN Inchon 44.70 276 *eP* **P 03 32 59.8 +1.5**
comp=Z,162nm,1.3s
INCN LR LR
comp=Z,1µm,22.0s
PV09 Paradox Valley 44.77 82 *eP* **P 03 32 59.2 0.0**
PV09 *e*ScP **ScP 03 38 29.9 +1.4**
GLA Glamis 44.82 92 P **P 03 32 59.5 +0.2**
baz=313,SNR=25
GLA Glamis 44.82 92 *eP* **P 03 32 59.7 +0.3**
GLA pmax pmax
comp=Z,553nm,2.0s
GLA Glamis 44.82 92 *eP* **P 03 32 59.7 +0.3**
comp=Z,553nm,2.0s
MDND Maddock 44.87 65 P **P 03 32 59.7 +0.1**
baz=304,SNR=94
MDND Maddock 44.87 65 *eP* **P 03 32 59.9 +0.3**
comp=Z,748nm,1.3s
MDND LR LR
comp=Z,4µm,21.0s
JNU Nakatsue 44.95 268 *eP* **P 03 33 01.0 +0.6**
comp=Z,110nm,1.0s
PV05 Paradox Valley 45.05 82 *eP* **P 03 33 01.5 +0.1**
N23A Red Feather La 45.22 77 P **P 03 33 02.7 0.0**
baz=308,SNR=48
N23A Red Feather La 45.22 77 *eP* **P 03 33 02.9 +0.2**
comp=Z,200nm,1.2s
PHWY Pilot Hill 45.26 76 *eP* **P 03 33 02.5 -0.6**
comp=Z,88nm,1.3s
WUAZ Wupatki 45.30 87 P **P 03 33 03.8 +0.5**
baz=311,SNR=143
WUAZ Wupatki 45.30 87 *eP* **P 03 33 03.1 -0.3**
comp=Z,106nm,0.8s
WUAZ *e*ScP **ScP 03 38 31.8 +1.1**
WUAZ LR LR
comp=Z,5µm,21.0s
PV01 Paradox Valley 45.34 82 *eP* **P 03 33 03.6 -0.1**
PV01 *e*ScP **ScP 03 38 31.1 +0.3**
Y14A Wickenburg 45.34 90 *eP* **P 03 33 03.6 +0.1**
comp=Z,202nm,0.8s
Y14A *e*ScP **ScP 03 38 31.4 +0.7**
ULM Lac du Bonnet 45.59 61 P **P 03 33 04.8 -0.4**
comp=Z,59nm,0.6s,baz=305,slow=8.1,SNR=169
ULM PcP **PcP 03 34 42.9 0.0**
comp=Z,42nm,0.8s,baz=315,slow=4.3,SNR=5.1
ULM LR LR 03 54 12.1
comp=Z,2µm,18.1s,baz=320,slow=39
ULM Lac du Bonnet 45.59 61 *eP* **P 03 33 04.8 -0.4**
comp=Z,364nm,1.5s
A31A Linda, St. Vin 45.60 63 P **P 03 33 04.9 -0.4**
baz=304,SNR=15
B31A Greenbush Farm 45.63 64 P **P 03 33 05.3 -0.2**
baz=304,SNR=101
SMCO Snowmass 45.65 80 *eP* **P 03 33 06.0 -0.3**
comp=Z,219nm,1.9s
SMCO *e*ScP **ScP 03 38 33.1 +0.7**
113A Mohawk Valley, 45.66 92 *eP* **P 03 33 06.1 +0.1**
comp=Z,150nm,1.6s
NRIK Noril'sk 45.90 331 P **P 03 33 07.7 +0.3**
comp=Z,23nm,0.6s,baz=78,slow=5.5,SNR=12
NRIK PcP **PcP 03 34 44.0 +0.5**
comp=Z,27nm,0.9s,baz=55,slow=5.4,SNR=4.7
NRIK ScP **ScP 03 38 31.7 -0.6**
comp=Z,16nm,0.7s,baz=78,slow=3.7,SNR=9.2
NRIK LR LR 03 53 57.9
comp=Z,2µm,19.3s,baz=72,slow=38
C31A Landman Farms, 45.94 64 P **P 03 33 07.4 -0.6**
baz=304,SNR=68
MVCO Mesa Verde 45.97 83 P **P 03 33 08.5 -0.1**
baz=310,SNR=100
MVCO Mesa Verde 45.97 83 *eP* **P 03 33 08.6 -0.1**
comp=Z,256nm,1.5s
X16A Lo Mia Camp, P 45.99 88 *eP* **P 03 33 09.6 +0.8**
comp=Z,382nm,2.0s
X16A *e*ScP **ScP 03 38 34.7 +1.2**
A32A Rocking H Ranc 45.99 63 P **P 03 33 08.1 -0.3**
baz=304,SNR=114
ISCO Idaho Springs 46.09 78 P **P 03 33 09.7 0.0**
baz=309,SNR=71
ISCO Idaho Springs 46.09 78 *eP* **P 03 33 09.7 0.0**
ISCO pmax pmax
comp=Z,144nm,1.4s
ISCO Idaho Springs 46.09 78 *eP* **P 03 33 09.7 0.0**
comp=Z,144nm,1.4s
B32A Ashes, Strandq 46.26 63 P **P 03 33 10.1 -0.4**
baz=304,SNR=68
KULLO Kullorsuaq 46.37 20 *i* P **P 03 33 10.8 -0.2**
comp=Z,61nm,0.9s
comp=Z,2µm,24.0s
KULLO Kullorsuaq 46.37 20 *i* P **P 03 33 10.8 -0.2**
KULLO pmax pmax
comp=Z,61nm,0.9s
KULLO MLR MLR
comp=Z,2µm,24.0s
D31A Mcclaflin, Tow 46.37 65 P **P 03 33 10.8 -0.6**
baz=305,SNR=13
E31A Nome 46.56 66 P **P 03 33 12.3 -0.6**
baz=305,SNR=32
W18A Petrified Fore 46.57 86 P **P 03 33 13.6 +0.2**
baz=312,SNR=83
W18A Petrified Fore 46.57 86 *eP* **P 03 33 13.9 +0.6**
comp=Z,532nm,1.8s
W18A LR LR
comp=Z,5µm,20.0s
A33A Warroad 46.58 62 P **P 03 33 12.6 -0.4**
baz=304,SNR=77
C32A Crookston 46.59 64 P **P 03 33 12.5 -0.6**
baz=305,SNR=17
S22A 4UR Ranch, Cre 46.65 81 P **P 03 33 14.5 +0.5**
baz=310,SNR=130
S22A 4UR Ranch, Cre 46.65 81 *eP* **P 03 33 14.4 +0.5**
comp=Z,302nm,1.5s
AGMN Agassiz Nation 46.69 63 P **P 03 33 13.2 -0.6**
baz=305,SNR=110
AGMN Agassiz Nation 46.69 63 *eP* **P 03 33 13.3 -0.6**
comp=Z,196nm,1.0s
D32A Dogwood Acres, 46.72 65 P **P 03 33 13.1 -1.0**
baz=305
F31A Hecla 46.76 67 P **P 03 33 13.3 -1.1**
baz=306,SNR=20
214A Organ Pipe Nat 46.81 92 P **P 03 33 15.1 0.0**
baz=314,SNR=48
X18A Snowflake 46.83 87 *eP* **P 03 33 15.2 -0.2**
comp=Z,186nm,1.4s
X18A LR LR
comp=Z,6µm,22.0s
DL2 Dalian 46.84 281 P **P 03 33 13.4 -1.8**
DL2 S **S 03 39 58.3 -3.7**
DL2 SS SS 03 43 17.0 -12
DL2 pmax pmax
comp=Z,100nm,0.8s
DL2 pmax pmax
comp=Z,280nm,6.6s
DL2 LR LR
comp=Z,2µm,26.4s
DL2 LR LR
comp=Z,2µm,22.7s
DL2 LR LR
comp=Z,4µm,26.4s
B33A Robert and Kas 46.85 63 P **P 03 33 14.4 -0.8**
baz=305,SNR=54
Q24A Divide 46.89 79 P **P 03 33 16.0 0.0**
baz=309,SNR=14
Q24A Divide 46.89 79 *eP* **P 03 33 15.2 -0.7**
comp=Z,86nm,1.2s
E32A Braaten, Kindr 47.00 65 P **P 03 33 15.2 -1.1**
baz=306,SNR=22
C33A Trail 47.05 63 P **P 03 33 15.8 -0.9**
baz=305,SNR=64
G31A Conde 47.16 68 P **P 03 33 16.6 -1.0**
baz=306,SNR=5.7
SUSD Miller 47.20 69 P **P 03 33 17.4 -0.5**
baz=307,SNR=22
B34A Aery, Baudette 47.24 62 P **P 03 33 17.4 -0.8**
baz=305,SNR=79
D33A AnnSam, Waubun 47.37 64 P **P 03 33 18.2 -0.9**
baz=306,SNR=78
F32A Veblen 47.39 66 P **P 03 33 18.1 -1.3**
baz=306,SNR=12

H31A Wolsey 47.45 69 P **P 03 33 19.2 -0.6**
baz=307,SNR=16
SDCO Great Sand Dun 47.45 80 P **P 03 33 20.4 +0.1**
baz=310,SNR=133
SDCO Great Sand Dun 47.45 80 *eP* **P 03 33 20.6 +0.3**
comp=Z,380nm,1.8s
SDCO *e*ScP **ScP 03 38 40.1 +0.3**
OGNE Ogallala 47.52 75 P **P 03 33 20.7 +0.1**
baz=308,SNR=79
OGNE Ogallala 47.52 75 *eP* **P 03 33 20.9 +0.4**
comp=Z,2µm,1.9s
G32A Webster 47.55 67 P **P 03 33 19.6 -1.0**
baz=307,SNR=7.7
C34A RKJ Ranch, Bem 47.59 63 P **P 03 33 19.9 -0.9**
baz=306,SNR=51
E33A Westby DABS, E 47.65 65 P **P 03 33 20.5 -0.9**
baz=306,SNR=28
I31A Royce, Wessing 47.69 69 P **P 03 33 21.1 -0.6**
baz=307,SNR=7.6
D34A Park Rapids 47.76 64 P **P 03 33 21.4 -0.8**
baz=306,SNR=160
TUC Tucson 47.81 90 P **P 03 33 23.2 +0.3**
baz=314
TUC Tucson 47.81 90 *eP* **P 03 33 22.9 0.0**
TUC pmax pmax
comp=Z,322nm,1.8s
TUC Tucson 47.81 90 *eP* **P 03 33 22.9 0.0**
comp=Z,322nm,1.8s
TUC *e*ScP **ScP 03 38 41.2 +0.1**
B35A Bob, Littlefor 47.82 62 P **P 03 33 21.8 -0.8**
baz=306,SNR=115
F33A 5 Mile Ranch, 47.88 66 P **P 03 33 22.0 -1.1**
baz=306,SNR=39
J31A Geddes 48.02 70 P **P 03 33 23.8 -0.5**
baz=308,SNR=86
H32A Carlson Farm, 48.03 68 P **P 03 33 23.5 -0.9**
baz=307,SNR=27
C35A Jirik Farms, M 48.07 63 P **P 03 33 23.7 -0.9**
baz=306,SNR=63
E34A Wadena 48.11 65 P **P 03 33 24.1 -0.8**
baz=306,SNR=20
G33A Ortonville 48.18 67 P **P 03 33 24.5 -1.0**
baz=307,SNR=46
I32A Karley and Nic 48.30 68 P **P 03 33 25.3 -1.1**
baz=308,SNR=6.5
H33A Prehn Over Nor 48.32 67 P **P 03 33 25.6 -1.0**
baz=307,SNR=75
MHTCO State Highway 48.34 80 PFAKE 03 33 40.0 +13
MHTCO LR LR
comp=Z,3µm,21.0s
KSCO Kaye Shedlock' 48.38 77 P **P 03 33 27.6 +0.4**
baz=310,SNR=68
KSCO Kaye Shedlock' 48.38 77 *eP* **P 03 33 27.8 +0.5**
comp=Z,648nm,1.4s
D35A Remer 48.39 63 P **P 03 33 26.4 -0.7**
baz=306,SNR=91
K31A O'Neill 48.41 71 P **P 03 33 26.9 -0.5**
baz=308,SNR=12
J32A Parkston 48.48 69 P **P 03 33 27.0 -0.9**
baz=308,SNR=46
F34A Alexandria 48.49 65 P **P 03 33 26.9 -0.9**
baz=307,SNR=13
T25A Trinidad 48.51 80 P **P 03 33 28.9 +0.6**
baz=311,SNR=137
T25A Trinidad 48.51 80 *eP* **P 03 33 28.8 +0.4**
comp=Z,773nm,1.6s
E35A Pequot Lakes 48.51 64 P **P 03 33 27.6 -0.4**
baz=307,SNR=68
IRK Irkutsk 48.60 305 *eP* **P 03 33 26.3 -2.3**
IRK pmax pmax
comp=Z,154nm,0.7s
G34A Benson 48.61 66 P **P 03 33 27.7 -1.0**
baz=307
SARN Sarigan 48.61 239 *eP* **P 03 33 28.8 -0.3**
LAZ Ladron 48.64 85 *eP* **P 03 33 30.2 +0.8**
C36A Pine Crest Far 48.66 62 P **P 03 33 28.3 -0.8**
baz=306,SNR=76
I33A Coleman 48.67 68 P **P 03 33 28.2 -1.2**
baz=308,SNR=13
ANMO Albuquerque 48.70 84 P **P 03 33 29.8 -0.1**
baz=312
ANMO Albuquerque 48.70 84 *ceP* **P 03 33 29.8 -0.1**
ANMO pmax pmax
comp=Z,95nm,1.2s
ANMO Albuquerque 48.70 84 *eP* **P 03 33 29.9 0.0**
comp=Z,184nm,1.6s
ANMO LR LR
comp=Z,3µm,22.0s
D36A Goodland 48.82 63 P **P 03 33 29.6 -0.8**
baz=307,SNR=36
F35A Swanville 48.83 65 P **P 03 33 29.8 -0.7**
baz=307,SNR=25
K32A Verdigre 48.85 70 P **P 03 33 29.8 -0.9**
baz=308,SNR=50
H34A Spellman Lake, 48.88 67 P **P 03 33 29.8 -1.0**
baz=308,SNR=17
ECSD EROS Data Cent 48.97 68 P **P 03 33 30.4 -1.1**
baz=308,SNR=76
ECSD EROS Data Cent 48.97 68 *eP* **P 03 33 30.3 -1.2**
comp=Z,61nm,0.7s
ECSD LR LR
comp=Z,3µm,22.0s
Y22D IRIS PASSCAL I 49.00 85 P **P 03 33 33.0 +0.9**
baz=312,SNR=9.3
Y22D IRIS PASSCAL I 49.00 85 *eP* **P 03 33 33.5 +1.4**
comp=Z,765nm,1.8s
Y22D LR LR
comp=Z,6µm,20.0s
LPM Los Pinos Moun 49.02 84 *eP* **P 03 33 32.8 +0.6**
J33A Davis 49.02 69 P **P 03 33 31.2 -0.7**
baz=308,SNR=35
C37A Embarrass 49.03 62 P **P 03 33 31.4 -0.6**
baz=307,SNR=93
BNM Barren Site 49.13 85 *eP* **P 03 33 33.8 +0.6**
BNM *e*ScP **ScP 03 38 46.9 +0.1**
E36A McGregor 49.17 63 P **P 03 33 32.4 -0.7**
baz=307,SNR=70
KBS Kingsbay 49.18 359 *eP* **P 03 33 33.0 +0.3**
KBS Kingsbay 49.18 359 *eP* **P 03 33 33.5 +0.8**
KBS *e* 03 34 55.9
KBS Kingsbay 49.18 359 *eP* **P 03 33 33.5 +0.8**
KBS *e*PcP **PcP 03 34 55.9 +0.8**
I34A Hadley 49.21 68 P **P 03 33 32.1 -1.4**
baz=308
L32A Elgin 49.23 71 P **P 03 33 33.3 -0.4**
baz=309,SNR=9.4
D37A Cotton 49.24 62 P **P 03 33 32.4 -1.2**
baz=307,SNR=48
TLY Talaya 49.24 305 *eP* **P 03 33 34.6 +1.0**
TLY *e* 03 35 27.8
TLY *e*S **S 03 40 39.0 +3.3**
TLY pmax pmax
comp=Z,48nm,1.0s
TLY MLR MLR
comp=Z,1µm,20.0s
TLY Talaya 49.24 305 *eP* **P 03 33 34.3 +0.7**
comp=Z,41nm,0.9s
G35A Watkins 49.27 66 P **P 03 33 32.9 -0.9**
baz=308,SNR=24
EYMN Ely 49.27 61 P **P 03 33 33.1 -0.7**
baz=307,SNR=63
EYMN Ely 49.27 61 *eP* **P 03 33 33.2 -0.6**
comp=Z,143nm,0.8s
319A Douglas 49.38 89 *eP* **P 03 33 35.3 +0.3**
comp=Z,303nm,1.8s
319A LR LR
comp=Z,3µm,19.0s
H35A Sunnyside Ranc 49.39 66 P **P 03 33 33.9 -0.9**
baz=308,SNR=43
BJI Beijing 49.39 286 P **P 03 33 35.3 +0.5**
BJI PP **PP 03 35 30.3 +1.4**
BJI S **S 03 40 34.4 -3.6**
BJI pmax pmax
comp=Z,23nm,0.7s
BJI LR LR
comp=Z,2µm,18.6s
BJI LR LR
comp=Z,2µm,18.6s
BJI LR LR
comp=Z,3µm,31.0s
BJT Baijiatuau 49.41 286 *eP* **P 03 33 35.2 +0.2**
BJT pmax pmax
comp=Z,40nm,0.8s
BJT MLR MLR
comp=Z,4µm,21.0s
BJT Baijiatuau 49.41 286 *eP* **P 03 33 35.2 +0.2**
comp=Z,40nm,0.8s

BJT				LR	LR		
	comp=Z,4μm,21.0s						
F36A	**Milaca**	**49.41**	**64**	P	**P**	**03 33 34.1**	**-0.8**
	baz=308,SNR=40						
K33A	**Hardington**	**49.44**	**70**	P	**P**	**03 33 34.6**	**-0.6**
	baz=309,SNR=13						
121A	**Cookes Peak, D**	**49.51**	**87**	P	**P**	**03 33 36.2**	**+0.1**
	baz=313,SNR=74						
BGNE	**Belgrade**	**49.52**	**72**	P	**P**	**03 33 35.4**	**-0.5**
	baz=309,SNR=34						
BGNE	**Belgrade**	**49.52**	**72**	*e*P	**P**	**03 33 35.5**	**-0.4**
	comp=Z,2μm,1.9s						
C38A	**Sawbill Land.**	**49.53**	**61**	P	**P**	**03 33 34.8**	**-1.0**
	baz=307,SNR=32						
L33A	**Hoskins**	**49.56**	**70**	P	**P**	**03 33 35.1**	**-1.0**
	baz=309,SNR=14						
E37A	**Wrenshall**	**49.61**	**63**	P	**P**	**03 33 35.7**	**-0.7**
	baz=307,SNR=7.1						
J34A	**George**	**49.62**	**68**	P	**P**	**03 33 35.6**	**-1.0**
	baz=308,SNR=21						
G36A	**St. Michael**	**49.67**	**65**	P	**P**	**03 33 36.2**	**-0.7**
	baz=308,SNR=21						
ULN	**Ulaanbaatar**	**49.74**	**299**	*ce*P	**P**	**03 33 37.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,29nm,0.8s						
ULN	**Ulaanbaatar**	**49.74**	**299**	*e*P	**P**	**03 33 37.8**	**+0.2**
	comp=Z,33nm,1.0s						
ULN				*e*ScP	**ScP**	**03 38 49.1**	**0.0**
ULN				LR	LR		
	comp=Z,5μm,19.0s						
ULN	**Ulaanbaatar**	**49.74**	**299**	P	**P**	**03 33 37.7**	**+0.1**
	SNR=12						
ULN	**Ulaanbaatar**	**49.74**	**299**	P	**P**	**03 33 37.7**	**+0.1**
	SNR=12						
I35A	**Creekview Farm**	**49.82**	**67**	P	**P**	**03 33 37.2**	**-0.9**
	baz=308,SNR=6.1						
SPA0	**Spitsbergen Ar**	**49.85**	**358**	*e*P	**P**	**03 33 37.4**	**-0.5**
SPA0	**Spitsbergen Ar**	**49.85**	**358**	*e*P	**P**	**03 33 38.3**	**+0.5**
K34A	**Le Mars**	**49.91**	**69**	P	**P**	**03 33 38.2**	**-0.6**
	baz=309,SNR=67						
H36A	**Jessenland, He**	**49.98**	**66**	P	**P**	**03 33 39.1**	**-0.1**
	baz=308,SNR=47						
M33A	**Taylor Creek F**	**49.98**	**71**	P	**P**	**03 33 38.6**	**-0.7**
	baz=309,SNR=25						
F37A	**Hinrichs Farm,**	**50.00**	**64**	P	**P**	**03 33 38.6**	**-0.8**
	baz=308,SNR=51						
J35A	**Milford**	**50.00**	**68**	P	**P**	**03 33 38.2**	**-1.3**
	baz=309,SNR=7.7						
HSIG		**50.00**	**93**	*e*P	**P**	**03 33 39.6**	**0.0**
	comp=Z,202nm,1.7s						
E38A	**The Farm, Brul**	**50.05**	**62**	P	**P**	**03 33 38.7**	**-1.1**
	baz=308,SNR=66						
C39A	**Grand Marais**	**50.08**	**60**	P	**P**	**03 33 38.9**	**-1.1**
	baz=307,SNR=21						
SONA0	**Songino Array**	**50.11**	**300**	*e*P	**P**	**03 33 40.8**	**+0.4**
	comp=Z,72nm,1.4s						
SONA0				*e*PcP	**PcP**	**03 34 59.4**	**+0.2**
SONA0				*e*ScP	**ScP**	**03 38 50.7**	**0.0**
SONM	**Songino Array**	**50.11**	**300**	P	**P**	**03 33 40.8**	**+0.4**
	comp=Z,12nm,0.7s,baz=54,slow=6.2,SNR=61						
SONM				PcP	**PcP**	**03 34 59.4**	**+0.2**
	comp=Z,18nm,0.7s,baz=72,slow=2.6,SNR=7.8						
SONM				ScP	**ScP**	**03 38 50.7**	**0.0**
	comp=Z,10nm,0.8s,baz=48,slow=3.2,SNR=12						
SONM				LR	LR	03 56 45.2	
	comp=Z,5μm,18.6s,baz=54,slow=38						
SONM				P4KPbc		04 11 13.0	
	comp=Z,0.6nm,0.4s,baz=48,slow=4.4,SNR=3.7						
SONM	**Songino Array**	**50.11**	**300**	P	**P**	**03 33 40.8**	**+0.4**
SONM						03 34 59.4	
SONM				pmax	pmax		
	comp=Z,11nm,0.7s						
SONM				MLR	MLR		
	comp=Z,5μm,18.6s						
ZAK	**Zakamensk**	**50.20**	**304**	*e*P	**P**	**03 33 41.1**	**+0.1**
ZAK				*e*		03 35 00.0	
ZAK				pmax	pmax		
	comp=Z,27nm,1.6s						
L34A	**Svendsen Farm,**	**50.20**	**70**	P	**P**	**03 33 40.1**	**-0.9**
	baz=309,SNR=57						
SPMN	**Marine on St.**	**50.20**	**65**	P	**P**	**03 33 40.2**	**-0.8**
	baz=308,SNR=30						
SPMN	**Marine on St.**	**50.20**	**65**	*e*P	**P**	**03 33 39.8**	**-1.2**
	comp=Z,379nm,1.8s						
CBKS	**Cedar Bluff**	**50.24**	**75**	P	**P**	**03 33 41.4**	**+0.1**
	baz=310,SNR=56						
CBKS	**Cedar Bluff**	**50.24**	**75**	*e*P	**P**	**03 33 41.6**	**+0.2**
CBKS				pmax	pmax		
	comp=Z,321nm,0.7s						
CBKS	**Cedar Bluff**	**50.24**	**75**	*e*P	**P**	**03 33 41.6**	**+0.2**
	comp=Z,321nm,0.7s						
DAG	**Danmarks Havn**	**50.24**	**8⇑**	*i*P	**P**	**03 33 39.7**	**-1.0**
	comp=Z,60nm,0.6s						
	comp=Z,2μm,16.0s						
DAG	**Danmarks Havn**	**50.24**	**8⇑**	*i*P	**P**	**03 33 39.7**	**-1.0**
DAG				pmax	pmax		
	comp=Z,40nm,0.6s						
DAG				MLR	MLR		
	comp=Z,2μm,16.0s						
F38A	**Pierce - Schro**	**50.27**	**63**	P	**P**	**03 33 41.0**	**-0.4**
	baz=308,SNR=100						
I36A	**Fitzsimmons Fa**	**50.27**	**66**	P	**P**	**03 33 40.3**	**-1.1**
	baz=309						
N33A	**J Bar K, Exete**	**50.36**	**72**	P	**P**	**03 33 41.1**	**-1.1**
	baz=310,SNR=7.2						
M34A	**Aspy Farms, Fr**	**50.38**	**71**	P	**P**	**03 33 41.3**	**-1.0**
	baz=309,SNR=14						
K35A	**Storm Lake**	**50.39**	**69**	P	**P**	**03 33 41.4**	**-1.0**
	baz=309,SNR=13						
SRIG	**Santa Rosalia**	**50.42**	**95**	*e*P	**P**	**03 33 42.6**	**-0.2**
	comp=Z,268nm,1.7s						
J36A	**Seneca 1, Swea**	**50.52**	**67**	P	**P**	**03 33 42.3**	**-1.0**
	baz=309,SNR=10						
H37A	**Dierke Farm, C**	**50.54**	**65**	P	**P**	**03 33 43.1**	**-0.4**
	baz=309,SNR=21						
C40A	**Isle Royale Na**	**50.55**	**60**	P	**P**	**03 33 42.8**	**-0.6**
	baz=308						
MOY	**Mondy**	**50.58**	**306**	*e*P	**P**	**03 33 44.6**	**+0.8**
MOY				pmax	pmax		
	comp=Z,67nm,3.2s						
L35A	**Bielow Farm, R**	**50.59**	**69**	P	**P**	**03 33 42.5**	**-1.4**
	baz=309,SNR=20						
I37A	**Lemond, Waseca**	**50.62**	**66**	P	**P**	**03 33 43.7**	**-0.4**
	baz=309,SNR=67						
O33A	**Hebron**	**50.70**	**73**	P	**P**	**03 33 43.8**	**-1.0**
	baz=310,SNR=46						
E39A	**Mellen**	**50.73**	**62**	P	**P**	**03 33 43.7**	**-1.2**
	baz=308,SNR=26						
G38A	**Ridgeland**	**50.77**	**64**	P	**P**	**03 33 44.3**	**-0.9**
	baz=308,SNR=35						
EPT	**El Paso**	**50.82**	**87**	*e*P	**P**	**03 33 46.1**	**+0.2**
	comp=Z,72nm,0.8s						
F39A	**Loretta**	**50.82**	**63**	P	**P**	**03 33 44.9**	**-0.7**
	baz=308,SNR=26						
H38A	**Maiden Rock**	**50.84**	**65**	P	**P**	**03 33 45.2**	**-0.5**
	baz=309,SNR=39						
N34A	**Lincoln**	**50.85**	**71**	P	**P**	**03 33 44.5**	**-1.4**
	baz=310,SNR=21						
K36A	**Gilmore City**	**50.89**	**68**	P	**P**	**03 33 45.4**	**-0.8**
	baz=309,SNR=17						
M35A	**Neola**	**50.92**	**70**	P	**P**	**03 33 45.8**	**-0.6**
	baz=310,SNR=48						
JOW	**Kunigami**	**50.97**	**264**	*e*P	**P**	**03 33 43.7**	**-3.2**
J37A	**Redenius Farm,**	**50.98**	**67**	P	**P**	**03 33 46.0**	**-0.8**
	baz=309,SNR=60						
E40A	**Wakefield**	**51.05**	**62**	P	**P**	**03 33 46.7**	**-0.6**
	baz=308,SNR=50						
HSPB	**Hornsund (broa**	**51.05**	**358**	*e*P	**P**	**03 33 47.7**	**+0.8**
HSPB				IAMs_20	IAMs_20	03 54 18.2	
	comp=Z,3μm,20.6s						
G39A	**Holcombe**	**51.07**	**64**	P	**P**	**03 33 46.4**	**-1.1**
	baz=309,SNR=49						
L36A	**Harm Buss Farm**	**51.10**	**69**	P	**P**	**03 33 46.6**	**-1.1**
	baz=310,SNR=11						
O34A	**Beatrice**	**51.16**	**72**	P	**P**	**03 33 47.1**	**-1.1**
	baz=310,SNR=57						
I38A	**Scanlan Farm,**	**51.21**	**65**	P	**P**	**03 33 47.7**	**-0.8**
	baz=309,SNR=37						
F40A	**Park Falls**	**51.25**	**62**	P	**P**	**03 33 48.0**	**-0.9**
	baz=309,SNR=39						
K37A	**Belmond**	**51.27**	**68**	P	**P**	**03 33 48.1**	**-0.9**
	baz=310,SNR=24						
TIA	**Tai'an**	**51.31**	**282**	⇓P	**P**	**03 33 49.4**	**0.0**
TIA				S	**S**	**03 41 02.6**	**-2.2**
TIA				pmax	pmax		
	comp=Z,120nm,0.8s						
TIA				LR	LR		
	comp=Z,650nm,19.6s						
TIA				LR	LR		
	comp=Z,2μm,22.0s						
TIA				LR	LR		
	comp=Z,2μm,18.4s						
N35A	**Tabor**	**51.33**	**71**	P	**P**	**03 33 49.3**	**-0.2**
	baz=310,SNR=54						
XMAS	**Kiritimati**	**51.35**	**161**	*e*P	**P**	**03 33 50.1**	**+0.3**
	comp=Z,248nm,1.2s						
D41A	**Chassel**	**51.38**	**60**	P	**P**	**03 33 49.6**	**-0.2**
	baz=308,SNR=9.1						
H39A	**Augusta**	**51.39**	**64**	P	**P**	**03 33 49.1**	**-0.8**
	baz=309,SNR=22						
M36A	**Felix, Anita**	**51.44**	**70**	P	**P**	**03 33 49.4**	**-0.9**
	baz=310,SNR=14						
SUMG	**Summit**	**51.44**	**16⇑**	*i*P	**P**	**03 33 50.3**	**0.0**
	comp=Z,47nm,0.8s						
SUMG	**Summit**	**51.44**	**16**	*e*P	**P**	**03 33 50.3**	**0.0**
SUMG				pmax	pmax		
	comp=Z,83nm,1.0s						
SUMG				MLR	MLR		
	comp=Z,3μm,21.0s						
SUMG	**Summit**	**51.44**	**16**	*e*P	**P**	**03 33 50.3**	**0.0**
	comp=Z,83nm,1.0s						
SUMG				LR	LR		
	comp=Z,3μm,21.0s						
ILULI	**Ilulissat**	**51.45**	**23**	*i*P	**P**	**03 33 47.9**	**-2.1**
	comp=Z,56nm,1.0s						
ILULI	**Ilulissat**	**51.45**	**23**	*i*P	**P**	**03 33 47.9**	**-2.1**
ILULI				pmax	pmax		
	comp=Z,56nm,1.0s						
ILULI	**Ilulissat**	**51.45**	**23**	PFAKE		03 34 00.0	+10
ILULI				LR	LR		
	comp=Z,3μm,21.0s						
P34A	**Walnut Farm, R**	**51.49**	**73**	P	**P**	**03 33 49.7**	**-1.0**
	baz=311,SNR=30						
E41A	**Kenton**	**51.54**	**61**	P	**P**	**03 33 50.3**	**-0.7**
	baz=309,SNR=18						
O35A	**Humboldt**	**51.56**	**71**	P	**P**	**03 33 49.9**	**-1.3**
	baz=310,SNR=19						
MNTX	**Cornudas Mount**	**51.56**	**86**	P	**P**	**03 33 51.8**	**+0.5**
	baz=314,SNR=148						
MNTX	**Cornudas Mount**	**51.56**	**86**	*e*P	**P**	**03 33 51.1**	**-0.2**
	comp=Z,64nm,0.8s						
MNTX				LR	LR		
	comp=Z,1μm,21.0s						
J38A	**Wedel Dairy, R**	**51.58**	**66**	P	**P**	**03 33 50.4**	**-0.9**
	baz=310,SNR=66						
HHC	**Hu-ho-hao-te**	**51.58**	**290**	*e*P	**P**	**03 33 52.6**	**+1.1**
HHC				pP	sP	03 34 08.4	-2.1
HHC				sP	pP	03 34 16.4	+12
HHC				S	**S**	**03 41 06.3**	**-2.3**
HHC				SS	**SS**	**03 44 39.8**	**-4.9**
HHC				pmax	pmax		
	comp=Z,39nm,1.1s						
HHC				pmax	pmax		
	comp=Z,360nm,6.5s						
HHC				LR	LR		
	comp=Z,6μm,19.2s						
HHC				LR	LR		
	comp=Z,6μm,18.5s						
HHC				LR	LR		
	comp=Z,6μm,21.0s						
MSTX	**Muleshoe**	**51.61**	**82**	P	**P**	**03 33 51.4**	**-0.4**
	baz=313,SNR=124						
MSTX	**Muleshoe**	**51.61**	**82**	*e*P	**P**	**03 33 51.1**	**-0.7**
	comp=Z,413nm,1.4s						
MSTX				LR	LR		
	comp=Z,3μm,21.0s						
L37A	**Phoenix Point,**	**51.61**	**68**	P	**P**	**03 33 50.7**	**-0.9**
	baz=310,SNR=58						
G40A	**Rib Lake**	**51.62**	**63**	P	**P**	**03 33 50.5**	**-1.1**
	baz=309,SNR=31						
AMTX	**Amarillo**	**51.66**	**80**	P	**P**	**03 33 51.7**	**-0.4**
	baz=312						
AMTX	**Amarillo**	**51.66**	**80**	*e*P	**P**	**03 33 52.1**	**0.0**
	comp=Z,299nm,1.7s						
AMTX				LR	LR		
	comp=Z,2μm,22.0s						
GUMO	**Guam**	**51.68**	**238**	*e*P	**P**	**03 33 50.8**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,152nm,0.8s						
GUMO				MLR	MLR		
	comp=Z,2μm,22.0s						
GUMO	**Guam**	**51.68**	**238**	*e*P	**P**	**03 33 50.8**	**-1.5**
	comp=Z,152nm,0.8s						
GUMO				LR	LR		
	comp=Z,2μm,22.0s						
N36A	**Muff Farm, Cla**	**51.76**	**70**	P	**P**	**03 33 51.9**	**-0.7**
	baz=310,SNR=21						
I39A	**Houston**	**51.78**	**65**	P	**P**	**03 33 51.8**	**-0.9**
	baz=310,SNR=43						
Q34A	**Chapman**	**51.83**	**73**	P	**P**	**03 33 52.5**	**-0.7**
	baz=311,SNR=50						
K38A	**Parkersburg**	**51.84**	**67**	P	**P**	**03 33 52.4**	**-0.9**
	baz=310,SNR=25						
M37A	**Trindle Farm,**	**51.90**	**69**	P	**P**	**03 33 53.4**	**-0.4**
	baz=310,SNR=74						
KSU1	**Kansas State U**	**51.91**	**73**	P	**P**	**03 33 52.9**	**-0.9**
	baz=311,SNR=25						
KSU1	**Kansas State U**	**51.91**	**73**	*e*P	**P**	**03 33 52.9**	**-0.9**
	comp=Z,102nm,0.7s						
F41A	**Three Lakes**	**51.92**	**62**	P	**P**	**03 33 53.2**	**-0.6**
	baz=309,SNR=42						
H40A	**Chili**	**51.92**	**64**	P	**P**	**03 33 53.1**	**-0.7**
	baz=309,SNR=29						
P35A	**Duane Minner,**	**51.97**	**72**	P	**P**	**03 33 53.1**	**-1.2**
	baz=311,SNR=35						
J39A	**Decorah**	**52.00**	**66**	P	**P**	**03 33 53.0**	**-1.4**
	baz=310,SNR=146						
R34A	**Isabella, Hill**	**52.05**	**74**	P	**P**	**03 33 54.2**	**-0.7**
	baz=311,SNR=36						
L38A	**Oak Wood Farm,**	**52.06**	**68**	P	**P**	**03 33 54.0**	**-0.9**
	baz=310,SNR=74						
SCIA	**State Center**	**52.06**	**68**	*e*P	**P**	**03 33 54.4**	**-0.5**
	comp=Z,529nm,1.4s						
SCIA				LR	LR		
	comp=Z,3μm,20.0s						
E42A	**Champion**	**52.13**	**61**	P	**P**	**03 33 54.9**	**-0.5**
	baz=309,SNR=26						
O36A	**Bolckow**	**52.20**	**71**	P	**P**	**03 33 55.1**	**-0.8**
	baz=311,SNR=37						
G41A	**Antigo**	**52.21**	**63**	P	**P**	**03 33 55.4**	**-0.6**
	baz=309,SNR=12						
N37A	**Lee Faris, Mou**	**52.23**	**70**	P	**P**	**03 33 55.7**	**-0.5**
	baz=310,SNR=40						
I40A	**Norwalk**	**52.26**	**65**	P	**P**	**03 33 55.4**	**-0.9**
	baz=310,SNR=28						
U32A	**Winter Ranch,**	**52.27**	**77**	P	**P**	**03 33 56.2**	**-0.4**
	baz=312,SNR=21						
K39A	**Oelwein**	**52.30**	**67**	P	**P**	**03 33 55.2**	**-1.5**
	baz=310,SNR=78						
SSE	**Sheshan**	**52.31**	**274**	⇑P	**P**	**03 33 58.8**	**+2.0**
SSE				pP	**sP**	**03 34 14.5**	**-1.4**
SSE				S	**S**	**03 41 20.6**	**+2.1**
SSE				pmax	pmax		
	comp=Z,220nm,1.0s						
SSE				pmax	pmax		
	comp=Z,170nm,3.5s						
SSE				LR	LR		
	comp=Z,790nm,20.6s						
SSE				LR	LR		
	comp=Z,940nm,20.6s						
SSE				LR	LR		
	comp=Z,2μm,21.7s						
H41A	**Junction City**	**52.33**	**63**	P	**P**	**03 33 56.1**	**-0.8**
	baz=310,SNR=23						
M38A	**Pleasantville**	**52.39**	**69**	P	**P**	**03 33 56.6**	**-0.7**
	baz=310,SNR=74						
P36A	**Good Intent, A**	**52.39**	**72**	P	**P**	**03 33 56.3**	**-1.0**
	baz=311,SNR=72						
Q35A	**Mercer Eighty,**	**52.40**	**73**	P	**P**	**03 33 56.2**	**-1.3**
	baz=311,SNR=37						
F42A	**Maple Grove Fa**	**52.44**	**61**	P	**P**	**03 33 57.2**	**-0.4**
	baz=310,SNR=13						
J40A	**Soldiers Grove**	**52.51**	**65**	P	**P**	**03 33 57.0**	**-1.2**
	baz=310,SNR=29						
S34A	**Willow Spring**	**52.53**	**75**	P	**P**	**03 33 57.4**	**-1.1**
	baz=312,SNR=43						
I41A	**Arkdale**	**52.57**	**64**	P	**P**	**03 33 57.7**	**-0.9**
	baz=310,SNR=44						
G42A	**Mountain**	**52.60**	**62**	P	**P**	**03 33 58.1**	**-0.7**
	baz=310,SNR=20						
L39A	**Vinton**	**52.62**	**67**	P	**P**	**03 33 58.0**	**-1.0**
	baz=310,SNR=82						
BTO	**Baotou**	**52.63**	**290**	*e*P	**P**	**03 34 00.3**	**+1.0**
O37A	**Wolven Farm, M**	**52.65**	**70**	P	**P**	**03 33 58.5**	**-0.8**
	baz=311,SNR=74						
E43A	**Lone Tree Farm**	**52.66**	**60**	P	**P**	**03 33 58.9**	**-0.4**
	baz=310,SNR=31						
R35A	**Emporia Munici**	**52.66**	**73**	P	**P**	**03 33 58.5**	**-0.8**
	baz=312,SNR=22						
Q36A	**Arnold C. Orve**	**52.67**	**72**	P	**P**	**03 33 58.1**	**-1.3**
	baz=311,SNR=9.9						
K40A	**Colesburg**	**52.73**	**66**	P	**P**	**03 33 58.4**	**-1.4**
	baz=310,SNR=24						
N38A	**Joes South For**	**52.77**	**69**	P	**P**	**03 33 59.3**	**-0.9**
	baz=311,SNR=73						
F43A	**Flat Rock, Esc**	**52.91**	**61**	P	**P**	**03 34 00.5**	**-0.6**
	baz=310,SNR=19						
P37A	**Lathrop**	**52.91**	**71**	P	**P**	**03 34 00.1**	**-1.1**
	baz=311,SNR=186						
J41A	**Loganville**	**52.93**	**65**	P	**P**	**03 34 00.2**	**-1.1**
	baz=310,SNR=47						
T34A	**McClaskey Farm**	**52.93**	**75**	P	**P**	**03 34 00.5**	**-0.9**
	baz=312,SNR=130						
M39A	**Webster**	**52.93**	**68**	P	**P**	**03 34 00.6**	**-0.7**
	baz=311,SNR=186						
G43A	**Wallace**	**53.00**	**62**	P	**P**	**03 34 01.0**	**-0.7**
	baz=310,SNR=13						
S35A	**Otter Creek Ra**	**53.01**	**74**	P	**P**	**03 34 01.2**	**-0.8**
	baz=312,SNR=79						
H42A	**Shiocton**	**53.02**	**63**	P	**P**	**03 34 01.0**	**-0.9**
	baz=310,SNR=13						
R36A	**Gordon, Harris**	**53.07**	**73**	P	**P**	**03 34 01.6**	**-0.8**
	baz=312,SNR=186						
O38A	**Galt**	**53.07**	**70**	P	**P**	**03 34 01.4**	**-1.0**
	baz=311,SNR=64						
E44A	**Grand Marais A**	**53.07**	**59**	P	**P**	**03 34 02.3**	**0.0**
	baz=310						
NJ2	**Nanjing**	**53.08**	**276**	*e*P	**P**	**03 34 02.4**	**-0.1**
NJ2				pP	**sP**	**03 34 19.9**	**-1.7**
NJ2				sP	pP	03 34 24.6	+8.7
NJ2				S	**S**	**03 41 27.5**	**-1.5**
NJ2				sS	**sS**	**03 41 50.3**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,38nm,0.8s						
NJ2				LR	LR		
	comp=Z,2μm,24.9s						
NJ2				LR	LR		
	comp=Z,2μm,26.3s						
NJ2				LR	LR		
	comp=Z,5μm,24.9s						
JFWS	**Jewell Farm**	**53.09**	**65**	*e*P	**P**	**03 34 01.0**	**-1.5**
JFWS				pmax	pmax		
	comp=Z,71nm,0.7s						
JFWS				MLR	MLR		
	comp=Z,4μm,20.0s						
JFWS	**Jewell Farm**	**53.09**	**65**	*e*P	**P**	**03 34 01.0**	**-1.5**
	comp=Z,71nm,0.7s						
JFWS				LR	LR		
	comp=Z,4μm,20.0s						
L40A	**Anamosa**	**53.09**	**67**	P	**P**	**03 34 01.3**	**-1.3**
	baz=311,SNR=44						
TIY	**Taiyuan**	**53.12**	**286**	*e*P	**P**	**03 34 03.5**	**+0.6**
TIY				pP	**sP**	**03 34 23.3**	**+1.3**
TIY				S	**S**	**03 41 28.0**	**-1.7**
TIY				pmax	pmax		
	comp=Z,76nm,0.8s						
TIY				pmax	pmax		
	comp=Z,430nm,6.7s						
TIY				LR	LR		
	comp=Z,1μm,13.3s						
TIY				LR	LR		
	comp=Z,810nm,15.3s						
TIY				LR	LR		
	comp=Z,2μm,20.0s						
N39A	**Derby Farms, D**	**53.14**	**69**	P	**P**	**03 34 02.0**	**-0.9**
	baz=311,SNR=167						
I42A	**Draeger Farm,**	**53.20**	**64**	P	**P**	**03 34 02.4**	**-0.9**
	baz=310,SNR=38						
F44A	**Big Bay de Noc**	**53.22**	**60**	P	**P**	**03 34 02.9**	**-0.5**
	baz=310,SNR=22						
SFJD	**Kangerlussuaq**	**53.23**	**25**	*i*P	**P**	**03 34 03.2**	**0.0**
	comp=Z,51nm,0.9s						
SFJD	**Kangerlussuaq**	**53.23**	**25**	*i*P	**P**	**03 34 03.2**	**0.0**
SFJD				pmax	pmax		
	comp=Z,51nm,0.9s						
SFJD	**Kangerlussuaq**	**53.23**	**25**	*e*P	**P**	**03 34 03.0**	**-0.2**
	comp=Z,56nm,0.8s						
SFJD				LR	LR		
	comp=Z,3μm,19.0s						
K41A	**Shullsburg**	**53.26**	**66**	P	**P**	**03 34 02.6**	**-1.1**
	baz=311,SNR=83						
Q37A	**Longview Farm,**	**53.32**	**72**	P	**P**	**03 34 02.6**	**-1.6**
	baz=312,SNR=36						
M40A	**Post Highland**	**53.36**	**68**	P	**P**	**03 34 03.3**	**-1.2**
	baz=311,SNR=65						
P38A	**Dawn**	**53.36**	**70**	P	**P**	**03 34 03.3**	**-1.2**
	baz=311,SNR=246						
T35A	**Sooner Cattle**	**53.41**	**75**	P	**P**	**03 34 03.9**	**-1.0**
	baz=312,SNR=70						
S36A	**Lake Cedric, C**	**53.41**	**74**	P	**P**	**03 34 03.9**	**-1.1**
	baz=312,SNR=61						
BJO	**Bjornoya**	**53.43**	**356**	*e*P	**P**	**03 34 04.9**	**+0.4**
BJO				*e*S	**S**	**03 41 35.2**	**+2.5**
H43A	**Windswept, Lux**	**53.46**	**62**	P	**P**	**03 34 04.4**	**-0.7**
	baz=310,SNR=19						
J42A	**Columbus**	**53.46**	**64**	P	**P**	**03 34 04.2**	**-1.0**
	baz=311,SNR=25						
R37A	**Teagarden Farm**	**53.47**	**73**	P	**P**	**03 34 03.9**	**-1.5**
	baz=312,SNR=66						
L41A	**Preston**	**53.50**	**66**	P	**P**	**03 34 04.1**	**-1.3**
	baz=311,SNR=64						
WMOK	**Wichita Mounta**	**53.51**	**78**	P	**P**	**03 34 05.3**	**-0.4**
	baz=313,SNR=57						
WMOK	**Wichita Mounta**	**53.51**	**78**	PFAKE		03 34 20.0	+14
WMOK				LR	LR		
	comp=Z,4μm,21.0s						
O39A	**Kirksville**	**53.52**	**69**	P	**P**	**03 34 04.6**	**-1.1**
	baz=311,SNR=66						
E45A	**Wooded Hills,**	**53.63**	**59**	P	**P**	**03 34 06.2**	**-0.3**
	baz=310,SNR=14						
U35A	**Pawnee**	**53.64**	**76**	P	**P**	**03 34 05.7**	**-1.0**
	baz=312,SNR=39						
N40A	**Mertquake, Sal**	**53.66**	**68**	P	**P**	**03 34 05.5**	**-1.1**
	baz=311,SNR=31						
K42A	**Prairie Point,**	**53.69**	**65**	P	**P**	**03 34 05.6**	**-1.3**
	baz=311,SNR=58						
T36A	**Boggs Farm, Ca**	**53.69**	**74**	P	**P**	**03 34 05.8**	**-1.1**
	baz=312,SNR=66						
Q38A	**Cooks Store, C**	**53.75**	**71**	P	**P**	**03 34 05.7**	**-1.7**
	baz=312,SNR=127						
J43A	**Natural Harves**	**53.81**	**64**	P	**P**	**03 34 06.4**	**-1.4**
	baz=311,SNR=6.3						
S37A	**Fort Scott**	**53.84**	**73**	P	**P**	**03 34 06.7**	**-1.3**
	baz=312,SNR=254						
F45A	**CMU Biological**	**53.89**	**60**	P	**P**	**03 34 07.6**	**-0.7**
	baz=310,SNR=9.7						
P39B	**Salisbury**	**53.91**	**70**	P	**P**	**03 34 07.3**	**-1.2**
	baz=312,SNR=126						
M41A	**Milan**	**53.93**	**67**	P	**P**	**03 34 07.5**	**-1.2**
	baz=311,SNR=64						
V35A	**Meyer Ranch, C**	**53.99**	**76**	P	**P**	**03 34 08.5**	**-0.7**
	baz=313,SNR=41						
O40A	**La Bel

baz=311,SNR=14
M42A Sheffield 54.32 66 P P 03 34 09.6 -1.9
baz=311
W35A Tecumseh 54.38 77 P P 03 34 11.6 -0.4
baz=313,SNR=88
L43A Garden Prairie 54.41 65 P P 03 34 10.7 -1.4
baz=311,SNR=17
ABTX Abilene, Hawle 54.44 81 P P 03 34 12.1 -0.4
baz=314,SNR=30
ABTX Abilene, Hawle 54.44 81 eP P 03 34 12.3 -0.2
comp=Z,196nm,1.3s
ABTX LR LR
comp=Z,3μm,22.0s
S38A Stockton 54.47 73 P P 03 34 10.8 -1.8
baz=312,SNR=234
SLBS Sierra La Lagu 54.49 97 eP P 03 34 13.1 0.0
comp=Z,279nm,1.7s
SLBS LR LR
comp=Z,2μm,21.0s
V36A Jenks 54.51 76 P P 03 34 12.3 -0.6
baz=313,SNR=62
TUL1 Leonard 54.51 75 P P 03 34 12.2 -0.8
baz=313,SNR=56
TUL1 Leonard 54.51 75 eP P 03 34 12.1 -0.9
comp=Z,100nm,0.8s
R39A Chumby, Stover 54.52 71 P P 03 34 10.7 -2.3
baz=312,SNR=68
O41A Passleys Farm, 54.57 68 P P 03 34 12.2 -1.1
baz=312,SNR=100
N42A Yates City 54.58 67 P P 03 34 12.1 -1.2
baz=312,SNR=34
U37A Salina 54.58 74 P P 03 34 12.3 -1.1
baz=313,SNR=221
Q40A Laux Farm, Aux 54.63 70 P P 03 34 12.5 -1.3
baz=312,SNR=166
T38A Diamond 54.64 73 P P 03 34 12.6 -1.3
baz=313,SNR=80
HPIG 54.75 90 eP P 03 34 13.6 -1.4
comp=Z,236nm,1.8s
HPIG eScP ScP 03 38 58.2 -13
P41A Barry, Barry 54.76 69 P P 03 34 13.5 -1.2
baz=312,SNR=57
S39A Bolivar 54.77 72 P P 03 34 12.6 -2.3
baz=312,SNR=131
W36A Wetumka 54.77 76 P P 03 34 14.5 -0.3
baz=313,SNR=64
X35A Drake 54.83 78 P P 03 34 14.8 -0.5
baz=313,SNR=57
L44A Lake County Fo 54.88 65 P P 03 34 14.5 -1.0
baz=312,SNR=12
V37A Hulbert 54.92 75 P P 03 34 15.0 -0.9
baz=313,SNR=137
GLMI Grayling 54.93 60 eP P 03 34 15.7 -0.2
comp=Z,231nm,0.9s
GLMI LR LR
comp=Z,4μm,19.0s
O42A Bath 54.97 68 P P 03 34 15.1 -1.1
baz=312,SNR=26
R40A Maddies Statio 54.98 71 P P 03 34 14.3 -2.0
baz=312,SNR=154
U38A Gravette 54.99 74 P P 03 34 15.0 -1.5
baz=313,SNR=86
X36A Centrahoma 55.09 77 P P 03 34 16.8 -0.3
baz=314,SNR=44
Y35A Marietta 55.13 78 P P 03 34 17.5 0.0
baz=314,SNR=43
Q41A Truxton 55.14 70 P P 03 34 16.2 -1.3
baz=312,SNR=136
HDIL Hopedale 55.18 67 P P 03 34 16.8 -0.9
baz=312,SNR=39
HDIL Hopedale 55.18 67 eP P 03 34 16.7 -1.0
comp=Z,257nm,0.8s
HDIL LR LR
comp=Z,2μm,20.0s
T39A Clever 55.19 73 P P 03 34 16.1 -1.8
baz=313,SNR=111
P42A Winchester 55.23 68 P P 03 34 16.7 -1.4
baz=312,SNR=46
W37B Quinton 55.25 76 P P 03 34 18.1 -0.2
baz=313,SNR=106
S40A Lebanon 55.31 72 P P 03 34 16.4 -2.3
baz=313,SNR=44
M44A Midewin, Midew 55.33 65 P P 03 34 17.7 -1.1
baz=312,SNR=30
O43A Sugar Creek Fa 55.35 67 P P 03 34 18.0 -1.0
baz=312,SNR=12
HHAR Hobbs 55.36 74 eP P 03 34 17.6 -1.5
comp=Z,74nm,0.7s
V38A Canehill 55.37 74 P P 03 34 18.1 -1.1
baz=313,SNR=146
R41A Rosebud 55.50 70 P P 03 34 18.4 -1.7
baz=313,SNR=106
U39A Green Forest 55.56 73 P P 03 34 18.9 -1.7
baz=313,SNR=85
Q42A Golden Eagle 55.57 69 P P 03 34 19.7 -0.9
baz=312,SNR=155
Y36A Durant 55.59 77 P P 03 34 20.5 -0.2
baz=314,SNR=40
T40A Mansfield 55.61 72 P P 03 34 18.8 -2.1
baz=313,SNR=146
P43A Skaggs, Pawnee 55.66 68 P P 03 34 20.1 -1.1
baz=312,SNR=85
X37A Clayton 55.66 76 P P 03 34 21.0 -0.3
baz=314,SNR=117
N44A Piper City 55.68 66 P P 03 34 20.3 -1.0
baz=312,SNR=21
CCM Cathedral Cave 55.74 70 eP P 03 34 19.7 -2.1
CCM pmax pmax
comp=Z,341nm,1.6s
CCM Cathedral Cave 55.74 70 eP P 03 34 19.7 -2.1
comp=Z,341nm,1.6s
S41A Jillco Farms, 55.76 71 P P 03 34 20.0 -1.9
baz=313,SNR=294
SCO Scoresbysund 55.77 12⇑ iP P 03 34 21.0 -0.5
comp=Z,27nm,0.5s
SCO Scoresbysund 55.77 12⇑ iP P 03 34 21.0 -0.5
SCO pmax pmax
comp=Z,27nm,0.5s
JCT Junction City 55.83 83 P P 03 34 21.5 -1.2
baz=315,SNR=50
JCT Junction City 55.83 83 eP P 03 34 21.3 -1.3
JCT pmax pmax
comp=Z,406nm,1.7s
JCT MLR MLR
comp=Z,4μm,20.0s
JCT Junction City 55.83 83 eP P 03 34 21.3 -1.3
comp=Z,406nm,1.7s
JCT LR LR
comp=Z,4μm,20.0s
V39A Pettigrew 55.84 74 P P 03 34 21.2 -1.4
baz=313,SNR=106
W38A Poteau 55.84 75 P P 03 34 22.2 -0.3
baz=314,SNR=95
R42A Luebbering 55.85 70 P P 03 34 21.1 -1.4
baz=313,SNR=63
O44A Mansfield 55.92 67 P P 03 34 21.9 -1.2
baz=312,SNR=23
SLM Saint Louis 55.93 69 eP P 03 34 22.1 -1.1
SLM pmax pmax
comp=Z,144nm,0.6s
SLM MLR MLR
comp=Z,2μm,21.0s
SLM Saint Louis 55.93 69 eP P 03 34 22.1 -1.1
comp=Z,144nm,0.6s
SLM LR LR
comp=Z,2μm,21.0s
X38A Whitesboro 55.93 76 P P 03 34 22.9 -0.3
baz=314,SNR=65
Y37A Hugo 55.93 77 P P 03 34 22.9 -0.3
baz=314,SNR=48
Z36A Blue Ridge 55.93 78 P P 03 34 22.8 -0.5
baz=314,SNR=38
U40A Yellville 55.95 73 P P 03 34 21.7 -1.7
baz=313,SNR=162
N45A Kentland 55.99 66 P P 03 34 22.9 -0.6
baz=312,SNR=35
Q43A New Douglas 56.03 69 P P 03 34 22.9 -1.0
baz=313,SNR=94
T41A Mountain View 56.12 72 P P 03 34 22.3 -2.3
baz=313,SNR=64
S42A Caledonia 56.19 70 P P 03 34 23.4 -1.7
baz=313,SNR=103
W39A Magazine 56.19 75 P P 03 34 24.4 -0.7
baz=314,SNR=96
WHTX Lake Whitney, 56.20 80 P P 03 34 25.0 -0.1
baz=315,SNR=59
WHTX Lake Whitney, 56.20 80 eP P 03 34 25.1 -0.1
comp=Z,626nm,1.6s
WHTX LR LR
comp=Z,6μm,22.0s
FVM French Village 56.26 70 eP P 03 34 24.2 -1.3
FVM eS S 03 42 09.4 -2.3
FVM pmax pmax
comp=Z,163nm,0.6s
FVM French Village 56.26 70 eP P 03 34 24.2 -1.3
comp=Z,163nm,0.6s
FVM eS S 03 42 09.3 -2.3
O45A Potomac 56.27 66 P P 03 34 24.7 -0.8
baz=313,SNR=50
P44A Sand Creek, Wi 56.29 68 P P 03 34 25.0 -0.7
baz=313,SNR=100
V40A Witts Springs 56.35 73 P P 03 34 24.7 -1.5
baz=314,SNR=197
R43A Red Bud 56.35 69 P P 03 34 24.9 -1.3
baz=313,SNR=159
N46A Monticello 56.39 65 P P 03 34 25.4 -1.0
baz=313,SNR=18
136A Ennis 56.43 79 P P 03 34 26.3 -0.4
baz=314,SNR=16
VLDQ Val d'Or 56.43 53 eP P 03 34 24.5 -2.1
comp=Z,154nm,0.8s
VLDQ LR LR
comp=Z,4μm,21.0s
Q44A Meyer Farm, Va 56.45 68 P P 03 34 25.6 -1.2
baz=313,SNR=27
X39A Fountain Ranch 56.47 75 P P 03 34 26.5 -0.5
baz=314,SNR=153
Z37A Pogue Cattle C 56.47 78 P P 03 34 26.6 -0.5
baz=314,SNR=9.8
TATO Taipei 56.49 268 PFAKE 03 34 40.0 +13
TATO LR LR
comp=Z,6μm,22.0s
Y38A Idabel 56.50 76 P P 03 34 26.6 -0.7
baz=314,SNR=19
U41A Viola 56.51 72 P P 03 34 25.3 -2.0
baz=314,SNR=31
SFIN Lafayette 56.54 66 P P 03 34 26.8 -0.7
baz=313,SNR=59
SFIN Lafayette 56.54 66 eP P 03 34 25.5 -2.0
comp=Z,152nm,0.7s
SFIN LR LR
comp=Z,3μm,21.0s
ZAA1 Zalesovo Array 56.56 316 eP P 03 34 27.4 +0.1
ZAA1 ePcP PcP 03 35 23.7 +0.3
ZAA1 eScP ScP 03 39 18.1 -0.4
ZAA0 Zalesovo Array 56.56 316 eP P 03 34 29.0 +1.6
ZAA0 ePcP PcP 03 35 24.1 +0.6
ZALV Zalesovo Beam 56.56 316 P P 03 34 27.4 0.0
comp=Z,7.4nm,0.4s,baz=27,slow=5.7,SNR=8.1
ZALV PcP PcP 03 35 23.7 +0.3
comp=Z,44nm,0.7s,baz=34,slow=3.8,SNR=16
ZALV ScP ScP 03 39 18.1 -0.4
comp=Z,6.3nm,0.7s,baz=39,slow=4.1,SNR=5.8
ZALV LR LR 03 59 47.4
comp=Z,2μm,20.8s,baz=52,slow=37
NVS Novosibirsk 56.60 318 iP P 03 34 27.5 -0.2
NVS e 03 35 23.7
NVS e 03 44 11.0
NVS pmax pmax
comp=N,19nm,0.8s
NVS pmax pmax
comp=E,18nm,0.8s
NVS pmax pmax
comp=Z,37nm,0.8s
W40A Ferguson Farm, 56.62 74 P P 03 34 27.2 -0.8
baz=314,SNR=85
W40A Ferguson Farm, 56.62 74 eP P 03 34 27.4 -0.7
comp=Z,273nm,0.7s
SCHQ Schefferville 56.63 42 P P 03 34 27.4 -0.6
comp=Z,66nm,0.7s,baz=320,slow=7.1,SNR=54
SCHQ LR LR 04 01 15.3
comp=Z,3μm,18.0s,baz=318,slow=39
SCHQ Schefferville 56.63 42 eP P 03 34 27.4 -0.6
comp=Z,74nm,0.8s
S43A Fulton Ridge, 56.75 70 P P 03 34 27.7 -1.3
baz=313,SNR=63
V41A Mountainview 56.75 73 P P 03 34 27.3 -1.7
baz=314,SNR=143
236A Katherine and 56.76 79 P P 03 34 29.1 0.0
baz=315,SNR=34
MIAR Mount Ida 56.77 75 P P 03 34 28.6 -0.5
baz=314,SNR=141
MIAR Mount Ida 56.77 75 eP P 03 34 28.6 -0.5
MIAR pmax pmax
comp=Z,1μm,1.8s
MIAR Mount Ida 56.77 75 eP P 03 34 28.6 -0.5
comp=Z,1μm,1.8s
YHNB Yeheng 56.78 268 PFAKE 03 34 40.0 +11
YHNB LR LR
comp=Z,4μm,22.0s
137A Heron Place, G 56.81 78 P P 03 34 29.1 -0.4
baz=314,SNR=9.3
Z38A Mt. Pleasant 56.82 77 P P 03 34 29.0 -0.6
baz=314,SNR=7.7
R44A Waltonville 56.86 69 P P 03 34 28.4 -1.4
baz=313,SNR=42
Y39A Lockesburg 56.88 76 P P 03 34 29.0 -0.9
baz=314,SNR=5.6
WHN Wuhan 56.88 278 ⇓P P 03 34 29.9 -0.1
WHN pP pP 03 34 43.9 +0.4
WHN S S 03 42 20.4 +0.4
WHN LR LR
comp=Z,1μm,14.9s
WHN LR LR
comp=Z,6μm,21.8s
WHN LR LR
comp=Z,7μm,23.2s
U42A Revenden 56.90 72 P P 03 34 28.0 -2.0
baz=314,SNR=59
T43A Greenville 56.96 71 P P 03 34 28.9 -1.6
baz=314,SNR=326
435B Jarrell 56.97 81 P P 03 34 30.5 -0.2
baz=315,SNR=10
X301 Greenbrier Sit 56.98 74 eP P 03 34 29.3 -1.4
comp=Z,746nm,1.9s
336A Riesel 57.00 80 P P 03 34 30.6 -0.2
baz=315,SNR=42
NACB Ninganchiao 57.01 268 eP P 03 34 35.3 +4.3
comp=Z,59nm,1.1s
NACB LR LR
comp=Z,4μm,22.0s
WHAR Wooly Hollow 57.02 74 eP P 03 34 29.4 -1.5
comp=Z,403nm,1.8s
HAMF Hammerfest 57.02 354 eP P 03 34 30.8 +0.3
HAMF i 03 42 19.1
HAMF IAMs_20 IAMs_20 03 53 48.2
comp=Z,2μm,32.8s
PBMO Poplar Bluff 57.08 71 eP P 03 34 29.6 -1.7
comp=Z,257nm,1.4s
W41B Gary Mavity, V 57.12 74 P P 03 34 30.4 -1.3
baz=314,SNR=58
S44A Carbondale 57.14 69 P P 03 34 30.4 -1.4
baz=314,SNR=81
AAM Ann Arbor 57.14 62 eP P 03 34 31.2 -0.5
AAM e 03 35 26.7
AAM MLR MLR
comp=Z,2μm,20.0s
AAM Ann Arbor 57.14 62 eP P 03 34 31.2 -0.5
AAM ePcP PcP 03 35 26.7 +0.8
AAM LR LR
comp=Z,2μm,20.0s
O47A Sheridan 57.15 65 P P 03 34 30.2 -1.6
baz=313,SNR=28
138A Matatall Enter 57.17 78 P P 03 34 32.1 +0.1
baz=315,SNR=20
V42A Cord 57.19 73 P P 03 34 30.0 -2.1
baz=314,SNR=42
237A Washetta, Mont 57.20 79 P P 03 34 32.0 -0.3
baz=315,SNR=22
X40A Basin Creek Fa 57.25 75 P P 03 34 31.5 -1.1
baz=314,SNR=60
Z39A Irene McRaven, 57.31 77 P P 03 34 32.6 -0.4
baz=314,SNR=9.7
Y40A Okolona 57.31 75 P P 03 34 32.2 -0.8
baz=314,SNR=24
UALR University of 57.34 74 eP P 03 34 32.3 -0.9
comp=Z,72nm,0.8s
T44A Benton 57.36 70 P P 03 34 31.9 -1.4
baz=314,SNR=54
U43A Rector 57.38 71 P P 03 34 31.8 -1.6
baz=314,SNR=23
X41A Kaden, Bauxite 57.43 74 P P 03 34 33.0 -0.8
baz=314,SNR=32
436A Wall Ranch, Ga 57.46 81 P P 03 34 34.1 0.0
baz=315,SNR=11
W42A Bald Knob 57.48 73 P P 03 34 33.1 -1.0
baz=314,SNR=26
S45A Carrier Mills 57.54 69 P P 03 34 33.3 -1.2
baz=314,SNR=43
PARMO Parma 57.56 71 eP P 03 34 33.7 -1.0
comp=Z,810nm,0.6s
139A Bunkhouse Ranc 57.57 77 P P 03 34 34.7 -0.2
baz=315,SNR=17
H06E1 SOCORRO T-PHAS 57.59 101 T T 04 37 08.3
SNR=45
H06S1 SOCORRO T 57.61 101 T T 04 37 09.9
SNR=28
238A Jacksonville 57.61 78 P P 03 34 35.4 +0.2
baz=315,SNR=18
P47A Martinsville 57.61 66 P P 03 34 33.7 -1.3
baz=313,SNR=134
833A Chaparral WMA, 57.61 84 P P 03 34 34.8 -0.4
baz=316,SNR=57
337A Centerville 57.63 79 P P 03 34 35.5 +0.2
baz=315
WLAR White Oak Lake 57.64 75 eP P 03 34 34.9 -0.4
comp=Z,463nm,0.7s
KEV Kevo 57.65 352 eP P 03 34 33.8 -1.0
KEV pmax pmax
comp=Z,41nm,0.6s
KEV MLR MLR
comp=Z,2μm,20.0s
KEV Kevo 57.65 352 eP P 03 34 33.8 -1.0
comp=Z,41nm,0.6s
KEV LR LR
comp=Z,2μm,20.0s
BLO Bloomington 57.69 66 eP P 03 34 34.6 -1.0
BLO pmax pmax
comp=Z,135nm,0.8s
BLO Bloomington 57.69 66 eP P 03 34 34.6 -1.0
comp=Z,135nm,0.8s
SSLB Suanglung 57.69 268 eP P 03 34 35.7 -0.1
comp=Z,78nm,0.7s
SSLB LR LR
comp=Z,3μm,22.0s
V43A Jonesboro 57.70 72 P P 03 34 34.3 -1.4
baz=314,SNR=8.9
U44A Portageville 57.70 71 P P 03 34 34.7 -1.1
baz=314,SNR=6.1
XAN Xi'an 57.71 285 P P 03 34 35.5 -0.4
XAN pP pP 03 34 51.6 +2.2
XAN PP PP 03 36 47.3 +3.4
XAN S S 03 42 28.0 -2.9
XAN SS SS 03 46 24.9 +3.6
XAN pmax pmax
comp=Z,120nm,0.9s
XAN pmax pmax
comp=Z,340nm,4.5s
XAN LR LR
comp=Z,2μm,23.0s
XAN LR LR
comp=Z,3μm,23.3s
XAN LR LR
comp=Z,4μm,22.3s
Z40A Long Farm, Mag 57.77 76 P P 03 34 36.1 -0.1
baz=315,SNR=15
YULB Yu-li 57.77 267 eP P 03 34 39.8 +3.4
comp=Z,235nm,1.9s
YULB LR LR
comp=Z,2μm,22.0s
536A Bastrop 57.79 81 P P 03 34 36.4 0.0
baz=316,SNR=6.7
536A Bastrop 57.79 81 eP P 03 34 36.6 +0.2
comp=Z,433nm,1.5s
HBAR Harrisburg 57.79 72 eP P 03 34 35.3 -1.1
comp=Z,170nm,0.6s
Y41A Eaglette Beard 57.80 75 P P 03 34 36.0 -0.5
baz=314,SNR=58
437A Phantom Ranch, 57.82 80 P P 03 34 37.1 +0.5
baz=315,SNR=10
SADO Sadowa 57.85 57 eP P 03 34 36.1 -0.6
comp=Z,84nm,0.8s
SADO LR LR
comp=Z,5μm,18.0s
USIN University of 57.86 68 eP P 03 34 35.9 -0.9
comp=Z,459nm,0.6s
X42A Stuttgart 57.92 74 P P 03 34 36.5 -0.8
baz=314,SNR=28
338A Crockett 57.95 79 P P 03 34 37.6 +0.1
baz=315,SNR=8.9
ARA0 ARCESS Array S 57.98 353 eP P 03 34 35.9 -1.3
ARA0 ePcP PcP 03 35 28.4 -0.3
ARA0 eScP ScP 03 39 23.7 -0.8
ARCES ARCESS Array B 57.98 353 P P 03 34 35.9 -1.3
comp=Z,29nm,0.7s,baz=19,slow=7.7,SNR=35
ARCES PcP PcP 03 35 28.4 -0.3
comp=Z,27nm,0.7s,baz=8.1,slow=4.3,SNR=11
ARCES ScP ScP 03 39 23.7 -0.8
comp=Z,13nm,0.8s,baz=359,slow=4.9,SNR=7.4
ARCES LR LR 03 59 23.0
comp=Z,1μm,21.9s,baz=8.0,slow=36
ARE0 ARCESS Array S 57.98 353 eP P 03 34 36.0 -1.2
ARE0 eS S 03 42 33.4 0.0
ARE0 IAMs_20 IAMs_20 03 56 54.8
comp=Z,2μm,27.3s
ARE0 ARCESS Array S 57.98 353 eP P 03 34 36.3 -0.9
comp=Z,29nm,0.8s
ARE0 LR LR
comp=Z,1μm,20.0s
239A Gary 57.99 78 P P 03 34 37.5 -0.3
baz=315,SNR=7.3
U44B Burton Farm, H 58.01 71 P P 03 34 37.2 -0.7
baz=314,SNR=26
V44A Blytheville 58.05 71 P P 03 34 37.2 -1.0
baz=314,SNR=11
NATX Nacogdoches 58.06 78 P P 03 34 38.2 -0.1
baz=315,SNR=8.6
NATX Nacogdoches 58.06 78 eP P 03 34 38.7 +0.4
comp=Z,445nm,1.6s
NATX LR LR
comp=Z,3μm,20.0s
W43A Forest City 58.09 73 P P 03 34 37.2 -1.2
baz=314,SNR=6.5
140A Cam and Jess, 58.09 77 P P 03 34 38.5 +0.1
baz=315,SNR=6.7
GLAT Glass 58.10 71 eP P 03 34 38.2 -0.3
comp=Z,642nm,1.4s
Z41A Richland Creek 58.12 76 P P 03 34 38.2 -0.5
baz=315,SNR=18
933A Laredo 58.20 85 P P 03 34 39.4 +0.1
baz=316,SNR=19
735A Kenedy 58.20 83 P P 03 34 39.7 +0.4
baz=316,SNR=13
735A Kenedy 58.20 83 eP P 03 34 40.0 +0.6
comp=Z,648nm,1.8s
735A LR LR
comp=Z,4μm,21.0s
636A Smothers Creek 58.22 82 P P 03 34 39.9 +0.5
baz=316,SNR=21
636A Smothers Creek 58.22 82 eP P 03 34 40.0 +0.6
comp=Z,190nm,1.3s
537A Green Hill Far 58.24 81 P P 03 34 40.1 +0.6
baz=316,SNR=28
TPUB Ta-pu 58.25 268 eP P 03 34 42.9 +3.1
comp=Z,79nm,1.1s
TPUB LR LR
comp=Z,3μm,21.0s
CCAR Cane Creek 58.27 74 eP P 03 34 39.8 +0.1
comp=Z,480nm,1.1s
438A Sam Houston St 58.28 80 P P 03 34 40.4 +0.5
baz=315,SNR=32
TRO Tromso 58.29 356 eP P 03 34 41.9 +2.6
TRO IAmb IAmb 03 34 44.5
comp=Z,53nm,0.7s
TRO eS S 03 42 37.8 +0.4
TRO IAMs_20 IAMs_20 03 59 38.9
comp=Z,1μm,22.3s
UTMT University of 58.30 70 eP P 03 34 39.3 -0.6
comp=Z,388nm,0.6s
QZH Quanzhou 58.30 271 ⇓iP P 03 34 39.8 -0.2
QZH pP pP 03 34 52.4 -1.2
QZH S S 03 42 32.4 -6.2
QZH pmax pmax
comp=Z,180nm,1.0s
QZH LR LR
comp=Z,4μm,19.2s
QZH LR LR
comp=Z,2μm,15.7s
QZH LR LR
comp=Z,4μm,18.1s
HALT Halls 58.32 71 eP P 03 34 39.5 -0.6
comp=Z,1μm,1.5s

Y42A	**Garnett, Star**	**58.32**	**74**	P	**P**	**03 34 39.9**	**-0.2**
	baz=315,SNR=34						
TWG	**Pinlang**	**58.33**	**267**	PFAKE		03 34 50.0	+10
TWG				LR	LR		
	comp=Z,4μm,22.0s						
U45A	**Rockin P Farm,**	**58.35**	**70**	P	**P**	**03 34 39.5**	**-0.8**
	baz=314,SNR=15						
X43A	**Marvell**	**58.38**	**73**	P	**P**	**03 34 39.7**	**-0.8**
	baz=314,SNR=35						
240A	**Hunter Patters**	**58.40**	**77**	P	**P**	**03 34 40.1**	**-0.6**
	baz=315,SNR=7.7						
339A	**Huntington**	**58.42**	**78**	P	**P**	**03 34 40.4**	**-0.4**
	baz=315						
WCI	**Wyandotte Cave**	**58.46**	**67**	*e*P	**P**	**03 34 40.1**	**-1.0**
WCI				pmax	pmax		
	comp=Z,264nm,1.3s						
WCI				MLR	MLR		
	comp=Z,2μm,19.0s						
WCI	**Wyandotte Cave**	**58.46**	**67**	*e*P	**P**	**03 34 40.1**	**-1.0**
	comp=Z,264nm,1.3s						
WCI				LR	LR		
	comp=Z,2μm,19.0s						
141A	**Papa Simpson,**	**58.52**	**76**	P	**P**	**03 34 41.4**	**-0.1**
	baz=315,SNR=12						
MET	**Memphis--Engin**	**58.52**	**72**	*e*P	**P**	**03 34 40.9**	**-0.5**
	comp=Z,768nm,0.6s						
W44A	**Shelby Farms P**	**58.58**	**72**	P	**P**	**03 34 41.2**	**-0.6**
	baz=314,SNR=13						
736A	**Circle Diamond**	**58.59**	**82**	P	**P**	**03 34 42.8**	**+0.8**
	baz=316,SNR=42						
736A	**Circle Diamond**	**58.59**	**82**	*e*P	**P**	**03 34 42.9**	**+0.8**
	comp=Z,111nm,0.6s						
835A	**Beeville**	**58.60**	**83**	P	**P**	**03 34 43.0**	**+1.0**
	baz=316,SNR=38						
835A	**Beeville**	**58.60**	**83**	*e*P	**P**	**03 34 43.1**	**+1.0**
	comp=Z,175nm,0.6s						
835A				LR	LR		
	comp=Z,4μm,21.0s						
Z42A	**Norrel Spur, H**	**58.62**	**75**	P	**P**	**03 34 41.6**	**-0.6**
	baz=315,SNR=14						
HKT	**Hockley**	**58.63**	**81**	*e*P	**P**	**03 34 42.2**	**0.0**
HKT				pmax	pmax		
	comp=Z,344nm,1.6s						
HKT				MLR	MLR		
	comp=Z,2μm,18.0s						
HKT	**Hockley**	**58.63**	**81**	*e*P	**P**	**03 34 42.2**	**0.0**
	comp=Z,344nm,1.6s						
HKT				LR	LR		
	comp=Z,2μm,18.0s						
538A	**Harpers Horsep**	**58.64**	**80**	P	**P**	**03 34 43.0**	**+0.6**
	baz=316						
V45A	**Humboldt**	**58.66**	**71**	P	**P**	**03 34 41.5**	**-0.9**
	baz=314,SNR=16						
KTK1	**Kautokeino**	**58.66**	**354**	*e*P	**P**	**03 34 40.6**	**-1.3**
KTK1				IAmb	IAmb	03 34 45.1	
	comp=Z,376nm,2.8s						
LVZ	**Lovozero**	**58.66**	**349**	*ce*P	**P**	**03 34 41.5**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,117nm,1.0s						
LVZ	**Lovozero**	**58.66**	**349**	*e*P	**P**	**03 34 40.2**	**-1.8**
	comp=Z,87nm,0.7s						
LVZ				LR	LR		
	comp=Z,2μm,20.0s						
934A	**Benavides**	**58.67**	**84**	P	**P**	**03 34 43.1**	**+0.6**
	baz=316,SNR=48						
439A	**Center Grove,**	**58.68**	**79**	P	**P**	**03 34 42.6**	**0.0**
	baz=316						
637A	**Eagle Lake**	**58.69**	**81**	P	**P**	**03 34 43.0**	**+0.3**
	baz=316,SNR=13						
PLVO	**Plevna**	**58.73**	**56**	*e*P	**P**	**03 34 42.7**	**-0.1**
	comp=Z,259nm,1.5s						
PLVO				LR	LR		
	comp=Z,4μm,18.0s						
340A	**Bronson**	**58.77**	**78**	P	**P**	**03 34 43.0**	**-0.2**
	baz=315,SNR=20						
Y43A	**Makayla and Ka**	**58.78**	**74**	P	**P**	**03 34 42.8**	**-0.5**
	baz=315,SNR=17						
X44A	**Crenshaw**	**58.83**	**73**	P	**P**	**03 34 42.7**	**-0.9**
	baz=315,SNR=47						
EBZ	**Ebenezer Churc**	**58.85**	**72**	*e*P	**P**	**03 34 43.5**	**-0.2**
241A	**Mo Tay, Goldon**	**58.92**	**77**	P	**P**	**03 34 44.4**	**+0.1**
	baz=315,SNR=24						
ACSO	**Alum Creek Sta**	**58.93**	**63**	*e*P	**P**	**03 34 43.5**	**-0.7**
	comp=Z,76nm,0.8s						
ACSO				LR	LR		
	comp=Z,2μm,21.0s						
W45A	**Hickory Valley**	**58.93**	**72**	P	**P**	**03 34 43.8**	**-0.6**
	baz=315,SNR=28						
034A	**Hebbronville**	**58.95**	**85**	P	**P**	**03 34 44.9**	**+0.3**
	baz=317,SNR=47						
WVT	**Waverly**	**59.04**	**70**	*e*P	**P**	**03 34 44.2**	**-0.9**
WVT				pmax	pmax		
	comp=Z,105nm,0.7s						
WVT	**Waverly**	**59.04**	**70**	*e*P	**P**	**03 34 44.2**	**-0.9**
	comp=Z,104nm,0.7s						
Z43A	**Armstrong Fami**	**59.08**	**75**	P	**P**	**03 34 45.0**	**-0.4**
	baz=315,SNR=13						
KVTX	**Kingsville**	**59.09**	**84**	*e*P	**P**	**03 34 46.8**	**+1.3**
	comp=Z,148nm,0.7s						
737A	**Port Lavaca**	**59.10**	**82**	P	**P**	**03 34 46.6**	**+1.0**
	baz=316						
APA	**Apatity**	**59.12**	**349**	⇓*i*P	**P**	**03 34 44.2**	**-0.9**
APA				*i*		03 35 32.4	
APA				*i* S	**S**	**03 42 43.0**	**-5.3**
APA				*i* PS	**PnS**	**03 42 58.0**	**-7.8**
APA				*i* SSS	SSS	03 49 06.0	
APA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,2μm,15.0s						
142A	**Monroe**	**59.13**	**76**	P	**P**	**03 34 45.4**	**-0.3**
	baz=315						
TRQ	**Mont Tremblant**	**59.17**	**53**	*e*P	**P**	**03 34 44.8**	**-1.1**
Y44A	**Strider, Charl**	**59.17**	**73**	P	**P**	**03 34 45.4**	**-0.6**
	baz=315,SNR=22						
539A	**Cross D Ranch,**	**59.19**	**80**	P	**P**	**03 34 46.6**	**+0.4**
	baz=316						
440A	**Kirbyville**	**59.20**	**79**	P	**P**	**03 34 46.6**	**+0.4**
	baz=316,SNR=9.4						
HEF	**Hetta**	**59.23**	**353**	*e*P	**P**	**03 34 45.5**	**-0.4**
GTA	**Gaotai**	**59.23**	**296**	*e*P	**P**	**03 34 45.9**	**-0.6**
GTA				pP	pP	03 35 02.4	+2.3
GTA				sP	sP	03 35 08.5	+2.8
GTA				S	**S**	**03 42 47.8**	**-2.9**
GTA				sS	sS	03 43 14.5	+1.0
GTA				ScS	**ScS**	**03 44 29.6**	**-2.7**
GTA				SS	**SS**	**03 46 44.8**	**-0.3**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,170nm,4.7s						
GTA				LR	LR		
	comp=Z,3μm,19.5s						
GTA				LR	LR		
	comp=Z,3μm,21.4s						
GTA				LR	LR		
	comp=Z,4μm,22.3s						
638A	**Rosharon**	**59.24**	**81**	P	**P**	**03 34 47.2**	**+0.7**
	baz=316						
ERPA	**Erie**	**59.24**	**60**	*e*P	**P**	**03 34 46.1**	**-0.3**
	comp=Z,171nm,0.8s						
ERPA				LR	LR		
	comp=Z,4μm,19.0s						
OXF	**Oxford**	**59.25**	**72**	*e*P	**P**	**03 34 45.8**	**-0.7**
OXF				*e*S	**S**	**03 42 48.7**	**-2.2**
OXF	**Oxford**	**59.25**	**72**	*e*P	**P**	**03 34 45.8**	**-0.7**
	comp=Z,3μm,2.0s						
OXF				*e*S	**S**	**03 42 48.7**	**-2.2**
341A	**Kurthwood**	**59.26**	**77**	P	**P**	**03 34 46.5**	**-0.1**
	baz=316,SNR=23						
LZH	**Lanzhou**	**59.26**	**290**	⇑P	**P**	**03 34 47.3**	**+0.5**
LZH				pP	sP	03 35 03.3	-2.7
LZH				sP	pP	03 35 10.3	+10
LZH				PP	**PP**	**03 37 00.1**	**+2.4**
LZH				S	**S**	**03 42 48.0**	**-3.3**
LZH				sS	sS	03 43 14.8	+0.7
LZH				pmax	pmax		
	comp=Z,99nm,1.3s						
LZH				pmax	pmax		
	comp=Z,550nm,7.2s						
LZH				LR	LR		
	comp=Z,3μm,17.5s						
LZH				LR	LR		
	comp=Z,2μm,17.0s						
LZH				LR	LR		
	comp=Z,4μm,19.2s						
BUF	**Buffalo**	**59.28**	**59**	*e*P	**P**	**03 34 46.9**	**+0.3**
X45A	**UM Field Stati**	**59.32**	**72**	P	**P**	**03 34 46.0**	**-1.0**
	baz=315,SNR=48						
143A	**Socs Landing,**	**59.35**	**75**	P	**P**	**03 34 46.9**	**-0.3**
	baz=315,SNR=24						
242A	**Grayson**	**59.35**	**76**	P	**P**	**03 34 47.1**	**-0.2**
	baz=315,SNR=28						
035A	**Encino**	**59.40**	**85**	P	**P**	**03 34 48.2**	**+0.5**
	baz=317,SNR=29						
ALLY	**Alegheny Colle**	**59.49**	**60**	*e*P	**P**	**03 34 48.0**	**-0.1**
	comp=Z,330nm,0.9s						
Z44A	**Pea Ridge, Bel**	**59.52**	**74**	P	**P**	**03 34 47.6**	**-0.7**
	baz=315,SNR=20						
738A	**Farr-Stevens R**	**59.53**	**81**	P	**P**	**03 34 48.8**	**+0.2**
	baz=316						
540A	**Vidor**	**59.57**	**79**	P	**P**	**03 34 49.7**	**+0.9**
	baz=316						
Y45A	**Yeager Farm, C**	**59.63**	**73**	P	**P**	**03 34 48.3**	**-0.8**
	baz=315,SNR=27						
441A	**DeRidder**	**59.66**	**78**	P	**P**	**03 34 49.5**	**+0.1**
	baz=316						
PLAL	**Pickwick Lake**	**59.70**	**71**	*e*P	**P**	**03 34 48.2**	**-1.4**
	comp=Z,254nm,0.6s						
ZAIG	**Zacatecas**	**59.70**	**91**	*e*P	**P**	**03 34 49.4**	**-0.8**
	comp=Z,48nm,1.1s						
342A	**Flagon Creek P**	**59.74**	**77**	P	**P**	**03 34 49.8**	**-0.1**
	baz=316,SNR=11						
035Z	**Hargill**	**59.77**	**85**	P	**P**	**03 34 50.2**	**0.0**
	baz=317,SNR=14						
M54A	**Oil Creek Stat**	**59.84**	**60**	P	**P**	**03 34 50.0**	**-0.5**
	baz=315,SNR=27						
243A	**Waterproof**	**59.88**	**76**	P	**P**	**03 34 51.0**	**+0.1**
	baz=316,SNR=17						
Z45A	**Winona**	**59.89**	**73**	P	**P**	**03 34 50.3**	**-0.7**
	baz=315,SNR=16						
MMNY	**Mt. Morris Dam**	**59.91**	**58**	*e*P	**P**	**03 34 51.1**	**+0.2**
144A	**Alexander Plac**	**59.98**	**74**	P	**P**	**03 34 51.3**	**-0.3**
	baz=315,SNR=11						
LOF	**Lofoten**	**59.99**	**358**	*e*P	**P**	**03 34 50.2**	**-0.9**
LOF				*e*S	**S**	**03 42 60.0**	**+0.6**
Y46A	**Houston**	**60.02**	**72**	P	**P**	**03 34 51.1**	**-0.8**
	baz=315,SNR=115						
ENH	**Enshi**	**60.02**	**282**	*e*P	**P**	**03 34 51.7**	**-0.3**
	comp=Z,43nm,0.9s						
ENH				LR	LR		
	comp=Z,2μm,21.0s						
LNIG	**Linares**	**60.05**	**87**	*e*P	**P**	**03 34 50.1**	**-2.1**
	comp=Z,36nm,0.7s						
N54A	**Moraine State**	**60.05**	**61**	P	**P**	**03 34 51.3**	**-0.7**
	baz=315,SNR=36						
STEI	**Steigen**	**60.14**	**357**	*e*P	**P**	**03 34 50.9**	**-1.3**
STEI				IAmb	IAmb	03 34 53.1	
	comp=Z,49nm,0.7s						
442A	**Mamou**	**60.14**	**77**	P	**P**	**03 34 53.3**	**+0.6**
	baz=316,SNR=7.5						
541A	**Lake Charles**	**60.15**	**79**	P	**P**	**03 34 53.5**	**+0.7**
	baz=316						
VBMS	**Vicksburg**	**60.22**	**75**	P	**P**	**03 34 52.8**	**-0.4**
	baz=316,SNR=9.5						
VBMS	**Vicksburg**	**60.22**	**75**	*e*P	**P**	**03 34 53.0**	**-0.1**
	comp=Z,188nm,0.8s						
343A	**Vidalia**	**60.23**	**76**	P	**P**	**03 34 53.0**	**-0.2**
	baz=316						
244A	**Avery, Jackson**	**60.24**	**75**	P	**P**	**03 34 53.2**	**-0.1**
	baz=316,SNR=65						
LONY	**Lake Ozonia**	**60.28**	**55**	*e*P	**P**	**03 34 52.7**	**-0.8**
	comp=Z,61nm,0.8s						
LONY				LR	LR		
	comp=Z,2μm,21.0s						
145A	**Houston Renfro**	**60.29**	**74**	P	**P**	**03 34 53.2**	**-0.5**
	baz=316,SNR=40						
Z46A	**Louisville**	**60.46**	**73**	P	**P**	**03 34 54.3**	**-0.5**
	baz=316,SNR=25						
542A	**Morse**	**60.49**	**78**	P	**P**	**03 34 56.0**	**+0.9**
	baz=316						
443A	**Delano Plantat**	**60.50**	**77**	P	**P**	**03 34 55.3**	**+0.1**
	baz=316						
Y47A	**UCPARC, Winfie**	**60.60**	**72**	P	**P**	**03 34 54.7**	**-1.0**
	baz=315,SNR=91						
FRNY	**Flat Rock**	**60.63**	**54**	*e*P	**P**	**03 34 54.6**	**-1.3**
	comp=Z,68nm,1.0s						
FRNY				LR	LR		
	comp=Z,3μm,21.0s						
344A	**Westbrook Farm**	**60.63**	**76**	P	**P**	**03 34 56.2**	**+0.1**
	baz=316,SNR=38						
245A	**Little AP, Sta**	**60.72**	**75**	P	**P**	**03 34 56.2**	**-0.4**
	baz=316,SNR=39						
SWET	**Sewanee**	**60.78**	**69**	*e*P	**P**	**03 34 55.7**	**-1.4**
	comp=Z,70nm,0.7s						
146A	**Union**	**60.79**	**74**	P	**P**	**03 34 56.6**	**-0.5**
	baz=316,SNR=32						
NCB	**Newcomb**	**60.93**	**55**	*e*P	**P**	**03 34 57.4**	**-0.5**
	comp=Z,0.5nm,0.7s						
543A	**St. Martinvill**	**60.94**	**78**	P	**P**	**03 34 58.9**	**+0.8**
	baz=316						
Z47A	**Carrollton**	**60.97**	**72**	P	**P**	**03 34 57.3**	**-1.0**
	baz=316,SNR=188						
MCWV	**Mont Chateau**	**61.05**	**62**	*e*P	**P**	**03 34 58.4**	**-0.4**
	comp=Z,61nm,0.9s						
MCWV				LR	LR		
	comp=Z,3μm,18.0s						
Z48A	**Northport**	**61.14**	**72**	P	**P**	**03 34 58.2**	**-1.3**
	baz=316,SNR=122						
444A	**Pine Grove**	**61.15**	**76**	P	**P**	**03 34 59.8**	**+0.3**
	baz=316,SNR=6.4						
345A	**Thompson Farm,**	**61.16**	**75**	P	**P**	**03 34 59.3**	**-0.3**
	baz=316,SNR=13						
246A	**Jackson Lee, B**	**61.19**	**74**	P	**P**	**03 34 59.2**	**-0.6**
	baz=316						
147A	**Livingston**	**61.22**	**73**	P	**P**	**03 34 59.5**	**-0.6**
	baz=316,SNR=44						
O56A	**Blue Knob Stat**	**61.31**	**61**	P	**P**	**03 34 59.9**	**-0.7**
	baz=316,SNR=46						
544A	**White Castle**	**61.34**	**77**	P	**P**	**03 35 01.1**	**+0.3**
	baz=316						
445A	**Amite**	**61.39**	**76**	P	**P**	**03 35 01.2**	**+0.1**
	baz=316,SNR=8.7						
SSPA	**Standing Stone**	**61.41**	**60**	*e*P	**P**	**03 35 00.9**	**-0.3**
	comp=Z,143nm,0.8s						
SSPA				LR	LR		
	comp=Z,5μm,19.0s						
CPCT	**Cooper Cave**	**61.42**	**68**	*e*P	**P**	**03 35 00.2**	**-1.2**
	comp=Z,70nm,0.6s						
MDV	**Middlebury**	**61.43**	**54**	*e*P	**P**	**03 35 00.2**	**-1.0**
346A	**Big Creek Wild**	**61.44**	**75**	P	**P**	**03 35 01.0**	**-0.4**
	baz=316,SNR=13						
247A	**Quitman**	**61.47**	**74**	P	**P**	**03 35 01.5**	**-0.1**
	baz=316,SNR=57						
KURK	**Kurchatov**	**61.53**	**317**	*ce*P	**P**	**03 35 01.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,372nm,0.7s						
KURK	**Kurchatov**	**61.53**	**317**	*e*P	**P**	**03 35 01.5**	**-0.3**
	comp=Z,109nm,0.6s						
KURK				*e*S	**S**	**03 43 22.8**	**+3.3**
KURK				LR	LR		
	comp=Z,2μm,22.0s						
KURK	**Kurchatov**	**61.53**	**317**	P	**P**	**03 35 01.9**	**0.0**
	SNR=29						
KURK	**Kurchatov**	**61.53**	**317**	P	**P**	**03 35 01.9**	**0.0**
	SNR=29						
ACCN	**Adirondack Com**	**61.63**	**55**	*e*P	**P**	**03 35 02.2**	**-0.4**
	comp=Z,272nm,1.5s						
ACCN				LR	LR		
	comp=Z,2μm,19.0s						
KONS	**Konsvik**	**61.63**	**358**	*e*P	**P**	**03 35 01.2**	**-1.0**
KONS				IAmb	IAmb	03 35 03.4	
	comp=Z,34nm,1.0s						
KURBB	**Kurchatov Arra**	**61.63**	**317**	PKP2bc	P'P'df	04 04 07.6	-11
	comp=Z,0.4nm,0.5s,baz=228,slow=2.4,SNR=4.8						
TKL	**Tuckaleechee C**	**61.70**	**68**	*e*P	**P**	**03 35 02.3**	**-1.0**
TKL				pmax	pmax		
	comp=Z,85nm,0.7s						
TKL	**Tuckaleechee C**	**61.70**	**68**	*e*P	**P**	**03 35 02.3**	**-1.0**
	comp=Z,85nm,0.7s						
LRAL	**Lakeview Retre**	**61.71**	**72**	*e*P	**P**	**03 35 01.9**	**-1.4**
	comp=Z,90nm,0.8s						
TMCR	**Tamitsa**	**61.73**	**346**	*e*P	**P**	**03 35 02.0**	**-0.9**
TMCR				pmax	pmax		
	comp=Z,35nm,0.8s						
545A	**Edgard**	**61.79**	**77**	P	**P**	**03 35 04.6**	**+0.7**
	baz=316						
STOK	**Stokkvaagen**	**61.80**	**358**	*e*P	**P**	**03 35 03.0**	**-0.4**
STOK				IAmb	IAmb	03 35 04.3	
	comp=Z,84nm,0.8s						
STOK				IAmb	IAmb	03 35 04.3	
	comp=N,41nm,0.8s						
KSPA	**Keystone Colle**	**61.87**	**58**	PFAKE		03 35 20.0	+16
KSPA				LR	LR		
	comp=Z,4μm,18.0s						
LBNH	**Lisbon**	**61.88**	**53**	*e*P	**P**	**03 35 03.8**	**-0.6**
LBNH				pmax	pmax		
	comp=Z,77nm,0.8s						
LBNH				MLR	MLR		
	comp=Z,4μm,22.0s						
LBNH	**Lisbon**	**61.88**	**53**	*e*P	**P**	**03 35 03.8**	**-0.6**
	comp=Z,77nm,0.8s						
LBNH				LR	LR		
	comp=Z,4μm,22.0s						
SOKR	**Solikamsk**	**61.92**	**334**	*c i*P	**P**	**03 35 02.9**	**-1.3**
SOKR				S	**S**	**03 43 28.3**	**+4.2**
SOKR				pmax	pmax		
	comp=Z,100nm,1.0s						
SOKR				MLR	MLR		
	comp=Z,2μm,19.0s						
446A	**Poplarville**	**61.92**	**75**	P	**P**	**03 35 04.4**	**-0.4**
	baz=316,SNR=10.0						
MOR8	**Moi Rana**	**61.93**	**357**	*e*P	**P**	**03 35 02.0**	**-2.3**
MOR8				IAmb	IAmb	03 35 03.5	
	comp=Z,50nm,0.6s						
MOR8				*e*S	**S**	**03 43 24.2**	**0.0**
248A	**Dixon Mills**	**61.95**	**73**	P	**P**	**03 35 04.6**	**-0.3**
	baz=316,SNR=150						
347A	**Saraland**	**61.97**	**74**	P	**P**	**03 35 04.8**	**-0.3**
	baz=316,SNR=80						
PQI	**Presque Isle**	**61.99**	**49**	*e*P	**P**	**03 35 04.0**	**-1.0**
	comp=Z,190nm,0.7s						
PQI				LR	LR		
	comp=Z,5μm,19.0s						
HNH	**Hanover**	**62.09**	**54**	*e*P	**P**	**03 35 05.4**	**-0.3**
	comp=Z,130nm,1.4s						
HNH				LR	LR		
	comp=Z,3μm,21.0s						
TRY	**Troy**	**62.10**	**56**	*e*P	**P**	**03 35 05.7**	**-0.2**
	comp=Z,55nm,0.8s						
TRY				LR	LR		
	comp=Z,3μm,18.0s						
546A	**Slidell**	**62.11**	**76**	P	**P**	**03 35 05.9**	**-0.2**
	baz=316						
645A	**Chauvin**	**62.15**	**77**	P	**P**	**03 35 06.7**	**+0.4**
	baz=317						
N59A	**State Game Lan**	**62.33**	**58**	P	**P**	**03 35 07.2**	**-0.1**
	baz=316,SNR=40						
447A	**Lucedale**	**62.34**	**75**	P	**P**	**03 35 07.3**	**-0.3**
	baz=316,SNR=23						
348A	**Jackson**	**62.34**	**74**	P	**P**	**03 35 07.4**	**-0.2**
	baz=316,SNR=20						
PKME	**Peaks-Kenny Pk**	**62.42**	**51**	*e*P	**P**	**03 35 07.4**	**-0.5**
	comp=Z,153nm,0.9s						
PKME				LR	LR		
	comp=Z,7μm,19.0s						
WMQ	**Urumqi**	**62.47**	**307**	P	**P**	**03 35 10.0**	**+1.6**
WMQ				pP	pP	03 35 24.8	+2.7
WMQ				sP	sP	03 35 35.3	+7.6
WMQ				PcP	**PcP**	**03 35 48.4**	**+1.1**
WMQ				S	**S**	**03 43 32.8**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,36nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,700nm,4.1s						
WMQ				LR	LR		
	comp=Z,2μm,21.7s						
WMQ				LR	LR		
	comp=Z,2μm,21.7s						
WMQ				LR	LR		
	comp=Z,3μm,24.5s						
BLA	**Blacksburg**	**62.48**	**64**	*e*P	**P**	**03 35 08.4**	**-0.1**
BLA				pmax	pmax		
	comp=Z,172nm,0.7s						
BLA	**Blacksburg**	**62.48**	**64**	*e*P	**P**	**03 35 08.4**	**-0.1**
	comp=Z,172nm,0.7s						
646A	**Port Sulphur**	**62.52**	**76**	P	**P**	**03 35 09.4**	**+0.6**
	baz=317						
FFD	**Franklin Falls**	**62.58**	**54**	*e*P	**P**	**03 35 08.8**	**-0.2**
	comp=Z,93nm,0.8s						
FFD				LR	LR		
	comp=Z,4μm,21.0s						
BG3	**Lake Jocassee**	**62.66**	**68**	*e*P	**P**	**03 35 09.1**	**-0.6**
	comp=Z,99nm,0.7s						
MVL	**Millersville**	**62.68**	**59**	*e*P	**P**	**03 35 09.5**	**-0.2**
	comp=Z,51nm,0.8s						
VWCC	**Virginia Weste**	**62.70**	**64**	*e*P	**P**	**03 35 09.3**	**-0.6**
448A	**Bay Minette**	**62.72**	**74**	P	**P**	**03 35 09.8**	**-0.3**
	baz=317,SNR=6.1						
WVL	**Waterville**	**62.76**	**52**	*e*P	**P**	**03 35 09.6**	**-0.6**
	comp=Z,113nm,0.8s						
WVL				LR	LR		
	comp=Z,6μm,19.0s						
ODNJ	**Ogdensburg**	**62.81**	**57**	*e*P	**P**	**03 35 10.6**	**0.0**
	comp=Z,79nm,0.9s						
ODNJ				LR	LR		
	comp=Z,3μm,18.0s						
SDMD	**Soldier's Deli**	**62.85**	**60**	*e*P	**P**	**03 35 10.5**	**-0.4**
	comp=Z,58nm,0.8s						
SDMD				LR	LR		
	comp=Z,2μm,18.0s						
MK31	**Makanchi Array**	**62.85**	**312**	*i* P	**P**	**03 35 09.8**	**-1.0**
MK31				pmax	pmax		
	comp=Z,22nm,0.7s						
MK31	**Makanchi Array**	**62.85**	**312**	*e*P	**P**	**03 35 10.3**	**-0.5**
MK32	**Makanchi Array**	**62.85**	**312**	*e*P	**P**	**03 35 10.1**	**-0.7**
MKAR	**Makanchi Array**	**62.85**	**312**	P	**P**	**03 35 10.1**	**-0.7**
	comp=Z,32nm,0.7s,baz=49,slow=6.3,SNR=110						
MKAR				LR	LR	04 03 29.5	
	comp=Z,2μm,20.1s,baz=35,slow=37						
MKAR				PKP2bc		04 04 18.2	
	comp=Z,0.7nm,0.6s,baz=232,slow=6.0,SNR=5.8						
MKAR	**Makanchi Array**	**62.85**	**312**	*e*P	**P**	**03 35 10.3**	**-0.5**
	comp=Z,151nm,0.6s						
MOIG	**Morelia**	**62.86**	**93**	*e*P	**P**	**03 35 11.2**	**-0.2**
	comp=Z,559nm,1.8s						
MOIG				LR	LR		
	comp=Z,2μm,21.0s						
GZH	**Guangzhou**	**62.90**	**273**	P	**P**	**03 35 08.9**	**-2.4**
GZH				S	**S**	**03 43 31.8**	**-5.6**
GZH				SS	**SS**	**03 47 41.4**	**-1.5**
GZH				LR	LR		
	comp=Z,3μm,24.1s						
MAKZ	**Makanchi**	**62.98**	**312**	*e*P	**P**	**03 35 11.1**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,24nm,0.6s						
MAKZ				MLR	MLR		
	comp=Z,3μm,20.0s						
MAKZ	**Makanchi**	**62.98**	**312**	*e*P	**P**	**03 35 11.1**	**-0.6**
	comp=Z,24nm,0.6s						
MAKZ				LR	LR		
	comp=Z,3μm,20.0s						
CD2	**Chengdu**	**62.99**	**286**	P	**P**	**03 35 12.0**	**0.0**
CD2				pP	pP	03 35 28.0	+2.3
CD2				PcS	**PcS**	**03 39 49.6**	**-3.7**
CD2				S	**S**	**03 43 37.5**	**-1.1**
CD2				sS	sS	03 44 05.0	+3.4
CD2				SS	**SS**	**03 47 44.6**	**+0.4**
CD2				pmax	pmax		
	comp=Z,160nm,0.7s						
CD2				pmax	pmax		
	comp=Z,540nm,5.1s						
CD2				LR	LR		
	comp=Z,2μm,22.4s						
CD2				LR	LR		
	comp=Z,3μm,20.4s						
CD2				LR	LR		
	comp=Z,3μm,21.9s						
BVA0	**Borovoye Array**	**63.00**	**323**	P	**P**	**03 35 11.8**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,87nm,0.6s						
BVAR	**Borovoye Array**	**63.00**	**323**	PKP2bc	**P'P'df**	**04 04 15.0**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=242,slow=3.2,SNR=4.5						
BVAR				LR	LR	04 05 05.9	
	comp

comp=Z,2μm,18.0s
IP04 Greenspring 63.12 62 *e*P **P 03 35 12.9 +0.3**
comp=Z,188nm,1.2s
IP04 LR LR
comp=Z,5μm,18.0s
SVE Sverdlovsk 63.17 331 *d i*P **P 03 35 13.4 +0.7**
SVE *e*S **S 03 43 35.2 -4.8**
SVE pmax pmax
comp=Z,88nm,0.8s
SVE MLR MLR
comp=Z,1μm,20.0s
PSUB Penn St. - Bra 63.21 59 *e*P **P 03 35 12.6 -0.6**
comp=Z,50nm,0.7s
PSUB LR LR
comp=Z,4μm,18.0s
IP03 Louisa 63.22 62 *e*P **P 03 35 13.6 +0.3**
comp=Z,190nm,1.1s
IP03 LR LR
comp=Z,4μm,18.0s
PAL Palisades 63.23 57 *e*P **P 03 35 13.4 +0.1**
PAL pmax pmax
comp=Z,161nm,0.9s
PAL MLR MLR
comp=Z,4μm,18.0s
PAL Palisades 63.23 57 *e*P **P 03 35 13.4 +0.1**
comp=Z,161nm,0.9s
PAL LR LR
comp=Z,4μm,18.0s
IP07 Quail 63.28 62 *e*P **P 03 35 14.0 +0.3**
comp=Z,178nm,0.6s
IP07 LR LR
comp=Z,5μm,18.0s
CVRD Centerville Ro 63.30 62 PFAKE 03 35 30.0 +16
CVRD LR LR
comp=Z,4μm,18.0s
IP06 Yanceyville 63.30 62 *e*P **P 03 35 14.0 +0.2**
comp=Z,134nm,0.6s
IP06 LR LR
comp=Z,5μm,18.0s
IP01 Cuckoo 63.32 62 *e*P **P 03 35 14.2 +0.2**
comp=Z,126nm,1.1s
IP01 LR LR
comp=Z,4μm,18.0s
HRV Adam Dziewonsk 63.33 55 *e*P **P 03 35 13.9 -0.1**
HRV pmax pmax
comp=Z,92nm,1.0s
HRV MLR MLR
comp=Z,2μm,21.0s
HRV Adam Dziewonsk 63.33 55 *e*P **P 03 35 13.9 -0.1**
comp=Z,92nm,1.0s
HRV LR LR
comp=Z,2μm,21.0s
PTRD Partlow Road 63.36 62 PFAKE 03 35 30.0 +16
PTRD LR LR
comp=Z,3μm,19.0s
CPNY Central Park 63.36 57 *e*P **P 03 35 14.3 +0.1**
comp=Z,106nm,0.8s
SPFD Spotsylvania F 63.40 62 *e*P **P 03 35 14.3 -0.2**
comp=Z,93nm,1.0s
SPFD LR LR
comp=Z,3μm,20.0s
CBN Corbin Frederi 63.43 61 *e*P **P 03 35 14.6 -0.1**
comp=Z,330nm,1.6s
KMSC Kings Mountain 63.46 66 P **P 03 35 14.3 -0.7**
baz=317,SNR=86
KMSC Kings Mountain 63.46 66 *e*P **P 03 35 14.4 -0.6**
comp=Z,210nm,0.6s
GOGA Godfrey 63.49 69 *e*P **P 03 35 13.7 -1.5**
GOGA pmax pmax
comp=Z,140nm,0.8s
GOGA Godfrey 63.49 69 *e*P **P 03 35 13.7 -1.5**
comp=Z,140nm,0.8s
IP05 Hopewell Churc 63.50 62 *e*P **P 03 35 15.1 0.0**
comp=Z,109nm,0.6s
IP05 LR LR
comp=Z,4μm,18.0s
YLE Yale 63.51 56 *e*P **P 03 35 15.4 +0.3**
comp=Z,74nm,0.9s
YLE LR LR
comp=Z,6μm,19.0s
JSRW J. Sargeant Re 63.53 62 *e*P **P 03 35 15.1 -0.3**
WES Weston 63.54 54 *e*P **P 03 35 15.2 -0.1**
WES pmax pmax
comp=Z,198nm,0.8s
WES Weston 63.54 54 *e*P **P 03 35 15.2 -0.1**
comp=Z,198nm,0.8s
HODGE Hodges 63.59 68 *e*P **P 03 35 15.1 -0.7**
comp=Z,162nm,0.6s
BCX Boston College 63.65 54 *e*P **P 03 35 15.7 -0.4**
comp=Z,658nm,1.8s
GGN Saint George 63.69 50 *e*P **P 03 35 15.7 -0.6**
comp=Z,151nm,0.7s
GGN LR LR
comp=Z,5μm,19.0s
EMMW East Machias 63.70 50 *e*P **P 03 35 15.9 -0.5**
comp=Z,232nm,0.7s
EMMW LR LR
comp=Z,7μm,18.0s
BRYW Bryant College 63.77 55 *e*P **P 03 35 16.7 -0.3**
comp=Z,360nm,1.6s
URVA University of 63.80 62 *e*P **P 03 35 17.0 -0.2**
MANU Manus Island 64.00 227 *e*P **P 03 35 19.1 +0.4**
comp=Z,25nm,0.8s
MANU LR LR
comp=Z,700nm,19.0s
LMN Caledonia Moun 64.08 48 *e*P **P 03 35 18.6 -0.4**
comp=Z,438nm,0.7s
LMN LR LR
comp=Z,6μm,21.0s
ARU Arti 64.12 332 LR LR 04 06 32.9
comp=Z,997nm,18.6s,baz=29,slow=39
ARU Arti 64.12 332 *c i*P **P 03 35 18.4 -0.6**
ARU *PP **pP 03 35 34.2 +1.5**
ARU S **S 03 43 52.2 +0.4**
ARU SS **SS 03 47 59.6 -0.8**
ARU pmax pmax
comp=Z,102nm,0.6s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 64.12 332 *e*P **P 03 35 18.6 -0.4**
comp=Z,121nm,0.6s
JSC Jenkinsville 64.12 67 *e*P **P 03 35 18.9 -0.4**
JSC pmax pmax
comp=Z,162nm,0.6s
JSC Jenkinsville 64.12 67 *e*P **P 03 35 18.9 -0.4**
comp=Z,162nm,0.6s
UNM Universidad Na 64.36 91 PFAKE 03 35 30.0 +8.6
UNM LR LR
comp=Z,2μm,19.0s
GYA Guiyang 64.50 281⇑ *i*P **P 03 35 21.5 -0.5**
GYA pP sP 03 35 40.0 -1.4
GYA sP PcP 03 35 47.3 -8.6
GYA PcP pP 03 35 57.0 +21
GYA PP **PP 03 37 48.3 +4.3**
GYA ScP 03 39 53.0
GYA S **S 03 43 52.4 -5.1**
GYA sS sS 03 44 23.0 +2.4
GYA ScS **SKSac 03 45 08.6 -3.7**
GYA SS **SS 03 48 08.4 +0.4**
GYA pmax pmax
comp=Z,160nm,0.9s
GYA pmax pmax
comp=Z,370nm,6.2s
GYA LR LR
comp=Z,2μm,26.2s
GYA LR LR
comp=Z,1μm,26.0s
GYA LR LR
comp=Z,1μm,26.0s
KLMR Klimovskoe 64.60 344 *e*P **P 03 35 20.3 -1.7**
KLMR *e* 03 37 43.8
KLMR pmax pmax
comp=Z,37nm,1.0s
DRLN Deer Lake 64.63 41 PFAKE 03 35 40.0 +18
DRLN LR LR
comp=Z,5μm,18.0s
TIGA Tifton 64.86 71 P **P 03 35 22.8 -1.3**
baz=317,SNR=10
TIGA Tifton 64.86 71 *e*P **P 03 35 23.0 -1.2**
comp=Z,466nm,1.5s
TBLU Trondheim 64.94 359 *e*P **P 03 35 22.6 -1.6**
TBLU IAmb IAmb 03 35 23.8
comp=Z,49nm,0.7s
TGY Tagaytay City 65.03 261 LR LR 03 59 52.2
comp=Z,811nm,21.5s,baz=64,slow=32
CNNC Cliffs of the 65.31 64 *e*P **P 03 35 26.5 -0.6**
comp=Z,93nm,0.8s
CNNC LR LR
comp=Z,3μm,19.0s
NHSC New Hope 65.60 67 *e*P **P 03 35 29.3 +0.3**
comp=Z,379nm,0.6s
MOL Molde 65.64 0 *e*P **P 03 35 28.6 -0.1**
RGRS Roger Stewart 65.73 67 *e*P **P 03 35 30.0 +0.2**
comp=Z,4μm,0.5s
CSU Charleston Sou 65.75 67 *e*P **P 03 35 30.1 +0.2**
FIA1 FINESS Array S 65.87 351 *e*P **P 03 35 29.5 -0.8**
comp=Z,43nm,0.8s
FIA0 FINESS Array S 65.87 351 *e*P **P 03 35 29.0 -1.2**
FIA0 *e* 03 36 00.8
FIA0 FINESS Array S 65.87 351 *e*PcP **PcP 03 36 00.8 -0.1**
FIA0
FINES FINESS Array B 65.87 351 P **P 03 35 29.0 -1.2**
comp=Z,37nm,0.7s,baz=28,slow=8.6,SNR=81
FINES PcP **PcP 03 36 00.8 -0.1**
comp=Z,20nm,0.6s,baz=40,slow=6.2,SNR=7.6
FINES PKPPKP P'P'df 04 04 01.3 -11
comp=Z,1.7nm,0.7s,baz=126,slow=2.6,SNR=5.4
FINES LR LR 04 04 15.5
comp=Z,1μm,21.9s,baz=16,slow=36
FINES FINESS Array B 65.87 351 P **P 03 35 29.0 -1.2**
FINES 03 36 00.8
FINES pmax pmax
comp=Z,36nm,0.7s
HNR Honiara 65.94 211 P **P 03 35 30.6 -0.6**
comp=Z,78nm,0.3s,baz=20,slow=2.3,SNR=3.7
HNR Honiara 65.94 211 P **P 03 35 30.6 -0.6**
HNR pmax pmax
comp=Z,79nm,0.3s
HNR Honiara 65.94 211 *e*P **P 03 35 30.6 -0.6**
HNR LR LR
comp=Z,2μm,21.0s
AKN Aaknes 66.03 1 *e*P **P 03 35 30.7 -0.6**
TLIG Tlapa 66.08 92 *e*P **P 03 35 32.1 -0.2**
comp=Z,186nm,1.6s
TLIG LR LR
comp=Z,3μm,20.0s
DOMB Dombas 66.17 360 *e*P **P 03 35 31.2 -1.0**
TAOE Nuku Hiva Isla 66.55 146 *e*S **S 03 44 23.6 +1.0**
comp=Z,347nm,27.7s
TAOE Nuku Hiva Isla 66.55 146 *e*LR LR 03 55 31.0
comp=Z,4μm,23.6s,baz=350
TAOE Nuku Hiva Isla 66.55 146 *e*T T 04 47 58.7
comp=Z,152nm,0.2s
NC204 NORSAR Array S 66.92 359 *e*P **P 03 35 36.1 -0.9**
NC303 NORSAR Array S 66.96 358 *e*P **P 03 35 36.3 -0.9**
PUL Pulkovo 67.03 348 *e*P **P 03 35 37.9 +0.3**
PUL pmax pmax
comp=Z,62nm,0.9s
NC405 NORSAR Array S 67.07 358 *e*P **P 03 35 37.1 -0.8**
NB201 NORSAR Array S 67.14 358 *e*P **P 03 35 37.6 -0.7**
NB2 NORSAR Subarra 67.15 358 P **P 03 35 37.4 -1.0**
comp=Z,27nm,0.6s,baz=0.5,slow=6.5
NB2 NORSAR Subarra 67.15 358 P **P 03 35 37.4 -1.0**
baz=0.5,slow=6.5
NB2 NORSAR Subarra 67.15 358 P **P 03 35 37.4 -1.0**
NB2 pmax pmax
comp=Z,23nm,0.6s
NB200 NORSAR Array S 67.15 358 *e*P **P 03 35 37.5 -1.0**
NB200 *e*PcP **PcP 03 36 05.8 -0.4**
NB200 *e*PKiKP **PKiKP 03 42 03.3 -1.3**
NOA NORSAR Array B 67.15 358 P **P 03 35 37.5 -1.0**
comp=Z,30nm,0.7s,baz=1.6,slow=6.4,SNR=139
NOA PcP **PcP 03 36 05.8 -0.4**
comp=Z,13nm,0.7s,baz=354,slow=3.1,SNR=11
NOA PKiKP **PKiKP 03 42 03.3 -1.3**
comp=Z,0.6nm,0.7s,baz=14,slow=3.5,SNR=3.8
NOA PKP2bc 04 04 01.7
comp=Z,1.7nm,0.7s,baz=40,slow=3.6,SNR=5.7
NOA LR LR 04 05 16.8
comp=Z,490nm,20.7s,baz=5.0,slow=36
NBO00 NORSAR Array S 67.17 359 *e*P **P 03 35 39.0 +0.5**
NAO01 NORSAR Array S 67.35 359 *e*P **P 03 35 40.0 +0.3**
NC602 NORSAR Array S 67.45 358 *e*P **P 03 35 39.5 -0.8**
NC602 *e*S **S 03 44 34.2 +2.0**
NC602 NORSAR Array S 67.45 358 *e*P **P 03 35 39.8 -0.5**
JAY Jayapura 67.54 233 P **P 03 35 42.0 +0.5**
DAV Davao City (W) 67.80 252 PFAKE 03 36 00.0 +17
DAV LR LR
comp=Z,3μm,22.0s
KMI Kunming 67.85 283 P **P 03 35 44.8 +1.1**
KMI pP pP 03 36 00.1 +2.5
KMI sP PcP 03 36 07.6 -2.4
KMI PP **PP 03 38 14.6 +1.2**
KMI S **S 03 44 35.5 -3.0**
KMI sS sS 03 44 59.0 -2.7
KMI pmax pmax
comp=Z,130nm,0.9s
KMI pmax pmax
comp=Z,600nm,4.1s
KMI LR LR
comp=Z,2μm,21.4s
KMI LR LR
comp=Z,1μm,20.9s
KMI LR LR
comp=Z,2μm,25.2s
GENI Genyem 67.88 233 P **P 03 35 44.4 +0.8**
QIZ Qiongzhong 68.09 273 P P 03 35 58.9 +14
QIZ S **S 03 44 44.9 +3.9**
QIZ sS sS 03 45 08.6 +4.4
QIZ Qiongzhong 68.09 273 SS SS 03 49 05.9 +2.2
QIZ pmax pmax
comp=Z,59nm,1.7s
QIZ pmax pmax
comp=Z,390nm,6.2s
QIZ LR LR
comp=N,1μm,22.5s
QIZ LR LR
comp=Z,2μm,22.6s
QIZ Qiongzhong 68.09 273 *e*P **P 03 35 46.9 +1.9**
comp=Z,64nm,1.2s
QIZ LR LR
comp=Z,1μm,22.0s
KONO Kongsberg 68.56 359 *e*P **P 03 35 47.0 -0.3**
KONO *e* 03 43 10.8
KONO Kongsberg 68.56 359 *c e*P **P 03 35 47.3 0.0**
KONO pmax pmax
comp=Z,214nm,0.8s
KONO Kongsberg 68.56 359 *e*P **P 03 35 47.1 -0.3**
comp=Z,38nm,0.8s
DWPF Disney Wildern 68.57 72 *e*P **P 03 35 47.9 0.0**
comp=Z,231nm,0.7s
DWPF LR LR
comp=Z,2μm,19.0s
VSU Vasula 68.73 350 *c e*P **P 03 35 47.9 -0.4**
VSU pmax pmax
comp=Z,358nm,0.7s
TKM2 Tokmak 2 68.87 313 *i*P **P 03 35 49.6 -0.2**
TKM2 pmax pmax
comp=Z,38nm,0.7s
FRU Bishkek 69.38 314 *i*P **P 03 35 53.0 +0.3**
FRU pmax pmax
comp=Z,150nm,1.4s
FRU MLR MLR
comp=E,1μm,16.0s
AKTO Aktyubinsk 69.44 329 PKPPKP P'P'bc 04 03 56.5 -9.0
comp=E,1.3nm,0.6s,baz=73,slow=1.4,SNR=7.1
AKTO LR LR 04 09 27.8
comp=E,664nm,20.6s,slow=39
AAK Ala-Archa 69.59 314 LR LR 04 08 03.2
comp=E,2μm,21.5s,baz=22,slow=37
AAK Ala-Archa 69.59 314 *c e*P **P 03 35 54.0 -0.2**
AAK pmax pmax
comp=Z,196nm,0.9s
AAK Ala-Archa 69.59 314 *e*P **P 03 35 54.3 +0.2**
comp=Z,107nm,0.6s
AAK Ala-Archa 69.59 314 P **P 03 35 54.3 +0.2**
SNR=42
AAK Ala-Archa 69.59 314 P **P 03 35 54.3 +0.2**
SNR=42
MOS Moscow 69.76 343 *e*P **P 03 35 53.9 -0.9**
MOS *e* 03 36 12.8
MOS pmax pmax
comp=Z,66nm,0.9s
MOS MLR MLR
comp=Z,2μm,19.0s
AB31 Akbulak array 69.82 327 *c e*P **P 03 35 55.2 -0.1**
AB31 pmax pmax
comp=Z,34nm,0.7s
ABKAR Akbulak array 69.82 327 *e*P **P 03 35 54.8 -0.4**
comp=Z,343nm,0.6s
ABKAR LR LR
comp=Z,600nm,19.0s
HOMB Homborsund 69.95 360 *e*P **P 03 35 56.0 +0.1**
MSVF Nonsavu 70.13 190 P **P 03 35 58.7 +1.2**
MSVF pmax pmax
comp=Z,69nm,1.5s
MSVF Nonsavu 70.13 190 PFAKE 03 36 10.0 +13
MSVF LR LR
comp=Z,1μm,19.0s
VAH Vaihoa 70.30 155 *e*P **P 03 35 58.7 +0.2**
comp=Z,304nm,1.2s
TEIG Tepich 70.39 82 *e*P **P 03 35 58.5 -0.6**
comp=Z,26nm,1.3s
OBN Obninsk 70.55 343 LR LR 04 10 24.8
comp=Z,1μm,21.7s,baz=30,slow=39
OBN Obninsk 70.55 343 *c i*P **P 03 35 58.8 -0.8**
OBN 03 36 20.0
OBN *e*S **S 03 45 09.2 +0.3**
OBN *e*SS **SS 03 49 43.9 +4.3**
OBN pmax pmax
comp=Z,31nm,0.6s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 70.55 343 *e*P **P 03 35 58.1 -1.5**
comp=Z,37nm,0.6s
PMG Port Moresby 70.67 223 P **P 03 36 00.6 -0.2**
comp=Z,12nm,0.5s,baz=333,slow=3.7,SNR=4.2
PMG LR LR 04 03 05.1
comp=Z,2μm,20.6s,baz=58,slow=32
PMG Port Moresby 70.67 223 *c e*P **P 03 36 00.7 -0.1**
PMG pmax pmax
comp=Z,100nm,1.0s
PMG Port Moresby 70.67 223 PFAKE 03 36 10.0 +9.2
PMG LR LR
comp=Z,2μm,20.0s
KK31 Karatay Array 70.94 317 *c e*P **P 03 36 01.8 -0.4**
KK31 pmax pmax
comp=Z,35nm,0.7s
KKAR Karatay Array 70.94 317 *e*P **P 03 36 01.8 -0.4**
KKAR pmax pmax
comp=Z,399nm,0.6s
KKAR MLR MLR
comp=Z,800nm,18.0s
KKAR Karatay Array 70.94 317 *e*P **P 03 36 01.8 -0.4**
comp=Z,399nm,0.6s
KKAR LR LR
comp=Z,800nm,18.0s
CCIG Comitan 71.02 88 *e*P **P 03 36 03.1 -0.1**
comp=Z,111nm,1.6s
SWI Sorong 71.05 242 P **P 03 36 03.2 0.0**
LSA Lhasa 71.18 294 P **P 03 36 05.5 +1.1**
LSA pmax pmax
comp=Z,36nm,0.6s
LSA LR LR
comp=Z,360nm,28.6s
LSA LR LR
comp=Z,600nm,20.7s
LSA LR LR
comp=Z,410nm,27.0s
LSA Lhasa 71.18 294 *e*P **P 03 36 05.9 +1.4**
LSA pmax pmax
comp=Z,91nm,0.8s
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 71.18 294 *e*P **P 03 36 05.9 +1.4**
comp=Z,91nm,0.8s
LSA LR LR
comp=Z,1μm,20.0s
ZIRO ZIRO 71.29 291 *e*P **P 03 36 05.4 +0.6**
KSH Kashi 71.40 311 P **P 03 36 08.3 +3.1**
KSH pP sP 03 36 25.1 +0.4
KSH PcP **PcP 03 36 28.1 +3.4**
KSH sP pP 03 36 32.4 +13
KSH PP **PP 03 38 50.3 +6.8**
KSH S **S 03 45 21.4 +1.7**
KSH sS sS 03 45 49.3 +6.2
KSH ScS **ScS 03 46 06.1 +0.2**
KSH SS **SS 03 49 59.1 +5.2**
KSH pmax pmax
comp=Z,120nm,0.6s
KSH pmax pmax
comp=Z,380nm,3.6s
KSH LR LR
comp=Z,370nm,10.1s
KSH LR LR
comp=Z,420nm,11.7s
KSH LR LR
comp=Z,710nm,12.4s
ITAN ITANAGAR 71.65 291 *e*P **P 03 36 07.7 +0.9**
MUD Monsted U'grnd 71.77 359 *i*P **P 03 36 06.5 -0.4**
comp=Z,53nm,0.7s
MUD Monsted U'grnd 71.77 359 *i*P **P 03 36 06.5 -0.4**
MUD pmax pmax
comp=Z,53nm,0.7s
MOKO MOKOCHONG 71.82 289 *e*P **P 03 36 09.0 +1.1**
MOKO AMB AMB 03 36 11.0
comp=Z,292nm,0.8s
PPT Papeete 72.06 158 LR LR 04 00 19.2
comp=Z,870nm,20.9s,baz=316,slow=30
PPT2 Papeete2 72.08 158 *e*P **P 03 36 09.7 +0.4**
comp=Z,123nm,1.5s
PPT2 *e*S **S 03 45 28.8 +1.3**
comp=Z,1μm,25.0s
PPT2 *e*SS **SS 03 50 09.0 +3.0**
comp=Z,473nm,33.8s
PPT2 *e*LR LR 03 57 42.4
comp=Z,3μm,30.0s,baz=346
PPT2 Papeete2 72.08 158 *e*T T 04 54 50.3
comp=Z,18nm,0.3s
KMPI Kaimana, Papua 72.09 239 P **P 03 36 10.0 +0.6**
TIAR Tiarei 72.11 157 *e*P **P 03 36 09.7 +0.3**
comp=Z,62nm,1.2s
TIAR Tiarei 72.11 157 *e*T T 04 54 51.4
comp=Z,15nm,0.3s
PAE Paea 72.15 158 *e*P **P 03 36 09.9 +0.3**
comp=Z,35nm,1.4s
PAE Paea 72.15 158 *e*T T 04 54 55.0
comp=Z,4.0nm,0.3s
NACGM Naroch 72.21 349 *e* **P 03 36 09.0 -0.6**
NACGM *e*LQ LQ 04 00 38.0
NACGM *e*LR LR 04 05 29.0
FAKI Fak Fak 72.23 240 P **P 03 36 10.3 -0.1**
FAKI Fak Fak 72.23 240 *e*P **P 03 36 10.2 -0.1**
comp=Z,74nm,0.9s
FAKI LR LR
comp=Z,2μm,22.0s
TVO Taravao 72.35 157 *e*P **P 03 36 11.0 +0.1**
comp=Z,40nm,1.2s
TVO Taravao 72.35 157 *e*T T 04 55 09.9
comp=Z,1.6nm,0.3s
MICGM Minsk 72.47 348 *e* **P 03 36 10.0 -1.2**
MICGM *e*LR LR 04 02 02.0
MICGM LRM MLR 04 08 00.0
comp=Z,2.6nm,22.0s
MNK Minsk 72.47 348 *e*P **P 03 36 10.0 -1.2**
MNK MLR MLR
comp=Z,3μm,22.0s
LPSR Galich'ya Gora 72.48 341 *e*P **P 03 36 10.7 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
LBMI Labuha 72.95 246 P **P 03 36 17.5 +2.9**
BSD Bornholm Skovb 72.97 356 *i*P **P 03 36 14.1 0.0**
comp=Z,38nm,0.7s
comp=Z,1μm,26.0s
BSD Bornholm Skovb 72.97 356 *i*P **P 03 36 14.1 0.0**
BSD pmax pmax
comp=Z,38nm,0.7s
BSD MLR MLR
comp=Z,1μm,26.0s
KDM Kudat 73.14 259 ⇑P **P 03 36 15.1 -0.7**
SKNT Sakolnakorn 73.25 276 P **P 03 36 16.7 +0.3**
comp=Z,109nm,1.1s
IMP Imphal 73.28 289 *e*P **P 03 36 16.2 -0.4**
SUW Suwalki 73.48 351 *e*P **P 03 36 16.0 -1.2**
SUW Suwalki 73.48 351 *e*P **P 03 36 16.0 -1.2**
MYLDM Lahad Datu 73.51 257 *e*P **P 03 36 19.4 +1.5**
comp=Z,97nm,1.3s
MYLDM Lahad Datu 73.51 257 ⇓P **P 03 36 17.6 -0.2**
GUWA GUWAHATI 73.55 291 *e*P **P 03 36 17.6 -0.4**
GUWA AMB AMB 03 36 19.4
comp=Z,127nm,0.6s
RGN Rugen 73.60 357 PFAKE 03 36 30.0 +12
RGN LR LR
comp=Z,1μm,22.0s
UBPT Khong Chiam 73.63 274 P **P 03 36 19.4 +0.8**
comp=Z,91nm,1.5s,comp=Z,2μm
SHL Shillong 73.92 291 *e*P **P 03 36 20.0 -0.4**
SHL *e*x x 03 45 48.0
SDKM Sandakan 73.93 258 ⇑P **P 03 36 20.8 +0.4**

KKM Kota Kinabalu 74.20 259 PFAKE 03 36 30.0 +7.9
KKM LR LR
comp=Z,1μm,22.0s
KKM Kota Kinabalu 74.20 259 ⇑P **P** **03 36 20.9 -1.1**
MSAI Masohi 74.39 243 P **P** **03 36 24.6 +1.6**
BBSR BB Station 74.58 57 *e*P **P** **03 36 24.0 0.0**
comp=Z,110nm,0.8s
BBSR LR LR
comp=Z,1μm,18.0s
TSM Tawau 74.58 257 ⇑P **P** **03 36 25.0 +0.8**
GKP Gorka Klasztor 74.69 354 *e*P **P** **03 36 23.2 -1.1**
GKP Gorka Klasztor 74.69 354 *e*P **P** **03 36 23.2 -1.1**
SNET Serv Nac Est T 74.79 87 PFAKE 03 36 40.0 +15
SNET LR LR
comp=Z,2μm,22.0s
TURI Tura 74.82 292 *e*P **P** **03 36 25.1 -0.3**
TAPN Taplejung 74.91 295 *e*P **P** **03 36 26.3 0.0**
comp=Z,253nm,0.8s
CHTO Chiang Mai 74.91 281 P **P** **03 36 26.0 0.0**
comp=Z,332nm,1.2s,comp=Z,5μm
CHTO Chiang Mai 74.91 281 *e*P **P** **03 36 26.1 0.0**
CHTO pmax pmax
comp=Z,51nm,0.8s
CHTO MLR MLR
comp=Z,900nm,22.0s
CHTO Chiang Mai 74.91 281 *e*P **P** **03 36 26.1 0.0**
comp=Z,51nm,0.8s
CHTO LR LR
comp=Z,900nm,22.0s
CHTO Chiang Mai 74.91 281 P **P** **03 36 26.2 +0.1**
SNR=28
CHTO Chiang Mai 74.91 281 P **P** **03 36 26.2 +0.1**
SNR=28
SANI Sanana 74.96 246 P **P** **03 36 25.2 -1.1**
AAI Ambon 75.08 243 P **P** **03 36 31.7 +4.7**
CM31 Chiang Mai Arr 75.18 281 *e*P **P** **03 36 28.5 +0.9**
CM31 *e*PKiKP **PKiKP** **03 42 16.6 -0.5**
CMAR Chiang Mai Arr 75.18 281 P **P** **03 36 28.2 +0.6**
comp=Z,101nm,0.8s,baz=27,slow=6.5,SNR=182
CMAR PKiKP **PKiKP** **03 42 16.6 -0.5**
comp=Z,1.2nm,0.4s,baz=285,slow=1.5,SNR=4.5
CMAR LR LR 04 10 11.6
comp=Z,618nm,21.8s,baz=57,slow=36
CMAR Chiang Mai Arr 75.18 281 P **P** **03 36 28.2 +0.6**
CMAR pmax pmax
comp=Z,104nm,0.8s
MRSI Marisa 75.23 251 P **P** **03 36 28.4 +0.5**
NLAI Namlea 75.31 245 P **P** **03 36 30.5 +2.2**
PBKT Sadao Pong 75.40 278 P **P** **03 36 29.2 +0.4**
comp=Z,58nm,1.0s,comp=Z,1μm
ODAN Odare 75.47 295 *e*P **P** **03 36 29.9 +0.4**
comp=Z,119nm,0.8s
GUN Gumba 75.49 297 *e*P **P** **03 36 29.7 0.0**
comp=Z,279nm,0.5s
JIRN Jiri 75.51 296 *e*P **P** **03 36 30.1 +0.2**
comp=Z,394nm,0.6s
TGUH Tegucigalpa,Un 75.71 85 *e*P **P** **03 36 30.9 +0.2**
comp=Z,98nm,0.9s
TGUH LR LR
comp=Z,2μm,22.0s
RAMN Ramite 75.84 296 *e*P **P** **03 36 31.4 -0.2**
comp=Z,494nm,0.7s
BEL Belsk 75.86 352 *e*P **P** **03 36 31.1 +0.2**
BEL Belsk 75.86 352 *e*P **P** **03 36 31.1 +0.2**
KKN Kakani 75.91 297 *e*P **P** **03 36 31.9 -0.1**
comp=Z,106nm,0.6s
LUWI Luwuk 75.97 250 P **P** **03 36 31.8 -0.3**
LUWI Luwuk 75.97 250 *e*P **P** **03 36 31.0 -1.1**
comp=Z,113nm,0.8s
AKASG Malin Array Be 76.00 346 P **P** **03 36 29.7 -2.1**
comp=Z,24nm,0.6s,baz=16,slow=5.8,SNR=59
AKASG PKiKP **PKiKP** **03 42 16.3 -1.1**
comp=Z,1.2nm,0.6s,baz=18,slow=2.3,SNR=4.9
AKASG LR LR 04 12 04.0
comp=Z,2μm,21.3s,baz=350,slow=37
AKASG Malin Array Be 76.00 346 P **P** **03 36 29.7 -2.1**
AKASG pmax pmax
comp=Z,24nm,0.6s
AKBB Malin Array Si 76.00 346 *e*P **P** **03 36 30.2 -1.6**
AKBB pmax pmax
comp=Z,27nm,0.6s
AKBB Malin Array Si 76.00 346 *e*P **P** **03 36 30.2 -1.6**
comp=Z,27nm,0.6s
AKBB *e*PKiKP **PKiKP** **03 42 16.3 -1.1**
KIEV Kiev 76.01 346*d* *i*P **P** **03 36 30.1 -1.7**
KIEV pmax pmax
comp=Z,29nm,0.8s
KIEV Kiev 76.01 346 *e*P **P** **03 36 29.9 -1.9**
comp=Z,27nm,0.6s
KIEV LR LR
comp=Z,2μm,21.0s
PKI Pulchoki 76.01 297 *e*P **P** **03 36 32.2 -0.5**
comp=Z,57nm,0.5s
PKIN Phulchoki 76.02 297 *e*P **P** **03 36 32.1 -0.5**
comp=Z,70nm,0.5s
GKN Gorkha 76.10 298 *e*P **P** **03 36 32.6 -0.4**
comp=Z,290nm,0.7s
DMN Daman 76.15 297 *e*P **P** **03 36 33.2 -0.2**
comp=Z,130nm,0.8s
DZM Mont Dzumac 76.29 201 LR LR 04 04 42.9
comp=Z,2μm,20.4s,baz=6.5,slow=31
DZM Mont Dzumac 76.29 201 *e*P **P** **03 36 33.8 +0.1**
comp=Z,152nm,1.4s
DZM Mont Dzumac 76.29 201 *e*LR LR 04 00 12.8
comp=Z,3μm,21.4s
DZM Mont Dzumac 76.29 201 *e*P **P** **03 36 33.9 +0.1**
comp=Z,82nm,1.2s
DANN Dangsing 76.30 299 *e*P **P** **03 36 34.5 +0.2**
comp=Z,37nm,0.9s
COEN Coen 76.44 225 *e*P **P** **03 36 34.8 +0.1**
comp=Z,56nm,1.4s
COEN LR LR
comp=Z,900nm,20.0s
APSI Ampana 76.52 251 P **P** 03 36 42.6 +7.4
MPSI Mapaga 76.54 253 P **P** **03 36 35.1 -0.2**
KOLN Koldanda 76.85 298 *e*P **P** **03 36 36.8 -0.5**
comp=Z,140nm,0.8s
CLL Collm 76.85 357 ⇑*i*P **P** **03 36 35.8 -0.8**
CLL *i* 03 36 47.1
CLL *e*S **S** **03 46 18.0 -2.1**
CLL pmax pmax
comp=Z,24nm,0.6s
CLL MLR MLR
comp=Z,900nm,20.0s
CLL Collm 76.85 357 ⇑*i*P **P** **03 36 35.8 -0.8**
comp=Z,24nm,0.6s
CLL *i* pP **PcP** **03 36 47.1 -0.5**
CLL *e* 03 45 34.0
CLL *e*S **S** **03 46 18.0 -2.1**
CLL *e*PS **PnS** **03 47 02.0 -1.3**
CLL *e*SS **SS** **03 51 20.0 +4.4**
CLL *e*SSS SSS 03 54 42.0
CLL LmH 04 14 00.0
comp=N,800nm,21.2s
CLL LmH 04 14 00.0
comp=E,700nm,20.2s
CLL LmV 04 17 00.0
comp=Z,900nm,20.0s
CLL Collm 76.85 357 *e*P **P** **03 36 35.2 -1.4**
comp=Z,25nm,0.6s
CLL LR LR
comp=Z,800nm,20.0s
PYUN Piuthan 76.92 299 *e*P **P** **03 36 37.2 -0.4**
comp=Z,381nm,0.9s
DHRM DHARAMSHALA 77.08 306 *e*P **P** **03 36 38.0 -0.5**
DHRM AMB AMB 03 36 40.6
comp=Z,127nm,0.6s
KSP Ksiaz 77.17 355 *e*P **P** **03 36 38.1 -0.3**
KSP Ksiaz 77.17 355 *e*P **P** **03 36 38.1 -0.3**
THN Thein Dam 77.22 307 *e*P **P** **03 36 38.8 -0.2**
BRG Berggiesshubel 77.25 356 *i* P **P** **03 36 38.3 -0.6**
comp=Z,35nm,0.7s
BRG S **S** **03 46 26.0 +1.5**
BRG SS **SS** **03 51 27.0 +5.3**
comp=N,991nm,15.0s
comp=E,496nm,17.5s
comp=Z,993nm,16.2s
BRG Berggiesshubel 77.25 356 *i* P **P** **03 36 38.3 -0.6**
BRG S **S** **03 46 26.0 +1.5**
BRG SS **SS** **03 51 27.0 +5.3**
BRG pmax pmax
comp=Z,35nm,0.7s
BRG MLR MLR
comp=N,991nm,15.0s
BRG MLR MLR
comp=E,496nm,17.5s
BRG MLR MLR
comp=Z,993nm,16.2s
UPC Upice 77.52 355 *e*P **P** **03 36 39.9 -0.5**
UPC AMS AMS 04 15 40.0
comp=Z,1μm,14.2s
UPC Upice 77.52 355 *e*P **P** **03 36 39.9 -0.5**
UPC MLR MLR
comp=Z,1μm,14.2s
LVV L'vov 77.53 350 *e*P **P** **03 36 41.6 +1.1**
LVV *e*S S 03 46 16.7 -11
LVV MLR MLR
comp=Z,2μm,23.0s
OJC Ojcow 77.55 352 *e*P **P** **03 36 40.3 -0.3**
OJC Ojcow 77.55 352 *e*P **P** **03 36 40.3 -0.3**
OJC Ojcow 77.55 352 *e*P **P** **03 36 39.9 -0.6**
comp=Z,18nm,0.7s
MOX Moxa 77.56 358 P **P** **03 36 40.4 -0.2**
PVCC Panska Ves 77.57 356 *e*P **P** **03 36 40.3 -0.4**
PVCC *e*x x 03 36 47.9
PVCC AMS AMS 04 15 00.0
comp=Z,1μm,19.7s
PVCC Panska Ves 77.57 356 *e*P **P** **03 36 40.3 -0.4**
PVCC *e* 03 36 47.9
PVCC MLR MLR
comp=Z,1μm,19.7s
MEM Membach 77.61 1 P **P** **03 36 41.5 +0.6**
DPC Dobruska-Polom 77.66 355 *e*P **P** **03 36 40.8 -0.4**
DPC *e*pP **PcP** **03 36 50.5 -0.7**
DPC AMS AMS 04 18 20.0
comp=Z,900nm,15.4s
DPC Dobruska-Polom 77.66 355 *e*P **P** **03 36 40.8 -0.4**
DPC *e* 03 36 50.5
DPC MLR MLR
comp=Z,900nm,15.4s
BCLA Clavier 77.79 2 P **P** **03 36 42.4 +0.5**
KWP Kalwaria Pacla 77.86 350 *e*P **P** **03 36 42.1 -0.1**
KWP Kalwaria Pacla 77.86 350 *e*P **P** **03 36 42.2 -0.1**
KRLC Kraliky 77.90 354 *e*P **P** **03 36 41.9 -0.7**
KRLC Kraliky 77.90 354 *e*P **P** **03 36 41.9 -0.7**
NKC Novy Kostel 77.94 357 *e*P **P** **03 36 42.3 -0.5**
NKC AMS AMS 04 15 20.0
comp=Z,1μm,17.1s
NKC Novy Kostel 77.94 357 *e*P **P** **03 36 42.3 -0.5**
NKC MLR MLR
comp=Z,1μm,17.1s
PRA Prague 78.03 356 *e*P **P** **03 36 43.1 -0.1**
PRA AMS AMS 04 15 10.0
comp=Z,1μm,20.0s
PRA Prague 78.03 356 *e*P **P** **03 36 43.1 -0.1**
PRA MLR MLR
comp=Z,1μm,20.0s
OKC Ostrava-Krasne 78.05 353 *e*P **P** **03 36 42.9 -0.4**
OKC AMS AMS 04 14 20.0
comp=Z,900nm,16.8s
OKC Ostrava-Krasne 78.05 353 *e*P **P** **03 36 42.9 -0.4**
OKC MLR MLR
comp=Z,900nm,16.8s
DOU Dourbes 78.10 2 P **P** **03 36 43.9 +0.3**
GIVF Givet 78.10 2 *e*P **P** **03 36 43.9 +0.3**
GIVF pmax pmax
comp=Z,31nm,1.0s
PRU Pruhonice 78.11 356 *e*P **P** **03 36 43.2 -0.5**
PRU *e*pP **PcP** **03 36 52.8 -0.3**
PRU *e*XS **SKSac** **03 46 52.0 -1.5**
PRU AMS AMS 04 15 20.0
comp=Z,1μm,17.6s
PRU Pruhonice 78.11 356 *e*P **P** **03 36 43.2 -0.5**
PRU *e* 03 36 52.8
PRU *e*S **SKSac** **03 46 52.0 -1.5**
PRU MLR MLR
comp=Z,1μm,17.6s
BAIF Baives 78.13 3 *e*P **P** **03 36 43.3 -0.5**
BAIF pmax pmax
comp=Z,19nm,0.7s
MORC Moravsky Berou 78.15 354 ⇓*i*P **P** **03 36 43.8 -0.2**
MORC Moravsky Berou 78.15 354 *e*P **P** **03 36 42.7 -1.3**
MORC pmax pmax
comp=Z,77nm,0.7s
MORC MLR MLR
comp=Z,5μm,20.0s
MORC Moravsky Berou 78.15 354 *e*P **P** **03 36 42.7 -1.3**
comp=Z,77nm,0.7s
MORC LR LR
comp=Z,5μm,20.0s
GOPC GO Pecny, Ondr 78.17 356 *e*P **P** **03 36 43.6 -0.5**
GOPC *e*pP **PcP** **03 36 53.2 -0.2**
GOPC *e*XS **sS** **03 46 58.0 -0.2**
GOPC AMS AMS 04 14 10.0
comp=Z,1μm,19.0s
GOPC GO Pecny, Ondr 78.17 356 *e*P **P** **03 36 43.6 -0.5**
GOPC *e* 03 36 53.2
GOPC *e*S **sS** **03 46 58.0 -0.2**
GOPC MLR MLR
comp=Z,1μm,19.0s
STHS Stebnicka Huta 78.22 351 *e*P **P** **03 36 44.8 +0.5**
STHS pmax pmax
comp=Z,24nm,0.7s
STHS Stebnicka Huta 78.22 351 *e*P **P** **03 36 44.8 +0.5**
SRDT SRDT 78.24 278 P **P** **03 36 45.2 +0.3**
comp=Z,255nm,1.0s,comp=Z,5μm
NIE Niedzica 78.30 352 *e*P **P** **03 36 44.8 0.0**
NIE Niedzica 78.30 352 *e*P **P** **03 36 44.8 0.0**
MTDJ Mount Denham 78.41 75 *e*P **P** **03 36 46.4 +0.4**
comp=Z,631nm,1.8s
GRFO Grafenberg 78.52 358 *e*P **P** **03 36 46.2 +0.2**
GRFO pmax pmax
comp=Z,49nm,0.7s
GRFO MLR MLR
comp=Z,1μm,20.0s
GRFO Grafenberg 78.52 358 *e*P **P** **03 36 46.1 +0.2**
comp=Z,49nm,0.7s
GRFO LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 78.53 72 *e*P **P** **03 36 46.2 -0.2**
comp=Z,88nm,1.1s
GTBY LR LR
comp=Z,2μm,18.0s
GOF Gofitskoye 78.63 336⇑*e*P **P** **03 36 46.4 -0.3**
GOF *e*S **S** **03 46 39.6 0.0**
GOF pmax pmax
comp=Z,138nm,0.7s
LANS Liptovska Anna 78.63 352 *e*P **P** **03 36 47.2 +0.6**
LANS Liptovska Anna 78.63 352 *e*P **P** **03 36 47.2 +0.6**
KBL Kabul 78.65 313 *e*P **P** **03 36 46.4 -0.8**
KBL pmax pmax
comp=Z,127nm,1.1s
KBL MLR MLR
comp=Z,900nm,20.0s
KBL Kabul 78.65 313 *e*P **P** **03 36 46.4 -0.8**
comp=Z,127nm,1.1s
KBL LR LR
comp=Z,900nm,20.0s
VRAC Vranov 78.68 354 LR LR 04 11 33.0
comp=Z,594nm,21.9s,baz=2.5,slow=36
CRVS Cervenica-Dubn 78.70 351 *e*P **P** **03 36 46.8 -0.2**
CRVS Cervenica-Dubn 78.70 351 *e*P **P** **03 36 46.8 -0.2**
BOK Bokaro 78.71 294 *e*P **P** **03 36 47.8 +0.4**
BOK AMB AMB 03 36 49.6
comp=Z,115nm,0.6s
TREC Trest 78.76 355 *e*P **P** **03 36 46.7 -0.6**
TREC AMS AMS 04 14 50.0
comp=Z,1μm,16.6s
TREC Trest 78.76 355 *e*P **P** **03 36 46.7 -0.6**
TREC MLR MLR
comp=Z,1μm,16.6s
UZH Uzhgorod 78.89 351 ⇑*i*P **P** **03 36 49.7 +1.7**
UZH *e* 03 36 57.7
UZH *e* 03 37 07.7
UZH *e*PPP PPP 03 41 44.9
UZH *e*S **S** **03 46 42.1 -0.1**
UZH *e*PS **PnS** **03 47 37.1 +7.9**
UZH MLR MLR
comp=N,1μm,16.0s
UZH MLR MLR
comp=E,650nm,16.0s
KHC Kasperske Hory 79.01 356 *e*P **P** **03 36 48.4 -0.3**
KHC *e*pP **PcP** **03 36 58.2 +1.1**
KHC AMS AMS 04 15 40.0
comp=E,1μm,16.4s
KHC Kasperske Hory 79.01 356 *e*P **P** **03 36 48.7 0.0**
KHC pmax pmax
comp=Z,10.0nm,0.6s
KHC MLR MLR
comp=Z,400nm,20.0s
KHC Kasperske Hory 79.01 356 *e*P **P** **03 36 48.6 0.0**
comp=Z,9.9nm,0.6s
KHC LR LR
comp=Z,400nm,20.0s
WET Wettzell 79.02 357 P **P** **03 36 48.7 0.0**
KECS Kecovo 79.21 352 *e*P **P** **03 36 49.1 -0.7**
KECS pmax pmax
comp=Z,100nm,2.7s
KECS Kecovo 79.21 352 *e*P **P** **03 36 49.1 -0.7**
LANF Langenberg 79.26 0 *e*P **P** **03 36 52.4 +2.3**
GEC2 GERESS Array S 79.29 356 *e*P **P** **03 36 50.1 -0.2**
GEC2 pmax pmax
comp=Z,21nm,0.7s
GEC2 MLR MLR
comp=Z,1μm,20.0s
GEC2 GERESS Array S 79.29 356 *e*P **P** **03 36 50.1 -0.2**
comp=Z,21nm,0.7s
GEC2 *e*PKKPbc **PKKPbc** **03 55 37.2 -0.8**
GEC2 LR LR
comp=Z,1μm,20.0s
GERES GERESS Array B 79.29 356 P **P** **03 36 49.7 -0.6**
comp=Z,21nm,0.7s,baz=18,slow=4.7,SNR=135
GERES PKKPbc **PKKPbc** **03 55 37.2 -0.8**
comp=Z,0.2nm,0.4s,baz=188,slow=2.0,SNR=3.6
GERES PKP2bc 04 03 40.8
comp=Z,0.7nm,0.8s,baz=132,slow=2.0,SNR=4.4
TTSI Tana Toraja 79.31 251 P **P** **03 36 51.0 +0.3**
VYHS Vyhne 79.34 353 *e*P **P** **03 36 50.0 -0.5**
VYHS pmax pmax
comp=Z,63nm,2.5s
VYHS Vyhne 79.34 353 *e*P **P** **03 36 50.0 -0.5**
LDF La Druitiere 79.40 6 *e*P **P** **03 36 49.6 -1.2**
LDF pmax pmax
comp=Z,33nm,0.8s
SBUM Sibu 79.46 260 ⇑P **P** **03 36 52.4 +0.8**
STU Stuttgart 79.47 359 *e*P **P** **03 36 51.7 +0.6**
STU pmax pmax
comp=Z,19nm,0.7s
STU Stuttgart 79.47 359 *e*P **P** **03 36 51.7 +0.6**
comp=Z,19nm,0.7s
NDI New Delhi 79.49 303 *e*P **P** **03 36 52.0 +0.4**
BUR08 Bucovina Ar. S 79.54 348 *e*P **P** **03 36 50.8 -0.9**
GRR Gorron 79.56 6 *e*P **P** **03 36 50.7 -0.9**
GRR pmax pmax
comp=Z,50nm,1.2s
BURAR Bucovina Array 79.56 348 ⇓*i*P **P** **03 36 51.1 -0.7**
SGMF Saint Gilles 79.57 7 *e*P **P** **03 36 50.7 -1.0**
SGMF pmax pmax
comp=Z,13nm,0.6s
GRTK Grand Turk 79.60 68 *e*P **P** **03 36 52.6 +0.3**
comp=Z,156nm,0.6s
GRTK LR LR
comp=Z,2μm,22.0s
KIS Kishinev 79.67 346 *e*P **P** **03 36 52.0 -0.3**
KIS Kishinev 79.67 346 *e*PP PP 03 40 10.0 +17
KIS Kishinev 79.67 346 *e*P **P** **03 36 52.0 -0.3**
KIS *e* 03 37 00.0
KIS *e*S **S** **03 46 48.0 -2.5**
KIS *e* 03 47 00.0
KIS MLR MLR
comp=Z,2μm,23.0s
KIS MLR MLR
comp=N,2μm,23.0s
KIS MLR MLR
comp=Z,2μm,23.0s
KIS MLR MLR
comp=E,800nm,20.0s
BMR Baia Mare 79.71 350 ⇓*i*P **P** **03 36 52.6 +0.1**
KIV Kislovodsk 79.75 335 *i* P **P** **03 36 52.7 -0.3**
SNR=14
KIV Kislovodsk 79.75 335 *e*P **P** **03 36 52.6 -0.3**
KIV *e*S **S** **03 46 51.1 -0.6**
KIV *e*SS **SS** **03 52 01.6 +1.8**
KIV pmax pmax
comp=Z,53nm,4.4s
KIV pmax pmax
comp=Z,61nm,0.9s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 79.75 335 *e*P **P** **03 36 52.8 -0.1**
comp=Z,51nm,0.7s
KIV Kislovodsk 79.75 335 P **P** **03 36 52.7 -0.3**
SNR=8.0
KIV Kislovodsk 79.75 335 P **P** **03 36 52.7 -0.3**
SNR=8.0
PSZ Piszkesteto 79.82 352 ⇓*i*P **P** **03 36 53.3 +0.1**
PSZ Piszkesteto 79.82 352 *e*P **P** **03 36 53.2 +0.1**
PSZ pmax pmax
comp=Z,54nm,1.8s
PSZ MLR MLR
comp=Z,1μm,21.0s
PSZ Piszkesteto 79.82 352 *e*P **P** **03 36 53.2 0.0**
comp=Z,54nm,1.8s
PSZ LR LR
comp=Z,1μm,21.0s
CDF Champ du Feu 79.83 1 *e*P **P** **03 36 52.6 -0.6**
CDF pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 79.91 335 P **P** **03 36 53.5 -0.1**
comp=Z,26nm,0.8s,baz=122,slow=2.9,SNR=57
KBZ LR LR 04 15 54.3
comp=Z,2μm,21.4s,baz=22,slow=38
BFO Black Forest 79.91 360*c*e*P **P** **03 36 54.6 +1.0**
BFO Black Forest 79.91 360 *e*P **P** **03 36 53.9 +0.3**
comp=Z,18nm,1.0s
NCK Nalchik 79.95 335*d* *i*P **P** **03 36 54.8 +0.9**
NCK pmax pmax
comp=Z,95nm,0.7s
THEF They Montfort 80.00 1 *e*P **P** **03 36 56.7 +2.6**
ECH Echery 80.02 1 *e*P **P** **03 36 56.3 +2.1**
ECH Echery 80.02 1 *e*P **P** **03 36 53.7 -0.5**
ECH pmax pmax
comp=Z,23nm,1.0s
ECH Echery 80.02 1 *e*P **P** **03 36 53.7 -0.5**
comp=Z,23nm,1.0s
SPSI Sidrap Palu 80.08 250 P **P** **03 36 58.0 +3.1**
CONA Conrad Observa 80.10 355 *i* P **P** **03 36 54.7 0.0**
comp=Z,22nm,0.6s,SNR=11
ARCR ARCALIA 80.19 349 ⇓*i*P **P** **03 36 55.0 -0.1**
ANN Anapa 80.20 339 *e*P **P** **03 36 54.3 -0.9**
ANN *e**PP **pP** **03 37 10.1 +0.8**
ANN *e*S **S** **03 46 55.2 -0.9**
ANN pmax pmax
comp=Z,105nm,0.9s
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=E,364nm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
BNSI Bone 80.24 250 P **P** **03 36 59.0 +3.3**
MOA Molln 80.26 356 *i* P **P** **03 36 55.6 +0.1**
comp=Z,9.0nm,0.6s
LEOM Leova 80.27 346 ⇓*i*P **P** **03 36 55.0 -0.5**
SOP Sopron 80.30 354 P **P** **03 36 56.9 +1.2**
GEYT Alibeck 80.31 322 P **P** **03 36 55.7 -0.3**
comp=Z,21nm,0.8s,baz=330,slow=5.1,SNR=28
GEYT PP **PP** **03 39 57.5 -0.9**
comp=Z,4.3nm,0.7s,baz=21,slow=4.9,SNR=3.7
GEYT PKKPbc **PKKPbc** **03 55 35.6 +0.1**
comp=Z,2.0nm,0.4s,baz=235,slow=12,SNR=3.6
GEYT LR LR 04 18 50.3
comp=Z,1μm,18.3s,baz=45,slow=40
MOF Molkenrain 80.39 1 *e*P **P** **03 36 58.5 +2.2**
NEY Neytrino 80.41 335 *e*P **P** **03 36 57.3 +0.8**
NEY pmax pmax
comp=Z,2.0nm,0.8s
HINF Hinteralfeld 80.42 1 *e*P **P** **03 36 55.3 -1.1**
HINF pmax pmax
comp=Z,12nm,0.5s
ZEI Tsey 80.52 334 *e*P **P** **03 36 54.9 -2.3**
ZEI pmax pmax
comp=Z,23nm,0.6s
CJR Cluj-Napoca 80.64 349 ⇓*i*P **P** **03 36 56.8 -0.8**
CTA Charters Tower 80.66 220 P **P** **03 36 57.4 -0.5**
baz=26,slow=9.1
CTA LR LR 04 07 10.6
comp=Z,510nm,21.6s,slow=32
CTAO Charters Tower 80.66 220 *e*P **P** **03 36 57.6 -0.2**
CTAO pmax pmax
comp=Z,46nm,1.0s
CTAO Charters Tower 80.66 220 *e*P **P** **03 36 57.6 -0.2**
comp=Z,46nm,1.0s
DRGR 80.67 350 ⇑*i*P **P** **03 36 56.5 -1.2**
RETA Reutte 80.73 358 *i* P **P** **03 36 58.4 +0.3**
comp=Z,15nm,0.5s

SIM	**Simferopol'**	**80.74**	**342**	*e*P	**P**	**03 36 59.1**	**+1.0**
SIM				*e*		03 40 01.0	
SIM				*e*S	**S**	**03 47 03.0**	**+1.1**
SIM				*e*PS	**PnS**	**03 48 02.0**	**+10**
SIM				*e*SS	**SS**	**03 52 15.0**	**+0.8**
SIM				*e*SSS	SSS	03 55 34.0	
SIM				pmax	pmax		
	comp=Z,45nm,0.9s						
SIM				pmax	pmax		
	comp=Z,90nm,10.6s						
ARSA	**Arzberg**	**80.79**	**355**	*e*P	**P**	**03 36 58.5**	**+0.1**
	comp=Z,17nm,0.7s,SNR=6.1						
WATA	**Walderalm**	**80.86**	**358**	*i* P	**P**	**03 36 58.8**	**-0.1**
	comp=Z,15nm,0.6s,SNR=6.2						
MOTA	**Moosalm**	**80.87**	**358**	*i* P	**P**	**03 36 58.8**	**-0.1**
	comp=Z,18nm,0.6s,SNR=17						
LOMF	**Lomont**	**80.89**	**1**	*e*P	**P**	**03 37 01.2**	**+2.3**
WTTA	**Wattenberg**	**80.94**	**358**	*e*P	**P**	**03 36 59.5**	**+0.2**
	comp=Z,24nm,0.7s						
KAPI	**Kappang**	**80.94**	**250**	PFAKE		03 37 10.0	+11
KAPI				LR	LR		
	comp=Z,3μm,18.0s						
KAPI	**Kappang**	**80.94**	**250**	P	**P**	**03 37 00.9**	**+1.4**
	SNR=6.5						
KAPI	**Kappang**	**80.94**	**250**	P	**P**	**03 37 00.9**	**+1.4**
	SNR=6.5						
DAVA	**Damuels**	**80.95**	**359**	*i* P	**P**	**03 37 00.2**	**+0.9**
	comp=Z,12nm,0.7s						
KBA	**Koelnbreinsper**	**81.07**	**356**	P	**P**	**03 37 00.3**	**+0.3**
KBA	**Koelnbreinsper**	**81.07**	**356**	*i* P	**P**	**03 37 00.3**	**+0.3**
	comp=Z,72nm,0.6s,SNR=28						
VRI	**Vrincioaia**	**81.08**	**347**	⇓*i*P	**P**	**03 36 58.9**	**-1.0**
VRI	**Vrincioaia**	**81.08**	**347**	P	**P**	**03 37 00.9**	**+1.0**
LGNH	**LOogne**	**81.10**	**71**	*e*P	**P**	**03 37 01.2**	**+0.9**
	comp=Z,70nm,1.0s						
LGNH				LR	LR		
	comp=Z,1μm,21.0s						
SSF	**Saint Saulge**	**81.10**	**3**	*e*P	**P**	**03 36 59.4**	**-0.6**
SSF				pmax	pmax		
	comp=Z,35nm,0.8s						
PLOR	**Plostina**	**81.11**	**347**	⇓*i*P	**P**	**03 37 00.2**	**+0.1**
ODBI	**Odobesti**	**81.14**	**347**	⇓*i*P	**P**	**03 37 01.3**	**+1.1**
DOPR	**Dopca**	**81.16**	**348**	⇓*i*P	**P**	**03 37 00.5**	**+0.2**
MTN	**Manton Dam**	**81.19**	**236**	*e*P	**P**	**03 37 00.2**	**-0.5**
	comp=Z,137nm,0.8s						
MTN				LR	LR		
	comp=Z,2μm,22.0s						
FETA	**Feichten**	**81.20**	**358**	*i* P	**P**	**03 37 00.9**	**+0.2**
	comp=Z,30nm,0.7s,SNR=9.5						
RAO	**Raoul Island**	**81.21**	**185**	LR	LR	04 05 57.2	
	comp=Z,789nm,20.4s,baz=18,slow=30						
SIRR	**Siria**	**81.29**	**351**	⇓*i*P	**P**	**03 37 01.1**	**+0.1**
AVF	**Avril sur Loir**	**81.37**	**3**	*e*P	**P**	**03 37 00.6**	**-0.8**
AVF				pmax	pmax		
	comp=Z,25nm,0.8s						
SOKA	**Soboth**	**81.39**	**355**	*i* P	**P**	**03 37 01.4**	**-0.3**
	comp=Z,28nm,0.8s,SNR=12						
KSM	**Kuching**	**81.39**	**261**	*e*P	**P**	**03 37 02.6**	**+0.7**
	comp=Z,40nm,1.1s						
KSM				LR	LR		
	comp=Z,800nm,22.0s						
ABTA	**Abfaltersbach**	**81.43**	**357**	*e*P	**P**	**03 37 01.5**	**-0.4**
	comp=Z,17nm,0.8s						
TLCR		**81.44**	**345**	⇓*i*P	**P**	**03 37 01.4**	**-0.4**
DAVOX	**Davos/Dischmat**	**81.45**	**359**	LR	LR	04 14 44.0	
	comp=Z,331nm,20.3s,baz=26,slow=37						
SDDR	**Presa de Saban**	**81.50**	**70**	*e*P	**P**	**03 37 02.5**	**0.0**
	comp=Z,50nm,0.9s						
SDDR				LR	LR		
	comp=Z,1μm,21.0s						
MYKA	**Terra Mystica**	**81.50**	**356**	*e*P	**P**	**03 37 02.1**	**-0.1**
	comp=Z,8.9nm,0.7s						
SMF	**Signal de Mont**	**81.53**	**3**	*e*P	**P**	**03 37 02.2**	**-0.1**
SMF				pmax	pmax		
	comp=Z,25nm,0.7s						
CFR	**Carcaliu**	**81.55**	**346**	⇓*i*P	**P**	**03 37 02.0**	**-0.3**
MLR	**Muntele Rosu**	**81.56**	**347**	⇓*i*P	**P**	**03 37 03.0**	**+0.4**
MLR	**Muntele Rosu**	**81.56**	**347**	*e*P	**P**	**03 37 02.9**	**+0.4**
MLR				pmax	pmax		
	comp=Z,25nm,1.4s						
MLR				MLR	MLR		
	comp=Z,1μm,20.0s						
MLR	**Muntele Rosu**	**81.56**	**347**	*e*P	**P**	**03 37 02.9**	**+0.4**
	comp=Z,25nm,1.4s						
MLR				LR	LR		
	comp=Z,1μm,20.0s						
RKT	**Rikitea**	**81.57**	**146**	*e*LR	LR	04 02 37.1	
	comp=Z,4μm,23.8s						
RKT	**Rikitea**	**81.57**	**146**	*e*T	T	05 06 42.8	
	comp=Z,9.8nm,0.3s						
OBKA	**Obir**	**81.58**	**356**	*i* P	**P**	**03 37 02.7**	**+0.1**
	comp=Z,23nm,0.6s,SNR=5.7						
FUORN	**Ofenpass-Fuorn**	**81.61**	**359**	*e*P	**P**	**03 37 03.5**	**+0.5**
	comp=Z,25nm,0.8s						
VOIR		**81.73**	**348**	⇑*i*P	**P**	**03 37 03.3**	**-0.1**
TUE	**Stuetta**	**81.77**	**359**	*e*P	**P**	**03 37 03.3**	**-0.5**
	comp=Z,26nm,0.8s						
STKI	**Sintang**	**81.79**	**259**	P	P	03 37 12.0	+8.0
TCF	**Toulx Ste Croi**	**81.82**	**4**	*e*P	**P**	**03 37 03.0**	**-0.8**
ARR	**Arges**	**81.85**	**348**	⇓*i*P	**P**	**03 37 03.9**	**-0.1**
LOT	**Lotru**	**81.87**	**349**	⇑*i*P	**P**	**03 37 03.6**	**-0.6**
SENIN	**Lac Senin/Sane**	**81.88**	**1**	*e*P	**P**	**03 37 06.1**	**+1.8**
	comp=Z,101nm,2.0s						
SENIN				LR	LR		
	comp=Z,1μm,19.0s						
MTUR	**Matau**	**81.93**	**348**	⇓*i*P	**P**	**03 37 05.5**	**+1.0**
BZS	**Buzias**	**81.94**	**351**	⇑*i*P	**P**	**03 37 03.5**	**-0.9**
GZR	**Gura Zlata**	**82.04**	**350**	⇓*i*P	**P**	**03 37 04.1**	**-0.9**
AGO	**Saint Agoulin**	**82.10**	**4**	*e*P	**P**	**03 37 07.7**	**+2.4**
PLDF	**La Plantade**	**82.20**	**3**	*e*P	**P**	**03 37 08.1**	**+2.2**
TIRR	**Tirgusor**	**82.21**	**346**	⇓*i*P	**P**	**03 37 05.7**	**-0.1**
TIRR	**Tirgusor**	**82.21**	**346**	*e*P	**P**	**03 37 04.4**	**-1.5**
TIRR				pmax	pmax		
	comp=Z,30nm,0.7s						
TIRR				MLR	MLR		
	comp=Z,2μm,22.0s						
TIRR	**Tirgusor**	**82.21**	**346**	*e*P	**P**	**03 37 04.4**	**-1.5**
	comp=Z,30nm,0.7s						
TIRR				LR	LR		
	comp=Z,2μm,22.0s						
SOEI	**Soe**	**82.26**	**243**	P	**P**	**03 37 10.6**	**+4.0**
SOEI	**Soe**	**82.26**	**243**	*e*P	**P**	**03 37 05.6**	**-1.0**
	comp=Z,69nm,1.0s						
SOEI				LR	LR		
	comp=Z,2μm,22.0s						
PYM	**Petit Puy Mans**	**82.39**	**4**	*e*P	**P**	**03 37 09.3**	**+2.4**
TRI	**Trieste**	**82.42**	**356**	PFAKE		03 37 20.0	+13
TRI				LR	LR		
	comp=Z,500nm,20.0s						
ARTV	**Artvin**	**82.54**	**335**	*e*P	**P**	**03 37 08.8**	**+0.8**
	comp=Z,47nm,0.3s						
SURT	**Suratani**	**82.62**	**275**	P	**P**	**03 37 09.2**	**+0.8**
	comp=Z,53nm,0.8s,comp=Z,699nm						
SDD	**Santo Domingo**	**82.70**	**69**	*e*P	**P**	**03 37 09.8**	**+1.0**
	comp=Z,452nm,1.7s						
LPL	**La Plagne**	**82.72**	**1**	*e*P	**P**	**03 37 09.2**	**+0.4**
LPL				pmax	pmax		
	comp=Z,24nm,1.1s						
LPG	**La Plagne**	**82.74**	**1**	*e*P	**P**	**03 37 10.2**	**+1.2**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KTGM	**Kuala Trenggan**	**82.78**	**269**	⇑P	**P**	**03 37 09.1**	**-0.1**
EDFI	**Ende, Flores**	**82.87**	**246**	P	**P**	**03 37 08.4**	**-1.3**
DGPR	**DIGLIPUR**	**82.90**	**282**	*e*P	**P**	**03 37 09.7**	**-0.2**
DGPR				AMB	AMB	03 37 11.3	
	comp=Z,122nm,0.7s						
LBL	**Lubilhac**	**82.92**	**4**	*e*P	**P**	**03 37 12.1**	**+2.5**
TRTT	**Trang**	**82.94**	**274**	P	**P**	**03 37 11.0**	**+0.9**
	comp=Z,79nm,0.8s						
CAF	**Calviac**	**83.17**	**4**	*e*P	**P**	**03 37 09.6**	**-1.3**
CAF				pmax	pmax		
	comp=Z,20nm,1.0s						
BLY	**Banja Luka**	**83.18**	**354**	PFAKE		03 37 20.0	+9.1
BLY				LR	LR		
	comp=Z,900nm,20.0s						
BNI	**Bardonecchia**	**83.18**	**1**	*e*P	**P**	**03 37 12.4**	**+1.3**
BNI				pmax	pmax		
	comp=Z,23nm,0.7s						
BNI	**Bardonecchia**	**83.18**	**1**	*e*P	**P**	**03 37 12.4**	**+1.3**
	comp=Z,23nm,0.7s						
ORIF	**Oris-en-Rattie**	**83.31**	**2**	*e*P	**P**	**03 37 12.2**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,21nm,0.9s						
VIVF	**Saint-Julien-l**	**83.34**	**3**	*e*P	**P**	**03 37 11.4**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,23nm,0.8s						
ZIMR		**83.44**	**348**	⇓*i*P	**P**	**03 37 12.2**	**0.0**
NVLJ	**Novalja**	**83.51**	**355**	P	**P**	**03 37 11.8**	**-0.8**
MBDF	**Montbardon**	**83.51**	**1**	*e*P	**P**	**03 37 14.2**	**+1.4**
MBDF				pmax	pmax		
	comp=Z,14nm,0.5s						
EIDS	**Eidsvold**	**83.73**	**213**	*e*P	**P**	**03 37 13.3**	**-0.4**
	comp=Z,156nm,1.8s						
EIDS				LR	LR		
	comp=Z,2μm,22.0s						
PKDT	**Phuket**	**83.73**	**275**	P	**P**	**03 37 16.7**	**+2.6**
	comp=Z,88nm,1.1s						
BHPL	**Bhopal**	**83.79**	**300**	*e*P	**P**	**03 37 13.0**	**-1.5**
BHPL				AMB	AMB	03 37 16.0	
	comp=Z,178nm,1.1s						
CHLP	**Challavanipeta**	**83.92**	**292**	*e*P	**P**	**03 37 16.3**	**+1.2**
CHLP				IAmb	IAmb	03 37 16.3	
	comp=Z,56nm,1.0s						
CHLP				*e*pP	**pP**	**03 37 26.9**	**-2.5**
CHLP				*e*SKSac	**SKSac**	**03 47 30.3**	**-3.8**
CHLP				IVMs_BB	IVMs_BB	04 17 08.4	
	comp=Z,246nm,17.2s						
KOPT	**Kop Dagi**	**84.01**	**336**	*e*P	**P**	**03 37 17.9**	**+2.3**
	comp=Z,20nm,0.8s						
BCIP	**Isla Barro Col**	**84.06**	**83**	PFAKE		03 37 30.0	+14
BCIP				LR	LR		
	comp=Z,700nm,18.0s						
KULM	**Kulim**	**84.34**	**271**	*e*P	**P**	**03 37 17.4**	**+0.2**
	comp=Z,30nm,0.7s						
KULM				LR	LR		
	comp=Z,600nm,22.0s						
SBF	**Sospel**	**84.38**	**1**	*e*P	**P**	**03 37 16.6**	**-0.5**
SBF				pmax	pmax		
	comp=Z,61nm,0.9s						
MPR	**Mayaguez**	**84.49**	**67**	*e*P	**P**	**03 37 17.8**	**-0.1**
	comp=Z,50nm,1.0s						
MPR				LR	LR		
	comp=Z,800nm,21.0s						
FRF	**La Foret Royal**	**84.67**	**1**	*e*P	**P**	**03 37 18.1**	**-0.4**
FRF				pmax	pmax		
	comp=Z,84nm,1.4s						
TOKA	**Tokat**	**84.68**	**339**	*e*P	**P**	**03 37 19.5**	**+0.8**
	comp=Z,49nm,0.8s						
IPM	**Ipoh**	**84.74**	**270**	*e*P	**P**	**03 37 19.1**	**-0.2**
	comp=Z,42nm,0.8s						
IPM				LR	LR		
	comp=Z,600nm,22.0s						
IPM	**Ipoh**	**84.74**	**270**	⇑P	**P**	**03 37 19.4**	**+0.1**
VTS	**Vitosha**	**84.76**	**349**	⇑*i*P	**P**	**03 37 17.7**	**-1.5**
VTS	**Vitosha**	**84.76**	**349**	*e*P	**P**	**03 37 17.9**	**-1.3**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VTS				MLR	MLR		
	comp=Z,1μm,22.0s						
VTS	**Vitosha**	**84.76**	**349**	*e*P	**P**	**03 37 17.9**	**-1.3**
	comp=Z,8.1nm,0.9s						
VTS				LR	LR		
	comp=Z,1μm,22.0s						
MTLF	**Montolieu**	**84.76**	**4**	*e*P	**P**	**03 37 18.6**	**-0.4**
MTLF				pmax	pmax		
	comp=Z,23nm,0.8s						
SJPF	**Ste Jean**	**84.78**	**7**	*e*P	**P**	**03 37 19.1**	**0.0**
SJPF				pmax	pmax		
	comp=Z,22nm,0.8s						
CELP	**Cerrillos**	**84.92**	**67**	*e*P	**P**	**03 37 20.1**	**-0.1**
EPF	**Esparros**	**84.97**	**6**	*e*P	**P**	**03 37 18.9**	**-1.2**
EPF				pmax	pmax		
	comp=Z,21nm,0.8s						
ETSF	**Etsaut**	**85.04**	**6**	*e*P	**P**	**03 37 20.2**	**-0.3**
ETSF				pmax	pmax		
	comp=Z,33nm,0.8s						
PLD	**Plovdiv**	**85.05**	**348**	P	**P**	**03 37 21.5**	**+1.1**
MYKOM	**Kota Tinggi**	**85.10**	**267**	PFAKE		03 37 30.0	+9.0
MYKOM				LR	LR		
	comp=Z,700nm,21.0s						
SJG	**San Juan**	**85.13**	**67**	*e*P	**P**	**03 37 20.9**	**-0.3**
SJG				pmax	pmax		
	comp=Z,91nm,0.6s						
SJG				MLR	MLR		
	comp=Z,2μm,20.0s						
SJG	**San Juan**	**85.13**	**67**	*e*P	**P**	**03 37 20.4**	**-0.8**
SJG	**San Juan**	**85.13**	**67**	*e*P	**P**	**03 37 20.9**	**-0.3**
	comp=Z,91nm,0.6s						
SJG				LR	LR		
	comp=Z,2μm,20.0s						
PLAI	**Plampang**	**85.16**	**249**	P	P	03 37 26.7	+5.4
CBYP	**Canovanas**	**85.17**	**66**	*e*P	**P**	**03 37 21.1**	**-0.4**
	comp=Z,69nm,0.8s						
CBYP				LR	LR		
	comp=Z,3μm,22.0s						
PGAV	**Gavieira, Arco**	**85.20**	**12**	*e*S	**S**	**03 47 54.1**	**+6.7**
PGAV	**Gavieira, Arco**	**85.20**	**12**	*e*LR	LR	04 04 05.5	
	comp=Z,1μm,20.0s						
HUMP	**Col San Antoni**	**85.28**	**67**	*e*P	**P**	**03 37 21.1**	**-0.8**
	comp=Z,49nm,0.8s						
HUMP				LR	LR		
	comp=Z,3μm,21.0s						
PDG	**Podgorica**	**85.32**	**352**	⇓*i*P	**P**	**03 37 21.0**	**-0.8**
FRIM	**Kepong**	**85.34**	**269**	⇑P	**P**	**03 37 22.4**	**+0.1**
MTP	**Monte Pirata**	**85.48**	**66**	*e*P	**P**	**03 37 23.1**	**+0.2**
	comp=Z,177nm,0.7s						
PBRG	**Braganca**	**85.55**	**11**	*e*P	**P**	**03 37 22.7**	**-0.3**
	comp=Z,41nm,2.0s						
PBRG	**Braganca**	**85.55**	**11**	*e*LR	LR	04 04 18.1	
	comp=Z,824nm,20.0s						
SKO	**Skopje**	**85.57**	**350**	*i* P	**P**	**03 37 23.2**	**+0.2**
SKO	**Skopje**	**85.57**	**350**	P	**P**	**03 37 25.9**	**+2.9**
TWSI	**Taliwang, Sumb**	**85.60**	**250**	P	**P**	**03 37 22.3**	**-1.2**
STVI	**Saint Thomas**	**85.61**	**66**	*e*P	**P**	**03 37 23.6**	**0.0**
	comp=Z,165nm,0.6s						
WRAB	**Tennant Creek**	**85.67**	**230***c*	*i*P	**P**	**03 37 22.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,75nm,1.0s						
WRAB	**Tennant Creek**	**85.67**	**230**	*e*P	**P**	**03 37 22.8**	**-0.8**
	comp=Z,39nm,0.9s						
WRAB				LR	LR		
	comp=Z,2μm,22.0s						
WB2	**Warramunga Arr**	**85.68**	**230**	*e*P	**P**	**03 37 22.9**	**-0.8**
	comp=Z,109nm,1.4s						
WR1	**Warramunga Arr**	**85.69**	**230**	*e*P	**P**	**03 37 22.5**	**-1.2**
	comp=Z,136nm,1.5s						
WR1				*e*PKKPbc	**PKKPbc**	**03 55 25.8**	**+1.4**
WRA	**Warramunga Arr**	**85.69**	**230**	P	**P**	**03 37 22.5**	**-1.2**
	comp=Z,21nm,0.7s,baz=32,slow=5.8,SNR=104						
WRA				PKKPbc	**PKKPbc**	**03 55 25.8**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=225,slow=2.2,SNR=5.0						
WRA				LR	LR	04 11 43.0	
	comp=Z,2μm,21.8s,baz=35,slow=33						
PGF	**Pioggiola**	**85.69**	**359**	*e*P	**P**	**03 37 23.2**	**-0.6**
PGF				pmax	pmax		
	comp=Z,78nm,0.8s						
AQU	**L'Aquila**	**85.78**	**356**	*e*P	**P**	**03 37 24.8**	**+0.7**
AQU				pmax	pmax		
	comp=Z,26nm,0.7s						
AQU				MLR	MLR		
	comp=Z,1μm,22.0s						
AQU	**L'Aquila**	**85.78**	**356**	*e*P	**P**	**03 37 24.8**	**+0.7**
	comp=Z,26nm,0.7s						
AQU				LR	LR		
	comp=Z,1μm,22.0s						
POLO	**Lamas de Olo**	**85.84**	**12**	*e*P	**P**	**03 37 24.1**	**-0.4**
POLO	**Lamas de Olo**	**85.84**	**12**	*e*LR	LR	04 03 29.1	
	comp=Z,546nm,20.0s						
BR101	**Keskin Array S**	**85.86**	**341**	*e*P	**P**	**03 37 24.4**	**-0.4**
BR101				*e*PKKPbc	**PKKPbc**	**03 55 22.8**	**-0.3**
BR131	**Keskin Array S**	**85.86**	**341**	*e*P	**P**	**03 37 24.7**	**0.0**
BRTR	**Keskin Array B**	**85.87**	**341**	P	**P**	**03 37 24.4**	**-0.4**
	comp=Z,13nm,0.6s,baz=30,slow=2.2,SNR=48						
BRTR				PKKPbc	**PKKPbc**	**03 55 22.8**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=176,slow=5.2,SNR=16						
BRTR				LR	LR	04 21 12.4	
	comp=Z,598nm,19.6s,baz=30,slow=39						
RDO	**Rodhopi**	**85.88**	**347**	P	**P**	**03 37 23.5**	**-1.1**
RDO	**Rodhopi**	**85.88**	**347**	P	**P**	**03 37 23.5**	**-1.1**
ANTO	**Ankara**	**85.90**	**341**	*e*P	**P**	**03 37 27.2**	**+2.4**
ANTO				pmax	pmax		
	comp=Z,15nm,0.8s						
ANTO				MLR	MLR		
	comp=Z,700nm,20.0s						
ANTO	**Ankara**	**85.90**	**341**	*e*P	**P**	**03 37 27.2**	**+2.4**
	comp=Z,15nm,0.8s						
ANTO				LR	LR		
	comp=Z,700nm,20.0s						
NVR	**Nevrokopi**	**85.90**	**348**	P	**P**	**03 37 24.5**	**-0.2**
NVR	**Nevrokopi**	**85.90**	**348**	P	**P**	**03 37 24.5**	**-0.2**
BR231	**Keskin MP Arra**	**85.93**	**341**	*e*P	**P**	**03 37 27.8**	**+2.8**
PVRL	**Vila Real**	**85.95**	**12**	*e*P	**P**	**03 37 24.8**	**-0.2**
PTO	**Porto**	**85.97**	**13**	*e*P	**P**	**03 37 25.0**	**0.0**
CAPC	**Capurgana**	**85.99**	**81**	*i* P	**P**	**03 37 24.3**	**-1.2**
VAY	**Valandovo**	**86.08**	**349**	*i* P	**P**	**03 37 26.5**	**+1.0**
MVO	**Moncorvo**	**86.14**	**11**	*e*P	**P**	**03 37 25.5**	**-0.5**
	comp=Z,43nm,1.3s						
MVO	**Moncorvo**	**86.14**	**11**	*e*S	**S**	**03 48 00.7**	**+4.0**
MVO				*e*SS	SS	03 53 45.1	+11
MVO	**Moncorvo**	**86.14**	**11**	*e*LR	LR	04 04 54.1	
	comp=Z,764nm,20.0s						
SRS	**Serrai**	**86.16**	**348**	P	**P**	**03 37 25.4**	**-0.6**
SRS	**Serrai**	**86.16**	**348**	P	**P**	**03 37 25.4**	**-0.6**
SRS	**Serrai**	**86.16**	**348**	P	**P**	**03 37 25.4**	**-0.6**
CDVI	**St. Croix**	**86.20**	**66**	*e*P	**P**	**03 37 26.1**	**-0.4**
	comp=Z,156nm,0.9s						
KNT	**Kendrikon**	**86.20**	**349**	P	**P**	**03 37 24.6**	**-1.6**
KNT	**Kendrikon**	**86.20**	**349**	P	**P**	**03 37 24.6**	**-1.6**
KNT	**Kendrikon**	**86.20**	**349**	P	**P**	**03 37 24.6**	**-1.6**
PVM	**Polavaram**	**86.31**	**293**	*e*P	**P**	**03 37 26.6**	**-0.4**
PVM				IAmb	IAmb	03 37 27.9	
	comp=Z,77nm,0.8s						
PVM				*e*pP	**pP**	**03 37 38.8**	**-2.5**
PVM				*e*SKSac	**SKSac**	**03 47 45.2**	**-4.1**
PVM				IVMs_BB	IVMs_BB	04 15 51.3	
	comp=Z,306nm,19.8s						
RPR	**Rampur**	**86.32**	**296**	*e*P	**P**	**03 37 27.6**	**+0.6**
RPR				IAmb	IAmb	03 37 28.2	
	comp=Z,88nm,1.2s						
RPR				*e*pP	**pP**	**03 37 38.6**	**-2.8**
RPR				*e*SKSac	**SKSac**	**03 47 44.0**	**-5.4**
RPR				IVMs_BB	IVMs_BB	04 17 13.9	
	comp=Z,372nm,20.1s						
SJCC	**San Jacinto, C**	**86.32**	**79**	*e*P	**P**	**03 37 26.5**	**-0.7**
TIR	**Tirane**	**86.34**	**351**	⇑*i*P	**P**	**03 37 26.8**	**-0.1**
TIR	**Tirane**	**86.34**	**351**	PFAKE		03 37 40.0	+13
TIR				LR	LR		
	comp=Z,1μm,20.0s						
GRG	**Griva**	**86.46**	**349**	P	**P**	**03 37 27.1**	**-0.4**
GRG	**Griva**	**86.46**	**349**	P	**P**	**03 37 27.1**	**-0.4**
GRG	**Griva**	**86.46**	**349**	P	**P**	**03 37 27.1**	**-0.4**
PVIS	**Viseu**	**86.48**	**12**	*e*P	**P**	**03 37 27.4**	**-0.2**
	comp=Z,54nm,1.0s						
MARD	**Mardin**	**86.48**	**335**	*e*P	**P**	**03 37 29.1**	**+1.2**
	comp=Z,64nm,0.8s						
OHR	**Ohrid**	**86.48**	**350**	*i* P	**P**	**03 37 27.1**	**-0.5**
OHR	**Ohrid**	**86.48**	**350**	P	**P**	**03 37 28.5**	**+0.9**
BIA	**Bitola**	**86.52**	**350**	*i* P	**P**	**03 37 27.8**	**-0.1**
LHMI	**Lhok Sumawe**	**86.66**	**274**	P	**P**	**03 37 30.5**	**+1.7**
LHMI	**Lhok Sumawe**	**86.66**	**274**	*e*P	**P**	**03 37 30.1**	**+1.3**
	comp=Z,442nm,1.5s						
LHMI				LR	LR		
	comp=Z,1μm,22.0s						
FNA	**Florina**	**86.75**	**350**	P	**P**	**03 37 28.2**	**-0.7**
FNA	**Florina**	**86.75**	**350**	P	**P**	**03 37 28.2**	**-0.7**
FNA	**Florina**	**86.75**	**350**	P	**P**	**03 37 28.2**	**-0.7**
SRSP	**Sriramsagar**	**86.79**	**297**	*e*P	**P**	**03 37 28.3**	**-1.1**
SRSP				IAmb	IAmb	03 37 29.9	
	comp=Z,134nm,1.5s						
SRSP				*e*pP	**pP**	**03 37 40.3**	**-3.4**
SRSP				*e*SKSac	**SKSac**	**03 47 46.4**	**-5.9**
SRSP				IVMs_BB	IVMs_BB	04 18 45.9	
	comp=Z,854nm,19.2s						
URIC	**Uribia, Colomb**	**86.82**	**75**	*e*P	**P**	**03 37 28.1**	**-1.4**
MTE	**Manteigas**	**86.83**	**12**	*e*P	**P**	**03 37 28.8**	**-0.6**
	comp=Z,108nm,1.7s						
MTE	**Manteigas**	**86.83**	**12**	*e*S	**S**	**03 47 58.2**	**-5.2**
MTE	**Manteigas**	**86.83**	**12**	*e*LR	LR	04 04 23.9	
	comp=Z,804nm,22.0s						
MTE	**Manteigas**	**86.83**	**12**	*e*P	**P**	**03 37 28.9**	**-0.5**
	comp=Z,35nm,0.8s						
OUR	**Ouranopolis**	**86.89**	**348**	P	**P**	**03 37 28.8**	**-0.7**
OUR	**Ouranopolis**	**86.89**	**348**	P	**P**	**03 37 28.8**	**-0.7**
OUR	**Ouranopolis**	**86.89**	**348**	P	**P**	**03 37 28.8**	**-0.7**
MOTC	**Monteria, Cord**	**86.91**	**80**	*i* P	**P**	**03 37 29.5**	**-0.5**
SMRT	**St. Maarten**	**86.91**	**64**	*e*P	**P**	**03 37 29.8**	**-0.2**
SMRT	**St. Maarten**	**86.91**	**64**	*e*P	**P**	**03 37 29.8**	**-0.2**
SMRT				LR	LR		
	comp=Z,1μm,21.0s						
PLG	**Polygyros**	**86.91**	**348**	P	**P**	**03 37 29.2**	**-0.5**
PLG	**Polygyros**	**86.91**	**348**	P	**P**	**03 37 29.2**	**-0.5**
PLG	**Polygyros**	**86.91**	**348**	P	**P**	**03 37 29.2**	**-0.5**
GUD	**Guadarrama**	**86.98**	**9**	P	**P**	**03 37 29.3**	**-0.9**
GUD				pmax	pmax		
	comp=Z,37nm,0.7s						
JAGI	**Jajag, Banyuwa**	**86.98**	**252**	PFAKE		03 37 40.0	+10
JAGI				LR	LR		
	comp=Z,600nm,21.0s						
PCAS	**Casmilo, Conde**	**87.05**	**13**	*e*P	**P**	**03 37 29.8**	**-0.6**
PCAS	**Casmilo, Conde**	**87.05**	**13**	*e*LR	LR	04 04 25.4	
	comp=Z,653nm,20.0s						
EPLA	**Plasencia**	**87.34**	**11**	P	**P**	**03 37 31.8**	**0.0**
EPLA				pmax	pmax		
	comp=Z,151nm,0.8s						
PSI	**Prapat**	**87.34**	**271**	*e*P	**P**	**03 37 32.4**	**+0.1**
PSI				pmax	pmax		
	comp=Z,116nm,0.8s						
PSI				MLR	MLR		
	comp=Z,700nm,21.0s						
PSI	**Prapat**	**87.34**	**271**	*e*P	**P**

DRWC	Darouich	88.17	337	*i* P		P		03 37 35.7	-0.2
NJS	Nagarjunasagar	88.17	295	IAmb		IAmb		03 37 34.8	
	comp=Z,226nm,5.0s								
NJS				*e*P		P		03 37 34.8	-1.2
NJS				*e*pP		pP		03 37 47.2	-3.2
NJS				*e*SKSac		SKSac		03 47 56.4	-4.3
NJS				IVMs_BB		IVMs_BB		04 16 44.6	
	comp=Z,415nm,27.0s								
ARMA	Armidale	88.22	211	*e*P		P		03 37 36.8	+0.9
	comp=Z,261nm,1.9s								
ARMA				LR		LR			
	comp=Z,2μm,22.0s								
PMST	Lisbon--Monsan	88.25	13	*e*P		P		03 37 35.9	-0.2
	comp=Z,200nm,1.7s								
ISP	Isparta	88.31	342	PFAKE				03 37 50.0	+13
ISP				LR		LR			
	comp=Z,800nm,21.0s								
KSRV	Kasrt alli	88.31	335	*i* P		P		03 37 35.7	-0.8
PESTR	Estremoz	88.34	12	*e*P		P		03 37 35.5	-1.0
	comp=Z,52nm,0.9s								
PESTR	Estremoz	88.34	12	*e*LR		LR		04 04 42.5	
	comp=Z,796nm,18.0s								
AGG	Agios Georgios	88.38	349	*e*P		P		03 37 35.4	-1.4
AGG				pmax		pmax			
	comp=Z,47nm,0.8s								
AGG				MLR		MLR			
	comp=Z,2μm,22.0s								
AGG	Agios Georgios	88.38	349	*e*P		P		03 37 35.4	-1.4
	comp=Z,47nm,0.8s								
AGG				LR		LR			
	comp=Z,2μm,22.0s								
ZARC	Zaragoza, Cauc	88.41	80	*e*P		P		03 37 36.1	-1.0
DSL	Palaion Diasel	88.41	350	P		P		03 37 36.1	-0.8
DSL	Palaion Diasel	88.41	350	P		P		03 37 36.1	-0.8
FITZ	Fitzroy Crossi	88.44	238	*e*P		P		03 37 37.0	0.0
KLRI	Killari	88.44	298	*e*P		P		03 37 36.0	-1.4
KLRI				IAmb		IAmb		03 37 37.8	
	comp=Z,118nm,0.7s								
KLRI				*e*pP		pP		03 37 48.4	-3.3
KLRI				*e*SKSac		SKSac		03 47 56.7	-5.7
KLRI				IVMs_BB		IVMs_BB		04 19 56.3	
	comp=Z,1μm,20.7s								
EVR	Evrytania	88.55	349	P		P		03 37 37.5	-0.1
EVR	Evrytania	88.55	349	P		P		03 37 37.5	-0.1
EVO	Evora	88.61	13	*e*P		P		03 37 36.7	-1.1
VSL	Villasalto	88.74	359	PFAKE				03 37 50.0	+12
VSL				LR		LR			
	comp=Z,900nm,21.0s								
OCAC	Ocana	88.75	78	*i* P		P		03 37 38.5	-0.5
SRLM	Srisailam	88.77	295	*e*P		P		03 37 37.3	-1.7
SRLM				IAmb		IAmb		03 37 39.9	
	comp=Z,52nm,1.1s								
SRLM				*e*pP		pP		03 37 50.1	-3.2
SRLM				*e*SKSac		SKSac		03 48 00.0	-4.4
SRLM				IVMs_BB		IVMs_BB		04 17 14.3	
	comp=Z,320nm,22.8s								
ANX	Ano Chora	88.85	349	P		P		03 37 38.4	-0.7
PNCL	Nicolau / Gran	88.95	13	*e*P		P		03 37 38.6	-0.8
PNCL	Nicolau / Gran	88.95	13	*e*LR		LR		04 04 48.6	
DSF	Desfina	88.96	349	P		P		03 37 37.7	-1.8
DSF	Desfina	88.96	349	P		P		03 37 37.7	-1.8
EFP	Efpalio	89.02	349	P		P		03 37 39.1	-0.6
HELC	Santa Helena	89.02	81	*i* P		P		03 37 40.1	-0.4
HELC	Santa Helena	89.02	81	*e*P		P		03 37 40.5	0.0
	comp=Z,51nm,0.7s								
GDHS	Morne Mazeau,	89.07	64	*e*P		P		03 37 40.6	+0.3
	comp=Z,170nm,0.9s								
PBAR	Barrancos	89.09	12	*e*P		P		03 37 39.3	-0.8
	comp=Z,56nm,1.8s								
PBAR	Barrancos	89.09	12	*e*LR		LR		04 04 36.9	
AS31	Alice Springs	89.10	228	*e*P		P		03 37 39.8	-0.4
	comp=Z,42nm,0.8s								
AS31				*e*PKiKP		PKiKP		03 42 37.9	-0.9
ASAR	Alice Springs	89.10	228	P		P		03 37 39.8	-0.4
	comp=Z,117nm,0.6s,baz=31,slow=4.8,SNR=952								
ASAR				PKiKP		PKiKP		03 42 37.9	-0.9
	comp=Z,0.9nm,0.7s,baz=24,slow=1.8,SNR=4.2								
ASAR				PKKPbc		PKKPbc		03 55 16.6	+0.3
	comp=Z,2.0nm,0.6s,baz=207,slow=2.0,SNR=20								
ASAR				LR		LR		04 13 23.2	
	comp=Z,1μm,22.0s,baz=25,slow=33								
PBEJ	Beja	89.13	13	*e*P		P		03 37 39.9	-0.4
	comp=Z,43nm,1.8s								
PDSI	Padang	89.30	268	P		P		03 37 42.1	+0.7
KLV	Kalavryta, Ach	89.37	349	P		P		03 37 40.7	-0.8
KLV	Kalavryta, Ach	89.37	349	P		P		03 37 40.7	-0.8
BRRC	Barranca, Sant	89.40	79	*i* P		P		03 37 41.2	-0.7
GUR	Goura	89.45	349	P		P		03 37 40.8	-1.1
GUR	Goura	89.45	349	P		P		03 37 40.8	-1.1
TBG	Guadaloupe-3	89.48	65	*e*P		P		03 37 42.3	+0.1
PCVE	Castro Verde	89.49	13	*e*P		P		03 37 41.3	-0.7
PCVE	Castro Verde	89.49	13	*e*LR		LR		04 04 36.2	
	comp=Z,982nm,20.0s								
POO	Poona	89.55	300	*e*P		P		03 37 42.5	-0.1
MORF	Marmelete	89.73	13	*e*P		P		03 37 42.4	-0.7
CEL	Celeste	89.73	354	PFAKE				03 37 50.0	+6.9
CEL				LR		LR			
	comp=Z,700nm,22.0s								
MXZ	Matakaoa Point	89.74	188	PFAKE				03 37 50.0	+7.3
MXZ				LR		LR			
	comp=Z,2μm,21.0s								
PVAQ	Vaqueiros	89.76	13	*e*P		P		03 37 42.6	-0.6
PVAQ	Vaqueiros	89.76	13	*e*LR		LR		04 05 07.4	
	comp=Z,802nm,22.0s								
BIDA	Albida	89.79	337	*i* P		P		03 37 41.8	-1.7
MDSI	Maura Dua	89.82	263	P		P		03 37 48.9	+5.2
PAMC	Pamplona, Colo	89.83	78	*i* P		P		03 37 43.6	-0.8
SDV	Santo Domingo	89.85	76	*e*P		P		03 37 44.3	+0.1
	comp=Z,308nm,1.8s								
SDV				LR		LR			
	comp=Z,900nm,22.0s								
GUYC	Guyana, Colomb	89.86	82	*i* P		P		03 37 45.0	+0.4
PFVI	Vila Bisbo	89.87	14	*e*P		P		03 37 42.8	-0.9
PFVI	Vila Bisbo	89.87	14	*e*LR		LR		04 04 48.7	
	comp=Z,768nm,20.0s								
PBDV	Barranco-do-Ve	89.89	13	*e*LR		LR		04 04 55.0	
	comp=Z,1μm,22.0s								
NORC	Norcasia	89.92	81	*i* P		P		03 37 43.6	-0.7
CISI	Cisompet, Garu	90.03	258	PFAKE				03 38 00.0	+15
CISI				LR		LR			
	comp=Z,700nm,22.0s								
BARC	Barichara	90.13	79	*i* P		P		03 37 45.3	-0.3
SKHT	Srikalahasti	90.22	293	*e*P		P		03 37 46.5	+0.9
SKHT				IAmb		IAmb		03 37 47.2	
	comp=Z,58nm,1.3s								
SKHT				*e*pP		pP		03 37 57.7	-2.3
SKHT				*e*SKSac		SKSac		03 48 08.9	-3.8
SKHT				IVMs_BB		IVMs_BB		04 20 49.1	
	comp=Z,318nm,21.9s								
TOLC	Tolima	90.41	82	*e*P		P		03 37 47.9	+1.0
SISI	Saibi	90.47	268	P		P		03 37 49.5	+2.7
CSS	Mathiatis	90.52	340	*e*P		P		03 37 46.3	-0.5
	comp=Z,6.1nm,0.8s								
CSS				LR		LR			
	comp=Z,200nm,21.0s								
URZ	Urewera	90.54	189	PFAKE				03 38 00.0	+14
URZ				LR		LR			
	comp=Z,1μm,20.0s								
CLTB	Caltabellotta	90.55	356	PFAKE				03 38 00.0	+13
CLTB				LR		LR			
	comp=Z,1μm,19.0s								
SANT	Santorini	90.58	346	PFAKE				03 38 00.0	+13
SANT				LR		LR			
	comp=Z,800nm,22.0s								
CXM	Morne La Croix	90.59	65	*e*P		P		03 37 34.6	-13
BAMF	Morne Balai	90.60	65	*e*P		P		03 37 47.9	+0.4
FDF	Fort de France	90.67	65	*e*P		P		03 37 43.4	-4.4
FDF	Fort de France	90.67	65	PFAKE				03 38 00.0	+12
FDF				LR		LR			
	comp=Z,1μm,20.0s								
RUSC	La Rusia	90.74	80	*i* P		P		03 37 48.0	-0.7
RUSC	La Rusia	90.74	80	*e*P		P		03 37 48.0	-0.7
	comp=Z,210nm,1.8s								
ROSC	El Rosal	90.82	81	P		P		03 37 48.9	0.0
	comp=Z,14nm,0.6s,baz=236,slow=2.1,SNR=14								
ROSC				LR		LR		04 20 43.2	
	comp=Z,152nm,19.9s,baz=343,slow=37								
ROSC	El Rosal	90.82	81	*i* P		P		03 37 49.7	+0.7
ROSC	El Rosal	90.82	81	*e*P		P		03 37 49.6	+0.7
	comp=Z,122nm,1.9s								
BIM	Bigot	90.89	65	*e*P		P		03 37 50.3	+1.5
HIZ	Hauiti	91.02	190	*e*P		P		03 37 51.1	+2.5
	comp=Z,343nm,1.7s								
KARP	Karpathos	91.12	345	PFAKE				03 38 00.0	+10
KARP				LR		LR			
	comp=Z,200nm,22.0s								
POPC	Popayan, Colom	91.18	84	*i* P		P		03 37 49.9	-0.5
PRAC	Prado	91.36	82	*i* P		P		03 37 50.8	-0.3
PRAC	Prado	91.36	82	*e*P		P		03 37 50.9	-0.1
	comp=Z,64nm,0.7s								
PRAC				LR		LR			
	comp=Z,500nm,22.0s								
BRBR	Barbar	91.41	337	*i* P		P		03 37 47.4	-3.8
BANOM	Banah	91.61	318	*i* P		P		03 37 50.7	-1.3
	SNR=5.7								
IDI	Anoyia	91.72	346	PFAKE				03 38 00.0	+7.5
IDI				LR		LR			
	comp=Z,700nm,22.0s								
CMBC	Cumbal	91.73	86	*i* P		P		03 37 54.0	+0.8
CRUC	La Cruz	91.78	85	*i* P		P		03 37 53.5	+0.1
BETC	Betania	91.83	83	*i* P		P		03 37 53.5	+0.3
SALA	Sala	91.88	336	*i* P		P		03 37 49.4	-4.1
OTAV	Otavalo	91.90	87	*i* P		P		03 37 53.5	-0.5
OTAV	Otavalo	91.90	87	*e*P		P		03 37 54.4	+0.4
	comp=Z,25nm,0.8s								
OTAV				LR		LR			
	comp=Z,600nm,20.0s								
KEST	Kesra	92.50	359	P		P		03 37 54.4	-1.6
	comp=Z,5.4nm,0.6s,baz=217,slow=1.1,SNR=14								
KEST	Kesra	92.50	359	*e*P		P		03 37 56.2	+0.1
	comp=Z,24nm,1.4s								
KEST				LR		LR			
	comp=Z,1μm,20.0s								
UOSS	Minazif	92.51	317	*e*P		P		03 37 54.3	-1.9
	comp=Z,14nm,0.7s								
UOSS				LR		LR			
	comp=Z,900nm,22.0s								
UOSS	Minazif	92.51	317	P		P		03 37 54.2	-2.0
PMOZ	Porto Moniz, M	92.53	21	*e*LR		LR		04 02 27.2	
	comp=Z,910nm,24.0s								
FLOC	Florencia	92.56	84	*i* P		P		03 37 56.2	-0.4
HATD	Hatta, Dubai	92.65	317	*i* P		P		03 37 55.0	-1.8
	SNR=12								
HATD	Hatta, Dubai	92.65	317	P		P		03 37 55.1	-1.8
PMAR	Madeira	92.69	21	*e*P		P		03 37 59.5	+2.4
	comp=Z,284nm,1.8s								
NAZ	Nazwa, Dubai	92.70	318	*i* P		P		03 37 55.5	-1.6
	SNR=9.1								
FUL	Funchal	92.77	21	*e*P		P		03 37 59.0	+1.8
ASHO	Ashiyiah	92.81	317	*i* P		P		03 37 55.9	-1.7
	SNR=9.9								
WSAR	Wadi Sarin	92.98	315	P		P		03 37 57.7	-0.7
BFZ	Birch Farm	93.02	189	PFAKE				03 38 10.0	+12
BFZ				LR		LR			
	comp=Z,1μm,21.0s								
STKA	Stephens Creek	93.06	218	P		P		03 37 57.5	-0.8
	comp=Z,24nm,0.8s,baz=350,slow=6.9,SNR=44								
STKA				PKKPbc		PKKPbc		03 55 05.9	-0.5
	comp=Z,2.9nm,0.6s,baz=206,slow=18,SNR=5.6								
STKA				LR		LR		04 14 51.2	
	comp=Z,2μm,21.6s,baz=21,slow=32								
STKA	Stephens Creek	93.06	218	*e*P		P		03 37 58.2	-0.1
STKA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
STKA	Stephens Creek	93.06	218	*e*P		P		03 37 58.2	-0.1
	comp=Z,5.8nm,0.8s								
MBWA	Marble Bar	94.08	240	*e*P		P		03 38 02.4	-0.8
	comp=Z,12nm,0.7s								
PALK	Pallekele	94.85	288	*i* P		P		03 38 06.7	-0.5
	SNR=12								
PALK	Pallekele	94.85	288	*c*eP		P		03 38 07.9	+0.8
PALK	Pallekele	94.85	288	*e*P		P		03 38 07.3	+0.2
	comp=Z,39nm,0.8s								
PALK				LR		LR			
	comp=Z,400nm,20.0s								
FORT	Forrest	97.85	229	*e*P		Pdif		03 38 21.3	+1.1
	comp=Z,180nm,0.6s								
FORT				LR		LR			
	comp=Z,12μm,21.0s								
RAYN	Ar Rayn	97.89	326	*e*P		P		03 38 20.0	-0.8
	comp=Z,23nm,0.8s								
RAYN				LR		LR			
	comp=Z,1μm,21.0s								
PTGA	Pitinga	103.86	73	*e*Pdif		Pdif		03 38 47.5	+0.1
PTGA				LR		LR			
	comp=Z,2μm,22.0s								
NWAO	Narrogin (SRO)	104.87	235	PFAKE				03 39 00.0	+8.6
NWAO				LR		LR			
	comp=Z,2μm,22.0s								
TAM	Tamanrasset	105.36	3	PFAKE				03 43 20.0	
TAM				LR		LR			
	comp=Z,700nm,21.0s								
DAMY	Dhamar	106.53	323	PFAKE				03 43 20.0	
DAMY				LR		LR			
	comp=Z,1μm,20.0s								
ATD	Arta Tunnel	109.90	324	PFAKE				03 43 30.0	
ATD				LR		LR			
	comp=Z,1μm,21.0s								
LPAZ	La Paz	111.08	90	Pdiff		Pdif		03 39 22.0	+1.9
	comp=Z,0.8nm,0.6s,baz=225,slow=7.4,SNR=6.4								
LPAZ				PKiKP		PKiKP		03 43 17.9	-1.2
	comp=Z,1.9nm,0.6s,baz=189,slow=4.9,SNR=10								
LPAZ				PKKPbc		PKKPbc		03 54 15.2	+1.5
	comp=Z,0.6nm,0.5s,baz=230,slow=4.3,SNR=5.9								
LPAZ	La Paz	111.08	90	*e*Pdif		Pdif		03 39 22.0	+1.9
LPAZ				*e*PKiKP		PKiKP		03 43 18.6	-0.5
LPAZ				*e*PKKPbc		PKKPbc		03 54 15.2	+1.5
FURI	Furi	113.81	327	PFAKE				03 43 40.0	
FURI				LR		LR			
	comp=Z,700nm,19.0s								
TOC1	Torodi Ar. Sit	114.72	7	PFAKE				03 43 40.0	+15
TOC1				LR		LR			
	comp=Z,900nm,22.0s								
TOC7	Torodi Ar. Sit	114.73	7	PFAKE				03 43 40.0	+15
TOC7				LR		LR			
	comp=Z,800nm,22.0s								
TOC2	Torodi Ar. Sit	114.74	7	PFAKE				03 43 40.0	+15
TOC2				LR		LR			
	comp=Z,700nm,20.0s								
TOB5	Torodi Ar. Sit	114.74	7	PFAKE				03 43 40.0	+15
TOB5				LR		LR			
	comp=Z,800nm,22.0s								
TOA1	Torodi Ar. Sit	114.74	7	*e*Pdif		Pdif		03 39 39.1	+3.2
TOA1				*e*PKiKP		PKiKP		03 43 24.3	-1.1
TOA1				*e*PP		PP		03 44 24.1	+1.5
TOA1				*e*PKKPbc		PKKPbc		03 54 01.0	+0.2
TOA1				LR		LR			
	comp=Z,700nm,21.0s								
TOB2	Torodi Ar. Sit	114.74	7	PFAKE				03 43 40.0	+15
TOB2				LR		LR			
	comp=Z,700nm,21.0s								
TOA0	Torodi Ar. Sit	114.75	7	PFAKE				03 43 40.0	+15
TOA0				LR		LR			
	comp=Z,700nm,20.0s								
TORD	Torodi Ar. Bea	114.75	7	Pdiff		Pdif		03 39 39.1	+3.2
	comp=Z,0.5nm,0.8s,baz=329,slow=5.0,SNR=4.1								
TORD				PKP		PKiKP		03 43 24.3	-1.1
	comp=Z,7.6nm,0.6s,baz=343,slow=2.5,SNR=88								
TORD				PP		PP		03 44 24.1	+1.4
	comp=Z,2.6nm,0.7s,baz=354,slow=5.4,SNR=4.6								
TORD				PKKPbc		PKKPbc		03 54 01.0	+0.3
	comp=Z,6.6nm,0.6s,baz=166,slow=2.5,SNR=53								
TOB4	Torodi Ar. Sit	114.76	7	PFAKE				03 43 40.0	+15
TOB4				LR		LR			
	comp=Z,700nm,21.0s								
TOB3	Torodi Ar. Sit	114.76	7	PFAKE				03 43 40.0	+15
TOB3				LR		LR			
	comp=Z,600nm,20.0s								
TOC3	Torodi Ar. Sit	114.76	7	PFAKE				03 43 40.0	+15
TOC3				LR		LR			
	comp=Z,600nm,20.0s								
TOC5	Torodi Ar. Sit	114.77	7	PFAKE				03 43 40.0	+14
TOC5				LR		LR			
	comp=Z,800nm,22.0s								
TOC4	Torodi Ar. Sit	114.77	7	PFAKE				03 43 40.0	+14
TOC4				LR		LR			
	comp=Z,700nm,21.0s								
TIC	Toumodi	120.37	15	*e*PKP1		PKPdf		03 43 35.5	-0.8
DBIC	Dimbokro	120.37	15	PKP		PKPdf		03 43 35.5	-0.8
	comp=Z,11nm,0.4s,baz=358,slow=2.2,SNR=54								
DBIC				PKKPbc		PKKPbc		03 53 41.9	+1.1
	comp=Z,4.5nm,0.7s,baz=170,slow=9.1,SNR=5.5								
KIC	Kosan Boka	120.70	15	*e*PKP1		PKPdf		03 43 36.1	-0.9
	comp=Z,38nm,0.6s								
LIC	Lamto	120.78	15	*e*PKP1		PKPdf		03 43 36.2	-0.9
	comp=Z,104nm,0.6s								
BDFB	Brasilia	122.78	72	PKP		PKPdf		03 43 40.4	-0.5
	comp=Z,8.0nm,0.6s,baz=55,slow=1.8,SNR=26								
BDFB	Brasilia	122.78	72	*e*PKPdf		PKPdf		03 43 40.4	-0.5
BDFB				*e*PKPdf		PKiKP		03 43 40.9	-0.3
BDFB				LR		LR			
	comp=Z,2μm,21.0s								
KMBO	Kilima Mbogo	123.64	324	PKP		PKPdf		03 43 43.1	+0.2
	comp=Z,15nm,0.7s,baz=18,slow=3.5,SNR=52								
KMBO				PKKPbc		PKKPab		03 53 30.7	-1.8
	comp=Z,1.5nm,0.6s,baz=187,slow=3.5,SNR=5.3								
KMBO	Kilima Mbogo	123.64	324	*e*PKPdf		PKPdf		03 43 43.8	+0.9
KMBO				*e*PKKPbc		PKKPab		03 53 30.7	-1.8
KMBO				LR		LR			
	comp=Z,700nm,20.0s								
CPUP	Villa Florida	125.23	89	PKP		PKPdf		03 43 44.5	-0.7
	comp=Z,15nm,0.6s,baz=322,slow=1.6,SNR=80								
PLCA	Paso Flores	127.12	111	PKhKP		PKPpre		03 43 41.0	
	comp=Z,3.9nm,0.9s,baz=318,slow=11,SNR=3.3								
PLCA				PKP		PKPdf		03 43 48.2	-0.2
	comp=Z,26nm,0.7s,baz=287,slow=2.2,SNR=48								
SPB	Sao Paulo	129.26	78	PFAKE				03 44 10.0	+17
SPB				LR		LR			
	comp=Z,900nm,19.0s								
SBA	Scott Base	130.39	186	*e*PKIKP		PKPdf		03 43 53.4	-0.1
SBA	Scott Base	130.39	186	*e*PKPdf		PKPdf		03 43 53.4	-0.1
VNDA	Vanda	130.42	187	PKhKP		PKPpre		03 43 47.2	
	comp=Z,1.1nm,0.7s,baz=242,slow=5.8,SNR=4.0								
VNDA				PKP		PKPdf		03 43 52.8	-0.7
	comp=Z,1.6nm,0.6s,baz=31,slow=3.7,SNR=9.2								
VNDA				SKPbc		SKPab		03 47 11.5	-1.0
	comp=Z,7.6nm,1.1s,baz=0.5,slow=5.5,SNR=11								
TRQA	Tornquist	130.44	103	*e*PKPdf		PKPdf		03 43 54.1	-0.7
OPO	Ambohidratompo	134.71	303	SKPbc		SKPbc		03 47 30.0	+0.5
	comp=Z,5.4nm,0.9s,baz=244,slow=4.1,SNR=5.5								
ABPO	Ambohimpanom	135.06	302	PFAKE				03 44 20.0	+16
ABPO				LR		LR			
	comp=Z,900nm,20.0s								
LSZ	Lusaka	139.92	329	PKhKP		PKPpre		03 44 06.8	
	comp=Z,11nm,0.6s,baz=28,slow=3.5,SNR=34								
LSZ				SKPbc		SKPbc		03 47 45.2	+0.4
	comp=Z,12nm,0.6s,baz=56,slow=4.0,SNR=13								
LSZ	Lusaka	139.92	329	*e*PKPpre		PKPpre		03 44 06.9	
LSZ				LR		LR			
	comp=Z,1μm,21.0s								
PMSA	Palmer Station	142.39	138	*e*PKPpre		PKPpre		03 44 10.5	
BLWY	Bulawayo	144.31	326	*i* P		PKPbc		03 44 19.5	+0.1
BLWY				*i*				03 44 19.7	
	baz=83,slow=4.4								
TSUM	Tsumeb	146.32	344	PKPbc		PKPbc		03 44 25.2	-0.5
	comp=Z,57nm,0.7s,baz=355,slow=5.4,SNR=59								
TSUM				SKPbc		SKiKP		03 48 00.7	+0.1
	comp=Z,11nm,1.0s,baz=308,slow=1.4,SNR=3.8								
MAW	Mawson	149.75	218	PKP		PKPdf		03 44 28.5	+0.2
	comp=Z,33nm,1.0s,baz=111,slow=5.3,SNR=8.4								
MAW				PKPbc		PKPbc		03 44 32.5	-0.7
	comp=Z,42nm,0.9s,baz=88,slow=2.7,SNR=4.1								
MAW	Mawson	149.75	218	*e*PKPdf		PKPdf		03 44 28.0	-0.4
MAW				PKPbc		PKPbc		03 44 32.5	-0.7
LBTB	Lobatse	149.85	327	*e*PKPdf		PKPdf		03 44 30.1	0.0
BOSA	Boshof	153.27	325	*i* P		PKPbc		03 44 42.6	-0.1
BOSA				*i*				03 44 42.7	
	baz=53,slow=5.3								
BOSA	Boshof	153.27	325	PKP		PKPdf		03 44 35.6	+0.5
	comp=Z,8.6nm,0.7s,baz=4.3,slow=2.2,SNR=20								
BOSA				PKPbc		PKPbc		03 44 42.4	-0.3
	comp=Z,44nm,0.7s,baz=19,slow=1.8,SNR=46								
BOSA	Boshof	153.27	325	*e*PKPdf		PKPdf		03 44 35.6	+0.5
BOSA				*e*PKPdf		PKPbc		03 44 35.8	-6.9
BOSA				*e*PKPbc		PKPbc		03 44 42.4	-0.3
SYO	Syowa Base	157.53	209	*e*PKPdf		PKPdf		03 44 40.6	+1.2
VNA3	Neumayer Olymp	159.22	164	PKP		PKPab		03 45 17.1	-1.8
SNAA	Sanae	159.79	170	PKP		PKPab		03 45 20.3	-1.2
SNAA	Sanae	159.79	170	PKP		PKPdf		03 44 40.3	-1.9
	comp=Z,3.7nm,0.8s,baz=160,slow=3.7,SNR=11								
SNAA				PKPab		PKPab		03 45 20.3	-1.2
	comp=Z,8.1nm,0.5s,baz=206,slow=9.1,SNR=19								
SNAA	Sanae	159.79	170	*e*PKPdf		PKPdf		03 44 39.9	-2.3
SNAA				*e*PKPab		PKPab		03 45 20.3	-1.2
SNAA				LR		LR			
	comp=Z,900nm,21.0s								
VNA2	Neumayer--Watz	159.87	165	PKP		PKPab		03 45 20.8	-1.0
	baz=306,slow=2.4								
VNA1	Neumayer--Stat	159.96	164	PKP		PKPab		03 45 20.8	-1.3

MEX 25 03:25:02.0±0.5, 27°.39N×111°.31W, h16km±20km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	Guaymas	0.64	37	*e*P	Pg	03 25 11.9	-2.6
GUYB				*e*S	Sg	03 25 20.9	-2.1
SRIG	Santa Rosalia	0.83	265	*e*P	Pb	03 25

EATA				*i* S	Sg	03 29 36.8	+1.7
EATA	**Eleskirt**	**1.33**	**320**	P	Pn	03 29 16.0	-2.1
EATA				S	Sg	03 29 36.8	+1.7
NAX	**Nakhchivan**	**1.51**	**77**	P	Pg	03 29 21.4	+0.2
	SNR=32						
NAX				⇑S	Sg	03 29 41.0	+0.2
NAX	**Nakhchivan**	**1.51**	**77**	P	Pg	03 29 21.4	+0.2
	SNR=32						
NAX				S	Sg	03 29 41.0	+0.2
CUKT	**Cukurca**	**1.60**	**180**	*e*PN	Pn	03 29 20.9	-0.8
CUKT	**Cukurca**	**1.60**	**180**	*i* P	Pb	03 29 22.6	-0.1
CUKT				*i* S	Sg	03 29 45.2	+1.3
CUKT	**Cukurca**	**1.60**	**180**	*e*Pn	Pb	03 29 20.9	-0.8
CUKT	**Cukurca**	**1.60**	**180**	P	Pb	03 29 22.6	-0.1
CUKT				S	Sg	03 29 45.2	+1.3
SIRN	**S˜–rnak**	**1.65**	**215**	*i* P	Pn	03 29 22.2	-0.1
SIRN				*i* S	Sg	03 29 46.9	+1.5
SIRN	**S˜–rnak**	**1.65**	**215**	P	Pn	03 29 22.2	-0.1
SIRN				S	Sg	03 29 46.9	+1.5
VRTB	**Varto-Mus**	**1.70**	**281**	*e*PN	Pn	03 29 23.3	+0.2
VRTB	**Varto-Mus**	**1.70**	**281**	*i* P	Pn	03 29 21.5	-1.6
VRTB	**Varto-Mus**	**1.70**	**281**	P	Pn	03 29 21.5	-1.6
VRTB	**Varto-Mus**	**1.70**	**281**	*e*Pn	Pn	03 29 23.3	+0.2
SENK	**Senkaya-Erzuru**	**1.96**	**331**	*e*PN	Pb	03 29 28.0	-0.8
SENK	**Senkaya-Erzuru**	**1.96**	**331**	*e*Pn	Pb	03 29 28.0	-0.8
SVAN	**Silvan-Diyarba**	**2.01**	**250**	*e*PN	Pb	03 29 28.4	-1.2
SVAN	**Silvan-Diyarba**	**2.01**	**250**	*i* P	Pn	03 29 27.7	+0.4
SVAN	**Silvan-Diyarba**	**2.01**	**250**	P	Pn	03 29 27.7	+0.4
SVAN	**Silvan-Diyarba**	**2.01**	**250**	*e*Pn	Pb	03 29 28.4	-1.2
BNGB	**Bing˜¶**	**2.29**	**274**	*e*PN	Pb	03 29 32.8	-1.6
BINT	**Bingol**	**2.43**	**272**	*e*Pn	Pn	03 29 32.8	-0.3
YEDI	**Yedisu-Bingol**	**2.45**	**285**	*e*PN	Pb	03 29 35.4	-1.8
YEDI	**Yedisu-Bingol**	**2.45**	**285**	*e*Pn	Pb	03 29 35.4	-1.8
GDB	**GEDABAY**	**2.49**	**41**	⇑P	Pn	03 29 35.4	+1.4
	SNR=26						
GDB				⇑S	Sb	03 30 09.1	0.0
GDB	**GEDABAY**	**2.49**	**41**	P	Pn	03 29 35.4	+1.4
	SNR=26						
GDB				S	Sb	03 30 09.1	0.0
QZX	**Qazax, Azerbai**	**2.59**	**31**	P	Pb	03 29 38.3	-1.1
	SNR=28						
QZX				⇑S	Sb	03 30 11.8	+0.2
QZX	**Qazax, Azerbai**	**2.59**	**31**	P	Pb	03 29 38.3	-1.1
	SNR=28						
QZX				S	Sb	03 30 11.8	+0.2
GANJ	**Ganja**	**2.75**	**49**	P	Pn	03 29 39.4	+1.9
	SNR=12						
GANJ				⇓S	Sb	03 30 14.4	-2.1
GANJ	**Ganja**	**2.75**	**49**	P	Pn	03 29 39.4	+1.9
	SNR=12						
GANJ				S	Sb	03 30 14.4	-2.1
MAZI	**Mazidag**	**2.85**	**242**	*e*PN	Pn	03 29 40.7	+1.8
MAZI	**Mazidag**	**2.85**	**242**	*e*Pn	Pn	03 29 40.7	+1.8
BRDA	**Brd**	**3.10**	**62**	⇑P	Pn	03 29 43.8	+1.6
	SNR=7.3						
BRDA				⇑S	Sn	03 30 21.8	+2.1
BRDA	**Brd**	**3.10**	**62**	P	Pn	03 29 43.8	+1.6
	SNR=7.3						
BRDA				S	Sn	03 30 21.8	+2.1
PTK	**Pertek**	**3.29**	**272**	*e*PN	Pn	03 29 46.2	+1.2
PTK	**Pertek**	**3.29**	**272**	*e*Pn	Pn	03 29 46.2	+1.2
MNGR	**Mingechevir, A**	**3.29**	**53**	⇓P	Pn	03 29 47.0	+2.2
	SNR=7.0						
MNGR				⇓S	Sb	03 30 27.4	-4.5
MNGR	**Mingechevir, A**	**3.29**	**53**	P	Pn	03 29 47.0	+2.2
	SNR=7.0						
MNGR				S	Sb	03 30 27.4	-4.5
ZRD	**Zardab**	**3.46**	**64**	⇓P	Pn	03 29 48.6	+1.5
	SNR=3.2						
ZRD				⇓S	Sn	03 30 30.3	+1.8
ZRD	**Zardab**	**3.46**	**64**	P	Pn	03 29 48.6	+1.5
	SNR=3.2						
ZRD				S	Sn	03 30 30.3	+1.8
ZKTA	**Zakatala**	**3.62**	**39**	⇓P	Pn	03 29 52.1	+2.8
	SNR=5.4						
ZKTA				⇑S	Sb	03 30 36.7	-4.4
SEKA	**Sheki**	**3.62**	**48**	⇓P	Pn	03 29 52.5	+3.0
	SNR=9.3						
SEKA				⇓S	Sb	03 30 37.0	-4.5
SEKA	**Sheki**	**3.62**	**48**	P	Pn	03 29 52.5	+3.0
	SNR=9.3						
SEKA				S	Sb	03 30 37.0	-4.5
LRK	**Lerik**	**3.71**	**92**	⇑P	Pn	03 29 50.8	+0.1
	SNR=4.8						
LRK				⇑S	Sn	03 30 34.5	-0.4
LRK	**Lerik**	**3.71**	**92**	P	Pn	03 29 50.8	+0.1
	SNR=4.8						
LRK				S	Sn	03 30 34.5	-0.4
GLBA	**Clilabad**	**3.75**	**83**	⇑P	Pn	03 29 51.9	+0.8
	SNR=4.4						
GLBA				⇑S	Sn	03 30 36.1	+0.4
GLBA	**Clilabad**	**3.75**	**83**	P	Pn	03 29 51.9	+0.8
	SNR=4.4						
QBL	**Gabala**	**3.87**	**56**	⇑P	Pn	03 29 54.6	+1.8
	SNR=6.6						
QBL				⇓S	Sn	03 30 41.1	+2.4
QBL	**Gabala**	**3.87**	**56**	P	Pn	03 29 54.6	+1.8
	SNR=6.6						
QBL				S	Sn	03 30 41.1	+2.4
IML	**Ismayilli**	**4.02**	**60**	⇑P	Pn	03 29 56.6	+1.7
IML				⇑S	Sn	03 30 44.6	+2.1
IML	**Ismayilli**	**4.02**	**60**	P	Pn	03 29 56.6	+1.7
IML				S	Sn	03 30 44.6	+2.1
LKRN	**Lenkeran, Azer**	**4.05**	**90**	⇓P	Pn	03 29 55.5	+0.4
	SNR=8.0						
LKRN				⇓S	Sn	03 30 42.8	-0.2
LKRN	**Lenkeran, Azer**	**4.05**	**90**	P	Pn	03 29 55.5	+0.4
	SNR=8.0						
ASTR	**Astara**	**4.07**	**93**	⇑P	Pn	03 29 55.6	+0.1
	SNR=4.0						
ASTR				⇓S	Sn	03 30 43.1	-0.5
ASTR	**Astara**	**4.07**	**93**	P	Pn	03 29 55.6	+0.1
	SNR=4.0						
XNQ	**Khinaliq**	**4.18**	**55**	⇑P	Pn	03 29 59.0	+1.8
	SNR=5.8						
XNQ				⇑S	Sn	03 30 49.3	+2.6
XNQ	**Khinaliq**	**4.18**	**55**	P	Pn	03 29 59.0	+1.8
	SNR=5.8						
XNQ				S	Sn	03 30 49.3	+2.6
PQL	**Pirkuli**	**4.30**	**62**	⇓P	Pn	03 30 00.2	+1.4
	SNR=3.7						
PQL				⇓S	Sn	03 30 51.1	+1.6
PQL	**Pirkuli**	**4.30**	**62**	P	Pn	03 30 00.2	+1.4
	SNR=3.7						
PQL				S	Sn	03 30 51.1	+1.6
QSAR	**Qusar**	**4.45**	**52**	⇑P	Pn	03 30 03.1	+2.4
	SNR=3.9						
QSAR	**Qusar**	**4.45**	**52**	P	Pn	03 30 03.1	+2.4
	SNR=3.9						
QUBA	**Quba, Azerbaij**	**4.50**	**55**	⇓P	Pn	03 30 03.5	+2.0
QUBA	**Quba, Azerbaij**	**4.50**	**55**	P	Pn	03 30 03.5	+2.0
ATGJ	**Altiaghaj**	**4.57**	**62**	⇓P	Pn	03 30 03.8	+1.4
	SNR=5.1						
ATGJ	**Altiaghaj**	**4.57**	**62**	P	Pn	03 30 03.8	+1.4
	SNR=5.1						
SIZA	**Siyzn**	**4.63**	**60**	⇓P	Pn	03 30 04.8	+1.5
SIZA	**Siyzn**	**4.63**	**60**	P	Pn	03 30 04.8	+1.5

ISCJB ***25*** *03:35:14.9±1.1,38.°91N±0.°03×43.°67E±0.°09,h8km±7km, Error ellipse: s-maj=11.4km s-min=4.9km az=170.8*
CSEM ***25*** *03:35:14.7±0.5,38.°89N×43.°66E,h2km,ML3.1,Error ellipse: s-maj=12.3km s-min=5.2km az=82.0*
DDA ***25*** *03:35:14.7,38.°88N×43.°61E,h7km,Ml3.0*
ISK ***25*** *03:35:14.1,38.°90N×43.°69E,h7km,ML3.1*
ISC 25 03:35:14.5±1.4,**38.°90N**±0.°02×**43.°69E**±0.°06,**h4**km±11km, **n30**,σ1°**39**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.39**	**217**	*e*PG	**Pb**	**03 35 23.1**	**-0.9**
VANB				*e*SG	**Sb**	**03 35 30.4**	**+0.1**
VANB	**Van**	**0.39**	**217**	*e*Pg	**Pb**	**03 35 23.1**	**-0.9**
TVAN	**Van**	**0.44**	**211**	*i* P	**Pb**	**03 35 25.1**	**+0.3**
TVAN				*i* S	**Sb**	**03 35 33.6**	**+1.8**
TVAN	**Van**	**0.44**	**211**	P	**Pb**	**03 35 25.1**	**+0.3**
DYDN	**Diyadin**	**0.64**	**360**	*i* P	**Pb**	**03 35 28.5**	**+0.2**
DYDN	**Diyadin**	**0.64**	**360**	P	**Pb**	**03 35 28.5**	**+0.2**
GEVA	**Gevas**	**0.77**	**220**	*i* P	**Pg**	**03 35 27.8**	**-1.5**
GEVA				*i* S	**Sb**	**03 35 39.7**	**-1.7**
GEVA	**Gevas**	**0.77**	**220**	P	**Pg**	**03 35 27.8**	**-1.5**
GEVA				S	**Sb**	**03 35 39.7**	**-1.7**
TUTA	**Tutak**	**0.84**	**306**	*i* P	**Pg**	**03 35 29.7**	**-1.0**
TUTA				*i* S	**Sg**	**03 35 41.6**	**-0.1**
TUTA	**Tutak**	**0.84**	**306**	P	**Pg**	**03 35 29.7**	**-1.0**
TUTA				S	**Sg**	**03 35 41.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.86**	**321**	*e*PG	**Pg**	**03 35 31.1**	**+0.1**
AGRB				*e*SG	**Sb**	**03 35 43.6**	**-0.5**
AGRB	**Hanur-Agry**	**0.86**	**321**	*e*Pg	**Pg**	**03 35 31.1**	**+0.1**
AGRB				*e*Sg	**Sb**	**03 35 43.6**	**-0.5**
EKAR	**Karacoban**	**1.31**	**286**	*i* P	**Pg**	**03 35 39.7**	**0.0**
EKAR				*i* S	**Sn**	**03 36 01.5**	**+3.6**
EKAR	**Karacoban**	**1.31**	**286**	P	**Pg**	**03 35 39.7**	**0.0**
EATA	**Eleskirt**	**1.33**	**316**	*i* P	**Pn**	**03 35 39.7**	**-0.4**
EATA				*i* S	**Sn**	**03 35 57.7**	**-0.8**
EATA	**Eleskirt**	**1.33**	**316**	P	**Pn**	**03 35 39.7**	**-0.4**
EATA				S	**Sn**	**03 35 57.7**	**-0.8**
HAKT	**HAKKARI**	**1.34**	**179**	*i* P	**Pn**	**03 35 38.9**	**-1.4**
HAKT				*i* S	**Sg**	**03 36 03.0**	**+5.3**
HAKT	**HAKKARI**	**1.34**	**179**	P	**Pn**	**03 35 38.8**	**-1.4**
CUKT	**Cukurca**	**1.66**	**182**	*e*PN	**Pb**	**03 35 44.5**	**-1.1**
CUKT	**Cukurca**	**1.66**	**182**	*e*Pn	**Pb**	**03 35 44.5**	**-1.1**
VRTB	**Varto-Mus**	**1.76**	**279**	*e*PN	**Pn**	**03 35 45.7**	**-0.1**
VRTB	**Varto-Mus**	**1.76**	**279**	*e*Pn	**Pn**	**03 35 45.7**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.95**	**328**	*e*PN	**Pb**	**03 35 49.4**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.95**	**328**	*e*Pn	**Pb**	**03 35 49.4**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.09**	**250**	*e*PN	**Pn**	**03 35 50.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.09**	**250**	*e*Pn	**Pn**	**03 35 50.6**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.50**	**283**	*e*PN	**Pn**	**03 35 56.2**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.50**	**283**	*e*Pn	**Pn**	**03 35 56.2**	**+0.1**
ESPY	**Espiye-Giresun**	**4.31**	**299**	*e*PN	**Pn**	**03 36 22.2**	**+1.4**
ESPY	**Espiye-Giresun**	**4.31**	**299**	*e*Pn	**Pn**	**03 36 22.2**	**+1.4**

MEX 25 03:38:17.7±0.3,**15.°60N×93.°05W,h127**km±5km,**MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.19**	**304**	*e*P	Pn	03 38 33.7	-1.4
PCIG				*e*S	Sn	03 38 46.4	-2.0
CCIG	**Comitan**	**1.12**	**52**	*e*P	Pn	03 38 40.5	-1.2
CCIG				*e*S	Sn	03 38 58.0	-1.8
HUIG	**Huatulco**	**2.95**	**274**	*e*P	Pn	03 39 02.3	-1.2
HUIG				*e*S	Sn	03 39 37.0	-1.9

DDA ***25*** *03:49:28.8,38.°93N×43.°92E,h7km,Ml3.2*
ISK ***25*** *03:49:34.7,38.°88N×43.°50E,h5km,ML3.4*
AZER ***25*** *03:49:34.8±1.3,38.°79N×43.°40E,h7km,Error ellipse: s-maj=13.1km s-min=6.8km az=26.0*
CSEM ***25*** *03:49:36.0±0.2,38.°87N×43.°50E,h2km,ML3.4,Error ellipse: s-maj=4.4km s-min=3.5km az=140.0*
ISC 25 03:49:35.6±1.2,**38.°91N**±0.°02×**43.°51E**±0.°02,**h4**km±10km, **n58**,σ1°**55**/87,**12C-10D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.33**	**197**	PG	**Pg**	**03 49 42.5**	**+0.5**
VANB	**Van**	**0.33**	**197**	*i* Pg	**Pg**	**03 49 42.5**	**+0.5**
TVAN	**Van**	**0.39**	**193**	*i* P	**Pg**	**03 49 44.1**	**+0.9**
TVAN				*i* S	**Sb**	**03 49 51.6**	**-0.1**
TVAN	**Van**	**0.39**	**193**	P	**Pg**	**03 49 44.1**	**+0.9**
TVAN				S	**Sb**	**03 49 51.6**	**-0.1**
GEVA	**Gevas**	**0.70**	**211**	*i* P	**Pg**	**03 49 46.4**	**-2.6**
GEVA				*i* S	**Sb**	**03 49 59.5**	**-0.9**
GEVA	**Gevas**	**0.70**	**211**	P	**Pg**	**03 49 46.4**	**-2.6**
GEVA				S	**Sb**	**03 49 59.5**	**-0.9**
TUTA	**Tutak**	**0.73**	**312**	*i* P	**Pg**	**03 49 47.6**	**-2.1**
TUTA				*i* S	**Sb**	**03 50 01.0**	**-0.6**
TUTA	**Tutak**	**0.73**	**312**	P	**Pg**	**03 49 47.6**	**-2.1**
TUTA				S	**Sb**	**03 50 01.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.78**	**329**	*e*PG	**Pg**	**03 49 51.0**	**+0.4**
AGRB				*e*SG	**Sb**	**03 50 02.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.78**	**329**	*e*Pg	**Pg**	**03 49 51.0**	**+0.4**
AGRB				*e*Sg	**Sb**	**03 50 02.8**	**-0.1**
BASK	**Baskale_VAN**	**0.94**	**156**	*i* P	**Pg**	**03 49 52.4**	**-1.3**
BASK				*i* S	**Sn**	**03 50 08.3**	**-1.5**
BASK	**Baskale_VAN**	**0.94**	**156**	P	**Pg**	**03 49 52.4**	**-1.3**
BASK				S	**Sn**	**03 50 08.3**	**-1.5**
HAKT	**HAKKARI**	**1.36**	**174**	*i* P	Pn	03 49 54.9	-6.7
HAKT				*i* S	**Sg**	**03 50 21.2**	**+1.9**
NAX	**Nakhchivan**	**1.56**	**80**	⇓P	**Pn**	**03 50 04.2**	**-0.1**
NAX				⇑S	**Sg**	**03 50 28.5**	**+2.6**
NAX	**Nakhchivan**	**1.56**	**80**	P	**Pn**	**03 50 04.2**	**-0.1**
NAX				S	**Sg**	**03 50 28.5**	**+2.6**
VRTB	**Varto-Mus**	**1.62**	**279**	*e*PN	**Pb**	**03 50 05.5**	**-0.7**
VRTB				*e*SN	**Sg**	**03 50 28.4**	**+0.6**
VRTB	**Varto-Mus**	**1.62**	**279**	*e*Pn	**Pb**	**03 50 05.5**	**-0.7**
VRTB				*e*Sn	**Sg**	**03 50 28.4**	**+0.6**
CUKT	**Cukurca**	**1.66**	**177**	*e*PN	**Pb**	**03 50 06.1**	**-0.8**
CUKT	**Cukurca**	**1.66**	**177**	*e*Pn	**Pb**	**03 50 06.1**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.88**	**332**	*e*PN	**Pb**	**03 50 10.0**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.88**	**332**	*e*Pn	**Pb**	**03 50 10.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.97**	**248**	*e*PN	**Pn**	**03 50 10.2**	**+0.4**
SVAN				*e*SN	**Sb**	**03 50 36.1**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.97**	**248**	*e*Pn	**Pn**	**03 50 10.2**	**+0.4**
SVAN				*e*Sn	**Sb**	**03 50 36.1**	**-0.9**
BNGB	**Bing˜¶**	**2.21**	**273**	*e*PN	**Pn**	**03 50 14.1**	**+0.9**
BINT	**Bingol**	**2.36**	**270**	*e*Pn	**Pn**	**03 50 14.1**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.37**	**284**	*e*PN	**Pn**	**03 50 16.3**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.37**	**284**	*e*Pn	**Pn**	**03 50 16.3**	**+0.9**
AKH	**Akhalkalaki**	**2.50**	**360**	*e*PN	**Pb**	**03 50 18.8**	**-2.3**
AKH	**Akhalkalaki**	**2.50**	**360**	*e*Pn	**Pb**	**03 50 18.8**	**-2.3**
GDB	**GEDABAY**	**2.50**	**43**	⇑P	**Pn**	**03 50 18.4**	**+1.2**
	SNR=25						
GDB				⇑S	**Sb**	**03 50 51.5**	**-0.8**
GDB	**GEDABAY**	**2.50**	**43**	P	**Pn**	**03 50 18.4**	**+1.2**
	SNR=25						
GDB				S	**Sb**	**03 50 51.5**	**-0.8**
QZX	**Qazax, Azerbai**	**2.58**	**33**	⇓P	**Pn**	**03 50 18.9**	**+0.8**
	SNR=18						
QZX				⇑S	**Sb**	**03 50 52.7**	**-1.7**
QZX	**Qazax, Azerbai**	**2.58**	**33**	P	**Pn**	**03 50 18.9**	**+0.8**
	SNR=18						
QZX				S	**Sb**	**03 50 52.7**	**-1.7**
GANJ	**Ganja**	**2.77**	**50**	⇓P	**Pn**	**03 50 21.8**	**+0.9**
	SNR=11						
GANJ				⇑S	**Sb**	**03 50 57.9**	**-2.2**
GANJ	**Ganja**	**2.77**	**50**	P	**Pn**	**03 50 21.8**	**+0.9**
	SNR=11						
GANJ				S	**Sb**	**03 50 57.9**	**-2.2**
MAZI	**Mazidag**	**2.82**	**240**	*e*PN	**Pn**	**03 50 22.7**	**+1.1**
MAZI	**Mazidag**	**2.82**	**240**	*e*Pn	**Pn**	**03 50 22.7**	**+1.1**
PTK	**Pertek**	**3.22**	**271**	*e*PN	**Pn**	**03 50 28.8**	**+1.7**
PTK	**Pertek**	**3.22**	**271**	*e*Pn	**Pn**	**03 50 28.8**	**+1.7**
ZKTA	**Zakatala**	**3.62**	**40**	⇑P	**Pn**	**03 50 33.4**	**+1.0**
	SNR=5.7						
ZKTA				⇓S	**Sn**	**03 51 18.8**	**+3.3**
SEKA	**Sheki**	**3.64**	**50**	⇓P	**Pn**	**03 50 34.4**	**+1.6**
	SNR=6.8						
SEKA				⇑S	**Sb**	**03 51 20.6**	**-4.5**
SEKA	**Sheki**	**3.64**	**50**	P	**Pn**	**03 50 34.4**	**+1.6**
	SNR=6.8						
SEKA				S	**Sb**	**03 51 20.6**	**-4.5**
LRK	**Lerik**	**3.78**	**93**	⇓P	**Pn**	**03 50 34.8**	**-0.1**
LRK				⇑S	**Sn**	**03 51 21.3**	**+1.4**
LRK	**Lerik**	**3.78**	**93**	P	**Pn**	**03 50 34.8**	**-0.1**
LRK				S	**Sn**	**03 51 21.3**	**+1.4**
GLBA	**Clilabad**	**3.81**	**83**	⇓S	**Sn**	**03 51 22.4**	**+2.1**
GLBA	**Clilabad**	**3.81**	**83**	S	**Sn**	**03 51 22.4**	**+2.1**
QBL	**Gabala**	**3.90**	**57**	⇑P	**Pn**	**03 50 37.0**	**+0.7**
	SNR=5.9						
QBL	**Gabala**	**3.90**	**57**	P	**Pn**	**03 50 37.0**	**+0.7**
	SNR=5.9						
IML	**Ismayilli**	**4.05**	**61**	⇑S	**Sn**	**03 51 29.2**	**+2.8**
IML	**Ismayilli**	**4.05**	**61**	S	**Sn**	**03 51 29.2**	**+2.8**
LKRN	**Lenkeran, Azer**	**4.12**	**91**	⇑P	**Pn**	**03 50 39.2**	**-0.1**
	SNR=8.4						
LKRN				⇓S	**Sn**	**03 51 29.6**	**+1.8**
LKRN	**Lenkeran, Azer**	**4.12**	**91**	P	**Pn**	**03 50 39.2**	**-0.1**
	SNR=8.4						
LKRN				S	**Sn**	**03 51 29.6**	**+1.8**
PQL	**Pirkuli**	**4.33**	**63**	⇑P	**Pn**	**03 50 43.0**	**+0.6**
	SNR=3.1						
PQL	**Pirkuli**	**4.33**	**63**	P	**Pn**	**03 50 43.0**	**+0.6**
	SNR=3.1						
QSAR	**Qusar**	**4.47**	**53**	⇓P	**Pn**	**03 50 44.9**	**+0.7**
	SNR=10						
QSAR	**Qusar**	**4.47**	**53**	P	**Pn**	**03 50 44.9**	**+0.7**
	SNR=10						
ATGJ	**Altiaghaj**	**4.60**	**63**	⇓P	**Pn**	**03 50 46.6**	**+0.5**
	SNR=3.2						
ATGJ	**Altiaghaj**	**4.60**	**63**	P	**Pn**	**03 50 46.6**	**+0.5**
	SNR=3.2						

NIED ***25*** *03:54:00,37.°10N×141.°10E,h29km,Mw4.2 Best double couple: M0 2.57000×1015 NP1:φ0=208.00000°,δ17.00000°, λ81.00000°. NP2:φ0=38.00000°,δ73.00000°,λ93.00000°.*
ISCJB ***25*** *03:54:09.5±0.5,37.°06N±0.°03×141.°30E±0.°05,h55km±3km, mb4.4/33,Error ellipse: s-maj=7.2km s-min=4.1km az=20.6*
JMA ***25*** *03:54:11.5±0.1,37.°10N×141.°15E,h53km±1km,M4.2*
JMA Felt III J1.
IDC ***25*** *03:54:12.6±0.6,37.°05N×141.°18E,h64km±4km,mb3.9/24, mb1 4.0/29,mb1mx3.9/64,mbtmp4.2/29,MS3.7/2, Ms1 3.7/2,ms1mx3.3/31,Error ellipse: s-maj=10.2km s-min=8.2km az=131.0*
NEIC ***25*** *03:54:12.6±0.7,37.°07N×141.°17E,h64km±6km,mb4.7/10, Error ellipse: s-maj=7.1km s-min=5.7km az=87.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 25 03:54:11.7±0.5,**37.°06N**±0.°04×**141.°27E**±0.°06,**h58**km±4km, **n92**,σ1°**30**/112,**mb4.3**/33,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**277**	P	**Pn**	**03 54 20.6**	**-1.7**
ONAJ				S	**Sn**	**03 54 26.9**	**-3.1**
JFK	**Kawauchi**	**0.44**	**315**	P	**Pn**	**03 54 21.0**	**-1.9**
JFK				S	**Sn**	**03 54 27.6**	**-3.5**
JHO	**Hitachi**	**0.71**	**232**	P	**Pn**	**03 54 24.7**	**-1.3**
JHO				S	**Sn**	**03 54 33.8**	**-2.6**
JFT	**Otama**	**0.87**	**302**	P	**Pn**	**03 54 27.0**	**-1.0**
JFT				S	**Sn**	**03 54 37.4**	**-2.6**
JMM	**Marumori**	**0.89**	**335**	P	**Pn**	**03 54 26.6**	**-1.6**
JMM				S	**Sn**	**03 54 37.8**	**-2.6**
JFY	**Yanaizu**	**1.29**	**286**	P	**Pn**	**03 54 32.2**	**-1.4**
JOU	**Okura**	**1.39**	**340**	P	**Pn**	**03 54 33.7**	**-1.2**
JIO	**Ouri**	**1.40**	**3**	P	**Pn**	**03 54 33.8**	**-1.1**
JIO				S	**Sn**	**03 54 49.6**	**-2.7**
JYS	**Shiratake**	**1.50**	**321**	P	**Pn**	**03 54 35.5**	**-0.9**
JAG	**Ashikaga**	**1.59**	**247**	P	**Pn**	**03 54 36.5**	**-1.0**
JAG				S	**Sn**	**03 54 54.8**	**-2.2**
JKT	**Katashina**	**1.64**	**260**	P	**Pn**	**03 54 37.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.51**	**259**	P	**Pn**	**03 54 49.3**	**-0.7**
	31nm,0.3s,baz=84,slow=15,SNR=128						
MJAR				S	**Sn**	**03 55 19.9**	**+0.5**
	35nm,0.3s,baz=94,slow=16,SNR=6.2						
MAJO	**Matsushiro**	**2.51**	**259**	*e*Pn	**Pn**	**03 54 50.3**	**+0.2**
MAJO				*e*Sn	**Sn**	**03 55 18.8**	**-0.7**
MAT	**Matsushiro**	**2.51**	**259**	P	**Pn**	**03 54 50.1**	**0.0**
MAT				S	**Sn**	**03 55 20.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.51**	**259**	*e*Pn	**Pn**	**03 54 50.3**	**+0.2**
MJB9				*e*Sn	**Sn**	**03 55 18.9**	**-0.6**
INU	**Inuyama**	**3.84**	**245**	*e*Pn	**Pn**	**03 55 09.0**	**+0.8**
JHJ2	**Mitsune**	**4.11**	**197**	*e*Pn	**Pn**	**03 55 11.8**	**-0.1**
JHJ2				*e*Sn	**Sn**	**03 55 56.3**	**-2.5**
JHJ	**Hachijo jima 2**	**4.11**	**198**	P	**Pn**	**03 55 12.9**	**+0.9**
	42nm,0.3s,baz=154,slow=24,SNR=13						
JHJ				S	**Sn**	**03 55 58.1**	**-0.7**
	65nm,0.3s,baz=61,slow=23,SNR=11						
ASAJ	**Asahikawa**	**7.12**	**8**	P	**Pn**	**03 55 52.4**	**-0.8**
	3.9nm,0.3s,baz=216,slow=11,SNR=16						
ASAJ	**Asahikawa**	**7.12**	**8**	*e*Pn	**Pn**	**03 55 52.1**	**-1.1**
ASAJ				*e*Sn	**Sn**	**03 57 13.8**	**+1.1**
CBIJ	**Chichi jima**	**9.96**	**175**	*e*Pn	**Pn**	**03 56 28.5**	**-3.6**
CBIJ				*e*Sn	Sn	03 58 14.1	-8.3
USRK	**Ussuriysk Ar.**	**10.03**	**318**	P	**Pn**	**03 56 33.9**	**+1.0**
	0.8nm,0.3s,baz=135,slow=14,SNR=17						
USRK				LR	LR	04 00 11.6	
	comp=Z,353nm,19.8s,baz=155,slow=36						
KSRS	**Kor

ARCES	ARCESS Array B	63.94	339	P		P	04 04 38.0	-0.1
	2.5nm,0.7s,baz=39,slow=7.8,SNR=4.2							
FIA0	FINESS Array S	68.74	332	eP		P	04 05 08.8	-0.2
FINES	FINESS Array B	68.74	332	P		P	04 05 08.8	-0.2
	2.7nm,0.6s,baz=38,slow=9.6,SNR=6.8							
FINES				pP		pP	04 05 27.0	+2.1
	4.9nm,0.8s,baz=46,slow=8.2,SNR=4.0							
KBZ	Khabaz	70.80	311	P		P	04 05 22.3	+0.4
	3.1nm,0.9s,baz=270,slow=3.3,SNR=4.9							
HFS	Hagfors	74.02	336	P		P	04 05 41.3	+0.5
	2.2nm,0.8s,baz=87,slow=6.2,SNR=5.1							
NB2	NORSAR Subarra	74.12	337	P		P	04 05 41.5	+0.1
	comp=Z,2.0nm,0.7s,baz=39,slow=6.2							
NB200	NORSAR Array S	74.12	337	eP		P	04 05 41.8	+0.3
NOA	NORSAR Array B	74.12	337	P		P	04 05 41.8	+0.3
	comp=Z,2.2nm,0.8s,baz=37,slow=6.0,SNR=6.2							
NOA				pP		pP	04 05 59.1	+1.6
	comp=Z,1.8nm,0.8s,baz=41,slow=5.8,SNR=3.2							
AKASG	Malin Array Be	74.21	322	P		P	04 05 41.3	-0.7
	comp=Z,1.7nm,0.4s,baz=46,slow=5.8,SNR=15							
AKASG				pP		pP	04 06 00.1	+1.9
	comp=Z,1.1nm,0.5s,baz=46,slow=5.9,SNR=3.1							
AKBB	Malin Array Si	74.21	322	eP		P	04 05 41.3	-0.7
PD31	Pinedale Array	77.73	45	eP		P	04 06 04.1	+1.5
PDAR	Pinedale Array	77.73	45	P		P	04 06 04.1	+1.5
	comp=Z,0.2nm,0.6s,baz=354,slow=1.8,SNR=2.8							
PDAR				pP		pP	04 06 20.2	+1.4
	comp=Z,0.4nm,0.6s,baz=300,slow=4.5,SNR=3.7							
BR101	Keskin Array S	78.75	311	eP		P	04 06 08.4	+0.2
BRTR	Keskin Array B	78.75	311	P		P	04 06 08.4	+0.2
	comp=Z,1.2nm,0.8s,baz=89,slow=3.4,SNR=4.0							
GEC2	GERESS Array S	82.63	328	eP		P	04 06 27.3	-1.4
	comp=Z,23nm,1.9s							
GERES	GERESS Array B	82.63	328	P		P	04 06 27.3	-1.4
	comp=Z,0.6nm,0.4s,baz=33,slow=5.1,SNR=5.8							
TXAR	Lajitas Array	90.20	52	P		P	04 07 07.6	+1.5
	comp=Z,0.2nm,0.5s,baz=300,slow=3.8,SNR=3.5							
TXAR				pP		pP	04 07 23.6	+0.9
	comp=Z,0.4nm,0.7s,baz=291,slow=3.8,SNR=4.2							
TOA1	Torodi Ar. Sit	117.23	315	ePKPdf		PKPdf	04 12 50.3	-0.6
TORD	Torodi Ar. Bea	117.23	315	PKP		PKPdf	04 12 50.3	-0.6
	comp=Z,0.2nm,0.4s,baz=37,slow=2.5,SNR=7.4							
LPAZ	La Paz	146.78	59	PKPbc		PKPbc	04 13 49.1	+0.7
	comp=Z,1.4nm,0.5s,baz=17,slow=1.9,SNR=13							
LPAZ	La Paz	146.78	59	ePKPbc		PKPab	04 13 49.7	-0.1

IDC 25 03:55:08.0±21.0, 2°.02N×122°.70E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/50, mbtmp3.9/3, Error ellipse: s-maj=352.1km s-min=254.0km az=153.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.63	153	P	P	04 00 30.2	-0.3
	1.9nm,0.6s,baz=335,slow=9.6,SNR=22						
ASAR	Alice Springs	27.76	158	P	P	04 00 58.5	-0.2
	0.7nm,0.5s,baz=344,slow=14,SNR=10						
STKA	Stephens Creek	38.18	154	P	P	04 02 29.9	+0.4
	1.2nm,0.5s,baz=322,slow=14,SNR=3.5						

*DDA **25** 03:56:57.6, 37°.00N×29°.12E, h7km, Ml2.8*
*ISK **25** 03:56:57.7, 36°.97N×29°.14E, h5km, MD2.8*
*ISCJB **25** 03:56:58.5±0.4, 37°.00N±0°.04×29°.18E±0°.04, h7km, Error ellipse: s-maj=5.7km s-min=4.1km az=155.4*
*CSEM **25** 03:56:58.5±0.2, 37°.01N×29°.15E, h2km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.9km az=140.0*

ISC 25 03:56:58.4±0.9, 37°.00N±0°.02×29°.15E±0°.03, h7km, n41, σ0.96/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	Glhisar (BURDU	0.32	61	ePG	Pg	03 57 05.0	+0.2
GLHS	Glhisar (BURDU	0.32	61	ePg	Pg	03 57 05.0	+0.2
FETY	Fethiye	0.37	188	ePG	Pg	03 57 04.8	-0.7
FETY	Fethiye	0.37	188	P	Pg	03 57 04.5	-1.0
FETY	Fethiye	0.37	188	ePg	Pg	03 57 04.8	-0.7
GOLH	Golhisar	0.41	54	iP	Pg	03 57 06.2	-0.2
GOLH	Golhisar	0.41	54	P	Pg	03 57 06.2	-0.2
DALY	Dalyan (Mu¨la	0.43	246	ePG	Pg	03 57 06.6	-0.2
DALY				eSG	Sb	03 57 13.3	-1.8
DALY	Dalyan (Mu¨la	0.43	246	iP	Pg	03 57 06.5	-0.2
DALY	Dalyan (Mu¨la	0.43	246	ePg	Pg	03 57 06.6	-0.2
DALY				eSg	Sb	03 57 13.3	-1.8
TURN	Turunc	0.45	254	iP	Pn	03 57 11.5	+0.2
TURN	Turunc	0.45	254	P	Pn	03 57 11.5	+0.2
TAVA	DENIZLI_Tavas	0.50	338	iP	Pg	03 57 07.3	-0.8
TAVA	DENIZLI_Tavas	0.50	338	P	Pg	03 57 07.3	-0.8
ELL	Elmali	0.66	112	ePG	Pb	03 57 12.2	-0.1
ELL	Elmali	0.66	112	ePg	Pb	03 57 12.2	-0.1
DNZL	Cakiroluk	0.69	353	iP	Pg	03 57 10.6	-1.2
DNZL	Cakiroluk	0.69	353	P	Pg	03 57 10.6	-1.2
AKAS	Kas	0.85	154	ePG	Pb	03 57 14.7	-0.8
AKAS	Kas	0.85	154	iP	Pg	03 57 14.5	-0.1
AKAS	Kas	0.85	154	ePg	Pb	03 57 14.7	-0.8
BRDR	BURDUR-Merkez	1.01	46	iP	Pb	03 57 18.0	-0.2
BRDR	BURDUR-Merkez	1.01	46	P	Pb	03 57 18.0	-0.2
AYDN	Tasoluk	1.21	304	iP	Pg	03 57 20.6	-0.9
AYDN	Tasoluk	1.21	304	P	Pg	03 57 20.6	-0.9
DAT	Datca	1.29	258	ePN	Pg	03 57 23.8	+0.7
DAT				eSN	Sn	03 57 42.1	+1.7
DAT	Datca	1.29	258	iP	Pg	03 57 25.1	+2.1
DAT	Datca	1.29	258	ePn	Pg	03 57 23.8	+0.7
DAT	Datca	1.29	258	P	Pg	03 57 25.1	+2.1
DAT				eSn	Sn	03 57 42.1	+1.7
BDRM	Kayabasi	1.36	273	iP	Pg	03 57 24.4	0.0
BDRM	Kayabasi	1.36	273	P	Pg	03 57 24.5	0.0
KHAL	Karahalli	1.40	11	iP	Pb	03 57 24.5	-0.4
KHAL	Karahalli	1.40	11	P	Pb	03 57 24.5	-0.4
BODT	Bodrum	1.47	273	ePN	Pg	03 57 25.9	-0.7
BODT				eSN	Sg	03 57 47.1	+1.5
BODT	Bodrum	1.47	273	ePn	Pg	03 57 25.9	-0.7
BODT				eSn	Sg	03 57 47.1	+1.5
KZIL	AFYON_Kizioren	1.48	32	iP	Pg	03 57 26.5	-0.3
KZIL	AFYON_Kizioren	1.48	32	P	Pg	03 57 26.5	-0.3
KULA	Kula-Manisa	1.56	346	ePN	Pb	03 57 27.5	-0.1
KULA	Kula-Manisa	1.56	346	ePn	Pb	03 57 27.5	-0.1
KARP	Karpathos	2.16	229	ePN	Pb	03 57 36.5	-1.4
KARP	Karpathos	2.16	229	ePn	Pb	03 57 36.5	-1.4

*IDC **25** 03:59:25.6±1.8, 38°.51N×43°.16E, h0km, mb3.8/2, mb1 3.5/7, mb1mx3.3/44, mbtmp3.5/7, ML2.0/3, MS4.1/3, Ms1 4.1/3, ms1mx3.2/47, Error ellipse: s-maj=28.0km s-min=12.7km az=160.0*
*ISK **25** 03:59:27.7, 38°.72N×43°.23E, h4km, ML3.7*
*DDA **25** 03:59:27.8, 38°.70N×43°.25E, h7km, Ml4.0*
*CSEM **25** 03:59:29.1±0.1, 38°.74N×43°.21E, h5km, ML3.7, Error ellipse: s-maj=3.7km s-min=3.1km az=24.0*
*ISCJB **25** 03:59:29.4±0.3, 38°.71N±0°.02×43°.27E±0°.02, h22km±3km, mb3.5/2, MS4.0/3, Error ellipse: s-maj=3.8km s-min=3.2km az=178.8*
*TEH **25** 03:59:32.4, 38°.90N×43°.45E, h18km, ML3.6*
*AZER **25** 03:59:35.5±1.0, 38°.89N×43°.78E, h3km, Error ellipse: s-maj=9.7km s-min=6.3km az=47.0*

ISC 25 03:59:29.2±0.8, 38°.70N±0°.02×43°.22E±0°.02, h18km±2km, n96, σ1.43/116, MS3.8/3, 12C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	127	PG	Pb	03 59 33.2	-0.1
VANB				eSG	Sg	03 59 37.2	+0.1
VANB	Van	0.17	127	iPg	Pb	03 59 33.2	-0.1
VANB				eSg	Sg	03 59 37.2	+0.1
TVAN	Van	0.23	138	⇓iP	Pg	03 59 35.8	+1.0
TVAN				iS	Sg	03 59 39.1	+0.6
TVAN	Van	0.23	138	P	Pg	03 59 35.8	+1.0
TVAN				S	Sg	03 59 39.1	+0.6
GEVA	Gevas	0.40	198	⇓iP	Pg	03 59 35.8	-1.9
GEVA				iS	Sg	03 59 42.8	-0.6
TUTA	Tutak	0.77	336	⇓iP	Pb	03 59 42.8	-1.4
TUTA				iS	Sb	03 59 54.3	-0.2
TUTA	Tutak	0.77	336	P	Pb	03 59 42.8	-1.4
TUTA				S	Sb	03 59 54.3	-0.2
AGRB	Hanur-Agry	0.89	349	PG	Pb	03 59 45.1	-1.2
AGRB				eSG	Sb	03 59 57.9	-0.1
AGRB	Hanur-Agry	0.89	349	iPg	Pb	03 59 45.1	-1.2
AGRB				eSg	Sb	03 59 57.9	-0.1
BASK	Baskale_VAN	0.90	136	iP	Pb	03 59 44.6	-1.8
DYDN	Diyadin	0.92	23	⇓iP	Pb	03 59 45.2	-1.6
DYDN				iS	Sb	03 59 58.9	+0.1
EKAR	Karacoban	1.06	302	⇓iP	Pb	03 59 48.4	-0.8
EKAR	Karacoban	1.06	302	P	Pb	03 59 48.3	-0.8
HAKT	HAKKARI	1.20	161	⇓iP	Pn	03 59 49.3	-2.1
HAKT	HAKKARI	1.20	161	P	Pn	03 59 49.3	-2.1
EATA	Eleskirt	1.29	334	⇓iP	Pn	03 59 52.3	-0.4
EATA	Eleskirt	1.29	334	P	Pn	03 59 52.3	-0.4
SIRN	S¨–rnak	1.36	208	iP	Pb	03 59 54.7	+0.6
SIRN	S¨–rnak	1.36	208	P	Pb	03 59 54.7	+0.6
VRTB	Varto-Mus	1.45	289	ePN	Pn	03 59 55.3	+0.6
VRTB	Varto-Mus	1.45	289	iP	Pn	03 59 55.8	+1.2
VRTB	Varto-Mus	1.45	289	ePn	Pn	03 59 55.3	+0.6
VRTB	Varto-Mus	1.45	289	P	Pn	03 59 55.8	+1.2
CUKT	Cukurca	1.48	168	ePN	Pb	03 59 56.4	+0.1
CUKT	Cukurca	1.48	168	ePn	Pb	03 59 56.4	+0.1
BNGL	BINGOL	1.63	280	iP	Pn	03 59 58.4	+1.2
SVAN	Silvan-Diyarba	1.68	252	ePN	Pn	03 59 58.8	+1.1
SVAN	Silvan-Diyarba	1.68	252	ePn	Pn	03 59 58.8	+1.1
NAX	Nakhchivan	1.84	74	⇑P	Pn	04 00 01.3	+1.3
NAX				⇓S	Sn	04 00 21.1	-1.7
GNI	Garni	1.87	39	Pn	Pn	04 00 01.9	+1.4
	11nm,0.3s,baz=280,slow=3.5,SNR=41						
GNI				Lg	Lg	04 00 32.0	
	14nm,0.3s,baz=90,slow=23,SNR=3.5						
ISHB	Shabestar	1.93	102	ePn	Pn	04 00 02.4	+1.0
ISHB				eSg	Sb	04 00 28.9	+1.1
ISHB				eAMB	AMB	04 00 39.0	
	comp=Z,5μm,0.3s						
IMRD	Marand	1.95	89	ePn	Pn	04 00 02.1	+0.6
IMRD	Marand	1.95	89	ePn	Pn	04 00 02.1	+0.6
SENK	Senkaya-Erzuru	1.98	341	ePN	Pn	04 00 02.9	+0.9
SENK	Senkaya-Erzuru	1.98	341	ePn	Pn	04 00 02.9	+0.9
BNGB	Bing¨¶l	2.00	279	ePN	Pn	04 00 02.9	+0.7
YEDI	Yedisu-Bingol	2.21	290	ePN	Pn	04 00 06.2	+1.1
YEDI	Yedisu-Bingol	2.21	290	ePn	Pn	04 00 06.2	+1.1
ITBZ	Tabriz	2.35	100	eAMB	AMB	04 00 19.0	
	comp=Z,867nm,0.3s						
ITBZ				ePn	Pn	04 00 08.3	+1.2
MAZI	Mazidag	2.51	241	ePN	Pn	04 00 10.5	+1.3
MAZI	Mazidag	2.51	241	ePn	Pn	04 00 10.5	+1.3
AKH	Akhalkalaki	2.72	4	ePN	Pn	04 00 12.9	+0.7
AKH	Akhalkalaki	2.72	4	ePn	Pn	04 00 12.9	+0.7
GDB	GEDABAY	2.81	43	P	Pn	04 00 15.8	+2.3
	SNR=14						
GDB				⇓S	Sn	04 00 46.5	-0.5
GDB	GEDABAY	2.81	43	P	Pn	04 00 15.8	+2.3
	SNR=14						
GDB				S	Sn	04 00 46.5	-0.5
ERZN	Erzincan	2.86	289	ePN	Pn	04 00 15.5	+1.5
QZX	Qazax, Azerbai	2.88	34	⇑P	Pn	04 00 16.5	+2.2
QZX				⇓S	Sn	04 00 48.4	-0.1
QZX	Qazax, Azerbai	2.88	34	P	Pn	04 00 16.5	+2.2
QZX				S	Sn	04 00 48.4	-0.1
PTK	Pertek	2.99	275	ePN	Pn	04 00 17.4	+1.4
PTK	Pertek	2.99	275	ePn	Pn	04 00 17.4	+1.4
IHRS	Heris	3.03	96	ePn	Pn	04 00 17.3	+0.9
IHRS				eAMB	AMB	04 00 33.4	
	comp=Z,2μm,0.4s						
IHRS	Heris	3.03	96	ePn	Pn	04 00 17.3	+0.9
IBST	Bostanabad	3.06	108	ePn	Pn	04 00 18.3	+1.3
IBST				eAMB	AMB	04 00 33.7	
	comp=Z,639nm,0.3s						
IBST	Bostanabad	3.06	108	ePn	Pn	04 00 18.3	+1.3
SVRC	Sivrice-ELAZID	3.08	265	ePN	Pn	04 00 19.0	+1.8
SVRC	Sivrice-ELAZID	3.08	265	ePn	Pn	04 00 19.0	+1.8
GANJ	Ganja	3.09	50	⇑P	Pn	04 00 19.2	+2.1
GANJ				⇑S	Sn	04 00 52.8	-0.7
KTUT	Trabzon	3.50	312	ePN	Pn	04 00 25.1	+2.3
KTUT	Trabzon	3.50	312	ePn	Pn	04 00 25.1	+2.3
ISRB	Sarab	3.61	103	ePn	Pn	04 00 26.3	+1.8
ISRB				eAMB	AMB	04 00 53.2	
	comp=Z,740nm,0.3s						
ISRB	Sarab	3.61	103	ePn	Pn	04 00 26.3	+1.8
MNGR	Mingechevir, A	3.63	54	⇑S	Sn	04 01 05.8	-1.1
MNGR	Mingechevir, A	3.63	54	S	Sn	04 01 05.8	-1.1
URFA	Urfa	3.69	251	ePN	Pn	04 00 27.6	+2.2
URFA	Urfa	3.69	251	ePn	Pn	04 00 27.6	+2.2
ZKTA	Zakatala	3.93	41	⇑P	Pn	04 00 31.2	+2.5
ZKTA				⇑S	Sn	04 01 13.9	-0.3
SEKA	Sheki	3.96	49	⇑P	Pn	04 00 31.3	+2.2
LRK	Lerik	4.01	89	⇓P	Pn	04 00 31.8	+1.9
	SNR=3.9						
LRK	Lerik	4.01	89	P	Pn	04 00 31.8	+1.9
	SNR=3.9						
GLBA	Ciilabad	4.07	81	⇑S	Sn	04 01 16.4	-1.4
GLBA	Ciilabad	4.07	81	S	Sn	04 01 16.4	-1.4
ESPY	Espiye-Giresun	4.11	304	ePN	Pn	04 00 33.2	+2.1
ESPY	Espiye-Giresun	4.11	304	ePn	Pn	04 00 33.2	+2.1
QBL	Gabala	4.21	56	⇓P	Pn	04 00 33.9	+1.4
QBL				⇑S	Sn	04 01 19.6	-1.6
LKRN	Lenkeran, Azer	4.35	88	⇓P	Pn	04 00 36.2	+1.8
LKRN				⇓S	Sn	04 01 23.9	-0.8
LKRN	Lenkeran, Azer	4.35	88	P	Pn	04 00 36.2	+1.8
LKRN				S	Sn	04 01 23.9	-0.8
ASTR	Astara	4.37	90	⇓P	Pn	04 00 36.5	+1.8
ASTR				⇑S	Sn	04 01 23.8	-1.3
ASTR	Astara	4.37	90	P	Pn	04 00 36.5	+1.8
ASTR				S	Sn	04 01 23.8	-1.3
XNQ	Khinaliq	4.52	55	⇓P	Pn	04 00 38.2	+1.3
XNQ				⇓S	Sn	04 01 27.7	-1.5
QSAR	Qusar	4.79	52	⇓P	Pn	04 00 42.1	+1.7
GBS	Qobustan	4.79	66	⇓P	Pn	04 00 42.1	+1.6
GBS	Qobustan	4.79	66	P	Pn	04 00 42.1	+1.6
ATGJ	Altiaghaj	4.91	62	⇓P	Pn	04 00 43.5	+1.3
SIZA	Siyzn	4.97	60	⇑P	Pn	04 00 44.5	+1.4
KBZ	Khabaz	5.03	357	Pn	Pn	04 00 48.4	+4.7
	comp=Z,0.1nm,0.3s,baz=179,slow=12,SNR=2.1						
BRTR	Keskin Array B	7.51	281	Pn	Pn	04 01 18.5	+0.6
	comp=Z,0.1nm,0.3s,baz=111,slow=7.9,SNR=2.7						
AKASG	Malin Array Be	15.55	325	Pn	Pn	04 03 06.0	-1.4
	baz=133,slow=12,SNR=2.1						
AKTO	Aktyubinsk	15.74	37	Pn	Pn	04 03 08.8	-1.1
	comp=Z,0.2nm,0.3s,baz=233,slow=11,SNR=9.0						
CRVS	Cervenica-Dubn	18.66	310	eP	P	04 03 46.3	+0.2
VYHS	Vyhne	20.11	307	ePN	P	04 04 01.2	-0.7
VYHS	Vyhne	20.11	307	eP	Pn	04 04 04.1	+0.3
VAE	Valguarnera	22.67	276	LR	LR	04 15 29.5	
	comp=Z,424nm,21.5s,baz=9.0,slow=42						
ATD	Arta Tunnel	27.06	181	LR	LR	04 17 07.8	
	comp=Z,124nm,20.3s,baz=13,slow=40						
KURBB	Kurchatov Arra	27.54	53	P	P	04 05 15.8	+1.1
	comp=Z,1.6nm,0.8s,baz=264,slow=9.2,SNR=6.8						
MKAR	Makanchi Array	29.57	61	P	P	04 05 34.3	+1.4
	comp=Z,0.6nm,0.7s,baz=261,slow=9.5,SNR=2.5						
DBIC	Dimbokro	53.76	246	LR	LR	04 34 42.1	
	comp=Z,632nm,21.6s,baz=330,slow=40						

*ISK **25** 04:04:37.1, 38°.74N×43°.54E, h5km, ML2.9*
*ISCJB **25** 04:04:38.1±1.0, 38°.74N±0°.04×43°.66E±0°.10, h18km±7km, Error ellipse: s-maj=12.8km s-min=6.0km az=3.0*
*CSEM **25** 04:04:38.5±0.5, 38°.81N×43°.44E, h5km, ML2.9, Error ellipse: s-maj=13.4km s-min=6.5km az=83.0*
*DDA **25** 04:04:39.1, 38°.79N×43°.27E, h7km, Md2.7*

ISC 25 04:04:38.7±1.1, 38°.78N±0°.03×43°.55E±0°.06, h14km±8km, n28, σ1.79/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	214	PG	Pg	04 04 43.1	-0.6
VANB	Van	0.22	214	iPg	Pg	04 04 43.1	-0.6
TVAN	Van	0.27	204	iP	Pg	04 04 45.7	+1.1
TVAN				iS	Sg	04 04 50.4	+1.9
TVAN	Van	0.27	204	P	Pg	04 04 45.7	+1.1
TVAN				S	Sg	04 04 50.4	+1.9
GEVA	Gevas	0.60	220	iP	Pg	04 04 48.8	-1.8
GEVA				iS	Sg	04 04 55.7	-2.8
GEVA	Gevas	0.60	220	P	Pg	04 04 48.8	-1.8
GEVA				S	Sg	04 04 55.7	-2.8
DYDN	Diyadin	0.78	8	iP	Pg	04 04 53.6	-0.3
DYDN	Diyadin	0.78	8	P	Pg	04 04 53.6	-0.3
TUTA	Tutak	0.85	318	iP	Pg	04 04 53.8	-1.4
TUTA	Tutak	0.85	318	P	Pg	04 04 53.8	-1.4
AGRB	Hanur-Agry	0.91	332	ePG	Pg	04 04 55.9	-0.5
AGRB				eSG	Sb	04 05 10.4	+1.9
AGRB	Hanur-Agry	0.91	332	ePg	Pg	04 04 55.9	-0.5
HAKT	HAKKARI	1.22	174	iP	Pb	04 04 59.3	-2.5
HAKT	HAKKARI	1.22	174	P	Pb	04 04 59.3	-2.5
EKAR	Karacoban	1.25	293	iP	Pn	04 05 00.2	-1.8
EKAR				iS	Sn	04 05 23.6	+4.8
EKAR	Karacoban	1.25	293	P	Pn	04 05 00.2	-1.8
EATA	Eleskirt	1.36	323	iP	Pn	04 05 01.1	-2.5
EATA				iS	Sg	04 05 24.1	+1.4
EATA	Eleskirt	1.36	323	P	Pn	04 05 01.1	-2.5
EATA				S	Sg	04 05 24.0	+1.4
CUKT	Cukurca	1.53	178	ePN	Pb	04 05 06.4	-0.5
CUKT	Cukurca	1.53	178	iP	Pn	04 05 06.1	+0.4
CUKT	Cukurca	1.53	178	P	Pn	04 05 06.1	+0.4
CUKT	Cukurca	1.53	178	ePn	Pb	04 05 06.4	-0.5
VRTB	Varto-Mus	1.67	284	ePN	Pn	04 05 08.9	+1.1
VRTB	Varto-Mus	1.67	284	ePn	Pn	04 05 08.9	+1.1
SVAN	Silvan-Diyarba	1.95	252	ePN	Pn	04 05 12.7	+1.3
SVAN	Silvan-Diyarba	1.95	252	ePn	Pn	04 05 12.7	+1.3
BTMN	Batman	2.00	244	iP	Pn	04 05 11.9	-0.2
BTMN				iS	Sn	04 05 38.1	+1.1
BTMN	Batman	2.00	244	P	Pn	04 05 11.9	-0.2
BTMN				S	Sn	04 05 38.1	+1.1

*DDA **25** 04:09:05.1, 38°.48N×43°.64E, h8km, Ml3.2*
*ISK **25** 04:09:05.2, 38°.49N×43°.63E, h5km, ML3.3*
*CSEM **25** 04:09:07.2±0.3, 38°.33N×43°.62E, h2km, ML3.3, Error ellipse: s-maj=8.3km s-min=5.8km az=152.0*
*AZER **25** 04:09:08.5±1.4, 38°.13N×43°.99E, h2km, Error ellipse: s-maj=10.4km s-min=9.8km az=62.0*

ISC 25 04:09:05.1±1.1, 38°.48N±0°.03×43°.63E±0°.02, h8km±10km, n54, σ2.05/65, 9C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	300	PG	Pg	04 09 09.5	0.0
VANB				SG	Sg	04 09 12.8	+0.2
GEVA	Gevas	0.48	249	iP	Pg	04 09 14.3	-0.1
GEVA	Gevas	0.48	249	P	Pg	04 09 14.3	-0.1
BASK	Baskale_VAN	0.52	146	iP	Pg	04 09 15.1	-0.1
BASK	Baskale_VAN	0.52	146	P	Pg	04 09 15.1	-0.1
HAKT	HAKKARI	0.93	176	iP	Pg	04 09 21.9	-1.0
HAKT	HAKKARI	0.93	176	P	Pg	04 09 21.9	-1.0
AGRB	Hanur-Agry	1.20	336	ePN	Pn	04 09 29.0	+0.6
CUKT	Cukurca	1.23	181	ePN	Pg	04 09 29.8	+1.0
CUKT	Cukurca	1.23	181	iP	Pg	04 09 29.4	+0.6
CUKT	Cukurca	1.23	181	P	Pg	04 09 29.4	+0.6
CUKT	Cukurca	1.23	181	ePn	Pg	04 09 29.8	+1.0
SIRN	S¨–rnak	1.38	225	iP	Pg	04 09 33.4	+1.9
SIRN	S¨–rnak	1.38	225	P	Pg	04 09 33.4	+1.9
NAX	Nakhchivan	1.61	64	⇓P	Pg	04 09 36.5	+0.5
	SNR=3.3						
NAX				⇑S	Sg	04 09 59.4	+2.5
NAX	Nakhchivan	1.61	64	P	Pg	04 09 36.5	+0.5
	SNR=3.3						
NAX				S	Sg	04 09 59.4	+2.5
EATA	Eleskirt	1.64	328	iP	Pb	04 09 36.1	+0.4
EATA	Eleskirt	1.64	328	P	Pb	04 09 36.1	+0.4
VRTB	Varto-Mus	1.83	292	ePN	Pb	04 09 38.5	-0.4
VRTB	Varto-Mus	1.83	292	ePn	Pb	04 09 38.5	-0.4
SVAN	Silvan-Diyarba	1.94	261	ePN	Pb	04 09 41.2	+0.4
SVAN				eSN	Sg	04 10 06.5	-1.0
SVAN	Silvan-Diyarba	1.94	261	ePn	Pb	04 09 41.2	+0.4
SVAN				eSn	Sg	04 10 06.5	-1.0
BTMN	Batman	1.95	253	iP	Pg	04 09 42.1	-0.4
BTMN	Batman	1.95	253	P	Pg	04 09 42.1	-0.4
BNGB	Bing¨¶l	2.36	283	ePN	Pb	04 09 47.5	-0.5
BINT	Bingol	2.49	280	ePn	Pn	04 09 47.6	+1.5
MARD	Mardin	2.54	243	iP	Pb	04 09 50.0	-1.0
YEDI	Yedisu-Bingol	2.59	293	ePN	Pb	04 09 50.7	-1.2
YEDI	Yedisu-Bingol	2.59	293	ePn	Pb	04 09 50.7	-1.2
GDB	GEDABAY	2.77	36	⇑P	Pb	04 09 56.0	+1.0
GDB				⇓S	Sg	04 10 35.2	+1.1
GDB	GEDABAY	2.77	36	P	Pb	04 09 56.0	+1.0
QZX	Qazax, Azerbai	2.90	27	⇑P	Pb	04 09 58.6	+1.5
QZX				⇓S	Sg	04 10 38.0	-0.2
QZX	Qazax,

VRTB	**Varto-Mus**	**1.68 277**	P		**Pb**	**04 13 43.8**	**-0.4**
VRTB			S		**Sg**	**04 14 08.0**	**+1.3**
HOMI	**Horasan**	**1.70 310**	*i* P		**Pb**	**04 13 45.0**	**+0.4**
HOMI			*i* S		**Sg**	**04 14 10.7**	**+3.3**
CUKT	**Cukurca**	**1.71 180**	*e*PN		**Pg**	**04 13 44.1**	**-1.4**
CUKT	**Cukurca**	**1.71 180**	*e*Pn		**Pg**	**04 13 44.1**	**-1.4**
EAK	**Akyaka**	**1.72 0**	*i* P		**Pg**	**04 13 46.0**	**+0.2**
EAK	**Akyaka**	**1.72 0**	P		**Pg**	**04 13 46.0**	**+0.2**
SIRN	**S¨–rnak**	**1.73 213**	*i* P		**Pb**	**04 13 44.6**	**-0.5**
SIRN	**S¨–rnak**	**1.73 213**	P		**Pb**	**04 13 44.6**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.87 329**	*e*PN		**Pn**	**04 13 45.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.87 329**	*e*Pn		**Pn**	**04 13 45.9**	**+0.4**
BNGL	**BINGOL**	**1.91 271**	*i* P		**Pb**	**04 13 47.6**	**-0.5**
BNGL			*i* S		**Sg**	**04 14 14.1**	**0.0**
ERZM	**Erzurum**	**1.97 299**	*i* P		**Pb**	**04 13 49.0**	**-0.2**
ERZM			*i* S		**Sg**	**04 14 17.6**	**+1.5**
ERZM	**Erzurum**	**1.97 299**	P		**Pb**	**04 13 49.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.05 248**	*e*PN		**Pb**	**04 13 48.4**	**-2.0**
SVAN	**Silvan-Diyarba**	**2.05 248**	*i* P		**Pb**	**04 13 49.3**	**-1.1**
SVAN			*i* S		**Sb**	**04 14 16.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.05 248**	*e*Pn		**Pb**	**04 13 48.4**	**-2.0**
SVAN	**Silvan-Diyarba**	**2.05 248**	P		**Pb**	**04 13 49.3**	**-1.1**
SVAN			S		**Sb**	**04 14 16.1**	**-0.1**
BTMN	**Batman**	**2.12 240**	*i* P		**Pb**	**04 13 50.9**	**-0.7**
BTMN	**Batman**	**2.12 240**	P		**Pb**	**04 13 50.9**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.14 288**	*i* P		**Pn**	**04 13 44.9**	**-4.3**
ECAT	**Cat-ERZURUM**	**2.14 288**	P		**Pn**	**04 13 44.9**	**-4.3**
BNGB	**Bing¨¶l**	**2.28 272**	*e*PN		**Pn**	**04 13 51.5**	**+0.5**
GDB	**GEDABAY** SNR=38	**2.42 43**	P		**Pb**	**04 13 54.9**	**-1.9**
GDB			⇑S		**Sb**	**04 14 25.9**	**-1.1**
GDB	**GEDABAY** SNR=38	**2.42 43**	P		**Pb**	**04 13 54.9**	**-1.9**
GDB			S		**Sb**	**04 14 25.9**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.42 282**	*e*PN		**Pn**	**04 13 53.5**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.42 282**	*e*Pn		**Pn**	**04 13 53.5**	**+0.4**
BINT	**Bingol**	**2.43 269**	*e*Pn		**Pn**	**04 13 51.5**	**-1.6**
QZX	**Qazax, Azerbai** SNR=19	**2.50 32**	⇓P		**Pb**	**04 13 57.6**	**-0.5**
QZX			⇑S		**Sb**	**04 14 27.8**	**-1.3**
QZX	**Qazax, Azerbai** SNR=19	**2.50 32**	P		**Pb**	**04 13 57.6**	**-0.5**
QZX			S		**Sb**	**04 14 27.8**	**-1.3**
GANJ	**Ganja** SNR=9.3	**2.69 50**	⇑P		**Pb**	**04 13 59.4**	**-1.9**
GANJ			⇑S		**Sb**	**04 14 32.4**	**-2.2**
GANJ	**Ganja** SNR=9.3	**2.69 50**	P		**Pb**	**04 13 59.4**	**-1.9**
GANJ			S		**Sb**	**04 14 32.4**	**-2.2**
MARD	**Mardin**	**2.77 234**	*i* P		**Pn**	**04 13 58.9**	**+1.1**
MAZI	**Mazidag**	**2.90 240**	*e*PN		**Pn**	**04 14 00.5**	**+0.9**
MAZI	**Mazidag**	**2.90 240**	*e*Pn		**Pn**	**04 14 00.5**	**+0.9**
MNGR	**Mingechevir, A**	**3.24 55**	⇑P		**Pb**	**04 14 06.5**	**-4.1**
MNGR	**Mingechevir, A**	**3.24 55**	P		**Pb**	**04 14 06.5**	**-4.1**
PTK	**Pertek**	**3.28 270**	*e*PN		**Pn**	**04 14 05.7**	**+0.7**
PTK	**Pertek**	**3.28 270**	*e*Pn		**Pn**	**04 14 05.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.41 262**	*e*PN		**Pn**	**04 14 07.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.41 262**	*e*Pn		**Pn**	**04 14 07.2**	**+0.5**
ZRD	**Zardab**	**3.42 66**	⇓P		**Pn**	**04 14 08.9**	**+2.3**
ZRD			⇓S		**Sn**	**04 14 49.9**	**+2.4**
ZRD	**Zardab**	**3.42 66**	P		**Pn**	**04 14 08.9**	**+2.3**
ZRD			S		**Sn**	**04 14 49.9**	**+2.4**
ZKTA	**Zakatala**	**3.54 40**	⇑P		**Pn**	**04 14 10.8**	**+2.5**
ZKTA			⇓S		**Sn**	**04 14 53.5**	**+3.0**
SEKA	**Sheki**	**3.56 50**	⇑P		**Pb**	**04 14 11.9**	**-4.3**
SEKA			⇓S		**Sb**	**04 14 55.3**	**-4.4**
SEKA	**Sheki**	**3.56 50**	P		**Pb**	**04 14 11.9**	**-4.3**
SEKA			S		**Sb**	**04 14 55.3**	**-4.4**
LRK	**Lerik** SNR=4.8	**3.72 93**	⇑P		**Pn**	**04 14 13.0**	**+2.1**
LRK	**Lerik** SNR=4.8	**3.72 93**	P		**Pn**	**04 14 13.0**	**+2.1**
URFA	**Urfa**	**4.06 250**	*e*PN		**Pn**	**04 14 16.9**	**+1.4**
URFA	**Urfa**	**4.06 250**	*e*Pn		**Pn**	**04 14 16.9**	**+1.4**

DDA ***25*** *04:17:47.9,38.°68N×43.°41E,h12km,Ml3.3*
ISK ***25*** *04:17:47.3,38.°74N×43.°40E,h5km,ML3.0*
CSEM ***25*** *04:17:48.2±0.3,38.°70N×43.°50E,h2km,ML3.0,Error ellipse: s-maj=6.7km s-min=4.3km az=81.0*

ISC 25 04:17:47.9±1.0,**38.°73N**±0.°02×**43.°57E**±0.°03,**h14**km±7km, **n46**,σ1§**21**/66,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19 227**		PG	**Pg**	**04 17 52.6**	**+0.2**
VANB				*e*SG	**Sg**	**04 17 57.1**	**+1.7**
VANB	**Van**	**0.19 227**		*i* Pg	**Pg**	**04 17 52.6**	**+0.2**
GEVA	**Gevas**	**0.58 224**		*i* P	**Pg**	**04 17 57.4**	**-1.8**
GEVA	**Gevas**	**0.58 224**		P	**Pg**	**04 17 57.4**	**-1.8**
BASK	**Baskale_VAN**	**0.76 153**		*i* P	**Pb**	**04 18 02.8**	**-0.2**
BASK	**Baskale_VAN**	**0.76 153**		P	**Pb**	**04 18 02.8**	**-0.2**
DYDN	**Diyadin**	**0.82 6**		*i* P	**Pn**	**04 18 05.2**	**-0.1**
DYDN				*i* S	**Sn**	**04 18 17.3**	**-0.1**
DYDN	**Diyadin**	**0.82 6**		P	**Pn**	**04 18 05.2**	**-0.1**
DYDN				S	**Sn**	**04 18 17.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.96 332**		PG	**Pg**	**04 18 05.8**	**-0.7**
AGRB				*e*SG	**Sb**	**04 18 18.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.96 332**		*i* Pg	**Pg**	**04 18 05.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**04 18 18.8**	**-0.3**
HAKT	**HAKKARI**	**1.17 175**		*i* P	**Pg**	**04 18 09.7**	**-0.8**
HAKT				*i* S	**Sn**	**04 18 29.6**	**+3.5**
HAKT	**HAKKARI**	**1.17 175**		P	**Pg**	**04 18 09.7**	**-0.8**
HAKT				S	**Sn**	**04 18 29.6**	**+3.5**
EKAR	**Karacoban**	**1.29 295**		*i* P	**Pn**	**04 18 10.8**	**-0.9**
EKAR				*i* S	**Sn**	**04 18 29.2**	**+0.3**
EKAR	**Karacoban**	**1.29 295**		P	**Pn**	**04 18 10.8**	**-0.9**
EKAR				S	**Sn**	**04 18 29.2**	**+0.3**
EATA	**Eleskirt**	**1.41 324**		*i* P	**Pb**	**04 18 13.8**	**-0.4**
EATA				*i* S	**Sn**	**04 18 33.8**	**+1.8**
EATA	**Eleskirt**	**1.41 324**		P	**Pb**	**04 18 13.8**	**-0.4**
EATA				S	**Sn**	**04 18 33.8**	**+1.8**
CUKT	**Cukurca**	**1.48 179**		*e*PN	**Pg**	**04 18 16.6**	**+0.3**
CUKT	**Cukurca**	**1.48 179**		*i* P	**Pn**	**04 18 11.7**	**-2.5**
CUKT	**Cukurca**	**1.48 179**		P	**Pn**	**04 18 11.7**	**-2.5**
CUKT	**Cukurca**	**1.48 179**		*e*Pn	**Pg**	**04 18 16.6**	**+0.3**
DIGO	**Kars**	**1.69 355**		*i* P	**Pg**	**04 18 21.0**	**+0.6**
DIGO	**Kars**	**1.69 355**		P	**Pg**	**04 18 21.0**	**+0.6**
VRTB	**Varto-Mus**	**1.70 285**		*e*PN	**Pn**	**04 18 17.9**	**+0.5**
VRTB	**Varto-Mus**	**1.70 285**		*i* P	**Pb**	**04 18 18.9**	**-0.2**
VRTB				*i* S	**Sg**	**04 18 42.6**	**-0.1**
VRTB	**Varto-Mus**	**1.70 285**		*e*Pn	**Pn**	**04 18 17.9**	**+0.5**
VRTB	**Varto-Mus**	**1.70 285**		P	**Pb**	**04 18 18.9**	**-0.2**
VRTB				S	**Sg**	**04 18 42.7**	**-0.1**
HOMI	**Horasan**	**1.84 316**		*i* P	**Pb**	**04 18 21.6**	**0.0**
BNGL	**BINGOL**	**1.90 278**		*i* P	**Pn**	**04 18 21.0**	**+0.9**
BNGL				*i* S	**Sb**	**04 18 45.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.95 254**		*e*PN	**Pn**	**04 18 20.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.95 254**		*i* P	**Pb**	**04 18 22.3**	**-0.9**
SVAN				*i* S	**Sn**	**04 18 46.4**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.95 254**		*e*Pn	**Pn**	**04 18 20.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.95 254**		P	**Pb**	**04 18 22.3**	**-0.9**
SVAN				S	**Sn**	**04 18 46.4**	**+1.4**
BTMN	**Batman**	**1.99 246**		*i* P	**Pn**	**04 18 22.6**	**+1.3**
BTMN				*i* S	**Sb**	**04 18 47.9**	**-0.8**
BTMN	**Batman**	**1.99 246**		P	**Pn**	**04 18 22.6**	**+1.3**
BTMN				S	**Sb**	**04 18 47.9**	**-0.8**
ERZM	**Erzurum**	**2.08 305**		*i* P	**Pn**	**04 18 23.8**	**+1.2**
ERZM				*i* S	**Sg**	**04 18 52.6**	**-2.0**
ERZM	**Erzurum**	**2.08 305**		P	**Pn**	**04 18 23.8**	**+1.2**
ERZM				S	**Sg**	**04 18 52.6**	**-2.0**
BNGB	**Bing¨¶l**	**2.27 278**		*e*PN	**Pn**	**04 18 25.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.46 288**		*e*PN	**Pn**	**04 18 28.8**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.46 288**		*e*Pn	**Pn**	**04 18 28.8**	**+1.0**
MARD	**Mardin**	**2.62 238**		*i* P	**Pn**	**04 18 29.6**	**-0.3**
MAZI	**Mazidag**	**2.77 244**		*e*PN	**Pn**	**04 18 32.6**	**+0.6**
MAZI	**Mazidag**	**2.77 244**		*e*Pn	**Pn**	**04 18 32.6**	**+0.6**
PTK	**Pertek**	**3.27 274**		*e*PN	**Pn**	**04 18 40.3**	**+1.4**
PTK	**Pertek**	**3.27 274**		*e*Pn	**Pn**	**04 18 40.3**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.36 265**		*e*PN	**Pn**	**04 18 41.2**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.36 265**		*e*Pn	**Pn**	**04 18 41.2**	**+1.0**

AZER ***25*** *04:23:28.6±1.4,38.°34N×43.°59E,h2km,Error ellipse: s-maj=15.5km s-min=8.1km az=37.0*
DDA ***25*** *04:23:30.8,38.°89N×43.°56E,h9km,Md3.1*
ISK ***25*** *04:23:30.3,38.°90N×43.°50E,h5km,ML3.4*
CSEM ***25*** *04:23:32.1±0.2,38.°88N×43.°47E,h2km,ML3.4,Error ellipse: s-maj=5.9km s-min=4.2km az=150.0*

ISC 25 04:23:31.1±1.1,**38.°87N**±0.°02×**43.°57E**±0.°02,**h9**km±12km, **n94**,σ1§**55**/116,**11C-12D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.31 206**		PG	**Pb**	**04 23 38.5**	**-0.4**
VANB				*e*SG	**Sb**	**04 23 45.5**	**+1.4**
VANB	**Van**	**0.31 206**		*i* Pg	**Pb**	**04 23 38.5**	**-0.4**
GEVA	**Gevas**	**0.69 215**		*i* P	**Pg**	**04 23 43.5**	**-0.8**
GEVA	**Gevas**	**0.69 215**		P	**Pg**	**04 23 43.5**	**-0.8**
AGRB	**Hanur-Agry**	**0.83 328**		*e*PG	**Pg**	**04 23 46.5**	**-0.6**
AGRB				*e*SG	**Sb**	**04 23 58.0**	**-1.2**
AGRB	**Hanur-Agry**	**0.83 328**		*e*Pg	**Pg**	**04 23 46.5**	**-0.6**
AGRB				*e*Sg	**Sb**	**04 23 58.0**	**-1.2**
BASK	**Baskale_VAN**	**0.89 157**		*i* P	**Pg**	**04 23 48.2**	**0.0**
BASK	**Baskale_VAN**	**0.89 157**		P	**Pg**	**04 23 48.2**	**0.0**
EKAR	**Karacoban**	**1.23 289**		*i* P	**Pn**	**04 23 55.0**	**+0.3**
EKAR	**Karacoban**	**1.23 289**		P	**Pn**	**04 23 55.0**	**+0.3**
EATA	**Eleskirt**	**1.29 320**		*i* P	**Pg**	**04 23 53.9**	**-2.0**
EATA	**Eleskirt**	**1.29 320**		P	**Pg**	**04 23 53.9**	**-2.0**
NAX	**Nakhchivan** SNR=35	**1.53 78**		P	**Pn**	**04 23 59.3**	**+0.6**
NAX				⇑S	**Sg**	**04 24 22.9**	**+2.5**
NAX	**Nakhchivan** SNR=35	**1.53 78**		P	**Pn**	**04 23 59.3**	**+0.6**
NAX				S	**Sg**	**04 24 22.9**	**+2.5**
DIGO	**Kars**	**1.55 355**		*i* P	**Pb**	**04 23 59.7**	**-0.4**
DIGO	**Kars**	**1.55 355**		P	**Pb**	**04 23 59.7**	**-0.4**
CUKT	**Cukurca**	**1.62 179**		*e*PN	**Pg**	**04 24 02.4**	**+0.2**
CUKT	**Cukurca**	**1.62 179**		*i* P	**Pg**	**04 24 03.1**	**+0.9**
CUKT	**Cukurca**	**1.62 179**		*e*Pn	**Pg**	**04 24 02.4**	**+0.2**
CUKT	**Cukurca**	**1.62 179**		P	**Pg**	**04 24 03.1**	**+0.9**
SIRN	**S¨–rnak**	**1.65 214**		*i* P	**Pg**	**04 24 02.3**	**-0.4**
SIRN	**S¨–rnak**	**1.65 214**		P	**Pg**	**04 24 02.3**	**-0.4**
VRTB	**Varto-Mus**	**1.67 281**		*e*PN	**Pn**	**04 24 01.5**	**-0.6**
VRTB	**Varto-Mus**	**1.67 281**		*i* P	**Pn**	**04 24 01.2**	**+0.5**
VRTB				*i* S	**Sg**	**04 24 26.1**	**+1.4**
VRTB	**Varto-Mus**	**1.67 281**		P	**Pn**	**04 24 01.2**	**+0.5**
VRTB	**Varto-Mus**	**1.67 281**		*e*Pn	**Pb**	**04 24 01.5**	**-0.6**
VRTB				S	**Sg**	**04 24 26.1**	**+1.4**
HOMI	**Horasan**	**1.74 313**		*i* P	**Pb**	**04 24 02.9**	**-0.4**
EAK	**Akyaka**	**1.81 1**		*i* P	**Pg**	**04 24 05.5**	**-0.3**
EAK	**Akyaka**	**1.81 1**		P	**Pg**	**04 24 05.5**	**-0.3**
BNGL	**BINGOL**	**1.89 273**		*i* P	**Pb**	**04 24 05.1**	**-0.7**
BNGL				*i* S	**Sg**	**04 24 33.3**	**+1.6**
ERZM	**Erzurum**	**1.99 302**		*i* P	**Pb**	**04 24 07.3**	**-0.4**
ERZM				*i* S	**Sg**	**04 24 36.3**	**+1.2**
ERZM	**Erzurum**	**1.99 302**		P	**Pb**	**04 24 07.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99 249**		*e*PN	**Pn**	**04 24 06.2**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.99 249**		*i* P	**Pn**	**04 24 06.3**	**+1.3**
SVAN				*i* S	**Sg**	**04 24 34.6**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.99 249**		*e*Pn	**Pn**	**04 24 06.2**	**+1.2**
SVAN				S	**Sg**	**04 24 34.6**	**-0.5**
BTMN	**Batman**	**2.05 242**		*i* P	**Pb**	**04 24 08.4**	**-0.2**
BTMN				*i* S	**Sg**	**04 24 36.1**	**-0.9**
BTMN	**Batman**	**2.05 242**		P	**Pb**	**04 24 08.4**	**-0.2**
BTMN				S	**Sg**	**04 24 36.1**	**-0.9**
BNGB	**Bing¨¶l**	**2.25 274**		*e*PN	**Pn**	**04 24 09.7**	**+1.0**
BINT	**Bingol**	**2.40 271**		*e*Pn	**Pn**	**04 24 09.7**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.42 284**		*e*PN	**Pn**	**04 24 11.6**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.42 284**		*e*Pn	**Pn**	**04 24 11.6**	**+0.6**
GDB	**GEDABAY** SNR=21	**2.50 42**		P	**Pb**	**04 24 15.6**	**-0.7**
GDB				⇑S	**Sg**	**04 24 52.0**	**+0.6**
GDB	**GEDABAY** SNR=21	**2.50 42**		P	**Pb**	**04 24 15.6**	**-0.7**
DAGI	**Agillar**	**2.54 331**		*i* P	**Pb**	**04 24 17.6**	**+0.6**
QZX	**Qazax, Azerbai** SNR=22	**2.58 32**		P	**Pb**	**04 24 17.9**	**+0.3**
QZX				⇓S	**Sg**	**04 24 56.1**	**+2.0**
QZX	**Qazax, Azerbai** SNR=22	**2.58 32**		P	**Pb**	**04 24 17.9**	**+0.3**
ARTV	**Artvin**	**2.63 332**		*i* P	**Pb**	**04 24 19.0**	**+0.5**
ARTV	**Artvin**	**2.63 332**		P	**Pb**	**04 24 19.0**	**+0.5**
KOPT	**Kop Dagi**	**2.64 297**		*i* P	**Pg**	**04 24 20.4**	**-1.2**
MARD	**Mardin**	**2.69 236**		*i* P	**Pn**	**04 24 17.0**	**+2.3**
GANJ	**Ganja** SNR=7.9	**2.77 49**		P	**Pb**	**04 24 19.6**	**-1.1**
GANJ				⇑S	**Sg**	**04 24 57.9**	**-1.9**
GANJ	**Ganja** SNR=7.9	**2.77 49**		P	**Pb**	**04 24 19.6**	**-1.1**
MAZI	**Mazidag**	**2.83 241**		*e*PN	**Pn**	**04 24 18.1**	**+1.4**
MAZI	**Mazidag**	**2.83 241**		*e*Pn	**Pn**	**04 24 18.1**	**+1.4**
DBOC	**Borcka**	**2.87 330**		*i* P	**Pb**	**04 24 22.8**	**+0.4**
DBOC	**Borcka**	**2.87 330**		P	**Pb**	**04 24 22.8**	**+0.4**
DGRG	**David-gareji**	**2.92 28**		P	**Pn**	**04 24 19.9**	**+2.1**
BRDA	**Brd**	**3.12 62**		⇓P	**Pn**	**04 24 22.5**	**+2.0**
BRDA				⇓S	**Sb**	**04 25 04.0**	**-0.8**
BRDA	**Brd**	**3.12 62**		P	**Pn**	**04 24 22.5**	**+2.0**
BRDA				S	**Sb**	**04 25 04.0**	**-0.8**
PTK	**Pertek**	**3.26 272**		*e*PN	**Pn**	**04 24 24.0**	**+1.4**
PTK	**Pertek**	**3.26 272**		*e*Pn	**Pn**	**04 24 24.0**	**+1.4**
MNGR	**Mingechevir, A** SNR=4.3	**3.31 54**		⇑P	**Pn**	**04 24 26.0**	**+2.9**
MNGR				⇑S	**Sb**	**04 25 10.0**	**-0.3**
MNGR	**Mingechevir, A** SNR=4.3	**3.31 54**		P	**Pn**	**04 24 26.0**	**+2.9**
MNGR				S	**Sb**	**04 25 10.0**	**-0.3**
SVRC	**Sivrice-ELAZID**	**3.37 263**		*e*PN	**Pn**	**04 24 25.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.37 263**		*e*Pn	**Pn**	**04 24 25.5**	**+1.4**
ZRD	**Zardab** SNR=3.0	**3.48 65**		⇑P	**Pn**	**04 24 26.8**	**+1.4**
ZRD				⇓S	**Sb**	**04 25 12.8**	**-2.4**
ZRD	**Zardab** SNR=3.0	**3.48 65**		P	**Pn**	**04 24 26.8**	**+1.4**
ZRD				S	**Sb**	**04 25 12.8**	**-2.4**
ZKTA	**Zakatala** SNR=4.2	**3.62 39**		⇓P	**Pb**	**04 24 31.6**	**-3.7**
SEKA	**Sheki** SNR=6.9	**3.63 49**		⇑P	**Pn**	**04 24 31.6**	**+4.0**
SEKA	**Sheki** SNR=6.9	**3.63 49**		P	**Pn**	**04 24 31.6**	**+4.0**
LRK	**Lerik** SNR=5.8	**3.74 92**		⇑P	**Pn**	**04 24 27.3**	**-1.9**
LRK	**Lerik** SNR=5.8	**3.74 92**		P	**Pn**	**04 24 27.3**	**-1.9**
GLBA	**Clilabad** SNR=3.9	**3.78 83**		⇑P	**Pn**	**04 24 28.9**	**-0.6**
GLBA	**Clilabad** SNR=3.9	**3.78 83**		P	**Pn**	**04 24 28.9**	**-0.6**
QBL	**Gabala** SNR=6.0	**3.88 56**		⇑P	**Pn**	**04 24 33.5**	**+2.5**
QBL	**Gabala** SNR=6.0	**3.88 56**		P	**Pn**	**04 24 33.5**	**+2.5**
URFA	**Urfa**	**4.00 251**		*e*PN	**Pn**	**04 24 34.2**	**+1.5**
URFA	**Urfa**	**4.00 251**		*e*Pn	**Pn**	**04 24 34.2**	**+1.5**
LKRN	**Lenkeran, Azer**	**4.08 91**		⇓P	**Pn**	**04 24 31.9**	**-1.7**
LKRN	**Lenkeran, Azer**	**4.08 91**		P	**Pn**	**04 24 31.9**	**-1.7**
ASTR	**Astara**	**4.10 93**		⇓P	**Pn**	**04 24 31.8**	**-2.1**
ASTR	**Astara**	**4.10 93**		P	**Pn**	**04 24 31.8**	**-2.1**
XNQ	**Khinaliq** SNR=3.6	**4.20 55**		⇓P	**Pn**	**04 24 37.7**	**+2.2**
XNQ	**Khinaliq** SNR=3.6	**4.20 55**		P	**Pn**	**04 24 37.7**	**+2.2**
PQL	**Pirkuli** SNR=3.0	**4.32 62**		⇑P	**Pn**	**04 24 38.8**	**+1.7**
PQL	**Pirkuli** SNR=3.0	**4.32 62**		P	**Pn**	**04 24 38.8**	**+1.7**
QSAR	**Qusar**	**4.46 52**		⇓P	**Pn**	**04 24 41.8**	**+2.9**
QSAR	**Qusar**	**4.46 52**		P	**Pn**	**04 24 41.8**	**+2.9**
QUBA	**Quba, Azerbaij**	**4.52 55**		⇓P	**Pn**	**04 24 42.0**	**+2.2**
QUBA	**Quba, Azerbaij**	**4.52 55**		P	**Pn**	**04 24 42.0**	**+2.2**
ATGJ	**Altiaghaj**	**4.58 63**		⇓P	**Pn**	**04 24 42.4**	**+1.7**
ATGJ	**Altiaghaj**	**4.58 63**		P	**Pn**	**04 24 42.4**	**+1.7**
SIZA	**Siyzn**	**4.65 60**		⇓P	**Pn**	**04 24 43.4**	**+1.8**
SIZA	**Siyzn**	**4.65 60**		P	**Pn**	**04 24 43.4**	**+1.8**

KRNET ***25*** *04:24:07.4±0.1,40.°77N×69.°31E,mb2.7*

ISC 25 04:24:10.4±3.1,**40.°70N**±0.°09×**69.°3E**±0.°2,**h35**km,**n5**, σ0§**63**/9,**9C**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=121	**1.31 119**		⇑*i* P	**Pn**	**04 24 31.7**	**-0.6**
BTK	baz=121			⇑*i* S	**Sn**	**04 24 49.7**	**+1.1**
KK31	**Karatay Array** 3.0nm,0.3s,baz=201,slow=15,SNR=182	**2.56 20**		Pn	**Pn**	**04 24 49.3**	**-0.1**
KK31	2.3nm,0.2s,baz=211,slow=26,SNR=15			Sn	**Sn**	**04 25 19.9**	**+0.4**
KK31	4.6nm,0.3s,baz=30,slow=80,SNR=3.8			⇑Lg	Lg	04 25 23.3	
MNAS	**Manas** baz=53	**2.98 52**		⇑*i* P	**Pn**	**04 24 55.0**	**-0.3**
MNAS	baz=53			⇑*i* S	**Sn**	**04 25 29.6**	**-0.4**
MNAS	**Manas** 0.8nm,0.3s	**2.98 52**		⇑Pn	**Pn**	**04 24 55.7**	**+0.4**
MNAS	2.0nm,0.4s			⇑Lg	Lg	04 25 29.9	
AML	**Almayashu** baz=66	**3.59 65**		⇑*i* P	**Pn**	**04 25 03.4**	**-0.5**
AML	baz=66			⇑*i* S	**Sn**	**04 25 45.4**	**+0.2**

CSEM ***25*** *04:28:04.7±0.7,38.°75N×43.°50E,h10km,ML2.7,Error ellipse: s-maj=15.7km s-min=6.9km az=86.0*
ISK ***25*** *04:28:04.3,38.°75N×43.°45E,h6km,ML2.7*

ISC 25 04:28:05.0±1.2,**38.°68N**±0.°04×**43.°46E**±0.°06,**h26**km±6km, **n18**,σ1§**20**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11 213**		*e*PG	**Pb**	**04 28 09.9**	**+0.1**
VANB				*e*SG	**Sb**	**04 28 13.4**	**+0.2**
VANB	**Van**	**0.11 213**		*e*Pg	**Pb**	**04 28 10.0**	**+0.1**
VANB				*e*Sg	**Sb**	**04 28 13.4**	**+0.2**
GEVA	**Gevas**	**0.49 221**		*i* P	**Pb**	**04 28 14.1**	**-1.0**
GEVA				*i* S	**Sb**	**04 28 22.5**	**+0.5**
GEVA	**Gevas**	**0.49 221**		P	**Pb**	**04 28 14.1**	**-1.0**
GEVA				S	**Sb**	**04 28 22.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.96 338**		*e*PG	**Pn**	**04 28 22.0**	**-1.0**
AGRB				*e*SG	**Sn**	**04 28 34.9**	**-1.1**
AGRB	**Hanur-Agry**	**0.96 338**		*e*Pg	**Pn**	**04 28 22.0**	**-1.0**
AGRB				*e*Sg	**Sn**	**04 28 34.9**	**-1.1**
EKAR	**Karacoban**	**1.23 298**		*i* P	**Pb**	**04 28 28.5**	**+0.8**
EKAR				*i* S	**Sb**	**04 28 46.6**	**+3.3**
EKAR	**Karacoban**	**1.23 298**		P	**Pb**	**04 28 28.5**	**+0.8**
EKAR				S	**Sb**	**04 28 46.6**	**+3.3**
EATA	**Eleskirt**	**1.40 328**		*i* P	**Pb**	**04 28 30.1**	**-0.5**
EATA	**Eleskirt**	**1.40 328**		P	**Pb**	**04 28 30.1**	**-0.5**
CUKT	**Cukurca**	**1.44 175**		*e*PN	**Pb**	**04 28 32.4**	**+1.2**
CUKT	**Cukurca**	**1.44 175**		*e*Pn	**Pb**	**04 28 32.4**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.86 254**		*e*PN	**Pb**	**04 28 37.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.86 254**		*i* P	**Pn**	**04 28 35.7**	**+0.5**
SVAN				*i* S	**Sb**	**04 29 01.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.86 254**		P	**Pn**	**04 28 35.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.86 254**		*e*Pn	**Pb**	**04 28 37.9**	**-0.3**
SVAN				S	**Sb**	**04 29 01.0**	**0.0**
BTMN	**Batman**	**1.90 246**		*i* P	**Pb**	**04 28 38.1**	**-0.9**
BTMN				*i* S	**Sb**	**04 29 02.8**	**+0.5**
BTMN	**Batman**	**1.90 246**		P	**Pb**	**04 28 38.1**	**-0.9**
BTMN				S	**Sb**	**04 29 02.8**	**+0.5**

ISK ***25*** *04:31:01.7,38.°79N×43.°50E,h5km,ML3.3*
CSEM

ISC 25 04:42:01.3±1.4, 38°70N±0°02×43°58E±0°04, h4km±12km, n41, σ1°05/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	233	PG	Pg	04 42 06.4	+1.4
VANB	Van	0.18	233	*i* Pg	Pg	04 42 06.4	+1.4
GEVA	Gevas	0.56	226	*i* P	Pg	04 42 11.7	-0.5
GEVA				*i* S	Sb	04 42 21.0	-1.3
GEVA	Gevas	0.56	226	P	Pg	04 42 11.6	-0.5
GEVA				S	Sb	04 42 21.0	-1.3
BASK	Baskale_VAN	0.73	152	*i* P	Pg	04 42 15.6	+0.2
BASK				*i* S	Sb	04 42 27.9	+0.7
BASK	Baskale_VAN	0.73	152	P	Pg	04 42 15.6	+0.2
BASK				S	Sb	04 42 27.9	+0.7
DYDN	Diyadin	0.84	6	*i* P	Pg	04 42 17.6	+0.1
DYDN				*i* S	Sb	04 42 30.1	-0.3
DYDN	Diyadin	0.84	6	P	Pg	04 42 17.6	+0.1
DYDN				S	Sb	04 42 30.1	-0.3
AGRB	Hanur-Agry	0.98	333	*e*PG	Pg	04 42 20.3	+0.1
AGRB				*e*SG	Sb	04 42 33.8	-0.6
AGRB	Hanur-Agry	0.98	333	*e*Pg	Pg	04 42 20.3	+0.1
AGRB				*e*Sg	Sb	04 42 33.8	-0.6
HAKT	HAKKARI	1.15	175	*i* P	Pg	04 42 22.9	-0.5
HAKT				*i* S	Sn	04 42 41.4	+0.7
HAKT	HAKKARI	1.15	175	P	Pg	04 42 22.9	-0.5
HAKT				S	Sn	04 42 41.4	+0.7
EKAR	Karacoban	1.30	296	*i* P	Pn	04 42 27.0	+0.5
EKAR				*i* S	Sn	04 42 48.0	+3.6
EKAR	Karacoban	1.30	296	P	Pn	04 42 27.0	+0.5
EKAR				S	Sn	04 42 48.0	+3.6
EATA	Eleskirt	1.43	324	*i* P	Pn	04 42 27.6	-0.7
EATA				*i* S	Sn	04 42 47.6	-0.1
EATA	Eleskirt	1.43	324	P	Pn	04 42 27.6	-0.7
EATA				S	Sn	04 42 47.6	-0.1
CUKT	Cukurca	1.46	179	*e*PN	Pg	04 42 29.8	+0.6
CUKT	Cukurca	1.46	179	*i* P	Pg	04 42 30.2	+1.0
CUKT	Cukurca	1.46	179	*e*Pn	Pg	04 42 29.8	+0.6
CUKT	Cukurca	1.46	179	P	Pg	04 42 30.2	+1.0
VRTB	Varto-Mus	1.71	286	*e*PN	Pb	04 42 32.8	-0.7
VRTB	Varto-Mus	1.71	286	*i* P	Pn	04 42 30.5	-1.6
VRTB	Varto-Mus	1.71	286	P	Pn	04 42 30.5	-1.6
VRTB	Varto-Mus	1.71	286	*e*Pn	Pb	04 42 32.8	-0.7
DIGO	Kars	1.71	355	*i* P	Pb	04 42 33.2	-0.3
DIGO	Kars	1.71	355	P	Pb	04 42 33.2	-0.3
HOMI	Horasan	1.86	317	*i* P	Pb	04 42 35.5	-0.5
BNGL	BINGOL	1.91	278	*i* P	Pb	04 42 36.2	-0.6
SVAN	Silvan-Diyarba	1.95	254	*e*PN	Pb	04 42 36.5	-0.8
SVAN	Silvan-Diyarba	1.95	254	*i* P	Pb	04 42 36.2	-1.1
SVAN	Silvan-Diyarba	1.95	254	P	Pb	04 42 36.2	-1.1
SVAN	Silvan-Diyarba	1.95	254	*e*Pn	Pb	04 42 36.6	-0.8
BTMN	Batman	1.99	247	*i* P	Pb	04 42 37.1	-1.0
BTMN	Batman	1.99	247	P	Pb	04 42 37.1	-1.0
ERZM	Erzurum	2.09	306	*i* P	Pb	04 42 40.0	0.0
ERZM	Erzurum	2.09	306	P	Pb	04 42 40.0	0.0
BNGB	Bing¶ll	2.28	278	*e*PN	Pn	04 42 40.5	+0.7
BINT	Bingol	2.42	275	*e*Pn	Pn	04 42 40.5	-1.2
DAGI	Agillar	2.69	332	*i* P	Pb	04 42 50.0	-0.2
ARTV	Artvin	2.78	333	*i* P	Pb	04 42 51.4	-0.3
ARTV	Artvin	2.78	333	P	Pb	04 42 51.4	-0.3

*IDC **25** 04:42:15.8±1.1, 5°18N×94°04E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.8/51, mbtmp4.0/12, ML4.2/2, Error ellipse: s-maj=42.8km s-min=15.4km az=52.0*
*ISCJB **25** 04:42:19.0±0.6, 5°16N±0°08×94°05E±0°09, h34km, mb4.3/18, Error ellipse: s-maj=15.8km s-min=5.7km az=138.1*
*NEIC **25** 04:42:23.0±2.2, 5°24N×94°18E, h51km±18km, mb4.7/11, Error ellipse: s-maj=23.1km s-min=6.4km az=56.0*
*DJA **25** 04:42:27.5±1.4, 5°N±5°×9°5E±1°4, h163km±21km, M3.8/6, MLv3.8/6*

ISC 25 04:42:20.8±0.7, 5°18N±0°09×94°16E±0°10, h34km, n42, σ1°18/39, mb4.4/18, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	2.42	112	P	Pb	04 43 01.6	-2.0
LHMI	Lhok Sumawe	2.78	89	P	Pn	04 43 04.4	+1.5
LHMI	Lhok Sumawe	2.78	89	*e*Pn	Pn	04 43 05.0	+2.1
SNSI	Sinabang, Aceh	3.50	142	P	Pn	04 43 04.3	-8.5
TPTI		3.57	122	P	Pn	04 43 16.0	+2.3
TPTI				S	Sn	04 43 54.5	-0.2
KCSI	Kotacane, Aceh	3.96	114	P	Pn	04 43 21.8	+2.6
PSI	Prapat	5.31	116	Pn	Pn	04 43 39.3	+1.5
	1.9nm,0.3s,baz=315,slow=20,SNR=5.3						
PSI	Prapat	5.31	116	*e*Pn	Pn	04 43 37.7	-0.2
KULM	Kulim	6.47	89	*e*Pn	Pn	04 43 52.0	-1.6
CMAR	Chiang Mai Arr	14.00	19	Pn	Pn	04 45 38.2	+1.4
	1.1nm,0.3s,baz=217,slow=13,SNR=10						
CHTO	Chiang Mai	14.33	19	*e*Pn	Pn	04 45 42.4	+1.0
CISI	Cisompet, Garu	18.59	133	*e*P	Pn	04 46 36.2	+0.4
	118nm,0.4s						
H08S2	Diego Garcia H	25.09	240	T	T	05 13 44.9	
	baz=59,slow=76,SNR=22						
H08S3	Diego Garcia H	25.09	240	T	T	05 13 44.0	
	baz=59,slow=76,SNR=21						
H08S1	Diego Carcia H	25.11	240	T	T	05 13 48.6	
	baz=59,slow=76,SNR=26						
FITZ	Fitzroy Crossi	38.73	127	P	P	04 49 42.1	+0.1
	0.8nm,0.5s,baz=326,slow=3.6,SNR=4.2						
MK31	Makanchi Array	42.71	348	*e*P	P	04 50 14.9	+0.4
MK32	Makanchi Array	42.71	348	*e*P	P	04 50 14.6	+0.1
MKAR	Makanchi Array	42.71	348	P	P	04 50 14.6	+0.1
	2.7nm,0.5s,baz=167,slow=8.2,SNR=20						
MKAR	Makanchi Array	42.71	348	*e*P	P	04 50 14.9	+0.4
	25nm,0.5s						
MAKZ	Makanchi	42.79	348	*e*P	P	04 50 15.4	+0.2
	3.9nm,0.6s						
SONA0	Songino Array	43.78	12	*e*P	P	04 50 21.8	-1.4
SONM	Songino Array	43.78	12	P	P	04 50 21.8	-1.4
	1.2nm,0.7s,baz=188,slow=9.0,SNR=6.4						
WR1	Warramunga Arr	46.73	124	*e*P	P	04 50 48.0	+1.0
	4.1nm,0.8s						
WRA	Warramunga Arr	46.73	124	P	P	04 50 48.0	+1.0
	1.3nm,0.6s,baz=300,slow=9.7,SNR=8.4						
WRAB	Tennant Creek	46.73	124	*e*P	P	04 50 48.1	+1.1
	11nm,1.3s						
WB2	Warramunga Arr	46.74	124	*e*P	P	04 50 48.0	+0.9
	25nm,2.0s						
KURK	Kurchatov	47.22	347	*e*P	P	04 50 51.0	+0.7
	2.6nm,0.8s						
AS31	Alice Springs	48.22	128	*e*P	P	04 50 58.4	-0.1
	4.4nm,0.6s						
ASAR	Alice Springs	48.22	128	P	P	04 50 59.3	+0.8
	0.8nm,0.6s,baz=303,slow=7.5,SNR=11						
ZAA0	Zalesovo Array	49.21	353	*e*P	P	04 51 06.0	+0.4
	9.1nm,1.4s						
ZALV	Zalesovo Beam	49.21	353	P	P	04 51 05.8	+0.1
	2.8nm,0.3s,baz=176,slow=7.0,SNR=13						
ZAA1	Zalesovo Array	49.22	353	*e*P	P	04 51 05.8	+0.1
BVAR	Borovoye Array	51.53	342	P	P	04 51 23.4	+0.1
	1.1nm,0.7s,baz=116,slow=6.9,SNR=4.5						
ABKAR	Akbulak array	52.60	332	*e*P	P	04 51 31.8	+0.6
	16nm,0.3s						
BR101	Keskin Array S	64.21	312	*e*P	P	04 52 51.4	-1.3
BRTR	Keskin Array B	64.21	312	P	P	04 52 51.4	-1.3
	0.5nm,0.7s,baz=126,slow=2.5,SNR=2.5						
GEC2	GERESS Array S	79.84	319	*e*P	P	04 54 27.2	+1.2
	30nm,1.9s						
GERES	GERESS Array B	79.84	319	P	P	04 54 27.2	+1.2
	0.7nm,0.6s,baz=72,slow=6.3,SNR=5.9						
SYO	Syowa Base	82.85	197	*e*X	P	04 54 39.5	-1.9
ILAR	Eielson Array	97.22	22	P	P	04 55 49.9	+0.1
	0.1nm,0.5s,baz=312,slow=4.3,SNR=3.7						
ILB	Eielson Array	97.22	22	*e*P	P	04 55 49.9	+0.1

*IDC **25** 04:46:58.2±1.3, 6°47S×148°12E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/33, mbtmp4.1/7, ML4.1/1, MS2.8/2, Ms1 2.8/2, ms1mx2.7/23, Error ellipse: s-maj=51.2km s-min=19.1km az=109.0*
*ISCJB **25** 04:47:03.5±1.2, 6°51S±0°09×148°0E±0°3, h51km, mb4.0/5, Error ellipse: s-maj=37.3km s-min=11.4km az=12.0*

ISC 25 04:47:05.1±1.3, 6°5S±0°1×148°1E±0°3, h51km, n10, σ0°45/10, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.99	198	Pn	Pn	04 47 50.1	0.0
	10nm,0.3s,baz=44,slow=11,SNR=8.0						
PMG				Sn	Sn	04 48 25.1	+0.4
	66nm,0.3s,baz=14,slow=21,SNR=13						
PMG				LR	LR	04 48 35.5	
	comp=Z,89nm,21.8s,baz=48,slow=32						
HNR	Honiara	12.10	105	LR	LR	04 53 32.4	
	comp=Z,76nm,19.3s,baz=13,slow=33						
WRA	Warramunga Arr	18.86	224	P	P	04 51 20.6	-0.5
	0.6nm,0.3s,baz=53,slow=10.0,SNR=7.8						
ASAR	Alice Springs	21.81	217	P	P	04 51 52.6	-0.5
	7.0nm,0.5s,baz=53,slow=9.3,SNR=129						
FITZ	Fitzroy Crossi	24.72	240	P	P	04 52 21.8	0.0
	12nm,0.4s,baz=55,slow=8.7,SNR=87						
STKA	Stephens Creek	25.93	193	P	P	04 52 32.4	-0.2
	2.0nm,0.6s,baz=8.8,slow=12,SNR=6.7						
MKAR	Makanchi Array	78.60	320	P	P	04 59 01.5	0.0
	0.3nm,0.5s,baz=117,slow=5.0,SNR=3.6						
ILAR	Eielson Array	85.55	23	P	P	04 59 37.2	-0.2
	0.5nm,0.6s,baz=252,slow=5.3,SNR=6.8						
GERES	GERESS Array B	122.96	326	PKP	PKPdf	05 05 56.4	+0.5
	0.4nm,0.4s,baz=96,slow=1.0,SNR=5.7						
TORD	Torodi Ar. Bea	146.27	284	PKPbc	PKPab	05 06 42.5	+0.6
	1.2nm,0.5s,baz=71,slow=3.3,SNR=33						

*DDA **25** 04:49:10.9, 38°74N×43°23E, h7km, Ml3.5*
*ISK **25** 04:49:10.7, 38°77N×43°22E, h6km, ML3.3*
*ISCJB **25** 04:49:11.8±0.5, 38°78N±0°03×43°25E±0°06, h13km, Error ellipse: s-maj=6.8km s-min=4.0km az=151.2*
*CSEM **25** 04:49:11.1±0.3, 38°76N×43°23E, h2km, ML3.3, Error ellipse: s-maj=7.4km s-min=4.9km az=62.0*

ISC 25 04:49:11.6±0.8, 38°76N±0°03×43°27E±0°04, h13km, n45, σ0°77/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	150	*e*PG	Pb	04 49 17.0	-0.1
VANB				*e*SG	Sb	04 49 21.6	+1.0
VANB	Van	0.19	150	*e*Pg	Pb	04 49 17.0	-0.1
GEVA	Gevas	0.48	200	*i* P	Pg	04 49 19.8	-1.3
GEVA	Gevas	0.48	200	P	Pg	04 49 19.8	-1.3
AGRB	Hanur-Agry	0.84	345	*e*PG	Pg	04 49 27.0	-1.0
AGRB				*e*SG	Sg	04 49 38.7	-0.4
AGRB	Hanur-Agry	0.84	345	*e*Pg	Pg	04 49 27.0	-1.0
AGRB				*e*Sg	Sg	04 49 38.7	-0.4
DYDN	Diyadin	0.85	23	*i* P	Pg	04 49 27.7	-0.4
DYDN	Diyadin	0.85	23	P	Pg	04 49 27.7	-0.4
BASK	Baskale_VAN	0.91	140	*i* P	Pg	04 49 28.7	-0.6
BASK	Baskale_VAN	0.91	140	P	Pg	04 49 28.7	-0.6
EKAR	Karacoban	1.06	298	*i* P	Pb	04 49 31.4	-0.6
EKAR	Karacoban	1.06	298	P	Pb	04 49 31.4	-0.6
HAKT	HAKKARI	1.25	164	*i* P	Pn	04 49 34.3	-0.7
HAKT	HAKKARI	1.25	164	P	Pn	04 49 34.3	-0.7
EATA	Eleskirt	1.25	332	*i* P	Pn	04 49 34.7	-0.5
EATA	Eleskirt	1.25	332	P	Pn	04 49 34.7	-0.5
VRTB	Varto-Mus	1.47	286	*e*PN	Pn	04 49 38.0	0.0
VRTB				*e*SN	Sn	04 49 57.4	+0.3
VRTB	Varto-Mus	1.47	286	*e*Pn	Pn	04 49 38.0	0.0
VRTB				*e*Sn	Sn	04 49 57.4	+0.3
CUKT	Cukurca	1.53	170	*e*PN	Pn	04 49 39.6	+0.8
CUKT	Cukurca	1.53	170	*e*Pn	Pn	04 49 39.6	+0.8
HOMI	Horasan	1.66	321	*i* P	Pb	04 49 42.1	-0.1
BNGL	BINGOL	1.66	277	*i* P	Pb	04 49 41.9	-0.3
SVAN	Silvan-Diyarba	1.73	250	*e*PN	Pn	04 49 41.7	+0.2
SVAN	Silvan-Diyarba	1.73	250	*i* P	Pn	04 49 42.4	+0.9
SVAN	Silvan-Diyarba	1.73	250	*e*Pn	Pn	04 49 41.7	+0.2
SVAN	Silvan-Diyarba	1.73	250	P	Pn	04 49 42.4	+0.9
BTMN	Batman	1.79	242	*i* P	Pn	04 49 43.2	+0.8
BTMN	Batman	1.79	242	P	Pn	04 49 43.2	+0.8
ERZM	Erzurum	1.87	308	*i* P	Pb	04 49 46.4	+0.7
ERZM	Erzurum	1.87	308	P	Pb	04 49 46.4	+0.7
BNGB	Bing¶ll	2.03	277	*e*PN	Pn	04 49 45.9	+0.2
BINT	Bingol	2.17	274	*e*Pn	Pn	04 49 45.9	-1.7
YEDI	Yedisu-Bingol	2.22	289	*e*PN	Pn	04 49 48.5	+0.1
YEDI	Yedisu-Bingol	2.22	289	*e*Pn	Pn	04 49 48.5	+0.1
DDEM	Demirkent	2.43	332	*i* P	Pb	04 49 56.2	+1.0
DDEM	Demirkent	2.43	332	P	Pb	04 49 56.2	+1.0
MAZI	Mazidag	2.58	241	*e*PN	Pn	04 49 53.8	+0.6
MAZI	Mazidag	2.58	241	*e*Pn	Pn	04 49 53.8	+0.6
ERZN	Erzincan	2.88	288	*e*PN	Pn	04 49 58.1	+0.8
PTK	Pertek	3.03	274	*e*PN	Pn	04 50 00.2	+0.8
PTK	Pertek	3.03	274	*e*Pn	Pn	04 50 00.3	+0.8
SVRC	Sivrice-ELAZID	3.13	264	*e*PN	Pn	04 50 01.4	+0.6
SVRC	Sivrice-ELAZID	3.13	264	*e*Pn	Pn	04 50 01.4	+0.6
URFA	Urfa	3.75	251	*e*PN	Pn	04 50 10.6	+1.4
URFA	Urfa	3.75	251	*e*Pn	Pn	04 50 10.6	+1.4

*IDC **25** 04:51:13.6±1.9, 21°06S×178°90W, h574km±23km, mb3.3/10, mb1 3.6/13, mb1mx3.5/28, mbtmp4.4/13, Error ellipse: s-maj=26.1km s-min=13.7km az=145.0*
*ISCJB **25** 04:51:14.5±0.6, 21°23S±0°07×179°0W±0°1, h602km, mb3.8/10, Error ellipse: s-maj=15.1km s-min=8.5km az=6.0*

ISC 25 04:51:15.6±0.7, 21°27S±0°10×179°1W±0°1, h602km, n24, σ1°44/28, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.08	45	P	P	04 53 30.3	-5.1
	11nm,0.3s,baz=44,slow=2.3,SNR=15						
DZM	Mont Dzumac	13.51	264	P	P	04 54 09.1	-0.5
	0.6nm,0.3s,baz=78,slow=14,SNR=5.3						
WMGZ	Waimatatini S	16.64	187	*e*PN	P	04 54 39.9	+1.4
HAZ	Te Kaha	16.66	189	*e*PN	P	04 54 39.6	+1.0
HAZ				SN	S	04 57 22.2	-1.8
RUGZ	Raukumara Rang	16.88	189	PN	P	04 54 41.4	+0.6
URZ	Urewera	17.26	190	P	P	04 54 44.6	+0.5
	4.2nm,0.3s,baz=277,slow=2.7,SNR=20						
URZ				S	S	04 57 31.7	-1.9
	0.4nm,0.3s,baz=240,slow=20,SNR=3.0						
URZ	Urewera	17.26	190	*e*PN	P	04 54 42.8	-1.3
URZ				SN	S	04 57 31.5	-2.1
QRZ	Quartz Range	20.77	198	*e*PN	P	04 55 18.2	+2.3
THZ	Tophouse	21.53	197	*e*PN	P	04 55 23.7	+0.9
STKA	Stephens Creek	36.57	245	P	P	04 57 33.6	+1.4
	2.9nm,0.5s,baz=83,slow=11,SNR=7.8						
ASAR	Alice Springs	43.38	258	P	P	04 58 28.1	+1.4
	4.5nm,0.8s,baz=96,slow=7.8,SNR=29						
ASAR				PcP	PcP	05 00 01.6	+0.3
	0.6nm,0.6s,baz=103,slow=3.2,SNR=4.4						
ASAR				S	S	05 04 11.1	-1.4
	2.2nm,0.7s,baz=94,slow=16,SNR=14						
WRA	Warramunga Arr	43.52	263	P	P	04 58 28.8	+1.1
	0.4nm,0.4s,baz=97,slow=7.5,SNR=12						
WRA				S	S	05 04 11.6	-2.7
	0.9nm,0.9s,baz=98,slow=13,SNR=3.6						
FITZ	Fitzroy Crossi	51.95	263	P	P	04 59 31.7	+1.3
	0.5nm,0.4s,baz=54,slow=8.7,SNR=5.9						
MJAR	Matsushiro Arr	70.25	325	P	P	05 01 27.9	-1.5
	2.8nm,0.7s,baz=152,slow=5.3,SNR=6.0						
PETK	Petropavlovsk-	76.76	346	P	P	05 02 05.8	-0.1
	3.7nm,0.6s,baz=126,slow=7.3,SNR=2.7						
TXAR	Lajitas Array	88.30	58	P	P	05 03 05.3	+0.8
	0.9nm,0.8s,baz=220,slow=5.9,SNR=12						
ILAR	Eielson Array	89.28	13	P	P	05 03 06.9	-1.2
	0.8nm,0.4s,baz=214,slow=5.4,SNR=20						
CMAR	Chiang Mai Arr	89.44	290	P	P	05 03 12.0	+2.1
	1.1nm,0.4s,baz=132,slow=3.7,SNR=6.3						
PDAR	Pinedale Array	90.19	44	P	P	05 03 12.7	-0.5
	0.8nm,0.7s,baz=196,slow=3.5,SNR=8.8						
ARCES	ARCESS Array B	129.49	349	PKP	PKPdf	05 09 14.8	-1.4
	2.7nm,0.6s,baz=4.8,slow=1.5,SNR=11						
FINES	FINESS Array B	136.22	343	PKP	PKPdf	05 09 29.9	+1.0
	2.8nm,0.9s,baz=73,slow=2.5,SNR=6.7						
AKASG	Malin Array Be	143.19	330	PKhKP	PKPpre	05 09 39.0	
	6.1nm,0.4s,baz=44,slow=4.4,SNR=47						
BRTR	Keskin Array B	146.60	311	PKPbc	PKPbc	05 09 50.6	-0.4
	1.8nm,0.7s,baz=138,slow=5.0,SNR=8.3						
GERES	GERESS Array B	150.65	343	PKPbc	PKPbc	05 10 00.0	-0.6
	1.7nm,0.6s,baz=29,slow=3.0,SNR=11						

*ISK **25** 04:57:29.4, 38°66N×43°04E, h21km, ML2.6*
*CSEM **25** 04:57:30.2±0.4, 38°70N×42°94E, h17km±6km, ML2.6, Error ellipse: s-maj=18.6km s-min=9.3km az=68.0*
*ISCJB **25** 04:57:32.5±0.8, 38°79N±0°04×43°33E±0°08, h15km, Error ellipse: s-maj=9.4km s-min=5.0km az=161.7*
*DDA **25** 04:57:32.6, 38°64N×43°13E, h7km, Ml3.3*

ISC 25 04:57:30.9±0.9, 38°68N±0°03×43°14E±0°04, h15km, n20, σ2°03/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	114	*e*PG	Pb	04 57 37.0	+0.3
VANB				*e*SG	Sb	04 57 42.4	+1.9
VANB	Van	0.22	114	*e*Pg	Pb	04 57 37.0	+0.3
VANB				*e*Sg	Sb	04 57 42.4	+1.9
GEVA	Gevas	0.38	189	*i* P	Pn	04 57 39.5	-2.5
GEVA	Gevas	0.38	189	P	Pn	04 57 39.5	-2.5
AGRB	Hanur-Agry	0.90	353	*e*PG	Pb	04 57 47.6	-0.7
AGRB				*e*SG	Sg	04 58 00.5	+0.3
AGRB	Hanur-Agry	0.90	353	*e*Pg	Pb	04 57 47.7	-0.7
AGRB				*e*Sg	Sg	04 58 00.5	+0.3
EKAR	Karacoban	1.01	305	*i* P	Pn	04 57 52.5	+1.7
HAKT	HAKKARI	1.21	158	*i* P	Pg	04 57 54.6	+0.3
HAKT	HAKKARI	1.21	158	P	Pg	04 57 54.6	+0.3
EATA	Eleskirt	1.28	337	*i* P	Pg	04 57 55.9	+0.3
EATA	Eleskirt	1.28	337	P	Pg	04 57 55.9	+0.3
VRTB	Varto-Mus	1.40	291	*e*PN	Pn	04 57 53.5	-2.5
VRTB	Varto-Mus	1.40	291	*e*Pn	Pn	04 57 53.5	-2.5
BNGL	BINGOL	1.57	280	*i* P	Pg	04 58 02.5	+1.3
BNGL				*i* S	Sg	04 58 24.0	+2.3
SVAN	Silvan-Diyarba	1.61	251	*e*PN	Pn	04 57 55.9	-3.0
SVAN	Silvan-Diyarba	1.61	251	*e*Pn	Pn	04 57 55.9	-3.0
BTMN	Batman	1.67	242	*i* P	Pg	04 58 04.1	+1.1
BTMN				*i* S	Sg	04 58 26.9	+2.2
ERZM	Erzurum	1.84	312	*i* P	Pg	04 58 07.5	+1.3
BNGB	Bing¶ll	1.94	280	*e*PN	Pn	04 58 01.0	-2.5
BINT	Bingol	2.08	276	*e*Pn	Pn	04 58 01.0	-4.4

*ISK **25** 05:11:28.6, 38°76N×43°27E, h23km, ML2.8*
*ISCJB **25** 05:11:29.6±0.8, 38°80N±0°06×43°14E±0°07, h12km, Error ellipse: s-maj=9.8km s-min=6.3km az=31.8*
*CSEM **25** 05:11:29.9±0.3, 38°79N×43°13E, h10km, ML2.8, Error ellipse: s-maj=9.6km s-min=7.3km az=38.0*

ISC 25 05:11:29.5±1.0, 38°76N±0°04×43°20E±0°05, h12km, n20, σ1°34/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	136	*e*PG	Pb	05 11 35.4	-0.1
VANB				*e*SG	Sg	05 11 40.3	+2.8
VANB	Van	0.22	136	*e*Pg	Pb	05 11 35.4	-0.1
VANB				*e*Sg	Sg	05 11 40.3	+2.8
GEVA	Gevas	0.46	194	*i* P	Pg	05 11 36.4	-2.1
GEVA	Gevas	0.46	194	P	Pg	05 11 36.4	-2.1
AGRB	Hanur-Agry	0.83	349	*e*PG	Pn	05 11 45.5	-1.7
AGRB	Hanur-Agry	0.83	349	*e*Pg	Pn	05 11 45.5	-1.7
SVAN	Silvan-Diyarba	1.68	250	*e*PN	Pn	05 11 57.5	-1.2
SVAN	Silvan-Diyarba	1.68	250	*e*Pn	Pn	05 11 57.5	-1.2
BTMN	Batman	1.74	241	*i* P	Pb	05 12 00.8	-0.6
BTMN				*i* S	Sn	05 12 22.5	+0.7
BTMN	Batman	1.74	241	P	Pb	05 12 00.8	-0.6
BTMN				S	Sn	05 12 22.5	+0.7
ERZM	Erzurum	1.82	310	*i* P	Pg	05 12 04.6	+0.1
ERZM	Erzurum	1.82	310	P	Pg	05 12 04.6	+0.1
YEDI	Yedisu-Bingol	2.17	289	*e*PN	Pn	05 12 05.2	-0.3
YEDI	Yedisu-Bingol	2.17	289	*e*Pn	Pn	05 12 05.3	-0.3
MAZI	Mazidag	2.52	240	*e*PN	Pn	05 12 10.8	+0.4
MAZI	Mazidag	2.52	240	*e*Pn	Pn	05 12 10.8	+0.4
PTK	Pertek	2.97	274	*e*PN	Pn	05 12 16.4	-0.3
PTK	Pertek	2.97	274	*e*Pn	Pn	05 12 16.4	-0.3
SVRC	Sivrice-ELAZID	3.07	264	*e*PN	Pn	05 12 18.9	+0.9
SVRC	Sivrice-ELAZID	3.07	264	*e*Pn	Pn	05 12 18.9	+0.9

*ISK **25** 05:33:16.2, 38°68N×43°09E, h7km, ML2.9*
*CSEM **25** 05:33:17.2±0.3, 38°73N×43°11E, h10km, ML2.9, Error ellipse: s-maj=9.2km s-min=6.1km az=82.0*
*DDA **25** 05:33:17.6, 38°75N×43°31E, h7km, Md2.7*
*ISCJB **25** 05:33:18.2±0.9, 38°76N±0°03×43°4E±0°1, h15km, Error ellipse: s-maj=12.2km s-min=4.4km az=176.7*

ISC 25 05:33:17.5±0.8, 38°71N±0°03×43°21E±0°04, h15km, n22, σ1°15/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	129	*e*PG	Pb	05 33 22.7	+0.1
VANB				*e*SG	Sb	05 33 27.1	+1.1
VANB	Van	0.18	129	*e*Pg	Pb	05 33 22.7	+0.1
VANB				*e*Sg	Sb	05 33 27.1	+1.1
GEVA	Gevas	0.41	197	*i* P

BTMN	Batman	1.59	242	*i* P	Pg	05 45 23.7	-0.6
BTMN				*i* S	Sg	05 45 45.3	+0.3
BTMN	Batman	1.59	242	P	Pg	05 45 23.7	-0.6
BTMN				S	Sg	05 45 45.3	+0.3
HOMI	Horasan	1.66	328	*i* P	Pg	05 45 24.7	-0.8
ERZM	Erzurum	1.81	314	*i* P	Pg	05 45 28.3	-0.3
ERZM	Erzurum	1.81	314	P	Pg	05 45 28.3	-0.3
BNGB	Bing¶‖	1.89	281	*e*PN	Pn	05 45 26.9	+0.5
BINT	Bingol	2.02	277	*e*Pn	Pn	05 45 26.9	-1.4
MARD	Mardin	2.24	234	*i* P	Pb	05 45 33.8	-0.7
MAZI	Mazidag	2.37	241	*e*PN	Pn	05 45 33.5	+0.3
MAZI	Mazidag	2.37	241	*e*Pn	Pn	05 45 33.5	+0.3
DDEM	Demirkent	2.46	336	*i* P	Pb	05 45 38.8	+0.5
DDEM	Demirkent	2.46	336	P	Pb	05 45 38.8	+0.5
DAGI	Agillar	2.58	341	*i* P	Pb	05 45 41.4	+1.0
PTK	Pertek	2.87	276	*e*PN	Pn	05 45 40.5	+0.4
PTK	Pertek	2.87	276	*e*Pn	Pn	05 45 40.5	+0.4
SVRC	Sivrice-ELAZID	2.95	266	*e*PN	Pn	05 45 42.2	+1.1
SVRC	Sivrice-ELAZID	2.95	266	*e*Pn	Pn	05 45 42.2	+1.1

ISCJB ***25*** *05:48:15.3±0.5, 56.°16S±0.°08×26.°7W±0.°2, h50km, mb4.5/12, MS3.7/6, Error ellipse: s-maj=16.8km s-min=7.9km az=147.6*
IDC ***25*** *05:48:17.4±5.3, 56.°22S×26.°76W, h54km±47km, mb4.1/8, mb1 4.2/10, mb1mx3.9/20, mbtmp4.4/10, ML4.7/2, MS3.7/7, Ms1 3.6/7, ms1mx3.4/25, Error ellipse: s-maj=25.7km s-min=15.8km az=61.0*
NEIC ***25*** *05:48:19.1±1.5, 56.°23S×26.°77W, h72km±13km, mb4.4/2, Error ellipse: s-maj=13.9km s-min=7.1km az=60.0*
ISC 25 05:48:16.8±0.5, 56.°20S±0.°08×26.°7W±0.°1, h10km, n45, σ0§84/43, mb4.4/12, MS3.5/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.94**	**285**	*e*P	**Pn**	**05 49 43.8**	**+1.8**
	311nm,0.9s						
VNA1	**Neumayer--Stat**	**16.55**	**158**	P	**Pn**	**05 52 06.9**	**+1.8**
VNA3	**Neumayer Olymp**	**16.76**	**161**	P	**P**	**05 52 09.5**	**+0.3**
VNA2	**Neumayer--Watz**	**16.95**	**158**	P	**Pn**	**05 52 09.8**	**-0.2**
	baz=321,slow=14						
SNAA	**Sanae**	**18.49**	**156**	P	**Pn**	**05 52 29.9**	**+1.0**
SNAA	**Sanae**	**18.49**	**156**	P	**P**	**05 52 28.2**	**-0.2**
	0.6nm,0.3s,baz=295,slow=11,SNR=19						
SNAA				LR	LR	05 57 56.0	
	comp=Z,108nm,20.6s,baz=357,slow=31						
SNAA	**Sanae**	**18.49**	**156**	P	**P**	**05 52 28.2**	**-0.2**
SNAA				*e*P	**Pn**	**05 52 28.8**	**-0.2**
PMSA	**Palmer Station**	**20.03**	**229**	P	**P**	**05 52 45.0**	**-0.1**
	0.8nm,0.3s,baz=63,slow=7.4,SNR=11						
PMSA	**Palmer Station**	**20.03**	**229**	P	**P**	**05 52 45.0**	**-0.1**
PMSA				*e*P	**Pn**	**05 52 46.1**	**-1.2**
USHA	**Ushuaia**	**23.43**	**256**	LR	LR	06 00 15.6	
	comp=Z,1μm,19.1s,baz=100,slow=31						
PLCA	**Paso Flores**	**32.32**	**280**	PcP	**PcP**	**05 57 27.2**	**-0.6**
	0.5nm,0.7s,baz=349,slow=6.2,SNR=3.0						
PLCA				LR	LR	06 07 07.7	
	comp=Z,109nm,19.5s,baz=164,slow=35						
QSPA	**South Pole Qui**	**34.05**	**180**	*e*P	**P**	**05 54 56.4**	**+0.4**
	33nm,0.6s						
CPUP	**Villa Florida**	**37.13**	**311**	P	**P**	**05 55 21.1**	**-1.3**
	3.4nm,0.8s,baz=150,slow=7.3,SNR=9.5						
CPUP				PcP	**PcP**	**05 57 42.0**	**+0.2**
	1.6nm,0.6s,baz=136,slow=3.3,SNR=4.8						
MAW	**Mawson**	**39.86**	**143**	P	**P**	**05 55 44.8**	**-0.1**
	2.1nm,0.7s,baz=226,slow=5.7,SNR=12						
MAW				LR	LR	06 10 14.6	
	comp=Z,48nm,20.2s,baz=241,slow=33						
BDFB	**Brasilia**	**43.64**	**329**	P	**P**	**05 56 16.6**	**+0.2**
	2.0nm,0.6s,baz=359,slow=5.4,SNR=4.8						
LVC	**Limon Verde**	**45.63**	**300**	*e*P	**P**	**05 56 32.5**	**0.0**
	9.1nm,0.3s						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**05 56 38.4**	**+0.5**
	2.4nm,0.5s,baz=181,slow=8.5,SNR=15						
VNDA				LR	LR	06 15 05.6	
	comp=Z,34nm,19.6s,baz=180,slow=35						
SIV	**San Ignacio**	**47.89**	**313**	LR	LR	06 13 57.3	
	comp=Z,56nm,21.9s,baz=172,slow=32						
H10S2	**ASCENSION HYDR**	**48.06**	**16**	T	T	06 49 38.1	
	baz=189,slow=75,SNR=77						
H10S3	**ASCENSION HYDR**	**48.06**	**16**	T	T	06 49 37.7	
	baz=189,slow=75,SNR=93						
H10S1	**ASCENSION HYDR**	**48.07**	**16**	T	T	06 49 41.2	
	baz=189,slow=75,SNR=83						
H10N1	**ASCENSION HYDR**	**49.17**	**16**	T	T	06 50 56.2	
	baz=189,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**49.17**	**16**	T	T	06 51 03.8	
	baz=189,slow=75,SNR=50						
H10N2	**ASCENSION HYDR**	**49.19**	**16**	T	T	06 51 00.8	
	baz=189,slow=75,SNR=30						
LPAZ	**La Paz**	**50.70**	**305**	P	**P**	**05 57 12.5**	**+0.5**
	9.7nm,0.8s,baz=138,slow=4.8,SNR=58						
SAML	**Samuel**	**55.11**	**314**	*e*P	**P**	**05 57 42.9**	**-0.9**
	2.7nm,0.8s						
DBIC	**Dimbokro**	**65.18**	**24**	P	**P**	**05 58 52.9**	**+0.3**
	3.4nm,0.9s,baz=181,slow=5.3,SNR=6.1						
OPO	**Ambohidratompo**	**65.80**	**87**	LR	LR	06 20 31.9	
	comp=Z,88nm,21.3s,baz=166,slow=29						
OTAV	**Otavalo**	**69.98**	**303**	*e*P	**P**	**05 59 23.7**	**+0.1**
	4.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.04**	**29**	P	**P**	**05 59 42.2**	**+1.0**
	2.6nm,0.4s,baz=201,slow=6.4,SNR=46						
ASAR	**Alice Springs**	**98.76**	**162**	P	**P**	**06 01 50.1**	**-0.9**
	0.6nm,0.6s,baz=183,slow=4.2,SNR=8.6						
PDAR	**Pinedale Array**	**120.67**	**302**	PKP	**PKPdf**	**06 07 01.4**	**-1.1**
	0.3nm,0.5s,baz=142,slow=5.5,SNR=4.6						
FINES	**FINESS Array B**	**124.37**	**28**	PKP	**PKPdf**	**06 07 08.3**	**-0.3**
	1.7nm,0.5s,baz=157,slow=2.7,SNR=15						
AKTO	**Aktyubinsk**	**127.18**	**53**	PKP	**PKPdf**	**06 07 13.4**	**-0.9**
	0.4nm,0.4s,baz=207,slow=2.3,SNR=2.5						
JNW	**Jan Mayen West**	**127.59**	**7**	*e*P	**Pdif**	**06 03 59.0**	**+1.3**
ARCES	**ARCESS Array B**	**130.97**	**22**	PKP	**PKPdf**	**06 07 21.4**	**+0.4**
	1.5nm,0.6s,baz=194,slow=1.5,SNR=9.1						
YKA	**Yellowknife Ar**	**136.48**	**318**	PKP	**PKPdf**	**06 07 31.2**	**-0.3**
	1.0nm,0.6s,baz=142,slow=1.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**137.10**	**65**	PKP	**PKPdf**	**06 07 33.0**	**0.0**
	0.4nm,0.5s,baz=234,slow=0.8,SNR=3.5						
KURK	**Kurchatov**	**137.20**	**64**	PKP	**PKPdf**	**06 07 33.0**	**-0.2**
DAWY	**Dawson**	**147.11**	**312**	*e*PKPbc	**PKPdf**	**06 07 52.3**	**+1.8**
ILAR	**Eielson Array**	**150.43**	**311**	PKP	**PKPdf**	**06 07 53.5**	**-2.3**
	0.3nm,0.7s,baz=197,slow=1.8,SNR=4.5						
ILAR				PKPbc	**PKPbc**	**06 08 01.0**	**-0.1**
	4.1nm,0.7s,baz=142,slow=3.3,SNR=71						
SONM	**Songino Array**	**150.44**	**86**	PKPbc	**PKPbc**	**06 08 02.1**	**+0.3**
	2.3nm,0.7s,baz=218,slow=3.4,SNR=11						
COLA	**College**	**150.86**	**311**	*e*PKPdf	**PKPdf**	**06 07 56.1**	**-0.3**
COLA				*e*PKPbc	**PKPbc**	**06 08 01.8**	**-0.3**
COLA				*e*PKPab	**PKPab**	**06 08 10.1**	**+0.4**
MCK	**McKinley**	**151.09**	**309**	*e*PKPbc	**PKPbc**	**06 08 02.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**152.05**	**309**	*e*PKPbc	**PKPbc**	**06 08 04.7**	**-0.2**
BPAW				*e*PKPab	**pPKPdf**	**06 08 14.2**	**+0.7**

DDA ***25*** *05:51:52.5, 38.°66N×43.°39E, h3km, Md3.4*
ISK ***25*** *05:51:52.0, 38.°72N×43.°56E, h5km, ML3.6*
CSEM ***25*** *05:51:53.2±0.5, 38.°69N×43.°53E, h2km, ML3.6, Error ellipse: s-maj=11.5km s-min=6.6km az=80.0*
ISC 25 05:51:53.6±1.0, 38.°68N±0.°02×43.°43E±0.°04, h16km±7km, n49, σ1§41/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**202**	*e*PG	**Pg**	**05 51 57.2**	**+0.1**
VANB	**Van**	**0.10**	**202**	*e*Pg	**Pg**	**05 51 57.2**	**+0.1**
GEVA	**Gevas**	**0.47**	**219**	*i* P	**Pg**	**05 52 01.9**	**-1.3**
GEVA	**Gevas**	**0.47**	**219**	P	**Pg**	**05 52 01.9**	**-1.3**
BASK	**Baskale_VAN**	**0.77**	**144**	*i* P	**Pg**	**05 52 06.7**	**-2.0**
BASK	**Baskale_VAN**	**0.77**	**144**	P	**Pg**	**05 52 06.7**	**-2.0**
TUTA	**Tutak**	**0.86**	**326**	*i* P	**Pg**	**05 52 09.2**	**-1.3**
TUTA				*i* S	**Sg**	**05 52 21.1**	**-0.9**
TUTA	**Tutak**	**0.86**	**326**	P	**Pg**	**05 52 09.2**	**-1.3**
TUTA				S	**Sg**	**05 52 21.0**	**-0.9**
DYDN	**Diyadin**	**0.88**	**13**	*i* P	**Pb**	**05 52 10.4**	**-0.2**
DYDN	**Diyadin**	**0.88**	**13**	P	**Pb**	**05 52 10.4**	**-0.2**
AGRB	**Hanur-Agry**	**0.95**	**339**	*e*PG	**Pg**	**05 52 11.1**	**-1.1**
AGRB				*e*SG	**Sn**	**05 52 26.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**339**	*e*Pg	**Pg**	**05 52 11.1**	**-1.1**
AGRB				*e*Sg	**Sn**	**05 52 26.1**	**+0.2**
HAKT	**HAKKARI**	**1.14**	**169**	*i* P	**Pb**	**05 52 14.4**	**-0.7**
HAKT	**HAKKARI**	**1.14**	**169**	P	**Pb**	**05 52 14.4**	**-0.7**
EKAR	**Karacoban**	**1.21**	**299**	*i* P	**Pn**	**05 52 16.0**	**-0.1**
EKAR	**Karacoban**	**1.21**	**299**	P	**Pn**	**05 52 16.0**	**-0.1**
EATA	**Eleskirt**	**1.39**	**328**	*i* P	**Pn**	**05 52 18.9**	**+0.3**
EATA				*i* S	**Sb**	**05 52 36.6**	**-0.3**
EATA	**Eleskirt**	**1.39**	**328**	P	**Pn**	**05 52 18.9**	**+0.3**
EATA				S	**Sb**	**05 52 36.6**	**-0.3**
CUKT	**Cukurca**	**1.44**	**174**	*e*PN	**Pg**	**05 52 21.1**	**-0.2**
CUKT	**Cukurca**	**1.44**	**174**	*e*Pn	**Pg**	**05 52 21.1**	**-0.2**
DIGO	**Kars**	**1.73**	**358**	*i* P	**Pg**	**05 52 26.3**	**-0.6**
DIGO	**Kars**	**1.73**	**358**	P	**Pg**	**05 52 26.3**	**-0.6**
HOMI	**Horasan**	**1.80**	**319**	*i* P	**Pb**	**05 52 26.5**	**+0.1**
BNGL	**BINGOL**	**1.81**	**279**	*i* P	**Pb**	**05 52 27.0**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**254**	*e*PN	**Pb**	**05 52 27.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.83**	**254**	*e*Pn	**Pb**	**05 52 27.0**	**+0.2**
BTMN	**Batman**	**1.88**	**246**	*i* P	**Pn**	**05 52 26.7**	**+1.6**
BTMN				*i* S	**Sb**	**05 52 52.2**	**+1.4**
BTMN	**Batman**	**1.88**	**246**	P	**Pn**	**05 52 26.7**	**+1.6**
BTMN				S	**Sb**	**05 52 52.2**	**+1.4**
EAK	**Akyaka**	**2.00**	**4**	*i* P	**Pg**	**05 52 32.9**	**+0.8**
ERZM	**Erzurum**	**2.02**	**308**	*i* P	**Pb**	**05 52 30.9**	**+0.9**
ERZM	**Erzurum**	**2.02**	**308**	P	**Pb**	**05 52 30.9**	**+0.9**
BNGB	**Bing¶‖**	**2.17**	**279**	*e*PN	**Pb**	**05 52 32.1**	**-0.5**
BINT	**Bingol**	**2.31**	**276**	*e*Pn	**Pn**	**05 52 32.1**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.37**	**289**	*e*PN	**Pb**	**05 52 35.3**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.37**	**289**	*e*Pn	**Pb**	**05 52 35.3**	**-0.7**
MARD	**Mardin**	**2.50**	**238**	*i* P	**Pn**	**05 52 35.1**	**+1.4**
DDEM	**Demirkent**	**2.56**	**330**	*i* P	**Pg**	**05 52 40.7**	**-2.0**
DDEM	**Demirkent**	**2.56**	**330**	P	**Pg**	**05 52 40.7**	**-2.0**
MAZI	**Mazidag**	**2.66**	**244**	*e*PN	**Pb**	**05 52 39.3**	**-1.5**
MAZI	**Mazidag**	**2.66**	**244**	*e*Pn	**Pb**	**05 52 39.3**	**-1.5**
DAGI	**Agillar**	**2.66**	**334**	*i* P	**Pb**	**05 52 42.4**	**+1.5**
DBOC	**Borcka**	**2.99**	**334**	*i* P	**Pb**	**05 52 46.9**	**+0.5**
PTK	**Pertek**	**3.17**	**275**	*e*PN	**Pb**	**05 52 46.9**	**-2.7**
PTK	**Pertek**	**3.17**	**275**	*e*Pn	**Pb**	**05 52 46.9**	**-2.7**
SVRC	**Sivrice-ELAZID**	**3.25**	**266**	*e*PN	**Pb**	**05 52 48.5**	**-2.5**
SVRC	**Sivrice-ELAZID**	**3.25**	**266**	*e*Pn	**Pb**	**05 52 48.5**	**-2.5**
KELT	**Kelkit**	**3.55**	**296**	*i* P	**Pb**	**05 52 57.6**	**+1.4**
URFA	**Urfa**	**3.85**	**253**	*e*PN	**Pn**	**05 52 55.7**	**+3.6**
URFA	**Urfa**	**3.85**	**253**	*e*Pn	**Pn**	**05 52 55.7**	**+3.6**

SOME ***25*** *06:02:22.2, 44.°67N×82.°17E, h25km*
ISC 25 06:02:20.6±3.7, 44.°46N±0.°10×82.°4E±0.°1, h14km±26km, n7, σ0§71/14, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.85**	**267**	*e*P	**Pb**	**06 02 53.3**	**-1.0**
	3.6nm,0.2s						
DJR				*e*S	**Sn**	**06 03 15.7**	**+0.4**
	4.9nm,0.2s						
MK31	**Makanchi Array**	**2.33**	**359**	⇑Pn	**Pn**	**06 02 59.5**	**+0.9**
	1.6nm,0.2s,baz=188,slow=16,SNR=62						
MK31				⇑Sn	**Sn**	**06 03 27.1**	**0.0**
	0.9nm,0.2s,baz=181,slow=26,SNR=15						
MAKZ	**Makanchi**	**2.36**	**354**	⇑Pn	**Pn**	**06 02 59.0**	**0.0**
	2.2nm,0.6s						
MAKZ				⇑Sn	**Sn**	**06 03 27.1**	**-0.7**
	3.1nm,0.5s						
SHLS	**Shalkode**	**2.47**	**239**	*e*P	**Pn**	**06 03 01.5**	**+0.8**
	3.0nm,0.1s						
SHLS				*e*S	**Sn**	**06 03 29.5**	**-1.2**
	2.8nm,0.5s						
UZB	**Uzynbulak**	**2.75**	**243**	*e*P	**Pb**	**06 03 09.4**	**-0.3**
	1.0nm,0.2s						
UZB				*e*S	**Sb**	**06 03 43.2**	**-0.2**
	2.4nm,0.2s						
MNBS	**Baschi**	**2.87**	**264**	*e*P	**Pb**	**06 03 11.6**	**-0.1**
	3.1nm,0.2s						
MNBS				*e*S	**Sb**	**06 03 47.1**	**+0.4**
	4.8nm,0.2s						
CHKK	**Chushkaly**	**3.92**	**263**	*e*P	**Pb**	**06 03 29.2**	**-0.2**
	0.7nm,0.3s						
CHKK				*e*S	**Sb**	**06 04 17.2**	**+0.5**
	2.7nm,0.4s						

CSEM ***25*** *06:05:22.8±0.4, 38.°75N×43.°43E, h15km, ML3.1, Error ellipse: s-maj=11.8km s-min=6.5km az=74.0*
ISK ***25*** *06:05:22.6, 38.°72N×43.°28E, h9km, ML3.1*
DDA ***25*** *06:05:23.0, 38.°71N×43.°47E, h24km, Ml3.8*
ISCJB ***25*** *06:05:23.6±0.6, 38.°73N±0.°04×43.°42E±0.°09, h22km±5km, Error ellipse: s-maj=11.8km s-min=5.6km az=169.8*
ISC 25 06:05:23.2±1.0, 38.°75N±0.°02×43.°48E±0.°04, h18km±2km, n46, σ1§23/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**205**	*e*PG	**Pb**	**06 05 27.0**	**-0.1**
VANB				*e*SG	**Sg**	**06 05 32.0**	**+0.9**
VANB	**Van**	**0.17**	**205**	*e*Pg	**Pb**	**06 05 27.0**	**-0.1**
VANB				*e*Sg	**Sg**	**06 05 32.0**	**+0.9**
TVAN	**Van**	**0.23**	**195**	*i* P	**Pg**	**06 05 29.6**	**+0.8**
TVAN				*i* S	**Sg**	**06 05 33.2**	**+0.5**
TVAN	**Van**	**0.23**	**195**	P	**Pg**	**06 05 29.6**	**+0.8**
TVAN				S	**Sg**	**06 05 33.2**	**+0.5**
GEVA	**Gevas**	**0.55**	**217**	*i* P	**Pb**	**06 05 31.9**	**-2.4**
GEVA	**Gevas**	**0.55**	**217**	P	**Pb**	**06 05 31.9**	**-2.4**
DYDN	**Diyadin**	**0.81**	**11**	*i* P	**Pn**	**06 05 39.7**	**-0.1**
DYDN	**Diyadin**	**0.81**	**11**	P	**Pn**	**06 05 39.7**	**-0.1**
BASK	**Baskale_VAN**	**0.81**	**150**	*i* P	**Pb**	**06 05 38.2**	**-0.6**
BASK	**Baskale_VAN**	**0.81**	**150**	P	**Pb**	**06 05 38.2**	**-0.6**
TUTA	**Tutak**	**0.83**	**321**	*i* P	**Pb**	**06 05 38.5**	**-0.7**
TUTA	**Tutak**	**0.83**	**321**	P	**Pb**	**06 05 38.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**335**	*e*PG	**Pb**	**06 05 40.2**	**-0.2**
AGRB				*e*SG	**Sb**	**06 05 52.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.91**	**335**	*e*Pg	**Pb**	**06 05 40.2**	**-0.2**
AGRB				*e*Sg	**Sb**	**06 05 52.7**	**+0.5**
HAKT	**HAKKARI**	**1.21**	**172**	*i* P	**Pn**	**06 05 44.0**	**-1.3**
HAKT	**HAKKARI**	**1.21**	**172**	P	**Pn**	**06 05 44.0**	**-1.3**
EKAR	**Karacoban**	**1.22**	**295**	*i* P	**Pg**	**06 05 46.6**	**-0.1**
EKAR	**Karacoban**	**1.22**	**295**	P	**Pg**	**06 05 46.6**	**-0.1**
EATA	**Eleskirt**	**1.35**	**326**	*i* P	**Pn**	**06 05 43.9**	**-3.5**
EATA	**Eleskirt**	**1.35**	**326**	P	**Pn**	**06 05 43.9**	**-3.5**
CUKT	**Cukurca**	**1.51**	**176**	*e*PN	**Pb**	**06 05 50.2**	**-0.4**
CUKT	**Cukurca**	**1.51**	**176**	*e*Pn	**Pb**	**06 05 50.2**	**-0.4**
SIRN	**S¨–rnak**	**1.51**	**214**	*i* P	**Pb**	**06 05 51.1**	**+0.4**
SIRN	**S¨–rnak**	**1.51**	**214**	P	**Pb**	**06 05 51.1**	**+0.4**
VRTB	**Varto-Mus**	**1.63**	**285**	*e*PN	**Pn**	**06 05 50.2**	**-0.9**
VRTB	**Varto-Mus**	**1.63**	**285**	*e*Pn	**Pn**	**06 05 50.2**	**-0.9**
HOMI	**Horasan**	**1.78**	**317**	*i* P	**Pb**	**06 05 56.4**	**+1.1**
BNGL	**BINGOL**	**1.83**	**277**	*i* P	**Pb**	**06 05 56.1**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.89**	**252**	*e*PN	**Pn**	**06 05 53.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.89**	**252**	*e*Pn	**Pn**	**06 05 53.7**	**-0.9**
EAK	**Akyaka**	**1.93**	**3**	*i* P	**Pg**	**06 06 00.9**	**+0.6**
BTMN	**Batman**	**1.94**	**244**	*i* P	**Pn**	**06 05 56.6**	**+1.3**
BTMN	**Batman**	**1.94**	**244**	P	**Pn**	**06 05 56.6**	**+1.3**
ERZM	**Erzurum**	**2.00**	**306**	*i* P	**Pb**	**06 06 00.7**	**+1.5**
BNGB	**Bing¶‖**	**2.20**	**277**	*e*PN	**Pn**	**06 05 58.1**	**-0.8**
BINT	**Bingol**	**2.34**	**274**	*e*PN	**Pn**	**06 05 58.1**	**-2.7**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*PN	**Pn**	**06 06 01.1**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*Pn	**Pn**	**06 06 01.1**	**-0.4**
DDEM	**Demirkent**	**2.52**	**329**	*i* P	**Pg**	**06 06 10.2**	**-1.3**
MARD	**Mardin**	**2.57**	**237**	*i* P	**Pn**	**06 06 04.9**	**+0.9**
DAGI	**Agillar**	**2.62**	**333**	*i* P	**Pb**	**06 06 10.9**	**+1.4**
ARTV	**Artvin**	**2.71**	**334**	*i* P	**Pb**	**06 06 13.1**	**+1.9**
MAZI	**Mazidag**	**2.72**	**243**	*e*PN	**Pn**	**06 06 05.5**	**-0.5**
MAZI	**Mazidag**	**2.72**	**243**	*e*Pn	**Pn**	**06 06 05.5**	**-0.5**
PTK	**Pertek**	**3.20**	**274**	*e*PN	**Pn**	**06 06 12.3**	**-0.3**
PTK	**Pertek**	**3.20**	**274**	*e*Pn	**Pn**	**06 06 12.3**	**-0.3**

IDC ***25*** *06:07:29.2±0.4, 11.°75S×14.°36W, h0km, mb4.3/33, mb1 4.4/33, mb1mx4.3/50, mbtmp4.3/33, MS4.7/29, Ms1 4.7/29, ms1mx4.6/37, Error ellipse: s-maj=12.7km s-min=10.7km az=147.0*
ISCJB ***25*** *06:07:29.4±0.2, 11.°69S±0.°03×14.°42W±0.°03, h10km, mb4.9/116, MS4.8/42, Error ellipse: s-maj=5.0km s-min=3.4km az=21.4*
MOS ***25*** *06:07:29.7±1.2, 11.°67S×14.°39W, h10km, mb5.4/36, MS5.0/5, Error ellipse: s-maj=11.8km s-min=6.4km az=68.7*
BJI ***25*** *06:07:29.7, 12.°31S×13.°90W, h10km, mb4.9/2, mB5.5/6, Ms5.3/10, Ms7 4.9/7*
NEIC ***25*** *06:07:31.1±0.2, 11.°70S×14.°39W, h10km, mb5.3/59, Error ellipse: s-maj=6.8km s-min=5.3km az=148.0*
GCMT ***25*** *06:07:31.1±0.1, 11.°77S×14.°33W, h12km, MW5.3/120, Moment Tensor Solution. s84,c120; s120,c222; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.20±.02; $M_{\theta\theta}$=0.28±.02; $M_{\phi\phi}$=0.48±.02; $M_{r\theta}$=0.31±.04; $M_{\theta\phi}$=0.95±.01; $M_{\phi r}$=0.24±.04; Best double couple: M_0=1.08300×10^{17} NP1:ϕ_s=259.00000°, δ=87.00000°, λ=18.00000°. NP2:ϕ_s=168.00000°, δ=72.00000°, λ=177.00000°. Principal axes: T 1.2200, Plg15.0000°, Azm125.0000°; N -0.2730, Plg72.0000°, Azm269.0000°; P -0.9460, Plg10.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 06:07:31.2±0.3, 11.°69S±0.°05×14.°43W±0.°06, h10km, n510, σ1§26/503, mb5.1/114, MS4.8/42, 4C-3D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.72**	**355**	Pn	**Pn**	**06 08 13.0**	**-1.8**
H10S2				Sn	**Sn**	**06 08 49.0**	**+1.4**
H10S2				T	T	06 11 07.1	
	baz=174,slow=74,SNR=2871						
H10S3	**ASCENSION HYDR**	**2.73**	**355**	Pn	**Pn**	**06 08 13.0**	**-1.9**
H10S3				Sn	**Sn**	**06 08 49.0**	**+1.2**
H10S3				T	T	06 11 10.0	
	baz=174,slow=74,SNR=1220						
H10S1	**ASCENSION HYDR**	**2.74**	**355**	Pn	**Pn**	**06 08 13.0**	**-2.0**
H10S1				Sn	**Sn**	**06 08 49.0**	**+0.9**
H10S1				T	T	06 11 10.7	
	baz=174,slow=74,SNR=1443						
ASCN	**Ascension**	**3.73**	**1**	*e*Pn	**Pn**	**06 08 27.7**	**-1.2**
H10N1	**ASCENSION HYDR**	**3.82**	**359**	Pn	**Pn**	**06 08 29.0**	**-0.9**
	baz=171,slow=19,SNR=73						
H10N1				Sn	**Sn**	**06 09 14.0**	**-0.8**
H10N3	**ASCENSION HYDR**	**3.82**	**359**	Pn	**Pn**	**06 08 29.0**	**-0.9**
	baz=171,slow=19,SNR=67						
H10N3				Sn	**Sn**	**06 09 14.0**	**-0.9**
H10N2	**ASCENSION HYDR**	**3.84**	**359**	Pn	**Pn**	**06 08 29.5**	**-0.6**
	baz=171,slow=19,SNR=77						
H10N2				Sn	**Sn**	**06 09 14.0**	**-1.2**
LIC	**Lamto**	**20.10**	**28**	*e*P	Pn	06 12 06.4	-0.7
	360nm,1.4s						
KIC	**Kosan Boka**	**20.36**	**29**	*e*P	**P**	**06 12 08.1**	**+0.1**
	146nm,1.1s						
TIC	**Toumodi**	**20.48**	**28**	*e*P	**P**	**06 12 08.5**	**-0.9**
DBIC	**Dimbokro**	**20.57**	**28**	P	**P**	**06 12 09.8**	**-0.6**
	23nm,0.7s,baz=196,slow=11,SNR=19						
DBIC				LR	LR	06 18 17.4	
	comp=Z,3μm,19.0s,baz=180,slow=32						
DBIC	**Dimbokro**	**20.57**	**28**	*e*P	Pn	06 12 11.9	-0.7
DBIC				pmax	pmax		
	comp=Z,76nm,1.0s						
DBIC	**Dimbokro**	**20.57**	**28**	*e*P	Pn	06 12 11.9	-0.8
	comp=Z,76nm,1.0s						
RCBR	**Riachuelo**	**22.00**	**284**	P	**P**	**06 12 25.4**	**-0.5**
	comp=Z,12nm,0.9s,baz=94,slow=12,SNR=3.2						
RCBR				LR	LR	06 18 52.9	
	comp=Z,4μm,20.6s,baz=92,slow=31						
BBTS	**Babate**	**26.26**	**355**	P	**P**	**06 13 06.7**	**-0.1**
	comp=Z,18nm,0.9s,baz=176,slow=3.4,SNR=2.2						
BBTS				LR	LR	06 21 37.5	
	comp=Z,986nm,18.1s,baz=116,slow=32						
TOA0	**Torodi Ar. Sit**	**29.41**	**33**	*e*P

IDI Anoyia 59.72 37 LR LR 06 44 04.2
comp=Z,305nm,20.0s,baz=240,slow=37
LPG La Plagne 60.05 17 *e*P **P** **06 17 40.1 +1.5**
LPG pmax pmax
comp=Z,26nm,1.3s
LPL La Plagne 60.06 17 *e*P **P** **06 17 40.0 +1.4**
LPL pmax pmax
comp=Z,16nm,1.0s
AVF Avril sur Loir 60.35 14 *e*P **P** **06 17 41.3 +1.0**
AVF pmax pmax
comp=Z,31nm,1.6s
SNAA Sanae 60.36 176 P **P** **06 17 39.6 -0.6**
SNAA Sanae 60.36 176 P **P** **06 17 39.0 -1.2**
comp=Z,2.5nm,1.0s,baz=320,slow=8.7,SNR=7.6
SNAA Sanae 60.36 176 ||*i*P **P** **06 17 39.9 -0.3**
SNAA Sanae 60.36 176 *e*P **P** **06 17 40.3 0.0**
comp=Z,14nm,1.2s
ROSF Rostrenen 60.57 9 *e*P **P** **06 17 42.4 +0.6**
ROSF pmax pmax
comp=Z,82nm,1.7s
SSF Saint Saulge 60.64 14 *e*P **P** **06 17 43.3 +1.0**
SSF pmax pmax
comp=Z,34nm,1.5s
CABF La Chapelle 60.88 16 *e*P **P** **06 17 44.7 +0.6**
CABF pmax pmax
comp=Z,150nm,2.2s
RUSC La Rusia 60.90 284 *e*P P 06 17 39.7 -5.7
RUSC La Rusia 60.90 284 *e*P **P** **06 17 44.6 -0.7**
comp=Z,6.9nm,1.2s
GRR Gorron 61.01 10 *e*P **P** **06 17 47.0 +2.2**
BARC Barichara 61.20 284 *e*P **P** **06 17 43.2 -3.9**
NVL N'lazarevskaya 61.25 170 *e*P **P** **06 17 49.2 +3.0**
APE Apeiranthos 61.33 36 P **P** **06 17 46.5 -0.8**
APE pmax pmax
comp=Z,34nm,1.1s
ATD Arta Tunnel 61.38 70 LR LR 06 43 35.7
comp=Z,344nm,19.1s,baz=215,slow=35
ROSC El Rosal 61.79 282 P **P** **06 17 51.1 -0.2**
comp=Z,2.3nm,0.6s,baz=60,slow=16,SNR=2.5
ROSC LR LR 06 44 28.2
comp=Z,1μm,18.1s,baz=126,slow=36
ROSC El Rosal 61.79 282 *e*P **P** **06 17 51.1 -0.2**
comp=Z,41nm,1.7s
DAVOX Davos/Dischmat 62.14 19 P **P** **06 17 51.7 -1.0**
comp=Z,3.8nm,0.5s,baz=189,slow=10,SNR=4.1
DAVOX LR LR 06 43 58.5
comp=Z,1μm,21.4s,baz=264,slow=35
HAU Haudompre 62.23 16 P **P** **06 17 53.6 +0.5**
HAU pmax pmax
comp=Z,37nm,1.5s
FLOC Florencia 62.24 278 *e*P **P** **06 17 54.8 +0.9**
DAVA Damuels 62.59 18 *e*P **P** **06 17 56.2 +0.5**
comp=Z,16nm,1.0s
FETA Feichten 62.62 19 *e*P **P** **06 17 56.3 +0.4**
comp=Z,15nm,1.1s
ECH Echery 62.64 16 P P 06 18 01.0 +5.1
ECH pmax pmax
comp=Z,20nm,1.9s
EIL Elat 62.88 48 LR LR 06 44 06.6
comp=Z,865nm,20.6s,baz=237,slow=35
ABTA Abfaltersbach 62.98 20 *e*P **P** **06 17 59.7 +1.5**
comp=Z,11nm,1.0s
PMSA Palmer Station 63.01 201 P **P** **06 17 57.1 -1.0**
comp=Z,7.2nm,0.8s,baz=76,slow=4.6,SNR=3.0
RETA Reutte 63.05 19 *e*P **P** **06 17 58.8 +0.2**
comp=Z,6.3nm,1.0s
WTTA Wattenberg 63.13 20 *e*P **P** **06 17 59.5 +0.2**
comp=Z,8.9nm,1.0s
HELC Santa Helena 63.31 283 *e*P **P** **06 17 56.8 -4.6**
HELC Santa Helena 63.31 283 *e*P **P** **06 17 59.9 -1.5**
comp=Z,27nm,0.9s
SOKA Soboth 63.81 22 *e*P **P** **06 18 05.6 +1.9**
comp=Z,13nm,1.0s
VTS Vitosha 64.08 30 *e*P **P** **06 18 06.4 +0.7**
VTS pmax pmax
comp=Z,18nm,1.1s
VTS Vitosha 64.08 30 *e*P **P** **06 18 06.4 +0.7**
comp=Z,18nm,1.1s
ARSA Arzberg 64.48 22 *e*P **P** **06 18 09.3 +1.2**
comp=Z,7.4nm,1.1s
MOA Molln 64.53 21 *e*P **P** **06 18 09.9 +1.6**
comp=Z,9.4nm,1.0s
OTAV Otavalo 64.65 276 *e*P P 06 18 02.9 -7.5
OTAV Otavalo 64.65 276 *e*P **P** **06 18 10.5 +0.2**
comp=Z,12nm,1.1s
CONA Conrad Observa 65.17 22 *e*P **P** **06 18 13.9 +1.3**
comp=Z,7.4nm,1.1s
GEC2 GERESS Array S 65.19 20 *e*P **P** **06 18 13.1 +0.4**
GEC2 pmax pmax
comp=Z,54nm,2.0s
GEC2 GERESS Array S 65.19 20 *e*P **P** **06 18 13.1 +0.4**
comp=Z,54nm,2.0s
GERES GERESS Array B 65.19 20 P **P** **06 18 10.9 -1.8**
comp=Z,0.4nm,0.3s,baz=185,slow=6.9,SNR=7.1
GERES PP **PP** **06 20 42.7 +6.3**
comp=Z,3.0nm,0.9s,baz=200,slow=9.7,SNR=5.6
GERES LR LR 06 47 47.0
comp=Z,835nm,18.1s,baz=216,slow=37
KHC Kasperske Hory 65.40 20 *e*P **P** **06 18 15.0 +1.0**
KHC AMS AMS 06 46 30.0
comp=Z,1μm,16.2s
KHC Kasperske Hory 65.40 20 *e*P **P** **06 18 15.0 +1.0**
KHC MLR MLR
comp=Z,1μm,16.2s
ASF Jabal al Asfar 65.64 47 LR LR 06 45 10.1
comp=Z,491nm,19.9s,baz=159,slow=34
NKC Novy Kostel 65.99 19 AMS AMS 06 47 00.0
comp=Z,1μm,15.7s
TREC Trest 66.19 21 AMS AMS 06 48 30.0
comp=Z,1μm,16.6s
PRU Pruhonice 66.46 20 *e*P **P** **06 18 21.5 +0.8**
PRU *ex* x 06 18 33.6
PRU AMS AMS 06 47 40.0
comp=Z,800nm,14.3s
PRU Pruhonice 66.46 20 *e*P **P** **06 18 21.5 +0.8**
PRU MLR MLR
comp=Z,800nm,14.3s
GOPC GO Pecny, Ondr 66.48 20 *e*P **P** **06 18 21.3 +0.4**
GOPC AMS AMS 06 47 50.0
comp=Z,800nm,15.2s
GOPC GO Pecny, Ondr 66.48 20 *e*P **P** **06 18 21.3 +0.4**
GOPC MLR MLR
comp=Z,800nm,15.2s
VRAC Vranov 66.59 22 LR LR 06 48 11.6
comp=Z,1μm,18.0s,baz=210,slow=37
PSZ Piszkesteto 66.72 24 *e*P **P** **06 18 22.4 -0.1**
PSZ pmax pmax
comp=Z,16nm,1.2s
PSZ Piszkesteto 66.72 24 *e*P **P** **06 18 22.4 -0.1**
comp=Z,16nm,1.2s
SYO Syowa Base 66.73 161⇑*e*P **P** **06 18 20.2 -2.0**
SYO Syowa Base 66.73 161⇑*e*pP **P** **06 18 23.2 +1.0**
VYHS Vyhne 66.76 23 *e*P **P** **06 18 22.8 +0.1**
VYHS pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 66.76 23 *e*P **P** **06 18 22.8 +0.1**
PVCC Panska Ves 66.93 20 AMS AMS 06 49 50.0
comp=Z,600nm,16.0s
VOIR 67.08 29 P **P** **06 18 25.6 +0.7**
VOIR pmax pmax
comp=Z,10.0nm,1.5s
CLL Collm 67.11 18 *e*S **S** **06 27 20.0 +1.2**
CLL *e*PS 06 27 43.0
CLL *e*SS **SS** **06 31 36.0 -2.3**
CLL *e*SSS SSS 06 34 48.0
CLL LmV 06 47 00.0
comp=Z,900nm,18.3s
MORC Moravsky Berou 67.33 22 *e*P **P** **06 18 27.5 +1.2**
MORC pmax pmax
comp=Z,181nm,1.9s
MORC Moravsky Berou 67.33 22 *e*P **P** **06 18 27.5 +1.2**
comp=Z,180nm,1.9s
DPC Dobruska-Polom 67.37 21 *e*P **P** **06 18 30.8 +4.2**
DPC AMS AMS 06 47 10.0
comp=Z,1μm,17.7s
DPC Dobruska-Polom 67.37 21 *e*P **P** **06 18 30.8 +4.2**
DPC MLR MLR
comp=Z,1μm,17.7s
UPC Upice 67.40 21 AMS AMS 06 47 30.0
comp=Z,700nm,14.3s
KECS Kecovo 67.41 24 *e*P **P** **06 18 26.8 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 67.41 24 *e*P **P** **06 18 26.8 0.0**
MLR Muntele Rosu 67.55 30 P **P** **06 18 26.6 -1.3**
comp=Z,1.9nm,0.8s,baz=255,slow=11,SNR=5.9
MLR Muntele Rosu 67.55 30 *e*P **P** **06 18 26.6 -1.3**
MLR *e* 06 18 28.0
MLR Muntele Rosu 67.55 30 *e*P **P** **06 18 26.6 -1.3**
MLR *e*P **pP** **06 18 28.0 -3.2**
OKC Ostrava-Krasne 67.60 22 AMS AMS 06 48 50.0
comp=Z,800nm,14.2s
BRTR Keskin Array B 67.87 38 P **P** **06 18 30.1 -0.1**
comp=Z,3.9nm,1.0s,baz=224,slow=5.2,SNR=10
BRTR LR LR 06 48 21.8
comp=Z,246nm,21.2s,baz=245,slow=36
BR101 Keskin Array S 67.87 38 *e*P **P** **06 18 30.1 -0.1**
BR131 Keskin Array S 67.87 38 *e*P **P** **06 18 30.9 +0.8**
CRVS Cervenica-Dubn 68.14 25 *e*P **P** **06 18 32.8 +1.4**
CRVS Cervenica-Dubn 68.14 25 *e*P **P** **06 18 32.8 +1.4**
RAYN Ar Rayn 68.25 59 *e*P **P** **06 18 33.6 +0.9**
comp=Z,28nm,1.4s
UZH Uzhgorod 68.27 25 *e*P **P** **06 18 32.5 +0.3**
UZH *e* 06 18 53.9
UZH *e*S **S** **06 27 30.1 -2.8**
UZH *e*PS **PnS** **06 27 49.3 -7.0**
UZH MLR MLR
comp=N,500nm,15.0s
UZH MLR MLR
comp=E,500nm,15.0s
LVV L'vov 69.91 25 *e*P **P** **06 18 43.3 +0.9**
KIEV Kiev 72.81 27||*e*P **P** **06 18 59.6 -0.3**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 72.81 27 *e*P **P** **06 18 58.8 -1.1**
comp=Z,18nm,1.0s
AKASG Malin Array Be 72.82 27 P **P** **06 18 58.0 -1.9**
comp=Z,2.4nm,0.7s,baz=226,slow=6.4,SNR=18
AKASG LR LR 06 52 23.0
comp=Z,591nm,20.2s,baz=265,slow=37
AKBB Malin Array Si 72.82 27 *e*P **P** **06 18 59.6 -0.4**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 72.82 27 *e*P **P** **06 18 59.6 -0.4**
comp=Z,17nm,0.9s
ARTV Artvin 73.88 41 *e*P **P** **06 19 07.7 +1.0**
comp=Z,20nm,1.1s
MAW Mawson 74.43 157 P **P** **06 19 08.6 -0.5**
comp=Z,9.4nm,0.9s,baz=269,slow=7.8,SNR=8.3
MAW LR LR 06 46 47.7
comp=Z,771nm,18.4s,baz=259,slow=32
MAW Mawson 74.43 157 *e*P **P** **06 19 08.7 -0.5**
MAW pmax pmax
comp=Z,5.0nm,1.3s
MAW Mawson 74.43 157 *e*P **P** **06 19 08.7 -0.5**
comp=Z,4.9nm,1.3s
HFS Hagfors 75.04 14 LR LR 06 53 50.1
comp=Z,301nm,18.8s,baz=214,slow=37
NB2 NORSAR Subarra 75.29 13 P **P** **06 19 15.9 +1.6**
comp=Z,8.6nm,1.1s,baz=205,slow=6.2
NB200 NORSAR Array S 75.29 13 *e*P **P** **06 19 15.4 +1.2**
NOA NORSAR Array B 75.29 13 P **P** **06 19 15.4 +1.2**
comp=Z,2.9nm,1.1s,baz=208,slow=5.8,SNR=2.4
NEY Neytrino 75.47 39||*i*P **P** **06 19 18.3 +2.4**
NEY *i* *PP **sP** **06 19 21.3 +0.9**
KIV Kislovodsk 75.82 39 *e*P **P** **06 19 16.3 -1.5**
KIV pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 75.83 39 P **P** **06 19 17.6 0.0**
comp=Z,1.0nm,0.5s,baz=223,slow=4.5,SNR=2.6
KBZ LR LR 06 54 29.0
comp=Z,126nm,20.9s,baz=236,slow=37
GOF Gofitskoye 76.62 38⇑*e*P P 06 19 31.5 +9.3
N59A State Game Lan 77.02 317 P **P** **06 19 24.1 -0.5**
baz=118
KSPA Keystone Colle 77.32 318 *e*P **P** **06 19 28.8 +2.7**
comp=Z,29nm,1.2s
UOSS Minazif 77.85 61 *e*P **P** **06 19 29.6 +0.1**
comp=Z,56nm,1.2s
JSC Jenkinsville 78.10 309 *e*P **P** **06 19 31.2 +0.5**
JSC pmax pmax
comp=Z,20nm,1.1s
JSC Jenkinsville 78.10 309 *e*P **P** **06 19 31.2 +0.5**
comp=Z,20nm,1.1s
SSPA Standing Stone 78.32 316 *e*P **P** **06 19 32.1 +0.4**
comp=Z,152nm,1.7s
MAK Makhachkala 78.37 41 *e*P **P** **06 19 30.3 -1.6**
MAK *e* 06 22 28.7
MAK *e*PPP PPP 06 24 14.2
MAK *e*S **S** **06 29 24.8 -2.8**
MAK *e*SS **SS** **06 34 36.5 +5.7**
MAK pmax pmax
comp=Z,194nm,1.3s
MAK MLR MLR
comp=Z,311nm,16.0s
QSPA South Pole Qui 78.46 180 *e*P **P** **06 19 32.8 +0.5**
KMSC Kings Mountain 78.49 310 P **P** **06 19 32.9 0.0**
baz=113
KMSC Kings Mountain 78.49 310 *e*P **P** **06 19 33.2 +0.3**
comp=Z,33nm,1.3s
O56A Blue Knob Stat 78.62 315 P **P** **06 19 33.7 +0.2**
baz=116
BLA Blacksburg 78.64 312 *e*P **P** **06 19 37.9 +4.2**
BLA pmax pmax
comp=Z,32nm,1.2s
BLA Blacksburg 78.64 312 *e*P **P** **06 19 37.9 +4.2**
comp=Z,32nm,1.2s
TIGA Tifton 78.85 305 P **P** **06 19 35.0 +0.1**
baz=111
TIGA Tifton 78.85 305 *e*P **P** **06 19 34.6 -0.3**
comp=Z,47nm,1.2s
SCHQ Schefferville 79.54 332 P **P** **06 19 39.5 +1.4**
comp=Z,2.8nm,0.6s,baz=93,slow=11,SNR=2.5
SCHQ LR LR 06 48 28.2
comp=Z,418nm,21.4s,baz=124,slow=31
SCHQ Schefferville 79.54 332 *e*P **P** **06 19 39.0 +0.9**
comp=Z,16nm,1.1s
FIA0 FINESS Array S 79.55 19 *e*P **P** **06 19 38.2 +0.2**
FIA0 FINESS Array S 79.55 19 *e*P **P** **06 19 38.2 +0.2**
FINES FINESS Array B 79.55 19 P **P** **06 19 38.2 +0.2**
comp=Z,5.3nm,0.9s,baz=204,slow=4.2,SNR=4.8
FINES LR LR 06 54 00.7
comp=Z,489nm,21.6s,baz=225,slow=35
N54A Moraine State 79.89 316 P **P** **06 19 40.2 -0.2**
baz=115
M54A Oil Creek Stat 79.91 316 P **P** **06 19 40.6 +0.1**
baz=116
MOS Moscow 79.94 27 *e*P P 06 19 49.6 +9.3
TKL Tuckaleechee C 80.53 309 P **P** **06 19 44.7 +0.7**
comp=Z,9.5nm,1.1s,baz=123,slow=11,SNR=3.1
TKL Tuckaleechee C 80.53 309 *e*P **P** **06 19 44.7 +0.7**
TKL pmax pmax
comp=Z,23nm,1.1s
TKL Tuckaleechee C 80.53 309 *e*P **P** **06 19 44.7 +0.7**
comp=Z,23nm,1.1s
ACSO Alum Creek Sta 81.68 314 *e*P **P** **06 19 49.5 -0.5**
comp=Z,39nm,1.1s
SWET Sewanee 82.02 308 *e*P **P** **06 19 51.3 -0.6**
comp=Z,24nm,1.1s
348A Jackson 82.31 304 P **P** **06 19 52.5 -1.0**
baz=109
248A Dixon Mills 82.40 305 P **P** **06 19 52.0 -1.9**
baz=109
Z48A Northport 82.67 306 P **P** **06 19 54.9 -0.4**
baz=109
447A Lucedale 82.73 303 P **P** **06 19 55.4 -0.2**
baz=108
347A Saraland 82.83 304 P **P** **06 19 55.5 -0.6**
baz=108
147A Livingston 83.01 305 P **P** **06 19 55.6 -1.4**
baz=109
Z47A Carrollton 83.02 306 P **P** **06 19 56.9 -0.2**
baz=109
Y47A UCPARC, Winfie 83.07 307 P **P** **06 19 57.3 0.0**
baz=109
247A Quitman 83.08 305 P **P** **06 19 56.6 -0.9**
baz=108
WCI Wyandotte Cave 83.33 311 *e*P **P** **06 19 58.2 -0.5**
WCI pmax pmax
comp=Z,27nm,1.3s
WCI Wyandotte Cave 83.33 311 *e*P **P** **06 19 58.2 -0.5**
comp=Z,27nm,1.3s
546A Slidell 83.43 303 P **P** **06 19 59.1 -0.2**
baz=108
346A Big Creek Wild 83.57 304 P **P** **06 19 59.4 -0.6**
baz=108
PLAL Pickwick Lake 83.59 308 *e*P **P** **06 19 59.6 -0.5**
comp=Z,29nm,1.3s
Z46A Louisville 83.71 306 P **P** **06 20 00.3 -0.3**
baz=108
GEYT Alibeck 83.73 49 P **P** **06 20 01.6 +0.8**
comp=Z,0.8nm,0.4s,baz=293,slow=7.3,SNR=2.2
GEYT LR LR 06 58 55.6
comp=Z,249nm,18.5s,baz=230,slow=37
P47A Martinsville 83.76 312 P **P** **06 20 00.7 -0.1**
baz=111
WVT Waverly 83.78 309 *e*P **P** **06 20 00.0 -1.0**
WVT pmax pmax
comp=Z,31nm,1.1s
WVT Waverly 83.78 309 *e*P **P** **06 19 60.0 -1.0**
comp=Z,31nm,1.1s
Y46A Houston 83.86 306 P **P** **06 20 01.1 -0.3**
baz=108
KLMR Klimovskoe 83.87 23 *e*P **P** **06 19 59.4 -1.5**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
O47A Sheridan 83.95 313 P **P** **06 20 01.2 -0.6**
baz=111
245A Little AP, Sta 84.12 304 P **P** **06 20 02.0 -0.8**
baz=108
Z45A Winona 84.36 306 P **P** **06 20 03.8 -0.2**
baz=108
Y45A Yeager Farm, C 84.39 306 P **P** **06 20 04.0 -0.2**
baz=108
444A Pine Grove 84.42 303 P **P** **06 20 04.2 -0.2**
baz=107
X45A UM Field Stati 84.45 307 P **P** **06 20 04.4 -0.1**
baz=108
OXF Oxford 84.49 307 *e*P **P** **06 20 03.9 -0.7**
OXF pmax pmax
comp=Z,37nm,1.1s
OXF Oxford 84.49 307 *e*P **P** **06 20 03.9 -0.7**
comp=Z,38nm,1.1s
W45A Hickory Valley 84.51 307 P **P** **06 20 04.6 -0.2**
baz=108
U45A Rockin P Farm, 84.56 309 P **P** **06 20 05.4 +0.4**
baz=109
N46A Monticello 84.58 313 P **P** **06 20 04.8 -0.2**
baz=110
SFIN Lafayette 84.66 313 P **P** **06 20 04.6 -0.7**
baz=110
VBMS Vicksburg 84.67 304 P **P** **06 20 05.0 -0.6**
baz=107
244A Avery, Jackson 84.76 304 P **P** **06 20 05.7 -0.4**
baz=107
OLIL Olney 84.84 311 *e*P **P** **06 20 06.1 -0.2**
comp=Z,58nm,1.1s
S45A Carrier Mills 84.85 310 P **P** **06 20 06.2 -0.2**
baz=109
Z44A Pea Ridge, Bel 84.92 305 P **P** **06 20 06.5 -0.3**
baz=108
U44B Burton Farm, H 85.01 309 P **P** **06 20 06.6 -0.6**
baz=108
X44A Crenshaw 85.06 307 P **P** **06 20 05.9 -1.6**
baz=108
O45A Potomac 85.07 313 P **P** **06 20 06.8 -0.6**
baz=110
N45A Kentland 85.12 313 P **P** **06 20 06.2 -1.5**
baz=110
U44A Portageville 85.32 309 P **P** **06 20 07.9 -0.9**
baz=108
S44A Carbondale 85.36 310 P **P** **06 20 08.2 -0.7**
baz=108
R44A Waltonville 85.41 310 P **P** **06 20 07.8 -1.3**
baz=109
T44A Benton 85.43 309 P **P** **06 20 08.4 -0.9**
baz=108
P44A Sand Creek, Wi 85.46 312 P **P** **06 20 08.7 -0.7**
baz=109
Y43A Makayla and Ka 85.50 306 P **P** **06 20 07.3 -2.4**
baz=107
143A Socs Landing, 85.53 305 P **P** **06 20 09.3 -0.6**
baz=107
N44A Piper City 85.55 313 P **P** **06 20 09.2 -0.6**
baz=110
SUMG Summit 85.55 353 *i*P P 06 20 17.3 +7.7
comp=Z,9.6nm,1.1s
SUMG Summit 85.55 353 *i*P P 06 20 17.3 +7.7
SUMG pmax pmax
comp=Z,10.0nm,1.1s
Z43A Armstrong Fami 85.55 305 P **P** **06 20 08.5 -1.5**
baz=107
Q44A Meyer Farm, Va 85.57 311 P **P** **06 20 09.1 -0.8**
baz=109
O44A Mansfield 85.58 312 P **P** **06 20 09.6 -0.4**
baz=109
X43A Marvell 85.65 306 P **P** **06 20 10.1 -0.3**
baz=107
ARCES ARCESS Array B 85.66 13 LR LR 06 59 59.6
comp=Z,294nm,18.0s,baz=227,slow=37
M44A Midewin, Midew 85.68 314 P **P** **06 20 09.8 -0.6**
baz=110
U43A Rector 85.83 308 P **P** **06 20 10.7 -0.7**
baz=108
S43A Fulton Ridge, 85.94 309 P **P** **06 20 11.1 -0.8**
baz=108
T43A Greenville 85.96 309 P **P** **06 20 11.2 -0.8**
baz=108
PBMO Poplar Bluff 85.97 309 *e*P **P** **06 20 11.7 -0.3**
comp=Z,21nm,1.2s
R43A Red Bud 86.05 310 P **P** **06 20 11.7 -0.7**
baz=108
Q43A New Douglas 86.09 311 P **P** **06 20 12.1 -0.5**
baz=108
MIR Mirnyy 86.16 158 *i*P **P** **06 20 12.5 +0.1**
MIR pmax pmax
comp=Z,6.0nm,1.3s
O43A Sugar Creek Fa 86.23 312 P **P** **06 20 12.4 -0.8**
baz=109
X42A Stuttgart 86.25 306 P **P** **06 20 12.4 -1.0**
baz=107
541A Lake Charles 86.26 302 P **P** **06 20 13.3 -0.2**
baz=106
HDIL Hopedale 86.30 313 P **P** **06 20 13.2 -0.4**
baz=109
HDIL Hopedale 86.30 313 *e*P **P** **06 20 13.0 -0.5**
comp=Z,21nm,0.8s
K43A Burlington 86.32 315 P **P** **06 20 13.3 -0.3**
baz=110
FVM French Village 86.34 310 *e*P **P** **06 20 13.7 -0.1**
FVM pmax pmax
comp=Z,41nm,1.1s
FVM French Village 86.34 310 *e*P **P** **06 20 13.7 -0.1**
comp=Z,41nm,1.1s
V42A Cord 86.42 307 P **P** **06 20 13.3 -1.0**
baz=107
L43A Garden Prairie 86.44 314 P **P** **06 20 13.8 -0.4**
baz=109
441A DeRidder 86.45 302 P **P** **06 20 13.8 -0.7**
baz=106
U42A Revenden 86.47 308 P **P** **06 20 13.9 -0.6**
baz=107
S42A Caledonia 86.55 310 P **P** **06 20 14.6 -0.3**
baz=108,SNR=5.2
341A Kurthwood 86.59 303 P **P** **06 20 13.6 -1.6**
baz=106
F43A Flat Rock, Esc 86.60 318 P **P** **06 20 14.7 -0.2**
baz=110
J43A Natural Harves 86.61 315 P **P** **06 20 14.7 -0.3**
baz=110
Q42A Golden Eagle 86.70 311 P **P** **06 20 15.1 -0.5**
baz=108
R42A Luebbering 86.70 310 P **P** **06 20 15.3 -0.3**
baz=108
G43A Wallace 86.74 317 P **P** **06 20 15.0 -0.6**
baz=110
O42A Bath 86.76 312 P **P** **06 20 15.0 -0.8**
baz=108
P42A Winchester 86.76 311 P **P** **06 20 15.0 -0.8**
baz=108
Z41A Richland Creek 86.82 305 P **P** **06 20 16.0 -0.3**
baz=106
Y41A Eaglette Beard 86.84 305 P **P** **06 20 15.0 -1.3**
baz=106
W41B Gary Mavity, V 86.91 307 P **P** **06 20 15.8 -0.9**
baz=106
M42A Sheffield 86.92 313 P **P** **06 20 14.8 -1.7**
baz=108
X41A Kaden, Bauxite 86.93 306 P **P** **06 20 16.1 -0.6**
baz=106
540A Vidor 86.96 302 P **P** **06 20 16.2 -0.8**
baz=105
CCM Cathedral Cave 86.97 310 *e*P **P** **06 20 16.3 -0.6**
CCM pmax pmax
comp=Z,59nm,1.1s
CCM Cathedral Cave 86.97 310 *e*P **P** **06 20 16.3 -0.6**
comp=Z,60nm,1.1s
U41A Viola 86.99 308 P **P** **06 20 16.4 -0.6**
baz=107
V41A Mountainview 87.01 307 P **P** **06 20 16.2 -1.0**

baz=107,SNR=5.7
X301 Greenbrier Sit 87.05 307 eP P 06 20 17.6 +0.2
comp=Z,26nm,1.3s
K42A Prairie Point, 87.05 315 P P 06 20 16.6 -0.6
baz=109
H42A Shiocton 87.06 316 P P 06 20 16.9 -0.3
baz=109
J42A Columbus 87.07 315 P P 06 20 16.7 -0.6
baz=109
T41A Mountain View 87.07 309 P P 06 20 16.9 -0.6
baz=107
I42A Draeger Farm, 87.11 316 P P 06 20 17.0 -0.5
baz=109
R41A Rosebud 87.15 310 P P 06 20 17.2 -0.5
baz=107,SNR=6.4
X40A Basin Creek Fa 87.18 306 P P 06 20 17.9 -0.1
baz=106
340A Bronson 87.21 303 P P 06 20 17.9 -0.2
baz=106
S41A Jillco Farms, 87.22 309 P P 06 20 17.6 -0.6
baz=107,SNR=7.7
Q41A Truxton 87.23 311 P P 06 20 17.8 -0.4
baz=107
Z40A Long Farm, Mag 87.30 305 P P 06 20 18.8 +0.2
baz=106
O41A Passleys Farm, 87.32 312 P P 06 20 17.7 -0.8
baz=108
P41A Barry, Barry 87.32 311 P P 06 20 18.2 -0.4
baz=108
Y40A Okolona 87.41 305 P P 06 20 18.4 -0.7
baz=106
M41A Milan 87.46 313 P P 06 20 18.9 -0.3
baz=108
N41A Harden Midland 87.48 312 P P 06 20 19.8 +0.5
baz=108
V40A Witts Springs 87.54 307 P P 06 20 19.3 -0.4
baz=106
W40A Ferguson Farm, 87.56 307 P P 06 20 19.2 -0.6
baz=106
L41A Preston 87.64 314 P P 06 20 20.4 +0.3
baz=108
K41A Shullsburg 87.67 314 P P 06 20 20.3 +0.1
baz=108
T40A Mansfield 87.68 309 P P 06 20 19.8 -0.6
baz=106
J41A Loganville 87.70 315 P P 06 20 20.3 0.0
baz=108
U40A Yellville 87.72 308 P P 06 20 20.7 +0.1
baz=106
JFWS Jewell Farm 87.72 315 eP P 06 20 20.0 -0.5
JFWS pmax pmax
comp=Z,36nm,1.4s
JFWS Jewell Farm 87.72 315 eP P 06 20 20.0 -0.5
comp=Z,36nm,1.4s
G41A Antigo 87.72 317 P P 06 20 19.4 -1.0
baz=109
339A Huntington 87.73 302 P P 06 20 20.8 +0.1
baz=105
MIAR Mount Ida 87.79 306 P P 06 20 20.1 -0.8
baz=106
S40A Lebanon 87.79 309 P P 06 20 20.3 -0.6
baz=106
R40A Maddies Statio 87.81 310 P P 06 20 20.3 -0.7
baz=107,SNR=7.1
I41A Arkdale 87.82 316 P P 06 20 20.1 -0.7
baz=108
F41A Three Lakes 87.84 317 P P 06 20 20.4 -0.6
baz=109
H41A Junction City 87.85 316 P P 06 20 20.8 -0.2
baz=109
Q40A Laux Farm, Aux 87.87 310 P P 06 20 20.9 -0.3
baz=107
D41A Chassel 87.93 319 P P 06 20 19.7 -1.6
baz=110
P40A Paris 88.00 311 P P 06 20 21.7 -0.1
baz=107
AKTO Aktyubinsk 88.04 38 P P 06 20 21.4 -0.4
comp=Z,0.9nm,0.6s,baz=300,slow=4.2,SNR=3.9
AKTO LR LR 07 02 44.8
comp=Z,105nm,20.8s,baz=249,slow=38
O40A La Belle 88.05 312 P P 06 20 21.5 -0.5
baz=107
N40A Mertquake, Sal 88.06 312 P P 06 20 21.6 -0.5
baz=107
W39A Magazine 88.13 306 P P 06 20 22.4 -0.2
baz=106
V39A Pettigrew 88.19 307 P P 06 20 22.3 -0.6
baz=106
X39A Fountain Ranch 88.21 306 P P 06 20 22.7 -0.2
baz=105,SNR=8.2
U39A Green Forest 88.21 308 P P 06 20 22.1 -0.8
baz=106
J40A Soldiers Grove 88.22 315 P P 06 20 22.1 -0.7
baz=108
I40A Norwalk 88.28 315 P P 06 20 22.7 -0.4
baz=108
K40A Colesburg 88.28 314 P P 06 20 22.9 -0.2
baz=108
T39A Clever 88.31 308 P P 06 20 22.7 -0.6
baz=106
DAG Danmarks Havn 88.33 359 i P P 06 20 27.9 +5.3
DAG Danmarks Havn 88.33 359 eP P 06 20 27.9 +5.3
H40A Chili 88.35 316 P P 06 20 22.9 -0.5
baz=108,SNR=5.3
238A Jacksonville 88.37 303 P P 06 20 23.2 -0.5
baz=105
R39A Chumby, Stover 88.40 310 P P 06 20 22.9 -0.8
baz=106
S39A Bolivar 88.45 309 P P 06 20 23.4 -0.6
baz=106
P39B Salisbury 88.52 311 P P 06 20 23.4 -0.9
baz=106
HHAR Hobbs 88.54 307 eP P 06 20 24.4 -0.1
comp=Z,24nm,1.2s
Y38A Idabel 88.55 305 P P 06 20 23.4 -1.1
baz=105
Q39A Willow Grove F 88.56 310 P P 06 20 23.8 -0.7
baz=106
O39A Kirksville 88.58 311 P P 06 20 24.3 -0.3
baz=106
M39A Webster 88.66 313 P P 06 20 25.2 +0.3
baz=107
L39A Vinton 88.72 313 P P 06 20 25.0 -0.2
baz=107
N39A Derby Farms, D 88.72 312 P P 06 20 24.5 -0.8
baz=107
V38A Canehill 88.80 307 P P 06 20 24.9 -0.8
baz=105
ABKAR Akbulak array 88.81 39 eP P 06 20 26.0 +0.6
comp=Z,16nm,0.8s
K39A Oelwein 88.81 314 P P 06 20 25.3 -0.3
baz=107
X38A Whitesboro 88.82 306 P P 06 20 25.7 -0.1
baz=105
J39A Decorah 88.87 315 P P 06 20 25.3 -0.6
baz=107
S38A Stockton 88.88 309 P P 06 20 26.0 0.0
baz=106
I39A Houston 88.89 315 P P 06 20 25.5 -0.4
baz=107
437A Phantom Ranch, 88.92 302 P P 06 20 25.6 -0.8
baz=104
U38A Gravette 88.93 307 P P 06 20 25.6 -0.7
baz=105
237A Washetta, Mont 88.94 303 P P 06 20 25.9 -0.5
baz=104
H39A Augusta 88.98 316 P P 06 20 26.2 -0.1
baz=108
T38A Diamond 89.01 308 P P 06 20 26.5 -0.2
baz=105,SNR=7.5
Q38A Cooks Store, C 89.02 310 P P 06 20 26.3 -0.3
baz=106
R38A Fenwick Farm, 89.02 309 P P 06 20 25.8 -0.9
baz=106
137A Heron Place, G 89.04 303 P P 06 20 26.2 -0.7
baz=104
F39A Loretta 89.11 317 P P 06 20 26.4 -0.5
baz=108
P38A Dawn 89.13 311 P P 06 20 27.1 0.0
baz=106
C39A Grand Marais 89.18 319 P P 06 20 27.7 +0.5
baz=108
O38A Galt 89.22 311 P P 06 20 27.1 -0.5
baz=106
N38A Joes South For 89.23 312 P P 06 20 27.9 +0.2
baz=106
736A Circle Diamond 89.25 300 P P 06 20 27.3 -0.6
baz=104
Y37A Hugo 89.28 305 P P 06 20 25.9 -2.1
baz=105
636A Smothers Creek 89.37 300 P P 06 20 27.7 -0.8
baz=104
V37A Hulbert 89.38 307 P P 06 20 27.8 -0.6
baz=105
M38A Pleasantville 89.38 312 P P 06 20 28.3 0.0
baz=106,SNR=5.0
W37B Quinton 89.42 306 P P 06 20 27.6 -1.0
baz=105
U37A Salina 89.49 307 P P 06 20 28.5 -0.4
baz=105
I38A Scanlan Farm, 89.51 315 P P 06 20 28.2 -0.7
baz=107
G38A Ridgeland 89.51 316 P P 06 20 28.3 -0.5
baz=107
T37A Cheneyville 18 89.52 308 P P 06 20 28.5 -0.5
baz=105
S37A Fort Scott 89.61 309 P P 06 20 28.8 -0.6
baz=105
336A Riesel 89.64 302 P P 06 20 29.9 +0.2
baz=104
136A Ennis 89.64 303 P P 06 20 28.5 -1.2
baz=104
H38A Maiden Rock 89.66 316 P P 06 20 30.2 +0.7
baz=107,SNR=8.1
P37A Lathrop 89.73 310 P P 06 20 30.2 +0.2
baz=105
F38A Pierce - Schro 89.76 317 P P 06 20 30.2 +0.3
baz=107
Z36A Blue Ridge 89.76 304 P P 06 20 30.2 0.0
baz=104
N37A Lee Faris, Mou 89.94 312 P P 06 20 30.1 -0.8
baz=106
V36A Jenks 89.98 306 P P 06 20 30.7 -0.6
baz=104
M37A Trindle Farm, 90.00 312 P P 06 20 30.4 -0.8
baz=106
X36A Centrahoma 90.01 305 P P 06 20 30.2 -1.2
baz=104
W36A Wetumka 90.05 306 P P 06 20 31.0 -0.6
baz=104
H37A Dierke Farm, C 90.06 316 P P 06 20 31.1 -0.4
baz=106
K37A Belmond 90.07 314 P P 06 20 30.6 -0.9
baz=106
435B Jarrell 90.12 301 P P 06 20 30.7 -1.3
baz=104
J37A Redenius Farm, 90.15 314 P P 06 20 31.5 -0.4
baz=106
SPMN Marine on St. 90.17 316 P P 06 20 32.0 +0.1
baz=106
SPMN Marine on St. 90.17 316 eP P 06 20 33.1 +1.2
comp=Z,12nm,1.2s
F37A Hinrichs Farm, 90.19 317 P P 06 20 31.8 -0.1
baz=106
S36A Lake Cedric, C 90.19 308 P P 06 20 31.0 -1.2
baz=105
I37A Lemond, Waseca 90.24 315 P P 06 20 31.7 -0.6
baz=106
T36A Boggs Farm, Ca 90.25 308 P P 06 20 32.3 -0.2
baz=104
R36A Gordon, Harris 90.28 309 P P 06 20 32.0 -0.6
baz=105
WHTX Lake Whitney, 90.29 302 P P 06 20 32.2 -0.6
baz=104
WHTX Lake Whitney, 90.29 302 eP P 06 20 33.4 +0.6
comp=Z,16nm,1.3s
P36A Good Intent, A 90.38 310 P P 06 20 32.0 -1.0
baz=105
Q36A Arnold C. Orve 90.40 310 P P 06 20 32.3 -0.9
baz=105
D37A Cotton 90.47 318 P P 06 20 33.1 -0.1
baz=107
ARU Arti 90.47 32 P P 06 20 41.1 +8.1
C37A Embarrass 90.47 319 P P 06 20 33.3 0.0
baz=107
W35A Tecumseh 90.56 306 P P 06 20 34.1 +0.1
baz=104
K36A Gilmore City 90.61 313 P P 06 20 33.4 -0.6
baz=105
SBA Scott Base 90.61 180 eP P 06 20 35.1 +1.7
SBA pmax pmax
comp=Z,47nm,1.6s
SBA Scott Base 90.61 180 eP P 06 20 35.1 +1.7
comp=Z,47nm,1.6s
I36A Fitzsimmons Fa 90.67 315 P P 06 20 33.8 -0.4
baz=106
V35A Meyer Ranch, C 90.68 306 P P 06 20 33.8 -0.7
baz=104
T35A Sooner Cattle 90.70 307 P P 06 20 34.9 +0.3
baz=104
J36A Seneca 1, Swea 90.71 314 P P 06 20 34.1 -0.4
baz=105
S35A Otter Creek Ra 90.74 308 P P 06 20 34.6 -0.2
baz=104
U35A Pawnee 90.74 307 P P 06 20 34.2 -0.6
baz=104
R35A Emporia Munici 90.80 309 P P 06 20 33.7 -1.3
baz=104
Q35A Mercer Eighty, 90.81 309 P P 06 20 33.5 -1.5
baz=104
G36A St. Michael 90.81 316 P P 06 20 33.6 -1.3
baz=106
F36A Milaca 90.83 317 P P 06 20 33.7 -1.3
baz=106
E36A McGregor 90.83 317 P P 06 20 34.1 -0.9
baz=106
933A Laredo 90.84 298 P P 06 20 34.0 -1.4
baz=103
C36A Pine Crest Far 90.90 319 P P 06 20 34.3 -1.0
baz=106
VNDA Vanda 90.93 179 P P 06 20 34.9 0.0
comp=Z,0.7nm,0.8s,baz=213,slow=6.1,SNR=2.7
VNDA LR LR 06 56 56.8
comp=Z,331nm,18.4s,baz=182,slow=33
VNDA Vanda 90.93 179 eP P 06 20 35.3 +0.4
VNDA e 06 20 35.6
VNDA Vanda 90.93 179 eP P 06 20 35.3 +0.4
VNDA ePcP P 06 20 35.6 +0.7
D36A Goodland 90.95 318 P P 06 20 35.0 -0.5
baz=106
P35A Duane Minner, 90.96 310 P P 06 20 35.1 -0.6
baz=104
N35A Tabor 91.02 311 P P 06 20 35.0 -1.0
baz=104
O35A Humboldt 91.06 311 P P 06 20 35.6 -0.5
baz=104
833A Chaparral WMA, 91.10 299 P P 06 20 35.7 -0.9
baz=103
K35A Storm Lake 91.19 313 P P 06 20 36.2 -0.5
baz=105
T34A McClaskey Farm 91.25 307 P P 06 20 36.5 -0.7
baz=104
L35A Bielow Farm, R 91.26 313 P P 06 20 36.1 -1.0
baz=105
KSU1 Kansas State U 91.30 310 P P 06 20 36.3 -1.1
baz=104
KSU1 Kansas State U 91.30 310 eP P 06 20 37.0 -0.3
comp=Z,14nm,1.0s
S34A Willow Spring 91.35 308 P P 06 20 36.5 -1.1
baz=104
H35A Sunnyside Ranc 91.41 315 P P 06 20 37.1 -0.6
baz=105
D35A Remer 91.51 318 P P 06 20 38.0 -0.1
baz=106
Q34A Chapman 91.51 309 P P 06 20 38.1 -0.2
baz=104
F35A Swanville 91.54 316 P P 06 20 38.3 +0.1
baz=105
P34A Walnut Farm, R 91.57 310 P P 06 20 38.1 -0.5
baz=104
R34A Isabella, Hill 91.60 309 P P 06 20 38.6 -0.2
baz=104
O34A Beatrice 91.63 311 P P 06 20 38.7 -0.1
baz=104
B35A Bob, Littlefor 91.64 319 P P 06 20 38.6 -0.1
baz=106
K34A Le Mars 91.79 313 P P 06 20 39.5 0.0
baz=104
JCT Junction City 91.91 301 P P 06 20 39.3 -1.1
baz=102
JCT Junction City 91.91 301 eP P 06 20 40.2 -0.2
JCT pmax pmax
comp=Z,22nm,1.2s
JCT Junction City 91.91 301 eP P 06 20 40.2 -0.2
comp=Z,22nm,1.2s
WMOK Wichita Mounta 92.00 305 P P 06 20 40.8 +0.2
baz=103
ABTX Abilene, Hawle 92.24 303 P P 06 20 40.9 -0.9
baz=102
O33A Hebron 92.27 310 P P 06 20 42.1 +0.3
baz=103
D34A Park Rapids 92.27 318 P P 06 20 41.1 -0.6
baz=105
M33A Taylor Creek F 92.32 312 P P 06 20 41.3 -0.7
baz=104
ECSD EROS Data Cent 92.42 314 P P 06 20 42.2 -0.2
baz=104
ECSD EROS Data Cent 92.42 314 eP P 06 20 42.0 -0.4
comp=Z,18nm,1.3s
L33A Hoskins 92.52 312 P P 06 20 42.2 -0.7
baz=103
J33A Davis 92.57 314 P P 06 20 42.1 -0.9
baz=104
G33A Ortonville 92.64 315 P P 06 20 42.4 -1.0
baz=104
E33A Westby DABS, E 92.66 317 P P 06 20 42.1 -1.3
baz=104
H33A Prehn Over Nor 92.73 315 P P 06 20 42.9 -1.0
baz=104
C33A Trail 92.81 318 P P 06 20 43.8 -0.4
baz=104
B33A Robert and Kas 92.82 319 P P 06 20 44.7 +0.6
baz=104
A33A Warroad 92.86 319 P P 06 20 44.4 +0.2
baz=104
BGNE Belgrade 92.98 312 P P 06 20 43.5 -1.5
baz=103
AGMN Agassiz Nation 93.00 319 P P 06 20 44.4 -0.5
baz=104
K32A Verdigre 93.13 313 P P 06 20 44.9 -0.9
baz=103
H32A Carlson Farm, 93.17 315 P P 06 20 45.4 -0.4
baz=103
J32A Parkston 93.20 313 P P 06 20 46.0 -0.1
baz=103
B32A Ashes, Strandq 93.46 319 P P 06 20 47.1 0.0
baz=104
ULM Lac du Bonnet 93.49 321 LR LR 06 56 53.6
comp=Z,443nm,19.4s,baz=122,slow=32
A32A Rocking H Ranc 93.56 319 P P 06 20 47.2 -0.3
baz=104
K31A O'Neill 93.69 313 P P 06 20 48.2 -0.1
baz=102
F31A Hecla 94.03 316 P P 06 20 49.4 -0.4
baz=102
C31A Landman Farms, 94.11 318 P P 06 20 49.7 -0.3
baz=103
TXAR Lajitas Array 94.98 299 P P 06 20 54.9 +0.3
comp=Z,0.6nm,0.9s,baz=106,slow=6.7,SNR=5.3
MSTX Muleshoe 95.07 303 P P 06 20 54.4 -0.6
baz=101
MSTX Muleshoe 95.07 303 eP P 06 20 56.2 +1.2
comp=Z,19nm,1.2s
MDND Maddock 95.35 318 P P 06 20 55.5 -0.3
baz=101
OGNE Ogallala 95.76 310 P P 06 20 57.6 -0.4
baz=100
KSH Kashi 97.63 51 eP P 06 21 06.1 -0.4
KSH pP sP 06 21 10.6 -0.4
KSH sP pP 06 21 12.6 +2.7
KSH PP PP 06 25 06.8 +2.4
KSH SKS SKSac 06 31 41.8 -2.6
KSH S S 06 32 26.1 -6.1
KSH sS pS 06 32 34.8 -1.7
KSH SS SS 06 39 08.0 -4.3
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,84nm,4.5s
KSH LR LR
comp=Z,100nm,6.0s
Q24A Divide 97.80 308 P P 06 21 06.0 -1.5
baz=99
ANMO Albuquerque 98.24 304 P Pdif 06 21 11.5 +2.0
comp=Z,0.9nm,0.9s,baz=121,slow=5.9,SNR=2.2
ANMO Albuquerque 98.24 304 P P 06 21 08.2 -1.3
baz=98
ANMO Albuquerque 98.24 304⇑ eP Pdif 06 21 09.6 +0.1
ANMO i *PP sP 06 21 15.7 +1.7
ANMO pmax pmax
comp=Z,1.0nm,1.3s
ANMO Albuquerque 98.24 304 eP Pdif 06 21 10.3 +0.8
comp=Z,7.0nm,1.4s
LPIG La Paz 99.99 293 P Pdif 06 21 17.5 +0.3
comp=Z,88nm,1.1s,baz=7.7,slow=10,SNR=3.7
SONA0 Songino Array 119.14 41 ePKPdf PKPdf 06 26 20.9 +0.1
SONM Songino Array 119.14 41 PKP PKPdf 06 26 20.9 +0.1
comp=Z,0.3nm,0.8s,baz=236,slow=2.9,SNR=2.4
RND Reindeer 119.23 338 eP Pdif 06 22 41.0 -1.0
RND Reindeer 119.23 338 ePdif Pdif 06 22 41.0 -1.0
KMI Kunming 119.37 68 PKP PKPdf 06 26 20.8 -1.2
LZH Lanzhou 119.59 55 ePKP PKPdf 06 26 21.3 -0.7
LZH sPKP 06 26 25.8
LZH PP PP 06 27 48.0 +3.6
LZH SKKS 06 34 38.0
LZH eSS SS 06 44 10.3 +1.5
LZH AMB AMB
comp=Z,110nm,8.6s
CD2 Chengdu 120.03 61 PKP PKPdf 06 26 22.0 -0.9
GYA Guiyang 122.86 66 ePdif Pdif 06 22 58.0 -1.0
GYA PKP PKPdf 06 26 26.8 -1.7
GYA PP PP 06 28 10.3 +3.2
GYA AMB AMB
comp=Z,130nm,7.8s
HHC Hu-ho-hao-te 124.60 48 ePKP PKPdf 06 26 31.8 +0.4
HHC PP PP 06 28 23.5 +5.4
HHC SS SS 06 45 11.5 -0.5
HHC LR LR
comp=Z,240nm,17.3s
HHC LR LR
comp=Z,150nm,16.3s
HHC LR LR
comp=Z,260nm,16.0s
FITZ Fitzroy Crossi 130.71 126 PKP PKPdf 06 26 45.0 +1.4
comp=Z,7.1nm,1.1s,baz=287,slow=2.8,SNR=3.1
STKA Stephens Creek 130.97 153 PKP PKPdf 06 26 46.1 +2.3
comp=Z,1.6nm,0.6s,baz=195,slow=6.6,SNR=3.2
NJ2 Nanjing 132.57 57 ePKP PKPdf 06 26 45.8 -0.9
CN2 Changchun 132.93 40 ePKP PKPdf 06 26 47.4 +0.3
CN2 PP PP 06 29 16.0 +3.8
CN2 SS SS 06 46 55.8 +1.6
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,300nm,21.0s
ASAR Alice Springs 133.16 139 PKP PKPdf 06 26 47.4 -0.9
comp=Z,0.5nm,0.7s,baz=209,slow=2.0,SNR=5.5
AS31 Alice Springs 133.16 139 ePKPdf PKPdf 06 26 47.2 -1.0
WR1 Warramunga Arr 136.03 135 ePKPdf PKPdf 06 26 52.4 -1.3
WRA Warramunga Arr 136.03 135 PKP PKPdf 06 26 52.4 -1.3
comp=Z,0.5nm,0.6s,baz=244,slow=2.0,SNR=2.8
MJAR Matsushiro Arr 145.07 40 PKPbc PKPbc 06 27 08.8 0.0
comp=Z,7.5nm,1.1s,baz=289,slow=7.8,SNR=4.2
COEN Coen 146.20 138 ePKPdf PKPdf 06 27 12.3 +0.3
DZM Mont Dzumac 146.44 181 PKPbc PKPdf 06 27 12.5 +0.2
comp=Z,4.7nm,0.8s,baz=190,slow=5.9,SNR=2.4

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*IDC **25** 06:10:05.6±1.0, 52°.12N×171°.92W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/63, mbtmp3.6/8, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/41, Error ellipse: s-maj=38.3km s-min=20.7km az=173.0*

*ISCJB **25** 06:10:11.6±0.7, 51°.9N±0°.1×171°.67W±0°.06, h50km, mb3.7/7, MS3.2/1, Error ellipse: s-maj=18.6km s-min=3.6km az=167.0*

*NEIC **25** 06:10:12.0±0.0, 51°.90N×171°.68W, h40km, ML3.5(AEIC), After AEIC.*

ISC 25 06:10:12.6±0.9, 52°.0N±0°.2×171°.73W±0°.05, h50km, n31, σ1§14/29, mb3.6/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.46	283	P	Pn	06 10 38.0	+1.3
KOFP	Korovin Flat P	1.48	280	P	Pn	06 10 38.0	+1.1
ATKA	Atka Island	1.53	277	P	Pn	06 10 37.5	0.0
ATKA				S	Sn	06 10 56.7	+0.4
KOKL	Mount Kliuchef	1.55	282	P	Pn	06 10 39.3	+1.4
NIKH	Nikolski High	1.99	61	P	Pn	06 10 43.5	-0.3
NIKH				S	Sn	06 11 08.8	+1.2

OKSO	Okmok South	2.54	57	P	Pn	06 10 52.1	+0.7
OKCE	Okmok Cone E	2.58	56	P	Pn	06 10 53.5	+1.6
OKFG	Magazine Ridge	2.70	58	P	Pn	06 10 55.4	+1.9
GSTD	Great Sitkin T	2.73	272	P	Pn	06 10 54.7	+0.7
GSTD				S	Sn	06 11 27.2	+1.5
GSCK	Great Sitkin C	2.74	271	P	Pn	06 10 55.2	+1.1
ETKA	Kagalaska Isla	2.90	268	P	Pn	06 10 57.1	+0.8
ADAG	Mount Adagdak	3.01	271	P	Pn	06 10 59.2	+1.4
ADK	Adak	3.07	269	P	Pn	06 10 59.5	+1.0
ADK				S	Sn	06 11 34.9	+0.9
MSOM	Makushin Julie	3.40	56	P	Pn	06 11 03.8	+0.7
UNV	Unalaska Valle	3.65	58	P	Pn	06 11 07.0	+0.6
UNV				S	Sn	06 11 49.8	+1.6
TAPA	Tanaga Point A	3.77	269	P	Pn	06 11 09.0	+0.7
ILAR	Eielson Array	18.06	36	P	P	06 14 19.0	-0.5
	0.1nm,0.3s,baz=221,slow=9.4,SNR=4.1						
BBB	Bella Bella	26.49	72	LR	LR	06 23 48.6	
	comp=Z,72nm,19.8s,baz=74,slow=31						
YKA	Yellowknife Ar	31.55	48	P	P	06 16 28.6	-1.1
	0.3nm,0.4s,baz=274,slow=7.3,SNR=3.7						
H11N2	WAKE ISLAND Hy 36.31	215		T	T	06 55 44.9	
	baz=21,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy 36.32	215		T	T	06 55 40.7	
	baz=21,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy 36.33	215		T	T	06 55 46.3	
	baz=21,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy 37.51	215		T	T	06 57 09.2	
	baz=21,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy 37.52	215		T	T	06 57 09.2	
	baz=21,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy 37.52	215		T	T	06 57 16.2	
	baz=21,slow=76,SNR=16						
PDAR	Pinedale Array	41.89	77	P	P	06 17 59.3	+1.2
	0.2nm,0.3s,baz=304,slow=2.5,SNR=4.3						
TXAR	Lajitas Array	54.21	87	P	P	06 19 33.3	+0.1
	0.2nm,0.7s,baz=313,slow=5.7,SNR=3.2						
MKAR	Makanchi Array	62.97	312	P	P	06 20 32.0	-1.8
	0.2nm,0.4s,baz=44,slow=7.0,SNR=2.6						
BVAR	Borovoye Array	63.12	323	P	P	06 20 33.5	-1.2
	0.8nm,0.5s,baz=38,slow=7.5,SNR=3.4						
CMAR	Chiang Mai Arr	75.27	281	P	P	06 21 50.9	+0.5
	0.7nm,0.4s,baz=15,slow=3.7,SNR=3.0						
ASAR	Alice Springs	89.08	228	P	P	06 23 01.8	-0.5
	1.4nm,0.8s,baz=26,slow=5.2,SNR=12						

NIED ***25*** *06:11:00,39°.10N×142°.40E,h32km,Mw3.8 Best double couple: M₀5.69000×10¹⁴ NP1:φ₀=314.00000°,δ30.00000°, λ-114.00000°. NP2:φ₀=161.00000°,δ63.00000°, λ-77.00000°.*
ISCJB ***25*** *06:11:20.4±1.1,39°.08N±0°.04×142°.40E±0°.09,h41km±9km, mb3.8/10,MS2.5/1,Error ellipse: s-maj=12.2km s-min=6.2km az=14.0*
JMA ***25*** *06:11:20.3±0.1,39°.09N×142°.40E,h32km±1km,M3.9*
JMA Felt I J1.
IDC ***25*** *06:11:26.5±2.7,39°.00N×142°.25E,h82km±25km,mb3.5/10, mb1 3.7/12,mb1mx3.5/62,mbtmp3.8/12,MS2.7/3, Ms1 2.7/3,ms1mx2.5/37,Error ellipse: s-maj=20.3km s-min=16.6km az=102.0*

ISC 25 06:11:21.0±1.8,39°.07N±0°.04×142°.32E±0°.08,h29km±11km, n31,σ1°95/34,mb4.0/10,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.51	272	P	Pb	06 11 31.7	+0.2
OFUJ				S	Sb	06 11 39.5	+0.8
MIYJ	Miyakonagasawa	0.64	323	P	Pn	06 11 32.9	-1.2
MIYJ				S	Sb	06 11 41.6	-0.8
JMK	Ichinoseki	0.87	263	P	Pn	06 11 37.2	0.0
JMK				S	Sn	06 11 49.1	+0.3
JOM	Ohasama	0.90	297	P	Pn	06 11 37.5	-0.1
JOM				S	Sn	06 11 49.8	+0.2
JTH	Tanohata	0.94	338	P	Pn	06 11 37.0	-1.2
JIO	Ouri	0.98	232	P	Pn	06 11 38.1	-0.6
JIO				S	Sn	06 11 50.5	-1.0
JKZ	Kuzumaki	1.20	320	P	Pn	06 11 41.9	+0.1
JKZ				S	Sb	06 11 57.4	-0.8
JRG	Rokugo	1.35	285	P	Pn	06 11 44.6	+0.7
JRG				eS	Sb	06 12 03.1	+0.5
JANG	Nango	1.45	335	P	Pn	06 11 45.1	-0.1
JANG				eS	Sn	06 12 03.2	0.0
JOU	Okura	1.47	242	P	Pn	06 11 46.1	+0.5
JOU				eS	Sn	06 12 05.2	+1.4
MJAR	Matsushiro Arr	4.12	234	P	Pn	06 12 24.8	+2.8
	3.0nm,0.3s,baz=41,slow=11,SNR=39						
MJAR				S	Sn	06 13 14.1	+5.0
	baz=67,slow=22,SNR=2.1						
MJAR				LR	LR	06 14 21.4	
	comp=Z,143nm,19.1s,baz=55,slow=44						
MAT	Matsushiro	4.12	234	P	Pn	06 12 24.4	+2.5
MAT				S	Sb	06 13 16.6	-5.5
ASAJ	Asahikawa	5.05	2	P	Pb	06 12 41.7	-6.9
	1.5nm,0.3s,baz=270,slow=15,SNR=2.9						
ASAJ				S	Sn	06 13 37.7	+5.7
	1.0nm,0.3s,baz=180,slow=20,SNR=3.5						
KSRS	Korea Array	11.44	266	LR	LR	06 18 33.0	
	comp=Z,39nm,18.6s,baz=175,slow=37						
GUMO	Guam	25.48	174	LR	LR	06 29 22.9	
	comp=Z,12nm,19.0s,baz=176,slow=42						
SONM	Songino Array	27.31	300	P	P	06 17 04.0	+0.9
	0.3nm,0.5s,baz=98,slow=9.0,SNR=2.9						
H11N2	WAKE ISLAND Hy 28.65	125		T	T	06 47 37.0	
	baz=317,slow=75,SNR=170						
H11N1	WAKE ISLAND Hy 28.66	125		T	T	06 47 37.7	
	baz=317,slow=75,SNR=158						
H11N3	WAKE ISLAND Hy 28.67	125		T	T	06 47 41.8	
	baz=317,slow=75,SNR=143						
H11S1	WAKE ISLAND Hy 29.44	127		T	T	06 48 40.1	
	baz=319,slow=76,SNR=23						
H11S3	WAKE ISLAND Hy 29.44	127		T	T	06 48 36.5	
	baz=319,slow=76,SNR=32						
H11S2	WAKE ISLAND Hy 29.45	127		T	T	06 48 39.5	
	baz=319,slow=76,SNR=31						
ZALV	Zalesovo Beam	41.11	311	P	P	06 19 01.5	-0.4
	1.3nm,0.4s,baz=92,slow=10,SNR=3.0						
MKAR	Makanchi Array	43.68	300	P	P	06 19 23.0	0.0
	1.9nm,0.8s,baz=83,slow=9.9,SNR=12						
ILAR	Eielson Array	47.40	33	P	P	06 19 52.2	0.0
	1.1nm,0.6s,baz=266,slow=6.0,SNR=19						
BVAR	Borovoye Array	49.76	311	P	P	06 20 10.0	-0.5
	1.4nm,0.6s,baz=85,slow=9.1,SNR=7.2						
WRA	Warramunga Arr	59.17	189	P	P	06 21 18.1	-1.1
	0.9nm,0.4s,baz=6.5,slow=7.1,SNR=7.7						
ASAR	Alice Springs	62.90	189	P	P	06 21 44.0	-0.4
	0.6nm,0.7s,baz=12,slow=5.2,SNR=7.8						
AKASG	Malin Array Be	73.13	322	P	P	06 22 47.7	-0.7
	0.6nm,0.4s,baz=46,slow=7.0,SNR=4.3						
PDAR	Pinedale Array	75.74	46	P	P	06 23 04.0	-0.1
	0.2nm,0.5s,baz=295,slow=2.6,SNR=2.9						
TXAR	Lajitas Array	88.32	53	P	P	06 24 09.8	-0.3
	0.2nm,0.6s,baz=293,slow=4.7,SNR=3.4						

ISK ***25*** *06:15:12.3,38°.70N×43°.62E,h5km,ML3.1*
ISCJB ***25*** *06:15:13.8±1.0,38°.71N±0°.03×43°.62E±0°.07,h1km±8km, Error ellipse: s-maj=9.7km s-min=4.4km az=3.1*
CSEM ***25*** *06:15:13.6±0.5,38°.72N×43°.63E,h2km,ML3.1,Error ellipse: s-maj=13.2km s-min=6.2km az=83.0*
DDA ***25*** *06:15:15.0,38°.73N×43°.50E,h7km,Ml3.2*

ISC 25 06:15:14.7±1.1,38°.72N±0°.03×43°.57E±0°.05,h11km±8km, n21,σ1°49/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	228	ePG	Pg	06 15 18.3	-0.6
VANB				eSG	Sg	06 15 23.0	+1.2
VANB	Van	0.19	228	ePg	Pg	06 15 18.3	-0.6
VANB				eSg	Sg	06 15 23.0	+1.2
GEVA	Gevas	0.57	225	iP	Pg	06 15 23.8	-2.1
GEVA				iS	Sg	06 15 33.7	+0.1
GEVA	Gevas	0.57	225	P	Pg	06 15 23.8	-2.1
GEVA				S	Sg	06 15 33.7	+0.1
DYDN	Diyadin	0.82	6	iP	Pg	06 15 30.1	-0.7
DYDN				iS	Sn	06 15 43.8	-1.1
DYDN	Diyadin	0.82	6	P	Pg	06 15 30.0	-0.7
DYDN				S	Sn	06 15 43.8	-1.1
TUTA	Tutak	0.90	319	iP	Pg	06 15 30.9	-1.2
TUTA				iS	Sb	06 15 44.4	-0.2
TUTA	Tutak	0.90	319	P	Pg	06 15 30.9	-1.2
TUTA				S	Sb	06 15 44.4	-0.2
AGRB	Hanur-Agry	0.96	332	ePG	Pg	06 15 32.6	-0.7
AGRB				eSG	Sb	06 15 47.6	+1.3
AGRB	Hanur-Agry	0.96	332	ePg	Pg	06 15 32.6	-0.7
AGRB				eSg	Sb	06 15 47.7	+1.3
HAKT	HAKKARI	1.17	175	iP	Pg	06 15 34.4	-2.8
HAKT				iS	Sn	06 15 53.9	+0.6
HAKT	HAKKARI	1.17	175	P	Pg	06 15 34.4	-2.8
HAKT				S	Sn	06 15 53.9	+0.6
EATA	Eleskirt	1.41	324	iP	Pb	06 15 40.9	-0.4
EATA				iS	Sn	06 16 01.4	+1.9
EATA	Eleskirt	1.41	324	P	Pb	06 15 40.9	-0.4
EATA				S	Sn	06 16 01.4	+1.9
CUKT	Cukurca	1.47	179	ePN	Pn	06 15 40.8	-0.5
CUKT	Cukurca	1.47	179	iP	Pg	06 15 43.3	+0.3
CUKT				iS	Sg	06 16 06.3	+4.2
CUKT	Cukurca	1.47	179	ePn	Pn	06 15 40.8	-0.5
CUKT	Cukurca	1.47	179	P	Pg	06 15 43.3	+0.3
BNGL	BINGOL	1.90	278	iP	Pn	06 15 45.4	-1.9
SVAN	Silvan-Diyarba	1.95	254	ePN	Pn	06 15 48.6	+0.8
SVAN	Silvan-Diyarba	1.95	254	ePn	Pn	06 15 48.6	+0.8

ISK ***25*** *06:20:55.8,38°.81N×43°.50E,h5km,ML3.3*
DDA ***25*** *06:20:56.3,38°.75N×43°.35E,h7km,Ml3.7*
CSEM ***25*** *06:20:57.1±0.4,38°.77N×43°.41E,h2km,ML3.3,Error ellipse: s-maj=10.1km s-min=5.5km az=75.0*

ISC 25 06:20:57.7±1.0,38°.76N±0°.02×43°.33E±0°.04,h12km±8km, n48,σ1°36/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	164	ePG	Pg	06 21 02.2	+0.5
VANB	Van	0.17	164	ePg	Pg	06 21 02.2	+0.5
GEVA	Gevas	0.50	205	iP	Pg	06 21 05.8	-1.7
GEVA				iS	Sg	06 21 13.7	-0.4
GEVA	Gevas	0.50	205	P	Pg	06 21 05.8	-1.7
GEVA				S	Sg	06 21 13.7	-0.4
TUTA	Tutak	0.75	328	iP	Pg	06 21 11.2	-1.2
TUTA				iS	Sg	06 21 21.8	-0.5
TUTA	Tutak	0.75	328	P	Pg	06 21 11.2	-1.2
TUTA				S	Sg	06 21 21.8	-0.5
DYDN	Diyadin	0.83	20	iP	Pb	06 21 12.7	-1.5
DYDN	Diyadin	0.83	20	P	Pb	06 21 12.7	-1.5
AGRB	Hanur-Agry	0.85	342	ePG	Pg	06 21 13.1	-1.2
AGRB				eSG	Sb	06 21 26.6	+0.5
AGRB	Hanur-Agry	0.85	342	ePg	Pg	06 21 13.1	-1.2
AGRB				eSg	Sb	06 21 26.6	+0.5
BASK	Baskale_VAN	0.89	143	iP	Pg	06 21 12.8	-2.0
BASK	Baskale_VAN	0.89	143	P	Pg	06 21 12.8	-2.0
EKAR	Karacoban	1.10	297	iP	Pg	06 21 17.9	-1.1
EKAR				iS	Sn	06 21 35.0	+0.6
EKAR	Karacoban	1.10	297	P	Pg	06 21 17.9	-1.1
EKAR				S	Sn	06 21 35.0	+0.6
HAKT	HAKKARI	1.24	166	iP	Pg	06 21 19.0	-2.5
HAKT	HAKKARI	1.24	166	P	Pg	06 21 19.0	-2.5
EATA	Eleskirt	1.28	330	iP	Pg	06 21 20.8	-1.5
EATA				iS	Sn	06 21 39.2	+0.4
EATA	Eleskirt	1.28	330	P	Pg	06 21 20.8	-1.5
EATA				S	Sn	06 21 39.2	+0.4
SIRN	S¨–rnak	1.46	210	iP	Pb	06 21 24.6	-0.1
SIRN	S¨–rnak	1.46	210	P	Pb	06 21 24.6	-0.1
CUKT	Cukurca	1.53	172	ePN	Pg	06 21 26.1	-0.9
CUKT	Cukurca	1.53	172	iP	Pg	06 21 27.2	+0.1
CUKT	Cukurca	1.53	172	ePn	Pg	06 21 26.1	-0.9
CUKT	Cukurca	1.53	172	P	Pg	06 21 27.2	+0.1
DIGO	Kars	1.65	1	iP	Pg	06 21 28.6	-0.8
DIGO				iS	Sg	06 21 53.9	+3.0
DIGO	Kars	1.65	1	P	Pg	06 21 28.6	-0.8
HOMI	Horasan	1.69	320	iP	Pb	06 21 28.4	-0.4
HOMI				iS	Sg	06 21 52.9	+0.8
BNGL	BINGOL	1.71	277	iP	Pn	06 21 28.1	+0.5
SVAN	Silvan-Diyarba	1.78	251	ePN	Pb	06 21 30.9	+0.6
SVAN	Silvan-Diyarba	1.78	251	iP	Pn	06 21 28.5	+0.2
SVAN	Silvan-Diyarba	1.78	251	P	Pn	06 21 28.5	+0.2
SVAN	Silvan-Diyarba	1.78	251	ePn	Pb	06 21 30.9	+0.6
BTMN	Batman	1.84	242	iP	Pn	06 21 30.3	+1.2
BTMN				iS	Sn	06 21 54.0	+1.7
BTMN	Batman	1.84	242	P	Pn	06 21 30.3	+1.2
BTMN				S	Sn	06 21 54.0	+1.7
ERZM	Erzurum	1.90	308	iP	Pb	06 21 32.6	+0.1
ERZM	Erzurum	1.90	308	P	Pb	06 21 32.6	+0.1
BINT	Bingol	2.22	274	ePn	Pn	06 21 34.7	+0.3
YEDI	Yedisu-Bingol	2.27	288	ePN	Pb	06 21 37.5	-1.2
YEDI	Yedisu-Bingol	2.27	288	ePn	Pb	06 21 37.5	-1.2
MARD	Mardin	2.48	235	iP	Pn	06 21 38.3	+0.5
KOPT	Kop Dagi	2.53	301	iP	Pg	06 21 44.5	-1.7
KOPT	Kop Dagi	2.53	301	P	Pg	06 21 44.5	-1.7
MAZI	Mazidag	2.62	241	ePN	Pb	06 21 43.5	-1.1
MAZI	Mazidag	2.62	241	ePn	Pb	06 21 43.5	-1.1
PTK	Pertek	3.08	274	ePN	Pn	06 21 48.9	+2.6
PTK	Pertek	3.08	274	ePn	Pn	06 21 48.9	+2.6
SVRC	Sivrice-ELAZID	3.17	264	ePN	Pb	06 21 51.4	-2.7
SVRC	Sivrice-ELAZID	3.17	264	ePn	Pb	06 21 51.4	-2.7

TRN 25 06:24:12.7,18°.98N×62°.73W,h18km,MD3.9,1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.98	199	iP	Pg	06 24 31.9	0.0
SMRT				eS	Sn	06 24 48.2	+3.1
SABA	Saba	1.44	200	eP	Pb	06 24 39.6	+0.5
SABA				eS	Sg	06 25 00.1	+0.8
SEUS	St. Eustatius	1.50	189	eP	Pb	06 24 40.4	+0.3
SEUS				eS	Sg	06 25 01.2	0.0
ANWB	Willy Bob	1.58	145	eP	Pb	06 24 41.7	+0.2
ANWB				eS	Sg	06 25 03.1	-0.8
SKI	Saint Kitts	1.64	180	eP	Pb	06 24 42.4	-0.1
SKI				eS	Sb	06 25 03.6	+0.8
NEV	Hard Times	1.84	175	eP	Pb	06 24 45.0	-0.8
NEV				eS	Sb	06 25 09.5	+0.9
BPA	Boggy Peak	2.10	157	eP	Pb	06 24 49.2	-1.1
BPA				eS	Sb	06 25 15.1	-0.9
MLYT	Lee's Yard	2.31	167	eP	Pb	06 24 52.1	-1.8
MLYT				eS	Sb	06 25 22.0	0.0
SEG	Port Louis	2.82	155	eP	Pn	06 24 58.6	+1.7
LZG	Guadaloupe-1	2.97	162	eP	Pn	06 25 00.9	+1.9
SSG	Sans Toucher	3.05	161	eP	Pn	06 25 02.0	+1.8
MGG	Marie-Galante	3.33	156	eP	Pn	06 25 05.5	+1.6
MGG	Marie-Galante	3.33	156	eS	Sb	06 25 52.0	+0.4
BBL	Barber's Block	3.64	161	eP	Pn	06 25 09.9	+1.7
BBL				eS	Sn	06 25 52.1	+1.3
PCM	Pelee Case Pet	4.39	160	eP	Pn	06 25 19.5	+0.9
PCM	Pelee Case Pet	4.39	160	eP	Pn	06 25 22.9	+4.3
CXM	Morne La Croix	4.41	160	eP	Pn	06 25 23.3	+4.4
BAMF	Morne Balai	4.41	160	eP	Pn	06 25 22.1	+3.2
GBMF	Grand Be	4.42	160	eP	Pn	06 25 23.3	+4.3
PML	Morne Lenard	4.43	160	eP	Pb	06 25 24.8	-5.3
MVM	Montagne Vaucl	4.74	158	eP	Pn	06 25 28.5	+5.2

IDC 25 06:24:23.3±2.3,13°.20N×144°.63E,h61km±17km,mb3.2/3, mb1 3.5/3,mb1mx3.0/52,mbtmp3.5/3,Error ellipse: s-maj=238.6km s-min=22.0km az=111.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.45	31	P	Pn	06 24 36.1	+1.3
	146nm,0.3s,baz=180,slow=13,SNR=88						
GUMO				S	Sn	06 24 45.6	+2.3
	592nm,0.3s,baz=156,slow=19,SNR=70						
H11S3	WAKE ISLAND Hy 21.85	73		T	T	06 52 08.8	
	baz=259,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy 21.87	73		T	T	06 51 49.0	
	baz=259,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy 21.87	73		T	T	06 52 16.0	
	baz=259,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy 22.30	70		T	T	06 52 44.1	
	baz=256,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy 22.31	70		T	T	06 52 20.9	
	baz=256,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy 22.32	70		T	T	06 52 45.5	
	baz=256,slow=75,SNR=23						
WRA	Warramunga Arr	34.46	197	P	P	06 31 04.2	-1.2
	0.8nm,0.7s,baz=20,slow=9.4,SNR=2.8						
ASAR	Alice Springs	38.11	196	P	P	06 31 37.4	+0.8
	0.4nm,0.8s,baz=29,slow=7.8,SNR=3.2						
ILAR	Eielson Array	69.02	25	P	P	06 35 22.1	0.0
	0.2nm,0.4s,baz=252,slow=5.7,SNR=8.1						

DDA ***25*** *06:26:06.1,38°.76N×43°.36E,h7km,Ml3.2*
ISK ***25*** *06:26:06.3,38°.75N×43°.16E,h5km,MD2.6*
CSEM ***25*** *06:26:07.1±0.5,38°.76N×43°.23E,h5km,MD2.6,Error ellipse: s-maj=14.3km s-min=6.6km az=73.0*

ISC 25 06:26:07.5±1.1,38°.75N±0°.03×43°.12E±0°.04,h7km±10km, n16,σ1°37/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	126	ePG	Pg	06 26 13.0	+0.3
VANB				eSG	Sg	06 26 17.5	+1.4
VANB	Van	0.26	126	ePg	Pg	06 26 13.0	+0.3
VANB				eSg	Sg	06 26 17.5	+1.4
GEVA	Gevas	0.44	187	iP	Pg	06 26 15.7	-0.3
GEVA				iS	Sb	06 26 23.0	-1.4
GEVA	Gevas	0.44	187	P	Pg	06 26 15.7	-0.3
GEVA				S	Sb	06 26 23.0	-1.4
TUTA	Tutak	0.70	340	iP	Pb	06 26 20.7	-1.4
TUTA				iS	Sb	06 26 31.1	-0.9
TUTA	Tutak	0.70	340	P	Pb	06 26 20.7	-1.4
TUTA				S	Sb	06 26 31.1	-0.9
AGRB	Hanur-Agry	0.83	353	ePG	Pg	06 26 22.7	-0.9
AGRB				eSG	Sb	06 26 35.0	-0.9
AGRB	Hanur-Agry	0.83	353	ePg	Pg	06 26 22.7	-0.9
AGRB				eSg	Sb	06 26 35.0	-0.9
EKAR	Karacoban	0.97	302	iP	Pn	06 26 28.6	+0.9
EKAR				iS	Sn	06 26 44.5	+2.7
EKAR	Karacoban	0.97	302	P	Pn	06 26 28.6	+0.9
EKAR				S	Sn	06 26 44.5	+2.7
HAKT	HAKKARI	1.27	159	iP	Pg	06 26 30.2	-1.7
HAKT				iS	Sn	06 26 50.6	+1.3
HAKT	HAKKARI	1.27	159	P	Pg	06 26 30.2	-1.7
HAKT				S	Sn	06 26 50.6	+1.3
SVAN	Silvan-Diyarba	1.62	249	ePN	Pn	06 26 36.6	+0.1
SVAN	Silvan-Diyarba	1.62	249	ePn	Pn	06 26 36.6	+0.1
BTMN	Batman	1.69	240	iP	Pg	06 26 44.2	+4.3
BTMN				iS	Sg	06 27 02.9	+1.1
BTMN	Batman	1.69	240	P	Pg	06 26 44.2	+4.3
BTMN				S	Sg	06 27 02.9	+1.1

ISCJB ***25*** *06:28:06.9±1.7,36°.27N±0°.05×31°.76E±0°.05,h9km±14km, Error ellipse: s-maj=8.9km s-min=5.9km az=23.4*
ISK ***25*** *06:28:06.7,36°.24N×31°.78E,h12km,MD2.9*
CSEM ***25*** *06:28:06.7,36°.24N×31°.78E,h12km,MD2.9*
DDA ***25*** *06:28:17.6,36°.93N×32°.63E,h7km,Md3.0*

ISC 25 06:28:06.3±1.4,36°.26N±0°.05×31°.76E±0°.03,h6km±11km, n38,σ0°77/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	Ermenek	1.00	68	iP	Pg	06 28 25.6	0.0
ERMK				iS	Sg	06 28 38.6	0.0
ERMK	Ermenek	1.00	68	P	Pg	06 28 25.6	0.0
ERMK				S	Sg	06 28 38.6	0.0
TEKE	Tekeli-Mersin	1.10	96	ePN	Pn	06 28 28.0	-0.3
TEKE				eSN	Sn	06 28 43.5	-0.3
TEKE	Tekeli-Mersin	1.10	96	ePn	Pn	06 28 28.0	-0.3
TEKE				eSn	Sn	06 28 43.5	-0.3
BERE	Bereket-Mersin	1.18	86	ePN	Pg	06 28 29.3	+0.3
BERE				eSN	Sn	06 28 46.0	0.0
BERE	Bereket-Mersin	1.18	86	ePn	Pg	06 28 29.3	+0.3
BERE				eSn	Sn	06 28 46.0	0.0
TEVE	Tevekalti-Mers	1.37	82	ePN	Pb	06 28 32.4	0.0
TEVE	Tevekalti-Mers	1.37	82	ePn	Pb	06 28 32.4	0.0
GULN	MERSIN_Gulnar	1.44	93	iP	Pg	06 28 33.9	-0.1
GULN				iS	Sb	06 28 51.8	-0.4
AKKU	Akkuyu-Mersin	1.45	94	ePN	Pb	06 28 33.8	+0.1
AKKU	Akkuyu-Mersin	1.45	94	ePn	Pb	06 28 33.8	+0.1
LEF	Lefka	1.47	141	ePN	Pn	06 28 32.5	-0.8
LEF	Lefka	1.47	141	ePn	Pn	06 28 32.5	-0.8
IKL	Isikli	1.56	90	ePN	Pb	06 28 35.1	-0.4
IKL	Isikli	1.56	90	ePn	Pb	06 28 35.1	-0.4
KMER	Konya-Meram	1.58	18	iP	Pn	06 28 34.6	-0.3
KMER				iS	Sb	06 28 56.3	+0.1
KEBE	Keben-Mersin	1.59	83	ePN	Pb	06 28 35.6	-0.5
KEBE	Keben-Mersin	1.59	83	ePn	Pb	06 28 35.6	-0.5
AKAS	Kas	1.74	270	ePN	Pb	06 28 38.0	-0.8
AKAS	Kas	1.74	270	ePn	Pb	06 28 38.0	-0.8
KONT	Konya--Tatoy	1.75	16	ePN	Pn	06 28 37.7	+0.5
KONT	Konya--Tatoy	1.75	16	iP	Pn	06 28 36.9	-0.3
KONT	Konya--Tatoy	1.75	16	ePn	Pn	06 28 37.7	+0.5
SILI	Silifke-Mersin	1.75	86	ePN	Pn	06 28 37.1	-0.1
SILI	Silifke-Mersin	1.75	86	ePn	Pn	06 28 37.1	-0.1
KIZK	Mersin	1.94	83	ePN	Pn	06 28 40.4	+0.7
KIZK	Mersin	1.94	83	iP	Pb	06 28 42.7	+0.7
KIZK				iS	Sb	06 29 06.1	-0.2
KIZK	Mersin	1.94	83	P	Pb	06 28 42.7	+0.7
KIZK				S	Sb	06 29 06.1	-0.2
FETY	Fethiye	2.19	281	ePN	Pn	06 28 44.8	+1.5
FETY	Fethiye	2.19	281	ePn	Pn	06 28 44.8	+1.5
KERG	Konya-Eregli	2.22	58	iP	Pn	06 28 44.3	+0.6
KERG				iS	Sn	06 29 12

AZER ***25*** *06:36:17.9±0.8, 38°.54N×43°.38E, h10km, Error ellipse: s-maj=15.3km s-min=6.7km az=138.0*
CSEM ***25*** *06:36:18.4±0.2, 38°.93N×43°.50E, h2km, mb4.3/7, Error ellipse: s-maj=5.3km s-min=4.7km az=12.0*
TEH ***25*** *06:36:19.6, 39°.01N×43°.58E, h18km, ML4.2*
MOS ***25*** *06:36:20.8±2.1, 39°.10N×43°.76E, h10km, mb4.4/16, Error ellipse: s-maj=7.2km s-min=4.9km az=110.2*
NSSC ***25*** *06:36:25.8±1.3, 37°.18N×45°.44E, h35km±448km, ML3.3*
ISC 25 06:36:17.8±1.0, 38°.89N±0°.02×43°.53E±0°.02, h4km±6km, n245, σ2°29/264, mb4.2/32, MS4.1/4, 36C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**		**0.31 200**	*e*PG	**Pg**	**06 36 24.8**	**+0.9**
VANB				*e*SG	**Sb**	**06 36 30.9**	**-0.5**
VANB	**Van**		**0.31 200**	*e*Pg	**Pg**	**06 36 24.8**	**+0.9**
VANB				*e*Sg	**Sb**	**06 36 30.9**	**-0.5**
DYDN	**Diyadin**	**0.67**	**11**	*i* P	**Pg**	**06 36 29.9**	**-0.8**
DYDN	**Diyadin**	**0.67**	**11**	P	**Pg**	**06 36 29.9**	**-0.8**
DYDN	**Diyadin**	**0.67**	**11**	*i* P	**Pg**	**06 36 29.9**	**-0.8**
GEVA	**Gevas**	**0.68**	**213**	*i* P	**Pg**	**06 36 29.2**	**-1.7**
GEVA				*i* S	**Sb**	**06 36 43.7**	**+1.6**
GEVA	**Gevas**	**0.68**	**213**	P	**Pg**	**06 36 29.2**	**-1.7**
GEVA				S	**Sb**	**06 36 43.7**	**+1.6**
GEVA	**Gevas**	**0.68**	**213**	*i* P	**Pg**	**06 36 29.2**	**-1.7**
TUTA	**Tutak**	**0.76**	**313**	*i* P	**Pg**	**06 36 31.1**	**-1.3**
TUTA	**Tutak**	**0.76**	**313**	P	**Pg**	**06 36 31.1**	**-1.3**
TUTA	**Tutak**	**0.76**	**313**	*i* P	**Pg**	**06 36 31.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.80**	**329**	*e*PG	**Pg**	**06 36 32.5**	**-0.8**
AGRB				*e*SG	**Sb**	**06 36 44.6**	**-1.2**
AGRB	**Hanur-Agry**	**0.80**	**329**	*e*Pg	**Pg**	**06 36 32.5**	**-0.8**
AGRB				*e*Sg	**Sb**	**06 36 44.6**	**-1.2**
BASK	**Baskale_VAN**	**0.91**	**156**	*i* P	**Pg**	**06 36 34.1**	**-1.3**
BASK	**Baskale_VAN**	**0.91**	**156**	P	**Pg**	**06 36 34.1**	**-1.3**
EKAR	**Karacoban**	**1.20**	**288**	*i* P	**Pn**	**06 36 44.9**	**+3.3**
EKAR	**Karacoban**	**1.20**	**288**	P	**Pn**	**06 36 44.9**	**+3.3**
HAKT	**HAKKARI**	**1.33**	**174**	*i* P	**Pg**	**06 36 43.6**	**+0.2**
HAKT	**HAKKARI**	**1.33**	**174**	P	**Pg**	**06 36 43.6**	**+0.2**
DIGO	**Kars**	**1.53**	**356**	*i* P	**Pb**	**06 36 46.3**	**-0.6**
DIGO	**Kars**	**1.53**	**356**	P	**Pb**	**06 36 46.3**	**-0.6**
NAX	**Nakhchivan**	**1.56**	**79**	⇑P	**Pg**	**06 36 48.6**	**+0.8**
NAX				⇑S	**Sg**	**06 37 09.9**	**+1.9**
NAX	**Nakhchivan**	**1.56**	**79**	P	**Pg**	**06 36 48.6**	**+0.8**
NAX				S	**Sg**	**06 37 09.9**	**+1.9**
GNI	**Garni**	**1.57**	**36**	Pg	**Pn**	**06 36 45.9**	**-0.7**
	447nm,0.3s,baz=311,slow=6.5,SNR=26						
GNI				Lg	Lg	06 37 08.5	
	347nm,0.3s,baz=122,slow=23,SNR=15						
GNI				LR	LR	06 37 43.9	
	comp=Z,871nm,21.7s,baz=217,slow=55						
VRTB	**Varto-Mus**	**1.64**	**280**	*e*PN	**Pb**	**06 36 48.5**	**-0.1**
VRTB	**Varto-Mus**	**1.64**	**280**	*e*Pn	**Pb**	**06 36 48.5**	**-0.1**
CUKT	**Cukurca**	**1.64**	**178**	*e*PN	**Pn**	**06 36 47.5**	**0.0**
CUKT	**Cukurca**	**1.64**	**178**	*i* P	**Pg**	**06 36 51.1**	**+1.9**
CUKT	**Cukurca**	**1.64**	**178**	*e*Pn	**Pn**	**06 36 47.5**	**0.0**
CUKT	**Cukurca**	**1.64**	**178**	P	**Pg**	**06 36 51.1**	**+1.9**
HOMI	**Horasan**	**1.71**	**313**	*i* P	**Pb**	**06 36 49.9**	**-0.1**
IMRD	**Marand**	**1.71**	**95**	*e*Pn	**Pn**	**06 36 48.4**	**-0.2**
IMRD				*e*AMB	AMB	06 36 51.0	
	comp=Z,63μm,0.3s						
IMRD	**Marand**	**1.71**	**95**	*e*Pn	**Pn**	**06 36 48.4**	**-0.2**
ISHB	**Shabestar**	**1.75**	**109**	*e*Pn	**Pn**	**06 36 49.0**	**-0.1**
ISHB				*e*AMB	AMB	06 36 51.6	
	comp=Z,31μm,0.3s						
ISHB				*e*Sg	**Sg**	**06 37 14.6**	**+0.7**
EAK	**Akyaka**	**1.80**	**2**	*i* P	**Pb**	**06 36 51.4**	**-0.1**
EAK	**Akyaka**	**1.80**	**2**	P	**Pb**	**06 36 51.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*PN	**Pn**	**06 36 51.9**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*Pn	**Pn**	**06 36 51.9**	**+0.7**
ERZM	**Erzurum**	**1.96**	**302**	*i* P	**Pb**	**06 36 54.4**	**+0.2**
ERZM	**Erzurum**	**1.96**	**302**	P	**Pb**	**06 36 54.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*PN	**Pb**	**06 36 53.2**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*Pn	**Pb**	**06 36 53.2**	**-1.0**
ITBZ	**Tabriz**	**2.16**	**107**	*e*Pn	**Pn**	**06 36 54.8**	**+0.1**
ITBZ				*e*AMB	AMB	06 37 02.8	
	comp=Z,8μm,0.3s						
ITBZ	**Tabriz**	**2.16**	**107**	*e*Pn	**Pn**	**06 36 54.8**	**+0.1**
BNGB	**Bing¶ll**	**2.22**	**274**	*e*PN	**Pn**	**06 36 56.8**	**+1.2**
BINT	**Bingol**	**2.37**	**271**	*e*Pn	**Pn**	**06 36 56.8**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*PN	**Pn**	**06 36 58.9**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*Pn	**Pn**	**06 36 58.9**	**+1.1**
GDB	**GEDABAY**	**2.51**	**42**	⇑S	**Sg**	**06 37 39.1**	**+0.5**
DAGI	**Agillar**	**2.52**	**331**	*i* P	**Pb**	**06 37 03.6**	**0.0**
AKH	**Akhalkalaki**	**2.52**	**359**	*e*PN	**Pn**	**06 37 00.5**	**+0.8**
AKH	**Akhalkalaki**	**2.52**	**359**	*e*Pn	**Pn**	**06 37 00.5**	**+0.8**
QZX	**Qazax, Azerbai**	**2.59**	**33**	⇓P	**Pb**	**06 37 04.6**	**-0.3**
	SNR=8.2						
QZX				⇑S	**Sg**	**06 37 41.2**	**+0.1**
QZX	**Qazax, Azerbai**	**2.59**	**33**	P	**Pb**	**06 37 04.6**	**-0.3**
	SNR=8.2						
KOPT	**Kop Dagi**	**2.60**	**297**	*e*Pn	**Pb**	**06 37 05.3**	**+0.1**
KOPT	**Kop Dagi**	**2.60**	**297**	*e*Pn	**Pb**	**06 37 05.3**	**+0.1**
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	**Pb**	**06 37 05.9**	**+0.7**
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	**Pb**	**06 37 05.9**	**+0.7**
MARD	**Mardin**	**2.67**	**235**	*i* P	**Pb**	**06 37 04.7**	**-1.7**
MARD	**Mardin**	**2.67**	**235**	*e*Pn	**Pn**	**06 37 01.2**	**-0.6**
MARD	**Mardin**	**2.67**	**235**	*e*Pn	**Pn**	**06 37 01.2**	**-0.6**
GANJ	**Ganja**	**2.78**	**50**	⇑P	**Pb**	**06 37 07.0**	**-1.1**
	SNR=5.2						
GANJ				⇑S	**Sg**	**06 37 46.4**	**-0.8**
GANJ	**Ganja**	**2.78**	**50**	P	**Pb**	**06 37 07.0**	**-1.1**
	SNR=5.2						
IHRS	**Heris**	**2.81**	**101**	*e*AMB	AMB	06 37 12.0	
	comp=Z,8μm,0.3s						
IHRS				*e*Pn	**Pn**	**06 37 03.5**	**-0.3**
MAZI	**Mazidag**	**2.81**	**241**	*e*PN	**Pn**	**06 37 05.1**	**+1.4**
MAZI	**Mazidag**	**2.81**	**241**	*e*Pn	**Pn**	**06 37 05.1**	**+1.4**
IBST	**Bostanabad**	**2.90**	**113**	*e*AMB	AMB	06 37 24.4	
	comp=Z,3μm,0.3s						
IBST				*e*Pn	**Pn**	**06 37 05.4**	**+0.4**
ERZN	**Erzincan**	**3.04**	**285**	*e*PN	**Pn**	**06 37 08.4**	**+1.7**
TNCL	**Tunceli-Merkez**	**3.11**	**275**	*i* P	**Pb**	**06 37 14.1**	**+0.3**
BRDA	**Brd**	**3.14**	**63**	⇑P	**Pb**	**06 37 11.1**	**-3.1**
	SNR=4.6						
BRDA				⇑S	**Sb**	**06 37 53.2**	**+0.4**
BRDA	**Brd**	**3.14**	**63**	P	**Pb**	**06 37 11.1**	**-3.1**
	SNR=4.6						
PTK	**Pertek**	**3.23**	**271**	*e*PN	**Pn**	**06 37 10.8**	**+1.4**
PTK	**Pertek**	**3.23**	**271**	*e*Pn	**Pn**	**06 37 10.8**	**+1.4**
MNGR	**Mingechevir, A**	**3.33**	**54**	⇓S	**Sb**	**06 37 58.3**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*PN	**Pn**	**06 37 12.4**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*Pn	**Pn**	**06 37 12.4**	**+1.4**
ISRB	**Sarab**	**3.42**	**107**	*e*Pn	**Pn**	**06 37 12.0**	**-0.1**
ISRB				*e*AMB	AMB	06 37 13.7	
	comp=Z,4μm,0.2s						
ISRB	**Sarab**	**3.42**	**107**	*e*Pn	**Pn**	**06 37 12.0**	**-0.1**
ZRD	**Zardab**	**3.50**	**65**	⇓P	**Pn**	**06 37 15.8**	**+2.8**
	SNR=9.1						
ZRD				⇑S	**Sb**	**06 38 01.7**	**-1.5**
ZRD	**Zardab**	**3.50**	**65**	P	**Pn**	**06 37 15.8**	**+2.8**
	SNR=9.1						
ZKTA	**Zakatala**	**3.63**	**40**	⇓P	**Pb**	**06 37 19.2**	**-3.4**
ZKTA				⇓S	**Sb**	**06 38 06.9**	**0.0**
SEKA	**Sheki**	**3.65**	**49**	⇓P	**Pb**	**06 37 19.8**	**-3.1**
SEKA				⇓S	**Sb**	**06 38 08.3**	**+0.7**
LRK	**Lerik**	**3.77**	**92**	⇑S	**Sn**	**06 38 04.3**	**+2.5**
LRK	**Lerik**	**3.77**	**92**	S	**Sn**	**06 38 04.3**	**+2.5**
GLBA	**Cilalabad**	**3.81**	**83**	⇓S	**Sb**	**06 38 06.8**	**-5.1**
KDMR	**Kurdemir**	**3.89**	**66**	⇑S	**Sb**	**06 38 10.8**	**-3.6**
QBL	**Gabala**	**3.90**	**57**	⇑P	**Pn**	**06 37 21.5**	**+2.9**
QBL				⇑S	**Sb**	**06 38 13.0**	**-1.8**
QBL	**Gabala**	**3.90**	**57**	P	**Pn**	**06 37 21.5**	**+2.9**
ZEI	**Tsey**	**3.91**	**4**	*e*PN	**Pb**	**06 37 24.6**	**-2.8**
ZEI				pmax	pmax		
	comp=Z,56nm,0.7s						
IML	**Ismayilli**	**4.06**	**61**	⇓S	**Sb**	**06 38 14.9**	**-4.4**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	⇑S	**Sn**	**06 38 13.3**	**+3.5**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	S	**Sn**	**06 38 13.3**	**+3.5**
ASTR	**Astara**	**4.13**	**93**	⇑S	**Sn**	**06 38 12.8**	**+2.4**
ASTR	**Astara**	**4.13**	**93**	S	**Sn**	**06 38 12.8**	**+2.4**
XNQ	**Khinaliq**	**4.21**	**56**	⇓S	**Sb**	**06 38 20.2**	**-3.7**
PQL	**Pirkuli**	**4.34**	**62**	⇑P	**Pn**	**06 37 27.5**	**+2.8**
PQL				⇓S	**Sb**	**06 38 22.3**	**-5.2**
PQL	**Pirkuli**	**4.34**	**62**	P	**Pn**	**06 37 27.5**	**+2.8**
ALIB	**Äli-Bayra**	**4.38**	**74**	⇑P	**Pn**	**06 37 27.2**	**+2.1**
ALIB				⇑S	**Sb**	**06 38 22.0**	**-6.4**
ALIB	**Äli-Bayra**	**4.38**	**74**	P	**Pn**	**06 37 27.2**	**+2.1**
NEY	**Neytrino**	**4.40**	**352**	*i* PN	**Pn**	**06 37 26.6**	**+1.0**
NEY	**Neytrino**	**4.40**	**352**	*i* Pn	**Pn**	**06 37 26.6**	**+1.0**
NCK	**Nalchik**	**4.61**	**1**	*i* PN	**Pn**	**06 37 28.2**	**0.0**
NCK	**Nalchik**	**4.61**	**1**	*i* Pn	**Pn**	**06 37 28.2**	**0.0**
IDHR	**Dehrash**	**4.77**	**150**	*e*Pn	**Pn**	**06 37 31.3**	**+0.7**
IDHR				*e*AMB	AMB	06 37 57.3	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**4.77**	**150**	*e*Pn	**Pn**	**06 37 31.3**	**+0.7**
KBZ	**Khabaz**	**4.86**	**355**	LR	LR	06 39 49.1	
	comp=Z,452nm,18.4s,baz=186,slow=44						
GOBA	**Gobu**	**5.03**	**71**	⇑P	**Pn**	**06 37 36.3**	**+2.4**
GOBA	**Gobu**	**5.03**	**71**	P	**Pn**	**06 37 36.3**	**+2.4**
KVAR	**Kislovodsk Arr**	**5.10**	**353**	LR	LR	06 40 07.8	
	comp=Z,398nm,21.1s,baz=164,slow=46						
KIV	**Kislovodsk**	**5.11**	**353**	*e*PN	**Pn**	**06 37 36.5**	**+1.4**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV	**Kislovodsk**	**5.11**	**353**	*e*Pn	**Pn**	**06 37 36.5**	**+1.4**
	comp=Z,18nm,1.0s						
KIV	**Kislovodsk**	**5.11**	**353**	*e*Pn	**Pn**	**06 37 37.2**	**+2.1**
NDR	**Nardaran**	**5.26**	**69**	⇓P	**Pn**	**06 37 39.0**	**+1.8**
NDR	**Nardaran**	**5.26**	**69**	P	**Pn**	**06 37 39.0**	**+1.8**
TOKA	**Tokat**	**5.63**	**287**	*e*Pn	**Pn**	**06 37 45.9**	**+3.6**
DRWC	**Darouich**	**5.89**	**250**	*e*P	**Pg**	**06 38 08.8**	**-1.7**
DRWC				*e*S	**Sg**	**06 39 21.0**	**-5.8**
DRWC				AML	AML	06 39 46.1	
	comp=N,39nm,0.7s						
DRWC				AML	AML	06 39 47.2	
	comp=E,53nm,0.6s						
RABH	**Abou Rabah**	**6.75**	**231**	*e*P	Pb	06 38 10.7	-4.9
RABH				*e*S	Sn	06 39 25.4	+10
RABH				AML	AML	06 40 07.0	
	comp=N,25nm,0.8s						
RABH				AML	AML	06 40 20.9	
	comp=E,30nm,0.7s						
BIDA	**Albida**	**6.94**	**238**	*e*P	**Pb**	**06 38 16.9**	**-2.1**
BIDA				*e*S	**Sb**	**06 39 36.9**	**-5.3**
BIDA				AML	AML	06 40 12.9	
	comp=N,100nm,0.7s						
BIDA				AML	AML	06 40 23.8	
	comp=E,129nm,0.7s						
BIDA				AML	AML	06 40 29.1	
	comp=Z,47nm,0.8s						
HAWK	**Haweek**	**7.19**	**235**	*e*P	Pb	06 38 18.4	-4.8
HAWK				*e*S	Sb	06 39 39.2	-10
HAWK				AML	AML	06 40 34.2	
	comp=E,18nm,0.6s						
HAWK				AML	AML	06 40 38.3	
	comp=N,37nm,0.7s						
MARH	**Ras Al Marh**	**7.46**	**232**	*e*P	Pb	06 38 20.3	-7.7
MARH				*e*S	Sn	06 39 44.0	+11
MARH				AML	AML	06 40 32.2	
	comp=E,23nm,0.9s						
MARH				AML	AML	06 40 47.3	
	comp=N,34nm,0.7s						
BR131	**Keskin Array S**	**7.71**	**279**	*e*Pn	**Pn**	**06 38 14.6**	**+3.6**
BR131	**Keskin Array S**	**7.71**	**279**	*e*Pn	**Pn**	**06 38 14.6**	**+3.6**
BRTR	**Keskin Array B**	**7.71**	**279**	Pn	**Pn**	**06 38 11.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=99,slow=13,SNR=3.4						
BRTR	**Keskin Array B**	**7.71**	**279**	*e*P	Pn	06 38 19.1	+8.1
TOTH	**TOTAH**	**7.96**	**228**	*e*P	Pn	06 38 25.0	+11
TOTH				*e*S	**Sn**	**06 39 52.0**	**+7.2**
TOTH				AML	AML	06 40 48.0	
	comp=Z,28nm,0.6s						
TOTH				AML	AML	06 41 02.5	
	comp=E,23nm,0.7s						
TOTH				AML	AML	06 41 07.6	
	comp=N,18nm,0.6s						
BRBR	**Barbar**	**8.21**	**231**	*e*P	Pn	06 38 29.2	+11
BRBR				*e*S	**Sn**	**06 39 59.1**	**+8.0**
BRBR				AML	AML	06 40 56.9	
	comp=E,14nm,0.7s						
BRBR				AML	AML	06 40 59.5	
	comp=N,22nm,0.8s						
ASF	**Jabal al Asfar**	**8.60**	**221**	Pn	Pn	06 38 28.5	+5.3
	comp=N,0.6nm,0.3s,baz=330,slow=20,SNR=5.3						
ASF				Lg	Lg	06 40 52.9	
	comp=N,0.2nm,0.3s,baz=53,slow=18,SNR=3.0						
MMAI	**Mount Meron Ar**	**8.81**	**231**	Pn	**Pn**	**06 38 28.6**	**+2.5**
	baz=76,slow=12,SNR=2.2						
GEYT	**Alibeck**	**11.49**	**90**	Pn	**Pn**	**06 39 02.7**	**0.0**
	comp=N,0.7nm,0.3s,baz=274,slow=19,SNR=4.0						
EIL	**Elat**	**11.60**	**220**	Lg	Lg	06 42 26.6	
	comp=N,0.5nm,0.3s,baz=0.0,slow=20,SNR=2.4						
PLOR	**Plostina**	**14.27**	**305**	⇓*i*P	**P**	**06 39 47.4**	**-0.7**
PLOR	**Plostina**	**14.27**	**305**	⇓P	**P**	**06 39 47.4**	**-0.7**
PLOR	**Plostina**	**14.27**	**305**	P	**P**	**06 39 47.4**	**-0.7**
TESR	**Tescani**	**14.54**	**307**	⇑*i*P	**P**	**06 39 49.7**	**-1.4**
TESR	**Tescani**	**14.54**	**307**	⇑*i*P	**P**	**06 39 49.7**	**-1.4**
MLR	**Muntele Rosu**	**14.60**	**303**	⇑*i*P	**P**	**06 39 51.1**	**-0.7**
MLR	**Muntele Rosu**	**14.60**	**303**	⇑P	**P**	**06 39 51.1**	**-0.7**
MLR	**Muntele Rosu**	**14.60**	**303**	P	**P**	**06 39 51.1**	**-0.7**
DOPR	**Dopca**	**15.13**	**304**	⇑*i*P	**P**	**06 39 58.7**	**+1.1**
DOPR	**Dopca**	**15.13**	**304**	⇑*i*P	**P**	**06 39 58.7**	**+1.1**
VOIR		**15.17**	**301**	⇓*i*P	**P**	**06 40 00.1**	**+2.0**
VOIR		**15.17**	**301**	⇓P	**P**	**06 40 00.1**	**+2.0**
VOIR		**15.17**	**301**	P	**P**	**06 40 00.1**	**+2.0**
RAYN	**Ar Rayn**	**15.41**	**173**	*e*Pn	**Pn**	**06 39 51.6**	**-4.4**
	comp=N,15nm,0.9s						
ARR	**Arges**	**15.43**	**301**	⇓*i*P	**P**	**06 40 01.9**	**+1.0**
ARR	**Arges**	**15.43**	**301**	⇓*i*P	**P**	**06 40 01.9**	**+1.0**
AKTO	**Aktyubinsk**	**15.45**	**37**	Pn	**Pn**	**06 39 53.1**	**-3.3**
	comp=N,0.2nm,0.3s,baz=198,slow=15,SNR=4.1						
AKASG	**Malin Array Be**	**15.54**	**324**	Pn	**Pn**	**06 39 56.1**	**-1.5**
	comp=N,0.7nm,0.3s,baz=131,slow=12,SNR=9.2						
AKASG	**Malin Array Be**	**15.54**	**324**	*e*P	**Pn**	**06 39 57.4**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**15.54**	**324**	*e*P	**P**	**06 40 01.2**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,32nm,1.8s						
AKBB	**Malin Array Si**	**15.54**	**324**	*e*P	**P**	**06 40 01.2**	**-0.9**
	comp=Z,32nm,1.8s						
AKBB	**Malin Array Si**	**15.54**	**324**	*e*Pn	**P**	**06 40 01.2**	**-0.9**
	comp=Z,32nm,1.8s						
KIEV	**Kiev**	**15.54**	**324**	*i* P	**Pn**	**06 39 58.7**	**+1.1**
KIEV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIEV	**Kiev**	**15.54**	**324**	*e*Pn	**Pn**	**06 39 55.8**	**-1.8**
	comp=Z,33nm,1.8s						
KIEV	**Kiev**	**15.54**	**324**	*e*Pn	**Pn**	**06 39 55.8**	**-1.8**
	comp=Z,33nm,1.8s						
VTS	**Vitosha**	**15.83**	**290**	⇑*i*P	**P**	**06 40 09.7**	**+4.2**
VTS	**Vitosha**	**15.83**	**290**	⇑P	**P**	**06 40 09.7**	**+4.2**
BURAR	**Bucovina Array**	**15.91**	**309**	⇑*i*P	**P**	**06 40 08.1**	**+1.8**
BURAR	**Bucovina Array**	**15.91**	**309**	⇑P	**P**	**06 40 08.1**	**+1.8**
BURAR	**Bucovina Array**	**15.91**	**309**	⇑*i*P	**P**	**06 40 08.1**	**+1.8**
BUR08	**Bucovina Ar. S**	**15.93**	**309**	*e*Pn	**P**	**06 40 07.6**	**+1.0**
OBN	**Obninsk**	**16.90**	**346**	⇓*e*P	**P**	**06 40 15.9**	**-1.1**
OBN				pmax	pmax		
	comp=Z,29nm,1.1s						
OBN	**Obninsk**	**16.90**	**346**	*e*P	**P**	**06 40 15.9**	**-1.1**
	comp=Z,29nm,1.1s						
DRGR		**17.16**	**304**	⇑*i*P	**P**	**06 40 24.5**	**+4.4**
DRGR		**17.16**	**304**	⇑P	**P**	**06 40 24.5**	**+4.4**
MOS	**Moscow**	**17.32**	**349**	*e*P	**P**	**06 40 22.9**	**+1.2**
MOS				pmax	pmax		
	comp=Z,31nm,1.1s						
MOS	**Moscow**	**17.32**	**349**	*e*P	**P**	**06 40 22.9**	**+1.2**
	comp=Z,31nm,1.1s						
SIRR	**Siria**	**17.68**	**302**	⇑*i*P	**P**	**06 40 29.2**	**+3.4**
SIRR	**Siria**	**17.68**	**302**	⇑*i*P	**P**	**06 40 29.2**	**+3.4**
KWP	**Kalwaria Pacla**	**18.32**	**313**	P	**P**	**06 40 35.9**	**+3.1**
KWP				pmax	pmax		
	comp=Z,169nm,1.1s						
KWP	**Kalwaria Pacla**	**18.32**	**313**	P	**P**	**06 40 35.9**	**+3.1**
	comp=Z,169nm,1.1s						
CRVS	**Cervenica-Dubn**	**18.73**	**309**	*e*P	**Pn**	**06 40 43.5**	**+5.8**
CRVS	**Cervenica-Dubn**	**18.73**	**309**	*e*P	**Pn**	**06 40 43.5**	**+5.8**
STHS	**Stebnicka Huta**	**19.07**	**311**	*e*P	**Pn**	**06 40 44.8**	**+2.9**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	**Stebnicka Huta**	**19.07**	**311**	*e*P	**Pn**	**06 40 44.8**	**+2.9**
PSZ	**Piszkesteto**	**19.34**	**305**	⇓*i*P	**Pn**	**06 40 48.0**	**+2.9**
PSZ	**Piszkesteto**	**19.34**	**305**	⇓P	**Pn**	**06 40 48.0**	**+2.9**
PSZ	**Piszkesteto**	**19.34**	**305**	*e*P	**P**	**06 40 41.2**	**-2.9**
	comp=Z,8.9nm,0.9s						
DZET	**Dzherino**	**19.70**	**82**	P	**Pn**	**06 40 51.9**	**+2.4**
DZET				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**20.18**	**25**	P	**P**	**06 40 52.7**	**-0.4**
	comp=Z,8.7nm,0.2s,baz=228,slow=6.0,SNR=9.4						
ARU	**Arti**	**20.18**	**25c**	*e*P	**P**	**06 40 52.8**	**-0.4**
ARU				S	**S**	**06 44 37.0**	**-3.0**
ARU				pmax	pmax		
	comp=Z,31nm,1.2s						
ARU	**Arti**	**20.18**	**25**	*e*P	**P**	**06 40 53.0**	**-0.2**
	comp=Z,43nm,1.2s						
ARU	**Arti**	**20.18**	**25**	*e*P	**P**	**06 40 53.0**	**-0.2**

ISCJB ***25*** *06:35:43.4±0.9, 38°.82N±0°.03×43°.65E±0°.06, h9km±7km, mb3.4/3, MS4.0/3, Error ellipse: s-maj=8.0km s-min=5.2km az=19.9*
CSEM ***25*** *06:35:43.6, 38°.83N×43°.49E, h5km, ML3.4*
DDA ***25*** *06:35:43.6, 38°.83N×43°.49E, h5km, Ml3.4*
IDC ***25*** *06:35:43.5±1.5, 38°.79N×43°.61E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.4/46, mbtmp3.7/6, ML3.5/2, MS4.0/3, Ms1 4.0/3, ms1mx3.1/44, Error ellipse: s-maj=31.9km s-min=15.3km az=139.0*
NSSC ***25*** *06:35:56.9±2.3, 36°.74N×43°.54E, h0km±123km, MD3.1, ML3.1*
ISC 25 06:35:43.9±1.2, 38°.80N±0°.02×43°.46E±0°.03, h8km±9km, n45, σ1°77/51, mb3.5/3, MS3.8/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.58**	**213**	*i* P	**Pg**	**06 35 56.0**	**+0.9**
GEVA	**Gevas**	**0.58**	**213**	P	**Pg**	**06 35 56.0**	**+0.9**
DYDN	**Diyadin**	**0.76**	**14**	*i* P	**Pg**	**06 35 57.7**	**-0.9**
DYDN				*i* S	**Sg**	**06 36 08.0**	**-0.5**
DYDN	**Diyadin**	**0.76**	**14**	P	**Pg**	**06 35 57.7**	**-0.9**
DYDN				S	**Sg**	**06 36 08.0**	**-0.5**
TUTA	**Tutak**	**0.78**	**320**	*i* P	**Pg**	**06 35 58.8**	**-0.1**
TUTA				*i* S	**Sb**	**06 36 11.1**	**+0.4**
TUTA	**Tutak**	**0.78**	**320**	P	**Pg**	**06 35 58.8**	**-0.1**
TUTA				S	**Sb**	**06 36 11.1**	**+0.4**
BASK	**Baskale_VAN**	**0.86**	**150**	*i* P	**Pg**	**06 36 00.0**	**-0.5**
BASK				*i* S	**Sn**	**06 36 16.3**	**+0.8**
BASK	**Baskale_VAN**	**0.86**	**150**	P	**Pg**	**06 36 00.0**	**-0.5**
BASK				S	**Sn**	**06 36 16.3**	**+0.8**
EATA	**Eleskirt**	**1.30**	**325**	*i* P	**Pg**	**06 36 09.7**	**+0.9**
EATA	**Eleskirt**	**1.30**	**325**	P	**Pg**	**06 36 09.7**	**+0.9**
CUKT	**Cukurca**	**1.56**	**176**	*i* P	**Pg**	**06 36 15.1**	**+1.4**
CUKT	**Cukurca**	**1.56**	**176**	P	**Pg**	**06 36 15.1**	**+1.4**
GNI	**Garni**	**1.67**	**36**	Pg	**Pn**	**06 36 13.8**	**+0.1**
	70nm,0.3s,baz=294,slow=3.7,SNR=38						
HOMI	**Horasan**	**1.73**	**316**	*i* P	**Pb**	**06 36 16.5**	**+0.5**
BNGL	**BINGOL**	**1.81**	**275**	*i* P	**Pg**	**06 36 20.0**	**+1.5**
EAK	**Akyaka**	**1.89**	**4**	*i* P	**Pg**	**06 36 19.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*i* P	**Pg**	**06 36 20.0**	**0.0**
SVAN

comp=Z,43nm,1.2s
VYHS Vyhne 20.20 306 *e*P Pn 06 40 57.5 +2.2
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 20.20 306 *e*P Pn 06 40 57.5 +2.2
WSAR Wadi Sarin 20.22 136 P Pn 06 40 54.9 -0.8
comp=Z,4.3nm,0.7s,baz=313,slow=11,SNR=3.5
SUW Suwalki 20.51 324 P Pn 06 41 03.4 +4.5
KLMR Klimovskoe 22.14 355 *e*P **P** **06 41 13.2 -0.9**
KLMR *e*S **S** **06 45 17.4 -0.9**
KLMR pmax pmax
comp=Z,57nm,1.4s
KLMR Klimovskoe 22.14 355 *e*P **P** **06 41 13.2 -0.9**
comp=Z,57nm,1.4s
KLMR *e*S **S** **06 45 17.4 -0.9**
MNAS Manas 22.22 71 P **P** **06 41 17.7 +2.3**
MNAS pmax pmax
comp=Z,5.0nm,1.0s
MNAS Manas 22.22 71 P **P** **06 41 17.7 +2.3**
comp=Z,5.0nm,1.0s
DPC Dobruska-Polom 22.37 310 *e*P **P** **06 41 21.9 +5.0**
DPC *e*x x 06 41 27.7
DPC Dobruska-Polom 22.37 310 *e*P **P** **06 41 21.9 +5.0**
DPC *e* 06 41 27.7
TREC Trest 22.55 307 P **P** **06 41 24.3 +5.6**
BRVK Borovoye 23.20 44 *i* P **P** **06 41 27.6 +2.1**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 23.20 44 *e*P **P** **06 41 26.2 +0.7**
comp=Z,5.7nm,0.8s
BRVK Borovoye 23.20 44 *e*P **P** **06 41 26.2 +0.7**
comp=Z,5.7nm,0.8s
BVAR Borovoye Array 23.25 44 P **P** **06 41 26.1 +0.2**
comp=Z,2.0nm,0.8s,baz=234,slow=9.9,SNR=3.3
PRU Pruhonice 23.34 308 *e*P **P** **06 41 30.4 +3.5**
PRU Pruhonice 23.34 308 *e*P **P** **06 41 30.4 +3.5**
GEC2 GERESS Array S 23.56 305 *e*P **P** **06 41 32.6 +3.3**
GEC2 pmax pmax
comp=Z,11nm,1.1s
GEC2 GERESS Array S 23.56 305 *e*P **P** **06 41 32.6 +3.3**
comp=Z,10nm,1.1s
GERES GERESS Array B 23.56 305 P **P** **06 41 28.9 -0.3**
comp=Z,2.3nm,0.8s,baz=117,slow=7.8,SNR=12
GERES GERESS Array B 23.56 305 *e*P **P** **06 41 32.4 +3.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 23.69 71 P **P** **06 41 31.5 +0.9**
comp=Z,1.4nm,0.6s,baz=239,slow=11,SNR=3.9
AAK Ala-Archa 23.69 71 *i* P **P** **06 41 32.3 +1.7**
AAK pmax pmax
comp=Z,16nm,1.6s
AAK Ala-Archa 23.69 71 *e*P **P** **06 41 31.8 +1.1**
comp=Z,6.4nm,1.0s
KHC Kasperske Hory 23.71 305 *e*P **P** **06 41 31.2 +0.6**
KHC *e*x x 06 41 33.9
KHC Kasperske Hory 23.71 305 *e*P **P** **06 41 31.2 +0.6**
KHC *e* 06 41 33.9
KHC Kasperske Hory 23.71 305 P **P** **06 41 31.2 +0.6**
KHC Kasperske Hory 23.71 305 *e*P **P** **06 41 33.5 +2.8**
comp=Z,18nm,1.8s
FRU Bishkek 23.77 70 *e*P **P** **06 41 35.0 +3.7**
FRU *e* 06 41 43.0
FRU pmax pmax
comp=Z,40nm,1.6s
WET Wettzell 24.16 305 P **P** **06 41 38.2 +3.3**
WET pmax pmax
comp=Z,18nm,2.2s
FINES FINESS Array B 25.03 340 P **P** **06 41 40.9 -1.8**
comp=Z,2.2nm,0.7s,baz=162,slow=9.6,SNR=4.2
FINES FINESS Array B 25.03 340 *e*P **P** **06 41 48.3 +5.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KSH Kashi 25.08 78 *e*P **P** **06 41 42.5 -1.0**
KSH pP sP 06 41 46.5 +1.1
KSH sP pP 06 41 49.8 +5.0
KSH *e*PP **PnPn** **06 42 19.5 +2.8**
KSH PcP **PcP** **06 45 18.5 +0.6**
KSH S **S** **06 46 01.5 -7.1**
KSH sS pS 06 46 10.0 +0.1
KSH SS **SnSn** **06 46 58.5 +1.3**
KSH PcS **PcS** **06 48 59.0 +0.7**
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH pmax pmax
comp=Z,150nm,4.6s
KSH LR LR
comp=N,110nm,5.7s
KSH LR LR
comp=E,140nm,8.5s
KSH LR LR
comp=Z,150nm,6.3s
JOF Joensuu 25.18 347 P **P** **06 41 44.2 +0.3**
JOF pmax pmax
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 27.23 53 P **P** **06 42 02.7 0.0**
comp=Z,2.6nm,0.7s,baz=264,slow=9.1,SNR=11
KURK Kurchatov 27.31 53 *i* P **P** **06 42 05.7 +2.4**
KURK Kurchatov 27.31 53 *e*P **P** **06 42 06.1 +2.8**
comp=Z,6.2nm,1.0s
PDGK Podgornoye 27.32 69 P **P** **06 42 07.3 +3.6**
PDGK pmax pmax
comp=Z,2.0nm,1.4s
HFS Hagfors 28.34 328 P **P** **06 42 12.0 -0.5**
comp=Z,6.4nm,0.9s,baz=115,slow=9.7,SNR=5.0
HFS Hagfors 28.34 328 P **P** **06 42 12.0 -0.5**
HFS pmax pmax
comp=Z,6.0nm,0.9s
HFS Hagfors 28.34 328 P **P** **06 42 12.0 -0.5**
MK31 Makanchi Array 29.26 62 *e*P **P** **06 42 22.8 +1.9**
MK31 Makanchi Array 29.26 62 *e*P **P** **06 42 22.9 +1.9**
MKAR Makanchi Array 29.26 62 P **P** **06 42 20.8 -0.1**
comp=Z,1.3nm,0.7s,baz=272,slow=6.3,SNR=9.8
MKAR Makanchi Array 29.26 62 *e*P **P** **06 42 23.1 +2.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 29.87 329 P **P** **06 42 24.7 -1.3**
comp=Z,1.3nm,0.8s,baz=124,slow=8.7,SNR=3.6
ZALV Zalesovo Beam 31.69 48 P **P** **06 42 41.3 -0.8**
comp=Z,0.7nm,0.4s,baz=243,slow=6.3,SNR=2.8
WMQ Urumqi 33.22 67 P **P** **06 42 59.0 +3.2**
WMQ pP sP 06 43 03.0 +5.3
WMQ sP pP 06 43 05.5 +8.4
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,86nm,4.5s
WMQ LR LR
comp=N,150nm,35.3s
WMQ LR LR
comp=E,160nm,38.9s
WMQ LR LR
comp=Z,150nm,39.1s
ESDC Sonseca Array 36.43 287 P **P** **06 43 21.8 -1.8**
comp=Z,4.4nm,0.8s,baz=70,slow=9.0,SNR=10
NRIK Noril'sk 38.40 23 P **P** **06 43 38.8 -1.1**
comp=Z,1.2nm,0.3s,baz=247,slow=7.7,SNR=2.0
TORD Torodi Ar. Bea 44.94 247 P **P** **06 44 31.4 -2.6**
comp=Z,3.0nm,1.0s,baz=55,slow=7.8,SNR=12
SONM Songino Array 45.43 57 P **P** **06 44 37.1 -0.6**
comp=Z,0.4nm,0.4s,baz=267,slow=7.2,SNR=3.7
SONM PcP **PcP** **06 46 15.9 -1.0**
comp=Z,0.5nm,0.6s,baz=268,slow=3.7,SNR=3.1
ULN Ulaanbaatar 45.85 57⇑ *i* P **P** **06 44 43.5 +2.4**
ULN pmax pmax
comp=Z,7.0nm,1.2s
LZH Lanzhou 47.18 74 *e*P **P** **06 44 51.0 -0.7**
LZH pP sP 06 44 54.8 +1.2
LZH sP pP 06 44 56.0 +2.9
LZH *e*PP **PP** **06 46 41.3 -1.0**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,45nm,6.5s
LZH LR LR
comp=N,110nm,15.0s
LZH LR LR
comp=E,120nm,14.8s
LZH LR LR
comp=Z,150nm,18.2s
HHC Hu-ho-hao-te 51.04 65 *e*P **P** **06 45 22.5 +1.4**
HHC S **S** **06 52 38.0 -1.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,76nm,6.8s
HHC LR LR
comp=N,190nm,18.5s
HHC LR LR
comp=E,160nm,17.3s
HHC LR LR
comp=Z,180nm,16.0s
CMAR Chiang Mai Arr 51.89 97 P **P** **06 45 28.5 +0.9**
comp=Z,1.0nm,0.3s,baz=297,slow=8.0,SNR=6.4
CMAR Chiang Mai Arr 51.89 97 *e*P P 06 45 33.3 +5.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
QIZ Qiongzhong 60.05 89 P **P** **06 46 24.0 -2.1**
QIZ S **S** **06 54 38.5 -1.2**
QIZ LR LR
comp=Z,130nm,18.6s
SEY Seymchan 63.86 29 P **P** **06 46 50.7 -0.4**
comp=Z,1.8nm,0.3s,baz=306,slow=18,SNR=7.6
BOSA Boshof 69.28 197 P **P** **06 47 25.6 -0.6**
comp=Z,4.1nm,0.9s,baz=23,slow=7.6,SNR=3.9
ILAR Eielson Array 76.36 5 P **P** **06 48 07.1 -0.5**
comp=Z,0.5nm,0.9s,baz=332,slow=5.4,SNR=3.0
YKA Yellowknife Ar 77.44 350 P **P** **06 48 13.3 -0.5**
comp=Z,1.0nm,0.8s,baz=14,slow=5.1,SNR=3.7

ISK ***25*** *06:41:27.7, 38°.76N×43°.52E, h5km, ML3.6*
AZER ***25*** *06:41:27.7±0.6, 38°.17N×43°.24E, h7km, Error ellipse: s-maj=6.0km s-min=3.8km az=68.0*
DDA ***25*** *06:41:28.7, 38°.72N×43°.25E, h9km, Ml3.8*
IDC ***25*** *06:41:28.0±2.2, 38°.63N×43°.33E, h0km, mb4.2/4, mb1 4.2/5, mb1mx3.6/46, mbtmp4.2/5, ML3.5/2, Error ellipse: s-maj=33.3km s-min=23.5km az=21.0*
CSEM ***25*** *06:41:31.0±0.2, 38°.54N×43°.35E, h5km, ML3.6, Error ellipse: s-maj=6.3km s-min=4.8km az=160.0*
ISCJB ***25*** *06:41:31.8±0.4, 38°.67N±0°.02×43°.32E±0°.03, h14km±3km, mb3.9/3, Error ellipse: s-maj=4.0km s-min=3.7km az=154.4*
ISC 25 06:41:30.3±0.8,**38°.69N**±0°.02×**43°.20E**±0°.02,**h13**km±5km,
n96,σ1§**65**/127,**mb4.2**/3,**10C-8D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**122**	*e*PG	**Pg**	**06 41 33.8**	**-0.5**
VANB				*e*SG	**Sb**	**06 41 38.6**	**-0.2**
VANB	**Van**	**0.17**	**122**	*e*Pg	**Pg**	**06 41 33.8**	**-0.5**
TVAN	**Van**	**0.22**	**135**⇑	*i*P	**Pb**	**06 41 36.3**	**0.0**
TVAN				*i* S	**Sb**	**06 41 39.7**	**-0.7**
TVAN	**Van**	**0.22**	**135**	P	**Pb**	**06 41 36.3**	**0.0**
TVAN				S	**Sb**	**06 41 39.7**	**-0.7**
GEVA	**Gevas**	**0.39**	**197**⇑	*i*P	**Pg**	**06 41 37.3**	**-0.8**
GEVA				*i* S	**Sb**	**06 41 44.5**	**-0.7**
GEVA	**Gevas**	**0.39**	**197**	P	**Pg**	**06 41 37.3**	**-0.8**
GEVA				S	**Sb**	**06 41 44.5**	**-0.7**
TUTA	**Tutak**	**0.78**	**337**	*i* P	**Pg**	**06 41 43.5**	**-1.9**
TUTA				*i* S	**Sg**	**06 41 54.2**	**-1.4**
TUTA	**Tutak**	**0.78**	**337**	P	**Pg**	**06 41 43.5**	**-1.9**
BASK	**Baskale_VAN**	**0.89**	**135**	*i* P	**Pg**	**06 41 45.2**	**-2.3**
BASK				*i* S	**Sb**	**06 41 58.7**	**-0.9**
BASK	**Baskale_VAN**	**0.89**	**135**	P	**Pg**	**06 41 45.2**	**-2.3**
BASK				S	**Sb**	**06 41 58.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.90**	**350**	*e*PG	**Pg**	**06 41 45.4**	**-2.4**
DYDN	**Diyadin**	**0.94**	**24**	*i* P	**Pg**	**06 41 45.2**	**-3.1**
DYDN				*i* S	**Sg**	**06 41 58.5**	**-2.2**
EKAR	**Karacoban**	**1.05**	**303**	*i* P	**Pb**	**06 41 50.5**	**0.0**
EKAR				*i* S	**Sn**	**06 42 08.8**	**+3.1**
EKAR	**Karacoban**	**1.05**	**303**	P	**Pb**	**06 41 50.5**	**0.0**
EKAR				S	**Sn**	**06 42 08.9**	**+3.1**
HAKT	**HAKKARI**	**1.20**	**160**	*i* P	**Pb**	**06 41 51.3**	**-1.6**
HAKT	**HAKKARI**	**1.20**	**160**	P	**Pb**	**06 41 51.3**	**-1.6**
EATA	**Eleskirt**	**1.30**	**335**	*i* P	**Pn**	**06 41 53.3**	**-1.2**
EATA				*i* S	**Sb**	**06 42 10.6**	**-0.9**
EATA	**Eleskirt**	**1.30**	**335**	P	**Pn**	**06 41 53.3**	**-1.2**
SIRN	**S¨–rnak**	**1.34**	**208**	*i* P	**Pg**	**06 41 55.4**	**-0.7**
SIRN				*i* S	**Sg**	**06 42 16.1**	**+2.6**
SIRN	**S¨–rnak**	**1.34**	**208**	P	**Sg**	**06 41 55.4**	**-0.7**
SIRN				S	**Sg**	**06 42 16.1**	**+2.6**
CUKT	**Cukurca**	**1.47**	**167**	*e*PN	**Pg**	**06 41 57.3**	**-1.2**
CUKT	**Cukurca**	**1.47**	**167**	*i* P	**Pg**	**06 42 00.0**	**+1.5**
CUKT				*i* S	**Sg**	**06 42 17.9**	**+0.2**
CUKT	**Cukurca**	**1.47**	**167**	*e*Pn	**Pg**	**06 41 57.3**	**-1.2**
CUKT	**Cukurca**	**1.47**	**167**	P	**Pg**	**06 42 00.0**	**+1.5**
CUKT				S	**Sg**	**06 42 17.9**	**+0.2**
BNGL	**BINGOL**	**1.63**	**280**	*i* P	**Pb**	**06 41 59.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*e*PN	**Pg**	**06 42 01.4**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*i* P	**Pb**	**06 42 00.5**	**-0.3**
SVAN				*i* S	**Sg**	**06 42 23.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	P	**Pb**	**06 42 00.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*e*Pn	**Pg**	**06 42 01.4**	**-0.8**
SVAN				S	**Sg**	**06 42 23.9**	**+0.1**
HOMI	**Horasan**	**1.69**	**324**	*i* P	**Pn**	**06 42 00.4**	**+0.7**
HOMI				*i* S	**Sg**	**06 42 25.4**	**+0.7**
BTMN	**Batman**	**1.72**	**243**	*i* P	**Pb**	**06 42 01.2**	**-0.5**
BTMN				*i* S	**Sg**	**06 42 25.7**	**+0.2**
BTMN	**Batman**	**1.72**	**243**	P	**Pb**	**06 42 01.2**	**-0.5**
BTMN				S	**Sg**	**06 42 25.7**	**+0.2**
DIGO	**Kars**	**1.73**	**4**	*i* P	**Pn**	**06 41 59.7**	**-0.6**
DIGO	**Kars**	**1.73**	**4**	P	**Pn**	**06 41 59.7**	**-0.6**
NAX	**Nakhchivan**	**1.85**	**74**	⇑P	**Pn**	**06 42 01.6**	**-0.2**
NAX				⇑S	**Sg**	**06 42 29.5**	**-0.3**
NAX	**Nakhchivan**	**1.85**	**74**	P	**Pn**	**06 42 01.6**	**-0.2**
NAX				S	**Sg**	**06 42 29.5**	**-0.3**
ERZM	**Erzurum**	**1.88**	**311**	*i* P	**Pb**	**06 42 04.9**	**+0.4**
ERZM	**Erzurum**	**1.88**	**311**	P	**Pb**	**06 42 04.9**	**+0.4**
GNI	**Garni**	**1.89**	**39**	Pn	**Pn**	**06 42 02.2**	**-0.1**
	25nm,0.3s,baz=231,slow=5.0,SNR=8.8						
BNGB	**Bing¨¶l**	**2.00**	**280**	*e*PN	**Pg**	**06 42 08.0**	**-0.5**
EAK	**Akyaka**	**2.02**	**9**	*i* P	**Pb**	**06 42 07.5**	**+0.5**
EAK	**Akyaka**	**2.02**	**9**	P	**Pb**	**06 42 07.5**	**+0.5**
BINT	**Bingol**	**2.13**	**276**	*e*Pn	**Pb**	**06 42 08.0**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.20**	**291**	*e*PN	**Pb**	**06 42 10.9**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.20**	**291**	*e*Pn	**Pb**	**06 42 10.9**	**+0.8**
MARD	**Mardin**	**2.35**	**235**	*i* P	**Pn**	**06 42 08.8**	**0.0**
DDEM	**Demirkent**	**2.47**	**334**	*i* P	**Pn**	**06 42 11.4**	**+1.0**
DDEM	**Demirkent**	**2.47**	**334**	P	**Pn**	**06 42 11.4**	**+1.0**
KOPT	**Kop Dagi**	**2.48**	**303**	*i* P	**Pg**	**06 42 16.6**	**-1.3**
KOPT	**Kop Dagi**	**2.48**	**303**	P	**Pg**	**06 42 16.6**	**-1.3**
MAZI	**Mazidag**	**2.50**	**241**	*e*PN	**Pb**	**06 42 15.1**	**+0.1**
DAGI	**Agillar**	**2.59**	**338**	*i* P	**Pb**	**06 42 16.4**	**-0.2**
ARTV	**Artvin**	**2.68**	**339**	*i* P	**Pb**	**06 42 17.1**	**-1.2**
ARTV	**Artvin**	**2.68**	**339**	P	**Pb**	**06 42 17.1**	**-1.2**
AKH	**Akhalkalaki**	**2.73**	**5**	*e*PN	**Pn**	**06 42 13.6**	**-0.4**
AKH	**Akhalkalaki**	**2.73**	**5**	P	**Pb**	**06 42 19.8**	**+0.7**
GDB	**GEDABAY**	**2.83**	**43**	⇑P	**Pn**	**06 42 16.4**	**+1.1**
GDB				⇓S	**Sb**	**06 42 58.4**	**+3.1**
GDB	**GEDABAY**	**2.83**	**43**	P	**Pn**	**06 42 16.4**	**+1.1**
GDB				S	**Sb**	**06 42 58.4**	**+3.1**
EPOS	**Posof**	**2.84**	**353**	*i* P	**Pb**	**06 42 19.3**	**-1.6**
EPOS	**Posof**	**2.84**	**353**	P	**Pb**	**06 42 19.3**	**-1.6**
ERZN	**Erzincan**	**2.85**	**289**	*e*PN	**Pb**	**06 42 19.2**	**-2.0**
TNCL	**Tunceli-Merkez**	**2.89**	**280**	*i* P	**Pb**	**06 42 20.5**	**-1.2**
TNCL	**Tunceli-Merkez**	**2.89**	**280**	P	**Pb**	**06 42 20.5**	**-1.2**
QZX	**Qazax, Azerbai**	**2.90**	**34**	⇓P	**Pb**	**06 42 20.1**	**-1.7**
QZX				⇑S	**Sb**	**06 43 01.1**	**+3.9**
QZX	**Qazax, Azerbai**	**2.90**	**34**	P	**Pb**	**06 42 20.1**	**-1.7**
DBOC	**Borcka**	**2.91**	**337**	*i* P	**Pb**	**06 42 21.3**	**-0.7**
DBOC	**Borcka**	**2.91**	**337**	P	**Pb**	**06 42 21.3**	**-0.7**
PTK	**Pertek**	**2.99**	**275**	*e*PN	**Pb**	**06 42 22.0**	**-1.4**
PTK	**Pertek**	**2.99**	**275**	*e*Pn	**Pb**	**06 42 22.0**	**-1.4**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*PN	**Pb**	**06 42 23.2**	**-1.7**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*Pn	**Pb**	**06 42 23.2**	**-1.7**
GANJ	**Ganja**	**3.10**	**50**	⇑P	**Pn**	**06 42 21.9**	**+2.9**
	SNR=5.6						
GANJ				⇑S	**Sb**	**06 43 04.2**	**+1.1**
GANJ	**Ganja**	**3.10**	**50**	P	**Pn**	**06 42 21.9**	**+2.9**
	SNR=5.6						
GANJ				S	**Sb**	**06 43 04.2**	**+1.1**
TBLG	**Delisi**	**3.26**	**21**	P	**Pb**	**06 42 27.7**	**-0.3**
TBLG	**Delisi**	**3.26**	**21**	P	**Pb**	**06 42 27.7**	**-0.3**
KELT	**Kelkit**	**3.39**	**297**	*i* P	**Pg**	**06 42 33.0**	**-2.3**
KELT				*i* S	**Sg**	**06 43 21.4**	**+2.2**
URFA	**Urfa**	**3.68**	**252**	*e*PN	**Pb**	**06 42 31.8**	**-3.4**
ZRD	**Zardab**	**3.81**	**64**	⇓S	**Sn**	**06 43 18.6**	**+5.2**
ZRD	**Zardab**	**3.81**	**64**	S	**Sn**	**06 43 18.6**	**+5.2**
ZKTA	**Zakatala**	**3.94**	**41**	⇑P	**Pn**	**06 42 34.3**	**+3.7**
SEKA	**Sheki**	**3.97**	**49**	⇓P	**Pn**	**06 42 34.5**	**+3.5**
SEKA	**Sheki**	**3.97**	**49**	P	**Pn**	**06 42 34.5**	**+3.5**
LRK	**Lerik**	**4.02**	**89**	⇓P	**Pn**	**06 42 30.0**	**-1.7**
LRK				⇓S	**Sn**	**06 43 18.6**	**-0.2**
LRK	**Lerik**	**4.02**	**89**	P	**Pn**	**06 42 30.0**	**-1.7**
LRK				S	**Sn**	**06 43 18.6**	**-0.2**
IML	**Ismayilli**	**4.38**	**60**	⇑P	**Pn**	**06 42 38.3**	**+1.8**
IML	**Ismayilli**	**4.38**	**60**	P	**Pn**	**06 42 38.3**	**+1.8**
ASTR	**Astara**	**4.38**	**90**	⇓P	**Pn**	**06 42 34.6**	**-1.8**
ASTR	**Astara**	**4.38**	**90**	P	**Pn**	**06 42 34.6**	**-1.8**
GBS	**Qobustan**	**4.80**	**66**	⇓P	**Pn**	**06 42 43.3**	**+0.9**
GBS	**Qobustan**	**4.80**	**66**	P	**Pn**	**06 42 43.3**	**+0.9**
AKASG	**Malin Array Be**	**15.56**	**325**	Pn	**Pn**	**06 45 08.9**	**-0.3**
	0.4nm,0.3s,baz=136,slow=11,SNR=3.2						
AKTO	**Aktyubinsk**	**15.76**	**37**	Pn	**Pn**	**06 45 10.6**	**-1.2**
	0.1nm,0.3s,baz=224,slow=14,SNR=2.6						
ARU	**Arti**	**20.47**	**25**	P	**P**	**06 46 07.4**	**-0.1**
	4.3nm,0.2s,baz=266,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**25.14**	**341**	P	**P**	**06 46 54.8**	**+0.1**
	1.6nm,0.7s,baz=151,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**27.55**	**53**	P	**P**	**06 47 16.9**	**+0.3**
	1.1nm,0.2s,baz=264,slow=8.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**52.11**	**96**	P	**P**	**06 50 38.9**	**-1.5**
	1.2nm,0.4s,baz=297,slow=8.8,SNR=8.0						

NIED ***25*** *06:48:00, 39°.20N×142°.40E, h38km, Mw3.8 Best double couple: M0:5.45000×10^14 NP1:φ=46.00000°, δ17.00000°, λ-50.00000°. NP2:φ=185.00000°, δ77.00000°, λ-101.00000°.*
ISCJB ***25*** *06:48:33.8±1.1, 39°.18N±0°.04×142°.3E±0°.1, h46km±8km, mb3.7/7, Error ellipse: s-maj=15.4km s-min=6.4km az=15.3*
JMA ***25*** *06:48:33.3±0.1, 39°.19N×142°.37E, h34km±1km, M3.8*
IDC ***25*** *06:48:38.4±2.9, 39°.14N×142°.20E, h72km±26km, mb3.5/7, mb1 3.6/9, mb1mx3.4/38, mbtmp3.8/9, MS2.7/2, Ms1 2.7/2, ms1mx2.3/45, Error ellipse: s-maj=24.3km s-min=21.0km az=99.0*
ISC 25 06:48:34.1±1.9,**39°.21N**±0°.05×**142°.30E**±0°.10,**h32**km±11km,
n27,σ1§**17**/27,**mb4.0**/7,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.51**	**256**	P	**Pn**	**06 48 44.6**	**-0.5**
OFUJ				S	**Sb**	**06 48 52.4**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.53**	**315**	P	**Pn**	**06 48 44.7**	**-0.6**
MIYJ				S	**Sb**	**06 48 52.6**	**+0.1**
JTH	**Tanohata**	**0.80**	**335**	P	**Pn**	**06 48 48.9**	**-0.3**
JTH				S	**Sn**	**06 49 00.0**	**-0.1**
JOM	**Ohasama**	**0.83**	**289**	P	**Pn**	**06 48 49.6**	**+0.1**
JOM				S	**Sb**	**06 49 01.4**	**+0.6**
JMK	**Ichinoseki**	**0.88**	**253**	P	**Pn**	**06 48 50.1**	**-0.1**
JMK				S	**Sn**	**06 49 02.0**	**+0.1**
JIO	**Ouri**	**1.06**	**225**	P	**Pn**	**06 48 51.9**	**-0.8**
JKZ	**Kuzumaki**	**1.08**	**316**	P	**Pb**	**06 48 53.6**	**-0.7**
JKZ				S	**Sb**	**06 49 08.0**	**-0.1**
JRG	**Rokugo**	**1.31**	**279**	P	**Pn**	**06 48 57.0**	**+0.9**
JANG	**Nango**	**1.31**	**333**	P	**Pn**	**06 48 56.4**	**+0.2**
JANG				*e*S	**Sn**	**06 49 13.6**	**+1.0**
MAT	**Matsushiro**	**4.19**	**232**	P	**Pn**	**06 49 37.2**	**+1.4**
MJAR	**Matsushiro Arr**	**4.19**	**232**	P	**Pn**	**06 49 39.2**	**+3.4**
	1.0nm,0.3s,baz=40,slow=11,SNR=17						
MJAR				LR	LR	06 51 26.9	
	comp=Z,87nm,19.0s,baz=35,slow=41						
ASAJ	**Asahikawa**	**4.91**	**2**	P	Pn	06 49 50.2	+4.6
	2.2nm,0.3s,baz=207,slow=8.5,SNR=6.3						
ASAJ				S	**Sn**	**06 50 44.6**	**+3.3**
	0.9nm,0.3s,baz=114,slow=19,SNR=3.9						
KSRS	**Korea Array**	**11.43**	**266**	LR	LR	06 55 30.3	
	comp=Z,36nm,18.4s,baz=55,slow=36						
SONM	**Songino Array**	**27.22**	**300**	P	**P**	**06 54 15.4**	**+0.4**
	0.3nm,0.5s,baz=96,slow=9.0,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	07 25 03.5	
	baz=318,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	07 25 08.0	
	baz=318,slow=75,SNR=119						
H11N3	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	07 25 03.7	
	baz=318,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	07 26 03.6	
	baz=320,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	07 25 59.6	
	baz=320,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**29.55**	**127**	T	T	07 26 00.5	
	baz=320,slow=76,SNR=7.8						
ZALV	**Zalesovo Beam**	**41.00**	**311**	P	**P**	**06 56 14.0**	**+0.2**
	1.3nm,0.3s,baz=100,slow=9.8,SNR=3.3						
MKAR	**Makanchi Array**	**43.59**	**300**	P	**P**	**06 56 34.9**	**-0.2**
	0.9nm,0.8s,baz=81,slow=10.0,SNR=6.7						
KURBB	**Kurchatov Arra**	**45.25**	**306**	P	**P**	**06 56 47.9**	**-0.3**
	1.8nm,0.4s,baz=79,slow=8.4,SNR=9.0						
ILAR	**Eielson Array**	**47.29**	**33**	P	**P**	**06 57 04.5**	**+0.4**
	0.3nm,0.6s,baz=265,slow=6.4,SNR=7.5						
BVAR	**Borovoye Array**	**49.65**	**311**	P	**P**	**06 57 21.8**	**-0.6**
	0.6nm,0.4s,baz=63,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**59.31**	**189**	P	**P**	**06 58 31.4**	**-1.3**
	1.1nm,0.8s,baz=5.7,slow=7.0,SNR=6.5						
LPAZ	**La Paz**	**144.97**	**58**	PKPbc	**PKPdf**	**07 08 08.6**	**-0.6**
	0.4nm,0.3s,baz=244,slow=2.4,SNR=9.2						

DDA ***25*** *06:53:22.6, 38°.73N×43°.25E, h7km, Ml3.5*
ISK ***25*** *06:53:22.1, 38°.72N×43°.21E, h5km, ML3.4*
ISCJB ***25*** *06:53:23.3±0.6, 38°.74N±0°.03×43°.24E±0°.06, h7km±5km, Error ellipse: s-maj=7.8km s-min=3.9km az=159.2*
CSEM ***25*** *06:53:23.2±0.3, 38°.74N×43°.28E, h10km, ML3.4, Error ellipse: s-maj=7.6km s-min=4.0km az=67.0*
ISC 25 06:53:23.8±1.0,**38°.75N**±0°.02×**43°.23E**±0°.03,**h8**km±9km,
n35,σ1§**11**/52,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**140**	*e*PG	**Pg**	**06 53 27.9**	**0.0**
VANB				*e*SG	**Sg**	**06 53 32.0**	**+1.4**
VANB	**Van**	**0.20**	**140**	*e*Pg	**Pg**	**06 53 27.9**	**0.0**
VANB				*e*Sg	**Sg**	**06 53 32.0**	**+1.4**
GEVA	**Gevas**	**0.45**	**197**	*i* P	**Pg**	**06 53 31.2**	**-1.5**
GEVA				*i* S	**Sg**	**06 53 38.8**	**+0.2**
GEVA	**Gevas**	**0.45**	**197**	P	**Pg**	**06 53 31.2**	**-1.5**
GEVA				S	**Sg**	**06 53 38.8**	**+0.2**
TUTA	**Tutak**	**0.73**	**334**	*i* P	**Pg**	**06 53 37.5**	**-0.4**
TUTA				*i* S	**Sg**	**06 53 48.0**	**+0.5**
TUTA	**Tutak**	**0.73**	**334**	P	**Pg**	**06 53 37.5**	**-0.4**
TUTA				S	**Sg**	**06 53 48.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*PG	**Pg**	**06 53 39.1**	**-1.1**
AGRB				*e*SG	**Sg**	**06 53 51.9**	**+0

*CSEM **25** 06:54:11.2±0.3, 38°.72N×43°.31E, h2km, ML3.5, Error ellipse: s-maj=9.1km s-min=4.4km az=65.0*
*DDA **25** 06:54:11.0, 38°.70N×43°.26E, h7km, Ml3.6*
ISC 25 06:54:10.9±0.9, 38°.70N±0°.02×43°.21E±0°.03, h15km±7km, n45, σ1°38/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**127**	*e*PG	**Pb**	**06 54 15.3**	**-0.5**
VANB				*e*SG	**Sg**	**06 54 18.0**	**-0.1**
VANB	**Van**	**0.17**	**127**	*e*Pg	**Pb**	**06 54 15.3**	**-0.5**
VANB				*e*Sg	**Sg**	**06 54 18.0**	**-0.1**
GEVA	**Gevas**	**0.41**	**198**	*i* P	**Pg**	**06 54 18.4**	**-0.7**
GEVA				*i* S	**Sb**	**06 54 26.3**	**+0.4**
GEVA	**Gevas**	**0.41**	**198**	P	**Pg**	**06 54 18.4**	**-0.7**
GEVA				S	**Sb**	**06 54 26.3**	**+0.4**
TUTA	**Tutak**	**0.77**	**336**	*i* P	**Pg**	**06 54 26.2**	**+0.3**
TUTA				*i* S	**Sn**	**06 54 37.3**	**-1.6**
TUTA	**Tutak**	**0.77**	**336**	P	**Pg**	**06 54 26.2**	**+0.3**
TUTA				S	**Sn**	**06 54 37.3**	**-1.6**
AGRB	**Hanur-Agry**	**0.89**	**349**	*e*PG	**Pg**	**06 54 28.1**	**-0.1**
AGRB				*e*SG	**Sn**	**06 54 41.0**	**-0.9**
AGRB	**Hanur-Agry**	**0.89**	**349**	*e*Pg	**Pg**	**06 54 28.1**	**-0.1**
AGRB				*e*Sg	**Sn**	**06 54 41.0**	**-0.9**
BASK	**Baskale_VAN**	**0.90**	**136**	*i* P	**Pg**	**06 54 27.7**	**-0.6**
BASK				*i* S	**Sn**	**06 54 40.9**	**-1.0**
BASK	**Baskale_VAN**	**0.90**	**136**	P	**Pg**	**06 54 27.7**	**-0.6**
BASK				S	**Sn**	**06 54 40.9**	**-1.0**
EKAR	**Karacoban**	**1.05**	**302**	*i* P	Pg	06 54 36.4	+5.1
EKAR	**Karacoban**	**1.05**	**302**	P	Pg	06 54 36.4	+5.1
HAKT	**HAKKARI**	**1.20**	**161**	*i* P	**Pb**	**06 54 33.0**	**-0.6**
HAKT				*i* S	**Sg**	**06 54 56.1**	**+6.2**
HAKT	**HAKKARI**	**1.20**	**161**	*i* P	**Pg**	**06 54 33.7**	**-0.4**
HAKT	**HAKKARI**	**1.20**	**161**	P	**Pg**	**06 54 33.7**	**-0.4**
EATA	**Eleskirt**	**1.29**	**334**	*i* P	**Pg**	**06 54 35.9**	**+0.1**
EATA	**Eleskirt**	**1.29**	**334**	P	**Pg**	**06 54 35.9**	**+0.1**
VRTB	**Varto-Mus**	**1.45**	**289**	*e*PN	**Pg**	**06 54 38.7**	**0.0**
VRTB	**Varto-Mus**	**1.45**	**289**	*e*Pn	**Pg**	**06 54 38.7**	**0.0**
CUKT	**Cukurca**	**1.48**	**168**	*e*PN	**Pg**	**06 54 38.7**	**-0.7**
CUKT	**Cukurca**	**1.48**	**168**	*i* P	**Pg**	**06 54 42.0**	**+2.6**
CUKT	**Cukurca**	**1.48**	**168**	*e*Pn	**Pg**	**06 54 38.7**	**-0.7**
CUKT	**Cukurca**	**1.48**	**168**	P	**Pg**	**06 54 42.0**	**+2.6**
BNGL	**BINGOL**	**1.63**	**280**	*i* P	**Pb**	**06 54 40.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	*e*PN	**Pg**	**06 54 42.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	*i* P	**Pg**	**06 54 42.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	P	**Pg**	**06 54 42.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	*i* S	**Pg**	**06 54 43.2**	**+0.2**
HOMI	**Horasan**	**1.68**	**323**	*i* P	**Pg**	**06 54 45.2**	**+2.0**
BTMN	**Batman**	**1.73**	**243**	*i* P	**Pg**	**06 54 44.7**	**+0.6**
BTMN	**Batman**	**1.73**	**243**	P	**Pg**	**06 54 44.7**	**+0.6**
ERZM	**Erzurum**	**1.87**	**311**	*i* P	**Pg**	**06 54 48.5**	**+1.6**
ERZM	**Erzurum**	**1.87**	**311**	P	**Pg**	**06 54 48.5**	**+1.6**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*PN	**Pb**	**06 54 46.1**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pb**	**06 54 46.2**	**-0.5**
BNGB	**Bing¨¶l**	**2.00**	**279**	*e*PN	**Pb**	**06 54 47.5**	**+0.4**
BINT	**Bingol**	**2.14**	**276**	*e*Pn	**Pb**	**06 54 47.5**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*PN	**Pb**	**06 54 50.3**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*Pn	**Pb**	**06 54 50.3**	**-0.2**
MAZI	**Mazidag**	**2.51**	**241**	*e*PN	**Pb**	**06 54 54.7**	**-1.0**
MAZI	**Mazidag**	**2.51**	**241**	*e*Pn	**Pb**	**06 54 54.7**	**-1.0**
PTK	**Pertek**	**2.99**	**275**	*e*PN	**Pb**	**06 55 02.3**	**-1.7**
PTK	**Pertek**	**2.99**	**275**	*e*Pn	**Pb**	**06 55 02.3**	**-1.7**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*PN	**Pb**	**06 55 03.5**	**-2.0**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*Pn	**Pb**	**06 55 03.5**	**-2.0**

*ISK **25** 06:57:06.9, 38°.75N×43°.54E, h8km, ML3.2*
*CSEM **25** 06:57:07.4±0.4, 38°.78N×43°.56E, h10km, ML3.2, Error ellipse: s-maj=10.3km s-min=4.5km az=70.0*
*DDA **25** 06:57:07.8, 38°.73N×43°.38E, h7km, Ml3.4*
*ISCJB **25** 06:57:08.9±0.8, 38°.72N±0°.03×43°.48E±0°.09, h17km±7km, Error ellipse: s-maj=11.9km s-min=5.4km az=169.0*
ISC 25 06:57:08.6±1.1, 38°.72N±0°.03×43°.47E±0°.05, h17km±8km, n27, σ1°22/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**208**	*e*PG	**Pg**	**06 57 12.7**	**-0.1**
VANB				*e*SG	**Sb**	**06 57 16.7**	**+1.0**
VANB	**Van**	**0.14**	**208**	*e*Pg	**Pg**	**06 57 12.7**	**-0.1**
VANB				*e*Sg	**Sb**	**06 57 16.7**	**+1.0**
GEVA	**Gevas**	**0.52**	**219**	*i* P	**Pg**	**06 57 16.2**	**-2.9**
GEVA				*i* S	**Sg**	**06 57 26.0**	**-0.2**
GEVA	**Gevas**	**0.52**	**219**	P	**Pg**	**06 57 16.2**	**-2.9**
GEVA				S	**Sg**	**06 57 26.0**	**-0.2**
BASK	**Baskale_VAN**	**0.79**	**148**	*i* P	**Pb**	**06 57 23.4**	**-0.5**
BASK	**Baskale_VAN**	**0.79**	**148**	P	**Pb**	**06 57 23.4**	**-0.5**
TUTA	**Tutak**	**0.85**	**323**	*i* P	**Pb**	**06 57 23.1**	**-2.0**
TUTA				*i* S	**Sb**	**06 57 34.7**	**-1.6**
TUTA	**Tutak**	**0.85**	**323**	P	**Pb**	**06 57 23.1**	**-2.0**
TUTA				S	**Sb**	**06 57 34.7**	**-1.6**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*PG	**Pb**	**06 57 25.0**	**-1.4**
AGRB				*e*SG	**Sb**	**06 57 38.6**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*Pg	**Pb**	**06 57 25.0**	**-1.4**
AGRB				*e*Sg	**Sb**	**06 57 38.6**	**0.0**
HAKT	**HAKKARI**	**1.18**	**171**	*i* P	**Pg**	**06 57 31.1**	**-0.2**
HAKT	**HAKKARI**	**1.18**	**171**	P	**Pg**	**06 57 31.1**	**-0.2**
EKAR	**Karacoban**	**1.22**	**296**	*i* P	**Pb**	**06 57 31.7**	**+0.4**
EKAR				*i* S	**Sg**	**06 57 50.1**	**+1.8**
EKAR	**Karacoban**	**1.22**	**296**	P	**Pb**	**06 57 31.7**	**+0.4**
EKAR				S	**Sg**	**06 57 50.1**	**+1.8**
EATA	**Eleskirt**	**1.37**	**327**	*i* P	**Pn**	**06 57 33.2**	**0.0**
EATA				*i* S	**Sb**	**06 57 51.9**	**+0.6**
EATA	**Eleskirt**	**1.37**	**327**	P	**Pn**	**06 57 33.2**	**0.0**
EATA				S	**Sb**	**06 57 51.9**	**+0.6**
DIGO	**Kars**	**1.69**	**357**	*i* P	**Pg**	**06 57 41.2**	**0.0**
DIGO	**Kars**	**1.69**	**357**	P	**Pg**	**06 57 41.2**	**0.0**
BNGL	**BINGOL**	**1.83**	**278**	*i* P	**Pn**	**06 57 40.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*PN	**Pn**	**06 57 40.9**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*Pn	**Pn**	**06 57 40.9**	**+1.0**
ERZM	**Erzurum**	**2.02**	**307**	*i* P	**Pb**	**06 57 45.6**	**+0.6**
ERZM	**Erzurum**	**2.02**	**307**	P	**Pb**	**06 57 45.6**	**+0.6**
BNGB	**Bing¨¶l**	**2.20**	**278**	*e*PN	**Pn**	**06 57 45.6**	**+1.2**
BINT	**Bingol**	**2.34**	**275**	*e*Pn	**Pn**	**06 57 45.6**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*PN	**Pn**	**06 57 48.1**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.39**	**288**	*e*Pn	**Pn**	**06 57 48.1**	**+1.0**

*ISK **25** 06:58:28.3, 38°.77N×43°.52E, h5km, ML3.3*
*DDA **25** 06:58:29.3, 38°.72N×43°.29E, h7km, Ml3.6*
*CSEM **25** 06:58:30.0±0.4, 38°.76N×43°.40E, h2km, ML3.3, Error ellipse: s-maj=10.4km s-min=5.6km az=72.0*
ISC 25 06:58:30.5±0.9, 38°.74N±0°.02×43°.35E±0°.04, h10km±7km, n48, σ1°34/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**169**	*e*PG	**Pg**	**06 58 33.6**	**-0.3**
VANB				*e*SG	**Sg**	**06 58 38.0**	**+1.7**
VANB	**Van**	**0.15**	**169**	*e*Pg	**Pg**	**06 58 33.6**	**-0.3**
VANB				*e*Sg	**Sg**	**06 58 38.0**	**+1.7**
GEVA	**Gevas**	**0.49**	**208**	*i* P	**Pg**	**06 58 37.2**	**-2.9**
GEVA				*i* S	**Sg**	**06 58 45.2**	**-1.3**
GEVA	**Gevas**	**0.49**	**208**	P	**Pg**	**06 58 37.2**	**-2.9**
GEVA				S	**Sg**	**06 58 45.2**	**-1.3**
TUTA	**Tutak**	**0.78**	**328**	*i* P	**Pg**	**06 58 43.8**	**-1.8**
TUTA	**Tutak**	**0.78**	**328**	P	**Pg**	**06 58 43.8**	**-1.8**
DYDN	**Diyadin**	**0.84**	**18**	*i* P	**Pg**	**06 58 46.4**	**-0.4**
DYDN	**Diyadin**	**0.84**	**18**	P	**Pg**	**06 58 46.4**	**-0.4**
BASK	**Baskale_VAN**	**0.86**	**143**	*i* P	**Pg**	**06 58 45.2**	**-1.9**
BASK				*i* S	**Sb**	**06 58 59.1**	**-0.3**
BASK	**Baskale_VAN**	**0.86**	**143**	P	**Pg**	**06 58 45.2**	**-1.9**
BASK				S	**Sb**	**06 58 59.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.88**	**341**	*e*PG	**Pg**	**06 58 46.1**	**-1.4**
AGRB				*e*SG	**Sg**	**06 58 58.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.88**	**341**	*e*Pg	**Pg**	**06 58 46.1**	**-1.4**
AGRB				*e*Sg	**Sg**	**06 58 58.7**	**-0.3**
EKAR	**Karacoban**	**1.13**	**297**	*i* P	**Pn**	**06 58 52.6**	**-0.1**
EKAR				*i* S	**Sn**	**06 59 10.3**	**+1.9**
EKAR	**Karacoban**	**1.13**	**297**	P	**Pn**	**06 58 52.6**	**-0.1**
EKAR				S	**Sn**	**06 59 10.3**	**+1.9**
HAKT	**HAKKARI**	**1.22**	**167**	*i* P	**Pb**	**06 58 53.1**	**-0.7**
HAKT	**HAKKARI**	**1.22**	**167**	P	**Pb**	**06 58 53.1**	**-0.7**
EATA	**Eleskirt**	**1.30**	**329**	*i* P	**Pn**	**06 58 53.8**	**-1.4**
EATA	**Eleskirt**	**1.30**	**329**	P	**Pn**	**06 58 53.8**	**-1.4**
SIRN	**S¨¨-rnak**	**1.45**	**211**	*i* P	**Pn**	**06 58 55.2**	**-1.8**
SIRN	**S¨¨-rnak**	**1.45**	**211**	P	**Pn**	**06 58 55.2**	**-1.8**
CUKT	**Cukurca**	**1.51**	**172**	*e*PN	**Pn**	**06 58 57.5**	**-0.3**
CUKT	**Cukurca**	**1.51**	**172**	*i* P	**Pg**	**06 59 00.7**	**+1.1**
CUKT	**Cukurca**	**1.51**	**172**	*i* P	**Pg**	**06 59 00.6**	**+1.1**
CUKT	**Cukurca**	**1.51**	**172**	*e*PN	**Pn**	**06 58 57.5**	**-0.3**
CUKT	**Cukurca**	**1.51**	**172**	P	**Pg**	**06 59 00.6**	**+1.1**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*PN	**Pb**	**06 58 59.1**	**-0.1**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*Pn	**Pb**	**06 58 59.1**	**-0.1**
DIGO	**Kars**	**1.67**	**1**	*i* P	**Pb**	**06 59 01.2**	**-0.4**
DIGO	**Kars**	**1.67**	**1**	P	**Pb**	**06 59 01.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*PN	**Pb**	**06 59 03.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*i* P	**Pn**	**06 59 01.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	P	**Pn**	**06 59 01.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*Pn	**Pb**	**06 59 03.0**	**-0.5**
BTMN	**Batman**	**1.85**	**243**	*i* P	**Pb**	**06 59 04.3**	**-0.2**
BTMN	**Batman**	**1.85**	**243**	P	**Pb**	**06 59 04.3**	**-0.2**
ERZM	**Erzurum**	**1.93**	**308**	*i* P	**Pb**	**06 59 06.6**	**+0.6**
ERZM	**Erzurum**	**1.93**	**308**	P	**Pb**	**06 59 06.6**	**+0.6**
BNGB	**Bing¨¶l**	**2.10**	**278**	*e*PN	**Pn**	**06 59 07.1**	**+1.1**
BINT	**Bingol**	**2.24**	**274**	*e*Pn	**Pn**	**06 59 07.1**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.29**	**288**	*e*PN	**Pn**	**06 59 09.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.29**	**288**	*e*Pn	**Pn**	**06 59 09.6**	**+1.0**
DAGI	**Agillar**	**2.58**	**335**	*i* P	**Pb**	**06 59 17.4**	**+0.3**
MAZI	**Mazidag**	**2.63**	**242**	*e*PN	**Pn**	**06 59 15.2**	**+2.1**
MAZI	**Mazidag**	**2.63**	**242**	*e*Pn	**Pn**	**06 59 15.3**	**+2.1**
PTK	**Pertek**	**3.10**	**274**	*e*PN	**Pn**	**06 59 21.4**	**+1.7**
PTK	**Pertek**	**3.10**	**274**	*e*Pn	**Pn**	**06 59 21.4**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.19**	**265**	*e*PN	**Pn**	**06 59 23.2**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.19**	**265**	*e*Pn	**Pn**	**06 59 23.2**	**+2.2**

*JMA **25** 07:13:58.0±0.2, 43°.64N×147°.33E, h29km, M3.0*
*SKHL **25** 07:13:58.2±0.2, 43°.77N×147°.45E, h45km±5km, mb4.1/3*
ISC 25 07:13:57.3±2.7, 43°.8N±0°.1×147°.5E±0°.1, h49km±20km, n6, σ0°69/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.47**	**284**	*e*P	**Pn**	**07 14 08.3**	**+0.3**
SHO				AMB	AMB	07 14 09.8	
	57nm,0.2s						
SHO				*i* S	**Sn**	**07 14 15.7**	**0.0**
SHO				A	A	07 14 17.0	
	2μm,0.3s						
SHO				A	A	07 14 17.0	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**284**	*e*P	**Pn**	**07 14 17.4**	**0.0**
YUK				AMB	AMB	07 14 19.9	
	120nm,0.3s						
YUK				*e*S	**Sn**	**07 14 31.9**	**-0.5**
YUK				A	A	07 14 34.4	
	290nm,0.2s						
YUK				A	A	07 14 34.4	
	180nm,0.2s						
NEM2	**Nemuro 2**	**1.30**	**253**	P	**Pn**	**07 14 18.9**	**-0.1**
NEM2				*e*S	**Sn**	**07 14 34.1**	**-1.2**
KUR	**Kuril'sk**	**1.51**	**11**	*e*P	**Pn**	**07 14 22.0**	**+0.2**
KUR				AMB	AMB	07 14 24.1	
	25nm,0.2s						
KUR				*e*S	**Sn**	**07 14 40.0**	**-0.3**
KUR				A	A	07 14 42.0	
	132nm,0.2s						
KUR				A	A	07 14 42.0	
	114nm,0.2s						
JNK	**Nakash**	**1.99**	**266**	P	**Pn**	**07 14 29.4**	**+0.9**
JNK				*e*S	**Sn**	**07 14 52.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.61**	**316**	*e*P	**Pn**	**07 15 04.3**	**0.0**

*DDA **25** 07:16:54.0, 38°.50N×42°.10E, h7km, Ml3.0*
*CSEM **25** 07:16:55.1±1.2, 39°.10N×43°.90E, h5km, ML3.2, Error ellipse: s-maj=29.3km s-min=12.0km az=64.0*
*ISK **25** 07:16:56.8, 38°.96N×43°.63E, h4km, ML3.2*
ISC 25 07:16:58.1±1.6, 38°.96N±0°.04×43°.52E±0°.06, h3km±13km, n19, σ1°50/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.38**	**196**	*e*PG	**Pb**	**07 17 07.0**	**-0.6**
VANB				*e*SG	**Sb**	**07 17 14.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.74**	**326**	*e*PG	**Pg**	**07 17 12.3**	**+0.1**
AGRB				*e*SG	**Sb**	**07 17 24.0**	**-0.2**
GEVA	**Gevas**	**0.74**	**209**	*i* P	**Pg**	**07 17 11.7**	**-0.7**
EATA	**Eleskirt**	**1.20**	**319**	*i* P	**Pn**	**07 17 20.5**	**-1.5**
EATA				*i* S	**Sn**	**07 17 40.5**	**+1.5**
EATA	**Eleskirt**	**1.20**	**319**	P	**Pn**	**07 17 20.5**	**-1.5**
EATA				S	**Sn**	**07 17 40.5**	**+1.5**
HAKT	**HAKKARI**	**1.41**	**174**	*i* P	**Pg**	**07 17 23.8**	**-1.3**
HAKT				*i* S	**Sg**	**07 17 46.0**	**+2.6**
HAKT	**HAKKARI**	**1.41**	**174**	*i* P	**Pg**	**07 17 23.8**	**-1.3**
HAKT				*i* S	**Sg**	**07 17 46.1**	**+2.7**
HAKT	**HAKKARI**	**1.41**	**174**	P	**Pg**	**07 17 23.8**	**-1.3**
HAKT				S	**Sg**	**07 17 46.0**	**+2.6**
BNGL	**BINGOL**	**1.85**	**270**	*i* P	**Pb**	**07 17 32.1**	**-0.5**
BNGL				*i* S	**Sg**	**07 18 00.3**	**+2.8**
SVAN	**Silvan-Diyarba**	**1.99**	**247**	*e*PN	**Pb**	**07 17 33.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.99**	**247**	*i* P	**Pb**	**07 17 33.3**	**-1.7**
SVAN				*i* S	**Sg**	**07 18 02.3**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.99**	**247**	P	**Pb**	**07 17 33.3**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.99**	**247**	*e*Pn	**Pb**	**07 17 33.6**	**-1.4**
SVAN				S	**Sg**	**07 18 02.3**	**+0.2**
BTMN	**Batman**	**2.07**	**239**	*i* P	**Pb**	**07 17 36.1**	**-0.2**
BTMN				*i* S	**Sg**	**07 18 05.4**	**+0.9**
BTMN	**Batman**	**2.07**	**239**	P	**Pb**	**07 17 36.1**	**-0.2**
BTMN				S	**Sg**	**07 18 05.4**	**+0.9**
BNGB	**Bing¨¶l**	**2.21**	**272**	*e*PN	**Pb**	**07 17 37.1**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.36**	**282**	*e*PN	**Pn**	**07 17 38.9**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.36**	**282**	*e*Pn	**Pn**	**07 17 38.9**	**+1.1**
BINT	**Bingol**	**2.37**	**269**	*e*Pn	**Pn**	**07 17 37.1**	**-0.8**

*DDA **25** 07:17:22.5, 38°.69N×43°.88E, h16km, Ml3.3*
*ISK **25** 07:17:32.4, 38°.73N×43°.41E, h18km, ML2.7*
*CSEM **25** 07:17:33.5±0.4, 38°.74N×43°.32E, h15km, ML2.7, Error ellipse: s-maj=9.6km s-min=5.7km az=83.0*
ISC 25 07:17:33.5±1.0, 38°.77N±0°.08×43°.3E±0°.1, h12km±20km, n13, σ0°72/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**150**	*e*PG	**Pg**	**07 17 37.8**	**-0.3**
VANB				*e*SG	**Sg**	**07 17 42.0**	**+0.8**
VANB	**Van**	**0.20**	**150**	*e*Pg	**Pg**	**07 17 37.8**	**-0.3**
VANB				*e*Sg	**Sg**	**07 17 42.0**	**+0.8**
GEVA	**Gevas**	**0.49**	**199**	*i* P	Pg	07 17 36.8	-6.3
GEVA				*i* S	**Sg**	**07 17 49.0**	**-0.6**
TUTA	**Tutak**	**0.72**	**331**	*i* P	Pb	07 17 42.9	-5.2
TUTA				*i* S	**Sb**	**07 17 59.2**	**+1.2**
AGRB	**Hanur-Agry**	**0.83**	**345**	*e*PG	**Pn**	**07 17 50.8**	**-0.4**
AGRB				*e*SG	**Sn**	**07 18 03.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.83**	**345**	*e*Pg	**Pn**	**07 17 50.8**	**-0.4**
AGRB				*e*Sg	**Sn**	**07 18 03.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.73**	**250**	*e*PN	**Pn**	**07 18 03.5**	**0.0**
SVAN				*e*SN	**Sn**	**07 18 26.8**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.73**	**250**	*i* P	**Pn**	**07 18 03.6**	**0.0**
SVAN				*i* S	**Sb**	**07 18 27.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.73**	**250**	*e*Pn	**Pn**	**07 18 03.5**	**0.0**
SVAN				*e*Sn	**Sn**	**07 18 26.8**	**+1.3**
SVAN				S	**Sb**	**07 18 27.1**	**+0.1**
BTMN	**Batman**	**1.80**	**241**	*i* P	**Pn**	**07 18 03.4**	**-1.0**
BTMN				*i* S	**Sb**	**07 18 29.2**	**+0.4**
BTMN	**Batman**	**1.80**	**241**	P	**Pn**	**07 18 03.4**	**-1.0**
BTMN				S	**Sb**	**07 18 29.2**	**+0.4**
BNGB	**Bing¨¶l**	**2.03**	**277**	*e*PN	**Pb**	**07 18 09.5**	**-0.8**
BINT	**Bingol**	**2.17**	**274**	*e*Pn	**Pn**	**07 18 09.5**	**0.0**

JMA 25 07:22:11.9±0.1, 36°.85N×141°.13E, h49km±1km, M3.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**314**	P	Pn	07 22 21.3	-0.4
ONAJ				S	Sn	07 22 27.9	-0.7
JHO	**Hitachi**	**0.51**	**242**	P	Pn	07 22 23.0	-0.2
JHO				S	Sn	07 22 30.9	-0.4
JFK	**Kawauchi**	**0.56**	**338**	P	Pn	07 22 23.4	-0.4
JFK				S	Sn	07 22 31.3	-1.1
JFT	**Otama**	**0.92**	**317**	P	Pn	07 22 29.2	+0.7
JFT				S	Sn	07 22 41.5	+0.7
JMM	**Marumori**	**1.05**	**345**	P	Pn	07 22 30.0	-0.3
JMM				S	Sn	07 22 43.2	-0.6
JFY	**Yanaizu**	**1.27**	**296**	P	Pn	07 22 33.6	+0.4
JFY				*e*S	Sn	07 22 49.9	+0.7
MAT	**Matsushiro**	**2.37**	**263**	P	Pn	07 22 50.0	+1.7
MAT				S	Sn	07 23 18.7	+2.5

*ISCJB **25** 07:24:07.9±0.9, 38°.56N±0°.04×43°.2E±0°.1, h19km±9km, Error ellipse: s-maj=13.3km s-min=6.7km az=5.2*
*CSEM **25** 07:24:07.1±0.3, 38°.56N×43°.19E, h15km, ML3.0, Error ellipse: s-maj=11.1km s-min=6.2km az=72.0*
*DDA **25** 07:24:08.0, 38°.60N×42°.90E, h7km, Ml3.0*
ISC 25 07:24:07.3±1.0, 38°.59N±0°.03×43°.13E±0°.04, h7km±9km, n14, σ0°99/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**89**	*e*PG	**Pg**	**07 24 11.2**	**-0.2**
VANB				*e*SG	**Sg**	**07 24 14.8**	**+0.7**
VANB	**Van**	**0.20**	**89**	*e*Pg	**Pg**	**07 24 11.2**	**-0.2**
VANB				*e*Sg	**Sg**	**07 24 14.9**	**+0.7**
GEVA	**Gevas**	**0.29**	**192**	*i* P	**Pg**	**07 24 13.2**	**+0.2**
GEVA				*i* S	**Sb**	**07 24 20.0**	**+0.1**
GEVA	**Gevas**	**0.29**	**192**	P	**Pg**	**07 24 13.2**	**+0.2**
GEVA				S	**Sb**	**07 24 20.0**	**+0.1**
TUTA	**Tutak**	**0.84**	**343**	*i* P	**Pg**	**07 24 22.9**	**-0.7**
TUTA				*i* S	**Sg**	**07 24 35.3**	**+0.7**
TUTA	**Tutak**	**0.84**	**343**	P	**Pg**	**07 24 22.9**	**-0.7**
TUTA				S	**Sg**	**07 24 35.3**	**+0.7**
AGRB	**Hanur-Agry**	**0.99**	**354**	*e*PG	**Pn**	**07 24 27.8**	**+0.1**
AGRB				*e*SG	**Sn**	**07 24 42.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.99**	**354**	*e*Pg	**Pn**	**07 24 27.8**	**+0.1**
AGRB				*e*Sg	**Sn**	**07 24 42.2**	**+0.1**
EKAR	**Karacoban**	**1.06**	**309**	*i* P	**Pn**	**07 24 28.3**	**-0.5**
EKAR				*i* S	Sn	07 24 52.1	+8.1
EKAR	**Karacoban**	**1.06**	**309**	P	**Pn**	**07 24 28.3**	**-0.5**
HAKT	**HAKKARI**	**1.13**	**156**	*i* P	**Pb**	**07 24 27.4**	**-1.8**
HAKT				*i* S	**Sn**	**07 24 48.5**	**+3.0**
HAKT	**HAKKARI**	**1.13**	**156**	P	**Pb**	**07 24 27.4**	**-1.8**
EATA	**Eleskirt**	**1.36**	**339**	*i* P	**Pb**	**07 24 33.2**	**-0.1**
EATA				*i* S	**Sg**	**07 24 52.0**	**+0.8**
EATA	**Eleskirt**	**1.36**	**339**	P	**Pb**	**07 24 33.2**	**-0.1**
EATA				S	**Sg**	**07 24 52.0**	**+0.8**

*ISK **25** 07:31:02.0, 38°.76N×43°.39E, h5km, ML3.1*
*CSEM **25** 07:31:04.0±0.4, 38°.72N×43°.25E, h2km, ML3.1, Error ellipse: s-maj=10.8km s-min=5.5km az=73.0*
*DDA **25** 07:31:04.5, 38°.73N×43°.26E, h7km, Ml3.2*
ISC 25 07:31:04.0±1.0, 38°.74N±0°.02×43°.40E±0°.05, h12km±6km, n42, σ1°47/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**184**	*e*PG	**Pg**	**07 31 07.5**	**-0.1**
VANB				*e*SG	**Sg**	**07 31 11.1**	**+1.0**
VANB	**Van**	**0.15**	**184**	*e*Pg	**Pg**	**07 31 07.5**	**-0.1**
VANB				*e*Sg	**Sg**	**07 31 11.1**	**+1.0**
GEVA	**Gevas**	**0.51**	**212**	*i* P	**Pg**	**07 31 11.3**	**-2.7**
GEVA		

2.2nm,0.6s,baz=27,slow=24,SNR=3.6

*CSEM **25** 07:38:13.4±0.4,38°.79N×43°.71E,h2km,ML3.4,Error*
ellipse: s-maj=9.0km s-min=5.0km az=84.0
*DDA **25** 07:38:13.0,38°.75N×43°.57E,h6km,Ml3.6*
*ISK **25** 07:38:13.7,38°.80N×43°.53E,h5km,ML3.4*
ISC 25 07:38:13.1±1.3,38°.85N±0°.02×43°.71E±0°.04,h1km±11km, n41,σ1§19/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.35**	**225**	*e*PG	**Pg**	**07 38 20.1**	**+0.2**
VANB				*e*SG	**Sg**	**07 38 26.2**	**+1.8**
VANB	**Van**	**0.35**	**225**	*e*Pg	**Pg**	**07 38 20.1**	**+0.2**
VANB				*e*Sg	**Sg**	**07 38 26.2**	**+1.8**
DYDN	**Diyadin**	**0.70**	**359**	*i* P	**Pb**	**07 38 28.3**	**0.0**
DYDN				*i* S	**Sn**	**07 38 40.0**	**-2.0**
DYDN	**Diyadin**	**0.70**	**359**	P	**Pb**	**07 38 28.3**	**0.0**
DYDN				S	**Sn**	**07 38 40.0**	**-2.0**
GEVA	**Gevas**	**0.73**	**224**	*i* P	**Pg**	**07 38 25.0**	**-2.2**
GEVA				*i* S	**Sg**	**07 38 37.2**	**+0.4**
GEVA	**Gevas**	**0.73**	**224**	P	**Pg**	**07 38 25.0**	**-2.2**
GEVA				S	**Sg**	**07 38 37.2**	**+0.4**
BASK	**Baskale_VAN**	**0.82**	**163**	*i* P	**Pg**	**07 38 28.3**	**-0.6**
BASK				*i* S	**Sb**	**07 38 43.5**	**+1.4**
BASK	**Baskale_VAN**	**0.82**	**163**	P	**Pg**	**07 38 28.3**	**-0.6**
TUTA	**Tutak**	**0.89**	**309**	*i* P	**Pg**	**07 38 29.4**	**-0.8**
TUTA				*i* S	**Sb**	**07 38 42.7**	**-1.4**
TUTA	**Tutak**	**0.89**	**309**	P	**Pg**	**07 38 29.4**	**-0.8**
TUTA				S	**Sb**	**07 38 42.7**	**-1.4**
AGRB	**Hanur-Agry**	**0.92**	**323**	*e*PG	**Pb**	**07 38 31.9**	**-0.1**
AGRB				*e*SG	**Sn**	**07 38 44.9**	**-2.5**
AGRB	**Hanur-Agry**	**0.92**	**323**	*e*Pg	**Pb**	**07 38 31.9**	**-0.1**
AGRB				*e*Sg	**Sn**	**07 38 44.9**	**-2.5**
HAKT	**HAKKARI**	**1.28**	**180**	*i* P	**Pg**	**07 38 35.5**	**-2.2**
HAKT	**HAKKARI**	**1.28**	**180**	P	**Pg**	**07 38 35.5**	**-2.2**
EKAR	**Karacoban**	**1.34**	**288**	*i* P	**Pb**	**07 38 38.7**	**-0.6**
EKAR				*i* S	**Sn**	**07 38 59.9**	**+2.0**
EKAR	**Karacoban**	**1.34**	**288**	P	**Pb**	**07 38 38.7**	**-0.6**
EKAR				S	**Sn**	**07 38 59.9**	**+2.0**
EATA	**Eleskirt**	**1.39**	**318**	*i* P	**Pb**	**07 38 39.4**	**-0.6**
EATA				*i* S	**Sn**	**07 39 00.4**	**+1.3**
EATA	**Eleskirt**	**1.39**	**318**	P	**Pb**	**07 38 39.4**	**-0.6**
EATA				S	**Sn**	**07 39 00.4**	**+1.3**
DIGO	**Kars**	**1.59**	**351**	*i* P	**Pg**	**07 38 44.9**	**+1.3**
DIGO	**Kars**	**1.59**	**351**	P	**Pg**	**07 38 44.9**	**+1.3**
CUKT	**Cukurca**	**1.60**	**183**	*e*PN	**Pb**	**07 38 43.8**	**+0.3**
CUKT	**Cukurca**	**1.60**	**183**	*e*Pn	**Pb**	**07 38 43.8**	**+0.3**
HOMI	**Horasan**	**1.84**	**311**	*i* P	**Pg**	**07 38 47.8**	**-0.6**
BNGL	**BINGOL**	**2.00**	**274**	*i* P	**Pb**	**07 38 50.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.09**	**251**	*e*PN	**Pn**	**07 38 49.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.09**	**251**	*i* P	**Pn**	**07 38 49.9**	**+0.5**
SVAN				*i* S	**Sn**	**07 39 16.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.09**	**251**	*e*Pn	**Pn**	**07 38 49.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.09**	**251**	P	**Pn**	**07 38 49.9**	**+0.5**
SVAN				S	**Sn**	**07 39 16.3**	**+0.3**
ERZM	**Erzurum**	**2.10**	**301**	*i* P	**Pb**	**07 38 51.0**	**-1.2**
ERZM	**Erzurum**	**2.10**	**301**	P	**Pb**	**07 38 51.0**	**-1.2**
BTMN	**Batman**	**2.14**	**244**	*i* P	**Pn**	**07 38 50.0**	**-0.1**
BTMN				*i* S	**Sb**	**07 39 20.4**	**+0.6**
BTMN	**Batman**	**2.14**	**244**	P	**Pn**	**07 38 50.0**	**-0.1**
BTMN				S	**Sb**	**07 39 20.5**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.53**	**285**	*e*PN	**Pn**	**07 38 56.0**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.53**	**285**	*e*Pn	**Pn**	**07 38 56.0**	**+0.5**
MARD	**Mardin**	**2.77**	**237**	*i* P	**Pn**	**07 38 59.3**	**+0.5**
MAZI	**Mazidag**	**2.92**	**243**	*e*PN	**Pn**	**07 39 01.3**	**+0.4**
MAZI	**Mazidag**	**2.92**	**243**	*e*Pn	**Pn**	**07 39 01.3**	**+0.4**
PTK	**Pertek**	**3.37**	**272**	*e*PN	**Pn**	**07 39 08.0**	**+0.9**
PTK	**Pertek**	**3.37**	**272**	*e*Pn	**Pn**	**07 39 08.0**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.48**	**264**	*e*PN	**Pn**	**07 39 09.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.48**	**264**	*e*Pn	**Pn**	**07 39 09.2**	**+0.6**

*CSEM **25** 07:51:33.6±0.2,38°.71N×43°.16E,h2km,ML3.3,Error*
ellipse: s-maj=6.6km s-min=4.4km az=68.0
*DDA **25** 07:51:33.7,38°.70N×43°.07E,h7km,Ml3.5*
*ISK **25** 07:51:33.2,38°.77N×43°.27E,h10km,ML3.3*
ISC 25 07:51:34.2±0.9,38°.73N±0°.02×43°.19E±0°.03,h15km±7km, n49,σ1§37/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**132**	*e*PG	**Pg**	**07 51 38.9**	**-0.2**
VANB				*e*SG	**Sg**	**07 51 44.0**	**+1.6**
VANB	**Van**	**0.20**	**132**	*e*Pg	**Pg**	**07 51 38.9**	**-0.2**
VANB				*e*Sg	**Sg**	**07 51 44.0**	**+1.6**
GEVA	**Gevas**	**0.43**	**194**	*i* P	**Pg**	**07 51 40.3**	**-2.7**
GEVA				*i* S	**Sg**	**07 51 47.5**	**-1.4**
GEVA	**Gevas**	**0.43**	**194**	P	**Pg**	**07 51 40.3**	**-2.7**
GEVA				S	**Sg**	**07 51 47.5**	**-1.4**
TUTA	**Tutak**	**0.73**	**336**	*i* P	**Pg**	**07 51 47.6**	**-1.0**
TUTA	**Tutak**	**0.73**	**336**	P	**Pg**	**07 51 47.6**	**-1.0**
AGRB	**Hanur-Agry**	**0.86**	**350**	*e*PG	**Pb**	**07 51 50.0**	**-0.9**
AGRB				*e*SG	**Sb**	**07 52 01.4**	**-0.9**
AGRB	**Hanur-Agry**	**0.86**	**350**	*e*Pg	**Pb**	**07 51 50.0**	**-0.9**
AGRB				*e*Sg	**Sb**	**07 52 01.4**	**-0.9**
DYDN	**Diyadin**	**0.90**	**25**	*i* P	**Pn**	**07 51 52.5**	**0.0**
DYDN	**Diyadin**	**0.90**	**25**	P	**Pn**	**07 51 52.5**	**0.0**
BASK	**Baskale_VAN**	**0.93**	**137**	*i* P	**Pg**	**07 51 50.8**	**-1.5**
BASK				*i* S	**Sn**	**07 52 05.2**	**-0.9**
BASK	**Baskale_VAN**	**0.93**	**137**	P	**Pg**	**07 51 50.8**	**-1.5**
BASK				S	**Sn**	**07 52 05.2**	**-0.9**
EKAR	**Karacoban**	**1.02**	**301**	*i* P	**Pg**	**07 51 52.7**	**-1.4**
EKAR	**Karacoban**	**1.02**	**301**	P	**Pg**	**07 51 52.7**	**-1.4**
HAKT	**HAKKARI**	**1.24**	**161**	*i* P	**Pn**	**07 51 56.0**	**-1.2**
HAKT	**HAKKARI**	**1.24**	**161**	P	**Pn**	**07 51 56.0**	**-1.2**
EATA	**Eleskirt**	**1.25**	**334**	*i* P	**Pn**	**07 51 56.9**	**-0.6**
EATA	**Eleskirt**	**1.25**	**334**	P	**Pn**	**07 51 56.9**	**-0.6**
SIRN	**Ş¨–rnak**	**1.38**	**207**	*i* P	**Sb**	**07 52 17.9**	**+0.7**
CUKT	**Cukurca**	**1.52**	**167**	*e*PN	**Pn**	**07 52 01.4**	**+0.5**
CUKT	**Cukurca**	**1.52**	**167**	*i* P	**Pb**	**07 52 02.3**	**+0.2**
CUKT				*i* S	**Sg**	**07 52 26.1**	**+2.9**
CUKT	**Cukurca**	**1.52**	**167**	*e*Pn	**Pn**	**07 52 01.4**	**+0.5**
CUKT	**Cukurca**	**1.52**	**167**	P	**Pb**	**07 52 02.3**	**+0.2**
CUKT				S	**Sg**	**07 52 26.1**	**+2.9**
BNGL	**BINGOL**	**1.61**	**279**	*i* P	**Pn**	**07 52 02.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*PN	**Pn**	**07 52 03.4**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*i* P	**Pn**	**07 52 02.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	P	**Pn**	**07 52 02.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*Pn	**Pn**	**07 52 03.4**	**+0.5**
DIGO	**Kars**	**1.69**	**5**	*i* P	**Pg**	**07 52 05.6**	**-1.1**
DIGO	**Kars**	**1.69**	**5**	P	**Pg**	**07 52 05.6**	**-1.1**
BTMN	**Batman**	**1.73**	**242**	*i* P	**Pn**	**07 52 04.9**	**+1.1**
BTMN				*i* S	**Sn**	**07 52 27.1**	**+1.5**
BTMN	**Batman**	**1.73**	**242**	P	**Pn**	**07 52 04.9**	**+1.1**
BTMN				S	**Sn**	**07 52 27.1**	**+1.5**
ERZM	**Erzurum**	**1.84**	**310**	*i* P	**Pb**	**07 52 07.5**	**-0.2**
ERZM	**Erzurum**	**1.84**	**310**	P	**Pb**	**07 52 07.5**	**-0.2**
EAK	**Akyaka**	**1.98**	**9**	*i* P	**Pg**	**07 52 12.9**	**+0.6**
EAK	**Akyaka**	**1.98**	**9**	P	**Pg**	**07 52 12.9**	**+0.6**
BNGB	**Bing¶ll**	**1.98**	**278**	*e*PN	**Pn**	**07 52 08.5**	**+1.3**
BINT	**Bingol**	**2.12**	**275**	*e*Pn	**Pn**	**07 52 08.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*PN	**Pn**	**07 52 11.6**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*Pn	**Pn**	**07 52 11.6**	**+1.5**
MARD	**Mardin**	**2.38**	**234**	*i* P	**Pb**	**07 52 16.1**	**-0.6**
DDEM	**Demirkent**	**2.43**	**333**	*i* P	**Pb**	**07 52 15.7**	**-1.9**
DDEM	**Demirkent**	**2.43**	**333**	P	**Pb**	**07 52 15.7**	**-1.9**
MAZI	**Mazidag**	**2.51**	**240**	*e*PN	**Pn**	**07 52 16.8**	**+2.2**
MAZI	**Mazidag**	**2.51**	**240**	*e*Pn	**Pn**	**07 52 16.8**	**+2.2**
ARTV	**Artvin**	**2.64**	**339**	*i* P	**Pb**	**07 52 22.0**	**+0.7**
ARTV	**Artvin**	**2.64**	**339**	P	**Pb**	**07 52 22.0**	**+0.7**
PTK	**Pertek**	**2.97**	**274**	*e*PN	**Pn**	**07 52 23.3**	**+2.3**
PTK	**Pertek**	**2.97**	**274**	*e*Pn	**Pn**	**07 52 23.3**	**+2.3**

*ISK **25** 08:01:24.5,38°.70N×43°.19E,h10km,ML2.7*
*CSEM **25** 08:01:25.5±0.3,38°.70N×43°.21E,h10km,ML2.7,Error*
ellipse: s-maj=8.5km s-min=4.8km az=71.0
*DDA **25** 08:01:25.3,38°.66N×43°.17E,h7km,Ml2.8*
ISC 25 08:01:25.8±0.9,38°.69N±0°.03×43°.18E±0°.03,h14km±7km, n23,σ1§50/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**120**	*e*PG	**Pg**	**08 01 30.3**	**0.0**
VANB				*e*SG	**Sg**	**08 01 34.3**	**+1.0**
VANB	**Van**	**0.19**	**120**	*e*Pg	**Pg**	**08 01 30.3**	**0.0**
VANB				*e*Sg	**Sg**	**08 01 34.3**	**+1.0**
GEVA	**Gevas**	**0.39**	**194**	*i* P	**Pg**	**08 01 32.5**	**-1.2**
GEVA				*i* S	**Sg**	**08 01 39.4**	**+0.3**
GEVA	**Gevas**	**0.39**	**194**	P	**Pg**	**08 01 32.5**	**-1.2**
GEVA				S	**Sg**	**08 01 39.3**	**+0.3**
TUTA	**Tutak**	**0.77**	**338**	*i* P	**Pg**	**08 01 40.5**	**-0.3**
TUTA				*i* S	**Sn**	**08 01 53.1**	**-1.0**
TUTA	**Tutak**	**0.77**	**338**	P	**Pg**	**08 01 40.5**	**-0.3**
TUTA				S	**Sn**	**08 01 53.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*PG	**Pg**	**08 01 41.9**	**-1.3**
AGRB				*e*SG	**Sb**	**08 01 54.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*Pg	**Pg**	**08 01 41.9**	**-1.3**
AGRB				*e*Sg	**Sb**	**08 01 54.7**	**-0.6**
EKAR	**Karacoban**	**1.04**	**303**	*i* P	**Pb**	**08 01 45.8**	**+0.1**
EKAR				*i* S	**Sn**	**08 02 07.8**	**+7.1**
EKAR	**Karacoban**	**1.04**	**303**	P	**Pb**	**08 01 45.8**	**+0.1**
HAKT	**HAKKARI**	**1.20**	**160**	*i* P	**Pb**	**08 01 47.3**	**-1.3**
HAKT				*i* S	**Sn**	**08 02 07.2**	**+2.4**
HAKT	**HAKKARI**	**1.20**	**160**	P	**Pb**	**08 01 47.3**	**-1.3**
HAKT				S	**Sn**	**08 02 07.2**	**+2.4**
EATA	**Eleskirt**	**1.29**	**336**	*i* P	**Pg**	**08 01 50.0**	**-0.6**
EATA				*i* S	**Sn**	**08 02 07.7**	**+0.7**
EATA	**Eleskirt**	**1.29**	**336**	P	**Pg**	**08 01 50.0**	**-0.6**
EATA				S	**Sn**	**08 02 07.7**	**+0.7**
CUKT	**Cukurca**	**1.48**	**167**	*e*PN	**Pn**	**08 01 52.0**	**-0.2**
CUKT	**Cukurca**	**1.48**	**167**	*e*Pn	**Pn**	**08 01 52.0**	**-0.2**
BNGL	**BINGOL**	**1.60**	**280**	*e*P	**Pb**	**08 01 55.5**	**+0.1**
BNGL				*i* S	**Sg**	**08 02 19.0**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*PN	**Pn**	**08 01 54.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*i* P	**Pb**	**08 01 55.9**	**-0.1**
SVAN				*i* S	**Sg**	**08 02 17.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*Pn	**Pn**	**08 01 54.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	P	**Pb**	**08 01 55.9**	**-0.1**
SVAN				S	**Sg**	**08 02 17.9**	**-0.9**
BTMN	**Batman**	**1.70**	**243**	*e*P	**Pn**	**08 01 55.2**	**0.0**
BTMN				*i* S	**Sg**	**08 02 19.7**	**-0.8**
BTMN	**Batman**	**1.70**	**243**	P	**Pn**	**08 01 55.2**	**0.0**
BTMN				S	**Sg**	**08 02 19.7**	**-0.8**

*ISK **25** 08:17:32.7,38°.76N×43°.50E,h4km,ML3.1*
*CSEM **25** 08:17:33.3±0.5,38°.75N×43°.44E,h2km,ML3.1,Error*
ellipse: s-maj=12.0km s-min=4.6km az=74.0
*DDA **25** 08:17:33.4,38°.72N×43°.34E,h7km,Ml3.1*
*ISCJB **25** 08:17:34.0±0.9,38°.77N±0°.03×43°.48E±0°.09,h12km±5km,*
Error ellipse: s-maj=11.9km s-min=4.4km az=166.8
ISC 25 08:17:34.7±1.0,38°.74N±0°.03×43°.37E±0°.05,h15km±6km, n24,σ1§42/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**173**	*e*PG	**Pg**	**08 17 38.4**	**-0.2**
VANB				*e*SG	**Sg**	**08 17 42.6**	**+1.5**
VANB	**Van**	**0.14**	**173**	*e*Pg	**Pg**	**08 17 38.4**	**-0.2**
GEVA	**Gevas**	**0.49**	**210**	*i* P	**Pg**	**08 17 42.1**	**-2.3**
GEVA				*i* S	**Sg**	**08 17 50.5**	**-0.5**
GEVA	**Gevas**	**0.49**	**210**	P	**Pg**	**08 17 42.2**	**-2.3**
GEVA				S	**Sg**	**08 17 50.5**	**-0.5**
TUTA	**Tutak**	**0.79**	**327**	*i* P	**Pg**	**08 17 48.8**	**-1.4**
TUTA				*i* S	**Sg**	**08 18 00.2**	**-0.5**
TUTA	**Tutak**	**0.79**	**327**	P	**Pg**	**08 17 48.8**	**-1.4**
TUTA				S	**Sg**	**08 18 00.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.89**	**341**	*e*PG	**Pg**	**08 17 50.5**	**-1.5**
AGRB				*e*SG	**Sb**	**08 18 03.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**341**	*e*Pg	**Pg**	**08 17 50.5**	**-1.5**
AGRB				*e*Sg	**Sb**	**08 18 03.9**	**+0.1**
EKAR	**Karacoban**	**1.14**	**298**	*i* P	**Pg**	**08 17 55.4**	**-1.4**
EKAR				*i* S	**Sn**	**08 18 13.6**	**+1.7**
EKAR	**Karacoban**	**1.14**	**298**	P	**Pg**	**08 17 55.4**	**-1.4**
EKAR				S	**Sn**	**08 18 13.6**	**+1.7**
HAKT	**HAKKARI**	**1.21**	**167**	*i* P	**Pg**	**08 17 56.1**	**-1.9**
HAKT				*i* S	**Sn**	**08 18 13.8**	**+0.2**
HAKT	**HAKKARI**	**1.21**	**167**	P	**Pg**	**08 17 56.1**	**-1.9**
HAKT				S	**Sn**	**08 18 13.8**	**+0.2**
EATA	**Eleskirt**	**1.31**	**329**	*i* P	**Pg**	**08 17 58.6**	**-1.5**
EATA				*i* S	**Sn**	**08 18 18.0**	**+1.6**
EATA	**Eleskirt**	**1.31**	**329**	P	**Pg**	**08 17 58.6**	**-1.5**
EATA				S	**Sn**	**08 18 18.0**	**+1.6**
CUKT	**Cukurca**	**1.50**	**173**	*e*PN	**Pb**	**08 18 01.8**	**-0.6**
CUKT	**Cukurca**	**1.50**	**173**	*e*Pn	**Pb**	**08 18 01.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*e*PN	**Pb**	**08 18 06.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*e*Pn	**Pb**	**08 18 06.9**	**-0.5**
BTMN	**Batman**	**1.85**	**244**	*i* P	**Pn**	**08 18 06.4**	**+0.3**
BTMN				*i* S	**Sn**	**08 18 31.6**	**+2.3**
BTMN	**Batman**	**1.85**	**244**	P	**Pn**	**08 18 06.4**	**+0.3**
BTMN				S	**Sn**	**08 18 31.6**	**+2.3**
BNGB	**Bing¶ll**	**2.11**	**278**	*e*PN	**Pb**	**08 18 11.9**	**-0.9**
BINT	**Bingol**	**2.25**	**274**	*e*Pn	**Pn**	**08 18 11.9**	**+0.3**
MAZI	**Mazidag**	**2.63**	**242**	*e*PN	**Pn**	**08 18 18.9**	**+2.1**
MAZI	**Mazidag**	**2.63**	**242**	*e*Pn	**Pn**	**08 18 18.9**	**+2.1**

*CSEM **25** 08:19:05.8±0.4,38°.77N×43°.63E,h2km,ML3.1,Error*
ellipse: s-maj=9.1km s-min=4.7km az=74.0
*DDA **25** 08:19:06.4,38°.77N×43°.53E,h15km,Ml3.6*
*ISK **25** 08:19:06.4,38°.77N×43°.48E,h7km,ML3.1*
ISC 25 08:19:06.5±1.2,38°.78N±0°.02×43°.62E±0°.04,h9km±9km, n37,σ1§50/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**224**	*e*PG	**Pg**	**08 19 12.2**	**+0.6**
VANB				*e*SG	**Sg**	**08 19 16.4**	**+1.2**
VANB	**Van**	**0.26**	**224**	*e*Pg	**Pg**	**08 19 12.3**	**+0.6**
VANB				*e*Sg	**Sg**	**08 19 16.4**	**+1.2**
GEVA	**Gevas**	**0.64**	**223**	*i* P	**Pg**	**08 19 17.2**	**-1.7**
GEVA				*i* S	**Sg**	**08 19 26.9**	**-0.5**
GEVA	**Gevas**	**0.64**	**223**	P	**Pg**	**08 19 17.2**	**-1.7**
GEVA				S	**Sg**	**08 19 26.9**	**-0.5**
BASK	**Baskale_VAN**	**0.79**	**157**	*i* P	**Pg**	**08 19 20.1**	**-1.6**
BASK				*i* S	**Sn**	**08 19 34.5**	**-1.5**
BASK	**Baskale_VAN**	**0.79**	**157**	P	**Pg**	**08 19 20.1**	**-1.6**
TUTA	**Tutak**	**0.88**	**315**	*i* P	**Pg**	**08 19 22.4**	**-1.0**
TUTA				*i* S	**Sb**	**08 19 36.1**	**+0.1**
TUTA	**Tutak**	**0.88**	**315**	P	**Pg**	**08 19 22.4**	**-1.0**
TUTA				S	**Sb**	**08 19 36.1**	**+0.1**
AGRB	**Hanur-Agry**	**0.93**	**329**	*e*PG	**Pb**	**08 19 23.8**	**-1.1**
AGRB				*e*SG	**Sb**	**08 19 36.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.93**	**329**	*e*Pg	**Pb**	**08 19 23.8**	**-1.1**
AGRB				*e*Sg	**Sb**	**08 19 36.6**	**-0.8**
HAKT	**HAKKARI**	**1.23**	**177**	*i* P	**Pg**	**08 19 28.4**	**-1.6**
HAKT				*i* S	**Sn**	**08 19 48.2**	**+1.3**
HAKT	**HAKKARI**	**1.23**	**177**	P	**Pg**	**08 19 28.4**	**-1.6**
HAKT				S	**Sn**	**08 19 48.2**	**+1.3**
EKAR	**Karacoban**	**1.30**	**292**	*i* P	**Pn**	**08 19 30.2**	**-0.8**
EKAR				*i* S	**Sn**	**08 19 51.4**	**+2.7**
EKAR	**Karacoban**	**1.30**	**292**	P	**Pn**	**08 19 30.2**	**-0.8**
EKAR				S	**Sn**	**08 19 51.4**	**+2.7**
EATA	**Eleskirt**	**1.39**	**321**	*i* P	**Pg**	**08 19 32.1**	**-1.0**
EATA				*i* S	**Sn**	**08 19 51.1**	**+0.1**
EATA	**Eleskirt**	**1.39**	**321**	P	**Pg**	**08 19 32.1**	**-1.0**
EATA				S	**Sn**	**08 19 51.1**	**+0.1**
CUKT	**Cukurca**	**1.53**	**180**	*e*PN	**Pg**	**08 19 34.7**	**-1.2**
CUKT	**Cukurca**	**1.53**	**180**	*i* P	**Pg**	**08 19 35.7**	**-0.2**
CUKT				*i* S	**Sg**	**08 20 01.0**	**+5.2**
CUKT	**Cukurca**	**1.53**	**180**	*e*Pn	**Pg**	**08 19 34.7**	**-1.2**
CUKT	**Cukurca**	**1.53**	**180**	P	**Pg**	**08 19 35.7**	**-0.2**
DIGO	**Kars**	**1.64**	**353**	*i* P	**Pg**	**08 19 37.8**	**-0.1**
DIGO				*i* S	**Sg**	**08 20 04.0**	**+4.7**
DIGO	**Kars**	**1.64**	**353**	P	**Pg**	**08 19 37.8**	**-0.1**
BNGL	**BINGOL**	**1.93**	**276**	*i* P	**Pb**	**08 19 41.0**	**-1.1**
BNGL				*i* S	**Sn**	**08 20 03.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*e*PN	**Pn**	**08 19 39.9**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*i* P	**Pn**	**08 19 39.8**	**-0.7**
SVAN				*i* S	**Sn**	**08 20 07.9**	**+2.2**
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*e*Pn	**Pn**	**08 19 39.9**	**-0.7**
SVAN				S	**Sn**	**08 20 07.9**	**+2.2**
BTMN	**Batman**	**2.05**	**245**	*i* P	**Pn**	**08 19 41.4**	**+0.2**
BTMN				*i* S	**Sn**	**08 20 09.1**	**+2.1**
BTMN	**Batman**	**2.05**	**245**	P	**Pn**	**08 19 41.4**	**+0.2**
BTMN				S	**Sn**	**08 20 09.1**	**+2.1**
ERZM	**Erzurum**	**2.08**	**303**	*i* P	**Pb**	**08 19 43.9**	**-0.6**
ERZM				*i* S	**Sg**	**08 20 12.2**	**-1.0**
ERZM	**Erzurum**	**2.08**	**303**	P	**Pb**	**08 19 43.8**	**-0.6**
ERZM				S	**Sg**	**08 20 12.2**	**-1.0**
BNGB	**Bing¶ll**	**2.30**	**276**	*e*PN	**Pn**	**08 19 44.4**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.48**	**286**	*e*PN	**Pn**	**08 19 47.7**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.48**	**286**	*e*Pn	**Pn**	**08 19 47.7**	**+0.5**
MAZI	**Mazidag**	**2.83**	**243**	*e*PN	**Pn**	**08 19 52.1**	**+0.1**
MAZI	**Mazidag**	**2.83**	**243**	*e*Pn	**Pn**	**08 19 52.1**	**+0.1**
PTK	**Pertek**	**3.30**	**273**	*e*PN	**Pn**	**08 19 58.3**	**-0.2**
PTK	**Pertek**	**3.30**	**273**	*e*Pn	**Pn**	**08 19 58.3**	**-0.2**

*CSEM **25** 08:28:41.3,38°.75N×42°.83E,h5km,MD2.7*
*ISK **25** 08:28:41.3,38°.75N×42°.83E,h5km,MD2.7*
*ISCJB **25** 08:28:43.6±0.5,38°.76N±0°.03×42°.78E±0°.05,h10km,Error*
ellipse: s-maj=6.2km s-min=4.4km az=156.6
*DDA **25** 08:29:39.7,38°.88N×43°.64E,h20km,Ml3.0*
ISC 25 08:28:42.6±0.8,38°.80N±0°.03×42°.88E±0°.04,h10km,n24, σ3§06/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.45**	**117**	*e*PG	**Pb**	**08 28 52.1**	**-0.5**
VANB				*e*SG	**Sb**	**08 29 00.7**	**+1.4**
VANB	**Van**	**0.45**	**117**	*e*Pg	**Pb**	**08 28 52.1**	**-0.5**
VANB				*e*Sg	**Sb**	**08 29 00.7**	**+1.4**
GEVA	**Gevas**	**0.50**	**164**	*i* P	**Pn**	**08 28 56.9**	**+0.9**
GEVA				*i* S	Sb	08 29 11.2	+10
GEVA	**Gevas**	**0.50**	**164**	P	**Pn**	**08 28 56.9**	**+0.9**
GEVA				S	Sb	08 29 11.2	+10
TUTA	**Tutak**	**0.61**	**355**	*i* P	**Pn**	**08 28 58.3**	**+0.8**
TUTA				*i* S	**Sn**	**08 29 09.6**	**+2.0**
TUTA	**Tutak**	**0.61**	**355**	P	**Pn**	**08 28 58.3**	**+0.8**
TUTA				S	**Sn**	**08 29 09.6**	**+2.1**
AGRB	**Hanur-Agry**	**0.78**	**6**	*e*PG	**Pb**	**08 28 58.6**	**+0.2**
AGRB				*e*SG	**Sn**	**08 29 11.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.78**	**6**	*e*Pg	**Pb**	**08 28 58.6**	**+0.2**
AGRB				*e*Sg	**Sn**	**08 29 11.2**	**-0.6**
DYDN	**Diyadin**	**0.98**	**40**	*i* P	Pg	08 28 55.5	-5.8
DYDN				*i* S	**Sg**	**08 29 06.3**	**-7.8**
DYDN	**Diyadin**	**0.98**	**40**	P	Pg	08 28 55.5	-5.9
DYDN				S	**Sg**	**08 29 06.3**	**-7.8**
EATA	**Eleskirt**	**1.11**	**344**	*i* P	**Pn**	**08 29 07.2**	**+2.8**
EATA				*i* S	**Sn**	**08 29 27.5**	**+7.5**
EATA	**Eleskirt**	**1.11**	**344**	P	**Pn**	**08 29 07.2**	**+2.7**
EATA				S	**Sn**	**08 29 27.5**	**+7.5**
HAKT	**HAKKARI**	**1.40**	**152**	*i* P	**Pb**	**08 29 07.3**	**-1.6**
HAKT				*i* S	**Sg**	**08 29 29.0**	**+1.5**
HAKT	**HAKKARI**	**1.40**	**152**	P	**Pb**	**08 29 07.3**	**-1.6**
HAKT				S	**Sg**	**08 29 29.0**	**+

GEVA				S		Sg	08 33 07.7	-2.1
BASK	**Baskale_VAN**	**0.88**	**138**	*i* P		**Pg**	**08 33 10.6**	**-1.9**
BASK				*i* S		**Sb**	**08 33 23.9**	**-0.6**
BASK	**Baskale_VAN**	**0.88**	**138**	P		**Pg**	**08 33 10.6**	**-1.9**
BASK				S		**Sb**	**08 33 24.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.89**	**346**	*e*PG		**Pg**	**08 33 10.4**	**-2.2**
AGRB				*e*SG		**Sg**	**08 33 23.0**	**-1.2**
AGRB	**Hanur-Agry**	**0.89**	**346**	*e*Pg		**Pg**	**08 33 10.4**	**-2.2**
AGRB				*e*Sg		**Sg**	**08 33 23.0**	**-1.2**
DYDN	**Diyadin**	**0.89**	**22**	*i* P		**Pg**	**08 33 10.8**	**-1.9**
DYDN				*i* S		**Sb**	**08 33 24.9**	**-0.1**
DYDN	**Diyadin**	**0.89**	**22**	P		**Pg**	**08 33 10.8**	**-1.9**
DYDN				S		**Sb**	**08 33 24.9**	**-0.1**
EKAR	**Karacoban**	**1.08**	**300**	*i* P		**Pb**	**08 33 16.5**	**+0.3**
EKAR				*i* S		**Sn**	**08 33 33.7**	**+2.0**
EKAR	**Karacoban**	**1.08**	**300**	P		**Pb**	**08 33 16.5**	**+0.3**
HAKT	**HAKKARI**	**1.21**	**163**	*i* P		**Pb**	**08 33 16.7**	**-1.6**
HAKT				*i* S		**Sn**	**08 33 36.4**	**+1.7**
HAKT	**HAKKARI**	**1.21**	**163**	P		**Pb**	**08 33 16.7**	**-1.6**
HAKT				S		**Sn**	**08 33 36.4**	**+1.7**
EATA	**Eleskirt**	**1.29**	**333**	*i* P		**Pn**	**08 33 18.1**	**-1.6**
EATA				*i* S		**Sb**	**08 33 36.5**	**-0.1**
EATA	**Eleskirt**	**1.29**	**333**	P		**Pn**	**08 33 18.0**	**-1.6**
EATA				S		**Sb**	**08 33 36.5**	**-0.1**
SIRN	**S¨–rnak**	**1.39**	**209**	*i* P		**Pn**	**08 33 19.8**	**-0.9**
SIRN				*i* S		**Sg**	**08 33 39.7**	**-0.4**
SIRN	**S¨–rnak**	**1.39**	**209**	P		**Pn**	**08 33 19.8**	**-0.9**
SIRN				S		**Sg**	**08 33 39.7**	**-0.4**
CUKT	**Cukurca**	**1.49**	**169**	*e*PN		**Pb**	**08 33 23.0**	**-0.1**
CUKT	**Cukurca**	**1.49**	**169**	*i* P		**Pb**	**08 33 22.9**	**-0.1**
CUKT				*i* S		**Sg**	**08 33 46.2**	**+2.9**
CUKT	**Cukurca**	**1.49**	**169**	*e*Pn		**Pb**	**08 33 23.0**	**-0.1**
CUKT				S		**Sg**	**08 33 46.2**	**+2.9**
BNGL	**BINGOL**	**1.67**	**279**	*i* P		**Pn**	**08 33 24.3**	**-0.4**
BNGL				*i* S		**Sb**	**08 33 47.4**	**+0.1**
HOMI	**Horasan**	**1.70**	**322**	*i* P		**Pn**	**08 33 25.5**	**+0.4**
HOMI				*i* S		**Sg**	**08 33 52.9**	**+2.8**
DIGO	**Kars**	**1.70**	**3**	*i* P		**Pb**	**08 33 26.2**	**-0.6**
DIGO				*i* S		**Sg**	**08 33 54.1**	**+3.9**
DIGO	**Kars**	**1.70**	**3**	P		**Pb**	**08 33 26.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*PN		**Pn**	**08 33 25.5**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*i* P		**Pn**	**08 33 25.2**	**+0.1**
SVAN				*i* S		**Sb**	**08 33 48.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	P		**Pn**	**08 33 25.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.72**	**252**	*e*Pn		**Pn**	**08 33 25.5**	**+0.3**
SVAN				S		**Sb**	**08 33 48.7**	**+0.2**
BTMN	**Batman**	**1.77**	**243**	*i* P		**Pn**	**08 33 26.1**	**+0.1**
BTMN				*i* S		**Sn**	**08 33 49.3**	**+0.9**
BTMN	**Batman**	**1.77**	**243**	P		**Pn**	**08 33 26.1**	**+0.1**
BTMN				S		**Sn**	**08 33 49.3**	**+0.9**
BNGB	**Bing˜¶l**	**2.04**	**279**	*e*PN		**Pn**	**08 33 30.9**	**+1.2**
BINT	**Bingol**	**2.17**	**275**	*e*Pn		**Pn**	**08 33 30.9**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*PN		**Pn**	**08 33 33.7**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.24**	**290**	*e*Pn		**Pn**	**08 33 33.7**	**+1.2**
MARD	**Mardin**	**2.41**	**235**	*i* P		**Pn**	**08 33 35.9**	**+1.1**
MARD				*i* S		**Sb**	**08 34 08.0**	**-0.5**
MAZI	**Mazidag**	**2.55**	**241**	*e*PN		**Pn**	**08 33 38.9**	**+2.2**
MAZI	**Mazidag**	**2.55**	**241**	*e*Pn		**Pn**	**08 33 38.9**	**+2.2**
PTK	**Pertek**	**3.03**	**275**	*e*PN		**Pn**	**08 33 45.0**	**+1.6**
PTK	**Pertek**	**3.03**	**275**	*e*Pn		**Pn**	**08 33 45.0**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*PN		**Pn**	**08 33 47.1**	**+2.5**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*Pn		**Pn**	**08 33 47.1**	**+2.5**

*IDC **25** 08:34:31.4±2.0, 38°.47N×145°.00E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.5/58, mbtmp3.7/7, ML3.2/4, Error ellipse: s-maj=49.1km s-min=23.7km az=75.0*
*ISCJB **25** 08:34:34.8±0.8, 38°.64N±0°.04×144°.73E±0°.06, h43km, mb3.6/3, Error ellipse: s-maj=6.9km s-min=5.6km az=31.4*
*JMA **25** 08:34:36.2±0.2, 38°.53N×144°.60E, h47km, M3.6*
ISC 25 08:34:36.4±1.3, 38°.58N±0°.06×144°.76E±0°.10, h43km, n30, σ2°03/36, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**283**	P	**Pn**	**08 35 13.7**	**-0.3**
OFUJ				*e*S	**Sn**	**08 35 41.2**	**-1.7**
MIYJ	**Miyakonagasawa**	**2.49**	**294**	P	**Pn**	**08 35 14.0**	**-0.4**
MIYJ				*e*S	**Sn**	**08 35 42.4**	**-1.2**
JMK	**Ichinoseki**	**2.79**	**279**	P	**Pn**	**08 35 18.5**	**0.0**
JMK				*e*S	**Sn**	**08 35 49.9**	**-1.0**
JOM	**Ohasama**	**2.84**	**289**	P	**Pn**	**08 35 19.4**	**+0.2**
JANG	**Nango**	**3.08**	**307**	P	**Pn**	**08 35 22.0**	**-0.5**
JOU	**Okura**	**3.22**	**267**	*e*S	**Sn**	**08 36 00.4**	**-1.1**
JRG	**Rokugo**	**3.32**	**286**	P	**Pn**	**08 35 26.3**	**+0.6**
JRG				*e*S	**Sn**	**08 36 03.6**	**-0.2**
JYK	**Kaneyama**	**3.46**	**277**	P	**Pn**	**08 35 27.9**	**+0.3**
JAH	**Hinai**	**3.58**	**298**	P	**Pn**	**08 35 28.8**	**-0.5**
JTM	**Tenmabayashi**	**3.60**	**309**	P	**Pn**	**08 35 30.2**	**+0.6**
JTM				*e*S	**Sn**	**08 36 09.7**	**-1.1**
JFT	**Otama**	**3.65**	**254**	P	**Pn**	**08 35 29.1**	**-1.2**
JFT				*e*S	**Sn**	**08 36 10.5**	**-1.6**
JOT	**Ohata**	**3.99**	**316**	*e*S	**Sn**	**08 36 18.9**	**-1.6**
JCH	**Churui**	**4.17**	**346**	P	**Pn**	**08 35 36.6**	**-0.8**
JCH				*e*S	**Sn**	**08 36 21.7**	**-3.1**
JKB	**Kayabe**	**4.36**	**320**	P	**Pn**	**08 35 41.3**	**+1.2**
NEM2	**Nemuro 2**	**4.84**	**9**	P	**Pn**	**08 35 44.2**	**-2.4**
NEM2				*e*S	**Sn**	**08 36 36.0**	**-5.3**
JRY	**Ryogami san**	**5.32**	**243**	P	**Pn**	**08 35 52.7**	**-0.6**
JRY				*e*S	**Sn**	**08 36 49.3**	**-4.1**
JTKR	**Abashiri--Toko**	**5.42**	**353**	P	**Pn**	**08 35 53.8**	**-0.8**
JTKR				*e*S	**Sn**	**08 36 51.5**	**-4.2**
MJAR	**Matsushiro Arr**	**5.59**	**251**	Pn	**Pn**	**08 35 58.0**	**+1.0**
	0.7nm,0.3s,baz=54,slow=11,SNR=5.0						
ASAJ	**Asahikawa**	**5.76**	**344**	Pn	**Pn**	**08 35 60.0**	**+0.6**
	1.0nm,0.3s,baz=207,slow=21,SNR=4.0						
ASAJ				Sn	**Sn**	**08 37 03.1**	**-1.0**
	0.5nm,0.3s,baz=328,slow=19,SNR=2.1						
JHJ	**Hachijo jima 2**	**6.78**	**218**	Pn	**Pn**	**08 36 11.4**	**-1.9**
	1.7nm,0.3s,baz=102,slow=20,SNR=3.9						
JHJ				Sn	**Sn**	**08 37 25.2**	**-4.1**
	2.8nm,0.3s,baz=75,slow=20,SNR=4.1						
USRK	**Ussuriysk Ar.**	**11.11**	**304**	Pn	**Pn**	**08 37 15.4**	**+2.9**
	0.3nm,0.3s,baz=108,slow=11,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**26.84**	**128**	T	T	09 08 12.7	
	baz=316,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**26.84**	**128**	T	T	09 08 13.7	
	baz=316,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	09 08 14.5	
	baz=316,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**27.65**	**130**	T	T	09 09 12.8	
	baz=318,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.65**	**130**	T	T	09 09 12.9	
	baz=318,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.66**	**130**	T	T	09 09 14.1	
	baz=318,slow=76,SNR=12						
KURBB	**Kurchatov Arra**	**47.16**	**307**	P	**P**	**08 43 06.8**	**+2.6**
	0.3nm,0.5s,baz=80,slow=7.5,SNR=3.0						
WRA	**Warramunga Arr**	**59.03**	**191**	P	**P**	**08 44 32.9**	**+1.1**
	0.7nm,0.7s,baz=9.1,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**62.75**	**191**	P	**P**	**08 44 57.9**	**+0.8**
	0.2nm,0.6s,baz=9.7,slow=7.0,SNR=4.2						

*ISCJB **25** 08:36:27.9±0.9, 38°.73N±0°.04×20°.40E±0°.05, h12km±5km, Error ellipse: s-maj=7.6km s-min=5.9km az=146.0*
*CSEM **25** 08:36:28.7±0.5, 38°.70N×20°.47E, h10km, ML2.9, Error ellipse: s-maj=8.9km s-min=5.8km az=104.0*
*ATH **25** 08:36:29.3, 38°.70N×20°.52E, h14km±4km, ML2.9/5, Error ellipse: s-maj=4.3km s-min=1.3km az=318.0*
*THE **25** 08:36:30.1, 38°.69N×20°.55E, h2km±3km, ML3.2/3, Error ellipse: s-maj=3.1km s-min=0.5km az=269.0*
ISC 25 08:36:29.0±1.0, 38°.69N±0°.03×20°.50E±0°.04, h13km±6km, n28, σ0°50/48, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.15**	**51**	P	**Pg**	**08 36 33.0**	**+0.3**
LKD2				S	**Sg**	**08 36 35.0**	**-0.3**
LKD2	**Lefkada island**	**0.15**	**51**	P	**Pg**	**08 36 33.0**	**+0.3**
LKD2				S	**Sg**	**08 36 34.6**	**-0.7**
LKD2				AML	AML	08 36 35.5	
	comp=E,30901μm,0.1s						
LKD2				AML	AML	08 36 35.6	
	comp=N,28526μm,0.3s						
LKD2	**Lefkada island**	**0.15**	**51**	P	**Pg**	**08 36 33.0**	**+0.3**
LKD2				S	**Sg**	**08 36 35.0**	**-0.3**
VLS	**Valsamata**	**0.52**	**173**	P	**Pg**	**08 36 39.5**	**+0.4**
VLS				S	**Sb**	**08 36 47.5**	**0.0**
VLS	**Valsamata**	**0.52**	**173**	P	**Pg**	**08 36 39.6**	**+0.4**
VLS				S	**Sb**	**08 36 47.5**	**0.0**
VLS				AML	AML	08 36 47.7	
	comp=E,1438μm,0.4s						
VLS				AML	AML	08 36 48.8	
	comp=N,1680μm,0.3s						
VLS	**Valsamata**	**0.52**	**173**	P	**Pg**	**08 36 39.6**	**+0.4**
VLS				S	**Sb**	**08 36 47.5**	**0.0**
PDO	**Prodromos**	**0.54**	**100**	P	**Pg**	**08 36 39.5**	**0.0**
PDO				S	**Sg**	**08 36 47.1**	**+0.3**
PDO	**Prodromos**	**0.54**	**100**	P	**Pg**	**08 36 39.6**	**0.0**
PDO				S	**Sb**	**08 36 47.6**	**-0.5**
PDO	**Prodromos**	**0.54**	**100**	P	**Pg**	**08 36 39.6**	**0.0**
PDO				S	**Sb**	**08 36 47.6**	**-0.5**
DSL	**Palaion Diasel**	**0.64**	**46**	P	**Pg**	**08 36 41.8**	**+0.3**
DSL	**Palaion Diasel**	**0.64**	**46**	P	**Pg**	**08 36 41.8**	**+0.3**
PVO	**Paravola**	**0.80**	**95**	P	**Pg**	**08 36 44.8**	**+0.2**
PVO				S	**Sb**	**08 36 55.9**	**+0.2**
PVO	**Paravola**	**0.80**	**95**	P	**Pb**	**08 36 45.0**	**+0.2**
PVO				S	**Sb**	**08 36 56.0**	**+0.4**
PVO				AML	AML	08 36 58.0	
	comp=N,4289μm,0.4s						
PVO				AML	AML	08 36 58.0	
	comp=E,2569μm,0.3s						
PVO	**Paravola**	**0.80**	**95**	P	**Pg**	**08 36 44.8**	**+0.2**
PVO				S	**Sb**	**08 36 55.9**	**+0.2**
AXS	**Araxos**	**0.85**	**126**	P	**Pg**	**08 36 45.0**	**-0.3**
AXS				S	**Sb**	**08 36 57.4**	**+0.6**
AXS	**Araxos**	**0.85**	**126**	P	**Pg**	**08 36 44.4**	**-1.0**
AXS	**Araxos**	**0.85**	**126**	P	**Pg**	**08 36 45.0**	**-0.3**
AXS				S	**Sb**	**08 36 57.4**	**+0.6**
EVR	**Evrytania**	**1.04**	**77**	P	**Pg**	**08 36 48.7**	**-0.4**
EVR	**Evrytania**	**1.04**	**77**	P	**Pg**	**08 36 48.5**	**-0.6**
EVR	**Evrytania**	**1.04**	**77**	P	**Pg**	**08 36 48.7**	**-0.4**
EFP	**Efpalio**	**1.13**	**103**	P	**Pb**	**08 36 49.3**	**-1.1**
EFP				S	**Sn**	**08 37 06.0**	**+0.1**
EFP				AML	AML	08 37 12.9	
	comp=N,716μm,0.4s						
EFP				AML	AML	08 37 13.1	
	comp=E,682μm,0.3s						
EFP	**Efpalio**	**1.13**	**103**	P	**Pb**	**08 36 49.3**	**-1.1**
EFP				S	**Sn**	**08 37 06.1**	**+0.1**
DRO	**Drossia**	**1.20**	**128**	P	**Pb**	**08 36 51.5**	**-0.2**
DRO	**Drossia**	**1.20**	**128**	P	**Pb**	**08 36 51.5**	**-0.2**
AGG	**Agios Georgios**	**1.46**	**76**	P	**Pb**	**08 36 56.2**	**+0.1**
AGG				S	**Sg**	**08 37 16.9**	**+0.8**
AGG	**Agios Georgios**	**1.46**	**76**	P	**Pb**	**08 36 56.3**	**+0.1**
AGG				S	**Sg**	**08 37 16.9**	**+0.8**
AGG				AML	AML	08 37 22.2	
	comp=N,636μm,0.5s						
AGG				AML	AML	08 37 24.3	
	comp=E,639μm,0.9s						
AGG	**Agios Georgios**	**1.46**	**76**	P	**Pb**	**08 36 56.2**	**+0.1**
AGG				S	**Sg**	**08 37 16.9**	**+0.8**
STON	**Ston**	**4.69**	**334**	*e*Pn	**Pn**	**08 37 39.8**	**+0.4**
STON				Sn	**Sn**	**08 38 32.4**	**-1.2**

*IDC **25** 08:41:57.3±1.2, 40°.62N×77°.68E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/54, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=18.9km s-min=15.1km az=12.0*
*KRNET **25** 08:41:59.2±0.1, 40°.75N×77°.80E, mb4.2*
*BJI **25** 08:42:00.7, 40°.60N×77°.74E, h10km, ML3.5/9*
*SOME **25** 08:42:01.2, 40°.70N×77°.63E, h15km, MS2.9*
*NNC **25** 08:42:02.2±2.0, 40°.76N×77°.50E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=17.3km s-min=8.9km az=152.0*
ISC 25 08:41:58.1±1.7, 40°.66N±0°.06×77°.56E±0°.03, h0km±10km, n57, σ1°69/91, mb3.7/6, 33C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.67**	**228**	Pg	Pg	08 42 37.8	+7.8
KSH				Sg	Sg	08 43 03.8	+12
KSH				smax	smax		
	comp=N,910nm,0.5s						
KSH				smax	smax		
	comp=E,910nm,0.5s						
ULHL	**Ulahol**	**1.87**	**328**	⇑*iP*	**Pg**	**08 42 35.0**	**+1.0**
	baz=322						
ULHL				⇑*iS*	**Sg**	**08 43 00.1**	**+1.8**
	baz=322						
BOOM	**Boomskoye usch**	**2.20**	**327**	⇑*eP*	**Pg**	**08 42 39.8**	**-0.5**
BOOM	baz=322						
				⇑*iS*	**Sg**	**08 43 10.1**	**+1.3**
	baz=322						
TNSS	**Tian-Shan**	**2.42**	**349**	*eP*	**Pg**	**08 42 45.9**	**+1.3**
TNSS	84nm,0.3s						
				eS	**Sg**	**08 43 18.3**	**+2.3**
	1μm,0.5s						
IZV	**Izvestkoviy**	**2.48**	**344**	*eP*	**Pg**	**08 42 46.4**	**+0.7**
	102nm,0.5s						
IZV				*eS*	**Sg**	**08 43 19.0**	**+1.2**
	754nm,0.3s						
SATY	**Saty**	**2.48**	**14**	⇑*iP*	**Pg**	**08 42 45.5**	**-0.2**
	218nm,0.7s						
SATY				*eS*	**Sg**	**08 43 17.6**	**-0.3**
	481nm,0.8s						
MDOK	**Medeo**	**2.54**	**351**	Pg	**Pb**	**08 42 43.4**	**-1.1**
MDOK				Lg	Lg	08 43 20.0	
MDOK	**Medeo**	**2.54**	**351**	*eP*	**Pb**	**08 42 44.9**	**+0.4**
	66nm,0.5s						
MDOK				*eS*	**Sb**	**08 43 16.2**	**-0.2**
	973nm,0.6s						
ZHN	**Zhinishke**	**2.59**	**14**	*eP*	**Pb**	**08 42 45.2**	**-0.3**
	60nm,0.2s						
ZHN				*eS*	**Sb**	**08 43 16.7**	**-1.3**
	694nm,0.8s						
AAA	**Alma-Ata**	**2.60**	**350**	*eP*	**Pg**	**08 42 48.7**	**+0.8**
	248nm,0.2s						
AAA				*eS*	**Sg**	**08 43 23.0**	**+1.5**
	2μm,0.4s						
KNDC	**Almaty**	**2.60**	**350**	⇑Pg	**Pg**	**08 42 48.5**	**+0.6**
KNDC				⇑Lg	Lg	08 43 22.0	
KOTS	**Kotyrbulak**	**2.60**	**353**	*eP*	**Pg**	**08 42 48.8**	**+0.9**
	104nm,0.3s						
KOTS				*eS*	**Sg**	**08 43 22.9**	**+1.3**
	316nm,0.4s						
MTBS	**Maitube**	**2.61**	**341**	*eP*	**Pg**	**08 42 48.2**	**0.0**
	90nm,0.3s						
MTBS				*eS*	**Sg**	**08 43 22.5**	**+0.4**
	162nm,0.5s						
KST	**Kastek**	**2.67**	**334**	*eP*	**Pg**	**08 42 49.4**	**+0.2**
	16nm,0.3s						
KST				*eS*	**Sg**	**08 43 24.4**	**+0.6**
	271nm,1.1s						
TKM2	**Tokmak 2**	**2.70**	**328**	⇑*iP*	**Pb**	**08 42 46.3**	**-1.1**
	baz=324						
TKM2				⇑*iS*	**Sb**	**08 43 19.9**	**-1.2**
	baz=324						
TKM2	**Tokmak 2**	**2.70**	**328**	⇑Pn	**Pb**	**08 42 46.2**	**-1.2**
	46nm,0.6s						
TKM2				⇓Lg	Lg	08 43 25.7	
	113nm,0.5s						
UZB	**Uzynbulak**	**2.72**	**23**	*eP*	**Pg**	**08 42 48.9**	**-1.3**
	63nm,0.4s						
UZB				*eS*	**Sg**	**08 43 23.3**	**-2.1**
	202nm,0.7s						
ARLS	**Aral**	**2.72**	**297**	⇓*eP*	**Pb**	**08 42 48.6**	**+0.9**
	baz=294						
ARLS				⇓*eS*	**Sb**	**08 43 24.0**	**+2.3**
	baz=294						
KBK	**Karagaybulak**	**2.80**	**316**	⇑*iP*	**Pb**	**08 42 48.8**	**-0.3**
	baz=313						
KBK				⇑*iS*	**Sb**	**08 43 25.2**	**+1.2**
	baz=313						
KURS	**Kuram**	**2.87**	**9**	*eP*	**Pg**	**08 42 52.4**	**-0.6**
	40nm,0.5s						
KURS				*eS*	**Sg**	**08 43 28.9**	**-1.3**
	74nm,0.2s						
SHLS	**Shalkode**	**2.87**	**29**	*eP*	**Pg**	**08 42 54.5**	**+1.3**
	128nm,0.3s						
SHLS				*eS*	**Sg**	**08 43 33.0**	**+2.6**
	136nm,0.3s						
DGS	**Degeres**	**2.91**	**333**	*eP*	**Pg**	**08 42 54.1**	**+0.3**
	117nm,0.3s						
DGS				*eS*	**Sg**	**08 43 32.6**	**+1.0**
	289nm,0.3s						
PDGK	**Podgornoye**	**3.03**	**28**	⇓*eP*	**Pn**	**08 42 49.4**	**+1.9**
	baz=25						
PDGK				⇓*eS*	**Sn**	**08 43 26.0**	**+1.5**
	baz=25						
PDGK	**Podgornoye**	**3.03**	**28**	⇑Pn	**Pg**	**08 42 54.2**	**-2.1**
	92nm,0.5s						
PDGK				⇓Sn	**Sb**	**08 43 26.9**	**-3.7**
	175nm,0.6s						
PDGK				⇑Lg	Lg	08 43 33.6	
	315nm,0.8s						
AAK	**Ala-Archa**	**3.04**	**312**	Pn	**Pb**	**08 42 51.4**	**-1.7**
	1.9nm,0.3s,baz=142,slow=12,SNR=13						
AAK				Pg	**Pg**	**08 42 55.9**	**-0.3**
	23nm,0.3s,baz=130,slow=9.5,SNR=45						
AAK				Lg	Lg	08 43 37.0	
	14nm,0.3s,baz=40,slow=23,SNR=10.0						
AAK	**Ala-Archa**	**3.04**	**312**	⇑*iP*	**Pb**	**08 42 52.5**	**-0.6**
	baz=308						
AAK				⇑*iS*	**Sb**	**08 43 30.5**	**-0.2**
	baz=308						
AAK	**Ala-Archa**	**3.04**	**312**	⇑Pg	**Pg**	**08 42 56.0**	**-0.2**
	38nm,0.3s						
AAK				⇓Lg	Lg	08 43 36.2	
	94nm,0.6s						
FRU1	**Bishkek**	**3.07**	**315**	⇑*iP*	**Pb**	**08 42 53.3**	**-0.4**
	baz=312						
FRU1				⇑*iS*	**Sb**	**08 43 31.4**	**-0.4**
	baz=312						
KTBS	**Karatobe**	**3.12**	**348**	*eP*	**Pg**	**08 42 58.3**	**+0.4**
	26nm,0.4s						
KTBS				*eS*	**Sg**	**08 43 39.3**	**+0.9**
	121nm,0.6s						
CHMS	**Chumysh**	**3.15**	**319**	⇑*iP*	**Pb**	**08 42 53.7**	**-1.2**
	baz=316						
CHMS				⇑*iS*	**Sb**	**08 43 32.6**	**-1.2**
	baz=316						
CHKK	**Chushkaly**	**3.23**	**353**	*eP*	**Pg**	**08 42 59.1**	**-0.8**
	65nm,0.2s						
CHKK				*eS*	**Sg**	**08 43 40.8**	**-0.9**
	765nm,0.3s						
AML	**Almayashu**	**3.26**	**298**	⇑*iP*	**Pb**	**08 42 54.3**	**-2.8**
	baz=295						
AML				⇑*iS*	**Sb**	**08 43 39.6**	**+2.1**
	baz=295						
KUU	**Kurty**	**3.36**	**345**	*eP*	**Pg**	**08 43 00.8**	**-1.7**
	27nm,0.5s						
KUU				*eS*	**Sg**	**08 43 43.7**	**-2.3**
	665nm,0.8s						
EKS2	**Erkin-Say**	**3.47**	**307**	⇑*eP*	**Pb**	**08 42 58.4**	**-2.1**
	baz=304						
EKS2				⇑*iS*	**Sb**	**08 43 44.6**	**+1.3**
	baz=304						
MNBS	**Baschi**	**3.48**	**10**	*eP*	**Pg**	**08 43 03.6**	**-1.2**
	63nm,0.4s						
MNBS				*eS*	**Sg**	**08 43 48.3**	**-1.5**
	98nm,0.2s						
ARXS	**Arharly**	**3.56**	**3**	*eP*	**Pg**	**08 43 05.5**	**-0.9**
	39nm,0.4s						
ARXS				*eS*	**Sg**	**08 43 51.2**	**-1.3**
	213nm,0.3s						
MRKS	**Merke**	**3.86**	**304**	*eP*	**Pg**	**08 43 11.1**	**-1.0**
	48nm,0.3s						
MRKS				*eS*	**Sg**	**08 44 01.4**	**-0.7**
	58nm,0.3s						
DJR	**Jarkent**	**4.03**	**23**	*eP*	**Pg**	**08 43 13.1**	**-2.2**
	58nm,0.3s						
DJR				*eS*	**Sg**	**08 44 04.5**	**-2.9**
	92nm,0.6s						
MNAS	**Manas**	**4.21**	**297**	⇑Pg	**Pg**	**08 43 17.5**	**-1.3**
	32nm,1.0s						
MNAS				⇓Lg	Lg	08 44 13.4	
	65nm,0.7s						
KK31	**Karatay Array**	**5.80**	**297**	⇓Pn	**Pn**	**08 43 27.9**	**+2.5**
	4.1nm,0.7s,baz=114,slow=16,SNR=4.2						
KK31				⇑Pg	**Pg**	**08 43 46.3**	**-2.9**
	12nm,0.8s,baz=107,slow=19,SNR=6.0						
KK31				⇓Lg	Lg	08 45 01.8	
	22nm,0.7s,baz=116,slow=28,SNR=15						
IUG	**Iuzhnay**	**5.86**	**287**	*eP*	**Pg**	**08 43 48.5**	**-1.8**
	28nm,0.6s						
IUG				*eS*	**Sg**	**08 45 06.1**	**0.0**
	66nm,0.5s						
MAKZ	**Makanchi**	**6.93**	**26**	⇑Pg	**Pb**	**08 44 03.5**	**+4.2**
	6.6nm,1.4s						
MAKZ				⇓Lg	Lg	08 45 37.0	
	13nm,0.9s						
DZET	**Dzherino**	**6.98**	**257**	⇓Pn	**Pn**	**08 43 44.6**	**+3.0**
	24nm,0.8s						
DZET				⇑Sn	**Sn**	**08 45 04.1**	**+2.3**
	26nm,0.5s						
MK31	**Makanchi Array**	**7.03**	**28**	⇑Pn	**Pn**	**08 43 42.8**	**+0.6**
	0.3nm,0.3s,baz=96,slow=54,SNR=11						
MK31				⇑Pg	**Pg**	**08 44 11.9**	**-0.7**
	0.6nm,0.4s,baz=210,slow=13,SNR=7.3						
MK31				⇑Sn	**Sb**	**08 45 31.9**	**+6.6**
	5.6nm,0.7s,baz=203,slow=21,SNR=3.7						
MKAR	**Makanchi Array**	**7.03**	**28**	Pn	**Pn**	**08 43 42.7**	**+0.5**
	0.5nm,0.3s,baz=204,slow=16,SNR=11						
MKAR				Sn	**Sn**	**08 45 00.9**	**-1.8**
	1.0nm,0.3s,baz=203,slow=22,SNR=5.6						
MKAR				Lg	Lg	08 45 38.5	
	1.0nm,0.3s,baz=216,slow=29,SNR=4.4						
WMQ	**Urumqi**	**8.16**	**64**	P	**Pn**	**08 43 59.5**

SIRN				S	Sg	08 43 31.2	+1.8
CUKT	**Cukurca**	**1.50**	**168**	*e*PN	Pn	08 43 11.8	-0.4
CUKT	**Cukurca**	**1.50**	**168**	*e*P	Pg	08 43 15.2	+1.1
CUKT				*i* S	Sg	08 43 38.1	+4.6
CUKT	**Cukurca**	**1.50**	**168**	*e*Pn	Pn	08 43 11.8	-0.4
CUKT	**Cukurca**	**1.50**	**168**	P	Pg	08 43 15.2	+1.1
CUKT				S	Sg	08 43 38.1	+4.6
BNGL	**BINGOL**	**1.63**	**279**	*i* P	Pb	08 43 14.7	-0.7
BNGL				*i* S	Sg	08 43 38.0	+0.4
HOMI	**Horasan**	**1.67**	**323**	*i* P	Pb	08 43 15.6	-0.5
HOMI				*i* S	Sg	08 43 43.3	+4.3
SVAN	**Silvan-Diyarba**	**1.68**	**251**	*e*PN	Pg	08 43 16.9	-0.5
SVAN	**Silvan-Diyarba**	**1.68**	**251**	*i* P	Pn	08 43 15.1	+0.5
SVAN				*i* S	Sg	08 43 38.7	-0.5
SVAN	**Silvan-Diyarba**	**1.68**	**251**	P	Pn	08 43 15.1	+0.5
SVAN	**Silvan-Diyarba**	**1.68**	**251**	*e*Pn	Pg	08 43 16.9	-0.5
SVAN				S	Sg	08 43 38.7	-0.5
DIGO	**Kars**	**1.70**	**4**	*i* P	Pb	08 43 15.6	-1.1
DIGO				*i* S	Sg	08 43 44.3	+4.3
DIGO	**Kars**	**1.70**	**4**	P	Pb	08 43 15.6	-1.1
BTMN	**Batman**	**1.73**	**242**	*i* P	Pn	08 43 14.3	-1.1
BTMN				*i* S	Sb	08 43 39.5	+0.5
BTMN	**Batman**	**1.73**	**242**	P	Pn	08 43 14.3	-1.1
BTMN				S	Sb	08 43 39.5	+0.5
ERZM	**Erzurum**	**1.86**	**310**	*i* P	Pn	08 43 17.7	+0.4
ERZM				*i* S	Sg	08 43 48.0	+2.9
ERZM	**Erzurum**	**1.86**	**310**	P	Pn	08 43 17.7	+0.4
BNGB	**Bing¶ll**	**2.00**	**279**	*e*PN	Pb	08 43 21.1	-0.5
BINT	**Bingol**	**2.13**	**275**	*e*Pn	Pn	08 43 21.1	+0.2
YEDI	**Yedisu-Bingol**	**2.20**	**290**	*e*PN	Pb	08 43 24.2	-0.9
YEDI	**Yedisu-Bingol**	**2.20**	**290**	*e*Pn	Pb	08 43 24.2	-0.9
MAZI	**Mazidag**	**2.52**	**241**	*e*PN	Pb	08 43 28.9	-1.6
MAZI	**Mazidag**	**2.52**	**241**	*e*Pn	Pb	08 43 28.9	-1.6
PTK	**Pertek**	**2.99**	**275**	*e*PN	Pb	08 43 36.1	-2.5

ISK ***25*** *08:49:53.6, 38°.75N×43°.50E, h5km, ML3.1*
CSEM ***25*** *08:49:54.4±0.4, 38°.78N×43°.58E, h2km, ML3.1, Error ellipse: s-maj=10.7km s-min=5.3km az=75.0*
DDA ***25*** *08:49:55.1, 38°.77N×43°.48E, h12km, Ml3.4*
ISC 25 08:49:55.2±1.0, 38°.76N±0°.02×43°.50E±0°.03, h17km±6km, n28, σ2°12/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**207**	*e*PG	Pg	08 49 59.5	-0.4
VANB				*e*SG	Sg	08 50 04.1	+1.0
VANB	**Van**	**0.19**	**207**	*e*Pg	Pg	08 49 59.5	-0.4
VANB				*e*Sg	Sg	08 50 04.1	+1.0
GEVA	**Gevas**	**0.57**	**218**	*i* P	Pg	08 50 04.7	-1.8
GEVA				*i* S	Sb	08 50 15.4	+0.7
GEVA	**Gevas**	**0.57**	**218**	P	Pg	08 50 04.7	-1.8
GEVA				S	Sb	08 50 15.4	+0.7
DYDN	**Diyadin**	**0.79**	**11**	*i* P	Pb	08 50 10.1	-0.6
DYDN				*i* S	Sn	08 50 22.5	-1.0
DYDN	**Diyadin**	**0.79**	**11**	P	Pb	08 50 10.1	-0.6
DYDN				S	Sn	08 50 22.5	-1.0
BASK	**Baskale_VAN**	**0.81**	**151**	*i* P	Pg	08 50 09.4	-1.7
BASK				*i* S	Sn	08 50 23.4	-0.5
BASK	**Baskale_VAN**	**0.81**	**151**	P	Pg	08 50 09.4	-1.7
BASK				S	Sn	08 50 23.4	-0.5
TUTA	**Tutak**	**0.83**	**320**	*i* P	Pb	08 50 10.3	-1.0
TUTA				*i* S	Sn	08 50 23.7	-0.7
TUTA	**Tutak**	**0.83**	**320**	P	Pb	08 50 10.4	-1.0
TUTA				S	Sn	08 50 23.7	-0.7
AGRB	**Hanur-Agry**	**0.90**	**334**	*e*PG	Pb	08 50 11.9	-0.6
AGRB				*e*SG	Sn	08 50 26.1	0.0
AGRB	**Hanur-Agry**	**0.90**	**334**	*e*Pg	Pb	08 50 12.0	-0.6
AGRB				*e*Sg	Sn	08 50 26.1	0.0
HAKT	**HAKKARI**	**1.22**	**172**	*i* P	Pb	08 50 16.1	-1.9
HAKT				*i* S	Sn	08 50 36.5	+2.6
HAKT	**HAKKARI**	**1.22**	**172**	P	Pb	08 50 16.0	-1.9
HAKT				S	Sn	08 50 36.5	+2.6
EKAR	**Karacoban**	**1.22**	**294**	*i* P	Pg	08 50 17.3	-1.5
EKAR				*i* S	Sn	08 50 40.0	+5.9
EKAR	**Karacoban**	**1.22**	**294**	P	Pg	08 50 17.3	-1.5
EKAR				S	Sn	08 50 40.0	+5.9
EATA	**Eleskirt**	**1.35**	**325**	*i* P	Pg	08 50 20.3	-0.9
EATA				*i* S	Sg	08 50 41.2	+2.4
EATA	**Eleskirt**	**1.35**	**325**	P	Pg	08 50 20.3	-0.9
EATA				S	Sg	08 50 41.2	+2.4
CUKT	**Cukurca**	**1.52**	**177**	*e*PN	Pg	08 50 23.1	-1.3
CUKT	**Cukurca**	**1.52**	**177**	*i* P	Pg	08 50 24.3	-0.1
CUKT				*i* S	Sg	08 50 50.4	+6.3
CUKT	**Cukurca**	**1.52**	**177**	*e*Pn	Pg	08 50 23.1	-1.3
CUKT	**Cukurca**	**1.52**	**177**	P	Pg	08 50 24.3	-0.1
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*PN	Pg	08 50 29.4	-2.4
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*Pn	Pg	08 50 29.4	-2.4
BTMN	**Batman**	**1.96**	**244**	*e*P	Pb	08 50 29.7	-0.8
BTMN				*i* S	Sg	08 50 58.0	-0.2
BTMN	**Batman**	**1.96**	**244**	P	Pb	08 50 29.7	-0.8
BTMN				S	Sg	08 50 58.0	-0.2
MAZI	**Mazidag**	**2.74**	**243**	*e*PN	Pb	08 50 41.0	-2.8
MAZI	**Mazidag**	**2.74**	**243**	*e*Pn	Pb	08 50 41.0	-2.8

IDC ***25*** *08:50:25.2±0.9, 0°.44S×132°.69E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/35, mbtmp4.2/10, ML4.1/2, MS3.3/14, Ms1 3.3/14, ms1mx3.1/36, Error ellipse: s-maj=33.3km s-min=12.7km az=73.0*
ISCJB ***25*** *08:50:27.8±0.3, 0°.33S±0°.04×132°.85E±0°.04, h32km, mb4.6/20, MS3.4/13, Error ellipse: s-maj=5.8km s-min=5.0km az=169.0*
NEIC ***25*** *08:50:30.4±1.5, 0°.37S×132°.87E, h41km±15km, mb4.3/11, Error ellipse: s-maj=10.6km s-min=8.2km az=224.0*
DJA ***25*** *08:50:30.0±0.4, 0°.S±4°.×13°.3E±°., h47km±43km, M4.8/13, mb5.0/8, mB5.3/6, MLv4.7/13, Mw(mB)4.8/6*
ISC 25 08:50:29.5±0.5, 0°.39S±0°.05×132°.83E±0°.05, h32km, n63, σ1°99/59, mb4.5/20, MS3.4/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.75**	**130**	P	Pn	08 50 58.2	+0.5
RKPI				S	Sb	08 51 26.6	+4.0
FAKI	**Fak Fak**	**2.58**	**193**	P	Pn	08 51 10.9	+1.8
FAKI				S	Sb	08 51 43.3	-3.2
FAKI	**Fak Fak**	**2.58**	**193**	*e*Pn	Pn	08 51 10.8	+1.6
BAKI	**Biak**	**3.37**	**104**	P	Pn	08 51 20.2	+0.2
MSAI	**Masohi**	**4.88**	**233**	P	Pn	08 51 42.7	+1.9
BNDI	**Bandanaira**	**5.04**	**215**	P	Pn	08 51 44.8	+1.8
LBMI	**Labuha**	**5.34**	**267**	P	Pn	08 51 48.0	+1.0
	72nm,1.1s,930nm0.3nm						
LBMI				S	Sn	08 52 47.7	+0.3
	72nm,1.1s,930nm0.3nm						
AAI	**Ambon**	**5.67**	**235**	P	Pn	08 51 53.5	+1.8
NLAI	**Namlea**	**6.39**	**244**	P	Pn	08 52 03.2	+1.7
SANI	**Sanana**	**7.04**	**256**	P	Pn	08 52 12.1	+1.7
SAUI	**Saumlaki**	**7.70**	**191**	P	Pn	08 52 21.0	+1.5
SAUI				S	Sn	08 53 49.6	+4.0
MTN	**Manton Dam**	**12.49**	**188**	*e*Pn	Pn	08 53 24.5	-0.6
MTN				*e*Sn	Sn	08 55 41.7	-1.6
PMG	**Port Moresby**	**16.84**	**123**	*e*Pn	Pn	08 54 23.8	+0.7
	26nm,1.1s						
GUMO	**Guam**	**18.31**	**40**	LR	LR	09 00 42.0	
	comp=Z,98nm,18.4s,baz=220,slow=34						
TGY	**Tagaytay City**	**18.60**	**321**	LR	LR	09 02 48.3	
	comp=Z,63nm,19.5s,baz=93,slow=40						
FITZ	**Fitzroy Crossi**	**18.97**	**201**	P	P	08 54 47.8	-0.5
	0.5nm,0.3s,baz=29,slow=9.6,SNR=13						
FITZ				S	Sn	08 58 08.5	-12
	0.1nm,0.3s,baz=253,slow=19,SNR=2.8						
FITZ				LR	LR	09 04 05.8	
	comp=Z,87nm,18.5s,baz=26,slow=44						
FITZ	**Fitzroy Crossi**	**18.97**	**201**	*e*P	P	08 54 48.1	-0.2
	7.8nm,0.8s						
FITZ				S	Sn	08 58 08.5	-12
WRAB	**Tennant Creek**	**19.48**	**176**	*e*P	P	08 54 54.0	0.0
	15nm,0.9s						
WRA	**Warramunga Arr**	**19.49**	**176**	P	P	08 54 54.2	+0.2
	0.5nm,0.3s,baz=352,slow=11,SNR=27						
WRA				S	S	08 58 25.3	-7.4
	0.2nm,0.3s,baz=359,slow=22,SNR=5.1						
WB2	**Warramunga Arr**	**19.49**	**176**	*e*P	P	08 54 54.4	+0.3
	14nm,0.8s						
SBUM	**Sibu**	**20.80**	**278**	*e*P	Pn	08 55 10.0	-0.9
	12nm,1.0s						
AS31	**Alice Springs**	**23.16**	**177**	*e*P	P	08 55 33.8	+0.3
	4.7nm,0.8s						
ASAR	**Alice Springs**	**23.16**	**177**	P	P	08 55 34.4	+0.9
	8.2nm,0.8s,baz=356,slow=11,SNR=53						
ASAR				S	S	08 59 46.6	+3.5
	0.5nm,1.0s,baz=2.8,slow=21,SNR=3.1						
ASAR				LR	LR	09 06 38.7	
	comp=Z,99nm,19.1s,baz=348,slow=42						
CTA	**Charters Tower**	**23.58**	**147**	P	P	08 55 38.2	+0.6
	3.5nm,0.6s,baz=342,slow=12,SNR=5.0						
CTAO	**Charters Tower**	**23.58**	**147**	*e*P	P	08 55 37.9	+0.3
	12nm,1.0s						
MBWA	**Marble Bar**	**24.29**	**211**	*e*P	P	08 55 45.4	+1.3
	76nm,1.9s						
STKA	**Stephens Creek**	**32.40**	**166**	P	P	08 56 55.6	-0.9
	7.4nm,0.8s,baz=344,slow=9.7,SNR=11						
STKA				LR	LR	09 11 32.7	
	comp=Z,121nm,20.0s,baz=19,slow=39						
STKA	**Stephens Creek**	**32.40**	**166**	*e*P	P	08 56 55.8	-0.7
	1.3nm,0.8s						
PSI	**Prapat**	**34.04**	**276**	P	P	08 57 10.3	-1.0
	2.2nm,0.3s,baz=118,slow=7.2,SNR=4.8						
NJ2	**Nanjing**	**34.87**	**339**	*e*P	P	08 57 18.0	0.0
KWAJ	**Kwajalein Atol**	**35.83**	**74**	*e*P	P	08 57 25.4	-1.1
	171nm,0.9s						
MJAR	**Matsushiro Arr**	**37.08**	**7**	LR	LR	09 09 40.9	
	comp=Z,69nm,21.4s,baz=195,slow=31						
KSRS	**Korea Array**	**37.93**	**354**	LR	LR	09 11 26.3	
	comp=Z,45nm,21.3s,baz=170,slow=33						
CMAR	**Chiang Mai Arr**	**38.20**	**301**	P	P	08 57 46.1	-0.6
	1.0nm,0.4s,baz=124,slow=7.5,SNR=9.3						
WAKE	**Wake Island**	**38.51**	**58**	*e*P	P	08 57 47.5	-1.7
	289nm,1.3s						
KMI	**Kunming**	**38.61**	**313**	P	P	08 57 52.0	+1.8
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
KMI				pmax	pmax		
	comp=Z,180nm,5.8s						
H11N1	**WAKE ISLAND Hy**	**38.90**	**57**	T	T	09 39 10.9	
	baz=243,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy**	**38.92**	**57**	T	T	09 39 12.1	
	baz=243,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**38.92**	**57**	T	T	09 39 12.4	
	baz=243,slow=75,SNR=33						
XAN	**Xi'an**	**40.94**	**329**	P	P	08 58 08.3	-1.0
XAN				pP	pP	08 58 20.5	+1.7
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,160nm,4.5s						
LZH	**Lanzhou**	**45.20**	**326**	*e*P	P	08 58 42.3	-1.6
LZH				sP	pP	08 58 48.8	-4.7
LZH				pP	sP	08 58 54.0	-3.3
LZH				*e*PP	PP	09 00 29.5	-0.6
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,67nm,5.9s						
LZH				LR	LR		
	comp=N,310nm,13.5s						
LZH				LR	LR		
	comp=E,320nm,14.0s						
LZH				LR	LR		
	comp=Z,380nm,16.7s						
HHC	**Hu-ho-hao-te**	**45.37**	**337**	*e*P	P	08 58 45.8	+0.7
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,7.6s						
SONM	**Songino Array**	**53.25**	**338**	P	P	08 59 46.7	+1.5
	comp=Z,0.5nm,0.7s,baz=169,slow=8.5,SNR=3.5						
PETK	**Petropavlovsk-**	**57.21**	**18**	LR	LR	09 25 02.2	
	comp=Z,12nm,18.9s,baz=187,slow=36						
TLY	**Talaya**	**57.43**	**339**	LR	LR	09 25 33.0	
	comp=Z,22nm,18.9s,baz=164,slow=37						
WMQ	**Urumqi**	**59.61**	**324**	P	P	09 00 32.0	+1.5
WMQ				pP	sP	09 00 44.0	-0.1
WMQ				sP	pP	09 00 48.5	+8.1
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.9s						
WMQ				LR	LR		
	comp=N,14nm,17.3s						
WMQ				LR	LR		
	comp=E,18nm,11.9s						
WMQ				LR	LR		
	comp=Z,18nm,14.5s						
MA2	**Magadan**	**61.42**	**10**	LR	LR	09 24 31.7	
	comp=Z,20nm,20.9s,baz=200,slow=33						
YAK	**Yakutsk**	**62.30**	**358**	LR	LR	09 26 29.4	
	comp=Z,19nm,21.9s,baz=88,slow=35						
MK31	**Makanchi Array**	**64.42**	**324**	*e*P	P	09 01 02.4	-0.4
MKAR	**Makanchi Array**	**64.42**	**324**	P	P	09 01 02.6	-0.2
	comp=Z,1.5nm,0.8s,baz=123,slow=8.8,SNR=8.4						
MKAR	**Makanchi Array**	**64.42**	**324**	*e*P	P	09 01 02.2	-0.5
	comp=Z,13nm,0.8s						
MAKZ	**Makanchi**	**64.61**	**324**	*e*P	P	09 01 03.5	-0.5
	comp=Z,4.3nm,1.3s						
KSH	**Kashi**	**65.25**	**315**	P	P	09 01 10.0	+1.5
KSH				pP	sP	09 01 23.3	+1.2
KSH				sP	pP	09 01 29.3	+11
KSH				PcP	PcP	09 01 41.8	+1.1
KSH				PP	PP	09 03 37.0	+4.7
KSH				PcS		09 05 42.0	
KSH				S	S	09 09 49.0	-1.1
KSH				ScS	SKSac	09 10 56.3	-5.3
KSH	**Kashi**	**65.25**	**315**	SS	SS	09 14 05.3	+1.9
KSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,75nm,5.2s						
KSH				LR	LR		
	comp=N,62nm,6.7s						
KSH				LR	LR		
	comp=E,77nm,6.4s						
KSH				LR	LR		
	comp=Z,150nm,6.4s						
NRIK	**Noril'sk**	**75.91**	**345**	LR	LR	09 37 58.3	
	comp=Z,24nm,18.6s,baz=105,slow=38						
VNDA	**Vanda**	**78.65**	**174**	LR	LR	09 36 08.0	
	comp=Z,29nm,19.9s,baz=348,slow=35						
FID	**Port Fidalgo**	**85.78**	**29**	*e*P	P	09 03 04.8	-0.7
	comp=Z,66nm,1.1s						
ILAR	**Eielson Array**	**86.20**	**25**	P	P	09 03 08.9	+1.4
	comp=Z,0.7nm,0.7s,baz=260,slow=5.4,SNR=5.3						
ARCES	**ARCESS Array B**	**96.38**	**340**	LR	LR	09 52 16.4	
	comp=Z,11nm,19.2s,baz=180,slow=38						
ZAIG	**Zacatecas**	**121.78**	**63**	*e*PKPdf	PKPdf	09 09 20.0	-1.6
TORD	**Torodi Ar. Bea**	**129.97**	**287**	PKP	PKPdf	09 09 36.1	-1.0
	comp=Z,0.4nm,0.7s,baz=63,slow=3.1,SNR=3.0						
GRTK	**Grand Turk**	**148.58**	**47**	*e*PKPdf	PKPdf	09 10 10.5	-0.1
PRAC	**Prado**	**152.11**	**83**	*e*PKPbc	PKPbc	09 10 23.2	+0.3

ISK ***25*** *08:56:40.3, 38°.52N×43°.07E, h27km, MD2.7*
CSEM ***25*** *08:56:41.6±0.4, 38°.59N×42°.94E, h20km, MD2.7, Error ellipse: s-maj=12.4km s-min=10.0km az=76.0*
ISCJB ***25*** *08:56:42.2±0.6, 38°.59N±0°.04×43°.03E±0°.10, h29km±8km, Error ellipse: s-maj=12.6km s-min=6.3km az=175.3*
DDA ***25*** *08:56:42.7, 38°.68N×43°.19E, h6km, Ml3.1*
ISC 25 08:56:42.2±1.0, 38°.61N±0°.03×43°.14E±0°.05, h23km±9km, n20, σ2°36/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**96**	PG	Pb	08 56 47.8	0.0
VANB				*e*SG	Sb	08 56 52.1	+0.6
VANB	**Van**	**0.20**	**96**	*i* Pg	Pb	08 56 47.8	0.0
VANB				*e*Sg	Sb	08 56 52.1	+0.6
GEVA	**Gevas**	**0.31**	**192**	*i* P	Pb	08 56 49.8	+0.4
GEVA				*i* S	Sn	08 56 56.7	-0.6
GEVA	**Gevas**	**0.31**	**192**	P	Pb	08 56 49.8	+0.4
GEVA				S	Sn	08 56 56.7	-0.6
TUTA	**Tutak**	**0.83**	**342**	*i* P	Pn	08 56 57.7	-1.0
TUTA				*i* S	Sb	08 57 09.2	+0.3
TUTA	**Tutak**	**0.83**	**342**	P	Pn	08 56 57.7	-1.0
TUTA				S	Sb	08 57 09.2	+0.3
AGRB	**Hanur-Agry**	**0.97**	**353**	*e*PG	Pn	08 56 59.6	-0.9
AGRB				*e*SG	Sb	08 57 13.8	+0.9
AGRB	**Hanur-Agry**	**0.97**	**353**	*e*Pg	Pn	08 56 59.6	-0.9
AGRB				*e*Sg	Sb	08 57 13.8	+0.9
EKAR	**Karacoban**	**1.05**	**308**	*i* P	Pb	08 57 02.7	+0.7
EKAR				*i* S	Sb	08 57 22.7	+7.3
EKAR	**Karacoban**	**1.05**	**308**	P	Pb	08 57 02.7	+0.7
HAKT	**HAKKARI**	**1.15**	**157**	*e*P	Pb	08 57 04.6	+1.1
HAKT				*i* S	Sb	08 57 23.4	+5.4
HAKT	**HAKKARI**	**1.15**	**157**	P	Pb	08 57 04.6	+1.1
EATA	**Eleskirt**	**1.34**	**338**	*i* P	Pb	08 57 07.2	+0.3
EATA				*i* S	Sb	08 57 26.1	+2.3
EATA	**Eleskirt**	**1.34**	**338**	P	Pb	08 57 07.2	+0.3
EATA				S	Sb	08 57 26.1	+2.3
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*e*PN	Pn	08 57 06.3	-2.7
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*e*Pn	Pn	08 57 06.3	-2.7
BNGB	**Bing¶ll**	**1.96**	**282**	*e*PN	Pn	08 57 11.6	-2.5
BINT	**Bingol**	**2.09**	**278**	*e*Pn	Pn	08 57 11.6	-4.3
MAZI	**Mazidag**	**2.42**	**242**	*e*PN	Pn	08 57 17.9	-2.5
MAZI	**Mazidag**	**2.42**	**242**	*e*Pn	Pn	08 57 17.9	-2.5

ISCJB ***25*** *08:58:13.9±0.5, 41°.36N±0°.03×35°.85E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=3.1km az=16.0*
CSEM ***25*** *08:58:13.9±0.2, 41°.34N×35°.84E, h1km, ML2.9, Error ellipse: s-maj=4.8km s-min=3.5km az=23.0, Suspected Mining explosion.*
DDA ***25*** *08:58:13.5, 41°.37N×35°.82E, h7km, Ml2.9, Suspected Mining explosion.*
ISK ***25*** *08:58:13.2, 41°.39N×35°.92E, h6km, ML2.8*
ISC 25 08:58:13.7±0.8, 41°.36N±0°.03×35°.84E±0°.02, h0km, n35, σ0°88/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.26**	**89**	*i* P	Pg	08 58 19.1	+0.5
SAMS				*i* S	Sb	08 58 24.3	-2.0
SAMS	**Samsun-Alacam**	**0.26**	**89**	P	Pg	08 58 19.1	+0.5
SAMS				S	Sb	08 58 24.3	-2.0
HAVZ	**Havza**	**0.30**	**198**	*i* P	Pg	08 58 19.1	-0.3
HAVZ				*i* S	Sg	08 58 24.6	+1.3
HAVZ	**Havza**	**0.30**	**198**	P	Pg	08 58 19.1	-0.3
HAVZ				S	Sg	08 58 24.6	+1.3
KVT	**Kavak**	**0.32**	**151**	*e*PG	Pg	08 58 19.7	0.0
KVT				*e*SG	Sg	08 58 25.4	+1.5
KVT	**Kavak**	**0.32**	**151**	*e*Pg	Pg	08 58 19.7	0.0
KVT				*e*Sg	Sg	08 58 25.4	+1.5
DIKM	**Dikmen**	**0.53**	**304**	*e*PG	Pg	08 58 24.2	+0.4
DIKM				*e*SG	Sb	08 58 33.0	-1.0
DIKM	**Dikmen**	**0.53**	**304**	*e*Pg	Pg	08 58 24.2	+0.4
DIKM				*e*Sg	Sb	08 58 33.0	-1.0
BOYT	**Boyabat**	**0.71**	**275**	*i* P	Pg	08 58 27.2	-0.1
BOYT				*i* S	Sb	08 58 39.0	-0.3
BOYT	**Boyabat**	**0.71**	**275**	P	Pg	08 58 27.2	-0.1
BOYT				S	Sb	08 58 39.0	-0.3
SNOP	**Sinop**	**0.81**	**324**	*e*PG	Pb	08 58 29.7	-1.0
SNOP	**Sinop**	**0.81**	**324**	*e*Pg	Pb	08 58 29.7	-1.0
CTAK	**Corum_Osmancik**	**1.07**	**229**	*i* P	Pg	08 58 33.6	-0.5
CTAK				*i* S	Sb	08 58 49.7	0.0
CTAK	**Corum_Osmancik**	**1.07**	**229**	P	Pg	08 58 33.6	-0.5
CTAK				S	Sb	08 58 49.7	0.0
COAL	**Corum-Alaca**	**1.28**	**211**	*i* P	Pg	08 58 36.9	-1.3
COAL				*i* S	Sn	08 58 57.0	+0.1
COAL	**Corum-Alaca**	**1.28**	**211**	P	Pg	08 58 36.9	-1.3
COAL				S	Sn	08 58 57.0	+0.1
RSDY	**Resadiye-TOKAT**	**1.48**	**130**	*e*PN	Pn	08 58 41.0	-0.6
RSDY	**Resadiye-TOKAT**	**1.48**	**130**	*e*Pn	Pn	08 58 41.0	-0.6
CORM	**Corum**	**1.50**	**218**	*e*PN	Pg	08 58 42.2	-0.2
CORM	**Corum**	**1.50**	**218**	*e*Pn	Pg	08 58 42.2	-0.2
BZK	**Bozkurt**	**1.50**	**294**	*e*PN	Pn	08 58 41.8	-0.1
BZK	**Bozkurt**	**1.50**	**294**	*e*Pn	Pn	08 58 41.8	-0.1
ILGA	**Ilgaz**	**1.63**	**260**	*i* P	Pn	08 58 44.0	+0.1
ILGA				*i* S	Sg	08 59 08.8	+2.7
ILGA	**Ilgaz**	**1.63**	**260**	P	Pn	08 58 44.0	+0.1
SVSK	**Karacayir**	**1.69**	**148**	*e*PN	Pn	08 58 44.2	-0.2
SVSK	**Karacayir**	**1.69**	**148**	*e*Pn	Pn	08 58 44.2	-0.2
GRSN	**GIRESUNGRSN**	**1.88**	**103**	*i* P	Pn	08 58 46.5	-0.6
GRSN				*i* S	Sn	08 59 12.2	+0.6
GRSN	**GIRESUNGRSN**	**1.88**	**103**	P	Pn	08 58 46.5	-0.6
GRSN				S	Sn	08 59 12.2	+0.6
CDAG	**Cicekdag**	**2.06**	**213**	*i* P	Pn	08 58 49.3	-0.4
CDAG				*i* S	Sg	08 59 21.2	+1.2
CDAG	**Cicekdag**	**2.06**	**213**	P	Pn	08 58 49.3	-0.4
SUSE	**Susehri**	**2.13**	**122**	*i* P	Pn	08 58 51.8	+1.1
SUSE				*i* S	Sb	08 59 20.8	+0.6
SUSE	**Susehri**	**2.13**	**122**	P	Pn	08 58 51.8	+1.1
BNN	**Bunyan**	**2.50**	**180**	*e*PN	Pn	08 58 56.0	+0.2
BNN	**Bunyan**	**2.50**	**180**	*e*Pn	Pn	08 58 56.0	+0.2
SARI	**SarD1z-Kayseri**	**2.98**	**171**	*e*PN	Pn	08 59 02.5	+0.1

SKO 25 08:58:46.2, 41°.56N×21°.33E, h15km, M1.2, ML1.6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUS	**Krusevo**	**0.20**	**198**	*i* Pg	Pg	08 58 51.0	+0.1
KRUS				*e*Lg	Lg	08 58 53.7	
	comp=E,55nm,0.2s						
KRUS				*i* Sg	Sg	08 58 53.7	-0.4
KRUS				*e*Lg	Lg	08 58 53.8	
	comp=N

CUKT	**Cukurca**	**1.51**	**179**	*e*PN	**Pn**	**09 09 35.2**	**-0.2**
CUKT				*e*SN	**Sg**	**09 09 56.3**	**+0.2**
CUKT	**Cukurca**	**1.51**	**179**	*e*P	**Pg**	**09 09 36.9**	**+0.4**
CUKT				*i* S	**Sg**	**09 10 00.3**	**+4.3**
CUKT	**Cukurca**	**1.51**	**179**	*e*Pn	**Pn**	**09 09 35.2**	**-0.2**
CUKT	**Cukurca**	**1.51**	**179**	P	**Pg**	**09 09 36.9**	**+0.4**
CUKT				*e*Sn	**Sg**	**09 09 56.3**	**+0.2**
CUKT				S	**Sg**	**09 10 00.3**	**+4.3**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*PN	**Pn**	**09 09 39.7**	**-1.8**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*Pn	**Pn**	**09 09 39.7**	**-1.8**

THE ***25*** *09:09:55.2, 34°.33N×23°.52E, h2km±1km, ML3.3/4, Error ellipse: s-maj=2.3km s-min=1.1km az=281.0*
CSEM ***25*** *09:09:55.0±0.7, 34°.32N×23°.54E, h10km, ML3.3, Error ellipse: s-maj=13.9km s-min=9.7km az=77.0*
ATH ***25*** *09:09:56.8, 34°.31N×23°.80E, h16km±4km, ML3.3/5, Error ellipse: s-maj=7.0km s-min=2.3km az=27.0*
ISC 25 09:09:57.0±2.6, 34°.3N±0°.1×23°.74E±0°.07, h19km±4km, n22, σ0§90/31, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**30**	P	**Pg**	**09 10 08.2**	**-0.3**
GVD				S	**Sn**	**09 10 18.8**	**-0.4**
GVD	**Gavdhos**	**0.57**	**30**	P	**Pg**	**09 10 07.8**	**-0.7**
GVD				S	**Sb**	**09 10 16.5**	**+0.3**
GVD				AML	AML	09 10 24.8	
	comp=N,6660μm,0.4s						
GVD				AML	AML	09 10 26.1	
	comp=E,7302μm,0.4s						
GVD	**Gavdhos**	**0.57**	**30**	P	**Pg**	**09 10 07.8**	**-0.7**
GVD				S	**Sb**	**09 10 16.5**	**+0.3**
SIVA	**Sivas**	**1.11**	**52**	P	**Pg**	**09 10 18.4**	**-0.2**
SIVA	**Sivas**	**1.11**	**52**	P	**Pg**	**09 10 18.1**	**-0.5**
SIVA				AML	AML	09 10 50.7	
	comp=E,4654μm,0.6s						
SIVA				AML	AML	09 10 51.6	
	comp=N,2341μm,0.8s						
SIVA	**Sivas**	**1.11**	**52**	P	**Pg**	**09 10 18.4**	**-0.2**
VAM	**Vamos**	**1.13**	**19**	P	**Pn**	**09 10 17.6**	**-0.3**
VAM				AML	AML	09 10 41.0	
	comp=E,2279μm,0.9s						
VAM				AML	AML	09 10 44.5	
	comp=N,2341μm,0.5s						
VAM	**Vamos**	**1.13**	**19**	P	**Pn**	**09 10 17.6**	**-0.3**
IMMV	**Iera Moni Meta**	**1.14**	**10**	P	**Pn**	**09 10 16.9**	**-1.1**
IMMV				S	**Sg**	**09 10 34.5**	**+0.6**
IMMV	**Iera Moni Meta**	**1.14**	**10**	P	**Pn**	**09 10 18.2**	**+0.2**
IMMV				AML	AML	09 10 45.9	
	comp=N,3815μm,0.6s						
IMMV				AML	AML	09 10 46.4	
	comp=E,5166μm,0.7s						
IMMV	**Iera Moni Meta**	**1.14**	**10**	P	**Pn**	**09 10 18.2**	**+0.2**
IMMV				S	**Sg**	**09 10 34.5**	**+0.6**
IDI	**Anoyia**	**1.34**	**45**	P	**Pb**	**09 10 21.6**	**0.0**
IDI				S	**Sg**	**09 10 42.1**	**+1.7**
IDI	**Anoyia**	**1.34**	**45**	P	**Pg**	**09 10 22.3**	**-0.6**
IDI				AML	AML	09 10 55.6	
	comp=N,625μm,1.1s						
IDI				AML	AML	09 10 58.3	
	comp=E,602μm,0.8s						
IDI	**Anoyia**	**1.34**	**45**	P	**Pb**	**09 10 21.6**	**0.0**
IDI				S	**Sg**	**09 10 42.1**	**+1.7**
ANKY	**Antikythira Is**	**1.57**	**347**	P	**Pg**	**09 10 27.4**	**+0.2**
LAST	**Lasithi**	**1.65**	**60**	P	**Pb**	**09 10 26.1**	**-0.8**
LAST	**Lasithi**	**1.65**	**60**	P	**Pb**	**09 10 26.1**	**-0.8**
NPS	**Neapolis**	**1.79**	**59**	P	**Pb**	**09 10 28.5**	**-0.8**
NPS				S	**Sg**	**09 10 53.6**	**-1.3**
NPS	**Neapolis**	**1.79**	**59**	P	**Pb**	**09 10 28.9**	**-0.4**
NPS	**Neapolis**	**1.79**	**59**	P	**Pb**	**09 10 28.5**	**-0.8**
NPS				S	**Sg**	**09 10 53.6**	**-1.3**
KARP	**Karpathos**	**3.06**	**66**	P	**Pn**	**09 10 46.1**	**+1.7**
KARP	**Karpathos**	**3.06**	**66**	P	**Pn**	**09 10 46.1**	**+1.7**

CSEM ***25*** *09:10:21.1, 41°.40N×14°.49E, h10km, MD2.0/4*
ROM 25 09:10:21.1±0.2, 41°.40N×14°.49E, h10km±1km, Md2.0/4, Ml1.5/1, Error ellipse: s-maj=1.7km s-min=0.7km az=174.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTRJ	**Pietraroja**	**0.05**	**140**	Pg	Pg	09 10 23.7	+0.4
PTRJ				Sg	Sg	09 10 25.1	+0.3
	480nm,0.3s						
PTRJ	**Pietraroja**	**0.05**	**140**	Pg	Pg	09 10 23.7	+0.4
PTRJ				Sg	Sg	09 10 25.1	+0.3
	480nm,0.3s						
SGG	**Gregorio Mates**	**0.08**	**261**	Pg	Pg	09 10 23.9	+0.3
SGG				Sg	Sg	09 10 26.1	+0.6
	280nm,0.5s						
SGG	**Gregorio Mates**	**0.08**	**261**	Pg	Pg	09 10 23.9	+0.3
SGG				Sg	Sg	09 10 26.1	+0.6
	280nm,0.5s						
BSSO	**Busso**	**0.17**	**28**	Pg	Pg	09 10 25.4	+0.6
	121nm,0.6s						
BSSO	**Busso**	**0.17**	**28**	Pg	Pg	09 10 25.4	+0.6
	121nm,0.6s						
VAGA	**Valle Agricola**	**0.19**	**275**	Pg	Pg	09 10 25.9	+0.7
VAGA				Sg	Sg	09 10 29.5	+1.4
VAGA	**Valle Agricola**	**0.19**	**275**	Pg	Pg	09 10 25.9	+0.7
VAGA				Sg	Sg	09 10 29.5	+1.4

CSEM ***25*** *09:10:52.8±0.5, 38°.80N×43°.61E, h8km, ML2.7, Error ellipse: s-maj=12.4km s-min=5.5km az=77.0*
ISK ***25*** *09:10:52.7, 38°.79N×43°.52E, h9km, ML2.7*
ISCJB ***25*** *09:10:53.6±1.0, 38°.80N±0°.03×43°.50E±0°.08, h2km±6km, Error ellipse: s-maj=10.9km s-min=4.6km az=169.1*
DDA ***25*** *09:10:54.6, 38°.75N×43°.31E, h7km, Ml3.0*
ISC 25 09:10:54.6±1.1, 38°.80N±0°.03×43°.46E±0°.05, h12km±7km, n22, σ1§33/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**196**	*e*PG	**Pg**	**09 10 59.2**	**0.0**
VANB				*e*SG	**Sg**	**09 11 03.5**	**+1.2**
VANB	**Van**	**0.21**	**196**	*e*Pg	**Pg**	**09 10 59.2**	**0.0**
VANB				*e*Sg	**Sg**	**09 11 03.5**	**+1.2**
GEVA	**Gevas**	**0.58**	**213**	*i* P	**Pg**	**09 11 03.9**	**-2.0**
GEVA				*i* S	**Sg**	**09 11 12.2**	**-1.4**
GEVA	**Gevas**	**0.58**	**213**	P	**Pg**	**09 11 03.9**	**-2.0**
GEVA				S	**Sg**	**09 11 12.2**	**-1.4**
AGRB	**Hanur-Agry**	**0.86**	**335**	*e*PG	**Pg**	**09 11 10.3**	**-0.9**
AGRB				*e*SG	**Sb**	**09 11 22.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.86**	**335**	*e*Pg	**Pg**	**09 11 10.3**	**-0.9**
AGRB				*e*Sg	**Sb**	**09 11 22.9**	**-0.2**
EKAR	**Karacoban**	**1.18**	**293**	*i* P	**Pg**	**09 11 16.5**	**-0.8**
EKAR				*i* S	**Sn**	**09 11 35.8**	**+2.4**
EKAR	**Karacoban**	**1.18**	**293**	P	**Pg**	**09 11 16.5**	**-0.8**
EKAR				S	**Sn**	**09 11 35.8**	**+2.4**
HAKT	**HAKKARI**	**1.25**	**171**	*i* P	**Pg**	**09 11 16.5**	**-2.2**
HAKT				*i* S	**Sb**	**09 11 35.3**	**+0.8**
HAKT	**HAKKARI**	**1.25**	**171**	P	**Pg**	**09 11 16.5**	**-2.2**
HAKT				S	**Sb**	**09 11 35.3**	**+0.8**
EATA	**Eleskirt**	**1.30**	**325**	*i* P	**Pb**	**09 11 18.8**	**-0.4**
EATA				*i* S	**Sn**	**09 11 37.2**	**+0.7**
EATA	**Eleskirt**	**1.30**	**325**	P	**Pb**	**09 11 18.8**	**-0.4**
EATA				S	**Sn**	**09 11 37.2**	**+0.7**
CUKT	**Cukurca**	**1.55**	**176**	*e*PN	**Pn**	**09 11 20.9**	**-1.3**
CUKT	**Cukurca**	**1.55**	**176**	*e*P	**Pg**	**09 11 24.7**	**+0.3**
CUKT				*i* S	**Sg**	**09 11 47.6**	**+3.1**
CUKT	**Cukurca**	**1.55**	**176**	*e*Pn	**Pn**	**09 11 20.9**	**-1.3**
CUKT	**Cukurca**	**1.55**	**176**	P	**Pg**	**09 11 24.7**	**+0.3**
BNGL	**BINGOL**	**1.81**	**276**	*i* P	**Pn**	**09 11 26.8**	**+0.9**
BNGL				*i* S	**Sn**	**09 11 49.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*e*PN	**Pn**	**09 11 26.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*e*Pn	**Pn**	**09 11 26.9**	**+0.1**
BTMN	**Batman**	**1.95**	**243**	*e*P	Pn	09 11 23.1	-4.5
BTMN				*i* S	**Sb**	**09 11 54.3**	**-0.1**
BTMN	**Batman**	**1.95**	**243**	P	Pn	09 11 23.1	-4.5
BTMN				S	**Sb**	**09 11 54.3**	**-0.1**
BNGB	**Bing¶ll**	**2.18**	**276**	*e*PN	**Pn**	**09 11 30.7**	**-0.1**

DDA ***25*** *09:23:23.1, 38°.64N×43°.31E, h6km, Ml3.7*
ISK ***25*** *09:23:24.8, 38°.66N×43°.31E, h8km, MD3.1*
CSEM ***25*** *09:23:25.3±0.3, 38°.66N×43°.18E, h2km, MD3.1, Error ellipse: s-maj=7.5km s-min=5.4km az=77.0*

ISC 25 09:23:24.6±1.0, 38°.63N±0°.02×43°.22E±0°.03, h17km±9km, n33, σ1§27/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**104**	*e*PG	**Pb**	**09 23 28.8**	**0.0**
VANB				*e*SG	**Sb**	**09 23 32.1**	**+0.5**
VANB	**Van**	**0.14**	**104**	*e*Pg	**Pb**	**09 23 28.8**	**0.0**
VANB				*e*Sg	**Sb**	**09 23 32.1**	**+0.5**
GEVA	**Gevas**	**0.34**	**202**	*i* P	**Pg**	**09 23 30.7**	**-1.1**
GEVA				*i* S	**Sb**	**09 23 38.3**	**+0.9**
GEVA	**Gevas**	**0.34**	**202**	P	**Pg**	**09 23 30.7**	**-1.1**
GEVA				S	**Sb**	**09 23 38.3**	**+0.9**
TUTA	**Tutak**	**0.83**	**338**	*i* P	**Pb**	**09 23 40.1**	**-0.6**
TUTA				*i* S	**Sg**	**09 23 52.3**	**+0.3**
TUTA	**Tutak**	**0.83**	**338**	P	**Pb**	**09 23 40.1**	**-0.6**
TUTA				S	**Sg**	**09 23 52.3**	**+0.3**
AGRB	**Hanur-Agry**	**0.96**	**350**	*e*PG	**Pg**	**09 23 43.0**	**-0.3**
AGRB				*e*SG	**Sn**	**09 23 57.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.96**	**350**	*e*Pg	**Pg**	**09 23 43.0**	**-0.3**
AGRB				*e*Sg	**Sn**	**09 23 57.2**	**+0.3**
EKAR	**Karacoban**	**1.10**	**305**	*i* P	**Pb**	**09 23 44.7**	**-0.5**
EKAR				*i* S	**Sg**	**09 24 05.1**	**+4.8**
EKAR	**Karacoban**	**1.10**	**305**	P	**Pb**	**09 23 44.7**	**-0.5**
HAKT	**HAKKARI**	**1.14**	**160**	*i* P	**Pn**	**09 23 44.2**	**-1.7**
HAKT				*i* S	**Sg**	**09 24 03.9**	**+2.4**
HAKT	**HAKKARI**	**1.14**	**160**	P	**Pn**	**09 23 44.2**	**-1.7**
HAKT				S	**Sg**	**09 24 03.9**	**+2.4**
EATA	**Eleskirt**	**1.35**	**336**	*i* P	**Pb**	**09 23 49.8**	**+0.1**
EATA				*i* S	**Sg**	**09 24 09.3**	**+0.8**
EATA	**Eleskirt**	**1.35**	**336**	P	**Pb**	**09 23 49.8**	**+0.1**
EATA				S	**Sg**	**09 24 09.3**	**+0.8**
BNGL	**BINGOL**	**1.65**	**282**	*i* P	**Pb**	**09 23 54.5**	**-0.1**
BNGL				*i* S	**Sg**	**09 24 17.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*e*PN	**Pb**	**09 23 55.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*i* P	**Pb**	**09 23 54.8**	**+0.2**
SVAN				*i* S	**Sb**	**09 24 16.2**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	P	**Pb**	**09 23 54.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*e*Pn	**Pb**	**09 23 55.0**	**+0.4**
SVAN				S	**Sb**	**09 24 16.2**	**+1.0**
BTMN	**Batman**	**1.70**	**245**	*i* P	**Pb**	**09 23 55.5**	**+0.1**
BTMN				*i* S	**Sb**	**09 24 18.0**	**+1.5**
BTMN	**Batman**	**1.70**	**245**	P	**Pb**	**09 23 55.5**	**+0.1**
BTMN				S	**Sb**	**09 24 18.0**	**+1.5**
ERZM	**Erzurum**	**1.92**	**312**	*i* P	**Pb**	**09 23 59.5**	**+0.2**
ERZM				*i* S	**Sg**	**09 24 26.4**	**0.0**
ERZM	**Erzurum**	**1.92**	**312**	P	**Pb**	**09 23 59.5**	**+0.2**
ERZM				S	**Sg**	**09 24 26.5**	**0.0**
BNGB	**Bing¶ll**	**2.02**	**281**	*e*PN	**Pb**	**09 24 00.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.04**	**341**	*e*PN	**Pb**	**09 24 00.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.04**	**341**	*e*Pn	**Pb**	**09 24 00.7**	**-0.6**
BINT	**Bingol**	**2.15**	**277**	*e*Pn	**Pn**	**09 24 00.3**	**+0.6**
MAZI	**Mazidag**	**2.48**	**243**	*e*PN	**Pb**	**09 24 08.2**	**-0.5**
MAZI	**Mazidag**	**2.48**	**243**	*e*Pn	**Pb**	**09 24 08.2**	**-0.5**
PTK	**Pertek**	**3.00**	**276**	*e*PN	**Pb**	**09 24 15.3**	**-2.4**
PTK	**Pertek**	**3.00**	**276**	*e*Pn	**Pb**	**09 24 15.3**	**-2.4**
SVRC	**Sivrice-ELAZID**	**3.08**	**267**	*e*PN	**Pb**	**09 24 16.6**	**-2.4**
SVRC	**Sivrice-ELAZID**	**3.08**	**267**	*e*Pn	**Pb**	**09 24 16.6**	**-2.4**

ATH ***25*** *09:25:30.5, 37°.15N×26°.91E, h10km±3km, ML3.0/7, Error ellipse: s-maj=4.0km s-min=1.3km az=72.0*
THE ***25*** *09:25:31.4, 37°.09N×26°.85E, h6km±1km, ML3.0/4, Error ellipse: s-maj=1.9km s-min=0.5km az=97.0*
CSEM ***25*** *09:25:31.9±0.2, 37°.09N×26°.84E, h10km, ML3.0, Error ellipse: s-maj=5.1km s-min=4.1km az=3.0*
DDA ***25*** *09:26:13.7, 37°.13N×26°.84E, h14km, Ml3.5*
ISC 25 09:25:32.0±1.1, 37°.06N±0°.02×26°.85E±0°.02, h22km±4km, n56, σ1§81/92, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.37**	**90**	P	**Pb**	**09 25 38.8**	**-1.0**
BODT				S	**Sb**	**09 25 44.4**	**-0.7**
BODT	**Bodrum**	**0.37**	**90**	P	**Pb**	**09 25 38.8**	**-1.0**
BODT				S	**Sb**	**09 25 44.4**	**-0.7**
BDRM	**Kayabasi**	**0.47**	**89**	*i* P	**Pb**	**09 25 40.8**	**-0.9**
BDRM				*i* S	**Sb**	**09 25 47.9**	**-0.4**
BDRM	**Kayabasi**	**0.47**	**89**	P	**Pb**	**09 25 40.8**	**-0.9**
BDRM				S	**Sb**	**09 25 47.9**	**-0.4**
NISR	**Nisiros**	**0.50**	**154**	P	**Pb**	**09 25 42.2**	**+0.1**
NISR				AML	AML	09 25 55.8	
	comp=E,2158μm,0.5s						
NISR				AML	AML	09 25 57.1	
	comp=N,1253μm,0.4s						
NISR	**Nisiros**	**0.50**	**154**	P	**Pb**	**09 25 42.2**	**+0.1**
NIS1	**Nisyros Isl.**	**0.53**	**150**	P	**Pb**	**09 25 42.1**	**-0.6**
NIS1				S	**Sb**	**09 25 50.7**	**+0.8**
NIS1	**Nisyros Isl.**	**0.53**	**150**	P	**Pb**	**09 25 41.9**	**-0.7**
NIS1				AML	AML	09 25 58.2	
	comp=N,2240μm,0.3s						
NIS1				AML	AML	09 25 59.3	
	comp=E,2898μm,0.5s						
NIS1	**Nisyros Isl.**	**0.53**	**150**	P	**Pb**	**09 25 42.1**	**-0.6**
NIS1				S	**Sb**	**09 25 50.7**	**+0.8**
DAT	**Datca**	**0.67**	**119**	*i* P	**Pb**	**09 25 44.3**	**-0.9**
DAT				*i* S	**Sb**	**09 25 54.9**	**+0.8**
DAT	**Datca**	**0.67**	**119**	P	**Pb**	**09 25 44.3**	**-0.9**
DAT				S	**Sb**	**09 25 54.9**	**+0.8**
GCAM	**G?zelcaml?**	**0.71**	**25**	*i* P	**Pb**	**09 25 44.8**	**-0.9**
GCAM				*i* S	**Sn**	**09 25 55.3**	**-1.6**
GCAM	**G?zelcaml?**	**0.71**	**25**	P	**Pb**	**09 25 44.8**	**-0.9**
GCAM				S	**Sn**	**09 25 55.3**	**-1.6**
DGB	**˜zmir**	**0.99**	**1**	*i* P	**Pn**	**09 25 49.8**	**-0.8**
DGB				*i* S	**Sn**	**09 26 03.8**	**-0.1**
AYDN	**Tasoluk**	**1.01**	**54**	*i* P	**Pb**	**09 25 49.8**	**-1.1**
AYDN				*i* S	**Sn**	**09 26 04.9**	**+0.2**
AYDN	**Tasoluk**	**1.01**	**54**	P	**Pb**	**09 25 49.8**	**-1.1**
AYDN				S	**Sn**	**09 26 04.9**	**+0.2**
APE	**Apeiranthos**	**1.06**	**271**	P	**Pn**	**09 25 51.4**	**-0.2**
APE				S	**Sn**	**09 26 05.9**	**+0.2**
APE	**Apeiranthos**	**1.06**	**271**	P	**Pn**	**09 25 51.2**	**-0.4**
APE				S	**Sn**	**09 26 05.8**	**+0.2**
APE				AML	AML	09 26 08.3	
	comp=N,2425μm,0.5s						
APE				AML	AML	09 26 09.2	
	comp=E,1787μm,0.5s						
APE	**Apeiranthos**	**1.06**	**271**	P	**Pn**	**09 25 51.4**	**-0.2**
APE				S	**Sn**	**09 26 05.8**	**+0.2**
ZEY	**˜zmir**	**1.21**	**347**	*i* P	**Pb**	**09 25 52.8**	**-1.3**
ZEY				*i* S	**Sn**	**09 26 09.1**	**-0.2**
URLA	**Izmir**	**1.31**	**351**	*i* P	**Pb**	**09 25 54.5**	**-1.5**
URLA				*i* S	**Sb**	**09 26 14.5**	**+2.1**
URLA	**Izmir**	**1.31**	**351**	P	**Pb**	**09 25 54.5**	**-1.5**
URLA				S	**Sb**	**09 26 14.5**	**+2.1**
SANT	**Santorini**	**1.31**	**239**	P	**Pb**	**09 25 56.8**	**+0.8**
SANT				AML	AML	09 26 21.4	
	comp=N,459μm,0.4s						
SANT				AML	AML	09 26 22.7	
	comp=E,824μm,0.3s						
SANT	**Santorini**	**1.31**	**239**	P	**Pb**	**09 25 56.8**	**+0.8**
ARG	**Arkhangelos**	**1.33**	**129**	P	**Pn**	**09 25 55.6**	**+0.3**
ARG				S	**Sb**	**09 26 13.5**	**+0.7**
ARG	**Arkhangelos**	**1.33**	**129**	P	**Pn**	**09 25 54.9**	**-0.4**
ARG	**Arkhangelos**	**1.33**	**129**	P	**Pn**	**09 25 55.6**	**+0.3**
ARG				S	**Sb**	**09 26 13.5**	**+0.7**
THR6	**Thira Island,**	**1.36**	**239**	P	**Pb**	**09 25 56.3**	**-0.5**
THR6	**Thira Island,**	**1.36**	**239**	P	**Pb**	**09 25 56.3**	**-0.5**
THR5	**Thira Island,**	**1.37**	**242**	P	**Pb**	**09 25 56.3**	**-0.6**
THR5	**Thira Island,**	**1.37**	**242**	P	**Pb**	**09 25 56.3**	**-0.6**
TURN	**Turunc**	**1.42**	**97**	*i* P	**Pn**	**09 25 52.9**	**-3.5**
TURN				*i* S	**Sn**	**09 26 09.1**	**-5.4**
CHOS	**Chios island**	**1.47**	**335**	P	**Pb**	**09 25 57.1**	**-1.5**
CHOS				S	**Sb**	**09 26 16.8**	**0.0**
CHOS	**Chios island**	**1.47**	**335**	P	**Pb**	**09 25 57.0**	**-1.5**
CHOS				S	**Sb**	**09 26 16.9**	**0.0**
CHOS				AML	AML	09 26 19.6	
	comp=N,188μm,0.4s						
CHOS				AML	AML	09 26 22.1	
	comp=E,536μm,0.5s						
CHOS	**Chios island**	**1.47**	**335**	P	**Pb**	**09 25 57.1**	**-1.5**
CHOS				S	**Sb**	**09 26 16.9**	**0.0**
DALY	**Dalyan (Mu˜la**	**1.47**	**99**	*i* P	**Pb**	**09 25 59.2**	**+0.7**
DALY				*i* S	**Sb**	**09 26 20.8**	**+4.1**
DALY	**Dalyan (Mu˜la**	**1.47**	**99**	P	**Pb**	**09 25 59.2**	**+0.7**
DALY				S	**Sb**	**09 26 20.8**	**+4.1**
TAVA	**DENIZLI_Tavas**	**1.69**	**76**	*i* P	**Pb**	**09 26 02.3**	**-0.2**
TAVA				*i* S	**Sb**	**09 26 27.5**	**+4.0**
TAVA	**DENIZLI_Tavas**	**1.69**	**76**	P	**Pb**	**09 26 02.3**	**-0.2**
TAVA				S	**Sb**	**09 26 27.5**	**+4.0**
FETY	**Fethiye**	**1.84**	**103**	P	**Pb**	**09 26 05.2**	**+0.2**
FETY	**Fethiye**	**1.84**	**103**	P	**Pb**	**09 26 05.2**	**+0.2**
FETY				S	**Sb**	**09 26 30.9**	**+3.3**
DNZL	**Cakiroluk**	**1.86**	**70**	*i* P	**Pb**	**09 26 05.7**	**+0.3**
DNZL				*i* S	**Sb**	**09 26 33.9**	**+5.6**
DNZL	**Cakiroluk**	**1.86**	**70**	P	**Pb**	**09 26 05.7**	**+0.3**
DNZL				S	**Sb**	**09 26 33.9**	**+5.6**
MANT	**Manisa**	**1.97**	**43**	*e*P	**Pb**	**09 26 05.6**	**-1.7**
MANT				*i* S	**Sb**	**09 26 35.5**	**+4.1**
MANT	**Manisa**	**1.97**	**43**	P	**Pb**	**09 26 05.6**	**-1.7**
MANT				S	**Sb**	**09 26 35.5**	**+4.1**
MHLA	**Plaka, Milos I**	**1.97**	**261**	P	**Pb**	**09 26 07.6**	**+0.4**
MHLA				AML	AML	09 26 38.8	
	comp=E,1664μm,0.7s						
MHLA				AML	AML	09 26 39.3	
	comp=N,2142μm,0.5s						
MHLA	**Plaka, Milos I**	**1.97**	**261**	P	**Pb**	**09 26 07.6**	**+0.4**
MHLO	**Agia Marina, M**	**2.00**	**260**	P	**Pb**	**09 26 06.9**	**-0.8**
MHLO				AML	AML	09 26 43.1	
	comp=E,1451μm,1.0s						
MHLO				AML	AML	09 26 43.7	
	comp=N,1284μm,0.7s						
MHLO	**Agia Marina, M**	**2.00**	**260**	P	**Pb**	**09 26 06.9**	**-0.8**
KULA	**Kula-Manisa**	**2.04**	**44**	P	**Pb**	**09 26 10.7**	**+2.3**
GOLH	**Golhisar**	**2.17**	**85**	*e*P	**Pb**	**09 26 09.5**	**-1.2**
GOLH				*i* S	Sb	09 26 48.7	+11
GOLH	**Golhisar**	**2.17**	**85**	P	**Pb**	**09 26 09.5**	**-1.2**
AKAS	**Kas**	**2.37**	**110**	*i* P	**Pb**	**09 26 12.5**	**-1.5**
AKAS				*i* S	**Sb**	**09 26 44.0**	**+1.2**
AKAS	**Kas**	**2.37**	**110**	P	**Pb**	**09 26 12.5**	**-1.5**
AKAS				S	**Sb**	**09 26 44.0**	**+1.2**
KHAL	**Karahalli**	**2.47**	**57**	*i* P	**Pn**	**09 26 11.3**	**+0.2**
KHAL				*i* S	Sb	09 26 53.9	+8.2
KHAL	**Karahalli**	**2.47**	**57**	P	**Pn**	**09 26 11.3**	**+0.2**

WEL 25 09:38:56.0±0.2, 39°.66S×174°.46E, h136km±1km, ML3.5/26, 11C-13D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.20**	**348**	PN	Pn	09 39 14.6	-0.1
LREZ				SN	Sn	09 39 28.6	-0.1
PREZ	**Palmer Road**	**0.39**	**324**	PN	Pn	09 39 15.1	-0.3
WAZ	**Wanganui**	**0.42**	**104**	⇓PN	Pn	09 39 15.7	+0.3
WAZ				SN	Sn	09 39 30.2	+0.1
NEZ	**North Egmont**	**0.48**	**324**	PN	Pn	09 39 15.4	-0.3
KHEZ	**Kahui Hut**	**0.50**	**317**	PN	Pn	09 39 15.7	-0.2
KHEZ				SN	Sn	09 39 30.1	-0.8
DREZ	**Durham Road**	**0.51**	**337**	PN	Pn	09 39 15.6	-0.3
NMEZ	**Namu Road**	**0.51**	**298**	PN	Pn	09 39 15.7	-0.2
VRZ	**Vera Road**	**0.58**	**24**	⇓PN	Pn	09 39 15.7	-0.6
VRZ				SN	Sn	09 39 30.5	-1.0
PKE	**Pukeiti**	**0.59**	**322**	PN	Pn	09 39 16.0	-0.4
MHEZ	**Mangahewa**	**0.59**	**350**	PN	Pn	09 39 16.3	0.0
PKVZ	**Pokaka**	**0.78**	**62**	⇓PN	Pn	09 39 17.4	-0.3
MTVZ	**Mangateitei**	**0.83**	**71**	PN	Pn	09 39 17.8	-0.3
OHWZ	**Ohakea**	**0.86**	**130**	PN	Pn	09 39 19.0	+0.7
TRVZ	**Turoa**	**0.92**	**67**	⇓PN	Pn	09 39 18.7	-0.4
DRZ	**Dome Shelter**	**0.94**	**66**	PN	Pn	09 39 19.0	-0.3
FWVZ	**Far West T-bar**	**0.94**	**65**	PN	Pn	09 39 18.8	-0.4
WNVZ	**Wahianoa**	**0.94**	**70**	PN	Pn	09 39 18.9	-0.3
WHVZ	**Whangaehu Hut**	**0.95**	**67**	PN	Pn	09 39 18.9	-0.4
TWVZ	**Taurewa**	**0.96**	**53**	⇓PN	Pn	09 39 18.7	-0.5
TUVZ	**Tukino**	**1.01**	**68**	PN	Pn	09 39 19.7	0.0
NGZ	**Ngauruhoe**	**1.01**	**62**	⇓PN	Pn	09 39 19.4	-0.3
WTVZ	**West Tongariro**	**1.03**	**59**	⇓PN	Pn	09 39 19.6	-0.3
MOVZ	**Moawhango**	**1.03**	**76**	PN	Pn	09 39 19.4	-0.5
OTVZ	**Oturere**	**1.06**	**63**	PN	Pn	09 39 20.1	-0.1
KRVZ	**Karewarewa**	**1.08**	**59**	⇓PN	Pn	09 39 20.0	-0.3
KATZ	**Kakaramea**	**1.18**	**55**	PN	Pn	09 39 21.3	-0.1
HIZ	**Hauiti**	**1.18**	**15**

MHGZ	**Mahia Peninsul**	**2.72**	**80**	PN	Pn	09 39 38.7	-0.6
MWZ	**Matawai**	**2.73**	**62**	PN	Pn	09 39 38.2	-1.3
RIGZ	**Rimuhau**	**2.74**	**71**	PN	Pn	09 39 38.7	-0.8
PRGZ	**Paritu Road**	**2.76**	**76**	PN	Pn	09 39 38.7	-1.0
KHZ	**Kahutara**	**2.84**	**194**	⇑PN	Pn	09 39 40.2	-0.6
KHZ				SN	Sn	09 40 13.5	-1.8
DSZ	**Denniston Nort**	**2.90**	**223**	PN	Pn	09 39 40.5	-1.0
TKGZ	**Te Karaka**	**2.91**	**66**	PN	Pn	09 39 40.6	-1.0
TKGZ				AML	AML	09 40 16.9	
TKGZ				AML	AML	09 40 17.3	
RUGZ	**Raukumara Rang**	**3.03**	**57**	PN	Pn	09 39 41.6	-1.8
TWGZ	**Tauwhareparae**	**3.12**	**63**	PN	Pn	09 39 43.5	-1.0
TWGZ				AML	AML	09 40 23.1	
TWGZ				AML	AML	09 40 23.4	
HAZ	**Te Kaha**	**3.22**	**55**	PN	Pn	09 39 43.7	-2.0
PKGZ	**Pakihiroa**	**3.34**	**59**	PN	Pn	09 39 45.9	-1.4
WMGZ	**Waiomatatini S**	**3.60**	**61**	PN	Pn	09 39 48.8	-1.8
WMGZ				AML	AML	09 40 32.8	
INZ	**Inchbonnie**	**3.81**	**216**	PN	Pn	09 39 51.8	-1.6
OXZ	**Oxford**	**4.09**	**206**	PN	Pn	09 39 54.6	-2.5
MQZ	**McQueen's Vall**	**4.26**	**198**	PN	Pn	09 39 56.2	-3.1
ODZ	**Otahua Downs**	**6.08**	**206**	PN	Pn	09 40 21.3	-2.2

*ISCJB **25** 09:48:56.9±0.8, 33°.77N±0°.03×35°.69E±0°.07, h21km±7km, Error ellipse: s-maj=9.9km s-min=5.6km az=2.6*
*NSSC **25** 09:48:57.2±1.0, 33°.77N×35°.72E, h17km±6km, ML1.6*
*GRAL **25** 09:48:57.4±0.3, 33°.79N×35°.78E, h12km±5km, MD2.7*
*CSEM **25** 09:48:57.4, 33°.79N×35°.78E, h11km, ML2.7*

ISC 25 09:48:57.2±0.9, **33°.78N**±0°.03×**35°.77E**±0°.06, **h13**km±10km, **n14**, σ0s**40**/22, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.16**	**321**	*e*P	**Pg**	**09 49 00.8**	**-0.2**
BHL	**Bhannes**	**0.16**	**321**	*e*P	**Pg**	**09 49 00.8**	**-0.2**
DQRL	**Deir Qamar**	**0.19**	**246**	*e*P	**Pg**	**09 49 01.5**	**0.0**
DQRL				*e*S	**Sg**	**09 49 04.5**	**+0.1**
DQRL	**Deir Qamar**	**0.19**	**246**	*e*P	**Pg**	**09 49 01.5**	**0.0**
DQRL				*e*S	**Sg**	**09 49 04.5**	**+0.1**
BEYL	**Beirut**	**0.25**	**291**	*e*P	**Pg**	**09 49 02.3**	**-0.2**
BEYL	**Beirut**	**0.25**	**291**	*e*P	**Pg**	**09 49 02.3**	**-0.2**
RCY	**Rachaya**	**0.29**	**170**	*e*P	**Pg**	**09 49 03.1**	**-0.2**
RCY				*e*S	**Sg**	**09 49 07.4**	**0.0**
BRBR	**Barbar**	**0.40**	**158**	*e*P	**Pg**	**09 49 05.2**	**-0.1**
BRBR				*e*S	**Sb**	**09 49 12.0**	**-0.4**
BRBR				AML	AML	09 49 15.6	
	comp=N,86nm,0.4s						
BRBR				AML	AML	09 49 16.9	
	comp=E,47nm,0.4s						
BRBR				AML	AML	09 49 20.2	
	comp=Z,75nm,0.4s						
HWQ	**Hawqa**	**0.51**	**16**	*e*P	**Pg**	**09 49 06.7**	**-0.7**
HWQ	**Hawqa**	**0.51**	**16**	*e*P	**Pg**	**09 49 06.7**	**-0.7**
MARH	**Ras Al Marh**	**0.64**	**67**	*e*P	**Pb**	**09 49 11.0**	**+0.6**
MARH				*e*S	**Sb**	**09 49 19.8**	**+0.5**
MARH				AML	AML	09 49 26.8	
	comp=N,59nm,0.3s						
MARH				AML	AML	09 49 33.1	
	comp=E,28nm,0.4s						
HAWK	**Haweek**	**0.90**	**35**	*e*P	**Pg**	**09 49 14.8**	**+0.1**
HAWK				*e*S	**Sb**	**09 49 27.3**	**+0.5**
HAWK				AML	AML	09 49 37.5	
	comp=E,13nm,0.5s						
HAWK				AML	AML	09 49 38.6	
	comp=N,26nm,0.4s						
ROOS	**tl_alroos**	**1.32**	**73**	*e*P	**Pn**	**09 49 20.9**	**-0.5**
ROOS				*e*S	**Sn**	**09 49 39.1**	**+0.3**
ROOS				AML	AML	09 49 49.4	
	comp=N,26nm,0.6s						
ROOS				AML	AML	09 50 03.7	
	comp=E,19nm,0.5s						
SALA	**Sala**	**1.34**	**143**	*e*P	**Pn**	**09 49 21.6**	**-0.1**
SALA				*e*S	**Sb**	**09 49 38.6**	**-0.7**
SALA				AML	AML	09 49 46.3	
	comp=N,25nm,0.6s						
SALA				AML	AML	09 49 51.2	
	comp=E,2.4nm,0.5s						

*ISK **25** 09:53:37.8, 38°.79N×43°.34E, h3km, ML3.2*
*DDA **25** 09:53:38.6, 38°.74N×43°.33E, h7km, Ml3.6*
*CSEM **25** 09:53:39.7±0.3, 38°.78N×43°.27E, h2km, ML3.2, Error ellipse: s-maj=8.7km s-min=4.2km az=74.0*

ISC 25 09:53:39.8±0.9, **38°.77N**±0°.02×**43°.31E**±0°.03, **h13**km±7km, **n37**, σ1s**36**/65, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**161**	*e*PG	**Pg**	**09 53 43.9**	**-0.1**
VANB				*e*SG	**Sg**	**09 53 48.1**	**+1.1**
VANB	**Van**	**0.18**	**161**	*e*Pg	**Pg**	**09 53 43.9**	**-0.1**
VANB				*e*Sg	**Sg**	**09 53 48.1**	**+1.1**
GEVA	**Gevas**	**0.49**	**204**	*i* P	**Pg**	**09 53 47.8**	**-1.8**
GEVA				*i* S	**Sb**	**09 53 56.9**	**-0.9**
GEVA	**Gevas**	**0.49**	**204**	P	**Pg**	**09 53 47.8**	**-1.8**
GEVA				S	**Sb**	**09 53 56.8**	**-0.9**
TUTA	**Tutak**	**0.74**	**329**	*i* P	**Pg**	**09 53 53.6**	**-0.7**
TUTA				*i* S	**Sb**	**09 54 05.1**	**+0.1**
TUTA	**Tutak**	**0.74**	**329**	P	**Pg**	**09 53 53.6**	**-0.7**
TUTA				S	**Sb**	**09 54 05.1**	**+0.1**
AGRB	**Hanur-Agry**	**0.85**	**343**	*e*PG	**Pg**	**09 53 55.2**	**-1.0**
AGRB				*e*SG	**Sg**	**09 54 06.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.85**	**343**	*e*Pg	**Pg**	**09 53 55.2**	**-1.0**
AGRB				*e*Sg	**Sg**	**09 54 06.1**	**-1.3**
BASK	**Baskale_VAN**	**0.90**	**142**	*i* P	**Pg**	**09 53 54.0**	**-3.1**
BASK				*i* S	**Sb**	**09 54 09.0**	**-0.3**
BASK	**Baskale_VAN**	**0.90**	**142**	P	**Pg**	**09 53 54.0**	**-3.1**
BASK				S	**Sb**	**09 54 09.0**	**-0.3**
EKAR	**Karacoban**	**1.09**	**297**	*i* P	**Pb**	**09 54 00.4**	**-0.3**
EKAR				*i* S	**Sn**	**09 54 19.7**	**+3.7**
EKAR	**Karacoban**	**1.09**	**297**	P	**Pb**	**09 54 00.4**	**-0.3**
HAKT	**HAKKARI**	**1.25**	**165**	*i* P	**Pg**	**09 54 00.8**	**-3.0**
HAKT				*i* S	**Sn**	**09 54 21.0**	**+1.1**
HAKT	**HAKKARI**	**1.25**	**165**	P	**Pg**	**09 54 00.8**	**-3.0**
HAKT				S	**Sn**	**09 54 21.0**	**+1.1**
EATA	**Eleskirt**	**1.27**	**330**	*i* P	**Pg**	**09 54 03.1**	**-1.1**
EATA				*i* S	**Sn**	**09 54 22.3**	**+1.7**
EATA	**Eleskirt**	**1.27**	**330**	P	**Pg**	**09 54 03.1**	**-1.1**
EATA				S	**Sn**	**09 54 22.3**	**+1.7**
CUKT	**Cukurca**	**1.53**	**171**	*e*PN	**Pb**	**09 54 07.6**	**-0.6**
CUKT				*e*SN	**Sg**	**09 54 29.4**	**+0.3**
CUKT	**Cukurca**	**1.53**	**171**	*i* P	**Pg**	**09 54 10.6**	**+1.3**
CUKT				*i* S	**Sg**	**09 54 32.1**	**+2.9**
CUKT	**Cukurca**	**1.53**	**171**	*e*Pn	**Pb**	**09 54 07.6**	**-0.6**
CUKT	**Cukurca**	**1.53**	**171**	P	**Pg**	**09 54 10.6**	**+1.3**
CUKT				*e*Sn	**Sg**	**09 54 29.5**	**+0.3**
CUKT				S	**Sg**	**09 54 32.1**	**+2.9**
DIGO	**Kars**	**1.65**	**2**	*i* P	**Pg**	**09 54 10.2**	**-1.3**
DIGO				*i* S	**Sg**	**09 54 33.9**	**+1.0**
DIGO	**Kars**	**1.65**	**2**	P	**Pg**	**09 54 10.2**	**-1.3**
DIGO				S	**Sg**	**09 54 33.9**	**+1.0**
BNGL	**BINGOL**	**1.70**	**277**	*i* P	**Pb**	**09 54 10.4**	**-0.6**
BNGL				*i* S	**Sg**	**09 54 35.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	*e*PN	**Pn**	**09 54 10.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	*i* P	**Pb**	**09 54 11.3**	**-0.9**
SVAN				*i* S	**Sg**	**09 54 36.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	*e*Pn	**Pn**	**09 54 10.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	P	**Pb**	**09 54 11.3**	**-0.9**
SVAN				S	**Sg**	**09 54 36.4**	**-0.3**
BTMN	**Batman**	**1.83**	**242**	*i* P	**Pn**	**09 54 10.8**	**-0.2**
BTMN				*i* S	**Sg**	**09 54 37.8**	**-0.8**
BTMN	**Batman**	**1.83**	**242**	P	**Pn**	**09 54 10.8**	**-0.2**
BTMN				S	**Sg**	**09 54 37.8**	**-0.8**
ERZM	**Erzurum**	**1.89**	**308**	*i* P	**Pb**	**09 54 14.5**	**+0.1**
ERZM				*i* S	**Sg**	**09 54 40.1**	**-0.6**
ERZM	**Erzurum**	**1.89**	**308**	P	**Pb**	**09 54 14.5**	**+0.1**
ERZM				S	**Sg**	**09 54 40.1**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.94**	**338**	*e*PN	**Pn**	**09 54 12.5**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.94**	**338**	*e*Pn	**Pn**	**09 54 12.5**	**-0.2**
MAZI	**Mazidag**	**2.61**	**241**	*e*PN	**Pn**	**09 54 22.1**	**+0.3**
MAZI	**Mazidag**	**2.61**	**241**	*e*Pn	**Pn**	**09 54 22.1**	**+0.3**
PTK	**Pertek**	**3.06**	**274**	*e*PN	**Pn**	**09 54 29.3**	**+1.2**
PTK	**Pertek**	**3.06**	**274**	*e*Pn	**Pn**	**09 54 29.3**	**+1.2**

*NIED **25** 09:55:00, 37°.50N×141°.80E, h50km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1:φs=167.00000°, δ41.00000°, λ-7.00000°. NP2:φs=263.00000°, δ85.00000°, λ-131.00000°.*

JMA 25 09:55:32.9±0.1, **37°.51N×141°.76E, h37**km±3km, **M3.8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.72**	**259**	P	Pn	09 55 46.7	+0.1
JFK				S	Sn	09 55 56.1	-0.3
JMM	**Marumori**	**0.84**	**295**	P	Pn	09 55 48.4	+0.1
JMM				S	Sn	09 55 59.4	-0.1
ONAJ	**Iwakimizuishiy**	**0.87**	**242**	P	Pn	09 55 48.7	+0.1
ONAJ				S	Sn	09 55 59.5	-0.6
JIO	**Ouri**	**1.00**	**341**	P	Pn	09 55 50.5	+0.2
JIO				S	Sn	09 56 02.4	-0.7
JFT	**Otama**	**1.13**	**271**	P	Pn	09 55 53.4	+1.2
JFT				S	Sn	09 56 07.6	+1.1
JOU	**Okura**	**1.22**	**315**	P	Pn	09 55 54.2	+0.8
JOU				*e*S	Sn	09 56 09.7	+1.1
JMK	**Ichinoseki**	**1.50**	**344**	P	Pn	09 55 58.0	+0.8
JMK				*e*S	Sn	09 56 16.1	+0.6
JYS	**Shirataka**	**1.52**	**298**	S	Sn	09 56 18.5	+2.5
JFY	**Yanaizu**	**1.64**	**267**	P	Pn	09 56 00.7	+1.5
JFY				S	Sn	09 56 21.1	+2.1
JYK	**Kaneyama**	**1.79**	**322**	P	Pn	09 56 02.3	+1.1
MAT	**Matsushiro**	**3.00**	**252**	P	Pn	09 56 20.5	+2.6
MAT				S	Sn	09 56 57.6	+4.9

*DDA **25** 10:10:22.6, 38°.84N×43°.55E, h4km, Ml2.9*
*ISK **25** 10:10:22.0, 39°.21N×43°.87E, h24km, ML3.0*
*CSEM **25** 10:10:24.6±0.6, 38°.95N×43°.50E, h2km, ML2.9, Error ellipse: s-maj=14.0km s-min=7.6km az=89.0*

ISC 25 10:10:23.0±1.4, **38°.90N**±0°.03×**43°.54E**±0°.05, **h5**km±11km, **n25**, σ1s**16**/37, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.70**	**213**	*i* P	**Pg**	**10 10 35.6**	**-0.9**
GEVA				*i* S	**Sb**	**10 10 47.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.80**	**328**	*e*PG	**Pg**	**10 10 37.5**	**-0.8**
AGRB				*e*SG	**Sb**	**10 10 49.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.80**	**328**	*e*Pg	**Pg**	**10 10 37.5**	**-0.8**
AGRB				*e*Sg	**Sb**	**10 10 49.7**	**-1.0**
EKAR	**Karacoban**	**1.20**	**288**	*i* P	**Pg**	**10 10 47.5**	**+1.4**
EKAR				*i* S	**Sn**	**10 11 06.7**	**+3.1**
EKAR	**Karacoban**	**1.20**	**288**	P	**Pg**	**10 10 47.5**	**+1.4**
EATA	**Eleskirt**	**1.26**	**320**	*i* P	**Pn**	**10 10 46.8**	**-0.8**
EATA				*i* S	**Sn**	**10 11 06.2**	**+1.2**
EATA	**Eleskirt**	**1.26**	**320**	P	**Pn**	**10 10 46.8**	**-0.8**
EATA				S	**Sn**	**10 11 06.2**	**+1.2**
HAKT	**HAKKARI**	**1.35**	**174**	*i* P	**Pn**	**10 10 47.3**	**-1.4**
HAKT				*i* S	**Sg**	**10 11 09.5**	**+3.1**
DIGO	**Kars**	**1.52**	**355**	*i* P	**Pg**	**10 10 52.8**	**+0.7**
DIGO	**Kars**	**1.52**	**355**	P	**Pg**	**10 10 52.8**	**+0.7**
CUKT	**Cukurca**	**1.65**	**178**	*e*PN	**Pg**	**10 10 55.0**	**+0.2**
CUKT	**Cukurca**	**1.65**	**178**	*e*Pn	**Pg**	**10 10 55.0**	**+0.2**
EAK	**Akyaka**	**1.78**	**2**	*i* P	**Pg**	**10 10 57.5**	**+0.3**
EAK	**Akyaka**	**1.78**	**2**	P	**Pg**	**10 10 57.5**	**+0.3**
BNGL	**BINGOL**	**1.87**	**272**	*i* P	**Pb**	**10 10 57.8**	**0.0**
BNGL				*i* S	**Sg**	**10 11 24.7**	**+1.7**
ERZM	**Erzurum**	**1.96**	**301**	*i* P	**Pb**	**10 10 59.0**	**-0.4**
ERZM	**Erzurum**	**1.96**	**301**	P	**Pb**	**10 10 59.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	*e*PN	**Pb**	**10 10 59.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	*i* P	**Pb**	**10 10 59.0**	**-0.7**
SVAN				*i* S	**Sg**	**10 11 26.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	P	**Pb**	**10 10 59.0**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	*e*Pn	**Pb**	**10 10 59.5**	**-0.2**
SVAN				S	**Sg**	**10 11 26.6**	**-0.2**
BTMN	**Batman**	**2.05**	**241**	*i* P	**Pb**	**10 11 00.5**	**-0.3**
BTMN				*i* S	**Sg**	**10 11 28.7**	**-0.2**
BTMN	**Batman**	**2.05**	**241**	P	**Pb**	**10 11 00.5**	**-0.3**
BTMN				S	**Sg**	**10 11 28.7**	**-0.2**
BNGB	**Bing¨¶l**	**2.23**	**273**	*e*PN	**Pb**	**10 11 02.0**	**-2.0**
BINT	**Bingol**	**2.38**	**270**	*e*Pn	**Pn**	**10 11 02.0**	**-0.9**

DJA 25 10:11:23.2±0.7, **8°.S**±4°.×**10°.7E**±°, **h26**km±6km, **M4.0**/8, **MLv4.0**/8, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.69**	**4**	P	Pn	10 11 37.0	-0.3
CISI	**Cisompet, Garu**	**0.85**	**59**	P	Pb	10 11 39.0	-0.4
CISI				S	Sb	10 11 50.0	-0.5
SKJI	**Sukabumi**	**1.12**	**332**	P	Pn	10 11 43.1	-0.1
SKJI				S	Sb	10 11 58.5	+0.5
CMJI	**Cimerak**	**1.37**	**81**	P	Pn	10 11 46.5	-0.2
CMJI				S	Sn	10 12 02.0	-2.0
DBJI	**Dramaga**	**1.47**	**347**	P	Pn	10 11 48.6	+0.5
CGJI	**Cibinong**	**1.95**	**315**	P	Pn	10 11 54.5	-0.1
CGJI				S	Sn	10 12 16.2	-2.0
KLSI		**4.03**	**324**	P	Pn	10 12 24.6	+1.3

*CSEM **25** 10:12:16.7, 36°.29N×37°.02E, h8km, ML2.9*
*DDA **25** 10:12:16.7, 36°.29N×37°.02E, h8km, Ml2.9*
*NSSC **25** 10:12:17.6±1.1, 36°.34N×36°.96E, h2km±6km, MD1.1, ML2.0*

ISC 25 10:12:16.8±1.2, **36°.29N**±0°.03×**36°.99E**±0°.04, **h8**km±10km, **n15**, σ0s**63**/24, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.42**	**321**	*e*P	**Pg**	**10 12 25.1**	**+0.1**
DRWC				*e*S	**Sg**	**10 12 30.8**	**+0.2**
DRWC				AML	AML	10 12 32.6	
	comp=N,67nm,0.3s						
DRWC				AML	AML	10 12 41.6	
	comp=E,162nm,0.4s						
KUZU	**Kuzuini**	**0.48**	**8**	*i* P	**Pg**	**10 12 26.2**	**0.0**
KUZU	**Kuzuini**	**0.48**	**8**	P	**Pg**	**10 12 26.2**	**0.0**
BTCH	**Batrach**	**0.50**	**239**	*e*P	**Pb**	**10 12 28.6**	**+0.7**
BTCH				*e*S	**Sb**	**10 12 35.2**	**-0.2**
BTCH				AML	AML	10 12 43.1	
	comp=N,142nm,0.4s						
BTCH				AML	AML	10 12 45.4	
	comp=E,87nm,0.3s						
YAYL	**Yayladag**	**0.76**	**250**	*i* P	**Pg**	**10 12 29.9**	**-1.6**
YAYL				*i* S	**Sb**	**10 12 43.3**	**+0.4**
YAYL	**Yayladag**	**0.76**	**250**	P	**Pg**	**10 12 29.9**	**-1.6**
YAYL				S	**Sb**	**10 12 43.3**	**+0.4**
KAMA	**Osmaniye**	**0.93**	**344**	*i* P	**Pg**	**10 12 34.6**	**-0.1**
KAMA				*i* S	**Sb**	**10 12 47.4**	**-0.2**
ARNB	**Al Arnab**	**0.93**	**243**	*e*P	**Pg**	**10 12 35.1**	**+0.4**
ARNB				*e*S	**Sb**	**10 12 48.3**	**+0.5**
ARNB				AML	AML	10 12 56.1	
	comp=E,38nm,0.3s						
ARNB				AML	AML	10 12 57.6	
	comp=N,30nm,0.3s						
HCB	**Kahramanmara¨**	**1.05**	**356**	*i* P	**Pb**	**10 12 37.2**	**0.0**
HCB				*i* S	**Sn**	**10 12 52.3**	**-0.4**
GZT	**Gaziantep**	**1.15**	**23**	*i* P	**Pn**	**10 12 39.2**	**-0.2**
GZT				*i* S	**Sn**	**10 12 55.6**	**+0.2**
BIDA	**Albida**	**1.39**	**203**	*e*P	**Pb**	**10 12 42.9**	**-0.1**
BIDA				*e*S	**Sg**	**10 13 02.6**	**+1.1**
BIDA				AML	AML	10 13 04.7	
	comp=E,61nm,0.4s						
BIDA				AML	AML	10 13 05.5	
	comp=N,49nm,0.3s						
SURC	**SANLIURFA_SURC**	**1.43**	**65**	*i* P	**Pn**	**10 12 42.9**	**-0.2**
SURC				*i* S	**Sg**	**10 13 02.9**	**0.0**
SURC	**SANLIURFA_SURC**	**1.43**	**65**	P	**Pn**	**10 12 42.9**	**-0.2**
SURC				S	**Sg**	**10 13 02.8**	**0.0**
ELZG	**Elazig**	**2.71**	**35**	*i* P	Pn	10 12 51.8	-9.0
ELZG	**Elazig**	**2.71**	**35**	P	Pn	10 12 51.8	-9.0

*IDC **25** 10:12:34.0±3.6, 64°.71N×32°.89E, h0km, mb1 3.3/3, mb1mx3.0/45, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=47.6km s-min=11.5km az=101.0*
*ISCJB **25** 10:12:37.5±0.5, 64°.78N±0°.02×30°.66E±0°.08, h0km, Error ellipse: s-maj=5.1km s-min=3.6km az=7.7*
*UPP **25** 10:12:38.3±2.8, 64°.62N×30°.75E, h0km, ML1.7*
*CSEM **25** 10:12:38.9±0.8, 64°.63N×30°.68E, h2km, ML2.1, Error ellipse: s-maj=19.5km s-min=10.7km az=89.0, Mining explosion.*
*KOLA **25** 10:12:38.1, 64°.67N×30°.87E, h0km*
*HEL **25** 10:12:39.3±0.1, 64°.76N×30°.44E, h0km, ML2.1, Explosion*

ISC 25 10:12:39.0±1.0, **64°.84N**±0°.03×**30°.65E**±0°.05, **h0**km, **n59**, σ2s**03**/76, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**345**	PG	**Pg**	**10 13 02.5**	**-0.1**
	baz=169						
KU6	**Riekki**	**1.23**	**345**	Pg	**Pg**	**10 13 02.4**	**-0.1**
MSF	**Maaselka**	**1.27**	**329**	PG	**Pg**	**10 13 02.8**	**-0.4**
	baz=155						
MSF				SN	**Sn**	**10 13 22.1**	**+0.5**
JOF	**Joensuu**	**1.96**	**171**	PG	**Pn**	**10 13 13.1**	**-0.3**
	baz=344						
JOF				SG	**Sb**	**10 13 40.0**	**-0.2**
JOF	**Joensuu**	**1.96**	**171**	Pg	**Pn**	**10 13 13.0**	**-0.3**
OUL	**Oulu**	**2.04**	**279**	PB	**Pn**	**10 13 13.5**	**-1.0**
	baz=94						
OUL				SG	**Sn**	**10 13 39.9**	**-0.7**
OUFX	**Oulainen**	**2.61**	**262**	PN	**Pn**	**10 13 22.4**	**+0.1**
OUFX				SB	**Sn**	**10 13 56.2**	**+1.6**
OUFX	**Oulainen**	**2.61**	**262**	Pn	**Pn**	**10 13 22.4**	**+0.1**
OUFX				Sb	**Sn**	**10 13 56.2**	**+1.6**
TOF	**Tornio**	**2.92**	**298**	PG	**Pg**	**10 13 33.6**	**-1.2**
SUF	**Sumiainen**	**2.92**	**225**	PN	**Pn**	**10 13 27.0**	**+0.4**
SUF				MSG		10 14 01.7	
	comp=Z,6.0nm,0.2s						
SUF	**Sumiainen**	**2.92**	**225**	Pn	**Pn**	**10 13 27.0**	**+0.4**
APA0	**Apatity Array**	**2.93**	**18**	P	**Pn**	**10 13 27.2**	**+0.4**
APA0				S	**Sn**	**10 14 04.0**	**+1.3**
APA	**Apatity**	**2.96**	**21**	P	**Pn**	**10 13 27.5**	**+0.4**
APA				S	**Sn**	**10 14 04.4**	**+1.2**
SGF	**Sodankyl**	**3.10**	**329**	PB	**Pb**	**10 13 33.3**	**-1.7**
KALU	**Kalix**	**3.22**	**292**	P	**Pn**	**10 13 31.2**	**+0.4**
KALU				S	**Sn**	**10 14 11.8**	**+2.0**
KALU	**Kalix**	**3.22**	**292**	PG	**Pb**	**10 13 36.8**	**-0.2**
KALU				SB	**Sb**	**10 14 15.5**	**-1.2**
KALU	**Kalix**	**3.22**	**292**	P	**Pn**	**10 13 31.2**	**+0.4**
KALU				S	**Sn**	**10 14 11.8**	**+2.0**
KAF	**Kangasniemi**	**3.36**	**217**	PB	**Pn**	**10 13 34.3**	**+1.6**
	baz=36						
KAF	**Kangasniemi**	**3.36**	**217**	Pb	**Pn**	**10 13 34.3**	**+1.6**
KEF	**Keuruu**	**3.73**	**227**	PB	**Pn**	**10 13 40.8**	**+3.1**
KEF	**Keuruu**	**3.73**	**227**	Pb	**Pn**	**10 13 40.8**	**+3.1**
PAJU	**Pajala**	**3.78**	**309**	P	**Pn**	**10 13 39.9**	**+1.4**
SJUU	**Sjulsmark**	**3.87**	**284**	P	**Pn**	**10 13 40.6**	**+0.9**
SJUU	**Sjulsmark**	**3.87**	**284**	P	**Pn**	**10 13 40.6**	**+0.9**
ERTU	**Ertsjaerv**	**3.90**	**300**	P	**Pn**	**10 13 41.0**	**+1.0**
ERTU	**Ertsjaerv**	**3.90**	**300**	PB	**Pb**	**10 13 45.9**	**-2.6**
VAF	**Ylistaro**	**3.96**	**246**	PB	**Pn**	**10 13 43.6**	**+2.7**
VAF	**Ylistaro**	**3.96**	**246**	Pb	**Pn**	**10 13 43.5**	**+2.7**
BURU	**Burvik**	**3.99**	**270**	P	**Pn**	**10 13 39.6**	**-1.6**
BURU	**Burvik**	**3.99**	**270**	PN	**Pn**	**10 13 42.7**	**+1.4**
BURU	**Burvik**	**3.99**	**270**	P	**Pn**	**10 13 39.6**	**-1.6**
BURU	**Burvik**	**3.99**	**270**	Pn	**Pn**	**10 13 42.6**	**+1.4**
FIA0	**FINESS Array S**	**3.99**	**213**	PN	**Pn**	**10 13 42.7**	**+1.4**
	baz=33						
FINES	**FINESS Array B**	**3.99**	**213**	Pn	**Pn**	**10 13 42.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=4.3						
FINES				Sn	**Sb**	**10 14 37.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=35,slow=22,SNR=5.9						
MASU	**Masugnsbyn**	**4.38**	**311**	P	**Pn**	**10 13 48.3**	**+1.6**
MASU	**Masugnsbyn**	**4.38**	**311**	P	**Pn**	**10 13 48.3**	**+1.6**
UMAU	**Umeaa**	**4.44**	**262**	PN	**Pn**	**10 13 49.5**	**+2.1**
UMAU	**Umeaa**	**4.44**	**262**	Pn	**Pn**	**10 13 49.5**	**+2.1**
HEF	**Hetta**	**4.53**	**325**	PN	**Pn**	**10 13 51.9**	**+3.1**
HEF	**Hetta**	**4.53**	**325**	Pn	**Pn**	**10 13 51.9**	**+3.1**
VJF	**Virojoki**	**4.55**	**200**	PN	**Pn**	**10 13 50.7**	**+1.7**
	baz=14						
LILU	**Lilltraesk**	**4.59**	**280**	P	**Pn**	**10 13 49.8**	**+0.2**
LILU				S	**Sn**	**10 14 45.1**	**+1.5**
LILU	**Lilltraesk**	**4.59**	**280**	P	**Pn**	**10 13 49.8**	**+0.2**
LILU				S	**Sn**	**10 14 45.1**	**+1.5**
DUNU	**Dundret**	**4.71**	**304**	P	**Pn**	**10 13 51.7**	**+0.5**
DUNU	**Dundret**	**4.71**	**304**	P	**Pn**	**10 13 51.7**	**+0.5**
LANU	**Lannavaara**	**4.74**	**317**	PN	**Pn**	**10 13 54.3**	**+2.8**
LANU	**Lannavaara**	**4.74**	**317**	Pn	**Pn**	**10 13 54.3**	**+2.8**
SVAU	**Svanoeiden**	**4.77**	**271**	P	**Pn**	**10 13 52.7**	**+0.7**
SVAU	**Svanoeiden**	**4.77**	**271**	P	**Pn**	**10 13 52.7**	**+0.7**
KTK1	**Kautokeino**	**5.10**	**328**	*e*P	**Pn**	**10 14 01.2

HAKT	HAKKARI	1.35 175	*i* P	Pg	10 20 48.3	-1.0
HAKT			*i* S	Sn	10 21 11.0	+2.6
HAKT	HAKKARI	1.35 175	P	Pg	10 20 48.3	-1.0
DIGO	Kars	1.51 354	*i* P	Pg	10 20 53.2	+0.7
DIGO	Kars	1.51 354	P	Pg	10 20 53.2	+0.7
CUKT	Cukurca	1.66 179	*e*PN	Pb	10 20 54.8	-0.1
CUKT	Cukurca	1.66 179	*i* P	Pg	10 20 56.0	+0.8
CUKT	Cukurca	1.66 179	*e*Pn	Pb	10 20 54.8	-0.1
CUKT	Cukurca	1.66 179	P	Pg	10 20 56.0	+0.8
HOMI	Horasan	1.72 312	*i* P	Pg	10 20 56.8	+0.4
BNGL	BINGOL	1.89 272	*i* P	Pb	10 20 58.2	-0.7
BNGL			*i* S	Sg	10 21 25.5	+1.5
SVAN	Silvan-Diyarba	2.00 249	*e*PN	Pn	10 20 57.7	-0.8
SVAN	Silvan-Diyarba	2.00 249	*i* P	Pn	10 20 59.5	+1.0
SVAN			*i* S	Sg	10 21 28.3	+0.5
SVAN	Silvan-Diyarba	2.00 249	*e*Pn	Pn	10 20 57.7	-0.8
SVAN	Silvan-Diyarba	2.00 249	P	Pn	10 20 59.5	+1.0
BTMN	Batman	2.07 241	*i* P	Pn	10 20 58.8	-0.7
BTMN			*i* S	Sg	10 21 30.0	+0.1
BTMN	Batman	2.07 241	P	Pn	10 20 58.8	-0.7
BNGB	Bing¶ll	2.25 273	*e*PN	Pn	10 21 01.6	-0.4
BINT	Bingol	2.40 270	*e*Pn	Pn	10 21 01.6	-2.5
YEDI	Yedisu-Bingol	2.41 284	*e*PN	Pn	10 21 04.4	+0.2
YEDI	Yedisu-Bingol	2.41 284	*e*Pn	Pn	10 21 04.4	+0.2
MAZI	Mazidag	2.85 241	*e*PN	Pn	10 21 09.9	-0.3
MAZI	Mazidag	2.85 241	*e*Pn	Pn	10 21 09.9	-0.3
PTK	Pertek	3.26 271	*e*PN	Pn	10 21 16.1	+0.2
PTK	Pertek	3.26 271	*e*Pn	Pn	10 21 16.1	+0.2

ISCJB ***25*** *10:23:20.6±0.6, 0°.92N±0°.05×125°.42E±0°.04, h93km±6km, mb4.5/40, Error ellipse: s-maj=8.9km s-min=5.1km az=36.9*
IDC ***25*** *10:23:20.8±2.7, 0°.91N×125°.23E, h75km±23km, mb4.1/24, mb1 4.2/24, mb1mx4.1/39, mbtmp4.4/24, MS3.1/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=20.0km s-min=10.0km az=75.0*
NEIC ***25*** *10:23:22.6±1.0, 0°.88N×125°.40E, h99km±10km, mb4.5/14, Error ellipse: s-maj=11.4km s-min=6.8km az=47.0*
NEIC Felt at Manado, Indonesia.
DJA ***25*** *10:23:23.7±1.1, 1°N±3°×12°5E±°, h38km±28km, M4.8/13, mb5.1/6, mB5.1/6, MLv4.9/13, Mw(mB)4.4/6*
ISC 25 10:23:20.7±0.9,**0°.90N**±0°.06×**125°.44E**±0°.05,**h74**km±8km,
n83,σ1§**98/97,mb4.5**/40,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.50**	**258**	P	**Pn**	**10 23 46.4**	**+0.7**
KMSI				S	**Sn**	**10 24 05.8**	**+1.2**
LBMI	**Labuha**	**2.56**	**126**	P	**Pn**	**10 24 01.9**	**+1.8**
SGSI	**Sangihe**	**2.77**	**2**	P	Pn	10 24 09.9	+7.0
SANI	**Sanana**	**2.98**	**169**	P	**Pn**	**10 24 04.5**	**-1.2**
LUWI	**Luwuk**	**3.29**	**234**	P	**Pn**	**10 24 11.9**	**+1.9**
LUWI	**Luwuk**	**3.29**	**234**	*e*Pn	**Pn**	**10 24 11.2**	**+1.3**
LUWI				*e*Sn	**Sn**	**10 24 49.9**	**+1.9**
MRSI	**Marisa**	**3.52**	**263**	P	**Pn**	**10 24 14.2**	**+1.1**
APSI	**Ampana**	**4.20**	**245**	P	**Pn**	**10 24 24.9**	**+2.6**
NLAI	**Namlea**	**4.43**	**158**	P	**Pn**	**10 24 26.3**	**+0.8**
AAI	**Ambon**	**5.32**	**149**	P	**Pn**	**10 24 39.5**	**+1.8**
MSAI	**Masohi** 237nm,0.5s,4μm	**5.47**	**140**	P	**Pn**	**10 24 42.6**	**+2.9**
MSAI	140nm,0.5s,2μm			S	**Sn**	**10 25 42.6**	**+1.3**
MPSI	**Mapaga**	**5.57**	**264**	P	**Pn**	**10 24 43.4**	**+2.3**
KDI	**Kendari** 44nm,0.8s,461nm	**5.58**	**210**	P	**Pn**	**10 24 41.0**	**-0.3**
PCI	**Palu**	**5.88**	**252**	P	**Pn**	**10 24 47.3**	**+1.9**
FAKI	**Fak Fak**	**7.79**	**119**	*e*Pn	**Pn**	**10 25 13.1**	**+1.7**
MYLDM	**Lahad Datu**	**8.13**	**302**	*e*Pn	**Pn**	**10 25 19.5**	**+3.4**
SBUM	**Sibu**	**13.31**	**277**	*e*Pn	**Pn**	**10 26 28.5**	**+1.9**
MTN	**Manton Dam**	**14.77**	**158**	*e*Pn	**Pn**	**10 26 45.2**	**-0.6**
KSM	**Kuching** 27nm,0.7s	**15.14**	**272**	*e*Pn	**Pn**	**10 26 50.3**	**-0.3**
WRAB	**Tennant Creek** 16nm,0.9s	**22.47**	**158**	*e*P	**P**	**10 28 13.5**	**-0.5**
WR1	**Warramunga Arr** 19nm,1.0s	**22.47**	**158**	*e*P	**P**	**10 28 13.8**	**-0.4**
WR1				*e*S	**S**	**10 32 12.4**	**-3.4**
WRA	**Warramunga Arr** 11nm,0.6s,baz=336,slow=11,SNR=69	**22.47**	**158**	P	**P**	**10 28 13.8**	**-0.4**
WRA	1.3nm,0.9s,baz=333,slow=17,SNR=5.0			S	**S**	**10 32 12.4**	**-3.4**
WB2	**Warramunga Arr** 16nm,0.9s	**22.48**	**158**	*e*P	**P**	**10 28 13.5**	**-0.7**
GUMO	**Guam** 24nm,0.6s,baz=117,slow=18,SNR=3.5	**23.00**	**56**	P	**P**	**10 28 20.5**	**+0.9**
AS31	**Alice Springs** 5.2nm,0.4s	**25.76**	**162**	*e*P	**P**	**10 28 45.3**	**+0.5**
ASAR	**Alice Springs** 5.5nm,0.6s,baz=325,slow=5.7,SNR=64	**25.76**	**162**	P	**P**	**10 28 45.5**	**+0.7**
ASAR	1.5nm,0.6s,baz=343,slow=1.9,SNR=7.2			PcP	**PcP**	**10 32 13.6**	**+0.5**
ASAR	1.2nm,1.0s,baz=347,slow=15,SNR=4.5			S	**S**	**10 33 10.8**	**+2.1**
CM31	**Chiang Mai Arr**	**31.32**	**305**	*e*P	**P**	**10 29 31.8**	**-2.5**
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=134,slow=5.2,SNR=5.4	**31.32**	**305**	P	**P**	**10 29 33.9**	**-0.4**
CMAR	0.6nm,0.4s,baz=164,slow=2.7,SNR=5.0			ScP	**ScP**	**10 36 02.0**	**-1.8**
CMAR	comp=Z,25nm,21.0s,baz=132,slow=37			LR	LR	10 42 46.9	
NJ2	**Nanjing**	**31.61**	**349**	*e*P	**P**	**10 29 34.5**	**-2.1**
KMI	**Kunming**	**32.57**	**319**	P	**P**	**10 29 47.3**	**+1.8**
KMI	comp=Z,14nm,0.5s			pmax	pmax		
KMI	comp=Z,100nm,7.2s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,5.5nm,0.7s,baz=341,slow=6.4,SNR=10	**36.01**	**156**	P	**P**	**10 30 15.6**	**+0.8**
STKA	**Stephens Creek** comp=Z,2.2nm,1.0s	**36.01**	**156**	*e*P	**P**	**10 30 14.9**	**0.0**
XAN	**Xi'an**	**36.42**	**337**	P	**P**	**10 30 17.0**	**-1.4**
XAN				pP	pP	10 30 35.3	-0.8
XAN	comp=Z,4.0nm,0.5s			pmax	pmax		
XAN	comp=Z,170nm,8.8s			pmax	pmax		
KS15	**Wonju Array Si**	**36.44**	**3**	*e*P	**P**	**10 30 15.1**	**-3.3**
KSRS	**Korea Array** comp=Z,2.5nm,0.6s,baz=180,slow=9.7,SNR=9.1	**36.45**	**3**	P	**P**	**10 30 18.6**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,2.7nm,0.8s,baz=200,slow=9.1,SNR=7.7	**37.39**	**17**	P	**P**	**10 30 26.3**	**-0.2**
LZH	**Lanzhou**	**40.35**	**333**	*e*P	**P**	**10 30 50.5**	**-1.0**
LZH				pP	pP	10 31 10.3	+0.9
LZH				sP	sP	10 31 20.0	+2.1
LZH				*e*PP	**PnPn**	**10 32 28.5**	**-1.5**
LZH	comp=Z,22nm,1.1s			pmax	pmax		
LZH	comp=Z,73nm,5.3s			pmax	pmax		
LZH	comp=N,360nm,13.4s			LR	LR		
LZH	comp=E,370nm,13.8s			LR	LR		
LZH	comp=Z,400nm,16.9s			LR	LR		
HHC	**Hu-ho-hao-te**	**41.71**	**344**	*e*P	**P**	**10 31 03.8**	**+1.3**
HHC	comp=Z,20nm,0.9s			pmax	pmax		
HHC	comp=Z,88nm,6.4s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,2.4nm,0.5s,baz=181,slow=7.5,SNR=7.9	**43.51**	**7**	P	**P**	**10 31 17.7**	**+0.8**
ASAJ	**Asahikawa** comp=Z,6.2nm,0.5s,baz=239,slow=10,SNR=8.8	**45.66**	**17**	P	**P**	**10 31 35.3**	**+1.2**
ASAJ	**Asahikawa** comp=Z,18nm,1.1s	**45.66**	**17**	*e*P	**P**	**10 31 34.8**	**+0.8**
SONA0	**Songino Array**	**49.59**	**343**	*e*P	**P**	**10 32 03.6**	**-0.9**
SONA0				*e*PcP	**PcP**	**10 33 25.1**	**-0.2**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=159,slow=9.8,SNR=3.9	**49.59**	**343**	P	**P**	**10 32 03.6**	**-0.9**
SONM				PcP	**PcP**	**10 33 25.1**	**-0.2**
WMQ	**Urumqi** comp=Z,0.6nm,0.6s,baz=145,slow=5.5,SNR=3.9	**54.34**	**327**	P	**P**	**10 32 40.0**	**+0.1**
WMQ				pP	pP	10 33 00.0	+1.4
WMQ				sP	sP	10 33 10.0	+3.1
WMQ	**Urumqi**	**54.34**	**327**	SS	**SKiKP**	**10 43 52.5**	**+8.9**
WMQ	comp=Z,11nm,0.7s			pmax	pmax		
WMQ	comp=Z,130nm,4.9s			pmax	pmax		
WMQ	comp=N,33nm,21.7s			LR	LR		
WMQ	comp=E,25nm,18.1s			LR	LR		
WMQ	comp=Z,35nm,30.9s			LR	LR		
PETK	**Petropavlovsk-** comp=Z,3.2nm,0.7s,baz=162,slow=1.5,SNR=8.7	**58.52**	**22**	P	**P**	**10 33 11.2**	**+1.9**
PEA1	**Petropavlovsk-**	**58.53**	**22**	*e*P	**P**	**10 33 11.2**	**+1.8**
KSH	**Kashi**	**59.17**	**317**	*e*P	P	10 33 19.0	+4.7
KSH				pP	pP	10 33 38.0	+4.7
KSH				sP	sP	10 33 47.0	+5.5
KSH				PcP	**PcP**	**10 34 06.5**	**+4.4**
KSH				PP	PP	10 35 34.0	+8.2
KSH				PcS	**PcS**	**10 38 06.5**	**+2.3**
KSH				S	**S**	**10 41 20.0**	**+3.5**
KSH				ScS	ScS	10 41 58.0	-60
KSH	**Kashi**	**59.17**	**317**	SS	**SS**	**10 45 18.5**	**+6.4**
KSH	comp=Z,21nm,1.8s			pmax	pmax		
KSH	comp=Z,67nm,5.7s			pmax	pmax		
KSH	comp=N,53nm,8.2s			LR	LR		
KSH	comp=E,78nm,8.0s			LR	LR		
KSH	comp=Z,100nm,8.0s			LR	LR		
MK31	**Makanchi Array**	**59.17**	**327**	*e*P	**P**	**10 33 12.6**	**-1.4**
MK32	**Makanchi Array**	**59.17**	**327**	*e*P	**P**	**10 33 12.8**	**-1.3**
MK32				*e*PcP	**PcP**	**10 34 00.7**	**-1.1**
MKAR	**Makanchi Array** comp=Z,4.5nm,0.3s,baz=123,slow=7.6,SNR=52	**59.17**	**327**	P	**P**	**10 33 12.8**	**-1.2**
MKAR	comp=Z,2.9nm,0.8s,baz=123,slow=4.8,SNR=6.6			PcP	**PcP**	**10 34 00.7**	**-1.2**
MKAR	comp=Z,26nm,20.7s,baz=115,slow=37			LR	LR	10 59 19.4	
MKAR	**Makanchi Array** comp=Z,57nm,0.3s	**59.17**	**327**	*e*P	**P**	**10 33 12.6**	**-1.4**
MAKZ	**Makanchi** comp=Z,4.7nm,0.6s	**59.35**	**327**	*e*P	**P**	**10 33 13.7**	**-1.5**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.4s,baz=101,slow=2.9,SNR=3.1	**62.54**	**334**	P	**P**	**10 33 34.9**	**-1.8**
ZAA1	**Zalesovo Array**	**62.54**	**334**	*e*P	**P**	**10 33 34.9**	**-1.8**
KURK	**Kurchatov** comp=Z,12nm,0.4s	**63.45**	**329**	*e*P	**P**	**10 33 41.1**	**-1.7**
KKAR	**Karatay Array** comp=Z,15nm,0.7s	**64.45**	**318**	*e*P	**P**	**10 33 47.5**	**-2.0**
BVAR	**Borovoye Array** comp=Z,1.4nm,0.3s,baz=135,slow=9.5,SNR=9.6	**69.00**	**328**	P	**P**	**10 34 16.8**	**-1.4**
BRVK	**Borovoye** comp=Z,3.0nm,0.4s	**69.07**	**328**	*e*P	**P**	**10 34 17.3**	**-1.4**
TIXI	**Tiksi** comp=Z,4.8nm,0.4s,baz=160,slow=3.9,SNR=7.6	**70.68**	**1**	P	**P**	**10 34 27.6**	**-0.6**
NRIK	**Noril'sk** comp=Z,7.9nm,0.6s,baz=90,slow=2.7,SNR=3.8	**72.87**	**347**	P	**P**	**10 34 41.3**	**-0.1**
ABKAR	**Akbulak array** comp=Z,26nm,0.7s	**73.53**	**322**	*e*P	**P**	**10 34 44.0**	**-1.7**
MAW	**Mawson** comp=Z,1.6nm,0.5s,baz=77,slow=5.4,SNR=11	**80.67**	**200**	P	**P**	**10 35 25.6**	**+0.3**
MAW	**Mawson** comp=Z,2.1nm,1.5s	**80.67**	**200**	*e*P	**P**	**10 35 25.8**	**+0.5**
KBZ	**Khabaz** comp=Z,1.0nm,0.5s,baz=90,slow=2.0,SNR=3.4	**83.99**	**314**	P	**P**	**10 35 42.8**	**-0.3**
OHAK	**Old Harbor** comp=Z,248nm,0.6s	**84.52**	**33**	*e*P	**P**	**10 35 45.9**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=235,slow=4.4,SNR=4.4	**88.20**	**25**	P	**P**	**10 36 02.5**	**-0.9**
ILB	**Eielson Array**	**88.20**	**25**	*e*P	**P**	**10 36 02.1**	**-1.4**
KMBO	**Kilima Mbogo** comp=Z,2.7nm,0.5s,baz=65,slow=11,SNR=11	**88.21**	**269**	P	**P**	**10 36 05.0**	**+0.1**
KMBO	**Kilima Mbogo** comp=Z,3.7nm,0.7s	**88.21**	**269**	*e*P	**P**	**10 36 05.0**	**+0.1**
BR101	**Keskin Array S**	**90.82**	**310**	*e*P	**P**	**10 36 14.7**	**-1.8**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.4s,baz=122,slow=7.0,SNR=2.8	**90.82**	**310**	P	**P**	**10 36 14.7**	**-1.8**
ARA0	**ARCESS Array S**	**92.64**	**340**	*e*P	**P**	**10 36 22.4**	**-1.6**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.4s,baz=79,slow=6.3,SNR=5.5	**92.64**	**340**	P	**P**	**10 36 22.4**	**-1.6**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.5s,baz=68,slow=5.5,SNR=4.8	**93.26**	**321**	P	**P**	**10 36 25.1**	**-2.1**
AKBB	**Malin Array Si**	**93.26**	**321**	*e*P	**P**	**10 36 25.5**	**-1.7**
FIA0	**FINESS Array S**	**93.70**	**332**	*e*P	**P**	**10 36 27.3**	**-1.8**
FINES	**FINESS Array B** comp=Z,1.8nm,0.8s,baz=52,slow=3.1,SNR=5.1	**93.70**	**332**	P	**P**	**10 36 27.3**	**-1.8**
BUR08	**Bucovina Ar. S**	**96.24**	**318**	*e*P	**P**	**10 36 40.5**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.6s,baz=49,slow=1.7,SNR=6.9	**122.52**	**286**	PKP	**PKPdf**	**10 42 08.0**	**-0.8**
TOA1	**Torodi Ar. Sit**	**122.52**	**286**	*e*PKPdf	**PKPdf**	**10 42 08.0**	**-0.8**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=321,slow=1.6,SNR=5.0	**124.33**	**53**	PKP	**PKPdf**	**10 42 12.9**	**+0.8**

MEX 25 10:31:07.2±0.5,**14°.82N×92°.69W,h104**km±13km,**MD3.9,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.02**	**330**	*e*P	Pn	10 31 26.6	-1.5
PCIG				*e*S	Sn	10 31 42.5	-1.5
CCIG	**Comitan**	**1.55**	**20**	*e*P	Pn	10 31 33.5	-1.0
CCIG				*i* S	Sn	10 31 53.1	-2.1
CMIG	**Matias Romero**	**3.10**	**317**	*e*P	Pn	10 31 53.2	-1.1
HUIG	**Huatulco**	**3.43**	**286**	*e*P	Pn	10 31 58.4	-0.4
HUIG				*e*S	Sn	10 32 36.9	-1.9

ISK ***25*** *10:34:02.1, 38°.65N×43°.29E, h5km, ML3.1*
CSEM ***25*** *10:34:03.3±0.3, 38°.66N×43°.21E, h2km, ML3.6, Error ellipse: s-maj=6.3km s-min=4.1km az=88.0*
DDA ***25*** *10:34:03.5, 38°.67N×43°.11E, h5km, Ml3.6*
ISC 25 10:34:03.1±1.3,**38°.66N**±0°.02×**43°.20E**±0°.03,**h1**km±11km,
n38,σ0§**83/58,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.37**	**198**	*i* P	**Pg**	**10 34 10.4**	**+0.3**
GEVA				*i* S	**Sb**	**10 34 17.2**	**-1.6**
GEVA	**Gevas**	**0.37**	**198**	P	**Pg**	**10 34 10.4**	**+0.3**
GEVA				S	**Sb**	**10 34 17.2**	**-1.6**
TUTA	**Tutak**	**0.80**	**338**	*i* P	**Pg**	**10 34 18.0**	**-0.4**
TUTA				*i* S	**Sg**	**10 34 29.6**	**+0.8**
TUTA	**Tutak**	**0.80**	**338**	P	**Pg**	**10 34 18.0**	**-0.4**
TUTA				S	**Sg**	**10 34 29.6**	**+0.8**
BASK	**Baskale_VAN**	**0.88**	**134**	*i* P	**Pb**	**10 34 20.7**	**-0.5**
BASK	**Baskale_VAN**	**0.88**	**134**	P	**Pb**	**10 34 20.7**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**350**	*e*PG	**Pg**	**10 34 20.6**	**-0.2**
AGRB				*e*SG	**Sb**	**10 34 34.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**350**	*e*Pg	**Pg**	**10 34 20.6**	**-0.2**
AGRB				*e*Sg	**Sb**	**10 34 34.2**	**-0.7**
DYDN	**Diyadin**	**0.96**	**23**	*i* P	**Pg**	**10 34 21.8**	**+0.4**
DYDN	**Diyadin**	**0.96**	**23**	P	**Pg**	**10 34 21.8**	**+0.4**
EKAR	**Karacoban**	**1.07**	**304**	*i* P	**Pg**	**10 34 23.9**	**+0.3**
EKAR				*i* S	**Sn**	**10 34 42.8**	**+1.8**
EKAR	**Karacoban**	**1.07**	**304**	P	**Pg**	**10 34 23.9**	**+0.3**
HAKT	**HAKKARI**	**1.17**	**160**	*i* P	**Pg**	**10 34 25.4**	**-0.1**
HAKT				*i* S	**Sn**	**10 34 46.1**	**+2.6**
HAKT	**HAKKARI**	**1.17**	**160**	P	**Pg**	**10 34 25.4**	**-0.1**
EATA	**Eleskirt**	**1.32**	**335**	*i* P	**Pg**	**10 34 27.1**	**-1.3**
EATA				*i* S	**Sn**	**10 34 47.7**	**+0.4**
EATA	**Eleskirt**	**1.32**	**335**	P	**Pg**	**10 34 27.1**	**-1.3**
EATA				S	**Sn**	**10 34 47.7**	**+0.4**
SIRN	**S¨–rnak**	**1.32**	**208**	*i* P	**Pn**	**10 34 27.6**	**-1.1**
SIRN	**S¨–rnak**	**1.32**	**208**	P	**Pn**	**10 34 27.6**	**-1.1**
BNGL	**BINGOL**	**1.63**	**281**	*i* P	**Pn**	**10 34 33.0**	**-0.1**
BNGL				*i* S	**Sn**	**10 34 54.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	*e*PN	**Pn**	**10 34 33.0**	**-0.3**
SVAN				*e*SN	**Sb**	**10 34 55.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	*i* P	**Pb**	**10 34 34.1**	**-0.3**
SVAN				*i* S	**Sb**	**10 34 56.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	*e*Pn	**Pn**	**10 34 33.0**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	P	**Pb**	**10 34 34.1**	**-0.3**
SVAN				*e*Sn	**Sb**	**10 34 55.6**	**-0.2**
SVAN				S	**Sb**	**10 34 56.0**	**+0.2**
BTMN	**Batman**	**1.71**	**244**	*i* P	**Pb**	**10 34 34.7**	**-0.6**
BTMN				*i* S	**Sb**	**10 34 57.2**	**0.0**
BTMN	**Batman**	**1.71**	**244**	P	**Pb**	**10 34 34.7**	**-0.6**
BTMN				S	**Sb**	**10 34 57.2**	**0.0**
DIGO	**Kars**	**1.75**	**4**	*i* P	**Pg**	**10 34 36.7**	**0.0**
DIGO	**Kars**	**1.75**	**4**	P	**Pg**	**10 34 36.7**	**0.0**
ERZM	**Erzurum**	**1.89**	**312**	*i* P	**Pb**	**10 34 38.6**	**+0.1**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pb**	**10 34 38.6**	**+0.1**
BNGB	**Bing¶ll**	**2.00**	**280**	*e*PN	**Pb**	**10 34 39.1**	**-1.1**
BNGB				*e*SN	**Sb**	**10 35 05.4**	**-0.3**
BINT	**Bingol**	**2.13**	**277**	*e*Pn	**Pn**	**10 34 39.1**	**-0.8**
BINT				*e*Sn	**Sn**	**10 35 05.4**	**-1.7**
MARD	**Mardin**	**2.34**	**236**	*i* P	**Pb**	**10 34 45.8**	**-0.3**
MARD				*i* S	**Sb**	**10 35 16.4**	**+0.8**
MAZI	**Mazidag**	**2.48**	**242**	*e*PN	**Pn**	**10 34 45.6**	**+0.8**
MAZI	**Mazidag**	**2.48**	**242**	*e*Pn	**Pn**	**10 34 45.6**	**+0.8**
PTK	**Pertek**	**2.99**	**276**	*e*PN	**Pn**	**10 34 53.1**	**+1.4**
PTK	**Pertek**	**2.99**	**276**	*e*Pn	**Pn**	**10 34 53.1**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*PN	**Pn**	**10 34 52.8**	**-0.1**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*Pn	**Pn**	**10 34 52.8**	**-0.1**

DDA ***25*** *10:41:35.1, 38°.66N×43°.13E, h5km, Ml3.4*
ISK ***25*** *10:41:35.8, 38°.73N×43°.37E, h6km, MD2.9*
CSEM ***25*** *10:41:36.2±0.3, 38°.69N×43°.20E, h2km, MD2.9, Error ellipse: s-maj=9.7km s-min=5.6km az=67.0*
ISC 25 10:41:36.5±1.0,**38°.68N**±0°.02×**43°.16E**±0°.04,**h7**km±10km,
n28,σ1§**20/46,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**114**	*e*PG	**Pg**	**10 41 40.5**	**+0.1**
VANB				*e*SG	**Sg**	**10 41 44.6**	**+1.6**
VANB	**Van**	**0.19**	**114**	*e*Pg	**Pg**	**10 41 40.5**	**+0.1**
VANB				*e*Sg	**Sg**	**10 41 44.6**	**+1.6**
GEVA	**Gevas**	**0.37**	**193**	*i* P	**Pg**	**10 41 42.8**	**-1.0**
GEVA				*i* S	**Sb**	**10 41 50.1**	**-1.5**
GEVA	**Gevas**	**0.37**	**193**	P	**Pg**	**10 41 42.8**	**-1.0**
GEVA				S	**Sb**	**10 41 50.1**	**-1.5**
TUTA	**Tutak**	**0.78**	**340**	*i* P	**Pg**	**10 41 50.3**	**-1.1**
TUTA				*i* S	**Sb**	**10 42 02.6**	**-0.7**
TUTA	**Tutak**	**0.78**	**340**	P	**Pg**	**10 41 50.3**	**-1.1**
TUTA				S	**Sb**	**10 42 02.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**352**	*e*PG	**Pg**	**10 41 53.0**	**-1.0**
AGRB				*e*SG	**Sb**	**10 42 06.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**352**	*e*Pg	**Pg**	**10 41 53.0**	**-1.0**
AGRB				*e*Sg	**Sb**	**10 42 06.4**	**-0.7**
EKAR	**Karacoban**	**1.03**	**304**	*i* P	**Pn**	**10 41 58.4**	**+0.7**
EKAR				*i* S	**Sn**	**10 42 16.0**	**+3.4**
EKAR	**Karacoban**	**1.03**	**304**	P	**Pn**	**10 41 58.4**	**+0.7**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pg**	**10 41 57.5**	**-1.9**
HAKT				*i* S	**Sn**	**10 42 17.1**	**+0.6**
HAKT	**HAKKARI**	**1.20**	**159**	P	**Pg**	**10 41 57.5**	**-1.9**
HAKT				S	**Sn**	**10 42 17.1**	**+0.6**
EATA	**Eleskirt**	**1.29**	**336**	*i* P	**Pg**	**10 41 60.0**	**-1.4**
EATA				*i* S	**Sn**	**10 42 20.9**	**+1.8**
EATA	**Eleskirt**	**1.29**	**336**	P	**Pg**	**10 42 00.0**	**-1.4**
CUKT	**Cukurca**	**1.47**	**166**	*e*PN	**Pg**	**10 42 04.2**	**-0.5**
CUKT	**Cukurca**	**1.47**	**166**	*e*Pn	**Pg**	**10 42 04.2**	**-0.5**
BNGL	**BINGOL**	**1.60**	**281**	*i* P	**Pn**	**10 42 03.6**	**-1.8**
BNGL				*i* S	**Sb**	**10 42 27.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*PN	**Pg**	**10 42 07.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*i* P	**Pn**	**10 42 05.9**	**+0.2**
SVAN				*i* S	**Sb**	**10 42 28.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	P	**Pn**	**10 42 05.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*Pn	**Pg**	**10 42 07.8**	**+0.1**
SVAN				S	**Sb**	**10 42 28.5**	**+0.8**
BTMN	**Batman**	**1.68**	**243**	*i* P	**Pn**	**10 42 06.2**	**-0.2**
BTMN				*i* S	**Sb**	**10 42 29.4**	**+0.1**
BTMN	**Batman**	**1.68**	**243**	P	**Pn**	**10 42 06.2**	**-0.2**
BTMN				S	**Sb**	**10 42 29.4**	**+0.1**
ERZM	**Erzurum**	**1.86**	**312**	*i* P	**Pb**	**10 42 10.8**	**-0.1**
ERZM	**Erzurum**	**1.86**	**312**	P	**Pb**	**10 42 10.8**	**-0.1**
MARD	**Mardin**	**2.32**	**235**	*i* P	**Pb**	**10 42 19.7**	**+0.9**
MARD				*i* S	**Sb**	**10 42 47.6**	**-0.1**
MAZI	**Mazidag**	**2.46**	**241**	*e*PN	**Pb**	**10 42 20.2**	**-1.0**
PTK	**Pertek**	**2.96**	**275**	*e*PN	**Pb**	**10 42 26.8**	**-2.8**

CSEM ***25*** *10:43:01.5±0.6, 38°.79N×43°.40E, h5km, MD2.9, Error ellipse: s-maj=14.2km s-min=6.0km az=75.0*
DDA ***25*** *10:43:01.6, 38°.75N×43°.20E, h7km, Ml2.8*
ISK ***25*** *10:43:01.1, 38°.79N×43°.40E, h4km, MD2.9*
ISC 25 10:43:01.1±1.4,**38°.81N**±0°.03×**43°.46E**±0°.08,**h10**km±9km,
n18,σ1§**37/33,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**194**	*e*PG	**Pb**	**10 43 07.4**	**+1.7**
VANB				*e*SG	**Sb**	**10 43 11.9**	**+3.1**
VANB	**Van**	**0.22**	**194**	*e*Pg	**Pb**	**10 43 07.4**	**+1.7**
GEVA	**Gevas**	**0.59**	**212**	*i* P	**Pg**	**10 43 10.1**	**-2.4**
GEVA				*i* S	**Sg**	**10 43 18.3**	**-1.9**
GEVA	**

baz=315,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 27.28 123 T T 11 19 17.4
baz=315,slow=75,SNR=11
SONM Songino Array 28.65 304 P **P** **10 50 27.4 +0.9**
1.0nm,0.6s,baz=104,slow=7.8,SNR=5.5
MKAR Makanchi Array 45.00 302 P **P** **10 52 45.6 +0.5**
0.8nm,0.7s,baz=83,slow=11,SNR=6.4
AAK Ala-Archa 51.40 299 LR LR 11 16 48.3
comp=Z,39nm,19.3s,baz=202,slow=38
ASAR Alice Springs 60.97 189 P **P** **10 54 44.3 +1.2**
0.1nm,0.7s,baz=359,slow=5.7,SNR=3.1

IDC 25 10:57:11.1±3.3, 5.76S×145.86E, h166km±35km, mb3.2/5, mb1 3.4/7, mb1mx3.2/38, mbtmp3.7/7, Error ellipse: s-maj=35.6km s-min=25.2km az=127.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**161**	P	Pn	10 58 09.6	-0.2
	16nm,0.3s,baz=8.6,slow=6.0,SNR=50						
PMG				S	Sn	10 58 56.0	+0.4
	20nm,0.3s,baz=154,slow=20,SNR=22						
CTA	**Charters Tower**	**14.25**	**178**	P	P	11 00 34.1	+6.1
	0.8nm,0.3s,baz=355,slow=13,SNR=6.9						
WRA	**Warramunga Arr**	**18.01**	**217**	P	Pn	11 01 11.1	-0.1
	0.2nm,0.3s,baz=35,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**21.20**	**212**	P	P	11 01 44.2	+0.4
	0.3nm,0.4s,baz=39,slow=7.8,SNR=15						
FITZ	**Fitzroy Crossi**	**23.24**	**236**	P	P	11 02 03.0	-0.7
	1.2nm,0.4s,baz=46,slow=11,SNR=9.0						
STKA	**Stephens Creek**	**26.29**	**188**	P	P	11 02 30.8	-0.4
	1.4nm,0.7s,baz=347,slow=14,SNR=4.3						
CMAR	**Chiang Mai Arr**	**52.14**	**299**	P	P	11 06 04.6	-0.2
	0.9nm,0.5s,baz=126,slow=6.5,SNR=4.4						
ILAR	**Eielson Array**	**85.71**	**23**	P	P	11 09 31.3	+0.3
	0.4nm,0.8s,baz=263,slow=6.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**143.94**	**284**	PKP	PKPdf	11 16 26.9	-0.8
	4μm,0.9s,baz=56,slow=1.8,SNR=4.6						

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*ISCJB **25** 11:01:09.7±0.3, 29°16S±0°07×61°32E±0°07, h10km, mb4.5/40, MS3.6/24, Error ellipse: s-maj=10.4km s-min=8.5km az=15.2*
*IDC **25** 11:01:09.9±0.6, 29°06S×61°37E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.2/55, mbtmp4.3/22, ML4.0/1, MS3.6/24, Ms1 3.6/24, ms1mx3.4/43, Error ellipse: s-maj=17.4km s-min=14.9km az=5.0*
*BJI **25** 11:01:10.8, 29°20S×61°20E, h7km, mb4.8/20, mB5.0/14, Ms4.9/9, Ms7 4.4/6*
*NEIC **25** 11:01:11.3±0.3, 29°12S×61°29E, h10km, mb5.0/17, Error ellipse: s-maj=8.6km s-min=6.7km az=214.0*
ISC 25 11:01:11.7±0.5, 28°86S±0°07×61°15E±0°07, h10km, n88, σ2s 03/73, mb4.6/40, MS3.7/25, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.10**	**326**	*e*Pn	**Pn**	**11 03 23.9**	**+0.6**
RER				*e*Sn	**Sn**	**11 05 03.0**	**-2.8**
ABPO	**Ambohimpanom**	**16.05**	**305**	*e*Pn	**P**	**11 05 02.0**	**+0.8**
	17nm,1.4s						
ABPO				*e*Sn	**Sn**	**11 07 51.8**	**-4.1**
OPO	**Ambohidratompo**	**16.36**	**306**	Pn	**P**	**11 05 04.2**	**-0.5**
	0.5nm,0.3s,baz=113,slow=22,SNR=9.6						
OPO				Sn	**Sn**	**11 07 56.4**	**-7.2**
	0.3nm,0.3s,baz=17,slow=19,SNR=5.1						
OPO				LR	LR	11 09 54.4	
	comp=Z,366nm,18.6s,baz=140,slow=32						
H08S1	**Diego Garcia H**	**23.65**	**29**	T	T	11 30 57.0	
	baz=204,slow=75,SNR=127						
H08S2	**Diego Garcia H**	**23.66**	**29**	T	T	11 30 57.6	
	baz=204,slow=75,SNR=53						
H08S3	**Diego Garcia H**	**23.67**	**29**	T	T	11 30 58.5	
	baz=204,slow=75,SNR=58						
H08N3	**Diego Garcia H**	**24.25**	**24**	T	T	11 32 21.2	
	baz=198,slow=75,SNR=107						
H08N1	**Diego Garcia H**	**24.26**	**24**	T	T	11 32 22.4	
	baz=198,slow=75,SNR=61						
H08N2	**Diego Garcia H**	**24.27**	**24**	T	T	11 32 22.6	
	baz=198,slow=75,SNR=106						
BOSA	**Boshof**	**31.40**	**262**	P	**P**	**11 07 34.0**	**+0.8**
	3.3nm,1.1s,baz=65,slow=19,SNR=2.7						
BOSA				LR	LR	11 17 40.8	
	comp=Z,58nm,21.6s,baz=45,slow=31						
LSZ	**Lusaka**	**33.28**	**287**	P	**P**	**11 07 50.8**	**+1.1**
	1.5nm,0.3s,baz=114,slow=6.9,SNR=5.2						
LSZ	**Lusaka**	**33.28**	**287**	*e*P	**P**	**11 07 50.9**	**+1.1**
	4.7nm,1.1s						
SUR	**Sutherland**	**34.75**	**254**	P	**P**	**11 08 04.2**	**+1.6**
	1.0nm,1.2s,baz=111,slow=14,SNR=3.2						
SUR	**Sutherland**	**34.75**	**254**	*e*P	**P**	**11 08 02.3**	**-0.2**
	70nm,1.6s						
KMBO	**Kilima Mbogo**	**35.79**	**316**	LR	LR	11 20 18.0	
	comp=Z,135nm,19.5s,baz=96,slow=32						
MAW	**Mawson**	**38.79**	**179**	P	**P**	**11 08 35.2**	**-0.9**
	2.3nm,0.8s,baz=12,slow=8.4,SNR=4.3						
MAW				LR	LR	11 21 25.8	
	comp=Z,101nm,19.0s,baz=61,slow=32						
MAW	**Mawson**	**38.79**	**179**	*e*P	**P**	**11 08 32.6**	**-3.5**
	1.2nm,0.6s						
PALK	**Pallekele**	**40.56**	**31**	*e*P	**P**	**11 08 47.4**	**-4.2**
	4.7nm,0.7s						
TSUM	**Tsumeb**	**40.74**	**274**	P	**P**	**11 08 54.2**	**+0.9**
	5.9nm,0.9s,baz=111,slow=7.3,SNR=6.1						
HYB	**Hyderabad**	**48.98**	**22**	*i* P	**P**	**11 10 00.0**	**+1.4**
SNAA	**Sanae**	**54.75**	**200**	P	**P**	**11 10 42.8**	**+1.7**
VNA2	**Neumayer--Watz**	**56.02**	**202**	P	P	11 10 43.6	-6.5
	baz=270,slow=2.8						
VNA1	**Neumayer--Stat**	**56.26**	**202**	P	P	11 10 43.2	-8.6
VNA3	**Neumayer Olymp**	**56.80**	**201**	P	P	11 10 44.7	-11
CMAR	**Chiang Mai Arr**	**59.54**	**42**	P	**P**	**11 11 15.5**	**-0.1**
	1.1nm,0.6s,baz=234,slow=7.5,SNR=9.6						
CMAR				LR	LR	11 33 26.0	
	comp=Z,18nm,20.7s,baz=222,slow=32						
QSPA	**South Pole Qui**	**61.30**	**180**	*e*P	**P**	**11 11 25.1**	**-2.1**
EIL	**Elat**	**63.35**	**335**	LR	LR	11 35 17.4	
	comp=Z,45nm,21.5s,baz=56,slow=32						
VNDA	**Vanda**	**64.33**	**166**	P	**P**	**11 11 45.1**	**-2.0**
	1.1nm,0.8s,baz=278,slow=6.2,SNR=5.4						
VNDA				LR	LR	11 37 42.0	
	comp=Z,87nm,18.7s,baz=244,slow=34						
VNDA	**Vanda**	**64.33**	**166**	*e*P	**P**	**11 11 44.9**	**-2.1**
ASAR	**Alice Springs**	**64.53**	**104**	P	**P**	**11 11 46.5**	**-2.8**
	3.8nm,0.8s,baz=244,slow=6.2,SNR=61						
ASAR				LR	LR	11 35 05.2	
	comp=Z,18nm,20.7s,baz=132,slow=32						
AS31	**Alice Springs**	**64.53**	**104**	*e*P	**P**	**11 11 47.4**	**-1.9**
	1.6nm,0.6s						
WR1	**Warramunga Arr**	**66.33**	**100**	*e*P	**P**	**11 11 59.2**	**-1.7**
WRA	**Warramunga Arr**	**66.33**	**100**	P	**P**	**11 11 59.2**	**-1.7**
	3.4nm,0.8s,baz=247,slow=5.7,SNR=12						
WB2	**Warramunga Arr**	**66.34**	**100**	*e*P	**P**	**11 11 59.1**	**-1.9**
WRAB	**Tennant Creek**	**66.34**	**100**	*e*P	**P**	**11 11 59.1**	**-1.9**
	20nm,1.5s						
GEYT	**Alibeck**	**66.50**	**357**	LR	LR	11 38 47.0	
	comp=Z,26nm,19.6s,baz=85,slow=34						
KMI	**Kunming**	**66.92**	**41**	P	**P**	**11 12 08.8**	**+4.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,4.2s						
KSH	**Kashi**	**69.41**	**12**	*e*P	**P**	**11 12 18.0**	**-1.9**
KSH				PcP	**PcP**	**11 12 40.5**	**-2.7**
KSH				PP	**PP**	**11 14 54.0**	**+0.3**
KSH				S	**S**	**11 21 20.8**	**-6.3**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,160nm,4.7s						
KSH				LR	LR		
	comp=N,73nm,5.1s						
KSH				LR	LR		
	comp=E,110nm,7.3s						
KSH				LR	LR		
	comp=Z,120nm,5.9s						
GYA	**Guiyang**	**70.23**	**43**	*e*P	**P**	**11 12 29.0**	**+3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**70.99**	**297**	P	**P**	**11 12 31.1**	**+1.1**
	1.5nm,0.8s,baz=114,slow=5.8,SNR=9.7						
TORD				LR	LR	11 43 43.9	
	comp=Z,126nm,18.4s,baz=115,slow=36						
TOA1	**Torodi Ar. Sit**	**71.00**	**297**	*e*P	**P**	**11 12 31.1**	**+1.1**
	21nm,1.8s						
CD2	**Chengdu**	**71.97**	**38**	*e*P	**P**	**11 12 37.3**	**+1.7**
KKAR	**Karatay Array**	**72.12**	**7**	*e*P	**P**	**11 12 38.0**	**+1.8**
	43nm,0.8s						
AAK	**Ala-Archa**	**72.19**	**10**	P	**P**	**11 12 38.3**	**+1.5**
	5.2nm,0.9s,baz=177,slow=6.3,SNR=8.9						
AAK	**Ala-Archa**	**72.19**	**10**	*e*P	**P**	**11 12 38.7**	**+1.8**
IDI	**Anoyia**	**72.39**	**329**	P	**P**	**11 12 39.2**	**+1.1**
	4.6nm,0.7s,baz=30,slow=8.1,SNR=2.4						
IDI	**Anoyia**	**72.39**	**329**	*e*P	**P**	**11 12 38.8**	**+0.8**
	58nm,1.6s						
DBIC	**Dimbokro**	**72.61**	**288**	P	**P**	**11 12 41.3**	**+1.5**
	2.4nm,0.5s,baz=113,slow=8.3,SNR=5.0						
DBIC				LR	LR	11 43 49.8	
	comp=Z,41nm,18.7s,baz=110,slow=35						
DBIC	**Dimbokro**	**72.61**	**288**	*e*P	**P**	**11 12 41.0**	**+1.2**
	9.1nm,0.9s						
BR101	**Keskin Array S**	**72.88**	**338**	*e*P	**P**	**11 12 41.8**	**+0.8**
BRTR	**Keskin Array B**	**72.88**	**338**	P	**P**	**11 12 41.8**	**+0.8**
	1.2nm,0.8s,baz=177,slow=9.9,SNR=3.8						
BRTR				LR	LR	11 41 35.3	
	comp=Z,16nm,21.4s,baz=118,slow=33						
KBZ	**Khabaz**	**74.15**	**346**	LR	LR	11 43 31.5	
	comp=Z,74nm,22.0s,baz=192,slow=34						
KVAR	**Kislovodsk Arr**	**74.41**	**346**	LR	LR	11 44 00.4	
	comp=Z,61nm,20.6s,baz=130,slow=34						
WMQ	**Urumqi**	**76.31**	**19**	P	**P**	**11 13 01.8**	**+1.1**
WMQ				pP	sP	11 13 07.3	+2.1
WMQ				sP	PcP	11 13 09.5	-3.0
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.7s						
WMQ				LR	LR		
	comp=N,69nm,38.3s						
WMQ				LR	LR		
	comp=E,27nm,29.3s						
GTA	**Gaotai**	**76.88**	**30**	*e*P	**P**	**11 13 05.3**	**+1.2**
GTA				pP	sP	11 13 09.8	+1.2
GTA				sP	PcP	11 13 12.3	-2.9
GTA				S	**S**	**11 22 53.3**	**+1.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,6.3s						
GTA				LR	LR		
	comp=N,81nm,15.9s						
GTA				LR	LR		
	comp=E,83nm,12.4s						
XAN	**Xi'an**	**77.17**	**39**	P	**P**	**11 13 05.5**	**-0.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,210nm,5.5s						
MAKZ	**Makanchi**	**77.63**	**14**	*e*P	**P**	**11 13 08.9**	**+0.9**
	14nm,1.8s						
MK31	**Makanchi Array**	**77.69**	**15**	*e*P	**P**	**11 13 09.1**	**+0.8**
MK32	**Makanchi Array**	**77.69**	**15**	*e*P	**P**	**11 13 09.2**	**+0.8**
MKAR	**Makanchi Array**	**77.69**	**15**	P	**P**	**11 13 09.2**	**+0.8**
	2.8nm,0.8s,baz=184,slow=4.9,SNR=19						
MKAR	**Makanchi Array**	**77.69**	**15**	*e*P	**P**	**11 13 09.2**	**+0.8**
	15nm,0.7s						
ABKAR	**Akbulak array**	**77.77**	**359**	*e*P	**P**	**11 13 09.7**	**+1.1**
	55nm,0.7s						
AKTO	**Aktyubinsk**	**78.99**	**358**	P	**P**	**11 13 16.6**	**+1.2**
	3.1nm,0.8s,baz=166,slow=3.9,SNR=9.1						
AKTO				LR	LR	11 45 13.3	
	comp=Z,28nm,21.8s,baz=176,slow=33						
KURBB	**Kurchatov Arra**	**80.61**	**11**	P	**P**	**11 13 25.2**	**+1.1**
	2.5nm,0.5s,baz=208,slow=6.4,SNR=17						
KEST	**Kesra**	**80.67**	**320**	LR	LR	11 50 55.8	
	comp=Z,58nm,18.1s,baz=304,slow=37						
KURK	**Kurchatov**	**80.72**	**11**	*e*P	**P**	**11 13 25.8**	**+1.1**
NJ2	**Nanjing**	**81.70**	**47**	*e*P	**P**	**11 13 32.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
BVAR	**Borovoye Array**	**81.93**	**6**	P	**P**	**11 13 32.1**	**+0.9**
	2.6nm,0.7s,baz=163,slow=5.6,SNR=14						
BRVK	**Borovoye**	**81.96**	**6**	*e*P	**P**	**11 13 32.4**	**+1.2**
	4.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**83.61**	**36**	*e*P	**P**	**11 13 41.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.5s						
AKASG	**Malin Array Be**	**84.09**	**340**	P	**P**	**11 13 43.0**	**+0.6**
	1.3nm,0.5s,baz=160,slow=4.8,SNR=6.0						
AKBB	**Malin Array Si**	**84.09**	**340**	*e*P	**P**	**11 13 42.9**	**+0.5**
	27nm,1.9s						
ZAA0	**Zalesovo Array**	**84.97**	**14**	*e*P	**P**	**11 13 48.0**	**+1.2**
	6.9nm,0.9s						
ZALV	**Zalesovo Beam**	**84.97**	**14**	P	**P**	**11 13 48.0**	**+1.2**
	3.3nm,0.7s,baz=203,slow=4.8,SNR=13						
ZALV				LR	LR	11 48 08.8	
	comp=Z,29nm,20.0s,baz=235,slow=33						
ARU	**Arti**	**84.97**	**359**	P	**P**	**11 13 48.1**	**+1.4**
	1.9nm,0.3s,baz=234,slow=3.8,SNR=7.6						
ARU	**Arti**	**84.97**	**359**	*e*P	**P**	**11 13 48.1**	**+1.4**
	11nm,1.1s						
ZAA1	**Zalesovo Array**	**84.98**	**14**	*e*P	**P**	**11 13 48.0**	**+1.2**
SONA0	**Songino Array**	**86.48**	**29**	*e*P	**P**	**11 13 54.9**	**+0.3**
SONM	**Songino Array**	**86.48**	**29**	P	**P**	**11 13 54.9**	**+0.3**
	0.4nm,0.4s,baz=212,slow=5.1,SNR=3.2						
GERES	**GERESS Array B**	**88.20**	**331**	LR	LR	11 52 22.5	
	comp=Z,14nm,19.8s,baz=58,slow=35						
URZ	**Urewera**	**90.36**	**135**	LR	LR	11 47 22.6	
	comp=Z,179nm,21.5s,baz=359,slow=31						
KSRS	**Korea Array**	**90.88**	**47**	LR	LR	11 54 04.8	
	comp=Z,6.1nm,20.4s,baz=165,slow=35						
FINES	**FINESS Array B**	**94.36**	**344**	LR	LR	11 57 23.8	
	comp=Z,16nm,20.8s,baz=162,slow=36						
PLCA	**Paso Flores**	**97.55**	**215**	LR	LR	11 51 14.0	
	comp=Z,15nm,19.3s,baz=172,slow=31						
NOA	**NORSAR Array B**	**98.32**	**338**	LR	LR	11 59 44.5	
	comp=Z,13nm,18.9s,baz=275,slow=36						
NRIK	**Noril'sk**	**99.79**	**9**	LR	LR	11 58 54.5	
	comp=Z,23nm,19.3s,baz=121,slow=35						
YKA	**Yellowknife Ar**	**146.24**	**356**	PKPbc	**PKPdf**	**11 20 51.3**	**+0.7**
	2.0nm,0.7s,baz=347,slow=3.2,SNR=13						
YKB5	**Yellowknife Ar**	**146.24**	**356**	*e*PKPdf	**PKPdf**	**11 20 51.4**	**+0.7**

NSSC 25 11:02:33.0±0.3, 36°60N×37°43E, h31km±5km, MD1.6, ML1.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.62**	**272**	*e*P	Pb	11 02 45.2	-0.2
DRWC				AML	AML	11 03 08.0	
	comp=N,23nm,0.8s						
DRWC				AML	AML	11 03 08.3	
	comp=E,34nm,0.7s						
BTCH	**Batrach**	**0.97**	**235**	*e*P	Pn	11 02 50.8	+0.3
BTCH				*e*S	Sb	11 03 03.6	-0.2
BTCH				AML	AML	11 03 06.4	
	comp=N,58nm,0.3s						
BTCH				AML	AML	11 03 06.6	
	comp=E,31nm,0.3s						
ARNB	**Al Arnab**	**1.40**	**238**	*e*P	Pn	11 02 56.8	+0.4
ARNB				*e*S	Sn	11 03 13.7	-0.1
ARNB				AML	AML	11 03 18.6	
	comp=N,18nm,0.6s						
ARNB				AML	AML	11 03 29.5	
	comp=E,21nm,0.4s						
BIDA	**Albida**	**1.83**	**210**	*e*P	Pn	11 03 02.4	+0.1
BIDA				*e*S	Sn	11 03 23.5	-1.0
BIDA				AML	AML	11 03 27.8	
	comp=E,32nm,0.3s						
BIDA				AML	AML	11 03 32.1	
	comp=N,25nm,0.5s						

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*MOS **25** 11:03:52.5±1.8, 38°44N×43°35E, h7km, mb4.4/13, Error ellipse: s-maj=11.2km s-min=6.0km az=84.5*
*AZER **25** 11:03:52.5±1.3, 38°52N×42°88E, h7km, Error ellipse: s-maj=13.3km s-min=9.4km az=85.0*
*IDC **25** 11:03:52.7±1.1, 38°49N×43°31E, h0km, mb3.9/13, mb1 3.9/17, mb1mx3.8/41, mbtmp3.9/17, ML3.4/3, MS3.1/16, Ms1 3.1/16, ms1mx2.9/45, Error ellipse: s-maj=15.5km s-min=13.1km az=34.0*
*DDA **25** 11:03:52.6, 38°67N×43°17E, h5km, Ml3.9*
*ISK **25** 11:03:52.1, 38°64N×43°17E, h3km, ML3.9*
*CSEM **25** 11:03:53.4±0.1, 38°60N×43°12E, h2km, mb4.2/12, Error ellipse: s-maj=4.0km s-min=3.8km az=5.0*
*NEIC **25** 11:03:53.0±0.0, 38°67N×43°17E, h5km, mb4.4/7, ML3.9(DDA), After DDA.*

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*ISCJB **25** 11:03:54.3±0.4, 38°60N±0°02×43°19E±0°02, h15km±3km, mb4.2/19, MS3.1/13, Error ellipse: s-maj=3.4km s-min=2.6km az=143.9*
*NSSC **25** 11:03:56.7±2.7, 38°15N×43°35E, h0km±278km, MD2.7, ML3.1*
ISC 25 11:03:54.5±0.6, 38°63N±0°02×43°15E±0°02, h11km±4km, n209, σ1s 86/253, mb4.3/19, MS3.2/13, 20C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**100**	*e*PG	**Pg**	**11 03 57.4**	**-1.3**
VANB				*e*SG	**Sg**	**11 04 01.1**	**-0.5**
VANB	**Van**	**0.19**	**100**	*e*Pg	**Pg**	**11 03 57.4**	**-1.3**
VANB				*e*Sg	**Sg**	**11 04 01.1**	**-0.5**
GEVA	**Gevas**	**0.32**	**193**	*i* P	**Pg**	**11 03 58.7**	**-2.4**
GEVA				*i* S	**Sg**	**11 04 05.8**	**+0.3**
GEVA	**Gevas**	**0.32**	**193**	P	**Pg**	**11 03 58.7**	**-2.4**
GEVA				S	**Sg**	**11 04 05.8**	**+0.3**
GEVA	**Gevas**	**0.32**	**193**	*i* P	**Pg**	**11 03 58.7**	**-2.4**
GEVA				*i* S	**Sg**	**11 04 05.8**	**+0.3**
TUTA	**Tutak**	**0.82**	**341**	*i* P	**Pg**	**11 04 05.8**	**-4.5**
TUTA				*i* S	**Sg**	**11 04 21.0**	**-0.1**
TUTA	**Tutak**	**0.82**	**341**	P	**Pg**	**11 04 05.8**	**-4.5**
TUTA				S	**Sg**	**11 04 21.0**	**-0.1**
TUTA	**Tutak**	**0.82**	**341**	*i* P	**Pg**	**11 04 05.8**	**-4.5**
BASK	**Baskale_VAN**	**0.88**	**130**	*i* P	**Pg**	**11 04 09.4**	**-2.2**
BASK				*i* S	**Sg**	**11 04 22.8**	**-0.3**
BASK	**Baskale_VAN**	**0.88**	**130**	P	**Pg**	**11 04 09.4**	**-2.2**
BASK				S	**Sg**	**11 04 22.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*PG	**Pg**	**11 04 10.7**	**-2.3**
AGRB				*e*SG	**Sg**	**11 04 24.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*Pg	**Pg**	**11 04 10.7**	**-2.3**
AGRB				*e*Sg	**Sg**	**11 04 24.8**	**-0.7**
DYDN	**Diyadin**	**1.01**	**24**	*i* P	**Pg**	**11 04 12.1**	**-1.9**
DYDN	**Diyadin**	**1.01**	**24**	P	**Pg**	**11 04 12.1**	**-1.9**
DYDN	**Diyadin**	**1.01**	**24**	*i* P	**Pg**	**11 04 12.1**	**-1.9**
EKAR	**Karacoban**	**1.05**	**307**	*i* P	**Pg**	**11 04 13.6**	**-1.2**
EKAR				*i* S	**Sn**	**11 04 35.0**	**+4.8**
EKAR	**Karacoban**	**1.05**	**307**	P	**Pg**	**11 04 13.6**	**-1.2**
HAKT	**HAKKARI**	**1.16**	**157**	*i* P	**Pg**	**11 04 13.5**	**-3.2**
HAKT				*i* S	**Sn**	**11 04 33.1**	**+0.4**
HAKT	**HAKKARI**	**1.16**	**157**	P	**Pg**	**11 04 13.5**	**-3.2**
HAKT				S	**Sn**	**11 04 33.1**	**+0.4**
SIRN	**S¨–rnak**	**1.27**	**207**	*i* P	**Pn**	**11 04 17.7**	**-0.6**
SIRN				*i* S	**Sn**	**11 04 39.6**	**+4.3**
SIRN	**S¨–rnak**	**1.27**	**207**	P	**Pn**	**11 04 17.7**	**-0.6**
EATA	**Eleskirt**	**1.33**	**338**	*i* P	**Pn**	**11 04 17.7**	**-1.7**
EATA				*i* S	**Sb**	**11 04 36.3**	**-0.7**
EATA	**Eleskirt**	**1.33**	**338**	P	**Pn**	**11 04 17.7**	**-1.7**
EATA				S	**Sb**	**11 04 36.3**	**-0.7**
CUKT	**Cukurca**	**1.42**	**165**	*e*PN	**Pn**	**11 04 19.9**	**-0.5**
CUKT	**Cukurca**	**1.42**	**165**	*i* P	**Pb**	**11 04 21.3**	**+0.1**
CUKT				*i* S	**Sg**	**11 04 46.6**	**+6.2**
CUKT	**Cukurca**	**1.42**	**165**	*e*Pn	**Pn**	**11 04 19.9**	**-0.5**
CUKT	**Cukurca**	**1.42**	**165**	P	**Pb**	**11 04 21.3**	**+0.1**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*PN	**Pn**	**11 04 19.4**	**-1.1**
VRTB	**Varto-Mus**	**1.43**	**292**	*i* P	**Pb**	**11 04 21.0**	**-0.2**
VRTB				*i* S	**Sg**	**11 04 41.3**	**+0.8**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*Pn	**Pn**	**11 04 19.4**	**-1.1**
VRTB	**Varto-Mus**	**1.43**	**292**	P	**Pb**	**11 04 21.0**	**-0.2**
VRTB				S	**Sg**	**11 04 41.3**	**+0.8**
BNGL	**BINGOL**	**1.60**	**282**	*i* P	**Pn**	**11 04 22.9**	**0.0**
BNGL				*i* S	**Sg**	**11 04 46.8**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*PN	**Pn**	**11 04 22.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*i* P	**Pn**	**11 04 22.9**	**0.0**
SVAN				*i* S	**Sg**	**11 04 46.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*Pn	**Pn**	**11 04 22.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	P	**Pn**	**11 04 22.9**	**0.0**
SVAN				S	**Sg**	**11 04 46.7**	**+0.5**
BTMN	**Batman**	**1.65**	**244**	*i* P	**Pn**	**11 04 23.9**	**+0.4**
BTMN				*i* S	**Sg**	**11 04 48.6**	**+0.9**
BTMN	**Batman**	**1.65**	**244**	P	**Pn**	**11 04 23.9**	**+0.4**
BTMN				S	**Sg**	**11 04 48.6**	**+0.9**
HOMI	**Horasan**	**1.71**	**326**	*i* P	**Pn**	**11 04 24.9**	**+0.4**
HOMI				*i* S	**Sg**	**11 04 48.9**	**-0.8**
DIGO	**Kars**	**1.79**	**5**	*i* P	**Pn**	**11 04 26.5**	**+0.8**
DIGO	**Kars**	**1.79**	**5**	P	**Pn**	**11 04 26.5**	**+0.8**
ERZM	**Erzurum**	**1.88**	**313**	*i* P	**Pb**	**11 04 28.3**	**-0.8**
ERZM				*i* S	**Sg**	**11 04 56.0**	**+0.9**
ERZM	**Erzurum**	**1.88**	**313**	P	**Pb**	**11 04 28.3**	**-0.8**
NAX	**Nakhchivan**	**1.91**	**73**	⇑P	**Pn**	**11 04 27.0**	**-0.1**
	SNR=11						
NAX				⇑S	**Sg**	**11 04 56.8**	**+0.9**
NAX	**Nakhchivan**	**1.91**	**73**	P	**Pn**	**11 04 27.0**	**-0.1**
	SNR=11						
ECAT	**Cat-ERZURUM**	**1.96**	**301**	*i* P	**Pb**	**11 04 29.6**	**-0.7**
ECAT				*i* S	**Sg**	**11 04 59.1**	**+1.7**
ECAT	**Cat-ERZURUM**	**1.96**	**301**	P	**Pb**	**11 04 29.6**	**-0.7**
GNI	**Garni**	**1.96**	**39**	Pn	**Pn**	**11 04 28.1**	**+0.3**
	13nm,0.3s,baz=291,slow=4.9,SNR=20						
GNI				Lg	Lg	11 04 57.2	
	56nm,0.3s,baz=8.7,slow=5.3,SNR=6.3						
GNI	**Garni**	**1.96**	**39**	P	**Pn**	**11 04 28.1**	**+0.3**
	13nm,0.3s						
GNI			

LRK	Lerik	4.06	88	⇑P		Pn		11 04 58.3 +1.5
	SNR=4.0							
LRK	Lerik	4.06	88	P		Pn		11 04 58.3 +1.5
	SNR=4.0							
GLBA	Ciilabad	4.13	80	⇑S		Sn		11 05 49.3 +3.4
GLBA	Ciilabad	4.13	80	S		Sn		11 05 49.3 +3.4
ZEI	Tsey	4.20	8	*e*P		Pn		11 04 57.9 -0.7
ZEI				pmax		pmax		
	comp=Z,16nm,0.6s							
QBL	Gabala	4.29	56	⇑S		Sn		11 05 55.7 +5.9
ASTR	Astara	4.42	89	⇓P		Pn		11 05 03.2 +1.7
	SNR=4.5							
ASTR	Astara	4.42	89	P		Pn		11 05 03.2 +1.7
	SNR=4.5							
XNQ	Khinaliq	4.60	55	⇑P		Pn		11 05 05.9 +1.7
	SNR=4.5							
XNQ	Khinaliq	4.60	55	P		Pn		11 05 05.9 +1.7
	SNR=4.5							
NEY	Neytrino	4.63	356	⇑*i*P		Pn		11 05 09.1 +4.6
NEY	Neytrino	4.63	356	*i* P		Pn		11 05 09.1 +4.6
PQL	Pirkuli	4.72	61	⇓P		Pn		11 05 07.7 +1.9
PQL	Pirkuli	4.72	61	P		Pn		11 05 07.7 +1.9
GBS	Qobustan	4.86	65	⇑P		Pn		11 05 09.5 +1.9
GBS	Qobustan	4.86	65	P		Pn		11 05 09.5 +1.9
QSAR	Qusar	4.87	52	⇓P		Pn		11 05 09.7 +2.0
QSAR	Qusar	4.87	52	P		Pn		11 05 09.7 +2.0
NCK	Nalchik	4.88	4	⇓*i*P		Pn		11 05 12.7 +4.9
NCK	Nalchik	4.88	4	*i* P		Pn		11 05 12.7 +4.9
ATGJ	Altiaghaj	4.99	62	⇓P		Pn		11 05 11.2 +1.8
ATGJ	Altiaghaj	4.99	62	P		Pn		11 05 11.2 +1.8
GROC	Groznyy	4.99	23	P		Pb		11 05 24.1 +2.2
GROC				*e*				11 06 08.5
GROC				pmax		pmax		
	comp=Z,16nm,0.4s							
GROC				smax		smax		
	comp=E,15nm,0.7s							
GROC				smax		smax		
	comp=E,28nm,2.4s							
GROC	Groznyy	4.99	23	*e*S		Sn		11 06 08.5 +1.5
SIZA	Siyzn	5.05	59	⇑P		Pn		11 05 12.3 +2.0
SIZA	Siyzn	5.05	59	P		Pn		11 05 12.3 +2.0
KBZ	Khabaz	5.10	358	Pn		Pn		11 05 16.4 +5.6
	comp=E,0.1nm,0.3s,baz=175,slow=11,SNR=2.2							
KBZ				LR		LR		11 07 33.1
	comp=E,406nm,20.5s,baz=202,slow=42							
KIV	Kislovodsk	5.33	356	*e*P		Pn		11 05 17.7 +3.5
KIV				pmax		pmax		
	comp=Z,14nm,1.1s							
KIV	Kislovodsk	5.33	356	*e*P		Pn		11 05 17.7 +3.5
	comp=Z,14nm,1.1s							
KVAR	Kislovodsk Arr	5.33	356	Pn		Pn		11 05 18.8 +4.7
KVAR				LR		LR		11 07 40.0
	comp=Z,401nm,19.2s,slow=42							
BTCH	Batrach	5.92	246	*e*P		Pn		11 05 26.5 +4.2
BTCH				*e*S		Sn		11 06 31.6 +1.4
BTCH				AML		AML		11 07 16.8
	comp=E,54nm,0.6s							
RABH	Abou Rabah	6.36	231	*e*P		Pn		11 05 31.0 +2.9
RABH				AML		AML		11 07 29.5
	comp=E,21nm,0.8s							
RABH				AML		AML		11 07 32.8
	comp=N,28nm,0.6s							
ARNB	Al Arnab	6.36	246	*e*P		Pn		11 05 33.4 +5.2
ARNB				*e*S		Sn		11 06 41.4 +0.6
ARNB				AML		AML		11 07 33.3
	comp=E,57nm,0.6s							
ARNB				AML		AML		11 07 39.0
	comp=N,70nm,0.8s							
ROOS	tl_alroos	6.49	229	*e*P		Pn		11 05 31.7 +1.6
ROOS				AML		AML		11 07 39.4
	comp=N,48nm,0.7s							
ROOS				AML		AML		11 07 44.9
	comp=E,37nm,0.7s							
BIDA	Albida	6.56	239	*e*P		Pn		11 05 34.1 +3.2
BIDA				AML		AML		11 07 33.8
	comp=N,69nm,0.7s							
BIDA				AML		AML		11 07 39.4
	comp=E,121nm,0.7s							
HAWK	Haweek	6.80	235	*e*P		Pn		11 05 36.8 +2.5
HAWK				*e*S		Sn		11 06 49.3 -2.4
HAWK				AML		AML		11 07 49.8
	comp=E,26nm,0.7s							
HAWK				AML		AML		11 07 56.6
	comp=N,28nm,0.6s							
MARH	Ras Al Marh	7.07	232	*e*P		Pn		11 05 40.9 +2.7
MARH				AML		AML		11 08 04.4
	comp=N,36nm,0.8s							
MARH				AML		AML		11 08 15.2
	comp=E,19nm,0.7s							
BRBR	Barbar	7.82	230	*e*P		Pn		11 05 49.4 +1.0
BRBR				AML		AML		11 08 25.1
	comp=N,27nm,0.7s							
BRBR				AML		AML		11 08 30.8
	comp=E,12nm,0.7s							
SALA	Sala	7.88	223	*e*P		Pn		11 05 52.5 +3.3
SALA				*e*S		Sn		11 07 14.1 -4.3
SALA				AML		AML		11 08 18.6
	comp=N,17nm,0.7s							
MMAI	Mount Meron Ar	8.42	231	LR		LR		11 09 37.0
	comp=N,123nm,20.2s,baz=55,slow=41							
GEYT	Alibeck	11.79	89	LR		LR		11 11 22.6
	comp=N,37nm,21.6s,baz=265,slow=39							
APE	Apeiranthos	14.01	269	⇓*e*P		Pn		11 07 16.5 +3.5
APE				pmax		pmax		
	comp=Z,50nm,1.6s							
RAYN	Ar Rayn	15.19	172	*e*Pn		Pn		11 07 24.4 -4.6
	comp=Z,3.0nm,0.8s							
AKASG	Malin Array Be	15.58	325	Pn		Pn		11 07 33.1 -0.9
	comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=4.5							
AKASG	Malin Array Be	15.58	325	*e*P		P		11 07 39.2 +1.0
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	15.58	325	*e*P		P		11 07 39.2 +1.0
	comp=Z,1.0nm,0.3s							
KIEV	Kiev	15.59	325	⇓*e*P		P		11 07 38.3 0.0
KIEV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
KIEV	Kiev	15.59	325	*e*P		P		11 07 38.3 0.0
	comp=Z,9.0nm,1.2s							
AKTO	Aktyubinsk	15.83	37	Pn		Pn		11 07 34.9 -2.3
	comp=Z,0.3nm,0.3s,baz=237,slow=13,SNR=9.6							
AKTO				LR		LR		11 15 23.9
	comp=Z,54nm,18.2s,baz=213,slow=44							
ABKAR	Akbulak array	16.06	43	*e*Pn		Pn		11 07 37.6 -2.5
	comp=Z,17nm,0.6s							
OBN	Obninsk	17.08	347	⇑*e*P		P		11 07 54.0 -0.8
OBN				pmax		pmax		
	comp=Z,8.0nm,0.4s							
OBN	Obninsk	17.08	347	*e*P		P		11 07 54.0 -0.8
	comp=Z,8.0nm,0.4s							
WSAR	Wadi Sarin	20.24	135	P		P		11 08 27.3 -2.5
	comp=Z,1.5nm,0.5s,baz=354,slow=9.2,SNR=3.3							
WSAR				LR		LR		11 17 55.6
	comp=Z,48nm,19.4s,baz=318,slow=42							
ARU	Arti	20.54	25	P		P		11 08 32.1 -0.6
	comp=Z,2.9nm,0.4s,baz=212,slow=7.5,SNR=7.1							
ARU	Arti	20.54	25	*c i*P		P		11 08 33.1 +0.3
ARU				S		S		11 12 23.9 +1.7
ARU				SS		PcP		11 12 42.7 -0.9
ARU				pmax		pmax		
	comp=Z,12nm,1.2s							
ARU	Arti	20.54	25	*i* P		P		11 08 33.1 +0.3
	comp=Z,12nm,1.2s							
ARU				S		S		11 12 23.9 +1.7
ARU	Arti	20.54	25	PcP		PcP		11 12 42.7 -0.9
ARU	Arti	20.54	25	*e*P		P		11 08 32.3 -0.4
	comp=Z,8.8nm,0.8s							
KKAR	Karatay Array	21.13	69	*e*P		P		11 08 39.2 -0.1
KKAR				pmax		pmax		
	comp=Z,19nm,0.8s							
KKAR	Karatay Array	21.13	69	*e*P		P		11 08 39.2 -0.1
	comp=Z,19nm,0.8s							
KKAR	Karatay Array	21.13	69	*e*P		P		11 08 39.2 -0.1
	comp=Z,19nm,0.8s							
VRAC	Vranov	21.78	308	LR		LR		11 19 56.8
	comp=Z,19nm,19.8s,baz=50,slow=44							
KLMR	Klimovskoe	22.37	355	*e*P		P		11 08 51.3 -1.0
KLMR				pmax		pmax		
	comp=Z,13nm,1.2s							
KLMR	Klimovskoe	22.37	355	*e*P		P		11 08 51.3 -1.0
	comp=Z,13nm,1.2s							
GEC2	GERESS Array S	23.47	305	*e*P		P		11 09 08.2 +4.2
GEC2				pmax		pmax		
	comp=Z,29nm,1.8s							
GEC2	GERESS Array S	23.47	305	*e*P		P		11 09 08.2 +4.2
	comp=Z,29nm,1.8s							
GERES	GERESS Array B	23.47	305	P		P		11 09 06.2 +2.1
	comp=Z,0.4nm,0.5s,baz=129,slow=7.8,SNR=2.6							
GERES				LR		LR		11 19 02.2
	comp=Z,31nm,19.5s,baz=92,slow=38							
BRVK	Borovoye	23.59	43	*c i*P		P		11 09 05.8 +0.7
BRVK				*i* *PP		sP		11 09 11.9 +2.1
BRVK				pmax		pmax		
	comp=Z,12nm,1.2s							
BRVK	Borovoye	23.59	43	*i* P		P		11 09 05.8 +0.7
	comp=Z,12nm,1.2s							
BVAR	Borovoye Array	23.64	44	P		P		11 09 05.1 -0.4
	comp=Z,2.3nm,0.8s,baz=232,slow=7.3,SNR=6.9							
AAK	Ala-Archa	24.05	70	P		P		11 09 10.5 +0.7
	comp=Z,1.9nm,0.7s,baz=242,slow=12,SNR=6.9							
AAK	Ala-Archa	24.05	70	*d i*P		P		11 09 10.6 +0.8
AAK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
AAK	Ala-Archa	24.05	70	*e*P		P		11 09 10.5 +0.7
	comp=Z,18nm,1.7s							
AAK	Ala-Archa	24.05	70	*e*P		P		11 09 10.5 +0.7
	comp=Z,18nm,1.7s							
CLL	Collm	24.62	311	*es*P		P		11 09 16.0 +1.3
FIA0	FINESS Array S	25.18	341	*e*P		P		11 09 19.6 0.0
FIA0	FINESS Array S	25.18	341	*e*P		P		11 09 19.6 0.0
FIA0	FINESS Array S	25.18	341	*e*P		P		11 09 19.6 0.0
FINES	FINESS Array B	25.18	341	P		P		11 09 19.6 0.0
	comp=Z,2.0nm,0.8s,baz=139,slow=11,SNR=2.9							
FINES				LR		LR		11 20 19.2
	comp=Z,69nm,19.0s,baz=142,slow=39							
KSH	Kashi	25.42	78	*e*P		P		11 09 21.0 -1.3
KSH				pP		sP		11 09 27.0 -0.1
KSH				sP		pP		11 09 31.0 +5.4
KSH				PP		PnPn		11 09 58.5 +1.3
KSH				PcP		PcP		11 12 57.5 +3.3
KSH				S		S		11 13 41.0 -8.0
KSH				SS		SnSn		11 14 40.5 -0.5
KSH				PcS		PcS		11 16 36.8 +2.0
KSH				pmax		pmax		
	comp=Z,12nm,1.4s							
KSH				pmax		pmax		
	comp=Z,120nm,5.8s							
KSH				LR		LR		
	comp=N,74nm,5.2s							
KSH				LR		LR		
	comp=E,97nm,8.2s							
KURBB	Kurchatov Arra	27.62	53	P		P		11 09 42.2 +0.4
	comp=E,2.6nm,0.6s,baz=262,slow=9.0,SNR=16							
KURK	Kurchatov	27.70	53	⇓*i*P		P		11 09 42.4 -0.1
KURK				*i* *PP		pP		11 09 45.4 -0.5
KURK				pmax		pmax		
	comp=Z,11nm,0.9s							
KURK	Kurchatov	27.70	53	*e*P		P		11 09 42.2 -0.3
KURK	Kurchatov	27.70	53	*e*P		P		11 09 42.2 -0.3
HFS	Hagfors	28.41	329	P		P		11 09 50.9 +2.2
	comp=Z,1.6nm,0.6s,baz=152,slow=9.4,SNR=3.5							
MK31	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
MK31	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
MK31	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
MK32	Makanchi Array	29.64	61	*e*P		P		11 10 00.0 +0.1
MK32	Makanchi Array	29.64	61	*e*P		P		11 10 00.0 +0.1
MKAR	Makanchi Array	29.64	61	P		P		11 10 00.0 +0.1
	comp=Z,1.4nm,0.8s,baz=269,slow=6.8,SNR=12							
MKAR	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
MKAR				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MKAR	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
	comp=Z,9.2nm,0.8s							
MKAR	Makanchi Array	29.64	61	*e*P		P		11 10 00.4 +0.5
	comp=Z,9.2nm,0.8s							
NB200	NORSAR Array S	29.93	329	*e*P		P		11 10 03.4 +1.1
NB200	NORSAR Array S	29.93	329	*e*P		P		11 10 03.4 +1.1
NOA	NORSAR Array B	29.93	329	P		P		11 10 03.4 +1.1
	comp=Z,0.8nm,0.7s,baz=123,slow=8.6,SNR=3.1							
NOA				LR		LR		11 23 55.4
	comp=Z,22nm,20.5s,baz=120,slow=40							
ZALV	Zalesovo Beam	32.08	48	P		P		11 10 21.1 -0.2
	comp=Z,1.1nm,0.6s,baz=267,slow=10,SNR=3.6							
ZALV				LR		LR		11 24 53.1
	comp=Z,30nm,18.8s,baz=246,slow=39							
ZAA1	Zalesovo Array	32.08	48	*e*P		P		11 10 21.1 -0.2
ZAA1	Zalesovo Array	32.08	48	*e*P		P		11 10 21.1 -0.2
ARCES	ARCESS Array B	32.38	349	LR		LR		11 24 05.1
	comp=Z,83nm,20.8s,baz=124,slow=37							
WMQ	Urumqi	33.59	67	P		P		11 10 37.0 +2.3
WMQ				pP		sP		11 10 45.3 +5.8
WMQ				sP		pP		11 10 48.0 +10
WMQ				SS		SS		11 17 58.3 -23
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,160nm,5.1s							
WMQ				LR		LR		
	comp=N,24nm,16.3s							
WMQ				LR		LR		
	comp=E,27nm,16.3s							
WMQ				LR		LR		
	comp=Z,23nm,17.5s							
NRIK	Noril'sk	38.76	23	LR		LR		11 30 42.5
	comp=Z,50nm,19.3s,baz=102,slow=42							
JMIC	Jan Mayen	41.70	337	LR		LR		11 29 32.7
	comp=Z,33nm,21.3s,baz=244,slow=37							
GTA	Gaotai	43.40	70	*e*P		P		11 11 57.0 -0.2
GTA				pP		sP		11 12 01.5 -0.6
GTA				sP		pP		11 12 04.0 +3.3
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONM	Songino Array	45.81	57	LR		LR		11 35 42.9
	comp=Z,28nm,19.9s,baz=344,slow=42							
LZH	Lanzhou	47.54	73	*e*P		P		11 12 30.3 +0.2
LZH				pP		sP		11 12 39.5 +4.5
LZH				sP		pP		11 12 43.0 +9.4
LZH				PP		PP		11 14 21.3 -0.1
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,42nm,6.2s							
LZH				LR		LR		
	comp=N,110nm,14.7s							
LZH				LR		LR		
	comp=E,110nm,15.0s							
LZH				LR		LR		
	comp=Z,150nm,16.9s							
CM31	Chiang Mai Arr	52.15	96	*e*P		P		11 13 04.3 -0.9
CM31	Chiang Mai Arr	52.15	96	*e*P		P		11 13 04.3 -0.9
CMAR	Chiang Mai Arr	52.15	96	P		P		11 13 04.2 -1.0
	comp=Z,1.8nm,0.6s,baz=294,slow=8.1,SNR=11							
SFJD	Kangerlussuaq	56.54	332	LR		LR		11 37 44.5
	comp=Z,19nm,19.1s,baz=244,slow=36							
MSHR	Mys Shultsa	63.95	55	⇓*e*P		P		11 14 28.1 +0.6
MSHR	Mys Shultsa	63.95	55	*e*P		P		11 14 28.1 +0.6
SEY	Seymchan	64.23	29	⇓*i*P		P		11 14 29.1 +0.1
SEY	Seymchan	64.23	29	*i* P		P		11 14 29.1 +0.1
KS15	Wonju Array Si	64.31	62	*e*P		P		11 14 29.6 -0.4
KS15	Wonju Array Si	64.31	62	*e*P		P		11 14 29.6 -0.4
KSRS	Korea Array	64.33	62	P		P		11 14 29.4 -0.7
	comp=Z,3.5nm,0.8s,baz=277,slow=6.6,SNR=8.3							

ISCJB ***25*** *11:14:34.4±0.6,50°.23N±0°.02×12°.52E±0°.04,h11km±6km, Error ellipse: s-maj=4.0km s-min=3.5km az=153.7*
IASPEI ***25*** *11:14:35.4±0.8,50°.24N±0°.02×12°.48E±0°.03,h9km±4km, Error ellipse: s-maj=4.1km s-min=2.7km az=74.5,GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
CSEM ***25*** *11:14:35.3±0.1,50°.24N×12°.49E,h8km,ML3.0/5,Error ellipse: s-maj=1.2km s-min=1.1km az=69.0*
PRU ***25*** *11:14:35.8,50°.26N×12°.51E,h2km,West Bohemia*
BGR ***25*** *11:14:35.5±0.2,50°.24N×12°.45E,h9km±2km,ML2.1/5, Error ellipse: s-maj=2.2km s-min=2.2km az=89.0*
ISC 25 11:14:35.5±0.9,50°.24N±0°.02×12°.50E±0°.03,h9km±4km, n42,σ0°.41/68,4D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.03	257	⇓*i*PG	Pg	11 14 37.2	0.0
NKC				*e*SG	Sg	11 14 38.0	-0.3
	comp=Z,1μm,0.1s						
NKC	Novy Kostel	0.03	257	*e*Pg	Pg	11 14 37.2	0.0
NKC				*e*Sg	Sg	11 14 38.1	-0.3
	SNR=2.5						
NKC	Novy Kostel	0.03	257	Pg	Pg	11 14 37.2	0.0
NKC				Sg	Sg	11 14 38.1	-0.3
	SNR=2.5						
WERN	Wernitzgruen	0.09	301	*e*Pg	Pg	11 14 37.8	0.0
	SNR=169						
WERN				*e*Sg	Sg	11 14 39.1	-0.4
	SNR=5.3						
WERN	Wernitzgruen	0.09	301	Pg	Pg	11 14 37.8	0.0
	SNR=169						
WERN				Sg	Sg	11 14 39.1	-0.4
	SNR=5.3						
MULD	Muldenberg	0.18	341	*e*Pg	Pg	11 14 39.5	+0.2
MULD				*e*Sg	Sg	11 14 41.7	-0.2
MULD	Muldenberg	0.18	341	Pg	Pg	11 14 39.5	+0.2
MULD				Sg	Sg	11 14 41.7	-0.2
WERD	Werda	0.24	330	*e*Pg	Pg	11 14 40.4	+0.1
	SNR=18						
WERD				*e*Sg	Sg	11 14 43.2	-0.4
	SNR=17						
WERD	Werda	0.24	330	Pg	Pg	11 14 40.4	+0.1
	SNR=18						
WERD				Sg	Sg	11 14 43.2	-0.4
	SNR=17						
TRIB	Obertriebel	0.26	296	*e*Pg	Pg	11 14 40.4	-0.2
TRIB				*e*Sg	Sg	11 14 43.7	-0.4
TRIB	Obertriebel	0.26	296	Pg	Pg	11 14 40.4	-0.2
TRIB				Sg	Sg	11 14 43.7	-0.4
PLN	Plauen	0.33	319	*e*Pg	Pg	11 14 41.9	0.0
	SNR=16						
PLN				*e*Sg	Sg	11 14 46.0	-0.3
	SNR=14						
PLN	Plauen	0.33	319	Pg	Pg	11 14 41.9	0.0
	SNR=16						
PLN				Sg	Sg	11 14 46.0	-0.3
	SNR=14						
MANZ	Manzenberg	0.36	225	*e*Pg	Pg	11 14 42.3	-0.2
	SNR=20						
MANZ	Manzenberg	0.36	225	Pg	Pg	11 14 42.3	-0.2
	SNR=20						
ROTZ	Rotzenmuhle	0.51	202	*e*Pg	Pg	11 14 45.3	0.0
	SNR=2.1						
ROTZ				*e*Sg	Sg	11 14 51.8	-0.2
	SNR=16						
ROTZ	Rotzenmuhle	0.51	202	Pg	Pg	11 14 45.3	0.0
	SNR=2.1						
ROTZ				Sg	Sg	11 14 51.8	-0.2
	SNR=16						
MOX	Moxa	0.69	306	*e*Pg	Pg	11 14 48.6	-0.2
	SNR=2.6						
MOX				*e*Sg	Sg	11 14 57.5	-0.4
	SNR=17						
MOX	Moxa	0.69	306	Pg	Pg	11 14 48.6	-0.2
	SNR=2.6						
MOX				Sg	Sg	11 14 57.5	-0.4
	SNR=17						
FBE	Freiberg	0.87	38	*e*Pg	Pb	11 14 52.8	0.0
	SNR=3.4						
FBE	Freiberg	0.87	38	Pg	Pb	11 14 52.8	0.0
	SNR=3.4						
GRA1	Grafenberg Arr	0.99	237	Pg	Pg	11 14 54.2	-0.3
	SNR=3.9						
GRF	Grafenberg Arr	0.99	237	*e*Pg	Pg	11 14 54.2	-0.3
	SNR=3.9						
CLL	Collm	1.12	17	*e*Pg	Pg	11 14 56.7	-0.2
	SNR=5.0						
CLL				*e*Sg	Sb	11 15 11.7	+0.1
	SNR=3.3						
CLL	Collm	1.12	17	Pg	Pg	11 14 56.7	-0.2
	SNR=5.0						
CLL				Sg	Sb	11 15 11.7	+0.1
	SNR=3.3						
CLL	Collm	1.12	17	*i* Pg	Pb	11 14 57.1	+0.2
CLL				*i*		11 14 58.8	
CLL				*i*		11 14 59.7	
CLL				*i*		11 15 00.5	
CLL				*i* Sg	Sb	11 15 12.0	+0.4
	comp=Z,11nm,0.3s						
CLL				*i*		11 15 15.2	
BRG	Berggiesshubel	1.12	55	PG	Pb	11 14 57.2	+0.3
BRG				SG	Sb	11 15 12.1	+0.4
	comp=Z,17nm,0.2s						
BRG	Berggiesshubel	1.12	55	*e*Pg	Pb	11 14 57.3	+0.3
	SNR=4.5						
BRG				*e*Sg	Sb	11 15 12.0	+0.4
	SNR=20						
BRG	Berggiesshubel	1.12	55	Pg	Pb	11 14 57.3	+0.3
	SNR=4.5						
BRG				Sg	Sb	11 15 12.0	+0.4
	SNR=20						
WET	Wettzell	1.12	167	⇓*e*PG	Pg	11 14 56.8	-0.2
WET				*e*SG	Sg	11 15 11.2	-0.4
WET	Wettzell	1.12	167	*e*Pg	Pg	11 14 56.9	-0.2
WET				*e*Sg	Sg	11 15 11.6	0.0
	SNR=10.0						
WET	Wettzell	1.12	167	Pg	Pg	11 14 56.9	-0.2
WET				Sg	Sg	11 15 11.6	0.0
	SNR=10.0						
KHC	Kasperske Hory	1.31	147	*e*SG	Sb	11 15 17.6	+0.3
	comp=Z,9.3nm,0.2s						
KHC	Kasperske Hory	1.31	147	Sg	Sb	11 15 17.6	+0.3
	comp=Z,9.3nm,0.2s						
PRU	Pruhonice	1.34	100	⇓*e*SG	Sb	11 15 18.3	+0.3
	comp=Z,12nm,0.4s						
PRU	Pruhonice	1.34	100	Sg	Sb	11 15 18.3	+0.3
	comp=Z,12nm,0.4s						
PVCC	Panska Ves	1.36	77	⇓*e*SG	Sn	11 15 19.0	+0.3
	comp=Z,21nm,0.2s						
PVCC	Panska Ves	1.36	77	Sg	Sn	11 15 19.0	+0.3
	comp=Z,21nm,0.2s						
GOPC	GO Pecny, Ondr	1.51	102	*e*SG	Sg	11 15 24.1	+0.1
	comp=Z,11nm,0.2s						
GOPC	GO Pecny, Ondr	1.51	102	Sg	Sg	11 15 24.1	+0.1
	comp=Z,11nm,0.2s						
DPC	Dobruska-Polom	2.46	86	*e*SG	Sg	11 15 52.5	-1.8
	comp=Z,3.3nm,0.2s						
DPC	Dobruska-Polom	2.46	86	Sg	Sg	11 15 52.5	-1.8
	comp=Z,3.3nm,0.2s						

IDC 25 11:15:51.1±999.0,43°.05N×40°.69E,h0km,Error ellipse: s-maj=6182.0km s-min=278.7km az=53.0,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	13.97	52	*i*		12 43 00.0	
	baz=246,slow=309,SNR=20						
I46RU	ZALESOVO INFRA	30.72	54	*i*		14 25 35.0	
	baz=266,slow=316,SNR=6.1						
I34MN	SONGINO INFRA	45.12	60	*i*		15 49 30.0	
	baz=290,slow=327,SNR=1.3						

DDA ***25*** *11:24:57.9,38°.69N×43°.17E,h7km,Ml3.0*
ISK ***25*** *11:24:57.7,38°.65N×43°.26E,h3km,ML2.4*
*

EATA				S	Sn	11 25 43.2	+1.3
CUKT	Cukurca	1.45	166	*e*PN	Pn	11 25 25.5	0.0
CUKT	Cukurca	1.45	166	*e*Pn	Pn	11 25 25.5	0.0
BNGL	BINGOL	1.60	281	*i* P	Pn	11 25 27.4	-0.3
BNGL				*i* S	Sg	11 25 50.7	+0.7
SVAN	Silvan-Diyarba	1.62	253	*e*PN	Pb	11 25 29.2	+0.2
SVAN	Silvan-Diyarba	1.62	253	*e*Pn	Pb	11 25 29.2	+0.2
BTMN	Batman	1.68	244	*i* P	Pb	11 25 29.4	-0.4
BTMN				*i* S	Sg	11 25 54.1	+1.8
BTMN	Batman	1.68	244	P	Pb	11 25 29.5	-0.4
BTMN				S	Sg	11 25 54.1	+1.8

ISK ***25*** *11:27:48.9, 38.°66N×42.°85E, h3km, ML2.7*
CSEM ***25*** *11:27:50.4±0.3, 38.°64N×42.°83E, h10km, ML3.2, Error ellipse: s-maj=9.6km s-min=7.1km az=68.0*
ISCJB ***25*** *11:27:51.9±0.6, 38.°70N±0.°03×43.°18E±0.°06, h15km, Error ellipse: s-maj=7.1km s-min=4.5km az=175.3*
DDA ***25*** *11:27:51.7, 38.°63N×43.°03E, h7km, Ml3.2*
ISC 25 11:27:51.3±0.8, 38.°64N±0.°03×42.°97E±0.°03, h15km, n25, σ1°50/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.33	98	*e*PG	Pg	11 27 58.0	-0.3
VANB				*e*SG	Sg	11 28 05.9	+2.9
VANB	Van	0.33	98	*e*Pg	Pg	11 27 58.0	-0.3
VANB				*e*Sg	Sg	11 28 05.9	+2.9
GEVA	Gevas	0.34	168	*i* P	Pg	11 27 58.3	-0.1
GEVA				*i* S	Sg	11 28 03.9	+0.7
GEVA	Gevas	0.34	168	P	Pg	11 27 58.3	-0.1
GEVA				S	Sg	11 28 03.9	+0.7
TUTA	Tutak	0.77	351	*i* P	Pb	11 28 06.6	+0.1
TUTA	Tutak	0.77	351	P	Pb	11 28 06.6	+0.1
AGRB	Hanur-Agry	0.93	1	*e*PG	Pb	11 28 07.8	-1.5
AGRB				*e*SG	Sb	11 28 20.7	-0.9
AGRB	Hanur-Agry	0.93	1	*e*Pg	Pb	11 28 07.8	-1.5
AGRB				*e*Sg	Sb	11 28 20.7	-0.9
EKAR	Karacoban	0.93	311	*i* P	Pn	11 28 10.8	+0.7
HAKT	HAKKARI	1.23	151	*i* P	Pn	11 28 14.1	-0.1
HAKT	HAKKARI	1.23	151	P	Pn	11 28 14.1	-0.1
EATA	Eleskirt	1.27	343	*i* P	Pg	11 28 16.0	+0.1
EATA	Eleskirt	1.27	343	P	Pg	11 28 16.0	+0.1
BNGL	BINGOL	1.45	283	*i* P	Pg	11 28 21.5	+2.2
BNGL				*i* S	Sg	11 28 39.8	+1.6
SVAN	Silvan-Diyarba	1.47	251	*e*PN	Pn	11 28 15.4	-1.9
SVAN	Silvan-Diyarba	1.47	251	*e*Pn	Pn	11 28 15.4	-1.9
CUKT	Cukurca	1.48	160	*e*PN	Pb	11 28 18.7	+0.1
CUKT	Cukurca	1.48	160	*e*Pn	Pb	11 28 18.7	+0.1
BTMN	Batman	1.53	241	*i* P	Pg	11 28 21.4	+0.7
BTMN				*i* S	Sg	11 28 43.7	+3.0
ERZM	Erzurum	1.77	316	*i* P	Pg	11 28 26.9	+1.6
BNGB	Bing¶‖	1.82	282	*e*PN	Pn	11 28 20.7	-1.5
BINT	Bingol	1.95	278	*e*Pn	Pn	11 28 20.7	-3.3
MARD	Mardin	2.18	233	*i* P	Pg	11 28 38.0	+4.9
MARD				*i* S	Sg	11 29 00.0	-1.4
MAZI	Mazidag	2.31	240	*e*PN	Pn	11 28 28.3	-0.7
MAZI	Mazidag	2.31	240	*e*Pn	Pn	11 28 28.3	-0.7

ISK ***25*** *11:32:28.9, 38.°83N×43.°62E, h5km, ML3.1*
CSEM ***25*** *11:32:29.8±0.4, 38.°86N×43.°68E, h2km, ML3.1, Error ellipse: s-maj=9.7km s-min=5.1km az=75.0*
DDA ***25*** *11:32:29.8, 38.°81N×43.°58E, h12km, Ml3.2*
ISC 25 11:32:30.3±1.3, 38.°84N±0.°02×43.°56E±0.°04, h5km±11km, n33, σ1°51/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.28	209	*e*PG	Pb	11 32 36.7	-1.2
VANB				*e*SG	Sb	11 32 42.9	0.0
VANB	Van	0.28	209	*e*Pg	Pb	11 32 36.7	-1.2
VANB				*e*Sg	Sb	11 32 42.9	0.0
GEVA	Gevas	0.66	217	*i* P	Pg	11 32 41.9	-1.0
GEVA				*i* S	Sb	11 32 53.3	-0.6
DYDN	Diyadin	0.71	8	*i* P	Pb	11 32 44.6	-0.8
DYDN				*i* S	Sb	11 32 55.8	+0.2
TUTA	Tutak	0.81	314	*i* P	Pg	11 32 44.8	-1.1
TUTA				*i* S	Sb	11 32 57.3	-1.1
TUTA	Tutak	0.81	314	P	Pg	11 32 44.8	-1.1
TUTA				S	Sb	11 32 57.3	-1.1
BASK	Baskale_VAN	0.86	156	*i* P	Pb	11 32 45.7	-2.1
BASK	Baskale_VAN	0.86	156	P	Pb	11 32 45.7	-2.1
AGRB	Hanur-Agry	0.86	329	*e*PG	Pg	11 32 46.2	-0.7
AGRB				*e*SG	Sn	11 33 00.8	-1.5
AGRB	Hanur-Agry	0.86	329	*e*Pg	Pg	11 32 46.2	-0.7
EKAR	Karacoban	1.24	290	*i* P	Pn	11 32 53.8	-0.7
EKAR				*i* S	Sn	11 33 13.8	+2.0
EKAR	Karacoban	1.24	290	P	Pn	11 32 53.8	-0.7
EKAR				S	Sn	11 33 13.8	+2.0
HAKT	HAKKARI	1.28	175	*i* P	Pg	11 32 52.5	-2.5
HAKT				*i* S	Sn	11 33 11.1	-1.7
EATA	Eleskirt	1.32	321	*i* P	Pb	11 32 55.4	-0.4
EATA				*i* S	Sn	11 33 14.9	+1.0
EATA	Eleskirt	1.32	321	P	Pb	11 32 55.3	-0.4
EATA				S	Sn	11 33 14.9	+1.0
DIGO	Kars	1.58	355	*i* P	Pg	11 33 00.8	+0.1
DIGO	Kars	1.58	355	P	Pg	11 33 00.8	+0.1
CUKT	Cukurca	1.59	179	*e*PN	Pg	11 32 59.3	-1.4
CUKT	Cukurca	1.59	179	*i* P	Pg	11 33 02.9	+2.1
CUKT				*i* S	Sg	11 33 25.1	+3.8
CUKT	Cukurca	1.59	179	*e*Pn	Pg	11 32 59.3	-1.4
CUKT	Cukurca	1.59	179	P	Pg	11 33 02.9	+2.1
CUKT				S	Sg	11 33 25.1	+3.8
BNGL	BINGOL	1.89	274	*i* P	Pn	11 33 01.3	-2.1
BNGL				*i* S	Sg	11 33 31.9	+1.0
SVAN	Silvan-Diyarba	1.98	250	*e*PN	Pb	11 33 05.8	-1.0
SVAN	Silvan-Diyarba	1.98	250	*i* P	Pb	11 33 05.8	-1.0
SVAN				*i* S	Sg	11 33 33.5	-0.3
SVAN	Silvan-Diyarba	1.98	250	P	Pb	11 33 05.8	-1.0
SVAN				S	Sg	11 33 33.5	-0.3
ERZM	Erzurum	2.01	303	*i* P	Pb	11 33 07.0	-0.5
ERZM	Erzurum	2.01	303	P	Pb	11 33 07.0	-0.5
BTMN	Batman	2.03	243	*i* P	Pb	11 33 06.4	-1.4
BTMN				*i* S	Sb	11 33 33.9	+0.4
BTMN	Batman	2.03	243	P	Pb	11 33 06.4	-1.4
BTMN				S	Sb	11 33 33.9	+0.4
MAZI	Mazidag	2.81	242	*e*PN	Pn	11 33 17.5	+1.4
MAZI	Mazidag	2.81	242	*e*Pn	Pn	11 33 17.5	+1.4
PTK	Pertek	3.26	272	*e*PN	Pn	11 33 24.1	+1.8
PTK	Pertek	3.26	272	*e*Pn	Pn	11 33 24.1	+1.8

CSEM ***25*** *11:35:12.5±0.6, 38.°73N×43.°60E, h10km, ML2.8, Error ellipse: s-maj=17.3km s-min=8.0km az=92.0*
ISCJB ***25*** *11:35:14.0±1.2, 38.°78N±0.°03×43.°63E±0.°09, h11km±7km, Error ellipse: s-maj=11.8km s-min=5.6km az=178.1*
DDA ***25*** *11:35:13.3, 38.°73N×43.°52E, h7km, Ml2.8*
ISC 25 11:35:12.6±1.5, 38.°74N±0.°03×43.°69E±0.°06, h6km±12km, n15, σ1°07/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.28	238	*e*PG	Pg	11 35 18.7	+0.7
VANB				*e*SG	Sb	11 35 25.6	+0.6
VANB	Van	0.28	238	*e*Pg	Pg	11 35 18.7	+0.7
VANB				*e*Sg	Sb	11 35 25.6	+0.6
GEVA	Gevas	0.65	229	*i* P	Pg	11 35 24.0	-1.2
GEVA				*i* S	Sb	11 35 36.6	+0.7
GEVA	Gevas	0.65	229	P	Pg	11 35 24.0	-1.2
DYDN	Diyadin	0.80	0	*i* P	Pb	11 35 29.0	-0.1
DYDN				*i* S	Sb	11 35 41.3	+1.0
DYDN	Diyadin	0.80	0	P	Pb	11 35 29.0	-0.1
DYDN				S	Sb	11 35 41.3	+1.0
TUTA	Tutak	0.94	314	*i* P	Pg	11 35 29.7	-1.1
TUTA				*i* S	Sg	11 35 42.5	-0.6
TUTA	Tutak	0.94	314	P	Pg	11 35 29.7	-1.1
TUTA				S	Sg	11 35 42.5	-0.6
AGRB	Hanur-Agry	0.99	327	*e*PN	Pg	11 35 30.6	-1.1
AGRB				*e*SN	Sb	11 35 46.4	+0.6
AGRB	Hanur-Agry	0.99	327	*e*Pn	Pg	11 35 30.6	-1.1
AGRB				*e*Sn	Sb	11 35 46.4	+0.6
HAKT	HAKKARI	1.18	179	*i* P	Pg	11 35 34.9	-0.4
HAKT				*i* S	Sn	11 35 53.5	+1.0
HAKT	HAKKARI	1.18	179	P	Pg	11 35 34.9	-0.4
EKAR	Karacoban	1.36	293	*i* P	Pn	11 35 37.4	-1.0
EKAR	Karacoban	1.36	293	P	Pn	11 35 37.4	-1.0
EATA	Eleskirt	1.45	321	*i* P	Pg	11 35 41.8	+1.3
EATA				*i* S	Sg	11 36 01.9	+2.6

ISK ***25*** *11:41:46.5, 38.°88N×43.°65E, h10km, ML3.0*
ISCJB ***25*** *11:41:47.9±0.9, 38.°87N±0.°03×43.°68E±0.°07, h10km±6km, Error ellipse: s-maj=9.2km s-min=4.6km az=2.2*
CSEM ***25*** *11:41:47.4±0.5, 38.°84N×43.°61E, h2km, ML3.0, Error ellipse: s-maj=12.0km s-min=6.0km az=83.0*
DDA ***25*** *11:41:48.9, 38.°90N×43.°54E, h4km, Ml3.0*
ISC 25 11:41:49.0±1.2, 38.°88N±0.°03×43.°59E±0.°05, h22km±5km, n27, σ1°54/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.33	209	*e*PG	Pb	11 41 55.1	-1.2
VANB				*e*SG	Sb	11 42 01.4	+0.1
VANB	Van	0.33	209	*e*Pg	Pb	11 41 55.1	-1.2
DYDN	Diyadin	0.66	6	*i* P	Pb	11 42 01.6	-0.6
DYDN				*i* S	Sb	11 42 12.1	+1.0
DYDN	Diyadin	0.66	6	P	Pb	11 42 01.6	-0.6
DYDN				S	Sb	11 42 12.1	+1.0
GEVA	Gevas	0.71	216	*i* P	Pb	11 42 00.4	-2.4
GEVA				*i* S	Sn	11 42 13.9	-0.3
GEVA	Gevas	0.71	216	P	Pb	11 42 00.4	-2.4
TUTA	Tutak	0.80	311	*i* P	Pb	11 42 02.2	-2.2
TUTA				*i* S	Sb	11 42 14.6	-0.2
TUTA	Tutak	0.80	311	P	Pb	11 42 02.2	-2.2
TUTA				S	Sb	11 42 14.6	-0.2
AGRB	Hanur-Agry	0.83	326	*e*PG	Pb	11 42 03.6	-1.4
AGRB				*e*SG	Sb	11 42 15.9	0.0
AGRB	Hanur-Agry	0.83	326	*e*Pg	Pb	11 42 03.6	-1.4
AGRB				*e*Sg	Sb	11 42 15.9	0.0
EKAR	Karacoban	1.25	288	*i* P	Pb	11 42 12.3	+0.3
EKAR				*i* S	Sn	11 42 28.9	+1.3
EKAR	Karacoban	1.25	288	P	Pb	11 42 12.3	+0.3
EKAR				S	Sn	11 42 29.0	+1.3
EATA	Eleskirt	1.30	319	*i* P	Pn	11 42 11.3	-0.9
EATA				*i* S	Sb	11 42 32.4	+3.1
EATA	Eleskirt	1.30	319	P	Pn	11 42 11.3	-0.9
EATA				S	Sb	11 42 32.4	+3.1
HAKT	HAKKARI	1.33	176	*i* P	Pn	11 42 11.6	-0.9
HAKT				*i* S	Sb	11 42 34.4	+4.4
HAKT	HAKKARI	1.33	176	P	Pn	11 42 11.6	-0.9
DIGO	Kars	1.54	354	*i* P	Pb	11 42 17.8	+0.8
DIGO	Kars	1.54	354	P	Pb	11 42 17.8	+0.8
CUKT	Cukurca	1.63	180	*e*PN	Pn	11 42 15.8	-0.7
CUKT	Cukurca	1.63	180	*e*Pn	Pn	11 42 15.9	-0.7
BNGL	BINGOL	1.91	273	*i* P	Pb	11 42 23.5	+0.2
ERZM	Erzurum	2.00	301	*i* P	Pb	11 42 24.6	-0.3
ERZM				*i* S	Sn	11 42 44.3	-2.1
ERZM	Erzurum	2.00	301	P	Pb	11 42 24.6	-0.3
ERZM				S	Sn	11 42 44.3	-2.1
SVAN	Silvan-Diyarba	2.02	249	*e*PN	Pn	11 42 22.2	+0.5
SVAN	Silvan-Diyarba	2.02	249	*e*Pn	Pn	11 42 22.2	+0.5
BTMN	Batman	2.08	242	*i* P	Pb	11 42 27.2	+1.2
BTMN	Batman	2.08	242	P	Pb	11 42 27.2	+1.2

ISCJB ***25*** *11:46:04.3±0.6, 6.°26S±0.°08×155.°08E±0.°07, h50km, mb4.1/12, Error ellipse: s-maj=12.0km s-min=9.0km az=162.0*
IDC ***25*** *11:46:06.6±1.0, 6.°29S×155.°06E, h62km±7km, mb3.9/7, mb1 4.1/8, mb1mx3.8/32, mbtmp4.2/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=25.7km s-min=21.0km az=110.0*
NEIC ***25*** *11:46:08.8±0.9, 6.°26S×155.°00E, h81km±8km, mb4.1/6, Error ellipse: s-maj=9.9km s-min=8.6km az=198.0*
ISC 25 11:46:06.6±0.6, 6.°18S±0.°09×155.°09E±0.°08, h50km, n30, σ1°96/33, mb4.2/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.52	304	*e*Pn	Pn	11 46 59.7	+0.8
RABL				*e*Sn	Sn	11 47 51.0	+12
HNR	Honiara	5.79	124	*e*Pn	Pn	11 47 32.3	+2.2
PMG	Port Moresby	8.49	247	P	Pn	11 48 08.9	+1.9
	7.2nm,0.3s,baz=68,slow=6.9,SNR=19						
PMG				S	Sn	11 49 43.3	+1.8
	1.9nm,0.3s,baz=265,slow=19,SNR=2.9						
PMG				LR	LR	11 51 01.3	
	comp=Z,79nm,20.7s,baz=67,slow=35						
PMG	Port Moresby	8.49	247	*e*Pn	Pn	11 48 09.0	+2.0
PMG				*e*Sn	Sn	11 49 41.0	-0.5
DZM	Mont Dzumac	19.23	146	P	P	11 50 26.8	-0.2
	1.3nm,0.3s,baz=273,slow=9.2,SNR=14						
DZM	Mont Dzumac	19.23	146	*e*P	P	11 50 26.7	-0.3
	31nm,1.5s						
WRAB	Tennant Creek	24.35	234	*e*P	P	11 51 18.2	-1.9
	44nm,1.9s						
WB2	Warramunga Arr	24.35	234	*e*P	P	11 51 18.5	-1.7
	7.4nm,1.0s						
WR1	Warramunga Arr	24.36	234	*e*P	P	11 51 18.4	-1.9
	18nm,1.4s						
WR1				*e*PcP	PcP	11 54 56.9	-1.9
WRA	Warramunga Arr	24.36	234	P	P	11 51 18.4	-1.9
	4.2nm,0.5s,baz=59,slow=9.7,SNR=45						
WRA				PcP	PcP	11 54 56.9	-2.0
	0.6nm,0.5s,baz=57,slow=2.6,SNR=7.4						
WRA				pPcP		11 55 13.8	
	0.5nm,0.6s,baz=54,slow=2.7,SNR=5.1						
AS31	Alice Springs	26.79	227	*e*P	P	11 51 39.5	-2.7
	1.2nm,1.0s						
ASAR	Alice Springs	26.79	227	P	P	11 51 39.3	-2.9
	0.9nm,0.5s,baz=57,slow=9.0,SNR=25						
ASAR				PcP	PcP	11 55 02.3	-2.1
	0.3nm,0.6s,baz=72,slow=2.2,SNR=5.3						
H11S3	WAKE ISLAND Hy 27.06	25		T	T	12 19 55.4	
	baz=205,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy 27.06	25		T	T	12 19 54.6	
	baz=205,slow=76,SNR=6.0						
H11S1	WAKE ISLAND Hy 27.07	25		T	T	12 19 53.6	
	baz=205,slow=76,SNR=28						
H11N1	WAKE ISLAND Hy 28.23	24		T	T	12 21 32.5	
	baz=205,slow=76,SNR=8.6						
H11N3	WAKE ISLAND Hy 28.24	24		T	T	12 21 32.5	
	baz=205,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy 28.25	24		T	T	12 21 38.8	
	baz=205,slow=76,SNR=5.5						
LTZ	Lake Taylor	39.49	160	*e*P	P	11 53 31.9	-0.5
	44nm,1.0s						
CMAR	Chiang Mai Arr	60.52	295	P	P	11 56 12.1	-0.2
	2.1nm,0.8s,baz=121,slow=5.2,SNR=15						
CMAR				pP	pP	11 56 28.8	+2.6
	2.5nm,0.6s,baz=124,slow=5.4,SNR=6.7						
ILAR	Eielson Array	82.59	22	P	P	11 58 23.5	-0.6
	0.5nm,0.7s,baz=214,slow=6.4,SNR=4.5						
ILAR				pP	pP	11 58 39.6	+1.1
	0.4nm,0.7s,baz=219,slow=4.9,SNR=2.9						
ILB	Eielson Array	82.59	22	*e*P	P	11 58 23.9	-0.1
MK32	Makanchi Array	82.86	319	*e*P	P	11 58 24.5	-1.5
MK32				*e*pP	pP	11 58 41.2	+0.7
MKAR	Makanchi Array	82.86	319	P	P	11 58 24.5	-1.5
	1.8nm,0.7s,baz=100,slow=5.4,SNR=14						
MKAR				pP	pP	11 58 41.2	+0.7
	0.8nm,0.6s,baz=91,slow=6.6,SNR=4.5						
MAW	Mawson	85.18	203	P	P	11 58 35.2	-2.1
	1.7nm,0.5s,baz=98,slow=5.9,SNR=16						
MAW	Mawson	85.18	203	*e*P	P	11 58 35.2	-2.1
	0.9nm,1.3s						
YKA	Yellowknife Ar	95.58	28	P	P	11 59 25.6	-0.6
	1.0nm,0.8s,baz=268,slow=4.5,SNR=4.6						
YKB5	Yellowknife Ar	95.58	28	*e*P	P	11 59 25.6	-0.6
TORD	Torodi Ar. Bea	152.89	287	PKPbc	PKPdf	12 05 56.3	+4.2
	0.3nm,0.4s,baz=83,slow=1.8,SNR=5.2						
TOA1	Torodi Ar. Sit	152.90	287	*e*PKPbc	PKPdf	12 05 56.3	+4.2

JMA 25 11:50:07.3±0.1, 38.°46N×142.°24E, h26km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.70	270	P	Pb	11 50 20.6	-0.3
JIO				S	Sb	11 50 29.7	-0.4
OFUJ	Ofunato	0.76	324	P	Pb	11 50 21.8	-0.2
OFUJ				S	Sb	11 50 31.9	-0.1
JMK	Ichinoseki	0.94	302	P	Pn	11 50 24.5	-0.3
JMK				S	Sb	11 50 37.0	+0.1
JOU	Okura	1.24	266	P	Pn	11 50 29.4	+0.4
JOU				*e*S	Sn	11 50 45.0	+0.1
JOM	Ohasama	1.25	324	P	Pn	11 50 29.4	+0.3
JOM				*e*S	Sb	11 50 45.7	-0.3
JMM	Marumori	1.29	243	P	Pn	11 50 28.9	-0.7
JMM				S	Sn	11 50 44.6	-1.3
JFK	Kawauchi	1.54	225	P	Pn	11 50 31.7	-1.4
JFK				*e*S	Sn	11 50 49.2	-3.0
JYK	Kaneyama	1.54	288	P	Pn	11 50 34.0	+0.9
JYK				*e*S	Sb	11 50 53.4	-0.9
JRG	Rokugo	1.56	307	P	Pb	11 50 34.5	-1.0

IDC ***25*** *12:04:03.9±3.8, 36.°94N×142.°86E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/45, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=62.3km s-min=30.8km az=117.0*
ISCJB ***25*** *12:04:06.0±1.0, 37.°06N±0.°06×142.°53E±0.°08, h9km, mb3.4/2, Error ellipse: s-maj=9.0km s-min=8.5km az=34.1*
JMA ***25*** *12:04:08.0±0.1, 37.°03N×142.°52E, h34km±3km, M3.3*
ISC 25 12:04:04.5±1.5, 37.°02N±0.°06×142.°67E±0.°09, h9km, n16, σ2°24/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.48	284	P	Pn	12 04 31.3	-0.1
ONAJ	Iwakimizuishiy	1.50	274	*e*S	Sn	12 04 49.1	-2.4
JMM	Marumori	1.72	300	P	Pn	12 04 35.0	+0.4
JMM				*e*S	Sn	12 04 54.9	-1.8
JHO	Hitachi	1.74	257	P	Pn	12 04 35.0	+0.1
JIO	Ouri	1.78	324	P	Pn	12 04 36.2	+0.8
JFT	Otama	1.93	286	P	Pn	12 04 37.9	+0.3
JOU	Okura	2.09	311	P	Pn	12 04 40.7	+1.0
JOU				*e*S	Sn	12 05 04.2	-1.6
JMK	Ichinoseki	2.25	330	P	Pn	12 04 43.3	+1.4
JYS	Shiratake	2.40	301	P	Pn	12 04 44.9	+1.0
JYS				*e*S	Sn	12 05 12.2	-1.2
JFY	Yanaizu	2.40	280	P	Pn	12 04 44.9	+0.8
MJAR	Matsushiro Arr	3.62	264	Pn	Pn	12 05 03.0	+2.3
	1.9nm,0.3s,baz=89,slow=15,SNR=14						
MJAR				Sn	Sb	12 05 49.5	-3.2
	0.9nm,0.3s,baz=94,slow=26,SNR=3.3						
MAT	Matsushiro	3.62	264	P	Pn	12 05 03.4	+2.6
MAT				*e*S	Sn	12 05 44.2	+0.6
JHJ	Hachijo jima 2	4.55	212	Pn	Pn	12 05 14.7	+1.0
	5.6nm,0.3s,baz=87,slow=22,SNR=12						
JHJ				Sn	Sn	12 06 03.5	-3.1
	27nm,0.3s,baz=81,slow=22,SNR=14						
ASAJ	Asahikawa	7.09	360	Pn	Pn	12 05 51.1	+2.7
	0.8nm,0.3s,baz=208,slow=24,SNR=6.7						
ASAJ				Sn	Sn	12 07 03.3	-5.9
	1.4nm,0.3s,baz=183,slow=24,SNR=7.7						
SONM	Songino Array	28.63	304	P	P	12 10 03.6	+2.2
	0.4nm,0.5s,baz=98,slow=7.6,SNR=4.0						
MKAR	Makanchi Array	44.98	302	P	P	12 12 21.3	+1.2
	0.5nm,0.7s,baz=90,slow=9.7,SNR=4.8						

NIED ***25*** *12:05:00, 38.°10N×144.°50E, h11km, Mw3.7 Best double couple: M0=3.99000×10^14 NP1:φ=67.00000°, δ=30.00000°, λ=-50.00000°. NP2:φ=203.00000°, δ=67.00000°, λ=-110.00000°.*
JMA 25 12:05:33.9±0.2, 38.°12N×144.°47E, h40km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.40	294	P	Pn	12 06 12.2	+1.6
OFUJ				*e*S	Sn	12 06 40.6	+1.9
JIO	Ouri	2.48	279	P	Pn	12 06 13.3	+1.6
JIO				*e*S	Sn	12 06 42.3	+1.6
MIYJ	Miyakonagasawa	2.53	306	P	Pn	12 06 13.8	+1.3
MIYJ				*e*S	Sn	12 06 43.6	+1.6
JMK	Ichinoseki	2.68	289	P	Pn	12 06 16.4	+1.9
JMK				*e*S	Sn	12 06 47.5	+1.8
JOM	Ohasama	2.83	300	P	Pn	12 06 18.7	+2.2
JOM				*e*S	Sn	12 06 51.1	+1.7
JOU	Okura	3.01	276	P	Pn	12 06 21.2	+2.2
JOU				*e*S	Sn	12 06 56.1	+2.3
JANG	Nango	3.21	315	*e*S	Sn	12 07 00.0	+1.1
JRG	Rokugo	3.26	294	P	Pn	12 06 25.1	+2.6
JRG				*e*S	Sn	12 07 02.8	+2.8
JFT	Otama	3.33	261	P	Pn	12 06 25.6	+2.2
JFT				*e*S	Sn	12 07 03.7	+2.0
JTM	Tenmabayashi	3.75	316	*e*S	Sn	12 07 12.8	+0.8
JCH	Churui	4.57	350	*e*S	Sn	12 07 31.1	-1.1
JRY	Ryogami san	4.92	246	P	Pn	12 06 46.5	+1.1
JRY				*e*S	Sn	12 07 40.1	-1.0
MAT	Matsushiro	5.23	254	P	Pn	12 06 52.6	+3.0
MAT				*e*S	Sn	12 07 52.5	+3.8
NEM2	Nemuro 2	5.33	10	P	Pn	12 06 48.6	-2.3
NEM2				*e*S	Sn	12 07 45.4	-5.5

IDC 25 12:15:57.1±82.0, 19.°78S×179.°10E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, Error ellipse: s-maj=1463.0km s-min=166.8km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.68	243	P	P	12 22 57.4	+0.1
	1.2nm,0.7s,baz=96,slow=10,SNR=3.8						
WRA	Warramunga Arr	42.01	262	P	P	12 23 50.4	-0.1
	0.6nm,0.5s,baz=98,slow=8.7,SNR=9.4						
ASAR	Alice Springs	42.04	256	P	P	12 23 50.5	-0.3
	1.3nm,0.7s,baz=92,slow=7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**249**	*e*P	Pb	12 18 54.8	+1.0
ACX				*e*S	Sb	12 18 59.2	+1.1
MEIG	**Mezcala**	**0.96**	**360**	*e*P	Pg	12 19 02.5	-3.3
MEIG				*e*S	Sg	12 19 14.8	-3.5
TLIG	**Tlapa**	**1.17**	**59**	*e*P	Pb	12 19 05.8	-3.6
TLIG				*e*S	Sb	12 19 20.0	-4.5
PLIG	**Platanillo**	**1.43**	**4**	*e*P	Pn	12 19 09.7	-3.4
PLIG				*e*S	Sn	12 19 27.3	-4.6
ARIG	**Puente Sto Nin**	**1.49**	**332**	*e*P	Pn	12 19 10.6	-3.2
ARIG				*e*S	Sn	12 19 27.8	-5.5
PNIG	**Pinotepa**	**1.53**	**111**	*e*P	Pn	12 19 10.8	-3.6
PNIG				*i* S	Sn	12 19 29.6	-4.7
ZIIG	**Zihuatanejo**	**1.88**	**290**	*e*P	Pn	12 19 15.8	-3.4
ZIIG				*e*S	Sn	12 19 37.9	-5.0

DJA 25 12:21:39.0±0.5,9°S±5°×11°5E±°,h54km±10km,M3.6/11, MLv3.6/11,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.78**	**42**	P	Pn	12 21 54.3	+0.3
IGBI				S	Sn	12 22 07.0	+2.0
DNP	**Denpasar**	**0.93**	**40**	P	Pn	12 21 56.3	+0.4
DNP				S	Sn	12 22 09.2	+0.8
JAGI	**Jajag, Banyuwa**	**1.03**	**334**	P	Pn	12 21 57.2	-0.1
JAGI				S	Sn	12 22 11.8	+1.1
SRBI	**Singaraja**	**1.44**	**25**	P	Pn	12 22 03.3	+0.6
SRBI				S	Sn	12 22 20.3	-0.2
TWSI	**Taliwang, Sumb**	**2.34**	**74**	P	Pn	12 22 15.2	+0.2
TWSI				S	Sn	12 22 42.2	-0.4
KMMI	**Kalianget**	**2.42**	**345**	P	Pn	12 22 16.6	+0.4
KMMI				S	Sn	12 22 46.0	+1.4
PLAI	**Plampang**	**3.18**	**80**	P	Pn	12 22 26.9	+0.4
PLAI				S	Sn	12 23 04.5	+1.2
BWJI	**Bawean**	**4.02**	**331**	P	Pn	12 22 38.4	+0.3
UGM	**Wanagama**	**4.30**	**290**	P	Pn	12 22 41.8	-0.2

MAN 25 12:21:42,10°72N×124°93E,h11km,mb4.1,ML2.9,MS2.7, 2C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.45**	**7**	⇑*i*P	Pg	12 21 51.4	+0.5
PLP				*e*S	Sb	12 21 58.6	0.0
OCLP	**Ormoc**	**0.45**	**317**	*e*P	Pb	12 21 52.2	+0.1
OCLP				*e*S	Sb	12 21 59.7	+0.9
MSLP	**Maasin**	**0.58**	**186**	*e*P	Pg	12 21 53.7	+0.3
MSLP				*e*S	Sb	12 22 02.2	-0.3
BESP	**Borongan**	**1.01**	**30**	*e*P	Pg	12 22 00.8	-0.7
BESP				*e*S	Sn	12 22 15.7	-0.7
LLP	**Lapu-Lapu**	**1.02**	**247**	⇑*e*P	Pg	12 22 01.2	-0.6
LLP				*e*S	Sg	12 22 15.1	0.0
SCPH	**Surigao**	**1.08**	**149**	*e*P	Pb	12 22 02.1	-0.7
SCPH				*e*S	Sn	12 22 18.8	+0.7
CNP	**Catarman**	**1.80**	**352**	*e*P	Pb	12 22 14.6	-0.4
CNP				*e*S	Sg	12 22 40.7	+0.7
SNPH	**Sibulan**	**2.15**	**231**	*i* P	Pb	12 22 20.3	-0.8
SNPH				*i* S	Sg	12 22 52.6	+1.3
RCP	**Roxas**	**2.30**	**292**	⇓*e*P	Pn	12 22 21.6	+1.8

CSEM ***25*** *12:23:27.3±0.4,38°.95N×43°.65E,h5km,ML3.2,Error ellipse: s-maj=11.3km s-min=5.4km az=83.0*
ISK ***25*** *12:23:27.4,38°.88N×43°.56E,h5km,ML3.2*
DDA ***25*** *12:23:28.7,38°.77N×43°.54E,h2km,Ml3.5*
ISC 25 12:23:27.2±1.2,38°.93N±0°.02×43°.69E±0°.04,h6km±10km, n42,σ1§45/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.41**	**215**	*e*PG	**Pg**	**12 23 35.7**	**+0.6**
VANB				*e*SG	**Sg**	**12 23 40.9**	**+0.5**
VANB	**Van**	**0.41**	**215**	*e*Pg	**Pg**	**12 23 35.7**	**+0.6**
VANB				*e*Sg	**Sg**	**12 23 40.9**	**+0.5**
DYDN	**Diyadin**	**0.61**	**0**	*i* P	**Pg**	**12 23 38.7**	**-0.4**
DYDN				*i* S	**Sn**	**12 23 51.0**	**-2.1**
DYDN	**Diyadin**	**0.61**	**0**	P	**Pg**	**12 23 38.7**	**-0.4**
DYDN				S	**Sn**	**12 23 51.0**	**-2.1**
GEVA	**Gevas**	**0.79**	**219**	*i* P	**Pg**	**12 23 38.7**	**-3.6**
GEVA				*i* S	**Sb**	**12 23 54.3**	**-0.1**
GEVA	**Gevas**	**0.79**	**219**	P	**Pg**	**12 23 38.7**	**-3.6**
GEVA				S	**Sb**	**12 23 54.3**	**-0.1**
TUTA	**Tutak**	**0.83**	**305**	*i* P	**Pg**	**12 23 42.6**	**-0.5**
TUTA				*i* S	**Sn**	**12 23 57.8**	**-0.6**
TUTA	**Tutak**	**0.83**	**305**	P	**Pg**	**12 23 42.6**	**-0.5**
TUTA				S	**Sn**	**12 23 57.8**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**320**	*e*PG	**Pg**	**12 23 43.2**	**-0.2**
AGRB				*e*SG	**Sb**	**12 23 55.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.84**	**320**	*e*Pg	**Pg**	**12 23 43.2**	**-0.2**
AGRB				*e*Sg	**Sb**	**12 23 55.9**	**-0.2**
EKAR	**Karacoban**	**1.30**	**285**	*i* P	**Pn**	**12 23 50.4**	**-1.8**
EKAR				*i* S	**Sn**	**12 24 12.4**	**+2.3**
EKAR	**Karacoban**	**1.30**	**285**	P	**Pn**	**12 23 50.4**	**-1.8**
EKAR				S	**Sn**	**12 24 12.4**	**+2.3**
EATA	**Eleskirt**	**1.31**	**316**	*i* P	**Pg**	**12 23 51.7**	**-0.7**
EATA				*i* S	**Sn**	**12 24 12.4**	**+1.9**
EATA	**Eleskirt**	**1.31**	**316**	P	**Pg**	**12 23 51.7**	**-0.7**
EATA				S	**Sn**	**12 24 12.4**	**+1.9**
HAKT	**HAKKARI**	**1.37**	**179**	*i* P	**Pn**	**12 23 51.7**	**-1.4**
HAKT				*i* S	**Sn**	**12 24 13.8**	**+2.1**
HAKT	**HAKKARI**	**1.37**	**179**	P	**Pn**	**12 23 51.7**	**-1.4**
HAKT				S	**Sn**	**12 24 13.8**	**+2.1**
DIGO	**Kars**	**1.50**	**351**	*i* P	**Pg**	**12 23 55.6**	**-0.5**
DIGO	**Kars**	**1.50**	**351**	P	**Pg**	**12 23 55.6**	**-0.5**
CUKT	**Cukurca**	**1.68**	**182**	*e*PN	**Pb**	**12 23 57.7**	**-0.9**
CUKT	**Cukurca**	**1.68**	**182**	*i* P	**Pb**	**12 23 58.2**	**-0.4**
CUKT	**Cukurca**	**1.68**	**182**	*e*Pn	**Pb**	**12 23 57.7**	**-0.9**
CUKT	**Cukurca**	**1.68**	**182**	P	**Pb**	**12 23 58.2**	**-0.4**
VRTB	**Varto-Mus**	**1.75**	**278**	*e*PN	**Pn**	**12 23 58.0**	**-0.3**
VRTB	**Varto-Mus**	**1.75**	**278**	*e*Pn	**Pn**	**12 23 58.0**	**-0.3**
EAK	**Akyaka**	**1.76**	**358**	*i* P	**Pg**	**12 24 03.4**	**+2.5**
EAK				*i* S	Sg	12 24 33.2	+10
EAK	**Akyaka**	**1.76**	**358**	P	**Pg**	**12 24 03.4**	**+2.5**
HOMI	**Horasan**	**1.77**	**310**	*i* P	**Pb**	**12 23 59.5**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.93**	**328**	*e*PN	**Pb**	**12 24 01.5**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.93**	**328**	*e*Pn	**Pb**	**12 24 01.5**	**-1.4**
BNGL	**BINGOL**	**1.98**	**272**	*i* P	**Pb**	**12 24 04.7**	**+0.9**
BNGL				*i* S	**Sb**	**12 24 30.6**	**+1.8**
SVAN	**Silvan-Diyarba**	**2.10**	**249**	*e*PN	**Pn**	**12 24 02.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.10**	**249**	*e*Pn	**Pn**	**12 24 02.7**	**-0.3**
BTMN	**Batman**	**2.16**	**242**	*i* P	**Pb**	**12 24 06.0**	**-0.8**
BTMN				*i* S	**Sb**	**12 24 34.5**	**+0.6**
BTMN	**Batman**	**2.16**	**242**	P	**Pb**	**12 24 06.0**	**-0.8**
BNGB	**Bing¶ll**	**2.35**	**273**	*e*PN	**Pn**	**12 24 06.3**	**-0.1**
BINT	**Bingol**	**2.50**	**270**	*e*Pn	**Pn**	**12 24 06.3**	**-2.2**
DAGI	**Agillar**	**2.54**	**328**	*i* P	**Pg**	**12 24 15.0**	**-0.9**
MARD	**Mardin**	**2.80**	**236**	*i* P	**Pb**	**12 24 16.3**	**-1.4**
MARD				*i* S	**Sg**	**12 24 59.1**	**+1.9**
MAZI	**Mazidag**	**2.94**	**241**	*e*PN	**Pn**	**12 24 14.8**	**+0.1**
MAZI	**Mazidag**	**2.94**	**241**	*e*Pn	**Pn**	**12 24 14.8**	**+0.1**
PTK	**Pertek**	**3.35**	**271**	*e*PN	**Pn**	**12 24 20.5**	**+0.2**
PTK	**Pertek**	**3.35**	**271**	*e*Pn	**Pn**	**12 24 20.5**	**+0.2**

DDA ***25*** *12:39:38.9,38°.77N×43°.77E,h7km,Ml3.0*
ISK ***25*** *12:39:42.4,38°.72N×43°.33E,h5km,ML2.4*
ISCJB ***25*** *12:39:43.9±0.9,38°.73N±0°.04×43°.4E±0°.1,h11km±9km, Error ellipse: s-maj=15.3km s-min=6.0km az=169.2*
CSEM ***25*** *12:39:43.2±0.4,38°.75N×43°.35E,h8km,ML3.0,Error ellipse: s-maj=14.0km s-min=5.0km az=78.0*
ISC 25 12:39:41.9±1.6,38°.75N±0°.03×43°.53E±0°.09,h13km±10km, n16,σ1§14/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**215**	*e*PG	**Pb**	**12 39 47.4**	**+0.1**
VANB				*e*SG	**Sb**	**12 39 50.5**	**-0.3**
VANB	**Van**	**0.19**	**215**	*e*Pg	**Pb**	**12 39 47.4**	**+0.1**
GEVA	**Gevas**	**0.57**	**220**	*i* P	**Pg**	**12 39 52.3**	**-0.9**
GEVA				*i* S	**Sg**	**12 39 59.6**	**-1.1**
GEVA	**Gevas**	**0.57**	**220**	P	**Pg**	**12 39 52.3**	**-0.9**
GEVA				S	**Sg**	**12 39 59.7**	**-1.1**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pb**	**12 39 58.8**	**0.0**
TUTA				*i* S	**Sn**	**12 40 12.1**	**-0.3**
TUTA	**Tutak**	**0.86**	**320**	P	**Pb**	**12 39 58.8**	**0.0**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*PG	**Pb**	**12 39 59.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*Pg	**Pb**	**12 39 59.6**	**-0.3**
EKAR	**Karacoban**	**1.25**	**294**	*i* P	**Pb**	**12 40 05.6**	**+0.2**
EKAR				*i* S	**Sg**	**12 40 26.4**	**+4.2**
EKAR	**Karacoban**	**1.25**	**294**	P	**Pb**	**12 40 05.6**	**+0.2**
EATA	**Eleskirt**	**1.37**	**324**	*i* P	**Pn**	**12 40 06.9**	**-0.2**
EATA				*i* S	**Sg**	**12 40 26.4**	**+0.2**
EATA	**Eleskirt**	**1.37**	**324**	P	**Pn**	**12 40 06.9**	**-0.2**
EATA				S	**Sg**	**12 40 26.4**	**+0.2**
CUKT	**Cukurca**	**1.50**	**178**	*e*PN	**Pb**	**12 40 11.0**	**+1.3**
CUKT	**Cukurca**	**1.50**	**178**	*e*Pn	**Pb**	**12 40 11.0**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*PN	**Pn**	**12 40 14.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*Pn	**Pn**	**12 40 14.4**	**0.0**

NIED ***25*** *12:49:00,39°.50N×143°.50E,h17km,Mw4.2 Best double couple: M₀2.28000×10¹⁵ NP1:φ₀s180.00000°,δ25.00000°, λ56.00000°. NP2:φ₀s37.00000°,δ70.00000°,λ104.00000°.*
ISCJB ***25*** *12:49:22.0±0.4,39°.43N±0°.03×143°.54E±0°.05,h11km, mb4.2/27,MS3.4/9,Error ellipse: s-maj=6.5km s-min=3.6km az=38.1*
MOS ***25*** *12:49:22.7±1.1,39°.53N×143°.49E,h16km,mb4.5/13,Error ellipse: s-maj=10.5km s-min=7.5km az=81.3*
IDC ***25*** *12:49:22.7±0.7,39°.48N×143°.35E,h0km,mb4.1/19, mb1 4.2/22,mb1mx4.0/65,mbtmp4.1/22,ML3.8/3,MS3.3/14, Ms1 3.3/14,ms1mx3.0/57,Error ellipse: s-maj=19.6km s-min=14.2km az=112.0*
JMA ***25*** *12:49:23.6±0.2,39°.49N×143°.55E,h32km,M4.2*
NEIC ***25*** *12:49:25.6±3.5,39°.50N×143°.36E,h18km±22km,mb4.6/7, Error ellipse: s-maj=11.1km s-min=7.1km az=109.0*
ISC 25 12:49:24.1±0.6,39°.50N±0°.05×143°.48E±0°.06,h11km,n93, σ1§44/91,mb4.3/27,MS3.5/9,3C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.29**	**274**	P	**Pn**	**12 49 46.7**	**-1.3**
MIYJ				*e*S	**Sb**	**12 50 03.2**	**-1.6**
JTH	**Tanohata**	**1.32**	**290**	P	**Pn**	**12 49 47.3**	**-1.2**
OFUJ	**Ofunato**	**1.47**	**254**	P	**Pn**	**12 49 49.3**	**-1.2**
JOM	**Ohasama**	**1.69**	**270**	P	**Pn**	**12 49 53.0**	**-0.6**
JANG	**Nango**	**1.74**	**301**	P	**Pn**	**12 49 52.9**	**-1.4**
JMK	**Ichinoseki**	**1.84**	**253**	P	**Pn**	**12 49 54.8**	**-0.8**
JMK				*e*S	**Sn**	**12 50 17.6**	**-1.2**
JIO	**Ouri**	**1.96**	**238**	P	**Pn**	**12 49 55.9**	**-1.4**
JIO				*e*S	**Sn**	**12 50 19.5**	**-2.4**
JRG	**Rokugo**	**2.21**	**268**	P	**Pn**	**12 50 00.4**	**-0.2**
JYK	**Kaneyama**	**2.49**	**257**	P	**Pn**	**12 50 04.4**	**-0.2**
JOT	**Ohata**	**2.64**	**316**	P	**Pn**	**12 50 06.9**	**+0.3**
JCH	**Churui**	**3.11**	**358**	P	**Pn**	**12 50 12.9**	**-0.2**
JFT	**Otama**	**3.16**	**232**	P	**Pn**	**12 50 13.2**	**-0.6**
ASAJ	**Asahikawa**	**4.66**	**352**	Pn	**Pn**	**12 50 35.3**	**+1.0**
	1.7nm,0.3s,baz=210,slow=12,SNR=7.7						
ASAJ	**Asahikawa**	**4.66**	**352**	*e*Pn	**Pn**	**12 50 33.6**	**-0.8**
ASAJ				*e*Sn	**Sn**	**12 51 31.3**	**+2.9**
YUK	**Yuzh-Kuril'sk**	**4.87**	**21**	*e*P	**Pn**	**12 50 37.6**	**+0.4**
YUK				*e*S	**Sn**	**12 51 30.6**	**-2.9**
YUK				pmax	pmax		
	comp=Z,56nm,0.4s						
YUK				smax	smax		
	comp=N,176nm,0.5s						
YUK				smax	smax		
	comp=E,322nm,0.7s						
SHO	**Shikotan**	**5.03**	**29**	*e*P	**Pn**	**12 50 38.0**	**-1.5**
SHO				*e*S	**Sn**	**12 51 32.5**	**-5.1**
SHO				smax	smax		
	comp=E,215nm,0.6s						
SHO				smax	smax		
	comp=N,135nm,0.7s						
MJA0	**Matsu Arr-Jizo**	**5.08**	**236**	*e*P	**Pn**	**12 50 41.3**	**+1.1**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.10**	**236**	Pn	**Pn**	**12 50 40.9**	**+0.3**
	comp=Z,6.4nm,0.3s,baz=38,slow=12,SNR=119						
MJAR				LR	LR	12 52 30.2	
	comp=Z,91nm,19.7s,baz=45,slow=38						
MAJO	**Matsushiro**	**5.10**	**236**	*d*P	**Pn**	**12 50 41.2**	**+0.7**
MAJO	**Matsushiro**	**5.10**	**236**	*e*Pn	**Pn**	**12 50 40.4**	**-0.2**
	comp=Z,119nm,0.6s						
MAJO				*e*Sn	**Sn**	**12 51 39.0**	**-0.4**
MAT	**Matsushiro**	**5.10**	**236**	P	**Pn**	**12 50 41.3**	**+0.8**
MAT				*e*S	**Sn**	**12 51 45.1**	**+5.7**
KUR	**Kuril'sk**	**6.58**	**28**	*e*P	**Pn**	**12 51 01.3**	**+0.5**
KUR				*e*S	**Sn**	**12 52 12.4**	**-3.4**
KUR				pmax	pmax		
	comp=Z,34nm,0.4s						
KUR				smax	smax		
	comp=E,80nm,0.6s						
KUR				smax	smax		
	comp=N,68nm,0.7s						
JHJ2	**Mitsune**	**7.03**	**206**	*e*Pn	**Pn**	**12 51 05.8**	**-1.1**
JHJ2				*e*Sn	**Sn**	**12 52 26.9**	**+0.1**
JHJ	**Hachijo jima 2**	**7.03**	**206**	Pn	**Pn**	**12 51 04.7**	**-2.3**
	comp=N,16nm,0.3s,baz=339,slow=22,SNR=18						
JHJ				Sn	Sn	12 52 18.1	-8.8
	comp=N,25nm,0.3s,baz=241,slow=23,SNR=5.9						
USRK	**Ussuriysk Ar.**	**9.77**	**302**	Pn	Pn	12 51 49.4	+4.9
	comp=N,0.8nm,0.3s,baz=101,slow=15,SNR=8.9						
USRK				LR	LR	12 55 20.6	
	comp=N,247nm,20.4s,baz=126,slow=37						
KSRS	**Korea Array**	**12.36**	**265**	Pn	**Pn**	**12 52 22.1**	**+2.1**
	comp=N,0.3nm,0.3s,baz=85,slow=13,SNR=6.5						
KSRS				LR	LR	12 56 25.7	
	comp=N,104nm,19.6s,baz=114,slow=34						
KSAR	**Wonju Array Be**	**12.40**	**265**	P	**Pn**	**12 52 22.1**	**+1.6**
KSAR	**Wonju Array Be**	**12.40**	**265**	Pn	**Pn**	**12 52 22.1**	**+1.6**
KLR	**Kul'dur**	**12.83**	**323**	LR	LR	12 57 40.5	
	comp=N,25nm,18.0s,baz=114,slow=39						
PETK	**Petropavlovsk-**	**16.74**	**31**	LR	LR	12 59 13.8	
	comp=N,39nm,20.5s,baz=200,slow=35						
HIA	**Hailar**	**19.50**	**308**	⇑*i*P	**P**	**12 53 49.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2	**Magadan**	**20.62**	**11**	P	**P**	**12 54 04.2**	**+1.0**
	comp=Z,5.3nm,0.7s,baz=199,slow=9.1,SNR=4.2						
MA2				LR	LR	13 01 41.6	
	comp=Z,40nm,20.8s,baz=190,slow=36						
MA2	**Magadan**	**20.62**	**11**	⇓*e*P	Pn	12 54 07.9	+2.5
MA2				*i* *PP	sP	12 54 11.7	+4.0
SEY	**Seymchan**	**24.07**	**10**	P	**P**	**12 54 40.5**	**+1.4**
	comp=Z,5.5nm,0.8s,baz=186,slow=8.5,SNR=10						
SEY	**Seymchan**	**24.07**	**10**	⇓*i*P	**P**	**12 54 40.2**	**+1.1**
YAK	**Yakutsk**	**24.08**	**344**	P	**P**	**12 54 38.4**	**-0.8**
	comp=Z,12nm,0.5s,baz=157,slow=1.3,SNR=5.3						
YAK	**Yakutsk**	**24.08**	**344**	*e*P	**P**	**12 54 35.8**	**-3.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
BOD	**Bodaibo**	**26.41**	**324**	*e*P	**P**	**12 54 59.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.43**	**300**	⇓*i*P	**P**	**12 55 10.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.43**	**300**	*e*P	**P**	**12 55 09.6**	**-0.3**
	comp=Z,14nm,1.3s						
SONM	**Songino Array**	**27.87**	**300**	P	**P**	**12 55 13.8**	**0.0**
	comp=Z,2.9nm,0.8s,baz=95,slow=9.1,SNR=13						
SONM				LR	LR	13 06 53.8	
	comp=Z,189nm,18.6s,baz=94,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.18**	**128**	T	T	13 24 47.8	
	baz=320,slow=74,SNR=85						
H11N1	**WAKE ISLAND Hy**	**28.20**	**128**	T	T	13 24 55.2	
	baz=320,slow=74,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.20**	**128**	T	T	13 24 51.8	
	baz=320,slow=74,SNR=51						
H11S1	**WAKE ISLAND Hy**	**29.00**	**129**	T	T	13 26 08.1	
	baz=320,slow=74,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**29.00**	**130**	T	T	13 26 31.9	
	baz=320,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**29.02**	**130**	T	T	13 25 59.6	
	baz=320,SNR=4.2						
ENH	**Enshi**	**29.22**	**262**	*e*P	**P**	**12 55 24.8**	**-1.1**
	comp=Z,11nm,0.7s						
TIXI	**Tiksi**	**33.06**	**352**	LR	LR	13 11 04.6	
	comp=Z,54nm,18.0s,baz=182,slow=39						
DAV	**Davao City (W)**	**36.08**	**211**	LR	LR	13 08 34.8	
	comp=Z,38nm,20.9s,baz=170,slow=32						
ZALV	**Zalesovo Beam**	**41.51**	**310**	P	**P**	**12 57 10.9**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=92,slow=7.4,SNR=13						
ZALV				PcP	**PcP**	**12 59 08.9**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=93,slow=2.9,SNR=3.6						
NRIK	**Noril'sk**	**41.74**	**334**	LR	LR	13 16 08.0	
	comp=Z,75nm,20.9s,baz=116,slow=38						
CMAR	**Chiang Mai Arr**	**43.71**	**254**	P	**P**	**12 57 29.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=49,slow=7.0,SNR=8.8						
CMAR				LR	LR	13 16 26.6	
	comp=Z,12nm,18.1s,baz=56,slow=37						
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**12 57 32.9**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=83,slow=9.7,SNR=29						
MKAR				LR	LR	13 16 51.5	
	comp=Z,99nm,18.7s,baz=54,slow=37						
KURK	**Kurchatov**	**45.73**	**307**	⇑*i*P	**P**	**12 57 44.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,20nm,0.7s						
KURK	**Kurchatov**	**45.73**	**307**	*e*P	**P**	**12 57 44.7**	**-0.5**
	comp=Z,54nm,0.7s						
ILAR	**Eielson Array**	**46.54**	**34**	P	**P**	**12 57 52.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=266,slow=7.4,SNR=9.1						
ILAR	**Eielson Array**	**46.54**	**34**	*e*P	**P**	**12 57 51.9**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TAPN	**Taplejung**	**47.42**	**273**	*e*P	**P**	**12 57 59.0**	**0.0**
ODAN	**Odare**	**47.91**	**272**	*e*P	**P**	**12 58 01.8**	**-0.9**
JIRN	**Jiri**	**48.44**	**274**	*e*P	**P**	**12 58 07.9**	**+0.9**
RAMN	**Ramite**	**48.47**	**273**	*e*P	**P**	**12 58 06.7**	**-0.4**
	comp=Z,26nm,0.9s						
GUN	**Gumba**	**48.56**	**275**	*e*P	**P**	**12 58 09.5**	**+1.6**
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**49.08**	**275**	*e*P	**P**	**12 58 12.6**	**+0.9**
	comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**49.09**	**274**	*e*P	**P**	**12 58 11.6**	**-0.3**
DMN	**Daman**	**49.30**	**275**	*e*P	**P**	**12 58 13.5**	**0.0**
GKN	**Gorkha**	**49.47**	**275**	*e*P	**P**	**12 58 15.2**	**+0.6**
DANN	**Dangsing**	**49.97**	**276**	*e*P	**P**	**12 58 19.4**	**+0.7**
BRVK	**Borovoye**	**50.20**	**311**	*e*P	**P**	**12 58 19.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
BRVK	**Borovoye**	**50.20**	**311**	*e*P	**P**	**12 58 19.7**	**0.0**
	comp=Z,9.2nm,0.8s						
KOLN	**Koldanda**	**50.38**	**276**	*e*P	**P**	**12 58 21.6**	**0.0**
	comp=Z,7.9nm,0.5s						
PYUN	**Piuthan**	**50.69**	**276**	*e*P	**P**	**12 58 23.6**	**-0.4**
ARU	**Arti**	**55.61**	**318**	P	**P**	**12 58 59.4**	**-0.1**
ARU	**Arti**	**55.61**	**318**	*e*P	**P**	**12 58 59.5**	**0.0**
	comp=Z,9.3nm,1.0s						
ABKAR	**Akbulak array**	**57.61**	**310**	*e*P	**P**	**12 59 13.7**	**-0.2**
	comp=Z,2.4nm,0.6s						
AKTO	**Aktyubinsk**	**58.25**	**311**	P	**P**	**12 59 17.6**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=58,slow=14,SNR=3.1						
WRAB	**Tennant Creek**	**59.74**	**190**	*e*P	**P**	**12 59 28.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WRAB	**Tennant Creek**	**59.74**	**190**	*e*P	**P**	**12 59 28.8**	**-0.1**
	comp=Z,4.0nm,1.2s						
WRA	**Warramunga Arr**	**59.75**	**190**	P	**P**	**12 59 28.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=7.3,slow=6.9,SNR=3.5						
RES	**Resolute Bay**	**59.80**	**15**	P	**P**	**12 59 27.9**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=300,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**63.47**	**190**	P	**P**	**12 59 54.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=15,slow=8.3,SNR=5.5						
ASAR	**Alice Springs**	**63.47**	**190**	*e*P	**P**	**12 59 55.1**	**+1.0**
FINES	**FINESS Array B**	**67.39**	**332**	P	**P**	**13 00 19.1**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=45,slow=8.9,SNR=7.6						
FINES				LR	LR	13 32 45.7	
	comp=Z,64nm,18.2s,baz=1.0,slow=39						
FINES	**FINESS Array B**	**67.39**	**332**	*e*P	**P**	**13 00 18.9**	**-0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBZ	**Khabaz**	**70.53**	**311**	P	**P**	**13 00 40.0**	**+1.2**
	comp=Z,4.5nm,1.0s,baz=262,slow=2.9,SNR=6.2						
KBZ	**Khabaz**	**70.53**	**311**	P	**P**	**13 00 40.0**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HFS	**Hagfors**	**72.50**	**336**	P	**P**	**13 00 50.7**	**+0.2**
	comp=Z,1.

ALU	**Alushta**	**1.83 271**	⇓*i*Pn	**Pn**	**13 01 30.4**	**+1.1**
	baz=274					
ALU			Pnm		13 01 32.3	
	comp=Z,46nm,baz=274					
ALU			*i* Sn	**Sn**	**13 01 53.3**	**+1.7**
	baz=274					
ALU			Snm		13 01 55.9	
	comp=E,312nm,baz=274					
ALU			Snm		13 01 56.1	
	comp=N,402nm,baz=274					
ALU	**Alushta**	**1.83 271**	*i* P	**Pn**	**13 01 30.4**	**+1.1**
ALU			*i* S	**Sn**	**13 01 53.3**	**+1.7**
YAL	**Yalta**	**2.02 266**	*e*P	**Pn**	**13 01 33.8**	**+1.9**
YAL			*e*		13 01 59.2	
YAL	**Yalta**	**2.02 266**	⇓*i*Pn	**Pn**	**13 01 33.8**	**+1.9**
	baz=268					
YAL			Pnm		13 01 34.6	
	comp=Z,298nm,baz=268					
YAL			*e*Sn	**Sb**	**13 01 59.2**	**-1.0**
	baz=268					
YAL			Snm		13 02 00.5	
	comp=E,216nm,baz=268					
YAL			Snm		13 02 00.8	
	comp=N,505nm,baz=268					
YAL	**Yalta**	**2.02 266**	*e*P	**Pn**	**13 01 33.8**	**+1.9**
YAL			*e*S	**Sb**	**13 01 59.2**	**-1.0**
SIM	**Simferopol'**	**2.05 279**	*e*P	**Pb**	**13 01 35.1**	**-1.0**
SIM			*i*		13 01 59.9	
SIM			pmax	pmax		
	comp=Z,389nm,0.5s					
SIM			smax	smax		
	comp=E,737nm,0.9s					
SIM	**Simferopol'**	**2.05 279**	⇑*i*Pn	**Pb**	**13 01 35.3**	**-0.8**
	baz=281					
SIM			Pnm		13 01 35.7	
	comp=Z,441nm,baz=281					
SIM			*e*Sn	**Sb**	**13 02 00.2**	**-0.9**
	baz=281					
SIM			Snm		13 02 01.1	
	comp=E,496nm,baz=281					
SIM			Snm		13 02 04.4	
	comp=N,388nm,baz=281					
SIM	**Simferopol'**	**2.05 279**	*e*P	**Pb**	**13 01 35.1**	**-1.0**
	comp=N,389nm,0.5s					
SIM			*i* S	**Sb**	**13 01 59.9**	**-1.2**
SEV	**Sevastopol'**	**2.36 268**	⇑*e*P	**Pn**	**13 01 38.4**	**+1.8**
SEV			*e*		13 02 07.1	
SEV	**Sevastopol'**	**2.36 268**	⇓*i*Pn	**Pn**	**13 01 38.4**	**+1.8**
	baz=270					
SEV			Pnm		13 01 39.9	
	comp=Z,24nm,baz=270					
SEV			*e*Sn	**Sn**	**13 02 07.1**	**+2.4**
	baz=270					
SEV			Snm		13 02 09.0	
	comp=N,420nm,baz=270					
SEV			Snm		13 02 09.0	
	comp=E,103nm,baz=270					
SEV	**Sevastopol'**	**2.36 268**	*e*P	**Pn**	**13 01 38.4**	**+1.8**
SEV			*e*S	**Sn**	**13 02 07.1**	**+2.4**
SINO	**SINOP_Merkez**	**2.95 207**	*i* P	**Pn**	**13 01 48.5**	**+3.8**
SINO			*i* S	**Sn**	**13 02 16.4**	**-2.7**
SINO	**SINOP_Merkez**	**2.95 207**	P	**Pn**	**13 01 48.5**	**+3.8**
SINO			S	**Sn**	**13 02 16.4**	**-2.7**
SAMS	**Samsun-Alacam**	**3.35 190**	*i* P	**Pb**	**13 01 55.1**	**-3.2**
SAMS			*i* S	**Sn**	**13 02 32.5**	**+3.3**
SAMS	**Samsun-Alacam**	**3.35 190**	P	**Pb**	**13 01 55.1**	**-3.2**
SAMS			S	**Sn**	**13 02 32.5**	**+3.3**
BOYT	**Boyabat**	**3.58 206**	*i* P	**Pn**	**13 01 57.9**	**+4.5**
BOYT			*i* S	**Sn**	**13 02 29.2**	**-5.7**
BOYT	**Boyabat**	**3.58 206**	P	**Pn**	**13 01 57.9**	**+4.5**
BOYT			S	**Sn**	**13 02 29.2**	**-5.7**
KVT	**Kavak**	**3.65 191**	P	**Pn**	**13 01 57.9**	**+3.5**
KVT	**Kavak**	**3.65 191**	P	**Pn**	**13 01 57.9**	**+3.5**
HAVZ	**Havza**	**3.71 195**	*i* P	**Pn**	**13 01 59.5**	**+4.3**
HAVZ	**Havza**	**3.71 195**	P	**Pn**	**13 01 59.5**	**+4.3**
ORDU	**Ordu-Boztepe**	**3.73 170**	*i* P	**Pn**	**13 01 56.7**	**+1.2**
ORDU			*i* S	**Pb**	**13 02 04.5**	**-0.3**
ORDU			*i* S	**Sn**	**13 02 37.9**	**-0.7**
ORDU	**Ordu-Boztepe**	**3.73 170**	P	**Pn**	**13 01 56.7**	**+1.2**
ORDU			S	**Sn**	**13 02 37.9**	**-0.7**
GRSN	**GIRESUNGRSN**	**3.86 165**	*i* P	**Pn**	**13 02 00.3**	**+3.1**
GRSN			*i* S	**Sn**	**13 02 39.5**	**-2.3**
GRSN	**GIRESUNGRSN**	**3.86 165**	P	**Pn**	**13 02 00.3**	**+3.1**
GRSN			S	**Sn**	**13 02 39.5**	**-2.3**
KIV	**Kislovodsk**	**4.16 98**	*e*P	**Pn**	**13 02 04.5**	**+3.0**
KIV			*e*S	**Sn**	**13 02 55.2**	**+5.9**
KIV			pmax	pmax		
	comp=Z,23nm,1.0s					
KIV			MLR	MLR		
	comp=Z,5.0nm,6.0s					
KIV	**Kislovodsk**	**4.16 98**	*e*P	**Pn**	**13 02 04.5**	**+3.0**
	comp=Z,23nm,1.0s					
KIV			*e*S	**Sn**	**13 02 55.2**	**+5.9**
	comp=Z,5.0nm,6.0s					
KVAR	**Kislovodsk Arr**	**4.17 98**	Pn	**Pn**	**13 02 02.9**	**+1.3**
	baz=199,slow=5.1,SNR=3.0					
KVAR			Sn	**Sn**	**13 02 53.7**	**+4.2**
	baz=209,slow=2.0,SNR=4.4					
MACK	**Trabzon**	**4.25 150**	*i* P	**Pn**	**13 02 03.2**	**+0.5**
MACK	**Trabzon**	**4.25 150**	P	**Pn**	**13 02 03.2**	**+0.5**
CTAK	**Corum_Osmancik**	**4.33 203**	*i* P	Pn	13 02 08.6	+4.8
CTAK			*i* S	**Sn**	**13 02 57.4**	**+3.9**
CTAK	**Corum_Osmancik**	**4.33 203**	P	Pn	13 02 08.6	+4.8
CTAK			S	**Sn**	**13 02 57.4**	**+3.9**
ILGA	**Ilgaz**	**4.33 215**	*i* P	**Pn**	**13 02 08.1**	**+4.2**
ILGA	**Ilgaz**	**4.33 215**	P	**Pn**	**13 02 08.1**	**+4.2**
KBZ	**Khabaz**	**4.36 100**	Pn	**Pn**	**13 02 06.7**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=301,slow=21,SNR=7.6					
KBZ			Sn	**Sn**	**13 02 57.2**	**+3.2**
	comp=Z,1.9nm,0.3s,baz=278,slow=22,SNR=5.7					
NEY	**Neytrino**	**4.39 107**	⇑*i*P	Pn	13 02 10.4	+5.8
NEY	**Neytrino**	**4.39 107**	*i* P	Pn	13 02 10.4	+5.8
SUSE	**Susehri**	**4.55 168**	*i* P	**Pn**	**13 02 10.8**	**+4.0**
SUSE			*i* S	**Sn**	**13 03 00.2**	**+1.3**
SUSE	**Susehri**	**4.55 168**	P	**Pn**	**13 02 10.8**	**+4.0**
SUSE			S	**Sn**	**13 03 00.2**	**+1.3**
BTIN	**Bart¯–n**	**4.59 230**	*i* P	**Pn**	**13 02 09.4**	**+2.1**
BTIN	**Bart¯–n**	**4.59 230**	P	**Pn**	**13 02 09.4**	**+2.1**
COAL	**Corum-Alaca**	**4.65 199**	*i* P	Pn	13 02 12.9	+4.7
COAL	**Corum-Alaca**	**4.65 199**	P	Pn	13 02 12.9	+4.7
KELT	**Kelkit**	**4.82 159**	*i* P	**Pn**	**13 02 13.8**	**+3.1**
KELT			*i* S	**Sn**	**13 03 03.8**	**-2.0**
KELT	**Kelkit**	**4.82 159**	P	**Pn**	**13 02 13.8**	**+3.1**
KELT			S	**Sn**	**13 03 03.8**	**-2.0**
DDEM	**Demirkent**	**5.16 135**	*i* P	**Pn**	**13 02 17.5**	**+2.3**
DDEM			*i* S	**Pb**	**13 02 29.1**	**0.0**
DDEM	**Demirkent**	**5.16 135**	P	**Pn**	**13 02 17.5**	**+2.3**
DDEM			S	**Pb**	**13 02 29.1**	**0.0**
KOPT	**Kop Dagi**	**5.33 149**	*i* P	Pn	13 02 23.6	+5.9
KOPT	**Kop Dagi**	**5.33 149**	P	Pn	13 02 23.6	+5.9
BRTR	**Keskin Array B**	**5.52 208**	Pn	**Pn**	**13 02 24.1**	**+3.9**
	comp=Z,2.4nm,0.3s,baz=25,slow=11,SNR=39					
BRTR			Sn	**Sn**	**13 03 25.6**	**+2.6**
	comp=Z,3.0nm,0.3s,baz=35,slow=20,SNR=13					
AKH	**Akhalkalaki**	**5.78 122**	⇓*i*P	**Pn**	**13 02 27.5**	**+3.7**
AKH	**Akhalkalaki**	**5.78 122**	S	**Sn**	**13 03 31.9**	**+2.5**
TLCR		**5.81 278**	⇑*i*P	**Pn**	**13 02 26.2**	**+2.2**
TLCR		**5.81 278**	S	**Sn**	**13 03 28.9**	**-0.9**
MANR	**Mangalia**	**6.08 265**	S	**Sn**	**13 03 35.4**	**-1.0**
TIRR	**Tirgusor**	**6.12 271**	⇓*i*P	**Pn**	**13 02 29.9**	**+1.7**
TIRR	**Tirgusor**	**6.12 271**	S	**Sn**	**13 03 35.5**	**-1.8**
KIS	**Kishinev**	**6.15 295**	*e*P	**Pn**	**13 02 25.0**	**-3.7**
KIS			*e*S	Sn	13 03 29.0	-9.2
KIS	**Kishinev**	**6.15 295**	*e*P	**Pn**	**13 02 25.0**	**-3.7**
KIS			*e*S	Sn	13 03 29.0	-9.2
KIS	**Kishinev**	**6.15 295**	*e*P	**Pn**	**13 02 25.0**	**-3.7**
KIS			*e*S	Sn	13 03 29.0	-9.2
CFR	**Carcaliu**	**6.29 278**	⇑*i*P	**Pn**	**13 02 33.0**	**+2.4**
CFR	**Carcaliu**	**6.29 278**	S	**Sn**	**13 03 40.7**	**-0.9**
TLB	**Topalu**	**6.37 272**	⇓*i*P	**Pn**	**13 02 33.5**	**+1.8**
TLB	**Topalu**	**6.37 272**	S	**Sn**	**13 03 42.8**	**-0.8**
PSN	**Preselentsi**	**6.40 264**	*i* P	**Pn**	**13 02 34.0**	**+2.0**
PRD	**Provadia**	**7.06 261**	*i* P	**Pn**	**13 02 42.8**	**+1.6**
ROIA	**ROIAK**	**7.11 261**	*i* P	**Pn**	**13 02 43.6**	**+1.8**
VRI	**Vrincioaia**	**7.33 283**	⇓*i*P	**Pn**	**13 02 46.5**	**+1.7**
PLOR	**Plostina**	**7.38 283**	⇓*i*P	**Pn**	**13 02 46.3**	**+0.7**
PLOR	**Plostina**	**7.38 283**	S	**Sn**	**13 04 09.1**	**+0.7**
ISR	**Istrita**	**7.42 277**	⇓*i*P	**Pn**	**13 02 46.0**	**-0.1**
MLR	**Muntele Rosu**	**7.85 280**	Pn	**Pn**	**13 02 54.5**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=8.0,slow=19,SNR=3.2					
MLR	**Muntele Rosu**	**7.85 280**	⇑*i*P	**Pn**	**13 02 53.6**	**+1.5**
MLR	**Muntele Rosu**	**7.85 280**	S	**Sn**	**13 04 20.1**	**0.0**
AKASG	**Malin Array Be**	**7.98 322**	Pn	**Pn**	**13 02 51.7**	**-2.1**
	comp=Z,7.5nm,0.3s,baz=140,slow=10,SNR=16					
AKASG			Sn	**Sn**	**13 04 16.7**	**-6.4**
	comp=Z,3.3nm,0.3s,baz=133,slow=24,SNR=9.0					
KIEV	**Kiev**	**7.98 322**	*e*P	**Pn**	**13 02 53.0**	**-0.8**
KIEV			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KIEV	**Kiev**	**7.98 322**	*e*P	**Pn**	**13 02 53.0**	**-0.8**
	comp=Z,3.0nm,0.8s					
LPSR	**Galich'ya Gora**	**8.04 9**	*e*P	**Pn**	**13 02 51.9**	**-2.7**
LPSR			*e*S	Sn	13 04 13.8	-11
LPSR			pmax	pmax		
	comp=Z,20nm,1.0s					
LPSR			smax	smax		
	comp=N,210nm,2.5s					
LPSR	**Galich'ya Gora**	**8.04 9**	*e*P	**Pn**	**13 02 51.9**	**-2.7**
	comp=N,20nm,1.0s					
LPSR			*e*S	Sn	13 04 13.8	-11
	comp=N,210nm,2.5s					
VOIR		**8.48 279**	⇑*i*P	**Pn**	**13 03 02.6**	**+1.9**
BURAR	**Bucovina Array**	**8.68 294**	⇑*i*P	**Pn**	**13 03 03.5**	**+0.1**
ARR	**Arges**	**8.77 279**	⇓*i*P	**Pn**	**13 03 06.5**	**+1.8**
ARR	**Arges**	**8.77 279**	S	**Sn**	**13 04 42.4**	**-0.2**
OBN	**Obninsk**	**10.46 359**	LR	LR	13 08 25.0	
	comp=N,62nm,20.1s,baz=94,slow=44					
OBN	**Obninsk**	**10.46 359**	*i* P	Pn	13 03 22.5	-5.2
OBN	**Obninsk**	**10.46 359**	*i* P	Pn	13 03 22.5	-5.2
MMAI	**Mount Meron Ar**	**11.70 187**	Pn	**Pn**	**13 03 47.9**	**+3.0**
	comp=N,1.0nm,0.3s,baz=25,slow=21,SNR=3.4					
MMAI			LR	LR	13 09 07.9	
	comp=N,46nm,19.8s,baz=75,slow=41					
AKTK	**Aktyubinsk**	**15.31 60**	P	**Pn**	**13 04 31.4**	**-2.4**
AKTO	**Aktyubinsk**	**15.31 60**	Pn	**Pn**	**13 04 31.4**	**-2.4**
	comp=N,0.4nm,0.3s,baz=278,slow=11,SNR=6.4					
KLMR	**Klimovskoe**	**16.29 4**	*e*P	**Pn**	**13 04 45.8**	**-0.4**
KLMR			pmax	pmax		
	comp=Z,15nm,0.8s					
KLMR	**Klimovskoe**	**16.29 4**	*e*P	**Pn**	**13 04 45.8**	**-0.4**
	comp=Z,15nm,0.8s					
GERES	**GERESS Array B**	**16.46 293**	Pn	**P**	**13 04 51.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=5.3					
GEYT	**Alibeck**	**17.23 106**	P	**P**	**13 05 00.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=297,slow=13,SNR=3.9					
ARU	**Arti**	**17.98 41**	*c i*P	**Pn**	**13 05 06.1**	**-1.4**
ARU			S	**Sn**	**13 08 26.0**	**-1.1**
ARU			pmax	pmax		
	comp=Z,10.0nm,1.7s					
ARU	**Arti**	**17.98 41**	*i* P	**Pn**	**13 05 06.1**	**-1.4**
	comp=Z,10.0nm,1.7s					
FINES	**FINESS Array B**	**17.99 343**	P	**Pn**	**13 05 02.0**	**-5.5**
	comp=Z,0.8nm,0.3s,baz=154,slow=14,SNR=22					
DAVOX	**Davos/Dischmat**	**19.00 286**	P	**Pn**	**13 05 20.1**	**0.0**
	comp=Z,0.8nm,0.3s,baz=127,slow=17,SNR=3.8					
HFS	**Hagfors**	**20.84 326**	P	**P**	**13 05 38.0**	**-0.9**
	comp=Z,4.8nm,0.4s,baz=138,slow=13,SNR=14					
HFS			LR	LR	13 14 28.3	
	comp=Z,71nm,19.8s,baz=73,slow=39					
NB2	**NORSAR Subarra**	**22.36 326**	P	**P**	**13 05 54.1**	**-1.3**
	comp=Z,4.7nm,0.6s,baz=132,slow=10					
NB2	**NORSAR Subarra**	**22.36 326**	P	**P**	**13 05 54.1**	**-1.3**
	comp=Z,4.7nm,0.6s,SNR=9.7					
NOA	**NORSAR Array B**	**22.36 326**	P	**P**	**13 05 54.3**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=132,slow=9.6,SNR=9.6					
NOA			LR	LR	13 15 43.9	
	comp=Z,40nm,18.5s,baz=125,slow=40					
BRVK	**Borovoye**	**23.29 57**	⇑*i*P	**P**	**13 06 05.0**	**0.0**
BRVK			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BRVK	**Borovoye**	**23.29 57**	*i* P	**P**	**13 06 05.0**	**0.0**
	comp=Z,4.0nm,1.1s					
BVAR	**Borovoye Array**	**23.35 57**	P	**P**	**13 06 06.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=280,slow=8.6,SNR=3.0					
ARCES	**ARCESS Array B**	**25.61 351**	P	**P**	**13 06 25.7**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=169,slow=7.9,SNR=14					
ARCES	**ARCESS Array B**	**25.61 351**	*e*P	**P**	**13 06 25.2**	**-1.1**
ARCES	**ARCESS Array B**	**25.61 351**	*e*P	**P**	**13 06 25.2**	**-1.1**
AAK	**Ala-Archa**	**27.07 81**	LR	LR	13 20 13.3	
	comp=Z,37nm,19.1s,baz=136,slow=43					
KURBB	**Kurchatov Arra**	**28.34 63**	P	**P**	**13 06 50.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=275,slow=8.9,SNR=4.6					
KURK	**Kurchatov**	**28.39 63**	P	**P**	**13 06 50.9**	**-0.6**
KURK			pmax	pmax		
	comp=Z,1.0nm,0.6s					
KURK	**Kurchatov**	**28.39 63**	P	**P**	**13 06 50.9**	**-0.6**
	comp=Z,1.0nm,0.6s					
MKAR	**Makanchi Array**	**31.38 70**	P	**P**	**13 07 18.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=290,slow=7.7,SNR=3.5					
MKAR	**Makanchi Array**	**31.38 70**	P	**P**	**13 07 18.0**	**0.0**
MKAR	**Makanchi Array**	**31.38 70**	P	**P**	**13 07 18.0**	**0.0**
ZALV	**Zalesovo Beam**	**31.99 56**	P	**P**	**13 07 22.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=272,slow=7.1,SNR=2.7					
TORD	**Torodi Ar. Bea**	**43.46 235**	P	**P**	**13 09 02.1**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=34,slow=9.0,SNR=6.3					
SONM	**Songino Array**	**46.63 60**	P	**P**	**13 09 25.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=275,slow=6.8,SNR=2.3					
SONM	**Songino Array**	**46.63 60**	P	**P**	**13 09 25.0**	**-0.6**
SONM	**Songino Array**	**46.63 60**	P	**P**	**13 09 25.0**	**-0.6**
DBIC	**Dimbokro**	**52.48 237**	P	**P**	**13 10 11.2**	**+0.9**
	comp=Z,5.2nm,1.0s,baz=52,slow=5.5,SNR=3.0					
DBIC	**Dimbokro**	**52.48 237**	P	**P**	**13 10 11.2**	**+0.9**
DBIC			pmax	pmax		
	comp=Z,4.0nm,0.8s					
DBIC	**Dimbokro**	**52.48 237**	P	**P**	**13 10 11.2**	**+0.9**
	comp=Z,4.0nm,0.8s					
SEY	**Seymchan**	**61.12 28**	P	**P**	**13 11 11.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=180,slow=20,SNR=3.5					
KSRS	**Korea Array**	**65.49 61**	LR	LR	13 42 16.6	
	comp=Z,43nm,18.0s,baz=120,slow=38					
YKA	**Yellowknife Ar**	**70.78 346**	P	**P**	**13 12 13.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=24,slow=6.4,SNR=6.5					
ILAR	**Eielson Array**	**70.86 2**	P	**P**	**13 12 14.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=348,slow=4.9,SNR=4.3					
BBB	**Bella Bella**	**82.67 351**	LR	LR	13 51 57.5	
	comp=Z,20nm,18.2s,baz=82,slow=37					

*NNC **25** 13:01:36.3± 1.8, 43°.79N× 86°.63E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=21.1km s-min=13.2km az=39.0*
*SOME **25** 13:01:47.8, 44°.40N× 86°.15E, h15km*

ISC 25 13:01:47.2± 2.8, 44°.47N± 0°.09× 86°.2E± 0°.1, h10km, n8, σ1§56/14, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.13**	**343**	*e*P	**Pg**	**13 02 47.8**	**+0.6**
	2.4nm,0.6s						
ZSN				*e*S	**Sg**	**13 03 29.4**	**+1.7**
	1.5nm,0.4s						
MK31	**Makanchi Array**	**3.61**	**311**	⇓Pn	**Pn**	**13 02 42.9**	**-0.3**
	0.2nm,0.3s,baz=130,slow=14,SNR=14						
MK31				⇑Pg	**Pg**	**13 02 54.9**	**-1.6**
	0.3nm,0.3s,baz=128,slow=17,SNR=4.3						
MK31				⇑Lg	Lg	13 03 52.4	
	1.6nm,0.5s,baz=126,slow=28,SNR=6.6						
MAKZ	**Makanchi**	**3.79**	**310**	⇓Pn	**Pn**	**13 02 44.9**	**-0.9**
	1.2nm,0.8s						
MAKZ				⇑Sn	**Sb**	**13 03 38.8**	**-1.5**
	1.2nm,0.6s						
MAKZ				⇑Lg	Lg	13 03 58.4	
	2.7nm,0.7s						
DJR	**Jarkent**	**4.62**	**271**	*e*P	**Pg**	**13 03 14.5**	**-1.2**
	1.4nm,0.1s						
DJR				*e*S	**Sg**	**13 04 14.9**	**-0.6**
	3.8nm,0.3s						
PDGK	**Podgornoye**	**5.00**	**259**	⇑Lg	Lg	13 04 21.2	
	4.3nm,0.9s						
SHLS	**Shalkode**	**5.07**	**257**	*e*P	**Pb**	**13 03 16.2**	**+0.1**
	3.3nm,0.3s						
SHLS				*e*S	**Sb**	**13 04 18.0**	**+0.8**
	7.7nm,0.4s						
MNBS	**Baschi**	**5.64**	**269**	*e*P	**Pg**	**13 03 34.2**	**-1.0**
MNBS				*e*S	**Sg**	**13 04 49.5**	**+1.3**
ARXS	**Arharly**	**6.04**	**270**	*e*P	**Pg**	**13 03 43.5**	**+0.7**
	1.9nm,0.5s						
ARXS				*e*S	**Sg**	**13 05 04.4**	**+3.5**
	4.0nm,0.4s						

*NSSC **25** 13:02:51.8± 1.9, 39°.85N× 43°.30E, h0km± 686km, MD2.8, ML2.8*
*AZER **25** 13:02:59.4± 2.1, 38°.43N× 43°.50E, h5km, Error ellipse: s-maj=22.4km s-min=16.4km az=158.0*
*ISK **25** 13:03:00.1, 38°.85N× 43°.29E, h5km, ML3.7*
*DDA **25** 13:03:00.5, 38°.91N× 43°.66E, h7km, Ml3.6*
*CSEM **25** 13:03:01.6± 0.3, 38°.83N× 43°.31E, h2km, ML3.7, Error ellipse: s-maj=7.1km s-min=5.6km az=85.0*

ISC 25 13:03:01.0± 1.1, 38°.90N± 0°.02× 43°.48E± 0°.02, h4km± 10km, n62, σ1§73/91, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.31**	**194**	*e*PG	**Pb**	**13 03 07.4**	**-1.8**
VANB				*e*SG	**Sb**	**13 03 14.5**	**-0.2**
VANB	**Van**	**0.31**	**194**	*e*Pg	**Pb**	**13 03 07.4**	**-1.8**
DYDN	**Diyadin**	**0.66**	**14**	*i* P	**Pg**	**13 03 13.1**	**-0.7**
DYDN				*i* S	**Sb**	**13 03 25.8**	**+0.8**
DYDN	**Diyadin**	**0.66**	**14**	P	**Pg**	**13 03 13.1**	**-0.7**
DYDN				S	**Sb**	**13 03 25.8**	**+0.8**
GEVA	**Gevas**	**0.67**	**210**	*i* P	**Pg**	**13 03 12.9**	**-1.0**
GEVA				*i* S	**Sb**	**13 03 26.1**	**+0.9**
GEVA	**Gevas**	**0.67**	**210**	P	**Pg**	**13 03 12.9**	**-1.0**
TUTA	**Tutak**	**0.72**	**314**	*i* P	**Pb**	**13 03 14.4**	**-2.0**
TUTA				*i* S	**Sn**	**13 03 28.0**	**-2.0**
TUTA	**Tutak**	**0.72**	**314**	P	**Pb**	**13 03 14.4**	**-2.0**
TUTA				S	**Sn**	**13 03 28.0**	**-2.0**
AGRB	**Hanur-Agry**	**0.78**	**331**	*e*PG	**Pb**	**13 03 15.6**	**-1.6**
AGRB				*e*SG	**Sb**	**13 03 27.2**	**-1.1**
AGRB	**Hanur-Agry**	**0.78**	**331**	*e*Pg	**Pb**	**13 03 15.6**	**-1.6**
AGRB				*e*Sg	**Sb**	**13 03 27.2**	**-1.1**
BASK	**Baskale_VAN**	**0.94**	**154**	*i* P	**Pg**	**13 03 18.4**	**-0.6**
BASK	**Baskale_VAN**	**0.94**	**154**	P	**Pg**	**13 03 18.4**	**-0.6**
EKAR	**Karacoban**	**1.16**	**288**	*i* P	**Pn**	**13 03 23.9**	**-0.4**
EKAR				*i* S	**Sn**	**13 03 43.8**	**+3.0**
EKAR	**Karacoban**	**1.16**	**288**	P	**Pn**	**13 03 23.9**	**-0.4**
EATA	**Eleskirt**	**1.23**	**322**	*i* P	**Pn**	**13 03 24.1**	**-1.2**
EATA				*i* S	**Sn**	**13 03 44.4**	**+1.7**
EATA	**Eleskirt**	**1.23**	**322**	P	**Pn**	**13 03 24.1**	**-1.2**
EATA				S	**Sn**	**13 03 44.3**	**+1.7**
HAKT	**HAKKARI**	**1.35**	**172**	*i* P	**Pg**	**13 03 24.7**	**-2.2**
HAKT	**HAKKARI**	**1.35**	**172**	P	**Pg**	**13 03 24.7**	**-2.2**
DIGO	**Kars**	**1.52**	**357**	*i* P	**Pb**	**13 03 29.8**	**-0.1**
DIGO	**Kars**	**1.52**	**357**	P	**Pb**	**13 03 29.8**	**-0.1**
NAX	**Nakhchivan**	**1.59**	**79**	⇑P	**Pn**	**13 03 29.5**	**-0.6**
	SNR=24						
NAX				⇑S	**Sg**	**13 03 54.2**	**+2.1**
NAX	**Nakhchivan**	**1.59**	**79**	P	**Pn**	**13 03 29.5**	**-0.6**
	SNR=24						
NAX				S	**Sg**	**13 03 54.2**	**+2.1**
CUKT	**Cukurca**	**1.65**	**177**	*e*PN	**Pb**	**13 03 31.5**	**-0.6**
CUKT	**Cukurca**	**1.65**	**177**	*i* P	**Pg**	**13 03 32.7**	**0.0**
CUKT				*i* S	**Sg**	**13 03 56.0**	**+2.0**
CUKT	**Cukurca**	**1.65**	**177**	*e*Pn	**Pb**	**13 03 31.5**	**-0.6**
CUKT	**Cukurca**	**1.65**	**177**	P	**Pg**	**13 03 32.7**	**0.0**
CUKT				S	**Sg**	**13 03 56.0**	**+2.0**
HOMI	**Horasan**	**1.68**	**314**	*i* P	**Pg**	**13 03 32.7**	**-0.4**
HOMI				*i* S	**Sg**	**13 03 59.9**	**+5.1**
BNGL	**BINGOL**	**1.82**	**272**	*i* P	**Pg**	**13 03 35.1**	**-0.8**
BNGL				*i* S	**Sg**	**13 04 03.0**	**+3.5**
ERZM	**Erzurum**	**1.93**	**302**	*i* P	**Pg**	**13 03 37.6**	**-0.3**
ERZM				*i* S	**Sg**	**13 04 08.6**	**+5.7**
ERZM	**Erzurum**	**1.93**	**302**	P	**Pg**	**13 03 37.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.94**	**248**	*e*PN	**Pn**	**13 03 33.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.94**	**248**	*e*Pn	**Pn**	**13 03 33.4**	**-1.4**
BTMN	**Batman**	**2.01**	**241**	*i* P	**Pg**	**13 03 37.9**	**-1.6**
BTMN				*i* S	**Sg**	**13 04 06.4**	**+0.8**
BTMN	**Batman**	**2.01**	**241**	P	**Pg**	**13 03 37.9**	**-1.6**
BNGB	**Bing¯¶l**	**2.19**	**273**	*e*PN	**Pn**	**13 03 37.5**	**-0.8**
BINT	**Bingol**	**2.34**	**270**	*e*Pn	**Pn**	**13 03 37.5**	**-2.9**
YEDI	**Yedisu-Bingol**	**2.35**	**284**	*e*PN	**Pn**	**13 03 39.5**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.35**	**284**	*e*Pn	**Pn**	**13 03 39.5**	**-1.0**
AKH	**Akhalkalaki**	**2.51**	**0**	*e*PN	**Pb**	**13 03 44.7**	**-2.0**
AKH	**Akhalkalaki**	**2.51**	**0**	*e*Pn	**Pb**	**13 03 44.7**	**-2.0**
GDB	**GEDABAY**	**2.52**	**43**	⇑P	**Pb**	**13 03 46.7**	**-0.3**
	SNR=13

PETK	Petropavlovsk-	75.96	344	P	P	13 14 55.4	-0.5
	2.1nm,0.8s,baz=101,slow=9.1,SNR=4.3						
SEY	Seymchan	85.97	346	P	P	13 15 48.6	-0.3
	0.8nm,0.4s,baz=80,slow=22,SNR=7.7						
COLA	College	86.64	11	*e*P	P	13 15 51.8	-0.3
CMAR	Chiang Mai Arr	92.24	289	P	P	13 16 20.0	+0.5
	0.6nm,0.8s,baz=119,slow=3.0,SNR=6.5						
ARCES	ARCESS Array B	128.33	351	PKP	PKPdf	13 22 13.6	-0.8
	4.4nm,0.9s,baz=23,slow=6.6,SNR=4.1						
CLL	Collm	147.55	350	*e*PKPbc	PKPbc	13 22 53.0	+0.3

SJA 25 13:19:44.1±0.6, 31°.25S×68°.34W, h109km±3km, ML3.1, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.14**	**235**	*i* P	Pn	13 19 59.4	+0.1
RTLL				IAML		13 19 59.7	
	comp=Z,12μm,0.1s						
RTLL				*i* S	Sn	13 20 11.4	+0.7
AMOG	**MOGNA**	**0.34**	**337**	*i* P	Pn	13 20 00.6	+0.6
RTCV	**Cerro Valdivia**	**0.64**	**196**	*i* P	Pn	13 20 02.2	+0.3
ACCO	**Cerro Coronel**	**0.91**	**316**	*i* P	Pn	13 20 05.5	+0.8
ACCO				IAML		13 20 06.2	
	comp=Z,270nm,0.3s						
ACCO				*i* S	Sn	13 20 22.1	+2.1
AVFE	**Valle Fertil**	**0.96**	**52**	*i* P	Pn	13 20 05.8	+0.9
RTLS	**Leoncito**	**0.98**	**236**	*i* P	Pn	13 20 06.6	+1.2
RTLS				*i* S	Sn	13 20 23.6	+2.2
RTLS				IAML		13 20 24.3	
	comp=Z,58nm,0.2s						
ACDV	**Cuesta del Vie**	**1.27**	**328**	*i* P	Pn	13 20 09.5	+1.2
AUSP	**Upsallata**	**1.32**	**222**	*i* P	Pn	13 20 10.2	+1.1
ASAL	**Salagasta**	**1.40**	**197**	*i* P	Pn	13 20 10.8	+1.0
AROD	**Rodeo**	**1.46**	**318**	*i* P	Pn	13 20 11.9	+1.3
ARCO	**CERRO ARCO**	**1.67**	**197**	*i* P	Pn	13 20 14.1	+1.0
ARCO				*i* S	Sn	13 20 36.3	+1.3
ARCO				IAML		13 20 38.4	
	comp=Z,63nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.77**	**62**	*i* P	Pn	13 20 15.5	+1.3
AAGR	**Agrelo**	**1.88**	**193**	*i* P	Pn	13 20 16.5	+0.9

NIED ***25*** *13:37:00, 33°.40N×134°.80E, h38km, Mw4.2 Best double couple: M0=1.89000×10^15 NP1:φ=104.00000°, δ=70.00000°, λ=161.00000°. NP2:φ=201.00000°, δ=73.00000°, λ=21.00000°.*
ISCJB ***25*** *13:37:35.9±0.6, 33°.38N±0°.05×134°.82E±0°.03, h38km±8km, mb3.6/6, Error ellipse: s-maj=8.6km s-min=4.3km az=166.1*
JMA ***25*** *13:37:36.7, 33°.41N×134°.81E, h38km±1km, M4.0*
JMA Felt II J1.
IDC ***25*** *13:37:37.4±0.8, 33°.41N×134°.78E, h32km±6km, mb3.5/6, mb1 3.7/10, mb1mx3.5/68, mbtmp3.7/10, ML3.6/4, MS2.0/1, Ms1 2.0/1, ms1mx2.0/32, Error ellipse: s-maj=19.8km s-min=16.4km az=63.0*
ISC 25 13:37:36.4±0.7, 33°.41N±0°.05×134°.81E±0°.03, h28km±5km, n29, σ0°.90/37, mb3.8/6, 5C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.49**	**322**	⇓P	Pn	13 37 47.1	-0.4
JAI				S	Sb	13 37 53.8	+0.4
MRT2	**Murotomisaki 2**	**0.56**	**268**	⇑P	Pb	13 37 47.9	+0.2
MRT2				S	Sb	13 37 54.9	-0.6
JWM	**Minabe**	**0.63**	**46**	⇑P	Pn	13 37 49.1	-0.3
JWM				S	Sn	13 37 57.5	-1.0
JWZ	**Kozaga**	**0.76**	**81**	⇑P	Pb	13 37 50.6	-0.5
JWZ				S	Sb	13 38 00.6	-0.5
JMN	**Monobe**	**0.84**	**292**	⇓P	Pb	13 37 52.0	-0.5
JMN				S	Sb	13 38 03.1	-0.3
JAJ2	**Tsuna**	**1.01**	**3**	⇓P	Pb	13 37 54.9	-0.3
JAJ2				S	Sn	13 38 07.6	-0.3
JWY	**Kouya**	**1.03**	**39**	⇑P	Pb	13 37 54.9	-0.8
JWY				S	Sb	13 38 07.7	-1.2
JJS	**Sakaide**	**1.21**	**323**	P	Pn	13 37 57.3	-0.1
JHE	**Heguri**	**1.43**	**30**	P	Pn	13 38 00.3	-0.2
JHE				*e*S	Sn	13 38 18.0	-0.5
JKN2	**Miekihoku**	**1.47**	**55**	P	Pn	13 38 00.6	-0.4
JKN2				S	Sn	13 38 18.9	-0.4
JKU	**Kubokawa**	**1.47**	**266**	⇑P	Pn	13 38 00.4	-0.6
JNU	**Nakatsue**	**3.31**	**266**	Pn	Pn	13 38 26.6	+0.3
	8.1nm,0.3s,baz=48,slow=5.1,SNR=144						
JHJ	**Hachijo jima 2**	**4.17**	**93**	Pn	Pn	13 38 38.9	+0.7
	87nm,0.3s,baz=321,slow=20,SNR=48						
JHJ				Sn	Sn	13 39 23.7	-2.3
	7.2nm,0.3s,baz=72,slow=20,SNR=2.2						
MAT	**Matsushiro**	**4.18**	**41**	P	Pn	13 38 39.2	+0.8
MAT				S	Sn	13 39 26.9	+0.6
MJAR	**Matsushiro Arr**	**4.18**	**41**	Pn	Pn	13 38 39.8	+1.4
	1.6nm,0.3s,baz=238,slow=15,SNR=13						
KSRS	**Korea Array**	**6.92**	**308**	Pn	Pn	13 39 14.7	-1.2
	0.3nm,0.3s,baz=128,slow=14,SNR=4.1						
KSRS				Sn	Sn	13 40 31.6	-2.1
	0.6nm,0.3s,baz=126,slow=24,SNR=6.1						
KLR	**Kul'dur**	**15.97**	**353**	LR	LR	13 46 48.5	
	comp=Z,5.4nm,18.1s,baz=233,slow=34						
PETK	**Petropavlovsk-**	**25.60**	**33**	P	P	13 43 04.0	+1.0
	7.4nm,1.0s,baz=205,slow=6.6,SNR=3.6						
SONM	**Songino Array**	**25.76**	**312**	P	P	13 43 05.3	+0.6
	1.2nm,0.8s,baz=123,slow=9.8,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**31.62**	**107**	T	T	14 17 34.5	
	baz=302,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**31.63**	**107**	T	T	14 17 40.0	
	baz=302,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**31.64**	**107**	T	T	14 17 40.6	
	baz=302,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**32.12**	**110**	T	T	14 18 24.9	
	baz=304,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**32.13**	**110**	T	T	14 18 14.5	
	baz=304,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**32.14**	**110**	T	T	14 18 10.7	
	baz=304,slow=75,SNR=8.2						
MKAR	**Makanchi Array**	**41.59**	**305**	P	P	13 45 22.4	+0.7
	0.6nm,0.7s,baz=93,slow=12,SNR=6.1						
MKAR				pP	pP	13 45 31.0	+0.8
	1.0nm,0.7s,baz=95,slow=10,SNR=7.5						
WRA	**Warramunga Arr**	**53.06**	**181**	P	P	13 46 50.0	-1.1
	0.5nm,0.7s,baz=351,slow=7.9,SNR=3.7						
WRA				pP	pP	13 47 00.3	+0.7
	2.0nm,0.8s,baz=355,slow=7.7,SNR=7.7						
ILAR	**Eielson Array**	**55.40**	**31**	P	P	13 47 07.8	+0.1
	0.5nm,0.8s,baz=269,slow=6.1,SNR=5.2						
ASAR	**Alice Springs**	**56.77**	**181**	P	P	13 47 19.3	+1.4
	0.2nm,0.6s,baz=9.2,slow=13,SNR=4.8						
ASAR				pP	sP	13 47 29.4	-0.4
	0.9nm,0.6s,baz=11,slow=12,SNR=10.0						

ISCJB ***25*** *13:41:07.2±0.8, 34°.80N±0°.03×26°.27E±0°.02, h3km±5km, mb4.1/23, MS2.9/5, Error ellipse: s-maj=5.8km s-min=3.4km az=1.8*
IDC ***25*** *13:41:08.4±0.7, 34°.99N×26°.24E, h0km, mb4.2/19, mb1 4.2/25, mb1mx3.9/83, mbtmp4.1/25, ML3.8/6, MS3.0/10, Ms1 3.0/10, ms1mx2.7/44, Error ellipse: s-maj=17.4km s-min=8.3km az=2.0*
CSEM ***25*** *13:41:09.7±0.2, 34°.95N×26°.24E, h10km, mb4.4/4, Error ellipse: s-maj=8.1km s-min=4.1km az=8.0*
NEIC ***25*** *13:41:09.8±1.8, 34°.92N×26°.20E, h11km±12km, mb4.3/4, Error ellipse: s-maj=10.4km s-min=7.0km az=183.0*
ATH ***25*** *13:41:09.4, 34°.98N×26°.23E, h13km±1km, ML3.8/8, Error ellipse: s-maj=3.3km s-min=1.3km az=345.0*
THE ***25*** *13:41:09.0, 34°.96N×26°.25E, h7km±2km, ML3.8/6, Error ellipse: s-maj=3.0km s-min=0.8km az=349.0*
DDA ***25*** *13:41:34.6, 36°.29N×27°.38E, h42km, Ml3.2*
ISC 25 13:41:07.9±1.3, 34°.86N±0°.04×26°.25E±0°.02, h1km±8km, n128, σ1°.48/156, mb4.2/23, MS3.0/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.26**	**353**	P	Pg	13 41 12.8	0.0
ZKR				S	Sg	13 41 15.4	-0.8
ZKR	**Zakros**	**0.26**	**353**	P	Pg	13 41 13.0	+0.2
ZKR				S	Sg	13 41 16.1	-0.1
ZKR				AML	AML	13 41 16.2	
ZKR				AML	AML	13 41 17.9	
	comp=N,40682μm,0.4s						
ZKR	**Zakros**	**0.26**	**353**	P	Pg	13 41 12.8	0.0
ZKR				S	Sg	13 41 15.4	-0.8
NPS	**Neapolis**	**0.66**	**308**	P	Pg	13 41 20.6	0.0
NPS				S	Sg	13 41 29.8	+0.6
NPS	**Neapolis**	**0.66**	**308**	P	Pg	13 41 20.9	+0.3
NPS				S	Sg	13 41 29.4	+0.2
NPS				AML	AML	13 41 33.9	
	comp=N,27932μm,0.6s						
NPS				AML	AML	13 41 34.2	
	comp=E,35906μm,0.6s						
NPS	**Neapolis**	**0.66**	**308**	P	Pg	13 41 20.9	+0.3
NPS				S	Sg	13 41 29.4	+0.2
LAST	**Lasithi**	**0.70**	**295**	P	Pg	13 41 21.3	-0.1
LAST				S	Sg	13 41 31.6	+1.1
LAST	**Lasithi**	**0.70**	**295**	P	Pg	13 41 21.0	-0.4
LAST				S	Sb	13 41 32.6	-0.6
LAST				AML	AML	13 41 33.2	
	comp=N,16341μm,0.5s						
LAST				AML	AML	13 41 35.6	
	comp=E,15686μm,0.5s						
LAST	**Lasithi**	**0.70**	**295**	P	Pg	13 41 21.3	-0.1
LAST				S	Sg	13 41 31.6	+1.1
KARP	**Karpathos**	**1.01**	**47**	P	Pg	13 41 27.2	-0.1
KARP				S	Sg	13 41 40.0	-0.4
KARP	**Karpathos**	**1.01**	**47**	P	Pg	13 41 27.2	-0.1
KARP				S	Sb	13 41 41.6	-0.5
KARP				AML	AML	13 41 46.3	
	comp=E,13917μm,0.6s						
KARP				AML	AML	13 41 49.3	
	comp=N,16036μm,0.5s						
KARP	**Karpathos**	**1.01**	**47**	P	Pg	13 41 27.2	-0.1
KARP				S	Sg	13 41 40.0	-0.4
IACM	**Heraklion**	**1.07**	**295**	P	Pn	13 41 30.1	+0.2
IACM	**Heraklion**	**1.07**	**295**	P	Pn	13 41 30.1	+0.2
IDI	**Anoyia**	**1.20**	**291**	Pg	Pg	13 41 30.7	-0.2
	comp=N,27nm,0.3s,baz=138,slow=10,SNR=138						
IDI				Lg	Lg	13 41 47.4	
	comp=N,122nm,0.3s,baz=345,slow=19,SNR=12						
IDI				LR	LR	13 41 52.8	
	comp=N,141nm,18.7s,baz=131,slow=39						
IDI	**Anoyia**	**1.20**	**291**	P	Pg	13 41 30.7	-0.2
IDI				S	Sg	13 41 46.5	+0.1
IDI	**Anoyia**	**1.20**	**291**	P	Pg	13 41 30.4	-0.5
IDI				S	Sb	13 41 47.5	+0.1
IDI				AML	AML	13 41 52.1	
	comp=N,5481μm,0.5s						
IDI				AML	AML	13 41 55.2	
	comp=E,3044μm,0.6s						
IDI	**Anoyia**	**1.20**	**291**	*e*Pg	Pg	13 41 30.1	-0.8
IDI	**Anoyia**	**1.20**	**291**	P	Pg	13 41 30.7	-0.2
IDI				S	Sg	13 41 46.5	+0.1
IDI				Lg	Lg	13 41 47.3	
IDI	**Anoyia**	**1.20**	**291**	*e*Pg	Pg	13 41 30.1	-0.8
IDI				Lg	Lg	13 41 47.4	
SIVA	**Sivas**	**1.20**	**278**	P	Pg	13 41 30.2	-0.7
SIVA				S	Sn	13 41 47.9	-0.7
SIVA	**Sivas**	**1.20**	**278**	P	Pg	13 41 29.9	-0.9
SIVA				S	Sn	13 41 48.4	-0.2
SIVA				AML	AML	13 41 53.3	
	comp=E,11936μm,0.6s						
SIVA				AML	AML	13 41 59.1	
	comp=N,10328μm,0.6s						
SIVA	**Sivas**	**1.20**	**278**	P	Pg	13 41 30.2	-0.7
SIVA				S	Sn	13 41 47.9	-0.7
SANT	**Santorini**	**1.64**	**337**	P	Pn	13 41 36.9	-1.0
SANT				S	Sb	13 42 00.0	-0.1
SANT				AML	AML	13 42 05.5	
	comp=N,5524μm,0.7s						
SANT				AML	AML	13 42 06.5	
	comp=E,6838μm,0.7s						
SANT	**Santorini**	**1.64**	**337**	P	Pn	13 41 36.9	-1.0
SANT	**Santorini**	**1.64**	**337**	*e*Pn	Pn	13 41 37.6	-0.3
SANT				S	Sb	13 42 00.0	-0.1
SANT	**Santorini**	**1.64**	**337**	*e*Pn	Pn	13 41 37.6	-0.3
THR6	**Thira Island,**	**1.65**	**335**	P	Pb	13 41 39.1	0.0
THR6	**Thira Island,**	**1.65**	**335**	P	Pb	13 41 39.1	0.0
THR3	**Thira Island,**	**1.69**	**336**	P	Pn	13 41 37.6	-1.0
THR3	**Thira Island,**	**1.69**	**336**	P	Pn	13 41 37.6	-1.0
THR7	**Fira-Santorini**	**1.70**	**337**	P	Pb	13 41 39.6	-0.3
THR7	**Fira-Santorini**	**1.70**	**337**	P	Pb	13 41 39.6	-0.3
THR2	**Thira island,**	**1.72**	**337**	P	Pn	13 41 38.8	-0.1
THR2	**Thira island,**	**1.72**	**337**	P	Pn	13 41 38.8	-0.1
THR5	**Thira Island,**	**1.72**	**335**	P	Pn	13 41 37.7	-1.2
THR5	**Thira Island,**	**1.72**	**335**	P	Pn	13 41 37.7	-1.2
CMBO	**Columbo, Santo**	**1.75**	**337**	P	Pb	13 41 40.2	-0.6
CMBO	**Columbo, Santo**	**1.75**	**337**	P	Pb	13 41 40.2	-0.6
VAM	**Vamos**	**1.77**	**289**	P	Pn	13 41 39.6	0.0
VAM				S	Sn	13 42 00.6	-2.2
VAM	**Vamos**	**1.77**	**289**	P	Pb	13 41 40.7	-0.5
VAM				S	Sn	13 42 02.9	+0.1
VAM				AML	AML	13 42 10.3	
	comp=N,4393μm,0.7s						
VAM				AML	AML	13 42 15.7	
	comp=E,3424μm,0.7s						
VAM	**Vamos**	**1.77**	**289**	P	Pn	13 41 39.6	0.0
VAM				S	Sn	13 42 02.9	+0.1
IMMV	**Iera Moni Meta**	**1.96**	**288**	P	Pg	13 41 45.2	-0.2
IMMV	**Iera Moni Meta**	**1.96**	**288**	P	Pg	13 41 45.2	-0.2
ARG	**Arkhangelos**	**2.04**	**48**	P	Pb	13 41 46.1	+0.4
DAT	**Datca**	**2.15**	**30**	*i* P	Pn	13 41 45.4	+0.4
DAT	**Datca**	**2.15**	**30**	P	Pn	13 41 45.4	+0.4
BDRM	**Kayabasi**	**2.40**	**23**	*i* P	Pb	13 41 50.4	-1.6
BDRM				*i* S	Sb	13 42 21.8	-0.3
BDRM	**Kayabasi**	**2.40**	**23**	P	Pb	13 41 50.3	-1.6
BDRM				S	Sb	13 42 21.8	-0.3
ANKY	**Antikythira Is**	**2.61**	**293**	P	Pn	13 41 53.0	+1.8
ANKY	**Antikythira Is**	**2.61**	**293**	P	Pn	13 41 53.0	+1.8
DALY	**Dalyan (Mu¨la**	**2.76**	**44**	*i* P	Pb	13 41 56.2	-1.8
DALY	**Dalyan (Mu¨la**	**2.76**	**44**	P	Pb	13 41 56.2	-1.8
TURN	**Turunc**	**2.77**	**43**	*i* P	Pn	13 41 51.8	-1.6
TURN				*i* S	Sn	13 42 27.0	-0.4
TURN	**Turunc**	**2.77**	**43**	P	Pn	13 41 51.8	-1.6
TURN				S	Sn	13 42 27.0	-0.4
FETY	**Fethiye**	**2.90**	**52**	P	Pn	13 41 57.2	+1.9
KYTH	**Kithira**	**2.97**	**299**	P	Pb	13 41 59.4	-2.2
AKAS	**Kas**	**3.06**	**62**	*i* P	Pn	13 41 59.4	+1.9
AKAS	**Kas**	**3.06**	**62**	P	Pn	13 41 59.4	+1.9
AYDN	**Tasoluk**	**3.09**	**25**	*i* P	Pn	13 42 00.3	+2.5
AYDN	**Tasoluk**	**3.09**	**25**	P	Pn	13 42 00.3	+2.5
VLI	**Veliai**	**3.27**	**305**	P	Pn	13 42 00.4	+0.1
VLI	**Veliai**	**3.27**	**305**	P	Pn	13 42 00.4	+0.1
TAVA	**DENIZLI_Tavas**	**3.38**	**39**	*i* P	Pn	13 42 04.0	+2.2
TAVA	**DENIZLI_Tavas**	**3.38**	**39**	P	Pn	13 42 04.0	+2.2
GOLH	**Golhisar**	**3.58**	**48**	*i* P	Pn	13 42 07.3	+2.7
GOLH				*i* S	Sg	13 43 02.0	-0.9
GOLH	**Golhisar**	**3.58**	**48**	P	Pn	13 42 07.3	+2.7
GOLH				S	Sg	13 43 02.0	-0.9
DNZL	**Cakiroluk**	**3.61**	**38**	*i* P	Pn	13 42 07.8	+2.6
DNZL	**Cakiroluk**	**3.61**	**38**	P	Pn	13 42 07.8	+2.6
KORT	**Korkueli**	**3.95**	**56**	*i* P	Pn	13 42 14.0	+4.2
KORT	**Korkueli**	**3.95**	**56**	P	Pn	13 42 14.0	+4.2
MANT	**Manisa**	**4.07**	**26**	*i* P	Pn	13 42 13.5	+2.0
BRDR	**BURDUR-Merkez**	**4.18**	**46**	*i* P	Pn	13 42 17.0	+4.1
BRDR	**BURDUR-Merkez**	**4.18**	**46**	P	Pn	13 42 17.0	+4.1
KHAL	**Karahalli**	**4.37**	**36**	*i* P	Pn	13 42 17.4	+2.0
ISP	**Isparta**	**4.54**	**48**	*e*Pn	Pn	13 42 21.2	+3.4
ISP	**Isparta**	**4.54**	**48**	*e*Pn	Pn	13 42 21.2	+3.4
CSS	**Mathiatis**	**5.82**	**87**	*e*Pn	Pn	13 42 34.6	-0.7
	comp=E,4.1nm,0.7s						
CSS	**Mathiatis**	**5.82**	**87**	*e*Pn	Pn	13 42 34.6	-0.7
	comp=E,4.1nm,0.7s						
ANTO	**Ankara**	**7.22**	**44**	*e*Pn	Pn	13 42 56.6	+2.0
	comp=E,63nm,0.6s						
ANTO	**Ankara**	**7.22**	**44**	*e*Pn	Pn	13 42 56.6	+2.0
	comp=E,63nm,0.6s						
BRTR	**Keskin Array B**	**7.63**	**48**	Pn	Pn	13 43 03.0	+2.8
	comp=E,0.7nm,0.3s,baz=220,slow=15,SNR=15						
MMAI	**Mount Meron Ar**	**7.82**	**101**	Pn	Pn	13 43 04.1	+1.2
	comp=E,2.7nm,0.3s,baz=291,slow=12,SNR=7.1						
MMAI				Sn	Sn	13 44 32.6	+0.5
	comp=E,1.6nm,0.3s,baz=247,slow=14,SNR=3.2						
EIL	**Elat**	**9.00**	**123**	Pn	Pn	13 43 19.9	+0.9
	comp=E,1.2nm,0.3s,baz=276,slow=3.1,SNR=8.1						
EIL				Sn	Sn	13 44 54.9	-6.1
	comp=E,0.5nm,0.3s,baz=38,slow=19,SNR=2.0						
ASF	**Jabal al Asfar**	**9.28**	**104**	Pn	Pn	13 43 25.0	+2.1
	comp=E,0.7nm,0.3s,baz=248,slow=5.4,SNR=4.5						
ASF				Sn	Sn	13 45 09.5	+1.5
	comp=E,0.3nm,0.3s,baz=254,slow=20,SNR=2.1						
CUC	**Castrocucco**	**9.75**	**305**	*e*Pn	Pn	13 43 28.8	-0.5
	comp=E,6.8nm,0.6s						
CUC	**Castrocucco**	**9.75**	**305**	*e*Pn	Pn	13 43 28.8	-0.5
	comp=E,6.8nm,0.6s						
KEST	**Kesra**	**13.84**	**278**	LR	LR	13 50 42.2	
	comp=E,87nm,19.6s,baz=140,slow=42						
KVAR	**Kislovodsk Arr**	**15.60**	**49**	Pn	P	13 44 54.2	+0.8
	baz=47,slow=6.2,SNR=4.7						
KVAR				LR	LR	13 52 26.6	
	comp=E,28nm,19.0s,baz=258,slow=44						
KBZ	**Khabaz**	**15.61**	**50**	Pn	P	13 44 55.5	+2.1
	comp=E,0.2nm,0.3s,baz=242,slow=5.2,SNR=8.5						
AKASG	**Malin Array Be**	**15.98**	**7**	Pn	Pn	13 44 54.7	+0.9
	comp=E,1.1nm,0.3s,baz=196,slow=11,SNR=12						
VRAC	**Vranov**	**16.10**	**337**	LR	LR	13 50 58.6	
	comp=E,43nm,20.5s,baz=34,slow=37						
GERES	**GERESS Array B**	**16.78**	**330**	Pn	P	13 45 06.2	-0.3
	comp=E,0.2nm,0.3s,baz=145,slow=13,SNR=6.0						
GERES				LR	LR	13 53 05.3	
	comp=E,52nm,18.6s,baz=118,slow=43						
DAVOX	**Davos/Dischmat**	**17.15**	**319**	LR	LR	13 54 20.3	
	comp=E,36nm,19.7s,baz=83,slow=46						
TAM	**Tamanrasset**	**21.73**	**242**	*e*P	P	13 46 03.5	+2.7
	comp=E,5.7nm,0.8s						
TAM	**Tamanrasset**	**21.73**	**242**	*e*P	P	13 46 03.5	+2.7
	comp=E,5.7nm,0.8s						
ESDC	**Sonseca Array**	**24.46**	**290**	P	P	13 46 27.0	-1.4
	comp=E,0.4nm,0.4s,baz=88,slow=8.7,SNR=4.5						
ESDC	**Sonseca Array**	**24.46**	**290**	P	P	13 46 27.0	-1.4
MDT	**Midelt**	**25.67**	**274**	P	P	13 46 41.6	+2.1
	comp=E,2.8nm,0.5s,baz=251,slow=5.4,SNR=7.1						
MDT				LR	LR	13 58 41.9	
	comp=E,71nm,19.2s,baz=146,slow=41						
GEYT	**Alibeck**	**25.77**	**74**	P	P	13 46 41.4	+1.2
	comp=E,3.5nm,0.5s,baz=331,slow=5.8,SNR=9.8						
GEYT				LR	LR	13 59 36.8	
	comp=E,22nm,19.2s,baz=125,slow=43						
FINES	**FINESS Array B**	**26.60**	**360**	P	P	13 46 45.9	-1.5
	comp=E,1.5nm,0.8s,baz=158,slow=11,SNR=3.0						
FINES				LR	LR	13 56 54.2	
	comp=E,42nm,20.1s,baz=262,slow=36						
AKTO	**Aktyubinsk**	**27.80**	**46**	P	P	13 46 58.3	-0.1
	comp=E,2.4nm,0.5s,baz=254,slow=8.3,SNR=7.3						
NOA	**NORSAR Array B**	**27.92**	**344**	LR	LR	13 59 58.7	
	comp=E,17nm,19.8s,baz=165,slow=41						
ABKAR	**Akbulak array**	**28.58**	**49**	*e*P	P	13 47 05.3	0.0
	comp=E,1.1nm,0.5s						
ABKAR	**Akbulak array**	**28.58**	**49**	*e*P	P	13 47 05.3	0.0
	comp=E,1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**28.80**	**324**	P	P	13 47 06.3	-0.9
	comp=E,1.0nm,0.5s,baz=116,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**31.00**	**232**	P	P	13 47 28.7	+1.7
	comp=E,2.2nm,0.7s,baz=37,slow=8.2,SNR=12						
TORD				LR	LR	14 00 38.7	
	comp=E,36nm,19.7s,baz=85,slow=38						
ARCES	**ARCESS Array B**	**34.73**	**360**	P	P	13 47 56.6	-2.5
	comp=E,2.0nm,0.8s,baz=181,slow=9.0,SNR=8.0						
KKAR	**Karatay Array**	**35.04**	**63**	*e*P	P	13 48 02.2	+0.1
KKAR	**Karatay Array**	**35.04**	**63**	*e*P	P	13 48 02.2	+0.1
BRVK	**Borovoye**	**35.85**	**46**	*e*P	P	13 48 08.7	-0.3
	comp=E,5.2nm,0.5s						
BRVK	**Borovoye**	**35.85**	**46**	*e*P	P	13 48 08.7	-0.3
	comp=E,5.2nm,0.5s						
BVAR	**Borovoye Array**	**35.91**	**46**	P	P	13 48 10.0	+0.5
	comp=E,2.1nm,0.7s,baz=282,slow=7.2,SNR=5.8						
AAK	**Ala-Archa**	**37.99**	**63**	P	P	13 48 29.1	+1.6
	comp=E,2.9nm,0.5s,baz=252,slow=8.1,SNR=6.4						
DBIC	**Dimbokro**	**40.09**	**233**	P	P	13 48 45.6	+0.5
	comp=E,1.2nm,0.4s,baz=5.8,slow=9.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**40.61**	**51**	P	P	13 48 49.9	+0.8
	comp=E,4.7nm,0.6s,baz=277,slow=8.7,SNR=14						
KURK	**Kurchatov**	**40.67**	**51**	*e*P	P	13 48 49.5	-0.1
	comp=E,34nm,0.8s						
KURK	**Kurchatov**	**40.67**	**51**	*e*P	P	13 48 49.5	-0.1
	comp=E,34nm,0.8s						
MKAR	**Makanchi Array**	**43.19**	**56**	P	P	13 49 11.0	+0.7
	comp=E,10nm,0.7s,baz=279,slow=6.8,SNR=38						
MKAR	**Makanchi Array**	**43.19**	**56**	P	P	13 49 11.0	+0.7
ZALV	**Zalesovo Beam**	**44.56**	**46**	P	P	13 49 20.9	-0.2
	comp=E,3.6nm,0.5s,baz=272,slow=8.2,SNR=15						
ZALV	**Zalesovo Beam**	**44.56**	**46**	P	P	13 49 21.0	-0.2
SONM	**Songino Array**	**58.98**	**51**	P	P	13 51 09.9	+0.8
	comp=E,1.5nm,0.6s,baz=286,slow=7.4,SNR=11						
TIXI	**Tiksi**	**61.13**	**21**	P	P	13 51 22.4	-0.9
	comp=E,1.8nm,0.7s,baz=323,slow=5.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**65.71**	**84**	P	P	13 51 55.0	+0.5
	comp=E,0.7nm,0.3s,baz=308,slow=8.9,SNR=3.9						
ILAR	**Eielson Array**	**80.55**	**357**	P	P	13 53 20.6	-0.8
	comp=E,0.6nm,0.8s,baz=343,slow=4.7,SNR=5.2						
MJAR	**Matsushiro Arr**	**84.85**	**49**	P	P	13 53 43.1	-1.3
	comp=E,0.8nm,0.5s,baz=292,slow=2.0,SNR=3.2						
ASAR	**Alice Springs**	**117.11**

SNR=4.5
QZX Qazax, Azerbai 2.83 34 ⇑P **Pb 13 54 43.1 +1.0**
SNR=3.8
QZX ⇑S **Sg 13 55 22.8 0.0**
GANJ Ganja 3.02 50 ⇓P **Pb 13 54 45.5 0.0**
SNR=5.1
GANJ ⇑S **Sg 13 55 28.2 -0.9**
PTK Pertek 3.05 274 *e*PN **Pb 13 54 43.5 -2.6**
PTK Pertek 3.05 274 *e*Pn **Pb 13 54 43.5 -2.6**

DJA 25 14:09:07.6±1.1, 0°S±7°×13°3E±°, h10km, M3.8/5, MLv3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.77**	**129**	P	Pb	14 09 39.5	-0.6
RKPI				S	Sb	14 10 02.0	-0.3
FAKI	**Fak Fak**	**2.56**	**192**	P	Pn	14 09 49.0	-0.2
FAKI				S	Sn	14 10 20.7	+0.2
KMPI	**Kaimana, Papua**	**3.36**	**164**	P	Pn	14 10 01.0	+0.8
BAKI	**Biak**	**3.40**	**103**	P	Pn	14 10 00.8	+0.1

MAN 25 14:12:59, 10°25N×125°12E, h27km, mb4.3, ML3.2, MS3.0, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.28**	**245**	*e*P	Pn	14 13 08.6	+1.3
MSLP				*e*S	Sn	14 13 15.4	+2.7
PLP	**Palo**	**0.92**	**352**	⇑*i*P	Pn	14 13 15.4	-0.7
PLP				*e*S	Sb	14 13 26.8	-1.3
OCLP	**Ormoc**	**0.94**	**328**	*e*P	Pb	14 13 17.4	+0.8
OCLP				*e*S	Sn	14 13 29.8	+0.8
BESP	**Borongan**	**1.38**	**13**	*e*P	Pn	14 13 22.6	+0.2
BESP				*e*S	Sb	14 13 41.3	+0.1

OTT 25 14:19:21.7±0.6, 61°49N×59°42W, h18km, ML3.3/8, LAlbertaRADOR Sea Seismic Zone. 293km east from Resolution Island, Nu, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDKN	**Chidliak Camp**	**4.20**	**314**	PN	Pn	14 20 24.5	-0.2
CDKN				SN	Sn	14 21 11.1	-2.2
CDKN				Trac		14 21 17.4	
comp=Z,6.7nm,0.2s							
KAJQ	**Kangiqsualujju**	**4.30**	**232**	PN	Pn	14 20 25.9	-0.1
KAJQ				SN	Sn	14 21 12.4	-3.3
KAJQ				Trac		14 21 17.0	
comp=Z,5.8nm,0.1s							
CMBN	**Cumberland Cam**	**4.77**	**334**	PN	Pn	14 20 30.9	-1.7
CMBN				SN	Sn	14 21 22.5	-4.8
CMBN				Trac		14 21 24.9	
comp=Z,6.2nm,0.2s							
FRB	**Frobisher Bay**	**4.78**	**302**	PN	Pn	14 20 34.0	+1.2
FRB				SN	Sn	14 21 23.3	-4.3
FRB				Trac		14 21 29.1	
comp=Z,6.5nm,0.2s							
KRSQ	**Kangirsuk**	**5.39**	**259**	SN	Sn	14 21 38.6	-3.9
KUQ	**Kuujjuuaa**	**5.66**	**237**	PN	Pn	14 20 40.9	-3.9
KUQ				SN	Sn	14 21 43.1	-6.2
KUQ				Trac		14 21 46.2	
comp=Z,5.7nm,0.2s							
KNGQ	**Kangiqsujuaq**	**5.99**	**276**	PN	Pn	14 20 49.3	0.0
KNGQ				Trac		14 21 55.0	
comp=Z,8.0nm,0.3s							
KNGQ				SN	Sn	14 21 55.6	-1.8
SFJD	**Kangerlussuaq**	**6.72**	**31**	PN	Pn	14 20 59.0	-0.3
SFJD				SN	Sn	14 22 14.9	-0.3
SFJD	**Kangerlussuaq**	**6.72**	**31**	*i* P	Pn	14 20 58.6	-0.7
SFJD				*e*S	Sn	14 22 14.8	-0.4
NRS	**Narsarsuaq**	**6.75**	**87**	*i* P	Pn	14 20 56.1	-3.6
NRS				*i* S	Sn	14 22 05.5	-10
SCHQ	**Schefferville**	**7.74**	**214**	PN	Pn	14 21 12.5	-0.8
SCHQ				SN	Sn	14 22 36.3	-4.1
SCHQ				Trac		14 22 39.5	
comp=Z,4.5nm,0.3s							
INUQ	**Inukjuak**	**9.85**	**260**	PN	Pn	14 21 39.9	-2.3
INUQ				SN	Sn	14 23 22.3	-10
INUQ				Trac		14 23 26.9	
comp=Z,10nm,0.3s							
NATG	**Natashquan Que**	**11.39**	**191**	SN	Sn	14 23 56.2	-14
MRYN	**Mary River**	**12.61**	**330**	PN	Pn	14 22 16.1	-3.8
MRYN				SN	Sn	14 24 26.6	-13
ICQ	**Pointe Anglais**	**12.78**	**204**	PN	Pn	14 22 17.7	-4.5
ICQ				SN	Sn	14 24 30.1	-14

DDA 25 14:24:11.9, 38°63N×43°28E, h7km, Md2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.36**	**208**	*e*P	Pn	14 24 22.4	-1.4
GEVA				*e*S	Sb	14 24 32.4	+5.6
TUTA	**Tutak**	**0.85**	**335**	*e*P	Pg	14 24 27.8	-0.4
TUTA				*e*S	Sb	14 24 41.6	+0.8
HAKT	**HAKKARI**	**1.13**	**162**	*e*P	Pg	14 24 31.9	-1.6
HAKT				*e*S	Sn	14 24 52.0	+1.8
EATA	**Eleskirt**	**1.37**	**334**	*e*P	Pn	14 24 36.5	-1.2
EATA				*e*S	Sn	14 24 58.0	+1.6

SJA 25 14:28:13.5±0.7, 31°32S×67°85W, h30km±3km, ML2.6, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.54**	**269**	*i* P	Pb	14 28 24.9	+0.3
AMOG	**MOGNA**	**0.67**	**304**	*i* P	Pn	14 28 27.7	+0.6
AVFE	**Valle Fertil**	**0.74**	**27**	*i* P	Pn	14 28 28.8	+0.9
AVFE				IAML		14 28 39.1	
comp=Z,213nm,0.2s							
AVFE				*i* S	Sn	14 28 39.2	+1.0
RTCV	**Cerro Valdivia**	**0.81**	**227**	*i* P	Pb	14 28 29.5	+0.5
RTCV				*i* S	Sn	14 28 41.6	+1.7
ACHE	**Chepes**	**1.02**	**82**	*i* P	Pb	14 28 33.8	+1.0
ACAN	**Cantantal**	**1.11**	**150**	*i* P	Pb	14 28 34.8	+0.7
RTLS	**Leoncito**	**1.33**	**248**	*i* P	Pb	14 28 39.1	+1.1
RTLS				IAML		14 28 39.5	
comp=Z,126nm,0.4s							
RTLS				*i* S	Sb	14 28 57.1	+2.3

SJA ***25*** *14:43:40.4±1.1, 32°63S×72°26W, h15km±18km, ML3.3, MW3.8*
GUC ***25*** *14:43:45.4±0.6, 32°25S×71°75W, h10km±18km, ML3.4*
ISC 25 14:43:43.1±2.6, 32°49S±0°06×72°1W±0°1, h1km±13km, n21, σ1°39/30, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.03**	**119**	*e*P	**Pg**	**14 44 04.0**	**+1.2**
ROC1				*e*S	**Sb**	**14 44 17.2**	**-0.7**
ROCH	**El Roble**	**1.03**	**118**	⇓*i*P	**Pg**	**14 44 03.8**	**+1.0**
ROCH				*i* S	**Sb**	**14 44 17.2**	**-0.7**
ROCH				IAML		14 44 21.6	
comp=N,2μm,0.4s							
PEL	**Peldehue**	**1.35**	**119**	⇓*i*P	**Pg**	**14 44 09.0**	**0.0**
PEL				*i* S	**Sg**	**14 44 26.3**	**-0.1**
PEL				IAML		14 44 29.4	
comp=N,2μm,0.2s							
CLCH	**Cerro Calan**	**1.59**	**125**	⇑*i*P	**Pn**	**14 44 13.2**	**+0.8**
CLCH				*i* S	**Sb**	**14 44 34.2**	**+0.3**
CLCH				IAML		14 44 42.7	
comp=E,907nm,0.2s							
ANTU	**Antumapu**	**1.63**	**132**	IAML		14 44 42.5	
comp=N,1μm,1.0s							
FSR	**Penalolen**	**1.64**	**127**	*i* S	**Sn**	**14 44 35.7**	**+0.7**
FCH	**Farellones**	**1.73**	**120**	⇑*i*P	**Pn**	**14 44 14.9**	**+0.3**
FCH				*i* S	**Sn**	**14 44 37.0**	**-0.4**
FCH				IAML		14 44 40.2	
comp=E,689nm,0.1s							
AUSP	**Uspallata**	**2.30**	**84**	*i* P	**Pn**	**14 44 23.4**	**+1.0**
AUSP				*e*S	**Sn**	**14 44 51.9**	**+0.4**
RTLS	**Leoncito**	**2.46**	**75**	*e*P	**Pn**	**14 44 25.8**	**+1.1**
RTLS				*e*S	**Sn**	**14 44 56.3**	**+0.8**
RTLS				IAML		14 45 03.0	
comp=Z,135nm,0.7s							
TLL	**Tololo Astrono**	**2.56**	**26**	*e*P	**Pn**	**14 44 24.5**	**-1.4**
ARCO	**CERRO ARCO**	**2.68**	**98**	*e*P	**Pb**	**14 44 30.6**	**-1.4**
ARCO				IAML		14 44 33.5	
comp=Z,106nm,0.4s							
ASAL	**Salagasta**	**2.75**	**93**	*i* P	**Pn**	**14 44 28.8**	**+0.3**
AAGR	**Agrelo**	**2.81**	**103**	*e*P	**Pb**	**14 44 32.5**	**-1.6**
AMOG	**MOGNA**	**3.43**	**64**	*e*P	**Pn**	**14 44 38.1**	**+0.3**
AMOG				*e*S	**Sb**	**14 45 25.6**	**-1.3**
ACAN	**Cantantal**	**4.15**	**88**	*e*P	**Pn**	**14 44 49.2**	**+1.6**
AGUA	**GUANDACOL**	**4.30**	**47**	*e*P	**Pn**	**14 44 52.2**	**+2.5**
AVFE	**Valle Fertil**	**4.35**	**66**	*e*P	**Pn**	**14 44 50.6**	**+0.1**
AVFE				*e*S	**Sn**	**14 45 45.5**	**+3.7**
ACHE	**Chepes**	**4.80**	**75**	*e*P	**Pn**	**14 44 56.6**	**-0.1**
ACHE				*e*S	**Sn**	**14 45 50.5**	**-2.5**
VCA	**Vinchina**	**5.01**	**43**	*e*P	**Pn**	**14 45 01.8**	**+2.1**
APLL	**PUNTA DE LOS L**	**5.19**	**68**	*e*P	**Pn**	**14 45 02.4**	**+0.4**
ACLC	**CERRO LA CRUZ**	**5.36**	**57**	*e*P	**Pn**	**14 45 04.8**	**+0.4**

NSSC ***25*** *14:54:51.0±1.6, 39°27N×45°02E, h5km±475km, MD3.3, ML4.7*
ISN ***25*** *14:55:02.6±1.0, 39°09N×43°63E, h0km±50km, ML5.7*
IDC ***25*** *14:55:06.4±0.3, 38°78N×43°59E, h0km, mb5.3/62, mb1 5.3/70, mb1mx5.3/81, mbtmp5.3/70, ML4.1/10, MS5.1/43, Ms1 5.1/43, ms1mx5.0/53, Error ellipse: s-maj=6.8km s-min=6.0km az=151.0*
DDA ***25*** *14:55:06.8, 38°82N×43°59E, h17km, Ml5.4*
MOS ***25*** *14:55:06.1±1.3, 38°76N×43°57E, h7km, mb5.7/142, MS5.0/60, Error ellipse: s-maj=3.4km s-min=2.5km az=123.4*
BJI ***25*** *14:55:06.2, 38°80N×43°60E, h14km, mb5.5/84, mB5.6/68, Ms5.7/84, Ms7 5.3/80*
CSEM ***25*** *14:55:07.4±0.1, 38°80N×43°63E, h8km, mb5.7/99, Ms5.1, Mw5.6, Error ellipse: s-maj=2.1km s-min=1.5km az=174.0*
NEIC ***25*** *14:55:07.0±0.0, 38°80N×43°82E, h23km, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr2.58; Mθθ-2.54; Mφφ-0.05; Mrθ-1.13; Mθφ-0.09; Mφr-0.93; Best double couple: M₀3.00000×10¹⁷ NP1:φ₁252.00000°, δ59.00000°, λ73.00000°. NP2:φ₂102.00000°, δ34.00000°, λ116.00000°. Principal axes: T 3.0800, Plg70.0000°, Azm124.0000°; N -0.2700, Plg14.0000°, Azm260.0000°; P -2.8100, Plg12.0000°, Azm353.0000°;*
AZER ***25*** *14:55:07.1±0.7, 38°77N×43°51E, h14km±11km Error ellipse: s-maj=11.8km s-min=2.7km az=59.0*
ISK ***25*** *14:55:07.9, 38°80N×43°48E, h6km, ML5.4*
SFS ***25*** *14:55:08.0, 38°85N×43°59E, h10km, ML5.9*
GCMT ***25*** *14:55:08.2±0.1, 38°69N×43°55E, h14km, MW5.6/133, Moment Tensor Solution. s110,c196; s133,c331; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr2.62±.04; Mθθ-3.54±.04; Mφφ0.91±.03; Mrθ0.16±.07; Mθφ-0.69±.03; Mφr0.10±.08; Best double couple: M₀3.13800×10¹⁷ NP1:φ₁79.00000°, δ47.00000°, λ86.00000°. NP2:φ₂264.00000°, δ43.00000°, λ94.00000°. Principal axes: T 2.6290, Plg87.0000°, Azm292.0000°; N 1.0180, Plg3.0000°, Azm81.0000°; P -3.6480, Plg2.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
DSN ***25*** *14:55:08.4±0.6, 38°70N×43°62E, h16km, mb5.8/3 Error ellipse: s-maj=14.4km s-min=6.1km az=72.0*
NEIC ***25*** *14:55:08.2±0.1, 38°81N×43°62E, h14km, mb5.7/252, ME5.4, MS5.2/60, MW5.3, MW5.6, ML5.4(ISK), ML5.5(DDA), Error ellipse: s-maj=2.9km s-min=1.8km az=177.0. Moment Tensor Solution. s38 Moment tensor: Scale 10¹⁷Nm; Mrr0.86; Mθθ-1.34; Mφφ0.48; Mrθ-0.40; Mθφ-0.20; Mφr-0.17; Best double couple: M₀1.30000×10¹⁷ NP1: φ₁251.00000°, δ57.00000°, λ73.00000°. NP2: φ₂100.00000°, δ37.00000°, λ114.00000°. Principal axes: T 0.9700, Plg72.0000°, Azm118.0000°; N 0.4600, Plg14.0000°, Azm260.0000°; P -1.4400, Plg10.0000°, Azm353.0000°; Broadband fault plane solution: P waves. NP1:φ₁70.00000°, δ45.00000°, λ90.00000°. NP2: φ₂250.00000°, δ45.00000°, λ90.00000°. Principal axes: T Plg90.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm160.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Bitlis, Dogubayazit and Erzurum. Felt [II] at Tabriz, Iran. Also felt at Orumiyeh. Felt at Masis and Yerevan, Armenia and at Mosul, Iraq.
ISCJB ***25*** *14:55:08.2±0.2, 38°76N±0°01×43°613E±0°009, h24km±1km, mb5.6/435, MS5.1/143 Error ellipse: s-maj=1.8km s-min=1.2km az=174.5*
GII ***25*** *14:55:10.5±0.3, 38°85N×43°60E, h10km, mb5.4/1, MD5.6/1*
TEH ***25*** *14:55:10.5, 39°01N×43°68E, h22km, ML5.4*
ISC 25 14:55:08.4±0.4, 38°81N±0°01×43°62E±0°01, h13km±2km, h13km:pP-P, n2464, σ1°60/2683, mb5.6/451, MS5.1/146, 162C-101D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.18**	**348**	⇓*i*P	**Pg**	**14 55 10.8**	**-1.9**
VMUR				*i* S	**Sg**	**14 55 15.3**	**-0.4**
VMUR	**Van-Muradiye**	**0.18**	**348**	P	**Pg**	**14 55 10.8**	**-1.9**
VMUR				S	**Sg**	**14 55 15.3**	**-0.4**
VANB	**Van**	**0.28**	**220**	PG	**Pg**	**14 55 14.2**	**-0.2**
VANB	**Van**	**0.28**	**220**	*i* Pg	**Pg**	**14 55 14.2**	**-0.2**
GEVA	**Gevas**	**0.67**	**222**	⇓*i*P	**Pg**	**14 55 19.3**	**-2.1**
GEVA				*i* S	**Sg**	**14 55 30.4**	**+0.1**
GEVA	**Gevas**	**0.67**	**222**	P	**Pg**	**14 55 19.3**	**-2.1**
GEVA				S	**Sg**	**14 55 30.4**	**+0.1**
GEVA	**Gevas**	**0.67**	**222**	*i* P	**Pg**	**14 55 20.1**	**-1.3**
GEVA				*i* S	**Sg**	**14 55 30.4**	**+0.1**
DYDN	**Diyadin**	**0.73**	**4**	⇓*i*P	**Pg**	**14 55 20.7**	**-2.0**
DYDN				*i* S	**Sg**	**14 55 32.0**	**-0.4**
DYDN	**Diyadin**	**0.73**	**4**	P	**Pg**	**14 55 20.7**	**-2.0**
DYDN				S	**Sg**	**14 55 32.0**	**-0.4**
DYDN	**Diyadin**	**0.73**	**4**	*i* P	**Pg**	**14 55 20.4**	**-2.3**
BASK	**Baskale_VAN**	**0.82**	**158**	⇓*i*P	**Pg**	**14 55 22.7**	**-1.5**
BASK				*i* S	**Sn**	**14 55 38.1**	**+0.3**
BASK	**Baskale_VAN**	**0.82**	**158**	P	**Pg**	**14 55 22.7**	**-1.5**
TUTA	**Tutak**	**0.86**	**313**	⇓*i*P	**Pg**	**14 55 22.1**	**-3.0**
TUTA				*i* S	**Sg**	**14 55 34.8**	**-1.6**
TUTA	**Tutak**	**0.86**	**313**	P	**Pg**	**14 55 22.1**	**-3.0**
TUTA				S	**Sg**	**14 55 34.8**	**-1.6**
TUTA	**Tutak**	**0.86**	**313**	*i* P	**Pg**	**14 55 22.1**	**-3.0**
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*PG	**Pg**	**14 55 23.4**	**-2.5**
AGRB				*e*SG	**Sg**	**14 55 37.5**	**-0.4**
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*Pg	**Pg**	**14 55 23.4**	**-2.5**
AGRB				*e*Sg	**Sg**	**14 55 37.5**	**-0.4**
HAKT	**HAKKARI**	**1.25**	**177**	⇓*i*P	**Pn**	**14 55 29.9**	**-1.9**
HAKT				*i* S	**Sg**	**14 55 51.4**	**+2.6**
HAKT	**HAKKARI**	**1.25**	**177**	P	**Pn**	**14 55 29.9**	**-1.9**
EKAR	**Karacoban**	**1.29**	**291**	⇓*i*P	**Pn**	**14 55 30.6**	**-1.7**
EKAR				*i* S	**Sg**	**14 55 51.8**	**+1.7**
EKAR	**Karacoban**	**1.29**	**291**	P	**Pn**	**14 55 30.6**	**-1.7**
EATA	**Eleskirt**	**1.37**	**320**	⇓*i*P	**Pn**	**14 55 31.3**	**-2.1**
EATA				*i* S	**Sg**	**14 55 53.0**	**+0.5**
EATA	**Eleskirt**	**1.37**	**320**	P	**Pn**	**14 55 31.3**	**-2.1**
EATA				S	**Sg**	**14 55 53.0**	**+0.5**
NAX	**Nakhchivan**	**1.50**	**76**	⇓P	**Pn**	**14 55 34.9**	**-0.2**
NAX				⇑S	**Sg**	**14 55 56.2**	**-0.7**
NAX	**Nakhchivan**	**1.50**	**76**	P	**Pn**	**14 55 34.9**	**-0.2**
NAX	**Nakhchivan**	**1.50**	**76**	P	**Pn**	**14 55 34.9**	**-0.2**
NAX				S	**Sg**	**14 55 56.2**	**-0.7**
CUKT	**Cukurca**	**1.56**	**180**	*e*PN	**Pb**	**14 55 37.4**	**+0.2**
CUKT	**Cukurca**	**1.56**	**180**	⇓*i*P	**Pb**	**14 55 37.0**	**-0.2**
CUKT	**Cukurca**	**1.56**	**180**	P	**Pb**	**14 55 37.0**	**-0.2**
CUKT	**Cukurca**	**1.56**	**180**	*e*Pn	**Pb**	**14 55 37.4**	**+0.2**
GNI	**Garni**	**1.59**	**33**	Pn	**Pn**	**14 55 36.8**	**+0.4**
3μm,0.3s,baz=231,slow=2.0,SNR=2603							
GNI				Lg	Lg	14 56 02.0	
2μm,0.3s,baz=92,slow=23,SNR=8.3							
GNI				LR	LR	14 56 21.6	
comp=Z,61μm,20.8s,baz=120,slow=46							
GNI	**Garni**	**1.59**	**33**	P	**Pn**	**14 55 36.9**	**+0.6**
DIGO	**Kars**	**1.61**	**353**	⇓*i*P	**Pn**	**14 55 37.2**	**+0.4**
DIGO	**Kars**	**1.61**	**353**	P	**Pn**	**14 55 37.2**	**+0.4**
SIRN	**S¨–rnak**	**1.62**	**216**	*i* P	**Pn**	**14 55 37.2**	**+0.5**
SIRN				*i* S	**Sg**	**14 56 00.8**	**+0.1**
SIRN	**S¨–rnak**	**1.62**	**216**	P	**Pn**	**14 55 37.2**	**+0.5**
IMRD	**Marand**	**1.63**	**93**	*e*Pn	**Pn**	**14 55 37.0**	**+0.1**
IMRD				*e*AMB	AMB	14 56 12.9	
comp=Z,100μm,0.3s							
IMRD	**Marand**	**1.63**	**93**	*e*Pn	**Pn**	**14 55 37.0**	**+0.1**
ISHB	**Shabestar**	**1.65**	**108**	*e*Pn	**Pn**	**14 55 37.6**	**+0.3**
ISHB				*e*Sg	**Sg**	**14 56 03.5**	**+1.9**
ISHB				*e*AMB	AMB	14 56 06.7	
comp=Z,1μm,0.3s							
VRTB	**Varto-Mus**	**1.72**	**282**	*e*PN	**Pn**	**14 55 38.4**	**+0.2**
VRTB				*e*SN	**Sn**	**14 55 59.2**	**-0.9**
VRTB	**Varto-Mus**	**1.72**	**282**	⇑*i*P	**Pn**	**14 55 38.4**	**+0.2**
VRTB	**Varto-Mus**	**1.72**	**282**	P	**Pn**	**14 55 38.4**	**+0.2**
VRTB				*e*Sn	**Sn**	**14 55 59.2**	**-0.9**
HOMI	**Horasan**	**1.81**	**313**	⇓*i*P	**Pn**	**14 55 39.9**	**+0.4**
EAK	**Akyaka**	**1.87**	**360**	⇓*i*P	**Pb**	**14 55 41.6**	**-0.9**
EAK	**Akyaka**	**1.87**	**360**	P	**Pb**	**14 55 41.6**	**-0.9**
BNGL	**BINGOL**	**1.93**	**275**	⇑*i*P	**Pb**	**14 55 41.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.00**	**331**	*e*PN	**Pn**	**14 55 42.6**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.00**	**331**	*e*Pn	**Pn**	**14 55 42.6**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*PN	**Pn**	**14 55 42.0**	**0.0**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	⇑*i*P	**Pn**	**14 55 41.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	P	**Pn**	**14 55 41.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*Pn	**Pn**	**14 55 42.0**	**0.0**
ERZM	**Erzurum**	**2.06**	**303**	⇓*i*P	**Pn**	**14 55 43.3**	**+0.4**
ERZM				*i* S	**Sg**	**14 56 20.6**	**+5.8**
ERZM	**Erzurum**	**2.06**	**303**	P	**Pn**	**14 55 43.3**	**+0.4**
ITBZ	**Tabriz**	**2.06**	**105**	*e*Pn	**Pn**	**14 55 44.2**	**+1.3**
ITBZ				*e*AMB	AMB	14 56 27.4	
comp=Z,85μm,0.9s							
ITBZ	**Tabriz**	**2.06**	**105**	*e*Pn	**Pn**	**14 55 44.2**	**+1.3**
BTMN	**Batman**	**2.06**	**244**	⇑*i*P	**Pn**	**14 55 42.4**	**-0.4**
BTMN	**Batman**	**2.06**	**244**	P	**Pn**	**14 55 42.4**	**-0.4**
ECAT	**Cat-ERZURUM**	**2.20**	**292**	⇑*i*P	**Pn**	**14 55 44.9**	**+0.1**
ECAT				*i* S	**Sg**	**14 56 18.9**	**-0.4**
ECAT	**Cat-ERZURUM**	**2.20**	**292**	P	**Pn**	**14 55 44.9**	**+0.1**
BNGB	**Bing¨¶l**	**2.30**	**275**	*e*PN	**Pn**	**14 55 46.3**	**+0.2**
BINT	**Bingol**	**2.45**	**272**	P	**Pn**	**14 55 47.5**	**-0.6**
BINT	**Bingol**	**2.45**	**272**	*e*Pn	**Pn**	**14 55 46.3**	**-1.8**
BINT	**Bingol**	**2.45**	**272**	P	**Pn**	**14 55 47.5**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.47**	**286**	*e*PN	**Pn**	**14 55 48.6**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.47**	**286**	*e*Pn	**Pn**	**14 55 48.7**	**+0.2**
GDB	**GEDABAY**	**2.52**	**40**	⇑P	**Pn**	**14 55 49.0**	**-0.1**
GDB				⇓S	**Sn**	**14 56 21.3**	**+1.6**
GDB	**GEDABAY**	**2.52**	**40**	P	**Pn**	**14 55 49.0**	**-0.1**
GDB				S	**Sn**	**14 56 21.3**	**+1.6**
DDEM	**Demirkent**	**2.53**	**326**	⇓*i*P	**Pn**	**14 55 49.3**	**+0.1**
DDEM	**Demirkent**	**2.53**	**326**	P	**Pn**	**14 55 49.3**	**+0.1**
AKH	**Akhalkalaki**	**2.60**	**358**	*e*PN	**Pn**	**14 55 51.4**	**+1.2**
AKH	**Akhalkalaki**	**2.60**	**358**	P	**Pb**	**14 55 54.2**	**-0.7**
AKH				S	**Sg**	**14 56 32.7**	**+0.8**
AKH	**Akhalkalaki**	**2.60**	**358**	P	**Pb**	**14 55 54.2**	**-0.7**
AKH				S	**Sg**	**14 56 32.6**	**+0.8**
AKH	**Akhalkalaki**	**2.60**	**358**	*e*Pn	**Pn**	**14 55 51.4**	**+1.2**
AKH	**Akhalkalaki**	**2.60**	**358**	P	**Pb**	**14 55 54.2**	**-0.7**
QZX	**Qazax, Azerbai**	**2.62**	**30**	⇓P	**Pn**	**14 55 50.0**	**-0.3**
QZX				⇑S	**Sn**	**14 56 23.1**	**+1.1**
QZX	**Qazax, Azerbai**	**2.62**	**30**	P	**Pn**	**14 55 50.0**	**-0.3**
QZX				S	**Sn**	**14 56 23.1**	**+1.1**
KZR	**Kazreti**	**2.64**	**13**	P	**Pn**	**14 55 51.7**	**+1.0**
KZR				S	**Sg**	**14 56 32.5**	**-0.7**
MARD	**Mardin**	**2.70**	**237**	⇑*i*P	**Pn**	**14 55 51.2**	**-0.4**
MARD	**Mardin**	**2.70**	**237**	*e*Pn	**Pn**	**14 55 51.7**	**+0.1**
MARD	**Mardin**	**2.70**	**237**	*e*Pn	**Pn**	**14 55 51.6**	**+0.1**
ARTV	**Artvin**	**2.70**	**332**	⇓*i*P	**Pn**	**14 55 51.9**	**+0.2**
ARTV	**Artvin**	**2.70**	**332**	P	**Pn**	**14 55 51.9**	**+0.2**
ARTV	**Artvin**	**2.70**	**332**	*e*Pn	**Pn**	**14 55 52.8**	**+1.1**
ARTV	**Artvin**	**2.70**	**332**	*e*Pn	**Pn**	**14 55 52.8**	**+1.1**
KOPT	**Kop Dagi**	**2.70**	**297**	⇑*i*P	**Pn**	**14 55 51.6**	**-0.2**
KOPT	**Kop Dagi**	**2.70**	**297**	P	**Pn**	**14 55 51.6**	**-0.2**
KOPT	**Kop Dagi**	**2.70**	**297**	*e*Pn	**Pb**	**14 55 55.9**	**-0.8**
KOPT	**Kop Dagi**	**2.70**	**297**	*e*Pn	**Pb**	**14 55 55.9**	**-0.8**
IHRS	**Heris**	**2.73**	**99**	*e*Pn	**Pn**	**14 55 53.7**	**+1.7**
IHRS				*e*AMB	AMB	14 56 52.8	
comp=Z,88μm,0.7s							
IHRS	**Heris**	**2.73**	**99**	*e*Pn	**Pn**	**14 55 53.7**	**+1.7**
GANJ	**Ganja**	**2.77**	**48**	⇓P	**Pn**	**14 55 52.5**	**0.0**
GANJ				⇓S	**Sn**	**14 56 27.6**	**+1.7**
GANJ	**Ganja**	**2.77**	**48**	P	**Pn**	**14 55 52.4**	**0.0**
GANJ	**Ganja**	**2.77**	**48**	P	**Pn**	**14 55 52.5**	**0.0**
GANJ				S	**Sn**	**14 56 27.6**	**+1.7**
EPOS	**Posof**	**2.77**	**346**	⇓*i*P	**Pn**	**14 55 53.5**	**+0.9**
EPOS	**Posof**	**2.77**	**346**	P	**Pn**	**14 55 53.5**	**+0.9**
IBST	**Bostanabad**	**2.80**	**112**	*e*Pn	**Pn**	**14 55 54.3**	**+1.2**
IBST				*e*AMB	AMB	14 56 42.1	
comp=Z,64μm,0.4s							
IBST	**Bostanabad**	**2.80**	**112**	*e*Pn	**Pn**	**14 55 54.3**	**+1.2**
MAZI	**Mazidag**	**2.84**	**243**	*e*PN	**Pn**	**14 55 53.1**	**-0.4**
DIYA	**Diyarbakir**	**2.89**	**253**	⇑*i*P	**Pn**	**14 55 53.2**	**-1.0**
DIYA				*i* S	**Sb**	**14 56 37.5**	**+2.4**
DIYA	**Diyarbakir**	**2.89**	**253**	P	**Pn**	**14 55 53.2**	**-1.0**
DBOC	**Borcka**	**2.94**	**330**

ONI	**Oni**	**3.78 358**	P	**Pn**	**14 56 08.4 +2.1**
ONI	**Oni**	**3.78 358**	P	**Pn**	**14 56 08.4 +2.1**
REFA	**Refahiye_ERZ¯**	**3.82 280**	⇓*i*P	**Pn**	**14 56 10.3 +3.2**
KDMR	**Kurdemir**	**3.85 65**	⇑P	**Pn**	**14 56 07.2 -0.1**
KDMR			⇓S	**Sn**	**14 56 54.1 +1.7**
KDMR	**Kurdemir**	**3.85 65**	P	**Pn**	**14 56 07.2 -0.1**
KDMR			S	**Sn**	**14 56 54.1 +1.7**
SAAT	**Saatly**	**3.87 73**	⇑P	**Pn**	**14 56 07.0 -0.5**
SAAT			⇓S	**Sn**	**14 56 53.6 +0.9**
SAAT	**Saatly**	**3.87 73**	P	**Pn**	**14 56 07.0 -0.5**
SAAT			S	**Sn**	**14 56 53.6 +0.9**
QBL	**Gabala**	**3.88 55**	⇓P	**Pn**	**14 56 07.6 -0.1**
QBL			⇑S	**Sn**	**14 56 54.7 +1.5**
QBL	**Gabala**	**3.88 55**	P	**Pn**	**14 56 07.6 -0.1**
QBL			S	**Sn**	**14 56 54.7 +1.5**
ZEI	**Tsey**	**3.98 3**	*e*P	**Pn**	**14 56 09.3 +0.1**
ZEI			pmax	pmax	
comp=Z,907nm,0.8s					
KEMA	**Kemaliye**	**4.02 278**	⇑*i*P	**Pn**	**14 56 09.7 0.0**
KEMA			*i*S	**Sg**	**14 57 18.0 +0.6**
KEMA	**Kemaliye**	**4.02 278**	P	**Pn**	**14 56 09.7 0.0**
URFA	**Urfa**	**4.03 252**	*e*Pn	**Pn**	**14 56 09.3 -0.5**
URFA	**Urfa**	**4.03 252**	*e*Pn	**Pn**	**14 56 09.3 -0.5**
IML	**Ismayilli**	**4.03 59**	⇑P	**Pn**	**14 56 09.6 -0.2**
IML			⇓S	**Sn**	**14 56 58.5 +1.6**
IML	**Ismayilli**	**4.03 59**	P	**Pn**	**14 56 09.6 -0.2**
IML			S	**Sn**	**14 56 58.5 +1.6**
LKRN	**Lenkeran, Azer**	**4.03 90**	⇑P	**Pn**	**14 56 09.6 -0.2**
LKRN			⇑S	**Sn**	**14 56 58.6 +1.8**
LKRN	**Lenkeran, Azer**	**4.03 90**	P	**Pn**	**14 56 09.6 -0.2**
LKRN	**Lenkeran, Azer**	**4.03 90**	P	**Pn**	**14 56 09.6 -0.2**
LKRN			S	**Sn**	**14 56 58.6 +1.8**
LACR	**Lac**	**4.04 7**	*e*P	**Pn**	**14 56 12.7 +2.7**
LACR			pmax	pmax	
comp=Z,8μm,1.1s					
LACR	**Lac**	**4.04 7**	*e*P	**Pn**	**14 56 12.7 +2.7**
comp=Z,8μm,1.1s					
ASTR	**Astara**	**4.05 92**	⇓P	**Pn**	**14 56 09.9 -0.2**
ASTR			⇓S	**Sn**	**14 56 59.0 +1.7**
ASTR	**Astara**	**4.05 92**	P	**Pn**	**14 56 09.9 -0.2**
ASTR			S	**Sn**	**14 56 59.0 +1.7**
DIGR	**Digorskoe uzhe**	**4.08 360**	*e*P	**Pn**	**14 56 12.8 +2.1**
DIGR			pmax	pmax	
comp=Z,3μm,1.3s					
DIGR	**Digorskoe uzhe**	**4.08 360**	*e*P	**Pn**	**14 56 12.8 +2.1**
comp=Z,3μm,1.3s					
AKT	**Akhty**	**4.12 48**	*e*P	**Pn**	**14 56 13.4 +2.2**
AKT			pmax	pmax	
comp=Z,3μm,1.0s					
AKT	**Akhty**	**4.12 48**	*e*P	**Pn**	**14 56 13.4 +2.2**
comp=Z,3μm,1.0s					
XNQ	**Khinaliq**	**4.20 54**	⇑P	**Pn**	**14 56 11.9 -0.3**
XNQ			⇓S	**Sn**	**14 57 02.7 +1.5**
XNQ	**Khinaliq**	**4.20 54**	P	**Pn**	**14 56 11.9 -0.3**
XNQ			S	**Sn**	**14 57 02.7 +1.5**
KORR	**Kora**	**4.28 4**	*e*P	**Pn**	**14 56 17.1 +3.8**
KORR			pmax	pmax	
comp=Z,12μm,1.3s					
KORR	**Kora**	**4.28 4**	*e*P	**Pn**	**14 56 17.1 +3.8**
comp=Z,12μm,1.3s					
VLKR	**Vladikavkaz**	**4.30 10**	*e*P	**Pn**	**14 56 17.3 +3.7**
VLKR			pmax	pmax	
comp=Z,115nm,1.0s					
VLKR	**Vladikavkaz**	**4.30 10**	*e*P	**Pn**	**14 56 17.3 +3.7**
comp=Z,115nm,1.0s					
PQL	**Pirkuli**	**4.31 61**	⇓P	**Pn**	**14 56 13.4 -0.3**
PQL			⇑S	**Sn**	**14 57 05.4 +1.6**
PQL	**Pirkuli**	**4.31 61**	P	**Pn**	**14 56 13.4 -0.3**
PQL			S	**Sn**	**14 57 05.4 +1.6**
ESPY	**Espiye-Giresun**	**4.31 301**	*e*PN	**Pn**	**14 56 14.9 +1.3**
ESPY	**Espiye-Giresun**	**4.31 301**	*e*Pn	**Pn**	**14 56 15.0 +1.3**
ALIB	**Äli-Bayra**	**4.33 73**	⇑P	**Pn**	**14 56 13.7 -0.1**
ALIB			⇑S	**Sn**	**14 57 05.8 +1.8**
ALIB	**Äli-Bayra**	**4.33 73**	P	**Pn**	**14 56 13.7 -0.1**
ALIB			S	**Sn**	**14 57 05.8 +1.8**
ATAB	**Bozova**	**4.41 254**	*i*P	**Pb**	**14 56 22.5 -3.2**
ATAB			*i*S	**Sg**	**14 57 28.1 -1.8**
SURC	**SANLIURFA_SURC**	**4.41 246**	⇑*i*P	**Pn**	**14 56 14.6 -0.4**
SURC			*i*S	**Sg**	**14 57 24.7 -5.2**
SURC	**SANLIURFA_SURC**	**4.41 246**	P	**Pn**	**14 56 14.6 -0.4**
SUSE	**Susehri**	**4.42 290**	⇓*i*P	**Pn**	**14 56 17.1 +1.9**
SUSE			*i*S	**Sg**	**14 57 30.9 +0.7**
SUSE	**Susehri**	**4.42 290**	P	**Pn**	**14 56 17.1 +1.9**
GBS	**Qobustan**	**4.45 66**	⇓P	**Pn**	**14 56 15.4 -0.2**
GBS			⇓S	**Sn**	**14 57 09.0 +1.7**
GBS	**Qobustan**	**4.45 66**	P	**Pn**	**14 56 15.4 -0.2**
GBS			S	**Sn**	**14 57 09.0 +1.7**
QSAR	**Qusar**	**4.46 51**	⇑P	**Pn**	**14 56 15.5 -0.2**
QSAR			⇑S	**Sn**	**14 57 09.4 +1.8**
QSAR	**Qusar**	**4.46 51**	P	**Pn**	**14 56 15.5 -0.2**
QSAR			S	**Sn**	**14 57 09.4 +1.8**
LSNR	**Lesken**	**4.46 2**	*e*P	**Pn**	**14 56 17.4 +1.6**
LSNR			pmax	pmax	
comp=Z,13μm,1.8s					
LSNR	**Lesken**	**4.46 2**	*e*P	**Pn**	**14 56 17.4 +1.6**
comp=Z,13μm,1.8s					
NEY	**Neytrino**	**4.49 352**	*e*P	**Pn**	**14 56 18.8 +2.6**
NEY			pmax	pmax	
comp=Z,18μm,1.8s					
NEY	**Neytrino**	**4.49 352**	*e*P	**Pn**	**14 56 18.8 +2.6**
comp=Z,18μm,1.8s					
QUBA	**Quba, Azerbaij**	**4.52 54**	⇑P	**Pn**	**14 56 16.3 -0.2**
QUBA			⇓S	**Sn**	**14 57 10.7 +1.8**
QUBA	**Quba, Azerbaij**	**4.52 54**	P	**Pn**	**14 56 16.3 -0.2**
QUBA			S	**Sn**	**14 57 10.7 +1.8**
STDR	**Stavd-Durt**	**4.56 4**	*e*P	**Pn**	**14 56 19.9 +2.8**
STDR			pmax	pmax	
comp=Z,9μm,1.5s					
STDR	**Stavd-Durt**	**4.56 4**	*e*P	**Pn**	**14 56 19.9 +2.8**
comp=Z,9μm,1.5s					
ATGJ	**Altiaghaj**	**4.58 62**	⇓P	**Pn**	**14 56 17.1 -0.2**
ATGJ			⇓S	**Sn**	**14 57 12.3 +1.9**
ATGJ	**Altiaghaj**	**4.58 62**	P	**Pn**	**14 56 17.1 -0.2**
ATGJ			S	**Sn**	**14 57 12.3 +1.9**
BTKR	**Batakoyurt**	**4.61 8**	*e*P	**Pn**	**14 56 20.9 +3.2**
BTKR			pmax	pmax	
comp=Z,3μm,1.1s					
BTKR	**Batakoyurt**	**4.61 8**	*e*P	**Pn**	**14 56 20.9 +3.2**
comp=Z,3μm,1.1s					
GRSN	**GIRESUNGRSN**	**4.63 299**	*i*P	Pb	14 56 23.7 -5.7
SIZA	**Siyzn**	**4.64 59**	⇑P	**Pn**	**14 56 18.0 -0.2**
SIZA			⇑S	**Sn**	**14 57 13.8 +1.8**
SIZA	**Siyzn**	**4.64 59**	P	**Pn**	**14 56 18.0 -0.2**
SIZA			S	**Sn**	**14 57 13.8 +1.8**
CUZAR	**Zara_SIVAS**	**4.66 285**	*i*P	**Pn**	**14 56 20.3 +1.8**
CUZAR			*i*S	**Sg**	**14 57 35.5 -2.6**
CUZAR	**Zara_SIVAS**	**4.66 285**	P	**Pn**	**14 56 20.3 +1.8**
NCK	**Nalchik**	**4.68 360**	*e*P	Pb	14 56 24.5 -5.8
NCK			pmax	pmax	
comp=Z,5μm,1.2s					
ILIN	**Lien**	**4.72 144**	*e*Pn	**Pn**	**14 56 22.5 +3.0**
ILIN			*e*AMB	AMB	14 57 49.3
comp=Z,57μm,0.5s					
DARE	**Darende-Malaty**	**4.81 269**	*e*PN	**Pn**	**14 56 21.2 +0.7**
DARE	**Darende-Malaty**	**4.81 269**	*e*Pn	**Pn**	**14 56 21.2 +0.7**
CUKAN	**kangal_SIVAS**	**4.82 278**	*i*P	**Pn**	**14 56 21.1 +0.4**
CUKAN			*i*S	**Sg**	**14 57 39.8 -3.3**
CUKAN	**kangal_SIVAS**	**4.82 278**	P	**Pn**	**14 56 21.1 +0.4**
ORDU	**Ordu-Boztepe**	**4.94 298**	*i*P	**Pn**	**14 56 24.9 +2.7**
ORDU			*i*S	**Sg**	**14 57 44.8 -2.1**
KBZ	**Khabaz**	**4.94 354**	Pn	**Pn**	**14 56 24.6 +2.4**
comp=Z,1.1nm,0.3s,baz=179,slow=11,SNR=38					
KBZ			Lg	Lg	14 57 44.7
baz=69,slow=14,SNR=1.8					
PRTR	**Priterechnaya**	**4.96 6**	*e*P	Pn	14 56 27.4 +4.9
PRTR			pmax	pmax	
comp=Z,3μm,1.1s					
PRTR	**Priterechnaya**	**4.96 6**	*e*P	Pn	14 56 27.4 +4.9
comp=Z,3μm,1.1s					
CUGUR	**Gurin_S¯VAS**	**4.96 271**	*i*P	Pn	14 56 27.9 +5.2
CUGUR			*i*S	**Sg**	**14 57 49.8 +2.1**
GOBA	**Gobu**	**4.98 69**	⇑P	**Pn**	**14 56 22.7 -0.1**
GOBA			⇓S	**Sn**	**14 57 21.7 +1.5**
GOBA	**Gobu**	**4.98 69**	P	**Pn**	**14 56 22.7 -0.1**
GOBA			S	**Sn**	**14 57 21.7 +1.5**
GZT	**Gaziantep**	**5.00 255**	*i*P	**Pn**	**14 56 26.1 +2.9**
IVIS	**Veis**	**5.00 148**	*e*Pn	**Pn**	**14 56 25.3 +2.1**
IVIS			*e*AMB	AMB	14 58 08.6
comp=Z,62μm,0.8s					
IVIS	**Veis**	**5.00 148**	*e*Pn	**Pn**	**14 56 25.3 +2.1**
MAK	**Makhachkala**	**5.08 34**	*e*P	**Pn**	**14 56 24.5 +0.3**
MAK			*e*S	**Sn**	**14 57 23.5 +0.8**
MAK			pmax	pmax	
comp=Z,277nm,1.4s					
MAK			MLR	MLR	
comp=Z,56μm,11.0s					
MAK	**Makhachkala**	**5.08 34**	*e*P	**Pn**	**14 56 24.5 +0.3**
comp=Z,277nm,1.4s					
MAK			*e*S	**Sn**	**14 57 23.5 +0.8**
comp=Z,56μm,11.0s					
RSDY	**Resadiye-TOKAT**	**5.11 290**	*e*PN	**Pn**	**14 56 26.2 +1.6**
RSDY	**Resadiye-TOKAT**	**5.11 290**	*e*Pn	**Pn**	**14 56 26.2 +1.6**
SCER	**sogukcermik**	**5.14 284**	*i*P	**Pn**	**14 56 27.1 +1.9**
SCER			*i*S	**Sb**	**14 57 45.8 +5.8**
SCER	**sogukcermik**	**5.14 284**	P	**Pn**	**14 56 27.1 +1.9**
KVAR	**Kislovodsk Arr**	**5.19 353**	Pn	**Pn**	**14 56 28.8 +3.0**
baz=287,slow=2.2,SNR=27					
KVAR			LR	LR	14 59 03.7
comp=Z,26μm,21.6s,baz=82,slow=46					
KIV	**Kislovodsk**	**5.19 353**	*i*P	**Pn**	**14 56 28.0 +2.3**
SNR=57					
KIV	**Kislovodsk**	**5.19 353**	*e*P	**Pn**	**14 56 27.6 +1.9**
KIV			pmax	pmax	
comp=Z,501nm,1.1s					
KIV			MLR	MLR	
comp=Z,4μm,7.0s					
KIV	**Kislovodsk**	**5.19 353**	*e*P	**Pn**	**14 56 27.6 +1.9**
comp=Z,4μm,7.0s					
KIV	**Kislovodsk**	**5.19 353**	*e*Pn	**Pn**	**14 56 29.5 +3.8**
KIV	**Kislovodsk**	**5.19 353**	*e*Pn	**Pn**	**14 56 29.5 +3.8**
NDR	**Nardaran**	**5.22 68**	⇓P	**Pn**	**14 56 25.9 -0.1**
NDR			⇑S	**Sn**	**14 57 27.5 +1.5**
NDR	**Nardaran**	**5.22 68**	P	**Pn**	**14 56 25.9 -0.1**
NDR			S	**Sn**	**14 57 27.5 +1.5**
SVSK	**Karacayir**	**5.25 284**	*e*PN	**Pn**	**14 56 28.1 +1.6**
SVSK	**Karacayir**	**5.25 284**	*e*Pn	**Pn**	**14 56 28.1 +1.6**
GALA	**Gala**	**5.29 70**	⇓P	**Pn**	**14 56 26.9 -0.1**
GALA			⇓S	**Sn**	**14 57 29.6 +1.8**
GALA	**Gala**	**5.29 70**	P	**Pn**	**14 56 26.9 -0.1**
GALA			S	**Sn**	**14 57 29.6 +1.8**
CUALT	**Altinyayla-SIV**	**5.36 277**	*i*P	**Pn**	**14 56 28.7 +0.5**
CUALT	**Altinyayla-SIV**	**5.36 277**	P	**Pn**	**14 56 28.7 +0.5**
KMRS	**Kahramanmaras**	**5.46 258**	*e*PN	**Pn**	**14 56 30.8 +1.4**
KMRS	**Kahramanmaras**	**5.46 258**	*e*Pn	**Pn**	**14 56 30.8 +1.4**
HCB	**Kahramanmara¯**	**5.50 257**	*i*P	**Pn**	**14 56 32.9 +3.0**
BHD	**Baghdad**	**5.56 173**	*e*Pn	**Pn**	**14 56 31.0 +0.2**
SNR=3.0					
KUZU	**Kuzuini**	**5.57 251**	*i*P	**Pn**	**14 56 33.0 +2.0**
KUZU	**Kuzuini**	**5.57 251**	P	**Pn**	**14 56 33.0 +2.0**
SARI	**SarD1z-Kayseri**	**5.66 268**	*e*PN	**Pn**	**14 56 32.9 +0.6**
TOKA	**Tokat**	**5.72 288**	⇓*i*P	**Pn**	**14 56 36.9 +3.8**
TOKA	**Tokat**	**5.72 288**	*e*Pn	**Pn**	**14 56 37.4 +4.4**
TOKA	**Tokat**	**5.72 288**	*e*Pn	**Pn**	**14 56 37.4 +4.4**
KAMA	**Osmaniye**	**5.73 256**	*i*P	**Pn**	**14 56 30.9 -2.2**
CUSAR	**Sarkisla-SIVAS**	**5.77 278**	⇓*i*P	**Pn**	**14 56 36.8 +3.0**
CUSAR			*i*S	**Sg**	**14 58 14.3 +0.7**
IGZV	**Ghazvin**	**5.77 113**	*e*Pn	**Pn**	**14 56 35.4 +1.5**
IGZV			*e*AMB	AMB	14 58 48.8
comp=Z,44μm,1.0s					
IGZV	**Ghazvin**	**5.77 113**	*e*Pn	**Pn**	**14 56 35.4 +1.5**
ANDN	**Andirin**	**5.86 260**	*i*P	**Pn**	**14 56 34.3 -0.7**
ANDN	**Andirin**	**5.86 260**	P	**Pn**	**14 56 34.3 -0.7**
DRWC	**Darouich**	**5.93 251**	*e*P	**Pn**	**14 56 35.4 -0.5**
DRWC			*e*S	**Sb**	**14 57 53.9 -8.7**
DRWC			AML	AML	14 58 33.6
comp=N,687nm,0.6s					
DRWC			AML	AML	14 58 41.8
comp=E,1μm,0.6s					
BNN	**Bunyan**	**6.07 273**	*e*PN	**Pn**	**14 56 39.2 +1.3**
BNN	**Bunyan**	**6.07 273**	*e*Pn	**Pn**	**14 56 39.2 +1.3**
SAMS	**Samsun-Alacam**	**6.24 296**	*i*P	**Pn**	**14 56 44.9 +4.7**
SAMS			*i*S	**Sb**	**14 58 13.6 +2.2**
KVT	**Kavak**	**6.25 294**	*e*PN	**Pn**	**14 56 42.1 +1.9**
KVT	**Kavak**	**6.25 294**	*e*Pn	**Pn**	**14 56 42.1 +1.9**
GOF	**Gofitskoye**	**6.26 356**	⇓*i*P	**Pn**	**14 56 44.4 +4.1**
GOF			*e*S	**Sn**	**14 57 49.7 -1.9**
GOF			pmax	pmax	
comp=Z,344nm,1.3s					
GOF			smax	smax	
comp=E,4μm,1.8s					
GOF			smax	smax	
comp=N,3μm,2.0s					
KOZT	**Kozan**	**6.29 260**	*e*PN	**Pn**	**14 56 42.3 +1.5**
KOZT	**Kozan**	**6.29 260**	*e*Pn	**Pn**	**14 56 42.3 +1.5**
RTB	**Rutbah**	**6.37 206**	*e*Pn	**Pn**	**14 56 43.0 +1.1**
SNR=3.0					
HAVZ	**Havza**	**6.48 293**	⇓*i*P	**Pn**	**14 56 47.8 +4.3**
YAHY	**KAYSERI_Yahyal**	**6.52 266**	*i*P	**Pn**	**14 56 45.8 +1.7**
YAHY			*i*S	**Sg**	**14 58 37.1 -0.6**
YAHY	**KAYSERI_Yahyal**	**6.52 266**	P	**Pn**	**14 56 45.8 +1.7**
KFRA	**Kufra**	**6.53 239**	*e*P	**Pn**	**14 56 45.3 +1.1**
KFRA			AML	AML	14 58 49.2
comp=E,3μm,0.6s					
KFRA			AML	AML	14 58 53.3
comp=N,3μm,0.7s					
AKO	**Adana**	**6.58 261**	*i*P	**Pn**	**14 56 47.2 +2.4**
AKO			*i*S	**Sb**	**14 58 28.0 +6.7**
YAYL	**Yayladag**	**6.59 247**	*i*P	**Pn**	**14 56 43.1 -2.0**
YAYL	**Yayladag**	**6.59 247**	P	**Pn**	**14 56 43.1 -2.0**
RABH	**Abou Rabah**	**6.76 232**	*e*P	**Pn**	**14 56 48.3 +1.0**
RABH			AML	AML	14 58 53.6
comp=N,594nm,0.7s					
RABH			AML	AML	14 59 12.1
comp=E,593nm,0.8s					
ARNB	**Al Arnab**	**6.77 247**	*e*P	**Pn**	**14 56 47.0 -0.4**
ARNB			*e*S	Sn	14 58 13.5 +9.1
ARNB			AML	AML	14 58 58.4
comp=E,1μm,0.7s					
ARNB			AML	AML	14 59 04.8
comp=N,874nm,0.7s					
COAL	**Corum-Alaca**	**6.83 285**	*i*P	**Pn**	**14 56 51.3 +3.0**
COAL			*i*S	**Sg**	**14 58 40.7 -6.8**
ROOS	**tl_alroos**	**6.89 230**	*e*P	**Pn**	**14 56 49.6 +0.5**
ROOS			AML	AML	14 59 03.4
comp=N,1μm,0.7s					
ROOS			AML	AML	14 59 25.8
comp=E,986nm,0.7s					
BIDA	**Albida**	**6.97 239**	*e*P	**Pn**	**14 56 51.1 +0.9**
BIDA			*e*S	**Sn**	**14 58 16.6 +7.3**
BIDA			AML	AML	14 59 02.2
comp=E,2μm,0.7s					
BIDA			AML	AML	14 59 08.9
comp=N,2μm,0.6s					
CTAK	**Corum_Osmancik**	**7.05 288**	*i*P	**Pn**	**14 56 55.2 +3.9**
HAWK	**Haweek**	**7.21 236**	*e*P	**Pn**	**14 56 53.7 +0.2**
HAWK			*e*S	**Sn**	**14 58 23.0 +7.7**
HAWK			AML	AML	14 59 13.2
comp=N,714nm,0.7s					
HAWK			AML	AML	14 59 29.0
comp=E,414nm,0.8s					
DED	**Mersin**	**7.22 258**	*i*P	**Pn**	**14 56 57.1 +3.5**
CDAG	**Cicekdag**	**7.23 279**	*i*P	**Pn**	**14 56 53.8 0.0**
CDAG	**Cicekdag**	**7.23 279**	P	**Pn**	**14 56 53.8 0.0**
FKH	**Fakeheh**	**7.38 234**	*e*P	**Pn**	**14 56 56.6 +0.7**
MARH	**Ras Al Marh**	**7.48 232**	*e*P	**Pn**	**14 56 58.4 +1.0**
MARH			*e*S	**Sn**	**14 58 29.5 +7.3**
MARH			AML	AML	14 59 20.6
comp=E,345nm,0.8s					
MARH			AML	AML	14 59 26.6
comp=N,848nm,0.8s					
ANN	**Anapa**	**7.56 324**	*e*P	Pn	14 57 05.0 +6.8
ANN			*e*S	Sn	14 58 33.8 +10
ANN			pmax	pmax	
comp=Z,178nm,1.4s					
ANN			pmax	pmax	
comp=E,73nm,1.4s					
ANN			pmax	pmax	
comp=N,66nm,1.4s					
ANN			MLR	MLR	
comp=E,9μm,11.0s					
ANN			MLR	MLR	
comp=Z,16μm,11.0s					
ANN			MLR	MLR	
comp=N,11μm,11.0s					
KERG	**Konya-Eregli**	**7.62 262**	*i*P	Pn	14 56 51.4 -7.7
HWQ	**Hawqa**	**7.66 236**	*e*P	**Pn**	**14 56 59.9 +0.2**
AKSY	**AKSARAY - Alti**	**7.71 272**	*i*P	**Pn**	**14 57 03.2 +2.8**
BR131	**Keskin Array S**	**7.80 280**	*e*Pn	**Pn**	**14 57 02.8 +1.1**
BR131	**Keskin Array S**	**7.80 280**	*e*Pn	**Pn**	**14 57 02.8 +1.1**
BRTR	**Keskin Array B**	**7.80 280**	Pn	**Pn**	**14 57 03.3 +1.7**
comp=N,0.7nm,0.3s,baz=105,slow=12,SNR=35					
BRTR			Lg	Lg	14 59 17.6
baz=49,slow=48,SNR=2.0					
KIZK	**Mersin**	**7.87 256**	*i*P	**Pn**	**14 57 00.5 -2.1**
KIZK	**Mersin**	**7.87 256**	P	**Pn**	**14 57 00.4 -2.1**
ILGA	**Ilgaz**	**7.93 290**	*i*P	**Pn**	**14 57 06.7 +3.1**
ILGA	**Ilgaz**	**7.93 290**	*e*Pn	**Pn**	**14 57 03.1 -0.5**
ILGA	**Ilgaz**	**7.93 290**	*e*Pn	**Pn**	**14 57 03.1 -0.5**
QASN	**Qassioun**	**7.94 231**	*e*P	**Pn**	**14 57 04.0 +0.5**
QASN			AML	AML	14 59 34.2
comp=N,753nm,0.7s					
QASN			AML	AML	14 59 44.5
comp=E,460nm,0.7s					
TOTH	**TOTAH**	**7.97 229**	*e*P	**Pn**	**14 57 04.8 +1.0**
TOTH			AML	AML	14 59 40.0
comp=E,337nm,0.8s					
TOTH			AML	AML	14 59 49.6
comp=N,303nm,0.8s					
NSR	**Nassriya**	**8.05 164**	*e*Pn	**Pn**	**14 57 06.0 +1.0**
SNR=3.0					
BBAL	**Bala**	**8.19 278**	*i*P	**Pn**	**14 57 09.5 +2.5**
BBAL	**Bala**	**8.19 278**	P	**Pn**	**14 57 09.5 +2.5**
BRBR	**Barbar**	**8.22 231**	*e*P	**Pn**	**14 57 08.4 +0.9**
BRBR			AML	AML	14 59 53.3
comp=E,240nm,0.8s					
BRBR			AML	AML	14 59 54.6
comp=N,491nm,0.7s					
RCY	**Rachaya**	**8.23 232**	*e*P	**Pn**	**14 57 08.8 +1.2**
DQRL	**Deir Qamar**	**8.26 234**	*e*P	**Pn**	**14 57 10.2 +2.3**
SALA	**Sala**	**8.27 225**	*e*P	**Pn**	**14 57 07.8 -0.4**
SALA			AML	AML	14 59 56.6
comp=N,384nm,0.7s					
KKUL	**Konya-Kulu**	**8.35 276**	*i*P	**Pn**	**14 57 12.9 +3.8**
SHBL	**Chebaa**	**8.39 232**	*e*P	**Pn**	**14 57 10.4 +0.7**
GULN	**MERSIN_Gulnar**	**8.43 255**	*i*P	**Pn**	**14 57 11.4 +1.2**
GULN	**MERSIN_Gulnar**	**8.43 255**	P	**Pn**	**14 57 11.4 +1.2**
ANTO	**Ankara**	**8.46 281**	*e*P	**Pn**	**14 57 11.2 +0.6**
ANTO	**Ankara**	**8.46 281**	*e*Pn	**Pn**	**14 57 09.5 -1.1**
ANTO	**Ankara**	**8.46 281**	*e*P	**Pn**	**14 57 11.2 +0.6**
ANTO	**Ankara**	**8.46 281**	*e*Pn	**Pn**	**14 57 09.5 -1.1**
ANTO	**Ankara**	**8.46 281**	PnPn	Pn	14 57 15.8 +5.2
SNR=17					
ANTO	**Ankara**	**8.46 281**	P	Pn	14 57 15.8 +5.2
SNR=17					
KSDI	**Kefar Szold**	**8.55 231**	Pn	**Pn**	**14 57 13.4 +1.6**
KSDI	**Kefar Szold**	**8.55 231**	Pn	**Pn**	**14 57 13.4 +1.6**
ASF	**Jabal al Asfar**	**8.60 222**	Pn	**Pn**	**14 57 12.3 -0.3**
comp=N,1.2nm,0.3s,baz=354,slow=9.0,SNR=22					
ASF			Lg	Lg	14 59 32.7
comp=N,1.5nm,0.3s,baz=356,slow=19,SNR=2.1					
ASF			LR	LR	15 01 01.2
comp=N,11μm,18.7s,baz=10,slow=42					
KSHT	**Keshet**	**8.60 230**	Pn	**Pn**	**14 57 14.2 +1.6**
KSHT	**Keshet**	**8.60 230**	Pn	**Pn**	**14 57 14.2 +1.6**
TCHB	**Talchebab**	**8.73 228**	*e*P	**Pn**	**14 57 15.3 +1.0**
TCHB			AML	AML	15 00 09.7
comp=N,686nm,0.7s					
TCHB			AML	AML	15 00 28.0
comp=E,470nm,0.7s					
ERMK	**Ermenek**	**8.76 259**	*i*P	**Pn**	**14 57 19.3 +4.4**
CMDR	**Camlidere-ANKA**	**8.76 285**	*i*P	**Pn**	**14 57 17.9 +3.1**
MMAOB	**Mount Meron ar**	**8.82 232**	Pn	**Pn**	**14 57 17.6 +2.0**
MMAI	**Mount Meron Ar**	**8.82 232**	Pn	**Pn**	**14 57 17.7 +2.0**
comp=E,14nm,0.3s,baz=64,slow=18,SNR=19					
MMAI			Lg	Lg	14 59 43.1
comp=E,3.3nm,0.3s,baz=210,slow=28,SNR=2.4					
MMAI			LR	LR	15 00 59.0
comp=E,23μm,18.1s,baz=40,slow=40					
SUDU	**Sudak**	**8.84 316**	*e*P	**Pn**	**14 57 17.2 +1.4**
SUDU			*e*S	**Sn**	**14 58 57.4 +2.2**
KONT	**Konya--Tatoy**	**8.89 268**	*i*P	**Pn**	**14 57 16.7 +0.3**
KMER	**Konya-Meram**	**8.91 267**	*i*P	**Pn**	**14 57 21.6 +4.7**
HNTI	**Hanıta**	**8.92 233**	Pn	**Pn**	**14 57 19.9 +3.0**
KDHN	**Kadinhani**	**9.01 272**	*i*P	**Pn**	**14 57 16.2 -1.9**
KDHN	**Kadinhani**	**9.01 272**	P	**Pn**	**14 57 16.2 -1.9**
ALU	**Alushta**	**9.04 313**	*e*P	Pn	14 57 23.7 +5.2
YAL	**Yalta**	**9.07 312**	*e*P	Pn	14 57 25.8 +6.9
YAL			*e*S	Sn	14 59 11.7 +11
CSS	**Mathiatis**	**9.09 248**	Pn	**Pn**	**14 57 22.6 +3.3**
CSS	**Mathiatis**	**9.09 248**	P	Pn	14 57 24.3 +5.0
BCAM	**Yenicaga**	**9.12 286**	*i*P	**Pn**	**14 57 22.7 +3.0**
BTIN	**Bart¯–n**	**9.14 292**	*i*P	**Pn**	**14 57 23.0 +3.1**
BLGI	**Bet Lehem HaGe**	**9.15 231**	Pn	**Pn**	**14 57 21.2 +1.2**
MMLI	**Mount Malkishu**	**9.22 229**	Pn	**Pn**	**14 57 22.2 +1.2**
HMDT	**Nahal Hemdat**	**9.29 228**	Pn	**Pn**	**14 57 23.1 +1.1**
LEF	**Lefka**	**9.34 250**	P	**Pn**	**14 57 23.0 +0.3**
OFRI	**'Ofer**	**9.35 231**	Pn	**Pn**	**14 57 25.7 +2.9**
SIM	**Simferopol'**	**9.37 314**	*e*P	**Pn**	**14 57 27.1 +4.1**
SIM			S	**Sn**	**14 59 11.0 +2.8**
SIM			pmax	pmax	
comp=Z,152nm,1.0s					
SEV	**Sevastopol'**

CFR	Carcaliu	13.15 304	⇑*i*P		Pn	14 58 15.1 +0.4
CFR	Carcaliu	13.15 304	P		Pn	14 58 16.9 +2.2
CFR			pmax	pmax		
	comp=Z,72nm,1.1s					
CFR	Carcaliu	13.15 304	⇑*i*P		Pn	14 58 15.1 +0.4
VORR	Voronezh	13.23 348	*e*P		Pn	14 58 18.0 +2.3
VORR			pmax	pmax		
	comp=Z,500nm,2.0s					
EDRB	Edirne	13.23 289	P		Pn	14 58 14.0 -1.8
EDRB	Edirne	13.23 289	*e*Pn		Pn	14 58 14.0 -1.8
EDRB	Edirne	13.23 289	*e*Pn		Pn	14 58 14.0 -1.8
PRK	Paraskevi	13.50 277	P		Pn	14 58 22.3 +2.8
PRK	Paraskevi	13.50 277	P		Pn	14 58 22.3 +2.8
PRK	Paraskevi	13.50 277	P		Pn	14 58 22.3 +2.8
PRK	Paraskevi	13.50 277	P		Pn	14 58 22.3 +2.8
KARP	Karpathos	13.52 261	*e*Pn		Pn	14 58 20.6 +0.7
KARP	Karpathos	13.52 261	*e*Pn		Pn	14 58 20.6 +0.7
KIS	Kishinev	13.57 312	⇓*e*P		Pn	14 58 23.0 +2.5
	comp=Z,200nm,1.4s					
KIS	Kishinev	13.57 312	*e*PP		P	14 58 42.0 +13
KIS			*e*S		Sn	15 00 55.0 +4.0
KIS			*e*LQ		LQ	15 02 18.0
KIS			*e*LR		LR	15 03 22.0
	comp=Z,8μm,16.0s					
KIS	Kishinev	13.57 312	⇓*e*P		Pn	14 58 23.0 +2.5
KIS			*e*S		Sn	15 00 55.0 +4.0
KIS			pmax	pmax		
	comp=Z,220nm,1.4s					
KIS			pmax	pmax		
	comp=Z,2μm,9.0s					
KIS			pmax	pmax		
	comp=Z,2μm,12.0s					
KIS			MLR	MLR		
	comp=Z,8μm,16.0s					
KIS			MLR	MLR		
	comp=Z,8μm,16.0s					
KIS			MLR	MLR		
	comp=E,6μm,14.0s					
KIS	Kishinev	13.57 312	⇓*e*P		Pn	14 58 23.0 +2.5
	comp=E,200nm,1.4s					
ENEZ	Enez	13.58 284	P		P	14 58 28.3 -1.3
ALN	Alexandroupoli	13.66 284	P		Pn	14 58 23.0 +1.2
ALN	Alexandroupoli	13.66 284	*e*P		Pn	14 58 23.0 +1.2
ALN	Alexandroupoli	13.66 284	P		Pn	14 58 23.0 +1.2
ALN	Alexandroupoli	13.66 284	*e*Pn		Pn	14 58 23.0 +1.2
GADA	Gvkgeada	13.76 281	P		Pn	14 58 22.5 -0.5
GADA	Gvkgeada	13.76 281	*e*Pn		Pn	14 58 22.5 -0.5
GADA	Gvkgeada	13.76 281	*e*Pn		Pn	14 58 22.5 -0.5
PETR	Petresti	13.95 305	⇑*i*P		Pn	14 58 27.8 +2.2
SMTH	Samothraki Isl	14.04 282	P		P	14 58 31.4 -3.4
SMTH	Samothraki Isl	14.04 282	P		P	14 58 31.4 -3.4
SMTH	Samothraki Isl	14.04 282	P		P	14 58 31.4 -3.4
RDO	Rodhopi	14.06 285	P		Pn	14 58 29.3 +2.1
RDO	Rodhopi	14.06 285	P		Pn	14 58 29.3 +2.1
RDO	Rodhopi	14.06 285	P		Pn	14 58 29.3 +2.1
SZH	Strazhica	14.07 294	*e*P		P	14 58 36.9 +1.9
SZH	Strazhica	14.07 294	P		S	15 01 39.3 +15
ODBI	Odobesti	14.08 305	⇑*i*P		Pn	14 58 30.0 +2.6
LPSR	Galich'ya Gora	14.17 348	*e*P		Pn	14 58 28.9 +0.3
LPSR			pmax	pmax		
	comp=Z,330nm,1.2s					
ISR	Istrita	14.17 302	⇑*i*P		Pn	14 58 30.0 +1.3
SULR		14.22 300	⇓*i*P		P	14 58 33.3 -3.4
VRI	Vrincioaia	14.33 305	⇓*i*P		Pn	14 58 32.8 +1.9
VRI	Vrincioaia	14.33 305	P		Pn	14 58 32.4 +1.5
VRI			pmax	pmax		
	comp=Z,1μm,1.1s					
PLOR	Plostina	14.38 305	⇓*i*P		Pn	14 58 32.0 +0.5
APE	Apeiranthos	14.38 269	⇓*i*P		Pn	14 58 33.3 +1.6
APE	Apeiranthos	14.38 269	*c i*P		Pn	14 58 33.9 +2.2
ZKR	Zakros	14.39 261	P		Pn	14 58 31.9 +0.1
ZKR	Zakros	14.39 261	*e*Pn		Pn	14 58 31.9 +0.1
ZKR	Zakros	14.39 261	*e*Pn		Pn	14 58 31.9 +0.1
IAS	Iasi	14.41 311	⇑*i*P		Pn	14 58 34.5 +2.6
SECR		14.46 301	⇓*i*P		Pn	14 58 35.2 +2.5
PVL	Pavlikeni	14.49 294	P		S	15 01 41.3 +8.3
SANT	Santorini	14.61 266	*e*Pn		Pn	14 58 34.8 +0.1
SANT	Santorini	14.61 266	*e*Pn		Pn	14 58 34.8 +0.1
TESR	Tescani	14.65 307	⇑*i*P		Pn	14 58 35.7 +0.5
MLR	Muntele Rosu	14.70 303	Pn		Pn	14 58 37.7 +1.7
	comp=Z,0.1nm,0.3s,baz=258,slow=10,SNR=8.7					
MLR			Sn		Sn	15 01 26.5 +7.8
	comp=Z,0.1nm,0.3s,baz=78,slow=13,SNR=1.8					
MLR	Muntele Rosu	14.70 303	⇑*i*P		Pn	14 58 37.9 +1.9
MLR	Muntele Rosu	14.70 303	*e*Pn		Pn	14 58 35.9 -0.1
MLR			Sn		Sn	15 01 26.5 +7.8
MLR	Muntele Rosu	14.70 303	*e*Pn		Pn	14 58 35.9 -0.1
MLR			Sn		Sn	15 01 26.5 +7.8
RZN	Rozhen	14.72 287	P		S	15 01 39.3 +1.1
PLD	Plovdiv	14.77 289	*e*P		P	14 58 44.7 +1.8
PLD	Plovdiv	14.77 289	P		S	15 01 41.3 +2.4
NPS	Neapolis	14.81 262	P		Pn	14 58 37.4 -0.1
NPS	Neapolis	14.81 262	*e*P		Pn	14 58 37.4 -0.1
NPS	Neapolis	14.81 262	*e*Pn		Pn	14 58 37.4 -0.1
NPS	Neapolis	14.81 262	*e*Pn		Pn	14 58 37.4 -0.1
KAVA	Kavala	14.83 285	P		Pn	14 58 37.1 -0.6
KAVA	Kavala	14.83 285	*e*Pn		Pn	14 58 37.1 -0.6
KAVA	Kavala	14.83 285	*e*Pn		Pn	14 58 37.1 -0.6
LAST	Lasithi	14.95 262	P		Pn	14 58 39.7 +0.3
LAST	Lasithi	14.95 262	*e*Pn		Pn	14 58 39.7 +0.3
LAST	Lasithi	14.95 262	*e*Pn		Pn	14 58 39.7 +0.3
HUMR	Humele	15.04 298	⇑*i*P		Pn	14 58 42.8 +2.2
KARY	Karystos	15.06 273	P		P	14 58 46.8 +0.7
MTUR	Matau	15.20 301	⇑*i*P		Pn	14 58 44.8 +2.2
PGB	Panagyurishte	15.22 290	*e*P		P	14 58 46.5 -1.4
PGB	Panagyurishte	15.22 290	P		S	15 01 52.9 +4.7
OUR	Ouranopolis	15.22 282	P		Pn	14 58 44.1 +1.2
OUR	Ouranopolis	15.22 282	*e*P		Pn	14 58 44.1 +1.2
OUR	Ouranopolis	15.22 282	*e*Pn		Pn	14 58 44.1 +1.2
OUR	Ouranopolis	15.22 282	*e*Pn		Pn	14 58 44.1 +1.2
DOPR	Dopca	15.23 304	⇓*i*P		Pn	14 58 44.4 +1.3
VOIR		15.27 302	⇓*i*P		Pn	14 58 45.1 +1.4
VOIR		15.27 302	P		Pn	14 58 45.0 +1.4
VOIR			pmax	pmax		
	comp=Z,406nm,1.2s					
PRAR	RASCA	15.29 310	⇓*i*P		Pn	14 58 44.9 +1.1
RAYN	Ar Rayn	15.33 173	*e*Pn		Pn	14 58 40.7 -3.8
	comp=Z,288nm,0.9s					
RAYN	Ar Rayn	15.33 173	*e*Pn		Pn	14 58 40.7 -3.8
	comp=Z,288nm,0.9s					
NVR	Nevrokopi	15.34 286	P		Pn	14 58 45.8 +1.3
NVR	Nevrokopi	15.34 286	*e*Pn		Pn	14 58 45.8 +1.3
NVR	Nevrokopi	15.34 286	*e*Pn		Pn	14 58 45.8 +1.3
MHLO	Agia Marina, M	15.35 268	P		Pn	14 58 43.5 -1.2
IDI	Anoyia	15.36 263	Pn		Pn	14 58 45.4 +0.5
	comp=Z,2.2nm,0.3s,baz=54,slow=12,SNR=40					
IDI			Sn		Sn	15 01 39.6 +4.7
	comp=Z,0.1nm,0.3s,baz=344,slow=18,SNR=1.8					
IDI	Anoyia	15.36 263	P		Pn	14 58 42.1 -2.8
IDI	Anoyia	15.36 263	*e*Pn		Pn	14 58 43.6 -1.3
	comp=Z,377nm,1.3s					
IDI			Sn		Sn	15 01 39.6 +4.7
IDI	Anoyia	15.36 263	*e*Pn		Pn	14 58 43.6 -1.3
	comp=Z,377nm,1.3s					
IDI			Sn		Sn	15 01 39.6 +4.7
I31KZ	AKTYUBINSK INF	15.45 37	*i*			16 28 50.0
	baz=221,slow=333,SNR=0.3					
MMB	Musomiste	15.45 287	P		S	15 01 56.9 +4.0
AKTO	Aktyubinsk	15.46 37	Pn		Pn	14 58 45.5 -0.5
	comp=Z,1.6nm,0.3s,baz=225,slow=12,SNR=49					
AKTO			LR		LR	15 06 33.6
	comp=Z,11μm,18.0s,baz=222,slow=44					
PAIG	Paliouri	15.47 280	P		Pn	14 58 47.1 +1.0
PAIG	Paliouri	15.47 280	*e*P		Pn	14 58 47.1 +1.0
PAIG	Paliouri	15.47 280	*e*Pn		Pn	14 58 47.1 +1.0
PAIG	Paliouri	15.47 280	*e*Pn		Pn	14 58 47.1 +1.0
PTL	Penteli	15.51 273	P		Pn	14 58 47.1 +0.4
PTL	Penteli	15.51 273	*e*Pn		Pn	14 58 47.1 +0.4
PTL	Penteli	15.51 273	*e*Pn		Pn	14 58 47.1 +0.4
SIVA	Sivas	15.51 262	P		Pn	14 58 47.2 +0.4
SIVA	Sivas	15.51 262	*e*Pn		Pn	14 58 47.2 +0.4
SIVA	Sivas	15.51 262	*e*Pn		Pn	14 58 47.2 +0.4
ARR	Arges	15.53 301	⇓*i*P		Pn	14 58 48.7 +1.7
SRS	Serrai	15.53 285	P		Pn	14 58 47.6 +0.6
SRS	Serrai	15.53 285	*e*P		Pn	14 58 47.6 +0.6
SRS	Serrai	15.53 285	*e*Pn		Pn	14 58 47.6 +0.6
SRS	Serrai	15.53 285	*e*Pn		Pn	14 58 47.6 +0.6
TMBK	Timbaki Herakl	15.53 262	P		Pn	14 58 48.2 +1.2
ATHU	Athens Univers	15.58 273	P		Pn	14 58 49.4 +1.7
ATHU	Athens Univers	15.58 273	*e*Pn		Pn	14 58 49.4 +1.7
ATHU	Athens Univers	15.58 273	*e*Pn		Pn	14 58 49.4 +1.7
VLY	Voula,Athens	15.59 273	P		Pn	14 58 49.0 +1.2
VLY	Voula,Athens	15.59 273	*e*Pn		Pn	14 58 49.0 +1.2
VLY	Voula,Athens	15.59 273	*e*Pn		Pn	14 58 49.0 +1.2
ATH	Athens Observa	15.63 273	P		Pn	14 58 50.0 +1.7
ATH	Athens Observa	15.63 273	*e*P		Pn	14 58 50.0 +1.7
ATH	Athens Observa	15.63 273	*e*Pn		Pn	14 58 50.0 +1.7
ATH	Athens Observa	15.63 273	*e*Pn		Pn	14 58 50.0 +1.7
PLG	Polygyros	15.63 282	P		Pn	14 58 49.8 +1.4
PLG	Polygyros	15.63 282	*e*P		Pn	14 58 49.8 +1.4
PLG	Polygyros	15.63 282	*e*Pn		Pn	14 58 49.8 +1.4
PLG	Polygyros	15.63 282	*e*Pn		Pn	14 58 49.8 +1.4
AKASG	Malin Array Be	15.65 324	Pn		Pn	14 58 47.4 -1.0
	comp=Z,1.8nm,0.3s,baz=133,slow=12,SNR=70					
AKASG			Sn		Sn	15 01 46.4 +4.9
	baz=324,slow=31,SNR=2.4					
AKASG			LR		LR	15 06 17.6
	comp=Z,8μm,20.9s,baz=135,slow=43					
AKBB	Malin Array Si	15.65 324	*e*P		Pn	14 58 47.0 -1.4
AKBB			pmax	pmax		
	comp=Z,197nm,1.0s					
AKBB	Malin Array Si	15.65 324	*e*Pn		Pn	14 58 47.0 -1.4
	comp=Z,197nm,1.0s					
AKBB	Malin Array Si	15.65 324	*e*Pn		Pn	14 58 47.0 -1.4
	comp=Z,197nm,1.0s					
KIEV	Kiev	15.65 324	*c i*P		Pn	14 58 48.7 +0.3
KIEV			pmax	pmax		
	comp=Z,165nm,1.0s					
KIEV	Kiev	15.65 324	*e*Pn		Pn	14 58 47.1 -1.3
	comp=Z,212nm,1.1s					
KIEV	Kiev	15.65 324	*e*Pn		Pn	14 58 47.1 -1.3
	comp=Z,212nm,1.1s					
AB31	Akbulak array	15.67 43	*ce*P		Pn	14 58 47.1 -1.7
AB31			pmax	pmax		
	comp=Z,80nm,1.2s					
ABKAR	Akbulak array	15.67 43	*e*Pn		Pn	14 58 47.2 -1.6
	comp=Z,466nm,0.8s					
ABKAR	Akbulak array	15.67 43	*e*Pn		Pn	14 58 47.2 -1.6
	comp=Z,466nm,0.8s					
SOH	Sokhos	15.70 284	P		Pn	14 58 50.7 +1.4
SOH	Sokhos	15.70 284	*e*P		Pn	14 58 50.7 +1.4
SOH	Sokhos	15.70 284	*e*Pn		Pn	14 58 50.7 +1.4
SOH	Sokhos	15.70 284	*e*Pn		Pn	14 58 50.7 +1.4
VAM	Vamos	15.86 264	P		Pn	14 58 53.0 +1.7
VAM	Vamos	15.86 264	*e*P		Pn	14 58 53.0 +1.7
VAM	Vamos	15.86 264	P		Pn	14 58 53.0 +1.7
VAM	Vamos	15.86 264	*e*Pn		Pn	14 58 53.0 +1.7
HORT	Hortiatis	15.89 283	P		Pn	14 58 53.2 +1.4
HORT	Hortiatis	15.89 283	*e*Pn		Pn	14 58 53.2 +1.4
HORT	Hortiatis	15.89 283	*e*Pn		Pn	14 58 53.2 +1.4
VILL	Villia	15.92 274	P		Pn	14 58 52.9 +0.8
VTS	Vitosha	15.93 290	P		Pn	14 58 53.7 +1.4
VTS	Vitosha	15.93 290	⇓*i*P		P	14 58 54.1 -1.8
VTS	Vitosha	15.93 290	*e*P		Pn	14 58 53.7 +1.4
VTS	Vitosha	15.93 290	*e*P		P	14 58 55.8 -0.1
VTS	Vitosha	15.93 290	P		S	15 02 07.7 +4.8
VTS	Vitosha	15.93 290	P		Pn	14 58 53.7 +1.4
VTS	Vitosha	15.93 290	*e*Pn		Pn	14 58 53.7 +1.4
KKB	Krupnik	15.95 288	P		S	15 02 10.3 +7.2
THE	Thessaloniki	16.00 283	P		Pn	14 58 54.0 +1.0
THE	Thessaloniki	16.00 283	*e*P		Pn	14 58 54.0 +1.0
THE	Thessaloniki	16.00 283	*e*Pn		Pn	14 58 54.0 +1.0
THE	Thessaloniki	16.00 283	*e*Pn		Pn	14 58 54.0 +1.0
BURAR	Bucovina Array	16.01 309	⇑*i*P		Pn	14 58 53.8 +0.5
IMMV	Iera Moni Meta	16.02 264	P		Pn	14 58 54.5 +1.2
BUR08	Bucovina Ar. S	16.04 309	*e*Pn		Pn	14 58 53.6 0.0
BUR08	Bucovina Ar. S	16.04 309	*e*Pn		Pn	14 58 53.6 0.0
KNT	Kendrikon	16.05 285	P		Pn	14 58 54.5 +0.7
KNT	Kendrikon	16.05 285	*e*P		Pn	14 58 54.5 +0.7
KNT	Kendrikon	16.05 285	*e*Pn		Pn	14 58 54.5 +0.7
KNT	Kendrikon	16.05 285	*e*Pn		Pn	14 58 54.5 +0.7
DID	Didima	16.09 272	P		Pn	14 58 54.4 +0.2
DID	Didima	16.09 272	*e*Pn		Pn	14 58 54.4 +0.2
DID	Didima	16.09 272	*e*Pn		Pn	14 58 54.4 +0.2
LKR	Lokris	16.10 276	P		Pn	14 58 54.0 -0.3
LKR	Lokris	16.10 276	*e*Pn		Pn	14 58 54.0 -0.3
LKR	Lokris	16.10 276	*e*Pn		Pn	14 58 54.0 -0.3
LOT	Lotru	16.13 301	⇓*i*P		Pn	14 58 56.0 +1.2
GVD	Gavdhos	16.13 262	P		Pn	14 58 54.0 -0.8
GVD	Gavdhos	16.13 262	*e*Pn		Pn	14 58 54.0 -0.8
GVD	Gavdhos	16.13 262	*e*Pn		Pn	14 58 54.0 -0.8
LOUT	Loutraki	16.21 274	P		Pn	14 58 56.7 +0.9
LTK	Loutraki	16.21 274	P		Pn	14 58 55.9 +0.1
LTK	Loutraki	16.21 274	*e*Pn		Pn	14 58 55.9 +0.1
LTK	Loutraki	16.21 274	*e*Pn		Pn	14 58 55.9 +0.1
SRE	Strehaia	16.31 298	⇑*i*P		P	14 58 59.5 -0.4
VAY	Valandovo	16.31 286	*i*P		P	14 58 59.5 -0.4
ARCR	ARCALIA	16.32 307	⇓*i*P		P	14 58 59.5 -0.6
LIT	Litokhoron	16.37 281	P		Pn	14 58 57.4 -0.4
LIT	Litokhoron	16.37 281	*e*P		Pn	14 58 57.4 -0.4
LIT	Litokhoron	16.37 281	*e*Pn		Pn	14 58 57.4 -0.4
LIT	Litokhoron	16.37 281	*e*Pn		Pn	14 58 57.4 -0.4
GRG	Griva	16.43 284	P		Pn	14 58 58.6 +0.1
GRG	Griva	16.43 284	*e*P		Pn	14 58 58.6 +0.1
GRG	Griva	16.43 284	*e*Pn		Pn	14 58 58.6 +0.1
GRG	Griva	16.43 284	*e*Pn		Pn	14 58 58.6 +0.1
THAL	Thalero	16.44 274	P		Pn	14 58 59.4 +0.7
DSF	Desfina	16.49 275	P		Pn	14 59 00.1 +0.7
DSF	Desfina	16.49 275	*e*Pn		Pn	14 59 00.1 +0.7
DSF	Desfina	16.49 275	*e*Pn		Pn	14 59 00.1 +0.7
SHME	Shamm	16.52 137	P		Pn	14 58 58.0 -1.8
	SNR=60					
AGG	Agios Georgios	16.57 277	P		Pn	14 59 00.6 +0.2
AGG	Agios Georgios	16.57 277	*e*P		P	14 59 02.1 -0.8
AGG			pmax	pmax		
	comp=Z,1μm,1.4s					
AGG	Agios Georgios	16.57 277	P		Pn	14 59 00.6 +0.2
AGG	Agios Georgios	16.57 277	*e*Pn		Pn	14 59 00.6 +0.2
CJR	Cluj-Napoca	16.66 305	⇑*i*P		P	14 59 03.0 -0.9
BANOM	Banah	16.70 137	*i*P		Pn	14 59 01.7 -0.5
	SNR=278					
BANOM	Banah	16.70 137	P		Pn	14 59 00.6 -1.6
	SNR=129					
BANOM	Banah	16.70 137	Pn		Pn	14 59 00.6 -1.6
	SNR=129					
BANOM	Banah	16.70 137	P		Pn	14 59 00.6 -1.6
	SNR=129					
GUR	Goura	16.71 274	P		Pn	14 59 02.7 +0.5
GUR	Goura	16.71 274	*e*Pn		Pn	14 59 02.7 +0.5
GUR	Goura	16.71 274	*e*Pn		Pn	14 59 02.7 +0.5
THL	Klokotos Trika	16.77 279	P		Pn	14 59 02.8 0.0
VLX	Vlachokerasia	16.79 272	P		Pn	14 59 03.2 0.0
VLX	Vlachokerasia	16.79 272	*e*Pn		Pn	14 59 03.2 0.0
VLX	Vlachokerasia	16.79 272	*e*Pn		Pn	14 59 03.2 0.0
KALE	Kalithea	16.80 275	P		Pn	14 59 03.4 +0.1
KALE	Kalithea	16.80 275	*e*Pn		Pn	14 59 03.4 +0.1
KALE	Kalithea	16.80 275	*e*Pn		Pn	14 59 03.4 +0.1
DEV	Deva	16.84 301	⇓*i*P		P	14 59 05.8 0.0
DEV	Deva	16.84 301	P		Pn	14 59 04.2 +0.5
DEV			pmax	pmax		
	comp=Z,325nm,1.5s					
DEV	Deva	16.84 301	⇓*i*P		P	14 59 05.8 0.0
KLV	Kalavryta, Ach	16.84 274	P		Pn	14 59 03.9 0.0
KLV	Kalavryta, Ach	16.84 274	*e*Pn		Pn	14 59 03.9 0.0
KLV	Kalavryta, Ach	16.84 274	*e*Pn		Pn	14 59 03.9 0.0
SERG	Sergoula	16.86 275	P		Pn	14 59 04.1 +0.1
ANX	Ano Chora	16.94 276	P		Pn	14 59 05.1 0.0
LAKA	Lakka	16.95 275	P		Pn	14 59 04.0 -1.1
LAKA	Lakka	16.95 275	*e*Pn		Pn	14 59 04.0 -1.1
LAKA	Lakka	16.95 275	*e*Pn		Pn	14 59 04.0 -1.1
EFP	Efpalio	16.98 276	P		Pn	14 59 06.2 +0.7
OBN	Obninsk	16.99 346	P		Pn	14 59 04.4 -1.0
	comp=Z,7.8nm,0.3s,baz=150,slow=7.5,SNR=28					
OBN			S		S	15 02 19.6 -4.4
	comp=Z,4.1nm,0.3s,baz=164,slow=20,SNR=3.3					
OBN			LR		LR	15 06 04.8
	comp=Z,5μm,20.0s,baz=162,slow=39					
OBN	Obninsk	16.99 346	*c i*P		Pn	14 59 04.0 -1.5
OBN			*i* S		Sn	15 02 16.5 +2.5
OBN			pmax	pmax		
	comp=Z,310nm,1.7s					
OBN			MLR	MLR		
	comp=Z,5μm,16.0s					
OBN	Obninsk	16.99 346	*e*Pn		Pn	14 59 03.6 -1.9
	comp=Z,1μm,1.2s					
OBN			S		S	15 02 19.6 -4.4
OBN	Obninsk	16.99 346	*e*Pn		Pn	14 59 03.6 -1.9
	comp=Z,1μm,1.2s					
OBN			S		S	15 02 19.6 -4.4
EVR	Evrytania	16.99 277	P		Pn	14 59 06.4 +0.7
EVR	Evrytania	16.99 277	*e*Pn		Pn	14 59 06.4 +0.7
EVR	Evrytania	16.99 277	*e*Pn		Pn	14 59 06.4 +0.7
MSFE	Esma-Masafi	17.09 138	P		Pn	14 59 04.7 -2.3
	SNR=40					
BMR	Baia Mare	17.09 308	⇑*i*P		P	14 59 08.0 -0.6
NAZ	Nazwa, Dubai	17.14 140	*i* P		Pn	14 59 06.7 -0.9
	SNR=52					
NAZ	Nazwa, Dubai	17.14 140	P		Pn	14 59 06.3 -1.3
	SNR=54					
NAZ	Nazwa, Dubai	17.14 140	Pn		Pn	14 59 06.3 -1.3
	SNR=54					
NAZ	Nazwa, Dubai	17.14 140	P		Pn	14 59 06.3 -1.3
	SNR=54					
ITM	Ithomi	17.18 271	P		Pn	14 59 07.6 -0.4
ITM	Ithomi	17.18 271	*e*Pn		Pn	14 59 07.6 -0.4
ITM	Ithomi	17.18 271	*e*Pn		Pn	14 59 07.6 -0.4
SKO	Skopje	17.18 288	*i* P		P	14 59 10.3 +0.7
DRO	Drossia	17.20 274	P		Pn	14 59 08.0 -0.3
FNA	Florina	17.20 284	P		Pn	14 59 07.9 -0.5
FNA	Florina	17.20 284	*e*P		Pn	14 59 07.9 -0.5
FNA	Florina	17.20 284	P		Pn	14 59 07.9 -0.5
FNA	Florina	17.20 284	*e*Pn		Pn	14 59 07.9 -0.5
BIA	Bitola	17.24 284	*i* P		P	14 59 12.2 +1.8
PVO	Paravola	17.25 276	P		Pn	14 59 08.7 -0.1
DRGR		17.26 304	⇓*i*P		P	14 59 10.2 -0.3
AMT	Artemida-Makis	17.28 273	P		Pn	14 59 09.0 -0.3
FAQ	Al Faqa, Dubai	17.30 141	*i* P		Pn	14 59 09.3 -0.3
	SNR=48					
FAQ	Al Faqa, Dubai	17.30 141	P		Pn	14 59 07.8 -1.9
	SNR=37					
FAQ	Al Faqa, Dubai	17.30 141	Pn		Pn	14 59 07.8 -1.9
	SNR=37					
FAQ	Al Faqa, Dubai	17.30 141	P		Pn	14 59 07.8 -1.9
	SNR=37					
KRUS	Krusevo	17.30 286	*i* P		P	14 59 12.7 +1.6
MDVR	Moldovita	17.37 297	⇑*i*P		P	14 59 12.6 +0.9
RLS	Riolos of Patr	17.37 274	P		Pn	14 59 10.7 +0.3
RLS	Riolos of Patr	17.37 274	*e*Pn		Pn	14 59 10.7 +0.3
RLS	Riolos of Patr	17.37 274	*e*Pn		Pn	14 59 10.7 +0.3
PYL	PYLOS	17.38 271	P		Pn	14 59 07.7 -2.9
PYL	PYLOS	17.38 271	*e*Pn		Pn	14 59 07.7 -2.9
PYL	PYLOS	17.38 271	*e*Pn		Pn	14 59 07.7 -2.9
MOS	Moscow	17.40 349	*e*P		Pn	14 59 08.9 -1.8
MOS			*e*S		Sn	15 02 20.7 -3.4
MOS			pmax	pmax		
	comp=Z,900nm,1.7s					
MOS			pmax	pmax		
	comp=Z,601nm,1.3s					
MOS			MLR	MLR		
	comp=Z,5μm,18.0s					
MOS			MLR	MLR		
	comp=N,4μm,15.0s					
UOSS	Minazif	17.45 139	*e*Pn		Pn	14 59 09.1 -2.3
	comp=N,262nm,1.0s					
UOSS	Minazif	17.45 139	*e*Pn		Pn	14 59 09.1 -2.3
	comp=N,262nm,1.0s					
HATD	Hatta, Dubai	17.51 139	*i* P		Pn	14 59 10.2 -2.0
	SNR=85					
HATD	Hatta, Dubai	17.51 139	P		Pn	14 59 09.6 -2.6
	SNR=64					
HATD	Hatta, Dubai	17.51 139	Pn		Pn	14 59 09.6 -2.6
	SNR=64					
HATD	Hatta, Dubai	17.51 139	P		Pn	14 59 09.6 -2.6
	SNR=64					
DSL	Palaion Diasel	17.52 278	P		Pn	14 59 10.2 -2.1
DSL	Palaion Diasel	17.52 278	*e*Pn		Pn	14 59 10.2 -2.1
DSL	Palaion Diasel	17.52 278	*e*Pn		Pn	14 59 10.2 -2.1
ASHO	Ashiyiah	17.59 140	*i* P		Pn	14 59 11.0 -2.3
	SNR=144					
ASHO	Ashiyiah	17.59 140	P		Pn	14 59 10.8 -2.4
	SNR=82					
ASHO	Ashiyiah	17.59 140	Pn		Pn	14 59 10.8 -2.4
	SNR=82					
ASHO	Ashiyiah	17.59 140	P		Pn	14 59 10.8 -2.4
	SNR=82					
BZS	Buzias	17.63 300	⇑*i*P		Pn	14 59 13.7 +0.1
OHR	Ohrid	17.64 285	*i* P		P	14 59 15.9 +1.1
LVV	L'vov	17.77 315	*e*P		P	14 59 19.2 +3.2
LVV			*e*S		Sn	15 02 33.7 +0.8
LVV			MLR	MLR		
	comp=Z,6μm,15.0s					
SIRR	Siria	17.78 302	⇓*i*P		P	14 59 17.2 +1.0
TRPA	Tarpa	17.86 308	⇑*e*Pn		P	14 59 17.7 +0.6
LKD2	Lefkada island	17.90 277	P		Pn	14 59 14.9 -2.1
LKD2	Lefkada island	17.90 277	*e*Pn		Pn	14 59 14.9 -2.1
LKD2	Lefkada island	17.90 277	*e*Pn		Pn	14 59

MNK	**Minsk**	**18.98 331**	*d* P	**P**	**14 59 28.0**	**-1.3**
MNK			*e*S	**Sn**	**15 02 54.0**	**-8.2**
MNK			pmax	pmax		
	comp=Z,7μm,7.0s					
MNK			pmax	pmax		
	comp=Z,390nm,0.8s					
MNK			MLR	MLR		
	comp=N,5μm,10.0s					
MNK			MLR	MLR		
	comp=Z,7μm,10.0s					
MNK			MLR	MLR		
	comp=E,6μm,10.0s					
NKY	**Niksic**	**19.04 290**⇑	*i* P	**Pn**	**14 59 30.9**	**0.0**
NKY	**Niksic**	**19.04 290**⇑	*i* P	**Pn**	**14 59 31.0**	**0.0**
NKME	**Niksic**	**19.07 290**⇑	*i* P	**Pn**	**14 59 31.0**	**-0.3**
NKME	**Niksic**	**19.07 290**⇑	*i* P	**Pn**	**14 59 31.0**	**-0.3**
CEME	**Cevo**	**19.08 289**⇑	*i* P	**P**	**14 59 30.8**	**+0.2**
CEME	**Cevo**	**19.08 289**⇑	*i* P	**P**	**14 59 30.9**	**+0.3**
BUM	**Brajici-Budva**	**19.09 288**⇑	*i* P	**P**	**14 59 30.3**	**-0.4**
BUM	**Brajici-Budva**	**19.09 288**⇑	*i* P	**P**	**14 59 30.4**	**-0.3**
UPM	**Unac-Piva**	**19.14 291**⇓	*i* P	**P**	**14 59 31.3**	**0.0**
UPM	**Unac-Piva**	**19.14 291**⇓	*i* P	**P**	**14 59 31.4**	**+0.1**
STHS	**Stebnicka Huta**	**19.18 311**	*e*P	**Pn**	**14 59 32.6**	**+0.1**
STHS			pmax	pmax		
	comp=Z,73nm,1.0s					
STHS	**Stebnicka Huta**	**19.18 311**	*e*P	**Pn**	**14 59 32.6**	**+0.1**
KECS	**Kecovo**	**19.27 308**	*e*P	**Pn**	**14 59 33.4**	**-0.1**
KECS			pmax	pmax		
	comp=Z,82nm,1.3s					
KECS	**Kecovo**	**19.27 308**	*e*P	**Pn**	**14 59 33.4**	**-0.1**
BRY	**Bratogost**	**19.38 290**⇑	*i* P	**P**	**14 59 34.3**	**+0.3**
BRY	**Bratogost**	**19.38 290**	P	**Pn**	**14 59 35.4**	**+0.3**
BRY	**Bratogost**	**19.38 290**⇑	*i* P	**P**	**14 59 34.4**	**+0.4**
HCY	**Herceg Novi**	**19.39 289**⇑	*i* P	**P**	**14 59 34.0**	**+0.1**
HCY	**Herceg Novi**	**19.39 289**⇑	*i* P	**P**	**14 59 34.0**	**+0.1**
PSZ	**Piszkesteto**	**19.44 306**⇑	*i* P	**Pn**	**14 59 35.5**	**-0.2**
PSZ	**Piszkesteto**	**19.44 306**	*e*P	**Pn**	**14 59 35.8**	**+0.1**
PSZ			pmax	pmax		
	comp=Z,340nm,1.2s					
PSZ	**Piszkesteto**	**19.44 306**⇑	*i* P	**Pn**	**14 59 35.5**	**-0.2**
PSZ	**Piszkesteto**	**19.44 306**⇑	*e*P	**Pn**	**14 59 35.8**	**+0.1**
PSZ	**Piszkesteto**	**19.44 306**	*e*P	**Pn**	**14 59 35.4**	**-0.2**
	comp=Z,335nm,1.2s					
BIDO	**Bidbid**	**19.62 137**	P	**P**	**14 59 35.1**	**-1.4**
	SNR=38					
BIDO	**Bidbid**	**19.62 137**	P	**P**	**14 59 35.1**	**-1.4**
	SNR=38					
BIDO	**Bidbid**	**19.62 137**	P	**P**	**14 59 35.1**	**-1.4**
	SNR=38					
DZET	**Dzherino**	**19.63 82**	P	**Pn**	**14 59 39.0**	**+0.9**
DZET			pmax	pmax		
	comp=Z,214nm,1.1s					
NACGM	**Naroch**	**19.70 330**	*e*P	**P**	**14 59 36.0**	**-1.2**
NACGM			*e*PP	**PnPn**	**14 59 53.0**	**+0.7**
NACGM			*e*PPP	PPP	15 00 08.0	
NACGM			*e*S	**S**	**15 03 15.0**	**-3.9**
NACGM			*e*SS	**SnSn**	**15 03 44.0**	**+10**
NACGM			*e*SSS	SSS	15 04 11.0	
NACGM			*e*LQ	LQ	15 05 23.0	
NACGM			*e*LR	LR	15 06 36.0	
NACGM			LRM	MLR	15 08 26.0	
	comp=Z,9.8nm,24.0s					
NIE	**Niedzica**	**19.74 310**	*e*P	**Pn**	**14 59 39.2**	**0.0**
NIE			*e*S	**Sn**	**15 03 24.9**	**+4.2**
NIE			LMZ	LR	15 08 02.2	
	comp=Z,3μm,23.6s					
NIE	**Niedzica**	**19.74 310**	*e*P	**Pn**	**14 59 39.2**	**0.0**
NIE			*e*S	**Sn**	**15 03 24.9**	**+4.2**
NIE			MLR	MLR		
	comp=Z,3μm,23.6s					
NIE	**Niedzica**	**19.74 310**	*e*P	**Pn**	**14 59 39.2**	**0.0**
BUD	**Budapest**	**19.87 304**	P	**Pn**	**14 59 40.2**	**-0.5**
BUD			pmax	pmax		
	comp=Z,271nm,1.6s					
BUD	**Budapest**	**19.87 304**⇑	*e*P	**Pn**	**14 59 40.2**	**-0.5**
SMDO	**Samad**	**19.95 138**	P	**P**	**14 59 40.0**	**-0.3**
	SNR=96					
SMDO	**Samad**	**19.95 138**	Pn	**P**	**14 59 40.0**	**-0.3**
	SNR=96					
SMDO	**Samad**	**19.95 138**	P	**P**	**14 59 40.0**	**-0.3**
	SNR=96					
CHM	**Chimkent**	**20.02 72**	*i* P	**P**	**14 59 38.1**	**-2.7**
	comp=Z,4μm,1.3s					
CHM			LRM	MLR	15 08 39.3	
	comp=Z,823nm,14.5s					
WSAR	**Wadi Sarin**	**20.12 136**	P	**P**	**14 59 41.6**	**-0.3**
	comp=Z,48nm,0.9s,baz=336,slow=9.4,SNR=35					
WSAR			S	**S**	**15 03 24.6**	**-3.1**
	comp=Z,12nm,1.0s,baz=146,slow=3.6,SNR=1.8					
WSAR			LR	LR	15 08 26.5	
	comp=Z,8μm,18.8s,baz=326,slow=40					
LANS	**Liptovska Anna**	**20.14 309**	*e*P	Pn	14 59 43.8	-0.1
LANS	**Liptovska Anna**	**20.14 309**	*e*P	Pn	14 59 43.8	-0.1
ARU	**Arti**	**20.22 24**	P	**P**	**14 59 43.6**	**+0.8**
	comp=Z,214nm,0.7s,baz=216,slow=7.6,SNR=126					
ARU			S	**S**	**15 03 25.1**	**-4.1**
	comp=Z,11nm,0.8s,baz=255,slow=19,SNR=1.9					
ARU			LR	LR	15 09 08.7	
	comp=Z,8μm,19.6s,baz=212,slow=42					
ARU	**Arti**	**20.22 24**	*i* P	**P**	**14 59 43.6**	**+0.8**
ARU			*i* XP	**sP**	**14 59 48.5**	**+0.2**
ARU			pmax	pmax		
	comp=Z,1μm,1.7s					
ARU	**Arti**	**20.22 24**	*e*P	**P**	**14 59 43.3**	**+0.5**
	comp=Z,1μm,1.3s					
ARU	**Arti**	**20.22 24**	*e*P	**P**	**14 59 43.4**	**+0.5**
	comp=Z,1μm,1.3s					
ARU			S	**S**	**15 03 25.1**	**-4.1**
BRLS	**Boroldoy**	**20.22 70**	*i* P	**P**	**14 59 39.5**	**-3.5**
	comp=Z,259nm,1.5s					
BRLS			*i* S	**S**	**15 03 26.2**	**-3.4**
BRLS			LRM	MLR	15 08 47.1	
	comp=Z,87nm,10.3s					
VYHS	**Vyhne**	**20.30 307**	*e*P	Pn	14 59 45.2	-0.6
VYHS	**Vyhne**	**20.30 307**	*e*P	Pn	14 59 45.2	-0.6
VYHS			*e*S	**S**	**15 03 32.0**	**+1.0**
VYHS			*e*L	L	15 09 51.5	
CSKK	**Cs˙‡kako**	**20.33 303**⇑	*e*P	Pn	14 59 49.4	+3.2
IUG	**Iuzhnay**	**20.34 72**	*i* P	**P**	**14 59 42.2**	**-2.1**
	comp=Z,3μm,1.4s					
IUG			*i* S	**S**	**15 03 31.3**	**-0.6**
IUG			LRM	MLR	15 08 57.7	
	comp=Z,451nm,11.0s					
OJC	**Ojcow**	**20.37 312**	*e*P	**P**	**14 59 44.4**	**-0.1**
OJC			*e*S	Sn	15 03 37.2	+1.5
OJC			LMZ	LR	15 08 06.8	
	comp=Z,4μm,22.3s					
OJC	**Ojcow**	**20.37 312**	*e*P	**P**	**14 59 44.4**	**-0.1**
OJC			*e*S	Sn	15 03 37.2	+1.5
OJC			MLR	MLR		
	comp=Z,4μm,22.3s					
OJC	**Ojcow**	**20.37 312**	*e*P	**P**	**14 59 44.3**	**-0.2**
	comp=Z,295nm,1.1s					
OJC	**Ojcow**	**20.37 312**	*e*P	**P**	**14 59 44.3**	**-0.2**
	comp=Z,295nm,1.1s					
BEL	**Belsk**	**20.56 317**	*e*P	**P**	**14 59 47.0**	**+0.4**
BEL			*e*S	Sn	15 03 43.3	+2.9
BEL			LMZ	LR	15 08 48.3	
	comp=Z,4μm,25.3s					
BEL	**Belsk**	**20.56 317**	*e*P	**P**	**14 59 47.0**	**+0.4**
BEL			MLR	MLR		
	comp=Z,4μm,25.3s					
BEL	**Belsk**	**20.56 317**	*e*P	**P**	**14 59 47.0**	**+0.4**
SUW	**Suwalki**	**20.62 324**	*e*P	**P**	**14 59 47.8**	**+0.7**
SUW			*e*S	Sn	15 03 47.8	+6.2
SUW			LMZ	LR	15 07 25.8	
	comp=Z,5μm,24.8s					
SUW	**Suwalki**	**20.62 324**	*e*P	**P**	**14 59 47.8**	**+0.7**
SUW			MLR	MLR		
	comp=Z,5μm,24.8s					
SUW	**Suwalki**	**20.62 324**	*e*P	**P**	**14 59 47.8**	**+0.7**
KK31	**Karatay Array**	**20.72 69**	*ce*P	**P**	**14 59 49.1**	**+0.7**
KK31			pmax	pmax		
	comp=Z,227nm,0.8s					
KKAR	**Karatay Array**	**20.72 69**	*e*P	Pn	14 59 49.7	-1.1
KKAR			pmax	pmax		
	comp=Z,175nm,0.8s					
KKAR	**Karatay Array**	**20.72 69**	*e*P	Pn	14 59 49.7	-1.1
	comp=Z,175nm,0.8s					
KKAR	**Karatay Array**	**20.72 69**	*e*P	Pn	14 59 49.7	-1.0
	comp=Z,175nm,0.8s					
KBL	**Kabul**	**20.81 94**	*e*P	Pn	14 59 52.3	+0.2
KBL			pmax	pmax		
	comp=Z,210nm,1.3s					
KBL	**Kabul**	**20.81 94**	*e*P	Pn	14 59 51.5	-0.6
	comp=Z,214nm,1.3s					
KBL	**Kabul**	**20.81 94**	*e*P	Pn	14 59 51.5	-0.5
	comp=Z,214nm,1.3s					
OKC	**Ostrava-Krasne**	**21.19 310**	*e*P	**P**	**14 59 54.1**	**+0.7**
OKC			*ep*P	**pP**	**14 59 57.2**	**0.0**
OKC			*e*S	Sn	15 03 53.0	-2.6
OKC			AMS	AMS	15 12 10.0	
	comp=Z,6μm,11.9s					
OKC	**Ostrava-Krasne**	**21.19 310**	*e*P	**P**	**14 59 54.1**	**+0.7**
OKC			*e*		14 59 57.2	
OKC			*e*S	Sn	15 03 53.0	-2.6
OKC			MLR	MLR		
	comp=Z,6μm,11.9s					
OKC	**Ostrava-Krasne**	**21.19 310**	P	**P**	**14 59 54.1**	**+0.7**
SMOL	**Smolenice**	**21.19 306**	*e*P	**P**	**14 59 56.5**	**+3.0**
SMOL	**Smolenice**	**21.19 306**	*e*P	**P**	**14 59 56.5**	**+3.0**
SVE	**Sverdlovsk**	**21.23 26**	*d i*P	**P**	**14 59 54.7**	**+0.9**
SVE			*e*S	**S**	**15 03 49.3**	**0.0**
SVE			pmax	pmax		
	comp=Z,830nm,1.6s					
SVE			MLR	MLR		
	comp=E,14μm,17.0s					
SVE			MLR	MLR		
	comp=N,10μm,16.0s					
SVE			MLR	MLR		
	comp=Z,11μm,16.0s					
RAC	**Raciborz**	**21.26 310**	*e*P	**P**	**14 59 54.7**	**+0.6**
RAC			MLR	MLR		
	comp=Z,7μm,15.9s					
KOGS	**Kog**	**21.46 300**	*i* P	**P**	**14 59 57.2**	**+0.8**
KOGS			*i* S	Sn	15 04 00.8	-1.2
CUC	**Castrocucco**	**21.49 282**	*e*P	**P**	**14 59 56.3**	**-0.5**
	comp=Z,448nm,1.6s					
CUC	**Castrocucco**	**21.49 282**	*e*P	**P**	**14 59 56.3**	**-0.5**
	comp=Z,448nm,1.6s					
CUC			LR	LR		
	comp=Z,5μm,20.0s					
SOP	**Sopron**	**21.53 303**	P	**P**	**14 59 57.5**	**+0.5**
SOP			pmax	pmax		
	comp=Z,362nm,1.1s					
SOP	**Sopron**	**21.53 303**⇑	*e*P	**P**	**14 59 57.6**	**+0.5**
SOP	**Sopron**	**21.53 303**⇑	*e*P	**P**	**14 59 57.6**	**+0.5**
ZAG	**Zagreb**	**21.53 298**	P	**P**	**14 59 56.9**	**-0.2**
ZAG			pmax	pmax		
	comp=Z,246nm,1.8s					
ZAG	**Zagreb**	**21.53 298**⇑	*i* P	**P**	**14 59 57.3**	**+0.2**
MORC	**Moravsky Berou**	**21.54 309**⇑	*i* P	**P**	**14 59 57.7**	**+0.6**
MORC	**Moravsky Berou**	**21.54 309**	*e*P	**P**	**14 59 57.8**	**+0.6**
MORC			pmax	pmax		
	comp=Z,710nm,1.4s					
MORC	**Moravsky Berou**	**21.54 309**⇑	*i* P	**P**	**14 59 57.7**	**+0.6**
MORC	**Moravsky Berou**	**21.54 309**	*e*P	**P**	**14 59 57.4**	**+0.2**
	comp=Z,709nm,1.4s					
CEL	**Celeste**	**21.67 277**	*e*P	**P**	**14 59 57.2**	**-1.5**
	comp=Z,210nm,1.1s					
CEL	**Celeste**	**21.67 277**	*e*P	**P**	**14 59 57.2**	**-1.5**
	comp=Z,210nm,1.1s					
CEL			LR	LR		
	comp=Z,9μm,20.0s					
CRES	**Cresnjev**	**21.90 298**⇑	*i* P	**P**	**15 00 01.2**	**+0.1**
VRAC	**Vranov**	**21.96 307**	P	**P**	**15 00 03.0**	**+1.3**
	comp=Z,224nm,1.0s,baz=102,slow=10,SNR=95					
VRAC			S	Sn	15 04 10.1	-4.0
	comp=Z,1.4nm,0.5s,baz=37,slow=20,SNR=1.5					
VRAC			LR	LR	15 10 04.9	
	comp=Z,2μm,18.4s,baz=90,slow=41					
BOJS	**Bojanci**	**22.00 297**⇑	*e*P	**P**	**15 00 02.1**	**0.0**
BOJS			*e*S	**S**	**15 04 05.9**	**+1.4**
	comp=Z,5μm,10.5s					
BOJS	**Bojanci**	**22.00 297**	*e*S	**S**	**15 04 07.8**	**+3.4**
CONA	**Conrad Observa**	**22.04 303**	*i* P	**P**	**15 00 03.1**	**+0.5**
	comp=Z,271nm,1.3s,SNR=95					
CONA	**Conrad Observa**	**22.04 303**	P	**P**	**15 00 03.1**	**+0.5**
	comp=Z,271nm,1.3s,SNR=95					
KRLC	**Kraliky**	**22.10 309**	*e*P	**P**	**15 00 04.0**	**+0.8**
KRLC	**Kraliky**	**22.10 309**	*e*P	**P**	**15 00 04.0**	**+0.8**
KRLC	**Kraliky**	**22.10 309**	P	**P**	**15 00 04.0**	**+0.8**
ARSA	**Arzberg**	**22.11 302**	*i* P	**P**	**15 00 04.1**	**+0.7**
	comp=Z,166nm,1.6s,SNR=42					
ARSA	**Arzberg**	**22.11 302**	P	**P**	**15 00 04.1**	**+0.7**
	comp=Z,166nm,1.6s,SNR=42					
MNAS	**Manas**	**22.17 71**	P	**P**	**15 00 04.5**	**+0.3**
MNAS			pmax	pmax		
	comp=Z,144nm,1.2s					
KLMR	**Klimovskoe**	**22.21 355**	*e*P	**P**	**15 00 03.1**	**-1.2**
KLMR			*e*		15 00 26.1	
KLMR			*e*S	**S**	**15 04 07.6**	**-0.7**
KLMR			pmax	pmax		
	comp=Z,2μm,1.3s					
KLMR			MLR	MLR		
	comp=Z,1μm,10.0s					
PERS	**Pernice**	**22.27 300**⇑	*e*P	**P**	**15 00 04.7**	**-0.3**
	comp=Z,697nm,2.4s					
PERS			*e*S	**S**	**15 04 07.8**	**-1.8**
PERS			*e*		15 08 23.3	
SOKA	**Soboth**	**22.33 300**	*i* P	**P**	**15 00 06.2**	**+0.4**
	comp=Z,79nm,1.2s,SNR=30					
SOKA	**Soboth**	**22.33 300**	P	**P**	**15 00 06.2**	**+0.4**
	comp=Z,79nm,1.2s,SNR=30					
SOKR	**Solikamsk**	**22.43 18**	*c i*P	**P**	**15 00 04.8**	**-1.7**
SOKR			S	**S**	**15 04 11.1**	**-1.1**
SOKR			pmax	pmax		
	comp=Z,461nm,1.8s					
SOKR			MLR	MLR		
	comp=Z,5μm,16.0s					
DPC	**Dobruska-Polom**	**22.47 310**	*e*P	**P**	**15 00 07.0**	**-0.2**
DPC			*e*S	**S**	**15 04 14.4**	**+0.9**
DPC			AMS	AMS	15 11 30.0	
	comp=Z,6μm,12.7s					
DPC	**Dobruska-Polom**	**22.47 310**	*e*P	**P**	**15 00 07.0**	**-0.2**
DPC			*e*S	**S**	**15 04 14.4**	**+0.9**
DPC			MLR	MLR		
	comp=Z,6μm,12.7s					
DPC	**Dobruska-Polom**	**22.47 310**	P	**P**	**15 00 07.0**	**-0.2**
DPC			S	**S**	**15 04 14.4**	**+0.9**
VSU	**Vasula**	**22.49 336**	*d i*P	**P**	**15 00 06.4**	**-0.8**
VSU			pmax	pmax		
	comp=Z,730nm,1.2s					
LJU	**Ljubljana**	**22.57 298**⇑	*e*P	**P**	**15 00 08.5**	**+0.2**
LJU			*e*S	**S**	**15 04 14.2**	**-1.1**
LJU	**Ljubljana**	**22.57 298**⇑	*i*P	**P**	**15 00 08.3**	**0.0**
CEY	**Cerknica**	**22.60 297**⇑	*i*P	**P**	**15 00 08.5**	**-0.1**
PUL	**Pulkovo**	**22.61 342**⇑	*e*P	**P**	**15 00 10.2**	**+1.7**
PUL			pmax	pmax		
	comp=Z,451nm,1.2s					
OBKA	**Obir**	**22.63 299**	*i* P	**P**	**15 00 09.6**	**+0.6**
	comp=Z,142nm,1.2s					
OBKA	**Obir**	**22.63 299**	P	**P**	**15 00 09.6**	**+0.6**
	comp=Z,142nm,1.2s					
TREC	**Trest**	**22.65 307**⇓	*i*P	**P**	**15 00 10.0**	**+0.9**
TREC			AMS	AMS	15 12 10.0	
	comp=Z,4μm,13.5s					
TREC	**Trest**	**22.65 307**⇓	*i*P	**P**	**15 00 10.0**	**+0.9**
TREC			MLR	MLR		
	comp=Z,4μm,13.5s					
TREC	**Trest**	**22.65 307**	P	**P**	**15 00 10.0**	**+0.9**
KSP	**Ksiaz**	**22.67 311**	*e*P	**P**	**15 00 08.9**	**-0.3**
KSP			*e*S	**S**	**15 04 23.5**	**+6.6**
KSP			LMZ	LR	15 09 39.1	
	comp=Z,4μm,21.5s					
KSP	**Ksiaz**	**22.67 311**	*e*P	**P**	**15 00 09.0**	**-0.3**
KSP			MLR	MLR		
	comp=Z,4μm,21.5s					
KSP	**Ksiaz**	**22.67 311**	*e*P	**P**	**15 00 08.9**	**-0.3**
UPC	**Upice**	**22.71 310**⇓	*i*P	**P**	**15 00 10.0**	**+0.3**
UPC			*e*S	**S**	**15 04 18.5**	**+0.7**
UPC			AMS	AMS	15 11 40.0	
	comp=Z,5μm,13.2s					
UPC	**Upice**	**22.71 310**⇓	*i*P	**P**	**15 00 10.0**	**+0.3**
UPC			*e*S	**S**	**15 04 18.5**	**+0.7**
UPC			MLR	MLR		
	comp=Z,5μm,13.2s					
UPC	**Upice**	**22.71 310**	P	**P**	**15 00 10.0**	**+0.3**
UPC			S	**S**	**15 04 18.5**	**+0.7**
SKDS	**Skadanscina**	**22.86 297**	*i* P	**P**	**15 00 11.3**	**-0.1**
SKDS			*e*S	**S**	**15 04 24.2**	**+3.7**
VAE	**Valguarnera**	**22.97 276**	P	**P**	**15 00 13.2**	**+0.6**
	comp=Z,45nm,0.4s,baz=300,slow=4.9,SNR=8.2					
VAE			LR	LR	15 09 58.9	
	comp=Z,8μm,18.0s,baz=155,slow=39					
ABTO	**Aybut**	**22.99 156**	P	**P**	**15 00 12.8**	**-0.1**
	SNR=30					
ABTO	**Aybut**	**22.99 156**	P	**P**	**15 00 12.8**	**-0.1**
	SNR=30					
ABTO	**Aybut**	**22.99 156**	P	**P**	**15 00 12.8**	**-0.1**
	SNR=30					
TRI	**Trieste**	**23.06 297**	*e*P	**P**	**15 00 12.9**	**-0.4**
TRI			pmax	pmax		
	comp=Z,230nm,1.2s					
TRI	**Trieste**	**23.06 297**	*e*P	**P**	**15 00 12.8**	**-0.5**
	comp=Z,226nm,1.2s					
TRI	**Trieste**	**23.06 297**	*e*P	**P**	**15 00 12.8**	**-0.5**
	comp=Z,226nm,1.2s					
MOA	**Molln**	**23.07 303**	*i* P	**P**	**15 00 14.1**	**+0.6**
	comp=Z,248nm,1.2s,SNR=72					
MOA	**Molln**	**23.07 303**	P	**P**	**15 00 14.1**	**+0.6**
	comp=Z,248nm,1.2s,SNR=72					
GKP	**Gorka Klasztor**	**23.16 317**	*e*P	**P**	**15 00 15.1**	**+0.9**
GKP			LMZ	LR	15 10 56.0	
	comp=Z,7μm,20.7s					
GKP	**Gorka Klasztor**	**23.16 317**	*e*P	**P**	**15 00 15.1**	**+0.9**
GKP			MLR	MLR		
	comp=Z,7μm,20.7s					
GKP	**Gorka Klasztor**	**23.16 317**	*e*P	**P**	**15 00 15.1**	**+0.9**
AQU	**L'Aquila**	**23.16 288**	*e*P	**P**	**15 00 14.3**	**-0.2**
AQU			pmax	pmax		
	comp=Z,770nm,1.2s					
AQU	**L'Aquila**	**23.16 288**	*e*P	**P**	**15 00 13.9**	**-0.6**
	comp=Z,768nm,1.2s					
AQU	**L'Aquila**	**23.16 288**	*e*P	**P**	**15 00 13.9**	**-0.6**
	comp=Z,768nm,1.2s					
AQU			LR	LR		
	comp=Z,7μm,19.0s					
BRVK	**Borovoye**	**23.21 43**	*c i*P	**P**	**15 00 15.8**	**+1.0**
BRVK			pmax	pmax		
	comp=Z,513nm,2.5s					
BRVK	**Borovoye**	**23.21 43**	*e*P	**P**	**15 00 15.2**	**+0.4**
	comp=Z,204nm,1.1s					
BRVK	**Borovoye**	**23.21 43**	*e*P	**P**	**15 00 15.2**	**+0.4**
	comp=Z,204nm,1.1s					
BRVK			LR	LR		
	comp=Z,3μm,20.0s					
BRVK	**Borovoye**	**23.21 43**	P	**P**	**15 00 15.4**	**+0.6**
	SNR=70					
BRVK	**Borovoye**	**23.21 43**	P	**P**	**15 00 15.4**	**+0.6**
	SNR=70					
BRVK			P	**P**	**15 00 15.4**	**+0.6**
	SNR=70					
BVAR	**Borovoye Array**	**23.25 44**	P	**P**	**15 00 15.9**	**+0.7**
	comp=Z,22nm,0.8s,baz=238,slow=7.9,SNR=75					
BVAR			S	**S**	**15 04 30.4**	**+3.6**
	comp=Z,6.5nm,1.1s,baz=225,slow=43,SNR=2.2					
BVAR			LR	LR	15 10 50.1	
	comp=Z,3μm,19.5s,baz=244,slow=40					
MYKA	**Terra Mystica**	**23.27 299**	*i* P	**P**	**15 00 16.1**	**+0.6**
	comp=Z,84nm,1.1s,SNR=9.3					
MYKA	**Terra Mystica**	**23.27 299**	P	**P**	**15 00 16.1**	**+0.6**
	comp=Z,84nm,1.1s,SNR=9.3					
GOPC	**GO Pecny, Ondr**	**23.27 308**	*e*P	**P**	**15 00 15.7**	**+0.2**
GOPC			*e*S	**S**	**15 04 27.2**	**-0.1**
GOPC			AMS	AMS	15 12 00.0	
	comp=Z,4μm,13.3s					
GOPC	**GO Pecny, Ondr**	**23.27 308**	*e*P	**P**	**15 00 15.7**	**+0.2**
GOPC			*e*S	**S**	**15 04 27.2**	**-0.1**
GOPC			MLR	MLR		
	comp=Z,4μm,13.3s					
GOPC	**GO Pecny, Ondr**	**23.27 308**	P	**P**	**15 00 15.7**	**+0.2**
GOPC			S	**S**	**15 04 27.2**	**-0.1**
WDD	**Wied Dalam**	**23.29 272**	*e*P	**P**	**15 00 13.9**	**-1.8**
	comp=Z,291nm,1.1s					
WDD	**Wied Dalam**	**23.29 272**	*e*P	**P**	**15 00 13.9**	**-1.8**
	comp=Z,291nm,1.1s					
BTLS	**Baital**	**23.39 65**	*i* P	**P**	**15 00 14.8**	**-1.9**
	comp=Z,570nm,0.8s					
BTLS			*i* S	**S**	**15 04 28.8**	**-0.6**
BTLS			LR	LR	15 09 38.3	
	comp=Z,2μm,13.7s					
SLIT	**Slitere, Latvi**	**23.41 330**	*e*P	**P**	**15 00 19.1**	**+2.4**
	SNR=143					
BRZS	**Berezniki**	**23.42 52**	*i* P	**P**	**15 00 15.5**	**-1.6**
	comp=Z,88nm,1.3s					
BRZS			*i* S	**S**	**15 04 29.8**	**-0.1**
BRZS			LRM	MLR	15 10 16.7	
	comp=Z,67nm,10.6s					
PRU	**Pruhonice**	**23.44 308**⇓	*i*P	**P**	**15 00 17.9**	**+0.7**
PRU			*ep*P	**sP**	**15 00 24.0**	**+1.2**
PRU			*e*S	**S**	**15 04 30.9**	**+0.8**
PRU			AMS	AMS	15 11 50.0	
	comp=Z,4μm,14.3s					
PRU	**Pruhonice**	**23.44 308**⇓	*i*P	**P**	**15 00 17.9**	**+0.7**
PRU			*e*		15 00 24.0	
PRU			*e*S	**S**	**15 04 30.9**	**+0.8**
PRU			MLR	MLR		
	comp=Z,4μm,14.3s					
PRU	**Pruhonice**	**23.44 308**	P	**P**	**15 00 17.9**	**+0.7**
PRU			S	**S**	**15 04 30.9**	**+0.8**
PRA	**Prague**	**23.53 308**⇓	*i*P	**P**	**15 00 18.9**	**+0.8**
PRA			*e*S	**S**	**15 04 32.9**	**+1.4**
PRA			AMS	AMS	15 12 00.0	
	comp=Z,4μm,13.7s					
PRA	**Prague**	**23.53 308**⇓	*i*P	**P**	**15 00 18.9**	**+0.8**
PRA			*e*S	**S**	**15 04 32.9**	**+1.4**
PRA			MLR	MLR		
	comp=Z,4μm,13.7s					
PRA	**Prague**	**23.53 308**	P	**P**	**15 00 18.9**	**+0.8**
PRA			S	**S**	**15 04 32.9**	**+1.4**
KBA	**Koelnbreinsper**	**23.54 300**	P	**P**	**15 00 18.8**	**+0.4**
KBA			pmax	pmax		
	comp=Z,226nm,1.2s					
KBA	**Koelnbreinsper**	**23.54 300**	*i* P	**P**	**15 00 19.0**	**+0.6**
	comp=Z,286nm,1.1s,SNR=69					
KBA	**Koelnbreinsper**	**23.54 300**	P	**P**	**15 00 19.0**	**+0.6**
	comp=Z,286nm,1.1s,SNR=69					
PVCC	**Panska Ves**	**23.59 309**⇓	*i*P	**P**	**15 00 19.4**	**+0.8**
PVCC			*e*S	**S**	**15 04 31.1**	**-1.4**
PVCC			AMS	AMS	15 13 50.0	
	comp=Z,3μm,11.5s					
PVCC	**Panska Ves**	**23.59 309**⇓	*i*P	**P**	**15 00 19.4**	**+0.8**
PVCC			*e*S	**S**	**15 04 31.1**	**-1.4**
PVCC			MLR	MLR		
	comp=Z,3μm,11.5s					
PVCC	**Panska Ves**	**23.59 309**	P	**P**	**15 00 19.4**	**+0.8**
AAK	**Ala-Archa**	**23.64 71**	P	**P**	**15 00 20.8**	**+1.3**
	comp=Z,112nm,1.2s,baz=255,slow=7.9,SNR=145					
AAK			PcP	**PcP**	**15 04 04.0**	**+0.2**
	comp=Z,15nm,0.9s,baz=135,slow=2.9,SNR=4.0					
AAK			LR

KHC MLR MLR
comp=Z,4μm,12.6s
KHC Kasperske Hory 23.81 305 *eP* **P 15 00 20.5 -0.3**
comp=Z,223nm,1.3s
KHC Kasperske Hory 23.81 305 *eP* **P 15 00 20.5 -0.3**
comp=Z,223nm,1.3s
FVI Forni Avoltri 23.85 299 P **P 15 00 21.5 +0.2**
CLTB Caltabellotta 23.88 277 *eP* **P 15 00 19.3 -2.4**
comp=Z,211nm,1.4s
CLTB Caltabellotta 23.88 277 *eP* **P 15 00 19.3 -2.4**
comp=Z,211nm,1.4s
CLTB LR LR
comp=Z,2μm,19.0s
ABTA Abfaltersbach 24.05 299 *i* P **P 15 00 23.5 +0.3**
comp=Z,131nm,1.2s,SNR=22
ABTA Abfaltersbach 24.05 299 P **P 15 00 23.5 +0.3**
comp=Z,131nm,1.2s,SNR=22
BRG Berggiesshubel 24.08 310⇑ *iP* **P 15 00 22.9 -0.4**
comp=Z,291nm,1.8s
BRG Berggiesshubel 24.08 310 *iP* **P 15 00 22.9 -0.4**
BRG pmax pmax
comp=Z,291nm,1.8s
DAMY Dhamar 24.16 178 *eP* **P 15 00 25.8 +1.2**
comp=Z,356nm,1.3s
DAMY Dhamar 24.16 178 *eP* **P 15 00 25.8 +1.2**
comp=Z,356nm,1.3s
WET Wettzell 24.26 305 P **P 15 00 24.8 -0.2**
WET pmax pmax
comp=Z,333nm,1.8s
TKM2 Tokmak 2 24.44 70 P **P 15 00 27.6 +0.6**
TKM2 pmax pmax
comp=Z,578nm,1.4s
WTTA Wattenberg 24.72 300 *i* P **P 15 00 29.3 -0.1**
comp=Z,211nm,1.1s,SNR=41
WTTA Wattenberg 24.72 300 P **P 15 00 29.3 -0.1**
comp=Z,211nm,1.1s,SNR=41
WATA Walderalm 24.77 301 *i* P **P 15 00 29.7 -0.1**
comp=Z,183nm,1.0s,SNR=42
WATA Walderalm 24.77 301 P **P 15 00 29.7 -0.1**
comp=Z,183nm,1.0s,SNR=42
CLL Collm 24.78 310⇑ *iP* **P 15 00 30.1 +0.4**
CLL *i* 15 00 35.1
CLL *eS* **S 15 04 58.0 +6.5**
CLL pmax pmax
comp=Z,171nm,1.0s
CLL MLR MLR
comp=Z,3μm,19.0s
CLL Collm 24.78 310 *eP* **P 15 00 29.1 -0.6**
comp=Z,170nm,1.0s
CLL Collm 24.78 310⇑ *iP* **P 15 00 30.1 +0.4**
comp=Z,171nm,1.0s
CLL *i* sP **sP 15 00 35.1 -0.3**
CLL *i* 15 00 40.5
CLL *e* 15 00 56.0
CLL *eS* **S 15 04 58.0 +6.5**
comp=N,2μm,23.4s
CLL *eS* **S 15 04 58.0 +6.5**
comp=E,4μm,17.7s
CLL *eSS* **SnSn 15 05 49.0 +11**
CLL *eSSSS* 15 06 08.0
CLL Lmax 15 12 00.0
CLL LmV 15 14 00.0
comp=Z,3μm,19.0s
CLL Collm 24.78 310 *eP* **P 15 00 29.1 -0.6**
comp=Z,170nm,1.0s
BDHA Al Bayda' 24.80 175 *eP* **P 15 00 32.0 +1.7**
NKC Novy Kostel 24.80 308 *eP* **P 15 00 30.0 +0.1**
NKC *eS* **S 15 04 57.8 +5.8**
NKC AMS AMS 15 12 50.0
comp=Z,6μm,12.9s
NKC Novy Kostel 24.80 308 *eP* **P 15 00 30.0 +0.1**
NKC *eS* **S 15 04 57.8 +5.8**
NKC MLR MLR
comp=Z,6μm,12.9s
NKC Novy Kostel 24.80 308 P **P 15 00 30.0 +0.1**
KUU Kurty 24.98 68 *i* P **P 15 00 29.8 -1.8**
comp=Z,508nm,1.3s
KUU *i* S **S 15 04 54.4 -0.5**
KUU LR LR 15 10 10.7
comp=Z,339nm,9.6s
KSH Kashi 25.02 78 P **P 15 00 32.0 -0.2**
KSH pP sP 15 00 37.8 -0.1
KSH sP pP 15 00 41.3 +5.1
KSH PP **PnPn 15 01 09.5 +4.1**
KSH PcP **PcP 15 04 09.5 +2.7**
KSH S **S 15 04 51.3 -4.7**
KSH sS pS 15 05 00.8 +0.5
KSH SS **SnSn 15 05 48.0 +3.3**
KSH PcS **PcS 15 07 48.5 +1.3**
KSH pmax pmax
comp=Z,86nm,0.9s
KSH pmax pmax
comp=Z,2μm,6.4s
KSH LR LR
comp=Z,9μm,14.0s
KSH LR LR
comp=Z,5μm,15.0s
KSH LR LR
comp=Z,4μm,16.3s
MOTA Moosalm 25.09 300 *i* P **P 15 00 32.4 -0.3**
comp=Z,142nm,0.9s,SNR=87
MOTA Moosalm 25.09 300 P **P 15 00 32.4 -0.3**
comp=Z,142nm,0.9s,SNR=87
GRB1 Grafenberg Arr 25.10 305 P **P 15 00 33.0 +0.4**
GRB1 pmax pmax
comp=Z,1μm,1.3s
FIA1 FINESS Array S 25.13 340 *eP* **P 15 00 32.0 -0.7**
comp=Z,146nm,1.0s
FIA1 FINESS Array S 25.13 340 *eP* **P 15 00 31.9 -0.7**
comp=Z,146nm,1.0s
FINES FINESS Array B 25.13 340 P **P 15 00 32.3 -0.4**
comp=Z,68nm,1.0s,baz=141,slow=12,SNR=52
FINES LR LR 15 11 10.0
comp=Z,5μm,20.0s,baz=154,slow=38
FINES FINESS Array B 25.13 340 P **P 15 00 32.3 -0.4**
FINES pmax pmax
comp=Z,68nm,1.0s
FINES MLR MLR
comp=Z,5μm,20.0s
BSD Bornholm Skovb 25.23 320 *i* P **P 15 00 36.7 +3.0**
BSD Bornholm Skovb 25.23 320 *i* P **P 15 00 36.7 +3.0**
JOF Joensuu 25.27 347 P **P 15 00 33.3 -0.6**
JOF pmax pmax
comp=Z,293nm,1.4s
FETA Feichten 25.30 300 *i* P **P 15 00 34.5 -0.1**
comp=Z,171nm,1.1s,SNR=33
FETA Feichten 25.30 300 P **P 15 00 34.5 -0.1**
comp=Z,171nm,1.1s,SNR=33
RETA Reutte 25.34 301 *i* P **P 15 00 34.3 -0.6**
comp=Z,241nm,1.6s,SNR=38
RETA Reutte 25.34 301 P **P 15 00 34.3 -0.6**
comp=Z,241nm,1.6s,SNR=38
VLC Villacollemand 25.35 293 *eP* **P 15 00 34.8 -0.2**
comp=Z,115nm,1.0s
VLC Villacollemand 25.35 293 *eP* **P 15 00 34.8 -0.2**
comp=Z,115nm,1.0s
AAA Alma-Ata 25.40 69 *eP* **P 15 00 37.3 +1.8**
AAA pmax pmax
comp=Z,2μm,8.2s
AAA MLR MLR
comp=Z,5μm,14.0s
MOX Moxa 25.43 308 P **P 15 00 35.5 0.0**
MOX pmax pmax
comp=Z,80nm,1.2s
GRF Grafenberg Arr 25.44 306 P **P 15 00 36.3 +0.6**
GRF pmax pmax
comp=Z,549nm,1.4s
GRFO Grafenberg 25.44 306 *eP* **P 15 00 36.2 +0.5**
GRFO pmax pmax
comp=Z,680nm,1.3s
GRFO Grafenberg 25.44 306 *eP* **P 15 00 35.9 +0.2**
comp=Z,678nm,1.3s
GRFO Grafenberg 25.44 306 *eP* **P 15 00 35.9 +0.2**
comp=Z,678nm,1.3s
MDOK Medeo 25.50 69 *i* P **P 15 00 34.4 -2.1**
comp=Z,658nm,1.5s
MDOK *i* S **S 15 05 02.6 -0.9**
MDOK LRM MLR 15 11 40.5
comp=Z,449nm,10.9s
FUORN Ofenpass-Fuorn 25.57 299 *eP* **P 15 00 37.4 +0.2**
comp=Z,174nm,1.3s
FUORN Ofenpass-Fuorn 25.57 299 *eP* **P 15 00 37.4 +0.2**
comp=Z,174nm,1.3s
TMCR Tamitsa 25.61 354 *eP* **P 15 00 36.2 -0.8**
TMCR *eS* **S 15 05 03.0 -1.4**
TMCR pmax pmax
comp=Z,268nm,1.4s
DAVOX Davos/Dischmat 25.85 299 P **P 15 00 39.6 0.0**
comp=Z,74nm,0.7s,baz=108,slow=7.1,SNR=71
DAVOX S **S 15 05 19.2 +10**
comp=Z,1.2nm,0.3s,baz=323,slow=20,SNR=1.8
DAVA Damuels 25.91 300 *i* P **P 15 00 39.7 -0.4**
comp=Z,251nm,1.0s,SNR=49
DAVA Damuels 25.91 300 P **P 15 00 39.7 -0.4**
comp=Z,251nm,1.0s,SNR=49
SUF Sumiainen 26.18 342 P **P 15 00 42.0 -0.3**
SUF pmax pmax
comp=Z,105nm,1.1s
TUE Stuetta 26.19 298 *eP* **P 15 00 42.5 -0.3**
comp=Z,191nm,1.4s
TUE Stuetta 26.19 298 *eP* **P 15 00 42.5 -0.3**
comp=Z,191nm,1.4s
PGF Pioggiola 26.41 289 *eP* **P 15 00 43.9 -0.8**
PGF pmax pmax
comp=Z,340nm,1.1s
VSL Villasalto 26.47 282 *eP* **P 15 00 45.1 -0.1**
comp=Z,249nm,1.2s
VSL Villasalto 26.47 282 *eP* **P 15 00 45.1 -0.1**
comp=Z,249nm,1.2s
TDK Taldyqorghan 26.48 65 *i* P **P 15 00 43.3 -1.9**
comp=Z,518nm,1.6s
SATY Saty 26.50 70 *i* P **P 15 00 43.4 -2.1**
comp=Z,857nm,0.8s
ZHN Zhinishke 26.52 69 *i* P **P 15 00 44.0 -1.7**
comp=Z,363nm,1.6s
STU Stuttgart 26.57 303 *eP* **P 15 00 45.2 -0.7**
STU pmax pmax
comp=Z,180nm,1.0s
STU Stuttgart 26.57 303 *eP* **P 15 00 44.8 -1.1**
comp=Z,183nm,1.0s
STU Stuttgart 26.57 303 *eP* **P 15 00 44.8 -1.1**
comp=Z,183nm,1.0s
SPAK Spaichingen-Ko 26.74 302 *eP* **P 15 00 47.1 -0.5**
COP Copenhagen 26.75 319 *i* P **P 15 00 53.5 +6.1**
COP *eS* **S 15 05 24.9 +2.2**
COP Copenhagen 26.75 319 *i* P **P 15 00 53.5 +6.1**
COP *eS* **S 15 05 24.9 +2.2**
THN Thein Dam 26.77 94 *eP* **P 15 00 47.8 0.0**
SLE Schleitheim 26.90 301 P **P 15 00 48.4 -0.5**
SLE pmax pmax
comp=Z,107nm,1.4s
UZB Uzynbulak 26.95 69 *i* P **P 15 00 47.9 -1.7**
comp=Z,251nm,0.8s
TOD Tromm 26.96 305 *eP* **P 15 00 49.4 -0.1**
BFO Black Forest 27.07 302 *eP* **P 15 00 50.5 0.0**
BFO Black Forest 27.07 302 *eP* **P 15 00 49.1 -1.4**
comp=Z,54nm,1.2s
BFO Black Forest 27.07 302 *eP* **P 15 00 49.1 -1.4**
comp=Z,54nm,1.2s
BFO LR LR
comp=Z,3μm,20.0s
ATD Arta Tunnel 27.18 182 P **P 15 00 53.9 +2.2**
comp=Z,10nm,0.8s,baz=360,slow=18,SNR=3.5
ATD S S 15 05 46.5 +16
comp=Z,7.0nm,0.8s,baz=128,slow=20,SNR=2.6
KURBB Kurchatov Arra 27.22 53 P **P 15 00 53.0 +1.3**
comp=Z,100nm,0.7s,baz=264,slow=9.0,SNR=763
KURBB PcP **PcP 15 04 11.3 -0.1**
comp=Z,17nm,1.1s,baz=274,slow=3.6,SNR=4.8
FELD Feldberg im Sc 27.24 301 *eP* **P 15 00 51.1 -1.0**
SHLS Shalkode 27.27 69 *i* P **P 15 00 53.2 +0.7**
comp=Z,338nm,0.6s
SHLS *eS* **S 15 05 35.3 +3.9**
SHLS LR LR 15 12 07.1
comp=Z,397nm,9.3s
PDGK Podgornoye 27.28 69 *eP* **P 15 00 53.5 +1.0**
KURK Kurchatov 27.29 53*c iP* **P 15 00 53.6 +1.2**
KURK pmax pmax
comp=Z,901nm,1.2s
KURK Kurchatov 27.29 53 *eP* **P 15 00 53.3 +0.9**
comp=Z,179nm,0.9s
KURK Kurchatov 27.29 53 PcP **PcP 15 04 11.3 -0.3**
KURK Kurchatov 27.29 53 *eP* **P 15 00 53.3 +0.9**
comp=Z,179nm,0.9s
KURK PcP **PcP 15 04 11.3 -0.3**
KURK Kurchatov 27.29 53 P **P 15 00 53.7 +1.3**
SNR=88
KURK Kurchatov 27.29 53 P **P 15 00 53.7 +1.3**
SNR=88
KURK P **P 15 00 53.7 +1.3**
SNR=88
KURK P **P 15 00 53.7 +1.3**
KEST Kesra 27.36 274 P **P 15 00 54.0 +0.7**
comp=Z,75nm,0.9s,baz=324,slow=1.9,SNR=57
KEST PcP **PcP 15 04 12.6 +0.3**
comp=Z,13nm,1.0s,baz=301,slow=4.3,SNR=5.0
KEST LR LR 15 13 36.0
comp=Z,5μm,20.3s,baz=13,slow=41
KEST Kesra 27.36 274 *eP* **P 15 00 53.7 +0.5**
comp=Z,107nm,1.0s
KEST Kesra 27.36 274 *eP* **P 15 00 53.7 +0.5**
comp=Z,107nm,1.0s
KEST PcP **PcP 15 04 12.6 +0.3**
VAF Ylistaro 27.36 339 *eP* **P 15 00 53.0 +0.2**
VAF pmax pmax
comp=Z,54nm,1.3s
KTD Kalmit 27.38 304 *eP* **P 15 00 53.1 -0.1**
SAOF Saorge 27.40 293 *eP* **P 15 00 54.1 +0.6**
SBF Sospel 27.49 292 *eP* **P 15 00 54.1 -0.2**
SBF pmax pmax
comp=Z,406nm,1.1s
LANF Langenberg 27.50 303 *eP* **P 15 00 53.7 -0.7**
LANF Langenberg 27.50 303 *eP* **P 15 00 54.2 -0.2**
LANF Langenberg 27.50 303 *eP* **P 15 00 53.7 -0.7**
BBS Basel-Blauen 27.53 300 *eP* **P 15 00 53.7 -0.9**
REVF Revere 27.54 292 *eP* **P 15 00 54.8 0.0**
REVF Revere 27.54 292 *eP* **P 15 00 54.8 0.0**
LUCF Luceram 27.55 292 *eP* **P 15 00 55.4 +0.5**
LUCF Luceram 27.55 292 *eP* **P 15 00 55.4 +0.5**
SENIN Lac Senin/Sane 27.60 298 *eP* **P 15 00 54.4 -1.1**
comp=Z,139nm,1.1s
SENIN Lac Senin/Sane 27.60 298 *eP* **P 15 00 54.4 -1.1**
comp=Z,139nm,1.1s
MVIF Mont Vial 27.69 292 *eP* **P 15 00 56.5 +0.3**
MVIF Mont Vial 27.69 292 *eP* **P 15 00 56.5 +0.3**
BHK Bhakra 27.72 95 *eP* **P 15 00 57.0 +0.6**
CDF Champ du Feu 27.78 302 *eP* **P 15 00 55.1 -1.8**
CDF pmax pmax
comp=Z,51nm,1.2s
ABH Alteburg 27.81 305 *eP* **P 15 00 57.5 +0.4**
MOF Molkenrain 27.82 301 *eP* **P 15 00 56.1 -1.2**
MOF Molkenrain 27.82 301 *eP* **P 15 00 56.1 -1.2**
ECH Echery 27.84 302 *eP* **P 15 00 56.4 -0.9**
ECH Echery 27.84 302 *eP* **P 15 00 56.4 -0.9**
ECH pmax pmax
comp=Z,110nm,1.3s
ECH Echery 27.84 302 *eP* **P 15 00 56.4 -0.9**
ECH Echery 27.84 302 *eP* **P 15 00 56.1 -1.2**
comp=Z,113nm,1.3s
ECH LR LR
comp=Z,3μm,19.0s
MBDF Montbardon 27.94 294 *eP* **P 15 00 57.9 -0.6**
MBDF pmax pmax
comp=Z,67nm,0.7s
LPG La Plagne 27.96 296 *eP* **P 15 00 58.0 -0.7**
LPG pmax pmax
comp=Z,126nm,1.2s
LPL La Plagne 27.97 296 *eP* **P 15 00 58.0 -0.8**
LPL pmax pmax
comp=Z,103nm,1.2s
LOMF Lomont 27.98 300 *eP* **P 15 00 57.8 -0.9**
LOMF Lomont 27.98 300 *eP* **P 15 00 58.6 -0.1**
LOMF Lomont 27.98 300 *eP* **P 15 00 57.8 -0.9**
HINF Hinteralfeld 28.00 301 *eP* **P 15 00 57.3 -1.5**
HINF pmax pmax
comp=Z,44nm,1.4s
BNI Bardonecchia 28.00 295 *eP* **P 15 00 58.8 -0.2**
BNI pmax pmax
comp=Z,140nm,1.2s
BNI Bardonecchia 28.00 295 *eP* **P 15 00 58.3 -0.7**
comp=Z,137nm,1.2s
BNI Bardonecchia 28.00 295 *eP* **P 15 00 58.4 -0.7**
comp=Z,137nm,1.2s
BNI LR LR
comp=Z,5μm,20.0s
RUP Ruppelstein 28.09 305 *eP* **P 15 00 59.4 -0.3**
SEM Semipalatinsk 28.25 54 *i* P **P 15 00 59.3 -2.0**
comp=Z,532nm,1.1s
SEM LRM MLR 15 13 11.1
comp=Z,1μm,11.2s
OUL Oulu 28.28 344 P **P 15 00 59.5 -1.5**
OUL pmax pmax
comp=Z,132nm,0.9s
BUG Bochum--Univer 28.28 308 P **P 15 01 02.6 +1.4**
BUG pmax pmax
comp=Z,104nm,1.4s
GDM Grand'Maison 28.40 295⇑ *eP* **P 15 01 01.6 -1.0**
GDM Grand'Maison 28.40 295⇑ *eP* **P 15 01 01.6 -1.0**
MSF Maaselka 28.41 347 P **P 15 01 01.6 -0.7**
HFS Hagfors 28.44 328 P **P 15 01 02.5 -0.1**
comp=Z,96nm,0.8s,baz=131,slow=9.8,SNR=111
HFS LR LR 15 13 48.3
comp=Z,5μm,20.6s,baz=125,slow=39
CABF La Chapelle 28.45 298 *eP* **P 15 01 02.5 -0.4**
CABF pmax pmax
comp=Z,336nm,1.0s
ORIF Oris-en-Rattie 28.57 295 *eP* **P 15 01 02.4 -1.6**
ORIF pmax pmax
comp=Z,56nm,1.3s
CMAH Djebel Manchou 28.61 277 P **P 15 01 05.1 +0.7**
CMAH Djebel Manchou 28.61 277 P **P 15 01 05.1 +0.7**
THEF They Montfort 28.62 302 *eP* **P 15 01 03.2 -1.1**
THEF They Montfort 28.62 302 *eP* **P 15 01 03.2 -1.1**
ABSA Djebel Ababsia 28.66 276 P **P 15 01 05.3 +0.5**
ABSA Djebel Ababsia 28.66 276 P **P 15 01 05.3 +0.5**
GRN Grenoble 28.66 295⇑ *eP* **P 15 01 03.6 -1.2**
GRN Grenoble 28.66 295⇑ *eP* **P 15 01 03.6 -1.2**
WLF Walferdange 28.67 305 P **P 15 01 05.2 +0.4**
comp=Z,76nm,1.2s
WLF Walferdange 28.67 305 *eP* **P 15 01 04.7 0.0**
WLF pmax pmax
comp=Z,110nm,1.0s
WLF Walferdange 28.67 305 *eP* **P 15 01 04.4 -0.3**
comp=Z,111nm,1.0s
WLF Walferdange 28.67 305 *eP* **P 15 01 04.4 -0.3**
comp=Z,111nm,1.0s
WTSB Winterswijk 28.68 309 *i* P **P 15 01 06.0 +1.2**
comp=Z,492nm,1.2s
MEM Membach 28.91 306 P **P 15 01 07.7 +0.9**
comp=Z,53nm,1.5s
HGN Heimansgroeve 28.98 307 *i* P **P 15 01 08.7 +1.2**
comp=Z,266nm,1.3s
HGN *eS* S 15 05 48.4 -10
HGN *eL* L 15 13 49.2
comp=Z,2μm,21.8s
MAKZ Makanchi 29.02 61 *eP* **P 15 01 09.0 +1.1**
MAKZ pmax pmax
comp=Z,230nm,1.8s
MAKZ Makanchi 29.02 61 *eP* **P 15 01 08.6 +0.7**
comp=Z,227nm,1.8s
MAKZ Makanchi 29.02 61 *eP* **P 15 01 08.6 +0.7**
comp=Z,227nm,1.8s
BEBN Eben Emael 29.14 307 P **P 15 01 10.0 +1.1**
CKFL Kef-Lekhel 29.21 277 P **P 15 01 11.3 +1.5**
CKFL Kef-Lekhel 29.21 277 P **P 15 01 11.3 +1.5**
MK31 Makanchi Array 29.23 62*ceP* **P 15 01 11.0 +1.2**
MK31 pmax pmax
comp=Z,69nm,1.0s
MK31 Makanchi Array 29.23 62 *eP* **P 15 01 10.8 +1.0**
MK31 Makanchi Array 29.23 62 *eP* **P 15 01 10.8 +1.0**
MKAR Makanchi Array 29.23 62 P **P 15 01 10.9 +1.0**
comp=Z,29nm,0.8s,baz=269,slow=6.6,SNR=206
MKAR LR LR 15 14 43.7
comp=Z,4μm,19.2s,baz=264,slow=40
MKAR Makanchi Array 29.23 62 *eP* **P 15 01 10.8 +1.0**
comp=Z,232nm,0.9s
MKAR Makanchi Array 29.23 62 *eP* **P 15 01 10.8 +1.0**
comp=Z,232nm,0.9s
BCLA Clavier 29.32 306 P **P 15 01 11.7 +1.3**
comp=Z,37nm,1.8s
APA Apatity 29.37 352⇓ *iP* **P 15 01 10.2 -0.5**
APA *i* 15 02 11.0
APA *i* S **S 15 05 58.0 -5.6**
APA pmax pmax
comp=Z,24nm,1.0s
SSB Saint Sauveur 29.51 295 *eP* **P 15 01 11.6 -0.7**
SSB pmax pmax
comp=Z,110nm,1.3s
SSB Saint Sauveur 29.51 295 *eP* **P 15 01 11.1 -1.2**
comp=Z,114nm,1.3s
SSB Saint Sauveur 29.51 295 *eP* **P 15 01 11.1 -1.2**
comp=Z,114nm,1.3s
CTEI Djebel Teioual 29.55 276 P **P 15 01 12.5 -0.3**
CTEI Djebel Teioual 29.55 276 P **P 15 01 12.5 -0.3**
NDI New Delhi 29.56 100 *eP* **P 15 01 12.5 -0.3**
GIVF Givet 29.58 305 *eP* **P 15 01 13.7 +0.9**
GIVF pmax pmax
comp=Z,55nm,1.1s
OSL Oslo 29.59 326 *eP* **P 15 01 12.8 +0.1**
NC602 NORSAR Array S 29.67 328 *eP* **P 15 01 10.2 -3.2**
NC602 *e* 15 06 08.9
NC602 NORSAR Array S 29.67 328 *eP* **P 15 01 12.4 -1.0**
NC602 NORSAR Array S 29.67 328 *eP* **P 15 01 12.4 -1.0**
DOU Dourbes 29.73 305 P **P 15 01 14.6 +0.5**
comp=Z,28nm,1.2s
NC405 NORSAR Array S 29.80 329 *eP* **P 15 01 13.9 -0.8**
NC405 NORSAR Array S 29.80 329 *eP* **P 15 01 13.9 -0.8**
HOMB Homborsund 29.81 322 *eP* **P 15 01 14.7 0.0**
HOMB *eS* **S 15 06 10.1 -0.7**
HOMB Homborsund 29.81 322 *eP* **P 15 01 14.7 0.0**
SNR=28
HOMB *eS* **S 15 06 10.1 -0.7**
SNR=28
DFRA Djebel Bou Aff 29.82 278 P **P 15 01 16.4 +1.2**
DFRA Djebel Bou Aff 29.82 278 P **P 15 01 16.4 +1.2**
KONO Kongsberg 29.94 325 *eP* **P 15 01 15.3 -0.5**
KONO *eS* **S 15 06 07.2 -5.6**
KONO Kongsberg 29.94 325*d iP* **P 15 01 15.4 -0.4**
KONO pmax pmax
comp=Z,466nm,1.7s
KONO Kongsberg 29.94 325 *eP* **P 15 01 15.3 -0.5**
SNR=28
KONO Kongsberg 29.94 325 *eP* **P 15 01 14.9 -0.9**
comp=Z,56nm,1.1s
NB201 NORSAR Array S 29.94 329 *eP* **P 15 01 14.7 -1.2**
NB201 NORSAR Array S 29.94 329 *eP* **P 15 01 14.7 -1.2**
NB2 NORSAR Subarra 29.97 329 P **P 15 01 15.1 -1.1**
comp=Z,28nm,0.8s,baz=126,slow=9.3
NB2 NORSAR Subarra 29.97 329 P **P 15 01 15.1 -1.1**
baz=126,slow=9.3
NB2 NORSAR Subarra 29.97 329 P **P 15 01 15.0 -1.1**
NB2 pmax pmax
comp=Z,103nm,1.5s
NB2 NORSAR Subarra 29.97 329 P **P 15 01 15.1 -1.1**
SNR=28
NOA NORSAR Array B 29.97 329 P **P 15 01 15.3 -0.8**
comp=Z,20nm,0.8s,baz=125,slow=8.8,SNR=41
NOA LR LR 15 14 45.5
comp=Z,4μm,19.8s,baz=120,slow=39
BAIF Baives 29.97 305 *eP* **P 15 01 16.3 +0.1**
BAIF pmax pmax
comp=Z,91nm,1.1s
UCC Uccle 29.97 306 P **P 15 01 17.2 +1.0**
SNF Seneffe 29.98 306 P **P 15 01 18.3 +2.0**
SMF Signal de Mont 29.99 298 *eP* **P 15 01 15.4 -1.1**
SMF pmax pmax
comp=Z,58nm,1.0s
NAO01 NORSAR Array S 30.00 328 *eP* **P 15 01 15.5 -0.9**
NAO01 NORSAR Array S 30.00 328 *eP* **P 15 01 15.5 -0.9**
NC303 NORSAR Array S 30.01 329 *eP* **P 15 01 14.6 -1.9**
NC303 NORSAR Array S 30.01 329 *eP* **P 15 01 14.6 -1.9**
FURI Furi 30.12 190 *eP* **P 15 01 21.6 +3.4**
comp=Z,70nm,1.0s
NBO00 NORSAR Array S 30.14 328 *eP* **P 15 01 16.6 -1.0**
NBO00 NORSAR Array S 30.14 328 *eP* **P 15 01 16.6 -1.0**
PLDF La Plantade 30.15 297 *eP* **P 15 01 17.4 -0.6**
PLDF La Plantade 30.15 297 *eP* **P 15 01 17.4 -0.6**
NC204 NORSAR Array S 30.28 329 *eP* **P 15 01 18.1 -0.8**
NC204 NORSAR Array S 30.28 329 *eP* **P 15 01 18.1 -0.8**
MAHO Mahon 30.29 285 *eP* **P 15 01 16.3 -2.8**
AVF Avril sur Loir 30.33 298 *eP* **P 15 01 18.4 -1.1**
AVF pmax pmax
comp=Z,98nm,1.0s
LBL Lubilhac 30.43 295 *eP* **P 15 01 20.5 0.0**
LBL Lubilhac 30.43 295 *eP* **P 15 01 20.5 0.0**
SNART Snartemo 30.46 322 *eP* **P 15 01 20.7 +0.2**
SNART Snartemo 30.46 322 *eP* **P 15 01 20.7 +0.2**
SNR=27
AGO Saint Agoulin 30.49 297 *eP* **P 15 01 21.0 +0.1**
AGO Saint Agoulin 30.49 297 *eP* **P 15 01 21.0 +0.1**
BGF Bois d'Agland 30.68 298 *eP* **P 15 01 21.4 -1.2**
BGF pmax pmax
comp=Z,53nm,1.1s
VERF Verneugheol 30.95 296⇑ *eP* **P 15 01 24.9 -0.1**
VERF Verneugheol 30.95 296⇑ *eP* **P 15 01 24.9 -0.1**

NVS	**Novosibirsk**	**30.98**	**46⇑**	*iP*	**P**	**15 01 27.0**	**+1.9**
NVS				*i*		15 02 31.7	
NVS				pmax	pmax		
	comp=Z,133nm,1.1s						
NVS				pmax	pmax		
	comp=N,15nm,0.5s						
NVS				pmax	pmax		
	comp=E,43nm,0.9s						
CAF	**Calviac**	**31.28**	**295**	*eP*	**P**	**15 01 27.2**	**-0.7**
CAF				pmax	pmax		
	comp=Z,31nm,1.0s						
MENF	**Mencas**	**31.33**	**306**	*eP*	**P**	**15 01 28.7**	**+0.5**
MENF	**Mencas**	**31.33**	**306**	*eP*	**P**	**15 01 28.7**	**+0.5**
DOMB	**Dombas**	**31.38**	**329**	*eP*	**P**	**15 01 27.6**	**-1.0**
DOMB				IAmb	IAmb	15 01 29.3	
	comp=Z,84nm,1.2s						
DOMB				*e*S	**S**	**15 06 36.0**	**+0.7**
DOMB	**Dombas**	**31.38**	**329**	*eP*	**P**	**15 01 27.6**	**-1.0**
	SNR=27						
DOMB				*e*S	**S**	**15 06 36.0**	**+0.7**
	SNR=28						
ODD1	**Odda**	**31.40**	**324**	*eP*	**P**	**15 01 29.8**	**+1.0**
ODD1	**Odda**	**31.40**	**324**	*eP*	**P**	**15 01 29.8**	**+1.0**
	SNR=27						
VALF	**Valcebollere**	**31.56**	**290**	*eP*	**P**	**15 01 29.9**	**-0.7**
VALF	**Valcebollere**	**31.56**	**290**	*eP*	**P**	**15 01 29.9**	**-0.7**
TBLU	**Trondheim**	**31.58**	**332**	*e*		15 07 08.5	
RJF	**Les Rejaudoux**	**31.65**	**296**	*eP*	**P**	**15 01 30.9**	**-0.2**
RJF				pmax	pmax		
	comp=Z,281nm,1.7s						
ZAA0	**Zalesovo Array**	**31.68**	**48**	*eP*	**P**	**15 01 31.2**	**-0.1**
ZAA0	**Zalesovo Array**	**31.68**	**48**	*eP*	**P**	**15 01 31.2**	**-0.1**
ZALV	**Zalesovo Beam**	**31.68**	**48**	P	**P**	**15 01 32.0**	**+0.7**
	comp=Z,29nm,0.7s,baz=258,slow=10,SNR=94						
ZALV				PcP	**PcP**	**15 04 21.9**	**-0.9**
	comp=Z,5.1nm,0.9s,baz=256,slow=3.0,SNR=2.2						
ZALV				LR	LR	15 16 14.6	
	comp=Z,3μm,20.3s,baz=253,slow=40						
ZALV	**Zalesovo Beam**	**31.68**	**48**	P	**P**	**15 01 32.0**	**+0.7**
ZALV						15 04 21.9	
ZALV				pmax	pmax		
	comp=Z,29nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,3μm,20.3s						
SALF	**Salau**	**32.12**	**291**	*eP*	**P**	**15 01 34.2**	**-1.2**
SALF	**Salau**	**32.12**	**291**	*eP*	**P**	**15 01 34.2**	**-1.2**
HYA	**Hoyanger**	**32.15**	**326**	*eP*	**P**	**15 01 36.4**	**+1.1**
HYA	**Hoyanger**	**32.15**	**326**	*eP*	**P**	**15 01 36.4**	**+1.1**
	SNR=27						
BER	**Bergen**	**32.18**	**325**	*eP*	**P**	**15 01 35.8**	**+0.2**
BER				*e*S	**S**	**15 06 45.2**	**-2.6**
BER	**Bergen**	**32.18**	**325**	*eP*	**P**	**15 01 35.8**	**+0.2**
	SNR=27						
KTK1	**Kautokeino**	**32.21**	**346**	*eP*	**P**	**15 01 35.5**	**-0.3**
KTK1				*e*ScP	**ScP**	**15 08 04.9**	**-2.3**
KTK1	**Kautokeino**	**32.21**	**346**	*eP*	**P**	**15 01 35.5**	**-0.3**
	SNR=27						
KEV	**Kevo**	**32.25**	**349**	*eP*	**P**	**15 01 36.1**	**+0.1**
KEV				pmax	pmax		
	comp=Z,70nm,1.0s						
KEV	**Kevo**	**32.25**	**349**	*eP*	**P**	**15 01 35.8**	**-0.3**
	comp=Z,70nm,1.0s						
KEV	**Kevo**	**32.25**	**349**	*eP*	**P**	**15 01 35.8**	**-0.3**
	comp=Z,70nm,1.0s						
MOL	**Molde**	**32.26**	**329**	*eP*	**P**	**15 01 36.5**	**+0.3**
MOL				IAMs_20	IAMs_20	15 15 40.2	
	comp=Z,6μm,19.3s						
MOL	**Molde**	**32.26**	**329**	*eP*	**P**	**15 01 36.5**	**+0.3**
	SNR=27						
ARCES	**ARCESS Array B**	**32.28**	**348**	P	**P**	**15 01 36.2**	**-0.1**
	comp=Z,43nm,0.9s,baz=148,slow=9.5,SNR=54						
ARCES				LR	LR	15 16 54.5	
	comp=Z,3μm,19.6s,baz=149,slow=40						
ARE0	**ARCESS Array S**	**32.28**	**348**	*eP*	**P**	**15 01 35.8**	**-0.5**
ARE0				*e*S	**S**	**15 06 49.0**	**-0.2**
ARE0	**ARCESS Array S**	**32.28**	**348**	*eP*	**P**	**15 01 36.3**	**0.0**
ARE0	**ARCESS Array S**	**32.28**	**348**	*eP*	**P**	**15 01 36.1**	**-0.3**
	comp=Z,84nm,1.2s						
ARE0				*e*S	**S**	**15 06 49.0**	**-0.2**
	SNR=28						
ARE0	**ARCESS Array S**	**32.28**	**348**	*eP*	**P**	**15 01 36.1**	**-0.3**
	comp=Z,84nm,1.2s						
AKN	**Aaknes**	**32.28**	**328**	*eP*	**P**	**15 01 37.4**	**+0.9**
AKN				IAmb	IAmb	15 01 38.0	
	comp=Z,100nm,1.0s						
AKN				*e*S	**S**	**15 06 46.1**	**-3.3**
AKN	**Aaknes**	**32.28**	**328**	*eP*	**P**	**15 01 37.4**	**+0.9**
	SNR=27						
ASK	**Askoy**	**32.29**	**325**	*eP*	**P**	**15 01 37.0**	**+0.5**
WACR	**West Acre**	**32.54**	**310**	*eP*	**P**	**15 01 37.8**	**-1.0**
WACR	**West Acre**	**32.54**	**310**	*eP*	**P**	**15 01 37.8**	**-1.0**
STOK	**Stokkvaagen**	**32.59**	**338**	*eP*	**P**	**15 01 39.1**	**+0.1**
STOK	**Stokkvaagen**	**32.59**	**338**	*eP*	**P**	**15 01 39.2**	**+0.1**
	SNR=27						
BHPL	**Bhopal**	**32.64**	**108**	*eP*	**P**	**15 01 41.2**	**+1.2**
BHPL				AMB	AMB	15 01 41.9	
	comp=Z,94nm,1.4s						
KONS	**Konsvik**	**32.67**	**338**	*eP*	**P**	**15 01 39.6**	**-0.2**
KONS	**Konsvik**	**32.67**	**338**	*eP*	**P**	**15 01 39.6**	**-0.2**
	SNR=27						
LDF	**La Druitiere**	**32.70**	**302**	*eP*	**P**	**15 01 39.5**	**-0.8**
LDF				pmax	pmax		
	comp=Z,162nm,1.7s						
EPF	**Esparros**	**32.70**	**291**	*eP*	**P**	**15 01 38.3**	**-2.2**
EPF				pmax	pmax		
	comp=Z,53nm,2.2s						
RESF	**Ens**	**32.73**	**291**	*eP*	**P**	**15 01 40.6**	**-0.2**
RESF	**Ens**	**32.73**	**291**	*eP*	**P**	**15 01 40.6**	**-0.2**
FOO	**Floro**	**32.83**	**327**	*e*	**P**	**15 01 38.0**	**-3.2**
VIEF	**Viey**	**32.95**	**291**	*eP*	**P**	**15 01 41.8**	**-0.9**
VIEF	**Viey**	**32.95**	**291**	*eP*	**P**	**15 01 41.8**	**-0.9**
STEI	**Steigen**	**33.10**	**341**	*eP*	**P**	**15 01 43.4**	**-0.1**
STEI	**Steigen**	**33.10**	**341**	*eP*	**P**	**15 01 43.4**	**-0.1**
	SNR=27						
POO	**Poona**	**33.11**	**119⇓**	*iP*	**P**	**15 01 43.0**	**-1.2**
	comp=Z,270nm,1.0s						
WMQ	**Urumqi**	**33.18**	**67**	P	**P**	**15 01 46.5**	**+1.9**
WMQ				pP	sP	15 01 50.5	+0.1
WMQ				sP	pP	15 01 53.0	+4.3
WMQ				PP	**PP**	**15 03 00.8**	**+1.2**
WMQ				S	**S**	**15 07 09.0**	**+5.1**
WMQ				ScS	**ScS**	**15 12 07.3**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,210nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,910nm,3.8s						
WMQ				LR	LR		
	comp=Z,4μm,18.5s						
WMQ				LR	LR		
	comp=Z,2μm,21.5s						
WMQ				LR	LR		
	comp=Z,2μm,16.3s						
GRR	**Gorron**	**33.19**	**301**	*eP*	**P**	**15 01 43.2**	**-1.4**
GRR				pmax	pmax		
	comp=Z,193nm,1.1s						
ETSF	**Etsaut**	**33.38**	**291**	*eP*	**P**	**15 01 45.3**	**-1.1**
ETSF				pmax	pmax		
	comp=Z,69nm,1.1s						
ATE	**Arette**	**33.45**	**292**	*eP*	**P**	**15 01 46.5**	**-0.5**
ATE	**Arette**	**33.45**	**292**	*eP*	**P**	**15 01 46.5**	**-0.5**
WOL	**Wolverton**	**33.53**	**307**	*eP*	**P**	**15 01 47.1**	**-0.4**
WOL	**Wolverton**	**33.53**	**307**	*eP*	**P**	**15 01 47.1**	**-0.4**
HAMF	**Hammerfest**	**33.55**	**348**	*eP*	**P**	**15 01 51.6**	**+4.2**
TRO	**Tromso**	**33.57**	**345**	*eP*	**P**	**15 01 51.3**	**+3.7**
TRO				*e*S	**S**	**15 07 07.6**	**-1.5**
LOF	**Lofoten**	**33.69**	**340**	*e*	**P**	**15 01 51.5**	**+2.8**
HPK	**Haverah Park**	**34.04**	**311**	*eP*	**P**	**15 01 51.8**	**-0.1**
HPK				IAmb	IAmb	15 01 52.9	
	comp=Z,210nm,1.0s						
HPK	**Haverah Park**	**34.04**	**311**	*eP*	**P**	**15 01 51.8**	**-0.1**
LHO	**Holmfirth**	**34.13**	**311**	*eP*	**P**	**15 01 51.9**	**-0.8**
LHO	**Holmfirth**	**34.13**	**311**	*eP*	**P**	**15 01 51.9**	**-0.8**
PYUN	**Piuthan**	**34.30**	**96**	*eP*	**P**	**15 01 55.5**	**+0.8**
	comp=Z,914nm,1.5s						
EDMD	**Edmundbyers**	**34.36**	**313**	*eP*	**P**	**15 01 54.0**	**-0.7**
EDMD				IAmb	IAmb	15 01 55.5	
	comp=Z,168nm,1.0s						
EDMD	**Edmundbyers**	**34.36**	**313**	*eP*	**P**	**15 01 54.0**	**-0.7**
HGH	**Gray Hill**	**34.54**	**307⇑**	*eP*	**P**	**15 01 56.0**	**-0.2**
HGH	**Gray Hill**	**34.54**	**307⇑**	*eP*	**P**	**15 01 56.0**	**-0.2**
MONM	**Monmouth**	**34.55**	**308**	*eP*	**P**	**15 01 55.2**	**-1.1**
MONM				IAmb	IAmb	15 01 57.4	
	comp=Z,134nm,1.1s						
MONM	**Monmouth**	**34.55**	**308**	*eP*	**P**	**15 01 55.2**	**-1.1**
HLM1	**Long Mynd**	**34.64**	**309**	*eP*	**P**	**15 01 57.0**	**-0.2**
HLM1				IAmb	IAmb	15 01 58.0	
	comp=Z,158nm,1.2s						
HLM1	**Long Mynd**	**34.64**	**309**	*eP*	**P**	**15 01 57.0**	**-0.2**
MCH1	**Michaelchurch**	**34.68**	**308**	*eP*	**P**	**15 01 57.1**	**-0.3**
MCH1				IAmb	IAmb	15 01 58.0	
	comp=Z,258nm,1.1s						
MCH1	**Michaelchurch**	**34.68**	**308**	*eP*	**P**	**15 01 57.1**	**-0.3**
QUIF	**Quistinic**	**34.74**	**301**	*eP*	**P**	**15 01 56.8**	**-1.2**
QUIF				pmax	pmax		
	comp=Z,197nm,1.2s						
DANN	**Dangsing**	**34.79**	**95**	*eP*	**P**	**15 02 00.3**	**+1.3**
ROSF	**Rostrenen**	**34.80**	**301**	*eP*	**P**	**15 01 57.4**	**-1.1**
ROSF				pmax	pmax		
	comp=Z,115nm,1.0s						
CART	**Cartagena**	**34.83**	**282**	*eP*	**P**	**15 01 58.8**	**-0.1**
ODJA	**Bouhanifia**	**34.85**	**278**	P	**P**	**15 02 01.0**	**+1.8**
ODJA	**Bouhanifia**	**34.85**	**278**	P	**P**	**15 02 01.0**	**+1.8**
FOEL	**Foel Wylfa**	**34.87**	**309**	*eP*	**P**	**15 01 59.3**	**+0.2**
FOEL				IAmb	IAmb	15 02 00.2	
	comp=Z,309nm,1.1s						
FOEL	**Foel Wylfa**	**34.87**	**309**	*eP*	**P**	**15 01 59.3**	**+0.2**
ESY	**Stoneypath**	**34.90**	**315**	*eP*	**P**	**15 01 59.4**	**0.0**
ESY	**Stoneypath**	**34.90**	**315**	*eP*	**P**	**15 01 59.3**	**0.0**
KOLN	**Koldanda**	**34.94**	**96**	*eP*	**P**	**15 02 01.3**	**+1.1**
	comp=Z,212nm,0.9s						
KESW	**Keswick, Cumbr**	**34.99**	**312**	*eP*	**P**	**15 02 00.3**	**+0.2**
KESW				IAmb	IAmb	15 02 01.2	
	comp=Z,234nm,1.1s						
KESW	**Keswick, Cumbr**	**34.99**	**312**	*eP*	**P**	**15 02 00.3**	**+0.2**
DRUM	**Mains of Drumt**	**35.01**	**316⇑**	*eP*	**P**	**15 02 00.3**	**0.0**
DRUM				IAmb	IAmb	15 02 01.2	
	comp=Z,316nm,1.2s						
DRUM	**Mains of Drumt**	**35.01**	**316⇑**	*eP*	**P**	**15 02 00.3**	**0.0**
NGP	**Nagpur**	**35.10**	**110**	*eP*	**P**	**15 02 01.2**	**-0.3**
BHH	**Howats Hill**	**35.12**	**313**	*eP*	**P**	**15 02 01.2**	**0.0**
BHH	**Howats Hill**	**35.12**	**313**	*eP*	**P**	**15 02 01.2**	**0.0**
EKA	**Eskdalemuir Ar**	**35.12**	**314**	P	**P**	**15 02 01.0**	**-0.2**
	comp=Z,64nm,0.8s,baz=104,slow=8.8,SNR=73						
EKA				PcP	**PcP**	**15 04 32.5**	**+0.1**
	comp=Z,15nm,1.0s,baz=99,slow=5.2,SNR=3.9						
ESK	**Eskdalemuir**	**35.14**	**314**	*eP*	**P**	**15 02 01.1**	**-0.3**
ESK				IAmb	IAmb	15 02 08.1	
	comp=Z,243nm,1.5s						
ESK	**Eskdalemuir**	**35.14**	**314**	*eP*	**P**	**15 02 01.2**	**-0.2**
ESK				pmax	pmax		
	comp=Z,110nm,0.9s						
ESK	**Eskdalemuir**	**35.14**	**314**	*eP*	**P**	**15 02 01.1**	**-0.3**
ESK	**Eskdalemuir**	**35.14**	**314**	*eP*	**P**	**15 02 00.9**	**-0.5**
	comp=Z,106nm,0.9s						
ESK				LR	LR		
	comp=Z,4μm,20.0s						
LLW	**Llanuwychllyn**	**35.14**	**309**	*eP*	**P**	**15 02 01.5**	**+0.1**
LLW	**Llanuwychllyn**	**35.14**	**309**	*eP*	**P**	**15 02 01.5**	**+0.1**
DYA	**Yadsworthy**	**35.21**	**305**	*eP*	**P**	**15 02 01.9**	**-0.1**
DYA				IAmb	IAmb	15 02 02.9	
	comp=Z,273nm,1.2s						
DYA	**Yadsworthy**	**35.21**	**305**	*eP*	**P**	**15 02 01.9**	**-0.1**
DYA	**Yadsworthy**	**35.21**	**305**	*eP*	**P**	**15 02 02.2**	**+0.2**
	comp=Z,221nm,1.1s						
WPM1	**Penmaenmawr**	**35.32**	**310⇑**	*eP*	**P**	**15 02 03.1**	**+0.1**
WPM1	**Penmaenmawr**	**35.32**	**310⇑**	*eP*	**P**	**15 02 03.1**	**+0.1**
KLRI	**Killari**	**35.32**	**116**	*eP*	**P**	**15 02 03.0**	**-0.5**
KLRI				IAmb	IAmb	15 02 04.3	
	comp=Z,180nm,1.6s						
KLRI				*e*S	**S**	**15 07 39.7**	**+2.4**
KLRI				IVMs_BB	IVMs_BB	15 19 13.0	
	comp=Z,4μm,14.8s						
LPW	**Lampeter**	**35.34**	**308**	*eP*	**P**	**15 02 02.7**	**-0.5**
LPW	**Lampeter**	**35.34**	**308**	*eP*	**P**	**15 02 02.7**	**-0.5**
MME1	**Meikle Cairn**	**35.35**	**317**	*eP*	**P**	**15 02 02.9**	**-0.3**
MME1	**Meikle Cairn**	**35.35**	**317**	*eP*	**P**	**15 02 02.9**	**-0.3**
WME	**Myndd Eilian**	**35.57**	**310**	*eP*	**P**	**15 02 04.6**	**-0.5**
WME	**Myndd Eilian**	**35.57**	**310**	*eP*	**P**	**15 02 04.6**	**-0.5**
GKN	**Gorkha**	**35.63**	**95**	*eP*	**P**	**15 02 07.1**	**+1.0**
	comp=Z,859nm,1.5s						
UCM	**Universidad Co**	**35.84**	**288**	*eP*	**P**	**15 02 07.6**	**0.0**
OLHC	**Oulhaca**	**35.86**	**279**	P	P	15 02 02.0	-5.9
OLHC	**Oulhaca**	**35.86**	**279**	P	P	15 02 02.0	-5.9
SRSP	**Sriramsagar**	**35.99**	**113**	*eP*	**P**	**15 02 08.6**	**-0.5**
SRSP				IAmb	IAmb	15 02 15.3	
	comp=Z,72nm,1.5s						
SRSP				IVMs_BB	IVMs_BB	15 18 57.0	
	comp=Z,3μm,15.5s						
CCA1	**Carnmenellis**	**36.04**	**305⇑**	*eP*	**P**	**15 02 09.2**	**0.0**
CCA1				IAmb	IAmb	15 02 10.2	
	comp=Z,319nm,1.2s						
CCA1	**Carnmenellis**	**36.04**	**305⇑**	*eP*	**P**	**15 02 09.2**	**0.0**
TAM	**Tamanrasset**	**36.12**	**255**	*eP*	**P**	**15 02 09.9**	**-0.4**
TAM				pmax	pmax		
	comp=Z,150nm,1.1s						
TAM	**Tamanrasset**	**36.12**	**255**	*eP*	**P**	**15 02 09.7**	**-0.6**
	comp=Z,150nm,1.1s						
TAM	**Tamanrasset**	**36.12**	**255**	*eP*	**P**	**15 02 09.7**	**-0.6**
	comp=Z,150nm,1.1s						
DMN	**Daman**	**36.18**	**95**	*eP*	**P**	**15 02 11.9**	**+0.9**
	comp=Z,622nm,1.1s						
KKN	**Kakani**	**36.23**	**95**	*eP*	**P**	**15 02 11.8**	**+0.4**
PKIN	**Phulchoki**	**36.42**	**95**	*eP*	**P**	**15 02 13.6**	**+0.5**
	comp=Z,657nm,1.4s						
PKI	**Pulchoki**	**36.44**	**95**	*eP*	**P**	**15 02 13.8**	**+0.6**
	comp=Z,802nm,1.4s						
ESDC	**Sonseca Array**	**36.52**	**287**	P	**P**	**15 02 12.5**	**-1.0**
	comp=Z,78nm,0.9s,baz=66,slow=8.8,SNR=181						
ESDC				PcP	**PcP**	**15 04 36.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=42,slow=3.5,SNR=4.5						
ESDC				LR	LR	15 19 17.0	
	comp=Z,1μm,20.9s,baz=80,slow=40						
ESLA	**Sonseca Array**	**36.52**	**287**	*eP*	**P**	**15 02 12.1**	**-1.4**
	comp=Z,112nm,1.0s						
ESLA	**Sonseca Array**	**36.52**	**287**	*eP*	**P**	**15 02 12.2**	**-1.4**
	comp=Z,112nm,1.0s						
GMM	**Mts of Mourne**	**36.61**	**311**	*eP*	**P**	**15 02 13.9**	**0.0**
GMM	**Mts of Mourne**	**36.61**	**311**	*eP*	**P**	**15 02 13.9**	**0.0**
KAC	**Achnashellach**	**36.62**	**317⇑**	*eP*	**P**	**15 02 13.7**	**-0.4**
KAC	**Achnashellach**	**36.62**	**317⇑**	*eP*	**P**	**15 02 13.7**	**-0.4**
GUN	**Gumba**	**36.64**	**94**	*eP*	**P**	**15 02 15.6**	**+0.6**
	comp=Z,688nm,1.0s						
RSC	**Scourie**	**36.70**	**318**	*eP*	**P**	**15 02 14.3**	**-0.4**
RSC	**Scourie**	**36.70**	**318**	*eP*	**P**	**15 02 14.3**	**-0.4**
RPR	**Rampur**	**36.72**	**113**	*eP*	**P**	**15 02 15.1**	**-0.2**
RPR				IAmb	IAmb	15 02 16.1	
	comp=Z,36nm,0.9s						
RPR				*e*S	**S**	**15 07 57.1**	**-1.6**
RPR				IVMs_BB	IVMs_BB	15 19 19.4	
	comp=Z,3μm,16.9s						
DSB	**Dublin**	**36.80**	**310**	*eP*	**P**	**15 02 15.6**	**0.0**
	comp=Z,96nm,1.2s						
DSB	**Dublin**	**36.80**	**310**	*eP*	**P**	**15 02 15.6**	**0.0**
	comp=Z,96nm,1.2s						
PAB	**San Pablo**	**36.84**	**287**	*eP*	**P**	**15 02 15.4**	**-0.9**
PAB				pmax	pmax		
	comp=Z,110nm,1.1s						
PAB	**San Pablo**	**36.84**	**287**	*eP*	**P**	**15 02 15.2**	**-1.1**
	comp=Z,108nm,1.1s						
PAB	**San Pablo**	**36.84**	**287**	*eP*	**P**	**15 02 15.2**	**-1.1**
	comp=Z,108nm,1.1s						
RRR	**Rubha Reidh**	**36.95**	**318**	*eP*	**P**	**15 02 16.4**	**-0.4**
RRR	**Rubha Reidh**	**36.95**	**318**	*eP*	**P**	**15 02 16.4**	**-0.4**
JIRN	**Jiri**	**37.00**	**94**	*eP*	**P**	**15 02 19.0**	**+0.9**
MELI	**Melilla**	**37.01**	**279**	*eP*	**P**	**15 02 16.9**	**-0.7**
HYBB	**Hyderabad (bro**	**37.13**	**115**	*eP*	**P**	**15 02 18.4**	**-0.5**
HYBB				IAmb	IAmb	15 02 25.9	
	comp=Z,59nm,0.9s						
HYBB				*e*S	**S**	**15 08 08.2**	**+3.2**
HYBB				IVMs_BB	IVMs_BB	15 19 49.1	
	comp=Z,2μm,17.7s						
HYB	**Hyderabad**	**37.14**	**115**	*i* P	**P**	**15 02 18.0**	**-0.9**
HYB				*e*		15 03 42.0	
BJO	**Bjornoya**	**37.59**	**349**	*eP*	P	15 02 27.1	+5.0
BJO				*e*PP	**PnPn**	**15 03 52.7**	**+4.2**
RAMN	**Ramite**	**37.66**	**95**	*eP*	**P**	**15 02 24.1**	**+0.5**
	comp=Z,1μm,1.3s						
MNGI	**Mangalore**	**37.78**	**124**	*ex*	P	15 02 32.7	+8.5
MNGI				AMB	AMB	15 02 33.6	
	comp=Z,58nm,1.1s						
PBRG	**Braganca**	**38.08**	**291**	*eP*	**P**	**15 02 25.8**	**-0.9**
	comp=Z,66nm,1.7s						
PBRG				*e*LR	LR	15 11 09.2	
NJS	**Nagarjunasagar**	**38.25**	**115**	*eP*	**P**	**15 02 27.6**	**-0.7**
NJS				IAmb	IAmb	15 02 28.5	
	comp=Z,22nm,0.9s						
NJS				*e*S	**S**	**15 08 21.6**	**-0.2**
NJS				IVMs_BB	IVMs_BB	15 20 32.8	
	comp=Z,2μm,15.1s						
SRLM	**Srisailam**	**38.26**	**116**	*eP*	**P**	**15 02 27.9**	**-0.5**
SRLM				IAmb	IAmb	15 02 28.9	
	comp=Z,30nm,1.0s						
SRLM				*e*S	**S**	**15 08 22.9**	**+0.7**
SRLM				IVMs_BB	IVMs_BB	15 20 59.2	
	comp=Z,2μm,12.6s						
ODAN	**Odare**	**38.32**	**95**	*eP*	**P**	**15 02 30.2**	**+1.1**
	comp=Z,2μm,1.4s						
TAPN	**Taplejung**	**38.34**	**94**	*eP*	**P**	**15 02 30.0**	**+0.7**
	comp=Z,338nm,1.0s						
MVO	**Moncorvo**	**38.44**	**290**	*eP*	**P**	**15 02 28.8**	**-0.9**
	comp=Z,108nm,1.2s						
MVO				*e*S	**S**	**15 08 28.4**	**+3.9**
MVO				*e*LR	LR	15 11 19.5	
	comp=Z,2μm,18.0s						
NRIK	**Noril'sk**	**38.44**	**23**	P	**P**	**15 02 30.9**	**+1.6**
	comp=Z,85nm,1.1s,baz=240,slow=6.4,SNR=61						
NRIK				LR	LR	15 22 28.5	
	comp=Z,8μm,18.2s,baz=234,slow=43						
PVRL	**Vila Real**	**38.91**	**290**	*eP*	**P**	**15 02 33.3**	**-0.4**
	comp=Z,119nm,1.9s						
POLO	**Lamas de Olo**	**38.95**	**291**	*eP*	**P**	**15 02 33.3**	**-0.8**
	comp=Z,85nm,1.5s						
POLO				*e*LR	LR	15 11 23.1	
MTE	**Manteigas**	**39.00**	**289**	*eP*	**P**	**15 02 34.3**	**-0.2**
	comp=Z,306nm,1.2s						
MTE				*e*S	S	15 08 46.3	+13
MTE				*e*LR	LR	15 11 58.7	
	comp=Z,3μm,18.0s						
MTE	**Manteigas**	**39.00**	**289**	*eP*	**P**	**15 02 33.6**	**-0.9**
	comp=Z,233nm,1.0s						
MTE	**Manteigas**	**39.00**	**289**	*eP*	**P**	**15 02 33.6**	**-0.9**
	comp=Z,233nm,1.0s						
PCBR	**Castelo Branco**	**39.10**	**288**	*eP*	**P**	**15 02 34.6**	**-0.6**
	comp=Z,205nm,1.2s						
PMRV	**Marv??o**	**39.15**	**288**	*eP*	**P**	**15 02 35.0**	**-0.6**
	comp=Z,156nm,1.8s						
PMRV				*e*S	**S**	**15 08 41.0**	**+5.9**
PMRV				*e*LR	LR	15 11 26.5	
PGAV	**Gavieira, Arco**	**39.16**	**292**	*eP*	**P**	**15 02 35.7**	**-0.1**
	comp=Z,166nm,1.5s						
PGAV	**Gavieira, Arco**	**39.16**	**292**	*e*LR	LR	15 12 58.3	
	comp=Z,2μm,20.0s						
VAL	**Valentia**	**39.16**	**308**	*eP*	**P**	**15 02 38.5**	**+3.0**
PVIS	**Viseu**	**39.18**	**290**	*eP*	**P**	**15 02 35.4**	**-0.6**
	comp=Z,144nm,1.2s						
ADKI	**Addanki**	**39.19**	**115**	*eP*	**P**	**15 02 35.8**	**-0.4**
ADKI				IAmb	IAmb	15 02 43.2	
	comp=Z,20nm,0.8s						
ADKI				IVMs_BB	IVMs_BB	15 21 09.6	
	comp=Z,2μm,16.8s						
MDT	**Midelt**	**39.21**	**276**	P	**P**	**15 02 36.0**	**-0.3**
	comp=Z,45nm,0.9s,baz=83,slow=10.0,SNR=40						
PBAR	**Barrancos**	**39.24**	**285**	*eP*	**P**	**15 02 35.2**	**-1.2**
	comp=Z,276nm,1.2s						
PBAR				*e*LR	LR	15 11 58.4	
PVM	**Polavaram**	**39.44**	**112**	*eP*	**P**	**15 02 38.4**	**+0.1**
PVM				IAmb	IAmb	15 02 40.1	
	comp=Z,192nm,2.2s						
PVM				IVMs_BB	IVMs_BB	15 21 01.6	
	comp=Z,3μm,14.3s						
PESTR	**Estremoz**	**39.45**	**287**	*eP*	**P**	**15 02 37.0**	**-1.2**
	comp=Z,228nm,1.1s						
PESTR				*e*LR	LR	15 11 33.6	
PCAS	**Casmilo, Conde**	**39.80**	**289**	*eP*	**P**	**15 02 41.1**	**0.0**
PCAS				*e*LR	LR	15 11 51.0	
PTOM	**Tomar**	**39.85**	**288**	*eP*	**P**	**15 02 41.3**	**-0.2**
	comp=Z,333nm,1.2s						
EVO	**Evora**	**39.86**	**286**	*eP*	**P**	**15 02 40.5**	**-1.1**
	comp=Z,76nm,1.4s						
PMTG	**Montargil**	**39.87**	**287**	*eP*	**P**	**15 02 40.2**	**-1.4**
	comp=Z,195nm,1.3s						
PMTG				*e*LR	LR	15 11 51.4	
PBEJ	**Beja**	**39.91**	**286**	*eP*	**P**	**15 02 41.1**	**-0.9**
	comp=Z,115nm,1.7s						
LSA	**Lhasa**	**39.94**	**88**	P	**P**	**15 02 44.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,96nm,1.1s						
LSA	**Lhasa**	**39.94**	**88**	*eP*	**P**	**15 02 43.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,95nm,0.8s						
LSA	**Lhasa**	**39.94**	**88**	*eP*	**P**	**15 02 43.8**	**+0.9**
	comp=Z,95nm,0.8s						
LSA	**Lhasa**	**39.94**	**88**	*eP*	**P**	**15 02 43.8**	**+0

SHL	**Shillong**	**42.47**	**93**	*e*P	**P**	**15 03 03.0 -0.4**
SHL				*e*x	x	15 08 47.0
ZAK	**Zakamensk**	**42.93**	**54**	*e*P	**P**	**15 03 07.7 +0.9**
ZAK				*e*		15 04 54.5
ZAK				pmax	pmax	
	comp=Z,58nm,1.5s					
TLY	**Talaya**	**42.99**	**52***c*	*i*P	**P**	**15 03 09.5 +2.4**
TLY				*e*SS	SS	15 12 45.5 +1.9
TLY				*e*SSS	SSS	15 13 22.3
TLY				pmax	pmax	
	comp=Z,150nm,1.7s					
TLY				MLR	MLR	
	comp=Z,1μm,13.0s					
GTA	**Gaotai**	**42.99**	**71**	⇑P	**P**	**15 03 08.5 +1.1**
GTA				pP	sP	15 03 14.5 +1.3
GTA				sP	pP	15 03 17.5 +5.9
GTA				PcP	**PcP**	**15 05 00.5 +2.8**
GTA				PcS	**PcS**	**15 08 48.8 -1.3**
GTA				ScP	**ScP**	**15 08 50.5 +2.1**
GTA				S	**S**	**15 09 34.3 +1.8**
GTA				sS	sS	15 09 43.8 +4.4
GTA				SS	**SS**	**15 12 41.0 -3.2**
GTA				ScS	**ScS**	**15 13 09.0 +1.0**
GTA				pmax	pmax	
	comp=Z,75nm,1.5s					
GTA				pmax	pmax	
	comp=Z,540nm,5.3s					
GTA				LR	LR	
	comp=Z,3μm,22.3s					
GTA				LR	LR	
	comp=Z,3μm,22.8s					
GTA				LR	LR	
	comp=Z,1μm,22.8s					
IRK	**Irkutsk**	**43.30**	**51**	*e*P	**P**	**15 03 10.3 +0.6**
IRK				pmax	pmax	
	comp=Z,302nm,1.9s					
MSEY	**Mahe Island**	**44.64**	**163**	*i* P	**P**	**15 03 21.4 +0.7**
	SNR=33					
MSEY	**Mahe Island**	**44.64**	**163***ce*	P	**P**	**15 03 22.1 +1.4**
MSEY	**Mahe Island**	**44.64**	**163**	P	**P**	**15 03 22.3 +1.6**
	SNR=17					
MSEY	**Mahe Island**	**44.64**	**163**	*e*P	**P**	**15 03 21.4 +0.7**
	comp=Z,270nm,1.0s					
MSEY	**Mahe Island**	**44.64**	**163**	P	**P**	**15 03 22.3 +1.6**
	SNR=17					
MSEY	**Mahe Island**	**44.64**	**163**	P	**P**	**15 03 22.3 +1.6**
	SNR=17					
MSEY				P	**P**	**15 03 22.3 +1.6**
	SNR=17					
TOA0	**Torodi Ar. Sit**	**44.98**	**247**	*e*P	**P**	**15 03 21.7 -1.8**
	comp=Z,170nm,1.1s					
TOA0	**Torodi Ar. Sit**	**44.98**	**247**	*e*P	**P**	**15 03 21.7 -1.8**
	comp=Z,170nm,1.1s					
TORD	**Torodi Ar. Bea**	**44.98**	**247**	P	**P**	**15 03 21.9 -1.6**
	comp=Z,93nm,1.0s,baz=43,slow=7.1,SNR=213					
TORD				LR	LR	15 24 42.9
	comp=Z,2μm,20.5s,baz=20,slow=40					
BORG	**Borgarnes**	**45.11**	**327**	P	**P**	**15 03 25.7 +1.8**
	comp=Z,153nm,1.0s,baz=116,slow=12,SNR=5.6					
BORG	**Borgarnes**	**45.11**	**327**	*e*P	**P**	**15 03 26.6 +2.7**
BORG				pmax	pmax	
	comp=Z,150nm,1.3s					
BORG	**Borgarnes**	**45.11**	**327**	*e*P	**P**	**15 03 25.7 +1.8**
	comp=Z,150nm,1.3s					
BORG	**Borgarnes**	**45.11**	**327**	*e*P	**P**	**15 03 25.7 +1.8**
	comp=Z,150nm,1.3s					
BORG				LR	LR	
	comp=Z,827nm,19.0s					
SONM	**Songino Array**	**45.41**	**57**	P	**P**	**15 03 27.8 +1.1**
	comp=Z,6.5nm,0.8s,baz=279,slow=9.6,SNR=31					
SONM				PcP	**PcP**	**15 05 05.8 0.0**
	comp=Z,18nm,1.1s,baz=242,slow=3.6,SNR=9.2					
SONM				LR	LR	15 25 29.6
	comp=Z,5μm,18.0s,baz=282,slow=40					
PALK	**Pallekele**	**45.83**	**123**	P	**P**	**15 03 29.8 -0.4**
	comp=Z,9.0nm,0.8s,baz=296,slow=9.6,SNR=5.6					
PALK				LR	LR	15 23 08.9
	comp=Z,1μm,19.8s,baz=296,slow=37					
PALK	**Pallekele**	**45.83**	**123***ce*	P	**P**	**15 03 30.8 +0.6**
PALK	**Pallekele**	**45.83**	**123**	*e*P	**P**	**15 03 29.5 -0.7**
	comp=Z,37nm,1.1s					
PALK	**Pallekele**	**45.83**	**123**	*e*P	**P**	**15 03 29.5 -0.7**
	comp=Z,37nm,1.1s					
ULN	**Ulaanbaatar**	**45.83**	**57***c*	*i*P	**P**	**15 03 31.6 +1.5**
ULN				pmax	pmax	
	comp=Z,165nm,1.2s					
ULN	**Ulaanbaatar**	**45.83**	**57**	*e*P	**P**	**15 03 31.0 +1.0**
	comp=Z,189nm,1.3s					
ULN	**Ulaanbaatar**	**45.83**	**57**	*e*P	**P**	**15 03 31.0 +1.0**
	comp=Z,189nm,1.3s					
ULN	**Ulaanbaatar**	**45.83**	**57**	pP	**P**	**15 03 31.1 +1.0**
	SNR=78					
ULN	**Ulaanbaatar**	**45.83**	**57**	P	**P**	**15 03 31.1 +1.0**
	SNR=78					
ULN				P	**P**	**15 03 31.1 +1.0**
	SNR=78					
SCO	**Scoresbysund**	**45.85**	**335**	*i* P	P	15 03 35.3 +5.6
SCO	**Scoresbysund**	**45.85**	**335**	*i* P	P	15 03 35.3 +5.6
DAG	**Danmarks Havn**	**46.28**	**344**	*i* P	P	15 03 38.1 +5.1
DAG				*i* S	S	15 10 30.4 +11
DAG	**Danmarks Havn**	**46.28**	**344**	*i* P	P	15 03 38.1 +5.1
DAG				*i* S	S	15 10 30.4 +11
LZH	**Lanzhou**	**47.13**	**74**	⇑P	**P**	**15 03 42.3 +1.9**
LZH				pP	sP	15 03 48.5 +2.2
LZH				sP	pP	15 03 51.5 +6.9
LZH				PP	**PP**	**15 05 32.3 +1.2**
LZH				S	**S**	**15 10 32.0 -0.6**
LZH				sS	sS	15 10 42.0 +2.5
LZH				SS	**SS**	**15 13 51.0 -8.4**
LZH				pmax	pmax	
	comp=Z,340nm,1.3s					
LZH				pmax	pmax	
	comp=Z,830nm,6.0s					
LZH				LR	LR	
	comp=Z,2μm,12.0s					
LZH				LR	LR	
	comp=Z,3μm,14.0s					
LZH				LR	LR	
	comp=Z,3μm,14.7s					
BOD	**Bodaibo**	**48.11**	**43**	*e*P	**P**	**15 03 47.8 +0.3**
BOD				pmax	pmax	
	comp=Z,133nm,1.7s					
PMPS	**Porto Santo**	**48.13**	**283**	*e*P	**P**	**15 03 45.1 -2.9**
CIT	**Chita**	**48.97**	**50**	*e*P	**P**	**15 03 55.0 +0.7**
CD2	**Chengdu**	**49.20**	**80**	P	**P**	**15 03 57.5 +1.1**
CD2				sP	sP	15 04 01.8 -0.4
CD2				PcS	**PcS**	**15 09 17.5 +1.5**
CD2				S	**S**	**15 11 04.0 +2.2**
CD2				pmax	pmax	
	comp=Z,70nm,0.8s					
CD2				pmax	pmax	
	comp=Z,520nm,7.0s					
CD2				LR	LR	
	comp=Z,3μm,15.7s					
CD2				LR	LR	
	comp=Z,4μm,15.9s					
CD2				LR	LR	
	comp=Z,3μm,16.1s					
BTO	**Baotou**	**50.00**	**66**	*e*P	**P**	**15 04 03.5 +1.1**
HHC	**Hu-ho-hao-te**	**51.00**	**65**	*e*P	**P**	**15 04 11.5 +1.5**
HHC				S	**S**	**15 11 27.0 +0.2**
HHC				sS	sS	15 11 34.3 +0.6
HHC				ScS	**ScS**	**15 13 58.5 -2.0**
HHC				SS	**SS**	**15 15 01.5 +0.1**
HHC				pmax	pmax	
	comp=Z,100nm,1.1s					
HHC				pmax	pmax	
	comp=Z,750nm,8.5s					
HHC				LR	LR	
	comp=Z,3μm,18.5s					
HHC				LR	LR	
	comp=Z,2μm,18.5s					
HHC				LR	LR	
	comp=Z,980nm,19.7s					
CMAI	**Chiengmai2**	**51.05**	**95**	P	**P**	**15 04 10.5 -0.1**
	comp=Z,324nm,1.1s,comp=Z,69μm					
SUMG	**Summit**	**51.12**	**337**	*i* P	**P**	**15 04 14.9 +4.1**
SUMG				*i*		15 06 14.9
SUMG	**Summit**	**51.12**	**337**	*e*P	**P**	**15 04 11.0 +0.2**
SUMG				pmax	pmax	
	comp=Z,150nm,1.2s					
SUMG	**Summit**	**51.12**	**337**	*e*P	**P**	**15 04 10.8 +0.1**
	comp=Z,152nm,1.2s					
SUMG	**Summit**	**51.12**	**337**	*e*P	**P**	**15 04 10.8 +0.1**
	comp=Z,152nm,1.2s					
KMI	**Kunming**	**51.17**	**87**	P	**P**	**15 04 11.8 +0.3**
KMI				pP	sP	15 04 18.5 +1.1
KMI				sP	pP	15 04 20.5 +4.7
KMI				PP	**PP**	**15 06 11.0 +2.8**
KMI				S	**S**	**15 11 26.8 -2.8**
KMI				sS	sS	15 11 40.0 +3.4
KMI				pmax	pmax	
	comp=Z,100nm,1.0s					
KMI				pmax	pmax	
	comp=Z,650nm,4.3s					
KMI				LR	LR	
	comp=Z,2μm,17.8s					
KMI				LR	LR	
	comp=Z,1μm,18.3s					
KMI				LR	LR	
	comp=Z,2μm,20.8s					
CHTO	**Chiang Mai**	**51.60**	**96**	P	**P**	**15 04 14.1 -0.5**
	comp=Z,543nm,1.3s,comp=Z,6μm					
CHTO	**Chiang Mai**	**51.60**	**96**	*e*P	**P**	**15 04 14.2 -0.4**
CHTO				pmax	pmax	
	comp=Z,310nm,1.8s					
CHTO	**Chiang Mai**	**51.60**	**96**	*e*P	**P**	**15 04 13.7 -0.9**
	comp=Z,308nm,1.8s					
CHTO				LR	LR	
	comp=Z,1μm,22.0s					
CHTO	**Chiang Mai**	**51.60**	**96**	P	**P**	**15 04 14.2 -0.4**
	SNR=46					
CHTO	**Chiang Mai**	**51.60**	**96**	P	**P**	**15 04 14.2 -0.4**
	SNR=46					
CHTO				P	**P**	**15 04 14.2 -0.4**
	SNR=46					
XAN	**Xi'an**	**51.77**	**74**	P	**P**	**15 04 16.0 +0.3**
XAN				pP	sP	15 04 21.0 -0.6
XAN				PP	**PP**	**15 06 13.5 +0.2**
XAN				pmax	pmax	
	comp=Z,290nm,1.1s					
XAN				pmax	pmax	
	comp=Z,560nm,4.7s					
XAN				LR	LR	
	comp=Z,2μm,27.9s					
XAN				LR	LR	
	comp=Z,2μm,22.7s					
XAN				LR	LR	
	comp=Z,2μm,14.2s					
CM31	**Chiang Mai Arr**	**51.80**	**97**	*e*P	**P**	**15 04 15.9 -0.2**
CM31	**Chiang Mai Arr**	**51.80**	**97**	*e*P	**P**	**15 04 15.9 -0.2**
CMAR	**Chiang Mai Arr**	**51.80**	**97**	P	**P**	**15 04 15.8 -0.3**
	comp=Z,26nm,0.9s,baz=299,slow=8.1,SNR=207					
CMAR				PcP	**PcP**	**15 05 29.1 0.0**
	comp=Z,12nm,1.1s,baz=296,slow=5.3,SNR=4.5					
CMAR				LR	LR	15 30 02.0
	comp=Z,1μm,21.2s,baz=290,slow=40					
CMAR	**Chiang Mai Arr**	**51.80**	**97**	P	**P**	**15 04 15.8 -0.3**
CMAR						15 05 29.2
CMAR				pmax	pmax	
	comp=Z,27nm,0.9s					
CMAR				MLR	MLR	
	comp=Z,1μm,21.2s					
TIXI	**Tiksi**	**52.22**	**24**	P	**P**	**15 04 19.0 +0.5**
	comp=Z,35nm,0.9s,baz=303,slow=5.1,SNR=68					
TIXI	**Tiksi**	**52.22**	**24***c*	*i*P	**P**	**15 04 19.1 +0.6**
TIXI				pmax	pmax	
	comp=Z,90nm,1.2s					
TIXI	**Tiksi**	**52.22**	**24**	*e*P	**P**	**15 04 18.5 0.0**
	comp=Z,74nm,1.1s					
TIXI	**Tiksi**	**52.22**	**24**	*e*P	**P**	**15 04 18.6 0.0**
	comp=Z,74nm,1.1s					
LAMP	**Lampang**	**52.30**	**96**	P	**P**	**15 04 20.2 +0.4**
	comp=Z,25nm,1.3s,comp=Z,269nm					
NANT	**Nan**	**52.97**	**95**	P	**P**	**15 04 24.2 -0.6**
	comp=Z,19nm,1.0s,comp=Z,183nm					
CMLA	**Cha da Macela**	**53.05**	**292**	PFAKE		15 04 40.0 +15
CMLA				LR	LR	
	comp=Z,3μm,21.0s					
DGAR	**Diego Garcia**	**53.22**	**143**	*e*P	**P**	**15 04 27.5 +1.0**
DGAR				pmax	pmax	
	comp=Z,270nm,1.2s					
DGAR	**Diego Garcia**	**53.22**	**143**	*e*P	**P**	**15 04 26.8 +0.3**
	comp=Z,274nm,1.3s					
DGAR	**Diego Garcia**	**53.22**	**143**	*e*P	**P**	**15 04 26.8 +0.3**
	comp=Z,274nm,1.3s					
DGAR				LR	LR	
	comp=Z,2μm,21.0s					
UTTA	**Uttaradit**	**53.46**	**96**	P	**P**	**15 04 28.7 +0.3**
	comp=Z,15nm,1.4s,comp=Z,162nm					
HIA	**Hailar**	**53.53**	**52**	*e*P	**P**	**15 04 29.2 +0.7**
HIA				pmax	pmax	
	comp=Z,75nm,0.9s					
HIA				MLR	MLR	
	comp=Z,2μm,22.0s					
HIA	**Hailar**	**53.53**	**52**	*e*P	**P**	**15 04 29.2 +0.7**
	comp=Z,75nm,0.9s					
HIA	**Hailar**	**53.53**	**52**	*e*P	**P**	**15 04 29.2 +0.7**
	comp=Z,75nm,0.9s					
HIA				LR	LR	
	comp=Z,2μm,22.0s					
GYA	**Guiyang**	**53.55**	**83**⇑	*i*P	**P**	**15 04 29.0 -0.1**
GYA				pP	sP	15 04 36.0 +1.0
GYA				PcP	**PcP**	**15 05 37.3 +1.5**
GYA				PP	**PP**	**15 06 32.0 +2.4**
GYA				ScP	**ScP**	**15 09 31.8 -1.4**
GYA				S	**S**	**15 12 00.5 -1.6**
GYA				ScS	**ScS**	**15 14 15.5 -3.2**
GYA				SS	**SS**	**15 15 40.0 -2.2**
GYA				pmax	pmax	
	comp=Z,60nm,0.8s					
GYA				pmax	pmax	
	comp=Z,170nm,6.5s					
GYA				LR	LR	
	comp=Z,2μm,20.2s					
GYA				LR	LR	
	comp=Z,1μm,20.0s					
GYA				LR	LR	
	comp=Z,1μm,20.4s					
ENH	**Enshi**	**53.88**	**78**	*e*P	**P**	**15 04 31.2 -0.2**
	comp=Z,102nm,1.0s					
ENH	**Enshi**	**53.88**	**78**	*e*P	**P**	**15 04 31.2 -0.2**
	comp=Z,102nm,1.0s					
ENH				LR	LR	
	comp=Z,2μm,22.0s					
UTHA	**Uthaitani**	**53.89**	**99**	P	**P**	**15 04 31.8 +0.3**
	comp=Z,29nm,1.1s,comp=Z,273nm					
CLNS	**Chul'man**	**54.08**	**42**	*e*P	**P**	**15 04 30.7 -1.8**
CLNS				*e*		15 05 35.6
CLNS				*e*		15 06 33.6
CLNS				*e*S	**S**	**15 12 03.4 -4.9**
CLNS				pmax	pmax	
	comp=N,11nm,1.2s					
CLNS				pmax	pmax	
	comp=Z,14nm,0.8s					
CLNS				pmax	pmax	
	comp=E,10.0nm,1.6s					
CLNS				pmax	pmax	
	comp=Z,21nm,1.1s					
CLNS				pmax	pmax	
	comp=N,10.0nm,1.0s					
CLNS				pmax	pmax	
	comp=E,18nm,1.0s					
CLNS				smax	smax	
	comp=N,109nm,13.4s					
CLNS				smax	smax	
	comp=E,273nm,14.4s					
CLNS				MLR	MLR	
	comp=N,2μm,15.0s					
CLNS				MLR	MLR	
	comp=N,2μm,13.0s					
CLNS				MLR	MLR	
	comp=Z,2μm,14.0s					
DBIC	**Dimbokro**	**54.09**	**247**	P	**P**	**15 04 31.5 -1.5**
	comp=Z,50nm,0.9s,baz=30,slow=8.9,SNR=34					
DBIC				LR	LR	15 30 08.2
	comp=Z,2μm,20.6s,baz=46,slow=39					
DBIC	**Dimbokro**	**54.09**	**247**	*e*P	**P**	**15 04 31.3 -1.7**
	comp=Z,207nm,1.4s					
DBIC	**Dimbokro**	**54.09**	**247**	*e*P	**P**	**15 04 31.3 -1.7**
	comp=Z,207nm,1.4s					
KIC	**Kosan Boka**	**54.22**	**246**	*e*P	**P**	**15 04 32.4 -1.6**
	comp=Z,485nm,1.2s					
TIC	**Toumodi**	**54.23**	**247**	*e*P	**P**	**15 04 32.3 -1.7**
SRDT	**SRDT**	**54.37**	**101**	P	**P**	**15 04 35.0 0.0**
	comp=Z,265nm,1.2s,comp=Z,4μm					
PBKT	**Sadao Pong**	**54.47**	**97**	P	**P**	**15 04 36.0 +0.3**
	comp=Z,127nm,1.0s,comp=Z,1μm					
LIC	**Lamto**	**54.52**	**246**	*e*P	**P**	**15 04 34.6 -1.5**
	comp=Z,463nm,1.3s					
BJI	**Beijing**	**54.56**	**64**	P	**P**	**15 04 36.8 +0.7**
BJI				PP	**PP**	**15 06 38.5 +0.2**
BJI				S	**S**	**15 12 15.3 +0.2**
BJI				pmax	pmax	
	comp=Z,8.0nm,0.5s					
BJI				pmax	pmax	
	comp=Z,770nm,4.8s					
BJI				LR	LR	
	comp=Z,3μm,19.5s					
BJI				LR	LR	
	comp=Z,2μm,18.8s					
BJI				LR	LR	
	comp=Z,1μm,23.9s					
BJT	**Baijiatuau**	**54.57**	**64**	*e*P	**P**	**15 04 36.3 +0.1**
BJT				pmax	pmax	
	comp=Z,355nm,2.0s					
BJT				MLR	MLR	
	comp=Z,2μm,20.0s					
BJT	**Baijiatuau**	**54.57**	**64**	*e*P	**P**	**15 04 36.3 +0.1**
	comp=Z,356nm,2.0s					
BJT	**Baijiatuau**	**54.57**	**64**	*e*P	**P**	**15 04 36.3 +0.1**
	comp=Z,356nm,2.0s					
BJT				LR	LR	
	comp=Z,2μm,20.0s					
YAK	**Yakutsk**	**54.84**	**35**	P	**P**	**15 04 37.7 -0.2**
	comp=Z,42nm,0.7s,baz=196,slow=0.3,SNR=34					
YAK	**Yakutsk**	**54.84**	**35***c*	*i*P	**P**	**15 04 37.5 -0.3**
YAK				*e**PP	**pP**	**15 04 40.7 -1.4**
YAK				*e*S	**S**	**15 12 18.6 +0.3**
YAK				pmax	pmax	
	comp=Z,58nm,0.9s					
YAK				pmax	pmax	
	comp=N,18nm,1.5s					
YAK				pmax	pmax	
	comp=E,32nm,1.4s					
YAK				smax	smax	
	comp=E,135nm,16.6s					
YAK				smax	smax	
	comp=N,666nm,23.1s					
YAK				MLR	MLR	
	comp=Z,2μm,19.0s					
YAK	**Yakutsk**	**54.84**	**35**	*e*P	**P**	**15 04 37.3 -0.5**
	comp=Z,88nm,0.9s					
YAK	**Yakutsk**	**54.84**	**35**	*e*P	**P**	**15 04 37.3 -0.5**
	comp=Z,88nm,0.9s					
NONG	**Nongkai**	**55.30**	**94**	P	P	15 04 49.6 +7.9
PHET	**Kaeng Krachan**	**55.64**	**102**	P	**P**	**15 04 44.4 +0.2**
	comp=Z,33nm,1.2s,comp=Z,314nm					
CHAI	**Chaiyaphum**	**55.65**	**97**	P	**P**	**15 04 44.3 0.0**
	comp=Z,18nm,1.7s,comp=Z,198nm					
LSZ	**Lusaka**	**55.71**	**198**	P	**P**	**15 04 45.4 +0.7**
	comp=Z,26nm,1.0s,baz=22,slow=6.1,SNR=30					
LSZ	**Lusaka**	**55.71**	**198**	*e*P	**P**	**15 04 45.5 +0.8**
LSZ				pmax	pmax	
	comp=Z,130nm,1.5s					
LSZ	**Lusaka**	**55.71**	**198**	*e*P	**P**	**15 04 44.9 +0.2**
	comp=Z,135nm,1.5s					
LSZ	**Lusaka**	**55.71**	**198**	*e*P	**P**	**15 04 44.9 +0.2**
	comp=Z,135nm,1.5s					
LSZ	**Lusaka**	**55.71**	**198**	P	**P**	**15 04 45.6 +0.9**
	SNR=15					
LSZ	**Lusaka**	**55.71**	**198**	P	**P**	**15 04 45.6 +0.9**
	SNR=15					
KULLO	**Kullorsuaq**	**55.80**	**341**	*i* P	**P**	**15 04 48.7 +4.2**
KULLO	**Kullorsuaq**	**55.80**	**341**	*i* P	**P**	**15 04 48.7 +4.2**
NUUG	**Nuugaatsiaq**	**55.80**	**338**	*i* P	**P**	**15 04 43.2 -1.4**
	SNR=31					
KHON	**Khomkaen**	**56.04**	**96**	P	**P**	**15 04 47.3 +0.2**
	comp=Z,38nm,1.1s					
SFJD	**Kangerlussuaq**	**56.55**	**332**	P	**P**	**15 04 49.4 -0.6**
	comp=Z,36nm,1.0s,baz=77,slow=5.5,SNR=6.1					
SFJD	**Kangerlussuaq**	**56.55**	**332**	*i* P	**P**	**15 04 51.9 +1.9**
SFJD	**Kangerlussuaq**	**56.55**	**332**	*e*P	**P**	**15 04 49.6 -0.4**
SFJD				pmax	pmax	
	comp=Z,65nm,1.2s					
SFJD	**Kangerlussuaq**	**56.55**	**332**	*i* P	**P**	**15 04 51.9 +1.9**
	SNR=30					
SFJD	**Kangerlussuaq**	**56.55**	**332**	*e*P	**P**	**15 04 49.2 -0.8**
	comp=Z,64nm,1.2s					
SKNT	**Sakolnakorn**	**56.57**	**95**	P	**P**	**15 04 50.5 -0.4**
	comp=Z,77nm,1.1s					
PATY	**Pattaya**	**56.58**	**101**	P	**P**	**15 04 51.3 +0.4**
	comp=Z,15nm,1.3s					
SRAK	**Srakaew**	**56.82**	**99**	P	**P**	**15 04 56.0 +3.4**
	comp=Z,339nm,1.2s,comp=Z,3μm					
TIA	**Tai'an**	**56.87**	**68**	⇑P	**P**	**15 04 53.5 +0.7**
TIA				S	**S**	**15 12 37.8 -8.2**
TIA				pmax	pmax	
	comp=Z,80nm,1.3s					
TIA				pmax	pmax	
	comp=Z,800nm,10.4s					
TIA				LR	LR	
	comp=Z,2μm,16.7s					
TIA				LR	LR	
	comp=Z,950nm,11.9s					
TIA				LR	LR	
	comp=Z,2μm,14.8s					
PANO	**Nakornpanom**	**56.97**	**94**	P	**P**	**15 04 53.7 0.0**
	comp=Z,54nm,1.6s					
WHN	**Wuhan**	**57.45**	**75**	⇑P	**P**	**15 04 57.5 +0.6**
WHN				S	**S**	**15 12 56.3 +2.6**
WHN				pmax	pmax	
	comp=Z,750nm,1.6s					
WHN				LR	LR	
	comp=Z,4μm,16.8s					
WHN				LR	LR	
	comp=Z,3μm,13.3s					
WHN				LR	LR	
	comp=Z,5μm,14.9s					
SURT	**Suratani**	**57.50**	**106**	P	**P**	**15 04 57.0 -0.4**
	comp=Z,18nm,1.3s,comp=Z,273nm					
TULEG	**Thule**	**57.52**	**345**	*i* P	**P**	**15 04 59.8 +3.0**
	SNR=30					
ABPO	**Ambohimpanom**	**57.62**	**176**	*e*P	**P**	**15 04 59.6 +1.3**
ABPO				pmax	pmax	
	comp=Z,170nm,1.0s					
ABPO	**Ambohimpanom**	**57.62**	**176**	*e*P	**P**	**15 04 59.1 +0.8**
	comp=Z,167nm,1.0s					
ABPO	**Ambohimpanom**	**57.62**	**176**	*e*P	**P**	**15 04 59.1 +0.8**
	comp=Z,167nm,1.0s					
ABPO				LR	LR	
	comp=Z,614nm,19.0s					
BBTS	**Babate**	**57.77**	**263**	P	**P**	**15 04 59.1 -0.2**
	comp=Z,136nm,1.0s,baz=77,slow=1.4,SNR=20					
CHBT	**CHBT**	**57.80**	**100**	P	**P**	**15 05 00.1 +0.5**
	comp=Z,210nm,0.7s,comp=Z,80μm					
PKDT	**Phuket**	**57.84**	**107**	P	**P**	**15 04 59.9 0.0**
	comp=Z,38nm,1.6s					
UBPT	**Khong Chiam**	**58.72**	**95**	P	**P**	**15 05 05.8 -0.2**
	comp=Z,41nm,1.6s,comp=Z,834nm					
DL2	**Dalian**	**58.86**	**63**⇑	*i*P	**P**	**15 05 06.8 +0.1**
DL2				S	**S**	**15 13 12.8 +0.8**
DL2				pmax	pmax	
	comp=Z,250nm,1.1s					
DL2				pmax	pmax	
	comp=Z,650nm,4.8s					
DL2				LR	LR	
	comp=Z,2μm,16.4s					
DL2				LR	LR	
	comp=Z,2μm,17.6s					
DL2				LR	LR	
	comp=Z,2μm,16.4s					
TRTT	**Trang**	**58.90**	**106**	P	**P**	**15 05 06.4 -0.8**
	comp=Z,62nm,1.5s,comp=Z,874nm					
SNY	**Shenyang**	**58.90**	**59**	⇑P	**P**	**15 05 05.5 -1.4**
SNY				S	**S**	**15 13 16.0 +3.6**
SNY				pmax	pmax	
	comp=Z,14nm,1.3s					
SNY				pmax	pmax	
	comp=Z,510nm,9.3s					
SNY				LR	LR	
	comp=Z,3μm,16.3s					
SNY				LR	LR	
	comp=Z,3μm,14.2s					
SNY				LR	LR	
	comp=Z,5μm,14.7s					
CN2	**Changchun**	**59.27**	**56**	*e*P	**P**	**15 05 09.5 0.0**
CN2				*e*S	**S**	**15 13 14.3 -2.9**
CN2				pmax	pmax	
	comp=Z,30nm,1.3s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=Z,2μm,15.0s					
CN2				LR	LR	
	comp=Z,3μm,15.0s					
CN2				LR	LR	
	comp=Z,5μm,18.0s					
QIZ	**Qiongzhong**	**59.98**	**89**	P	**P**	**15 05 19.0 +4.3**

QIZ				PP	PP	15 07 32.5	+5.5
QIZ				pmax	pmax		
	comp=Z,60nm,1.1s						
QIZ				LR	LR		
	comp=Z,770nm,21.9s						
QIZ	**Qiongzhong**	**59.98**	**89**	*e*P	**P**	**15 05 14.6**	**-0.1**
	comp=Z,72nm,1.1s						
QIZ	**Qiongzhong**	**59.98**	**89**	*e*P	**P**	**15 05 14.6**	**-0.1**
	comp=Z,72nm,1.1s						
NJ2	**Nanjing**	**60.08**	**71**	*e*P	**P**	**15 05 15.5**	**+0.3**
NJ2				pP	**sP**	**15 05 22.0**	**+0.9**
NJ2				S	**S**	**15 13 34.5**	**+6.5**
NJ2				pmax	pmax		
	comp=Z,94nm,1.3s						
NJ2				LR	LR		
	comp=Z,2µm,17.3s						
NJ2				LR	LR		
	comp=Z,2µm,17.3s						
NJ2				LR	LR		
	comp=Z,2µm,16.0s						
MRIV	**Mauritius Mete**	**60.22**	**165**	*e*P	**P**	**15 05 15.9**	**-0.3**
MRIV	**Mauritius Mete**	**60.22**	**165**	*e*P	**P**	**15 05 15.9**	**-0.3**
GZH	**Guangzhou**	**60.48**	**83**	*e*P	**P**	**15 05 18.8**	**+0.7**
GZH				pmax	pmax		
	comp=Z,950nm,5.7s						
GZH				LR	LR		
	comp=Z,4µm,17.7s						
RER	**Riviere de l'E**	**60.73**	**167**	*e*P	**P**	**15 05 19.6**	**-0.1**
	comp=Z,272nm,0.9s						
RER	**Riviere de l'E**	**60.73**	**167**	*e*P	**P**	**15 05 19.6**	**-0.1**
	comp=Z,272nm,0.9s						
KLR	**Kul'dur**	**60.78**	**49**	P	**P**	**15 05 20.6**	**+0.8**
	comp=Z,4.2nm,1.2s,baz=292,slow=7.3,SNR=33						
KLR				LR	LR	15 34 17.7	
	comp=Z,212nm,18.6s,baz=298,slow=39						
KULM	**Kulim**	**61.28**	**108**	*e*P	**P**	**15 05 22.3**	**-1.3**
	comp=Z,178nm,1.4s						
KULM	**Kulim**	**61.28**	**108**	*e*P	**P**	**15 05 22.3**	**-1.3**
	comp=Z,178nm,1.4s						
MDJ	**Mudanjiang**	**61.57**	**54**	P	**P**	**15 05 25.5**	**+0.3**
MDJ				pP	pP	15 05 28.8	-0.7
MDJ				PP	**PP**	**15 07 39.0**	**-1.4**
MDJ				S	**S**	**15 13 47.8**	**+1.2**
MDJ				ScS	**ScS**	**15 15 16.5**	**+0.1**
MDJ				SS	**SS**	**15 17 48.8**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,24nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,370nm,4.2s						
MDJ				LR	LR		
	comp=Z,3µm,22.6s						
MDJ				LR	LR		
	comp=Z,2µm,26.9s						
MDJ				LR	LR		
	comp=Z,2µm,14.6s						
MDJ	**Mudanjiang**	**61.57**	**54**	*e*P	**P**	**15 05 25.3**	**+0.1**
	comp=Z,65nm,1.5s						
MDJ	**Mudanjiang**	**61.57**	**54**	*e*P	**P**	**15 05 25.3**	**+0.1**
	comp=Z,65nm,1.5s						
PSI	**Prapat**	**61.67**	**111**	P	**P**	**15 05 25.8**	**-0.6**
	comp=Z,39nm,1.0s,baz=294,slow=6.7,SNR=46						
PSI				LR	LR	15 33 23.0	
	comp=Z,1µm,21.8s,baz=298,slow=37						
PSI	**Prapat**	**61.67**	**111**	*e*P	**P**	**15 05 24.3**	**-2.1**
	comp=Z,325nm,1.7s						
IPM	**Ipoh**	**62.09**	**108**	*e*P	**P**	**15 05 26.4**	**-2.7**
	comp=Z,508nm,1.8s						
IPM	**Ipoh**	**62.09**	**108**	*e*P	**P**	**15 05 26.4**	**-2.7**
	comp=Z,509nm,1.8s						
SSE	**Sheshan**	**62.28**	**71**	⇑P	**P**	**15 05 30.5**	**+0.3**
SSE				S	**S**	**15 13 56.3**	**+0.3**
SSE				pmax	pmax		
	comp=Z,110nm,1.3s						
SSE				pmax	pmax		
	comp=Z,370nm,6.0s						
SSE				LR	LR		
	comp=Z,1µm,20.2s						
SSE				LR	LR		
	comp=Z,600nm,20.2s						
SSE				LR	LR		
	comp=Z,720nm,20.5s						
TSUM	**Tsumeb**	**62.66**	**208**	P	**P**	**15 05 32.7**	**-0.1**
	comp=Z,16nm,0.9s,baz=1.3,slow=7.3,SNR=17						
INCN	**Inchon**	**63.01**	**62**	*e*P	**P**	**15 05 34.1**	**-0.9**
	comp=Z,155nm,1.3s						
INCN	**Inchon**	**63.01**	**62**	*e*P	**P**	**15 05 34.1**	**-0.9**
	comp=Z,155nm,1.3s						
HABR	**Khabarovsk**	**63.07**	**48**	*e*P	**P**	**15 05 34.0**	**-1.1**
HABR				*e*		15 06 11.3	
HABR				*e*		15 07 53.2	
HABR				*e*S	**S**	**15 14 03.1**	**-2.2**
HABR				*e**SS	sS	15 14 20.6	+8.2
HABR				*e*		15 15 24.3	
HABR				*e*SS	**SS**	**15 18 10.7**	**+0.3**
HABR				*e*SSS	SSS	15 21 07.0	
HABR				pmax	pmax		
	comp=N,109nm,1.9s						
HABR				pmax	pmax		
	comp=E,156nm,1.9s						
HABR				pmax	pmax		
	comp=Z,236nm,1.9s						
HABR				MLR	MLR		
	comp=Z,2µm,20.0s						
SACV	**Santiago Islan**	**63.10**	**268**	*e*P	**P**	**15 05 34.0**	**-1.8**
	comp=Z,112nm,1.1s						
SACV	**Santiago Islan**	**63.10**	**268**	*e*P	**P**	**15 05 34.0**	**-1.8**
	comp=Z,112nm,1.1s						
USRK	**Ussuriysk Ar.**	**63.28**	**54**	P	**P**	**15 05 36.3**	**-0.3**
	comp=Z,19nm,1.0s,baz=298,slow=4.1,SNR=19						
USRK				LR	LR	15 38 15.6	
	comp=Z,920nm,20.1s,baz=290,slow=41						
RES	**Resolute Bay**	**63.50**	**349**	P	**P**	**15 05 38.4**	**+0.8**
	comp=Z,12nm,1.0s,baz=36,slow=9.1,SNR=12						
MSHR	**Mys Shultsa**	**63.54**	**56**	⇑*i*P	**P**	**15 05 38.5**	**+0.2**
VLA	**Vladivostok**	**63.74**	**55**	⇑*i*P	**P**	**15 05 37.9**	**-1.8**
VLA				*i*		15 06 13.7	
VLA				*i* S	**S**	**15 14 09.5**	**-4.4**
VLA				pmax	pmax		
	comp=Z,54nm,1.4s						
NKL	**Nikolayevsk**	**63.87**	**42**	*e*P	**P**	**15 05 41.8**	**+1.5**
NKL				*e*		15 14 43.0	
NKL				pmax	pmax		
	comp=E,78nm,1.5s						
NKL				pmax	pmax		
	comp=Z,200nm,1.5s						
NKL				pmax	pmax		
	comp=Z,1µm,8.0s						
SEY	**Seymchan**	**63.89**	**29**	P	**P**	**15 05 42.0**	**+1.7**
	comp=Z,114nm,1.0s,baz=291,slow=5.9,SNR=171						
SEY	**Seymchan**	**63.89**	**29***d*	*i*P	**P**	**15 05 42.4**	**+2.1**
KS15	**Wonju Array Si**	**63.89**	**62**	*e*P	**P**	**15 05 40.6**	**-0.2**
KS15	**Wonju Array Si**	**63.89**	**62**	*e*P	**P**	**15 05 40.6**	**-0.2**
KSAR	**Wonju Array Be**	**63.89**	**62**	P	**P**	**15 05 41.3**	**+0.5**
KSAR	**Wonju Array Be**	**63.89**	**62**	P	**P**	**15 05 41.2**	**+0.5**
KSAR	**Wonju Array Be**	**63.89**	**62**	P	**P**	**15 05 41.2**	**+0.5**
KSRS	**Korea Array**	**63.91**	**62**	P	**P**	**15 05 41.2**	**+0.3**
	comp=Z,45nm,0.9s,baz=292,slow=5.9,SNR=77						
KSRS				LR	LR	15 35 59.1	
	comp=Z,950nm,18.7s,baz=296,slow=38						
SISI	**Saibi**	**64.63**	**114**	P	**P**	**15 05 46.7**	**+0.8**
FRB	**Frobisher Bay**	**64.66**	**333**	P	**P**	**15 05 45.6**	**+0.3**
	comp=Z,130nm,1.0s,baz=54,slow=6.5,SNR=28						
BKNI	**Bangkinang**	**64.90**	**111**	*e*P	**P**	**15 05 46.2**	**-1.4**
	comp=Z,733nm,1.4s						
BKNI	**Bangkinang**	**64.90**	**111**	*e*P	**P**	**15 05 46.2**	**-1.4**
	comp=Z,733nm,1.4s						
MA2	**Magadan**	**65.16**	**32**	P	**P**	**15 05 49.7**	**+1.0**
	comp=Z,50nm,1.0s,baz=301,slow=7.4,SNR=13						
MA2	**Magadan**	**65.16**	**32***d*	*i*P	**P**	**15 05 50.1**	**+1.4**
BILL	**Bilibino**	**65.18**	**20***c*	*i*P	**P**	**15 05 48.9**	**+0.2**
BILL				*i* *PP	**pP**	**15 05 52.2**	**-0.8**
BILL				*i* *SP	**sP**	**15 05 53.7**	**-0.9**
BILL				*e*		15 06 22.5	
BILL				*e*		15 08 18.3	
BILL				S	S	15 14 40.0	+9.1
BILL				SS	**SS**	**15 18 49.0**	**+6.5**
BILL				pmax	pmax		
	comp=Z,105nm,1.4s						
BILL				MLR	MLR		
	comp=Z,2µm,21.0s						
LBTB	**Lobatse**	**65.70**	**198**	P	**P**	**15 05 53.3**	**+0.7**
	comp=Z,40nm,0.9s,baz=8.8,slow=6.2,SNR=36						
LBTB	**Lobatse**	**65.70**	**198**	*e*P	**P**	**15 05 52.3**	**-0.3**
LBTB	**Lobatse**	**65.70**	**198**	*e*P	**P**	**15 05 52.3**	**-0.3**
YHNB	**Yeheng**	**65.80**	**77**	*e*P	**P**	**15 05 54.2**	**+0.7**
	comp=Z,247nm,1.3s						
YHNB	**Yeheng**	**65.80**	**77**	*e*P	**P**	**15 05 54.2**	**+0.7**
	comp=Z,247nm,1.3s						
SSLB	**Suanglung**	**65.97**	**78**	*e*P	**P**	**15 05 55.7**	**+1.2**
	comp=Z,121nm,1.3s						
SSLB	**Suanglung**	**65.97**	**78**	*e*P	**P**	**15 05 55.7**	**+1.2**
	comp=Z,121nm,1.3s						
MYKOM	**Kota Tinggi**	**65.98**	**108**	*e*P	**P**	**15 05 52.6**	**-2.0**
	comp=Z,61nm,0.9s						
MYKOM	**Kota Tinggi**	**65.98**	**108**	*e*P	**P**	**15 05 52.6**	**-2.0**
	comp=Z,61nm,0.9s						
TPUB	**Ta-pu**	**65.98**	**79**	*e*P	**P**	**15 05 55.3**	**+0.7**
	comp=Z,326nm,1.6s						
TPUB	**Ta-pu**	**65.98**	**79**	*e*P	**P**	**15 05 55.3**	**+0.7**
	comp=Z,326nm,1.6s						
YULB	**Yu-li**	**66.44**	**78**	*e*P	**P**	**15 05 58.4**	**+0.8**
	comp=Z,180nm,1.7s						
YULB	**Yu-li**	**66.44**	**78**	*e*P	**P**	**15 05 58.4**	**+0.8**
	comp=Z,180nm,1.7s						
TWG	**Pinlang**	**66.59**	**79**	*e*P	**P**	**15 05 59.4**	**+0.9**
	comp=Z,806nm,1.4s						
TWG	**Pinlang**	**66.59**	**79**	*e*P	**P**	**15 05 59.4**	**+0.9**
	comp=Z,806nm,1.4s						
MASI	**Maura Aman, Be**	**68.15**	**113**	P	**P**	**15 06 07.8**	**-0.6**
JNU	**Nakatsue**	**68.23**	**64**	P	**P**	**15 06 09.5**	**+0.7**
	comp=Z,29nm,0.9s,baz=317,slow=1.2,SNR=17						
JNU	**Nakatsue**	**68.23**	**64**	*e*P	**P**	**15 06 08.0**	**-0.8**
	comp=Z,41nm,0.9s						
JNU	**Nakatsue**	**68.23**	**64**	*e*P	**P**	**15 06 08.0**	**-0.8**
	comp=Z,41nm,0.9s						
YSS	**Yuzh-Sakhalins**	**68.30**	**47**	⇓*i*P	**P**	**15 06 10.3**	**+1.4**
YSS				pmax	pmax		
	comp=Z,78nm,1.3s						
BOSA	**Boshof**	**69.24**	**197**	P	**P**	**15 06 15.0**	**0.0**
	comp=Z,51nm,0.8s,baz=8.7,slow=6.1,SNR=51						
BOSA				LR	LR	15 36 50.5	
	comp=Z,2µm,19.4s,baz=14,slow=36						
BOSA	**Boshof**	**69.24**	**197**	P	**P**	**15 06 15.0**	**0.0**
BOSA				pmax	pmax		
	comp=Z,51nm,0.8s						
BOSA				MLR	MLR		
	comp=Z,2µm,19.4s						
BOSA	**Boshof**	**69.24**	**197**	P	**P**	**15 06 15.0**	**0.0**
SCHQ	**Schefferville**	**69.44**	**325**	P	**P**	**15 06 16.1**	**+0.1**
	comp=Z,26nm,1.0s,baz=58,slow=6.3,SNR=13						
SCHQ				LR	LR	15 36 22.8	
	comp=Z,822nm,20.8s,baz=52,slow=36						
SCHQ	**Schefferville**	**69.44**	**325**	*e*P	**P**	**15 06 14.4**	**-1.5**
	comp=Z,103nm,1.4s						
SCHQ	**Schefferville**	**69.44**	**325**	*e*P	**P**	**15 06 14.4**	**-1.5**
	comp=Z,103nm,1.4s						
ASAJ	**Asahikawa**	**69.80**	**49**	P	**P**	**15 06 19.1**	**+0.8**
	comp=Z,22nm,1.1s,baz=273,slow=6.5,SNR=6.9						
ASAJ	**Asahikawa**	**69.80**	**49**	*e*P	**P**	**15 06 17.8**	**-0.6**
	comp=Z,62nm,1.3s						
ASAJ	**Asahikawa**	**69.80**	**49**	*e*P	**P**	**15 06 17.8**	**-0.6**
	comp=Z,62nm,1.3s						
COCO	**West Island**	**70.94**	**124**	PFAKE		15 06 40.0	+14
COCO				LR	LR		
	comp=Z,1µm,20.0s						
KSM	**Kuching**	**71.03**	**104**	*e*P	**P**	**15 06 25.2**	**-1.0**
	comp=Z,100nm,1.4s						
KSM	**Kuching**	**71.03**	**104**	*e*P	**P**	**15 06 25.2**	**-1.0**
	comp=Z,100nm,1.4s						
KSM				LR	LR		
	comp=Z,1µm,21.0s						
MJB9	**Matsu-Tunnel**	**71.35**	**58**	*e*P	**P**	**15 06 27.5**	**-0.4**
	comp=Z,25nm,1.3s						
MJB9	**Matsu-Tunnel**	**71.35**	**58**	*e*P	**P**	**15 06 27.5**	**-0.4**
	comp=Z,25nm,1.3s						
ERM	**Erimo**	**71.35**	**51**	PFAKE		15 06 40.0	+12
ERM				LR	LR		
	comp=Z,1µm,20.0s						
MAJO	**Matsushiro**	**71.35**	**58***d*	*i*P	**P**	**15 06 28.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,370nm,1.2s						
MAJO	**Matsushiro**	**71.35**	**58**	*e*P	**P**	**15 06 26.9**	**-1.1**
	comp=Z,99nm,1.3s						
MAJO	**Matsushiro**	**71.35**	**58**	*e*P	**P**	**15 06 26.9**	**-1.1**
	comp=Z,99nm,1.3s						
MAT	**Matsushiro**	**71.35**	**58**	P	**P**	**15 06 27.6**	**-0.3**
MAT				S	**SKiKP**	**15 15 57.0**	**-11**
MJAR	**Matsushiro Arr**	**71.35**	**58**	P	**P**	**15 06 27.9**	**-0.1**
	comp=Z,60nm,1.2s,baz=307,slow=6.5,SNR=39						
MJAR				LR	LR	15 40 30.2	
	comp=Z,2µm,19.1s,baz=320,slow=38						
YUK	**Yuzh-Kuril'sk**	**71.77**	**48**	*e*P	**P**	**15 06 30.0**	**-0.2**
YUK				*e*		15 06 49.5	
YUK				*e*		15 09 06.7	
YUK				*e*PPP	PPP	15 10 49.6	
YUK				*e*S	**S**	**15 15 47.3**	**-2.7**
YUK				*e*		15 16 31.4	
YUK				MLR	MLR		
	comp=Z,934nm,15.0s						
YUK				MLR	MLR		
	comp=E,1µm,19.0s						
YUK				MLR	MLR		
	comp=N,993nm,17.0s						
SBUM	**Sibu**	**71.86**	**102**	*e*P	**P**	**15 06 29.0**	**-2.3**
	comp=N,140nm,1.3s						
SBUM	**Sibu**	**71.86**	**102**	*e*P	**P**	**15 06 29.0**	**-2.3**
	comp=N,140nm,1.3s						
KUR	**Kuril'sk**	**72.19**	**46**	*e*P	**P**	**15 06 35.1**	**+2.3**
KUR				*e*		15 10 52.9	
KUR				S	**S**	**15 15 58.0**	**+3.2**
PEA0B	**Petropavlovsk-**	**72.19**	**35**	*e*P	**P**	**15 06 31.2**	**-1.5**
	comp=N,129nm,1.3s						
PEA0B	**Petropavlovsk-**	**72.19**	**35**	*e*P	**P**	**15 06 31.2**	**-1.5**
	comp=N,129nm,1.3s						
PETK	**Petropavlovsk-**	**72.19**	**35**	P	**P**	**15 06 32.3**	**-0.4**
	comp=N,30nm,1.0s,baz=51,slow=5.1,SNR=17						
PETK				LR	LR	15 41 59.7	
	comp=N,2µm,19.1s,baz=308,slow=39						
TOLK	**Toolik Lake Re**	**72.41**	**5**	P	**P**	**15 06 34.0**	**+0.2**
	baz=349,SNR=26						
PET	**Petropavlovsk**	**72.68**	**35***d*	*i*P	**P**	**15 06 39.8**	**+4.3**
PET				*e*		15 09 19.7	
PET				*e*PPP	PPP	15 11 04.0	
PET				*e*S	**S**	**15 16 02.0**	**+1.9**
PET				*e*SS	**SS**	**15 20 45.1**	**+6.6**
PET				pmax	pmax		
	comp=Z,500nm,7.1s						
PET				pmax	pmax		
	comp=Z,300nm,8.4s						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
KKM	**Kota Kinabalu**	**72.68**	**96**	*e*P	**P**	**15 06 35.3**	**-1.0**
	comp=Z,58nm,1.1s						
KKM	**Kota Kinabalu**	**72.68**	**96**	*e*P	**P**	**15 06 35.3**	**-1.0**
	comp=Z,58nm,1.1s						
KKM				LR	LR		
	comp=Z,936nm,20.0s						
INK	**Inuvik**	**73.18**	**359**	P	**P**	**15 06 38.1**	**-0.1**
	comp=Z,35nm,1.1s,baz=18,slow=9.8,SNR=20						
COLD	**Coldfoot**	**73.76**	**6**	*e*P	**P**	**15 06 42.1**	**+0.4**
	comp=Z,56nm,1.0s						
COLD	**Coldfoot**	**73.76**	**6**	*e*P	**P**	**15 06 42.1**	**+0.4**
	comp=Z,56nm,1.0s						
SUR	**Sutherland**	**73.94**	**200**	P	**P**	**15 06 44.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=13,slow=5.1,SNR=27						
SUR	**Sutherland**	**73.94**	**200**	*e*P	**P**	**15 06 42.8**	**-0.5**
	comp=Z,117nm,1.5s						
SUR	**Sutherland**	**73.94**	**200**	*e*P	**P**	**15 06 42.9**	**-0.5**
	comp=Z,117nm,1.5s						
LMN	**Caledonia Moun**	**74.11**	**316**	*e*P	**P**	**15 06 43.7**	**-0.4**
	comp=Z,86nm,1.3s						
LMN	**Caledonia Moun**	**74.11**	**316**	*e*P	**P**	**15 06 43.7**	**-0.4**
	comp=Z,86nm,1.3s						
FYU	**Fort Yukon**	**74.73**	**4**	*e*P	**P**	**15 06 47.7**	**+0.4**
	comp=Z,148nm,1.5s						
FYU	**Fort Yukon**	**74.73**	**4**	*e*P	**P**	**15 06 47.7**	**+0.4**
	comp=Z,148nm,1.5s						
CISI	**Cisompet, Garu**	**75.19**	**113**	*e*P	**P**	**15 06 47.2**	**-3.6**
	comp=Z,195nm,1.1s						
PQI	**Presque Isle**	**75.27**	**319**	*e*P	**P**	**15 06 50.8**	**-0.1**
	comp=Z,132nm,1.1s						
PQI	**Presque Isle**	**75.27**	**319**	*e*P	**P**	**15 06 50.8**	**-0.1**
	comp=Z,132nm,1.1s						
GGN	**Saint George**	**75.67**	**317**	*e*P	**P**	**15 06 53.0**	**-0.1**
	comp=Z,71nm,1.2s						
GGN	**Saint George**	**75.67**	**317**	*e*P	**P**	**15 06 53.0**	**-0.1**
	comp=Z,71nm,1.2s						
MLY	**Manley**	**75.88**	**6**	*e*P	**P**	**15 06 54.4**	**+0.3**
	comp=Z,67nm,1.1s						
MLY	**Manley**	**75.88**	**6**	*e*P	**P**	**15 06 54.4**	**+0.3**
	comp=Z,67nm,1.1s						
MDM	**Murphy Dome**	**76.15**	**5**	*e*P	**P**	**15 06 56.1**	**+0.5**
	comp=Z,112nm,1.3s						
MDM	**Murphy Dome**	**76.15**	**5**	*e*P	**P**	**15 06 56.1**	**+0.5**
	comp=Z,112nm,1.3s						
COLA	**College**	**76.26**	**5**	*e*P	**P**	**15 06 56.2**	**+0.1**
COLA				pmax	pmax		
	comp=Z,95nm,1.0s						
COLA				MLR	MLR		
	comp=Z,1µm,21.0s						
COLA	**College**	**76.26**	**5**	*e*P	**P**	**15 06 56.2**	**+0.1**
	comp=Z,95nm,1.0s						
COLA	**College**	**76.26**	**5**	*e*P	**P**	**15 06 56.2**	**+0.1**
	comp=Z,95nm,1.0s						
COLA				LR	LR		
	comp=Z,1µm,21.0s						
EMMW	**East Machias**	**76.27**	**317**	*e*P	**P**	**15 06 56.6**	**0.0**
	comp=Z,101nm,1.3s						
EMMW	**East Machias**	**76.27**	**317**	*e*P	**P**	**15 06 56.6**	**0.0**
	comp=Z,101nm,1.3s						
ILAR	**Eielson Array**	**76.42**	**5**	P	**P**	**15 06 57.0**	**-0.1**
	comp=Z,8.7nm,0.9s,baz=327,slow=3.9,SNR=52						
ILAR				PP	**PP**	**15 09 41.2**	**-6.8**
	comp=Z,2.4nm,1.1s,baz=359,slow=12,SNR=4.2						
ILAR				PKP2ab		15 34 00.1	
	comp=Z,0.9nm,1.1s,baz=207,slow=4.0,SNR=4.2						
ILAR				LR	LR	15 42 15.0	
	comp=Z,949nm,21.9s,baz=336,slow=37						
ILAR	**Eielson Array**	**76.42**	**5**	P	**P**	**15 06 57.0**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ILAR	**Eielson Array**	**76.42**	**5**	P	**P**	**15 06 57.0**	**-0.1**
ILB	**Eielson Array**	**76.42**	**5**	*e*P	**P**	**15 06 57.0**	**-0.1**
ILB	**Eielson Array**	**76.42**	**5**	*e*P	**P**	**15 06 57.0**	**-0.1**
CCB	**Clear Creek Bu**	**76.49**	**5**	*e*P	**P**	**15 06 57.4**	**-0.1**
	comp=Z,64nm,1.2s						
CCB	**Clear Creek Bu**	**76.49**	**5**	*e*P	**P**	**15 06 57.4**	**-0.1**
	comp=Z,64nm,1.2s						
WRH	**Wood River Hil**	**76.64**	**5**	*e*P	**P**	**15 06 58.0**	**-0.3**
	comp=Z,73nm,1.5s						
WRH	**Wood River Hil**	**76.64**	**5**	*e*P	**P**	**15 06 58.0**	**-0.3**
	comp=Z,73nm,1.5s						
EGAK	**Eagle**	**76.68**	**2**	*e*P	**P**	**15 06 58.3**	**-0.2**
	comp=Z,73nm,1.0s						
EGAK	**Eagle**	**76.68**	**2**	*e*P	**P**	**15 06 58.3**	**-0.2**
	comp=Z,73nm,1.0s						
EGAK				LR	LR		
	comp=Z,711nm,19.0s						
BPAW	**Bear Paw Mtn.**	**76.78**	**7**	*e*P	**P**	**15 06 58.8**	**-0.4**
	comp=Z,94nm,1.2s						
BPAW	**Bear Paw Mtn.**	**76.78**	**7**	*e*P	**P**	**15 06 58.8**	**-0.4**
	comp=Z,94nm,1.2s						
PKME	**Peaks-Kenny Pk**	**76.87**	**318**	*e*P	**P**	**15 07 00.1**	**+0.1**
	comp=Z,47nm,1.1s						
PKME	**Peaks-Kenny Pk**	**76.87**	**318**	*e*P	**P**	**15 07 00.1**	**+0.1**
	comp=Z,47nm,1.1s						
MCK	**McKinley**	**77.31**	**6**	*e*P	**P**	**15 07 02.5**	**+0.3**
MCK				pmax	pmax		
	comp=Z,87nm,1.2s						
MCK	**McKinley**	**77.31**	**6**	*e*P	**P**	**15 07 02.1**	**-0.1**
	comp=Z,87nm,1.2s						
MCK	**McKinley**	**77.31**	**6**	*e*P	**P**	**15 07 02.1**	**-0.1**
	comp=Z,87nm,1.2s						
KTH	**Kantishna Hill**	**77.32**	**7**	*e*P	**P**	**15 07 01.8**	**-0.5**
	comp=Z,91nm,1.2s						
KTH	**Kantishna Hill**	**77.32**	**7**	*e*P	**P**	**15 07 01.8**	**-0.5**
	comp=Z,91nm,1.2s						
CAST	**Castle Rocks**	**77.34**	**7**	*e*P	**P**	**15 07 02.6**	**+0.2**
	comp=Z,131nm,1.0s						
CAST	**Castle Rocks**	**77.34**	**7**	*e*P	**P**	**15 07 02.6**	**+0.2**
	comp=Z,131nm,1.0s						
TTA	**Tatalina**	**77.39**	**9**	*e*P	**P**	**15 07 03.0**	**+0.3**
TTA				pmax	pmax		
	comp=Z,114nm,1.5s						
TTA	**Tatalina**	**77.39**	**9**	*e*P	**P**	**15 07 03.0**	**+0.3**
	comp=Z,114nm,1.5s						
TTA	**Tatalina**	**77.39**	**9**	*e*P	**P**	**15 07 03.0**	**+0.3**
	comp=Z,114nm,1.5s						
TT01	**Tatalina**	**77.41**	**9**	*e*P	**P**	**15 07 03.3**	**+0.6**
TT01	**Tatalina**	**77.41**	**9**	*e*P	**P**	**15 07 03.3**	**+0.6**
DAWY	**Dawson**	**77.43**	**1**	*e*P	**P**	**15 07 02.5**	**-0.4**
	comp=Z,82nm,1.0s						
DAWY	**Dawson**	**77.43**	**1**	*e*P	**P**	**15 07 02.5**	**-0.4**
	comp=Z,82nm,1.0s						
YKW3	**Yellowknife Ar**	**77.46**	**350**	*e*P	**P**	**15 07 02.5**	**-0.5**
	comp=Z,100nm,1.3s						
YKW3	**Yellowknife Ar**	**77.46**	**350**	*e*P	**P**	**15 07 02.5**	**-0.5**
	comp=Z,100nm,1.3s						
TRF	**Thorofare Moun**	**77.48**	**6**	*e*P	**P**	**15 07 03.2**	**-0.1**
	comp=Z,37nm,1.0s						
TRF	**Thorofare Moun**	**77.48**	**6**	*e*P	**P**	**15 07 03.2**	**-0.1**
	comp=Z,37nm,1.0s						
YKA	**Yellowknife Ar**	**77.53**	**350**	P	**P**	**15 07 03.3**	**0.0**
	comp=Z,26nm,0.9s,baz=15,slow=6.1,SNR=63						
YKA				LR	LR	15 43 13.1	
	comp=Z,107nm,20.2s,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**77.53**	**350**	P	**P**	**15 07 03.3**	**0.0**
YKA				pmax	pmax		
	comp=Z,27nm,0.9s						
YKA				MLR	MLR		
	comp=Z,107nm,20.2s						
DOT	**Dot Lake**	**77.70**	**4**	*e*P	**P**	**15 07 04.7**	**+0.4**
	comp=Z,801nm,1.9s						
DOT	**Dot Lake**	**77.70**	**4**	*e*P	**P**	**15 07 04.7**	**+0.4**
	comp=Z,801nm,1.9s						
PPLA	**Purkeypile**	**77.84**	**7**	*e*P	**P**	**15 07 04.9**	**-0.4**
	comp=Z,58nm,1.1s						
PPLA	**Purkeypile**	**77.84**	**7**	*e*P	**P**	**15 07 04.9**	**-0.4**
	comp=Z,58nm,1.1s						
MENT	**Mentasta**	**78.42**	**3**	*e*P	**P**	**15 07 08.6**	**+0.2**
	comp=Z,69nm,1.0s						
MENT	**Mentasta**	**78.42**	**3**	*e*P	**P**	**15 07 08.6**	**+0.2**
	comp=Z,69nm,1.0s			

HNH	Hanover	79.50	318	eP	P	15 07 14.8	+0.2
	comp=Z,172nm,1.3s						
SPU	Mount Spurr	79.54	8	eP	P	15 07 14.0	-0.6
SPU	Mount Spurr	79.54	8	eP	P	15 07 14.0	-0.6
KLU	Klutina	79.74	5	eP	P	15 07 15.5	-0.2
	comp=Z,133nm,1.0s						
KLU	Klutina	79.74	5	eP	P	15 07 15.5	-0.2
	comp=Z,133nm,1.0s						
RC01	Rabbit Creek A	79.85	7	eP	P	15 07 16.1	-0.1
	comp=Z,181nm,1.4s						
RC01	Rabbit Creek A	79.85	7	eP	P	15 07 16.1	-0.1
	comp=Z,181nm,1.4s						
LONY	Lake Ozonia	80.02	320	eP	P	15 07 16.9	-0.5
	comp=Z,72nm,1.2s						
LONY	Lake Ozonia	80.02	320	eP	P	15 07 16.9	-0.5
	comp=Z,72nm,1.2s						
DIV	Divide	80.11	5	eP	P	15 07 17.8	+0.1
	comp=Z,112nm,1.0s						
DIV	Divide	80.11	5	eP	P	15 07 17.8	+0.1
	comp=Z,112nm,1.0s						
RSO	Redoubt South	80.17	8	eP	P	15 07 17.5	-0.6
RSO	Redoubt South	80.17	8	eP	P	15 07 17.6	-0.6
BMRM	Bremner River	80.34	4	eP	P	15 07 18.7	-0.2
	comp=Z,65nm,1.2s						
BMRM	Bremner River	80.34	4	eP	P	15 07 18.7	-0.2
	comp=Z,65nm,1.2s						
BALM	Baldy	80.38	3	eP	P	15 07 20.2	+1.0
BALM				pmax	pmax		
	comp=Z,110nm,1.0s						
BALM	Baldy	80.38	3	eP	P	15 07 20.0	+0.8
	comp=Z,110nm,1.0s						
BALM	Baldy	80.38	3	eP	P	15 07 20.0	+0.8
	comp=Z,110nm,1.0s						
JAGI	Jajag, Banyuwa	80.43	109	eP	P	15 07 16.3	-3.7
	comp=Z,82nm,1.1s						
ACCN	Adirondack Com	80.44	319	eP	P	15 07 20.0	+0.3
	comp=Z,96nm,1.3s						
ACCN	Adirondack Com	80.44	319	eP	P	15 07 20.0	+0.3
	comp=Z,96nm,1.3s						
EYAK	Cordova Ski Ar	80.69	5	eP	P	15 07 20.7	0.0
	comp=Z,183nm,1.2s						
EYAK	Cordova Ski Ar	80.69	5	eP	P	15 07 20.7	0.0
	comp=Z,183nm,1.2s						
HYT	Haines Junctio	80.71	1	eP	P	15 07 21.2	+0.2
	comp=Z,112nm,1.0s						
HYT	Haines Junctio	80.71	1	eP	P	15 07 21.2	+0.2
	comp=Z,112nm,1.0s						
WHY	Whitehorse	80.87	359	eP	P	15 07 21.0	-0.8
	comp=Z,108nm,1.9s						
WHY	Whitehorse	80.87	359	eP	P	15 07 21.0	-0.8
	comp=Z,108nm,1.9s						
SKAG	Skagway	82.08	359	eP	P	15 07 27.9	-0.2
	comp=Z,47nm,1.1s						
SKAG	Skagway	82.08	359	eP	P	15 07 27.9	-0.2
	comp=Z,47nm,1.1s						
SADO	Sadowa	82.13	323	P	P	15 07 28.3	-0.3
	comp=Z,13nm,0.8s,baz=49,slow=4.7,SNR=5.2						
SADO	Sadowa	82.13	323	eP	P	15 07 27.6	-1.0
	comp=Z,44nm,1.3s						
SADO	Sadowa	82.13	323	eP	P	15 07 27.6	-1.0
	comp=Z,44nm,1.3s						
FFC	Flin Flon	82.27	341	eP	P	15 07 29.2	0.0
FFC				pmax	pmax		
	comp=Z,72nm,1.0s						
FFC	Flin Flon	82.27	341	eP	P	15 07 28.8	-0.4
	comp=Z,72nm,1.0s						
FFC	Flin Flon	82.27	341	eP	P	15 07 28.8	-0.4
	comp=Z,72nm,1.0s						
FFC				LR	LR		
	comp=Z,1µm,22.0s						
KAPI	Kappang	82.39	103	eP	P	15 07 29.9	-0.5
	comp=Z,134nm,1.4s						
KAPI	Kappang	82.39	103	eP	P	15 07 29.9	-0.5
	comp=Z,134nm,1.4s						
KAPI				LR	LR		
	comp=Z,486nm,19.0s						
KAPI	Kappang	82.39	103	P	P	15 07 29.5	-1.0
	SNR=11						
KAPI	Kappang	82.39	103	P	P	15 07 29.5	-1.0
	SNR=11						
KAPI				P	P	15 07 29.5	-1.0
	SNR=11						
ODNJ	Ogdensburg	82.57	318	eP	P	15 07 30.8	-0.2
	comp=Z,70nm,1.2s						
ODNJ	Ogdensburg	82.57	318	eP	P	15 07 30.8	-0.2
	comp=Z,70nm,1.2s						
KDAK	Kodiak Island	82.81	9	P	P	15 07 32.7	+0.9
	comp=Z,59nm,0.6s,baz=0.8,slow=2.5,SNR=29						
KDAK	Kodiak Island	82.81	9	P	P	15 07 32.7	+0.9
KDAK				LR	LR		
	comp=Z,849nm,21.0s						
BBSR	BB Station	82.83	306	PFAKE		15 07 40.0	+7.5
BBSR				LR	LR		
	comp=Z,461nm,20.0s						
DLBC	Dease Lake	82.97	357	P	P	15 07 34.0	+1.2
	comp=Z,31nm,1.0s,baz=352,slow=4.2,SNR=27						
MMNY	Mt. Morris Dam	83.05	321	eP	P	15 07 33.1	-0.4
MMNY	Mt. Morris Dam	83.05	321	eP	P	15 07 33.1	-0.4
ADK	Adak	83.08	24	PFAKE		15 07 40.0	+6.6
ADK				LR	LR		
	comp=Z,3µm,20.0s						
OHAK	Old Harbor	83.27	9	eP	P	15 07 34.2	-0.1
OHAK	Old Harbor	83.27	9	eP	P	15 07 34.2	-0.1
N59A	State Game Lan	83.30	318	P	P	15 07 34.8	0.0
	baz=43						
E45A	Wooded Hills,	83.61	327	P	P	15 07 36.4	+0.1
	baz=38						
E44A	Grand Marais A	83.72	328	P	P	15 07 37.5	+0.6
	baz=37,SNR=5.4						
PSUB	Penn St. - Bra	83.85	317	eP	P	15 07 37.2	-0.4
	comp=Z,66nm,1.0s						
PSUB	Penn St. - Bra	83.85	317	eP	P	15 07 37.2	-0.4
	comp=Z,66nm,1.0s						
F46A	Macinaw City C	83.89	327	P	P	15 07 37.2	-0.5
	baz=38						
C40A	Isle Royale Na	83.97	330	P	P	15 07 38.0	-0.1
	baz=35,SNR=8.9						
MVL	Millersville	84.27	318	eP	P	15 07 38.6	-1.2
	comp=Z,60nm,1.2s						
MVL	Millersville	84.27	318	eP	P	15 07 38.6	-1.2
	comp=Z,60nm,1.2s						
F45A	CMU Biological	84.29	327	P	P	15 07 39.7	0.0
	baz=37,SNR=7.3						
E43A	Lone Tree Farm	84.36	328	P	P	15 07 40.1	0.0
	baz=36,SNR=14						
ULM	Lac du Bonnet	84.42	335	P	P	15 07 40.1	-0.3
	comp=Z,29nm,0.8s,baz=33,slow=4.3,SNR=56						
ULM				LR	LR	15 47 35.2	
	comp=Z,776nm,18.6s,baz=33,slow=37						
ULM	Lac du Bonnet	84.42	335	eP	P	15 07 40.2	-0.1
ULM				pmax	pmax		
	comp=Z,46nm,1.0s						
ULM	Lac du Bonnet	84.42	335	eP	P	15 07 39.8	-0.5
	comp=Z,46nm,0.9s						
ULM	Lac du Bonnet	84.42	335	eP	P	15 07 39.8	-0.5
	comp=Z,46nm,0.9s						
C39A	Grand Marais	84.43	331	P	P	15 07 39.8	-0.7
	baz=34						
D41A	Chassel	84.44	329	P	P	15 07 40.8	+0.2
	baz=36,SNR=9.4						
F44A	Big Bay de Noc	84.44	328	P	P	15 07 40.5	-0.1
	baz=37,SNR=24						
ERPA	Erie	84.53	322	eP	P	15 07 40.9	-0.2
	comp=Z,123nm,1.1s						
ERPA	Erie	84.53	322	eP	P	15 07 40.9	-0.2
	comp=Z,123nm,1.1s						
GLMI	Grayling	84.58	326	eP	P	15 07 41.2	-0.1
GLMI	Grayling	84.58	326	eP	P	15 07 41.2	-0.1
GLMI				LR	LR		
	comp=Z,961nm,22.0s						
E42A	Champion	84.69	329	P	P	15 07 41.8	-0.1
	baz=36,SNR=18						
M54A	Oil Creek Stat	84.83	321	P	P	15 07 42.4	-0.2
	baz=41						
EYMN	Ely	84.84	332	P	P	15 07 42.2	-0.4
	baz=34,SNR=9.7						
EYMN	Ely	84.84	332	eP	P	15 07 42.5	-0.1
	comp=Z,111nm,1.5s						
EYMN	Ely	84.84	332	eP	P	15 07 42.5	-0.1
	comp=Z,111nm,1.5s						
EYMN				LR	LR		
	comp=Z,2µm,22.0s						
F43A	Flat Rock, Esc	84.87	328	P	P	15 07 42.5	-0.2
	baz=36,SNR=15						
C38A	Sawbill Land.	84.95	331	P	P	15 07 42.6	-0.5
	baz=34						
SDMD	Soldier's Deli	84.96	318	eP	P	15 07 41.3	-2.0
	comp=Z,46nm,1.2s						
ALLY	Alegheny Colle	84.96	321	eP	P	15 07 42.6	-0.7
	comp=Z,103nm,1.1s						
ALLY	Alegheny Colle	84.96	321	eP	P	15 07 42.6	-0.7
	comp=Z,103nm,1.1s						
E41A	Kenton	85.09	329	P	P	15 07 43.6	-0.2
	baz=35,SNR=13						
O56A	Blue Knob Stat	85.21	319	P	P	15 07 44.0	-0.6
	baz=42						
C37A	Embarrass	85.28	332	P	P	15 07 44.7	-0.1
	baz=33,SNR=15						
B35A	Bob, Littlefor	85.30	333	P	P	15 07 44.4	-0.4
	baz=32,SNR=19						
F42A	Maple Grove Fa	85.33	328	P	P	15 07 44.7	-0.3
	baz=36						
A33A	Warroad	85.39	334	P	P	15 07 45.1	-0.1
	baz=31,SNR=12						
N54A	Moraine State	85.41	321	P	P	15 07 45.0	-0.5
	baz=41						
E40A	Wakefield	85.47	330	P	P	15 07 45.7	-0.1
	baz=34,SNR=32						
C36A	Pine Crest Far	85.49	332	P	P	15 07 45.8	0.0
	baz=33,SNR=18						
RCBR	Riachuelo	85.50	259	P	P	15 07 47.4	+1.0
	comp=Z,16nm,0.9s,baz=1.8,slow=8.5,SNR=4.1						
B34A	Aery, Baudette	85.52	334	P	P	15 07 45.3	-0.6
	baz=31,SNR=14						
G43A	Wallace	85.55	328	P	P	15 07 45.8	-0.3
	baz=36						
F41A	Three Lakes	85.74	329	P	P	15 07 46.7	-0.4
	baz=35,SNR=12						
A32A	Rocking H Ranc	85.77	335	P	P	15 07 46.8	-0.3
	baz=30,SNR=13						
E39A	Mellen	85.79	330	P	P	15 07 46.9	-0.4
	baz=34,SNR=28						
D37A	Cotton	85.85	332	P	P	15 07 47.1	-0.5
	baz=33,SNR=8.9						
G42A	Mountain	85.87	328	P	P	15 07 47.2	-0.5
	baz=36,SNR=8.8						
C35A	Jirik Farms, M	85.95	333	P	P	15 07 47.4	-0.7
	baz=32,SNR=16						
E38A	The Farm, Brul	85.98	331	P	P	15 07 47.8	-0.5
	baz=33,SNR=8.7						
A31A	Linda, St. Vin	85.99	335	P	P	15 07 48.0	-0.2
	baz=30						
F40A	Park Falls	85.99	330	P	P	15 07 47.5	-0.9
	baz=34,SNR=10						
B33A	Robert and Kas	86.03	334	P	P	15 07 48.1	-0.3
	baz=31						
AGMN	Agassiz Nation	86.10	334	P	P	15 07 48.1	-0.6
	baz=30,SNR=11						
AGMN	Agassiz Nation	86.10	334	eP	P	15 07 48.0	-0.8
	comp=Z,51nm,1.0s						
AGMN	Agassiz Nation	86.10	334	eP	P	15 07 48.0	-0.8
	comp=Z,51nm,1.0s						
AGMN				LR	LR		
	comp=Z,1µm,20.0s						
D36A	Goodland	86.10	332	P	P	15 07 48.7	-0.2
	baz=32,SNR=9.6						
AAM	Ann Arbor	86.13	324	PFAKE		15 08 00.0	+11
AAM				LR	LR		
	comp=Z,792nm,21.0s						
CBN	Corbin Frederi	86.13	317	PFAKE		15 08 00.0	+11
CBN				LR	LR		
	comp=Z,867nm,19.0s						
G41A	Antigo	86.20	329	P	P	15 07 49.0	-0.3
	baz=35						
H43A	Windswept, Lux	86.22	327	P	P	15 07 48.9	-0.5
	baz=36						
B32A	Ashes, Strandq	86.24	335	P	P	15 07 49.1	-0.4
	baz=30,SNR=14						
F39A	Loretta	86.31	330	P	P	15 07 49.5	-0.4
	baz=34,SNR=19						
MCWV	Mont Chateau	86.32	320	eP	P	15 07 49.1	-0.9
	comp=Z,51nm,1.1s						
MCWV	Mont Chateau	86.32	320	eP	P	15 07 49.1	-0.9
	comp=Z,51nm,1.1s						
C34A	RKJ Ranch, Bem	86.33	333	P	P	15 07 49.4	-0.6
	baz=31,SNR=7.2						
E37A	Wrenshall	86.33	331	P	P	15 07 49.8	-0.2
	baz=33,SNR=5.2						
CVRD	Centerville Ro	86.46	318	eP	P	15 07 49.3	-1.4
	comp=Z,21nm,1.0s						
CVRD	Centerville Ro	86.46	318	eP	P	15 07 49.3	-1.4
	comp=Z,21nm,1.0s						
D35A	Remer	86.51	333	P	P	15 07 50.2	-0.7
	baz=32,SNR=9.9						
H42A	Shiocton	86.51	328	P	P	15 07 50.5	-0.3
	baz=35						
C33A	Trail	86.53	334	P	P	15 07 50.6	-0.4
	baz=31,SNR=9.9						
G40A	Rib Lake	86.56	329	P	P	15 07 50.9	-0.3
	baz=34,SNR=9.4						
B31A	Greenbush Farm	86.58	335	P	P	15 07 50.7	-0.4
	baz=29						
IP04	Greensprings	86.59	318	eP	P	15 07 50.7	-0.7
	comp=Z,36nm,1.4s						
IP04	Greensprings	86.59	318	eP	P	15 07 50.6	-0.7
	comp=Z,36nm,1.4s						
IP01	Cuckoo	86.60	318	eP	P	15 07 50.3	-1.1
	comp=Z,55nm,1.5s						
IP01	Cuckoo	86.60	318	eP	P	15 07 50.3	-1.1
	comp=Z,55nm,1.5s						
IP03	Louisa	86.61	318	eP	P	15 07 50.4	-1.1
	comp=Z,38nm,1.3s						
IP03	Louisa	86.61	318	eP	P	15 07 50.4	-1.1
	comp=Z,38nm,1.3s						
IP05	Hopewell Churc	86.61	317	eP	P	15 07 50.4	-1.1
	comp=Z,58nm,1.3s						
IP05	Hopewell Churc	86.61	317	eP	P	15 07 50.4	-1.1
	comp=Z,58nm,1.3s						
F38A	Pierce - Schro	86.64	331	P	P	15 07 51.5	0.0
	baz=33,SNR=12						
IP06	Yanceyville	86.65	318	eP	P	15 07 50.4	-1.3
	comp=Z,37nm,1.3s						
IP06	Yanceyville	86.65	318	eP	P	15 07 50.4	-1.3
	comp=Z,37nm,1.3s						
URVA	University of	86.69	317	eP	P	15 07 50.9	-1.0
URVA	University of	86.69	317	eP	P	15 07 50.9	-1.0
IP07	Quail	86.69	318	eP	P	15 07 50.8	-1.1
	comp=Z,49nm,1.3s						
IP07	Quail	86.69	318	eP	P	15 07 50.8	-1.1
	comp=Z,49nm,1.3s						
E36A	McGregor	86.69	332	P	P	15 07 51.4	-0.4
	baz=32,SNR=13						
C32A	Crookston	86.73	334	P	P	15 07 51.2	-0.7
	baz=30						
JSRW	J. Sargeant Re	86.78	317	eP	P	15 07 51.1	-1.2
JSRW	J. Sargeant Re	86.78	317	eP	P	15 07 51.1	-1.2
H41A	Junction City	86.88	329	P	P	15 07 52.2	-0.5
	baz=35						
D34A	Park Rapids	86.91	333	P	P	15 07 52.2	-0.6
	baz=31,SNR=6.7						
G39A	Holcombe	86.93	330	P	P	15 07 52.7	-0.3
	baz=34,SNR=22						
E35A	Pequot Lakes	87.08	332	P	P	15 07 53.4	-0.3
	baz=32						
D33A	AnnSam, Waubun	87.09	334	P	P	15 07 53.2	-0.5
	baz=30						
F37A	Hinrichs Farm,	87.13	331	P	P	15 07 53.7	-0.2
	baz=33						
C31A	Landman Farms,	87.16	335	P	P	15 07 53.5	-0.5
	baz=29						
I42A	Draeger Farm,	87.17	328	P	P	15 07 53.7	-0.4
	baz=35						
H40A	Chili	87.17	329	P	P	15 07 54.2	0.0
	baz=34,SNR=7.8						
G38A	Ridgeland	87.30	330	P	P	15 07 54.3	-0.5
	baz=33,SNR=18						
F36A	Milaca	87.35	332	P	P	15 07 54.5	-0.5
	baz=32,SNR=27						
J43A	Natural Harves	87.38	327	P	P	15 07 54.7	-0.5
	baz=35						
E34A	Wadena	87.39	333	P	P	15 07 54.6	-0.6
	baz=31,SNR=6.7						
ACSO	Alum Creek Sta	87.42	322	PFAKE		15 08 10.0	+15
ACSO				LR	LR		
	comp=Z,610nm,19.0s						
I41A	Arkdale	87.43	328	P	P	15 07 55.1	-0.2
	baz=34						
H39A	Augusta	87.48	330	P	P	15 07 55.3	-0.3
	baz=34,SNR=8.3						
D32A	Dogwood Acres,	87.50	334	P	P	15 07 55.1	-0.6
	baz=30						
SPMN	Marine on St.	87.61	331	P	P	15 07 56.0	-0.3
	baz=32,SNR=7.6						
SPMN	Marine on St.	87.61	331	eP	P	15 07 55.8	-0.5
	comp=Z,56nm,1.0s						
SPMN	Marine on St.	87.61	331	eP	P	15 07 55.8	-0.5
	comp=Z,56nm,1.0s						
E33A	Westby DABS, E	87.69	333	P	P	15 07 56.3	-0.3
	baz=30						
MDND	Maddock	87.72	336	P	P	15 07 56.2	-0.5
	baz=28						
MDND	Maddock	87.72	336	eP	P	15 07 56.3	-0.4
	comp=Z,92nm,1.2s						
MDND	Maddock	87.72	336	eP	P	15 07 56.3	-0.4
	comp=Z,92nm,1.2s						
J42A	Columbus	87.72	328	P	P	15 07 56.3	-0.5
	baz=35						
F35A	Swanville	87.74	332	P	P	15 07 56.2	-0.6
	baz=31						
D31A	Mcclaflin, Tow	87.81	335	P	P	15 07 56.5	-0.6
	baz=29						
I40A	Norwalk	87.87	329	P	P	15 07 57.2	-0.3
	baz=34						
H38A	Maiden Rock	87.88	330	P	P	15 07 57.4	-0.1
	baz=33,SNR=5.5						
K43A	Burlington	87.89	327	P	P	15 07 57.0	-0.6
	baz=36						
G36A	St. Michael	87.96	331	P	P	15 07 57.7	-0.2
	baz=32						
E32A	Braaten, Kindr	87.98	334	P	P	15 07 57.3	-0.7
	baz=30						
F34A	Alexandria	88.04	333	P	P	15 07 57.6	-0.7
	baz=31						
J41A	Loganville	88.06	328	P	P	15 07 57.7	-0.7
	baz=34						
H37A	Dierke Farm, C	88.20	331	P	P	15 07 58.7	-0.3
	baz=32						
G35A	Watkins	88.25	332	P	P	15 07 58.8	-0.5
	baz=31						
K42A	Prairie Point,	88.26	327	P	P	15 07 58.3	-1.1
	baz=35						
I39A	Houston	88.26	329	P	P	15 07 58.3	-1.0
	baz=33						
E31A	Nome	88.29	335	P	P	15 07 58.6	-0.9
	baz=29						
J40A	Soldiers Grove	88.33	329	P	P	15 07 58.4	-1.3
	baz=34						
F33A	5 Mile Ranch,	88.37	333	P	P	15 07 59.2	-0.6
	baz=30						
I38A	Scanlan Farm,	88.43	330	P	P	15 07 59.3	-0.9
	baz=33,SNR=8.0						
BLA	Blacksburg	88.47	319	PFAKE		15 08 10.0	+9.5
BLA				LR	LR		
	comp=Z,924nm,22.0s						
L43A	Garden Prairie	88.49	327	P	P	15 07 59.5	-0.9
	baz=35						
DGMT	Dagmar	88.52	339	P	P	15 08 00.6	0.0
	baz=24						
DGMT	Dagmar	88.52	339	eP	P	15 08 00.7	+0.2
	comp=Z,188nm,1.5s						
DGMT	Dagmar	88.52	339	eP	P	15 08 00.7	+0.2
	comp=Z,188nm,1.5s						
DGMT				LR	LR		
	comp=Z,1µm,21.0s						
JFWS	Jewell Farm	88.53	328	eP	P	15 08 00.4	-0.2
JFWS				pmax	pmax		
	comp=Z,17nm,0.9s						
JFWS	Jewell Farm	88.53	328	eP	P	15 07 58.9	-1.7
	comp=Z,17nm,0.8s						
JFWS	Jewell Farm	88.53	328	eP	P	15 07 58.9	-1.7
	comp=Z,17nm,0.8s						
H36A	Jessenland, He	88.59	331	P	P	15 08 00.9	0.0
	baz=32						
CNNC	Cliffs of the	88.61	316	PFAKE		15 08 10.0	+8.9
CNNC				LR	LR		
	comp=Z,2µm,21.0s						
F32A	Veblen	88.63	334	P	P	15 08 00.7	-0.4
	baz=30						
N46A	Monticello	88.65	325	P	P	15 08 00.2	-1.1
	baz=36						
G34A	Benson	88.65	333	P	P	15 08 00.5	-0.7
	baz=31						
BATI	Baumata	88.68	104	P	P	15 08 01.6	-0.1
	baz=306,slow=8.7						
J39A	Decorah	88.77	329	P	P	15 08 00.8	-1.0
	baz=33,SNR=6.0						
K41A	Shullsburg	88.80	328	P	P	15 08 00.9	-1.1
	baz=34						
H35A	Sunnyside Ranc	88.82	332	P	P	15 08 02.0	0.0
	baz=31						
M44A	Midewin, Midew	88.83	326	P	P	15 08 01.2	-0.9
	baz=36						
SOEI	Soe	88.85	103	eP	P	15 08 00.5	-2.1
	comp=Z,94nm,1.1s						
SOEI	Soe	88.85	103	eP	P	15 08 00.5	-2.1
	comp=Z,94nm,1.1s						
I37A	Lemond, Waseca	88.86	331	P	P	15 08 02.0	-0.2
	baz=32,SNR=5.9						
O47A	Sheridan	88.92	324	P	P	15 08 01.3	-1.2
	baz=37						
G33A	Ortonville	88.98	333	P	P	15 08 02.4	-0.3
	baz=30						
F31A	Hecla	89.03	334	P	P	15 08 02.4	-0.6
	baz=29						
N45A	Kentland	89.04	325	P	P	15 08 02.1	-0.9
	baz=36						
K40A	Colesburg	89.07	328	P	P	15 08 02.5	-0.7
	baz=34						
J38A	Wedel Dairy, R	89.09	330	P	P	15 08 02.0	-1.3
	baz=33,SNR=7.3						
BBB	Bella Bella	89.09	355	P	P	15 08 02.2	-0.8
	comp=Z,8.1nm,1.1s,baz=42,slow=12,SNR=1.8						
I36A	Fitzsimmons Fa	89.09	331	P	P	15 08 02.6	-0.6
	baz=32						
H34A	Spellman Lake,	89.19	332	P	P	15 08 03.7	-0.1
	baz=30						
SFIN	Lafayette	89.23	325	P	P	15 08 02.8	-1.2
	baz=36						
G32A	Webster	89.30	334	P	P	15 08 04.1	-0.2
	baz=29						
L41A	Preston	89.32	328	P	P	15 08 03.6	-0.7
	baz=34,SNR=8.8						
N44A	Piper City	89.36	326	P	P	15 08 03.7	-0.8
	baz=36						
K39A	Oelwein	89.37	329	P	P	15 08 03.3	-1.2
	baz=33,SNR=6.0						
J37A	Redenius Farm,	89.52	330	P	P	15 08 05.0	-0.3
	baz=32,SNR=15						
M42A	Sheffield	89.52	327	P	P	15 08 04.4	-0.9
	baz=34						
H33A	Prehn Over Nor	89.53	333	P	P	15 08 05.0	-0.4
	baz=30						
P47A	Martinsville	89.56	324	P	P	15 08 04.4	-1.2
	baz=37						
G31A	Conde	89.57	334	P	P	15 08 04.9	-0.6
	baz=29						
I35A	Creekview Farm	89.60	331	P	P	15 08 05.0	-0.7
	baz=31						
O45A	Potomac	89.61	325	P	P	15 08 05.0	-0.8
	baz=36						
L40A	Anamosa	89.63	328	P	P	15 08 05.0	-0.9
	baz=34,SNR=5.7						
I34A	Hadley	89.77	332	P	P	15 08 06.3	-0.2
	baz=30						
K38A	Parkersburg	89.77	329	P	P	15 08 05.8	-0.7
	baz=32						
J36A	Seneca 1, Swea	89.81	331	P	P	15 08 06.4	-0.2
	baz=31,SNR=5.6						
L39A	Vinton	89.90	329	P	P	15 08 05.9	-1.2
	baz=33,SNR=6.8						
M41A	Milan	89.92	327	P	P	15 08 06.2	-0.9
	baz=34						
H32A	Carlson Farm,	89.93	333	P	P	15 08 07.0	-0.2
	baz=29						
K37A	Belmond	90.01	330	P	P	15 08 06.8	-0.8
	baz=32,SNR=6.7						
O44A	Mansfield	90.03	325	P	P	15 08 07.1	-0.6
	baz=35						
LLLB	Lillooet	90.05	351	eP	P	15 08 07.3	-0.3
	comp=Z,79nm,1.2s						
LLLB	Lillooet	90.05	351	eP	P	15 08 07.3	-0.3
	comp=Z,79nm,1.2s						
HDIL	Hopedale	90.06	326	P	P	15 08 07.3	-0.6
	baz=35						
HDIL	Hopedale	90.06	326	eP	P	15 08 06.9	-1.0
HDIL	Hopedale	90.06	326	eP	P	15 08

comp=Z,539nm,19.0s
N42A Yates City 90.16 327 P P 15 08 07.6 -0.7
baz=34
WALA Waterton Lakes 90.27 345 eP P 15 08 08.4 -0.5
comp=Z,42nm,1.1s
WALA Waterton Lakes 90.27 345 eP P 15 08 08.4 -0.5
comp=Z,42nm,1.1s
L38A Oak Wood Farm, 90.27 329 P P 15 08 07.9 -1.0
baz=32,SNR=7.3
O43A Sugar Creek Fa 90.29 326 P P 15 08 08.3 -0.6
baz=35
M40A Post Highland 90.30 328 P P 15 08 08.1 -0.9
baz=33
ECSD EROS Data Cent 90.30 332 P P 15 08 08.5 -0.5
baz=30,SNR=11
ECSD EROS Data Cent 90.30 332 eP P 15 08 08.5 -0.5
comp=Z,70nm,1.7s
ECSD EROS Data Cent 90.30 332 eP P 15 08 08.5 -0.5
comp=Z,70nm,1.7s
ECSD LR LR
comp=Z,1µm,20.0s
H31A Wolsey 90.31 334 P P 15 08 08.6 -0.4
baz=29
I32A Karley and Nic 90.35 333 P P 15 08 09.0 -0.2
baz=29
EGMT Eagleton 90.36 342 P P 15 08 09.0 -0.3
baz=20,SNR=13
EGMT Eagleton 90.36 342 eP P 15 08 08.9 -0.3
comp=Z,46nm,1.1s
EGMT Eagleton 90.36 342 eP P 15 08 08.9 -0.3
comp=Z,46nm,1.1s
EGMT LR LR
comp=Z,1µm,20.0s
K36A Gilmore City 90.44 330 P P 15 08 09.3 -0.3
baz=31
J34A George 90.45 332 P P 15 08 09.3 -0.4
baz=30
SUSD Miller 90.51 334 P P 15 08 09.6 -0.3
baz=28
M39A Webster 90.51 328 P P 15 08 09.1 -0.8
baz=33
KMSC Kings Mountain 90.52 318 P P 15 08 09.7 -0.4
baz=40
KMSC Kings Mountain 90.52 318 eP P 15 08 09.5 -0.6
comp=Z,27nm,1.0s
KMSC Kings Mountain 90.52 318 eP P 15 08 09.5 -0.6
comp=Z,27nm,1.0s
ANWB Willy Bob 90.55 293 PFAKE 15 08 20.0 +10
ANWB LR LR
comp=Z,616nm,20.0s
SCIA State Center 90.57 329 eP P 15 08 09.6 -0.6
comp=Z,71nm,1.1s
SCIA State Center 90.57 329 eP P 15 08 09.6 -0.6
comp=Z,71nm,1.1s
WCI Wyandotte Cave 90.58 323 eP P 15 08 10.0 -0.3
WCI pmax pmax
comp=Z,66nm,1.5s
WCI Wyandotte Cave 90.58 323 eP P 15 08 09.4 -0.9
comp=Z,66nm,1.5s
WCI Wyandotte Cave 90.58 323 eP P 15 08 09.4 -0.9
comp=Z,66nm,1.5s
L37A Phoenix Point, 90.60 330 P P 15 08 09.4 -0.9
baz=32
N41A Harden Midland 90.61 327 P P 15 08 09.1 -1.2
baz=34,SNR=5.2
P44A Sand Creek, Wi 90.65 325 P P 15 08 10.3 -0.4
baz=35
K35A Storm Lake 90.66 331 P P 15 08 10.2 -0.5
baz=31
O42A Bath 90.70 326 P P 15 08 10.1 -0.7
baz=34
LAO LASA Array 90.70 340 P P 15 08 12.0 +1.1
baz=23,SNR=38
LAO LASA Array 90.70 340 eP P 15 08 11.9 +1.1
comp=Z,218nm,1.4s
LAO LASA Array 90.70 340 eP P 15 08 11.9 +1.1
comp=Z,218nm,1.4s
I31A Royce, Wessing 90.73 334 P P 15 08 10.4 -0.5
baz=29
FAKI Fak Fak 90.74 93 eP P 15 08 10.6 -0.8
comp=Z,43nm,1.2s
FAKI Fak Fak 90.74 93 eP P 15 08 10.6 -0.8
comp=Z,43nm,1.2s
N40A Mertquake, Sal 90.77 328 P P 15 08 10.1 -1.0
baz=33
J33A Davis 90.79 332 P P 15 08 10.6 -0.6
baz=30
P43A Skaggs, Pawnee 90.91 326 P P 15 08 11.1 -0.7
baz=35
L36A Harm Buss Farm 90.98 330 P P 15 08 11.6 -0.5
baz=31
M38A Pleasantville 90.98 329 P P 15 08 11.4 -0.7
baz=32,SNR=14
OLIL Olney 91.01 324 eP P 15 08 10.7 -1.6
comp=Z,112nm,1.3s
OLIL Olney 91.01 324 eP P 15 08 10.7 -1.6
comp=Z,112nm,1.3s
K34A Le Mars 91.02 332 P P 15 08 11.7 -0.6
baz=30
J32A Parkston 91.06 333 P P 15 08 12.1 -0.4
baz=29
O41A Passleys Farm, 91.11 327 P P 15 08 11.8 -1.0
baz=34,SNR=6.3
N39A Derby Farms, D 91.15 328 P P 15 08 11.9 -1.0
baz=33,SNR=13
Q44A Meyer Farm, Va 91.29 325 P P 15 08 13.3 -0.3
baz=35
L35A Bielow Farm, R 91.31 331 P P 15 08 13.0 -0.6
baz=31
P42A Winchester 91.31 326 P P 15 08 13.0 -0.7
baz=34
M37A Trindle Farm, 91.33 330 P P 15 08 13.1 -0.7
baz=32
TKL Tuckaleechee C 91.38 320 P P 15 08 14.2 +0.1
comp=Z,46nm,0.9s,baz=88,slow=4.8,SNR=32
TKL Tuckaleechee C 91.38 320 eP P 15 08 13.9 -0.2
comp=Z,90nm,1.0s
TKL Tuckaleechee C 91.38 320 eP P 15 08 13.9 -0.2
comp=Z,90nm,1.0s
K33A Hardington 91.42 332 P P 15 08 13.8 -0.4
baz=30
YBMT Yellow Bay 91.43 345 eP P 15 08 14.4 +0.1
YBMT Yellow Bay 91.43 345 eP P 15 08 14.4 +0.1
USIN University of 91.44 324 eP P 15 08 13.1 -1.2
comp=Z,66nm,0.8s
USIN University of 91.44 324 eP P 15 08 13.1 -1.2
comp=Z,66nm,0.8s
J31A Geddes 91.44 334 P P 15 08 13.8 -0.4
baz=28
N38A Joes South For 91.52 329 P P 15 08 14.1 -0.5
baz=32
O40A La Belle 91.52 327 P P 15 08 13.7 -0.9
baz=33
P41A Barry, Barry 91.55 327 P P 15 08 13.9 -0.9
baz=34
Q43A New Douglas 91.56 325 P P 15 08 14.4 -0.5
baz=34
M36A Felix, Anita 91.58 330 P P 15 08 14.0 -0.9
baz=31
BSMT Bassoo Peak 91.60 346 eP P 15 08 15.2 +0.1
BSMT Bassoo Peak 91.60 346 eP P 15 08 15.2 +0.1
JTMT Jette 91.60 345 eP P 15 08 15.1 0.0
JTMT Jette 91.60 345 eP P 15 08 15.1 0.0
NEW Newport 91.63 347 P P 15 08 15.7 +0.6
comp=Z,20nm,0.8s,baz=12,slow=5.2,SNR=34
NEW LR LR 15 53 12.1
comp=Z,615nm,18.9s,baz=14,slow=38
NEW Newport 91.63 347 P P 15 08 15.6 +0.5
baz=15,SNR=22
NEW Newport 91.63 347 eP P 15 08 15.9 +0.8
NEW pmax pmax
comp=Z,33nm,0.9s
NEW Newport 91.63 347 eP P 15 08 14.9 -0.2
comp=Z,33nm,0.9s
NEW Newport 91.63 347 eP P 15 08 14.8 -0.2
comp=Z,33nm,0.9s
O39A Kirksville 91.69 328 P P 15 08 14.8 -0.6
baz=33,SNR=5.7
K32A Verdigre 91.73 333 P P 15 08 15.0 -0.6
baz=29
L34A Svendsen Farm, 91.75 331 P P 15 08 14.9 -0.7
baz=30
SWMT Swartz Lake 91.77 345 eP P 15 08 14.9 -0.9
SWMT Swartz Lake 91.77 345 eP P 15 08 14.9 -0.9
R44A Waltonville 91.85 325 P P 15 08 15.4 -0.9
baz=35,SNR=7.6
B08A Colville Reser 91.90 349 eP P 15 08 15.3 -1.0
comp=Z,47nm,1.6s
B08A Colville Reser 91.90 349 eP P 15 08 15.3 -1.0
comp=Z,47nm,1.6s
L33A Hoskins 91.91 332 P P 15 08 15.9 -0.5
baz=29
M35A Neola 91.92 331 P P 15 08 15.7 -0.7
baz=30
SLMT Seeley Lake 91.92 345 eP P 15 08 16.6 0.0
SLMT Seeley Lake 91.92 345 eP P 15 08 16.6 0.0
CPCT Cooper Cave 91.92 320 eP P 15 08 16.0 -0.6
comp=Z,89nm,1.3s
CPCT Cooper Cave 91.92 320 eP P 15 08 16.0 -0.6
comp=Z,89nm,1.3s
N37A Lee Faris, Mou 91.94 329 P P 15 08 15.9 -0.7
baz=32
Q42A Golden Eagle 91.95 326 P P 15 08 15.5 -1.2
baz=34,SNR=5.1
FDF Fort de France 92.00 291 PFAKE 15 08 30.0 +13
FDF LR LR
comp=Z,442nm,19.0s
A04D Lummi Island 92.01 351 P P 15 08 16.4 -0.2
baz=11
K31A O'Neill 92.04 333 P P 15 08 16.7 -0.3
baz=28
HRY Holter Researc 92.07 343 eP P 15 08 17.6 +0.4
HRY Holter Researc 92.07 343 eP P 15 08 17.6 +0.4
S45A Carrier Mills 92.09 324 P P 15 08 16.3 -1.1
baz=35,SNR=7.4
P40A Paris 92.09 327 P P 15 08 16.5 -0.8
baz=33,SNR=12
RPW Rockport 92.12 350 P P 15 08 16.6 -0.7
RPW Rockport 92.12 350 P P 15 08 16.6 -0.7
PGC Sidney 92.16 351 eP P 15 08 17.4 0.0
comp=Z,20nm,0.9s
PGC Sidney 92.16 351 eP P 15 08 17.4 0.0
comp=Z,20nm,0.9s
CHMT Chamberlain Mo 92.18 344 eP P 15 08 17.5 -0.4
CHMT Chamberlain Mo 92.18 344 eP P 15 08 17.5 -0.4
O38A Galt 92.19 329 P P 15 08 17.0 -0.8
baz=32
N36A Muff Farm, Cla 92.19 330 P P 15 08 17.2 -0.6
baz=31
R43A Red Bud 92.21 325 P P 15 08 17.2 -0.7
baz=34,SNR=6.3
Q41A Truxton 92.22 326 P P 15 08 17.3 -0.6
baz=34,SNR=13
M34A Aspy Farms, Fr 92.22 331 P P 15 08 17.3 -0.6
baz=30
C09A Chrisman Ranch 92.27 348 eP P 15 08 17.9 -0.1
comp=Z,64nm,1.8s
C09A Chrisman Ranch 92.27 348 eP P 15 08 17.9 -0.1
comp=Z,64nm,1.8s
L32A Elgin 92.31 332 P P 15 08 18.0 -0.3
baz=29
B05A Bryant 92.38 351 P P 15 08 18.0 -0.4
baz=11,SNR=6.2
S44A Carbondale 92.39 324 P P 15 08 18.2 -0.5
baz=35,SNR=9.6
M33A Taylor Creek F 92.39 332 P P 15 08 18.3 -0.4
baz=30
MSO Missoula 92.41 345 P P 15 08 18.5 -0.3
baz=17,SNR=9.0
MSO Missoula 92.41 345 eP P 15 08 18.5 -0.3
comp=Z,32nm,1.4s
MSO Missoula 92.41 345 eP P 15 08 18.4 -0.3
comp=Z,32nm,1.4s
N35A Tabor 92.42 330 P P 15 08 18.2 -0.7
baz=31
O37A Wolven Farm, M 92.42 329 P P 15 08 18.2 -0.6
baz=32
P39B Salisbury 92.42 328 P P 15 08 17.9 -0.9
baz=32,SNR=7.9
RSSD Black Hills 92.42 337 P P 15 08 19.3 +0.2
baz=25
RSSD Black Hills 92.42 337 eP P 15 08 19.6 +0.5
RSSD pmax pmax
comp=Z,42nm,1.1s
RSSD Black Hills 92.42 337 eP P 15 08 19.2 +0.2
comp=Z,42nm,1.1s
RSSD Black Hills 92.42 337 eP P 15 08 19.2 +0.2
comp=Z,42nm,1.1s
GCMT Greycliff 92.43 342 eP P 15 08 18.9 0.0
GCMT Greycliff 92.43 342 eP P 15 08 18.9 0.0
SAW Saint Andrews 92.55 349 P P 15 08 19.9 +0.6
SAW Saint Andrews 92.55 349 P P 15 08 19.9 +0.6
C06D Leavenworth 92.55 350 P P 15 08 19.1 -0.2
baz=12
Q40A Laux Farm, Aux 92.55 327 P P 15 08 18.8 -0.6
baz=33,SNR=13
R42A Lubbbering 92.59 326 P P 15 08 19.1 -0.5
baz=34
P38A Dawn 92.63 328 P P 15 08 19.1 -0.7
baz=32,SNR=5.8
WTV Waterville 92.63 349 P P 15 08 19.7 0.0
WTV Waterville 92.63 349 P P 15 08 19.7 0.0
FVM French Village 92.67 325 eP P 15 08 19.9 -0.1
FVM pmax pmax
comp=Z,26nm,1.1s
FVM French Village 92.67 325 eP P 15 08 18.9 -1.1
comp=Z,26nm,1.1s
FVM French Village 92.67 325 eP P 15 08 18.9 -1.1
comp=Z,26nm,1.1s
N34A Lincoln 92.77 331 P P 15 08 19.9 -0.5
baz=30
O36A Bolckow 92.78 329 P P 15 08 20.0 -0.5
baz=31
ETW Entiat 92.78 349 P P 15 08 20.3 -0.2
ETW Entiat 92.78 349 P P 15 08 20.3 -0.2
MBWA Marble Bar 92.81 115 eP P 15 08 19.3 -1.4
comp=Z,52nm,1.5s
MBWA Marble Bar 92.81 115 eP P 15 08 19.3 -1.4
comp=Z,52nm,1.5s
R41A Rosebud 92.83 326 P P 15 08 20.1 -0.6
baz=34,SNR=12
S43A Fulton Ridge, 92.86 325 P P 15 08 20.0 -0.9
baz=34,SNR=7.8
BGNE Belgrade 92.89 332 P P 15 08 20.9 -0.1
baz=29,SNR=5.3
BGNE Belgrade 92.89 332 eP P 15 08 20.7 -0.3
comp=Z,150nm,1.1s
BGNE Belgrade 92.89 332 eP P 15 08 20.7 -0.3
comp=Z,150nm,1.1s
Q39A Willow Grove F 92.89 328 P P 15 08 20.1 -0.9
baz=32,SNR=5.3
RLMT Red Lodge 92.95 341 P P 15 08 22.0 +0.5
baz=21,SNR=26
RLMT Red Lodge 92.95 341 eP P 15 08 21.7 +0.2
comp=Z,40nm,1.0s
RLMT Red Lodge 92.95 341 eP P 15 08 21.7 +0.2
comp=Z,40nm,1.0s
CCM Cathedral Cave 92.97 326 eP P 15 08 21.0 -0.4
CCM pmax pmax
comp=Z,17nm,1.0s
CCM Cathedral Cave 92.97 326 eP P 15 08 20.4 -1.0
comp=Z,17nm,1.0s
CCM Cathedral Cave 92.97 326 eP P 15 08 20.4 -1.0
comp=Z,17nm,1.0s
GOGA Godfrey 92.98 318 eP P 15 08 21.8 +0.3
GOGA pmax pmax
comp=Z,26nm,1.2s
GOGA Godfrey 92.98 318 eP P 15 08 20.8 -0.7
comp=Z,26nm,1.2s
GOGA Godfrey 92.98 318 eP P 15 08 20.8 -0.7
comp=Z,26nm,1.2s
GOGA LR LR
comp=Z,908nm,20.0s
P37A Lathrop 92.99 329 P P 15 08 20.8 -0.7
baz=32
WVT Waverly 93.00 323 eP P 15 08 20.5 -1.0
WVT pmax pmax
comp=Z,29nm,1.4s
WVT Waverly 93.00 323 eP P 15 08 20.2 -1.4
comp=Z,29nm,1.4s
WVT Waverly 93.00 323 eP P 15 08 20.2 -1.4
comp=Z,29nm,1.4s
S42A Caledonia 93.01 325 P P 15 08 20.8 -0.8
baz=34,SNR=9.7
O35A Humboldt 93.03 330 P P 15 08 20.9 -0.8
baz=30
T44A Benton 93.04 324 P P 15 08 21.2 -0.5
baz=35
LRM Limekiln Ridge 93.05 344 eP P 15 08 21.4 -0.5
LRM Limekiln Ridge 93.05 344 eP P 15 08 21.4 -0.5
BOZ Bozeman (W) 93.08 343 P P 15 08 21.4 -0.6
baz=19,SNR=19
BOZ Bozeman (W) 93.08 343 eP P 15 08 22.5 +0.6
BOZ pmax pmax
comp=Z,52nm,1.6s
BOZ Bozeman (W) 93.08 343 eP P 15 08 21.6 -0.3
comp=Z,52nm,1.6s
BOZ Bozeman (W) 93.08 343 eP P 15 08 21.6 -0.3
comp=Z,52nm,1.6s
BOZ LR LR
comp=Z,1µm,20.0s
D08A Wollman Farm, 93.10 348 eP P 15 08 22.1 +0.3
comp=Z,37nm,1.5s
D08A Wollman Farm, 93.10 348 eP P 15 08 22.1 +0.3
comp=Z,37nm,1.5s
HDW Hoodsport 93.10 351 P P 15 08 23.0 +1.1
HDW Hoodsport 93.10 351 P P 15 08 23.1 +1.1
N33A J Bar K, Exete 93.21 331 P P 15 08 22.0 -0.5
baz=29
R40A Maddies Statio 93.22 327 P P 15 08 21.5 -1.0
baz=33,SNR=7.6
Q38A Cooks Store, C 93.23 328 P P 15 08 21.9 -0.6
baz=32,SNR=5.1
P36A Good Intent, A 93.31 329 P P 15 08 22.4 -0.6
baz=31
T43A Greenville 93.36 325 P P 15 08 22.6 -0.6
baz=34,SNR=12
O34A Beatrice 93.41 331 P P 15 08 22.5 -0.9
baz=30,SNR=8.4
D05A Enumclaw 93.42 350 eP P 15 08 23.3 0.0
comp=Z,42nm,1.1s
D05A Enumclaw 93.42 350 eP P 15 08 23.3 0.0
comp=Z,42nm,1.1s
E09A Wood Farm, Sta 93.50 347 eP P 15 08 23.7 +0.1
comp=Z,16nm,1.0s
E09A Wood Farm, Sta 93.50 347 eP P 15 08 23.7 +0.1
comp=Z,16nm,1.0s
DLMT Dillon 93.52 343 eP P 15 08 23.8 -0.2
comp=Z,34nm,1.4s
DLMT Dillon 93.52 343 eP P 15 08 23.8 -0.2
comp=Z,34nm,1.4s
R39A Chumby, Stover 93.53 327 P P 15 08 23.4 -0.5
baz=32
U44B Burton Farm, H 93.54 324 P P 15 08 23.5 -0.5
baz=35
U44A Portageville 93.56 324 P P 15 08 23.7 -0.4
baz=35
S41A Jillco Farms, 93.58 326 P P 15 08 23.6 -0.7
baz=33,SNR=12
Q37A Longview Farm, 93.64 328 P P 15 08 23.7 -0.8
baz=31
YHH Holmes Hill 93.66 342 eP P 15 08 25.1 +0.3
comp=Z,37nm,1.4s
YHH Holmes Hill 93.66 342 eP P 15 08 25.1 +0.3
comp=Z,37nm,1.4s
YNR Norris Junctio 93.68 342 eP P 15 08 25.8 +0.9
comp=Z,23nm,1.4s
YNR Norris Junctio 93.68 342 eP P 15 08 25.8 +0.9
comp=Z,23nm,1.4s
P35A Duane Minner, 93.71 330 P P 15 08 24.1 -0.7
baz=30,SNR=6.2
QLMT Earthquake Lak 93.75 342 eP P 15 08 25.9 +0.8
QLMT Earthquake Lak 93.75 342 eP P 15 08 25.9 +0.8
LKWY Lake 93.75 342 eP P 15 08 27.1 +1.8
LKWY pmax pmax
comp=Z,17nm,1.1s
LKWY MLR MLR
comp=Z,2µm,21.0s
LKWY Lake 93.75 342 eP P 15 08 27.0 +1.8
comp=Z,18nm,1.1s
LKWY Lake 93.75 342 eP P 15 08 27.1 +1.8
comp=Z,18nm,1.1s
LKWY LR LR
comp=Z,2µm,21.0s
YHB Horse Butte 93.77 342 eP P 15 08 25.8 +0.6
comp=Z,20nm,1.2s
YHB Horse Butte 93.77 342 eP P 15 08 25.8 +0.6
comp=Z,20nm,1.2s
YMR Madison River 93.80 342 eP P 15 08 26.2 +0.8
comp=Z,46nm,1.5s
YMR Madison River 93.80 342 eP P 15 08 26.2 +0.8
comp=Z,46nm,1.5s
LON Longmire 93.83 350 eP P 15 08 25.4 +0.2
LON pmax pmax
comp=Z,11nm,1.0s
LON Longmire 93.83 350 eP P 15 08 24.6 -0.6
comp=Z,11nm,1.0s
LON Longmire 93.83 350 eP P 15 08 24.6 -0.6
comp=Z,11nm,1.0s
O33A Hebron 93.84 331 P P 15 08 24.7 -0.7
baz=29
HAWA Hanford 93.84 348 eP P 15 08 25.4 +0.1
comp=Z,20nm,0.9s
HAWA Hanford 93.84 348 eP P 15 08 25.4 +0.1
comp=Z,20nm,0.9s
HAWA LR LR
comp=Z,1µm,21.0s
V45A Humboldt 93.84 323 P P 15 08 24.3 -1.1
baz=35
S40A Lebanon 93.90 327 P P 15 08 25.0 -0.8
baz=33,SNR=11
H17A Grant Village 93.96 342 P P 15 08 27.8 +1.6
baz=20,SNR=5.8
H17A Grant Village 93.96 342 eP P 15 08 25.4 -0.8
comp=Z,57nm,1.5s
H17A Grant Village 93.96 342 eP P 15 08 25.4 -0.8
comp=Z,57nm,1.5s
YFT Old Faithful 93.97 342 eP P 15 08 26.5 +0.3
comp=Z,37nm,1.0s
YFT Old Faithful 93.97 342 eP P 15 08 26.5 +0.3
comp=Z,37nm,1.0s
Q36A Arnold C. Orve 93.98 329 P P 15 08 25.4 -0.6
baz=31
U43A Rector 94.00 324 P P 15 08 25.5 -0.6
baz=34
R38A Fenwick Farm, 94.00 328 P P 15 08 25.2 -0.9
baz=32
P34A Walnut Farm, R 94.01 330 P P 15 08 25.6 -0.6
baz=30,SNR=11
PLAL Pickwick Lake 94.04 322 eP P 15 08 24.7 -1.7
comp=Z,43nm,1.4s
PLAL Pickwick Lake 94.04 322 eP P 15 08 24.7 -1.7
comp=Z,43nm,1.4s
T41A Mountain View 94.05 326 P P 15 08 25.7 -0.7
baz=33,SNR=9.5
MCMT McKenzie Canyo 94.08 343 eP P 15 08 25.5 -1.2
MCMT McKenzie Canyo 94.08 343 eP P 15 08 25.6 -1.2
YPP Pitchstone Pla 94.13 342 eP P 15 08 28.8 +1.8
comp=Z,52nm,1.6s
YPP Pitchstone Pla 94.13 342 eP P 15 08 28.8 +1.8
comp=Z,52nm,1.6s
S39A Bolivar 94.18 327 P P 15 08 26.0 -1.0
baz=32,SNR=12
E03A Lebam 94.25 351 eP P 15 08 27.1 0.0
comp=Z,56nm,0.9s
E03A Lebam 94.25 351 eP P 15 08 27.1 0.0
comp=Z,56nm,0.9s
TDL Tradedollar La 94.27 350 P P 15 08 27.5 +0.1
TDL Tradedollar La 94.27 350 P P 15 08 27.6 +0.1
R37A Teagarden Farm 94.28 328 P P 15 08 26.1 -1.3
baz=31
T40A Mansfield 94.29 326 P P 15 08 26.4 -1.1
baz=33,SNR=11
Q35A Mercer Eighty, 94.29 330 P P 15 08 26.8 -0.7
baz=30
KSU1 Kansas State U 94.31 330 P P 15 08 26.9 -0.7
baz=30
KSU1 Kansas State U 94.31 330 eP P 15 08 26.1 -1.5
KSU1 Kansas State U 94.31 330 eP P 15 08 26.1 -1.5
U42A Revenden 94.39 325 P P 15 08 27.2 -0.7
baz=34,SNR=5.1
GRTK Grand Turk 94.42 302 PFAKE 15 08 40.0 +12
GRTK LR LR
comp=Z,660nm,21.0s
W45A Hickory Valley 94.43 323 P P 15 08 26.9 -1.3
baz=35
S38A Stockton 94.47 327 P P 15 08 26.8 -1.5
baz=32,SNR=12
K22A Casper 94.50 338 P P 15 08 27.5 -1.1
baz=23,SNR=10
K22A Casper 94.50 338 eP P 15 08 28.0 -0.6
comp=Z,44nm,1.1s
K22A Casper 94.50 338 eP P 15 08 28.0 -0.6
comp=Z,44nm,1.1s
IMW Indian Meadow 94.52 342 eP P 15 08 29.3 +0.5
comp=Z,38nm,1.4s
IMW Indian Meadow 94.52 342 eP P 15 08 29.3 +0.5
comp=Z,38nm,1.4s
R36A Gordon, Harris 94.54 329 P P 15 08 27.4 -1.2
baz=31
V43A Jonesboro 94.54 324 P P 15 08 28.0 -0.6
baz=34
LVP Lakeview Peak 94.57 350 P P 15 08 29.5 +0.8

LVP	Lakeview Peak	94.57 350	P	P	15 08 29.5	+0.8
Q34A	Chapman baz=30	94.59 330	P	P	15 08 28.2	-0.7
MOOW	Moose Ponds comp=Z,39nm,1.4s	94.61 342	eP	P	15 08 28.9	-0.2
MOOW	Moose Ponds comp=Z,39nm,1.4s	94.61 342	eP	P	15 08 28.9	-0.2
OGNE	Ogallala baz=26	94.65 335	P	P	15 08 28.8	-0.4
U41A	Viola baz=33	94.70 325	P	P	15 08 28.5	-0.9
LOHW	Long Hollow comp=Z,36nm,1.4s	94.70 342	eP	P	15 08 29.2	-0.3
LOHW	Long Hollow comp=Z,36nm,1.4s	94.70 342	eP	P	15 08 29.2	-0.3
F04A	Amboy comp=Z,18nm,0.8s	94.71 350	eP	P	15 08 28.5	-0.7
F04A	Amboy comp=Z,18nm,0.8s	94.71 350	eP	P	15 08 28.5	-0.7
S37A	Fort Scott baz=31	94.75 328	P	P	15 08 28.3	-1.3
T39A	Clever baz=32	94.76 327	P	P	15 08 28.7	-0.9
FXWY	Fox Creek comp=Z,30nm,1.4s	94.78 342	eP	P	15 08 28.6	-1.3
FXWY	Fox Creek comp=Z,30nm,1.4s	94.78 342	eP	P	15 08 28.6	-1.3
Y47A	UCPARC, Winfie baz=36,SNR=7.4	94.80 321	P	P	15 08 28.2	-1.7
R35A	Emporia Munici baz=30	94.82 329	P	P	15 08 29.0	-0.9
SNOW	Snow King Moun comp=Z,26nm,1.1s	94.88 342	eP	P	15 08 30.2	-0.2
SNOW	Snow King Moun comp=Z,26nm,1.1s	94.88 342	eP	P	15 08 30.2	-0.2
TPAW	Teton Pass comp=Z,45nm,1.3s	94.90 342	eP	P	15 08 29.6	-0.9
TPAW	Teton Pass comp=Z,45nm,1.3s	94.90 342	eP	P	15 08 29.6	-0.9
V42A	Cord baz=34	94.91 325	P	P	15 08 29.4	-0.9
BMO	Blue Mountains	94.96 347	eP	P	15 08 30.0	-0.5
BMO			pmax	pmax		
	comp=Z,9.0nm,1.1s					
BMO	Blue Mountains comp=Z,9.1nm,1.1s	94.96 347	eP	P	15 08 29.1	-1.4
BMO	Blue Mountains comp=Z,9.1nm,1.1s	94.96 347	eP	P	15 08 29.1	-1.4
BMO			LR	LR		
	comp=Z,1µm,20.0s					
REDW	Red Top Meadow comp=Z,48nm,1.4s	95.00 342	eP	P	15 08 31.2	+0.3
REDW	Red Top Meadow comp=Z,48nm,1.4s	95.00 342	eP	P	15 08 31.2	+0.3
OXF	Oxford	95.06 323	eP	P	15 08 30.6	-0.4
OXF			pmax	pmax		
	comp=Z,46nm,1.1s					
OXF	Oxford comp=Z,46nm,1.1s	95.06 323	eP	P	15 08 29.4	-1.7
OXF	Oxford comp=Z,46nm,1.1s	95.06 323	eP	P	15 08 29.4	-1.7
LRAL	Lakeview Retre comp=Z,92nm,1.6s	95.08 320	eP	P	15 08 30.0	-1.2
LRAL	Lakeview Retre comp=Z,92nm,1.6s	95.08 320	eP	P	15 08 30.0	-1.2
Z48A	Northport baz=36	95.08 321	P	P	15 08 29.8	-1.4
S36A	Lake Cedric, C baz=31	95.09 329	P	P	15 08 29.9	-1.3
U40A	Yellville baz=33	95.10 326	P	P	15 08 30.1	-1.2
X45A	UM Field Stati baz=35	95.12 323	P	P	15 08 30.0	-1.3
FITZ	Fitzroy Crossi comp=Z,8.6nm,0.8s	95.14 109	P	P	15 08 30.6	-0.9
G06A	Carlson Farm, comp=Z,64nm,1.9s	95.14 349	eP	P	15 08 30.5	-0.8
G06A	Carlson Farm, comp=Z,64nm,1.9s	95.14 349	eP	P	15 08 30.5	-0.8
T38A	Diamond baz=32,SNR=9.5	95.14 327	P	P	15 08 30.1	-1.3
W43A	Forest City baz=34	95.19 324	P	P	15 08 30.9	-0.7
BW06	Boulder Array baz=21,SNR=11	95.23 341	P	P	15 08 31.2	-0.7
BW06	Boulder Array comp=Z,13nm,1.1s	95.23 341	eP	P	15 08 31.1	-0.9
BW06	Boulder Array comp=Z,13nm,1.1s	95.23 341	eP	P	15 08 31.1	-0.9
BW06			LR	LR		
	comp=Z,1µm,20.0s					
PD31	Pinedale Array	95.23 341	eP	P	15 08 31.1	-0.9
PD31	Pinedale Array	95.23 341	eP	P	15 08 31.1	-0.9
PDAR	Pinedale Array comp=Z,5.6nm,1.0s,baz=38,slow=2.6,SNR=24	95.23 341	P	P	15 08 31.8	-0.2
PDAR			PP	PP	15 12 18.6	-2.2
	comp=Z,1.3nm,1.0s,baz=46,slow=11,SNR=3.7					
PDAR			PKKP	PKKPdf	15 25 23.0	-0.1
	comp=Z,0.9nm,0.6s,baz=175,slow=3.7,SNR=8.6					
PDAR			LR	LR	15 53 20.2	
	comp=Z,1µm,20.2s,baz=32,slow=37					
G05D	Wamic, OR baz=12	95.23 349	P	P	15 08 31.8	+0.1
R34A	Isabella, Hill baz=30,SNR=5.9	95.25 330	P	P	15 08 30.9	-1.0
V41A	Mountainview baz=33	95.27 325	P	P	15 08 30.8	-1.2
Y46A	Houston baz=35	95.31 322	P	P	15 08 30.6	-1.6
T37A	Cheneyville 18 baz=31	95.33 328	P	P	15 08 31.2	-1.0
U39A	Green Forest baz=32,SNR=7.3	95.35 327	P	P	15 08 31.3	-1.1
W42A	Bald Knob baz=34	95.41 325	P	P	15 08 31.9	-0.7
X44A	Crenshaw baz=34	95.42 323	P	P	15 08 31.8	-0.9
S35A	Otter Creek Ra baz=30	95.42 329	P	P	15 08 31.8	-0.9
PHWY	Pilot Hill comp=Z,15nm,0.8s	95.42 337	eP	P	15 08 32.2	-0.8
PHWY	Pilot Hill comp=Z,15nm,0.8s	95.42 337	eP	P	15 08 32.2	-0.8
Z47A	Carrollton baz=36	95.48 321	P	P	15 08 31.7	-1.3
G03D	McMinnville, O baz=10	95.53 351	P	P	15 08 32.3	-0.7
V40A	Witts Springs baz=33	95.55 326	P	P	15 08 32.1	-1.3
RWWY	Rawlins comp=Z,22nm,1.1s	95.59 338	eP	P	15 08 33.0	-0.7
RWWY	Rawlins comp=Z,22nm,1.1s	95.59 338	eP	P	15 08 33.0	-0.7
HLID	Hailey comp=Z,17nm,1.8s	95.63 344	eP	P	15 08 32.7	-1.0
HLID	Hailey comp=Z,17nm,1.8s	95.63 344	eP	P	15 08 32.7	-1.0
Y45A	Yeager Farm, C baz=35	95.65 322	P	P	15 08 32.8	-1.0
U38A	Gravette baz=32,SNR=7.1	95.69 327	P	P	15 08 32.5	-1.4
S34A	Willow Spring baz=30	95.72 330	P	P	15 08 33.0	-1.0
X43A	Marvell baz=34	95.74 324	P	P	15 08 33.4	-0.7
CBKS	Cedar Bluff baz=28	95.74 332	P	P	15 08 33.3	-0.9
CBKS	Cedar Bluff	95.74 332	eP	P	15 08 34.6	+0.4
CBKS			pmax	pmax		
	comp=Z,55nm,1.1s					
CBKS	Cedar Bluff comp=Z,55nm,1.1s	95.74 332	eP	P	15 08 33.6	-0.6
CBKS	Cedar Bluff comp=Z,55nm,1.1s	95.74 332	eP	P	15 08 33.6	-0.6
CBKS			LR	LR		
	comp=Z,1µm,21.0s					
T36A	Boggs Farm, Ca baz=31	95.78 329	P	P	15 08 33.3	-0.9
W41B	Gary Mavity, V baz=33	95.82 325	P	P	15 08 33.6	-0.9
V39A	Pettigrew baz=32	95.88 326	P	P	15 08 33.6	-1.3
Y44A	Strider, Charl baz=34	95.89 323	P	P	15 08 34.2	-0.6
Z46A	Louisville baz=35	95.91 322	P	P	15 08 34.2	-0.8
N23A	Red Feather La baz=23	95.94 337	P	P	15 08 35.3	0.0
N23A	Red Feather La comp=Z,18nm,1.1s	95.94 337	eP	P	15 08 34.8	-0.5
N23A	Red Feather La comp=Z,18nm,1.1s	95.94 337	eP	P	15 08 34.8	-0.5
147A	Livingston baz=36	96.00 321	P	P	15 08 34.3	-1.1
MTN	Manton Dam comp=Z,22nm,1.2s	96.02 102	eP	P	15 08 33.6	-2.0
MTN	Manton Dam comp=Z,22nm,1.2s	96.02 102	eP	P	15 08 33.6	-2.0
U37A	Salina baz=31,SNR=6.6	96.02 328	P	P	15 08 34.3	-1.1
X42A	Stuttgart baz=34	96.06 324	P	P	15 08 34.7	-0.9
MFID	Camas Ranch comp=Z,19nm,1.0s	96.06 345	eP	P	15 08 35.6	0.0
MFID	Camas Ranch comp=Z,19nm,1.0s	96.06 345	eP	P	15 08 35.6	0.0
Z45A	Winona baz=35	96.13 322	P	P	15 08 35.1	-0.9
T35A	Sooner Cattle baz=30	96.16 329	P	P	15 08 35.2	-0.8
W40A	Ferguson Farm, baz=32	96.17 326	P	P	15 08 35.0	-1.1
V38A	Canehill baz=32	96.19 327	P	P	15 08 35.0	-1.2
248A	Dixon Mills baz=36	96.21 320	P	P	15 08 35.6	-0.7
Y43A	Makayla and Ka baz=34	96.27 323	P	P	15 08 35.9	-0.7
U36A	Oologah baz=31	96.29 328	P	P	15 08 35.6	-1.0
SDDR	Presa de Saban comp=Z,27nm,0.9s	96.29 300	eP	P	15 08 36.7	-0.3
SDDR	Presa de Saban comp=Z,27nm,0.9s	96.29 300	eP	P	15 08 36.6	-0.3
T34A	Mcaskey Farm baz=30,SNR=7.9	96.34 329	P	P	15 08 36.3	-0.6
146A	Union baz=35	96.42 321	P	P	15 08 36.6	-0.7
V37A	Hulbert baz=31	96.48 327	P	P	15 08 36.3	-1.2
Z44A	Pea Ridge, Bel baz=34	96.56 323	P	P	15 08 37.0	-0.8
KSCO	Kaye Shedlock' baz=26	96.59 334	P	P	15 08 37.8	-0.4
BRAL	Brewton	96.60 319	PFAKE		15 08 50.0	+12
BRAL			LR	LR		
	comp=Z,602nm,20.0s					
247A	Quitman baz=36	96.67 321	P	P	15 08 38.1	-0.3
U35A	Pawnee baz=30	96.72 329	P	P	15 08 38.0	-0.5
TUL1	Leonard baz=31	96.73 328	P	P	15 08 37.8	-0.8
TUL1	Leonard comp=Z,22nm,1.0s	96.73 328	eP	P	15 08 37.9	-0.7
TUL1	Leonard comp=Z,22nm,1.0s	96.73 328	eP	P	15 08 37.9	-0.7
HWUT	Hardware Ranch comp=Z,51nm,1.8s	96.83 342	eP	P	15 08 39.9	+0.7
HWUT	Hardware Ranch comp=Z,51nm,1.8s	96.83 342	eP	P	15 08 39.9	+0.7
HWUT			LR	LR		
	comp=Z,1µm,22.0s					
348A	Jackson baz=36	96.84 320	P	P	15 08 39.1	-0.1
ISCO	Idaho Springs baz=24	96.85 337	P	P	15 08 38.8	-0.7
ISCO	Idaho Springs	96.85 337	eP	P	15 08 39.7	+0.2
ISCO			pmax	pmax		
	comp=Z,6.0nm,1.0s					
ISCO	Idaho Springs comp=Z,5.5nm,1.0s	96.85 337	eP	P	15 08 38.2	-1.3
ISCO	Idaho Springs comp=Z,5.5nm,1.0s	96.85 337	eP	P	15 08 38.2	-1.3
145A	Houston Renfro baz=35	96.87 322	P	P	15 08 38.7	-0.6
V36A	Jenks baz=31	96.90 328	P	P	15 08 38.5	-0.9
W38A	Poteau baz=32	96.91 327	P	P	15 08 38.6	-0.9
MIAR	Mount Ida baz=32,SNR=5.1	96.94 326	P	P	15 08 39.0	-0.6
MIAR	Mount Ida	96.94 326	eP	P	15 08 39.4	-0.2
MIAR			pmax	pmax		
	comp=Z,12nm,1.0s					
MIAR	Mount Ida comp=Z,12nm,1.0s	96.94 326	eP	P	15 08 38.5	-1.1
MIAR	Mount Ida comp=Z,12nm,1.0s	96.94 326	eP	P	15 08 38.5	-1.1
246A	Jackson Lee, B baz=35	96.96 321	P	P	15 08 39.3	-0.4
I03D	Drain, OR baz=10	97.03 351	P	P	15 08 39.6	-0.2
Y41A	Eaglette Beard baz=33	97.06 325	P	P	15 08 39.4	-0.7
144A	Alexander Plac baz=34	97.08 322	P	P	15 08 39.7	-0.5
J05D	Fort Rock, OR baz=12	97.14 349	P	Pdif	15 08 40.6	0.0
347A	Saraland baz=36,SNR=6.6	97.17 320	P	P	15 08 40.5	-0.2
448A	Bay Minette baz=36	97.20 320	P	Pdif	15 08 41.1	+0.2
W37B	Quinton baz=31	97.24 327	P	P	15 08 39.6	-1.3
TCUT	Toone Canyon comp=Z,24nm,1.0s	97.25 341	eP	P	15 08 40.6	-0.6
TCUT	Toone Canyon comp=Z,24nm,1.0s	97.25 341	eP	P	15 08 40.6	-0.6
Y40A	Okolona baz=32	97.26 325	P	P	15 08 40.5	-0.6
Z42A	Norrel Spur, H baz=33	97.27 324	P	P	15 08 40.3	-0.8
V35A	Meyer Ranch, C baz=30	97.28 329	P	P	15 08 39.4	-1.7
J04D	Umpqua Nationa baz=11	97.31 350	P	P	15 08 40.9	-0.5
O20A	White River Ci baz=22	97.32 339	P	P	15 08 40.8	-0.7
O20A	White River Ci comp=Z,11nm,1.0s	97.32 339	eP	P	15 08 40.6	-0.9
O20A	White River Ci comp=Z,11nm,1.0s	97.32 339	eP	P	15 08 40.6	-0.9
245A	Little AP, Sta baz=35	97.32 322	P	P	15 08 40.9	-0.4
X38A	Whitesboro baz=31	97.38 327	P	P	15 08 41.2	-0.4
Q24A	Divide baz=24	97.46 336	P	P	15 08 41.5	-0.8
Q24A	Divide comp=Z,17nm,1.4s	97.46 336	eP	P	15 08 41.5	-0.8
Q24A	Divide comp=Z,17nm,1.4s	97.46 336	eP	P	15 08 41.5	-0.8
VBMS	Vicksburg baz=34	97.47 322	P	P	15 08 41.3	-0.8
WVOR	Wild Horse Val	97.54 347	eP	Pdif	15 08 43.1	+0.7
WVOR			pmax	pmax		
	comp=Z,15nm,1.3s					
WVOR	Wild Horse Val comp=Z,15nm,1.3s	97.54 347	eP	P	15 08 41.8	-0.5
WVOR	Wild Horse Val comp=Z,15nm,1.3s	97.54 347	eP	P	15 08 41.8	-0.5
W36A	Wetumka baz=30	97.57 328	P	P	15 08 42.2	-0.2
U32A	Winter Ranch, baz=28	97.61 330	P	P	15 08 41.7	-1.0
346A	Big Creek Wild baz=35	97.64 321	P	P	15 08 42.5	-0.3
Y39A	Lockesburg baz=32	97.68 326	P	P	15 08 42.3	-0.7
X37A	Clayton baz=31	97.68 327	P	P	15 08 42.4	-0.5
244A	Avery, Jackson baz=34	97.69 322	P	P	15 08 42.4	-0.7
447A	Lucedale baz=36	97.72 320	P	Pdif	15 08 43.2	0.0
W35A	Tecumseh baz=30	97.83 328	P	P	15 08 43.1	-0.5
SMCO	Snowmass comp=Z,8.2nm,0.8s	97.83 337	eP	P	15 08 44.0	-0.1
SMCO	Snowmass comp=Z,8.2nm,0.8s	97.83 337	eP	P	15 08 44.0	-0.1
K04D	Chiloquin, OR baz=11	97.86 349	P	P	15 08 43.4	-0.4
142A	Monroe baz=33	97.87 323	P	P	15 08 43.5	-0.3
Z40A	Long Farm, Mag baz=32	97.94 325	P	P	15 08 43.5	-0.6
Y38A	Idabel baz=32	97.97 326	P	P	15 08 43.1	-1.1
345A	Thompson Farm, baz=35	97.98 321	P	P	15 08 42.6	-1.7
446A	Poplarville baz=35	98.07 321	P	P	15 08 44.0	-0.8
GTBY	Guantanamo Bay	98.16 304	PFAKE		15 09 00.0	+15
GTBY			LR	LR		
	comp=Z,805nm,21.0s					
344A	Westbrook Farm baz=34	98.20 322	P	P	15 08 44.5	-0.8
243A	Waterproof baz=34	98.21 323	P	P	15 08 44.6	-0.8
141A	Papa Simpson, baz=33	98.27 324	P	P	15 08 44.5	-1.1
Y37A	Hugo baz=31	98.31 327	P	P	15 08 45.0	-0.7
MOD	Modoc Plateau comp=Z,21nm,1.5s	98.34 348	eP	Pdif	15 08 46.5	+0.5
MOD	Modoc Plateau comp=Z,21nm,1.5s	98.34 348	eP	Pdif	15 08 46.5	+0.5
P18A	Preston Nutter comp=Z,15nm,0.3s	98.35 340	eP	P	15 08 45.6	-0.7
P18A	Preston Nutter comp=Z,15nm,0.3s	98.35 340	eP	P	15 08 45.6	-0.7
242A	Grayson baz=33	98.37 323	P	P	15 08 45.3	-0.8
DUG	Dugway, Tooele baz=18	98.47 342	P	Pdif	15 08 46.6	0.0
DUG	Dugway, Tooele	98.47 342	eP	Pdif	15 08 47.7	+1.1
DUG			pmax	pmax		
	comp=Z,21nm,1.3s					
DUG	Dugway, Tooele comp=Z,21nm,1.4s	98.47 342	eP	Pdif	15 08 46.7	+0.1
DUG	Dugway, Tooele comp=Z,21nm,1.4s	98.47 342	eP	Pdif	15 08 46.7	+0.1
DUG			LR	LR		
	comp=Z,1µm,19.0s					
ELK	Elko comp=Z,3.1nm,0.9s,baz=66,slow=4.5,SNR=11	98.50 344	P	Pdif	15 08 48.2	+1.4
NLU	North Lily Min comp=Z,8.0nm,1.2s	98.51 341	eP	Pdif	15 08 47.4	+0.5
NLU	North Lily Min comp=Z,8.0nm,1.2s	98.51 341	eP	Pdif	15 08 47.4	+0.5
X35A	Drake baz=30	98.52 328	P	P	15 08 46.2	-0.6
445A	Amite baz=34	98.60 321	P	Pdif	15 08 47.5	+0.3
Z38A	Mt. Pleasant baz=31	98.65 326	P	P	15 08 47.0	-0.3
NWAO	Narrogin (SRO) comp=Z,490nm,21.1s,baz=208,slow=33	98.76 125	LR	LR	15 49 19.8	
343A	Vidalia baz=34	98.77 322	P	Pdif	15 08 48.0	+0.1
T25A	Trinidad baz=25	98.88 335	P	P	15 08 48.2	-0.4
SRU	San Rafael Swe	98.91 340	eP	Pdif	15 08 49.0	+0.4
SRU			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SRU	San Rafael Swe comp=Z,9.9nm,1.0s	98.91 340	eP	P	15 08 48.6	0.0
SRU	San Rafael Swe comp=Z,9.9nm,1.0s	98.91 340	eP	P	15 08 48.6	0.0
TMUT	Trail Mountain comp=Z,12nm,0.9s	98.91 340	eP	P	15 08 48.7	-0.1
TMUT	Trail Mountain comp=Z,12nm,0.9s	98.91 340	eP	P	15 08 48.7	-0.1
WMOK	Wichita Mounta baz=29	98.96 329	P	P	15 08 48.4	-0.3
WMOK	Wichita Mounta	98.96 329	eP	P	15 08 48.6	-0.1
WMOK			pmax	pmax		
	comp=Z,29nm,1.9s					
WMOK	Wichita Mounta comp=Z,29nm,1.9s	98.96 329	eP	P	15 08 47.3	-1.4
WMOK	Wichita Mounta comp=Z,29nm,1.9s	98.96 329	eP	P	15 08 47.3	-1.4
MHTCO	State Highway comp=Z,11nm,1.0s	98.98 335	eP	P	15 08 48.4	-0.6
MHTCO	State Highway comp=Z,11nm,1.0s	98.98 335	eP	P	15 08 48.4	-0.6
S22A	4UR Ranch, Cre baz=23	99.11 337	P	Pdif	15 08 49.0	-0.7
S22A	4UR Ranch, Cre comp=Z,9.8nm,1.4s	99.11 337	eP	Pdif	15 08 49.3	-0.4
S22A	4UR Ranch, Cre comp=Z,9.8nm,1.4s	99.11 337	eP	Pdif	15 08 49.3	-0.4
PV04	Paradox Valley	99.13 338	eP	Pdif	15 08 49.9	+0.3
PV04	Paradox Valley	99.13 338	eP	Pdif	15 08 49.9	+0.3
240A	Hunter Patters baz=32	99.13 324	P	Pdif	15 08 49.5	0.0
M02C	Callahan baz=11	99.23 350	P	Pdif	15 08 48.8	-1.0
Q16A	Castle Valley comp=Z,17nm,1.0s	99.26 340	eP	Pdif	15 08 50.0	-0.2
Q16A	Castle Valley comp=Z,17nm,1.0s	99.26 340	eP	Pdif	15 08 50.0	-0.2
Z36A	Blue Ridge baz=30	99.26 327	P	Pdif	15 08 49.5	-0.6
341A	Kurthwood baz=33	99.45 324	P	Pdif	15 08 50.6	-0.3
239A	Gary baz=32	99.47 325	P	Pdif	15 08 50.6	-0.4
137A	Heron Place, G baz=31	99.55 326	P	Pdif	15 08 50.9	-0.5
N02D	Trinity Center baz=11	99.62 350	P	Pdif	15 08 51.8	+0.2
340A	Bronson baz=32	99.72 324	P	Pdif	15 08 51.7	-0.4
238A	Jacksonville baz=31	99.77 325	P	Pdif	15 08 52.1	-0.3
AMTX	Amarillo baz=27	99.94 332	P	Pdif	15 08 51.9	-1.3
441A	DeRidder baz=33	99.95 323	P	Pdif	15 08 52.9	-0.2
136A	Ennis baz=30	99.99 327	P	Pdif	15 08 52.6	-0.7
237A	Washetta, Mont baz=31	100.08 326	P	Pdif	15 08 53.2	-0.5
339A	Huntington baz=32	100.09 325	P	Pdif	15 08 53.5	-0.2
439A	Center Grove, baz=32	100.64 324	P	Pdif	15 08 56.3	0.0
337A	Centerville baz=31	100.70 326	P	Pdif	15 08 55.8	-0.7
R11A	Troy Canyon, C baz=16	100.87 343	P	Pdif	15 08 57.4	0.0
BDFB	Brasilia comp=Z,6.1nm,0.9s,baz=218,slow=9.5,SNR=5.3	100.88 259	PP	PP	15 13 02.4	-3.4
PTGA	Pitinga comp=Z,6.0nm,1.0s,baz=29,slow=7.7,SNR=6.9	101.04 278	PP	PP	15 13 03.2	-3.4
MSTX	Muleshoe baz=26	101.16 332	P	Pdif	15 08 58.0	-0.7
ANMO	Albuquerque baz=23	101.56 335	P	Pdif	15 08 59.5	-1.0
ANMO	Albuquerque	101.56 335	⇑iP	Pdif	15 09 02.1	+1.6
ANMO			pmax	pmax		
	comp=Z,2.0nm,1.3s					
ANMO	Albuquerque	101.56 335	PFAKE		15 09 10.0	+9.5
ANMO			LR	LR		
	comp=Z,1µm,20.0s					
W18A	Petrified Fore baz=21	102.42 338	P	Pdif	15 09 04.3	0.0
WUAZ	Wupatki baz=20	102.51 339	P	Pdif	15 09 04.7	0.0
GRAC	Grapevine Rang baz=15	102.55 345	P	Pdif	15 09 04.9	+0.1
WRA	Warramunga Arr comp=Z,4.3nm,1.3s,baz=324,slow=4.1,SNR=5.2	102.76 105	P	Pdif	15 09 05.8	+0.1
WRA			PP	PP	15 13 16.3	-3.5
	comp=Z,6.2nm,1.3s,baz=321,slow=7.1,SNR=4.7					
CWC	Cottonwood Cre baz=14	103.24 345	P	Pdif	15 09 07.3	-0.6
TUQ	Turquoise Moun baz=16	103.74 343	P	Pdif	15 09 09.9	-0.2
ISA	Isabella, Lake baz=14	104.07 345	P	Pdif	15 09 10.2	-1.3
MNTX	Cornudas Mount baz=24	104.15 333	P	Pdif	15 09 11.5	-0.3
MNTX	Cornudas Mount comp=Z,5.3nm,1.2s	104.15 333	eP	Pdif	15 09 11.8	-0.1
MNTX	Cornudas Mount comp=Z,5.3nm,1.2s	104.15 333	eP	Pdif	15 09 11.8	-0.1
121A	Cookes Peak, D baz=23	104.20 335	P	Pdif	15 09 12.1	-0.2
PDMCI	Parker Dam,Lak baz=18	104.39 341	P	Pdif	15 09 13.6	+0.8

HEC	Hector,Ludlow	104.41 343	P	Pdif	15 09 13.3	+0.3
	baz=16					
ASAR	Alice Springs	104.64 109	Pdiff	Pdif	15 09 12.8	-1.3
	comp=Z,1.5nm,1.0s,baz=313,slow=4.1,SNR=8.2					
ASAR			PP	PKiKP	15 13 23.4	-6.3
	comp=Z,1.5nm,1.1s,baz=327,slow=8.3,SNR=5.0					
EDW2	Edwards Air Fo	104.72 344	P	Pdif	15 09 14.4	0.0
	baz=15					
IRM	Iron Mountain	104.77 342	P	Pdif	15 09 14.0	-0.6
	baz=17					
833A	Chaparral WMA,	104.81 327	P	Pdif	15 09 15.0	+0.2
	baz=29					
TXAR	Lajitas Array	105.65 331	Pdiff	Pdif	15 09 18.9	+0.2
	comp=Z,0.6nm,0.9s,baz=347,slow=3.9,SNR=3.9					
BCIP	Isla Barro Col	109.06 299	PFAKE		15 13 50.0	
BCIP			LR	LR		
	comp=Z,377nm,19.0s					
CTAO	Charters Tower	111.94 99	PFAKE		15 13 50.0	
CTAO			LR	LR		
	comp=Z,675nm,19.0s					
STKA	Stephens Creek	114.85 112	PKP	PKPdf	15 13 47.2	-1.5
	comp=Z,2.9nm,0.8s,baz=337,slow=4.7,SNR=5.5					
SNAA	Sanae	114.95 195	PKP	PKPdf	15 13 47.0	-0.7
SNAA	Sanae	114.95 195	PKP	PKPdf	15 13 47.0	-0.8
	comp=Z,9.5nm,1.1s,baz=47,slow=5.6,SNR=13					
SNAA	Sanae	114.95 195	*e*PKPdf	PKPdf	15 13 46.3	-1.4
VNA1	Neumayer--Stat	115.33 197	PKP	**PKPdf**	15 13 48.1	-0.3
VNA2	Neumayer--Watz	115.33 196	PKP	**PKPdf**	15 13 47.6	-0.9
	baz=259,slow=4.3					
VNA3	Neumayer Olymp	116.08 197	PKP	**PKPdf**	15 13 49.0	-0.9
LPAZ	La Paz	116.88 270	PKP	**PKPdf**	15 13 52.8	-1.0
	comp=Z,1.8nm,1.0s,baz=48,slow=9.1,SNR=3.6					
LPAZ			PP	**PP**	15 14 59.8	-2.9
	comp=Z,2.3nm,0.9s,baz=30,slow=8.2,SNR=3.5					
LPAZ			PKKPab	**PKKPab**	15 24 24.4	+1.1
	comp=Z,2.5nm,1.1s,baz=273,slow=4.0,SNR=4.6					
LVC	Limon Verde	121.01 265	PKP	**PKPdf**	15 14 01.0	-0.3
	comp=Z,27nm,0.9s,baz=93,slow=15,SNR=3.2					
CAN	Canberra	121.92 112	PFAKE		15 14 10.0	+7.7
CAN			LR	LR		
	comp=Z,1μm,20.0s					
LCO	Las Campanas	125.66 259	*e*PKIKP	**PKPdf**	15 14 09.1	-0.8
LCO	Las Campanas	125.66 259	*e*PKPdf	**PKPdf**	15 14 09.1	-0.8
DZM	Mont Dzumac	128.76 88	PKP	**PKPdf**	15 14 16.6	+0.8
	comp=Z,16nm,1.1s,baz=132,slow=5.7,SNR=4.1					
DZM	Mont Dzumac	128.76 88	*e*PKIKP	**PKPdf**	15 14 15.3	-0.5
DZM	Mont Dzumac	128.76 88	*e*PKPdf	**PKPdf**	15 14 15.3	-0.5
PLCA	Paso Flores	130.46 246	PKP	**PKPdf**	15 14 18.2	-0.3
	comp=Z,22nm,1.1s,baz=98,slow=5.7,SNR=15					
PLCA	Paso Flores	130.46 246	*e*PKIKP	**PKPdf**	15 14 17.6	-0.8
PLCA	Paso Flores	130.46 246	*e*PKPdf	**PKPdf**	15 14 17.6	-0.8
VNDA	Vanda	133.60 165	PKP	**PKPdf**	15 14 21.9	-1.4
	comp=Z,1.9nm,1.0s,baz=280,slow=4.4,SNR=6.8					
SBA	Scott Base	134.47 166	*e*PKIKP	**PKPdf**	15 14 24.3	-0.5
SBA	Scott Base	134.47 166	*e*PKIKP	**PKPdf**	15 14 24.1	-0.7
SBA	Scott Base	134.47 166	*e*PKPdf	**PKPdf**	15 14 24.1	-0.7
RPZ	Rata Peaks	140.73 115	PKP	**PKPdf**	15 14 37.9	+0.6
	comp=Z,32nm,1.0s,baz=45,slow=2.9,SNR=3.8					
RPZ	Rata Peaks	140.73 115	*e*PKIKP	**PKPdf**	15 14 38.0	+0.6
BKZ	Black Stump Fm	143.69 106	*e*PKPpre	PKPpre	15 14 37.3	
BFZ	Birch Farm	143.87 108	*e*PKPpre	PKPpre	15 14 38.7	
URZ	Urewera	143.92 104	PKhKP	PKPpre	15 14 38.5	
	comp=Z,87nm,0.9s,baz=342,slow=3.9,SNR=33					
URZ	Urewera	143.92 104	*e*PKPpre	PKPpre	15 14 38.2	

*CSEM **25** 15:00:20.6±0.5, 38°.83N×43°.51E, h5km, ML3.8, Error ellipse: s-maj=16.4km s-min=8.0km az=80.0*
*ISCJB **25** 15:00:21.8±0.9, 38°.88N±0°.03×43°.56E±0°.07, h9km±6km, Error ellipse: s-maj=9.6km s-min=4.0km az=170.4*
*DDA **25** 15:00:21.4, 38°.88N×43°.53E, h7km, Md3.1*
*ISK **25** 15:00:21.0, 38°.74N×43°.16E, h5km, ML3.8*
ISC 25 15:00:19.5±1.6, 38°.85N±0°.02×43°.51E±0°.05, h1km±13km, n24, σ1§11/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.27	200	*e*PG	Pb	15 00 27.6	+0.4
VANB				*e*SG	Sb	15 00 33.5	+1.2
VANB	Van	0.27	200	*e*Pg	Pb	15 00 27.6	+0.4
VANB				*e*Sg	Sb	15 00 33.5	+1.2
GEVA	Gevas	0.64	213	*i* P	Pb	15 00 33.9	+0.3
GEVA				*i* S	Sn	15 00 46.0	-0.8
GEVA	Gevas	0.64	213	P	Pb	15 00 33.9	+0.3
GEVA				S	Sn	15 00 46.0	-0.8
DYDN	Diyadin	0.71	12	*i* P	Pb	15 00 34.5	-0.4
DYDN				*i* S	Sb	15 00 44.8	-0.5
DYDN	Diyadin	0.71	12	P	Pb	15 00 34.5	-0.4
DYDN				S	Sb	15 00 44.8	-0.5
TUTA	Tutak	0.77	316	*i* P	Pb	15 00 35.7	-0.2
TUTA				*i* S	Sb	15 00 47.3	+0.2
TUTA	Tutak	0.77	316	P	Pb	15 00 35.7	-0.2
TUTA				S	Sb	15 00 47.3	+0.2
AGRB	Hanur-Agry	0.83	332	*e*PG	Pn	15 00 38.3	-0.3
AGRB				*e*SG	Sn	15 00 51.3	-0.3
AGRB	Hanur-Agry	0.83	332	*e*Pg	Pn	15 00 38.3	-0.3
BASK	Baskale_VAN	0.88	153	*i* P	Pb	15 00 37.4	-0.4
BASK				*i* S	Sn	15 00 52.7	-0.2
BASK	Baskale_VAN	0.88	153	P	Pb	15 00 37.4	-0.4
BASK				S	Sn	15 00 52.7	-0.2
EATA	Eleskirt	1.28	323	*i* P	Pn	15 00 46.6	+1.7
EATA				*i* S	Sn	15 01 05.4	+2.4
EATA	Eleskirt	1.28	323	P	Pn	15 00 46.6	+1.7
HAKT	HAKKARI	1.29	173	*i* P	Pg	15 00 44.1	-0.2
HAKT				*i* S	Sn	15 01 05.1	+2.0
HAKT	HAKKARI	1.29	173	P	Pg	15 00 44.1	-0.2
CUKT	Cukurca	1.60	177	*e*PN	Pg	15 00 51.1	+1.0
VRTB	Varto-Mus	1.63	282	*e*PN	Pn	15 00 48.4	-1.1
VRTB	Varto-Mus	1.63	282	*e*Pn	Pn	15 00 48.4	-1.1
SENK	Senkaya-Erzuru	1.93	333	*e*PN	Pg	15 00 56.9	+0.4
SVAN	Silvan-Diyarba	1.94	250	*e*PN	Pn	15 00 52.3	-1.4
SVAN	Silvan-Diyarba	1.94	250	*e*Pn	Pn	15 00 52.3	-1.4
BNGB	Bing˜¶l	2.21	275	*e*PN	Pn	15 00 56.3	-1.1
BINT	Bingol	2.35	272	*e*Pn	Pn	15 00 56.3	-3.2

*DDA **25** 15:02:16.5, 38°.78N×43°.27E, h7km, Md3.0*
*ISCJB **25** 15:02:17.6±0.9, 38°.84N±0°.03×43°.77E±0°.06, h3km±6km, Error ellipse: s-maj=8.4km s-min=4.6km az=164.3*
*ISK **25** 15:02:17.2, 38°.85N×43°.68E, h5km, ML3.7*
*CSEM **25** 15:02:17.5±0.5, 38°.93N×43°.81E, h5km, ML3.7, Error ellipse: s-maj=11.3km s-min=6.0km az=72.0*
ISC 25 15:02:16.1±1.4, 38°.85N±0°.03×43°.70E±0°.04, h5km±11km, n27, σ1§93/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.35	224	*e*PG	Pb	15 02 25.9	+1.0
VANB				*e*SG	Sb	15 02 32.0	+1.2
VANB	Van	0.35	224	*e*Pg	Pb	15 02 25.9	+1.0
VANB				*e*Sg	Sb	15 02 32.0	+1.2
DYDN	Diyadin	0.70	359	*i* P	Pg	15 02 29.2	-0.3
DYDN				*i* S	Sn	15 02 44.2	0.0
DYDN	Diyadin	0.70	359	P	Pg	15 02 29.2	-0.3
GEVA	Gevas	0.73	223	*i* P	Pg	15 02 26.5	-3.6
GEVA				*i* S	Sb	15 02 41.4	-0.5
BASK	Baskale_VAN	0.83	163	*i* P	Pn	15 02 36.0	+1.3
BASK				*i* S	Sb	15 02 45.2	+0.5
BASK	Baskale_VAN	0.83	163	P	Pn	15 02 36.0	+1.3
BASK				S	Sb	15 02 45.2	+0.5
TUTA	Tutak	0.88	309	*i* P	Pg	15 02 30.1	-3.0
TUTA				*i* S	Sg	15 02 41.4	-3.2
TUTA	Tutak	0.88	309	P	Pg	15 02 30.1	-3.0
AGRB	Hanur-Agry	0.91	323	*e*PG	Pg	15 02 34.7	+1.1
AGRB				*e*SG	Sn	15 02 49.1	-0.4
AGRB	Hanur-Agry	0.91	323	*e*Pg	Pg	15 02 34.7	+1.1
AGRB				*e*Sg	Sn	15 02 49.1	-0.4
HAKT	HAKKARI	1.29	180	*i* P	Pn	15 02 39.0	-2.0
HAKT				*i* S	Sb	15 02 57.3	-0.6
HAKT	HAKKARI	1.29	180	P	Pn	15 02 39.0	-2.0
HAKT				S	Sb	15 02 57.3	-0.6
EKAR	Karacoban	1.34	288	*i* P	Pg	15 02 44.5	+2.8
EKAR				*i* S	Sg	15 03 03.2	+4.2
EKAR	Karacoban	1.34	288	P	Pg	15 02 44.5	+2.8
EKAR				S	Sg	15 03 03.2	+4.2
CUKT	Cukurca	1.60	183	*e*PN	Pg	15 02 47.7	+1.0
CUKT	Cukurca	1.60	183	*e*Pn	Pg	15 02 47.7	+1.0
VRTB	Varto-Mus	1.77	281	*e*PN	Pb	15 02 50.2	+1.0
VRTB	Varto-Mus	1.77	281	*e*Pn	Pb	15 02 50.2	+1.0
SVAN	Silvan-Diyarba	2.08	251	*e*PN	Pb	15 02 55.0	+0.6
SVAN				*e*SN	Sg	15 03 22.0	-0.9
SVAN	Silvan-Diyarba	2.08	251	*e*Pn	Pb	15 02 55.0	+0.6
SVAN				*e*Sn	Sg	15 03 22.0	-0.9
BNGB	Bing˜¶l	2.36	274	*e*PN	Pb	15 02 58.5	-0.7
BINT	Bingol	2.50	272	*e*PN	Pn	15 02 58.5	+0.8
YEDI	Yedisu-Bingol	2.52	285	*e*PN	Pb	15 03 00.4	-1.6
YEDI	Yedisu-Bingol	2.52	285	*e*Pn	Pb	15 03 00.4	-1.6
PTK	Pertek	3.36	272	*e*PN	Pb	15 03 13.4	-2.9
PTK	Pertek	3.36	272	*e*Pn	Pb	15 03 13.4	-2.9

*DDA **25** 15:05:24.1, 38°.85N×43°.57E, h8km, Ml4.0*
*ISK **25** 15:05:24.6, 38°.86N×43°.49E, h5km, ML4.1*
*AZER **25** 15:05:24.1±2.7, 38°.25N×43°.47E, h19km±67km, Error ellipse: s-maj=68.1km s-min=17.1km az=55.0*
*IDC **25** 15:05:25.8±0.8, 38°.98N×43°.52E, h0km, mb3.8/12, mb1 3.8/15, mb1mx3.6/77, mbtmp3.8/15, ML3.9/2, Error ellipse: s-maj=14.8km s-min=11.0km az=149.0*
*CSEM **25** 15:05:26.6±0.2, 38°.83N×43°.44E, h2km, ML4.0, Error ellipse: s-maj=6.0km s-min=4.8km az=134.0*
ISC 25 15:05:26.1±1.0, 38°.85N±0°.02×43°.48E±0°.02, h6km±7km, n108, σ1§95/136, mb3.8/10, 13C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.16	26	*i* P	Pg	15 05 27.1	-2.3
VANB	Van	0.26	196	*e*PG	Pg	15 05 31.6	+0.3
VANB				*e*SG	Sg	15 05 38.7	+3.9
VANB	Van	0.26	196	*e*Pg	Pg	15 05 31.6	+0.3
VANB				*e*Sg	Sg	15 05 38.7	+3.9
GEVA	Gevas	0.63	212	⇑*i* P	Pg	15 05 36.5	-1.8
GEVA	Gevas	0.63	212	P	Pg	15 05 36.5	-1.8
DYDN	Diyadin	0.71	13	*i* P	Pg	15 05 37.0	-2.8
DYDN				*i* S	Sg	15 05 44.6	-4.5
TUTA	Tutak	0.76	317	*i* P	Pg	15 05 39.3	-1.4
TUTA				*i* S	Sg	15 05 51.5	+0.9
TUTA	Tutak	0.76	317	P	Pg	15 05 39.3	-1.4
TUTA				S	Sg	15 05 51.5	+0.9
AGRB	Hanur-Agry	0.82	332	*e*PG	Pg	15 05 40.7	-1.2
AGRB				*e*SG	Sg	15 05 53.2	+0.6
AGRB	Hanur-Agry	0.82	332	*e*Pg	Pg	15 05 40.7	-1.2
AGRB				*e*Sg	Sg	15 05 53.2	+0.6
BASK	Baskale_VAN	0.89	153	*i* P	Pg	15 05 41.3	-1.9
EKAR	Karacoban	1.18	291	*i* P	Pn	15 05 49.0	-0.4
EKAR	Karacoban	1.18	291	P	Pn	15 05 49.0	-0.4
EATA	Eleskirt	1.27	323	*i* P	Pn	15 05 48.5	-2.3
HAKT	HAKKARI	1.30	172	*i* P	Pn	15 05 48.2	-2.9
HAKT				*i* S	Sn	15 06 08.8	-0.1
DIGO	Kars	1.57	357	*i* P	Pn	15 05 53.8	-0.9
DIGO	Kars	1.57	357	P	Pn	15 05 53.8	-0.9
SIRN	S¨–rnak	1.59	212	*i* P	Pn	15 05 54.8	-0.1
SIRN				*i* S	Sg	15 06 17.9	+0.6
SIRN	S¨–rnak	1.59	212	P	Pn	15 05 54.8	-0.1
SIRN				S	Sg	15 06 17.9	+0.6
NAX	Nakhchivan	1.60	78	⇑P	Pn	15 05 54.5	-0.5
NAX				⇑S	Sb	15 06 17.9	+1.3
NAX	Nakhchivan	1.60	78	P	Pn	15 05 54.5	-0.5
NAX				S	Sb	15 06 17.9	+1.3
CUKT	Cukurca	1.60	176	*e*PN	Pb	15 05 55.5	-0.7
CUKT				*e*SN	Sg	15 06 18.1	+0.5
CUKT	Cukurca	1.60	176	*i* P	Pn	15 05 54.8	-0.3
CUKT				*i* S	Sg	15 06 20.5	+2.9
CUKT	Cukurca	1.60	176	P	Pn	15 05 54.8	-0.3
CUKT	Cukurca	1.60	176	*e*Pn	Pb	15 05 55.5	-0.7
CUKT				*e*Sn	Sg	15 06 18.1	+0.5
VRTB	Varto-Mus	1.61	282	*e*PN	Pb	15 05 55.9	-0.4
VRTB				*e*SN	Sg	15 06 18.5	+0.6
VRTB	Varto-Mus	1.61	282	*i* P	Pb	15 05 56.0	-0.4
VRTB	Varto-Mus	1.61	282	*e*Pn	Pb	15 05 55.9	-0.4
VRTB				*e*Sn	Sg	15 06 18.5	+0.6
GNI	Garni	1.62	36	Pn	Pn	15 05 54.3	-1.2
	77nm,0.3s,baz=283,slow=4.2,SNR=23						
GNI				Lg	Lg	15 06 16.1	
	59nm,0.3s,baz=163,slow=21,SNR=4.8						
HOMI	Horasan	1.71	315	*i* P	Pn	15 05 57.3	+0.6
HOMI				*i* S	Sg	15 06 28.3	+7.3
BNGL	BINGOL	1.82	274	*i* P	Pb	15 05 59.6	-0.4
EAK	Akyaka	1.84	3	*i* P	Pb	15 05 60.0	-0.3
EAK	Akyaka	1.84	3	P	Pb	15 06 00.0	-0.3
SVAN	Silvan-Diyarba	1.92	249	*e*PN	Pb	15 06 00.3	-1.3
SVAN				*e*SN	Sb	15 06 25.2	-0.7
SVAN	Silvan-Diyarba	1.92	249	⇓*i* P	Pb	15 06 01.2	-0.4
SVAN				*i* S	Sg	15 06 27.4	-0.5
SVAN	Silvan-Diyarba	1.92	249	*e*Pn	Pb	15 06 00.3	-1.3
SVAN	Silvan-Diyarba	1.92	249	P	Pb	15 06 01.2	-0.4
SVAN				*e*Sn	Sb	15 06 25.2	-0.7
ERZM	Erzurum	1.95	303	*i* P	Pb	15 06 01.0	-1.2
ERZM	Erzurum	1.95	303	P	Pb	15 06 01.0	-1.2
BTMN	Batman	1.99	242	*i* P	Pn	15 06 00.9	+0.6
BTMN				*i* S	Sg	15 06 29.3	-0.6
BTMN	Batman	1.99	242	P	Pn	15 06 00.9	+0.6
ECAT	Cat-ERZURUM	2.09	292	*i* P	Pb	15 06 03.3	-1.3
ECAT	Cat-ERZURUM	2.09	292	P	Pb	15 06 03.3	-1.3
BNGB	Bing˜¶l	2.19	275	*e*PN	Pn	15 06 03.8	+0.6
BINT	Bingol	2.34	272	*e*Pn	Pn	15 06 03.8	-1.4
DDEM	Demirkent	2.44	327	*i* P	Pb	15 06 10.7	+0.3
AKH	Akhalkalaki	2.56	0	*e*PN	Pn	15 06 09.1	+0.8
AKH	Akhalkalaki	2.56	0	P	Pb	15 06 12.3	-0.2
AKH				S	Sg	15 06 48.7	+0.4
AKH	Akhalkalaki	2.56	0	*e*Pn	Pn	15 06 09.1	+0.8
GDB	GEDABAY	2.56	42	⇑P	Pn	15 06 10.8	+2.5
GDB				⇓S	Sg	15 06 47.8	-0.6
GDB	GEDABAY	2.56	42	P	Pn	15 06 10.8	+2.5
KOPT	Kop Dagi	2.59	298	*i* P	Pb	15 06 11.3	-1.8
KOPT	Kop Dagi	2.59	298	P	Pb	15 06 11.3	-1.8
ARTV	Artvin	2.62	333	*i* P	Pb	15 06 14.7	+1.0
MARD	Mardin	2.63	235	*i* P	Pn	15 06 09.5	+0.3
QZX	Qazax, Azerbai	2.64	33	⇑P	Pb	15 06 32.3	-1.5
QZX				⇑S	Sg	15 06 52.0	+1.1
QZX	Qazax, Azerbai	2.64	33	P	Pb	15 06 12.3	-1.5
EPOS	Posof	2.71	348	*i* P	Pb	15 06 14.5	-0.6
MAZI	Mazidag	2.77	241	*e*PN	Pn	15 06 12.2	+1.1
MAZI	Mazidag	2.77	241	*e*Pn	Pn	15 06 12.2	+1.1
DIYA	Diyarbakir	2.80	252	*i* P	Pb	15 06 15.5	-1.0
GANJ	Ganja	2.83	50	⇑P	Pn	15 06 13.4	+1.5
GANJ	Ganja	2.83	50	P	Pn	15 06 13.4	+1.5
DGRG	David-gareji	2.98	29	P	Pb	15 06 18.5	-1.0
DGRG				S	Sg	15 07 10.0	+8.4
ERZN	Erzincan	3.01	285	*e*PN	Pn	15 06 15.8	+1.3
TBLG	Delisi	3.03	18	*e*PN	Pn	15 06 16.2	+1.5
TBLG	Delisi	3.03	18	P	Pb	15 06 19.3	-1.3
TBLG				S	Sg	15 07 04.0	+0.4
TBLG	Delisi	3.03	18	*e*Pn	Pn	15 06 16.2	+1.5
TBLG	Delisi	3.03	18	P	Pb	15 06 19.3	-1.3
BRDA	Brd	3.19	63	⇓P	Pn	15 06 16.6	-0.1
BRDA	Brd	3.19	63	P	Pn	15 06 16.6	-0.1
PTK	Pertek	3.19	272	*e*PN	Pn	15 06 18.3	+1.3
PTK	Pertek	3.19	272	*e*Pn	Pn	15 06 18.3	+1.3
SVRC	Sivrice-ELAZID	3.31	263	*e*PN	Pn	15 06 20.5	+1.9
SVRC	Sivrice-ELAZID	3.31	263	*e*Pn	Pn	15 06 20.5	+1.9
EZC	Erzincan	3.33	287	*e*Pn	Pn	15 06 15.8	-3.1
DUS	Dusheti	3.37	16	P	Pg	15 06 31.2	+0.6
DUS				S	Sg	15 07 21.3	+7.0
MNGR	Mingechevir, A	3.37	54	⇑P	Pn	15 06 21.4	+2.1
	SNR=5.0						
MNGR	Mingechevir, A	3.37	54	P	Pn	15 06 21.4	+2.1
	SNR=5.0						
ZRD	Zardab	3.55	65	⇓P	Pn	15 06 22.6	+0.9
	SNR=3.8						
ZRD	Zardab	3.55	65	P	Pn	15 06 22.6	+0.9
	SNR=3.8						
ZKTA	Zakatala	3.68	40	⇑P	Pn	15 06 27.6	+4.1
	SNR=7.9						
SEKA	Sheki	3.70	49	⇑P	Pn	15 06 27.4	+3.5
	SNR=8.6						
SEKA	Sheki	3.70	49	P	Pn	15 06 27.4	+3.5
	SNR=8.6						
ONI	Oni	3.74	360	P	Pb	15 06 34.3	+1.7
ONI				S	Sg	15 07 25.0	-1.2
LRK	Lerik	3.80	92	⇑P	Pn	15 06 22.3	-3.1
	SNR=7.3						
LRK	Lerik	3.80	92	P	Pn	15 06 22.3	-3.1
	SNR=7.3						
QBL	Gabala	3.95	57	⇑P	Pn	15 06 28.4	+1.1
	SNR=10						
QBL	Gabala	3.95	57	P	Pn	15 06 28.4	+1.1
	SNR=10						
ASTR	Astara	4.16	92	⇑P	Pn	15 06 26.7	-3.5
	SNR=5.4						
ASTR	Astara	4.16	92	P	Pn	15 06 26.7	-3.5
	SNR=5.4						
KBZ	Khabaz	4.89	355	Pg	Pb	15 06 49.4	-2.8
	0.1nm,0.3s,baz=169,slow=10,SNR=2.7						
MMAI	Mount Meron Ar	8.76	231	Pn	Pn	15 07 36.2	+2.8
	0.8nm,0.3s,baz=50,slow=13,SNR=3.4						
GEYT	Alibeck	11.52	90	Pn	Pn	15 08 12.4	+1.2
	baz=294,slow=11,SNR=1.8						
AKTO	Aktyubinsk	15.49	37	Pn	Pn	15 09 04.1	-1.0
	0.1nm,0.3s,baz=215,slow=16,SNR=2.3						
AKASG	Malin Array Be	15.55	324	Pn	Pn	15 09 05.5	-0.3
	0.7nm,0.3s,baz=134,slow=11,SNR=4.3						
WSAR	Wadi Sarin	20.22	136	P	Pn	15 10 03.2	-0.5
	6.2nm,1.0s,baz=304,slow=8.5,SNR=4.2						
ARU	Arti	20.23	25	P	P	15 10 01.8	+0.1
	7.3nm,0.8s,baz=189,slow=6.2,SNR=8.1						
BVAR	Borovoye Array	23.30	44	P	P	15 10 35.4	+0.9
	1.3nm,0.9s,baz=235,slow=5.1,SNR=3.3						
GERES	GERESS Array B	23.55	305	P	P	15 10 38.5	+1.3
	0.2nm,0.3s,baz=90,slow=7.8,SNR=2.9						
FINES	FINESS Array B	25.06	340	P	P	15 10 51.9	+1.1
	3.8nm,1.1s,baz=144,slow=10,SNR=2.4						
KURBB	Kurchatov Arra	27.28	53	P	P	15 11 10.6	-0.5
	2.6nm,1.0s,baz=262,slow=9.0,SNR=7.1						
HFS	Hagfors	28.36	328	P	P	15 11 20.9	+0.2
	4.6nm,0.9s,baz=170,slow=9.6,SNR=3.0						
MKAR	Makanchi Array	29.31	62	P	P	15 11 28.9	-0.4
	1.0nm,0.9s,baz=276,slow=8.8,SNR=2.8						
ESDC	Sonseca Array	36.41	287	P	P	15 12 30.1	-1.3
	1.5nm,0.7s,baz=87,slow=10.0,SNR=3.0						
TORD	Torodi Ar. Bea	44.90	247	P	P	15 13 41.9	+0.2
	0.6nm,0.7s,baz=46,slow=6.5,SNR=3.6						
CMAR	Chiang Mai Arr	51.91	97	P	P	15 14 35.5	-0.3
	0.4nm,0.6s,baz=296,slow=8.7,SNR=5.9						
KSRS	Korea Array	63.99	62	P	P	15 16 02.1	+1.7
	0.8nm,0.7s,baz=291,slow=7.0,SNR=3.0						

*DDA **25** 15:06:08.0, 38°.84N×43°.52E, h8km, Ml4.0*
*ISCJB **25** 15:06:08.5±0.6, 38°.83N±0°.04×43°.48E±0°.07, h13km, mb3.7/8, Error ellipse: s-maj=7.9km s-min=5.7km az=6.2*
*CSEM **25** 15:06:08.0, 38°.84N×43°.52E, h8km, ML4.0*
*IDC **25** 15:06:08.7±1.2, 39°.08N×43°.24E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/71, mbtmp3.9/9, Error ellipse: s-maj=30.6km s-min=13.9km az=152.0*
ISC 25 15:06:09.0±0.7, 38°.83N±0°.04×43°.51E±0°.04, h13km, n22, σ1§86/30, mb3.7/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.17	17	*i* P	Pg	15 06 09.3	-3.9
VMUR				*i* S	Sg	15 06 14.4	-1.7
VMUR	Van-Muradiye	0.17	17	P	Pg	15 06 09.3	-3.9
VMUR				S	Sg	15 06 14.4	-1.7
GEVA	Gevas	0.62	215	*i* P	Pb	15 06 20.3	-1.5
GEVA				*i* S	Sn	15 06 33.7	+0.1
GEVA	Gevas	0.62	215	P	Pb	15 06 20.3	-1.5
GEVA				S	Sn	15 06 33.7	+0.1
DYDN	Diyadin	0.73	11	*i* P	Pg	15 06 20.9	-2.4
DYDN				*i* S	Sg	15 06 32.8	-0.1
DYDN	Diyadin	0.73	11	P	Pg	15 06 20.9	-2.4
DYDN				S	Sg	15 06 32.8	-0.1
TUTA	Tutak	0.79	317	*i* P	Pg	15 06 22.7	-1.7
TUTA				*i* S	Sg	15 06 34.9	+0.1
TUTA	Tutak	0.79	317	P	Pg	15 06 22.7	-1.7
TUTA				S	Sg	15 06 34.9	+0.1
BASK	Baskale_VAN	0.86	153	*i* P	Pb	15 06 25.2	-0.8
BASK	Baskale_VAN	0.86	153	P	Pb	15 06 25.2	-0.8
DIGO	Kars	1.59	356	*i* P	Pb	15 06 38.3	-0.1
DIGO	Kars	1.59	356	P	Pb	15 06 38.3	-0.1
GNI	Garni	1.63	35	Pn	Pb	15 06 38.9	-0.2
	158nm,0.3s,baz=278,slow=11,SNR=4.2						
GNI				Lg	Lg	15 07 00.4	
	41

comp=E,43nm,18.2s,baz=302,slow=37
TXAR Lajitas Array 63.68 324 P **P** **15 19 09.7 +0.3**
comp=E,0.2nm,0.7s,baz=132,slow=6.3,SNR=2.3
TORD Torodi Ar. Bea 76.64 69 P **P** **15 20 28.4 0.0**
comp=E,0.9nm,0.5s,baz=256,slow=5.1,SNR=8.7
ULM Lac du Bonnet 78.25 342 P **P** **15 20 35.7 -0.8**
comp=E,1.2nm,0.5s,baz=141,slow=6.5,SNR=3.8
MAW Mawson 81.41 163 P **P** **15 20 54.3 +1.0**
comp=E,0.9nm,0.6s,baz=274,slow=19,SNR=3.1
YKA Yellowknife Ar 94.14 340 P **P** **15 21 53.9 -0.6**
comp=E,0.8nm,0.6s,baz=130,slow=4.0,SNR=3.7
ASAR Alice Springs 128.39 205 PKP **PKPdf** **15 27 43.1 +0.3**
comp=E,0.6nm,0.7s,baz=143,slow=2.7,SNR=8.5
WRA Warramunga Arr 131.56 207 PKP **PKPdf** **15 27 49.4 +0.5**
comp=E,0.2nm,0.4s,baz=163,slow=1.5,SNR=7.5
KURBB Kurchatov Arra 142.45 36 PKP **PKPdf** **15 28 08.5 +0.7**
comp=E,0.1nm,0.4s,baz=305,slow=3.3,SNR=2.7
ZALV Zalesovo Beam 143.46 28 PKP PKPbc 15 28 08.7 +1.3
comp=E,1.5nm,0.6s,baz=296,slow=5.2,SNR=6.7
MKAR Makanchi Array 146.60 40 PKPbc **PKPdf** **15 28 16.7 +1.4**
comp=E,2.1nm,0.7s,baz=301,slow=3.4,SNR=17
KLR Kul'dur 150.84 334 PKPbc **PKPbc** **15 28 28.3 +0.5**
comp=E,0.1nm,0.6s,baz=47,slow=5.7,SNR=4.3

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*ISCJB **25** 15:11:37.9±0.3,6°.42N±0°.02×125°.96E±0°.04,h115km±2km, mb4.4/36, Error ellipse: s-maj=7.2km s-min=3.9km az=169.8*
*DJA **25** 15:11:37.8±0.8,6°.N±5°.×12°.6E±°,h111km±8km,M4.7/6, mb4.8/6,mB5.0/5,MLv4.9/6,Mw(mB)4.3/5*
*MAN **25** 15:11:37,6°.31N×125°.90E,h101km,mb5.2,ML4.2,MS4.4*
*NEIC **25** 15:11:39.6±0.9,6°.47N×125°.86E,h120km±8km,mb4.5/6, Error ellipse: s-maj=14.8km s-min=6.6km az=76.0*
*IDC **25** 15:11:39.4±0.5,6°.41N×125°.74E,h118km±4km,mb4.0/23, mb1 4.1/23,mb1mx3.9/61,mbtmp4.4/23,Error ellipse: s-maj=18.5km s-min=7.9km az=74.0*
ISC 25 15:11:38.9±0.7,6°.40N±0°.04×125°.91E±0°.06,h112km±5km, n76,σ1°.44/95,mb4.4/36,4C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.65**	**32**	*eP*	**Pn**	**15 11 56.0**	**-1.0**
MATI				*eS*	**Sn**	**15 12 10.8**	**+0.1**
DAV	**Davao City (W)**	**0.74**	**334**	P	**Pn**	**15 11 57.7**	**-0.2**
DAV	265nm,0.3s,baz=113,slow=1.8,SNR=57			S	**Sn**	**15 12 14.4**	**+2.2**
DAV	**Davao City (W)**	**0.74**	**334**	||*eP*	**Pn**	**15 11 54.2**	**-3.6**
DMPH	**Davao City--Mi**	**0.79**	**330**	||*eP*	**Pn**	**15 11 57.9**	**-0.4**
DMPH				*eS*	**Sn**	**15 12 11.6**	**-1.3**
GSPH	**General Santos**	**1.00**	**252**	*eP*	**Pn**	**15 11 59.4**	**-1.0**
GSPH				*eS*	**Sn**	**15 12 16.0**	**-0.7**
KCP	**Kidapawan**	**1.01**	**307**	||*iP*	**Pn**	**15 12 00.0**	**-0.5**
KCP				*i S*	**Sn**	**15 12 16.6**	**-0.2**
BUKP	**Musuan**	**1.69**	**330**	*eP*	**Pn**	**15 12 08.1**	**-0.2**
BUKP				*eS*	**Sn**	**15 12 31.0**	**+0.4**
BIPH	**Bislig**	**1.83**	**14**	||*eP*	**Pn**	**15 12 09.8**	**-0.1**
BIPH				*eS*	**Sn**	**15 12 33.5**	**0.0**
CTBH	**Cotabato--PC H**	**1.84**	**296**	||*eP*	**Pn**	**15 12 09.5**	**-0.6**
CTBH				*i S*	**Sn**	**15 12 32.1**	**-1.7**
SGSI	**Sangihe**	**2.72**	**188**	P	**Pn**	**15 12 21.5**	**+0.1**
SGSI				S	**Sn**	**15 12 55.8**	**+1.8**
SCPH	**Surigao**	**3.39**	**353**	*eP*	**Pn**	**15 12 28.8**	**-1.4**
SCPH				*eS*	**Sn**	**15 13 13.8**	**+4.1**
MSLP	**Maasin**	**3.85**	**344**	*eP*	**Pn**	**15 12 34.8**	**-1.6**
MSLP				*eS*	**Sn**	**15 13 21.5**	**+0.6**
SNPH	**Sibulan**	**3.95**	**318**	*eP*	**Pn**	**15 12 39.8**	**+2.1**
LLP	**Lapu-Lapu**	**4.34**	**334**	||*eP*	**Pn**	**15 12 43.8**	**+0.8**
LLP				*eS*	**Sn**	**15 13 33.4**	**+0.7**
OCLP	**Ormoc**	**4.80**	**345**	*eP*	**Pn**	**15 12 49.9**	**+0.7**
OCLP				*eS*	**Sn**	**15 13 44.6**	**+0.9**
PLP	**Palo**	**4.83**	**349**	||*eP*	**Pn**	**15 12 48.8**	**-0.7**
PLP				*eS*	**Sn**	**15 13 42.4**	**-1.9**
BESP	**Borongan**	**5.19**	**355**	*eP*	**Pn**	**15 12 55.4**	**+1.0**
BESP				*eS*	**Sn**	**15 13 57.7**	**+4.5**
RCP	**Roxas**	**6.01**	**329**	||*eP*	**Pn**	**15 13 07.3**	**+1.9**
KMSI	**Cibinong**	**6.10**	**198**	P	**Pn**	**15 13 08.6**	**+1.9**
LBMI	**Labuha**	**7.17**	**167**	P	**Pn**	**15 13 21.2**	**0.0**
SANI	**Sanana**	**8.39**	**179**	P	**Pn**	**15 13 35.9**	**-1.9**
NLAI	**Namlea**	**9.65**	**173**	P	**Pn**	**15 13 53.6**	**-1.2**
	92nm,0.7s,1μm						
BNSI	**Bone**	**12.19**	**209**	P	**Pn**	**15 14 32.3**	**+3.3**
MMRI	**Maumere**	**15.38**	**194**	*eP*	**P**	**15 15 13.6**	**+1.5**
BATI	**Baumata**	**16.65**	**188**	P	**P**	**15 15 27.5**	**+1.3**
	baz=42,slow=2.3						
UBPT	**Khong Chiam**	**21.91**	**295**	P	**P**	**15 16 24.5**	**+1.2**
	37nm,0.9s						
PANO	**Nakornpanom**	**23.40**	**299**	P	**P**	**15 16 38.5**	**+0.5**
	47nm,1.2s,9μm						
SKNT	**Sakolnakorn**	**23.88**	**298**	P	**P**	**15 16 43.1**	**+0.7**
	51nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.35**	**181**	P	**P**	**15 16 46.8**	**+0.3**
	17nm,0.7s,baz=7.3,slow=10,SNR=40						
KHON	**Khomkaen**	**24.67**	**296**	P	**P**	**15 16 51.2**	**+1.7**
	16nm,0.9s						
NONG	**Nongkai**	**25.05**	**300**	P	**P**	**15 16 49.6**	**-3.4**
	52nm,1.1s						
CHAI	**Chaiyaphum**	**25.27**	**294**	P	**P**	**15 16 56.9**	**+1.8**
	6.7nm,0.9s						
NAYO	**Nakonayok**	**25.41**	**290**	P	**P**	**15 16 58.8**	**+2.4**
	12nm,0.9s						
PMG	**Port Moresby**	**26.36**	**126**	P	**P**	**15 17 04.3**	**-0.6**
	22nm,1.1s,baz=326,slow=7.3,SNR=3.9						
PBKT	**Sadao Pong**	**26.41**	**295**	P	**P**	**15 17 07.9**	**+2.6**
WRAB	**Tennant Creek**	**27.45**	**163**	*eP*	**P**	**15 17 14.1**	**-0.5**
	7.5nm,0.6s						
WRA	**Warramunga Arr**	**27.46**	**163**	P	**P**	**15 17 14.2**	**-0.4**
	4.6nm,0.6s,baz=341,slow=9.6,SNR=21						
WRA				ScP	**ScP**	**15 23 60.0**	**-1.2**
	0.7nm,0.7s,baz=346,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**28.88**	**297**	P	**P**	**15 17 27.8**	**+0.4**
	1.2nm,0.7s,baz=115,slow=7.3,SNR=9.9						
CMAR				ScP	**ScP**	**15 24 03.5**	**-2.1**
	0.6nm,0.7s,baz=103,slow=2.0,SNR=6.4						
CHTO	**Chiang Mai**	**29.01**	**298**	*eP*	**P**	**15 17 28.6**	**0.0**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**30.88**	**166**	P	**P**	**15 17 45.1**	**+0.1**
	10nm,0.4s,baz=336,slow=7.1,SNR=219						
ASAR				PcP	**PcP**	**15 20 39.0**	**-0.3**
	1.4nm,0.8s,baz=1.9,slow=2.8,SNR=4.8						
ASAR				ScP	**ScP**	**15 24 10.5**	**-1.5**
	0.7nm,0.6s,baz=340,slow=3.4,SNR=11						
KSAR	**Wonju Array Be**	**30.95**	**3**	P	**P**	**15 17 46.1**	**+0.7**
KSRS	**Korea Array**	**30.97**	**3**	P	**P**	**15 17 46.1**	**+0.6**
	1.4nm,0.5s,baz=185,slow=9.4,SNR=7.5						
CTA	**Charters Tower**	**33.06**	**143**	P	**P**	**15 18 05.5**	**+1.3**
	7.7nm,0.7s,baz=330,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**38.03**	**7**	P	**P**	**15 18 47.0**	**+0.7**
	3.3nm,0.5s,baz=189,slow=7.9,SNR=9.3						
NWAO	**Narrogin (SRO)**	**39.97**	**191**	P	**P**	**15 19 02.8**	**+0.2**
	12nm,0.5s,baz=256,slow=8.5,SNR=15						
BBOO	**Buckleboo**	**40.17**	**167**	*eP*	**P**	**15 19 04.8**	**+0.6**
	22nm,0.7s						
ASAJ	**Asahikawa**	**40.32**	**19**	P	**P**	**15 19 06.3**	**+1.0**
	8.4nm,0.9s,baz=168,slow=5.7,SNR=6.9						
STKA	**Stephens Creek**	**40.90**	**159**	P	**P**	**15 19 10.9**	**+0.6**
	14nm,0.6s,baz=336,slow=8.4,SNR=48						
TAPN	**Taplejung**	**41.82**	**304**	*eP*	**P**	**15 19 18.8**	**+0.5**
ODAN	**Odare**	**41.89**	**304**	*eP*	**P**	**15 19 19.3**	**+0.5**
RAMN	**Ramite**	**42.58**	**303**	*eP*	**P**	**15 19 25.4**	**+1.0**
	15nm,0.7s						
KLR	**Kul'dur**	**42.97**	**6**	P	**P**	**15 19 27.3**	**+0.5**
	0.5nm,0.6s,baz=188,slow=4.7,SNR=13						
JIRN	**Jiri**	**43.18**	**304**	*eP*	**P**	**15 19 30.0**	**+0.6**
	98nm,0.7s						
GUN	**Gumba**	**43.53**	**304**	*eP*	**P**	**15 19 32.7**	**+0.5**
	21nm,0.8s						
PKI	**Pulchoki**	**43.79**	**304**	*eP*	**P**	**15 19 34.4**	**+0.1**
PKIN	**Phulchoki**	**43.81**	**304**	*eP*	**P**	**15 19 34.4**	**+0.1**
KKN	**Kakani**	**43.98**	**304**	*eP*	**P**	**15 19 35.6**	**0.0**
DMN	**Daman**	**44.06**	**303**	*eP*	**P**	**15 19 37.2**	**+0.9**
SONM	**Songino Array**	**44.52**	**341**	P	**P**	**15 19 38.6**	**-0.9**
	0.4nm,0.4s,baz=151,slow=9.2,SNR=5.4						
KOLN	**Koldanda**	**45.37**	**303**	*eP*	**P**	**15 19 47.1**	**+0.5**
	10nm,0.6s						
PYUN	**Piuthan**	**45.98**	**303**	*eP*	**P**	**15 19 51.9**	**+0.4**
DZM	**Mont Dzumac**	**48.75**	**127**	P	**P**	**15 20 13.5**	**+0.7**
	16nm,0.8s,baz=264,slow=11,SNR=10						
PETK	**Petropavlovsk-**	**53.30**	**23**	P	**P**	**15 20 47.0**	**+0.7**
	4.2nm,0.9s,baz=206,slow=3.1,SNR=8.0						
PETK	**Petropavlovsk-**	**53.30**	**23**	P	**P**	**15 20 47.0**	**+0.7**
MKAR	**Makanchi Array**	**54.92**	**325**	P	**P**	**15 20 56.9**	**-1.3**
	0.8nm,0.4s,baz=114,slow=6.8,SNR=23						
ZALV	**Zalesovo Beam**	**57.86**	**333**	P	**P**	**15 21 16.3**	**-2.5**

	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**59.07**	**327**	P	**P**	**15 21 25.6**	**-1.7**
	1.1nm,0.7s,baz=124,slow=6.5,SNR=11						
KURK	**Kurchatov**	**59.07**	**327**	*eP*	**P**	**15 21 25.3**	**-2.0**
	8.5nm,0.6s						
KKAR	**Karatay Array**	**60.74**	**316**	*eP*	**P**	**15 21 37.0**	**-1.9**
	1.6nm,0.4s						
BVAR	**Borovoye Array**	**64.66**	**327**	P	**P**	**15 22 03.5**	**-1.2**
	0.6nm,0.4s,baz=186,slow=5.8,SNR=4.8						
TIXI	**Tiksi**	**65.20**	**1**	*eP*	**P**	**15 22 07.3**	**-0.6**
	3.9nm,0.9s						
NRIK	**Noril'sk**	**67.66**	**346**	P	**P**	**15 22 22.7**	**-0.9**
	3.4nm,0.5s,baz=122,slow=6.2,SNR=9.3						
ILAR	**Eielson Array**	**83.06**	**26**	P	**P**	**15 23 51.9**	**+0.1**
	1.2nm,0.5s,baz=242,slow=5.6,SNR=29						
VNDA	**Vanda**	**86.16**	**173**	P	**P**	**15 24 07.0**	**0.0**
	1.2nm,0.6s,baz=331,slow=4.4,SNR=6.8						
ARCES	**ARCESS Array B**	**87.68**	**340**	P	**P**	**15 24 13.4**	**-1.3**
	2.3nm,0.8s,baz=72,slow=5.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**121.29**	**290**	PKP	**PKPdf**	**15 30 18.5**	**-1.4**
	0.9nm,0.7s,baz=64,slow=1.9,SNR=5.4						

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*ISK **25** 15:16:45.9,38°.88N×43°.57E,h5km,ML4.2*
*DDA **25** 15:16:46.5,38°.83N×43°.52E,h5km,Ml4.1*
*IDC **25** 15:16:47.4±0.9,38°.90N×43°.46E,h0km,mb3.6/11, mb1 3.7/14,mb1mx3.5/50,mbtmp3.6/14,ML3.4/3,Error ellipse: s-maj=16.8km s-min=11.7km az=156.0*
*CSEM **25** 15:16:48.0±0.2,38°.82N×43°.56E,h2km,ML4.1,Error ellipse: s-maj=6.2km s-min=4.4km az=155.0*
*AZER **25** 15:16:48.6±3.2,38°.52N×43°.83E,h1km,Error ellipse: s-maj=34.2km s-min=16.2km az=74.0*
ISC 25 15:16:47.4±1.1,38°.84N±0°.02×43°.56E±0°.02,h2km±8km, n117,σ1°.32/144,mb3.6/10,7C-20D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**4**	||*iP*	**Pg**	**15 16 49.8**	**-0.7**
VMUR				*i S*	**Sg**	**15 16 53.0**	**+0.5**
VMUR	**Van-Muradiye**	**0.15**	**4**	P	**Pg**	**15 16 49.8**	**-0.7**
VMUR				S	**Sg**	**15 16 53.0**	**+0.5**
VANB	**Van**	**0.27**	**209**	*e*PG	**Pg**	**15 16 54.4**	**+1.7**
VANB				*e*SG	**Sb**	**15 17 01.5**	**+1.3**
VANB	**Van**	**0.27**	**209**	*e*Pg	**Pg**	**15 16 54.4**	**+1.7**
VANB				*e*Sg	**Sb**	**15 17 01.5**	**+1.3**
GEVA	**Gevas**	**0.65**	**217**	||*iP*	**Pg**	**15 16 59.1**	**-0.8**
GEVA				*i S*	**Sg**	**15 17 09.8**	**+1.5**
GEVA	**Gevas**	**0.65**	**217**	P	**Pg**	**15 16 59.1**	**-0.8**
GEVA				S	**Sg**	**15 17 09.8**	**+1.5**
DYDN	**Diyadin**	**0.71**	**8**	*i P*	**Pg**	**15 16 59.8**	**-1.3**
DYDN				*i S*	**Sg**	**15 17 10.0**	**-0.4**
DYDN	**Diyadin**	**0.71**	**8**	S	**Sg**	**15 17 10.0**	**-0.4**
TUTA	**Tutak**	**0.81**	**315**	||*iP*	**Pg**	**15 17 01.4**	**-1.5**
BASK	**Baskale_VAN**	**0.86**	**156**	*i P*	**Pg**	**15 17 02.7**	**-1.1**
BASK				*i S*	**Sn**	**15 17 18.7**	**-1.1**
AGRB	**Hanur-Agry**	**0.86**	**329**	*e*PG	**Pg**	**15 17 02.6**	**-1.3**
AGRB				*e*SG	**Sg**	**15 17 15.4**	**+0.3**
AGRB	**Hanur-Agry**	**0.86**	**329**	*e*Pg	**Pg**	**15 17 02.6**	**-1.3**
AGRB				*e*Sg	**Sg**	**15 17 15.4**	**+0.3**
EKAR	**Karacoban**	**1.24**	**290**	*i P*	**Pn**	**15 17 11.0**	**-0.9**
EKAR				*i S*	**Sn**	**15 17 30.6**	**+1.4**
EKAR	**Karacoban**	**1.24**	**290**	P	**Pn**	**15 17 11.0**	**-0.9**
EKAR				S	**Sn**	**15 17 30.6**	**+1.4**
HAKT	**HAKKARI**	**1.28**	**175**	*i P*	**Pn**	**15 17 10.0**	**-2.4**
HAKT				*i S*	**Sn**	**15 17 30.7**	**+0.4**
EATA	**Eleskirt**	**1.32**	**321**	||*iP*	**Pn**	**15 17 10.6**	**-2.5**
EATA				*i S*	**Sn**	**15 17 30.9**	**-0.4**
NAX	**Nakhchivan**	**1.55**	**77**	||P	**Pn**	**15 17 16.0**	**+0.1**
NAX				||S	**Sn**	**15 17 35.8**	**-0.8**
NAX	**Nakhchivan**	**1.55**	**77**	P	**Pn**	**15 17 16.0**	**+0.1**
NAX				S	**Sn**	**15 17 35.8**	**-0.8**
DIGO	**Kars**	**1.58**	**355**	||*iP*	**Pn**	**15 17 16.2**	**-0.4**
DIGO	**Kars**	**1.58**	**355**	P	**Pn**	**15 17 16.2**	**-0.4**
CUKT	**Cukurca**	**1.58**	**179**	*e*PN	**Pb**	**15 17 17.0**	**-0.4**
CUKT	**Cukurca**	**1.58**	**179**	*i P*	**Pg**	**15 17 18.1**	**+0.4**
CUKT	**Cukurca**	**1.58**	**179**	*e*Pn	**Pb**	**15 17 17.0**	**-0.4**
CUKT	**Cukurca**	**1.58**	**179**	P	**Pg**	**15 17 18.1**	**+0.4**
GNI	**Garni**	**1.60**	**34**	Pn	**Pn**	**15 17 16.7**	**-0.1**
	29nm,0.3s,baz=201,slow=7.9,SNR=4.3						
GNI				Lg	Lg	15 17 37.6	
	49nm,0.3s,baz=171,slow=21,SNR=6.9						
SIRN	**S¨–rnak**	**1.61**	**214**	*i P*	**Pn**	**15 17 17.3**	**+0.4**
SIRN				*i S*	**Sg**	**15 17 39.4**	**+0.2**
SIRN	**S¨–rnak**	**1.61**	**214**	P	**Pn**	**15 17 17.3**	**+0.4**
SIRN				S	**Sg**	**15 17 39.4**	**+0.2**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*PN	**Pn**	**15 17 17.7**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**282**	*i P*	**Pb**	**15 17 40.4**	**+0.2**
VRTB				*i S*	**Sb**	**15 17 40.5**	**+0.1**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*Pn	**Pn**	**15 17 17.7**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**282**	P	**Pb**	**15 17 19.1**	**+0.2**
VRTB				S	**Sb**	**15 17 40.5**	**+0.1**
HOMI	**Horasan**	**1.76**	**314**	*i P*	**Pn**	**15 17 19.1**	**+0.1**
HOMI				*i S*	**Sg**	**15 17 44.9**	**+1.0**
EAK	**Akyaka**	**1.85**	**1**	*i P*	**Pb**	**15 17 22.2**	**+0.2**
EAK				*i S*	**Sg**	**15 17 49.9**	**+3.1**
EAK	**Akyaka**	**1.85**	**1**	P	**Pb**	**15 17 22.2**	**+0.2**
BNGL	**BINGOL**	**1.88**	**274**	*i P*	**Pb**	**15 17 21.7**	**-0.8**
BNGL				*i S*	**Sg**	**15 17 49.3**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*PN	**Pn**	**15 17 22.8**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*i P*	**Pb**	**15 17 22.9**	**-1.1**
SVAN				*i S*	**Sb**	**15 17 49.2**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	**Pn**	**15 17 22.8**	**+1.0**
SVAN				S	**Sb**	**15 17 49.2**	**+0.2**
ERZM	**Erzurum**	**2.01**	**303**	*i P*	**Pb**	**15 17 23.8**	**-0.9**
ERZM	**Erzurum**	**2.01**	**303**	P	**Pb**	**15 17 23.8**	**-0.9**
BTMN	**Batman**	**2.03**	**243**	*i P*	**Pn**	**15 17 23.4**	**+0.8**
BTMN				*i S*	**Sg**	**15 17 52.7**	**+0.1**
BTMN	**Batman**	**2.03**	**243**	P	**Pn**	**15 17 23.4**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	*i P*	**Pb**	**15 17 25.9**	**-1.2**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	P	**Pb**	**15 17 25.9**	**-1.2**
BNGB	**Bing¨||**	**2.25**	**275**	*e*PN	**Pn**	**15 17 26.5**	**+0.8**
BINT	**Bingol**	**2.40**	**272**	*e*Pn	**Pn**	**15 17 26.5**	**-1.2**
DDEM	**Demirkent**	**2.48**	**326**	*i P*	**Pn**	**15 17 30.7**	**+1.8**
DDEM	**Demirkent**	**2.48**	**326**	P	**Pn**	**15 17 30.7**	**+1.8**
GDB	**GEDABAY**	**2.53**	**41**	||P	**Pb**	**15 17 32.1**	**-1.5**
GDB	**GEDABAY**	**2.53**	**41**	P	**Pb**	**15 17 32.1**	**-1.5**
AKH	**Akhalkalaki**	**2.57**	**359**	P	**Pb**	**15 17 33.7**	**-0.6**
AKH				S	**Sg**	**15 18 12.3**	**+2.3**
QZX	**Qazax, Azerbai**	**2.62**	**32**	||P	**Pb**	**15 17 33.6**	**-1.4**
QZX				||S	**Sg**	**15 18 10.4**	**-1.1**
QZX	**Qazax, Azerbai**	**2.62**	**32**	P	**Pb**	**15 17 33.6**	**-1.4**
KOPT	**Kop Dagi**	**2.65**	**297**	*i P*	**Pb**	**15 17 35.7**	**0.0**
MARD	**Madin**	**2.67**	**236**	*i P*	**Pn**	**15 17 31.9**	**+0.4**
GANJ	**Ganja**	**2.79**	**49**	||P	**Pn**	**15 17 34.9**	**+1.8**
GANJ	**Ganja**	**2.79**	**49**	P	**Pn**	**15 17 34.9**	**+1.8**
MAZI	**Mazidag**	**2.81**	**242**	*e*PN	**Pn**	**15 17 33.3**	**-0.1**
MAZI	**Mazidag**	**2.81**	**242**	*e*Pn	**Pn**	**15 17 33.3**	**-0.1**
DIYA	**Diyarbakir**	**2.85**	**252**	*i P*	**Pb**	**15 17 36.9**	**-2.1**
DIYA	**Diyarbakir**	**2.85**	**252**	P	**Pb**	**15 17 36.9**	**-2.1**
DGRG	**David-gareji**	**2.96**	**27**	P	**Pn**	**15 17 37.2**	**+1.9**
DGRG				S	**Sg**	**15 18 24.3**	**+1.8**
TBLG	**Delisi**	**3.03**	**17**	P	**Pb**	**15 17 41.8**	**-0.2**
TBLG				S	**Sg**	**15 18 26.6**	**+1.9**
TBLG	**Delisi**	**3.03**	**17**	P	**Pb**	**15 17 41.8**	**-0.2**
BRDA	**Brd**	**3.14**	**62**	||P	**Pn**	**15 17 39.0**	**+1.2**
BRDA	**Brd**	**3.14**	**62**	P	**Pn**	**15 17 39.0**	**+1.2**
TNCL	**Tunceli-Merkez**	**3.14**	**276**	*i P*	**Pb**	**15 17 43.0**	**-1.0**
MNGR	**Mingechevir, A**	**3.33**	**53**	||P	**Pn**	**15 17 42.5**	**+2.1**
MNGR	**Mingechevir, A**	**3.33**	**53**	P	**Pn**	**15 17 42.5**	**+2.1**
SEKA	**Sheki**	**3.66**	**49**	||P	**Pn**	**15 17 48.4**	**+3.3**
SEKA	**Sheki**	**3.66**	**49**	P	**Pn**	**15 17 48.4**	**+3.3**
LRK	**Lerik**	**3.74**	**91**	||P	**Pn**	**15 17 44.7**	**-1.5**
LRK	**Lerik**	**3.74**	**91**	P	**Pn**	**15 17 44.7**	**-1.5**
ONI	**Oni**	**3.75**	**359**	P	**Pn**	**15 17 49.8**	**+3.5**
GLBA	**Cilalbad**	**3.79**	**82**	||P	**Pn**	**15 17 45.5**	**-1.2**
GLBA	**Cilalbad**	**3.79**	**82**	P	**Pn**	**15 17 45.5**	**-1.2**
KDMR	**Kurdemir**	**3.89**	**65**	||P	**Pn**	**15 17 50.0**	**+2.0**
KDMR	**Kurdemir**	**3.89**	**65**	P	**Pn**	**15 17 50.0**	**+2.0**
SAAT	**Saatly**	**3.91**	**73**	||P	**Pn**	**15 17 47.9**	**-0.4**
SAAT	**Saatly**	**3.91**	**73**	P	**Pn**	**15 17 47.9**	**-0.4**
LKRN	**Lenkeran, Azer**	**4.08**	**90**	||P	**Pn**	**15 17 49.2**	**-1.5**
LKRN	**Lenkeran, Azer**	**4.08**	**90**	P	**Pn**	**15 17 49.2**	**-1.5**
ASTR	**Astara**	**4.10**	**92**	||P	**Pn**	**15 17 49.5**	**-1.5**
ASTR	**Astara**	**4.10**	**92**	P	**Pn**	**15 17 49.5**	**-1.5**
XNQ	**Khinaliq**	**4.22**	**55**	||P	**Pn**	**15 17 54.3**	**+1.5**
XNQ	**Khinaliq**	**4.22**	**55**	P	**Pn**	**15 17 54.3**	**+1.5**
PQL	**Pirkuli**	**4.34**	**62**	||P	**Pn**	**15 17 55.8**	**+1.3**
PQL	**Pirkuli**	**4.34**	**62**	P	**Pn**	**15 17 55.8**	**+1.3**
GBS	**Qobustan**	**4.49**	**66**	||P	**Pn**	**15 17 57.6**	**+1.3**
GBS	**Qobustan**	**4.49**	**66**	P	**Pn**	**15 17 57.6**	**+1.3**
QSAR	**Qusar**	**4.49**	**52**	||P	**Pn**	**15 17 58.3**	**+1.9**
QSAR	**Qusar**	**4.49**	**52**	P	**Pn**	**15 17 58.3**	**+1.9**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	||P	**Pn**	**15 17 58.8**	**+1.7**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	P	**Pn**	**15 17 58.8**	**+1.7**
ATGJ	**Altiaghaj**	**4.61**	**62**	||P	**Pn**	**15 17 58.8**	**+0.7**
ATGJ	**Altiaghaj**	**4.61**	**62**	P	**Pn**	**15 17 58.8**	**+0.7**
SIZA	**Siyzn**	**4.67**	**60**	||P	**Pn**	**15 17 59.9**	**+1.0**
SIZA	**Siyzn**	**4.67**	**60**	P	**Pn**	**15 17 59.9**	**+1.0**
KBZ	**Khabaz**	**4.92**	**354**	Pg	**Pb**	**15 18 14.4**	**+0.3**
	0.1nm,0.3s,baz=196,slow=16,SNR=3.3						
KVAR	**Kislovodsk Arr**	**5.16**	**353**	Pg	**Pb**	**15 18 20.1**	**+1.8**
	baz=192,slow=14,SNR=1.9						
BRTR	**Keskin Array B**	**7.75**	**280**	Pn	Pn	15 18 47.2	+5.9
	0.1nm,0.3s,baz=98,slow=10,SNR=2.6						
ASF	**Jabal al Asfar**	**8.58**	**221**	Pn	Pn	15 19 00.3	+7.7
	0.3nm,0.3s,baz=315,slow=20,SNR=3.0						
ASF				Lg	Lg	15 21 24.0	
	0.2nm,0.3s,baz=346,slow=4.2,SNR=2.7						
MMAI	**Mount Meron Ar**	**8.80**	**231**	Pn	Pn	15 19 00.2	+4.6
	1.0nm,0.3s,baz=65,slow=14,SNR=3.1						
MMAI				Lg	Lg	15 21 35.8	
	0.7nm,0.3s,baz=31,slow=37,SNR=2.2						
GEYT	**Alibeck**	**11.46**	**90**	Pn	**Pn**	**15 19 33.8**	**+1.7**
	0.2nm,0.3s,baz=284,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**15.47**	**37**	Pn	**Pn**	**15 20 24.5**	**-2.0**
	0.1nm,0.3s,baz=225,slow=15,SNR=3.1						
AKASG	**Malin Array Be**	**15.60**	**324**	Pn	**Pn**	**15 20 25.9**	**-2.2**
	0.7nm,0.3s,baz=132,slow=12,SNR=6.0						
ARU	**Arti**	**20.22**	**25**	P	**P**	**15 21 23.2**	**-0.1**
	1.1nm,0.2s,baz=217,slow=12,SNR=4.5						
BVAR	**Borovoye Array**	**23.26**	**44**	P	**P**	**15 21 55.8**	**-0.2**
	0.2nm,0.6s,baz=231,slow=9.1,SNR=2.5						
GERES	**GERESS Array B**	**23.61**	**305**	P	**P**	**15 21 59.7**	**+0.1**
	0.3nm,0.5s,baz=84,slow=9.1,SNR=1.9						
FINES	**FINESS Array B**	**25.09**

*CSEM **25** 15:21:50.9±0.4, 38°.85N×43°.51E, 2^{km}, ML3.6, Error ellipse: s-maj=12.2km s-min=5.2km az=80.0*
*DDA **25** 15:21:51.3, 38°.85N×43°.51E, 6^{km}, Ml3.6*
ISC 25 15:21:50.2±1.5, 38°.84N±0°.02×43°.53E±0°.04, $h3^{km}$±13km, n24, σ0°90/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**205**	*e*PG	**Pb**	**15 21 57.6**	**-0.1**
VANB				*e*SG	**Sb**	**15 22 03.2**	**+0.5**
VANB	**Van**	**0.27**	**205**	*e*Pg	**Pb**	**15 21 57.6**	**-0.1**
VANB				*e*Sg	**Sb**	**15 22 03.2**	**+0.5**
GEVA	**Gevas**	**0.64**	**215**	*i* P	**Pg**	**15 22 02.5**	**0.0**
GEVA				*i* S	**Sb**	**15 22 13.8**	**+0.2**
GEVA	**Gevas**	**0.64**	**215**	P	**Pg**	**15 22 02.5**	**0.0**
GEVA				S	**Sb**	**15 22 13.8**	**+0.2**
DYDN	**Diyadin**	**0.71**	**10**	*i* P	**Pg**	**15 22 04.1**	**+0.2**
DYDN				*i* S	**Sb**	**15 22 16.1**	**+0.3**
DYDN	**Diyadin**	**0.71**	**10**	P	**Pg**	**15 22 04.1**	**+0.2**
DYDN				S	**Sb**	**15 22 16.0**	**+0.3**
TUTA	**Tutak**	**0.79**	**315**	*i* P	**Pg**	**15 22 05.4**	**0.0**
TUTA				*i* S	**Sb**	**15 22 18.0**	**0.0**
TUTA	**Tutak**	**0.79**	**315**	P	**Pg**	**15 22 05.4**	**0.0**
TUTA				S	**Sb**	**15 22 18.0**	**0.0**
AGRB	**Hanur-Agry**	**0.85**	**330**	*e*PG	**Pg**	**15 22 06.6**	**+0.2**
AGRB				*e*SG	**Sb**	**15 22 18.7**	**-0.8**
AGRB	**Hanur-Agry**	**0.85**	**330**	*e*Pg	**Pg**	**15 22 06.6**	**+0.2**
AGRB				*e*Sg	**Sb**	**15 22 18.7**	**-0.8**
BASK	**Baskale_VAN**	**0.87**	**155**	*i* P	**Pg**	**15 22 07.8**	**+0.9**
BASK				*i* S	**Sn**	**15 22 22.2**	**-0.6**
BASK	**Baskale_VAN**	**0.87**	**155**	P	**Pg**	**15 22 07.8**	**+0.9**
BASK				S	**Sn**	**15 22 22.2**	**-0.6**
HAKT	**HAKKARI**	**1.29**	**174**	*i* P	**Pg**	**15 22 14.3**	**-0.6**
HAKT				*i* S	**Sn**	**15 22 35.2**	**+2.1**
HAKT	**HAKKARI**	**1.29**	**174**	P	**Pg**	**15 22 14.3**	**-0.6**
HAKT				S	**Sn**	**15 22 35.2**	**+2.1**
EATA	**Eleskirt**	**1.30**	**322**	*i* P	**Pb**	**15 22 15.5**	**0.0**
EATA				*i* S	**Sn**	**15 22 35.4**	**+1.8**
EATA	**Eleskirt**	**1.30**	**322**	P	**Pb**	**15 22 15.5**	**0.0**
DIGO	**Kars**	**1.58**	**356**	*i* P	**Pg**	**15 22 21.0**	**+0.6**
DIGO	**Kars**	**1.58**	**356**	P	**Pg**	**15 22 21.0**	**+0.6**
HOMI	**Horasan**	**1.74**	**314**	*i* P	**Pg**	**15 22 24.3**	**+0.7**
BNGL	**BINGOL**	**1.86**	**274**	*i* P	**Pg**	**15 22 27.0**	**+1.2**
ERZM	**Erzurum**	**1.99**	**303**	*i* P	**Pg**	**15 22 28.3**	**+0.1**
DDEM	**Demirkent**	**2.47**	**327**	*i* P	**Pg**	**15 22 37.3**	**-0.2**
KOPT	**Kop Dagi**	**2.63**	**298**	*i* P	**Pg**	**15 22 40.3**	**-0.3**
KELT	**Kelkit**	**3.56**	**293**	*i* P	**Pb**	**15 22 44.0**	**-2.4**
KELT				*i* S	**Pb**	**15 22 55.8**	**+1.9**

*IDC **25** 15:24:01.6±0.5, 0°.47N×125°.80E, $h0^{km}$, mb4.1/18, mb1 4.2/19, mb1mx4.0/57, mbtmp4.1/19, Error ellipse: s-maj=30.5km s-min=11.6km az=72.0*
*ISCJB **25** 15:24:06.2±0.3, 0°.51N±0°.04×126°.02E±0°.04, $h44^{km}$, mb4.1/20, Error ellipse: s-maj=5.8km s-min=4.9km az=155.6*
*NEIC **25** 15:24:09.9±0.9, 0°.42N×125°.91E, $h65^{km}$±9^{km}, mb4.2/1, Error ellipse: s-maj=9.3km s-min=6.2km az=50.0*
*DJA **25** 15:24:10.0±0.9, 0°N±2°×12°6E±°, $h29^{km}$±8^{km}, M4.7/13, mb4.8/3, mB5.1/4, MLv4.6/13, Mw(mB)4.5/4, Mwp6.3/1*
ISC 25 15:24:08.1±0.5, 0°.41N±0°.04×125°.97E±0°.04, $h44^{km}$, n45, σ2°29/55, mb4.1/20, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.85**	**124**	P	**Pn**	**15 24 40.8**	**+3.4**
LBMI				S	**Sn**	**15 25 03.9**	**+4.3**
KMSI	**Cibinong**	**2.00**	**275**	P	**Pn**	**15 24 41.3**	**+1.9**
KMSI				S	**Sn**	**15 25 04.8**	**+1.6**
SANI	**Sanana**	**2.44**	**180**	P	**Pn**	**15 24 45.6**	**+0.1**
SANI				S	**Sn**	**15 25 13.0**	**-1.2**
SGSI	**Sangihe**	**3.28**	**352**	P	**Pn**	**15 25 00.1**	**+3.0**
SGSI				S	**Sn**	**15 25 39.0**	**+4.1**
LUWI	**Luwuk**	**3.51**	**246**	P	**Pn**	**15 25 01.5**	**+1.3**
LUWI				S	**Sn**	**15 25 48.1**	**+7.7**
LUWI	**Luwuk**	**3.51**	**246**	*e*Pn	**Pn**	**15 25 01.1**	**+1.0**
NLAI	**Namlea**	**3.80**	**163**	P	**Pn**	**15 25 05.2**	**+1.1**
NLAI				S	**Sn**	**15 25 46.9**	**-0.7**
MRSI	**Marisa**	**4.03**	**271**	P	**Pn**	**15 25 06.5**	**-0.8**
MRSI				S	**Pn**	**15 25 02.7**	**-4.6**
APSI	**Ampana**	**4.52**	**253**	P	**Pn**	**15 25 15.4**	**+1.4**
APSI				S	**Sn**	**15 26 10.5**	**+5.2**
AAI	**Ambon**	**4.64**	**151**	P	**Pn**	**15 25 18.6**	**+2.9**
MSAI	**Masohi**	**4.76**	**142**	P	**Pn**	**15 25 21.7**	**+4.3**
BBSI	**Bau Bau**	**6.77**	**210**	P	**Pn**	**15 25 48.6**	**+3.6**
	27nm,0.9s,2μm208μm						
TTSI	**Tana Toraja**	**7.04**	**241**	P	**Pn**	**15 25 50.1**	**+1.4**
	60nm,0.6s,952nm						
FAKI	**Fak Fak**	**7.09**	**118**	*e*Pn	**Pn**	**15 25 52.3**	**+2.8**
BNSI	**Bone**	**7.56**	**231**	P	**Pn**	**15 25 57.5**	**+1.7**
	59nm,0.6s,720nm						
SPSI	**Sidrap Palu**	**7.57**	**235**	P	**Pn**	**15 25 57.7**	**+1.8**
KAPI	**Kappang**	**8.22**	**229**	*e*Pn	**Pn**	**15 26 06.8**	**+1.9**
	39nm,0.5s						
MMRI	**Maumere**	**9.72**	**202**	Pn	**Pn**	**15 26 23.0**	**-2.5**
SOEI	**Soe**	**10.24**	**189**	P	Pn	15 26 42.7	+10
FITZ	**Fitzroy Crossi**	**18.40**	**181**	P	**Pn**	**15 28 19.9**	**-0.1**
	baz=10.0,slow=11						
WRAB	**Tennant Creek**	**21.82**	**158**	*e*P	**P**	**15 28 56.2**	**-0.6**
	5.2nm,0.5s						
WRA	**Warramunga Arr**	**21.83**	**158**	P	**P**	**15 28 56.6**	**-0.3**
	3.9nm,0.5s,baz=338,slow=11,SNR=36						
WRA				S	**S**	**15 32 52.9**	**-3.0**
	0.7nm,0.6s,baz=347,slow=20,SNR=4.6						
COEN	**Coen**	**22.23**	**131**	*e*P	**P**	**15 29 01.2**	**0.0**
PMG	**Port Moresby**	**23.24**	**115**	P	**P**	**15 29 12.8**	**+1.0**
	7.1nm,0.6s,baz=356,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**15 29 29.6**	**+0.3**
	4.7nm,0.5s,baz=348,slow=13,SNR=132						
ASAR				PcP	**PcP**	**15 33 02.7**	**-0.1**
	0.5nm,0.3s,baz=342,slow=2.2,SNR=5.9						
ASAR				S	**S**	**15 33 51.1**	**-0.3**
	1.0nm,1.0s,baz=355,slow=22,SNR=6.0						
STKA	**Stephens Creek**	**35.36**	**157**	P	**P**	**15 31 00.2**	**+0.7**
	6.6nm,0.7s,baz=330,slow=8.4,SNR=17						
KSAR	**Wonju Array Be**	**36.89**	**3**	P	**P**	**15 31 12.7**	**+0.2**
KSRS	**Korea Array**	**36.91**	**3**	P	**P**	**15 31 12.7**	**+0.1**
	1.2nm,0.6s,baz=183,slow=9.0,SNR=2.9						
USRK	**Ussuriysk Ar.**	**43.93**	**6**	P	**P**	**15 32 09.4**	**-1.2**
	1.5nm,0.6s,baz=210,slow=8.3,SNR=3.3						
KLR	**Kul'dur**	**48.89**	**5**	P	**P**	**15 32 49.8**	**+0.4**
	0.1nm,0.5s,baz=330,slow=20,SNR=2.9						
SONM	**Songino Array**	**50.20**	**343**	P	**P**	**15 32 58.8**	**-1.0**
	1.2nm,0.8s,baz=156,slow=4.8,SNR=4.6						
PETK	**Petropavlovsk-**	**58.77**	**22**	P	**P**	**15 34 01.1**	**-0.6**
	3.6nm,1.0s,baz=211,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**59.86**	**327**	P	**P**	**15 34 08.0**	**-1.4**
	0.9nm,0.5s,baz=122,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**63.20**	**334**	P	**P**	**15 34 31.5**	**-0.2**
	0.6nm,0.4s,baz=132,slow=4.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.13**	**329**	P	**P**	**15 34 36.2**	**-1.6**
	0.7nm,0.3s,baz=131,slow=6.4,SNR=5.0						
KURK	**Kurchatov**	**64.14**	**329**	*e*P	**P**	**15 34 36.3**	**-1.6**
BVAR	**Borovoye Array**	**69.69**	**328**	P	**P**	**15 35 12.1**	**-1.2**
	0.5nm,0.4s,baz=136,slow=8.4,SNR=5.3						
TIXI	**Tiksi**	**71.15**	**1**	P	**P**	**15 35 21.0**	**-0.7**
	1.0nm,0.3s,baz=196,slow=3.6,SNR=8.0						
NRIK	**Noril'sk**	**73.46**	**347**	P	**P**	**15 35 34.9**	**-0.7**
	0.7nm,0.3s,baz=180,slow=13,SNR=2.0						
AKTO	**Aktyubinsk**	**75.79**	**322**	P	**P**	**15 35 48.7**	**-0.8**
	0.7nm,0.4s,baz=98,slow=6.5,SNR=5.9						
ARU	**Arti**	**77.33**	**328**	P	**P**	**15 35 57.2**	**-0.9**
	1.6nm,0.4s,baz=113,slow=7.7,SNR=3.4						
VNDA	**Vanda**	**80.25**	**173**	P	**P**	**15 36 14.0**	**+0.3**
	1.7nm,0.6s,baz=318,slow=6.5,SNR=14						
ILAR	**Eielson Array**	**88.41**	**25**	P	**P**	**15 36 53.7**	**-1.6**
	0.2nm,0.5s,baz=264,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.16**	**286**	PKP	**PKPdf**	**15 43 00.6**	**-0.5**
	0.7nm,0.5s,baz=65,slow=1.5,SNR=10.0						
TXAR	**Lajitas Array**	**124.20**	**54**	PKP	**PKPdf**	**15 43 03.5**	**+0.6**
	0.2nm,0.6s,baz=188,slow=1.3,SNR=2.6						

*AZER **25** 15:27:11.9±1.0, 38°.42N×43°.67E, $h9^{km}$±11^{km}, Error ellipse: s-maj=11.4km s-min=2.9km az=59.0*
*MOS **25** 15:27:11.6±1.5, 38°.48N×43°.72E, $h10^{km}$, mb4.3/24, Error ellipse: s-maj=7.8km s-min=5.2km az=105.9*
*ISCJB **25** 15:27:12.1±0.6, 38°.72N±0°.02×43°.66E±0°.02, $h3^{km}$±3^{km}, mb4.1/46, MS4.1/2, Error ellipse: s-maj=3.6km s-min=2.1km az=163.8*

*IDC **25** 15:27:12.4±0.6, 38°.77N×43°.50E, $h0^{km}$, mb4.0/23, mb1 4.1/29, mb1mx4.0/48, mbtmp4.0/29, ML3.3/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/45, Error ellipse: s-maj=11.6km s-min=8.4km az=145.0*
*NSSC **25** 15:27:12.7±2.1, 37°.57N×44°.57E, $h0^{km}$±366^{km}, MD3.1, ML3.3*
*DDA **25** 15:27:13.4, 38°.83N×43°.57E, $h16^{km}$, Ml4.5*
*CSEM **25** 15:27:13.7±0.1, 38°.82N×43°.61E, $h5^{km}$, mb4.3/16, Error ellipse: s-maj=3.8km s-min=2.6km az=166.0*
*NEIC **25** 15:27:13.4±0.0, 38°.84N×43°.53E, $h5^{km}$, mb4.2/10, ML4.3(ISK), ML4.4(DDA), After ISK.*
*ISK **25** 15:27:14.2, 38°.86N×43°.44E, $h5^{km}$, ML4.5*
ISC 25 15:27:13.8±0.9, 38°.81N±0°.01×43°.62E±0°.02, $h9^{km}$±6km, n295, σ1°85/381, mb4.2/46, MS4.0/3, 36C-47D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.19**	**347**	⇓*i*P	**Pg**	**15 27 17.6**	**-0.2**
VMUR				*i* S	**Sg**	**15 27 21.1**	**+0.5**
VMUR	**Van-Muradiye**	**0.19**	**347**	P	**Pg**	**15 27 17.6**	**-0.2**
VMUR				S	**Sg**	**15 27 21.0**	**+0.5**
VANB	**Van**	**0.28**	**221**	*e*PG	**Pb**	**15 27 21.3**	**+0.2**
VANB				*e*SG	**Sb**	**15 27 26.1**	**+0.1**
VANB	**Van**	**0.28**	**221**	Pg	**Pb**	**15 27 21.1**	**0.0**
VANB				*e*Sg	**Sb**	**15 27 26.1**	**+0.1**
VANB	**Van**	**0.28**	**221**	Pg	**Pb**	**15 27 21.1**	**0.0**
GEVA	**Gevas**	**0.66**	**222**	⇓*i*P	**Pg**	**15 27 26.4**	**-0.3**
GEVA				*i* S	**Sb**	**15 27 37.4**	**+0.3**
GEVA	**Gevas**	**0.66**	**222**	P	**Pg**	**15 27 26.4**	**-0.3**
GEVA				S	**Sb**	**15 27 37.4**	**+0.3**
GEVA	**Gevas**	**0.66**	**222**	*i* P	**Pg**	**15 27 26.6**	**-0.1**
GEVA				*i* S	**Sb**	**15 27 37.4**	**+0.3**
DYDN	**Diyadin**	**0.74**	**4**	⇓*i*P	**Pg**	**15 27 27.1**	**-0.9**
DYDN				*i* S	**Sb**	**15 27 38.5**	**-0.8**
DYDN	**Diyadin**	**0.74**	**4**	P	**Pg**	**15 27 27.1**	**-0.9**
DYDN				S	**Sb**	**15 27 38.5**	**-0.8**
DYDN	**Diyadin**	**0.74**	**4**	*i* P	**Pg**	**15 27 27.1**	**-0.9**
BASK	**Baskale_VAN**	**0.81**	**158**	*i* P	**Pb**	**15 27 30.1**	**-0.1**
BASK				*i* S	**Sn**	**15 27 44.9**	**+1.0**
BASK	**Baskale_VAN**	**0.81**	**158**	P	**Pb**	**15 27 30.1**	**-0.1**
TUTA	**Tutak**	**0.87**	**314**	⇑*i*P	**Pg**	**15 27 28.9**	**-1.5**
TUTA				*i* S	**Sg**	**15 27 41.5**	**-0.3**
TUTA	**Tutak**	**0.87**	**314**	*i* P	**Pg**	**15 27 29.1**	**-1.4**
TUTA				S	**Sg**	**15 27 41.5**	**-0.3**
TUTA	**Tutak**	**0.87**	**314**	*i* P	**Pg**	**15 27 29.1**	**-1.4**
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*PG	**Pg**	**15 27 30.1**	**-1.3**
AGRB				*e*SG	**Sg**	**15 27 41.0**	**-2.2**
AGRB	**Hanur-Agry**	**0.91**	**328**	Pg	**Pg**	**15 27 30.2**	**-1.1**
AGRB				*e*Sg	**Sg**	**15 27 41.0**	**-2.2**
AGRB	**Hanur-Agry**	**0.91**	**328**	Pg	**Pg**	**15 27 30.2**	**-1.1**
HAKT	**HAKKARI**	**1.25**	**177**	⇓*i*P	**Pn**	**15 27 37.0**	**-0.7**
HAKT				*i* S	**Sn**	**15 27 58.8**	**+4.0**
HAKT	**HAKKARI**	**1.25**	**177**	P	**Pn**	**15 27 37.0**	**-0.7**
EKAR	**Karacoban**	**1.29**	**291**	*i* P	**Pn**	**15 27 37.2**	**-1.1**
EKAR				*i* S	**Sn**	**15 27 57.2**	**+1.3**
EKAR	**Karacoban**	**1.29**	**291**	P	**Pn**	**15 27 37.2**	**-1.1**
EATA	**Eleskirt**	**1.37**	**321**	*i* P	**Pn**	**15 27 38.3**	**-1.1**
EATA				*i* S	**Sb**	**15 27 54.7**	**-2.9**
EATA	**Eleskirt**	**1.37**	**321**	P	**Pn**	**15 27 38.3**	**-1.1**
NAX	**Nakhchivan**	**1.50**	**75**	⇑P	**Pn**	**15 27 40.6**	**-0.4**
NAX				⇑S	**Sg**	**15 28 02.5**	**+0.4**
NAX	**Nakhchivan**	**1.50**	**75**	P	**Pn**	**15 27 40.6**	**-0.4**
NAX				S	**Sg**	**15 28 02.5**	**+0.4**
CUKT	**Cukurca**	**1.56**	**180**	*e*PN	**Pg**	**15 27 44.4**	**+0.7**
CUKT				*e*SN	**Sg**	**15 28 05.9**	**+2.0**
CUKT	**Cukurca**	**1.56**	**180**	⇓*i*P	**Pg**	**15 27 44.1**	**+0.5**
CUKT				*i* S	**Sg**	**15 28 08.4**	**+4.5**
CUKT	**Cukurca**	**1.56**	**180**	P	**Pg**	**15 27 44.1**	**+0.5**
CUKT	**Cukurca**	**1.56**	**180**	*e*Pn	**Pg**	**15 27 44.4**	**+0.7**
CUKT				*e*Sn	**Sg**	**15 28 05.9**	**+2.0**
GNI	**Garni**	**1.59**	**32**	Pn	**Pb**	**15 27 43.7**	**+0.2**
	129nm,0.3s,baz=274,slow=5.9,SNR=60						
GNI				Lg	Lg	15 28 07.6	
	110nm,0.3s,baz=253,slow=19,SNR=5.0						
DIGO	**Kars**	**1.62**	**353**	*i* P	**Pb**	**15 27 43.5**	**-0.5**
DIGO				*i* S	**Sg**	**15 28 08.4**	**+2.6**
DIGO	**Kars**	**1.62**	**353**	P	**Pb**	**15 27 43.5**	**-0.5**
SIRN	**S¨-rnak**	**1.62**	**216**	⇑*i*P	**Pb**	**15 27 44.0**	**+0.1**
SIRN	**S¨-rnak**	**1.62**	**216**	P	**Pb**	**15 27 44.0**	**+0.1**
VRTB	**Varto-Mus**	**1.73**	**282**	*e*PN	**Pn**	**15 27 44.0**	**-0.2**
VRTB	**Varto-Mus**	**1.73**	**282**	⇑*i*P	**Pn**	**15 27 44.2**	**+0.1**
VRTB	**Varto-Mus**	**1.73**	**282**	P	**Pn**	**15 27 44.2**	**+0.1**
HOMI	**Horasan**	**1.82**	**313**	⇑*i*P	**Pn**	**15 27 46.3**	**+0.8**
EAK	**Akyaka**	**1.88**	**360**	*i* P	**Pg**	**15 27 50.1**	**+0.3**
BNGL	**BINGOL**	**1.94**	**275**	⇑*i*P	**Pn**	**15 27 47.4**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*PN	**Pn**	**15 27 48.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*i* P	**Pb**	**15 27 49.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*Pn	**Pn**	**15 27 48.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	P	**Pb**	**15 27 49.5**	**-1.1**
BTMN	**Batman**	**2.06**	**244**	*i* P	**Pb**	**15 27 50.6**	**-0.9**
BTMN	**Batman**	**2.06**	**244**	P	**Pb**	**15 27 50.6**	**-0.9**
ERZM	**Erzurum**	**2.06**	**303**	*i* P	**Pn**	**15 27 49.9**	**+1.0**
ERZM				*i* S	**Sb**	**15 28 16.8**	**-0.7**
ERZM	**Erzurum**	**2.06**	**303**	P	**Pn**	**15 27 49.9**	**+1.0**
ERZM				S	**Sb**	**15 28 16.8**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.21**	**292**	*i* P	**Pn**	**15 27 51.1**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.21**	**292**	P	**Pn**	**15 27 51.1**	**+0.3**
BNGB	**Bing¨¶l**	**2.31**	**275**	*e*PN	**Pn**	**15 27 52.3**	**+0.2**
BINT	**Bingol**	**2.45**	**273**	P	**Pn**	**15 27 52.3**	**-1.8**
BINT	**Bingol**	**2.45**	**273**	*e*Pn	**Pn**	**15 27 52.3**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.48**	**286**	*e*PN	**Pn**	**15 27 54.7**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.48**	**286**	*e*Pn	**Pn**	**15 27 54.7**	**+0.2**
GDB	**GEDABAY**	**2.52**	**40**	⇓P	**Pb**	**15 27 57.2**	**-2.1**
GDB				⇓S	**Sb**	**15 28 32.2**	**+1.7**
GDB	**GEDABAY**	**2.52**	**40**	P	**Pb**	**15 27 57.2**	**-2.1**
DDEM	**Demirkent**	**2.53**	**326**	*i* P	**Pn**	**15 27 57.2**	**+2.0**
DDEM	**Demirkent**	**2.53**	**326**	P	**Pn**	**15 27 57.2**	**+2.0**
AKH	**Akhalkalaki**	**2.60**	**358**	P	**Pb**	**15 28 02.1**	**+1.4**
AKH				S	**Sg**	**15 28 38.9**	**+1.5**
AKH	**Akhalkalaki**	**2.60**	**358**	P	**Pb**	**15 28 02.1**	**+1.4**
AKH				S	**Sg**	**15 28 38.8**	**+1.5**
QZX	**Qazax, Azerbai**	**2.62**	**30**	⇑P	**Pb**	**15 27 58.9**	**-2.0**
QZX				⇓S	**Sb**	**15 28 35.2**	**+2.0**
QZX	**Qazax, Azerbai**	**2.62**	**30**	P	**Pb**	**15 27 58.9**	**-2.0**
MARD	**Mardin**	**2.70**	**237**	*i* P	**Pn**	**15 27 58.6**	**+1.1**
MARD	**Mardin**	**2.70**	**237**	*e*Pn	**Pn**	**15 27 55.6**	**-1.9**
MARD	**Mardin**	**2.70**	**237**	*e*Pn	**Pn**	**15 27 55.6**	**-1.9**
KOPT	**Kop Dagi**	**2.71**	**298**	*e*Pn	**Pb**	**15 28 01.9**	**-0.7**
KOPT	**Kop Dagi**	**2.71**	**298**	*e*Pn	**Pb**	**15 28 01.9**	**-0.7**
ARTV	**Artvin**	**2.71**	**332**	*i* P	**Pb**	**15 28 02.3**	**-0.3**
ARTV	**Artvin**	**2.71**	**332**	*e*Pn	**Pn**	**15 27 58.2**	**+0.5**
ARTV	**Artvin**	**2.71**	**332**	*e*Pn	**Pn**	**15 27 58.2**	**+0.5**
GANJ	**Ganja**	**2.77**	**48**	⇑P	**Pn**	**15 28 00.2**	**+1.7**
GANJ				⇓S	**Sb**	**15 28 37.4**	**-0.3**
GANJ	**Ganja**	**2.77**	**48**	P	**Pn**	**15 28 00.2**	**+1.7**
GANJ				S	**Sb**	**15 28 37.4**	**-0.3**
EPOS	**Posof**	**2.78**	**346**	*i* P	**Pb**	**15 28 02.8**	**-0.9**
MAZI	**Mazidag**	**2.84**	**243**	*e*PN	**Pn**	**15 28 00.4**	**+0.9**
MAZI	**Mazidag**	**2.84**	**243**	*e*Pn	**Pn**	**15 28 00.4**	**+0.9**
DIYA	**Diyarbakir**	**2.89**	**253**	*i* P	**Pn**	**15 28 01.3**	**+1.2**
DIYA				*i* S	**Sb**	**15 28 39.9**	**-1.2**
DIYA	**Diyarbakir**	**2.89**	**253**	P	**Pn**	**15 28 01.3**	**+1.2**
DBOC	**Borcka**	**2.95**	**330**	*i* P	**Pb**	**15 28 05.9**	**-0.6**
DGRG	**David-gareji**	**2.96**	**26**	P	**Pb**	**15 28 07.1**	**+0.3**
DGRG				S	**Sg**	**15 28 53.3**	**+4.5**
DGRG	**David-gareji**	**2.96**	**26**	P	**Pb**	**15 28 07.0**	**+0.3**
TBLG	**Delisi**	**3.04**	**16**	P	**Pb**	**15 28 06.6**	**-1.5**
TBLG				S	**Sg**	**15 28 51.6**	**+0.1**
TBLG	**Delisi**	**3.04**	**16**	P	**Pb**	**15 28 06.6**	**-1.5**
TBLG				S	**Sg**	**15 28 51.5**	**+0.1**
TBLG	**Delisi**	**3.04**	**16**	P	**Pb**	**15 28 06.6**	**-1.5**
SEAG	**Tbilisi Sea**	**3.09**	**17**	P	**Pb**	**15 28 10.0**	**+1.1**
SEAG				S	**Sg**	**15 28 54.1**	**+1.1**
BRDA	**Brd**	**3.11**	**61**	⇓P	**Pn**	**15 28 03.6**	**+0.6**
BRDA				⇓S	**Sn**	**15 28 43.7**	**+3.4**
BRDA	**Brd**	**3.11**	**61**	P	**Pn**	**15 28 03.6**	**+0.6**
BRDA				S	**Sn**	**15 28 43.7**	**+3.4**
EUZM	**Uzumlu**	**3.18**	**288**	⇓*i*P	**Pb**	**15 28 10.1**	**-0.4**
TNCL	**Tunceli-Merkez**	**3.20**	**277**	*i* P	**Pb**	**15 28 09.8**	**-1.0**
MNGR	**Mingechevir, A**	**3.31**	**53**	⇓P	**Pn**	**15 28 07.0**	**+1.2**
MNGR				⇓S	**Sb**	**15 28 49.7**	**-3.4**
MNGR	**Mingechevir, A**	**3.31**	**53**	P	**Pn**	**15 28 07.0**	**+1.2**
MNGR				S	**Sb**	**15 28 49.7**	**-3.4**
DUS	**Dusheti**	**3.38**	**14**	P	**Pg**	**15 28 16.8**	**-1.7**
DUS				S	**Sg**	**15 29 04.2**	**+1.9**
DUS	**Dusheti**	**3.38**	**14**	P	**Pg**	**15 28 16.8**	**-1.7**
ZRD	**Zardab**	**3.47**	**64**	⇓P	**Pn**	**15 28 08.2**	**+0.3**
ZRD				⇑S	**Sn**	**15 28 52.1**	**+3.0**
ZRD	**Zardab**	**3.47**	**64**	P	**Pn**	**15 28 08.2**	**+0.3**
ZRD				S	**Sn**	**15 28 52.1**	**+3.0**
ZKTA	**Zakatala**	**3.64**	**38**	⇓P	**Pn**	**15 28 12.6**	**+2.2**
ZKTA				⇓S	**Sb**	**15 29 00.1**	**-2.5**
ELZG	**Elazig**	**3.65**	**267**	*i* P	**Pn**	**15 28 11.8**	**+1.2**
ELZG	**Elazig**	**3.65**	**267**	P	**Pn**	**15 28 11.8**	**+1.2**
SEKA	**Sheki**	**3.65**	**48**	⇑P	**Pn**	**15 28 12.7**	**+2.2**
SEKA				⇓S	**Sb**	**15 29 00.2**	**-2.6**
SEKA	**Sheki**	**3.65**	**48**	P	**Pn**	**15 28 12.7**	**+2.2**
SFNV	**Sufian**	**3.67**	**231**	*e*P	**Pn**	**15 28 12.1**	**+1.3**
SFNV				*e*S	**Sn**	**15 28 55.5**	**+1.3**
SFNV				AML	AML	15 29 24.4	
	comp=Z,164nm,0.6s						
LRK	**Lerik**	**3.69**	**91**	⇓P	**Pn**	**15 28 08.8**	**-2.4**
LRK				⇑S	**Sn**	**15 28 53.2**	**-1.7**
LRK	**Lerik**	**3.69**	**91**	P	**Pn**	**15 28 08.8**	**-2.4**
LRK				S	**Sn**	**15 28 53.2**	**-1.7**
GLBA	**Clilabad**	**3.74**	**82**	⇑P	**Pn**	**15 28 10.3**	**-1.4**
GLBA				⇓S	**Sn**	**15 28 55.9**	**0.0**
GLBA	**Clilabad**	**3.74**	**82**	P	**Pn**	**15 28 10.3**	**-1.4**
GLBA				S	**Sn**	**15 28 55.9**	**0.0**
ONI	**Oni**	**3.78**	**358**	P	**Pb**	**15 28 17.0**	**-3.8**
ONI				S	**Sg**	**15 29 18.3**	**+3.1**
ONI	**Oni**	**3.78**	**358**	P	**Pb**	**15 28 16.9**	**-3.8**
KDMR	**Kurdemir**	**3.85**	**65**	⇓P	**Pn**	**15 28 13.4**	**+0.2**
KDMR				⇓S	**Sn**	**15 29 01.7**	**+3.0**
KDMR	**Kurdemir**	**3.85**	**65**	P	**Pn**	**15 28 13.4**	**+0.2**
KDMR				S	**Sn**	**15 29 01.7**	**+3.0**
SAAT	**Saatly**	**3.87**	**73**	⇑P	**Pn**	**15 28 12.6**	**-0.8**
SAAT				⇑S	**Sn**	**15 29 00.1**	**+1.1**
SAAT	**Saatly**	**3.87**	**73**	P	**Pn**	**15 28 12.6**	**-0.8**
SAAT				S	**Sn**	**15 29 00.1**	**+1.1**
QBL	**Gabala**	**3.88**	**55**	⇓P	**Pn**	**15 28 14.6**	**+0.9**
QBL				⇑S	**Sn**	**15 29 03.6**	**+4.1**
QBL	**Gabala**	**3.88**	**55**	P	**Pn**	**

comp=N,0.2nm,0.3s,baz=298,slow=12,SNR=2.3
GEYT LR LR 15 34 34.4
comp=N,160nm,19.1s,baz=220,slow=38
DOPR Dopca 15.24 304 ⇓ *i*P **P 15 30 56.7 +2.6**
VOIR 15.28 302 ⇓ *i*P **P 15 30 57.5 +2.9**
VOIR 15.28 302 ⇓ P **P 15 30 57.5 +2.9**
RAYN Ar Rayn 15.32 173 *e*Pn **Pn 15 30 45.2 -5.1**
RAYN Ar Rayn 15.32 173 *e*Pn **Pn 15 30 45.2 -5.1**
IDI Anoyia 15.37 263 Pn **Pn 15 30 49.7 -1.1**
comp=N,0.2nm,0.3s,baz=37,slow=20,SNR=3.3
AKTO Aktyubinsk 15.46 37 Pn **Pn 15 30 52.3 +0.3**
comp=N,0.1nm,0.3s,baz=231,slow=19,SNR=4.6
AKASG Malin Array Be 15.65 324 Pn **Pn 15 30 54.0 -0.4**
comp=N,0.6nm,0.3s,baz=132,slow=12,SNR=4.2
ABKAR Akbulak array 15.68 43 *e*Pn **P 15 30 59.3 +0.4**
comp=N,19nm,0.7s
ABKAR Akbulak array 15.68 43 *e*Pn **P 15 30 59.3 +0.4**
comp=N,19nm,0.7s
VTS Vitosha 15.93 290 ⇓ *i*P **P 15 31 04.4 +2.4**
VTS Vitosha 15.93 290 *e*P **P 15 31 02.3 +0.3**
VTS pmax pmax
comp=Z,9.0nm,1.1s
VTS Vitosha 15.93 290 *e*P **P 15 31 02.3 +0.3**
comp=Z,9.0nm,1.1s
VTS Vitosha 15.93 290 *e*Pn **P 15 31 02.2 +0.3**
comp=Z,9.3nm,1.1s
BURAR Bucovina Array 16.02 309 ⇑ *i*P **P 15 31 04.1 +1.3**
BURAR Bucovina Array 16.02 309 ⇑ P **P 15 31 04.1 +1.3**
BUR08 Bucovina Ar. S 16.04 309 *e*Pn **P 15 31 04.3 +1.2**
OBN Obninsk 16.99 346 ⇓ *e*P **P 15 31 13.6 +0.2**
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,317nm,18.0s
OBN Obninsk 16.99 346 *e*P **P 15 31 13.6 +0.2**
comp=Z,317nm,18.0s
DRGR 17.26 304 ⇑ *i*P **P 15 31 19.2 +2.6**
DRGR 17.26 304 ⇑ P **P 15 31 19.2 +2.6**
BZS Buzias 17.64 300 ⇓ *i*P **P 15 31 23.4 +2.8**
BZS Buzias 17.64 300 ⇓ P **P 15 31 23.4 +2.8**
SIRR Siria 17.79 302 ⇑ *i*P **P 15 31 24.2 +1.9**
SIRR Siria 17.79 302 ⇑ *i*P **P 15 31 24.2 +1.9**
CRVS Cervenica-Dubn 18.84 310 *e*P **P 15 31 33.0 -0.9**
CRVS Cervenica-Dubn 18.84 310 *e*P **P 15 31 33.0 -0.9**
CRVS Cervenica-Dubn 18.84 310 *e*PN **P 15 31 33.0 -0.9**
STHS Stebnicka Huta 19.18 311 *e*P **Pn 15 31 42.6 +4.1**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 19.18 311 *e*P **Pn 15 31 42.6 +4.1**
KECS Kecovo 19.27 308 *e*P **Pn 15 31 45.5 +5.9**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 19.27 308 *e*P **Pn 15 31 45.5 +5.9**
PSZ Piszkesteto 19.45 306 ⇓ *i*P **Pn 15 31 43.7 +1.9**
PSZ Piszkesteto 19.45 306 *e*P **Pn 15 31 42.4 +0.6**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 19.45 306 *e*P **Pn 15 31 42.4 +0.6**
comp=Z,8.1nm,0.9s
PSZ Piszkesteto 19.45 306 *e*P **Pn 15 31 42.4 +0.6**
comp=Z,8.1nm,0.9s
WSAR Wadi Sarin 20.11 136 P **P 15 31 48.9 +0.9**
comp=Z,3.6nm,0.9s,baz=350,slow=5.6,SNR=1.6
ARU Arti 20.22 24 P **P 15 31 49.6 +0.6**
comp=Z,10nm,0.8s,baz=235,slow=6.1,SNR=9.9
ARU Arti 20.22 24 *d i*P Pn 15 31 50.6 -0.2
ARU 15 32 10.8
ARU S Sn 15 35 42.1 +3.7
ARU SS **SnSn 15 35 58.7 +5.8**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 20.22 24 *e*P **P 15 31 49.4 +0.5**
comp=Z,13nm,0.8s
ARU Arti 20.22 24 *e*P **P 15 31 49.4 +0.5**
comp=Z,13nm,0.8s
VYHS Vyhne 20.30 307 *e*P Pn 15 31 51.7 -0.2
VYHS *e* 15 31 55.9
VYHS pmax pmax
comp=Z,56nm,2.9s
VYHS Vyhne 20.30 307 *e*P Pn 15 31 51.7 -0.2
comp=Z,56nm,2.9s
VYHS Vyhne 20.30 307 *e*PN Pn 15 31 51.7 -0.2
VYHS Vyhne 20.30 307 *e*P Pn 15 31 55.9 +4.0
SUW Suwalki 20.62 324 P Pn 15 31 55.1 -0.4
SUW pmax pmax
comp=Z,55nm,0.8s
SUW Suwalki 20.62 324 P Pn 15 31 55.1 -0.4
comp=Z,55nm,0.8s
KKAR Karatay Array 20.72 69 *e*P **P 15 31 55.2 +0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 20.72 69 *e*P **P 15 31 55.2 +0.7**
comp=Z,4.3nm,0.7s
KKAR Karatay Array 20.72 69 *e*P **P 15 31 55.2 +0.7**
comp=Z,4.3nm,0.7s
SOP Sopron 21.53 303 P **P 15 32 07.4 +4.3**
SOP pmax pmax
comp=Z,17nm,1.0s
VRAC Vranov 21.97 307 P **P 15 32 07.5 -0.3**
comp=Z,6.8nm,0.8s,baz=100,slow=11,SNR=2.6
CONA Conrad Observa 22.05 303 *i*P **P 15 32 09.8 +1.0**
comp=Z,8.5nm,1.1s
CONA Conrad Observa 22.05 303 P **P 15 32 09.8 +1.0**
comp=Z,8.5nm,1.1s
ARSA Arzberg 22.11 302 *i*P **P 15 32 08.7 -0.7**
comp=Z,4.9nm,0.8s
ARSA Arzberg 22.11 302 P **P 15 32 08.7 -0.7**
comp=Z,4.9nm,0.8s
SOKA Soboth 22.33 300 *i*P **P 15 32 15.3 +3.5**
comp=Z,4.3nm,1.1s
DPC Dobruska-Polom 22.48 310 *e*P **P 15 32 15.5 +2.2**
DPC *ex* x 15 32 19.1
DPC Dobruska-Polom 22.48 310 *e*P **P 15 32 15.5 +2.2**
DPC *e* 15 32 19.1
DPC Dobruska-Polom 22.48 310 *e*P **P 15 32 15.5 +2.2**
UPC Upice 22.72 310 *e*P **P 15 32 17.7 +1.9**
UPC *ex* x 15 32 21.9
UPC Upice 22.72 310 *e*P **P 15 32 17.7 +1.9**
UPC *e* 15 32 21.9
UPC Upice 22.72 310 *e*P **P 15 32 17.7 +1.9**
MOA Molln 23.07 303 *i*pP **P 15 32 21.0 +1.4**
comp=Z,5.8nm,0.9s
MOA Molln 23.07 303 P **P 15 32 21.0 +1.4**
comp=Z,5.8nm,0.9s
BVAR Borovoye Array 23.25 44 P **P 15 32 21.9 +0.6**
comp=Z,0.4nm,0.6s,baz=263,slow=6.7,SNR=3.0
PRU Pruhonice 23.45 308 *e*P **P 15 32 24.2 +0.9**
PRU Pruhonice 23.45 308 *e*P **P 15 32 24.2 +0.9**
PRU Pruhonice 23.45 308 P **P 15 32 24.2 +0.9**
KBA Koelnbreinsper 23.54 300 P **P 15 32 27.2 +2.7**
KBA pmax pmax
comp=Z,9.0nm,2.0s
KBA Koelnbreinsper 23.54 300 *i*P **P 15 32 25.4 +0.9**
comp=Z,11nm,1.3s
KBA Koelnbreinsper 23.54 300 P **P 15 32 25.4 +0.9**
comp=Z,11nm,1.3s
AAK Ala-Archa 23.64 71 *e*P **P 15 32 25.1 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 23.64 71 *e*P **P 15 32 25.1 -0.4**
comp=Z,3.4nm,0.8s
AAK Ala-Archa 23.64 71 *e*P **P 15 32 25.1 -0.4**
comp=Z,3.4nm,0.8s
GEC2 GERESS Array S 23.67 305 *e*P **P 15 32 26.3 +0.7**
GEC2 pmax pmax
comp=Z,24nm,1.6s
GEC2 GERESS Array S 23.67 305 *e*P **P 15 32 26.3 +0.7**
comp=Z,24nm,1.6s
GEC2 GERESS Array S 23.67 305 *e*P **P 15 32 26.3 +0.7**
comp=Z,24nm,1.6s
GERES GERESS Array B 23.67 305 P **P 15 32 26.1 +0.5**
comp=Z,1.6nm,0.5s,baz=105,slow=9.0,SNR=15
KHC Kasperske Hory 23.81 305 *e*P **P 15 32 27.7 +0.7**
KHC *ex* x 15 32 32.1
KHC Kasperske Hory 23.81 305 *e*P **P 15 32 27.5 +0.5**
KHC pmax pmax
comp=Z,8.0nm,1.3s
KHC Kasperske Hory 23.81 305 P **P 15 32 27.7 +0.7**
KHC Kasperske Hory 23.81 305 *e*P **P 15 32 27.5 +0.5**
comp=Z,8.3nm,1.3s
ABTA Abfaltersbach 24.06 299 *e*P **P 15 32 30.7 +1.3**
comp=Z,11nm,1.3s
ABTA Abfaltersbach 24.06 299 P **P 15 32 30.7 +1.3**
comp=Z,11nm,1.3s
WET Wettzell 24.26 305 P **P 15 32 32.3 +1.1**
WET pmax pmax
comp=Z,12nm,1.2s
WTTA Wattenberg 24.72 300 *i*P **P 15 32 36.4 +0.9**
comp=Z,20nm,1.2s
WTTA Wattenberg 24.72 300 P **P 15 32 36.4 +0.9**
comp=Z,20nm,1.2s
WATA Walderalm 24.77 301 *i*P **P 15 32 35.8 -0.2**
comp=Z,9.0nm,0.8s
WATA Walderalm 24.77 301 P **P 15 32 35.8 -0.2**
comp=Z,9.0nm,0.8s
CLL Collm 24.78 310 *e*P **P 15 32 36.0 +0.2**
comp=Z,7.0nm,1.0s
CLL *e* 15 32 41.0
NKC Novy Kostel 24.81 308 P **P 15 32 38.9 +2.8**
NKC pmax pmax
comp=Z,5.0nm,1.1s
KSH Kashi 25.02 78 *e*P **P 15 32 37.5 -0.8**
KSH pP sP 15 32 41.8 -0.2
KSH sP pP 15 32 44.8 +3.9
KSH PP **PnPn 15 33 14.3 +3.0**
KSH PcP **PcP 15 36 12.8 -0.2**
KSH S **S 15 36 57.5 -5.0**
KSH SS **SnSn 15 37 54.5 +3.6**
KSH PcS **PcS 15 39 54.0 +0.7**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,260nm,5.7s
KSH LR LR
comp=N,180nm,10.0s
KSH LR LR
comp=E,260nm,9.0s
KSH LR LR
comp=Z,310nm,8.1s
MOTA Moosalm 25.09 300 *i*P **P 15 32 40.0 +1.1**
comp=Z,13nm,1.0s
MOTA Moosalm 25.09 300 P **P 15 32 40.0 +1.1**
comp=Z,13nm,1.0s
FINES FINESS Array B 25.13 340 P **P 15 32 38.9 +0.1**
comp=Z,3.8nm,0.9s,baz=141,slow=9.8,SNR=5.2
FETA Feichten 25.30 300 *e*pP **P 15 32 41.0 +0.2**
comp=Z,10.0nm,1.1s
FETA Feichten 25.30 300 P **P 15 32 41.0 +0.2**
comp=Z,10.0nm,1.1s
RETA Reutte 25.34 301 *i*pP **P 15 32 41.2 +0.2**
comp=Z,1.8nm,0.6s
RETA Reutte 25.34 301 P **P 15 32 41.2 +0.2**
comp=Z,1.8nm,0.6s
DAVOX Davos/Dischmat 25.86 299 P **P 15 32 45.1 -0.7**
comp=Z,6.3nm,0.6s,baz=121,slow=4.3,SNR=7.0
DAVA Damuels 25.91 300 *i*pP **P 15 32 45.7 -0.6**
comp=Z,12nm,1.0s
DAVA Damuels 25.91 300 P **P 15 32 45.7 -0.6**
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 27.22 53 P **P 15 32 59.0 +1.2**
comp=Z,2.3nm,0.6s,baz=263,slow=9.1,SNR=17
KURK Kurchatov 27.29 53 P **P 15 32 59.0 +0.5**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 27.29 53 *e*P **P 15 32 58.9 +0.5**
comp=Z,3.8nm,0.9s
KURK Kurchatov 27.29 53 *e*P **P 15 32 58.9 +0.4**
comp=Z,3.8nm,0.9s
HFS Hagfors 28.45 328 P **P 15 33 08.9 +0.1**
comp=Z,5.8nm,0.8s,baz=126,slow=9.7,SNR=7.7
MK31 Makanchi Array 29.23 62 *e*P **P 15 33 15.8 -0.1**
MK31 Makanchi Array 29.23 62 *e*P **P 15 33 15.8 -0.1**
MK31 Makanchi Array 29.23 62 *e*P **P 15 33 15.8 -0.1**
MKAR Makanchi Array 29.23 62 P **P 15 33 17.4 +1.5**
comp=Z,0.8nm,0.7s,baz=264,slow=13,SNR=6.3
MKAR Makanchi Array 29.23 62 *e*P **P 15 33 15.9 0.0**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 29.23 62 *e*P **P 15 33 15.9 0.0**
comp=Z,10nm,0.8s
MKAR Makanchi Array 29.23 62 *e*P **P 15 33 15.9 0.0**
comp=Z,10nm,0.8s
NOA NORSAR Array B 29.97 329 P **P 15 33 21.6 -0.7**
comp=Z,2.0nm,1.0s,baz=130,slow=8.7,SNR=3.6
ZALV Zalesovo Beam 31.68 48 P **P 15 33 37.2 -0.2**
comp=Z,0.8nm,0.5s,baz=249,slow=10,SNR=4.5
ARCES ARCESS Array B 32.28 348 P **P 15 33 42.3 -0.2**
comp=Z,2.1nm,0.7s,baz=165,slow=9.7,SNR=6.3
WMQ Urumqi 33.18 67 P **P 15 33 52.0 +1.3**
WMQ pP sP 15 33 56.5 +2.0
WMQ sP pP 15 33 59.3 +5.9
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,190nm,4.9s
WMQ LR LR
comp=N,290nm,17.7s
WMQ LR LR
comp=E,320nm,19.1s
WMQ LR LR
comp=Z,380nm,19.1s
ESDC Sonseca Array 36.53 287 P **P 15 34 18.9 -0.8**
comp=Z,1.8nm,0.5s,baz=67,slow=8.6,SNR=14
NRIK Noril'sk 38.44 23 P **P 15 34 36.4 +1.0**
comp=Z,3.4nm,0.9s,baz=232,slow=3.7,SNR=4.0
GTA Gaotai 42.99 71 *e*P **P 15 35 13.3 -0.3**
GTA pP sP 15 35 19.3 +2.0
GTA sP pP 15 35 22.3 +6.0
GTA pmax pmax
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 44.98 247 P **P 15 35 28.3 -1.3**
comp=Z,2.5nm,0.9s,baz=67,slow=6.5,SNR=13
LZH Lanzhou 47.13 74 *e*P **P 15 35 43.0 -3.6**
LZH pP pP 15 35 46.3 -3.0
LZH sP sP 15 35 47.8 -2.6
LZH *e*PP **PP 15 37 33.3 -3.9**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,41nm,5.7s
LZH LR LR
comp=N,100nm,14.9s
LZH LR LR
comp=E,110nm,14.7s
LZH LR LR
comp=Z,140nm,18.3s
HHC Hu-ho-hao-te 51.00 65 *e*P **P 15 36 14.8 -1.3**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,400nm,7.0s
CMAR Chiang Mai Arr 51.80 97 P **P 15 36 22.6 +0.4**
comp=Z,0.5nm,0.7s,baz=297,slow=7.9,SNR=3.3
TIXI Tiksi 52.23 24 P **P 15 36 25.4 +0.7**
comp=Z,1.3nm,0.9s,baz=306,slow=8.7,SNR=2.5
DBIC Dimbokro 54.09 247 P **P 15 36 38.2 -0.9**
comp=Z,1.8nm,0.6s,baz=39,slow=3.5,SNR=3.0
BILL Bilibino 65.18 20 ⇑ *e*P **P 15 37 55.4 +0.6**
BILL *e* 15 38 00.9
BILL 15 38 27.0
BILL pmax pmax
comp=Z,15nm,1.4s
BOSA Boshof 69.23 197 P **P 15 38 21.0 -0.1**
comp=Z,0.7nm,0.3s,baz=36,slow=14,SNR=3.5
ILAR Eielson Array 76.43 5 P **P 15 39 03.6 +0.3**
comp=Z,0.3nm,0.7s,baz=338,slow=6.9,SNR=3.9
YKA Yellowknife Ar 77.53 350 P **P 15 39 09.6 +0.1**
comp=Z,1.6nm,0.8s,baz=19,slow=6.0,SNR=4.2
ULM Lac du Bonnet 84.42 335 P **P 15 39 45.9 -0.6**
comp=Z,1.9nm,0.7s,baz=32,slow=4.3,SNR=3.2

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*AZER **25** 15:31:14.3±3.0, 38°.19N×43°.35E, h5km, Error ellipse:*
s-maj=32.6km s-min=13.9km az=82.0
*ISK **25** 15:31:16.5, 38°.74N×43°.61E, h4km, ML3.6*
*CSEM **25** 15:31:17.7±0.2, 38°.73N×43°.55E, h2km, ML3.6, Error*
ellipse: s-maj=5.5km s-min=4.6km az=74.0
*DDA **25** 15:31:17.6, 38°.75N×43°.54E, h7km, Ml3.5*
ISC 25 15:31:18.3±1.0, **38°.74N**±0°.02×**43°.55E**±0°.02, **h8**km±8km,
n56, σ1§**40**/85, **8C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**222**	*e*PG	**Pg**	**15 31 22.1**	**-0.2**
VANB				*e*SG	**Sg**	**15 31 27.4**	**+2.4**
VANB	**Van**	**0.19**	**222**	*e*Pg	**Pg**	**15 31 22.1**	**-0.2**
GEVA	**Gevas**	**0.58**	**222**	*i*P	**Pg**	**15 31 27.5**	**-2.0**
GEVA				*i*S	**Sg**	**15 31 37.1**	**0.0**
GEVA	**Gevas**	**0.58**	**222**	P	**Pg**	**15 31 27.5**	**-2.0**
GEVA				S	**Sg**	**15 31 37.1**	**0.0**
BASK	**Baskale_VAN**	**0.77**	**153**	*i*P	**Pg**	**15 31 31.9**	**-1.3**
BASK				*i*S	**Sb**	**15 31 44.8**	**-0.1**
BASK	**Baskale_VAN**	**0.77**	**153**	P	**Pg**	**15 31 31.9**	**-1.3**
BASK				S	**Sb**	**15 31 44.8**	**-0.1**
DYDN	**Diyadin**	**0.81**	**7**	*i*P	**Pg**	**15 31 33.7**	**-0.3**
DYDN				*i*S	**Sg**	**15 31 44.5**	**0.0**
DYDN	**Diyadin**	**0.81**	**7**	P	**Pg**	**15 31 33.7**	**-0.3**
DYDN				S	**Sg**	**15 31 44.5**	**0.0**
TUTA	**Tutak**	**0.88**	**319**	*i*P	**Pg**	**15 31 33.5**	**-1.7**
TUTA				*i*S	**Sg**	**15 31 46.5**	**-0.2**
TUTA	**Tutak**	**0.88**	**319**	P	**Pg**	**15 31 33.5**	**-1.7**
TUTA				S	**Sg**	**15 31 46.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*PG	**Pg**	**15 31 35.3**	**-1.2**
AGRB				*e*SG	**Sb**	**15 31 49.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*Pg	**Pg**	**15 31 35.3**	**-1.2**
AGRB				*e*Sg	**Sb**	**15 31 49.7**	**-0.1**
HAKT	**HAKKARI**	**1.19**	**174**	*i*P	**Pg**	**15 31 38.7**	**-2.4**
HAKT				*i*S	**Sn**	**15 31 58.2**	**+0.3**
HAKT	**HAKKARI**	**1.19**	**174**	P	**Pg**	**15 31 38.7**	**-2.4**
HAKT				S	**Sn**	**15 31 58.2**	**+0.3**
EKAR	**Karacoban**	**1.27**	**294**	*i*P	**Pn**	**15 31 42.6**	**0.0**
EKAR				*i*S	**Sn**	**15 32 03.4**	**+3.4**
EKAR	**Karacoban**	**1.27**	**294**	P	**Pn**	**15 31 42.6**	**0.0**
EKAR				S	**Sn**	**15 32 03.4**	**+3.4**
EATA	**Eleskirt**	**1.39**	**324**	*i*P	**Pn**	**15 31 43.4**	**-1.0**
EATA				*i*S	**Sn**	**15 32 02.8**	**-0.3**
EATA	**Eleskirt**	**1.39**	**324**	P	**Pn**	**15 31 43.4**	**-1.0**
EATA				S	**Sn**	**15 32 02.8**	**-0.3**
CUKT	**Cukurca**	**1.49**	**178**	*e*PN	**Pn**	**15 31 45.4**	**-0.1**
CUKT				*e*SN	**Sb**	**15 32 05.2**	**-0.3**
CUKT	**Cukurca**	**1.49**	**178**	*i*P	**Pb**	**15 31 45.8**	**-0.5**
CUKT				*i*S	**Sg**	**15 32 09.8**	**+3.5**
CUKT	**Cukurca**	**1.49**	**178**	*e*Pn	**Pn**	**15 31 45.4**	**-0.1**
CUKT	**Cukurca**	**1.49**	**178**	P	**Pb**	**15 31 45.8**	**-0.5**
CUKT				*e*Sn	**Sb**	**15 32 05.2**	**-0.3**
SIRN	**S¨–rnak**	**1.53**	**216**	*i*P	**Pg**	**15 31 47.0**	**-0.8**
SIRN				*i*S	**Sg**	**15 32 09.6**	**+2.0**
SIRN	**S¨–rnak**	**1.53**	**216**	P	**Pg**	**15 31 47.0**	**-0.8**
SIRN				S	**Sg**	**15 32 09.6**	**+2.0**
NAX	**Nakhchivan**	**1.57**	**73**	⇑P	**Pg**	**15 31 48.1**	**-0.4**
NAX				⇑S	**Sg**	**15 32 13.9**	**+5.0**
NAX	**Nakhchivan**	**1.57**	**73**	P	**Pg**	**15 31 48.1**	**-0.4**
VRTB	**Varto-Mus**	**1.69**	**285**	*e*PN	**Pn**	**15 31 48.1**	**-0.2**
VRTB	**Varto-Mus**	**1.69**	**285**	*e*Pn	**Pn**	**15 31 48.1**	**-0.2**
HOMI	**Horasan**	**1.82**	**316**	*i*P	**Pb**	**15 31 52.0**	**-0.1**
HOMI				*i*S	**Sg**	**15 32 17.9**	**+0.8**
BNGL	**BINGOL**	**1.89**	**277**	*i*P	**Pg**	**15 31 53.9**	**-0.7**
BNGL				*i*S	**Sg**	**15 32 18.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.94**	**253**	*e*PN	**Pn**	**15 31 52.3**	**+0.6**
SVAN				*e*SN	**Sb**	**15 32 17.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.94**	**253**	*e*Pn	**Pn**	**15 31 52.3**	**+0.6**
SVAN				*e*Sn	**Sb**	**15 32 17.6**	**-0.8**
ERZM	**Erzurum**	**2.06**	**305**	*i*P	**Pb**	**15 31 55.6**	**-0.5**
ERZM	**Erzurum**	**2.06**	**305**	P	**Pb**	**15 31 55.6**	**-0.5**
BNGB	**Bing¨¶l**	**2.26**	**277**	*e*PN	**Pn**	**15 31 57.1**	**+1.0**
BINT	**Bingol**	**2.40**	**274**	*e*Pn	**Pn**	**15 31 57.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	*e*PN	**Pn**	**15 31 59.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	*e*Pn	**Pn**	**15 31 59.2**	**+0.5**
DDEM	**Demirkent**	**2.56**	**328**	*i*P	**Pb**	**15 32 05.4**	**+0.8**
DDEM	**Demirkent**	**2.56**	**328**	P	**Pb**	**15 32 05.4**	**+0.8**
GDB	**GEDABAY**	**2.61**	**40**	⇑P	**Pb**	**15 32 03.6**	**-1.8**
GDB				⇑S	**Sg**	**15 32 43.2**	**+1.2**
GDB	**GEDABAY**	**2.61**	**40**	P	**Pb**	**15 32 03.6**	**-1.8**
QZX	**Qazax, Azerbai**	**2.71**	**31**	⇓P	**Pb**	**15 32 06.4**	**-0.6**
QZX				⇑S	**Sg**	**15 32 48.0**	**+2.8**
QZX	**Qazax, Azerbai**	**2.71**	**31**	P	**Pb**	**15 32 06.4**	**-0.6**
MAZI	**Mazidag**	**2.76**	**243**	*e*PN	**Pn**	**15 32 03.6**	**+0.5**
MAZI	**Mazidag**	**2.76**	**243**	*e*Pn	**Pn**	**15 32 03.6**	**+0.5**
GANJ	**Ganja**	**2.86**	**47**	⇓P	**Pb**	**15 32 07.7**	**-2.0**
GANJ	**Ganja**	**2.86**	**47**	P	**Pb**	**15 32 07.7**	**-2.0**
ZRD	**Zardab**	**3.54**	**63**	⇑P	**Pn**	**15 32 15.4**	**+1.7**
ZRD	**Zardab**	**3.54**	**63**	P	**Pn**	**15 32 15.4**	**+1.7**
GLBA	**Clilabad**	**3.80**	**81**	⇑P	**Pn**	**15 32 16.8**	**-0.4**
GLBA	**Clilabad**	**3.80**	**81**	P	**Pn**	**15 32 16.8**	**-0.4**
LKRN	**Lenkeran, Azer**	**4.09**	**89**	⇑P	**Pn**	**15 32 20.3**	**-0.8**
LKRN	**Lenkeran, Azer**	**4.09**	**89**	P	**Pn**	**15 32 20.3**	**-0.8**
ASTR	**Astara**	**4.10**	**91**	⇓P	**Pn**	**15 32 19.4**	**-2.0**
ASTR	**Astara**	**4.10**	**91**	P	**Pn**	**15 32 19.4**	**-2.0**

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*ISK **25** 15:35:45.8, 38°.73N×43°.52E, h5km, ML3.0*
*CSEM **25** 15:35:46.6±0.4, 38°.71N×43°.63E, h2km, ML3.0, Error*
ellipse: s-maj=9.8km s-min=5.2km az=80.0
*DDA **25** 15:35:46.5, 38°.68N×43°.53E, h8km, Ml3.4*
ISC 25 15:35:46.5±1.2, **38°.72N**±0°.02×**43°.62E**±0°.04, **h17**km±10km,
n34, σ1§**23**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**235**	*e*PG	**Pb**	**15 35 51.2**	**-1.0**
VANB				*e*SG	**Sb**	**15 35 55.5**	**-0.4**
VANB	**Van**	**0.22**	**235**	*e*Pg	**Pb**	**15 35 51.2**	**-1.0**
VANB				*e*Sg	**Sb**	**15 35 55.5**	**-0.4**
GEVA	**Gevas**	**0.60**	**227**	*i*P	**Pg**	**15 35 56.6**	**-1.9**
GEVA				*i*S	**Sb**	**15 36 07.7**	**+0.7**
GEVA	**Gevas**	**0.60**	**227**	P	**Pg**	**15 35 56.6**	**-1.9**
GEVA				S	**Sb**	**15 36 07.7**	**+0.7**
BASK	**Baskale_VAN**	**0.73**	**156**	*i*P	**Pb**	**15 36 00.6**	**-0.3**
BASK				*i*S	**Sn**	**15 36 11.9**	**-1.3**
BASK	**Baskale_VAN**	**0.73**	**156**	P	**Pb**	**15 36 00.6**	**-0.3**
BASK				S	**Sn**	**15 36 11.9**	**-1.3**
DYDN	**Diyadin**	**0.82**	**4**	*i*P	**Pn**	**15 36 02.7**	**-0.8**
DYDN	**Diyadin**	**0.82**	**4**	P	**Pn**	**15 36 02.7**	**-0.8**
TUTA	**Tutak**	**0.93**	**317**	*i*P	**Pg**	**15 36 02.9**	**-1.6**
TUTA				*i*S	**Sn**	**15 36 17.6**	**-0.4**
TUTA	**Tutak**	**0.93**	**317**	P	**Pg**	**15 36 02.9**	**-1.6**
TUTA				S	**Sn**	**15 36 17.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.98**	**330**	*e*PG	**Pb**	**15 36 04.3**	**-0.9**
AGRB				*e*SG	**Sn**	**15 36 19.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.98**	**330**	*e*Pg	**Pb**	**15 36 04.3**	**-0.9**
AGRB				*e*Sg	**Sn**	**15 36 19.3**	**-0.1**
HAKT	**HAKKARI**	**1.16**	**177**	*i*P	**Pn**	**15 36 07.4**	**-0.8**
HAKT				*i*S	**Sn**	**15 36 26.1**	**+2.3**
HAKT	**HAKKARI**	**1.16**	**177**	P	**Pn**	**15 36 07.4**	**-0.8**
HAKT				S	**Sn**	**15 36 26.1**	**+2.3**
EKAR	**Karacoban**	**1.33**	**294**	*i*P	**Pg**	**15 36 12.7**	**+0.6**
EKAR	**Karacoban**	**1.33**	**294**	P	**Pg**	**15 36 12.7**	**+0.6**
EATA	**Eleskirt**	**1.44**	**323**	*i*P	**Pg**	**15 36 14.2**	**-0.1**
EATA				*i*S	**Sg**	**15 36 35.7**	**+2.6**
EATA	**Eleskirt**	**1.44**	**323**	P	**Pg**	**15 36 14.2**	**-0.1**
EATA				S	**Sg**	**15 36 35.7**	**+2.6**
CUKT	**Cukurca**	**1.47**	**180**	*e*PN	**Pg**	**15 36 14.8**	**-0.1**
CUKT	**Cukurca**	**1.47**	**180**	*e*Pn	**Pg**	**15 36 14.8**	**-0.1**
DIGO	**Kars**	**1.70**	**354**	*i*P	**Pg**	**15 36 19.4**	**+0.1**
DIGO	**Kars**	**1.70**	**354**	P	**Pg**	**15 36 19.4**	**+0.1**
HOMI	**Horasan**	**1.88**	**315**	*i*P	**Pg**	**15 36 21.4**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.99**	**254**	*e*PN	**Pb**	**15 36 21.4**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.99**	**254**	*e*Pn	**Pb**	**15 36 21.4**	**-0.8**
BTMN	**Batman**	**2.03**	**247**	*i*P	**Pb**	**15 36 23.1**	**+0.2**
BTMN	**Batman**	**2.03**	**247**	P	**Pb**	**15 36 23.1**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.08**	**332**	*e*PN	**Pb**	**15 36 23.4**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.08**	**332**	*e*Pn	**Pb**	**15 36 23.5**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.24**	**294**	*i*P	**Pg**	**15 36 28.1**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.24**	**294**	P	**Pg**	**15 36 28.1**	**-1.4**
MAZI	**Mazidag**	**2.80**	**244**	*e*PN	**Pn**	**15 36 32.3**	**+1.6**
MAZI	**Mazidag**	**2.80**	**244**	*e*Pn	**Pn**	**15 36 32.3**	**+1.6**
KEMA	**Kemaliye**	**4.03**	**279**	*i*P	**Pg**	**15 37 01.6**	**-2.2**

IDC 25 15:44:21.9±69.0, **13°.37S×172°.89E, h0**km, **mb3.9**/3,
mb1 4.1/3, **mb1mx3.7**/19, **mbtmp3.9**/3, **Error ellipse:**
s-maj=1191.0km s-min=137.4km az=67.0, Vanuatu
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.08**	**232**	P	P	15 51 07.9	-0.3
	1.1nm,0.9s,baz=66,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**37.44**	**255**	P	P	15 51 37.1	-0.1
	0.1nm,0.3s,baz=85,slow=8.5,SNR=3.3			

n25,σ1°49/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**207**	*e*PG	**Pg**	**15 51 50.2**	**0.0**
VANB				*e*SG	**Sg**	**15 51 56.6**	**+2.4**
VANB	**Van**	**0.28**	**207**	*e*Pg	**Pg**	**15 51 50.2**	**0.0**
VANB				*e*Sg	**Sg**	**15 51 56.6**	**+2.4**
GEVA	**Gevas**	**0.66**	**216**	*i* P	**Pg**	**15 51 55.8**	**-1.4**
GEVA				*i* S	**Sb**	**15 52 07.0**	**0.0**
GEVA	**Gevas**	**0.66**	**216**	P	**Pg**	**15 51 55.8**	**-1.4**
GEVA				S	**Sb**	**15 52 07.0**	**0.0**
TUTA	**Tutak**	**0.80**	**314**	*i* P	**Pg**	**15 51 58.9**	**-0.9**
TUTA				*i* S	**Sb**	**15 52 11.6**	**+0.5**
TUTA	**Tutak**	**0.80**	**314**	P	**Pg**	**15 51 58.9**	**-0.9**
TUTA				S	**Sb**	**15 52 11.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*PG	**Pg**	**15 51 58.8**	**-1.9**
AGRB				*e*SG	**Sb**	**15 52 13.4**	**+0.9**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*Pg	**Pg**	**15 51 58.8**	**-1.9**
AGRB				*e*Sg	**Sb**	**15 52 13.4**	**+0.9**
HAKT	**HAKKARI**	**1.29**	**175**	*i* P	**Pn**	**15 52 06.3**	**-2.1**
HAKT				*i* S	**Sn**	**15 52 28.0**	**+2.3**
HAKT	**HAKKARI**	**1.29**	**175**	P	**Pn**	**15 52 06.3**	**-2.1**
HAKT				S	**Sn**	**15 52 28.0**	**+2.3**
EATA	**Eleskirt**	**1.31**	**321**	*i* P	**Pn**	**15 52 09.0**	**+0.4**
EATA				*i* S	**Sn**	**15 52 28.3**	**+2.1**
EATA	**Eleskirt**	**1.31**	**321**	P	**Pn**	**15 52 09.0**	**+0.4**
EATA				S	**Sn**	**15 52 28.3**	**+2.1**
CUKT	**Cukurca**	**1.60**	**178**	*e*PN	**Pn**	**15 52 13.0**	**+0.5**
CUKT	**Cukurca**	**1.60**	**178**	*e*Pn	**Pn**	**15 52 13.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*PN	**Pb**	**15 52 18.8**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*Pn	**Pb**	**15 52 18.8**	**-1.4**
ERZM	**Erzurum**	**2.00**	**303**	*i* P	**Pb**	**15 52 21.1**	**+0.4**
ERZM				*i* S	**Sg**	**15 52 48.6**	**0.0**
ERZM	**Erzurum**	**2.00**	**303**	P	**Pb**	**15 52 21.1**	**+0.4**
ERZM				S	**Sg**	**15 52 48.6**	**0.0**
BTMN	**Batman**	**2.03**	**243**	*i* P	**Pb**	**15 52 20.3**	**-0.9**
BTMN				*i* S	**Sg**	**15 52 47.6**	**-2.1**
BTMN	**Batman**	**2.03**	**243**	P	**Pb**	**15 52 20.3**	**-0.9**
BTMN				S	**Sg**	**15 52 47.6**	**-2.1**
BNGB	**Bing¶‖**	**2.25**	**275**	*e*PN	**Pn**	**15 52 22.2**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*PN	**Pb**	**15 52 25.5**	**-2.2**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*Pn	**Pb**	**15 52 25.5**	**-2.2**
MAZI	**Mazidag**	**2.81**	**241**	*e*PN	**Pn**	**15 52 30.6**	**+1.4**
MAZI	**Mazidag**	**2.81**	**241**	*e*Pn	**Pn**	**15 52 30.6**	**+1.4**

*IDC **25** 15:52:49.7±10.0, 35°.39N×81°.04E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/31, mbtmp3.5/3, ML3.0/2, Error ellipse: s-maj=143.3km s-min=56.1km az=54.0*
*NNC **25** 15:52:55.5±4.3, 35°.85N×82°.22E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=53.9km s-min=33.0km az=77.0*

ISC 25 15:52:51.8±1.5, 35°.41N±0°.08×81°.4E±0°.3, h15km, n13, σ2°09/17, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**7.84**	**166**	*e*P	**Pn**	**15 54 42.9**	**-2.6**
	4.7nm,0.5s						
PDGK	**Podgornoye**	**8.05**	**350**	⇓Pn	**Pn**	**15 54 50.3**	**+2.0**
	6.6nm,1.3s						
PDGK				⇑Sn	**Sn**	**15 56 20.6**	**+1.5**
	38nm,1.1s						
GUN	**Gumba**	**8.38**	**152**	*e*P	**Pn**	**15 54 53.3**	**+0.2**
	8.0nm,0.4s						
PKIN	**Phulchoki**	**8.51**	**155**	*e*P	**Pn**	**15 54 54.2**	**-0.6**
	4.3nm,0.4s						
PKI	**Pulchoki**	**8.52**	**155**	*e*P	**Pn**	**15 54 53.9**	**-1.1**
	4.4nm,0.4s						
JIRN	**Jiri**	**8.73**	**151**	*e*P	**Pn**	**15 54 58.3**	**+0.4**
	110nm,0.4s						
RAMN	**Ramite**	**9.52**	**151**	*e*P	**Pn**	**15 55 08.0**	**-0.7**
	9.4nm,0.4s						
ODAN	**Odare**	**9.93**	**147**	*e*P	**Pn**	**15 55 14.3**	**0.0**
MK31	**Makanchi Array**	**11.39**	**3**	⇓Pn	**Pn**	**15 55 33.2**	**-0.8**
	1.4nm,0.8s,baz=186,slow=12,SNR=10						
MK31				⇑Sn	**Sn**	**15 57 36.8**	**-4.2**
	2.5nm,0.8s,baz=182,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**11.39**	**3**	Pn	**Pn**	**15 55 34.7**	**+0.7**
	0.1nm,0.3s,baz=184,slow=13,SNR=8.8						
MKAR				Sn	**Sn**	**15 57 40.4**	**-0.6**
	0.1nm,0.3s,baz=189,slow=17,SNR=3.3						
MAKZ	**Makanchi**	**11.39**	**2**	⇓Pn	**Pn**	**15 55 32.5**	**-1.5**
	3.3nm,0.8s						
MAKZ				⇓Sn	**Sn**	**15 57 36.9**	**-4.2**
	5.5nm,1.1s						
ZALV	**Zalesovo Beam**	**18.69**	**6**	P	**Pn**	**15 57 10.2**	**+0.5**
	0.2nm,0.3s,baz=195,slow=10,SNR=4.8						
SONM	**Songino Array**	**22.30**	**49**	P	**P**	**15 57 51.4**	**+2.6**
	1.3nm,1.0s,baz=237,slow=9.0,SNR=6.5						

IDC 25 16:02:00.6±2.1, 28°.27S×178°.38W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=61.3km s-min=26.0km az=46.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**158**	Pn	Pn	16 02 22.6	-0.1
	52nm,0.3s,baz=68,slow=19,SNR=4.9						
RAO				Sn	Sn	16 02 45.3	+7.1
	112nm,0.3s,baz=70,slow=21,SNR=4.3						
ASAR	**Alice Springs**	**42.93**	**265**	P	P	16 10 01.9	+0.5
	0.4nm,0.4s,baz=103,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**43.73**	**270**	P	P	16 10 07.1	-0.8
	0.6nm,0.3s,baz=107,slow=7.9,SNR=11						
AKASG	**Malin Array Be**	**149.39**	**325**	PKPbc	PKPbc	16 21 50.9	-0.4
	0.3nm,0.3s,baz=39,slow=2.6,SNR=3.4						

*DDA **25** 16:15:23.6, 38°.86N×43°.48E, h6km, Ml3.5*
*ISK **25** 16:15:23.0, 38°.85N×43°.55E, h5km, ML3.3*
*CSEM **25** 16:15:24.2±0.3, 38°.88N×43°.54E, h5km, ML3.3, Error ellipse: s-maj=8.5km s-min=4.6km az=84.0*

ISC 25 16:15:24.6±1.1, 38°.86N±0°.02×43°.47E±0°.03, h5km±10km, n50, σ1°38/81, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**194**	*e*PG	**Pb**	**16 15 30.8**	**-1.2**
VANB				*e*SG	**Sb**	**16 15 37.3**	**+0.4**
VANB	**Van**	**0.27**	**194**	*e*Pg	**Pb**	**16 15 30.8**	**-1.2**
GEVA	**Gevas**	**0.63**	**211**	⇓*i*P	**Pg**	**16 15 35.4**	**-1.4**
GEVA				*i* S	**Sg**	**16 15 46.0**	**+1.0**
GEVA	**Gevas**	**0.63**	**211**	P	**Pg**	**16 15 35.4**	**-1.4**
GEVA				S	**Sg**	**16 15 46.0**	**+1.0**
DYDN	**Diyadin**	**0.70**	**14**	*e*P	**Pg**	**16 15 37.1**	**-1.0**
DYDN				*e*S	**Sb**	**16 15 47.8**	**-1.8**
DYDN	**Diyadin**	**0.70**	**14**	P	**Pg**	**16 15 37.1**	**-1.0**
DYDN				S	**Sb**	**16 15 47.8**	**-1.8**
TUTA	**Tutak**	**0.75**	**317**	*e*P	**Pg**	**16 15 37.9**	**-1.0**
TUTA				*i* S	**Sg**	**16 15 49.0**	**+0.3**
TUTA	**Tutak**	**0.75**	**317**	P	**Pg**	**16 15 37.9**	**-1.0**
TUTA				S	**Sg**	**16 15 49.0**	**+0.3**
AGRB	**Hanur-Agry**	**0.81**	**333**	*e*PG	**Pg**	**16 15 39.8**	**-0.3**
AGRB				*e*SG	**Sb**	**16 15 53.2**	**+0.7**
AGRB	**Hanur-Agry**	**0.81**	**333**	*e*Pg	**Pg**	**16 15 39.8**	**-0.3**
EKAR	**Karacoban**	**1.17**	**290**	*e*P	**Pg**	**16 15 46.2**	**-0.8**
EKAR				*e*S	**Sn**	**16 16 04.5**	**+0.3**
EKAR	**Karacoban**	**1.17**	**290**	P	**Pg**	**16 15 46.2**	**-0.8**
EKAR				S	**Sn**	**16 16 04.5**	**+0.3**
EATA	**Eleskirt**	**1.26**	**323**	*e*P	**Pg**	**16 15 47.2**	**-1.5**
EATA				*e*S	**Sb**	**16 16 05.5**	**-0.1**
EATA	**Eleskirt**	**1.26**	**323**	P	**Pg**	**16 15 47.2**	**-1.5**
EATA				S	**Sb**	**16 16 05.5**	**-0.1**
HAKT	**HAKKARI**	**1.31**	**172**	⇑*i*P	**Pg**	**16 15 47.5**	**-2.2**
HAKT				*i* S	**Sn**	**16 16 06.7**	**-1.0**
HAKT	**HAKKARI**	**1.31**	**172**	P	**Pg**	**16 15 47.5**	**-2.2**
HAKT				S	**Sn**	**16 16 06.7**	**-1.0**
DIGO	**Kars**	**1.56**	**357**	*e*P	**Pg**	**16 15 53.4**	**-1.0**
DIGO	**Kars**	**1.56**	**357**	P	**Pg**	**16 15 53.4**	**-1.0**
SIRN	**S¨–rnak**	**1.60**	**212**	*e*P	**Pb**	**16 15 54.0**	**-0.5**
SIRN				*e*S	**Sg**	**16 16 17.0**	**+1.2**
SIRN	**S¨–rnak**	**1.60**	**212**	P	**Pb**	**16 15 54.0**	**-0.5**
SIRN				S	**Sg**	**16 16 17.0**	**+1.2**
VRTB	**Varto-Mus**	**1.60**	**282**	*e*PN	**Pb**	**16 15 54.2**	**-0.5**
VRTB	**Varto-Mus**	**1.60**	**282**	*e*Pn	**Pb**	**16 15 54.2**	**-0.5**
CUKT	**Cukurca**	**1.61**	**176**	*e*PN	**Pb**	**16 15 53.8**	**-1.0**
CUKT	**Cukurca**	**1.61**	**176**	*e*P	**Pg**	**16 15 54.6**	**-0.8**
CUKT				*e*S	**Sg**	**16 16 19.9**	**+3.6**
CUKT	**Cukurca**	**1.61**	**176**	*e*Pn	**Pb**	**16 15 53.8**	**-1.0**
CUKT	**Cukurca**	**1.61**	**176**	P	**Pg**	**16 15 54.6**	**-0.8**
CUKT				S	**Sg**	**16 16 19.9**	**+3.6**
HOMI	**Horasan**	**1.70**	**315**	*e*P	**Pb**	**16 15 56.1**	**-0.2**
HOMI				*e*S	**Sg**	**16 16 21.3**	**+2.2**
BNGL	**BINGOL**	**1.81**	**274**	*e*P	**Pb**	**16 15 57.6**	**-0.7**
BNGL				*e*S	**Sg**	**16 16 23.7**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.91**	**333**	*e*PN	**Pb**	**16 15 58.7**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.91**	**333**	*e*Pn	**Pb**	**16 15 58.7**	**-1.3**
SVAN	**Silvan-Diyarba**	**1.92**	**249**	*e*PN	**Pn**	**16 15 58.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.92**	**249**	*e*P	**Pb**	**16 15 58.9**	**-1.2**
SVAN				*e*S	**Sb**	**16 16 25.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.92**	**249**	*e*Pn	**Pn**	**16 15 58.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.92**	**249**	P	**Pb**	**16 15 58.8**	**-1.2**
SVAN				S	**Sb**	**16 16 25.0**	**+0.7**
ERZM	**Erzurum**	**1.94**	**303**	*e*P	**Pb**	**16 16 00.2**	**-0.3**
ERZM				*e*S	**Sg**	**16 16 26.9**	**0.0**
ERZM	**Erzurum**	**1.94**	**303**	P	**Pb**	**16 16 00.2**	**-0.3**
ERZM				S	**Sg**	**16 16 26.9**	**0.0**
BTMN	**Batman**	**1.98**	**242**	*e*P	**Pb**	**16 15 59.7**	**-1.4**
BTMN				*e*S	**Sb**	**16 16 27.0**	**+0.8**
BTMN	**Batman**	**1.98**	**242**	P	**Pb**	**16 15 59.7**	**-1.4**
BTMN				S	**Sb**	**16 16 27.0**	**+0.8**
BNGB	**Bing¶‖**	**2.18**	**274**	*e*PN	**Pn**	**16 16 02.4**	**+0.8**
BNGB				*e*SN	**Sb**	**16 16 32.0**	**0.0**
BINT	**Bingol**	**2.33**	**271**	*e*Pn	**Pn**	**16 16 02.4**	**-1.2**
BINT				*e*Sn	**Sn**	**16 16 32.0**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.35**	**285**	*e*PN	**Pn**	**16 16 05.3**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.35**	**285**	*e*Pn	**Pn**	**16 16 05.3**	**+1.3**
AKH	**Akhalkalaki**	**2.55**	**0**	P	**Pb**	**16 16 09.0**	**-1.9**
AKH				S	**Sg**	**16 16 47.6**	**+1.1**
MAZI	**Mazidag**	**2.76**	**241**	*e*PN	**Pn**	**16 16 10.8**	**+1.2**
MAZI	**Mazidag**	**2.76**	**241**	*e*Pn	**Pn**	**16 16 10.8**	**+1.2**
DGRG	**David-gareji**	**2.97**	**29**	P	**Pb**	**16 16 17.4**	**-0.6**
DGRG				S	**Sg**	**16 17 02.7**	**+2.7**
TBLG	**Delisi**	**3.03**	**18**	P	**Pb**	**16 16 18.6**	**-0.3**
TBLG				S	**Sg**	**16 17 06.6**	**+4.8**
PTK	**Pertek**	**3.19**	**272**	*e*PN	**Pn**	**16 16 17.2**	**+1.7**
PTK	**Pertek**	**3.19**	**272**	*e*Pn	**Pn**	**16 16 17.2**	**+1.7**
ONI	**Oni**	**3.73**	**360**	P	**Pg**	**16 16 34.3**	**-1.7**

IDC 25 16:20:00.5±6.3, 16°.83S×178°.94W, h535km±74km, mb3.3/8, mb1 3.6/9, mb1mx3.3/28, mbtmp4.2/9, Error ellipse: s-maj=48.7km s-min=27.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.73**	**247**	P	P	16 23 09.4	+1.8
	0.5nm,0.3s,baz=98,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**38.72**	**240**	P	P	16 26 37.7	-1.1
	3.7nm,0.5s,baz=90,slow=9.4,SNR=18						
WRA	**Warramunga Arr**	**44.34**	**259**	P	P	16 27 23.9	+0.4
	2.4nm,0.3s,baz=94,slow=7.5,SNR=60						
ASAR	**Alice Springs**	**44.60**	**253**	P	P	16 27 25.6	0.0
	13nm,0.5s,baz=86,slow=8.8,SNR=200						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	P	P	16 28 25.8	+0.1
	0.6nm,0.4s,baz=113,slow=6.4,SNR=3.7						
MJAR	**Matsushiro Arr**	**66.74**	**323**	P	P	16 29 57.0	-1.8
	0.8nm,0.4s,baz=132,slow=7.3,SNR=4.2						
ILAR	**Eielson Array**	**84.96**	**13**	P	P	16 31 39.9	+1.0
	0.4nm,0.4s,baz=217,slow=5.5,SNR=7.5						
TXAR	**Lajitas Array**	**85.85**	**58**	P	P	16 31 43.6	-0.5
	1.2nm,0.9s,baz=215,slow=6.5,SNR=9.0						
PDAR	**Pinedale Array**	**86.92**	**44**	P	P	16 31 48.6	-0.4
	0.4nm,0.5s,baz=200,slow=4.2,SNR=5.0						
GERES	**GERESS Array B**	**146.44**	**345**	PKPbc	PKPbc	16 38 41.9	+0.1
	0.3nm,0.4s,baz=336,slow=2.2,SNR=2.7						

GUC 25 16:27:56.3±0.6, 34°.35S×72°.20W, h28km±3km, ML3.9, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.17**	**105**	⇑*i*P	Pb	16 28 01.7	-0.3
CHPI				*i* S	Sb	16 28 05.4	-0.4
GO05	**HualaæØ**	**0.70**	**161**	⇑*i*P	Pb	16 28 09.2	-0.8
GO05				*i* S	Sb	16 28 18.4	-0.9
GO05				IAML		16 28 18.6	
	comp=E,10μm,0.5s						
NICH	**Los Niches**	**1.03**	**130**	⇓*i*P	Pn	16 28 14.5	-0.5
NICH				*i* S	Sn	16 28 27.7	-0.7
ANTU	**Antumapu**	**1.52**	**60**	*e*P	Pn	16 28 21.7	+0.1
ANTU				*e*S	Sn	16 28 40.1	-0.3
ANTU				IAML		16 28 47.0	
	comp=E,3μm,0.4s						
FSR	**Penalolen**	**1.64**	**59**	*e*P	Pn	16 28 23.7	+0.4
FSR				*i* S	Sn	16 28 44.0	+0.5
CLCH	**Cerro Calan**	**1.68**	**56**	⇑*i*P	Pn	16 28 24.3	+0.4
CLCH				*e*S	Sn	16 28 44.7	+0.2
CLCH				IAML		16 28 47.2	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**1.69**	**36**	*e*P	Pn	16 28 24.4	+0.2
ROCH				*i* S	Sb	16 28 48.0	+0.1
ROCH				IAML		16 28 55.4	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.74**	**47**	⇑*i*P	Pn	16 28 25.2	+0.5
PEL				*i* S	Sn	16 28 47.3	+1.3
PEL				IAML		16 28 52.7	
	comp=N,2μm,0.3s						
FCH	**Farellones**	**1.89**	**58**	⇓*i*P	Pn	16 28 27.3	+0.4
FCH				*e*S	Sn	16 28 51.3	+1.3
FCH				IAML		16 28 56.8	
	comp=N,2μm,0.6s						
CCHI	**Chillan**	**2.25**	**177**	IAML		16 29 09.4	
	comp=E,1μm,0.5s						

*IDC **25** 16:28:57.3±1.6, 2°.10N×127°.63E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/33, mbtmp3.9/5, Error ellipse: s-maj=96.6km s-min=21.0km az=68.0*
*ISCJB **25** 16:29:09.2±0.8, 1°.84N±0°.06×127°.19E±0°.08, h112km, mb3.9/4, Error ellipse: s-maj=12.7km s-min=6.8km az=149.8*
*DJA **25** 16:29:11.9±0.7, 2°.N±3°×12°.7E±°, h48km±21km, M3.9/5, MLv3.9/5*

ISC 25 16:29:10.7±1.1, 1°.80N±0°.06×127°.2E±0°.1, h112km, n9, σ1°42/13, mb4.1/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.45**	**172**	P	**Pn**	**16 29 50.7**	**+1.1**
LBMI				S	**Sn**	**16 30 18.5**	**-0.9**
SGSI	**Sangihe**	**2.48**	**319**	P	**Pn**	**16 29 50.3**	**+0.4**
SGSI				S	**Sn**	**16 30 17.9**	**-2.1**
KMSI	**Cibinong**	**3.40**	**249**	P	**Pn**	**16 30 02.7**	**+0.6**
KMSI				S	**Sn**	**16 30 42.4**	**+0.7**
SANI	**Sanana**	**4.00**	**197**	P	**Pn**	**16 30 10.5**	**+0.4**
SANI				S	**Sn**	**16 30 52.9**	**-3.3**
FITZ	**Fitzroy Crossi**	**19.84**	**184**	P	**P**	**16 33 33.7**	**+0.8**
	2.1nm,1.0s,baz=354,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**22.73**	**162**	P	**P**	**16 34 02.8**	**-0.7**
	3.8nm,0.5s,baz=343,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.15**	**166**	P	**P**	**16 34 34.5**	**-0.3**
	0.5nm,0.6s,baz=346,slow=10,SNR=15						
STKA	**Stephens Creek**	**36.19**	**159**	P	**P**	**16 36 02.8**	**+0.1**
	2.9nm,0.6s,baz=335,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**59.37**	**326**	P	**P**	**16 39 01.8**	**+0.5**
	1.0nm,0.4s,baz=118,slow=8.2,SNR=24						

*ISK **25** 16:29:35.9, 38°.84N×43°.51E, h5km, ML3.2*
*DDA **25** 16:29:36.5, 38°.84N×43°.56E, h6km, Ml3.5*
*CSEM **25** 16:29:37.1±0.3, 38°.87N×43°.57E, h2km, ML3.2, Error ellipse: s-maj=8.0km s-min=4.0km az=78.0*

ISC 25 16:29:36.9±1.2, 38°.85N±0°.02×43°.55E±0°.04, h5km±10km, n45, σ1°04/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**207**	*e*PG	**Pb**	**16 29 43.5**	**-1.0**
VANB				*e*SG	**Sb**	**16 29 49.3**	**-0.3**
VANB	**Van**	**0.28**	**207**	*e*Pg	**Pb**	**16 29 43.5**	**-1.0**
VANB				*e*Sg	**Sb**	**16 29 49.3**	**-0.3**
GEVA	**Gevas**	**0.66**	**216**	*i* P	**Pg**	**16 29 48.7**	**-1.0**
GEVA				*i* S	**Sb**	**16 29 59.1**	**-1.4**
GEVA	**Gevas**	**0.66**	**216**	P	**Pg**	**16 29 48.7**	**-1.0**
GEVA				S	**Sb**	**16 29 59.1**	**-1.4**
DYDN	**Diyadin**	**0.70**	**9**	*i* P	**Pg**	**16 29 50.3**	**-0.2**
DYDN				*i* S	**Sb**	**16 30 00.8**	**-1.1**
DYDN	**Diyadin**	**0.70**	**9**	P	**Pg**	**16 29 50.3**	**-0.2**
DYDN				S	**Sb**	**16 30 00.8**	**-1.1**
TUTA	**Tutak**	**0.80**	**314**	*i* P	**Pg**	**16 29 51.7**	**-0.6**
TUTA				*i* S	**Sb**	**16 30 04.0**	**-0.7**
TUTA	**Tutak**	**0.80**	**314**	P	**Pg**	**16 29 51.7**	**-0.6**
TUTA				S	**Sb**	**16 30 04.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*PG	**Pg**	**16 29 52.8**	**-0.5**
AGRB				*e*SG	**Sb**	**16 30 05.5**	**-0.5**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*Pg	**Pg**	**16 29 52.8**	**-0.5**
AGRB				*e*Sg	**Sb**	**16 30 05.6**	**-0.5**
BASK	**Baskale_VAN**	**0.87**	**156**	*i* P	**Pg**	**16 29 53.4**	**-0.2**
BASK				*i* S	**Sn**	**16 30 07.5**	**-1.5**
BASK	**Baskale_VAN**	**0.87**	**156**	P	**Pg**	**16 29 53.4**	**-0.2**
BASK				S	**Sn**	**16 30 07.6**	**-1.5**
EKAR	**Karacoban**	**1.23**	**290**	*i* P	**Pn**	**16 30 00.6**	**-0.4**
EKAR				*i* S	**Sn**	**16 30 19.4**	**+1.3**
EKAR	**Karacoban**	**1.23**	**290**	P	**Pn**	**16 30 00.6**	**-0.4**
EKAR				S	**Sn**	**16 30 19.4**	**+1.3**
HAKT	**HAKKARI**	**1.29**	**175**	*i* P	**Pg**	**16 30 00.2**	**-1.5**
HAKT				*i* S	**Sn**	**16 30 21.7**	**+2.1**
HAKT	**HAKKARI**	**1.29**	**175**	P	**Pg**	**16 30 00.2**	**-1.5**
HAKT				S	**Sn**	**16 30 21.7**	**+2.1**
EATA	**Eleskirt**	**1.31**	**321**	*i* P	**Pg**	**16 30 01.4**	**-0.6**
EATA	**Eleskirt**	**1.31**	**321**	P	**Pg**	**16 30 01.4**	**-0.6**
DIGO	**Kars**	**1.57**	**355**	*i* P	**Pg**	**16 30 06.7**	**-0.4**
DIGO	**Kars**	**1.57**	**355**	P	**Pg**	**16 30 06.7**	**-0.4**
CUKT	**Cukurca**	**1.60**	**178**	*e*PN	**Pg**	**16 30 07.0**	**-0.5**
CUKT	**Cukurca**	**1.60**	**178**	*i* P	**Pg**	**16 30 07.6**	**0.0**
CUKT				*i* S	**Sg**	**16 30 31.1**	**+2.8**
CUKT	**Cukurca**	**1.60**	**178**	*e*Pn	**Pg**	**16 30 07.0**	**-0.5**
CUKT	**Cukurca**	**1.60**	**178**	P	**Pg**	**16 30 07.6**	**0.0**
CUKT				S	**Sg**	**16 30 31.1**	**+2.8**
SIRN	**S¨–rnak**	**1.62**	**214**	*i* P	**Pg**	**16 30 07.3**	**-0.7**
SIRN				*i* S	**Sg**	**16 30 29.4**	**+0.4**
SIRN	**S¨–rnak**	**1.62**	**214**	P	**Pg**	**16 30 07.3**	**-0.7**
SIRN				S	**Sg**	**16 30 29.4**	**+0.4**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*PN	**Pn**	**16 30 06.9**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*Pn	**Pn**	**16 30 06.9**	**0.0**
BNGL	**BINGOL**	**1.88**	**274**	*i* P	**Pb**	**16 30 11.5**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.95**	**332**	*e*PN	**Pb**	**16 30 11.8**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.95**	**332**	*e*Pn	**Pb**	**16 30 11.9**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*PN	**Pn**	**16 30 11.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*i* P	**Pb**	**16 30 12.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*Pn	**Pn**	**16 30 11.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	P	**Pb**	**16 30 12.6**	**-0.8**
ERZM	**Erzurum**	**2.00**	**303**	*i* P	**Pb**	**16 30 14.2**	**+0.3**
ERZM	**Erzurum**	**2.00**	**303**	P	**Pb**	**16 30 14.2**	**+0.3**
BTMN	**Batman**	**2.03**	**243**	*i* P	**Pb**	**16 30 13.7**	**-0.7**
BTMN	**Batman**	**2.03**	**243**	P	**Pb**	**16 30 13.7**	**-0.7**
BNGB	**Bing¶‖**	**2.25**	**275**	*e*PN	**Pn**	**16 30 16.0**	**+1.2**
BINT	**Bingol**	**2.39**	**272**	*e*Pn	**Pn**	**16 30 16.0**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*PN	**Pn**	**16 30 17.9**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*Pn	**Pn**	**16 30 17.9**	**+0.7**
MAZI	**Mazidag**	**2.81**	**241**	*e*PN	**Pn**	**16 30 23.9**	**+1.2**
MAZI	**Mazidag**	**2.81**	**241**	*e*Pn	**Pn**	**16 30 23.9**	**+1.2**

*AZER **25** 16:50:28.1±1.5, 38°.62N×43°.16E, h3km±22km, Error ellipse: s-maj=26.3km s-min=5.5km az=67.0*
*MOS **25** 16:50:31.8±1.5, 38°.82N×43°.57E, h10km, mb4.3/15, Error ellipse: s-maj=10.9km s-min=5.3km az=85.0*
*IDC **25** 16:50:31.2±0.8, 38°.86N×43°.59E, h0km, mb3.8/16, mb1 3.9/21, mb1mx3.8/42, mbtmp3.8/21, ML3.3/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/45, Error ellipse: s-maj=15.2km s-min=12.0km az=165.0*
*DDA **25** 16:50:32.0, 38°.87N×43°.64E, h12km, Ml4.3*
*ISK **25**

ERZM S **Sn** **16 51 33.1 +0.7**
BTMN Batman 2.02 243 *i* P **Pb** **16 51 09.8 -0.3**
BTMN *i* S **Sg** **16 51 37.4 -0.7**
BTMN Batman 2.02 243 P **Pb** **16 51 09.8 -0.3**
ECAT Cat-ERZURUM 2.13 292 *i* P **Pb** **16 51 12.1 +0.1**
ECAT Cat-ERZURUM 2.13 292 P **Pb** **16 51 12.1 +0.1**
BNGB Bing˜¶l 2.23 275 *e*PN **Pb** **16 51 12.4 -1.4**
BINT Bingol 2.38 272 *e*Pn **Pn** **16 51 12.4 -0.1**
YEDI Yedisu-Bingol 2.40 285 *e*PN **Pn** **16 51 14.2 +1.4**
YEDI Yedisu-Bingol 2.40 285 *e*Pn **Pn** **16 51 14.2 +1.4**
DDEM Demirkent 2.46 327 *i* P **Pn** **16 51 14.3 +0.7**
DDEM Demirkent 2.46 327 P **Pn** **16 51 14.3 +0.7**
GDB GEDABAY 2.54 42 ⇓P **Pn** **16 51 15.2 +0.6**
GDB ⇓S **Sb** **16 51 52.7 +2.4**
GDB GEDABAY 2.54 42 P **Pn** **16 51 15.2 +0.6**
DAGI Agillar 2.56 331 *i* P **Pb** **16 51 17.3 -1.9**
AKH Akhalkalaki 2.56 359 *e*PN **Pn** **16 51 16.5 +1.4**
AKH Akhalkalaki 2.56 359 P **Pb** **16 51 18.2 -1.3**
AKH S **Sg** **16 51 58.3 +2.8**
AKH Akhalkalaki 2.56 359 P **Pb** **16 51 18.1 -1.3**
AKH Akhalkalaki 2.56 359 *e*Pn **Pn** **16 51 16.5 +1.5**
AKH Akhalkalaki 2.56 359 P **Pb** **16 51 18.1 -1.3**
QZX Qazax, Azerbai 2.62 32 ⇓P **Pn** **16 51 16.9 +1.2**
QZX ⇓S **Sb** **16 51 54.7 +2.1**
QZX Qazax, Azerbai 2.62 32 P **Pn** **16 51 16.9 +1.2**
KOPT Kop Dagi 2.63 297 *i* P **Pb** **16 51 21.2 +0.7**
KOPT *i* S **Sg** **16 51 58.4 +0.7**
ARTV Artvin 2.65 333 *i* P **Pb** **16 51 20.2 -0.6**
MARD Mardin 2.66 236 *i* P **Pn** **16 51 16.9 +0.6**
EPOS Posof 2.73 347 *i* P **Pb** **16 51 21.2 -0.9**
GANJ Ganja 2.80 49 ⇑P **Pn** **16 51 19.0 +0.8**
GANJ ⇑S **Sb** **16 51 58.8 +1.0**
GANJ Ganja 2.80 49 P **Pn** **16 51 19.0 +0.8**
MAZI Mazidag 2.80 241 *e*PN **Pb** **16 51 21.0 -2.4**
MAZI Mazidag 2.80 241 *e*Pn **Pb** **16 51 21.0 -2.4**
DIYA Diyarbakir 2.84 252 *i* P **Pn** **16 51 20.1 +1.4**
DIYA *i* S **Sb** **16 51 59.4 +0.5**
DIYA Diyarbakir 2.84 252 P **Pn** **16 51 20.1 +1.4**
DBOC Borcka 2.88 331 *i* P **Pb** **16 51 23.8 -1.0**
DGRG David-gareji 2.96 28 P **Pn** **16 51 22.0 +1.7**
DGRG S **Sg** **16 52 08.8 +0.6**
DGRG David-gareji 2.96 28 P **Pn** **16 51 22.0 +1.7**
DGRG David-gareji 2.96 28 P **Pn** **16 51 22.0 +1.7**
KBSD Kabsdagh 3.00 233 *e*P **Pn** **16 51 22.7 +1.9**
KBSD *e*S **Sn** **16 51 57.7 +0.7**
KBSD AML AML 16 52 18.6
comp=Z,298nm,0.5s
TBLG Delisi 3.03 17 *e*PN **Pn** **16 51 22.9 +1.6**
TBLG Delisi 3.03 17 P **Pn** **16 51 22.0 +0.8**
TBLG S **Sb** **16 52 06.5 +2.2**
TBLG Delisi 3.03 17 P **Pn** **16 51 22.0 +0.8**
TBLG S **Sb** **16 52 06.5 +2.2**
TBLG Delisi 3.03 17 P **Pn** **16 51 21.8 +0.6**
TBLG Delisi 3.03 17 *e*Pn **Pn** **16 51 22.9 +1.6**
ERZN Erzincan 3.06 285 *e*PN **Pn** **16 51 24.5 +2.8**
SEAG Tbilisi Sea 3.07 18 P **Pn** **16 51 23.2 +1.3**
SEAG S **Sg** **16 52 12.4 +0.5**
TNCL Tunceli-Merkez 3.13 276 *i* P **Pb** **16 51 28.3 -0.6**
BRDA Brd 3.15 62 ⇑P **Pn** **16 51 22.7 -0.2**
BRDA Brd 3.15 62 P **Pn** **16 51 22.7 -0.2**
PTK Pertek 3.24 272 *e*PN **Pn** **16 51 26.5 +2.2**
PTK Pertek 3.24 272 *e*Pn **Pn** **16 51 26.5 +2.2**
MNGR Mingechevir, A 3.34 54 ⇓P **Pn** **16 51 26.3 +0.7**
MNGR Mingechevir, A 3.34 54 P **Pn** **16 51 26.3 +0.7**
SVRC Sivrice-ELAZID 3.35 263 *e*PN **Pn** **16 51 28.3 +2.5**
SVRC Sivrice-ELAZID 3.35 263 *e*Pn **Pn** **16 51 28.3 +2.5**
DUS Dusheti 3.36 15 P **Pb** **16 51 34.5 +1.5**
DUS Dusheti 3.36 15 P **Pb** **16 51 34.4 +1.5**
EZC Erzincan 3.37 287 *e*Pn **Pn** **16 51 24.5 -1.6**
ZRD Zardab 3.51 65 ⇓P **Pn** **16 51 28.6 +0.8**
ZRD Zardab 3.51 65 P **Pn** **16 51 28.6 +0.8**
KELT Kelkit 3.56 293 *i* P **Pb** **16 51 37.9 +1.5**
KELT *i* S **Sg** **16 52 25.6 -1.9**
KTUT Trabzon 3.60 308 *e*PN **Pn** **16 51 31.8 +2.7**
KTUT Trabzon 3.60 308 *e*Pn **Pn** **16 51 31.8 +2.7**
SFNV Sufian 3.64 229 *e*P **Pn** **16 51 31.7 +2.0**
SFNV *e*S **Sn** **16 52 13.2 +0.4**
SFNV AML AML 16 52 52.8
comp=Z,116nm,0.6s
SEKA Sheki 3.67 49 ⇓P **Pn** **16 51 31.7 +1.5**
SEKA Sheki 3.67 49 P **Pn** **16 51 31.7 +1.5**
ONI Oni 3.74 359 P **Pb** **16 51 40.7 +1.3**
REFA Refahiye_ERZ˜ 3.75 280 *i* P **Pb** **16 51 39.7 +0.1**
REFA *i* S **Sg** **16 52 35.9 +2.2**
MZRK Al-Mazaregh 3.79 218 *e*P **Pn** **16 51 34.7 +3.0**
MZRK *e*S **Sn** **16 52 16.0 -0.4**
MZRK AML AML 16 52 56.8
comp=Z,180nm,0.7s
GLBA Clilabad 3.80 82 ⇑P **Pn** **16 51 32.5 +0.7**
GLBA Clilabad 3.80 82 P **Pn** **16 51 32.5 +0.7**
KEMA Kemaliye 3.95 278 *i* P **Pb** **16 51 44.2 +1.2**
KEMA *i* S **Sg** **16 52 40.4 +0.4**
ZEI Tsey 3.95 4 *e*P **Pn** **16 51 38.2 +4.1**
ZEI pmax pmax
comp=Z,46nm,0.6s
URFA Urfa 3.97 251 *e*PN **Pn** **16 51 37.4 +3.1**
URFA Urfa 3.97 251 *e*Pn **Pn** **16 51 37.4 +3.1**
LKRN Lenkeran, Azer 4.10 90 ⇓P **Pn** **16 51 35.8 -0.2**
LKRN Lenkeran, Azer 4.10 90 P **Pn** **16 51 35.8 -0.2**
ASTR Astara 4.12 92 ⇓P **Pn** **16 51 35.5 -0.7**
ASTR Astara 4.12 92 P **Pn** **16 51 35.5 -0.7**
ESPY Espiye-Giresun 4.24 301 *e*PN **Pn** **16 51 40.9 +3.0**
ESPY Espiye-Giresun 4.24 301 *e*Pn **Pn** **16 51 40.9 +3.0**
SUSE Susehri 4.34 290 *i* P **Pb** **16 51 48.7 -1.1**
SUSE *i* S **Sg** **16 52 50.6 -2.1**
PQL Pirkuli 4.35 62 ⇑P **Pn** **16 51 40.2 +0.6**
PQL Pirkuli 4.35 62 P **Pn** **16 51 40.2 +0.6**
ALIB Äli-Bayra 4.38 74 ⇑P **Pn** **16 51 40.5 +0.7**
ALIB Äli-Bayra 4.38 74 P **Pn** **16 51 40.5 +0.7**
NEY Neytrino 4.44 352 ⇓*i* P **Pn** **16 51 40.7 -0.2**
NEY Neytrino 4.44 352 *i* P **Pn** **16 51 40.7 -0.2**
QSAR Qusar 4.50 52 ⇓P **Pn** **16 51 42.5 +1.1**
QSAR Qusar 4.50 52 P **Pn** **16 51 42.5 +1.1**
GBS Qobustan 4.50 66 ⇑P **Pn** **16 51 42.2 +0.7**
GBS Qobustan 4.50 66 P **Pn** **16 51 42.2 +0.7**
GROC Groznyy 4.68 21 *e*P **Pb** **16 51 55.7 +0.4**
GROC pmax pmax
comp=Z,23nm,0.4s
KSRV Kasrt alli 4.68 232 *e*P **Pb** **16 51 53.1 -2.3**
KSRV *e*S **Sb** **16 52 47.8 -4.0**
KSRV AML AML 16 53 22.3
comp=Z,51nm,0.6s
SIZA Siyzn 4.68 60 ⇑P **Pn** **16 51 44.8 +0.7**
SIZA Siyzn 4.68 60 P **Pn** **16 51 44.8 +0.7**
CUKAN kangal_SIVAS 4.75 278 *i* P **Pb** **16 51 56.8 +0.2**
KBZ Khabaz 4.90 355 Pn **Pn** **16 51 47.2 +0.2**
comp=Z,0.3nm,0.3s,baz=102,slow=19,SNR=4.1
KBZ LR LR 16 54 11.6
comp=Z,137nm,20.5s,baz=62,slow=45
GZT Gaziantep 4.94 254 *i* P **Pg** **16 52 04.0 -3.7**
KVAR Kislovodsk Arr 5.15 353 Pn Pn 16 51 56.0 +5.5
baz=274,slow=4.9,SNR=3.4
KVAR Kislovodsk Arr 5.15 353 Pn Pn 16 51 56.0 +5.5
KIV Kislovodsk 5.15 353 *e*P **Pn** **16 51 49.8 -0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 5.15 353 *e*P **Pn** **16 51 49.8 -0.6**
comp=Z,9.0nm,1.1s
KIV Kislovodsk 5.15 353 Pn **Pn** **16 51 54.7 +4.3**
KIV Kislovodsk 5.15 353 Pn **Pn** **16 51 54.7 +4.3**
SVSK Karacayir 5.18 284 *e*PN **Pn** **16 51 54.8 +4.0**
SVSK Karacayir 5.18 284 *e*Pn **Pn** **16 51 54.8 +4.0**
KMRS Kahramanmaras 5.40 258 *e*PN **Pn** **16 51 58.0 +4.2**
KAMA Osmaniye 5.67 255 *i* P **Pb** **16 52 15.5 +3.2**
DRWC Darouich 5.88 250 *e*P **Pn** **16 52 05.0 +4.4**
DRWC *e*S **Sn** **16 53 10.0 +1.9**
DRWC AML AML 16 53 53.1
comp=E,49nm,0.6s
DRWC AML AML 16 53 57.2
comp=N,25nm,0.8s
GOF Gofitskoye 6.22 357⇑*e*P **Pn** **16 52 08.7 +3.6**
ARNB Al Arnab 6.72 246 *e*P **Pn** **16 52 14.9 +2.8**
ARNB AML AML 16 54 28.3
comp=E,45nm,0.7s
ARNB AML AML 16 54 32.2
comp=N,41nm,0.6s
ARNB AML AML 16 54 33.1
comp=Z,23nm,0.7s
ROOS tl_alroos 6.86 229 *e*P **Pn** **16 52 17.1 +3.1**
ROOS *e*S **Sn** **16 53 30.1 -2.1**
ROOS AML AML 16 54 27.7
comp=N,48nm,0.7s
ROOS AML AML 16 54 37.5
comp=E,34nm,0.6s
BIDA Albida 6.93 239 *e*P **Pn** **16 52 18.5 +3.6**
BIDA AML AML 16 54 40.8
comp=N,108nm,0.7s
BIDA AML AML 16 54 42.4
comp=E,92nm,0.7s
BRTR Keskin Array B 7.73 280 Pn Pn 16 52 32.4 +6.5
comp=E,0.1nm,0.3s,baz=107,slow=13,SNR=6.8
BRBR Barbar 8.19 231 *e*P **Pn** **16 52 34.4 +2.1**
BRBR AML AML 16 55 18.5
comp=E,14nm,0.8s
BRBR AML AML 16 55 21.9
comp=N,12nm,0.7s
ASF Jabal al Asfar 8.58 221 Pn **Pn** **16 52 41.2 +3.7**
comp=N,0.3nm,0.3s,baz=0.0,slow=16,SNR=4.1
ASF Lg Lg 16 55 13.7
comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=3.2
MMAI Mount Meron Ar 8.79 231 Pn **Pn** **16 52 44.5 +4.0**
comp=N,0.7nm,0.3s,baz=72,slow=15,SNR=4.0
MMAI LR LR 16 56 24.0
comp=N,268nm,18.4s,baz=40,slow=40
GEYT Alibeck 11.48 90 Pn **Pn** **16 53 15.1 -2.1**
comp=N,0.2nm,0.3s,baz=277,slow=17,SNR=3.4
EIL Elat 11.58 220 Lg Lg 16 56 53.3
comp=N,0.2nm,0.3s,baz=289,slow=24,SNR=2.3
EIL LR LR 16 58 11.1
comp=N,282nm,20.2s,baz=52,slow=40
LPSR Galich'ya Gora 14.13 348 *e*P **Pn** **16 53 53.2 -0.1**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
LPSR Galich'ya Gora 14.13 348 *e*P **Pn** **16 53 53.2 -0.1**
comp=Z,7.0nm,0.8s
PLOR Plostina 14.30 305⇑*i*P **P** **16 54 07.1 +4.1**
PLOR Plostina 14.30 305 ⇑P **P** **16 54 07.1 +4.1**
TESR Tescani 14.58 307 ⇓*i*P P 16 54 11.6 +5.5
DOPR Dopca 15.16 304 ⇓*i*P **P** **16 54 15.7 +3.1**
VOIR 15.20 302⇑*i*P **P** **16 54 16.4 +3.4**
VOIR 15.20 302 ⇑P **P** **16 54 16.4 +3.4**
IDI Anoyia 15.30 262 Pn **Pn** **16 54 10.2 +0.8**
comp=Z,0.2nm,0.3s,baz=48,slow=16,SNR=2.4
RAYN Ar Rayn 15.37 173 *e*Pn **Pn** **16 54 05.7 -4.6**
comp=Z,6.6nm,0.8s
RAYN Ar Rayn 15.37 173 *e*Pn **Pn** **16 54 05.7 -4.6**
comp=Z,6.6nm,0.8s
AKTO Aktyubinsk 15.47 37 Pn **Pn** **16 54 09.6 -1.8**
comp=Z,0.2nm,0.3s,baz=52,slow=15,SNR=4.0
AKTO LR LR 17 01 48.0
comp=Z,127nm,18.9s,baz=227,slow=44
AKASG Malin Array Be 15.58 324 Pn **Pn** **16 54 11.4 -1.4**
comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=7.5
AKASG Malin Array Be 15.58 324 *e*P **Pn** **16 54 13.6 +0.8**
KIEV Kiev 15.58 324⇑*i*P **Pn** **16 54 12.0 -0.9**
KIEV pmax pmax
comp=Z,4.0nm,1.2s
ABKAR Akbulak array 15.70 43 *e*Pn **Pn** **16 54 12.5 -1.8**
comp=Z,2.8nm,0.8s
ABKAR Akbulak array 15.70 43 *e*Pn **Pn** **16 54 12.5 -1.8**
comp=Z,2.9nm,0.8s
VTS Vitosha 15.86 290⇑*i*P **P** **16 54 24.1 +3.7**
VTS Vitosha 15.86 290 ⇑P **P** **16 54 24.1 +3.7**
BURAR Bucovina Array 15.94 309 ⇓*i*P **P** **16 54 23.6 +2.3**
BURAR Bucovina Array 15.94 309 ⇓P **P** **16 54 23.6 +2.3**
BURAR Bucovina Array 15.94 309 ⇓*i*P **P** **16 54 23.6 +2.3**
OBN Obninsk 16.94 346 Pn **Pn** **16 54 30.2 0.0**
comp=Z,6.1nm,0.3s,baz=169,slow=22,SNR=3.7
OBN Obninsk 16.94 346⇓*e*P **Pn** **16 54 30.4 +0.2**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,38nm,16.0s
DRGR 17.19 304 ⇓*i*P P 16 54 43.1 +8.0
DRGR 17.19 304 ⇓P P 16 54 43.1 +8.0
WSAR Wadi Sarin 20.18 136 P **P** **16 55 06.2 -1.8**
comp=Z,1.8nm,0.8s,baz=283,slow=3.2,SNR=2.7
ARU Arti 20.22 25 P **P** **16 55 08.0 -0.1**
comp=Z,4.3nm,0.6s,baz=249,slow=6.0,SNR=9.5
ARU Arti 20.22 25*d i*P **P** **16 55 08.9 +0.7**
ARU 16 55 24.2
ARU S Sn 16 58 57.6 0.0
ARU SS **SnSn** **16 59 15.2 +3.2**
ARU pmax pmax
comp=Z,13nm,1.7s
KKAR Karatay Array 20.77 70 *e*P **P** **16 55 14.3 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 20.77 70 *e*P **P** **16 55 14.3 0.0**
comp=Z,4.0nm,0.6s
KKAR Karatay Array 20.77 70 *e*Pn **P** **16 55 14.3 0.0**
comp=Z,4.0nm,0.6s
SVE Sverdlovsk 21.23 27 *e*P **P** **16 55 21.7 +2.5**
SVE pmax pmax
comp=Z,12nm,1.0s
SVE Sverdlovsk 21.23 27 *e*P **P** **16 55 21.7 +2.5**
comp=Z,12nm,1.0s
KLMR Klimovskoe 22.18 355 *e*P **P** **16 55 28.8 -0.4**
KLMR *e* 16 55 50.3
KLMR pmax pmax
comp=Z,33nm,1.0s
KLMR Klimovskoe 22.18 355 *e*P **P** **16 55 28.8 -0.4**
comp=Z,33nm,1.0s
DPC Dobruska-Polom 22.40 310 *e*P P 16 55 40.2 +8.4
DPC Dobruska-Polom 22.40 310 *e*P P 16 55 40.2 +8.4
VSU Vasula 22.43 337 ⇓*i*P **P** **16 55 30.9 -1.1**
VSU Vasula 22.43 337 *i* P **P** **16 55 30.9 -1.1**
BRVK Borovoye 23.23 44*ce*P **P** **16 55 42.9 +2.5**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 23.23 44 *e*P **P** **16 55 42.9 +2.5**
comp=Z,9.0nm,1.2s
BVAR Borovoye Array 23.27 44 P **P** **16 55 40.2 -0.6**
comp=Z,0.3nm,0.5s,baz=225,slow=14,SNR=2.5
GERES GERESS Array B 23.59 305 P **P** **16 55 44.9 +0.7**
comp=Z,0.9nm,0.7s,baz=108,slow=8.6,SNR=7.3
AAK Ala-Archa 23.69 71 P **P** **16 55 43.8 -1.5**
comp=Z,1.0nm,0.7s,baz=213,slow=6.6,SNR=4.4
AAK Ala-Archa 23.69 71 ⇓*i*P **P** **16 55 44.6 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 23.69 71 *e*P **P** **16 55 44.7 -0.6**
comp=Z,8.0nm,1.1s
AAK Ala-Archa 23.69 71 *e*P **P** **16 55 44.7 -0.6**
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 23.74 305 *e*P **P** **16 55 47.8 +2.3**
KHC *ex* x 16 56 05.7
KHC Kasperske Hory 23.74 305 *e*P **P** **16 55 47.8 +2.3**
KHC Kasperske Hory 23.74 305 *e*P **P** **16 55 47.8 +2.3**
FINES FINESS Array B 25.08 340 P **P** **16 55 57.8 +0.2**
comp=Z,1.0nm,0.6s,baz=150,slow=16,SNR=8.1
FINES FINESS Array B 25.08 340 *e*P **P** **16 55 58.2 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 25.08 340 *e*P **P** **16 55 58.2 +0.6**
comp=Z,2.0nm,0.8s
DAVOX Davos/Dischmat 25.78 299 P **P** **16 56 04.1 -0.3**
comp=Z,3.3nm,0.8s,baz=157,slow=7.7,SNR=3.4
KURBB Kurchatov Arra 27.25 53 P **P** **16 56 17.9 +0.5**
comp=Z,1.8nm,0.6s,baz=266,slow=8.6,SNR=8.7
KURK Kurchatov 27.32 53 ⇓*i*P **P** **16 56 19.1 +1.0**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 27.32 53 P **P** **16 56 17.9 -0.2**
KURK Kurchatov 27.32 53 P **P** **16 56 17.9 -0.2**
HFS Hagfors 28.38 328 P **P** **16 56 26.7 -0.7**
comp=Z,2.7nm,0.8s,baz=113,slow=14,SNR=3.6
MKAR Makanchi Array 29.27 62 P **P** **16 56 35.5 -0.1**
comp=Z,1.1nm,0.9s,baz=252,slow=6.9,SNR=5.7
MKAR Makanchi Array 29.27 62 *e*P **P** **16 56 35.4 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 29.91 329 P **P** **16 56 41.1 +0.1**
comp=Z,0.4nm,0.6s,baz=105,slow=12,SNR=2.6
NOA NORSAR Array B 29.91 329 P **P** **16 56 41.1 +0.1**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 29.91 329 P **P** **16 56 41.1 +0.1**
comp=Z,2.0nm,1.0s
ZALV Zalesovo Beam 31.71 48 P **P** **16 56 56.4 -0.5**
comp=Z,0.6nm,0.4s,baz=244,slow=16,SNR=3.0
ESDC Sonseca Array 36.45 287 P **P** **16 57 37.6 -0.7**
comp=Z,1.2nm,0.8s,baz=67,slow=9.3,SNR=4.5
TORD Torodi Ar. Bea 44.94 247 P **P** **16 58 47.4 -1.2**
comp=Z,1.1nm,0.9s,baz=79,slow=4.4,SNR=3.3
ULN Ulaanbaatar 45.87 57⇑*i*P **P** **16 58 55.5 -0.3**
ULN *i* *PP **pP** **16 58 57.7 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 45.87 57 *i* P **P** **16 58 55.5 -0.3**
comp=Z,3.0nm,0.9s
PALK Pallekele 45.90 123 LR LR 17 19 20.4
comp=Z,28nm,21.1s,baz=296,slow=38
CMAR Chiang Mai Arr 51.87 97 P **P** **16 59 40.5 -1.5**
comp=Z,0.4nm,0.5s,baz=297,slow=8.0,SNR=4.2
TIXI Tiksi 52.22 24*ce*P **P** **16 59 44.7 +0.8**
TIXI *i* *PP **sP** **16 59 47.8 -0.1**
TIXI *i* *SP **pP** **16 59 49.2 +2.4**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
BILL Bilibino 65.17 20⇓*e*P **P** **17 01 12.2 -1.9**
BILL pmax pmax
comp=Z,8.0nm,1.4s
BOSA Boshof 69.25 197 P **P** **17 01 40.4 -0.1**
comp=Z,3.4nm,0.9s,baz=79,slow=10,SNR=2.6
PET Petropavlovsk 72.69 35⇑*e*P **P** **17 02 00.9 -0.1**
PET pmax pmax
comp=Z,55nm,2.5s

TIF 25 16:50:53.6, 42˚36N×44˚03E, h10km±3km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.35**	**72**	P	Pg	16 51 01.2	+0.5
GUDG				S	Sb	16 51 06.7	-1.1
ONI	**Oni**	**0.49**	**299**	P	Pb	16 51 03.8	-0.6
ONI				S	Sb	16 51 11.0	-0.6

NSSC ***25*** *16:56:00.6±1.4, 37˚80N×45˚41E, h230km±32km, ML3.4*
ISK ***25*** *16:56:15.6, 38˚75N×43˚52E, h5km, ML4.4*
IDC ***25*** *16:56:16.4±0.7, 38˚75N×43˚46E, h0km, mb3.9/18, mb1 3.9/26, mb1mx3.8/83, mbtmp3.9/26, ML3.0/6, MS3.3/13, Ms1 3.3/13, ms1mx3.1/39, Error ellipse: s-maj=14.0km s-min=10.0km az=166.0*
DDA ***25*** *16:56:16.1, 38˚79N×43˚47E, h8km, Ml4.3*
MOS ***25*** *16:56:16.0±1.3, 38˚59N×43˚54E, h7km, mb4.3/22, Error ellipse: s-maj=6.4km s-min=4.9km az=83.2*
ISCJB ***25*** *16:56:16.5±0.6, 38˚63N±0˚02×43˚57E±0˚02, h5km±4km, mb4.1/34, MS3.2/11, Error ellipse: s-maj=3.4km s-min=2.5km az=161.1*
NEIC ***25*** *16:56:16.0±0.0, 38˚79N×43˚47E, h8km, mb4.3/6, ML4.1(ISK), ML4.3(DDA), After DDA.*
CSEM ***25*** *16:56:17.1±0.2, 38˚72N×43˚48E, h2km, mb4.1/8, Error ellipse: s-maj=4.7km s-min=3.8km az=156.0*
AZER ***25*** *16:56:18.0±3.2, 38˚51N×43˚52E, h15km, Error ellipse: s-maj=35.1km s-min=11.0km az=65.0*

ISC 25 16:56:16.9±1.0, 38˚72N±0˚01×43˚50E±0˚02, h2km±7km, n249, σ1§74/300, mb4.1/34, MS3.2/12, 23C-27D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**214**	*e*PG	**Pg**	**16 56 21.6**	**+1.6**
VANB				*e*SG	**Sg**	**16 56 25.5**	**+3.5**
VANB	**Van**	**0.15**	**214**	Pg	**Pg**	**16 56 20.8**	**+0.9**
VANB	**Van**	**0.15**	**214**	Pg	**Pg**	**16 56 20.8**	**+0.9**
VMUR	**Van-Muradiye**	**0.27**	**12**	⇓*i*P	**Pg**	**16 56 20.5**	**-1.7**
VMUR				*i* S	**Sg**	**16 56 27.9**	**+2.1**
VMUR	**Van-Muradiye**	**0.27**	**12**	P	**Pg**	**16 56 20.5**	**-1.7**
VMUR				S	**Sg**	**16 56 27.9**	**+2.1**
GEVA	**Gevas**	**0.54**	**220**	*i* P	**Pg**	**16 56 25.3**	**-1.9**
GEVA				*i* S	**Sb**	**16 56 36.8**	**-0.6**
GEVA	**Gevas**	**0.54**	**220**	*i* P	**Pg**	**16 56 26.4**	**-0.8**
GEVA				S	**Sb**	**16 56 36.8**	**-0.6**
GEVA	**Gevas**	**0.54**	**220**	*i* P	**Pg**	**16 56 26.4**	**-0.8**
GEVA				*i* S	**Sb**	**16 56 36.8**	**-0.6**
BASK	**Baskale_VAN**	**0.78**	**149**	*i* P	**Pg**	**16 56 30.3**	**-1.5**
BASK				*i* S	**Sb**	**16 56 45.3**	**+0.9**
BASK	**Baskale_VAN**	**0.78**	**149**	P	**Pg**	**16 56 30.3**	**-1.5**
BASK				S	**Sb**	**16 56 45.3**	**+0.9**
DYDN	**Diyadin**	**0.83**	**10**	*i* P	**Pg**	**16 56 30.5**	**-2.4**
DYDN				*i* S	**Sg**	**16 56 44.7**	**+1.0**
DYDN	**Diyadin**	**0.83**	**10**	*i* P	**Pg**	**16 56 31.0**	**-1.9**
DYDN				S	**Sg**	**16 56 44.7**	**+1.0**
DYDN	**Diyadin**	**0.83**	**10**	*i* P	**Pg**	**16 56 31.0**	**-1.9**
TUTA	**Tutak**	**0.86**	**322**	⇓*i*P	**Pg**	**16 56 30.7**	**-2.7**
TUTA				*i* S	**Sg**	**16 56 45.7**	**+1.0**
TUTA	**Tutak**	**0.86**	**322**	*i* P	**Pg**	**16 56 31.1**	**-2.4**
TUTA				S	**Sg**	**16 56 45.7**	**+1.0**
TUTA	**Tutak**	**0.86**	**322**	*i* P	**Pg**	**16 56 31.1**	**-2.4**
AGRB	**Hanur-Agry**	**0.94**	**335**	*e*PG	**Pg**	**16 56 33.9**	**-1.0**
AGRB				*e*SG	**Sg**	**16 56 48.1**	**+1.0**
AGRB	**Hanur-Agry**	**0.94**	**335**	Pg	**Pg**	**16 56 33.6**	**-1.3**
AGRB				*e*Sg	**Sg**	**16 56 48.1**	**+1.0**
AGRB	**Hanur-Agry**	**0.94**	**335**	Pg	**Pg**	**16 56 33.6**	**-1.3**
HAKT	**HAKKARI**	**1.18**	**172**	*i* P	**Pg**	**16 56 35.5**	**-4.0**
HAKT				*i* S	**Sn**	**16 56 57.1**	**-0.2**
HAKT	**HAKKARI**	**1.18**	**172**	P	**Pg**	**16 56 35.5**	**-4.0**
HAKT				S	**Sn**	**16 56 57.1**	**-0.2**
EKAR	**Karacoban**	**1.24**	**296**	*i* P	**Pg**	**16 56 38.5**	**-2.2**
EKAR				*i* S	**Sn**	**16 57 01.5**	**+2.6**
EKAR	**Karacoban**	**1.24**	**296**	P	**Pg**	**16 56 38.5**	**-2.2**
EKAR				S	**Sn**	**16 57 01.5**	**+2.6**
EATA	**Eleskirt**	**1.38**	**326**	*i* P	**Pn**	**16 56 40.9**	**-2.6**
EATA				*i* S	**Sn**	**16 57 03.5**	**+1.0**
EATA	**Eleskirt**	**1.38**	**326**	P	**Pn**	**16 56 40.9**	**-2.6**
EATA				S	**Sn**	**16 57 03.5**	**+1.0**
EATA	**Eleskirt**	**1.38**	**326**	*i* P	**Pn**	**16 56 40.9**	**-2.6**
CUKT	**Cukurca**	**1.48**	**177**	*e*PN	**Pb**	**16 56 45.1**	**-0.1**
CUKT	**Cukurca**	**1.48**	**177**	*i* P	**Pb**	**16 56 44.9**	**-0.3**
CUKT				*i* S	**Sg**	**16 57 09.7**	**+5.4**
CUKT	**Cukurca**	**1.48**	**177**	*e*Pn	**Pb**	**16 56 45.1**	**-0.1**
SIRN	**S˜–rnak**	**1.50**	**215**	*i* P	**Pn**	**16 56 45.0**	**+0.1**
SIRN	**S˜–rnak**	**1.50**	**215**	P	**Pn**	**16 56 45.0**	**+0.1**
NAX	**Nakhchivan**	**1.62**	**73**	⇓P	**Pn**	**16 56 46.5**	**-0.1**
NAX				⇑S	**Sb**	**16 57 09.0**	**+0.5**
NAX	**Nakhchivan**	**1.62**	**73**	P	**Pn**	**16 56 46.5**	**-0.1**
NAX	**Nakhchivan**	**1.62**	**73**	P	**Pn**	**16 56 46.5**	**-0.1**
NAX				S	**Sb**	**16 57 09.0**	**+0.5**
VRTB	**Varto-Mus**	**1.65**	**286**	*e*PN	**Pb**	**16 56 47.8**	**-0.4**
VRTB	**Varto-Mus**	**1.65**	**286**	⇓*i*P	**Pn**	**16 56 47.2**	**+0.1**
VRTB				*i* S	**Sn**	**16 57 08.8**	**-0.2**
VRTB	**Varto-Mus**	**1.65**	**286**	P	**Pn**	**16 56 47.2**	**+0.1**
VRTB	**Varto-Mus**	**1.65**	**286**	*e*Pn	**Pb**	**16 56 47.8**	**-0.4**
VRTB				S	**Sn**	**16 57 08.8**	**-0.2**
DIGO	**Kars**	**1.69**	**357**	*i* P	**Pn**	**16 56 46.8**	**-1.0**
DIGO				*i* S	**Sg**	**16 57 15.0**	**+3.7**
DIGO	**Kars**	**1.69**	**357**	P	**Pn**	**16 56 46.8**	**-1.0**
DIGO				S	**Sg**	**16 57 15.0**	**+3.7**
GNI	**Garni**	**1.72**	**34**	Pn	**Pn**	**16 56 47.7**	**-0.3**
	133nm,0.3s,baz=277,slow=3.9,SNR=49						
GNI				Lg	Lg	16 57 16.5	
	112nm,0.3s,baz=267,slow=21,SNR=16						
GNI	**Garni**	**1.72**	**34**	*e*Pn	**Pn**	**16 56 47.1**	**-0.9**
GNI	**Garni**	**1.72**	**34**	*e*Pn	**Pn**	**16 56 47.1**	**-0.9**
GNI				Lg	Lg	16 57 16.5	
HOMI	**Horasan**	**1.81**	**317**⇑*i*P	**Pn**	**16 56 48.6**	**-0.7**	
HOMI				*i* S	**Sg**	**16 57 18.0**	**+3.0**
BNGL	**BINGOL**	**1.85**	**278**	*i* P	**Pn**	**16 56 50.4**	**+0.6**
BNGL				*i* S	**Sg**	**16 57 16.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.90**	**253**	*e*PN	**Pn**	**16 56 50.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.90**	**253**	*i

BINT	**Bingol**	**2.36**	**275**	*e*Pn	**Pn**	**16 56 55.4**	**-1.4**
BINT	**Bingol**	**2.36**	**275**	P	**Pn**	**16 56 56.2**	**-0.6**
BINT				*e*Sn	**Sn**	**16 57 24.6**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.41**	**288**	*e*PN	**Pn**	**16 56 58.7**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.41**	**288**	*e*Pn	**Pn**	**16 56 58.7**	**+1.2**
DDEM	**Demirkent**	**2.55**	**329**	*i* P	**Pn**	**16 57 00.3**	**+0.9**
DDEM	**Demirkent**	**2.55**	**329**	P	**Pn**	**16 57 00.3**	**+0.9**
MARD	**Mardin**	**2.57**	**238**	⇓*i*P	**Pn**	**16 57 00.1**	**+0.4**
MARD				*i* S	**Sn**	**16 57 32.8**	**+1.3**
GDB	**GEDABAY**	**2.65**	**40**	⇑P	**Pn**	**16 57 02.4**	**+1.6**
GDB				⇑S	**Sb**	**16 57 37.1**	**-1.0**
GDB	**GEDABAY**	**2.65**	**40**	P	**Pn**	**16 57 02.4**	**+1.6**
GDB				S	**Sb**	**16 57 37.1**	**-1.0**
DAGI	**Agillar**	**2.65**	**333**	*i* P	**Pb**	**16 57 04.0**	**-1.1**
DAGI				*i* S	**Sg**	**16 57 43.9**	**+1.8**
KOPT	**Kop Dagi**	**2.66**	**300**	*i* P	**Pb**	**16 57 05.6**	**+0.1**
KOPT	**Kop Dagi**	**2.66**	**300**	P	**Pb**	**16 57 05.6**	**+0.1**
MAZI	**Mazidag**	**2.72**	**243**	*e*PN	**Pn**	**16 57 01.8**	**+0.1**
MAZI	**Mazidag**	**2.72**	**243**	*e*Pn	**Pn**	**16 57 01.8**	**+0.1**
ARTV	**Artvin**	**2.74**	**334**	*i* P	**Pn**	**16 57 03.4**	**+1.3**
ARTV	**Artvin**	**2.74**	**334**	P	**Pn**	**16 57 03.4**	**+1.3**
QZX	**Qazax, Azerbai**	**2.74**	**31**	⇓P	**Pn**	**16 57 03.5**	**+1.5**
	SNR=12						
QZX				⇑S	**Sb**	**16 57 40.0**	**-0.7**
QZX	**Qazax, Azerbai**	**2.74**	**31**	P	**Pn**	**16 57 03.5**	**+1.5**
	SNR=12						
QZX				S	**Sb**	**16 57 40.0**	**-0.7**
DIYA	**Diyarbakir**	**2.77**	**254**	*i* P	**Pn**	**16 57 03.8**	**+1.3**
DIYA	**Diyarbakir**	**2.77**	**254**	P	**Pn**	**16 57 03.8**	**+1.3**
EPOS	**Posof**	**2.84**	**348**	*i* P	**Pb**	**16 57 06.0**	**-2.4**
EPOS				*i* S	**Sg**	**16 57 50.9**	**+2.8**
EPOS	**Posof**	**2.84**	**348**	P	**Pb**	**16 57 06.0**	**-2.4**
GANJ	**Ganja**	**2.90**	**48**	⇑P	**Pn**	**16 57 05.9**	**+1.6**
GANJ				⇑S	**Sb**	**16 57 45.6**	**+0.2**
GANJ	**Ganja**	**2.90**	**48**	P	**Pn**	**16 57 05.8**	**+1.6**
GANJ	**Ganja**	**2.90**	**48**	P	**Pn**	**16 57 05.8**	**+1.6**
GANJ				S	**Sb**	**16 57 45.6**	**+0.2**
KBSD	**Kabsdagh**	**2.90**	**235**	*e*P	**Pn**	**16 57 04.1**	**0.0**
KBSD				AML	AML	16 57 42.9	
	comp=Z,431nm,0.5s						
DBOC	**Borcka**	**2.97**	**332**	⇓*i*P	**Pb**	**16 57 09.0**	**-1.6**
DBOC	**Borcka**	**2.97**	**332**	P	**Pb**	**16 57 09.0**	**-1.6**
DGRG	**David-gareji**	**3.08**	**27**	P	**Pn**	**16 57 08.6**	**+2.0**
TNCL	**Tunceli-Merkez**	**3.11**	**278**	*i* P	**Pb**	**16 57 11.5**	**-1.5**
TNCL	**Tunceli-Merkez**	**3.11**	**278**	P	**Pb**	**16 57 11.5**	**-1.5**
EUZM	**Uzumlu**	**3.11**	**290**	*i* P	**Pb**	**16 57 11.8**	**-1.3**
EUZM	**Uzumlu**	**3.11**	**290**	P	**Pb**	**16 57 11.8**	**-1.3**
BRDA	**Brd**	**3.23**	**60**	⇓P	**Pn**	**16 57 09.8**	**+1.1**
BRDA	**Brd**	**3.23**	**60**	P	**Pn**	**16 57 09.8**	**+1.1**
SFNV	**Sufian**	**3.54**	**231**	*e*P	**Pn**	**16 57 12.8**	**-0.2**
SFNV				*e*S	**Sb**	**16 58 02.2**	**-1.6**
SFNV				AML	AML	16 58 22.0	
	comp=Z,150nm,0.6s						
KELT	**Kelkit**	**3.58**	**295**	*i* P	**Pb**	**16 57 21.1**	**+0.1**
KELT				*i* S	**Sg**	**16 58 13.9**	**+1.9**
ZRD	**Zardab**	**3.59**	**63**	⇑P	**Pn**	**16 57 14.5**	**+0.9**
ZRD	**Zardab**	**3.59**	**63**	P	**Pn**	**16 57 14.5**	**+0.9**
ZKTA	**Zakatala**	**3.77**	**38**	⇑P	**Pn**	**16 57 18.5**	**+2.4**
ZKTA	**Zakatala**	**3.77**	**38**	P	**Pn**	**16 57 18.4**	**+2.4**
ZKTA	**Zakatala**	**3.77**	**38**	P	**Pn**	**16 57 18.4**	**+2.4**
SEKA	**Sheki**	**3.77**	**48**	⇑P	**Pn**	**16 57 18.0**	**+1.7**
SEKA	**Sheki**	**3.77**	**48**	P	**Pn**	**16 57 17.9**	**+1.7**
SEKA	**Sheki**	**3.77**	**48**	P	**Pn**	**16 57 17.9**	**+1.7**
LRK	**Lerik**	**3.79**	**90**	⇑P	**Pn**	**16 57 17.0**	**+0.5**
LRK	**Lerik**	**3.79**	**90**	P	**Pn**	**16 57 17.0**	**+0.5**
GLBA	**Clilabad**	**3.85**	**81**	⇓P	**Pn**	**16 57 18.4**	**+1.3**
GLBA	**Clilabad**	**3.85**	**81**	P	**Pn**	**16 57 18.4**	**+1.3**
KEMA	**Kemaliye**	**3.94**	**280**	*i* P	**Pb**	**16 57 29.1**	**+2.0**
KEMA				*i* S	**Sg**	**16 58 25.1**	**+1.6**
KDMR	**Kurdemir**	**3.98**	**64**	⇓P	**Pn**	**16 57 19.4**	**+0.5**
KDMR	**Kurdemir**	**3.98**	**64**	P	**Pn**	**16 57 19.4**	**+0.5**
QBL	**Gabala**	**4.01**	**55**	⇓P	**Pn**	**16 57 19.2**	**-0.2**
QBL	**Gabala**	**4.01**	**55**	P	**Pn**	**16 57 19.2**	**-0.2**
ZEI	**Tsey**	**4.07**	**4**	*e*P	**Pn**	**16 57 22.4**	**+2.0**
ZEI				pmax	pmax		
	comp=Z,12nm,0.7s						
LKRN	**Lenkeran, Azer**	**4.13**	**89**	⇑P	**Pn**	**16 57 18.1**	**-2.9**
LKRN	**Lenkeran, Azer**	**4.13**	**89**	P	**Pn**	**16 57 18.1**	**-2.9**
LKRN	**Lenkeran, Azer**	**4.13**	**89**	P	**Pn**	**16 57 18.1**	**-2.9**
ASTR	**Astara**	**4.15**	**91**	⇓P	**Pn**	**16 57 20.7**	**-0.5**
ASTR	**Astara**	**4.15**	**91**	P	**Pn**	**16 57 20.7**	**-0.5**
XNQ	**Khinaliq**	**4.32**	**54**	⇓P	**Pn**	**16 57 24.8**	**+0.9**
XNQ	**Khinaliq**	**4.32**	**54**	P	**Pn**	**16 57 24.8**	**+0.9**
PQL	**Pirkuli**	**4.43**	**61**	⇓P	**Pn**	**16 57 25.9**	**+0.6**
PQL	**Pirkuli**	**4.43**	**61**	P	**Pn**	**16 57 25.9**	**+0.6**
NEY	**Neytrino**	**4.56**	**353**	⇑*i*P	**Pn**	**16 57 27.8**	**+0.7**
NEY	**Neytrino**	**4.56**	**353**	*i* P	**Pn**	**16 57 27.8**	**+0.7**
KSRV	**Kasrt alli**	**4.58**	**233**	*e*P	**Pn**	**16 57 28.1**	**+0.9**
KSRV				*e*S	**Sb**	**16 58 31.6**	**-2.1**
KSRV				AML	AML	16 58 57.1	
	comp=Z,56nm,0.6s						
QSAR	**Qusar**	**4.59**	**51**	⇓P	**Pn**	**16 57 28.5**	**+1.1**
QSAR	**Qusar**	**4.59**	**51**	P	**Pn**	**16 57 28.5**	**+1.1**
QUBA	**Quba, Azerbaij**	**4.65**	**54**	⇑P	**Pn**	**16 57 29.8**	**+1.6**
QUBA	**Quba, Azerbaij**	**4.65**	**54**	P	**Pn**	**16 57 29.8**	**+1.6**
ATGJ	**Altiaghaj**	**4.70**	**61**	⇑P	**Pn**	**16 57 29.5**	**+0.5**
ATGJ	**Altiaghaj**	**4.70**	**61**	P	**Pn**	**16 57 29.5**	**+0.5**
SIZA	**Siyzn**	**4.77**	**59**	⇓P	**Pn**	**16 57 31.3**	**+1.4**
SIZA	**Siyzn**	**4.77**	**59**	P	**Pn**	**16 57 31.3**	**+1.4**
KBZ	**Khabaz**	**5.02**	**355**	Pn	**Pn**	**16 57 36.1**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=2.9						
MAK	**Makhachkala**	**5.21**	**34**	*e*P	**Pn**	**16 57 34.7**	**-1.1**
MAK				*e*S	**Sn**	**16 58 35.7**	**-0.7**
MAK				pmax	pmax		
	comp=Z,160nm,1.1s						
MAK				MLR	MLR		
	comp=Z,1μm,11.0s						
MAK	**Makhachkala**	**5.21**	**34**	*e*P	**Pn**	**16 57 34.7**	**-1.1**
	comp=Z,160nm,1.1s						
MAK				*e*S	**Sn**	**16 58 35.7**	**-0.7**
	comp=Z,1μm,11.0s						
KIV	**Kislovodsk**	**5.26**	**354**	*e*P	**Pn**	**16 57 39.8**	**+3.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV	**Kislovodsk**	**5.26**	**354**	*e*Pn	**Pn**	**16 57 39.3**	**+2.7**
	comp=Z,21nm,1.0s						
KIV	**Kislovodsk**	**5.26**	**354**	*e*P	**Pn**	**16 57 39.8**	**+3.1**
	comp=Z,10.0nm,1.1s						
KIV	**Kislovodsk**	**5.26**	**354**	*e*Pn	**Pn**	**16 57 39.3**	**+2.7**
	comp=Z,21nm,1.0s						
DRWC	**Darouich**	**5.81**	**251**	*e*P	**Pn**	**16 57 45.2**	**+1.0**
DRWC				*e*S	**Sb**	**16 59 02.1**	**-7.1**
DRWC				AML	AML	16 59 30.7	
	comp=N,29nm,0.6s						
DRWC				AML	AML	16 59 43.8	
	comp=Z,39nm,0.8s						
DRWC				AML	AML	16 59 51.1	
	comp=E,52nm,0.7s						
GOF	**Gofitskoye**	**6.34**	**357**	⇑*e*P	Pn	16 57 56.9	+5.6
ARNB	**Al Arnab**	**6.65**	**247**	*e*S	**Sn**	**16 59 19.9**	**+7.8**
ARNB				AML	AML	16 59 59.9	
	comp=N,40nm,0.6s						
ARNB				AML	AML	17 00 08.8	
	comp=Z,31nm,0.7s						
ARNB				AML	AML	17 00 09.7	
	comp=E,58nm,0.7s						
BIDA	**Albida**	**6.84**	**239**	*e*P	**Pn**	**16 57 56.2**	**-2.1**
BIDA				*e*S	**Sn**	**16 59 19.2**	**+2.3**
BIDA				AML	AML	17 00 01.6	
	comp=E,88nm,0.6s						
BIDA				AML	AML	17 00 02.4	
	comp=Z,31nm,0.8s						
BIDA				AML	AML	17 00 07.2	
	comp=N,79nm,0.6s						
BRTR	**Keskin Array B**	**7.72**	**281**	Pn	**Pn**	**16 58 12.3**	**+1.8**
	comp=N,0.1nm,0.3s,baz=90,slow=16,SNR=3.5						
BRTR				LR	LR	17 01 53.9	
	comp=N,82nm,21.6s,baz=97,slow=44						
BRBR	**Barbar**	**8.09**	**231**	*e*P	Pn	16 58 10.1	-5.5
BRBR				*e*S	**Sn**	**16 59 43.5**	**-4.3**
BRBR				AML	AML	17 01 03.5	
	comp=E,7.7nm,0.6s						
BRBR				AML	AML	17 01 10.6	
	comp=Z,16nm,0.8s						
BRBR				AML	AML	17 01 17.8	
	comp=N,17nm,0.7s						
ASF	**Jabal al Asfar**	**8.47**	**221**	Pn	**Pn**	**16 58 21.7**	**+1.1**
	comp=N,0.2nm,0.3s,baz=298,slow=17,SNR=2.4						
ASF				Lg	Lg	17 00 54.2	
	comp=N,0.1nm,0.3s,baz=204,slow=20,SNR=2.8						
MMAI	**Mount Meron Ar**	**8.69**	**232**	Pn	**Pn**	**16 58 26.6**	**+2.9**
	comp=N,1.2nm,0.3s,baz=64,slow=16,SNR=5.3						
EIL	**Elat**	**11.47**	**221**	Lg	Lg	17 02 33.6	
	comp=N,0.2nm,0.3s,baz=300,slow=20,SNR=2.8						
GEYT	**Alibeck**	**11.51**	**89**	Pn	**Pn**	**16 59 04.2**	**+1.9**
	comp=N,0.3nm,0.3s,baz=272,slow=11,SNR=4.7						
DOPR	**Dopca**	**15.20**	**304**	⇓*i*P	**P**	**17 00 00.9**	**+3.1**
VOIR		**15.24**	**302**	⇓*i*P	**P**	**17 00 02.1**	**+3.9**
VOIR		**15.24**	**302**	⇓P	**P**	**17 00 02.1**	**+3.9**
RAYN	**Ar Rayn**	**15.25**	**173**	*e*Pn	**Pn**	**16 59 49.9**	**-3.5**
RAYN	**Ar Rayn**	**15.25**	**173**	*e*Pn	**Pn**	**16 59 49.9**	**-3.5**
IDI	**Anoyia**	**15.26**	**263**	Pn	**Pn**	**16 59 52.7**	**-0.7**
	comp=N,0.2nm,0.3s,baz=56,slow=5.9,SNR=2.1						
AKTO	**Aktyubinsk**	**15.59**	**37**	Pn	**Pn**	**16 59 56.1**	**-1.5**
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=7.8						
AKASG	**Malin Array Be**	**15.66**	**324**	Pn	**Pn**	**16 59 55.7**	**-2.8**
	baz=134,slow=11,SNR=2.2						
KIEV	**Kiev**	**15.66**	**324**	⇑*i*P	**Pn**	**16 59 59.7**	**+1.1**
ABKAR	**Akbulak array**	**15.80**	**43**	*e*Pn	**Pn**	**16 59 58.1**	**-2.3**
	comp=N,2.6nm,0.7s						
ABKAR	**Akbulak array**	**15.80**	**43**	*e*Pn	**Pn**	**16 59 58.1**	**-2.3**
	comp=N,2.6nm,0.7s						
BURAR	**Bucovina Array**	**16.00**	**310**	⇓*i*P	**P**	**17 00 06.9**	**+0.2**
BURAR	**Bucovina Array**	**16.00**	**310**	⇓P	**P**	**17 00 06.9**	**+0.2**
GZR	**Gura Zlata**	**16.75**	**300**	⇑*i*P	**P**	**17 00 17.4**	**+2.4**
OBN	**Obninsk**	**17.05**	**346**	P	**Pn**	**17 00 15.4**	**-0.9**
	comp=N,3.5nm,0.3s,baz=164,slow=11,SNR=3.5						
OBN				LR	LR	17 06 45.2	
	comp=N,95nm,20.6s,baz=94,slow=37						
OBN	**Obninsk**	**17.05**	**346**	⇑*e*P	**P**	**17 00 18.1**	**0.0**
OBN				S	**Sn**	**17 03 30.0**	**+3.8**
OBN				pmax	pmax		
	comp=Z,29nm,1.7s						
OBN				MLR	MLR		
	comp=Z,106nm,13.0s						
OBN	**Obninsk**	**17.05**	**346**	*e*P	**P**	**17 00 18.1**	**0.0**
	comp=Z,29nm,1.7s						
CRVS	**Cervenica-Dubn**	**18.82**	**310**	*e*P	**Pn**	**17 00 42.0**	**+3.9**
CRVS	**Cervenica-Dubn**	**18.82**	**310**	*e*P	**Pn**	**17 00 42.0**	**+3.9**
NIE	**Niedzica**	**19.72**	**310**	P	**P**	**17 00 47.1**	**-0.6**
NIE				pmax	pmax		
	comp=Z,3.0nm,1.5s						
DZET	**Dzherino**	**19.74**	**82**	P	**Pn**	**17 00 49.7**	**+0.3**
DZET				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DZET	**Dzherino**	**19.74**	**82**	P	**Pn**	**17 00 49.7**	**+0.3**
	comp=Z,6.0nm,0.8s						
WSAR	**Wadi Sarin**	**20.12**	**136**	P	**P**	**17 00 52.1**	**0.0**
	comp=Z,2.9nm,0.6s,baz=305,slow=6.9,SNR=6.8						
WSAR				LR	LR	17 10 05.3	
	comp=Z,120nm,21.4s,baz=343,slow=41						
VYHS	**Vyhne**	**20.27**	**307**	*e*P	Pn	17 00 58.0	+2.4
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
VYHS	**Vyhne**	**20.27**	**307**	*e*P	Pn	17 00 58.0	+2.4
ARU	**Arti**	**20.34**	**25**	P	**P**	**17 00 53.6**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=207,slow=5.2,SNR=7.1						
ARU				LR	LR	17 11 01.3	
	comp=Z,85nm,19.1s,baz=218,slow=44						
ARU	**Arti**	**20.34**	**25**	*d i*P	**P**	**17 00 54.9**	**+0.6**
ARU						17 01 11.8	
ARU				S	Sn	17 04 45.2	-0.4
ARU				SS	**SnSn**	**17 05 03.1**	**+3.0**
ARU				pmax	pmax		
	comp=Z,22nm,1.7s						
ARU	**Arti**	**20.34**	**25**	*e*P	**P**	**17 00 52.0**	**-2.3**
	comp=Z,57nm,1.7s						
ARU	**Arti**	**20.34**	**25**	*e*P	**P**	**17 00 52.0**	**-2.3**
	comp=Z,57nm,1.7s						
SUW	**Suwalki**	**20.63**	**324**	P	Pn	17 00 59.5	-0.2
SUW				pmax	pmax		
	comp=Z,266nm,1.1s						
SUW	**Suwalki**	**20.63**	**324**	P	Pn	17 00 59.5	-0.2
	comp=Z,266nm,1.1s						
KKAR	**Karatay Array**	**20.84**	**69**	*e*P	**P**	**17 00 59.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**20.84**	**69**	*e*P	**P**	**17 00 59.8**	**0.0**
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**20.84**	**69**	*e*P	**P**	**17 00 59.8**	**0.0**
	comp=Z,12nm,0.8s						
SVE	**Sverdlovsk**	**21.36**	**26**	*e*P	**P**	**17 01 06.3**	**+1.1**
SVE				pmax	pmax		
	comp=Z,23nm,1.5s						
SVE	**Sverdlovsk**	**21.36**	**26**	*e*P	**P**	**17 01 06.3**	**+1.1**
	comp=Z,23nm,1.5s						
VRAC	**Vranov**	**21.94**	**308**	P	**P**	**17 01 11.6**	**0.0**
	comp=Z,6.5nm,0.9s,baz=122,slow=8.6,SNR=4.2						
MNAS	**Manas**	**22.29**	**71**	P	**P**	**17 01 15.8**	**+0.2**
MNAS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MNAS	**Manas**	**22.29**	**71**	P	**P**	**17 01 15.8**	**+0.2**
	comp=Z,4.0nm,1.0s						
KLMR	**Klimovskoe**	**22.29**	**355**	*e*P	**P**	**17 01 14.4**	**-0.9**
KLMR				pmax	pmax		
	comp=Z,32nm,1.3s						
KLMR	**Klimovskoe**	**22.29**	**355**	*e*P	**P**	**17 01 14.4**	**-0.9**
	comp=Z,32nm,1.3s						
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**17 01 19.1**	**+1.9**
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**17 01 19.1**	**+1.9**
DPC	**Dobruska-Polom**	**22.46**	**310**	*e*P	**P**	**17 01 19.1**	**+1.9**
TREC	**Trest**	**22.62**	**307**	P	**P**	**17 01 20.5**	**+1.5**
TREC				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TREC	**Trest**	**22.62**	**307**	P	**P**	**17 01 20.5**	**+1.5**
	comp=Z,6.0nm,1.5s						
BRVK	**Borovoye**	**23.34**	**43**	⇑*i*P	**P**	**17 01 27.8**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,17nm,1.7s						
BRVK	**Borovoye**	**23.34**	**43**	*e*P	**P**	**17 01 24.2**	**-2.0**
	comp=Z,24nm,1.3s						
BRVK	**Borovoye**	**23.34**	**43**	*e*P	**P**	**17 01 24.2**	**-2.0**
	comp=Z,24nm,1.3s						
BVAR	**Borovoye Array**	**23.38**	**44**	P	**P**	**17 01 28.1**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=224,slow=8.3,SNR=9.5						
GERES	**GERESS Array B**	**23.63**	**305**	P	**P**	**17 01 29.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=109,slow=10.0,SNR=5.4						
GERES				LR	LR	17 11 53.5	
	comp=Z,69nm,19.3s,baz=88,slow=40						
GERES	**GERESS Array B**	**23.63**	**305**	*e*P	**P**	**17 01 31.8**	**+2.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**23.76**	**71**	P	**P**	**17 01 31.3**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=242,slow=12,SNR=5.3						
AAK				LR	LR	17 12 42.9	
	comp=Z,98nm,19.6s,baz=263,slow=42						
AAK	**Ala-Archa**	**23.76**	**71**	*e*P	**P**	**17 01 31.2**	**+0.4**
	comp=Z,15nm,1.5s						
KHC	**Kasperske Hory**	**23.78**	**306**	*e*P	**P**	**17 01 31.5**	**+0.7**
KHC				*ex*	x	17 01 36.0	
KHC	**Kasperske Hory**	**23.78**	**306**	*e*P	**P**	**17 01 31.5**	**+0.7**
KHC				*e*		17 01 36.0	
KHC	**Kasperske Hory**	**23.78**	**306**	*e*P	**P**	**17 01 31.5**	**+0.7**
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**17 01 40.0**	**+0.2**
CLL				*i*		17 01 46.9	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**17 01 38.0**	**-1.8**
	comp=Z,8.0nm,1.2s						
CLL				*i*		17 01 46.9	
CLL				*e*(S)	S	17 06 14.0	+11
KSH	**Kashi**	**25.14**	**78**	*e*P	**P**	**17 01 43.0**	**-0.4**
KSH				pP	sP	17 01 47.0	+2.7
KSH				sP	pP	17 01 49.0	+5.0
KSH				PP	PnPn	17 02 29.3	+12
KSH				PcP	**PcP**	**17 05 18.0**	**+0.5**
KSH				S	S	17 05 40.5	-29
KSH				SS	**SnSn**	**17 06 57.3**	**-0.7**
KSH				PcS	**PcS**	**17 08 54.5**	**-3.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,140nm,5.0s						
KSH				LR	LR		
	comp=N,130nm,10.2s						
KSH				LR	LR		
	comp=E,110nm,6.8s						
KSH				LR	LR		
	comp=Z,210nm,8.8s						
FINES	**FINESS Array B**	**25.18**	**340**	P	**P**	**17 01 43.5**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=126,slow=14,SNR=3.0						
FINES				LR	LR	17 11 53.6	
	comp=Z,109nm,20.3s,baz=162,slow=37						
GRF	**Grafenberg Arr**	**25.41**	**306**	P	**P**	**17 01 46.2**	**+0.5**
GRF				pmax	pmax		
	comp=Z,18nm,1.3s						
GRFO	**Grafenberg**	**25.41**	**306**	P	**P**	**17 01 45.9**	**+0.2**
DAVOX	**Davos/Dischmat**	**25.81**	**299**	P	**P**	**17 01 49.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=180,slow=18,SNR=3.1						
DAVOX				LR	LR	17 13 08.8	
	comp=Z,91nm,21.1s,baz=102,slow=39						
ATD	**Arta Tunnel**	**27.09**	**181**	LR	LR	17 14 24.3	
	comp=Z,40nm,21.5s,baz=347,slow=40						
KURBB	**Kurchatov Arra**	**27.34**	**53**	P	**P**	**17 02 03.8**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=264,slow=8.9,SNR=23						
PDGK	**Podgornoye**	**27.40**	**69**	P	**P**	**17 02 03.9**	**0.0**
PDGK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KURK	**Kurchatov**	**27.42**	**53**	*d i*P	**P**	**17 02 05.3**	**+1.5**
KURK				pmax	pmax		
	comp=Z,24nm,1.2s						
KURK	**Kurchatov**	**27.42**	**53**	P	**P**	**17 02 03.8**	**0.0**
KURK	**Kurchatov**	**27.42**	**53**	P	**P**	**17 02 03.8**	**0.0**
HFS	**Hagfors**	**28.47**	**329**	P	**P**	**17 02 13.2**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=142,slow=12,SNR=3.6						
HFS				LR	LR	17 13 16.1	
	comp=Z,92nm,18.4s,baz=106,slow=36						
MKAR	**Makanchi Array**	**29.36**	**61**	P	**P**	**17 02 21.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=269,slow=6.6,SNR=7.5						
MKAR	**Makanchi Array**	**29.36**	**61**	*e*P	**P**	**17 02 21.9**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KONO	**Kongsberg**	**29.96**	**325**	⇑*e*P	**P**	**17 02 27.2**	**+0.9**
NOA	**NORSAR Array B**	**29.99**	**329**	LR	LR	17 15 48.2	
	comp=Z,57nm,19.9s,baz=150,slow=39						
ZALV	**Zalesovo Beam**	**31.81**	**48**	P	**P**	**17 02 43.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=269,slow=12,SNR=3.0						
ARCES	**ARCESS Array B**	**32.34**	**348**	LR	LR	17 15 48.0	
	comp=Z,56nm,20.4s,baz=154,slow=36						
EKA	**Eskdalemuir Ar**	**35.11**	**314**	P	**P**	**17 03 10.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=99,slow=8.7,SNR=3.6						
TAM	**Tamanrasset**	**36.00**	**255**	P	**P**	**17 03 19.2**	**-0.4**
TAM				pmax	pmax		
	comp=Z,5.0nm,2.1s						
ESDC	**Sonseca Array**	**36.46**	**287**	P	**P**	**17 03 21.1**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=83,slow=9.2,SNR=4.3						
ESDC				LR	LR	17 19 11.1	
	comp=Z,22nm,21.4s,baz=180,slow=38						
LSA	**Lhasa**	**40.04**	**88**	P	**P**	**17 03 54.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA	**Gaotai**	**43.11**	**71**	*e*P	**P**	**17 04 19.5**	**+0.8**
GTA				pP	sP	17 04 24.5	+4.9
GTA				sP	pP	17 04 28.3	+9.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**44.86**	**247**	P	**P**	**17 04 31.3**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=59,slow=8.8,SNR=5.4						
ULN	**Ulaanbaatar**	**45.96**	**57**	*d i*P	**P**	**17 04 42.3**	**+0.9**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
CHTO	**Chiang Mai**	**51.69**	**96**	*e*P	**P**	**17 05 24.7**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHTO	**Chiang Mai**	**51.69**	**96**	*e*P	**P**	**17 05 24.7**	**-0.9**
	comp=Z,1.5nm,0.7s						
CHTO	**Chiang Mai**	**51.69**	**96**	*e*P	**P**	**17 05 24.7**	**-0.9**
	comp=Z,1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P	**P**	**17 05 26.5**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=300,slow=8.2,SNR=15						
TIXI	**Tiksi**	**52.34**	**24**	⇓*i*P	**P**	**17 05 30.6**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KSAR	**Wonju Array Be**	**64.02**	**62**	P	**P**	**17 06 51.5**	**-0.5**
KSAR	**Wonju Array Be**	**64.02**	**62**	P	**P**	**

comp=Z,0.9nm,0.3s,baz=210,slow=30,SNR=8.6
ARE0 ARCESS Array S 3.00 32 *e*P **Pn 17 01 55.5 +0.8**
ARE0 *e* 17 02 26.3
ARE0 ARCESS Array S 3.00 32 P **Pn 17 01 55.5 +0.8**
OUFX Oulainen 3.11 149 *e*PB **Pb 17 02 00.8 -1.1**
OUFX Oulainen 3.11 149 Pb **Pb 17 02 00.8 -1.1**
UMAU Umeaa 3.19 183 *e*P **Pn 17 01 59.9 +2.7**
UMAU Umeaa 3.19 183 P **Pn 17 01 59.9 +2.7**
MSF Maaselka 3.42 106 *e*PG **Pg 17 02 11.0 -0.4**
MSF *e*SG **Sg 17 02 56.2 +0.5**
MSF Maaselka 3.42 106 Pg **Pg 17 02 11.0 -0.4**
MSF Sg **Sg 17 02 56.2 +0.5**
KEV Kevo 3.50 37 *e*P **Pn 17 02 03.2 +1.7**
KEV Kevo 3.50 37 P **Pn 17 02 03.2 +1.7**
KU6 Riekki 3.70 102 *e*P **Pn 17 02 06.3 +2.0**
KU6 Riekki 3.70 102 P **Pn 17 02 06.3 +2.0**
VAF Ylistaro 4.09 169 *e*SG **Sg 17 03 16.9 -0.3**
VAF Ylistaro 4.09 169 Sg **Sg 17 03 16.9 -0.3**
FINES FINESS Array B 6.05 156 Pn **Pn 17 02 38.5 +2.0**
comp=Z,0.1nm,0.3s,baz=351,slow=14,SNR=8.9
FINES Sn **Sn 17 03 46.9 +0.5**
comp=Z,0.2nm,0.3s,baz=348,slow=21,SNR=4.2
NOA NORSAR Array B 7.40 220 Pn **Pn 17 02 55.8 +0.7**
comp=Z,0.0nm,0.3s,baz=59,slow=18,SNR=2.5
NOA Sn **Sn 17 04 15.8 -3.9**
comp=Z,0.1nm,0.3s,baz=358,slow=19,SNR=2.5
HFS Hagfors 7.67 208 Pn **Pn 17 03 00.7 +2.0**
comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=3.1
HFS Sn **Sn 17 04 25.0 -1.1**
comp=Z,0.1nm,0.3s,baz=46,slow=50,SNR=3.6

DDA ***25*** *17:03:21.7, 38.77N×43.38E, h7km, Ml3.8*
ISK ***25*** *17:03:21.0, 38.80N×43.47E, h4km, ML3.6*
CSEM ***25*** *17:03:22.3±0.3, 38.79N×43.40E, h2km, ML3.6, Error ellipse: s-maj=6.8km s-min=3.8km az=75.0*
ISC 25 17:03:23.0±0.9, 38.79N±0.02×43.38E±0.03, h11km±7km, n48, σ0.97/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**179**	*e*PG	**Pg**	**17 03 27.3**	**0.0**
VANB				*e*SG	**Sg**	**17 03 32.1**	**+1.9**
VANB	**Van**	**0.19**	**179**	*e*Pg	**Pg**	**17 03 27.3**	**0.0**
GEVA	**Gevas**	**0.54**	**208**	*i* P	**Pg**	**17 03 32.0**	**-1.6**
GEVA				*i* S	**Sg**	**17 03 40.0**	**-0.7**
GEVA	**Gevas**	**0.54**	**208**	P	**Pg**	**17 03 32.0**	**-1.6**
GEVA				S	**Sg**	**17 03 40.0**	**-0.7**
TUTA	**Tutak**	**0.76**	**324**	*i* P	**Pg**	**17 03 36.6**	**-1.2**
TUTA				*i* S	**Sg**	**17 03 47.2**	**-0.5**
TUTA	**Tutak**	**0.76**	**324**	P	**Pg**	**17 03 36.6**	**-1.2**
TUTA				S	**Sg**	**17 03 47.2**	**-0.5**
DYDN	**Diyadin**	**0.79**	**17**	*i* P	**Pg**	**17 03 37.4**	**-1.0**
DYDN				*i* S	**Sg**	**17 03 48.7**	**-0.1**
DYDN	**Diyadin**	**0.79**	**17**	P	**Pg**	**17 03 37.4**	**-1.0**
DYDN				S	**Sg**	**17 03 48.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.84**	**339**	*e*PG	**Pg**	**17 03 37.9**	**-1.5**
AGRB				*e*SG	**Sg**	**17 03 50.5**	**0.0**
AGRB	**Hanur-Agry**	**0.84**	**339**	*e*Pg	**Pg**	**17 03 37.9**	**-1.5**
AGRB				*e*Sg	**Sg**	**17 03 50.5**	**0.0**
BASK	**Baskale_VAN**	**0.88**	**146**	*i* P	**Pg**	**17 03 38.3**	**-1.8**
BASK				*i* S	**Sg**	**17 03 51.8**	**+0.2**
BASK	**Baskale_VAN**	**0.88**	**146**	P	**Pg**	**17 03 38.3**	**-1.8**
BASK				S	**Sg**	**17 03 51.8**	**+0.2**
EKAR	**Karacoban**	**1.13**	**295**	*i* P	**Pn**	**17 03 45.4**	**+0.4**
EKAR	**Karacoban**	**1.13**	**295**	P	**Pn**	**17 03 45.4**	**+0.4**
HAKT	**HAKKARI**	**1.25**	**168**	*i* P	**Pn**	**17 03 44.2**	**-2.5**
HAKT				*i* S	**Sb**	**17 04 03.6**	**+0.6**
HAKT	**HAKKARI**	**1.25**	**168**	P	**Pn**	**17 03 44.2**	**-2.5**
HAKT				S	**Sb**	**17 04 03.6**	**+0.6**
EATA	**Eleskirt**	**1.28**	**327**	*i* P	**Pn**	**17 03 46.1**	**-1.0**
EATA				*i* S	**Sn**	**17 04 04.7**	**+0.3**
EATA	**Eleskirt**	**1.28**	**327**	P	**Pn**	**17 03 46.1**	**-1.0**
EATA				S	**Sn**	**17 04 04.7**	**+0.3**
CUKT	**Cukurca**	**1.55**	**173**	*e*PN	**Pn**	**17 03 51.0**	**+0.4**
CUKT	**Cukurca**	**1.55**	**173**	*i* P	**Pg**	**17 03 53.6**	**+0.8**
CUKT				*i* S	**Sg**	**17 04 12.9**	**+0.1**
CUKT	**Cukurca**	**1.55**	**173**	*e*Pn	**Pn**	**17 03 51.1**	**+0.4**
CUKT	**Cukurca**	**1.55**	**173**	P	**Pg**	**17 03 53.6**	**+0.8**
CUKT				S	**Sg**	**17 04 12.9**	**+0.1**
VRTB	**Varto-Mus**	**1.55**	**285**	*e*PN	**Pn**	**17 03 51.0**	**+0.4**
VRTB	**Varto-Mus**	**1.55**	**285**	*i* P	**Pb**	**17 03 51.5**	**-0.3**
VRTB				*i* S	**Sg**	**17 04 13.1**	**+0.2**
VRTB	**Varto-Mus**	**1.55**	**285**	*e*Pn	**Pn**	**17 03 51.1**	**+0.4**
VRTB	**Varto-Mus**	**1.55**	**285**	P	**Pb**	**17 03 51.5**	**-0.3**
VRTB				S	**Sg**	**17 04 13.1**	**+0.2**
DIGO	**Kars**	**1.63**	**360**	*i* P	**Pb**	**17 03 53.4**	**+0.2**
DIGO	**Kars**	**1.63**	**360**	P	**Pb**	**17 03 53.4**	**+0.2**
HOMI	**Horasan**	**1.70**	**318**	*i* P	**Pb**	**17 03 54.1**	**-0.3**
HOMI				*i* S	**Sg**	**17 04 19.1**	**+1.4**
BNGL	**BINGOL**	**1.75**	**276**	*i* P	**Pb**	**17 03 54.8**	**-0.5**
BNGL				*i* S	**Sg**	**17 04 18.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	*e*PN	**Pn**	**17 03 55.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	*i* P	**Pn**	**17 03 55.6**	**+1.2**
SVAN				*i* S	**Sb**	**17 04 18.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	*e*Pn	**Pn**	**17 03 55.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.83**	**250**	P	**Pn**	**17 03 55.6**	**+1.2**
SVAN				S	**Sb**	**17 04 18.7**	**-0.7**
BTMN	**Batman**	**1.89**	**242**	*i* P	**Pn**	**17 03 54.7**	**-0.6**
BTMN				*i* S	**Sn**	**17 04 20.2**	**+1.1**
BTMN	**Batman**	**1.89**	**242**	P	**Pn**	**17 03 54.7**	**-0.6**
BTMN				S	**Sn**	**17 04 20.2**	**+1.1**
EAK	**Akyaka**	**1.91**	**5**	*i* P	**Pg**	**17 04 00.6**	**+1.0**
EAK	**Akyaka**	**1.91**	**5**	P	**Pg**	**17 04 00.6**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.94**	**336**	*e*PN	**Pn**	**17 03 56.5**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.94**	**336**	*e*Pn	**Pn**	**17 03 56.6**	**+0.4**
BNGB	**Bing¶‖**	**2.12**	**276**	*e*PN	**Pn**	**17 03 59.6**	**+1.1**
BINT	**Bingol**	**2.26**	**273**	*e*Pn	**Pn**	**17 03 59.6**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*PN	**Pn**	**17 04 02.1**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*Pn	**Pn**	**17 04 02.1**	**+1.0**
DDEM	**Demirkent**	**2.45**	**330**	*i* P	**Pb**	**17 04 07.7**	**+0.6**
DDEM	**Demirkent**	**2.45**	**330**	P	**Pb**	**17 04 07.7**	**+0.6**
MAZI	**Mazidag**	**2.67**	**241**	*e*PN	**Pn**	**17 04 07.0**	**+0.9**
MAZI	**Mazidag**	**2.67**	**241**	*e*Pn	**Pn**	**17 04 07.0**	**+0.9**

MEX 25 17:04:27.0±0.5, 17.14N×99.23W, h44km±20km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.66**	**246**	*e*P	Pn	17 04 39.4	-0.6
ACX				*e*S	Sn	17 04 48.5	-0.8
TLIG	**Tlapa**	**0.76**	**56**	*e*P	Pn	17 04 39.7	-1.8
TLIG				*e*S	Sn	17 04 49.8	-2.1
MEIG	**Mezcala**	**0.87**	**335**	*e*P	Pn	17 04 41.3	-1.6
MEIG				*e*S	Sn	17 04 52.5	-2.0
PNIG	**Pinotepa**	**1.29**	**125**	*e*P	Pn	17 04 46.7	-1.9
PNIG				*e*S	Sn	17 05 03.2	-1.5

JMA 25 17:07:22.3, 36.55N×140.91E, h46km±1km, M2.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.28**	**283**	P	Pn	17 07 30.9	0.0
JHO				S	Sn	17 07 36.8	-0.2
ONAJ	**Iwakimizuishiy**	**0.56**	**351**	S	Sn	17 07 41.7	-0.9
JYT	**Yasato**	**0.66**	**241**	P	Pn	17 07 35.1	-0.3
JFT	**Otama**	**1.07**	**335**	P	Pn	17 07 41.4	+0.5
JFT				S	Sn	17 07 55.3	+0.7
JFY	**Yanaizu**	**1.29**	**312**	P	Pn	17 07 44.3	+0.4
JMM	**Marumori**	**1.32**	**356**	P	Pn	17 07 44.2	-0.1

IDC ***25*** *17:08:01.2±1.0, 38.27N×43.35E, h0km, mb3.7/8, mb1 3.6/14, mb1mx3.5/56, mbtmp3.5/14, ML3.0/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/46, Error ellipse: s-maj=15.9km s-min=12.9km az=165.0*
DDA ***25*** *17:08:02.8, 38.71N×43.16E, h2km, Ml4.0*
CSEM ***25*** *17:08:03.9±0.2, 38.69N×43.20E, h2km, ML4.0, Error ellipse: s-maj=4.9km s-min=4.7km az=154.0*
ISK ***25*** *17:08:03.0, 38.73N×43.23E, h4km, ML4.0*
AZER ***25*** *17:08:03.3±0.8, 38.12N×43.38E, h5km, Error ellipse: s-maj=8.6km s-min=5.5km az=18.0*
ISC 25 17:08:04.2±0.9, 38.70N±0.02×43.23E±0.02, h14km±6km, n132, σ1.51/175, mb3.6/9, MS2.8/3, 13C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**130**	*e*PG	**Pg**	**17 08 08.3**	**0.0**
VANB				*e*SG	**Sb**	**17 08 13.3**	**+0.9**
VANB	**Van**	**0.16**	**130**	*e*Pg	**Pg**	**17 08 08.3**	**0.0**
VANB				*e*Sg	**Sb**	**17 08 13.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.39**	**43**	‖*i*P	**Pg**	**17 08 12.1**	**-0.1**
VMUR				*i* S	**Sb**	**17 08 18.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.39**	**43**	P	**Pg**	**17 08 12.1**	**-0.1**
VMUR				S	**Sb**	**17 08 18.9**	**-0.2**
GEVA	**Gevas**	**0.41**	**199**	‖*i*P	**Pg**	**17 08 11.2**	**-1.3**
GEVA				*i* S	**Sg**	**17 08 18.1**	**0.0**
GEVA	**Gevas**	**0.41**	**199**	P	**Pg**	**17 08 11.2**	**-1.3**
GEVA				S	**Sg**	**17 08 18.1**	**0.0**
TUTA	**Tutak**	**0.77**	**335**	‖*i*P	**Pg**	**17 08 17.9**	**-1.4**
TUTA				*i* S	**Sg**	**17 08 27.7**	**-1.7**
TUTA	**Tutak**	**0.77**	**335**	P	**Pg**	**17 08 17.9**	**-1.4**
TUTA				S	**Sg**	**17 08 27.7**	**-1.7**
BASK	**Baskale_VAN**	**0.89**	**137**	*i* P	**Pb**	**17 08 20.4**	**-1.2**
BASK				*i* S	**Sg**	**17 08 34.0**	**+0.9**
BASK	**Baskale_VAN**	**0.89**	**137**	P	**Pb**	**17 08 20.4**	**-1.2**
BASK				S	**Sg**	**17 08 34.0**	**+0.9**
AGRB	**Hanur-Agry**	**0.89**	**348**	*e*PG	**Pb**	**17 08 19.9**	**-1.7**
AGRB	**Hanur-Agry**	**0.89**	**348**	*e*Pg	**Pb**	**17 08 19.9**	**-1.7**
DYDN	**Diyadin**	**0.91**	**23**	*i* P	**Pb**	**17 08 20.3**	**-1.7**
DYDN				*i* S	**Sn**	**17 08 37.6**	**+1.6**
DYDN	**Diyadin**	**0.91**	**23**	P	**Pb**	**17 08 20.3**	**-1.7**
DYDN				S	**Sn**	**17 08 37.6**	**+1.6**
EKAR	**Karacoban**	**1.06**	**302**	*i* P	**Pb**	**17 08 23.4**	**-1.2**
EKAR				*i* S	**Sn**	**17 08 43.3**	**+3.6**
EKAR	**Karacoban**	**1.06**	**302**	P	**Pb**	**17 08 23.4**	**-1.2**
HAKT	**HAKKARI**	**1.20**	**162**	‖*i*P	**Pn**	**17 08 25.1**	**-1.8**
HAKT				*i* S	**Sg**	**17 08 44.4**	**+1.4**
HAKT	**HAKKARI**	**1.20**	**162**	P	**Pn**	**17 08 25.1**	**-1.8**
HAKT				S	**Sg**	**17 08 44.4**	**+1.4**
EATA	**Eleskirt**	**1.29**	**334**	*i* P	**Pg**	**17 08 27.3**	**-1.8**
EATA				‖*i*S	**Pg**	**17 08 27.4**	**-1.8**
EATA				*i* S	**Sb**	**17 08 44.6**	**-0.6**
EATA	**Eleskirt**	**1.29**	**334**	P	**Pg**	**17 08 27.3**	**-1.8**
EATA				S	**Sb**	**17 08 44.6**	**-0.6**
SIRN	**S¨–rnak**	**1.36**	**208**	*i* P	**Pn**	**17 08 28.2**	**-0.7**
SIRN				*i* S	**Sg**	**17 08 48.4**	**+0.2**
SIRN	**S¨–rnak**	**1.36**	**208**	P	**Pn**	**17 08 28.2**	**-0.7**
SIRN				S	**Sg**	**17 08 48.4**	**+0.2**
VRTB	**Varto-Mus**	**1.46**	**289**	*e*PN	**Pb**	**17 08 30.8**	**-0.4**
VRTB				*e*SN	**Sb**	**17 08 50.2**	**+0.5**
VRTB	**Varto-Mus**	**1.46**	**289**	*i* P	**Pn**	**17 08 30.4**	**+0.1**
VRTB				*i* S	**Sg**	**17 08 51.8**	**+0.6**
VRTB	**Varto-Mus**	**1.46**	**289**	P	**Pn**	**17 08 30.4**	**+0.1**
VRTB	**Varto-Mus**	**1.46**	**289**	*e*Pn	**Pb**	**17 08 30.8**	**-0.4**
VRTB				*e*Sn	**Sb**	**17 08 50.2**	**+0.5**
VRTB				S	**Sg**	**17 08 51.8**	**+0.6**
CUKT	**Cukurca**	**1.48**	**168**	*e*PN	**Pb**	**17 08 31.8**	**+0.2**
CUKT	**Cukurca**	**1.48**	**168**	*i* P	**Pb**	**17 08 32.0**	**+0.4**
CUKT				*i* S	**Sg**	**17 08 54.6**	**+2.7**
CUKT	**Cukurca**	**1.48**	**168**	P	**Pb**	**17 08 32.0**	**+0.4**
CUKT				S	**Sg**	**17 08 54.7**	**+2.7**
BNGL	**BINGOL**	**1.64**	**279**	‖*i*P	**Pb**	**17 08 33.6**	**-0.8**
BNGL				*i* S	**Sb**	**17 08 55.6**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	*e*PN	**Pn**	**17 08 33.5**	**+0.2**
SVAN				*e*SN	**Sb**	**17 08 56.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	‖*i*P	**Pn**	**17 08 33.5**	**+0.2**
SVAN				*i* S	**Sb**	**17 08 56.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	P	**Pn**	**17 08 33.5**	**+0.2**
SVAN				S	**Sb**	**17 08 56.6**	**+0.4**
HOMI	**Horasan**	**1.69**	**323**	‖*i*P	**Pn**	**17 08 34.2**	**+0.6**
DIGO	**Kars**	**1.71**	**4**	*i* P	**Pb**	**17 08 34.9**	**-0.8**
DIGO	**Kars**	**1.71**	**4**	P	**Pb**	**17 08 34.9**	**-0.8**
BTMN	**Batman**	**1.74**	**243**	‖*i*P	**Pn**	**17 08 34.5**	**+0.4**
BTMN				*i* S	**Sb**	**17 08 57.7**	**-0.1**
BTMN	**Batman**	**1.74**	**243**	P	**Pn**	**17 08 34.5**	**+0.4**
BTMN				S	**Sb**	**17 08 57.7**	**-0.1**
NAX	**Nakhchivan**	**1.83**	**74**	‖S	**Sg**	**17 09 04.2**	**+1.1**
NAX	**Nakhchivan**	**1.83**	**74**	S	**Sg**	**17 09 04.2**	**+1.1**
GNI	**Garni**	**1.86**	**39**	Pn	**Pn**	**17 08 36.6**	**+0.7**
40nm,0.3s,baz=283,slow=3.9,SNR=26							
GNI				Sn	**Sg**	**17 09 06.7**	**+2.6**
20nm,0.3s,baz=41,slow=22,SNR=8.8							
GNI				LR	LR	17 09 48.0	
comp=Z,178nm,20.2s,baz=224,slow=49							
ERZM	**Erzurum**	**1.88**	**310**	‖*i*P	**Pb**	**17 08 37.4**	**-1.1**
ERZM	**Erzurum**	**1.88**	**310**	P	**Pb**	**17 08 37.4**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.98**	**340**	*e*PN	**Pn**	**17 08 38.5**	**+1.1**
SENK	**Senkaya-Erzuru**	**1.98**	**340**	*e*Pn	**Pn**	**17 08 38.6**	**+1.1**
EAK	**Akyaka**	**2.00**	**8**	*i* P	**Pb**	**17 08 41.5**	**+1.0**
EAK	**Akyaka**	**2.00**	**8**	P	**Pb**	**17 08 41.5**	**+1.0**
BNGB	**Bing¶‖**	**2.01**	**279**	*e*PN	**Pn**	**17 08 38.3**	**+0.4**
BNGB				*e*SN	**Sb**	**17 09 04.8**	**-0.9**
BINT	**Bingol**	**2.15**	**276**	*e*Pn	**Pn**	**17 08 38.3**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.22**	**290**	*e*PN	**Pn**	**17 08 41.7**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.22**	**290**	*e*Pn	**Pn**	**17 08 41.7**	**+1.0**
MARD	**Mardin**	**2.38**	**235**	*i* P	**Pn**	**17 08 43.3**	**+0.4**
MARD				*i* S	**Sb**	**17 09 14.7**	**-1.5**
DDEM	**Demirkent**	**2.47**	**333**	*i* P	**Pb**	**17 08 47.9**	**-0.5**
DDEM	**Demirkent**	**2.47**	**333**	P	**Pb**	**17 08 47.9**	**-0.5**
KOPT	**Kop Dagi**	**2.49**	**303**	*i* P	**Pb**	**17 08 49.2**	**+0.3**
KOPT	**Kop Dagi**	**2.49**	**303**	P	**Pb**	**17 08 49.2**	**+0.3**
MAZI	**Mazidag**	**2.52**	**241**	*e*PN	**Pn**	**17 08 46.1**	**+1.2**
MAZI	**Mazidag**	**2.52**	**241**	*e*Pn	**Pn**	**17 08 46.1**	**+1.2**
DIYA	**Diyarbakir**	**2.57**	**253**	*i* P	**Pn**	**17 08 47.6**	**+2.1**
DIYA				*i* S	**Sb**	**17 09 22.0**	**+0.5**
DIYA	**Diyarbakir**	**2.57**	**253**	P	**Pn**	**17 08 47.6**	**+2.1**
DIYA				S	**Sb**	**17 09 22.0**	**+0.5**
DAGI	**Agillar**	**2.58**	**337**	*i* P	**Pb**	**17 08 49.6**	**-0.8**
AKH	**Akhalkalaki**	**2.71**	**4**	*e*PN	**Pn**	**17 08 47.9**	**+0.3**
AKH	**Akhalkalaki**	**2.71**	**4**	P	**Pb**	**17 08 53.5**	**+0.9**
AKH				S	**Sg**	**17 09 34.8**	**+3.4**
AKH	**Akhalkalaki**	**2.71**	**4**	*e*Pn	**Pn**	**17 08 47.9**	**+0.3**
EPOS	**Posof**	**2.83**	**352**	*i* P	**Pb**	**17 08 53.6**	**-1.0**
EPOS	**Posof**	**2.83**	**352**	P	**Pb**	**17 08 53.6**	**-1.0**
ERZN	**Erzincan**	**2.87**	**289**	*e*PN	**Pn**	**17 08 51.2**	**+1.5**
QZX	**Qazax, Azerbai**	**2.87**	**34**	‖P	**Pb**	**17 08 55.9**	**+0.6**
QZX				‖S	**Sg**	**17 09 36.3**	**-0.2**
DBOC	**Borcka**	**2.90**	**336**	*i* P	**Pb**	**17 08 55.6**	**-0.2**
TNCL	**Tunceli-Merkez**	**2.91**	**279**	*i* P	**Pb**	**17 08 55.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**2.91**	**279**	P	**Pb**	**17 08 55.0**	**-0.9**
PTK	**Pertek**	**3.00**	**275**	*e*PN	**Pn**	**17 08 53.1**	**+1.5**
PTK	**Pertek**	**3.00**	**275**	*e*Pn	**Pn**	**17 08 53.1**	**+1.5**
GANJ	**Ganja**	**3.08**	**50**	‖P	**Pb**	**17 08 57.5**	**-1.3**
GANJ				‖S	**Sg**	**17 09 42.2**	**-0.9**
GANJ	**Ganja**	**3.08**	**50**	P	**Pb**	**17 08 57.5**	**-1.3**
SVRC	**Sivrice-ELAZID**	**3.09**	**265**	*e*PN	**Pn**	**17 08 53.4**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.09**	**265**	*e*Pn	**Pn**	**17 08 53.4**	**+0.6**
DGRG	**David-gareji**	**3.20**	**30**	P	**Pb**	**17 09 02.2**	**+1.3**
DGRG				S	**Sg**	**17 09 52.4**	**+5.4**
DGRG	**David-gareji**	**3.20**	**30**	P	**Pn**	**17 08 56.6**	**+2.4**
TBLG	**Delisi**	**3.24**	**20**	*e*PN	**Pn**	**17 08 55.9**	**+1.2**
TBLG	**Delisi**	**3.24**	**20**	P	**Pb**	**17 09 02.4**	**+0.9**
TBLG				S	**Sg**	**17 09 47.4**	**-0.8**
TBLG	**Delisi**	**3.24**	**20**	*e*Pn	**Pn**	**17 08 55.9**	**+1.2**
SEAG	**Tbilisi Sea**	**3.29**	**21**	P	**Pb**	**17 09 03.3**	**+0.9**
KELT	**Kelkit**	**3.40**	**296**	*i* P	**Pb**	**17 09 04.3**	**-0.1**
KELT				*i* S	**Sg**	**17 09 51.7**	**-1.7**
BRDA	**Brd**	**3.43**	**62**	‖P	**Pb**	**17 09 01.2**	**-3.6**
BRDA				‖S	**Sb**	**17 09 45.0**	**-1.3**
BRDA	**Brd**	**3.43**	**62**	P	**Pb**	**17 09 01.2**	**-3.6**
DUS	**Dusheti**	**3.57**	**18**	P	**Pb**	**17 09 08.5**	**+1.4**
MNGR	**Mingechevir, A**	**3.62**	**54**	‖P	**Pb**	**17 09 04.1**	**-3.9**
MNGR	**Mingechevir, A**	**3.62**	**54**	P	**Pb**	**17 09 04.1**	**-3.9**
URFA	**Urfa**	**3.70**	**251**	*e*PN	**Pn**	**17 09 03.1**	**+2.0**
URFA	**Urfa**	**3.70**	**251**	*e*Pn	**Pn**	**17 09 03.1**	**+2.0**
KEMA	**Kemaliye**	**3.73**	**280**	*i* P	**Pb**	**17 09 10.6**	**+0.6**
ONI	**Oni**	**3.89**	**2**	P	**Pb**	**17 09 09.7**	**-2.9**
ONI				S	**Sg**	**17 10 08.8**	**-0.3**
ZKTA	**Zakatala**	**3.92**	**40**	‖P	**Pb**	**17 09 10.2**	**-2.9**
LRK	**Lerik**	**4.00**	**89**	‖P	**Pn**	**17 09 04.4**	**-0.9**
LRK	**Lerik**	**4.00**	**89**	P	**Pn**	**17 09 04.4**	**-0.9**
GLBA	**Clilabad**	**4.06**	**81**	‖P	**Pn**	**17 09 07.2**	**+1.3**
GLBA				‖S	**Sn**	**17 09 55.5**	**+2.2**
GLBA	**Clilabad**	**4.06**	**81**	P	**Pn**	**17 09 07.2**	**+1.3**
GLBA				S	**Sn**	**17 09 55.5**	**+2.2**
SAAT	**Saatly**	**4.19**	**72**	‖P	**Pn**	**17 09 08.9**	**+1.2**
SAAT	**Saatly**	**4.19**	**72**	P	**Pn**	**17 09 08.9**	**+1.2**
ASTR	**Astara**	**4.36**	**90**	‖P	**Pn**	**17 09 09.4**	**-0.6**
ASTR				‖S	**Sn**	**17 09 60.0**	**-0.6**
ASTR	**Astara**	**4.36**	**90**	P	**Pn**	**17 09 09.4**	**-0.6**
ASTR				S	**Sn**	**17 10 00.0**	**-0.6**
PQL	**Pirkuli**	**4.63**	**62**	‖P	**Pn**	**17 09 16.2**	**+2.3**
PQL	**Pirkuli**	**4.63**	**62**	P	**Pn**	**17 09 16.2**	**+2.3**
GZT	**Gaziantep**	**4.67**	**255**	*i* P	**Pb**	**17 09 24.9**	**-1.1**
QSAR	**Qusar**	**4.77**	**52**	‖P	**Pn**	**17 09 19.2**	**+3.4**
QSAR	**Qusar**	**4.77**	**52**	P	**Pn**	**17 09 19.2**	**+3.4**
GBS	**Qobustan**	**4.78**	**66**	‖P	**Pn**	**17 09 17.3**	**+1.4**
GBS	**Qobustan**	**4.78**	**66**	P	**Pn**	**17 09 17.3**	**+1.4**
KBZ	**Khabaz**	**5.03**	**357**	Pn	Pb	17 09 26.4	-5.6
0.1nm,0.3s,baz=156,slow=5.8,SNR=4.3							
KBZ				Pg	**Pg**	**17 09 39.5**	**-1.0**
0.3nm,0.3s,baz=184,slow=12,SNR=6.7							
KBZ				LR	LR	17 11 59.3	
comp=Z,90nm,20.3s,baz=76,slow=44							
KMRS	**Kahramanmaras**	**5.13**	**259**	*e*PN	**Pn**	**17 09 24.0**	**+3.3**
KMRS	**Kahramanmaras**	**5.13**	**259**	*e*Pn	**Pn**	**17 09 24.0**	**+3.3**
KVAR	**Kislovodsk Arr**	**5.27**	**356**	Pn	Pb	17 09 30.9	-5.2
baz=163,slow=11,SNR=2.3							
KVAR				LR	LR	17 11 56.7	
comp=Z,105nm,21.6s,baz=67,slow=41							
BRTR	**Keskin Array B**	**7.52**	**281**	Pn	**Pn**	**17 09 56.7**	**+3.2**
0.1nm,0.3s,baz=93,slow=14,SNR=2.4							
MMAI	**Mount Meron Ar**	**8.52**	**231**	Pn	**Pn**	**17 10 04.7**	**-2.5**
0.6nm,0.3s,baz=61,slow=15,SNR=2.7							
MMAI				LR	LR	17 13 53.3	
comp=Z,101nm,20.1s,baz=70,slow=42							
EIL	**Elat**	**11.31**	**220**	LR	LR	17 15 20.1	
comp=Z,114nm,19.3s,baz=59,slow=40							
AKASG	**Malin Array Be**	**15.56**	**325**	Pn	**P**	**17 11 47.0**	**-0.3**
baz=134,slow=10,SNR=3.8							
AKTO	**Aktyubinsk**	**15.73**	**37**	Pn	**Pn**	**17 11 45.8**	**+0.4**
0.1nm,0.3s,baz=223,slow=17,SNR=4.0							
VYHS	**Vyhne**	**20.12**	**307**	*e*P	Pn	17 12 39.4	-0.1
WSAR	**Wadi Sarin**	**20.25**	**135**	LR	LR	17 22 32.0	
comp=Z,38nm,19.4s,baz=342,slow=44							
ARU	**Arti**	**20.45**	**25**	P	**P**	**17 12 42.0**	**+0.9**
3.4nm,0.5s,baz=242,slow=5.6,SNR=8.4							
VRAC	**Vranov**	**21.79**	**308**	LR	LR	17 21 31.7	
comp=Z,32nm,20.9s,baz=230,slow=37							
GERES	**GERESS Array B**	**23.47**	**305**	P	**P**	**17 13 14.4**	**+1.0**
0.3nm,0.5s,baz=98,slow=13,SNR=3.1							
BVAR	**Borovoye Array**	**23.54**	**44**	P	**P**	**17 13 14.6**	**+0.7**
1.3nm,0.9s,baz=234,slow=9.0,SNR=6.1							
FINES	**FINESS Array B**	**25.13**	**341**	P	**P**	**17 13 27.9**	**-0.6**
1.1nm,0.7s,baz=130,slow=7.8,SNR=3.2							
KURBB	**Kurchatov Arra**	**27.53**	**53**	P	**P**	**17 13 50.4**	**+0.1**
1.2nm

JHJ				LR	LR	17 11 42.8
	comp=N,31nm,19.2s,baz=324,slow=43					
JHJ2	**Mitsune**	**4.07**	**196**	*e*Pn	**Pn**	**17 09 53.3 +0.1**
JHJ2				*e*Sn	**Sn**	**17 10 37.1 -3.2**
ASAJ	**Asahikawa**	**7.16**	**8**	Pn	**Pn**	**17 10 35.8 +0.1**
	comp=N,15nm,0.3s,baz=201,slow=14,SNR=70					
ASAJ				Sn	**Sn**	**17 11 57.3 +0.8**
	comp=N,7.9nm,0.3s,baz=354,slow=19,SNR=1.7					
ASAJ	**Asahikawa**	**7.16**	**8**	P	**Pn**	**17 10 35.8 +0.1**
ASAJ						17 11 57.3
ASAJ				pmax	pmax	
	comp=Z,15nm,0.3s					
ASAJ				smax	smax	
	comp=N,8.0nm,0.3s					
ASAJ	**Asahikawa**	**7.16**	**8**	*e*Pn	**Pn**	**17 10 35.6 -0.2**
ASAJ				*e*Sn	**Sn**	**17 11 56.4 -0.1**
YUK	**Yuzh-Kuril'sk**	**7.85**	**26**	*e*P	**Pn**	**17 10 44.6 -0.6**
YUK				*e*S	**Sn**	**17 12 10.3 -3.2**
YUK				pmax	pmax	
	comp=Z,414nm,0.4s					
YUK				smax	smax	
	comp=E,959nm,0.6s					
YUK				smax	smax	
	comp=N,230nm,0.3s					
YUK				MLR	MLR	
	comp=Z,3μm,18.0s					
SHO	**Shikotan**	**8.07**	**30**	*e*P	**Pn**	**17 10 46.2 -2.1**
SHO				pmax	pmax	
	comp=Z,201nm,0.6s					
JNU	**Nakatsue**	**9.30**	**248**	Pn	**Pn**	**17 11 06.8 +1.6**
	comp=Z,0.8nm,0.3s,baz=86,slow=2.3,SNR=6.9					
JNU	**Nakatsue**	**9.30**	**248**	*e*Pn	**Pn**	**17 11 03.2 -1.9**
VLA	**Vladivostok**	**9.36**	**313**	⇓*i*P	**Pn**	**17 11 10.4 +4.5**
VLA				pmax	pmax	
	comp=Z,119nm,1.1s					
MSHR	**Mys Shultsa**	**9.49**	**309**	⇑*e*P	**Pn**	**17 11 07.5 -0.2**
KUR	**Kuril'sk**	**9.62**	**30**	*e*P	**Pn**	**17 11 08.8 -0.6**
KUR				*i* S	**Sn**	**17 12 51.6 -5.3**
KUR				pmax	pmax	
	comp=E,42nm,0.5s					
KUR				pmax	pmax	
	comp=Z,119nm,0.5s					
KUR				pmax	pmax	
	comp=N,58nm,0.4s					
KUR				smax	smax	
	comp=N,182nm,0.3s					
KUR				smax	smax	
	comp=E,109nm,0.4s					
KUR				MLR	MLR	
	comp=Z,2μm,13.0s					
KUR				MLR	MLR	
	comp=N,1μm,12.0s					
KUR				MLR	MLR	
	comp=E,1μm,14.0s					
CBIJ	**Chichi jima**	**9.94**	**175**	*e*Pn	**Pn**	**17 11 10.2 -3.7**
CBIJ				*e*Sn	Sn	17 12 52.0 -13
YSS	**Yuzh-Sakhalins**	**9.98**	**6**	⇓*e*P	**Pn**	**17 11 15.7 +1.3**
YSS				*e*S	**Sn**	**17 13 07.6 +1.7**
YSS				pmax	pmax	
	comp=Z,70nm,1.1s					
YSS				MLR	MLR	
	comp=Z,3μm,12.0s					
YSS				MLR	MLR	
	comp=E,3μm,13.0s					
YSS	**Yuzh-Sakhalins**	**9.98**	**6**	*e*Pn	**Pn**	**17 11 15.3 +0.9**
USRK	**Ussuriysk Ar.**	**10.00**	**319**	Pn	**Pn**	**17 11 18.7 +4.1**
	comp=E,1.6nm,0.3s,baz=132,slow=14,SNR=49					
USRK				LR	LR	17 14 52.4
	comp=E,2μm,19.2s,baz=105,slow=37					
KSRS	**Korea Array**	**10.58**	**276**	Pn	Pn	17 11 27.2 +4.7
	comp=E,0.6nm,0.3s,baz=90,slow=14,SNR=27					
KSRS				LR	LR	17 15 12.7
	comp=E,2μm,18.0s,baz=89,slow=36					
KSRS	**Korea Array**	**10.58**	**276**	P	Pn	17 11 27.3 +4.7
KSRS				pmax	pmax	
	comp=Z,1.0nm,0.3s					
KSRS				MLR	MLR	
	comp=Z,2μm,18.0s					
KS15	**Wonju Array Si**	**10.61**	**276**	*e*Pn	**Pn**	**17 11 21.2 -1.9**
KSAR	**Wonju Array Be**	**10.61**	**276**	P	**Pn**	**17 11 27.3 +4.3**
KSAR	**Wonju Array Be**	**10.61**	**276**	Pn	**Pn**	**17 11 27.2 +4.3**
MDJ	**Mudanjiang**	**11.59**	**314**	P	Pn	17 11 42.0 +5.6
MDJ				S	**Sn**	**17 13 53.8 +8.6**
MDJ				pmax	pmax	
	comp=Z,39nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,300nm,4.5s					
MDJ				LR	LR	
	comp=Z,2μm,15.7s					
MDJ				LR	LR	
	comp=Z,1μm,14.4s					
MDJ				LR	LR	
	comp=Z,2μm,17.2s					
MDJ	**Mudanjiang**	**11.59**	**314**	*e*Pn	Pn	17 11 42.1 +5.7
HABR	**Khabarovsk**	**12.28**	**340**	*e*P	**Pn**	**17 11 43.7 -2.2**
HABR				pmax	pmax	
	comp=Z,118nm,1.3s					
HABR				pmax	pmax	
	comp=N,72nm,1.3s					
HABR				pmax	pmax	
	comp=E,54nm,1.3s					
CN2	**Changchun**	**13.75**	**304**	*e*P	**Pn**	**17 12 08.3 +2.4**
CN2				*e*S	**Sn**	**17 14 39.5 +1.4**
CN2				pmax	pmax	
	comp=E,10.0nm,0.5s					
CN2				LR	LR	
	comp=E,2μm,12.0s					
CN2				LR	LR	
	comp=E,3μm,12.0s					
CN2				LR	LR	
	comp=E,3μm,14.0s					
TYV	**Tymovskoe**	**13.87**	**4**	*e*P	**Pn**	**17 12 08.3 +0.8**
TYV				*e*S	**Sn**	**17 14 33.5 -7.4**
TYV				pmax	pmax	
	comp=Z,108nm,0.8s					
TYV				smax	smax	
	comp=E,40nm,3.8s					
KLR	**Kul'dur**	**13.99**	**334**	Pn	**Pn**	**17 12 08.4 -0.7**
	comp=E,0.0nm,0.3s,baz=148,slow=12,SNR=9.4					
KLR				LR	LR	17 17 29.7
	comp=E,169nm,18.3s,baz=147,slow=37					
KLR	**Kul'dur**	**13.99**	**334**	P	**Pn**	**17 12 08.4 -0.7**
KLR				MLR	MLR	
	comp=Z,169nm,18.3s					
KLR	**Kul'dur**	**13.99**	**334**	*e*Pn	**Pn**	**17 12 08.4 -0.7**
JOW	**Kunigami**	**14.93**	**231**	*e*Pn	**Pn**	**17 12 23.7 +1.6**
DL2	**Dalian**	**15.53**	**283**	P	**P**	**17 12 40.8 +6.6**
DL2				S	**S**	**17 15 43.0 +6.1**
DL2				pmax	pmax	
	comp=Z,46nm,1.2s					
DL2				pmax	pmax	
	comp=Z,510nm,4.8s					
DL2				LR	LR	
	comp=N,2μm,10.5s					
DL2				LR	LR	
	comp=E,2μm,12.2s					
DL2				LR	LR	
	comp=Z,2μm,12.3s					
NKL	**Nikolayevsk**	**16.12**	**359**	*e*P	**Pn**	**17 12 35.0 -2.5**
NKL				pmax	pmax	
	comp=Z,30nm,1.0s					
NKL				MLR	MLR	
	comp=N,2μm,14.0s					
NKL				MLR	MLR	
	comp=E,2μm,14.0s					
NKL				MLR	MLR	
	comp=Z,4μm,14.0s					
OKH	**Okha**	**16.57**	**4**	⇓*e*P	**P**	**17 12 45.3 -0.2**
OKH				*e*S	**Sn**	**17 15 45.7 -0.7**
OKH				pmax	pmax	
	comp=Z,100nm,17.5s					
OKH				smax	smax	
	comp=Z,2μm,15.0s					
SKR	**Severo-Kuril's**	**17.34**	**33**	*e*P	**Pn**	**17 12 52.6 -0.3**
SKR				pmax	pmax	
	comp=Z,160nm,1.4s					
SKR				MLR	MLR	
	comp=Z,1μm,15.0s					
SSE	**Sheshan**	**17.58**	**256**	*e*P	**Pn**	**17 12 55.0 -1.0**
SSE				S	**Sn**	**17 16 08.3 -2.9**
SSE				pmax	pmax	
	comp=Z,54nm,0.7s					
SSE				pmax	pmax	
	comp=Z,260nm,4.4s					
SSE				LR	LR	
	comp=Z,2μm,22.6s					
SSE				LR	LR	
	comp=Z,980nm,22.6s					
SSE				LR	LR	
	comp=Z,690nm,19.3s					
NJ2	**Nanjing**	**19.04**	**261**	*e*P	**P**	**17 13 10.5 -2.5**
NJ2				S	**Sn**	**17 16 43.0 -3.5**
NJ2				pmax	pmax	
	comp=Z,21nm,0.6s					
NJ2				LR	LR	
	comp=Z,770nm,9.2s					
NJ2				LR	LR	
	comp=Z,2μm,13.6s					
NJ2				LR	LR	
	comp=Z,2μm,14.6s					
TIA	**Tai'an**	**19.32**	**275**	*e*P	**Pn**	**17 13 17.0 -0.2**
TIA				PP	**PnPn**	**17 13 33.0 +2.8**
TIA				LR	LR	
	comp=Z,1μm,13.1s					
TIA				LR	LR	
	comp=Z,1μm,13.7s					
TIA				LR	LR	
	comp=Z,2μm,14.3s					
BJI	**Beijing**	**19.77**	**286**	P	**P**	**17 13 19.8 -1.2**
BJI				S	**S**	**17 17 00.8 -2.1**
BJI				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BJI				LR	LR	
	comp=Z,530nm,17.8s					
BJI				LR	LR	
	comp=Z,990nm,13.6s					
BJI				LR	LR	
	comp=Z,560nm,15.4s					
HIA	**Hailar**	**19.77**	**315**	*e*P	**P**	**17 13 17.9 -3.0**
HIA				pmax	pmax	
	comp=Z,17nm,0.9s					
HIA	**Hailar**	**19.77**	**315**	*e*P	**P**	**17 13 17.9 -3.0**
	comp=Z,17nm,0.9s					
BJT	**Baijiatuau**	**19.78**	**286**	*e*P	**P**	**17 13 18.8 -2.2**
BJT				pmax	pmax	
	comp=Z,45nm,1.2s					
BJT	**Baijiatuau**	**19.78**	**286**	*e*P	**P**	**17 13 18.8 -2.2**
	comp=Z,45nm,1.2s					
PEA0B	**Petropavlovsk-**	**19.79**	**30**	*e*P	**Pn**	**17 13 21.8 -0.8**
	comp=Z,54nm,1.0s					
PETK	**Petropavlovsk-**	**19.79**	**30**	P	**P**	**17 13 21.1 +0.1**
	comp=Z,0.6nm,0.3s,baz=203,slow=11,SNR=19					
PETK				LR	LR	17 20 32.0
	comp=Z,674nm,21.5s,baz=211,slow=35					
PETK	**Petropavlovsk-**	**19.79**	**30**	P	**P**	**17 13 21.1 +0.1**
PETK				pmax	pmax	
	comp=Z,1.0nm,0.3s					
PETK				MLR	MLR	
	comp=Z,674nm,21.5s					
PETK	**Petropavlovsk-**	**19.79**	**30**	P	**P**	**17 13 21.1 +0.1**
PEA1	**Petropavlovsk-**	**19.79**	**30**	*e*P	**P**	**17 13 21.1 0.0**
YOJ	**Yonaguni jima**	**19.98**	**236**	*e*P	**P**	**17 13 23.2 -0.1**
YOJ				pmax	pmax	
	comp=Z,873nm,1.8s					
YOJ	**Yonaguni jima**	**19.98**	**236**	*e*P	**P**	**17 13 23.2 -0.1**
	comp=Z,873nm,1.8s					
PET	**Petropavlovsk**	**20.12**	**32**	*d i*P	Pn	17 13 25.9 -0.6
PET				*e*S	**S**	**17 17 08.3 -1.3**
PET				pmax	pmax	
	comp=Z,400nm,15.3s					
PET				pmax	pmax	
	comp=Z,80nm,1.5s					
PET				MLR	MLR	
	comp=Z,1μm,17.0s					
PET				MLR	MLR	
	comp=Z,800nm,13.0s					
PET	**Petropavlovsk**	**20.12**	**32**	*e*P	Pn	17 13 25.8 -0.7
NACB	**Ninganchiao**	**21.12**	**238**	*e*P	**P**	**17 13 38.1 +2.4**
	comp=Z,34nm,1.0s					
SSLB	**Suanglung**	**21.82**	**238**	*e*P	**P**	**17 13 39.4 -3.9**
	comp=Z,190nm,2.0s					
YULB	**Yu-li**	**21.85**	**237**	*e*P	**P**	**17 13 41.6 -1.9**
	comp=Z,41nm,1.3s					
TPUB	**Ta-pu**	**22.36**	**238**	*e*P	**P**	**17 13 47.0 -2.1**
	comp=Z,79nm,1.2s					
TWG	**Pinlang**	**22.39**	**236**	*e*P	**P**	**17 13 46.6 -2.8**
	comp=Z,230nm,1.3s					
CLNS	**Chul'man**	**22.61**	**336**	*e*P	**P**	**17 13 48.3 -3.2**
CLNS				*e**PP	**sP**	**17 13 57.9 -1.5**
CLNS				*e*		17 14 12.2
CLNS				*e*S	**S**	**17 17 52.7 -5.4**
CLNS				*e*SS	SnSn	17 18 46.7 +19
CLNS				pmax	pmax	
	comp=Z,13nm,0.8s					
CLNS				pmax	pmax	
	comp=N,8.0nm,0.8s					
CLNS				pmax	pmax	
	comp=E,12nm,0.9s					
CLNS				pmax	pmax	
	comp=N,28nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,12nm,0.7s					
CLNS				smax	smax	
	comp=N,322nm,12.3s					
CLNS				smax	smax	
	comp=E,289nm,17.2s					
CLNS				MLR	MLR	
	comp=Z,1μm,12.0s					
CLNS				MLR	MLR	
	comp=N,2μm,13.0s					
CLNS				MLR	MLR	
	comp=E,617nm,15.0s					
WHN	**Wuhan**	**23.17**	**262**	⇓P	**P**	**17 13 56.3 -1.2**
WHN				pP	**pP**	**17 14 02.0 -1.0**
WHN				S	**S**	**17 18 06.3 -1.9**
WHN				LR	LR	
	comp=E,2μm,10.9s					
WHN				LR	LR	
	comp=E,4μm,12.4s					
WHN				LR	LR	
	comp=E,5μm,12.9s					
HHC	**Hu-ho-hao-te**	**23.29**	**289**	*e*P	**P**	**17 13 57.5 -1.3**
HHC				sP	sP	17 14 05.5 -1.3
HHC				S	**S**	**17 18 04.8 -5.6**
HHC				pmax	pmax	
	comp=E,25nm,1.0s					
HHC				pmax	pmax	
	comp=E,96nm,6.8s					
HHC				LR	LR	
	comp=E,4μm,10.6s					
HHC				LR	LR	
	comp=E,4μm,11.8s					
HHC				LR	LR	
	comp=E,4μm,11.1s					
MA2	**Magadan**	**23.40**	**12**	P	**P**	**17 13 59.5 0.0**
	comp=E,96nm,0.8s,baz=195,slow=9.0,SNR=23					
MA2				LR	LR	17 23 59.7
	comp=E,367nm,18.4s,baz=200,slow=39					
MA2	**Magadan**	**23.40**	**12**	*c i*P	**P**	**17 14 00.7 +1.2**
MA2	**Magadan**	**23.40**	**12**	*e*P	**P**	**17 13 59.5 0.0**
GUMO	**Guam**	**23.58**	**171**	P	**P**	**17 14 02.0 +0.4**
	comp=E,32nm,0.9s,baz=357,slow=18,SNR=2.0					
GUMO	**Guam**	**23.58**	**171**	P	**P**	**17 14 02.0 +0.4**
GUMO				pmax	pmax	
	comp=Z,32nm,0.9s					
GUMO	**Guam**	**23.58**	**171**	*e*P	**P**	**17 14 01.8 +0.2**
	comp=Z,213nm,1.1s					
CIT	**Chita**	**24.55**	**316**	*e*P	**P**	**17 14 10.6 +0.1**
CIT				*e*		17 14 24.2
CIT				*e*		17 14 43.2
YAK	**Yakutsk**	**26.03**	**348**	P	**P**	**17 14 23.4 -0.3**
	comp=Z,67nm,0.6s,baz=214,slow=0.9,SNR=20					
YAK				LR	LR	17 25 01.6
	comp=Z,1μm,18.4s,baz=134,slow=37					
YAK	**Yakutsk**	**26.03**	**348**	*e*P	**P**	**17 14 23.5 -0.2**
YAK				*e**PP	**sP**	**17 14 30.6 -1.3**
YAK				*e*PPP	PPP	17 15 08.3
YAK				*e*S	**S**	**17 18 51.8 -1.6**
YAK				*e*SSS	SSS	17 20 03.3
YAK				pmax	pmax	
	comp=Z,110nm,1.1s					
YAK				pmax	pmax	
	comp=N,51nm,1.3s					
YAK				pmax	pmax	
	comp=E,23nm,1.2s					
YAK				smax	smax	
	comp=E,119nm,1.8s					
YAK				smax	smax	
	comp=N,256nm,3.3s					
YAK				MLR	MLR	
	comp=E,2μm,20.0s					
YAK				MLR	MLR	
	comp=Z,1μm,18.0s					
YAK				MLR	MLR	
	comp=E,330nm,16.0s					
YAK	**Yakutsk**	**26.03**	**348**	*e*P	**P**	**17 14 24.5 +0.8**
	comp=E,278nm,0.9s					
XAN	**Xi'an**	**26.35**	**273**	P	**P**	**17 14 26.8 -0.2**
XAN				pP	pP	17 14 31.0 -1.8
XAN				S	**S**	**17 18 57.5 -1.7**
XAN				pmax	pmax	
	comp=E,15nm,1.0s					
XAN				pmax	pmax	
	comp=E,560nm,4.7s					
XAN				LR	LR	
	comp=E,810nm,14.4s					
XAN				LR	LR	
	comp=E,710nm,13.1s					
XAN				LR	LR	
	comp=E,1μm,13.6s					
SEY	**Seymchan**	**26.83**	**11**	P	**P**	**17 14 31.8 +0.8**
	comp=E,22nm,0.8s,baz=198,slow=8.5,SNR=38					
SEY	**Seymchan**	**26.83**	**11**	P	**P**	**17 14 31.8 +0.8**
SEY				pmax	pmax	
	comp=Z,23nm,0.8s					
SEY	**Seymchan**	**26.83**	**11**	*e*P	**P**	**17 14 31.8 +0.8**
ENH	**Enshi**	**27.14**	**265**	*e*P	**P**	**17 14 33.3 -0.9**
	comp=Z,27nm,0.7s					
ULN	**Ulaanbaatar**	**27.20**	**304**	*d i*P	**P**	**17 14 34.0 -0.6**
ULN				pmax	pmax	
	comp=Z,10.0nm,1.0s					
ULN	**Ulaanbaatar**	**27.20**	**304**	*e*P	**P**	**17 14 34.3 -0.4**
	comp=Z,36nm,1.0s					
ULN	**Ulaanbaatar**	**27.20**	**304**	P	**P**	**17 14 35.0 +0.3**
	SNR=18					
ULN	**Ulaanbaatar**	**27.20**	**304**	P	**P**	**17 14 35.0 +0.3**
	SNR=18					
BOD	**Bodaibo**	**27.43**	**328**	*e*P	**P**	**17 14 35.4 -1.0**
BOD				pmax	pmax	
	comp=Z,36nm,0.8s					
SONA0	**Songino Array**	**27.63**	**304**	*e*P	**P**	**17 14 37.1 -1.4**
SONA0				*e*PcP	**PcP**	**17 17 54.7 -0.8**
SONM	**Songino Array**	**27.63**	**304**	P	**P**	**17 14 37.1 -1.4**
	comp=Z,11nm,0.7s,baz=111,slow=9.3,SNR=51					
SONM				PcP	**PcP**	**17 17 54.7 -0.8**
	comp=Z,3.4nm,0.9s,baz=136,slow=3.1,SNR=4.8					
SONM	**Songino Array**	**27.63**	**304**	P	**P**	**17 14 37.1 -1.4**
SONM						17 17 54.7
SONM				pmax	pmax	
	comp=Z,11nm,0.7s					
SONM	**Songino Array**	**27.63**	**304**	P	**P**	**17 14 37.1 -1.4**
SONM				PcP	**PcP**	**17 17 54.7 -0.8**
SMY	**Shemya**	**27.80**	**45**	*e*P	**P**	**17 14 41.7 +1.9**
SMY				pmax	pmax	
	comp=Z,379nm,1.4s					
SMY	**Shemya**	**27.80**	**45**	*e*P	**P**	**17 14 41.7 +1.9**
	comp=Z,378nm,1.4s					
H11N2	**WAKE ISLAND Hy**	**28.31**	**120**	T	T	17 44 18.4
	baz=313,slow=75,SNR=3663					
H11N1	**WAKE ISLAND Hy**	**28.32**	**120**	T	T	17 44 20.9
	baz=313,slow=75,SNR=3977					
H11N3	**WAKE ISLAND Hy**	**28.33**	**120**	T	T	17 44 16.7
	baz=313,slow=75,SNR=4564					
H11S1	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	17 45 08.5
	baz=315,slow=76,SNR=2440					
H11S3	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	17 45 08.9
	baz=315,slow=76,SNR=2693					
H11S2	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	17 45 10.1
	baz=315,slow=76,SNR=2415					
TGY	**Tagaytay City**	**29.11**	**224**	LR	LR	17 24 49.1
	comp=Z,142nm,20.2s,baz=81,slow=33					
LZH	**Lanzhou**	**29.88**	**280**	*e*P	**P**	**17 14 59.3 +0.7**
LZH				pP	pP	17 15 04.0 -0.5
LZH				sP	sP	17 15 06.5 -0.4
LZH				PP	**PnPn**	**17 15 58.3 +3.5**
LZH				*e*S	**S**	**17 19 54.3 -0.7**
LZH				pmax	pmax	
	comp=Z,54nm,1.5s					
LZH				pmax	pmax	
	comp=Z,220nm,4.8s					
LZH				LR	LR	
	comp=Z,1μm,13.0s					
LZH				LR	LR	
	comp=Z,1μm,12.7s					
LZH				LR	LR	
	comp=Z,2μm,16.5s					
ZAK	**Zakamensk**	**30.12**	**308**	*e*P	**P**	**17 15 00.0 -0.6**
ZAK				*e*		17 18 01.4
ZAK				pmax	pmax	
	comp=Z,8.0nm,1.1s					
TLY	**Talaya**	**30.19**	**311**	*e*P	**P**	**17 15 01.6 +0.6**
TLY				*e*		17 16 17.2
TLY				*e*		17 17 59.8
TLY				*e*SS	SS	17 22 00.9 -6.9
TLY				pmax	pmax	
	comp=Z,10.0nm,0.7s					
TLY				MLR	MLR	
	comp=Z,1μm,16.0s					
TLY	**Talaya**	**30.19**	**311**	*e*P	**P**	**17 15 00.5 -0.5**
	comp=Z,15nm,0.8s					
GYA	**Guiyang**	**31.03**	**260**	⇑*i*P	**P**	**17 15 07.0 -1.9**
GYA				PP	**PnPn**	**17 16 11.8 +1.7**
GYA				S	**S**	**17 20 11.5 -1.6**
GYA				ScS	**ScS**	**17 25 42.8 -0.7**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,130nm,4.9s					
GYA				LR	LR	
	comp=Z,750nm,17.8s					
GYA				LR	LR	
	comp=Z,620nm,17.7s					
GYA				LR	LR	
	comp=Z,630nm,18.4s					
CD2	**Chengdu**	**31.48**	**270**	P	**P**	**17 15 11.5 -1.2**
CD2				S	**S**	**17 20 18.3 -1.7**
CD2				pmax	pmax	
	comp=Z,20nm,0.5s					
CD2				pmax	pmax	
	comp=Z,220nm,5.2s					
CD2				LR	LR	
	comp=Z,1μm,16.1s					
CD2				LR	LR	
	comp=Z,2μm,14.5s					
MOY	**Mondy**	**31.80**	**310**	*e*P	**P**	**17 15 15.4 +0.1**
GTA	**Gaotai**	**32.38**	**287**	*e*P	**P**	**17 15 19.8 -0.8**
GTA				pP	pP	17 15 24.0 -2.5
GTA				sP	sP	17 15 26.8 -2.1
GTA				PcP	**PcP**	**17 18 08.8 +0.9**
GTA				S	**S**	**17 20 32.0 -2.0**
GTA				pmax	pmax	
	comp=Z,8.0nm,0.8s					
GTA				pmax	pmax	
	comp=Z,79nm,6.2s					
GTA				LR	LR	
	comp=Z,500nm,14.3s					
GTA				LR	LR	
	comp=Z,510nm,14.7s					
GTA				LR	LR	
	comp=Z,460nm,13.8s					
QIZ	**Qiongzhong**	**32.76**	**245**	P	**P**	**17 15 24.0 +0.1**
QIZ				S	**S**	**17 20 41.0 +1.2**
QIZ				sS	**sS**	**17 20 53.8 +4.3**
QIZ				LR	LR	
	comp=Z,230nm,16.7s					
BILL	**Bilibino**	**34.08**	**17**	*c i*P	**P**	**17 15 35.5 +0.6**
BILL				*i* *SP	**sP**	**17 15 43.2 0.0**
BILL				*e*		17 15 51.6
BILL						17 16 50.0
BILL				*e*		17 18 12.8
BILL				pmax	pmax	
	comp=Z,19nm,1.0s					
BILL				MLR	MLR	
	comp=Z,361nm,16.0s					
KMI	**Kunming**	**34.77**	**261**	P	**P**	**17 15 42.3 +0.6**
KMI				pP	pP	17 15 47.0 -0.5
KMI				sP	sP	17 15 49.0 -0.9
KMI				PP	**PnPn**	**17 16 56.5 -1.4**
KMI				S	**S**	**17 21 09.0 -2.5**
KMI				pmax	pmax	
	comp=Z,18nm,0.5s					
KMI				pmax	pmax	
	comp=Z,130nm,4.5s					
KMI				LR	LR	
	comp=Z,750nm,17.3s					
KMI				LR	LR	
	comp=Z,900nm,18.6s					
KMI				LR	LR	

comp=Z,930nm,16.5s
TIXI Tiksi 35.27 353 P **P 17 15 44.7 -0.5**
comp=Z,9.4nm,0.8s,baz=147,slow=8.3,SNR=36
TIXI Tiksi 35.27 353*c i*P **P 17 15 44.9 -0.2**
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 35.27 353 *e*P **P 17 15 44.7 -0.5**
MYLDM Lahad Datu 37.89 219 *e*P **P 17 16 07.6 -0.5**
comp=Z,54nm,1.2s
KKM Kota Kinabalu 38.35 223 *e*P **P 17 16 13.3 +1.2**
comp=Z,46nm,1.3s
UBPT Khong Chiam 38.35 245 P **P 17 16 14.1 +2.1**
comp=Z,38nm,1.4s
SKNT Sakolnakorn 38.37 249 P P 17 16 19.4 +7.3
MANU Manus Island 39.30 170 *e*P **P 17 16 21.0 +1.1**
comp=Z,13nm,0.8s
JAY Jayapura 39.35 181 P **P 17 16 19.8 -0.5**
comp=Z,14nm,0.9s,baz=344,slow=7.8,SNR=3.9
JAY Jayapura 39.35 181 P **P 17 16 19.8 -0.5**
JAY pmax pmax
comp=Z,20nm,1.1s
JAY Jayapura 39.35 181 P **P 17 16 19.8 -0.5**
LBMI Labuha 39.57 202 P P 17 16 28.1 +6.0
KMSI Cibinong 39.61 208 P P 17 16 28.5 +6.0
comp=Z,122nm,0.7s
KHON Khomkaen 39.63 249 P **P 17 16 23.2 +0.5**
comp=Z,11nm,1.0s
AKUT Akutan 39.83 47 *e*P **P 17 16 24.7 +0.8**
comp=Z,1μm,1.9s
CMAI Chiengmai2 40.40 257 P **P 17 16 30.6 +1.3**
comp=Z,1μm,1.6s,comp=Z,63μm
MRSI Marisa 40.49 210 P **P 17 16 33.9 +4.1**
UTTA Uttaradit 40.49 253 P **P 17 16 31.8 +2.0**
comp=Z,3.4nm,0.9s
CHAI Chaiyaphum 40.53 249 P **P 17 16 29.8 -0.4**
comp=Z,11nm,1.0s,comp=Z,101nm
FAKI Fak Fak 40.60 194 *e*P **P 17 16 31.0 +0.2**
comp=Z,24nm,0.7s
WMQ Urumqi 40.67 297 P **P 17 16 32.0 +0.8**
WMQ pP pP 17 16 36.3 -0.8
WMQ sP sP 17 16 41.5 +2.0
WMQ PcP **PcP 17 18 33.5 +0.9**
WMQ S **S 17 22 40.0 -0.3**
WMQ ScS **ScS 17 26 35.3 -0.4**
WMQ pmax pmax
comp=Z,57nm,0.9s
WMQ pmax pmax
comp=Z,180nm,5.1s
WMQ LR LR
comp=Z,570nm,12.1s
WMQ LR LR
comp=Z,690nm,13.1s
WMQ LR LR
comp=Z,280nm,15.3s
LAMP Lampang 40.74 255 P P 17 16 36.9 +5.0
PBKT Sadao Pong 40.88 251 P **P 17 16 33.1 +0.1**
comp=Z,14nm,1.1s,comp=Z,598nm
CHTO Chiang Mai 41.11 256 P **P 17 16 36.2 +1.3**
comp=Z,32nm,0.9s
CHTO Chiang Mai 41.11 256 *e*P **P 17 16 33.7 -1.2**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 41.11 256 *e*P **P 17 16 33.7 -1.2**
comp=Z,5.5nm,0.8s
CM31 Chiang Mai Arr 41.31 255 *e*P **P 17 16 36.2 -0.4**
CM31 *e*PcP **PcP 17 18 34.9 -0.1**
CMAR Chiang Mai Arr 41.31 255 P **P 17 16 35.8 -0.8**
comp=Z,3.4nm,1.0s,baz=42,slow=7.3,SNR=13
CMAR PcP **PcP 17 18 34.9 -0.1**
comp=Z,1.2nm,0.8s,baz=35,slow=1.8,SNR=4.2
CMAR LR LR 17 35 49.6
comp=Z,672nm,18.3s,baz=53,slow=39
CMAR Chiang Mai Arr 41.31 255 P **P 17 16 35.8 -0.8**
CMAR 17 18 34.9
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR MLR MLR
comp=Z,672nm,18.3s
CMAR Chiang Mai Arr 41.31 255 P **P 17 16 35.8 -0.8**
CMAR PcP **PcP 17 18 34.9 -0.1**
SANI Sanana 41.37 203 P **P 17 16 36.9 -0.1**
comp=Z,101nm,0.8s,comp=Z,866nm
LUWI Luwuk 41.55 208 *e*P **P 17 16 37.9 -0.6**
comp=Z,37nm,0.8s
SRAK Srakaew 41.69 247 P **P 17 16 36.3 -3.4**
comp=Z,73nm,0.8s,comp=Z,535nm
MSAI Masohi 41.76 199 P P 17 16 48.1 +7.9
comp=Z,32nm,1.4s,comp=Z,427nm
ZAA0 Zalesovo Array 41.78 312 *e*P **P 17 16 39.5 -0.5**
comp=Z,34nm,0.8s
ZAA1 Zalesovo Array 41.78 312 *e*P **P 17 16 39.8 -0.2**
ZAA1 *e*PcP **PcP 17 18 35.6 -0.3**
ZALV Zalesovo Beam 41.78 312 P **P 17 16 39.8 -0.2**
comp=Z,33nm,0.7s,baz=92,slow=6.6,SNR=136
ZALV PcP **PcP 17 18 35.6 -0.3**
comp=Z,13nm,0.9s,baz=100,slow=3.2,SNR=5.8
ZALV LR LR 17 34 32.7
comp=Z,341nm,20.2s,baz=70,slow=37
ZALV Zalesovo Beam 41.78 312 P **P 17 16 39.8 -0.2**
ZALV 17 18 35.7
ZALV pmax pmax
comp=Z,33nm,0.8s
ZALV MLR MLR
comp=Z,341nm,20.3s
ZALV Zalesovo Beam 41.78 312 P **P 17 16 39.8 -0.2**
ZALV PcP **PcP 17 18 35.6 -0.3**
APSI Ampana 41.87 210 P P 17 16 46.1 +5.0
comp=Z,121nm,1.1s
LSA Lhasa 42.02 275 P **P 17 16 43.5 +0.6**
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 42.02 275 *e*P **P 17 16 43.0 +0.1**
LSA pmax pmax
comp=Z,24nm,1.0s
LSA Lhasa 42.02 275 *e*P **P 17 16 43.0 +0.1**
comp=Z,24nm,1.0s
NAYO Nakonayok 42.03 248 P **P 17 16 42.8 +0.3**
comp=Z,44nm,0.9s
NLAI Namlea 42.15 201 P P 17 16 50.8 +7.4
AAI Ambon 42.28 199 P P 17 16 51.8 +7.4
AAI Ambon 42.28 199 P **P 17 16 45.7 +1.3**
AAI pmax pmax
comp=Z,61nm,0.9s
PCI Palu 42.62 213 P **P 17 16 47.4 +0.1**
PCI pmax pmax
comp=Z,43nm,1.1s
BNDI Bandanaira 42.66 197 P **P 17 16 50.6 +3.1**
comp=Z,210nm,1.0s,comp=Z,2μm
UTHA Uthaitani 42.66 251 P **P 17 16 48.7 +1.1**
comp=Z,3.2nm,1.1s
NVS Novosibirsk 42.71 314⇑ *i*P **P 17 16 47.5 0.0**
NVS pmax pmax
comp=Z,42nm,1.2s
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,19nm,0.7s
NRIK Noril'sk 43.19 335 P **P 17 16 51.0 -0.3**
comp=E,4.9nm,0.5s,baz=90,slow=8.0,SNR=6.6
NRIK PcP **PcP 17 18 40.9 +0.5**
comp=E,11nm,0.7s,baz=71,slow=5.8,SNR=3.5
NRIK LR LR 17 36 27.8
comp=E,707nm,18.3s,baz=108,slow=38
NRIK Noril'sk 43.19 335 P **P 17 16 51.0 -0.3**
NRIK 17 18 40.9
NRIK pmax pmax
comp=Z,5.0nm,0.5s
NRIK MLR MLR
comp=Z,707nm,18.3s
SBUM Sibu 43.53 225 *e*P **P 17 16 53.9 -0.7**
comp=Z,15nm,1.1s
SRDT SRDT 43.65 250 P **P 17 16 56.5 +0.9**
comp=Z,40nm,1.0s
MK31 Makanchi Array 43.96 302 *i* P **P 17 16 57.5 -0.4**
MK31 pmax pmax
comp=Z,24nm,0.7s
MK31 Makanchi Array 43.96 302 *e*P **P 17 16 57.7 -0.2**
MK32 Makanchi Array 43.96 302 *e*P **P 17 16 57.5 -0.3**
MK32 *e*PcP **PcP 17 18 42.8 -0.6**
MK32 *e*ScP **ScP 17 22 34.8 +0.6**
MK32 *e*S **S 17 23 26.1 -2.5**
MKAR Makanchi Array 43.96 302 P **P 17 16 57.5 -0.3**
comp=Z,21nm,0.7s,baz=89,slow=9.7,SNR=216
MKAR PcP **PcP 17 18 42.8 -0.6**
comp=Z,5.6nm,0.9s,baz=77,slow=7.5,SNR=3.2
MKAR ScP **ScP 17 22 34.8 +0.6**
comp=Z,0.8nm,0.8s,baz=72,slow=4.7,SNR=3.5
MKAR S **S 17 23 26.1 -2.5**
comp=Z,0.6nm,0.9s,baz=70,slow=16,SNR=2.5
MKAR LR LR 17 34 26.3
comp=Z,182nm,19.0s,baz=88,slow=35
MKAR Makanchi Array 43.96 302 *e*P **P 17 16 57.7 -0.2**
MKAR 17 18 42.8
MKAR S **S 17 23 26.1 -2.5**
MKAR pmax pmax
comp=Z,166nm,0.8s
MKAR Makanchi Array 43.96 302 *e*P **P 17 16 57.7 -0.2**
comp=Z,166nm,0.8s
MKAR PcP **PcP 17 18 42.8 -0.6**
MKAR ScP **ScP 17 22 34.8 +0.6**
MKAR S **S 17 23 26.1 -2.5**
MAKZ Makanchi 44.17 302 *e*P **P 17 16 59.5 0.0**
MAKZ pmax pmax
comp=Z,23nm,0.8s
MAKZ Makanchi 44.17 302 *e*P **P 17 16 59.5 0.0**
comp=Z,23nm,0.8s
PHET Kaeng Krachan 44.19 248 P **P 17 17 00.6 +0.7**
comp=Z,15nm,0.8s,comp=Z,131nm
KSM Kuching 45.41 226 *e*P **P 17 17 10.1 +0.3**
comp=Z,29nm,0.9s
TTA Tatalina 45.53 35 *e*P **P 17 17 11.6 +1.4**
TTA Tatalina 45.53 35 *e*P **P 17 17 11.6 +1.4**
SVW2 Sparrevohn 45.64 37 *e*P **P 17 17 13.4 +2.4**
comp=Z,58nm,1.0s
BBSI Bau Bau 45.73 206 P P 17 17 18.8 +6.6
comp=Z,14nm,1.0s,comp=Z,217nm
TAPN Taplejung 45.75 274 *e*P **P 17 17 12.6 -0.1**
comp=Z,23nm,0.6s
KURK Kurchatov 45.79 308*d i*P **P 17 17 11.7 -0.6**
KURK pmax pmax
comp=Z,213nm,1.2s
KURK Kurchatov 45.79 308 *e*P **P 17 17 11.4 -0.8**
comp=Z,87nm,0.9s
KURK *e*PcP **PcP 17 18 49.3 -0.3**
KURK Kurchatov 45.79 308 P **P 17 17 11.7 -0.6**
SNR=52
KURK Kurchatov 45.79 308 P **P 17 17 11.7 -0.6**
SNR=52
KURBB Kurchatov Arra 45.85 308 P **P 17 17 12.3 -0.5**
comp=Z,22nm,0.7s,baz=83,slow=8.4,SNR=132
KURBB PcP **PcP 17 18 49.3 -0.5**
comp=Z,4.7nm,0.8s,baz=77,slow=4.5,SNR=3.5
KURBB S **S 17 23 53.5 -2.3**
comp=Z,0.7nm,1.1s,baz=73,slow=9.8,SNR=3.6
ODAN Odare 46.23 273 *e*P **P 17 17 16.1 -0.3**
comp=Z,46nm,0.8s
PMG Port Moresby 46.53 172 P **P 17 17 19.6 +1.2**
comp=Z,11nm,0.9s,baz=323,slow=10,SNR=2.3
PMG Port Moresby 46.53 172 P **P 17 17 19.6 +1.2**
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 46.53 172 P **P 17 17 19.6 +1.2**
PDGK Podgornoye 46.61 298 P **P 17 17 18.6 -0.5**
PDGK pmax pmax
comp=Z,68nm,0.9s
RAMN Ramite 46.82 274 *e*P **P 17 17 20.8 -0.2**
comp=Z,207nm,0.8s
JIRN Jiri 46.83 275 *e*P **P 17 17 21.4 +0.1**
comp=Z,821nm,0.9s
GUN Gumba 46.97 276 *e*P **P 17 17 22.2 -0.1**
comp=Z,82nm,0.8s
RSO Redoubt South 47.02 38 *e*P **P 17 17 23.6 +1.5**
KDAK Kodiak Island 47.23 42 P **P 17 17 24.2 +0.8**
comp=Z,63nm,1.0s,baz=277,slow=5.5,SNR=11
KDAK Kodiak Island 47.23 42 *e*P **P 17 17 24.5 +1.0**
KDAK Kodiak Island 47.23 42 *e*P **P 17 17 24.5 +1.0**
KDAK *e*sP **P 17 17 24.6 +1.2**
PPLA Purkeypile 47.28 35 *e*P **P 17 17 25.8 +1.8**
comp=Z,51nm,1.2s
CAST Castle Rocks 47.33 34 *e*P **P 17 17 26.3 +2.0**
comp=Z,20nm,0.8s
SPU Mount Spurr 47.35 37 *e*P **P 17 17 26.3 +1.8**
PKI Pulchoki 47.49 275 *e*P **P 17 17 25.8 -0.6**
comp=Z,32nm,0.8s
KKN Kakani 47.50 276 *e*P **P 17 17 26.0 -0.3**
comp=Z,47nm,0.8s
PKIN Phulchoki 47.50 275 *e*P **P 17 17 25.6 -0.7**
comp=Z,18nm,0.7s
KRAB Krabi 47.62 244 P **P 17 17 28.4 +1.3**
comp=Z,72nm,0.8s
DMN Daman 47.72 276 *e*P **P 17 17 27.7 -0.3**
BPAW Bear Paw Mtn. 47.83 33 *e*P **P 17 17 29.8 +1.7**
comp=Z,12nm,0.8s
KTH Kantishna Hill 47.86 34 *e*P **P 17 17 30.0 +1.6**
comp=Z,45nm,1.0s
GKN Gorkha 47.92 276 *e*P **P 17 17 29.2 -0.3**
comp=Z,257nm,1.1s
MLY Manley 47.95 32 *e*P **P 17 17 30.9 +1.8**
comp=Z,34nm,1.0s
SUA Susitna One 47.98 37 *e*P **P 17 17 30.9 +1.5**
comp=Z,33nm,0.8s
TRF Thorofare Moun 48.14 34 *e*P **P 17 17 32.1 +1.4**
comp=Z,23nm,0.9s
COLD Coldfoot 48.25 29 *e*P **P 17 17 32.5 +1.3**
comp=Z,10nm,1.1s
DANN Dangsing 48.46 277 *e*P **P 17 17 34.2 +0.4**
comp=Z,11nm,0.9s
PKDT Phuket 48.47 244 P **P 17 17 34.8 +1.2**
comp=Z,64nm,0.9s
RC01 Rabbit Creek A 48.48 37 *e*P **P 17 17 34.4 +1.2**
comp=Z,61nm,1.1s
TOLK Toolik Lake Re 48.56 27 P **P 17 17 34.4 +0.6**
baz=267
TOLK Toolik Lake Re 48.56 27 *e*P **P 17 17 35.5 +1.7**
comp=Z,18nm,0.8s
SEW Seward 48.68 39 *e*P **P 17 17 36.0 +1.3**
comp=Z,376nm,2.0s
PMR Palmer 48.74 37 *e*P **P 17 17 36.0 +0.9**
PMR pmax pmax
comp=Z,21nm,0.8s
PMR Palmer 48.74 37 *e*P **P 17 17 36.0 +0.9**
comp=Z,21nm,0.8s
MCK McKinley 48.74 34 *e*P **P 17 17 36.0 +0.9**
MCK pmax pmax
comp=Z,23nm,0.8s
MCK McKinley 48.74 34 *e*P **P 17 17 36.0 +0.9**
comp=Z,23nm,0.8s
MMRI Maumere 48.78 205 P P 17 17 41.2 +5.3
MMRI Maumere 48.78 205 *e*P **P 17 17 35.3 -0.5**
comp=Z,59nm,0.9s
RND Reindeer 48.79 34 *e*P **P 17 17 36.4 +0.8**
RND pmax pmax
comp=Z,30nm,0.9s
RND Reindeer 48.79 34 *e*P **P 17 17 36.4 +0.8**
comp=Z,30nm,0.9s
KOLN Koldanda 48.84 277 *e*P **P 17 17 36.5 -0.2**
comp=Z,72nm,1.0s
IPM Ipoh 48.98 238 *e*P **P 17 17 35.7 -1.9**
comp=Z,27nm,1.3s
MDM Murphy Dome 49.02 32 *e*P **P 17 17 38.8 +1.5**
comp=Z,69nm,1.1s
EDFI Ende, Flores 49.07 206 P **P 17 17 38.6 +0.3**
WRH Wood River Hil 49.09 33 *e*P **P 17 17 39.0 +1.2**
WRH *e*PcP **PcP 17 19 01.3 +0.2**
MYKOM Kota Tinggi 49.11 233 *e*P **P 17 17 38.1 -0.4**
comp=Z,14nm,1.1s
SML Sawmill 49.11 36 *e*P **P 17 17 39.3 +1.3**
SML pmax pmax
comp=Z,36nm,0.8s
SML Sawmill 49.11 36 *e*P **P 17 17 39.3 +1.3**
comp=Z,36nm,0.8s
SOEI Soe 49.17 202 P **P 17 17 38.6 -0.5**
SOEI Soe 49.17 202 *e*P **P 17 17 37.8 -1.3**
comp=Z,126nm,0.9s
COLA College 49.18 32 *e*P **P 17 17 40.1 +1.6**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 49.18 32 *e*P **P 17 17 40.1 +1.6**
comp=Z,19nm,0.8s
PYUN Piuthan 49.18 277 *e*P **P 17 17 39.2 -0.1**
comp=Z,277nm,1.0s
CCB Clear Creek Bu 49.21 33 *e*P **P 17 17 39.8 +1.1**
comp=Z,22nm,1.4s
SCM Sheep Creek Mo 49.58 36 *e*P **P 17 17 43.0 +1.3**
SCM pmax pmax
comp=Z,74nm,1.2s
SCM Sheep Creek Mo 49.58 36 *e*P **P 17 17 43.0 +1.3**
comp=Z,74nm,1.2s
ILAR Eielson Array 49.60 32 P **P 17 17 42.5 +0.8**
comp=Z,22nm,0.8s,baz=269,slow=6.4,SNR=173
ILAR LR LR 17 40 20.2
comp=Z,177nm,19.3s,baz=290,slow=38
ILAR Eielson Array 49.60 32 P **P 17 17 42.5 +0.8**
ILAR pmax pmax
comp=Z,21nm,0.8s
ILAR MLR MLR
comp=Z,177nm,19.3s
ILAR Eielson Array 49.60 32 P **P 17 17 42.5 +0.8**
ILB Eielson Array 49.60 32 *e*P **P 17 17 42.2 +0.5**
FRU Bishkek 50.18 299 *e*P **P 17 17 47.0 +0.5**
FYU Fort Yukon 50.21 30 *e*P **P 17 17 48.5 +2.3**
comp=Z,62nm,1.4s
KSH Kashi 50.23 294 P **P 17 17 51.0 +4.0**
KSH pP sP 17 17 55.0 -0.4
KSH sP pP 17 17 58.5 +5.4
KSH PcP **PcP 17 19 09.0 +3.0**
KSH PP **PP 17 19 47.3 +5.1**
KSH PcS **PcS 17 23 05.5 +2.3**
KSH S **S 17 25 01.8 +3.4**
KSH ScS **ScS 17 27 38.0 +0.6**
KSH pmax pmax
comp=Z,54nm,1.6s
KSH pmax pmax
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,950nm,15.7s
KSH LR LR
comp=Z,780nm,18.1s
KSH LR LR
comp=Z,1μm,18.0s
KLU Klutina 50.28 37 *e*P **P 17 17 48.5 +1.5**
comp=Z,49nm,1.2s
AAK Ala-Archa 50.32 298 P **P 17 17 47.6 -0.2**
comp=Z,2.8nm,0.5s,baz=101,slow=5.3,SNR=14
AAK PcP **PcP 17 19 06.5 +0.2**
comp=Z,8.8nm,1.0s,baz=14,slow=12,SNR=3.7
AAK LR LR 17 40 19.9
comp=Z,848nm,18.6s,baz=60,slow=38
AAK Ala-Archa 50.32 298⇑ *i*P **P 17 17 47.2 -0.5**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 50.32 298 *e*P **P 17 17 47.3 -0.5**
comp=Z,16nm,0.8s
AAK *e*PcP **PcP 17 19 06.5 +0.2**
AAK Ala-Archa 50.32 298 P **P 17 17 47.5 -0.2**
SNR=5.2
AAK Ala-Archa 50.32 298 P **P 17 17 47.5 -0.2**
SNR=5.2
AAK P **P 17 17 47.5 -0.2**
SNR=5.2
PAX Paxson 50.35 35 *e*P **P 17 17 48.6 +1.1**
PAX pmax pmax
comp=Z,13nm,1.0s
PAX Paxson 50.35 35 *e*P **P 17 17 48.6 +1.1**
comp=Z,12nm,1.0s
DIV Divide 50.39 37 *e*P **P 17 17 49.5 +1.7**
comp=Z,39nm,1.0s
BVAR Borovoye Array 50.44 312 P **P 17 17 47.9 -0.3**
comp=Z,3.6nm,0.6s,baz=78,slow=7.8,SNR=27
BVAR PcP **PcP 17 19 06.3 0.0**
comp=Z,13nm,0.8s,baz=64,slow=3.4,SNR=8.8
BVAR Borovoye Array 50.44 312 P **P 17 17 47.9 -0.3**
BVAR 17 19 06.3
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 50.44 312 P **P 17 17 47.9 -0.3**
BVAR PcP **PcP 17 19 06.3 0.0**
BRVK Borovoye 50.49 312*c i*P **P 17 17 48.4 -0.3**
BRVK pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 50.49 312 *e*P **P 17 17 48.1 -0.5**
comp=Z,19nm,0.9s
BRVK *e*PcP **PcP 17 19 06.1 -0.4**
BRVK Borovoye 50.49 312 P **P 17 17 48.3 -0.3**
SNR=10
BRVK Borovoye 50.49 312 P **P 17 17 48.3 -0.3**
SNR=10
MTN Manton Dam 50.50 193 *e*P **P 17 17 48.7 -0.2**
comp=Z,47nm,0.9s
HARP HAARP 50.55 35 *e*P **P 17 17 50.4 +1.5**
comp=Z,366nm,1.9s
COEN Coen 50.75 177 *e*P **P 17 17 51.1 +0.2**
comp=Z,52nm,0.9s
DOT Dot Lake 50.91 34 *e*P **P 17 17 52.4 +0.7**
comp=Z,37nm,0.7s
BMRM Bremner River 50.98 37 *e*P **P 17 17 54.0 +1.8**
comp=Z,42nm,1.0s
MENT Mentasta 51.15 35 *e*P **P 17 17 55.0 +1.6**
comp=Z,31nm,1.1s
PSI Prapat 51.63 239 *e*P **P 17 17 56.6 -1.2**
PSI pmax pmax
comp=Z,8.0nm,0.7s
PSI Prapat 51.63 239 *e*P **P 17 17 56.6 -1.2**
comp=Z,7.9nm,0.7s
CRQM Cirque 51.72 37 *e*P **P 17 18 00.1 +2.1**
comp=Z,142nm,1.7s
MNAS Manas 51.77 299 P **P 17 17 58.8 +0.2**
MNAS pmax pmax
comp=Z,33nm,0.8s
JAGI Jajag, Banyuwa 51.87 215 *e*P **P 17 17 57.9 -1.5**
comp=Z,33nm,1.0s
EGAK Eagle 52.04 32 *e*P **P 17 18 00.5 +0.4**
comp=Z,42nm,1.5s
SMRI Semarang 52.44 220 *e*P **P 17 18 04.2 +0.6**
comp=Z,82nm,1.1s
DAWY Dawson 52.91 33 *e*P **P 17 18 06.9 +0.3**
comp=Z,6.6nm,0.8s
KK31 Karatay Array 52.96 300 *i* P **P 17 18 06.6 -0.7**
KK31 pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 52.96 300 *e*P **P 17 18 06.6 -0.6**
KKAR pmax pmax
comp=Z,235nm,1.1s
KKAR Karatay Array 52.96 300 *e*P **P 17 18 06.6 -0.6**
comp=Z,235nm,1.1s
UGM Wanagama 53.13 219 *e*P **P 17 18 07.2 -1.6**
comp=Z,120nm,1.2s
PCA Pinnacle 53.24 38 *e*P **P 17 18 10.1 +1.0**
comp=Z,143nm,1.5s
LHSI Lahat 53.67 229 P **P 17 18 14.5 +1.8**
MDSI Maura Dua 53.80 228 P **P 17 18 13.5 -0.1**
MASI Maura Aman, Be 53.92 231 P **P 17 18 15.7 +1.1**
CISI Cisompet, Garu 54.24 222 *e*P **P 17 18 15.2 -1.8**
comp=Z,20nm,0.9s
HYT Haines Junctio 54.41 37 *e*P **P 17 18 18.2 +0.5**
INK Inuvik 54.48 27 P **P 17 18 19.2 +1.3**
comp=Z,9.0nm,0.5s,baz=301,slow=7.1,SNR=26
INK Inuvik 54.48 27 P **P 17 18 19.2 +1.3**
INK pmax pmax
comp=Z,9.0nm,0.5s
INK Inuvik 54.48 27 *e*P **P 17 18 19.2 +1.3**
SVE Sverdlovsk 55.02 319*c i*P **P 17 18 22.3 +0.2**
SVE pmax pmax
comp=Z,52nm,0.9s
SVE MLR MLR
comp=Z,866nm,16.0s
DZET Dzherino 55.68 296 P **P 17 18 26.9 -0.3**
DZET pmax pmax
comp=Z,37nm,1.3s
WHY Whitehorse 55.70 36 *e*P **P 17 18 29.1 +2.1**
comp=Z,25nm,1.0s
SKAG Skagway 55.81 38 *e*P **P 17 18 30.1 +2.4**
comp=Z,30nm,1.1s
SOKR Solikamsk 56.21 322*c i*P **P 17 18 29.1 -1.4**
SOKR pmax pmax
comp=Z,35nm,1.1s
SOKR MLR MLR
comp=Z,312nm,16.0s
ARU Arti 56.24 318 P **P 17 18 30.6 -0.2**
comp=Z,44nm,0.8s,baz=81,slow=3.8,SNR=60
ARU Arti 56.24 318*d i*P **P 17 18 30.5 -0.2**
ARU 17 19 25.7
ARU S **S 17 26 21.3 +2.0**
ARU SS **SS 17 30 06.4 +1.0**
ARU pmax pmax
comp=Z,81nm,1.2s
ARU MLR MLR
comp=Z,549nm,16.0s
ARU Arti 56.24 318 *e*P **P 17 18 30.3 -0.4**
comp=Z,46nm,0.8s
FITZ Fitzroy Crossi 56.76 198 P **P 17 18 35.2 +0.4**
comp=Z,4.9nm,0.5s,baz=16,slow=6.0,SNR=12
FITZ Fitzroy Crossi 56.76 198 P **P 17 18 35.2 +0.4**
CTA Charters Tower 57.01 174 P **P 17 18 37.0 +0.4**
comp=Z,2.3nm,0.6s,baz=0.7,slow=6.7,SNR=7.5
CTA Charters Tower 57.01 174 P **P 17 18 37.0 +0.4**
CTA pmax pmax
comp=Z,2.0nm,0.6s
CTA Charters Tower 57.01 174 *e*P **P 17 18 37.0 +0.4**

CTAO Charters Tower 57.01 174 *eP* **P 17 18 36.6 0.0**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 57.01 174 *eP* **P 17 18 36.5 0.0**
comp=Z,9.4nm,0.8s
WRAB Tennant Creek 57.02 188*c i P* **P 17 18 35.9 -0.8**
WRAB pmax pmax
comp=Z,193nm,1.2s
WRAB Tennant Creek 57.02 188 *eP* **P 17 18 35.8 -0.9**
comp=Z,68nm,0.9s
WB2 Warramunga Arr 57.03 188 *eP* **P 17 18 36.0 -0.8**
comp=Z,62nm,0.9s
WR1 Warramunga Arr 57.03 188 *eP* **P 17 18 35.9 -0.9**
comp=Z,67nm,0.9s
WR1 *e* 17 48 49.0
WRA Warramunga Arr 57.03 188 P **P 17 18 35.9 -0.9**
comp=Z,12nm,0.5s,baz=4.9,slow=7.3,SNR=133
WRA LR LR 17 43 01.6
comp=Z,90nm,18.2s,baz=170,slow=36
WRA PKPPKP P'P'df 17 48 49.0 +29
comp=Z,0.4nm,0.8s,baz=184,slow=7.4,SNR=4.8
WRA Warramunga Arr 57.03 188 P **P 17 18 35.9 -0.9**
WRA pmax pmax
comp=Z,12nm,0.5s
WRA MLR MLR
comp=Z,90nm,18.2s
WRA Warramunga Arr 57.03 188 P **P 17 18 35.9 -0.9**
WRA P'P' 17 48 49.0
KBL Kabul 57.24 291 *eP* **P 17 18 37.7 -0.8**
KBL pmax pmax
comp=Z,38nm,1.3s
KBL Kabul 57.24 291 *eP* **P 17 18 37.7 -0.8**
comp=Z,38nm,1.3s
AB31 Akbulak array 57.80 310 P **P 17 18 40.1 -1.8**
AB31 pmax pmax
comp=Z,15nm,0.9s
ABKAR Akbulak array 57.80 310 *eP* **P 17 18 41.2 -0.7**
comp=Z,93nm,0.8s
HYB Hyderabad 58.01 268 *i P* **P 17 18 44.0 +0.1**
HYB *e* 17 18 51.0
HYB *e*PcP **PcP 17 19 42.0 +6.2**
WRAK Wrangell Islan 58.27 41 *eP* **P 17 18 46.5 +1.4**
AKTO Aktyubinsk 58.54 312 P **P 17 18 46.4 -0.7**
comp=Z,8.9nm,0.8s,baz=80,slow=13,SNR=16
AKTO PcP **PcP 17 19 36.5 -0.8**
comp=Z,7.9nm,0.8s,baz=57,slow=4.7,SNR=5.4
AKTO Aktyubinsk 58.54 312 P **P 17 18 46.4 -0.7**
AKTO 17 19 36.6
AKTO pmax pmax
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 58.54 312 P **P 17 18 46.4 -0.7**
AKTO PcP **PcP 17 19 36.5 -0.8**
DLBC Dease Lake 58.74 38 P **P 17 18 48.1 -0.4**
comp=Z,16nm,1.0s,baz=298,slow=7.4,SNR=15
DLBC Dease Lake 58.74 38 *eP* **P 17 18 48.1 -0.4**
SPA0 Spitsbergen Ar 60.49 349 *eP* **P 17 19 01.4 +1.2**
KBS Kingsbay 60.63 350 *eP* **P 17 19 02.3 +1.2**
KBS pmax pmax
comp=Z,54nm,1.0s
KBS Kingsbay 60.63 350 *eP* **P 17 19 02.2 +1.2**
comp=Z,54nm,1.0s
AS31 Alice Springs 60.76 188 *eP* **P 17 19 02.0 -0.6**
comp=Z,7.6nm,0.9s
ASAR Alice Springs 60.76 188 P **P 17 19 02.2 -0.4**
comp=Z,5.0nm,0.8s,baz=18,slow=6.7,SNR=60
ASAR LR LR 17 46 15.3
comp=Z,91nm,18.1s,baz=12,slow=37
ASAR PKPPKP P'P'df 17 48 29.9 +16
comp=Z,1.2nm,0.9s,baz=181,slow=2.1,SNR=5.8
ASAR Alice Springs 60.76 188 P **P 17 19 02.3 -0.4**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR MLR MLR
comp=Z,91nm,18.1s
ASAR Alice Springs 60.76 188 P **P 17 19 02.2 -0.4**
ASAR P'P' 17 48 29.9
POO Poona 61.18 272 *eP* **P 17 19 01.5 -4.3**
MBWA Marble Bar 61.31 203 *eP* **P 17 19 06.1 -0.2**
comp=Z,57nm,1.4s
LVZ Lovozero 62.04 336⇓*i P* **P 17 19 12.2 +1.4**
LVZ pmax pmax
comp=Z,34nm,1.1s
LVZ Lovozero 62.04 336 *eP* **P 17 19 11.7 +0.9**
comp=Z,101nm,1.5s
PALK Pallekele 62.18 257 P **P 17 19 12.1 -0.5**
comp=Z,11nm,1.1s,baz=92,slow=1.6,SNR=3.0
PALK LR LR 17 49 11.7
comp=Z,219nm,18.2s,baz=117,slow=39
PALK Pallekele 62.18 257 P **P 17 19 12.1 -0.5**
PALK pmax pmax
comp=Z,11nm,1.1s
PALK MLR MLR
comp=Z,219nm,18.2s
PALK Pallekele 62.18 257 *eP* **P 17 19 11.8 -0.8**
comp=Z,16nm,1.0s
APA Apatity 62.61 336⇓*i P* **P 17 19 14.1 -0.5**
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,1μm,19.0s
RES Resolute Bay 62.65 14 P **P 17 19 15.4 +0.7**
RES pmax pmax
comp=Z,30nm,1.0s
TMCR Tamitsa 62.66 331 *eP* **P 17 19 14.2 -0.7**
TMCR pmax pmax
comp=Z,71nm,1.0s
EIDS Eidsvold 62.76 170 *eP* **P 17 19 16.3 +0.3**
comp=Z,40nm,1.5s
KEV Kevo 63.38 339 *eP* **P 17 19 18.4 -1.2**
KEV pmax pmax
comp=Z,174nm,1.9s
KEV Kevo 63.38 339 *eP* **P 17 19 18.4 -1.2**
comp=Z,174nm,1.9s
DZM Mont Dzumac 63.43 154 P **P 17 19 21.7 +1.0**
comp=Z,16nm,1.1s,baz=345,slow=16,SNR=3.5
DZM LR LR 17 44 04.9
comp=Z,325nm,20.0s,baz=17,slow=33
DZM Mont Dzumac 63.43 154 *eP* **P 17 19 23.4 +2.7**
comp=Z,30nm,1.2s
KLMR Klimovskoe 63.66 328 *eP* **P 17 19 20.7 -0.9**
KLMR *e* 17 21 40.3
KLMR pmax pmax
comp=Z,37nm,1.0s
GEYT Alibeck 63.67 299 P **P 17 19 22.2 0.0**
comp=Z,19nm,0.8s,baz=37,slow=3.7,SNR=49
GEYT LR LR 17 49 04.9
comp=Z,210nm,18.9s,baz=40,slow=38
YKW3 Yellowknife Ar 63.87 30 *eP* **P 17 19 23.5 +0.5**
comp=Z,40nm,1.6s
YKA Yellowknife Ar 63.91 30 P **P 17 19 23.8 +0.6**
comp=Z,7.0nm,0.8s,baz=301,slow=6.4,SNR=11
YKA LR LR 17 49 11.0
comp=Z,13nm,20.5s,baz=0.0,slow=38
YKA Yellowknife Ar 63.91 30 P **P 17 19 23.8 +0.6**
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 63.91 30 P **P 17 19 23.8 +0.6**
YKB5 Yellowknife Ar 63.91 30 *eP* **P 17 19 23.8 +0.6**
ARA0 ARCESS Array S 63.93 339 *eP* **P 17 19 23.5 +0.2**
ARCES ARCESS Array B 63.93 339 P **P 17 19 23.5 +0.2**
comp=Z,18nm,0.8s,baz=56,slow=5.8,SNR=20
ARCES LR LR 17 52 41.7
comp=Z,366nm,18.0s,baz=32,slow=41
ARCES ARCESS Array B 63.93 339 P **P 17 19 23.5 +0.2**
ARCES pmax pmax
comp=Z,18nm,0.8s
ARCES MLR MLR
comp=Z,367nm,18.0s
ARCES ARCESS Array B 63.93 339 P **P 17 19 23.5 +0.2**
ARE0 ARCESS Array S 63.93 339 *eP* **P 17 19 23.6 +0.2**
comp=Z,152nm,2.0s
SGF Sodankyl 64.88 337 P **P 17 19 30.3 +0.7**
SGF pmax pmax
comp=Z,41nm,1.6s
MSF Maaselka 64.97 335 P **P 17 19 30.5 +0.3**
MSF pmax pmax
comp=Z,32nm,1.8s
DAG Danmarks Havn 65.76 355 *i P* **P 17 19 35.1 0.0**
DAG pmax pmax
comp=Z,18nm,1.0s
JOF Joensuu 65.88 332 P **P 17 19 36.8 +0.7**
JOF pmax pmax
comp=Z,28nm,1.1s
LLLB Lillooet 66.39 44 *eP* **P 17 19 40.2 +0.5**
comp=Z,22nm,1.3s
OUL Oulu 66.52 335 P **P 17 19 39.6 -0.5**
OUL pmax pmax
comp=Z,38nm,1.0s
NLWA Neilton Lookou 66.86 47 *eP* **P 17 19 44.8 +2.1**
comp=Z,34nm,1.2s
MOS Moscow 67.14 323 *eP* **P 17 19 43.2 -1.0**
MOS *e* 17 19 51.5
MOS pmax pmax
comp=Z,53nm,1.3s
AFI Afiamalu 67.28 130 LR LR 17 46 52.7
comp=Z,111nm,19.1s,baz=334,slow=34
B05A Bryant 67.45 46 P **P 17 19 47.9 +1.6**
baz=301
E03A Lebam 67.46 48 *eP* **P 17 19 46.9 +0.5**
comp=Z,46nm,1.2s
B06A Marblemount 67.67 45 *eP* **P 17 19 47.1 -0.6**
comp=Z,29nm,1.4s
SUF Sumiainen 67.90 333 P **P 17 19 49.0 +0.1**
SUF pmax pmax
comp=Z,41nm,0.9s
OBN Obninsk 67.98 323 P **P 17 19 49.3 -0.3**
comp=Z,29nm,0.8s,baz=124,slow=5.6,SNR=7.6
OBN Obninsk 67.98 323*d i* P **P 17 19 49.2 -0.3**
OBN *i* *SP **sP 17 19 56.8 -1.3**
OBN *e* 17 20 14.7
OBN 17 22 17.0
OBN *e*S **S 17 28 48.8 +1.3**
OBN *e*SS **SS 17 33 13.1 +4.3**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,380nm,16.0s
OBN Obninsk 67.98 323 *eP* **P 17 19 49.1 -0.5**
comp=Z,36nm,1.0s
D05A Enumclaw 68.06 47 *eP* **P 17 19 50.9 +0.7**
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 68.18 320 *eP* **P 17 19 50.1 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.9s
MAK Makhachkala 68.31 308 *eP* **P 17 19 49.6 -2.3**
MAK *e*S **S 17 28 46.6 -5.2**
MAK pmax pmax
comp=Z,361nm,2.2s
MAK MLR MLR
comp=Z,744nm,15.0s
STKA Stephens Creek 68.55 180 P **P 17 19 53.2 -0.1**
comp=Z,4.9nm,0.8s,baz=350,slow=5.1,SNR=11
STKA LR LR 17 49 03.5
comp=Z,144nm,21.7s,baz=20,slow=35
STKA Stephens Creek 68.55 180 *eP* **P 17 19 53.8 +0.5**
STKA Stephens Creek 68.55 180 *eP* **P 17 19 53.0 -0.2**
comp=Z,3.7nm,0.7s
FORT Forrest 68.57 192 *eP* **P 17 19 53.2 -0.2**
comp=Z,656nm,0.8s
FIA1 FINESS Array S 68.73 332 *eP* **P 17 19 53.9 -0.3**
comp=Z,41nm,0.8s
FIA0 FINESS Array S 68.73 332 *eP* **P 17 19 54.0 -0.2**
FIA0 FINESS Array S 68.73 332 *eP* **P 17 19 54.0 -0.2**
FINES FINESS Array B 68.73 332 P **P 17 19 54.0 -0.2**
comp=Z,28nm,0.8s,baz=64,slow=8.7,SNR=61
FINES LR LR 17 52 14.8
comp=Z,462nm,18.1s,baz=20,slow=38
FINES FINESS Array B 68.73 332 P **P 17 19 54.0 -0.2**
FINES pmax pmax
comp=Z,28nm,0.8s
FINES MLR MLR
comp=Z,462nm,18.1s
FINES FINESS Array B 68.73 332 P **P 17 19 54.0 -0.2**
LTY Liberty 68.79 46 *eP* **P 17 19 55.8 +0.8**
comp=Z,38nm,1.9s
VAF Ylistaro 68.92 335 P **P 17 19 55.3 0.0**
VAF pmax pmax
comp=Z,28nm,0.9s
B08A Colville Reser 68.97 45 *eP* **P 17 19 56.9 +0.9**
comp=Z,11nm,1.1s
I03D Drain, OR 69.06 51 P **P 17 19 58.4 +1.9**
baz=302
SEKA Sheki 69.41 306 P **P 17 19 56.6 -2.3**
ZKTA Zakatala 69.56 307 P **P 17 19 57.9 -1.8**
I04A Tendick Farm, 69.58 50 P **P 17 20 01.1 +1.3**
baz=302
E07A Sunnyside 69.64 47 *eP* **P 17 20 00.7 +0.6**
comp=Z,8.8nm,0.9s
BBOO Buckleboo 69.64 185 *eP* **P 17 20 00.4 +0.4**
comp=Z,29nm,0.9s
LKRN Lenkeran, Azer 69.68 304 P **P 17 19 58.7 -1.7**
L02D Cave Junction, 69.70 52 P **P 17 20 01.9 +1.4**
baz=302
MNGR Mingechevir, A 69.71 306 P **P 17 19 58.9 -1.7**
C09A Chrisman Ranch 69.87 45 *eP* **P 17 20 02.8 +1.3**
comp=Z,8.9nm,0.8s
G06A Carlson Farm, 69.89 48 *eP* **P 17 20 03.1 +1.4**
comp=Z,12nm,1.1s
D08A Wollman Farm, 69.91 46 *eP* **P 17 20 02.6 +0.9**
comp=Z,12nm,1.1s
HAWA Hanford 69.92 47 *eP* **P 17 20 02.8 +1.0**
comp=Z,7.2nm,1.0s
GOF Gofitskoye 69.95 312⇑*eP* **P 17 20 01.1 -0.9**
GOF pmax pmax
comp=Z,44nm,0.9s
J04D Umpqua Nationa 70.06 51 P **P 17 20 04.7 +1.7**
baz=302
E08A Dider Farm, El 70.14 46 *eP* **P 17 20 04.5 +1.3**
comp=Z,7.0nm,0.6s
NEW Newport 70.26 44 P **P 17 20 04.7 +0.7**
comp=Z,5.1nm,0.7s,baz=331,slow=5.1,SNR=6.0
NEW Newport 70.26 44 P **P 17 20 05.1 +1.2**
baz=304
NEW Newport 70.26 44 *eP* **P 17 20 05.3 +1.4**
NEW pmax pmax
comp=Z,15nm,1.3s
NEW Newport 70.26 44 *eP* **P 17 20 05.3 +1.4**
comp=Z,15nm,1.3s
GANJ Ganja 70.27 306 P **P 17 20 02.3 -1.8**
VSU Vasula 70.36 329*d i* P **P 17 20 04.4 +0.1**
VSU pmax pmax
comp=Z,98nm,1.2s
YBH Yreka Blue Hor 70.50 52 *eP* **P 17 20 07.5 +2.0**
YBH pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 70.50 52 *eP* **P 17 20 07.5 +2.0**
comp=Z,18nm,1.3s
J05D Fort Rock, OR 70.58 50 P **P 17 20 07.7 +1.6**
baz=303
M02C Callahan 70.59 53 P **P 17 20 08.0 +1.9**
baz=303
E09A Wood Farm, Sta 70.65 46 *eP* **P 17 20 07.7 +1.4**
comp=Z,21nm,1.1s
ZEI Tsey 70.66 309 *eP* **P 17 20 04.6 -2.0**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
WSAR Wadi Sarin 70.69 285 P **P 17 20 06.9 0.0**
comp=Z,11nm,0.9s,baz=106,slow=4.3,SNR=10.0
WSAR LR LR 17 55 20.3
comp=Z,121nm,19.1s,baz=118,slow=40
SUMG Summit 70.69 360 *i* P **P 17 20 07.8 +1.2**
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 70.69 360 *eP* **P 17 20 07.2 +0.6**
comp=Z,34nm,1.1s
KVAR Kislovodsk Arr 70.76 311 P **P 17 20 07.4 +0.3**
comp=Z,35nm,1.0s,baz=202,slow=9.9,SNR=11
KVAR LR LR 17 51 10.5
comp=Z,65nm,21.9s,baz=354,slow=36
KVAR Kislovodsk Arr 70.76 311 P **P 17 20 07.4 +0.3**
KBZ Khabaz 70.76 311 P **P 17 20 07.1 +0.1**
comp=Z,19nm,0.9s,baz=46,slow=2.7,SNR=28
KBZ LR LR 17 53 14.6
comp=Z,152nm,19.2s,baz=60,slow=38
KBZ Khabaz 70.76 311 P **P 17 20 07.1 +0.1**
KBZ pmax pmax
comp=Z,19nm,0.9s
KBZ MLR MLR
comp=Z,152nm,19.2s
KBZ Khabaz 70.76 311 *eP* **P 17 20 07.1 +0.1**
KIV Kislovodsk 70.77 311 *i P* **P 17 20 08.4 +1.3**
SNR=11
KIV Kislovodsk 70.77 311 *eP* **P 17 20 08.0 +0.8**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,237nm,18.0s
KIV Kislovodsk 70.77 311 *eP* **P 17 20 07.3 +0.2**
comp=Z,57nm,1.0s
KIV Kislovodsk 70.77 311 P **P 17 20 07.4 +0.2**
SNR=8.4
KIV Kislovodsk 70.77 311 P **P 17 20 07.4 +0.2**
SNR=8.4
N02D Trinity Center 70.91 53 P **P 17 20 10.5 +2.4**
baz=303
M04C Macdoel 71.02 52 P **P 17 20 10.6 +1.8**
baz=303
BANOM Banah 71.03 288 *i* P **P 17 20 09.2 +0.2**
SNR=18
NEY Neytrino 71.13 310⇓*i P* **P 17 20 09.6 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
WDC Whiskeytown Da 71.22 53 *eP* **P 17 20 11.4 +1.5**
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 71.22 53 *eP* **P 17 20 11.4 +1.5**
comp=Z,10nm,1.0s
GNI Garni 71.56 307 P **P 17 20 12.3 +0.2**
comp=Z,6.0nm,0.7s,baz=47,slow=18,SNR=3.1
GNI Garni 71.56 307 P **P 17 20 12.3 +0.2**
GNI pmax pmax
comp=Z,6.0nm,0.7s
GNI Garni 71.56 307 *eP* **P 17 20 12.3 +0.2**
WALA Waterton Lakes 71.57 42 *eP* **P 17 20 12.8 +0.8**
comp=Z,37nm,1.5s
NAX Nakhchivan 71.60 305 P **P 17 20 10.4 -1.9**
UOSS Minazif 71.63 288 *eP* **P 17 20 12.0 -0.6**
comp=Z,21nm,0.8s
HATD Hatta, Dubai 71.75 288 *i* P **P 17 20 14.0 +0.7**
SNR=12
HATD Hatta, Dubai 71.75 288 P **P 17 20 13.7 +0.4**
SNR=5.8
HATD Hatta, Dubai 71.75 288 P **P 17 20 13.7 +0.4**
SNR=5.8
BSMT Bassoo Peak 71.79 43 *eP* **P 17 20 14.2 +0.7**
O03D Paynes Creek 71.85 53 P **P 17 20 15.3 +1.5**
baz=304
ASHO Ashiyiah 71.88 288 *i* P **P 17 20 14.7 +0.5**
SNR=7.8
MOD Modoc Plateau 71.91 51 *eP* **P 17 20 15.4 +1.2**
comp=Z,12nm,1.3s
BLMT Blacktail Moun 71.93 43 *eP* **P 17 20 15.0 +0.7**
BMO Blue Mountains 72.07 47 *eP* **P 17 20 16.1 +1.1**
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 72.07 47 *eP* **P 17 20 16.1 +1.1**
comp=Z,10nm,0.9s
JTMT Jette 72.13 43 *eP* **P 17 20 16.9 +1.5**
FAQ Al Faqa, Dubai 72.20 288 P **P 17 20 15.5 -0.5**
YBMT Yellow Bay 72.21 43 *eP* **P 17 20 17.2 +1.4**
J08A Circle Bar Ran 72.22 49 *eP* **P 17 20 17.3 +1.4**
comp=Z,17nm,1.1s
SWMT Swartz Lake 72.42 43 *eP* **P 17 20 18.4 +1.3**
ORV Oroville 72.45 54 *eP* **P 17 20 18.2 +0.9**
ORV pmax pmax
comp=Z,11nm,1.1s
ORV Oroville 72.45 54 *eP* **P 17 20 18.2 +0.9**
comp=Z,11nm,1.1s
NACGM Naroch 72.62 327 *e* **P 17 20 18.0 0.0**
NACGM *e*LR LR 17 53 02.0
WVOR Wild Horse Val 72.64 50 *eP* **P 17 20 20.1 +1.6**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 72.64 50 *eP* **P 17 20 20.1 +1.6**
comp=Z,6.5nm,0.9s
ARTV Artvin 72.77 309 *eP* **P 17 20 18.6 -0.8**
comp=Z,6.3nm,0.7s
MSO Missoula 72.85 44 P **P 17 20 20.4 +0.7**
baz=306
MSO Missoula 72.85 44 *eP* **P 17 20 20.2 +0.5**
comp=Z,14nm,1.3s
SLMT Seeley Lake 72.86 43 *eP* **P 17 20 20.5 +0.7**
BEKR Beckworth 73.01 53 *eP* **P 17 20 21.2 +0.4**
comp=Z,9.2nm,0.9s
AFDM Forest Hills D 73.13 54 *eP* **P 17 20 22.7 +1.4**
comp=Z,17nm,1.4s
CHMT Chamberlain Mo 73.18 44 *eP* **P 17 20 22.0 +0.2**
ANN Anapa 73.40 314 *eP* P 17 20 11.1 -12
ANN pmax pmax
comp=Z,129nm,1.3s
PAHR Pah Rah Range 73.72 52 *eP* **P 17 20 25.5 +0.5**
comp=Z,14nm,1.1s
MFID Camas Ranch 73.77 48 *eP* **P 17 20 25.7 +0.6**
comp=Z,36nm,1.7s
FFC Flin Flon 73.81 33 *eP* **P 17 20 24.5 -0.5**
FFC pmax pmax
comp=Z,32nm,1.1s
FFC Flin Flon 73.81 33 *eP* **P 17 20 24.5 -0.5**
comp=Z,32nm,1.1s
NC405 NORSAR Array S 73.90 337 *eP* **P 17 20 25.3 -0.2**
NC303 NORSAR Array S 73.92 337 *eP* **P 17 20 25.4 -0.2**
PNTR Pine Nut 73.93 53 *eP* **P 17 20 26.5 +0.1**
comp=Z,12nm,1.1s
HFS Hagfors 74.01 336 P **P 17 20 25.7 -0.4**
comp=Z,15nm,0.9s,baz=67,slow=4.8,SNR=17
HFS Hagfors 74.01 336 P **P 17 20 25.7 -0.4**
HFS pmax pmax
comp=Z,15nm,0.9s
HFS Hagfors 74.01 336 P **P 17 20 25.7 -0.4**
CMB Columbia Colle 74.02 54 *eP* **P 17 20 28.2 +1.6**
CMB pmax pmax
comp=Z,22nm,1.3s
CMB Columbia Colle 74.02 54 *eP* **P 17 20 28.2 +1.6**
comp=Z,22nm,1.3s
NC204 NORSAR Array S 74.07 338 *eP* **P 17 20 26.6 0.0**
NB201 NORSAR Array S 74.08 337 *eP* **P 17 20 26.5 -0.1**
HRY Holter Researc 74.09 43 *eP* **P 17 20 28.4 +1.4**
NB2 NORSAR Subarra 74.12 337 P **P 17 20 26.4 -0.4**
comp=Z,23nm,0.9s,baz=38,slow=5.9
NB2 NORSAR Subarra 74.12 337 P **P 17 20 26.4 -0.4**
baz=38,slow=5.9
NB2 NORSAR Subarra 74.12 337 P **P 17 20 26.3 -0.5**
NB2 pmax pmax
comp=Z,19nm,0.9s
NB200 NORSAR Array S 74.12 337 *eP* **P 17 20 26.8 0.0**
NOA NORSAR Array B 74.12 337 P **P 17 20 26.8 0.0**
comp=Z,16nm,0.8s,baz=38,slow=5.8,SNR=42
NOA LR LR 17 56 11.8
comp=Z,632nm,19.4s,baz=25,slow=38
NOA NORSAR Array B 74.12 337 P **P 17 20 26.8 0.0**
NOA pmax pmax
comp=Z,16nm,0.8s
NOA MLR MLR
comp=Z,632nm,19.4s
NOA NORSAR Array B 74.12 337 P **P 17 20 26.8 0.0**
AKASG Malin Array Be 74.18 322 P **P 17 20 26.5 -0.7**
comp=Z,11nm,0.6s,baz=46,slow=6.2,SNR=42
AKASG LR LR 17 55 54.7
comp=Z,442nm,18.3s,baz=45,slow=38
AKASG Malin Array Be 74.18 322 P **P 17 20 26.5 -0.7**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG MLR MLR
comp=Z,442nm,18.3s
AKASG Malin Array Be 74.18 322 P **P 17 20 26.5 -0.7**
AKBB Malin Array Si 74.18 322 *eP* **P 17 20 26.4 -0.8**
AKBB pmax pmax
comp=Z,25nm,0.8s
AKBB Malin Array Si 74.18 322 *eP* **P 17 20 26.4 -0.8**
comp=Z,24nm,0.8s
KIEV Kiev 74.20 322*d i* P **P 17 20 26.8 -0.5**
KIEV pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 74.20 322 *eP* **P 17 20 26.7 -0.6**
comp=Z,24nm,0.7s
YERR Yerington 74.22 53 *eP* **P 17 20 29.5 +1.5**
comp=Z,20nm,1.1s
NBO00 NORSAR Array S 74.26 337 *eP* **P 17 20 27.8 +0.2**
LRM Limekiln Ridge 74.28 44 *eP* **P 17 20 29.2 +1.0**
NAO01 NORSAR Array S 74.37 337 *eP* **P 17 20 27.7 -0.4**
WAKR Walker 74.37 53 *eP* **P 17 20 30.5 +1.6**
comp=Z,19nm,1.3s
EGMT Eagleton 74.40 41 P **P 17 20 29.3 +0.6**
baz=308
EGMT Eagleton 74.40 41 *eP* **P 17 20 29.5 +0.8**
comp=Z,22nm,1.0s
DLMT Dillon 74.48 45 *eP* **P 17 20 30.8 +1.5**
comp=Z,17nm,0.8s
HLID Hailey 74.51 47 P **P 17 20 30.5 +0.9**
baz=307
HLID Hailey 74.51 47 *eP* **P 17 20 30.7 +1.2**
comp=Z,15nm,1.4s
MCMT McKenzie Canyo 74.66 45 *eP* **P 17 20 31.6 +1.1**
BMN Battle Mountai 74.66 51 *eP* **P 17 20 31.9 +1.4**
BMN pmax pmax
comp=Z,8.0nm,0.8s
BMN Battle Mountai 74.66 51 *eP* **P 17 20 31.9 +1.4**
comp=Z,8.4nm,0.8s
SUW Suwalki 74.79 327 *eP* **P 17 20 30.7 0.0**

SUW **Suwalki** 74.79 327 eP P 17 20 30.7 0.0
BOZ **Bozeman (W)** 74.88 44 P P 17 20 32.6 +1.0
baz=308
BOZ **Bozeman (W)** 74.88 44 eP P 17 20 32.4 +0.8
BOZ pmax pmax
comp=Z,28nm,1.3s
BOZ **Bozeman (W)** 74.88 44 eP P 17 20 32.4 +0.8
comp=Z,28nm,1.3s
MDPB **Devils Postpil** 75.10 54 eS S 17 30 14.7 +3.8
SIM **Simferopol'** 75.20 315 eP P 17 20 32.9 -0.4
SIM pmax pmax
comp=Z,26nm,0.9s
PAGB **Antelope Grade** 75.43 56 eP P 17 20 37.0 +2.2
comp=Z,27nm,1.0s
QLMT **Earthquake Lak** 75.46 45 eP P 17 20 36.6 +1.5
YHB **Horse Butte** 75.64 45 eP P 17 20 37.9 +1.8
comp=Z,10nm,0.8s
MARD **Mardin** 75.71 306 eP P 17 20 36.7 +0.1
comp=Z,41nm,0.4s
YHH **Holmes Hill** 75.81 44 eP P 17 20 38.6 +1.4
comp=Z,14nm,1.3s
YMR **Madison River** 75.82 44 eP P 17 20 38.6 +1.5
comp=Z,9.3nm,0.7s
GCMT **Greycliff** 75.84 43 eP P 17 20 38.0 +0.9
SFJD **Kangerlussuaq** 75.91 5 eP P 17 20 36.8 -0.1
SFJD pmax pmax
comp=Z,188nm,2.0s
SFJD **Kangerlussuaq** 75.91 5 eP P 17 20 36.8 -0.1
comp=Z,188nm,2.0s
YNR **Norris Junctio** 75.95 44 eP P 17 20 39.2 +1.3
comp=Z,10nm,1.1s
YFT **Old Faithful** 76.02 45 eP P 17 20 40.6 +2.3
comp=Z,9.5nm,0.7s
YPP **Pitchstone Pla** 76.15 45 eP P 17 20 41.8 +2.6
comp=Z,5.2nm,0.8s
LKWY **Lake** 76.20 44 eP P 17 20 42.0 +2.7
LKWY pmax pmax
comp=Z,12nm,0.6s
LKWY **Lake** 76.20 44 eP P 17 20 42.0 +2.7
comp=Z,12nm,0.6s
H17A **Grant Village** 76.20 45 P P 17 20 42.3 +2.9
baz=309
H17A **Grant Village** 76.20 45 eP P 17 20 41.6 +2.2
comp=Z,21nm,0.9s
PKM **Mcpherson Peak** 76.21 57 P P 17 20 41.4 +1.9
baz=306
IMW **Indian Meadow** 76.31 45 eP P 17 20 41.7 +1.7
comp=Z,28nm,1.3s
FXWY **Fox Creek** 76.42 45 eP P 17 20 41.8 +1.2
comp=Z,9.4nm,0.9s
CWC **Cottonwood Cre** 76.45 55 P P 17 20 41.6 +0.8
baz=306
RLMT **Red Lodge** 76.47 43 P P 17 20 41.8 +0.9
baz=309
RLMT **Red Lodge** 76.47 43 eP P 17 20 42.0 +1.1
comp=Z,9.8nm,0.8s
MOOW **Moose Ponds** 76.51 45 eP P 17 20 42.6 +1.5
comp=Z,13nm,1.2s
HVU **Hansel Valley** 76.55 48 eP P 17 20 43.0 +1.7
HVU pmax pmax
comp=Z,14nm,1.1s
HVU **Hansel Valley** 76.55 48 eP P 17 20 43.0 +1.7
comp=Z,14nm,1.1s
TPAW **Teton Pass** 76.56 45 eP P 17 20 43.6 +2.2
comp=Z,9.4nm,0.8s
GRAC **Grapevine Rang** 76.58 54 P P 17 20 42.9 +1.5
baz=306
TOKA **Tokat** 76.63 311 eP P 17 20 41.7 +0.1
comp=Z,18nm,1.0s
LOHW **Long Hollow** 76.68 45 eP P 17 20 43.2 +1.2
comp=Z,5.1nm,0.8s
SNOW **Snow King Moun** 76.68 45 eP P 17 20 44.0 +1.8
comp=Z,20nm,1.1s
REDW **Red Top Meadow** 76.69 45 eP P 17 20 43.0 +0.9
comp=Z,16nm,1.1s
KIS **Kishinev** 76.77 319 eP P 17 20 36.0 -6.2
KIS eL L 17 54 40.0
KIS LRM MLR 17 57 26.0
comp=Z,900nm,17.0s
KIS **Kishinev** 76.77 319 eP P 17 20 36.0 -6.2
KIS MLR MLR
comp=E,700nm,17.0s
KIS MLR MLR
comp=Z,1µm,17.0s
DAC **Darwin (Calif)** 76.86 54 eP P 17 20 44.2 +1.1
DAC pmax pmax
comp=Z,14nm,1.4s
DAC **Darwin (Calif)** 76.86 54 eP P 17 20 44.2 +1.1
comp=Z,14nm,1.4s
R11A **Troy Canyon, C** 76.91 52 P P 17 20 43.9 +0.5
baz=307
R11A **Troy Canyon, C** 76.91 52 eP P 17 20 44.5 +1.1
comp=Z,17nm,1.2s
DGMT **Dagmar** 76.96 38 P P 17 20 43.6 +0.3
baz=312
DGMT **Dagmar** 76.96 38 eP P 17 20 44.1 +0.8
comp=Z,29nm,1.1s
MPMC **Manual Prospec** 77.06 55 P P 17 20 44.4 +0.1
baz=307
OSI **Osito Audit: C** 77.09 56 eP P 17 20 45.8 +1.5
comp=Z,23nm,0.3s
LAO **LASA Array** 77.10 41 eP P 17 20 45.0 +0.9
comp=Z,37nm,1.2s
FURC **Furnace Creek,** 77.22 54 P P 17 20 46.7 +1.9
baz=307
LVV **L'vov** 77.27 324 eP P 17 20 47.5 +2.6
LVV MLR MLR
comp=Z,500nm,15.0s
TPNV **Topopah Spring** 77.33 53 P P 17 20 46.6 +0.9
baz=307
TPNV **Topopah Spring** 77.33 53 eP P 17 20 46.8 +1.1
TPNV pmax pmax
comp=Z,15nm,1.1s
TPNV **Topopah Spring** 77.33 53 eP P 17 20 46.8 +1.1
comp=Z,15nm,1.1s
BEL **Belsk** 77.34 327 eP P 17 20 46.1 +0.8
BEL **Belsk** 77.34 327 eP P 17 20 46.1 +0.8
SNCC **San Nicolas Is** 77.36 58 eP P 17 20 46.9 +1.1
comp=Z,98nm,1.9s
HWUT **Hardware Ranch** 77.37 47 eP P 17 20 47.4 +1.5
comp=Z,23nm,1.3s
EDW2 **Edwards Air Fo** 77.42 56 P P 17 20 47.2 +1.1
baz=307
DUG **Dugway, Tooele** 77.50 49 P P 17 20 47.5 +0.8
baz=308
DUG **Dugway, Tooele** 77.50 49 eP P 17 20 48.0 +1.4
DUG pmax pmax
comp=Z,30nm,1.4s
DUG **Dugway, Tooele** 77.50 49 eP P 17 20 48.0 +1.4
comp=Z,30nm,1.4s
TCUT **Toone Canyon** 77.77 48 eP P 17 20 49.2 +1.0
comp=Z,18nm,0.8s
MWC **Mount Wilson** 77.77 56 eP P 17 20 48.0 -0.3
MWC pmax pmax
comp=Z,8.0nm,0.9s
MWC **Mount Wilson** 77.77 56 eP P 17 20 48.0 -0.3
comp=Z,7.7nm,0.9s
BW06 **Boulder Array** 77.80 45 P P 17 20 49.0 +0.7
baz=310
BW06 **Boulder Array** 77.80 45 eP P 17 20 48.9 +0.5
comp=Z,15nm,1.4s
PD31 **Pinedale Array** 77.80 45 eP P 17 20 48.7 +0.3
PDAR **Pinedale Array** 77.80 45 P P 17 20 49.2 +0.8
comp=Z,3.6nm,0.6s,baz=278,slow=1.9,SNR=33
PDAR **Pinedale Array** 77.80 45 P P 17 20 49.2 +0.8
ILGA **Ilgaz** 77.84 312 eP P 17 20 49.3 +0.7
comp=Z,22nm,0.9s
PSUT **Pine Spring** 77.88 51 eP P 17 20 49.6 +0.7
comp=Z,19nm,1.1s
GSC **Goldstone, Bar** 77.95 55 P P 17 20 50.4 +1.3
baz=307
GSC **Goldstone, Bar** 77.95 55 eP P 17 20 50.5 +1.3
GSC pmax pmax
comp=Z,6.0nm,1.0s
GSC **Goldstone, Bar** 77.95 55 eP P 17 20 50.5 +1.3
comp=Z,6.0nm,1.0s
CIS **Catalina Islan** 78.02 57 P P 17 20 50.5 +1.0
baz=307
KWP **Kalwaria Pacla** 78.02 324 eP P 17 20 49.9 +0.7
KWP **Kalwaria Pacla** 78.02 324 eP P 17 20 49.9 +0.7
BFSC **Mount Baldy Ra** 78.03 56 P P 17 20 50.4 +0.7
baz=307
JLU **Jordanelle** 78.06 48 eP P 17 20 51.5 +1.7
comp=Z,14nm,1.2s
NLU **North Lily Min** 78.09 49 eP P 17 20 51.2 +1.2
comp=Z,7.1nm,0.8s
BUR08 **Bucovina Ar. S** 78.19 322 eP P 17 20 50.3 0.0

BURAR **Bucovina Array** 78.20 322 ⇓iP P 17 20 50.3 0.0
BURAR **Bucovina Array** 78.20 322 ⇓P P 17 20 50.3 0.0
TESR **Tescani** 78.22 320 ⇓iP P 17 20 50.2 -0.1
SHPR **Sheep Range** 78.29 53 eP P 17 20 52.6 +1.5
comp=Z,12nm,1.1s
MPU **Maple Canyon** 78.32 49 eP P 17 20 52.8 +1.6
comp=Z,26nm,1.3s
CFR **Carcaliu** 78.32 318 ⇑P P 17 20 50.3 -0.6
TUQ **Turquoise Moun** 78.45 54 P P 17 20 53.2 +1.2
baz=307
HEC **Hector,Ludlow** 78.55 55 P P 17 20 52.9 +0.5
baz=307
VRI **Vrincioaia** 78.61 320 ⇓P P 17 20 53.0 +0.5
PLOR **Plostina** 78.66 320 ⇓P P 17 20 53.8 +1.0
BR101 **Keskin Array S** 78.71 311 eP P 17 20 53.4 +0.1
BR131 **Keskin Array S** 78.71 311 eP P 17 20 53.2 -0.2
BRTR **Keskin Array B** 78.71 311 P P 17 20 53.4 +0.1
comp=Z,5.4nm,0.8s,baz=94,slow=5.0,SNR=18
BRTR LR LR 18 01 47.8
comp=Z,75nm,18.3s,baz=66,slow=40
BRTR **Keskin Array B** 78.71 311 P P 17 20 53.4 +0.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR MLR MLR
comp=Z,75nm,18.3s
BRTR **Keskin Array B** 78.71 311 P P 17 20 53.4 +0.1
TLB **Topalu** 78.77 318 ⇑iP P 17 20 53.7 +0.4
TLB **Topalu** 78.77 318 ⇑P P 17 20 53.7 +0.4
CCUT **Cedar City** 78.79 51 eP P 17 20 55.6 +1.6
comp=Z,16nm,1.3s
STHS **Stebnicka Huta** 78.85 325 eP P 17 20 54.7 +0.9
STHS pmax pmax
comp=Z,18nm,1.0s
STHS **Stebnicka Huta** 78.85 325 eP P 17 20 54.7 +0.9
UZH **Uzhgorod** 78.92 324 eP P 17 20 51.1 -3.0
UZH e 17 20 59.5
UZH e 17 21 02.3
MSU **Marysvale** 78.93 50 eP P 17 20 56.5 +1.8
MSU **Marysvale** 78.93 50 eP P 17 20 56.5 +1.8
SZCU **Shurtz Canyon** 78.94 51 eP P 17 20 56.1 +1.4
comp=Z,11nm,1.3s
OJC **Ojcow** 78.94 326 eP P 17 20 54.7 +0.5
OJC **Ojcow** 78.94 326 eP P 17 20 54.1 -0.1
OJC pmax pmax
comp=Z,45nm,1.0s
OJC **Ojcow** 78.94 326 eP P 17 20 54.1 -0.1
comp=Z,45nm,1.0s
GMRC **Granite Mounta** 79.01 55 P P 17 20 55.9 +0.8
baz=308
TMUT **Trail Mountain** 79.03 49 eP P 17 20 56.2 +0.9
comp=Z,22nm,0.7s
ANTO **Ankara** 79.13 312 eP P 17 20 55.9 +0.4
ANTO pmax pmax
comp=Z,13nm,0.9s
ANTO **Ankara** 79.13 312 eP P 17 20 55.9 +0.4
comp=Z,13nm,0.9s
TRPA **Tarpa** 79.15 323⇓eP P 17 20 55.9 +0.5
BR231 **Keskin MP Arra** 79.16 312 eP P 17 20 55.7 0.0
LDFC **Landfair** 79.19 54 eP P 17 20 57.2 +1.2
comp=Z,21nm,0.4s
P17A **Butcher Ranch,** 79.20 49 eP P 17 20 56.6 +0.5
comp=Z,44nm,1.4s
LCMT **Little Creek M** 79.20 52 eP P 17 20 57.7 +1.6
comp=Z,14nm,1.1s
PFO **Pinyon Flats O** 79.20 56 P P 17 20 56.9 +0.9
baz=308
PFO **Pinyon Flats O** 79.20 56 eP P 17 20 57.0 +0.9
PFO pmax pmax
comp=Z,11nm,1.2s
PFO **Pinyon Flats O** 79.20 56 eP P 17 20 57.0 +0.9
comp=Z,12nm,1.2s
XPFO **Piæon Flat** 79.20 56 eP P 17 20 56.8 +0.7
comp=Z,13nm,1.3s
ISR **Istrita** 79.20 319 ⇑P P 17 20 57.0 +1.2
TPFO **Pinon Flats** 79.20 56 P P 17 20 57.2 +1.1
baz=308
MTPU **Mount Pierson** 79.22 50 eP P 17 20 58.0 +1.6
comp=Z,11nm,1.0s
MLR **Muntele Rosu** 79.27 320 eP P 17 20 55.5 -0.8
MLR pmax pmax
comp=Z,14nm,1.1s
MLR **Muntele Rosu** 79.27 320 eP P 17 20 55.5 -0.8
comp=Z,14nm,1.1s
BELC **Belle Mtn. Jos** 79.27 56 P P 17 20 56.6 +0.1
baz=308
NIE **Niedzica** 79.28 325 eP P 17 20 57.5 +1.3
NIE **Niedzica** 79.28 325 eP P 17 20 57.5 +1.3
Q16A **Castle Valley** 79.29 49 eP P 17 20 57.9 +1.3
comp=Z,16nm,1.1s
P18A **Preston Nutter** 79.39 48 eP P 17 20 58.7 +1.4
comp=Z,17nm,1.0s
KNB **Kanab** 79.46 51 eP P 17 20 59.2 +1.7
KNB pmax pmax
comp=Z,25nm,1.2s
KNB **Kanab** 79.46 51 eP P 17 20 59.2 +1.7
comp=Z,25nm,1.2s
SRU **San Rafael Swe** 79.56 49 eP P 17 20 58.9 +0.9
SRU pmax pmax
comp=Z,18nm,0.9s
SRU **San Rafael Swe** 79.56 49 eP P 17 20 58.9 +0.9
comp=Z,18nm,0.9s
K22A **Casper** 79.58 44 P P 17 20 58.9 +0.8
baz=311
K22A **Casper** 79.58 44 eP P 17 20 58.6 +0.5
comp=Z,15nm,1.1s
ULM **Lac du Bonnet** 79.61 33 P P 17 20 58.0 +0.1
comp=Z,12nm,1.0s,baz=304,slow=5.4,SNR=12
ULM **Lac du Bonnet** 79.61 33 P P 17 20 58.0 +0.1
ULM pmax pmax
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** 79.61 33 eP P 17 20 57.6 -0.2
comp=Z,18nm,0.8s
BAR **Barrett** 79.62 57 eP P 17 20 59.3 +1.0
comp=Z,7.7nm,0.8s
MDND **Maddock** 79.62 37 eP P 17 20 59.1 +1.1
comp=Z,51nm,1.1s
MONP2 **Monument Peak** 79.66 57 P P 17 20 59.5 +0.7
baz=308
IRM **Iron Mountain** 79.73 55 P P 17 21 00.2 +1.3
baz=308
VOIR 79.76 320 ⇑P P 17 20 59.4 +0.5
RWWY **Rawlins** 79.83 45 eP P 17 20 60.0 +0.4
comp=Z,17nm,1.0s
BC3 **Big Chuckawall** 79.84 56 P P 17 21 00.5 +1.0
baz=308
LANS **Liptovska Anna** 79.86 325 eP P 17 21 00.6 +1.3
LANS **Liptovska Anna** 79.86 325 eP P 17 21 00.5 +1.3
KECS **Kecovo** 79.87 324 eP P 17 20 58.7 -0.6
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS **Kecovo** 79.87 324 eP P 17 20 58.7 -0.6
OKC **Ostrava-Krasne** 79.95 327⇓eP P 17 21 00.5 +0.8
OKC AMS AMS 17 59 10.0
comp=Z,400nm,18.5s
OKC **Ostrava-Krasne** 79.95 327 eP P 17 21 00.5 +0.8
OKC MLR MLR
comp=Z,400nm,18.5s
RSSD **Black Hills** 79.96 42 P P 17 21 00.6 +0.4
baz=313
RSSD **Black Hills** 79.96 42 eP P 17 21 00.8 +0.6
RSSD pmax pmax
comp=Z,21nm,1.4s
RSSD **Black Hills** 79.96 42 eP P 17 21 00.8 +0.6
comp=Z,21nm,1.4s
W13A **Hualapai Mount** 79.97 54 eP P 17 21 00.0 -0.4
comp=Z,7.7nm,1.1s
DRGR 80.00 322 ⇓iP P 17 21 00.4 +0.2
DRGR 80.00 322 ⇓P P 17 21 00.4 +0.2
KSP **Ksiaz** 80.00 328 eP P 17 21 00.7 +0.7
KSP **Ksiaz** 80.00 328 eP P 17 21 00.7 +0.7
IKP **In-Ko-Pah, Jac** 80.01 57 P P 17 21 01.8 +1.3
baz=308
U15A **North Rim** 80.16 52 eP P 17 21 02.8 +1.3
comp=Z,11nm,0.9s
O20A **White River Ci** 80.25 47 P P 17 21 01.9 +0.1
baz=311
O20A **White River Ci** 80.25 47 eP P 17 21 02.5 +0.7
comp=Z,15nm,1.0s
MORC **Moravsky Berou** 80.26 327⇓iP P 17 21 02.1 +0.7
MORC **Moravsky Berou** 80.26 327 eP P 17 21 01.5 +0.1
MORC pmax pmax
comp=Z,91nm,1.0s
MORC **Moravsky Berou** 80.26 327 eP P 17 21 01.5 +0.1
comp=Z,91nm,1.0s
PDMCI **Parker Dam,Lak** 80.30 54 P P 17 21 02.6 +0.7
baz=308

A32A **Rocking H Ranc** 80.31 34 P P 17 21 01.7 +0.1
baz=317
DPC **Dobruska-Polom** 80.36 328⇓iP P 17 21 02.7 +0.7
DPC ePCP sP 17 21 09.7 -0.9
DPC AMS AMS 18 02 30.0
comp=Z,400nm,14.5s
DPC **Dobruska-Polom** 80.36 328⇓iP P 17 21 02.7 +0.7
DPC e 17 21 09.7
DPC MLR MLR
comp=Z,400nm,14.5s
UPC **Upice** 80.38 328⇓eP P 17 21 02.9 +0.9
UPC AMS AMS 18 00 40.0
comp=Z,600nm,14.5s
UPC **Upice** 80.38 328 eP P 17 21 02.9 +0.9
UPC MLR MLR
comp=Z,600nm,14.5s
Y12C **Blythe** 80.39 55 P P 17 21 03.8 +1.4
baz=308
Y12C **Blythe** 80.39 55 eP P 17 21 03.6 +1.2
comp=Z,14nm,0.9s
RAYN **Ar Rayn** 80.48 292 eP P 17 21 02.6 -0.5
comp=Z,16nm,0.8s
PSZ **Piszkesteto** 80.55 324⇑iP P 17 21 04.1 +1.0
PSZ **Piszkesteto** 80.55 324 eP P 17 21 03.6 +0.5
PSZ pmax pmax
comp=Z,28nm,1.0s
PSZ **Piszkesteto** 80.55 324⇓eP P 17 21 03.4 +0.3
PSZ **Piszkesteto** 80.55 324 eP P 17 21 03.6 +0.5
comp=Z,28nm,1.0s
VYHS **Vyhne** 80.62 325 eP P 17 21 03.8 +0.4
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS **Vyhne** 80.62 325 eP P 17 21 03.8 +0.4
GLA **Glamis** 80.62 56 P P 17 21 05.0 +1.4
baz=308
GLA **Glamis** 80.62 56 eP P 17 21 05.1 +1.4
GLA pmax pmax
comp=Z,13nm,1.1s
GLA **Glamis** 80.62 56 eP P 17 21 05.1 +1.4
comp=Z,13nm,1.1s
B32A **Ashes, Strandq** 80.67 35 P P 17 21 03.8 +0.2
baz=317
PV09 **Paradox Valley** 80.78 48 eP P 17 21 06.2 +1.4
A33A **Warroad** 80.79 34 P P 17 21 04.6 +0.3
baz=318
SIRR **Siria** 80.89 322⇓iP P 17 21 04.5 -0.3
PV10 **Paradox Valley** 80.92 49 eP P 17 21 07.4 +2.0
GZR **Gura Zlata** 80.95 321⇓iP P 17 21 05.2 -0.1
GZR **Gura Zlata** 80.95 321 ⇓P P 17 21 05.2 -0.1
BRG **Berggiesshubel** 80.96 329 iP P 17 21 05.6 +0.5
comp=Z,17nm,1.1s
comp=N,691nm,15.4s
comp=E,468nm,16.6s
comp=Z,575nm,14.7s
BRG **Berggiesshubel** 80.96 329 iP P 17 21 05.6 +0.5
BRG pmax pmax
comp=Z,17nm,1.1s
BRG MLR MLR
comp=N,691nm,15.4s
BRG MLR MLR
comp=E,468nm,16.6s
BRG MLR MLR
comp=Z,575nm,14.7s
BOLV **Bolvadin** 80.96 312 eP P 17 21 04.7 -0.8
comp=Z,72nm,0.3s
PVCC **Panska Ves** 80.96 329⇓eP P 17 21 06.0 +0.9
PVCC AMS AMS 17 59 50.0
comp=Z,500nm,15.8s
PVCC **Panska Ves** 80.96 329 eP P 17 21 06.0 +0.9
PVCC MLR MLR
comp=Z,500nm,15.8s
CLL **Collm** 81.00 330 eP P 17 21 05.2 -0.2
CLL pmax pmax
comp=Z,34nm,1.1s
CLL **Collm** 81.00 330⇓iP P 17 21 04.9 -0.4
comp=Z,34nm,1.1s
CLL i 17 21 08.1
CLL ePP PP 17 24 09.0 -0.4
CLL e 17 37 18.0
CLL e(SSS) 17 40 24.0
CLL **Collm** 81.00 330 eP P 17 21 05.2 -0.2
comp=Z,34nm,1.1s
VRAC **Vranov** 81.02 327 P P 17 21 06.0 +0.5
comp=Z,14nm,1.0s,baz=27,slow=5.0,SNR=9.1
VRAC **Vranov** 81.02 327 P P 17 21 06.0 +0.5
VRAC pmax pmax
comp=Z,14nm,1.0s
VRAC **Vranov** 81.02 327 P P 17 21 06.0 +0.5
AGMN **Agassiz Nation** 81.05 35 P P 17 21 05.6 -0.1
baz=317
AGMN **Agassiz Nation** 81.05 35 eP P 17 21 04.8 -0.9
comp=Z,20nm,1.1s
N23A **Red Feather La** 81.07 45 P P 17 21 07.6 +1.4
baz=312
N23A **Red Feather La** 81.07 45 eP P 17 21 07.4 +1.2
comp=Z,29nm,1.2s
PHWY **Pilot Hill** 81.07 44 eP P 17 21 06.6 +0.3
comp=Z,15nm,1.4s
PV05 **Paradox Valley** 81.07 49 eP P 17 21 07.6 +1.3
Y14A **Wickenburg** 81.26 54 eP P 17 21 07.8 +0.7
comp=Z,38nm,0.8s
WUAZ **Wupatki** 81.31 52 P P 17 21 09.0 +1.5
baz=310
WUAZ **Wupatki** 81.31 52 eP P 17 21 08.5 +1.0
comp=Z,21nm,1.1s
GOPC **GO Pecny, Ondr** 81.34 328⇓eP P 17 21 07.9 +0.7
GOPC ePCP sP 17 21 15.3 -0.5
GOPC AMS AMS 18 01 30.0
comp=Z,500nm,14.6s
GOPC **GO Pecny, Ondr** 81.34 328 eP P 17 21 07.9 +0.7
GOPC e 17 21 15.3
GOPC MLR MLR
comp=Z,500nm,14.6s
ASF **Jabal al Asfar** 81.35 304 P P 17 21 07.9 +0.3
comp=Z,3.3nm,0.8s,baz=103,slow=10,SNR=3.8
ASF **Jabal al Asfar** 81.35 304 P P 17 21 07.9 +0.3
ASF pmax pmax
comp=Z,3.0nm,0.9s
ASF **Jabal al Asfar** 81.35 304 eP P 17 21 07.9 +0.3
PV01 **Paradox Valley** 81.36 48 eP P 17 21 09.4 +1.6
E31A **Nome** 81.36 37 P P 17 21 08.3 +0.9
baz=316
PRA **Prague** 81.37 329⇓eP P 17 21 08.3 +1.0
PRA **Prague** 81.37 329 eP P 17 21 08.3 +1.0
BZS **Buzias** 81.37 322⇑iP P 17 21 07.4 +0.1
BZS **Buzias** 81.37 322 ⇑P P 17 21 07.5 +0.1
PRU **Pruhonice** 81.39 328⇓iP P 17 21 07.9 +0.5
PRU AMS AMS 18 01 30.0
comp=Z,500nm,16.4s
PRU **Pruhonice** 81.39 328⇓iP P 17 21 07.9 +0.5
PRU MLR MLR
comp=Z,500nm,16.4s
C33A **Trail** 81.48 35 P P 17 21 07.9 -0.1
baz=318
113A **Mohawk Valley,** 81.50 55 eP P 17 21 09.5 +1.2
comp=Z,9.2nm,1.0s
TREC **Trest** 81.51 327⇓eP P 17 21 08.9 +0.8
TREC **Trest** 81.51 327 eP P 17 21 08.9 +0.8
SMCO **Snowmass** 81.62 47 eP P 17 21 09.9 +0.5
comp=Z,24nm,0.8s
F31A **Hecla** 81.69 37 P P 17 21 09.1 0.0
baz=316
MMAI **Mount Meron Ar** 81.81 305 P P 17 21 10.5 +0.4
comp=Z,11nm,0.9s,baz=40,slow=8.0,SNR=11
MMAI **Mount Meron Ar** 81.81 305 P P 17 21 10.5 +0.4
CSS **Mathiatis** 81.92 308 eP P 17 21 10.5 0.0
comp=Z,2.6nm,0.7s
URZ **Urewera** 81.93 152 LR LR 17 53 30.4
comp=Z,196nm,21.1s,baz=332,slow=33
B35A **Bob, Littlefor** 81.95 33 P P 17 21 10.6 +0.2
baz=319
C34A **RKJ Ranch, Bem** 81.95 35 P P 17 21 10.4 -0.1
baz=318
X16A **Lo Mia Camp, P** 81.97 53 eP P 17 21 12.5 +1.5
comp=Z,10nm,0.9s
ISCO **Idaho Springs** 81.99 46 P P 17 21 12.1 +0.8
baz=312
ISCO **Idaho Springs** 81.99 46 eP P 17 21 12.0 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 81.99 46 eP P 17 21 12.0 +0.8
comp=Z,4.3nm,0.8s
MVCO **Mesa Verde** 82.00 49 P P 17 21 12.4 +1.2
baz=311
MVCO **Mesa Verde** 82.00 49 eP P 17 21 12.5 +1.2
comp=Z,29nm,1.4s

NKC **Novy Kostel** 82.06 330⇓ *eP* **P** 17 21 11.5 +0.5
NKC AMS AMS 18 00 50.0
comp=Z,800nm,15.9s
NKC **Novy Kostel** 82.06 330 *eP* **P** 17 21 11.5 +0.5
NKC MLR MLR
comp=Z,800nm,15.9s
MOX **Moxa** 82.07 330 P **P** 17 21 10.8 -0.2
MOX pmax pmax
comp=Z,13nm,1.4s
D34A **Park Rapids** 82.24 35 P **P** 17 21 12.3 +0.3
baz=318
SOP **Sopron** 82.25 326 P **P** 17 21 13.2 +1.2
SOP pmax pmax
comp=Z,21nm,1.2s
E33A **Westby DABS, E** 82.30 36 P **P** 17 21 12.7 +0.5
baz=318
C35A **Jirik Farms, M** 82.34 34 P **P** 17 21 12.4 -0.1
baz=319
CONA **Conrad Observa** 82.38 326 *i* P **P** 17 21 13.2 +0.4
comp=Z,18nm,1.1s
KHC **Kasperske Hory** 82.45 328⇓ *i* P **P** 17 21 13.4 +0.3
KHC *e*PCP **pP** 17 21 19.7 +0.3
KHC *ex* x 17 21 33.8
KHC AMS AMS 18 03 40.0
comp=Z,600nm,14.5s
KHC **Kasperske Hory** 82.45 328 *eP* **P** 17 21 13.2 +0.1
KHC pmax pmax
comp=Z,10.0nm,1.1s
KHC **Kasperske Hory** 82.45 328 *eP* **P** 17 21 13.2 +0.1
comp=Z,10nm,1.1s
MANT **Manisa** 82.52 313 *eP* **P** 17 21 13.5 -0.4
comp=Z,39nm,1.0s
GEC2 **GERESS Array S** 82.61 328 *eP* **P** 17 21 14.0 0.0
GEC2 pmax pmax
comp=Z,15nm,1.1s
GEC2 **GERESS Array S** 82.61 328 *eP* **P** 17 21 14.0 0.0
comp=Z,15nm,1.1s
GERES **GERESS Array B** 82.61 328 P **P** 17 21 13.8 -0.1
comp=Z,5.5nm,0.8s,baz=36,slow=5.0,SNR=31
GERES LR LR 18 01 06.4
comp=Z,234nm,19.0s,baz=24,slow=38
GERES **GERESS Array B** 82.61 328 P **P** 17 21 13.9 -0.1
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,234nm,19.0s
GERES **GERESS Array B** 82.61 328 P **P** 17 21 13.8 -0.1
S22A **4UR Ranch, Cre** 82.65 48 P **P** 17 21 15.5 +0.8
baz=312
S22A **4UR Ranch, Cre** 82.65 48 *eP* **P** 17 21 16.1 +1.5
comp=Z,14nm,1.0s
F33A **5 Mile Ranch,** 82.65 36 P **P** 17 21 14.6 +0.5
baz=317
VTS **Vitosha** 82.69 319 *eP* **P** 17 21 14.4 -0.2
VTS pmax pmax
comp=Z,10.0nm,0.9s
VTS **Vitosha** 82.69 319 *eP* **P** 17 21 14.4 -0.2
comp=Z,10nm,0.9s
WET **Wettzell** 82.73 329 P **P** 17 21 15.1 +0.6
WET pmax pmax
comp=Z,22nm,1.1s
D35A **Remer** 82.77 34 P **P** 17 21 14.9 +0.2
baz=319
C36A **Pine Crest Far** 82.80 33 P **P** 17 21 14.8 -0.1
baz=320
Q24A **Divide** 82.82 46 P **P** 17 21 15.7 +0.2
baz=313
Q24A **Divide** 82.82 46 *eP* **P** 17 21 16.4 +0.9
comp=Z,7.5nm,0.8s
X18A **Snowflake** 82.84 52 *eP* **P** 17 21 17.1 +1.6
comp=Z,24nm,1.5s
GRF **Grafenberg Arr** 82.98 330 P **P** 17 21 16.9 +1.1
GRF pmax pmax
comp=Z,39nm,1.3s
GRFO **Grafenberg** 82.98 330 *eP* **P** 17 21 16.6 +0.8
GRFO pmax pmax
comp=Z,28nm,1.0s
GRFO **Grafenberg** 82.98 330 *eP* **P** 17 21 16.6 +0.8
comp=Z,28nm,1.0s
E35A **Pequot Lakes** 83.00 35 P **P** 17 21 16.4 +0.4
baz=318
ARSA **Arzberg** 83.04 326 *i* P **P** 17 21 16.1 0.0
comp=Z,12nm,1.1s,SNR=5.1
G33A **Ortonville** 83.05 37 P **P** 17 21 16.6 +0.3
baz=317
D36A **Goodland** 83.10 34 P **P** 17 21 16.2 -0.3
baz=319
C37A **Embarrass** 83.11 33 P **P** 17 21 16.2 -0.3
baz=320
MOA **Molln** 83.14 327 *i* P **P** 17 21 17.2 +0.6
comp=Z,17nm,1.2s
EYMN **Ely** 83.24 33 P **P** 17 21 17.4 +0.2
baz=320
EYMN **Ely** 83.24 33 *eP* **P** 17 21 17.3 +0.1
comp=Z,28nm,1.1s
H33A **Prehn Over Nor** 83.28 37 P **P** 17 21 18.0 +0.6
baz=317
AKAS **Kas** 83.40 311 *eP* **P** 17 21 16.8 -1.6
comp=Z,11nm,0.9s
SDCO **Great Sand Dun** 83.43 47 P **P** 17 21 18.3 -0.4
baz=312
SDCO **Great Sand Dun** 83.43 47 *eP* **P** 17 21 18.7 0.0
comp=Z,15nm,1.3s
C38A **Sawbill Land.** 83.51 33 P **P** 17 21 18.4 -0.2
baz=320
SRS **Serrai** 83.52 318 P **P** 17 21 19.1 +0.4
SRS pmax pmax
comp=Z,24nm,1.3s
E36A **McGregor** 83.55 34 P **P** 17 21 18.9 +0.1
baz=319
THZ **Tophouse** 83.61 157 *eP* **P** 17 21 21.5 +2.6
comp=Z,94nm,1.4s
PERS **Pernice** 83.69 326 *i* P **P** 17 21 19.4 -0.2
SOKA **Soboth** 83.69 326 *i* P **P** 17 21 19.8 +0.2
comp=Z,31nm,1.1s,SNR=10
TUC **Tucson** 83.73 54 P **P** 17 21 21.3 +1.2
baz=310
TUC **Tucson** 83.73 54 *eP* **P** 17 21 21.1 +1.0
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** 83.73 54 *eP* **P** 17 21 21.1 +1.0
comp=Z,8.0nm,1.1s
VAY **Valandovo** 83.92 318 *i* P **P** 17 21 21.3 +0.5
ECSD **EROS Data Cent** 84.04 38 P **P** 17 21 21.2 -0.1
baz=317
ECSD **EROS Data Cent** 84.04 38 *eP* **P** 17 21 21.6 +0.2
comp=Z,23nm,1.3s
OBKA **Obir** 84.04 326 *i* P **P** 17 21 21.2 -0.2
comp=Z,12nm,1.1s
SKO **Skopje** 84.06 319 *i* P **P** 17 21 22.7 +1.2
SKO **Skopje** 84.06 319 P **P** 17 21 23.0 +1.5
SKO pmax pmax
comp=Z,3.0nm,1.2s
KBA **Koelnbreinsper** 84.13 327 P **P** 17 21 21.5 -0.5
KBA pmax pmax
comp=Z,11nm,0.9s
KBA **Koelnbreinsper** 84.13 327 *i* PcP **P** 17 21 22.0 +0.1
comp=Z,9.8nm,0.9s
CRES **Cresnjev** 84.15 325 *i* P **P** 17 21 21.3 -0.5
KSCO **Kaye Shedlock'** 84.22 45 *eP* **P** 17 21 21.9 -0.6
comp=Z,22nm,0.6s
EIL **Elat** 84.22 303 P **P** 17 21 22.6 +0.2
comp=Z,14nm,0.9s,baz=12,slow=5.8,SNR=8.9
E38A **The Farm, Brul** 84.25 33 P **P** 17 21 21.8 -0.6
baz=320
GRG **Griva** 84.27 318 P **P** 17 21 23.1 +0.5
GRG pmax pmax
comp=Z,41nm,1.2s
ARG **Arkhangelos** 84.30 312 P **P** 17 21 23.0 +0.2
ARG pmax pmax
comp=Z,63nm,1.3s
MHTCO **State Highway** 84.32 47 *eP* **P** 17 21 23.2 +0.1
comp=Z,65nm,1.6s
MYKA **Terra Mystica** 84.35 327 *i* P **P** 17 21 21.5 -1.4
comp=Z,12nm,1.2s
HGTCO **Madrid Canyon** 84.35 47 *eP* **P** 17 21 25.2 +1.9
comp=Z,40nm,1.4s
T25A **Trinidad** 84.48 47 P **P** 17 21 24.8 +0.8
baz=313
T25A **Trinidad** 84.48 47 *eP* **P** 17 21 25.2 +1.3
comp=Z,26nm,1.1s
STU **Stuttgart** 84.52 330 *eP* **P** 17 21 23.7 0.0
STU pmax pmax
comp=Z,46nm,1.3s
STU **Stuttgart** 84.52 330 *eP* **P** 17 21 23.7 0.0
comp=Z,46nm,1.3s
KRUS **Krusevo** 84.59 319 *i* P **P** 17 21 24.5 +0.2

F38A **Pierce - Schro** 84.60 34 P **P** 17 21 24.5 +0.4
baz=320
LAZ **Ladron** 84.68 51 *eP* **P** 17 21 26.2 +1.2
WTTA **Wattenberg** 84.72 328 *i* PcP **P** 17 21 28.4 +3.5
comp=Z,5.5nm,1.0s
ANMO **Albuquerque** 84.73 50 P **P** 17 21 26.9 +1.6
comp=Z,8.5nm,1.0s,baz=120,slow=6.3,SNR=15
ANMO **Albuquerque** 84.73 50 P **P** 17 21 26.7 +1.5
baz=312
ANMO **Albuquerque** 84.73 50⇑ *i* P **P** 17 21 26.4 +1.1
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO **Albuquerque** 84.73 50 *eP* **P** 17 21 26.9 +1.6
comp=Z,14nm,1.0s
SPMN **Marine on St.** 84.74 35 *eP* **P** 17 21 25.2 +0.4
comp=Z,95nm,0.2s
ABTA **Abfaltersbach** 84.75 327 *i* P **P** 17 21 24.1 -0.9
comp=Z,12nm,1.1s
OXZ **Oxford** 84.76 158 *eP* **P** 17 21 25.1 +0.5
comp=Z,307nm,2.0s
BIA **Bitola** 84.80 319 *i* P **P** 17 21 24.8 -0.5
PPT **Papeete** 84.80 116 LR LR 17 50 53.3
comp=Z,100nm,21.8s,baz=307,slow=30
PPT2 **Papeete2** 84.81 116 *e*LR LR 17 48 04.9
comp=Z,157nm,21.2s
PDG **Podgorica** 84.85 321⇑ *i* P **P** 17 21 25.0 -0.4
BRY **Bratogost** 84.86 322 P **P** 17 21 25.6 -0.1
E39A **Mellen** 84.86 33 P **P** 17 21 25.3 -0.2
baz=321
MOTA **Moosalm** 84.88 329 *i* PcP **P** 17 21 26.1 +0.4
comp=Z,9.3nm,1.0s
LANF **Langenberg** 84.89 331 *eP* **P** 17 21 25.3 -0.3
RETA **Reutte** 84.91 329 *i* PcP **P** 17 21 25.7 -0.1
comp=Z,25nm,1.2s
FNA **Florina** 84.94 319 P **P** 17 21 25.4 -0.6
BGNE **Belgrade** 84.95 41 *eP* **P** 17 21 25.2 -0.8
comp=Z,76nm,0.3s
OHR **Ohrid** 85.01 319 *i* P **P** 17 21 25.9 -0.5
LPM **Los Pinos Moun** 85.05 50 *eP* **P** 17 21 27.4 +0.6
F39A **Loretta** 85.06 34 P **P** 17 21 26.5 +0.1
baz=321
E40A **Wakefield** 85.09 33 P **P** 17 21 27.2 +0.6
baz=322
BNM **Barren Site** 85.16 50 *eP* **P** 17 21 28.7 +1.2
BFO **Black Forest** 85.21 331 *c*eP **P** 17 21 27.5 +0.3
BFO **Black Forest** 85.21 331 *eP* **P** 17 21 26.5 -0.7
comp=Z,24nm,0.9s
G38A **Ridgeland** 85.22 35 P **P** 17 21 27.2 0.0
baz=320
FETA **Feichten** 85.29 329 *i* PcP **P** 17 21 27.6 -0.2
comp=Z,13nm,1.1s
319A **Douglas** 85.31 54 *eP* **P** 17 21 28.5 +0.4
comp=Z,22nm,0.6s
TIR **Tirane** 85.32 320 *eP* **P** 17 21 26.4 -1.4
TIR pmax pmax
comp=Z,21nm,0.8s
TIR **Tirane** 85.32 320 *eP* **P** 17 21 26.4 -1.4
comp=Z,21nm,0.8s
KARP **Karpathos** 85.33 312 *eP* **P** 17 21 27.5 -0.5
comp=Z,17nm,0.9s
I37A **Lemond, Waseca** 85.38 36 P **P** 17 21 28.6 +0.5
baz=319
SCHQ **Schefferville** 85.39 16 P **P** 17 21 28.7 +0.8
comp=Z,18nm,0.9s,baz=359,slow=5.7,SNR=6.8
SCHQ LR LR 18 00 15.4
comp=Z,159nm,21.5s,baz=350,slow=36
SCHQ **Schefferville** 85.39 16 *eP* **P** 17 21 28.6 +0.6
comp=Z,19nm,0.9s
H38A **Maiden Rock** 85.40 35 P **P** 17 21 28.5 +0.4
baz=320
F40A **Park Falls** 85.41 33 P **P** 17 21 27.9 -0.3
baz=321
DAVA **Damuels** 85.43 329 *i* PcP **P** 17 21 28.3 -0.1
comp=Z,28nm,1.0s,SNR=5.4
G39A **Holcombe** 85.43 34 P **P** 17 21 28.0 -0.3
baz=321
E41A **Kenton** 85.48 32 P **P** 17 21 28.5 -0.1
baz=322
121A **Cookes Peak, D** 85.51 52 P **P** 17 21 30.3 +1.1
baz=312
ECH **Echery** 85.76 331 *eP* **P** 17 21 29.5 -0.4
ECH **Echery** 85.76 331 *eP* **P** 17 21 29.7 -0.3
ECH pmax pmax
comp=Z,16nm,0.9s
ECH **Echery** 85.76 331 *eP* **P** 17 21 29.7 -0.3
comp=Z,16nm,0.9s
FUORN **Ofenpass-Fuorn** 85.80 329 *eP* **P** 17 21 30.5 0.0
comp=Z,27nm,1.1s
DAVOX **Davos/Dischmat** 85.83 329 P **P** 17 21 30.3 -0.2
comp=Z,7.6nm,0.9s,baz=327,slow=0.2,SNR=4.6
DAVOX **Davos/Dischmat** 85.83 329 P **P** 17 21 30.3 -0.2
DAVOX pmax pmax
comp=Z,8.0nm,0.9s
DAVOX **Davos/Dischmat** 85.83 329 P **P** 17 21 30.3 -0.2
J37A **Redenius Farm,** 85.84 37 P **P** 17 21 30.5 +0.1
baz=319
H39A **Augusta** 85.85 35 P **P** 17 21 31.2 +0.8
baz=321
I38A **Scanlan Farm,** 85.86 36 P **P** 17 21 31.5 +1.0
baz=320
G40A **Rib Lake** 85.88 34 P **P** 17 21 30.9 +0.3
baz=321
K36A **Gilmore City** 85.91 38 P **P** 17 21 31.0 +0.3
baz=319
E42A **Champion** 85.95 32 P **P** 17 21 30.8 -0.1
baz=323
CBKS **Cedar Bluff** 85.96 43 *eP* **P** 17 21 31.3 +0.1
CBKS pmax pmax
comp=Z,29nm,1.1s
CBKS **Cedar Bluff** 85.96 43 *eP* **P** 17 21 31.3 +0.1
comp=Z,29nm,1.1s
F41A **Three Lakes** 85.99 33 P **P** 17 21 31.6 +0.4
baz=322
MOF **Molkenrain** 86.07 331 *eP* **P** 17 21 31.1 -0.5
THEF **They Montfort** 86.20 332 *eP* **P** 17 21 31.8 -0.3
K37A **Belmond** 86.21 37 P **P** 17 21 32.5 +0.3
baz=319
H40A **Chili** 86.30 34 P **P** 17 21 32.7 +0.1
baz=321
TUE **Stuetta** 86.30 329 *eP* **P** 17 21 33.0 +0.1
comp=Z,48nm,1.5s
J38A **Wedel Dairy, R** 86.34 36 P **P** 17 21 33.8 +0.9
baz=320
O34A **Beatrice** 86.60 41 P **P** 17 21 34.0 -0.2
baz=318
LOMF **Lomont** 86.60 331 *eP* **P** 17 21 34.0 -0.2
H41A **Junction City** 86.63 34 P **P** 17 21 34.6 +0.3
baz=322
G42A **Mountain** 86.67 33 P **P** 17 21 34.8 +0.3
baz=323
J39A **Decorah** 86.69 36 P **P** 17 21 34.0 -0.6
baz=320
IDI **Anoyia** 86.85 313 P **P** 17 21 35.3 -0.3
comp=Z,18nm,0.9s,baz=15,slow=6.8,SNR=6.3
IDI **Anoyia** 86.85 313 *eP* **P** 17 21 34.4 -1.2
comp=Z,27nm,1.0s
F44A **Big Bay de Noc** 86.94 31 P **P** 17 21 35.5 -0.2
baz=324
G43A **Wallace** 86.98 32 P **P** 17 21 36.8 +0.9
baz=323
P34A **Walnut Farm, R** 86.99 41 P **P** 17 21 35.9 -0.2
baz=317
SCIA **State Center** 87.06 37 *eP* **P** 17 21 37.4 +1.0
comp=Z,43nm,1.3s
K39A **Oelwein** 87.09 36 P **P** 17 21 37.0 +0.5
baz=320
E45A **Wooded Hills,** 87.13 30 P **P** 17 21 36.8 +0.2
baz=325
H42A **Shiocton** 87.21 33 P **P** 17 21 37.7 +0.6
baz=323
Q34A **Chapman** 87.39 42 P **P** 17 21 38.5 +0.4
baz=317
KSU1 **Kansas State U** 87.44 41 *eP* **P** 17 21 37.9 -0.4
comp=Z,13nm,0.7s
M38A **Pleasantville** 87.44 38 P **P** 17 21 38.7 +0.4
baz=320
K40A **Colesburg** 87.45 36 P **P** 17 21 38.5 +0.2
baz=321
J41A **Loganville** 87.45 35 P **P** 17 21 38.5 +0.2
baz=322
L39A **Vinton** 87.48 37 P **P** 17 21 39.0 +0.5
baz=320
MNTX **Cornudas Mount** 87.58 52 P **P** 17 21 39.6 +0.5
baz=313
MNTX **Cornudas Mount** 87.58 52 *eP* **P** 17 21 40.0 +0.9
comp=Z,8.7nm,1.4s
MSTX **Muleshoe** 87.62 48 *eP* **P** 17 21 40.3 +0.9

comp=Z,8.3nm,1.0s
AMTX **Amarillo** 87.63 47 P **P** 17 21 40.7 +1.2
baz=315
AMTX **Amarillo** 87.63 47 *eP* **P** 17 21 40.2 +0.8
comp=Z,14nm,0.8s
JFWS **Jewell Farm** 87.69 35 *eP* **P** 17 21 38.3 -1.2
JFWS pmax pmax
comp=Z,30nm,1.4s
JFWS **Jewell Farm** 87.69 35 *eP* **P** 17 21 38.3 -1.2
comp=Z,30nm,1.4s
AQU **L'Aquila** 87.76 324 *eP* **P** 17 21 39.6 -0.2
AQU pmax pmax
comp=Z,30nm,1.1s
AQU **L'Aquila** 87.76 324 *eP* **P** 17 21 39.6 -0.2
comp=Z,30nm,1.1s
P36A **Good Intent, A** 87.78 40 P **P** 17 21 40.1 +0.1
baz=318
M39A **Webster** 87.89 37 P **P** 17 21 40.9 +0.5
baz=320
K41A **Shullsburg** 87.91 35 P **P** 17 21 40.7 +0.2
baz=321
Q35A **Mercer Eighty,** 87.92 41 P **P** 17 21 40.5 -0.1
baz=318
N39A **Derby Farms, D** 88.19 38 P **P** 17 21 42.5 +0.6
baz=320
S34A **Willow Spring** 88.19 42 P **P** 17 21 42.5 +0.6
baz=317
R35A **Emporia Munici** 88.22 42 P **P** 17 21 42.5 +0.4
baz=318
L41A **Preston** 88.23 36 P **P** 17 21 42.4 +0.3
baz=321
CUC **Castrocucco** 88.39 321 *eP* **P** 17 21 41.6 -1.3
comp=Z,19nm,1.6s
VLDQ **Val d'Or** 88.50 25 *eP* **P** 17 21 42.4 -0.7
comp=Z,28nm,1.0s
GLMI **Grayling** 88.61 31 *eP* **P** 17 21 43.9 +0.1
comp=Z,58nm,1.0s
P38A **Dawn** 88.63 39 P **P** 17 21 44.6 +0.7
baz=319
S35A **Otter Creek Ra** 88.63 42 P **P** 17 21 44.4 +0.4
baz=318
TBI **Tubuai** 88.69 121 *e*T T 18 59 33.2
comp=Z,108nm,0.3s
T36A **Boggs Farm, Ca** 89.33 42 P **P** 17 21 47.8 +0.6
baz=318
LPIG **La Paz** 89.35 60 LR LR 17 58 27.6
comp=Z,49nm,18.6s,baz=264,slow=33
Q39A **Willow Grove F** 89.35 39 P **P** 17 21 47.6 +0.2
baz=320
S37A **Fort Scott** 89.37 41 P **P** 17 21 47.5 0.0
baz=319
WMOK **Wichita Mounta** 89.42 45 P **P** 17 21 47.9 +0.2
baz=316
WMOK **Wichita Mounta** 89.42 45 *eP* **P** 17 21 48.5 +0.7
WMOK pmax pmax
comp=Z,11nm,1.3s
WMOK **Wichita Mounta** 89.42 45 *eP* **P** 17 21 48.5 +0.7
comp=Z,11nm,1.3s
P40A **Paris** 89.45 38 P **P** 17 21 48.0 +0.2
baz=320
R38A **Fenwick Farm,** 89.53 40 P **P** 17 21 47.8 -0.4
baz=319
R39A **Chumby, Stover** 89.88 40 P **P** 17 21 49.7 -0.2
baz=320
W35A **Tecumseh** 90.19 44 P **P** 17 21 51.5 +0.2
baz=318
T38A **Diamond** 90.19 41 P **P** 17 21 51.7 +0.4
baz=319
S39A **Bolivar** 90.20 40 P **P** 17 21 51.2 -0.2
baz=320
U37A **Salina** 90.22 42 P **P** 17 21 52.2 +0.7
baz=318
V36A **Jenks** 90.24 43 P **P** 17 21 52.4 +0.8
baz=318
LTX **Lajitas** 90.27 52 *eP* **P** 17 21 52.9 +0.9
LTX **Lajitas** 90.27 52 *eP* **P** 17 21 52.9 +0.9
TX31 **Lajitas Ar. Si** 90.27 52 *eP* **P** 17 21 52.5 +0.6
TXAR **Lajitas Array** 90.27 52 P **P** 17 21 52.9 +0.9
comp=Z,4.3nm,0.7s,baz=302,slow=3.0,SNR=59
TXAR LR LR 17 57 01.9
comp=Z,80nm,21.2s,baz=0.0,slow=32
TXAR **Lajitas Array** 90.27 52 P **P** 17 21 52.9 +0.9
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR MLR MLR
comp=Z,80nm,21.2s
TXAR **Lajitas Array** 90.27 52 P **P** 17 21 52.9 +0.9
R40A **Maddies Statio** 90.29 39 P **P** 17 21 50.9 -0.8
baz=320
Q41A **Truxton** 90.30 38 P **P** 17 21 51.2 -0.6
baz=321
ABTX **Abilene, Hawle** 90.43 47 P **P** 17 21 53.5 +1.0
baz=316
W36A **Wetumka** 90.56 44 P **P** 17 21 53.4 +0.3
baz=318
U38A **Gravette** 90.59 42 P **P** 17 21 53.2 0.0
baz=319
V37A **Hulbert** 90.60 43 P **P** 17 21 53.6 +0.4
baz=318
X35A **Drake** 90.68 45 P **P** 17 21 53.8 +0.2
baz=317
S40A **Lebanon** 90.70 40 P **P** 17 21 53.7 +0.1
baz=320
R41A **Rosebud** 90.73 39 P **P** 17 21 54.3 +0.5
baz=321
X36A **Centrahoma** 90.91 44 P **P** 17 21 55.3 +0.6
baz=318
HHAR **Hobbs** 90.94 42 *eP* **P** 17 21 51.5 -3.3
comp=Z,14nm,1.0s
CCM **Cathedral Cave** 90.98 39 *eP* **P** 17 21 55.3 +0.3
CCM pmax pmax
comp=Z,11nm,1.1s
CCM **Cathedral Cave** 90.98 39 *eP* **P** 17 21 55.3 +0.3
comp=Z,11nm,1.1s
W37B **Quinton** 91.00 43 P **P** 17 21 55.5 +0.4
baz=318
V38A **Canehill** 91.01 42 P **P** 17 21 55.5 +0.4
baz=319
T40A **Mansfield** 91.03 40 P **P** 17 21 55.0 -0.2
baz=320
S41A **Jillco Farms,** 91.09 39 P **P** 17 21 55.4 -0.1
baz=321
U39A **Green Forest** 91.11 41 P **P** 17 21 55.6 -0.1
baz=320
S42A **Caledonia** 91.43 39 P **P** 17 21 57.5 +0.4
baz=321
V39A **Pettigrew** 91.44 42 P **P** 17 21 57.6 +0.4
baz=319
Y36A **Durant** 91.44 45 P **P** 17 21 57.2 0.0
baz=318
U40A **Yellville** 91.46 41 P **P** 17 21 57.3 +0.1
baz=320
T41A **Mountain View** 91.50 40 P **P** 17 21 57.2 -0.2
baz=320
W38A **Poteau** 91.54 43 P **P** 17 21 58.4 +0.8
baz=319
X38A **Whitesboro** 91.67 43 P **P** 17 21 59.2 +0.9
baz=319
Z36A **Blue Ridge** 91.82 45 P **P** 17 21 59.2 +0.3
baz=318
W39A **Magazine** 91.85 42 P **P** 17 21 59.1 +0.1
baz=319
JCT **Junction City** 91.86 49 P **P** 17 21 58.6 -0.6
baz=316
JCT **Junction City** 91.86 49 *eP* **P** 17 21 58.3 -1.0
JCT pmax pmax
comp=Z,35nm,1.4s
JCT **Junction City** 91.86 49 *eP* **P** 17 21 58.3 -1.0
comp=Z,35nm,1.4s
WHTX **Lake Whitney,** 92.17 47 P **P** 17 22 00.2 -0.3
baz=317
WHTX **Lake Whitney,** 92.17 47 *eP* **P** 17 22 00.5 -0.1
comp=Z,299nm,1.9s
X39A **Fountain Ranch** 92.18 43 P **P** 17 22 00.6 0.0
baz=319
W40A **Ferguson Farm,** 92.23 42 P **P** 17 22 01.0 +0.2
baz=320
W40A **Ferguson Farm,** 92.23 42 *eP* **P** 17 22 00.9 +0.1
comp=Z,15nm,1.0s
S44A **Carbondale** 92.25 38 P **P** 17 22 01.1 +0.3
baz=322
V41A **Mountainview** 92.26 41 P **P** 17 22 01.2 +0.2
baz=320
MIAR **Mount Ida** 92.45 42 P **P** 17 22 02.2 +0.3
baz=319
MIAR **Mount Ida** 92.45 42 *eP* **P** 17 22 02.1 +0.3
MIAR pmax pmax
comp=Z,18nm,1.2s

MIAR	Mount Ida	92.45	42	*e*P		P	17 22 02.1	+0.3
	comp=Z,18nm,1.2s							
WHAR	Wooly Hollow	92.57	41	*e*P		P	17 22 02.6	+0.2
	comp=Z,14nm,1.0s							
W41B	Gary Mavity, V	92.68	41	P		P	17 22 02.6	-0.3
	baz=320							
KEST	Kesra	94.91	323	LR		LR	18 09 43.4	
	comp=Z,123nm,18.9s,baz=313,slow=38							
ESDC	Sonseca Array	97.21	334	P		P	17 22 22.6	-1.0
	comp=Z,1.6nm,0.8s,baz=35,slow=5.4,SNR=4.1							
ESDC				LR		LR	18 10 16.0	
	comp=Z,242nm,21.0s,baz=0.0,slow=38							
VNDA	Vanda	114.99	175	PKP		PKPdf	17 27 30.6	+0.3
	comp=Z,0.5nm,0.7s,baz=189,slow=1.9,SNR=4.2							
VNDA	Vanda	114.99	175	PKIKP		PKPdf	17 27 30.7	+0.3
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
VNDA	Vanda	114.99	175	PKP		PKPdf	17 27 30.6	+0.3
TOA1	Torodi Ar. Sit	117.20	315	*e*PKPdf		PKPdf	17 27 35.7	-0.8
TORD	Torodi Ar. Bea	117.20	315	PKP		PKPdf	17 27 35.7	-0.8
	comp=Z,1.0nm,0.6s,baz=24,slow=1.4,SNR=8.8							
TORD	Torodi Ar. Bea	117.20	315	PKP		PKPdf	17 27 35.7	-0.8
MAW	Mawson	119.45	206	PKP		PKPdf	17 27 38.5	-0.7
	comp=Z,1.4nm,0.8s,baz=82,slow=5.9,SNR=3.4							
MAW	Mawson	119.45	206	PKIKP		PKPdf	17 27 38.5	-0.7
MAW				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MAW	Mawson	119.45	206	*e*PKPdf		PKPdf	17 27 38.4	-0.8
SDV	Santo Domingo	125.45	40	*e*PKPdf		PKPdf	17 27 51.9	-0.8
DBIC	Dimbokro	126.16	317	PKP		PKPdf	17 27 52.6	-1.2
	comp=Z,12nm,1.0s,baz=77,slow=1.5,SNR=6.8							
DBIC	Dimbokro	126.16	317	PKIKP		PKPdf	17 27 52.6	-1.2
DBIC				pmax		pmax		
	comp=Z,2.0nm,0.6s							
DBIC	Dimbokro	126.16	317	*e*PKPdf		PKPdf	17 27 52.9	-0.9
BOSA	Boshof	126.39	259	PKP		PKPdf	17 27 53.2	-0.7
	comp=Z,2.6nm,0.9s,baz=180,slow=3.0,SNR=2.0							
BOSA	Boshof	126.39	259	PKIKP		PKPdf	17 27 53.2	-0.7
BOSA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BOSA	Boshof	126.39	259	*e*PKPdf		PKPdf	17 27 53.2	-0.7
RUSC	La Rusia	126.64	44	*e*PKPdf		PKPdf	17 27 55.3	0.0
QSPA	South Pole Qui	126.77	180	*e*PKPdf		PKPdf	17 27 52.9	-0.5
PTGA	Pitinga	138.93	33	PKP		PKPdf	17 28 17.6	-0.2
	comp=Z,2.6nm,0.3s,baz=330,slow=4.9,SNR=5.9							
PTGA	Pitinga	138.93	33	*e*PKPdf		PKPdf	17 28 17.9	0.0
SNAA	Sanae	140.69	197	PKP		PKPpre	17 28 14.3	
VNA2	Neumayer--Watz	142.26	196	PKP		PKPpre	17 28 16.3	
	baz=275,slow=3.9							
VNA3	Neumayer Olymp	142.51	195	PKP		PKPpre	17 28 19.6	
VNA1	Neumayer--Stat	142.66	196	PKP		PKPpre	17 28 18.6	
LPAZ	La Paz	146.86	59	PKPbc		PKPbc	17 28 34.5	+0.2
	comp=Z,15nm,0.7s,baz=359,slow=4.1,SNR=44							
LPAZ	La Paz	146.86	59	PKP2		PKPbc	17 28 34.5	+0.2
LPAZ				pmax		pmax		
	comp=Z,15nm,0.7s							
LPAZ	La Paz	146.86	59	*e*PKPdf		PKPbc	17 28 34.2	-0.1
MNMC	Minye Minye	147.72	65	*e*PKPbc		PKPab	17 28 37.5	-1.0
PB11	IPOC Station P	148.07	66	*e*PKPdf		PKPdf	17 28 34.8	+1.0
PB11				*e*PKPbc		PKiKP	17 28 38.0	-0.8
RCBR	Riachuelo	148.83	354	*e*PKPbc		PKPbc	17 28 38.8	-0.1
PB01	IPOC Station P	148.99	68	*e*PKPbc		PKPbc	17 28 39.9	+0.6
LVC	Limon Verde	150.35	69	PKPbc		PKPbc	17 28 43.5	+0.6
	comp=Z,59nm,1.0s,baz=292,slow=5.1,SNR=8.6							
LVC	Limon Verde	150.35	69	*e*PKPbc		PKPbc	17 28 43.8	+0.9
SIV	San Ignacio	151.23	49	PKPbc		PKPbc	17 28 44.8	+0.1
	comp=Z,30nm,0.9s,baz=333,slow=1.3,SNR=30							
SIV	San Ignacio	151.23	49	*e*PKPbc		PKPbc	17 28 44.8	+0.1
LCO	Las Campanas	152.20	83	*e*PKPbc		PKPbc	17 28 47.1	+0.2
PLCA	Paso Flores	155.10	108	PKPab		PKPab	17 29 09.8	+1.3
	comp=Z,5.1nm,1.1s,baz=224,slow=7.0,SNR=5.4							
PLCA	Paso Flores	155.10	108	PKP2		PKPab	17 29 09.8	+1.3
PLCA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
PLCA	Paso Flores	155.10	108	PKPab		PKPab	17 29 09.8	+1.3

SJA 25 17:09:20.4±0.8, 31°.56S×69°.74W, h104km±6km, ML2.6, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.45	123	*i* P	Pn	17 09 37.8	+1.2
RTLS				*i* S	Sn	17 09 50.6	+1.8
RTLS				IAML		17 09 50.9	
	comp=Z,142nm,0.2s						
AUSP	Uspallata	0.73	156	*i* P	Pn	17 09 39.5	+0.7
AUSP				*i* S	Sn	17 09 54.2	+1.6
RTCV	Cerro Valdivia	1.06	107	*i* P	Pn	17 09 42.3	+0.4
RTCV				*i* S	Sn	17 09 59.0	+0.9
AMOG	MOGNA	1.23	60	*i* P	Pn	17 09 45.0	+1.2
ASAL	Salagasta	1.28	144	*i* P	Pn	17 09 45.5	+1.1
ASAL				*i* S	Sn	17 10 04.2	+1.7

*IDC **25** 17:10:35.3±3.7, 10°.86S×164°.37E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/44, mbtmp3.9/7, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=125.0km s-min=27.1km az=132.0*
*ISCJB **25** 17:10:38.0±1.4, 10°.8S±0°.2×164°.3E±0°.2, h24km, mb3.7/6, MS4.0/1, Error ellipse: s-maj=33.4km s-min=20.1km az=140.0*
ISC 25 17:10:39.8±1.7, 10°.7S±0°.2×164°.3E±0°.2, h24km, n10, σ0°.93/8, mb3.8/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.47	287	*e*P	Pn	17 11 46.0	0.0
DZM	Mont Dzumac	11.46	170	LR	LR	17 17 17.9	
	comp=Z,156nm,18.4s,baz=28,slow=36						
CTA	Charters Tower	19.69	240	Pn	Pn	17 15 09.9	+0.8
	0.2nm,0.3s,baz=70,slow=12,SNR=8.2						
WRA	Warramunga Arr	30.25	249	P	P	17 16 47.3	-1.7
	1.4nm,0.9s,baz=80,slow=10,SNR=9.8						
ASAR	Alice Springs	31.66	242	P	P	17 17 01.2	-0.3
	0.4nm,0.7s,baz=68,slow=10,SNR=12						
RPZ	Rata Peaks	33.37	171	LR	LR	17 27 36.3	
	comp=Z,279nm,21.2s,baz=288,slow=31						
FITZ	Fitzroy Crossi	38.08	254	P	P	17 17 56.6	-0.3
	3.3nm,0.7s,baz=98,slow=7.0,SNR=9.7						
SONM	Songino Array	77.58	324	P	P	17 22 34.6	+0.6
	0.2nm,0.3s,baz=136,slow=7.3,SNR=6.5						
ILAR	Eielson Array	83.69	19	P	P	17 23 06.1	-0.1
	0.5nm,0.8s,baz=243,slow=5.0,SNR=2.7						
MKAR	Makanchi Array	92.32	317	P	P	17 23 47.8	-0.4
	0.4nm,0.6s,baz=113,slow=6.0,SNR=2.6						

*ISK **25** 17:12:24.9, 38°.73N×43°.72E, h5km, ML3.7*
*ISCJB **25** 17:12:26.0±0.6, 38°.71N±0°.02×43°.62E±0°.03, h0km±5km, Error ellipse: s-maj=4.4km s-min=3.6km az=156.6*
*DDA **25** 17:12:25.9, 38°.70N×43°.54E, h9km, Ml3.9*
*CSEM **25** 17:12:26.3±0.2, 38°.71N×43°.61E, h2km, ML3.7, Error ellipse: s-maj=5.5km s-min=5.0km az=69.0*
*AZER **25** 17:12:29.9±2.2, 38°.44N×44°.07E, h5km±12km, Error ellipse: s-maj=14.7km s-min=11.3km az=175.0*
ISC 25 17:12:26.1±1.1, 38°.73N±0°.02×43°.66E±0°.02, h4km±10km, n57, σ1°.14/79, 6C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.25	238	*e*PG	Pg	17 12 31.1	+0.2
VANB				*e*SG	Sg	17 12 37.1	+3.0
VANB	Van	0.25	238	*e*Pg	Pg	17 12 31.1	+0.2
GEVA	Gevas	0.62	229	*i* P	Pg	17 12 36.6	-1.5
GEVA				*i* S	Sn	17 12 52.2	-0.3
GEVA	Gevas	0.62	229	P	Pg	17 12 36.6	-1.5
BASK	Baskale_VAN	0.72	158	*i* P	Pg	17 12 39.7	-0.3
BASK				*i* S	Sb	17 12 52.1	+0.3
BASK	Baskale_VAN	0.72	158	P	Pg	17 12 39.7	-0.3
BASK				S	Sb	17 12 52.1	+0.3
DYDN	Diyadin	0.82	2	*i* P	Pg	17 12 41.5	-0.3
DYDN				*i* S	Sb	17 12 55.0	+0.4
DYDN	Diyadin	0.82	2	P	Pg	17 12 41.5	-0.3
DYDN				S	Sb	17 12 55.0	+0.4
TUTA	Tutak	0.94	316	*i* P	Pg	17 12 43.0	-1.2
TUTA				*i* S	Sg	17 12 57.3	+0.9
TUTA	Tutak	0.94	316	P	Pg	17 12 43.0	-1.2
TUTA				S	Sg	17 12 57.3	+0.9
AGRB	Hanur-Agry	0.99	329	*e*PG	Pg	17 12 43.8	-1.4
AGRB				*e*SG	Sb	17 12 59.5	-0.1
AGRB	Hanur-Agry	0.99	329	*e*Pg	Pg	17 12 43.8	-1.4
AGRB				*e*Sg	Sb	17 12 59.5	-0.1
HAKT	HAKKARI	1.17	178	*i* P	Pg	17 12 46.5	-1.9
HAKT				*i* S	Sn	17 13 07.1	+1.2
HAKT	HAKKARI	1.17	178	P	Pg	17 12 46.5	-1.9
HAKT				S	Sn	17 13 07.1	+1.2
EATA	Eleskirt	1.45	322	*i* P	Pn	17 12 52.3	-1.2
EATA				*i* S	Sg	17 13 13.3	+0.5
EATA	Eleskirt	1.45	322	P	Pn	17 12 52.3	-1.2
EATA				S	Sg	17 13 13.3	+0.5
CUKT	Cukurca	1.48	182	*e*PN	Pn	17 12 53.3	-0.3
CUKT				*e*SN	Sn	17 13 12.8	-0.6
CUKT	Cukurca	1.48	182	*i* P	Pb	17 12 53.9	-0.3
CUKT				*i* S	Sg	17 13 13.5	0.0
CUKT	Cukurca	1.48	182	*e*Pn	Pn	17 12 53.3	-0.3
CUKT	Cukurca	1.48	182	P	Pb	17 12 53.9	-0.3
CUKT				*e*Sn	Sn	17 13 12.8	-0.6
CUKT				S	Sg	17 13 13.5	0.0
NAX	Nakhchivan	1.50	72	⇑P	Pg	17 12 55.2	+0.3
	SNR=17						
NAX				⇓S	Sg	17 13 14.2	-0.1
NAX	Nakhchivan	1.50	72	P	Pg	17 12 55.2	+0.3
	SNR=17						
NAX				S	Sg	17 13 14.2	-0.1
VRTB	Varto-Mus	1.77	285	*e*PN	Pn	17 12 58.4	+0.7
VRTB				*e*SN	Sn	17 13 21.2	+0.4
VRTB	Varto-Mus	1.77	285	*e*Pn	Pn	17 12 58.4	+0.7
VRTB				*e*Sn	Sn	17 13 21.2	+0.4
BNGL	BINGOL	1.97	277	*i* P	Pn	17 13 00.1	-0.4
SVAN	Silvan-Diyarba	2.02	254	*e*PN	Pn	17 13 01.7	+0.8
SVAN	Silvan-Diyarba	2.02	254	*e*Pn	Pn	17 13 01.7	+0.8
SENK	Senkaya-Erzuru	2.09	332	*e*PN	Pn	17 13 01.6	-0.6
SENK	Senkaya-Erzuru	2.09	332	*e*Pn	Pn	17 13 01.6	-0.6
BNGB	Bing¶ll	2.34	277	*e*PN	Pn	17 13 06.5	+1.0
BINT	Bingol	2.48	274	*e*Pn	Pn	17 13 06.5	-1.0
YEDI	Yedisu-Bingol	2.53	287	*e*PN	Pn	17 13 08.6	+0.5
YEDI	Yedisu-Bingol	2.53	287	*e*Pn	Pn	17 13 08.6	+0.5
GDB	GEDABAY	2.57	38	⇑P	Pb	17 13 12.7	-0.1
	SNR=7.1						
GDB	GEDABAY	2.57	38	P	Pb	17 13 12.7	-0.1
	SNR=7.1						
QZX	Qazax, Azerbai	2.68	29	⇑P	Pb	17 13 15.4	+0.8
	SNR=10						
QZX	Qazax, Azerbai	2.68	29	P	Pb	17 13 15.4	+0.8
	SNR=10						
GANJ	Ganja	2.81	46	⇓P	Pb	17 13 16.1	-0.8
	SNR=9.6						
GANJ	Ganja	2.81	46	P	Pb	17 13 16.1	-0.8
	SNR=9.6						
MAZI	Mazidag	2.83	244	*e*PN	Pn	17 13 12.5	+0.2
MAZI	Mazidag	2.83	244	*e*Pn	Pn	17 13 12.5	+0.2
BRDA	Brd	3.13	59	⇑P	Pn	17 13 18.5	+2.3
BRDA	Brd	3.13	59	P	Pn	17 13 18.5	+2.3
PTK	Pertek	3.34	274	*e*PN	Pn	17 13 20.0	+0.7
PTK	Pertek	3.34	274	*e*Pn	Pn	17 13 20.0	+0.7
MNGR	Mingechevir, A	3.34	51	⇓P	Pb	17 13 22.6	-3.3
MNGR	Mingechevir, A	3.34	51	P	Pb	17 13 22.6	-3.3
SVRC	Sivrice-ELAZID	3.43	266	*e*PN	Pn	17 13 22.2	+1.7
SVRC	Sivrice-ELAZID	3.43	266	*e*Pn	Pn	17 13 22.2	+1.7
LRK	Lerik	3.67	90	⇑P	Pn	17 13 24.4	+0.6
LRK	Lerik	3.67	90	P	Pn	17 13 24.4	+0.6
GLBA	Clilabad	3.73	81	⇓P	Pn	17 13 24.3	-0.1
GLBA	Clilabad	3.73	81	P	Pn	17 13 24.3	-0.1
KDMR	Kurdemir	3.87	63	⇑P	Pn	17 13 28.1	+1.7
KDMR	Kurdemir	3.87	63	P	Pn	17 13 28.1	+1.7
URFA	Urfa	4.03	253	*e*PN	Pn	17 13 30.4	+1.7
URFA	Urfa	4.03	253	*e*Pn	Pn	17 13 30.4	+1.7

*AZER **25** 17:16:03.3±2.9, 38°.28N×43°.51E, h17km±49km, Error ellipse: s-maj=54.4km s-min=13.9km az=62.0*
*DDA **25** 17:16:04.5, 38°.76N×43°.67E, h6km, Md2.9*
*CSEM **25** 17:16:05.4±0.2, 38°.74N×43°.63E, h2km, ML3.1, Error ellipse: s-maj=6.3km s-min=5.8km az=115.0*
*ISK **25** 17:16:05.2, 38°.77N×43°.58E, h5km, ML3.1*
ISC 25 17:16:05.8±0.9, 38°.76N±0°.02×43°.61E±0°.02, h15km±8km, n57, σ1°.72/80, 11C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.24	226	*e*PG	Pg	17 16 11.4	+0.3
VANB				*e*SG	Sg	17 16 15.9	+1.1
VANB	Van	0.24	226	*e*Pg	Pg	17 16 11.4	+0.3
VANB				*e*Sg	Sg	17 16 15.9	+1.1
GEVA	Gevas	0.63	224	⇓*i* P	Pg	17 16 14.7	-3.4
GEVA				*i* S	Sg	17 16 22.4	-4.0
GEVA	Gevas	0.63	224	P	Pg	17 16 14.7	-3.4
GEVA				S	Sg	17 16 22.4	-4.0
BASK	Baskale_VAN	0.77	156	*e*P	Pg	17 16 19.7	-1.1
BASK	Baskale_VAN	0.77	156	P	Pg	17 16 19.7	-1.1
DYDN	Diyadin	0.78	4	*e*P	Pg	17 16 19.7	-1.3
DYDN				*e*S	Sg	17 16 30.8	-0.6
DYDN	Diyadin	0.78	4	P	Pg	17 16 19.7	-1.3
DYDN				S	Sg	17 16 30.8	-0.6
TUTA	Tutak	0.89	316	*e*P	Pg	17 16 21.7	-1.4
TUTA				*e*S	Sb	17 16 36.3	+1.4
TUTA	Tutak	0.89	316	P	Pg	17 16 21.7	-1.4
TUTA				S	Sb	17 16 36.3	+1.4
AGRB	Hanur-Agry	0.94	329	*e*PG	Pg	17 16 22.6	-1.5
AGRB				*e*SG	Sb	17 16 36.8	+0.4
AGRB	Hanur-Agry	0.94	329	*e*Pg	Pg	17 16 22.6	-1.5
AGRB				*e*Sg	Sb	17 16 36.8	+0.4
HAKT	HAKKARI	1.21	176	*e*P	Pb	17 16 26.4	-2.1
HAKT				*e*S	Sb	17 16 44.4	+0.4
HAKT	HAKKARI	1.21	176	P	Pb	17 16 26.4	-2.1
HAKT				S	Sb	17 16 44.4	+0.4
EATA	Eleskirt	1.40	322	*i* P	Pn	17 16 30.9	-0.3
EATA				*i* S	Sg	17 16 52.0	+0.9
EATA	Eleskirt	1.40	322	P	Pn	17 16 30.9	-0.3
EATA				S	Sg	17 16 52.0	+0.9
CUKT	Cukurca	1.51	180	*e*PN	Pb	17 16 34.0	+0.4
CUKT				*e*SN	Sb	17 16 54.1	+1.5
CUKT	Cukurca	1.51	180	⇑*i* P	Pb	17 16 34.0	+0.4
CUKT				*i* S	Sg	17 16 57.1	+2.6
CUKT	Cukurca	1.51	180	P	Pb	17 16 34.0	+0.4
CUKT				*e*Sn	Sb	17 16 54.2	+1.5
CUKT				S	Sg	17 16 57.1	+2.6
NAX	Nakhchivan	1.52	74	⇓P	Pn	17 16 33.4	+0.8
	SNR=4.5						
NAX				⇑S	Sg	17 16 56.7	+1.8
NAX	Nakhchivan	1.52	74	P	Pn	17 16 33.4	+0.8
	SNR=4.5						
NAX				S	Sg	17 16 56.7	+1.8
SIRN	S¨–rnak	1.58	217	*e*P	Pb	17 16 35.1	+0.3
SIRN				*e*S	Sg	17 16 57.1	+0.4
SIRN	S¨–rnak	1.58	217	P	Pb	17 16 35.1	+0.3
SIRN				S	Sg	17 16 57.1	+0.4
VRTB	Varto-Mus	1.73	284	*e*PN	Pn	17 16 36.9	+1.4
VRTB	Varto-Mus	1.73	284	*e*Pn	Pn	17 16 36.9	+1.4
SVAN	Silvan-Diyarba	1.99	253	*e*PN	Pn	17 16 39.6	+0.6
SVAN	Silvan-Diyarba	1.99	253	*e*Pn	Pn	17 16 39.6	+0.6
SENK	Senkaya-Erzuru	2.04	332	*e*PN	Pn	17 16 41.6	+1.7
SENK	Senkaya-Erzuru	2.04	332	*e*Pn	Pn	17 16 41.6	+1.7
YEDI	Yedisu-Bingol	2.48	287	*e*PN	Pn	17 16 47.6	+1.8
YEDI	Yedisu-Bingol	2.48	287	*e*Pn	Pn	17 16 47.6	+1.8
GDB	GEDABAY	2.56	39	⇑P	Pb	17 16 50.2	-1.3
	SNR=4.1						
GDB	GEDABAY	2.56	39	P	Pb	17 16 50.2	-1.3
	SNR=4.1						
QZX	Qazax, Azerbai	2.66	30	⇑P	Pb	17 16 52.2	-1.0
QZX				⇑S	Sg	17 17 29.4	-1.9
QZX	Qazax, Azerbai	2.66	30	P	Pb	17 16 52.2	-1.0
GANJ	Ganja	2.81	47	⇑P	Pn	17 16 53.5	+3.2
	SNR=3.5						
GANJ	Ganja	2.81	47	P	Pn	17 16 53.5	+3.2
	SNR=3.5						
MAZI	Mazidag	2.82	243	*e*PN	Pn	17 16 52.5	+2.1
MAZI	Mazidag	2.82	243	*e*Pn	Pn	17 16 52.5	+2.1
BRDA	Brd	3.14	60	⇑P	Pn	17 16 56.5	+1.8
BRDA	Brd	3.14	60	P	Pn	17 16 56.5	+1.8
MNGR	Mingechevir, A	3.34	52	⇓P	Pn	17 16 59.5	+2.0
MNGR	Mingechevir, A	3.34	52	P	Pn	17 16 59.5	+2.0
ZRD	Zardab	3.49	63	⇓P	Pn	17 17 00.6	+1.0
ZRD	Zardab	3.49	63	P	Pn	17 17 00.6	+1.0
SEKA	Sheki	3.68	47	⇓P	Pn	17 17 05.6	+3.3
SEKA	Sheki	3.68	47	P	Pn	17 17 05.6	+3.3
LRK	Lerik	3.70	90	⇓P	Pn	17 17 01.1	-1.5
LRK	Lerik	3.70	90	P	Pn	17 17 01.1	-1.5
GLBA	Clilabad	3.75	81	⇑P	Pn	17 17 03.0	-0.2
GLBA	Clilabad	3.75	81	P	Pn	17 17 03.0	-0.2
QBL	Gabala	3.91	55	⇑P	Pn	17 17 07.4	+1.9
QBL	Gabala	3.91	55	P	Pn	17 17 07.4	+1.9
ASTR	Astara	4.06	91	⇑P	Pn	17 17 06.0	-1.4
ASTR	Astara	4.06	91	P	Pn	17 17 06.0	-1.4
ALIB	Äli-Bayra	4.35	72	⇑P	Pn	17 17 11.7	+0.4
ALIB	Äli-Bayra	4.35	72	P	Pn	17 17 11.7	+0.4

*DDA **25** 17:22:50.6, 38°.71N×43°.40E, h5km, Ml3.8*
*IDC **25** 17:22:50.1±2.3, 38°.67N×43°.40E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/38, mbtmp3.5/6, ML3.4/1, MS2.2/2, Ms1 2.2/2, ms1mx2.0/33, Error ellipse: s-maj=35.6km s-min=16.6km az=161.0*
*ISK **25** 17:22:51.2, 38°.72N×43°.36E, h9km, ML3.7*
*ISCJB **25** 17:22:52.3±0.6, 38°.73N±0°.02×43°.40E±0°.02, h7km±4km, mb3.3/5, Error ellipse: s-maj=3.3km s-min=2.9km az=25.1*
*CSEM **25** 17:22:53.1±0.2, 38°.66N×43°.21E, h5km, ML3.7, Error ellipse: s-maj=5.2km s-min=5.0km az=177.0*
*AZER **25** 17:23:03.5±0.5, 38°.84N×44°.19E, h6km, Error ellipse: s-maj=4.7km s-min=3.1km az=1.0*
ISC 25 17:22:51.6±0.8, 38°.70N±0°.02×43°.45E±0°.02, h12km±6km, n98, σ1°.68/145, mb3.4/5, 18C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.12	205	*e*PG	Pb	17 22 55.4	-0.5
VANB				*e*SG	Sg	17 22 59.5	+2.4
VANB	Van	0.12	205	*e*Pg	Pb	17 22 55.4	-0.5
VANB				*e*Sg	Sg	17 22 59.5	+2.4
GEVA	Gevas	0.50	219	*i* P	Pg	17 22 58.9	-2.5
GEVA				*i* S	Sg	17 23 08.3	+0.3
GEVA	Gevas	0.50	219	P	Pg	17 22 58.9	-2.5
GEVA				S	Sg	17 23 08.4	+0.3
BASK	Baskale_VAN	0.78	146	*i* P	Pg	17 23 06.1	-0.7
BASK				*i* S	Sn	17 23 20.0	-0.4
BASK	Baskale_VAN	0.78	146	P	Pg	17 23 06.1	-0.7
BASK				S	Sn	17 23 20.0	-0.4
TUTA	Tutak	0.86	325	*i* P	Pg	17 23 06.9	-1.4
TUTA				*i* S	Sb	17 23 19.2	-0.9
TUTA	Tutak	0.86	325	P	Pg	17 23 06.9	-1.4
TUTA				S	Sb	17 23 19.2	-0.9
DYDN	Diyadin	0.86	12	*i* P	Pg	17 23 07.2	-1.1
DYDN				*i* S	Sb	17 23 20.0	-0.2
DYDN	Diyadin	0.86	12	P	Pg	17 23 07.2	-1.1
DYDN				S	Sb	17 23 20.0	-0.2
AGRB	Hanur-Agry	0.94	338	*e*PG	Pb	17 23 09.2	-0.8
AGRB				*e*SG	Sb	17 23 22.1	-0.4
AGRB	Hanur-Agry	0.94	338	*e*Pg	Pb	17 23 09.2	-0.8
AGRB				*e*Sg	Sb	17 23 22.1	-0.4
HAKT	HAKKARI	1.16	170	*i* P	Pb	17 23 08.2	-5.5
HAKT				*i* S	Sn	17 23 29.8	+0.1
EKAR	Karacoban	1.22	298	*i* P	Pb	17 23 13.4	-1.3
EKAR				*i* S	Sn	17 23 33.2	+2.0
EKAR	Karacoban	1.22	298	P	Pb	17 23 13.4	-1.3
EATA	Eleskirt	1.38	328	*i* P	Pb	17 23 16.9	-0.6
EATA				*i* S	Sg	17 23 36.3	+0.2
EATA	Eleskirt	1.38	328	P	Pb	17 23 16.9	-0.6
EATA				S	Sg	17 23 36.3	+0.2
SIRN	S¨–rnak	1.46	215	*i* P	Pg	17 23 19.2	-0.4
SIRN				*i* S	Sg	17 23 39.9	+1.4
SIRN	S¨–rnak	1.46	215	P	Pg	17 23 19.2	-0.4
SIRN				S	Sg	17 23 39.9	+1.4
CUKT	Cukurca	1.46	175	*e*PN	Pb	17 23 18.9	+0.1
CUKT				*e*SN	Sg	17 23 38.8	+0.3
CUKT	Cukurca	1.46	175	*i* P	Pb	17 23 18.4	-0.3
CUKT				*i* S	Sg	17 23 40.3	+1.8
CUKT	Cukurca	1.46	175	P	Pb	17 23 18.4	-0.3
CUKT	Cukurca	1.46	175	*e*Pn	Pb	17 23 18.9	+0.1
CUKT				*e*Sn	Sg	17 23 38.8	+0.3
CUKT				S	Sg	17 23 40.3	+1.8
VRTB	Varto-Mus	1.62	287	*e*PN	Pn	17 23 19.5	-0.7
VRTB	Varto-Mus	1.62	287	*i* P	Pn	17 23 19.7	-0.4
VRTB				*i* S	Sg	17 23 43.8	-0.1
VRTB	Varto-Mus	1.62	287	*e*Pn	Pn	17 23 19.5	-0.7
VRTB	Varto-Mus	1.62	287	P	Pn	17 23 19.7	-0.4
VRTB				S	Sg	17 23 43.8	-0.1
NAX	Nakh

SEKA				⇑S		Sn	17 24 38.3	+3.3
SEKA	**Sheki**	**3.81**	**48**	P		**Pb**	**17 23 56.6**	**-2.3**
	SNR=3.9							
SEKA				S		**Sn**	**17 24 38.3**	**+3.3**
LRK	**Lerik**	**3.83**	**89**	⇑P		**Pb**	**17 23 55.2**	**-4.0**
	SNR=4.7							
LRK				⇓S		**Sn**	**17 24 35.2**	**-0.3**
LRK	**Lerik**	**3.83**	**89**	P		**Pb**	**17 23 55.2**	**-4.0**
	SNR=4.7							
URFA	**Urfa**	**3.87**	**252**	*e*PN		**Pn**	**17 23 51.3**	**+0.4**
URFA	**Urfa**	**3.87**	**252**	*e*Pn		**Pn**	**17 23 51.3**	**+0.4**
ONI	**Oni**	**3.88**	**0**	P		**Pg**	**17 24 05.9**	**-0.1**
ONI				S		Sg	17 25 05.5	+9.1
GLBA	**Clilabad**	**3.89**	**80**	⇑P		**Pb**	**17 23 55.9**	**-4.2**
	SNR=3.6							
GLBA				⇑S		**Sn**	**17 24 37.2**	**+0.5**
GLBA	**Clilabad**	**3.89**	**80**	P		**Pb**	**17 23 55.9**	**-4.2**
	SNR=3.6							
SAAT	**Saatly**	**4.03**	**72**	⇑P		**Pn**	**17 23 57.3**	**+4.2**
	SNR=3.0							
SAAT	**Saatly**	**4.03**	**72**	P		**Pn**	**17 23 57.3**	**+4.2**
	SNR=3.0							
QBL	**Gabala**	**4.05**	**55**	⇓P		**Pb**	**17 23 58.6**	**-4.3**
	SNR=6.1							
QBL				⇑S		**Sn**	**17 24 41.8**	**+0.9**
QBL	**Gabala**	**4.05**	**55**	P		**Pb**	**17 23 58.6**	**-4.3**
	SNR=6.1							
QBL				S		**Sn**	**17 24 41.8**	**+0.9**
LKRN	**Lenkeran, Azer**	**4.17**	**88**	⇓S		**Sn**	**17 24 44.2**	**+0.6**
ASTR	**Astara**	**4.18**	**90**	⇓S		**Sn**	**17 24 44.7**	**+0.6**
ATGJ	**Altiaghaj**	**4.75**	**61**	P		Pn	17 24 07.8	+4.8
	SNR=2.9							
ATGJ	**Altiaghaj**	**4.75**	**61**	P		Pn	17 24 07.8	+4.8
	SNR=2.9							
KBZ	**Khabaz**	**5.04**	**355**	LR		LR	17 25 50.5	
	comp=Z,24nm,19.4s,baz=60,slow=36							
KVAR	**Kislovodsk Arr**	**5.28**	**354**	LR		LR	17 25 48.0	
	comp=Z,28nm,20.8s,baz=76,slow=34							
AKASG	**Malin Array Be**	**15.66**	**325**	Pn		**Pn**	**17 26 31.9**	**0.0**
	0.2nm,0.3s,baz=132,slow=13,SNR=5.7							
GERES	**GERESS Array B**	**23.62**	**305**	P		**P**	**17 28 04.0**	**+1.5**
	0.2nm,0.4s,baz=90,slow=9.8,SNR=3.2							
FINES	**FINESS Array B**	**25.19**	**340**	P		**P**	**17 28 16.0**	**-0.6**
	0.5nm,0.6s,baz=150,slow=17,SNR=3.2							
KURBB	**Kurchatov Arra**	**27.39**	**53**	P		**P**	**17 28 38.5**	**+1.8**
	0.7nm,0.5s,baz=264,slow=9.3,SNR=5.9							
HFS	**Hagfors**	**28.47**	**329**	P		**P**	**17 28 44.7**	**-1.6**
	3.3nm,0.9s,baz=145,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**29.40**	**61**	P		**P**	**17 28 55.7**	**+1.0**
	0.2nm,0.6s,baz=264,slow=8.5,SNR=2.2							

*ISCJB **25** 17:27:29.8±0.5, 4°.33N±0°.03×76°.25W±0°.04, h10km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=6.0km s-min=4.7km az=3.3*
*RSNC **25** 17:27:30.6±0.9, 4°.28N×76°.20W, h1km±11km, ML4.0*
*IDC **25** 17:27:38.6±2.2, 4°.36N×75°.94W, h82km±20km, mb3.6/9, mb1 3.9/10, mb1mx3.6/32, mbtmp4.0/10, MS3.5/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=23.3km s-min=16.5km az=76.0*

ISC 25 17:27:29.8±0.5, 4°.29N±0°.04×76°.23W±0°.05, h10km, n30, σ1§34/31, mb4.0/9, 1C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos¨ del**	**0.61**	**355**	⇓*i*P		**Pg**	**17 27 41.8**	**+0.1**
TOLC	**Tolima**	**0.95**	**72**	*i* P		**Pg**	**17 27 47.8**	**-0.4**
GUYC	**Guyana, Colomb**	**1.25**	**42**	*i* P		**Pb**	**17 27 52.6**	**-1.1**
GUYC				*i*			17 28 11.5	
	comp=Z,2μm,0.5s							
PRAC	**Prado**	**1.46**	**113**	*e*S		**Sn**	**17 28 15.5**	**+0.1**
BETC	**Betania**	**1.78**	**154**	*e*S		**Sn**	**17 28 24.6**	**+1.2**
POPC	**Popayan, Colom**	**1.79**	**194**	*e*P		**Pn**	**17 28 02.2**	**+1.2**
POPC				*e*S		**Sb**	**17 28 25.7**	**+0.2**
POPC				*i*			17 28 25.8	
	comp=Z,2μm,0.3s							
NORC	**Norcasia**	**1.85**	**47**	*e*P		**Pn**	**17 28 02.5**	**+0.8**
ROSC	**El Rosal**	**1.98**	**74**	P		**Pb**	**17 28 07.1**	**+0.9**
	comp=Z,108nm,0.3s,baz=41,slow=3.9,SNR=79							
ROSC				S		**Sg**	**17 28 34.9**	**+1.3**
	comp=Z,72nm,0.3s,baz=192,slow=21,SNR=12							
HELC	**Santa Helena**	**2.01**	**20**	⇑*i*P		**Pn**	**17 28 05.7**	**+1.5**
HELC				*i*			17 28 33.8	
	comp=Z,628nm,0.7s							
GRGC	**Isla de Gorgon**	**2.32**	**237**	*e*P		**Pn**	**17 28 08.3**	**+0.3**
VILC	**Villavicencio,**	**2.54**	**94**	*e*S		**Sn**	**17 28 43.2**	**+1.0**
ZARC	**Zaragoza, Cauc**	**3.46**	**23**	*e*S		**Sn**	**17 29 06.2**	**+1.3**
ZARC				*i*			17 29 11.9	
	comp=Z,165nm,0.7s							
CAPC	**Capurgana**	**4.46**	**346**	*e*P		**Pn**	**17 28 38.7**	**+1.2**
ATAH	**Atahualpa**	**11.55**	**191**	P		Pn	17 30 21.4	+6.1
	comp=Z,0.5nm,0.3s,baz=12,slow=9.3,SNR=2.7							
LPAZ	**La Paz**	**21.96**	**159**	P		**P**	**17 32 25.4**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=346,slow=13,SNR=4.3							
BDFB	**Brasilia**	**34.24**	**126**	LR		LR	17 48 40.2	
	comp=Z,75nm,20.2s,baz=345,slow=37							
TXAR	**Lajitas Array**	**36.00**	**317**	P		**P**	**17 34 33.7**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=122,slow=8.4,SNR=8.1							
TXAR				PcP		**PcP**	**17 36 59.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=133,slow=5.5,SNR=6.6							
PLCA	**Paso Flores**	**45.10**	**174**	P		**P**	**17 35 47.8**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=14,slow=11,SNR=3.9							
PDAR	**Pinedale Array**	**46.41**	**327**	P		**P**	**17 36 13.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=111,slow=8.1,SNR=5.3							
SCHQ	**Schefferville**	**50.96**	**7**	P		**P**	**17 36 30.7**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=207,slow=14,SNR=2.4							
YKA	**Yellowknife Ar**	**64.61**	**341**	P		**P**	**17 38 06.2**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=132,slow=6.1,SNR=8.9							
DBIC	**Dimbokro**	**71.04**	**84**	P		**P**	**17 38 46.3**	**-2.4**
	comp=Z,1.6nm,0.6s,baz=269,slow=5.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**77.29**	**78**	P		**P**	**17 39 23.1**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=283,slow=6.1,SNR=3.7							
ILAR	**Eielson Array**	**77.95**	**336**	P		**P**	**17 39 27.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=121,slow=3.7,SNR=10							
ZALV	**Zalesovo Beam**	**119.84**	**13**	PKP		**PKPdf**	**17 46 20.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=349,slow=5.1,SNR=2.4							
KURBB	**Kurchatov Arra**	**121.15**	**19**	PKP		**PKPdf**	**17 46 20.0**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=330,slow=2.2,SNR=3.7							
MKAR	**Makanchi Array**	**125.70**	**18**	PKP		**PKPdf**	**17 46 30.4**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=291,slow=4.5,SNR=3.4							
ASAR	**Alice Springs**	**145.13**	**234**	PKPbc		**PKPbc**	**17 47 07.0**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=119,slow=3.9,SNR=70							
WRA	**Warramunga Arr**	**146.41**	**240**	PKPbc		**PKPdf**	**17 47 11.0**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=109,slow=2.8,SNR=12							
CMAR	**Chiang Mai Arr**	**156.90**	**12**	PKPab		**PKPab**	**17 47 55.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=15,slow=3.7,SNR=3.3							

MAN 25 17:27:36, 11°.15N×124°.71E, h10km, mb4.2, ML3.1, MS2.9, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.14**	**226**	*e*P		Pg	17 27 39.8	+0.7
OCLP				*e*S		Sg	17 27 42.6	+1.3
PLP	**Palo**	**0.27**	**86**	⇓*e*P		Pb	17 27 42.7	-0.2
PLP				*e*S		Sb	17 27 47.1	-0.4
BESP	**Borongan**	**0.85**	**58**	*e*P		Pb	17 27 53.1	+0.3
BESP				*e*S		Sn	17 28 06.4	-0.1
MSLP	**Maasin**	**1.02**	**172**	*e*P		Pb	17 27 55.7	0.0
LLP	**Lapu-Lapu**	**1.10**	**222**	⇓*e*P		Pn	17 27 58.4	+0.9
LLP				*e*S		Sb	17 28 11.5	0.0

*CSEM **25** 17:28:42.3, 38°.63N×43°.33E, h7km, ML3.8*

DDA 25 17:28:42.3, 38°.63N×43°.33E, h7km, Ml3.8, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.38**	**214**	⇓*i*P		Pg	17 28 49.7	-0.1
GEVA				*i* S		Sg	17 28 55.4	+0.7
GEVA	**Gevas**	**0.38**	**214**	P		Pg	17 28 49.7	0.0
GEVA				S		Sg	17 28 55.4	+0.7
TUTA	**Tutak**	**0.87**	**333**	*e*P		Pg	17 28 58.9	-0.2
TUTA				*e*S		Sb	17 29 11.8	-0.1
TUTA	**Tutak**	**0.87**	**333**	P		Pg	17 28 58.9	-0.1
TUTA				S		Sb	17 29 11.8	-0.1
HAKT	**HAKKARI**	**1.11**	**164**	*e*P		Pb	17 29 04.1	+0.1
HAKT				*e*S		Sn	17 29 22.7	+2.6
HAKT	**HAKKARI**	**1.11**	**164**	P		Pb	17 29 04.1	+0.2
HAKT				S		Sn	17 29 22.7	+2.6
EKAR	**Karacoban**	**1.17**	**303**	*e*P		Pn	17 29 05.2	-0.1
EKAR				*e*S		Sn	17 29 21.8	+0.1
EKAR	**Karacoban**	**1.17**	**303**	P		Pn	17 29 05.2	-0.1
EKAR				S		Sn	17 29 21.8	+0.2
EATA	**Eleskirt**	**1.39**	**332**	*e*P		Pn	17 29 08.0	-0.5
EATA				*e*S		Sn	17 29 28.2	+0.9
EATA	**Eleskirt**	**1.39**	**332**	P		Pn	17 29 08.0	-0.5
EATA				S		Sn	17 29 28.2	+0.9
CUKT	**Cukurca**	**1.40**	**171**	*e*P		Pg	17 29 12.1	+3.1
CUKT				*e*S		Sg	17 29 33.5	+6.3
CUKT	**Cukurca**	**1.40**	**171**	P		Pg	17 29 12.1	+3.1
CUKT				S		Sg	17 29 33.5	+6.4

WEL 25 17:29:16.1±0.1, 37°.88S×177°.32E, h60km±1km, ML3.5/23, 13C-6D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.28**	**275**	*e*P*		Pn	17 29 26.6	+0.5
RUGZ	**Raukumara Rang**	**0.29**	**107**	⇑P*		Pn	17 29 25.3	-1.0
RUGZ				S*		Sn	17 29 32.5	-1.2
WIZ	**White Island**	**0.37**	**343**	P*		Pn	17 29 26.6	-0.1
WIZ				S*		Sn	17 29 34.8	+0.4
HAZ	**Te Kaha**	**0.39**	**71**	P*		Pn	17 29 26.1	-0.7
HAZ				S*		Sn	17 29 34.2	-0.5
HAZ				AML	AML		17 29 34.8	
HAZ				AML	AML		17 29 35.8	
HAZ				AML	AML		17 29 36.9	
URZ	**Urewera**	**0.41**	**204**	⇓P*		Pn	17 29 26.9	-0.2
URZ				S*		Sn	17 29 35.3	+0.1
URZ				AML	AML		17 29 36.1	
MWZ	**Matawai**	**0.48**	**160**	P*		Pn	17 29 27.5	-0.4
MWZ				S*		Sn	17 29 36.9	+0.4
MWZ				AML	AML		17 29 37.3	
EDRZ	**Edgecumbe**	**0.51**	**244**	P*		Pn	17 29 28.4	+0.1
PKGZ	**Pakihiroa**	**0.60**	**91**	⇑PN		Pn	17 29 28.7	-0.5
PKGZ				AML	AML		17 29 38.9	
PKGZ				AML	AML		17 29 43.2	
TWGZ	**Tauwhareparae**	**0.60**	**120**	⇑PN		Pn	17 29 29.8	+0.6
TWGZ				AML	AML		17 29 41.7	
TWGZ				AML	AML		17 29 44.4	
OPRZ	**Ohinepanea**	**0.61**	**273**	P*		Pn	17 29 29.1	-0.1
RAGZ	**Rawiri**	**0.62**	**173**	AML	AML		17 29 43.9	
RAGZ				AML	AML		17 29 44.1	
TKGZ	**Te Karaka**	**0.70**	**144**	⇑PN		Pn	17 29 30.4	+0.1
TKGZ				AML	AML		17 29 47.1	
TKGZ				AML	AML		17 29 48.1	
TARZ	**Mount Tarawera**	**0.74**	**241**	⇓P*		Pn	17 29 31.1	+0.3
MUGZ	**Murupara**	**0.74**	**216**	⇓P*		Pn	17 29 30.4	-0.4
PUZ	**Puketiti**	**0.76**	**105**	⇑PN		Pn	17 29 30.9	-0.2
PUZ				AML	AML		17 29 44.4	
PUZ				AML	AML		17 29 45.3	
RTZ	**Ruatahuna**	**0.78**	**200**	P*		Pn	17 29 30.9	-0.5
MXZ	**Matakaoa Point**	**0.84**	**68**	P*		Pn	17 29 32.0	0.0
MXZ				AML	AML		17 29 47.5	
MXZ				AML	AML		17 29 48.6	
TGRZ	**Tauranga**	**0.85**	**280**	P*		Pn	17 29 31.9	-0.3
WMGZ	**Waiomatatini S**	**0.87**	**86**	⇑PN		Pn	17 29 32.5	+0.1
WMGZ				AML	AML		17 29 49.0	
WMGZ				AML	AML		17 29 50.7	
RIGZ	**Rimuhau**	**0.90**	**157**	PN		Pn	17 29 32.8	0.0
RIGZ				AML	AML		17 29 48.3	
RIGZ				AML	AML		17 29 48.6	
SNGZ	**Shannon Statio**	**0.90**	**179**	PN		Pn	17 29 33.1	+0.2
SNGZ				AML	AML		17 29 53.3	
SNGZ				AML	AML		17 29 54.0	
CNGZ	**Carnagh Statio**	**0.92**	**131**	PN		Pn	17 29 33.0	-0.1
PRRZ	**Plateau Road**	**0.96**	**230**	⇑P*		Pn	17 29 33.5	-0.1
ALRZ	**Allen Road**	**1.03**	**228**	P*		Pn	17 29 34.5	0.0
PRGZ	**Paritu Road**	**1.13**	**157**	PN		Pn	17 29 35.4	-0.5
PRGZ				AML	AML		17 29 54.8	
PRGZ				AML	AML		17 30 04.7	
KNZ	**Kokohu**	**1.17**	**167**	PN		Pn	17 29 35.7	-0.7
KNZ				AML	AML		17 30 02.6	
MRHZ	**Matea Rd**	**1.19**	**216**	P*		Pn	17 29 36.3	-0.4
MRHZ				AML	AML		17 29 54.2	
MRHZ				AML	AML		17 29 54.8	
WHHZ	**Waihua**	**1.20**	**183**	PN		Pn	17 29 36.7	0.0
WHHZ				AML	AML		17 30 00.7	
WHHZ				AML	AML		17 30 03.9	
NMHZ	**Naumai**	**1.28**	**198**	⇑PN		Pn	17 29 38.9	+0.7
NMHZ				AML	AML		17 30 02.2	
NMHZ				AML	AML		17 30 02.5	
MHGZ	**Mahia Peninsul**	**1.35**	**160**	PN		Pn	17 29 38.2	-0.6
ARHZ	**Aropaoanui**	**1.41**	**190**	PN		Pn	17 29 39.2	-0.3
ARHZ				AML	AML		17 30 00.8	
ARHZ				AML	AML		17 30 01.0	
BKZ	**Black Stump Fm**	**1.44**	**207**	⇓P*		Pn	17 29 39.9	-0.1
BKZ				AML	AML		17 30 06.4	
BKZ				AML	AML		17 30 07.1	
MCHZ	**McNeill Hill**	**1.64**	**197**	PN		Pn	17 29 42.4	-0.3
MCHZ				AML	AML		17 30 15.1	
MCHZ				AML	AML		17 30 24.0	
KWHZ	**Kaweka Forest**	**1.69**	**204**	⇑P*		Pn	17 29 43.1	-0.3
KWHZ				AML	AML		17 30 12.1	
KWHZ				AML	AML		17 30 13.0	
KUZ	**Kuaotunu**	**1.71**	**311**	⇑PN		Pn	17 29 42.9	-0.6
WTVZ	**West Tongariro**	**1.84**	**227**	P*		Pn	17 29 45.7	+0.3
NGZ	**Ngauruhoe**	**1.87**	**226**	P*		Pn	17 29 46.3	+0.4
BHHZ	**Black Hill Sta**	**1.89**	**211**	P*		Pn	17 29 45.7	-0.3
BHHZ				AML	AML		17 30 20.0	
MKAZ	**Moumakai**	**1.89**	**294**	⇑PN		Pn	17 29 45.9	-0.1
KRHZ	**Kereru**	**1.91**	**203**	PN		Pn	17 29 45.2	-1.1
KRHZ				AML	AML		17 30 18.1	
KRHZ				AML	AML		17 30 19.8	
KAHZ	**Kahuranaki**	**1.94**	**190**	PN		Pn	17 29 45.5	-1.3
FWVZ	**Far West T-bar**	**1.95**	**225**	P*		Pn	17 29 47.4	+0.3
MOVZ	**Moawhango**	**1.96**	**218**	⇓P*		Pn	17 29 46.7	-0.4
WNVZ	**Wahianoa**	**1.98**	**223**	⇓P*		Pn	17 29 47.5	+0.1
PXZ	**Pawanui**	**2.18**	**189**	PN		Pn	17 29 47.5	-2.4
GRZ	**Great Barrier**	**2.21**	**317**	⇑PN		Pn	17 29 50.0	-0.3
PNHZ	**Pukenui**	**2.21**	**203**	PN		Pn	17 29 48.7	-1.7
TSZ	**Takapari Road**	**2.42**	**206**	PN		Pn	17 29 51.4	-1.9
WAZ	**Wanganui**	**2.62**	**224**	⇑PN		Pn	17 29 56.3	+0.4
TMWZ	**Te Maipa**	**3.41**	**199**	PN		Pn	17 30 03.0	-3.8
KIWZ	**Kapiti Island**	**3.52**	**211**	PN		Pn	17 30 05.2	-3.0
TCW	**Tory Channel**	**4.08**	**214**	PN		Pn	17 30 12.1	-3.8
TUWZ	**Tuamarina**	**4.40**	**215**	PN		Pn	17 30 16.2	-4.1

*ISCJB **25** 17:32:42.9±0.7, 38°.76N±0°.03×43°.49E±0°.05, h3km±5km, Error ellipse: s-maj=7.4km s-min=3.7km az=161.3*
*DDA **25** 17:32:43.0, 38°.71N×43°.40E, h5km, Ml3.9*
*ISK **25** 17:32:42.7, 38°.74N×43°.45E, h5km, ML3.4*
*CSEM **25** 17:32:42.8±0.3, 38°.75N×43°.50E, h2km, ML3.4, Error ellipse: s-maj=8.2km s-min=3.9km az=70.0*

ISC 25 17:32:44.3±0.8, 38°.74N±0°.02×43°.42E±0°.03, h12km±5km, n52, σ1§16/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**189**	*e*PG		**Pg**	**17 32 47.5**	**-0.5**
VANB				*e*SG		**Sb**	**17 32 51.8**	**+1.2**
VANB	**Van**	**0.15**	**189**	*e*Pg		**Pg**	**17 32 47.5**	**-0.5**
VANB				*e*Sg		**Sb**	**17 32 51.8**	**+1.2**
GEVA	**Gevas**	**0.51**	**213**	*i* P		**Pg**	**17 32 52.2**	**-2.3**
GEVA				*i* S		**Sg**	**17 33 00.5**	**-0.8**
GEVA	**Gevas**	**0.51**	**213**	P		**Pg**	**17 32 52.2**	**-2.3**
GEVA				S		**Sg**	**17 33 00.5**	**-0.8**
TUTA	**Tutak**	**0.81**	**325**	*i* P		**Pg**	**17 32 58.2**	**-1.8**
TUTA				*i* S		**Sg**	**17 33 08.1**	**-2.5**
TUTA	**Tutak**	**0.81**	**325**	P		**Pg**	**17 32 58.2**	**-1.8**
TUTA				S		**Sg**	**17 33 08.1**	**-2.5**
BASK	**Baskale_VAN**	**0.83**	**146**	*i* P		**Pg**	**17 32 58.8**	**-1.6**
BASK				*i* S		**Sg**	**17 33 10.9**	**-0.4**
BASK	**Baskale_VAN**	**0.83**	**146**	P		**Pg**	**17 32 58.8**	**-1.6**
BASK				S		**Sg**	**17 33 10.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*PG		**Pg**	**17 33 01.0**	**-0.6**
AGRB				*e*SG		**Sg**	**17 33 13.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*Pg		**Pg**	**17 33 01.0**	**-0.6**
AGRB				*e*Sg		**Sg**	**17 33 13.0**	**-0.4**
EKAR	**Karacoban**	**1.17**	**296**	*i* P		**Pg**	**17 33 07.0**	**+0.1**
EKAR				*i* S		**Sn**	**17 33 24.5**	**+1.8**
EKAR	**Karacoban**	**1.17**	**296**	P		**Pg**	**17 33 07.0**	**+0.1**
EKAR				S		**Sn**	**17 33 24.5**	**+1.8**
HAKT	**HAKKARI**	**1.21**	**169**	*i* P		**Pn**	**17 33 05.1**	**-2.1**
HAKT				*i* S		**Sb**	**17 33 22.8**	**0.0**
HAKT	**HAKKARI**	**1.21**	**169**	P		**Pn**	**17 33 05.1**	**-2.1**
HAKT				S		**Sb**	**17 33 22.8**	**0.0**
EATA	**Eleskirt**	**1.33**	**328**	*i* P		**Pn**	**17 33 08.4**	**-0.6**
EATA				*i* S		**Sg**	**17 33 26.7**	**-0.5**
EATA	**Eleskirt**	**1.33**	**328**	P		**Pn**	**17 33 08.4**	**-0.6**
EATA				S		**Sg**	**17 33 26.7**	**-0.5**
CUKT	**Cukurca**	**1.50**	**174**	*e*PN		**Pn**	**17 33 10.9**	**-0.2**
CUKT	**Cukurca**	**1.50**	**174**	*i* P		**Pg**	**17 33 14.5**	**+1.3**
CUKT				*i* S		**Sg**	**17 33 34.4**	**+1.7**
CUKT	**Cukurca**	**1.50**	**174**	*e*Pn		**Pn**	**17 33 10.9**	**-0.2**
CUKT	**Cukurca**	**1.50**	**174**	P		**Pg**	**17 33 14.5**	**+1.3**
CUKT				S		**Sg**	**17 33 34.4**	**+1.7**
VRTB	**Varto-Mus**	**1.58**	**286**	*e*PN		**Pn**	**17 33 12.0**	**-0.3**
VRTB	**Varto-Mus**	**1.58**	**286**	*i* P		**Pb**	**17 33 12.8**	**-0.8**
VRTB				*i* S		**Sg**	**17 33 36.1**	**+0.8**
VRTB	**Varto-Mus**	**1.58**	**286**	*e*Pn		**Pn**	**17 33 12.0**	**-0.3**
VRTB	**Varto-Mus**	**1.58**	**286**	P		**Pb**	**17 33 12.8**	**-0.8**
VRTB				S		**Sg**	**17 33 36.2**	**+0.8**
BNGL	**BINGOL**	**1.78**	**277**	*i* P		**Pb**	**17 33 15.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*e*PN		**Pn**	**17 33 16.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*i* P		**Pb**	**17 33 16.8**	**-1.1**
SVAN				*i* S		**Sb**	**17 33 40.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	*e*Pn		**Pn**	**17 33 16.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.84**	**252**	P		**Pb**	**17 33 16.8**	**-1.1**
SVAN				S		**Sb**	**17 33 40.3**	**-0.6**
BTMN	**Batman**	**1.89**	**244**	*i* P		**Pn**	**17 33 17.0**	**+0.5**
BTMN				*i* S		**Sb**	**17 33 42.4**	**0.0**
BTMN	**Batman**	**1.89**	**244**	P		**Pn**	**17 33 17.0**	**+0.5**
BTMN				S		**Sb**	**17 33 42.4**	**0.0**
EAK	**Akyaka**	**1.95**	**4**	*i* P		**Pg**	**17 33 22.2**	**+0.6**
ERZM	**Erzurum**	**1.97**	**307**	*i* P		**Pb**	**17 33 19.8**	**-0.4**
ERZM	**Erzurum**	**1.97**	**307**	P		**Pb**	**17 33 19.8**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*PN		**Pn**	**17 33 18.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.99**	**336**	*e*Pn		**Pn**	**17 33 18.3**	**+0.3**
BNGB	**Bing¨¶l**	**2.15**	**277**	*e*PN		**Pn**	**17 33 21.0**	**+0.9**
BINT	**Bingol**	**2.29**	**274**	*e*PN		**Pn**	**17 33 21.0**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.34**	**288**	*e*PN		**Pn**	**17 33 23.6**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.34**	**288**	*e*Pn		**Pn**	**17 33 23.6**	**+0.9**
DDEM	**Demirkent**	**2.50**	**330**	*i* P		**Pb**	**17 33 29.6**	**+0.4**
DDEM	**Demirkent**	**2.50**	**330**	P		**Pb**	**17 33 29.6**	**+0.4**
MARD	**Mardin**	**2.52**	**236**	*i* P		**Pn**	**17 33 24.9**	**-0.3**
DAGI	**Agillar**	**2.60**	**334**	*i* P		**Pb**	**17 33 31.7**	**+0.7**
MAZI	**Mazidag**	**2.67**	**242**	*e*PN		**Pn**	**17 33 26.3**	**-1.0**
MAZI	**Mazidag**	**2.67**	**242**	*e*Pn		**Pn**	**17 33 26.3**	**-1.0**
PTK	**Pertek**	**3.15**	**274**	*e*PN		**Pn**	**17 33 35.3**	**+1.4**
PTK	**Pertek**	**3.15**	**274**	*e*Pn		**Pn**	**17 33 35.3**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.24**	**265**	*e*PN		**Pn**	**17 33 36.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.24**	**265**	*e*Pn		**Pn**	**17 33 36.5**	**+1.4**
URFA	**Urfa**	**3.85**	**252**	*e*PN		**Pn**	**17 33 45.1**	**+1.7**
URFA	**Urfa**	**3.85**	**252**	*e*Pn		**Pn**	**17 33 45.1**	**+1.7**

*DDA **25** 17:57:57.7, 38°.80N×43°.69E, h4km, Ml3.8*
*AZER **25** 17:57:58.8±2.7, 38°.18N×43°.52E, h30km±64km, Error ellipse: s-maj=53.0km s-min=28.2km az=37.0*
*CSEM **25** 17:58:00.3±0.3, 38°.91N×43°.53E, h2km, ML3.5

EKAR	**Karacoban**	**1.01**	**308**	*i* P	**Pb**	**18 06 45.4**	**-0.7**
EKAR				*i* S	**Sn**	**18 07 02.0**	**+0.3**
EKAR	**Karacoban**	**1.01**	**308**	P	**Pb**	**18 06 45.4**	**-0.7**
EKAR				S	**Sn**	**18 07 02.0**	**+0.3**
DYDN	**Diyadin**	**1.01**	**27**	*i* P	**Pg**	**18 06 43.9**	**-1.6**
DYDN				*i* S	**Sb**	**18 06 59.3**	**-0.5**
DYDN	**Diyadin**	**1.01**	**27**	P	**Pg**	**18 06 43.9**	**-1.6**
DYDN				S	**Sb**	**18 06 59.3**	**-0.5**
HAKT	**HAKKARI**	**1.19**	**156**	*i* P	**Pb**	**18 06 46.3**	**-2.8**
HAKT				*i* S	**Sn**	**18 07 05.6**	**-0.4**
HAKT	**HAKKARI**	**1.19**	**156**	P	**Pb**	**18 06 46.3**	**-2.8**
HAKT				S	**Sn**	**18 07 05.6**	**-0.4**
EATA	**Eleskirt**	**1.30**	**339**	*i* P	**Pn**	**18 06 49.6**	**-1.5**
EATA				*i* S	**Sn**	**18 07 09.4**	**+0.3**
EATA	**Eleskirt**	**1.30**	**339**	P	**Pn**	**18 06 49.6**	**-1.5**
EATA				S	**Sn**	**18 07 09.4**	**+0.3**
VRTB	**Varto-Mus**	**1.38**	**293**	*e*PN	**Pg**	**18 06 52.3**	**-0.1**
VRTB	**Varto-Mus**	**1.38**	**293**	*e*Pn	**Pg**	**18 06 52.3**	**-0.1**
CUKT	**Cukurca**	**1.45**	**163**	*e*PN	**Pb**	**18 06 53.0**	**-0.4**
CUKT	**Cukurca**	**1.45**	**163**	*i* P	**Pg**	**18 06 53.6**	**-0.2**
CUKT				*i* S	**Sg**	**18 07 15.8**	**+3.2**
CUKT	**Cukurca**	**1.45**	**163**	*e*Pn	**Pb**	**18 06 53.1**	**-0.4**
CUKT	**Cukurca**	**1.45**	**163**	P	**Pg**	**18 06 53.6**	**-0.2**
CUKT				S	**Sg**	**18 07 15.8**	**+3.2**
SVAN	**Silvan-Diyarba**	**1.56**	**252**	*e*PN	**Pg**	**18 06 55.3**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.56**	**252**	*i* P	**Pg**	**18 06 55.5**	**-0.5**
SVAN				*i* S	**Sg**	**18 07 16.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.56**	**252**	*e*Pn	**Pg**	**18 06 55.3**	**-0.7**
SVAN				S	**Sg**	**18 07 16.8**	**+0.5**
BTMN	**Batman**	**1.62**	**243**	*i* P	**Pg**	**18 06 56.5**	**-0.5**
BTMN				*i* S	**Sg**	**18 07 20.2**	**+2.3**
BTMN	**Batman**	**1.62**	**243**	P	**Pg**	**18 06 56.5**	**-0.5**
BTMN				S	**Sg**	**18 07 20.2**	**+2.3**
HOMI	**Horasan**	**1.68**	**327**	*i* P	**Pb**	**18 06 56.8**	**-0.6**
HOMI				*i* S	**Sg**	**18 07 20.9**	**+1.1**
DIGO	**Kars**	**1.78**	**7**	*i* P	**Pb**	**18 06 58.0**	**-1.3**
DIGO	**Kars**	**1.78**	**7**	P	**Pb**	**18 06 58.0**	**-1.3**
ERZM	**Erzurum**	**1.84**	**314**	*i* P	**Pb**	**18 07 00.0**	**-0.2**
ERZM	**Erzurum**	**1.84**	**314**	P	**Pb**	**18 07 00.0**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.91**	**301**	*i* P	**Pb**	**18 07 00.4**	**-0.9**
ECAT	**Cat-ERZURUM**	**1.91**	**301**	P	**Pb**	**18 07 00.4**	**-0.9**
BNGB	**Bing¨¶l**	**1.92**	**281**	*e*PN	**Pb**	**18 07 00.3**	**-1.2**
NAX	**Nakhchivan** SNR=7.9	**1.95**	**73**	⇑P	**Pb**	**18 07 01.0**	**-1.0**
NAX				⇓S	**Sg**	**18 07 29.4**	**+0.8**
NAX	**Nakhchivan** SNR=7.9	**1.95**	**73**	P	**Pb**	**18 07 01.0**	**-1.0**
NAX				S	**Sg**	**18 07 29.4**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**344**	*e*PN	**Pn**	**18 07 00.2**	**-0.4**
BINT	**Bingol**	**2.05**	**277**	*e*Pn	**Pn**	**18 07 00.3**	**-0.9**
EAK	**Akyaka**	**2.08**	**11**	*i* P	**Pg**	**18 07 05.4**	**-0.4**
EAK	**Akyaka**	**2.08**	**11**	P	**Pg**	**18 07 05.4**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.13**	**293**	*e*PN	**Pb**	**18 07 03.2**	**-2.0**
MARD	**Mardin**	**2.26**	**235**	*i* P	**Pb**	**18 07 06.4**	**-0.9**
MARD				*i* S	**Sg**	**18 07 38.9**	**+0.4**
MAZI	**Mazidag**	**2.40**	**241**	*e*PN	**Pn**	**18 07 07.0**	**+1.0**
MAZI	**Mazidag**	**2.40**	**241**	*e*Pn	**Pn**	**18 07 07.0**	**+1.0**
DDEM	**Demirkent**	**2.47**	**336**	*i* P	**Pb**	**18 07 11.3**	**+0.4**
BGD	**Bogdanovka**	**2.65**	**8**	P	**Pb**	**18 07 14.6**	**+0.6**
AKH	**Akhalkalaki**	**2.78**	**6**	P	**Pb**	**18 07 16.1**	**-0.2**
ERZN	**Erzincan**	**2.78**	**291**	*e*PN	**Pn**	**18 07 12.6**	**+1.3**
PTK	**Pertek**	**2.90**	**276**	*e*PN	**Pn**	**18 07 14.1**	**+1.1**
PTK	**Pertek**	**2.90**	**276**	*e*Pn	**Pn**	**18 07 14.1**	**+1.1**
GDB	**GEDABAY** SNR=6.7	**2.92**	**44**	⇓P	**Pb**	**18 07 17.8**	**-0.8**
GDB	**GEDABAY** SNR=6.7	**2.92**	**44**	P	**Pb**	**18 07 17.8**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*PN	**Pn**	**18 07 15.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**2.98**	**266**	*e*Pn	**Pn**	**18 07 15.5**	**+1.5**
QZX	**Qazax, Azerbai** SNR=9.5	**2.98**	**35**	⇑P	**Pb**	**18 07 20.0**	**+0.4**
QZX				⇑S	**Sg**	**18 08 06.8**	**+4.9**
QZX	**Qazax, Azerbai** SNR=9.5	**2.98**	**35**	P	**Pb**	**18 07 20.0**	**+0.4**
QZX				S	**Sg**	**18 08 06.8**	**+4.9**
GANJ	**Ganja** SNR=3.1	**3.20**	**50**	⇑P	**Pb**	**18 07 22.6**	**-0.7**
GANJ	**Ganja** SNR=3.1	**3.20**	**50**	P	**Pb**	**18 07 22.6**	**-0.7**
DGRG	**David-gareji**	**3.31**	**31**	P	**Pb**	**18 07 26.1**	**+0.9**
TBLG	**Delisi**	**3.33**	**22**	P	**Pb**	**18 07 24.6**	**-0.9**
BRDA	**Brd**	**3.56**	**62**	⇑P	**Pn**	**18 07 23.8**	**+2.0**
BRDA	**Brd**	**3.56**	**62**	P	**Pn**	**18 07 23.8**	**+2.0**
ONI	**Oni**	**3.95**	**4**	P	**Pg**	**18 07 40.2**	**-1.5**

NIED ***25*** *18:07:00, 37°.30N×143°.70E, h5km, Mw4.1 Best double couple: M0=1.74000×10^15 NP1:φs=182.00000°, δ37.00000°, λ-109.00000°. NP2:φs=26.00000°, δ56.00000°, λ-76.00000°.*
IDC ***25*** *18:07:10.6±0.6, 37°.12N×143°.95E, h0km, mb4.2/22, mb1 4.3/28, mb1mx4.2/56, mbtmp4.2/28, ML4.0/5, MS3.5/8, Ms1 3.5/8, ms1mx3.1/27, Error ellipse: s-maj=16.3km s-min=13.8km az=97.0*
ISCJB ***25*** *18:07:14.0±0.3, 37°.15N±0°.03×143°.76E±0°.03, h33km, mb4.5/41, MS3.5/6, Error ellipse: s-maj=4.7km s-min=3.8km az=154.5*
JMA ***25*** *18:07:15.3±0.3, 37°.27N×143°.66E, h55km, M4.6*
NEIC ***25*** *18:07:15.7±0.3, 37°.12N×143°.93E, h35km, mb4.7/19, Error ellipse: s-maj=5.9km s-min=4.9km az=134.0*
ISC 25 18:07:15.6±0.5, 37°.15N±0°.05×143°.86E±0°.06, h35km, n101, σ1§95/115, mb4.4/41, MS3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.38**	**304**	P	**Pn**	**18 07 50.3**	**-1.8**
JIO				*e*S	**Sn**	**18 08 15.7**	**-4.3**
JFK	**Kawauchi**	**2.39**	**276**	P	**Pn**	**18 07 50.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**2.45**	**270**	P	**Pn**	**18 07 51.6**	**-1.5**
ONAJ				*e*S	**Sn**	**18 08 18.5**	**-3.3**
JMM	**Marumori**	**2.54**	**287**	P	**Pn**	**18 07 52.5**	**-1.8**
JMM				*e*S	**Sn**	**18 08 20.1**	**-4.0**
JMK	**Ichinoseki**	**2.75**	**312**	P	**Pn**	**18 07 55.5**	**-1.7**
JFT	**Otama**	**2.83**	**279**	P	**Pn**	**18 07 57.7**	**-0.7**
JFT				*e*S	**Sn**	**18 08 29.1**	**-2.2**
JOM	**Ohasama**	**3.08**	**320**	P	**Pn**	**18 07 59.9**	**-1.8**
JOM				*e*S	**Sn**	**18 08 33.2**	**-4.0**
JYK	**Kaneyama**	**3.28**	**304**	P	**Pn**	**18 08 03.5**	**-1.0**
BSO1	**Boso 1**	**3.42**	**224**	P	**Pn**	**18 08 05.1**	**-0.8**
BSO1				*e*S	**Sn**	**18 08 43.9**	**-1.0**
JAG	**Ashikaga**	**3.61**	**260**	P	**Pn**	**18 08 08.2**	**-0.9**
JAG				*e*S	**Sn**	**18 08 47.5**	**-3.0**
JRY	**Ryogami san**	**4.15**	**256**	P	**Pn**	**18 08 15.3**	**-1.2**
JRY				*e*S	**Sn**	**18 08 58.9**	**-4.9**
JOD2	**Odawara 2**	**4.29**	**245**	P	**Pn**	**18 08 17.3**	**-1.2**
JOD2				*e*S	**Sn**	**18 09 02.8**	**-4.5**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=87,slow=16,SNR=75	**4.57**	**264**	Pn	**Pn**	**18 08 22.6**	**+0.3**
MJAR	11nm,0.3s,baz=57,slow=21,SNR=13			Sn	**Sn**	**18 09 13.2**	**-1.0**
MJAR	comp=Z,356nm,21.5s,baz=85,slow=40			LR	LR	18 10 17.4	
MAJO	**Matsushiro**	**4.58**	**264**	*e*Pn	**Pn**	**18 08 22.7**	**+0.4**
MAJO				*e*Sn	**Sn**	**18 09 13.9**	**-0.4**
MAT	**Matsushiro**	**4.58**	**264**	P	**Pn**	**18 08 22.9**	**+0.6**
MAT				S	**Sn**	**18 09 13.2**	**-1.1**
MJB9	**Matsu-Tunnel**	**4.58**	**264**	*e*Pn	**Pn**	**18 08 22.7**	**+0.3**
MJB9				*e*Sn	**Sn**	**18 09 14.2**	**-0.2**
JOT	**Ohata**	**4.76**	**334**	P	**Pn**	**18 08 23.8**	**-0.9**
JKB	**Kayabe**	**5.21**	**336**	P	**Pn**	**18 08 29.6**	**-1.4**
JKB				*e*S	**Sn**	**18 09 22.6**	**-7.2**
JHJ2	**Mitsune**	**5.22**	**221**	P	**Pn**	**18 08 28.9**	**-2.2**
JHJ2	**Mitsune**	**5.22**	**221**	*e*Pn	**Pn**	**18 08 29.3**	**-1.8**
JHJ2				*e*Sn	**Sn**	**18 09 24.7**	**-5.3**
JHJ	**Hachijo jima 2** 13nm,0.3s,baz=105,slow=22,SNR=19	**5.23**	**221**	Pn	**Pn**	**18 08 29.4**	**-1.9**
JHJ	89nm,0.3s,baz=89,slow=22,SNR=8.5			Sn	**Sn**	**18 09 24.1**	**-6.3**
JCH	**Churui**	**5.47**	**356**	P	**Pn**	**18 08 31.8**	**-2.8**
JCH				*e*S	Sn	18 09 28.6	-7.6
INU	**Inuyama**	**5.82**	**254**	*e*Pn	**Pn**	**18 08 41.0**	**+1.6**
NEM2	**Nemuro 2**	**6.37**	**12**	P	Pn	18 08 42.3	-4.6
NEM2				*e*S	Sn	18 09 48.2	-10
JHR	**Hokuryu**	**6.78**	**347**	P	**Pn**	**18 08 51.9**	**-0.7**
JTKR	**Abashiri--Toko**	**6.81**	**0**	P	**Pn**	**18 08 50.3**	**-2.7**
JTKR				*e*S	Sn	18 10 00.3	-9.0
ASAJ	**Asahikawa** 6.8nm,0.3s,baz=198,slow=11,SNR=53	**7.03**	**353**	Pn	**Pn**	**18 08 54.0**	**-1.9**
ASAJ	3.9nm,0.3s,baz=43,slow=31,SNR=4.8			Sn	**Sn**	**18 10 10.4**	**-4.1**
ASAJ	**Asahikawa**	**7.03**	**353**	*e*Pn	**Pn**	**18 08 53.9**	**-2.0**
ASAJ				*e*Sn	Sn	18 10 06.4	-8.1
YSS	**Yuzh-Sakhalins**	**9.83**	**356**	*e*Pn	Pn	18 09 30.6	-3.8
CBIJ	**Chichi jima**	**10.12**	**189**	*e*Pn	**Pn**	**18 09 34.3**	**-4.2**
CBIJ				*e*Sn	Sn	18 11 17.7	-13
JNU	**Nakatsue** 0.4nm,0.3s,baz=95,slow=6.1,SNR=6.0	**11.36**	**253**	Pn	**Pn**	**18 09 56.0**	**+0.5**
USRK	**Ussuriysk Ar.** 0.5nm,0.3s,baz=100,slow=16,SNR=5.1	**11.43**	**312**	Pn	**Pn**	**18 09 56.9**	**+0.6**
KSRS	**Korea Array** 0.2nm,0.3s,baz=91,slow=14,SNR=13	**12.70**	**276**	Pn	**Pn**	**18 10 15.0**	**+1.4**
KSRS	comp=Z,160nm,19.3s,baz=80,slow=34			LR	LR	18 14 30.1	
KS15	**Wonju Array Si**	**12.73**	**276**	*e*Pn	**Pn**	**18 10 14.2**	**+0.2**
KSAR	**Wonju Array Be**	**12.73**	**276**	Pn	**Pn**	**18 10 15.0**	**+1.0**
KLR	**Kul'dur** 0.0nm,0.3s,baz=139,slow=11,SNR=6.7	**14.94**	**328**	Pn	**Pn**	**18 10 41.6**	**-2.4**
TPUB	**Ta-pu** 304nm,2.0s	**24.28**	**242**	*e*P	**P**	**18 12 30.1**	**+0.4**
SEY	**Seymchan** 6.7nm,0.8s,baz=185,slow=5.9,SNR=11	**26.34**	**9**	P	**P**	**18 12 48.9**	**+1.0**
H11N2	**WAKE ISLAND Hy** baz=316,slow=74,SNR=18	**26.56**	**124**	T	T	18 40 40.8	
H11N1	**WAKE ISLAND Hy** baz=316,slow=74,SNR=11	**26.57**	**125**	T	T	18 40 40.8	
H11N3	**WAKE ISLAND Hy** baz=316,slow=74,SNR=13	**26.58**	**124**	T	T	18 40 40.8	
H11S1	**WAKE ISLAND Hy** baz=319	**27.32**	**127**	T	T	18 41 40.3	
H11S3	**WAKE ISLAND Hy** baz=318,slow=74	**27.32**	**127**	T	T	18 41 35.7	
H11S2	**WAKE ISLAND Hy** baz=318,slow=74	**27.33**	**127**	T	T	18 41 38.2	
ULN	**Ulaanbaatar** 6.6nm,1.1s	**28.92**	**303**	*e*P	**P**	**18 13 14.3**	**+2.9**
ENH	**Enshi** 12nm,0.8s	**29.29**	**267**	*e*P	**P**	**18 13 16.4**	**+1.7**
SONA0	**Songino Array**	**29.35**	**303**	*e*P	**P**	**18 13 16.2**	**+1.1**
SONM	**Songino Array** 3.9nm,1.0s,baz=106,slow=9.8,SNR=16	**29.35**	**303**	P	**P**	**18 13 16.3**	**+1.1**
SONM	comp=Z,67nm,18.4s,baz=148,slow=37			LR	LR	18 25 25.1	
GSTR	**Great Sitkin T**	**31.74**	**49**	*e*P	**P**	**18 13 35.5**	**-0.6**
CHTO	**Chiang Mai** 3.3nm,0.9s	**43.22**	**258**	*e*P	**P**	**18 15 14.4**	**+0.9**
ZAA0	**Zalesovo Array** 4.6nm,1.1s	**43.28**	**312**	*e*P	**P**	**18 15 13.6**	**+0.1**
ZAA1	**Zalesovo Array**	**43.28**	**312**	*e*P	**P**	**18 15 14.1**	**+0.5**
ZAA1				*e*PP	**PcP**	**18 17 02.6**	**+0.5**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=88,slow=5.0,SNR=7.6	**43.28**	**312**	P	**P**	**18 15 14.1**	**+0.5**
ZALV	3.3nm,0.6s,baz=96,slow=2.8,SNR=11			PcP	**PcP**	**18 17 02.6**	**+0.5**
ZALV	comp=Z,64nm,18.0s,baz=68,slow=37			LR	LR	18 33 50.2	
CM31	**Chiang Mai Arr**	**43.43**	**257**	*e*P	**P**	**18 15 15.2**	**0.0**
CMAR	**Chiang Mai Arr** 1.5nm,0.7s,baz=44,slow=6.8,SNR=19	**43.43**	**257**	P	**P**	**18 15 16.8**	**+1.6**
CMAR	comp=Z,52nm,18.9s,baz=18,slow=41			LR	LR	18 36 35.9	
LSA	**Lhasa** 2.5nm,0.8s	**44.15**	**276**	*e*P	**P**	**18 15 23.5**	**+2.1**
MK31	**Makanchi Array**	**45.71**	**302**	*e*P	**P**	**18 15 33.8**	**+0.7**
MK32	**Makanchi Array**	**45.71**	**302**	*e*P	**P**	**18 15 33.9**	**+0.8**
MKAR	**Makanchi Array** 2.8nm,0.8s,baz=86,slow=9.4,SNR=23	**45.71**	**302**	P	**P**	**18 15 33.9**	**+0.8**
MKAR	**Makanchi Array** 22nm,0.8s	**45.71**	**302**	*e*P	**P**	**18 15 33.6**	**+0.5**
MAKZ	**Makanchi** 5.4nm,1.1s	**45.92**	**303**	*e*P	**P**	**18 15 34.9**	**+0.1**
KURK	**Kurchatov** 5.7nm,0.6s	**47.40**	**308**	*e*P	**P**	**18 15 46.4**	**+0.2**
KURBB	**Kurchatov Arra** 2.6nm,0.6s,baz=82,slow=7.8,SNR=31	**47.47**	**308**	P	**P**	**18 15 46.9**	**+0.1**
KAPI	**Kappang** 239nm,0.8s	**47.60**	**213**	*e*P	**P**	**18 15 43.4**	**-4.7**
ILAR	**Eielson Array** 1.0nm,0.7s,baz=266,slow=6.5,SNR=11	**48.35**	**32**	P	**P**	**18 15 54.0**	**+0.6**
ILB	**Eielson Array**	**48.35**	**32**	*e*P	**P**	**18 15 53.6**	**+0.2**
MMRI	**Maumere** 47nm,1.3s	**49.85**	**208**	*e*P	**P**	**18 16 05.8**	**+0.4**
SOEI	**Soe** 14nm,1.0s	**50.15**	**206**	*e*P	**P**	**18 16 07.7**	**-0.2**
MTN	**Manton Dam** 11nm,0.8s	**51.15**	**196**	*e*P	**P**	**18 16 15.1**	**-0.1**
BVAR	**Borovoye Array** 2.1nm,0.8s,baz=72,slow=8.2,SNR=7.7	**51.94**	**313**	P	**P**	**18 16 21.3**	**+0.5**
BVAR	1.3nm,0.6s,baz=38,slow=7.5,SNR=4.5			PcP	**PcP**	**18 17 34.0**	**+1.1**
AAK	**Ala-Archa** 1.0nm,0.7s,baz=66,slow=5.7,SNR=4.2	**52.15**	**299**	P	**P**	**18 16 23.5**	**+0.8**
KKAR	**Karatay Array** 60nm,1.4s	**54.75**	**301**	*e*P	**P**	**18 16 42.1**	**+0.5**
WB2	**Warramunga Arr** 6.1nm,0.7s	**57.49**	**191**	*e*P	**P**	**18 17 00.5**	**-0.8**
WR1	**Warramunga Arr** 5.8nm,0.6s	**57.49**	**191**	*e*P	**P**	**18 17 00.9**	**-0.3**
WRA	**Warramunga Arr** 5.4nm,0.6s,baz=11,slow=7.3,SNR=40	**57.49**	**191**	P	**P**	**18 17 00.9**	**-0.3**
ARU	**Arti** 3.1nm,0.4s,baz=97,slow=2.5,SNR=7.6	**57.56**	**319**	P	**P**	**18 17 02.1**	**+0.7**
ARU	**Arti** 9.5nm,1.1s	**57.56**	**319**	*e*P	**P**	**18 17 01.7**	**+0.3**
ABKAR	**Akbulak array** 25nm,0.6s	**59.35**	**311**	*e*P	**P**	**18 17 14.0**	**0.0**
AKTO	**Aktyubinsk** 2.8nm,0.8s,baz=73,slow=12,SNR=9.1	**60.05**	**313**	P	**P**	**18 17 19.2**	**+0.4**
AS31	**Alice Springs** 1.2nm,0.7s	**61.21**	**190**	*e*P	**P**	**18 17 26.9**	**-0.1**
ASAR	**Alice Springs** 3.2nm,0.7s,baz=6.3,slow=7.1,SNR=49	**61.21**	**190**	P	**P**	**18 17 27.0**	**0.0**
STKA	**Stephens Creek** 1.4nm,0.8s,baz=337,slow=8.0,SNR=2.8	**68.70**	**182**	P	**P**	**18 18 15.6**	**+0.1**
FIA0	**FINESS Array S**	**69.61**	**333**	*e*P	**P**	**18 18 21.5**	**+0.7**
FINES	**FINESS Array B** 4.7nm,0.7s,baz=35,slow=7.0,SNR=11	**69.61**	**333**	P	**P**	**18 18 21.5**	**+0.7**
FINES	comp=Z,23nm,18.1s,baz=22,slow=38			LR	LR	18 50 48.0	
TPMT	**Tepee Creek**	**73.77**	**46**	*e*P	**P**	**18 18 46.1**	**-0.4**
HFS	**Hagfors** 1.6nm,0.5s,baz=62,slow=6.7,SNR=12	**74.77**	**337**	P	**P**	**18 18 53.0**	**+1.3**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.7s,baz=40,slow=6.2	**74.82**	**338**	P	**P**	**18 18 52.9**	**+0.9**
NB200	**NORSAR Array S**	**74.82**	**338**	*e*P	**P**	**18 18 52.6**	**+0.6**
NOA	**NORSAR Array B** comp=Z,1.8nm,0.9s,baz=51,slow=7.0,SNR=3.7	**74.82**	**338**	P	**P**	**18 18 52.6**	**+0.6**
NOA	comp=Z,31nm,18.8s,baz=85,slow=39			LR	LR	18 56 07.0	
AKASG	**Malin Array Be** comp=Z,1.5nm,0.6s,baz=45,slow=5.1,SNR=7.6	**75.39**	**323**	P	**P**	**18 18 54.4**	**-1.0**
AKASG	comp=Z,31nm,18.2s,baz=90,slow=38			LR	LR	18 55 20.1	
PDAR	**Pinedale Array** comp=Z,0.6nm,0.7s,baz=297,slow=8.0,SNR=1.9	**76.18**	**47**	P	**P**	**18 19 01.0**	**+0.6**
DPC	**Dobruska-Polom**	**81.38**	**329**	*e*P	**P**	**18 19 30.5**	**+1.9**
CLL	**Collm** comp=Z,8.0nm,0.9s	**81.95**	**331**	*i* P	**P**	**18 19 32.2**	**+0.7**
CLL				*i* pP	**pP**	**18 19 44.7**	**+2.2**
KHC	**Kasperske Hory**	**83.45**	**330**	*e*P	**P**	**18 19 40.8**	**+1.4**
KHC				*e*pP	**sP**	**18 19 53.0**	**-1.5**
KHC	**Kasperske Hory** comp=Z,1.6nm,0.8s	**83.45**	**330**	*e*P	**P**	**18 19 40.9**	**+1.5**
MMAI	**Mount Meron Ar** comp=Z,3.5nm,0.7s,baz=39,slow=9.8,SNR=4.4	**83.48**	**307**	P	**P**	**18 19 41.5**	**+1.6**
GERES	**GERESS Array B** comp=Z,1.1nm,0.6s,baz=35,slow=5.6,SNR=9.4	**83.62**	**329**	P	**P**	**18 19 41.1**	**+0.7**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.7s,baz=294,slow=3.1,SNR=7.7	**88.49**	**54**	P	**P**	**18 20 05.7**	**+0.9**
TOA1	**Torodi Ar. Sit**	**118.61**	**317**	*e*PKPdf	**PKPdf**	**18 26 00.3**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=9.7,slow=3.0,SNR=4.0	**118.61**	**317**	PKP	**PKPdf**	**18 26 00.3**	**-0.1**
LPAZ	**La Paz** comp=Z,0.5nm,0.4s,baz=349,slow=7.0,SNR=3.6	**144.93**	**62**	PKP	**PKPbc**	**18 26 50.0**	**+0.6**

ISCJB ***25*** *18:10:38.7±0.8, 36°.44N±0°.04×28°.67E±0°.03, h11km±5km, Error ellipse: s-maj=7.4km s-min=4.6km az=6.1*
CSEM ***25*** *18:10:38.9±0.3, 36°.46N×28°.68E, h15km, ML2.2, Error ellipse: s-maj=6.3km s-min=3.5km az=6.0*
DDA ***25*** *18:10:38.7, 36°.48N×28°.66E, h7km, Ml2.7*
ISK ***25*** *18:10:39.1, 36°.52N×28°.69E, h15km, ML2.2*
ISC 25 18:10:38.9±1.1, 36°.48N±0°.04×28°.66E±0°.02, h15km±8km, n36, σ0§97/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mu¨la**	**0.34**	**359**	*e*PG	**Pg**	**18 10 46.1**	**+0.3**
DALY				*e*SG	**Sg**	**18 10 50.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.34**	**359**	*i* P	**Pg**	**18 10 46.1**	**+0.3**
DALY				*i* S	**Sb**	**18 10 51.2**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.34**	**359**	P	**Pg**	**18 10 46.1**	**+0.3**
DALY				*e*Sg	**Sg**	**18 10 50.5**	**-0.1**
DALY				S	**Sb**	**18 10 51.2**	**-0.5**
FETY	**Fethiye**	**0.38**	**66**	*e*PG	**Pg**	**18 10 46.4**	**-0.1**
FETY				*e*SG	**Sb**	**18 10 52.5**	**-0.3**
FETY	**Fethiye**	**0.38**	**66**	*e*Pg	**Pg**	**18 10 46.4**	**-0.1**
FETY				S	**Sb**	**18 10 52.5**	**-0.3**
TURN	**Turunc**	**0.39**	**353**	*i* P	**Pb**	**18 10 48.3**	**+0.8**
TURN				*i* S	**Sb**	**18 10 55.0**	**+1.7**
TURN	**Turunc**	**0.39**	**353**	P	**Pb**	**18 10 48.3**	**+0.8**
TURN				S	**Sb**	**18 10 55.0**	**+1.7**
AKAS	**Kas**	**0.80**	**108**	*e*PG	**Pb**	**18 10 54.9**	**+0.4**
AKAS	**Kas**	**0.80**	**108**	*i* P	**Pn**	**18 10 55.1**	**-0.6**
AKAS				*i* S	**Sn**	**18 11 08.5**	**+1.1**
AKAS	**Kas**	**0.80**	**108**	*e*Pg	**Pb**	**18 10 54.9**	**+0.4**
DAT	**Datca**	**0.90**	**286**	*e*PG	**Pn**	**18 10 57.2**	**+0.1**
DAT				*e*SG	**Sn**	**18 11 10.5**	**+0.6**
DAT	**Datca**	**0.90**	**286**	*i* P	**Pb**	**18 10 55.6**	**-0.7**
DAT	**Datca**	**0.90**	**286**	P	**Pb**	**18 10 55.6**	**-0.7**
DAT	**Datca**	**0.90**	**286**	*e*Pg	**Pn**	**18 10 57.2**	**+0.1**
DAT				*e*Sg	**Sn**	**18 11 10.5**	**+0.6**
GLHS	**Gihisar (BURDU**	**0.95**	**45**	*e*PG	**Pb**	**18 10 56.5**	**-0.6**
GLHS	**Gihisar (BURDU**	**0.95**	**45**	*e*Pg	**Pb**	**18 10 56.5**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.00**	**12**	*i* P	**Pb**	**18 10 57.5**	**-0.5**
TAVA				*i* S	**Sb**	**18 11 10.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.00**	**12**	P	**Pb**	**18 10 57.5**	**-0.5**
TAVA				S	**Sb**	**18 11 10.9**	**-0.1**
ELL	**Elmali**	**1.04**	**75**	*e*PG	**Pb**	**18 10 58.4**	**-0.2**
ELL	**Elmali**	**1.04**	**75**	*e*Pg	**Pb**	**18 10 58.4**	**-0.2**
GOLH	**Golhisar**	**1.04**	**44**	*i* P	**Pb**	**18 10 58.6**	**-0.1**
GOLH				*i* S	**Sn**	**18 11 14.3**	**+0.9**
GOLH	**Golhisar**	**1.04**	**44**	P	**Pb**	**18 10 58.6**	**-0.1**
GOLH				S	**Sn**	**18 11 14.3**	**+0.9**
BDRM	**Kayabasi**	**1.14**	**301**	*i* P	**Pn**	**18 10 56.5**	**-3.7**
BDRM	**Kayabasi**	**1.14**	**301**	P	**Pn**	**18 10 56.5**	**-3.7**
BODT	**Bodrum**	**1.23**	**299**	*e*PN	**Pb**	**18 11 02.3**	**+0.6**
BODT				*e*SN	**Sg**	**18 11 19.5**	**+0.9**
BODT	**Bodrum**	**1.23**	**299**	*e*Pn	**Pb**	**18 11 02.3**	**+0.6**
BODT				*e*Sn	**Sg**	**18 11 19.5**	**+0.9**
DNZL	**Cakiroluk**	**1.25**	**14**	*i* P	**Pb**	**18 11 02.2**	**0.0**
DNZL	**Cakiroluk**	**1.25**	**14**	P	**Pb**	**18 11 02.2**	**0.0**
AYDN	**Tasoluk**	**1.33**	**332**	*i* P	**Pb**	**18 11 03.9**	**+0.3**
AYDN	**Tasoluk**	**1.33**	**332**	P	**Pb**	**18 11 03.9**	**+0.3**
KORT	**Korkueli**	**1.45**	**69**	*e*PN	**Pn**	**18 11 04.7**	**0.0**
KORT	**Korkueli**	**1.45**	**69**	*i* P	**Pb**	**18 11 05.3**	**-0.4**
KORT	**Korkueli**	**1.45**	**69**	*e*Pn	**Pn**	**18 11 04.7**	**0.0**
KORT	**Korkueli**	**1.45**	**69**	P	**Pb**	**18 11 05.3**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.65**	**42**	*i* P	**Pb**	**18 11 08.1**	**-0.9**
BRDR	**BURDUR-Merkez**	**1.65**	**42**	P	**Pb**	**18 11 08.1**	**-0.9**

ISCJB ***25*** *18:13:30.5±0.9, 36°.43N±0°.05×28°.65E±0°.04, h8km±6km, Error ellipse: s-maj=8.2km s-min=5.6km az=4.3*
CSEM ***25*** *18:13:30.5±0

ISC 25 18:14:43.0±1.0, 38°85N±0°02×43°53E±0°02, h6km±7km, n115, σ1°52/140, mb3.5/10, 12C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.14**	**13**	⇓*i*P	**Pg**	**18 14 45.6**	**-0.4**
VMUR				*i*S	**Sg**	**18 14 48.7**	**+0.7**
VMUR	**Van-Muradiye**	**0.14**	**13**	P	**Pg**	**18 14 45.6**	**-0.4**
VMUR				S	**Sg**	**18 14 48.7**	**+0.7**
VANB	**Van**	**0.28**	**204**	*e*PG	**Pb**	**18 14 50.1**	**-0.4**
VANB				*e*SG	**Sb**	**18 14 57.1**	**+1.6**
VANB	**Van**	**0.28**	**204**	*e*Pg	**Pb**	**18 14 50.1**	**-0.4**
GEVA	**Gevas**	**0.65**	**215**	⇑*i*P	**Pg**	**18 14 54.9**	**-0.6**
GEVA				*i*S	**Sg**	**18 15 05.0**	**+1.0**
GEVA	**Gevas**	**0.65**	**215**	P	**Pg**	**18 14 54.9**	**-0.6**
GEVA				S	**Sg**	**18 15 05.0**	**+1.0**
DYDN	**Diyadin**	**0.70**	**10**	*i*P	**Pg**	**18 14 55.2**	**-1.4**
DYDN				*i*S	**Sg**	**18 15 06.4**	**+0.7**
TUTA	**Tutak**	**0.78**	**315**	⇓*i*P	**Pg**	**18 14 57.2**	**-0.9**
TUTA				*i*S	**Sb**	**18 15 09.6**	**-0.6**
TUTA	**Tutak**	**0.78**	**315**	P	**Pg**	**18 14 57.2**	**-0.9**
TUTA				S	**Sb**	**18 15 09.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**330**	*e*PG	**Pg**	**18 14 58.3**	**-0.8**
AGRB				*e*SG	**Sb**	**18 15 10.8**	**-0.9**
AGRB	**Hanur-Agry**	**0.84**	**330**	*e*Pg	**Pg**	**18 14 58.3**	**-0.8**
AGRB				*e*Sg	**Sb**	**18 15 10.8**	**-0.9**
BASK	**Baskale_VAN**	**0.88**	**155**	*i*P	**Pg**	**18 14 59.4**	**-0.5**
BASK				*i*S	**Sn**	**18 15 14.7**	**-0.6**
BASK	**Baskale_VAN**	**0.88**	**155**	P	**Pg**	**18 14 59.4**	**-0.5**
EKAR	**Karacoban**	**1.21**	**290**	*i*P	**Pn**	**18 15 06.7**	**0.0**
EKAR				*i*S	**Sn**	**18 15 26.9**	**+3.3**
EKAR	**Karacoban**	**1.21**	**290**	P	**Pn**	**18 15 06.7**	**0.0**
EATA	**Eleskirt**	**1.29**	**322**	*i*P	**Pg**	**18 15 06.5**	**-1.3**
EATA				*i*S	**Sn**	**18 15 27.1**	**+1.4**
EATA	**Eleskirt**	**1.29**	**322**	P	**Pg**	**18 15 06.5**	**-1.3**
EATA				S	**Sn**	**18 15 27.1**	**+1.4**
HAKT	**HAKKARI**	**1.30**	**174**	*i*P	**Pn**	**18 15 05.7**	**-2.2**
HAKT				*i*S	**Sb**	**18 15 25.4**	**+0.4**
HAKT	**HAKKARI**	**1.30**	**174**	P	**Pn**	**18 15 05.7**	**-2.2**
HAKT				S	**Sb**	**18 15 25.4**	**+0.4**
NAX	**Nakhchivan**	**1.56**	**77**	⇑P	**Pn**	**18 15 11.3**	**-0.1**
NAX				⇓S	**Sb**	**18 15 33.1**	**+0.6**
NAX	**Nakhchivan**	**1.56**	**77**	P	**Pn**	**18 15 11.3**	**-0.1**
NAX				S	**Sb**	**18 15 33.1**	**+0.6**
CUKT	**Cukurca**	**1.60**	**178**	*e*PN	**Pn**	**18 15 12.7**	**+0.7**
CUKT	**Cukurca**	**1.60**	**178**	*i*P	**Pb**	**18 15 13.6**	**+0.5**
CUKT				*i*S	**Sg**	**18 15 38.6**	**+4.2**
CUKT	**Cukurca**	**1.60**	**178**	*e*Pn	**Pn**	**18 15 12.7**	**+0.7**
CUKT	**Cukurca**	**1.60**	**178**	P	**Pb**	**18 15 13.6**	**+0.5**
GNI	**Garni**	**1.60**	**35**	Pn	**Pn**	**18 15 11.9**	**-0.1**
	116nm,0.3s,baz=142,slow=6.0,SNR=149						
GNI				Lg	Lg	18 15 37.3	
	48nm,0.3s,baz=148,slow=22,SNR=6.3						
VRTB	**Varto-Mus**	**1.65**	**282**	*e*PN	**Pb**	**18 15 13.2**	**-0.6**
VRTB	**Varto-Mus**	**1.65**	**282**	*i*P	**Pb**	**18 15 13.4**	**-0.5**
VRTB				*i*S	**Sg**	**18 15 38.2**	**+2.3**
VRTB	**Varto-Mus**	**1.65**	**282**	P	**Pb**	**18 15 13.4**	**-0.5**
HOMI	**Horasan**	**1.73**	**314**	*i*P	**Pb**	**18 15 14.8**	**-0.7**
BNGL	**BINGOL**	**1.86**	**274**	*i*P	**Pb**	**18 15 17.5**	**0.0**
BNGL				*i*S	**Sg**	**18 15 45.9**	**+3.1**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*PN	**Pb**	**18 15 17.9**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*Pn	**Pb**	**18 15 17.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*e*PN	**Pn**	**18 15 17.8**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*i*P	**Pb**	**18 15 18.6**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*e*Pn	**Pn**	**18 15 17.8**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	P	**Pb**	**18 15 18.6**	**-0.5**
ERZM	**Erzurum**	**1.98**	**303**	*i*P	**Pb**	**18 15 20.0**	**+0.4**
ERZM	**Erzurum**	**1.98**	**303**	P	**Pb**	**18 15 20.0**	**+0.4**
BTMN	**Batman**	**2.02**	**242**	*i*P	**Pb**	**18 15 19.4**	**-0.7**
BTMN	**Batman**	**2.02**	**242**	P	**Pb**	**18 15 19.4**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.12**	**292**	*i*P	**Pb**	**18 15 21.8**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.12**	**292**	P	**Pb**	**18 15 21.8**	**-0.2**
BNGB	**Bing¶‖**	**2.23**	**275**	*e*PN	**Pn**	**18 15 20.2**	**-0.4**
BINT	**Bingol**	**2.38**	**272**	*e*Pn	**Pn**	**18 15 20.2**	**-2.4**
YEDI	**Yedisu-Bingol**	**2.40**	**285**	*e*PN	**Pn**	**18 15 23.5**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.40**	**285**	*e*Pn	**Pn**	**18 15 23.5**	**+0.6**
BGD	**Bogdanovka**	**2.41**	**1**	P	**Pb**	**18 15 27.4**	**+0.4**
BGD				S	**Sg**	**18 16 02.8**	**+2.3**
GDB	**GEDABAY**	**2.54**	**42**	⇓P	**Pn**	**18 15 26.6**	**+1.8**
GDB				⇑S	**Sg**	**18 16 03.0**	**-1.4**
GDB	**GEDABAY**	**2.54**	**42**	P	**Pn**	**18 15 26.6**	**+1.8**
GDB				S	**Sg**	**18 16 03.0**	**-1.4**
AKH	**Akhalkalaki**	**2.56**	**359**	*e*PN	**Pn**	**18 15 26.4**	**+1.2**
AKH	**Akhalkalaki**	**2.56**	**359**	P	**Pg**	**18 15 32.1**	**+0.1**
AKH				S	**Sg**	**18 16 08.2**	**+3.1**
AKH	**Akhalkalaki**	**2.56**	**359**	*e*Pn	**Pn**	**18 15 26.4**	**+1.2**
QZX	**Qazax, Azerbai**	**2.62**	**32**	⇓P	**Pb**	**18 15 30.7**	**+0.3**
QZX	**Qazax, Azerbai**	**2.62**	**32**	P	**Pb**	**18 15 30.7**	**+0.3**
MARD	**Mardin**	**2.66**	**236**	*i*P	**Pn**	**18 15 27.6**	**+1.1**
MAZI	**Mazidag**	**2.80**	**241**	*e*PN	**Pn**	**18 15 28.7**	**+0.3**
MAZI	**Mazidag**	**2.80**	**241**	*e*Pn	**Pn**	**18 15 28.7**	**+0.3**
GANJ	**Ganja**	**2.80**	**49**	⇓P	**Pn**	**18 15 30.0**	**+1.6**
GANJ	**Ganja**	**2.80**	**49**	P	**Pn**	**18 15 30.0**	**+1.6**
DGRG	**David-gareji**	**2.96**	**28**	P	**Pb**	**18 15 36.8**	**+0.7**
DGRG				S	Sg	18 16 28.0	+10
TBLG	**Delisi**	**3.02**	**17**	*e*PN	**Pn**	**18 15 34.0**	**+2.6**
TBLG	**Delisi**	**3.02**	**17**	P	**Pb**	**18 15 37.6**	**+0.4**
TBLG				S	**Sg**	**18 16 21.8**	**+1.7**
TBLG	**Delisi**	**3.02**	**17**	*e*Pn	**Pn**	**18 15 34.0**	**+2.6**
TBLG	**Delisi**	**3.02**	**17**	P	**Pb**	**18 15 37.6**	**+0.4**
ERZN	**Erzincan**	**3.05**	**285**	*e*PN	**Pn**	**18 15 32.7**	**+0.8**
SEAG	**Tbilisi Sea**	**3.07**	**18**	P	**Pb**	**18 15 38.3**	**+0.3**
SEAG				S	Sn	18 16 00.0	-9.2
PTK	**Pertek**	**3.23**	**272**	*e*PN	**Pn**	**18 15 35.9**	**+1.4**
PTK	**Pertek**	**3.23**	**272**	*e*Pn	**Pn**	**18 15 35.9**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*PN	**Pn**	**18 15 37.6**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*Pn	**Pn**	**18 15 37.6**	**+1.6**
MNGR	**Mingechevir, A**	**3.34**	**54**	⇑P	**Pn**	**18 15 37.8**	**+2.0**
MNGR				⇑S	**Sn**	**18 16 18.4**	**+2.6**
MNGR	**Mingechevir, A**	**3.34**	**54**	P	**Pn**	**18 15 37.8**	**+2.0**
MNGR				S	**Sn**	**18 16 18.4**	**+2.6**
DUS	**Dusheti**	**3.36**	**15**	P	**Pg**	**18 15 46.3**	**-1.1**
DUS				S	Sn	18 16 00.0	-16
EZC	**Erzincan**	**3.36**	**287**	*e*Pn	**Pn**	**18 15 32.7**	**-3.5**
ZRD	**Zardab**	**3.51**	**65**	⇓P	**Pn**	**18 15 39.1**	**+1.0**
ZRD	**Zardab**	**3.51**	**65**	P	**Pn**	**18 15 39.1**	**+1.0**
ZKTA	**Zakatala**	**3.65**	**39**	⇑P	**Pn**	**18 15 43.3**	**+3.2**
ONI	**Oni**	**3.74**	**359**	P	**Pb**	**18 15 51.1**	**+1.7**
ONI				S	Sg	18 16 53.2	+10
LRK	**Lerik**	**3.77**	**92**	⇑P	**Pn**	**18 15 41.0**	**-0.8**
LRK	**Lerik**	**3.77**	**92**	P	**Pn**	**18 15 41.0**	**-0.8**
GLBA	**Cililabad**	**3.81**	**83**	⇑P	**Pn**	**18 15 42.7**	**+0.5**
GLBA	**Cililabad**	**3.81**	**83**	P	**Pn**	**18 15 42.7**	**+0.5**
QBL	**Gabala**	**3.92**	**56**	⇓P	**Pn**	**18 15 45.7**	**+2.0**
QBL				⇑S	**Sn**	**18 16 32.6**	**+2.5**
QBL	**Gabala**	**3.92**	**56**	P	**Pn**	**18 15 45.7**	**+2.0**
QBL				S	**Sn**	**18 16 32.6**	**+2.5**
LKRN	**Lenkeran, Azer**	**4.10**	**90**	⇓P	**Pn**	**18 15 44.5**	**-1.7**
LKRN	**Lenkeran, Azer**	**4.10**	**90**	P	**Pn**	**18 15 44.5**	**-1.7**
ASTR	**Astara**	**4.12**	**92**	⇑P	**Pn**	**18 15 46.4**	**-0.1**
ASTR	**Astara**	**4.12**	**92**	P	**Pn**	**18 15 46.4**	**-0.1**
PQL	**Pirkuli**	**4.35**	**62**	⇑P	**Pn**	**18 15 51.8**	**+2.0**
PQL	**Pirkuli**	**4.35**	**62**	P	**Pn**	**18 15 51.8**	**+2.0**
ATGJ	**Altiaghaj**	**4.62**	**63**	⇑P	**Pn**	**18 15 55.3**	**+1.8**
ATGJ	**Altiaghaj**	**4.62**	**63**	P	**Pn**	**18 15 55.3**	**+1.8**
KBZ	**Khabaz**	**4.90**	**355**	Pn	**Pn**	**18 16 00.1**	**+3.0**
	0.1nm,0.3s,baz=180,slow=15,SNR=1.8						
KVAR	**Kislovodsk Arr**	**5.14**	**353**	Pn	**Pn**	**18 16 04.0**	**+3.4**
	baz=162,slow=9.6,SNR=2.1						
BRTR	**Keskin Array B**	**7.72**	**280**	Pn	Pn	18 16 41.4	+5.3
	0.1nm,0.3s,baz=98,slow=14,SNR=2.9						
ASF	**Jabal al Asfar**	**8.58**	**221**	Pn	**Pn**	**18 16 52.2**	**+4.4**
	0.1nm,0.3s,baz=12,slow=9.3,SNR=2.7						
ASF				Lg	Lg	18 19 10.2	
	0.1nm,0.3s,baz=198,slow=20,SNR=4.0						
MMAI	**Mount Meron Ar**	**8.79**	**231**	Pn	Pn	18 16 56.9	+6.2
	0.7nm,0.3s,baz=45,slow=12,SNR=3.7						
MMAI				LR	LR	18 20 33.4	
	comp=Z,82nm,20.6s,baz=55,slow=40						
GEYT	**Alibeck**	**11.49**	**90**	Pn	**Pn**	**18 17 27.4**	**-0.2**
	0.2nm,0.3s,baz=272,slow=8.5,SNR=3.1						
EIL	**Elat**	**11.58**	**220**	LR	LR	18 22 21.3	
	comp=Z,101nm,21.4s,baz=58,slow=40						
AKTO	**Aktyubinsk**	**15.47**	**37**	Pn	**Pn**	**18 18 20.2**	**-1.5**
	0.1nm,0.3s,baz=216,slow=13,SNR=2.7						
AKASG	**Malin Array Be**	**15.57**	**324**	Pn	**Pn**	**18 18 19.9**	**-3.1**
	0.5nm,0.3s,baz=130,slow=12,SNR=4.1						
ARU	**Arti**	**20.21**	**25**	P	**P**	**18 19 18.3**	**-0.1**
	2.0nm,0.7s,baz=210,slow=12,SNR=3.6						
VYHS	**Vyhne**	**20.22**	**306**	*e*	Pn	18 19 23.4	+2.9
BVAR	**Borovoye Array**	**23.27**	**44**	P	**P**	**18 19 50.1**	**-1.0**
	0.3nm,0.4s,baz=224,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**23.58**	**305**	P	**P**	**18 19 53.0**	**-1.4**
	0.9nm,0.7s,baz=71,slow=3.3,SNR=5.1						
AAK	**Ala-Archa**	**23.69**	**71**	LR	LR	18 30 50.0	
	comp=Z,37nm,19.8s,baz=270,slow=41						
FINES	**FINESS Array B**	**25.07**	**340**	P	**P**	**18 20 06.8**	**-1.1**
	2.5nm,0.9s,baz=145,slow=10,SNR=2.4						
KURBB	**Kurchatov Arra**	**27.25**	**53**	P	**P**	**18 20 28.6**	**+0.9**
	0.9nm,0.7s,baz=263,slow=9.2,SNR=6.6						
HFS	**Hagfors**	**28.38**	**328**	P	**P**	**18 20 38.8**	**+1.1**
	5.4nm,1.0s,baz=164,slow=16,SNR=3.4						
MKAR	**Makanchi Array**	**29.28**	**62**	P	**P**	**18 20 46.4**	**+0.5**
	0.4nm,0.7s,baz=279,slow=9.6,SNR=2.5						
ESDC	**Sonseca Array**	**36.44**	**287**	P	**P**	**18 21 46.0**	**-2.6**
	0.2nm,0.3s,baz=64,slow=10.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**44.93**	**247**	P	**P**	**18 22 57.2**	**-1.7**
	0.7nm,0.9s,baz=38,slow=7.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**51.88**	**97**	P	**P**	**18 23 53.8**	**+1.3**
	0.5nm,0.8s,baz=301,slow=8.7,SNR=3.9						
MJAR	**Matsushiro Arr**	**71.39**	**58**	P	**P**	**18 26 04.8**	**+0.7**
	0.7nm,0.6s,baz=266,slow=8.4,SNR=3.8						

*ISCJB **25** 18:20:24.1±0.2, 34°89N±0°02×112°48W±0°02, h10km, Error ellipse: s-maj=2.9km s-min=2.0km az=158.8*
*NEIC **25** 18:20:24.6±0.3, 34°87N×112°52W, h5km, ML3.5, Error ellipse: s-maj=4.2km s-min=3.8km az=153.0*
NEIC Felt [IV] at Paulden, [III] at Chino Valley and Prescott and [II] at Clarkdale and Prescott Valley. Also felt at Buckeye, Cottonwood, Glendale, Mayer, Mesa, Phoenix, Scottsdale and Tempe.

ISC 25 18:20:24.7±0.7, 34°87N±0°02×112°51W±0°02, h10km, n94, σ1°74/140, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X16A	**Lo Mia Camp, P**	**0.99**	**117**	*e*Pg	**Pg**	**18 20 43.6**	**-0.2**
X16A				*e*Sg	**Sg**	**18 20 54.9**	**-1.8**
Y14A	**Wickenburg**	**1.01**	**204**	*e*Pg	**Pg**	**18 20 43.8**	**-0.4**
Y14A				*e*Sg	**Sg**	**18 20 55.0**	**-2.4**
WUAZ	**Wupatki**	**1.13**	**55**	P	**Pb**	**18 20 45.9**	**-0.6**
	baz=236						
WUAZ				S	**Sb**	**18 21 01.8**	**+0.4**
	baz=236						
WUAZ	**Wupatki**	**1.13**	**55**	*e*Pg	**Pb**	**18 20 45.9**	**-0.6**
WUAZ				*e*Sg	**Sb**	**18 21 01.4**	**0.0**
W13A	**Hualapai Mount**	**1.15**	**282**	*e*Pg	**Pn**	**18 20 47.1**	**0.0**
W13A				*e*Sg	**Sg**	**18 21 01.4**	**-0.5**
PDMCI	**Parker Dam,Lak**	**1.46**	**248**	P	**Pn**	**18 20 50.7**	**-0.4**
	baz=66,SNR=444						
PDMCI				S	**Sg**	**18 21 10.9**	**-0.8**
	baz=66						
U15A	**North Rim**	**1.57**	**6**	*e*Pn	**Pb**	**18 20 54.2**	**+0.2**
U15A				*e*Sn	**Sg**	**18 21 14.8**	**-0.4**
MTLAZ	**Mount Logan**	**1.58**	**339**	*e*Pn	**Pb**	**18 20 54.4**	**+0.1**
GVA	**Apache Junctio**	**1.64**	**151**	Pb	**Pg**	**18 20 55.8**	**-0.3**
NEE2	**Needles Airpor**	**1.74**	**267**	P	**Pn**	**18 20 54.9**	**0.0**
	baz=86,SNR=28						
NEE2				S	**Sb**	**18 21 17.7**	**-0.9**
	baz=86						
Y12C	**Blythe**	**2.00**	**237**	P	**Pn**	**18 20 58.2**	**-0.4**
	baz=55,SNR=212						
Y12C				Sb	**Sb**	**18 21 27.4**	**+1.1**
	baz=55						
Y12C	**Blythe**	**2.00**	**237**	*e*Pn	**Pn**	**18 20 58.1**	**-0.5**
Y12C				*e*Pg	**Pg**	**18 21 02.7**	**-0.5**
Y12C				*e*Sn	**Sb**	**18 21 26.6**	**+0.3**
X18A	**Snowflake**	**2.14**	**98**	*e*Pn	**Pb**	**18 21 02.4**	**-1.2**
X18A				*e*Pg	**Pg**	**18 21 06.7**	**+1.0**
X18A				*e*Sn	**Sb**	**18 21 30.4**	**+0.2**
LDFC	**Landfair**	**2.15**	**276**	*e*Pn	**Pb**	**18 21 02.4**	**-1.3**
LDFC				*e*Pg	**Pg**	**18 21 07.1**	**+1.3**
LDFC				*e*Sn	**Sg**	**18 21 32.3**	**-1.4**
KNB	**Kanab**	**2.16**	**353**	*e*Pn	**Pb**	**18 21 02.5**	**-1.6**
KNB				*e*Pg	**Pg**	**18 21 05.3**	**-0.9**
KNB				*e*Sn	**Sg**	**18 21 32.6**	**-1.5**
EKU	**East Kanab**	**2.20**	**0**	*e*Pn	**Pg**	**18 21 05.8**	**-1.2**
LCMT	**Little Creek M**	**2.22**	**345**	*e*Pn	**Pn**	**18 21 03.2**	**+1.5**
LCMT				*e*Pg	**Pg**	**18 21 06.1**	**-1.2**
IRM	**Iron Mountain**	**2.29**	**253**	P	**Pn**	**18 21 02.4**	**-0.1**
	baz=71,SNR=19						
IRM				Sb	**Sg**	**18 21 36.2**	**-2.1**
	baz=71						
W18A	**Petrified Fore**	**2.29**	**83**	P	**Pn**	**18 21 04.5**	**+1.7**
	baz=265						
W18A				Sb	**Sg**	**18 21 36.8**	**-1.5**
	baz=265						
W18A	**Petrified Fore**	**2.29**	**83**	*e*Pn	**Pb**	**18 21 04.8**	**-1.5**
W18A				*e*Pg	**Pg**	**18 21 07.3**	**-1.4**
113A	**Mohawk Valley,**	**2.34**	**207**	*e*Pn	**Pn**	**18 21 04.9**	**+1.6**
113A				*e*Pg	**Pb**	**18 21 08.0**	**+1.0**
PKCU	**Pink Cliffs**	**2.58**	**4**	*e*Pn	**Pn**	**18 21 07.3**	**+0.5**
PKCU				*e*Pg	**Pg**	**18 21 12.6**	**-1.5**
GMRC	**Granite Mounta**	**2.59**	**269**	P	**Pn**	**18 21 06.9**	**0.0**
	baz=87,SNR=32						
GMRC				Sb	**Sg**	**18 21 45.9**	**-2.1**
	baz=87						
GLA	**Glamis**	**2.64**	**227**	P	**Pn**	**18 21 07.3**	**-0.2**
	baz=46,SNR=71						
GLA				Sb	**Sg**	**18 21 47.5**	**-2.1**
	baz=46						
GLA	**Glamis**	**2.64**	**227**	*e*Pn	**Pn**	**18 21 07.2**	**-0.3**
GLA				*e*Pg	**Pb**	**18 21 13.2**	**+1.0**
SHPR	**Sheep Range**	**2.71**	**308**	*e*Pn	**Pn**	**18 21 08.4**	**0.0**
BC3	**Big Chuckawall**	**2.72**	**244**	Pg	**Pg**	**18 21 15.4**	**-1.5**
	baz=63						
BC3				Sb	**Sg**	**18 21 50.0**	**-2.2**
	baz=63						
BHU	**Blowhard Mount**	**2.73**	**354**	*e*Pn	**Pg**	**18 21 15.5**	**-1.7**
SZCU	**Shurtz Canyon**	**2.76**	**350**	*e*Pn	**Pn**	**18 21 10.3**	**+1.0**
SZCU				*e*Pg	**Pb**	**18 21 15.1**	**+0.8**
CCUT	**Cedar City**	**2.77**	**346**	*e*Pn	**Pn**	**18 21 10.3**	**+1.0**
CCUT				*e*Pg	**Pb**	**18 21 15.4**	**+1.0**
TUQ	**Turquoise Moun**	**2.85**	**282**	P	**Pn**	**18 21 10.7**	**+0.3**
	baz=100						
214A	**Organ Pipe Nat**	**2.91**	**185**	P	**Pn**	**18 21 11.4**	**+0.2**
	baz=4.7						
214A				Sb	**Sb**	**18 21 55.1**	**+2.6**
	baz=4.7						
TUC	**Tucson**	**2.93**	**150**	P	**Pn**	**18 21 11.3**	**-0.1**
	baz=331						
TUC	**Tucson**	**2.93**	**150**	*e*Pn	**Pn**	**18 21 12.2**	**+0.8**
BELC	**Belle Mtn. Jos**	**3.01**	**254**	P	**Pn**	**18 21 12.4**	**-0.1**
	baz=72,SNR=6.6						
BELC				Sb	**Sg**	**18 21 58.8**	**-2.5**
	baz=72						
ARUT	**Antelope Range**	**3.01**	**346**	*e*Pn	**Pb**	**18 21 20.1**	**+1.6**
HEC	**Hector,Ludlow**	**3.15**	**270**	P	**Pn**	**18 21 14.1**	**-0.3**
	baz=88,SNR=6.6						
MTPU	**Mount Pierson**	**3.18**	**5**	*e*Pn	**Pn**	**18 21 16.8**	**+1.7**
MTPU				*e*Pg	**Pb**	**18 21 22.3**	**+0.8**
XPFO	**Piæon Flat**	**3.50**	**250**	*e*Pn	**Pn**	**18 21 19.5**	**+0.2**
XPFO				*e*Pg	**Pg**	**18 21 29.5**	**-2.2**
PFO	**Pinyon Flats O**	**3.50**	**250**	P	**Pn**	**18 21 19.7**	**+0.4**
	baz=68						
PFO	**Pinyon Flats O**	**3.50**	**250**	*e*Pn	**Pn**	**18 21 19.5**	**+0.1**
PFO				*e*Pg	**Pg**	**18 21 29.6**	**-2.2**
GSC	**Goldstone, Bar**	**3.55**	**278**	*e*Pn	**Pn**	**18 21 20.3**	**+0.4**
MSU	**Marysvale**	**3.65**	**4**	*e*Pn	**Pn**	**18 21 23.5**	**+2.1**
MSU				*e*Pg	**Pb**	**18 21 30.9**	**+1.5**
TPNV	**Topopah Spring**	**3.68**	**305**	P	**Pn**	**18 21 23.8**	**+2.0**
	baz=123,SNR=12						
TPNV				S	**Sn**	**18 22 05.8**	**+0.5**
	baz=123						
TPNV	**Topopah Spring**	**3.68**	**305**	*e*Pn	**Pn**	**18 21 23.8**	**+2.0**
IKP	**In-Ko-Pah, Jac**	**3.73**	**235**	P	**Pn**	**18 21 22.3**	**-0.1**
	baz=52,SNR=7.6						
TCRU	**Three Creeks R**	**3.74**	**1**	*e*Pn	**Pn**	**18 21 24.8**	**+2.1**
TCRU				*e*Pg	**Pb**	**18 21 32.8**	**+1.9**
PSUT	**Pine Spring**	**3.82**	**344**	*e*Pn	**Pn**	**18 21 22.9**	**-0.8**
PSUT				*e*Pg	**Pg**	**18 21 36.3**	**-1.5**
MVCO	**Mesa Verde**	**4.00**	**53**	*e*Pn	**Pn**	**18 21 29.0**	**+2.6**
MVCO				*e*Pg	**Pb**	**18 21 36.9**	**+1.4**
MURC	**Murrieta**	**4.08**	**253**	P	**Pn**	**18 21 27.8**	**+0.6**
	baz=70						
BAR	**Barrett**	**4.09**	**239**	*e*Pn	**Pn**	**18 21 26.9**	**-0.5**
WCU	**Willow Creek**	**4.10**	**5**	*e*Pg	**Pg**	**18 21 41.1**	**-2.2**
Q16A	**Castle Valley**	**4.18**	**14**	*e*Pn	**Pn**	**18 21 28.1**	**-0.7**
PV05	**Paradox Valley**	**4.22**	**40**	*e*Pn	**Pn**	**18 21 30.9**	**+1.5**
MPMC	**Manual Prospec**	**4.23**	**288**	P	**Pn**	**18 21 30.8**	**+1.4**
	baz=105						
R11A	**Troy Canyon, C**	**4.26**	**325**	P	**Pn**	**18 21 31.3**	**+1.5**
	baz=144						
R11A	**Troy Canyon, C**	**4.26**	**325**	*e*Pn	**Pn**	**18 21 31.4**	**+1.5**
SGU	**Sterling**	**4.36**	**9**	*e*Pg	**Pg**	**18 21 45.2**	**-3.1**
DAC	**Darwin (Calif)**	**4.38**	**290**	*e*Pn	**Pn**	**18 21 32.5**	**+1.1**
319A	**Douglas**	**4.41**	**141**	*e*Pn	**Pn**	**18 21 32.7**	**+0.9**
LAZ	**Ladron**	**4.45**	**94**	*e*Pn	**Pn**	**18 21 34.6**	**+2.1**
LAZ				*e*Pg	**Pg**	**18 21 47.8**	**-2.3**
PV10	**Paradox Valley**	**4.48**	**38**	*e*Pn	**Pn**	**18 21 34.6**	**+1.7**
PV10				*e*Pg	**Pb**	**18 21 46.2**	**+2.7**
SRU	**San Rafael Swe**	**4.52**	**20**	*e*Pn	**Pn**	**18 21 35.0**	**+1.6**
PV09	**Paradox Valley**	**4.53**	**36**	*e*Pn	**Pn**	**18 21 34.3**	**+0.7**
TMUT	**Trail Mountain**	**4.54**	**13**	*e*Pn	**Pn**	**18 21 35.3**	**+1.5**
PV01	**Paradox Valley**	**4.55**	**43**	*e*Pn	**Pn**	**18 21 36.0**	**+2.2**
121A	**Cookes Peak, D**	**4.58**	**119**	P	**Pn**	**18 21 36.0**	**+1.9**
	baz=302						
MWC	**Mount Wilson**	**4.62**	**264**	*e*Pn	**Pn**	**18 21 34.3**	**-0.5**
Y22D	**IRIS PASSCAL I**	**4.69**	**98**	*e*Pn	**Pn**	**18 21 35.1**	**-0.5**
P17A	**Butcher Ranch,**	**4.81**	**17**	*e*Pn	**Pn**	**18 21 37.2**	**-0.1**
P17A				*e*Pg	**Pg**	**18 21 54.2**	**-2.6**
LPM	**Los Pinos Moun**	**4.88**	**95**	*e*Pn	**Pn**	**18 21 36.8**	**-1.5**
LPM				*e*Pg	**Pg**	**18 21 56.0**	**-2.1**
BNM	**Barren Site**	**4.91**	**97**	*e*Pn	**Pn**	**18 21 40.7**	**+2.0**
ANMO	**Albuquerque**	**4.97**	**87**	*e*Pn	**Pn**	**18 21 39.2**	**-0.5**
ANMO				*e*Sg	**Sg**	**18 22 58.9**	**-5.5**
P18A	**Preston Nutter**	**5.08**	**20**	*e*Pn	**Pn**	**18 21 40.8**	**-0.4**
NLU	**North Lily Min**	**5.09**	**4**	*e*Pn	**Pn**	**18 21 44.7**	**+3.5**
NLU				*e*Pg	**Pg**	**18 21 59.5**	**-2.7**
OSI	**Osito Audit: C**	**5.12**	**269**	*e*Pn	**Pn**	**18 21 40.0**	**-1.5**
OSI				*e*Pg	**Pg**	**18 22 00.4**	**-2.4**
MPU	**Maple Canyon**	**5.19**	**7**	*e*Pn	**Pn**	**18 21 43.0**	**+0.5**
MPU				*e*Pg	**Pg**	**18 22 01.9**	**-2.1**
DUG	**Dugway, Tooele**	**5.32**	**357**	*e*Pg	**Pb**	**18 22 01.9**	**+4.0**
S22A	**4

K22A	Casper	1.39 219	P	Pg	19 09 50.2	-1.1
	baz=45					
K22A	Casper	1.39 219	*e*Pn	Pg	19 09 49.7	-1.6
N23A	Red Feather La	2.87 189	P	Pn	19 10 13.3	+1.4
	baz=12					
N23A			Sb	Sb	19 10 53.2	+0.5
	baz=12					
LAO	LASA Array	3.02 348	P	Pn	19 10 15.3	+1.5
	baz=165					
LAO	LASA Array	3.02 348	*e*Pn	Pn	19 10 14.8	+1.0
RLMT	Red Lodge	3.14 298	P	Pn	19 10 16.7	+1.1
	baz=115					
RLMT	Red Lodge	3.14 298	*e*Pn	Pn	19 10 15.8	+0.2
BW06	Boulder Array	3.23 254	P	Pn	19 10 18.1	+1.2
	baz=73					
BW06	Boulder Array	3.23 254	*e*Pn	Pn	19 10 17.9	+1.0
PDAR	Pinedale Array	3.23 254	Pn	Pn	19 10 17.9	+1.0
	8.7nm,0.3s,baz=75,slow=15,SNR=55					
PDAR			Lg	Lg	19 11 02.3	
	26nm,0.3s,baz=78,slow=33,SNR=8.3					
OGNE	Ogallala	3.71 138	P	Pn	19 10 23.7	+0.4
	baz=321					
LOHW	Long Hollow	3.82 270	*e*Pn	Pn	19 10 26.4	+1.4
H17A	Grant Village	3.83 282	P	Pn	19 10 26.3	+1.1
	baz=99					
H17A	Grant Village	3.83 282	*e*Pn	Pn	19 10 27.5	+2.3
MOOW	Moose Ponds	3.92 272	Pn	Pn	19 10 28.4	+2.1
ISCO	Idaho Springs	3.94 183	P	Pn	19 10 27.5	+0.8
	baz=5.4					
ISCO			Sb	Sb	19 11 24.9	+1.5
	baz=5.4					
SNOW	Snow King Moun	3.95 268	*e*Pn	Pn	19 10 31.3	+4.6
REDW	Red Top Meadow	4.03 267	*e*Pn	Pb	19 10 35.3	-1.3
IMW	Indian Meadow	4.06 274	*e*Pn	Pn	19 10 29.9	+1.6
TPAW	Teton Pass	4.09 269	*e*Pn	Pn	19 10 30.1	+1.5
O20A	White River Ci	4.20 212	P	Pn	19 10 30.1	-0.1
	baz=32					
DGMT	Dagmar	4.80 9	P	Pn	19 10 39.6	+1.3
	baz=188					
DGMT	Dagmar	4.80 9	*e*Pn	Pn	19 10 39.3	+1.0
BOZ	Bozeman (W)	4.86 295	P	Pn	19 10 40.2	+1.0
	baz=111					
BOZ	Bozeman (W)	4.86 295	*e*Pn	Pn	19 10 39.3	+0.1
	5.1nm,0.4s					
HWUT	Hardware Ranch	5.06 247	*e*Pn	Pn	19 10 42.9	+1.0
	12nm,0.4s					
KSCO	Kaye Shedlock'	5.14 156	P	Pn	19 10 42.4	-0.6
	baz=339					
KSCO	Kaye Shedlock'	5.14 156	*e*Pn	Pg	19 11 02.4	-0.8
EGMT	Eagleton	5.29 326	P	Pn	19 10 44.8	-0.2
	baz=142					
EGMT	Eagleton	5.29 326	*e*Pn	Pn	19 10 44.6	-0.4
	12nm,0.5s					
DUG	Dugway, Tooele	6.60 240	*e*Pn	Pn	19 11 03.4	+0.3
	2.6nm,0.3s					
MVCO	Mesa Verde	6.95 201	Pn	Pb	19 11 26.7	+0.3
I10CA	LAC DU BONNET	9.07 41	*i*		20 01 40.0	
	baz=222,slow=329,SNR=0.9					
ULM	Lac du Bonnet	9.18 41	Pn	Pn	19 11 36.2	-2.0
	0.5nm,0.3s,baz=239,slow=14,SNR=4.2					
ULM			Lg	Lg	19 14 12.3	
	0.3nm,0.3s,baz=342,slow=20,SNR=2.9					

NIED ***25*** *19:12:00,33°.00N×142°.30E,h5km,Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φ=11.00000°,δ40.00000°, λ-74.00000°. NP2:φ=171.00000°,δ52.00000°, λ-103.00000°.*

IDC ***25*** *19:12:39.1±2.4,32°.91N×142°.95E,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.5/29,mbtmp3.7/6,ML3.6/1,MS2.5/2, Ms1 2.5/2,ms1mx2.4/62,Error ellipse: s-maj=94.8km s-min=26.4km az=71.0*

ISCJB ***25*** *19:12:45.3±1.0,33°.01N±0°.06×142°.40E±0°.08,h33km, mb3.7/5,MS2.4/1,Error ellipse: s-maj=9.8km s-min=8.0km az=153.8*

JMA ***25*** *19:12:46.0±0.1,33°.00N×142°.33E,h74km,M3.5*

ISC 25 19:12:45.6±1.3,32°.92N±0°.08×142°.4E±0°.1,h33km,n20, σ0°81/27,mb3.9/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.11	325	P	Pn	19 13 18.4	+0.2
BSO1				*e*S	Sn	19 13 42.6	-0.4
JHJ2	Mitsune	2.21	276	P	Pn	19 13 19.8	-0.2
JHJ2				*e*S	Sn	19 13 45.7	-0.5
JHCJ	Hachijojimakas	2.22	275	*e*S	Sn	19 13 45.9	-0.6
BSO3	Boso 3	2.47	320	P	Pn	19 13 23.4	+0.1
BSO3				*e*S	Sn	19 13 51.0	-1.2
BSO4	Boso 4	2.70	320	P	Pn	19 13 26.9	+0.2
BSO4				*e*S	Sn	19 13 56.9	-1.3
JOD2	Odawara 2	3.63	311	P	Pn	19 13 39.0	-0.6
JOD2				*e*S	Sn	19 14 20.3	-1.0
JYT	Yasato	3.78	331	*e*S	Sn	19 14 24.0	-1.0
JHU	Hanno	3.92	319	P	Pn	19 13 43.6	+0.1
JHU				S	Sn	19 14 27.8	-0.6
JHO	Hitachi	3.99	338	P	Pn	19 13 43.8	-0.7
JYN	Shimob	4.12	310	P	Pn	19 13 46.7	+0.3
JRY	Ryogami san	4.25	318	P	Pn	19 13 48.3	+0.2
JRY				*e*S	Sn	19 14 35.6	-1.0
JAG	Ashikaga	4.28	326	P	Pn	19 13 48.8	+0.4
JAG				S	Sn	19 14 36.1	-1.0
MJAR	Matsushiro Arr	5.02	317	Pn	Pn	19 13 59.2	+0.6
	1.9nm,0.3s,baz=152,slow=11,SNR=16						
MJAR				Sn	Sn	19 14 56.3	+0.9
	1.7nm,0.3s,baz=196,slow=22,SNR=5.8						
KSRS	Korea Array	12.70	295	LR	LR	19 21 23.6	
	comp=Z,17nm,18.4s,baz=145,slow=40						
PETK	Petropavlovsk-	22.97	24	LR	LR	19 29 11.1	
	comp=Z,12nm,18.1s,baz=329,slow=44						
ZALV	Zalesovo Beam	45.37	315	P	P	19 21 00.7	+0.1
	0.4nm,0.4s,baz=95,slow=3.3,SNR=2.9						
MKAR	Makanchi Array	47.10	306	P	P	19 21 15.8	+1.3
	1.0nm,0.7s,baz=92,slow=8.9,SNR=9.7						
WRA	Warramunga Arr	53.13	190	P	P	19 21 59.0	-1.2
	0.3nm,0.5s,baz=4.1,slow=7.1,SNR=3.9						
BVAR	Borovoye Array	54.01	315	P	P	19 22 07.7	+1.3
	0.9nm,0.7s,baz=85,slow=8.0,SNR=6.7						
FINES	FINESS Array B	72.85	333	P	P	19 24 10.5	-0.3
	0.7nm,0.4s,baz=46,slow=11,SNR=8.9						

CSEM ***25*** *19:18:52.8,38°.84N×43°.60E,h5km,ML3.4*
ISK ***25*** *19:18:52.8,38°.84N×43°.60E,h5km,ML3.4*

ISC 25 19:18:57.6±0.9,38°.77N±0°.03×43°.33E±0°.05,h11km±9km, n26,σ1°65/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	165	*e*PG	Pg	19 19 00.2	-1.4
VANB				*e*SG	Sg	19 19 06.5	+2.2
VANB	Van	0.18	165	*e*Pg	Pg	19 19 00.2	-1.4
VANB				*e*Sg	Sg	19 19 06.6	+2.2
AGRB	Hanur-Agry	0.85	342	*e*PG	Pb	19 19 09.8	-4.7
AGRB				*e*SG	Sg	19 19 23.5	-1.5
AGRB	Hanur-Agry	0.85	342	*e*Pg	Pb	19 19 09.8	-4.7
AGRB				*e*Sg	Sg	19 19 23.5	-1.5
HAKT	HAKKARI	1.25	166	*e*S	Sb	19 19 36.3	-1.2
VRTB	Varto-Mus	1.51	286	*e*PN	Pn	19 19 25.2	+0.4
VRTB	Varto-Mus	1.51	286	*e*Pn	Pn	19 19 25.2	+0.4
CUKT	Cukurca	1.54	172	*e*PN	Pn	19 19 23.8	-1.3
CUKT	Cukurca	1.54	172	*e*Pn	Pn	19 19 23.8	-1.3
SVAN	Silvan-Diyarba	1.78	250	*e*PN	Pn	19 19 29.7	+1.3
SVAN	Silvan-Diyarba	1.78	250	*e*Pn	Pn	19 19 29.7	+1.3
SENK	Senkaya-Erzuru	1.94	337	*e*PN	Pn	19 19 29.4	-1.4
BNGB	Bing¶ll	2.08	277	*e*PN	Pn	19 19 32.9	+0.3
BINT	Bingol	2.22	274	*e*Pn	Pn	19 19 32.9	-1.6
YEDI	Yedisu-Bingol	2.27	288	*e*PN	Pn	19 19 36.4	+1.2
YEDI				*e*SN	Sb	19 20 06.7	-0.1
BGD	Bogdanovka	2.50	5	P	Pb	19 19 41.5	-1.2
BGD				S	Sb	19 20 15.6	+2.1
MAZI	Mazidag	2.62	241	*e*PN	Pn	19 19 41.6	+1.5
MAZI	Mazidag	2.62	241	*e*Pn	Pn	19 19 41.6	+1.5
AKH	Akhalkalaki	2.64	3	P	Pn	19 19 43.5	+3.1
AKH				S	Sb	19 20 19.5	+1.9
PTK	Pertek	3.08	273	*e*PN	Pn	19 19 48.0	+1.6
PTK	Pertek	3.08	273	*e*Pn	Pn	19 19 48.0	+1.6
DGRG	David-gareji	3.10	30	P	Pb	19 19 52.8	-0.1
DGRG				S	Sb	19 20 32.7	+2.0
TBLG	Delisi	3.15	20	P	Pb	19 19 53.5	-0.1
TBLG				S	Sb	19 20 32.8	+0.8
SVRC	Sivrice-ELAZID	3.18	264	*e*PN	Pn	19 19 49.9	+2.1
SVRC	Sivrice-ELAZID	3.18	264	*e*Pn	Pn	19 19 49.9	+2.1
ONI	Oni	3.82	1	P	Pn	19 19 57.5	+1.0
ONI				S	Sg	19 20 58.1	-2.1

CSEM ***25*** *19:19:26.5,38°.67N×43°.03E,h3km,ML3.7*

DDA 25 19:19:26.5,38°.67N×43°.03E,h3km,Ml3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.36	176	*i* P	Pg	19 19 32.1	-1.3
GEVA				*i* S	Sg	19 19 39.9	+1.7
GEVA	Gevas	0.36	176	P	Pg	19 19 32.2	-1.3
GEVA				S	Sg	19 19 39.9	+1.7
TUTA	Tutak	0.75	347	*i* P	Pg	19 19 40.9	+0.1
TUTA				*i* S	Sb	19 19 52.3	-0.8
TUTA	Tutak	0.75	347	P	Pg	19 19 40.9	0.0
TUTA				S	Sb	19 19 52.3	-0.8
VRTB	Varto-Mus	1.32	292	*i* P	Pb	19 19 52.7	+0.7
VRTB	Varto-Mus	1.32	292	P	Pb	19 19 52.7	+0.7
BNGL	BINGOL	1.49	281	*i* P	Pn	19 19 54.6	+0.2
BNGL				*i* S	Sn	19 20 17.8	+3.2
SVAN	Silvan-Diyarba	1.53	251	*i* P	Pb	19 19 55.3	-0.2
SVAN				*i* S	Sg	19 20 18.2	+2.7
SVAN	Silvan-Diyarba	1.53	251	P	Pb	19 19 55.3	-0.2
SVAN				S	Sg	19 20 18.2	+2.7
SVAN	Silvan-Diyarba	1.53	251	*e*SN	Pn	19 19 55.7	+1.0
SVAN	Silvan-Diyarba	1.53	251	*e*Sn	Pn	19 19 55.7	+1.0
BTMN	Batman	1.59	241	*i* P	Pn	19 19 56.0	+0.4
BTMN				*i* S	Sg	19 20 20.1	+2.7
BTMN	Batman	1.59	241	P	Pn	19 19 56.0	+0.4
BTMN				S	Sg	19 20 20.1	+2.6
HOMI	Horasan	1.62	328	*i* P	Pb	19 19 57.0	-0.3
HOMI				*i* S	Sg	19 20 19.5	+0.8
ERZM	Erzurum	1.78	314	*i* P	Pg	19 20 00.7	0.0
ERZM				*i* S	Sg	19 20 24.0	+0.2
ERZM	Erzurum	1.78	314	P	Pg	19 20 00.7	0.0
MARD	Mardin	2.23	233	*i* P	Pb	19 20 07.4	-0.2
DIYA	Diyarbakir	2.40	253	*i* P	Pb	19 20 10.2	-0.3

ISK ***25*** *19:22:17.0,38°.76N×43°.52E,h5km,ML3.1*
DDA ***25*** *19:22:17.9,38°.78N×43°.45E,h9km,Ml3.2*
CSEM ***25*** *19:22:18.4±0.4,38°.82N×43°.49E,h2km,ML3.1,Error ellipse: s-maj=10.9km s-min=4.9km az=94.0*

ISC 25 19:22:18.4±1.0,38°.79N±0°.03×43°.53E±0°.04,h14km±8km, n29,σ1°23/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	210	*e*PG	Pg	19 22 23.0	-0.4
VANB				*e*SG	Sg	19 22 27.6	+0.9
VANB	Van	0.22	210	*e*Pg	Pg	19 22 23.0	-0.4
VANB				*e*Sg	Sg	19 22 27.6	+0.9
GEVA	Gevas	0.60	218	*e*P	Pg	19 22 28.4	-1.8
GEVA				*e*S	Sg	19 22 37.5	-0.7
GEVA	Gevas	0.60	218	P	Pg	19 22 28.4	-1.8
GEVA				S	Sg	19 22 37.5	-0.7
DYDN	Diyadin	0.77	9	*e*P	Pg	19 22 32.7	-0.7
DYDN				*e*S	Sb	19 22 44.8	+0.6
DYDN	Diyadin	0.77	9	P	Pg	19 22 32.7	-0.7
DYDN				S	Sb	19 22 44.8	+0.6
TUTA	Tutak	0.83	318	*e*P	Pg	19 22 32.9	-1.7
TUTA	Tutak	0.83	318	P	Pg	19 22 32.9	-1.7
AGRB	Hanur-Agry	0.89	332	*e*PG	Pg	19 22 34.7	-1.1
AGRB	Hanur-Agry	0.89	332	*e*Pg	Pg	19 22 34.7	-1.1
HAKT	HAKKARI	1.23	173	*e*P	Pn	19 22 39.6	-1.9
EKAR	Karacoban	1.23	293	*e*P	Pn	19 22 40.7	-0.8
EKAR	Karacoban	1.23	293	P	Pn	19 22 40.7	-0.8
EATA	Eleskirt	1.34	324	*i* P	Pn	19 22 42.9	-0.2
EATA	Eleskirt	1.34	324	P	Pn	19 22 42.9	-0.2
CUKT	Cukurca	1.54	178	*e*PN	Pb	19 22 47.0	+0.2
CUKT				*e*SN	Sg	19 23 07.9	0.0
CUKT	Cukurca	1.54	178	*e*P	Pb	19 22 47.2	+0.5
CUKT	Cukurca	1.54	178	P	Pb	19 22 47.2	+0.5
CUKT				*e*Sn	Sg	19 23 07.9	0.0
VRTB	Varto-Mus	1.66	284	*e*PN	Pb	19 22 48.6	-0.2
VRTB	Varto-Mus	1.66	284	*e*Pn	Pb	19 22 48.7	-0.2
SVAN	Silvan-Diyarba	1.94	252	*e*PN	Pb	19 22 52.8	-0.7
SVAN	Silvan-Diyarba	1.94	252	*e*P	Pb	19 22 52.9	-0.7
SVAN				*e*S	Sb	19 23 18.2	+0.6
SVAN	Silvan-Diyarba	1.94	252	*e*Pn	Pb	19 22 52.8	-0.7
SVAN				S	Sb	19 23 18.2	+0.6
SENK	Senkaya-Erzuru	1.99	333	*e*PN	Pn	19 22 53.1	+1.2
SENK	Senkaya-Erzuru	1.99	333	*e*Pn	Pn	19 22 53.1	+1.2
MAZI	Mazidag	2.77	242	*e*PN	Pn	19 23 04.8	+2.3
MAZI	Mazidag	2.77	242	*e*Pn	Pn	19 23 04.8	+2.3
PTK	Pertek	3.23	273	*e*PN	Pn	19 23 11.4	+2.5
PTK	Pertek	3.23	273	*e*Pn	Pn	19 23 11.4	+2.5

IDC ***25*** *19:22:27.6±4.0,1°.69N×98°.99E,h114km±27km,mb3.0/2, mb1 3.2/3,mb1mx2.8/39,mbtmp3.3/3,Error ellipse: s-maj=134.4km s-min=43.4km az=72.0*

ISCJB ***25*** *19:22:28.4±0.8,1°.72N±0°.04×98°.88E±0°.08,h90km, mb3.4/2,Error ellipse: s-maj=12.2km s-min=6.1km az=171.3*

DJA ***25*** *19:22:29.4±1.1,2°N±2°×9°9E±°,h21km±11km,M2.8/7, MLv2.8/7*

ISC 25 19:22:27.3±1.0,1°.70N±0°.05×98°.91E±0°.08,h90km,n10, σ1°96/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.09	1	P	Pn	19 22 49.2	+1.0
	18nm,0.3s,baz=335,slow=11,SNR=33						
PSI				S	Sn	19 23 06.0	+2.1
	1.3nm,0.3s,baz=136,slow=16,SNR=4.5						
MNSI	Mandailing Nat	1.12	143	P	Pn	19 22 50.3	+2.0
GSI	Gunungsitoli	1.40	254	P	Pn	19 22 51.7	0.0
TSI	Tuntungan	1.82	349	P	Pn	19 22 59.2	+2.0
PBSI	Pulau Batu	1.85	200	P	Pn	19 22 58.7	+1.1
PBSI				S	Sn	19 23 23.7	+3.1
KCSI	Kotacane, Aceh	2.14	328	P	Pn	19 23 02.2	+0.9
KCSI				S	Sn	19 23 28.3	+0.9
TPTI		2.32	312	P	Pn	19 23 05.1	+1.3
TPTI				S	Sn	19 23 32.4	+0.7
CMAR	Chiang Mai Arr	16.65	0	P	Pn	19 26 14.5	-0.8
	0.1nm,0.3s,baz=191,slow=11,SNR=4.8						
WRA	Warramunga Arr	40.86	124	P	P	19 29 57.8	-2.9
	0.4nm,0.4s,baz=303,slow=9.1,SNR=6.6						
ASAR	Alice Springs	42.35	129	P	P	19 30 10.4	-2.4
	0.3nm,0.8s,baz=296,slow=7.0,SNR=4.1						

WEL 25 19:23:27.3±0.4,37°.35S×176°.77E,h180km±3km,ML3.8/32, 11C-1D,Error ellipse: s-maj=3.2km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.52	199	PN	Pn	19 23 52.6	+0.5
HAZ	Te Kaha	0.90	117	⇑PN	Pn	19 23 54.1	-0.2
HAZ				SN	Sn	19 24 14.7	-0.4
HAZ				AML	AML	19 24 20.3	
RUGZ	Raukumara Rang	0.95	131	⇑PN	Pn	19 23 54.0	-0.7
URZ	Urewera	0.95	163	⇑PN	Pn	19 23 54.6	0.0
URZ				SN	Sn	19 24 16.2	+0.3
URZ				AML	AML	19 24 16.2	
MUGZ	Murupara	1.13	180	PN	Pn	19 23 56.1	+0.1
MWZ	Matawai	1.15	149	⇑PN	Pn	19 23 56.1	-0.1
MWZ				AML	AML	19 24 20.2	
MWZ				AML	AML	19 24 20.2	
PKGZ	Pakihiroa	1.17	118	PN	Pn	19 23 56.6	+0.2
PKGZ				AML	AML	19 24 21.5	
PKGZ				AML	AML	19 24 22.9	
MXZ	Matakaoa Point	1.24	100	⇑PN	Pn	19 23 56.8	-0.1
MXZ				AML	AML	19 24 21.6	
MXZ				AML	AML	19 24 21.7	
TWGZ	Tauwhareparae	1.27	131	⇑PN	Pn	19 23 57.7	+0.5
TWGZ				AML	AML	19 24 24.2	
TWGZ				AML	AML	19 24 24.6	
RTZ	Ruatahuna	1.28	172	⇑PN	Pn	19 23 57.2	-0.1
PUZ	Puketiti	1.38	122	⇑PN	Pn	19 23 58.0	-0.2
PUZ				SN	Sn	19 24 21.3	-0.8
PUZ				AML	AML	19 24 21.6	
TKGZ	Te Karaka	1.39	142	PN	Pn	19 23 58.2	+0.1
TKGZ				AML	AML	19 23 59.7	
TKGZ				AML	AML	19 23 59.7	
WMGZ	Waiomatatini S	1.39	110	⇑PN	Pn	19 23 58.3	+0.1
WMGZ				AML	AML	19 24 23.8	
WMGZ				AML	AML	19 24 24.0	
SNGZ	Shannon Statio	1.50	163	PN	Pn	19 23 59.4	+0.1
SNGZ				AML	AML	19 24 26.0	
SNGZ				AML	AML	19 24 26.9	
MRHZ	Matea Rd	1.51	190	PN	Pn	19 23 59.6	+0.3
MRHZ				AML	AML	19 24 24.8	
MRHZ				AML	AML	19 24 25.2	
RIGZ	Rimuhau	1.57	150	PN	Pn	19 24 00.3	+0.4
RIGZ				AML	AML	19 24 00.9	
RIGZ				AML	AML	19 24 02.3	
CNGZ	Carnagh Statio	1.61	135	PN	Pn	19 24 00.6	+0.3
NMHZ	Naumai	1.75	179	PN	Pn	19 24 02.0	+0.3
NMHZ				AML	AML	19 24 29.7	
NMHZ				AML	AML	19 24 32.9	
WHHZ	Waihua	1.76	168	PN	Pn	19 24 01.9	0.0
WHHZ				AML	AML	19 24 31.3	
WHHZ				AML	AML	19 24 31.3	
PRGZ	Paritu Road	1.80	151	PN	Pn	19 24 02.1	-0.2
PRGZ				AML	AML	19 24 32.4	
KNZ	Kokohu	1.82	157	⇑PN	Pn	19 24 02.0	-0.4
BKZ	Black Stump Fm	1.83	187	PN	Pn	19 24 02.0	-0.6
BKZ				AML	AML	19 24 29.2	
BKZ				AML	AML	19 24 30.6	
ARHZ	Aropaoanui	1.92	175	PN	Pn	19 24 03.4	-0.1
ARHZ				AML	AML	19 24 34.0	
ARHZ				AML	AML	19 24 34.6	
MHGZ	Mahia Peninsul	2.01	154	PN	Pn	19 24 04.0	-0.5
MCHZ	McNeill Hill	2.09	182	⇓PN	Pn	19 24 05.3	-0.1
MCHZ				AML	AML	19 24 38.0	
MCHZ				AML	AML	19 24 38.9	
FWVZ	Far West T-bar	2.13	206	⇑PN	Pn	19 24 06.1	+0.1
WNVZ	Wahianoa	2.18	205	PN	Pn	19 24 05.9	-0.5
MOVZ	Moawhango	2.20	201	PN	Pn	19 24 05.7	-1.0
BHHZ	Black Hill Sta	2.21	194	PN	Pn	19 24 05.8	-0.9
BHHZ				AML	AML	19 24 37.3	
BHHZ				AML	AML	19 24 37.9	
KRHZ	Kereru	2.31	188	PN	Pn	19 24 05.6	-2.3
KRHZ				AML	AML	19 24 39.9	
KRHZ				AML	AML	19 24 40.0	
CKHZ	Cape Kidnapper	2.32	174	PN	Pn	19 24 07.1	-0.8
CKHZ				AML	AML	19 24 40.9	
KAHZ	Kahuranaki	2.44	178	PN	Pn	19 24 08.7	-0.7
KAHZ				AML	AML	19 24 43.3	
KAHZ				AML	AML	19 24 45.0	
PNHZ	Pukenui	2.60	190	PN	Pn	19 24 09.7	-1.4
PNHZ				AML	AML	19 24 44.8	
PNHZ				AML	AML	19 24 45.6	
PXZ	Pawanui	2.68	178	PN	Pn	19 24 10.5	-1.5
PXZ				AML	AML	19 24 45.2	
PXZ				AML	AML	19 24 45.2	
PXZ				AML	AML	19 24 46.1	
PXZ				AML	AML	19 24 46.2	
WPHZ	Waipukurau	2.72	185	AML	AML	19 24 51.0	
PRHZ	Porangahau	2.92	182	PN	Pn	19 24 13.0	-1.8
PRHZ				AML	AML	19 24 52.0	
PRHZ				AML	AML	19 24 52.6	
BFZ	Birch Farm	3.35	187	SN	Sn	19 24 55.8	-5.9
MRZ	Mangatainoka R	3.44	195	PN	Pn	19 24 18.5	-2.8
MRZ				*e*SN	Sn	19 24 58.9	-4.6
MRZ				AML	AML	19 25 00.9	
HOWZ	Holdsworth Sta	3.67	195	PN	Pn	19 24 21.1	-3.2
HOWZ				AML	AML	19 25 05.1	
OGWZ	Otaki Gorge	3.68	199	PN	Pn	19 24 21.5	-2.8
OGWZ				AML	AML	19 25 06.9	
OGWZ				AML	AML	19 25 07.7	
KIW	Kapiti Island	3.79	202	PN	Pn	19 24 22.7	-3.1
TMWZ	Te Maipa	3.81	190	AML	AML	19 25 10.1	
TMWZ				AML	AML	19 25 10.3	
MTW	Mount Morrison	3.93	194	PN	Pn	19 24 24.2	-3.2
CAW	Cannon Point	3.98	199	PN	Pn	19 24 24.6	-3.5
CAW				AML	AML	19 25 12.5	
CAW				AML	AML	19 25 13.1	
MSWZ	Moikau Station	4.23	196	PN	Pn	19 24 27.5	-3.8
TCW	Tory Channel	4.31	206	PN	Pn	19 24 28.7	-3.6
TCW				AML	AML	19 25 21.4	
PLWZ	Palliser	4.38	195	PN	Pn	19 24 29.1	-4.1
THZ	Tophouse	5.32	213	PN	Pn	19 24 41.2	-4.3
KHZ	Kahutara	5.64	205	PN	Pn	19 24 45.0	-4.5
INZ	Inchbonnie	6.75	216	PN	Pn	19 24 59.7	-4.3
OXZ	Oxford	6.98	210	PN	Pn	19 25 01.2	-5.9

CSEM ***25*** *19:28:53.4,38°.80N×43°.55E,h7km,ML3.7*

DDA 25 19:28:53.4,38°.80N×43°.55E,h7km,Ml3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.62	218	*e*P	Pg	19 29 00.1	-5.3
GEVA				*e*S	Sg	19 29 06.2	-7.3
GEVA	Gevas	0.62	218	P	Pg	19 29 00.1	-5.2
GEVA				S	Sg	19 29 06.2	-7.2
DYDN	Diyadin	0.75	8	*e*P	Pg	19 29 07.8	0.0
DYDN				*e*S	Sb	19 29 18.8	-0.7
DYDN	Diyadin	0.75	8	P	Pg	19 29 07.8	0.0
DYDN				S	Sb	19 29 18.8	-0.7
TUTA	Tutak	0.83	317	*e*P	Pg	19 29 09.4	+0.1
TUTA				*e*S	Sb	19 29 21.2	-0.6
TUTA	Tutak	0.83	317	P	Pg	19 29 09.4	+0.1
TUTA				S	Sb	19 29 21.2	-0.6
EKAR	Karacoban	1.24	292	*e*P	Pn	19 29 17.5	0.0
EKAR				*e*S	Sn	19 29 35.0	+0.4
EKAR	Karacoban	1.24	292	P	Pn	19 29 17.5	+0.1
EKAR				S	Sn	19 29 35.0	+0.4
HAKT	HAKKARI	1.25	174	*e*P	Pg	19 29 16.5	-0.8
HAKT				*e*S	Sb	19 29 34.0	+0.3
HAKT	HAKKARI	1.25	174

EATA	Eleskirt	1.35	322	*i* P	Pn	19 33 51.3 -1.1
EATA	Eleskirt	1.35	322	P	Pn	19 33 51.3 -1.1
NAX	Nakhchivan	1.54	76	⇑P	Pb	19 33 56.6 +0.5
	SNR=27					
NAX				⇑S	Sg	19 34 20.7 +3.2
NAX	Nakhchivan	1.54	76	P	Pb	19 33 56.6 +0.5
	SNR=27					
NAX				S	Sg	19 34 20.7 +3.2
CUKT	Cukurca	1.56	179	*e*PN	Pb	19 33 56.6 +0.1
CUKT	Cukurca	1.56	179	*i* P	Pb	19 33 56.8 +0.3
CUKT				*i* S	Sg	19 34 20.8 +2.5
CUKT	Cukurca	1.56	179	*e*Pn	Pb	19 33 56.6 +0.1
CUKT	Cukurca	1.56	179	P	Pb	19 33 56.8 +0.3
CUKT				S	Sg	19 34 20.8 +2.5
SIRN	S¨–rnak	1.60	215	*i* P	Pb	19 33 57.3 +0.1
SIRN	S¨–rnak	1.60	215	P	Pb	19 33 57.3 +0.1
VRTB	Varto-Mus	1.69	283	*e*PN	Pn	19 33 58.0 +1.1
VRTB	Varto-Mus	1.69	283	*i* P	Pn	19 33 58.3 +1.3
VRTB	Varto-Mus	1.69	283	*e*Pn	Pn	19 33 58.0 +1.1
VRTB	Varto-Mus	1.69	283	P	Pn	19 33 58.3 +1.3
HOMI	Horasan	1.79	314	*i* P	Pn	19 33 59.6 +1.2
BNGL	BINGOL	1.90	275	*i* P	Pb	19 34 01.9 -0.5
SVAN	Silvan-Diyarba	1.98	251	*e*PN	Pn	19 34 02.7 +1.9
SVAN	Silvan-Diyarba	1.98	251	*i* P	Pb	19 34 03.0 -0.6
SVAN	Silvan-Diyarba	1.98	251	*e*Pn	Pn	19 34 02.7 +1.9
SVAN	Silvan-Diyarba	1.98	251	P	Pb	19 34 03.0 -0.6
SENK	Senkaya-Erzuru	1.99	332	*e*PN	Pn	19 34 02.3 +1.2
SENK	Senkaya-Erzuru	1.99	332	*e*Pn	Pn	19 34 02.3 +1.2
BTMN	Batman	2.03	244	*i* P	Pb	19 34 03.9 -0.7
BTMN				*i* S	Sb	19 34 30.7 +1.1
BTMN	Batman	2.03	244	P	Pb	19 34 03.9 -0.7
BTMN				S	Sb	19 34 30.7 +1.1
ERZM	Erzurum	2.03	303	*i* P	Pb	19 34 04.5 -0.2
ERZM	Erzurum	2.03	303	P	Pb	19 34 04.5 -0.2
ECAT	Cat-ERZURUM	2.17	292	*i* P	Pb	19 34 06.2 -0.8
ECAT	Cat-ERZURUM	2.17	292	P	Pb	19 34 06.2 -0.8
BNGB	Bing¨¶l	2.27	275	*e*PN	Pn	19 34 06.7 +1.8
BINT	Bingol	2.41	273	*e*Pn	Pn	19 34 06.7 -0.2
YEDI	Yedisu-Bingol	2.44	286	*e*PN	Pn	19 34 09.2 +2.0
YEDI	Yedisu-Bingol	2.44	286	*e*Pn	Pn	19 34 09.3 +2.0
BGD	Bogdanovka	2.45	0	P	Pb	19 34 12.5 +0.8
BGD				S	Sg	19 34 48.9 +2.1
GDB	GEDABAY	2.54	41	⇓P	Pb	19 34 14.0 +0.7
GDB				⇑S	Sg	19 34 49.1 -0.6
GDB	GEDABAY	2.54	41	P	Pb	19 34 14.0 +0.7
AKH	Akhalkalaki	2.60	359	*e*PN	Pn	19 34 10.9 +1.5
AKH	Akhalkalaki	2.60	359	P	Pg	19 34 16.6 -1.1
AKH				S	Sg	19 34 56.4 +4.9
AKH	Akhalkalaki	2.60	359	*e*Pn	Pn	19 34 11.0 +1.5
QZX	Qazax, Azerbai	2.63	31	⇓P	Pb	19 34 15.7 +0.9
QZX				⇑S	Sg	19 34 53.2 +0.6
QZX	Qazax, Azerbai	2.63	31	P	Pb	19 34 15.7 +0.9
GANJ	Ganja	2.80	48	⇑P	Pb	19 34 16.5 -1.1
GANJ				⇑S	Sg	19 34 55.9 -2.1
GANJ	Ganja	2.80	48	P	Pb	19 34 16.5 -1.1
MAZI	Mazidag	2.81	242	*e*PN	Pn	19 34 12.7 +0.3
MAZI	Mazidag	2.81	242	*e*Pn	Pn	19 34 12.7 +0.3
DGRG	David-gareji	2.98	27	P	Pg	19 34 23.1 -1.9
DGRG				S	Sg	19 35 07.3 +3.8
TBLG	Delisi	3.05	17	P	Pb	19 34 22.6 +0.8
TBLG				S	Sg	19 35 06.0 +0.1
ERZN	Erzincan	3.10	286	*e*PN	Pn	19 34 18.2 +2.0
BRDA	Brd	3.14	61	⇓P	Pn	19 34 20.0 +3.3
BRDA	Brd	3.14	61	P	Pn	19 34 20.0 +3.3
PTK	Pertek	3.27	273	*e*PN	Pn	19 34 20.2 +1.5
PTK	Pertek	3.27	273	*e*Pn	Pn	19 34 20.2 +1.5
MNGR	Mingechevir, A	3.34	53	⇓P	Pb	19 34 24.1 -2.6
MNGR	Mingechevir, A	3.34	53	P	Pb	19 34 24.1 -2.6
SVRC	Sivrice-ELAZID	3.38	264	*e*PN	Pn	19 34 22.2 +2.1
SVRC	Sivrice-ELAZID	3.38	264	*e*Pn	Pn	19 34 22.2 +2.1
ZRD	Zardab	3.50	64	⇓P	Pn	19 34 24.4 +2.8
ZRD	Zardab	3.50	64	P	Pn	19 34 24.4 +2.8
ZKTA	Zakatala	3.66	39	⇓P	Pb	19 34 29.2 -3.1
SEKA	Sheki	3.67	48	⇓P	Pb	19 34 29.3 -3.1
SEKA	Sheki	3.67	48	P	Pb	19 34 29.3 -3.1
LRK	Lerik	3.73	91	⇓P	Pn	19 34 24.1 -0.9
LRK	Lerik	3.73	91	P	Pn	19 34 24.1 -0.9
GLBA	Clilabad	3.77	82	⇓P	Pn	19 34 26.1 +0.7
GLBA	Clilabad	3.77	82	P	Pn	19 34 26.1 +0.7
ONI	Oni	3.78	359	P	Pn	19 34 17.4 -8.1
ONI				S	Sb	19 35 18.7 -1.1
SAAT	Saatly	3.90	73	⇑P	Pn	19 34 28.9 +1.8
SAAT	Saatly	3.90	73	P	Pn	19 34 28.9 +1.8
LKRN	Lenkeran, Azer	4.07	90	⇑P	Pn	19 34 29.7 +0.3
LKRN	Lenkeran, Azer	4.07	90	P	Pn	19 34 29.7 +0.3
ASTR	Astara	4.09	92	⇓P	Pn	19 34 28.9 -0.8
ASTR	Astara	4.09	92	P	Pn	19 34 28.9 -0.8

NIED ***25*** *19:34:00, 32.°10N×138.°30E, h5km, Mw5.1 Best double couple: M0=5.73000×10^16 NP1:φ=63.00000°, δ30.00000°, λ42.00000°. NP2:φ=295.00000°, δ70.00000°, λ113.00000°.*
BJI ***25*** *19:34:10.9, 32.°10N×138.°30E, h6km, mb5.0/77, mB5.2/62, Ms5.0/80, Ms7 4.6/76*
IDC ***25*** *19:34:10.6±0.3, 32.°07N×138.°43E, h0km, mb5.0/51, mb1 5.1/55, mb1mx5.0/69, mbtmp5.0/55, ML4.0/5, MS4.4/37, Ms1 4.4/37, ms1mx4.3/66, Error ellipse: s-maj=10.0km s-min=8.2km az=91.0*
ISCJB ***25*** *19:34:11.2±0.1, 32.°15N±0.°01×138.°33E±0.°02, h10km, mb5.2/312, MS4.7/70, Error ellipse: s-maj=2.0km s-min=1.8km az=137.2*
NEIC ***25*** *19:34:12.7±0.6, 32.°06N×138.°36E, h12km±3km, mb5.3/204, Error ellipse: s-maj=2.8km s-min=2.2km az=138.0*
NEIC Recorded [2 JMA] in Tokyo, Honshu.
JMA ***25*** *19:34:12.7, 32.°18N×138.°38E, h45km, M4.9*
JMA Felt II J1.
GCMT ***25*** *19:34:12.7±0.1, 32.°12N×138.°29E, h14km, MW5.2/107, Moment Tensor Solution. s74,c125; s107,c190; Duration: 0 Moment tensor: Scale 10^17Nm; Mrr0.56±.02; Mθθ-0.79±.01; Mφφ0.23±.01; Mrθ-0.23±.03; Mφθ-0.05±.01; Mφr0.04±.03; Best double couple: M0=0.71600×10^17 NP1:φ=274.00000°, δ55.00000°, λ99.00000°. NP2: φ=79.00000°, δ36.00000°, λ77.00000°. Principal axes: T 0.6010, Plg78.0000°, Azm217.0000°; N 0.2310, Plg7.0000°, Azm89.0000°; P -0.8320, Plg9.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***25*** *19:34:14.0±1.0, 32.°08N×138.°38E, h33km, mb5.4/114, MS4.6/40 Error ellipse: s-maj=8.3km s-min=4.3km az=103.9*

ISC 25 19:34:13.2±0.5, 32.°09N±0.°03×138.°40E±0.°03, h15km±2km, n1026, σ1°31/1135, mb5.3/312, MS4.7/71, 62C-40D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.54	50	⇓P	Pn	19 34 37.8	-2.2
JHCJ				*e*S	Sn	19 34 55.9	-3.8
JHJ	Hachijo jima 2	1.56	48	Pn	Pn	19 34 39.2	-1.1
	800nm,0.3s,baz=15,slow=5.4,SNR=194						
JHJ				Sn	Sn	19 34 56.7	-3.5
	1μm,0.3s,baz=286,slow=23,SNR=16						
JHJ2	Mitsune	1.57	49	P	Pn	19 34 38.4	-2.2
JHJ2				*e*S	Sn	19 34 56.9	-3.7
JHJ2	Mitsune	1.57	49	*e*Pn	Pn	19 34 38.3	-2.2
TK01	Tokai 1	1.81	338	*e*S	Sn	19 35 01.7	-4.3
TK02	Tokai 2	1.93	344	⇓P	Pn	19 34 43.0	-2.3
TK02				*e*S	Sn	19 35 04.8	-4.4
TTO3	TONANKAI O.B.S	1.96	335	⇓P	Pn	19 34 43.4	-2.3
TTO3				*e*S	Sn	19 35 05.6	-4.4
TTO2	TONANKAI O.B.S	2.01	325	⇓P	Pn	19 34 44.1	-2.2
TTO2				*e*S	Sn	19 35 07.1	-3.9
TTO1	TONANKAI O.B.S	2.05	319	⇓P	Pn	19 34 44.6	-2.2
TTO1				*e*S	Sn	19 35 08.0	-3.9
TTO4	TONANKAI O.B.S	2.05	340	⇓P	Pn	19 34 44.4	-2.4
TTO4				*e*S	Sn	19 35 07.9	-4.1
TK03	Tokai 3	2.10	350	P	Pn	19 34 45.3	-2.4
TK03				*e*S	Sn	19 35 09.2	-4.4
JKO	Kozu shima	2.18	16	P	Pn	19 34 46.5	-2.4
JKO				*e*S	Sn	19 35 11.6	-4.1
TTO5	TONANKAI O.B.S	2.23	345	⇓P	Pn	19 34 46.9	-2.6
JNIO	Niijimaoohara	2.38	18	P	Pn	19 34 49.1	-2.5
JNIO				*e*S	Sn	19 35 16.0	-4.5
JSG	Sagara	2.59	356	P	Pn	19 34 52.1	-2.4
JSG				*e*S	Sn	19 35 20.9	-4.7
JIZS	Izushimoda	2.66	9	⇓P	Pn	19 34 53.2	-2.2
JIZS				*e*S	Sn	19 35 23.0	-4.3
JWZ	Kozaga	2.68	303	⇓P	Pn	19 34 53.1	-2.7
JIE	Ise	2.70	329	⇓P	Pn	19 34 53.5	-2.6
JIE				*e*S	Sn	19 35 24.3	-4.2
JAA	Atsumi	2.75	338	⇓P	Pn	19 34 54.0	-2.7
JAA				*e*S	Sn	19 35 25.3	-4.3
JIM2	Oshima 3	2.76	18	P	Pn	19 34 54.8	-2.1
HMMJ	Hamamatsu 2	2.82	349	*e*S	Sn	19 35 26.9	-4.5
SHZ3	Shizuoka 3	2.98	357	⇓P	Pn	19 34 57.7	-2.2
SHZ3				*e*S	Sn	19 35 30.7	-4.6
TSUJ	Tsu 2	3.10	328	⇓P	Pn	19 34 59.3	-2.2
TSUJ				S	Sn	19 35 34.2	-4.0
JWM	Minabe	3.11	305	⇓P	Pn	19 34 59.2	-2.4
JWY	Kouya	3.17	313	⇓P	Pn	19 35 00.6	-2.0
TATJ	Tateyama 2	3.19	23	*e* P	Pn	19 35 00.9	-1.9
JNY	Yasuok	3.29	352	⇓P	Pn	19 35 02.1	-2.2
JAO	Obara	3.31	344	⇓P	Pn	19 35 02.2	-2.3
INU	Inuyama	3.45	341	*e*Pn	Pn	19 35 04.2	-2.2
MJAR	Matsushiro Arr	4.45	358	Pn	Pn	19 35 19.3	-0.8
	37nm,0.3s,baz=178,slow=12,SNR=697						
MJAR				Sn	Sn	19 36 10.4	-1.2
	27nm,0.3s,baz=269,slow=17,SNR=5.3						
MAJO	Matsushiro	4.45	358	*d* P	Pn	19 35 19.6	-0.5
MAJO	Matsushiro	4.45	358	*e*Pn	Pn	19 35 19.1	-1.0
MJB9	Matsu-Tunnel	4.45	358	*e*Pn	Pn	19 35 19.5	-0.6
CBIJ	Chichi jima	5.96	146	*e*Pn	Pn	19 35 41.2	+0.3
JNU	Nakatsue	6.43	281	Pn	Pn	19 35 46.8	-0.6
	1.4nm,0.3s,baz=145,slow=6.7,SNR=19						
JNU				LR	LR	19 38 16.8	
	comp=Z,18nm,19.4s,baz=92,slow=38						
JNU	Nakatsue	6.43	281	*e*Pn	Pn	19 35 46.9	-0.4
KSRS	Korea Array	10.14	305	Pn	Pn	19 36 37.0	-1.1
	1.3nm,0.3s,baz=114,slow=14,SNR=12						
KSRS				Sn	Sn	19 38 28.7	-2.9
	0.4nm,0.3s,baz=122,slow=24,SNR=6.6						
KSRS				LR	LR	19 40 34.4	
	comp=Z,1μm,19.1s,baz=121,slow=38						
KS15	Wonju Array Si	10.16	305	*e*Pn	Pn	19 36 37.7	-0.8
KSAR	Wonju Array Be	10.16	305	P	Pn	19 36 37.1	-1.4
KSAR						19 38 28.7	
KSAR	Wonju Array Be	10.16	305	Pn	Pn	19 36 37.0	-1.4
KSAR				Sn	Sn	19 38 28.7	-3.5
JOW	Kunigami	10.26	242	*e*Pn	Pn	19 36 41.0	+1.1
MSHR	Mys Shultsa	11.95	333	⇑P	Pn	19 37 02.8	-0.1
VLA	Vladivostok	12.16	337	⇑*i* P	Pn	19 37 09.6	+3.8
VLA				pmax	pmax		
	comp=Z,113nm,1.7s						
ASAJ	Asahikawa	12.46	14	Pn	Pn	19 37 06.4	-3.4
	comp=Z,1.3nm,0.3s,baz=220,slow=12,SNR=10						
ASAJ				LR	LR	19 41 54.8	
	comp=Z,7.1nm,20.3s,baz=182,slow=37						
ASAJ	Asahikawa	12.46	14	*e*Pn	Pn	19 37 08.3	-1.5
USRK	Ussuriysk Ar.	13.10	339	Pn	Pn	19 37 21.1	+2.6
	comp=Z,0.3nm,0.3s,baz=147,slow=11,SNR=31						
USRK				LR	LR	19 41 40.9	
	comp=Z,2μm,21.1s,baz=144,slow=34						
MDJ	Mudanjiang	14.28	334	P	Pn	19 37 37.3	+2.6
MDJ				S	Sn	19 40 17.3	+4.5
MDJ				PcP	PcP	19 42 52.0	+0.2
MDJ				ScP	ScP	19 46 26.0	+1.1
MDJ				ScS	ScS	19 50 04.3	+2.1
MDJ				pmax	pmax		
	comp=Z,70nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,430nm,5.3s						
MDJ				LR	LR		
	comp=Z,2μm,13.4s						
MDJ				LR	LR		
	comp=Z,2μm,12.1s						
MDJ				LR	LR		
	comp=Z,2μm,12.1s						
MDJ	Mudanjiang	14.28	334	*e*Pn	Pn	19 37 37.5	+2.8
SSE	Sheshan	14.71	271	*e*P	Pn	19 37 39.0	-1.6
SSE				S	Sn	19 40 21.0	-2.3
SSE				pmax	pmax		
	comp=Z,38nm,0.7s						
SSE				pmax	pmax		
	comp=Z,400nm,6.5s						
SSE				LR	LR		
	comp=Z,1μm,16.5s						
SSE				LR	LR		
	comp=Z,700nm,16.5s						
SSE				LR	LR		
	comp=Z,940nm,19.2s						
YSS	Yuzh-Sakhalins	15.22	11	⇑*e*P	Pn	19 37 46.0	-1.4
YSS				pmax	pmax		
	comp=Z,182nm,1.0s						
YSS	Yuzh-Sakhalins	15.22	11	*e*Pn	Pn	19 37 42.7	-4.8
	comp=Z,191nm,1.0s						
DL2	Dalian	15.25	301	P	P	19 37 56.0	+3.3
DL2				S	S	19 40 46.3	-6.8
DL2				pmax	pmax		
	comp=Z,160nm,1.4s						
DL2				pmax	pmax		
	comp=Z,490nm,3.9s						
DL2				LR	LR		
	comp=N,3μm,11.4s						
DL2				LR	LR		
	comp=E,3μm,12.9s						
DL2				LR	LR		
	comp=Z,4μm,13.2s						
SNY	Shenyang	15.31	314	⇑P	Pn	19 37 49.8	+1.2
SNY				S	Sn	19 40 39.5	+1.7
SNY				pmax	pmax		
	comp=Z,51nm,2.0s						
SNY				pmax	pmax		
	comp=Z,1μm,8.8s						
SNY				LR	LR		
	comp=Z,4μm,16.7s						
SNY				LR	LR		
	comp=Z,3μm,14.1s						
SNY				LR	LR		
	comp=Z,2μm,12.8s						
CN2	Changchun	15.51	323	*e*P	Pn	19 37 53.0	+1.8
CN2				*es*P	pP	19 38 00.0	+0.1
CN2				*e*S	Sn	19 40 42.5	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
TATO	Taipei	16.45	249	*e*Pn	Pn	19 38 01.6	-1.9
	comp=Z,533nm,1.2s						
HABR	Khabarovsk	16.56	352	*e*P	Pn	19 38 02.7	-2.0
HABR				*e*S	Sn	19 41 07.6	-0.7
HABR				pmax	pmax		
	comp=N,32nm,1.6s						
HABR				pmax	pmax		
	comp=E,16nm,1.6s						
HABR				pmax	pmax		
	comp=Z,48nm,1.6s						
HABR				MLR	MLR		
	comp=Z,589nm,12.0s						
NJ2	Nanjing	16.57	275	*e*P	P	19 38 06.3	-1.1
NJ2				S	Sn	19 41 10.3	+1.6
NJ2				LR	LR		
	comp=Z,1μm,11.9s						
NJ2				LR	LR		
	comp=Z,2μm,17.6s						
NJ2				LR	LR		
	comp=Z,2μm,13.2s						
YHNB	Yeheng	16.69	248	*e*Pn	Pn	19 38 05.3	-1.3
	comp=Z,134nm,1.1s						
NACB	Ninganchiao	16.78	246	*e*Pn	Pn	19 38 08.4	+0.8
	comp=Z,177nm,1.5s						
YULB	Yu-li	17.43	244	*e*Pn	Pn	19 38 16.1	+0.3
	comp=Z,69nm,1.1s						
SSLB	Suanglung	17.48	246	*e*Pn	Pn	19 38 15.7	-0.7
	comp=Z,76nm,0.9s						
KLR	Kul'dur	17.84	346	P	Pn	19 38 19.2	-1.5
	comp=Z,0.2nm,0.3s,baz=148,slow=10,SNR=136						
KLR				LR	LR	19 44 31.0	
	comp=Z,188nm,21.9s,baz=152,slow=35						
TWG	Pinlang	17.92	243	*e*Pn	Pn	19 38 21.8	0.0
	comp=Z,590nm,1.0s						
TPUB	Ta-pu	17.99	245	*e*Pn	P	19 38 23.4	+0.2
	comp=Z,129nm,1.2s						
TIA	Tai'an	18.08	289	⇑P	P	19 38 26.0	+1.9
TIA				pmax	pmax		
	comp=Z,60nm,1.9s						
TIA				pmax	pmax		
	comp=Z,2μm,4.8s						
TIA				LR	LR		
	comp=Z,2μm,14.3s						
TIA				LR	LR		
	comp=Z,3μm,11.9s						
TIA				LR	LR		
	comp=Z,3μm,11.9s						
QZH	Quanzhou	18.79	253	⇑*i* P	P	19 38 32.0	0.0
QZH				S	Sn	19 41 53.5	-9.0
QZH				pmax	pmax		
	comp=Z,450nm,1.3s						
QZH				LR	LR		
	comp=Z,4μm,15.3s						
QZH				LR	LR		
	comp=Z,3μm,15.8s						
QZH				LR	LR		
	comp=Z,2μm,15.4s						
TYV	Tymovskoe	19.02	8	*e*P	Pn	19 38 39.2	+4.1
TYV				*e*S	Sn	19 42 03.4	-4.4
TYV				pmax	pmax		
	comp=Z,92nm,0.9s						
TYV				smax	smax		
	comp=N,2μm,5.5s						
TYV				smax	smax		
	comp=E,49nm,2.5s						
TYV				MLR	MLR		
	comp=Z,1μm,5.0s						
GUMO	Guam	19.34	161	P	P	19 38 38.6	+0.5
	comp=Z,2.4nm,0.3s,baz=192,slow=9.7,SNR=4.2						
GUMO				LR	LR	19 45 05.2	
	comp=Z,1μm,19.9s,baz=12,slow=34						
GUMO	Guam	19.34	161	*e*P	P	19 38 38.2	+0.2
	comp=Z,639nm,1.4s						
BJT	Baijiatuau	19.61	300	*e*P	Pn	19 38 42.7	+0.5
BJT				pmax	pmax		
	comp=Z,256nm,1.3s						
BJT	Baijiatuau	19.61	300	*e*P	Pn	19 38 42.7	+0.5
	comp=Z,256nm,1.3s						
BJI	Beijing	19.61	300	P	Pn	19 38 42.5	+0.3
BJI				S	Sn	19 42 22.3	+0.2
BJI				pmax	pmax		
	comp=Z,95nm,1.7s						
BJI				LR	LR		
	comp=Z,3μm,18.3s						
BJI				LR	LR		
	comp=Z,650nm,18.6s						
BJI				LR	LR		
	comp=Z,2μm,18.0s						
WHN	Wuhan	20.60	272	⇑*i* P	Pn	19 38 54.0	0.0
WHN				pmax	pmax		
	comp=Z,650nm,1.6s						
WHN				LR	LR		
	comp=Z,3μm,11.7s						
WHN				LR	LR		
	comp=Z,2μm,10.6s						
WHN				LR	LR		
	comp=Z,4μm,17.9s						
NKL	Nikolayevsk	21.12	4	*e*P	P	19 38 58.0	+0.9
NKL				*e*S	Sn	19 42 58.0	-0.1
NKL				pmax	pmax		
	comp=E,170nm,1.8s						
NKL				pmax	pmax		
	comp=N,130nm,1.4s						
NKL				pmax	pmax		
	comp=Z,210nm,1.4s						
NKL				pmax	pmax		
	comp=N,800nm,8.0s						
NKL				pmax	pmax		
	comp=Z,1μm,8.0s						
NKL				MLR	MLR		
	comp=N,1μm,14.0s						
NKL				MLR	MLR		
	comp=Z,1μm,14.0s						
ABRA	Dolores	21.50	232	*e*P	P	19 38 59.6	-1.8
TIY	Taiyuan	21.99	292	*e*P	P	19 39 10.3	+3.6
TIY				S	S	19 43 03.5	-5.5
TIY				pmax	pmax		
	comp=Z,600nm,6.2s						
TIY				LR	LR		
	comp=Z,820nm,10.7s						
TIY				LR	LR		
	comp=Z,900nm,10.4s						
TIY				LR	LR		
	comp=Z,2μm,13.8s						
HIA	Hailar	22.14	326	*e*P	P	19 39 07.8	-0.4
HIA	Hailar	22.14	326	*e*P	P	19 39 07.8	-0.4
PVCP	Virac	22.56	219	*e*P	P	19 39 14.6	+1.7
SKR	Severo-Kuril's	22.74	30	*e*P	P	19 39 15.9	+1.4
SKR				*e*S	S	19 43 22.7	+0.2
SKR				pmax	pmax		
	comp=Z,131nm,1.1s						
SKR				pmax	pmax		
	comp=Z,200nm,2.8s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
BOLP	Bolinao	22.93	231	*e*P	P	19 39 15.2	-1.6
HHC	Hu-ho-hao-te	23.22	300	*e*P	P	19 39 19.0	-0.7
HHC				sP	sP	19 39 26.3	+0.1
HHC				S	S	19 43 26.8	-4.4
HHC				sS	pS	19 43 33.0	-2.9
HHC				SS	SnSn	19 44 11.3	+6.4
HHC				pmax	pmax		
	comp=Z,51nm,0.8s						
HHC				pmax	pmax		
	comp=Z,500nm,7.5s						
HHC				LR	LR		
	comp=Z,3μm,14.8s						
HHC				LR	LR		
	comp=Z,2μm,12.1s						
HHC				LR	LR		
	comp=Z,1μm,14.8s						
AUQP	San Andres	23.59	221	*e*P	P	19 39 24.6	+1.1
BESP	Borongan	23.63	213	*e*P	P	19 39 24.4	+0.6
GZH	Guangzhou	23.90	254	P	P	19 39 23.3	-3.1
GZH				S	S	19 43 39.0	-3.2
GZH				pmax	pmax		
	comp=Z,2μm,5.5s						
BOAC	Boac	23.96	223	*e*P	P	19 39 27.4	+0.4
TGY	Tagaytay City	23.99	226	P	P	19 39 27.9	+0.6
	comp=Z,551nm,1.0s,baz=338,slow=1.3,SNR=26						
BTO	Baotou	24.31	298	*e*P	P	19 39 29.8	-0.4
OCLP	Ormoc	24.50	214	*e*P	P	19 39 30.7	-1.2
OTRP	Odiongan	24.74	221	*e*P	P	19 39 35.4	+1.2
XAN	Xi'an	24.75	283	P	P	19 39 34.3	+0.1
XAN				pP	pP	19 39 38.5	-0.3
XAN				PP	PnPn	19 40 12.3	+6.1
XAN				S	S	19 43 53.0	-2.8
XAN				SS	SnSn	19 44 45.0	+2.6
XAN				pmax	pmax		
	comp=Z,97nm,1.0s						
XAN				pmax	pmax		
	comp=Z,600nm,4.3s						
XAN				LR	LR		
	comp=Z,900nm,13.6s						
XAN				LR	LR		
	comp=Z,780nm,15.7s						
XAN				LR	LR		
	comp=Z,1μm,12.3s						
ENH	Enshi	24.77	273	*e*P	P	19 39 34.6	+0.2
PEA0B	Petropavlovsk-	25.21	28	*e*P	P	19 39 39.4	+1.3
	comp=Z,136nm,1.4s						
PETK	Petropavlovsk-	25.21	28	P	P	19 39 38.9	+0.8
	comp=Z,18nm,1.0s,baz=251,slow=4.5,SNR=10						
PETK				LR	LR	19 49 02.1	
	comp=Z,451nm,21.8s,baz=223,slow=35						
PEA1	Petropavlovsk-	25.21	28	*e*P	P	19 39 38.9	+0.8
LLP	Lapu-Lapu	25.44	215	⇑*e*P	P	19 39 40.3	-0.2
PET	Petropavlov

comp=E,414nm,16.3s
CLNS smax smax
comp=N,901nm,11.9s
CLNS MLR MLR
comp=Z,390nm,12.0s
CLNS MLR MLR
comp=E,691nm,13.0s
CLNS MLR MLR
comp=Z,613nm,14.0s
SNPH Sibulan 26.64 215 *e*P **P 19 39 51.5 +0.1**
CIT Chita 26.93 325 *e*P **P 19 39 54.6 +0.9**
CIT *e* 19 40 06.4
CIT *e* 19 40 55.4
CIT *e* 19 43 16.3
CIT pmax pmax
comp=Z,102nm,2.8s
BUKP Musuan 27.09 210 *e*P **P 19 39 53.9 -1.6**
MATI Mati 27.46 207 *e*P **P 19 39 56.2 -2.5**
PAGZ Pagadian 27.87 213 *e*P **P 19 40 01.7 -0.7**
GYA Guiyang 28.18 267⇑*i*P **P 19 40 05.5 +0.2**
GYA PP **PnPn 19 40 56.3 +3.0**
GYA PcP **PcP 19 43 21.0 +2.0**
GYA S **S 19 44 50.0 -0.5**
GYA SS **SnSn 19 46 11.5 +4.9**
GYA ScP **ScP 19 47 01.5 +2.1**
GYA ScS **ScS 19 50 51.3 -1.1**
GYA pmax pmax
comp=Z,60nm,1.1s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,850nm,17.5s
GYA LR LR
comp=Z,920nm,17.2s
GYA LR LR
comp=Z,830nm,18.0s
ULN Ulaanbaatar 28.48 313 *e*P **P 19 40 08.9 +1.1**
ULN *e* 19 43 19.5
ULN pmax pmax
comp=Z,89nm,1.3s
ULN Ulaanbaatar 28.48 313 *e*P **P 19 40 08.9 +1.1**
comp=Z,89nm,1.3s
ULN *e*PcP **PcP 19 43 19.4 0.0**
ULN Ulaanbaatar 28.48 313 P **P 19 40 09.4 +1.6**
SNR=31
ULN Ulaanbaatar 28.48 313 P **P 19 40 09.4 +1.6**
SNR=31
MA2 Magadan 28.71 13 P **P 19 40 09.9 +0.4**
comp=Z,34nm,0.8s,baz=187,slow=7.0,SNR=5.6
MA2 LR LR 19 51 22.2
comp=Z,606nm,21.7s,baz=198,slow=36
MA2 Magadan 28.71 13⇓*i*P **P 19 40 10.8 +1.3**
QIZ Qiongzhong 28.76 250 P P 19 40 18.8 +8.5
QIZ S S 19 45 11.5 +12
QIZ pmax pmax
comp=Z,39nm,1.9s
QIZ LR LR
comp=E,590nm,16.7s
QIZ LR LR
comp=Z,580nm,20.8s
LZH Lanzhou 28.80 288⇑P **P 19 40 11.0 +0.2**
LZH pP pP 19 40 14.3 -1.2
LZH sP sP 19 40 15.8 -1.6
LZH PP **PnPn 19 41 04.0 +2.3**
LZH PcP **PcP 19 43 21.3 +0.9**
LZH *e*S **S 19 44 59.0 -1.2**
LZH sS pS 19 45 06.0 +0.6
LZH SS **SnSn 19 46 27.0 +5.4**
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,290nm,6.0s
LZH LR LR
comp=Z,1μm,10.2s
LZH LR LR
comp=Z,1μm,11.3s
LZH LR LR
comp=Z,1μm,12.0s
SONA0 Songino Array 28.88 312 *e*P **P 19 40 12.6 +1.3**
SONA0 *e*PcP **PcP 19 43 20.0 -0.4**
SONM Songino Array 28.88 312 P **P 19 40 12.6 +1.3**
comp=Z,19nm,1.0s,baz=122,slow=8.0,SNR=87
SONM PcP **PcP 19 43 20.0 -0.4**
comp=Z,2.9nm,0.9s,baz=173,slow=2.6,SNR=5.0
SONM LR LR 19 52 07.5
comp=Z,533nm,19.4s,baz=111,slow=37
CD2 Chengdu 29.49 277⇑P **P 19 40 17.0 +0.2**
CD2 pP pP 19 40 20.0 -1.5
CD2 S **S 19 45 11.8 +1.0**
CD2 pmax pmax
comp=Z,190nm,0.7s
CD2 pmax pmax
comp=Z,290nm,4.4s
CD2 LR LR
comp=Z,2μm,13.1s
CD2 LR LR
comp=Z,2μm,12.9s
YAK Yakutsk 30.48 352 P **P 19 40 25.2 0.0**
comp=Z,13nm,0.5s,baz=156,slow=0.1,SNR=8.6
YAK Yakutsk 30.48 352 *e*P **P 19 40 25.1 0.0**
YAK *e* 19 41 29.4
YAK *e*PPP PPP 19 41 36.5
YAK *e* 19 43 24.2
YAK *e*S **S 19 45 27.7 +2.1**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=E,39nm,1.5s
YAK pmax pmax
comp=N,140nm,2.2s
YAK smax smax
comp=E,58nm,12.4s
YAK MLR MLR
comp=Z,2μm,24.0s
YAK MLR MLR
comp=E,418nm,15.0s
YAK MLR MLR
comp=N,6μm,24.0s
YAK Yakutsk 30.48 352 *e*P **P 19 40 24.7 -0.5**
comp=N,293nm,1.9s
ZAK Zakamensk 31.72 316 *e*P **P 19 40 37.5 +1.1**
ZAK pmax pmax
comp=Z,32nm,1.4s
IRK Irkutsk 31.90 319 *e*P **P 19 40 38.7 +0.9**
IRK pmax pmax
comp=Z,90nm,2.5s
KMI Kunming 31.96 267 P **P 19 40 39.3 +0.4**
KMI pP pP 19 40 41.0 -2.6
KMI sP sP 19 40 43.3 -2.2
KMI PP **PnPn 19 41 44.8 +0.9**
KMI S **S 19 45 47.3 -2.7**
KMI sS pS 19 45 55.0 -0.4
KMI SS **SnSn 19 47 36.0 -2.8**
KMI pmax pmax
comp=Z,27nm,1.0s
KMI pmax pmax
comp=Z,270nm,5.8s
KMI LR LR
comp=Z,1μm,15.6s
KMI LR LR
comp=Z,790nm,17.3s
KMI LR LR
comp=Z,1μm,14.3s
GTA Gaotai 31.97 294⇑P **P 19 40 38.8 +0.1**
GTA pP pP 19 40 43.0 -0.5
GTA sP sP 19 40 45.8 +0.4
GTA PP **PnPn 19 41 46.8 +3.0**
GTA PcP **PcP 19 43 29.0 +0.4**
GTA S **S 19 45 49.5 -0.2**
GTA sS pS 19 45 55.8 +0.9
GTA PcS **PcS 19 47 12.8 -0.6**
GTA SS **SnSn 19 47 41.8 +3.2**
GTA pmax pmax
comp=Z,37nm,1.3s
GTA pmax pmax
comp=Z,210nm,6.2s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,1μm,16.6s
GTA LR LR
comp=Z,1μm,15.7s
TLY Talaya 32.02 318 *e*P **P 19 40 40.8 +1.9**
TLY *e* 19 41 46.7
TLY *e*S **S 19 45 51.3 +1.4**
TLY pmax pmax
comp=Z,43nm,1.5s
TLY MLR MLR
comp=Z,830nm,14.0s
TLY Talaya 32.02 318 *e*P **P 19 40 40.2 +1.4**
comp=Z,111nm,1.9s
SEY Seymchan 32.13 12 P **P 19 40 40.6 +1.0**
comp=Z,12nm,0.9s,baz=212,slow=6.7,SNR=16
SEY LR LR 19 53 43.6
comp=Z,861nm,20.5s,baz=172,slow=36
SEY Seymchan 32.13 12*d i*P **P 19 40 40.3 +0.7**
MYLDM Lahad Datu 32.61 219 *e*P **P 19 40 45.2 +0.9**
comp=Z,168nm,1.6s
MYLDM Lahad Datu 32.61 219⇑P **P 19 40 46.3 +2.0**
SDKM Sandakan 32.94 221⇑P **P 19 40 48.6 +1.3**
KKM Kota Kinabalu 33.18 223 *e*P **P 19 40 50.4 +1.0**
comp=Z,70nm,1.3s
KKM Kota Kinabalu 33.18 223⇑P **P 19 40 51.3 +1.9**
MOY Mondy 33.54 317 *e*P **P 19 40 53.5 +1.2**
MOY pmax pmax
comp=Z,45nm,3.6s
TSM Tawau 33.69 219⇑P **P 19 40 55.9 +2.1**
LBMI Labuha 34.14 200 P **P 19 40 58.2 +0.5**
comp=Z,109nm,1.1s,comp=Z,1μm
KMSI Cibinong 34.17 206 P **P 19 40 58.5 +0.6**
comp=Z,175nm,0.9s
JAY Jayapura 34.48 176 P **P 19 41 02.0 +1.4**
comp=Z,463nm,0.9s
GENI Genyem 34.53 177 P **P 19 41 02.6 +1.6**
comp=Z,302nm,0.9s,comp=Z,3μm
MANU Manus Island 34.99 164 *e*P **P 19 41 03.9 -1.1**
comp=Z,16nm,0.8s
MRSI Marisa 35.07 210 P **P 19 41 07.1 +1.4**
comp=Z,121nm,1.1s,comp=Z,1μm
FAKI Fak Fak 35.30 191 *e*P **P 19 41 07.0 -0.7**
comp=Z,84nm,0.8s
SANI Sanana 35.93 201 P **P 19 41 12.1 -1.0**
comp=Z,153nm,1.0s,comp=Z,1μm
MPSI Mapaga 36.09 213 P **P 19 41 15.7 +1.2**
comp=Z,22nm,1.5s,comp=Z,483nm
LUWI Luwuk 36.12 207 P **P 19 41 15.7 +1.0**
comp=Z,83nm,0.9s,comp=Z,909nm
LUWI Luwuk 36.12 207 *e*P **P 19 41 12.4 -2.3**
comp=Z,108nm,1.2s
MSAI Masohi 36.37 196 P **P 19 41 18.6 +1.8**
comp=Z,52nm,1.2s,comp=Z,595nm
APSI Ampana 36.45 209 P **P 19 41 17.7 +0.2**
comp=Z,234nm,1.2s,comp=Z,2μm
NLAI Namlea 36.73 199 P **P 19 41 23.6 +3.7**
comp=Z,67nm,0.9s,comp=Z,743nm
AAI Ambon 36.88 197 P **P 19 41 22.1 +1.0**
comp=Z,174nm,0.7s
AAI Ambon 36.88 197 P **P 19 41 22.2 +1.1**
AAI pmax pmax
comp=Z,175nm,0.8s
PCI Palu 37.22 212 P **P 19 41 24.5 +0.4**
comp=Z,116nm,1.2s,comp=Z,1μm
PCI Palu 37.22 212 P **P 19 41 27.7 +3.6**
PCI pmax pmax
comp=Z,116nm,1.2s
BTM Bintulu 37.30 225⇓P **P 19 41 26.1 +1.2**
CHTO Chiang Mai 37.79 259 *e*P **P 19 41 29.4 +0.4**
CHTO pmax pmax
comp=Z,54nm,0.8s
CHTO Chiang Mai 37.79 259 *e*P **P 19 41 29.4 +0.4**
comp=Z,54nm,0.8s
CHTO Chiang Mai 37.79 259 P **P 19 41 30.0 +1.0**
SNR=33
CHTO Chiang Mai 37.79 259 P **P 19 41 30.0 +1.0**
SNR=33
CM31 Chiang Mai Arr 37.96 259 *e*P **P 19 41 31.2 +0.8**
CMAR Chiang Mai Arr 37.96 259 P **P 19 41 31.4 +1.0**
comp=Z,18nm,0.7s,baz=50,slow=7.3,SNR=196
CMAR PcP **PcP 19 43 47.1 +1.0**
comp=Z,5.3nm,1.1s,baz=69,slow=0.8,SNR=5.7
CMAR LR LR 19 58 55.6
comp=Z,403nm,18.6s,baz=65,slow=39
RABL Rabaul 38.38 158 *e*P **P 19 41 33.2 -0.7**
comp=Z,39nm,1.1s
SBUM Sibu 38.41 225 *e*P **P 19 41 33.7 -0.5**
comp=Z,47nm,1.3s
KDI Kendari 38.86 206 P **P 19 41 39.4 +1.5**
comp=Z,45nm,1.4s
TTSI Tana Toraja 39.14 210 P P 19 41 46.8 +6.5
BILL Bilibino 39.46 16*de*P **P 19 41 42.3 -0.1**
BILL *e**SP **sP 19 41 48.6 -0.5**
BILL *e*PPP PPP 19 43 37.6
BILL *e* 19 43 50.2
BILL *e* 19 50 23.0
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,598nm,21.0s
MTKI Muara Teweh, K 39.67 219 P **P 19 41 48.3 +3.5**
TIXI Tiksi 39.95 355 P **P 19 41 45.9 -0.5**
comp=Z,8.0nm,1.0s,baz=148,slow=6.7,SNR=23
TIXI Tiksi 39.95 355*d i*P **P 19 41 46.0 -0.5**
TIXI pmax pmax
comp=Z,19nm,1.7s
SPSI Sidrap Palu 39.99 210 P **P 19 41 47.7 +0.3**
comp=Z,41nm,1.1s
BNSI Bone 40.24 209 P **P 19 41 50.5 +1.1**
comp=Z,110nm,1.2s,comp=Z,1μm
BBSI Bau Bau 40.29 205 P P 19 41 56.7 +6.8
comp=Z,11nm,1.1s,comp=Z,10μm
KSM Kuching 40.35 227 *e*P **P 19 41 50.7 +0.3**
comp=Z,89nm,1.3s
LSA Lhasa 40.37 279 P **P 19 41 52.3 +1.3**
LSA pmax pmax
comp=Z,34nm,1.5s
LSA Lhasa 40.37 279 *e*P **P 19 41 51.7 +0.7**
LSA pmax pmax
comp=Z,64nm,1.3s
LSA Lhasa 40.37 279 *e*P **P 19 41 51.7 +0.7**
comp=Z,64nm,1.3s
KAPI Kappang 40.94 209 P **P 19 41 55.5 +0.3**
SNR=8.9
KAPI Kappang 40.94 209 P **P 19 41 55.5 +0.3**
SNR=8.9
WMQ Urumqi 41.07 302 P **P 19 41 56.8 +0.6**
WMQ pP pP 19 42 01.5 +0.5
WMQ sP sP 19 42 05.5 +2.6
WMQ PcP **PcP 19 43 56.3 +0.5**
WMQ S **S 19 48 09.0 +0.6**
WMQ pmax pmax
comp=Z,130nm,1.5s
WMQ pmax pmax
comp=Z,580nm,3.8s
WMQ LR LR
comp=Z,630nm,13.3s
WMQ LR LR
comp=Z,700nm,11.9s
WMQ LR LR
comp=Z,250nm,17.7s
PMG Port Moresby 42.10 167*d i*P **P 19 42 04.3 -0.4**
PMG pmax pmax
comp=Z,97nm,1.0s
ZAA0 Zalesovo Array 43.59 316 *e*P **P 19 42 16.3 -0.1**
comp=Z,64nm,1.6s
ZAA0 *e*PP **PcP 19 44 02.9 -0.9**
ZALV Zalesovo Beam 43.59 316 P **P 19 42 16.9 +0.5**
comp=Z,9.4nm,1.0s,baz=98,slow=6.1,SNR=32
ZALV PcP **PcP 19 44 03.5 -0.3**
comp=Z,32nm,0.9s,baz=91,slow=2.6,SNR=24
ZALV LR LR 20 00 37.9
comp=Z,1μm,19.3s,baz=72,slow=36
ZAA1 Zalesovo Array 43.59 316 *e*P **P 19 42 16.9 +0.5**
ZAA1 *e*PP **PcP 19 44 03.5 -0.3**
SOEI Soe 43.74 200 *e*P **P 19 42 15.8 -2.4**
comp=Z,154nm,1.0s
TAPN Taplejung 43.95 277 *e*P **P 19 42 20.4 +0.3**
KULM Kulim 44.21 241 *e*P **P 19 42 22.0 +0.1**
comp=Z,99nm,1.0s
MYKOM Kota Tinggi 44.34 234 *e*P **P 19 42 23.2 +0.3**
comp=Z,48nm,1.2s
ODAN Odare 44.38 277 *e*P **P 19 42 23.5 0.0**
IPM Ipoh 44.48 240 *e*P **P 19 42 23.9 -0.2**
comp=Z,137nm,1.2s
NVS Novosibirsk 44.63 317⇓*i*P **P 19 42 25.2 +0.5**
NVS *i* 19 44 07.3
NVS pmax pmax
comp=Z,50nm,1.5s
NVS pmax pmax
comp=N,1.0nm,0.4s
NVS pmax pmax
comp=E,40nm,1.4s
MK31 Makanchi Array 44.82 306*ce*P **P 19 42 27.0 +0.5**
MK31 pmax pmax
comp=Z,36nm,1.1s
MK31 Makanchi Array 44.82 306 *e*P **P 19 42 26.8 +0.3**
MK31 *e*PcP **PcP 19 44 07.1 -1.1**
MK32 Makanchi Array 44.82 306 *e*P **P 19 42 27.0 +0.5**
MK32 *e*PcP **PcP 19 44 08.1 -0.2**
MKAR Makanchi Array 44.82 306 P **P 19 42 27.0 +0.5**
comp=Z,10.0nm,0.8s,baz=91,slow=7.6,SNR=56
MKAR PcP **PcP 19 44 08.1 -0.2**
comp=Z,22nm,0.9s,baz=76,slow=5.1,SNR=13
MKAR LR LR 20 01 40.7
comp=Z,362nm,18.4s,baz=92,slow=37
MKAR Makanchi Array 44.82 306 *e*P **P 19 42 26.8 +0.3**
MKAR *e* 19 44 07.7
MKAR Makanchi Array 44.82 306 *e*P **P 19 42 26.8 +0.3**
MKAR *e*PcP **PcP 19 44 07.7 -0.5**
RAMN Ramite 45.02 277 *e*P **P 19 42 28.8 +0.2**
comp=Z,266nm,1.3s
MAKZ Makanchi 45.04 306 *i* P **P 19 42 28.8 +0.6**
MAKZ pmax pmax
comp=Z,47nm,1.4s
MAKZ Makanchi 45.04 306 *e*P **P 19 42 28.5 +0.3**
comp=Z,62nm,1.4s
MAKZ *e*PcP **PcP 19 44 08.7 -0.2**
JIRN Jiri 45.13 278 *e*P **P 19 42 30.3 +0.7**
comp=Z,4μm,1.5s
PLAI Plampang 45.20 209 P **P 19 42 28.6 -1.1**
comp=Z,69nm,1.0s,comp=Z,819nm
MTN Manton Dam 45.21 190 *e*P **P 19 42 28.7 -1.0**
comp=Z,151nm,1.0s
GUN Gumba 45.31 279 *e*P **P 19 42 31.5 +0.5**
TWSI Taliwang, Sumb 45.50 211 P **P 19 42 31.6 -0.5**
comp=Z,64nm,1.1s
SRBI Singaraja 45.67 213 P **P 19 42 34.3 +0.9**
comp=Z,43nm,1.2s,comp=Z,637nm
PKI Pulchoki 45.82 279 *e*P **P 19 42 34.8 -0.2**
comp=Z,157nm,1.5s
PKIN Phulchoki 45.82 279 *e*P **P 19 42 34.7 -0.3**
comp=Z,141nm,1.6s
KKN Kakani 45.85 279 *e*P **P 19 42 35.4 +0.3**
COEN Coen 46.01 174 *e*P **P 19 42 36.2 +0.2**
comp=Z,32nm,0.9s
DMN Daman 46.06 279 *e*P **P 19 42 36.7 -0.1**
comp=Z,122nm,1.3s
GKN Gorkha 46.32 280 *e*P **P 19 42 38.9 +0.1**
comp=Z,287nm,1.5s
JAGI Jajag, Banyuwa 46.51 214 P **P 19 42 40.2 +0.2**
comp=Z,50nm,1.1s
JAGI Jajag, Banyuwa 46.51 214 *e*P **P 19 42 37.7 -2.3**
comp=Z,44nm,1.0s
NRIK Noril'sk 46.81 338 P **P 19 42 42.2 +0.4**
comp=Z,9.6nm,0.6s,baz=115,slow=6.8,SNR=11
NRIK LR LR 20 02 38.0
comp=Z,1μm,20.5s,baz=117,slow=36
DANN Dangsing 46.95 280 *e*P **P 19 42 44.3 +0.5**
LHMI Lhok Sumawe 47.04 244 P **P 19 42 46.3 +2.0**
comp=Z,127nm,1.0s
LHMI Lhok Sumawe 47.04 244 *e*P **P 19 42 44.5 +0.2**
comp=Z,92nm,0.9s
PDGK Podgornoye 47.05 301 *i* P **P 19 42 43.9 -0.4**
PDGK pmax pmax
comp=Z,75nm,1.3s
PSI Prapat 47.15 240 P **P 19 42 45.7 +0.5**
comp=Z,31nm,0.9s,baz=0.0,slow=4.9,SNR=22
PSI PcP **PcP 19 44 17.4 +0.5**
comp=Z,7.8nm,0.7s,baz=351,slow=3.2,SNR=4.1
PSI Prapat 47.15 240 *e*P **P 19 42 44.9 -0.4**
PSI *e* 19 44 16.6
PSI pmax pmax
comp=Z,47nm,1.0s
PSI Prapat 47.15 240 *e*P **P 19 42 44.9 -0.4**
comp=Z,47nm,1.0s
PSI *e*PcP **PcP 19 44 16.6 -0.3**
SMRI Semarang 47.18 219 *e*P **P 19 42 44.7 -0.6**
comp=Z,72nm,1.2s
KURK Kurchatov 47.18 312*c i*P **P 19 42 44.9 0.0**
KURK pmax pmax
comp=Z,292nm,1.7s
KURK Kurchatov 47.18 312 *e*P **P 19 42 44.6 -0.4**
comp=Z,62nm,1.2s
KURK *e*PcP **PcP 19 44 15.8 -0.5**
KURK *e*PcP **PcP 19 44 16.0 -0.3**
KURK Kurchatov 47.18 312 P **P 19 42 45.0 0.0**
SNR=23
KURK Kurchatov 47.18 312 P **P 19 42 45.0 0.0**
SNR=23
KURBB Kurchatov Arra 47.24 311 P **P 19 42 45.3 -0.1**
comp=Z,31nm,1.2s,baz=89,slow=8.0,SNR=90
KURBB PcP **PcP 19 44 16.0 -0.5**
comp=Z,17nm,0.9s,baz=91,slow=3.7,SNR=17
KOLN Koldanda 47.27 280 *e*P **P 19 42 46.5 +0.3**
comp=Z,134nm,1.3s
BKNI Bangkinang 47.34 236 *e*P **P 19 42 47.4 +0.8**
comp=Z,215nm,1.1s
KCSI Kotacane, Aceh 47.52 242 P **P 19 42 47.4 -0.7**
comp=Z,33nm,1.3s,comp=Z,427nm
PYUN Piuthan 47.67 280 *e*P **P 19 42 49.9 +0.5**
comp=Z,518nm,1.3s
UGM Wanagama 47.85 219 P **P 19 42 50.9 +0.3**
comp=Z,111nm,1.5s
PBSI Pulau Batu 49.56 238 P **P 19 43 04.5 +0.8**
comp=Z,153nm,1.2s,comp=Z,2μm
TKM2 Tokmak 2 49.93 301 *i* P **P 19 43 06.5 -0.1**
TKM2 pmax pmax
comp=Z,45nm,1.4s
KSH Kashi 50.29 297 P **P 19 43 13.3 +4.1**
KSH pP sP 19 43 16.3 +0.3
KSH sP pP 19 43 19.5 +5.4
KSH PcP **PcP 19 44 30.3 +2.3**
KSH PP **PP 19 45 08.0 +3.5**
KSH PcS **PcS 19 48 28.5 +3.3**
KSH S **S 19 50 25.3 +4.0**
KSH ScS **ScS 19 53 01.0 +0.9**
KSH SS **SS 19 53 56.3 +1.6**
KSH pmax pmax
comp=Z,36nm,1.2s
KSH pmax pmax
comp=Z,250nm,6.1s
KSH LR LR
comp=Z,660nm,12.4s
KSH LR LR
comp=Z,510nm,12.7s
KSH LR LR
comp=Z,560nm,13.7s
FRU Bishkek 50.66 301⇑*i*P **P 19 43 12.0 +0.2**
FRU *i* 19 43 24.0
FRU pmax pmax
comp=Z,100nm,1.6s
FRU MLR MLR
comp=E,1μm,16.0s
AAK Ala-Archa 50.78 301 P **P 19 43 13.3 +0.4**
comp=E,9.0nm,1.0s,baz=108,slow=5.4,SNR=16
AAK PcP **PcP 19 44 30.2 +0.4**
comp=E,11nm,0.9s,baz=292,slow=6.9,SNR=7.3
AAK LR LR 20 03 59.0
comp=E,561nm,21.3s,baz=67,slow=35
AAK Ala-Archa 50.78 301 *e*P **P 19 43 12.9 0.0**
AAK *e* 19 44 30.2
AAK pmax pmax
comp=Z,18nm,1.0s
AAK Ala-Archa 50.78 301 *e*P **P 19 43 12.9 0.0**
comp=Z,18nm,1.0s
AAK *e*PcP **PcP 19 44 30.2 +0.4**
AAK Ala-Archa 50.78 301 P **P 19 43 13.4 +0.4**
SNR=7.2
AAK P **P 19 43 13.4 +0.4**
SNR=7.2
AAK Ala-Archa 50.78 301 P **P 19 43 13.4 +0.4**
SNR=7.2
FITZ Fitzroy Crossi 51.38 196 P **P 19 43 17.4 +0.1**
comp=Z,49nm,1.1s,baz=15,slow=10,SNR=15
FITZ Fitzroy Crossi 51.38 196 *e*P **P 19 43 17.2 -0.1**
WRAB Tennant Creek 51.87 185*c i*P **P 19 43 20.1 -0.9**
WRAB pmax pmax
comp=Z,110nm,1.0s
WR1 Warramunga Arr 51.88 185 *e*P **P 19 43 20.2 -0.8**
comp=Z,54nm,0.9s
WR1 *e*PcP **PcP 19 44 33.6 -0.1**
WRA Warramunga Arr 51.88 185 P **P 19 43 20.2 -0.8**

comp=Z,39nm,0.8s,baz=1.7,slow=7.8,SNR=56
WRA PcP **PcP** **19 44 33.6 -0.1**
comp=Z,11nm,0.8s,baz=2.4,slow=3.6,SNR=4.7
WRA LR LR 20 03 42.3
comp=Z,286nm,21.9s,baz=30,slow=34
BVAR Borovoye Array 52.17 315 P **P** **19 43 23.0 0.0**
comp=Z,15nm,0.9s,baz=93,slow=8.0,SNR=81
BVAR PcP **PcP** **19 44 34.8 +0.3**
comp=Z,19nm,0.8s,baz=94,slow=4.5,SNR=13
BVAR LR LR 20 05 20.3
comp=Z,588nm,21.2s,baz=75,slow=36
BRVK Borovoye 52.23 315*c i*P **P** **19 43 23.5 +0.1**
BRVK pmax pmax
comp=Z,184nm,1.7s
BRVK Borovoye 52.23 315 *e*P **P** **19 43 23.1 -0.3**
comp=Z,50nm,1.1s
BRVK *e*PcP **PcP** **19 44 34.5 -0.3**
BRVK Borovoye 52.23 315 P **P** **19 43 23.6 +0.1**
SNR=19
BRVK Borovoye 52.23 315 P **P** **19 43 23.6 +0.1**
SNR=19
MNAS Manas 52.25 301 *i* P **P** **19 43 24.3 +0.4**
MNAS pmax pmax
comp=Z,7.0nm,1.2s
NDI New Delhi 52.27 283 *e*P **P** **19 43 22.5 -1.6**
RSO Redoubt South 52.34 36 *e*P **P** **19 43 25.3 +0.9**
CTA Charters Tower 52.42 171 P **P** **19 43 24.8 -0.2**
comp=Z,16nm,1.0s,baz=349,slow=8.9,SNR=6.4
CTAO Charters Tower 52.42 171 *e*P **P** **19 43 24.2 -0.9**
CTAO pmax pmax
comp=Z,29nm,1.0s
CTAO Charters Tower 52.42 171 *e*P **P** **19 43 24.2 -0.9**
comp=Z,29nm,1.0s
KDAK Kodiak Island 52.47 39 P **P** **19 43 25.9 +0.8**
comp=Z,24nm,0.8s,baz=260,slow=5.1,SNR=6.7
KDAK Kodiak Island 52.47 39 *e*P **P** **19 43 25.6 +0.5**
comp=Z,92nm,1.2s
PPLA Purkeypile 52.65 33 *e*P **P** **19 43 28.1 +1.6**
comp=Z,34nm,1.0s
SPU Mount Spurr 52.69 35 *e*P **P** **19 43 28.1 +1.4**
MLY Manley 53.36 30 *e*P **P** **19 43 33.2 +1.6**
comp=Z,18nm,0.8s
KK31 Karatay Array 53.56 302*ce*P **P** **19 43 33.4 0.0**
KK31 pmax pmax
comp=Z,64nm,1.3s
KKAR Karatay Array 53.56 302 *e*P **P** **19 43 33.2 -0.2**
KKAR pmax pmax
comp=Z,203nm,1.0s
KKAR Karatay Array 53.56 302 *e*P **P** **19 43 33.2 -0.2**
comp=Z,203nm,1.0s
RC01 Rabbit Creek A 53.81 35 *e*P **P** **19 43 35.9 +0.9**
comp=Z,63nm,1.0s
TOLK Toolik Lake Re 54.00 26 P **P** **19 43 37.5 +1.3**
baz=266
PMR Palmer 54.09 34 *e*P **P** **19 43 38.4 +1.5**
PMR pmax pmax
comp=Z,57nm,1.2s
PMR Palmer 54.09 34 *e*P **P** **19 43 38.4 +1.5**
comp=Z,57nm,1.2s
MCK McKinley 54.13 32 *e*P **P** **19 43 38.0 +0.8**
MCK pmax pmax
comp=Z,61nm,1.2s
MCK McKinley 54.13 32 *e*P **P** **19 43 38.0 +0.8**
comp=Z,61nm,1.2s
RND Reindeer 54.17 32 *e*P **P** **19 43 37.9 +0.3**
RND pmax pmax
comp=Z,33nm,1.0s
RND Reindeer 54.17 32 *e*P **P** **19 43 37.9 +0.3**
comp=Z,33nm,1.0s
MDM Murphy Dome 54.43 30 *e*P **P** **19 43 40.4 +1.0**
comp=Z,40nm,1.0s
COLA College 54.59 30⇑*i*P **P** **19 43 42.6 +2.1**
COLA pmax pmax
comp=Z,16nm,0.9s
CCB Clear Creek Bu 54.61 30 *e*P **P** **19 43 42.5 +1.8**
comp=Z,13nm,1.0s
ILAR Eielson Array 55.00 30 P **P** **19 43 43.4 -0.2**
comp=Z,4.8nm,0.9s,baz=275,slow=6.1,SNR=28
ILAR PcP **PcP** **19 44 43.8 -1.3**
comp=Z,3.6nm,1.1s,baz=287,slow=4.4,SNR=4.2
ILB Eielson Array 55.00 30 *e*P **P** **19 43 43.7 +0.1**
AS31 Alice Springs 55.60 185 *e*P **P** **19 43 48.4 +0.1**
comp=Z,6.8nm,0.6s
ASAR Alice Springs 55.60 185 P **P** **19 43 48.0 -0.3**
comp=Z,16nm,0.8s,baz=15,slow=11,SNR=35
ASAR LR LR 20 06 47.3
comp=Z,137nm,20.9s,baz=3.0,slow=35
ASAR Alice Springs 55.60 185 P **P** **19 43 48.0 -0.3**
ASAR pmax pmax
comp=Z,15nm,0.7s
ASAR MLR MLR
comp=Z,137nm,21.0s
HYB Hyderabad 55.64 270 *i* P **P** **19 43 49.0 +0.1**
HYB *e*PcP **PcP** **19 44 48.0 -0.4**
PAX Paxson 55.72 32 *e*P **P** **19 43 50.0 +1.1**
PAX pmax pmax
comp=Z,33nm,1.4s
PAX Paxson 55.72 32 *e*P **P** **19 43 50.0 +1.1**
comp=Z,33nm,1.4s
DZET Dzherino 55.85 298 P **P** **19 43 47.0 -3.2**
DZET pmax pmax
comp=Z,41nm,1.1s
MBWA Marble Bar 55.88 201 *e*P **P** **19 43 50.3 0.0**
comp=Z,91nm,1.1s
DOT Dot Lake 56.30 32 *e*P **P** **19 43 53.1 +0.2**
comp=Z,46nm,1.0s
BMRM Bremner River 56.31 35 *e*P **P** **19 43 54.6 +1.5**
comp=Z,74nm,1.2s
MENT Mentasta 56.52 32 *e*P **P** **19 43 55.8 +1.3**
comp=Z,34nm,1.0s
KBL Kabul 56.95 293 *e*P **P** **19 43 57.8 -0.4**
KBL pmax pmax
comp=Z,34nm,1.2s
KBL Kabul 56.95 293 *e*P **P** **19 43 57.8 -0.4**
comp=Z,34nm,1.2s
SVE Sverdlovsk 57.28 320*d i*P **P** **19 44 00.3 +0.4**
SVE pmax pmax
comp=Z,58nm,1.5s
EGAK Eagle 57.45 30 *e*P **P** **19 44 01.7 +0.7**
comp=Z,11nm,0.9s
EIDS Eidsvold 58.40 167 *e*P **P** **19 44 07.6 -0.5**
comp=Z,44nm,0.9s
ARU Arti 58.48 320 P **P** **19 44 08.5 +0.1**
comp=Z,16nm,1.0s,baz=88,slow=4.6,SNR=21
ARU Arti 58.48 320*c i*P **P** **19 44 08.0 -0.4**
ARU 19 44 57.5
ARU S **S** **19 52 13.2 +2.2**
ARU pmax pmax
comp=Z,66nm,1.7s
ARU MLR MLR
comp=Z,631nm,18.0s
ARU Arti 58.48 320 *e*P **P** **19 44 08.2 -0.2**
comp=Z,55nm,1.3s
PALK Pallekele 58.90 258 P **P** **19 44 12.7 +0.8**
comp=Z,40nm,1.0s,baz=117,slow=5.1,SNR=12
PALK Pallekele 58.90 258 *i* P **P** **19 44 12.3 +0.3**
SNR=8.6
PALK Pallekele 58.90 258*ce*P **P** **19 44 13.2 +1.3**
PALK Pallekele 58.90 258 *e*P **P** **19 44 12.4 +0.4**
comp=Z,67nm,1.1s
POO Poona 59.13 274⇓*i*P **P** **19 44 09.0 -4.5**
comp=Z,100nm,1.0s
AB31 Akbulak array 59.29 312*ce*P **P** **19 44 12.5 -1.6**
AB31 pmax pmax
comp=Z,23nm,0.9s
ABKAR Akbulak array 59.29 312 *e*P **P** **19 44 13.5 -0.7**
comp=Z,148nm,0.9s
INK Inuvik 59.91 25 P **P** **19 44 18.7 +0.6**
comp=Z,9.3nm,0.8s,baz=291,slow=5.5,SNR=14
INK LR LR 20 11 37.0
comp=Z,246nm,19.3s,baz=278,slow=38
DZM Mont Dzumac 60.17 150 P **P** **19 44 20.9 +0.5**
comp=Z,35nm,0.9s,baz=24,slow=7.1,SNR=8.0
DZM Mont Dzumac 60.17 150 *e*P **P** **19 44 20.7 +0.2**
comp=Z,48nm,1.0s
AKTO Aktyubinsk 60.19 313 P **P** **19 44 19.9 -0.5**
comp=Z,8.1nm,0.8s,baz=78,slow=13,SNR=16
AKTO LR LR 20 11 11.8
comp=Z,459nm,18.9s,baz=75,slow=37
WHY Whitehorse 61.05 34 *e*P **P** **19 44 27.4 +1.3**
comp=Z,21nm,1.0s
FORT Forrest 63.29 190 *e*P **P** **19 44 40.5 -0.7**
comp=Z,863nm,0.8s
STKA Stephens Creek 63.69 177 P **P** **19 44 43.2 -0.7**
comp=Z,23nm,0.8s,baz=341,slow=8.4,SNR=15
STKA LR LR 20 11 25.7
comp=Z,199nm,20.6s,baz=17,slow=35

STKA Stephens Creek 63.69 177 *e*S **P** **19 44 42.9 -0.9**
GEYT Alibeck 64.09 300 P **P** **19 44 47.0 +0.2**
comp=Z,11nm,0.9s,baz=56,slow=3.7,SNR=26
GEYT LR LR 20 14 48.1
comp=Z,324nm,18.5s,baz=35,slow=38
TMCR Tamitsa 65.90 332 *e*P **P** **19 44 58.1 +0.1**
TMCR pmax pmax
comp=Z,29nm,1.1s
APA Apatity 66.18 336⇑*i*P **P** **19 44 58.6 -1.1**
APA pmax pmax
comp=Z,16nm,0.9s
APA MLR MLR
comp=Z,700nm,22.0s
KLMR Klimovskoe 66.62 328 *e*P **P** **19 45 01.5 -1.1**
KLMR *e* 19 47 27.4
KLMR pmax pmax
comp=Z,27nm,1.2s
NWAO Narrogin (SRO) 67.68 199 P **P** **19 45 09.4 -0.2**
comp=Z,103nm,0.8s,baz=257,slow=7.2,SNR=25
NWAO Narrogin (SRO) 67.68 199 *e*P **P** **19 45 09.1 -0.6**
comp=Z,136nm,0.9s
ARA0 ARCESS Array S 67.75 340 *e*P **P** **19 45 10.1 +0.4**
ARCES ARCESS Array B 67.75 340 P **P** **19 45 10.1 +0.4**
comp=Z,8.8nm,0.9s,baz=58,slow=9.3,SNR=8.6
ARCES LR LR 20 18 58.9
comp=Z,619nm,19.6s,baz=58,slow=40
RES Resolute Bay 67.99 13 P **P** **19 45 11.8 +0.7**
RES pmax pmax
comp=Z,26nm,1.6s
MSF Maaselka 68.50 335 P **P** **19 45 14.5 +0.1**
MSF pmax pmax
comp=Z,36nm,1.7s
SGF Sodankyl 68.55 337 P **P** **19 45 14.7 0.0**
SGF pmax pmax
comp=Z,38nm,1.4s
JOF Joensuu 69.15 332 P **P** **19 45 19.2 +0.7**
JOF pmax pmax
comp=Z,40nm,1.4s
YKA Yellowknife Ar 69.33 28 P **P** **19 45 19.8 +0.2**
comp=Z,11nm,0.9s,baz=292,slow=5.7,SNR=12
YKA LR LR 20 20 24.4
comp=Z,9.8nm,18.1s,baz=0.0,slow=40
YKB5 Yellowknife Ar 69.33 28 *e*P **P** **19 45 19.8 +0.2**
MAK Makhachkala 69.56 308 *e*S **S** **19 54 23.1 -5.7**
MAK pmax pmax
comp=Z,240nm,1.5s
MAK MLR MLR
comp=Z,1μm,15.0s
TOO Toolangi 69.61 174 P **P** **19 45 22.0 +0.4**
TOO pmax pmax
comp=Z,34nm,1.0s
MOS Moscow 69.74 324 *e*P **P** **19 45 19.4 -2.9**
MOS *e* 19 45 32.1
MOS *e* 19 48 03.4
MOS pmax pmax
comp=Z,27nm,1.0s
MOS MLR MLR
comp=N,400nm,18.0s
MOS MLR MLR
comp=E,900nm,18.0s
MOS MLR MLR
comp=Z,2μm,18.0s
WSAR Wadi Sarin 69.75 285 P **P** **19 45 22.4 -0.6**
comp=Z,10nm,0.9s,baz=87,slow=8.8,SNR=9.8
OUL Oulu 70.05 335 P **P** **19 45 22.5 -1.5**
OUL pmax pmax
comp=Z,32nm,1.9s
BANOM Banah 70.43 289 *i* P **P** **19 45 27.6 +0.5**
SNR=6.0
DAG Danmarks Havn 70.46 355⇑*i*P **P** **19 45 26.8 +0.4**
comp=Z,69nm,1.4s
DAG Danmarks Havn 70.46 355⇑*i*P **P** **19 45 26.8 +0.4**
DAG pmax pmax
comp=Z,160nm,1.4s
OBN Obninsk 70.57 323 P **P** **19 45 27.4 +0.1**
comp=Z,13nm,0.4s,baz=185,slow=10,SNR=3.7
OBN LR LR 20 18 41.3
comp=Z,1μm,19.2s,baz=72,slow=38
OBN Obninsk 70.57 323*d i*P **P** **19 45 26.8 -0.5**
OBN *e* 19 45 37.4
OBN *e* 19 45 47.1
OBN *i* S **S** **19 54 41.6 +1.4**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 70.57 323 *e*P **P** **19 45 27.2 -0.1**
comp=Z,16nm,0.7s
GROC Groznyy 70.59 309 *e* **PcP** **19 45 43.4 -5.4**
GROC pmax pmax
comp=Z,63nm,1.3s
UOSS Minazif 70.95 288 *e*P **P** **19 45 30.2 0.0**
comp=Z,17nm,1.1s
HATD Hatta, Dubai 71.06 288 *i* P **P** **19 45 31.4 +0.3**
SNR=13
HATD Hatta, Dubai 71.06 288 P **P** **19 45 31.3 +0.3**
SNR=10
HATD Hatta, Dubai 71.06 288 P **P** **19 45 31.3 +0.3**
SNR=10
ASHO Ashiyiah 71.19 288 *i* P **P** **19 45 32.0 +0.3**
SNR=14
ASHO Ashiyiah 71.19 288 P **P** **19 45 32.0 +0.3**
SNR=7.8
ASHO Ashiyiah 71.19 288 P **P** **19 45 32.0 +0.3**
SNR=7.8
SUF Sumiainen 71.27 333 P **P** **19 45 31.5 0.0**
SUF pmax pmax
comp=Z,36nm,1.3s
LLLB Lillooet 71.57 41 *e*P **P** **19 45 33.7 +0.1**
comp=Z,22nm,0.9s
NCK Nalchik 71.89 310⇑*i*P **P** **19 45 35.7 0.0**
NCK pmax pmax
comp=Z,47nm,1.0s
A04D Lummi Island 71.99 43 P **P** **19 45 36.8 +0.7**
baz=298
FIA1 FINESS Array S 72.02 332 *e*P **P** **19 45 35.3 -0.7**
comp=Z,28nm,0.9s
FIA0 FINESS Array S 72.02 332 *e*P **P** **19 45 35.6 -0.4**
FIA0 FINESS Array S 72.02 332 *e*P **P** **19 45 35.6 -0.4**
FINES FINESS Array B 72.02 332 P **P** **19 45 35.6 -0.4**
comp=Z,18nm,0.9s,baz=67,slow=5.0,SNR=28
FINES LR LR 20 21 37.2
comp=Z,333nm,18.3s,baz=38,slow=40
KBZ Khabaz 72.23 311 P **P** **19 45 38.7 +1.0**
comp=Z,48nm,0.9s,baz=72,slow=2.6,SNR=32
KBZ LR LR 20 18 30.6
comp=Z,575nm,19.5s,baz=54,slow=37
KVAR Kislovodsk Arr 72.26 311 P **P** **19 45 37.9 0.0**
comp=Z,100nm,1.1s,baz=218,slow=3.4,SNR=15
KVAR LR LR 20 18 08.7
comp=Z,457nm,21.3s,baz=38,slow=36
KIV Kislovodsk 72.27 311 *e*P **P** **19 45 38.7 +0.7**
KIV *e*S **S** **19 55 02.0 +1.5**
KIV pmax pmax
comp=Z,100nm,1.1s
KIV pmax pmax
comp=Z,32nm,3.8s
KIV Kislovodsk 72.27 311 *e*P **P** **19 45 37.0 -1.0**
comp=Z,85nm,1.0s
KIV Kislovodsk 72.27 311 P **P** **19 45 35.6 -2.4**
SNR=11
KIV Kislovodsk 72.27 311 P **P** **19 45 35.6 -2.4**
SNR=11
MBW Mount Baker 72.43 43 P **P** **19 45 39.7 +0.7**
B05A Bryant 72.56 44 P **P** **19 45 40.4 +0.9**
baz=299
JCW Jim Creek 72.69 44 *e*P **P** **19 45 41.8 +1.4**
B06A Marblemount 72.80 43 *e*P **P** **19 45 41.3 +0.4**
comp=Z,32nm,1.0s
G03D McMinnville, O 73.33 47 P **P** **19 45 45.0 +0.8**
baz=299
TDL Tradedollar La 73.42 45 *e*P **P** **19 45 45.9 +1.0**
C06D Leavenworth 73.43 44 P **P** **19 45 45.2 +0.4**
baz=300
VSU Vasula 73.44 329*d i*P **P** **19 45 44.7 +0.2**
VSU pmax pmax
comp=Z,48nm,1.2s
LON Longmire 73.47 45 *e*P **P** **19 45 45.3 +0.3**
LON pmax pmax
comp=Z,15nm,1.2s
LON Longmire 73.47 45 *e*P **P** **19 45 45.3 +0.3**
comp=Z,15nm,1.2s
F04A Amboy 73.50 46 *e*P **P** **19 45 45.9 +0.7**
comp=Z,24nm,0.9s
LTY Liberty 73.89 44 *e*P **P** **19 45 47.8 +0.3**
comp=Z,10nm,0.9s

I03D Drain, OR 74.00 48 P **P** **19 45 49.0 +0.8**
baz=299,SNR=6.7
WTV Waterville 74.09 43 *e*P **P** **19 45 49.3 +0.6**
B08A Colville Reser 74.12 43 *e*P **P** **19 45 49.1 +0.3**
comp=Z,24nm,1.1s
SAW Saint Andrews 74.42 43 P **P** **19 45 51.2 +0.7**
G05D Wamic, OR 74.51 46 P **P** **19 45 51.5 +0.4**
baz=300
L02D Cave Junction, 74.59 50 P **P** **19 45 52.0 +0.3**
baz=299
OUZ Omahuta 74.67 151 *e*P **P** **19 45 52.7 +0.9**
comp=Z,26nm,1.1s
E07A Sunnyside 74.73 44 *e*P **P** **19 45 53.2 +0.8**
comp=Z,22nm,1.1s
HUMO Hull Mountain 74.79 49 *e*P **P** **19 45 53.4 +0.6**
comp=Z,41nm,1.9s
G06A Carlson Farm, 74.93 46 *e*P **P** **19 45 54.3 +0.8**
comp=Z,26nm,1.2s
HAWA Hanford 75.01 44 *e*P **P** **19 45 54.1 +0.2**
comp=Z,16nm,1.1s
J04D Umpqua Nationa 75.02 48 P **P** **19 45 55.0 +0.7**
baz=300,SNR=6.2
C09A Chrisman Ranch 75.02 43 *e*P **P** **19 45 54.4 +0.5**
comp=Z,20nm,1.0s
D08A Wollman Farm, 75.03 44 *e*P **P** **19 45 54.4 +0.3**
comp=Z,19nm,0.9s
ANN Anapa 75.15 314 *e*P **P** **19 45 54.0 -0.7**
ANN *e*S **S** **19 55 33.8 +1.1**
ANN pmax pmax
comp=Z,169nm,1.3s
E08A Dider Farm, El 75.24 44 *e*P **P** **19 45 55.8 +0.6**
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 75.38 50 *e*P **P** **19 45 57.2 +0.9**
YBH pmax pmax
comp=Z,21nm,0.9s
YBH Yreka Blue Hor 75.38 50 *e*P **P** **19 45 57.2 +0.9**
comp=Z,21nm,0.9s
NEW Newport 75.43 42 P **P** **19 45 57.0 +0.6**
comp=Z,10nm,1.0s,baz=296,slow=6.5
NEW Newport 75.43 42 P **P** **19 45 56.7 +0.4**
baz=302,SNR=8.8
NEW Newport 75.43 42 *e*P **P** **19 45 56.8 +0.4**
comp=Z,20nm,1.1s
M02C Callahan 75.46 50 P **P** **19 45 57.7 +1.0**
baz=300
NACGM Naroch 75.47 326 *e* **P** **19 45 56.0 -0.4**
NACGM *e*LQ LQ 20 16 55.0
NACGM *e*LR LR 20 21 37.0
J05D Fort Rock, OR 75.55 48 P **P** **19 45 58.4 +1.1**
baz=300,SNR=9.4
K04D Chiloquin, OR 75.55 49 P **P** **19 45 57.6 +0.3**
baz=300
SUMG Summit 75.60 359⇑*i*P **P** **19 45 58.7 +1.3**
comp=Z,86nm,1.1s
SUMG Summit 75.60 359⇑*i*P **P** **19 45 58.7 +1.3**
SUMG pmax pmax
comp=Z,86nm,1.1s
SUMG Summit 75.60 359 *e*P **P** **19 45 58.1 +0.8**
comp=Z,87nm,1.1s
LHEM Herd Peak 75.75 50 *e*P **P** **19 45 59.9 +1.2**
E09A Wood Farm, Sta 75.76 44 *e*P **P** **19 45 58.9 +0.6**
comp=Z,34nm,1.1s
N02D Trinity Center 75.76 51 P **P** **19 45 59.5 +1.0**
baz=300
M04C Macdoel 75.92 49 P **P** **19 46 00.3 +0.9**
baz=300,SNR=9.3
WDC Whiskeytown Da 76.07 51 *e*P **P** **19 46 00.9 +0.8**
WDC pmax pmax
comp=Z,24nm,1.1s
WDC Whiskeytown Da 76.07 51 *e*P **P** **19 46 00.9 +0.8**
comp=Z,24nm,1.1s
AKASG Malin Array Be 76.66 322 P **P** **19 46 02.1 -1.1**
comp=Z,3.3nm,0.7s,baz=49,slow=6.5,SNR=21
AKASG LR LR 20 22 01.7
comp=Z,804nm,19.8s,baz=45,slow=37
AKBB Malin Array Si 76.66 322 *e*P **P** **19 46 02.1 -1.2**
AKBB Malin Array Si 76.66 322 *e*P **P** **19 46 02.1 -1.2**
KIEV Kiev 76.68 322⇓*i*P **P** **19 46 03.0 -0.3**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 76.68 322 *e*P **P** **19 46 02.0 -1.4**
comp=Z,8.3nm,0.9s
O03D Paynes Creek 76.70 51 P **P** **19 46 03.8 0.0**
baz=301,SNR=5.4
LBCM Butte Creek Ri 76.72 50 P **P** **19 46 04.4 +0.4**
SCO Scoresbysund 76.75 353 *i* P **P** **19 46 04.1 +0.7**
comp=Z,66nm,1.1s
SCO Scoresbysund 76.75 353 *i* P **P** **19 46 04.1 +0.7**
SCO pmax pmax
comp=Z,66nm,1.1s
WALA Waterton Lakes 76.79 40 *e*P **P** **19 46 04.4 +0.2**
comp=Z,27nm,1.0s
LRDM Redding Peak 76.84 50 *e*P **P** **19 46 03.4 -1.1**
MOD Modoc Plateau 76.84 49 *e*P **P** **19 46 05.0 +0.3**
comp=Z,11nm,0.8s
BSMT Bassoo Peak 76.98 41 *e*P **P** **19 46 06.0 +0.6**
BLMT Blacktail Moun 77.12 41 *e*P **P** **19 46 07.0 +0.7**
BMO Blue Mountains 77.14 45 *e*P **P** **19 46 06.7 +0.4**
BMO pmax pmax
comp=Z,21nm,0.9s
BMO Blue Mountains 77.14 45 *e*P **P** **19 46 06.7 +0.4**
comp=Z,21nm,0.9s
ORV Oroville 77.28 51 *e*P **P** **19 46 06.6 -0.4**
ORV pmax pmax
comp=Z,22nm,1.2s
ORV Oroville 77.28 51 *e*P **P** **19 46 06.6 -0.4**
comp=Z,22nm,1.2s
JTMT Jette 77.32 41 *e*P **P** **19 46 07.9 +0.7**
YBMT Yellow Bay 77.40 41 *e*P **P** **19 46 08.1 +0.4**
NC405 NORSAR Array S 77.53 336 *e*P **P** **19 46 07.5 -0.5**
HFS Hagfors 77.54 335 P **P** **19 46 07.7 -0.3**
comp=Z,5.4nm,0.8s,baz=90,slow=7.2,SNR=8.0
HFS LR LR 20 24 03.1
comp=Z,488nm,19.8s,baz=30,slow=39
SWMT Swartz Lake 77.61 41 *e*P **P** **19 46 09.1 +0.3**
WVOR Wild Horse Val 77.62 48 *e*P **P** **19 46 09.3 +0.3**
WVOR pmax pmax
comp=Z,19nm,1.0s
WVOR Wild Horse Val 77.62 48 *e*P **P** **19 46 09.3 +0.3**
comp=Z,19nm,1.0s
NB201 NORSAR Array S 77.72 337 *e*P **P** **19 46 08.7 -0.4**
NC204 NORSAR Array S 77.73 337 *e*P **P** **19 46 08.5 -0.7**
NB2 NORSAR Subarra 77.75 337 P **P** **19 46 08.8 -0.6**
comp=Z,49nm,1.4s,baz=42,slow=5.9
NB2 NORSAR Subarra 77.75 337 P **P** **19 46 08.8 -0.6**
baz=42,slow=5.9
NB2 NORSAR Subarra 77.75 337 P **P** **19 46 08.1 -1.2**
NB2 pmax pmax
comp=Z,42nm,1.4s
NB200 NORSAR Array S 77.75 337 *e*P **P** **19 46 08.7 -0.6**
NOA NORSAR Array B 77.75 337 P **P** **19 46 08.7 -0.6**
comp=Z,11nm,1.0s,baz=42,slow=5.5,SNR=12
NOA LR LR 20 23 02.7
comp=Z,188nm,21.7s,baz=45,slow=38
NOA NORSAR Array B 77.75 337 P **P** **19 46 08.7 -0.6**
NOA pmax pmax
comp=Z,14nm,1.1s
NOA MLR MLR
comp=Z,188nm,21.7s
BEKR Beckworth 77.87 51 *e*P **P** **19 46 10.9 +0.3**
comp=Z,33nm,1.1s
AFDM Forest Hills D 77.94 52 *e*P **P** **19 46 10.9 +0.1**
comp=Z,56nm,2.0s
NAO01 NORSAR Array S 78.01 337 *e*P **P** **19 46 10.0 -0.6**
MSO Missoula 78.02 42 P **P** **19 46 11.2 +0.1**
baz=304,SNR=8.0
MSO Missoula 78.02 42 *e*P **P** **19 46 10.9 -0.3**
comp=Z,22nm,1.4s
SEC Stevens Creek 78.03 54 *e*P **P** **19 46 12.4 +1.2**
SLMT Seeley Lake 78.04 41 *e*P **P** **19 46 11.3 -0.1**
CHMT Chamberlain Mo 78.36 42 *e*P **P** **19 46 12.9 -0.3**
PAHR Pah Rah Range 78.59 50 *e*P **P** **19 46 14.6 +0.1**
comp=Z,20nm,1.0s
URZ Urewera 78.73 150 P **P** **19 46 13.3 -1.4**
comp=Z,23nm,0.8s,baz=0.1,slow=5.6,SNR=14
URZ Urewera 78.73 150 *e*P **P** **19 46 13.2 -1.4**
comp=Z,26nm,0.8s
PNTR Pine Nut 78.78 51 *e*P **P** **19 46 16.2 +0.5**
comp=Z,20nm,0.9s
CMB Columbia Colle 78.81 52 *e*P **P** **19 46 15.7 +0.1**
CMB pmax pmax
comp=Z,37nm,1.3s
CMB Columbia Colle 78.81 52 *e*P **P** **19 46 15.7 +0.1**
comp=Z,37nm,1.3s
MFID Camas Ranch 78.82 46 *e*P **P** **19 46 16.1 +0.5**
comp=Z,19nm,1.0s

KIS **Kishinev** 79.01 319 *e*P P 19 46 15.0 -1.4
KIS *e*S S 19 56 14.0 -0.7
KIS LQM 20 18 48.0
comp=Z,1µm,16.0s
KIS LRM MLR 20 23 40.0
comp=Z,700nm,19.0s
KIS Kishinev 79.01 319 *e*P P 19 46 15.0 -1.4
KIS *e*S S 19 56 14.0 -0.7
KIS MLR MLR
comp=Z,1µm,17.0s
KIS MLR MLR
comp=N,700nm,16.0s
KIS MLR MLR
comp=E,700nm,19.0s
KIS MLR MLR
comp=Z,900nm,17.0s
YERR Yerington 79.07 51 *e*P P 19 46 17.8 +0.6
comp=Z,33nm,1.1s
WAKR Walker 79.20 51 *e*P P 19 46 18.7 +0.8
comp=Z,26nm,1.4s
FFC Flin Flon 79.21 31 *e*P P 19 46 17.0 -0.4
FFC pmax pmax
comp=Z,18nm,1.0s
FFC Flin Flon 79.21 31 *e*P P 19 46 17.0 -0.4
comp=Z,18nm,1.0s
BKZ Black Stump Fm 79.23 151 *e*P P 19 46 16.5 -1.0
comp=Z,32nm,0.9s
HRY Holter Researc 79.28 41 *e*P P 19 46 18.8 +0.7
LRM Limekiln Ridge 79.45 42 *e*P P 19 46 19.5 +0.3
ILGA Ilgaz 79.45 312 *e*P P 19 46 19.8 +0.5
comp=Z,39nm,1.0s
HLID Hailey 79.59 45 P P 19 46 20.7 +0.8
baz=305
HLID Hailey 79.59 45 *e*P P 19 46 20.3 +0.4
comp=Z,9.6nm,0.9s
DLMT Dillon 79.63 43 *e*P P 19 46 20.4 +0.3
comp=Z,32nm,0.9s
EGMT Eagleton 79.64 39 P P 19 46 20.3 +0.3
baz=307
EGMT Eagleton 79.64 39 *e*P P 19 46 20.3 +0.3
comp=Z,46nm,1.0s
MCMT McKenzie Canyo 79.79 43 *e*P P 19 46 21.3 +0.2
LVV L'vov 79.87 323 *e*P P 19 46 22.7 +1.6
LVV MLR MLR
comp=Z,500nm,16.0s
BOZ Bozeman (W) 80.05 42 P P 19 46 22.5 +0.2
baz=306,SNR=20
BOZ Bozeman (W) 80.05 42 *e*P P 19 46 22.3 0.0
BOZ pmax pmax
comp=Z,20nm,1.0s
BOZ Bozeman (W) 80.05 42 *e*P P 19 46 22.3 0.0
comp=Z,20nm,1.0s
PAGB Antelope Grade 80.13 54 *e*P P 19 46 23.6 +0.9
comp=Z,45nm,1.1s
RAYN Ar Rayn 80.19 292 *e*P P 19 46 23.1 -0.2
comp=Z,42nm,1.0s
BR101 Keskin Array S 80.23 311 *e*P P 19 46 23.6 +0.2
BR131 Keskin Array S 80.23 311 *e*P P 19 46 23.2 -0.2
BRTR Keskin Array B 80.23 311 P P 19 46 23.6 +0.2
comp=Z,20nm,0.9s,baz=114,slow=4.1,SNR=40
BRTR LR LR 20 24 26.5
comp=Z,252nm,21.5s,baz=64,slow=38
TESR Tescani 80.50 319⇑ *i*P P 19 46 24.4 -0.1
SMMC Simmler 80.53 54 P P 19 46 25.6 +0.6
baz=303
BUR08 Bucovina Ar. S 80.60 321 *e*P P 19 46 25.3 +0.1
BURAR Bucovina Array 80.61 321⇓ *i*P P 19 46 25.6 +0.4
BURAR Bucovina Array 80.61 321⇓ P 19 46 25.6 +0.4
QLMT Earthquake Lak 80.61 43 *e*P P 19 46 26.5 +1.0
KWP Kalwaria Pacla 80.66 324 *e*P P 19 46 25.7 +0.4
KWP Kalwaria Pacla 80.66 324 *e*P P 19 46 25.7 +0.4
ANTO Ankara 80.69 311 *e*P P 19 46 26.2 +0.4
ANTO pmax pmax
comp=Z,24nm,1.0s
ANTO Ankara 80.69 311 *e*P P 19 46 26.2 +0.4
comp=Z,24nm,1.0s
YHB Horse Butte 80.79 43 *e*P P 19 46 27.5 +1.0
comp=Z,26nm,0.9s
VRI Vrincioaia 80.84 319⇑ *i*P P 19 46 27.8 +1.4
VRI Vrincioaia 80.84 319⇑ P 19 46 27.8 +1.4
TLB Topalu 80.86 317⇑ *i*P P 19 46 27.3 +0.8
TLB Topalu 80.86 317⇑ P 19 46 27.3 +0.8
VES Vestal, Richgr 80.87 53 P P 19 46 26.5 -0.2
baz=303
PKM Mcpherson Peak 80.88 55 P P 19 46 27.8 +0.7
baz=303
PLOR Plostina 80.90 319⇑ *i*P P 19 46 29.2 +2.5
PLOR Plostina 80.90 319⇑ P 19 46 29.2 +2.5
YHH Holmes Hill 80.97 42 *e*P P 19 46 28.0 +0.5
comp=Z,18nm,1.2s
YMR Madison River 80.97 43 *e*P P 19 46 28.3 +0.9
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 80.99 4 *i*P P 19 46 26.5 -0.2
comp=Z,62nm,1.2s
SFJD Kangerlussuaq 80.99 4 *e*P P 19 46 27.1 +0.4
SFJD pmax pmax
comp=Z,41nm,1.1s
SFJD Kangerlussuaq 80.99 4 *e*P P 19 46 27.1 +0.4
comp=Z,42nm,1.1s
GCMT Greycliff 81.03 41 *e*P P 19 46 27.8 +0.2
YNR Norris Junctio 81.11 42 *e*P P 19 46 30.1 +1.9
comp=Z,28nm,1.2s
YFT Old Faithful 81.18 43 *e*P P 19 46 30.7 +2.2
comp=Z,24nm,1.2s
CWC Cottonwood Cre 81.22 52 P P 19 46 29.1 +0.3
baz=304
YPP Pitchstone Pla 81.30 43 *e*P P 19 46 31.1 +1.9
comp=Z,19nm,1.1s
H17A Grant Village 81.36 43 P P 19 46 31.5 +2.0
baz=307,SNR=13
H17A Grant Village 81.36 43 *e*P P 19 46 31.9 +2.4
comp=Z,43nm,1.0s
ISA Isabella, Lake 81.38 53 P P 19 46 29.9 +0.4
baz=303
GRAC Grapevine Rang 81.39 52 P P 19 46 29.8 +0.2
baz=304
ARVC Arvin 81.43 54 P P 19 46 29.8 0.0
baz=303
IMW Indian Meadow 81.45 43 *e*P P 19 46 31.1 +1.0
comp=Z,17nm,0.9s
SCZ2 Santa Cruz Isl 81.49 55 P P 19 46 30.6 +0.5
baz=303
UZH Uzhgorod 81.50 323 *e*P P 19 46 26.9 -2.9
UZH *e*S S 19 56 33.7 -7.1
UZH MLR MLR
comp=N,550nm,14.0s
UZH MLR MLR
comp=E,500nm,14.0s
DOPR Dopca 81.53 320⇓ *i*P P 19 46 29.6 -0.5
STHS Stebnicka Huta 81.53 324 *e*P P 19 46 30.3 +0.3
STHS pmax pmax
comp=Z,127nm,3.6s
STHS Stebnicka Huta 81.53 324 *e*P P 19 46 30.3 +0.3
FXWY Fox Creek 81.55 43 *e*P P 19 46 31.5 +1.0
comp=Z,18nm,1.3s
HVU Hansel Valley 81.60 46 *e*P P 19 46 31.4 +0.6
HVU pmax pmax
comp=Z,17nm,0.8s
HVU Hansel Valley 81.60 46 *e*P P 19 46 31.4 +0.6
comp=Z,17nm,0.8s
DAC Darwin (Calif) 81.64 52 *e*P P 19 46 30.9 -0.2
DAC pmax pmax
comp=Z,16nm,1.2s
DAC Darwin (Calif) 81.64 52 *e*P P 19 46 30.9 -0.2
comp=Z,16nm,1.2s
MOOW Moose Ponds 81.65 43 *e*P P 19 46 32.0 +1.0
comp=Z,12nm,1.0s
RLMT Red Lodge 81.66 41 P P 19 46 31.9 +0.8
baz=308,SNR=16
RLMT Red Lodge 81.66 41 *e*P P 19 46 31.6 +0.6
comp=Z,34nm,0.7s
TPAW Teton Pass 81.68 43 *e*P P 19 46 32.2 +0.9
comp=Z,13nm,0.8s
OJC Ojcow 81.72 325 *e*P P 19 46 31.1 +0.1
OJC Ojcow 81.72 325 *e*P P 19 46 31.0 +0.1
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 81.72 325 *e*P P 19 46 31.0 +0.1
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 81.75 324 *e*P P 19 46 31.6 +0.4
CRVS Cervenica-Dubn 81.75 324 *e*P P 19 46 31.6 +0.4
OSI Osito Audit: C 81.78 54 P P 19 46 32.2 +0.5
baz=303
R11A Troy Canyon, C 81.81 50 P P 19 46 32.1 +0.2
baz=305,SNR=27
R11A Troy Canyon, C 81.81 50 *e*P P 19 46 32.0 +0.1
comp=Z,14nm,0.9s
LOHW Long Hollow 81.81 43 *e*P P 19 46 32.6 +0.7
comp=Z,11nm,1.0s
REDW Red Top Meadow 81.82 44 *e*P P 19 46 32.7 +0.8
comp=Z,27nm,1.4s
BLG Laguna Peak, P 81.82 55 P P 19 46 31.9 0.0
baz=303
MPMC Manual Prospec 81.83 53 P P 19 46 32.0 0.0
baz=304,SNR=10.0
SNCC San Nicolas Is 81.97 56 P P 19 46 32.9 +0.4
baz=303
SNCC San Nicolas Is 81.97 56 *e*P P 19 46 33.0 +0.4
comp=Z,45nm,1.0s
NIE Niedzica 82.00 324 *e*P P 19 46 32.8 +0.3
NIE Niedzica 82.00 324 *e*P P 19 46 32.8 +0.3
LRMC Laurel Mtn Rad 82.02 53 P P 19 46 33.3 +0.3
baz=304
FURC Furnace Creek, 82.02 52 P P 19 46 33.2 +0.4
baz=304,SNR=7.9
EDW2 Edwards Air Fo 82.14 54 P P 19 46 33.7 +0.1
baz=304,SNR=12
TPNV Topopah Spring 82.16 51 P P 19 46 33.7 0.0
baz=304,SNR=20
TPNV Topopah Spring 82.16 51 *e*P P 19 46 33.9 +0.1
TPNV pmax pmax
comp=Z,24nm,0.8s
TPNV Topopah Spring 82.16 51 *e*P P 19 46 33.9 +0.1
comp=Z,24nm,0.8s
DECC Green Verdugo 82.25 54 P P 19 46 34.3 +0.2
baz=304
DGMT Dagmar 82.27 37 P P 19 46 33.8 -0.1
baz=311
ARR Arges 82.31 319⇓ *i*P P 19 46 35.4 +1.1
LAO LASA Array 82.36 39 P P 19 46 34.7 +0.3
baz=309
LAO LASA Array 82.36 39 *e*P P 19 46 34.8 +0.3
comp=Z,38nm,0.9s
HWUT Hardware Ranch 82.44 45 *e*P P 19 46 35.7 +0.6
comp=Z,29nm,1.0s
DRGR 82.46 321⇓ *i*P P 19 46 35.4 +0.4
DRGR 82.46 321⇓ P 19 46 35.4 +0.4
MWC Mount Wilson 82.46 54 *e*P P 19 46 35.2 -0.2
MWC pmax pmax
comp=Z,33nm,1.4s
MWC Mount Wilson 82.46 54 *e*P P 19 46 35.2 -0.2
comp=Z,32nm,1.4s
DUG Dugway, Tooele 82.50 47 P P 19 46 36.0 +0.6
baz=306
DUG Dugway, Tooele 82.50 47 *e*P P 19 46 36.1 +0.6
DUG pmax pmax
comp=Z,21nm,1.0s
DUG Dugway, Tooele 82.50 47 *e*P P 19 46 36.1 +0.6
comp=Z,21nm,1.0s
BOLV Bolvadin 82.52 311 *e*P P 19 46 35.5 -0.1
comp=Z,29nm,1.0s
FMP Fort Macarthur 82.58 55 P P 19 46 36.1 +0.3
baz=304
CIS Catalina Islan 82.66 55 P P 19 46 36.3 0.0
baz=304
GSC Goldstone, Bar 82.71 53 P P 19 46 36.7 +0.2
baz=304
GSC Goldstone, Bar 82.71 53 *e*P P 19 46 36.9 +0.3
GSC pmax pmax
comp=Z,15nm,1.0s
GSC Goldstone, Bar 82.71 53 *e*P P 19 46 36.9 +0.3
comp=Z,15nm,1.0s
BFSC Mount Baldy Ra 82.72 54 P P 19 46 36.3 -0.4
baz=304,SNR=6.9
SHOC Shoshone, Teco 82.73 52 P P 19 46 36.5 -0.1
baz=304
LOT Lotru 82.74 320⇓ *i*P P 19 46 37.1 +0.6
OKC Ostrava-Krasne 82.76 326⇑ *e*P P 19 46 36.8 +0.4
OKC AMS AMS 20 26 40.0
comp=Z,500nm,15.4s
OKC Ostrava-Krasne 82.76 326 *e*P P 19 46 36.8 +0.4
OKC MLR MLR
comp=Z,500nm,15.4s
SCI2 San Clemente I 82.81 56 P P 19 46 36.9 -0.1
baz=304
RRX Edison Barstow 82.82 53 P P 19 46 37.1 +0.1
baz=304
TCUT Toone Canyon 82.82 46 *e*P P 19 46 37.7 +0.5
comp=Z,27nm,0.9s
CTU Camp Tracy 82.87 46 *e*P P 19 46 38.0 +0.6
comp=Z,13nm,0.8s
BW06 Boulder Array 82.93 43 P P 19 46 37.3 -0.4
baz=308,SNR=12
BW06 Boulder Array 82.93 43 *e*P P 19 46 37.6 -0.2
comp=Z,11nm,0.9s
PD31 Pinedale Array 82.93 43 *e*P P 19 46 37.6 -0.1
PDAR Pinedale Array 82.93 43 P P 19 46 38.0 +0.3
comp=Z,5.9nm,1.0s,baz=281,slow=3.8,SNR=28
KSP Ksiaz 82.95 327 *e*P P 19 46 37.6 +0.2
KSP Ksiaz 82.95 327 *e*P P 19 46 37.6 +0.2
MORC Moravsky Berou 83.09 326⇓ *i*P P 19 46 38.1 -0.1
MORC Moravsky Berou 83.09 326 *e*P P 19 46 38.2 0.0
MORC pmax pmax
comp=Z,59nm,1.1s
MORC Moravsky Berou 83.09 326 *e*P P 19 46 38.2 0.0
comp=Z,59nm,1.1s
NLU North Lily Min 83.10 47 *e*P P 19 46 39.3 +0.6
comp=Z,13nm,0.8s
JLU Jordanelle 83.11 46 *e*P P 19 46 39.3 +0.6
comp=Z,42nm,1.6s
SHPR Sheep Range 83.13 51 *e*P P 19 46 39.1 +0.3
comp=Z,12nm,1.0s
PSZ Piszkesteto 83.19 323⇑ *i*P P 19 46 39.0 +0.2
PSZ Piszkesteto 83.19 323 *e*P P 19 46 38.4 -0.4
PSZ pmax pmax
comp=Z,27nm,1.3s
PSZ Piszkesteto 83.19 323 *e*P P 19 46 38.4 -0.4
comp=Z,27nm,1.3s
TUQ Turquoise Moun 83.23 52 P P 19 46 39.6 +0.3
baz=305,SNR=7.5
DPC Dobruska-Polom 83.28 327⇑ *i*P P 19 46 39.4 +0.3
DPC AMS AMS 20 27 10.0
comp=Z,900nm,16.4s
DPC Dobruska-Polom 83.28 327⇑ *i*P P 19 46 39.4 +0.3
DPC MLR MLR
comp=Z,900nm,16.4s
HEC Hector,Ludlow 83.30 53 P P 19 46 39.8 +0.2
baz=305,SNR=13
UPC Upice 83.31 327⇑ *e*P P 19 46 39.3 0.0
UPC *e*pP sP 19 46 46.4 +0.2
UPC AMS AMS 20 27 20.0
comp=Z,900nm,14.0s
UPC Upice 83.31 327 *e*P P 19 46 39.3 0.0
UPC *e* 19 46 46.4
UPC MLR MLR
comp=Z,900nm,14.0s
VYHS Vyhne 83.33 324 *e*P P 19 46 39.6 +0.2
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 83.33 324 *e*P P 19 46 39.6 +0.2
MPU Maple Canyon 83.34 47 *e*P P 19 46 40.1 +0.2
comp=Z,26nm,1.1s
MURC Murrieta 83.40 54 P P 19 46 40.2 +0.1
baz=304
CCUT Cedar City 83.70 49 *e*P P 19 46 42.1 +0.3
comp=Z,12nm,1.2s
GMRC Granite Mounta 83.78 53 P P 19 46 42.0 -0.1
baz=305,SNR=9.0
BZS Buzias 83.80 321⇑ *i*P P 19 46 41.3 -0.5
BZS Buzias 83.80 321⇑ P 19 46 41.3 -0.5
109C Camp Elliot, M 83.86 55 P P 19 46 42.2 -0.2
baz=304
VRAC Vranov 83.87 326 P P 19 46 42.5 +0.4
comp=Z,11nm,1.0s,baz=67,slow=3.9,SNR=9.9
VRAC LR LR 20 26 35.5
comp=Z,270nm,18.6s,baz=45,slow=38
MSU Marysvale 83.89 48 *e*P P 19 46 43.9 +1.1
MSU Marysvale 83.89 48 *e*P P 19 46 43.9 +1.1
PFO Pinyon Flats O 83.90 54 P P 19 46 42.7 0.0
comp=Z,22nm,0.9s,baz=299,slow=5.5
PFO Pinyon Flats O 83.90 54 P P 19 46 42.8 0.0
baz=305,SNR=6.9
PFO Pinyon Flats O 83.90 54 *e*P P 19 46 42.6 -0.2
comp=Z,36nm,1.0s
XPFO Piæon Flat 83.90 54 *e*P P 19 46 42.8 0.0
comp=Z,38nm,1.0s
PVCC Panska Ves 83.95 328⇑ *e*P P 19 46 42.7 +0.2
PVCC *ex* x 19 46 51.5
PVCC AMS AMS 20 28 00.0
comp=Z,600nm,13.9s
PVCC Panska Ves 83.95 328 *e*P P 19 46 42.7 +0.2
PVCC *e* 19 46 51.5
PVCC MLR MLR
comp=Z,600nm,13.9s
BRG Berggiesshubel 83.99 328 *e*PKP P 19 46 42.5 -0.2
comp=Z,13nm,1.0s
BRG Berggiesshubel 83.99 328 *e*P P 19 46 42.5 -0.2
BRG pmax pmax
comp=Z,13nm,1.0s
BELC Belle Mtn. Jos 84.00 54 P P 19 46 43.0 -0.3
baz=305,SNR=11
CLL Collm 84.09 329⇑ *i*P P 19 46 42.6 -0.7
CLL *e*S S 19 57 12.0 +4.8
CLL pmax pmax
comp=Z,35nm,1.1s
CLL Collm 84.09 329⇑ *i*P P 19 46 42.6 -0.7
comp=Z,35nm,1.1s
CLL *e*PP PP 19 49 58.0 +1.4
CLL *e*S S 19 57 12.0 +4.8
CLL *e*SS SS 20 02 36.0 +1.4
CLL *e*SSSS 20 08 48.0
CLL Collm 84.09 329 *e*P P 19 46 42.5 -0.7
comp=Z,28nm,1.0s
LCMT Little Creek M 84.09 50 *e*P P 19 46 44.4 +0.7
comp=Z,20nm,1.1s
MTPU Mount Pierson 84.17 48 *e*P P 19 46 45.0 +0.7
comp=Z,26nm,1.1s
MANT Manisa 84.17 312 *e*P P 19 46 44.1 0.0
comp=Z,172nm,1.4s
P17A Butcher Ranch, 84.22 47 *e*P P 19 46 45.0 +0.7
comp=Z,46nm,1.1s
BAR Barrett 84.28 55 *e*P P 19 46 44.7 +0.1
comp=Z,27nm,1.1s
Q16A Castle Valley 84.28 47 *e*P P 19 46 45.5 +0.8
comp=Z,52nm,1.5s
GOPC GO Pecny, Ondr 84.29 327⇑ *e*P P 19 46 44.4 +0.1
GOPC AMS AMS 20 27 40.0
comp=Z,900nm,16.6s
GOPC GO Pecny, Ondr 84.29 327 *e*P P 19 46 44.4 +0.1
GOPC MLR MLR
comp=Z,900nm,16.6s
MONP2 Monument Peak 84.33 55 P P 19 46 45.2 +0.1
baz=305,SNR=7.5
PGB Panagyurishte 84.33 317 P P 19 46 45.4 +0.7
PRA Prague 84.34 328⇑ *e*P P 19 46 45.0 +0.5
PRA AMS AMS 20 28 10.0
comp=Z,700nm,12.5s
PRA Prague 84.34 328 *e*P P 19 46 45.0 +0.5
PRA MLR MLR
comp=Z,700nm,12.5s
PRU Pruhonice 84.35 327⇑ *i*P P 19 46 44.3 -0.3
PRU *ex* x 19 46 56.5
PRU AMS AMS 20 28 10.0
comp=Z,700nm,15.3s
PRU Pruhonice 84.35 327⇑ *i*P P 19 46 44.3 -0.3
PRU *e* 19 46 56.5
PRU MLR MLR
comp=Z,700nm,15.3s
KNB Kanab 84.36 50 *e*P P 19 46 45.8 +0.6
KNB pmax pmax
comp=Z,40nm,1.0s
KNB Kanab 84.36 50 *e*P P 19 46 45.8 +0.6
comp=Z,40nm,1.0s
TREC Trest 84.40 326⇑ *e*P P 19 46 45.1 +0.2
TREC AMS AMS 20 27 40.0
comp=Z,800nm,14.1s
TREC Trest 84.40 326 *e*P P 19 46 45.1 +0.2
TREC MLR MLR
comp=Z,800nm,14.1s
P18A Preston Nutter 84.43 46 *e*P P 19 46 46.2 +0.6
comp=Z,95nm,1.6s
IRM Iron Mountain 84.49 53 P P 19 46 45.9 +0.2
baz=305
NEE2 Needles Airpor 84.49 52 P P 19 46 45.7 +0.1
baz=306
RZN Rozhen 84.56 316 P P 19 46 46.7 +0.7
BC3 Big Chuckawall 84.57 54 P P 19 46 46.2 0.0
baz=305
SRU San Rafael Swe 84.57 47 *e*P P 19 46 46.1 0.0
SRU pmax pmax
comp=Z,23nm,0.8s
SRU San Rafael Swe 84.57 47 *e*P P 19 46 46.1 0.0
comp=Z,23nm,0.8s
MMU Miners Mountai 84.64 48 *e*P P 19 46 47.3 +0.7
IKP In-Ko-Pah, Jac 84.69 55 P P 19 46 46.8 +0.1
baz=305,SNR=8.5
SWSC Sam W. Stewart 84.73 54 P P 19 46 46.8 0.0
baz=305
K22A Casper 84.75 42 P P 19 46 47.0 0.0
baz=310,SNR=6.7
K22A Casper 84.75 42 *e*P P 19 46 47.2 +0.2
comp=Z,18nm,0.9s
PPT Papeete 84.76 114 LR LR 20 18 27.8
comp=Z,163nm,21.9s,baz=344,slow=31
PPT2 Papeete2 84.77 114 *e*LR LR 19 51 36.0
comp=Z,264nm,26.5s
W13A Hualapai Mount 84.79 52 *e*P P 19 46 47.7 +0.3
comp=Z,14nm,1.3s
AKAS Kas 84.84 310 *e*P P 19 46 46.3 -1.2
comp=Z,23nm,0.9s
VTS Vitosha 84.86 318⇓ *i*P P 19 46 48.3 +0.8
VTS Vitosha 84.86 318 *e*P P 19 46 47.9 +0.4
VTS pmax pmax
comp=Z,39nm,1.4s
VTS Vitosha 84.86 318 P P 19 46 47.7 +0.2
VTS Vitosha 84.86 318 *e*P P 19 46 47.9 +0.4
comp=Z,39nm,1.4s
EIL Elat 84.92 302 P P 19 46 46.4 -1.5
comp=Z,15nm,1.2s,baz=83,slow=2.9,SNR=8.7
MDND Maddock 84.97 35 P P 19 46 48.1 +0.3
baz=314
RWWY Rawlins 84.97 43 *e*P P 19 46 48.3 0.0
comp=Z,36nm,1.0s
ULM Lac du Bonnet 85.00 32 P P 19 46 47.0 -0.9
comp=Z,13nm,1.2s,baz=333,slow=4.9,SNR=7.6
ULM Lac du Bonnet 85.00 32 P P 19 46 47.0 -0.9
ULM pmax pmax
comp=Z,13nm,1.2s
ULM Lac du Bonnet 85.00 32 *e*P P 19 46 46.9 -0.9
comp=Z,26nm,1.4s
U15A North Rim 85.06 50 *e*P P 19 46 48.5 -0.3
comp=Z,12nm,0.8s
PDMCI Parker Dam,Lak 85.08 52 P P 19 46 48.6 +0.1
baz=306,SNR=7.4
NKC Novy Kostel 85.11 329⇑ *e*P P 19 46 48.2 -0.3
NKC AMS AMS 20 30 00.0
comp=Z,700nm,14.8s
NKC Novy Kostel 85.11 329 *e*P P 19 46 48.2 -0.3
NKC MLR MLR
comp=Z,700nm,14.8s
Y12C Blythe 85.14 53 P P 19 46 49.2 +0.3
baz=306
Y12C Blythe 85.14 53 *e*P P 19 46 49.3 +0.4
comp=Z,20nm,1.0s
CONA Conrad Observa 85.17 325 *i*P P 19 46 48.8 -0.1
comp=Z,10nm,1.0s
MOX Moxa 85.18 329 P P 19 46 48.9 +0.1
MOX pmax pmax
comp=Z,12nm,1.2s
RSSD Black Hills 85.19 40 P P 19 46 49.1 -0.1
baz=311
RSSD Black Hills 85.19 40 *e*P P 19 46 49.0 -0.2
RSSD pmax pmax
comp=Z,41nm,0.5s
RSSD Black Hills 85.19 40 *e*P P 19 46 49.0 -0.2
comp=Z,41nm,0.5s
MMB Musomiste 85.19 317 P P 19 46 48.2 -0.9
O20A White River Ci 85.33 45 P P 19 46 50.0 0.0
baz=309,SNR=6.9
O20A White River Ci 85.33 45 *e*P P 19 46 50.1 +0.1
comp=Z,31nm,1.2s
GLA Glamis 85.34 54 P P 19 46 50.2 +0.3
baz=306,SNR=6.7
GLA Glamis 85.34 54 *e*P P 19 46 50.4 +0.5
comp=Z,27nm,0.9s
KKB Krupnik 85.39 317 P P 19 46 50.3 +0.3
KHC Kasperske Hory 85.40 327⇑ *i*P P 19 46 49.3 -0.6
KHC *ex* x 19 46 58.3
KHC AMS AMS 20 28 30.0
comp=Z,1µm,15.8s
KHC Kasperske Hory 85.40 327⇑ *i*P P 19 46 49.3 -0.6
KHC *e* 19 46 58.3
KHC MLR MLR
comp=Z,1µm,15.8s
KHC Kasperske Hory 85.40 327 *e*P P 19 46 48.8 -1.1
comp=Z,3.3nm,1.0s
B31A Greenbush Farm 85.50 34 P P 19 46 50.2 -0.2
baz=315

GEC2	GERESS Array S	85.55	327	eP	P	19 46 50.1	-0.6
GEC2				pmax	pmax		
	comp=Z,15nm,1.4s						
GEC2	GERESS Array S	85.55	327	eP	P	19 46 50.1	-0.6
	comp=Z,15nm,1.4s						
GERES	GERESS Array B	85.55	327	P	P	19 46 49.0	-1.7
	comp=Z,3.1nm,0.8s,baz=48,slow=4.3,SNR=19						
GERES				LR	LR	20 26 40.9	
	comp=Z,250nm,20.6s,baz=37,slow=37						
SRS	Serrai	85.57	317	P	P	19 46 51.5	+0.6
SRS				pmax	pmax		
	comp=Z,21nm,1.1s						
DAMY	Dhamar	85.72	284	eP	P	19 46 53.0	+0.6
	comp=Z,93nm,1.2s						
PV09	Paradox Valley	85.80	47	eP	P	19 46 53.0	+0.5
ARSA	Arzberg	85.81	325	i P	P	19 46 51.6	-0.4
	comp=Z,3.8nm,1.2s						
C31A	Landman Farms,	85.91	34	P	P	19 46 52.1	-0.3
	baz=315						
PV10	Paradox Valley	85.94	47	eP	P	19 46 54.0	+0.9
MOA	Molln	85.99	326	i P	P	19 46 52.2	-0.6
	comp=Z,9.3nm,1.3s						
VAY	Valandovo	86.03	317	i P	P	19 46 53.0	-0.1
B32A	Ashes, Strandq	86.04	33	P	P	19 46 52.6	-0.5
	baz=316						
Y14A	Wickenburg	86.06	52	eP	P	19 46 53.7	+0.2
	comp=Z,72nm,1.1s						
PV05	Paradox Valley	86.08	47	eP	P	19 46 54.1	+0.3
A33A	Warroad	86.17	32	P	P	19 46 53.2	-0.5
	baz=317						
WUAZ	Wupatki	86.20	50	P	P	19 46 54.7	+0.4
	baz=307						
WUAZ	Wupatki	86.20	50	eP	P	19 46 54.4	+0.1
	comp=Z,24nm,1.0s						
N23A	Red Feather La	86.21	43	P	P	19 46 55.0	+0.6
	baz=310,SNR=16						
N23A	Red Feather La	86.21	43	eP	P	19 46 54.7	+0.3
	comp=Z,40nm,1.1s						
PHWY	Pilot Hill	86.23	43	eP	P	19 46 54.7	+0.1
	comp=Z,24nm,1.1s						
113A	Mohawk Valley,	86.23	53	eP	P	19 46 54.1	-0.2
	comp=Z,12nm,0.9s						
SKO	Skopje	86.26	318	i P	P	19 46 55.5	+1.2
PV01	Paradox Valley	86.38	47	eP	P	19 46 55.7	+0.4
AGMN	Agassiz Nation	86.42	33	P	P	19 46 54.6	-0.3
	baz=316						
D31A	Mcclaflin, Tow	86.44	35	P	P	19 46 54.5	-0.5
	baz=315						
SOKA	Soboth	86.45	325	eP	P	19 46 54.4	-0.8
	comp=Z,6.6nm,1.2s						
MSEY	Mahe Island	86.47	262	i P	P	19 46 57.7	+1.9
SMCO	Snowmass	86.69	45	eP	P	19 46 57.1	+0.1
	comp=Z,20nm,1.2s						
E31A	Nome	86.70	35	P	P	19 46 55.9	-0.5
	baz=315						
KRUS	Krusevo	86.76	318	i P	P	19 46 56.1	-0.7
X16A	Lo Mia Camp, P	86.81	51	eP	P	19 46 57.7	+0.3
	comp=Z,15nm,1.2s						
B34A	Aery, Baudette	86.84	32	P	P	19 46 56.6	-0.4
	baz=317						
C33A	Trail	86.85	33	P	P	19 46 56.7	-0.3
	baz=316						
KBA	Koelnbreinsper	86.98	326	i PcP	P	19 46 57.7	-0.2
	comp=Z,10nm,1.6s						
MVCO	Mesa Verde	87.00	47	P	P	19 46 58.4	+0.1
	baz=309						
MVCO	Mesa Verde	87.00	47	eP	P	19 46 58.1	-0.2
	comp=Z,24nm,1.5s						
F31A	Hecla	87.02	36	P	P	19 46 57.9	-0.1
	baz=315						
E32A	Braaten, Kindr	87.08	35	P	P	19 46 58.1	0.0
	baz=316						
ISCO	Idaho Springs	87.11	44	P	P	19 46 59.1	+0.2
	baz=310,SNR=7.2						
ISCO	Idaho Springs	87.11	44	eP	P	19 46 59.6	+0.7
ISCO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ISCO	Idaho Springs	87.11	44	eP	P	19 46 59.6	+0.7
	comp=Z,8.6nm,0.9s						
D33A	AnnSam, Waubun	87.27	34	P	P	19 46 58.6	-0.5
	baz=316						
B35A	Bob, Littlefor	87.34	32	P	P	19 46 59.1	-0.3
	baz=318						
214A	Organ Pipe Nat	87.36	54	P	P	19 46 59.6	-0.3
	baz=307						
G31A	Conde	87.49	36	P	P	19 46 60.0	-0.2
	baz=315						
TAOE	Nuku Hiva Isla	87.49	102	eLR	LR	19 46 56.0	
	comp=Z,687nm,27.9s						
W18A	Petrified Fore	87.50	50	P	P	19 47 00.0	-0.7
	baz=308						
F32A	Veblen	87.56	35	P	P	19 47 00.3	-0.2
	baz=316						
D34A	Park Rapids	87.61	33	P	P	19 47 00.4	-0.4
	baz=317						
ABTA	Abfaltersbach	87.61	326	i P	P	19 46 59.5	-1.4
	comp=Z,9.4nm,1.2s						
E33A	Westby DABS, E	87.65	34	P	P	19 47 00.9	-0.1
	baz=316						
SUSD	Miller	87.66	37	P	P	19 47 00.9	-0.2
	baz=314						
S22A	4UR Ranch, Cre	87.69	46	P	P	19 47 02.5	+0.8
	baz=310,SNR=13						
S22A	4UR Ranch, Cre	87.69	46	eP	P	19 47 02.2	+0.5
	comp=Z,13nm,1.3s						
C35A	Jirik Farms, M	87.72	32	P	P	19 47 00.7	-0.6
	baz=318						
G32A	Webster	87.82	36	P	P	19 47 01.7	-0.1
	baz=315						
H31A	Wolsey	87.88	37	P	P	19 47 01.5	-0.6
	baz=315						
RETA	Reutte	87.89	327	i P	P	19 47 01.4	-0.8
	comp=Z,5.8nm,1.0s						
F33A	5 Mile Ranch,	87.99	35	P	P	19 47 02.5	-0.2
	baz=316						
E34A	Wadena	88.04	34	P	P	19 47 02.5	-0.4
	baz=317						
D35A	Remer	88.14	33	P	P	19 47 03.0	-0.4
	baz=318						
I31A	Royce, Wessing	88.16	37	P	P	19 47 03.4	-0.1
	baz=315						
C36A	Pine Crest Far	88.19	32	P	P	19 47 03.2	-0.4
	baz=319						
FETA	Feichten	88.25	327	i P	P	19 47 03.0	-1.1
	comp=Z,8.1nm,1.1s						
BFO	Black Forest	88.33	329	ceP	P	19 47 04.1	-0.1
E35A	Pequot Lakes	88.37	33	P	P	19 47 04.1	-0.3
	baz=318						
H32A	Carlson Farm,	88.39	36	P	P	19 47 04.3	-0.2
	baz=316						
G33A	Ortonville	88.39	35	P	P	19 47 04.4	-0.1
	baz=316						
OGNE	Ogallala	88.41	41	P	P	19 47 04.6	-0.2
	baz=312						
IDI	Anoyia	88.45	311	LR	LR	20 31 08.2	
	comp=Z,106nm,18.2s,baz=54,slow=39						
D36A	Goodland	88.48	32	P	P	19 47 04.5	-0.4
	baz=318						
SDCO	Great Sand Dun	88.50	45	P	P	19 47 05.9	+0.4
	baz=310,SNR=7.0						
SDCO	Great Sand Dun	88.50	45	eP	P	19 47 05.7	+0.2
	comp=Z,7.7nm,1.1s						
C37A	Embarrass	88.50	31	P	P	19 47 04.6	-0.4
	baz=319						
F34A	Alexandria	88.52	34	P	P	19 47 05.0	-0.1
	baz=317						
TUC	Tucson	88.52	52	P	P	19 47 05.8	+0.3
	baz=308						
TUC	Tucson	88.52	52	eP	P	19 47 05.9	+0.3
	comp=Z,6.8nm,0.9s						
J31A	Geddes	88.57	38	P	P	19 47 05.2	-0.3
	baz=315						
ATD	Arta Tunnel	88.60	283	P	P	19 47 07.0	+0.9
	comp=Z,9.9nm,0.8s,baz=49,slow=8.9,SNR=6.8						
ATD				LR	LR	20 29 31.7	
	comp=Z,68nm,20.4s,baz=56,slow=38						
H33A	Prehn Over Nor	88.61	36	P	P	19 47 05.6	0.0
	baz=316						
EYMN	Ely	88.64	31	P	P	19 47 05.6	-0.1
	baz=320						
EYMN	Ely	88.64	31	eP	P	19 47 05.7	+0.1
	comp=Z,32nm,1.3s						
I32A	Karley and Nic	88.71	37	P	P	19 47 05.7	-0.4
	baz=316						
G34A	Benson	88.74	35	P	P	19 47 06.0	-0.2
	baz=317						
FUORN	Ofenpass-Fuorn	88.76	327	eP	P	19 47 05.5	-1.0
	comp=Z,14nm,0.9s						
F35A	Swanville	88.80	34	P	P	19 47 06.3	-0.2
	baz=317						
DAVOX	Davos/Dischmat	88.81	327	P	P	19 47 06.0	-0.7
	comp=Z,7.0nm,0.9s,baz=126,slow=8.7,SNR=4.4						
DAVOX				LR	LR	20 30 10.6	
	comp=Z,220nm,18.3s,baz=45,slow=38						
D37A	Cotton	88.83	32	P	P	19 47 06.4	-0.1
	baz=319						
C38A	Sawbill Land.	88.91	31	P	P	19 47 06.6	-0.3
	baz=320						
E36A	McGregor	88.93	33	P	P	19 47 06.7	-0.3
	baz=318						
J32A	Parkston	88.98	37	P	P	19 47 07.2	-0.2
	baz=315						
I33A	Coleman	89.03	36	P	P	19 47 07.5	-0.1
	baz=316						
K31A	O'Neill	89.03	38	P	P	19 47 07.4	-0.2
	baz=315						
H34A	Spellman Lake,	89.09	35	P	P	19 47 07.7	-0.1
	baz=317						
F36A	Milaca	89.29	33	P	P	19 47 08.4	-0.4
	baz=318						
G35A	Watkins	89.31	34	P	P	19 47 08.8	-0.1
	baz=318						
C39A	Grand Marais	89.33	30	P	P	19 47 08.8	-0.1
	baz=321						
ECSD	EROS Data Cent	89.35	36	P	P	19 47 09.0	-0.1
	baz=316						
ECSD	EROS Data Cent	89.35	36	eP	P	19 47 08.5	-0.6
	comp=Z,22nm,1.0s						
KSCO	Kaye Shedlock'	89.37	43	P	P	19 47 09.4	-0.1
	baz=312						
K32A	Verdigre	89.42	38	P	P	19 47 09.6	+0.2
	baz=315						
I34A	Hadley	89.51	36	P	P	19 47 09.9	+0.1
	baz=317						
H35A	Sunnyside Ranc	89.53	35	P	P	19 47 10.1	+0.2
	baz=317						
T25A	Trinidad	89.55	45	P	P	19 47 10.7	+0.3
	baz=311						
T25A	Trinidad	89.55	45	eP	P	19 47 10.6	+0.1
	comp=Z,8.3nm,0.8s						
G36A	St. Michael	89.65	34	P	P	19 47 10.5	+0.1
	baz=318						
C40A	Isle Royale Na	89.67	30	P	P	19 47 10.4	-0.1
	baz=321						
ANMO	Albuquerque	89.70	48	P	P	19 47 09.6	-1.6
	comp=Z,1.5nm,0.8s,baz=120,slow=8.7,SNR=5.3						
ANMO	Albuquerque	89.70	48	P	P	19 47 11.1	-0.1
	baz=310						
ANMO	Albuquerque	89.70	48	c iP	P	19 47 11.1	-0.1
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ANMO	Albuquerque	89.70	48	eP	P	19 47 11.8	+0.7
	comp=Z,15nm,1.1s						
F37A	Hinrichs Farm,	89.81	33	P	P	19 47 10.9	-0.3
	baz=319						
L32A	Elgin	89.86	38	P	P	19 47 11.2	-0.3
	baz=315						
K33A	Hardington	89.96	37	P	P	19 47 11.8	-0.1
	baz=316						
F38A	Pierce - Schro	89.98	32	P	P	19 47 11.8	-0.1
	baz=319						
H36A	Jesseniand, He	90.06	34	P	P	19 47 12.1	-0.2
	baz=318						
SPMN	Marine on St.	90.11	33	P	P	19 47 12.4	-0.1
	baz=319						
SPMN	Marine on St.	90.11	33	eP	P	19 47 12.3	-0.3
	comp=Z,15nm,0.8s						
L33A	Hoskins	90.13	38	P	P	19 47 12.7	-0.1
	baz=316						
BGNE	Belgrade	90.21	39	P	P	19 47 12.9	-0.2
	baz=315						
E39A	Mellen	90.25	31	P	P	19 47 13.2	-0.1
	baz=320						
J35A	Milford	90.32	36	P	P	19 47 13.8	+0.1
	baz=317						
K34A	Le Mars	90.37	37	P	P	19 47 14.0	+0.1
	baz=316						
121A	Cookes Peak, D	90.38	51	P	P	19 47 14.6	+0.3
	baz=309						
F39A	Loretta	90.45	32	P	P	19 47 14.3	+0.1
	baz=320						
E40A	Wakefield	90.49	31	P	P	19 47 14.6	+0.2
	baz=321						
H37A	Dierke Farm, C	90.53	34	P	P	19 47 14.7	+0.2
	baz=319						
D41A	Chassel	90.59	30	P	P	19 47 14.7	0.0
	baz=322						
G38A	Ridgeland	90.59	33	P	P	19 47 14.8	0.0
	baz=319						
M33A	Taylor Creek F	90.60	38	P	P	19 47 15.0	0.0
	baz=316						
I37A	Lemond, Waseca	90.73	35	P	P	19 47 15.7	+0.2
	baz=318						
L34A	Svendsen Farm,	90.74	38	P	P	19 47 15.5	-0.1
	baz=316						
H38A	Maiden Rock	90.76	34	P	P	19 47 15.7	+0.1
	baz=319						
J36A	Seneca 1, Swea	90.78	36	P	P	19 47 16.2	+0.4
	baz=318						
K35A	Storm Lake	90.78	36	P	P	19 47 16.2	+0.4
	baz=317						
F40A	Park Falls	90.80	32	P	P	19 47 15.9	+0.1
	baz=321						
G39A	Holcombe	90.81	33	P	P	19 47 15.5	-0.3
	baz=320						
E41A	Kenton	90.88	31	P	P	19 47 16.1	-0.1
	baz=321						
CBKS	Cedar Bluff	91.15	42	P	P	19 47 17.1	-0.5
	baz=314						
J37A	Redenius Farm,	91.18	35	P	P	19 47 17.1	-0.5
	baz=318						
I38A	Scanlan Farm,	91.22	34	P	P	19 47 17.5	-0.2
	baz=319						
H39A	Augusta	91.22	33	P	P	19 47 17.5	-0.2
	baz=320						
K36A	Gilmore City	91.23	36	P	P	19 47 18.0	+0.1
	baz=318						
G40A	Rib Lake	91.27	32	P	P	19 47 18.1	+0.1
	baz=320						
E42A	Champion	91.36	30	P	P	19 47 18.5	+0.1
	baz=322						
F41A	Three Lakes	91.39	31	P	P	19 47 18.5	-0.1
	baz=321						
O33A	Hebron	91.45	40	P	P	19 47 18.2	-0.8
	baz=315						
M35A	Neola	91.46	38	P	P	19 47 18.5	-0.4
	baz=317						
N34A	Lincoln	91.49	38	P	P	19 47 18.6	-0.5
	baz=316						
L36A	Harm Buss Farm	91.52	37	P	P	19 47 19.1	-0.1
	baz=317						
K37A	Belmond	91.54	36	P	P	19 47 19.1	-0.2
	baz=318						
H40A	Chili	91.68	33	P	P	19 47 19.8	-0.1
	baz=320						
J38A	Wedel Dairy, R	91.69	35	P	P	19 47 19.5	-0.5
	baz=319						
G41A	Antigo	91.77	31	P	P	19 47 19.9	-0.4
	baz=321						
E43A	Lone Tree Farm	91.79	30	P	P	19 47 20.5	+0.1
	baz=323						
F42A	Maple Grove Fa	91.80	31	P	P	19 47 20.2	-0.2
	baz=322						
O34A	Beatrice	91.86	39	P	P	19 47 20.6	-0.2
	baz=316						
N35A	Tabor	91.92	38	P	P	19 47 20.9	-0.1
	baz=317						
L37A	Phoenix Point,	91.96	36	P	P	19 47 20.8	-0.4
	baz=318						
H41A	Junction City	92.02	32	P	P	19 47 21.1	-0.4
	baz=321						
E44A	Grand Marais A	92.04	29	P	P	19 47 21.7	+0.2
	baz=324						
J39A	Decorah	92.05	34	P	P	19 47 21.1	-0.5
	baz=319						
K38A	Parkersburg	92.05	35	P	P	19 47 21.7	0.0
	baz=319						
G42A	Mountain	92.08	31	P	P	19 47 21.7	0.0
	baz=322						
I40A	Norwalk	92.14	33	P	P	19 47 21.8	-0.2
	baz=320						
F43A	Flat Rock, Esc	92.15	30	P	P	19 47 22.0	-0.1
	baz=323						
O35A	Humboldt	92.21	38	P	P	19 47 22.0	-0.4
	baz=316						
P34A	Walnut Farm, R	92.24	39	P	P	19 47 22.1	-0.5
	baz=316						
N36A	Muff Farm, Cla	92.31	38	P	P	19 47 22.6	-0.3
	baz=317						
M37A	Trindle Farm,	92.34	37	P	P	19 47 22.9	-0.1
	baz=318						
L38A	Oak Wood Farm,	92.34	36	P	P	19 47 22.6	-0.4
	baz=318						
I41A	Arkdale	92.35	33	P	P	19 47 22.5	-0.5
	baz=321						
F44A	Big Bay de Noc	92.35	29	P	P	19 47 22.9	-0.1
	baz=323						
G43A	Wallace	92.39	31	P	P	19 47 22.3	-0.8
	baz=322						
K39A	Oelwein	92.44	35	P	P	19 47 22.6	-0.8
	baz=319						
J40A	Soldiers Grove	92.46	33	P	P	19 47 22.7	-0.8
	baz=320						
MNTX	Cornudas Mount	92.48	50	P	P	19 47 23.8	-0.1
	baz=310,SNR=5.6						
MNTX	Cornudas Mount	92.48	50	eP	P	19 47 23.9	0.0
	comp=Z,6.1nm,1.0s						
E45A	Wooded Hills,	92.56	29	P	P	19 47 23.8	-0.1
	baz=324						
H42A	Shiocton	92.60	32	P	P	19 47 24.0	-0.2
	baz=322						
Q34A	Chapman	92.62	40	P	P	19 47 24.2	-0.2
	baz=316						
MSTX	Muleshoe	92.64	47	P	P	19 47 24.4	-0.3
	baz=312						
KSU1	Kansas State U	92.68	40	P	P	19 47 24.3	-0.3
	baz=316						
P35A	Duane Minner,	92.69	39	P	P	19 47 24.4	-0.3
	baz=316						
AMTX	Amarillo	92.70	46	P	P	19 47 25.1	+0.1
	baz=313						
AMTX	Amarillo	92.70	46	eP	P	19 47 25.4	+0.5
	comp=Z,27nm,0.9s						
N37A	Lee Faris, Mou	92.74	37	P	P	19 47 25.1	+0.2
	baz=318						
M38A	Pleasantville	92.76	36	P	P	19 47 24.8	-0.2
	baz=318						
K40A	Colesburg	92.80	34	P	P	19 47 24.9	-0.2
	baz=320						
O36A	Bolckow	92.81	38	P	P	19 47 25.3	+0.1
	baz=317						
J41A	Loganville	92.82	33	P	P	19 47 24.8	-0.4
	baz=321						
L39A	Vinton	92.82	35	P	P	19 47 25.2	0.0
	baz=319						
R34A	Isabella, Hill	92.90	41	P	P	19 47 25.6	-0.1
	baz=316						
I42A	Draeger Farm,	92.92	32	P	P	19 47 25.6	0.0
	baz=321						
F45A	CMU Biological	92.96	29	P	P	19 47 25.8	0.0
	baz=324						
H43A	Windswept, Lux	92.97	31	P	P	19 47 25.7	-0.2
	baz=322						
P36A	Good Intent, A	93.05	39	P	P	19 47 26.1	-0.3
	baz=317						
Q35A	Mercer Eighty,	93.16	40	P	P	19 47 27.0	+0.1
	baz=316						
F46A	Macinaw City C	93.20	29	P	P	19 47 26.9	+0.1
	baz=324						
O37A	Wolven Farm, M	93.21	38	P	P	19 47 27.0	0.0
	baz=318						
N38A	Joes South For	93.21	37	P	P	19 47 26.8	-0.3
	baz=318						
M39A	Webster	93.23	36	P	P	19 47 27.3	+0.2
	baz=319						
MRIV	Mauritius Mete	93.23	248	eP	P	19 47 26.5	-0.9
L40A	Anamosa	93.25	35	P	P	19 47 27.5	+0.4
	baz=320						
U32A	Winter Ranch,	93.26	43	P	P	19 47 27.4	0.0
	baz=314						
J42A	Columbus	93.27	33	P	P	19 47 27.0	-0.2
	baz=321						
K41A	Shullsburg	93.27	34	P	P	19 47 27.3	0.0
	baz=320						
VAE	Valguarnera	93.28	319	LR	LR	20 34 41.0	
	comp=Z,263nm,18.2s,baz=328,slow=39						
Q36A	Arnold C. Orve	93.40	39	P	P	19 47 27.9	-0.1
	baz=317						
S34A	Willow Spring	93.40	41	P	P	19 47 27.8	-0.2
	baz=316						
R35A	Emporia Munici	93.46	40	P	P	19 47 28.3	+0.1
	baz=316						
FURI	Furi	93.46	283	eP	P	19 47 29.4	+0.4
	comp=Z,32nm,1.1s						
N39A	Derby Farms, D	93.51	36	P	P	19 47 28.2	-0.2
	baz=319						
P37A	Lathrop	93.53	38	P	P	19 47 28.1	-0.5
	baz=318						
K42A	Prairie Point,	93.58	33	P	P	19 47 28.0	-0.7
	baz=321						
L41A	Preston	93.59	34	P	P	19 47 28.3	-0.5
	baz=320						
O38A	Galt	93.59	37	P	P	19 47 28.2	-0.6
	baz=318						
M40A	Post Highland	93.61	35	P	P	19 47 28.4	-0.5
	baz=320						
R36A	Gordon, Harris	93.84	40	P	P	19 47 29.2	-0.8
	baz=317						
T34A	McClaskey Farm	93.84	41	P	P	19 47 29.8	-0.3
	baz=316						
S35A	Otter Creek Ra	93.85	40	P	P	19 47 29.8	-0.3
	baz=316						
P38A	Dawn	93.92	38	P	P	19 47 30.2	-0.2
	baz=318						
O39A	Kirksville	93.96	37	P	P	19 47 30.2	-0.3
	baz=319						
N40A	Mertquake, Sal	93.97	36	P	P	19 47 30.1	-0.4
	baz=319						
M41A	Milan	94.10	35	P	P	19 47 30.8	-0.3
	baz=320						
R37A	Teagarden Farm	94.21	39	P	P	19 47 30.9	-0.8
	baz=317						
S36A	Lake Cedric, C	94.22	40	P	P	19 47 31.4	-0.4
	baz=317						
T35A	Sooner Cattle	94.30	41	P	P	19 47 31.8	-0.3
	baz=316						
L43A	Garden Prairie	94.33	33	P	P	19 47 31.8	-0.3
	baz=322						
O40A	La Belle	94.40	36	P	P	19 47 32.3	-0.2
	baz=319						
N41A	Harden Midland	94.46	35	P	P	19 47 32.1	-0.7
	baz=320						
WMOK	Wichita Mounta	94.53	44	P	P	19 47 32.4	-0.8
	baz=314						
WMOK	Wichita Mounta	94.53	44	eP	P	19 47 32.5	-0.8
WMOK				pmax	pmax		
	comp=Z,17nm,1.5s						
WMOK	Wichita Mounta	94.53	44	eP	P	19 47 32.5	-0.8
	comp=Z,17nm,1.5s						
T36A	Boggs Farm, Ca	94.54	41	P	P	19 47 33.0	-0.3
	baz=316						
U35A	Pawnee	94.56	42	P	P	19 47 32.7	-0.7
	baz=316						
S37A	Fort Scott	94.61	40	P	P	19 47 33.0	-0.6
	baz=317						
Q39A	Willow Grove F	94.64	38	P	P	19 47 33.4	-0.2
	baz=318						
L44A	Lake County Fo	94.71	33	P	P	19 47 33.3	-0.6
	baz=322						
P40A	Paris	94.76	37	P	P	19 47 33.9	-0.2
	baz=319						
N42A	Yates City	94.77	35	P	P	19 47 33.7	-0.5
	baz=320						
R38A	Fenwick Farm,	94.79	39	P	P	19 47 33.1	-1.2
	baz=318						
O41A	Passleys Farm,	94.90	36	P	P	19 47 34.3	-0.5
	baz=320						
V35A	Meyer Ranch, C	94.94	42	P	P	19 47 34.7	-0.4
	baz=316						
T37A	Cheneyville 18	95.03	40	P	P	19 47 35.0	-0.4
	baz=317						
U36A	Oologah	95.11	41	P	P	19 47 35.7	-0.1
	baz=316						
TX31	Lajitas Ar. Si	95.14	51	eP	P	19 47 36.2	0.0
LTX	Lajitas	95.14	51	eP	P	19 47 36.6	+0.3
TXAR	Lajitas Array	95.14	51	P	P	19 47 36.6	+0.3
	comp=Z,8.0nm,0.9s,baz=293,slow=3.5,SNR=62						
P41A	Barry, Barry	95.14	36	P	P	19 47 35.8	-0.1
	baz=320						
Q40A	Laux Farm, Aux	95.15	37	P	P	19 47 35.8	-0.1
	baz=319						
R39A	Chumby, Stover	95.16	38	P	P	19 47 35.7	-0.3
	baz=318						
S38A	Stockton	95.20	39	P	P	19 47 35.4	-0.9

	baz=318							
M44A	Midewin, Midew	95.28	33	P		P	19 47 35.9	-0.5
	baz=322							
HPIG		95.35	54	*e*P		P	19 47 37.6	+0.2
	comp=Z,23nm,1.4s							
W35A	Tecumseh	95.35	43	P		P	19 47 36.6	-0.4
	baz=316							
TUL1	Leonard	95.42	41	P		P	19 47 36.9	-0.4
	baz=316							
V36A	Jenks	95.43	42	P		P	19 47 37.0	-0.3
	baz=316							
T38A	Diamond	95.43	40	P		P	19 47 37.1	-0.2
	baz=317							
U37A	Salina	95.44	41	P		P	19 47 37.2	-0.1
	baz=317							
S39A	Bolivar	95.47	39	P		P	19 47 37.3	-0.2
	baz=318							
ABTX	Abilene, Hawle	95.48	46	P		P	19 47 37.5	-0.1
	baz=314							
P42A	Winchester	95.57	36	P		P	19 47 37.4	-0.4
	baz=320							
Q41A	Truxton	95.61	37	P		P	19 47 37.9	-0.2
	baz=320							
W36A	Wetumka	95.73	42	P		P	19 47 38.6	-0.1
	baz=316							
V37A	Hulbert	95.81	41	P		P	19 47 38.7	-0.3
	baz=317							
U38A	Gravette	95.82	40	P		P	19 47 38.9	-0.2
	baz=317							
X35A	Drake	95.83	43	P		P	19 47 38.8	-0.4
	baz=316							
S40A	Lebanon	95.97	38	P		P	19 47 39.2	-0.6
	baz=319							
R41A	Rosebud	96.03	37	P		P	19 47 39.4	-0.6
	baz=319							
X36A	Centrahoma	96.07	43	P		P	19 47 40.0	-0.2
	baz=316							
W37B	Quinton	96.18	42	P		P	19 47 40.3	-0.4
	baz=317							
V38A	Canehill	96.23	41	P		P	19 47 40.6	-0.4
	baz=317							
CCM	Cathedral Cave	96.28	37	*e*P		P	19 47 40.4	-0.8
CCM				pmax		pmax		
	comp=Z,17nm,1.3s							
CCM	Cathedral Cave	96.28	37	*e*P		P	19 47 40.4	-0.8
	comp=Z,17nm,1.3s							
T40A	Mansfield	96.30	39	P		P	19 47 40.4	-0.9
	baz=319							
O45A	Potomac	96.32	34	P		P	19 47 41.0	-0.3
	baz=322							
R42A	Luebbering	96.34	37	P		P	19 47 41.1	-0.3
	baz=320							
U39A	Green Forest	96.35	40	P		P	19 47 41.2	-0.3
	baz=318							
S41A	Jillco Farms,	96.38	38	P		P	19 47 41.3	-0.3
	baz=319							
P44A	Sand Creek, Wi	96.50	35	P		P	19 47 41.8	-0.3
	baz=321							
Y36A	Durant	96.58	43	P		P	19 47 41.7	-0.9
	baz=316							
X37A	Clayton	96.61	42	P		P	19 47 41.9	-0.8
	baz=317							
V39A	Pettigrew	96.67	40	P		P	19 47 42.1	-0.9
	baz=318							
U40A	Yellville	96.71	39	P		P	19 47 42.6	-0.6
	baz=318							
S42A	Caledonia	96.73	37	P		P	19 47 42.6	-0.6
	baz=320							
W38A	Poteau	96.75	41	P		P	19 47 42.9	-0.4
	baz=317							
Q44A	Meyer Farm, Va	96.75	35	P		P	19 47 42.8	-0.5
	baz=321							
T41A	Mountain View	96.78	38	P		P	19 47 43.1	-0.3
	baz=319							
R43A	Red Bud	96.78	36	P		P	19 47 42.9	-0.5
	baz=320							
JCT	Junction City	96.85	48	P		P	19 47 43.7	-0.3
	baz=314							
X38A	Whitesboro	96.86	42	P		P	19 47 43.9	0.0
	baz=317							
W39A	Magazine	97.06	41	P		P	19 47 44.4	-0.4
	baz=318							
U41A	Viola	97.22	39	P		P	19 47 45.1	-0.3
	baz=319							
R44A	Waltonville	97.23	36	P		P	19 47 44.8	-0.6
	baz=321							
KEST	Kesra	97.34	320	LR		LR	20 37 15.9	
	comp=Z,215nm,18.9s,baz=287,slow=39							
X39A	Fountain Ranch	97.38	41	P		P	19 47 45.7	-0.5
	baz=317							
W40A	Ferguson Farm,	97.46	40	P		P	19 47 46.0	-0.5
	baz=318							
T43A	Greenville	97.51	37	P		Pdif	19 47 46.8	0.0
	baz=320							
V41A	Mountainview	97.51	39	P		P	19 47 46.5	-0.3
	baz=319							
U42A	Revenden	97.58	38	P		P	19 47 46.8	-0.2
	baz=319							
V42A	Cord	97.91	39	P		P	19 47 48.0	-0.5
	baz=319							
S45A	Carrier Mills	97.92	36	P		P	19 47 48.4	-0.2
	baz=321							
KMBO	Kilima Mbogo	100.04	275	P		Pdif	19 47 58.5	-0.3
	comp=Z,0.9nm,0.2s,baz=48,slow=7.3,SNR=5.8							
KMBO	Kilima Mbogo	100.04	275	*e*Pdif		Pdif	19 47 58.2	-0.5
	comp=Z,5.5nm,1.2s							
VNDA	Vanda	110.28	175	PKiKP		PKiKP	19 52 41.9	-1.4
	comp=Z,0.9nm,0.7s,baz=331,slow=4.8,SNR=5.9							
TOA1	Torodi Ar. Sit	118.84	310	*e*PKPdf		PKPdf	19 53 00.8	-0.8
TOA1				*e*PKKPbc		PKKPbc	20 03 17.8	+2.1
TORD	Torodi Ar. Bea	118.84	310	PKP		PKPdf	19 53 00.8	-0.8
	comp=Z,2.5nm,1.0s,baz=12,slow=1.2,SNR=8.1							
TORD				PKKPbc		PKKPbc	20 03 17.8	+2.1
	comp=Z,1.2nm,1.0s,baz=238,slow=5.6,SNR=4.3							
QSPA	South Pole Qui	121.84	180	*e*PKPdf		PKPdf	19 53 04.5	-1.3
SYO	Syowa Base	122.68	205⇑	*e*Pdiff		Pdif	19 49 39.8	+2.1
SYO	Syowa Base	122.68	205⇓	*e*X		PKPdf	19 53 05.0	-2.2
BOSA	Boshof	123.04	255	PKP		PKPdf	19 53 08.9	-0.4
	comp=Z,3.8nm,0.9s,baz=44,slow=5.6,SNR=3.4							
BOSA	Boshof	123.04	255	PKiKP		PKPdf	19 53 09.0	-0.4
BOSA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
DBIC	Dimbokro	127.93	311	PKP		PKPdf	19 53 18.6	-0.4
	comp=Z,11nm,1.3s,baz=215,slow=3.7,SNR=3.8							
DBIC	Dimbokro	127.93	311	*e*PKPdf		PKPdf	19 53 17.9	-1.2
TIC	Toumodi	128.05	311	*e*P		PKPdf	19 53 18.4	-0.9
KIC	Kosan Boka	128.09	311	*e*P		PKPdf	19 53 16.7	-2.7
	comp=Z,74nm,1.5s							
LIC	Lamto	128.38	311	*e*P		PKPdf	19 53 18.0	-1.9
	comp=Z,66nm,1.5s							
SDV	Santo Domingo	130.71	39	*e*PKPdf		PKPdf	19 53 23.3	-1.3
RUSC	La Rusia	131.78	44	*e*PKPdf		PKPdf	19 53 25.7	-1.3
SNAA	Sanae	135.31	196	PKP		PKPdf	19 53 30.4	-0.9
SNAA	Sanae	135.31	196⇑	*i*PKIKP		PKPdf	19 53 31.7	+0.4
SNAA	Sanae	135.31	196	*e*PKPdf		PKPdf	19 53 30.2	-1.1
VNA2	Neumayer--Watz	136.89	196	PKP		PKPdf	19 53 32.6	-1.6
	baz=100,slow=0.9							
VNA3	Neumayer Olymp	137.16	195	PKP		PKPdf	19 53 34.5	-0.2
VNA1	Neumayer--Stat	137.29	196	PKP		PKPdf	19 53 35.3	+0.4
PTGA	Pitinga	144.32	33	*e*PKPdf		PKPab	19 53 47.2	-0.1
SAML	Samuel	149.49	46	*e*PKPdf		PKPdf	19 53 56.0	-1.9
SAML				*e*PKPbc		PKPbc	19 54 02.1	-0.4
LPAZ	La Paz	151.25	63	PKPbc		PKPbc	19 54 07.5	+0.2
	comp=Z,9.5nm,0.8s,baz=354,slow=4.6,SNR=15							
LPAZ	La Paz	151.25	63	*e*PKIKP		PKPdf	19 54 01.1	-0.3
LPAZ				*e*			19 54 01.2	
LPAZ				*e*			19 54 07.5	
LPAZ	La Paz	151.25	63	*e*PKPdf		PKPdf	19 54 01.1	-0.3
LPAZ				*ep*PKPdf		PKPdf	19 54 01.2	-0.3
LPAZ				*e*			19 54 07.3	
LPAZ				*e*PKPbc		PKPbc	19 54 07.5	+0.2
MNMC	Minye Minye	151.75	70	*e*PKPbc		PKPbc	19 54 07.7	-0.3
PB11	IPOC Station P	152.03	71	*e*PKPbc		PKPbc	19 54 07.9	-0.6
PB01	IPOC Station P	152.82	73	*ep*PKPdf		pPKPdf	19 54 07.2	-1.1
PB01				*e*PKPab		PKPab	19 54 21.2	+0.1
LVC	Limon Verde	154.03	76	*e*PKPab		PKPab	19 54 27.6	+1.1
PLCA	Paso Flores	155.24	119	PKPbc		PKPdf	19 54 14.3	+8.5
	comp=Z,4.8nm,0.9s,baz=220,slow=6.0,SNR=5.7							
PLCA				PKPab		PKPab	19 54 31.4	+0.5
	comp=Z,5.5nm,0.9s,baz=293,slow=2.8,SNR=4.5							
PLCA	Paso Flores	155.24	119	*e*PKPbc		PKPbc	19 54 13.9	
PLCA				*e*PKPab		PKPab	19 54 30.9	0.0
BDFB	Brasilia	162.62	21	PKPab		PKPab	19 55 03.6	+0.3
	comp=Z,3.0nm,0.5s,baz=304,slow=25,SNR=4.0							
CPUP	Villa Florida	165.12	71	PKP		PKPdf	19 54 16.1	-1.0
	comp=Z,1.7nm,0.4s,baz=273,slow=4.3,SNR=4.0							
CPUP				PKPab		PKPab	19 55 14.0	-0.2
	comp=Z,8.1nm,1.0s,baz=297,slow=2.8,SNR=7.2							
CPUP	Villa Florida	165.12	71	*e*PKPdf		PKPdf	19 54 16.0	-1.1
CPUP				*e*PKPab		PKPab	19 55 13.7	-0.5

ISCJB ***25*** *19:34:16.5±0.2, 14°.99S±0°.03×167°.31E±0°.04, h129km, mb4.9/72, Error ellipse: s-maj=5.9km s-min=4.4km az=167.0*
BJI ***25*** *19:34:16.5, 14°.94S×167°.78E, h144km, mb4.9/45, mB5.3/28*
IDC ***25*** *19:34:18.6±1.3, 15°.03S×167°.29E, h133km±11km, mb4.5/26, mb1 4.5/28, mb1mx4.5/43, mbtmp4.9/28, MS4.0/10, Ms1 4.0/10, ms1rmx3.6/39, Error ellipse: s-maj=11.6km s-min=9.3km az=94.0*
MOS ***25*** *19:34:19.6±1.1, 14°.96S×167°.32E, h163km, mb5.0/34, Error ellipse: s-maj=12.1km s-min=9.2km az=10.8*
NEIC ***25*** *19:34:19.3±0.7, 15°.02S×167°.31E, h144km±6km, mb5.1/43, Error ellipse: s-maj=5.9km s-min=5.2km az=52.0*
GCMT ***25*** *19:34:19.3±0.2, 14°.94S×167°.22E, h124km±2km, MW5.2/78, Moment Tensor Solution. s35,c42; s78,c117; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=0.13±.19; Mθθ0.71±.23; Mφφ-0.57±.20; Mrθ0.60±.19; Mθφ8.82±.21; Mφr-0.04±.15; Best double couple: M0=8.86400×10^16 NP1:φs=272.00000°, δ=90.00000°, λ=-4.00000°. NP2:φs=2.00000°, δ=86.00000°, λ=-180.00000°. Principal axes: T 8.9290, Plg3.0000°, Azm317.0000°; N -0.1300, Plg86.0000°, Azm89.0000°; P -8.7990, Plg3.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 19:34:18.1±0.3, 15°.06S±0°.04×167°.25E±0°.05, h129km, n191, σ1=62/204, mb5.0/71, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.02	186	P		Pn	19 35 59.6	+1.2
	39nm,0.3s,baz=40,slow=15,SNR=214						
DZM				S		Sn	19 37 18.3	+1.3
	58nm,0.3s,baz=145,slow=23,SNR=14						
DZM				LR	LR		19 38 11.2	
	comp=Z,932nm,21.2s,baz=32,slow=33						
DZM	Mont Dzumac	7.02	186	*e*Pn		Pn	19 35 59.0	+0.5
DZM				*e*Sn		Sn	19 37 11.3	-5.7
DZM				S		Sn	19 37 18.3	+1.3
HNR	Honiara	9.07	307	*e*P		Pn	19 36 27.0	+1.0
HNR				*e*S		Sn	19 38 10.0	+3.6
HNR	Honiara	9.07	307	*e*P		Pn	19 36 27.4	+1.4
HNR				*e*			19 38 05.3	
HNR	Honiara	9.07	307	*e*Pn		Pn	19 36 27.4	+1.4
HNR				*e*Sn		Sn	19 38 05.3	-1.2
MSVF	Nonsavu	10.70	106	*e*P		Pn	19 36 49.2	+1.2
MSVF	Nonsavu	10.70	106	*e*Pn		Pn	19 36 49.2	+1.2
FUNA	Funafuti	13.37	62	*e*Pn		Pn	19 37 23.7	+0.7
TARA	Tarawa	17.25	19	P		Pn	19 38 13.9	+2.7
	6.5nm,1.0s							
EIDS	Eidsvold	18.30	233	P		Pn	19 38 25.7	+1.9
	baz=18,SNR=137							
EIDS	Eidsvold	18.30	233	*e*P		Pn	19 38 25.2	+1.4
	253nm,0.8s							
RABL	Rabaul	18.36	305	*e*P		Pn	19 38 24.2	-0.4
	116nm,0.8s							
RAO	Raoul Island	19.67	138	P		P	19 38 37.8	+0.7
	27nm,0.3s,baz=266,slow=19,SNR=4.4							
AFI	Afiamalu	20.34	89	P		P	19 38 44.6	+0.1
	43nm,1.0s,baz=235,slow=13,SNR=3.3							
AFI	Afiamalu	20.34	89	P		P	19 38 44.1	-0.4
AFI				pmax		pmax		
	comp=Z,147nm,1.6s							
AFI	Afiamalu	20.34	89	*e*P		P	19 38 44.0	-0.6
	comp=Z,147nm,1.5s							
PMG	Port Moresby	20.42	284	P		Pn	19 38 47.2	-1.5
	comp=Z,59nm,0.9s,baz=102,slow=5.4,SNR=14							
PMG				LR	LR		19 45 13.9	
	comp=Z,542nm,21.7s,baz=67,slow=32							
PMG	Port Moresby	20.42	284	P		Pn	19 38 47.2	-1.5
PMG				pmax		pmax		
	comp=Z,127nm,1.2s							
PMG	Port Moresby	20.42	284	*e*P		Pn	19 38 47.1	-1.5
	comp=Z,127nm,1.2s							
CTA	Charters Tower	20.63	253	P		Pn	19 38 50.0	-1.2
	comp=Z,53nm,0.8s,baz=79,slow=12,SNR=88							
CTA	Charters Tower	20.63	253	P		Pn	19 38 50.0	-1.2
CTA				pmax		pmax		
	comp=Z,53nm,0.8s							
CTAO	Charters Tower	20.63	253	*e*P		P	19 38 49.6	+2.1
CTAO				pmax		pmax		
	comp=Z,62nm,0.8s							
CTAO	Charters Tower	20.63	253	*e*P		P	19 38 49.6	+2.1
	comp=Z,62nm,0.8s							
RMQ	Roma	20.67	234	P		P	19 38 50.4	+2.6
	baz=21,SNR=50							
OUZ	Omahuta	20.87	165	*e*P		P	19 38 50.9	+0.9
	comp=Z,144nm,0.9s							
ARMA	Armidale	20.97	221	P		P	19 38 53.7	+2.5
	baz=21,SNR=39							
ARMA	Armidale	20.97	221	*e*P		P	19 38 53.6	+2.4
	comp=Z,207nm,1.1s							
MTSU	Mount Surprise	22.19	259	P		P	19 39 06.0	+1.9
	baz=22,SNR=21							
MGCD	Mangrove Creek	23.26	216	P		P	19 39 16.2	+2.0
	baz=23,SNR=22							
COEN	Coen	23.33	270	P		P	19 39 17.0	+1.9
	baz=23,SNR=4.6							
PATS	Pohnpei	23.49	337	*e*P		P	19 39 15.4	-1.0
	comp=Z,132nm,1.1s							
MANU	Manus Island	23.50	302	*e*P		P	19 39 16.8	+0.2
	comp=Z,266nm,1.7s							
RIV	Riverview	23.69	215	P		P	19 39 20.8	+2.7
RIV				pmax		pmax		
	comp=Z,500nm,0.9s							
HIZ	Hauiti	24.31	165	*e*P		P	19 39 23.7	0.0
	comp=Z,136nm,1.2s							
QLP	Quilpie	24.33	238	P		P	19 39 25.7	+1.7
	baz=24,SNR=99							
MXZ	Matakaoa Point	24.47	158	*e*P		P	19 39 24.6	-0.5
	comp=Z,61nm,0.7s							
URZ	Urewera	24.70	161	P		P	19 39 27.0	-0.2
	comp=Z,86nm,0.7s,baz=350,slow=6.4,SNR=42							
URZ				LR	LR		19 48 33.1	
	comp=Z,178nm,18.6s,baz=349,slow=35							
BKZ	Black Stump Fm	25.35	163	*e*P		P	19 39 32.0	-1.2
	comp=Z,34nm,0.6s							
CMSA	Cobar Meteorol	25.64	226	P		P	19 39 37.0	+1.3
	baz=26,SNR=89							
CNB	Canberra Magne	25.78	215	P		P	19 39 38.6	+1.5
	baz=26,SNR=13							
BFZ	Birch Farm	26.71	165	*e*P		P	19 39 43.4	-1.9
	comp=Z,43nm,0.9s							
QIS	Mount Isa	26.86	254	P		P	19 39 48.2	+1.2
	baz=27,SNR=6.0							
RPZ	Rata Peaks	28.75	174	P		P	19 40 03.8	+0.4
	comp=Z,18nm,0.7s,baz=70,slow=12,SNR=4.9							
RPZ				LR	LR		19 51 19.2	
	comp=Z,250nm,18.3s,baz=350,slow=36							
STKA	Stephens Creek	28.77	230	P		P	19 40 05.7	+1.8
	comp=Z,131nm,0.6s,baz=45,slow=8.3,SNR=437							
STKA	Stephens Creek	28.77	230	P		P	19 40 05.7	+1.8
	baz=29,SNR=379							
STKA	Stephens Creek	28.77	230	*e*P		P	19 40 05.6	+1.8
	comp=Z,28nm,0.8s							
TOO	Toolangi	29.58	217	P		P	19 40 12.3	+1.4
	baz=30,SNR=8.2							
TOO	Toolangi	29.58	217	P		P	19 40 12.5	+1.6
TOO				pmax		pmax		
	comp=Z,37nm,2.0s							
ARPS	Mount Arapiles	31.29	222	P		P	19 40 27.4	+1.4
	baz=31,SNR=6.0							
HTT	Hallett	31.49	229	P		P	19 40 29.3	+1.4
	baz=32,SNR=42							
WB2	Warramunga Arr	31.72	256	*e*P		P	19 40 29.2	-0.8
	comp=Z,20nm,1.1s							
WRAB	Tennant Creek	31.72	256	P		P	19 40 29.3	-0.7
WRAB				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WRAB	Tennant Creek	31.72	256	P		P	19 40 29.3	-0.7
	comp=Z,8.6nm,0.8s							
WR1	Warramunga Arr	31.73	256	*e*P		P	19 40 29.6	-0.5
	comp=Z,12nm,0.8s							
WR1				*e*ScP		ScP	19 46 50.5	+0.2
WRA	Warramunga Arr	31.73	256	P		P	19 40 29.6	-0.5
	comp=Z,10nm,0.8s,baz=86,slow=8.6,SNR=38							
WRA				ScP		ScP	19 46 50.5	+0.2
	comp=Z,5.1nm,1.0s,baz=74,slow=4.1,SNR=5.7							
MOO	Moorlands	32.30	208	P		P	19 40 36.1	+1.4
	baz=32,SNR=3.3							
AS31	Alice Springs	32.54	250	*e*P		P	19 40 37.0	-0.1
	comp=Z,16nm,0.8s							
AS31				*e*S		S	19 45 39.1	-4.1
AS31				*e*ScP		ScP	19 46 53.6	+0.6
ASAR	Alice Springs	32.54	250	P		P	19 40 37.1	-0.1
	comp=Z,46nm,0.8s,baz=78,slow=8.9,SNR=293							
ASAR				PcP		PcP	19 43 21.2	+0.3
	comp=Z,3.4nm,0.8s,baz=64,slow=2.4,SNR=4.5							
ASAR				S		S	19 45 41.0	-2.2
	comp=Z,4.8nm,1.0s,baz=74,slow=17,SNR=6.3							
ASAR				ScP		ScP	19 46 52.2	-0.9
	comp=Z,4.0nm,1.0s,baz=83,slow=3.2,SNR=4.8							
BBOO	Buckleboo	33.37	232	P		P	19 40 45.4	+1.2
	baz=33,SNR=75							
BBOO	Buckleboo	33.37	232	*e*P		P	19 40 45.6	+1.4
	comp=Z,110nm,0.7s							
BAKI	Biak	33.69	291	P		P	19 40 50.3	+3.1
	comp=Z,137nm,1.1s,comp=Z,2μm							
GUMO	Guam	36.06	321	P		P	19 41 06.6	-0.9
	comp=Z,23nm,0.5s,baz=166,slow=5.6,SNR=4.8							
GUMO				LR	LR		19 55 16.2	
	comp=Z,202nm,19.8s,baz=104,slow=35							
GUMO	Guam	36.06	321	P		P	19 41 06.6	-0.9
GUMO				pmax		pmax		
	comp=Z,45nm,0.7s							
GUMO				MLR	MLR			
	comp=Z,202nm,19.8s							
FAKI	Fak Fak	36.54	286	P		P	19 41 08.1	-3.6
	comp=Z,137nm,0.8s,comp=Z,2μm							
KNRA	Kununurra	37.09	264	P		P	19 41 16.6	+0.4
	baz=37,SNR=7.9							
WRKA	Warakurna	37.80	249	P		P	19 41 22.2	0.0
	baz=38,SNR=74							
BNDI	Bandanaira	38.20	282	P		P	19 41 24.9	-0.7
	comp=Z,327nm,1.4s,comp=Z,3μm							
FORT	Forrest	39.12	240	P		P	19 41 34.1	+1.0
	baz=39,SNR=42							
FORT	Forrest	39.12	240	*e*P		P	19 41 33.8	+0.7
	comp=Z,881nm,0.7s							
PALU	Palau	39.38	302	P		P	19 41 36.9	+1.4
	baz=40,SNR=8.5							
FITZ	Fitzroy Crossi	39.94	260	P		P	19 41 40.8	+0.7
	comp=Z,14nm,0.9s,baz=88,slow=8.4,SNR=20							
FITZ				LR	LR		19 57 37.3	
	comp=Z,120nm,20.6s,baz=82,slow=35							
FITZ	Fitzroy Crossi	39.94	260	P		P	19 41 40.7	+0.7
	baz=40,SNR=13							
FITZ	Fitzroy Crossi	39.94	260	*e*P		P	19 41 40.5	+0.4
	comp=Z,19nm,1.0s							
SOEI	Soe	42.26	272	P		P	19 42 02.8	+3.5
SOEI	Soe	42.26	272	*e*P		P	19 41 59.4	+0.2
	comp=Z,154nm,1.0s							
KMBL	Kambalda	44.41	240	P		P	19 42 16.7	+0.4
	baz=44,SNR=7.5							
MMRI	Maumere	44.45	273	P		P	19 42 14.9	-1.8
	comp=Z,112nm,1.2s,comp=Z,1μm							
MMRI	Maumere	44.45	273	*e*P		P	19 42 14.0	-2.7
	comp=Z,151nm,1.2s							
EDFI	Ende, Flores	44.96	273	P		P	19 42 16.5	-4.4
	comp=Z,56nm,0.9s,comp=Z,850nm							
MBWA	Marble Bar	45.44	255	*e*P		P	19 42 24.3	-0.2
	comp=Z,91nm,1.1s							
KLBR	Kellerberrin	47.93	241	P		P	19 42 43.7	-0.1
	baz=48,SNR=11							
NWAO	Narrogin (SRO)	48.57	239	P		P	19 42 48.7	+0.1
	comp=Z,30nm,0.9s,baz=299,slow=6.8,SNR=14							
NWAO	Narrogin (SRO)	48.57	239	P		P	19 42 48.9	+0.2
	baz=49,SNR=8.2							
NWAO				P		P	19 42 48.9	+0.2
	baz=49,SNR=8.2							
NWAO	Narrogin (SRO)	48.57	239	*e*P		P	19 42 48.3	-0.3
	comp=Z,41nm,1.0s							
MSLP	Maasin	48.90	298	*e*P		P	19 42 51.6	+0.3
MORW	Morawa	49.11	245	P		P	19 42 53.0	+0.2
	baz=49,SNR=8.3							
MYLDM	Lahad Datu	52.32	289	*e*P		P	19 43 16.4	-0.7
	comp=Z,39nm,1.0s							
KKM	Kota Kinabalu	54.75	289	*e*P		P	19 43 33.8	-1.1
	comp=Z,127nm,1.4s							
SBUM	Sibu	57.16	283	*e*P		P	19 43 51.6	-0.4
	comp=Z,12nm,0.9s							
MJAR	Matsushiro Arr	58.19	333	P		P	19 43 57.6	-1.1
	comp=Z,7.9nm,0.9s,baz=164,slow=8.4,SNR=5.1							
MAT	Matsushiro	58.19	333	P		P	19 43 57.8	-0.9
KSM	Kuching	58.65	281	*e*P		P	19 44 01.0	-1.4
	comp=Z,37nm,1.2s							
JNU	Nakatsue	59.18	325	P		P	19 44 04.5	-1.2
	comp=Z,9.1nm,0.6s,baz=172,slow=14,SNR=3.0							
JNU	Nakatsue	59.18	325	*e*P		P	19 44 04.8	-0.9
	comp=Z,15nm,0.9s							
SSLB	Suanglung	59.48	310	*e*P		P	19 44 06.6	-1.3
	comp=Z,135nm,1.8s							
VNDA	Vanda	62.54	181	P		P	19 44 27.1	-0.6
	comp=Z,3.8nm,0.8s,baz=352,slow=6.8,SNR=17							
VNDA	Vanda	62.54	181	*e*P		P	19 44 26.9	-0.8
	comp=Z,10nm,1.3s							
SBA	Scott Base	62.81	180	*e*P		P	19 44 30.5	+1.0
SBA				pmax		pmax		
	comp=Z,11nm,0.8s							
SBA	Scott Base	62.81	180	*e*P		P	19 44 30.5	+1.0
	comp=Z,11nm,0.8s							
ASAJ	Asahikawa	63.04	340	P		P	19 44 31.9	+0.4
	comp=Z,18nm,0.9s,baz=206,slow=10,SNR=5.1							
ASAJ	Asahikawa	63.04	340	*e*P		P	19 44 30.4	-1.1
	comp=Z,38nm,1.2s							
KSRS	Korea Array	64.00	326	P		P	19 44 37.6	-0.3
	comp=Z,4.0nm,0.8s,baz=144,slow=7.3,SNR=11							
KS15	Wonju Array Si	64.01	326	*

KMI	**Kunming**	**74.46 302**	P	**P**	**19 45 44.5**	**+1.5**
KMI			pP	sP	19 46 23.8	-5.1
KMI			PP	**PP**	**19 48 36.0**	**+4.7**
KMI			S	**S**	**19 55 03.8**	**-4.1**
KMI			sS	sS	19 56 08.8	+5.6
KMI			SS	**SS**	**19 59 55.5**	**-2.0**
KMI			pmax	pmax		
	comp=Z,22nm,0.7s					
KMI			pmax	pmax		
	comp=Z,240nm,4.7s					
KMI			LR	LR		
	comp=Z,450nm,9.5s					
KMI			LR	LR		
	comp=Z,310nm,11.3s					
KMI			LR	LR		
	comp=Z,290nm,10.5s					
QSPA	**South Pole Qui**	**74.97 180**	*e*P	**P**	**19 45 44.7**	**-0.4**
CM31	**Chiang Mai Arr**	**75.07 294**	*e*P	**P**	**19 45 47.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**75.07 294**	P	**P**	**19 45 47.6**	**+1.3**
	comp=Z,5.5nm,0.8s,baz=131,slow=4.6,SNR=25					
CHTO	**Chiang Mai**	**75.20 294**	*e*P	**P**	**19 45 47.8**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,6.0nm,0.6s					
CHTO	**Chiang Mai**	**75.20 294**	*e*P	**P**	**19 45 47.8**	**+0.8**
	comp=Z,6.3nm,0.6s					
HHC	**Hu-ho-hao-te**	**75.82 320**	*e*P	**P**	**19 45 51.0**	**+0.7**
HHC			pmax	pmax		
	comp=Z,23nm,0.8s					
HHC			pmax	pmax		
	comp=Z,500nm,6.3s					
CD2	**Chengdu**	**76.19 308**	*e*P	**P**	**19 45 53.0**	**+0.5**
LZH	**Lanzhou**	**78.53 312**	*e*P	**P**	**19 46 06.8**	**+1.2**
LZH			pP	pP	19 46 44.3	+6.3
LZH			sP	sP	19 47 00.5	+8.8
LZH			PP	**PP**	**19 49 09.3**	**+4.1**
LZH			pmax	pmax		
	comp=Z,49nm,1.4s					
LZH			pmax	pmax		
	comp=Z,250nm,5.7s					
SEY	**Seymchan**	**78.60 353**	P	**P**	**19 46 04.1**	**-1.1**
	comp=Z,6.9nm,0.9s,baz=179,slow=4.5,SNR=8.2					
CIT	**Chita**	**81.35 330**	*e*P	**P**	**19 46 20.5**	**+0.3**
CIT			*e*		19 46 56.5	
CIT			*e*		19 49 23.9	
CIT			pmax	pmax		
	comp=Z,65nm,3.5s					
MAW	**Mawson**	**81.58 202**	P	**P**	**19 46 21.2**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=75,slow=5.2,SNR=8.9					
MAW	**Mawson**	**81.58 202**	P	**P**	**19 46 21.4**	**+0.2**
	baz=81,SNR=7.0					
MAW	**Mawson**	**81.58 202**	*e*P	**P**	**19 46 20.9**	**-0.3**
MAW	**Mawson**	**81.58 202**	*e*P	**P**	**19 46 20.9**	**-0.3**
	comp=Z,1.6nm,1.1s					
YAK	**Yakutsk**	**82.34 343**	*e*P	**P**	**19 46 24.3**	**-0.8**
YAK			pmax	pmax		
	comp=Z,31nm,0.7s					
YAK	**Yakutsk**	**82.34 343**	*e*P	**P**	**19 46 24.2**	**-0.8**
	comp=Z,31nm,0.7s					
ULN	**Ulaanbaatar**	**82.39 324**	*e*P	**P**	**19 46 25.7**	**-0.2**
ULN			pmax	pmax		
	comp=Z,20nm,1.0s					
ULN	**Ulaanbaatar**	**82.39 324**	*e*P	**P**	**19 46 25.7**	**-0.2**
	comp=Z,20nm,1.0s					
SONA0	**Songino Array**	**82.75 324**	*e*P	**P**	**19 46 27.8**	**0.0**
SONM	**Songino Array**	**82.75 324**	P	**P**	**19 46 27.8**	**0.0**
	comp=Z,7.4nm,0.9s,baz=151,slow=8.0,SNR=18					
GTA	**Gaotai**	**82.88 314**	*e*P	**P**	**19 46 29.3**	**+0.7**
GTA			pP	pP	19 47 02.5	+1.2
GTA			sP	sP	19 47 15.8	+0.8
GTA			pmax	pmax		
	comp=Z,14nm,1.5s					
LSA	**Lhasa**	**85.72 302**	*e*P	**P**	**19 46 44.3**	**+0.7**
LSA			pmax	pmax		
	comp=Z,6.0nm,0.7s					
LSA	**Lhasa**	**85.72 302**	*e*P	**P**	**19 46 44.2**	**+0.7**
	comp=Z,5.6nm,0.7s					
ZAK	**Zakamensk**	**85.81 325**	*e*P	**P**	**19 46 42.0**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,12nm,1.2s					
ILAR	**Eielson Array**	**86.84 18**	P	**P**	**19 46 45.8**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=250,slow=6.0,SNR=5.0					
ILAR			LR	LR	20 18 03.8	
	comp=Z,78nm,21.0s,baz=246,slow=30					
ILB	**Eielson Array**	**86.84 18**	*e*P	**P**	**19 46 46.0**	**-1.7**
SYO	**Syowa Base**	**88.39 197⇓**	*e*P	**P**	**19 46 53.8**	**-1.3**
SYO	**Syowa Base**	**88.39 197⇓**	*es*P	sP	19 47 44.8	+3.0
TIXI	**Tiksi**	**90.29 349**	P	**P**	**19 47 02.6**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=129,slow=3.7,SNR=3.6					
WMQ	**Urumqi**	**92.94 315**	P	**P**	**19 47 17.5**	**+0.6**
WMQ			pP	pP	19 47 55.8	+5.8
WMQ			sP	sP	19 48 12.0	+8.4
WMQ			pmax	pmax		
	comp=Z,13nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,200nm,6.7s					
WMQ			LR	LR		
	comp=Z,73nm,19.1s					
WMQ			LR	LR		
	comp=Z,52nm,19.1s					
WMQ			LR	LR		
	comp=Z,60nm,22.7s					
SNAA	**Sanae**	**93.22 183**	P	**P**	**19 47 16.6**	**-1.1**
SNAA	**Sanae**	**93.22 183**	*e*P	**P**	**19 47 16.1**	**-1.6**
SNAA			pmax	pmax		
	comp=Z,8.0nm,1.3s					
SNAA	**Sanae**	**93.22 183**	*e*P	**P**	**19 47 16.1**	**-1.6**
	comp=Z,8.3nm,1.3s					
VNA3	**Neumayer Olymp**	**93.89 181**	P	**P**	**19 47 19.3**	**-1.4**
VNA2	**Neumayer--Watz**	**94.15 182**	P	**P**	**19 47 20.8**	**-1.1**
	baz=195,slow=3.1					
VNA1	**Neumayer--Stat**	**94.45 181**	P	**P**	**19 47 22.6**	**-0.7**
PDAR	**Pinedale Array**	**95.18 47**	LR	LR	20 23 13.0	
	comp=Z,73nm,21.4s,baz=326,slow=31					
YMP	**Mirror Lake Pl**	**95.30 45**	*e*P	**P**	**19 47 28.3**	**+0.3**
ANMO	**Albuquerque**	**95.50 55**	LR	LR	20 28 17.1	
	comp=Z,176nm,18.1s,baz=206,slow=34					
MK31	**Makanchi Array**	**97.43 316**	*e*P	Pdif	19 47 36.8	-0.4
MK31	**Makanchi Array**	**97.43 316**	*e*P	Pdif	19 47 36.8	-0.5
MK32	**Makanchi Array**	**97.43 316**	*e*P	Pdif	19 47 37.4	+0.1
MKAR	**Makanchi Array**	**97.43 316**	P	Pdif	19 47 37.4	+0.1
	comp=Z,3.7nm,0.7s,baz=84,slow=6.1,SNR=16					
MKAR	**Makanchi Array**	**97.43 316**	*e*P	**P**	**19 47 36.5**	**-0.7**
	comp=Z,24nm,0.6s					
ZAA0	**Zalesovo Array**	**97.64 324**	*e*P	**P**	**19 47 36.2**	**-1.7**
	comp=Z,4.7nm,0.8s					
ZALV	**Zalesovo Beam**	**97.64 324**	P	**P**	**19 47 36.9**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=110,slow=3.5,SNR=5.9					
ZAA1	**Zalesovo Array**	**97.64 324**	*e*P	**P**	**19 47 36.9**	**-1.1**
KSH	**Kashi**	**100.39 308**	*e*P	**Pdif**	**19 47 51.5**	**+0.8**
KSH			PP	**PP**	**19 52 02.8**	**+3.9**
KSH			SKS	**SKSac**	**19 58 11.3**	**-6.5**
KSH			S	**Sdif**	**19 59 08.0**	**-8.0**
KSH			sS	sS	20 00 20.0	+5.9
KSH			SS	**SS**	**20 06 13.0**	**-1.6**
KSH			pmax	pmax		
	comp=Z,10.0nm,1.7s					
KSH			pmax	pmax		
	comp=Z,120nm,6.6s					
KSH			LR	LR		
	comp=Z,210nm,11.8s					
KSH			LR	LR		
	comp=Z,170nm,11.0s					
KSH			LR	LR		
	comp=Z,180nm,9.3s					
GEYT	**Alibeck**	**114.11 305**	PKP	PKPdf	19 52 43.1	+0.6
	comp=Z,0.6nm,0.5s,baz=96,slow=2.9,SNR=2.5					
ARA0	**ARCESS Array S**	**120.56 345**	*e*PKPdf	**PKPdf**	**19 52 53.2**	**-0.7**
ARCES	**ARCESS Array B**	**120.56 345**	PKP	**PKPdf**	**19 52 53.2**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=56,slow=1.2,SNR=14					
FIA0	**FINESS Array S**	**126.02 338**	*e*PKIKP	**PKPdf**	**19 53 04.6**	**0.0**
FIA0	**FINESS Array S**	**126.02 338**	*e*PKPdf	**PKPdf**	**19 53 04.6**	**0.0**
FINES	**FINESS Array B**	**126.02 338**	PKP	**PKPdf**	**19 53 04.6**	**0.0**
	comp=Z,2.5nm,0.9s,baz=101,slow=3.9,SNR=3.8					
FINES	**FINESS Array B**	**126.02 338**	PKIKP	**PKPdf**	**19 53 04.6**	**0.0**
FINES			pmax	pmax		
	comp=Z,4.0nm,1.1s					
NB2	**NORSAR Subarra**	**130.93 345**	SKPa	**SKPbc**	**19 56 26.5**	**-0.1**
	comp=Z,7.1nm,1.2s,baz=38,slow=4.8					
NB200	**NORSAR Array S**	**130.93 345**	*e*PKPdf	**PKPdf**	**19 53 13.6**	**-0.5**
NB200			*e*SKPbc	**SKPab**	**19 56 26.8**	**-0.2**
NOA	**NORSAR Array B**	**130.93 345**	PKP	**PKPdf**	**19 53 13.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=57,slow=1.9,SNR=2.8					
NOA			SKPbc	**SKPab**	**19 56 26.8**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=30,slow=3.1,SNR=8.3					
AKASG	**Malin Array Be**	**130.99 326**	SKPbc	**SKPab**	**19 56 27.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=46,slow=4.6,SNR=9.4					
GERES	**GERESS Array B**	**139.93 333**	PKP	**PKPdf**	**19 53 32.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=27,slow=2.2,SNR=3.1					
GERES			SKPbc	**SKPbc**	**19 56 55.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=14,slow=5.0,SNR=3.5					
GERES	**GERESS Array B**	**139.93 333**	PKIKP	**PKPdf**	**19 53 32.0**	**+0.7**
GERES			pmax	pmax		
	comp=N,1.0nm,0.7s					
FUORN	**Ofenpass-Fuorn**	**143.12 333**	*e*PKPdf	PKPbc	19 53 34.5	0.0
DAVOX	**Davos/Dischmat**	**143.16 334**	PKP	PKPbc	19 53 34.6	+0.1
	comp=N,3.3nm,0.6s,baz=90,slow=3.0,SNR=5.6					
TUE	**Stuetta**	**143.63 334**	*e*PKPdf	PKPbc	19 53 36.1	+0.2
SENIN	**Lac Senin/Sane**	**144.56 336**	*e*PKPdf	PKPbc	19 53 38.4	-0.4
AQU	**L'Aquila**	**144.70 326**	*e*PKIKP	**PKPdf**	**19 53 39.1**	**-0.8**
AQU	**L'Aquila**	**144.70 326**	*e*PKPdf	**PKPdf**	**19 53 39.1**	**-0.8**
KEST	**Kesra**	**151.45 320**	PKPbc	**PKPbc**	**19 53 57.5**	**+0.1**
	comp=N,1.9nm,0.5s,baz=159,slow=3.0,SNR=6.3					
TORD	**Torodi Ar. Bea**	**165.86 264**	PKP	**PKPdf**	**19 54 07.1**	**-1.5**
	comp=N,0.5nm,0.5s,baz=338,slow=1.7,SNR=6.2					
TORD			PKPab	**PKPab**	**19 55 10.2**	**+1.2**
	comp=N,1.5nm,0.8s,baz=105,slow=4.8,SNR=4.5					
TOA1	**Torodi Ar. Sit**	**165.87 264**	*e*PKPdf	**PKPdf**	**19 54 07.1**	**-1.5**
TOA1			*e*PKPab	**PKPab**	**19 55 10.2**	**+1.2**

MAN 25 19:35:25,10.°41N×126.°88E,h47km,mb4.8,ML3.7,MS3.7,
1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.50**	**246**	*e*P	Pn	19 35 48.9	-0.6
SCPH				*e*S	Sn	19 36 04.3	-3.6
BESP	**Borongan**	**1.85**	**310**	*e*P	Pn	19 35 55.9	+1.7
BESP				*e*S	Sn	19 36 18.8	+2.4
MSLP	**Maasin**	**2.01**	**262**	*e*P	Pn	19 35 57.0	+0.6
MSLP				*e*S	Sn	19 36 22.8	+2.4
BIPH	**Bislig**	**2.27**	**193**	⇑*i*P	Pn	19 36 05.0	+5.0
BIPH				*i* S	Sn	19 36 24.6	-2.2
OCLP	**Ormoc**	**2.32**	**286**	*e*P	Pn	19 36 03.8	+3.0
LLP	**Lapu-Lapu**	**2.87**	**268**	‖*e*P	Pn	19 36 09.9	+1.7
LLP				*e*S	Sn	19 36 45.0	+3.4
CNP	**Catarman**	**3.01**	**314**	*e*P	Pn	19 36 12.8	+2.5
BUKP	**Musuan**	**3.09**	**216**	*e*P	Pn	19 36 14.8	+3.4
MATI	**Mati**	**3.49**	**190**	*e*P	Pn	19 36 28.8	+12
SNPH	**Sibulan**	**3.74**	**254**	*i* P	Pn	19 36 25.0	+4.7
PVCP	**Virac**	**4.14**	**320**	*e*P	Pn	19 36 28.7	+2.9
RCP	**Roxas**	**4.22**	**286**	⇓*e*P	Pn	19 36 29.6	+2.8

MOS ***25*** *19:43:54.8±2.1,38.°10N×43.°21E,h10km,mb4.2/11,Error ellipse: s-maj=10.6km s-min=6.2km az=91.0*
IDC ***25*** *19:43:56.5±1.0,38.°67N×43.°42E,h0km,mb3.8/9, mb1 3.8/12,mb1mx3.6/57,mbtmp3.8/12,ML3.2/3,MS3.4/10, Ms1 3.4/10,ms1mx3.0/71,Error ellipse: s-maj=21.4km s-min=11.8km az=163.0*
DDA ***25*** *19:43:57.8,38.°74N×43.°35E,h7km,Ml4.1*
ISK ***25*** *19:43:57.7,38.°78N×43.°38E,h2km,ML4.3*
AZER ***25*** *19:43:58.9±1.9,38.°28N×43.°60E,h0km,Error ellipse: s-maj=21.4km s-min=4.8km az=65.0*
CSEM ***25*** *19:43:58.7±0.2,38.°75N×43.°35E,h2km,mb4.1/11,Error ellipse: s-maj=4.6km s-min=4.5km az=151.0*
NEIC ***25*** *19:43:58.4±1.2,38.°68N×43.°40E,h7km±7km,mb4.2/12, ML4.3(DDA),Error ellipse: s-maj=8.3km s-min=6.3km az=144.0*
NSSC ***25*** *19:44:01.5±1.8,38.°29N×43.°57E,h137km±29km,MD2.9, ML3.2*
ISC 25 19:43:58.9±0.9,38.°74N±0.°01×43.°38E±0.°02,h14km±6km,
n221,σ1°90/243,mb4.0/16,MS3.7/5,14C-9D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**176**	*e*PG	**Pb**	**19 44 03.9**	**+0.3**
VANB				*e*SG	**Sb**	**19 44 08.5**	**+1.8**
VANB	**Van**	**0.15**	**176**	*e*Pg	**Pb**	**19 44 03.9**	**+0.3**
VMUR	**Van-Muradiye**	**0.29**	**32**	⇑*i*P	**Pg**	**19 44 03.9**	**-1.2**
VMUR				*i* S	**Sg**	**19 44 08.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.29**	**32**	P	**Pg**	**19 44 03.9**	**-1.2**
VMUR				S	**Sg**	**19 44 08.9**	**-0.3**
GEVA	**Gevas**	**0.50**	**210**	*i* P	**Pg**	**19 44 07.9**	**-0.8**
GEVA				*i* S	**Sg**	**19 44 16.0**	**+0.5**
GEVA	**Gevas**	**0.50**	**210**	*i* P	**Pg**	**19 44 08.0**	**-0.8**
GEVA				S	**Sg**	**19 44 16.0**	**+0.5**
GEVA	**Gevas**	**0.50**	**210**	*i* P	**Pg**	**19 44 08.0**	**-0.8**
GEVA				*i* S	**Sb**	**19 44 17.2**	**+0.4**
TUTA	**Tutak**	**0.79**	**326**	⇓*i*P	**Pg**	**19 44 12.7**	**-1.6**
TUTA				*i* S	**Sg**	**19 44 24.2**	**-0.5**
TUTA	**Tutak**	**0.79**	**326**	*i* P	**Pg**	**19 44 12.8**	**-1.6**
TUTA				S	**Sg**	**19 44 24.2**	**-0.5**
TUTA	**Tutak**	**0.79**	**326**	*i* P	**Pg**	**19 44 12.8**	**-1.6**
DYDN	**Diyadin**	**0.83**	**17**	*i* P	**Pb**	**19 44 13.3**	**-2.1**
DYDN				*i* S	**Sg**	**19 44 24.0**	**-2.2**
DYDN	**Diyadin**	**0.83**	**17**	*i* P	**Pb**	**19 44 13.8**	**-1.6**
DYDN				S	**Sg**	**19 44 24.0**	**-2.2**
DYDN	**Diyadin**	**0.83**	**17**	*i* P	**Pb**	**19 44 13.8**	**-1.6**
BASK	**Baskale_VAN**	**0.85**	**144**	*i* P	**Pg**	**19 44 14.5**	**-0.9**
BASK				*i* S	**Sb**	**19 44 27.0**	**+0.1**
BASK	**Baskale_VAN**	**0.85**	**144**	P	**Pg**	**19 44 14.5**	**-0.9**
BASK				S	**Sb**	**19 44 27.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**340**	*e*PG	**Pb**	**19 44 14.7**	**-1.5**
AGRB				*e*SG	**Sb**	**19 44 27.4**	**-0.6**
AGRB	**Hanur-Agry**	**0.88**	**340**	*e*Pg	**Pb**	**19 44 14.7**	**-1.5**
AGRB				*e*Sg	**Sb**	**19 44 27.4**	**-0.6**
EKAR	**Karacoban**	**1.14**	**297**	*i* P	**Pb**	**19 44 19.8**	**-0.8**
EKAR	**Karacoban**	**1.14**	**297**	*i* P	**Pg**	**19 44 22.4**	**+1.4**
EKAR	**Karacoban**	**1.14**	**297**	*i* P	**Pg**	**19 44 22.4**	**+1.4**
HAKT	**HAKKARI**	**1.21**	**167**	*i* P	**Pn**	**19 44 20.4**	**-1.3**
HAKT				*i* S	**Sg**	**19 44 40.4**	**+2.2**
HAKT	**HAKKARI**	**1.21**	**167**	P	**Pn**	**19 44 20.4**	**-1.3**
HAKT				S	**Sg**	**19 44 40.3**	**+2.2**
EATA	**Eleskirt**	**1.31**	**329**	*i* P	**Pn**	**19 44 22.2**	**-1.0**
EATA				*i* S	**Sn**	**19 44 41.6**	**+0.9**
EATA	**Eleskirt**	**1.31**	**329**	P	**Pn**	**19 44 22.2**	**-1.0**
EATA				S	**Sn**	**19 44 41.6**	**+0.9**
SIRN	**S¨¨rnak**	**1.46**	**212**	*i* P	**Pg**	**19 44 27.0**	**0.0**
SIRN	**S¨¨rnak**	**1.46**	**212**	P	**Pg**	**19 44 27.0**	**0.0**
CUKT	**Cukurca**	**1.50**	**173**	*e*PN	**Pb**	**19 44 27.1**	**+0.4**
CUKT	**Cukurca**	**1.50**	**173**	*i* P	**Pg**	**19 44 28.8**	**+0.9**
CUKT	**Cukurca**	**1.50**	**173**	*e*Pn	**Pb**	**19 44 27.1**	**+0.4**
CUKT	**Cukurca**	**1.50**	**173**	P	**Pg**	**19 44 28.8**	**+0.9**
VRTB	**Varto-Mus**	**1.55**	**286**	*e*PN	**Pb**	**19 44 27.3**	**-0.3**
VRTB	**Varto-Mus**	**1.55**	**286**	*i* P	**Pn**	**19 44 26.6**	**+0.2**
VRTB				*i* S	**Sg**	**19 44 49.9**	**+0.9**
VRTB	**Varto-Mus**	**1.55**	**286**	P	**Pn**	**19 44 26.6**	**+0.2**
VRTB	**Varto-Mus**	**1.55**	**286**	*e*Pn	**Pb**	**19 44 27.3**	**-0.3**
VRTB				S	**Sg**	**19 44 49.9**	**+0.9**
DIGO	**Kars**	**1.67**	**360**	*i* P	**Pb**	**19 44 29.6**	**0.0**
DIGO	**Kars**	**1.67**	**360**	P	**Pb**	**19 44 29.6**	**0.0**
NAX	**Nakhchivan**	**1.71**	**75**	⇓P	**Pb**	**19 44 30.1**	**0.0**
NAX				⇑S	**Sg**	**19 44 55.2**	**+1.3**
NAX	**Nakhchivan**	**1.71**	**75**	P	**Pb**	**19 44 30.1**	**0.0**
NAX				S	**Sg**	**19 44 55.2**	**+1.3**
HOMI	**Horasan**	**1.73**	**319**	*i* P	**Pb**	**19 44 30.2**	**-0.4**
BNGL	**BINGOL**	**1.75**	**278**	*i* P	**Pn**	**19 44 30.2**	**+1.1**
BNGL				*i* S	**Sb**	**19 44 54.3**	**+1.3**
GNI	**Garni**	**1.76**	**37**	Pn	**Pn**	**19 44 30.1**	**+1.0**
	53nm,0.3s,baz=226,slow=1.6,SNR=18						
GNI				LR	LR	19 45 12.9	
	comp=Z,355nm,18.4s,baz=194,slow=43						
GNI	**Garni**	**1.76**	**37**	*d*P	**Pb**	**19 44 31.1**	**0.0**
GNI	**Garni**	**1.76**	**37**	*e*Pn	**Pb**	**19 44 30.8**	**-0.3**
GNI	**Garni**	**1.76**	**37**	*i* P	**Pb**	**19 44 31.1**	**0.0**
GNI	**Garni**	**1.76**	**37**	*e*Pn	**Pb**	**19 44 30.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*e*PN	**Pb**	**19 44 31.1**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	*i* P	**Pn**	**19 44 30.9**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.81**	**252**	P	**Pn**	**19 44 30.9**	**+1.1**
BTMN	**Batman**	**1.86**	**243**	*i* P	**Pb**	**19 44 32.7**	**-0.1**
BTMN	**Batman**	**1.86**	**243**	P	**Pb**	**19 44 32.7**	**-0.1**
ERZM	**Erzurum**	**1.94**	**307**	*i* P	**Pb**	**19 44 34.0**	**-0.3**
ERZM	**Erzurum**	**1.94**	**307**	P	**Pb**	**19 44 34.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.98**	**337**	*e*PN	**Pn**	**19 44 32.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.98**	**337**	*e*Pn	**Pn**	**19 44 32.9**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.06**	**296**	*i* P	**Pb**	**19 44 36.0**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.06**	**296**	P	**Pb**	**19 44 36.0**	**-0.2**
BNGB	**Bing¨¨ol**	**2.12**	**278**	*e*PN	**Pn**	**19 44 35.1**	**+1.0**
BINT	**Bingol**	**2.26**	**274**	*e*Pn	**Pn**	**19 44 35.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.31**	**288**	*e*PN	**Pn**	**19 44 37.9**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.31**	**288**	*e*Pn	**Pn**	**19 44 37.9**	**+1.2**
DDEM	**Demirkent**	**2.48**	**330**	*i* P	**Pb**	**19 44 43.1**	**-0.3**
DDEM	**Demirkent**	**2.48**	**330**	P	**Pb**	**19 44 43.1**	**-0.3**
MARD	**Mardin**	**2.50**	**236**	*e*Pn	**Pn**	**19 44 37.0**	**-2.3**
MARD	**Mardin**	**2.50**	**236**	*e*Pn	**Pn**	**19 44 37.0**	**-2.3**
BGD	**Bogdanovka**	**2.52**	**4**	P	**Pb**	**19 44 46.0**	**+1.8**
BGD				S	**Sg**	**19 45 25.6**	**+5.6**
KOPT	**Kop Dagi**	**2.57**	**301**	*e*Pn	**Pn**	**19 44 43.0**	**+2.6**
KOPT	**Kop Dagi**	**2.57**	**301**	*e*Pn	**Pn**	**19 44 43.0**	**+2.6**
MAZI	**Mazidag**	**2.64**	**242**	*e*PN	**Pn**	**19 44 41.6**	**+0.3**
MAZI	**Mazidag**	**2.64**	**242**	*e*Pn	**Pn**	**19 44 41.6**	**+0.3**
AKH	**Akhalkalaki**	**2.67**	**2**	*e*PN	**Pn**	**19 44 42.8**	**+1.1**
AKH	**Akhalkalaki**	**2.67**	**2**	P	**Pg**	**19 44 49.5**	**-0.6**
AKH				S	**Sg**	**19 45 26.1**	**+1.6**
AKH	**Akhalkalaki**	**2.67**	**2**	P	**Pg**	**19 44 49.4**	**-0.6**
AKH				S	**Sg**	**19 45 26.1**	**+1.6**
AKH	**Akhalkalaki**	**2.67**	**2**	*e*Pn	**Pn**	**19 44 42.8**	**+1.1**
ARTV	**Artvin**	**2.68**	**336**	*e*Pn	**Pn**	**19 44 43.0**	**+1.1**
ARTV	**Artvin**	**2.68**	**336**	*e*Pn	**Pn**	**19 44 43.0**	**+1.1**
GDB	**GEDABAY**	**2.69**	**42**	⇑P	**Pb**	**19 44 47.3**	**+0.2**
GDB	**GEDABAY**	**2.69**	**42**	P	**Pb**	**19 44 47.3**	**+0.2**
QZX	**Qazax, Azerbai**	**2.77**	**33**	⇑P	**Pb**	**19 44 47.9**	**-0.5**
QZX	**Qazax, Azerbai**	**2.77**	**33**	P	**Pb**	**19 44 47.9**	**-0.5**
EPOS	**Posof**	**2.80**	**350**	*i* P	**Pb**	**19 44 47.2**	**-1.7**
EPOS	**Posof**	**2.80**	**350**	P	**Pb**	**19 44 47.2**	**-1.7**
KBSD	**Kabsdagh**	**2.84**	**233**	*e*P	**Pn**	**19 44 44.1**	**+0.2**
KBSD				*e*S	**Sn**	**19 45 17.0**	**-0.9**
KBSD				AML	AML	19 45 21.2	
	comp=Z,505nm,0.7s						
GANJ	**Ganja**	**2.96**	**49**	⇓P	**Pb**	**19 44 50.1**	**-1.4**
GANJ	**Ganja**	**2.96**	**49**	P	**Pb**	**19 44 50.1**	**-1.4**
ERZN	**Erzincan**	**2.96**	**288**	*e*PN	**Pn**	**19 44 47.0**	**+1.3**
EUZM	**Uzumlu**	**3.02**	**290**	*i* P	**Pb**	**19 44 51.9**	**-0.6**
EUZM	**Uzumlu**	**3.02**	**290**	P	**Pb**	**19 44 51.9**	**-0.6**
DGRG	**David-gareji**	**3.11**	**29**	P	**Pg**	**19 44 59.2**	**+0.7**
DGRG				S	Sg	19 45 52.9	+14
DGRG	**David-gareji**	**3.11**	**29**	P	**Pg**	**19 44 59.1**	**+0.7**
TBLG	**Delisi**	**3.16**	**19**	P	**Pb**	**19 44 54.6**	**-0.4**
TBLG				S	**Sg**	**19 45 38.8**	**-1.7**
TBLG	**Delisi**	**3.16**	**19**	P	**Pb**	**19 44 54.5**	**-0.4**
TBLG				S	**Sg**	**19 45 38.7**	**-1.7**
BRDA	**Brd**	**3.31**	**62**	⇓P	**Pn**	**19 44 53.7**	**+3.4**
BRDA	**Brd**	**3.31**	**62**	P	**Pn**	**19 44 53.7**	**+3.4**
SFNV	**Sufian**	**3.48**	**229**	*e*P	**Pn**	**19 44 54.0**	**+1.3**
SFNV				*e*S	**Sn**	**19 45 32.3**	**-1.5**
SFNV				AML	AML	19 46 17.8	
	comp=Z,136nm,0.8s						
MNGR	**Mingechevir, A**	**3.50**	**53**	⇑P	**Pn**	**19 44 56.8**	**+3.8**
MNGR	**Mingechevir, A**	**3.50**	**53**	P	**Pn**	**19 44 56.8**	**+3.8**
MZRK	**Al-Mazaregh**	**3.63**	**218**	*e*P	**Pn**	**19 44 54.2**	**-0.6**
MZRK				AML	AML	19 46 03.9	
	comp=Z,242nm,0.9s						
ZRD	**Zardab**	**3.67**	**64**	⇑P	**Pn**	**19 44 58.2**	**+3.0**
ZRD	**Zardab**	**3.67**	**64**	P	**Pn**	**19 44 58.2**	**+3.0**
SEKA	**Sheki**	**3.83**	**49**	⇑P	**Pb**	**19 45 02.9**	**-3.5**
SEKA	**Sheki**	**3.83**	**49**	P	**Pb**	**19 45 02.9**	**-3.5**
ONI	**Oni**	**3.84**	**1**	P	**Pb**	**19 45 08.8**	**+2.2**
ONI				S	Sg	19 46 25.4	+23
ONI	**Oni**	**3.84**	**1**	P	**Pb**	**19 45 08.7**	**+2.2**
KDMR	**Kurdemir**	**4.06**	**65**	⇑P	**Pn**	**19 45 02.8**	**+2.2**
KDMR	**Kurdemir**	**4.06**	**65**	P	**Pn**	**19 45 02.8**	**+2.2**
ZEI	**Tsey**

BRBR AML AML 19 48 38.2
comp=N,25nm,0.8s
SALA Sala 8.09 224 *eP* **Pn 19 45 54.5 -1.6**
SALA AML AML 19 48 34.8
comp=N,18nm,0.7s
SALA AML AML 19 48 40.0
comp=E,1.9nm,0.7s
ASF Jabal al Asfar 8.42 221 Pn **Pn 19 46 01.4 +0.8**
comp=E,0.2nm,0.3s,baz=352,slow=8.3,SNR=5.6
MMAI Mount Meron Ar 8.63 231 Pn **Pn 19 46 04.9 +1.4**
comp=E,0.7nm,0.3s,baz=39,slow=17,SNR=3.7
MMAI LR LR 19 49 56.9
comp=E,180nm,20.0s,baz=40,slow=42
GEYT Alibeck 11.61 89 Pn Pn 19 46 50.3 +6.0
comp=E,0.1nm,0.3s,baz=273,slow=11,SNR=2.3
GEYT LR LR 19 52 50.2
comp=E,62nm,19.0s,baz=260,slow=46
AKASG Malin Array Be 15.59 325 Pn **Pn 19 47 38.2 +0.1**
comp=E,0.5nm,0.3s,baz=131,slow=12,SNR=7.9
AKTK Aktyubinsk 15.63 37 P **P 19 47 43.6 +0.8**
AKTO Aktyubinsk 15.63 37 Pn **P 19 47 43.6 +0.8**
comp=E,0.1nm,0.3s,baz=237,slow=12,SNR=4.2
ABKAR Akbulak array 15.86 43 *e*Pn **P 19 47 44.4 -0.9**
comp=E,17nm,0.8s
ABKAR Akbulak array 15.86 43 *e*Pn **P 19 47 44.4 -0.9**
comp=E,17nm,0.8s
BUR08 Bucovina Ar. S 15.93 310 *e*Pn **Pn 19 47 43.7 +1.0**
BUR08 Bucovina Ar. S 15.93 310 *e*Pn **Pn 19 47 43.7 +1.0**
OBN Obninsk 17.01 347 LR LR 19 54 59.7
comp=E,168nm,19.4s,baz=255,slow=39
OBN Obninsk 17.01 347⇓*i*P **P 19 48 02.8 +4.8**
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,180nm,16.0s
PSZ Piszkesteto 19.32 306 *e*P **Pn 19 48 25.2 +0.4**
PSZ pmax pmax
comp=Z,14nm,1.1s
PSZ Piszkesteto 19.32 306 *e*P **Pn 19 48 25.2 +0.4**
comp=Z,14nm,1.1s
PSZ Piszkesteto 19.32 306 *e*P **Pn 19 48 25.2 +0.4**
comp=Z,14nm,1.1s
VYHS Vyhne 20.19 307 *e*P Pn 19 48 35.0 0.0
VYHS pmax pmax
comp=Z,12nm,1.6s
VYHS Vyhne 20.19 307 *e*P Pn 19 48 35.0 0.0
comp=Z,12nm,1.6s
VYHS Vyhne 20.19 307 *e*P Pn 19 48 35.0 0.0
VYHS e 20 00 13.5
OJC Ojcow 20.27 312 *e*P Pn 19 48 35.3 -0.6
OJC pmax pmax
comp=Z,12nm,1.2s
OJC Ojcow 20.27 312 *e*P Pn 19 48 35.3 -0.6
comp=Z,12nm,1.2s
OJC Ojcow 20.27 312 *e*P Pn 19 48 35.3 -0.6
comp=Z,12nm,1.2s
ARU Arti 20.36 25 P Pn 19 48 38.9 +2.0
comp=Z,5.3nm,0.7s,baz=238,slow=6.6,SNR=7.4
ARU Arti 20.36 25*c i*P Pn 19 48 39.6 +2.7
ARU S Sn 19 52 27.3 +1.4
ARU SS **PcP 19 52 46.9 -0.3**
ARU pmax pmax
comp=Z,25nm,2.5s
ARU Arti 20.36 25 P **P 19 48 35.2 +0.4**
comp=Z,9.7nm,1.0s
ARU Arti 20.36 25 PcP **PcP 19 52 46.9 -0.3**
ARU Arti 20.36 25 P **P 19 48 35.2 +0.4**
comp=Z,9.7nm,1.0s
KKAR Karatay Array 20.92 69 *e*P **P 19 48 42.6 +1.5**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 20.92 69 *e*P **P 19 48 42.5 +1.5**
comp=Z,5.3nm,0.8s
KKAR Karatay Array 20.92 69 *e*P **P 19 48 42.5 +1.5**
comp=Z,5.3nm,0.8s
KBL Kabul 20.99 94 *e*P **P 19 48 44.1 +1.9**
KBL pmax pmax
comp=Z,19nm,1.9s
KBL Kabul 20.99 94 *e*P **P 19 48 44.0 +1.9**
comp=Z,19nm,1.9s
KBL Kabul 20.99 94 *e*P **P 19 48 44.0 +1.9**
comp=Z,19nm,1.9s
VAE Valguarnera 22.79 276 LR LR 20 00 19.4
comp=Z,72nm,18.5s,baz=105,slow=43
BVAR Borovoye Array 23.43 44 P **P 19 49 07.0 -0.5**
comp=Z,1.3nm,0.9s,baz=234,slow=6.9,SNR=3.4
BVAR Borovoye Array 23.43 44 P **P 19 49 07.0 -0.5**
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 23.43 44 P **P 19 49 07.0 -0.5**
comp=Z,1.0nm,0.9s
GEC2 GERESS Array S 23.54 305 *e*P **P 19 49 10.1 +1.3**
GEC2 pmax pmax
comp=Z,25nm,2.0s
GEC2 GERESS Array S 23.54 305 *e*P **P 19 49 10.1 +1.3**
comp=Z,25nm,2.0s
GEC2 GERESS Array S 23.54 305 *e*P **P 19 49 10.1 +1.3**
comp=Z,25nm,2.0s
GERES GERESS Array B 23.54 305 P **P 19 49 09.5 +0.7**
comp=Z,0.5nm,0.6s,baz=12,slow=5.0,SNR=6.8
KHC Kasperske Hory 23.69 306 *e*P **P 19 49 11.3 +1.1**
KHC Kasperske Hory 23.69 306 *ex* **P 19 49 11.3 +1.1**
CLTB Caltabellotta 23.70 277 *e*P **P 19 49 09.2 -1.1**
comp=Z,56nm,0.6s
AAK Ala-Archa 23.84 71⇑*i*P **P 19 49 12.7 +0.9**
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 23.84 71 *i*P **P 19 49 12.7 +0.9**
comp=Z,5.0nm,1.1s
AAK Ala-Archa 23.84 71 *e*P **P 19 49 11.8 0.0**
comp=Z,6.1nm,1.4s
FIA0 FINESS Array S 25.13 340 *e*P **P 19 49 24.3 +1.1**
FIA0 FINESS Array S 25.13 340 *e*P **P 19 49 24.3 +1.1**
FIA0 FINESS Array S 25.13 340 *e*P **P 19 49 24.3 +1.1**
FINES FINESS Array B 25.13 340 P **P 19 49 24.3 +1.1**
comp=Z,2.7nm,0.9s,baz=145,slow=8.7,SNR=3.1
ATD Arta Tunnel 27.11 181 LR LR 20 01 15.7
comp=Z,65nm,18.0s,baz=31,slow=38
ATD Arta Tunnel 27.11 181 *e*P **P 19 49 38.7 -2.8**
comp=Z,9.9nm,1.0s
KURBB Kurchatov Array 27.41 53 P **P 19 49 44.6 +0.7**
comp=Z,2.2nm,0.8s,baz=264,slow=8.8,SNR=6.1
KURK Kurchatov 27.48 53⇑*i*P **P 19 49 48.8 +4.2**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 27.48 53 *e*P **P 19 49 47.2 +2.6**
comp=Z,5.8nm,0.9s
KURK Kurchatov 27.48 53 *e*P **P 19 49 47.2 +2.6**
comp=Z,5.8nm,0.9s
HFS Hagfors 28.40 329 P **P 19 49 53.2 +0.5**
comp=Z,3.1nm,1.0s,baz=140,slow=11,SNR=2.4
MK32 Makanchi Array 29.43 61 *e*P **P 19 50 03.0 +0.9**
MK32 Makanchi Array 29.43 61 *e*P **P 19 50 03.0 +0.9**
MKAR Makanchi Array 29.43 61 P **P 19 50 03.0 +0.9**
comp=Z,1.6nm,1.1s,baz=266,slow=9.1,SNR=2.5
MKAR Makanchi Array 29.43 61 P **P 19 50 03.0 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 29.43 61 P **P 19 50 03.0 +0.9**
comp=Z,2.0nm,1.1s
ZAA0 Zalesovo Array 31.87 48 *e*P **P 19 50 23.0 -0.4**
comp=Z,12nm,2.0s
ZAA0 Zalesovo Array 31.87 48 *e*P **P 19 50 23.0 -0.4**
comp=Z,12nm,2.0s
ZALV Zalesovo Beam 31.87 48 P **P 19 50 26.8 +3.4**
comp=Z,0.5nm,0.5s,baz=236,slow=10,SNR=2.5
ZAA1 Zalesovo Array 31.87 48 *e*P **P 19 50 26.8 +3.4**
ZAA1 Zalesovo Array 31.87 48 *e*P **P 19 50 26.8 +3.4**
ESDC Sonseca Array 36.36 287 P **P 19 51 01.7 -0.9**
comp=Z,2.0nm,0.8s,baz=77,slow=8.8,SNR=4.7
TOA1 Torodi Ar. Sit 44.78 247 *e*P **P 19 52 11.1 -1.3**
comp=Z,9.2nm,1.2s
TOA1 Torodi Ar. Sit 44.78 247 *e*P **P 19 52 11.1 -1.3**
comp=Z,9.2nm,1.2s
TORD Torodi Ar. Bea 44.78 247 P **P 19 52 11.1 -1.3**
comp=Z,1.2nm,1.0s,baz=45,slow=6.7,SNR=5.9
PALK Pallekele 45.95 123 LR LR 20 14 31.8
comp=Z,122nm,18.9s,baz=115,slow=40
CMAR Chiang Mai Arr 51.99 96 P **P 19 53 07.0 -1.0**
comp=Z,0.4nm,0.7s,baz=298,slow=7.7,SNR=4.0
CMAR Chiang Mai Arr 51.99 96 P **P 19 53 07.0 -1.0**
CMAR Chiang Mai Arr 51.99 96 P **P 19 53 07.0 -1.0**
CMAR Chiang Mai Arr 51.99 96 P **P 19 53 07.0 -1.0**
DAV Davao City (W) 79.54 89 LR LR 20 35 49.8
comp=Z,36nm,20.3s,baz=123,slow=39
GUMO Guam 90.34 72 LR LR 20 40 35.6
comp=Z,67nm,21.4s,baz=170,slow=38

NIED ***25*** *19:53:00,32.°10N×138.°30E,h5km,Mw4.1 Best double couple: M0=1.73000×10^15 NP1:φ=124.00000°, δ=68.00000°, λ=172.00000°. NP2:φ=217.00000°, δ=82.00000°, λ=23.00000°.*
ISCJB ***25*** *19:53:27.4±0.3,32.°14N±0.°02×138.°31E±0.°03,h10km, mb4.4/30,Error ellipse: s-maj=3.5km s-min=2.8km az=0.2*
NEIC ***25*** *19:53:27.7±2.3,32.°10N×138.°46E,h2km±14km,mb4.8/15, Error ellipse: s-maj=7.0km s-min=4.6km az=77.0*
IDC ***25*** *19:53:27.5±0.7,32.°10N×138.°49E,h0km,mb4.0/16, mb1 4.1/19,mb1mx3.9/61,mbtmp3.9/19,ML3.2/3,MS2.6/1, Ms1 2.6/1,ms1mx2.5/54,Error ellipse: s-maj=16.9km s-min=13.9km az=95.0*
JMA ***25*** *19:53:28.0±0.1,32.°06N×138.°31E,h30km,M4.6*
ISC 25 19:53:29.0±0.4,32.°13N±0.°05×138.°35E±0.°03,h10km,n77,σ1§23/98,mb4.4/30,1C-6D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.54**	**52**	⇓P	**Pn**	**19 53 55.5**	**-1.1**
JHCJ				S	**Sn**	**19 54 15.0**	**-1.7**
JHJ	**Hachijo jima 2**	**1.56**	**50**	Pn	**Pb**	**19 53 56.3**	**-1.7**
JHJ	288nm,0.3s,baz=96,slow=22,SNR=53			Sn	**Sb**	**19 54 16.2**	**-1.7**
	391nm,0.3s,baz=103,slow=20,SNR=12						
JHJ2	**Mitsune**	**1.58**	**51**	P	**Pn**	**19 53 56.1**	**-1.0**
JHJ2				*e*S	**Sn**	**19 54 16.0**	**-1.6**
JHJ2	**Mitsune**	**1.58**	**51**	*e*Pn	**Pn**	**19 53 55.4**	**-1.7**
TK01	**Tokai 1**	**1.75**	**339**	P	**Pn**	**19 53 57.8**	**-1.3**
TK01				S	**Sn**	**19 54 20.1**	**-1.2**
TK02	**Tokai 2**	**1.88**	**345**	P	**Pn**	**19 53 59.9**	**-1.1**
TK02				S	**Sn**	**19 54 24.0**	**-0.6**
TTO3	**TONANKAI O.B.S**	**1.90**	**336**	⇓P	**Pn**	**19 54 00.3**	**-1.1**
TTO3				*e*S	**Sn**	**19 54 24.0**	**-1.3**
TTO2	**TONANKAI O.B.S**	**1.95**	**326**	⇓P	**Pn**	**19 54 01.1**	**-0.8**
TTO2				S	**Sn**	**19 54 25.5**	**-0.7**
TTO1	**TONANKAI O.B.S**	**1.98**	**319**	⇓P	**Pn**	**19 54 01.6**	**-0.8**
TTO1				S	**Sn**	**19 54 25.9**	**-1.3**
TTO4	**TONANKAI O.B.S**	**1.99**	**340**	⇓P	**Pn**	**19 54 01.3**	**-1.2**
TTO4				S	**Sn**	**19 54 25.2**	**-2.2**
TK03	**Tokai 3**	**2.06**	**351**	P	**Pn**	**19 54 02.3**	**-1.2**
TK03				S	**Sn**	**19 54 28.1**	**-1.0**
JWZ	**Kozaga**	**2.62**	**303**	⇑P	**Pn**	**19 54 10.0**	**-1.4**
JWZ				S	**Sn**	**19 54 39.3**	**-3.9**
JIE	**Ise**	**2.64**	**329**	⇓P	**Pn**	**19 54 10.4**	**-1.3**
JIE				*e*S	**Sn**	**19 54 41.6**	**-2.2**
JWY	**Kouya**	**3.11**	**313**	P	**Pn**	**19 54 17.6**	**-0.6**
JWY				S	**Sn**	**19 54 53.3**	**-2.1**
JOD2	**Odawara 2**	**3.19**	**11**	P	**Pn**	**19 54 18.8**	**-0.4**
JOD2				S	**Sn**	**19 54 57.2**	**0.0**
JYN	**Shimob**	**3.36**	**3**	P	**Pn**	**19 54 21.4**	**-0.3**
JYN				S	**Sn**	**19 55 00.1**	**-1.6**
INU	**Inuyama**	**3.40**	**341**	*e*Pn	**Pn**	**19 54 21.3**	**-0.8**
INU				*e*Sn	**Sn**	**19 55 00.9**	**-1.5**
JAI	**Aioi**	**3.67**	**298**	P	**Pn**	**19 54 25.3**	**-0.5**
JAI				*e*S	**Sn**	**19 55 06.4**	**-2.7**
JRY	**Ryogami san**	**3.90**	**7**	P	**Pn**	**19 54 29.0**	**-0.1**
JRY				S	**Sn**	**19 55 14.9**	**-0.1**
JWT	**Wachi**	**3.99**	**323**	P	**Pn**	**19 54 29.9**	**-0.3**
JWT				*e*S	**Sn**	**19 55 14.9**	**-2.1**
JMN	**Monobe**	**4.08**	**294**	P	**Pn**	**19 54 30.9**	**-0.6**
JMN				*e*S	**Sn**	**19 55 15.9**	**-3.4**
MJAR	**Matsushiro Arr**	**4.40**	**359**	Pn	**Pn**	**19 54 36.3**	**+0.4**
MJAR	7.2nm,0.3s,baz=179,slow=12,SNR=106			Sn	**Sn**	**19 55 27.5**	**+0.3**
	7.9nm,0.3s,baz=208,slow=18,SNR=4.4						
MAJO	**Matsushiro**	**4.40**	**359**	*e*Pn	**Pn**	**19 54 36.6**	**+0.6**
MAJO				*e*Sn	**Sn**	**19 55 27.2**	**-0.1**
MAT	**Matsushiro**	**4.40**	**359**	P	**Pn**	**19 54 36.5**	**+0.6**
MAT				S	**Sn**	**19 55 27.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.41**	**359**	*e*Pn	**Pn**	**19 54 36.5**	**+0.6**
MJB9				*e*Sn	**Sn**	**19 55 27.3**	**-0.1**
CBIJ	**Chichi jima**	**6.03**	**145**	*e*Pn	**Pn**	**19 54 58.0**	**-0.2**
JNU	**Nakatsue**	**6.38**	**281**	Pn	**Pn**	**19 55 04.3**	**+1.3**
JNU	0.4nm,0.3s,baz=63,slow=5.7,SNR=4.0			Sn	**Sn**	**19 56 16.1**	**+0.1**
	0.6nm,0.3s,baz=142,slow=19,SNR=3.1						
JOW	**Kunigami**	**10.24**	**242**	*e*Pn	**Pn**	**19 55 55.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**13.04**	**339**	Pn	Pn	19 56 37.9	+3.6
	0.2nm,0.3s,baz=152,slow=14,SNR=3.2						
SSLB	**Suanglung**	**17.45**	**246**	*e*Pn	**Pn**	**19 57 31.8**	**-0.8**
	25nm,1.0s						
KLR	**Kul'dur**	**17.79**	**346**	P	**P**	**19 57 36.4**	**-1.0**
	0.0nm,0.3s,baz=146,slow=10,SNR=18						
KLR				LR	LR	20 04 18.7	
	comp=Z,17nm,18.5s,baz=128,slow=36						
ENH	**Enshi**	**24.73**	**273**	*e*P	**P**	**19 58 52.6**	**+2.0**
	38nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**28.40**	**109**	T	T	20 28 58.7	
	baz=302,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.40**	**109**	T	T	20 28 58.8	
	baz=302,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.41**	**109**	T	T	20 28 59.5	
	baz=302,slow=75,SNR=29						
ULN	**Ulaanbaatar**	**28.42**	**313**	*e*P	**P**	**19 59 24.9**	**+1.1**
SONA0	**Songino Array**	**28.82**	**312**	*e*P	**P**	**19 59 29.7**	**+2.3**
SONM	**Songino Array**	**28.82**	**312**	P	**P**	**19 59 29.7**	**+2.3**
	1.0nm,0.9s,baz=118,slow=8.6,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**28.89**	**111**	T	T	20 29 34.2	
	baz=304,slow=75,SNR=609						
H11S1	**WAKE ISLAND Hy**	**28.89**	**111**	T	T	20 29 28.6	
	baz=304,slow=75,SNR=308						
H11S2	**WAKE ISLAND Hy**	**28.91**	**111**	T	T	20 29 31.7	
	baz=304,slow=75,SNR=247						
FAKI	**Fak Fak**	**35.33**	**191**	*e*P	**P**	**20 00 23.0**	**-1.6**
	14nm,0.9s						
CHTO	**Chiang Mai**	**37.75**	**259**	*e*P	**P**	**20 00 46.9**	**+1.6**
	8.0nm,0.8s						
CM31	**Chiang Mai Arr**	**37.92**	**259**	*e*P	**P**	**20 00 48.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**37.92**	**259**	P	**P**	**20 00 48.4**	**+1.7**
	3.4nm,0.7s,baz=51,slow=7.4,SNR=41						
RABL	**Rabaul**	**38.44**	**157**	*e*P	**P**	**20 00 51.3**	**+0.3**
	24nm,0.4s						
ZAA1	**Zalesovo Array**	**43.53**	**316**	*e*PP	PP	20 03 20.2	+6.6
ZALV	**Zalesovo Beam**	**43.53**	**316**	PcP	**PcP**	**20 03 20.2**	**-0.1**
	0.5nm,0.4s,baz=96,slow=3.4,SNR=5.4						
SOEI	**Soe**	**43.77**	**200**	*e*P	**P**	**20 01 34.8**	**-0.3**
	51nm,1.7s						
MK32	**Makanchi Array**	**44.76**	**306**	*e*P	**P**	**20 01 42.9**	**+0.2**
MK32				*e*PcP	**PP**	**20 03 25.3**	**-1.7**
MKAR	**Makanchi Array**	**44.76**	**306**	P	**P**	**20 01 42.9**	**+0.2**
	0.7nm,0.7s,baz=90,slow=11,SNR=5.2						
MKAR				PcP	**PP**	**20 03 25.3**	**-1.7**
	1.2nm,0.8s,baz=83,slow=5.0,SNR=5.2						
MTN	**Manton Dam**	**45.25**	**190**	*e*P	**P**	**20 01 46.0**	**-0.7**
	20nm,1.4s						
KURK	**Kurchatov**	**47.12**	**311**	*e*P	**P**	**20 02 01.1**	**0.0**
KURK				*e*PcP	**PcP**	**20 03 33.2**	**+0.4**
KURBB	**Kurchatov Arra**	**47.18**	**311**	P	**P**	**20 02 01.1**	**-0.4**
	0.4nm,0.4s,baz=295,slow=12,SNR=6.6						
KURBB				PcP	**PcP**	**20 03 33.2**	**+0.2**
	0.9nm,0.8s,baz=88,slow=4.0,SNR=5.8						
AAK	**Ala-Archa**	**50.72**	**301**	P	**P**	**20 02 30.5**	**+1.3**
	0.5nm,0.3s,baz=39,slow=6.5,SNR=2.2						
WB2	**Warramunga Arr**	**51.92**	**185**	*e*P	**P**	**20 02 37.6**	**-0.4**
	25nm,1.9s						
WR1	**Warramunga Arr**	**51.92**	**185**	*e*P	**P**	**20 02 37.5**	**-0.5**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**51.92**	**185**	P	**P**	**20 02 37.5**	**-0.5**
	3.0nm,0.7s,baz=1.8,slow=7.8,SNR=36						
BVAR	**Borovoye Array**	**52.11**	**315**	P	**P**	**20 02 40.3**	**+1.1**
	0.9nm,0.7s,baz=92,slow=8.9,SNR=5.2						
KKAR	**Karatay Array**	**53.50**	**302**	*e*P	**P**	**20 02 50.1**	**+0.4**
	12nm,0.8s						
ILAR	**Eielson Array**	**54.99**	**30**	P	**P**	**20 03 01.0**	**+0.9**
	0.6nm,0.8s,baz=262,slow=6.3,SNR=4.3						
AS31	**Alice Springs**	**55.64**	**185**	*e*P	**P**	**20 03 05.9**	**+0.7**
	0.8nm,0.6s						
ASAR	**Alice Springs**	**55.64**	**185**	P	**P**	**20 03 05.6**	**+0.3**
	1.3nm,0.7s,baz=11,slow=9.3,SNR=25						
ABKAR	**Akbulak array**	**59.23**	**312**	*e*P	**P**	**20 03 30.5**	**+0.2**
	12nm,0.6s						
AKTO	**Aktyubinsk**	**60.13**	**313**	P	**P**	**20 03 37.6**	**+1.0**
	1.3nm,0.7s,baz=81,slow=12,SNR=4.4						
FORT	**Forrest**	**63.32**	**190**	*e*P	**P**	**20 03 58.5**	**+0.4**
	171nm,0.9s						
STKA	**Stephens Creek**	**63.73**	**177**	P	**P**	**20 04 00.3**	**-0.5**
	1.5nm,0.7s,baz=353,slow=7.0,SNR=2.7						
STKA	**Stephens Creek**	**63.73**	**177**	*e*P	**P**	**20 04 00.1**	**-0.7**
	5.7nm,1.8s						
GEYT	**Alibeck**	**64.03**	**300**	P	**P**	**20 04 04.2**	**+1.1**
	1.0nm,0.8s,baz=66,slow=6.4,SNR=3.4						
ARE0	**ARCESS Array S**	**67.69**	**339**	*e*P	**P**	**20 04 26.2**	**+0.2**
	84nm,1.6s						
NWAO	**Narrogin (SRO)**	**67.71**	**199**	*e*P	**P**	**20 04 26.3**	**-0.1**
	45nm,1.4s						
FIA0	**FINESS Array S**	**71.96**	**332**	*e*P	**P**	**20 04 52.6**	**+0.3**
FINES	**FINESS Array B**	**71.96**	**332**	P	**P**	**20 04 52.6**	**+0.3**
	1.1nm,0.7s,baz=58,slow=8.4,SNR=3.8						
KBZ	**Khabaz**	**72.17**	**311**	P	**P**	**20 04 55.0**	**+1.0**
	4.2nm,0.9s,baz=78,slow=4.0,SNR=5.3						
BR101	**Keskin Array S**	**80.17**	**311**	*e*P	**P**	**20 05 40.0**	**+0.2**
BRTR	**Keskin Array B**	**80.17**	**311**	P	**P**	**20 05 40.0**	**+0.2**
	0.9nm,0.6s,baz=69,slow=6.8,SNR=4.1						
TXAR	**Lajitas Array**	**95.15**	**51**	P	**P**	**20 06 52.5**	**-0.5**
	0.4nm,0.7s,baz=282,slow=2.3,SNR=4.8						

IDC ***25*** *19:55:22.7±1.1,38.°64N×43.°27E,h0km,mb3.7/10, mb1 3.8/11,mb1mx3.6/47,mbtmp3.7/11,ML3.5/1,MS3.3/5, Ms1 3.2/5,ms1mx2.8/59,Error ellipse: s-maj=19.4km s-min=15.6km az=146.0*
DDA ***25*** *19:55:24.1,38.°58N×43.°57E,h1km,Ml4.1*
ISK ***25*** *19:55:24.8,38.°65N×43.°65E,h5km,ML4.0*
CSEM ***25*** *19:55:26.2±0.2,38.°55N×43.°55E,h2km,ML4.0,Error ellipse: s-maj=5.4km s-min=5.2km az=135.0*
AZER ***25*** *19:55:28.2±2.6,38.°43N×43.°67E,h12km±25km,Error ellipse: s-maj=34.7km s-min=6.6km az=67.0*
ISC 25 19:55:26.1±0.9,38.°59N±0.°02×43.°59E±0.°02,h11km±6km, n141,σ1§88/168,mb3.6/10,10C-16D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**272**	PG	**Pg**	**19 55 29.8**	**+0.1**
VANB				*e*SG	**Sg**	**19 55 34.0**	**+1.7**
VANB	**Van**	**0.16**	**272**	*i*Pg	**Pg**	**19 55 29.8**	**+0.1**
VMUR	**Van-Muradiye**	**0.40**	**358**	⇓*i*P	**Pg**	**19 55 32.0**	**-2.1**
VMUR				*i*S	**Sb**	**19 55 40.2**	**-1.3**
VMUR	**Van-Muradiye**	**0.40**	**358**	P	**Pg**	**19 55 32.0**	**-2.1**
GEVA	**Gevas**	**0.50**	**237**	⇑*i*P	**Pb**	**19 55 35.5**	**-1.5**
GEVA				*i*S	**Sb**	**19 55 46.2**	**+1.9**
GEVA	**Gevas**	**0.50**	**237**	P	**Pb**	**19 55 35.5**	**-1.5**
GEVA				S	**Sb**	**19 55 46.2**	**+1.9**
BASK	**Baskale_VAN**	**0.63**	**149**	⇓*i*P	**Pg**	**19 55 36.5**	**-1.8**
BASK				*i*S	**Sg**	**19 55 46.0**	**-0.6**
BASK	**Baskale_VAN**	**0.63**	**149**	P	**Pg**	**19 55 36.5**	**-1.8**
BASK				S	**Sg**	**19 55 46.0**	**-0.6**
DYDN	**Diyadin**	**0.96**	**5**	*i*P	**Pg**	**19 55 41.6**	**-2.9**
DYDN				*i*S	**Sb**	**19 55 57.6**	**+0.1**
DYDN	**Diyadin**	**0.96**	**5**	P	**Pg**	**19 55 41.6**	**-2.9**
DYDN				S	**Sb**	**19 55 57.6**	**+0.1**
TUTA	**Tutak**	**1.01**	**324**	⇑*i*P	**Pg**	**19 55 44.0**	**-1.6**
TUTA				*i*S	**Sb**	**19 55 58.6**	**-0.6**
TUTA	**Tutak**	**1.01**	**324**	P	**Pg**	**19 55 44.0**	**-1.6**
TUTA				S	**Sb**	**19 55 58.6**	**-0.6**
HAKT	**HAKKARI**	**1.03**	**175**	⇓*i*P	**Pg**	**19 55 44.2**	**-1.8**
HAKT				*i*S	**Sb**	**19 56 00.3**	**+0.5**
HAKT	**HAKKARI**	**1.03**	**175**	P	**Pg**	**19 55 44.2**	**-1.8**
HAKT				S	**Sb**	**19 56 00.3**	**+0.5**
AGRB	**Hanur-Agry**	**1.09**	**335**	*e*PG	**Pg**	**19 55 44.7**	**-2.4**
AGRB				*e*SG	**Sg**	**19 55 60.0**	**-1.3**
AGRB	**Hanur-Agry**	**1.09**	**335**	*e*Sg	**Sg**	**19 56 00.0**	**-1.3**
CUKT	**Cukurca**	**1.34**	**179**	*e*PN	**Pb**	**19 55 51.7**	**+0.4**
CUKT				*e*SN	**Sn**	**19 56 11.0**	**+2.3**
CUKT	**Cukurca**	**1.34**	**179**	⇓*i*P	**Pb**	**19 55 51.4**	**+0.2**
CUKT				*i*S	**Sn**	**19 56 11.3**	**+2.6**
CUKT	**Cukurca**	**1.34**	**179**	P	**Pb**	**19 55 51.4**	**+0.2**
CUKT	**Cukurca**	**1.34**	**179**	*e*Pn	**Pb**	**19 55 51.7**	**+0.4**
CUKT				*e*Sn	**Sn**	**19 56 11.0**	**+2.3**
EKAR	**Karacoban**	**1.36**	**300**	*i*P	**Pg**	**19 55 50.0**	**-2.3**
EKAR				*i*S	**Sn**	**19 56 15.6**	**+6.2**
EKAR	**Karacoban**	**1.36**	**300**	P	**Pg**	**19 55 50.0**	**-2.3**
SIRN	**S¨¨rnak**	**1.43**	**221**	*i*P	**Pn**	**19 55 51.9**	**-0.2**
SIRN	**S¨¨rnak**	**1.43**	**221**	P	**Pn**	**19 55 51.9**	**-0.2**
EATA	**Eleskirt**	**1.53**	**326**	*e*P	**Pn**	**19 55 53.4**	**-0.2**
EATA				*i*S	**Sn**	**19 56 15.9**	**+2.2**
EATA	**Eleskirt**	**1.53**	**326**	P	**Pn**	**19 55 53.4**	**-0.2**
EATA				S	**Sn**	**19 56 15.9**	**+2.2**
NAX	**Nakhchivan**	**1.60**	**68**	⇓P	**Pn**	**19 55 54.1**	**-0.2**
NAX				⇑S	**Sb**	**19 56 16.3**	**+0.5**
NAX	**Nakhchivan**	**1.60**	**68**	P	**Pn**	**19 55 54.1**	**-0.2**
VRTB	**Varto-Mus**	**1.76**	**290**	*e*PN	**Pb**	**19 55 57.8**	**-0.6**
VRTB	**Varto-Mus**	**1.76**	**290**	*i*P	**Pn**	**19 55 55.9**	**-0.7**
VRTB	**Varto-Mus**	**1.76**	**290**	P	**Pn**	**19 55 55.9**	**-0.7**
VRTB	**Varto-Mus**	**1.76**	**290**	*e*Pn	**Pb**	**19 55 57.8**	**-0.6**
GNI	**Garni**	**1.80**	**29**	Pn	**Pn**	**19 55 57.6**	**+0.4**
	30nm,0.3s,baz=292,slow=1.2,SNR=59						
GNI				LR	LR	19 56 21.4	
	comp=Z,147nm,19.1s,baz=199,slow=31						
GNI				Sn	**Sg**	**19 56 24.7**	**+0.9**
	48nm,0.3s,baz=264,slow=23,SNR=18						
DIGO	**Kars**	**1.83**	**355**	*i*P	**Pb**	**19 55 59.4**	**-0.3**
DIGO	**Kars**	**1.83**	**355**	P	**Pb**	**19 55 59.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.93**	**258**	*e*PN	**Pb**	**19 56 00.3**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.93**	**258**	*i*P	**Pb**	**19 55 59.7**	**-1.6**
SVAN				*e*S	**Sg**	**19 56 27.5**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**258**	P	**Pb**	**19 55 59.7**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.93**	**258**	*e*Pn	**Pb**	**19 56 00.3**	**-1.0**
SVAN				S	**Sg**	**19 56 27.5**	**-0.6**
BNGL	**BINGOL**	**1.94**	**282**	*e*P	**Pb**	**19 56 01.1**	**-0.5**
BNGL				*e*S	**

TBLG	Delisi	3.26	15	*e*Pn		Pn	19 56 17.2	+0.1
PTK	Pertek	3.30	277	*e*PN		Pn	19 56 19.2	+1.4
PTK	Pertek	3.30	277	*e*Pn		Pn	19 56 19.2	+1.4
SVRC	Sivrice-ELAZID	3.37	268	*e*PN		Pn	19 56 20.9	+2.2
SVRC	Sivrice-ELAZID	3.37	268	*e*Pn		Pn	19 56 20.9	+2.2
ZRD	Zardab	3.59	61	⇑P		Pn	19 56 23.8	+2.2
ZRD	Zardab	3.59	61	P		Pn	19 56 23.8	+2.2
ELZG	Elazig	3.61	270	*i* P		Pn	19 56 21.1	-1.0
ELZG	Elazig	3.61	270	P		Pn	19 56 21.1	-1.0
KELT	Kelkit	3.70	296	*i* P		Pb	19 56 32.6	+1.1
KELT				*i* S		Sg	19 57 23.0	-1.9
LRK	Lerik	3.72	88	⇓P		Pn	19 56 24.5	+0.9
LRK	Lerik	3.72	88	P		Pn	19 56 24.5	+0.9
GLBA	Ciilabad	3.80	79	⇓P		Pn	19 56 26.4	+1.9
GLBA	Ciilabad	3.80	79	P		Pn	19 56 26.4	+1.9
SEKA	Sheki	3.81	46	⇓P		Pb	19 56 29.3	-4.1
SEKA	Sheki	3.81	46	P		Pb	19 56 29.3	-4.1
ONI	Oni	4.00	359	P		Pb	19 56 37.9	+1.3
ONI				S		Sg	19 57 42.5	+8.0
KEMA	Kemaliye	4.03	281	*i* P		Pb	19 56 36.8	-0.3
LKRN	Lenkeran, Azer	4.07	87	⇑P		Pn	19 56 29.5	+1.3
LKRN	Lenkeran, Azer	4.07	87	P		Pn	19 56 29.5	+1.3
ASTR	Astara	4.08	89	⇓P		Pn	19 56 29.6	+1.3
ASTR	Astara	4.08	89	P		Pn	19 56 29.6	+1.3
SURC	SANLIURFA_SURC	4.30	248	*i* P		Pb	19 56 39.1	-2.5
SUSE	Susehri	4.47	293	*i* P		Pg	19 56 48.5	-3.3
GZT	Gaziantep	4.92	257	*i* P		Pg	19 56 55.3	-5.0
KBZ	Khabaz	5.16	354	LR		LR	19 59 18.3	
	comp=Z,78nm,20.1s,baz=202,slow=46							
ASF	Jabal al Asfar	8.41	222	LR		LR	20 01 05.7	
	comp=Z,85nm,19.2s,baz=357,slow=41							
MMAI	Mount Meron Ar	8.67	233	LR		LR	20 01 22.9	
	comp=Z,270nm,21.6s,baz=50,slow=42							
EIL	Elat	11.41	221	LR		LR	20 03 07.9	
	comp=Z,248nm,19.3s,baz=50,slow=41							
GEYT	Alibeck	11.44	89	Pn		Pn	19 58 12.8	+3.4
	0.3nm,0.3s,baz=275,slow=16,SNR=5.1							
VRI	Vrincioaia	14.44	306	⇓*i*P		P	19 58 57.6	+0.4
DOPR	Dopca	15.34	305	⇑*i*P		P	19 59 10.4	+3.3
VOIR		15.37	302	⇑*i*P		P	19 59 11.2	+3.6
ARR	Arges	15.62	302	⇑*i*P		P	19 59 13.6	+3.2
AKTO	Aktyubinsk	15.65	36	Pn		Pn	19 59 06.7	+0.2
	baz=232,slow=19,SNR=2.8							
AKASG	Malin Array Be	15.81	325	Pn		Pn	19 59 06.4	-2.1
	0.4nm,0.3s,baz=131,slow=13,SNR=3.1							
BURAR	Bucovina Array	16.14	310	⇑*i*P		P	19 59 21.9	+5.8
BANR	Banloc	17.99	299	⇓*i*P		Pn	19 59 06.8	-29
WSAR	Wadi Sarin	19.97	136	P		Pn	19 59 59.4	-0.7
	3.6nm,0.9s,baz=308,slow=16,SNR=3.2							
ARU	Arti	20.43	24	P		Pn	20 00 06.5	+1.2
	3.4nm,0.7s,baz=272,slow=7.5,SNR=6.1							
BVAR	Borovoye Array	23.43	43	P		P	20 00 35.6	+0.5
	0.2nm,0.4s,baz=251,slow=4.4,SNR=2.4							
AAK	Ala-Archa	23.74	70	P		P	20 00 44.1	+5.7
	1.3nm,0.8s,baz=262,slow=9.7,SNR=3.6							
FINES	FINESS Array B	25.33	340	P		P	20 00 49.1	-3.4
	1.5nm,0.9s,baz=145,slow=8.6,SNR=2.5							
KURBB	Kurchatov Arra	27.37	53	P		P	20 01 11.3	+0.2
	1.9nm,0.8s,baz=264,slow=9.0,SNR=15							
MKAR	Makanchi Array	29.36	61	P		P	20 01 29.5	+0.5
	1.0nm,0.7s,baz=272,slow=6.9,SNR=8.5							
NOA	NORSAR Array B	30.14	329	P		P	20 01 31.7	-4.0
	0.3nm,0.6s,baz=158,slow=15,SNR=2.9							
ZALV	Zalesovo Beam	31.85	48	P		P	20 01 51.0	+0.3
	0.5nm,0.4s,baz=275,slow=8.1,SNR=3.3							
ESDC	Sonseca Array	36.56	287	P		P	20 02 29.4	-2.4
	0.4nm,0.5s,baz=70,slow=8.5,SNR=5.5							
CMAR	Chiang Mai Arr	51.80	96	P		P	20 04 33.2	-0.9
	0.5nm,0.9s,baz=284,slow=7.3,SNR=4.0							
PSI	Prapat	61.62	111	LR		LR	20 34 05.2	
	comp=Z,76nm,20.1s,baz=310,slow=38							
KSRS	Korea Array	64.04	62	P		P	20 05 58.9	-0.9
	1.8nm,0.8s,baz=300,slow=8.1,SNR=4.3							

JMA ***25*** *19:59:49.4±0.3, 44°.05N×148°.03E, h0km, M4.5*
MOS ***25*** *19:59:50.8±0.7, 44°.43N×148°.08E, h34km, mb4.2/1, Error ellipse: s-maj=36.1km s-min=27.3km az=105.1*
SKHL ***25*** *19:59:51.6±0.6, 44°.42N×148°.07E, h30km±4km, mb4.8/3*
ISC 25 19:59:48.3±2.7,**44°.33N**±0°.08×**148°.1E**±0°.1,**h6**km±14km,
n20,σ0.97/29,3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.92**	**350**	*d* iPN	**Pg**	**20 00 06.1**	**+0.2**
KUR				*i* S	**Sg**	**20 00 17.6**	**-0.3**
KUR				pmax	pmax		
	comp=N,45nm,0.1s						
KUR				pmax	pmax		
	comp=E,192nm,0.1s						
KUR				pmax	pmax		
	comp=Z,236nm,0.1s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR	**Kuril'sk**	**0.92**	**350**	*i* P	**Pg**	**20 00 06.1**	**+0.2**
KUR				AMB	AMB	20 00 06.5	
	comp=E,620nm,0.3s						
KUR				*i* S	**Sg**	**20 00 17.5**	**-0.3**
KUR				A	A	20 00 18.5	
	comp=E,2μm,0.4s						
KUR				A	A	20 00 18.5	
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**1.02**	**244**	*d* iPN	**Pn**	**20 00 09.2**	**0.0**
SHO				*i* S	**Sb**	**20 00 22.1**	**0.0**
SHO				pmax	pmax		
	comp=N,35nm,0.3s						
SHO				pmax	pmax		
	comp=Z,126nm,0.3s						
SHO				pmax	pmax		
	comp=E,107nm,0.2s						
SHO				smax	smax		
	comp=N,946μm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.2s						
SHO	**Shikotan**	**1.02**	**244**	*e*P	**Pn**	**20 00 09.2**	**0.0**
SHO				AMB	AMB	20 00 10.1	
	comp=E,130nm,0.3s						
SHO				*i* S	**Sb**	**20 00 22.1**	**0.0**
SHO				A	A	20 00 26.7	
	comp=E,950nm,0.4s						
SHO				A	A	20 00 26.7	
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.64**	**260**	*d* iPN	**Pb**	**20 00 18.2**	**-0.6**
YUK				*i* S	**Sg**	**20 00 41.2**	**+0.3**
YUK				pmax	pmax		
	comp=E,191nm,0.1s						
YUK				pmax	pmax		
	comp=Z,321nm,0.1s						
YUK				pmax	pmax		
	comp=N,134nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,38nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.64**	**260**	*e*P	**Pb**	**20 00 18.2**	**-0.6**
YUK				AMB	AMB	20 00 19.8	
	comp=E,320nm,0.2s						
YUK				*i* S	**Sn**	**20 00 37.9**	**-1.0**
YUK				A	A	20 00 43.5	
	comp=E,1μm,0.3s						
YUK				A	A	20 00 43.5	
	comp=E,1μm,0.3s						
NEM2	**Nemuro 2**	**1.96**	**241**	P	**Pn**	**20 00 21.9**	**-0.1**
NEM2				*e*S	**Sn**	**20 00 45.7**	**-1.2**
JRA	**Rausu**	**2.18**	**261**	P	**Pb**	**20 00 26.8**	**-1.3**
JNK	**Nakash**	**2.55**	**254**	P	**Pn**	**20 00 31.4**	**+1.2**
JNK				*e*S	**Sn**	**20 01 02.3**	**+0.8**
JAK	**Akkeshi**	**2.81**	**243**	P	**Pn**	**20 00 34.1**	**+0.4**
JTKR	**Abashiri--Toko**	**3.04**	**265**	P	**Pn**	**20 00 38.3**	**+1.5**
JAR	**Ashorobuto**	**3.30**	**253**	P	**Pn**	**20 00 42.4**	**+1.9**
JCH	**Churui**	**3.85**	**245**	P	**Pn**	**20 00 48.7**	**+0.7**
JCH				*e*S	**Sn**	**20 01 33.4**	**-0.2**
JNBK	**Urakawa-nobuka**	**4.41**	**244**	P	**Pn**	**20 00 56.7**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.57**	**307**	*e*PN	**Pn**	**20 00 57.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.57**	**307**	*e*P	**Pn**	**20 00 57.9**	**0.0**
JKB	**Kayabe**	**5.72**	**247**	P	**Pn**	**20 01 15.3**	**+1.6**
JOT	**Ohata**	**5.96**	**243**	P	**Pn**	**20 01 17.9**	**+0.9**
TYV	**Tymovskoe**	**7.50**	**333**	*e*PN	**Pn**	**20 01 39.7**	**+1.6**
TYV	**Tymovskoe**	**7.50**	**333**	*e*P	**Pn**	**20 01 39.7**	**+1.6**

AZER ***25*** *20:08:23.9±2.2, 38°.40N×43°.10E, h15km, Error ellipse:*
s-maj=24.8km s-min=8.2km az=62.0
DDA ***25*** *20:08:28.2, 38°.90N×43°.55E, h8km, Ml4.1*
MOS ***25*** *20:08:28.8±1.7, 38°.69N×43°.56E, h6km, mb4.2/21, Error ellipse: s-maj=5.7km s-min=4.3km az=94.8*
IDC ***25*** *20:08:29.5±0.8, 38°.91N×43°.58E, h0km, mb3.9/14, mb1 4.0/21, mb1mx3.8/81, mbtmp3.9/21, ML3.4/6, MS3.6/10, Ms1 3.6/10, ms1mx3.2/51, Error ellipse: s-maj=14.7km s-min=9.3km az=158.0*
ISK ***25*** *20:08:29.3, 38°.88N×43°.48E, h5km, ML4.3*
NEIC ***25*** *20:08:30.9±0.0, 38°.86N×43°.50E, h5km, mb4.1/21, ML4.1(ISK), ML4.3(DDA), After ISK.*
ISCJB ***25*** *20:08:30.9±0.5, 38°.78N±0°.02×43°.56E±0°.02, h17km±4km, mb4.1/30, MS3.5/6, Error ellipse: s-maj=3.7km s-min=2.9km az=176.2*
CSEM ***25*** *20:08:30.4±0.1, 38°.78N×43°.62E, h10km, mb4.2/13, Error ellipse: s-maj=4.4km s-min=3.0km az=152.0*
ISC 25 20:08:30.8±0.5,**38°.90N**±0°.02×**43°.53E**±0°.02,**h9**km±3km,
n348,σ**1.93/378,mb4.2/30,MS3.5/6,24C-32D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.10**	**19**	⇑*i*P	**Pg**	**20 08 30.4**	**-3.0**
VMUR				*i* S	**Sg**	**20 08 32.6**	**-2.8**
VANB	**Van**	**0.32**	**200**	*e*PG	**Pg**	**20 08 37.3**	**+0.1**
VANB				*e*SG	**Sg**	**20 08 42.2**	**+0.8**
VANB	**Van**	**0.32**	**200**	*e*Pg	**Pg**	**20 08 37.3**	**+0.1**
VANB				*e*Sg	**Sg**	**20 08 42.2**	**+0.8**
VANB	**Van**	**0.32**	**200**	Pg	**Pg**	**20 08 37.8**	**+0.6**
DYDN	**Diyadin**	**0.66**	**11**	⇑*i*P	**Pg**	**20 08 40.7**	**-2.9**
DYDN				*i* S	**Sg**	**20 08 51.1**	**-1.2**
DYDN	**Diyadin**	**0.66**	**11**	*i* P	**Pg**	**20 08 40.9**	**-2.7**
DYDN				*i* S	**Sg**	**20 08 51.5**	**-0.8**
DYDN	**Diyadin**	**0.66**	**11**	*i* P	**Pg**	**20 08 40.9**	**-2.7**
DYDN				*i* S	**Sg**	**20 08 51.5**	**-0.8**
GEVA	**Gevas**	**0.69**	**213**	⇑*i*P	**Pg**	**20 08 42.0**	**-2.2**
GEVA				*i* S	**Sg**	**20 08 52.9**	**-0.3**
GEVA	**Gevas**	**0.69**	**213**	P	**Pg**	**20 08 42.0**	**-2.2**
GEVA				S	**Sg**	**20 08 52.9**	**-0.3**
GEVA	**Gevas**	**0.69**	**213**	*i* P	**Pg**	**20 08 42.0**	**-2.2**
TUTA	**Tutak**	**0.75**	**312**	⇓*i*P	**Pg**	**20 08 42.6**	**-2.8**
TUTA				*i* S	**Sg**	**20 08 54.1**	**-1.1**
TUTA	**Tutak**	**0.75**	**312**	*i* P	**Pg**	**20 08 42.6**	**-2.8**
AGRB	**Hanur-Agry**	**0.80**	**329**	*e*PG	**Pg**	**20 08 43.6**	**-2.6**
AGRB				*e*SG	**Sg**	**20 08 55.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.80**	**329**	Pg	**Pg**	**20 08 43.8**	**-2.5**
AGRB	**Hanur-Agry**	**0.80**	**329**	Pg	**Pg**	**20 08 43.8**	**-2.5**
BASK	**Baskale_VAN**	**0.92**	**156**	*i* P	**Pg**	**20 08 46.0**	**-2.5**
BASK				*i* S	**Sn**	**20 09 02.5**	**-1.1**
BASK	**Baskale_VAN**	**0.92**	**156**	P	**Pg**	**20 08 46.0**	**-2.5**
EKAR	**Karacoban**	**1.20**	**288**	*i* P	**Pn**	**20 08 51.6**	**-2.4**
EKAR				*i* S	**Sb**	**20 09 10.9**	**+1.4**
EATA	**Eleskirt**	**1.26**	**321**	⇓*i*P	**Pn**	**20 08 51.5**	**-3.4**
EATA				*i* S	**Sb**	**20 09 12.2**	**+0.9**
HAKT	**HAKKARI**	**1.34**	**174**	*i* P	**Pn**	**20 08 53.5**	**-2.5**
HAKT				*i* S	**Sn**	**20 09 15.3**	**+1.2**
HAKT	**HAKKARI**	**1.34**	**174**	P	**Pn**	**20 08 53.5**	**-2.5**
DIGO	**Kars**	**1.52**	**356**	⇓*i*P	**Pn**	**20 08 57.4**	**-1.1**
NAX	**Nakhchivan**	**1.56**	**79**	⇓P	**Pn**	**20 08 57.4**	**-1.4**
NAX				⇑S	**Sg**	**20 09 21.6**	**+0.7**
NAX	**Nakhchivan**	**1.56**	**79**	P	**Pn**	**20 08 57.3**	**-1.4**
NAX	**Nakhchivan**	**1.56**	**79**	P	**Pn**	**20 08 57.4**	**-1.4**
NAX				S	**Sg**	**20 09 21.6**	**+0.7**
GNI	**Garni**	**1.56**	**36**	Pn	**Pn**	**20 08 58.1**	**-0.9**
	185nm,0.3s,baz=295,slow=4.5,SNR=193						
GNI				Sn	**Sg**	**20 09 22.8**	**+1.6**
	63nm,0.3s,baz=16,slow=23,SNR=6.1						
GNI	**Garni**	**1.56**	**36**	*e*Pn	**Pn**	**20 08 57.3**	**-1.7**
GNI	**Garni**	**1.56**	**36**	*e*Pn	**Pn**	**20 08 57.3**	**-1.7**
GNI				*e*Sn	**Sg**	**20 09 22.8**	**+1.6**
VRTB	**Varto-Mus**	**1.64**	**280**	*e*PN	**Pn**	**20 08 59.2**	**-0.8**
VRTB	**Varto-Mus**	**1.64**	**280**	⇑*i*P	**Pn**	**20 08 59.0**	**-1.0**
VRTB				*i* S	**Sb**	**20 09 23.6**	**+1.4**
VRTB	**Varto-Mus**	**1.64**	**280**	*e*Pn	**Pn**	**20 08 59.2**	**-0.8**
VRTB				S	**Sb**	**20 09 23.6**	**+1.4**
CUKT	**Cukurca**	**1.65**	**178**	*e*PN	**Pn**	**20 08 59.6**	**-0.4**
CUKT	**Cukurca**	**1.65**	**178**	*i* P	**Pn**	**20 09 01.6**	**+0.2**
CUKT				*i* S	**Sg**	**20 09 26.8**	**+3.1**
CUKT	**Cukurca**	**1.65**	**178**	*e*Pn	**Pn**	**20 08 59.7**	**-0.4**
SIRN	**Sˇ--rnak**	**1.65**	**213**	*i* P	**Pn**	**20 08 58.8**	**-1.3**
SIRN	**Sˇ--rnak**	**1.65**	**213**	P	**Pn**	**20 08 58.8**	**-1.3**
EAK	**Akyaka**	**1.79**	**2**	*i* P	**Pn**	**20 09 02.5**	**+0.4**
EAK				*i* S	**Sg**	**20 09 31.2**	**+2.8**
EAK	**Akyaka**	**1.79**	**2**	P	**Pn**	**20 09 02.5**	**+0.4**
BNGL	**BINGOL**	**1.86**	**273**	⇑*i*P	**Pn**	**20 09 02.2**	**-0.9**
BNGL				*i* S	**Sb**	**20 09 30.4**	**+1.9**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*PN	**Pn**	**20 09 03.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*Pn	**Pn**	**20 09 03.2**	**-0.4**
ERZM	**Erzurum**	**1.96**	**302**	⇓*i*P	**Pn**	**20 09 04.3**	**-0.2**
ERZM	**Erzurum**	**1.96**	**302**	P	**Pn**	**20 09 04.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*PN	**Pn**	**20 09 03.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*i* P	**Pn**	**20 09 03.6**	**-0.9**
SVAN				*i* S	**Sn**	**20 09 28.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*Pn	**Pn**	**20 09 03.8**	**-0.7**
SVAN				S	**Sn**	**20 09 28.2**	**-1.2**
BTMN	**Batman**	**2.04**	**241**	⇑*i*P	**Pn**	**20 09 04.7**	**-0.7**
BTMN				*i* S	**Sn**	**20 09 32.4**	**+1.3**
BTMN	**Batman**	**2.04**	**241**	P	**Pn**	**20 09 04.7**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.11**	**290**	⇓*i*P	**Pn**	**20 09 05.8**	**-0.7**
ECAT				*i* S	**Sb**	**20 09 35.7**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.11**	**290**	P	**Pn**	**20 09 05.8**	**-0.7**
ECAT				S	**Sb**	**20 09 35.7**	**-0.1**
BNGB	**Bingˇ¶l**	**2.23**	**273**	*e*PN	**Pn**	**20 09 07.4**	**-0.6**
BGD	**Bogdanovka**	**2.37**	**1**	P	**Pn**	**20 09 12.8**	**+2.7**
BGD				S	**Sg**	**20 09 47.4**	**+0.5**
BINT	**Bingol**	**2.37**	**270**	P	**Pn**	**20 09 09.8**	**-0.3**
BINT	**Bingol**	**2.37**	**270**	*e*Pn	**Pn**	**20 09 07.4**	**-2.7**
BINT	**Bingol**	**2.37**	**270**	P	**Pn**	**20 09 09.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*PN	**Pn**	**20 09 10.0**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*Pn	**Pn**	**20 09 10.0**	**-0.2**
DDEM	**Demirkent**	**2.42**	**326**	*i* P	**Pn**	**20 09 10.4**	**-0.3**
DDEM	**Demirkent**	**2.42**	**326**	P	**Pn**	**20 09 10.4**	**-0.3**
GDB	**GEDABAY**	**2.50**	**42**	⇑P	**Pn**	**20 09 11.8**	**-0.1**
GDB	**GEDABAY**	**2.50**	**42**	P	**Pn**	**20 09 11.8**	**-0.1**
DAGI	**Agillar**	**2.51**	**331**	*i* P	**Pn**	**20 09 13.2**	**+1.2**
AKH	**Akhalkalaki**	**2.51**	**359**	*e*PN	**Pn**	**20 09 12.7**	**+0.6**
AKH	**Akhalkalaki**	**2.51**	**359**	P	**Pb**	**20 09 15.8**	**-0.4**
AKH				S	**Sg**	**20 09 51.2**	**-0.4**
AKH	**Akhalkalaki**	**2.51**	**359**	P	**Pb**	**20 09 15.8**	**-0.4**
AKH				S	**Sg**	**20 09 51.2**	**-0.4**
AKH	**Akhalkalaki**	**2.51**	**359**	*e*Pn	**Pn**	**20 09 12.7**	**+0.6**
AKH	**Akhalkalaki**	**2.51**	**359**	P	**Pb**	**20 09 15.8**	**-0.4**
QZX	**Qazax, Azerbai**	**2.58**	**33**	⇓P	**Pn**	**20 09 13.9**	**+1.0**
QZX				⇓S	**Sb**	**20 09 50.6**	**+1.4**
QZX	**Qazax, Azerbai**	**2.58**	**33**	P	**Pn**	**20 09 13.9**	**+1.0**
ARTV	**Artvin**	**2.60**	**332**	*i* P	**Pn**	**20 09 14.3**	**+1.1**
ARTV	**Artvin**	**2.60**	**332**	P	**Pn**	**20 09 14.4**	**+1.1**
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	**Pn**	**20 09 15.6**	**+2.4**
ARTV	**Artvin**	**2.60**	**332**	*e*Pn	**Pn**	**20 09 15.6**	**+2.4**
KOPT	**Kop Dagi**	**2.60**	**296**	*i* P	**Pn**	**20 09 14.2**	**+0.8**
KOPT	**Kop Dagi**	**2.60**	**296**	P	**Pn**	**20 09 14.2**	**+0.8**
KOPT	**Kop Dagi**	**2.60**	**296**	*e*Pn	**Pn**	**20 09 15.7**	**+2.3**
KOPT	**Kop Dagi**	**2.60**	**296**	*e*Pn	**Pn**	**20 09 15.7**	**+2.3**
EPOS	**Posof**	**2.68**	**347**	*i* P	**Pn**	**20 09 13.7**	**-0.6**
MARD	**Mardin**	**2.68**	**235**	*i* P	**Pn**	**20 09 13.1**	**-1.3**
MARD	**Mardin**	**2.68**	**235**	*e*Pn	**Pn**	**20 09 13.1**	**-1.3**
MARD	**Mardin**	**2.68**	**235**	*e*Pn	**Pn**	**20 09 13.1**	**-1.3**
GANJ	**Ganja**	**2.77**	**50**	⇓P	**Pn**	**20 09 15.7**	**+0.1**
GANJ				⇓S	**Sg**	**20 09 58.8**	**-1.0**
GANJ	**Ganja**	**2.77**	**50**	P	**Pn**	**20 09 15.6**	**+0.1**
GANJ	**Ganja**	**2.77**	**50**	P	**Pn**	**20 09 15.6**	**+0.1**
MAZI	**Mazidag**	**2.82**	**240**	*e*PN	**Pn**	**20 09 14.6**	**-1.6**
MAZI	**Mazidag**	**2.82**	**240**	*e*Pn	**Pn**	**20 09 14.6**	**-1.6**
DBOC	**Borcka**	**2.83**	**330**	*i* P	**Pn**	**20 09 17.9**	**+1.5**
DBOC	**Borcka**	**2.83**	**330**	P	**Pn**	**20 09 17.9**	**+1.5**
DIYA	**Diyarbakir**	**2.85**	**251**	*i* P	**Pn**	**20 09 15.5**	**-1.1**
DIYA				*i* S	**Sb**	**20 09 57.7**	**+0.8**
DIYA	**Diyarbakir**	**2.85**	**251**	P	**Pn**	**20 09 15.5**	**-1.1**
DGRG	**David-gareji**	**2.92**	**28**	P	**Pb**	**20 09 22.3**	**-0.8**
DGRG				S	Sg	20 10 14.2	+10
DGRG	**David-gareji**	**2.92**	**28**	P	**Pb**	**20 09 22.2**	**-0.8**
DGRG	**David-gareji**	**2.92**	**28**	P	**Pn**	**20 09 17.8**	**+0.3**
TBLG	**Delisi**	**2.98**	**18**	*e*PN	**Pn**	**20 09 20.0**	**+1.7**
TBLG	**Delisi**	**2.98**	**18**	P	**Pb**	**20 09 22.7**	**-1.4**
TBLG				S	**Sg**	**20 10 05.1**	**-1.5**
TBLG	**Delisi**	**2.98**	**18**	P	**Pb**	**20 09 22.7**	**-1.4**
TBLG				S	**Sg**	**20 10 05.0**	**-1.5**
TBLG	**Delisi**	**2.98**	**18**	*e*Pn	**Pn**	**20 09 20.0**	**+1.7**
TBLG	**Delisi**	**2.98**	**18**	P	**Pn**	**20 09 21.2**	**+2.9**
SEAG	**Tbilisi Sea**	**3.03**	**18**	P	**Pb**	**20 09 23.5**	**-1.4**
ERZN	**Erzincan**	**3.04**	**284**	*e*PN	**Pn**	**20 09 19.1**	**-0.1**
EUZM	**Uzumlu**	**3.08**	**286**	*i* P	**Pn**	**20 09 23.6**	**+3.7**
TNCL	**Tunceli-Merkez**	**3.12**	**275**	*i* P	**Pn**	**20 09 22.2**	**+1.9**
TNCL	**Tunceli-Merkez**	**3.12**	**275**	P	**Pn**	**20 09 22.2**	**+1.9**
BRDA	**Brd**	**3.13**	**63**	⇑P	**Pn**	**20 09 20.7**	**+0.3**
BRDA				⇑S	**Sb**	**20 10 02.0**	**-3.0**
BRDA	**Brd**	**3.13**	**63**	P	**Pn**	**20 09 20.7**	**+0.3**
BRDA				S	**Sb**	**20 10 02.0**	**-3.0**
PTK	**Pertek**	**3.23**	**271**	*e*PN	**Pn**	**20 09 22.1**	**+0.2**
PTK	**Pertek**	**3.23**	**271**	*e*Pn	**Pn**	**20 09 22.1**	**+0.2**
DUS	**Dusheti**	**3.31**	**15**	P	**Pb**	**20 09 32.1**	**+2.2**
DUS	**Dusheti**	**3.31**	**15**	P	**Pb**	**20 09 32.0**	**+2.2**
MNGR	**Mingechevir, A**	**3.32**	**54**	⇓P	**Pn**	**20 09 23.3**	**+0.4**
MNGR				⇓S	**Sg**	**20 10 20.2**	**+2.8**
MNGR	**Mingechevir, A**	**3.32**	**54**	P	**Pn**	**20 09 23.3**	**+0.4**
MNGR	**Mingechevir, A**	**3.32**	**54**	P	**Pn**	**20 09 23.3**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*PN	**Pn**	**20 09 24.2**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*Pn	**Pn**	**20 09 24.2**	**+0.7**
EZC	**Erzincan**	**3.35**	**286**	*e*Pn	Pn	20 09 19.1	-4.4
ZRD	**Zardab**	**3.49**	**65**	⇓P	**Pn**	**20 09 25.1**	**-0.2**
ZRD	**Zardab**	**3.49**	**65**	P	**Pn**	**20 09 25.1**	**-0.2**
KELT	**Kelkit**	**3.54**	**292**	*i* P	**Pb**	**20 09 32.8**	**-0.9**
MACK	**Trabzon**	**3.54**	**306**	*i* P	**Pb**	**20 09 31.6**	**-2.1**
KTUT	**Trabzon**	**3.57**	**307**	*e*PN	**Pn**	**20 09 27.3**	**+0.9**
KTUT	**Trabzon**	**3.57**	**307**	*e*Pn	**Pn**	**20 09 27.3**	**+0.9**
ELZG	**Elazig**	**3.58**	**265**	*i* P	**Pn**	**20 09 31.2**	**+4.5**
ZKTA	**Zakatala**	**3.62**	**40**	⇓P	**Pn**	**20 09 27.7**	**+0.5**
ZKTA	**Zakatala**	**3.62**	**40**	P	**Pn**	**20 09 27.6**	**+0.5**
ZKTA	**Zakatala**	**3.62**	**40**	P	**Pn**	**20 09 27.6**	**+0.5**
SEKA	**Sheki**	**3.64**	**49**	⇑P	**Pn**	**20 09 28.0**	**+0.5**
SEKA	**Sheki**	**3.64**	**49**	P	**Pn**	**20 09 27.9**	**+0.5**
SEKA	**Sheki**	**3.64**	**49**	P	**Pn**	**20 09 27.9**	**+0.5**
LRK	**Lerik**	**3.77**	**92**	⇑P	**Pn**	**20 09 26.4**	**-2.9**
LRK	**Lerik**	**3.77**	**92**	P	**Pn**	**20 09 26.4**	**-2.9**
ZEI	**Tsey**	**3.90**	**4**	*e*P	**Pn**	**20 09 35.7**	**+4.6**
ZEI				pmax	pmax		
	comp=Z,26nm,0.6s						
KEMA	**Kemaliye**	**3.94**	**277**	*i* P	**Pb**	**20 09 38.8**	**-1.7**
LACR	**Lac**	**3.97**	**8**	*e*P	**Pb**	**20 09 38.3**	**-2.8**
LACR				pmax	pmax		
	comp=Z,143nm,1.0s						
**URF

VTS	**Vitosha**	15.83	290	⇓ *i*P	P	20 12 20.7	+2.8
VTS	**Vitosha**	15.83	290	*e*Pn	Pn	20 12 14.9	+0.8
	comp=Z,9.8nm,1.1s						
BURAR	**Bucovina Array**	15.91	309	⇓ *i*P	P	20 12 19.6	+1.0
BURAR	**Bucovina Array**	15.91	309	⇓P	P	20 12 19.6	+1.0
BUR08	**Bucovina Ar. S**	15.93	309	*e*Pn	Pn	20 12 17.2	+2.0
BUR08	**Bucovina Ar. S**	15.93	309	*e*Pn	Pn	20 12 17.2	+2.0
LOT	**Lotru**	16.03	300	⇓ *i*P	P	20 12 20.4	+0.4
CJR	**Cluj-Napoca**	16.55	305	⇓ *i*P	P	20 12 30.9	+5.1
CJR	**Cluj-Napoca**	16.55	305	⇓P	P	20 12 30.9	+5.1
GZR	**Gura Zlata**	16.68	300	⇓ *i*P	P	20 12 18.8	+0.9
OBN	**Obninsk**	16.89	346	⇓ *i*P	P	20 12 30.2	+0.9
OBN				pmax	pmax		
	comp=Z,36nm,1.3s						
OBN				MLR	MLR		
	comp=Z,1μm,17.0s						
OBN	**Obninsk**	16.89	346	*e*Pn	Pn	20 12 28.1	+0.8
	comp=Z,46nm,1.3s						
OBN	**Obninsk**	16.89	346	*i* P	P	20 12 30.2	+0.9
	comp=Z,1μm,17.0s						
OBN	**Obninsk**	16.89	346	*e*Pn	Pn	20 12 28.1	+0.8
	comp=Z,46nm,1.3s						
DRGR		17.15	304	⇓ *i*P	P	20 12 33.5	+1.1
DRGR		17.15	304	⇓P	P	20 12 33.5	+1.1
DRGR		17.15	304	P	P	20 12 33.5	+1.1
BZS	**Buzias**	17.53	300	⇑ *i*P	Pn	20 12 35.0	-0.4
BZS	**Buzias**	17.53	300	⇑P	Pn	20 12 35.0	-0.4
UZH	**Uzhgorod**	18.11	309	*e*P	Pn	20 12 37.3	-5.2
KWP	**Kalwaria Pacla**	18.31	313	P	Pn	20 12 45.9	+0.9
KWP				pmax	pmax		
	comp=Z,130nm,1.6s						
KWP	**Kalwaria Pacla**	18.31	313	P	Pn	20 12 45.9	+0.9
	comp=Z,130nm,1.6s						
CRVS	**Cervenica-Dubn**	18.73	309	*e*P	Pn	20 12 53.6	+3.5
CRVS	**Cervenica-Dubn**	18.73	309	*e*P	Pn	20 12 53.6	+3.5
PSZ	**Piszkesteto**	19.34	305	⇑ *i*P	Pn	20 12 59.8	+2.3
PSZ	**Piszkesteto**	19.34	305	*e*P	Pn	20 12 58.6	+1.1
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PSZ	**Piszkesteto**	19.34	305	*e*P	Pn	20 12 58.6	+1.1
	comp=Z,10nm,1.0s						
PSZ	**Piszkesteto**	19.34	305	*e*P	Pn	20 12 58.6	+1.1
	comp=Z,10nm,1.0s						
NIE	**Niedzica**	19.63	310	P	P	20 13 00.1	+0.5
NIE				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NIE	**Niedzica**	19.63	310	P	P	20 13 00.1	+0.5
	comp=Z,5.0nm,1.1s						
DZET	**Dzherino**	19.69	82	P	Pn	20 13 04.3	+2.5
DZET				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ARU	**Arti**	20.17	25	P	P	20 13 06.4	+1.0
	comp=Z,5.5nm,0.7s,baz=218,slow=6.4,SNR=14						
ARU	**Arti**	20.17	25	⇑ *i*P	Pn	20 13 07.5	+0.2
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	20.17	25	*e*P	P	20 13 06.4	+1.0
	comp=Z,10nm,0.8s						
ARU	**Arti**	20.17	25	*e*P	P	20 13 06.4	+1.0
	comp=Z,10nm,0.8s						
VYHS	**Vyhne**	20.19	306	*e*P	Pn	20 13 08.5	+0.9
VYHS				pmax	pmax		
	comp=Z,13nm,1.7s						
VYHS	**Vyhne**	20.19	306	*e*P	Pn	20 13 08.5	+0.9
	comp=Z,13nm,1.7s						
VYHS	**Vyhne**	20.19	306	*e*P	Pn	20 13 08.5	+0.9
WSAR	**Wadi Sarin**	20.23	136	P	P	20 13 06.5	+0.3
	comp=Z,6.3nm,0.9s,baz=329,slow=18,SNR=2.9						
WSAR				LR	LR	20 20 46.7	
	comp=Z,185nm,19.0s,baz=44,slow=36						
OJC	**Ojcow**	20.26	312	*e*P	P	20 13 08.0	+1.6
OJC				pmax	pmax		
	comp=Z,12nm,1.4s						
OJC	**Ojcow**	20.26	312	*e*P	P	20 13 08.0	+1.6
	comp=Z,12nm,1.4s						
OJC	**Ojcow**	20.26	312	*e*P	P	20 13 08.0	+1.6
	comp=Z,12nm,1.4s						
SUW	**Suwalki**	20.51	324	P	Pn	20 13 11.4	+0.2
SUW				pmax	pmax		
	comp=Z,391nm,0.9s						
SUW	**Suwalki**	20.51	324	P	Pn	20 13 11.4	+0.2
	comp=Z,391nm,0.9s						
KKAR	**Karatay Array**	20.76	70	*e*P	P	20 13 10.8	-1.1
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	20.76	70	*e*P	P	20 13 10.8	-1.1
	comp=Z,5.3nm,0.7s						
KKAR	**Karatay Array**	20.76	70	*e*P	P	20 13 10.8	-1.1
	comp=Z,5.3nm,0.7s						
KBL	**Kabul**	20.88	94	*e*P	P	20 13 11.0	-2.5
KBL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KBL	**Kabul**	20.88	94	*e*P	P	20 13 11.0	-2.5
	comp=Z,8.2nm,1.2s						
KBL	**Kabul**	20.88	94	*e*P	P	20 13 11.0	-2.5
	comp=Z,8.2nm,1.2s						
OKC	**Ostrava-Krasne**	21.09	310	*e*P	P	20 13 20.1	+4.8
OKC	**Ostrava-Krasne**	21.09	310	*e*P	P	20 13 20.1	+4.8
SVE	**Sverdlovsk**	21.19	27	*e*P	P	20 13 20.2	+3.8
KLMR	**Klimovskoe**	22.13	355	*e*P	P	20 13 29.1	+2.7
KLMR				pmax	pmax		
	comp=Z,48nm,1.5s						
KLMR	**Klimovskoe**	22.13	355	*e*P	P	20 13 29.1	+2.7
	comp=Z,48nm,1.5s						
MNAS	**Manas**	22.21	71	P	P	20 13 29.5	+1.8
MNAS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DPC	**Dobruska-Polom**	22.37	310	*e*P	P	20 13 37.6	+8.4
DPC				*ex*	x	20 13 43.6	
DPC				*ex*	x	20 13 57.9	
DPC	**Dobruska-Polom**	22.37	310	*e*P	P	20 13 37.6	+8.4
DPC				*e*		20 13 43.6	
DPC				*e*		20 13 57.9	
VSU	**Vasula**	22.38	336	⇓P	P	20 13 31.1	+1.9
VSU				pmax	pmax		
	comp=Z,24nm,1.0s						
VSU	**Vasula**	22.38	336	P	P	20 13 31.1	+1.9
	comp=Z,24nm,1.0s						
BRVK	**Borovoye**	23.19	44	⇑ *e*P	P	20 13 40.3	+2.5
BRVK				*i* *PP	sP	20 13 42.8	+1.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRVK	**Borovoye**	23.19	44	*e*P	P	20 13 39.6	+1.8
	comp=Z,6.1nm,1.1s						
BRVK	**Borovoye**	23.19	44	*e*P	P	20 13 39.6	+1.8
	comp=Z,6.1nm,1.1s						
BVAR	**Borovoye Array**	23.24	44	P	P	20 13 38.4	+0.2
	comp=Z,0.6nm,0.6s,baz=224,slow=6.2,SNR=4.8						
GEC2	**GERESS Array S**	23.56	305	*e*P	P	20 13 41.2	-0.4
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GEC2	**GERESS Array S**	23.56	305	*e*P	P	20 13 41.2	-0.4
	comp=Z,4.9nm,1.0s						
GEC2	**GERESS Array S**	23.56	305	*e*P	P	20 13 41.2	-0.4
	comp=Z,4.9nm,1.0s						
GERES	**GERESS Array B**	23.56	305	P	P	20 13 41.7	+0.1
	comp=Z,1.4nm,1.0s,baz=125,slow=6.7,SNR=6.6						
GERES	**GERESS Array B**	23.56	305	*e*P	P	20 13 43.2	+1.6
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	23.68	71	P	P	20 13 43.6	+0.7
	comp=Z,2.5nm,0.8s,baz=251,slow=6.0,SNR=6.5						
AAK				LR	LR	20 23 48.3	
	comp=Z,114nm,18.6s,baz=258,slow=39						
AAK	**Ala-Archa**	23.68	71	⇓P	P	20 13 45.9	+3.0
AAK				*i* *PP	sP	20 13 48.5	+1.9
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AAK	**Ala-Archa**	23.68	71	*e*P	P	20 13 41.8	-1.1
	comp=Z,6.3nm,1.0s						
AAK	**Ala-Archa**	23.68	71	*e*P	P	20 13 41.8	-1.1
	comp=Z,6.3nm,1.0s						
KHC	**Kasperske Hory**	23.70	305	*e*P	P	20 13 44.7	+1.8
KHC	**Kasperske Hory**	23.70	305	*e*P	P	20 13 43.9	+1.0
KHC				pmax	pmax		
	comp=Z,14nm,2.0s						
KHC	**Kasperske Hory**	23.70	305	*e*P	P	20 13 43.9	+1.0
	comp=Z,14nm,2.0s						
KHC	**Kasperske Hory**	23.70	305	*e*P	P	20 13 43.9	+1.0
	comp=Z,14nm,2.0s						
FRU	**Bishkek**	23.77	70	*e*P	P	20 13 46.0	+2.4
FRU				pmax	pmax		
	comp=Z,40nm,1.6s						
WET	**Wettzell**	24.15	305	P	P	20 13 49.3	+2.1
WET				pmax	pmax		
	comp=Z,14nm,2.3s						
CLL	**Collm**	24.67	310	*e*sP	sP	20 13 55.0	-0.6
GRB1	**Grafenberg Arr**	24.99	305	P	P	20 13 57.8	+3.0
FIA0	**FINESS Array S**	25.03	340	*e*P	P	20 13 54.6	-0.3
FIA0	**FINESS Array S**	25.03	340	*e*P	P	20 13 54.5	-0.3
FIA0	**FINESS Array S**	25.03	340	*e*P	P	20 13 54.5	-0.3
FINES	**FINESS Array B**	25.03	340	P	P	20 13 54.5	-0.3
	comp=Z,3.3nm,1.0s,baz=149,slow=8.6,SNR=3.0						
FINES	**FINESS Array B**	25.03	340	*e*P	P	20 13 58.7	+3.8
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH	**Kashi**	25.08	78	*e*P	P	20 13 54.0	-1.8
KSH				pP	sP	20 14 02.0	+2.4
KSH				sP	pP	20 14 05.8	+7.4
KSH				PP	**PnPn**	20 14 39.8	+11
KSH				PcP	**PcP**	20 17 25.3	-4.9
KSH				S	S	20 17 58.5	-22
KSH				SS	**SnSn**	20 19 14.8	+5.6
KSH				PcS	PcS	20 21 00.0	-11
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,320nm,7.8s						
KSH				LR	LR		
	comp=N,150nm,7.9s						
KSH				LR	LR		
	comp=E,170nm,7.9s						
KSH				LR	LR		
	comp=Z,220nm,9.1s						
KURBB	**Kurchatov Arra**	27.22	53	P	P	20 14 14.7	-0.2
	comp=Z,2.2nm,0.9s,baz=263,slow=9.3,SNR=9.8						
KURK	**Kurchatov**	27.30	53	⇑ *e*P	P	20 14 19.0	+3.4
KURK				*i* *PP	sP	20 14 20.9	+1.6
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	27.30	53	*e*P	P	20 14 14.9	-0.7
	comp=Z,4.8nm,1.0s						
KURK	**Kurchatov**	27.30	53	*e*P	P	20 14 14.9	-0.7
	comp=Z,4.8nm,1.0s						
HFS	**Hagfors**	28.34	328	P	P	20 14 24.4	-0.4
	comp=Z,6.7nm,1.0s,baz=142,slow=7.3,SNR=3.6						
MAKZ	**Makanchi**	29.04	62	*e*P	P	20 14 31.3	+0.1
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MAKZ	**Makanchi**	29.04	62	*e*P	P	20 14 31.3	+0.1
	comp=Z,4.8nm,1.3s						
MAKZ	**Makanchi**	29.04	62	*e*P	P	20 14 31.3	+0.1
	comp=Z,4.8nm,1.3s						
MK31	**Makanchi Array**	29.26	62	*e*P	P	20 14 31.2	-1.9
MK31	**Makanchi Array**	29.26	62	*e*P	P	20 14 31.2	-1.9
MK31	**Makanchi Array**	29.26	62	*e*P	P	20 14 31.2	-1.9
MK32	**Makanchi Array**	29.26	62	*e*P	P	20 14 33.2	+0.1
MK32	**Makanchi Array**	29.26	62	*e*P	P	20 14 33.2	+0.1
MKAR	**Makanchi Array**	29.26	62	P	P	20 14 33.2	+0.1
	comp=Z,1.0nm,0.8s,baz=258,slow=6.1,SNR=4.8						
MKAR				LR	LR	20 27 00.1	
	comp=Z,68nm,18.3s,baz=138,slow=38						
NAO01	**NORSAR Array S**	29.89	328	*e*P	P	20 14 38.8	+0.3
NAO01	**NORSAR Array S**	29.89	328	*e*P	P	20 14 38.8	+0.3
ZALV	**Zalesovo Beam**	31.68	48	P	P	20 14 54.3	-0.1
	comp=Z,0.6nm,0.6s,baz=255,slow=11,SNR=3.6						
ZAA1	**Zalesovo Array**	31.68	48	*e*P	P	20 14 54.3	-0.1
ZAA1	**Zalesovo Array**	31.68	48	*e*P	P	20 14 54.3	-0.1
DANN	**Dangsing**	34.86	95	*e*P	P	20 15 23.9	+1.1
	comp=Z,5.0nm,1.0s						
EKA	**Eskdalemuir Ar**	35.01	314	P	P	20 15 22.0	-1.4
	comp=Z,2.5nm,0.7s,baz=104,slow=8.8,SNR=4.6						
KOLN	**Koldanda**	35.02	96	*e*P	P	20 15 25.0	+1.0
GKN	**Gorkha**	35.71	95	*e*P	P	20 15 31.5	+1.6
	comp=Z,15nm,0.8s						
DMN	**Daman**	36.26	95	*e*P	P	20 15 35.9	+1.1
	comp=Z,34nm,1.1s						
KKN	**Kakani**	36.31	95	*e*P	P	20 15 37.0	+1.8
ESDC	**Sonseca Array**	36.43	287	P	P	20 15 34.2	-1.7
	comp=Z,1.2nm,0.6s,baz=70,slow=8.4,SNR=8.8						
PKIN	**Phulchoki**	36.50	95	*e*P	P	20 15 38.7	+1.8
PKI	**Pulchoki**	36.52	95	*e*P	P	20 15 38.0	+0.9
GUN	**Gumba**	36.72	94	*e*P	P	20 15 39.7	+0.9
JIRN	**Jiri**	37.08	95	*e*P	P	20 15 42.9	+1.0
RAMN	**Ramite**	37.74	95	*e*P	P	20 15 47.8	+0.4
	comp=Z,49nm,1.1s						
ODAN	**Odare**	38.40	95	*e*P	P	20 15 53.8	+0.9
	comp=Z,48nm,1.1s						
TAPN	**Taplejung**	38.41	94	*e*P	P	20 15 54.0	+0.9
	comp=Z,20nm,1.0s						
LSA	**Lhasa**	40.01	88	*e*P	P	20 16 07.2	+0.6
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	40.01	88	*e*P	P	20 16 07.2	+0.6
	comp=Z,4.3nm,0.8s						
LSA	**Lhasa**	40.01	88	*e*P	P	20 16 07.2	+0.6
	comp=Z,4.3nm,0.8s						
KMBO	**Kilima Mbogo**	40.24	190	LR	LR	20 32 05.7	
	comp=Z,122nm,18.6s,baz=84,slow=35						
GTA	**Gaotai**	43.03	71	*e*P	P	20 16 38.0	+7.1
GTA				pP	sP	20 16 41.3	+6.5
GTA				sP	pP	20 16 44.0	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TOA1	**Torodi Ar. Sit**	44.95	247	*e*P	P	20 16 44.3	-2.1
	comp=Z,9.7nm,1.4s						
TOA1	**Torodi Ar. Sit**	44.95	247	*e*P	P	20 16 44.3	-2.1
	comp=Z,9.7nm,1.4s						
TORD	**Torodi Ar. Bea**	44.95	247	P	P	20 16 44.3	-2.1
	comp=Z,1.9nm,0.9s,baz=42,slow=8.3,SNR=10						
SONM	**Songino Array**	45.42	57	LR	LR	20 38 28.8	
	comp=Z,62nm,19.9s,baz=306,slow=40						
ULN	**Ulaanbaatar**	45.84	57	⇑ *i*P	P	20 16 55.7	+2.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	45.84	57	*e*P	P	20 16 52.0	-1.3
	comp=Z,3.4nm,0.9s						
ULN	**Ulaanbaatar**	45.84	57	*e*P	P	20 16 52.0	-1.3
	comp=Z,3.4nm,0.9s						
CHTO	**Chiang Mai**	51.68	96	*e*P	P	20 17 37.4	-1.0
CHTO				pmax	pmax		
	comp=Z,20nm,2.0s						
CHTO	**Chiang Mai**	51.68	96	*e*P	P	20 17 37.4	-1.0
	comp=Z,20nm,2.0s						
CHTO	**Chiang Mai**	51.68	96	*e*P	P	20 17 37.4	-1.0
	comp=Z,20nm,2.0s						
XAN	**Xi'an**	51.81	74	P	P	20 17 38.5	-0.7
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	51.88	97	P	P	20 17 39.0	-0.9
	comp=Z,2.9nm,1.0s,baz=299,slow=8.0,SNR=17						
CMAR	**Chiang Mai Arr**	51.88	97	*e*P	P	20 17 41.1	+1.2
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	52.18	24	⇑ *i*P	P	20 17 45.0	+3.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSAR	**Wonju Array Be**	63.92	62	P	P	20 19 04.9	+0.7
KSAR	**Wonju Array Be**	63.92	62	P	P	20 19 04.8	+0.7
KSAR	**Wonju Array Be**	63.92	62	P	P	20 19 04.8	+0.7
KSRS	**Korea Array**	63.94	62	P	P	20 19 04.8	+0.6
	comp=Z,1.4nm,0.8s,baz=285,slow=6.3,SNR=4.6						
PETK	**Petropavlovsk-**	72.16	35	LR	LR	20 54 03.0	
	comp=Z,54nm,19.8s,baz=312,slow=38						

CSEM ***25*** *20:09:48.3±0.9, 50°.37N×18°.85E, h1km, Error ellipse: s-maj=18.6km s-min=9.2km az=8.0*

PRU 25 20:09:48.8, 50°.37N×18°.87E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	0.61	104	*e*Pg	Pg	20 10 00.4	-0.1
OJC				*e*Sg	Sg	20 10 09.8	+1.3
OJC	**Ojcow**	0.61	104	*e*Pg	Pg	20 10 00.4	-0.2
OJC				*e*Sg	Sg	20 10 09.8	+1.3
OKC	**Ostrava-Krasne**	0.71	221	*e*PG	Pg	20 10 03.1	+0.8
OKC				*e*SG	Sb	20 10 13.4	-0.9
OKC	**Ostrava-Krasne** 7.1nm,0.2s	0.71	221	Pg	Pg	20 10 03.1	+0.8
OKC				Sg	Sb	20 10 13.4	-0.9
LANS	**Liptovska Anna**	1.28	162	*e*Pg	Pg	20 10 13.2	-0.1
LANS				*e*Sg	Sg	20 10 29.6	-0.3
LANS	**Liptovska Anna**	1.28	162	*e*PG	Pg	20 10 13.2	-0.1
LANS				*e*SG	Sg	20 10 29.6	-0.3
NIE	**Niedzica**	1.33	135	*e*Pg	Pg	20 10 14.4	+0.2
NIE				*e*Sg	Sn	20 10 32.8	-0.2
NIE	**Niedzica**	1.33	135	*e*Pg	Pg	20 10 14.4	+0.2
NIE				*e*Sg	Sn	20 10 32.8	-0.2
DPC	**Dobruska-Polom**	1.63	270	*e*PG	Pn	20 10 18.8	0.0
DPC				*e*SG	Sg	20 10 41.7	+0.5
	comp=Z,1.7nm,0.2s						
DPC	**Dobruska-Polom**	1.63	270	Pg	Pn	20 10 18.8	0.0
DPC				Sg	Sg	20 10 41.7	+0.5
	1.7nm,0.2s						
VYHS	**Vyhne**	1.88	181	*e*Pg	Pn	20 10 21.6	-0.6
VYHS	**Vyhne**	1.88	181	*e*PG	Pn	20 10 21.6	-0.6

IDC 25 20:09:50.1±6.6, 27°.92S×178°.78W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, Error ellipse: s-maj=155.7km s-min=20.8km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.53	150	Pn	Pn	20 10 18.9	+0.1
	383nm,0.3s,baz=301,slow=16,SNR=13						
RAO				Sn	Sg	20 10 39.8	+0.4
	913nm,0.3s,baz=84,slow=21,SNR=13						
STKA	**Stephens Creek**	34.44	254	P	P	20 16 39.6	0.0
	2.5nm,0.5s,baz=88,slow=8.7,SNR=17						
ASAR	**Alice Springs**	42.61	265	P	P	20 17 47.8	-0.6
	0.2nm,0.3s,baz=103,slow=8.1,SNR=5.6						
WRA	**Warramunga Arr**	43.37	270	P	P	20 17 54.8	+0.2
	0.8nm,0.4s,baz=106,slow=8.6,SNR=7.8						

AZER ***25*** *20:13:13.8±2.2, 38°.36N×43°.34E, h20km, Error ellipse: s-maj=22.9km s-min=13.7km az=96.0*

DDA ***25*** *20:13:14.9, 38°.94N×43°.57E, h10km, Ml3.8*

ISK ***25*** *20:13:14.8, 38°.91N×43°.50E, h2km, ML3.6*

CSEM ***25*** *20:13:17.0±0.2, 38°.95N×43°.40E, h2km, ML3.6, Error ellipse: s-maj=5.9km s-min=4.9km az=110.0*

IDC ***25*** *20:13:17.8±1.8, 39°.00N×43°.80E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.1/60, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=21.6km s-min=19.7km az=53.0*

ISC 25 20:13:15.5±1.1, 38°.95N±0°.02×43°.57E±0°.02, h4km±10km, n80, σ1s75/95, mb3.2/3, 9C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.38	202	*e*PG	Pb	20 13 23.4	-1.4
VANB				*e*SG	Sb	20 13 30.1	-0.9
VANB	**Van**	0.38	202	*e*Pg	Pb	20 13 23.4	-1.4
VANB				*e*Sg	Sb	20 13 30.1	-0.9
DYDN	**Diyadin**	0.61	9	*i* P	Pg	20 13 26.6	-0.5
DYDN	**Diyadin**	0.61	9	P	Pg	20 13 26.6	-0.5
TUTA	**Tutak**	0.74	308	*i* P	Pg	20 13 28.7	-1.0
TUTA				*i* S	Sb	20 13 40.4	-1.3
TUTA	**Tutak**	0.74	308	P	Pg	20 13 28.7	-1.0
TUTA				S	Sb	20 13 40.4	-1.3
GEVA	**Gevas**	0.75	212	*i* P	Pg	20 13 27.9	-1.9
GEVA				*i* S	Sb	20 13 40.8	-0.9
GEVA	**Gevas**	0.75	212	P	Pg	20 13 27.9	-1.9
GEVA				S	Sb	20 13 40.8	-0.9
AGRB	**Hanur-Agry**	0.77	325	*e*PG	Pg	20 13 29.4	-0.9
AGRB				*e*SG	Sb	20 13 41.7	-0.8
AGRB	**Hanur-Agry**	0.77	325	*e*Pg	Pg	20 13 29.4	-0.9
BASK	**Baskale_VAN**	0.96	159	*i* P	Pg	20 13 33.1	-0.6
BASK				*i* S	Sn	20 13 50.2	+0.1
BASK	**Baskale_VAN**	0.96	159	P	Pg	20 13 33.2	-0.6
BASK				S	Sn	20 13 50.2	+0.1
EKAR	**Karacoban**	1.21	285	*i* P	Pg	20 13 38.3	-0.4
EKAR	**Karacoban**	1.21	285	P	Pg	20 13 38.3	-0.4
EATA	**Eleskirt**	1.24	318	*i* P	Pn	20 13 37.9	-2.0
EATA	**Eleskirt**	1.24	318	P	Pn	20 13 37.9	-2.0
HAKT	**HAKKARI**	1.39	175	*i* P	Pn	20 13 40.0	-1.8
HAKT				*i* S	Sg	20 14 01.8	+1.7
HAKT	**HAKKARI**	1.39	175	P	Pn	20 13 40.0	-1.8
HAKT				S	Sg	20 14 01.8	+1.7
DIGO	**Kars**	1.48	354	*i* P	Pg	20 13 43.9	+0.1
DIGO	**Kars**	1.48	354	P	Pg	20 13 43.9	+0.1
GNI	**Garni**	1.51	37	Pn	Pg	20 13 44.6	+0.2
	52nm,0.3s,baz=247,slow=3.2,SNR=31						
GNI				Sn	Sg	20 14 06.7	+2.7
	37nm,0.3s,baz=334,slow=20,SNR=8.5						
NAX	**Nakhchivan**	1.52	81	⇑P	Pg	20 13 44.1	-0.5
	SNR=34						
NAX				⇑S	Sg	20 14 08.7	+4.4
NAX	**Nakhchivan**	1.52	81	P	Pg	20 13 44.1	-0.5
	SNR=34						
NAX				S	Sg	20 14 08.7	+4.4
VRTB	**Varto-Mus**	1.66	278	*e*PN	Pb	20 13 45.7	-1.0
VRTB	**Varto-Mus**	1.66	278	*i* P	Pb	20 13 45.7	-1.0
VRTB	**Varto-Mus**	1.66	278	P	Pb	20 13 45.7	-1.0
HOMI	**Horasan**	1.69	311	*i* P	Pg	20 13 47.5	-0.4
CUKT	**Cukurca**	1.69	179	*e*PN	Pb	20 13 46.5	-0.8
CUKT	**Cukurca**	1.69	179	*i* P	Pg	20 13 47.9	-0.1
CUKT	**Cukurca**	1.69	179	*e*Pn	Pb	20 13 46.5	-0.8
CUKT	**Cukurca**	1.69	179	P	Pg	20 13 47.9	-0.1
SENK	**Senkaya-Erzuru**	1.87	330	*e*PN	Pb	20 13 49.2	-1.0
SENK	**Senkaya-Erzuru**	1.87	330	*e*Pn	Pb	20 13 49.2	-1.0
BNGL	**BINGOL**	1.88	271	*i* P	Pb	20 13 49.8	-0.8
ERZM	**Erzurum**	1.95

0.2nm,0.5s,baz=266,slow=8.4,SNR=2.2
CMAR Chiang Mai Arr 51.86 97 P **P 20 22 27.2 +2.0**
0.2nm,0.5s,baz=297,slow=8.0,SNR=3.6

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*SCB **25** 20:16:29.3±3.0,21°.33S×69°.36W,h15km,MI3.5/1,Error ellipse: s-maj=229.5km s-min=60.0km az=92.0*
*GUC **25** 20:16:40.4±0.7,20°.95S×69°.27W,h88km±3km,ML3.8*
*ISCJB **25** 20:16:41.9±0.6,20°.96S±0°.02×69°.34W±0°.07,h84km±7km, Error ellipse: s-maj=11.5km s-min=3.9km az=178.5*
ISC 25 20:16:43.7±1.3,**20°.96S**±0°.03×**69°.36W**±0°.07,**h67**km±9km, **n22**,σ2$**09**/37,**2C-7D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.14**	**234**	⇓*iP*			**Pn**	**20 16 53.5**	**-0.5**
PB01				*i* S			**Sn**	**20 17 03.4**	**+2.1**
PB01				IAML				20 17 03.9	
comp=N,10μm,0.3s									
HMBC	**Humberstone**	**0.84**	**324**	⇓*iP*			**Pn**	**20 16 59.3**	**-0.9**
HMBC				*i* S			**Sn**	**20 17 13.6**	**+1.3**
HMBC				IAML				20 17 15.6	
comp=N,5μm,0.2s									
PB08	**IPOC Station P**	**0.84**	**14**	⇓*iP*			**Pn**	**20 16 58.8**	**-1.7**
PB08				*i* S			**Sn**	**20 17 12.5**	**-0.3**
PB08				IAML				20 17 13.1	
comp=N,3μm,0.1s									
PB09	**IPOC Station P**	**0.84**	**172**	*eP*			**Pn**	**20 16 59.1**	**-1.3**
PB09				*eS*			**Sn**	**20 17 13.0**	**+0.5**
PB09				IAML				20 17 13.8	
comp=N,11μm,0.4s									
PB07	**IPOC Station P**	**0.91**	**212**	*eP*			**Pn**	**20 17 00.5**	**-0.7**
PB07				*eS*			**Sn**	**20 17 15.1**	**+1.1**
PB07				IAML				20 17 19.3	
comp=E,3μm,0.2s									
PB11	**IPOC Station P**	**1.22**	**347**	⇓*iP*			**Pn**	**20 17 03.4**	**-1.7**
PB11				*i* S			**Sn**	**20 17 21.2**	**+0.1**
PSGC	**Pisagua**	**1.53**	**332**	⇓*iP*			**Pn**	**20 17 07.4**	**-1.7**
PSGC				*i* S			**Sn**	**20 17 28.2**	**0.0**
PSGC				IAML				20 17 31.8	
comp=N,2μm,0.7s									
PB04	**IPOC Station P**	**1.55**	**208**	*eP*			**Pn**	**20 17 08.4**	**-1.1**
PB04				*i* S			**Sn**	**20 17 28.9**	**0.0**
PB04				IAML				20 17 39.5	
comp=E,1μm,0.5s									
LVC	**Limon Verde**	**1.70**	**166**	⇑*iP*			**Pn**	**20 17 10.6**	**-1.0**
LVC				*eS*			**Sn**	**20 17 32.9**	**+0.2**
PB06	**IPOC Station P**	**1.75**	**186**	⇓*iP*			**Pn**	**20 17 10.3**	**-1.9**
PB06				*i* S			**Sn**	**20 17 29.8**	**-3.9**
PB06				IAML				20 17 37.5	
comp=E,934nm,0.4s									
MNMC	**Minye Minye**	**1.83**	**353**	*eP*			**Pn**	**20 17 11.4**	**-1.9**
PB12	**IPOC Station P**	**2.50**	**339**	⇑*iP*			**Pn**	**20 17 19.6**	**-2.7**
PB12				*i* S			**Sn**	**20 17 51.2**	**-0.6**
ARCH	**Arica**	**2.61**	**340**	*eP*			**Pn**	**20 17 23.2**	**-0.3**
ARCH				*i* S			**Sn**	**20 17 55.2**	**+1.0**
PB13	**IPOC Station P**	**2.61**	**357**	⇓*iP*			**Pn**	**20 17 23.1**	**-1.1**
PB13				*eS*			**Sn**	**20 17 55.4**	**+0.3**
PB10	**IPOC Station P**	**2.77**	**203**	*eP*			**Pn**	**20 17 24.5**	**-1.3**
PB10				*i* S			**Sn**	**20 18 04.3**	**+6.2**
ANCH	**Antofagasta**	**2.88**	**199**	*eP*			Pn	20 17 22.1	-5.2
ANCH				*i* S			**Sn**	**20 18 03.6**	**+2.9**
BBOJ	**La Paz, Jacaqu**	**4.11**	**16**	*e*Pn			**Pn**	**20 17 44.6**	**0.0**
BBOE	**La Paz, Chanca**	**4.33**	**18**	*e*Pn			**Pn**	**20 17 47.5**	**0.0**
BBOD	**La Paz, Gloria**	**4.36**	**10**	*e*Pn			**Pn**	**20 17 48.2**	**+0.2**
BBOD				*e*Sn			**Sn**	**20 18 44.0**	**+6.2**
comp=E,37nm,0.7s									
LPAZ	**La Paz**	**4.79**	**14**	*e*Pn			**Pn**	**20 17 52.6**	**-1.4**
LPAZ	**La Paz**	**4.79**	**14**	*e*Pn			**Pn**	**20 17 52.7**	**-1.3**
BBOB	**La Paz, Bander**	**4.93**	**14**	*e*Pn			**Pn**	**20 17 54.5**	**-1.3**

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*ISCJB **25** 20:21:35.5±0.6,12°.45S±0°.07×165°.56E±0°.09,h100km, mb4.0/17,Error ellipse: s-maj=13.1km s-min=8.6km az=151.6*
*NEIC **25** 20:21:36.3±2.0,12°.34S×165°.63E,h97km±16km,mb4.1/6, Error ellipse: s-maj=20.5km s-min=12.8km az=72.0*
*IDC **25** 20:21:36.3±4.4,12°.50S×165°.72E,h102km±38km, mb3.9/12,mb1 3.9/13,mb1mx3.7/41,mbtmp4.2/13,MS3.5/5, Ms1 3.5/5,ms1mx3.1/29,Error ellipse: s-maj=35.2km s-min=20.7km az=102.0*
ISC 25 20:21:36.6±0.8,**12°.38S**±0°.09×**165°.6E**±0°.1,**h100**km,**n39**, σ1$**37**/37,**mb4.0**/17,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.29**	**297**	*eP*			**Pn**	**20 23 04.0**	**-3.0**
HNR				*eS*			**Sn**	**20 24 19.0**	**+1.5**
HNR	**Honiara**	**6.29**	**297**	*e*Pn			**Pn**	**20 23 06.1**	**-0.9**
DZM	**Mont Dzumac**	**9.67**	**175**	P			**Pn**	**20 23 51.3**	**-1.7**
1.0nm,0.3s,baz=209,slow=19,SNR=6.0									
DZM	**Mont Dzumac**	**9.67**	**175**	*e*Pn			**Pn**	**20 23 52.8**	**-0.2**
DZM				*e*Sn			Sn	20 25 51.9	+12
PMG	**Port Moresby**	**18.37**	**277**	LR			LR	20 32 03.9	
comp=Z,127nm,18.4s,baz=110,slow=34									
EIDS	**Eidsvold**	**18.85**	**225**	*eP*			**Pn**	**20 25 50.4**	**-0.2**
13nm,1.0s									
CTA	**Charters Tower**	**20.10**	**245**	P			**P**	**20 26 02.3**	**-0.3**
2.0nm,0.9s,baz=90,slow=9.1,SNR=2.4									
BKZ	**Black Stump Fm**	**28.37**	**162**	*eP*			**P**	**20 27 22.6**	**+1.1**
50nm,1.7s									
STKA	**Stephens Creek**	**29.41**	**225**	P			**P**	**20 27 31.1**	**+0.4**
1.2nm,0.7s,baz=37,slow=15,SNR=2.6									
STKA				LR			LR	20 39 31.4	
comp=Z,154nm,18.6s,baz=27,slow=37									
STKA	**Stephens Creek**	**29.41**	**225**	*eP*			**P**	**20 27 32.4**	**+1.7**
3.2nm,1.5s									
WB2	**Warramunga Arr**	**30.92**	**252**	*eP*			**P**	**20 27 44.3**	**+0.1**
6.5nm,1.4s									
WR1	**Warramunga Arr**	**30.93**	**252**	*eP*			**P**	**20 27 43.0**	**-1.4**
8.7nm,1.4s									
WRA	**Warramunga Arr**	**30.93**	**252**	P			**P**	**20 27 43.0**	**-1.4**
0.6nm,0.7s,baz=84,slow=8.5,SNR=4.0									
ASAR	**Alice Springs**	**32.11**	**245**	P			**P**	**20 27 55.0**	**+0.3**
1.2nm,0.8s,baz=73,slow=10,SNR=8.2									
ASAR				PcP			**PcP**	**20 30 41.4**	**-0.5**
0.6nm,0.9s,baz=79,slow=2.7,SNR=4.3									
ASAR				LR			LR	20 40 20.2	
comp=Z,94nm,20.5s,baz=83,slow=35									
FITZ	**Fitzroy Crossi**	**38.94**	**257**	LR			LR	20 43 54.2	
comp=Z,44nm,20.4s,baz=180,slow=34									
PPT	**Papeete**	**43.51**	**102**	LR			LR	20 43 19.2	
comp=Z,36nm,21.6s,baz=199,slow=30									
MJAR	**Matsushiro Arr**	**55.09**	**333**	P			**P**	**20 30 57.1**	**-1.3**
4.1nm,0.9s,baz=163,slow=8.8,SNR=8.9									
KSRS	**Korea Array**	**60.91**	**326**	P			**P**	**20 31 40.7**	**+1.7**
0.7nm,0.3s,baz=122,slow=5.5,SNR=4.8									
KSAR	**Wonju Array Be**	**60.92**	**326**	P			**P**	**20 31 40.7**	**+1.6**
USRK	**Ussuriysk Ar.**	**64.08**	**334**	P			**P**	**20 32 01.2**	**+1.3**
7.3nm,0.8s,baz=145,slow=3.4,SNR=9.6									
VNDA	**Vanda**	**65.17**	**181**	P			**P**	**20 32 08.1**	**+1.5**
0.5nm,0.7s,baz=354,slow=6.1,SNR=3.8									
CMAR	**Chiang Mai Arr**	**72.53**	**294**	P			**P**	**20 32 56.2**	**+2.9**
1.1nm,0.9s,baz=137,slow=4.8,SNR=7.9									
SONA0	**Songino Array**	**79.66**	**324**	*eP*			**P**	**20 33 34.7**	**+1.4**
SONM	**Songino Array**	**79.66**	**324**	P			**P**	**20 33 34.7**	**+1.4**
2.5nm,1.0s,baz=143,slow=6.1,SNR=14									
MAW	**Mawson**	**83.45**	**202**	P			**P**	**20 33 51.4**	**-1.4**
2.1nm,1.1s,baz=120,slow=7.8,SNR=4.1									
MAW	**Mawson**	**83.45**	**202**	*eP*			**P**	**20 33 51.8**	**-1.0**
1.8nm,1.4s									
ILAR	**Eielson Array**	**84.81**	**18**	P			P	20 33 54.7	-4.9
0.4nm,0.6s,baz=230,slow=5.4,SNR=3.7									
MK32	**Makanchi Array**	**94.41**	**317**	*eP*			**P**	**20 34 46.0**	**+0.6**
MKAR	**Makanchi Array**	**94.41**	**317**	P			**P**	**20 34 46.0**	**+0.6**
2.0nm,0.8s,baz=98,slow=5.9,SNR=14									
ZALV	**Zalesovo Beam**	**94.56**	**324**	P			**P**	**20 34 45.4**	**-0.5**
2.5nm,0.8s,baz=128,slow=4.4,SNR=12									
ZAA1	**Zalesovo Array**	**94.56**	**324**	*eP*			**P**	**20 34 45.4**	**-0.5**
KURK	**Kurchatov**	**97.58**	**320**	*eP*			**P**	**20 34 59.2**	**-0.5**
KURBB	**Kurchatov Arra**	**97.62**	**320**	P			**P**	**20 34 59.2**	**-0.7**
0.3nm,0.8s,baz=106,slow=3.4,SNR=4.5									
ARA0	**ARCESS Array S**	**117.58**	**345**	*e*PKPdf			**PKPdf**	**20 40 08.3**	**-2.1**
ARCES	**ARCESS Array B**	**117.58**	**345**	PKP			**PKPdf**	**20 40 08.3**	**-2.1**
2.9nm,1.0s,baz=77,slow=2.5,SNR=7.7									
KEST	**Kesra**	**148.39**	**321**	PKPbc			**PKPbc**	**20 41 12.0**	**0.0**
6.6nm,0.8s,baz=309,slow=3.0,SNR=6.5									
KEST	**Kesra**	**148.39**	**321**	*e*PKPbc			**PKPbc**	**20 41 12.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**164.30**	**275**	PKPab			**PKPab**	**20 42 22.7**	**-1.4**
0.5nm,0.9s,baz=46,slow=4.2,SNR=2.5									
TOA1	**Torodi Ar. Sit**	**164.31**	**275**	*e*PKPab			**PKPab**	**20 42 22.7**	**-1.4**

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*AZER **25** 20:22:28.0±3.0,38°.35N×43°.32E,h15km,Error ellipse: s-maj=31.6km s-min=20.4km az=64.0*
*DDA **25** 20:22:29.7,38°.91N×43°.52E,h5km,MI4.0*
*IDC **25** 20:22:30.9±0.9,38°.88N×43°.55E,h0km,mb3.8/12, mb1 3.8/17,mb1mx3.6/80,mbtmp3.7/17,ML3.0/5,MS3.4/5, Ms1 3.4/5,ms1mx3.0/47,Error ellipse: s-maj=14.8km s-min=11.1km az=153.0*
*NEIC **25** 20:22:30.0±0.0,38°.92N×43°.53E,h4km,mb4.0/12, ML4.3(DDA),After DDA.*
*MOS **25** 20:22:31.5±1.7,38°.82N×43°.49E,h10km,mb4.1/16,Error ellipse: s-maj=9.2km s-min=5.3km az=87.8*
*CSEM **25** 20:22:32.4±0.2,38°.74N×43°.57E,h10km,mb4.2/8,Error ellipse: s-maj=5.1km s-min=4.1km az=157.0*
ISC 25 20:22:32.0±0.6,**38°.85N**±0°.02×**43°.52E**±0°.02,**h4**km±4km, **n224**,σ1$**61**/255,**mb4.0**/20,**MS3.1**/3,**28C-20D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**17**	⇓*iP*			**Pg**	**20 22 32.3**	**-2.7**
VMUR				*i* S			**Sg**	**20 22 34.1**	**-2.8**
GEVA	**Gevas**	**0.65**	**214**	⇑*iP*			**Pg**	**20 22 43.9**	**-0.5**
GEVA				*i* S			**Sb**	**20 22 55.3**	**-0.1**
GEVA	**Gevas**	**0.65**	**214**	P			**Pg**	**20 22 43.8**	**-0.5**
GEVA	**Gevas**	**0.65**	**214**	*i* P			**Pg**	**20 22 43.9**	**-0.5**
GEVA				*i* S			**Sb**	**20 22 55.3**	**-0.1**
DYDN	**Diyadin**	**0.71**	**11**	*i* P			**Pg**	**20 22 42.2**	**-3.3**
DYDN				*i* S			**Sg**	**20 22 52.4**	**-2.4**
DYDN	**Diyadin**	**0.71**	**11**	*i* P			**Pg**	**20 22 42.6**	**-2.9**
DYDN	**Diyadin**	**0.71**	**11**	*i* P			**Pg**	**20 22 42.6**	**-2.9**
DYDN				*i* S			**Sg**	**20 22 52.4**	**-2.4**
TUTA	**Tutak**	**0.78**	**315**	⇓*iP*			**Pg**	**20 22 44.2**	**-2.6**
TUTA				*i* S			**Sg**	**20 22 56.6**	**-0.4**
TUTA	**Tutak**	**0.78**	**315**	*i* P			**Pg**	**20 22 44.3**	**-2.6**
TUTA	**Tutak**	**0.78**	**315**	*i* P			**Pg**	**20 22 44.3**	**-2.6**
BASK	**Baskale_VAN**	**0.88**	**154**	*i* P			**Pg**	**20 22 48.7**	**-0.2**
BASK				*i* S			**Sn**	**20 23 04.7**	**-0.2**
BASK	**Baskale_VAN**	**0.88**	**154**	P			**Pg**	**20 22 48.7**	**-0.2**
EKAR	**Karacoban**	**1.20**	**290**	*i* P			**Pg**	**20 22 53.3**	**-1.7**
EKAR				*i* S			**Sn**	**20 23 15.2**	**+2.4**
EKAR	**Karacoban**	**1.20**	**290**	*i* P			**Pg**	**20 22 53.3**	**-1.7**
EATA	**Eleskirt**	**1.29**	**322**	⇓*iP*			**Pg**	**20 22 53.4**	**-3.2**
EATA				*i* S			**Sg**	**20 23 12.2**	**-1.2**
HAKT	**HAKKARI**	**1.30**	**173**	⇓*iP*			**Pg**	**20 22 55.1**	**-1.8**
HAKT				*i* S			**Sn**	**20 23 16.7**	**+1.6**
HAKT	**HAKKARI**	**1.30**	**173**	P			**Pg**	**20 22 55.1**	**-1.8**
DIGO	**Kars**	**1.57**	**356**	*i* P			**Pn**	**20 22 59.1**	**-1.8**
DIGO				*i* S			**Sg**	**20 23 23.9**	**+1.6**
DIGO	**Kars**	**1.57**	**356**	S			**Sg**	**20 23 24.0**	**+1.6**
NAX	**Nakhchivan**	**1.57**	**78**	⇓P			**Pn**	**20 22 59.9**	**-0.9**
NAX				⇓S			**Sg**	**20 23 24.5**	**+1.9**
NAX	**Nakhchivan**	**1.57**	**78**	P			**Pn**	**20 22 59.9**	**-0.9**
NAX				S			**Sg**	**20 23 24.5**	**+1.9**
CUKT	**Cukurca**	**1.60**	**177**	⇓*iP*			**Pg**	**20 23 02.5**	**-0.2**
GNI	**Garni**	**1.61**	**36**	Pn			**Pn**	**20 23 00.2**	**-1.2**
93nm,0.3s,baz=280,slow=3.4,SNR=185									
GNI				Sn			**Sg**	**20 23 24.7**	**+1.1**
45nm,0.3s,baz=225,slow=14,SNR=5.6									
GNI	**Garni**	**1.61**	**36**	*e*P			**Pn**	**20 22 58.9**	**-2.4**
GNI	**Garni**	**1.61**	**36**	*e*Pn			**Pn**	**20 22 59.0**	**-2.4**
GNI				*e*Sn			**Sg**	**20 23 24.7**	**+1.1**
GNI	**Garni**	**1.61**	**36**	*e*Pn			**Pn**	**20 22 59.0**	**-2.3**
GNI				*e*Sn			**Sg**	**20 23 24.7**	**+1.1**
SIRN	**S¨–rnak**	**1.61**	**213**	*i* P			**Pn**	**20 23 00.5**	**-0.8**
SIRN	**S¨–rnak**	**1.61**	**213**	P			**Pn**	**20 23 00.5**	**-0.8**
VRTB	**Varto-Mus**	**1.64**	**282**	*i* P			**Pn**	**20 23 01.1**	**-0.7**
VRTB				*i* S			**Sg**	**20 23 27.9**	**+3.4**
VRTB	**Varto-Mus**	**1.64**	**282**	P			**Pn**	**20 23 01.1**	**-0.7**
HOMI	**Horasan**	**1.73**	**314**	*i* P			**Pn**	**20 23 02.8**	**-0.3**
HOMI				*i* S			**Sg**	**20 23 31.0**	**+3.5**
EAK	**Akyaka**	**1.83**	**2**	⇓*iP*			**Pn**	**20 23 04.8**	**+0.3**
EAK				*i* S			**Sb**	**20 23 30.8**	**+1.1**
EAK	**Akyaka**	**1.83**	**2**	P			**Pn**	**20 23 04.8**	**+0.3**
EAK				S			**Sb**	**20 23 30.8**	**+1.1**
BNGL	**BINGOL**	**1.85**	**274**	⇑*iP*			**Pn**	**20 23 04.1**	**-0.7**
BNGL				*i* S			**Sg**	**20 23 31.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.95**	**250**	⇑*iP*			**Pn**	**20 23 05.7**	**-0.2**
SVAN				*i* S			**Sg**	**20 23 34.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.95**	**250**	P			**Pn**	**20 23 05.7**	**-0.2**
ERZM	**Erzurum**	**1.97**	**303**	*i* P			**Pn**	**20 23 06.1**	**-0.4**
ERZM				*i* S			**Sb**	**20 23 33.7**	**0.0**
ERZM	**Erzurum**	**1.97**	**303**	P			**Pn**	**20 23 06.1**	**-0.4**
ERZM				S			**Sb**	**20 23 33.7**	**0.0**
BTMN	**Batman**	**2.01**	**242**	*i* P			**Pn**	**20 23 05.8**	**-1.0**
BTMN	**Batman**	**2.01**	**242**	P			**Pn**	**20 23 05.8**	**-1.0**
ECAT	**Cat-ERZURUM**	**2.12**	**292**	*i* P			**Pn**	**20 23 07.4**	**-1.0**
ECAT				*i* S			**Sg**	**20 23 38.8**	**-1.2**
ECAT	**Cat-ERZURUM**	**2.12**	**292**	P			**Pn**	**20 23 07.4**	**-1.0**
ECAT				S			**Sg**	**20 23 38.8**	**-1.2**
BGD	**Bogdanovka**	**2.41**	**1**	P			**Pn**	**20 23 14.2**	**+1.7**
BGD				S			**Sg**	**20 23 50.1**	**+0.6**
DDEM	**Demirkent**	**2.45**	**327**	*i* P			**Pb**	**20 23 15.1**	**-1.6**
DDEM	**Demirkent**	**2.45**	**327**	P			**Pb**	**20 23 15.1**	**-1.6**
GDB	**GEDABAY**	**2.54**	**42**	⇓P			**Pn**	**20 23 15.0**	**+0.8**
GDB				⇓S			**Sb**	**20 23 51.9**	**+1.9**
GDB	**GEDABAY**	**2.54**	**42**	P			**Pn**	**20 23 15.0**	**+0.8**
DAGI	**Agillar**	**2.54**	**332**	*i* P			**Pn**	**20 23 15.6**	**+1.4**
AKH	**Akhalkalaki**	**2.56**	**360**	P			**Pb**	**20 23 17.7**	**-0.9**
AKH				S			**Sg**	**20 23 53.5**	**-0.7**
AKH	**Akhalkalaki**	**2.56**	**360**	P			**Pb**	**20 23 17.7**	**-0.9**
AKH				S			**Sg**	**20 23 53.4**	**-0.7**
AKH	**Akhalkalaki**	**2.56**	**360**	P			**Pb**	**20 23 17.7**	**-0.9**
KOPT	**Kop Dagi**	**2.61**	**297**	*e*Pn			**Pb**	**20 23 17.5**	**-2.1**
KOPT	**Kop Dagi**	**2.61**	**297**	*e*Pn			**Pb**	**20 23 17.5**	**-2.1**
QZX	**Qazax, Azerbai**	**2.63**	**32**	P			**Pn**	**20 23 17.4**	**+2.2**
SNR=50									
QZX				⇓S			**Sb**	**20 23 54.8**	**+2.5**
QZX	**Qazax, Azerbai**	**2.63**	**32**	P			**Pn**	**20 23 17.4**	**+2.2**
SNR=50									
ARTV	**Artvin**	**2.63**	**333**	*i* P			**Pn**	**20 23 16.9**	**+1.4**
ARTV	**Artvin**	**2.63**	**333**	P			**Pn**	**20 23 16.9**	**+1.4**
ARTV	**Artvin**	**2.63**	**333**	*e*Pn			**Pn**	**20 23 17.1**	**+1.6**
MARD	**Mardin**	**2.65**	**235**	*i* P			**Pb**	**20 23 18.1**	**-2.0**
MARD	**Mardin**	**2.65**	**235**	*e*Pn			**Pn**	**20 23 14.7**	**-1.0**
MARD	**Mardin**	**2.65**	**235**	*e*Pn			**Pn**	**20 23 14.7**	**-1.0**
EPOS	**Posof**	**2.72**	**347**	*i* P			**Pn**	**20 23 15.9**	**-0.7**
EPOS	**Posof**	**2.72**	**347**	P			**Pn**	**20 23 15.9**	**-0.7**
GANJ	**Ganja**	**2.81**	**49**	⇑P			**Pn**	**20 23 17.4**	**-0.3**
GANJ				⇑S			**Sb**	**20 23 57.8**	**+0.3**
GANJ	**Ganja**	**2.81**	**49**	P			**Pn**	**20 23 17.4**	**-0.3**
DIYA	**Diyarbakir**	**2.83**	**252**	*i* P			**Pn**	**20 23 18.4**	**+0.4**
DIYA	**Diyarbakir**	**2.83**	**252**	P			**Pn**	**20 23 18.4**	**+0.4**
DBOC	**Borcka**	**2.87**	**331**	*i* P			**Pb**	**20 23 22.2**	**-1.6**
DBOC	**Borcka**	**2.87**	**331**	P			**Pb**	**20 23 22.2**	**-1.6**
DGRG	**David-gareji**	**2.96**	**28**	P			**Pn**	**20 23 22.2**	**+2.3**
DGRG				S			**Sg**	**20 24 05.6**	**-1.6**
DGRG	**David-gareji**	**2.96**	**28**	P			**Pn**	**20 23 22.2**	**+2.3**
DGRG				S			**Sg**	**20 24 05.5**	**-1.6**
DGRG	**David-gareji**	**2.96**	**28**	P			**Pn**	**20 23 21.6**	**+1.7**
TBLG	**Delisi**	**3.03**	**18**	P			**Pb**	**20 23 24.6**	**-1.9**
TBLG				S			**Sb**	**20 24 06.8**	**+3.0**
TBLG	**Delisi**	**3.03**	**18**	P			**Pb**	**20 23 24.5**	**-1.9**
TBLG				S			**Sb**	**20 24 06.8**	**+3.0**
TBLG	**Delisi**	**3.03**	**18**	P			**Pn**	**20 23 21.7**	**+1.0**
EUZM	**Uzumlu**	**3.09**	**287**	*i* P			**Pb**	**20 23 26.0**	**-1.5**
MNGR	**Mingechevir, A**	**3.35**	**54**	⇑P			**Pn**	**20 23 26.0**	**+0.8**
SNR=17									
MNGR	**Mingechevir, A**	**3.35**	**54**	P			**Pn**	**20 23 26.0**	**+0.8**
SNR=17									
ZRD	**Zardab**	**3.52**	**65**	⇑P			**Pn**	**20 23 27.1**	**-0.4**
SNR=9.9									
ZRD	**Zardab**	**3.52**	**65**	P			**Pn**	**20 23 27.1**	**-0.4**
SNR=9.9									
KELT	**Kelkit**	**3.54**	**293**	*i* P			**Pb**	**20 23 34.7**	**-0.7**
ZKTA	**Zakatala**	**3.66**	**39**	⇑P			**Pn**	**20 23 30.6**	**+1.1**
SNR=14									
SEKA	**Sheki**	**3.68**	**49**	⇓P			**Pn**	**20 23 31.2**	**+1.4**
SNR=18									
SEKA	**Sheki**	**3.68**	**49**	P			**Pn**	**20 23 31.2**	**+1.4**
SNR=18									
ONI	**Oni**	**3.74**	**359**	P			**Pb**	**20 23 39.5**	**+0.9**
ONI				S			**Sg**	**20 24 37.5**	**+5.5**
ONI	**Oni**	**3.74**	**359**	P			**Pb**	**20 23 39.5**	**+0.9**
LRK	**Lerik**	**3.78**	**92**	⇓P			**Pn**	**20 23 28.1**	**-3.1**
SNR=7.1									
LRK	**Lerik**	**3.78**	**92**	P			**Pn**	**20 23 28.1**	**-3.1**
SNR=7.1									
GLBA	**Cilabad**	**3.82**	**83**	⇑P			**Pn**	**20 23 29.5**	**-2.0**
SNR=8.9									
GLBA	**Cilabad**	**3.82**	**83**	P			**Pn**	**20 23 29.5**	**-2.0**
SNR=8.9									
KDMR	**Kurdemir**	**3.91**	**66**	⇑P			**Pn**	**20 23 32.4**	**-0.5**
SNR=6.2									
KDMR	**Kurdemir**	**3.91**	**66**	P			**Pn**	**20 23 32.4**	**-0.5**
SNR=6.2									
QBL	**Gabala**	**3.93**	**56**	⇓P			**Pn**	**20 23 33.3**	**+0.2**
SNR=22									
QBL	**Gabala**	**3.93**	**56**	P			**Pn**	**20 23 33.3**	**+0.2**
SNR=22									
ZEI	**Tsey**	**3.94**	**4**	*e*P			**Pn**	**20 23 33.9**	**+0.4**
ZEI				pmax			pmax		
comp=Z,16nm,0.6s									
LACR	**Lac**	**4.02**	**8**	*e*P			**Pb**	**20 23 44.2**	**+0.8**
LACR				pmax			pmax		
comp=Z,108nm,1.0s									
DIGR	**Digorskoe uzhe**	**4.05**	**1**	*e*P			**Pb**	**20 23 46.4**	**+2.5**
DIGR				pmax			pmax		
comp=Z,18nm,0.6s									
IML	**Ismayilli**	**4.08**	**60**	⇑P			**Pn**	**20 23 35.2**	**-0.1**
SNR=6.4									
IML	**Ismayilli**	**4.08**	**60**	P			**Pn**	**20 23 35.2**	**-0.1**
SNR=6.4									
XNQ	**Khinaliq**	**4.24**	**55**	⇓P			**Pn**	**20 23 38.0**	**+0.4**
SNR=4.0									
XNQ	**Khinaliq**	**4.24**	**55**	P			**Pn**	**20 23 38.0**	**+0.4**
SNR=4.0									
GNBR	**Gunib**	**4.40**	**35**	*e*P			**Pb**	**20 23 49.5**	**-0.4**
GNBR				pmax			pmax		
comp=Z,55nm,0.9s									
LSNR	**Lesken**	**4.43**	**3**	*e*P			**Pb**	**20 23 52.8**	**+2.4**
LSNR				pmax			pmax		
comp=Z,170nm,1.5s									
NEY	**Neytrino**	**4.44**	**352**	*e*P			**Pb**	**20 23 51.7**	**+1.1**
NEY				pmax			pmax		
comp=Z,87nm,0.8s									
GROC	**Groznyy**	**4.68**	**21**	*e*P			**Pb**	**20 23 54.0**	**-0.6**
GROC				pmax			pmax		
comp=Z,22nm,1.0s									
CUKAN	**kangal_SIVAS**	**4.73**	**278**	*i* P			**Pb**	**20 23 56.5**	**+0.9**
KBZ	**Khabaz**	**4.90**	**355**	Pn			**Pn**	**20 23 47.4**	**+1.0**
comp=Z,0.1nm,0.3s,baz=195,slow=16,SNR=2.5									
KIV	**Kislovodsk**	**5.14**	**353**	*e*P			**Pn**	**20 23 49.6**	**-0.2**
KIV				pmax			pmax		
comp=Z,5.0nm,1.1s									
KIV		

	comp=Z,23nm,1.5s						
VSU	**Vasula**	**22.42**	**337**⇑	*i* P	**P**	**20 27 33.0**	**+1.5**
VSU				pmax	pmax		
	comp=Z,17nm,0.9s						
VSU	**Vasula**	**22.42**	**337**	*i* P	**P**	**20 27 33.0**	**+1.5**
	comp=Z,17nm,0.9s						
BRVK	**Borovoye**	**23.23**	**44**	*e*P	**P**	**20 27 41.4**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**23.23**	**44**	*e*P	**P**	**20 27 41.3**	**+1.3**
	comp=Z,3.3nm,0.9s						
BRVK	**Borovoye**	**23.23**	**44**	*e*P	**P**	**20 27 41.4**	**+1.3**
	comp=Z,3.3nm,0.9s						
BVAR	**Borovoye Array**	**23.28**	**44**	P	**P**	**20 27 41.3**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=231,slow=13,SNR=2.8						
GERES	**GERESS Array B**	**23.57**	**305**	P	**P**	**20 27 44.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.9,SNR=5.0						
GERES	**GERESS Array B**	**23.57**	**305**	*e*P	**P**	**20 27 46.2**	**+2.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**23.70**	**71**	P	**P**	**20 27 45.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=268,slow=7.5,SNR=4.3						
AAK				LR	LR	20 37 49.5	
	comp=Z,66nm,19.8s,baz=226,slow=39						
AAK	**Ala-Archa**	**23.70**	**71***d*	*i* P	**P**	**20 27 46.0**	**+0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FIA0	**FINESS Array S**	**25.07**	**340**	*e*P	**P**	**20 27 54.8**	**-2.4**
FIA0	**FINESS Array S**	**25.07**	**340**	*e*P	**P**	**20 27 54.8**	**-2.4**
FINES	**FINESS Array B**	**25.07**	**340**	P	**P**	**20 27 54.7**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=148,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**27.26**	**53**	P	**P**	**20 28 17.0**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=263,slow=9.1,SNR=11						
KURK	**Kurchatov**	**27.33**	**53**⇑	*e*P	**P**	**20 28 18.2**	**+0.4**
KURK				*i* *P	**sP**	**20 28 20.7**	**+1.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**27.33**	**53**	*e*P	**P**	**20 28 18.2**	**+0.4**
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**27.33**	**53**	*e*P	**P**	**20 28 17.0**	**-0.9**
HFS	**Hagfors**	**28.37**	**328**	P	**P**	**20 28 27.1**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=137,slow=15,SNR=3.1						
MK31	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.1**	**-1.3**
MK31	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.1**	**-1.3**
MK31	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.1**	**-1.3**
MK32	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.6**	**-0.7**
MK32	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.6**	**-0.7**
MKAR	**Makanchi Array**	**29.29**	**62**	P	**P**	**20 28 34.6**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=265,slow=7.3,SNR=6.0						
MKAR	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 37.4**	**+2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.2**	**-1.1**
	comp=Z,7.3nm,0.8s						
MKAR	**Makanchi Array**	**29.29**	**62**	*e*P	**P**	**20 28 34.2**	**-1.1**
	comp=Z,7.3nm,0.8s						
ZALV	**Zalesovo Beam**	**31.72**	**48**	P	**P**	**20 28 56.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=262,slow=10.0,SNR=3.0						
ZALV				LR	LR	20 42 42.7	
	comp=Z,47nm,21.2s,baz=250,slow=38						
ZAA1	**Zalesovo Array**	**31.72**	**48**	*e*P	**P**	**20 28 56.8**	**+0.1**
ZAA1	**Zalesovo Array**	**31.72**	**48**	*e*P	**P**	**20 28 56.8**	**+0.1**
TAM	**Tamanrasset**	**36.05**	**255**	*e*P	**P**	**20 29 33.8**	**-1.0**
TAM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TAM	**Tamanrasset**	**36.05**	**255**	*e*P	**P**	**20 29 33.8**	**-1.0**
	comp=Z,2.2nm,1.0s						
TAM	**Tamanrasset**	**36.05**	**255**	*e*P	**P**	**20 29 33.8**	**-1.0**
	comp=Z,2.2nm,1.0s						
ESDC	**Sonseca Array**	**36.43**	**287**	P	**P**	**20 29 36.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=63,slow=8.3,SNR=11						
TOA1	**Torodi Ar. Sit**	**44.92**	**247**	*e*P	**P**	**20 30 46.5**	**-1.7**
	comp=Z,11nm,1.6s						
TOA1	**Torodi Ar. Sit**	**44.92**	**247**	*e*P	**P**	**20 30 46.5**	**-1.7**
	comp=Z,11nm,1.6s						
TORD	**Torodi Ar. Bea**	**44.92**	**247**	P	**P**	**20 30 46.5**	**-1.7**
	comp=Z,1.7nm,0.9s,baz=54,slow=3.8,SNR=9.9						
SONM	**Songino Array**	**45.45**	**57**	LR	LR	20 52 51.3	
	comp=Z,83nm,18.7s,baz=272,slow=40						
ULN	**Ulaanbaatar**	**45.88**	**57**⇑	*e*P	**P**	**20 30 56.5**	**+0.9**
ULN				*i* *P	**sP**	**20 30 58.6**	**+1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**45.88**	**57**	*e*P	**P**	**20 30 55.8**	**+0.2**
ULN	**Ulaanbaatar**	**45.88**	**57**	*e*P	**P**	**20 30 55.8**	**+0.2**
CM31	**Chiang Mai Arr**	**51.89**	**97**	*e*P	**P**	**20 31 41.2**	**-0.7**
CM31	**Chiang Mai Arr**	**51.89**	**97**	*e*P	**P**	**20 31 41.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**51.89**	**97**	P	**P**	**20 31 41.5**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=300,slow=8.5,SNR=8.8						
CMAR	**Chiang Mai Arr**	**51.89**	**97**	*e*P	**P**	**20 31 44.6**	**+2.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YAK	**Yakutsk**	**54.86**	**35**⇑	*e*P	**P**	**20 32 03.4**	**+0.3**
YAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**65.17**	**20***c*	*e*P	**P**	**20 33 14.5**	**+0.7**
BILL				pmax	pmax		
	comp=Z,21nm,1.9s						

DDA ***25*** *20:26:53.8,38°.84N×43°.57E, h6km, MI3.9*
ISK ***25*** *20:26:53.4,38°.83N×43°.50E, h5km, ML3.5*
AZER ***25*** *20:26:54.6±4.1,38°.22N×43°.75E, h15km, Error ellipse: s-maj=48.8km s-min=17.6km az=88.0*
CSEM ***25*** *20:26:54.2±0.3,38°.83N×43°.59E, h2km, ML3.5, Error ellipse: s-maj=6.5km s-min=4.5km az=76.0*
ISC 25 20:26:54.2±1.1,**38°.84N**±0°.02×**43°.58E**±0°.02,**h4**km±10km,
n57,σ0**s99**/91,**5C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.29**	**211**	*e*PG	**Pg**	**20 27 00.5**	**+0.6**
VANB				*e*SG	**Sb**	**20 27 06.7**	**-0.6**
VANB	**Van**	**0.29**	**211**	*e*Pg	**Pg**	**20 27 00.5**	**+0.6**
VANB				*e*Sg	**Sb**	**20 27 06.7**	**-0.6**
GEVA	**Gevas**	**0.67**	**218**	*i* P	**Pg**	**20 27 05.8**	**-1.3**
GEVA				*i* S	**Sb**	**20 27 17.5**	**-0.8**
GEVA	**Gevas**	**0.67**	**218**	P	**Pg**	**20 27 05.8**	**-1.3**
GEVA				S	**Sb**	**20 27 17.5**	**-0.8**
DYDN	**Diyadin**	**0.70**	**7**	*i* P	**Pg**	**20 27 07.5**	**-0.3**
DYDN				*i* S	**Sb**	**20 27 19.3**	**-0.1**
DYDN	**Diyadin**	**0.70**	**7**	P	**Pg**	**20 27 07.5**	**-0.3**
DYDN				S	**Sb**	**20 27 19.3**	**-0.1**
TUTA	**Tutak**	**0.82**	**313**	*i* P	**Pg**	**20 27 08.9**	**-1.0**
TUTA				*i* S	**Sg**	**20 27 20.2**	**-0.3**
TUTA	**Tutak**	**0.82**	**313**	P	**Pg**	**20 27 08.9**	**-1.0**
TUTA				S	**Sg**	**20 27 20.2**	**-0.3**
BASK	**Baskale_VAN**	**0.86**	**157**	*i* P	**Pg**	**20 27 09.8**	**-0.9**
BASK				*i* S	**Sb**	**20 27 23.1**	**-0.6**
BASK	**Baskale_VAN**	**0.86**	**157**	P	**Pg**	**20 27 09.8**	**-0.9**
BASK				S	**Sb**	**20 27 23.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.86**	**328**	*e*PG	**Pg**	**20 27 10.1**	**-0.7**
AGRB				*e*SG	**Sb**	**20 27 23.4**	**-0.5**
AGRB	**Hanur-Agry**	**0.86**	**328**	*e*Pg	**Pg**	**20 27 10.1**	**-0.7**
AGRB				*e*Sg	**Sb**	**20 27 23.4**	**-0.5**
EKAR	**Karacoban**	**1.25**	**290**	*i* P	**Pn**	**20 27 18.5**	**-0.2**
EKAR				*i* S	**Sn**	**20 27 36.6**	**+0.4**
EKAR	**Karacoban**	**1.25**	**290**	P	**Pn**	**20 27 18.5**	**-0.2**
EKAR				S	**Sn**	**20 27 36.6**	**+0.4**
HAKT	**HAKKARI**	**1.29**	**176**	*i* P	**Pg**	**20 27 17.0**	**-1.9**
HAKT				*i* S	**Sg**	**20 27 33.9**	**-1.8**
HAKT	**HAKKARI**	**1.29**	**176**	P	**Pg**	**20 27 17.0**	**-1.9**
HAKT				S	**Sg**	**20 27 33.9**	**-1.8**
EATA	**Eleskirt**	**1.32**	**321**	*i* P	**Pn**	**20 27 18.4**	**-1.4**
EATA				*i* S	**Sg**	**20 27 35.6**	**-1.2**
EATA	**Eleskirt**	**1.32**	**321**	P	**Pn**	**20 27 18.4**	**-1.4**
EATA				S	**Sg**	**20 27 35.6**	**-1.2**
NAX	**Nakhchivan**	**1.53**	**77**	⇑P	**Pg**	**20 27 23.3**	**-0.2**
NAX				⇓S	**Sg**	**20 27 43.5**	**+0.2**
NAX	**Nakhchivan**	**1.53**	**77**	P	**Pg**	**20 27 23.3**	**-0.2**
NAX				S	**Sg**	**20 27 43.5**	**+0.2**
CUKT	**Cukurca**	**1.59**	**179**	*e*PN	**Pg**	**20 27 24.4**	**-0.4**
CUKT	**Cukurca**	**1.59**	**179**	*i* P	**Pg**	**20 27 24.4**	**-0.4**
CUKT				*i* S	**Sg**	**20 27 47.7**	**+2.2**
CUKT	**Cukurca**	**1.59**	**179**	P	**Pg**	**20 27 24.4**	**-0.4**
CUKT				S	**Sg**	**20 27 47.7**	**+2.2**
SIRN	**S¨–rnak**	**1.63**	**215**	*i* P	**Pg**	**20 27 28.0**	**+2.5**
SIRN	**S¨–rnak**	**1.63**	**215**	P	**Pg**	**20 27 28.0**	**+2.5**
VRTB	**Varto-Mus**	**1.69**	**281**	*e*PN	**Pn**	**20 27 24.4**	**-0.3**
VRTB	**Varto-Mus**	**1.69**	**281**	*e*Pn	**Pn**	**20 27 24.4**	**-0.3**
HOMI	**Horasan**	**1.77**	**313**	*i* P	**Pb**	**20 27 27.3**	**0.0**
HOMI				*i* S	**Sg**	**20 27 53.3**	**+2.2**
BNGL	**BINGOL**	**1.90**	**274**	*i* P	**Pb**	**20 27 29.7**	**+0.1**
BNGL				*i* S	**Sb**	**20 27 53.5**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**331**	*e*PN	**Pb**	**20 27 29.8**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.96**	**331**	*e*Pn	**Pb**	**20 27 29.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*e*PN	**Pn**	**20 27 29.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*i* P	**Pn**	**20 27 29.0**	**+0.2**
SVAN				*i* S	**Sn**	**20 27 54.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	*e*Pn	**Pn**	**20 27 29.2**	**+0.4**
SVAN				S	**Sn**	**20 27 54.2**	**0.0**
ERZM	**Erzurum**	**2.02**	**302**	*i* P	**Pb**	**20 27 31.5**	**-0.1**
ERZM	**Erzurum**	**2.02**	**302**	P	**Pb**	**20 27 31.5**	**-0.1**
BTMN	**Batman**	**2.05**	**243**	*i* P	**Pn**	**20 27 30.0**	**+0.4**
BTMN				*i* S	**Sb**	**20 27 58.2**	**+0.2**
BTMN	**Batman**	**2.05**	**243**	P	**Pn**	**20 27 30.0**	**+0.4**
BTMN				S	**Sb**	**20 27 58.2**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	*i* P	**Pb**	**20 27 33.6**	**-0.5**
ECAT				*i* S	**Sb**	**20 28 01.5**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.16**	**291**	P	**Pb**	**20 27 33.6**	**-0.5**
ECAT				S	**Sb**	**20 28 01.5**	**+0.2**
BNGB	**Bing¨¶l**	**2.27**	**275**	*e*PN	**Pn**	**20 27 33.2**	**+0.6**
BINT	**Bingol**	**2.41**	**272**	*e*Pn	**Pn**	**20 27 33.2**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.44**	**285**	*e*PN	**Pn**	**20 27 35.6**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.44**	**285**	*e*Pn	**Pn**	**20 27 35.6**	**+0.6**
GDB	**GEDABAY**	**2.51**	**41**	⇑P	**Pb**	**20 27 39.9**	**-0.1**
GDB				⇑S	**Sg**	**20 28 17.1**	**+2.1**
GDB	**GEDABAY**	**2.51**	**41**	P	**Pb**	**20 27 39.9**	**-0.1**
AKH	**Akhalkalaki**	**2.56**	**359**	*e*PN	**Pn**	**20 27 37.9**	**+1.1**
AKH	**Akhalkalaki**	**2.56**	**359**	*e*Pn	**Pn**	**20 27 37.9**	**+1.1**
QZX	**Qazax, Azerbai**	**2.60**	**31**	⇓P	**Pb**	**20 27 41.9**	**+0.4**
QZX				⇓S	**Sg**	**20 28 20.4**	**+2.5**
QZX	**Qazax, Azerbai**	**2.60**	**31**	P	**Pb**	**20 27 41.9**	**+0.4**
MARD	**Mardin**	**2.69**	**236**	*i* P	**Pn**	**20 27 38.4**	**0.0**
MARD				*i* S	**Sb**	**20 28 16.9**	**+0.5**
GANJ	**Ganja**	**2.77**	**49**	⇑P	**Pb**	**20 27 44.2**	**-0.2**
GANJ				⇑S	**Sg**	**20 28 22.8**	**-0.6**
GANJ	**Ganja**	**2.77**	**49**	P	**Pb**	**20 27 44.2**	**-0.2**
MAZI	**Mazidag**	**2.83**	**242**	*e*PN	**Pn**	**20 27 39.9**	**-0.5**
MAZI	**Mazidag**	**2.83**	**242**	*e*Pn	**Pn**	**20 27 39.9**	**-0.5**
PTK	**Pertek**	**3.27**	**272**	*e*PN	**Pn**	**20 27 47.6**	**+1.1**
PTK	**Pertek**	**3.27**	**272**	*e*Pn	**Pn**	**20 27 47.6**	**+1.1**

DDA ***25*** *20:32:39.8,38°.63N×43°.20E, h14km, MI3.8*
ISK ***25*** *20:32:39.1,38°.67N×43°.25E, h5km, ML3.0*
CSEM ***25*** *20:32:40.6±0.3,38°.64N×43°.18E, h5km, ML3.0, Error ellipse: s-maj=7.0km s-min=4.8km az=69.0*
ISC 25 20:32:39.9±0.9,**38°.63N**±0°.02×**43°.16E**±0°.02,**h15**km±8km,
n51,σ1**s15**/74,**2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**102**	*e*PG	**Pg**	**20 32 44.1**	**-0.3**
VANB				*e*SG	**Sb**	**20 32 48.0**	**-0.3**
VANB	**Van**	**0.18**	**102**	*e*Pg	**Pg**	**20 32 44.1**	**-0.3**
VANB				*e*Sg	**Sb**	**20 32 48.0**	**-0.3**
GEVA	**Gevas**	**0.33**	**195**	⇓*i*P	**Pg**	**20 32 46.1**	**-0.6**
GEVA				*i* S	**Sb**	**20 32 52.7**	**0.0**
GEVA	**Gevas**	**0.33**	**195**	P	**Pg**	**20 32 46.2**	**-0.6**
GEVA				S	**Sb**	**20 32 52.7**	**0.0**
TUTA	**Tutak**	**0.82**	**341**	⇓*i*P	**Pg**	**20 32 55.4**	**-0.4**
TUTA				*i* S	**Sb**	**20 33 06.5**	**-0.3**
TUTA	**Tutak**	**0.82**	**341**	P	**Pg**	**20 32 55.4**	**-0.4**
TUTA				S	**Sb**	**20 33 06.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.95**	**352**	*e*PG	**Pb**	**20 32 57.8**	**-0.4**
AGRB				*e*SG	**Sn**	**20 33 11.4**	**-0.8**
AGRB	**Hanur-Agry**	**0.95**	**352**	*e*Pg	**Pb**	**20 32 57.8**	**-0.4**
AGRB				*e*Sg	**Sn**	**20 33 11.4**	**-0.8**
EKAR	**Karacoban**	**1.06**	**306**	*i* P	**Pg**	**20 33 00.8**	**+0.4**
EKAR				*i* S	**Sn**	**20 33 19.9**	**+5.0**
EKAR	**Karacoban**	**1.06**	**306**	P	**Pg**	**20 33 00.8**	**+0.4**
HAKT	**HAKKARI**	**1.15**	**158**	*i* P	**Pg**	**20 33 01.8**	**-0.4**
HAKT				*i* S	**Sb**	**20 33 16.4**	**-0.1**
HAKT	**HAKKARI**	**1.15**	**158**	P	**Pg**	**20 33 01.8**	**-0.4**
HAKT				S	**Sb**	**20 33 16.4**	**-0.1**
EATA	**Eleskirt**	**1.33**	**337**	*i* P	**Pg**	**20 33 05.0**	**-0.7**
EATA				*i* S	**Sg**	**20 33 24.4**	**+1.3**
EATA	**Eleskirt**	**1.33**	**337**	P	**Pg**	**20 33 05.0**	**-0.7**
EATA				S	**Sg**	**20 33 24.4**	**+1.3**
CUKT	**Cukurca**	**1.43**	**166**	*e*PN	**Pg**	**20 33 07.3**	**0.0**
CUKT	**Cukurca**	**1.43**	**166**	*i* P	**Pg**	**20 33 08.3**	**+1.0**
CUKT	**Cukurca**	**1.43**	**166**	*e*Pn	**Pg**	**20 33 07.3**	**0.0**
CUKT	**Cukurca**	**1.43**	**166**	P	**Pg**	**20 33 08.3**	**+1.0**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*PN	**Pg**	**20 33 07.5**	**+0.1**
VRTB	**Varto-Mus**	**1.43**	**292**	*i* P	**Pn**	**20 33 04.6**	**-0.9**
VRTB	**Varto-Mus**	**1.43**	**292**	P	**Pn**	**20 33 04.6**	**-0.9**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*Pn	**Pg**	**20 33 07.6**	**+0.1**
BNGL	**BINGOL**	**1.61**	**282**	*i* P	**Pg**	**20 33 10.3**	**-0.5**
BNGL				*i* S	**Sg**	**20 33 33.4**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e*PN	**Pg**	**20 33 10.3**	**-0.7**
SVAN				*e*SN	**Sg**	**20 33 33.8**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*i* P	**Pg**	**20 33 10.6**	**-0.4**
SVAN				*i* S	**Sb**	**20 33 30.0**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e*Pn	**Pg**	**20 33 10.3**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	P	**Pg**	**20 33 10.6**	**-0.4**
SVAN				S	**Sb**	**20 33 30.0**	**+0.3**
SVAN				*e*Sn	**Sg**	**20 33 33.8**	**+1.8**
BTMN	**Batman**	**1.66**	**244**	*i* P	**Pg**	**20 33 11.4**	**-0.5**
BTMN				*i* S	**Sb**	**20 33 30.4**	**-0.7**
BTMN	**Batman**	**1.66**	**244**	P	**Pg**	**20 33 11.4**	**-0.5**
BTMN				S	**Sb**	**20 33 30.4**	**-0.7**
DIGO	**Kars**	**1.79**	**5**	*i* P	**Pg**	**20 33 13.4**	**-0.9**
DIGO				*i* S	**Sg**	**20 33 37.9**	**+0.4**
DIGO	**Kars**	**1.79**	**5**	P	**Pg**	**20 33 13.4**	**-0.9**
DIGO				S	**Sg**	**20 33 37.9**	**+0.4**
ERZM	**Erzurum**	**1.89**	**313**	*i* P	**Pg**	**20 33 15.6**	**-0.6**
ERZM	**Erzurum**	**1.89**	**313**	P	**Pg**	**20 33 15.6**	**-0.6**
BNGB	**Bing¨¶l**	**1.97**	**281**	*e*PN	**Pb**	**20 33 15.8**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*PN	**Pb**	**20 33 15.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*Pn	**Pb**	**20 33 15.9**	**-0.6**
EAK	**Akyaka**	**2.08**	**9**	*i* P	**Pg**	**20 33 20.2**	**+0.4**
EAK	**Akyaka**	**2.08**	**9**	P	**Pg**	**20 33 20.2**	**+0.4**
BINT	**Bingol**	**2.11**	**277**	*e*Pn	**Pn**	**20 33 15.8**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*PN	**Pb**	**20 33 18.4**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*Pn	**Pb**	**20 33 18.4**	**-0.9**
MARD	**Mardin**	**2.30**	**236**	*i* P	**Pb**	**20 33 20.1**	**-1.0**
MARD				*i* S	**Sb**	**20 33 48.4**	**-0.9**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pb**	**20 33 22.6**	**-1.0**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pb**	**20 33 22.6**	**-1.0**
DDEM	**Demirkent**	**2.51**	**335**	*i* P	**Pg**	**20 33 26.5**	**-1.5**
DDEM	**Demirkent**	**2.51**	**335**	P	**Pg**	**20 33 26.5**	**-1.5**
DAGI	**Agillar**	**2.63**	**339**	*i* P	**Pb**	**20 33 28.0**	**+1.4**
PTK	**Pertek**	**2.96**	**276**	*e*PN	**Pb**	**20 33 30.0**	**-2.4**
PTK	**Pertek**	**2.96**	**276**	*e*Pn	**Pb**	**20 33 30.0**	**-2.4**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*PN	**Pb**	**20 33 30.9**	**-2.8**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*Pn	**Pb**	**20 33 30.9**	**-2.8**

ISK ***25*** *20:39:25.4,38°.69N×43°.15E, h5km, ML3.4*
CSEM ***25*** *20:39:26.8±0.2,38°.67N×43°.13E, h2km, ML3.4, Error ellipse: s-maj=5.1km s-min=4.2km az=91.0*
DDA ***25*** *20:39:26.1,38°.67N×43°.11E, h3km, MI4.0*
ISC 25 20:39:26.8±1.1,**38°.67N**±0°.02×**43°.09E**±0°.02,**h3**km±10km,
n65,σ1**s25**/95,**1C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**109**	PG	**Pg**	**20 39 31.7**	**+0.2**
VANB				*e*SG	**Sg**	**20 39 36.8**	**+2.0**
VANB	**Van**	**0.25**	**109**	*i* Pg	**Pg**	**20 39 31.7**	**+0.2**
VANB				*e*Sg	**Sg**	**20 39 36.8**	**+2.0**
GEVA	**Gevas**	**0.36**	**184**	⇓*i*P	**Pg**	**20 39 33.1**	**-0.7**
GEVA				*i* S	**Sb**	**20 39 39.8**	**-2.4**
GEVA	**Gevas**	**0.36**	**184**	P	**Pg**	**20 39 33.1**	**-0.7**
GEVA				S	**Sb**	**20 39 39.8**	**-2.4**
VMUR	**Van-Muradiye**	**0.49**	**50**	⇓*i*P	**Pg**	**20 39 36.1**	**-0.1**
VMUR				*i* S	**Sb**	**20 39 44.0**	**-1.9**
VMUR	**Van-Muradiye**	**0.49**	**50**	P	**Pg**	**20 39 36.1**	**-0.1**
VMUR				S	**Sb**	**20 39 44.0**	**-1.9**
TUTA	**Tutak**	**0.76**	**344**	⇓*i*P	**Pg**	**20 39 41.2**	**-0.1**
TUTA				*i* S	**Sg**	**20 39 50.8**	**-0.4**
TUTA	**Tutak**	**0.76**	**344**	P	**Pg**	**20 39 41.2**	**-0.1**
TUTA				S	**Sg**	**20 39 50.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**355**	PG	**Pg**	**20 39 43.6**	**-0.5**
AGRB				*e*SG	**Sb**	**20 39 56.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.90**	**355**	*i* Pg	**Pg**	**20 39 43.6**	**-0.5**
AGRB				*e*Sg	**Sb**	**20 39 56.9**	**-0.9**
DYDN	**Diyadin**	**0.98**	**28**	*i* P	**Pg**	**20 39 44.5**	**-1.2**
DYDN				*i* S	**Sn**	**20 40 04.0**	**+1.6**
DYDN	**Diyadin**	**0.98**	**28**	P	**Pg**	**20 39 44.5**	**-1.2**
EKAR	**Karacoban**	**0.99**	**306**	*i* P	**Pb**	**20 39 46.3**	**-0.5**
EKAR				*i* S	**Sn**	**20 40 07.2**	**+4.6**
EKAR	**Karacoban**	**0.99**	**306**	P	**Pb**	**20 39 46.3**	**-0.5**
HAKT	**HAKKARI**	**1.22**	**156**	*i* P	**Pg**	**20 39 47.9**	**-2.2**
HAKT	**HAKKARI**	**1.22**	**156**	P	**Pg**	**20 39 47.9**	**-2.2**
EATA	**Eleskirt**	**1.27**	**339**	⇓*i*P	**Pg**	**20 39 50.6**	**-0.7**
EATA				*i* S	**Sn**	**20 40 08.7**	**-1.0**
EATA	**Eleskirt**	**1.27**	**339**	P	**Pg**	**20 39 50.6**	**-0.7**
EATA				S	**Sn**	**20 40 08.7**	**-1.0**
SIRN	**S¨–rnak**	**1.29**	**205**	*i* P	**Pg**	**20 39 50.9**	**-0.6**
SIRN				*i* S	**Sn**	**20 40 11.4**	**+1.7**
SIRN	**S¨–rnak**	**1.29**	**205**	P	**Pg**	**20 39 50.9**	**-0.6**
SIRN				S	**Sn**	**20 40 11.4**	**+1.7**
VRTB	**Varto-Mus**	**1.37**	**291**	*e*PN	**Pb**	**20 39 53.2**	**+0.2**
VRTB				*e*SN	**Sn**	**20 40 13.8**	**+2.1**
VRTB	**Varto-Mus**	**1.37**	**291**	*i* P	**Pb**	**20 39 53.3**	**+0.2**
VRTB				*i* S	**Sn**	**20 40 12.6**	**+0.9**
VRTB	**Varto-Mus**	**1.37**	**291**	P	**Pb**	**20 39 53.3**	**+0.2**
VRTB				S	**Sn**	**20 40 12.6**	**+0.9**
VRTB				*e*Sn	**Sn**	**20 40 13.8**	**+2.1**
CUKT	**Cukurca**	**1.48**	**164**	*e*PN	**Pg**	**20 39 55.1**	**-0.1**
CUKT	**Cukurca**	**1.48**	**164**	*i* P	**Pg**	**20 39 55.1**	**-0.1**
CUKT				*i* S	**Sn**	**20 40 17.2**	**+2.8**
CUKT	**Cukurca**	**1.48**	**164**	P	**Pg**	**20 39 55.1**	**-0.1**
CUKT				S	**Sn**	**20 40 17.2**	**+2.8**
BNGL	**BINGOL**	**1.54**	**281**	*i* P	**Pg**	**20 39 56.1**	**-0.3**
BNGL				*i* S	**Sg**	**20 40 18.0**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.58**	**251**	*e*PN	**Pb**	**20 39 56.1**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.58**	**251**	*i* P	**Pb**	**20 39 56.3**	**-0.4**
SVAN				*i* S	**Sb**	**20 40 17.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.58**	**251**	P	**Pb**	**20 39 56.3**	**-0.4**
SVAN				S	**Sb**	**20 40 17.1**	**+0.1**
BTMN	**Batman**	**1.63**	**242**	*i* P	**Pb**	**20 39 57.2**	**-0.4**
BTMN				*i* S	**Sn**	**20 40 17.8**	**-0.4**
BTMN	**Batman**	**1.63**	**242**	P	**Pb**	**20 39 57.2**	**-0.4**
BTMN

RAO				Sn	Sn	20 47 24.7	+0.3
	1μm,0.3s,baz=84,slow=22,SNR=17						
URZ	**Urewera**	**10.73 211**	Pn		Pn	20 49 03.2	+0.1
	0.6nm,0.3s,baz=274,slow=4.8,SNR=6.7						
URZ				Sn	Sn	20 51 03.5	+0.2
	0.6nm,0.3s,baz=189,slow=6.1,SNR=3.3						
OUZ	**Omahuta**	**10.75 234**	*e*Pn		Pn	20 49 10.4	+6.9
THZ	**Tophouse**	**15.47 213**	*e*Pn		Pn	20 50 05.0	-2.9
	172nm,1.9s						
KHZ	**Kahutara**	**15.69 210**	*e*Pn		Pn	20 50 08.7	-1.9
	356nm,1.9s						
OXZ	**Oxford**	**17.08 212**	*e*Pn		Pn	20 50 26.7	-1.7
	100nm,1.6s						
TARA	**Tarawa**	**32.30 339**	*e*P		P	20 52 58.1	-0.7
	13nm,1.0s						
ASAR	**Alice Springs**	**45.08 265**	P		P	20 54 45.5	-0.6
	0.4nm,0.4s,baz=105,slow=7.9,SNR=10.0						
WR1	**Warramunga Arr**	**45.97 270**	*e*P		P	20 54 52.1	-1.1
	9.3nm,1.4s						
WRA	**Warramunga Arr**	**45.97 270**	P		P	20 54 52.1	-1.1
	0.6nm,0.3s,baz=110,slow=8.1,SNR=6.8						
FIA0	**FINESS Array S**	**144.69 342**	*e*PKPdf		**PKPdf**	21 06 05.2	-0.6
FINES	**FINESS Array B**	**144.69 342**	PKP		**PKPdf**	21 06 05.2	-0.6
	3.6nm,1.1s,baz=300,slow=1.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**163.80 171**	PKPab		**PKPab**	21 07 28.4	+2.8
	1.0nm,0.8s,baz=193,slow=4.8,SNR=5.3						
TOA1	**Torodi Ar. Sit**	**163.80 171**	*e*PKPab		**PKPab**	21 07 28.4	+2.8

AZER ***25*** *20:46:53.7±3.7, 38.°19N×42.°96E, h45km, Error ellipse: s-maj=39.8km s-min=20.2km az=172.0*
ISK ***25*** *20:46:56.6, 38.°79N×43.°39E, h2km, ML3.5*
DDA ***25*** *20:46:57.2, 38.°76N×43.°37E, h6km, Ml3.4*
CSEM ***25*** *20:46:58.0±0.2, 38.°77N×43.°37E, h2km, ML3.5, Error ellipse: s-maj=5.2km s-min=3.7km az=88.0*
ISC 25 20:46:58.5±0.8, 38.°78N±0.°02×43.°36E±0.°02, h15km±6km, n57, σ1°27/94, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**173**	*e*PG	**Pg**	**20 47 02.8**	**-0.2**
VANB				*e*SG	**Sg**	**20 47 07.2**	**+1.3**
VANB	**Van**	**0.18**	**173**	*e*Pg	**Pg**	**20 47 02.8**	**-0.2**
VANB				*e*Sg	**Sg**	**20 47 07.2**	**+1.3**
GEVA	**Gevas**	**0.52**	**207**	*i* P	**Pg**	**20 47 07.2**	**-1.6**
GEVA				*i* S	**Sg**	**20 47 15.3**	**-0.5**
GEVA	**Gevas**	**0.52**	**207**	P	**Pg**	**20 47 07.2**	**-1.6**
GEVA				S	**Sg**	**20 47 15.3**	**-0.5**
TUTA	**Tutak**	**0.76**	**326**	*i* P	**Pg**	**20 47 12.0**	**-1.3**
TUTA				*i* S	**Sg**	**20 47 22.2**	**-1.1**
TUTA	**Tutak**	**0.76**	**326**	P	**Pg**	**20 47 12.0**	**-1.3**
TUTA				S	**Sg**	**20 47 22.2**	**-1.1**
DYDN	**Diyadin**	**0.81**	**18**	*i* P	**Pg**	**20 47 12.9**	**-1.3**
DYDN				*i* S	**Sb**	**20 47 24.6**	**-0.6**
DYDN	**Diyadin**	**0.81**	**18**	P	**Pg**	**20 47 12.9**	**-1.3**
DYDN				S	**Sb**	**20 47 24.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.85**	**340**	*e*PG	**Pg**	**20 47 13.3**	**-1.7**
AGRB				*e*SG	**Sb**	**20 47 25.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.85**	**340**	*e*Pg	**Pg**	**20 47 13.3**	**-1.7**
AGRB				*e*Sg	**Sb**	**20 47 25.9**	**-0.4**
BASK	**Baskale_VAN**	**0.88**	**145**	*i* S	**Sg**	**20 47 25.6**	**-1.6**
BASK	**Baskale_VAN**	**0.88**	**145**	S	**Sg**	**20 47 25.6**	**-1.6**
EKAR	**Karacoban**	**1.12**	**296**	*i* P	**Pb**	**20 47 19.4**	**-0.3**
EKAR				*i* S	**Sn**	**20 47 38.9**	**+3.8**
EKAR	**Karacoban**	**1.12**	**296**	P	**Pb**	**20 47 19.4**	**-0.3**
HAKT	**HAKKARI**	**1.25**	**167**	*i* P	**Pg**	**20 47 19.6**	**-2.9**
HAKT				*i* S	**Sb**	**20 47 38.0**	**+0.3**
HAKT	**HAKKARI**	**1.25**	**167**	P	**Pg**	**20 47 19.6**	**-2.9**
HAKT				S	**Sb**	**20 47 38.0**	**+0.3**
EATA	**Eleskirt**	**1.28**	**328**	*i* P	**Pg**	**20 47 21.6**	**-1.6**
EATA				*i* S	**Sn**	**20 47 40.8**	**+1.7**
EATA	**Eleskirt**	**1.28**	**328**	P	**Pg**	**20 47 21.6**	**-1.6**
EATA				S	**Sn**	**20 47 40.8**	**+1.7**
SIRN	**S¨–rnak**	**1.48**	**211**	*i* P	**Pg**	**20 47 25.8**	**-1.2**
SIRN				*i* S	**Sg**	**20 47 45.9**	**-0.3**
SIRN	**S¨–rnak**	**1.48**	**211**	P	**Pg**	**20 47 25.8**	**-1.2**
SIRN				S	**Sg**	**20 47 45.9**	**-0.3**
VRTB	**Varto-Mus**	**1.54**	**285**	*e*PN	**Pb**	**20 47 26.3**	**-0.4**
VRTB				*e*SN	**Sg**	**20 47 47.7**	**-0.3**
VRTB	**Varto-Mus**	**1.54**	**285**	*i* P	**Pb**	**20 47 26.1**	**-0.6**
VRTB				*i* S	**Sg**	**20 47 49.5**	**+1.5**
VRTB	**Varto-Mus**	**1.54**	**285**	*e*Pn	**Pb**	**20 47 26.3**	**-0.4**
VRTB				*e*Sn	**Sg**	**20 47 47.7**	**-0.3**
VRTB				S	**Sg**	**20 47 49.5**	**+1.5**
CUKT	**Cukurca**	**1.54**	**173**	*e*PN	**Pg**	**20 47 27.0**	**-1.1**
CUKT	**Cukurca**	**1.54**	**173**	*i* P	**Pg**	**20 47 27.4**	**-0.7**
CUKT				*i* S	**Sg**	**20 47 47.6**	**-0.4**
CUKT	**Cukurca**	**1.54**	**173**	*e*Pn	**Pg**	**20 47 27.0**	**-1.1**
CUKT	**Cukurca**	**1.54**	**173**	P	**Pg**	**20 47 27.4**	**-0.7**
CUKT				S	**Sg**	**20 47 47.6**	**-0.4**
DIGO	**Kars**	**1.64**	**0**	*i* P	**Pg**	**20 47 28.3**	**-1.7**
DIGO				*i* S	**Sn**	**20 47 48.3**	**+0.4**
DIGO	**Kars**	**1.64**	**0**	P	**Pg**	**20 47 28.3**	**-1.7**
DIGO				S	**Sn**	**20 47 48.3**	**+0.4**
HOMI	**Horasan**	**1.70**	**319**	*i* P	**Pb**	**20 47 29.3**	**-0.2**
HOMI				*i* S	**Sg**	**20 47 55.7**	**+2.5**
NAX	**Nakhchivan**	**1.71**	**76**	⇓P	**Pb**	**20 47 28.9**	**-0.7**
NAX				⇑S	**Sg**	**20 47 54.6**	**+1.1**
NAX	**Nakhchivan**	**1.71**	**76**	P	**Pb**	**20 47 28.9**	**-0.7**
NAX				S	**Sg**	**20 47 54.6**	**+1.1**
BNGL	**BINGOL**	**1.74**	**277**	*i* P	**Pb**	**20 47 30.0**	**-0.1**
BNGL				*i* S	**Sg**	**20 47 52.9**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.81**	**251**	*e*PN	**Pb**	**20 47 30.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.81**	**251**	*e*Pn	**Pb**	**20 47 30.6**	**-0.7**
SVAN				S	**Sg**	**20 47 55.1**	**-1.6**
BTMN	**Batman**	**1.87**	**242**	*i* P	**Pb**	**20 47 31.8**	**-0.5**
BTMN				*i* S	**Sb**	**20 47 56.0**	**+0.5**
BTMN	**Batman**	**1.87**	**242**	P	**Pb**	**20 47 31.8**	**-0.5**
BTMN				S	**Sb**	**20 47 56.0**	**+0.5**
ERZM	**Erzurum**	**1.92**	**307**	*i* P	**Pb**	**20 47 33.1**	**-0.1**
ERZM	**Erzurum**	**1.92**	**307**	P	**Pb**	**20 47 33.1**	**-0.1**
EAK	**Akyaka**	**1.92**	**6**	*i* P	**Pg**	**20 47 34.6**	**-0.7**
EAK				*i* S	**Sg**	**20 48 00.2**	**0.0**
EAK	**Akyaka**	**1.92**	**6**	P	**Pg**	**20 47 34.6**	**-0.7**
EAK				S	**Sg**	**20 48 00.2**	**0.0**
SENK	**Senkaya-Erzuru**	**1.95**	**337**	*e*PN	**Pb**	**20 47 32.2**	**-1.5**
SENK	**Senkaya-Erzuru**	**1.95**	**337**	*e*Pn	**Pb**	**20 47 32.2**	**-1.5**
ECAT	**Cat-ERZURUM**	**2.03**	**295**	*i* P	**Pb**	**20 47 35.1**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.03**	**295**	P	**Pb**	**20 47 35.1**	**-0.1**
BNGB	**Bing¶ll**	**2.10**	**277**	*e*PN	**Pn**	**20 47 34.6**	**+1.3**
BINT	**Bingol**	**2.25**	**273**	*e*Pn	**Pn**	**20 47 34.6**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.29**	**288**	*e*PN	**Pb**	**20 47 37.7**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.29**	**288**	*e*Pn	**Pb**	**20 47 37.7**	**-1.9**
MAZI	**Mazidag**	**2.65**	**241**	*e*PN	**Pn**	**20 47 41.4**	**+0.7**
MAZI	**Mazidag**	**2.65**	**241**	*e*Pn	**Pn**	**20 47 41.4**	**+0.7**
GDB	**GEDABAY**	**2.68**	**43**	⇓P	**Pn**	**20 47 42.5**	**+1.3**
	SNR=3.3						
GDB				⇑S	**Sg**	**20 48 24.2**	**-0.4**
GDB	**GEDABAY**	**2.68**	**43**	P	**Pn**	**20 47 42.5**	**+1.3**
	SNR=3.3						
QZX	**Qazax, Azerbai**	**2.75**	**33**	⇑P	**Pn**	**20 47 44.0**	**+1.9**
	SNR=5.5						
QZX				⇓S	**Sg**	**20 48 24.3**	**-2.6**
QZX	**Qazax, Azerbai**	**2.75**	**33**	P	**Pn**	**20 47 44.0**	**+1.9**
	SNR=5.5						
GANJ	**Ganja**	**2.95**	**50**	⇑P	**Pn**	**20 47 46.0**	**+1.2**
	SNR=6.0						
GANJ				⇓S	**Sb**	**20 48 27.9**	**+1.3**
GANJ	**Ganja**	**2.95**	**50**	P	**Pn**	**20 47 46.0**	**+1.2**
	SNR=6.0						

ISCJB ***25*** *20:49:27.8±1.4, 31.°60S±0.°08×69.°39W±0.°10, h114km±11km, Error ellipse: s-maj=17.7km s-min=7.0km az=44.3*
SJA ***25*** *20:49:27.9±0.5, 31.°63S×69.°42W, h104km±3km, ML3.2, MW4.0*
GUC ***25*** *20:49:27.7±0.3, 31.°50S×69.°65W, h100km±48km, ML3.1*
ISC 25 20:49:28.6±2.3, 31.°61S±0.°09×69.°41W±0.°09, h107km±17km, n11, σ0°55/19, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.22**	**153**	*i* P	**Pn**	**20 49 44.3**	**+0.1**
RTLS				*i* S	**Sn**	**20 49 55.7**	**-0.1**
RTLS				IAML		20 49 56.3	
	comp=Z,1μm,0.5s						
AUSP	**Uspallata**	**0.62**	**178**	*i* P	**Pn**	**20 49 46.2**	**-0.2**
SJA	**San Juan**	**0.73**	**84**	*i* P	**Pn**	**20 49 47.0**	**0.0**
SJA				IAML		20 49 47.3	
	comp=Z,401nm,0.1s						
SJA				*i* S	**Sn**	**20 50 00.9**	**0.0**
RTCV	**Cerro Valdivia**	**0.79**	**109**	*i* P	**Pn**	**20 49 47.0**	**-0.5**
AMOG	**MOGNA**	**1.03**	**50**	*i* P	**Pn**	**20 49 50.1**	**+0.1**
AMOG				*i* S	**Sn**	**20 50 06.3**	**+0.2**
ASAL	**Salagasta**	**1.10**	**154**	*i* P	**Pn**	**20 49 50.4**	**-0.3**
ASAL				*i* S	**Sn**	**20 50 07.4**	**0.0**
ARCO	**CERRO ARCO**	**1.30**	**162**	*i* P	**Pn**	**20 49 52.7**	**-0.4**
FCH	**Farellones**	**1.87**	**203**	*e*P	**Pn**	**20 50 00.6**	**+0.4**
FCH				*i* S	**Sn**	**20 50 25.9**	**+1.7**
FCH				IAML		20 50 26.6	
	comp=N,192nm,0.2s						
PEL	**Peldehue**	**1.88**	**215**	*e*P	**Pn**	**20 49 59.5**	**-0.4**
PEL				*e*S	**Sn**	**20 50 23.6**	**-0.2**
PEL				IAML		20 50 25.1	
	comp=N,203nm,0.2s						
ROCH	**El Roble**	**1.92**	**224**	*e*P	**Pn**	**20 50 00.1**	**-0.6**
ROCH				*i* S	**Sn**	**20 50 24.8**	**-0.4**
ROCH				IAML		20 50 27.9	
	comp=N,126nm,0.3s						
CLCH	**Cerro Calan**	**2.02**	**208**	⇓*i* P	**Pn**	**20 50 01.9**	**0.0**
CLCH				*e*S	**Sn**	**20 50 27.6**	**+0.4**
CLCH				IAML		20 50 29.2	
	comp=E,224nm,0.6s						

IDC 25 20:52:50.8±2.5, 11.°36S×171.°47E, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/27, mbtmp4.2/5, MS3.0/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=91.7km s-min=28.5km az=132.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.28**	**229**	P	P	20 59 39.4	+0.5
	1.4nm,0.5s,baz=53,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**36.69**	**252**	P	P	20 59 59.7	-0.2
	2.7nm,0.4s,baz=84,slow=8.6,SNR=28						
ASAR	**Alice Springs**	**37.74**	**246**	P	P	21 00 08.1	-0.6
	4.2nm,0.4s,baz=74,slow=9.4,SNR=85						
FITZ	**Fitzroy Crossi**	**44.74**	**256**	LR	LR	21 17 13.4	
	comp=Z,23nm,19.3s,baz=120,slow=33						
CMAR	**Chiang Mai Arr**	**77.42**	**292**	P	P	21 04 48.8	+0.3
	1.2nm,0.9s,baz=117,slow=4.5,SNR=9.7						
CMAR				LR	LR	21 36 16.7	
	comp=Z,7.6nm,21.1s,baz=310,slow=34						
ILAR	**Eielson Array**	**82.11**	**17**	P	P	21 05 12.8	-0.2
	0.3nm,0.4s,baz=239,slow=6.9,SNR=7.2						

ISK ***25*** *21:00:23.2, 38.°72N×43.°24E, h5km, ML3.3*
CSEM ***25*** *21:00:24.4±0.2, 38.°71N×43.°21E, h2km, ML3.3, Error ellipse: s-maj=4.8km s-min=3.0km az=71.0*
DDA ***25*** *21:00:24.2, 38.°70N×43.°19E, h10km, Ml3.3*
ISC 25 21:00:25.0±0.9, 38.°71N±0.°02×43.°18E±0.°03, h8km±8km, n52, σ1°00/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**124**	PG	**Pg**	**21 00 29.0**	**-0.1**
VANB				*e*SG	**Sg**	**21 00 33.8**	**+1.8**
VANB	**Van**	**0.20**	**124**	*i* Pg	**Pg**	**21 00 29.0**	**-0.1**
GEVA	**Gevas**	**0.40**	**193**	*i* P	**Pg**	**21 00 31.8**	**-1.2**
GEVA				*i* S	**Sg**	**21 00 38.6**	**+0.3**
GEVA	**Gevas**	**0.40**	**193**	P	**Pg**	**21 00 31.8**	**-1.2**
GEVA				S	**Sg**	**21 00 38.6**	**+0.3**
TUTA	**Tutak**	**0.75**	**338**	*i* P	**Pg**	**21 00 38.7**	**-0.8**
TUTA				*i* S	**Sg**	**21 00 49.3**	**-0.1**
TUTA	**Tutak**	**0.75**	**338**	P	**Pg**	**21 00 38.7**	**-0.8**
TUTA				S	**Sg**	**21 00 49.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.88**	**351**	*e*PG	**Pg**	**21 00 41.0**	**-1.0**
AGRB				*e*SG	**Sb**	**21 00 53.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**351**	*e*Pg	**Pg**	**21 00 41.0**	**-1.0**
AGRB				*e*Sg	**Sb**	**21 00 53.9**	**-0.7**
BASK	**Baskale_VAN**	**0.92**	**135**	*e*P	**Pg**	**21 00 41.3**	**-1.4**
BASK				*i* S	**Sb**	**21 00 55.0**	**-0.7**
BASK	**Baskale_VAN**	**0.92**	**135**	P	**Pg**	**21 00 41.3**	**-1.4**
BASK				S	**Sb**	**21 00 55.0**	**-0.7**
DYDN	**Diyadin**	**0.93**	**25**	*i* P	**Pg**	**21 00 41.5**	**-1.4**
DYDN				*i* S	**Sb**	**21 00 56.0**	**0.0**
DYDN	**Diyadin**	**0.93**	**25**	P	**Pg**	**21 00 41.5**	**-1.4**
DYDN				S	**Sb**	**21 00 56.0**	**0.0**
EKAR	**Karacoban**	**1.03**	**303**	*i* P	**Pn**	**21 00 45.4**	**-0.5**
EKAR				*i* S	**Sn**	**21 01 02.2**	**+1.6**
EKAR	**Karacoban**	**1.03**	**303**	P	**Pn**	**21 00 45.4**	**-0.5**
EKAR				S	**Sn**	**21 01 02.2**	**+1.6**
HAKT	**HAKKARI**	**1.22**	**160**	*i* P	**Pg**	**21 00 46.7**	**-1.7**
HAKT				*i* S	**Sn**	**21 01 05.8**	**+0.5**
HAKT	**HAKKARI**	**1.22**	**160**	P	**Pg**	**21 00 46.7**	**-1.7**
HAKT				S	**Sn**	**21 01 05.8**	**+0.5**
EATA	**Eleskirt**	**1.27**	**335**	*i* P	**Pg**	**21 00 48.2**	**-1.3**
EATA				*i* S	**Sg**	**21 01 05.7**	**-0.3**
EATA	**Eleskirt**	**1.27**	**335**	P	**Pg**	**21 00 48.2**	**-1.3**
EATA				S	**Sg**	**21 01 05.7**	**-0.3**
SIRN	**S¨–rnak**	**1.35**	**207**	*i* P	**Pn**	**21 00 49.6**	**-0.6**
SIRN				*i* S	**Sg**	**21 01 07.6**	**-0.8**
SIRN	**S¨–rnak**	**1.35**	**207**	P	**Pn**	**21 00 49.6**	**-0.6**
SIRN				S	**Sg**	**21 01 07.6**	**-0.8**
VRTB	**Varto-Mus**	**1.42**	**289**	*e*PN	**Pb**	**21 00 51.7**	**-0.1**
VRTB				*e*SN	**Sg**	**21 01 12.1**	**+1.4**
VRTB	**Varto-Mus**	**1.42**	**289**	*i* P	**Pb**	**21 00 51.7**	**-0.1**
VRTB				*i* S	**Sg**	**21 01 11.4**	**+0.8**
VRTB	**Varto-Mus**	**1.42**	**289**	P	**Pb**	**21 00 51.7**	**-0.1**
VRTB				S	**Sg**	**21 01 11.4**	**+0.8**
VRTB				*e*Sn	**Sg**	**21 01 12.1**	**+1.4**
CUKT	**Cukurca**	**1.49**	**167**	*e*PN	**Pg**	**21 00 52.9**	**-0.8**
CUKT	**Cukurca**	**1.49**	**167**	*i* P	**Pg**	**21 00 53.2**	**-0.5**
CUKT				*i* S	**Sg**	**21 01 15.8**	**+2.7**
CUKT	**Cukurca**	**1.49**	**167**	*e*Pn	**Pg**	**21 00 52.9**	**-0.8**
CUKT	**Cukurca**	**1.49**	**167**	P	**Pg**	**21 00 53.2**	**-0.5**
CUKT				S	**Sg**	**21 01 15.8**	**+2.7**
BNGL	**BINGOL**	**1.60**	**279**	*i* P	**Pb**	**21 00 54.7**	**-0.2**
BNGL				*i* S	**Sn**	**21 01 15.3**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.65**	**251**	*e*PN	**Pb**	**21 00 54.9**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**251**	*i* P	Pn	21 00 44.0	-10
SVAN	**Silvan-Diyarba**	**1.65**	**251**	*e*Pn	**Pb**	**21 00 54.9**	**-0.7**
HOMI	**Horasan**	**1.66**	**324**	*i* P	**Pb**	**21 00 55.5**	**-0.5**
HOMI				*i* S	**Sb**	**21 01 17.3**	**+0.1**
BTMN	**Batman**	**1.71**	**242**	*i* P	**Pb**	**21 00 56.0**	**-0.6**
BTMN				*i* S	**Sb**	**21 01 19.1**	**+0.7**
BTMN	**Batman**	**1.71**	**242**	P	**Pb**	**21 00 56.0**	**-0.6**
BTMN				S	**Sb**	**21 01 19.0**	**+0.7**
DIGO	**Kars**	**1.71**	**5**	*i* P	**Pb**	**21 00 56.5**	**-0.4**
DIGO				*i* S	**Sg**	**21 01 21.5**	**+1.4**
DIGO	**Kars**	**1.71**	**5**	P	**Pb**	**21 00 56.5**	**-0.4**
DIGO				S	**Sg**	**21 01 21.5**	**+1.4**
ERZM	**Erzurum**	**1.85**	**311**	*i* P	**Pb**	**21 00 59.1**	**-0.1**
ERZM	**Erzurum**	**1.85**	**311**	P	**Pb**	**21 00 59.1**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.94**	**298**	*i* P	**Pn**	**21 00 59.1**	**+0.8**
ECAT	**Cat-ERZURUM**	**1.94**	**298**	P	**Pn**	**21 00 59.1**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.96**	**341**	*e*PN	**Pn**	**21 00 58.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.96**	**341**	*e*Pn	**Pn**	**21 00 58.9**	**+0.2**
BNGB	**Bing¶ll**	**1.97**	**279**	*e*PN	**Pn**	**21 00 59.3**	**+0.5**
BINT	**Bingol**	**2.11**	**275**	*e*Pn	**Pn**	**21 00 59.3**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*PN	**Pn**	**21 01 02.7**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*e*Pn	**Pn**	**21 01 02.7**	**+1.0**
MAZI	**Mazidag**	**2.49**	**241**	*e*PN	**Pn**	**21 01 05.2**	**-0.7**
MAZI	**Mazidag**	**2.49**	**241**	*e*Pn	**Pn**	**21 01 05.2**	**-0.7**
PTK	**Pertek**	**2.96**	**275**	*e*PN	**Pn**	**21 01 13.9**	**+1.4**
PTK	**Pertek**	**2.96**	**275**	*e*Pn	**Pn**	**21 01 13.9**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.05**	**265**	*e*PN	**Pn**	**21 01 14.6**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.05**	**265**	*e*Pn	**Pn**	**21 01 14.6**	**+0.9**

ISK ***25*** *21:17:59.3, 38.°74N×43.°47E, h5km, ML3.3*
CSEM ***25*** *21:18:00.3±0.3, 38.°71N×43.°51E, h2km, ML3.3, Error ellipse: s-maj=6.7km s-min=3.8km az=83.0*
DDA ***25*** *21:18:00.1, 38.°72N×43.°43E, h5km, Ml3.3*
ISC 25 21:18:01.2±0.9, 38.°72N±0.°02×43.°48E±0.°03, h17km±5km, n52, σ1°25/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**208**	*e*PG	**Pg**	**21 18 04.5**	**-0.9**
VANB				*e*SG	**Sg**	**21 18 09.4**	**+1.3**
VANB	**Van**	**0.14**	**208**	*e*Pg	**Pg**	**21 18 04.5**	**-0.9**
VANB				*e*Sg	**Sg**	**21 18 09.4**	**+1.3**
GEVA	**Gevas**	**0.52**	**219**	*i* P	**Pg**	**21 18 09.8**	**-1.9**
GEVA				*i* S	**Sb**	**21 18 18.5**	**-0.9**
GEVA	**Gevas**	**0.52**	**219**	P	**Pg**	**21 18 09.9**	**-1.9**
GEVA				S	**Sb**	**21 18 18.5**	**-0.9**
BASK	**Baskale_VAN**	**0.79**	**148**	*i* P	**Pg**	**21 18 15.1**	**-1.5**
BASK				*i* S	**Sn**	**21 18 28.9**	**-0.3**
BASK	**Baskale_VAN**	**0.79**	**148**	P	**Pg**	**21 18 15.1**	**-1.5**
BASK				S	**Sn**	**21 18 28.9**	**-0.3**
DYDN	**Diyadin**	**0.84**	**11**	*i* P	**Pb**	**21 18 17.2**	**-0.3**
DYDN				*i* S	**Sb**	**21 18 29.4**	**+0.9**
DYDN	**Diyadin**	**0.84**	**11**	P	**Pb**	**21 18 17.2**	**-0.3**
DYDN				S	**Sb**	**21 18 29.4**	**+0.9**
TUTA	**Tutak**	**0.85**	**323**	*i* P	**Pg**	**21 18 16.4**	**-1.5**
TUTA				*i* S	**Sg**	**21 18 28.1**	**-1.1**
TUTA	**Tutak**	**0.85**	**323**	P	**Pg**	**21 18 16.4**	**-1.5**
TUTA				S	**Sg**	**21 18 28.1**	**-1.1**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*PG	**Pg**	**21 18 17.9**	**-1.5**
AGRB				*e*SG	**Sb**	**21 18 31.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**336**	*e*Pg	**Pg**	**21 18 17.9**	**-1.5**
AGRB				*e*Sg	**Sb**	**21 18 31.5**	**+0.3**
HAKT	**HAKKARI**	**1.18**	**171**	*i* P	**Pg**	**21 18 21.6**	**-2.4**
HAKT				*i* S	**Sg**	**21 18 38.1**	**-1.3**
HAKT	**HAKKARI**	**1.18**	**171**	P	**Pg**	**21 18 21.6**	**-2.4**
HAKT				S	**Sg**	**21 18 38.1**	**-1.3**
EKAR	**Karacoban**	**1.22**	**296**	*i* P	**Pn**	**21 18 25.0**	**+1.2**
EKAR				*i* S	**Sn**	**21 18 41.0**	**+0.9**
EKAR	**Karacoban**	**1.22**	**296**	P	**Pn**	**21 18 25.0**	**+1.2**
EKAR				S	**Sn**	**21 18 41.0**	**+0.9**
EATA	**Eleskirt**	**1.37**	**326**	*i* P	**Pn**	**21 18 25.9**	**0.0**
EATA				*i* S	**Sg**	**21 18 44.0**	**-1.6**
EATA	**Eleskirt**	**1.37**	**326**	P	**Pn**	**21 18 25.9**	**0.0**
EATA				S	**Sg**	**21 18 44.0**	**-1.6**
CUKT	**Cukurca**	**1.48**	**176**	*e*PN	**Pg**	**21 18 28.7**	**-0.9**
CUKT	**Cukurca**	**1.48**	**176**	*i* P	**Pg**	**21 18 28.9**	**-0.7**
CUKT				*i* S	**Sg**	**21 18 50.9**	**+2.1**
CUKT	**Cukurca**	**1.48**	**176**	*e*Pn	**Pg**	**21 18 28.7**	**-0.9**
CUKT				S	**Sg**	**21 18 50.9**	**+2.1**
SIRN	**S¨–rnak**	**1.48**	**215**	*i* P	**Pg**	**21 18 28.8**	**-1.0**
SIRN				*i* S	**Sg**	**21 18 49.9**	**+0.8**
SIRN	**S¨–rnak**	**1.48**	**215**	P	**Pg**	**21 18 28.8**	**-1.0**
SIRN				S	**Sg**	**21 18 49.9**	**+0.8**
VRTB	**Varto-Mus**	**1.64**	**286**	*e*PN	**Pb**	**21 18 30.6**	**-0.4**
VRTB	**Varto-Mus**	**1.64**	**286**	*i* P	**Pg**	**21 18 31.4**	**-1.3**
VRTB				*i* S	**Sg**	**21 18 53.9**	**-0.1**
VRTB	**Varto-Mus**	**1.64**	**286**	*e*Pn	**Pb**	**21 18 30.6**	**-0.4**
VRTB	**Varto-Mus**	**1.64**	**286**	P	**Pg**	**21 18 31.4**	**-1.3**
VRTB				S	**Sg**	**21 18 53.9**	**-0.1**
DIGO	**Kars**	**1.69**	**357**	*i* P	**Pb**	**21 18 31.9**	**-0.1**
DIGO				*i* S	**Sg**	**21 18 59.1**	**+3.2**
DIGO	**Kars**	**1.69**	**357**	P	**Pb**	**21 18 31.9**	**-0.1**
HOMI	**Horasan**	**1.80**	**318**	*i* P	**Pg**	**21 18 34.1**	**-1.6**
HOMI				*i* S	**Sg**	**21 19 00.1**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*PN	**Pn**	**21 18 33.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*i* P	**Pb**	**21 18 34.5**	**-0.5**
SVAN				*i* S	**Sb**	**21 18 58.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*Pn	**Pn**	**21 18 33.3**	**+0.8**

*CSEM **25** 21:38:05.3±0.2, 38°.64N×43°.19E, h^{2km}, ML3.8, Error ellipse: s-maj=5.1km s-min=4.5km az=90.0*

ISC 25 21:38:06.0±0.9, 38°.64N±0°.02×43°.18E±0°.02, h^{7km}±7km, n111, σ1♀60/133, mb3.6/3, 4C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**105**	PG	**Pg**	**21 38 09.1**	**-0.4**
VANB				*e*SG	**Sg**	**21 38 13.2**	**+1.3**
VANB	**Van**	**0.17**	**105**	*i* Pg	**Pg**	**21 38 09.1**	**-0.4**
VANB				*e*Sg	**Sg**	**21 38 13.3**	**+1.3**
GEVA	**Gevas**	**0.34**	**196**	⇑*i*P	**Pg**	**21 38 12.0**	**-0.7**
GEVA				*i* S	**Sb**	**21 38 19.4**	**-0.6**
GEVA	**Gevas**	**0.34**	**196**	P	**Pg**	**21 38 12.0**	**-0.7**
GEVA				S	**Sb**	**21 38 19.5**	**-0.6**
VMUR	**Van-Muradiye**	**0.47**	**41**	*i* P	**Pg**	**21 38 14.1**	**-0.9**
VMUR				*i* S	**Sg**	**21 38 21.9**	**+0.7**
VMUR	**Van-Muradiye**	**0.47**	**41**	P	**Pg**	**21 38 14.1**	**-0.9**
VMUR				S	**Sg**	**21 38 21.9**	**+0.7**
TUTA	**Tutak**	**0.81**	**340**	⇓*i*P	**Pg**	**21 38 20.3**	**-1.4**
TUTA				*i* S	**Sg**	**21 38 31.8**	**-0.5**
TUTA	**Tutak**	**0.81**	**340**	P	**Pg**	**21 38 20.3**	**-1.4**
TUTA				S	**Sg**	**21 38 31.8**	**-0.5**
BASK	**Baskale_VAN**	**0.87**	**132**	*i* P	**Pg**	**21 38 21.1**	**-1.7**
BASK	**Baskale_VAN**	**0.87**	**132**	P	**Pg**	**21 38 21.1**	**-1.7**
AGRB	**Hanur-Agry**	**0.95**	**351**	PG	**Pg**	**21 38 22.3**	**-1.9**
AGRB	**Hanur-Agry**	**0.95**	**351**	*i* Pg	**Pg**	**21 38 22.3**	**-1.9**
DYDN	**Diyadin**	**0.99**	**24**	*i* P	**Pg**	**21 38 23.0**	**-2.0**
DYDN	**Diyadin**	**0.99**	**24**	P	**Pg**	**21 38 23.0**	**-2.0**
EKAR	**Karacoban**	**1.07**	**306**	⇓*i*P	**Pg**	**21 38 25.8**	**-0.7**
EKAR				*i* S	**Sn**	**21 38 44.0**	**+1.3**
EKAR	**Karacoban**	**1.07**	**306**	P	**Pg**	**21 38 25.8**	**-0.7**
EKAR				S	**Sn**	**21 38 44.0**	**+1.3**
HAKT	**HAKKARI**	**1.16**	**159**	*i* P	**Pg**	**21 38 25.6**	**-2.6**
HAKT				*i* S	**Sn**	**21 38 49.0**	**+4.1**
HAKT	**HAKKARI**	**1.16**	**159**	P	**Pg**	**21 38 25.6**	**-2.6**
SIRN	**S¨–rnak**	**1.29**	**208**	*i* P	**Pn**	**21 38 30.2**	**-0.3**
SIRN	**S¨–rnak**	**1.29**	**208**	P	**Pn**	**21 38 30.2**	**-0.3**
EATA	**Eleskirt**	**1.33**	**337**	*i* P	**Pn**	**21 38 29.6**	**-1.7**
EATA				*i* S	**Sg**	**21 38 48.6**	**-0.2**
EATA	**Eleskirt**	**1.33**	**337**	P	**Pn**	**21 38 29.6**	**-1.7**
EATA				S	**Sg**	**21 38 48.7**	**-0.2**
CUKT	**Cukurca**	**1.43**	**166**	*e*PN	**Pn**	**21 38 32.7**	**+0.3**
CUKT	**Cukurca**	**1.43**	**166**	*i* P	**Pn**	**21 38 32.2**	**-0.2**
CUKT				*i* S	**Sg**	**21 38 57.7**	**+5.7**
CUKT	**Cukurca**	**1.43**	**166**	P	**Pn**	**21 38 32.2**	**-0.2**
CUKT	**Cukurca**	**1.43**	**166**	*e*Pn	**Pn**	**21 38 32.7**	**+0.3**
VRTB	**Varto-Mus**	**1.44**	**292**	*e*PN	**Pn**	**21 38 32.1**	**-0.5**
VRTB	**Varto-Mus**	**1.44**	**292**	⇓*i*P	**Pn**	**21 38 31.9**	**-0.7**
VRTB	**Varto-Mus**	**1.44**	**292**	P	**Pn**	**21 38 31.9**	**-0.7**
BNGL	**BINGOL**	**1.62**	**282**	*i* P	**Pn**	**21 38 35.1**	**0.0**
BNGL				*i* S	**Sg**	**21 38 58.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.63**	**253**	*e*PN	**Pn**	**21 38 35.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.63**	**253**	⇓*i*P	**Pn**	**21 38 35.7**	**+0.6**
SVAN				*i* S	**Sg**	**21 38 59.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.63**	**253**	*e*Pn	**Pn**	**21 38 35.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.63**	**253**	P	**Pn**	**21 38 35.7**	**+0.6**
SVAN				S	**Sg**	**21 38 59.3**	**+0.9**
BTMN	**Batman**	**1.68**	**244**	⇓*i*P	**Pb**	**21 38 36.5**	**-0.7**
BTMN	**Batman**	**1.68**	**244**	P	**Pb**	**21 38 36.5**	**-0.7**
HOMI	**Horasan**	**1.72**	**325**	⇓*i*P	**Pn**	**21 38 37.0**	**+0.5**
DIGO	**Kars**	**1.78**	**5**	*i* P	**Pn**	**21 38 37.6**	**+0.2**
DIGO	**Kars**	**1.78**	**5**	P	**Pn**	**21 38 37.6**	**+0.2**
NAX	**Nakhchivan**	**1.88**	**73**	⇓P	**Pb**	**21 38 39.8**	**-0.9**
NAX	**Nakhchivan**	**1.88**	**73**	P	**Pb**	**21 38 39.8**	**-0.9**
ERZM	**Erzurum**	**1.89**	**312**	*i* P	**Pn**	**21 38 39.8**	**+0.9**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pn**	**21 38 39.8**	**+0.9**
GNI	**Garni**	**1.93**	**38**	Pn	**Pn**	**21 38 40.1**	**+0.7**
	7.5nm,0.3s,baz=238,slow=3.9,SNR=23						
GNI				Sn	**Sg**	**21 39 10.0**	**+1.9**
	16nm,0.3s,baz=322,slow=12,SNR=5.3						
ECAT	**Cat-ERZURUM**	**1.97**	**300**	⇓*i*P	**Pn**	**21 38 40.3**	**+0.4**
ECAT	**Cat-ERZURUM**	**1.97**	**300**	P	**Pn**	**21 38 40.3**	**+0.4**
BNGB	**Bing¶ll**	**1.98**	**281**	*e*PN	**Pn**	**21 38 39.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*PN	**Pn**	**21 38 40.5**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*Pn	**Pn**	**21 38 40.5**	**-0.2**
EAK	**Akyaka**	**2.07**	**9**	*i* P	**Pn**	**21 38 40.7**	**-0.6**
EAK	**Akyaka**	**2.07**	**9**	P	**Pn**	**21 38 40.7**	**-0.6**
BINT	**Bingol**	**2.12**	**277**	*e*Pn	**Pn**	**21 38 39.9**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*PN	**Pn**	**21 38 41.8**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*Pn	**Pn**	**21 38 41.8**	**-1.3**
MARD	**Mardin**	**2.31**	**236**	*i* P	**Pb**	**21 38 46.8**	**-1.2**
MAZI	**Mazidag**	**2.46**	**242**	*e*PN	**Pn**	**21 38 44.4**	**-2.2**
MAZI	**Mazidag**	**2.46**	**242**	*e*Pn	**Pn**	**21 38 44.4**	**-2.2**
KOPT	**Kop Dagi**	**2.50**	**304**	*i* P	**Pb**	**21 38 51.0**	**-0.3**
KOPT	**Kop Dagi**	**2.50**	**304**	P	**Pb**	**21 38 51.0**	**-0.3**
DDEM	**Demirkent**	**2.50**	**334**	*i* P	**Pb**	**21 38 49.7**	**-1.6**
DDEM	**Demirkent**	**2.50**	**334**	P	**Pb**	**21 38 49.7**	**-1.6**
DIYA	**Diyarbakir**	**2.51**	**254**	*i* P	**Pn**	**21 38 48.4**	**+1.1**
DIYA	**Diyarbakir**	**2.51**	**254**	P	**Pn**	**21 38 48.4**	**+1.1**
DAGI	**Agilar**	**2.62**	**339**	*i* P	**Pb**	**21 38 52.9**	**-0.4**
BGD	**Bogdanovka**	**2.64**	**7**	P	**Pb**	**21 38 54.0**	**+0.3**
BGD				S	**Sg**	**21 39 32.3**	**+1.4**
ARTV	**Artvin**	**2.72**	**340**	*i* P	**Pn**	**21 38 51.4**	**+1.1**
ARTV	**Artvin**	**2.72**	**340**	P	**Pn**	**21 38 51.4**	**+1.1**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*PN	**Pn**	**21 38 51.6**	**+0.6**
AKH	**Akhalkalaki**	**2.78**	**5**	P	**Pb**	**21 38 56.0**	**0.0**
AKH				S	**Sg**	**21 39 36.0**	**+0.8**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*Pn	**Pn**	**21 38 51.6**	**+0.6**
ERZN	**Erzincan**	**2.85**	**290**	*e*PN	**Pn**	**21 38 52.5**	**+0.5**
GDB	**GEDABAY**	**2.88**	**43**	⇓P	**Pb**	**21 38 56.3**	**-1.4**
GDB				⇓S	**Sg**	**21 39 36.1**	**-2.2**
GDB	**GEDABAY**	**2.88**	**43**	P	**Pb**	**21 38 56.3**	**-1.4**
TNCL	**Tunceli-Merkez**	**2.88**	**281**	*i* P	**Pn**	**21 38 54.3**	**+2.0**
TNCL	**Tunceli-Merkez**	**2.88**	**281**	P	**Pn**	**21 38 54.3**	**+2.0**
EPOS	**Posof**	**2.88**	**353**	*i* P	**Pb**	**21 38 58.5**	**+0.7**
EUZM	**Uzumlu**	**2.91**	**293**	*i* P	**Pn**	**21 38 53.3**	**+0.6**
EUZM	**Uzumlu**	**2.91**	**293**	P	**Pn**	**21 38 53.3**	**+0.6**
DBOC	**Borcka**	**2.94**	**337**	*i* P	**Pb**	**21 38 58.7**	**0.0**
QZX	**Qazax, Azerbai**	**2.95**	**34**	⇓P	**Pb**	**21 38 58.6**	**-0.2**
QZX				⇑S	**Sg**	**21 39 40.7**	**+0.1**
PTK	**Pertek**	**2.97**	**276**	*e*PN	**Pn**	**21 38 54.1**	**+0.4**
PTK	**Pertek**	**2.97**	**276**	*e*Pn	**Pn**	**21 38 54.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.05**	**266**	*e*PN	**Pn**	**21 38 55.4**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.05**	**266**	*e*Pn	**Pn**	**21 38 55.4**	**+0.6**
GANJ	**Ganja**	**3.15**	**49**	⇑P	**Pb**	**21 38 59.5**	**-2.7**
GANJ				⇑S	**Sb**	**21 39 42.8**	**+2.0**
GANJ	**Ganja**	**3.15**	**49**	P	**Pb**	**21 38 59.5**	**-2.7**
DGRG	**David-gareji**	**3.27**	**30**	P	**Pg**	**21 39 06.6**	**-2.1**
DGRG				S	**Sg**	**21 39 51.4**	**+0.3**
DGRG	**David-gareji**	**3.27**	**30**	P	**Pb**	**21 39 02.7**	**-1.7**
TBLG	**Delisi**	**3.31**	**21**	*e*PN	**Pn**	**21 38 59.3**	**+1.1**
TBLG	**Delisi**	**3.31**	**21**	P	**Pb**	**21 39 04.6**	**-0.4**
TBLG				S	**Sn**	**21 39 40.8**	**+3.0**
TBLG	**Delisi**	**3.31**	**21**	*e*Pn	**Pn**	**21 38 59.3**	**+1.1**
TBLG				S	**Sn**	**21 39 40.8**	**+3.0**
KELT	**Kelkit**	**3.39**	**298**	*i* P	**Pb**	**21 39 06.1**	**-0.4**
URFA	**Urfa**	**3.64**	**252**	*e*PN	**Pn**	**21 39 03.2**	**+0.4**
URFA	**Urfa**	**3.64**	**252**	*e*Pn	**Pn**	**21 39 03.2**	**+0.4**
KEMA	**Kemaliye**	**3.71**	**281**	*i* P	**Pb**	**21 39 09.6**	**-2.2**
ONI	**Oni**	**3.95**	**3**	P	**Pb**	**21 39 17.0**	**+1.0**
ONI				S	**Sg**	**21 40 19.3**	**+6.4**
KBZ	**Khabaz**	**5.09**	**358**	Pn	**Pn**	**21 39 26.6**	**+4.1**
	0.0nm,0.3s,baz=198,slow=9.6,SNR=2.8						
KBZ				LR	LR	21 42 03.2	
	comp=Z,51nm,21.4s,baz=226,slow=45						
HCB	**Kahramanmara¨**	**5.12**	**257**	*i* P	**Pb**	**21 39 38.2**	**+2.3**
KVAR	**Kislovodsk Arr**	**5.32**	**356**	Pn	**Pn**	**21 39 30.6**	**+4.7**
	baz=126,slow=14,SNR=1.8						
KVAR				LR	LR	21 42 00.4	
	comp=Z,81nm,19.6s,baz=34,slow=43						
BRTR	**Keskin Array B**	**7.49**	**281**	Pn	Pn	21 40 01.2	+5.4
	0.1nm,0.3s,baz=122,slow=14,SNR=4.2						
IDI	**Anoyia**	**15.00**	**263**	LR	LR	21 48 36.1	
	comp=Z,17nm,18.9s,baz=338,slow=42						
AKASG	**Malin Array Be**	**15.59**	**325**	Pn	**Pn**	**21 41 47.9**	**+1.9**
	0.5nm,0.3s,baz=133,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**15.80**	**37**	Pn	**Pn**	**21 41 45.9**	**-2.9**
	0.0nm,0.3s,baz=236,slow=14,SNR=4.4						
CRVS	**Cervenica-Dubn**	**18.68**	**310**	*e*P	**Pn**	**21 42 26.4**	**+1.6**
VYHS	**Vyhne**	**20.13**	**307**	*e*P	Pn	21 42 42.3	+0.1
ARU	**Arti**	**20.52**	**25**	P	**P**	**21 42 44.8**	**+0.3**
	1.4nm,0.6s,baz=249,slow=11,SNR=4.2						
VRAC	**Vranov**	**21.79**	**308**	LR	LR	21 53 37.1	
	comp=Z,32nm,18.0s,baz=252,slow=42						
AAK	**Ala-Archa**	**24.02**	**70**	LR	LR	21 55 30.9	
	comp=Z,19nm,18.4s,baz=246,slow=44						
FINES	**FINESS Array B**	**25.17**	**341**	P	**P**	**21 43 31.1**	**-0.5**
	0.9nm,0.6s,baz=150,slow=8.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**44.60**	**247**	P	**P**	**21 46 18.2**	**-0.8**
	0.7nm,1.1s,baz=39,slow=7.8,SNR=3.2						
CMAR	**Chiang Mai Arr**	**52.13**	**96**	P	**P**	**21 47 14.9**	**-2.2**
	0.5nm,0.7s,baz=300,slow=7.5,SNR=5.2						

SJA 25 21:41:00.0±0.7, 31°.48S×69°.22W, h^{106km}±5km, ML2.5, MW3.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.33**	**192**	*i* P	Pn	21 41 16.9	+1.0
RTLS				*i* S	Sn	21 41 29.3	+1.6
RTLS				IAML		21 41 30.1	
	comp=Z,93nm,0.1s						
RTLL	**Cerro Villicun**	**0.65**	**77**	*i* P	Pn	21 41 18.3	+0.7
RTCV	**Cerro Valdivia**	**0.69**	**124**	*i* P	Pn	21 41 18.8	+0.8
RTCV				*i* S	Sn	21 41 32.7	+1.2
AUSP	**Uspallata**	**0.76**	**191**	*i* P	Pn	21 41 20.1	+1.2
AUSP				*i* S	Sn	21 41 34.5	+1.4
AMOG	**MOGNA**	**0.82**	**49**	*i* P	Pn	21 41 20.5	+1.2
ASAL	**Salagasta**	**1.16**	**164**	*i* P	Pn	21 41 23.6	+0.9
ASAL				*i* S	Sn	21 41 41.6	+1.7
ARCO	**CERRO ARCO**	**1.38**	**170**	*i* P	Pn	21 41 26.5	+1.1
ARCO				*i* S	Sn	21 41 45.5	+0.9
ARCO				IAML		21 41 47.2	
	comp=Z,61nm,0.4s						
AVFE	**Valle Fertil**	**1.72**	**62**	*i* P	Pn	21 41 30.1	+0.8
AVFE				*i* S	Sn	21 41 52.7	+1.0
AVFE				IAML		21 41 53.1	
	comp=Z,40nm,0.3s						

*DDA **25** 21:48:58.7, 38°.74N×43°.52E, h^{5km}, Ml3.1*
*ISK **25** 21:48:58.5, 38°.73N×43°.57E, h^{5km}, ML2.7*
*CSEM **25** 21:49:00.1±0.4, 38°.73N×43°.53E, h^{2km}, ML2.7, Error ellipse: s-maj=10.0km s-min=4.8km az=86.0*

ISC 25 21:49:00.2±1.0, 38°.75N±0°.02×43°.51E±0°.04, h^{14km}±8km, n42, σ1♀03/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**212**	PG	**Pg**	**21 49 04.0**	**-0.5**
VANB				*e*SG	**Sb**	**21 49 09.6**	**+0.9**
VANB	**Van**	**0.18**	**212**	*i* Pg	**Pg**	**21 49 04.0**	**-0.5**
GEVA	**Gevas**	**0.56**	**219**	*i* P	**Pg**	**21 49 09.9**	**-1.3**
GEVA				*i* S	**Sg**	**21 49 18.5**	**-0.2**
GEVA	**Gevas**	**0.56**	**219**	P	**Pg**	**21 49 09.9**	**-1.3**
GEVA				S	**Sg**	**21 49 18.5**	**-0.2**
DYDN	**Diyadin**	**0.81**	**10**	*i* P	**Pg**	**21 49 15.3**	**-0.7**
DYDN				*i* S	**Sb**	**21 49 27.9**	**+0.8**
DYDN	**Diyadin**	**0.81**	**10**	P	**Pg**	**21 49 15.3**	**-0.7**
DYDN				S	**Sb**	**21 49 27.9**	**+0.8**
TUTA	**Tutak**	**0.85**	**321**	*i* P	**Pg**	**21 49 15.5**	**-1.2**
TUTA				*i* S	**Sg**	**21 49 28.1**	**+0.1**
TUTA	**Tutak**	**0.85**	**321**	P	**Pg**	**21 49 15.5**	**-1.2**
TUTA				S	**Sg**	**21 49 28.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.92**	**334**	*e*PG	**Pb**	**21 49 17.7**	**-0.4**
AGRB				*e*SG	**Sn**	**21 49 32.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.92**	**334**	*e*Pg	**Pb**	**21 49 17.7**	**-0.4**
AGRB				*e*Sg	**Sn**	**21 49 32.2**	**+0.1**
HAKT	**HAKKARI**	**1.20**	**172**	*i* P	**Pn**	**21 49 21.3**	**-1.4**
HAKT				*i* S	**Sb**	**21 49 37.4**	**-0.8**
HAKT	**HAKKARI**	**1.20**	**172**	P	**Pn**	**21 49 21.3**	**-1.4**
HAKT				S	**Sb**	**21 49 37.4**	**-0.8**
EKAR	**Karacoban**	**1.23**	**295**	*i* P	**Pn**	**21 49 23.2**	**-0.1**
EKAR				*i* S	**Sg**	**21 49 42.8**	**+2.6**
EKAR	**Karacoban**	**1.23**	**295**	P	**Pn**	**21 49 23.2**	**-0.1**
EKAR				S	**Sg**	**21 49 42.8**	**+2.6**
EATA	**Eleskirt**	**1.37**	**325**	*i* P	**Pb**	**21 49 25.7**	**-0.1**
EATA				*i* S	**Sg**	**21 49 45.0**	**+0.6**
EATA	**Eleskirt**	**1.37**	**325**	P	**Pb**	**21 49 25.7**	**-0.1**
EATA				S	**Sg**	**21 49 45.0**	**+0.6**
CUKT	**Cukurca**	**1.50**	**177**	*e*PN	**Pb**	**21 49 27.8**	**-0.1**
CUKT	**Cukurca**	**1.50**	**177**	*i* P	**Pg**	**21 49 29.7**	**+0.7**
CUKT				*i* S	**Sg**	**21 49 50.8**	**+2.3**
CUKT	**Cukurca**	**1.50**	**177**	*e*Pn	**Pb**	**21 49 27.8**	**-0.1**
CUKT	**Cukurca**	**1.50**	**177**	P	**Pg**	**21 49 29.7**	**+0.7**
CUKT				S	**Sg**	**21 49 50.8**	**+2.3**
SIRN	**S¨–rnak**	**1.52**	**215**	*i* P	**Pg**	**21 49 29.1**	**-0.3**
SIRN				*i* S	**Sg**	**21 49 49.8**	**+0.7**
SIRN	**S¨–rnak**	**1.52**	**215**	P	**Pg**	**21 49 29.1**	**-0.3**
SIRN				S	**Sg**	**21 49 49.8**	**+0.7**
VRTB	**Varto-Mus**	**1.65**	**285**	*e*PN	**Pb**	**21 49 30.4**	**-0.1**
VRTB	**Varto-Mus**	**1.65**	**285**	*i* P	**Pb**	**21 49 30.1**	**-0.4**
VRTB				*i* S	**Sg**	**21 49 55.7**	**+2.2**
VRTB	**Varto-Mus**	**1.65**	**285**	P	**Pb**	**21 49 30.1**	**-0.4**
VRTB	**Varto-Mus**	**1.65**	**285**	*e*Pn	**Pb**	**21 49 30.4**	**-0.1**
VRTB				S	**Sg**	**21 49 55.7**	**+2.2**
DIGO	**Kars**	**1.67**	**356**	*i* P	**Pb**	**21 49 31.1**	**+0.2**
DIGO				*i* S	**Sg**	**21 49 54.6**	**+0.6**
DIGO	**Kars**	**1.67**	**356**	P	**Pb**	**21 49 31.1**	**+0.2**
DIGO				S	**Sg**	**21 49 54.7**	**+0.6**
HOMI	**Horasan**	**1.80**	**317**	*i* P	**Pb**	**21 49 32.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*e*PN	**Pb**	**21 49 34.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*e*Pn	**Pb**	**21 49 34.6**	**-0.2**
BTMN	**Batman**	**1.96**	**245**	*i* P	Pn	21 49 27.5	-5.6
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*PN	**Pb**	**21 49 36.2**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*Pn	**Pb**	**21 49 36.2**	**-0.7**
ERZM	**Erzurum**	**2.03**	**306**	*i* P	**Pb**	**21 49 37.7**	**+0.7**
ERZM	**Erzurum**	**2.03**	**306**	P	**Pb**	**21 49 37.7**	**+0.7**
BNGB	**Bing¶ll**	**2.22**	**277**	*e*PN	**Pb**	**21 49 39.3**	**-0.9**
BINT	**Bingol**	**2.36**	**274**	*e*Pn	**Pn**	**21 49 39.3**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.41**	**288**	*e*PN	**Pb**	**21 49 41.7**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.41**	**288**	*e*Pn	**Pb**	**21 49 41.7**	**-1.7**
DDEM	**Demirkent**	**2.54**	**328**	*i* P	**Pb**	**21 49 45.4**	**-0.2**
DDEM	**Demirkent**	**2.54**	**328**	P	**Pb**	**21 49 45.4**	**-0.2**

IDC 25 21:53:49.6±6.8, 4°.02N×128°.81E, h^{0km}, mb3.4/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=255.5km s-min=27.6km az=54.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.43**	**167**	P	P	21 59 11.2	+0.9
	0.6nm,0.7s,baz=345,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**27.97**	**170**	P	P	21 59 40.7	-1.5
	0.2nm,0.6s,baz=348,slow=9.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**32.53**	**298**	P	P	22 00 23.0	+0.3
	0.3nm,0.4s,baz=125,slow=9.1,SNR=4.7						

*NIED **25** 21:58:00, 32°.00N×130°.40E, h^{8km}, Mw3.9 Best double couple: M_0:8.74000×10^{14} NP1:ϕ_s=90.00000°, δ62.00000°, λ-11.00000°. NP2:ϕ_s=185.00000°, δ80.00000°, λ-152.00000°.*
*ISCJB **25** 21:58:01.9±0.7, 31°.99N±0°.03×130°.37E±0°.04, $h11^{km}$±5km, mb3.6/4, MS3.6/4, Error ellipse: s-maj=6.2km s-min=5.1km az=36.3*
*IDC **25** 21:58:01.6±2.0, 31°.97N×130°.25E, h^{0km}, mb3.7/4, mb1 3.7/6, mb1mx3.5/40, mbtmp3.6/6, ML3.4/2, MS3.5/5, Ms1 3.5/5, ms1mx2.9/40, Error ellipse: s-maj=34.4km s-min=16.4km az=131.0*
*JMA **25** 21:58:02.8, 31°.97N×130°.42E, h^{8km}±1km, M3.9*
JMA Felt III J1.

ISC 25 21:58:02.7±1.1, 31°.97N±0°.04×130°.38E±0°.04, h^{6km}±9km, n16, σ1♀16/20, mb3.7/4, MS3.6/4, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.25**	**48**	⇓P	**Pg**	**21 58 07.5**	**-0.1**
JZO				S	**Sg**	**21 58 11.0**	**0.0**
JSU	**Suzuyama**	**0.47**	**172**	⇑P	**Pg**	**21 58 11.5**	**-0.3**
JSU				S	**Sg**	**21 58 17.9**	**0.0**
JTZ	**Takazaki**	**0.60**	**97**	⇑P	**Pg**	**21 58 14.0**	**-0.4**
JTZ				*e*S	**Sg**	**21 58 22.1**	**-0.2**
JSJ	**Shimokoshiki**	**0.64**	**243**	⇓P	**Pg**	**21 58 14.7**	**-0.3**
JSJ				S	**Sg**	**21 58 24.2**	**+0.9**
JIU2	**Izumi 2**	**0.68**	**33**	⇓P	**Pg**	**21 58 15.3**	**-0.5**
JIU2				S	**Sg**	**21 58 24.3**	**-0.4**
JNAR	**Kushima--Naru**	**0.88**	**120**	⇑P	**Pg**	**21 58 19.4**	**-0.2**
JNAR				S	**Sb**	**21 58 31.2**	**-1.2**
JNU	**Nakatsue**	**1.22**	**20**	Pg	**Pb**	**21 58 25.8**	**-0.5**
	162nm,0.3s,baz=196,slow=7.4,SNR=1016						
JNU				Lg	Lg	21 58 42.0	
	574nm,0.3s,baz=17,slow=8.2,SNR=32						
KSRS	**Korea Array**	**5.83**	**340**	Pn	**Pn**	**21 59 30.1**	**+0.4**
	0.5nm,0.3s,baz=158,slow=14,SNR=5.0						
KSRS				Lg	Lg	22 01 07.8	
	1.4nm,0.3s,baz=165,slow=29,SNR=6.2						
KSRS				LR	LR	22 01 48.8	
	comp=Z,116nm,20.7s,baz=172,slow=39						
MJAR	**Matsushiro Arr**	**7.92**	**53**	Pn	**Pn**	**22 00 01.3**	**+2.8**
	1.0nm,0.3s,baz=241,slow=14,SNR=8.8						
KLR	**Kul'dur**	**17.27**	**3**	Pn	**P**	**22 02 08.4**	**+2.5**
	0.0nm,0.3s,baz=149,slow=9.5,SNR=3.8						
SONM	**Songino Array**	**24.14**	**318**	P	**P**	**22 03 18.2**	**-1.3**
	0.8nm,0.7s,baz=133,slow=9.4,SNR=5.9						
SONM				LR	LR	22 13 39.3	
	comp=Z,67nm,18.1s,baz=120,slow=39						
AAK	**Ala-Archa**	**44.98**	**300**	LR	LR	22 26 44.6	
	comp=Z,28nm,21.4s,baz=22,slow=38						
AKTO	**Aktyubinsk**	**55.27**	**312**	P	**P**	**22 07 37.2**	**+0.5**
	0.4nm,0.6s,baz=80,slow=6.1,SNR=3.7						
KDAK	**Kodiak Island**	**56.83**	**39**	LR	LR	22 34 41.4	
	comp=Z,105nm,18.0s,baz=339,slow=39						
FINES	**FINESS Array B**	**68.82**	**330**	P	**P**	**22 09 06.7**	**-0.9**
	0.6nm,0.6s,baz=76,slow=8.0,SNR=5.6						
AKASG	**Malin Array Be**	**72.42**	**319**	P	**P**	**22 09 28.6**	**-1.1**
	0.4nm,0.4s,baz=54,slow=6.1,SNR=4.4						
AKASG				LR	LR	22 42 00.5	
	comp=Z,75nm,18.3s,baz=185,slow=36						

*ISCJB **25** 21:59:53.5±0.4, 43°.60N±0°.03×105°.17W±0°.04, h^{0km}, Error ellipse: s-maj=5.1km s-min=3.9km az=139.8*
*IDC **25** 21:59:54.3±1.9, 43°.75N×105°.45W, h^{0km}, mb1 3.6/2, mb1mx3.1/39, mbtmp3.4/2, ML2.1/1, Error ellipse: s-maj=49.6km s-min=9.2km az=150.0*
*NEIC **25** 21:59:54.1±0.6, 43°.57N×105°.24W, h^{0km}, MN2.9, Error ellipse: s-maj=8.9km s-min=6.5km az=133.0, Suspected Mining explosion.*
NEIC 85 km [53 miles] SSE of Gillette.

ISC 25 21:59:53.3±0.7, 43°.60N±0°.03×105°.21W±0°.03, h^{0km}, n28, σ2♀04/40, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**58**	*e*Pg	**Pb**	**22 00 13.9**	**+0.3**
RSSD				*e*Sg	**Sb**	**22 00 27.4**	**+0.1**
K22A	**Casper**	**1.35**	**226**	*e*Pn	**Pg**	**22 00 17.0**	**-2.1**
K22A				*e*S	**Sg**	**22 00 36.4**	**-0.2**
PHWY	**Pilot Hill**	**2.30**	**185**	*e*Pn	**Pn**	**22 00 33.6**	**+0.9**
PHWY				*e*S	**Sn**	**22

DIGO				*i* S	Sg	22 04 09.9	+1.7
DIGO	**Kars**	**1.72**	**6**	P	Pb	22 03 44.6	-1.0
DIGO				S	Sg	22 04 09.9	+1.7
ERZM	**Erzurum**	**1.84**	**311**	*i* P	Pg	22 03 48.0	-0.2
ERZM	**Erzurum**	**1.84**	**311**	P	Pg	22 03 48.0	-0.2
ECAT	**Cat-ERZURUM**	**1.92**	**299**	*i* P	Pb	22 03 48.3	-0.7
ECAT	**Cat-ERZURUM**	**1.92**	**299**	P	Pb	22 03 48.3	-0.7
BNGB	**Bing¶‖**	**1.96**	**279**	*e*PN	Pn	22 03 48.3	+0.9
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*PN	Pn	22 03 47.5	-0.1
SENK	**Senkaya-Erzuru**	**1.96**	**342**	*e*Pn	Pn	22 03 47.5	-0.1
BINT	**Bingol**	**2.09**	**276**	*e*Pn	Pn	22 03 48.3	-1.0
YEDI	**Yedisu-Bingol**	**2.16**	**291**	*e*PN	Pb	22 03 51.7	-1.3
YEDI	**Yedisu-Bingol**	**2.16**	**291**	*e*Pn	Pb	22 03 51.7	-1.3
MARD	**Mardin**	**2.33**	**234**	*i* P	Sb	22 04 26.4	+1.1
PTK	**Pertek**	**2.95**	**275**	*e*PN	Pn	22 04 03.0	+1.9
PTK	**Pertek**	**2.95**	**275**	*e*Pn	Pn	22 04 03.0	+1.9

SJA 25 22:07:31.4±0.6, 31°.28S×68°.06W, h28km±3km, ML2.6, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.71**	**215**	*i* P	Pn	22 07 45.7	+0.1
AVFE	**Valle Fertil**	**0.81**	**40**	*i* P	Pn	22 07 47.5	+0.5
RTLS	**Leoncito**	**1.17**	**244**	*i* P	Pb	22 07 54.6	+1.3
RTLS				*i* S	Sb	22 08 11.6	+3.4
RTLS				IAML		22 08 12.8	
	comp=Z,64nm,0.2s						
ASAL	**Salagasta**	**1.46**	**207**	*i* P	Pb	22 07 58.3	+0.3
AUSP	**Uspallata**	**1.47**	**230**	*i* P	Pb	22 07 58.4	+0.1
APLL	**PUNTA DE LOS L**	**1.59**	**57**	*i* P	Pb	22 07 59.7	-0.4
ARCO	**CERRO ARCO**	**1.72**	**205**	*i* P	Pb	22 08 02.1	-0.4
ARCO				*i* S	Sb	22 08 23.9	+0.2
ARCO				IAML		22 08 29.3	
	comp=Z,95nm,0.4s						

GUC ***25*** *22:08:39.6±0.3, 45°.88S×73°.02W, h22km±30km, ML4.4*
ISCJB ***25*** *22:08:41.1±0.1, 45°.86S±0°.03×72°.87W±0°.06, h15km, mb4.9/57, MS4.0/7, Error ellipse: s-maj=6.5km s-min=3.8km az=170.9*
BJI ***25*** *22:08:43.6, 45°.80S×72°.80W, h10km, mB5.3/13, Ms5.5/7, Ms7 5.5/7*
NEIC ***25*** *22:08:45.6±2.3, 45°.84S×72°.64W, h32km±15km, mb5.0/35, ML4.4(GUC), Error ellipse: s-maj=11.7km s-min=6.3km az=78.0*
NEIC Felt [III] at Coihaique and Puerto Chacabuco and [II] at Puerto Aisen.
IDC ***25*** *22:08:46.1±5.3, 45°.74S×72°.63W, h33km±38km, mb4.6/25, mb1 4.7/26, mb1mx4.6/44, mbtmp4.8/26, ML4.3/1, MS4.1/9, Ms1 4.0/9, ms1mx3.9/16, Error ellipse: s-maj=17.4km s-min=10.9km az=74.0*
ISC 25 22:08:42.9±0.3, 45°.86S±0°.04×72°.75W±0°.07, h15km, n478, σ1S34/503, mb4.9/57, MS4.0/8, 2C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**0.55**	**59**	‖*i*P	Pg	22 08 53.4	-0.4
COYC				*i* S	Sn	22 09 04.0	-1.2
COYC				IAML		22 09 12.5	
	comp=N,23μm,2.7s						
CHRN	**Cochrane**	**1.39**	**175**	*e*P	Pn	22 09 05.2	-2.7
CHRN				*e*S	Sn	22 09 23.5	-2.4
CHRN				IAML		22 09 35.4	
	comp=E,6μm,1.3s						
CHRN	**Cochrane**	**1.39**	**175**	*e*Pn	Pn	22 09 05.7	-2.2
CHRN				*e*Sn	Sn	22 09 23.2	-2.7
FUTA	**Futaleufœ**	**2.75**	**14**	*e*P	Pb	22 09 29.4	-2.4
FUTA				*e*S	Sb	22 10 06.5	+1.3
GO07	**Milladeo Hill,**	**2.82**	**346**	IAML		22 10 29.0	
	comp=E,9μm,0.8s						
HUNY	**Huinay**	**3.49**	**4**	*e*P	Pn	22 09 37.9	+1.3
HUNY				*i* S	Sb	22 10 24.7	-1.8
HUNY				IAML		22 10 42.4	
	comp=N,1μm,1.0s						
PLCA	**Paso Flores**	**5.37**	**18**	Pn	Pn	22 10 06.8	+4.2
	comp=N,3.0nm,0.3s,baz=230,slow=13,SNR=32						
PLCA				Lg	Lg	22 11 34.9	
	comp=N,9.4nm,0.3s,baz=292,slow=22,SNR=7.5						
PLCA				LR	LR	22 12 30.7	
	comp=N,945nm,18.2s,baz=272,slow=43						
PLCA	**Paso Flores**	**5.37**	**18**	*e*Pn	Pn	22 10 04.2	+1.6
PLCA				Lg	Lg	22 11 34.9	
GO09	**Cerro Castillo**	**5.42**	**177**	*e*Pn	Pb	22 10 11.1	-6.2
USHA	**Ushuaia**	**9.39**	**165**	LR	LR	22 15 07.7	
	comp=N,4μm,20.1s,baz=30,slow=40						
GO05	**HualaæØ**	**10.86**	**4**	*e*Pn	Pn	22 11 18.8	+1.0
TRQA	**Tornquist**	**11.18**	**50**	*e*Pn	Pn	22 11 24.2	+2.0
TRQA				*e*Sn	Sn	22 13 15.1	-12
EFI	**East Falkland**	**11.30**	**126**	*e*Pn	Pn	22 11 23.8	+0.1
ROC1	**El Roble**	**12.94**	**7**	*e*Pn	Pn	22 11 47.0	+0.5
LCO	**Las Campanas**	**16.90**	**6**	*e*Pn	Pn	22 12 39.6	+0.5
	comp=N,101nm,1.3s						
PMSA	**Palmer Station**	**19.55**	**169**	P	Pn	22 13 11.5	+0.4
	comp=N,0.1nm,0.3s,baz=338,slow=9.4,SNR=4.2						
PMSA	**Palmer Station**	**19.55**	**169**	*e*P	P	22 13 05.8	-4.0
	comp=N,162nm,1.8s						
PB10	**IPOC Station P**	**22.37**	**5**	*e*P	P	22 13 41.2	+0.7
	comp=N,130nm,1.1s						
CPUP	**Villa Florida**	**23.06**	**38**	P	P	22 13 47.1	-0.6
	comp=N,24nm,0.9s,baz=215,slow=9.2,SNR=19						
CPUP				LR	LR	22 23 41.7	
	comp=N,898nm,21.1s,baz=207,slow=39						
LVC	**Limon Verde**	**23.41**	**9**	P	P	22 13 51.6	0.0
	comp=N,52nm,0.8s,baz=183,slow=10,SNR=12						
LVC	**Limon Verde**	**23.41**	**9**	*e*P	P	22 13 49.9	-1.8
	comp=N,145nm,1.6s						
PB04	**IPOC Station P**	**23.57**	**6**	*e*P	P	22 13 48.1	-4.9
	comp=N,99nm,1.1s						
PB01	**IPOC Station P**	**24.90**	**7**	*e*P	P	22 14 04.6	-0.8
	comp=N,31nm,1.0s						
PB11	**IPOC Station P**	**26.16**	**7**	*e*P	P	22 14 15.9	-0.9
	comp=N,86nm,1.3s						
LPAZ	**La Paz**	**29.74**	**9**	P	P	22 14 49.2	-0.2
	comp=N,18nm,1.0s,baz=174,slow=7.8,SNR=24						
LPAZ				LR	LR	22 27 39.0	
	comp=N,132nm,18.9s,baz=144,slow=38						
LPAZ	**La Paz**	**29.74**	**9**	P	P	22 14 49.2	-0.2
	comp=N,40nm,1.2s						
SIV	**San Ignacio**	**31.35**	**22**	P	P	22 15 01.8	-1.1
	comp=N,35nm,0.9s,baz=218,slow=11,SNR=11						
BDFB	**Brasilia**	**36.57**	**43**	P	P	22 15 46.2	-2.2
	comp=N,13nm,0.9s,baz=5.6,slow=8.0,SNR=8.1						
BDFB				LR	LR	22 32 19.2	
	comp=N,738nm,18.1s,baz=360,slow=39						
BDFB	**Brasilia**	**36.57**	**43**	*e*P	P	22 15 47.4	-1.0
SAML	**Samuel**	**37.69**	**16**	*e*P	P	22 15 56.6	-1.1
	comp=N,54nm,1.0s						
VNA3	**Neumayer Olymp**	**38.81**	**153**	P	P	22 16 08.0	+1.3
ATAH	**Atahualpa**	**38.89**	**351**	P	P	22 16 09.1	+0.8
	comp=N,7.1nm,0.6s,baz=206,slow=7.6,SNR=4.8						
VNA1	**Neumayer--Stat**	**39.22**	**152**	P	P	22 16 12.0	+1.9
VNA2	**Neumayer--Watz**	**39.53**	**152**	P	P	22 16 14.5	+1.9
	baz=270,slow=7.5						
SNAA	**Sanae**	**41.02**	**153**	P	P	22 16 26.4	+1.4
SNAA	**Sanae**	**41.02**	**153**	P	P	22 16 26.8	+1.7
	comp=N,27nm,1.0s,baz=274,slow=7.6,SNR=45						
SNAA	**Sanae**	**41.02**	**153**	*e*P	P	22 16 25.9	+0.9
	comp=N,34nm,1.0s						
SNAA				*e*		22 18 03.2	
QSPA	**South Pole Qui**	**44.39**	**180**	*e*P	P	22 16 53.1	+0.5
	comp=N,188nm,1.2s						
OTAV	**Otavalo**	**46.18**	**352**	*e*P	P	22 17 07.8	+0.2
	comp=N,50nm,1.4s						
OTAV				*e*		22 18 42.9	
PTGA	**Pitinga**	**46.33**	**18**	*e*P	P	22 17 07.2	-1.0
	comp=N,49nm,0.9s						
PRAC	**Prado**	**49.40**	**357**	*e*P	P	22 17 32.5	+0.4
	comp=N,46nm,1.4s						
ROSC	**El Rosal**	**50.50**	**358**	P	P	22 17 40.9	+0.1
	comp=N,7.7nm,0.4s,baz=168,slow=5.4,SNR=11						
GUYC	**Guyana, Colomb**	**50.91**	**357**	*e*P	P	22 17 45.2	+1.1
RUSC	**La Rusia**	**51.52**	**360**	*e*P	P	22 17 48.8	+0.1
RUSC	**La Rusia**	**51.52**	**360**	*e*P	P	22 17 49.5	+0.8
	comp=N,16nm,1.0s						
HELC	**Santa Helena**	**51.88**	**356**	*e*P	P	22 17 50.8	-0.3
HELC	**Santa Helena**	**51.88**	**356**	*e*P	P	22 17 50.4	-0.7
	comp=N,179nm,1.6s						
VNDA	**Vanda**	**52.40**	**193**	P	P	22 17 56.0	+2.1
	comp=N,5.3nm,1.2s,baz=140,slow=5.3,SNR=6.7						
VNDA				LR	LR	22 38 38.8	
	comp=N,91nm,18.1s,baz=156,slow=34						
VNDA	**Vanda**	**52.40**	**193**	*e*P	P	22 17 56.0	+2.1
	comp=N,14nm,1.4s						
PAMC	**Pamplona, Colo**	**52.96**	**0**	*e*P	P	22 17 58.5	-0.8
ZARC	**Zaragoza, Cauc**	**53.15**	**357**	*e*P	P	22 17 58.0	-2.1
MOTC	**Monteria, Cord**	**54.45**	**356**	*e*P	P	22 18 05.7	-4.0
SYO	**Syowa Base**	**55.14**	**156**‖	*e*P	P	22 18 13.0	-1.1
SYO	**Syowa Base**	**55.14**	**156**‖	*e*pP	pP	22 18 19.8	+0.9
SJCC	**San Jacinto, C**	**55.54**	**357**	*e*P	P	22 18 15.4	-2.2
PCRV	**Puerto La Cruz**	**56.26**	**10**	P	P	22 18 22.3	-0.4
	comp=N,20nm,0.9s,baz=212,slow=4.1,SNR=5.8						
URIC	**Uribia, Colomb**	**57.30**	**1**	*e*P	P	22 18 27.1	-2.9
MAW	**Mawson**	**62.01**	**162**	P	P	22 19 02.1	+0.2
	comp=N,7.0nm,1.0s,baz=210,slow=5.5,SNR=15						
CMIG	**Matias Romero**	**65.79**	**337**	P	P	22 19 26.2	-1.1
	comp=N,6.4nm,0.9s,baz=91,slow=3.5,SNR=5.1						
SUR	**Sutherland**	**69.85**	**116**	P	P	22 19 55.5	+2.3
	comp=N,1.4nm,1.1s,baz=247,slow=7.3,SNR=3.7						
ZAIG	**Zacatecas**	**73.48**	**331**	*e*P	P	22 20 16.5	+1.5
	comp=N,19nm,1.1s						
LNIG	**Linares**	**74.49**	**335**	*e*P	P	22 20 20.1	-0.5
BOSA	**Boshof**	**75.21**	**116**	P	P	22 20 24.9	-0.3
	comp=N,13nm,1.1s,baz=195,slow=2.6,SNR=7.5						
BOSA				LR	LR	22 50 35.3	
	comp=N,83nm,18.2s,baz=209,slow=33						
URZ	**Urewera**	**75.42**	**230**	P	P	22 20 26.7	+0.7
	comp=N,9.4nm,0.8s,baz=168,slow=4.5,SNR=4.5						
035A	**Encino**	**76.03**	**337**	P	P	22 20 29.8	+0.5
	baz=162						
034A	**Hebbronville**	**76.31**	**336**	P	P	22 20 32.1	+1.1
	baz=162						
TSUM	**Tsumeb**	**76.70**	**104**	P	P	22 20 33.6	-0.2
	comp=N,5.6nm,1.0s,baz=207,slow=2.3,SNR=4.4						
934A	**Benavides**	**76.77**	**337**	P	P	22 20 34.3	+0.7
	baz=162						
933A	**Laredo**	**77.00**	**336**	P	P	22 20 35.5	+0.7
	baz=161						
738A	**Farr-Stevens R**	**77.20**	**340**	P	P	22 20 36.7	+0.8
	baz=164						
835A	**Beeville**	**77.23**	**337**	P	P	22 20 37.2	+1.1
	baz=162						
737A	**Port Lavaca**	**77.33**	**339**	P	P	22 20 37.9	+1.2
	baz=163						
TIGA	**Tifton**	**77.56**	**351**	P	P	22 20 39.5	+1.6
	baz=172						
447A	**Lucedale**	**77.65**	**346**	P	P	22 20 39.4	+1.0
	baz=169						
736A	**Circle Diamond**	**77.67**	**338**	P	P	22 20 39.2	+0.7
	baz=163						
833A	**Chaparral WMA,**	**77.70**	**336**	P	P	22 20 38.7	0.0
	baz=161						
638A	**Rosharon**	**77.71**	**340**	P	P	22 20 39.2	+0.5
	baz=164						
446A	**Poplarville**	**77.77**	**345**	P	P	22 20 39.7	+0.7
	baz=168						
LBTB	**Lobatse**	**77.95**	**113**	P	P	22 20 40.6	0.0
	comp=N,8.7nm,0.9s,baz=236,slow=7.3,SNR=5.4						
636A	**Smothers Creek**	**78.17**	**338**	P	P	22 20 42.0	+0.7
	baz=163						
636A	**Smothers Creek**	**78.17**	**338**	*e*P	P	22 20 42.4	+1.0
539A	**Cross D Ranch,**	**78.20**	**341**	P	P	22 20 41.9	+0.4
	baz=164						
347A	**Saraland**	**78.22**	**346**	P	P	22 20 42.1	+0.6
	baz=169						
346A	**Big Creek Wild**	**78.37**	**345**	P	P	22 20 43.3	+0.9
	baz=168						
HPIG		**78.38**	**330**	*e*P	P	22 20 42.8	0.0
345A	**Thompson Farm,**	**78.39**	**345**	P	P	22 20 42.2	-0.3
	baz=168						
441A	**DeRidder**	**78.47**	**342**	P	P	22 20 43.9	+1.0
	baz=166						
537A	**Green Hill Far**	**78.55**	**339**	P	P	22 20 43.7	+0.3
	baz=163						
440A	**Kirbyville**	**78.64**	**341**	P	P	22 20 44.5	+0.6
	baz=165						
344A	**Westbrook Farm**	**78.66**	**344**	P	P	22 20 44.1	+0.1
	baz=167						
536A	**Bastrop**	**78.74**	**339**	P	P	22 20 45.0	+0.6
	baz=163						
248A	**Dixon Mills**	**78.77**	**347**	P	P	22 20 44.7	+0.1
	baz=169						
439A	**Center Grove,**	**78.87**	**341**	P	P	22 20 45.2	+0.1
	baz=164						
247A	**Quitman**	**78.87**	**346**	P	P	22 20 45.4	+0.2
	baz=169						
342A	**Flagon Creek P**	**78.90**	**343**	P	P	22 20 45.4	+0.1
	baz=166						
246A	**Jackson Lee, B**	**78.92**	**346**	P	P	22 20 45.2	-0.2
	baz=168						
438A	**Sam Houston St**	**78.99**	**340**	P	P	22 20 45.7	-0.2
	baz=164						
341A	**Kurthwood**	**79.03**	**342**	P	P	22 20 45.8	-0.2
	baz=166						
245A	**Little AP, Sta**	**79.07**	**345**	P	P	22 20 46.3	0.0
	baz=168						
243A	**Waterproof**	**79.22**	**344**	P	P	22 20 47.2	+0.1
	baz=167						
244A	**Avery, Jackson**	**79.22**	**345**	P	P	22 20 46.8	-0.3
	baz=167						
437A	**Phantom Ranch,**	**79.22**	**340**	P	P	22 20 47.0	-0.1
	baz=164						
340A	**Bronson**	**79.27**	**342**	P	P	22 20 46.2	-1.1
	baz=165						
436A	**Wall Ranch, Ga**	**79.33**	**339**	P	P	22 20 46.3	-1.4
	baz=163						
339A	**Huntington**	**79.34**	**341**	P	P	22 20 46.8	-0.9
	baz=165						
VBMS	**Vicksburg**	**79.37**	**345**	P	P	22 20 47.1	-0.8
	baz=167						
147A	**Livingston**	**79.42**	**347**	P	P	22 20 47.4	-0.7
	baz=169						
GOGA	**Godfrey**	**79.50**	**351**	*e*P	P	22 20 46.5	-2.0
	comp=N,4.5nm,1.0s						
146A	**Union**	**79.52**	**346**	P	P	22 20 47.8	-0.9
	baz=168						
242A	**Grayson**	**79.53**	**343**	P	P	22 20 47.7	-1.0
	baz=166						
338A	**Crockett**	**79.53**	**341**	P	P	22 20 48.1	-0.7
	baz=164						
435B	**Jarrell**	**79.54**	**338**	P	P	22 20 48.4	-0.4
	baz=163						
OUZ	**Omahuta**	**79.56**	**230**	*e*P	P	22 20 49.2	0.0
LRAL	**Lakeview Retre**	**79.58**	**348**	*e*P	P	22 20 48.5	-0.5
	comp=N,9.9nm,0.7s						
337A	**Centerville**	**79.63**	**340**	P	P	22 20 49.1	-0.2
	baz=164						
145A	**Houston Renfro**	**79.64**	**345**	P	P	22 20 49.2	-0.1
	baz=168						
241A	**Mo Tay, Goldon**	**79.65**	**343**	P	P	22 20 48.6	-0.8
	baz=166						
DBIC	**Dimbokro**	**79.71**	**69**	P	P	22 20 49.9	-0.3
	comp=N,5.1nm,0.8s,baz=202,slow=4.8,SNR=4.5						
DBIC				LR	LR	22 53 11.0	
	comp=N,43nm,18.6s,baz=202,slow=34						
144A	**Alexander Plac**	**79.75**	**345**	P	P	22 20 49.1	-0.9
	baz=168						
NATX	**Nacogdoches**	**79.77**	**341**	P	P	22 20 49.9	-0.2
	baz=165						
240A	**Hunter Patters**	**79.84**	**342**	P	P	22 20 49.6	-0.8
	baz=165						
JCT	**Junction City**	**79.85**	**336**	P	P	22 20 50.1	-0.5
	baz=161						
JCT	**Junction City**	**79.85**	**336**	*e*P	P	22 20 50.2	-0.4
Z47A	**Carrollton**	**79.91**	**347**	P	P	22 20 50.0	-0.7
	baz=169						
TXAR	**Lajitas Array**	**79.93**	**333**	P	P	22 20 51.4	+0.3
	comp=N,8.4nm,0.8s,baz=152,slow=7.4,SNR=69						
336A	**Riesel**	**79.93**	**339**	P	P	22 20 50.0	-0.9
	baz=163						
TX31	**Lajitas Ar. Si**	**79.93**	**333**	*e*P	P	22 20 50.5	-0.6
142A	**Monroe**	**79.96**	**344**	P	P	22 20 50.4	-0.6
	baz=166						
239A	**Gary**	**79.98**	**341**	P	P	22 20 50.6	-0.6
	baz=165						
Z48A	**Northport**	**80.00**	**347**	P	P	22 20 50.8	-0.5
	baz=170						
143A	**Socs Landing,**	**80.00**	**344**	P	P	22 20 50.9	-0.4
	baz=167						
Z46A	**Louisville**	**80.04**	**346**	P	P	22 20 51.4	-0.1
	baz=169						
JSC	**Jenkinsville**	**80.14**	**353**	*e*P	P	22 20 51.5	-0.5
141A	**Papa Simpson,**	**80.21**	**343**	P	P	22 20 50.7	-1.7
	baz=166						
237A	**Washetta, Mont**	**80.27**	**340**	P	P	22 20 51.8	-0.9
	baz=164						
Z45A	**Winona**	**80.34**	**346**	P	P	22 20 52.3	-0.9
	baz=168						
140A	**Cam and Jess,**	**80.38**	**342**	P	P	22 20 52.8	-0.6
	baz=165						
Z44A	**Pea Ridge, Bel**	**80.38**	**345**	P	P	22 20 52.9	-0.4
	baz=168						
236A	**Katherine and**	**80.44**	**340**	P	P	22 20 53.1	-0.6
	baz=163						
Y47A	**UCPARC, Winfie**	**80.56**	**347**	P	P	22 20 53.8	-0.5
	baz=169						
WHTX	**Lake Whitney,**	**80.66**	**339**	P	P	22 20 53.9	-1.0
	baz=163						
WHTX	**Lake Whitney,**	**80.66**	**339**	*e*P	P	22 20 54.6	-0.3
Z42A	**Norrel Spur, H**	**80.66**	**344**	P	P	22 20 53.9	-1.0
	baz=166						
Y46A	**Houston**	**80.70**	**346**	P	P	22 20 53.6	-1.4
	baz=169						
138A	**Matatall Enter**	**80.73**	**341**	P	P	22 20 53.6	-1.7
	baz=164						
Y45A	**Yeager Farm, C**	**80.80**	**346**	P	P	22 20 54.0	-1.5
	baz=168						
Z41A	**Richland Creek**	**80.82**	**343**	P	P	22 20 54.1	-1.5
	baz=166						
137A	**Heron Place, G**	**80.83**	**340**	P	P	22 20 54.2	-1.6
	baz=164						
136A	**Ennis**	**80.89**	**340**	P	P	22 20 54.5	-1.6
	baz=163						
Z40A	**Long Farm, Mag**	**80.94**	**343**	P	P	22 20 54.3	-2.0
	baz=166						
KMSC	**Kings Mountain**	**81.00**	**353**	P	P	22 20 55.0	-1.6
	baz=174						
Y44A	**Strider, Charl**	**81.01**	**345**	P	P	22 20 55.0	-1.6
	baz=168						
Y43A	**Makayla and Ka**	**81.09**	**345**	P	P	22 20 55.8	-1.3
	baz=167						
Z39A	**Irene McRaven,**	**81.09**	**342**	P	P	22 20 55.6	-1.6
	baz=165						
Y42A	**Garnett, Star**	**81.18**	**344**	P	P	22 20 56.3	-1.3
	baz=167						
Z38A	**Mt. Pleasant**	**81.28**	**341**	P	P	22 20 56.8	-1.3
	baz=164						
X45A	**UM Field Stati**	**81.32**	**346**	P	P	22 20 57.4	-1.0
	baz=168						
Z37A	**Pogue Cattle C**	**81.37**	**341**	P	P	22 20 56.5	-2.1
	baz=164						
Y41A	**Eaglette Beard**	**81.38**	**343**	P	P	22 20 57.8	-0.9
	baz=166						
OXF	**Oxford**	**81.41**	**346**	*e*P	P	22 20 55.3	-3.5
	comp=N,7.6nm,0.7s						
SWET	**Sewanee**	**81.58**	**349**	*e*P	P	22 20 59.8	0.0
Z36A	**Blue Ridge**	**81.63**	**340**	P	P	22 20 59.1	-0.9
	baz=164						
CPCT	**Cooper Cave**	**81.63**	**350**	*e*P	P	22 20 59.5	-0.5
Y40A	**Okolona**	**81.64**	**343**	P	P	22 20 59.1	-1.0
	baz=166						
PLAL	**Pickwick Lake**	**81.65**	**347**	*e*P	P	22 20 59.4	-0.7
X43A	**Marvell**	**81.67**	**345**	P	P	22 20 58.4	-1.7
	baz=167						
Y39A	**Lockesburg**	**81.74**	**342**	P	P	22 20 58.7	-1.9
	baz=165						
TKL	**Tuckeechee C**	**81.75**	**351**	P	P	22 21 00.1	-0.5
	comp=N,6.3nm,0.9s,baz=133,slow=5.3,SNR=4.8						
ABTX	**Abilene, Hawle**	**81.83**	**337**	P	P	22 20 59.7	-1.5
	baz=161						
ABTX	**Abilene, Hawle**	**81.83**	**337**	*e*P	P	22 20 57.9	-3.2
	comp=N,12nm,0.9s						
X42A	**Stuttgart**	**81.84**	**344**	P	P	22 21 00.2	-0.8
	baz=167						
Y38A	**Idabel**	**81.87**	**342**	P	P	22 21 00.6	-0.7
	baz=165						
W45A	**Hickory Valley**	**82.00**	**346**	P	P	22 21 01.2	-0.7
	baz=168						
X40A	**Basin Creek Fa**	**82.01**	**343**	P	P	22 21 01.0	-1.0
	baz=166						
MIAR	**Mount Ida**	**82.22**	**343**	P	P	22 21 01.8	-1.3
	baz=166						
MIAR	**Mount Ida**	**82.22**	**343**	*e*P	P	22 21 04.1	+1.0
X39A	**Fountain Ranch**	**82.30**	**342**	P	P	22 21 02.2	-1.3
	baz=165						
Y35A	**Marietta**	**82.38**	**340**	P	P	22 21 02.4	-1.6
	baz=163						
V45A	**Humboldt**	**82.53**	**347**	P	P	22 21 03.7	-0.9
	baz=169						
W41B	**Gary Mavity, V**	**82.56**	**344**	P	P	22 21 03.9	-1.0
	baz=166						
X38A	**Whitesboro**	**82.61**	**342**	P	P	22 21 04.1	-1.0
	baz=165						
X37A	**Clayton**	**82.65**	**341**	P	P	22 21 04.3	-1.0
	baz=164						
X301	**Greenbrier Sit**	**82.66**	**344**	*e*P	P	22 21 05.6	+0.3
MNTX	**Cornudas Mount**	**82.67**	**332**	P	P	22 21 04.3	-1.3
	baz=158,SNR=20						
MNTX	**Cornudas Mount**	**82.67**	**332**	*e*P	P	22 21 02.9	-2.6
WHAR	**Wooly Hollow**	**82.68**	**344**	*e*P	P	22 21 05.6	+0.1
W40A	**Ferguson Farm,**	**82.74**	**343**	P	P	22 21 05.1	-0.6
	baz=166						
WVT	**Waverly**	**82.74**	**348**	*e*P	P	22 21 04.7	-1.0
X35A	**Drake**	**82.84**	**340**	P	P	22 21 05.6	-0.7
	baz=163						
X36A	**Centrahoma**	**82.86**	**341**	P	P	22 21 05.4	-1.0
	baz=164,SNR=8.6						
W39A	**Magazine**	**82.89**	**343**	P	P	22 21 06.4	-0.2
	baz=165,SNR=19						
W38A	**Poteau**	**82.92**	**342**	P	P	22 21 06.3	-0.4
	baz=165,SNR=6.2						
V42A	**Cord**	**83.02**	**345**	P	P	22 21 06.2	-0.9
	baz=167						
U45A	**Rockin P Farm,**	**83.10**	**347**	P	P	22 21 06.8	-0.8
	baz=169						
V41A	**Mountainview**	**83.14**	**344**	P	P	22 21 06.7	-1.1
	baz=166,SNR=8.3						
U44B	**Burton Farm, H**	**83.18**	**347**	P	P	22 21 07.2	-0.8
	baz=168						
W37B	**Quinton**	**83.19**	**341**	P	P	22 21 07.0	-1.1
	baz=164						
V40A	**Witts Springs**	**83.29**	**344**	P	P	22 21 07.7	-1.0
	baz=166

baz=169
U36A Oologah 84.46 342 P P 22 21 13.4 -1.2
baz=164
S44A Carbondale 84.49 347 P P 22 21 13.3 -1.4
baz=168
S43A Fulton Ridge, 84.51 346 P P 22 21 13.9 -0.9
baz=168,SNR=8.8
AMTX Amarillo 84.52 336 P P 22 21 13.6 -1.4
baz=160
AMTX Amarillo 84.52 336 eP P 22 21 11.2 -3.8
comp=N,4.6nm,0.2s
T40A Mansfield 84.53 344 P P 22 21 14.1 -0.8
baz=166,SNR=9.6
T39A Clever 84.58 344 P P 22 21 14.3 -0.9
baz=166,SNR=12
U35A Pawnee 84.67 341 P P 22 21 14.2 -1.5
baz=163
T38A Diamond 84.77 343 P P 22 21 14.7 -1.4
baz=165
S41A Jillco Farms, 84.81 345 P P 22 21 15.5 -0.8
baz=167,SNR=15
S42A Caledonia 84.82 346 P P 22 21 15.4 -1.0
baz=167
S40A Lebanon 84.96 344 P P 22 21 16.3 -0.8
baz=166,SNR=14
FVM French Village 84.97 346 eP P 22 21 17.6 +0.4
T37A Cheneyville 18 84.99 342 P P 22 21 16.4 -0.8
baz=165,SNR=8.2
R44A Waltonville 85.01 347 P P 22 21 16.0 -1.2
baz=169
T36A Boggs Farm, Ca 85.13 342 P P 22 21 17.2 -0.7
baz=164,SNR=8.6
T35A Sooner Cattle 85.14 341 P P 22 21 17.3 -0.7
baz=164,SNR=14
R43A Red Bud 85.17 347 P P 22 21 16.8 -1.3
baz=168
CCM Cathedral Cave 85.18 345 eP P 22 21 14.2 -4.0
comp=N,56nm,0.9s
S39A Bolivar 85.21 344 P P 22 21 17.3 -1.1
baz=166,SNR=15
U32A Winter Ranch, 85.22 339 P P 22 21 16.8 -1.6
baz=162
S38A Stockton 85.27 343 P P 22 21 17.4 -1.2
baz=165,SNR=14
R42A Luebbering 85.32 346 P P 22 21 17.7 -1.2
baz=167
BNM Barren Site 85.33 332 eP P 22 21 20.1 +0.8
T34A McClaskey Farm 85.39 341 P P 22 21 18.7 -0.6
baz=163,SNR=13
R41A Rosebud 85.44 345 P P 22 21 18.3 -1.1
baz=167,SNR=7.3
PSUB Penn St. - Bra 85.44 358 eP P 22 21 20.5 +1.1
LPM Los Pinos Moun 85.48 332 eP P 22 21 20.8 +0.8
MVL Millersville 85.54 357 eP P 22 21 22.6 +2.7
S37A Fort Scott 85.58 343 P P 22 21 19.1 -1.1
baz=165
R40A Maddies Statio 85.59 345 P P 22 21 19.0 -1.2
baz=166
Q44A Meyer Farm, Va 85.64 347 P P 22 21 18.9 -1.5
baz=169
S36A Lake Cedric, C 85.71 342 P P 22 21 19.7 -1.1
baz=164
LAZ Ladron 85.73 332 eP P 22 21 22.1 +0.9
R39A Chumby, Stover 85.76 344 P P 22 21 20.1 -1.0
baz=166,SNR=10.0
Q43A New Douglas 85.78 347 P P 22 21 19.7 -1.5
baz=168
R38A Fenwick Farm, 85.80 343 P P 22 21 20.3 -1.0
baz=165
S35A Otter Creek Ra 85.83 341 P P 22 21 20.9 -0.5
baz=164,SNR=11
P47A Martinsville 85.83 350 P P 22 21 20.4 -0.9
baz=170
Q42A Golden Eagle 85.89 346 P P 22 21 20.8 -0.8
baz=168
O56A Blue Knob Stat 85.91 356 P P 22 21 20.8 -1.0
baz=176
ANMO Albuquerque 86.00 333 P P 22 21 22.2 -0.4
comp=N,14nm,0.9s,baz=339,slow=8.4,SNR=11
ANMO Albuquerque 86.00 333 P P 22 21 22.6 0.0
baz=157
ANMO Albuquerque 86.00 333 eP P 22 21 22.5 -0.1
comp=N,7.2nm,0.9s
S34A Willow Spring 86.02 341 P P 22 21 21.9 -0.5
baz=163
Q41A Truxton 86.05 346 P P 22 21 21.8 -0.6
baz=167
R37A Teagarden Farm 86.11 343 P P 22 21 22.3 -0.5
baz=165
P44A Sand Creek, Wi 86.13 348 P P 22 21 22.3 -0.6
baz=169
Q40A Laux Farm, Aux 86.24 345 P P 22 21 22.7 -0.7
baz=167
R36A Gordon, Harris 86.27 342 P P 22 21 23.0 -0.6
baz=164
N59A State Game Lan 86.44 358 P P 22 21 24.2 -0.1
baz=178
Q39A Willow Grove F 86.45 344 P P 22 21 23.9 -0.5
baz=166
Q38A Cooks Store, C 86.50 344 P P 22 21 23.8 -0.9
baz=166,SNR=9.0
P42A Winchester 86.52 346 P P 22 21 23.9 -0.8
baz=168
O47A Sheridan 86.56 350 P P 22 21 23.7 -1.2
baz=171
Q37A Longview Farm, 86.58 343 P P 22 21 23.8 -1.3
baz=165
LSZ Lusaka 86.60 108 P P 22 21 26.2 +0.2
comp=N,6.1nm,0.7s,baz=205,slow=6.9,SNR=12
R34A Isabella, Hill 86.63 341 P P 22 21 24.7 -0.7
baz=163,SNR=7.9
N54A Moraine State 86.68 355 P P 22 21 24.2 -1.4
baz=175
P40A Paris 86.75 345 P P 22 21 25.0 -0.9
baz=167,SNR=6.8
SFIN Lafayette 86.81 349 P P 22 21 25.2 -1.0
baz=170
P39B Salisbury 86.84 345 P P 22 21 25.5 -0.8
baz=166
Q36A Arnold C. Orve 86.87 342 P P 22 21 25.5 -1.0
baz=164
Q35A Mercer Eighty, 86.89 342 P P 22 21 25.5 -1.1
baz=164
O43A Sugar Creek Fa 87.04 347 P P 22 21 26.5 -0.8
baz=168
P38A Dawn 87.12 344 P P 22 21 26.7 -1.0
baz=166
O41A Passleys Farm, 87.12 346 P P 22 21 26.4 -1.3
baz=167
Q34A Chapman 87.15 341 P P 22 21 26.9 -0.9
baz=163,SNR=8.7
M54A Oil Creek Stat 87.20 355 P P 22 21 26.8 -1.3
baz=175
P37A Lathrop 87.25 343 P P 22 21 26.7 -1.6
baz=165
KSU1 Kansas State U 87.25 342 P P 22 21 27.2 -1.1
baz=164
W18A Petrified Fore 87.25 330 P P 22 21 26.8 -1.9
baz=155
W18A Petrified Fore 87.25 330 eP P 22 21 25.6 -3.0
comp=N,5.3nm,1.1s
N46A Monticello 87.28 349 P P 22 21 27.9 -0.5
baz=170
GLA Glamis 87.29 326 P P 22 21 27.7 -1.0
baz=152
O40A La Belle 87.30 345 P P 22 21 28.1 -0.4
baz=167
T25A Trinidad 87.40 335 P P 22 21 29.1 -0.3
baz=158
T25A Trinidad 87.40 335 eP P 22 21 30.1 +0.6
IKP In-Ko-Pah, Jac 87.45 325 P P 22 21 27.9 -1.7
baz=151
P36A Good Intent, A 87.45 343 P P 22 21 28.7 -0.6
baz=164
MHTCO State Highway 87.48 335 eP P 22 21 31.0 +1.3
P35A Duane Minner, 87.53 342 P P 22 21 29.1 -0.6
baz=164
O39A Kirksville 87.55 345 P P 22 21 29.2 -0.5
baz=166
SWSC Sam W. Stewart 87.58 325 P P 22 21 29.2 -0.9
baz=152
O38A Galt 87.59 344 P P 22 21 29.1 -0.9
baz=166
N42A Yates City 87.68 347 P P 22 21 29.6 -0.7
baz=168
BAR Barrett 87.70 324 eP P 22 21 32.3 +1.5
CBKS Cedar Bluff 87.71 339 P P 22 21 29.7 -0.9
baz=162
P34A Walnut Farm, R 87.73 342 P P 22 21 29.9 -0.7
baz=163
O37A Wolven Farm, M 87.76 344 P P 22 21 29.9 -0.9
baz=165
Y12C Blythe 87.78 326 P P 22 21 29.3 -1.7
baz=152
Y12C Blythe 87.78 326 eP P 22 21 32.9 +1.9
MONP2 Monument Peak 87.79 324 P P 22 21 30.0 -1.4
baz=151
O36A Bolckow 87.89 343 P P 22 21 30.0 -1.4
baz=165
N40A Mertquake, Sal 87.99 346 P P 22 21 30.8 -1.1
baz=167
BC3 Big Chuckawall 88.06 326 P P 22 21 31.2 -1.3
baz=152
PDMCI Parker Dam,Lak 88.13 327 P P 22 21 31.4 -1.3
baz=152
N39A Derby Farms, D 88.14 345 P P 22 21 31.6 -1.0
baz=166
WUAZ Wupatki 88.19 329 eP P 22 21 30.9 -2.3
N38A Joes South For 88.20 345 P P 22 21 31.6 -1.2
baz=166
O35A Humboldt 88.22 342 P P 22 21 31.9 -1.0
baz=164
M42A Sheffield 88.25 347 P P 22 21 32.1 -0.9
baz=168
SDCO Great Sand Dun 88.29 335 P P 22 21 32.2 -1.5
baz=158
SDCO Great Sand Dun 88.29 335 eP P 22 21 32.2 -1.5
comp=N,1.9nm,0.8s
O34A Beatrice 88.31 342 P P 22 21 32.5 -0.9
baz=164
MMNY Mt. Morris Dam 88.33 356 eP P 22 21 34.2 +0.8
N37A Lee Faris, Mou 88.35 344 P P 22 21 32.4 -1.1
baz=165
IRM Iron Mountain 88.39 326 P P 22 21 33.2 -0.8
baz=152
O33A Hebron 88.40 341 P P 22 21 32.7 -1.2
baz=163
PFO Pinyon Flats O 88.43 325 P P 22 21 33.1 -1.2
baz=151
PFO Pinyon Flats O 88.43 325 eP P 22 21 34.8 +0.5
comp=N,6.8nm,1.0s
M40A Post Highland 88.49 346 P P 22 21 33.7 -0.5
baz=167
N36A Muff Farm, Cla 88.55 343 P P 22 21 33.6 -0.9
baz=165
BELC Belle Mtn. Jos 88.58 325 P P 22 21 33.4 -1.6
baz=151
KSCO Kaye Shedlock' 88.65 337 P P 22 21 34.1 -1.0
baz=160
M39A Webster 88.67 346 P P 22 21 34.3 -0.7
baz=166
S22A 4UR Ranch, Cre 88.69 334 P P 22 21 34.3 -1.3
baz=157
S22A 4UR Ranch, Cre 88.69 334 eP P 22 21 36.4 +0.7
MURC Murrieta 88.72 324 P P 22 21 35.0 -0.5
baz=151
N35A Tabor 88.73 343 P P 22 21 34.8 -0.6
baz=164
MVCO Mesa Verde 88.74 332 P P 22 21 35.0 -0.8
baz=156
MVCO Mesa Verde 88.74 332 eP P 22 21 35.4 -0.4
comp=N,1.1nm,0.5s
SCI2 San Clemente I 88.74 323 P P 22 21 35.0 -0.6
baz=150
M38A Pleasantville 88.79 345 P P 22 21 35.0 -0.6
baz=166
TORD Torodi Ar. Bea 88.81 70 P P 22 21 34.9 -1.4
comp=N,4.8nm,0.8s,baz=226,slow=3.5,SNR=20
TORD LR LR 22 58 38.1
comp=N,59nm,18.7s,baz=220,slow=34
N34A Lincoln 88.89 342 P P 22 21 35.7 -0.5
baz=164
M37A Trindle Farm, 88.94 344 P P 22 21 35.9 -0.4
baz=165
L41A Preston 88.97 347 P P 22 21 36.2 -0.3
baz=168
N33A J Bar K, Exete 89.00 341 P P 22 21 36.3 -0.4
baz=163
CIS Catalina Islan 89.05 323 P P 22 21 36.2 -0.8
baz=150
L40A Anamosa 89.08 346 P P 22 21 36.3 -0.6
baz=167
M36A Felix, Anita 89.14 344 P P 22 21 36.7 -0.6
baz=165
GMRC Granite Mounta 89.14 326 P P 22 21 36.6 -1.0
baz=152
BBRC Big Bear Solar 89.18 325 P P 22 21 36.4 -1.5
baz=151
K43A Burlington 89.27 349 P P 22 21 37.8 0.0
baz=169
L39A Vinton 89.27 346 P P 22 21 37.3 -0.5
baz=167
Q24A Divide 89.31 335 P P 22 21 38.0 -0.5
baz=158
Q24A Divide 89.31 335 eP P 22 21 38.7 +0.1
M35A Neola 89.33 343 P P 22 21 38.2 +0.1
baz=164
HEC Hector,Ludlow 89.44 325 P P 22 21 38.6 -0.4
baz=151
L38A Oak Wood Farm, 89.45 345 P P 22 21 38.4 -0.3
baz=165
BFSC Mount Baldy Ra 89.46 324 P P 22 21 38.8 -0.3
baz=150
K41A Shullsburg 89.46 347 P P 22 21 38.6 -0.2
baz=168
K42A Prairie Point, 89.48 348 P P 22 21 38.5 -0.4
baz=168
M34A Aspy Farms, Fr 89.55 342 P P 22 21 38.8 -0.3
baz=164
L37A Phoenix Point, 89.58 345 P P 22 21 38.9 -0.4
baz=166
K40A Colesburg 89.68 347 P P 22 21 39.3 -0.5
baz=167
L36A Harm Buss Farm 89.73 344 P P 22 21 39.5 -0.5
baz=165
JFWS Jewell Farm 89.75 347 eP P 22 21 37.9 -2.2
comp=N,6.2nm,0.7s
TUQ Turquoise Moun 89.81 326 P P 22 21 40.2 -0.6
baz=152
K39A Oelwein 89.81 346 P P 22 21 40.1 -0.3
baz=167
K38A Parkersburg 89.91 345 P P 22 21 41.0 +0.2
baz=166
J42A Columbus 89.98 348 P P 22 21 41.6 +0.5
baz=169
GSC Goldstone, Bar 90.04 325 eP P 22 21 44.6 +2.9
KNB Kanab 90.05 329 eP P 22 21 44.0 +2.1
SMCO Snowmass 90.05 334 eP P 22 21 38.8 -3.4
comp=N,0.7nm,0.5s
J41A Loganville 90.16 348 P P 22 21 41.9 -0.1
baz=168
K37A Belmond 90.18 345 P P 22 21 42.0 -0.1
baz=166
K36A Gilmore City 90.21 344 P P 22 21 41.9 -0.3
baz=165
ISCO Idaho Springs 90.22 335 P P 22 21 42.9 +0.2
baz=158
ISCO Idaho Springs 90.22 335 eP P 22 21 38.9 -3.9
comp=N,0.8nm,0.6s
J40A Soldiers Grove 90.30 347 P P 22 21 42.8 +0.2
baz=168
OGNE Ogallala 90.30 338 P P 22 21 43.3 +0.5
baz=160
J39A Decorah 90.40 346 P P 22 21 43.0 -0.1
baz=167
SADO Sadowa 90.42 355 P P 22 21 42.4 -0.7
comp=N,7.1nm,0.8s,baz=198,slow=3.3,SNR=6.3
SHPR Sheep Range 90.46 327 eP P 22 21 45.3 +1.5
J38A Wedel Dairy, R 90.51 346 P P 22 21 44.0 +0.4
baz=166
I42A Draeger Farm, 90.51 348 P P 22 21 44.2 +0.6
baz=169
SZCU Shurtz Canyon 90.66 329 eP P 22 21 46.9 +2.1
J37A Redenius Farm, 90.69 345 P P 22 21 44.7 +0.3
baz=166
CCUT Cedar City 90.72 329 eP P 22 21 46.7 +1.6
I40A Norwalk 90.76 347 P P 22 21 45.4 +0.6
baz=168
J36A Seneca 1, Swea 90.86 344 P P 22 21 45.5 +0.3
baz=165
I39A Houston 90.87 347 P P 22 21 45.3 0.0
baz=167
K32A Verdigre 90.95 342 P P 22 21 45.0 -0.7
baz=163
MPMC Manual Prospec 90.97 325 P P 22 21 45.3 -0.9
baz=151
ISA Isabella, Lake 91.03 324 P P 22 21 45.9 -0.4
baz=150
FURC Furnace Creek, 91.08 326 P P 22 21 46.0 -0.4
baz=151
K31A O'Neill 91.09 341 P P 22 21 46.2 -0.2
baz=162
J34A George 91.13 343 P P 22 21 46.6 +0.1
baz=164
MSU Marysvale 91.15 330 eP P 22 21 48.2 +1.2
Q16A Castle Valley 91.17 331 eP P 22 21 49.7 +2.6
I38A Scanlan Farm, 91.19 346 P P 22 21 46.8 0.0
baz=166
TPNV Topopah Spring 91.26 327 eP P 22 21 49.0 +1.4
O20A White River Ci 91.32 334 P P 22 21 47.2 -0.5
baz=156
N23A Red Feather La 91.33 335 P P 22 21 47.6 -0.2
baz=158
N23A Red Feather La 91.33 335 eP P 22 21 48.2 +0.4
I37A Lemond, Waseca 91.35 345 P P 22 21 47.9 +0.4
baz=166
P18A Preston Nutter 91.50 332 eP P 22 21 50.7 +1.9
PHWY Pilot Hill 91.56 336 eP P 22 21 47.6 -1.4
ECSD EROS Data Cent 91.69 343 P P 22 21 48.4 -0.8
baz=164
ECSD EROS Data Cent 91.69 343 eP P 22 21 47.9 -1.2
F46A Macinaw City C 91.86 352 P P 22 21 49.8 0.0
baz=172
H36A Jessenland, He 91.99 345 P P 22 21 50.6 +0.2
baz=165
R11A Troy Canyon, C 92.24 328 P P 22 21 51.7 -0.4
baz=152
H34A Spellman Lake, 92.42 344 P P 22 21 52.0 -0.4
baz=164
RWWY Rawlins 92.43 335 eP P 22 21 48.4 -4.5
comp=N,2.6nm,1.1s
E45A Wooded Hills, 92.48 351 P P 22 21 52.4 -0.3
baz=171
E42A Champion 92.87 350 P P 22 21 54.6 +0.1
baz=169
DUG Dugway, Tooele 92.88 330 eP P 22 21 55.9 +1.0
K22A Casper 93.11 336 P P 22 21 56.2 +0.3
baz=157
K22A Casper 93.11 336 eP P 22 21 54.3 -1.6
TCUT Toone Canyon 93.23 332 eP P 22 21 59.0 +2.4
F35A Swanville 93.34 345 P P 22 21 56.9 +0.3
baz=165
HWUT Hardware Ranch 93.72 332 eP P 22 21 57.0 -1.8
comp=N,1.4nm,0.3s
BW06 Boulder Array 94.12 334 P P 22 21 59.6 -1.1
baz=155
BW06 Boulder Array 94.12 334 eP P 22 21 58.6 -2.1
PD31 Pinedale Array 94.12 334 eP P 22 22 00.3 -0.4
PDAR Pinedale Array 94.12 334 P P 22 21 59.6 -1.0
comp=N,1.0nm,0.6s,baz=134,slow=4.3,SNR=8.9
ELK Elko 94.22 329 P P 22 22 01.7 +0.5
comp=N,1.2nm,1.1s,baz=176,slow=1.9,SNR=3.8
B32A Ashes, Strandq 96.15 344 P P 22 22 08.9 -0.5
baz=164
HLID Hailey 96.41 331 P P 22 22 11.6 +0.6
baz=152
GERES GERESS Array B 120.56 50 PKP PKPdf 22 27 33.4 0.0
comp=N,1.1nm,0.8s,baz=229,slow=1.4,SNR=5.6
VYHS Vyhne 123.16 53 ePKP PKPdf 22 27 40.6 +2.4
KECS Kecovo 124.08 53 ePKP PKPdf 22 27 41.9 +2.0
ILAR Eielson Array 124.36 330 PKP PKPdf 22 27 40.0 +0.1
comp=N,3.0nm,0.8s,baz=172,slow=1.6,SNR=30
NB2 NORSAR Subarra126.10 37 PKPdf PKPdf 22 27 45.3 +1.8
comp=Z,8.2nm,1.4s,baz=241,slow=1.9
NB2 NORSAR Subarra126.10 37 PKPdf PKPdf 22 27 45.3 +1.8
baz=241,slow=1.9
NOA NORSAR Array B 126.10 37 PKP PKPdf 22 27 44.0 +0.5
comp=Z,2.4nm,0.9s,baz=239,slow=2.0,SNR=4.0
TOLK Toolik Lake Re 127.39 333 P PKPdf 22 27 46.2 +0.4
baz=121
BRTR Keskin Array B 127.40 69 PKP PKPdf 22 27 47.0 +0.2
comp=Z,2.0nm,0.8s,baz=167,slow=1.0,SNR=9.3
AKASG Malin Array Be 130.11 54 PKP PKPdf 22 27 50.2 -1.1
comp=Z,0.2nm,0.3s,baz=267,slow=1.6,SNR=6.5
GEYT Alibeck 143.08 84 PKhKP PKPpre 22 28 08.8
comp=Z,0.9nm,0.7s,baz=29,slow=2.1,SNR=1.8
GEYT PKP PKPdf 22 28 15.1 -0.7
comp=Z,0.7nm,0.6s,baz=258,slow=7.4,SNR=4.3
PETK Petropavlovsk- 147.03 301 PKPbc PKPab 22 28 25.1 -0.7
comp=Z,17nm,0.8s,baz=99,slow=7.6,SNR=14
AKTO Aktyubinsk 147.32 64 PKPbc PKPbc 22 28 24.9 -0.2
comp=Z,7.6nm,0.8s,baz=259,slow=0.9,SNR=22
ABKAR Akbulak array 148.31 66 ePKPbc PKPdf 22 28 24.6 +0.2
ARU Arti 148.33 53 PKPbc PKPbc 22 28 27.7 +0.1
comp=Z,13nm,0.8s,baz=300,slow=3.1,SNR=17
ARU Arti 148.33 53 ePKPbc PKPdf 22 28 24.6 +0.5
SEY Seymchan 149.50 320 PKPbc PKPbc 22 28 31.1 +0.8
comp=Z,8.0nm,0.7s,baz=50,slow=3.2,SNR=11
CMAR Chiang Mai Arr 151.82 163 PKP PKPdf 22 28 31.7 +0.9
comp=Z,1.6nm,0.9s,baz=234,slow=2.8,SNR=12
CMAR PKPbc PKPbc 22 28 36.9 -0.3
comp=Z,10nm,0.8s,baz=221,slow=3.7,SNR=38
TIXI Tiksi 152.16 346 PKPbc PKPbc 22 28 35.4 -1.0
comp=Z,7.0nm,0.7s,baz=29,slow=2.6,SNR=12
TIXI PKPab PKPab 22 28 45.0 -1.1
comp=Z,11nm,1.0s,baz=21,slow=5.0,SNR=11
CHTO Chiang Mai 152.16 163 ePKPbc PKPbc 22 28 36.9 -1.1
MJAR Matsushiro Arr 155.04 259 PKPab PKPab 22 28 57.9 -1.6
comp=Z,1.4nm,0.7s,baz=143,slow=4.1,SNR=4.1
BVAR Borovoye Array 155.20 60 PKP PKPdf 22 28 33.8 -0.8
comp=Z,3.5nm,0.9s,baz=252,slow=1.4,SNR=17
BVAR PKPab PKPab 22 28 59.4 -0.3
comp=Z,2.7nm,0.9s,baz=298,slow=3.2,SNR=5.8
KSH Kashi 156.25 94 ePKP PKPdf 22 28 38.0 +1.4
KSH PKS PKSdf 22 32 11.0 +0.4
KSH PP PP 22 32 46.8 +3.9
KSH SKS SKSdf 22 35 43.5 +1.3
KSH SKKS SKKSac 22 39 33.3 +1.9
KSH SS SS 22 52 33.0 +0.4
KSH AMB AMB
comp=Z,170nm,7.2s
KSH LR LR
comp=Z,90nm,8.6s
KSH LR LR
comp=Z,98nm,10.5s
KSH LR LR
comp=Z,270nm,7.5s
AAK Ala-Archa 156.41 86 PKPab PKPab 22 29 05.2 -0.2
comp=Z,3.4nm,0.9s,baz=257,slow=7.4,SNR=5.5
AAK Ala-Archa 156.41 86 ePKPdf PKPdf 22 28 37.2 +0.5
AAK PKPab PKPab 22 29 05.2 -0.2
AAK ePKPab PKPab 22 29 05.8 +0.4
KMI Kunming 158.99 169 PKP PKPdf 22 28 41.5 +0.9
KURBB Kurchatov Arra 160.35 66 PKP PKPdf 22 28 40.4 -0.6
comp=Z,5.8nm,1.3s,baz=283,slow=1.7,SNR=16
KURBB PKPab PKPab 22 29 21.2 -0.8
comp=Z,3.8nm,1.0s,baz=275,slow=5.0,SNR=14
KURBB PP PP 22 33 05.9 +0.9
comp=Z,1.2nm,1.2s,baz=270,slow=6.5,SNR=6.5
KURK Kurchatov 160.41 65 ePKPdf PKPdf 22 28 41.2 +0.1
KURK ePKPab PKPab 22 29 16.7 -5.5
KURK PKPab PKPab 22 29 21.2 -1.1
KURK PP PP 22 33 05.9 +0.7
GYA Guiyang 160.63 178 ePKP PKPdf 22 28 43.3 +1.0
GYA PKPab pPKPab 22 29 27.0 -1.9
GYA PKS PKSdf 22 32 15.5 -0.3
GYA PP PP 22 33 11.8 +6.3
GYA AMB AMB
comp=Z,130nm,8.2s
MKAR Makanchi Array 162.75 78 PKP PKPdf 22 28 44.0 +0.3
comp=Z,4.9nm,1.3s,baz=232,slow=1.4,SNR=8.1
MKAR PKPab PKPab 22 29 31.0 -1.7
comp=Z,1.6nm,0.8s,baz=270,slow=3.1,SNR=9.0
ZALV Zalesovo Beam 163.49 53 PKP PKPdf 22 28 43.8 -0.3
comp=Z,2.9nm,1.0s,baz=252,slow=2.3,SNR=13
ZALV PKPab PKPab 22 29 35.4 -0.2
comp=Z,0.4nm,0.5s,baz=265,slow=5.1,SNR=2.9
NJ2 Nanjing 163.54 217 ePKP PKPdf 22 28 48.3 +3.4
CD2 Chengdu 164.83 168 PKP PKPdf 22 28 46.5 +0.3
WMQ Urumqi 165.98 91 ePKP PKPdf 22 28 47.5 +0.8
LZH Lanzhou 169.90 164 ePKP PKPdf 22 28 46.3 -3.5
LZH pPKP pPKPdf 22 28 51.0 -4.0
LZH sPKP 22 28 52.5
LZH ePP PP 22 33 55.0 +1.0
LZH AMB AMB
comp=Z,220nm,9.1s
LZH LR LR
comp=Z,1μm,16.7s
LZH LR LR
comp=Z,2μm,19.3s
LZH LR LR
comp=Z,3μm,20.4s

GTA	**Gaotai**	**171.54**	**137**	*e*PKP	**PKPdf**	**22 28 50.5**	**-0.1**
GTA				pPKP	sPKPdf	22 28 59.8	+2.3
GTA				sPKP		22 29 04.5	
GTA				PP	**PP**	**22 34 04.8**	**+2.2**
GTA				SKS	**SKSdf**	**22 35 47.8**	**-5.5**
GTA				AMB	AMB		
	comp=Z,140nm,4.8s						
SONM	**Songino Array**	**177.94**	**16**	PKP	**PKPdf**	**22 28 52.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=242,slow=3.2,SNR=4.4						
SONM				PKPab	PKPab	22 30 40.5	+0.7
	comp=Z,2.7nm,1.0s,baz=307,slow=3.9,SNR=15						
SONM				PP	**PP**	**22 34 34.3**	**+1.3**
	comp=Z,1.4nm,1.1s,baz=344,slow=2.4,SNR=7.4						

IDC 25 22:20:16.1±2.4, 50°.10N×114°.78W, h0km, mb1 4.0/1, mb1mx3.0/71, mbtmp3.7/1, ML3.3/1, Error ellipse: s-maj=45.1km s-min=10.7km az=118.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**2.40**	**221**	Pg	Pb	22 20 59.2	-1.0
	0.9nm,0.3s,baz=41,slow=15,SNR=24						
NEW				Lg	Lg	22 21 31.1	
	6.5nm,0.3s,baz=126,slow=19,SNR=12						
NEW				Rg	Rg	22 21 45.3	
	28nm,0.6s,baz=143,slow=20,SNR=5.7						
I56US	**NEWPORT INFRAS**	**2.40**	**221**	*i*		22 34 20.0	
	baz=37,slow=332,SNR=4.9						
I10CA	**LAC DU BONNET**	**12.03**	**82**	*i*		23 32 30.0	
	baz=276,slow=320,SNR=2.9						
YKA	**Yellowknife Ar**	**12.42**	**0**	Pn	Pn	22 23 10.5	-3.5
	0.2nm,0.3s,baz=181,slow=13,SNR=4.1						

*ISCJB **25** 22:26:57.5±0.5, 36°.44N±0°.03×29°.05E±0°.03, h12km±3km, Error ellipse: s-maj=4.3km s-min=3.6km az=178.1*
*CSEM **25** 22:26:57.5±0.1, 36°.44N×29°.07E, h15km, ML3.3, Error ellipse: s-maj=3.7km s-min=2.8km az=168.0*
*ATH **25** 22:26:57.2, 36°.40N×29°.06E, h31km±1km, ML1.7/2, Error ellipse: s-maj=6.2km s-min=1.2km az=188.0*
*DDA **25** 22:26:57.3, 36°.50N×29°.05E, h28km, Ml3.3*
*ISK **25** 22:26:57.0, 36°.41N×29°.04E, h10km, ML2.5*
ISC 25 22:26:57.3±0.9, 36°.46N±0°.02×29°.08E±0°.02, h17km±7km, n55, σ0°.87/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.18**	**360**	PG	**Pb**	**22 27 02.3**	**+0.1**
FETY				SG	**Sb**	**22 27 06.0**	**+0.5**
FETY	**Fethiye**	**0.18**	**360**	P	**Pb**	**22 27 02.4**	**+0.1**
FETY				*i* Sg	**Sb**	**22 27 06.0**	**+0.5**
FETI	**Fethiye-Mugla**	**0.23**	**2**	*e*PG	**Pg**	**22 27 02.7**	**0.0**
FETI	**Fethiye-Mugla**	**0.23**	**2**	*e*Pg	**Pg**	**22 27 02.7**	**0.0**
AKAS	**Kas**	**0.48**	**118**	*e*PG	**Pb**	**22 27 07.4**	**0.0**
AKAS				*e*SG	**Sb**	**22 27 14.7**	**+0.6**
AKAS	**Kas**	**0.48**	**118**	*i* P	**Pb**	**22 27 07.4**	**0.0**
AKAS				*i* S	**Sn**	**22 27 16.3**	**-1.3**
AKAS	**Kas**	**0.48**	**118**	P	**Pb**	**22 27 07.4**	**0.0**
AKAS				*e*Sg	**Sb**	**22 27 14.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.50**	**316**	*e*PG	**Pg**	**22 27 07.0**	**-0.3**
DALY				*e*SG	**Sb**	**22 27 15.2**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.50**	**316**	*i* P	**Pg**	**22 27 07.1**	**-0.3**
DALY				*i* S	**Sg**	**22 27 14.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.50**	**316**	P	**Pg**	**22 27 07.1**	**-0.3**
DALY				S	**Sg**	**22 27 14.5**	**+0.4**
DALY				*e*Sg	**Sb**	**22 27 15.2**	**+0.5**
KSL	**Kastellorizon**	**0.51**	**127**	P	**Pb**	**22 27 07.7**	**-0.1**
KSL				S	**Sb**	**22 27 15.9**	**+1.1**
KSL				AML	AML	22 27 17.6	
	comp=E,295μm,0.4s						
KSL				AML	AML	22 27 19.2	
	comp=N,151μm,0.4s						
TURN	**Turunc**	**0.57**	**317**	*i* P	**Pn**	**22 27 11.6**	**+0.9**
TURN				*i* S	**Sn**	**22 27 24.4**	**+4.7**
ELL	**Elmali**	**0.72**	**66**	*e*PG	**Pb**	**22 27 11.6**	**0.0**
ELL	**Elmali**	**0.72**	**66**	*e*Pg	**Pb**	**22 27 11.6**	**0.0**
GLHS	**Glhisar (BURDU**	**0.77**	**25**	*e*PG	**Pg**	**22 27 11.7**	**-0.8**
GLHS	**Glhisar (BURDU**	**0.77**	**25**	*e*Pg	**Pg**	**22 27 11.7**	**-0.8**
ARG	**Arkhangelos**	**0.81**	**253**	P	**Pg**	**22 27 13.4**	**+0.3**
ARG				S	**Sb**	**22 27 23.3**	**-0.3**
ARG				AML	AML	22 27 29.9	
	comp=N,82μm,0.2s						
ARG				AML	AML	22 27 30.4	
	comp=E,145μm,0.3s						
ARG	**Arkhangelos**	**0.81**	**253**	P	**Pg**	**22 27 13.4**	**+0.3**
ARG				S	**Sb**	**22 27 23.3**	**-0.3**
GOLH	**Golhisar**	**0.87**	**26**	*i* P	**Pb**	**22 27 13.5**	**-0.6**
GOLH				*i* S	**Sn**	**22 27 27.1**	**-0.2**
GOLH	**Golhisar**	**0.87**	**26**	P	**Pb**	**22 27 13.5**	**-0.6**
GOLH				S	**Sn**	**22 27 27.1**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.02**	**352**	*i* P	**Pb**	**22 27 16.2**	**-0.4**
TAVA				*i* S	**Sb**	**22 27 29.1**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.02**	**352**	P	**Pb**	**22 27 16.2**	**-0.4**
TAVA				S	**Sb**	**22 27 29.1**	**-0.7**
KORT	**Korkueli**	**1.15**	**61**	*e*PN	**Pg**	**22 27 19.7**	**0.0**
KORT	**Korkueli**	**1.15**	**61**	*i* P	**Pg**	**22 27 19.2**	**-0.5**
KORT				*i* S	**Sg**	**22 27 36.3**	**+1.5**
KORT	**Korkueli**	**1.15**	**61**	P	**Pg**	**22 27 19.2**	**-0.5**
KORT	**Korkueli**	**1.15**	**61**	*e*Pn	**Pg**	**22 27 19.7**	**0.0**
KORT				S	**Sg**	**22 27 36.3**	**+1.5**
DAT	**Datca**	**1.24**	**283**	*e*PN	**Pn**	**22 27 20.1**	**0.0**
DAT				*e*SN	**Sg**	**22 27 38.0**	**+0.4**
DAT	**Datca**	**1.24**	**283**	*i* P	**Pn**	**22 27 20.1**	**0.0**
DAT				*i* S	**Sg**	**22 27 37.4**	**-0.2**
DAT	**Datca**	**1.24**	**283**	P	**Pn**	**22 27 20.1**	**0.0**
DAT				S	**Sg**	**22 27 37.4**	**-0.2**
DAT				*e*Sn	**Sg**	**22 27 38.0**	**+0.4**
BDRM	**Kayabasi**	**1.45**	**295**	*i* P	**Pn**	**22 27 23.2**	**+0.4**
BDRM				*i* S	**Sb**	**22 27 42.6**	**+0.5**
BDRM	**Kayabasi**	**1.45**	**295**	P	**Pn**	**22 27 23.2**	**+0.4**
BDRM				S	**Sb**	**22 27 42.6**	**+0.5**
BRDR	**BURDUR-Merkez**	**1.47**	**32**	*i* P	**Pn**	**22 27 23.6**	**+0.5**
BRDR				*i* S	**Sb**	**22 27 43.1**	**+0.5**
BRDR	**BURDUR-Merkez**	**1.47**	**32**	P	**Pn**	**22 27 23.6**	**+0.5**
BRDR				S	**Sb**	**22 27 43.1**	**+0.5**
AYDN	**Tasoluk**	**1.54**	**322**	*i* P	**Pb**	**22 27 25.4**	**-0.1**
AYDN	**Tasoluk**	**1.54**	**322**	P	**Pb**	**22 27 25.4**	**-0.1**
NIS1	**Nisyros Isl.**	**1.54**	**276**	P	**Pn**	**22 27 24.7**	**+0.6**
NIS1	**Nisyros Isl.**	**1.54**	**276**	P	**Pn**	**22 27 24.7**	**+0.6**
BODT	**Bodrum**	**1.55**	**294**	*e*PN	**Pn**	**22 27 24.4**	**+0.2**
BODT				*e*SN	**Sb**	**22 27 45.9**	**+1.0**
BODT	**Bodrum**	**1.55**	**294**	*e*Pn	**Pn**	**22 27 24.4**	**+0.2**
BODT				*e*Sn	**Sb**	**22 27 45.9**	**+1.0**
KARP	**Karpathos**	**1.80**	**240**	*e*PN	**Pn**	**22 27 28.6**	**+0.9**
KARP	**Karpathos**	**1.80**	**240**	P	**Pn**	**22 27 27.6**	**-0.1**
KARP				S	**Sn**	**22 27 50.3**	**+0.1**
KARP	**Karpathos**	**1.80**	**240**	P	**Pn**	**22 27 27.6**	**-0.1**
KARP	**Karpathos**	**1.80**	**240**	*e*Pn	**Pn**	**22 27 28.6**	**+0.9**
KARP				S	**Sn**	**22 27 50.3**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.84**	**56**	*e*PN	**Pb**	**22 27 30.7**	**0.0**
SUTC	**Sutluce-Ispart**	**1.84**	**56**	*e*Pn	**Pb**	**22 27 30.7**	**0.0**
GCAM	**G?zelcaml?**	**1.93**	**311**	*i* P	**Pn**	**22 27 30.4**	**+1.0**
GCAM				*i* S	**Sn**	**22 27 53.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.93**	**311**	P	**Pn**	**22 27 30.4**	**+1.0**
GCAM				S	**Sn**	**22 27 53.0**	**-0.4**
KHAL	**Karahalli**	**1.94**	**10**	*i* P	**Pb**	**22 27 31.2**	**-1.1**
KHAL				*i* S	**Sn**	**22 27 50.7**	**-3.0**
KHAL	**Karahalli**	**1.94**	**10**	P	**Pb**	**22 27 31.2**	**-1.1**
ZKR	**Zakros**	**2.69**	**241**	P	**Pn**	**22 27 40.1**	**+0.3**
ZKR	**Zakros**	**2.69**	**241**	P	**Pn**	**22 27 40.1**	**+0.3**
NPS	**Neapolis**	**3.06**	**248**	P	**Pn**	**22 27 43.8**	**-1.2**
NPS	**Neapolis**	**3.06**	**248**	P	**Pn**	**22 27 43.8**	**-1.2**
IDI	**Anoyia**	**3.60**	**252**	P	**Pn**	**22 27 50.9**	**-1.6**
IDI	**Anoyia**	**3.60**	**252**	P	**Pn**	**22 27 50.8**	**-1.6**

*BEO **25** 22:33:02.6±0.8, 37°.90N×20°.61E, h0km, M4.0/1*
*ATH **25** 22:33:03.8, 37°.96N×20°.84E, h14km±1km, ML3.9/12, Error ellipse: s-maj=1.3km s-min=0.7km az=232.0*
*PDG **25** 22:33:03.7±0.5, 37°.99N×20°.61E, h14km±1km, ML4.0/14, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
*IDC **25** 22:33:03.6±0.7, 38°.18N×20°.78E, h0km, mb4.1/18, mb1 4.1/24, mb1mx4.0/48, mbtmp4.0/24, ML4.0/5, MS3.2/14, Ms1 3.2/14, ms1mx2.9/47, Error ellipse: s-maj=15.4km s-min=13.1km az=140.0*
*NEIC **25** 22:33:04.1±0.0, 37°.96N×20°.82E, h7km, mb4.1/9, ML3.9(ATH), ML4.1(THE), After THE.*
NEIC Felt at Lefkada, Greece.

*THE **25** 22:33:04.1, 37°.96N×20°.82E, h7km±1km, ML4.1/21, Error ellipse: s-maj=1.1km s-min=0.5km az=30.0*
*MOS **25** 22:33:04.2±1.4, 38°.02N×20°.56E, h17km, mb4.4/17, Error ellipse: s-maj=5.9km s-min=3.1km az=83.4*
*ISCJB **25** 22:33:04.3±0.3, 38°.04N±0°.02×20°.73E±0°.02, h18km±2km, mb4.2/35, MS3.3/11, Error ellipse: s-maj=2.9km s-min=1.9km az=40.5*
*CSEM **25** 22:33:05.2±0.1, 38°.04N×20°.79E, h10km, mb4.3/10, Error ellipse: s-maj=4.1km s-min=2.8km az=30.0*
ISC 25 22:33:05.5±0.8, 38°.00N±0°.02×20°.84E±0°.02, h14km±5km, n445, σ1°.54/560, mb4.2/35, MS3.2/11, 44C-21D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**22 33 10.0**	**-1.2**
VLS				S	**Sg**	**22 33 14.5**	**-0.5**
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**22 33 09.6**	**-1.6**
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**22 33 10.3**	**-0.9**
VLS				S	**Sg**	**22 33 14.7**	**-0.4**
VLS	**Valsamata**	**0.27**	**312**	P	**Pg**	**22 33 09.6**	**-1.6**
VLS				S	**Sg**	**22 33 14.5**	**-0.5**
VTN	**Vitineika**	**0.28**	**107**	P	**Pg**	**22 33 10.6**	**-0.9**
AXS	**Araxos**	**0.46**	**65**	P	**Pg**	**22 33 13.6**	**-1.1**
AXS				S	**Sg**	**22 33 20.8**	**-0.2**
AXS	**Araxos**	**0.46**	**65**	P	**Pg**	**22 33 13.6**	**-1.1**
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**22 33 14.0**	**-1.3**
RLS				S	**Sg**	**22 33 21.9**	**-0.1**
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**22 33 14.4**	**-0.9**
RLS				S	**Sg**	**22 33 21.3**	**-0.7**
RLS				AML	AML	22 33 23.7	
	comp=N,69652μm,0.4s						
RLS				AML	AML	22 33 23.8	
	comp=E,35010μm,0.3s						
RLS	**Riolos of Patr**	**0.50**	**83**	P	**Pg**	**22 33 14.0**	**-1.3**
PDO	**Prodromos**	**0.66**	**24**	P	**Pg**	**22 33 17.2**	**-1.1**
PDO				S	**Sb**	**22 33 28.1**	**+0.3**
PDO	**Prodromos**	**0.66**	**24**	P	**Pg**	**22 33 17.2**	**-1.1**
PDO				S	**Sb**	**22 33 28.1**	**+0.3**
DRO	**Drossia**	**0.69**	**94**	P	**Pg**	**22 33 17.3**	**-1.6**
DRO				S	**Sg**	**22 33 28.2**	**+0.2**
DRO	**Drossia**	**0.69**	**94**	P	**Pg**	**22 33 17.6**	**-1.3**
DRO				S	**Sg**	**22 33 27.3**	**-0.7**
DRO				AML	AML	22 33 35.8	
	comp=N,37137μm,0.4s						
DRO				AML	AML	22 33 36.1	
	comp=E,56188μm,0.4s						
UPR	**University Cam**	**0.80**	**69**	P	**Pg**	**22 33 20.1**	**-0.9**
UPR				S	**Sb**	**22 33 32.3**	**+0.5**
UPR	**University Cam**	**0.80**	**69**	P	**Pg**	**22 33 20.1**	**-0.9**
UPR				S	**Sb**	**22 33 32.3**	**+0.5**
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**22 33 19.4**	**-1.7**
LKD2				S	**Sb**	**22 33 32.2**	**+0.2**
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**22 33 19.2**	**-1.9**
LKD2				S	**Sb**	**22 33 31.9**	**-0.1**
LKD2				AML	AML	22 33 43.3	
	comp=N,16380μm,0.9s						
LKD2				AML	AML	22 33 45.1	
	comp=E,16570μm,0.4s						
LKD2	**Lefkada island**	**0.80**	**350**	P	**Pg**	**22 33 19.2**	**-1.9**
LKD2				S	**Sb**	**22 33 31.9**	**-0.1**
PVO	**Paravola**	**0.82**	**41**	P	**Pg**	**22 33 20.5**	**-0.9**
PVO				S	**Sb**	**22 33 32.9**	**+0.5**
PVO	**Paravola**	**0.82**	**41**	P	**Pg**	**22 33 20.9**	**-0.4**
PVO				S	**Sb**	**22 33 32.4**	**0.0**
PVO				AML	AML	22 33 34.8	
	comp=E,35333μm,0.5s						
PVO				AML	AML	22 33 34.9	
	comp=N,28719μm,0.4s						
PVO	**Paravola**	**0.82**	**41**	P	**Pg**	**22 33 20.5**	**-0.9**
PVO				S	**Sb**	**22 33 32.4**	**0.0**
AMT	**Artemida-Makis**	**0.83**	**124**	P	**Pg**	**22 33 19.8**	**-1.8**
AMT				S	**Sg**	**22 33 31.9**	**-0.6**
AMT	**Artemida-Makis**	**0.83**	**124**	P	**Pg**	**22 33 19.8**	**-1.8**
AMT				S	**Sg**	**22 33 29.8**	**-2.7**
AMT				AML	AML	22 33 41.9	
	comp=E,22418μm,0.6s						
AMT				AML	AML	22 33 43.3	
	comp=N,28089μm,0.5s						
LAKA	**Lakka**	**0.93**	**75**	P	**Pg**	**22 33 21.6**	**-1.9**
LAKA				S	**Sg**	**22 33 35.5**	**-0.1**
EFP	**Efpalio**	**0.94**	**63**	P	**Pb**	**22 33 21.8**	**-1.8**
EFP				S	**Sn**	**22 33 36.9**	**-0.7**
KLV	**Kalavryta, Ach**	**1.03**	**87**	P	**Pb**	**22 33 22.9**	**-2.4**
KLV				S	**Sn**	**22 33 39.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.03**	**87**	P	**Pb**	**22 33 23.1**	**-2.2**
ANX	**Ano Chora**	**1.03**	**55**	P	**Pb**	**22 33 23.6**	**-1.7**
ANX	**Ano Chora**	**1.03**	**55**	P	**Pb**	**22 33 23.6**	**-1.7**
ANX				S	**Sg**	**22 33 39.5**	**+0.4**
SERG	**Sergoula**	**1.04**	**66**	P	**Pb**	**22 33 23.3**	**-2.1**
SERG				S	**Sn**	**22 33 39.7**	**-0.5**
KALE	**Kalithea**	**1.09**	**69**	P	**Pb**	**22 33 24.3**	**-2.0**
KALE				S	**Sn**	**22 33 41.6**	**+0.1**
KALE	**Kalithea**	**1.09**	**69**	P	**Pb**	**22 33 24.1**	**-2.3**
KALE				S	**Sb**	**22 33 39.8**	**-0.7**
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**	**22 33 25.5**	**-1.7**
DSL				S	**Sn**	**22 33 44.1**	**+1.2**
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**	**22 33 25.1**	**-2.1**
DSL	**Palaion Diasel**	**1.15**	**10**	P	**Pb**	**22 33 25.1**	**-2.1**
DSL				S	**Sn**	**22 33 44.1**	**+1.2**
GUR	**Goura**	**1.19**	**93**	P	**Pn**	**22 33 25.6**	**-2.3**
GUR				S	**Sn**	**22 33 44.5**	**+0.6**
GUR	**Goura**	**1.19**	**93**	P	**Pn**	**22 33 25.3**	**-2.5**
ITM	**Ithomi**	**1.19**	**133**	P	**Pn**	**22 33 25.9**	**-1.9**
ITM				S	**Sg**	**22 33 44.0**	**+0.1**
ITM	**Ithomi**	**1.19**	**133**	P	**Pn**	**22 33 26.1**	**-1.7**
ITM				S	**Sb**	**22 33 42.4**	**-0.7**
ITM				AML	AML	22 33 48.9	
	comp=N,9687μm,0.8s						
ITM				AML	AML	22 33 49.9	
	comp=E,8574μm,0.6s						
ITM	**Ithomi**	**1.19**	**133**	P	**Pn**	**22 33 25.9**	**-1.9**
ITM				S	**Sg**	**22 33 44.0**	**+0.1**
EVR	**Evrytania**	**1.19**	**39**	P	**Pn**	**22 33 26.6**	**-1.3**
EVR				S	**Sg**	**22 33 43.8**	**-0.2**
EVR	**Evrytania**	**1.19**	**39**	P	**Pn**	**22 33 26.7**	**-1.3**
EVR				S	**Sb**	**22 33 43.3**	**0.0**
EVR				AML	AML	22 33 52.7	
	comp=E,11009μm,0.5s						
EVR				AML	AML	22 33 54.0	
	comp=N,8076μm,0.5s						
EVR	**Evrytania**	**1.19**	**39**	P	**Pn**	**22 33 26.6**	**-1.3**
EVR				S	**Sb**	**22 33 43.3**	**0.0**
PYL	**PYLOS**	**1.31**	**147**	P	**Pn**	**22 33 27.2**	**-2.3**
PYL				S	**Sb**	**22 33 46.6**	**-0.1**
PYL	**PYLOS**	**1.31**	**147**	P	**Pn**	**22 33 27.2**	**-2.3**
PYL				S	**Sb**	**22 33 45.9**	**-0.8**
PYL				AML	AML	22 33 54.6	
	comp=N,3452μm,0.6s						
PYL				AML	AML	22 33 55.4	
	comp=E,6057μm,0.5s						
PYL	**PYLOS**	**1.31**	**147**	P	**Pn**	**22 33 27.2**	**-2.3**
PYL				S	**Sb**	**22 33 45.9**	**-0.8**
VLX	**Vlachokerasia**	**1.37**	**117**	P	**Pn**	**22 33 29.5**	**-0.9**
VLX				S	**Sb**	**22 33 49.0**	**+0.5**
VLX	**Vlachokerasia**	**1.37**	**117**	P	**Pn**	**22 33 30.3**	**-0.1**
VLX	**Vlachokerasia**	**1.37**	**117**	P	**Pn**	**22 33 29.5**	**-0.9**
VLX				S	**Sb**	**22 33 49.0**	**+0.5**
DSF	**Desfina**	**1.39**	**72**	P	**Pn**	**22 33 28.8**	**-1.8**
DSF				S	**Sb**	**22 33 49.3**	**+0.3**
DSF	**Desfina**	**1.39**	**72**	P	**Pn**	**22 33 29.0**	**-1.6**
DSF				S	**Sb**	**22 33 49.2**	**+0.3**
DSF				AML	AML	22 34 01.8	
	comp=N,7102μm,0.6s						
DSF				AML	AML	22 34 02.1	
	comp=E,7200μm,0.6s						
DSF	**Desfina**	**1.39**	**72**	P	**Pn**	**22 33 28.8**	**-1.8**
DSF				S	**Sb**	**22 33 49.2**	**+0.3**
THAL	**Thalero**	**1.44**	**88**	P	**Pn**	**22 33 29.9**	**-1.3**
THAL	**Thalero**	**1.44**	**88**	P	**Pn**	**22 33 29.9**	**-1.3**
AGG	**Agios Georgios**	**1.55**	**48**	P	**Pn**	**22 33 33.0**	**+0.2**
AGG				S	**Sn**	**22 33 52.8**	**0.0**
AGG	**Agios Georgios**	**1.55**	**48**	*e*P	**Pb**	**22 33 34.6**	**+0.5**
AGG	**Agios Georgios**	**1.55**	**48**	P	**Pb**	**22 33 33.8**	**-0.2**
AGG				S	**Sg**	**22 33 54.5**	**-1.0**
AGG				AML	AML	22 34 03.2	
	comp=E,17771μm,0.5s						
AGG				AML	AML	22 34 06.3	
	comp=N,13727μm,0.7s						
AGG	**Agios Georgios**	**1.55**	**48**	*e*P	**Pb**	**22 33 34.6**	**+0.5**
AGG				S	**Sn**	**22 33 52.8**	**0.0**

AGG	**Agios Georgios**	**1.55**	**48**	*e*Pn	**Pb**	**22 33 34.6**	**+0.5**
LTK	**Loutraki**	**1.68**	**89**	P	**Pn**	**22 33 34.3**	**-0.2**
LTK	**Loutraki**	**1.68**	**89**	P	**Pn**	**22 33 34.7**	**+0.2**
LTK	**Loutraki**	**1.68**	**89**	P	**Pn**	**22 33 34.3**	**-0.2**
SGD	**Sagiada**	**1.68**	**344**	P	**Pn**	**22 33 33.9**	**-0.6**
SGD				S	**Sn**	**22 33 55.8**	**-0.1**
SGD	**Sagiada**	**1.68**	**344**	P	**Pn**	**22 33 33.9**	**-0.6**
SGD				S	**Sn**	**22 33 55.8**	**-0.1**
THL	**Klokotos Trika**	**1.81**	**30**	P	**Pb**	**22 33 37.8**	**-0.7**
THL	**Klokotos Trika**	**1.81**	**30**	P	**Pb**	**22 33 37.8**	**-0.7**
LKR	**Lokris**	**1.82**	**68**	P	**Pn**	**22 33 36.5**	**+0.1**
LKR	**Lokris**	**1.82**	**68**	P	**Pn**	**22 33 37.1**	**+0.7**
LKR				S	**Sb**	**22 34 01.9**	**+0.7**
LKR				AML	AML	22 34 06.4	
	comp=E,2902μm,0.6s						
LKR				AML	AML	22 34 09.1	
	comp=N,4796μm,0.7s						
LKR	**Lokris**	**1.82**	**68**	P	**Pn**	**22 33 36.5**	**+0.1**
LKR				S	**Sb**	**22 34 01.9**	**+0.7**
KEK	**Kerkira**	**1.90**	**335**	P	**Pn**	**22 33 37.2**	**-0.3**
KEK				S	**Sb**	**22 34 02.5**	**-1.0**
KEK	**Kerkira**	**1.90**	**335**	P	**Pn**	**22 33 37.2**	**-0.3**
KEK				S	**Sb**	**22 34 03.4**	**0.0**
KEK				AML	AML	22 34 28.7	
	comp=E,2132μm,0.7s						
KEK				AML	AML	22 34 32.6	
	comp=N,1786μm,0.6s						
KEK	**Kerkira**	**1.90**	**335**	P	**Pn**	**22 33 37.2**	**-0.3**
KEK				S	**Sb**	**22 34 02.5**	**-1.0**
VIL2	**Platees**	**1.93**	**83**	P	**Pb**	**22 33 39.4**	**-1.0**
VILL	**Villia**	**1.96**	**84**	P	**Pn**	**22 33 37.6**	**-0.8**
VILL				S	**Sn**	**22 34 03.7**	**+0.9**
VILL	**Villia**	**1.96**	**84**	P	**Pn**	**22 33 37.6**	**-0.8**
VILL				S	**Sn**	**22 34 03.7**	**+0.9**
VLI	**Veliai**	**2.10**	**127**	P	**Pb**	**22 33 42.8**	**-0.6**
VLI	**Veliai**	**2.10**	**127**	P	**Pb**	**22 33 42.8**	**-0.6**
ATH	**Athens Observa**	**2.27**	**90**	P	**Pn**	**22 33 43.9**	**+1.2**
ATH				S	**Sn**	**22 34 11.0**	**+0.6**
ATH	**Athens Observa**	**2.27**	**90**	P	**Pn**	**22 33 43.9**	**+1.2**
NEO	**Neokhori**	**2.27**	**54**	P	**Pb**	**22 33 45.4**	**-1.1**
NEO	**Neokhori**	**2.27**	**54**	P	**Pb**	**22 33 45.3**	**-1.1**
LIT	**Litokhoron**	**2.46**	**31**	P	**Pn**	**22 33 45.0**	**-0.3**
LIT				S	**Sn**	**22 34 16.7**	**+1.5**
LIT	**Litokhoron**	**2.46**	**31**	P	**Pn**	**22 33 46.4**	**+1.1**
LIT	**Litokhoron**	**2.46**	**31**	P	**Pn**	**22 33 46.4**	**+1.1**
LIT				S	**Sn**	**22 34 16.7**	**+1.5**
KYTH	**Kithira**	**2.47**	**134**	P	**Pb**	**22 33 49.6**	**-0.1**
FNA	**Florina**	**2.81**	**8**	P	**Pn**	**22 33 51.0**	**+0.9**
FNA	**Florina**	**2.81**	**8**	P	**Pn**	**22 33 51.0**	**+0.9**
ANKY	**Antikythira Is**	**2.90**	**136**	P	**Pn**	**22 33 52.1**	**+0.8**
ANKY	**Antikythira Is**	**2.90**	**136**	P	**Pn**	**22 33 52.1**	**+0.8**
PAIG	**Paliouri**	**2.93**	**48**	P	**Pn**	**22 33 53.8**	**+2.1**
PAIG	**Paliouri**	**2.93**	**48**	P	**Pn**	**22 33 53.8**	**+2.1**
BIA	**Bitola**	**3.04**	**7**	*i* Pn	**Pn**	**22 33 55.9**	**+2.6**
BIA	**Bitola**	**3.04**	**7**	*i* Pn	**Pn**	**22 33 55.9**	**+2.6**
THE	**Thessaloniki**	**3.10**	**31**	P	**Pn**	**22 33 56.0**	**+1.9**
THE	**Thessaloniki**	**3.10**	**31**	P	**Pn**	**22 33 56.0**	**+1.9**
OHR	**Ohrid**	**3.11**	**359**	*i* Pn	**Pn**	**22 33 56.1**	**+1.8**
OHR	**Ohrid**	**3.11**	**359**	P	**Pn**	**22 33 55.7**	**+1.5**
OHR	**Ohrid**	**3.11**	**359**	P	**Pn**	**22 33 55.7**	**+1.5**
OHR	**Ohrid**	**3.11**	**359**	*i* Pn	**Pn**	**22 33 56.0**	**+1.8**
PLG	**Polygyros**	**3.12**	**40**	P	**Pn**	**22 33 55.6**	**+1.3**
PLG	**Polygyros**	**3.12**	**40**	P	**Pn**	**22 33 55.6**	**+1.3**
GRG	**Griva**	**3.19**	**22**	P	**Pn**	**22 33 56.2**	**+0.9**
GRG	**Griva**	**3.19**	**22**	P	**Pn**	**22 33 56.2**	**+0.9**
OUR	**Ouranopolis**	**3.37**	**45**	P	**Pb**	**22 34 03.8**	**-1.3**
KRUS	**Krusevo**	**3.38**	**5**	*i* Pn	**Pn**	**22 33 59.3**	**+1.3**
KRUS	**Krusevo**	**3.38**	**5**	*i* Pn	**Pn**	**22 33 59.3**	**+1.3**
SOH	**Sokhos**	**3.42**	**34**	P	**Pn**	**22 34 00.3**	**+1.7**
SOH	**Sokhos**	**3.42**	**34**	P	**Pn**	**22 34 00.3**	**+1.7**
TIR	**Tirane**	**3.43**	**348**	⇑*i*P	**Pn**	**22 33 57.4**	**-1.2**
TIR	**Tirane**	**3.43**	**348**	*e*P	**Pn**

BARS Barje 4.87 8⇑ iPn Pn 22 34 18.5 +0.1
BARS eSn Sn 22 35 14.4 -0.1
BARS Barje 4.87 8⇑ iPn Pn 22 34 18.5 +0.1
BARS eSn Sn 22 35 14.4 -0.1
BEY Berane 4.92 352⇓ iPn Pn 22 34 19.0 -0.2
BEY eSn Sn 22 35 15.1 -0.8
IVA Berane 4.92 352⇓ iPn Pn 22 34 19.0 -0.2
IVA eSn Sn 22 35 15.1 -0.8
VTS Vitosha 4.93 21 ePn Pn 22 34 20.8 +1.4
VTS eSn Sn 22 35 17.7 +1.4
VTS Vitosha 4.93 21⇓ iP Pn 22 34 21.7 +2.3
VTS Vitosha 4.93 21 eP Pn 22 34 20.2 +0.8
VTS Vitosha 4.93 21 P Pn 22 34 21.9 +2.5
VTS Vitosha 4.93 21 ePn Pn 22 34 20.1 +0.8
VTS eSn Sn 22 35 17.7 +1.4
VTS Vitosha 4.93 21 ePn Pn 22 34 20.1 +0.8
KOME Kolasin 4.95 349⇑ iPn Pn 22 34 19.0 -0.6
KOME eSn Sn 22 35 15.6 -1.1
ALN Alexandroupoli 4.96 53 P Pn 22 34 21.8 +2.2
ALN Alexandroupoli 4.96 53 P Pn 22 34 21.8 +2.2
NKME Niksic 4.98 344⇑ iPn Pn 22 34 19.0 -0.9
NKME eSn Sn 22 35 15.1 -2.1
NKME Niksic 4.98 344⇑ iPn Pn 22 34 19.0 -0.9
NKME eSn Sn 22 35 15.1 -2.1
NKY Niksic 5.01 344⇓ iPn Pn 22 34 19.8 -0.6
NKY eSn Sn 22 35 16.5 -1.7
NKY Niksic 5.01 344 P Pn 22 34 19.8 -0.6
NKY S Sn 22 35 17.0 -1.2
NKY smax smax
comp=N,35nm,1.0s
NKY Niksic 5.01 344⇓ iPn Pn 22 34 19.8 -0.6
NKY eSn Sn 22 35 16.5 -1.7
NKY S Sn 22 35 17.0 -1.2
KDZ Kurdzhali 5.07 43 P Pn 22 34 22.0 +0.9
VAE Valguarnera 5.12 266 Pn Pn 22 34 21.6 -0.4
comp=N,1.0nm,0.3s,baz=136,slow=9.4,SNR=3.9
VAE Sn Sn 22 35 25.6 +4.7
comp=N,2.0nm,0.3s,baz=156,slow=21,SNR=4.2
BRY Bratogost 5.20 341⇑ iPn Pn 22 34 21.7 -1.3
BRY eSn Sn 22 35 20.9 -2.0
BRY Bratogost 5.20 341 P Pn 22 34 21.8 -1.3
BRY S Sn 22 35 21.0 -2.0
BRY smax smax
comp=N,30nm,1.0s
BRY Bratogost 5.20 341⇑ iPn Pn 22 34 21.5 -1.6
BRY Bratogost 5.20 341 P Pn 22 34 21.8 -1.3
comp=N,30nm,1.0s
BRY S Sn 22 35 21.0 -2.0
SELS Selova 5.22 2 ePn Pn 22 34 22.8 -0.4
MS1 Monte Sant'Ang 5.28 316 ePn Pn 22 34 26.2 +2.1
SJES Sjenica 5.30 353⇑ iPn Pn 22 34 24.5 +0.1
UPM Unac-Piva 5.40 345⇓ iPn Pn 22 34 25.1 -0.8
UPM eSn Sn 22 35 26.5 -1.5
UPM Unac-Piva 5.40 345 ePn Pn 22 34 25.6 -0.3
UPM eSn Sn 22 35 26.5 -1.5
STON Ston 5.42 335 ePn Pn 22 34 24.3 -1.6
STON Sn Sn 22 35 25.4 -2.8
STON Ston 5.42 335 ePn Pn 22 34 24.3 -1.6
STON Sn Sn 22 35 25.4 -2.8
PLE Pljevlja 5.44 349⇑ iPn Pn 22 34 25.4 -0.9
PLE eSn Sn 22 35 27.0 -1.7
PLE Pljevlja 5.44 349⇑ iPn Pn 22 34 25.4 -0.9
PLE eSn Sn 22 35 27.0 -1.7
ZAPS Zavoj 5.44 14⇑ iPn Pn 22 34 27.5 +1.2
WDD Wied Dalam 5.50 249 ePn Pn 22 34 28.6 +1.6
WDD eS Sn 22 35 30.1 -0.1
WDD Wied Dalam 5.50 249 ePn Pn 22 34 28.6 +1.6
WDD eS Sn 22 35 30.1 -0.1
IVAS Ivanjica 5.60 355 ePn Pn 22 34 28.1 -0.3
IVAS eSn Sn 22 35 32.8 +0.3
KARP Karpathos 5.63 114 ePn Pn 22 34 31.6 +2.7
KARP Karpathos 5.63 114 ePn Pn 22 34 31.6 +2.7
BOLS Boljevac 5.88 8⇑ iPn Pn 22 34 31.3 -1.0
GRUS Gruza 5.88 359⇑ iPn Pn 22 34 31.6 -0.7
ZAGS Zajecar 5.90 10⇑ iPn Pn 22 34 32.0 -0.5
BBLS Lazići 5.96 350⇑ iPn Pn 22 34 32.3 -1.1
BBLS eSn Sn 22 35 40.3 -1.2
BBLS Lazići 5.96 350⇑ iPn Pn 22 34 32.3 -1.1
ARG Arkhangelos 6.09 105 P Pn 22 34 40.6 +5.5
ARG Arkhangelos 6.09 105 P Pn 22 34 40.6 +5.5
DIVS Divibare 6.13 354⇑ iPn Pn 22 34 34.6 -1.1
DIVS eSn Sn 22 35 43.4 -2.2
DIVS Divibare 6.13 354⇑ iPn Pn 22 34 34.4 -1.3
TRUS Trudelj 6.23 357 ePn Pn 22 34 36.1 -0.9
KUBS Kucevo 6.44 5 ePn Pn 22 34 38.2 -1.7
TEKS Tekeris 6.62 352 i Pn Pn 22 34 41.0 -1.4
TEKS Tekeris 6.62 352 ePn Pn 22 34 40.8 -1.6
MDVR Moldovita 6.81 5⇑ iPn Pn 22 34 44.6 -0.4
AQU L'Aquila 7.17 310 eP Pn 22 34 51.6 +1.6
AQU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 7.17 310 ePn Pn 22 34 51.6 +1.6
comp=Z,38nm,1.0s
AQU L'Aquila 7.17 310 ePn Pn 22 34 51.6 +1.6
comp=Z,38nm,1.0s
FRGS Fruska Gora 7.19 354 ePn Pn 22 34 48.7 -1.6
AKAS Kas 7.22 101 ePn Pn 22 34 53.2 +2.4
AKAS Kas 7.22 101 ePn Pn 22 34 53.2 +2.4
GZR Gura Zlata 7.53 10⇑ iP Pn 22 34 55.4 +0.5
UDBI Udbina 7.56 331 ePn Pn 22 34 55.5 +0.2
UDBI Sn Sn 22 36 18.8 -2.0
BZS Buzias 7.63 4 ePn Pn 22 34 55.3 -1.0
BZS Buzias 7.63 4⇓ iP Pn 22 34 55.6 -0.7
LOT Lotru 7.76 15⇓ iP Pn 22 34 59.2 +1.1
ARR Arges 7.89 20⇑ iP Pn 22 35 00.9 +1.0
NVLJ Novalja 7.95 327 ePn Pn 22 35 00.1 -0.5
NVLJ Sn Sn 22 36 27.2 -3.1
VOIR 8.07 22⇑ iP Pn 22 35 04.1 +1.7
VOIR 8.07 22 P Pn 22 35 07.8 +5.4
VOIR pmax pmax
comp=Z,12nm,0.8s
VOIR 8.07 22⇑ iP Pn 22 35 04.1 +1.7
ISR Istrita 8.29 29⇓ iP Pn 22 35 07.7 +2.3
ISR Istrita 8.29 29 P Pn 22 35 07.6 +2.2
ISR Istrita 8.29 29 P Pn 22 35 07.6 +2.2
MLR Muntele Rosu 8.40 25 Pn Pn 22 35 11.1 +4.1
comp=Z,0.1nm,0.3s,baz=200,slow=14,SNR=4.6
MLR Muntele Rosu 8.40 25⇓ iP Pn 22 35 08.8 +1.9
MLR Muntele Rosu 8.40 25⇓ iP Pn 22 35 08.8 +1.9
EFOR EFORIE 8.46 42⇑ iP Pn 22 35 08.8 +2.2
BOJS Bojanci 8.58 333 i Pn Pn 22 35 08.5 -0.8
OZLJ Ozalj 8.60 334 i Pn Pn 22 35 08.5 -1.0
DRGR 8.89 8⇓ iP Pn 22 35 14.0 +0.3
DRGR 8.89 8 P Pn 22 35 14.0 +0.3
DRGR 8.89 8 P Pn 22 35 14.0 +0.3
PLOR Plostina 8.96 27⇑ iP Pn 22 35 16.1 +1.6
PLOR Plostina 8.96 27 P Pn 22 35 16.1 +1.6
PLOR Plostina 8.96 27 P Pn 22 35 16.1 +1.6
VRI Vrincioaia 9.00 27⇑ iP Pn 22 35 16.9 +1.9
VRI Vrincioaia 9.00 27 P Pn 22 35 16.8 +1.8
VRI Vrincioaia 9.00 27 P Pn 22 35 16.8 +1.8
CEY Cerknica 9.09 330 ePn Pn 22 35 15.0 -1.3
SKDS Skadanscina 9.10 328 i Pn Pn 22 35 15.1 -1.3
GBAS Gorenja Brezov 9.25 331 i Pn Pn 22 35 18.1 -0.4
LJU Ljubljana 9.31 332 P Pn 22 35 19.2 -0.1
LJU Ljubljana 9.31 332 ePn Pn 22 35 17.7 -1.6
LJU Ljubljana 9.31 332 P Pn 22 35 19.2 -0.1
TRI Trieste 9.34 328 eP Pn 22 35 17.9 -1.7
TRI eS Sn 22 37 07.5 +3.1
TRI Trieste 9.34 328 eP Pn 22 35 17.9 -1.7
TRI eS Sn 22 37 07.5 +3.1
TRI Trieste 9.34 328 ePn Pn 22 35 17.9 -1.7
TRI eS Sn 22 37 07.5 +3.1
KEST Kesra 9.49 260 Pn Pn 22 35 23.9 +2.0
comp=Z,0.2nm,0.3s,baz=21,slow=6.3,SNR=4.2
PERS Pernice 9.61 336 i Pn Pn 22 35 21.8 -1.7
SOKA Soboth 9.68 336 i Pn Pn 22 35 22.8 -1.6
comp=Z,23nm,0.6s
SOKA Soboth 9.68 336 Pn Pn 22 35 22.8 -1.6
comp=Z,23nm,0.6s
OBKA Obir 9.70 333 i Pn Pn 22 35 23.6 -1.1
comp=Z,15nm,0.6s
OBKA Obir 9.70 333 Pn Pn 22 35 23.6 -1.1
comp=Z,15nm,0.6s
PSZ Piszkesteto 9.94 356⇓ iP Pn 22 35 27.5 -0.5
PSZ Piszkesteto 9.94 356 eP Pn 22 35 27.2 -0.8
PSZ eS Sn 22 37 17.8 -1.5
PSZ Piszkesteto 9.94 356 eP Pn 22 35 27.2 -0.8
PSZ eS Sn 22 37 17.8 -1.5
PSZ Piszkesteto 9.94 356 ePn Pn 22 35 27.2 -0.8
PSZ eS Sn 22 37 17.8 -1.5

ARSA Arzberg 10.04 339 i Pn Pn 22 35 27.9 -1.4
comp=Z,9.1nm,0.8s
ARSA Arzberg 10.04 339 Pn Pn 22 35 27.9 -1.4
comp=Z,9.1nm,0.8s
BR131 Keskin Array S 10.13 76 ePn Pn 22 35 36.0 +5.3
BR131 Keskin Array S 10.13 76 ePn Pn 22 35 36.0 +5.3
BRTR Keskin Array B 10.13 76 Pn Pn 22 35 34.1 +3.5
comp=Z,0.4nm,0.3s,baz=260,slow=12,SNR=9.4
BRTR Keskin Array B 10.13 76 eP Pn 22 35 36.2 +5.5
BRTR Keskin Array B 10.13 76 eP Pn 22 35 36.2 +5.5
BURAR Bucovina Array 10.13 17⇑ iP Pn 22 35 32.3 +1.7
BURAR Bucovina Array 10.13 17 P Pn 22 35 32.3 +1.7
MYKA Terra Mystica 10.13 331 i Pn Pn 22 35 29.2 -1.5
comp=Z,11nm,0.8s
MYKA Terra Mystica 10.13 331 Pn Pn 22 35 29.2 -1.5
comp=Z,11nm,0.8s
KECS Kecovo 10.48 359 eP Pn 22 35 35.1 -0.2
KECS Kecovo 10.48 359 eP Pn 22 35 35.1 -0.2
KECS Kecovo 10.48 359 ePN Pn 22 35 35.1 -0.2
CSS Mathiatis 10.50 103 ePn Pn 22 35 35.8 +0.1
CSS eS Sn 22 37 31.3 -1.9
CSS Mathiatis 10.50 103 ePn Pn 22 35 35.8 +0.1
CSS eS Sn 22 37 31.3 -1.9
CONA Conrad Observa 10.57 341 i Pn Pn 22 35 36.0 -0.7
comp=Z,6.4nm,0.9s
CONA Conrad Observa 10.57 341 Pn Pn 22 35 36.0 -0.7
comp=Z,6.4nm,0.9s
VYHS Vyhne 10.59 353 eP Pn 22 35 36.0 -0.8
VYHS e 22 37 31.9
VYHS Vyhne 10.59 353 eP Pn 22 35 36.0 -0.8
VYHS Vyhne 10.59 353 ePN Pn 22 35 36.0 -0.8
VYHS eSN Sn 22 37 31.9 -3.3
KBA Koelnbreinsper 10.62 331 P Pn 22 35 39.6 +2.2
KBA pmax pmax
comp=Z,12nm,0.9s
KBA Koelnbreinsper 10.62 331 i Pn Pn 22 35 36.5 -0.9
comp=Z,9.5nm,1.1s
KBA Koelnbreinsper 10.62 331 Pn Pn 22 35 36.5 -0.9
comp=Z,9.5nm,1.1s
ABTA Abfaltersbach 10.69 328 i Pn Pn 22 35 37.5 -0.8
comp=Z,5.5nm,0.6s
ABTA Abfaltersbach 10.69 328 Pn Pn 22 35 37.5 -0.8
comp=Z,5.5nm,0.6s
MOA Molln 10.96 336 i Pn Pn 22 35 40.7 -1.2
comp=Z,12nm,0.8s
MOA Molln 10.96 336 Pn Pn 22 35 40.7 -1.2
comp=Z,12nm,0.8s
NIE Niedzica 11.42 358 P Pn 22 35 50.3 +2.1
NIE pmax pmax
comp=Z,5.0nm,0.9s
NIE Niedzica 11.42 358 P Pn 22 35 50.3 +2.1
comp=Z,5.0nm,0.9s
WTTA Wattenberg 11.47 327 ePn Pn 22 35 48.8 -0.2
comp=Z,12nm,1.1s
WTTA Wattenberg 11.47 327 Pn Pn 22 35 48.8 -0.2
comp=Z,12nm,1.1s
WATA Walderalm 11.55 327 i Pn Pn 22 35 49.6 -0.5
comp=Z,6.4nm,0.5s
WATA Walderalm 11.55 327 Pn Pn 22 35 49.6 -0.5
comp=Z,6.4nm,0.5s
FUORN Ofenpass-Fuorn 11.63 321 ePn Pn 22 35 52.7 +1.4
FUORN Ofenpass-Fuorn 11.63 321 ePn Pn 22 35 52.7 +1.4
FETA Feichten 11.69 324 i Pn Pn 22 35 59.0 +6.9
comp=Z,5.0nm,1.1s
MOTA Moosalm 11.76 326 i Pn Pn 22 35 53.2 +0.2
comp=Z,12nm,0.8s
MOTA Moosalm 11.76 326 Pn Pn 22 35 53.2 +0.2
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 11.93 321 Pn Pn 22 35 55.7 +0.3
comp=Z,0.3nm,0.3s,baz=107,slow=15,SNR=5.7
DAVOX LR LR 22 41 09.5
comp=Z,64nm,18.6s,baz=112,slow=41
TUE Stuetta 12.00 319 ePn Pn 22 35 57.0 +0.7
TUE eS Sn 22 38 06.2 -3.8
TUE Stuetta 12.00 319 ePn Pn 22 35 57.0 +0.7
TUE eS Sn 22 38 06.2 -3.8
MORC Moravsky Berou 12.01 350⇓ iP Pn 22 35 53.8 -2.5
MORC Moravsky Berou 12.01 350 eP Pn 22 35 56.6 +0.3
MORC Moravsky Berou 12.01 350 eP Pn 22 35 56.6 +0.3
MORC Moravsky Berou 12.01 350 ePn Pn 22 35 56.6 +0.3
GEC2 GERESS Array S 12.01 337 eP Pn 22 35 55.0 -1.4
GEC2 GERESS Array S 12.01 337 eP Pn 22 35 55.0 -1.4
GEC2 GERESS Array S 12.01 337 ePn Pn 22 35 55.0 -1.4
GERES GERESS Array B 12.01 337 Pn Pn 22 35 54.1 -2.2
comp=Z,0.4nm,0.3s,baz=157,slow=14,SNR=16
GERES LR LR 22 42 00.2
comp=Z,85nm,21.5s,baz=2.0,slow=45
RETA Reutte 12.02 325 Pn Pn 22 35 55.4 -1.1
comp=Z,1.5nm,0.4s
RETA Reutte 12.02 325 Pn Pn 22 35 55.4 -1.1
comp=Z,1.5nm,0.4s
KHC Kasperske Hory 12.30 337 eP Pn 22 35 57.9 -2.4
KHC ex x 22 36 07.4
KHC ex x 22 36 12.2
KHC Kasperske Hory 12.30 337 eP Pn 22 35 57.9 -2.4
KHC Kasperske Hory 12.30 337 eP Pn 22 35 57.9 -2.4
KHC Kasperske Hory 12.30 337 ePn Pn 22 35 57.9 -2.4
WET Wettzell 12.54 335 P Pn 22 36 02.9 -0.6
WET Wettzell 12.54 335 P Pn 22 36 02.9 -0.6
GOPC GO Pecny, Ondr 12.68 342 AMS AMS 22 42 00.0
comp=Z,300nm,8.6s
DPC Dobruska-Polom 12.76 347 AMS AMS 22 42 00.0
comp=Z,400nm,12.6s
PRU Pruhonice 12.81 341 eP Pn 22 36 06.3 -0.8
PRU AMS AMS 22 42 10.0
comp=Z,300nm,7.6s
PRU Pruhonice 12.81 341 eP Pn 22 36 06.3 -0.8
PRU MLR MLR
comp=Z,300nm,7.6s
PRU Pruhonice 12.81 341 eP Pn 22 36 06.3 -0.8
comp=Z,300nm,7.6s
MMAI Mount Meron Ar 12.86 108 Pn Pn 22 36 06.2 -1.8
comp=Z,0.8nm,0.3s,baz=302,slow=11,SNR=3.1
MMAI LR LR 22 42 25.5
comp=Z,39nm,19.4s,baz=320,slow=43
UPC Upice 12.97 346 AMS AMS 22 42 00.0
comp=Z,400nm,8.2s
SENIN Lac Senin/Sane 13.05 314 ePn Pn 22 36 13.2 +2.5
SENIN Lac Senin/Sane 13.05 314 ePn Pn 22 36 13.2 +2.5
PVCC Panska Ves 13.30 342 AMS AMS 22 42 30.0
comp=Z,600nm,6.6s
KIEV Kiev 14.02 22c iP P 22 36 29.0 -2.5
AKASG Malin Array Be 14.03 22 Pn Pn 22 36 20.8 -3.0
comp=Z,0.3nm,0.3s,baz=211,slow=13,SNR=2.6
AKASG Malin Array Be 14.03 22 eP P 22 36 31.4 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.3s
MOX Moxa 14.25 335 P Pn 22 36 26.9 +0.1
MOX pmax pmax
comp=Z,8.0nm,0.9s
MOX Moxa 14.25 335 P Pn 22 36 26.9 +0.1
comp=Z,8.0nm,0.9s
EIL Elat 14.36 121 Pn P 22 36 32.8 -2.7
comp=Z,0.8nm,0.3s,baz=318,slow=6.9,SNR=6.5
ASF Jabal al Asfar 14.37 109 Pn P 22 36 33.2 -2.5
comp=Z,0.2nm,0.3s,baz=248,slow=21,SNR=4.0
CLL Collm 14.41 340 eP Pn 22 36 30.0 +0.9
SUW Suwalki 16.10 5 P Pn 22 36 50.8 -0.5
SUW pmax pmax
comp=Z,65nm,0.9s
NACGM Naroch 17.39 12 e Pn 22 37 07.0 -0.6
NEY Neytrino 17.40 66⇑ iP P 22 37 13.2 +3.9
NEY Neytrino 17.40 66 i P P 22 37 13.2 +3.9
KIV Kislovodsk 17.51 63 eP P 22 37 13.2 +2.7
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 17.51 63 eP P 22 37 13.2 +2.7
comp=Z,16nm,1.1s
KBZ Khabaz 17.62 64 P P 22 37 14.7 +3.2
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=4.1
NCK Nalchik 18.07 65 eP P 22 37 20.4 +3.9
NCK pmax pmax
comp=Z,3.0nm,1.0s
NCK Nalchik 18.07 65 eP P 22 37 20.4 +3.9
comp=Z,3.0nm,1.0s
VSR Storozhevoye 18.50 39 eP Pn 22 37 26.4 +5.1
VSR pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 18.67 76 LR LR 22 45 24.9
comp=Z,64nm,20.9s,baz=284,slow=40
LPSR Galich'ya Gora 19.28 35 eP Pn 22 37 34.6 +3.8
LPSR pmax pmax
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 19.38 283 P P 22 37 30.2 -0.8
comp=Z,0.3nm,0.3s,baz=79,slow=11,SNR=8.0

TAM Tamanrasset 20.07 225 eP Pn 22 37 44.0 +3.5
TAM pmax pmax
comp=Z,6.0nm,1.4s
TAM Tamanrasset 20.07 225 eP Pn 22 37 44.0 +3.5
comp=Z,6.0nm,1.4s
TAM Tamanrasset 20.07 225 eP Pn 22 37 44.0 +3.5
comp=Z,6.0nm,1.4s
OBN Obninsk 20.16 27 P P 22 37 37.7 -1.6
comp=Z,7.9nm,0.7s,baz=191,slow=21,SNR=4.0
OBN LR LR 22 45 29.2
comp=Z,69nm,19.5s,baz=274,slow=37
OBN Obninsk 20.16 27⇑ eP P 22 37 39.1 -0.2
OBN e 22 37 42.0
OBN 22 38 00.0
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,26nm,10.0s
OBN Obninsk 20.16 27 eP P 22 37 39.7 +0.4
OBN Obninsk 20.16 27 eP P 22 37 39.7 +0.4
VSU Vasula 20.83 9c iP P 22 37 45.8 -0.7
MDT Midelt 21.36 264 P P 22 37 51.6 -0.9
comp=Z,3.9nm,0.9s,baz=71,slow=12,SNR=6.0
MDT LR LR 22 48 04.3
comp=Z,25nm,18.5s,baz=8.0,slow=42
HFS Hagfors 22.62 351 P P 22 38 04.4 -1.3
comp=Z,7.8nm,0.6s,baz=150,slow=12,SNR=14
HFS LR LR 22 48 16.8
comp=Z,53nm,19.3s,baz=144,slow=41
NC602 NORSAR Array S 23.50 349 eP P 22 38 13.3 -1.4
NC602 NORSAR Array S 23.50 349 eP P 22 38 13.3 -1.4
FINES FINESS Array B 23.70 6 P P 22 38 14.6 -2.0
comp=Z,5.1nm,0.8s,baz=184,slow=9.1,SNR=14
FINES LR LR 22 50 07.8
comp=Z,71nm,21.1s,baz=153,slow=44
FIA1 FINESS Array S 23.70 6 eP P 22 38 14.7 -1.9
comp=Z,24nm,1.3s
FIA1 FINESS Array S 23.70 6 eP P 22 38 14.7 -1.9
comp=Z,24nm,1.3s
NAO01 NORSAR Array S 23.71 348 eP P 22 38 16.2 -0.6
NAO01 NORSAR Array S 23.71 348 eP P 22 38 16.2 -0.6
EKA Eskdalemuir Ar 23.72 325 P P 22 38 16.5 -0.4
comp=Z,11nm,0.8s,baz=124,slow=9.9,SNR=17
ESK Eskdalemuir 23.73 325 eP P 22 38 18.1 +1.0
ESK pmax pmax
comp=Z,133nm,1.8s
ESK Eskdalemuir 23.73 325 eP P 22 38 18.1 +1.0
comp=Z,133nm,1.8s
ESK Eskdalemuir 23.73 325 eP P 22 38 18.1 +1.0
comp=Z,133nm,1.8s
NC405 NORSAR Array S 23.84 349 eP P 22 38 17.2 -0.8
NC405 NORSAR Array S 23.84 349 eP P 22 38 17.2 -0.8
NB201 NORSAR Array S 23.84 348 eP P 22 38 17.8 -0.3
NB201 NORSAR Array S 23.84 348 eP P 22 38 17.8 -0.3
NB2 NORSAR Subarra 23.84 348 P P 22 38 16.6 -1.5
comp=Z,7.0nm,1.0s,baz=161,slow=9.3
NB2 NORSAR Subarra 23.84 348 P P 22 38 16.6 -1.5
comp=Z,7.0nm,1.0s,SNR=8.1
NOA NORSAR Array B 23.84 348 P P 22 38 16.6 -1.5
comp=Z,3.4nm,0.7s,baz=158,slow=8.7,SNR=13
NOA LR LR 22 49 35.5
comp=Z,75nm,18.9s,baz=150,slow=42
NBO00 NORSAR Array S 23.91 348 eP P 22 38 17.0 -1.7
NBO00 NORSAR Array S 23.91 348 eP P 22 38 17.0 -1.7
NC303 NORSAR Array S 24.00 349 eP P 22 38 19.1 -0.4
NC303 NORSAR Array S 24.00 349 eP P 22 38 19.1 -0.4
NC204 NORSAR Array S 24.14 348 eP P 22 38 19.6 -1.3
NC204 NORSAR Array S 24.14 348 eP P 22 38 19.6 -1.3
RAYN Ar Rayn 25.54 117 eP P 22 38 34.0 +0.1
comp=Z,2.5nm,0.9s
RAYN Ar Rayn 25.54 117 eP P 22 38 34.0 +0.1
comp=Z,2.5nm,0.9s
KLMR Klimovskoe 25.71 21 eP P 22 38 32.9 -2.2
KLMR pmax pmax
comp=Z,11nm,1.0s
TOA0 Torodi Ar. Sit 30.05 220 eP P 22 39 16.6 +2.3
comp=Z,12nm,1.6s
TOA0 Torodi Ar. Sit 30.05 220 eP P 22 39 16.6 +2.3
comp=Z,12nm,1.6s
TORD Torodi Ar. Bea 30.05 220 P P 22 39 15.2 +0.9
comp=Z,1.0nm,0.5s,baz=41,slow=8.1,SNR=20
ABKAR Akbulak array 30.13 55 eP P 22 39 14.6 -0.2
comp=Z,0.7nm,0.6s
ABKAR Akbulak array 30.13 55 eP P 22 39 14.6 -0.2
comp=Z,0.7nm,0.6s
ARU Arti 31.02 41d iP P 22 39 23.3 +0.7
ARU PPP PPP 22 40 38.1
ARU 22 42 13.5
ARU S S 22 44 31.4 +4.5
ARU SS SnSn 22 46 11.0 +3.5
ARU pmax pmax
comp=Z,4.0nm,1.2s
ARCES ARCESS Array B 31.70 3 P P 22 39 27.1 -1.2
comp=Z,3.7nm,0.7s,baz=188,slow=9.2,SNR=20
ARCES LR LR 22 53 28.7
comp=Z,62nm,21.5s,baz=212,slow=39
UOSS Minazif 32.65 103 eP P 22 39 38.1 +0.9
comp=Z,4.6nm,0.9s
UOSS Minazif 32.65 103 eP P 22 39 38.1 +0.9
comp=Z,4.6nm,0.9s
BRVK Borovoye 36.98 50⇑ iP P 22 40 14.8 +0.6
BRVK pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 37.63 66 eP P 22 40 19.0 -1.0
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 37.63 66 eP P 22 40 19.0 -1.0
comp=Z,2.2nm,0.5s
KKAR Karatay Array 37.63 66 eP P 22 40 18.9 -1.0
comp=Z,2.2nm,0.5s
DBIC Dimbokro 38.94 223 P P 22 40 32.6 +1.5
comp=Z,1.8nm,0.7s,baz=35,slow=12,SNR=2.9
SPITS Spitsbergen Ar 40.33 359 P P 22 40 41.6 -0.5
comp=Z,5.0nm,0.8s,baz=145,slow=9.1,SNR=4.6
AAK Ala-Archa 40.60 66⇑ iP P 22 40 45.0 0.0
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 40.60 66 P P 22 40 45.7 +0.7
comp=Z,2.3nm,0.9s
AAK Ala-Archa 40.60 66 P P 22 40 45.7 +0.7
comp=Z,2.3nm,0.9s
KURK Kurchatov 42.18 53⇑ iP P 22 40 57.3 -0.3
KURK pmax pmax
comp=Z,5.0nm,0.8s
KSH Kashi 42.45 70 eP P 22 41 00.8 +0.7
KSH pP sP 22 41 10.5 +4.4
KSH sP pP 22 41 14.5 +10
KSH PP **PP 22 42 40.8 +2.5**
KSH PcP **PcP 22 42 55.0 +2.0**
KSH PcS **PcS 22 46 45.8 +0.8**
KSH S **S 22 47 18.5 -3.1**
KSH SS **SS 22 50 22.0 -8.6**
KSH ScS **ScS 22 50 58.5 -3.2**
KSH pmax pmax
comp=Z,4.0nm,1.2s
KSH pmax pmax
comp=Z,120nm,5.7s
KSH LR LR
comp=N,190nm,5.9s
KSH LR LR
comp=E,140nm,6.0s
KSH LR LR
comp=Z,280nm,9.4s
MAKZ Makanchi 44.97 58 eP P 22 41 19.7 -0.5
MAKZ Makanchi 44.97 58 eP P 22 41 19.7 -0.5
comp=Z,3.3nm,1.1s
MAKZ Makanchi 44.97 58 eP P 22 41 19.7 -0.5
comp=Z,3.3nm,1.1s
MK31 Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
MK31 Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
MK31 Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
MKAR Makanchi Array 45.18 58 P P 22 41 20.8 -1.1
comp=Z,2.2nm,0.4s,baz=273,slow=7.2,SNR=31
MKAR Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
MKAR Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
MKAR Makanchi Array 45.18 58 eP P 22 41 21.0 -0.9
ZAA0 Zalesovo Array 45.62 48 eP P 22 41 25.3 +0.1
ZAA0 Zalesovo Array 45.62 48 eP P 22 41 25.3 +0.1
ZALV Zalesovo Beam 45.62 48 P P 22 41 25.2 0.0
comp=Z,3.4nm,0.4s,baz=275,slow=9.1,SNR=15
WMQ Urumqi 49.62 61 P P 22 41 58.3 +1.8
WMQ pP sP 22 42 07.5 +4.9
WMQ sP pP 22 42 12.0 +11
WMQ pmax pmax
comp=Z,7.0nm,0.7s

WMQ				pmax	pmax	
	comp=Z,260nm,7.3s					
WMQ				LR	LR	
	comp=N,28nm,25.3s					
WMQ				LR	LR	
	comp=E,25nm,26.7s					
WMQ				LR	LR	
	comp=Z,21nm,25.1s					
TLY	**Talaya**	**57.22**	**47**	LR	LR	23 07 08.6
	comp=Z,21nm,19.2s,baz=334,slow=36					
SONM	**Songino Array**	**60.37**	**51**	P	**P**	**22 43 13.6 -0.7**
	comp=Z,0.4nm,0.4s,baz=259,slow=6.5,SNR=4.6					
SONM	**Songino Array**	**60.37**	**51**	*e*P	**P**	**22 43 15.6 +1.3**
SONM				pmax	pmax	
	comp=Z,1.0nm,0.5s					
ULN	**Ulaanbaatar**	**60.76**	**50**	*i* P	**P**	**22 43 16.4 -0.6**
ULN				pmax	pmax	
	comp=Z,1.0nm,0.9s					
LZH	**Lanzhou**	**64.06**	**63**	*e*P	**P**	**22 43 39.5 +0.3**
LZH				pP	sP	22 43 50.0 +4.7
LZH				sP	pP	22 43 54.0 +10
LZH				*e*PP	**PP**	**22 46 02.8 +3.0**
LZH				pmax	pmax	
	comp=Z,17nm,1.3s					
LZH				pmax	pmax	
	comp=Z,49nm,7.5s					
LZH				LR	LR	
	comp=N,110nm,15.2s					
LZH				LR	LR	
	comp=E,110nm,14.9s					
LZH				LR	LR	
	comp=Z,150nm,19.0s					
HHC	**Hu-ho-hao-te**	**66.93**	**56**	*e*P	**P**	**22 43 57.5 -0.1**
HHC				pmax	pmax	
	comp=Z,16nm,0.8s					
HHC				pmax	pmax	
	comp=Z,170nm,6.4s					
CMAR	**Chiang Mai Arr**	**69.66**	**82**	P	**P**	**22 44 16.6 +1.6**
	comp=Z,0.8nm,0.4s,baz=289,slow=5.6,SNR=3.8					
ULM	**Lac du Bonnet**	**75.99**	**324**	P	**P**	**22 44 51.0 -1.0**
	comp=Z,2.8nm,0.8s,baz=53,slow=5.7,SNR=4.8					
ULM				LR	LR	23 17 52.4
	comp=Z,30nm,20.2s,baz=342,slow=36					
ULM	**Lac du Bonnet**	**75.99**	**324**	P	**P**	**22 44 51.0 -1.0**
ULM				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ULM				MLR	MLR	
	comp=Z,30nm,20.2s					
ULM	**Lac du Bonnet**	**75.99**	**324**	P	**P**	**22 44 51.0 -1.0**
ILAR	**Eielson Array**	**77.11**	**355**	P	**P**	**22 44 57.3 -0.8**
	comp=Z,0.4nm,0.8s,baz=348,slow=4.0,SNR=3.1					
PDAR	**Pinedale Array**	**87.84**	**326**	P	**P**	**22 45 55.2 +0.5**
	comp=Z,0.5nm,0.5s,baz=29,slow=5.5,SNR=6.6					
TXAR	**Lajitas Array**	**95.28**	**314**	P	**P**	**22 46 27.8 -1.6**
	comp=Z,0.1nm,0.5s,baz=15,slow=7.5,SNR=3.0					
CPUP	**Villa Florida**	**97.19**	**242**	LR	LR	23 31 11.7
	comp=Z,27nm,18.2s,baz=152,slow=36					

*NEIC **25** 22:33:52.4±0.0, 19°.53N×66°.80W, h123km, MD3.5(RSPR), After RSPR.*

RSPR 25 22:33:52.4, 19°.53N×66°.80W, h123km±9km, MD3.5/3, 5C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.18**	**178⇓**	*e*P	Pn	22 34 15.8	-0.7
AOPR	**Arecibo Observ**	**1.18**	**178**	*e*S	Sn	22 34 35.0	+0.2
AOPR	**Arecibo Observ**	**1.18**	**178⇓**	*e*P	Pn	22 34 15.8	-0.7
AOPR				*e*S	Sn	22 34 35.0	+0.2
CBYP	**Canovanas**	**1.54**	**144⇑**	*e*P	Pn	22 34 20.0	-0.5
CBYP	**Canovanas**	**1.54**	**144**	Pn	Pn	22 34 21.0	+0.4
CBYP				Sn	Sn	22 34 41.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.54**	**191⇑**	*e*P	Pn	22 34 20.8	+0.2
CRPR	**Cabo Rojo, PR**	**1.54**	**191**	*e*S	Sn	22 34 41.6	-0.3
CRPR	**Cabo Rojo, PR**	**1.54**	**191⇑**	*e*P	Pn	22 34 20.8	+0.2
CRPR				*e*S	Sn	22 34 41.6	-0.3
MTP	**Monte Pirata**	**1.85**	**140⇑**	*e*P	Pn	22 34 24.0	-0.2
MTP	**Monte Pirata**	**1.85**	**140**	*e*S	Sn	22 34 48.6	+0.2
MTP	**Monte Pirata**	**1.85**	**140⇑**	*e*P	Pn	22 34 24.0	-0.2
MTP				*e*S	Sn	22 34 48.6	+0.2

*IDC **25** 22:35:04.5±3.6, 54°.83N×161°.80W, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.6/47, mbtmp3.8/10, ML3.3/2, Error ellipse: s-maj=91.3km s-min=20.0km az=152.0*
*NEIC **25** 22:35:09.2±0.0, 54°.64N×161°.14W, h13km, ML3.5(AEIC), After AEIC.*

ISC 25 22:35:04.2±0.9, 54°.36N±0°.08×160°.97W±0°.05, h22km±4km, n33, σ1°.53/36, mb4.0/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.95**	**327**	P	**Pb**	**22 35 22.4**	**+0.4**
SDPT	**Sand Point**	**1.04**	**16**	*e*Pg	**Pn**	**22 35 24.5**	**+1.0**
SDPT				*e*S	**Sb**	**22 35 34.7**	**-1.9**
DT1	**Dutton Round H**	**1.07**	**315**	P	**Pb**	**22 35 24.5**	**+0.5**
DTNA	**Dutton South F**	**1.09**	**318**	P	**Pb**	**22 35 24.9**	**+0.6**
DTNA				S	**Sb**	**22 35 36.1**	**-1.9**
PS4A	**Pavlof South-4**	**1.12**	**333**	P	**Pn**	**22 35 24.8**	**+0.3**
PVV	**Pavlof Volcano**	**1.12**	**336**	P	**Pn**	**22 35 24.9**	**+0.3**
PS1A	**Pavlof South-1**	**1.16**	**338**	P	**Pn**	**22 35 25.5**	**+0.4**
PN6	**Pavlof North-6**	**1.23**	**334**	P	**Pb**	**22 35 27.2**	**+0.4**
FALS	**False Pass**	**1.51**	**291**	*e*Pn	**Pb**	**22 35 31.6**	**+0.1**
FALS				*e*S	**Sb**	**22 35 50.0**	**-0.1**
SSLN	**Shishaldin Nor**	**1.82**	**286**	P	**Pb**	**22 35 38.3**	**+1.5**
VNSG	**Veniaminof 6**	**2.08**	**31**	P	**Pb**	**22 35 41.8**	**+0.5**
WESP	**Westdahl Peak**	**2.19**	**275**	P	**Pb**	**22 35 44.3**	**+1.1**
WESP				S	**Sb**	**22 36 11.7**	**+1.8**
WEBT	**Westdahl Beart**	**2.22**	**278**	P	**Pb**	**22 35 44.3**	**+0.7**
AKSA	**Akutan Strait**	**2.78**	**267**	P	**Pb**	**22 35 51.9**	**-1.2**
AKSA				S	**Sb**	**22 36 28.1**	**+1.4**
AKUT	**Akutan**	**2.82**	**267**	*e*Pn	**Pb**	**22 35 53.1**	**-0.7**
AKUT				*e*S	**Sb**	**22 36 30.2**	**+2.3**
UNV	**Unalaska Valle**	**3.29**	**263**	*e*Pn	**Pb**	**22 35 59.6**	**-2.3**
UNV				*e*S	**Sb**	**22 36 39.9**	**-1.6**
OHAK	**Old Harbor**	**5.20**	**53**	*e*Pn	**Pn**	**22 36 23.8**	**+3.1**
OHAK				*e*S	**Sb**	**22 37 36.5**	**+0.2**
KDAK	**Kodiak Island**	**5.82**	**50**	Pn	**Pn**	**22 36 31.8**	**+2.7**
	0.7nm,0.3s,baz=176,slow=4.3,SNR=6.9						
KDAK				Sn	**Sn**	**22 37 33.8**	**-1.3**
	0.5nm,0.3s,baz=355,slow=23,SNR=2.9						
ILAR	**Eielson Array**	**12.61**	**29**	Pn	**Pn**	**22 37 60.0**	**-2.2**
	0.1nm,0.3s,baz=223,slow=14,SNR=3.6						
PETK	**Petropavlovsk-**	**24.23**	**284**	P	**P**	**22 40 18.0**	**-1.2**
	1.4nm,0.4s,baz=78,slow=16,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**42.35**	**228**	T	T	23 28 06.3	
	baz=27,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**42.35**	**228**	T	T	23 28 23.7	
	baz=27,slow=76,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**42.37**	**228**	T	T	23 28 07.8	
	baz=27,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**43.52**	**227**	T	T	23 29 31.6	
	baz=30,slow=74						
H11S2	**WAKE ISLAND Hy**	**43.53**	**227**	T	T	23 29 23.8	
	baz=30,slow=74						
H11S3	**WAKE ISLAND Hy**	**43.53**	**227**	T	T	23 29 17.7	
	baz=30						
SONM	**Songino Array**	**54.48**	**304**	P	**P**	**22 44 26.7**	**-3.2**
	0.1nm,0.4s,baz=79,slow=7.5,SNR=2.2						
FINES	**FINESS Array B**	**64.41**	**356**	P	**P**	**22 45 37.6**	**-0.4**
	0.8nm,0.8s,baz=14,slow=8.6,SNR=4.7						
NOA	**NORSAR Array B**	**64.78**	**4**	P	**P**	**22 45 41.2**	**+0.6**
	1.1nm,0.8s,baz=354,slow=6.9,SNR=2.8						
HFS	**Hagfors**	**65.78**	**3**	P	**P**	**22 45 47.1**	**+0.1**
	0.8nm,0.4s,baz=354,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	**65.91**	**318**	P	**P**	**22 45 49.0**	**+0.9**
	0.3nm,0.5s,baz=60,slow=5.2,SNR=4.9						
AKASG	**Malin Array Be**	**74.97**	**353**	P	**P**	**22 46 43.2**	**0.0**
	1.2nm,0.5s,baz=9.8,slow=6.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**80.92**	**289**	P	**P**	**22 47 19.0**	**+2.1**
	0.9nm,0.4s,baz=12,slow=5.5,SNR=3.8						

*ISCJB **25** 22:59:45.8±0.7, 34°.92N±0°.04×33°.97E±0°.04, h61km±9km, Error ellipse: s-maj=6.9km s-min=5.7km az=8.6*
*NSSC **25** 22:59:47.2±1.3, 34°.94N×33°.99E, h38km±999km, MD1.0, ML1.8*
*CSEM **25** 22:59:47.5, 34°.96N×33°.85E, h51km, ML2.9*
*NIC **25** 22:59:47.5±0.3, 34°.96N×33°.85E, h51km, ML2.9*

ISC 25 22:59:46.0±1.3, 34°.93N±0°.05×33°.93E±0°.03, h62km±8km, n21, σ0°.99/37, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.11**	**50**	P	**Pn**	**22 59 55.7**	**+0.4**
PHNC				S	**Sn**	**23 00 02.4**	**+0.4**
PHNC	**Paralimni**	**0.11**	**50**	P	**Pn**	**22 59 55.7**	**+0.4**
	baz=251						
PHNC				S	**Sn**	**23 00 02.4**	**+0.4**
CSS	**Mathiatis**	**0.49**	**274**	P	**Pn**	**22 59 58.0**	**-0.1**
CSS				S	**Sn**	**23 00 05.7**	**-1.1**
CSS	**Mathiatis**	**0.49**	**274**	P	**Pn**	**22 59 58.0**	**-0.1**
	baz=90						
CSS				S	**Sn**	**23 00 05.7**	**-1.1**
MAMC	**Mammari**	**0.63**	**292**	P	**Pn**	**23 00 00.0**	**+0.5**
MAMC	**Mammari**	**0.63**	**292**	P	**Pn**	**23 00 00.0**	**+0.5**
	baz=112						
SZAC	**Souni**	**0.88**	**259**	P	**Pn**	**23 00 03.3**	**+0.7**
SZAC	**Souni**	**0.88**	**259**	P	**Pn**	**23 00 03.3**	**+0.7**
	baz=75						
ALFC	**Alefka**	**1.11**	**282**	P	**Pn**	**23 00 05.9**	**+0.3**
ALFC				S	**Sn**	**23 00 20.4**	**+0.2**
ALFC	**Alefka**	**1.11**	**282**	P	**Pn**	**23 00 05.9**	**+0.3**
	baz=100						
ALFC				S	**Sn**	**23 00 20.4**	**+0.2**
ARNB	**Al Arnab**	**1.91**	**60**	*e*P	**Pn**	**23 00 17.4**	**+1.0**
ARNB				*e*S	**Sn**	**23 00 38.2**	**-1.2**
ARNB				AML	AML	23 00 39.9	
	comp=N,18nm,0.3s						
ARNB				AML	AML	23 00 41.1	
	comp=E,18nm,0.4s						
BIDA	**Albida**	**1.97**	**87**	*e*P	**Pn**	**23 00 18.3**	**+1.2**
BIDA				*e*S	**Sn**	**23 00 40.0**	**-0.8**
BIDA				AML	AML	23 00 42.8	
	comp=N,26nm,0.3s						
BIDA				AML	AML	23 00 43.4	
	comp=E,30nm,0.2s						
HAWK	**Haweek**	**2.08**	**101**	*e*P	**Pn**	**23 00 19.2**	**+0.5**
HAWK				*e*S	**Sn**	**23 00 42.4**	**-1.2**
HAWK				AML	AML	23 00 44.6	
	comp=N,18nm,0.6s						
HAWK				AML	AML	23 00 46.2	
	comp=E,10nm,0.3s						
BRBR	**Barbar**	**2.26**	**132**	*e*P	**Pn**	**23 00 21.3**	**+0.1**
BRBR				*e*S	**Sn**	**23 00 47.2**	**-1.0**
BRBR				AML	AML	23 00 49.0	
	comp=E,15nm,0.4s						
BRBR				AML	AML	23 00 49.9	
	comp=N,8.9nm,0.2s						
MARH	**Ras Al Marh**	**2.29**	**112**	*e*P	**Pn**	**23 00 21.8**	**0.0**
MARH				*e*S	**Sn**	**23 00 47.5**	**-1.6**
MARH				AML	AML	23 00 59.0	
	comp=N,10nm,0.7s						
MARH				AML	AML	23 00 59.8	
	comp=E,13nm,0.3s						
BTCH	**Batrach**	**2.34**	**61**	*e*P	**Pn**	**23 00 23.3**	**+1.1**
BTCH				*e*S	**Sn**	**23 00 48.6**	**-1.2**
BTCH				AML	AML	23 00 51.6	
	comp=E,13nm,0.3s						
BTCH				AML	AML	23 00 51.6	
	comp=N,14nm,0.3s						
TOTH	**TOTAH**	**2.60**	**126**	*e*P	**Pn**	**23 00 27.3**	**+1.5**
TOTH				*e*S	**Sn**	**23 00 55.1**	**-1.1**
TOTH				AML	AML	23 01 00.1	
	comp=N,23nm,0.3s						
TOTH				AML	AML	23 01 00.5	
	comp=E,15nm,0.4s						
DRWC	**Darouich**	**2.79**	**52**	*e*P	**Pn**	**23 00 29.1**	**+0.7**
DRWC				*e*S	**Sn**	**23 00 59.2**	**-1.7**
DRWC				AML	AML	23 01 07.2	
	comp=N,3.7nm,0.3s						
DRWC				AML	AML	23 01 15.2	
	comp=E,3.6nm,0.5s						
TCHB	**Talchebab**	**2.83**	**142**	*e*P	**Pn**	**23 00 29.8**	**+1.0**
TCHB				*e*S	**Sn**	**23 01 00.9**	**-0.8**
ROOS	**tl_alroos**	**2.88**	**104**	*e*P	**Pn**	**23 00 31.7**	**+2.2**
ROOS				AML	AML	23 01 08.2	
	comp=N,6.4nm,0.2s						
ROOS				AML	AML	23 01 10.3	
	comp=E,8.3nm,0.5s						
SALA	**Sala**	**3.22**	**133**	*e*P	**Pn**	**23 00 35.2**	**+0.9**
SALA				*e*S	**Sn**	**23 01 10.7**	**-0.9**
SALA				AML	AML	23 01 16.5	
	comp=N,6.9nm,0.4s						

*ISK **25** 23:00:40.0, 38°.73N×43°.40E, h5km, ML2.8*
*DDA **25** 23:00:41.4, 38°.70N×43°.40E, h14km, Ml3.4*
*CSEM **25** 23:00:42.0±0.2, 38°.73N×43°.41E, h2km, ML2.8, Error ellipse: s-maj=6.0km s-min=3.3km az=76.0*

ISC 25 23:00:42.4±0.8, 38°.72N±0°.02×43°.38E±0°.03, h12km±6km, n45, σ0°.91/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**175**	*e*PG	**Pg**	**23 00 45.2**	**-0.5**
VANB				*e*SG	**Sb**	**23 00 49.2**	**+1.2**
VANB	**Van**	**0.12**	**175**	*e*Pg	**Pg**	**23 00 45.2**	**-0.5**
VANB				*e*Sg	**Sb**	**23 00 49.2**	**+1.2**
GEVA	**Gevas**	**0.47**	**212**	*i* P	**Pg**	**23 00 50.1**	**-1.6**
GEVA				*i* S	**Sg**	**23 00 57.7**	**-0.4**
GEVA	**Gevas**	**0.47**	**212**	P	**Pg**	**23 00 50.2**	**-1.6**
GEVA				S	**Sg**	**23 00 57.7**	**-0.4**
TUTA	**Tutak**	**0.81**	**328**	*i* P	**Pg**	**23 00 56.9**	**-1.3**
TUTA				*i* S	**Sg**	**23 01 08.9**	**0.0**
TUTA	**Tutak**	**0.81**	**328**	P	**Pg**	**23 00 56.9**	**-1.3**
TUTA				S	**Sg**	**23 01 08.9**	**0.0**
BASK	**Baskale_VAN**	**0.83**	**143**	*i* P	**Pg**	**23 00 57.1**	**-1.2**
BASK				*i* S	**Sg**	**23 01 08.6**	**-0.7**
BASK	**Baskale_VAN**	**0.83**	**143**	P	**Pg**	**23 00 57.2**	**-1.2**
BASK				S	**Sg**	**23 01 08.6**	**-0.7**
DYDN	**Diyadin**	**0.86**	**16**	*i* P	**Pg**	**23 00 58.1**	**-1.0**
DYDN				*i* S	**Sg**	**23 01 10.1**	**-0.3**
DYDN	**Diyadin**	**0.86**	**16**	P	**Pg**	**23 00 58.1**	**-1.0**
DYDN				S	**Sg**	**23 01 10.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**341**	*e*PG	**Pg**	**23 00 58.5**	**-1.5**
AGRB				*e*SG	**Sg**	**23 01 11.9**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**341**	*e*Pg	**Pg**	**23 00 58.5**	**-1.5**
AGRB				*e*Sg	**Sg**	**23 01 11.9**	**0.0**
EKAR	**Karacoban**	**1.16**	**298**	*i* P	**Pb**	**23 01 04.2**	**-0.3**
EKAR				*i* S	**Sn**	**23 01 20.8**	**+0.3**
EKAR	**Karacoban**	**1.16**	**298**	P	**Pb**	**23 01 04.2**	**-0.3**
EKAR				S	**Sn**	**23 01 20.8**	**+0.3**
HAKT	**HAKKARI**	**1.19**	**167**	*i* P	**Pb**	**23 01 02.9**	**-2.1**
HAKT				*i* S	**Sg**	**23 01 20.9**	**+0.2**
EATA	**Eleskirt**	**1.33**	**329**	*i* P	**Pn**	**23 01 06.5**	**-0.6**
EATA				*i* S	**Sg**	**23 01 26.2**	**+0.7**
SIRN	**S¨–rnak**	**1.44**	**212**	*i* P	**Pb**	**23 01 09.3**	**+0.2**
SIRN				*i* S	**Sg**	**23 01 29.2**	**+0.6**
SIRN	**S¨–rnak**	**1.44**	**212**	P	**Pb**	**23 01 09.3**	**+0.2**
SIRN				S	**Sg**	**23 01 29.2**	**+0.6**
CUKT	**Cukurca**	**1.48**	**173**	*e*PN	**Pb**	**23 01 09.8**	**-0.1**
CUKT				*e*SN	**Sg**	**23 01 30.3**	**+0.3**
CUKT	**Cukurca**	**1.48**	**173**	*i* P	**Pg**	**23 01 11.7**	**+0.9**
CUKT	**Cukurca**	**1.48**	**173**	*e*Pn	**Pb**	**23 01 09.8**	**-0.1**
CUKT	**Cukurca**	**1.48**	**173**	P	**Pg**	**23 01 11.7**	**+0.9**
CUKT				*e*Sn	**Sg**	**23 01 30.3**	**+0.3**
VRTB	**Varto-Mus**	**1.56**	**287**	*e*PN	**Pn**	**23 01 10.5**	**+0.3**
VRTB				*e*SN	**Sg**	**23 01 32.3**	**-0.4**
VRTB	**Varto-Mus**	**1.56**	**287**	*i* P	**Pb**	**23 01 11.0**	**-0.4**
VRTB				*i* S	**Sg**	**23 01 33.7**	**+1.0**
VRTB	**Varto-Mus**	**1.56**	**287**	*e*Pn	**Pn**	**23 01 10.5**	**+0.3**
VRTB				*e*Sn	**Sg**	**23 01 32.3**	**-0.4**
VRTB				S	**Sg**	**23 01 33.7**	**+1.0**
DIGO	**Kars**	**1.70**	**360**	*i* P	**Pb**	**23 01 13.6**	**-0.1**
DIGO				*i* S	**Sg**	**23 01 40.5**	**+3.5**
DIGO	**Kars**	**1.70**	**360**	P	**Pb**	**23 01 13.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*e*PN	**Pn**	**23 01 14.1**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*i* P	**Pb**	**23 01 14.3**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.80**	**252**	*e*Pn	**Pn**	**23 01 14.1**	**+0.8**
BTMN	**Batman**	**1.85**	**244**	*i* P	**Pn**	**23 01 14.4**	**+0.3**
BTMN				*i* S	**Sg**	**23 01 40.8**	**-1.2**
ERZM	**Erzurum**	**1.96**	**308**	*i* P	**Pb**	**23 01 18.6**	**+0.4**
ERZM	**Erzurum**	**1.96**	**308**	P	**Pb**	**23 01 18.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.01**	**337**	*e*PN	**Pn**	**23 01 16.6**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.01**	**337**	*e*Pn	**Pn**	**23 01 16.6**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.07**	**296**	*i* P	**Pb**	**23 01 19.1**	**-0.9**
ECAT	**Cat-ERZURUM**	**2.07**	**296**	P	**Pb**	**23 01 19.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.32**	**289**	*e*PN	**Pn**	**23 01 21.4**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.32**	**289**	*e*Pn	**Pn**	**23 01 21.4**	**+0.8**
DDEM	**Demirkent**	**2.51**	**331**	*i* P	**Pb**	**23 01 27.6**	**+0.1**
DDEM	**Demirkent**	**2.51**	**331**	P	**Pb**	**23 01 27.6**	**+0.1**
MAZI	**Mazidag**	**2.63**	**242**	*e*PN	**Pn**	**23 01 25.6**	**+0.8**
MAZI	**Mazidag**	**2.63**	**242**	*e*Pn	**Pn**	**23 01 25.6**	**+0.8**
PTK	**Pertek**	**3.12**	**274**	*e*PN	**Pn**	**23 01 32.2**	**+0.6**
PTK	**Pertek**	**3.12**	**274**	*e*Pn	**Pn**	**23 01 32.2**	**+0.6**

*ISK **25** 23:02:08.5, 38°.78N×43°.38E, h4km, ML2.9*
*DDA **25** 23:02:08.7, 38°.79N×43°.38E, h7km, Ml3.3*
*ISCJB **25** 23:02:09.5±0.6, 38°.81N±0°.02×43°.37E±0°.06, h4km±5km, Error ellipse: s-maj=8.4km s-min=3.5km az=174.0*
*CSEM **25** 23:02:09.5±0.3, 38°.80N×43°.32E, h2km, ML2.9, Error ellipse: s-maj=8.6km s-min=4.2km az=82.0*

ISC 25 23:02:09.4±0.9, 38°.81N±0°.02×43°.39E±0°.04, h13km±7km, n42, σ0°.79/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**180**	*e*PG	**Pg**	**23 02 14.6**	**+0.4**
VANB				*e*SG	**Sb**	**23 02 18.9**	**-0.3**
VANB	**Van**	**0.22**	**180**	*e*Pg	**Pg**	**23 02 14.6**	**+0.4**
GEVA	**Gevas**	**0.56**	**208**	*i* P	**Pg**	**23 02 19.0**	**-1.5**
GEVA				*i* S	**Sg**	**23 02 27.6**	**-0.4**
GEVA	**Gevas**	**0.56**	**208**	P	**Pg**	**23 02 19.0**	**-1.5**
TUTA	**Tutak**	**0.74**	**323**	*i* P	**Pg**	**23 02 23.4**	**-0.4**
TUTA				*i* S	**Sb**	**23 02 34.1**	**-0.2**
TUTA	**Tutak**	**0.74**	**323**	P	**Pg**	**23 02 23.4**	**-0.4**
DYDN	**Diyadin**	**0.77**	**18**	*i* P	**Pg**	**23 02 24.2**	**-0.1**
DYDN				*i* S	**Sg**	**23 02 34.2**	**-0.2**
DYDN	**Diyadin**	**0.77**	**18**	P	**Pg**	**23 02 24.2**	**-0.1**
DYDN				S	**Sg**	**23 02 34.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.82**	**338**	*e*PG	**Pg**	**23 02 25.2**	**-0.2**
AGRB				*e*SG	**Sb**	**23 02 37.5**	**+0.9**
AGRB	**Hanur-Agry**	**0.82**	**338**	*e*Pg	**Pg**	**23 02 25.2**	**-0.2**
AGRB				*e*Sg	**Sb**	**23 02 37.6**	**+0.9**
EATA	**Eleskirt**	**1.26**	**327**	*i* P	**Pg**	**23 02 34.0**	**+0.3**
EATA				*i* S	**Sg**	**23 02 50.5**	**+0.4**
EATA	**Eleskirt**	**1.26**	**327**	P	**Pg**	**23 02 34.0**	**+0.3**
EATA				S	**Sg**	**23 02 50.5**	**+0.4**
HAKT	**HAKKARI**	**1.28**	**169**	*i* P	**Pn**	**23 02 33.0**	**-0.2**
HAKT				*i* S	**Sn**	**23 02 50.3**	**0.0**
HAKT	**HAKKARI**	**1.28**	**169**	P	**Pn**	**23 02 33.0**	**-0.2**
HAKT				S	**Sn**	**23 02 50.3**	**0.0**
SIRN	**S¨–rnak**	**1.52**	**211**	*i* P	**Pb**	**23 02 37.2**	**-0.3**
SIRN	**S¨–rnak**	**1.52**	**211**	P	**Pb**	**23 02 37.2**	**-0.3**
VRTB	**Varto-Mus**	**1.55**	**284**	*e*PN	**Pn**	**23 02 37.2**	**+0.4**
VRTB	**Varto-Mus**	**1.55**	**284**	*e*Pn	**Pn**	**23 02 37.2**	**+0.4**
CUKT	**Cukurca**	**1.57**	**174**	*e*PN	**Pb**	**23 02 37.9**	**-0.5**
CUKT	**Cukurca**	**1.57**	**174**	*i* P	**Pg**	**23 02 40.6**	**+1.0**
CUKT	**Cukurca**	**1.57**	**174**	*e*Pn	**Pb**	**23 02 37.9**	**-0.5**
CUKT	**Cukurca**	**1.57**	**174**	P	**Pg**	**23 02 40.6**	**+1.0**
DIGO	**Kars**	**1.60**	**360**	*i* P	**Pg**	**23 02 40.2**	**0.0**
DIGO	**Kars**	**1.60**	**360**	P	**Pg**	**23 02 40.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.84**	**250**	*e*PN	**Pn**	**23 02 41.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.84**	**250**	*i* P	**Pb**	**23 02 42.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.84**	**250**	*e*Pn	**Pn**	**23 02 41.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.84**	**250**	P	**Pb**	**23 02 42.6**	**-0.4**
BTMN	**Batman**	**1.90**	**242**	*i* P	**Pb**	**23 02 43.1**	**-0.9**
BTMN	**Batman**	**1.90**	**242**	P	**Pb**	**23 02 43.1**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.92**	**336**	*e*PN	**Pb**	**23 02 43.4**	**-1.0**
SENK				*e*SN	**Sb**	**23 03 09.4**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.92**	**336**	*e*Pn	**Pb**	**23 02 43.4**	**-1.0**
SENK				*e*Sn	**Sb**	**23 03 09.4**	**+1.0**
ECAT	**Cat-ERZURUM**	**2.04**	**294**	*i* P	**Pg**	**23 02 49.9**	**+1.5**
BNGB	**Bing¨¶l**	**2.12**	**276**	*e*PN	**Pb**	**23 02 46.3**	**-1.4**
BINT	**Bingol**	**2.27**	**272**	*e*Pn	**Pn**	**23 02 46.3**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*PN	**Pn**	**23 02 48.9**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*Pn	**Pn**	**23 02 48.9**	**+1.7**
EPOS	**Posof**	**2.73**	**350**	*i* P	**Pg**	**23 03 01.5**	**-0.4**
TNCL	**Tunceli-Merkez**	**3.02**	**277**	*i* P	**Pb**	**23 03 02.1**	**-0.9**
TNCL	**Tunceli-Merkez**	**3.02**	**277**	P	**Pb**	**23 03 02.1**	**-0.9**
KELT	**Kelkit**	**3.47**	**294**	*i* P	**Pn**	**23 03 02.2**	**-1.0**
KELT	**Kelkit**	**3.47**	**294**	P	**Pn**	**23 03 02.2**	**-1.0**

*ISCJB **25** 23:05:45.3±0.8, 71°.0N±0°.1×6°.5W±0°.1, h9km, Error ellipse: s-maj=15.2km s-min=4.6km az=174.4*
*CSEM **25** 23:05:46.3±0.4, 70°.85N×6°.58W, h5km, ML3.4, Error ellipse: s-maj=

*SJA **25** 23:16:00.9±0.6,34°.30S×72°.79W,h29km±29km,ML3.2, MW4.2*
*GUC **25** 23:16:03.6±0.5,34°.15S×72°.30W,h17km±2km,ML3.3*
ISC 25 23:16:03.3±2.7,34°.10S±0°.05×72°.3W±0°.1,h13km±14km, n16,σ1§96/24,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.39**	**139**	*e*P	**Pb**	**23 16 11.1**	**-1.0**
CHPI				*i* S	**Sg**	**23 16 16.1**	**-0.3**
GO05	**HualaæØ**	**0.97**	**161**	⇑*i*P	**Pb**	**23 16 20.1**	**-1.8**
GO05				*e*S	**Sg**	**23 16 33.1**	**-1.5**
GO05	**HualaæØ**	**0.97**	**161**	*i* P	**Pb**	**23 16 20.6**	**-1.3**
GO05				*i* S	**Sn**	**23 16 34.6**	**-1.7**
NICH	**Los Niches**	**1.27**	**136**	*i* P	**Pb**	**23 16 26.4**	**-0.7**
NICH				*i* S	**Sg**	**23 16 43.1**	**-1.3**
ANTU	**Antumapu**	**1.50**	**70**	IAML		23 16 54.8	
	comp=E,737nm,0.5s						
ROCH	**El Roble**	**1.56**	**45**	⇑*i*P	**Pn**	**23 16 31.6**	**+0.6**
ROCH				*e*S	**Sg**	**23 16 54.3**	**+0.6**
ROCH				IAML		23 17 00.6	
	comp=N,464nm,0.4s						
CLCH	**Cerro Calan**	**1.64**	**65**	*e*P	**Pn**	**23 16 32.5**	**+0.6**
CLCH				*i* S	**Sb**	**23 16 54.2**	**+0.2**
CLCH				IAML		23 16 59.2	
	comp=E,790nm,0.7s						
PEL	**Peldehue**	**1.66**	**56**	⇑*i*P	**Pn**	**23 16 32.9**	**+0.7**
PEL				*i* S	**Sb**	**23 16 55.2**	**+0.7**
PEL				IAML		23 17 03.4	
	comp=E,449nm,0.4s						
LNCH	**Linares**	**1.84**	**162**	*e*P	Pg	23 16 45.6	+7.0
LNCH				*i* S	**Sg**	**23 17 08.9**	**+6.3**
FCH	**Farellones**	**1.85**	**66**	*e*P	**Pn**	**23 16 35.6**	**+0.5**
FCH				*i* S	**Sb**	**23 17 00.3**	**-0.1**
FCH				IAML		23 17 05.1	
	comp=N,440nm,0.2s						
CCHI	**Chillan**	**2.51**	**176**	IAML		23 17 25.4	
	comp=N,419nm,0.3s						
AAGR	**Agrelo**	**3.08**	**72**	*i* P	**Pb**	**23 16 56.4**	**-1.6**
AUSP	**Uspallata**	**3.08**	**54**	*i* P	**Pb**	**23 16 57.1**	**-1.1**
ARCO	**CERRO ARCO**	**3.09**	**67**	*i* P	**Pb**	**23 16 57.1**	**-1.1**
ARCO				IAML		23 17 02.9	
	comp=Z,66nm,0.5s						
ARCO				*i* S	**Sb**	**23 17 38.7**	**+2.7**
ASAL	**Salagasta**	**3.28**	**64**	*i* P	**Pb**	**23 16 59.8**	**-1.5**
RTLS	**Leoncito**	**3.42**	**49**	*i* P	**Pb**	**23 17 02.0**	**-1.9**
RTLS				IAML		23 17 17.8	
	comp=Z,26nm,0.4s						
RTLS				*i* S	**Sb**	**23 17 47.3**	**+1.9**

*ISCJB **25** 23:24:51.6±0.4,35°.37N±0°.01×92°.27W±0°.02,h1km±3km, Error ellipse: s-maj=2.3km s-min=2.1km az=150.6*
*IASPEI **25** 23:24:52.1±1.0,35°.37N±0°.02×92°.28W±0°.02,h7km±9km, Error ellipse: s-maj=3.3km s-min=2.9km az=131.2,GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **25** 23:24:52.5±0.0,35°.36N×92°.27W,h6km,MD2.7(CERI), After CERI.*
NEIC Felt at Damascus, Greenbrier and Quitman.
ISC 25 23:24:52.4±0.9,35°.36N±0°.02×92°.27W±0°.02,h5km±8km, n48,σ0§58/90,Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.08**	**194**	*e*Pg	**Pg**	**23 24 54.1**	**0.0**
X301	**Greenbrier Sit**	**0.17**	**221**	*e*Pg	**Pg**	**23 24 55.5**	**-0.2**
X301				*e*Sg	**Sg**	**23 24 57.2**	**-0.7**
W41B	**Gary Mavity, V**	**0.19**	**175**	P	**Pg**	**23 24 56.2**	**+0.1**
	baz=356,SNR=451						
W41B				S	**Sg**	**23 24 58.8**	**+0.2**
	baz=356						
V41A	**Mountainview**	**0.43**	**12**	P	**Pg**	**23 25 00.7**	**+0.1**
	baz=192,SNR=331						
V41A				S	**Sg**	**23 25 06.7**	**+0.4**
	baz=192						
W42A	**Bald Knob**	**0.61**	**98**	P	**Pg**	**23 25 04.2**	**0.0**
	baz=278,SNR=9.4						
W42A				S	**Sg**	**23 25 12.6**	**+0.4**
	baz=278						
V40A	**Witts Springs**	**0.63**	**314**	P	**Pg**	**23 25 04.3**	**-0.2**
	baz=134,SNR=390						
V40A				S	**Sg**	**23 25 12.6**	**-0.2**
	baz=134						
W40A	**Ferguson Farm,**	**0.68**	**256**	P	**Pg**	**23 25 05.2**	**-0.2**
	baz=75,SNR=76						
W40A				S	**Sg**	**23 25 14.4**	**+0.2**
	baz=75						
V42A	**Cord**	**0.84**	**58**	P	**Pg**	**23 25 08.0**	**-0.5**
	baz=238,SNR=108						
V42A				S	**Sg**	**23 25 19.1**	**-0.3**
	baz=238						
X41A	**Kaden, Bauxite**	**0.89**	**193**	P	**Pg**	**23 25 09.1**	**-0.4**
	baz=13						
X41A				S	**Sg**	**23 25 21.2**	**+0.2**
	baz=13						
X42A	**Stuttgart**	**0.96**	**147**	P	**Pg**	**23 25 10.8**	**-0.1**
	baz=327,SNR=10.0						
X42A				S	**Sg**	**23 25 23.8**	**+0.5**
	baz=327						
X40A	**Basin Creek Fa**	**0.99**	**208**	P	**Pg**	**23 25 11.0**	**-0.4**
	baz=28						
X40A				S	**Sg**	**23 25 23.9**	**-0.3**
	baz=28						
U41A	**Viola**	**1.02**	**16**	P	**Pg**	**23 25 11.2**	**-0.7**
	baz=196,SNR=32						
U41A				S	**Sg**	**23 25 24.9**	**-0.2**
	baz=196						
U40A	**Yellville**	**1.10**	**334**	P	**Pg**	**23 25 12.7**	**-0.7**
	baz=154,SNR=157						
U40A				S	**Sg**	**23 25 27.1**	**-0.6**
	baz=154						
V39A	**Pettigrew**	**1.22**	**293**	P	**Pg**	**23 25 14.7**	**-1.0**
	baz=113,SNR=88						
V39A				S	**Sg**	**23 25 30.7**	**-0.9**
	baz=113						
W39A	**Magazine**	**1.25**	**263**	P	**Pb**	**23 25 15.5**	**-0.9**
	baz=82,SNR=86						
W39A				S	**Sg**	**23 25 32.6**	**0.0**
	baz=82						
U42A	**Revenden**	**1.29**	**40**	P	**Pn**	**23 25 16.1**	**-0.9**
	baz=220,SNR=51						
U42A				S	**Sb**	**23 25 33.1**	**-0.9**
	baz=220						
W43A	**Forest City**	**1.31**	**102**	Pb	**Pn**	**23 25 16.8**	**-0.4**
	baz=282						
W43A				S	**Sg**	**23 25 34.7**	**+0.3**
	baz=282						
HBAR	**Harrisburg**	**1.33**	**81**	*e*Pn	**Pn**	**23 25 17.1**	**-0.4**
HBAR				*e*Sn	**Sn**	**23 25 36.1**	**+0.6**
MIAR	**Mount Ida**	**1.35**	**233**	P	**Pn**	**23 25 17.1**	**-0.7**
	baz=52						
MIAR				S	**Sb**	**23 25 35.3**	**-0.3**
	baz=52						
MIAR	**Mount Ida**	**1.35**	**233**	*e*Pn	**Pn**	**23 25 17.1**	**-0.7**
MIAR				*e*Sg	**Sb**	**23 25 35.5**	**-0.2**
U39A	**Green Forest**	**1.42**	**316**	Pb	**Pn**	**23 25 18.2**	**-0.6**
	baz=136,SNR=82						
U39A				S	**Sb**	**23 25 36.6**	**-1.0**
	baz=136						
X43A	**Marvell**	**1.42**	**126**	P	**Pn**	**23 25 18.3**	**-0.4**
	baz=307						
X43A				S	**Sg**	**23 25 38.0**	**+0.1**
	baz=307						
V43A	**Jonesboro**	**1.47**	**73**	Pb	**Pn**	**23 25 19.5**	**+0.1**
	baz=254						
V43A				S	**Sg**	**23 25 39.4**	**0.0**
	baz=254						
CCAR	**Cane Creek**	**1.50**	**164**	*e*Pn	**Pb**	**23 25 20.6**	**0.0**
Y41A	**Eaglette Beard**	**1.51**	**191**	Pb	**Pn**	**23 25 20.2**	**+0.2**
	baz=11,SNR=11						
Y41A				S	**Sb**	**23 25 40.2**	**+0.1**
	baz=11						
Y42A	**Garnett, Star**	**1.57**	**165**	Pb	**Pn**	**23 25 21.3**	**+0.4**
	baz=346,SNR=20						
Y42A				Sb	**Sg**	**23 25 43.3**	**+0.4**
	baz=346						
Y40A	**Okolona**	**1.59**	**212**	Pb	**Pn**	**23 25 21.3**	**+0.3**
	baz=31,SNR=15						
Y40A				S	**Sn**	**23 25 41.9**	**0.0**
	baz=31						
HHAR	**Hobbs**	**1.64**	**304**	*e*Pn	**Pn**	**23 25 22.2**	**+0.4**
HHAR				*e*Sn	**Sn**	**23 25 43.5**	**+0.2**
T41A	**Mountain View**	**1.73**	**14**	Pb	**Pn**	**23 25 23.4**	**+0.4**
	baz=194,SNR=23						
T41A				Sb	**Sb**	**23 25 46.5**	**0.0**
	baz=194						
X39A	**Fountain Ranch**	**1.74**	**241**	Pb	**Pn**	**23 25 23.8**	**+0.6**
	baz=60,SNR=76						
X39A				Sb	**Sb**	**23 25 46.9**	**+0.1**
	baz=60						
T40A	**Mansfield**	**1.79**	**354**	Pb	**Pn**	**23 25 24.6**	**+0.6**
	baz=173,SNR=41						
T40A				Sb	**Sb**	**23 25 48.5**	**0.0**
	baz=173						
WLAR	**White Oak Lake**	**1.81**	**203**	*e*Pn	**Pn**	**23 25 24.3**	**+0.2**
U43A	**Rector**	**1.81**	**56**	Pb	**Pn**	**23 25 25.0**	**+0.8**
	baz=237,SNR=9.8						
U43A				Sb	**Sb**	**23 25 49.1**	**+0.1**
	baz=237						
V38A	**Canehill**	**1.81**	**287**	Pb	**Pn**	**23 25 24.6**	**+0.4**
	baz=106,SNR=26						
V38A				Sb	**Sb**	**23 25 48.8**	**-0.2**
	baz=106						
Y43A	**Makayla and Ka**	**1.82**	**142**	P	**Pn**	**23 25 24.4**	**+0.1**
	baz=323,SNR=12						
Y43A				Sb	**Sg**	**23 25 50.2**	**-0.7**
	baz=323						
W38A	**Poteau**	**1.87**	**262**	Pb	**Pn**	**23 25 25.9**	**+1.0**
	baz=80,SNR=79						
W38A				Sb	**Sb**	**23 25 51.1**	**+0.6**
	baz=80						
T39A	**Clever**	**1.88**	**332**	Pb	**Pn**	**23 25 26.1**	**+0.9**
	baz=151,SNR=53						
GNAR	**Gosnell**	**1.93**	**71**	*e*Pn	**Pn**	**23 25 26.4**	**+0.7**
PBMO	**Poplar Bluff**	**2.05**	**46**	*e*Pn	**Pb**	**23 25 29.5**	**-0.6**
PBMO				*e*Sn	**Sb**	**23 25 55.4**	**-0.4**
V37A	**Hulbert**	**2.40**	**283**	P	**Pn**	**23 25 32.7**	**+0.5**
	baz=102,SNR=10						
S39A	**Bolivar**	**2.47**	**340**	P	**Pn**	**23 25 34.0**	**+0.7**
	baz=160,SNR=21						
OXF	**Oxford**	**2.50**	**109**	*e*Pn	**Pn**	**23 25 32.7**	**-0.9**
OXF				*e*Pg	**Pg**	**23 25 39.7**	**-0.5**
OXF				*e*Sn	**Sn**	**23 26 04.0**	**-0.4**
U37A	**Salina**	**2.54**	**295**	P	**Pn**	**23 25 34.9**	**+0.8**
	baz=114,SNR=7.7						
CCM	**Cathedral Cave**	**2.81**	**17**	*e*Pn	**Pn**	**23 25 37.6**	**-0.2**
CCM				*e*Pg	**Pb**	**23 25 44.5**	**+1.5**
CCM				*e*Sn	**Sn**	**23 26 11.8**	**-0.3**
CCM				*e*Sg	**Sb**	**23 26 19.7**	**+2.0**
TUL1	**Leonard**	**2.92**	**282**	*e*Pn	**Pn**	**23 25 39.7**	**+0.3**
TUL1				*e*Pg	**Pb**	**23 25 46.0**	**+1.1**
PLAL	**Pickwick Lake**	**3.45**	**95**	*e*Pn	**Pn**	**23 25 46.0**	**-0.7**
WVT	**Waverly**	**3.69**	**77**	*e*Pn	**Pn**	**23 25 49.2**	**-0.8**
WVT				*e*Sn	**Sn**	**23 26 34.1**	**+0.3**
LRAL	**Lakeview Retre**	**4.95**	**117**	*e*Pn	**Pn**	**23 26 07.8**	**+0.6**
LRAL				*e*Sn	**Sn**	**23 27 05.0**	**+0.2**

*AZER **25** 23:25:13.9±0.1,38°.47N×42°.91E,h24km, Error ellipse: s-maj=12.0km s-min=1.7km az=244.0*
*IDC **25** 23:25:16.3±1.1,38°.55N×43°.35E,h0km,mb3.8/10, mb1 3.8/15,mb1mx3.6/42,mbtmp3.7/15,ML3.0/6,MS3.0/5, Ms1 3.0/5,ms1mx2.6/38, Error ellipse: s-maj=17.3km s-min=11.3km az=160.0*
*NSSC **25** 23:25:17.2±2.4,39°.23N×42°.71E,h0km±266km,ML3.1*
*ISK **25** 23:25:17.8,38°.74N×43°.31E,h5km,ML4.0*
*MOS **25** 23:25:17.3±2.3,38°.58N×43°.22E,h10km,mb4.4/7, Error ellipse: s-maj=10.5km s-min=6.1km az=85.9*
*DDA **25** 23:25:18.0,38°.75N×43°.33E,h12km,Ml4.1*
*NEIC **25** 23:25:18.8±0.0,38°.71N×43°.32E,h5km,mb4.0/5, ML3.9(ISK),ML4.0(DDA),After ISK.*
*CSEM **25** 23:25:19.4±0.1,38°.76N×43°.29E,h5km,mb4.1/7, Error ellipse: s-maj=3.8km s-min=3.1km az=170.0*
ISC 25 23:25:18.9±1.0,38°.72N±0°.01×43°.26E±0°.02,h3km±7km, n204,σ1§56/262,mb3.9/16,18C-22D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**139**	PG	**Pg**	**23 25 23.8**	**+1.8**
VANB				*e*SG	**Sg**	**23 25 27.6**	**+3.4**
VANB	**Van**	**0.16**	**139**	*i* Pg	**Pg**	**23 25 23.8**	**+1.8**
VMUR	**Van-Muradiye**	**0.37**	**42**	⇓*i*P	**Pg**	**23 25 25.1**	**-0.9**
VMUR				*i* S	**Sg**	**23 25 29.7**	**-1.1**
VMUR	**Van-Muradiye**	**0.37**	**42**	P	**Pg**	**23 25 25.1**	**-0.9**
VMUR				S	**Sg**	**23 25 29.7**	**-1.1**
GEVA	**Gevas**	**0.43**	**201**	⇓*i*P	**Pb**	**23 25 27.6**	**-1.7**
GEVA				*i* S	**Sb**	**23 25 35.5**	**-0.7**
GEVA	**Gevas**	**0.43**	**201**	P	**Pb**	**23 25 27.6**	**-1.7**
GEVA				S	**Sb**	**23 25 35.5**	**-0.7**
GEVA	**Gevas**	**0.43**	**201**	*i* P	**Pb**	**23 25 27.6**	**-1.7**
GEVA				*i* S	**Sb**	**23 25 35.5**	**-0.7**
TUTA	**Tutak**	**0.77**	**333**	*i* P	**Pg**	**23 25 32.6**	**-1.0**
TUTA				*i* S	**Sg**	**23 25 43.2**	**-0.4**
TUTA	**Tutak**	**0.77**	**333**	*i* P	**Pg**	**23 25 32.8**	**-0.8**
TUTA				S	**Sg**	**23 25 43.2**	**-0.4**
TUTA	**Tutak**	**0.77**	**333**	*i* P	**Pg**	**23 25 32.8**	**-0.8**
AGRB	**Hanur-Agry**	**0.88**	**347**	*e*PG	**Pg**	**23 25 34.6**	**-1.2**
AGRB	**Hanur-Agry**	**0.88**	**347**	*e*Pg	**Pg**	**23 25 34.6**	**-1.2**
BASK	**Baskale_VAN**	**0.89**	**138**	*i* P	**Pg**	**23 25 34.9**	**-1.0**
BASK				*i* S	**Sg**	**23 25 47.0**	**-0.3**
BASK	**Baskale_VAN**	**0.89**	**138**	P	**Pg**	**23 25 34.9**	**-1.0**
BASK				S	**Sg**	**23 25 47.0**	**-0.3**
DYDN	**Diyadin**	**0.89**	**22**	*i* P	**Pg**	**23 25 33.8**	**-2.2**
DYDN				*i* S	**Sg**	**23 25 45.4**	**-2.2**
DYDN	**Diyadin**	**0.89**	**22**	*i* P	**Pg**	**23 25 34.6**	**-1.4**
DYDN				S	**Sg**	**23 25 45.4**	**-2.2**
DYDN	**Diyadin**	**0.89**	**22**	*i* P	**Pg**	**23 25 34.6**	**-1.4**
EKAR	**Karacoban**	**1.07**	**300**	*i* P	**Pg**	**23 25 40.1**	**+0.6**
EKAR				*i* S	**Sn**	**23 25 58.1**	**+1.5**
EKAR	**Karacoban**	**1.07**	**300**	P	**Pg**	**23 25 40.1**	**+0.6**
EKAR				S	**Sn**	**23 25 58.1**	**+1.5**
HAKT	**HAKKARI**	**1.21**	**163**	*i* P	**Pg**	**23 25 39.7**	**-2.4**
HAKT	**HAKKARI**	**1.21**	**163**	P	**Pg**	**23 25 39.7**	**-2.4**
EATA	**Eleskirt**	**1.29**	**333**	⇓*i*P	**Pn**	**23 25 42.4**	**-1.7**
EATA				*i* S	**Sb**	**23 25 60.0**	**-1.1**
EATA	**Eleskirt**	**1.29**	**333**	P	**Pn**	**23 25 42.4**	**-1.7**
EATA				S	**Sb**	**23 26 00.0**	**-1.1**
VRTB	**Varto-Mus**	**1.47**	**288**	*e*PN	**Pb**	**23 25 46.9**	**-0.1**
VRTB				*e*SN	**Sg**	**23 26 07.9**	**+1.7**
VRTB	**Varto-Mus**	**1.47**	**288**	*i* P	**Pn**	**23 25 46.3**	**-0.2**
VRTB				*i* S	**Sg**	**23 26 09.8**	**+3.6**
VRTB	**Varto-Mus**	**1.47**	**288**	P	**Pn**	**23 25 46.3**	**-0.2**
VRTB	**Varto-Mus**	**1.47**	**288**	*e*Pn	**Pb**	**23 25 46.9**	**-0.1**
VRTB				*e*Sn	**Sg**	**23 26 07.9**	**+1.7**
VRTB				S	**Sg**	**23 26 09.8**	**+3.6**
CUKT	**Cukurca**	**1.49**	**169**	*e*PN	**Pg**	**23 25 46.7**	**-0.8**
CUKT	**Cukurca**	**1.49**	**169**	*i* P	**Pg**	**23 25 47.0**	**-0.5**
CUKT				*i* S	**Sg**	**23 26 10.4**	**+3.6**
CUKT	**Cukurca**	**1.49**	**169**	*e*Pn	**Pg**	**23 25 46.7**	**-0.8**
CUKT	**Cukurca**	**1.49**	**169**	P	**Pg**	**23 25 47.0**	**-0.5**
CUKT				S	**Sg**	**23 26 10.4**	**+3.6**
BNGL	**BINGOL**	**1.66**	**279**	*i* P	**Pb**	**23 25 50.6**	**+0.4**
BNGL				*i* S	**Sg**	**23 26 13.7**	**+1.4**
HOMI	**Horasan**	**1.69**	**322**	*i* P	**Pn**	**23 25 50.6**	**+1.1**
HOMI				*i* S	**Sb**	**23 26 13.4**	**+0.9**
DIGO	**Kars**	**1.70**	**3**	*i* P	**Pn**	**23 25 49.1**	**-0.6**
DIGO				*i* S	**Sb**	**23 26 14.8**	**+2.0**
DIGO	**Kars**	**1.70**	**3**	P	**Pn**	**23 25 49.1**	**-0.6**
DIGO				S	**Sb**	**23 26 14.8**	**+2.0**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	*e*PN	**Pb**	**23 25 50.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	*i* P	**Pb**	**23 25 51.0**	**0.0**
SVAN				*i* S	**Sg**	**23 26 15.2**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	*e*Pn	**Pb**	**23 25 50.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	P	**Pb**	**23 25 51.0**	**0.0**
SVAN				S	**Sg**	**23 26 15.2**	**+1.3**
BTMN	**Batman**	**1.77**	**243**	*i* P	**Pb**	**23 25 50.8**	**-1.2**
BTMN				*i* S	**Sg**	**23 26 16.1**	**+0.4**
BTMN	**Batman**	**1.77**	**243**	P	**Pb**	**23 25 50.8**	**-1.2**
BTMN				S	**Sg**	**23 26 16.1**	**+0.4**
NAX	**Nakhchivan**	**1.80**	**75**	⇑P	**Pn**	**23 25 51.0**	**0.0**
NAX				⇓S	**Sb**	**23 26 16.6**	**+1.0**
NAX	**Nakhchivan**	**1.80**	**75**	P	**Pn**	**23 25 51.0**	**0.0**
NAX				S	**Sb**	**23 26 16.6**	**+1.0**
GNI	**Garni**	**1.84**	**38**	Pn	**Pn**	**23 25 51.0**	**-0.5**
	13nm,0.3s,baz=185,slow=3.8,SNR=5.7						
GNI				Sn	**Sb**	**23 26 18.5**	**+1.9**
	69nm,0.3s,baz=318,slow=21,SNR=12						
GNI				LR	LR	23 26 55.6	
	comp=Z,250nm,20.8s,baz=214,slow=52						
GNI	**Garni**	**1.84**	**38**	*c i* P	**Pn**	**23 25 50.7**	**-0.8**
GNI				pmax	pmax		
	comp=Z,2μm,1.0s						
GNI	**Garni**	**1.84**	**38**	*i* P	**Pn**	**23 25 50.7**	**-0.8**
	comp=Z,2μm,1.0s						
ERZM	**Erzurum**	**1.89**	**310**	*i* P	**Pb**	**23 25 54.2**	**0.0**
ERZM				*i* S	**Sb**	**23 26 18.4**	**+0.2**
ERZM	**Erzurum**	**1.89**	**310**	P	**Pb**	**23 25 54.2**	**0.0**
ERZM				S	**Sb**	**23 26 18.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.97**	**339**	*e*PN	**Pn**	**23 25 53.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.97**	**339**	*e*Pn	**Pn**	**23 25 53.3**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.98**	**297**	*i* P	**Pb**	**23 25 55.2**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.98**	**297**	P	**Pb**	**23 25 55.2**	**-0.6**
EAK	**Akyaka**	**1.99**	**8**	*i* P	**Pn**	**23 25 55.2**	**+1.6**
EAK	**Akyaka**	**1.99**	**8**	P	**Pn**	**23 25 55.2**	**+1.6**
BNGB	**Bing˙¶‖**	**2.03**	**279**	*e*PN	**Pn**	**23 25 55.0**	**+0.8**
BINT	**Bingol**	**2.17**	**275**	P	**Pn**	**23 25 56.1**	**+0.1**
BINT	**Bingol**	**2.17**	**275**	*e*Pn	**Pn**	**23 25 55.0**	**-1.0**
BINT	**Bingol**	**2.17**	**275**	P	**Pn**	**23 25 56.1**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.23**	**290**	*e*PN	**Pn**	**23 25 58.0**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.23**	**290**	*e*Pn	**Pn**	**23 25 58.0**	**+1.1**
MARD	**Mardin**	**2.41**	**235**	*i* P	**Pn**	**23 25 60.0**	**+0.7**
MARD				*i* S	**Sg**	**23 26 33.6**	**-2.6**
DDEM	**Demirkent**	**2.46**	**332**	*i* P	**Pn**	**23 25 59.4**	**-0.7**
DDEM	**Demirkent**	**2.46**	**332**	P	**Pn**	**23 25 59.4**	**-0.7**
MAZI	**Mazidag**	**2.55**	**241**	*e*PN	**Pn**	**23 26 00.9**	**-0.3**
MAZI	**Mazidag**	**2.55**	**241**	*e*Pn	**Pn**	**23 26 00.9**	**-0.3**
BGD	**Bogdanovka**	**2.56**	**6**	P	**Pb**	**23 26 06.7**	**+1.2**
BGD				S	**Sg**	**23 26 41.7**	**+0.6**
DAGI	**Agillar**	**2.58**	**337**	*i* P	**Pn**	**23 26 03.1**	**+1.5**
DIYA	**Diyarbakir**	**2.59**	**253**	*i* P	**Pb**	**23 26 05.2**	**-0.8**
DIYA	**Diyarbakir**	**2.59**	**253**	P	**Pb**	**23 26 05.2**	**-0.8**
AKH	**Akhalkalaki**	**2.70**	**4**	*e*PN	**Pn**	**23 26 04.2**	**+0.8**
AKH	**Akhalkalaki**	**2.70**	**4**	P	**Pb**	**23 26 08.4**	**+0.4**
AKH				S	**Sg**	**23 26 46.5**	**+0.9**
AKH	**Akhalkalaki**	**2.70**	**4**	P	**Pb**	**23 26 08.3**	**+0.4**
AKH				S	**Sg**	**23 26 46.4**	**+0.9**
AKH	**Akhalkalaki**	**2.70**	**4**	*e*Pn	**Pn**	**23 26 04.2**	**+0.8**
GDB	**GEDABAY**	**2.78**	**43**	⇓P	**Pn**	**23 26 04.0**	**-0.5**
GDB				⇑S	**Sb**	**23 26 44.1**	**+0.4**
GDB	**GEDABAY**	**2.78**	**43**	P	**Pn**	**23 26 04.0**	**-0.5**
EPOS	**Posof**	**2.81**	**352**	*i* P	**Pn**	**23 26 05.7**	**+0.8**
EPOS				*i* S	**Sg**	**23 26 53.0**	**+3.7**
EPOS	**Posof**	**2.81**	**352**	P	**Pn**	**23 26 05.7**	**+0.8**
QZX	**Qazax, Azerbai**	**2.85**	**34**	⇑P	**Pn**	**23 26 05.6**	**+0.3**
QZX				⇑S	**Sb**	**23 26 46.1**	**+0.4**
QZX	**Qazax, Azerbai**	**2.85**	**34**	P	**Pn**	**23 26 05.6**	**+0.3**
DBOC	**Borcka**	**2.90**	**336**	*i* P	**Pb**	**23 26 11.0**	**-0.2**
PTK	**Pertek**	**3.02**	**275**	*e*PN	**Pn**	**23 26 09.6**	**+1.7**
PTK	**Pertek**	**3.02**	**275**	*e*Pn	**Pn**	**23 26 09.6**	**+1.7**
GANJ	**Ganja**	**3.05**	**50**	⇓P	**Pn**	**23 26 08.4**	**+0.3**
GANJ				⇑S	**Sb**	**23 26 52.4**	**+0.9**
GANJ	**Ganja**	**3.05**	**50**	P	**Pn**	**23 26 08.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*PN	**Pn**	**23 26 10.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*Pn	**Pn**	**23 26 10.5**	**+1.4**
DGRG	**David-gareji**	**3.18**	**30**	P	**Pn**	**23 26 10.5**	**+0.7**
DGRG				S	**Sb**	**23 26 55.4**	**+0.2**
DGRG	**David-gareji**	**3.18**	**30**	P	**Pn**	**23 26 10.5**	**+0.7**
DGRG				S	**Sb**	**23 26 55.3**	**+0.2**
DGRG	**David-gareji**	**3.18**	**30**	P	**Pn**	**23 26 10.5**	**+0.7**
TBLG	**Delisi**	**3.22**	**20**	*e*PN	**Pn**	**23 26 11.3**	**+1.0**
TBLG	**Delisi**	**3.22**	**20**	P	**Pb**	**23 26 15.9**	**-0.8**
TBLG				S	**Sb**	**23 27 00.6**	**+4.3**
TBLG	**Delisi**	**3.22**	**20**	P	**Pb**	**23 26 15.8**	**-0.8**
TBLG				S	**Sb**	**23 27 00.6**	**+4.3**
TBLG	**Delisi**	**3.22**	**20**	*e*Pn	**Pn**	**23 26 11.3**	**+1.0**
TBLG	**Delisi**	**3.22**	**20**	P	**Pn**	**23 26 13.1**	**+2.8**
SEAG	**Tbilisi Sea**	**3.27**	**21**	P	**Pb**	**23 26 17.5**	**-0.1**
SFNV	**Sufian**	**3.39**	**228**	*e*P	**Pn**	**23 26 14.0**	**+1.2**
SFNV				*e*S	**Sn**	**23 26 53.6**	**0.0**
SFNV				AML	AML	23 27 31.0	
	comp=Z,202nm,0.6s						
BRDA	**Brd**	**3.41**	**62**	⇓P	**Pn**	**23 26 12.9**	**0.0**
BRDA	**Brd**	**3.41**	**62**	P	**Pn**	**23 26 12.9**	**0.0**
KELT	**Kelkit**	**3.41**	**296**	*i* P	**Pb**	**23 26 20.4**	**+0.3**
MZRK	**Al-Mazaregh**	**3.55**	**217**	*e*P	**Pn**	**23 26 17.0**	**+2.0**
MZRK				AML	AML	23 27 18.7	
	comp=Z,110nm,0.5s						
MNGR	**Mingechevir, A**	**3.59**	**54**	⇓P	**Pn**	**23 26 16.2**	**+0.7**
MNGR				⇑S	**Sn**	**23 27 02.3**	**+3.8**
MNGR	**Mingechevir, A**	**3.59**	**54**	P	**Pn**	**23

BIDA AML AML 23 29 21.9
comp=E,44nm,0.8s
ANN Anapa 7.47 326 *e*P **Pn 23 27 08.9 +0.2**
ANN pmax pmax
comp=Z,168nm,1.6s
ANN Anapa 7.47 326 *e*P **Pn 23 27 08.9 +0.2**
comp=Z,168nm,1.6s
BRTR Keskin Array B 7.54 281 Pn **Pn 23 27 11.4 +1.6**
comp=Z,0.0nm,0.3s,baz=111,slow=15,SNR=2.6
ASF Jabal al Asfar 8.34 220 Pn **Pn 23 27 19.1 -1.6**
comp=Z,0.7nm,0.3s,baz=15,slow=4.1,SNR=9.2
MMAI Mount Meron Ar 8.54 231 Pn **Pn 23 27 24.5 +0.9**
comp=Z,1.0nm,0.3s,baz=74,slow=15,SNR=8.2
MMAI LR LR 23 31 18.4
comp=Z,116nm,19.4s,baz=20,slow=43
AKASG Malin Array Be 15.56 325 Pn **Pn 23 28 59.3 +0.3**
comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=4.6
AKASG Malin Array Be 15.56 325 *e*P **P 23 29 02.3 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.56 325 *e*P **P 23 29 02.3 -1.2**
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 15.71 37 Pn **Pn 23 28 58.0 -3.0**
comp=Z,0.2nm,0.3s,baz=237,slow=12,SNR=4.6
AKTO LR LR 23 36 28.1
comp=Z,54nm,19.1s,baz=230,slow=42
OBN Obninsk 17.01 347⇑ *e*P **Pn 23 29 17.7 +0.1**
OBN pmax pmax
comp=Z,30nm,1.7s
OBN MLR MLR
comp=Z,38nm,15.0s
OBN Obninsk 17.01 347 *e*P **Pn 23 29 17.7 +0.1**
comp=Z,38nm,15.0s
PSZ Piszkesteto 19.27 306 *e*P **Pn 23 29 45.8 +0.3**
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 19.27 306 *e*P **Pn 23 29 45.8 +0.3**
comp=Z,2.9nm,0.7s
PSZ Piszkesteto 19.27 306 *e*P **Pn 23 29 45.8 +0.3**
comp=Z,2.9nm,0.7s
ARU Arti 20.43 25 P **P 23 29 54.9 -2.1**
comp=Z,4.4nm,0.6s,baz=237,slow=5.1,SNR=9.1
ARU Arti 20.43 25*d i*P **P 23 29 56.4 -0.6**
ARU 23 30 12.6
ARU S **S 23 33 46.6 +0.4**
ARU SS **SnSn 23 34 04.2 +0.2**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 20.43 25 *i*P **P 23 29 56.4 -0.6**
comp=Z,16nm,1.2s
ARU S **S 23 33 46.6 +0.4**
ARU Arti 20.43 25 *e*P **P 23 29 56.1 -0.9**
comp=Z,11nm,0.9s
KKAR Karatay Array 21.02 69 *e*P **P 23 30 03.6 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 21.02 69 *e*P **P 23 30 03.6 0.0**
comp=Z,2.5nm,0.6s
KKAR Karatay Array 21.02 69 *e*P **P 23 30 03.6 0.0**
comp=Z,2.5nm,0.6s
MORC Moravsky Berou 21.38 309 *e*P **P 23 30 06.2 -1.2**
MORC pmax pmax
comp=Z,6.0nm,0.7s
MORC Moravsky Berou 21.38 309 *e*P **P 23 30 06.2 -1.2**
comp=Z,5.7nm,0.7s
MORC Moravsky Berou 21.38 309 *e*P **P 23 30 06.2 -1.2**
comp=Z,5.7nm,0.7s
KLMR Klimovskoe 22.28 355 *e*P **P 23 30 13.4 -3.6**
KLMR pmax pmax
comp=Z,15nm,1.4s
VSU Vasula 22.46 337⇑ *i*P **P 23 30 19.4 +0.5**
VSU pmax pmax
comp=Z,33nm,1.2s
VSU Vasula 22.46 337 *i*P **P 23 30 19.4 +0.5**
comp=Z,33nm,1.2s
BRVK Borovoye 23.47 44⇑ *i*P **P 23 30 30.4 +0.9**
BRVK pmax pmax
comp=Z,18nm,2.5s
BRVK Borovoye 23.47 44 *e*P **P 23 30 28.8 -0.7**
comp=Z,8.7nm,0.9s
BRVK Borovoye 23.47 44 *e*P **P 23 30 28.8 -0.7**
comp=Z,8.7nm,0.9s
GERES GERESS Array B 23.48 305 P **P 23 30 28.3 -1.5**
comp=Z,0.3nm,0.5s,baz=110,slow=12,SNR=4.2
GERES GERESS Array B 23.48 305 *e*P **P 23 30 30.9 +1.2**
GERES GERESS Array B 23.48 305 *e*P **P 23 30 30.9 +1.2**
BVAR Borovoye Array 23.51 44 P **P 23 30 27.6 -2.3**
comp=Z,1.6nm,0.9s,baz=251,slow=4.4,SNR=5.8
AAK Ala-Archa 23.94 71⇑⇑ P **P 23 30 35.7 +1.4**
AAK Ala-Archa 23.94 71 P **P 23 30 35.7 +1.4**
CLL Collm 24.62 311 *e*P **P 23 30 41.0 +0.7**
CLL Collm 24.62 311 *e*P **P 23 30 41.0 +0.7**
CLL Collm 24.62 311 *e*(P) **P 23 30 41.0 +0.7**
FINES FINESS Array B 25.12 340 P **P 23 30 42.5 -2.1**
comp=Z,2.1nm,0.9s,baz=148,slow=11,SNR=5.5
FINES FINESS Array B 25.12 340 *e*P **P 23 30 44.7 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 25.12 340 *e*P **P 23 30 44.7 0.0**
comp=Z,2.0nm,0.8s
ATD Arta Tunnel 27.08 181 LR LR 23 43 02.5
comp=Z,32nm,18.8s,baz=314,slow=40
KURBB Kurchatov Arra 27.50 53 P **P 23 31 04.8 -1.6**
comp=Z,0.6nm,0.3s,baz=261,slow=9.7,SNR=4.4
KURK Kurchatov 27.58 53⇑ *i*P **P 23 31 06.9 -0.1**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 27.58 53 *i*P **P 23 31 06.9 -0.1**
comp=Z,8.0nm,1.2s
KURK Kurchatov 27.58 53 *e*P **P 23 31 06.4 -0.6**
HFS Hagfors 28.38 329 P **P 23 31 12.8 -1.3**
comp=Z,2.8nm,0.7s,baz=128,slow=9.3,SNR=4.0
MKAR Makanchi Array 29.53 61 P **P 23 31 23.2 -1.3**
comp=Z,0.7nm,0.7s,baz=283,slow=6.1,SNR=5.2
MKAR Makanchi Array 29.53 61 *e*P **P 23 31 24.2 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 29.53 61 *e*P **P 23 31 24.2 -0.3**
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 29.90 329 P **P 23 31 25.4 -2.2**
comp=Z,0.9nm,0.8s,baz=125,slow=8.8,SNR=2.4
ZALV Zalesovo Beam 31.96 48 P **P 23 31 44.7 -1.1**
comp=Z,0.3nm,0.3s,baz=249,slow=4.0,SNR=2.5
ESDC Sonseca Array 36.28 287 P **P 23 32 24.9 +1.4**
comp=Z,0.9nm,0.8s,baz=65,slow=8.3,SNR=4.5
ESDC Sonseca Array 36.28 287 P **P 23 32 25.0 +1.4**
CMAR Chiang Mai Arr 52.08 96 P **P 23 34 28.1 -2.1**
comp=Z,1.1nm,0.7s,baz=295,slow=6.8,SNR=5.3
CMAR Chiang Mai Arr 52.08 96 *e*P **P 23 34 31.1 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 52.08 96 *e*P **P 23 34 31.1 +0.8**
comp=Z,1.0nm,0.7s

CSEM ***25*** *23:29:52.3±0.6, 67°.79N×20°.33E, h2km, ML1.2, Error ellipse: s-maj=13.8km s-min=12.7km az=113.0, Mining explosion.*
HEL 25 23:29:54.4, 67°.87N×20°.29E, h0km, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.47**	**270**	*i* P	Pg	23 30 01.2	-2.3
NIKU	**Nikkaluokta**	**0.47**	**270**	P	Pg	23 30 01.2	-2.3
LANU	**Lannavaara**	**0.67**	**74**	*e*P	Pg	23 30 07.0	-0.1
LANU	**Lannavaara**	**0.67**	**74**	P	Pg	23 30 07.3	+0.2
SALU	**Saltoluokta**	**0.84**	**235**	*i* P	Pg	23 30 07.6	-2.9
SALU	**Saltoluokta**	**0.84**	**235**	P	Pg	23 30 07.6	-2.9
KIF	**Kilpisjarvi**	**1.16**	**9**	*e*P	Pg	23 30 15.3	-1.2
KIF				*e*S	Sb	23 30 32.5	-0.2
KIF	**Kilpisjarvi**	**1.16**	**9**	P	Pg	23 30 15.2	-1.3
KIF				S	Sb	23 30 32.5	-0.2
HEF	**Hetta**	**1.37**	**65**	*e*P	Pg	23 30 18.9	-1.8
HEF				*e*S	Sg	23 30 36.3	-2.2
HEF	**Hetta**	**1.37**	**65**	P	Pg	23 30 18.9	-1.8
HEF				S	Sg	23 30 36.2	-2.3
PAJU	**Pajala**	**1.38**	**127**	*e*P	Pg	23 30 18.1	-2.7
PAJU	**Pajala**	**1.38**	**127**	P	Pg	23 30 18.1	-2.8
ERTU	**Ertsjaerv**	**1.52**	**150**	*e*P	Pn	23 30 20.7	-2.1
ERTU	**Ertsjaerv**	**1.52**	**150**	P	Pn	23 30 20.6	-2.1
KALU	**Kalix**	**2.36**	**148**	*e*P	Pn	23 30 34.3	+0.1
KALU	**Kalix**	**2.36**	**148**	P	Pn	23 30 34.3	0.0
TOF	**Tornio**	**2.40**	**137**	*e*P	Pn	23 30 34.5	-0.3
TOF	**Tornio**	**2.40**	**137**	P	Pn	23 30 34.5	-0.3
ARE0	**ARCESS Array S**	**2.54**	**46**	*e*SG	Sb	23 31 12.5	+0.1
ARE0	**ARCESS Array S**	**2.54**	**46**	Sg	Sb	23 31 12.5	+0.1

ISCJB ***25*** *23:30:01.8±0.3, 67°.82N±0°.02×20°.21E±0°.06, h0km, Error ellipse: s-maj=3.2km s-min=2.9km az=23.9*
UPP ***25*** *23:30:02.5±0.1, 67°.83N×20°.20E, h0km, ML2.2*
NAO ***25*** *23:30:02.9±0.8, 67°.78N×20°.54E, ML2.5*
CSEM ***25*** *23:30:02.6±0.1, 67°.83N×20°.23E, h2km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.9km az=122.0, Mining explosion.*
HEL ***25*** *23:30:03.2±0.1, 67°.84N×20°.20E, h0km, ML2.2(UPP), Explosion*
BER ***25*** *23:30:04.7±4.3, 67°.85N×20°.35E, h0km, ML1.8, ML2.5(NAO), Suspected explosion*
IDC ***25*** *23:30:04.0±1.0, 67°.79N×20°.41E, h0km, mb1 3.2/4, mb1mx3.0/51, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=17.0km s-min=7.7km az=120.0*
ISC 25 23:30:02.4±0.7, 67°.80N±0°.02×20°.23E±0°.02, h0km, n74, σ1§19/117, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.46**	**279**	P	**Pg**	**23 30 11.1**	**0.0**
NIKU				S	**Sg**	**23 30 17.2**	**+0.2**
NIKU	**Nikkaluokta**	**0.46**	**279**	*i* P	**Pg**	**23 30 11.1**	**0.0**
NIKU				*i* S	**Sg**	**23 30 17.2**	**+0.2**
NIKU	**Nikkaluokta**	**0.46**	**279**	P	**Pg**	**23 30 11.1**	**0.0**
NIKU				S	**Sg**	**23 30 17.2**	**+0.2**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**23 30 16.1**	**+0.5**
DUNU				S	**Sg**	**23 30 25.6**	**+1.0**
DUNU	**Dundret**	**0.69**	**169**	*i* P	**Pg**	**23 30 16.1**	**+0.5**
DUNU				*i* S	**Sg**	**23 30 25.6**	**+1.0**
DUNU	**Dundret**	**0.69**	**169**	P	**Pg**	**23 30 16.1**	**+0.5**
DUNU				S	**Sg**	**23 30 25.6**	**+1.0**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**23 30 15.9**	**-0.1**
LANU				S	**Sg**	**23 30 25.6**	**+0.5**
LANU	**Lannavaara**	**0.71**	**69**	*e*P	**Pg**	**23 30 15.3**	**-0.6**
LANU				*e*S	**Sg**	**23 30 25.9**	**+0.8**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**23 30 15.9**	**-0.1**
LANU				S	**Sg**	**23 30 25.6**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**23 30 17.5**	**+0.6**
MASU				S	**Sg**	**23 30 27.7**	**+0.9**
MASU	**Masugnsbyn**	**0.76**	**116**	*i* P	**Pg**	**23 30 17.5**	**+0.6**
MASU				*i* S	**Sg**	**23 30 27.7**	**+0.9**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**23 30 17.4**	**+0.6**
MASU				S	**Sg**	**23 30 27.6**	**+0.9**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**23 30 17.4**	**+0.1**
SALU				S	**Sg**	**23 30 28.0**	**+0.5**
SALU	**Saltoluokta**	**0.78**	**238**	*i* P	**Pg**	**23 30 17.4**	**+0.1**
SALU				*i* S	**Sg**	**23 30 28.0**	**+0.5**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**23 30 17.4**	**+0.1**
SALU				S	**Sg**	**23 30 28.0**	**+0.5**
KIF	**Kilpisjarvi**	**1.23**	**10**	Pg	**Pg**	**23 30 25.6**	**-0.3**
KIF				Lg	Lg	23 30 41.4	
KIF	**Kilpisjarvi**	**1.23**	**10**	Pg	**Pg**	**23 30 25.6**	**-0.3**
KIF				Lg	Lg	23 30 41.4	
KIF	**Kilpisjarvi**	**1.23**	**10**	*e*P	**Pg**	**23 30 25.2**	**-0.6**
KIF				*e*S	**Sg**	**23 30 41.1**	**-0.7**
KIF	**Kilpisjarvi**	**1.23**	**10**	P	**Pg**	**23 30 25.2**	**-0.6**
KIF	**Kilpisjarvi**	**1.23**	**10**	Pg	**Pg**	**23 30 25.6**	**-0.3**
SNR=90							
KIF				S	**Sg**	**23 30 41.1**	**-0.7**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**23 30 27.5**	**-0.9**
PAJU	**Pajala**	**1.36**	**124**	*e*P	**Pg**	**23 30 27.5**	**-0.9**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**23 30 27.5**	**-0.9**
HEF	**Hetta**	**1.42**	**63**	*e*P	**Pn**	**23 30 28.5**	**-0.9**
HEF				*e*S	**Sg**	**23 30 47.4**	**-0.7**
HEF	**Hetta**	**1.42**	**63**	P	**Pn**	**23 30 28.5**	**-0.9**
HEF				S	**Sg**	**23 30 47.3**	**-0.7**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**23 30 29.9**	**-0.1**
ERTU				S	**Sn**	**23 30 50.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*P	**Pn**	**23 30 29.9**	**-0.1**
ERTU				*e*S	**Sn**	**23 30 50.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**23 30 29.9**	**-0.1**
ERTU				S	**Sn**	**23 30 50.4**	**+0.5**
KTK1	**Kautokeino**	**1.65**	**41**	*e*P	**Pn**	**23 30 32.3**	**-0.2**
KTK1				IAML		23 30 57.9	
comp=Z,17nm,0.4s							
KTK1	**Kautokeino**	**1.65**	**41**	*e*P	**Pn**	**23 30 32.3**	**-0.2**
SNR=50							
TRO	**Tromso**	**1.90**	**346**	*e*P	**Pg**	**23 30 40.1**	**+1.4**
TRO				*e*Sg	**Sg**	**23 31 05.3**	**+2.0**
TRO				IAML		23 31 07.0	
comp=Z,18nm,0.7s							
TRO	**Tromso**	**1.90**	**346**	*e*P	**Pg**	**23 30 40.1**	**+1.4**
SNR=50							
KALU	**Kalix**	**2.31**	**146**	P	**Pb**	**23 30 43.1**	**-1.7**
KALU	**Kalix**	**2.31**	**146**	*e*P	**Pn**	**23 30 42.8**	**+1.2**
KALU				*e*S	**Sb**	**23 31 12.8**	**-1.0**
KALU	**Kalix**	**2.31**	**146**	P	**Pb**	**23 30 43.1**	**-1.7**
SJUU	**Sjulsmark**	**2.37**	**166**	P	**Pn**	**23 30 43.9**	**+1.5**
SJUU	**Sjulsmark**	**2.37**	**166**	*e*P	**Pn**	**23 30 43.9**	**+1.5**
SJUU	**Sjulsmark**	**2.37**	**166**	P	**Pn**	**23 30 43.9**	**+1.5**
LILU	**Lilltraesk**	**2.53**	**184**	P	**Pn**	**23 30 46.1**	**+1.5**
LILU	**Lilltraesk**	**2.53**	**184**	*e*P	**Pn**	**23 30 46.1**	**+1.5**
LILU	**Lilltraesk**	**2.53**	**184**	P	**Pn**	**23 30 46.1**	**+1.5**
LOF	**Lofoten**	**2.54**	**281**	*e*P	**Pn**	**23 30 44.8**	**0.0**
LOF	**Lofoten**	**2.54**	**281**	*e*P	**Pn**	**23 30 44.8**	**0.0**
SNR=50							
ARA0	**ARCESS Array S**	**2.60**	**45**	Pn	**Pn**	**23 30 46.5**	**+0.9**
baz=226,slow=16							
ARA0				Sn	**Sn**	**23 31 17.9**	**+0.1**
baz=232,slow=22							
ARA0				Lg	Lg	23 31 21.7	
baz=224,slow=28							
ARA0	**ARCESS Array S**	**2.60**	**45**	Pn	**Pn**	**23 30 46.5**	**+0.9**
baz=226,slow=16							
ARA0				Sn	**Sn**	**23 31 17.9**	**+0.1**
baz=232,slow=22							
ARA0				Lg	Lg	23 31 21.7	
baz=224,slow=28							
ARA0	**ARCESS Array S**	**2.60**	**45**	Pn	**Pn**	**23 30 46.5**	**+0.9**
SNR=50							
ARA0				Sn	**Sn**	**23 31 17.9**	**+0.1**
SNR=50							
ARA0				Lg	Lg	23 31 21.7	
SNR=4.1							
ARCES	**ARCESS Array B**	**2.60**	**45**	Pn	**Pn**	**23 30 46.7**	**+1.1**
comp=Z,1.7nm,0.3s,baz=226,slow=15,SNR=36							
ARCES				Sn	**Sn**	**23 31 20.0**	**+2.2**
comp=Z,3.6nm,0.3s,baz=228,slow=25,SNR=15							
MSF	**Maaselka**	**3.96**	**114**	*e*PG	**Pn**	**23 31 05.6**	**+1.3**
MSF	**Maaselka**	**3.96**	**114**	Pg	**Pn**	**23 31 05.6**	**+1.3**
KU6	**Riekki**	**4.20**	**111**	*e*PG	**Pn**	**23 31 08.9**	**+1.3**
KU6	**Riekki**	**4.20**	**111**	Pg	**Pn**	**23 31 08.9**	**+1.3**
APA0	**Apatity Array**	**4.87**	**86**	Pn	**Pn**	**23 31 15.9**	**-0.8**
baz=286,slow=14							
APA0				Pg	**Pb**	**23 31 29.0**	**+0.6**
baz=283,slow=14							
APA0				Sn	**Sn**	**23 32 12.9**	**-0.7**
baz=294,slow=28							
APA0				Lg	Lg	23 32 30.9	
baz=270,slow=37							
APA0	**Apatity Array**	**4.87**	**86**	Pn	**Pn**	**23 31 15.9**	**-0.8**
baz=286,slow=14							
APA0				Pg	**Pb**	**23 31 29.0**	**+0.6**
baz=283,slow=14							
APA0				Sn	**Sn**	**23 32 12.9**	**-0.7**
baz=294,slow=28							
APA0				Lg	Lg	23 32 30.9	
baz=270,slow=37							
APA0	**Apatity Array**	**4.87**	**86**	Pn	**Pn**	**23 31 15.9**	**-0.8**
SNR=50							
APA0				Sn	**Sn**	**23 32 12.9**	**-0.7**
SNR=50							
APA0				Lg	Lg	23 32 30.9	
VAF	**Ylistaro**	**4.89**	**167**	*e*PB	**Pn**	**23 31 19.2**	**+2.3**
VAF	**Ylistaro**	**4.89**	**167**	Pb	**Pn**	**23 31 19.2**	**+2.3**
SUF	**Sumiainen**	**5.67**	**151**	*e*PB	**Pn**	**23 31 29.4**	**+1.7**
SUF	**Sumiainen**	**5.67**	**151**	Pb	**Pn**	**23 31 29.4**	**+1.7**
KEF	**Keuruu**	**5.99**	**159**	*e*PB	**Pn**	**23 31 34.6**	**+2.5**
KEF	**Keuruu**	**5.99**	**159**	Pb	**Pn**	**23 31 34.6**	**+2.5**
FIA0	**FINESS Array S**	**6.86**	**156**	Pn	**Pn**	**23 31 45.5**	**+1.6**
baz=344,slow=14							
FIA0				Sn	**Sn**	**23 33 00.6**	**-2.0**
baz=352,slow=22							
FIA0				Lg	Lg	23 33 35.1	
baz=337,slow=28							
FIA0	**FINESS Array S**	**6.86**	**156**	Pn	**Pn**	**23 31 45.5**	**+1.6**
baz=344,slow=14							
FIA0				Sn	**Sn**	**23 33 00.6**	**-2.0**
baz=352,slow=22							
FIA0				Lg	Lg	23 33 35.1	
baz=337,slow=28							
FIA0	**FINESS Array S**	**6.86**	**156**	Pn	**Pn**	**23 31 45.5**	**+1.6**
SNR=50							
FIA0				Sn	**Sn**	**23 33 00.6**	**-2.0**
SNR=50							
FIA0				Lg	Lg	23 33 35.2	
SNR=3.6							
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**23 31 45.5**	**+1.6**
comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=6.2							
FINES				Sn	**Sn**	**23 33 02.9**	**+0.3**
comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=3.4							
FINES				Lg	Lg	23 33 36.5	
comp=Z,0.4nm,0.3s,baz=340,slow=25,SNR=5.4							
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**23 31 57.6**	**+0.4**
baz=24,slow=14							
NB2				Sn	**Sn**	**23 33 24.8**	**-1.6**
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**23 31 57.6**	**+0.4**
baz=24,slow=14							
NB2				Sn	**Sn**	**23 33 24.8**	**-1.6**
NB2	**NORSAR Subarra**	**7.82**	**214**	Pn	**Pn**	**23 31 57.6**	**+0.4**
SNR=50							
NB2				Sn	**Sn**	**23 33 24.8**	**-1.6**
SNR=50							
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**23 31 58.0**	**+0.8**
comp=Z,0.2nm,0.3s,baz=24,slow=10,SNR=3.7							
NOA				Lg	Lg	23 34 08.8	
comp=Z,0.5nm,0.3s,baz=320,slow=21,SNR=5.9							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**23 32 00.0**	**-2.5**
baz=5.7,slow=11							
HFS				Sn	**Sn**	**23 33 33.1**	**-2.7**
baz=17,slow=28							
HFS				Lg	Lg	23 34 21.6	
baz=24,slow=37							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**23 32 02.3**	**-0.3**
comp=Z,0.1nm,0.3s,baz=18,slow=9.6,SNR=4.8							
HFS				Sn	**Sn**	**23 33 33.3**	**-2.6**
comp=Z,0.2nm,0.3s,baz=34,slow=26,SNR=4.5							
HFS				Lg	Lg	23 34 21.6	
comp=Z,0.4nm,0.3s,baz=23,slow=27,SNR=4.8							
HFS	**Hagfors**	**8.21**	**204**	Pn	**Pn**	**23 32 00.0**	**-2.5**
baz=5.7,slow=11							
HFS				Sn	**Sn**	**23 33 33.1**	**-2.7**
baz=17,slow=28							
HFS				Lg	Lg	23 34 21.6	
baz=24,slow=37							
SPA0	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**23 32 34.3**	**+0.6**
baz=150,slow=18							
SPA0	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**23 32 34.3**	**+0.6**
baz=150,slow=18							
SPA0	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**23 32 34.3**	**+0.6**
SNR=50							

DDA ***25*** *23:39:03.0, 38°.86N×43°.59E, h9km, Ml4.0*
IDC ***25*** *23:39:03.4±0.7, 38°.87N×43°.64E, h0km, mb4.0/15, mb1 4.0/21, mb1mx3.9/39, mbtmp3.9/21, ML3.2/6, MS3.4/27, Ms1 3.4/27, ms1mx3.3/44, Error ellipse: s-maj=12.8km s-min=8.6km az=147.0*
ISK ***25*** *23:39:03.0, 38°.84N×43°.54E, h5km, ML4.1*
NEIC ***25*** *23:39:04.1±0.0, 38°.82N×43°.53E, h5km, mb4.2/18, ML3.7(ISK), ML4.0(DDA), After ISK.*
AZER ***25*** *23:39:05.5±1.0, 38°.52N×43°.49E, h26km±23km, Error ellipse: s-maj=18.5km s-min=4.6km az=67.0*
MOS ***25*** *23:39:05.7±1.8, 38°.67N×43°.67E, h13km, mb4.3/29, Error ellipse: s-maj=5.7km s-min=4.4km az=93.4*
CSEM ***25*** *23:39:05.5±0.1, 38°.67N×43°.64E, h5km, mb4.2/17, Error ellipse: s-maj=5.0km s-min=2.9km az=163.0*
ISC 25 23:39:05.6±0.6, 38°.83N±0°.02×43°.59E±0°.02, h4km±4km, n353, σ2§06/427, mb4.2/46, MS3.3/23, 50C-36D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**214**	*e*Pg	**Pg**	**23 39 10.3**	**-0.7**
VANB				*e*SG	**Sg**	**23 39 16.3**	**+1.6**
VANB	**Van**	**0.28**	**214**	*e*Pg	**Pg**	**23 39 10.3**	**-0.7**
GEVA	**Gevas**	**0.66**	**219**	*i* P	**Pg**	**23 39 16.0**	**-2.2**
GEVA				*i* S	**Sg**	**23 39 27.9**	**+1.1**
GEVA	**Gevas**	**0.66**	**219**	P	**Pg**	**23 39 16.0**	**-2.2**
GEVA				S	**Sg**	**23 39 27.9**	**+1.1**
GEVA	**Gevas**	**0.66**	**219**	*i* P	**Pg**	**23 39 16.0**	**-2.2**
DYDN	**Diyadin**	**0.72**	**6**	*i* P	**Pg**	**23 39 16.1**	**-3.3**
DYDN				*i* S	**Sg**	**23 39 27.7**	**-1.1**
DYDN	**Diyadin**	**0.72**	**6**	*i* P	**Pg**	**23 39 16.1**	**-3.3**
TUTA	**Tutak**	**0.83**	**314**	*i* P	**Pg**	**23 39 17.9**	**-3.6**
TUTA				*i* S	**Sg**	**23 39 29.7**	**-2.6**
TUTA	**Tutak**	**0.83**	**314**	*i* P	**Pg**	**23 39 17.9**	**-3.6**
BASK	**Baskale_VAN**	**0.84**	**157**	*i* P	**Pg**	**23 39 19.4**	**-2.3**
BASK				*i* S	**Sg**	**23 39 33.3**	**+0.7**
BASK	**Baskale_VAN**	**0.84**	**157**	P	**Pg**	**23 39 19.4**	**-2.3**
AGRB	**Hanur-Agry**	**0.88**	**328**	*e*PG	**Pg**	**23 39 19.0**	**-3.5**
AGRB				*e*SG	**Sg**	**23 39 32.7**	**-1.2**
EKAR	**Karacoban**	**1.26**	**290**	*i* P	**Pg**	**23 39 27.2**	**-2.6**
EKAR				*i* S	**Sn**	**23 39 50.3**	**+2.6**
EKAR	**Karacoban**	**1.26**	**290**	P	**Pg**	**23 39 27.2**	**-2.6**
EKAR				S	**Sn**	**23 39 50.3**	**+2.6**
EKAR	**Karacoban**	**1.26**	**290**	*i* P	**Pg**	**23 39 27.2**	**-2.6**
HAKT	**HAKKARI**	**1.27**	**176**	*i* P	**Pg**	**23 39 26.3**	**-3.7**
HAKT				*i* S	**Sg**	**23 39 45.7**	**-0.7**
HAKT	**HAKKARI**	**1.27**	**176**	P	**Pg**	**23 39 26.3**	**-3.7**
EATA	**Eleskirt**	**1.34**	**321**	*i* P	**Pg**	**23 39 27.3**	**-4.0**
EATA				*i* S	**Sg**	**23 39 47.5**	**-1.1**
NAX	**Nakhchivan**	**1.53**	**76**	⇑P	**Pn**	**23 39 33.4**	**-0.3**
NAX				⇑S	**Sg**	**23 39 54.8**	**+0.2**
NAX	**Nakhchivan**	**1.53**	**76**	P	**Pn**	**23 39 33.4**	**-0.3**
NAX	**Nakhchivan**	**1.53**	**76**	P	**Pn**	**23 39 33.4**	**-0.3**
NAX				S	**Sg**	**23 39 54.8**	**+0.2**
CUKT	**Cukurca**	**1.58**	**179**	*e*PN	**Pn**	**23 39 34.0**	**-0.4**
CUKT	**Cukurca**	**1.58**	**179**	*i* P	**Pn**	**23 39 33.8**	**-0.6**
CUKT				*i* S	**Sg**	**23 39 59.2**	**+3.0**
CUKT	**Cukurca**	**1.58**	**179**	P	**Pn**	**23 39 33.8**	**-0.6**
GNI	**Garni**	**1.59**	**34**	Pn	**Pn**	**23 39 32.6**	**-2.1**
95nm,0.3s,baz=249,slow=2.8,SNR=163							
GNI				Sn	**Sg**	**23 39 57.2**	**+0.4**
75nm,0.3s,baz=93,slow=23,SNR=26							
GNI	**Garni**	**1.59**	**34**	⇑*i*P	**Pn**	**23 39 32.8**	**-1.9**
GNI				pmax	pmax		
comp=Z,3μm,1.0s							
GNI	**Garni**	**

AKH Akhalkalaki 2.58 358 P Pb 23 39 51.0 -1.5
AKH S Sg 23 40 27.7 -0.7
AKH Akhalkalaki 2.58 358 P Pb 23 39 51.0 -1.5
AKH S Sg 23 40 27.7 -0.7
QZX Qazax, Azerbai 2.62 31 ⇑P Pn 23 39 50.6 +2.0
QZX ⇑S Sb 23 40 25.8 +0.3
QZX Qazax, Azerbai 2.62 31 P Pn 23 39 50.6 +2.0
QZX S Sb 23 40 25.8 +0.3
KOPT Kop Dagi 2.67 297 *e*Pn Pb 23 39 52.5 -1.6
KOPT Kop Dagi 2.67 297 *e*Pn Pb 23 39 52.5 -1.6
ARTV Artvin 2.68 332 *e*Pn Pn 23 39 50.6 +1.0
ARTV Artvin 2.68 332 *e*Pn Pn 23 39 50.6 +1.0
MARD Mardin 2.68 237 *i* P Pn 23 39 49.3 -0.3
MARD *i* S Sb 23 40 26.8 -0.7
MARD Mardin 2.68 237 *e*Pn Pn 23 39 47.8 -1.8
MARD Mardin 2.68 237 *e*Pn Pn 23 39 47.8 -1.8
GANJ Ganja 2.78 48 ⇓P Pn 23 39 52.3 +1.3
GANJ ⇑S Sb 23 40 29.2 -1.1
GANJ Ganja 2.78 48 P Pn 23 39 52.2 +1.3
GANJ Ganja 2.78 48 P Pn 23 39 52.2 +1.3
GANJ S Sb 23 40 29.2 -1.1
MAZI Mazidag 2.83 242 *e*PN Pn 23 39 50.2 -1.4
MAZI Mazidag 2.83 242 *e*Pn Pn 23 39 50.2 -1.4
DGRG David-gareji 2.96 27 P Pb 23 39 57.5 -1.3
DGRG S Sg 23 40 42.8 +2.3
DGRG David-gareji 2.96 27 P Pb 23 39 57.5 -1.3
DGRG David-gareji 2.96 27 P Pb 23 39 57.5 -1.3
TBLG Delisi 3.03 17 *e*PN Pn 23 39 54.7 +0.4
TBLG Delisi 3.03 17 P Pb 23 39 58.6 -1.6
TBLG S Sg 23 40 41.5 -1.4
TBLG Delisi 3.03 17 P Pb 23 39 58.5 -1.6
TBLG S Sg 23 40 41.5 -1.4
TBLG Delisi 3.03 17 *e*Pn Pn 23 39 54.7 +0.4
TBLG Delisi 3.03 17 P Pb 23 39 58.5 -1.6
ERZN Erzincan 3.10 285 *e*PN Pn 23 39 54.8 -0.5
BRDA Brd 3.12 62 ⇑P Pn 23 39 56.1 +0.5
BRDA ⇑S Sn 23 40 35.7 +2.4
BRDA Brd 3.12 62 P Pn 23 39 56.1 +0.5
BRDA S Sn 23 40 35.7 +2.4
PTK Pertek 3.27 272 *e*PN Pn 23 39 57.4 -0.4
PTK Pertek 3.27 272 *e*Pn Pn 23 39 57.4 -0.4
MNGR Mingechevir, A 3.32 53 ⇑P Pn 23 39 59.3 +1.0
MNGR ⇑S Sn 23 40 41.4 +3.2
MNGR Mingechevir, A 3.32 53 P Pn 23 39 59.3 +1.0
MNGR Mingechevir, A 3.32 53 P Pn 23 39 59.3 +1.0
MNGR S Sn 23 40 41.4 +3.2
SVRC Sivrice-ELAZID 3.38 264 *e*PN Pn 23 39 59.4 +0.1
SVRC Sivrice-ELAZID 3.38 264 *e*Pn Pn 23 39 59.4 +0.1
ZRD Zardab 3.48 64 ⇑P Pn 23 40 00.8 +0.3
ZRD ⇑S Sn 23 40 44.2 +2.1
ZRD Zardab 3.48 64 P Pn 23 40 00.8 +0.3
ZRD S Sn 23 40 44.2 +2.1
ZKTA Zakatala 3.64 39 ⇑P Pn 23 40 04.6 +1.8
ZKTA ⇑S Sb 23 40 50.9 -4.2
ZKTA Zakatala 3.64 39 P Pn 23 40 04.5 +1.8
ZKTA Zakatala 3.64 39 P Pn 23 40 04.5 +1.8
KTUT Trabzon 3.64 307 *e*PN Pn 23 40 02.8 +0.1
KTUT Trabzon 3.64 307 *e*Pn Pn 23 40 02.8 +0.1
SEKA Sheki 3.65 48 ⇓P Pn 23 40 04.9 +1.9
SEKA ⇓S Sb 23 40 51.7 -3.7
SEKA Sheki 3.65 48 P Pn 23 40 04.8 +1.9
SEKA Sheki 3.65 48 P Pn 23 40 04.8 +1.9
SEKA S Sb 23 40 51.7 -3.7
LRK Lerik 3.72 91 ⇓P Pn 23 40 02.4 -1.6
LRK ⇑S Sn 23 40 47.2 -1.1
LRK Lerik 3.72 91 P Pn 23 40 02.4 -1.6
LRK S Sn 23 40 47.2 -1.1
ONI Oni 3.76 358 P Pb 23 40 12.1 -0.5
ONI S Sg 23 41 10.2 +3.9
ONI Oni 3.76 358 P Pb 23 40 12.0 -0.5
GLBA Clilabad 3.77 82 ⇑P Pn 23 40 03.6 -0.8
GLBA ⇓S Sn 23 40 49.0 -0.1
GLBA Clilabad 3.77 82 P Pn 23 40 03.6 -0.8
GLBA S Sn 23 40 49.0 -0.1
KDMR Kurdemir 3.87 65 ⇑P Pn 23 40 06.1 +0.3
KDMR ⇓S Sn 23 40 53.4 +1.7
KDMR Kurdemir 3.87 65 P Pn 23 40 06.1 +0.3
KDMR S Sn 23 40 53.4 +1.7
SAAT Saatly 3.89 73 ⇑P Pn 23 40 05.5 -0.5
SAAT ⇑S Sn 23 40 52.3 +0.2
SAAT Saatly 3.89 73 P Pn 23 40 05.5 -0.5
SAAT S Sn 23 40 52.3 +0.2
QBL Gabala 3.89 56 ⇑P Pn 23 40 07.0 +0.8
QBL ⇑S Sn 23 40 55.6 +3.2
QBL Gabala 3.89 56 P Pn 23 40 07.0 +0.8
QBL S Sn 23 40 55.6 +3.2
ZEI Tsey 3.96 3 *e*P Pn 23 40 09.1 +1.8
ZEI pmax pmax
comp=Z,24nm,0.7s
URFA Urfa 4.00 251 *e*PN Pn 23 40 08.1 +0.4
URFA Urfa 4.00 251 *e*Pn Pn 23 40 08.1 +0.4
LACR Lac 4.03 7 *e*P Pb 23 40 16.4 -0.8
LACR pmax pmax
comp=Z,153nm,1.2s
IML Ismayilli 4.05 60 ⇓P Pn 23 40 08.8 +0.5
IML ⇑S Sn 23 40 58.9 +2.8
IML Ismayilli 4.05 60 P Pn 23 40 08.8 +0.5
IML S Sn 23 40 58.9 +2.8
LKRN Lenkeran, Azer 4.06 90 ⇓P Pn 23 40 07.1 -1.4
LKRN ⇓S Sn 23 40 55.8 -0.6
LKRN Lenkeran, Azer 4.06 90 P Pn 23 40 07.0 -1.4
LKRN Lenkeran, Azer 4.06 90 P Pn 23 40 07.1 -1.4
LKRN S Sn 23 40 55.8 -0.6
ASTR Astara 4.08 92 ⇑P Pn 23 40 07.2 -1.5
ASTR ⇑S Sn 23 40 55.8 -1.1
ASTR Astara 4.08 92 P Pn 23 40 07.2 -1.5
ASTR S Sn 23 40 55.8 -1.1
XNQ Khinaliq 4.21 55 ⇓P Pn 23 40 11.4 +0.7
XNQ ⇑S Sn 23 41 03.3 +2.9
XNQ Khinaliq 4.21 55 P Pn 23 40 11.4 +0.7
XNQ S Sn 23 41 03.3 +2.9
ALIB Äli-Bayra 4.35 73 ⇑P Pn 23 40 12.1 -0.3
ALIB ⇑S Sn 23 41 04.3 +0.8
ALIB Äli-Bayra 4.35 73 P Pn 23 40 12.1 -0.3
ALIB S Sn 23 41 04.3 +0.8
GNBR Gunib 4.39 35 *e*P Pb 23 40 22.6 -0.6
GNBR pmax pmax
comp=Z,133nm,1.3s
LSNR Lesken 4.45 2 *e*P Pb 23 40 25.4 +1.1
LSNR pmax pmax
comp=Z,256nm,1.7s
NEY Neytrino 4.46 352 ⇑*i*P Pn 23 40 17.2 +3.0
NEY Neytrino 4.46 352 *i* P Pn 23 40 17.2 +3.0
GBS Qobustan 4.47 66 ⇑P Pn 23 40 14.2 +0.1
GBS ⇓S Sn 23 41 08.1 +1.5
GBS Qobustan 4.47 66 P Pn 23 40 14.2 +0.1
GBS S Sn 23 41 08.1 +1.5
QSAR Qusar 4.48 52 ⇑P Pn 23 40 15.2 +0.9
QSAR ⇓S Sn 23 41 10.2 +3.5
QSAR Qusar 4.48 52 P Pn 23 40 15.1 +0.9
QSAR S Sn 23 41 10.2 +3.5
QUBA Quba, Azerbaij 4.53 55 ⇓P Pn 23 40 15.8 +0.8
QUBA ⇑S Sn 23 41 11.2 +3.1
QUBA Quba, Azerbaij 4.53 55 P Pn 23 40 15.8 +0.8
SIZA Siyzn 4.66 60 ⇓P Pn 23 40 17.2 +0.5
SIZA ⇓S Sn 23 41 13.5 +2.2
SIZA Siyzn 4.66 60 P Pn 23 40 17.2 +0.5
NCK Nalchik 4.66 0 ⇑*i*P Pn 23 40 20.5 +3.8
NCK Nalchik 4.66 0 *i* P Pn 23 40 20.5 +3.8
GROC Groznyy 4.68 20 *e*P Pb 23 40 26.0 -2.1
GROC pmax pmax
comp=Z,39nm,1.1s
DARE Darende-Malaty 4.78 269 *e*PN Pn 23 40 18.4 -0.1
DARE Darende-Malaty 4.78 269 *e*Pn Pn 23 40 18.4 -0.1
KBZ Khabaz 4.92 354 Pn Pn 23 40 20.6 +0.3
comp=Z,0.0nm,0.3s,baz=50,slow=13,SNR=2.1
GOBA Gobu 5.00 70 ⇓P Pn 23 40 21.2 -0.1
GOBA ⇓S Sn 23 41 20.7 +1.2
GOBA Gobu 5.00 70 P Pn 23 40 21.2 -0.1
GOBA S Sn 23 41 20.7 +1.2
RSDY Resadiye-TOKAT 5.08 290 *e*PN Pn 23 40 23.4 +0.9
RSDY Resadiye-TOKAT 5.08 290 *e*Pn Pn 23 40 23.4 +0.9
MAK Makhachkala 5.08 34 *e*P Pn 23 40 21.9 -0.6
MAK *e*S Sn 23 41 21.5 -0.1
MAK pmax pmax
comp=Z,306nm,2.0s
MAK MLR MLR
comp=Z,816nm,11.0s
MAK Makhachkala 5.08 34 *e*P Pn 23 40 21.9 -0.6
comp=Z,306nm,2.0s
MAK *e*S Sn 23 41 21.5 -0.1
comp=Z,816nm,11.0s
KIV Kislovodsk 5.17 353 *e*P Pn 23 40 20.5 -3.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 5.17 353 *e*Pn Pn 23 40 20.1 -3.6
KIV Kislovodsk 5.17 353 *e*Pg Pb 23 40 40.0 +3.5
KIV Kislovodsk 5.17 353 *e*Pn Pn 23 40 20.1 -3.6
KIV *e*Pg Pb 23 40 40.0 +3.5
KVAR Kislovodsk Arr 5.17 353 Pn Pn 23 40 24.5 +0.7
baz=40,slow=19,SNR=3.1
SVSK Karacayir 5.22 284 *e*PN Pn 23 40 25.3 +0.9
SVSK Karacayir 5.22 284 *e*Pn Pn 23 40 25.3 +0.9
NDR Nardaran 5.24 68 ⇓P Pn 23 40 24.6 0.0
NDR ⇑S Sn 23 41 26.9 +1.5
NDR Nardaran 5.24 68 P Pn 23 40 24.6 0.0
GALA Gala 5.31 71 ⇑P Pn 23 40 25.5 -0.1
GALA ⇑S Sn 23 41 28.6 +1.4
GALA Gala 5.31 71 P Pn 23 40 25.5 -0.1
KMRS Kahramanmaras 5.43 258 *e*PN Pn 23 40 27.9 +0.6
KMRS Kahramanmaras 5.43 258 *e*Pn Pn 23 40 28.0 +0.6
SARI SarD1z-Kayseri 5.63 268 *e*PN Pn 23 40 30.6 +0.4
TOKA Tokat 5.69 287 *e*Pn Pn 23 40 31.4 +0.5
TOKA Tokat 5.69 287 *e*Pg Pg 23 40 52.3 -2.3
TOKA Tokat 5.69 287 *e*Pn Pn 23 40 31.4 +0.5
TOKA *e*Pg Pg 23 40 52.3 -2.3
BNN Bunyan 6.04 273 *e*PN Pn 23 40 36.3 +0.5
BNN Bunyan 6.04 273 *e*Pn Pn 23 40 36.3 +0.5
BRTR Keskin Array B 7.77 280 Pn Pn 23 41 00.6 +1.1
comp=Z,0.1nm,0.3s,baz=272,slow=30,SNR=2.4
BRTR LR LR 23 44 28.6
comp=Z,248nm,19.5s,baz=92,slow=42
ASF Jabal al Asfar 8.59 221 Pn Pn 23 41 12.0 +1.2
comp=Z,0.4nm,0.3s,baz=164,slow=20,SNR=5.3
ASF Jabal al Asfar 8.59 221 P Pn 23 41 12.0 +1.2
MMAI Mount Meron Ar 8.81 231 Pn Pn 23 41 14.7 +0.9
comp=Z,1.1nm,0.3s,baz=65,slow=14,SNR=5.5
MMAI LR LR 23 44 53.0
comp=Z,420nm,18.0s,baz=45,slow=39
GEYT Alibeck 11.44 90 Pn Pn 23 41 54.8 +5.0
comp=Z,0.3nm,0.3s,baz=294,slow=11,SNR=5.5
EIL Elat 11.59 221 LR LR 23 46 58.3
comp=Z,439nm,18.4s,baz=49,slow=41
PLOR Plostina 14.34 305 ⇓*i*P P 23 42 39.7 +3.1
PLOR Plostina 14.34 305 ⇓*i*P P 23 42 39.7 +3.1
MLR Muntele Rosu 14.67 303 ⇑*i*P P 23 42 51.2 +11
DOPR Dopca 15.20 304 ⇑*i*P P 23 42 48.6 +2.5
DOPR Dopca 15.20 304 ⇑*i*P P 23 42 48.6 +2.5
VOIR 15.24 302 ⇑*i*P P 23 42 44.2 -2.4
VOIR 15.24 302 ⇑P P 23 42 44.2 -2.4
IDI Anoyia 15.34 262 LR LR 23 49 38.5
comp=Z,116nm,19.6s,baz=70,slow=41
RAYN Ar Rayn 15.35 173 *e*Pn Pn 23 42 36.6 -6.4
comp=Z,9.9nm,0.8s
RAYN Ar Rayn 15.35 173 *e*Pn Pn 23 42 36.6 -6.4
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 15.46 37 Pn Pn 23 42 40.8 -3.6
comp=Z,0.1nm,0.3s,baz=221,slow=9.6,SNR=4.5
AKTO LR LR 23 50 10.9
comp=Z,142nm,19.9s,baz=226,slow=43
ARR Arges 15.50 301 ⇓*i*P P 23 42 53.3 +3.9
AKASG Malin Array Be 15.62 324 Pn Pn 23 42 41.8 -4.6
comp=Z,0.5nm,0.3s,baz=134,slow=12,SNR=10
AKASG LR LR 23 49 47.5
comp=Z,100nm,21.0s,baz=115,slow=41
AKASG Malin Array Be 15.62 324 *e*P Pn 23 42 44.0 -2.3
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 15.62 324 *e*P Pn 23 42 43.4 -3.0
KIEV Kiev 15.62 324 *e*Pn Pn 23 42 43.4 -3.0
KIEV Kiev 15.62 324 *e*Pn Pn 23 42 43.4 -3.0
ABKAR Akbulak array 15.68 43 *e*Pn Pn 23 42 46.0 -1.2
comp=Z,2.8nm,0.9s
ABKAR Akbulak array 15.68 43 *e*Pn Pn 23 42 46.0 -1.2
comp=Z,2.9nm,0.9s
VTS Vitosha 15.90 290 ⇑*i*P Pn 23 42 51.3 +1.1
VTS Vitosha 15.90 290 ⇑P Pn 23 42 51.3 +1.1
BURAR Bucovina Array 15.98 309 ⇓*i*P P 23 42 56.8 +1.9
BURAR Bucovina Array 15.98 309 ⇓P P 23 42 56.8 +1.9
BURAR Bucovina Array 15.98 309 ⇓*i*P P 23 42 56.8 +1.9
BUR08 Bucovina Ar. S 16.01 309 *e*Pn P 23 42 55.3 +0.2
BUR08 Bucovina Ar. S 16.01 309 *e*Pn P 23 42 55.3 +0.2
LOT Lotru 16.10 301 ⇑*i*P Pn 23 42 54.3 +1.5
ARCR ARCALIA 16.29 307 ⇑*i*P P 23 43 01.4 +3.2
ARCR ARCALIA 16.29 307 ⇑*i*P P 23 43 01.4 +3.2
GZR Gura Zlata 16.75 300 ⇓*i*P P 23 43 04.2 +0.8
GZR Gura Zlata 16.75 300 ⇓*i*P P 23 43 04.2 +0.8
OBN Obninsk 16.97 346 Pn Pn 23 43 02.3 -1.3
comp=Z,1.8nm,0.3s,baz=257,slow=9.1,SNR=8.1
OBN LR LR 23 50 22.2
comp=Z,62nm,18.8s,baz=94,slow=40
OBN Obninsk 16.97 346 ⇓*e*P Pn 23 43 03.1 -0.5
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,166nm,16.0s
OBN Obninsk 16.97 346 *e*Pn Pn 23 43 03.8 +0.2
comp=Z,49nm,1.2s
OBN Obninsk 16.97 346 *e*Pn Pn 23 43 03.8 +0.2
comp=Z,49nm,1.2s
DRGR 17.23 304 ⇓*i*P P 23 43 12.2 +3.6
DRGR 17.23 304 ⇓P P 23 43 12.2 +3.6
DRGR 17.23 304 P P 23 43 12.2 +3.6
UOSS Minazif 17.48 139 *e*Pn Pn 23 43 08.2 -2.0
comp=Z,16nm,1.2s
UOSS Minazif 17.48 139 *e*Pn Pn 23 43 08.2 -2.0
comp=Z,16nm,1.2s
BZS Buzias 17.60 300 ⇓*i*P P 23 43 13.1 +0.4
BZS Buzias 17.60 300 ⇓P P 23 43 13.1 +0.4
BZS Buzias 17.60 300 P P 23 43 13.1 +0.4
UZH Uzhgorod 18.19 309 *e*P Pn 23 43 16.8 -2.0
KWP Kalwaria Pacla 18.39 313 P P 23 43 22.6 +1.2
KWP pmax pmax
comp=Z,163nm,1.1s
KWP Kalwaria Pacla 18.39 313 P P 23 43 22.6 +1.2
comp=Z,163nm,1.1s
CRVS Cervenica-Dubn 18.80 310 *e*P Pn 23 43 27.1 +0.8
CRVS Cervenica-Dubn 18.80 310 *e*P Pn 23 43 27.1 +0.8
CRVS Cervenica-Dubn 18.80 310 *e*P Pn 23 43 27.1 +0.8
PSZ Piszkesteto 19.41 306 *e*P P 23 43 30.2 -2.5
PSZ pmax pmax
comp=Z,14nm,1.3s
PSZ Piszkesteto 19.41 306 *e*P P 23 43 30.1 -2.5
comp=Z,14nm,1.3s
DZET Dzherino 19.66 82 P Pn 23 43 37.4 +0.6
DZET pmax pmax
comp=Z,6.0nm,0.8s
NIE Niedzica 19.71 310 P Pn 23 43 39.2 +1.9
NIE pmax pmax
comp=Z,6.0nm,1.2s
NIE Niedzica 19.71 310 P Pn 23 43 39.2 +1.9
comp=Z,6.0nm,1.2s
WSAR Wadi Sarin 20.15 136 P P 23 43 39.9 -0.9
comp=Z,5.1nm,0.8s,baz=341,slow=11,SNR=5.4
WSAR LR LR 23 51 34.6
comp=Z,94nm,19.4s,baz=326,slow=37
ARU Arti 20.22 25 P P 23 43 39.7 -1.6
comp=Z,5.0nm,0.8s,baz=218,slow=7.1,SNR=7.5
ARU LR LR 23 53 34.2
comp=Z,120nm,19.9s,baz=207,slow=43
ARU Arti 20.22 25*d* *i*P P 23 43 40.0 -1.3
ARU S S 23 47 26.1 -2.3
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 20.22 25 *e*P P 23 43 39.8 -1.5
comp=Z,25nm,1.3s
ARU Arti 20.22 25 *e*P P 23 43 39.8 -1.5
comp=Z,25nm,1.3s
VYHS Vyhne 20.27 306 *e*P Pn 23 43 44.4 +0.5
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 20.27 306 *e*P Pn 23 43 44.4 +0.5
comp=Z,8.0nm,1.5s
VYHS Vyhne 20.27 306 *e*P Pn 23 43 44.4 +0.5
SUW Suwalki 20.59 324 P Pn 23 43 47.2 -0.3
SUW pmax pmax
comp=Z,63nm,0.9s
SUW Suwalki 20.59 324 P Pn 23 43 47.2 -0.3
comp=Z,63nm,0.9s
KKAR Karatay Array 20.74 69 *e*P P 23 43 48.0 +0.9
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 20.74 69 *e*P P 23 43 48.0 +0.9
comp=Z,6.2nm,0.8s
KKAR Karatay Array 20.74 69 *e*P P 23 43 48.0 +0.9
comp=Z,6.2nm,0.8s
OKC Ostrava-Krasne 21.16 310 *e*P P 23 43 57.0 +5.4
OKC Ostrava-Krasne 21.16 310 *e*P P 23 43 57.0 +5.4
SVE Sverdlovsk 21.23 26 *e*P P 23 43 55.1 +2.9
SVE pmax pmax
comp=Z,21nm,1.2s
SVE Sverdlovsk 21.23 26 *e*P P 23 43 55.1 +2.9
comp=Z,21nm,1.2s
CUC Castrocucco 21.46 282 *e*P P 23 43 58.4 +3.5
comp=Z,5.2nm,0.8s
CUC Castrocucco 21.46 282 *e*P P 23 43 58.4 +3.5
comp=Z,5.2nm,0.8s
SOP Sopron 21.50 303 P P 23 44 01.0 +5.8
SOP pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 21.50 309 *e*P P 23 43 57.6 +2.3
MORC pmax pmax
comp=Z,10.0nm,0.7s
MORC Moravsky Berou 21.50 309 *e*P P 23 43 57.6 +2.3
comp=Z,9.9nm,0.7s
MORC Moravsky Berou 21.50 309 *e*P P 23 43 57.6 +2.3
comp=Z,9.9nm,0.7s
VRAC Vranov 21.93 307 P P 23 44 00.2 +0.4
comp=Z,1.8nm,0.4s,baz=114,slow=9.1,SNR=3.7
VRAC LR LR 23 54 38.6
comp=Z,36nm,20.2s,baz=124,slow=43
CONA Conrad Observa 22.01 303 *i* pP pP 23 44 02.3 +0.3
comp=Z,7.6nm,1.1s
CONA Conrad Observa 22.01 303 P pP 23 44 02.3 +0.3
comp=Z,7.6nm,1.1s
MNAS Manas 22.19 71 P P 23 44 02.6 -0.3
MNAS pmax pmax
comp=Z,5.0nm,1.4s
MNAS Manas 22.19 71 P P 23 44 02.6 -0.3
comp=Z,5.0nm,1.4s
KLMR Klimovskoe 22.20 355 *e*P P 23 44 01.4 -1.2
KLMR pmax pmax
comp=Z,37nm,1.1s
DPC Dobruska-Polom 22.44 310 *e*P P 23 44 09.8 +4.4
DPC *e*x x 23 44 14.7
DPC *e*x x 23 44 20.8
DPC Dobruska-Polom 22.44 310 *e*P P 23 44 09.8 +4.4
DPC *e* 23 44 14.7
VSU Vasula 22.46 336 ⇑*i*P P 23 44 04.5 -0.9
VSU pmax pmax
comp=Z,24nm,1.0s
TREC Trest 22.62 307 P P 23 44 11.8 +4.6
TREC pmax pmax
comp=Z,8.0nm,1.4s
VAE Valguarnera 22.94 276 LR LR 23 53 55.1
comp=Z,53nm,20.8s,baz=194,slow=39
MOA Molln 23.04 303 *i* P P 23 44 13.1 +1.5
comp=Z,8.8nm,1.2s
MOA Molln 23.04 303 P P 23 44 13.1 +1.5
comp=Z,8.8nm,1.2s
BRVK Borovoye 23.21 43 ⇑*i*P P 23 44 16.7 +3.3
BRVK pmax pmax
comp=Z,24nm,2.5s
BRVK Borovoye 23.21 43 *e*P P 23 44 13.4 +0.1
comp=Z,7.6nm,1.0s
BRVK Borovoye 23.21 43 *e*P P 23 44 13.4 +0.1
comp=Z,7.6nm,1.0s
BVAR Borovoye Array 23.25 44 P P 23 44 12.6 -1.2
comp=Z,1.1nm,0.7s,baz=224,slow=8.3,SNR=8.5
PRU Pruhonice 23.41 308 *e*P P 23 44 19.3 +3.9
PRU *e*x x 23 44 26.6
PRU Pruhonice 23.41 308 *e*P P 23 44 19.3 +3.9
PRU *e* 23 44 26.6
PRU Pruhonice 23.41 308 P P 23 44 19.3 +3.9
KBA Koelnbreinsper 23.51 300 *i* P P 23 44 19.0 +2.4
comp=Z,10nm,1.4s
KBA Koelnbreinsper 23.51 300 P P 23 44 19.0 +2.4
comp=Z,10nm,1.4s
GEC2 GERESS Array S 23.63 305 *e*P P 23 44 20.8 +3.1
GEC2 pmax pmax
comp=Z,24nm,1.8s
GEC2 GERESS Array S 23.63 305 *e*P P 23 44 20.8 +3.1
comp=Z,24nm,1.8s
GEC2 GERESS Array S 23.63 305 *e*P P 23 44 20.8 +3.1
comp=Z,24nm,1.8s
GERES GERESS Array B 23.63 305 P P 23 44 16.8 -0.9
comp=Z,1.3nm,0.8s,baz=119,slow=11,SNR=9.7
GERES LR LR 23 54 07.1
comp=Z,36nm,18.5s,baz=89,slow=38
GERES GERESS Array B 23.63 305 *e*P P 23 44 20.0 +2.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 23.66 71 P P 23 44 16.1 -2.0
comp=Z,1.7nm,0.8s,baz=257,slow=14,SNR=7.4
AAK LR LR 23 55 41.5
comp=Z,64nm,21.1s,baz=252,slow=42
AAK Ala-Archa 23.66 71 ⇑*i*P P 23 44 20.6 +2.5
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 23.66 71 *e*P P 23 44 17.8 -0.4
comp=Z,12nm,1.5s
AAK Ala-Archa 23.66 71 *e*P P 23 44 17.8 -0.4
comp=Z,12nm,1.5s
FRU Bishkek 23.75 70 *e*P P 23 44 18.0 -0.8
FRU *e* 23 44 25.0
FRU pmax pmax
comp=Z,40nm,1.4s
KHC Kasperske Hory 23.78 305 *e*P P 23 44 21.5 +2.4
KHC *e*x x 23 44 26.9
KHC Kasperske Hory 23.78 305 *e*P P 23 44 21.5 +2.4
KHC pmax pmax
comp=Z,7.0nm,1.5s
KHC Kasperske Hory 23.78 305 P P 23 44 21.5 +2.4
KHC Kasperske Hory 23.78 305 *e*P P 23 44 21.5 +2.4
comp=Z,7.2nm,1.5s
WET Wettzell 24.23 305 P P 23 44 25.6 +2.3
WET pmax pmax
comp=Z,11nm,1.4s
WTTA Wattenberg 24.69 300 *i* P P 23 44 30.3 +2.6
WTTA Wattenberg 24.69 300 P P 23 44 30.3 +2.6
CLL Collm 24.75 310 *e*P P 23 44 31.0 +3.0
CLL *e* 23 44 34.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 24.75 310 *e*P P 23 44 27.0 -1.0
CLL *e*(sP) P 23 44 31.0 +3.0
comp=Z,5.0nm,0.9s
CLL *e* 23 44 34.0
NKC Novy Kostel 24.77 308 *e*P P 23 44 26.9 -1.3
NKC *e*pP pP 23 44 29.8 +0.3
NKC Novy Kostel 24.77 308 *e*P P 23 44 26.9 -1.3
NKC *e* 23 44 29.8
NKC Novy Kostel 24.77 308 P P 23 44 26.9 -1.3
SQTA Sankt Quirin 24.97 300 *i* P P 23 44 29.4 -0.8
comp=Z,0.1nm,1.0s
SQTA Sankt Quirin 24.97 300 P P 23 44 29.4 -0.8
comp=Z,0.1nm,1.0s
KSH Kashi 25.05 78 *e*P P 23 44 31.8 +0.8
KSH sP sP 23 44 38.0 +5.3
KSH PP **PnPn** 23 45 08.3 +4.3
KSH *e*PcP **PcP** 23 48 09.5 +3.9
KSH S **S** 23 48 53.0 -2.8
KSH SS **SnSn** 23 49 49.5 +5.4
KSH PcS **PcS** 23 51 48.8 +2.8
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,200nm,5.5s
KSH LR LR
comp=N,180nm,7.0s
KSH LR LR
comp=E,180nm,7.4s
KSH LR LR
comp=Z,130nm,10.3s
MOTA Moosalm 25.06 300 *i* pP P 23 44 29.3 -1.7
comp=Z,9.1nm,0.9s
GRB1 Grafenberg Arr 25.07 305 P P 23 44 33.7 +2.8
GRB1 pmax pmax
comp=Z,39nm,0.9s
FINES FINESS Array B 25.10 340 P P 23 44 30.3 -0.8
comp=Z,2.4nm,0.9s,baz=93,slow=8.0,SNR=3.0
FINES LR LR 23 55 12.2
comp=Z,128nm,18.4s,baz=160,slow=39
JOF Joensuu 25.24 347 P P 23 44 36.8 +4.5
JOF pmax pmax
comp=Z,22nm,1.8s
FETA Feichten 25.27 300 *i* P P 23 44 34.3 +1.4
comp=Z,11nm,1.8s
FETA Feichten 25.27 300 P P 23 44 34.3 +1.4
comp=Z,11nm,1.8s

RETA	**Reutte**	**25.31**	**301**	*i* pP	**P**	**23 44 31.6**	**-1.6**
RETA	**Reutte**	**25.31**	**301**	P	**P**	**23 44 31.6**	**-1.6**
GRFO	**Grafenberg**	**25.41**	**306**	*e*P	**P**	**23 44 31.3**	**-2.7**
GRFO				pmax	pmax		
	comp=Z,11nm,0.9s						
GRFO	**Grafenberg**	**25.41**	**306**	*e*P	**P**	**23 44 31.3**	**-2.7**
	comp=Z,12nm,0.9s						
DAVOX	**Davos/Dischmat**	**25.82**	**299**	P	**P**	**23 44 38.1**	**+0.1**
	comp=Z,9nm,0.8s,baz=351,slow=21,SNR=4.1						
DAVOX				LR	LR	23 55 54.4	
	comp=Z,52nm,20.6s,baz=87,slow=39						
DAVOX	**Davos/Dischmat**	**25.82**	**299**	P	**P**	**23 44 38.1**	**+0.1**
DAVOX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAVOX				MLR	MLR		
	comp=Z,52nm,20.6s						
KURBB	**Kurchatov Arra**	**27.23**	**53**	P	**P**	**23 44 49.4**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=263,slow=8.8,SNR=10						
KURK	**Kurchatov**	**27.30**	**53**	*i* P	**P**	**23 44 52.1**	**+1.0**
KURK				*e*SP	**sP**	**23 44 55.7**	**+2.9**
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
KURK	**Kurchatov**	**27.30**	**53**	*e*P	**P**	**23 44 50.2**	**-0.9**
	comp=Z,6.4nm,1.0s						
KURK	**Kurchatov**	**27.30**	**53**	*e*P	**P**	**23 44 50.2**	**-0.9**
	comp=Z,6.4nm,1.0s						
KEST	**Kesra**	**27.33**	**274**	LR	LR	23 57 30.9	
	comp=Z,79nm,21.0s,baz=289,slow=40						
HFS	**Hagfors**	**28.42**	**328**	LR	LR	23 57 41.0	
	comp=Z,53nm,18.4s,baz=104,slow=39						
MK31	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 10.0**	**+1.5**
MK31	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 10.0**	**+1.5**
MK31	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 10.0**	**+1.5**
MKAR	**Makanchi Array**	**29.25**	**62**	P	**P**	**23 45 06.7**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=262,slow=6.9,SNR=7.2						
MKAR	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 09.9**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 10.0**	**+1.4**
	comp=Z,13nm,1.0s						
MKAR	**Makanchi Array**	**29.25**	**62**	*e*P	**P**	**23 45 10.0**	**+1.4**
	comp=Z,13nm,1.0s						
NOA	**NORSAR Array B**	**29.94**	**329**	LR	LR	23 58 14.9	
	comp=Z,48nm,21.5s,baz=130,slow=38						
ZALV	**Zalesovo Beam**	**31.69**	**48**	P	**P**	**23 45 28.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=274,slow=8.5,SNR=5.6						
ZALV				LR	LR	00 00 08.7	
	comp=Z,66nm,21.6s,baz=252,slow=40						
ARCES	**ARCESS Array B**	**32.26**	**348**	LR	LR	23 59 19.2	
	comp=Z,78nm,21.3s,baz=150,slow=38						
WMQ	**Urumqi**	**33.20**	**67**	P	**P**	**23 45 45.3**	**+1.9**
WMQ				pP	sP	23 45 49.5	+4.4
WMQ				sP	pP	23 45 52.8	+8.2
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.9s						
WMQ				LR	LR		
	comp=N,47nm,18.9s						
WMQ				LR	LR		
	comp=E,43nm,24.1s						
WMQ				LR	LR		
	comp=Z,41nm,25.3s						
TAM	**Tamanrasset**	**36.10**	**255**	*e*P	**P**	**23 46 08.6**	**-0.1**
TAM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TAM	**Tamanrasset**	**36.10**	**255**	*e*P	**P**	**23 46 08.6**	**-0.1**
	comp=Z,1.2nm,0.6s						
TAM	**Tamanrasset**	**36.10**	**255**	*e*P	**P**	**23 46 08.6**	**-0.1**
	comp=Z,1.2nm,0.6s						
ESDC	**Sonseca Array**	**36.49**	**287**	P	**P**	**23 46 09.2**	**-2.7**
	comp=Z,2.4nm,0.8s,baz=66,slow=8.6,SNR=9.1						
NRIK	**Noril'sk**	**38.44**	**23**	P	**P**	**23 46 28.8**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=229,slow=5.8,SNR=4.2						
NRIK				LR	LR	00 06 21.7	
	comp=Z,123nm,18.5s,baz=213,slow=43						
NRIK	**Noril'sk**	**38.44**	**23**	P	**P**	**23 46 28.8**	**+0.9**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NRIK				MLR	MLR		
	comp=Z,123nm,18.5s						
GTA	**Gaotai**	**43.01**	**71**	*e*P	**P**	**23 47 09.8**	**+3.6**
GTA				pP	sP	23 47 14.5	+6.5
GTA				sP	pP	23 47 16.8	+9.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**44.97**	**247**	P	**P**	**23 47 20.1**	**-1.8**
	comp=Z,1.9nm,1.0s,baz=62,slow=4.4,SNR=8.0						
SONM	**Songino Array**	**45.42**	**57**	LR	LR	00 08 31.1	
	comp=Z,103nm,18.3s,baz=284,slow=39						
ULN	**Ulaanbaatar**	**45.84**	**57**	*i* P	**P**	**23 47 30.9**	**+2.1**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ULN	**Ulaanbaatar**	**45.84**	**57**	*e*P	**P**	**23 47 30.6**	**+1.8**
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**45.84**	**57**	*e*P	**P**	**23 47 30.6**	**+1.8**
	comp=Z,5.0nm,1.0s						
LZH	**Lanzhou**	**47.15**	**74**	*e*P	**P**	**23 47 35.0**	**-4.2**
LZH				pP	pP	23 47 36.8	-3.7
LZH				sP	sP	23 47 38.5	-2.5
LZH				*e*PP	**PP**	**23 49 25.3**	**-4.5**
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,52nm,6.3s						
LZH				LR	LR		
	comp=N,120nm,14.9s						
LZH				LR	LR		
	comp=E,120nm,14.8s						
LZH				LR	LR		
	comp=Z,160nm,18.2s						
HHC	**Hu-ho-hao-te**	**51.02**	**65**	*e*P	**P**	**23 48 10.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
CMAR	**Chiang Mai Arr**	**51.83**	**97**	P	**P**	**23 48 11.6**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=292,slow=7.6,SNR=5.9						
CMAR				LR	LR	00 14 46.9	
	comp=Z,21nm,21.4s,baz=270,slow=41						
CMAR	**Chiang Mai Arr**	**51.83**	**97**	*e*P	**P**	**23 48 14.4**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	**Tiksi**	**52.22**	**24**	*ce*P	**P**	**23 48 19.4**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SEY	**Seymchan**	**63.89**	**29**	*ce*P	**P**	**23 49 42.0**	**+3.0**
KSAR	**Wonju Array Be**	**63.91**	**62**	P	**P**	**23 49 41.0**	**+1.4**
KSAR	**Wonju Array Be**	**63.91**	**62**	P	**P**	**23 49 41.0**	**+1.4**
KSAR	**Wonju Array Be**	**63.91**	**62**	P	**P**	**23 49 41.0**	**+1.4**
KSRS	**Korea Array**	**63.93**	**62**	P	**P**	**23 49 41.0**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=274,slow=6.5,SNR=4.8						
KSRS	**Korea Array**	**63.93**	**62**	P	**P**	**23 49 41.0**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOSA	**Boshof**	**69.24**	**197**	P	**P**	**23 50 12.5**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=358,slow=8.7,SNR=3.8						
BOSA				LR	LR	00 22 44.0	
	comp=Z,48nm,20.6s,baz=1.5,slow=38						
PETK	**Petropavlovsk-**	**72.19**	**35**	LR	LR	00 25 44.3	
	comp=Z,36nm,19.0s,baz=329,slow=39						
ILAR	**Eielson Array**	**76.41**	**5**	LR	LR	00 27 41.5	
	comp=Z,32nm,18.8s,baz=182,slow=38						
ULM	**Lac du Bonnet**	**84.39**	**335**	LR	LR	00 31 57.6	
	comp=Z,25nm,18.4s,baz=198,slow=38						

DDA ***25*** *23:49:48.8, 38.°74N×43.°28E, h5km, Ml3.4*
ISK ***25*** *23:49:48.1, 38.°78N×43.°30E, h3km, ML3.2*
CSEM ***25*** *23:49:49.0±0.3, 38.°78N×43.°34E, h2km, ML3.2, Error ellipse: s-maj=7.5km s-min=3.7km az=67.0*
ISC 25 23:49:50.0±0.9, 38.77N±0.°02×43.28E±0.°03, h12km±7km, n50, σ1.9±30/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**153**	*e*PG	**Pg**	**23 49 54.3**	**0.0**
VANB				*e*SG	**Sg**	**23 49 58.5**	**+1.2**
VANB	**Van**	**0.19**	**153**	*e*Pg	**Pg**	**23 49 54.3**	**0.0**
VANB				*e*Sg	**Sg**	**23 49 58.5**	**+1.2**
GEVA	**Gevas**	**0.48**	**201**	*i* P	**Pg**	**23 49 58.2**	**-1.4**
GEVA				*i* S	**Sg**	**23 50 05.9**	**-0.2**
GEVA	**Gevas**	**0.48**	**201**	P	**Pg**	**23 49 58.2**	**-1.4**
GEVA				S	**Sg**	**23 50 05.9**	**-0.2**
TUTA	**Tutak**	**0.73**	**330**	*i* P	**Pg**	**23 50 03.2**	**-1.1**
TUTA				*i* S	**Sg**	**23 50 12.9**	**-1.1**
TUTA	**Tutak**	**0.73**	**330**	P	**Pg**	**23 50 03.2**	**-1.1**
TUTA				S	**Sg**	**23 50 12.9**	**-1.1**
AGRB	**Hanur-Agry**	**0.84**	**345**	*e*PG	**Pg**	**23 50 04.3**	**-2.0**
AGRB				*e*SG	**Sb**	**23 50 17.1**	**-0.9**
AGRB	**Hanur-Agry**	**0.84**	**345**	*e*Pg	**Pg**	**23 50 04.3**	**-2.0**
AGRB				*e*Sg	**Sb**	**23 50 17.1**	**-0.9**
BASK	**Baskale_VAN**	**0.91**	**141**	*i* P	**Pg**	**23 50 05.6**	**-2.1**
BASK				*i* S	**Sb**	**23 50 19.7**	**-0.3**
BASK	**Baskale_VAN**	**0.91**	**141**	P	**Pg**	**23 50 05.6**	**-2.1**
BASK				S	**Sb**	**23 50 19.7**	**-0.3**
EKAR	**Karacoban**	**1.07**	**298**	*i* P	**Pn**	**23 50 11.5**	**+0.5**
EKAR				*i* S	**Sn**	**23 50 26.6**	**+0.7**
EKAR	**Karacoban**	**1.07**	**298**	P	**Pn**	**23 50 11.5**	**+0.5**
EKAR				S	**Sn**	**23 50 26.6**	**+0.7**
HAKT	**HAKKARI**	**1.25**	**164**	*i* P	**Pg**	**23 50 11.3**	**-2.8**
HAKT				*i* S	**Sn**	**23 50 30.7**	**+0.3**
HAKT	**HAKKARI**	**1.25**	**164**	P	**Pg**	**23 50 11.3**	**-2.8**
HAKT				S	**Sn**	**23 50 30.7**	**+0.3**
EATA	**Eleskirt**	**1.25**	**331**	*i* P	**Pg**	**23 50 13.0**	**-1.2**
EATA				*i* S	**Sn**	**23 50 31.1**	**+0.5**
EATA	**Eleskirt**	**1.25**	**331**	P	**Pg**	**23 50 13.0**	**-1.2**
EATA				S	**Sn**	**23 50 31.1**	**+0.5**
SIRN	**S¨–rnak**	**1.44**	**209**	*i* P	**Pg**	**23 50 17.1**	**-0.6**
SIRN				*i* S	**Sn**	**23 50 36.6**	**+1.8**
SIRN	**S¨–rnak**	**1.44**	**209**	P	**Pg**	**23 50 17.1**	**-0.6**
SIRN				S	**Sn**	**23 50 36.6**	**+1.8**
VRTB	**Varto-Mus**	**1.48**	**286**	*e*PN	**Pn**	**23 50 16.8**	**+0.2**
VRTB				*e*SN	**Sn**	**23 50 36.9**	**+1.0**
VRTB	**Varto-Mus**	**1.48**	**286**	*i* P	**Pg**	**23 50 17.4**	**-1.0**
VRTB				*i* S	**Sn**	**23 50 39.8**	**+3.9**
VRTB	**Varto-Mus**	**1.48**	**286**	*e*Pn	**Pn**	**23 50 16.8**	**+0.2**
VRTB	**Varto-Mus**	**1.48**	**286**	P	**Pg**	**23 50 17.4**	**-1.0**
VRTB				*e*Sn	**Sn**	**23 50 36.9**	**+1.0**
VRTB				S	**Sn**	**23 50 39.8**	**+3.9**
CUKT	**Cukurca**	**1.54**	**170**	*e*PN	**Pb**	**23 50 18.0**	**-0.5**
CUKT				*e*SN	**Sg**	**23 50 38.7**	**-0.8**
CUKT	**Cukurca**	**1.54**	**170**	*i* P	**Pg**	**23 50 19.0**	**-0.6**
CUKT				*i* S	**Sg**	**23 50 42.0**	**+2.5**
CUKT	**Cukurca**	**1.54**	**170**	*e*Pn	**Pb**	**23 50 18.0**	**-0.5**
CUKT	**Cukurca**	**1.54**	**170**	P	**Pg**	**23 50 19.0**	**-0.6**
CUKT				*e*Sn	**Sg**	**23 50 38.7**	**-0.8**
CUKT				S	**Sg**	**23 50 42.0**	**+2.5**
DIGO	**Kars**	**1.65**	**2**	*i* P	**Pg**	**23 50 20.4**	**-1.3**
DIGO				*i* S	**Sg**	**23 50 46.3**	**+3.2**
DIGO	**Kars**	**1.65**	**2**	P	**Pg**	**23 50 20.4**	**-1.3**
HOMI	**Horasan**	**1.66**	**321**	*i* P	**Pg**	**23 50 21.0**	**-1.0**
HOMI				*i* S	**Sg**	**23 50 45.1**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.75**	**250**	*e*PN	**Pn**	**23 50 19.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.75**	**250**	*i* P	**Pb**	**23 50 21.4**	**-0.6**
SVAN				*i* S	**Sg**	**23 50 45.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.75**	**250**	*e*Pn	**Pn**	**23 50 19.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.75**	**250**	P	**Pb**	**23 50 21.4**	**-0.6**
SVAN				S	**Sg**	**23 50 45.8**	**-0.4**
BTMN	**Batman**	**1.81**	**242**	*i* P	**Pn**	**23 50 21.7**	**+0.7**
BTMN				*i* S	**Sg**	**23 50 47.8**	**-0.3**
BTMN	**Batman**	**1.81**	**242**	P	**Pn**	**23 50 21.7**	**+0.7**
BTMN				S	**Sg**	**23 50 47.8**	**-0.3**
ERZM	**Erzurum**	**1.87**	**308**	*i* P	**Pb**	**23 50 24.2**	**-0.1**
ERZM	**Erzurum**	**1.87**	**308**	P	**Pb**	**23 50 24.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.93**	**338**	*e*PN	**Pn**	**23 50 22.9**	**0.0**
SENK	**Senkaya-Erzuru**	**1.93**	**338**	*e*Pn	**Pn**	**23 50 22.9**	**0.0**
EAK	**Akyaka**	**1.94**	**7**	*i* P	**Pg**	**23 50 27.6**	**+0.4**
ECAT	**Cat-ERZURUM**	**1.98**	**296**	*i* P	**Pb**	**23 50 26.1**	**0.0**
ECAT	**Cat-ERZURUM**	**1.98**	**296**	P	**Pb**	**23 50 26.1**	**0.0**
BNGB	**Bing¶ll**	**2.04**	**277**	*e*PN	**Pn**	**23 50 25.3**	**+1.0**
BINT	**Bingol**	**2.18**	**274**	*e*Pn	**Pn**	**23 50 25.3**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.23**	**288**	*e*PN	**Pn**	**23 50 26.8**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.23**	**288**	*e*Pn	**Pn**	**23 50 26.8**	**-0.1**
MAZI	**Mazidag**	**2.59**	**241**	*e*PN	**Pn**	**23 50 32.6**	**+0.8**
MAZI	**Mazidag**	**2.59**	**241**	*e*Pn	**Pn**	**23 50 32.6**	**+0.8**
PTK	**Pertek**	**3.04**	**274**	*e*PN	**Pn**	**23 50 38.7**	**+0.6**
PTK	**Pertek**	**3.04**	**274**	*e*Pn	**Pn**	**23 50 38.7**	**+0.6**

CSEM ***25*** *23:57:01.4, 37.°15N×22.°05E, h5km, ML0.6/1*
ATH 25 23:57:01.4, 37.°15N×22.°05E, h5km±2km, ML0.6/1, Error ellipse: s-maj=3.2km s-min=1.1km az=98.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**285**	P	Pg	23 57 02.8	-0.7
ITM				S	Sg	23 57 04.7	-0.3
ITM				AML	AML	23 57 05.0	
	comp=E,93μm,0.3s						
ITM				AML	AML	23 57 05.0	
	comp=N,161μm,0.2s						
ITM	**Ithomi**	**0.10**	**285**	P	Pg	23 57 02.8	-0.7
ITM				S	Sg	23 57 04.7	-0.3
PYL	**PYLOS**	**0.35**	**223**	P	Pg	23 57 08.0	-0.3
PYL				S	Sg	23 57 14.2	+1.3
PYL	**PYLOS**	**0.35**	**223**	P	Pg	23 57 08.0	-0.3
PYL				S	Sg	23 57 14.2	+1.3
MES2	**Methoni**	**0.43**	**220**	P	Pg	23 57 09.2	-0.4
AMT	**Artemida-Makis**	**0.46**	**325**	P	Pg	23 57 09.7	-0.6
AMT				S	Sb	23 57 17.9	-1.4
AMT	**Artemida-Makis**	**0.46**	**325**	P	Pg	23 57 09.7	-0.7
AMT				S	Sb	23 57 17.9	-1.4

ISCJB ***26*** *00:13:20.3±0.3, 26.°97S×0.°06×176.°63W±0.°06, h35km, mb4.7/48, MS4.3/16, Error ellipse: s-maj=9.0km s-min=6.8km az=140.0*
BJI ***26*** *00:13:22.2, 26.°86S×176.°90W, h37km, mb5.2/19, mB5.3/6, Ms5.2/12, Ms7 5.0/12*
GCMT ***26*** *00:13:23.1±0.3, 26.°73S×175.°88W, h24km, MW5.0/73, Moment Tensor Solution. s36,c44; s73,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.22±.22; Mθθ-0.50±.15; Mφφ-3.72±.14; Mrθ0.07±.24; Mrφ-0.55±.10; Mθφ1.56±.17; Best double couple: M0 4.30700×10^16 NP1:φs7.00000°, δ56.00000°, λ88.00000°. NP2: φs191.00000°, δ34.00000°, λ93.00000°. Principal axes: T 4.5160, Plg79.0000°, Azm268.0000°; N -0.4160, Plg2.0000°, Azm8.0000°; P -4.0990, Plg11.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *00:13:23.1±2.0, 26.°85S×176.°65W, h50km±18km, mb4.8/31 Error ellipse: s-maj=14.2km s-min=10.3km az=177.0*
IDC ***26*** *00:13:25.2±3.1, 27.°09S×176.°53W, h79km±27km, mb4.1/17, mb1 4.3/20, mb1mx4.2/30, mbtmp4.4/20, MS4.2/17, Ms1 4.2/17, ms1mx4.0/37, Error ellipse: s-maj=20.8km s-min=17.0km az=43.0*
ISC 26 00:13:21.2±0.4, 26.°92S±0.°06×176.°41W±0.°08, h35km, n98, σ2.00/96, mb4.7/48, MS4.3/17, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**209**	P	**Pn**	**00 14 03.3**	**+1.5**
	355nm,0.3s,baz=25,slow=17,SNR=26						
RAO				S	**Sn**	**00 14 38.4**	**+5.5**
	384nm,0.3s,baz=78,slow=21,SNR=7.9						
RAO	**Raoul Island**	**2.67**	**209**	*e*Pn	**Pn**	**00 14 03.5**	**+1.7**
RAO				*e*Sn	**Sn**	**00 14 31.1**	**-1.8**
RAO				S	**Sn**	**00 14 38.4**	**+5.5**
MSVF	**Nonsavu**	**10.48**	**330**	*e*Pn	**Pn**	**00 15 49.5**	**+0.4**
URZ	**Urewera**	**12.55**	**204**	P	**Pn**	**00 16 17.3**	**+0.1**
	0.8nm,0.3s,baz=8.7,slow=13,SNR=3.3						
URZ				S	**Sn**	**00 18 32.4**	**-3.3**
	2.7nm,0.3s,baz=90,slow=22,SNR=9.8						
AFI	**Afiamalu**	**13.66**	**19**	P	Pn	00 16 23.5	-9.0
	2.5nm,0.3s,baz=238,slow=22,SNR=3.0						
RAR	**Rarotonga**	**16.22**	**73**	P	Pn	00 16 55.9	-11
	1.3nm,0.3s,baz=279,slow=8.6,SNR=4.0						
RAR				LR	LR	00 22 08.7	
	comp=Z,627nm,20.7s,baz=256,slow=32						
DZM	**Mont Dzumac**	**16.33**	**284**	P	**P**	**00 17 09.8**	**-0.8**
	0.1nm,0.3s,baz=99,slow=13,SNR=6.7						
DZM				LR	LR	00 22 22.7	
	comp=Z,2μm,19.0s,baz=184,slow=33						
DZM	**Mont Dzumac**	**16.33**	**284**	*e*Pn	**Pn**	**00 17 04.9**	**-3.1**
	63nm,1.3s						
RPZ	**Rata Peaks**	**19.59**	**208**	LR	LR	00 25 37.7	
	comp=Z,457nm,19.7s,baz=18,slow=38						
TBI	**Tubuai**	**24.64**	**88**	*e*LQ	LQ	00 23 11.0	
	406nm,26.8s						
TBI				*e*LR	LR	00 24 26.7	
	1μm,29.2s,baz=255						
TBI	**Tubuai**	**24.64**	**88**	*e*T	T	00 43 31.3	
	8.5nm,0.3s						

PAE	**Paea**	**26.44**	**75**	*e*T	T	00 45 33.2	
	4.6nm,0.3s						
PPT2	**Papeete2**	**26.47**	**75**	*e*LQ	LQ	00 23 55.5	
	854nm,24.0s						
PPT2				*e*LR	LR	00 25 13.0	
	1μm,28.0s,baz=250						
PPT	**Papeete**	**26.48**	**75**	LR	LR	00 26 20.8	
	comp=Z,356nm,19.5s,baz=224,slow=29						
HNR	**Honiara**	**28.32**	**303**	LR	LR	00 29 10.9	
	comp=Z,714nm,18.6s,baz=156,slow=33						
EIDS	**Eidsvold**	**29.18**	**266**	*e*P	**P**	**00 19 19.9**	**+0.5**
	10nm,1.0s						
VAH	**Vaihoa**	**29.20**	**72**	*e*T	T	00 49 28.7	
	8.7nm,0.3s						
CTA	**Charters Tower**	**34.81**	**273**	P	**P**	**00 20 08.2**	**-0.7**
	2.6nm,0.3s,baz=90,slow=8.2,SNR=6.6						
CTAO	**Charters Tower**	**34.81**	**273**	*e*P	**P**	**00 20 08.4**	**-0.5**
	26nm,0.6s						
STKA	**Stephens Creek**	**36.75**	**252**	P	**P**	**00 20 22.9**	**-2.5**
	1.7nm,0.8s,baz=86,slow=5.8,SNR=2.6						
STKA				LR	LR	00 34 35.0	
	comp=Z,1μm,18.1s,baz=68,slow=35						
PMG	**Port Moresby**	**38.56**	**290**	P	**P**	**00 20 40.6**	**-0.3**
	5.4nm,0.4s,baz=84,slow=10,SNR=2.9						
PMG				LR	LR	00 34 39.4	
	comp=Z,658nm,18.8s,baz=134,slow=33						
PMG	**Port Moresby**	**38.56**	**290**	*e*P	**P**	**00 20 39.7**	**-1.1**
	16nm,0.9s						
TAOE	**Nuku Hiva Isla**	**38.71**	**69**	*e*LR	LR	00 30 50.3	
	535nm,28.1s						
COEN	**Coen**	**39.83**	**281**	*e*P	**P**	**00 20 50.8**	**-0.7**
	16nm,1.2s						
BBOO	**Buckleboo**	**41.36**	**250**	*e*P	**P**	**00 21 03.0**	**-1.0**
	16nm,1.2s						
AS31	**Alice Springs**	**44.81**	**263**	*e*P	**P**	**00 21 30.9**	**-1.2**
	2.6nm,1.1s						
ASAR	**Alice Springs**	**44.81**	**263**	P	**P**	**00 21 30.7**	**-1.3**
	4.1nm,0.7s,baz=109,slow=7.9,SNR=27						
ASAR				LR	LR	00 39 33.1	
	comp=Z,592nm,18.3s,baz=112,slow=35						
WB2	**Warramunga Arr**	**45.48**	**268**	*e*P	**P**	**00 21 36.6**	**-0.8**
	9.5nm,0.8s						
WRAB	**Tennant Creek**	**45.48**	**268**	*e*P	**P**	**00 21 36.1**	**-1.2**
	18nm,1.1s						
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**00 21 35.6**	**-1.8**
	7.7nm,0.7s,baz=105,slow=7.9,SNR=27						
WRA				LR	LR	00 40 56.2	
	comp=Z,337nm,18.1s,baz=135,slow=36						
SBA	**Scott Base**	**51.60**	**184**	*e*P	**P**	**00 22 26.8**	**+3.2**
	21nm,1.0s						
VNDA	**Vanda**	**51.68**	**186**	P	**P**	**00 22 23.1**	**-1.1**
	2.7nm,1.0s,baz=4.7,slow=8.9,SNR=6.7						
VNDA				LR	LR	00 40 31.5	
	comp=Z,190nm,20.7s,baz=19,slow=32						
VNDA	**Vanda**	**51.68**	**186**	*e*P	**P**	**00 22 26.4**	**+2.2**
	20nm,1.7s						
FITZ	**Fitzroy Crossi**	**53.86**	**267**	*e*P	**P**	**00 22 42.0**	**+0.9**
QSPA	**South Pole Qui**	**63.17**	**180**	*e*P	**P**	**00 23 45.9**	**+0.3**
	56nm,0.8s						
MAW	**Mawson**	**76.04**	**200**	P	**P**	**00 25 01.7**	**-2.9**
	7.9nm,1.2s,baz=126,slow=8.7,SNR=3.0						
MAW				LR	LR	00 58 49.4	
	comp=Z,270nm,18.4s,baz=70,slow=36						
MAW	**Mawson**	**76.04**	**200**	*e*P	**P**	**00 25 05.7**	**+1.1**
	2.7nm,1.3s						
MJAR	**Matsushiro Arr**	**76.23**	**324**	P	**P**	**00 25 04.3**	**-1.8**
	8.4nm,1.1s,baz=156,slow=5.3,SNR=7.7						
MJAR				LR	LR	00 53 23.6	
	comp=Z,59nm,22.0s,baz=195,slow=31						
SYO	**Syowa Base**	**80.80**	**192**	*e*PcP	**PcP**	**00 25 34.8**	**-2.6**
SYO	**Syowa Base**	**80.80**	**192**	*e*pP	pP	00 25 46.1	+4.3
SNAA	**Sanae**	**81.57**	**178**	P	**P**	**00 25 34.2**	**-0.8**
SNAA	**Sanae**	**81.57**	**178**	*e*P	**P**	**00 25 34.1**	**-0.8**
	7.3nm,1.1s						
VNA3	**Neumayer Olymp**	**81.66**	**176**	P	**P**	**00 25 34.4**	**-1.1**
KSRS	**Korea Array**	**82.64**	**319**	P	**P**	**00 25 40.9**	**0.0**
	2.4nm,0.7s,baz=144,slow=6.2,SNR=11						
KSRS				LR	LR	01 00 35.3	
	comp=Z,70nm,18.2s,baz=120,slow=34						
KSAR	**Wonju Array Be**	**82.66**	**318**	P	**P**	**00 25 40.9**	**-0.1**
PETK	**Petropavlovsk-**	**82.82**	**345**	P	**P**	**00 25 42.2**	**+0.7**
	4.1nm,0.9s,baz=107,slow=7.7,SNR=3.5						
CMB	**Columbia Colle**	**83.25**	**41**	*e*P	**P**	**00 25 46.8**	**+2.7**
	6.7nm,1.2s						
PLCA	**Paso Flores**	**83.84**	**133**	P	**P**	**00 25 46.4**	**-1.0**
	3.2nm,0.9s,baz=309,slow=3.5,SNR=3.0						
PLCA				LR	LR	00 55 28.3	
	comp=Z,116nm,18.6s,baz=332,slow=30						
WAKR	**Wal

LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
LZH				pmax	pmax		
	comp=Z,85nm,9.2s						
LZH				LR	LR		
	comp=N,170nm,16.5s						
LZH				LR	LR		
	comp=E,160nm,16.7s						
LZH				LR	LR		
	comp=Z,220nm,19.2s						
LPAZ	**La Paz**	**98.25**	**113**	LR	LR	01 02 14.9	
	comp=Z,58nm,20.6s,baz=218,slow=30						
WMQ	**Urumqi**	**112.15**	**309**	*e*PKP	**PKiKP**	**00 31 51.8**	**-1.2**
WMQ				LR	LR		
	comp=N,39nm,17.1s						
WMQ				LR	LR		
	comp=E,45nm,38.7s						
WMQ				LR	LR		
	comp=Z,47nm,24.7s						
ZALV	**Zalesovo Beam**	**116.34**	**319**	PKP	**PKPdf**	**00 31 57.9**	**-2.7**
	0.4nm,0.3s,baz=180,slow=2.9,SNR=3.0						
MKAR	**Makanchi Array**	**116.58**	**311**	PKP	**PKPdf**	**00 31 59.4**	**-2.0**
	0.9nm,0.8s,baz=65,slow=3.8,SNR=6.1						
KSH	**Kashi**	**119.63**	**302**	*e*PKP	**PKPdf**	**00 32 08.5**	**+0.9**
KSH				sPKP		00 32 22.3	
KSH				PP	**PP**	**00 33 36.8**	**+5.9**
KSH				PKS	**PKSdf**	**00 35 45.0**	**+0.6**
KSH				SKS	**SKSdf**	**00 39 17.8**	**+0.7**
KSH				SKKS	**SKKSac**	**00 40 26.5**	**-1.5**
KSH				AMB	AMB		
	comp=Z,110nm,5.5s						
KSH				LR	LR		
	comp=N,150nm,8.2s						
KSH				LR	LR		
	comp=E,120nm,5.7s						
KSH				LR	LR		
	comp=Z,240nm,9.5s						
KKAR	**Karatay Array**	**124.26**	**305**	*e*PKPdf	**PKPdf**	**00 32 14.8**	**-1.5**
BRVK	**Borovoye**	**124.91**	**317**	*e*PKPdf	**PKPdf**	**00 32 15.5**	**-1.6**
ABKAR	**Akbulak array**	**131.63**	**313**	*e*PKPdf	**PKPdf**	**00 32 29.9**	**-0.1**
FINES	**FINESS Array B**	**142.31**	**343**	PKP	**PKPdf**	**00 32 48.6**	**-0.8**
	2.4nm,1.0s,baz=45,slow=0.2,SNR=3.0						
NB2	**NORSAR Subarra**	**145.50**	**353**	PKP	**PKPdf**	**00 32 53.0**	**-2.1**
	comp=Z,20nm,1.1s,baz=10,slow=3.8						
NOA	**NORSAR Array B**	**145.50**	**353**	PKPbc	**PKPdf**	**00 32 53.4**	**-1.7**
	comp=Z,8.1nm,1.0s,baz=10,slow=2.4,SNR=9.1						
NACGM	**Naroch**	**147.31**	**335**	*e*	**PKPbc**	**00 33 01.0**	**+0.4**
AKASG	**Malin Array Be**	**149.26**	**327**	PKPbc	**PKPdf**	**00 33 03.5**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=40,slow=2.9,SNR=9.8						
BRTR	**Keskin Array B**	**151.97**	**305**	PKPbc	**PKPbc**	**00 33 11.4**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=337,slow=0.1,SNR=5.0						
KHC	**Kasperske Hory**	**156.51**	**343**	*e*PKPAB	**PKPab**	**00 33 45.5**	**+4.5**
TORD	**Torodi Ar. Bea**	**166.18**	**172**	PKP	**PKPdf**	**00 33 20.3**	**-3.1**
	comp=Z,1.0nm,1.0s,baz=218,slow=2.8,SNR=4.3						
TORD				PKPab	**PKPab**	**00 34 22.8**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=184,slow=4.1,SNR=11						

*ISK **26** 00:18:42.8, 38°.74N×43°.41E, h5km, ML3.1*
*CSEM **26** 00:18:44.1±0.3, 38°.72N×43°.45E, h2km, ML3.1, Error ellipse: s-maj=7.1km s-min=3.9km az=77.0*
*DDA **26** 00:18:44.0, 38°.70N×43°.44E, h14km, Ml3.2*
ISC 26 00:18:44.9±0.9, 38°.72N±0°.02×43°.43E±0°.03, h14km±6km, n54, σ1§17/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**194**	*e*PG	**Pg**	**00 18 47.9**	**-0.6**
VANB				*e*SG	**Sg**	**00 18 52.7**	**+1.8**
VANB	**Van**	**0.13**	**194**	*e*Pg	**Pg**	**00 18 47.9**	**-0.6**
GEVA	**Gevas**	**0.50**	**216**	*i* P	**Pg**	**00 18 52.7**	**-2.1**
GEVA				*i* S	**Sg**	**00 19 01.5**	**0.0**
GEVA	**Gevas**	**0.50**	**216**	P	**Pg**	**00 18 52.7**	**-2.1**
GEVA				S	**Sg**	**00 19 01.5**	**0.0**
BASK	**Baskale_VAN**	**0.80**	**146**	*i* P	**Pg**	**00 18 58.8**	**-1.7**
BASK				*i* S	**Sg**	**00 19 09.4**	**-1.7**
BASK	**Baskale_VAN**	**0.80**	**146**	P	**Pg**	**00 18 58.8**	**-1.7**
BASK				S	**Sg**	**00 19 09.4**	**-1.7**
TUTA	**Tutak**	**0.83**	**325**	*i* P	**Pg**	**00 19 59.5**	**-1.7**
TUTA				*i* S	**Sb**	**00 19 12.7**	**+0.1**
TUTA	**Tutak**	**0.83**	**325**	P	**Pg**	**00 18 59.5**	**-1.7**
TUTA				S	**Sb**	**00 19 12.7**	**+0.1**
DYDN	**Diyadin**	**0.85**	**14**	*i* P	**Pg**	**00 19 00.5**	**-0.9**
DYDN				*i* S	**Sb**	**00 19 13.4**	**+0.4**
DYDN	**Diyadin**	**0.85**	**14**	P	**Pg**	**00 19 00.5**	**-0.9**
DYDN				S	**Sb**	**00 19 13.4**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**338**	*e*PG	**Pg**	**00 19 00.9**	**-1.9**
AGRB				*e*SG	**Sg**	**00 19 14.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.92**	**338**	*e*Pg	**Pg**	**00 19 00.9**	**-1.9**
AGRB				*e*Sg	**Sg**	**00 19 14.6**	**-0.3**
HAKT	**HAKKARI**	**1.18**	**169**	*i* P	**Pg**	**00 19 05.2**	**-2.5**
HAKT				*i* S	**Sn**	**00 19 23.9**	**+0.6**
HAKT	**HAKKARI**	**1.18**	**169**	P	**Pg**	**00 19 05.2**	**-2.5**
HAKT				S	**Sn**	**00 19 23.9**	**+0.6**
EKAR	**Karacoban**	**1.19**	**297**	*i* P	**Pn**	**00 19 07.7**	**+0.2**
EKAR				*i* S	**Sn**	**00 19 26.2**	**+2.6**
EKAR	**Karacoban**	**1.19**	**297**	P	**Pn**	**00 19 07.7**	**+0.2**
EKAR				S	**Sn**	**00 19 26.2**	**+2.6**
EATA	**Eleskirt**	**1.35**	**328**	*i* P	**Pn**	**00 19 09.1**	**-0.7**
EATA				*i* S	**Sn**	**00 19 28.5**	**+0.8**
EATA	**Eleskirt**	**1.35**	**328**	P	**Pn**	**00 19 09.1**	**-0.7**
EATA				S	**Sn**	**00 19 28.5**	**+0.8**
SIRN	**S¨–rnak**	**1.46**	**214**	*i* P	**Pb**	**00 19 11.5**	**-0.4**
SIRN	**S¨–rnak**	**1.46**	**214**	P	**Pb**	**00 19 11.5**	**-0.4**
CUKT	**Cukurca**	**1.48**	**174**	*e*PN	**Pg**	**00 19 12.4**	**-0.9**
CUKT				*e*SN	**Sg**	**00 19 33.5**	**+1.0**
CUKT	**Cukurca**	**1.48**	**174**	*i* P	**Pg**	**00 19 13.3**	**0.0**
CUKT				*i* S	**Sg**	**00 19 36.7**	**+4.3**
CUKT	**Cukurca**	**1.48**	**174**	*e*Pn	**Pg**	**00 19 12.4**	**-0.9**
CUKT	**Cukurca**	**1.48**	**174**	P	**Pg**	**00 19 13.3**	**0.0**
CUKT				*e*Sn	**Sg**	**00 19 33.5**	**+1.0**
VRTB	**Varto-Mus**	**1.60**	**287**	*e*PN	**Pn**	**00 19 12.9**	**0.0**
VRTB	**Varto-Mus**	**1.60**	**287**	*i* P	**Pb**	**00 19 14.3**	**-0.1**
VRTB				*i* S	**Sg**	**00 19 37.1**	**+0.6**
VRTB	**Varto-Mus**	**1.60**	**287**	*e*Pn	**Pn**	**00 19 13.0**	**0.0**
VRTB	**Varto-Mus**	**1.60**	**287**	P	**Pb**	**00 19 14.3**	**-0.1**
VRTB				S	**Sg**	**00 19 37.1**	**+0.6**
DIGO	**Kars**	**1.69**	**359**	*i* P	**Pb**	**00 19 16.1**	**0.0**
DIGO				*i* S	**Sg**	**00 19 40.4**	**+0.9**
DIGO	**Kars**	**1.69**	**359**	P	**Pb**	**00 19 16.1**	**0.0**
DIGO				S	**Sg**	**00 19 40.4**	**+0.9**
HOMI	**Horasan**	**1.77**	**319**	*i* P	**Pb**	**00 19 16.7**	**-0.7**
HOMI				*i* S	**Sg**	**00 19 42.6**	**+0.5**
BNGL	**BINGOL**	**1.79**	**278**	*i* P	**Pb**	**00 19 17.3**	**-0.5**
BNGL				*i* S	**Sg**	**00 19 42.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*PN	**Pn**	**00 19 16.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*i* P	**Pb**	**00 19 17.6**	**-0.8**
SVAN				*i* S	**Sn**	**00 19 39.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*Pn	**Pn**	**00 19 16.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	P	**Pb**	**00 19 17.6**	**-0.8**
SVAN				S	**Sn**	**00 19 39.7**	**+0.4**
BTMN	**Batman**	**1.89**	**245**	*i* P	**Pn**	**00 19 17.6**	**+0.7**
BTMN				*i* S	**Sb**	**00 19 43.1**	**+0.3**
BTMN	**Batman**	**1.89**	**245**	P	**Pn**	**00 19 17.6**	**+0.7**
BTMN				S	**Sb**	**00 19 43.1**	**+0.3**
ERZM	**Erzurum**	**1.99**	**307**	*i* P	**Pb**	**00 19 21.3**	**+0.2**
ERZM	**Erzurum**	**1.99**	**307**	P	**Pb**	**00 19 21.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*PN	**Pn**	**00 19 19.6**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*Pn	**Pn**	**00 19 19.6**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.10**	**296**	*i* P	**Pb**	**00 19 22.5**	**-0.5**
ECAT				*i* S	**Sg**	**00 19 51.6**	**-1.0**
ECAT	**Cat-ERZURUM**	**2.10**	**296**	P	**Pb**	**00 19 22.5**	**-0.5**
ECAT				S	**Sg**	**00 19 51.6**	**-1.0**
BNGB	**Bing¨¶l**	**2.16**	**278**	*e*PN	**Pn**	**00 19 21.6**	**+0.9**
BINT	**Bingol**	**2.30**	**275**	*e*Pn	**Pn**	**00 19 21.6**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*PN	**Pn**	**00 19 24.2**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*Pn	**Pn**	**00 19 24.2**	**+0.8**
MAZI	**Mazidag**	**2.67**	**243**	*e*PN	**Pn**	**00 19 27.1**	**-0.6**
MAZI	**Mazidag**	**2.67**	**243**	*e*Pn	**Pn**	**00 19 27.1**	**-0.6**
PTK	**Pertek**	**3.16**	**274**	*e*PN	**Pn**	**00 19 35.5**	**+1.0**
PTK	**Pertek**	**3.16**	**274**	*e*Pn	**Pn**	**00 19 35.5**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*PN	**Pn**	**00 19 37.1**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*Pn	**Pn**	**00 19 37.2**	**+1.5**

*CSEM **26** 00:28:28.1, 36°.41N×25°.41E, h3km, ML1.1/3*
THE 26 00:28:28.1, 36°.41N±25°.41E, h3km±1km, ML1.1/3, Error ellipse: s-maj=1.3km s-min=0.4km az=104.0, Dodecanese Islands

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

THR3	**Thira Island,**	**0.01**	**240**	P	Pg	00 28 28.9	+0.2
THR3	**Thira Island,**	**0.01**	**240**	P	Pg	00 28 28.9	+0.2
THR7	**Fira-Santorini**	**0.02**	**59**	P	Pg	00 28 28.9	+0.1
THR7	**Fira-Santorini**	**0.02**	**59**	P	Pg	00 28 28.9	+0.1
THT1	**Athinios (Pele**	**0.03**	**153**	P	Pg	00 28 28.9	0.0
THT1				S	Sg	00 28 29.8	+0.4
THT1	**Athinios (Pele**	**0.03**	**153**	P	Pg	00 28 28.9	0.0
THT1				S	Sg	00 28 29.8	+0.4
THR2	**Thira island,**	**0.04**	**30**	P	Pg	00 28 29.0	0.0
THR2	**Thira island,**	**0.04**	**30**	P	Pg	00 28 29.0	0.0
THR5	**Thira Island,**	**0.05**	**273**	P	Pg	00 28 29.5	+0.3
THR5	**Thira Island,**	**0.05**	**273**	P	Pg	00 28 29.5	+0.3
CMBO	**Columbo, Santo**	**0.06**	**355**	P	Pg	00 28 29.4	+0.1
CMBO				S	Sg	00 28 30.9	+0.7
CMBO	**Columbo, Santo**	**0.06**	**355**	P	Pg	00 28 29.4	+0.1
CMBO				S	Sg	00 28 30.9	+0.7
SANT	**Santorini**	**0.06**	**139**	P	Pg	00 28 29.5	+0.1
SANT				S	Sg	00 28 30.9	+0.7
SANT	**Santorini**	**0.06**	**139**	P	Pg	00 28 29.5	+0.1
SANT				S	Sg	00 28 30.9	+0.7
THR6	**Thira Island,**	**0.06**	**191**	P	Pg	00 28 29.7	+0.3
THR6	**Thira Island,**	**0.06**	**191**	P	Pg	00 28 29.7	+0.3

*ISK **26** 00:34:01.8, 38°.83N×43°.59E, h5km, ML3.4*
*DDA **26** 00:34:02.3, 38°.81N×43°.66E, h15km, Ml3.5*
*CSEM **26** 00:34:02.7±0.5, 38°.84N×43°.68E, h5km, ML3.4, Error ellipse: s-maj=10.3km s-min=5.3km az=89.0*
ISC 26 00:34:03.9±1.1, 38°.83N±0°.02×43°.56E±0°.03, h5km±10km, n53, σ1§40/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**210**	*e*PG	**Pg**	**00 34 09.3**	**+0.2**
VANB				*e*SG	**Sb**	**00 34 15.8**	**-0.3**
VANB	**Van**	**0.27**	**210**	*e*Pg	**Pg**	**00 34 09.3**	**+0.2**
VANB				*e*Sg	**Sb**	**00 34 15.9**	**-0.3**
GEVA	**Gevas**	**0.65**	**217**	*i* P	**Pg**	**00 34 14.6**	**-1.8**
GEVA				*i* S	**Sb**	**00 34 27.1**	**-0.1**
GEVA	**Gevas**	**0.65**	**217**	P	**Pg**	**00 34 14.6**	**-1.8**
GEVA				S	**Sb**	**00 34 27.1**	**-0.1**
DYDN	**Diyadin**	**0.72**	**8**	*i* P	**Pg**	**00 34 16.2**	**-1.6**
DYDN				*i* S	**Sb**	**00 34 28.6**	**-0.8**
DYDN	**Diyadin**	**0.72**	**8**	P	**Pg**	**00 34 16.2**	**-1.6**
DYDN				S	**Sb**	**00 34 28.6**	**-0.8**
TUTA	**Tutak**	**0.82**	**315**	*i* P	**Pg**	**00 34 17.5**	**-2.1**
TUTA				*i* S	**Sb**	**00 34 31.8**	**-0.3**
TUTA	**Tutak**	**0.82**	**315**	P	**Pg**	**00 34 17.5**	**-2.1**
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*PG	**Pg**	**00 34 19.0**	**-1.6**
AGRB				*e*SG	**Sb**	**00 34 32.8**	**-0.8**
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*Pg	**Pg**	**00 34 19.0**	**-1.6**
AGRB				*e*Sg	**Sb**	**00 34 32.8**	**-0.8**
EKAR	**Karacoban**	**1.24**	**291**	*i* P	**Pg**	**00 34 27.2**	**-0.5**
EKAR				*i* S	**Sn**	**00 34 46.5**	**+1.1**
EKAR	**Karacoban**	**1.24**	**291**	P	**Pg**	**00 34 27.2**	**-0.5**
EKAR				S	**Sn**	**00 34 46.5**	**+1.1**
HAKT	**HAKKARI**	**1.27**	**175**	*i* P	**Pg**	**00 34 25.2**	**-3.1**
HAKT				*i* S	**Sn**	**00 34 47.2**	**+1.1**
HAKT	**HAKKARI**	**1.27**	**175**	P	**Pg**	**00 34 25.2**	**-3.1**
HAKT				S	**Sn**	**00 34 47.2**	**+1.1**
EATA	**Eleskirt**	**1.32**	**322**	*i* P	**Pg**	**00 34 27.6**	**-1.7**
EATA				*i* S	**Sn**	**00 34 48.3**	**+0.8**
EATA	**Eleskirt**	**1.32**	**322**	P	**Pg**	**00 34 27.6**	**-1.7**
EATA				S	**Sn**	**00 34 48.3**	**+0.8**
CUKT	**Cukurca**	**1.58**	**179**	*e*PN	**Pn**	**00 34 32.6**	**0.0**
CUKT	**Cukurca**	**1.58**	**179**	*i* P	**Pn**	**00 34 32.9**	**+0.3**
CUKT				*i* S	**Sg**	**00 34 58.3**	**+3.7**
CUKT	**Cukurca**	**1.58**	**179**	*e*Pn	**Pn**	**00 34 32.7**	**0.0**
CUKT	**Cukurca**	**1.58**	**179**	P	**Pn**	**00 34 32.9**	**+0.3**
DIGO	**Kars**	**1.59**	**355**	*i* P	**Pn**	**00 34 33.0**	**0.0**
DIGO	**Kars**	**1.59**	**355**	P	**Pn**	**00 34 33.0**	**0.0**
SIRN	**S¨–rnak**	**1.61**	**215**	*i* P	**Pn**	**00 34 33.0**	**0.0**
SIRN				*i* S	**Sg**	**00 34 56.0**	**+0.4**
SIRN	**S¨–rnak**	**1.61**	**215**	P	**Pn**	**00 34 33.0**	**0.0**
SIRN				S	**Sg**	**00 34 56.0**	**+0.4**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*PN	**Pn**	**00 34 34.0**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**282**	*i* P	**Pn**	**00 34 33.5**	**-0.5**
VRTB				*i* S	**Sg**	**00 34 59.6**	**+2.0**
VRTB	**Varto-Mus**	**1.67**	**282**	P	**Pn**	**00 34 33.5**	**-0.5**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*Pn	**Pn**	**00 34 34.0**	**0.0**
VRTB				S	**Sg**	**00 34 59.6**	**+2.0**
EAK	**Akyaka**	**1.86**	**1**	*i* P	**Pg**	**00 34 40.1**	**+0.6**
EAK	**Akyaka**	**1.86**	**1**	P	**Pg**	**00 34 40.1**	**+0.6**
BNGL	**BINGOL**	**1.89**	**275**	*i* P	**Pn**	**00 34 37.8**	**+0.8**
BNGL				*i* S	**Sg**	**00 35 04.7**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*PN	**Pn**	**00 34 38.1**	**0.0**
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*Pn	**Pn**	**00 34 38.1**	**0.0**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*PN	**Pn**	**00 34 37.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*i* P	**Pn**	**00 34 38.5**	**+0.5**
SVAN				*i* S	**Sn**	**00 35 03.8**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	**Pn**	**00 34 37.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	P	**Pn**	**00 34 38.5**	**+0.5**
SVAN				S	**Sn**	**00 35 03.8**	**+0.7**
ERZM	**Erzurum**	**2.01**	**303**	*i* P	**Pb**	**00 34 40.5**	**-0.6**
ERZM	**Erzurum**	**2.01**	**303**	P	**Pb**	**00 34 40.5**	**-0.6**
BTMN	**Batman**	**2.03**	**243**	*i* P	**Pn**	**00 34 39.1**	**+0.3**
BTMN				*i* S	**Sb**	**00 35 06.2**	**-0.6**
BTMN	**Batman**	**2.03**	**243**	P	**Pn**	**00 34 39.1**	**+0.3**
BTMN				S	**Sb**	**00 35 06.2**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	*i* P	**Pb**	**00 34 42.0**	**-1.5**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	P	**Pb**	**00 34 42.0**	**-1.5**
BNGB	**Bing¨¶l**	**2.25**	**275**	*e*PN	**Pn**	**00 34 42.2**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*PN	**Pn**	**00 34 45.0**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*Pn	**Pn**	**00 34 45.0**	**+0.7**
BGD	**Bogdanovka**	**2.43**	**1**	P	**Pb**	**00 34 48.0**	**-0.3**
BGD				S	**Sg**	**00 35 24.2**	**+2.1**
AKH	**Akhalkalaki**	**2.58**	**359**	P	**Pg**	**00 34 52.2**	**-1.1**
AKH				S	**Sg**	**00 35 28.7**	**+1.9**
DGRG	**David-gareji**	**2.97**	**27**	P	**Pg**	**00 34 59.4**	**-1.3**
DGRG				S	**Sg**	**00 35 44.8**	**+5.6**
TBLG	**Delisi**	**3.04**	**17**	P	**Pb**	**00 34 57.8**	**-0.6**
TBLG				S	**Sg**	**00 35 38.9**	**-2.5**
PTK	**Pertek**	**3.25**	**272**	*e*PN	**Pn**	**00 34 56.8**	**+1.0**
PTK	**Pertek**	**3.25**	**272**	*e*Pn	**Pn**	**00 34 56.8**	**+1.0**
ONI	**Oni**	**3.76**	**359**	P	**Pb**	**00 35 12.7**	**+1.9**
ONI				S	**Pn**	**00 35 00.0**	**-2.6**

*ISCJB **26** 00:34:19.1±0.5, 4°.91S±0°.06×151°.71E±0°.09, h129km, mb4.4/24, Error ellipse: s-maj=13.2km s-min=7.6km az=26.6*
*IDC **26** 00:34:23.3±2.0, 4°.99S×151°.73E, h153km±18km, mb3.9/11, mb1 4.0/13, mb1mx3.7/38, mbtmp4.3/13, MS3.6/1, Ms1 3.6/1, ms1mx2.7/36, Error ellipse: s-maj=19.5km s-min=11.3km az=113.0*
*NEIC **26** 00:34:25.9±1.4, 5°.07S×151°.68E, h180km±12km, mb4.4/11, Error ellipse: s-maj=10.3km s-min=7.9km az=67.0*
ISC 26 00:34:20.5±0.6, 4°.94S±0°.09×151°.7E±0°.1, h129km, n35, σ0§84/38, mb4.3/24, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.34**	**225**	P	Pn	00 35 55.9	+4.3
	2.1nm,0.3s,baz=41,slow=9.3,SNR=4.9						
PMG				S	**Sn**	**00 37 03.0**	**+0.2**
	2.2nm,0.3s,baz=7.0,slow=19,SNR=3.1						
COEN	**Coen**	**12.30**	**223**	*e*Pn	**Pn**	**00 37 13.0**	**+1.5**
CTA	**Charters Tower**	**15.97**	**199**	P	**P**	**00 38 00.8**	**+1.8**
	0.3nm,0.3s,baz=13,slow=14,SNR=3.4						
CTAO	**Charters Tower**	**15.97**	**199**	*e*Pn	**P**	**00 37 59.3**	**+0.3**
FAKI	**Fak Fak**	**19.53**	**275**	*e*P	**Pn**	**00 38 39.2**	**-1.6**
	22nm,1.1s						
DZM	**Mont Dzumac**	**22.21**	**141**	P	**P**	**00 39 07.4**	**+0.7**
	2.7nm,0.5s,baz=285,slow=7.5,SNR=6.5						
WRAB	**Tennant Creek**	**22.54**	**227**	*e*P	**P**	**00 39 09.4**	**-0.5**
	27nm,0.9s						
WRA	**Warramunga Arr**	**22.55**	**227**	P	**P**	**00 39 09.6**	**-0.5**
	25nm,0.9s,baz=51,slow=10.0,SNR=64						
WRA				PcP	**PcP**	**00 42 59.7**	**+0.5**
	3.1nm,0.7s,baz=40,slow=1.9,SNR=9.5						
WRA				S	**S**	**00 43 06.7**	**-1.4**
	6.0nm,1.1s,baz=46,slow=18,SNR=8.7						
ASAR	**Alice Springs**	**25.33**	**221**	P	**P**	**00 39 35.2**	**-0.4**
	6.8nm,0.6s,baz=52,slow=8.9,SNR=29						
ASAR				PcP	**PcP**	**00 43 05.7**	**+0.5**
	2.0nm,0.8s,baz=53,slow=2.9,SNR=9.0						
ASAR				S	**S**	**00 43 52.3**	**-0.1**
	0.5nm,0.8s,baz=40,slow=16,SNR=3.6						
FITZ	**Fitzroy Crossi**	**28.65**	**241**	P	**P**	**00 40 04.7**	**-0.6**
	9.9nm,0.7s,baz=85,slow=4.1,SNR=23						

BBOO	**Buckleboo**	**31.35**	**206**	*e*P	**P**	**00 40 28.2**	**-0.8**
	7.2nm,0.7s						
FORT	**Forrest**	**34.01**	**218**	*e*P	**P**	**00 40 51.2**	**-0.9**
	169nm,0.7s						
MBWA	**Marble Bar**	**34.97**	**240**	*e*P	**P**	**00 40 59.7**	**-0.9**
	37nm,0.6s						
TGY	**Tagaytay City**	**35.93**	**302**	LR	LR	00 57 05.0	
	comp=Z,90nm,18.7s,baz=145,slow=38						
IPM	**Ipoh**	**51.50**	**280**	*e*P	**P**	**00 43 13.2**	**-0.3**
	13nm,0.9s						
KULM	**Kulim**	**52.01**	**281**	*e*P	**P**	**00 43 17.0**	**-0.2**
	11nm,1.0s						
CMAR	**Chiang Mai Arr**	**56.97**	**296**	P	**P**	**00 43 54.1**	**+1.1**
	1.3nm,0.3s,baz=100,slow=5.0,SNR=9.0						
CHTO	**Chiang Mai**	**57.08**	**296**	*e*P	**P**	**00 43 55.1**	**+1.3**
	3.8nm,1.0s						
ULN	**Ulaanbaatar**	**65.55**	**329**	*e*P	**P**	**00 44 51.6**	**+1.2**
	1.4nm,0.3s						
SONM	**Songino Array**	**65.88**	**328**	P	**P**	**00 44 53.6**	**+1.1**
	2.6nm,0.7s,baz=141,slow=5.0,SNR=14						
LSA	**Lhasa**	**67.44**	**305**	*e*P	**P**	**00 45 04.3**	**+1.1**
VNDA	**Vanda**	**72.73**	**178**	P	**P**	**00 45 33.5**	**-0.6**
	1.0nm,0.8s,baz=350,slow=4.5,SNR=4.7						
MKAR	**Makanchi Array**	**79.73**	**319**	P	**P**	**00 46 14.1**	**-0.1**
	1.8nm,0.8s,baz=103,slow=7.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**80.68**	**327**	P	**P**	**00 46 18.7**	**-0.3**
	1.8nm,0.4s,baz=125,slow=5.4,SNR=5.6						
COLA	**College**	**82.38**	**22**	*e*P	**P**	**00 46 27.4**	**-0.3**
	2.3nm,0.4s						
ILAR	**Eielson Array**	**82.69**	**22**	P	**P**	**00 46 28.4**	**-1.0**
	0.6nm,0.7s,baz=248,slow=5.5,SNR=6.8						
KURK	**Kurchatov**	**83.22**	**322**	*e*P	**P**	**00 46 31.8**	**-0.6**
	46nm,1.1s						
AAK	**Ala-Archa**	**83.99**	**314**	*e*P	**P**	**00 46 36.8**	**0.0**
	2.0nm,0.8s						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**00 46 40.8**	**-0.4**
	0.7nm,0.3s,baz=104,slow=8.3,SNR=3.6						
BRVK	**Borovoye**	**88.78**	**323**	*e*P	**P**	**00 46 59.2**	**-0.5**
	8.6nm,0.7s						
R11A	**Troy Canyon, C**	**95.14**	**52**	*e*P	**P**	**00 47 29.6**	**-0.2**
	2.8nm,1.2s						
FINES	**FINESS Array B**	**110.74**	**335**	PKiKP	**PKiKP**	**00 52 37.9**	**+0.1**
	1.9nm,0.9s,baz=45,slow=4.1,SNR=4.1						
PSZ	**Piszkesteto**	**120.68**	**324**	*e*PKPdf	**PKPdf**	**00 52 56.5**	**-0.9**
GERES	**GERESS Array B**	**123.61**	**328**	PKP	**PKPdf**	**00 53 02.9**	**-0.1**
	0.7nm,0.5s,baz=81,slow=1.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.33**	**287**	PKPbc	**PKPbc**	**00 53 54.7**	**-0.5**
	3.4nm,0.3s,baz=99,slow=2.6,SNR=136						

*NIED **26** 00:35:00, 38°.20N×143°.70E, h5km, Mw4.2 Best double couple: M0=2.24000×10^15 NP1:φ0=39.00000°, δ29.00000°, λ-105.00000°. NP2:φ0=237.00000°, δ62.00000°, λ-82.00000°.*
*IDC **26** 00:35:33.4±0.6, 38°.13N×143°.72E, h0km, mb4.2/18, mb1 4.3/23, mb1mx4.2/43,

PMG	Port Moresby	47.42 175	LR	LR	01 03 25.3	
	comp=Z,151nm,20.8s,baz=20,slow=35					
ILAR	Eielson Array	47.60 33	P	P	00 44 11.2	+0.7
	1.6nm,0.8s,baz=264,slow=6.2,SNR=14					
BRVK	Borovoye	51.19 312	eP	P	00 44 38.3	+0.3
	7.9nm,0.8s					
AAK	Ala-Archa	51.52 298	eP	P	00 44 41.0	+0.2
	1.5nm,0.6s					
ARU	Arti	56.70 319	eP	P	00 45 18.8	+0.6
	6.0nm,1.1s					
WRA	Warramunga Arr	58.44 190	P	P	00 45 30.4	-0.5
	16nm,0.7s,baz=10,slow=7.2,SNR=67					
FITZ	Fitzroy Crossi	58.46 200	P	P	00 45 31.2	+0.3
	4.5nm,0.9s,baz=10,slow=11,SNR=3.4					
ABKAR	Akbulak array	58.57 310	eP	P	00 45 31.8	+0.3
	1.7nm,0.6s					
ASAR	Alice Springs	62.17 190	P	P	00 45 56.2	0.0
	3.4nm,0.6s,baz=9.6,slow=7.5,SNR=28					
ARCES	ARCESS Array B	63.57 340	P	P	00 46 05.7	+0.6
	1.1nm,0.7s,baz=61,slow=9.5,SNR=4.7					
GEYT	Alibeck	64.84 299	P	P	00 46 13.5	-0.5
	1.5nm,0.6s,baz=27,slow=0.3,SNR=4.9					
FINES	FINESS Array B	68.64 333	P	P	00 46 38.2	+0.5
	1.9nm,0.6s,baz=49,slow=8.6,SNR=12					
SUMG	Summit	69.56 1	eP	P	00 46 43.2	-0.6
	7.9nm,1.0s					
KBZ	Khabaz	71.51 311	P	P	00 46 57.3	+1.7
	3.1nm,0.8s,baz=64,slow=4.1,SNR=5.4					
NOA	NORSAR Array B	73.83 338	P	P	00 47 08.7	-0.5
	1.5nm,0.9s,baz=37,slow=5.8,SNR=2.6					
NOA			LR	LR	01 24 57.8	
	comp=Z,8.5nm,18.7s,baz=270,slow=40					
AKASG	Malin Array Be	74.48 323	P	P	00 47 13.0	-0.1
	1.2nm,0.5s,baz=46,slow=6.0,SNR=7.6					
R11A	Troy Canyon, C	74.68 53	eP	P	00 47 15.0	+0.2
	0.8nm,0.7s					
PDAR	Pinedale Array	75.62 47	P	P	00 47 20.6	+0.4
	0.9nm,0.6s,baz=276,slow=2.5,SNR=10					
ULM	Lac du Bonnet	77.59 35	P	P	00 47 30.5	-0.4
	2.3nm,0.8s,baz=320,slow=11,SNR=3.9					
ISCO	Idaho Springs	79.80 47	eP	P	00 47 43.6	-0.1
	1.1nm,0.7s					
RAYN	Ar Rayn	81.86 293	eP	P	00 47 54.3	-0.3
	2.6nm,1.0s					
ANMO	Albuquerque	82.51 51	eP	P	00 47 57.5	-0.5
	0.9nm,0.8s					
GERES	GERESS Array B	82.68 329	P	P	00 47 57.3	-1.2
	0.3nm,0.6s,baz=35,slow=3.6,SNR=2.6					
TXAR	Lajitas Array	88.03 54	P	P	00 48 25.9	+0.3
	0.4nm,0.6s,baz=305,slow=2.8,SNR=6.0					

*AZER **26** 00:38:20.0±1.4, 38°.42N×43°.29E, h1km, Error ellipse: s-maj=24.9km s-min=7.9km az=117.0*
*ISK **26** 00:38:23.6, 38°.90N×43°.59E, h5km, Ml3.5*
*DDA **26** 00:38:24.9, 38°.85N×43°.56E, h3km, Ml3.6*
*CSEM **26** 00:38:26.0±0.2, 38°.88N×43°.55E, h2km, ML3.5, Error ellipse: s-maj=5.8km s-min=4.6km az=98.0*

ISC 26 00:38:25.9±1.1, 38°.87N±0°.02×43°.54E±0°.02, h3km±10km, n61, σ1§47/92, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.30	203	ePG	Pb	00 38 32.3	-1.7
VANB				eSG	Sb	00 38 39.7	+0.3
VANB	Van	0.30	203	ePg	Pb	00 38 32.3	-1.7
GEVA	Gevas	0.67	214	i P	Pg	00 38 37.7	-1.1
GEVA				i S	Sb	00 38 51.2	+1.0
GEVA	Gevas	0.67	214	P	Pg	00 38 37.7	-1.1
GEVA				S	Sb	00 38 51.2	+1.0
DYDN	Diyadin	0.68	10	i P	Pg	00 38 38.4	-0.6
DYDN				i S	Sb	00 38 49.8	-0.8
DYDN	Diyadin	0.68	10	P	Pg	00 38 38.4	-0.6
DYDN				S	Sb	00 38 49.8	-0.8
TUTA	Tutak	0.78	313	i P	Pg	00 38 39.7	-1.1
TUTA				i S	Sb	00 38 52.1	-1.1
TUTA	Tutak	0.78	313	P	Pg	00 38 39.7	-1.1
TUTA				S	Sb	00 38 52.1	-1.1
AGRB	Hanur-Agry	0.82	329	ePG	Pg	00 38 40.1	-1.6
AGRB				eSG	Sb	00 38 52.7	-1.9
AGRB	Hanur-Agry	0.82	329	ePg	Pg	00 38 40.1	-1.6
AGRB				eSg	Sb	00 38 52.7	-1.9
EKAR	Karacoban	1.21	289	i P	Pn	00 38 49.8	-0.2
EKAR				i S	Sn	00 39 08.5	+1.5
EKAR	Karacoban	1.21	289	P	Pn	00 38 49.8	-0.2
EKAR				S	Sn	00 39 08.5	+1.5
EATA	Eleskirt	1.28	321	i P	Pg	00 38 49.6	-0.9
EATA				i S	Sn	00 39 08.9	0.0
EATA	Eleskirt	1.28	321	P	Pg	00 38 49.6	-0.9
EATA				S	Sn	00 39 08.9	0.0
HAKT	HAKKARI	1.32	174	i P	Pg	00 38 49.4	-1.7
HAKT				i S	Sn	00 39 11.5	+1.9
HAKT	HAKKARI	1.32	174	P	Pg	00 38 49.4	-1.7
HAKT				S	Sn	00 39 11.5	+1.9
DIGO	Kars	1.55	355	i P	Pg	00 38 54.8	-0.8
DIGO				i S	Sg	00 39 23.0	+7.3
DIGO	Kars	1.55	355	P	Pg	00 38 54.8	-0.8
NAX	Nakhchivan	1.55	78	⇑P	Pb	00 38 54.0	-1.4
	SNR=23						
NAX				⇓S	Sg	00 39 17.7	+1.9
NAX	Nakhchivan	1.55	78	P	Pb	00 38 54.0	-1.4
	SNR=23						
NAX				S	Sg	00 39 17.7	+1.9
CUKT	Cukurca	1.62	178	ePN	Pb	00 38 55.3	-1.3
CUKT	Cukurca	1.62	178	i P	Pg	00 38 56.5	-0.5
CUKT				i S	Sg	00 39 20.3	+2.3
CUKT	Cukurca	1.62	178	ePn	Pb	00 38 55.3	-1.3
CUKT	Cukurca	1.62	178	P	Pg	00 38 56.5	-0.5
CUKT				S	Sg	00 39 20.3	+2.3
SIRN	S¨–rnak	1.63	213	i P	Pb	00 38 55.9	-0.8
SIRN				i S	Sg	00 39 18.8	+0.4
SIRN	S¨–rnak	1.63	213	P	Pb	00 38 55.9	-0.8
SIRN				S	Sg	00 39 18.8	+0.4
VRTB	Varto-Mus	1.65	281	ePN	Pb	00 38 55.9	-1.2
VRTB	Varto-Mus	1.65	281	i P	Pg	00 38 56.6	-0.9
VRTB	Varto-Mus	1.65	281	ePn	Pb	00 38 55.9	-1.2
VRTB	Varto-Mus	1.65	281	P	Pg	00 38 56.6	-0.9
HOMI	Horasan	1.73	313	i P	Pg	00 38 58.9	-0.1
BNGL	BINGOL	1.87	273	i P	Pg	00 39 00.9	-0.8
BNGL				i S	Sg	00 39 27.6	+1.7
SENK	Senkaya-Erzuru	1.92	332	ePN	Pn	00 38 59.0	-0.7
SENK	Senkaya-Erzuru	1.92	332	ePn	Pn	00 38 59.0	-0.7
SVAN	Silvan-Diyarba	1.97	249	ePN	Pn	00 39 00.2	-0.1
SVAN	Silvan-Diyarba	1.97	249	i P	Pb	00 39 02.3	-0.2
SVAN	Silvan-Diyarba	1.97	249	ePn	Pn	00 39 00.2	-0.1
SVAN	Silvan-Diyarba	1.97	249	P	Pb	00 39 02.3	-0.2
ERZM	Erzurum	1.98	302	i P	Pg	00 39 02.6	-1.2
ERZM	Erzurum	1.98	302	P	Pg	00 39 02.6	-1.2
BTMN	Batman	2.03	242	i P	Pb	00 39 02.8	-0.8
BTMN				i S	Sn	00 39 27.1	0.0
BTMN	Batman	2.03	242	P	Pb	00 39 02.8	-0.8
BTMN				S	Sn	00 39 27.1	0.0
ECAT	Cat-ERZURUM	2.12	291	i P	Pb	00 39 04.3	-0.8
ECAT	Cat-ERZURUM	2.12	291	P	Pb	00 39 04.3	-0.8
BNGB	Bing¨¶l	2.23	274	ePN	Pn	00 39 03.7	-0.2
BGD	Bogdanovka	2.39	1	P	Pg	00 39 11.3	-0.4
BGD				S	Sg	00 39 45.7	+2.9
YEDI	Yedisu-Bingol	2.40	285	ePN	Pn	00 39 06.3	+0.1
YEDI	Yedisu-Bingol	2.40	285	ePn	Pn	00 39 06.3	+0.1
GDB	GEDABAY	2.52	42	⇓P	Pn	00 39 08.3	+0.4
	SNR=25						
GDB				⇑S	Sg	00 39 46.7	0.0
GDB	GEDABAY	2.52	42	P	Pn	00 39 08.3	+0.4
	SNR=25						
AKH	Akhalkalaki	2.54	359	P	Pg	00 39 14.7	+0.1
AKH				S	Sg	00 39 49.9	+2.4
QZX	Qazax, Azerbai	2.60	32	⇓P	Pn	00 39 09.8	+0.9
	SNR=15						
QZX				⇑S	Sg	00 39 49.0	-0.4
QZX	Qazax, Azerbai	2.60	32	P	Pn	00 39 09.8	+0.9
	SNR=15						
MARD	Mardin	2.67	235	i P	Pb	00 39 12.2	-2.3
GANJ	Ganja	2.78	50	P	Pn	00 39 12.0	+0.6
	SNR=8.9						
GANJ	Ganja	2.78	50	P	Pn	00 39 12.0	+0.6
	SNR=8.9						
MAZI	Mazidag	2.81	241	ePN	Pn	00 39 12.6	+0.7
MAZI	Mazidag	2.81	241	ePn	Pn	00 39 12.6	+0.7
DGRG	David-gareji	2.94	28	P	Pg	00 39 19.5	-2.7
DGRG				S	Sg	00 40 02.7	+2.5
TBLG	Delisi	3.00	17	P	Pg	00 39 21.3	-2.1
TBLG				S	Sg	00 40 03.7	+1.4
ONI	Oni	3.72	359	P	Pg	00 39 37.3	+0.2
ONI				S	Sg	00 40 38.6	+13

DJA 26 00:41:00.9±0.4, 8°S±4°×11°8E±°, h10km, M3.7/7, MLv3.7/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.70	201	P	Pn	00 41 16.2	-0.7
TWSI	Taliwang, Sumb	1.27	243	P	Pn	00 41 23.7	-1.0
TWSI				S	Sn	00 41 42.7	+0.9
WSI	Waingapu	2.69	124	P	Pn	00 41 43.9	-0.4
SRBI	Singaraja	2.79	272	P	Pn	00 41 44.4	-1.3
DNP	Denpasar	2.83	260	P	Pn	00 41 45.1	-1.2
BSSI	Bau Bau, Buton	3.17	51	P	Pn	00 41 52.0	+1.2
BASI	Baing, Sumba	3.24	129	P	Pn	00 41 52.5	+0.7

*AZER **26** 00:41:17.3±4.6, 38°.08N×43°.35E, h2km, Error ellipse: s-maj=50.6km s-min=19.0km az=72.0*
*DDA **26** 00:41:26.9, 38°.85N×43°.61E, h5km, Ml3.6*
*ISK **26** 00:41:26.3, 38°.89N×43°.54E, h5km, ML3.6*
*CSEM **26** 00:41:27.9±0.3, 38°.86N×43°.56E, h2km, ML3.6, Error ellipse: s-maj=7.1km s-min=5.3km az=87.0*

ISC 26 00:41:27.9±1.1, 38°.86N±0°.02×43°.58E±0°.02, h8km±10km, n66, σ1§50/93, 5C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.30	210	ePG	Pb	00 41 34.5	-1.1
VANB				eSG	Sb	00 41 41.8	+1.0
VANB	Van	0.30	210	ePg	Pb	00 41 34.5	-1.1
GEVA	Gevas	0.68	217	i P	Pg	00 41 39.7	-1.3
GEVA				i S	Sb	00 41 51.0	-0.7
GEVA	Gevas	0.68	217	P	Pg	00 41 39.7	-1.3
GEVA				S	Sb	00 41 51.0	-0.7
DYDN	Diyadin	0.69	7	i P	Pg	00 41 40.4	-0.8
DYDN				i S	Sb	00 41 50.9	-1.1
DYDN	Diyadin	0.69	7	P	Pg	00 41 40.4	-0.8
DYDN				S	Sb	00 41 50.9	-1.1
TUTA	Tutak	0.81	312	i P	Pg	00 41 41.8	-1.7
TUTA				i S	Sb	00 41 55.2	-0.3
TUTA	Tutak	0.81	312	P	Pg	00 41 41.8	-1.7
TUTA				S	Sb	00 41 55.2	-0.3
AGRB	Hanur-Agry	0.85	327	ePG	Pg	00 41 42.4	-1.9
AGRB				eSG	Sb	00 41 55.1	-1.6
AGRB	Hanur-Agry	0.85	327	ePg	Pg	00 41 42.4	-1.9
AGRB				eSg	Sb	00 41 55.1	-1.6
BASK	Baskale_VAN	0.87	158	i P	Pg	00 41 43.6	-1.0
BASK				i S	Sn	00 41 59.1	-0.4
BASK	Baskale_VAN	0.87	158	P	Pg	00 41 43.6	-1.0
BASK				S	Sn	00 41 59.1	-0.4
EKAR	Karacoban	1.25	289	i P	Pn	00 41 51.7	-0.1
EKAR				i S	Sn	00 42 11.1	+2.2
EKAR	Karacoban	1.25	289	P	Pn	00 41 51.7	-0.1
EKAR				S	Sn	00 42 11.1	+2.2
HAKT	HAKKARI	1.30	176	i P	Pg	00 41 50.3	-2.6
HAKT				i S	Sn	00 42 11.0	+0.8
HAKT	HAKKARI	1.30	176	P	Pg	00 41 50.3	-2.6
HAKT				S	Sn	00 42 11.0	+0.8
EATA	Eleskirt	1.31	320	i P	Pn	00 41 52.1	-0.7
EATA	Eleskirt	1.31	320	P	Pn	00 41 52.1	-0.7
NAX	Nakhchivan	1.52	77	⇑P	Pb	00 41 56.1	-0.3
	SNR=28						
NAX				⇑S	Sg	00 42 19.9	+3.1
NAX	Nakhchivan	1.52	77	P	Pb	00 41 56.1	-0.3
	SNR=28						
NAX				S	Sg	00 42 19.9	+3.1
DIGO	Kars	1.56	354	i P	Pg	00 41 57.1	-0.8
DIGO	Kars	1.56	354	P	Pg	00 41 57.1	-0.8
CUKT	Cukurca	1.61	179	ePN	Pg	00 41 57.8	-0.9
CUKT	Cukurca	1.61	179	i P	Pg	00 41 57.9	-0.9
CUKT				i S	Sg	00 42 21.6	+2.1
CUKT	Cukurca	1.61	179	ePn	Pg	00 41 57.8	-0.9
CUKT				S	Sg	00 42 21.6	+2.1
VRTB	Varto-Mus	1.69	281	ePN	Pb	00 41 58.0	-1.2
VRTB	Varto-Mus	1.69	281	i P	Pg	00 41 58.6	-1.6
VRTB				i S	Sg	00 42 26.1	+4.0
VRTB	Varto-Mus	1.69	281	ePn	Pb	00 41 58.0	-1.2
VRTB	Varto-Mus	1.69	281	P	Pg	00 41 58.6	-1.6
HOMI	Horasan	1.76	313	i P	Pg	00 42 01.0	-0.6
BNGL	BINGOL	1.90	274	i P	Pg	00 42 02.6	-1.7
SENK	Senkaya-Erzuru	1.95	331	ePN	Pb	00 42 01.8	-1.9
SENK	Senkaya-Erzuru	1.95	331	ePn	Pb	00 42 01.8	-1.9
SVAN	Silvan-Diyarba	2.00	250	ePN	Pn	00 42 02.2	+0.2
SVAN	Silvan-Diyarba	2.00	250	i P	Pb	00 42 04.1	-0.4
SVAN	Silvan-Diyarba	2.00	250	ePn	Pn	00 42 02.2	+0.2
SVAN	Silvan-Diyarba	2.00	250	P	Pb	00 42 04.1	-0.4
ERZM	Erzurum	2.01	302	i P	Pg	00 42 05.5	-0.9
ERZM	Erzurum	2.01	302	P	Pg	00 42 05.5	-0.9
BTMN	Batman	2.06	243	i P	Pb	00 42 04.8	-0.7
BTMN				i S	Sb	00 42 31.4	+0.1
BTMN	Batman	2.06	243	P	Pb	00 42 04.8	-0.7
BTMN				S	Sb	00 42 31.4	+0.1
ECAT	Cat-ERZURUM	2.16	291	i P	Pb	00 42 06.4	-0.9
ECAT	Cat-ERZURUM	2.16	291	P	Pb	00 42 06.4	-0.9
BNGB	Bing¨¶l	2.27	274	ePN	Pb	00 42 06.5	-2.6
BGD	Bogdanovka	2.40	0	P	Pb	00 42 11.8	+0.3
BGD				S	Sg	00 42 47.4	+2.3
BINT	Bingol	2.42	271	ePn	Pn	00 42 06.5	-1.3
YEDI	Yedisu-Bingol	2.43	285	ePN	Pn	00 42 08.5	+0.5
YEDI	Yedisu-Bingol	2.43	285	ePn	Pn	00 42 08.5	+0.5
GDB	GEDABAY	2.50	41	⇑P	Pn	00 42 09.9	+0.9
GDB				⇑S	Sg	00 42 47.4	-0.8
GDB	GEDABAY	2.50	41	P	Pn	00 42 09.9	+0.9
AKH	Akhalkalaki	2.55	358	P	Pg	00 42 16.3	-0.5
AKH				S	Sg	00 42 51.9	+2.2
QZX	Qazax, Azerbai	2.59	31	⇓P	Pb	00 42 13.5	-1.1
QZX				⇓S	Sg	00 42 51.3	+0.2
QZX	Qazax, Azerbai	2.59	31	P	Pb	00 42 13.5	-1.1
MARD	Mardin	2.70	236	i P	Pb	00 42 14.2	-2.2
GANJ	Ganja	2.77	49	⇓P	Pn	00 42 14.3	+1.9
GANJ	Ganja	2.77	49	P	Pn	00 42 14.3	+1.9
MAZI	Mazidag	2.84	242	ePN	Pn	00 42 14.6	+1.0
MAZI	Mazidag	2.84	242	ePn	Pn	00 42 14.6	+1.0
DIYA	Diyarbakir	2.88	252	i P	Pb	00 42 19.1	-0.3
DIYA	Diyarbakir	2.88	252	P	Pb	00 42 19.1	-0.3
DGRG	David-gareji	2.93	27	P	Pg	00 42 22.0	-2.0
DGRG				S	Sg	00 43 06.0	+4.0
TBLG	Delisi	3.00	17	P	Pg	00 42 23.4	-2.0
TBLG				S	Sg	00 43 05.6	+1.3
BRDA	Brd	3.11	62	⇓P	Pn	00 42 15.0	-2.2
BRDA	Brd	3.11	62	P	Pn	00 42 15.0	-2.2
LRK	Lerik	3.73	92	⇑P	Pn	00 42 19.1	-6.6
ONI	Oni	3.73	359	P	Pg	00 42 40.2	+0.9

TRN 26 00:46:22.0, 14°.91N×60°.77W, h78km, MD3.5, 6C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAMF	Morne Balai	0.37	255	eP	Pn	00 46 35.9	+1.2
MVM	Montagne Vaucl	0.37	198	eP	Pn	00 46 36.0	+1.3
LPMF	Morne Lapointe	0.38	209	eP	Pn	00 46 35.9	+1.2
SVN	Savane Anatole	0.39	260	eP	Pn	00 46 36.0	+1.2
CXM	Morne La Croix	0.39	255	⇑eP	Pn	00 46 36.2	+1.2
CXM				eS	Sn	00 46 46.3	+1.8
GBMF	Grand Be	0.40	253	eP	Pn	00 46 36.0	+1.1
FDF	Fort de France	0.41	244	eP	Pn	00 46 36.2	+1.3
FDF				eS	Sn	00 46 46.3	+1.9
PML	Morne Lenard	0.42	252	⇓iP	Pn	00 46 36.2	+1.3
ZAM	Aeronautique	0.42	216	eP	Pn	00 46 35.9	+0.9
PCM	Pelee Case Pet	0.43	257	eP	Pn	00 46 35.9	+0.8
PCM	Pelee Case Pet	0.43	257	eP	Pn	00 46 36.2	+1.1
TRMF	Trois Ilets	0.46	216	eP	Pn	00 46 36.4	+1.1
BIM	Bigot	0.49	216	eP	Pn	00 46 36.8	+1.2
BIM				eS	Sn	00 46 47.4	+1.9
DLPL	La Plaine	0.62	313	eP	Pn	00 46 37.9	+1.1
DLPL				eS	Sn	00 46 49.0	+1.2
DSHT	Scott's Head	0.65	297	⇑iP	Pn	00 46 39.1	+2.0
DSHT				eS	Sn	00 46 50.2	+2.0
DBCT	Belle View Cho	0.66	303	eP	Pn	00 46 39.2	+2.0
DBCT				eS	Sn	00 46 50.9	+2.4
MDN	Morne-Daniel	0.72	304	eP	Pn	00 46 40.2	+2.4
MDN				eS	Sn	00 46 52.7	+3.2
DWS	Wesley	0.83	322	eP	Pn	00 46 40.1	+1.1
DWS				eS	Sn	00 46 53.2	+1.5
SLW	Petit Monier	0.90	190	eP	Pn	00 46 42.2	+2.3
SLW				eS	Sn	00 46 55.5	+2.4
BBL	Barber's Block	0.91	312	eP	Pn	00 46 41.1	+1.2
BBL				eS	Sn	00 46 54.5	+1.2
SLB	Belfond	1.11	194	eP	Pn	00 46 45.0	+2.6
SLB				eS	Sn	00 47 00.3	+2.7
MGG	Marie-Galante	1.13	332	eP	Pn	00 46 43.7	+1.1
MGG				eS	Sn	00 46 59.3	+1.4
MCLT	Moule a Chique	1.21	188	eP	Pn	00 46 44.6	+1.0
MCLT				eS	Sn	00 47 00.5	+0.8
TBG	Guadaloupe-3	1.26	318	⇑iP	Pn	00 46 45.2	+1.0
TBG				eS	Sn	00 47 02.7	+1.9
PHG	Guadaloupe-2	1.38	323	⇑iP	Pn	00 46 47.1	+1.2
DEG	La Desirade	1.42	349	eP	Pn	00 46 47.3	+0.9
DEG				eS	Sn	00 47 06.3	+1.7
MLG	Mont-d'or	1.46	322	⇑iP	Pn	00 46 48.0	+1.2
SEG	Port Louis	1.64	335	⇑iP	Pn	00 46 50.5	+1.4
SVV	Soufriere Volc	1.64	195	eP	Pn	00 46 50.6	+1.4
SVV				eS	Sn	00 47 10.6	+0.8
SVB	Belmont	1.69	196	eP	Pn	00 46 51.6	+1.7
SVB				eS	Sn	00 47 11.1	+0.1
BBGH	Gun Hill	2.12	146	eP	Pn	00 46 57.5	+2.0
BBSP	Saint Philip	2.21	144	eP	Pn	00 46 58.3	+1.7
MLYT	Lee's Yard	2.26	323	eP	Pn	00 46 59.2	+1.8
MLYT				eS	Sn	00 47 26.3	+1.9
SKI	Saint Kitts	3.06	322	eP	Pn	00 47 10.3	+2.1

*CSEM **26** 00:46:53.4, 38°.83N×40°.95E, h7km, ML2.9*
*DDA **26** 00:46:53.4, 38°.83N×40°.95E, h7km, Ml2.9, Turkey*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.20	52	i P	Pg	00 46 57.0	-0.5
BNGL				i S	Sg	00 47 00.4	+0.2
VRTB	Varto-Mus	0.51	50	i P	Pg	00 47 03.6	+0.3
VRTB				i S	Sg	00 47 10.7	+0.6
VRTB	Varto-Mus	0.51	50	P	Pg	00 47 03.6	+0.3
VRTB				S	Sg	00 47 10.7	+0.7
SVAN	Silvan-Diyarba	0.70	164	i P	Pg	00 47 07.5	+0.5
SVAN				i S	Sb	00 47 17.3	-0.7
SVAN	Silvan-Diyarba	0.70	164	P	Pg	00 47 07.5	+0.5
SVAN				S	Sb	00 47 17.3	-0.7
ECAT	Cat-ERZURUM	0.78	1	i P	Pb	00 47 09.0	-0.4
ECAT				i S	Sb	00 47 20.2	+0.1
ECAT	Cat-ERZURUM	0.78	1	P	Pb	00 47 09.0	-0.4
ECAT				S	Sb	00 47 20.2	0.0
BTMN	Batman	0.97	165	i P	Pg	00 47 12.1	0.0
BTMN				i S	Sb	00 47 26.2	+0.6
BTMN	Batman	0.97	165	P	Pg	00 47 12.1	+0.1
BTMN				S	Sb	00 47 26.2	+0.6
TNCL	Tunceli-Merkez	1.14	285	i P	Pg	00 47 14.7	-0.5
TNCL				i S	Sb	00 47 31.0	+0.6
TNCL	Tunceli-Merkez	1.14	285	P	Pg	00 47 14.7	-0.5
TNCL				S	Sb	00 47 31.0	+0.5

*AZER **26** 00:48:21.9±1.6, 38°.08N×43°.86E, h19km±18km, Error ellipse: s-maj=15.1km s-min=3.3km az=54.0*
*DDA **26** 00:48:23.0, 38°.47N×43°.94E, h10km, Ml3.8*
*ISCJB **26** 00:48:24.5±0.8, 38°.25N±0°.05×44°.02E±0°.04, h15km±11km, Error ellipse: s-maj=7.9km s-min=4.3km az=164.5*
*CSEM **26** 00:48:24.5±0.2, 38°.27N×44°.09E, h15km, ML3.8, Error ellipse: s-maj=6.0km s-min=4.1km az=156.0*
*ISK **26** 00:48:27.2, 38°.27N×43°.60E, h6km, ML3.5*

ISC 26 00:48:22.9±1.1, 38°.45N±0°.02×43°.96E±0°.02, h8km±10km, n71, σ1§63/100, 4C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASK	Baskale_VAN	0.39	175	i P	Pg	00 48 30.7	0.0
BASK				i S	Sb	00 48 38.5	0.0
BASK	Baskale_VAN	0.39	175	P	Pg	00 48 30.7	0.0
GEVA	Gevas	0.72	260	i P	Pg	00 48 35.8	-1.1
GEVA				i S	Sb	00 48 47.6	-0.3
HAKT	HAKKARI	0.91	193	i P	Pg	00 48 39.1	-1.3
HAKT				i S	Sb	00 48 54.2	+0.9
HAKT	HAKKARI	0.91	193	P	Pg	00 48 39.1	-1.3
DYDN	Diyadin	1.12	349	i P	Pg	00 48 43.6	-0.8
DYDN				i S	Sn	00 49 00.5	-0.3
CUKT	Cukurca	1.23	193	ePG	Pg	00 48 47.1	+0.6
CUKT				eSG	Sb	00 49 01.6	-0.9
CUKT	Cukurca	1.23	193	i P	Pg	00 48 47.2	+0.7
CUKT				i S	Sn	00 49 06.1	+2.8
CUKT	Cukurca	1.23	193	ePg	Pg	00 48 47.1	+0.6
CUKT				eSg	Sb	00 49 01.6	-0.9
TUTA	Tutak	1.31	317	i P	Pg	00 48 47.6	-0.4
TUTA				i S	Sn	00 49 05.7	+0.2
NAX	Nakhchivan	1.40	58	⇓P	Pg	00 48 49.7	-0.2
NAX				⇓S	Sg	00 49 11.8	+3.7
NAX	Nakhchivan	1.40	58	P	Pg	00 48 49.7	-0.2
NAX				S	Sg	00 49 11.8	+3.7
SIRN	S¨–rnak	1.55	233	i P	Pb	00 48 51.7	-0.2
SIRN	S¨–rnak	1.55	233	i P	Pb	00 48 51.6	-

PTK	Pertek	3.60	279	*e*PN	Pn	00 49 21.9	+2.7
PTK	Pertek	3.60	279	*e*Pn	Pn	00 49 21.9	+2.7
SVRC	Sivrice-ELAZID	3.66	270	*e*PN	Pn	00 49 22.0	+2.1
SVRC	Sivrice-ELAZID	3.66	270	*e*Pn	Pn	00 49 22.0	+2.1
LKRN	Lenkeran, Azer	3.79	85	⇓P	Pn	00 49 21.0	-0.5
LKRN	Lenkeran, Azer	3.79	85	P	Pn	00 49 21.0	-0.5
ASTR	Astara	3.79	87	⇑P	Pn	00 49 20.6	-1.0
ASTR	Astara	3.79	87	P	Pn	00 49 20.6	-1.0
ONI	Oni	4.16	355	P	Pg	00 49 42.0	-0.5

MEX 26 00:55:08.6±0.7, 16°.87N×99°.69W, h27km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	270	*i* P	Pb	00 55 13.1	-1.0
ACX				*e*S	Sb	00 55 16.9	-1.0
MEIG	Mezcala	1.05	4	*e*P	Pn	00 55 24.7	-3.0
MEIG				*e*S	Sn	00 55 37.4	-4.0
TLIG	Tlapa	1.27	57	*e*P	Pn	00 55 28.6	-2.1
TLIG				*e*S	Sn	00 55 44.1	-2.9
PLIG	Platanillo	1.52	7	*e*P	Pn	00 55 31.9	-2.2
PLIG				*e*S	Sn	00 55 49.2	-3.9
ARIG	Puente Sto Nin	1.54	336	*e*P	Pn	00 55 31.8	-2.5
ARIG				*e*S	Sn	00 55 50.9	-2.5
PNIG	Pinotepa	1.57	107	*e*P	Pn	00 55 31.9	-2.8
PNIG				*e*S	Sn	00 55 51.8	-2.4
ZIIG	Zihuatanejo	1.85	294	*e*P	Pn	00 55 36.9	-1.6
ZIIG				*e*S	Sn	00 55 58.4	-2.6
YAIG	Yautepec	2.07	17	*e*P	Pn	00 55 38.8	-2.9
YAIG				*e*S	Sn	00 56 04.0	-2.7

*ISCJB **26** 00:55:48.9±0.7, 36°.30N±0°.06×140°.09E±0°.10, h89km±4km, mb3.6/5, Error ellipse: s-maj=13.2km s-min=9.2km az=167.9*
*IDC **26** 00:55:50.9±2.4, 36°.28N×140°.07E, h94km±20km, mb3.3/5, mb1 3.5/6, mb1mx3.2/49, mbtmp3.7/6, Error ellipse: s-maj=37.7km s-min=20.6km az=66.0*
*JMA **26** 00:55:51.5±0.1, 36°.30N×140°.02E, h72km±1km, M3.6*
JMA Felt I J1.

ISC 26 00:55:49.9±0.9, 36°.31N±0°.06×140°.09E±0°.08, h83km±7km, n13, σ0°.67/19, mb3.7/5, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.12	132	⇑P	Pn	00 56 02.3	+0.6
JYT				S	Sn	00 56 10.2	-0.3
JAG	Ashikaga	0.52	283	⇓P	Pn	00 56 04.3	+0.2
JAG				*e*S	Sn	00 56 14.0	-0.7
JKT	Katashina	0.82	304	P	Pn	00 56 07.6	+0.5
JKT				S	Sn	00 56 20.0	+0.1
JRY	Ryogami san	1.00	254	⇓P	Pn	00 56 09.8	+0.7
JRY				*e*S	Sn	00 56 23.1	-0.4
JHK	Hiroka	1.27	318	P	Pn	00 56 13.3	+0.9
JHK				*e*S	Sn	00 56 29.6	+0.2
JOD2	Odawara 2	1.32	218	⇓P	Pn	00 56 13.9	+0.9
JOD2				S	Sn	00 56 30.0	-0.5
MJAR	Matsushiro Arr	1.53	279	P	Pn	00 56 16.5	+0.8
	25nm,0.3s,baz=88,slow=14,SNR=33						
JHJ	Hachijo jima 2	3.19	185	P	Pn	00 56 38.9	+1.1
	17nm,0.3s,baz=35,slow=16,SNR=3.8						
ZALV	Zalesovo Beam	41.62	313	P	P	01 03 29.0	-0.5
	0.5nm,0.4s,baz=99,slow=7.4,SNR=2.9						
MKAR	Makanchi Array	43.60	303	P	P	01 03 45.2	-0.6
	0.4nm,0.7s,baz=76,slow=6.1,SNR=3.5						
ILAR	Eielson Array	50.68	32	P	P	01 04 40.2	-0.2
	0.6nm,1.0s,baz=254,slow=5.5,SNR=4.1						
WRA	Warramunga Arr	56.21	187	P	P	01 05 20.7	-0.6
	0.4nm,0.4s,baz=2.3,slow=7.5,SNR=5.4						
AKASG	Malin Array Be	74.21	322	P	P	01 07 18.1	+0.6
	0.3nm,0.2s,baz=46,slow=5.3,SNR=2.7						

IDC 26 01:02:25.9±60.0, 20°.16S×178°.70W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/38, mbtmp3.9/3, Error ellipse: s-maj=1089.0km s-min=152.9km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.35	244	P	P	01 09 40.5	+0.2
	0.5nm,0.4s,baz=81,slow=13,SNR=2.8						
ASAR	Alice Springs	43.96	256	P	P	01 10 34.8	-0.4
	1.7nm,0.5s,baz=97,slow=8.0,SNR=22						
WRA	Warramunga Arr	44.00	262	P	P	01 10 35.3	-0.2
	0.3nm,0.2s,baz=96,slow=8.7,SNR=9.4						

*AZER **26** 01:06:22.3±4.0, 38°.45N×43°.23E, h15km, Error ellipse: s-maj=47.2km s-min=38.1km az=115.0*
*DDA **26** 01:06:23.7, 38°.73N×43°.53E, h6km, Ml3.7*
*ISK **26** 01:06:23.1, 38°.75N×43°.49E, h5km, ML3.4*
*CSEM **26** 01:06:24.8±0.2, 38°.73N×43°.51E, h5km, ML3.4, Error ellipse: s-maj=5.6km s-min=4.2km az=87.0*

ISC 26 01:06:25.2±0.9, 38°.74N±0°.02×43°.51E±0°.02, h12km±7km, n64, σ1°.56/98, 1C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	214	*e*PG	Pg	01 06 29.0	-0.1
VANB				*e*SG	Sg	01 06 33.5	+1.5
VANB	Van	0.17	214	*e*Pg	Pg	01 06 29.0	-0.1
GEVA	Gevas	0.55	220	*i* P	Pg	01 06 34.4	-1.7
GEVA				*i* S	Sb	01 06 44.4	-0.5
GEVA	Gevas	0.55	220	P	Pg	01 06 34.4	-1.7
GEVA				S	Sb	01 06 44.4	-0.5
BASK	Baskale_VAN	0.79	150	*i* P	Pg	01 06 38.6	-1.8
BASK				*i* S	Sg	01 06 49.6	-1.1
BASK	Baskale_VAN	0.79	150	P	Pg	01 06 38.6	-1.8
BASK				S	Sg	01 06 49.6	-1.1
DYDN	Diyadin	0.82	10	*i* P	Pg	01 06 39.3	-1.8
DYDN				*i* S	Sb	01 06 52.5	-0.1
DYDN	Diyadin	0.82	10	P	Pg	01 06 39.3	-1.8
DYDN				S	Sb	01 06 52.5	-0.1
TUTA	Tutak	0.86	321	*i* P	Pg	01 06 39.9	-1.9
TUTA				*i* S	Sb	01 06 52.8	-1.0
TUTA	Tutak	0.86	321	P	Pg	01 06 39.9	-1.9
TUTA				S	Sb	01 06 52.8	-1.0
AGRB	Hanur-Agry	0.93	334	*e*PG	Pg	01 06 41.1	-2.1
AGRB				*e*SG	Sb	01 06 55.5	-0.3
AGRB	Hanur-Agry	0.93	334	*e*Pg	Pg	01 06 41.1	-2.1
AGRB				*e*Sg	Sb	01 06 55.5	-0.3
HAKT	HAKKARI	1.19	173	*i* P	Pg	01 06 45.4	-2.6
HAKT				*i* S	Sn	01 07 05.2	+1.2
HAKT	HAKKARI	1.19	173	P	Pg	01 06 45.4	-2.6
HAKT				S	Sn	01 07 05.2	+1.2
EKAR	Karacoban	1.24	295	*i* P	Pn	01 06 47.9	-0.7
EKAR				*i* S	Sn	01 07 08.5	+3.1
EKAR	Karacoban	1.24	295	P	Pn	01 06 47.9	-0.7
EKAR				S	Sn	01 07 08.5	+3.1
EATA	Eleskirt	1.38	325	*i* P	Pn	01 06 49.8	-0.7
EATA				*i* S	Sn	01 07 10.6	+1.8
EATA	Eleskirt	1.38	325	P	Pn	01 06 49.8	-0.7
EATA				S	Sn	01 07 10.6	+1.8
CUKT	Cukurca	1.49	177	*e*PN	Pg	01 06 52.5	-1.3
CUKT	Cukurca	1.49	177	*i* P	Pg	01 06 52.7	-1.1
CUKT				*i* S	Sg	01 07 16.6	+3.4
CUKT	Cukurca	1.49	177	*e*Pn	Pg	01 06 52.5	-1.3
CUKT	Cukurca	1.49	177	P	Pg	01 06 52.7	-1.1
CUKT				S	Sg	01 07 16.5	+3.4
SIRN	S¨–rnak	1.51	215	*i* P	Pg	01 06 53.2	-1.0
SIRN	S¨–rnak	1.51	215	P	Pg	01 06 53.2	-1.0
NAX	Nakhchivan	1.61	74	P	Pg	01 06 54.4	-1.6
	SNR=44						
NAX				⇓S	Sg	01 07 17.7	+0.8
NAX	Nakhchivan	1.61	74	P	Pg	01 06 54.4	-1.6
	SNR=44						
NAX				S	Sg	01 07 17.7	+0.8
VRTB	Varto-Mus	1.66	285	*e*PN	Pb	01 06 55.0	-0.8
VRTB	Varto-Mus	1.66	285	*i* P	Pg	01 06 55.4	-1.6
VRTB	Varto-Mus	1.66	285	*e*Pn	Pb	01 06 55.0	-0.8
VRTB	Varto-Mus	1.66	285	P	Pg	01 06 55.4	-1.6
HOMI	Horasan	1.81	317	*i* P	Pb	01 06 57.8	-0.6
HOMI				*i* S	Sg	01 07 23.6	+0.4
BNGL	BINGOL	1.86	277	*i* P	Pg	01 06 58.9	-1.9
SVAN	Silvan-Diyarba	1.91	253	*e*PN	Pn	01 06 57.9	+0.3
SVAN	Silvan-Diyarba	1.91	253	*i* P	Pb	01 06 58.9	-1.1
SVAN				*i* S	Sg	01 07 26.3	-0.3
SVAN	Silvan-Diyarba	1.91	253	*e*Pn	Pn	01 06 57.9	+0.3
SVAN	Silvan-Diyarba	1.91	253	P	Pb	01 06 58.9	-1.1
SVAN				S	Sg	01 07 26.3	-0.3
EAK	Akyaka	1.95	2	*i* P	Pg	01 07 00.6	-2.0
EAK				*i* S	Sg	01 07 32.4	+4.5
EAK	Akyaka	1.95	2	P	Pg	01 07 00.6	-2.0
BTMN	Batman	1.96	245	*i* P	Pb	01 07 00.0	-0.8
BTMN				*i* S	Sg	01 07 27.7	-0.3
BTMN	Batman	1.96	245	P	Pb	01 07 00.0	-0.8
BTMN				S	Sg	01 07 27.7	-0.3
SENK	Senkaya-Erzuru	2.03	334	*e*PN	Pn	01 06 59.7	+0.3
SENK	Senkaya-Erzuru	2.03	334	*e*Pn	Pn	01 06 59.7	+0.3
ERZM	Erzurum	2.03	306	*i* P	Pb	01 07 01.4	-0.8
ERZM	Erzurum	2.03	306	P	Pb	01 07 01.4	-0.8
BNGB	Bing¨¶l	2.23	277	*e*PN	Pn	01 07 02.4	+0.7
YEDI	Yedisu-Bingol	2.41	288	*e*PN	Pn	01 07 05.0	+0.4
YEDI	Yedisu-Bingol	2.41	288	*e*Pn	Pn	01 07 05.0	+0.4
BGD	Bogdanovka	2.53	1	P	Pg	01 07 12.2	-1.5
BGD				S	Sg	01 07 48.2	+1.8
GDB	GEDABAY	2.63	40	⇓P	Pn	01 07 08.7	+1.0
GDB	GEDABAY	2.63	40	P	Pn	01 07 08.7	+1.0
AKH	Akhalkalaki	2.67	360	P	Pg	01 07 15.1	-1.3
AKH				S	Sg	01 07 54.2	+3.2
QZX	Qazax, Azerbai	2.73	31	⇓P	Pn	01 07 09.9	+1.1
QZX				⇓S	Sb	01 07 47.1	-0.2
QZX	Qazax, Azerbai	2.73	31	P	Pn	01 07 09.9	+1.1
QZX				S	Sb	01 07 47.1	-0.2
MAZI	Mazidag	2.73	243	*e*PN	Pn	01 07 09.4	+0.4
MAZI	Mazidag	2.73	243	*e*Pn	Pn	01 07 09.4	+0.4
GANJ	Ganja	2.89	48	⇓P	Pn	01 07 11.8	+0.7
GANJ				⇑S	Sg	01 07 55.5	-2.5
GANJ	Ganja	2.89	48	P	Pn	01 07 11.8	+0.7
DGRG	David-gareji	3.06	27	P	Pg	01 07 21.6	-2.3
DGRG				S	Sg	01 08 06.8	+3.2
TBLG	Delisi	3.13	17	P	Pb	01 07 21.6	+0.7
TBLG				S	Sg	01 08 06.7	+0.8
PTK	Pertek	3.22	274	*e*PN	Pn	01 07 16.6	+0.8
PTK	Pertek	3.22	274	*e*Pn	Pn	01 07 16.6	+0.8
SVRC	Sivrice-ELAZID	3.32	265	*e*PN	Pn	01 07 18.3	+1.2
SVRC	Sivrice-ELAZID	3.32	265	*e*Pn	Pn	01 07 18.3	+1.2
ONI	Oni	3.85	359	P	Pb	01 07 30.0	-3.1

*ISK **26** 01:16:38.6, 38°.92N×43°.63E, h5km, ML3.2*
*DDA **26** 01:16:39.8, 38°.89N×43°.55E, h7km, Ml3.6*
*CSEM **26** 01:16:40.2±0.3, 38°.95N×43°.64E, h2km, ML3.2, Error ellipse: s-maj=7.6km s-min=4.3km az=86.0*

ISC 26 01:16:39.7±1.2, 38°.91N±0°.02×43°.58E±0°.03, h4km±11km, n51, σ1°.72/77, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.35	205	*e*PG	Pb	01 16 47.6	-0.9
VANB				*e*SG	Sb	01 16 55.4	+0.9
VANB	Van	0.35	205	*e*Pg	Pb	01 16 47.6	-0.9
VANB				*e*Sg	Sb	01 16 55.4	+0.9
DYDN	Diyadin	0.64	8	*i* P	Pb	01 16 51.6	-1.9
DYDN				*i* S	Sb	01 17 01.7	-1.1
DYDN	Diyadin	0.64	8	P	Pb	01 16 51.6	-1.9
DYDN				S	Sb	01 17 01.7	-1.1
GEVA	Gevas	0.73	214	*i* P	Pg	01 16 52.0	-1.6
GEVA				*i* S	Sb	01 17 05.3	0.0
GEVA	Gevas	0.73	214	P	Pg	01 16 52.0	-1.6
GEVA				S	Sb	01 17 05.3	0.0
TUTA	Tutak	0.77	310	*i* P	Pg	01 16 53.7	-0.8
TUTA				*i* S	Sb	01 17 05.3	-1.4
TUTA	Tutak	0.77	310	P	Pg	01 16 53.7	-0.8
TUTA				S	Sb	01 17 05.3	-1.4
AGRB	Hanur-Agry	0.80	326	*e*PG	Pb	01 16 54.8	-1.5
AGRB				*e*SG	Sn	01 17 07.8	-2.6
AGRB	Hanur-Agry	0.80	326	*e*Pg	Pb	01 16 54.8	-1.5
AGRB				*e*Sg	Sn	01 17 07.8	-2.6
EKAR	Karacoban	1.23	287	*i* P	Pg	01 17 05.7	+2.5
EKAR				*i* S	Sn	01 17 26.3	+5.3
EKAR	Karacoban	1.23	287	P	Pg	01 17 05.7	+2.5
EKAR				S	Sn	01 17 26.3	+5.3
EATA	Eleskirt	1.27	319	*i* P	Pg	01 17 03.7	-0.3
EATA				*i* S	Sn	01 17 22.3	+0.2
EATA	Eleskirt	1.27	319	P	Pg	01 17 03.7	-0.3
EATA				S	Sn	01 17 22.3	+0.2
HAKT	HAKKARI	1.36	176	*i* P	Pg	01 17 04.8	-0.9
HAKT				*i* S	Sg	01 17 24.6	+1.3
HAKT	HAKKARI	1.36	176	P	Pg	01 17 04.8	-0.9
HAKT				S	Sg	01 17 24.6	+1.3
DIGO	Kars	1.51	354	*i* P	Pg	01 17 09.1	+0.5
DIGO	Kars	1.51	354	P	Pg	01 17 09.1	+0.5
CUKT	Cukurca	1.66	179	*e*PN	Pg	01 17 11.0	-0.5
CUKT	Cukurca	1.66	179	*i* P	Pg	01 17 12.9	+1.4
CUKT				*i* S	Sg	01 17 33.8	+0.7
CUKT	Cukurca	1.66	179	*e*Pn	Pg	01 17 11.0	-0.5
CUKT	Cukurca	1.66	179	P	Pg	01 17 12.9	+1.4
CUKT				S	Sg	01 17 33.8	+0.7
VRTB	Varto-Mus	1.67	279	*e*PN	Pb	01 17 10.4	-0.7
VRTB	Varto-Mus	1.67	279	*i* P	Pg	01 17 11.3	-0.4
VRTB				*i* S	Sg	01 17 35.3	+1.9
VRTB	Varto-Mus	1.67	279	*e*Pn	Pb	01 17 10.4	-0.7
VRTB	Varto-Mus	1.67	279	P	Pg	01 17 11.3	-0.4
VRTB				S	Sg	01 17 35.3	+1.9
HOMI	Horasan	1.72	312	*i* P	Pg	01 17 12.6	0.0
EAK	Akyaka	1.77	1	*i* P	Pg	01 17 15.2	+1.6
EAK	Akyaka	1.77	1	P	Pg	01 17 15.2	+1.6
BNGL	BINGOL	1.90	272	*i* P	Pg	01 17 15.3	-0.7
BNGL				*i* S	Sg	01 17 41.4	+0.9
SENK	Senkaya-Erzuru	1.90	330	*e*PN	Pb	01 17 13.6	-1.4
SENK	Senkaya-Erzuru	1.90	330	*e*Pn	Pb	01 17 13.6	-1.4
SVAN	Silvan-Diyarba	2.02	249	*e*PN	Pb	01 17 15.8	-1.1
SVAN	Silvan-Diyarba	2.02	249	*i* P	Pb	01 17 16.6	-0.3
SVAN				*i* S	Sb	01 17 42.9	+0.6
SVAN	Silvan-Diyarba	2.02	249	*e*Pn	Pb	01 17 15.8	-1.1
SVAN	Silvan-Diyarba	2.02	249	P	Pb	01 17 16.6	-0.3
SVAN				S	Sb	01 17 42.9	+0.6
BTMN	Batman	2.08	241	*i* P	Pb	01 17 17.5	-0.5
BTMN				*i* S	Sg	01 17 45.6	-1.0
BTMN	Batman	2.08	241	P	Pb	01 17 17.5	-0.5
BTMN				S	Sg	01 17 45.6	-1.0
ECAT	Cat-ERZURUM	2.14	290	*i* P	Pb	01 17 18.6	-0.5
ECAT	Cat-ERZURUM	2.14	290	P	Pb	01 17 18.6	-0.5
BNGB	Bing¨¶l	2.26	273	*e*PN	Pb	01 17 19.6	-1.5
BGD	Bogdanovka	2.35	0	P	Pg	01 17 24.6	-0.1
BGD				S	Sg	01 17 59.8	+4.6
BINT	Bingol	2.41	270	*e*Pn	Pn	01 17 19.7	-0.3
YEDI	Yedisu-Bingol	2.42	283	*e*PN	Pb	01 17 21.6	-2.1
YEDI	Yedisu-Bingol	2.42	283	*e*Pn	Pb	01 17 21.7	-2.1
AKH	Akhalkalaki	2.49	358	P	Pg	01 17 26.9	-0.6
AKH				S	Sg	01 18 07.7	+7.9
DGRG	David-gareji	2.88	28	P	Pg	01 17 35.4	+0.5
TBLG	Delisi	2.95	17	P	Pn	01 17 27.4	+0.1
TBLG	Delisi	2.95	17	P	Pn	01 17 27.4	+0.1
PTK	Pertek	3.27	271	*e*PN	Pb	01 17 34.0	-4.2
PTK	Pertek	3.27	271	*e*Pn	Pb	01 17 34.1	-4.2

IDC 26 01:29:49.5±2.5, 45°.93S×72°.73W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/44, mbtmp3.8/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/27, Error ellipse: s-maj=70.6km s-min=54.3km az=70.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	29.80	9	P	P	01 35 58.8	0.0
	0.6nm,0.5s,baz=180,slow=12,SNR=3.5						
SIV	San Ignacio	31.41	22	P	P	01 36 12.2	-0.1
	2.3nm,0.8s,baz=209,slow=8.6,SNR=4.5						
PCRV	Puerto La Cruz	56.32	10	LR	LR	02 04 13.2	
	comp=Z,116nm,20.1s,baz=28,slow=37						
TXAR	Lajitas Array	80.00	333	P	P	01 42 00.8	+0.2
	0.3nm,0.8s,baz=150,slow=7.3,SNR=4.1						
AFI	Afiamalu	86.31	254	LR	LR	02 11 37.6	
	comp=Z,37nm,20.3s,baz=52,slow=29						
TORD	Torodi Ar. Bea	88.81	70	P	P	01 42 45.8	+0.3
	0.7nm,0.9s,baz=238,slow=4.8,SNR=3.8						
ARU	Arti	148.35	53	PKPbc	PKPbc	01 49 35.6	-1.2
	1.1nm,0.3s,baz=264,slow=21,SNR=1.5						

MAN 26 01:34:56, 6°.42N×127°.13E, h112km, mb4.5, ML3.4, MS3.3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.01	301	*e*P	Pn	01 35 18.1	+0.6
MATI				*e*S	Sn	01 35 34.7	+1.0
DMPH	Davao City--Mi	1.74	292	⇑*i*P	Pn	01 35 27.3	+1.5
DMPH				*i* S	Sn	01 35 45.0	-3.6
BIPH	Bislig	1.91	336	⇑*i*P	Pn	01 35 35.4	+7.4
BIPH				*i* S	Sn	01 36 02.1	+10
BUKP	Musuan	2.51	305	*e*P	Pn	01 35 36.7	+0.9
BUKP				*e*S	Sn	01 36 07.6	+1.4

DJA 26 01:36:15.4±0.4, 8°.S±5°.×11°.8E±°, h175km±4km, M3.9/12, mb4.2/1, MLv3.8/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.51	208	P	Pn	01 36 40.2	+0.5
PLAI				S	Sn	01 37 00.1	+1.7
TWSI	Taliwang, Sumb	1.18	252	P	Pn	01 36 44.9	+0.9
TWSI				S	Sn	01 37 07.1	+1.0
WSI	Waingapu	2.59	120	P	Pn	01 36 59.6	+0.7
WSI				S	Sn	01 37 32.7	+0.1
SRBI	Singaraja	2.79	276	P	Pn	01 37 02.0	+0.7
SRBI				S	Sn	01 37 38.4	+1.4
IGBI	Denpasar	2.88	261	P	Pn	01 37 02.1	-0.2
IGBI				S	Sn	01 37 39.6	+0.8
BASI	Baing, Sumba	3.12	126	P	Pn	01 37 05.4	+0.1
BASI				S	Sn	01 37 44.8	+0.7
BSSI	Bau Bau, Buton	3.31	48	P	Pn	01 37 07.7	0.0
EDFI	Ende, Flores	3.65	96	P	Pn	01 37 12.2	+0.2
EDFI				S	Sn	01 37 55.5	-0.7
BKSI	Bulukumba	3.69	35	P	Pn	01 37 12.4	0.0
JAGI	Jajag, Banyuwa	3.83	268	P	Pn	01 37 13.3	-0.9
JAGI				S	Sn	01 37 58.0	-2.1
SOEI	Soe	6.32	103	P	Pn	01 37 47.4	+0.7

*DDA **26** 01:37:05.0, 38°.84N×43°.57E, h3km, Ml3.8*
*ISK **26** 01:37:05.6, 38°.88N×43°.52E, h3km, ML3.6*
*CSEM **26** 01:37:06.9±0.3, 38°.87N×43°.51E, h2km, ML3.6, Error ellipse: s-maj=6.4km s-min=5.2km az=118.0*
*AZER **26** 01:37:06.8±3.0, 38°.65N×43°.52E, h15km, Error ellipse: s-maj=33.9km s-min=17.9km az=25.0*

ISC 26 01:37:07.0±1.1, 38°.86N±0°.02×43°.51E±0°.02, h6km±9km, n65, σ1°.52/94, 4C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.28	200	*e*PG	Pg	01 37 13.3	+0.8
VANB				*e*SG	Sb	01 37 20.0	+0.4
VANB	Van	0.28	200	*e*Pg	Pg	01 37 13.4	+0.8
GEVA	Gevas	0.65	213	*i* P	Pg	01 37 18.2	-1.4
GEVA				*i* S	Sn	01 37 31.7	-2.0
GEVA	Gevas	0.65	213	P	Pg	01 37 18.2	-1.4
GEVA				S	Sn	01 37 31.7	-2.0
DYDN	Diyadin	0.69	11	*i* P	Pg	01 37 18.8	-1.6
DYDN				*i* S	Sg	01 37 29.7	+0.2
DYDN	Diyadin	0.69	11	P	Pg	01 37 18.8	-1.6
DYDN				S	Sg	01 37 29.7	+0.2
TUTA	Tutak	0.77	315	*i* P	Pg	01 37 20.4	-1.3
TUTA				*i* S	Sb	01 37 32.6	-1.0
TUTA	Tutak	0.77	315	P	Pg	01 37 20.4	-1.3
TUTA				S	Sb	01 37 32.6	-1.0
AGRB	Hanur-Agry	0.82	331	*e*PG	Pg	01 37 21.6	-1.1
AGRB				*e*SG	Sg	01 37 33.4	0.0
AGRB	Hanur-Agry	0.82	331	*e*Pg	Pg	01 37 21.6	-1.1
AGRB				*e*Sg	Sg	01 37 33.4	0.0
EKAR	Karacoban	1.20	290	*i* P	Pn	01 37 30.0	-0.4
EKAR				*i* S	Sn	01 37 49.5	+2.4
EKAR	Karacoban	1.20	290	P	Pn	01 37 30.0	-0.4
EKAR				S	Sn	01 37 49.5	+2.4
EATA	Eleskirt	1.27	322	*i* P	Pn	01 37 29.9	-1.7
EATA				*i* S	Sn	01 37 49.0	-0.2
EATA	Eleskirt	1.27	322	P	Pn	01 37 29.9	-1.7
EATA				S	Sn	01 37 49.0	-0.2
HAKT	HAKKARI	1.31	173	*i* P	Pn	01 37 28.9	-3.1
HAKT				*i* S	Sn	01 37 53.7	+3.8
HAKT	HAKKARI	1.31	173	P	Pn	01 37 28.9	-3.1
HAKT				S	Sn	01 37 53.7	+3.8
DIGO	Kars	1.56	356	*i* P	Pb	01 37 35.8	-0.5
DIGO	Kars	1.56	356	P	Pb	01 37 35.8	-0.5
NAX	Nakhchivan	1.58	78	⇑P	Pn	01 37 34.9	-0.6
	SNR=29						
NAX				⇓S	Sb	01 37 56.4	-0.3
NAX	Nakhchivan	1.58	78	P	Pn	01 37 34.9	-0.6
	SNR=29						
NAX				S	Sb	01 37 56.4	-0.3
CUKT	Cukurca	1.61	177	*e*PN	Pb	01 37 36.6	-0.6
CUKT	Cukurca	1.61	177	*e*Pn	Pb	01 37 36.6	-0.6
VRTB	Varto-Mus	1.63	281	*e*PN	Pn	01 37 36.0	-0.4
VRTB	Varto-Mus	1.63	281	*i* P	Pb	01 37 36.7	-0.8
VRTB				*i* S	Sg	01 38 01.5	+2.1
VRTB	Varto-Mus	1.63	281	*e*Pn	Pn	01 37 36.0	-0.4
VRTB	Varto-Mus	1.63	281	P	Pb	01 37 36.7	-0.8
VRTB				S	Sg	01 38 01.5	+2.1
HOMI	Horasan	1.72	314	*i* P	Pb	01 37 38.2

GEVA				S		Sb	01 44 04.3	-0.5
TUTA	**Tutak**	**0.80**	**336**	*i* P		**Pg**	**01 44 04.8**	**-0.9**
TUTA				*i* S		**Sg**	**01 44 14.5**	**-1.7**
TUTA	**Tutak**	**0.80**	**336**	P		**Pg**	**01 44 04.8**	**-0.9**
TUTA				S		**Sg**	**01 44 14.5**	**-1.7**
BASK	**Baskale_VAN**	**0.86**	**135**	*i* P		**Pg**	**01 44 05.4**	**-1.3**
BASK				*i* S		**Sb**	**01 44 18.7**	**0.0**
BASK	**Baskale_VAN**	**0.86**	**135**	P		**Pg**	**01 44 05.4**	**-1.3**
BASK				S		**Sb**	**01 44 18.7**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*PG		**Pb**	**01 44 07.6**	**-0.6**
AGRB				*e*SG		**Sg**	**01 44 19.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*Pg		**Pb**	**01 44 07.6**	**-0.6**
AGRB				*e*Sg		**Sg**	**01 44 19.7**	**-0.4**
DYDN	**Diyadin**	**0.94**	**22**	*i* P		**Pb**	**01 44 07.8**	**-0.7**
DYDN	**Diyadin**	**0.94**	**22**	P		**Pb**	**01 44 07.8**	**-0.7**
EKAR	**Karacoban**	**1.09**	**303**	*i* P		**Pn**	**01 44 12.9**	**+1.5**
EKAR				*i* S		**Sn**	**01 44 30.1**	**+3.6**
EKAR	**Karacoban**	**1.09**	**303**	P		**Pn**	**01 44 12.9**	**+1.5**
EATA	**Eleskirt**	**1.32**	**334**	*i* P		**Pn**	**01 44 14.4**	**-0.3**
EATA				*i* S		**Sn**	**01 44 33.4**	**+0.9**
EATA	**Eleskirt**	**1.32**	**334**	P		**Pn**	**01 44 14.4**	**-0.3**
EATA				S		**Sn**	**01 44 33.4**	**+0.9**
CUKT	**Cukurca**	**1.45**	**168**	*e*PN		**Pg**	**01 44 17.3**	**-0.6**
CUKT	**Cukurca**	**1.45**	**168**	*e*Pn		**Pg**	**01 44 17.3**	**-0.6**
VRTB	**Varto-Mus**	**1.48**	**290**	*e*PN		**Pb**	**01 44 17.3**	**-0.2**
VRTB	**Varto-Mus**	**1.48**	**290**	*i* P		**Pg**	**01 44 17.5**	**-0.9**
VRTB	**Varto-Mus**	**1.48**	**290**	*e*Pn		**Pb**	**01 44 17.3**	**-0.2**
VRTB	**Varto-Mus**	**1.48**	**290**	P		**Pg**	**01 44 17.5**	**-0.9**
BNGL	**BINGOL**	**1.66**	**280**	*i* P		**Pb**	**01 44 20.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**253**	*e*PN		**Pb**	**01 44 20.4**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.68**	**253**	*i* P		**Pb**	**01 44 20.9**	**-0.1**
SVAN				*i* S		**Sg**	**01 44 44.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.68**	**253**	*e*Pn		**Pb**	**01 44 20.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.68**	**253**	P		**Pb**	**01 44 20.9**	**-0.1**
SVAN				S		**Sg**	**01 44 44.4**	**+0.2**
HOMI	**Horasan**	**1.72**	**323**	*i* P		**Pg**	**01 44 22.5**	**-0.6**
BTMN	**Batman**	**1.73**	**244**	*i* P		**Pb**	**01 44 21.0**	**-0.9**
BTMN				*i* S		**Sg**	**01 44 44.8**	**-1.0**
BTMN	**Batman**	**1.73**	**244**	P		**Pb**	**01 44 21.0**	**-0.9**
BTMN				S		**Sg**	**01 44 44.8**	**-1.0**
DIGO	**Kars**	**1.75**	**3**	*i* P		**Pg**	**01 44 23.3**	**-0.3**
DIGO	**Kars**	**1.75**	**3**	P		**Pg**	**01 44 23.3**	**-0.3**
ERZM	**Erzurum**	**1.91**	**311**	*i* P		**Pg**	**01 44 26.6**	**0.0**
ERZM	**Erzurum**	**1.91**	**311**	P		**Pg**	**01 44 26.6**	**0.0**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*PN		**Pn**	**01 44 24.2**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.01**	**340**	*e*Pn		**Pn**	**01 44 24.3**	**+0.2**
BNGB	**Bing¶‖**	**2.02**	**280**	*e*PN		**Pn**	**01 44 25.4**	**+1.3**
BINT	**Bingol**	**2.16**	**276**	*e*Pn		**Pn**	**01 44 25.4**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.23**	**291**	*e*PN		**Pn**	**01 44 28.0**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.23**	**291**	*e*Pn		**Pn**	**01 44 28.0**	**+0.9**
MAZI	**Mazidag**	**2.51**	**242**	*e*PN		**Pn**	**01 44 30.6**	**-0.2**
MAZI	**Mazidag**	**2.51**	**242**	*e*Pn		**Pn**	**01 44 30.6**	**-0.2**
PTK	**Pertek**	**3.01**	**275**	*e*PN		**Pn**	**01 44 39.4**	**+1.6**
PTK	**Pertek**	**3.01**	**275**	*e*Pn		**Pn**	**01 44 39.4**	**+1.6**

KRSC 26 01:43:58.3±0.7, 54°.55N×161°.85E, h66km±8km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.07**	**279**	*e*P	Pn	01 44 09.6	+1.7
MKZ				*e*S	Sn	01 44 16.4	+1.5
KZV	**Kizimen**	**1.07**	**303**	*e*P	Pn	01 44 18.1	+0.6
KZV				*e*S	Sn	01 44 31.2	-0.7
TUMR	**Tumrok**	**1.23**	**308**	*e*P	Pn	01 44 20.7	+1.1
KMNR	**Kamenistaya**	**1.53**	**323**	*e*P	Pn	01 44 25.5	+2.0
KMNR				*e*S	Sn	01 44 45.2	+2.6
ZLN	**Zelenaya**	**1.59**	**338**	*e*P	Pn	01 44 26.7	+2.3
ZLN				*e*S	Sn	01 44 46.6	+2.5
BZMR	**Bezymyannaya**	**1.60**	**331**	*e*P	Pn	01 44 25.8	+1.3
BZMR				*e*S	Sn	01 44 45.1	+0.8
KIRR	**Kirishev**	**1.66**	**329**	*e*P	Pn	01 44 27.6	+2.3
LGNR	**Loginova**	**1.68**	**337**	*e*P	Pn	01 44 27.9	+2.2
LGNR				*e*S	Sn	01 44 48.6	+2.1
KPT	**Kopyto**	**1.70**	**327**	*e*P	Pn	01 44 28.1	+2.2
KBTR	**Krutoberegovo**	**1.75**	**18**	*e*P	Pn	01 44 29.0	+2.5
KBG	**Krutoberegovo**	**1.78**	**15**	*e*P	Pn	01 44 28.5	+1.7
KBG				*e*S	Sn	01 44 49.7	+1.3
SPN	**Mys Shipunski**	**1.81**	**218**	*e*P	Pn	01 44 28.7	+1.5
SPN				*e*S	Sn	01 44 50.1	+0.9
KRSR	**Krestovskiy**	**1.83**	**337**	*e*P	Pn	01 44 29.8	+2.2
KRSR				*e*S	Sn	01 44 52.0	+2.2
NLC	**Nalytchevo**	**2.03**	**228**	*e*P	Pn	01 44 32.4	+2.3
NLC				*e*S	Sn	01 44 56.6	+2.3
SDLR	**Sedlovina**	**2.17**	**235**	*e*P	Pn	01 44 34.9	+2.7
SDLR				*e*S	Sn	01 45 00.3	+2.3
KRER	**Koryakskii**	**2.22**	**237**	*e*P	Pn	01 44 35.8	+2.9
KRER				*e*S	Sn	01 45 01.9	+2.6
KRX	**Arik**	**2.24**	**239**	*e*P	Pn	01 44 35.8	+2.7
KRX				*e*S	Sn	01 45 02.6	+2.9
UGLR	**Uglovaya**	**2.24**	**234**	*e*P	Pn	01 44 36.0	+2.9
UGLR				*e*S	Sn	01 45 02.5	+2.8
AVH	**Avacha**	**2.25**	**236**	*e*P	Pn	01 44 36.2	+3.0
AVH				*e*S	Sn	01 45 02.9	+3.0
KOK	**Koryaka**	**2.28**	**238**	*e*P	Pn	01 44 37.0	+3.3
DALK	**Dalny**	**2.38**	**232**	*e*P	Pn	01 44 37.8	+2.8
DALK				*e*S	Sn	01 45 05.6	+2.5
PET	**Petropavlovsk**	**2.44**	**233**	*e*P	Pn	01 44 38.5	+2.9
PET				*e*S	Sn	01 45 07.3	+3.0
GNL	**Ganaly**	**2.46**	**251**	*e*P	Pn	01 44 38.6	+2.5
BKI	**Bering**	**2.47**	**73**	*e*S	Sn	01 45 07.0	+1.9
KRMR	**Karymshinskiy**	**2.80**	**234**	*e*P	Pn	01 44 43.8	+3.1
KRMR				*e*S	Sn	01 45 16.2	+2.9
RUS	**Russkaya**	**2.91**	**225**	*e*P	Pn	01 44 44.2	+2.1
RUS				*e*S	Sn	01 45 17.1	+1.2
ASAK	**Asacha**	**3.21**	**229**	*e*P	Pn	01 44 49.9	+3.7

GUC ***26*** *01:49:59.2±0.3, 45°.85S×72°.97W, h22km±61km, ML3.5*
ISCJB ***26*** *01:50:02.5±0.3, 45°.88S±0°.04×72°.70W±0°.09, h33km, mb4.6/24, MS3.1/1, Error ellipse: s-maj=9.3km s-min=5.0km az=8.9*
NEIC ***26*** *01:50:03.9±2.1, 45°.89S×72°.74W, h30km±15km, mb4.6/15, Error ellipse: s-maj=13.0km s-min=6.3km az=94.0*
IDC ***26*** *01:50:07.2±3.7, 45°.74S×72°.58W, h51km±31km, mb4.0/12, mb1 4.1/14, mb1mx3.8/46, mbtmp4.2/14, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/21, Error ellipse: s-maj=32.4km s-min=15.6km az=82.0*

ISC 26 01:50:04.4±0.5, 45°.91S±0°.04×72°.60W±0°.08, h35km, n48, σ1s42/52, mb4.4/24, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**0.50**	**47**	*e*P	**Pn**	**01 50 12.3**	**-2.7**
COYC				*e*S	**Sn**	**01 50 22.1**	**-0.3**
COYC				IAML		01 50 26.0	
	comp=N,3μm,0.8s						
CHRN	**Cochrane**	**1.34**	**180**	*e*P	**Pn**	**01 50 24.6**	**-2.1**
CHRN				*e*S	**Sn**	**01 50 43.9**	**+0.6**
CHRN				IAML		01 50 48.1	
	comp=E,2μm,0.6s						
CHRN	**Cochrane**	**1.34**	**180**	*e*Pn	**Pn**	**01 50 24.8**	**-1.8**
CHRN				*e*Sn	**Sn**	**01 50 43.9**	**+0.6**
GO07	**Milladeo Hill,**	**2.90**	**344**	*e*P	**Pn**	**01 50 46.4**	**-1.6**
GO07				*e*S	**Sn**	**01 51 26.7**	**+5.1**
GO09	**Cerro Castillo**	**5.37**	**178**	*e*Pn	**Pn**	**01 51 21.6**	**-0.4**
PLCA	**Paso Flores**	**5.39**	**17**	P	**Pn**	**01 51 23.9**	**+1.5**
	comp=E,0.7nm,0.3s,baz=231,slow=14,SNR=19						
PLCA				Lg	Lg	01 52 48.2	
	comp=E,3.6nm,0.3s,baz=130,slow=23,SNR=3.6						
PLCA				LR	LR	01 53 35.6	
	comp=E,181nm,20.7s,baz=163,slow=40						
GO05	**HualaæØ**	**10.90**	**3**	*e*Pn	**Pn**	**01 52 37.3**	**-0.6**
TRQA	**Tornquist**	**11.13**	**49**	*e*Pn	**Pn**	**01 52 43.7**	**+2.6**
PMSA	**Palmer Station**	**19.49**	**169**	P	**Pn**	**01 54 30.9**	**+1.4**
	comp=E,0.3nm,0.3s,baz=169,slow=8.4,SNR=2.5						
PMSA	**Palmer Station**	**19.49**	**169**	*e*P	**Pn**	**01 54 28.6**	**-0.9**
CPUP	**Villa Florida**	**23.03**	**37**	P	**P**	**01 55 06.5**	**+0.1**
	comp=E,2.5nm,0.6s,baz=226,slow=10,SNR=8.9						
CPUP				LR	LR	02 05 00.9	
	comp=E,77nm,21.2s,baz=185,slow=39						
LVC	**Limon Verde**	**23.44**	**9**	P	**P**	**01 55 09.9**	**-0.9**
	comp=E,11nm,0.7s,baz=265,slow=11,SNR=3.5						
LVC	**Limon Verde**	**23.44**	**9**	*e*P	**P**	**01 55 09.9**	**-0.9**
	comp=E,12nm,1.1s						
MNMC	**Minye Minye**	**26.82**	**6**	*e*P	**P**	**01 55 40.4**	**-1.3**
	comp=E,10nm,0.9s						
LPAZ	**La Paz**	**29.77**	**9**	P	**P**	**01 56 07.8**	**-0.6**
	comp=E,1.9nm,0.5s,baz=148,slow=5.6,SNR=9.3						
LPAZ	**La Paz**	**29.77**	**9**	*e*P	**P**	**01 56 07.8**	**-0.6**
	comp=E,6.9nm,1.3s						
SIV	**San Ignacio**	**31.35**	**22**	P	**P**	**01 56 21.7**	**0.0**
	comp=E,4.5nm,0.7s,baz=207,slow=10,SNR=5.5						
BDFB	**Brasilia**	**36.53**	**42**	P	**P**	**01 57 07.3**	**+0.5**
	comp=E,1.9nm,0.6s,baz=326,slow=8.3,SNR=2.6						
SAML	**Samuel**	**37.71**	**15**	*e*P	**P**	**01 57 15.9**	**-0.7**
	comp=E,7.7nm,1.4s						
SNAA	**Sanae**	**40.93**	**153**	P	**P**	**01 57 44.9**	**+1.9**
	comp=E,6.7nm,1.0s,baz=257,slow=7.4,SNR=15						
SNAA	**Sanae**	**40.93**	**153**	*e*P	**P**	**01 57 45.0**	**+1.9**
	comp=E,11nm,1.1s						
QSPA	**South Pole Qui**	**44.34**	**180**	*e*P	**P**	**01 58 10.8**	**-0.1**
	comp=E,40nm,1.1s						
PTGA	**Pitinga**	**46.34**	**18**	P	**P**	**01 58 26.1**	**-1.0**
	comp=E,1.7nm,0.5s,baz=220,slow=5.3,SNR=3.1						
PTCN	**Pitcairn Islan**	**50.06**	**274**	*e*P	**P**	**01 58 54.7**	**-1.1**
	comp=E,681nm,1.3s						
RUSC	**La Rusia**	**51.57**	**359**	*e*P	**P**	**01 59 04.4**	**-3.3**
	comp=E,12nm,2.0s						
HELC	**Santa Helena**	**51.93**	**356**	*e*P	**P**	**01 59 10.5**	**+0.3**
	comp=E,43nm,1.9s						
ASCN	**Ascension**	**62.47**	**72**	*e*P	**P**	**02 00 23.5**	**-0.9**
	comp=E,192nm,1.0s						
JCT	**Junction City**	**79.93**	**336**	*e*P	**P**	**02 02 09.9**	**+0.4**
	comp=E,8.0nm,1.0s						
LTX	**Lajitas**	**80.02**	**333**	*e*P	**P**	**02 02 10.4**	**+0.3**
TXAR	**Lajitas Array**	**80.02**	**333**	P	**P**	**02 02 10.4**	**+0.3**
	comp=E,1.3nm,0.8s,baz=152,slow=8.2,SNR=14						
TX31	**Lajitas Ar. Si**	**80.02**	**333**	*e*P	**P**	**02 02 10.6**	**+0.4**
MNTX	**Cornudas Mount**	**82.76**	**332**	*e*P	**P**	**02 02 23.8**	**-0.7**
	comp=E,2.5nm,0.8s						
MSTX	**Muleshoe**	**84.06**	**335**	*e*P	**P**	**02 02 31.4**	**+0.1**
	comp=E,3.7nm,0.8s						
ANMO	**Albuquerque**	**86.10**	**333**	P	**P**	**02 02 41.8**	**+0.3**
	comp=E,2.5nm,0.8s,baz=340,slow=5.9,SNR=7.4						
LSZ	**Lusaka**	**86.48**	**108**	P	**P**	**02 02 45.5**	**+1.5**
	comp=E,2.0nm,0.7s,baz=187,slow=6.3,SNR=4.1						
LSZ	**Lusaka**	**86.48**	**108**	*e*P	**P**	**02 02 45.5**	**+1.5**
	comp=E,17nm,1.9s						
TORD	**Torodi Ar. Bea**	**88.72**	**70**	P	**P**	**02 02 53.1**	**-1.3**
	comp=E,0.6nm,0.8s,baz=213,slow=11,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**88.72**	**70**	*e*P	**P**	**02 02 53.1**	**-1.3**
	comp=E,18nm,1.7s						
S22A	**4UR Ranch, Cre**	**88.78**	**334**	*e*P	**P**	**02 02 55.1**	**+0.6**
	comp=E,5.6nm,1.3s						
PD31	**Pinedale Array**	**94.22**	**334**	*e*P	**P**	**02 03 19.1**	**-0.4**
PDAR	**Pinedale Array**	**94.22**	**334**	P	**P**	**02 03 19.1**	**-0.4**
	comp=E,0.5nm,0.9s,baz=172,slow=2.2,SNR=3.7						
ILAR	**Eielson Array**	**124.46**	**330**	PKP	**PKPdf**	**02 08 58.7**	**+0.2**
	comp=E,0.8nm,0.8s,baz=163,slow=3.0,SNR=8.5						
ILB	**Eielson Array**	**124.46**	**330**	*e*PKPdf	**PKPdf**	**02 08 58.7**	**+0.2**
AKTO	**Aktyubinsk**	**147.25**	**64**	PKPbc	**PKPab**	**02 09 44.0**	**-1.2**
	comp=E,2.0nm,0.9s,baz=108,slow=12,SNR=3.4						
ARU	**Arti**	**148.27**	**53**	PKPbc	**PKPbc**	**02 09 46.2**	**+0.4**
	comp=E,1.9nm,0.4s,baz=298,slow=6.4,SNR=4.5						
ARU	**Arti**	**148.27**	**53**	*e*PKPbc	**PKPab**	**02 09 48.3**	**-0.7**
CM31	**Chiang Mai Arr**	**151.74**	**163**	*e*PKPbc	**PKPbc**	**02 09 56.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**151.74**	**163**	PKPbc	**PKPbc**	**02 09 56.6**	**+1.3**
	comp=E,2.3nm,0.7s,baz=223,slow=4.0,SNR=7.6						

DDA ***26*** *01:53:10.7, 38°.73N×43°.11E, h2km, Ml3.5*
ISK ***26*** *01:53:10.9, 38°.73N×43°.10E, h6km, ML3.3*
CSEM ***26*** *01:53:11.4±0.2, 38°.73N×43°.08E, h2km, ML3.3, Error ellipse: s-maj=4.7km s-min=3.2km az=64.0*

ISC 26 01:53:11.4±1.1, 38°.72N±0°.02×43°.08E±0°.02, h4km±10km, n51, σ0s96/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**117**	*e*PG	**Pb**	**01 53 17.8**	**-1.1**
VANB				*e*SG	**Sb**	**01 53 22.9**	**-1.0**
VANB	**Van**	**0.27**	**117**	*e*Pg	**Pb**	**01 53 17.8**	**-1.1**
VANB				*e*Sg	**Sb**	**01 53 23.0**	**-1.0**
GEVA	**Gevas**	**0.41**	**182**	*i* P	**Pg**	**01 53 18.7**	**-0.6**
GEVA				*i* S	**Sb**	**01 53 26.1**	**-1.8**
GEVA	**Gevas**	**0.41**	**182**	P	**Pg**	**01 53 18.7**	**-0.6**
GEVA				S	**Sb**	**01 53 26.1**	**-1.8**
TUTA	**Tutak**	**0.71**	**343**	*i* P	**Pg**	**01 53 25.0**	**-0.1**
TUTA				*i* S	**Sg**	**01 53 34.8**	**+0.5**
TUTA	**Tutak**	**0.71**	**343**	P	**Pg**	**01 53 25.0**	**-0.1**
TUTA				S	**Sg**	**01 53 34.8**	**+0.5**
AGRB	**Hanur-Agry**	**0.86**	**355**	*e*PG	**Pg**	**01 53 27.7**	**-0.1**
AGRB				*e*SG	**Sb**	**01 53 39.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.86**	**355**	*e*Pg	**Pg**	**01 53 27.7**	**-0.1**
AGRB				*e*Sg	**Sb**	**01 53 39.6**	**+1.3**
DYDN	**Diyadin**	**0.95**	**30**	*i* P	**Pb**	**01 53 30.0**	**-0.5**
DYDN				*i* S	**Sb**	**01 53 42.2**	**-1.4**
DYDN	**Diyadin**	**0.95**	**30**	P	**Pb**	**01 53 30.0**	**-0.5**
DYDN				S	**Sb**	**01 53 42.2**	**-1.4**
EKAR	**Karacoban**	**0.96**	**304**	*i* P	**Pb**	**01 53 30.1**	**-0.6**
EKAR				*i* S	**Sn**	**01 53 47.5**	**+1.5**
EKAR	**Karacoban**	**0.96**	**304**	P	**Pb**	**01 53 30.1**	**-0.6**
BASK	**Baskale_VAN**	**0.99**	**132**	*i* P	**Pg**	**01 53 29.4**	**-0.9**
BASK				*i* S	**Sb**	**01 53 43.9**	**-0.7**
BASK	**Baskale_VAN**	**0.99**	**132**	P	**Pg**	**01 53 29.4**	**-0.9**
BASK				S	**Sb**	**01 53 43.9**	**-0.7**
EATA	**Eleskirt**	**1.23**	**338**	*i* P	**Pg**	**01 53 34.3**	**-0.6**
EATA				*i* S	**Sn**	**01 53 52.6**	**-0.3**
EATA	**Eleskirt**	**1.23**	**338**	P	**Pg**	**01 53 34.3**	**-0.6**
EATA				S	**Sn**	**01 53 52.6**	**-0.3**
HAKT	**HAKKARI**	**1.26**	**157**	*i* P	**Pg**	**01 53 34.2**	**-1.4**
HAKT				*i* S	**Sn**	**01 53 55.1**	**+1.5**
HAKT	**HAKKARI**	**1.26**	**157**	P	**Pg**	**01 53 34.2**	**-1.4**
HAKT				S	**Sn**	**01 53 55.1**	**+1.5**
SIRN	**S¨–rnak**	**1.33**	**204**	*i* P	**Pb**	**01 53 37.0**	**+0.1**
SIRN	**S¨–rnak**	**1.33**	**204**	P	**Pb**	**01 53 37.0**	**+0.1**
VRTB	**Varto-Mus**	**1.34**	**290**	*e*PN	**Pg**	**01 53 36.7**	**-0.4**
VRTB	**Varto-Mus**	**1.34**	**290**	*i* P	**Pg**	**01 53 36.3**	**-0.8**
VRTB				*i* S	**Sn**	**01 53 56.6**	**+1.3**
VRTB	**Varto-Mus**	**1.34**	**290**	P	**Pg**	**01 53 36.3**	**-0.8**
VRTB	**Varto-Mus**	**1.34**	**290**	*e*Pn	**Pg**	**01 53 36.7**	**-0.4**
VRTB				S	**Sn**	**01 53 56.7**	**+1.3**
BNGL	**BINGOL**	**1.52**	**279**	*i* P	**Pb**	**01 53 40.1**	**-0.3**
BNGL				*i* S	**Sg**	**01 54 00.9**	**+0.5**
CUKT	**Cukurca**	**1.53**	**164**	*e*PN	**Pb**	**01 53 39.8**	**-0.6**
CUKT	**Cukurca**	**1.53**	**164**	*i* P	**Pg**	**01 53 40.6**	**-0.1**
CUKT				*i* S	**Sg**	**01 54 03.3**	**+2.8**
CUKT	**Cukurca**	**1.53**	**164**	*e*Pn	**Pb**	**01 53 39.8**	**-0.6**
CUKT	**Cukurca**	**1.53**	**164**	P	**Pg**	**01 53 40.6**	**-0.1**
CUKT				S	**Sg**	**01 54 03.3**	**+2.8**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	*e*PN	**Pn**	**01 53 40.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	*i* P	**Pb**	**01 53 40.8**	**-0.4**
SVAN				*i* S	**Sn**	**01 54 01.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	*e*Pn	**Pn**	**01 53 40.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	P	**Pb**	**01 53 40.8**	**-0.4**
SVAN				S	**Sn**	**01 54 01.7**	**+0.5**
HOMI	**Horasan**	**1.61**	**326**	*i* P	**Pb**	**01 53 41.5**	**-0.3**
HOMI				*i* S	**Sg**	**01 54 03.1**	**+0.1**
BTMN	**Batman**	**1.65**	**240**	*i* P	**Pb**	**01 53 42.1**	**-0.3**
BTMN				*i* S	**Sg**	**01 54 04.7**	**+0.4**
BTMN	**Batman**	**1.65**	**240**	P	**Pb**	**01 53 42.1**	**-0.3**
BTMN				S	**Sg**	**01 54 04.7**	**+0.4**
ERZM	**Erzurum**	**1.78**	**312**	*i* P	**Pg**	**01 53 45.3**	**-0.2**
ERZM	**Erzurum**	**1.78**	**312**	P	**Pg**	**01 53 45.3**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.86**	**299**	*i* P	**Pb**	**01 53 45.7**	**-0.4**
ECAT				*i* S	**Sg**	**01 54 12.3**	**+1.1**
ECAT	**Cat-ERZURUM**	**1.86**	**299**	P	**Pb**	**01 53 45.7**	**-0.4**
ECAT				S	**Sg**	**01 54 12.3**	**+1.1**
BNGB	**Bing¶‖**	**1.89**	**279**	*e*PN	**Pn**	**01 53 45.5**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.92**	**343**	*e*PN	**Pn**	**01 53 45.4**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.92**	**343**	*e*Pn	**Pn**	**01 53 45.4**	**+0.3**
EAK	**Akyaka**	**2.00**	**12**	*i* P	**Pg**	**01 53 49.7**	**-0.1**
EAK				*i* S	**Sg**	**01 54 18.8**	**+3.0**
EAK	**Akyaka**	**2.00**	**12**	P	**Pg**	**01 53 49.7**	**-0.1**
BINT	**Bingol**	**2.03**	**275**	*e*Pn	**Pn**	**01 53 45.5**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*PN	**Pn**	**01 53 47.9**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*Pn	**Pn**	**01 53 47.9**	**+0.4**
MAZI	**Mazidag**	**2.43**	**240**	*e*PN	**Pn**	**01 53 52.4**	**+0.4**
MAZI	**Mazidag**	**2.43**	**240**	*e*Pn	**Pn**	**01 53 52.4**	**+0.4**
DIYA	**Diyarbakir**	**2.46**	**252**	*i* P	**Pg**	**01 53 58.5**	**0.0**
DIYA				*i* S	**Sg**	**01 54 29.7**	**-0.8**

IDC ***26*** *02:02:37.1±1.4, 39°.93N×77°.14E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.6/74, mbtmp3.7/14, ML3.0/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/50, Error ellipse: s-maj=22.1km s-min=14.8km az=138.0*
ISCJB ***26*** *02:02:39.6±0.3, 39°.98N±0°.02×77°.18E±0°.04, h10km, mb3.7/8, MS3.0/3, Error ellipse: s-maj=4.6km s-min=3.2km az=151.7*
KRNET ***26*** *02:02:42.0±0.1, 40°.32N×77°.23E, mb4.0*
NNC ***26*** *02:02:41.7±1.5, 40°.15N×77°.07E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=13.6km s-min=7.0km az=149.0*
SOME ***26*** *02:02:41.5, 40°.23N×77°.20E, h5km*
BJI ***26*** *02:02:42.2, 40°.24N×77°.06E, h10km, ML3.7/8*

ISC 26 02:02:40.1±0.6, 40°.20N±0°.04×77°.23E±0°.03, h10km, n62, σ2s33/96, mb3.8/8, MS2.8/3, 28C-23D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.18**	**235**	Pg	Pg	02 03 11.3	+8.5
KSH				Sg	Sn	02 03 31.8	+13
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.5s						
ULHL	**Ulahol**	**2.18**	**340**	⇓*i*P	**Pb**	**02 03 20.3**	**+0.6**
	baz=339						
ULHL				⇓*i*S	**Sg**	**02 03 48.1**	**-2.0**
	baz=339						
BOOM	**Boomskoye usch**	**2.49**	**338**	⇓*e*P	**Pb**	**02 03 24.8**	**-0.2**
	baz=336						
BOOM				⇓*i*S	**Sb**	**02 03 56.5**	**+0.7**
	baz=336						
ARLS	**Aral**	**2.76**	**308**	⇓*e*P	**Pb**	**02 03 29.5**	**0.0**
	baz=306						
ARLS				⇓*i*S	**Sb**	**02 04 04.0**	**+0.6**
	baz=306						
TNSS	**Tian-Shan**	**2.85**	**356**	*e*P	**Pg**	**02 03 34.9**	**+0.2**
	194nm,0.3s						
TNSS				*e*S	**Sg**	**02 04 13.3**	**+1.7**
	295nm,0.3s						
IZV	**Izvestkoviy**	**2.88**	**351**	*e*P	**Pg**	**02 03 34.4**	**-0.8**
	145nm,0.3s						
IZV				*e*S	**Sg**	**02 04 12.5**	**+0.1**
	182nm,0.4s						
MDOK	**Medeo**	**2.97**	**357**	⇑Pn	**Pb**	**02 03 31.4**	**-1.7**
MDOK				⇓Pg	**Pg**	**02 03 36.1**	**-0.9**
MDOK				⇑Lg	Lg	02 04 16.1	
TKM2	**Tokmak 2**	**2.98**	**336**	⇑*i*P	**Pb**	**02 03 31.5**	**-2.0**
	baz=335						
TKM2				⇑*i*S	**Sb**	**02 04 08.3**	**-1.8**
	baz=335						
TKM2	**Tokmak 2**	**2.98**	**336**	⇑Pn	**Pb**	**02 03 31.5**	**-2.0**
	10nm,0.3s						
TKM2				⇑Pg	**Pg**	**02 03 35.6**	**-1.7**
	35nm,0.3s						
TKM2				⇑Lg	Lg	02 04 15.

0.9nm,0.3s,baz=205,slow=23,SNR=4.4
MKAR Lg Lg 02 06 47.0
0.6nm,0.3s,baz=218,slow=20,SNR=3.5
MKAR LR LR 02 07 48.3
comp=Z,77nm,21.9s,baz=182,slow=40
CEP Cherat 7.65 215 P **Pn 02 04 34.5 +2.8**
CEP S **Sn 02 05 56.0 -2.5**
WMQ Urumqi 8.59 62 P Pn 02 04 50.5 +5.9
WMQ S **Sn 02 06 29.3 +7.8**
WMQ smax smax
comp=N,11nm,0.5s
WMQ smax smax
comp=E,25nm,0.5s
THW Thamme Wali 8.60 213 P **Pn 02 04 46.2 +1.5**
KURBB Kurchatov Arra 10.47 5 Pn **Pn 02 05 10.8 +0.7**
0.0nm,0.3s,baz=192,slow=12,SNR=3.9
KURBB Lg Lg 02 08 16.1
0.1nm,0.3s,baz=196,slow=30,SNR=4.9
KURBB Kurchatov Arra 10.47 5 ⇑Pn **Pn 02 05 13.6 +3.5**
2.6nm,0.8s
PYUN Piuthan 12.97 157 *eP* **Pn 02 05 44.6 0.0**
KOLN Koldanda 13.47 155 *eP* **Pn 02 05 50.8 -0.6**
GKN Gorkha 13.62 151 *eP* **Pn 02 05 54.4 +1.0**
BVAR Borovoye Array 13.66 342 Pn **Pn 02 05 53.5 -0.2**
0.1nm,0.3s,baz=150,slow=12,SNR=6.2
BVAR Lg Lg 02 09 51.2
0.2nm,0.3s,baz=145,slow=23,SNR=6.0
PKIN Phulchoki 14.29 149 *eP* **Pn 02 06 02.0 -0.7**
PKI Pulchoki 14.30 149 *eP* **Pn 02 06 02.2 -0.7**
5.4nm,0.4s
JIRN Jiri 14.54 147 *eP* **Pn 02 06 05.6 -0.6**
ZALV Zalesovo Beam 14.68 18 Pn **Pn 02 06 09.1 +1.4**
0.1nm,0.3s,baz=246,slow=44,SNR=1.6
ZALV Lg Lg 02 10 33.9
0.1nm,0.3s,baz=222,slow=27,SNR=2.6
ZALV LR LR 02 12 02.5
comp=Z,35nm,18.3s,baz=248,slow=38
RAMN Ramite 15.33 147 *eP* **Pn 02 06 14.8 -2.0**
6.9nm,0.4s
TAPN Taplejung 15.48 143 *eP* **Pn 02 06 16.4 -2.4**
ARU Arti 20.33 329 P **P 02 07 17.7 +1.5**
1.7nm,0.2s,baz=229,slow=3.0,SNR=3.9
ARU LR LR 02 15 14.0
comp=Z,40nm,20.2s,baz=238,slow=37
SONM Songino Array 22.23 60 P **P 02 07 39.3 +2.5**
0.3nm,0.4s,baz=259,slow=11,SNR=3.3
SONM LR LR 02 16 45.0
comp=Z,33nm,21.1s,baz=36,slow=38
BRTR Keskin Array B 33.16 284 P **P 02 09 16.2 -0.6**
1.6nm,0.7s,baz=85,slow=7.6,SNR=6.8
FINES FINESS Array B 37.38 322 P **P 02 09 51.9 -0.7**
1.6nm,0.9s,baz=99,slow=9.8,SNR=4.6
ARCES ARCESS Array B 39.76 334 P **P 02 10 12.6 0.0**
4.0nm,0.9s,baz=101,slow=9.3,SNR=3.8
ATD Arta Tunnel 41.65 236 LR LR 02 28 28.3
comp=Z,61nm,21.4s,baz=169,slow=37
NOA NORSAR Array B 44.51 321 P **P 02 10 50.5 -0.9**
2.4nm,1.1s,baz=88,slow=7.9,SNR=2.7
GERES GERESS Array B 44.91 303 P **P 02 10 54.3 -0.6**
0.7nm,0.6s,baz=74,slow=9.9,SNR=5.4
ILAR Eielson Array 69.81 19 P **P 02 13 49.5 -0.7**
0.1nm,0.5s,baz=324,slow=6.1,SNR=3.3
TORD Torodi Ar. Bea 70.63 271 P **P 02 13 53.8 -2.2**
0.5nm,0.6s,baz=49,slow=5.4,SNR=9.3

*ISK **26** 02:06:45.1,38°.81N×43°.56E,h5km,MLJ3.3*
*CSEM **26** 02:06:46.7±0.3,38°.82N×43°.57E,h5km,MLJ3.3,Error ellipse: s-maj=8.6km s-min=4.4km az=76.0*
*DDA **26** 02:06:46.5,38°.80N×43°.48E,h12km,MlJ3.7*
ISC 26 02:06:46.8±1.1,38°.82N±0°.02×43°.56E±0°.03,h6km±9km, n50,σ1§17/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**210**	*e*PG	**Pg**	**02 06 52.5**	**+0.5**
VANB				*e*SG	**Sb**	**02 06 58.1**	**-0.8**
VANB	**Van**	**0.26**	**210**	*e*Pg	**Pg**	**02 06 52.5**	**+0.5**
VANB				*e*Sg	**Sb**	**02 06 58.1**	**-0.8**
GEVA	**Gevas**	**0.64**	**218**	*i* P	**Pg**	**02 06 57.0**	**-2.2**
GEVA				*i* S	**Sg**	**02 07 07.4**	**-0.2**
GEVA	**Gevas**	**0.64**	**218**	P	**Pg**	**02 06 57.0**	**-2.2**
GEVA				S	**Sg**	**02 07 07.4**	**-0.2**
DYDN	**Diyadin**	**0.73**	**8**	*i* P	**Pb**	**02 07 01.4**	**-0.6**
DYDN				*i* S	**Sb**	**02 07 12.5**	**+0.2**
DYDN	**Diyadin**	**0.73**	**8**	P	**Pb**	**02 07 01.4**	**-0.6**
DYDN				S	**Sb**	**02 07 12.5**	**+0.2**
TUTA	**Tutak**	**0.82**	**315**	*i* P	**Pg**	**02 07 01.3**	**-1.2**
TUTA				*i* S	**Sg**	**02 07 13.5**	**+0.3**
TUTA	**Tutak**	**0.82**	**315**	P	**Pg**	**02 07 01.3**	**-1.2**
TUTA				S	**Sg**	**02 07 13.5**	**+0.3**
BASK	**Baskale_VAN**	**0.85**	**155**	*i* P	**Pg**	**02 07 02.7**	**-0.4**
BASK				*i* S	**Sb**	**02 07 14.8**	**-1.0**
BASK	**Baskale_VAN**	**0.85**	**155**	P	**Pg**	**02 07 02.7**	**-0.4**
BASK				S	**Sb**	**02 07 14.8**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*PG	**Pg**	**02 07 02.6**	**-0.9**
AGRB				*e*SG	**Sb**	**02 07 16.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*Pg	**Pg**	**02 07 02.7**	**-0.9**
AGRB				*e*Sg	**Sb**	**02 07 16.6**	**+0.1**
EKAR	**Karacoban**	**1.24**	**291**	*i* P	**Pg**	**02 07 09.8**	**-0.8**
EKAR				*i* S	**Sn**	**02 07 30.4**	**+2.3**
EKAR	**Karacoban**	**1.24**	**291**	P	**Pg**	**02 07 09.8**	**-0.8**
EKAR				S	**Sn**	**02 07 30.4**	**+2.3**
HAKT	**HAKKARI**	**1.27**	**175**	*i* P	**Pg**	**02 07 08.8**	**-2.4**
HAKT				*i* S	**Sn**	**02 07 29.1**	**+0.3**
HAKT	**HAKKARI**	**1.27**	**175**	P	**Pg**	**02 07 08.8**	**-2.4**
HAKT				S	**Sn**	**02 07 29.1**	**+0.3**
EATA	**Eleskirt**	**1.32**	**322**	*i* P	**Pn**	**02 07 10.9**	**-1.3**
EATA				*i* S	**Sn**	**02 07 30.2**	**-0.1**
EATA	**Eleskirt**	**1.32**	**322**	P	**Pn**	**02 07 10.9**	**-1.3**
EATA				S	**Sn**	**02 07 30.2**	**-0.1**
CUKT	**Cukurca**	**1.57**	**179**	*e*PN	**Pn**	**02 07 15.3**	**-0.1**
CUKT	**Cukurca**	**1.57**	**179**	*i* P	**Pg**	**02 07 17.0**	**0.0**
CUKT				*i* S	**Sg**	**02 07 40.8**	**+3.4**
CUKT	**Cukurca**	**1.57**	**179**	*e*Pn	**Pn**	**02 07 15.3**	**-0.1**
CUKT	**Cukurca**	**1.57**	**179**	P	**Pg**	**02 07 17.0**	**0.0**
CUKT				S	**Sg**	**02 07 40.8**	**+3.4**
SIRN	**S¨–rnak**	**1.60**	**215**	*i* P	**Pb**	**02 07 16.2**	**-0.7**
SIRN	**S¨–rnak**	**1.60**	**215**	P	**Pb**	**02 07 16.2**	**-0.7**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*PN	**Pn**	**02 07 16.6**	**-0.2**
VRTB	**Varto-Mus**	**1.67**	**282**	*i* P	**Pn**	**02 07 17.1**	**+0.3**
VRTB				*i* S	**Sg**	**02 07 43.3**	**+2.8**
VRTB	**Varto-Mus**	**1.67**	**282**	*e*Pn	**Pn**	**02 07 16.6**	**-0.2**
VRTB	**Varto-Mus**	**1.67**	**282**	P	**Pn**	**02 07 17.1**	**+0.3**
VRTB				S	**Sg**	**02 07 43.3**	**+2.8**
HOMI	**Horasan**	**1.77**	**314**	*i* P	**Pn**	**02 07 18.8**	**+0.6**
HOMI				*i* S	**Sg**	**02 07 46.1**	**+2.5**
BNGL	**BINGOL**	**1.88**	**275**	*i* P	**Pb**	**02 07 20.7**	**-1.0**
BNGL				*i* S	**Sb**	**02 07 45.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*PN	**Pn**	**02 07 21.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*i* P	**Pb**	**02 07 21.8**	**-1.3**
SVAN				*i* S	**Sb**	**02 07 47.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	**Pn**	**02 07 21.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	P	**Pb**	**02 07 21.8**	**-1.3**
SVAN				S	**Sb**	**02 07 47.5**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*PN	**Pn**	**02 07 21.3**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*Pn	**Pn**	**02 07 21.3**	**+0.4**
ERZM	**Erzurum**	**2.01**	**303**	*i* P	**Pb**	**02 07 23.6**	**-0.4**
ERZM				*i* S	**Sg**	**02 07 51.6**	**+0.1**
ERZM	**Erzurum**	**2.01**	**303**	P	**Pb**	**02 07 23.6**	**-0.4**
ERZM				S	**Sg**	**02 07 51.6**	**+0.1**
BTMN	**Batman**	**2.02**	**243**	*i* P	**Pn**	**02 07 21.4**	**-0.2**
BTMN				*i* S	**Sb**	**02 07 49.4**	**-0.1**
BTMN	**Batman**	**2.02**	**243**	P	**Pn**	**02 07 21.4**	**-0.2**
BTMN				S	**Sb**	**02 07 49.4**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	*i* P	**Pb**	**02 07 25.2**	**-1.2**
ECAT				*i* S	**Sn**	**02 07 51.2**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.15**	**292**	P	**Pb**	**02 07 25.2**	**-1.2**
ECAT				S	**Sn**	**02 07 51.2**	**+0.6**
BNGB	**Bing¨¶l**	**2.25**	**275**	*e*PN	**Pn**	**02 07 25.2**	**+0.5**
BINT	**Bingol**	**2.40**	**272**	*e*Pn	**Pn**	**02 07 25.2**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*PN	**Pn**	**02 07 27.9**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*Pn	**Pn**	**02 07 27.9**	**+0.8**
MAZI	**Mazidag**	**2.80**	**242**	*e*PN	**Pn**	**02 07 33.0**	**+0.7**
MAZI	**Mazidag**	**2.80**	**242**	*e*Pn	**Pn**	**02 07 33.0**	**+0.7**
PTK	**Pertek**	**3.25**	**273**	*e*PN	**Pn**	**02 07 39.4**	**+0.8**
PTK	**Pertek**	**3.25**	**273**	*e*Pn	**Pn**	**02 07 39.4**	**+0.8**

*ISK **26** 02:12:40.8,38°.93N×43°.60E,h5km,MLJ3.4*
*DDA **26** 02:12:42.3,38°.96N×43°.54E,h12km,MlJ3.9*
*AZER **26** 02:12:43.5±5.7,38°.54N×43°.31E,h40km,Error ellipse: s-maj=43.1km s-min=39.3km az=136.0*
*CSEM **26** 02:12:44.4±0.3,38°.88N×43°.39E,h5km,MLJ3.4,Error ellipse: s-maj=6.8km s-min=5.4km az=77.0*
ISC 26 02:12:42.5±1.0,38°.94N±0°.02×43°.51E±0°.02,h8km±10km, n64,σ1§59/98,1C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.35**	**196**	*e*PG	**Pb**	**02 12 50.0**	**-1.1**
VANB				*e*SG	**Sb**	**02 12 58.1**	**+1.3**
VANB	**Van**	**0.35**	**196**	*e*Pg	**Pb**	**02 12 50.0**	**-1.1**
DYDN	**Diyadin**	**0.62**	**13**	*i* P	**Pg**	**02 12 54.0**	**-0.6**
DYDN				*i* S	**Sb**	**02 13 04.3**	**-0.4**
DYDN	**Diyadin**	**0.62**	**13**	P	**Pg**	**02 12 54.0**	**-0.6**
DYDN				S	**Sb**	**02 13 04.3**	**-0.4**
TUTA	**Tutak**	**0.71**	**311**	*i* P	**Pg**	**02 12 55.8**	**-0.5**
TUTA				*i* S	**Sn**	**02 13 08.2**	**-2.2**
TUTA	**Tutak**	**0.71**	**311**	P	**Pg**	**02 12 55.8**	**-0.5**
TUTA				S	**Sn**	**02 13 08.2**	**-2.2**
GEVA	**Gevas**	**0.72**	**210**	*i* P	**Pg**	**02 12 54.6**	**-1.7**
GEVA				*i* S	**Sb**	**02 13 07.0**	**-0.3**
GEVA	**Gevas**	**0.72**	**210**	P	**Pg**	**02 12 54.6**	**-1.7**
GEVA				S	**Sb**	**02 13 07.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.76**	**328**	*e*PG	**Pg**	**02 12 56.8**	**-0.2**
AGRB				*e*SG	**Sn**	**02 13 09.3**	**-2.0**
BASK	**Baskale_VAN**	**0.96**	**156**	*i* P	**Pg**	**02 13 00.3**	**-0.7**
BASK				*i* S	**Sn**	**02 13 15.9**	**-0.5**
BASK	**Baskale_VAN**	**0.96**	**156**	P	**Pg**	**02 13 00.3**	**-0.7**
BASK				S	**Sn**	**02 13 15.9**	**-0.5**
EKAR	**Karacoban**	**1.17**	**286**	*i* P	**Pn**	**02 13 05.8**	**+0.4**
EKAR				*i* S	**Sn**	**02 13 25.4**	**+3.8**
EKAR	**Karacoban**	**1.17**	**286**	P	**Pn**	**02 13 05.8**	**+0.4**
EATA	**Eleskirt**	**1.22**	**320**	*i* P	**Pb**	**02 13 05.2**	**-0.7**
EATA				*i* S	**Sn**	**02 13 23.2**	**+0.3**
EATA	**Eleskirt**	**1.22**	**320**	P	**Pb**	**02 13 05.2**	**-0.7**
EATA				S	**Sn**	**02 13 23.2**	**+0.3**
HAKT	**HAKKARI**	**1.38**	**174**	*i* P	**Pn**	**02 13 06.8**	**-1.5**
HAKT				*i* S	**Sg**	**02 13 29.5**	**+2.5**
HAKT	**HAKKARI**	**1.38**	**174**	P	**Pn**	**02 13 06.8**	**-1.5**
HAKT				S	**Sg**	**02 13 29.5**	**+2.5**
NAX	**Nakhchivan**	**1.56**	**81**	⇓P	**Pg**	**02 13 11.4**	**-1.1**
NAX				⇓S	**Sg**	**02 13 35.3**	**+2.5**
NAX	**Nakhchivan**	**1.56**	**81**	P	**Pg**	**02 13 11.4**	**-1.1**
NAX				S	**Sg**	**02 13 35.3**	**+2.5**
VRTB	**Varto-Mus**	**1.62**	**279**	*e*PN	**Pb**	**02 13 12.4**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**279**	*i* P	**Pg**	**02 13 12.6**	**-0.9**
VRTB	**Varto-Mus**	**1.62**	**279**	*e*Pn	**Pb**	**02 13 12.4**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**279**	P	**Pg**	**02 13 12.6**	**-0.9**
HOMI	**Horasan**	**1.67**	**312**	*i* P	**Pg**	**02 13 13.9**	**-0.5**
SIRN	**S¨–rnak**	**1.68**	**211**	*i* P	**Pb**	**02 13 13.3**	**-0.3**
SIRN				*i* S	**Sg**	**02 13 36.1**	**-0.3**
SIRN	**S¨–rnak**	**1.68**	**211**	P	**Pb**	**02 13 13.3**	**-0.3**
SIRN				S	**Sg**	**02 13 36.1**	**-0.3**
CUKT	**Cukurca**	**1.69**	**177**	*e*PN	**Pb**	**02 13 12.7**	**-1.1**
CUKT	**Cukurca**	**1.69**	**177**	*i* P	**Pg**	**02 13 14.7**	**-0.2**
CUKT				*i* S	**Sg**	**02 13 40.8**	**+4.1**
CUKT	**Cukurca**	**1.69**	**177**	*e*Pn	**Pb**	**02 13 12.7**	**-1.1**
CUKT	**Cukurca**	**1.69**	**177**	P	**Pg**	**02 13 14.7**	**-0.2**
CUKT				S	**Sg**	**02 13 40.8**	**+4.1**
BNGL	**BINGOL**	**1.84**	**271**	*i* P	**Pg**	**02 13 17.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.85**	**332**	*e*PN	**Pb**	**02 13 16.1**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.85**	**332**	*e*Pn	**Pb**	**02 13 16.1**	**-0.6**
ERZM	**Erzurum**	**1.92**	**301**	*i* P	**Pb**	**02 13 18.0**	**+0.1**
ERZM	**Erzurum**	**1.92**	**301**	P	**Pb**	**02 13 18.0**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.98**	**247**	*e*PN	**Pb**	**02 13 17.1**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.98**	**247**	*i* P	**Pb**	**02 13 18.6**	**-0.1**
SVAN				*i* S	**Sg**	**02 13 44.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.98**	**247**	*e*Pn	**Pb**	**02 13 17.1**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.98**	**247**	P	**Pb**	**02 13 18.6**	**-0.1**
SVAN				S	**Sg**	**02 13 44.6**	**-1.4**
BTMN	**Batman**	**2.05**	**240**	*i* P	**Pb**	**02 13 19.9**	**0.0**
BTMN				*i* S	**Sg**	**02 13 47.5**	**-0.8**
BTMN	**Batman**	**2.05**	**240**	P	**Pb**	**02 13 19.9**	**0.0**
BTMN				S	**Sg**	**02 13 47.5**	**-0.8**
BNGB	**Bing¨¶l**	**2.21**	**272**	*e*PN	**Pb**	**02 13 21.5**	**-1.2**
BGD	**Bogdanovka**	**2.33**	**2**	P	**Pg**	**02 13 26.6**	**-0.5**
BGD				S	**Sg**	**02 14 00.8**	**+3.5**
BINT	**Bingol**	**2.36**	**269**	*e*Pn	**Pn**	**02 13 21.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.36**	**283**	*e*PN	**Pb**	**02 13 23.2**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.36**	**283**	*e*Pn	**Pb**	**02 13 23.3**	**-2.0**
AKH	**Akhalkalaki**	**2.47**	**360**	P	**Pg**	**02 13 30.4**	**+0.5**
AKH				S	**Sg**	**02 14 06.6**	**+4.7**
GDB	**GEDABAY**	**2.48**	**43**	⇓P	**Pb**	**02 13 27.6**	**+0.2**
GDB				⇓S	**Sg**	**02 14 01.0**	**-1.2**
GDB	**GEDABAY**	**2.48**	**43**	P	**Pb**	**02 13 27.6**	**+0.2**
GDB				S	**Sg**	**02 14 01.0**	**-1.2**
QZX	**Qazax, Azerbai**	**2.56**	**33**	⇓P	**Pg**	**02 13 29.4**	**-2.1**
QZX				⇓S	**Sg**	**02 14 03.4**	**-1.3**
QZX	**Qazax, Azerbai**	**2.56**	**33**	P	**Pg**	**02 13 29.4**	**-2.1**
QZX				S	**Sg**	**02 14 03.3**	**-1.3**
MARD	**Mardin**	**2.69**	**234**	*i* P	**Pb**	**02 13 30.1**	**-0.9**
GANJ	**Ganja**	**2.76**	**51**	⇑P	**Pb**	**02 13 31.2**	**-0.8**
GANJ				⇓S	**Sb**	**02 14 07.5**	**+1.6**
GANJ	**Ganja**	**2.76**	**51**	P	**Pb**	**02 13 31.2**	**-0.8**
GANJ				S	**Sb**	**02 14 07.5**	**+1.6**
MAZI	**Mazidag**	**2.83**	**240**	*e*PN	**Pn**	**02 13 29.9**	**+1.9**
MAZI	**Mazidag**	**2.83**	**240**	*e*Pn	**Pn**	**02 13 29.9**	**+1.9**
DGRG	**David-gareji**	**2.89**	**29**	P	**Pg**	**02 13 36.0**	**-1.9**
DGRG				S	**Sg**	02 14 25.9	+11
TBLG	**Delisi**	**2.94**	**18**	P	**Pg**	**02 13 36.5**	**-2.4**
TBLG				S	**Sg**	**02 14 18.6**	**+1.5**
TBLG	**Delisi**	**2.94**	**18**	P	**Pg**	**02 13 36.5**	**-2.4**
PTK	**Pertek**	**3.21**	**271**	*e*PN	**Pn**	**02 13 35.6**	**+2.2**
PTK	**Pertek**	**3.21**	**271**	*e*Pn	**Pn**	**02 13 35.6**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.34**	**262**	*e*PN	**Pn**	**02 13 37.3**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.34**	**262**	*e*Pn	**Pn**	**02 13 37.3**	**+2.2**
ONI	**Oni**	**3.65**	**359**	P	**Pg**	**02 13 50.8**	**-1.6**
ONI				S	**Sg**	02 14 48.3	+8.6

*AZER **26** 02:18:23.6±1.5,38°.51N×43°.38E,h1km,Error ellipse: s-maj=16.7km s-min=5.6km az=75.0*
*DDA **26** 02:18:26.5,38°.88N×43°.56E,h7km,MlJ3.8*
*ISK **26** 02:18:26.5,38°.87N×43°.44E,h5km,MLJ3.8*
*CSEM **26** 02:18:27.2±0.2,38°.87N×43°.54E,h2km,MLJ3.8,Error ellipse: s-maj=5.4km s-min=4.9km az=95.0*
ISC 26 02:18:27.0±1.1,38°.87N±0°.02×43°.53E±0°.02,h1km±10km, n70,σ1§11/103,4C-9D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.29**	**201**	*e*PG	**Pb**	**02 18 34.1**	**-1.0**
VANB				*e*SG	**Sb**	**02 18 41.0**	**+0.5**
VANB	**Van**	**0.29**	**201**	*e*Pg	**Pb**	**02 18 34.1**	**-1.0**
GEVA	**Gevas**	**0.67**	**214**	*i* P	**Pg**	**02 18 39.0**	**-0.7**
GEVA				*i* S	**Sb**	**02 18 49.9**	**-1.4**
GEVA	**Gevas**	**0.67**	**214**	P	**Pg**	**02 18 39.0**	**-0.7**
GEVA				S	**Sb**	**02 18 49.9**	**-1.4**
DYDN	**Diyadin**	**0.69**	**11**	*i* P	**Pg**	**02 18 39.3**	**-0.8**
DYDN				*i* S	**Sg**	**02 18 49.6**	**+0.6**
DYDN	**Diyadin**	**0.69**	**11**	P	**Pg**	**02 18 39.3**	**-0.8**
DYDN				S	**Sg**	**02 18 49.6**	**+0.6**
TUTA	**Tutak**	**0.77**	**314**	*i* P	**Pg**	**02 18 41.2**	**-0.5**
TUTA				*i* S	**Sb**	**02 18 53.7**	**-0.7**
TUTA	**Tutak**	**0.77**	**314**	P	**Pg**	**02 18 41.2**	**-0.5**
TUTA				S	**Sb**	**02 18 53.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.82**	**330**	*e*PG	**Pg**	**02 18 42.2**	**-0.5**
AGRB				*e*SG	**Sb**	**02 18 54.5**	**-1.3**
AGRB	**Hanur-Agry**	**0.82**	**330**	*e*Pg	**Pg**	**02 18 42.2**	**-0.5**
AGRB				*e*Sg	**Sb**	**02 18 54.5**	**-1.3**
BASK	**Baskale_VAN**	**0.90**	**155**	*i* P	**Pg**	**02 18 43.7**	**-0.5**
BASK				*i* S	**Sb**	**02 18 57.3**	**-0.7**
BASK	**Baskale_VAN**	**0.90**	**155**	P	**Pg**	**02 18 43.7**	**-0.5**
BASK				S	**Sb**	**02 18 57.3**	**-0.7**
EKAR	**Karacoban**	**1.20**	**289**	*i* P	**Pn**	**02 18 50.9**	**-0.3**
EKAR				*i* S	**Sn**	**02 19 09.9**	**+1.6**
EKAR	**Karacoban**	**1.20**	**289**	P	**Pn**	**02 18 50.9**	**-0.3**
EKAR				S	**Sn**	**02 19 09.9**	**+1.6**
EATA	**Eleskirt**	**1.27**	**321**	*i* P	**Pg**	**02 18 50.6**	**-0.8**
EATA				*i* S	**Sn**	**02 19 09.7**	**-0.5**
EATA	**Eleskirt**	**1.27**	**321**	P	**Pg**	**02 18 50.6**	**-0.8**
EATA				S	**Sn**	**02 19 09.7**	**-0.5**
HAKT	**HAKKARI**	**1.32**	**174**	*i* P	**Pg**	**02 18 50.4**	**-1.8**
HAKT				*i* S	**Sn**	**02 19 12.8**	**+1.8**
HAKT	**HAKKARI**	**1.32**	**174**	P	**Pg**	**02 18 50.4**	**-1.8**
HAKT				S	**Sn**	**02 19 12.9**	**+1.8**
NAX	**Nakhchivan**	**1.56**	**78**	⇓P	**Pn**	**02 18 55.8**	**-0.2**
SNR=19							
NAX				⇓S	**Sg**	**02 19 20.1**	**+2.9**
NAX	**Nakhchivan**	**1.56**	**78**	P	**Pn**	**02 18 55.8**	**-0.2**
SNR=19							
NAX				S	**Sg**	**02 19 20.1**	**+2.9**
CUKT	**Cukurca**	**1.62**	**178**	*e*PN	**Pb**	**02 18 57.7**	**-0.1**
CUKT	**Cukurca**	**1.62**	**178**	*i* P	**Pg**	**02 18 57.9**	**-0.1**
CUKT				*i* S	**Sg**	**02 19 21.8**	**+2.8**
CUKT	**Cukurca**	**1.62**	**178**	*e*Pn	**Pb**	**02 18 57.7**	**-0.1**
CUKT				S	**Sg**	**02 19 21.8**	**+2.8**
SIRN	**S¨–rnak**	**1.63**	**213**	*i* P	**Pn**	**02 18 57.2**	**+0.3**
SIRN	**S¨–rnak**	**1.63**	**213**	P	**Pn**	**02 18 57.2**	**+0.3**
VRTB	**Varto-Mus**	**1.64**	**281**	*e*PN	**Pn**	**02 18 57.4**	**+0.3**
VRTB	**Varto-Mus**	**1.64**	**281**	*i* P	**Pn**	**02 18 57.4**	**+0.3**
VRTB				*i* S	**Sg**	**02 19 22.1**	**+2.5**
VRTB	**Varto-Mus**	**1.64**	**281**	P	**Pn**	**02 18 57.4**	**+0.3**
VRTB				S	**Sg**	**02 19 22.1**	**+2.5**
HOMI	**Horasan**	**1.72**	**314**	*i* P	**Pb**	**02 18 59.5**	**0.0**
BNGL	**BINGOL**	**1.85**	**273**	*i* P	**Pb**	**02 19 01.4**	**-0.4**
BNGL				*i* S	**Sg**	**02 19 28.6**	**+2.0**
SENK	**Senkaya-Erzuru**	**1.92**	**332**	*e*PN	**Pn**	**02 19 01.1**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.92**	**332**	*e*Pn	**Pn**	**02 19 01.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	*e*PN	**Pn**	**02 19 01.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	*i* P	**Pb**	**02 19 03.0**	**-0.5**
SVAN				*i* S	**Sg**	**02 19 30.8**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	*e*Pn	**Pn**	**02 19 01.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	P	**Pb**	**02 19 03.0**	**-0.5**
SVAN				S	**Sg**	**02 19 30.8**	**+0.8**
ERZM	**Erzurum**	**1.97**	**302**	*i* P	**Pg**	**02 19 04.2**	**-0.5**
ERZM	**Erzurum**	**1.97**	**302**	P	**Pg**	**02 19 04.2**	**-0.5**
BTMN	**Batman**	**2.02**	**242**	*i* P	**Pb**	**02 19 04.0**	**-0.6**
BTMN				*i* S	**Sg**	**02 19 31.9**	**-0.1**
BTMN	**Batman**	**2.02**	**242**	P	**Pb**	**02 19 04.0**	**-0.6**
BTMN				S	**Sg**	**02 19 31.9**	**-0.1**
BNGB	**Bing¨¶l**	**2.22**	**274**	*e*PN	**Pn**	**02 19 05.2**	**0.0**
BNGB				*e*SN	**Sn**	**02 19 32.6**	**-0.7**
BINT	**Bingol**	**2.37**	**271**	*e*Pn	**Pn**	**02 19 05.2**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.39**	**285**	*e*PN	**Pn**	**02 19 07.7**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.39**	**285**	*e*Pn	**Pn**	**02 19 07.7**	**+0.3**
BGD	**Bogdanovka**	**2.39**	**1**	P	**Pb**	**02 19 11.8**	**+0.8**
GDB	**GEDABAY**	**2.52**	**42**	⇓P	**Pn**	**02 19 10.4**	**+1.1**
GDB				⇓S	**Sg**	**02 19 47.5**	**-0.5**
GDB	**GEDABAY**	**2.52**	**42**	P	**Pn**	**02 19 10.4**	**+1.1**
AKH	**Akhalkalaki**	**2.54**	**359**	*e*PN	**Pn**	**02 19 11.0**	**+1.5**
AKH	**Akhalkalaki**	**2.54**	**359**	P	**Pg**	**02 19 15.8**	**+0.2**
AKH	**Akhalkalaki**	**2.54**	**359**	*e*Pn	**Pn**	**02 19 11.0**	**+1.5**
QZX	**Qazax, Azerbai**	**2.61**	**32**	⇑P	**Pb**	**02 19 12.8**	**-1.7**
QZX				⇑S	**Sg**	**02 19 50.2**	**-0.5**
QZX	**Qazax, Azerbai**	**2.61**	**32**	P	**Pb**	**02 19 12.8**	**-1.7**
MARD	**Mardin**	**2.67**	**235**	*i* P	**Pn**	**02 19 11.6**	**+0.3**
GANJ	**Ganja**	**2.79**	**50**	⇓P	**Pn**	**02 19 13.4**	**+0.5**
SNR=10							
GANJ				⇓S	**Sb**	**02 19 52.4**	**0.0**
GANJ	**Ganja**	**2.79**	**50**	P	**Pn**	**02 19 13.4**	**+0.5**
S

GNAR	Gosnell	21.68	0	*e*P	P	02 23 18.1	-1.7
	comp=N,31nm,0.7s						
WMOK	Wichita Mounta	21.86	341	*e*P	P	02 23 21.9	+0.1
	comp=N,6.2nm,1.2s						
TKL	Tuckaleechee C	22.14	14	P	P	02 23 29.9	+5.1
	comp=N,1.4nm,0.4s,baz=169,slow=16,SNR=4.2						
TKL	Tuckaleechee C	22.14	14	*e*P	P	02 23 29.9	+5.1
	comp=N,43nm,2.0s						
SJG	San Juan	23.46	77	LR	LR	02 33 07.0	
	comp=N,38nm,18.2s,baz=240,slow=37						
MTP	Monte Pirata	24.02	77	*e*P	P	02 23 42.5	-1.8
	comp=N,30nm,1.4s						
WCI	Wyandotte Cave	24.19	8	*e*P	P	02 23 45.8	+0.2
	comp=N,11nm,0.8s						
DAC	Darwin (Calif)	32.90	317	*e*P	P	02 25 00.0	-3.6
	comp=N,3.1nm,0.9s						
SAML	Samuel	35.35	129	*e*P	P	02 25 22.3	-2.5
	comp=N,3.8nm,0.8s						
ULM	Lac du Bonnet	36.24	354	LR	LR	02 41 03.5	
	comp=N,19nm,18.6s,baz=126,slow=37						
LPAZ	La Paz	37.35	143	P	P	02 25 42.2	-0.4
	comp=N,1.1nm,0.7s,baz=336,slow=12,SNR=5.8						
RCBR	Riachuelo	57.46	106	LR	LR	02 55 35.2	
	comp=N,67nm,18.0s,baz=292,slow=39						
ILAR	Eielson Array	63.34	336	P	P	02 28 58.6	+0.6
	comp=N,0.9nm,1.1s,baz=126,slow=7.0,SNR=3.6						
ILB	Eielson Array	63.34	336	*e*P	P	02 28 58.6	+0.6
CLL	Collm	87.12	38	*e*P	P	02 31 14.0	-1.2
GEC2	GERESS Array S	88.36	40	*e*P	P	02 31 23.3	+2.0
	comp=N,17nm,1.9s						
GERES	GERESS Array B	88.36	40	P	P	02 31 23.3	+2.0
	comp=N,0.6nm,0.7s,baz=297,slow=6.5,SNR=3.9						

AZER ***26*** *02:23:09.5±2.5, 38°.45N×43°.46E, h1km, Error ellipse: s-maj=49.4km s-min=24.5km az=130.0*
ISK ***26*** *02:23:12.5, 38°.93N×43°.68E, h7km, ML3.8*
DDA ***26*** *02:23:13.3, 38°.90N×43°.57E, h5km, Ml3.7*
CSEM ***26*** *02:23:14.3±0.3, 38°.92N×43°.54E, h2km, ML3.8, Error ellipse: s-maj=6.7km s-min=5.0km az=80.0*
ISC 26 02:23:13.9±1.1, 38°.92N±0°.02×43°.59E±0°.02, h5km±10km, n63, σ1§42/92, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.36	205	PG	Pb	02 23 21.8	-1.1
VANB				*e*SG	Sb	02 23 29.4	+0.6
VANB	Van	0.36	205	*i* Pg	Pb	02 23 21.8	-1.1
DYDN	Diyadin	0.63	7	*i* P	Pg	02 23 25.5	-0.6
DYDN				*i* S	Sb	02 23 36.0	-0.7
DYDN	Diyadin	0.63	7	P	Pg	02 23 25.5	-0.6
DYDN				S	Sb	02 23 36.0	-0.7
GEVA	Gevas	0.73	214	*i* P	Pg	02 23 26.4	-1.7
GEVA				*i* S	Sb	02 23 39.9	+0.2
GEVA	Gevas	0.73	214	P	Pg	02 23 26.4	-1.7
GEVA				S	Sb	02 23 39.9	+0.2
TUTA	Tutak	0.77	309	*i* P	Pg	02 23 27.7	-1.0
TUTA				*i* S	Sb	02 23 40.1	-0.7
TUTA	Tutak	0.77	309	P	Pg	02 23 27.7	-1.0
TUTA				S	Sb	02 23 40.1	-0.7
AGRB	Hanur-Agry	0.80	325	*e*PG	Pg	02 23 28.8	-0.5
AGRB				*e*SG	Sb	02 23 41.4	-0.3
AGRB	Hanur-Agry	0.80	325	*e*Pg	Pg	02 23 28.8	-0.5
AGRB				*e*Sg	Sb	02 23 41.4	-0.3
BASK	Baskale_VAN	0.93	159	*i* P	Pg	02 23 30.8	-0.9
BASK				*i* S	Sn	02 23 47.1	-0.4
BASK	Baskale_VAN	0.93	159	P	Pg	02 23 30.8	-0.9
BASK				S	Sn	02 23 47.1	-0.4
EKAR	Karacoban	1.23	286	*i* P	Pn	02 23 37.8	-0.2
EKAR				*i* S	Sn	02 23 58.7	+3.6
EKAR	Karacoban	1.23	286	P	Pn	02 23 37.8	-0.2
EATA	Eleskirt	1.27	318	*i* P	Pg	02 23 37.2	-1.0
EATA				*i* S	Sn	02 23 55.2	-0.9
EATA	Eleskirt	1.27	318	P	Pg	02 23 37.2	-1.0
EATA				S	Sn	02 23 55.2	-0.9
HAKT	HAKKARI	1.36	176	*i* P	Pn	02 23 38.4	-1.4
HAKT				*i* S	Sn	02 24 00.5	+2.1
HAKT	HAKKARI	1.36	176	P	Pn	02 23 38.4	-1.4
HAKT				S	Sn	02 24 00.5	+2.1
DIGO	Kars	1.50	354	*i* P	Pg	02 23 42.8	+0.1
DIGO	Kars	1.50	354	P	Pg	02 23 42.8	+0.1
NAX	Nakhchivan	1.51	80	⇓P	Pb	02 23 41.7	-0.7
NAX				⇑S	Sg	02 24 04.3	+1.9
NAX	Nakhchivan	1.51	80	P	Pb	02 23 41.7	-0.7
NAX				S	Sg	02 24 04.3	+1.9
CUKT	Cukurca	1.67	179	*e*PN	Pn	02 23 43.8	-0.1
CUKT	Cukurca	1.67	179	*i* P	Pg	02 23 45.7	-0.2
CUKT				*i* S	Sg	02 24 09.4	+1.8
CUKT	Cukurca	1.67	179	*e*Pn	Pn	02 23 43.8	-0.1
CUKT	Cukurca	1.67	179	P	Pg	02 23 45.7	-0.2
CUKT				S	Sg	02 24 09.4	+1.8
VRTB	Varto-Mus	1.68	279	*e*PN	Pn	02 23 43.6	-0.5
VRTB	Varto-Mus	1.68	279	*i* P	Pn	02 23 42.3	-1.8
VRTB	Varto-Mus	1.68	279	P	Pn	02 23 42.3	-1.8
VRTB	Varto-Mus	1.68	279	*e*Pn	Pn	02 23 43.6	-0.5
SIRN	S¨–rnak	1.69	213	*i* P	Pb	02 23 44.9	-0.8
SIRN				*i* S	Sg	02 24 10.7	+2.3
SIRN	S¨–rnak	1.69	213	P	Pb	02 23 44.9	-0.8
SIRN				S	Sg	02 24 10.7	+2.3
HOMI	Horasan	1.72	311	*i* P	Pg	02 23 46.8	-0.1
SENK	Senkaya-Erzuru	1.90	330	*e*PN	Pn	02 23 47.0	-0.1
SENK	Senkaya-Erzuru	1.90	330	*e*Pn	Pn	02 23 47.0	-0.1
BNGL	BINGÖL	1.90	272	*i* P	Pb	02 23 48.8	-0.5
ERZM	Erzurum	1.98	300	*i* P	Pg	02 23 51.0	-1.0
ERZM	Erzurum	1.98	300	P	Pg	02 23 51.0	-1.0
SVAN	Silvan-Diyarba	2.02	248	*e*PN	Pn	02 23 48.8	+0.1
SVAN	Silvan-Diyarba	2.02	248	*i* P	Pb	02 23 50.2	-1.0
SVAN	Silvan-Diyarba	2.02	248	*e*Pn	Pn	02 23 48.8	+0.1
SVAN	Silvan-Diyarba	2.02	248	P	Pb	02 23 50.2	-1.0
BTMN	Batman	2.09	241	*i* P	Pb	02 23 51.7	-0.7
BTMN				*i* S	Sg	02 24 20.7	-0.4
BTMN	Batman	2.09	241	P	Pb	02 23 51.7	-0.7
ECAT	Cat-ERZURUM	2.14	289	*i* P	Pb	02 23 52.5	-0.8
ECAT	Cat-ERZURUM	2.14	289	P	Pb	02 23 52.5	-0.8
BNGB	Bing¨¶l	2.27	273	*e*PN	Pn	02 23 52.4	+0.3
BGD	Bogdanovka	2.34	0	P	Pg	02 23 58.4	-0.5
BGD				S	Sg	02 24 33.7	+4.5
BINT	Bingol	2.42	270	*e*Pn	Pn	02 23 52.4	-1.8
YEDI	Yedisu-Bingol	2.42	283	*e*PN	Pn	02 23 54.6	+0.3
YEDI	Yedisu-Bingol	2.42	283	*e*Pn	Pn	02 23 54.6	+0.3
GDB	GEDABAY	2.45	42	⇑P	Pb	02 23 57.2	-1.4
GDB				⇑S	Sg	02 24 33.3	+0.5
GDB	GEDABAY	2.45	42	P	Pb	02 23 57.2	-1.4
AKH	Akhalkalaki	2.49	358	P	Pg	02 23 60.0	-1.7
AKH				S	Sg	02 24 36.8	+2.9
QZX	Qazax, Azerbai	2.54	32	⇑P	Pb	02 23 58.2	-1.8
QZX	Qazax, Azerbai	2.54	32	P	Pb	02 23 58.2	-1.8
GANJ	Ganja	2.72	50	P	Pn	02 23 60.0	+1.6
	SNR=13						
GANJ				⇓S	Sg	02 24 40.4	-1.1
GANJ	Ganja	2.72	50	P	Pn	02 24 00.0	+1.6
	SNR=13						
DGRG	David-gareji	2.88	28	P	Pg	02 24 07.2	-1.9
DGRG				S	Sg	02 24 51.5	+5.2
TBLG	Delisi	2.94	17	P	Pg	02 24 08.7	-1.7
TBLG				S	Sg	02 24 48.5	0.0
PTK	Pertek	3.27	271	*e*PN	Pn	02 24 07.3	+1.3
PTK	Pertek	3.27	271	*e*Pn	Pn	02 24 07.3	+1.3
ONI	Oni	3.67	358	P	Pg	02 24 22.2	-2.0

IDC 26 02:26:09.1±4.0, 55°.49N×85°.20E, h0km, mb1 2.8/1, mb1mx2.6/49, mbtmp2.8/1, ML2.0/1, Error ellipse: s-maj=33.0km s-min=22.1km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.56	188	*i*		02 36 55.0	
	baz=8.0,slow=331,SNR=6.1						
ZALV	Zalesovo Beam	1.56	188	Pg	Pn	02 26 37.1	-1.1
	1.5nm,0.3s,baz=12,slow=18,SNR=7.4						
ZALV				Lg	Lg	02 26 58.8	
	2.0nm,0.3s,baz=4.8,slow=31,SNR=10.0						
KURBB	Kurchatov Arra	6.32	222	Pn	Pn	02 27 43.3	-0.1
	0.0nm,0.3s,baz=43,slow=14,SNR=2.4						
I34MN	SONGINO INFRAS	15.21	112	*i*		03 54 20.0	
	baz=310,slow=330,SNR=0.9						

IDC ***26*** *02:26:19.8±5.1, 36°.23N×71°.24E, h84km±37km, mb3.4/3, mb1 3.4/9, mb1mx3.1/57, mbtmp3.6/9, MS2.5/1, Ms1 2.5/1, ms1mx2.1/36, Error ellipse: s-maj=54.5km s-min=19.5km az=148.0*
ISCJB ***26*** *02:26:23.5±0.6, 36°.57N±0°.04×71°.22E±0°.06, h188km, mb3.5/2, Error ellipse: s-maj=7.3km s-min=5.4km az=146.9*
NNC ***26*** *02:26:28.3±1.5, 36°.84N×71°.03E, h132km±17km, mb3.1, mpv4.0, Error ellipse: s-maj=13.4km s-min=8.1km az=159.0*
ISC 26 02:26:24.4±0.9, 36°.56N±0°.07×71°.09E±0°.07, h188km, n22, σ2§90/29, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.88	322	⇑P	Pn	02 27 10.3	-1.8
	23nm,0.4s						
DZET				⇑S	Sn	02 27 43.0	-6.3
	344nm,0.4s						
MNAS	Manas	6.02	10	⇑P	Pn	02 27 51.7	-0.2
	3.6nm,0.4s						
MNAS				⇓S	Sn	02 28 57.4	-3.6
	24nm,0.7s						
KK31	Karatay Array	6.55	356	⇑P	Pn	02 27 59.0	+0.3
	6.6nm,0.4s,baz=180,slow=13,SNR=95						
KK31				S	Sn	02 29 10.2	-3.1
	4.6nm,0.5s,baz=176,slow=24,SNR=5.3						
AAK	Ala-Archa	6.62	22	P	Pn	02 27 59.8	+0.2
	6.5nm,0.3s,baz=175,slow=5.2,SNR=77						
AAK				S	Sn	02 29 13.2	-1.8
	1.2nm,0.3s,baz=330,slow=19,SNR=11						
AAK	Ala-Archa	6.62	22	⇑P	Pn	02 28 00.5	+0.9
	9.5nm,0.5s						
AAK				⇓S	Sn	02 29 12.1	-2.9
	14nm,0.6s						
TKM2	Tokmak 2	7.24	27	⇓P	Pn	02 28 07.5	-0.3
	3.9nm,0.6s						
TKM2				⇑S	Sn	02 29 26.1	-3.7
	3.8nm,0.8s						
GEYT	Alibeck	10.44	281	P	Pn	02 28 50.3	+0.8
	0.5nm,0.3s,baz=98,slow=6.9,SNR=4.7						
GEYT				S	Sn	02 30 44.5	-1.2
	0.9nm,0.3s,baz=112,slow=43,SNR=2.8						
PYUN	Piuthan	13.12	127	*e*P	Pn	02 29 22.7	-1.3
MKAR	Makanchi Array	13.20	36	P	Pn	02 29 25.1	+0.4
	0.1nm,0.3s,baz=217,slow=16,SNR=2.3						
KOLN	Koldanda	13.74	126	*e*P	Pn	02 29 27.9	-3.9
	3.3nm,0.4s						
KKN	Kakani	14.84	122	*e*P	Pn	02 29 44.7	-0.8
	7.6nm,0.5s						
KURBB	Kurchatov Arra	15.04	19	P	P	02 29 52.5	+4.1
	0.0nm,0.3s,baz=206,slow=10,SNR=5.7						
PKIN	Phulchoki	15.06	122	*e*P	Pn	02 29 46.9	-1.3
	4.4nm,0.4s						
AB31	Akbulak array	15.07	331	P	P	02 29 51.1	+2.4
	0.4nm,0.3s,baz=140,slow=12,SNR=24						
AB31				⇓S	S	02 32 32.2	-4.0
	1.2nm,0.5s,baz=152,slow=21,SNR=7.8						
PKI	Pulchoki	15.07	122	*e*P	Pn	02 29 46.8	-1.6
	4.1nm,0.4s						
JIRN	Jiri	15.55	120	*e*P	P	02 29 53.8	-0.8
	60nm,0.3s						
BVAR	Borovoye Array	16.48	359	P	Pn	02 30 09.4	+4.6
	0.1nm,0.3s,baz=182,slow=11,SNR=3.9						
AKTO	Aktyubinsk	16.77	330	P	Pn	02 30 13.3	+4.9
	0.2nm,0.3s,baz=135,slow=2.9,SNR=3.3						
AKTO	Aktyubinsk	16.77	330	⇓P	Pn	02 30 12.2	+3.9
	2.0nm,0.8s						
AKTO				⇓S	Sn	02 33 16.0	-0.7
	5.3nm,1.1s						
ZALV	Zalesovo Beam	19.83	24	P	Pn	02 30 46.2	+1.7
	0.9nm,0.3s,baz=233,slow=12,SNR=3.8						
ZALV				LR	LR	02 39 15.1	
	comp=Z,13nm,19.3s,baz=52,slow=39						
ARCES	ARCESS Array B	41.12	338	P	P	02 33 58.1	+8.6
	2.0nm,0.8s,baz=111,slow=9.2,SNR=4.0						
TORD	Torodi Ar. Bea	65.79	269	P	P	02 36 56.8	+7.1
	0.2nm,0.5s,baz=58,slow=6.0,SNR=7.7						

IDC ***26*** *02:30:57.5±1.2, 7°.05S×155°.51E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/30, mbtmp3.9/7, MS3.5/3, Ms1 3.4/3, ms1mx2.8/46, Error ellipse: s-maj=40.2km s-min=23.9km az=115.0*
ISCJB ***26*** *02:31:02.9±1.4, 7°.0S±0°.2×155°.5E±0°.3, h50km, mb3.7/7, MS3.7/2, Error ellipse: s-maj=45.4km s-min=16.0km az=20.1*
ISC 26 02:31:03.8±1.2, 7°.2S±0°.2×155°.6E±0°.3, h50km, n17, σ0§94/9, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.66	254	LR	LR	02 36 06.4	
	comp=Z,90nm,21.8s,baz=123,slow=36						
CTA	Charters Tower	15.74	214	Pn	P	02 34 45.2	-0.3
	0.1nm,0.3s,baz=13,slow=12,SNR=3.8						
WRA	Warramunga Arr	24.24	236	P	P	02 36 14.9	-1.4
	1.7nm,0.6s,baz=62,slow=9.3,SNR=7.4						
ASAR	Alice Springs	26.53	229	P	P	02 36 36.6	-0.5
	0.5nm,0.6s,baz=61,slow=9.1,SNR=5.6						
H11S3	WAKE ISLAND Hy	27.73	23	T	T	03 05 19.4	
	baz=206,slow=74,SNR=14						
H11S2	WAKE ISLAND Hy	27.74	23	T	T	03 05 20.8	
	baz=206,slow=74,SNR=13						
H11S1	WAKE ISLAND Hy	27.75	23	T	T	03 05 23.8	
	baz=206						
STKA	Stephens Creek	27.86	206	P	P	02 36 50.2	+1.4
	2.0nm,0.8s,baz=45,slow=20,SNR=3.0						
STKA				LR	LR	02 46 42.5	
	comp=Z,43nm,19.5s,baz=29,slow=34						
H11N1	WAKE ISLAND Hy	28.92	22	T	T	03 06 50.5	
	baz=201						
H11N3	WAKE ISLAND Hy	28.93	22	T	T	03 06 53.3	
	baz=201						
H11N2	WAKE ISLAND Hy	28.94	22	T	T	03 06 55.6	
	baz=201						
CMAR	Chiang Mai Arr	61.41	295	P	P	02 41 16.2	+0.8
	1.9nm,0.6s,baz=131,slow=5.8,SNR=7.6						
MA2	Magadan	66.63	357	LR	LR	03 09 15.0	
	comp=Z,262nm,20.3s,baz=171,slow=34						
SONM	Songino Array	69.81	327	P	P	02 42 09.3	+0.1
	0.8nm,0.8s,baz=137,slow=4.2,SNR=4.1						
ILAR	Eielson Array	83.30	21	P	P	02 43 24.8	-0.2
	0.4nm,0.4s,baz=241,slow=5.2,SNR=12						
MKAR	Makanchi Array	83.94	319	P	P	02 43 28.3	-0.4
	0.3nm,0.6s,baz=123,slow=4.9,SNR=3.3						
BDFB	Brasilia	147.42	134	PKPbc	PKPab	02 50 45.1	-0.3
	1.8nm,0.5s,baz=191,slow=0.5,SNR=5.4						

ISK ***26*** *02:31:28.8, 38°.76N×43°.83E, h16km, ML2.8*
CSEM ***26*** *02:31:31.1±0.6, 38°.74N×43°.67E, h10km, ML2.8, Error ellipse: s-maj=13.9km s-min=6.4km az=90.0*
DDA ***26*** *02:31:31.5, 38°.71N×43°.63E, h7km, Ml3.0*
ISCJB ***26*** *02:31:32.4±1.0, 38°.75N±0°.03×43°.55E±0°.08, h5km±7km, Error ellipse: s-maj=9.9km s-min=4.7km az=178.0*
ISC 26 02:31:32.2±1.2, 38°.76N±0°.02×43°.63E±0°.05, h14km±9km, n24, σ1§26/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.25	230	*e*PG	Pb	02 31 37.6	-0.9
VANB				*e*SG	Sb	02 31 44.1	+1.3
VANB	Van	0.25	230	*e*Pg	Pb	02 31 37.6	-0.9
VANB				*e*Sg	Sb	02 31 44.1	+1.3
GEVA	Gevas	0.63	226	*i* P	Pg	02 31 43.2	-1.4
GEVA				*i* S	Sg	02 31 52.5	-0.4
GEVA	Gevas	0.63	226	P	Pg	02 31 43.2	-1.4
GEVA				S	Sg	02 31 52.5	-0.4
DYDN	Diyadin	0.79	3	*i* P	Pb	02 31 47.9	+0.1
DYDN				*i* S	Sn	02 32 00.7	-0.2
DYDN	Diyadin	0.79	3	P	Pb	02 31 47.9	+0.1
DYDN				S	Sn	02 32 00.6	-0.2
TUTA	Tutak	0.91	316	*i* P	Pg	02 31 49.1	-0.7
TUTA	Tutak	0.91	316	P	Pg	02 31 49.1	-0.7
AGRB	Hanur-Agry	0.96	329	*e*PG	Pg	02 31 49.4	-1.4
AGRB				*e*SG	Sb	02 32 04.2	+0.9
AGRB	Hanur-Agry	0.96	329	*e*Pg	Pg	02 31 49.4	-1.4
AGRB				*e*Sg	Sb	02 32 04.2	+0.9
HAKT	HAKKARI	1.20	177	*i* P	Pb	02 31 53.4	-1.4
HAKT				*i* S	Sn	02 32 11.2	+0.3
HAKT	HAKKARI	1.20	177	P	Pb	02 31 53.4	-1.4
HAKT				S	Sn	02 32 11.2	+0.3
EKAR	Karacoban	1.32	293	*i* P	Pb	02 31 56.6	-0.3
EKAR				*i* S	Sg	02 32 17.5	+2.7
EKAR	Karacoban	1.32	293	P	Pb	02 31 56.6	-0.3
EKAR				S	Sg	02 32 17.5	+2.7
EATA	Eleskirt	1.42	322	*i* P	Pg	02 31 59.2	-0.3
EATA				*i* S	Sg	02 32 19.3	+1.4
EATA	Eleskirt	1.42	322	P	Pg	02 31 59.2	-0.3
EATA				S	Sg	02 32 19.3	+1.4
CUKT	Cukurca	1.50	181	*i* P	Pg	02 32 02.7	+1.6
CUKT				*i* S	Sg	02 32 23.6	+2.9
VRTB	Varto-Mus	1.74	284	*e*PN	Pn	02 32 01.3	-0.9
VRTB				*e*SN	Sn	02 32 24.6	+0.3
VRTB	Varto-Mus	1.74	284	*e*Pn	Pn	02 32 01.3	-0.9
VRTB				*e*Sn	Sn	02 32 24.6	+0.3
SVAN	Silvan-Diyarba	2.00	253	*e*PN	Pn	02 32 05.2	-0.4
SVAN	Silvan-Diyarba	2.00	253	*e*Pn	Pn	02 32 05.2	-0.4
SENK	Senkaya-Erzuru	2.06	332	*e*PN	Pn	02 32 04.6	-1.9
SENK	Senkaya-Erzuru	2.06	332	*e*Pn	Pn	02 32 04.6	-1.9
ERZM	Erzurum	2.10	304	*i* P	Pg	02 32 12.1	-0.3

ISCJB ***26*** *02:35:05.8±0.8, 45°.89S±0°.05×73°.0W±0°.1, h10km, mb3.8/7, Error ellipse: s-maj=11.9km s-min=6.8km az=12.2*
GUC ***26*** *02:35:05.4±0.4, 45°.88S×73°.04W, h22km±19km, ML3.1*
IDC ***26*** *02:35:06.4±1.1, 45°.81S×72°.88W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/44, mbtmp3.9/7, Error ellipse: s-maj=44.2km s-min=18.6km az=96.0*
ISC 26 02:35:07.4±0.9, 45°.98S±0°.06×72°.8W±0°.1, h10km, n11, σ1§26/13, mb3.8/7, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	Coyhaique	0.65	52	*e*P	Pg	02 35 19.5	-0.5
COYC				*e*S	Sb	02 35 30.1	+0.1
COYC				IAML		02 35 30.9	
	comp=N,2μm,0.8s						
CHRN	Cochrane	1.28	173	*e*P	Pn	02 35 30.7	-0.6
CHRN				*e*S	Sn	02 35 49.1	+0.5
CHRN				IAML		02 35 54.0	
	comp=N,663nm,0.5s						
PLCA	Paso Flores	5.50	18	Pn	Pn	02 36 31.1	+1.7
	comp=N,0.5nm,0.3s,baz=226,slow=13,SNR=5.5						
PLCA				Pg	Pg	02 36 45.8	-6.9
	comp=N,1.6nm,0.3s,baz=213,slow=16,SNR=8.2						
PLCA				Lg	Lg	02 37 57.5	
	comp=N,1.2nm,0.3s,baz=294,slow=20,SNR=3.8						
CPUP	Villa Florida	23.17	37	P	P	02 40 13.0	-1.1
	comp=N,1.6nm,0.6s,baz=226,slow=7.5,SNR=4.0						
LPAZ	La Paz	29.86	9	P	P	02 41 15.4	-0.3
	comp=N,0.8nm,0.5s,baz=126,slow=3.5,SNR=6.8						
SIV	San Ignacio	31.47	22	P	P	02 41 27.8	-1.4
	comp=N,2.9nm,0.8s,baz=180,slow=8.0,SNR=4.1						
SNAA	Sanae	40.93	153	P	P	02 42 51.9	+2.3
	comp=N,3.4nm,1.1s,baz=237,slow=3.2,SNR=6.5						
PTGA	Pitinga	46.45	18	P	P	02 43 32.9	-1.6
	comp=N,1.2nm,0.7s,baz=143,slow=22,SNR=2.2						
TXAR	Lajitas Array	80.02	333	P	P	02 47 16.8	-0.1
	comp=N,0.7nm,0.8s,baz=154,slow=8.1,SNR=9.3						
TORD	Torodi Ar. Bea	88.88	70	P	P	02 48 02.6	+0.6
	comp=N,0.4nm,0.8s,baz=251,slow=4.4,SNR=2.5						
CMAR	Chiang Mai Arr	151.72	163	PKPbc	PKPbc	02 55 02.9	+0.5
	comp=N,0.8nm,0.4s,baz=225,slow=4.4,SNR=5.1						

ISK ***26*** *02:39:30.3, 38°.70N×43°.55E, h5km, ML2.7*
CSEM ***26*** *02:39:31.3±0.4, 38°.71N×43°.58E, h2km, ML2.7, Error ellipse: s-maj=10.9km s-min=5.1km az=71.0*
DDA ***26*** *02:39:31.1, 38°.72N×43°.54E, h7km, Ml3.3*
ISC 26 02:39:31.6±1.2, 38°.71N±0°.03×43°.58E±0°.05, h11km±8km, n31, σ1§01/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	233	*e*PG	Pg	02 39 35.4	-0.3
VANB				*e*SG	Sg	02 39 39.4	+0.8
VANB	Van	0.19	233	*e*Pg	Pg	02 39 35.4	-0.3
VANB				*e*Sg	Sg	02 39 39.4	+0.8
GEVA	Gevas	0.57	226	*i* P	Pg	02 39 41.3	-1.4
GEVA				*i* S	Sg	02 39 50.7	+0.4
GEVA	Gevas	0.57	226	P	Pg	02 39 41.3	-1.4
GEVA				S	Sg	02 39 50.7	+0.4
BASK	Baskale_VAN	0.73	153	*i* P	Pb	02 39 45.6	-0.9
BASK				*i* S	Sb	02 39 57.2	+0.6
BASK	Baskale_VAN	0.73	153	P	Pb	02 39 45.6	-0.9
BASK				S	Sb	02 39 57.2	+0.6
TUTA	Tutak	0.92	320	*i* P	Pg	02 39 47.9	-1.4
TUTA	Tutak	0.92	320	P	Pg	02 39 47.9	-1.4
AGRB	Hanur-Agry	0.98	332	*e*PG	Pb	02 39 49.7	-1.1
AGRB				*e*SG	Sn	02 40 04.8	-0.7
AGRB	Hanur-Agry	0.98	332	*e*Pg	Pb	02 39 49.7	-1.1
AGRB				*e*Sg	Sn	02 40 04.8	-0.7
HAKT	HAKKARI	1.15	175	*i* P	Pg	02 39 52.1	-1.7
HAKT				*i* S	Sn	02 40 10.1	+0.3
HAKT	HAKKARI	1.15	175	P	Pg	02 39 52.1	-1.7
HAKT				S	Sn	02 40 10.1	+0.3
EATA	Eleskirt	1.43	324	*i* P	Pg	02 39 58.2	-0.9
EATA				*i* S	Sn	02 40 17.2	+0.4
EATA	Eleskirt	1.43	324	P	Pg	02 39 58.2	-0.9
EATA				S	Sn	02 40 17.2	+0.4
CUKT	Cukurca	1.46

VANB	**Van**	**0.20**	**115**	*e*PG	**Pg**	**02 54 20.5 -0.5**
VANB				*e*SG	**Sg**	**02 54 24.9 +1.4**
VANB	**Van**	**0.20**	**115**	*e*Pg	**Pg**	**02 54 20.5 -0.5**
VANB				*e*Sg	**Sg**	**02 54 25.0 +1.4**
GEVA	**Gevas**	**0.38**	**192**	*i* P	**Pg**	**02 54 22.9 -1.5**
GEVA				*i* S	**Sg**	**02 54 30.1 +0.8**
GEVA	**Gevas**	**0.38**	**192**	P	**Pg**	**02 54 22.9 -1.5**
GEVA				S	**Sg**	**02 54 30.1 +0.8**
TUTA	**Tutak**	**0.77**	**340**	*i* P	**Pg**	**02 54 31.0 -0.9**
TUTA				*i* S	**Sg**	**02 54 42.4 +0.5**
TUTA	**Tutak**	**0.77**	**340**	P	**Pg**	**02 54 31.0 -0.9**
TUTA				S	**Sg**	**02 54 42.4 +0.5**
AGRB	**Hanur-Agry**	**0.90**	**352**	*e*PG	**Pg**	**02 54 33.2 -1.2**
AGRB				*e*SG	**Sb**	**02 54 46.6 -1.3**
AGRB	**Hanur-Agry**	**0.90**	**352**	*e*Pg	**Pg**	**02 54 33.2 -1.2**
AGRB				*e*Sg	**Sb**	**02 54 46.6 -1.3**
DYDN	**Diyadin**	**0.96**	**25**	*i* P	**Pg**	**02 54 34.6 -0.8**
DYDN				*i* S	**Sn**	**02 54 51.2 -0.4**
DYDN	**Diyadin**	**0.96**	**25**	P	**Pg**	**02 54 34.6 -0.8**
EKAR	**Karacoban**	**1.03**	**304**	*i* P	**Pg**	**02 54 36.6 -0.2**
EKAR				*i* S	**Sn**	**02 54 57.9 +4.5**
EKAR	**Karacoban**	**1.03**	**304**	P	**Pg**	**02 54 36.6 -0.2**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pg**	**02 54 37.0 -3.0**
HAKT				*i* S	**Sn**	**02 54 58.4 +0.7**
EATA	**Eleskirt**	**1.29**	**337**	*i* P	**Pg**	**02 54 40.6 -1.2**
EATA				*i* S	**Sn**	**02 55 00.2 +0.2**
EATA	**Eleskirt**	**1.29**	**337**	P	**Pg**	**02 54 40.6 -1.2**
EATA				S	**Sn**	**02 55 00.2 +0.2**
SIRN	**S¨–rnak**	**1.32**	**207**	*i* P	Pg	02 54 48.2 +5.8
VRTB	**Varto-Mus**	**1.41**	**290**	*e*PN	**Pn**	**02 54 43.1 -0.5**
VRTB	**Varto-Mus**	**1.41**	**290**	*i* P	**Pn**	**02 54 43.0 -0.7**
VRTB	**Varto-Mus**	**1.41**	**290**	P	**Pn**	**02 54 43.0 -0.7**
CUKT	**Cukurca**	**1.47**	**166**	*e*PN	**Pn**	**02 54 44.0 -0.5**
CUKT	**Cukurca**	**1.47**	**166**	*i* P	**Pn**	**02 54 44.4 -0.1**
CUKT				*i* S	**Sg**	**02 55 08.0 +3.6**
CUKT	**Cukurca**	**1.47**	**166**	*e*Pn	**Pn**	**02 54 44.0 -0.5**
CUKT	**Cukurca**	**1.47**	**166**	P	**Pn**	**02 54 44.4 -0.1**
CUKT				S	**Sg**	**02 55 08.0 +3.6**
BNGL	**BINGOL**	**1.59**	**280**	*i* P	**Pn**	**02 54 45.8 -0.4**
BNGL				*i* S	**Sg**	**02 55 08.4 +0.1**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*PN	**Pn**	**02 54 46.8 +0.3**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*i* P	**Pn**	**02 54 46.7 +0.2**
SVAN				*i* S	**Sn**	**02 55 07.2 -0.8**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	P	**Pn**	**02 54 46.7 +0.2**
SVAN				S	**Sn**	**02 55 07.2 -0.8**
HOMI	**Horasan**	**1.68**	**325**	*i* P	**Pg**	**02 54 49.3 +0.1**
BTMN	**Batman**	**1.68**	**243**	*i* P	**Pn**	**02 54 47.5 +0.2**
BTMN				*i* S	**Sb**	**02 55 09.7 -0.5**
BTMN	**Batman**	**1.68**	**243**	P	**Pn**	**02 54 47.5 +0.2**
BTMN				S	**Sb**	**02 55 09.7 -0.5**
DIGO	**Kars**	**1.74**	**5**	*i* P	**Pg**	**02 54 50.1 -0.4**
DIGO	**Kars**	**1.74**	**5**	P	**Pg**	**02 54 50.1 -0.4**
ERZM	**Erzurum**	**1.85**	**312**	*i* P	**Pb**	**02 54 51.4 -0.2**
ERZM	**Erzurum**	**1.85**	**312**	P	**Pb**	**02 54 51.4 -0.2**
ECAT	**Cat-ERZURUM**	**1.94**	**299**	*i* P	**Pn**	**02 54 51.3 +0.4**
ECAT	**Cat-ERZURUM**	**1.94**	**299**	P	**Pn**	**02 54 51.3 +0.4**
BNGB	**Bing¨¶l**	**1.96**	**280**	*e*PN	**Pn**	**02 54 51.4 +0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*PN	**Pn**	**02 54 51.4 -0.1**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*Pn	**Pn**	**02 54 51.4 -0.1**
BINT	**Bingol**	**2.10**	**276**	*e*Pn	**Pn**	**02 54 51.4 -1.7**
YEDI	**Yedisu-Bingol**	**2.17**	**291**	*e*PN	**Pn**	**02 54 55.1 +1.0**
YEDI	**Yedisu-Bingol**	**2.17**	**291**	*e*Pn	**Pn**	**02 54 55.1 +1.0**
MAZI	**Mazidag**	**2.46**	**241**	*e*PN	**Pn**	**02 54 58.2 +0.1**
MAZI	**Mazidag**	**2.46**	**241**	*e*Pn	**Pn**	**02 54 58.2 +0.1**
PTK	**Pertek**	**2.95**	**275**	*e*PN	**Pn**	**02 55 06.0 +1.1**
PTK	**Pertek**	**2.95**	**275**	*e*Pn	**Pn**	**02 55 06.0 +1.1**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*PN	**Pn**	**02 55 06.9 +0.9**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*Pn	**Pn**	**02 55 06.9 +0.9**

CASC 26 02:58:01.9±0.9, 11°.87N×88°.61W, h35km±25km, MD3.9, ML3.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**1.61**	**10**	*e*P	Pn	02 58 28.3	+0.3
CRIN	**San Cristobal**	**1.73**	**61**	*e*P	Pn	02 58 30.1	+0.5
LFRS	**El Faro**	**1.80**	**346**	*e*P	Pn	02 58 30.4	-0.2
LBRS	**Las Brisas**	**1.90**	**347**	*e*P	Pn	02 58 32.1	+0.1
SNET	**Serv Nac Est T**	**1.90**	**341**	*e*P	Pn	02 58 31.4	-0.6
SNET				*e*S	Sn	02 58 55.6	+0.8
COLS	**Colinas**	**1.91**	**339**	*e*P	Pn	02 58 32.5	+0.4
CAHU	**Cacacuatique**	**1.93**	**11**	*e*P	Pn	02 58 32.8	+0.4
COPN	**Copaltepe**	**1.99**	**81**	*e*P	Pn	02 58 33.1	0.0
COPN				AML	AML	02 59 01.7	
	comp=Z,141nm,0.5s						
MOMN	**Momotombo**	**2.09**	**75**	*e*P	Pn	02 58 34.3	-0.2
SBLS	**San Blas**	**2.19**	**333**	*e*P	Pn	02 58 36.3	+0.2
MONT	**Ecomontaæa**	**2.22**	**333**	*e*P	Pn	02 58 37.6	+1.1
RTR	**El Retiro**	**2.25**	**333**	*e*P	Pn	02 58 37.2	+0.3
CUS1	**Cusmapa**	**2.41**	**327**	*e*P	Pn	02 58 38.8	-0.1
RBDL	**Robledal**	**2.46**	**335**	*e*P	Pn	02 58 40.4	+0.6

ISN ***26*** *02:58:58.7±1.0, 39°.03N×43°.59E, h0km±46km, ML4.6*
TEH ***26*** *02:59:03.1, 39°.17N×43°.17E, h18km, ML4.5*
ISK ***26*** *02:59:05.5, 38°.81N×43°.52E, h3km, ML4.4*
DDA ***26*** *02:59:05.3, 38°.83N×43°.51E, h15km, Ml4.6*
MOS ***26*** *02:59:06.9±1.6, 38°.59N×43°.43E, h15km, mb4.5/26, Error ellipse: s-maj=6.3km s-min=3.8km az=97.1*
NEIC ***26*** *02:59:06.8±0.0, 38°.74N×43°.61E, h5km, mb4.4/21, ML4.4(ISK), ML4.6(DDA), After ISK.*
CSEM ***26*** *02:59:07.6±0.1, 38°.63N×43°.48E, h10km, mb4.3/23, Error ellipse: s-maj=3.6km s-min=2.7km az=172.0*
AZER ***26*** *02:59:08.0±0.6, 38°.64N×43°.38E, h18km±15km, Error ellipse: s-maj=17.3km s-min=3.7km az=61.0*
IDC ***26*** *02:59:09.8±2.4, 38°.62N×43°.37E, h30km±17km, mb4.0/20, mb1 4.1/28, mb1mx3.9/80, mbtmp4.1/28, ML3.4/8, MS3.4/3, Ms1 3.4/3, ms1mx3.1/46, Error ellipse: s-maj=13.9km s-min=9.8km az=166.0*

ISC 26 02:59:07.6±0.5, 38°.79N±0°.02×43°.51E±0°.02, h9km±2km, h10km:pP-P, n410, σ2s04/477, mb4.2/58, MS3.6/6, 52C-31D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**13**	⇓*i*P	**Pg**	**02 59 09.4**	**-2.7**
VMUR				*i* S	**Sg**	**02 59 13.0**	**-2.0**
VANB	**Van**	**0.21**	**206**	*e*PG	**Pg**	**02 59 11.7**	**-0.4**
VANB				*e*SG	**Sg**	**02 59 17.6**	**+2.4**
VANB	**Van**	**0.21**	**206**	*e*Pg	**Pg**	**02 59 11.7**	**-0.4**
VANB				*e*Sg	**Sg**	**02 59 17.6**	**+2.4**
GEVA	**Gevas**	**0.59**	**217**	⇓*i*P	**Pg**	**02 59 17.2**	**-2.0**
GEVA				*i* S	**Sb**	**02 59 28.4**	**-0.4**
GEVA	**Gevas**	**0.59**	**217**	*i* P	**Pg**	**02 59 17.4**	**-1.8**
GEVA	**Gevas**	**0.59**	**217**	*i* P	**Pg**	**02 59 17.4**	**-1.8**
GEVA				*i* S	**Sb**	**02 59 28.4**	**-0.4**
DYDN	**Diyadin**	**0.77**	**10**	*i* S	**Sg**	**02 59 30.8**	**-1.8**
DYDN				*i* P	**Sb**	**02 59 34.6**	**+0.7**
DYDN	**Diyadin**	**0.77**	**10**	*i* P	**Pg**	**02 59 19.2**	**-3.3**
DYDN	**Diyadin**	**0.77**	**10**	*i* P	**Pg**	**02 59 19.2**	**-3.3**
TUTA	**Tutak**	**0.82**	**319**	⇑*i*P	**Pg**	**02 59 20.7**	**-2.8**
TUTA				*i* S	**Sg**	**02 59 31.3**	**-2.8**
TUTA	**Tutak**	**0.82**	**319**	*i* P	**Pg**	**02 59 20.7**	**-2.8**
BASK	**Baskale_VAN**	**0.83**	**152**	⇓*i*P	**Pg**	**02 59 20.6**	**-3.1**
BASK				*i* S	**Sb**	**02 59 36.0**	**+0.3**
BASK	**Baskale_VAN**	**0.83**	**152**	P	**Pg**	**02 59 20.6**	**-3.1**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*PG	**Pg**	**02 59 22.0**	**-2.7**
AGRB				*e*SG	**Sg**	**02 59 35.0**	**-1.2**
EKAR	**Karacoban**	**1.22**	**293**	⇑*i*P	**Pb**	**02 59 28.9**	**-2.1**
EKAR				*i* S	**Sn**	**02 59 50.0**	**+2.2**
EKAR	**Karacoban**	**1.22**	**293**	S	**Sn**	**02 59 50.0**	**+2.2**
HAKT	**HAKKARI**	**1.24**	**173**	⇓*i*P	**Pn**	**02 59 27.8**	**-3.5**
HAKT				*i* S	**Sn**	**02 59 51.0**	**+2.8**
HAKT	**HAKKARI**	**1.24**	**173**	P	**Pn**	**02 59 27.8**	**-3.5**
EATA	**Eleskirt**	**1.33**	**324**	⇑*i*P	**Pn**	**02 59 30.0**	**-2.6**
EATA				*i* S	**Sb**	**02 59 47.8**	**-2.4**
CUKT	**Cukurca**	**1.54**	**177**	*e*PN	**Pn**	**02 59 35.2**	**-0.2**
CUKT	**Cukurca**	**1.54**	**177**	⇓*i*P	**Pn**	**02 59 35.0**	**-0.4**
CUKT	**Cukurca**	**1.54**	**177**	P	**Pn**	**02 59 35.0**	**-0.4**
NAX	**Nakhchivan**	**1.59**	**75**	⇑P	**Pb**	**02 59 37.0**	**-0.3**
NAX				⇑S	**Sg**	**03 00 01.1**	**+2.2**
NAX	**Nakhchivan**	**1.59**	**75**	P	**Pb**	**02 59 37.0**	**-0.3**
NAX				S	**Sg**	**03 00 01.1**	**+2.2**
DIGO	**Kars**	**1.63**	**356**	⇓*i*P	**Pn**	**02 59 35.5**	**-1.2**
VRTB	**Varto-Mus**	**1.64**	**284**	*e*PN	**Pn**	**02 59 36.5**	**-0.3**
VRTB	**Varto-Mus**	**1.64**	**284**	⇑*i*P	**Pn**	**02 59 36.0**	**-0.8**
VRTB	**Varto-Mus**	**1.64**	**284**	P	**Pn**	**02 59 36.0**	**-0.8**
VRTB	**Varto-Mus**	**1.64**	**284**	*e*Pn	**Pn**	**02 59 36.5**	**-0.3**
GNI	**Garni**	**1.66**	**35**	Pn	**Pn**	**02 59 35.6**	**-1.5**
	72nm,0.3s,baz=233,slow=2.5,SNR=152						
GNI				Lg	Lg	03 00 01.0	
	138nm,0.3s,baz=90,slow=23,SNR=14						
GNI	**Garni**	**1.66**	**35**	*c*P	**Pn**	**02 59 35.9**	**-1.2**
GNI	**Garni**	**1.66**	**35**	*i* P	**Pn**	**02 59 35.9**	**-1.2**
GNI				*e*Sn	**Sn**	**02 59 56.7**	**-1.9**
GNI	**Garni**	**1.66**	**35**	*e*Pn	**Pn**	**02 59 35.8**	**-1.3**
GNI				*e*Sn	**Sn**	**02 59 56.7**	**-1.9**
IMRD	**Marand**	**1.72**	**92**	*e*Pn	**Pn**	**02 59 36.0**	**-1.8**
IMRD				*e*AMB	AMB	03 00 34.2	
	comp=Z,62μm,0.3s						
IMRD	**Marand**	**1.72**	**92**	*e*Pn	**Pn**	**02 59 36.0**	**-1.8**
HOMI	**Horasan**	**1.77**	**316**	⇑*i*P	**Pn**	**02 59 38.0**	**-0.6**
BNGL	**BINGOL**	**1.85**	**276**	⇑*i*P	**Pn**	**02 59 39.2**	**-0.5**
EAK	**Akyaka**	**1.90**	**2**	*i* P	**Pn**	**02 59 41.0**	**+0.7**
EAK	**Akyaka**	**1.90**	**2**	P	**Pn**	**02 59 41.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.92**	**251**	*e*PN	**Pn**	**02 59 40.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.92**	**251**	⇑*i*P	**Pn**	**02 59 39.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.92**	**251**	P	**Pn**	**02 59 39.8**	**-0.8**
BTMN	**Batman**	**1.98**	**244**	⇑*i*P	**Pn**	**02 59 40.0**	**-1.3**
BTMN	**Batman**	**1.98**	**244**	P	**Pn**	**02 59 40.0**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.98**	**334**	*e*PN	**Pn**	**02 59 41.3**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.98**	**334**	*e*Pn	**Pn**	**02 59 41.3**	**-0.3**
ERZM	**Erzurum**	**2.00**	**305**	⇑*i*P	**Pn**	**02 59 41.4**	**-0.4**
ERZM	**Erzurum**	**2.00**	**305**	P	**Pn**	**02 59 41.4**	**-0.4**
ECAT	**Cat-ERZURUM**	**2.13**	**293**	*i* P	**Pn**	**02 59 42.9**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.13**	**293**	P	**Pn**	**02 59 42.9**	**-0.7**
ITBZ	**Tabriz**	**2.14**	**104**	*e*Pn	**Pn**	**02 59 43.0**	**-0.7**
ITBZ				*e*AMB	AMB	03 00 40.9	
	comp=Z,10μm,0.2s						
ITBZ	**Tabriz**	**2.14**	**104**	*e*Pn	**Pn**	**02 59 43.0**	**-0.7**
BNGB	**Bing¨¶l**	**2.22**	**276**	*e*PN	**Pn**	**02 59 45.0**	**+0.4**
BINT	**Bingol**	**2.36**	**273**	P	**Pn**	**02 59 47.3**	**+0.6**
BINT	**Bingol**	**2.36**	**273**	*e*Pn	**Pn**	**02 59 45.1**	**-1.6**
BINT	**Bingol**	**2.36**	**273**	P	**Pn**	**02 59 47.3**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*PN	**Pn**	**02 59 48.0**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*Pn	**Pn**	**02 59 48.0**	**+0.8**
BGD	**Bogdanovka**	**2.47**	**2**	P	**Pb**	**02 59 50.5**	**-1.9**
BGD				S	**Sg**	**03 00 27.4**	**+0.3**
DDEM	**Demirkent**	**2.50**	**328**	*i* P	**Pn**	**02 59 48.9**	**+0.3**
DDEM	**Demirkent**	**2.50**	**328**	P	**Pn**	**02 59 48.9**	**+0.3**
GDB	**GEDABAY**	**2.59**	**41**	⇓P	**Pn**	**02 59 51.9**	**+2.0**
GDB				⇑S	**Sb**	**03 00 25.8**	**-0.6**
GDB	**GEDABAY**	**2.59**	**41**	P	**Pn**	**02 59 51.9**	**+2.0**
GDB				S	**Sb**	**03 00 25.8**	**-0.6**
DAGI	**Agillar**	**2.59**	**332**	*i* P	**Pn**	**02 59 51.5**	**+1.6**
MARD	**Mardin**	**2.61**	**237**	*i* P	**Pn**	**02 59 49.3**	**-0.8**
MARD	**Mardin**	**2.61**	**237**	*e*Pn	**Pn**	**02 59 49.9**	**-0.2**
MARD				*e*Sn	**Sn**	**03 00 17.2**	**-4.7**
MARD	**Mardin**	**2.61**	**237**	*e*Pn	**Pn**	**02 59 49.9**	**-0.2**
MARD				*e*Sn	**Sn**	**03 00 17.2**	**-4.7**
AKH	**Akhalkalaki**	**2.62**	**360**	*e*PN	**Pn**	**02 59 50.5**	**+0.3**
AKH	**Akhalkalaki**	**2.62**	**360**	P	**Pn**	**02 59 52.3**	**+2.0**
AKH				S	**Sg**	**03 00 31.3**	**-0.6**
AKH	**Akhalkalaki**	**2.62**	**360**	P	**Pn**	**02 59 52.2**	**+2.0**
AKH				S	**Sg**	**03 00 31.2**	**-0.6**
AKH	**Akhalkalaki**	**2.62**	**360**	*e*Pn	**Pn**	**02 59 50.5**	**+0.3**
AKH	**Akhalkalaki**	**2.62**	**360**	P	**Pn**	**02 59 52.2**	**+2.0**
KOPT	**Kop Dagi**	**2.64**	**299**	*i* P	**Pn**	**02 59 51.9**	**+1.3**
KOPT	**Kop Dagi**	**2.64**	**299**	P	**Pn**	**02 59 51.9**	**+1.3**
KOPT	**Kop Dagi**	**2.64**	**299**	*e*Pn	**Pb**	**02 59 54.2**	**-1.0**
KOPT	**Kop Dagi**	**2.64**	**299**	*e*Pn	**Pb**	**02 59 54.2**	**-1.0**
QZX	**Qazax, Azerbai**	**2.68**	**32**	⇑P	**Pn**	**02 59 52.6**	**+1.6**
QZX				⇑S	**Sb**	**03 00 27.6**	**-1.2**
QZX	**Qazax, Azerbai**	**2.68**	**32**	P	**Pn**	**02 59 52.6**	**+1.6**
QZX				S	**Sb**	**03 00 27.6**	**-1.2**
ARTV	**Artvin**	**2.69**	**334**	*e*PN	**Pn**	**02 59 53.5**	**+2.3**
ARTV				*e*Sn	**Sn**	**03 00 25.6**	**+1.7**
ARTV	**Artvin**	**2.69**	**334**	*e*Pn	**Pn**	**02 59 53.5**	**+2.3**
ARTV				*e*Sn	**Sn**	**03 00 25.6**	**+1.7**
MAZI	**Mazidag**	**2.76**	**242**	*e*PN	**Pn**	**02 59 52.4**	**+0.3**
MAZI	**Mazidag**	**2.76**	**242**	*e*Pn	**Pn**	**02 59 52.4**	**+0.3**
DIYA	**Diyarbakir**	**2.80**	**253**	*i* P	**Pn**	**02 59 52.5**	**-0.1**
DIYA	**Diyarbakir**	**2.80**	**253**	P	**Pn**	**02 59 52.5**	**-0.1**
IHRS	**Heris**	**2.81**	**99**	*e*Pn	**Pn**	**02 59 52.1**	**-0.8**
IHRS				*e*Sg	**Sg**	**03 00 41.3**	**+3.4**
IHRS				*e*AMB	AMB	03 00 52.7	
	comp=Z,19μm,0.4s						
IHRS	**Heris**	**2.81**	**99**	*e*Pn	**Pn**	**02 59 52.1**	**-0.8**
IHRS				*e*Sg	**Sg**	**03 00 41.3**	**+3.4**
GANJ	**Ganja**	**2.85**	**49**	⇑P	**Pn**	**02 59 55.2**	**+1.9**
GANJ				⇓S	**Sb**	**03 00 32.0**	**-1.7**
GANJ	**Ganja**	**2.85**	**49**	P	**Pn**	**02 59 55.2**	**+1.9**
GANJ				S	**Sb**	**03 00 32.0**	**-1.7**
IBST	**Bostanabad**	**2.88**	**111**	*e*Pn	**Pn**	**02 59 53.3**	**-0.5**
IBST				*e*AMB	AMB	03 00 57.9	
	comp=Z,5μm,0.3s						
IBST	**Bostanabad**	**2.88**	**111**	*e*Pn	**Pn**	**02 59 53.3**	**-0.5**
ERZN	**Erzincan**	**3.05**	**286**	*e*PN	**Pn**	**02 59 56.6**	**+0.5**
TBLG	**Delisi**	**3.09**	**17**	*e*PN	**Pn**	**02 59 56.3**	**-0.2**
TBLG	**Delisi**	**3.09**	**17**	P	**Pn**	**02 59 58.5**	**+2.0**
TBLG				S	**Sg**	**03 00 44.5**	**-2.3**
TBLG	**Delisi**	**3.09**	**17**	P	**Pn**	**02 59 58.5**	**+2.0**
TBLG				S	**Sg**	**03 00 44.4**	**-2.3**
TBLG	**Delisi**	**3.09**	**17**	*e*Pn	**Pn**	**02 59 56.3**	**-0.2**
TBLG	**Delisi**	**3.09**	**17**	P	**Pn**	**02 59 58.5**	**+2.0**
BRDA	**Brd**	**3.20**	**61**	⇓P	**Pn**	**02 59 59.5**	**+1.5**
	SNR=15						
BRDA				⇑S	**Sb**	**03 00 40.1**	**-3.5**
BRDA	**Brd**	**3.20**	**61**	P	**Pn**	**02 59 59.5**	**+1.5**
	SNR=15						
BRDA				S	**Sb**	**03 00 40.1**	**-3.5**
PTK	**Pertek**	**3.22**	**273**	*e*PN	**Pn**	**02 59 59.1**	**+0.7**
PTK	**Pertek**	**3.22**	**273**	*e*Pn	**Pn**	**02 59 59.2**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.32**	**264**	*e*PN	**Pn**	**03 00 00.1**	**+0.2**
SVRC	**Sivrice-ELAZID**	**3.32**	**264**	*e*Pn	**Pn**	**03 00 00.1**	**+0.2**
EZC	**Erzincan**	**3.37**	**288**	*e*Pn	**Pn**	**02 59 56.6**	**-3.9**
MNGR	**Mingechevir, A**	**3.39**	**53**	⇓P	**Pn**	**03 00 02.4**	**+1.7**
	SNR=14						
MNGR				⇑S	**Sn**	**03 00 44.7**	**+3.7**
MNGR	**Mingechevir, A**	**3.39**	**53**	P	**Pn**	**03 00 02.4**	**+1.7**
	SNR=14						
MNGR				S	**Sn**	**03 00 44.7**	**+3.7**
ISRB	**Sarab**	**3.41**	**105**	*e*Pn	**Pn**	**03 00 00.9**	**-0.2**
ISRB				*e*AMB	AMB	03 01 01.5	
	comp=Z,7μm,0.3s						
ISRB	**Sarab**	**3.41**	**105**	*e*Pn	**Pn**	**03 00 00.9**	**-0.2**
ZRD	**Zardab**	**3.55**	**64**	⇑P	**Pn**	**03 00 04.3**	**+1.4**
	SNR=14						
ZRD				⇑S	**Sn**	**03 00 48.3**	**+3.3**
ZRD	**Zardab**	**3.55**	**64**	P	**Pn**	**03 00 04.3**	**+1.4**
	SNR=14						
ZRD				S	**Sn**	**03 00 48.3**	**+3.3**
KTUT	**Trabzon**	**3.62**	**309**	*e*PN	**Pn**	**03 00 04.3**	**+0.4**
KTUT	**Trabzon**	**3.62**	**309**	*e*Pn	**Pn**	**03 00 04.3**	**+0.4**
ZKTA	**Zakatala**	**3.71**	**39**	⇓P	**Pn**	**03 00 07.2**	**+2.1**
	SNR=22						
ZKTA				⇓S	**Sn**	**03 00 53.5**	**+4.6**
SEKA	**Sheki**	**3.72**	**48**	⇑P	**Pn**	**03 00 07.7**	**+2.3**
	SNR=3.9						
SEKA				⇑S	**Sb**	**03 00 54.5**	**-4.3**
SEKA	**Sheki**	**3.72**	**48**	P	**Pn**	**03 00 07.7**	**+2.3**
	SNR=3.9						
SEKA				S	**Sb**	**03 00 54.5**	**-4.3**
LRK	**Lerik**	**3.78**	**91**	⇑P	**Pn**	**03 00 06.8**	**+0.6**
	SNR=14						
LRK				⇑S	**Sn**	**03 00 52.3**	**+1.4**
LRK	**Lerik**	**3.78**	**91**	P	**Pn**	**03 00 06.8**	**+0.6**
	SNR=14						
LRK				S	**Sn**	**03 00 52.3**	**+1.4**
ONI	**Oni**	**3.80**	**359**	P	**Pb**	**03 00 15.6**	**+0.8**
ONI				S	**Sg**	**03 01 09.4**	**-0.2**
ONI	**Oni**	**3.80**	**359**	P	**Pb**	**03 00 15.6**	**+0.8**
GLBA	**Clilabad**	**3.83**	**82**	⇓P	**Pn**	**03 00 07.7**	**+1.0**
	SNR=15						
GLBA				⇑S	**Sn**	**03 00 53.9**	**+2.1**
GLBA	**Clilabad**	**3.83**	**82**	P	**Pn**	**03 00 07.7**	**+1.0**
	SNR=15						
GLBA				S	**Sn**	**03 00 53.9**	**+2.1**
URFA	**Urfa**	**3.94**	**251**	*e*PN	**Pn**	**03 00 09.7**	**+1.4**
URFA	**Urfa**	**3.94**	**251**	*e*Pn	**Pn**	**03 00 09.7**	**+1.4**
KDMR	**Kurdemir**	**3.94**	**65**	⇑P	**Pn**	**03 00 09.8**	**+1.5**
	SNR=3.4						
KDMR				⇓S	**Sn**	**03 00 57.9**	**+3.3**
KDMR	**Kurdemir**	**3.94**	**65**	P	**Pn**	**03 00 09.8**	**+1.5**
	SNR=3.4						
KDMR				S	**Sn**	**03 00 57.9**	**+3.3**
SAAT	**Saatly**	**3.96**	**73**	⇑S	**Sn**	**03 00 57.3**	**+2.3**
SAAT	**Saatly**	**3.96**	**73**	S	**Sn**	**03 00 57.3**	**+2.3**
QBL	**Gabala**	**3.97**	**56**	⇑P	**Pn**	**03 00 10.2**	**+1.5**
	SNR=10						
QBL				⇑S	**Sn**	**03 00 59.2**	**+4.0**
QBL	**Gabala**	**3.97**	**56**	P	**Pn**	**03 00 10.2**	**+1.5**
	SNR=10						
QBL				S	**Sn**	**03 00 59.2**	**+4.0**
ZEI	**Tsey**	**4.01**	**4**	*e*P	**Pn**	**03 00 11.4**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,68nm,1.1s						
LACR	**Lac**	**4.08**	**8**	*e*P	**Pn**	**03 00 14.5**	**+4.2**
LACR				pmax	pmax		
	comp=Z,419nm,1.4s						
LACR	**Lac**	**4.08**	**8**	*e*P	**Pn**	**03 00 14.5**	**+4.2**
	comp=Z,419nm,1.4s						
DIGR	**Digorskoe uzhe**	**4.11**	**1**	*e*P	**Pb**	**03 00 15.7**	**-4.5**
DIGR				pmax	pmax		
	comp=Z,74nm,1.1s						
DIGR	**Digorskoe uzhe**	**4.11**	**1**	*e*P	**Pb**	**03 00 15.7**	**-4.5**
	comp=Z,74nm,1.1s						
IML	**Ismayilli**	**4.12**	**59**	⇓P	**Pn**	**03 00 12.1**	**+1.3**
	SNR=4.8						
IML	**Ismayilli**	**4.12**	**59**	P	**Pn**	**03 00 12.1**	**+1.3**
	SNR=4.8						
LKRN	**Lenkeran, Azer**	**4.12**	**89**	⇓P	**Pn**	**03 00 11.4**	**+0.7**
	SNR=3.2						
LKRN				⇑S	**Sn**	**03 01 00.9**	**+2.0**
LKRN	**Lenkeran, Azer**	**4.12**	**89**	P	**Pn**	**03 00 11.4**	**+0.7**
	SNR=3.2						
LKRN				S	**Sn**	**03 01 00.9**	**+2.0**
ASTR	**Astara**	**4.14**	**92**	⇑P	**Pn**	**03 00 11.6**	**+0.6**
	SNR=4.3						
ASTR				⇑S	**Sn**	**03 01 01.6**	**+2.2**
ASTR	**Astara**	**4.14**	**92**	P	**Pn**	**03 00 11.6**	**+0.6**
	SNR=4.3						
ASTR				S	**Sn**	**03 01 01.6**	**+2.2**
AKT	**Akhty**	**4.21**	**49**	*e*P	**Pn**	**03 00 13.9**	**+1.9**
AKT				pmax	pmax		
	comp=Z,131nm,1.0s						
AKT	**Akhty**	**4.21**	**49**	*e*P	**Pn**	**03 00 13.9**	**+1.9**
	comp=Z,131nm,1.0s						
ESPY	**Espiye-Giresun**	**4.25**

comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=7.9
AKBB Malin Array Si 15.61 324 *e*P **Pn 03 02 48.4 +0.7**
AKBB pmax pmax
comp=Z,22nm,1.1s
AKBB Malin Array Si 15.61 324 *e*Pn **Pn 03 02 48.4 +0.7**
comp=Z,22nm,1.1s
AKBB Malin Array Si 15.61 324 *e*Pn **Pn 03 02 48.4 +0.7**
comp=Z,22nm,1.1s
KIEV Kiev 15.62 324⇓*i*P **P 03 02 49.9 -2.1**
KIEV pmax pmax
comp=Z,13nm,1.0s
KIEV Kiev 15.62 324 *e*Pn **Pn 03 02 49.7 +1.9**
comp=Z,20nm,1.1s
KIEV Kiev 15.62 324 *e*Pn **Pn 03 02 49.7 +1.9**
comp=Z,20nm,1.1s
ABKAR Akbulak array 15.75 43 *e*Pn **Pn 03 02 50.2 +0.7**
comp=Z,33nm,0.8s
ABKAR Akbulak array 15.75 43 *e*Pn **Pn 03 02 50.2 +0.7**
comp=Z,33nm,0.8s
VTS Vitosha 15.86 290⇑*i*P **P 03 02 56.3 +1.4**
VTS Vitosha 15.86 290 *e*P **Pn 03 02 48.6 -2.5**
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 15.86 290 *e*Pn **Pn 03 02 48.6 -2.5**
comp=Z,6.8nm,1.0s
VTS Vitosha 15.86 290⇑*i*P **P 03 02 56.3 +1.4**
VTS Vitosha 15.86 290 *e*Pn **Pn 03 02 48.6 -2.5**
comp=Z,6.8nm,1.0s
BURAR Bucovina Array 15.96 309⇑*i*P **P 03 02 56.3 +0.3**
BURAR Bucovina Array 15.96 309 ⇑P **P 03 02 56.4 +0.4**
BURAR Bucovina Array 15.96 309⇑*i*P **P 03 02 56.3 +0.3**
BUR08 Bucovina Ar. S 15.98 310 *e*Pn **P 03 02 56.5 +0.3**
BUR08 Bucovina Ar. S 15.98 310 *e*Pn **P 03 02 56.5 +0.3**
LOT Lotru 16.07 301⇑*i*P **P 03 02 58.3 +1.1**
LOT Lotru 16.07 301⇑*i*P **P 03 02 58.3 +1.1**
GZR Gura Zlata 16.72 300⇓*i*P **Pn 03 03 03.2 +1.1**
GZR Gura Zlata 16.72 300⇓*i*P **Pn 03 03 03.2 +1.1**
OBN Obninsk 16.99 346 P **Pn 03 03 05.3 0.0**
comp=Z,1.1nm,0.3s,baz=351,slow=23,SNR=9.7
OBN Obninsk 16.99 346⇓*e*P **Pn 03 03 05.8 +0.5**
OBN pmax pmax
comp=Z,46nm,1.0s
OBN MLR MLR
comp=Z,230nm,15.0s
OBN Obninsk 16.99 346 *e*Pn **Pn 03 03 06.1 +0.8**
comp=Z,79nm,1.1s
OBN Obninsk 16.99 346 *e*Pn **Pn 03 03 06.1 +0.8**
comp=Z,79nm,1.1s
DRGR 17.20 304⇓*i*P **Pn 03 03 07.4 -0.7**
DRGR 17.20 304 ⇓P **Pn 03 03 07.4 -0.7**
UOSS Minazif 17.49 138 *e*Pn **Pn 03 03 08.2 -3.5**
comp=Z,16nm,0.9s
UOSS Minazif 17.49 138 *e*Pn **Pn 03 03 08.2 -3.5**
comp=Z,16nm,0.9s
SIRR Siria 17.72 302⇓*i*P **Pn 03 03 14.4 -0.1**
SIRR Siria 17.72 302⇓*i*P **Pn 03 03 14.4 -0.1**
UZH Uzhgorod 18.17 310 *e*P **P 03 03 22.3 +2.1**
UZH Uzhgorod 18.17 310 *e*P **P 03 03 22.3 +2.1**
KWP Kalwaria Pacla 18.37 313 P **P 03 03 24.4 +1.9**
KWP pmax pmax
comp=Z,169nm,0.9s
KWP Kalwaria Pacla 18.37 313 P **P 03 03 24.4 +1.9**
comp=Z,169nm,0.9s
CRVS Cervenica-Dubn 18.78 310 *e*P **Pn 03 03 28.2 +0.7**
CRVS Cervenica-Dubn 18.78 310 *e*P **Pn 03 03 28.2 +0.7**
CRVS Cervenica-Dubn 18.78 310 *e*P **Pn 03 03 28.2 +0.7**
STHS Stebnicka Huta 19.13 311 *e*P **Pn 03 03 35.6 +4.0**
STHS Stebnicka Huta 19.13 311 *e*P **Pn 03 03 35.6 +4.0**
NIE Niedzica 19.69 310 *e*P **Pn 03 03 38.2 -0.2**
NIE *e* 03 04 32.8
NIE Niedzica 19.69 310 *e*P **Pn 03 03 38.2 -0.2**
WSAR Wadi Sarin 20.16 136 P **P 03 03 41.3 -0.9**
comp=Z,8.1nm,0.9s,baz=328,slow=6.4,SNR=6.4
VYHS Vyhne 20.24 307 *e*P Pn 03 03 47.2 +2.3
VYHS Vyhne 20.24 307 *e*P Pn 03 03 47.2 +2.3
ARU Arti 20.28 25 P **P 03 03 39.7 -3.5**
comp=Z,2.0nm,0.4s,baz=221,slow=5.4,SNR=5.0
ARU Arti 20.28 25*e i*P **P 03 03 43.4 +0.1**
ARU S **S 03 07 31.5 +1.0**
ARU pmax pmax
comp=Z,58nm,1.7s
ARU Arti 20.28 25 *i*P **P 03 03 43.4 +0.1**
comp=Z,58nm,1.7s
ARU Arti 20.28 25 *e*P **P 03 03 42.5 -0.8**
comp=Z,128nm,1.5s
OJC Ojcow 20.32 312 *e*P Pn 03 03 48.1 +2.3
OJC *e* 03 04 40.3
OJC Ojcow 20.32 312 *e*P Pn 03 03 48.1 +2.3
SUW Suwalki 20.59 324 P Pn 03 03 48.0 -0.8
SUW Suwalki 20.59 324 P Pn 03 03 48.0 -0.8
KKAR Karatay Array 20.81 69 *e*P **P 03 03 48.6 -0.6**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 20.81 69 *e*P **P 03 03 48.6 -0.6**
comp=Z,8.7nm,0.7s
KKAR Karatay Array 20.81 69 *e*P **P 03 03 48.6 -0.6**
comp=Z,8.7nm,0.7s
OKC Ostrava-Krasne 21.14 310 *e*P **P 03 03 53.6 +0.9**
OKC *e*pP **sP 03 03 59.8 +3.2**
OKC Ostrava-Krasne 21.14 310 *e*P **P 03 03 53.6 +0.9**
OKC *e* 03 03 59.8
OKC Ostrava-Krasne 21.14 310 *e*P **P 03 03 53.6 +0.9**
SVE Sverdlovsk 21.29 26 *e*P **P 03 03 57.1 +2.9**
SVE Sverdlovsk 21.29 26 *e*P **P 03 03 57.1 +2.9**
VRAC Vranov 21.91 307 P **P 03 04 02.9 +1.9**
comp=Z,5.5nm,0.7s,baz=84,slow=8.1,SNR=5.8
CONA Conrad Observa 21.98 304 *i*pP **P 03 04 02.8 +1.0**
comp=Z,5.3nm,0.9s
CONA Conrad Observa 21.98 304 P **P 03 04 02.8 +1.0**
comp=Z,5.3nm,0.9s
ARSA Arzberg 22.05 302 *i*pP **P 03 04 04.2 +1.7**
comp=Z,7.5nm,1.4s
ARSA Arzberg 22.05 302 P **P 03 04 04.2 +1.7**
comp=Z,7.5nm,1.4s
KLMR Klimovskoe 22.23 355 *e*P **P 03 04 05.3 +1.1**
KLMR *e*SS Sn 03 08 41.8 +22
KLMR pmax pmax
comp=Z,53nm,1.0s
MNAS Manas 22.26 71 P **P 03 04 09.3 +4.4**
MNAS pmax pmax
comp=Z,7.0nm,1.0s
SOKA Soboth 22.27 300 *e*P **P 03 04 04.6 -0.3**
comp=Z,3.3nm,1.0s
SOKA Soboth 22.27 300 P **P 03 04 04.6 -0.3**
comp=Z,3.3nm,1.0s
DPC Dobruska-Polom 22.42 310 *e*P **P 03 04 07.3 +0.8**
DPC *e*x x 03 04 15.0
DPC Dobruska-Polom 22.42 310 *e*P **P 03 04 07.3 +0.8**
DPC *e* 03 04 15.0
DPC Dobruska-Polom 22.42 310 P **P 03 04 07.3 +0.8**
VSU Vasula 22.48 337 P **P 03 04 10.7 +3.8**
VSU pmax pmax
comp=Z,60nm,0.8s
SOKR Solikamsk 22.48 18⇑*i*P **P 03 04 05.7 -1.2**
SOKR pmax pmax
comp=Z,16nm,1.0s
SOKR MLR MLR
comp=Z,281nm,19.0s
OBKA Obir 22.57 299 *e*P **P 03 04 14.5 +6.4**
comp=Z,18nm,1.8s
TREC Trest 22.59 307 P **P 03 04 10.6 +2.3**
TREC pmax pmax
comp=Z,5.0nm,1.1s
MOA Molln 23.01 303 *i*P **P 03 04 12.3 -0.4**
comp=Z,5.8nm,1.1s
MOA Molln 23.01 303 P **P 03 04 12.3 -0.4**
comp=Z,5.8nm,1.1s
MYKA Terra Mystica 23.20 299 *i*P **P 03 04 13.9 -0.8**
comp=Z,7.1nm,1.0s
MYKA Terra Mystica 23.20 299 P **P 03 04 13.9 -0.8**
comp=Z,7.1nm,1.0s
BRVK Borovoye 23.28 43⇑*i*P **P 03 04 17.2 +1.8**
BRVK *i* *PP **sP 03 04 19.4 +0.1**
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK Borovoye 23.28 43 *e*P **P 03 04 16.5 +1.1**
comp=Z,13nm,1.1s
BRVK Borovoye 23.28 43 *e*P **P 03 04 16.4 +1.1**
comp=Z,13nm,1.1s
BVAR Borovoye Array 23.32 44 P **P 03 04 16.9 +1.1**
comp=Z,5.3nm,1.1s,baz=225,slow=8.0,SNR=8.7
KBA Koelnbreinsper 23.48 300 *i*P **P 03 04 17.2 -0.4**
comp=Z,4.9nm,1.0s
KBA Koelnbreinsper 23.48 300 P **P 03 04 17.2 -0.4**
comp=Z,4.9nm,1.0s
GEC2 GERESS Array S 23.60 305 *e*P **P 03 04 18.2 -0.5**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s
GEC2 GERESS Array S 23.60 305 *e*P **P 03 04 18.2 -0.5**
comp=Z,9.5nm,1.2s
GEC2 GERESS Array S 23.60 305 *e*P **P 03 04 18.2 -0.5**
comp=Z,9.5nm,1.2s
GERES GERESS Array B 23.60 305 P **P 03 04 18.2 -0.5**
comp=Z,1.4nm,0.8s,baz=96,slow=8.1,SNR=7.9
GERES LR LR 03 14 01.1
comp=Z,81nm,21.7s,baz=100,slow=38
GERES GERESS Array B 23.60 305 *e*P **P 03 04 18.9 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 23.73 71 P **P 03 04 22.2 +2.1**
comp=Z,2.0nm,0.6s,baz=225,slow=8.5,SNR=5.1
AAK Ala-Archa 23.73 71⇓*i*P **P 03 04 21.7 +1.6**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 23.73 71 *e*P **P 03 04 22.1 +2.0**
comp=Z,6.2nm,0.9s
AAK Ala-Archa 23.73 71 *e*P **P 03 04 22.1 +2.0**
comp=Z,6.2nm,0.9s
KHC Kasperske Hory 23.75 306 *e*P **P 03 04 19.6 -0.5**
KHC *e*pP **sP 03 04 24.1 -0.1**
KHC Kasperske Hory 23.75 306 *e*P **P 03 04 19.7 -0.4**
KHC pmax pmax
comp=Z,19nm,1.7s
KHC Kasperske Hory 23.75 306 *e*P **P 03 04 19.7 -0.4**
comp=Z,19nm,1.7s
KHC Kasperske Hory 23.75 306 *e*P **P 03 04 19.7 -0.4**
comp=Z,19nm,1.7s
FRU Bishkek 23.82 70 *e*P **P 03 04 23.0 +2.2**
FRU *e* 03 04 27.0
FRU *e* 03 05 09.0
ABTA Abfaltersbach 23.99 299 *i*pP **P 03 04 24.3 +1.9**
comp=Z,5.8nm,1.1s
ABTA Abfaltersbach 23.99 299 P **P 03 04 24.3 +1.9**
comp=Z,5.8nm,1.1s
BRG Berggiesshubel 24.03 310 *e*(P) P 03 04 42.2 +20
comp=Z,9.4nm,1.4s
WET Wettzell 24.20 305 P **P 03 04 24.1 -0.3**
WET pmax pmax
comp=Z,12nm,2.3s
WTTA Wattenberg 24.66 300 *i*P **P 03 04 32.9 +4.2**
comp=Z,7.2nm,0.8s
WATA Walderalm 24.71 301 *i*P **P 03 04 29.7 +0.6**
comp=Z,4.6nm,0.7s
WATA Walderalm 24.71 301 P **P 03 04 29.7 +0.6**
comp=Z,4.6nm,0.7s
CLL Collm 24.73 310 *e*P **P 03 04 28.3 -0.7**
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 24.73 310 *e*P **P 03 04 28.3 -0.7**
comp=Z,12nm,0.9s
CLL Collm 24.73 310 *e*P **P 03 04 28.0 -1.0**
comp=Z,6.0nm,1.0s
CLL *e* 03 04 36.0
CLL Collm 24.73 310 *e*P **P 03 04 28.3 -0.7**
comp=Z,12nm,0.9s
MOTA Moosalm 25.03 301 *i*P **P 03 04 30.0 -2.0**
comp=Z,6.9nm,1.0s
GRB1 Grafenberg Arr 25.04 305 P **P 03 04 32.5 +0.6**
GRB1 pmax pmax
comp=Z,26nm,1.1s
KSH Kashi 25.11 78 *e*P **P 03 04 35.0 +2.2**
KSH pP sP 03 04 38.0 +1.1
KSH sP pP 03 04 41.8 +6.1
KSH PP **PnPn 03 05 11.3 +5.0**
KSH PcP **PcP 03 08 11.0 +4.1**
KSH S **S 03 08 57.3 -0.3**
KSH SS **SnSn 03 09 49.0 +2.2**
KSH PcS **PcS 03 11 49.0 +1.7**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH pmax pmax
comp=Z,81nm,4.0s
KSH LR LR
comp=N,160nm,8.1s
KSH LR LR
comp=E,140nm,7.4s
KSH LR LR
comp=Z,300nm,9.1s
FIA0 FINESS Array S 25.12 340 *e*P **P 03 04 31.9 -0.6**
FIA0 FINESS Array S 25.12 340 *e*P **P 03 04 31.9 -0.6**
FIA0 FINESS Array S 25.12 340 *e*P **P 03 04 31.9 -0.6**
FINES FINESS Array B 25.12 340 P **P 03 04 31.9 -0.6**
comp=Z,4.1nm,0.9s,baz=146,slow=14,SNR=7.2
FINES FINESS Array B 25.12 340 *e*P **P 03 04 35.5 +3.0**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FETA Feichten 25.24 300 *i*pP **P 03 04 35.3 +1.4**
comp=Z,5.9nm,0.8s
FETA Feichten 25.24 300 P **P 03 04 35.3 +1.4**
comp=Z,5.9nm,0.8s
JOF Joensuu 25.27 347 P **P 03 04 35.7 +1.9**
JOF pmax pmax
comp=Z,26nm,0.9s
RETA Reutte 25.28 301 *i*P **P 03 04 32.9 -1.2**
comp=Z,3.3nm,0.7s
RETA Reutte 25.28 301 P **P 03 04 32.9 -1.2**
comp=Z,3.3nm,0.7s
DAVOX Davos/Dischmat 25.79 299 P **P 03 04 38.0 -1.0**
comp=Z,3.5nm,0.7s,baz=128,slow=14
DAVOX Davos/Dischmat 25.79 299 P **P 03 04 38.0 -1.0**
DAVOX pmax pmax
comp=Z,4.0nm,0.7s
DAVOX Davos/Dischmat 25.79 299 P **P 03 04 38.0 -1.0**
DAVA Damuels 25.84 300 *i*P **P 03 04 38.0 -1.4**
comp=Z,9.9nm,1.2s
DAVA Damuels 25.84 300 P **P 03 04 38.0 -1.4**
comp=Z,9.9nm,1.2s
ATD Arta Tunnel 27.15 181 LR LR 03 15 42.4
comp=Z,67nm,20.1s,baz=55,slow=37
KURBB Kurchatov Arra 27.30 53 P **P 03 04 51.7 -0.6**
comp=Z,8.0nm,0.8s,baz=264,slow=9.4,SNR=21
PDGK Podgornoye 27.37 69 P **P 03 04 56.9 +3.7**
PDGK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 27.38 53⇓*i*P **P 03 04 55.8 +2.8**
KURK *i* *PP **sP 03 04 56.7 -0.3**
KURK pmax pmax
comp=Z,37nm,0.9s
KURK Kurchatov 27.38 53 *e*P **P 03 04 55.2 +2.2**
comp=Z,9.8nm,0.8s
KURK Kurchatov 27.38 53 *e*P **P 03 04 55.2 +2.2**
comp=Z,9.8nm,0.8s
HFS Hagfors 28.42 328 P **P 03 05 00.9 -1.3**
comp=Z,10nm,0.8s,baz=134,slow=12,SNR=7.2
MK31 Makanchi Array 29.32 61 *e*P **P 03 05 12.4 +2.0**
MK31 Makanchi Array 29.32 61 *e*P **P 03 05 12.4 +2.0**
MK31 Makanchi Array 29.32 61 *e*P **P 03 05 12.4 +2.0**
MK32 Makanchi Array 29.32 61 *e*P **P 03 05 10.0 -0.4**
MK32 Makanchi Array 29.32 61 *e*P **P 03 05 10.0 -0.4**
MKAR Makanchi Array 29.32 61 P **P 03 05 10.0 -0.4**
comp=Z,4.3nm,0.8s,baz=269,slow=6.1,SNR=23
MKAR Makanchi Array 29.32 61 *e*P **P 03 05 13.4 +3.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 29.32 61 *e*P **P 03 05 12.4 +2.0**
comp=Z,24nm,0.8s
MKAR Makanchi Array 29.32 61 *e*P **P 03 05 12.4 +2.0**
comp=Z,24nm,0.8s
NB200 NORSAR Array S 29.94 329 *e*P **P 03 05 16.7 +0.9**
NB200 NORSAR Array S 29.94 329 *e*P **P 03 05 16.7 +0.9**
NOA NORSAR Array B 29.94 329 P **P 03 05 16.7 +0.9**
comp=Z,1.1nm,0.7s,baz=126,slow=8.9,SNR=3.5
NVS Novosibirsk 31.06 46 *e*P **P 03 05 29.1 +3.4**
ZALV Zalesovo Beam 31.76 48 P **P 03 05 32.3 +0.4**
comp=Z,2.8nm,0.8s,baz=260,slow=9.4,SNR=6.7
ZAA1 Zalesovo Array 31.77 48 *e*P **P 03 05 32.3 +0.4**
ZAA1 Zalesovo Array 31.77 48 *e*P **P 03 05 32.3 +0.4**
ARA0 ARCESS Array S 32.28 348 *e*P **P 03 05 36.7 +0.5**
ARA0 ARCESS Array S 32.28 348 *e*P **P 03 05 36.7 +0.5**
ARCES ARCESS Array B 32.28 348 P **P 03 05 36.7 +0.5**
comp=Z,3.2nm,0.9s,baz=160,slow=8.6,SNR=4.6
WMQ Urumqi 33.27 67 P **P 03 05 48.8 +3.5**
WMQ pP sP 03 05 52.5 +3.2
WMQ sP pP 03 05 56.8 +8.6
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,220nm,6.1s
WMQ LR LR
comp=N,190nm,25.1s
WMQ LR LR
comp=E,93nm,21.7s
WMQ LR LR
comp=Z,72nm,26.9s
KOLN Koldanda 35.02 96 *e*P P 03 05 50.7 -10
TAM Tamanrasset 36.03 255 *e*P **P 03 06 09.1 -0.3**
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 36.03 255 *e*P **P 03 06 09.1 -0.3**
comp=Z,3.2nm,0.8s
TAM Tamanrasset 36.03 255 *e*P **P 03 06 09.1 -0.3**
comp=Z,3.2nm,0.8s
ESDC Sonseca Array 36.45 287 P **P 03 06 10.8 -1.9**
comp=Z,1.8nm,0.6s,baz=65,slow=8.7,SNR=18
PKIN Phulchoki 36.51 95 *e*P **P 03 06 10.1 -3.5**
comp=Z,4.4nm,0.5s
PKI Pulchoki 36.52 95 *e*P **P 03 06 10.8 -3.0**
comp=Z,8.7nm,0.8s
GUN Gumba 36.73 94 *e*P **P 03 06 16.3 +0.7**
JIRN Jiri 37.09 94 *e*P **P 03 06 19.0 +0.3**
RAMN Ramite 37.75 95 *e*P **P 03 06 22.1 -2.1**
NRIK Noril'sk 38.50 23 P **P 03 06 31.6 +2.0**
comp=Z,3.9nm,0.6s,baz=172,slow=6.7,SNR=3.5
GTA Gaotai 43.08 71 *e*P **P 03 07 07.8 -0.2**
GTA pP sP 03 07 12.5 +0.3
GTA sP pP 03 07 15.0 +4.0
TOA1 Torodi Ar. Sit 44.89 247 *e*P **P 03 07 20.8 -1.9**
comp=Z,7.4nm,1.1s
TOA1 Torodi Ar. Sit 44.89 247 *e*P **P 03 07 20.8 -1.9**
comp=Z,7.4nm,1.1s
TORD Torodi Ar. Bea 44.90 247 P **P 03 07 20.8 -1.9**
comp=Z,2.0nm,0.8s,baz=60,slow=8.3,SNR=11
SONA0 Songino Array 45.49 57 *e*P **P 03 07 29.1 +1.9**
comp=Z,3.0nm,1.1s
SONA0 Songino Array 45.49 57 *e*P **P 03 07 29.1 +1.9**
comp=Z,3.0nm,1.1s
SONM Songino Array 45.49 57 P **P 03 07 29.1 +1.9**
comp=Z,0.3nm,0.4s,baz=236,slow=42,SNR=2.0
ULN Ulaanbaatar 45.92 57⇓*i*P **P 03 07 32.9 +2.3**
ULN *i* *PP **sP 03 07 35.3 +0.5**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 45.92 57 *e*P **P 03 07 34.0 +3.4**
comp=Z,6.9nm,1.0s
ULN Ulaanbaatar 45.92 57 *e*P **P 03 07 34.0 +3.4**
comp=Z,6.9nm,1.0s
LZH Lanzhou 47.22 74 *e*P **P 03 07 39.0 -2.0**
LZH pP pP 03 07 42.3 -1.7
LZH sP sP 03 07 43.8 -1.4
LZH *e*PP **PP 03 09 29.3 -2.5**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,65nm,6.5s
LZH LR LR
comp=N,260nm,15.0s
LZH LR LR
comp=E,270nm,14.8s
LZH LR LR
comp=Z,330nm,18.3s
HHC Hu-ho-hao-te 51.09 65 *e*P **P 03 08 11.5 +1.0**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,130nm,8.3s
CM31 Chiang Mai Arr 51.89 97 *e*P **P 03 08 16.1 -0.5**
CM31 Chiang Mai Arr 51.89 97 *e*P **P 03 08 16.1 -0.5**
CMAR Chiang Mai Arr 51.89 97 P **P 03 08 16.1 -0.5**
comp=Z,0.7nm,0.4s,baz=310,slow=7.0,SNR=4.7
CMAR Chiang Mai Arr 51.89 97 P **P 03 08 16.1 -0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
TIXI Tiksi 52.28 24⇓P **P 03 08 21.7 +2.9**
DBIC Dimbokro 54.00 247 P **P 03 08 32.9 +0.6**
comp=Z,1.6nm,0.6s,baz=0.0,slow=11,SNR=3.2
DBIC Dimbokro 54.00 247 *e*P **P 03 08 32.8 +0.6**
comp=Z,36nm,1.6s
DBIC Dimbokro 54.00 247 *e*P **P 03 08 32.9 +0.6**
comp=Z,36nm,1.6s
NJ2 Nanjing 60.17 71 *e*P **P 03 09 16.8 +1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KS15 Wonju Array Si 63.98 62 *e*P **P 03 09 41.0 -0.2**
KS15 Wonju Array Si 63.98 62 *e*P **P 03 09 41.0 -0.2**
KSAR Wonju Array Be 63.98 62 P **P 03 09 41.1 -0.2**
KSAR Wonju Array Be 63.98 62 P **P 03 09 41.0 -0.2**
KSAR Wonju Array Be 63.98 62 P **P 03 09 41.0 -0.2**
KSRS Korea Array 64.00 62 P **P 03 09 41.0 -0.3**
comp=Z,2.5nm,0.8s,baz=295,slow=6.0,SNR=7.8
LBTB Lobatse 65.65 198 LR LR 03 38 07.0
comp=Z,49nm,19.5s,baz=235,slow=36
BOSA Boshof 69.19 197 P **P 03 10 12.1 -2.4**
comp=Z,3.6nm,0.9s,baz=181,slow=1.7,SNR=2.8
ILAR Eielson Array 76.45 5 P **P 03 10 57.9 +0.7**
comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=2.7
ILB Eielson Array 76.45 5 *e*P **P 03 10 57.9 +0.7**
ILB Eielson Array 76.45 5 *e*P **P 03 10 57.9 +0.7**

DDA ***26*** *02:59:54.8, 38°.53N×42°.91E, h7km, Md3.6*
ISK ***26*** *02:59:56.6, 38°.82N×43°.53E, h5km, ML4.5*
MOS ***26*** *02:59:56.7±2.1, 38°.63N×43°.70E, h10km, mb4.4/16, Error ellipse: s-maj=9.2km s-min=6.3km az=117.3*
ISCJB ***26*** *02:59:57.1±0.8, 38°.76N±0°.03×43°.70E±0°.04, h11km±5km, mb4.2/24, MS6.1/1, Error ellipse: s-maj=4.7km s-min=4.4km az=174.3*
CSEM ***26*** *02:59:57.3±0.2, 38°.83N×43°.60E, h2km, mb4.4/16, Error ellipse: s-maj=5.0km s-min=4.3km az=97.0*
NEIC ***26*** *02:59:58.2±0.4, 38°.80N×43°.50E, h10km, mb4.5/15, Error ellipse: s-maj=6.2km s-min=5.4km az=155.0*
IDC ***26*** *03:00:01.4±2.4, 38°.79N×43°.61E, h34km±19km, mb4.1/15, mb1 4.2/19, mb1mx3.8/77, mbtmp4.3/19, ML3.9/4, MS3.7/4, Ms1 3.6/4, ms1mx3.2/48, Error ellipse: s-maj=16.2km s-min=11.6km az=0.0*

ISC 26 02:59:58.0±0.7, 38°.8N±0°.02×43°.58E±0°.03, h6km±5km, n198, σ1§87/215, mb4.3/24, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**216**	*e*PG	**Pg**	**03 00 03.2**	**+0.1**
VANB				*e*SG	**Sb**	**03 00 08.7**	**-1.2**
VANB	**Van**	**0.26**	**216**	*e*Pg	**Pg**	**03 00 03.2**	**+0.1**
VANB				*e*Sg	**Sb**	**03 00 08.7**	**-1.2**
GEVA	**Gevas**	**0.64**	**220**	*i*P	**Pg**	**03 00 09.2**	**-1.1**
GEVA				*i*S	**Sb**	**03 00 20.4**	**-0.6**
GEVA	**Gevas**	**0.64**	**220**	P	**Pg**	**03 00 09.2**	**-1.1**
GEVA				*i*S	**Sb**	**03 00 20.3**	**-0.6**
GEVA	**Gevas**	**0.64**	**220**	*i*P	**Pg**	**03 00 09.2**	**-1.1**
GEVA				*i*S	**Sb**	**03 00 20.3**	**-0.6**
DYDN	**Diyadin**	**0.74**	**6**	*i*P	**Pg**	**03 00 11.2**	**-1.0**
DYDN				*i*S	**Sb**	**03 00 22.8**	**-1.0**
DYDN	**Diyadin**	**0.74**	**6**	P	**Pg**	**03 00 11.2**	**-1.0**
DYDN				S	**Sb**	**03 00 22.8**	**-1.0**
DYDN	**Diyadin**	**0.74**	**6**	*i*P	**Pg**	**03 00 11.2**	**-1.0**
BASK	**Baskale_VAN**	**0.82**	**156**	*i*P	**Pg**	**03 00 12.3**	**-1.5**
BASK				*i*S	**Sb**	**03 00 27.0**	**+0.8**
BASK	**Baskale_VAN**	**0.82**	**156**	P	**Pg**	**03 00 12.3**	**-1.5**
BASK				S	**Sb**	**03 00 27.0**	**+0.8**
TUTA	**Tutak**	**0.84**	**315**	*i*P	**Pg**	**03 00 11.9**	**-2.3**
TUTA				*i*S	**Sg**	**03 00 25.1**	**-0.1**
TUTA	**Tutak**	**0.84**	**315**	P	**Pg**	**03 00 11.9**	**-2.3**
TUTA				S	**Sg**	**03 00 25.1**	**-0.1**
TUTA	**Tutak**	**0.84**	**315**	*i*P	**Pg**	**03 00 11.9**	**-2.3**
AGRB	**Hanur-Agry**	**0.90**	**329**	*e*PG	**Pg**	**03 00 13.6**	**-1.6**
AGRB				*e*SG	**Sg**	**03 00 26.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.90**	**329**	*e*Pg	**Pg**	**03 00 13.6**	**-1.6**
AGRB				*e*Sg	**Sg**	**03 00 26.9**	**+0.1**
HAKT	**HAKKARI**	**1.25**	**176**	*i*P	**Pg**	**03 00 18.2**	**-3.8**
HAKT				*i*S	**Sn**	**03 00 40.5**	**+1.1**
HAKT	**HAKKARI**	**1.25**	**176**	P	**Pg**	**03 00 18.2**	**-3.8**
HAKT				S	**Sn**	**03 00 40.5**	**+1.1**
EATA	**Eleskirt**	**1.35**	**322**	*i*P	**Pn**	**03 00 20.7**	**-2.9**
EATA				*i*S	**Sn**	**03 00 43.0**	**+1.0**
EATA	**Eleskirt**	**1.35**	**322**	P	**Pn**	**03 00 20.7**	**-2.9**
EATA				S	**Sn**	**03 00 43.0**	**+1.0**
CUKT	**Cukurca**	**1.56**	**179**	*e*PN	**Pb**	**03 00 27.3**	**+0.1**
CUKT				*e*SN	**Sg**	**03 00 48.9**	**+0.9**
CUKT	**Cukurca**	**1.56**	**179**	*e*Pn	**Pb**	**03 00 27.3**	**+0.1**
CUKT				*e*Sn	**Sg**	**03 00 48.9**	**+0.9**
GNI	**Garni**	**1.61**	**33**	Pn	**Pb**	**03 00 27.9**	**-0.3**
	271nm,0.3s,baz=42,slow=5.8,SNR=7.3						
GNI				Lg	Lg	03 00 52.3	
	177nm,0.3s,baz=273,slow=24,SNR=7.3						

GNI				LR	LR	03 01 27.1
	comp=Z,2μm,19.1s,baz=208,slow=53					
GNI	**Garni**	**1.61**	**33**	*e*Pn	**Pb**	**03 00 27.9 -0.3**
GNI				*e*Sn	**Sg**	**03 00 52.3 +2.5**
VRTB	**Varto-Mus**	**1.70**	**283**	*e*PN	**Pn**	**03 00 28.5 +0.3**
VRTB	**Varto-Mus**	**1.70**	**283**	*e*Pn	**Pn**	**03 00 28.5 +0.3**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*PN	**Pn**	**03 00 32.7 +0.6**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*Pn	**Pn**	**03 00 32.7 +0.6**
SENK	**Senkaya-Erzuru**	**1.99**	**332**	*e*PN	**Pn**	**03 00 32.7 +0.3**
SENK	**Senkaya-Erzuru**	**1.99**	**332**	*e*Pn	**Pn**	**03 00 32.7 +0.3**
BNGB	**Bing¶ll**	**2.27**	**276**	*e*PN	**Pn**	**03 00 36.5 +0.4**
BINT	**Bingol**	**2.42**	**273**	*e*Pn	**Pn**	**03 00 36.5 -1.6**
YEDI	**Yedisu-Bingol**	**2.45**	**286**	*e*PN	**Pn**	**03 00 39.1 +0.6**
YEDI	**Yedisu-Bingol**	**2.45**	**286**	*e*Pn	**Pn**	**03 00 39.1 +0.6**
AKH	**Akhalkalaki**	**2.60**	**358**	*e*PN	**Pn**	**03 00 41.3 +0.6**
AKH	**Akhalkalaki**	**2.60**	**358**	*e*Pn	**Pn**	**03 00 41.3 +0.6**
ARTV	**Artvin**	**2.69**	**332**	*e*Pn	**Pn**	**03 00 42.5 +0.5**
ARTV	**Artvin**	**2.69**	**332**	*e*Pn	**Pn**	**03 00 42.5 +0.5**
MAZI	**Mazidag**	**2.82**	**242**	*e*PN	**Pn**	**03 00 44.5 +0.9**
MAZI	**Mazidag**	**2.82**	**242**	*e*Pn	**Pn**	**03 00 44.5 +0.9**
PTK	**Pertek**	**3.27**	**273**	*e*PN	**Pn**	**03 00 50.9 +0.9**
PTK	**Pertek**	**3.27**	**273**	*e*Pn	**Pn**	**03 00 50.9 +0.9**
SVRC	**Sivrice-ELAZID**	**3.38**	**264**	*e*PN	**Pn**	**03 00 52.5 +1.1**
SVRC	**Sivrice-ELAZID**	**3.38**	**264**	*e*Pn	**Pn**	**03 00 52.5 +1.1**
URFA	**Urfa**	**4.00**	**252**	*e*PN	**Pn**	**03 01 01.4 +1.6**
URFA	**Urfa**	**4.00**	**252**	*e*Pn	**Pn**	**03 01 01.4 +1.6**
KBZ	**Khabaz**	**4.94**	**354**	Pg	**Pg**	**03 01 31.0 -1.7**
	1.1nm,0.3s,baz=242,slow=6.1,SNR=5.6					
KBZ				LR	LR	03 03 42.9
	comp=Z,514nm,19.4s,baz=172,slow=45					
KBZ	**Khabaz**	**4.94**	**354**	P	**Pg**	**03 01 31.0 -1.7**
KBZ				pmax	pmax	
	comp=Z,1.0nm,0.3s					
KBZ	**Khabaz**	**4.94**	**354**	*e*Pg	**Pg**	**03 01 31.0 -1.7**
KBZ	**Khabaz**	**4.94**	**354**	*e*Pg	**Pg**	**03 01 31.0 -1.7**
KVAR	**Kislovodsk Arr**	**5.19**	**353**	Pg	**Pg**	**03 01 36.4 -0.9**
	baz=166,slow=4.2,SNR=3.4					
KVAR				LR	LR	03 03 50.3
	comp=Z,678nm,19.6s,baz=141,slow=44					
KVAR	**Kislovodsk Arr**	**5.19**	**353**	Pg	**Pg**	**03 01 36.4 -0.9**
KIV	**Kislovodsk**	**5.19**	**353**	*e*P	**Pb**	**03 01 27.6 -1.5**
KIV				pmax	pmax	
	comp=Z,94nm,1.0s					
ANTO	**Ankara**	**8.43**	**281**	*e*P	**Pn**	**03 01 59.7 -0.9**
ANTO	**Ankara**	**8.43**	**281**	*e*P	**Pn**	**03 01 59.7 -0.9**
ANTO	**Ankara**	**8.43**	**281**	*e*Pn	**Pn**	**03 01 59.7 -0.9**
MMAI	**Mount Meron Ar**	**8.80**	**231**	LR	LR	03 05 54.8
	comp=Z,781nm,18.9s,baz=45,slow=40					
GEYT	**Alibeck**	**11.45**	**90**	Pn	**Pn**	**03 02 42.0 +0.1**
	comp=Z,0.4nm,0.3s,baz=285,slow=22,SNR=2.3					
EIL	**Elat**	**11.57**	**221**	Pn	**Pn**	**03 02 45.5 +1.9**
	comp=Z,0.3nm,0.3s,baz=62,slow=12,SNR=5.0					
MANT	**Manisa**	**11.76**	**273**	*e*Pn	**Pn**	**03 02 46.7 +0.4**
MANT	**Manisa**	**11.76**	**273**	*e*Pn	**Pn**	**03 02 46.7 +0.4**
VOIR		**15.25**	**302**	S	**P**	**03 03 44.8 +6.0**
RAYN	**Ar Rayn**	**15.32**	**173**	*e*Pn	**Pn**	**03 03 28.9 -5.9**
	comp=Z,19nm,0.8s					
IDI	**Anoyia**	**15.33**	**263**	LR	LR	03 09 48.1
	comp=Z,208nm,19.0s,baz=81,slow=38					
IDI	**Anoyia**	**15.33**	**263**	*e*Pn	**Pn**	**03 03 32.2 -2.7**
	comp=Z,180nm,1.9s					
AKTO	**Aktyubinsk**	**15.48**	**37**	Pn	**Pn**	**03 03 36.6 -0.1**
	comp=Z,0.6nm,0.3s,baz=232,slow=11,SNR=6.0					
AKTO	**Aktyubinsk**	**15.48**	**37**	Pn	**Pn**	**03 03 36.6 -0.1**
ARR	**Arges**	**15.50**	**301**	S	**P**	**03 03 46.1 +4.5**
AKASG	**Malin Array Be**	**15.63**	**324**	Pn	**Pn**	**03 03 39.3 +0.7**
	comp=Z,1.5nm,0.3s,baz=129,slow=12,SNR=6.1					
AKASG	**Malin Array Be**	**15.63**	**324**	Pn	**Pn**	**03 03 39.3 +0.7**
AKBB	**Malin Array Si**	**15.63**	**324**	*e*P	**Pn**	**03 03 39.3 +0.7**
AKBB				pmax	pmax	
	comp=Z,22nm,1.1s					
AKBB	**Malin Array Si**	**15.63**	**324**	*e*Pn	**Pn**	**03 03 39.3 +0.7**
	comp=Z,22nm,1.1s					
AKBB	**Malin Array Si**	**15.63**	**324**	*e*Pn	**Pn**	**03 03 39.3 +0.7**
	comp=Z,22nm,1.1s					
BURAR	**Bucovina Array**	**15.99**	**309**	S	**P**	**03 03 51.1 +4.0**
BUR08	**Bucovina Ar. S**	**16.02**	**309**	*e*Pn	**P**	**03 03 47.3 0.0**
GZR	**Gura Zlata**	**16.76**	**300**	S	**P**	**03 03 57.2 +1.6**
OBN	**Obninsk**	**16.99**	**346**	P	**P**	**03 03 59.6 +1.8**
	comp=Z,2.6nm,0.3s,baz=344,slow=2.6,SNR=11					
OBN	**Obninsk**	**16.99**	**346**	*e*Pn	**P**	**03 03 59.9 +2.1**
	comp=Z,79nm,1.1s					
MOS	**Moscow**	**17.40**	**349**	*e*P	**Pn**	**03 04 00.9 -0.2**
MOS				pmax	pmax	
	comp=Z,37nm,1.2s					
MOS	**Moscow**	**17.40**	**349**	*e*P	**Pn**	**03 04 00.9 -0.2**
	comp=Z,37nm,1.2s					
LVV	**L'vov**	**17.75**	**315**	*e*P	**P**	**03 04 11.7 +5.4**
SIRR	**Siria**	**17.76**	**302**	S	**P**	**03 04 11.6 +5.1**
CRVS	**Cervenica-Dubn**	**18.81**	**310**	*e*	**P**	**03 04 23.0 +4.9**
STHS	**Stebnicka Huta**	**19.16**	**311**	*e*	**Pn**	**03 04 25.8 +3.1**
PSZ	**Piszkesteto**	**19.42**	**306**	*e*P	**Pn**	**03 04 29.8 +3.9**
PSZ				pmax	pmax	
	comp=Z,17nm,1.0s					
PSZ	**Piszkesteto**	**19.42**	**306**	*e*P	**Pn**	**03 04 29.8 +3.9**
	comp=Z,17nm,1.0s					
LANS	**Liptovska Anna**	**20.12**	**309**	*e*P	Pn	03 04 38.3 +4.1
LANS	**Liptovska Anna**	**20.12**	**309**	*e*	Pn	03 04 38.3 +4.1
WSAR	**Wadi Sarin**	**20.13**	**136**	P	**P**	**03 04 32.7 0.0**
	comp=Z,10nm,0.9s,baz=351,slow=3.1,SNR=2.4					
WSAR	**Wadi Sarin**	**20.13**	**136**	*e*P	**P**	**03 04 32.7 0.0**
ARU	**Arti**	**20.24**	**25**	P	**P**	**03 04 30.6 -2.9**
	comp=Z,14nm,0.7s,baz=204,slow=5.3,SNR=7.8					
ARU	**Arti**	**20.24**	**25**	*d*P	**P**	**03 04 33.9 +0.4**
ARU				S	**S**	**03 08 21.1 +0.4**
ARU				pmax	pmax	
	comp=Z,58nm,1.0s					
ARU	**Arti**	**20.24**	**25**	*e*P	**P**	**03 04 34.0 +0.4**
	comp=Z,128nm,1.5s					
ARU				S	**S**	**03 08 21.1 +0.4**
ARU	**Arti**	**20.24**	**25**	*e*P	**P**	**03 04 34.0 +0.4**
	comp=Z,128nm,1.5s					
VYHS	**Vyhne**	**20.28**	**307**	*e*	**P**	**03 04 38.6 +4.5**
OJC	**Ojcow**	**20.35**	**312**	*e*P	Pn	03 04 39.7 +2.9
OJC				pmax	pmax	
	comp=Z,10.0nm,1.0s					
OJC	**Ojcow**	**20.35**	**312**	*e*P	Pn	03 04 39.7 +2.8
	comp=Z,9.9nm,1.0s					
KKAR	**Karatay Array**	**20.75**	**69**	*e*P	**P**	**03 04 39.7 +0.4**
KKAR				pmax	pmax	
	comp=Z,11nm,0.8s					
KKAR	**Karatay Array**	**20.75**	**69**	*e*P	**P**	**03 04 39.7 +0.4**
	comp=Z,11nm,0.8s					
KKAR	**Karatay Array**	**20.75**	**69**	*e*P	**P**	**03 04 39.7 +0.4**
	comp=Z,11nm,0.8s					
OKC	**Ostrava-Krasne**	**21.17**	**310**	*e*P	**P**	**03 04 49.6 +5.8**
OKC	**Ostrava-Krasne**	**21.17**	**310**	*e*P	**P**	**03 04 49.6 +5.8**
VRAC	**Vranov**	**21.94**	**307**	P	**P**	**03 04 55.3 +3.2**
	comp=Z,10nm,0.9s,baz=114,slow=7.9,SNR=7.5					
VRAC	**Vranov**	**21.94**	**307**	P	**P**	**03 04 55.3 +3.2**
DPC	**Dobruska-Polom**	**22.45**	**310**	*e*P	**P**	**03 05 00.7 +3.1**
DPC	**Dobruska-Polom**	**22.45**	**310**	*e*P	**P**	**03 05 00.7 +3.1**
DPC	**Dobruska-Polom**	**22.45**	**310**	*e*P	**P**	**03 05 00.7 +3.1**
UPC	**Upice**	**22.70**	**310**	*e*P	**P**	**03 05 02.2 +2.1**
UPC	**Upice**	**22.70**	**310**	*e*P	**P**	**03 05 02.2 +2.1**
UPC	**Upice**	**22.70**	**310**	*e*P	**P**	**03 05 02.2 +2.1**
BRVK	**Borovoye**	**23.23**	**43**	*e*P	**P**	**03 05 07.4 +1.8**
BRVK				pmax	pmax	
	comp=Z,20nm,1.2s					
BRVK	**Borovoye**	**23.23**	**43**	*e*P	**P**	**03 05 07.4 +1.8**
	comp=Z,20nm,1.2s					
BRVK	**Borovoye**	**23.23**	**43**	*e*P	**P**	**03 05 07.4 +1.8**
	comp=Z,20nm,1.2s					
GOPC	**GO Pecny, Ondr**	**23.25**	**308**	*e*P	**P**	**03 05 07.2 +1.4**
GOPC	**GO Pecny, Ondr**	**23.25**	**308**	*e*P	**P**	**03 05 07.2 +1.4**
GOPC	**GO Pecny, Ondr**	**23.25**	**308**	*e*P	**P**	**03 05 07.2 +1.4**
PRU	**Pruhonice**	**23.42**	**308**	*e*P	**P**	**03 05 12.1 +4.6**
PRU	**Pruhonice**	**23.42**	**308**	*e*P	**P**	**03 05 12.1 +4.6**
PVCC	**Panska Ves**	**23.57**	**309**	*e*P	**P**	**03 05 11.8 +2.8**
PVCC	**Panska Ves**	**23.57**	**309**	*e*P	**P**	**03 05 11.8 +2.8**
PVCC	**Panska Ves**	**23.57**	**309**	*e*P	**P**	**03 05 11.8 +2.8**
GERES	**GERESS Array B**	**23.64**	**305**	P	**P**	**03 05 10.2 +0.3**
	comp=Z,3.1nm,0.9s,baz=110,slow=10,SNR=7.0					
GERES	**GERESS Array B**	**23.64**	**305**	P	**P**	**03 05 10.2 +0.3**
KHC	**Kasperske Hory**	**23.79**	**305**	*e*P	**P**	**03 05 10.8 -0.4**
KHC				*ep*P	**sP**	**03 05 15.2 +1.2**
KHC	**Kasperske Hory**	**23.79**	**305**	*e*P	**P**	**03 05 11.7 +0.5**
KHC				pmax	pmax	
	comp=Z,19nm,1.7s					
KHC	**Kasperske Hory**	**23.79**	**305**	*e*P	**P**	**03 05 11.7 +0.5**
	comp=Z,19nm,1.7s					
KHC	**Kasperske Hory**	**23.79**	**305**	*e*P	**P**	**03 05 11.7 +0.5**
	comp=Z,19nm,1.7s					
BRG	**Berggiesshubel**	**24.06**	**310**	*e*	**P**	**03 05 15.2 +1.5**
	comp=Z,7.9nm,1.1s					
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**03 05 20.9 +0.8**
CLL				pmax	pmax	
	comp=Z,12nm,0.9s					
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**03 05 20.9 +0.8**
	comp=Z,12nm,0.9s					
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**03 05 20.0 -0.1**
	comp=Z,13nm,1.0s					
CLL				*e*(S)	**S**	**03 09 47.0 +4.5**
CLL	**Collm**	**24.76**	**310**	*e*P	**P**	**03 05 20.9 +0.8**
	comp=Z,12nm,0.9s					
NKC	**Novy Kostel**	**24.78**	**308**	*e*P	**P**	**03 05 22.0 +1.6**
NKC	**Novy Kostel**	**24.78**	**308**	*e*P	**P**	**03 05 22.0 +1.6**
NKC	**Novy Kostel**	**24.78**	**308**	*e*P	**P**	**03 05 22.0 +1.6**
FIA0	**FINESS Array S**	**25.12**	**340**	*e*P	**P**	**03 05 24.4 +1.1**
FIA0	**FINESS Array S**	**25.12**	**340**	*e*P	**P**	**03 05 24.4 +1.1**
FIA0	**FINESS Array S**	**25.12**	**340**	*e*P	**P**	**03 05 24.4 +1.1**
FINES	**FINESS Array B**	**25.12**	**340**	P	**P**	**03 05 24.4 +1.1**
	comp=Z,7.1nm,1.0s,baz=144,slow=11,SNR=4.9					
FINES	**FINESS Array B**	**25.12**	**340**	P	**P**	**03 05 24.4 +1.1**
FINES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
FINES	**FINESS Array B**	**25.12**	**340**	P	**P**	**03 05 24.4 +1.1**
	comp=Z,5.0nm,0.9s					
FINES	**FINESS Array B**	**25.12**	**340**	P	**P**	**03 05 24.4 +1.1**
DAVOX	**Davos/Dischmat**	**25.83**	**299**	P	**P**	**03 05 29.4 -0.7**
	comp=Z,3.4nm,0.7s,baz=83,slow=5.2,SNR=5.6					
DAVOX	**Davos/Dischmat**	**25.83**	**299**	P	**P**	**03 05 29.4 -0.7**
KURBB	**Kurchatov Arra**	**27.24**	**53**	P	**P**	**03 05 43.0 +0.4**
	comp=Z,6.9nm,0.7s,baz=264,slow=9.0,SNR=12					
KURK	**Kurchatov**	**27.32**	**53**	*e*P	**P**	**03 05 43.9 +0.7**
KURK				pmax	pmax	
	comp=Z,10.0nm,0.9s					
KURK	**Kurchatov**	**27.32**	**53**	*e*P	**P**	**03 05 43.9 +0.7**
	comp=Z,10nm,0.9s					
KURK	**Kurchatov**	**27.32**	**53**	*e*P	**P**	**03 05 43.9 +0.7**
	comp=Z,10nm,0.9s					
BNI	**Bardonecchia**	**27.98**	**295**	*e*P	**P**	**03 05 47.5 -1.9**
BNI				pmax	pmax	
	comp=Z,29nm,1.5s					
BNI	**Bardonecchia**	**27.98**	**295**	*e*P	**P**	**03 05 47.5 -1.9**
	comp=Z,29nm,1.5s					
BNI	**Bardonecchia**	**27.98**	**295**	*e*P	**P**	**03 05 47.5 -1.9**
	comp=Z,29nm,1.5s					
HFS	**Hagfors**	**28.43**	**328**	P	**P**	**03 05 52.4 -0.7**
	comp=Z,11nm,0.8s,baz=126,slow=15,SNR=6.0					
HFS	**Hagfors**	**28.43**	**328**	P	**P**	**03 05 52.4 -0.7**
MK31	**Makanchi Array**	**29.26**	**62**	*e*P	**P**	**03 06 03.8 +3.1**
MK31	**Makanchi Array**	**29.26**	**62**	*e*P	**P**	**03 06 03.8 +3.1**
MK32	**Makanchi Array**	**29.26**	**62**	*e*P	**P**	**03 06 01.0 +0.3**
MK32	**Makanchi Array**	**29.26**	**62**	*e*P	**P**	**03 06 01.0 +0.3**
MKAR	**Makanchi Array**	**29.26**	**62**	P	**P**	**03 06 01.0 +0.3**
	comp=Z,2.4nm,0.8s,baz=262,slow=8.3,SNR=5.2					
MKAR	**Makanchi Array**	**29.26**	**62**	P	**P**	**03 06 01.0 +0.3**
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
MKAR	**Makanchi Array**	**29.26**	**62**	P	**P**	**03 06 01.0 +0.3**
	comp=Z,2.0nm,0.8s					
MKAR	**Makanchi Array**	**29.26**	**62**	P	**P**	**03 06 01.0 +0.3**
NB2	**NORSAR Subarra**	**29.96**	**329**	P	**P**	**03 06 07.5 +0.8**
	comp=Z,6.7nm,1.2s,baz=126,slow=9.3					
NB200	**NORSAR Array S**	**29.96**	**329**	*e*P	**P**	**03 06 05.3 -1.3**
NB200	**NORSAR Array S**	**29.96**	**329**	*e*P	**P**	**03 06 05.3 -1.3**
NOA	**NORSAR Array B**	**29.96**	**329**	P	**P**	**03 06 05.3 -1.3**
	comp=Z,1.8nm,0.8s,baz=125,slow=9.0,SNR=3.7					
NOA	**NORSAR Array B**	**29.96**	**329**	P	**P**	**03 06 05.3 -1.3**
NVS	**Novosibirsk**	**31.01**	**46**	*e*P	**P**	**03 06 16.8 +0.9**
NVS	**Novosibirsk**	**31.01**	**46**	*e*P	**P**	**03 06 16.8 +0.9**
ZALV	**Zalesovo Beam**	**31.71**	**48**	P	**P**	**03 06 21.6 -0.5**
	comp=Z,1.3nm,0.5s,baz=232,slow=7.3,SNR=4.4					
ZALV	**Zalesovo Beam**	**31.71**	**48**	P	**P**	**03 06 21.6 -0.5**
ZAA1	**Zalesovo Array**	**31.71**	**48**	*e*P	**P**	**03 06 21.6 -0.5**
ZAA1	**Zalesovo Array**	**31.71**	**48**	*e*P	**P**	**03 06 21.6 -0.5**
ARA0	**ARCESS Array S**	**32.27**	**348**	*e*P	**P**	**03 06 26.4 -0.6**
ARA0	**ARCESS Array S**	**32.27**	**348**	*e*P	**P**	**03 06 26.4 -0.6**
ARCES	**ARCESS Array B**	**32.27**	**348**	P	**P**	**03 06 26.4 -0.6**
	comp=Z,3.0nm,0.8s,baz=152,slow=10,SNR=5.5					
ARCES	**ARCESS Array B**	**32.27**	**348**	P	**P**	**03 06 26.4 -0.6**
TAM	**Tamanrasset**	**36.09**	**255**	*e*P	**P**	**03 06 59.9 -0.8**
TAM				pmax	pmax	
	comp=Z,4.0nm,0.8s					
TAM	**Tamanrasset**	**36.09**	**255**	*e*P	**P**	**03 06 59.9 -0.8**
	comp=Z,4.0nm,0.8s					
TAM	**Tamanrasset**	**36.09**	**255**	*e*P	**P**	**03 06 59.9 -0.8**
	comp=Z,3.7nm,0.8s					
ESDC	**Sonseca Array**	**36.50**	**287**	P	**P**	**03 07 02.5 -1.4**
	comp=Z,1.0nm,0.5s,baz=68,slow=8.7,SNR=6.9					
ESDC	**Sonseca Array**	**36.50**	**287**	*e*P	**P**	**03 07 02.5 -1.4**
GTA	**Gaotai**	**43.02**	**71**	*e*P	**P**	**03 07 58.3 0.0**
GTA				pP	sP	03 08 04.5 +3.3
GTA				sP	pP	03 08 07.3 +6.9
GTA				pmax	pmax	
	comp=Z,3.0nm,1.2s					
GTA				pmax	pmax	
	comp=Z,3.0nm,1.3s					
TOA1	**Torodi Ar. Sit**	**44.95**	**247**	*e*P	**P**	**03 08 12.5 -1.4**
	comp=Z,7.4nm,1.1s					
TOA1	**Torodi Ar. Sit**	**44.95**	**247**	*e*P	**P**	**03 08 12.5 -1.4**
	comp=Z,7.4nm,1.1s					
TORD	**Torodi Ar. Bea**	**44.96**	**247**	P	**P**	**03 08 12.5 -1.4**
	comp=Z,2.9nm,1.1s,baz=41,slow=8.0,SNR=6.2					
TORD	**Torodi Ar. Bea**	**44.96**	**247**	P	**P**	**03 08 12.5 -1.4**
CM31	**Chiang Mai Arr**	**51.83**	**97**	*e*P	**P**	**03 09 05.9 -1.1**
CM31	**Chiang Mai Arr**	**51.83**	**97**	*e*P	**P**	**03 09 05.9 -1.1**
CMAR	**Chiang Mai Arr**	**51.83**	**97**	P	**P**	**03 09 05.9 -1.1**
	comp=Z,1.3nm,0.4s,baz=297,slow=9.0,SNR=7.0					
CMAR	**Chiang Mai Arr**	**51.83**	**97**	P	**P**	**03 09 05.9 -1.1**
KS15	**Wonju Array Si**	**63.92**	**62**	*e*P	**P**	**03 10 30.6 -1.0**
KS15	**Wonju Array Si**	**63.92**	**62**	*e*P	**P**	**03 10 30.6 -1.0**
KSAR	**Wonju Array Be**	**63.92**	**62**	P	**P**	**03 10 30.7 -1.0**
KSAR	**Wonju Array Be**	**63.92**	**62**	P	**P**	**03 10 30.7 -1.0**
KSAR	**Wonju Array Be**	**63.92**	**62**	P	**P**	**03 10 30.6 -1.0**
KSRS	**Korea Array**	**63.94**	**62**	P	**P**	**03 10 30.6 -1.1**
	comp=Z,2.0nm,0.7s,baz=284,slow=6.6,SNR=5.3					
BOSA	**Boshof**	**69.22**	**197**	P	**P**	**03 11 05.5 0.0**
	comp=Z,1.6nm,0.6s,baz=27,slow=5.0,SNR=6.1					
BOSA	**Boshof**	**69.22**	**197**	*e*P	**P**	**03 11 05.5 0.0**
DAV	**Davao City (W)**	**79.38**	**89**	LR	LR	03 50 40.4
	comp=Z,1μm,22.0s,baz=46,slow=38					

*ISK **26** 03:00:17.5, 39.°09N×29.°19E, h8km, ML2.3*
*ISCJB **26** 03:00:18.3±0.5, 39.°11N±0.°03×29.°12E±0.°04, h7km±5km, Error ellipse: s-maj=5.8km s-min=4.0km az=37.7*
*CSEM **26** 03:00:18.4±0.1, 39.°12N×29.°13E, h5km, ML2.3, Error ellipse: s-maj=2.5km s-min=1.6km az=119.0*
*DDA **26** 03:00:18.1, 39.°11N×29.°10E, h7km, Ml2.7*
ISC 26 03:00:18.5±0.9, 39.°12N±0.°02×29.°12E±0.°03, h12km±8km, n24, σ0§34/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**250**	*e*PG	**Pg**	**03 00 21.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.11**	**250**	*e*Pg	**Pg**	**03 00 21.6**	**-0.1**
GDZ	**Gediz**	**0.28**	**97**	*i* P	**Pg**	**03 00 24.3**	**-0.1**
GDZ				*i* S	**Sg**	**03 00 28.8**	**+0.4**
GDZ	**Gediz**	**0.28**	**97**	P	**Pg**	**03 00 24.3**	**-0.1**
GDZ				S	**Sg**	**03 00 28.8**	**+0.4**
DEMI	**Demirci**	**0.32**	**256**	*i* P	**Pg**	**03 00 25.0**	**-0.1**
DEMI				*i* S	**Sg**	**03 00 29.4**	**-0.1**
DEMI	**Demirci**	**0.32**	**256**	P	**Pg**	**03 00 25.0**	**-0.1**
DEMI				S	**Sg**	**03 00 29.4**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**39**	*e*PG	**Pg**	**03 00 26.5**	**-0.4**
TVSB				*e*SG	**Sg**	**03 00 31.9**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**39**	*e*Pg	**Pg**	**03 00 26.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**03 00 31.9**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	**Pg**	**03 00 31.9**	**-0.3**
KULA				*e*SG	**Sg**	**03 00 41.3**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**03 00 31.9**	**-0.3**
KULA				*e*Sg	**Sg**	**03 00 41.3**	**-0.2**
MANT	**Manisa**	**0.77**	**215**	*i* P	**Pg**	**03 00 33.3**	**-0.1**
MANT				*i* S	**Sg**	**03 00 42.9**	**-0.6**
MANT	**Manisa**	**0.77**	**215**	P	**Pg**	**03 00 33.3**	**-0.1**
MANT				S	**Sg**	**03 00 42.9**	**-0.6**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pb**	**03 00 34.4**	**-0.1**
KHAL				*i* S	**Sg**	**03 00 44.5**	**-0.1**
KHAL	**Karahalli**	**0.81**	**159**	P	**Pb**	**03 00 34.4**	**-0.1**
KHAL				S	**Sg**	**03 00 44.5**	**-0.1**
ULDT	**Uludag**	**1.02**	**1**	*i* P	Pn	03 00 45.1	+6.3
IGD	**Bursa**	**1.14**	**3**	*i* P	Pn	**03 00 40.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pg**	**03 00 43.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pg**	**03 00 43.0**	**-0.2**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pb**	**03 00 45.8**	**+0.3**
ARMT				*e*SN	**Sg**	**03 01 05.4**	**0.0**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pb**	**03 00 45.8**	**+0.3**
ARMT				*e*Sn	**Sg**	**03 01 05.4**	**0.0**
YLV	**Yalova**	**1.46**	**8**	*e*PN	**Pn**	**03 00 45.2**	**+0.5**
YLV				*e*SN	**Sg**	**03 01 04.9**	**-0.5**
YLV	**Yalova**	**1.46**	**8**	*e*Pn	**Pn**	**03 00 45.2**	**+0.5**
YLV				*e*Sn	**Sg**	**03 01 04.9**	**-0.5**
GULT	**Gulveren**	**1.69**	**39**	*e*PN	**Pn**	**03 00 48.2**	**+0.3**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn	**Pn**	**03 00 48.2**	**+0.3**

*ISCJB **26** 03:01:21.5±0.7, 13.°6S±0.°1×75.°1W±0.°1, h100km, mb3.5/3, Error ellipse: s-maj=21.3km s-min=6.4km az=138.9*
*IDC **26** 03:01:22.1±1.5, 13.°71S×75.°29W, h103km±13km, mb3.3/3, mb1 3.5/8, mb1mx3.3/57, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.2/16, Error ellipse: s-maj=36.5km s-min=11.8km az=45.0*
ISC 26 03:01:22.5±0.9, 13.°7S±0.°1×75.°3W±0.°1, h100km, n10, σ1§38/13, mb3.6/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.29**	**317**	P	**Pn**	**03 01 58.6**	**-0.5**
	23nm,0.3s,baz=151,slow=11,SNR=54						
NNA				S	**Sn**	**03 02 26.7**	**-0.3**
	129nm,0.3s,baz=248,slow=14,SNR=14						
ATAH	**Atahualpa**	**7.21**	**334**	P	**Pn**	**03 03 06.1**	**+0.5**
	0.6nm,0.3s,baz=330,slow=8.5,SNR=2.1						
ATAH				S	**Sn**	**03 04 29.4**	**+3.2**
	1.3nm,0.3s,baz=154,slow=23,SNR=2.5						
LPAZ	**La Paz**	**7.35**	**112**	P	**Pn**	**03 03 07.6**	**-0.2**
	0.5nm,0.3s,baz=316,slow=9.2,SNR=19						
LVC	**Limon Verde**	**10.73**	**147**	P	**Pn**	**03 03 54.6**	**+1.1**
	6.2nm,0.3s,baz=252,slow=18,SNR=1.4						
LVC				S	**Sn**	**03 05 52.7**	**+0.9**
	8.3nm,0.3s,baz=94,slow=18,SNR=2.5						
PTGA	**Pitinga**	**19.86**	**51**	P	**P**	**03 05 45.8**	**0.0**
	0.3nm,0.3s,baz=227,slow=16,SNR=6.0						
SJG	**San Juan**	**32.84**	**16**	LR	LR	03 22 12.4	
	comp=Z,23nm,18.2s,baz=165,slow=38						
TXAR	**Lajitas Array**	**50.81**	**328**	P	**P**	**03 10 13.1**	**0.0**
	0.5nm,0.7s,baz=142,slow=8.8,SNR=5.4						
PDAR	**Pinedale Array**	**64.39**	**333**	P	**P**	**03 11 46.9**	**-1.4**
	0.2nm,0.7s,baz=111,slow=5.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**80.75**	**74**	P	**P**	**03 13 24.0**	**-1.5**
	1.6nm,0.9s,baz=277,slow=

*IDC **26** 03:10:11.5±6.8, 17°.24S×178°.93W, h544km±80km, mb3.0/9, mb1 3.3/10, mb1mx3.1/48, mbtmp4.0/10, Error ellipse: s-maj=30.6km s-min=26.3km az=123.0*

ISC 26 03:10:10.6±0.9, 17°.2S±0°.2×178°.9W±0°.2, h533km, n10, σ0:74/10, mb3.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.63**	**248**	P	**P**	**03 13 17.3**	**+0.7**
	0.4nm,0.3s,baz=72,slow=20,SNR=5.1						
STKA	**Stephens Creek**	**38.56**	**240**	P	**P**	**03 16 47.1**	**-0.6**
	2.6nm,0.5s,baz=90,slow=12,SNR=8.3						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**03 17 32.8**	**-0.7**
	1.0nm,0.5s,baz=92,slow=7.0,SNR=19						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**03 17 34.9**	**-0.4**
	12nm,0.6s,baz=88,slow=8.2,SNR=181						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**03 18 36.0**	**+0.2**
	0.6nm,0.5s,baz=72,slow=6.9,SNR=5.7						
VNDA	**Vanda**	**61.07**	**185**	P	**P**	**03 19 32.1**	**0.0**
	0.4nm,0.5s,baz=122,slow=2.3,SNR=3.0						
NEW	**Newport**	**85.24**	**36**	P	**P**	**03 21 49.5**	**-1.3**
	0.4nm,0.3s,baz=252,slow=6.4,SNR=2.6						
ILAR	**Eielson Array**	**85.34**	**13**	P	**P**	**03 21 51.3**	**+0.4**
	0.3nm,0.5s,baz=219,slow=5.4,SNR=9.1						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**03 21 55.8**	**+0.7**
	0.2nm,0.7s,baz=209,slow=7.2,SNR=3.4						
PDAR	**Pinedale Array**	**87.18**	**44**	P	**P**	**03 22 00.4**	**-0.1**
	0.2nm,0.5s,baz=192,slow=1.4,SNR=4.1						

*CSEM **26** 03:13:36.3, 38°.83N×43°.56E, h5km, ML3.5*

ISK 26 03:13:36.3, 38°.83N×43°.56E, h5km, ML3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**210**	*e*PG	Pb	03 13 43.8	+0.1
VANB				*e*SG	Sb	03 13 49.4	+0.9
VANB	**Van**	**0.27**	**210**	*e*Pg	Pb	03 13 43.8	+0.1
VANB				*e*Sg	Sb	03 13 49.4	+0.8
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*PG	Pg	03 13 53.3	+0.3
AGRB				*e*SG	Sb	03 14 06.6	+0.6
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*Pg	Pg	03 13 53.3	+0.4
AGRB				*e*Sg	Sb	03 14 06.6	+0.7
CUKT	**Cukurca**	**1.58**	**179**	*e*PN	Pg	03 14 06.4	-0.2
CUKT	**Cukurca**	**1.58**	**179**	*e*Pn	Pg	03 14 06.4	-0.2
VRTB	**Varto-Mus**	**1.67**	**282**	*e*PN	Pg	03 14 08.1	-0.2
VRTB	**Varto-Mus**	**1.67**	**282**	*e*Pn	Pg	03 14 08.1	-0.2
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*PN	Pb	03 14 11.9	-0.8
SENK	**Senkaya-Erzuru**	**1.97**	**332**	*e*Pn	Pb	03 14 11.9	-0.8
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*PN	Pb	03 14 12.5	-0.2
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	Pb	03 14 12.5	-0.2
BNGB	**Bing¶ll**	**2.25**	**275**	*e*PN	Pb	03 14 16.2	-1.3
BINT	**Bingol**	**2.40**	**272**	*e*Pn	Pn	03 14 16.2	-0.1
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*PN	Pb	03 14 19.1	-1.4
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*Pn	Pb	03 14 19.1	-1.3
AKH	**Akhalkalaki**	**2.58**	**359**	*e*PN	Pb	03 14 21.3	-1.9
AKH	**Akhalkalaki**	**2.58**	**359**	*e*Pn	Pb	03 14 21.3	-1.9
MAZI	**Mazidag**	**2.81**	**242**	*e*PN	Pn	03 14 23.5	+1.5
MAZI	**Mazidag**	**2.81**	**242**	*e*Pn	Pn	03 14 23.5	+1.5
PTK	**Pertek**	**3.25**	**272**	*e*PN	Pn	03 14 30.6	+2.4
PTK	**Pertek**	**3.25**	**272**	*e*Pn	Pn	03 14 30.6	+2.4
SVRC	**Sivrice-ELAZID**	**3.36**	**264**	*e*PN	Pn	03 14 32.1	+2.5
SVRC	**Sivrice-ELAZID**	**3.36**	**264**	*e*Pn	Pn	03 14 32.1	+2.5

*ISN **26** 03:16:11.3±0.9, 39°.09N×43°.28E, h0km±41km, ML4.7*
*MOS **26** 03:16:17.8±1.1, 38°.58N×43°.21E, h8km, mb4.6/41, Error ellipse: s-maj=5.8km s-min=3.9km az=110.8*
*DDA **26** 03:16:18.7, 38°.69N×43°.20E, h21km, Ml4.8*
*GCMT **26** 03:16:18.4±0.4, 38°.75N×43°.29E, h31km±1km, MW4.8/63, Moment Tensor Solution. s20,c21; s63,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.58±.21; $M_{\theta\theta}$-2.23±.12; $M_{\phi\phi}$0.65±.13; $M_{r\theta}$-0.87±.14; $M_{\theta\phi}$-0.61±.10; $M_{\phi r}$-0.71±.19; Best double couple: $M_0$2.30800×10^{16} NP1:ϕ_s239.00000°, δ62.00000°, λ66.00000°. NP2: ϕ_s102.00000°, δ36.00000°, λ127.00000°. Principal axes: T 2.0220, Plg65.0000°, Azm107.0000°; N 0.5750, Plg21.0000°, Azm251.0000°; P -2.5950, Plg14.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 03:16:18.4±0.0, 38°.73N×43°.30E, h5km, mb4.7/31, ML4.4(ISK), ML4.8(DDA), After ISK.*
*ATA **26** 03:16:18.0±3.8, 38°.69N×43°.26E, h0km±12km, ML5.6*
*ISK **26** 03:16:18.6, 38°.73N×43°.29E, h3km, ML4.5*
*AZER **26** 03:16:18.9±0.5, 38°.61N×43°.25E, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=128.0*
*ISCJB **26** 03:16:18.3±0.5, 38°.65N±0°.02×43°.31E±0°.01, h7km±3km, mb4.5/72, MS3.9/33, Error ellipse: s-maj=2.5km s-min=1.8km az=178.9*
*CSEM **26** 03:16:19.0±0.1, 38°.66N×43°.27E, h5km, mb4.6/54, Error ellipse: s-maj=2.5km s-min=2.1km az=6.0*
*DSN **26** 03:16:21.8±0.7, 38°.53N×43°.58E, h16km, mb4.6/1, Error ellipse: s-maj=17.8km s-min=5.5km az=66.0*
*IDC **26** 03:16:22.4±1.7, 38°.63N×43°.22E, h30km±12km, mb4.1/25, mb1 4.1/35, mb1mx4.0/68, mbtmp4.2/35, ML3.6/10, MS3.9/30, Ms1 3.9/30, ms1mx3.8/56, Error ellipse: s-maj=11.2km s-min=7.3km az=157.0*
*TEH **26** 03:16:23.4, 38°.70N×43°.37E, h21km, ML4.3*

ISC 26 03:16:20.4±0.7, 38°.70N±0°.01×43°.24E±0°.01, h16km±4km, n582, σ1:81/680, mb4.5/72, MS4.0/34, 33C-69D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**131**	*e*PG	**Pg**	**03 16 24.1**	**-0.6**
VANB				*e*SG	**Sb**	**03 16 28.0**	**0.0**
VANB	**Van**	**0.15**	**131**	*e*Pg	**Pg**	**03 16 24.1**	**-0.6**
VMUR	**Van-Muradiye**	**0.39**	**41**	*i* P	**Pg**	**03 16 27.4**	**-1.1**
VMUR				*i* S	**Sb**	**03 16 34.9**	**-0.1**
VMUR				IAML		03 16 38.3	
	comp=N,78μm,0.5s						
VMUR	**Van-Muradiye**	**0.39**	**41**	⇓*i*P	**Pg**	**03 16 27.5**	**-1.1**
VMUR				*i* S	**Sb**	**03 16 34.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.39**	**41**	P	**Pg**	**03 16 27.5**	**-1.1**
VMUR				S	**Sb**	**03 16 34.8**	**-0.1**
GEVA	**Gevas**	**0.41**	**200**	*i* P	**Pg**	**03 16 26.6**	**-2.2**
GEVA				*i* S	**Sg**	**03 16 33.8**	**-0.7**
GEVA				IAML		03 16 36.4	
	comp=N,29μm,0.5s						
GEVA	**Gevas**	**0.41**	**200**	⇓*i*P	**Pg**	**03 16 26.6**	**-2.2**
GEVA				*i* S	**Sg**	**03 16 34.0**	**-0.5**
GEVA	**Gevas**	**0.41**	**200**	P	**Pg**	**03 16 26.6**	**-2.2**
GEVA				S	**Sg**	**03 16 34.0**	**-0.5**
GEVA	**Gevas**	**0.41**	**200**	*i* P	**Pg**	**03 16 26.9**	**-1.9**
GEVA				*i* S	**Sg**	**03 16 34.3**	**-0.3**
TUTA	**Tutak**	**0.78**	**335**	*i* P	**Pg**	**03 16 33.5**	**-2.3**
TUTA				*i* S	**Sg**	**03 16 44.8**	**-1.3**
TUTA				IAML		03 16 45.5	
	comp=N,23μm,0.4s						
TUTA	**Tutak**	**0.78**	**335**	⇓*i*P	**Pg**	**03 16 33.5**	**-2.3**
TUTA				*i* S	**Sg**	**03 16 44.2**	**-1.9**
TUTA	**Tutak**	**0.78**	**335**	P	**Pg**	**03 16 33.5**	**-2.3**
TUTA				S	**Sg**	**03 16 44.2**	**-1.9**
TUTA	**Tutak**	**0.78**	**335**	*i* P	**Pg**	**03 16 33.4**	**-2.3**
BASK	**Baskale_VAN**	**0.88**	**137**	*i* P	**Pb**	**03 16 35.6**	**-1.8**
BASK				*i* S	**Sb**	**03 16 48.5**	**-0.5**
BASK	**Baskale_VAN**	**0.88**	**137**	*i* P	**Pb**	**03 16 35.2**	**-2.2**
BASK				*i* S	**Sg**	**03 16 49.0**	**-0.2**
BASK	**Baskale_VAN**	**0.88**	**137**	P	**Pb**	**03 16 35.2**	**-2.2**
BASK				S	**Sg**	**03 16 49.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.90**	**348**	*e*PG	**Pb**	**03 16 35.6**	**-2.2**
AGRB				*e*SG	**Sb**	**03 16 48.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.90**	**348**	*e*Pg	**Pb**	**03 16 35.6**	**-2.2**
AGRB				*e*Sg	**Sb**	**03 16 48.9**	**-0.7**
DYDN	**Diyadin**	**0.92**	**22**	⇓*i*P	**Pb**	**03 16 36.1**	**-2.0**
DYDN				*i* S	**Sb**	**03 16 48.6**	**-1.5**
DYDN	**Diyadin**	**0.92**	**22**	*i* P	**Pb**	**03 16 36.5**	**-1.6**
DYDN				S	**Sb**	**03 16 48.6**	**-1.5**
DYDN	**Diyadin**	**0.92**	**22**	*i* P	**Pb**	**03 16 36.5**	**-1.6**
EKAR	**Karacoban**	**1.07**	**302**	*i* P	**Pb**	**03 16 39.8**	**-1.0**
EKAR				*i* S	**Sn**	**03 17 00.1**	**+4.4**
EKAR				IAML		03 17 03.3	
	comp=N,6μm,0.4s						
EKAR	**Karacoban**	**1.07**	**302**	⇓*i*P	**Pb**	**03 16 39.1**	**-1.6**
EKAR				*i* S	**Sn**	**03 16 56.8**	**+1.1**
EKAR	**Karacoban**	**1.07**	**302**	*i* P	**Pb**	**03 16 39.8**	**-1.0**
EKAR				S	**Sn**	**03 16 56.8**	**+1.1**
EKAR	**Karacoban**	**1.07**	**302**	*i* P	**Pb**	**03 16 39.8**	**-1.0**
HAKT	**HAKKARI**	**1.19**	**162**	⇓*i*P	**Pn**	**03 16 40.0**	**-2.7**
HAKT				*i* S	**Sg**	**03 16 58.5**	**-0.7**
HAKT	**HAKKARI**	**1.19**	**162**	P	**Pn**	**03 16 40.0**	**-2.7**
HAKT				S	**Sg**	**03 16 58.5**	**-0.7**
EATA	**Eleskirt**	**1.30**	**334**	⇓*i*P	**Pn**	**03 16 43.1**	**-1.1**
EATA				*i* S	**Sb**	**03 17 00.8**	**-0.5**
EATA	**Eleskirt**	**1.30**	**334**	P	**Pn**	**03 16 43.1**	**-1.1**
EATA				S	**Sb**	**03 17 00.8**	**-0.5**
VRTB	**Varto-Mus**	**1.47**	**289**	*e*PN	**Pn**	**03 16 46.3**	**0.0**
VRTB	**Varto-Mus**	**1.47**	**289**	⇓*i*P	**Pn**	**03 16 45.7**	**-0.6**
VRTB				*i* S	**Sg**	**03 17 08.1**	**+0.2**
VRTB	**Varto-Mus**	**1.47**	**289**	P	**Pn**	**03 16 45.7**	**-0.6**
VRTB	**Varto-Mus**	**1.47**	**289**	*e*Pn	**Pn**	**03 16 46.3**	**0.0**
VRTB				S	**Sg**	**03 17 08.1**	**+0.2**
CUKT	**Cukurca**	**1.48**	**169**	*e*PN	**Pb**	**03 16 47.2**	**-0.3**
CUKT	**Cukurca**	**1.48**	**169**	*i* P	**Pg**	**03 16 48.0**	**-0.9**
CUKT				*i* S	**Sg**	**03 17 11.2**	**+3.2**
CUKT				IAML		03 17 14.7	
CUKT	**Cukurca**	**1.48**	**169**	⇓*i*P	**Pb**	**03 16 47.4**	**-0.1**
CUKT				*i* S	**Sg**	**03 17 12.1**	**+4.0**
CUKT	**Cukurca**	**1.48**	**169**	*e*Pn	**Pb**	**03 16 47.2**	**-0.3**
BNGL	**BINGOL**	**1.65**	**280**	⇓*i*P	**Pn**	**03 16 48.6**	**-0.4**
BNGL				*i* S	**Sb**	**03 17 12.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	*e*PN	**Pn**	**03 16 50.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	⇓*i*P	**Pn**	**03 16 49.7**	**+0.4**
SVAN				*i* S	**Sb**	**03 17 11.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	P	**Pn**	**03 16 49.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.69**	**252**	*e*Pn	**Pn**	**03 16 50.0**	**+0.7**
SVAN				S	**Sb**	**03 17 11.6**	**-0.6**
HOMI	**Horasan**	**1.70**	**323**	⇓*i*P	**Pn**	**03 16 49.6**	**0.0**
HOMI				*i* S	**Sg**	**03 17 14.6**	**-0.7**
DIGO	**Kars**	**1.72**	**3**	⇓*i*P	**Pn**	**03 16 50.6**	**+0.7**
DIGO	**Kars**	**1.72**	**3**	P	**Pn**	**03 16 50.6**	**+0.7**
BTMN	**Batman**	**1.75**	**243**	*i* P	**Pn**	**03 16 49.4**	**-0.7**
BTMN				*i* S	**Sb**	**03 17 14.7**	**+0.9**
BTMN	**Batman**	**1.75**	**243**	P	**Pn**	**03 16 49.4**	**-0.7**
BTMN				S	**Sb**	**03 17 14.7**	**+0.9**
NAX	**Nakhchivan**	**1.82**	**74**	⇓P	**Pn**	**03 16 50.5**	**-0.6**
	SNR=75						
NAX				⇓S	**Sn**	**03 17 15.0**	**+1.1**
NAX	**Nakhchivan**	**1.82**	**74**	P	**Pn**	**03 16 50.5**	**-0.6**
	SNR=75						
NAX				S	**Sn**	**03 17 15.0**	**+1.1**
GNI	**Garni**	**1.86**	**38**	Pn	**Pb**	**03 16 53.0**	**-1.1**
	comp=N,30nm,0.3s,baz=260,slow=2.5,SNR=28						
GNI				Lg	Lg	03 17 22.5	
	comp=N,166nm,0.3s,baz=139,slow=21,SNR=11						
GNI	**Garni**	**1.86**	**38**	*e*Pn	**Pn**	**03 16 52.8**	**+1.0**
	SNR=35						
GNI	**Garni**	**1.86**	**38**	*e*P	**Pn**	**03 16 52.8**	**+1.0**
	SNR=35						
GNI	**Garni**	**1.86**	**38**	*d*P	**Pb**	**03 16 53.5**	**-0.6**
GNI				pmax	pmax		
	comp=Z,4μm,1.7s						
ERZM	**Erzurum**	**1.89**	**310**	⇓*i*P	**Pn**	**03 16 53.0**	**+0.7**
ERZM	**Erzurum**	**1.89**	**310**	P	**Pn**	**03 16 53.0**	**+0.7**
ISHB	**Shabestar**	**1.91**	**102**	*e*Pn	**Pn**	**03 16 53.0**	**+0.5**
ISHB				*e*Sg	**Sg**	**03 17 20.2**	**-1.8**
IMRD	**Marand**	**1.93**	**89**	*e*Pn	**Pn**	**03 16 53.7**	**+1.0**
IMRD				*e*AMB	AMB	03 17 02.9	
	comp=Z,56μm,0.3s						
IMRD	**Marand**	**1.93**	**89**	*e*Pn	**Pn**	**03 16 53.7**	**+1.0**
ECAT	**Cat-ERZURUM**	**1.98**	**298**	⇓*i*P	**Pn**	**03 16 53.5**	**0.0**
ECAT	**Cat-ERZURUM**	**1.98**	**298**	P	**Pn**	**03 16 53.5**	**0.0**
SENK	**Senkaya-Erzuru**	**1.99**	**340**	*e*PN	**Pn**	**03 16 54.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.99**	**340**	*e*Pn	**Pn**	**03 16 54.1**	**+0.6**
EAK	**Akyaka**	**2.01**	**8**	⇓*i*P	**Pn**	**03 16 55.1**	**+1.3**
EAK				*i* S	**Sg**	**03 17 27.3**	**+2.2**
EAK	**Akyaka**	**2.01**	**8**	P	**Pn**	**03 16 55.1**	**+1.3**
BNGB	**Bing¶ll**	**2.02**	**279**	*e*PN	**Pn**	**03 16 54.2**	**+0.3**
BINT	**Bingol**	**2.16**	**276**	P	**Pn**	**03 16 54.8**	**-1.0**
BINT	**Bingol**	**2.16**	**276**	*e*Pn	**Pn**	**03 16 54.2**	**-1.6**
BINT	**Bingol**	**2.16**	**276**	P	**Pn**	**03 16 54.8**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.23**	**290**	*e*PN	**Pb**	**03 16 58.5**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.23**	**290**	*e*Pn	**Pb**	**03 16 58.5**	**-1.8**
ITBZ	**Tabriz**	**2.33**	**101**	*e*Pn	**Pn**	**03 16 59.1**	**+0.9**
ITBZ				*e*AMB	AMB	03 17 21.6	
	comp=Z,6μm,0.4s						
ITBZ	**Tabriz**	**2.33**	**101**	*e*Pn	**Pn**	**03 16 59.1**	**+0.9**
MARD	**Mardin**	**2.38**	**235**	⇑*i*P	**Pn**	**03 16 58.9**	**-0.1**
MARD	**Mardin**	**2.38**	**235**	*e*Pn	**Pn**	**03 16 59.2**	**+0.3**
MARD	**Mardin**	**2.38**	**235**	*e*Pn	**Pn**	**03 16 59.2**	**+0.3**
DDEM	**Demirkent**	**2.48**	**333**	⇓*i*P	**Pn**	**03 17 00.4**	**+0.2**
DDEM	**Demirkent**	**2.48**	**333**	P	**Pn**	**03 17 00.4**	**+0.2**
KOPT	**Kop Dagi**	**2.50**	**303**	⇓*i*P	**Pn**	**03 17 01.3**	**+0.6**
KOPT				*i* S	**Sb**	**03 17 37.4**	**+1.6**
KOPT	**Kop Dagi**	**2.50**	**303**	P	**Pn**	**03 17 01.3**	**+0.6**
KOPT	**Kop Dagi**	**2.50**	**303**	*e*Pn	**Pn**	**03 17 02.0**	**+1.3**
KOPT	**Kop Dagi**	**2.50**	**303**	*e*Pn	**Pn**	**03 17 02.0**	**+1.3**
MAZI	**Mazidag**	**2.53**	**242**	*e*PN	**Pn**	**03 17 00.3**	**-0.6**
MAZI	**Mazidag**	**2.53**	**242**	*e*Pn	**Pn**	**03 17 00.3**	**-0.6**
DIYA	**Diyarbakir**	**2.57**	**254**	*i* P	**Pn**	**03 17 01.8**	**+0.4**
DIYA				*i* S	**Sb**	**03 17 39.0**	**+1.4**
DIYA	**Diyarbakir**	**2.57**	**254**	P	**Pn**	**03 17 01.8**	**+0.4**
BGD	**Bogdanovka**	**2.58**	**6**	P	**Pn**	**03 17 02.8**	**+1.1**
BGD				S	**Sg**	**03 17 44.8**	**+1.4**
DAGI	**Agillar**	**2.59**	**337**	*i* P	**Pb**	**03 17 06.1**	**-0.5**
ARTV	**Artvin**	**2.68**	**338**	⇓*i*P	**Pn**	**03 17 03.6**	**+0.5**
ARTV	**Artvin**	**2.68**	**338**	P	**Pn**	**03 17 03.6**	**+0.5**
ARTV	**Artvin**	**2.68**	**338**	*e*Pn	**Pn**	**03 17 04.2**	**+1.1**
ARTV	**Artvin**	**2.68**	**338**	*e*Pn	**Pn**	**03 17 04.2**	**+1.1**
AKH	**Akhalkalaki**	**2.72**	**4**	*e*PN	**Pn**	**03 17 04.2**	**+0.7**
AKH	**Akhalkalaki**	**2.72**	**4**	P	**Pn**	**03 17 04.5**	**+0.9**
AKH				S	**Sg**	**03 17 47.6**	**-0.3**
AKH	**Akhalkalaki**	**2.72**	**4**	P	**Pn**	**03 17 04.5**	**+0.9**
AKH				S	**Sg**	**03 17 47.5**	**-0.3**
AKH	**Akhalkalaki**	**2.72**	**4**	*e*Pn	**Pn**	**03 17 04.2**	**+0.7**
AKH	**Akhalkalaki**	**2.72**	**4**	P	**Pn**	**03 17 04.5**	**+0.9**
GDB	**GEDABAY**	**2.80**	**43**	⇓P	**Pn**	**03 17 04.7**	**0.0**
	SNR=13						
GDB				⇑S	**Sn**	**03 17 40.2**	**+2.0**
GDB	**GEDABAY**	**2.80**	**43**	P	**Pn**	**03 17 04.7**	**0.0**
	SNR=13						
GDB				S	**Sn**	**03 17 40.2**	**+2.0**
EPOS	**Posof**	**2.83**	**352**	*i* P	**Pn**	**03 17 04.3**	**-0.8**
EPOS				*i* S	**Sg**	**03 17 55.1**	**+3.7**
EPOS	**Posof**	**2.83**	**352**	P	**Pn**	**03 17 04.3**	**-0.8**
QZX	**Qazax, Azerbai**	**2.87**	**34**	⇑P	**Pn**	**03 17 05.5**	**-0.1**
	SNR=4.7						
QZX				⇓S	**Sn**	**03 17 41.7**	**+1.9**
QZX	**Qazax, Azerbai**	**2.87**	**34**	P	**Pn**	**03 17 05.5**	**-0.1**
	SNR=4.7						
QZX				S	**Sn**	**03 17 41.7**	**+1.9**
ERZN	**Erzincan**	**2.88**	**289**	*e*PN	**Pn**	**03 17 07.5**	**+1.8**
DBOC	**Borcka**	**2.91**	**336**	⇓*i*P	**Pb**	**03 17 11.0**	**-0.9**
DBOC	**Borcka**	**2.91**	**336**	P	**Pb**	**03 17 11.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**2.92**	**279**	*i* P	**Pb**	**03 17 09.6**	**-2.5**
TNCL				*i* S	**Sb**	**03 17 50.1**	**+2.6**
TNCL	**Tunceli-Merkez**	**2.92**	**279**	P	**Pb**	**03 17 09.6**	**-2.5**
EUZM	**Uzumlu**	**2.93**	**291**	*i* P	**Pb**	**03 17 10.9**	**-1.5**
EUZM				*i* S	**Sg**	**03 17 52.2**	**-2.4**
EUZM	**Uzumlu**	**2.93**	**291**	P	**Pb**	**03 17 10.9**	**-1.5**
IHRS	**Heris**	**3.01**	**96**	*e*AMB	AMB	03 17 21.9	
	comp=Z,20μm,0.5s						
IHRS				*e*Pn	**Pn**	**03 17 08.6**	**+1.0**
PTK	**Pertek**	**3.01**	**275**	*e*PN	**Pn**	**03 17 10.0**	**+2.4**
PTK	**Pertek**	**3.01**	**275**	*e*Pn	**Pn**	**03 17 10.0**	**+2.4**
IBST	**Bostanabad**	**3.04**	**108**	*e*AMB	AMB	03 17 32.3	
	comp=Z,3μm,0.3s						
IBST				*e*Pn	**Pn**	**03 17 09.0**	**+0.9**
GANJ	**Ganja**	**3.07**	**50**	⇓P	**Pn**	**03 17 08.3**	**0.0**
	SNR=19						
GANJ				⇑S	**Sn**	**03 17 46.5**	**+1.7**
GANJ	**Ganja**	**3.07**	**50**	P	**Pn**	**03 17 08.3**	**0.0**
	SNR=19						
GANJ				S	**Sn**	**03 17 46.5**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.10**	**265**	*e*PN	**Pn**	**03 17 10.8**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.10**	**265**	*e*Pn	**Pn**	**03 17 10.8**	**+2.0**
TBLG	**Delisi**	**3.24**	**20**	*e*PN	**Pn**	**03 17 12.1**	**+1.5**
TBLG	**Delisi**	**3.24**	**20**	P	**Pn**	**03 17 11.9**	**+1.3**
TBLG				S	**Sg**	**03 18 03.1**	**-1.4**
TBLG	**Delisi**	**3.24**	**20**	P	**Pn**	**03 17 11.9**	**+1.3**
TBLG	**Delisi**	**3.24**	**20**	P	**Pn**	**03 17 11.9**	**+1.3**
ELZG	**Elazig**	**3.34**	**268**	*i* P	**Pn**	**03 17 13.0**	**+0.9**
ELZG				*i* S	**Sg**	**03 18 06.7**	**-1.1**
ELZG	**Elazig**	**3.34**	**268**	P	**Pn**	**03 17 13.0**	**+0.9**
KELT	**Kelkit**	**3.41**	**296**	*i* P	**Pn**	**03 17 13.2**	**0.0**
KELT				*i* S	**Sb**	**03 18 05.2**	**+3.3**
KELT	**Kelkit**	**3.41**	**296**	P	**Pn**	**03 17 13.1**	**0.0**
BRDA	**Brd**	**3.43**	**62**	⇓P	**Pn**	**03 17 13.0**	**-0.1**
	SNR=11						
BRDA				⇑S	**Sn**	**03 17 55.3**	**+1.9**
BRDA	**Brd**	**3.43**	**62**	P	**Pn**	**03 17 13.0**	**-0.1**
	SNR=11						
BRDA				S	**Sn**	**03 17 55.3**	**+1.9**
MACK	**Trabzon**	**3.49**	**311**	*i* P	**Pb**	**03 17 20.2**	**-1.6**
MACK				*i* S	**Sb**	**03 18 05.3**	**+1.3**
KTUT	**Trabzon**	**3.52**	**312**	*e*PN	**Pn**	**03 17 16.4**	**+2.0**
KTUT	**Trabzon**	**3.52**	**312**	*e*Pn	**Pn**	**03 17 16.4**	**+2.0**
ISRB	**Sarab**	**3.59**	**103**	*e*Pn	**Pn**	**03 17 16.9**	**+1.3**
ISRB				*e*AMB	AMB	03 18 28.3	
	comp=Z,6μm,0.6s						
ISRB	**Sarab**	**3.59**	**103**	*e*Pn	**Pn**	**03 17 16.9**	**+1.3**
MNGR	**Mingechevir, A**	**3.62**	**54**	⇓P	**Pn**	**03 17 15.6**	**-0.1**
	SNR=20						
MNGR	**Mingechevir, A**	**3.62**	**54**	P	**Pn**	**03 17 15.6**	**-0.1**
	SNR=20						
URFA	**Urfa**	**3.71**	**252**	*e*PN	**Pn**	**03 17 20.1**	**+3.0**
KEMA	**Kemaliye**	**3.74**	**280**	*i* P	**Pn**	**03 17 18.6**	**+1.0**
KEMA				*i* S	**Sg**	**03 18 18.7**	**-1.9**
KEMA	**Kemaliye**	**3.74**	**280**	P	**Pn**	**03 17 18.6**	**+1.0**
ZRD	**Zardab**	**3.78**	**64**	⇑P	**Pn**	**03 17 17.7**	**-0.3**
	SNR=11						
ZRD				⇑S	**Sn**	**03 18 03.5**	**+1.3**
ZRD	**Zardab**	**3.78**	**64**	P	**Pn**	**03 17 17.7**	**-0.3**
	SNR=11						
ZRD				S	**Sn**	**03 18 03.5**	**+1.3**
ONI	**Oni**	**3.89**	**2**	P	**Pn**	**03 17 21.8**	**+2.2**
ONI	**Oni**	**3.89**	**2**	P	**Pn**	**03 17 21.8**	**+2.2**
ONI	**Oni**	**3.89**	**2**	P	**Pn**	**03 17 21.8**	**+2.2**
ZKTA	**Zakatala**	**3.92**	**40**	⇓P	**Pn**	**03 17 20.1**	**+0.2**
	SNR=20						
ZKTA				⇓S	**Sn**	**03 18 08.4**	**+2.9**
SEKA	**Sheki**	**3.94**	**49**	⇑P	**Pn**	**03 17 21.0**	**+0.7**
	SNR=17						
SEKA				⇑S	**Sn**	**03 18 09.6**	**+3.4**
SEKA	**Sheki**	**3.94**	**49**	P	**Pn**	**03 17 21.0**	**+0.7**
	SNR=17						
SEKA				S	**Sn**	**03 18 09.6**	**+3.4**
LRK	**Lerik**	**3.99**	**89**	⇓P	**Pn**	**03 17 20.1**	**-1.0**
	SNR=7.5						
LRK				⇑S	**Sn**	**03 18 08.0**	**+0.4**
LRK	**Lerik**	**3.99**	**89**	P	**Pn**	**03 17 20.1**	**-1.0**
	SNR=7.5						
LRK				S	**Sn**	**03 18 08.0**	**+0.4**
GLBA	**Clilabad**	**4.05**	**81**	⇓P	**Pn**	**03 17 21.0**	**-0.7**
	SNR=7.4						
GLBA				⇓S	**Sn**	**03 18 09.6**	**+0.8**
GLBA	**Clilabad**	**4.05

comp=Z,155nm,1.0s
MAK *eS* **Sn** **03 18 41.8 +1.1**
comp=Z,2μm,9.0s
SARI SarD1z-Kayseri 5.36 269 *e*PN **Pn** **03 17 43.3 +3.5**
KAMA Osmaniye 5.41 256 *i* P **Pb** **03 17 59.0 +4.5**
KAMA *i* S **Sg** **03 19 07.0 -7.1**
TOKA Tokat 5.48 289 *i* P **Pb** **03 17 58.0 +2.4**
TOKA *i* S **Sb** **03 19 01.4 +0.3**
TOKA Tokat 5.48 289 *e*Pn **Pn** **03 17 44.0 +2.6**
TOKA Tokat 5.48 289 *e*Pn **Pn** **03 17 44.0 +2.6**
TOKA *e*Pg **Pg** **03 18 00.8 -4.4**
BHD Baghdad 5.49 170 *e*Pn **Pn** **03 17 41.0 -0.5**
SNR=3.0
BHD *i* Sn **Sn** **03 18 44.0 -0.3**
SNR=3.0
CUSAR Sarkisla-SIVAS 5.49 280 *i* S **Sg** **03 19 13.8 -2.9**
ANDN Andirin 5.55 261 *i* P **Pb** **03 17 57.4 +0.5**
ANDN *i* S **Sg** **03 19 11.5 -7.1**
BNN Bunyan 5.78 274 *e*PN **Pn** **03 17 49.1 +3.5**
KOZT Kozan 5.97 261 *e*PN **Pn** **03 17 52.1 +4.0**
RTB Rutbah 6.13 204 *e*Pn **Pn** **03 17 50.0 -0.4**
SNR=3.0
RTB *i* Sn **Sn** **03 18 59.0 -1.2**
SNR=3.0
YAHY KAYSERI_Yahyal 6.22 267 *i* S **Sb** **03 19 30.6 +8.1**
YAYL Yayladag 6.27 247 *i* P **Pb** **03 18 06.2 -3.0**
YAYL *i* S **Sb** **03 19 30.9 +6.8**
GOF Gofitskoye 6.36 359⇑*e*P Pn 03 17 43.0 -10
GOF pmax pmax
comp=Z,8.0nm,0.4s
ANN Anapa 7.49 326 *e*P **Pn** **03 18 05.9 -2.9**
ANN pmax pmax
comp=Z,93nm,1.7s
ANN MLR MLR
comp=Z,2μm,15.0s
BR101 Keskin Array S 7.53 281 *e*Pn **Pn** **03 18 11.1 +1.5**
BR101 Keskin Array S 7.53 281 *e*Pn **Pn** **03 18 11.1 +1.5**
BR131 Keskin Array S 7.53 281 *e*Pn **Pn** **03 18 08.0 -1.6**
BR131 Keskin Array S 7.53 281 *e*Pn **Pn** **03 18 08.0 -1.6**
BRTR Keskin Array B 7.53 281 Pn **Pn** **03 18 11.1 +1.5**
comp=Z,0.1nm,0.3s,baz=283,slow=16,SNR=4.5
BRTR Lg Lg 03 20 22.2
baz=121,slow=19,SNR=2.1
NSR Nassriya 8.03 162 *e*Pn **Pn** **03 18 16.0 -0.3**
SNR=3.0
NSR *i* Sn **Sn** **03 19 44.0 -2.8**
SNR=3.0
ANTO Ankara 8.19 282 *e*P **Pn** **03 18 17.8 -0.8**
ANTO Ankara 8.19 282 *e*P **Pn** **03 18 17.8 -0.8**
ANTO Ankara 8.19 282 *e*Pn **Pn** **03 18 17.8 -0.8**
BR231 Keskin MP Arra 8.20 281 *e*Pn **Pn** **03 18 16.1 -2.6**
ASF Jabal al Asfar 8.31 220 Pn **Pn** **03 18 19.2 -1.2**
comp=Z,0.7nm,0.3s,baz=351,slow=16,SNR=5.6
ASF Lg Lg 03 20 48.7
comp=Z,0.5nm,0.3s,baz=193,slow=18,SNR=2.6
MMAI Mount Meron Ar 8.52 231 Pn **Pn** **03 18 23.0 -0.2**
comp=Z,1.4nm,0.3s,baz=74,slow=15,SNR=8.1
MMAI Lg Lg 03 20 52.7
comp=Z,1.6nm,0.3s,baz=210,slow=16,SNR=4.1
MMAI LR LR 03 22 08.5
comp=Z,930nm,19.3s,baz=40,slow=41
MMAI Mount Meron Ar 8.52 231 Pn **Pn** **03 18 23.0 -0.2**
GEYT Alibeck 11.71 89 Pn **Pn** **03 19 06.8 -0.1**
comp=Z,0.6nm,0.3s,baz=295,slow=18,SNR=3.5
GEYT LR LR 03 25 17.6
comp=Z,404nm,19.2s,baz=250,slow=46
KIS Kishinev 13.43 313 *e*P **P** **03 19 40.0 +0.5**
KIS *e*L L 03 26 20.0
KIS LRM MLR 03 28 07.0
comp=Z,800nm,16.0s
KIS Kishinev 13.43 313 *e*P **P** **03 19 40.0 +0.5**
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=Z,900nm,16.0s
LPSR Galich'ya Gora 14.23 349 *e*P **Pn** **03 19 41.5 +0.5**
LPSR pmax pmax
comp=Z,80nm,1.3s
MLR Muntele Rosu 14.51 303 Pn **P** **03 19 48.8 -2.9**
comp=Z,0.1nm,0.3s,baz=253,slow=8.9,SNR=3.0
DOPR Dopca 15.05 305⇓*i*P **P** **03 20 00.5 +2.9**
DOPR Dopca 15.05 305⇓*i*P **P** **03 20 00.5 +2.9**
IDI Anoyia 15.05 263 Pn **Pn** **03 19 54.3 +1.9**
comp=Z,0.3nm,0.3s,baz=337,slow=12,SNR=2.5
IDI LR LR 03 26 17.4
comp=Z,212nm,20.5s,baz=61,slow=40
IDI Anoyia 15.05 263 *e*Pn **Pn** **03 19 52.6 +0.1**
comp=Z,148nm,1.9s
IDI Anoyia 15.05 263 *e*Pn **Pn** **03 19 52.6 +0.1**
comp=Z,148nm,1.9s
VOIR 15.08 302⇓*i*P **Pn** **03 19 54.7 +1.9**
VOIR 15.08 302⇓P **Pn** **03 19 54.7 +1.9**
RAYN Ar Rayn 15.25 172 *e*Pn **Pn** **03 19 50.4 -4.7**
comp=Z,21nm,1.1s
ARR Arges 15.33 302⇑*i*P **Pn** **03 19 55.9 -0.2**
AKASG Malin Array Be 15.57 325 Pn **Pn** **03 19 58.2 -0.9**
comp=Z,0.5nm,0.3s,baz=130,slow=12,SNR=20
AKASG LR LR 03 26 56.1
comp=Z,504nm,18.8s,baz=130,slow=41
AKBB Malin Array Si 15.57 325 *e*P **Pn** **03 19 59.2 +0.2**
AKBB pmax pmax
comp=Z,58nm,1.3s
AKBB Malin Array Si 15.57 325 *e*Pn **Pn** **03 19 59.2 +0.2**
comp=Z,58nm,1.3s
AKBB Malin Array Si 15.57 325 *e*Pn **Pn** **03 19 59.2 +0.2**
comp=Z,58nm,1.3s
KIEV Kiev 15.57 325⇓*i*P **Pn** **03 19 58.5 -0.6**
KIEV pmax pmax
comp=Z,37nm,1.2s
KIEV Kiev 15.57 325 *e*Pn **Pn** **03 19 58.7 -0.4**
comp=Z,62nm,1.3s
KIEV Kiev 15.57 325 P **P** **03 20 04.3 +1.0**
SNR=6.5
KIEV Kiev 15.57 325 *e*Pn **Pn** **03 19 58.7 -0.4**
comp=Z,62nm,1.3s
VTS Vitosha 15.69 291⇓*i*P **Pn** **03 20 02.6 +1.7**
VTS Vitosha 15.69 291⇓P **Pn** **03 20 02.6 +1.7**
VTS Vitosha 15.69 291 *e*Pn **P** **03 20 04.0 -0.9**
comp=Z,40nm,1.6s
AKTO Aktyubinsk 15.73 37 Pn **Pn** **03 19 59.1 -2.1**
comp=Z,0.9nm,0.3s,baz=229,slow=13,SNR=21
AKTO LR LR 03 27 23.3
comp=Z,232nm,20.0s,baz=226,slow=42
BURAR Bucovina Array 15.86 310⇑*i*P **P** **03 20 07.0 +0.4**
BURAR Bucovina Array 15.86 310⇑P **P** **03 20 07.0 +0.4**
BURAR Bucovina Array 15.86 310⇑*i*P **P** **03 20 07.0 +0.4**
BUR08 Bucovina Ar. S 15.88 310 *e*Pn **Pn** **03 20 04.0 +0.7**
BUR08 Bucovina Ar. S 15.88 310 *e*Pn **Pn** **03 20 04.0 +0.7**
LOT Lotru 15.94 301⇓*i*P **P** **03 20 05.7 -1.8**
LOT Lotru 15.94 301⇓*i*P **P** **03 20 05.7 -1.8**
ABKAR Akbulak array 15.96 43 *e*Pn **Pn** **03 20 03.1 -1.1**
ABKAR Akbulak array 15.96 43 *e*Pn **Pn** **03 20 03.1 -1.1**
ZAGS Zajecar 16.59 295 *e*P **Pn** **03 20 12.8 +0.6**
BARS Barje 16.74 291 *e*P **P** **03 20 17.9 +1.6**
BANOM Banah 16.83 135 Pn **Pn** **03 20 12.0 -3.4**
BANOM Banah 16.83 135 P **Pn** **03 20 12.0 -3.4**
BOVS Bovan 16.93 294 *e*P **P** **03 20 19.0 +0.5**
OBN Obninsk 17.03 347 P **Pn** **03 20 15.9 -1.8**
comp=Z,3.0nm,0.3s,baz=170,slow=9.7,SNR=6.4
OBN LR LR 03 27 21.0
comp=Z,825nm,18.1s,baz=118,slow=38
OBN Obninsk 17.03 347⇑*e*P **Pn** **03 20 16.1 -1.5**
OBN *e*S **Sn** **03 23 23.7 -2.8**
OBN pmax pmax
comp=Z,90nm,1.7s
OBN MLR MLR
comp=Z,897nm,16.0s
OBN Obninsk 17.03 347 *e*Pn **Pn** **03 20 13.1 -4.6**
comp=Z,54nm,1.1s
DRGR 17.08 305⇓*i*P **P** **03 20 20.5 +0.4**
DRGR 17.08 305⇓P **P** **03 20 20.5 +0.4**
DRGR 17.08 305 P **P** **03 20 20.5 +0.4**
NAZ Nazwa, Dubai 17.24 139 *i* Pn **Pn** **03 20 19.2 -1.3**
SNR=13
NAZ Nazwa, Dubai 17.24 139 *i* P **Pn** **03 20 19.2 -1.3**
SNR=13
NAZ Nazwa, Dubai 17.24 139 P **Pn** **03 20 19.3 -1.3**
SNR=10
NAZ Nazwa, Dubai 17.24 139 P **Pn** **03 20 19.3 -1.3**
SNR=10
NAZ Nazwa, Dubai 17.24 139 Pn **Pn** **03 20 19.3 -1.3**
SNR=10
BZS Buzias 17.43 300⇓*i*P **P** **03 20 23.7 -0.2**
BZS Buzias 17.43 300⇓P **P** **03 20 23.7 -0.2**
BZS Buzias 17.43 300 P **P** **03 20 23.7 -0.2**

MOS Moscow 17.46 349 *e*P **Pn** **03 20 18.4 -4.6**
MOS pmax pmax
comp=Z,75nm,1.4s
MOS MLR MLR
comp=Z,1μm,13.0s
UOSS Minazif 17.56 138 P **Pn** **03 20 23.7 -0.8**
SNR=7.9
UOSS Minazif 17.56 138 *e*Pn **Pn** **03 20 22.9 -1.5**
comp=Z,20nm,0.9s
SIRR Siria 17.59 302⇑*i*P **P** **03 20 28.1 +2.4**
SIRR Siria 17.59 302⇑*i*P **P** **03 20 28.1 +2.4**
HATD Hatta, Dubai 17.62 138 *i* Pn **Pn** **03 20 23.9 -1.3**
SNR=6.0
HATD Hatta, Dubai 17.62 138 *i* P **Pn** **03 20 23.9 -1.3**
SNR=6.0
HATD Hatta, Dubai 17.62 138 Pn **Pn** **03 20 24.1 -1.1**
SNR=6.4
HATD Hatta, Dubai 17.62 138 P **Pn** **03 20 24.1 -1.1**
SNR=6.4
HATD Hatta, Dubai 17.62 138 Pn **Pn** **03 20 24.1 -1.1**
SNR=6.4
LVV L'vov 17.64 315 *e*P **P** **03 20 26.9 +0.7**
LVV L'vov 17.64 315 *e*P **P** **03 20 26.9 +0.7**
GRUS Gruza 17.68 294 *e*P **P** **03 20 28.1 +1.3**
ASHO Ashiyiah 17.70 138 *i* Pn **Pn** **03 20 23.1 -3.1**
SNR=20
ASHO Ashiyiah 17.70 138 *i* P **Pn** **03 20 23.1 -3.1**
SNR=20
ASHO Ashiyiah 17.70 138 Pn **Pn** **03 20 24.1 -2.1**
SNR=8.6
ASHO Ashiyiah 17.70 138 P **Pn** **03 20 24.1 -2.1**
SNR=8.6
ASHO Ashiyiah 17.70 138 Pn **Pn** **03 20 24.1 -2.1**
SNR=8.6
TRPA Tarpa 17.70 309⇑*e*Pn **Pn** **03 20 26.3 +0.2**
IVAS Ivanjica 18.04 293 *e*P **P** **03 20 31.9 +1.1**
UZH Uzhgorod 18.07 310⇓*i*P **Pn** **03 20 27.7 -2.8**
UZH *e*S **Sn** **03 23 43.3 -8.3**
KWP Kalwaria Pacla 18.28 313 *e*P **P** **03 20 33.7 +0.4**
KWP Kalwaria Pacla 18.28 313 *e*P **P** **03 20 33.7 +0.4**
KWP Kalwaria Pacla 18.28 313 *e*P **P** **03 20 33.7 +0.4**
TEKS Tekeris 18.64 296 *e*P **Pn** **03 20 37.5 -0.1**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn** **03 20 38.5 +0.4**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn** **03 20 38.5 +0.4**
CRVS Cervenica-Dubn 18.68 310 *e*P **Pn** **03 20 38.4 +0.4**
MICGM Minsk 18.94 332 *e* **P** **03 20 39.0 -1.5**
MNK Minsk 18.94 332 *e*P **P** **03 20 39.0 -1.5**
STHS Stebnicka Huta 19.03 311 *e*P Pn 03 20 53.0 +11
STHS Stebnicka Huta 19.03 311 *e* P 03 20 53.0 +11
PSZ Piszkesteto 19.27 306⇓*i*P **Pn** **03 20 47.0 +1.7**
PSZ Piszkesteto 19.27 306 *e*P **Pn** **03 20 46.8 +1.5**
PSZ pmax pmax
comp=Z,43nm,1.3s
PSZ Piszkesteto 19.27 306 *e*P **Pn** **03 20 46.8 +1.5**
comp=Z,43nm,1.3s
PSZ Piszkesteto 19.27 306⇓*e*P **Pn** **03 20 46.9 +1.7**
PSZ Piszkesteto 19.27 306 *e*P **Pn** **03 20 46.8 +1.5**
comp=Z,43nm,1.3s
NIE Niedzica 19.59 311 *e*P **Pn** **03 20 49.2 +0.2**
NIE Niedzica 19.59 311 *e*P **Pn** **03 20 49.2 +0.2**
NIE Niedzica 19.59 311 *e*P **Pn** **03 20 49.2 +0.2**
NACGM Naroch 19.66 331 *e* **P** **03 20 48.0 -0.3**
BUD Budapest 19.68 304⇑*e*P **Pn** **03 20 50.9 +0.8**
BUD Budapest 19.68 304⇑*e*P **Pn** **03 20 50.9 +0.8**
DZET Dzherino 19.94 82 P **Pn** **03 20 54.0 +0.6**
DZET pmax pmax
comp=Z,9.0nm,1.5s
DZET Dzherino 19.94 82 P **Pn** **03 20 54.0 +0.6**
comp=Z,9.0nm,1.5s
LANS Liptovska Anna 19.98 309 *e*P **Pn** **03 20 53.2 -0.5**
LANS Liptovska Anna 19.98 309 *e*P **Pn** **03 20 53.2 -0.5**
LANS Liptovska Anna 19.98 309 *e*P **Pn** **03 20 53.2 -0.5**
SMDO Samad 20.07 137 P **P** **03 20 53.1 0.0**
SNR=6.7
SMDO Samad 20.07 137 P **P** **03 20 53.1 0.0**
SNR=6.7
SMDO Samad 20.07 137 Pn **P** **03 20 53.1 0.0**
SNR=6.7
VYHS Vyhne 20.13 307 *e*P Pn 03 20 55.3 -0.1
VYHS Vyhne 20.13 307 *e*P Pn 03 20 55.3 -0.1
VYHS Vyhne 20.13 307 *e*P Pn 03 20 55.3 -0.1
OJC Ojcow 20.22 312 *e*P **P** **03 20 53.8 -0.7**
OJC Ojcow 20.22 312 *e*P Pn 03 20 56.3 -0.2
OJC pmax pmax
comp=Z,17nm,1.2s
OJC Ojcow 20.22 312 *e*P Pn 03 20 56.3 -0.2
comp=Z,17nm,1.2s
OJC Ojcow 20.22 312 *e*P Pn 03 20 56.3 -0.2
comp=Z,17nm,1.2s
WSAR Wadi Sarin 20.24 135 P **P** **03 20 55.2 +0.3**
comp=Z,4.0nm,0.6s,baz=332,slow=5.3,SNR=7.4
WSAR LR LR 03 31 00.2
comp=Z,813nm,18.3s,baz=353,slow=43
ARU Arti 20.45 25 P **P** **03 20 54.0 -2.9**
comp=Z,4.5nm,0.3s,baz=274,slow=7.3,SNR=2.7
ARU LR LR 03 31 40.7
comp=Z,332nm,18.0s,baz=236,slow=45
ARU Arti 20.45 25*c i*P Pn 03 20 58.4 -0.7
ARU 03 21 14.0
ARU S Sn 03 24 48.9 -0.1
ARU SS **PcP** **03 25 07.5 -0.9**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
ARU Arti 20.45 25 *i* P Pn 03 20 58.4 -0.7
comp=Z,20nm,1.0s
ARU S Sn 03 24 48.9 -0.1
ARU Arti 20.45 25 PcP **PcP** **03 25 07.5 -0.9**
comp=Z,477nm,15.0s
ARU Arti 20.45 25 *e*P Pn 03 20 58.6 -0.5
comp=Z,100nm,1.8s
SUW Suwalki 20.54 325 *e*P Pn 03 20 59.3 -0.9
SUW Suwalki 20.54 325 *e*P Pn 03 20 59.3 -0.8
SUW Suwalki 20.54 325 *e*P Pn 03 20 59.3 -0.8
KKAR Karatay Array 21.04 69 *e*P **P** **03 21 04.0 +0.5**
KKAR pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 21.04 69 *e*P **P** **03 21 04.0 +0.5**
comp=Z,25nm,0.9s
KKAR Karatay Array 21.04 69 *e*P **P** **03 21 04.0 +0.5**
comp=Z,25nm,0.9s
OKC Ostrava-Krasne 21.04 310 *e*P **P** **03 21 04.3 +0.9**
OKC *e*S Sn 03 25 06.8 +3.5
OKC AMS AMS 03 33 30.0
comp=Z,500nm,11.5s
OKC Ostrava-Krasne 21.04 310 *e*P **P** **03 21 04.3 +0.9**
OKC *e*S Sn 03 25 06.8 +3.5
OKC MLR MLR
comp=Z,500nm,11.5s
OKC Ostrava-Krasne 21.04 310 *e*P **P** **03 21 04.3 +0.9**
comp=Z,500nm,11.5s
KBL Kabul 21.10 93 *e*P **P** **03 21 07.0 +2.6**
KBL pmax pmax
comp=Z,49nm,1.1s
KBL Kabul 21.10 93 *e*P **P** **03 21 07.0 +2.6**
comp=Z,49nm,1.1s
SOP Sopron 21.34 304 P **P** **03 21 08.6 +2.0**
SOP pmax pmax
comp=Z,21nm,1.4s
SOP Sopron 21.34 304⇓*e*P **P** **03 21 07.5 +0.9**
SOP Sopron 21.34 304⇓*e*Pdiff **P** **03 21 07.5 +0.9**
MORC Moravsky Berou 21.38 310 *e*P **P** **03 21 07.8 +0.7**
MORC pmax pmax
comp=Z,75nm,1.6s
MORC Moravsky Berou 21.38 310 *e*P **P** **03 21 07.8 +0.7**
comp=Z,74nm,1.6s
MORC Moravsky Berou 21.38 310 *e*P **P** **03 21 07.8 +0.7**
comp=Z,74nm,1.6s
SVE Sverdlovsk 21.47 27 *e*P **P** **03 21 08.7 +0.8**
SVE Sverdlovsk 21.47 27 *e*P **P** **03 21 08.7 +0.8**
VRAC Vranov 21.80 308 P **P** **03 21 12.9 +1.4**
comp=Z,2.3nm,0.6s,baz=90,slow=8.9,SNR=11
VRAC LR LR 03 31 36.7
comp=Z,151nm,18.5s,baz=122,slow=42
CONA Conrad Observa 21.86 304 *i* P **P** **03 21 13.4 +1.1**
comp=Z,17nm,1.3s
CONA Conrad Observa 21.86 304 P **P** **03 21 13.4 +1.1**
comp=Z,17nm,1.3s
ARSA Arzberg 21.92 302 *i* pP **P** **03 21 13.3 +0.4**
comp=Z,16nm,1.7s
ARSA Arzberg 21.92 302 P **P** **03 21 13.3 +0.4**
comp=Z,16nm,1.7s
KRLC Kraliky 21.95 310 *e*P **P** **03 21 18.6 +5.4**
KRLC Kraliky 21.95 310 *e*P **P** **03 21 18.6 +5.4**

SOKA Soboth 22.13 300 *i* pP **P** **03 21 15.1 -0.1**
comp=Z,13nm,1.9s
SOKA Soboth 22.13 300 P **P** **03 21 15.1 -0.1**
comp=Z,13nm,1.9s
KLMR Klimovskoe 22.30 355 *e*P **P** **03 21 15.3 -1.5**
KLMR *e*S **S** **03 25 21.0 -0.3**
KLMR pmax pmax
comp=Z,113nm,1.5s
KLMR MLR MLR
comp=Z,338nm,13.0s
KLMR Klimovskoe 22.30 355 *e*P **P** **03 21 15.3 -1.5**
comp=Z,113nm,1.5s
DPC Dobruska-Polom 22.32 310 *e*P **P** **03 21 19.3 +2.1**
DPC AMS AMS 03 32 30.0
comp=Z,500nm,13.5s
DPC Dobruska-Polom 22.32 310 *e*P **P** **03 21 19.3 +2.1**
DPC MLR MLR
comp=Z,500nm,13.5s
DPC Dobruska-Polom 22.32 310 *e*P **P** **03 21 19.3 +2.1**
comp=Z,500nm,13.5s
OBKA Obir 22.43 300 *i* pP **P** **03 21 20.5 +2.1**
comp=Z,11nm,1.3s
OBKA Obir 22.43 300 P **P** **03 21 20.5 +2.1**
comp=Z,11nm,1.3s
VSU Vasula 22.48 337*c i*P **P** **03 21 20.2 +1.5**
VSU pmax pmax
comp=Z,60nm,0.8s
VSU Vasula 22.48 337 *i* P **P** **03 21 20.2 +1.5**
comp=Z,60nm,0.8s
TREC Trest 22.48 307 *e*P **P** **03 21 19.7 +0.8**
TREC AMS AMS 03 32 20.0
comp=Z,600nm,14.1s
TREC Trest 22.48 307 *e*P **P** **03 21 19.7 +0.8**
TREC MLR MLR
comp=Z,600nm,14.1s
TREC Trest 22.48 307 *e*P **P** **03 21 19.7 +0.8**
comp=Z,600nm,14.1s
MNAS Manas 22.49 71 P **P** **03 21 20.5 +1.3**
MNAS pmax pmax
comp=Z,12nm,1.3s
MNAS Manas 22.49 71 P **P** **03 21 20.5 +1.3**
comp=Z,12nm,1.3s
UPC Upice 22.56 310 *e*P **P** **03 21 20.3 +0.6**
UPC *e*S **S** **03 25 26.9 +0.6**
UPC Upice 22.56 310 *e*P **P** **03 21 20.3 +0.6**
UPC *e*S **S** **03 25 26.9 +0.6**
UPC Upice 22.56 310 *e*P **P** **03 21 20.3 +0.6**
UPC *e*S **S** **03 25 26.9 +0.6**
SOKR Solikamsk 22.63 18⇑*i*P **P** **03 21 24.4 +4.1**
SOKR pmax pmax
comp=Z,28nm,1.4s
SOKR MLR MLR
comp=Z,625nm,16.0s
VAE Valguarnera 22.69 276 LR LR 03 31 10.0
comp=Z,210nm,18.4s,baz=148,slow=39
MOA Molln 22.88 303 *i* pP **P** **03 21 24.0 +0.9**
comp=Z,12nm,1.5s
MOA Molln 22.88 303 P **P** **03 21 24.0 +0.9**
comp=Z,12nm,1.5s
GOPC GO Pecny, Ondr 23.10 308 *e*P **P** **03 21 26.8 +1.4**
GOPC *e*S **S** **03 25 41.7 +5.8**
GOPC AMS AMS 03 33 10.0
comp=Z,400nm,9.4s
GOPC GO Pecny, Ondr 23.10 308 *e*P **P** **03 21 26.8 +1.4**
GOPC *e*S **S** **03 25 41.7 +5.8**
GOPC MLR MLR
comp=Z,400nm,9.4s
GOPC GO Pecny, Ondr 23.10 308 *e*P **P** **03 21 26.8 +1.4**
comp=Z,400nm,9.4s
PRU Pruhonice 23.28 308 *e*P **P** **03 21 28.5 +1.4**
PRU Pruhonice 23.28 308 *e*P **P** **03 21 28.5 +1.4**
PRU Pruhonice 23.28 308 *e*P **P** **03 21 28.5 +1.4**
KBA Koelnbreinsper 23.34 301 *i* pP **P** **03 21 29.1 +1.1**
comp=Z,17nm,1.2s
KBA Koelnbreinsper 23.34 301 P **P** **03 21 29.1 +1.1**
comp=Z,17nm,1.2s
PVCC Panska Ves 23.43 310 *e*P **P** **03 21 30.2 +1.5**
PVCC AMS AMS 03 33 10.0
comp=Z,500nm,14.7s
PVCC Panska Ves 23.43 310 *e*P **P** **03 21 30.2 +1.5**
PVCC MLR MLR
comp=Z,500nm,14.7s
PVCC Panska Ves 23.43 310 *e*P **P** **03 21 30.2 +1.5**
comp=Z,500nm,14.7s
GEC2 GERESS Array S 23.48 305 *e*P **P** **03 21 29.7 +0.4**
GEC2 pmax pmax
comp=Z,18nm,1.4s
GEC2 GERESS Array S 23.48 305 *e*P **P** **03 21 29.7 +0.4**
comp=Z,18nm,1.4s
GEC2 GERESS Array S 23.48 305 *e*P **P** **03 21 29.7 +0.4**
comp=Z,18nm,1.4s
GERES GERESS Array B 23.48 305 P **P** **03 21 29.7 +0.4**
comp=Z,1.0nm,0.7s,baz=98,slow=9.6,SNR=4.4
GERES LR LR 03 31 19.3
comp=Z,162nm,21.5s,baz=114,slow=38
BRVK Borovoye 23.50 43⇓*i*P **P** **03 21 30.0 +0.7**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 23.50 43 *i* P **P** **03 21 30.0 +0.7**
comp=Z,59nm,1.2s
BRVK Borovoye 23.50 43 *e*P **P** **03 21 29.3 0.0**
comp=Z,23nm,1.1s
BRVK Borovoye 23.50 43 P **P** **03 21 30.5 +1.3**
SNR=8.1
BRVK Borovoye 23.50 43 P **P** **03 21 30.5 +1.3**
SNR=8.1
BVAR Borovoye Array 23.54 44 P **P** **03 21 30.7 +1.0**
comp=Z,4.6nm,0.7s,baz=242,slow=8.1,SNR=21
KHC Kasperske Hory 23.64 306 *e*P **P** **03 21 31.2 +0.5**
KHC *ex* x 03 21 41.3
KHC *e*S **S** **03 25 44.4 -0.2**
KHC AMS AMS 03 32 50.0
comp=Z,400nm,15.4s
KHC Kasperske Hory 23.64 306 *e*P **P** **03 21 31.4 +0.7**
KHC pmax pmax
comp=Z,23nm,1.8s
KHC Kasperske Hory 23.64 306 *e*P **P** **03 21 31.4 +0.7**
comp=Z,23nm,1.8s
KHC S **S** **03 25 44.4 -0.2**
KHC Kasperske Hory 23.64 306 *e*P **P** **03 21 31.4 +0.7**
comp=Z,23nm,1.8s
ABTA Abfaltersbach 23.85 300 *i* pP **P** **03 21 33.4 +0.5**
comp=Z,10nm,1.5s
ABTA Abfaltersbach 23.85 300 P **P** **03 21 33.4 +0.5**
comp=Z,10nm,1.5s
BRG Berggiesshubel 23.92 310 *e*P **P** **03 21 33.2 -0.2**
comp=Z,12nm,1.5s
comp=Z,674nm,11.6s
comp=N,342nm,13.6s
comp=E,438nm,13.6s
BRG Berggiesshubel 23.92 310 *e*P **P** **03 21 33.2 -0.2**
BRG pmax pmax
comp=Z,12nm,1.5s
BRG MLR MLR
comp=Z,674nm,11.6s
BRG MLR MLR
comp=N,342nm,13.6s
BRG MLR MLR
comp=E,438nm,13.6s
BRG Berggiesshubel 23.92 310 *e*P **P** **03 21 33.2 -0.2**
comp=E,674nm,11.6s
AAK Ala-Archa 23.96 71 P **P** **03 21 35.4 +1.4**
comp=E,2.6nm,0.8s,baz=247,slow=10,SNR=17
AAK LR LR 03 32 52.3
comp=E,354nm,19.6s,baz=272,slow=41
AAK Ala-Archa 23.96 71 *e*P **P** **03 21 34.7 +0.7**
comp=E,19nm,1.2s
AAK Ala-Archa 23.96 71 *e*P **P** **03 21 34.7 +0.7**
comp=E,19nm,1.2s
AAK Ala-Archa 23.96 71 P **P** **03 21 36.1 +2.1**
SNR=12
AAK Ala-Archa 23.96 71 pP **P** **03 21 36.1 +2.1**
SNR=12
FRU Bishkek 24.05 70 *e*P **P** **03 21 36.0 +1.3**
FRU *e* 03 22 23.0
FRU pmax pmax
comp=Z,180nm,2.2s
FRU Bishkek 24.05 70 *e*P **P** **03 21 36.0 +1.3**
comp=Z,180nm,2.2s
WET Wettzell 24.08 306 P **P** **03 21 35.6 +0.6**
WET pmax pmax
comp=Z,49nm,1.3s
WET Wettzell 24.08 306 P **P** **03 21 35.6 +0.6**
comp=Z,49nm,1.3s
WTTA Wattenberg 24.52 301 *i* pP **P** **03 21 39.8 +0.6**
comp=Z,13nm,1.4s
WTTA Wattenberg 24.52 301 P **P** **03 21 39.8 +0.6**

comp=Z,13nm,1.4s
WATA Walderalm 24.57 301 *i* P **P 03 21 40.9 +1.3**
comp=Z,14nm,1.2s
WATA Walderalm 24.57 301 P **P 03 21 40.9 +1.3**
comp=Z,14nm,1.2s
CLL Collm 24.63 311 *e*P **P 03 21 45.0 +5.1**
CLL *e* 03 21 49.0
CLL *e*S **S 03 26 09.0 +8.7**
CLL Collm 24.63 311 *e*(sP) **P 03 21 45.0 +5.1**
CLL *e* 03 21 49.0
CLL *e*S **S 03 26 08.0 +7.7**
NKC Novy Kostel 24.64 308 *e*P **P 03 21 41.9 +1.9**
NKC Novy Kostel 24.64 308 *e*P **P 03 21 41.9 +1.9**
NKC Novy Kostel 24.64 308 *e*P **P 03 21 41.9 +1.9**
MOTA Moosalm 24.89 301 *i* P **P 03 21 44.3 +1.8**
comp=Z,15nm,0.8s
MOTA Moosalm 24.89 301 P **P 03 21 44.3 +1.8**
comp=Z,15nm,0.8s
FETA Feichten 25.10 300 *i* pP **P 03 21 46.5 +2.1**
comp=Z,7.9nm,0.9s
FETA Feichten 25.10 300 P **P 03 21 46.5 +2.1**
comp=Z,7.9nm,0.9s
FIA0 FINESS Array S 25.14 340 *e*P **P 03 21 44.7 +0.3**
FIA0 FINESS Array S 25.14 340 *e*P **P 03 21 44.7 +0.3**
FIA0 FINESS Array S 25.14 340 *e*P **P 03 21 44.6 +0.3**
FIA1 FINESS Array S 25.14 341 *e*P **P 03 21 44.8 +0.4**
comp=Z,27nm,1.2s
FIA1 FINESS Array S 25.14 341 *e*P **P 03 21 44.8 +0.4**
comp=Z,27nm,1.2s
FINES FINESS Array B 25.14 340 P **P 03 21 44.6 +0.3**
comp=Z,12nm,1.0s,baz=127,slow=13,SNR=13
FINES LR LR 03 32 57.1
comp=Z,455nm,20.3s,baz=148,slow=40
RETA Reutte 25.14 301 *i* pP **P 03 21 44.7 0.0**
comp=Z,14nm,1.7s
RETA Reutte 25.14 301 P **P 03 21 44.7 0.0**
comp=Z,14nm,1.7s
GRA1 Grafenberg Arr 25.27 306 P **P 03 21 48.2 +2.5**
comp=Z,37nm,1.6s
GRF Grafenberg Arr 25.27 306 P **P 03 21 48.2 +2.5**
GRF pmax pmax
comp=Z,37nm,1.6s
GRFO Grafenberg 25.27 306 *e*P **P 03 21 47.3 +1.6**
GRFO pmax pmax
comp=Z,74nm,1.5s
GRFO Grafenberg 25.27 306 *e*P **P 03 21 47.2 +1.6**
comp=Z,74nm,1.5s
GRFO Grafenberg 25.27 306 *e*P **P 03 21 47.2 +1.6**
comp=Z,74nm,1.5s
JOF Joensuu 25.31 347 P **P 03 21 47.2 +1.3**
JOF pmax pmax
comp=Z,32nm,1.2s
JOF Joensuu 25.31 347 P **P 03 21 47.2 +1.3**
comp=Z,32nm,1.2s
KSH Kashi 25.34 78 P **P 03 21 45.8 -0.8**
KSH pP pP 03 21 50.5 -1.1
KSH sP sP 03 21 53.0 -0.7
KSH PP **PnPn 03 22 23.0 +1.6**
KSH PcP **PcP 03 25 22.5 +3.4**
KSH S **S 03 26 06.5 -5.8**
KSH SS **SnSn 03 27 05.5 +1.6**
KSH PcS **PcS 03 29 00.8 +1.2**
FUORN Ofenpass-Fuorn 25.37 299 *e*P **P 03 21 45.9 -1.0**
comp=Z,21nm,1.3s
FUORN Ofenpass-Fuorn 25.37 299 *e*P **P 03 21 45.9 -1.0**
comp=Z,21nm,1.3s
DAVOX Davos/Dischmat 25.65 299 P **P 03 21 49.1 -0.3**
comp=Z,3.2nm,0.6s,baz=134,slow=2.3,SNR=9.7
TMCR Tamitsa 25.69 355 *e*P **P 03 21 52.0 +2.7**
TMCR pmax pmax
comp=Z,21nm,0.6s
DAVA Damuels 25.71 300 *i* pP **P 03 21 50.5 +0.6**
comp=Z,13nm,1.4s
DAVA Damuels 25.71 300 P **P 03 21 50.5 +0.6**
comp=Z,13nm,1.4s
SUF Sumiainen 26.20 342 P **P 03 21 55.3 +1.3**
SUF pmax pmax
comp=Z,27nm,1.3s
BFO Black Forest 26.88 302 *c*eP **P 03 22 00.9 +0.5**
ATD Arta Tunnel 27.05 181 LR LR 03 32 55.2
comp=Z,132nm,20.7s,baz=63,slow=37
KEST Kesra 27.07 274 LR LR 03 35 08.4
comp=Z,216nm,18.1s,baz=342,slow=42
KURK Kurchatov 27.60 53 *c i*P **P 03 22 07.3 +0.6**
KURK pmax pmax
comp=Z,64nm,1.2s
KURK Kurchatov 27.60 53 *e*P **P 03 22 07.5 +0.8**
comp=Z,14nm,1.0s
KURK Kurchatov 27.60 53 P **P 03 22 08.0 +1.3**
SNR=6.2
KURK Kurchatov 27.60 53 pP **P 03 22 08.0 +1.3**
SNR=6.2
HFS Hagfors 28.39 329 P **P 03 22 13.4 -0.3**
comp=Z,12nm,1.0s,baz=126,slow=10.0,SNR=7.0
HFS LR LR 03 35 18.7
comp=Z,272nm,18.8s,baz=120,slow=40
MAKZ Makanchi 29.34 61 *e*P **P 03 22 23.4 +1.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 29.34 61 *e*P **P 03 22 23.4 +1.1**
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 29.55 61 *e*P **P 03 22 25.8 +1.6**
MK31 Makanchi Array 29.55 61 *e*P **P 03 22 25.8 +1.6**
MK32 Makanchi Array 29.55 61 *e*P **P 03 22 25.1 +0.9**
MKAR Makanchi Array 29.55 61 P **P 03 22 25.1 +0.9**
comp=Z,3.5nm,0.9s,baz=264,slow=6.0,SNR=13
MKAR LR LR 03 36 16.9
comp=Z,152nm,21.4s,baz=265,slow=40
MKAR Makanchi Array 29.55 61 *e*P **P 03 22 25.8 +1.6**
comp=Z,18nm,0.9s
NB200 NORSAR Array S 29.91 329 *e*P **P 03 22 26.3 -0.9**
NOA NORSAR Array B 29.91 329 P **P 03 22 26.3 -0.9**
comp=Z,6.0nm,1.0s,baz=122,slow=8.5,SNR=3.3
NOA LR LR 03 36 14.7
comp=Z,198nm,18.8s,baz=125,slow=40
NC303 NORSAR Array S 29.95 329 *e*P **P 03 22 27.9 +0.3**
NVS Novosibirsk 31.28 46 *e*P **P 03 22 41.6 +2.3**
ZALV Zalesovo Beam 31.98 48 P **P 03 22 45.9 +0.4**
comp=Z,0.9nm,0.4s,baz=256,slow=10,SNR=2.9
ZALV LR LR 03 37 32.8
comp=Z,133nm,18.6s,baz=250,slow=40
ZAA1 Zalesovo Array 31.98 48 *e*P **P 03 22 45.9 +0.4**
ARA0 ARCESS Array S 32.33 348 *e*P **P 03 22 48.3 -0.1**
ARCES ARCESS Array B 32.33 348 P **P 03 22 48.3 -0.1**
comp=Z,3.3nm,0.8s,baz=148,slow=9.3,SNR=12
ARCES LR LR 03 36 42.9
comp=Z,591nm,19.0s,baz=152,slow=38
WMQ Urumqi 33.50 67 P **P 03 23 01.0 +2.0**
WMQ pP sP 03 23 05.5 -0.6
WMQ sP pP 03 23 07.3 +3.3
WMQ S **S 03 28 19.0 -1.1**
WMQ Urumqi 33.50 67 ScS ScS 03 33 29.0 +4.6
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,220nm,5.3s
WMQ LR LR
comp=N,400nm,10.3s
WMQ LR LR
comp=E,200nm,9.3s
WMQ LR LR
comp=Z,160nm,26.7s
PYUN Piuthan 34.59 96 *e*P **P 03 23 09.4 +0.6**
comp=Z,118nm,1.5s
EKA Eskdalemuir Ar 34.98 314 P **P 03 23 11.2 -0.4**
comp=Z,3.9nm,0.6s,baz=106,slow=8.0,SNR=22
DANN Dangsing 35.07 95 *e*P **P 03 23 13.5 +0.4**
comp=Z,6.9nm,1.0s
KOLN Koldanda 35.22 96 *e*P **P 03 23 14.5 +0.3**
comp=Z,59nm,1.4s
TAM Tamanrasset 35.80 255 *e*P **P 03 23 17.2 -2.0**
TAM pmax pmax
comp=Z,10.0nm,1.6s
TAM Tamanrasset 35.80 255 *e*P **P 03 23 17.2 -2.0**
comp=Z,10.0nm,1.6s
GKN Gorkha 35.92 95 *e*P **P 03 23 20.5 +0.3**
ESDC Sonseca Array 36.27 287 P **P 03 23 22.0 -1.0**
comp=Z,1.4nm,0.6s,baz=66,slow=8.3,SNR=9.9
ESDC LR LR 03 39 16.1
comp=Z,146nm,19.8s,baz=90,slow=38
DMN Daman 36.47 95 *e*P **P 03 23 25.4 +0.4**
comp=Z,115nm,1.4s
KKN Kakani 36.52 95 *e*P **P 03 23 25.5 +0.1**
PKIN Phulchoki 36.71 95 *e*P **P 03 23 27.2 +0.1**
comp=Z,71nm,1.3s
PKI Pulchoki 36.73 95 *e*P **P 03 23 27.9 +0.6**
comp=Z,91nm,1.3s
GUN Gumba 36.93 94 *e*P **P 03 23 29.4 +0.4**
comp=Z,124nm,1.2s
JIRN Jiri 37.29 94 *e*P **P 03 23 32.4 +0.3**
comp=Z,626nm,1.2s
RAMN Ramite 37.95 95 *e*P **P 03 23 37.6 0.0**
comp=Z,147nm,1.3s
ODAN Odare 38.61 94 *e*P **P 03 23 43.6 +0.5**
comp=Z,204nm,1.4s
TAPN Taplejung 38.63 93 *e*P **P 03 23 44.0 +0.7**
comp=Z,47nm,1.0s
NRIK Noril'sk 38.67 23 P **P 03 23 44.4 +1.7**
comp=Z,0.9nm,0.3s,baz=62,slow=19,SNR=2.4
MDT Midelt 38.92 276 LR LR 03 40 45.9
comp=Z,93nm,21.0s,baz=61,slow=38
VAL Valentia 38.99 308 ⇓ *i S* **S 03 29 39.8 -3.9**
KMBO Kilima Mbogo 40.01 189 LR LR 03 39 29.8
comp=Z,237nm,18.2s,baz=305,slow=35
SPA0 Spitsbergen Ar 41.13 352 *e*P **P 03 24 04.5 +1.3**
SPA0 Spitsbergen Ar 41.13 352 *e*P **P 03 24 04.5 +1.3**
SPITS Spitsbergen Ar 41.13 352 P **P 03 24 04.5 +1.3**
comp=Z,3.6nm,0.6s,baz=148,slow=6.9,SNR=5.8
SPITS Spitsbergen Ar 41.13 352 P **P 03 24 04.5 +1.3**
SPITS pmax pmax
comp=Z,5.0nm,0.7s
SPITS Spitsbergen Ar 41.13 352 P **P 03 24 04.5 +1.3**
comp=Z,5.0nm,0.7s
JMIC Jan Mayen 41.67 337 LR LR 03 42 21.1
comp=Z,290nm,18.1s,baz=70,slow=37
GTA Gaotai 43.31 70 *e*P **P 03 24 23.3 +1.7**
GTA pP sP 03 24 27.8 -1.0
GTA sP pP 03 24 30.3 +3.6
GTA S **S 03 30 50.0 +1.5**
GTA sS pS 03 30 55.3 +0.9
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA pmax pmax
comp=Z,82nm,6.2s
GTA LR LR
comp=N,150nm,18.5s
GTA LR LR
comp=E,180nm,18.8s
GTA LR LR
comp=Z,110nm,18.1s
TOA1 Torodi Ar. Sit 44.66 247 *e*P **P 03 24 30.5 -2.0**
comp=Z,19nm,1.8s
TOA1 Torodi Ar. Sit 44.66 247 *e*P **P 03 24 30.5 -2.0**
comp=Z,19nm,1.8s
TORD Torodi Ar. Bea 44.66 247 P **P 03 24 30.5 -2.0**
comp=Z,1.9nm,0.9s,baz=44,slow=9.8,SNR=7.7
TORD LR LR 03 47 48.2
comp=Z,92nm,18.2s,baz=10.0,slow=42
PALK Pallekele 46.01 123 *c*eP **P 03 24 44.0 +0.7**
PALK Pallekele 46.01 123 *e*P **P 03 24 44.0 +0.7**
ULN Ulaanbaatar 46.14 57 ⇑ *i*P **P 03 24 45.8 +1.7**
ULN pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 46.14 57 *i* P **P 03 24 45.8 +1.7**
comp=Z,11nm,1.7s
ULN Ulaanbaatar 46.14 57 *e*P **P 03 24 45.9 +1.7**
comp=Z,8.4nm,1.2s
LZH Lanzhou 47.45 73 *e*P **P 03 24 55.0 +0.5**
LZH pP pP 03 24 58.3 -1.4
LZH sP sP 03 24 59.8 -1.9
LZH *e*PP **PP 03 26 46.0 +0.3**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,75nm,6.4s
LZH LR LR
comp=N,280nm,15.0s
LZH LR LR
comp=E,280nm,14.9s
LZH LR LR
comp=Z,370nm,18.0s
BOD Bodaibo 48.40 43 *e*P **P 03 24 59.6 -1.7**
BOD pmax pmax
comp=Z,8.0nm,2.3s
BOD Bodaibo 48.40 43 *e*P **P 03 24 59.6 -1.7**
comp=Z,8.0nm,2.3s
HHC Hu-ho-hao-te 51.32 65 *e*P **P 03 25 24.0 +0.1**
HHC S **S 03 32 40.0 -2.4**
HHC sS pS 03 32 48.0 -0.7
HHC Hu-ho-hao-te 51.32 65 SS **SS 03 36 13.0 -4.8**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC LR LR
comp=N,300nm,13.6s
HHC LR LR
comp=E,230nm,14.8s
HHC LR LR
comp=Z,330nm,13.6s
KMI Kunming 51.47 87 P **P 03 25 27.3 +1.9**
KMI pmax pmax
comp=Z,14nm,0.6s
KMI pmax pmax
comp=Z,160nm,4.1s
CHTO Chiang Mai 51.88 96 *e*P **P 03 25 27.3 -1.0**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 51.88 96 *e*P **P 03 25 27.3 -1.0**
comp=Z,6.6nm,0.9s
CHTO Chiang Mai 51.88 96 *e*P **P 03 25 27.3 -1.0**
comp=Z,6.6nm,0.9s
CM31 Chiang Mai Arr 52.09 96 *e*P **P 03 25 29.4 -0.4**
CM31 Chiang Mai Arr 52.09 96 *e*P **P 03 25 29.4 -0.4**
CMAR Chiang Mai Arr 52.09 96 P **P 03 25 29.4 -0.4**
comp=Z,6.6nm,0.9s,baz=299,slow=8.0,SNR=28
TIXI Tiksi 52.45 23 P **P 03 25 33.4 +1.7**
comp=Z,1.9nm,0.7s,baz=312,slow=6.7,SNR=4.2
TIXI Tiksi 52.45 23 ⇓ *i*P **P 03 25 34.5 +2.8**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
DBIC Dimbokro 53.77 246 P **P 03 25 42.2 0.0**
comp=Z,2.9nm,1.0s,baz=51,slow=13,SNR=2.3
DBIC LR LR 03 55 24.4
comp=Z,52nm,19.6s,baz=22,slow=44
DBIC Dimbokro 53.77 246 *e*P **P 03 25 42.2 0.0**
comp=Z,24nm,1.4s
DBIC Dimbokro 53.77 246 *e*P **P 03 25 42.2 0.0**
comp=Z,24nm,1.4s
NJ2 Nanjing 60.40 71 *e*P **P 03 26 29.0 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
PSI Prapat 61.91 111 P **P 03 26 37.4 -2.2**
comp=Z,5.2nm,0.7s,baz=282,slow=11,SNR=6.7
PSI Prapat 61.91 111 *e*P **P 03 26 37.3 -2.2**
comp=Z,17nm,1.2s
IPM Ipoh 62.34 108 *e*P **P 03 26 40.6 -1.7**
comp=Z,11nm,0.7s
IPM Ipoh 62.34 108 *e*P **P 03 26 40.6 -1.7**
comp=Z,11nm,0.7s
SEY Seymchan 64.13 29 P **P 03 26 55.0 +1.5**
comp=Z,1.4nm,0.3s,baz=188,slow=23,SNR=3.8
SEY Seymchan 64.13 29 P **P 03 26 55.0 +1.5**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 64.13 29 P **P 03 26 55.0 +1.5**
comp=Z,1.0nm,0.3s
KS15 Wonju Array Si 64.21 62 *e*P **P 03 26 54.7 +0.3**
KS15 Wonju Array Si 64.21 62 *e*P **P 03 26 54.6 +0.3**
KSAR Wonju Array Be 64.21 62 P **P 03 26 54.7 +0.3**
KSAR Wonju Array Be 64.21 62 P **P 03 26 54.7 +0.3**
KSAR Wonju Array Be 64.21 62 P **P 03 26 54.6 +0.3**
KSRS Korea Array 64.23 62 P **P 03 26 54.6 +0.1**
comp=Z,4.6nm,0.8s,baz=290,slow=7.0,SNR=14
FRB Frobisher Bay 64.63 333 P **P 03 26 56.7 0.0**
comp=Z,8.3nm,0.9s,baz=35,slow=4.0,SNR=4.5
FRB Frobisher Bay 64.63 333 P **P 03 26 56.7 0.0**
FRB pmax pmax
comp=Z,10.0nm,1.0s
FRB Frobisher Bay 64.63 333 P **P 03 26 56.7 0.0**
comp=Z,10.0nm,1.0s
JNU Nakatsue 68.55 64 P **P 03 27 22.4 0.0**
comp=Z,6.5nm,1.0s,baz=342,slow=16,SNR=2.2
JNU Nakatsue 68.55 64 *e*P **P 03 27 22.4 0.0**
comp=Z,29nm,1.6s
JNU Nakatsue 68.55 64 *e*P **P 03 27 22.4 0.0**
comp=Z,29nm,1.6s
BOSA Boshof 69.04 197 P **P 03 27 25.2 -0.1**
comp=Z,2.6nm,0.9s,baz=14,slow=8.3,SNR=3.1
ULM Lac du Bonnet 84.40 335 LR LR 04 07 18.0
comp=Z,81nm,18.9s,baz=2.5,slow=36
PDAR Pinedale Array 95.24 340 LR LR 04 14 16.5
comp=Z,149nm,18.4s,baz=57,slow=36
URZ Urewera 144.18 104 PKhKP PKPpre 03 35 50.9
comp=Z,9.1nm,0.7s,baz=216,slow=3.3,SNR=5.0

MEX 26 03:16:57.4±0.9, 16°.12N×97°.57W, h16km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**297**	*e*P	Pg	03 17 06.8	-2.6
PNIG				*e*S	Sg	03 17 15.1	-2.3
VHO	**Vista Hermosa**	**1.24**	**40**	*e*P	Pn	03 17 16.1	-4.1
VHO				*e*S	Sb	03 17 31.0	-5.3
HUIG	**Huatulco**	**1.45**	**104**	*e*P	Pn	03 17 20.0	-2.9
HUIG				*e*S	Sn	03 17 35.7	-5.9
TLIG	**Tlapa**	**1.72**	**326**	*e*P	Pn	03 17 23.8	-3.0
TLIG				*e*S	Sn	03 17 43.6	-5.0
TPIG	**Tehuac#an**	**2.29**	**5**	*e*P	Pn	03 17 31.5	-3.3

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*CSEM **26** 03:18:08.4, 36°.23N×54°.37E, h6km, ML2.7*

TEH 26 03:18:08.4, 36°.23N×54°.37E, h6km, ML2.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.51**	**302**	*e*Pg	Pb	03 18 19.4	-0.5
IGLO				*e*AMB	AMB	03 18 22.7	
	comp=Z,5μm,0.1s						
IGLO				*e*Sg	Sb	03 18 28.2	+0.5
IANJ	**Anjilo**	**0.84**	**206**	*e*Pg	Pb	03 18 26.0	+0.4
IANJ				*e*AMB	AMB	03 18 45.1	
	comp=Z,1μm,0.1s						
IANJ	**Anjilo**	**0.84**	**206**	*e*Pg	Pb	03 18 26.0	+0.4
ISHM	**Shahmirzad**	**0.97**	**244**	*e*Pg	Pb	03 18 27.9	+0.1
ISHM				*e*Sg	Sn	03 18 43.1	+0.1
ISHM				*e*AMB	AMB	03 18 48.1	
	comp=Z,3μm,0.2s						
IALA	**Alasht**	**1.27**	**264**	*e*AMB	AMB	03 19 00.8	
	comp=Z,1μm,0.1s						
ILAS	**Lasjerd**	**1.42**	**234**	*e*Pg	Pg	03 18 37.0	+1.3
ILAS				*e*AMB	AMB	03 18 41.3	
	comp=E,2μm,0.1s						
ILAS	**Lasjerd**	**1.42**	**234**	*e*Pg	Pg	03 18 37.0	+1.3
IFIR	**Firoozkooh**	**1.43**	**246**	*e*Pn	Pn	03 18 35.1	-0.1
IFIR				*e*AMB	AMB	03 18 45.0	
	comp=Z,1μm,0.1s						
IFIR	**Firoozkooh**	**1.43**	**246**	*e*Pn	Pn	03 18 35.1	-0.1
IPRN	**Peran**	**1.64**	**271**	*e*Pn	Pg	03 18 40.2	+0.4
IPRN				*e*AMB	AMB	03 18 45.4	
	comp=Z,838nm,0.1s						
IPRN				*e*Sg	Sg	03 19 04.6	+3.5
IDMV	**Damavand**	**2.00**	**252**	*e*Pn	Pb	03 18 46.1	+0.7
IDMV				*e*AMB	AMB	03 18 50.0	
	comp=Z,562nm,0.1s						
IDMV	**Damavand**	**2.00**	**252**	*e*Pn	Pb	03 18 46.1	+0.7
IVRN	**Varamin**	**2.48**	**241**	*e*Pn	Pb	03 18 53.1	-0.3
IVRN				*e*AMB	AMB	03 18 58.1	
	comp=Z,1μm,0.1s						
IVRN	**Varamin**	**2.48**	**241**	*e*Pn	Pb	03 18 53.1	-0.3

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*BJI **26** 03:18:46.7, 4°.66S×146°.75E, h117km, mb4.7/11, mB5.1/11*
*IDC **26** 03:19:00.8±1.6, 5°.15S×146°.08E, h154km±16km, mb3.9/17, mb1 4.0/19, mb1mx3.9/43, mbtmp4.4/19, Error ellipse: s-maj=20.4km s-min=8.5km az=101.0*
*ISCJB **26** 03:19:03.8±0.3, 5°.15S±0°.04×145°.98E±0°.06, h200km, mb4.4/34, Error ellipse: s-maj=9.0km s-min=5.4km az=7.4*
*NEIC **26** 03:19:04.3±1.0, 5°.13S×145°.95E, h188km±10km, mb5.0/15, Error ellipse: s-maj=11.4km s-min=6.1km az=105.0*
*DJA **26** 03:19:16.4±0.8, 5°.S±11°×14°.5E±1°.2, h204km±9km, M5.1/6, mb5.0/6, MLv5.1/2*

ISC 26 03:19:04.5±0.4, 5°.18S±0°.05×146°.04E±0°.07, h200km, n65, σ2s41/60, mb4.5/34, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.38**	**23**	*e*Pn	Pn	**03 19 57.2**	**-1.6**
PMG	**Port Moresby**	**4.34**	**165**	P	Pn	03 20 04.8	-5.8
	2.8nm,0.3s,baz=3.2,slow=12,SNR=5.3						
PMG				S	**Sn**	**03 20 56.5**	**-6.2**
	40nm,0.3s,baz=12,slow=1.6,SNR=26						
PMG	**Port Moresby**	**4.34**	**165**	*e*Pn	Pn	03 20 03.7	-6.9
PMG				*e*Sn	Sn	03 20 54.8	-7.9
JAY	**Jayapura**	**5.95**	**296**	P	**Pn**	**03 20 27.9**	**-3.3**
SMPI	**Sarmi**	**7.97**	**293**	P	**Pn**	**03 20 57.6**	**+0.1**
	38nm,1.1s,1.3nm						
COEN	**Coen**	**9.17**	**198**	*e*Pn	**Pn**	**03 21 10.1**	**-2.9**
COEN				*e*Sn	**Sn**	**03 22 55.7**	**-0.1**
HNR	**Honiara**	**14.42**	**108**	P	**Pn**	**03 22 18.3**	**-1.4**
	42nm,0.3s,baz=257,slow=7.6,SNR=4.6						
CTA	**Charters Tower**	**14.82**	**179**	P	**P**	**03 22 26.6**	**+1.0**
	0.5nm,0.3s,baz=352,slow=11,SNR=13						
CTAO	**Charters Tower**	**14.82**	**179**	*e*Pn	**Pn**	**03 22 22.1**	**-2.5**
MTN	**Manton Dam**	**16.57**	**242**	*e*P	**Pn**	**03 22 44.6**	**-1.2**
	29nm,0.5s						
WRAB	**Tennant Creek**	**18.56**	**217**	*e*P	**Pn**	**03 23 07.6**	**-1.6**
	72nm,0.8s						
WB2	**Warramunga Arr**	**18.57**	**217**	*e*P	**Pn**	**03 23 07.8**	**-1.5**
	75nm,0.8s						
WR1	**Warramunga Arr**	**18.58**	**217**	*e*P	**Pn**	**03 23 07.7**	**-1.7**
	76nm,0.8s						
WRA	**Warramunga Arr**	**18.58**	**217**	P	**P**	**03 23 07.7**	**+1.0**
	13nm,0.3s,baz=35,slow=12,SNR=180						
EIDS	**Eidsvold**	**20.65**	**167**	*e*P	**P**	**03 23 28.3**	**-0.6**
	22nm,1.4s						
AS31	**Alice Springs**	**21.79**	**211**	*e*P	**P**	**03 23 41.9**	**+1.1**
	17nm,0.4s						
AS31				*e*S	**S**	**03 27 32.9**	**+5.1**
ASAR	**Alice Springs**	**21.79**	**211**	P	**P**	**03 23 42.0**	**+1.2**
	23nm,0.6s,baz=41,slow=7.5,SNR=319						
ASAR				S	**S**	**03 27 32.9**	**+5.1**
	4.4nm,1.0s,baz=29,slow=21,SNR=14						
FITZ	**Fitzroy Crossi**	**23.72**	**236**	P	**P**	**03 23 59.0**	**+0.5**
	58nm,0.6s,baz=48,slow=9.9,SNR=114						
MMRI	**Maumere**	**23.88**	**260**	*e*P	**P**	**03 23 58.4**	**-1.7**
	98nm,0.3s						
STKA	**Stephens Creek**	**26.89**	**188**	P	**P**	**03 24 28.4**	**+1.4**
	2.1nm,0.4s,baz=1.3,slow=9.6,SNR=6.2						
STKA	**Stephens Creek**	**26.89**	**188**	*e*P	**P**	**03 24 28.3**	**+1.4**
	0.9nm,0.9s						
BBOO	**Buckleboo**	**29.03**	**198**	*e*P	**P**	**03 24 47.1**	**+1.2**
	56nm,1.7s						
MBWA	**Marble Bar**	**30.06**	**236**	*e*P	**P**	**03 24 55.0**	**-0.2**
	27nm,1.4s						
FORT	**Forrest**	**30.57**	**211**	*e*P	**P**	**03 25 01.4**	**+1.8**
	394nm,0.6s						
NWAO	**Narrogin (SRO)**	**38.51**	**221**	P	**P**	**03 26 08.2**	**+0.5**
	11nm,1.1s,baz=276,slow=11,SNR=3.8						
NWAO	**Narrogin (SRO)**	**38.51**	**221**	*e*P	**P**	**03 26 08.2**	**+0.5**
	64nm,1.5s						
XMIS	**Christmas Isla**	**40.33**	**260**	*e*P	**P**	**03 26 22.3**	**-0.7**
	50nm,1.0s						
MJAR	**Matsushiro Arr**	**42.15**	**351**	P	**P**	**03 26 37.2**	**-0.1**
	1.3nm,0.7s,baz=179,slow=11,SNR=3.1						
BKZ	**Black Stump Fm**	**43.62**	**145**	*e*P	**P**	**03 26 51.5**	**+2.2**
	95nm,1.9s						
RGRI	**Rengat**	**43.91**	**275**	P	**P**	**03 26 52.8**	**+1.0**
BFZ	**Birch Farm**	**44.53**	**147**	*e*P	**P**	**03 26 59.0**	**+2.6**
	271nm,2.0s						
NJ2	**Nanjing**	**45.17**	**327**	*e*P	P	03 26 52.3	-9.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
KSRS	**Korea Array**	**45.65**	**340**	P	**P**	**03 27 06.7**	**+1.6**
	1.0nm,0.6s,baz=156,slow=9.0,SNR=6.3						
KS15	**Wonju Array Si**	**45.66**	**340**	*e*P	**P**	**03 27 06.7**	**+1.5**
USRK	**Ussuriysk Ar.**	**50.76**	**347**	P	**P**	**03 27 45.5**	**+1.4**
	1.7nm,0.5s,baz=139,slow=6.7,SNR=3.5						
MDJ	**Mudanjiang**	**51.73**	**345**	P	P	03 27 42.5	-8.8
MDJ				pmax	pmax		
	comp=Z,250nm,3.6s						
KMI	**Kunming**	**51.74**	**308**	P	P	03 27 47.0	-5.1
KMI				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI				pmax	pmax		
	comp=Z,180nm,4.3s						
CM31	**Chiang Mai Arr**	**52.02**	**298**	*e*P	**P**	**03 27 54.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.02**	**298**	P	**P**	**03 27 55.5**	**+1.5**
	1.9nm,0.5s,baz=123,slow=5.9,SNR=7.3						
HHC	**Hu-ho-hao-te**	**55.64**	**329**	*e*P	P	03 28 13.8	-6.1
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,6.5s						
LZH	**Lanzhou**	**56.97**	**320**	⇑P	P	03 28 20.8	-8.7

LZH				pP	pP	03 28 49.8	-25
LZH				sP	PcP	03 29 03.3	-19
LZH				PP	PP	03 30 30.0	-8.5
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,93nm,7.5s						
PETK	**Petropavlovsk-**	**58.90**	**8**	P	**P**	**03 28 44.5**	**+2.2**
	2.3nm,0.6s,baz=209,slow=8.3,SNR=3.3						
PEA1	**Petropavlovsk-**	**58.90**	**8**	*e*P	**P**	**03 28 44.5**	**+2.1**
SONA0	**Songino Array**	**63.23**	**331**	*e*P	**P**	**03 29 12.9**	**+1.2**
	8.9nm,1.8s						
SONM	**Songino Array**	**63.23**	**331**	P	**P**	**03 29 13.0**	**+1.2**
	1.3nm,0.8s,baz=155,slow=7.3,SNR=5.6						
SEY	**Seymchan**	**68.09**	**3**	P	**P**	**03 29 43.6**	**+1.3**
	1.9nm,0.2s,baz=197,slow=20,SNR=2.9						
WMQ	**Urumqi**	**71.55**	**319**	P	P	03 29 57.5	-6.4
WMQ				pP	PcP	03 30 27.5	+5.4
WMQ				sP	pP	03 30 42.0	-9.3
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,92nm,3.7s						
WMQ				LR	LR		
	comp=N,940nm,18.7s						
WMQ				LR	LR		
	comp=E,1μm,25.1s						
WMQ				LR	LR		
	comp=Z,900nm,25.1s						
VNDA	**Vanda**	**72.78**	**176**	P	**P**	**03 30 12.7**	**+2.1**
	1.8nm,0.5s,baz=321,slow=6.6,SNR=17						
MK32	**Makanchi Array**	**76.26**	**321**	*e*P	**P**	**03 30 32.3**	**+1.1**
MKAR	**Makanchi Array**	**76.26**	**321**	P	**P**	**03 30 32.3**	**+1.1**
	0.6nm,0.6s,baz=98,slow=8.7,SNR=4.9						
TIXI	**Tiksi**	**77.50**	**355**	P	**P**	**03 30 38.7**	**+1.3**
	3.5nm,1.2s,baz=163,slow=2.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**77.81**	**328**	P	**P**	**03 30 39.3**	**-0.2**
	0.5nm,0.3s,baz=95,slow=6.2,SNR=2.4						
ZAA1	**Zalesovo Array**	**77.82**	**328**	*e*P	**P**	**03 30 39.3**	**-0.2**
KSH	**Kashi**	**78.12**	**312**	*e*P	P	03 30 36.0	-5.8
KSH				PcP	**PcP**	**03 30 45.5**	**-5.1**
KSH				pP	pP	03 31 07.0	-23
KSH				sP	sP	03 31 20.3	-31
KSH				PP	**PP**	**03 33 35.3**	**-6.0**
KSH				S	**S**	**03 40 13.5**	**-6.1**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,280nm,9.6s						
KSH				LR	LR		
	comp=N,90nm,7.9s						
KSH				LR	LR		
	comp=E,200nm,10.5s						
KSH				LR	LR		
	comp=Z,260nm,8.7s						
MAW	**Mawson**	**82.64**	**203**	P	**P**	**03 31 07.0**	**+1.9**
	0.8nm,0.3s,baz=262,slow=23,SNR=3.5						
MAW	**Mawson**	**82.64**	**203**	*e*P	**P**	**03 31 07.0**	**+1.9**
	3.5nm,0.3s						
RAGM	**Ragged Mountai**	**84.42**	**28**	*e*P	P	03 31 07.0	-7.3
	263nm,0.6s						
ILAR	**Eielson Array**	**85.11**	**23**	P	**P**	**03 31 18.1**	**+0.4**
	4.6nm,0.7s,baz=250,slow=5.1,SNR=69						
ILB	**Eielson Array**	**85.11**	**23**	*e*P	**P**	**03 31 18.3**	**+0.7**
BVAR	**Borovoye Array**	**85.55**	**324**	P	**P**	**03 31 21.1**	**+1.1**
	0.5nm,0.5s,baz=115,slow=5.5,SNR=3.5						
SYO	**Syowa Base**	**91.03**	**200**	⇓*e*P	**P**	**03 31 45.0**	**-0.7**
CBN	**Corbin Frederi**	**128.69**	**44**	*e*PKPdf	**PKPdf**	**03 37 42.8**	**-5.5**
TORD	**Torodi Ar. Bea**	**143.96**	**285**	PKhKP	PKPpre	03 38 15.8	
	0.6nm,0.6s,baz=62,slow=2.5,SNR=4.9						
TOA1	**Torodi Ar. Sit**	**143.96**	**285**	*e*PKPdf	PKPbc	03 38 15.8	+0.2
DBIC	**Dimbokro**	**151.02**	**274**	PKPbc	**PKPbc**	**03 38 34.4**	**-0.4**
	1.0nm,0.5s,baz=88,slow=2.2,SNR=3.7						

*AZER **26** 03:27:03.1±0.7, 37°.91N×43°.13E, h15km, Error ellipse: s-maj=8.7km s-min=5.1km az=132.0*
*DDA **26** 03:27:05.6, 38°.71N×43°.20E, h7km, Ml4.2*
*ISK **26** 03:27:05.2, 38°.73N×43°.23E, h6km, ML4.1*
*CSEM **26** 03:27:06.8±0.2, 38°.66N×43°.13E, h2km, mb4.1/4, Error ellipse: s-maj=5.2km s-min=4.5km az=171.0*
*IDC **26** 03:27:09.9±1.8, 38°.70N×43°.30E, h33km±14km, mb3.7/13, mb1 3.8/21, mb1mx3.6/61, mbtmp3.8/21, ML3.2/8, MS2.9/2, Ms1 2.9/2, ms1mx2.6/49, Error ellipse: s-maj=13.3km s-min=9.0km az=155.0*
ISC 26 03:27:06.6±0.7, 38°.70N±0°.01×43°.21E±0°.02, h12km±4km, n168, σ1§96/216, mb4.0/17, 12C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**127**	PG	**Pg**	**03 27 10.8**	**+0.3**
VANB				*e*SG	**Sb**	**03 27 14.4**	**+1.0**
VANB	**Van**	**0.17**	**127**	*i* Pg	**Pg**	**03 27 10.8**	**+0.3**
VANB				*e*Sg	**Sb**	**03 27 14.4**	**+1.0**
GEVA	**Gevas**	**0.40**	**198**	⇓*i*P	**Pg**	**03 27 13.5**	**-1.2**
GEVA				*i* S	**Sg**	**03 27 19.9**	**-0.2**
GEVA	**Gevas**	**0.40**	**198**	P	**Pg**	**03 27 13.5**	**-1.2**
GEVA				S	**Sg**	**03 27 19.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.40**	**44**	⇓*i*P	**Pg**	**03 27 14.3**	**-0.4**
VMUR				*i* S	**Sg**	**03 27 20.9**	**+0.8**
VMUR	**Van-Muradiye**	**0.40**	**44**	P	**Pg**	**03 27 14.3**	**-0.4**
VMUR				S	**Sg**	**03 27 21.0**	**+0.8**
TUTA	**Tutak**	**0.77**	**336**	⇓*i*P	**Pg**	**03 27 20.3**	**-1.2**
TUTA	**Tutak**	**0.77**	**336**	P	**Pg**	**03 27 20.3**	**-1.2**
AGRB	**Hanur-Agry**	**0.89**	**349**	*e*PG	**Pg**	**03 27 22.6**	**-1.3**
AGRB				*e*SG	**Sg**	**03 27 34.3**	**-1.3**
BASK	**Baskale_VAN**	**0.90**	**136**	*i* P	**Pg**	**03 27 22.2**	**-1.7**
BASK				*i* S	**Sg**	**03 27 35.6**	**0.0**
BASK	**Baskale_VAN**	**0.90**	**136**	P	**Pg**	**03 27 22.2**	**-1.7**
BASK				S	**Sg**	**03 27 35.6**	**0.0**
DYDN	**Diyadin**	**0.92**	**23**	*i* P	**Pg**	**03 27 22.4**	**-2.0**
DYDN				*i* S	**Sg**	**03 27 36.0**	**-0.5**
DYDN	**Diyadin**	**0.92**	**23**	P	**Pg**	**03 27 22.4**	**-2.0**
DYDN				S	**Sg**	**03 27 36.0**	**-0.5**
EKAR	**Karacoban**	**1.06**	**302**	*i* P	**Pb**	**03 27 25.9**	**-1.0**
EKAR				*i* S	**Sn**	**03 27 45.7**	**+3.5**
EKAR	**Karacoban**	**1.06**	**302**	P	**Pb**	**03 27 25.9**	**-1.0**
HAKT	**HAKKARI**	**1.20**	**161**	*i* P	**Pn**	**03 27 27.5**	**-1.9**
HAKT				*i* S	**Sn**	**03 27 46.1**	**+0.3**
HAKT	**HAKKARI**	**1.20**	**161**	P	**Pn**	**03 27 27.5**	**-1.9**
HAKT				S	**Sn**	**03 27 46.1**	**+0.3**
EATA	**Eleskirt**	**1.29**	**334**	⇓*i*P	**Pn**	**03 27 29.7**	**-1.0**
EATA				*i* S	**Sb**	**03 27 47.2**	**-0.5**
EATA	**Eleskirt**	**1.29**	**334**	P	**Pn**	**03 27 29.7**	**-1.0**
EATA				S	**Sb**	**03 27 47.2**	**-0.5**
SIRN	**S¨–rnak**	**1.35**	**208**	*i* P	**Pb**	**03 27 31.5**	**-0.4**
SIRN	**S¨–rnak**	**1.35**	**208**	P	**Pb**	**03 27 31.5**	**-0.4**
VRTB	**Varto-Mus**	**1.45**	**289**	*e*PN	**Pn**	**03 27 31.6**	**-1.0**
VRTB	**Varto-Mus**	**1.45**	**289**	*i* P	**Pn**	**03 27 31.7**	**-1.0**
VRTB				*i* S	**Sg**	**03 27 52.3**	**-0.9**
VRTB	**Varto-Mus**	**1.45**	**289**	P	**Pn**	**03 27 31.7**	**-1.0**
VRTB				S	**Sg**	**03 27 52.3**	**-0.9**
CUKT	**Cukurca**	**1.48**	**168**	*e*PN	**Pb**	**03 27 34.1**	**0.0**
CUKT	**Cukurca**	**1.48**	**168**	⇓*i*P	**Pg**	**03 27 34.6**	**-0.4**
CUKT				*i* S	**Sg**	**03 27 57.4**	**+3.1**
CUKT	**Cukurca**	**1.48**	**168**	*e*Pn	**Pb**	**03 27 34.1**	**0.0**
CUKT	**Cukurca**	**1.48**	**168**	P	**Pg**	**03 27 34.6**	**-0.4**
CUKT				S	**Sg**	**03 27 57.4**	**+3.1**
BNGL	**BINGOL**	**1.63**	**280**	⇓*i*P	**Pb**	**03 27 36.0**	**-0.8**
BNGL				*i* S	**Sg**	**03 27 58.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*PN	**Pn**	**03 27 36.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	⇓*i*P	**Pn**	**03 27 36.1**	**+0.4**
SVAN				*i* S	**Sg**	**03 27 59.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	P	**Pn**	**03 27 36.1**	**+0.4**
SVAN				S	**Sg**	**03 27 59.4**	**-1.0**
HOMI	**Horasan**	**1.69**	**323**	*i* P	**Pn**	**03 27 35.7**	**-0.4**
DIGO	**Kars**	**1.72**	**4**	⇓*i*P	**Pn**	**03 27 37.1**	**+0.5**
DIGO	**Kars**	**1.72**	**4**	P	**Pn**	**03 27 37.1**	**+0.5**
BTMN	**Batman**	**1.73**	**243**	*i* P	**Pb**	**03 27 37.0**	**-1.3**
BTMN				*i* S	**Sb**	**03 28 00.5**	**+0.5**
BTMN	**Batman**	**1.73**	**243**	P	**Pb**	**03 27 37.0**	**-1.3**
BTMN				S	**Sb**	**03 28 00.5**	**+0.5**
NAX	**Nakhchivan**	**1.84**	**74**	P	**Pn**	**03 27 38.6**	**+0.5**
	SNR=20						
NAX				⇑S	**Sg**	**03 28 08.4**	**+2.6**
NAX	**Nakhchivan**	**1.84**	**74**	P	**Pn**	**03 27 38.6**	**+0.5**
	SNR=20						
NAX				S	**Sg**	**03 28 08.4**	**+2.6**
GNI	**Garni**	**1.87**	**39**	Pn	**Pn**	**03 27 39.1**	**+0.6**
	26nm,0.3s,baz=291,slow=3.1,SNR=20						
GNI				Lg	Lg	03 28 08.9	
	49nm,0.3s,baz=346,slow=20,SNR=12						
GNI				LR	LR	03 28 25.6	
	comp=Z,177nm,20.0s,baz=214,slow=42						
ERZM	**Erzurum**	**1.87**	**311**	*i* P	**Pn**	**03 27 38.9**	**+0.2**
ERZM	**Erzurum**	**1.87**	**311**	P	**Pn**	**03 27 38.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*PN	**Pn**	**03 27 40.0**	**0.0**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pn**	**03 27 40.1**	**0.0**
BNGB	**Bing¨¶l**	**2.00**	**279**	*e*PN	**Pn**	**03 27 41.0**	**+0.7**
EAK	**Akyaka**	**2.01**	**9**	*i* P	**Pb**	**03 27 42.2**	**-0.9**
EAK				*i* S	**Sg**	**03 28 10.1**	**-1.1**
EAK	**Akyaka**	**2.01**	**9**	P	**Pb**	**03 27 42.2**	**-0.9**
EAK				S	**Sg**	**03 28 10.1**	**-1.1**
BINT	**Bingol**	**2.14**	**276**	*e*Pn	**Pn**	**03 27 41.0**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*PN	**Pn**	**03 27 43.7**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*Pn	**Pn**	**03 27 43.7**	**+0.6**
MARD	**Mardin**	**2.37**	**235**	*i* P	**Pn**	**03 27 45.9**	**+0.6**
DDEM	**Demirkent**	**2.46**	**333**	*i* P	**Pb**	**03 27 49.2**	**-1.7**
DDEM	**Demirkent**	**2.46**	**333**	P	**Pb**	**03 27 49.2**	**-1.7**
KOPT	**Kop Dagi**	**2.48**	**303**	⇓*i*P	**Pb**	**03 27 51.4**	**+0.1**
KOPT				*i* S	**Sg**	**03 28 27.1**	**+0.7**
KOPT	**Kop Dagi**	**2.48**	**303**	P	**Pb**	**03 27 51.4**	**+0.1**
MAZI	**Mazidag**	**2.51**	**241**	*e*PN	**Pn**	**03 27 47.2**	**-0.1**
MAZI	**Mazidag**	**2.51**	**241**	*e*Pn	**Pn**	**03 27 47.2**	**-0.1**
DIYA	**Diyarbakir**	**2.55**	**253**	*i* P	**Pb**	**03 27 49.8**	**-2.5**
DIYA	**Diyarbakir**	**2.55**	**253**	P	**Pb**	**03 27 49.8**	**-2.5**
DAGI	**Agillar**	**2.58**	**338**	⇓*i*P	**Pb**	**03 27 52.7**	**-0.1**
BGD	**Bogdanovka**	**2.58**	**6**	P	**Pb**	**03 27 54.1**	**+1.1**
ARTV	**Artvin**	**2.67**	**339**	*i* P	**Pb**	**03 27 53.0**	**-1.5**
ARTV	**Artvin**	**2.67**	**339**	P	**Pb**	**03 27 53.0**	**-1.5**
AKH	**Akhalkalaki**	**2.72**	**4**	*e*PN	**Pn**	**03 27 50.4**	**+0.2**
AKH	**Akhalkalaki**	**2.72**	**4**	P	**Pb**	**03 27 55.6**	**+0.4**
AKH	**Akhalkalaki**	**2.72**	**4**	*e*Pn	**Pn**	**03 27 50.4**	**+0.2**
GDB	**GEDABAY**	**2.81**	**43**	⇓P	**Pb**	**03 27 56.6**	**-0.3**
	SNR=19						
GDB				⇓S	**Sg**	**03 28 35.7**	**-1.3**
GDB	**GEDABAY**	**2.81**	**43**	P	**Pb**	**03 27 56.6**	**-0.3**
	SNR=19						
EPOS	**Posof**	**2.83**	**353**	*i* P	**Pn**	**03 27 53.8**	**+2.1**
EPOS	**Posof**	**2.83**	**353**	P	**Pn**	**03 27 53.8**	**+2.1**
ERZN	**Erzincan**	**2.86**	**289**	*e*PN	**Pn**	**03 27 52.9**	**+0.8**
QZX	**Qazax, Azerbai**	**2.88**	**34**	⇑P	**Pb**	**03 27 58.0**	**0.0**
	SNR=12						
QZX				⇓S	**Sg**	**03 28 41.2**	**+2.0**
QZX	**Qazax, Azerbai**	**2.88**	**34**	P	**Pb**	**03 27 58.0**	**0.0**
	SNR=12						
TNCL	**Tunceli-Merkez**	**2.90**	**279**	*i* P	**Pb**	**03 27 55.6**	**-2.6**
TNCL	**Tunceli-Merkez**	**2.90**	**279**	P	**Pb**	**03 27 55.6**	**-2.6**
DBOC	**Borcka**	**2.90**	**336**	*i* P	**Pb**	**03 27 56.8**	**-1.4**
DBOC	**Borcka**	**2.90**	**336**	P	**Pb**	**03 27 56.8**	**-1.4**
EUZM	**Uzumlu**	**2.91**	**291**	*i* P	**Pb**	**03 27 58.6**	**+0.1**
EUZM	**Uzumlu**	**2.91**	**291**	P	**Pb**	**03 27 58.6**	**+0.1**
PTK	**Pertek**	**2.99**	**275**	*e*PN	**Pn**	**03 27 54.8**	**+0.8**
PTK	**Pertek**	**2.99**	**275**	*e*Pn	**Pn**	**03 27 54.8**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*PN	**Pn**	**03 27 56.4**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*Pn	**Pn**	**03 27 56.4**	**+1.2**
GANJ	**Ganja**	**3.09**	**50**	⇓P	**Pb**	**03 27 59.8**	**-1.7**
	SNR=9.3						
GANJ				⇓S	**Sg**	**03 28 43.9**	**-1.8**
GANJ	**Ganja**	**3.09**	**50**	P	**Pb**	**03 27 59.8**	**-1.7**
	SNR=9.3						
DGRG	**David-gareji**	**3.21**	**30**	P	**Pn**	**03 27 59.6**	**+2.7**
TBLG	**Delisi**	**3.25**	**21**	*e*PN	**Pn**	**03 27 58.0**	**+0.6**
TBLG	**Delisi**	**3.25**	**21**	P	**Pb**	**03 28 04.2**	**+0.1**
TBLG	**Delisi**	**3.25**	**21**	*e*Pn	**Pn**	**03 27 58.0**	**+0.6**
TBLG	**Delisi**	**3.25**	**21**	P	**Pb**	**03 28 04.2**	**+0.1**
SEAG	**Tbilisi Sea**	**3.30**	**21**	P	**Pb**	**03 28 05.8**	**+0.8**
KELT	**Kelkit**	**3.39**	**297**	*i* P	**Pb**	**03 28 07.4**	**+0.7**
KELT				*i* S	**Sb**	**03 28 46.0**	**-1.9**
BRDA	**Brd**	**3.44**	**62**	⇑P	**Pn**	**03 28 02.8**	**+2.8**
	SNR=6.0						
BRDA				⇑S	**Sb**	**03 28 49.6**	**+0.3**
BRDA	**Brd**	**3.44**	**62**	P	**Pn**	**03 28 02.8**	**+2.8**
	SNR=6.0						
BRDA				S	**Sb**	**03 28 49.6**	**+0.3**
MNGR	**Mingechevir, A**	**3.63**	**54**	⇓S	**Sb**	**03 28 55.9**	**+1.2**
ZRD	**Zardab**	**3.80**	**64**	⇑P	**Pn**	**03 28 07.5**	**+2.6**
	SNR=4.6						
ZRD				⇑S	**Sb**	**03 28 57.5**	**-2.0**
ZRD	**Zardab**	**3.80**	**64**	P	**Pn**	**03 28 07.5**	**+2.6**
	SNR=4.6						
ZRD				S	**Sb**	**03 28 57.5**	**-2.0**
ONI	**Oni**	**3.89**	**3**	P	**Pb**	**03 28 16.9**	**+1.7**
ZKTA	**Zakatala**	**3.93**	**41**	⇓P	**Pb**	**03 28 12.2**	**-3.6**
	SNR=6.0						
ZKTA				⇑S	**Sb**	**03 29 06.7**	**+3.4**
SEKA	**Sheki**	**3.96**	**49**	⇑P	**Pb**	**03 28 12.3**	**-4.0**
	SNR=6.0						
SEKA				⇑S	**Sb**	**03 29 06.3**	**+2.1**
SEKA	**Sheki**	**3.96**	**49**	P	**Pb**	**03 28 12.3**	**-4.0**
	SNR=6.0						
LRK	**Lerik**	**4.01**	**89**	⇓P	**Pn**	**03 28 06.5**	**-1.5**
	SNR=4.2						
LRK				⇓S	**Sn**	**03 28 55.7**	**+0.7**
LRK	**Lerik**	**4.01**	**89**	P	**Pn**	**03 28 06.5**	**-1.5**
	SNR=4.2						
LRK				S	**Sn**	**03 28 55.7**	**+0.7**
GLBA	**Clilabad**	**4.07**	**81**	⇓P	**Pn**	**03 28 08.5**	**-0.2**
	SNR=5.5						
GLBA				⇓S	**Sn**	**03 28 59.3**	**+3.0**
GLBA	**Clilabad**	**4.07**	**81**	P	**Pn**	**03 28 08.5**	**-0.2**
	SNR=5.5						
GLBA				S	**Sn**	**03 28 59.3**	**+3.0**
KDMR	**Kurdemir**	**4.19**	**65**	⇓S	**Sb**	**03 29 05.6**	**-5.2**
KDMR	**Kurdemir**	**4.19**	**65**	S	**Sb**	**03 29 05.6**	**-5.2**
SAAT	**Saatly**	**4.21**	**72**	⇓S	**Sn**	**03 29 04.6**	**+5.1**
SAAT	**Saatly**	**4.21**	**72**	S	**Sn**	**03 29 04.6**	**+5.1**
QBL	**Gabala**	**4.21**	**56**	⇓P	**Pn**	**03 28 13.2**	**+2.6**
QBL				⇓S	**Sb**	**03 29 10.1**	**-1.3**
QBL	**Gabala**	**4.21**	**56**	P	**Pn**	**03 28 13.2**	**+2.6**
LKRN	**Lenkeran, Azer**	**4.35**	**88**	⇓P	**Pn**	**03 28 10.8**	**-1.7**
LKRN				⇓S	**Sn**	**03 29 03.7**	**+0.5**
LKRN	**Lenkeran, Azer**	**4.35**	**88**	P	**Pn**	**03 28 10.8**	**-1.7**
LKRN				S	**Sn**	**03 29 03.7**	**+0.5**
IML	**Ismayilli**	**4.36**	**60**	⇓S	**Sb**	**03 29 12.2**	**-3.6**
IML	**Ismayilli**	**4.36**	**60**	S	**Sb**	**03 29 12.2**	**-3.6**
ASTR	**Astara**	**4.37**	**90**	⇑P	**Pn**	**03 28 11.0**	**-1.7**
	SNR=2.8						
ASTR				⇑S	**Sn**	**03 29 03.7**	**+0.2**
ASTR	**Astara**	**4.37**	**90**	P	**Pn**	**03 28 11.0**	**-1.7**
	SNR=2.8						
ASTR				S	**Sn**	**03 29 03.7**	**+0.2**
XNQ	**Khinaliq**	**4.52**	**55**	⇓P	**Pn**	**03 28 19.1**	**+4.1**
XNQ				⇑S	**Sb**	**03 29 17.0**	**-3.5**
XNQ	**Khinaliq**	**4.52**	**55**	P	**Pn**	**03 28 19.1**	**+4.1**
PQL	**Pirkuli**	**4.64**	**62**	⇓P	**Pn**	**03 28 19.3**	**+2.6**
PQL	**Pirkuli**	**4.64**	**62**	P	**Pn**	**03 28 19.3**	**+2.6**
ALIB	**&Uml;li-Bayra**	**4.67**	**73**	⇓S	**Sn**	**03 29 16.4**	**+5.6**
ALIB	**&Uml;li-Bayra**	**4.67**	**73**	S	**Sn**	**03 29 16.4**	**+5.6**
QSAR	**Qusar**	**4.79**	**52**	⇓P	**Pn**	**03 28 22.4**	**+3.9**
QSAR	**Qusar**	**4.79**	**52**	P	**Pn**	**03 28 22.4**	**+3.9**
GBS	**Qobustan**	**4.79**	**66**	⇓P	**Pn**	**03 28 20.7**	**+2.1**
GBS	**Qobustan**	**4.79**	**66**	P	**Pn**	**03 28 20.7**	**+2.1**
QUBA	**Quba, Azerbaij**	**4.84**	**55**	⇓P	**Pn**	**03 28 22.6**	**+3.3**
QUBA	**Quba, Azerbaij**	**4.84**	**55**	P	**Pn**	**03 28 22.6**	**+3.3**
SIZA	**Siyzn**	**4.98**	**60**	⇓P	**Pn**	**03 28 24.1**	**+2.9**
SIZA	**Siyzn**	**4.98**	**60**	P	**Pn**	**03 28 24.1**	**+2.9**
KBZ	**Khabaz**	**5.03**	**357**	Pn	**Pn**	**03 28 25.1**	**+3.3**
	0.1nm,0.3s,baz=136,slow=12,SNR=3.2						
KBZ				Pg	**Pg**	**03 28 41.2**	**-1.7**
	0.3nm,0.3s,baz=188,slow=11,SNR=10						
KBZ				LR	LR	03 30 58.8	
	comp=Z,297nm,18.6s,baz=140,slow=46						
KVAR	**Kislovodsk Arr**	**5.27**	**356**	Pn	Pn	03 28 30.5	+5.3
	baz=292,slow=7.5,SNR=3.5						
KVAR				Pg	**Pg**	**03 28 44.9**	**-2.6**
	baz=288,slow=1.5,SNR=5.8						
KVAR				LR	LR	03 30 11.7	
	comp=Z,41nm,18.4s,baz=140,slow=34						
BRTR	**Keskin Array B**	**7.50**	**281**	Pn	**Pn**	**03 29 00.3**	**+4.3**
	0.1nm,0.3s,baz=88,slow=13,SNR=3.6						
ASF	**Jabal al Asfar**	**8.30**	**220**	Pn	**Pn**	**03 29 09.2**	**+2.4**
	0.3nm,0.3s,baz=345,slow=14,SNR=3.0						
ASF				Lg	Lg	03 31 37.7	
	0.2nm,0.3s,baz=357,slow=21,SNR=4.1						
MMAI	**Mount Meron Ar**	**8.50**	**231**	Pn	**Pn**	**03 29 12.3**	**+2.7**
	0.4nm,0.3s,baz=199,slow=25,SNR=2.3						
MMAI				Lg	Lg	03 31 40.9	
	0.5nm,0.3s,baz=59,slow=13,SNR=3.5						
GEYT	**Alibeck**	**11.74**	**89**	Pn	**Pn**	**03 29 55.6**	**+1.8**
	0.3nm,0.3s,baz=144,slow=5.5,SNR=2.2						
IDI	**Anoyia**	**15.03**	**263**	Pn	**P**	**03 30 44.4**	**+0.1**
	0.3nm,0.3s,baz=206,slow=22,SNR=3.6						
AKASG	**Malin Array Be**	**15.55**	**325**	Pn	**Pn**	**03 30 46.9**	**+1.4**
	0.7nm,0.3s,baz=133,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**15.74**	**37**	Pn	**Pn**	**03 30 46.7**	**-1.3**
	0.2nm,0.3s,baz=224,slow=11,SNR=7.3						
CRVS	**Cervenica-Dubn**	**18.66**	**310**	*e*P	**Pn**	**03 31 24.9**	**+0.3**
CRVS	**Cervenica-Dubn**	**18.66**	**310**	*e*P	**Pn**	**03 31 24.9**	**+0.3**
VYHS	**Vyhne**	**20.11**	**307**	*e*P	Pn	03 31 41.7	-0.3
VYHS	**Vyhne**	**20.11**	**307**	*e*P	Pn	03 31 41.7	-0.3
WSAR	**Wadi Sarin**	**20.26**	**135**	P	Pn	03 31 43.5	-0.3
	3.5nm,0.6s,baz=342,slow=5.8,SNR=4.9						
ARU	**Arti**	**20.46**	**25**	P	**P**	**03 31 39.8**	**-3.9**
	8.4nm,0.2s,baz=103,slow=17,SNR=2.1						
CONA	**Conrad Observa**	**21.84**	**304**	*i* pP	**P**	**03 32 00.3**	**+1.5**
	3.3nm,0.9s						
CONA	**Conrad Observa**	**21.84**	**304**	P	**P**	**03 32 00.3**	**+1.5**
	3.3nm,0.9s						
GERES	**GERESS Array B**	**23.47**	**305**	P	**P**	**03 32 16.8**	**+0.8**
	0.4nm,0.6s,baz=82,slow=8.0,SNR=2.5						
BVAR	**Borovoye Array**	**23.55**	**44**	P	**P**	**03 32 16.3**	**-0.3**
	1.7nm,0.8s,baz=255,slow=5.8,SNR=6.2						
AAK	**Ala-Archa**	**23.98**	**71**	P	**P**	**03 32 22.1**	**+1.1**
	0.6nm,0.4s,baz=271,slow=10,SNR=2.6						
WATA	**Walderalm**	**24.55**	**301**	*e*pP	**P**	**03 32 28.9**	**+2.7**
	2.8nm,0.8s						
WATA	**Walderalm**	**24.55**	**301**	P	**P**	**03 32 28.9**	**+2.7**
	2.8nm,0.8s						
MOTA	**Moosalm**	**24.87**	**301**	*i* pP	**P**	**03 32 31.1**	**+1.9**
	7.1nm,0.8s						
MOTA	**Moosalm**	**24.87**	**301**	P	**P**	**03 32 31.1**	**+1.9**
	7.1nm,0.8s						
FETA	**Feichten**	**25.08**	**300**	*i* pP	**P**	**03 32 34.8**	**+3.8**
	7.4nm,1.1s						
FETA	**Feichten**	**25.08**	**300**	P	**P**	**03 32 34.8**	**+3.8**
	7.4nm,1.1s						
FINES	**FINESS Array B**	**25.13**	**341**	P	**P**	**03 32 31.3**	**+0.2**
	1.6nm,0.7s,baz=142,slow=9.6,SNR=4.1						
DAVOX	**Davos/Dischmat**	**25.63**	**299**	P	**P**	**03 32 36.8**	**+0.7**
	1.6nm,0.6s,baz=301,slow=20,SNR=2.9						
DAVA	**Damuels**	**25.69**	**300**	*i* P	**P**	**03 32 35.1**	**-1.5**
	5.2nm,0.6s						
DAVA	**Damuels**	**25.69**	**300**	P	**P**	**03 32 35.1**	**-1.5**
	5.2nm,0.6s						
KURBB	**Kurchatov Arra**	**27.54**	**53**	P	**P**	**03 32 54.0**	**+1.0**
	2.2nm,0.7s,baz=263,slow=9.2,SNR=9.1						
HFS	**Hagfors**	**28.38**	**329**	P	**P**	**03 33 00.4**	**0.0**
	4.5nm,0.9s,baz=126,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**29.57**	**61**	P	**P**	**03 33 11.9**	**+0.7**
	0.8nm,0.7s,baz=269,slow=5.8,SNR=3.5						
ARCES	**ARCESS Array B**	**32.32**	**348**	P

MS5.0/9 Error ellipse: s-maj=8.4km s-min=4.5km az=111.6
*ISCJB **26** 03:38:52.2±0.4,2°.39S±0°.02×99°.89E±0°.03,h42km±3km, mb5.3/165,MS5.0/54,Error ellipse: s-maj=4.9km s-min=3.0km az=144.3*
*IDC **26** 03:38:53.0±2.5,2°.40S×99°.95E,h33km±18km,mb4.8/37, mb1 4.8/38,mb1mx4.7/56,mbtmp5.0/38,ML4.0/1,MS4.8/22, Ms1 4.8/22,ms1mx4.6/37,Error ellipse: s-maj=13.0km s-min=8.0km az=45.0*
ISC 26 03:38:51.8±0.4,2°.46S±0°.03×99°.84E±0°.04,h27km±2km, h27km:pP-P,n771,σ1§54/792,mb5.3/167,MS5.0/55, 42C-30D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.35**	**151**	P	**Pn**	**03 39 02.0**	**+0.9**
PPSI				S	**Sn**	**03 39 07.7**	**+0.5**
SISI	**Saibi**	**1.35**	**326**	P	**Pn**	**03 39 14.6**	**-0.2**
PDSI	**Padang**	**1.66**	**22**	P	**Pn**	**03 39 19.1**	**0.0**
MASI	**Maura Aman, Be**	**2.49**	**106**	P	**Pn**	**03 39 31.9**	**+1.2**
PBSI	**Pulau Batu**	**2.85**	**327**	P	**Pn**	**03 39 34.8**	**-0.7**
BKNI	**Bangkinang**	**3.01**	**24**	P	**Pn**	**03 39 39.8**	**+2.0**
BKNI	**Bangkinang**	**3.01**	**24**	*e*Pn	**Pn**	**03 39 39.4**	**+1.6**
BKNI				*e*Sn	**Sn**	**03 40 10.8**	**-2.2**
RGRI	**Rengat**	**3.26**	**50**	P	**Pn**	**03 39 43.2**	**+2.1**
MNAI	**Manna**	**3.64**	**121**	*e*Pn	**Pn**	**03 39 46.6**	**+0.2**
MNAI				*e*Sn	**Sn**	**03 40 24.6**	**-4.0**
JMBI	**JAMBI**	**3.89**	**78**	P	**Pn**	**03 39 51.1**	**+1.3**
JMBI				S	**Sn**	**03 40 38.8**	**+4.2**
LHSI	**Lahat**	**3.92**	**110**	P	**Pn**	**03 39 52.8**	**+2.5**
LHSI				S	**Sb**	**03 40 41.5**	**-5.9**
LWLI	**Liwa**	**4.92**	**121**	P	**Pn**	**03 40 04.9**	**+0.8**
	2μm,0.8s,21μm12nm						
LWLI				S	**Sn**	**03 41 03.4**	**+3.1**
	2μm,0.8s,21μm12nm						
PMBI	**Palembang**	**4.95**	**96**	P	**Pb**	**03 40 22.2**	**+4.4**
PSI	**Prapat**	**5.30**	**350**	Pn	**Pn**	**03 40 07.1**	**-2.3**
	5.0nm,0.3s,baz=157,slow=9.5,SNR=58						
PSI				Lg	Lg	03 41 34.5	
	baz=102,slow=23,SNR=1.7						
KLSI		**5.36**	**115**	P	**Pn**	**03 40 11.8**	**+1.7**
	406nm,1.4s,5μm2.3nm						
KASI	**Kota Agung**	**5.56**	**123**	P	**Pn**	**03 40 12.6**	**-0.2**
	659nm,0.6s,10μm6.1nm						
KGM	**Kluang**	**5.64**	**38**	⇑P	**Pn**	**03 40 16.0**	**+2.1**
TPRI	**Tanjung Pinang**	**5.76**	**54**	P	**Pn**	**03 40 17.2**	**+1.6**
	721nm,0.7s,14μm4.4nm						
MYKOM	**Kota Tinggi**	**5.82**	**44**	*e*Pn	**Pn**	**03 40 17.9**	**+1.5**
MYKOM	**Kota Tinggi**	**5.82**	**44**	⇓P	**Pn**	**03 40 18.7**	**+2.3**
FRIM	**Kepong**	**5.93**	**18**	⇑P	**Pn**	**03 40 19.6**	**+1.7**
SNSI	**Sinabang, Aceh**	**5.97**	**324**	P	**Pb**	**03 40 33.8**	**-1.4**
TSI	**Tuntungan**	**6.05**	**348**	P	Pb	03 40 31.3	-5.3
BLSI	**Bandar Lampung**	**6.12**	**118**	P	**Pn**	**03 40 24.3**	**+3.8**
	379nm,0.7s,2.8nm						
TPTI		**6.27**	**335**	P	**Pn**	**03 40 23.5**	**+1.0**
	308nm,1.0s,4μm1.7nm						
KCSI	**Kotacane, Aceh**	**6.29**	**341**	P	**Pn**	**03 40 21.6**	**-1.2**
	170nm,0.8s,3μm2.2nm						
IPM	**Ipoh**	**6.99**	**10**	*e*Pn	**Pn**	**03 40 33.9**	**+1.3**
IPM	**Ipoh**	**6.99**	**10**	⇑P	**Pn**	**03 40 34.6**	**+2.1**
CGJI	**Cibinong**	**7.15**	**125**	P	**Pn**	**03 40 33.2**	**-1.5**
	326nm,0.9s,4μm						
SBJI	**Serang**	**7.25**	**120**	P	**Pn**	**03 40 40.0**	**+3.9**
	496nm,1.2s,2.2nm						
MLSI	**Meulaboh, Aceh**	**7.51**	**333**	P	**Pn**	**03 40 40.3**	**+0.7**
	447nm,0.7s,4μm1.6nm						
KULM	**Kulim**	**7.74**	**6**	*e*Pn	**Pn**	**03 40 42.8**	**+0.1**
DBJI	**Dramaga**	**8.00**	**121**	P	**Pn**	**03 40 47.5**	**+1.1**
	413nm,1.1s,1.8nm						
CBJI	**Citeko**	**8.02**	**120**	P	**Pn**	**03 40 50.4**	**+3.7**
	584nm,0.9s,12μm2.2nm						
SKJI	**Sukabumi**	**8.08**	**124**	P	**Pn**	**03 40 50.5**	**+3.1**
	486nm,0.9s,6μm2.8nm						
KTGM	**Kuala Trenggan**	**8.40**	**23**	⇑P	**Pn**	**03 40 54.4**	**+2.5**
CNJI	**Cibinong**	**8.72**	**124**	P	**Pn**	**03 40 54.3**	**-1.9**
	268nm,0.9s,4μm65μm						
CISI	**Cisompet, Garu**	**9.42**	**123**	P	**Pn**	**03 41 04.2**	**-1.7**
	353nm,0.6s						
CISI	**Cisompet, Garu**	**9.42**	**123**	*e*Pn	**Pn**	**03 41 03.2**	**-2.7**
CISI				*e*Sn	Sn	03 42 41.6	-10
SKLT	**Songkhla**	**9.59**	**5**	P	**Pn**	**03 41 11.2**	**+3.0**
	127nm,1.3s						
XMIS	**Christmas Isla**	**9.84**	**144**	*e*Pn	Pn	03 41 06.7	-5.0
XMIS				*e*Sn	Sn	03 42 44.3	-17
CMJI	**Cimerak**	**10.08**	**122**	P	**Pn**	**03 41 12.5**	**-2.3**
	230nm,0.6s,3μm						
COCO	**West Island**	**10.12**	**197**	*i* P	**Pn**	**03 41 15.8**	**+0.4**
COCO	**West Island**	**10.12**	**197**	*e*Pn	**Pn**	**03 41 14.2**	**-1.2**
TRTT	**Trang**	**10.22**	**359**	P	**Pn**	**03 41 18.3**	**+1.4**
	96nm,0.8s,2μm						
KSM	**Kuching**	**11.17**	**70**	*e*Pn	Pn	03 41 24.0	-5.9
KSM	**Kuching**	**11.17**	**70**	⇓P	**Pn**	**03 41 32.3**	**+2.4**
SMRI	**Semarang**	**11.51**	**114**	P	**Pn**	**03 41 36.7**	**+2.2**
	286nm,1.3s						
SMRI	**Semarang**	**11.51**	**114**	*e*Pn	Pn	03 41 28.6	-5.9
UGM	**Wanagama**	**11.94**	**117**	*e*Pn	**Pn**	**03 41 38.6**	**-1.8**
UGM				*e*Sn	**Sn**	**03 43 50.0**	**-2.8**
SBUM	**Sibu**	**13.30**	**69**	*e*Pn	**Pn**	**03 42 01.6**	**+2.5**
SBUM	**Sibu**	**13.30**	**69**	⇓P	**Pn**	**03 42 01.5**	**+2.5**
JAGI	**Jajag, Banyuwa**	**15.45**	**113**	*e*Pn	**Pn**	**03 42 24.2**	**-3.8**
	57nm,0.8s						
JAGI				*e*Sn	**Sn**	**03 45 14.7**	**-3.7**
UTHA	**Uthaitani**	**17.90**	**359**	P	P	03 43 06.8	+7.3
CHAI	**Chaiyaphum**	**18.36**	**7**	P	**Pn**	**03 43 06.8**	**+2.1**
	11nm,0.8s						
KKM	**Kota Kinabalu**	**18.41**	**63**	*e*P	**Pn**	**03 43 05.5**	**+0.2**
	86nm,0.8s						
KKM	**Kota Kinabalu**	**18.41**	**63**	⇓P	**Pn**	**03 43 06.3**	**+1.0**
PBKT	**Sadao Pong**	**18.94**	**3**	P	**P**	**03 43 09.3**	**-1.5**
	30nm,0.7s,767nm						
SDKM	**Sandakan**	**19.11**	**65**	⇑P	**Pn**	**03 43 14.4**	**+0.5**
TSM	**Tawau**	**19.23**	**70**	⇑P	**Pn**	**03 43 15.4**	**+0.2**
SKNT	**Sakolnakorn**	**19.73**	**12**	P	**P**	**03 43 20.2**	**+0.6**
	37nm,0.8s						
KAPI	**Kappang**	**20.03**	**98**	*e*P	**P**	**03 43 20.7**	**-2.1**
	240nm,1.0s						
KAPI	**Kappang**	**20.03**	**98**	P	**P**	**03 43 22.5**	**-0.4**
	SNR=12						
KAPI	**Kappang**	**20.03**	**98**	P	**P**	**03 43 22.5**	**-0.4**
	SNR=12						
PANO	**Nakornpanom**	**20.04**	**13**	P	**P**	**03 43 23.2**	**+0.3**
	74nm,0.8s,2μm						
MYLDM	**Lahad Datu**	**20.13**	**68**	*e*P	**P**	**03 43 22.4**	**-1.5**
MYLDM				*e*Pn	Pn	03 43 25.7	-0.2
CM31	**Chiang Mai Arr**	**20.80**	**358**	*e*P	**P**	**03 43 30.9**	**-0.3**
CM31				*e*PcP	**PcP**	**03 47 41.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**20.80**	**358**	P	**P**	**03 43 30.1**	**-1.0**
	45nm,0.9s,baz=187,slow=9.9,SNR=149						
CMAR				PcP	**PcP**	**03 47 41.8**	**+1.9**
	1.0nm,0.4s,baz=214,slow=3.5,SNR=4.1						
CMAR				LR	LR	03 52 08.1	
	comp=Z,4μm,19.0s,baz=188,slow=38						
CHTO	**Chiang Mai**	**21.15**	**358**	P	**P**	**03 43 34.0**	**-1.0**
	208nm,0.9s,3μm						
CHTO	**Chiang Mai**	**21.15**	**358**	*e*P	**P**	**03 43 34.0**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,30nm,0.8s						
CHTO	**Chiang Mai**	**21.15**	**358**	*e*P	**P**	**03 43 34.0**	**-1.0**
	comp=Z,30nm,0.8s						
CHTO	**Chiang Mai**	**21.15**	**358**	P	**P**	**03 43 33.6**	**-1.4**
	SNR=15						
CHTO	**Chiang Mai**	**21.15**	**358**	P	**P**	**03 43 33.6**	**-1.4**
	SNR=15						
PALK	**Pallekele**	**21.40**	**297**	P	**P**	**03 43 38.7**	**+0.9**
	comp=Z,5.4nm,0.6s,baz=116,slow=8.4,SNR=3.9						
PALK	**Pallekele**	**21.40**	**297**	*e*P	**P**	**03 43 40.7**	**+3.0**
PALK				pmax	pmax		
	comp=Z,61nm,1.2s						
PALK	**Pallekele**	**21.40**	**297**	*e*P	**P**	**03 43 40.7**	**+3.0**
	comp=Z,61nm,1.2s						
CMAI	**Chiengmai2**	**22.26**	**358**	P	**P**	**03 43 45.9**	**-1.1**
	comp=Z,407nm,1.4s,comp=Z,13μm						
LUWI	**Luwuk**	**22.97**	**87**	*e*P	**P**	**03 43 54.1**	**-0.3**
	comp=Z,149nm,0.9s						
QIZ	**Qiongzhong**	**23.51**	**24**	P	**P**	**03 43 59.5**	**-0.3**
QIZ				pP	**pP**	**03 44 06.3**	**-1.2**
QIZ				S	**S**	**03 48 14.0**	**+1.9**
QIZ				sS	**sS**	**03 48 24.0**	**-1.3**
QIZ				pmax	pmax		
	comp=Z,36nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,850nm,3.0s						
QIZ				LR	LR		
	comp=Z,4μm,14.0s						
QIZ				LR	LR		
	comp=Z,4μm,14.9s						
QIZ	**Qiongzhong**	**23.51**	**24**	*e*P	**P**	**03 43 59.2**	**-0.5**
	comp=Z,125nm,1.5s						
GIRL	**Giralia**	**24.45**	**146**	P	**P**	**03 44 11.0**	**+2.5**
	baz=25,SNR=3.5						
SOEI	**Soe**	**25.33**	**108**	*e*P	**P**	**03 44 13.6**	**-3.3**
	comp=Z,87nm,1.2s						
TGY	**Tagaytay City**	**26.61**	**51**	P	**P**	**03 44 28.9**	**+0.6**
	comp=Z,213nm,0.3s,baz=204,slow=3.6,SNR=2.9						
TGY				LR	LR	03 56 20.8	
	comp=Z,2μm,19.5s,baz=258,slow=40						
KMI	**Kunming**	**27.56**	**6**	P	**P**	**03 44 40.3**	**+3.4**
KMI				pP	pP	03 44 45.5	+0.6
KMI				sP	sP	03 44 48.5	+0.3
KMI				PP	**PnPn**	**03 45 28.0**	**+5.5**
KMI				S	**S**	**03 49 19.5**	**+2.7**
KMI				sS	sS	03 49 31.0	+0.9
KMI				SS	**SnSn**	**03 50 38.8**	**+10**
KMI				pmax	pmax		
	comp=Z,26nm,0.9s						
KMI				pmax	pmax		
	comp=Z,190nm,4.2s						
KMI				LR	LR		
	comp=Z,4μm,15.1s						
KMI				LR	LR		
	comp=Z,5μm,15.7s						
KMI				LR	LR		
	comp=Z,3μm,15.4s						
H08S2	**Diego Garcia H**	**27.71**	**258**	T	T	04 13 19.3	
	baz=81,slow=75,SNR=3894						
H08S3	**Diego Garcia H**	**27.72**	**258**	T	T	04 13 27.5	
	baz=81,slow=75,SNR=4459						
H08S1	**Diego Carcia H**	**27.73**	**258**	T	T	04 13 28.4	
	baz=81,slow=75,SNR=4770						
HYB	**Hyderabad**	**28.82**	**314**	*i* P	**P**	**03 44 48.0**	**0.0**
SHL	**Shillong**	**28.90**	**345**	*e*P	**P**	**03 44 51.0**	**+2.2**
GYA	**Guiyang**	**29.49**	**12**	⇑*i*P	**P**	**03 44 53.3**	**-0.7**
GYA				PP	**PnPn**	**03 45 53.0**	**+4.2**
GYA				PcP	**PcP**	**03 48 01.0**	**+1.8**
GYA				S	**S**	**03 49 50.5**	**+3.5**
GYA				SS	**SnSn**	**03 51 24.3**	**+8.5**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,620nm,17.8s						
GYA				LR	LR		
	comp=Z,580nm,18.0s						
GYA				LR	LR		
	comp=Z,520nm,17.9s						
FITZ	**Fitzroy Crossi**	**29.70**	**123**	P	**P**	**03 44 55.1**	**-0.6**
	comp=Z,16nm,1.0s,baz=305,slow=7.2,SNR=27						
FITZ	**Fitzroy Crossi**	**29.70**	**123**	P	**P**	**03 44 55.4**	**-0.4**
	baz=30,SNR=3.3						
FITZ	**Fitzroy Crossi**	**29.70**	**123**	*e*P	**P**	**03 44 53.8**	**-1.9**
KNRA	**Kununurra**	**31.38**	**117**	P	**P**	**03 45 09.3**	**-1.4**
	baz=31,SNR=5.6						
ODAN	**Odare**	**31.52**	**338**	*e*P	**P**	**03 45 12.9**	**+0.8**
	comp=Z,78nm,0.7s						
TAPN	**Taplejung**	**31.86**	**339**	*e*P	**P**	**03 45 16.3**	**+1.3**
	comp=Z,152nm,0.9s						
RAMN	**Ramite**	**31.90**	**337**	*e*P	**P**	**03 45 16.4**	**+1.0**
	comp=Z,78nm,0.7s						
FAKI	**Fak Fak**	**32.38**	**92**	*e*P	**P**	**03 45 17.0**	**-2.5**
	comp=Z,28nm,0.9s						
MTN	**Manton Dam**	**32.64**	**110**	P	**P**	**03 45 20.3**	**-1.5**
	baz=32,SNR=8.2						
MTN	**Manton Dam**	**32.64**	**110**	*e*P	**P**	**03 45 19.1**	**-2.7**
	comp=Z,44nm,1.4s						
JIRN	**Jiri**	**32.70**	**337**	*e*P	**P**	**03 45 23.4**	**+0.9**
	comp=Z,904nm,0.8s						
QZH	**Quanzhou**	**32.76**	**33**	P	**P**	**03 45 21.8**	**-0.8**
QZH				S	**S**	**03 50 38.3**	**+0.4**
QZH				LR	LR		
	comp=Z,5μm,14.3s						
QZH				LR	LR		
	comp=Z,3μm,11.4s						
QZH				LR	LR		
	comp=Z,6μm,15.0s						
PKI	**Pulchoki**	**32.93**	**336**	*e*P	**P**	**03 45 24.7**	**+0.2**
	comp=Z,27nm,0.8s						
PKIN	**Phulchoki**	**32.94**	**336**	*e*P	**P**	**03 45 24.7**	**+0.2**
	comp=Z,29nm,0.9s						
POO	**Poona**	**33.00**	**310**	*e*P	P	03 45 20.0	-4.9
LSA	**Lhasa**	**33.04**	**346**	P	**P**	**03 45 26.5**	**+0.9**
LSA				pmax	pmax		
	comp=Z,45nm,1.0s						
LSA	**Lhasa**	**33.04**	**346**	*e*P	**P**	**03 45 26.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,85nm,1.4s						
LSA	**Lhasa**	**33.04**	**346**	*e*P	**P**	**03 45 26.7**	**+1.1**
	comp=Z,85nm,1.4s						
GUN	**Gumba**	**33.05**	**337**	*e*P	**P**	**03 45 26.4**	**+0.9**
	comp=Z,101nm,0.6s						
DMN	**Daman**	**33.09**	**336**	*e*P	**P**	**03 45 26.4**	**+0.6**
	comp=Z,37nm,1.0s						
YULB	**Yu-li**	**33.12**	**38**	*e*P	**P**	**03 45 24.6**	**-1.3**
	comp=Z,46nm,1.2s						
KKN	**Kakani**	**33.18**	**336**	*e*P	**P**	**03 45 27.1**	**+0.6**
	comp=Z,51nm,0.7s						
SSLB	**Suanglung**	**33.21**	**37**	*e*P	**P**	**03 45 24.2**	**-2.4**
	comp=Z,151nm,1.7s						
CD2	**Chengdu**	**33.39**	**6**	P	**P**	**03 45 27.8**	**-0.3**
CD2				pP	pP	03 45 34.0	-2.2
CD2				PP	**PP**	**03 46 43.8**	**-0.2**
CD2				S	**S**	**03 50 49.8**	**+2.1**
CD2				sS	sS	03 51 00.5	-0.5
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,250nm,5.0s						
CD2				LR	LR		
	comp=Z,5μm,14.3s						
CD2				LR	LR		
	comp=Z,5μm,13.5s						
CD2				LR	LR		
	comp=Z,4μm,12.9s						
GKN	**Gorkha**	**33.63**	**335**	*e*P	**P**	**03 45 30.7**	**+0.3**
	comp=Z,54nm,0.8s						
ENH	**Enshi**	**33.82**	**15**	*e*P	**P**	**03 45 30.9**	**-1.1**
	comp=Z,60nm,0.7s						
KOLN	**Koldanda**	**33.87**	**334**	*e*P	**P**	**03 45 33.2**	**+0.6**
	comp=Z,50nm,0.9s						
DANN	**Dangsing**	**34.30**	**334**	*e*P	**P**	**03 45 37.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**34.43**	**154**	P	**P**	**03 45 37.9**	**+0.8**
	comp=Z,28nm,1.1s,baz=232,slow=7.3,SNR=3.4						
NWAO				LR	LR	03 58 37.7	
	comp=Z,3μm,21.3s,baz=204,slow=34						
NWAO	**Narrogin (SRO)**	**34.43**	**154**	*e*P	**P**	**03 45 35.8**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,84nm,1.5s						
NWAO	**Narrogin (SRO)**	**34.43**	**154**	*e*P	**P**	**03 45 35.8**	**-1.3**
	comp=Z,84nm,1.5s						
PYUN	**Piuthan**	**34.43**	**333**	*e*P	**P**	**03 45 37.8**	**+0.4**
	comp=Z,61nm,0.9s						
WRKA	**Warakurna**	**35.44**	**132**	P	**P**	**03 45 46.6**	**+0.5**
	baz=36,SNR=40						
KMBL	**Kambalda**	**35.49**	**146**	P	**P**	**03 45 47.2**	**+0.8**
	baz=36,SNR=4.5						
WHN	**Wuhan**	**35.62**	**22**	⇑*i*P	**P**	**03 45 47.5**	**+0.2**
WHN				pP	**pP**	**03 45 56.0**	**+0.5**
WHN				S	**S**	**03 51 22.5**	**+0.5**
WHN				pmax	pmax		
	comp=Z,460nm,1.8s						
WHN				pmax	pmax		
	comp=Z,940nm,7.4s						
WHN				LR	LR		
	comp=Z,9μm,15.4s						
WHN				LR	LR		
	comp=Z,9μm,13.7s						
WHN				LR	LR		
	comp=Z,16μm,16.3s						
XAN	**Xi'an**	**37.30**	**12**	P	**P**	**03 46 00.5**	**-1.2**
XAN				pP	pP	03 46 11.5	+1.7
XAN				S	**S**	**03 51 55.3**	**+7.6**
XAN				sS	ScP	03 52 06.0	-0.4
XAN				pmax	pmax		
	comp=Z,130nm,0.7s						
XAN				pmax	pmax		
	comp=Z,360nm,8.9s						
XAN				LR	LR		
	comp=Z,1μm,17.3s						
XAN				LR	LR		
	comp=Z,4μm,16.2s						
XAN				LR	LR		
	comp=Z,9μm,12.7s						
WR1	**Warramunga Arr**	**37.91**	**120**	*e*P	**P**	**03 46 06.1**	**-0.9**
	comp=Z,59nm,0.8s						
WR1				*e*PcP	**PcP**	**03 48 23.7**	**+0.6**
WR1				*e*S	**S**	**03 51 53.4**	**-3.9**
WRA	**Warramunga Arr**	**37.91**	**120**	P	**P**	**03 46 06.1**	**-1.0**
	comp=Z,63nm,0.5s,baz=305,slow=9.0,SNR=380						
WRA				PcP	**PcP**	**03 48 23.7**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=300,slow=2.4,SNR=4.5						
WRA				S	**S**	**03 51 53.4**	**-3.9**
	comp=Z,4.8nm,1.0s,baz=295,slow=15,SNR=7.6						
WRA				LR	LR	04 03 37.9	
	comp=Z,2μm,21.0s,baz=305,slow=39						
WRAB	**Tennant Creek**	**37.91**	**120**	*c i* P	**P**	**03 46 06.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,375nm,1.2s						
WRAB	**Tennant Creek**	**37.91**	**120**	*e*P	**P**	**03 46 06.8**	**-0.3**
	comp=Z,88nm,0.7s						
WB2	**Warramunga Arr**	**37.92**	**120**	*e*P	**P**	**03 46 06.4**	**-0.8**
	comp=Z,72nm,0.7s						
WB2				*e*S	**S**	**03 51 54.3**	**-3.2**
LZH	**Lanzhou**	**38.52**	**5**	⇑P	**P**	**03 46 12.3**	**+0.1**
LZH				pP	pP	03 46 19.5	-0.9
LZH				sP	sP	03 46 21.3	-2.4
LZH				PP	**PnPn**	**03 47 45.0**	**+2.2**
LZH				PcP	**PcP**	**03 48 25.0**	**+0.2**
LZH				*e*S	**S**	**03 52 08.0**	**+1.5**
LZH				sS	sS	03 52 18.5	-1.4
LZH				SS	**SnSn**	**03 54 49.5**	**-5.2**
LZH				pmax	pmax		
	comp=Z,190nm,1.5s						
LZH				pmax	pmax		
	comp=Z,470nm,5.2s						
LZH				LR	LR		
	comp=Z,3μm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,12.5s						
LZH				LR	LR		
	comp=Z,4μm,15.0s						
NJ2	**Nanjing**	**38.77**	**26**	*e*P	**P**	**03 46 13.8**	**-0.3**
NJ2				S	**S**	**03 52 05.5**	**-4.5**
NJ2				pmax	pmax		
	comp=Z,43nm,0.7s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
NJ2				LR	LR		
	comp=Z,3μm,12.5s						
NJ2				LR	LR		
	comp=Z,4μm,14.7s						
SSE	**Sheshan**	**39.07**	**30**	*e*P	**P**	**03 46 17.5**	**+0.9**
SSE				pP	**pP**	**03 46 23.5**	**-1.3**
SSE				sP	**sP**	**03 46 25.8**	**-2.3**
SSE				S	**S**	**03 52 14.0**	**-0.5**
SSE				pmax	pmax		
	comp=Z,55nm,1.1s						
SSE				pmax	pmax		
	comp=Z,150nm,3.5s						
SSE				LR	LR		
	comp=Z,1μm,20.2s						
SSE				LR	LR		
	comp=Z,2μm,20.3s						
SSE				LR	LR		
	comp=Z,2μm,20.7s						
ASAR	**Alice Springs**	**39.12**	**126**	P	**P**	**03 46 17.2**	**-0.1**
	comp=Z,17nm,0.4s,baz=302,slow=7.7,SNR=104						
ASAR				PcP	**PcP**	**03 48 27.6**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=313,slow=2.8,SNR=4.1						
ASAR				S	**S**	**03 52 15.3**	**-0.3**
	comp=Z,24nm,1.3s,baz=298,slow=15,SNR=21						
ASAR				LR	LR	04 03 55.1	
	comp=Z,2μm,20.8s,baz=302,slow=38						
AS31	**Alice Springs**	**39.12**	**126**	*e*P	**P**	**03 46 17.3**	**0.0**
	comp=Z,11nm,0.5s						
AS31				*e*PcP	**PcP**	**03 48 27.6**	**+0.8**
AS31				*e*S	**S**	**03 52 15.3**	**-0.3**
TIY	**Taiyuan**	**41.64**	**15**	*e*P	**P**	**03 46 38.8**	**+0.9**
TIY				pP	**sP**	**03 46 48.5**	**-0.9**
TIY				S	**S**	**03 52 48.8**	**-4.1**
TIY				pmax	pmax		
	comp=Z,330nm,4.7s						
TIY				LR	LR		
	comp=Z,2μm,13.1s						
TIY				LR	LR		
	comp=Z,610nm,9.4s						
TIY				LR	LR		
	comp=Z,2μm,13.4s						
GTA	**Gaotai**	**41.66**	**360**	⇑P	**P**	**03 46 38.3**	**+0.2**
GTA				pP	pP	03 46 47.0	+0.6
GTA				sP	sP	03 46 50.5	+0.8
GTA				PcP	**PcP**	**03 48 35.0**	**+0.3**
GTA				S	**S**	**03 52 55.3**	**+2.0**
GTA				sS	sS	03 53 06.5	-0.3
GTA				SS	**SS**	**03 55 57.0**	**-2.3**
GTA				pmax	pmax		
	comp=Z,42nm,1.4s						
GTA				pmax	pmax		
	comp=Z,340nm,5.9s						
GTA				LR	LR		
	comp=Z,2μm,16.4s						
GTA				LR	LR		
	comp=Z,3μm,16.6s						
GTA				LR	LR		
	comp=Z,2μm,17.1s						
TIA	**Tai'an**	**41.72**	**21**	⇑P	**P**	**03 46 37.8**	**-0.7**
TIA				pP	**pP**	**03 46 46.8**	**+0.1**
TIA				pmax	pmax		
	comp=Z,60nm,0.6s						
TIA				pmax	pmax		
	comp=Z,340nm,3.5s						
TIA				LR	LR		
	comp=Z,7μm,14.3s						
TIA				LR	LR		
	comp=Z,3μm,13.1s						
TIA				LR	LR		
	comp=Z,8μm,14.3s						
QIS	**Mount Isa**	**42.73**	**118**	P	**P**	**03 46 46.6**	**-0.5**
	baz=43,SNR=30						
BTO	**Baotou**	**43.85**	**11**	*e*P	**P**	**03 46 55.5**	**-0.4**
HHC	**Hu-ho-hao-te**	**44.41**	**13**	sP	P	03 46 51.3	-9.0
HHC	**Hu-ho-hao-te**	**44.41**	**13**	P	**P**	**03 47 00.3**	**0.0**
HHC				S	**S**	**03 53 35.3**	**+1.8**
HHC				SS	SS	03 56 37.0	-16
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,480nm,4.2s						
HHC				LR	LR		
	comp=N,1μm,12.3s						
HHC				LR	LR		
	comp=E,1μm,13.6s						
HHC				LR	LR		
	comp=Z,1μm,13.6s						
BJT	**Baijiatuau**	**44.84**	**18**	*e*P	**P**	**03 47 04.3**	**+

JNU	**Nakatsue**	**45.95**	**37**	*e*P	**P**	**03 47 12.8**	**+0.2**
	comp=Z,95nm,1.0s						
MTSU	**Mount Surprise**	**46.29**	**113**	P	**P**	**03 47 15.2**	**-0.4**
	baz=46,SNR=26						
INCN	**Inchon**	**46.87**	**29**	*e*P	**P**	**03 47 19.5**	**-0.3**
	comp=Z,28nm,0.6s						
KSH	**Kashi**	**47.17**	**335**	P	**P**	**03 47 20.8**	**-1.4**
KSH				pP	pP	03 47 27.0	-3.5
KSH				sP	sP	03 47 29.5	-4.3
KSH				PcP	**PcP**	**03 48 53.0**	**-0.6**
KSH				PP	**PP**	**03 49 12.3**	**-1.2**
KSH				PcS	**PcS**	**03 52 44.0**	**-4.8**
KSH				S	**S**	**03 54 08.8**	**-4.6**
KSH				ScS	**ScS**	**03 57 09.5**	**-5.4**
KSH				pmax	pmax		
	comp=Z,68nm,2.1s						
KSH				pmax	pmax		
	comp=Z,410nm,7.7s						
KSH				LR	LR		
	comp=Z,320nm,13.9s						
KSH				LR	LR		
	comp=Z,940nm,18.8s						
KSH				LR	LR		
	comp=Z,1μm,21.4s						
WMQ	**Urumqi**	**47.34**	**348**	P	**P**	**03 47 25.0**	**+1.6**
WMQ				pP	pP	03 47 29.0	-2.7
WMQ				sP	sP	03 47 33.0	-2.0
WMQ				S	**S**	**03 54 16.0**	**+0.4**
WMQ				sS	sS	03 54 29.0	-0.2
WMQ				SS	**SS**	**03 57 37.5**	**-6.0**
WMQ				pmax	pmax		
	comp=Z,170nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,730nm,4.1s						
WMQ				LR	LR		
	comp=Z,930nm,19.3s						
WMQ				LR	LR		
	comp=Z,950nm,16.9s						
WMQ				LR	LR		
	comp=Z,890nm,25.7s						
KS15	**Wonju Array Si**	**47.46**	**31**	*e*P	**P**	**03 47 24.9**	**+0.5**
KSAR	**Wonju Array Be**	**47.46**	**31**	P	**P**	**03 47 24.6**	**+0.2**
KSAR	**Wonju Array Be**	**47.46**	**31**	P	**P**	**03 47 24.6**	**+0.2**
KSRS	**Korea Array**	**47.49**	**31**	P	**P**	**03 47 24.6**	**0.0**
	comp=Z,45nm,0.8s,baz=225,slow=8.5,SNR=160						
KSRS				LR	LR	04 09 36.4	
	comp=Z,671nm,18.1s,baz=224,slow=39						
PMG	**Port Moresby**	**47.53**	**100**	P	**P**	**03 47 24.7**	**-0.5**
	comp=Z,11nm,0.5s,baz=315,slow=4.9,SNR=4.8						
PMG	**Port Moresby**	**47.53**	**100**	*d i*P	**P**	**03 47 24.8**	**-0.5**
PMG				pmax	pmax		
	comp=Z,53nm,0.8s						
WSAR	**Wadi Sarin**	**47.57**	**305**	P	P	03 47 36.9	+11
	comp=Z,4.2nm,0.7s,baz=123,slow=12,SNR=3.9						
WSAR	**Wadi Sarin**	**47.57**	**305**	P	**P**	**03 47 25.1**	**-0.4**
HTT	**Hallett**	**47.79**	**135**	P	**P**	**03 47 27.8**	**+0.7**
	baz=48,SNR=30						
CTA	**Charters Tower**	**48.55**	**115**	P	**P**	**03 47 33.0**	**-0.2**
	comp=Z,52nm,1.0s,baz=289,slow=9.7,SNR=54						
CTA	**Charters Tower**	**48.55**	**115**	*e*P	**P**	**03 47 33.0**	**-0.2**
CTAO	**Charters Tower**	**48.55**	**115**	*e*P	**P**	**03 47 32.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,87nm,1.1s						
CTAO	**Charters Tower**	**48.55**	**115**	*e*P	**P**	**03 47 32.8**	**-0.4**
	comp=Z,88nm,1.1s						
QLP	**Quilpie**	**48.84**	**124**	P	**P**	**03 47 35.7**	**+0.5**
	baz=49,SNR=12						
STKA	**Stephens Creek**	**48.97**	**131**	P	**P**	**03 47 37.0**	**+0.8**
	comp=Z,13nm,0.5s,baz=305,slow=7.7,SNR=43						
STKA				LR	LR	04 09 33.6	
	comp=Z,2μm,21.4s,baz=293,slow=38						
STKA	**Stephens Creek**	**48.97**	**131**	P	**P**	**03 47 37.0**	**+0.8**
	baz=49,SNR=17						
STKA	**Stephens Creek**	**48.97**	**131**	*e*P	**P**	**03 47 37.0**	**+0.8**
STKA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek**	**48.97**	**131**	*e*P	**P**	**03 47 37.0**	**+0.8**
	comp=Z,9.4nm,1.1s						
SHLS	**Shalkode**	**48.98**	**340**	*i* P	**P**	**03 47 33.6**	**-2.6**
	comp=Z,388nm,0.6s						
SNY	**Shenyang**	**49.06**	**23**	⇑P	**P**	**03 47 35.5**	**-1.1**
SNY				pP	**pP**	**03 47 45.3**	**+0.4**
SNY				pmax	pmax		
	comp=Z,35nm,2.0s						
SNY				pmax	pmax		
	comp=Z,580nm,6.8s						
SNY				LR	LR		
	comp=Z,610nm,12.7s						
SNY				LR	LR		
	comp=Z,2μm,14.3s						
SNY				LR	LR		
	comp=Z,3μm,14.7s						
UZB	**Uzynbulak**	**49.12**	**340**	*i* P	**P**	**03 47 35.4**	**-1.8**
	comp=Z,427nm,1.1s						
PDGK	**Podgornoye**	**49.12**	**340**	*i* P	**P**	**03 47 37.9**	**+0.7**
PDGK				pmax	pmax		
	comp=Z,61nm,0.9s						
SATY	**Saty**	**49.26**	**339**	*i* P	**P**	**03 47 36.2**	**-2.1**
	comp=Z,810nm,1.1s						
ZHN	**Zhinishke**	**49.34**	**339**	*i* P	**P**	**03 47 37.0**	**-2.0**
	comp=Z,191nm,0.6s						
ZHN				*e*S	**S**	**03 54 41.0**	**-3.0**
MDOK	**Medeo**	**49.84**	**338**	*i* P	**P**	**03 47 40.9**	**-1.9**
	comp=Z,361nm,1.4s						
MDOK				*i* S	**S**	**03 54 48.3**	**-2.7**
MDOK				*i* LR	LR	04 09 23.9	
	comp=Z,335nm,9.5s						
DZET	**Dzherino**	**50.02**	**328**	P	**P**	**03 47 42.5**	**-1.7**
DZET				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TKM2	**Tokmak 2**	**50.18**	**337**	*i* P	**P**	**03 47 45.7**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,59nm,0.9s						
AAK	**Ala-Archa**	**50.39**	**336**	P	**P**	**03 47 47.9**	**+0.9**
	comp=Z,6.4nm,0.7s,baz=148,slow=6.1,SNR=21						
AAK	**Ala-Archa**	**50.39**	**336**	*c i*P	**P**	**03 47 48.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,16nm,0.9s						
AAK	**Ala-Archa**	**50.39**	**336**	*e*P	**P**	**03 47 47.8**	**+0.9**
	comp=Z,59nm,1.4s						
AAK	**Ala-Archa**	**50.39**	**336**	P	**P**	**03 47 47.8**	**+0.8**
	SNR=33						
AAK	**Ala-Archa**	**50.39**	**336**	P	**P**	**03 47 47.8**	**+0.8**
AAK				P	**P**	**03 47 47.8**	**+0.8**
	SNR=33						
SONA0	**Songino Array**	**50.41**	**6**	*e*P	**P**	**03 47 47.7**	**+0.7**
	comp=Z,105nm,0.8s						
SONA0				*e*PcP	**PcP**	**03 49 05.9**	**+0.8**
SONM	**Songino Array**	**50.41**	**6**	P	**P**	**03 47 47.7**	**+0.7**
	comp=Z,63nm,0.8s,baz=188,slow=9.0,SNR=272						
SONM				PcP	**PcP**	**03 49 05.9**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=180,slow=5.1,SNR=3.2						
FRU	**Bishkek**	**50.50**	**336**	*e*P	**P**	**03 47 47.0**	**-0.6**
FRU				*i*		03 47 56.0	
FRU				*i*		03 48 05.0	
FRU				*e*		03 49 08.0	
FRU				*e*S	**S**	**03 55 00.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,170nm,2.5s						
FRU				smax	smax		
	comp=E,120nm,3.0s						
FRU				MLR	MLR		
	comp=E,1μm,18.0s						
ULN	**Ulaanbaatar**	**50.51**	**6**	*c i*P	**P**	**03 47 48.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,115nm,1.2s						
ULN	**Ulaanbaatar**	**50.51**	**6**	*e*P	**P**	**03 47 48.1**	**+0.3**
	comp=Z,86nm,0.9s						
ULN	**Ulaanbaatar**	**50.51**	**6**	P	**P**	**03 47 48.5**	**+0.7**
	SNR=31						
ULN	**Ulaanbaatar**	**50.51**	**6**	P	**P**	**03 47 48.5**	**+0.7**
	SNR=31						
ULN				P	**P**	**03 47 48.5**	**+0.7**
	SNR=31						
MNAS	**Manas**	**51.11**	**334**	*i* P	**P**	**03 47 52.6**	**+0.3**
MNAS				pmax	pmax		
	comp=Z,39nm,0.9s						
ZSN	**Zaisan**	**51.41**	**347**	*i* P	**P**	**03 47 53.3**	**-1.0**
	comp=Z,220nm,1.0s						
ZSN				*e*S	**S**	**03 55 11.1**	**-1.2**
MK31	**Makanchi Array**	**51.42**	**345**	*ce*P	**P**	**03 47 54.7**	**+0.2**
MK31				pmax	pmax		
	comp=Z,52nm,0.6s						
MK31	**Makanchi Array**	**51.42**	**345**	*e*P	**P**	**03 47 54.9**	**+0.4**
MK32	**Makanchi Array**	**51.42**	**345**	*e*P	**P**	**03 47 54.8**	**+0.3**
MKAR	**Makanchi Array**	**51.42**	**345**	P	**P**	**03 47 54.8**	**+0.3**
	comp=Z,63nm,0.6s,baz=147,slow=8.1,SNR=442						
MKAR				LR	LR	04 14 19.5	
	comp=Z,786nm,18.1s,baz=158,slow=41						
MKAR	**Makanchi Array**	**51.42**	**345**	*e*P	**P**	**03 47 54.9**	**+0.4**
MKAR	**Makanchi Array**	**51.42**	**345**	*e*P	**P**	**03 47 54.9**	**+0.4**
	comp=Z,436nm,0.8s						
CN2	**Changchun**	**51.47**	**24**	⇑P	**P**	**03 47 54.3**	**-0.5**
CN2				*e*pP	pP	03 48 01.8	-1.4
CN2				*e*S	**S**	**03 55 16.0**	**+2.8**
CN2				pmax	pmax		
	comp=Z,90nm,1.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
MAKZ	**Makanchi**	**51.52**	**344**	*i* P	**P**	**03 47 54.8**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,41nm,0.9s						
MAKZ	**Makanchi**	**51.52**	**344**	*e*P	**P**	**03 47 55.5**	**+0.3**
	comp=Z,48nm,0.9s						
CMSA	**Cobar Meteorol**	**51.95**	**129**	P	**P**	**03 47 59.7**	**+1.0**
	baz=52,SNR=41						
IUG	**Iuzhnay**	**51.96**	**332**	*i* P	**P**	**03 47 57.0**	**-1.7**
	comp=Z,280nm,0.9s						
IUG				*e*S	**S**	**03 55 18.0**	**-2.3**
IUG				*i* LRM	MLR	04 12 28.6	
	comp=Z,170nm,14.7s						
KK31	**Karatay Array**	**52.48**	**333**	*ce*P	**P**	**03 48 01.6**	**-0.8**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KKAR	**Karatay Array**	**52.48**	**333**	*e*P	**P**	**03 48 02.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,70nm,0.8s						
KKAR	**Karatay Array**	**52.48**	**333**	*e*P	**P**	**03 48 02.5**	**0.0**
	comp=Z,70nm,0.8s						
RMQ	**Roma**	**52.61**	**122**	P	**P**	**03 48 03.7**	**0.0**
	baz=53,SNR=5.9						
ZAK	**Zakamensk**	**52.72**	**3**	*e*P	**P**	**03 48 04.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,21nm,1.1s						
MAJO	**Matsushiro**	**52.73**	**39**	⇑*i*P	**P**	**03 48 04.3**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,184nm,1.0s						
MAJO	**Matsushiro**	**52.73**	**39**	*e*P	**P**	**03 48 03.7**	**-0.7**
	comp=Z,91nm,1.5s						
MJAR	**Matsushiro Arr**	**52.73**	**39**	P	**P**	**03 48 03.5**	**-0.9**
	comp=Z,37nm,1.1s,baz=216,slow=7.5,SNR=36						
MJB9	**Matsu-Tunnel**	**52.73**	**39**	*e*P	**P**	**03 48 03.7**	**-0.7**
	comp=Z,25nm,1.6s						
MSHR	**Mys Shultsa**	**53.01**	**29**	‖*e*P	**P**	**03 48 06.9**	**+0.6**
VLA	**Vladivostok**	**53.77**	**29**	⇑*i*P	**P**	**03 48 10.1**	**-1.7**
VLA				*e*		03 50 10.7	
VLA				*e*S	**S**	**03 55 46.5**	**+1.9**
VLA				pmax	pmax		
	comp=Z,70nm,1.2s						
MDJ	**Mudanjiang**	**53.87**	**26**	P	**P**	**03 48 12.5**	**-0.1**
MDJ				pP	pP	03 48 19.0	-2.0
MDJ				sP	sP	03 48 21.5	-2.7
MDJ				ScP	**ScP**	**03 53 14.8**	**+0.5**
MDJ				PcS	**PcS**	**03 53 17.0**	**-0.1**
MDJ				S	**S**	**03 55 47.0**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,33nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,230nm,4.2s						
MDJ				LR	LR		
	comp=Z,1μm,19.6s						
MDJ				LR	LR		
	comp=Z,1μm,20.3s						
MDJ				LR	LR		
	comp=Z,1μm,22.4s						
MDJ	**Mudanjiang**	**53.87**	**26**	*e*P	**P**	**03 48 13.2**	**+0.7**
	comp=Z,34nm,0.8s						
MOY	**Mondy**	**53.93**	**1**	*e*P	**P**	**03 48 13.8**	**+0.8**
MOY				pmax	pmax		
	comp=Z,35nm,2.2s						
TLY	**Talaya**	**54.03**	**3**	P	**P**	**03 48 14.6**	**+1.0**
	comp=Z,11nm,0.8s,baz=194,slow=4.6,SNR=8.3						
TLY	**Talaya**	**54.03**	**3**	*e*P	**P**	**03 48 14.6**	**+1.0**
TLY				*e*		03 49 15.0	
TLY				*e*PPP	PPP	03 51 19.7	
TLY				*e*S	S	03 56 00.2	+12
TLY				pmax	pmax		
	comp=Z,40nm,1.5s						
TLY				MLR	MLR		
	comp=Z,1μm,16.0s						
TLY	**Talaya**	**54.03**	**3**	*e*P	**P**	**03 48 15.1**	**+1.4**
EIDS	**Eidsvold**	**54.27**	**120**	P	**P**	**03 48 16.4**	**+0.5**
	baz=54,SNR=6.4						
EIDS	**Eidsvold**	**54.27**	**120**	*e*P	**P**	**03 48 16.4**	**+0.5**
	comp=Z,27nm,1.1s						
HIA	**Hailar**	**54.32**	**16**	*e*P	**P**	**03 48 15.7**	**-0.1**
HIA				pmax	pmax		
	comp=Z,75nm,1.3s						
HIA	**Hailar**	**54.32**	**16**	*e*P	**P**	**03 48 15.7**	**-0.1**
	comp=Z,75nm,1.3s						
IRK	**Irkutsk**	**54.62**	**3**	*e*P	**P**	**03 48 17.1**	**-0.9**
IRK				pmax	pmax		
	comp=Z,113nm,3.5s						
USRK	**Ussuriysk Ar.**	**54.63**	**28**	P	**P**	**03 48 18.4**	**+0.2**
	comp=Z,115nm,0.6s,baz=223,slow=5.8,SNR=158						
USRK				LR	LR	04 13 15.4	
	comp=Z,1μm,19.2s,baz=208,slow=38						
SEM	**Semipalatinsk**	**55.28**	**345**	*i* P	**P**	**03 48 21.1**	**-1.8**
	comp=Z,501nm,1.0s						
SEM				*i* LRM	MLR	04 15 15.7	
	comp=Z,212nm,17.5s						
CIT	**Chita**	**55.51**	**10**	*e*P	**P**	**03 48 25.6**	**+1.2**
CIT				*e*		03 48 31.6	
CIT				*e*		03 48 38.5	
CIT				pmax	pmax		
	comp=Z,128nm,1.7s						
GEYT	**Alibeck**	**55.69**	**320**	P	**P**	**03 48 25.7**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=142,slow=7.5,SNR=13						
GEYT				LR	LR	04 15 03.3	
	comp=Z,678nm,20.2s,baz=125,slow=39						
KURK	**Kurchatov**	**56.00**	**344**	P	**P**	**03 48 27.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,68nm,1.0s						
KURK	**Kurchatov**	**56.00**	**344**	*e*P	**P**	**03 48 28.0**	**+0.2**
	comp=Z,77nm,0.9s						
KURK	**Kurchatov**	**56.00**	**344**	P	**P**	**03 48 28.0**	**+0.2**
	SNR=30						
KURK	**Kurchatov**	**56.00**	**344**	P	**P**	**03 48 28.0**	**+0.2**
	SNR=30						
KURK				P	**P**	**03 48 28.0**	**+0.2**
	SNR=30						
CAN	**Canberra**	**56.03**	**132**	*e*P	**P**	**03 48 30.1**	**+1.6**
CAN				pmax	pmax		
	comp=Z,40nm,1.2s						
CAN	**Canberra**	**56.03**	**132**	*e*P	**P**	**03 48 30.1**	**+1.6**
	comp=Z,40nm,1.2s						
ZAA0	**Zalesovo Array**	**57.58**	**350**	*e*P	**P**	**03 48 39.1**	**+0.1**
ZALV	**Zalesovo Beam**	**57.58**	**350**	P	**P**	**03 48 39.1**	**+0.1**
	comp=Z,57nm,0.8s,baz=177,slow=5.6,SNR=73						
ZALV				LR	LR	04 16 02.8	
	comp=Z,502nm,18.3s,baz=176,slow=39						
ZAA1	**Zalesovo Array**	**57.59**	**350**	*e*P	**P**	**03 48 39.1**	**+0.1**
NVS	**Novosibirsk**	**58.73**	**349**	⇑*i*P	**P**	**03 48 47.2**	**+0.2**
NVS				pmax	pmax		
	comp=Z,29nm,0.8s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.4s						
RAYN	**Ar Rayn**	**58.81**	**299**	*e*P	**P**	**03 48 48.6**	**+0.3**
	comp=E,24nm,1.7s						
ASAJ	**Asahikawa**	**60.08**	**34**	LR	LR	04 15 17.0	
	comp=E,31nm,20.3s,baz=323,slow=36						
ASAJ	**Asahikawa**	**60.08**	**34**	*e*P	**P**	**03 48 57.8**	**+1.2**
	comp=E,67nm,1.4s						
HNR	**Honiara**	**60.12**	**99**	P	**P**	**03 48 56.2**	**-1.2**
	comp=E,117nm,0.9s,baz=246,slow=2.9,SNR=4.5						
BVA0	**Borovoye Array**	**60.55**	**340**	P	**P**	**03 48 58.3**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,18nm,0.8s						
BVAR	**Borovoye Array**	**60.55**	**340**	P	**P**	**03 48 59.1**	**-0.6**
	comp=Z,14nm,0.7s,baz=134,slow=8.5,SNR=51						
BRVK	**Borovoye**	**60.62**	**340**	*e*P	**P**	**03 48 59.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,23nm,0.8s						
BRVK	**Borovoye**	**60.62**	**340**	*e*P	**P**	**03 48 59.6**	**-0.5**
	comp=Z,22nm,0.8s						
BRVK	**Borovoye**	**60.62**	**340**	P	**P**	**03 48 59.3**	**-0.8**
	SNR=11						
BRVK	**Borovoye**	**60.62**	**340**	P	**P**	**03 48 59.3**	**-0.8**
	SNR=11						
BRVK				P	**P**	**03 48 59.3**	**-0.8**
	SNR=11						
BOD	**Bodaibo**	**61.15**	**9**	*e*P	**P**	**03 49 04.3**	**+0.7**
BOD				pmax	pmax		
	comp=Z,91nm,1.6s						
YSS	**Yuzh-Sakhalins**	**61.95**	**32**	⇓*i*P	**P**	**03 49 09.8**	**+0.6**
YSS				*e*		03 49 15.1	
YSS				pmax	pmax		
	comp=Z,120nm,0.7s						
YSS	**Yuzh-Sakhalins**	**61.95**	**32**	*e*P	**P**	**03 49 09.2**	**0.0**
	comp=Z,643nm,1.8s						
AB31	**Akbulak array**	**61.96**	**332**	*ce*P	**P**	**03 49 08.2**	**-1.1**
AB31				pmax	pmax		
	comp=Z,45nm,0.7s						
ABKAR	**Akbulak array**	**61.96**	**332**	*e*P	**P**	**03 49 08.7**	**-0.6**
	comp=Z,358nm,0.8s						
CLNS	**Chul'man**	**62.49**	**15**	*e*P	**P**	**03 49 13.4**	**+0.7**
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,870nm,10.0s						
CLNS				MLR	MLR		
	comp=N,862nm,10.0s						
CLNS				MLR	MLR		
	comp=E,358nm,12.0s						
KMBO	**Kilima Mbogo**	**62.56**	**270**	P	**P**	**03 49 15.9**	**+1.6**
	comp=E,0.9nm,0.3s,baz=51,slow=9.1,SNR=5.4						
KMBO				LR	LR	04 12 52.9	
	comp=E,744nm,19.6s,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**62.56**	**270**	*e*P	**P**	**03 49 15.9**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	**Kilima Mbogo**	**62.56**	**270**	*e*P	**P**	**03 49 15.9**	**+1.6**
	comp=Z,6.3nm,0.9s						
AKTO	**Aktyubinsk**	**63.68**	**332**	P	**P**	**03 49 19.9**	**-0.8**
	comp=Z,15nm,0.9s,baz=127,slow=8.0,SNR=42						
AKTO	**Aktyubinsk**	**63.68**	**332**	*i* P	**P**	**03 49 19.4**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,32nm,1.0s						
NKL	**Nikolayevsk**	**65.09**	**26**	*e*P	**P**	**03 49 30.0**	**+0.2**
NKL				pmax	pmax		
	comp=Z,30nm,0.8s						
NKL				MLR	MLR		
	comp=E,2μm,17.0s						
NKL				MLR	MLR		
	comp=Z,2μm,17.0s						
MAK	**Makhachkala**	**65.21**	**320**	*e*P	**P**	**03 49 26.3**	**-4.5**
MAK				*e*S	**S**	**03 58 07.6**	**-4.9**
MAK				*e*SSS	SSS	04 05 20.7	
MAK				pmax	pmax		
	comp=Z,250nm,1.3s						
GROC	**Groznyy**	**66.42**	**320**	*e*P	**P**	**03 49 37.1**	**-1.6**
GROC				*e*		03 50 05.8	
GROC				pmax	pmax		
	comp=Z,36nm,0.8s						
SVE	**Sverdlovsk**	**67.04**	**338**	‖*e*P	**P**	**03 49 42.0**	**-0.3**
SVE				pmax	pmax		
	comp=Z,59nm,0.9s						
DZM	**Mont Dzumac**	**67.43**	**113**	P	**P**	**03 49 45.6**	**0.0**
	comp=Z,5.0nm,0.6s,baz=270,slow=11,SNR=7.0						
ZEI	**Tsey**	**67.47**	**319**	*e*P	**P**	**03 49 44.9**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,13nm,0.6s						
ARU	**Arti**	**67.56**	**337**	*i* P	**P**	**03 49 45.1**	**-0.5**
ARU				pmax	pmax		
	comp=Z,78nm,2.5s						
ARU	**Arti**	**67.56**	**337**	*e*P	**P**	**03 49 45.0**	**-0.6**
	comp=Z,44nm,1.2s						
YAK	**Yakutsk**	**68.22**	**15**	P	**P**	**03 49 49.0**	**-0.7**
	comp=Z,39nm,0.5s,baz=1.6,slow=1.1,SNR=16						
YAK	**Yakutsk**	**68.22**	**15**	*c i*P	**P**	**03 49 48.9**	**-0.7**
YAK				*e**PP	**sP**	**03 50 02.0**	**+0.5**
YAK				*e*		03 50 14.3	
YAK				*e*		03 52 19.7	
YAK				*e*PPP	PPP	03 54 00.1	
YAK				*e*S	**S**	**03 58 47.5**	**-0.7**
YAK				*e**SS	**PnS**	**03 59 06.1**	**-7.8**
YAK				*e*		03 59 48.0	
YAK				*e*SS	**SS**	**04 03 11.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,66nm,0.7s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,18nm,0.9s						
YAK				pmax	pmax		
	comp=Z,195nm,3.8s						
YAK				pmax	pmax		
	comp=N,148nm,3.8s						
YAK				pmax	pmax		
	comp=E,80nm,3.3s						
YAK				smax	smax		
	comp=N,83nm,3.5s						
YAK				smax	smax		
	comp=E,270nm,4.0s						
YAK	**Yakutsk**	**68.22**	**15**	*e*P	**P**	**03 49 49.1**	**-0.6**
	comp=E,114nm,0.8s						
NEY	**Neytrino**	**68.45**	**319**	*c i*P	**P**	**03 49 52.5**	**+0.7**
KBZ	**Khabaz**	**68.54**	**319**	P	**P**	**03 49 52.1**	**0.0**
	comp=E,15nm,0.8s,baz=122,slow=5.4,SNR=22						
ASF	**Jabal al Asfar**	**68.72**	**306**	P	**P**	**03 49 54.8**	**+1.2**
	comp=E,4.5nm,1.0s,baz=110,slow=2.0,SNR=6.7						
KIV	**Kislovodsk**	**68.78**	**319**	*e*P	**P**	**03 49 53.8**	**+0.1**
KIV				pmax	pmax		
	comp=Z,32nm,1.0s						
KIV	**Kislovodsk**	**68.78**	**319**	*e*P	**P**	**03 49 54.1**	**+0.4**
	comp=Z,64nm,1.3s						
MAW	**Mawson**	**69.81**	**194**	P	**P**	**03 50 00.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=1.8						
MAW				LR	LR	04 13 47.9	
	comp=Z,819nm,20.9s,baz=52,slow=30						
MAW	**Mawson**	**69.81**	**194**	*e*P	**P**	**03 50 00.9**	**+1.5**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MAW	**Mawson**	**69.81**	**194**	*e*P	**P**	**03 50 00.9**	**+1.5**
	comp=Z,3.3nm,1.4s						
MMAI	**Mount Meron Ar**	**70.17**	**306**	P	**P**	**03 50 03.7**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=127,slow=6.5,SNR=5.9						
SOKR	**Solikamsk**	**70.44**	**338**	*c i*P	**P**	**03 50 01.8**	**-1.6**
SOKR				S	**S**	**03 59 08.6**	**-5.8**
SOKR				SSS	SSS	04 06 53.4	
SOKR				pmax	pmax		
	comp=Z,59nm,1.2s						
SOKR				MLR	MLR		
	comp=Z,601nm,21.0s						
SKR	**Severo-Kuril's**	**71.34**	**34**	‖*i*P	**P**	**03 50 09.6**	**+0.5**
LSZ	**Lusaka**	**71.66**	**255**	*e*P	**P**	**03 50 12.7**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,11nm,0.9s						
LSZ	**Lusaka**	**71.66**	**255**	*e*P	**P**	**03 50 12.7**	**+0.8**
	comp=Z,11nm,0.9s						
NRIK	**Noril'sk**	**72.14**	**355**	P	**P**	**03 50 13.1**	**-0.5**
	comp=Z,10.0nm,0.6s,baz=165,slow=3.8,SNR=11						
NRIK				LR	LR	04 25 41.8	
	comp

comp=Z,42nm,0.7s
LPSR Galich'ya Gora 74.78 326 *e*P P 03 50 28.6 -0.8
LPSR pmax pmax
comp=Z,40nm,0.9s
SIM Simferopol' 74.83 318 *e*P P 03 50 30.3 +0.4
SIM *e*S SKiKP 03 59 59.0 +5.8
SIM pmax pmax
comp=Z,21nm,0.8s
BOSA Boshof 75.30 241 P **P 03 50 34.4 +1.3**
comp=Z,3.7nm,0.9s,baz=94,slow=6.9,SNR=3.9
BOSA LR LR 04 20 09.2
comp=Z,1μm,18.0s,baz=73,slow=33
TIXI Tiksi 76.33 9*c* *i*P P 03 50 37.1 -0.8
TIXI pmax pmax
comp=Z,82nm,1.7s
TIXI Tiksi 76.33 9 *e*P P 03 50 36.7 -1.2
comp=Z,156nm,1.6s
MOS Moscow 76.80 329 *e*P P 03 50 40.0 -0.9
MOS *e* 03 50 48.3
MOS pmax pmax
comp=Z,122nm,1.5s
OBN Obninsk 77.09 328*c*e*P P 03 50 42.5 0.0
OBN *e* 03 53 33.9
OBN *i* S **S 04 00 25.7 -3.9**
OBN pmax pmax
comp=Z,95nm,1.7s
OBN MLR MLR
comp=Z,624nm,24.0s
OBN Obninsk 77.09 328 *e*P P 03 50 42.0 -0.6
comp=Z,217nm,1.8s
SYO Syowa Base 77.39 199⇓*e*pP pP 03 50 52.7 0.0
SYO Syowa Base 77.39 199⇓*e*sP sP 03 50 54.6 -1.3
BKZ Black Stump Fm 78.11 129 *e*P P 03 50 49.5 +0.8
comp=Z,67nm,1.2s
KLMR Klimovskoe 78.17 334 *e*P P 03 50 46.1 -2.3
KLMR *e* 03 50 55.2
KLMR pmax pmax
comp=Z,49nm,1.4s
URZ Urewera 78.49 128 P **P 03 50 50.6 -0.1**
comp=Z,7.5nm,0.6s,baz=281,slow=2.8,SNR=8.0
CFR Carcaliu 78.94 317⇑*i*P P 03 50 52.3 -0.8
CFR Carcaliu 78.94 317⇑*e*P P 03 50 52.3 -0.8
KIS Kishinev 78.97 319 *e*P P 03 51 02.0 +8.8
KIS Kishinev 78.97 319 *e*PP PP 03 54 02.0 +10
KIS *e*S **S 04 00 48.0 -2.2**
KIS Kishinev 78.97 319 *e*P P 03 51 02.0 +8.8
KIS *e* 03 51 08.0
KIS *e*S **S 04 00 48.0 -2.2**
AKASG Malin Array Be 79.74 322 P **P 03 50 56.4 -0.9**
comp=Z,1.8nm,0.7s,baz=84,slow=5.3,SNR=14
AKBB Malin Array Si 79.74 322 *e*P P 03 50 56.4 -0.9
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 79.74 322 *e*P P 03 50 56.4 -0.9
comp=Z,10.0nm,0.7s
KIEV Kiev 79.75 322⇓*i*P P 03 50 56.6 -0.7
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 79.75 322 *e*P P 03 50 55.7 -1.6
comp=Z,11nm,0.8s
KIEV *e*pP **PcP 03 51 04.6 -0.4**
ISR Istrita 80.02 316⇓*i*P P 03 51 06.5 +7.5
ISR Istrita 80.02 316⇓P P 03 51 06.5 +7.5
VRI Vrincioaia 80.07 317⇑*i*P P 03 50 59.8 +0.5
VRI Vrincioaia 80.07 317⇑P P 03 50 59.8 +0.5
PLOR Plostina 80.12 317⇓*i*P P 03 51 00.3 +0.7
PLOR Plostina 80.12 317⇓P P 03 51 00.3 +0.7
TESR Tescani 80.28 318⇓*i*P P 03 51 00.7 +0.3
TMCR Tamitsa 80.29 337 *e*P P 03 50 57.4 -2.6
TMCR pmax pmax
comp=Z,38nm,0.6s
MLR Muntele Rosu 80.52 317⇓*i*P P 03 51 02.8 +1.0
MLR Muntele Rosu 80.52 317 *e*P P 03 51 01.9 +0.1
MLR pmax pmax
comp=Z,84nm,1.7s
MLR Muntele Rosu 80.52 317 *e*P P 03 51 01.9 +0.1
comp=Z,84nm,1.7s
PRAR RASCA 80.77 319⇑*i*P P 03 51 03.2 +0.2
DOPR Dopca 81.01 317⇓*i*P P 03 51 04.6 +0.3
VOIR 81.12 317⇓*i*P P 03 51 13.5 +8.5
VOIR 81.12 317⇓P P 03 51 13.5 +8.5
ARR Arges 81.39 316⇓*i*P P 03 51 06.4 0.0
BURAR Bucovina Array 81.49 319⇑*i*P P 03 51 07.9 +1.0
BURAR Bucovina Array 81.49 319⇑P P 03 51 07.9 +1.0
BUR08 Bucovina Ar. S 81.51 319 *e*P P 03 51 08.0 +1.0
VNDA Vanda 81.75 169 P **P 03 51 08.4 +0.8**
comp=Z,0.4nm,0.3s,baz=295,slow=9.8,SNR=9.2
VNDA LR LR 04 24 41.8
comp=Z,339nm,19.9s,baz=316,slow=34
VNDA Vanda 81.75 169 *e*P P 03 51 10.6 +3.0
VNDA pmax pmax
comp=Z,42nm,1.9s
VNDA Vanda 81.75 169 *e*P P 03 51 10.6 +3.0
comp=Z,42nm,1.9s
VTS Vitosha 81.84 313⇑*i*P P 03 51 08.6 -0.3
VTS Vitosha 81.84 313 *e*P P 03 51 08.0 -1.0
VTS pmax pmax
comp=Z,12nm,0.8s
VTS Vitosha 81.84 313 *e*P P 03 51 08.0 -1.0
comp=Z,12nm,0.8s
NACGM Naroch 82.33 326 *e* P 03 51 11.0 0.0
NACGM *e*LR LR 04 32 49.0
LVV L'vov 82.75 321 *e*P P 03 51 15.3 +2.0
SBA Scott Base 82.84 169 *e*P P 03 51 13.1 -0.2
SBA pmax pmax
comp=Z,55nm,1.7s
SBA Scott Base 82.84 169 *e*P P 03 51 13.1 -0.2
comp=Z,55nm,1.7s
DRGR 82.99 318⇓*i*P P 03 51 15.6 +0.8
DRGR 82.99 318⇓P P 03 51 15.6 +0.8
MDVR Moldovita 83.31 315⇓*i*P P 03 51 02.7 -14
VSU Vasula 83.31 330⇓*i*P P 03 51 16.8 +0.8
VSU *i* *PP **pP 03 51 24.3 -0.5**
VSU pmax pmax
comp=Z,69nm,1.2s
APA Apatity 83.45 339⇓*i*P P 03 51 15.3 -1.3
APA MLR MLR
comp=Z,1μm,19.0s
BZS Buzias 83.52 316⇓*i*P P 03 51 17.9 +0.5
BZS Buzias 83.52 316⇓P P 03 51 17.9 +0.5
KWP Kalwaria Pacla 83.55 320 *e*P P 03 51 18.3 +0.8
KWP Kalwaria Pacla 83.55 320 *e*P P 03 51 18.3 +0.8
SIRR Siria 83.61 317⇑*i*P P 03 51 12.7 -5.2
UZH Uzhgorod 83.62 319 *e*P P 03 51 18.4 +0.6
UZH *i* 03 51 26.2
UZH *e* 03 51 33.0
BILL Bilibino 83.64 20⇓*e*P P 03 51 17.0 -0.5
BILL *e* 03 54 27.6
BILL *e*PPP PPP 03 56 23.3
BILL pmax pmax
comp=Z,6.0nm,1.1s
SUW Suwalki 84.16 325 *e*P P 03 51 20.2 -0.3
SUW Suwalki 84.16 325 *e*P P 03 51 20.2 -0.3
CRVS Cervenica-Dubn 84.21 319 *e*P P 03 51 21.0 +0.1
CRVS *e* 03 51 29.6
CRVS Cervenica-Dubn 84.21 319 *e*P P 03 51 21.0 +0.1
CRVS *e* 03 51 29.6
FIA1 FINESS Array S 84.44 332 *e*P P 03 51 22.4 +0.7
comp=Z,74nm,1.8s
FIA0 FINESS Array S 84.44 332 *e*P P 03 51 22.0 +0.3
FIA0 FINESS Array S 84.44 332 *e*P P 03 51 22.0 +0.3
FINES FINESS Array B 84.44 332 P **P 03 51 22.0 +0.3**
comp=Z,8.7nm,0.7s,baz=106,slow=5.5,SNR=30
FINES LR LR 04 33 18.9
comp=Z,306nm,19.7s,baz=102,slow=39
STHS Stebnicka Huta 84.44 320 *e*P P 03 51 22.9 +0.8
STHS *e* 03 51 32.1
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 84.44 320 *e*P P 03 51 22.9 +0.8
STHS *e* 03 51 32.1
PDG Podgorica 84.70 313⇑*i*P P 03 51 23.0 -0.4
KECS Kecovo 84.78 319 *e*P P 03 51 24.0 +0.3
KECS *e* 03 51 32.6
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 84.78 319 *e*P P 03 51 24.0 +0.3
KECS *e* 03 51 32.6
NIE Niedzica 85.05 320 *e*P P 03 51 26.0 +0.8
NIE Niedzica 85.05 320 *e*P P 03 51 26.0 +0.8
PSZ Piszkesteto 85.07 318⇑*i*P P 03 51 20.9 -4.5
PSZ Piszkesteto 85.07 318 *e*P P 03 51 25.6 +0.3
PSZ pmax pmax
comp=Z,28nm,1.4s
PSZ Piszkesteto 85.07 318 *e*P P 03 51 25.6 +0.3
comp=Z,28nm,1.4s
BEL Belsk 85.16 322 *e*P P 03 51 35.4 +10
BEL Belsk 85.16 322 *e*P P 03 51 35.4 +10
OJC Ojcow 85.50 321 *e*P P 03 51 28.1 +0.7
OJC Ojcow 85.50 321 *e*P P 03 51 28.0 +0.7
OJC pmax pmax
comp=Z,19nm,1.1s
OJC Ojcow 85.50 321 *e*P P 03 51 28.0 +0.7
comp=Z,18nm,1.1s
VYHS Vyhne 85.86 319 *e*P P 03 51 29.0 -0.2
VYHS *e* 03 51 40.2
VYHS pmax pmax
comp=Z,12nm,1.6s
VYHS Vyhne 85.86 319 *e*P P 03 51 29.0 -0.2
VYHS *e* 03 51 40.2
OKC Ostrava-Krasne 86.50 320 *e*P P 03 51 32.6 +0.3
OKC *e*SKS **S 04 02 06.2 -0.8**
OKC Ostrava-Krasne 86.50 320 *e*P P 03 51 32.6 +0.3
OKC *e* 04 02 06.2
ARA0 ARCESS Array S 86.84 340 *e*P P 03 51 34.1 +0.5
ARCES ARCESS Array B 86.84 340 P **P 03 51 34.1 +0.5**
comp=Z,10nm,0.7s,baz=101,slow=5.1,SNR=23
ARCES LR LR 04 35 17.0
comp=Z,589nm,20.1s,baz=110,slow=39
MORC Moravsky Berou 86.88 320⇑*i*P P 03 51 34.9 +0.7
MORC Moravsky Berou 86.88 320 *e*P P 03 51 35.1 +0.9
MORC pmax pmax
comp=Z,225nm,1.9s
MORC Moravsky Berou 86.88 320 *e*P P 03 51 35.1 +0.9
comp=Z,225nm,1.9s
NVL N'lazarevskaya 87.04 199 *e*P P 03 51 43.5 +9.0
KRLC Kraliky 87.41 320 *e*P P 03 51 37.9 +1.2
KRLC Kraliky 87.41 320 *e*P P 03 51 37.9 +1.2
QSPA South Pole Qui 87.51 180 *e*P P 03 51 36.1 -0.9
comp=Z,42nm,1.0s
DPC Dobruska-Polom 87.73 320 *e*P P 03 51 39.4 +1.1
DPC *e*pP **pP 03 51 48.1 +1.0**
DPC Dobruska-Polom 87.73 320 *e*P P 03 51 39.4 +1.1
DPC *e* 03 51 48.1
KSP Ksiaz 87.81 321 *e*P P 03 51 39.9 +1.3
KSP Ksiaz 87.81 321 *e*P P 03 51 39.9 +1.3
ARSA Arzberg 87.92 317 *i* P P 03 51 39.4 +0.2
comp=Z,28nm,2.0s
BOJS Bojanci 87.94 316 *i* P P 03 51 39.2 -0.1
BOJS *i* 03 51 48.0
UPC Upice 87.94 321 *e*P P 03 51 40.4 +1.1
UPC *e*pP **pP 03 51 48.2 +0.1**
UPC *e*S **S 04 02 25.4 +4.5**
UPC Upice 87.94 321 *e*P P 03 51 40.4 +1.1
UPC *e* 03 51 48.2
UPC *e* 04 02 25.4
UPC *e* 04 57 08.7
PERS Pernice 88.14 317 *e*P P 03 51 40.7 +0.4
PERS *e* 03 51 50.7
TREC Trest 88.15 319 *e*P P 03 51 41.0 +0.7
TREC *e*pP **pP 03 51 49.9 +0.7**
TREC Trest 88.15 319 *e*P P 03 51 41.0 +0.7
TREC *e* 03 51 49.9
SOKA Soboth 88.20 317 *i* P P 03 51 41.7 +1.1
comp=Z,16nm,1.4s
VISS Visnje 88.25 316 *i* P P 03 51 41.5 +0.7
VISS *i* 03 51 48.2
OBKA Obir 88.52 316 *e*pP pP 03 51 47.1 -4.0
comp=Z,28nm,1.9s
GOPC GO Pecny, Ondr 88.67 320 *e*S S 04 02 27.3 -0.5
GOPC AMS AMS 04 42 20.0
comp=Z,400nm,22.9s
MOA Molln 88.83 318 *i* P P 03 51 43.6 +0.1
comp=Z,9.0nm,1.5s
PRU Pruhonice 88.83 320 *e*P P 03 51 44.1 +0.6
PRU *e*pP **pP 03 51 53.1 +0.8**
PRU *e*S **S 04 02 27.1 -2.2**
PRU AMS AMS 04 42 20.0
comp=Z,400nm,19.6s
PRU Pruhonice 88.83 320 *e*P P 03 51 44.1 +0.6
PRU *e* 03 51 53.1
PRU *e* 04 02 27.1
PRU MLR MLR
comp=Z,400nm,19.6s
PRU smax smax
comp=N,7.0nm,0.4s
PVCC Panska Ves 88.86 320 *e*P P 03 51 44.3 +0.7
PVCC *e*pP **pP 03 51 53.4 +1.0**
PVCC Panska Ves 88.86 320 *e*P P 03 51 44.3 +0.7
PVCC *e* 03 51 53.4
MYKA Terra Mystica 89.15 317 *i* P P 03 51 45.7 +0.6
comp=N,22nm,1.6s
GEC2 GERESS Array S 89.28 319 *e*P P 03 51 46.7 +0.9
GEC2 pmax pmax
comp=Z,47nm,1.6s
GEC2 GERESS Array S 89.28 319 *e*P P 03 51 46.6 +0.9
comp=Z,47nm,1.6s
GERES GERESS Array B 89.28 319 P **P 03 51 46.5 +0.8**
comp=Z,3.6nm,0.8s,baz=90,slow=4.7,SNR=25
BRG Berggiesshubel 89.29 321 *e*P P 03 51 46.3 +0.7
comp=Z,49nm,1.9s
BRG *i* 03 51 55.6
comp=Z,75nm,2.1s
BRG Berggiesshubel 89.29 321 *e*P P 03 51 46.3 +0.7
BRG *i* 03 51 55.7
BRG pmax pmax
comp=Z,49nm,1.9s
BRG pmax pmax
comp=Z,75nm,2.1s
KHC Kasperske Hory 89.39 319 *e*P P 03 51 46.5 +0.4
KHC *e*pP **pP 03 51 55.6 +0.6**
KHC *e*S **S 04 02 33.7 -0.9**
KHC Kasperske Hory 89.39 319 *e*P P 03 51 46.5 +0.4
KHC *e* 03 51 55.6
KHC *e* 04 02 33.7
KHC *e* 04 57 11.4
KHC Kasperske Hory 89.39 319 *e*P P 03 51 46.1 0.0
comp=Z,3.2nm,1.1s
KBA Koelnbreinsper 89.39 317 *i* P P 03 51 45.0 -1.4
comp=Z,7.8nm,1.1s
CLL Collm 89.91 321 *e*P P 03 51 48.0 -0.5
CLL *i* 03 51 57.7
CLL *e*S S 04 02 30.0 -9.3
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL MLR MLR
comp=Z,200nm,21.2s
CLL Collm 89.91 321 *e*P P 03 51 48.0 -0.5
comp=Z,7.0nm,0.9s
CLL *i* 03 51 57.7
comp=Z,71nm,2.3s
CLL *e*PP PP 03 55 30.0 +8.6
CLL *e*S **S 04 02 41.0 +1.7**
CLL *e*PS **PS 04 04 00.0 +11**
CLL *e*PPS PPS 04 04 15.0
CLL *e*SSS 04 15 28.0
CLL LmV 04 41 00.0
comp=Z,200nm,21.2s
ABTA Abfaltersbach 89.93 317 *i* P P 03 51 48.7 -0.1
comp=Z,9.2nm,1.1s
NKC Novy Kostel 90.19 320 *e*P P 03 51 51.1 +1.2
NKC Novy Kostel 90.19 320 *e*P P 03 51 51.1 +1.2
WTTA Wattenberg 90.56 317 *i* P P 03 51 51.6 -0.3
comp=Z,11nm,1.0s
WATA Walderalm 90.61 317 *i* P P 03 51 50.3 -1.7
comp=Z,4.6nm,0.7s
MOTA Moosalm 90.93 317 *i* P P 03 51 53.3 -0.3
comp=Z,6.8nm,0.8s
RETA Reutte 91.17 317 *i* P P 03 51 54.6 +0.1
comp=Z,12nm,0.8s
FETA Feichten 91.17 317 *i* P P 03 51 54.5 -0.2
comp=Z,11nm,1.4s
NB2 NORSAR Subarra 91.46 331 P **P 03 51 55.3 -0.2**
comp=Z,1.5nm,0.7s,baz=94,slow=4.6
NB200 NORSAR Array S 91.46 331 *e*P P 03 51 55.5 0.0
NOA NORSAR Array B 91.46 331 P **P 03 51 55.5 0.0**
comp=Z,2.9nm,0.8s,baz=94,slow=4.6,SNR=6.0
NOA LR LR 04 37 27.6
comp=Z,294nm,19.2s,baz=85,slow=38
FUORN Ofenpass-Fuorn 91.47 316 *e*P P 03 51 56.9 +0.7
comp=Z,23nm,1.1s
SNAA Sanae 91.66 198⇑P P 03 51 58.1 +1.8
SNAA Sanae 91.66 198 *e*P P 03 51 58.7 +2.4
comp=Z,27nm,2.0s
DAVA Damuels 91.76 317 *i* PcP P 03 51 58.2 +0.8
comp=Z,15nm,1.0s
KEST Kesra 91.82 306 P **P 03 51 59.8 +1.9**
comp=Z,13nm,0.9s,baz=33,slow=1.6,SNR=9.2
KEST Kesra 91.82 306 *e*P P 03 51 59.8 +1.9
comp=Z,26nm,1.0s
TORD Torodi Ar. Bea 98.48 283 LR LR 04 35 12.5
comp=Z,384nm,19.2s,baz=80,slow=34
ILAR Eielson Array 101.98 24 PP PP 03 56 50.5 -3.8
comp=Z,1.9nm,1.0s,baz=284,slow=7.5,SNR=6.1
ILB Eielson Array 101.98 24 *e*PP PP 03 56 50.5 -3.8
TBI Tubuai 107.93 115 *e*SS SS 04 12 49.4 -1.6
comp=Z,299nm,27.8s
TBI Tubuai 107.93 115 *e*LR LR 04 28 59.6
comp=Z,490nm,28.2s
PPT2 Papeete2 108.80 109 *e*PP PP 03 57 33.4 -13
comp=Z,56nm,26.8s
PPT2 *e*Sdif Sdif 04 05 24.5 +2.1
comp=Z,248nm,26.5s
PPT2 Papeete2 108.80 109 *e*LR LR 04 29 04.4
comp=Z,535nm,23.8s
TAOE Nuku Hiva Isla 119.17 101 *e*LR LR 04 34 07.7
comp=Z,455nm,23.5s
B05A Bryant 121.89 32 P **PKPdf 03 57 43.7 0.0**
baz=308
G03D McMinnville, O 123.08 35 P **PKPdf 03 57 45.7 -0.4**
baz=305
LTY Liberty 123.27 32 *e*PKPdf PKPdf 03 57 47.5 +1.0
I03D Drain, OR 123.89 37 P **PKPdf 03 57 47.3 -0.4**
baz=304
HAWA Hanford 124.42 32 *e*PKPdf PKPdf 03 57 49.6 +0.9
E08A Dider Farm, El 124.61 32 *e*PKPdf PKPdf 03 57 50.0 +1.1
J04D Umpqua Nationa 124.90 37 P **PKPdf 03 57 49.9 0.0**
baz=306
J05D Fort Rock, OR 125.39 36 P **PKPdf 03 57 50.3 -0.5**
baz=306
M02C Callahan 125.49 39 P **PKPdf 03 57 51.4 +0.4**
baz=304
M04C Macdoel 125.90 38 P **PKPdf 03 57 51.9 +0.1**
baz=305
SWMT Swartz Lake 126.43 28 *e*PKPdf PKPdf 03 57 53.2 +0.5
MOD Modoc Plateau 126.76 37 *e*PKPdf PKPdf 03 57 54.2 +0.8
O03D Paynes Creek 126.76 39 P **PKPdf 03 57 53.1 -0.4**
baz=304
MSO Missoula 126.95 29 P **PKPdf 03 57 53.8 +0.1**
baz=316
MSO Missoula 126.95 29 *e*PKPdf PKPdf 03 57 53.6 0.0
CHMT Chamberlain Mo 127.22 28 *e*PKPdf PKPdf 03 57 54.9 +0.6
EGMT Eagleton 127.93 25 P **PKPdf 03 57 55.5 +0.1**
baz=321
EGMT Eagleton 127.93 25 *e*PKPdf PKPdf 03 57 56.0 +0.6
AFDM Forest Hills D 128.05 40 *e*PKPdf PKPdf 03 57 55.6 -0.2
MFID Camas Ranch 128.36 33 *e*PKPdf PKPdf 03 57 57.4 +1.0
DLMT Dillon 128.66 29 *e*PKPdf PKPdf 03 57 57.9 +0.9
BOZ Bozeman (W) 128.95 28 P **PKPdf 03 57 58.1 +0.6**
baz=318
BOZ Bozeman (W) 128.95 28 *e*PKIKP PKPdf 03 57 58.8 +1.2
BOZ Bozeman (W) 128.95 28 *e*PKPdf PKPdf 03 57 58.8 +1.2
HLID Hailey 129.02 32 P **PKPdf 03 57 58.4 +0.7**
baz=314
HLID Hailey 129.02 32 *e*PKPdf PKPdf 03 57 59.5 +1.7
DGMT Dagmar 129.72 21 P **PKPdf 03 57 59.5 +0.7**
baz=328
YHH Holmes Hill 129.92 28 *e*PKPdf PKPdf 03 58 01.8 +2.2
YMR Madison River 129.95 28 *e*PKPdf PKPdf 03 58 01.9 +2.3
LAO LASA Array 130.44 23 P **PKPdf 03 58 01.1 +0.9**
baz=325
LAO LASA Array 130.44 23 *e*PKPdf PKPdf 03 58 02.4 +2.2
ULM Lac du Bonnet 130.55 13 PKP **PKPdf 03 57 59.8 -0.5**
comp=Z,2.6nm,0.6s,baz=327,slow=9.4,SNR=5.9
TPAW Teton Pass 130.83 29 *e*PKPdf PKPdf 03 58 02.9 +1.6
LOHW Long Hollow 130.91 29 *e*PKPdf PKPdf 03 58 03.0 +1.6
REDW Red Top Meadow 130.97 30 *e*PKPdf PKPdf 03 58 02.4 +0.8
PKM Mcpherson Peak 131.04 44 P **PKPdf 03 58 02.8 +0.9**
baz=302
BGU Big Grassy Mou 131.58 33 *e*PKPpre PKPpre 03 57 48.9
R11A Troy Canyon, C 131.79 38 P **PKPdf 03 58 04.3 +1.1**
baz=309
R11A Troy Canyon, C 131.79 38 *e*PKPdf PKPdf 03 58 04.5 +1.3
OSI Osito Audit: C 131.94 44 P **PKPdf 03 58 03.6 +0.2**
baz=303
BW06 Boulder Array 132.05 29 P **PKPdf 03 58 03.6 0.0**
baz=319
PD31 Pinedale Array 132.05 29 *e*PKPdf PKPdf 03 58 04.4 +0.8
PDAR Pinedale Array 132.05 29 PKP **PKPdf 03 58 04.4 +0.8**
comp=Z,0.6nm,0.6s,baz=190,slow=2.6,SNR=5.7
B32A Ashes, Strandq 132.11 15 P **PKPdf 03 58 04.4 +1.1**
baz=338
DUG Dugway, Tooele 132.20 34 P **PKPdf 03 58 04.7 +0.8**
baz=313
DUG Dugway, Tooele 132.20 34 *e*PKIKP PKPdf 03 58 06.0 +2.1
DUG Dugway, Tooele 132.20 34 *e*PKPdf PKPdf 03 58 06.0 +2.1
C31A Landman Farms, 132.35 16 P **PKPdf 03 58 04.3 +0.6**
baz=336
B34A Aery, Baudette 132.48 13 P **PKPdf 03 58 04.1 +0.1**
baz=340
GSC Goldstone, Bar 132.86 42 P **PKPdf 03 58 05.6 +0.4**
baz=306
GSC Goldstone, Bar 132.86 42 *e*PKIKP PKPdf 03 58 06.6 +1.4
GSC Goldstone, Bar 132.86 42 *e*PKPdf PKPdf 03 58 06.6 +1.4
D31A Mcclaflin, Tow 133.03 16 P **PKPdf 03 58 05.0 -0.1**
baz=336
RSSD Black Hills 133.43 24 P **PKPdf 03 58 05.8 -0.3**
baz=326
C36A Pine Crest Far 133.56 12 P **PKPdf 03 58 06.5 +0.4**
baz=342
MSU Marysvale 133.71 35 *e*PKIKP PKPdf 03 58 09.3 +2.4
MSU Marysvale 133.71 35 *e*PKPdf PKPdf 03 58 09.3 +2.4
GMRC Granite Mounta 133.92 42 P **PKPdf 03 58 07.8 +0.5**
baz=306
D35A Remer 133.94 13 P **PKPdf 03 58 07.2 +0.4**
baz=340
P18A Preston Nutter 134.00 33 *e*PKPdf PKPdf 03 58 08.9 +1.4
C40A Isle Royale Na 134.05 8 P **PKPdf 03 58 07.6 +0.7**
baz=347
O20A White River Ci 134.68 30 P **PKPdf 03 58 09.2 +0.6**
baz=319
O20A White River Ci 134.68 30 *e*PKPdf PKPdf 03 58 10.5 +1.9
W13A Hualapai Mount 134.89 40 *e*PKPdf PKPdf 03 58 11.8 +2.6
D41A Chassel 134.97 8 P **PKPdf 03 58 09.3 +0.7**
baz=348
F36A Milaca 135.21 13 P **PKPdf 03 58 09.4 +0.2**
baz=341
E39A Mellen 135.32 10 P **PKPdf 03 58 09.7 +0.4**
baz=345
H33A Prehn Over Nor 135.47 17 P **PKPdf 03 58 10.2 +0.5**
baz=336
F39A Loretta 135.70 11 P **PKPdf 03 58 10.5 +0.5**
baz=344
F40A Park Falls 135.84 10 P **PKPdf 03 58 10.7 +0.3**
baz=346
ECSD EROS Data Cent 136.38 17 *e*PKPdf PKPdf 03 58 12.0 +0.6
W18A Petrified Fore 137.45 37 P **PKPdf 03 58 14.7 +0.8**
baz=313
W18A Petrified Fore 137.45 37 *e*PKPdf PKPdf 03 58 15.5 +1.6
TUC Tucson 138.65 41 P **PKPdf 03 58 16.1 +0.1**
baz=310
ANMO Albuquerque 139.47 34⇑*i*PKIKP PKPpre 03 58 11.7
ANMO pmax pmax
comp=Z,9.0nm,2.5s
ANMO Albuquerque 139.47 34 *e*PKPdf PKPdf 03 58 18.9 +1.2
KSU1 Kansas State U 140.56 20 P **PKPdf 03 58 20.6 +1.4**
baz=334
T34A McClaskey Farm 142.19 22 P PKPpre 03 58 17.2
baz=331
MSTX Muleshoe 142.20 31 *e*PKPdf PKPdf 03 58 23.2 +0.7
Q41A Truxton 142.29 14 P PKPpre 03 58 17.8
baz=342
MNTX Cornudas Mount 142.44 37 *e*PKPdf PKPdf 03 58 21.1 -1.7
T35A Sooner Cattle 142.54 22 P PKPpre 03 58 18.2
baz=332
T36A Boggs Farm, Ca 142.64 21 P PKPpre 03 58 18.6
baz=333
R41A Rosebud 142.88 15 P PKPpre 03 58 18.9
baz=341
S39A Bolivar 142.91 17 P PKPpre 03 58 18.6
baz=338
T37A Cheneyville 18 142.92 20 P PKPpre 03 58 19.0
baz=335
U35A Pawnee 142.94 22 P PKPpre 03 58 18.8
baz=332
R42A Luebbering 143.04 14 P PKPpre 03 58 18.8
baz=342,SNR=5.5
T38A Diamond 143.21 19 P PKPab 03 58 19.6 0.0
baz=336
S40A Lebanon 143.23 16 P PKPab 03 58 19.4 -0.3
baz=339
R43A Red Bud 143.24 13 P PKPab 03 58 20.0 +0.3
baz=343

U36A	Oologah baz=333	143.29	21	P	PKPab	03 58 20.0	0.0
V35A	Meyer Ranch, C baz=331	143.43	23	P	PKPab	03 58 20.1	-0.4
S41A	Jillco Farms, baz=340,SNR=8.2	143.45	16	P	PKPab	03 58 19.9	-0.7
R44A	Waltonville baz=345	143.45	12	P	PKPab	03 58 19.9	-0.6
U37A	Salina baz=334	143.50	20	P	PKPab	03 58 20.2	-0.6
WMOK	Wichita Mounta baz=328,SNR=11	143.50	26	P	PKPab	03 58 20.4	-0.5
WMOK	Wichita Mounta	143.50	26	*e*PKIKP	PKPab	03 58 21.2	+0.3
WMOK	Wichita Mounta	143.50	26	*e*PKPpre	PKPab	03 58 21.2	+0.3
T39A	Clever baz=337	143.51	18	P	PKPab	03 58 20.4	-0.5
S42A	Caledonia baz=342	143.52	14	P	PKPab	03 58 20.3	-0.6
T40A	Mansfield baz=339	143.65	17	P	PKPab	03 58 20.6	-0.8
TUL1	Leonard baz=333,SNR=8.6	143.70	22	P	PKPab	03 58 21.2	-0.4
TUL1	Leonard	143.70	22	*e*PKPpre	PKPpre	03 58 22.3	
U38A	Gravette baz=335,SNR=9.1	143.72	20	P	PKPab	03 58 21.2	-0.4
V36A	Jenks baz=333,SNR=6.9	143.75	22	P	PKPab	03 58 21.7	-0.1
CPUP	Villa Florida comp=Z,1.6nm,0.6s,baz=165,slow=2.3,SNR=6.5	143.86	216	PKhKP	PKPpre	03 58 23.6	
S43A	Fulton Ridge, baz=343	143.88	13	P	PKPab	03 58 21.8	-0.5
S44A	Carbondale baz=344	143.95	12	P	PKPab	03 58 22.0	-0.4
W35A	Tecumseh baz=331,SNR=6.6	143.95	24	P	PKPab	03 58 22.1	-0.4
WCI	Wyandotte Cave	143.96	8	*e*PKIKP	PKPab	03 58 22.1	-0.4
WCI	Wyandotte Cave	143.96	8	*e*PKPpre	PKPab	03 58 22.1	-0.4
T41A	Mountain View baz=340	143.96	16	P	PKPab	03 58 22.0	-0.5
V37A	Hulbert baz=334,SNR=11	143.96	21	P	PKPab	03 58 21.8	-0.8
U39A	Green Forest baz=337,SNR=8.6	144.07	18	P	**PKPab**	**03 58 22.2**	**-0.8**
S45A	Carrier Mills baz=345	144.10	11	P	**PKPab**	**03 58 22.9**	**-0.1**
W36A	Wetumka baz=332,SNR=9.9	144.22	23	P	**PKPab**	**03 58 23.3**	**-0.2**
V38A	Canehill baz=335,SNR=13	144.24	20	P	**PKPab**	**03 58 22.8**	**-0.9**
U40A	Yellville baz=338,SNR=10.0	144.28	18	P	**PKPab**	**03 58 23.2**	**-0.6**
SLBS	Sierra La Lagu	144.29	51	*e*PKPdf	**PKPdf**	**03 58 25.9**	**-0.5**
T43A	Greenville baz=342	144.30	14	P	**PKPab**	**03 58 23.0**	**-0.8**
T44A	Benton baz=344	144.46	13	P	**PKPab**	**03 58 23.9**	**-0.5**
IP04	Greensprings	144.48	357	*e*PKPdf	PKPbc	03 58 24.9	+0.2
CVRD	Centerville Ro	144.49	357	*e*PKPdf	PKPbc	03 58 24.8	+0.1
V39A	Pettigrew baz=336,SNR=27	144.51	19	P	**PKPab**	**03 58 23.9**	**-0.9**
W37B	Quinton baz=333,SNR=25	144.52	22	P	**PKPab**	**03 58 24.5**	**-0.2**
IP03	Louisa	144.55	357	*e*PKPdf	PKPbc	03 58 24.9	0.0
PBMO	Poplar Bluff	144.56	14	*e*PKPdf	**PKPab**	**03 58 24.4**	**-0.3**
X35A	Drake baz=330,SNR=41	144.56	24	P	**PKPab**	**03 58 24.2**	**-0.7**
U41A	Viola baz=339,SNR=12	144.57	16	P	**PKPab**	**03 58 24.3**	**-0.5**
IP01	Cuckoo	144.61	357	*e*PKPdf	PKPbc	03 58 25.1	+0.1
IP06	Yanceyville	144.63	357	*e*PKPdf	PKPbc	03 58 25.2	0.0
IP07	Quail	144.65	357	*e*PKPdf	PKPbc	03 58 25.2	0.0
X36A	Centrahoma baz=331,SNR=31	144.67	23	P	**PKPab**	**03 58 24.9**	**-0.4**
IP05	Hopewell Churc	144.73	357	*e*PKPdf	PKPbc	03 58 25.6	+0.2
U42A	Revenden baz=340,SNR=18	144.75	16	P	**PKPab**	**03 58 24.5**	**-1.0**
V40A	Witts Springs baz=338,SNR=25	144.80	18	P	**PKPab**	**03 58 24.9**	**-0.8**
ABTX	Abilene, Hawle baz=325,SNR=6.2	144.85	29	P	**PKPab**	**03 58 25.7**	**-0.3**
ABTX	Abilene, Hawle	144.85	29	*e*PKPdf	PKPbc	03 58 26.5	+0.4
JSRW	J. Sargeant Re	144.87	357	*e*PKPdf	**PKPab**	**03 58 25.6**	**-0.2**
W38A	Poteau baz=334,SNR=20	144.91	21	P	**PKPab**	**03 58 25.5**	**-0.6**
U43A	Rector baz=342	144.95	14	P	**PKPab**	**03 58 25.5**	**-0.6**
Y35A	Marietta baz=330,SNR=14	144.96	25	P	**PKPab**	**03 58 25.7**	**-0.6**
URVA	University of	144.97	356	*e*PKPbc	PKPbc	03 58 26.5	+0.3
U44A	Portageville baz=343	144.99	13	P	**PKPab**	**03 58 25.7**	**-0.7**
V41A	Mountainview baz=339,SNR=62	145.02	17	P	**PKPbc**	**03 58 25.8**	**-0.7**
X37A	Clayton baz=333,SNR=23	145.03	22	P	**PKPbc**	**03 58 25.9**	**-0.6**
W39A	Magazine baz=336,SNR=14	145.05	20	P	**PKPbc**	**03 58 26.3**	**-0.3**
TX31	Lajitas Ar. Si	145.16	38	*e*PKPbc	**PKPdf**	**03 58 27.9**	**+0.2**
LTX	Lajitas	145.16	38	*e*PKIKP	**PKPdf**	**03 58 28.0**	**+0.2**
LTX	Lajitas	145.16	38	*e*PKPbc	**PKPdf**	**03 58 28.0**	**+0.2**
TXAR	Lajitas Array comp=Z,51nm,0.6s,baz=281,slow=1.0,SNR=847	145.16	38	PKPbc	**PKPdf**	**03 58 28.0**	**+0.2**
TXAR	Lajitas Array	145.16	38	PKIKP	**PKPdf**	**03 58 28.0**	**+0.2**
X38A	Whitesboro baz=334,SNR=45	145.16	21	P	**PKPbc**	**03 58 26.9**	**-0.1**
V42A	Cord baz=340,SNR=30	145.22	16	P	**PKPbc**	**03 58 26.4**	**-0.7**
U44B	Burton Farm, H baz=344	145.23	13	P	**PKPbc**	**03 58 26.8**	**-0.3**
Y36A	Durant baz=331,SNR=20	145.28	24	P	**PKPbc**	**03 58 26.8**	**-0.6**
W40A	Ferguson Farm, baz=337,SNR=24	145.29	19	P	**PKPbc**	**03 58 27.0**	**-0.4**
W40A	Ferguson Farm,	145.29	19	*e*PKPbc	**PKPbc**	**03 58 27.0**	**-0.4**
UTMT	University of	145.33	12	*e*PKPbc	**PKPbc**	**03 58 27.2**	**-0.3**
U45A	Rockin P Farm, baz=345	145.35	12	P	**PKPbc**	**03 58 27.2**	**-0.3**
VWCC	Virginia Weste	145.38	360	*e*PKPbc	**PKPbc**	**03 58 27.3**	**-0.3**
BLA	Blacksburg	145.41	0	*e*PKIKP	**PKPbc**	**03 58 27.4**	**-0.4**
BLA	Blacksburg	145.41	0	*e*PKPbc	**PKPbc**	**03 58 27.4**	**-0.4**
GNAR	Gosnell	145.43	14	*e*PKPbc	**PKPab**	**03 58 28.3**	**+0.3**
WHAR	Wooly Hollow	145.44	18	*e*PKPdf	**PKPbc**	**03 58 27.4**	**-0.5**
X301	Greenbrier Sit	145.46	18	*e*PKPdf	**PKPbc**	**03 58 27.4**	**-0.5**
V43A	Jonesboro baz=341	145.47	15	P	**PKPbc**	**03 58 27.5**	**-0.4**
HPIG		145.51	43	*e*PKPdf	**PKPab**	**03 58 29.5**	**+0.6**
X39A	Fountain Ranch baz=335,SNR=46	145.56	21	P	**PKPab**	**03 58 28.4**	**-0.1**
W41B	Gary Mavity, V baz=338,SNR=22	145.56	18	P	**PKPdf**	**03 58 27.8**	**-0.3**
V44A	Blytheville baz=342	145.59	14	P	**PKPdf**	**03 58 27.9**	**-0.3**
HALT	Halls	145.64	13	*e*PKPdf	**PKPab**	**03 58 28.7**	**-0.1**
W42A	Bald Knob baz=340	145.68	17	P	**PKPdf**	**03 58 28.1**	**-0.3**
MIAR	Mount Ida baz=336,SNR=47	145.71	20	P	**PKPbc**	**03 58 28.6**	**-0.1**
MIAR	Mount Ida	145.71	20	*e*PKP2	**PKPbc**	**03 58 28.8**	**+0.1**
MIAR	Mount Ida	145.71	20	*e*PKPdf	**PKPbc**	**03 58 28.8**	**+0.1**
WVT	Waverly	145.75	11	*e*PKP2	**PKPdf**	**03 58 28.5**	**+0.1**
WVT	Waverly	145.75	11	*e*PKPdf	**PKPdf**	**03 58 28.5**	**+0.1**
Z36A	Blue Ridge baz=330,SNR=9.9	145.76	25	P	**PKPdf**	**03 58 28.4**	**-0.1**
Y38A	Idabel baz=333,SNR=8.7	145.86	22	P	**PKPdf**	**03 58 28.6**	**0.0**
V45A	Humboldt baz=344	145.89	13	P	**PKPdf**	**03 58 28.6**	**-0.1**
UALR	University of	145.90	18	*e*PKPdf	**PKPbc**	**03 58 29.5**	**+0.2**
X40A	Basin Creek Fa baz=337,SNR=6.5	146.01	19	P	**PKPbc**	**03 58 29.4**	**-0.3**
Y39A	Lockesburg baz=334,SNR=12	146.08	21	P	**PKPbc**	**03 58 29.6**	**-0.3**
W43A	Forest City baz=341	146.08	16	P	**PKPbc**	**03 58 29.5**	**-0.3**
X41A	Kaden, Bauxite baz=337	146.11	18	P	**PKPbc**	**03 58 29.6**	**-0.4**
Z37A	Pogue Cattle C baz=331	146.16	24	P	**PKPdf**	**03 58 29.5**	**+0.3**
W44A	Shelby Farms P baz=342	146.26	14	P	**PKPdf**	**03 58 29.8**	**+0.5**
Y40A	Okolona baz=336	146.30	20	P	**PKPbc**	**03 58 30.2**	**-0.3**
X42A	Stuttgart baz=339	146.33	17	P	**PKPbc**	**03 58 30.4**	**-0.2**
Z38A	Mt. Pleasant baz=332,SNR=5.3	146.35	23	P	**PKPbc**	**03 58 30.5**	**-0.3**
W45A	Hickory Valley baz=343	146.40	13	P	**PKPbc**	**03 58 30.3**	**-0.5**
136A	Ennis baz=329	146.41	26	P	**PKPbc**	**03 58 30.3**	**-0.6**
WHTX	Lake Whitney, baz=328	146.41	27	P	**PKPbc**	**03 58 30.7**	**-0.2**
WHTX	Lake Whitney,	146.41	27	*e*PKPdf	**PKPbc**	**03 58 30.7**	**-0.2**
JCT	Junction City baz=322	146.49	32	P	**PKPbc**	**03 58 31.6**	**+0.3**
JCT	Junction City	146.49	32	*e*PKP2	**PKPdf**	**03 58 30.2**	**+0.3**
JCT	Junction City	146.49	32	*e*PKPdf	**PKPdf**	**03 58 30.2**	**+0.3**
X43A	Marvell baz=340	146.57	16	P	**PKPbc**	**03 58 31.3**	**0.0**
137A	Heron Place, G baz=331	146.63	24	P	**PKPbc**	**03 58 31.4**	**-0.1**
Y41A	Eaglette Beard baz=337,SNR=9.5	146.64	19	P	**PKPbc**	**03 58 31.3**	**-0.2**
WLAR	White Oak Lake	146.65	20	*e*PKPdf	**PKPbc**	**03 58 32.0**	**+0.4**
Z39A	Irene McRaven, baz=334	146.68	22	P	**PKPbc**	**03 58 31.6**	**0.0**
X44A	Crenshaw baz=342	146.79	15	P	**PKPbc**	**03 58 31.7**	**-0.3**
TKL	Tuckaleechee C	146.79	5	*e*PKP2	**PKPbc**	**03 58 31.4**	**-0.6**
TKL	Tuckaleechee C	146.79	5	*e*PKPdf	**PKPbc**	**03 58 31.4**	**-0.6**
PLAL	Pickwick Lake	146.81	12	*e*PKPdf	**PKPdf**	**03 58 31.1**	**+0.8**
236A	Katherine and baz=329	146.81	26	P	**PKPbc**	**03 58 32.2**	**+0.1**
138A	Matatall Enter baz=332,SNR=6.3	146.84	23	P	**PKPbc**	**03 58 32.8**	**+0.6**
CCAR	Cane Creek	146.87	18	*e*PKPdf	**PKPbc**	**03 58 32.8**	**+0.6**
CPCT	Cooper Cave	146.92	7	*e*PKPdf	**PKPbc**	**03 58 31.4**	**-0.9**
Z40A	Long Farm, Mag baz=335,SNR=9.5	146.94	21	P	**PKPbc**	**03 58 32.4**	**0.0**
Y42A	Garnett, Star baz=338	146.94	18	P	**PKPbc**	**03 58 32.4**	**0.0**
OXF	Oxford	146.96	14	*e*PKP2	**PKPbc**	**03 58 31.8**	**-0.6**
OXF	Oxford	146.96	14	*e*PKPdf	**PKPbc**	**03 58 31.8**	**-0.6**
SWET	Sewanee	146.97	9	*e*PKPdf	**PKPbc**	**03 58 31.9**	**-0.6**
X45A	UM Field Stati baz=343	147.05	14	P	**PKPbc**	**03 58 31.9**	**-0.8**
237A	Washetta, Mont baz=330,SNR=6.0	147.12	25	P	**PKPbc**	**03 58 33.1**	**+0.1**
Y43A	Makayla and Ka baz=340	147.13	17	P	**PKPbc**	**03 58 33.4**	**+0.4**
Z41A	Richland Creek baz=336	147.15	20	P	**PKPbc**	**03 58 33.2**	**+0.2**
Y44A	Strider, Charl baz=341	147.28	16	P	**PKPbc**	**03 58 33.4**	**0.0**
CNNC	Cliffs of the	147.31	357	*e*PKPbc	**PKPbc**	**03 58 34.1**	**+0.7**
238A	Jacksonville baz=331	147.41	24	P	**PKPbc**	**03 58 34.3**	**+0.6**
Z42A	Norrel Spur, H baz=338	147.41	19	P	**PKPbc**	**03 58 33.8**	**+0.1**
140A	Cam and Jess, baz=334	147.44	21	P	**PKPbc**	**03 58 34.1**	**+0.3**
KMSC	Kings Mountain baz=358	147.46	2	P	**PKPbc**	**03 58 33.3**	**-0.5**
KMSC	Kings Mountain	147.46	2	*e*PKPdf	**PKPbc**	**03 58 33.4**	**-0.5**
BG3	Lake Jocassee	147.52	4	*e*PKPdf	**PKPdf**	**03 58 32.5**	**+1.1**
Y45A	Yeager Farm, C baz=342	147.54	15	P	**PKPbc**	**03 58 33.8**	**-0.3**
239A	Gary baz=332	147.65	23	P	**PKPbc**	**03 58 34.9**	**+0.4**
337A	Centerville baz=330	147.68	26	P	**PKPbc**	**03 58 35.2**	**+0.6**
Z43A	Armstrong Fami baz=339	147.69	18	P	**PKPbc**	**03 58 34.3**	**-0.2**
Y46A	Houston baz=344	147.69	14	P	**PKPbc**	**03 58 33.8**	**-0.7**
141A	Papa Simpson, baz=336	147.71	20	P	**PKPbc**	**03 58 34.3**	**-0.2**
436A	Wall Ranch, Ga baz=328	147.74	27	P	**PKPbc**	**03 58 35.1**	**+0.4**
NATX	Nacogdoches baz=332	147.81	24	P	**PKPbc**	**03 58 35.1**	**+0.2**
NATX	Nacogdoches	147.81	24	*e*PKPbc	**PKPbc**	**03 58 35.7**	**+0.8**
Z44A	Pea Ridge, Bel baz=340	147.86	16	P	**PKPbc**	**03 58 35.3**	**+0.4**
338A	Crockett baz=330	147.89	25	P	**PKPbc**	**03 58 35.4**	**+0.3**
Y47A	UCPARC, Winfie baz=345	147.90	12	P	**PKPbc**	**03 58 34.3**	**-0.8**
240A	Hunter Patters baz=334	147.91	22	P	**PKPbc**	**03 58 35.3**	**+0.1**
Z45A	Winona baz=342	147.98	15	P	**PKPbc**	**03 58 35.1**	**-0.1**
437A	Phantom Ranch, baz=329	147.99	27	P	**PKPbc**	**03 58 35.7**	**+0.3**
142A	Monroe baz=337	148.08	19	P	**PKPbc**	**03 58 35.9**	**+0.4**
143A	Socs Landing, baz=338	148.11	18	P	**PKPbc**	**03 58 35.9**	**+0.2**
536A	Bastrop baz=326	148.19	29	P	**PKPbc**	**03 58 36.5**	**+0.5**
536A	Bastrop	148.19	29	*e*PKPbc	**PKPbc**	**03 58 37.0**	**+1.0**
339A	Huntington baz=332	148.22	24	P	**PKPbc**	**03 58 36.3**	**+0.3**
241A	Mo Tay, Goldon baz=335	148.23	21	P	**PKPbc**	**03 58 36.3**	**+0.3**
JSC	Jenkinsville	148.32	2	*e*PKP2	**PKPbc**	**03 58 36.2**	**+0.1**
JSC	Jenkinsville	148.32	2	*e*PKPbc	**PKPbc**	**03 58 36.2**	**+0.1**
HODGE	Hodges	148.33	3	*e*PKPbc	**PKPbc**	**03 58 36.0**	**-0.2**
Z46A	Louisville baz=343	148.33	14	P	**PKPbc**	**03 58 36.4**	**+0.1**
438A	Sam Houston St baz=330	148.35	26	P	**PKPbc**	**03 58 37.1**	**+0.8**
833A	Chaparral WMA, baz=321	148.40	34	P	**PKPbc**	**03 58 37.3**	**+0.8**
340A	Bronson baz=333	148.41	23	P	**PKPbc**	**03 58 36.6**	**+0.1**
242A	Grayson baz=336	148.46	20	P	**PKPbc**	**03 58 36.6**	**0.0**
Z48A	Northport baz=346	148.47	12	P	**PKPbc**	**03 58 35.7**	**-0.9**
144A	Alexander Plac baz=340	148.47	17	P	**PKPbc**	**03 58 37.1**	**+0.5**
Z47A	Carrollton baz=345	148.53	13	P	**PKPbc**	**03 58 36.3**	**-0.4**
537A	Green Hill Far baz=328	148.54	28	P	**PKPbc**	**03 58 37.9**	**+1.1**
439A	Center Grove, baz=331	148.61	25	P	**PKPbc**	**03 58 37.7**	**+0.6**
145A	Houston Renfro baz=341	148.64	16	P	**PKPbc**	**03 58 37.3**	**+0.3**
636A	Smothers Creek baz=326	148.69	29	P	**PKPbc**	**03 58 38.8**	**+1.5**
636A	Smothers Creek	148.69	29	*e*PKPbc	**PKPbc**	**03 58 38.7**	**+1.5**
341A	Kurthwood baz=334	148.76	22	P	**PKPbc**	**03 58 37.8**	**+0.4**
538A	Harpers Horsep baz=329	148.79	26	P	**PKPbc**	**03 58 38.7**	**+1.2**
735A	Kenedy baz=324	148.83	31	P	**PKPbc**	**03 58 38.8**	**+1.1**
VBMS	Vicksburg baz=340	148.83	17	P	**PKPbc**	**03 58 37.8**	**+0.2**
VBMS	Vicksburg	148.83	17	*e*PKPbc	**PKPbc**	**03 58 38.2**	**+0.7**
146A	Union baz=342	148.84	15	P	**PKPbc**	**03 58 37.9**	**+0.4**
243A	Waterproof baz=338	148.85	19	P	**PKPbc**	**03 58 37.9**	**+0.3**
HKT	Hockley	148.87	27	*e*PKP2	**PKPbc**	**03 58 37.7**	**0.0**
HKT	Hockley	148.87	27	*e*PKPbc	**PKPbc**	**03 58 37.7**	**0.0**
LRAL	Lakeview Retre	148.91	11	*e*PKPbc	**PKPbc**	**03 58 37.0**	**-0.8**
244A	Avery, Jackson baz=339	148.95	17	P	**PKPbc**	**03 58 38.1**	**+0.2**
440A	Kirbyville baz=332	148.98	23	P	**PKPbc**	**03 58 38.6**	**+0.7**
147A	Livingston baz=344	148.99	13	P	**PKPbc**	**03 58 37.8**	**-0.1**
933A	Laredo baz=320	149.02	34	P	**PKPbc**	**03 58 39.3**	**+1.2**
342A	Flagon Creek P baz=336	149.03	20	P	**PKPbc**	**03 58 38.6**	**+0.5**
GOGA	Godfrey	149.05	5	*e*PKP2	**PKPbc**	**03 58 38.2**	**+0.1**
GOGA	Godfrey	149.05	5	*e*PKPbc	**PKPbc**	**03 58 38.2**	**+0.1**
637A	Eagle Lake baz=327	149.07	28	P	**PKPbc**	**03 58 39.3**	**+1.0**
736A	Circle Diamond baz=326	149.12	30	P	**PKPbc**	**03 58 39.9**	**+1.5**
736A	Circle Diamond	149.12	30	*e*PKPbc	**PKPbc**	**03 58 40.1**	**+1.8**
245A	Little AP, Sta baz=341	149.19	16	P	**PKPbc**	**03 58 38.7**	**+0.3**
539A	Cross D Ranch, baz=330	149.22	25	P	**PKPbc**	**03 58 39.9**	**+1.3**
835A	Beeville baz=324	149.27	32	P	**PKPbc**	**03 58 40.1**	**+1.3**
835A	Beeville	149.27	32	*e*PKPbc	**PKPbc**	**03 58 40.6**	**+1.8**
441A	DeRidder baz=334	149.28	22	P	**PKPbc**	**03 58 39.5**	**+0.8**
246A	Jackson Lee, B baz=342	149.41	15	P	**PKPbc**	**03 58 39.4**	**+0.4**
934A	Benavides baz=322	149.45	33	P	**PKPbc**	**03 58 40.3**	**+1.0**
344A	Westbrook Farm baz=339	149.48	18	P	**PKPbc**	**03 58 39.8**	**+0.6**
247A	Quitman baz=343	149.50	14	P	**PKPbc**	**03 58 39.7**	**+0.5**
737A	Port Lavaca baz=326	149.59	29	P	**PKPbc**	**03 58 40.4**	**+0.8**
248A	Dixon Mills baz=345	149.67	13	P	**PKPbc**	**03 58 40.0**	**+0.3**
034A	Hebbronville baz=321	149.77	34	P	**PKPbc**	**03 58 41.5**	**+1.5**
345A	Thompson Farm, baz=340	149.83	17	P	**PKPbc**	**03 58 40.7**	**+0.7**
346A	Big Creek Wild baz=341	149.91	16	P	**PKPbc**	**03 58 40.6**	**+0.3**
347A	Saraland baz=343	150.14	14	P	**PKPbc**	**03 58 41.4**	**+0.5**
444A	Pine Grove baz=338	150.16	19	P	**PKPbc**	**03 58 41.5**	**+0.6**
035A	Encino baz=322	150.19	34	P	**PKPbc**	**03 58 42.4**	**+1.4**
445A	Amite baz=339	150.27	18	P	**PKPbc**	**03 58 41.6**	**+0.4**
348A	Jackson baz=344	150.28	13	P	**PKPbc**	**03 58 41.7**	**+0.5**
ZAIG	Zacatecas	150.33	45	*e*PKPbc	**PKPbc**	**03 58 43.3**	**+1.4**
ZAIG				*e*PKPab	**sPKPdf**	**03 58 48.8**	**-0.1**
035Z	Hargill baz=321	150.58	34	P	**PKPbc**	**03 58 43.3**	**+1.3**
544A	White Castle baz=337	150.58	20	P	**PKPbc**	**03 58 43.3**	**+1.4**
447A	Lucedale baz=342	150.69	15	P	**PKPbc**	**03 58 42.5**	**+0.3**
BRAL	Brewton	150.71	12	*e*PKPbc	**PKPbc**	**03 58 43.4**	**+1.2**
448A	Bay Minette baz=344	150.76	14	P	**PKPbc**	**03 58 43.1**	**+0.8**
546A	Slidell baz=340	150.93	17	P	**PKPbc**	**03 58 43.6**	**+0.9**
TIGA	Tifton baz=353	150.99	6	P	**PKPbc**	**03 58 42.7**	**-0.2**
TIGA	Tifton	150.99	6	*e*PKPbc	**PKPbc**	**03 58 43.6**	**+0.8**
SDDR	Presa de Saban	161.42	333	*e*PKPab	**PKPab**	**03 59 36.3**	**+1.2**
RUSC	La Rusia	172.16	296	*e*PKPdf	**PKPdf**	**03 58 59.1**	**-0.8**
OTAV	Otavalo	177.21	218	*e*PKPdf	**PKPdf**	**03 59 02.5**	**+1.0**

*KOLA **26** 03:40:21.9, 67°.65N×33°.86E, h0km*
*CSEM **26** 03:40:21.1±0.8, 67°.55N×33°.87E, h1km, ML1.7, Error ellipse: s-maj=18.9km s-min=9.4km az=79.0, Suspected Mining explosion.*
*NAO **26** 03:40:22.1±1.3, 67°.57N×33°.82E, ML2.3*

ISC 26 03:40:21.1±2.2, 67°.55N±0°.05×33°.9E±0°.1, h0km, n21,
σ1°23/33, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.18**	**277**	P	**Pg**	**03 40 25.4**	**+0.8**
APA				S	**Sg**	**03 40 27.9**	**+1.0**
APZ9	**Apatity**	**0.18**	**277**	Pg	**Pg**	**03 40 25.4**	**+0.8**
APZ9				Lg	Lg	03 40 28.0	
APZ9	**Apatity**	**0.18**	**277**	Pg	**Pg**	**03 40 25.4**	**+0.8**
APZ9				Lg	Lg	03 40 28.0	
APZ9	**Apatity** SNR=91	**0.18**	**277**	Pg	**Pg**	**03 40 25.4**	**+0.8**
APZ9				Lg	Lg	03 40 28.0	
APA0	**Apatity Array** baz=96,slow=16	**0.35**	**280**	Pg	**Pg**	**03 40 27.9**	**+0.3**
APA0				Lg	Lg	03 40 32.5	
APA0	baz=70,slow=37			Rg	Rg	03 40 34.8	
APA0	baz=74,slow=37						
APA0	**Apatity Array**	**0.35**	**280**	P	**Pg**	**03 40 27.9**	**+0.3**
APA0				S	**Sg**	**03 40 32.3**	**+0.2**
APA0	**Apatity Array** baz=96,slow=16	**0.35**	**280**	Pg	**Pg**	**03 40 27.9**	**+0.3**
APA0				Lg	Lg	03 40 32.5	
APA0	baz=70,slow=37			Rg	Rg	03 40 34.8	
APA0	baz=74,slow=37						
APA0	**Apatity Array** SNR=90	**0.35**	**280**	Pg	**Pg**	**03 40 28.0**	**+0.3**
APA0				Lg	Lg	03 40 32.5	
	SNR=2.3						
KEV	**Kevo**	**3.35**	**315**	*e*P	**Pn**	**03 41 15.0**	**+0.4**
KEV	**Kevo** SNR=50	**3.35**	**315**	*e*P	**Pn**	**03 41 15.0**	**+0.4**
ARA0	**ARCESS Array S** baz=122,slow=16	**3.67**	**307**	Pn	**Pn**	**03 41 18.8**	**-0.2**
ARA0				Pg	**Pb**	**03 41 27.8**	**+1.1**
ARA0	baz=117,slow=18			Sn	**Sn**	**03 42 00.0**	**-2.8**
ARA0	baz=130,slow=28						
ARA0				Lg	Lg	03 42 10.6	
ARA0	baz=118,slow=37						
ARA0	**ARCESS Array S** baz=122,slow=16	**3.67**	**307**	Pn	**Pn**	**03 41 18.8**	**-0.2**
ARA0				Pg	**Pb**	**03 41 27.8**	**+1.1**
ARA0	baz=117,slow=18			Sn	**Sn**	**03 42 00.0**	**-2.8**
ARA0	baz=130,slow=28						
ARA0				Lg	Lg	03 42 10.6	
ARA0	baz=118,slow=37						
ARA0	**ARCESS Array S** SNR=50	**3.67**	**307**	Pn	**Pn**	**03 41 18.8**	**-0.2**
ARA0	**ARCESS Array S** SNR=7.2	**3.67**	**307**	Pg	**Pb**	**03 41 27.8**	**+1.1**
ARA0				Sn	**Sn**	**03 42 00.0**	**-2.8**
	SNR=50						
ARA0				Lg	Lg	03 42 10.6	
	SNR=50						
ARE0	**ARCESS Array S**	**3.67**	**307**	*e*P	**Pn**	**03 41 18.6**	**-0.3**
ARE0				*e*S	**Sn**	**03 42 01.4**	**-1.5**
ARE0				IAML		03 42 15.8	
	comp=Z,4.3nm,0.2s						
ARE0	**ARCESS Array S** SNR=50	**3.67**	**307**	*e*P	**Pn**	**03 41 18.6**	**-0.4**
ARE0				*e*S	**Sn**	**03 42 01.4**	**-1.5**
	SNR=50						
KTK1	**Kautokeino**	**4.22**	**295**	*e*P	**Pn**	**03 41 26.9**	**+0.3**
KTK1				IAML		03 42 30.8	
	comp=Z,4.8nm,0.4s						
KTK1	**Kautokeino** SNR=49	**4.22**	**295**	*e*P	**Pn**	**03 41 26.9**	**+0.4**
FIA0	**FINESS Array S** baz=39,slow=12	**6.99**	**212**	Pn	**Pn**	**03 42 04.5**	**-0.1**
FIA0				Sn	**Sn**	**03 43 22.9**	**-1.6**
FIA0	baz=37,slow=22			Lg	Lg	03 43 59.6	
FIA0	baz=27,sl

TUTA	**Tutak**	**0.85 313**	*i* P	**Pg**	**03 46 51.7**	**-0.7**
TUTA			*i* S	**Sg**	**03 47 04.5**	**+1.0**
TUTA	**Tutak**	**0.85 313**	P	**Pg**	**03 46 51.7**	**-0.7**
TUTA			S	**Sg**	**03 47 04.5**	**+1.0**
AGRB	**Hanur-Agry**	**0.90 328**	*e*PG	**Pg**	**03 46 52.5**	**-0.8**
AGRB			*e*SG	**Sb**	**03 47 06.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.90 328**	*e*Pg	**Pg**	**03 46 52.5**	**-0.8**
AGRB			*e*Sg	**Sb**	**03 47 06.3**	**-0.1**
HAKT	**HAKKARI**	**1.26 177**	*i* P	**Pg**	**03 46 58.9**	**-1.4**
HAKT			*i* S	**Sn**	**03 47 17.2**	**-0.7**
HAKT	**HAKKARI**	**1.26 177**	P	**Pg**	**03 46 58.9**	**-1.4**
HAKT			S	**Sn**	**03 47 17.2**	**-0.7**
EKAR	**Karacoban**	**1.28 290**	*i* P	**Pg**	**03 47 01.7**	**+1.0**
EKAR	**Karacoban**	**1.28 290**	P	**Pg**	**03 47 01.7**	**+1.0**
EATA	**Eleskirt**	**1.35 320**	*i* P	**Pg**	**03 47 02.1**	**0.0**
EATA			*i* S	**Sn**	**03 47 20.8**	**+0.5**
EATA	**Eleskirt**	**1.35 320**	P	**Pg**	**03 47 02.1**	**0.0**
EATA			S	**Sn**	**03 47 20.8**	**+0.5**
CUKT	**Cukurca**	**1.57 180**	*i* P	**Pg**	**03 47 09.3**	**+3.1**
CUKT	**Cukurca**	**1.57 180**	P	**Pg**	**03 47 09.3**	**+3.1**
BTMN	**Batman**	**2.06 244**	*i* P	**Pb**	**03 47 13.7**	**-0.2**
BTMN	**Batman**	**2.06 244**	P	**Pb**	**03 47 13.7**	**-0.2**

*ISCJB **26** 03:56:01.9±0.5,50.°18N±0.°04×19.°14E±0.°03, h0km, Error ellipse: s-maj=5.9km s-min=2.3km az=18.9*
*VIE **26** 03:56:03.0±1.2,49.°49N×19.°42E, h10km, mb2.4/1, ML2.3/4, Error ellipse: s-maj=10.0km s-min=4.8km az=122.0*
*CSEM **26** 03:56:03.2±0.3,50.°18N×19.°21E, h2km, ML3.0/7, Error ellipse: s-maj=7.5km s-min=3.4km az=15.0*
*PRU **26** 03:56:04.2,50.°20N×19.°22E, h0km*
ISC 26 03:56:03.6±0.8, 50.°12N±0.°04×19.°24E±0.°02, h0km, n37, σ0=98/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.38**	**74**	*e*Pg	**Pg**	**03 56 10.2**	**-0.5**
OJC				*i* Sg	**Sg**	**03 56 14.6**	**-1.0**
OJC	**Ojcow**	**0.38**	**74**	*e*Pg	**Pg**	**03 56 10.2**	**-0.5**
OJC				*i* Sg	**Sg**	**03 56 14.6**	**-1.0**
OJC	**Ojcow**	**0.38**	**74**	*e*Pg	**Pg**	**03 56 10.2**	**-0.5**
OJC				*i* Sg	**Sg**	**03 56 14.6**	**-1.0**
OKC	**Ostrava-Krasne**	**0.76**	**249**	*e*PG	**Pb**	**03 56 19.3**	**-0.3**
OKC				*e*SG	**Sb**	**03 56 29.9**	**-0.5**
	comp=Z,21nm,0.3s						
OKC	**Ostrava-Krasne**	**0.76**	**249**	Pg	**Pb**	**03 56 19.3**	**-0.3**
OKC				Sg	**Sb**	**03 56 29.9**	**-0.5**
	21nm,0.3s						
LANS	**Liptovska Anna**	**0.98**	**171**	*e*Pg	**Pn**	**03 56 24.0**	**-0.6**
LANS				*e*Sn	**Sn**	**03 56 38.7**	**-0.4**
LANS	**Liptovska Anna**	**0.98**	**171**	*e*PG	**Pn**	**03 56 24.0**	**-0.6**
LANS				*e*SN	**Sn**	**03 56 38.7**	**-0.4**
NIE	**Niedzica**	**0.98**	**135**	*e*Pg	**Pb**	**03 56 23.0**	**-0.4**
NIE				*e*Sg	**Sb**	**03 56 36.6**	**-0.3**
NIE	**Niedzica**	**0.98**	**135**	*e*Pg	**Pb**	**03 56 23.0**	**-0.4**
NIE				*e*Sg	**Sb**	**03 56 36.6**	**-0.3**
NIE	**Niedzica**	**0.98**	**135**	*e*Pg	**Pb**	**03 56 23.0**	**-0.4**
NIE				*e*Sg	**Sb**	**03 56 36.6**	**-0.3**
STHS	**Stebnicka Huta**	**1.48**	**118**	*e*Pg	**Pb**	**03 56 32.5**	**+0.6**
STHS				*e*Sn	**Sn**	**03 56 54.1**	**+2.7**
STHS	**Stebnicka Huta**	**1.48**	**118**	*e*PG	**Pb**	**03 56 32.4**	**+0.6**
STHS				*e*SN	**Sn**	**03 56 54.1**	**+2.7**
STHS				*e*LG	Lg	03 56 54.6	
KRLC	**Kraliky**	**1.58**	**269**	*e*PG	**Pn**	**03 56 32.8**	**-0.1**
KRLC				*e*SG	**Sb**	**03 56 54.1**	**-0.1**
KRLC	**Kraliky**	**1.58**	**269**	Pg	**Pn**	**03 56 32.8**	**-0.1**
KRLC				Sg	**Sb**	**03 56 54.1**	**-0.1**
KRLC	**Kraliky**	**1.58**	**269**	*e*	**Sg**	**03 56 54.1**	**-0.2**
VYHS	**Vyhne**	**1.65**	**189**	*e*Pg	**Pb**	**03 56 34.3**	**-0.4**
VYHS				*e*Sn	**Sb**	**03 56 56.1**	**+0.1**
VYHS	**Vyhne**	**1.65**	**189**	*e*PG	**Pb**	**03 56 34.3**	**-0.4**
VYHS				*e*SN	**Sb**	**03 56 56.0**	**+0.1**
VYHS				*e*LG	Lg	03 57 01.3	
KECS	**Kecovo**	**1.83**	**153**	*e*Sn	**Sg**	**03 57 03.1**	**+0.9**
KECS	**Kecovo**	**1.83**	**153**	*e*SN	**Sg**	**03 57 03.1**	**+0.9**
KECS				*e*LG	Lg	03 57 10.0	
DPC	**Dobruska-Polom**	**1.89**	**278**	*e*PG	**Pn**	**03 56 37.8**	**+0.7**
DPC				*e*SG	**Sb**	**03 57 02.8**	**-0.2**
	comp=Z,26nm,0.6s						
DPC	**Dobruska-Polom**	**1.89**	**278**	Pg	**Pn**	**03 56 37.8**	**+0.7**
DPC				Sg	**Sb**	**03 57 02.8**	**-0.2**
	26nm,0.6s						
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**03 56 42.5**	**+0.3**
KSP				*e*Sg	**Sg**	**03 57 08.5**	**+0.2**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**03 56 42.5**	**+0.3**
KSP				*e*Sg	**Sg**	**03 57 08.5**	**+0.2**
KSP	**Ksiaz**	**2.02**	**292**	*e*Pg	**Pg**	**03 56 42.5**	**+0.3**
KSP				*e*Sg	**Sg**	**03 57 08.5**	**+0.2**
UPC	**Upice**	**2.10**	**282**	*e*SG	**Sb**	**03 57 08.7**	**-0.5**
	comp=Z,16nm,0.5s						
UPC	**Upice**	**2.10**	**282**	Sg	**Sb**	**03 57 08.7**	**-0.5**
	16nm,0.5s						
TREC	**Trest**	**2.57**	**253**	*e*SG	**Sg**	**03 57 25.9**	**-0.1**
TREC	**Trest**	**2.57**	**253**	Sg	**Sg**	**03 57 25.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.88**	**268**	*e*SG	**Sg**	**03 57 34.4**	**-1.5**
	comp=Z,14nm,0.8s						
GOPC	**GO Pecny, Ondr**	**2.88**	**268**	Sg	**Sg**	**03 57 34.4**	**-1.5**
	14nm,0.8s						
PVCC	**Panska Ves**	**3.02**	**280**	*e*SG	**Sg**	**03 57 38.7**	**-1.8**
	comp=Z,20nm,0.6s						
PVCC	**Panska Ves**	**3.02**	**280**	Sg	**Sg**	**03 57 38.7**	**-1.8**
	20nm,0.6s						
PRU	**Pruhonice**	**3.03**	**269**	*e*SG	**Sg**	**03 57 39.0**	**-1.8**
	comp=Z,6.8nm,0.4s						
PRU	**Pruhonice**	**3.03**	**269**	Sg	**Sg**	**03 57 39.0**	**-1.8**
	6.8nm,0.4s						
BRG	**Berggiesshubel**	**3.46**	**285**	PG	**Pg**	**03 57 12.9**	**+3.0**
BRG				SG	**Sg**	**03 57 54.3**	**-0.5**
	5.3nm,0.5s						
KHC	**Kasperske Hory**	**3.81**	**257**	*ex*	x	03 57 11.4	
KHC				*e*SG	**Sg**	**03 58 04.8**	**-1.0**
	comp=Z,8.0nm,0.6s						
CLL	**Collm**	**4.14**	**289**	*e*Pg	**Pg**	**03 57 22.0**	**-0.8**
CLL				*e*Sg	**Sg**	**03 58 17.0**	**+0.6**
	comp=Z,7.0nm,0.7s						

*ISCJB **26** 03:58:30.6±0.9,38.°65N±0.°03×43.°29E±0.°08, h10km, Error ellipse: s-maj=9.3km s-min=5.0km az=177.1*
*CSEM **26** 03:58:30.2±0.6,38.°69N×43.°29E, h8km, ML3.2, Error ellipse: s-maj=19.5km s-min=8.8km az=76.0*
*DDA **26** 03:58:30.7,38.°61N×43.°13E, h7km, Ml3.2*
ISC 26 03:58:31.2±0.9, 38.°63N±0.°03×43.°15E±0.°05, h10km, n14, σ1=24/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.33**	**193**	*i* P	**Pg**	**03 58 34.8**	**-3.0**
GEVA				*i* S	**Sg**	**03 58 41.8**	**-0.3**
TUTA	**Tutak**	**0.81**	**341**	*i* P	**Pg**	**03 58 46.0**	**-1.0**
TUTA				*i* S	**Sb**	**03 58 58.8**	**0.0**
TUTA	**Tutak**	**0.81**	**341**	P	**Pg**	**03 58 46.0**	**-1.0**
TUTA				S	**Sb**	**03 58 58.8**	**0.0**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*PN	**Pg**	**03 58 48.1**	**-1.5**
AGRB				*e*SN	**Sb**	**03 59 02.7**	**0.0**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*Pn	**Pg**	**03 58 48.1**	**-1.5**
AGRB				*e*Sn	**Sb**	**03 59 02.7**	**0.0**
EKAR	**Karacoban**	**1.05**	**307**	*i* P	**Pn**	**03 58 52.6**	**+0.3**
EKAR				*i* S	**Sn**	**03 59 09.8**	**+2.6**
EKAR	**Karacoban**	**1.05**	**307**	P	**Pn**	**03 58 52.6**	**+0.3**
HAKT	**HAKKARI**	**1.16**	**158**	*i* P	**Pb**	**03 58 52.7**	**-0.7**
HAKT				*i* S	**Sn**	**03 59 12.2**	**+2.6**
HAKT	**HAKKARI**	**1.16**	**158**	P	**Pb**	**03 58 52.7**	**-0.7**
CUKT	**Cukurca**	**1.43**	**165**	*e*PN	**Pg**	**03 58 58.6**	**0.0**
CUKT	**Cukurca**	**1.43**	**165**	*e*Pn	**Pg**	**03 58 58.6**	**0.0**
BNGL	**BINGOL**	**1.60**	**282**	*i* P	**Pg**	**03 59 00.9**	**-1.0**
BNGL				*i* S	**Sg**	**03 59 22.2**	**-0.4**
BTMN	**Batman**	**1.66**	**244**	*i* P	**Pn**	**03 59 00.6**	**+0.2**
BTMN				*i* S	**Sg**	**03 59 25.2**	**+0.7**
BTMN	**Batman**	**1.66**	**244**	P	**Pn**	**03 59 00.6**	**+0.2**
BTMN				S	**Sg**	**03 59 25.2**	**+0.7**

*ISK **26** 04:00:07.6,38.°77N×43.°44E, h6km, ML2.9*
*CSEM **26** 04:00:08.6±0.4,38.°76N×43.°41E, h2km, ML2.9, Error ellipse: s-maj=10.8km s-min=4.7km az=68.0*
*DDA **26** 04:00:08.1,38.°73N×43.°38E, h4km, Ml3.3*
ISC 26 04:00:09.3±0.9, 38.°75N±0.°02×43.°36E±0.°03, h11km±7km, n41, σ1=24/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**173**	*e*PG	**Pg**	**04 00 13.1**	**+0.1**
VANB				*e*SG	**Sg**	**04 00 16.9**	**+1.4**
VANB	**Van**	**0.16**	**173**	*e*Pg	**Pg**	**04 00 13.1**	**+0.1**
GEVA	**Gevas**	**0.50**	**208**	*i* P	**Pg**	**04 00 17.3**	**-1.8**
GEVA				*i* S	**Sg**	**04 00 25.2**	**-0.6**
GEVA	**Gevas**	**0.50**	**208**	P	**Pg**	**04 00 17.3**	**-1.8**
GEVA				S	**Sg**	**04 00 25.2**	**-0.6**
TUTA	**Tutak**	**0.78**	**327**	*i* P	**Pg**	**04 00 23.8**	**-0.5**
TUTA				*i* S	**Sb**	**04 00 35.0**	**-0.6**
TUTA	**Tutak**	**0.78**	**327**	P	**Pg**	**04 00 23.8**	**-0.5**
TUTA				S	**Sb**	**04 00 35.0**	**-0.6**
DYDN	**Diyadin**	**0.83**	**18**	*i* P	**Pn**	**04 00 28.5**	**+1.3**
DYDN	**Diyadin**	**0.83**	**18**	P	**Pn**	**04 00 28.5**	**+1.3**
BASK	**Baskale_VAN**	**0.86**	**144**	*i* P	**Pg**	**04 00 24.3**	**-1.7**
BASK				*i* S	**Sb**	**04 00 36.4**	**-1.7**
BASK	**Baskale_VAN**	**0.86**	**144**	P	**Pg**	**04 00 24.3**	**-1.7**
BASK				S	**Sb**	**04 00 36.4**	**-1.7**
AGRB	**Hanur-Agry**	**0.87**	**341**	*e*PG	**Pg**	**04 00 25.3**	**-0.8**
AGRB				*e*SG	**Sg**	**04 00 36.9**	**-0.6**
AGRB	**Hanur-Agry**	**0.87**	**341**	*e*Pg	**Pg**	**04 00 25.3**	**-0.8**
AGRB				*e*Sg	**Sg**	**04 00 36.9**	**-0.6**
EKAR	**Karacoban**	**1.13**	**297**	*i* P	**Pb**	**04 00 30.6**	**-0.4**
EKAR				*i* S	**Sn**	**04 00 50.4**	**+3.4**
HAKT	**HAKKARI**	**1.23**	**167**	*i* P	**Pg**	**04 00 30.8**	**-2.1**
HAKT				*i* S	**Sb**	**04 00 48.2**	**-0.3**
HAKT	**HAKKARI**	**1.23**	**167**	P	**Pg**	**04 00 30.8**	**-2.1**
HAKT				S	**Sb**	**04 00 48.2**	**-0.3**
EATA	**Eleskirt**	**1.30**	**329**	*i* P	**Pn**	**04 00 33.6**	**-0.1**
EATA				*i* S	**Sn**	**04 00 52.1**	**+0.9**
EATA	**Eleskirt**	**1.30**	**329**	P	**Pn**	**04 00 33.6**	**-0.1**
EATA				S	**Sn**	**04 00 52.1**	**+0.9**
CUKT	**Cukurca**	**1.52**	**173**	*e*PN	**Pb**	**04 00 36.9**	**-0.6**
CUKT	**Cukurca**	**1.52**	**173**	*i* P	**Pg**	**04 00 39.3**	**+0.9**
CUKT				*i* S	**Sg**	**04 01 00.3**	**+2.2**
CUKT	**Cukurca**	**1.52**	**173**	*e*Pn	**Pb**	**04 00 36.9**	**-0.6**
CUKT	**Cukurca**	**1.52**	**173**	P	**Pg**	**04 00 39.3**	**+0.9**
CUKT				S	**Sg**	**04 01 00.3**	**+2.2**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*PN	**Pb**	**04 00 37.8**	**-0.2**
VRTB	**Varto-Mus**	**1.54**	**286**	*i* P	**Pn**	**04 00 34.3**	**-2.6**
VRTB	**Varto-Mus**	**1.54**	**286**	P	**Pn**	**04 00 34.3**	**-2.6**
VRTB	**Varto-Mus**	**1.54**	**286**	*e*Pn	**Pb**	**04 00 37.8**	**-0.2**
HOMI	**Horasan**	**1.71**	**319**	*i* P	**Pg**	**04 00 41.4**	**-0.8**
BNGL	**BINGOL**	**1.74**	**277**	*i* P	**Pb**	**04 00 41.5**	**+0.1**
BNGL				*i* S	**Sb**	**04 01 04.3**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*PN	**Pn**	**04 00 40.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*i* P	**Pb**	**04 00 42.1**	**-0.3**
SVAN				*i* S	**Sn**	**04 01 04.8**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*Pn	**Pn**	**04 00 40.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	P	**Pb**	**04 00 42.1**	**-0.3**
SVAN				S	**Sn**	**04 01 04.8**	**+1.5**
BTMN	**Batman**	**1.86**	**243**	*i* P	**Pb**	**04 00 42.3**	**-1.0**
BTMN				*i* S	**Sb**	**04 01 07.1**	**+0.5**
BTMN	**Batman**	**1.86**	**243**	P	**Pb**	**04 00 42.3**	**-1.0**
BTMN				S	**Sb**	**04 01 07.1**	**+0.5**
ERZM	**Erzurum**	**1.93**	**307**	*i* P	**Pg**	**04 00 45.4**	**-0.9**
ERZM	**Erzurum**	**1.93**	**307**	P	**Pg**	**04 00 45.4**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*PN	**Pn**	**04 00 42.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*Pn	**Pn**	**04 00 42.4**	**-0.4**
BNGB	**Bing¶l**	**2.11**	**277**	*e*PN	**Pn**	**04 00 45.4**	**+0.7**
BINT	**Bingol**	**2.25**	**274**	*e*Pn	**Pn**	**04 00 45.4**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	*e*PN	**Pn**	**04 00 48.2**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.30**	**288**	*e*Pn	**Pn**	**04 00 48.2**	**+0.9**

IDC 26 04:14:44.6±368.0, 50.°80N×117.°13E, h0km, Error ellipse: s-maj=151.2km s-min=133.7km az=101.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.62**	**251**	*i*		05 03 30.0	
	baz=63,slow=326,SNR=1.9						
I45RU	**USSURIYSK INFR**	**12.00**	**118**	*i*		05 28 50.0	
	baz=306,slow=321,SNR=1.7						
I30JP	**ISUMI INFRASON**	**22.81**	**124**	*i*		06 34 40.0	
	baz=321,slow=327,SNR=0.4						
I44RU	**PETROPAVLOVSK**	**24.88**	**69**	*i*		06 46 30.0	
	baz=284,slow=330,SNR=0.7						

*DDA **26** 04:14:51.0,38.°66N×43.°24E, h7km, Ml3.9*
*ISK **26** 04:14:50.7,38.°69N×43.°27E, h5km, ML3.8*
*CSEM **26** 04:14:51.2±0.2,38.°68N×43.°26E, h2km, ML3.8, Error ellipse: s-maj=6.1km s-min=4.1km az=59.0*
ISC 26 04:14:52.0±0.9, 38.°68N±0.°02×43.°26E±0.°03, h12km±6km, n47, σ1=31/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**128**	PG	**Pg**	**04 14 55.3**	**-0.1**
VANB				*e*SG	**Sg**	**04 14 58.6**	**+0.7**
VANB	**Van**	**0.13**	**128**	*i* Pg	**Pg**	**04 14 55.3**	**-0.1**
VANB				*e*Sg	**Sg**	**04 14 58.6**	**+0.7**
GEVA	**Gevas**	**0.40**	**203**	*i* P	**Pg**	**04 14 58.5**	**-1.5**
GEVA				*i* S	**Sg**	**04 15 05.7**	**+0.4**
GEVA	**Gevas**	**0.40**	**203**	P	**Pg**	**04 14 58.5**	**-1.5**
GEVA				S	**Sg**	**04 15 05.7**	**+0.4**
BASK	**Baskale_VAN**	**0.86**	**136**	*i* P	**Pg**	**04 15 06.9**	**-1.7**
BASK				*i* S	**Sg**	**04 15 20.1**	**+0.3**
BASK	**Baskale_VAN**	**0.86**	**136**	P	**Pg**	**04 15 06.9**	**-1.7**
BASK				S	**Sg**	**04 15 20.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*PG	**Pg**	**04 15 08.7**	**-1.2**
AGRB				*e*SG	**Sg**	**04 15 21.5**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*Pg	**Pg**	**04 15 08.7**	**-1.2**
AGRB				*e*Sg	**Sg**	**04 15 21.5**	**-0.4**
DYDN	**Diyadin**	**0.93**	**21**	*i* P	**Pg**	**04 15 09.2**	**-0.8**
DYDN				*i* S	**Sn**	**04 15 25.7**	**+1.2**
DYDN	**Diyadin**	**0.93**	**21**	P	**Pg**	**04 15 09.2**	**-0.8**
EKAR	**Karacoban**	**1.10**	**302**	*i* P	**Pb**	**04 15 12.1**	**-1.0**
EKAR				*i* S	**Sn**	**04 15 33.2**	**+4.5**
EKAR	**Karacoban**	**1.10**	**302**	P	**Pb**	**04 15 12.1**	**-1.0**
HAKT	**HAKKARI**	**1.17**	**162**	*i* P	**Pb**	**04 15 11.8**	**-2.6**
HAKT				*i* S	**Sn**	**04 15 30.8**	**+0.3**
HAKT	**HAKKARI**	**1.17**	**162**	P	**Pb**	**04 15 11.8**	**-2.6**
HAKT				S	**Sn**	**04 15 30.8**	**+0.3**
EATA	**Eleskirt**	**1.32**	**334**	*i* P	**Pn**	**04 15 16.1**	**-0.6**
EATA				*i* S	**Sg**	**04 15 35.2**	**+0.4**
EATA	**Eleskirt**	**1.32**	**334**	P	**Pn**	**04 15 16.1**	**-0.6**
EATA				S	**Sg**	**04 15 35.2**	**+0.4**
SIRN	**S¨–rnak**	**1.35**	**210**	*i* P	**Pn**	**04 15 16.4**	**-0.4**
SIRN	**S¨–rnak**	**1.35**	**210**	P	**Pn**	**04 15 16.4**	**-0.4**
CUKT	**Cukurca**	**1.45**	**169**	*e*PN	**Pb**	**04 15 19.3**	**+0.2**
CUKT	**Cukurca**	**1.45**	**169**	*i* P	**Pb**	**04 15 19.4**	**+0.2**
CUKT				*i* S	**Sg**	**04 15 44.6**	**+5.8**
CUKT	**Cukurca**	**1.45**	**169**	*e*Pn	**Pb**	**04 15 19.3**	**+0.2**
VRTB	**Varto-Mus**	**1.49**	**290**	*e*PN	**Pn**	**04 15 18.6**	**-0.1**
VRTB	**Varto-Mus**	**1.49**	**290**	*i* P	**Pn**	**04 15 18.6**	**-0.1**
VRTB				*i* S	**Sg**	**04 15 40.8**	**+0.9**
VRTB	**Varto-Mus**	**1.49**	**290**	P	**Pn**	**04 15 18.6**	**-0.1**
VRTB				S	**Sg**	**04 15 40.8**	**+0.9**
BNGL	**BINGOL**	**1.67**	**280**	*i* P	**Pb**	**04 15 22.3**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	*e*PN	**Pn**	**04 15 21.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	*i* P	**Pn**	**04 15 22.0**	**+0.4**
SVAN				*i* S	**Sg**	**04 15 46.0**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	*e*Pn	**Pn**	**04 15 21.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.70**	**253**	P	**Pn**	**04 15 22.0**	**+0.4**
SVAN				S	**Sg**	**04 15 46.0**	**-0.7**
HOMI	**Horasan**	**1.72**	**323**	*i* P	**Pb**	**04 15 23.3**	**-0.4**
BTMN	**Batman**	**1.75**	**244**	*i* P	**Pn**	**04 15 22.5**	**+0.2**
BTMN				*i* S	**Sg**	**04 15 47.9**	**-0.5**
BTMN	**Batman**	**1.75**	**244**	P	**Pn**	**04 15 22.5**	**+0.2**
BTMN				S	**Sg**	**04 15 47.9**	**-0.5**
ERZM	**Erzurum**	**1.91**	**310**	*i* P	**Pb**	**04 15 26.5**	**-0.6**
ERZM	**Erzurum**	**1.91**	**310**	P	**Pb**	**04 15 26.5**	**-0.6**
BNGB	**Bing¶l**	**2.04**	**280**	*e*PN	**Pb**	**04 15 27.7**	**-1.4**
BINT	**Bingol**	**2.17**	**276**	*e*Pn	**Pn**	**04 15 27.7**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.25**	**291**	*e*PN	**Pn**	**04 15 29.9**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.25**	**291**	*e*Pn	**Pn**	**04 15 29.9**	**+0.7**
MARD	**Mardin**	**2.38**	**236**	*i* P	**Pn**	**04 15 31.0**	**0.0**
MAZI	**Mazidag**	**2.53**	**242**	*e*PN	**Pn**	**04 15 32.6**	**-0.4**
MAZI	**Mazidag**	**2.53**	**242**	*e*Pn	**Pn**	**04 15 32.6**	**-0.4**
PTK	**Pertek**	**3.03**	**275**	*e*PN	**Pn**	**04 15 41.7**	**+1.7**
PTK	**Pertek**	**3.03**	**275**	*e*Pn	**Pn**	**04 15 41.7**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.11**	**266**	*e*PN	**Pn**	**04 15 41.7**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.11**	**266**	*e*Pn	**Pn**	**04 15 41.7**	**+0.6**
URFA	**Urfa**	**3.71**	**252**	*e*PN	**Pn**	**04 15 51.1**	**+1.8**
URFA	**Urfa**	**3.71**	**252**	*e*Pn	**Pn**	**04 15 51.1**	**+1.8**

*IDC **26** 04:19:00.4±0.9, 36.°52N×140.°62E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/36, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=21.6km s-min=14.3km az=168.0*
*ISCJB **26** 04:19:01.7±0.8, 36.°59N±0.°04×140.°74E±0.°07, h18km±5km, mb3.6/6, Error ellipse: s-maj=9.7km s-min=4.9km az=27.8*
*JMA **26** 04:19:03.2, 36.°66N×140.°62E, h16km±1km, M3.8*
Broadband fault plane solution: P waves. NP1: φs=164.00000°, δ=64.00000°, λ=-68.00000°. NP2: φs=301.00000°, δ=34.00000°, λ=-128.00000°. Principal axes: T Plg=16.0000°, Azm=238.0000°; N Plg=20.0000°, Azm=334.0000°; P Plg=64.0000°, Azm=112.0000°;
JMA Felt III J1.
ISC 26 04:19:02.7±1.0, 36.°63N±0.°04×140.°68E±0.°06, h15km±5km, n22, σ0=86/23, mb3.7/6, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.09**	**260**	⇓P	**Pg**	**04 19 06.2**	**+0.3**
JHO				S	**Sg**	**04 19 08.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.48**	**11**	⇑P	**Pg**	**04 19 12.3**	**-0.1**
ONAJ				S	**Sg**	**04 19 18.8**	**-0.1**
JYT	**Yasato**	**0.56**	**225**	⇑P	**Pg**	**04 19 13.7**	**0.0**
JYT				S	**Sg**	**04 19 21.2**	**0.0**
JSB	**Shiboa**	**0.70**	**299**	⇑P	**Pb**	**04 19 16.0**	**-0.6**
JSB				S	**Sb**	**04 19 24.7**	**-1.4**
JFK	**Kawauchi**	**0.75**	**12**	⇑P	**Pb**	**04 19 16.7**	**-0.9**
JFK				S	**Sb**	**04 19 26.7**	**-1.0**
JFT	**Otama**	**0.93**	**343**	⇑P	**Pb**	**04 19 19.9**	**-0.7**
JFT				S	**Sb**	**04 19 31.5**	**-1.3**
MJAR	**Matsushiro Arr**	**1.99**	**268**	Pg	**Pn**	**04 19 36.2**	**+0.3**
	38nm,0.3s,baz=81,slow=9.2,SNR=102						
MJAR				Lg	Lg	04 19 59.7	
	75nm,0.3s,baz=84,slow=31,SNR=6.4						
MAT	**Matsushiro**	**1.99**	**268**	P	**Pn**	**04 19 35.9**	**0.0**
MAT				S	**Sn**	**04 20 01.8**	**+1.2**
JHJ	**Hachijo jima 2**	**3.58**	**192**	Sn	**Sn**	**04 20 38.7**	**-1.0**
	43nm,0.3s,baz=78,slow=20,SNR=2.4						
ASAJ	**Asahikawa**	**7.62**	**10**	Pn	**Pn**	**04 20 54.0**	**+0.8**
	0.5nm,0.3s,baz=131,slow=20,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	04 54 43.8	
	baz=312,slow=75,SNR=179						
H11N1	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	04 54 43.9	
	baz=312,slow=75,SNR=212						
H11N3	**WAKE ISLAND Hy**	**28.47**	**119**	T	T	04 54 44.7	
	baz=312,slow=75,SNR=139						
H11S1	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	04 55 35.0	
	baz=314,slow=76,SNR=613						
H11S3	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	04 55 35.0	
	baz=314,slow=76,SNR=301						
H11S2	**WAKE ISLAND Hy**	**29.16**	**121**	T	T	04 55 33.9	
	baz=314,slow=76,SNR=328						
ILAR	**Eielson Array**	**50.15**	**32**	P	**P**	**04 27 57.5**	**+0.2**
	1.0nm,1.0s,baz=265,slow=6.0,SNR=5.2						
WRA	**Warramunga Arr**	**56.58**	**187**	P	**P**	**04 28 44.2**	**-0.6**
	0.7nm,0.5s,baz=3.1,slow=7.2,SNR=4.2			

JSZ				*e*S	Sg	04 26 17.3	-0.7
JGN	**Niukaw**	**0.69**	**157**	⇓P	Pg	04 26 08.4	-0.7
JGN				S	Sg	04 26 17.5	-0.7
JKG	**Kaga**	**0.78**	**222**	⇑P	Pg	04 26 10.5	-0.3
JKG				S	Sg	04 26 20.9	-0.2
JHG	**Hegura jima**	**0.99**	**357**	P	Pb	04 26 14.4	-0.3
JHG				S	Sg	04 26 27.7	0.0
MAT	**Matsushiro**	**1.04**	**107**	P	Pb	04 26 14.8	-0.7
MAT				S	Sb	04 26 29.0	0.0
MAT	**Matsushiro**	**1.04**	**107**	P	Pb	04 26 14.9	-0.6
MAT				*e*S	Sb	04 26 28.9	-0.1

*CSEM **26** 04:29:11.6, 38°.93N×43°.43E, h5km, ML3.8*
ISK 26 04:29:11.6, 38°.93N×43°.43E, h5km, ML3.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.33**	**185**	*e*PG	Pb	04 29 19.8	-0.3
VANB				*e*SG	Sb	04 29 25.6	-0.1
VANB	**Van**	**0.33**	**185**	*e*Pg	Pb	04 29 19.8	-0.3
VANB				*e*Sg	Sb	04 29 25.7	0.0
AGRB	**Hanur-Agry**	**0.73**	**333**	*e*PG	Pg	04 29 26.1	+0.4
AGRB				*e*SG	Sb	04 29 36.6	-0.8
AGRB	**Hanur-Agry**	**0.73**	**333**	*e*Pg	Pg	04 29 26.1	+0.4
AGRB				*e*Sg	Sb	04 29 36.6	-0.8
CUKT	**Cukurca**	**1.68**	**175**	*e*PN	Pb	04 29 42.8	-0.3
CUKT	**Cukurca**	**1.68**	**175**	*e*Pn	Pb	04 29 42.8	-0.3
SVAN	**Silvan-Diyarba**	**1.91**	**247**	*e*PN	Pb	04 29 46.3	-0.7
SVAN	**Silvan-Diyarba**	**1.91**	**247**	*e*Pn	Pb	04 29 46.3	-0.7

*ISK **26** 04:30:11.9, 38°.84N×43°.52E, h5km, ML3.9*
*CSEM **26** 04:30:13.2±0.4, 38°.84N×43°.61E, h2km, ML3.9, Error ellipse: s-maj=10.7km s-min=5.3km az=77.0*
*DDA **26** 04:30:13.4, 38°.84N×43°.65E, h9km, Ml3.7*
ISC 26 04:30:13.5±1.1, 38°.82N±0°.02×43°.57E±0°.03, h10km±9km, n51, σ0s91/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**213**	*e*PG	Pg	04 30 19.2	+0.3
VANB				*e*SG	Sb	04 30 26.1	+1.1
VANB	**Van**	**0.27**	**213**	*e*Pg	Pg	04 30 19.2	+0.3
GEVA	**Gevas**	**0.65**	**219**	*i*P	Pg	04 30 24.8	-1.2
GEVA				*i*S	Sn	04 30 38.0	-1.2
GEVA	**Gevas**	**0.65**	**219**	P	Pg	04 30 24.8	-1.2
GEVA				S	Sn	04 30 38.0	-1.2
DYDN	**Diyadin**	**0.73**	**7**	*i*P	Pg	04 30 27.1	-0.5
DYDN				*i*S	Sb	04 30 38.1	-0.5
DYDN	**Diyadin**	**0.73**	**7**	P	Pg	04 30 27.1	-0.5
DYDN				S	Sb	04 30 38.1	-0.5
TUTA	**Tutak**	**0.83**	**315**	*i*P	Pg	04 30 28.2	-1.3
TUTA				*i*S	Sn	04 30 43.1	-0.7
TUTA	**Tutak**	**0.83**	**315**	P	Pg	04 30 28.2	-1.3
TUTA				S	Sn	04 30 43.1	-0.7
BASK	**Baskale_VAN**	**0.84**	**156**	*i*P	Pg	04 30 28.5	-1.1
BASK				*i*S	Sb	04 30 42.3	+0.7
BASK	**Baskale_VAN**	**0.84**	**156**	P	Pg	04 30 28.5	-1.1
BASK				S	Sb	04 30 42.3	+0.7
AGRB	**Hanur-Agry**	**0.88**	**329**	*e*PG	Pg	04 30 28.5	-2.0
AGRB				*e*SG	Sg	04 30 41.7	-0.2
AGRB	**Hanur-Agry**	**0.88**	**329**	*e*Pg	Pg	04 30 28.5	-2.0
AGRB				*e*Sg	Sg	04 30 41.7	-0.2
EKAR	**Karacoban**	**1.25**	**291**	*i*P	Pg	04 30 38.0	+0.5
EKAR	**Karacoban**	**1.25**	**291**	P	Pg	04 30 38.0	+0.5
HAKT	**HAKKARI**	**1.26**	**175**	*i*P	Pn	04 30 35.7	-1.7
HAKT				*i*S	Sn	04 30 55.1	+0.6
HAKT	**HAKKARI**	**1.26**	**175**	P	Pn	04 30 35.7	-1.7
HAKT				S	Sn	04 30 55.1	+0.6
EATA	**Eleskirt**	**1.34**	**322**	*i*P	Pb	04 30 38.7	-0.1
EATA				*i*S	Sb	04 30 55.7	-0.4
EATA	**Eleskirt**	**1.34**	**322**	P	Pb	04 30 38.7	-0.1
EATA				S	Sb	04 30 55.7	-0.4
CUKT	**Cukurca**	**1.57**	**179**	*e*PN	Pg	04 30 42.9	-0.7
CUKT	**Cukurca**	**1.57**	**179**	*i*P	Pg	04 30 43.7	+0.1
CUKT	**Cukurca**	**1.57**	**179**	*e*Pn	Pg	04 30 42.9	-0.7
CUKT	**Cukurca**	**1.57**	**179**	P	Pg	04 30 43.7	+0.1
DIGO	**Kars**	**1.60**	**355**	*i*P	Pg	04 30 43.8	-0.4
DIGO	**Kars**	**1.60**	**355**	P	Pg	04 30 43.8	-0.4
SIRN	**S¨–rnak**	**1.60**	**215**	*i*P	Pg	04 30 45.4	+1.1
SIRN	**S¨–rnak**	**1.60**	**215**	P	Pg	04 30 45.4	+1.1
VRTB	**Varto-Mus**	**1.68**	**282**	*e*PN	Pn	04 30 42.5	-0.6
VRTB	**Varto-Mus**	**1.68**	**282**	*e*Pn	Pn	04 30 42.5	-0.6
HOMI	**Horasan**	**1.78**	**314**	*i*P	Pg	04 30 47.7	+0.1
EAK	**Akyaka**	**1.87**	**1**	*i*P	Pg	04 30 51.5	+2.3
BNGL	**BINGOL**	**1.89**	**275**	*i*P	Pg	04 30 49.6	-0.2
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*PN	Pn	04 30 47.9	+0.9
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*i*P	Pb	04 30 49.0	-0.6
SVAN				*i*S	Sb	04 31 13.8	-0.4
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*Pn	Pn	04 30 47.9	+0.9
SVAN	**Silvan-Diyarba**	**1.98**	**251**	P	Pb	04 30 49.0	-0.6
SVAN				S	Sb	04 31 13.8	-0.4
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*PN	Pn	04 30 47.9	+0.7
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*Pn	Pn	04 30 47.9	+0.7
ERZM	**Erzurum**	**2.02**	**303**	*i*P	Pg	04 30 51.4	-0.9
ERZM	**Erzurum**	**2.02**	**303**	P	Pg	04 30 51.4	-0.9
BTMN	**Batman**	**2.03**	**244**	*i*P	Pb	04 30 50.6	+0.1
BTMN	**Batman**	**2.03**	**244**	P	Pb	04 30 50.6	+0.1
YEDI	**Yedisu-Bingol**	**2.43**	**286**	*e*PN	Pn	04 30 53.7	+0.3
YEDI	**Yedisu-Bingol**	**2.43**	**286**	*e*Pn	Pn	04 30 53.7	+0.3
BGD	**Bogdanovka**	**2.44**	**0**	P	Pg	04 31 00.4	0.0
BGD				S	Sg	04 31 34.1	+2.1
AKH	**Akhalkalaki**	**2.59**	**359**	P	Pg	04 31 03.1	0.0
KOPT	**Kop Dagi**	**2.67**	**298**	*i*P	Pb	04 31 02.7	+1.2
DGRG	**David-gareji**	**2.97**	**27**	P	Pg	04 31 10.6	+0.2
TBLG	**Delisi**	**3.04**	**17**	P	Pg	04 31 11.8	0.0
PTK	**Pertek**	**3.26**	**273**	*e*PN	Pn	04 31 05.9	+1.1
PTK	**Pertek**	**3.26**	**273**	*e*Pn	Pn	04 31 05.9	+1.1
ONI	**Oni**	**3.77**	**359**	P	Pg	04 31 25.7	+0.1

*ISK **26** 04:33:07.6, 38°.82N×43°.57E, h5km, ML3.8*
*CSEM **26** 04:33:08.7±0.4, 38°.84N×43°.65E, h2km, ML3.8, Error ellipse: s-maj=10.3km s-min=5.2km az=80.0*
*DDA **26** 04:33:08.1, 38°.80N×43°.53E, h5km, Ml3.6*
ISC 26 04:33:09.6±1.0, 38°.80N±0°.02×43°.61E±0°.03, h15km±8km, n54, σ1s53/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**219**	*e*PG	Pg	04 33 14.8	-0.6
VANB				*e*SG	Sb	04 33 21.2	+0.5
VANB	**Van**	**0.27**	**219**	*e*Pg	Pg	04 33 14.8	-0.6
VANB				*e*Sg	Sb	04 33 21.2	+0.5
GEVA	**Gevas**	**0.65**	**221**	*i*P	Pg	04 33 20.1	-2.3
GEVA				*i*S	Sn	04 33 33.6	-1.1
GEVA	**Gevas**	**0.65**	**221**	P	Pg	04 33 20.1	-2.3
GEVA				S	Sn	04 33 33.6	-1.1
DYDN	**Diyadin**	**0.74**	**5**	*i*P	Pg	04 33 22.7	-1.4
DYDN				*i*S	Sb	04 33 34.7	+0.2
DYDN	**Diyadin**	**0.74**	**5**	P	Pg	04 33 22.7	-1.4
DYDN				S	Sb	04 33 34.7	+0.2
BASK	**Baskale_VAN**	**0.81**	**157**	*i*P	Pg	04 33 23.9	-1.6
BASK				*i*S	Sn	04 33 38.0	-0.7
BASK	**Baskale_VAN**	**0.81**	**157**	P	Pg	04 33 23.9	-1.6
BASK				S	Sn	04 33 38.0	-0.7
TUTA	**Tutak**	**0.86**	**314**	*i*P	Pg	04 33 23.8	-2.5
TUTA				*i*S	Sg	04 33 36.6	-1.0
TUTA	**Tutak**	**0.86**	**314**	P	Pg	04 33 23.8	-2.5
TUTA				S	Sg	04 33 36.6	-1.0
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*PG	Pg	04 33 24.9	-2.3
AGRB				*e*SG	Sg	04 33 37.8	-1.3
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*Pg	Pg	04 33 24.9	-2.3
AGRB				*e*Sg	Sg	04 33 37.8	-1.3
HAKT	**HAKKARI**	**1.25**	**176**	*i*P	Pn	04 33 30.8	-2.0
HAKT				*i*S	Sg	04 33 52.4	+2.4
HAKT	**HAKKARI**	**1.25**	**176**	P	Pn	04 33 30.8	-2.0
HAKT				S	Sg	04 33 52.4	+2.4
EKAR	**Karacoban**	**1.28**	**291**	*i*P	Pn	04 33 33.4	+0.2
EKAR				*i*S	Sg	04 33 54.7	+3.7
EKAR	**Karacoban**	**1.28**	**291**	P	Pn	04 33 33.4	+0.2
EKAR				S	Sg	04 33 54.7	+3.7
EATA	**Eleskirt**	**1.36**	**321**	*i*P	Pn	04 33 33.6	-0.9
EATA	**Eleskirt**	**1.36**	**321**	P	Pn	04 33 33.6	-0.9
CUKT	**Cukurca**	**1.55**	**180**	*e*PN	Pb	04 33 37.8	-0.4
CUKT	**Cukurca**	**1.55**	**180**	*i*P	Pg	04 33 38.7	-0.8
CUKT				*i*S	Sg	04 34 01.5	+1.8
CUKT	**Cukurca**	**1.55**	**180**	*e*Pn	Pb	04 33 37.8	-0.4
CUKT	**Cukurca**	**1.55**	**180**	P	Pg	04 33 38.7	-0.8
CUKT				S	Sg	04 34 01.5	+1.8
SIRN	**S¨–rnak**	**1.61**	**216**	*i*P	Pg	04 33 52.0	+12
DIGO	**Kars**	**1.62**	**354**	*i*P	Pb	04 33 39.4	0.0
DIGO	**Kars**	**1.62**	**354**	P	Pb	04 33 39.4	0.0
HOMI	**Horasan**	**1.81**	**314**	*i*P	Pb	04 33 42.1	-0.5
EAK	**Akyaka**	**1.88**	**0**	*i*P	Pg	04 33 46.3	+0.6
EAK	**Akyaka**	**1.88**	**0**	P	Pg	04 33 46.3	+0.6
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*e*PN	Pn	04 33 44.1	+1.2
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*i*P	Pb	04 33 45.2	-0.5
SVAN	**Silvan-Diyarba**	**2.00**	**252**	*e*Pn	Pn	04 33 44.1	+1.2
SVAN	**Silvan-Diyarba**	**2.00**	**252**	P	Pb	04 33 45.2	-0.5
SENK	**Senkaya-Erzuru**	**2.00**	**332**	*e*PN	Pn	04 33 44.1	+0.9
SENK	**Senkaya-Erzuru**	**2.00**	**332**	*e*Pn	Pn	04 33 44.1	+0.9
BTMN	**Batman**	**2.05**	**244**	*i*P	Pb	04 33 46.7	+0.1
BTMN	**Batman**	**2.05**	**244**	P	Pb	04 33 46.7	+0.1
ERZM	**Erzurum**	**2.06**	**303**	*i*P	Pb	04 33 46.4	-0.4
ERZM	**Erzurum**	**2.06**	**303**	P	Pb	04 33 46.4	-0.4
BGD	**Bogdanovka**	**2.46**	**360**	P	Pg	04 33 55.2	-1.5
BGD				S	Sg	04 34 30.3	+1.7
YEDI	**Yedisu-Bingol**	**2.46**	**286**	*e*PN	Pn	04 33 50.4	+1.0
YEDI	**Yedisu-Bingol**	**2.46**	**286**	*e*Pn	Pn	04 33 50.4	+1.0
AKH	**Akhalkalaki**	**2.60**	**358**	*e*PN	Pn	04 33 52.7	+1.3
AKH	**Akhalkalaki**	**2.60**	**358**	P	Pg	04 33 59.0	-0.6
AKH				S	Sg	04 34 37.2	+3.9
AKH	**Akhalkalaki**	**2.60**	**358**	*e*Pn	Pn	04 33 52.7	+1.3
KOPT	**Kop Dagi**	**2.69**	**298**	*i*P	Pb	04 33 57.6	-0.1
KOPT	**Kop Dagi**	**2.69**	**298**	P	Pb	04 33 57.6	-0.1
MAZI	**Mazidag**	**2.83**	**243**	*e*PN	Pn	04 33 55.2	+0.8
MAZI	**Mazidag**	**2.83**	**243**	*e*Pn	Pn	04 33 55.2	+0.8
DGRG	**David-gareji**	**2.97**	**27**	P	Pg	04 34 04.6	-1.9
TBLG	**Delisi**	**3.05**	**16**	P	Pb	04 34 03.1	-0.5
TBLG				S	Sg	04 34 49.7	+2.1
ERZN	**Erzincan**	**3.12**	**286**	*e*PN	Pn	04 34 00.2	+1.8
PTK	**Pertek**	**3.29**	**273**	*e*PN	Pn	04 34 02.8	+2.0
PTK	**Pertek**	**3.29**	**273**	*e*Pn	Pn	04 34 02.8	+2.0
ONI	**Oni**	**3.78**	**358**	P	Pg	04 34 20.8	-1.3

*AZER **26** 04:41:38.3±1.1, 38°.30N×42°.48E, h30km, Error ellipse: s-maj=13.5km s-min=9.7km az=148.0*
*ISK **26** 04:41:42.7, 38°.84N×43°.53E, h5km, ML3.8*
*DDA **26** 04:41:43.0, 38°.82N×43°.59E, h10km, Ml3.8*
*TEH **26** 04:41:44.2, 38°.99N×43°.41E, h18km, ML3.8*
*CSEM **26** 04:41:46.8±0.2, 38°.81N×43°.33E, h10km, ML3.8, Error ellipse: s-maj=6.2km s-min=5.7km az=154.0*
ISC 26 04:41:45.4±0.8, 38°.81N±0°.02×43°.55E±0°.02, h9km±7km, n88, σ2s14/121, 11C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**210**	PG	Pg	04 41 50.0	-0.5
VANB				*e*SG	Sb	04 41 56.2	+2.3
VANB	**Van**	**0.25**	**210**	*i*Pg	Pg	04 41 50.0	-0.5
VANB				*e*Sg	Sb	04 41 56.2	+2.3
GEVA	**Gevas**	**0.63**	**218**	*i*P	Pg	04 41 55.1	-2.5
GEVA				*i*S	Sb	04 42 08.0	+0.4
GEVA	**Gevas**	**0.63**	**218**	P	Pg	04 41 55.1	-2.5
GEVA				S	Sb	04 42 08.0	+0.4
DYDN	**Diyadin**	**0.74**	**8**	*i*P	Pg	04 41 57.6	-2.1
DYDN	**Diyadin**	**0.74**	**8**	P	Pg	04 41 57.6	-2.1
TUTA	**Tutak**	**0.82**	**316**	*i*P	Pg	04 41 58.5	-2.8
TUTA				*i*S	Sn	04 42 17.5	+1.7
TUTA	**Tutak**	**0.82**	**316**	P	Pg	04 41 58.5	-2.8
BASK	**Baskale_VAN**	**0.84**	**155**	*i*P	Pg	04 41 59.0	-2.5
BASK				*i*S	Sn	04 42 15.7	-0.3
AGRB	**Hanur-Agry**	**0.88**	**331**	*e*PG	Pg	04 41 59.4	-2.9
AGRB				*e*SG	Sg	04 42 12.6	-1.2
AGRB	**Hanur-Agry**	**0.88**	**331**	*e*Pg	Pg	04 41 59.4	-2.9
AGRB				*e*Sg	Sg	04 42 12.6	-1.2
EKAR	**Karacoban**	**1.24**	**291**	*i*P	Pg	04 42 07.8	-1.4
EKAR				*i*S	Sn	04 42 37.3	+11
EKAR	**Karacoban**	**1.24**	**291**	P	Pg	04 42 07.8	-1.4
HAKT	**HAKKARI**	**1.26**	**174**	*i*P	Pg	04 42 06.1	-3.4
HAKT				*i*S	Sn	04 42 29.6	+3.2
EATA	**Eleskirt**	**1.33**	**322**	*i*P	Pn	04 42 08.2	-2.2
EATA	**Eleskirt**	**1.33**	**322**	P	Pn	04 42 08.2	-2.2
NAX	**Nakhchivan** SNR=4.1	**1.56**	**76**	⇓P	Pg	04 42 17.1	+1.8
NAX				⇓S	Sg	04 42 46.9	+11
NAX	**Nakhchivan** SNR=4.1	**1.56**	**76**	P	Pg	04 42 17.1	+1.8
CUKT	**Cukurca**	**1.56**	**178**	*e*PN	Pb	04 42 13.4	-1.1
CUKT	**Cukurca**	**1.56**	**178**	*i*P	Pb	04 42 13.6	-0.9
CUKT				*i*S	Sg	04 42 37.0	+1.4
CUKT	**Cukurca**	**1.56**	**178**	P	Pb	04 42 13.6	-0.9
CUKT				S	Sg	04 42 37.0	+1.4
SIRN	**S¨–rnak**	**1.59**	**215**	*i*P	Pb	04 42 14.0	-0.9
SIRN	**S¨–rnak**	**1.59**	**215**	P	Pb	04 42 14.0	-0.9
VRTB	**Varto-Mus**	**1.67**	**283**	*e*PN	Pn	04 42 14.4	-0.5
VRTB	**Varto-Mus**	**1.67**	**283**	*i*P	Pb	04 42 15.3	-1.1
VRTB				*i*S	Sg	04 42 43.3	+4.2
VRTB	**Varto-Mus**	**1.67**	**283**	*e*Pn	Pn	04 42 14.4	-0.5
VRTB	**Varto-Mus**	**1.67**	**283**	P	Pb	04 42 15.3	-1.1
IMRD	**Marand**	**1.69**	**93**	*e*Pn	Pn	04 42 14.7	-0.5
IMRD	comp=Z,16μm,0.2s			*e*AMB	AMB	04 42 20.6	
IMRD				*e*Sg	Sg	04 42 41.1	+1.5
ISHB	**Shabestar**	**1.70**	**107**	*e*Pn	Pn	04 42 14.7	-0.8
ISHB	comp=Z,16μm,0.3s			*e*AMB	AMB	04 42 15.9	
HOMI	**Horasan**	**1.77**	**315**	*i*P	Pn	04 42 15.5	-0.9
HOMI				*i*S	Sg	04 42 45.3	+2.9
BNGL	**BINGOL**	**1.88**	**275**	*i*P	Pn	04 42 18.5	+0.6
BNGL				*i*S	Sg	04 42 48.8	+3.0
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*e*PN	Pn	04 42 18.9	+0.1
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*i*P	Pn	04 42 19.4	+0.6
SVAN				*i*S	Sg	04 42 47.5	-0.9
SVAN	**Silvan-Diyarba**	**1.96**	**251**	*e*Pn	Pn	04 42 18.9	+0.1
SVAN	**Silvan-Diyarba**	**1.96**	**251**	P	Pn	04 42 19.4	+0.6
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*PN	Pn	04 42 19.1	-0.1
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*Pn	Pn	04 42 19.1	-0.1
BTMN	**Batman**	**2.01**	**244**	*i*P	Pn	04 42 20.0	+0.4
BTMN				*i*S	Sb	04 42 47.8	+0.4
BTMN	**Batman**	**2.01**	**244**	P	Pn	04 42 20.0	+0.4
BTMN				S	Sb	04 42 47.8	+0.4
ERZM	**Erzurum**	**2.02**	**304**	*i*P	Pb	04 42 21.3	-1.1
ERZM	**Erzurum**	**2.02**	**304**	P	Pb	04 42 21.3	-1.1
ITBZ	**Tabriz**	**2.12**	**105**	*e*Pn	Pn	04 42 21.0	-0.1
ITBZ	comp=Z,2μm,0.2s			*e*AMB	AMB	04 42 27.5	
ITBZ	**Tabriz**	**2.12**	**105**	*e*Pn	Pn	04 42 21.0	-0.1
BNGB	**Bing¨¶l**	**2.25**	**275**	*e*PN	Pn	04 42 22.8	-0.1
BINT	**Bingol**	**2.39**	**273**	*e*Pn	Pn	04 42 22.8	-2.0
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*PN	Pn	04 42 24.7	-0.5
YEDI	**Yedisu-Bingol**	**2.42**	**286**	*e*Pn	Pn	04 42 24.7	-0.5
BGD	**Bogdanovka**	**2.45**	**1**	P	Pb	04 42 29.1	-0.6
BGD				S	Sg	04 43 06.8	+2.7
GDB	**GEDABAY** SNR=27	**2.55**	**41**	⇑P	Pb	04 42 30.9	-0.6
GDB				⇑S	Sg	04 43 13.7	+6.3
GDB	**GEDABAY** SNR=27	**2.55**	**41**	P	Pb	04 42 30.9	-0.6
AKH	**Akhalkalaki**	**2.60**	**359**	*e*PN	Pn	04 42 27.1	-0.6
AKH	**Akhalkalaki**	**2.60**	**359**	P	Pg	04 42 34.2	-0.9
AKH				S	Sg	04 43 12.5	+3.6
AKH	**Akhalkalaki**	**2.60**	**359**	*e*Pn	Pn	04 42 27.1	-0.6
QZX	**Qazax, Azerbai** SNR=32	**2.65**	**31**	P	Pb	04 42 31.4	-1.6
QZX				⇓S	Sg	04 43 13.8	+3.4
QZX	**Qazax, Azerbai** SNR=32	**2.65**	**31**	P	Pb	04 42 31.4	-1.6
MARD	**Mardin**	**2.65**	**237**	*i*P	Pn	04 42 28.1	-0.2
IHRS	**Heris**	**2.78**	**99**	*e*Pn	Pn	04 42 30.3	0.0
IHRS	comp=Z,4μm,0.4s			*e*AMB	AMB	04 42 41.8	
IHRS	**Heris**	**2.78**	**99**	*e*Pn	Pn	04 42 30.3	0.0
GANJ	**Ganja** SNR=9.8	**2.82**	**49**	P	Pb	04 42 34.6	-1.2
GANJ				⇓S	Sg	04 43 17.8	+1.9
GANJ	**Ganja** SNR=9.8	**2.82**	**49**	P	Pb	04 42 34.6	-1.2
IBST	**Bostanabad**	**2.85**	**112**	*e*Pn	Pn	04 42 32.0	+0.7
IBST	**Bostanabad**	**2.85**	**112**	*e*Pn	Pn	04 42 32.0	+0.7
DGRG	**David-gareji**	**2.98**	**27**	P	Pb	04 42 38.4	-0.3
DGRG				S	Sg	04 43 24.5	+3.2
TBLG	**Delisi**	**3.06**	**17**	P	Pg	04 42 42.5	-1.4
TBLG				S	Sg	04 43 24.1	+0.6
ERZN	**Erzincan**	**3.07**	**286**	*e*PN	Pn	04 42 34.3	+0.1
BRDA	**Brd** SNR=3.3	**3.16**	**62**	⇑P	Pb	04 42 39.5	-2.1
BRDA				⇑S	Sg	04 43 27.0	+0.2
BRDA	**Brd** SNR=3.3	**3.16**	**62**	P	Pb	04 42 39.5	-2.1
PTK	**Pertek**	**3.25**	**273**	*e*PN	Pn	04 42 36.6	-0.1
PTK	**Pertek**	**3.25**	**273**	*e*Pn	Pn	04 42 36.6	-0.1
MNGR	**Mingechevir, A** SNR=3.6	**3.35**	**53**	⇑P	Pb	04 42 41.9	-3.1
MNGR				⇓S	Sg	04 43 32.4	-0.7
MNGR	**Mingechevir, A** SNR=3.6	**3.35**	**53**	P	Pb	04 42 41.9	-3.1
ISRB	**Sarab**	**3.38**	**106**	*e*Pn	Pn	04 42 38.2	-0.4
ISRB	comp=Z,1μm,0.2s			*e*AMB	AMB	04 42 55.1	
ISRB	**Sarab**	**3.38**	**106**	*e*Pn	Pn	04 42 38.2	-0.4
ZRD	**Zardab** SNR=4.3	**3.52**	**64**	⇓P	Pb	04 42 44.2	-3.5
ZRD				⇓S	Sg	04 43 36.9	-1.4
ZRD	**Zardab** SNR=4.3	**3.52**	**64**	P	Pb	04 42 44.2	-3.5
ZKTA	**Zakatala** SNR=5.8	**3.67**	**39**	⇓P	Pb	04 42 46.1	-4.4
ZKTA				⇑S	Sg	04 43 39.6	-3.8
SEKA	**Sheki** SNR=6.3	**3.69**	**48**	⇓P	Pb	04 42 47.2	-3.5
SEKA				⇓S	Sg	04 43 41.7	-2.1
SEKA	**Sheki** SNR=6.3	**3.69**	**48**	P	Pb	04 42 47.2	-3.5
LRK	**Lerik** SNR=5.2	**3.75**	**91**	⇑P	Pn	04 42 45.7	+2.1
LRK				⇓S	Sb	04 43 39.7	+2.3
LRK	**Lerik** SNR=5.2	**3.75**	**91**	P	Pn	04 42 45.7	+2.1
LRK				S	Sb	04 43 39.7	+2.3
ONI	**Oni**	**3.78**	**359**	P	Pb	04 42 53.5	+1.2
GLBA	**Clilabad** SNR=5.0	**3.80**	**82**	⇑P	Pn	04 42 47.1	+3.1
GLBA				⇓S	Sg	04 43 42.4	-4.9
GLBA	**Clilabad** SNR=5.0	**3.80**	**82**	P	Pn	04 42 47.1	+3.1
KDMR	**Kurdemir**	**3.91**	**65**	⇑S	Sg	04 43 46.4	-4.4
SAAT	**Saatly**	**3.92**	**73**	⇓S	Sb	04 43 44.3	+2.1
QBL	**Gabala**	**3.93**	**56**	⇑S	Sg	04 43 46.8	-4.7
XNQ	**Khinaliq** SNR=3.8	**4.24**	**55**	⇑P	Pn	04 42 54.2	+3.9
XNQ	**Khinaliq** SNR=3.8	**4.24**	**55**	P	Pn	04 42 54.2	+3.9

*ISK **26** 04:47:40.5, 38°.72N×43°.27E, h5km, ML3.3*
*CSEM **26** 04:47:41.7±0.3, 38°.71N×43°.22E, h2km, ML3.3, Error ellipse: s-maj=7.5km s-min=4.5km az=73.0*
*DDA **26** 04:47:41.1, 38°.67N×43°.18E, h7km, Ml3.6*
ISC 26 04:47:41.6±1.1, 38°.72N±0°.02×43°.21E±0°.03, h3km±10km, n42, σ1s21/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**132**	PG	Pg	04 47 45.6	+0.4
VANB				*e*SG	Sg	04 47 49.7	+2.1
VANB	**Van**	**0.18**	**132**	*i*Pg	Pg	04 47 45.6	+0.4
GEVA	**Gevas**	**0.42**	**197**	*i*P	Pg	04 47 48.0	-1.7
GEVA				*i*S	Sg	04 47 54.6	-0.7
GEVA	**Gevas**	**0.42**	**197**	P	Pg	04 47 48.0	-1.7
GEVA				S	Sg	04 47 54.6	-0.7
TUTA	**Tutak**	**0.75**	**336**	*i*P	Pg	04 47 55.6	-0.4
TUTA				*i*S	Sg	04 48 06.3	+0.5
TUTA	**Tutak**	**0.75**	**336**	P	Pg	04 47 55.6	-0.4
TUTA				S	Sg	04 48 06.3	+0.5
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*PG	Pg	04 47 58.1	-0.3
AG

MAN 26 05:09:15, 15°.20N×122°.57E, h5km, mb4.2, ML3.1, MS2.8, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.09**	**299**	*eP*	Pb	05 09 36.5	0.0
BALP				*eS*	Sn	05 09 52.9	+0.3
GQP	**Guinayangan**	**1.29**	**185**	⇑*iP*	Pn	05 09 38.4	-1.3
GQP				*i* S	Sg	05 09 55.5	-1.1
LQP	**Lukban**	**1.47**	**223**	⇑*eP*	Sb	05 09 59.9	-2.2
BOAC	**Boac**	**1.87**	**202**	*eP*	Pg	05 09 51.1	+0.3
BOAC				*eS*	Sb	05 10 13.2	0.0
CAUP	**Cauayan**	**1.88**	**338**	*eP*	Pn	05 09 47.8	+0.1
CAUP				*eS*	Sb	05 10 13.5	0.0

IDC 26 05:15:01.2±3.6, 30°.13S×138°.26E, h0km, mb1 3.0/3, mb1mx3.0/22, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=93.2km s-min=22.8km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.35**	**122**	Pn	Pn	05 15 55.3	+0.4
	0.6nm,0.3s,baz=295,slow=14,SNR=7.3						
STKA				Sn	Sn	05 16 36.1	+0.7
	1.9nm,0.3s,baz=302,slow=19,SNR=9.4						
ASAR	**Alice Springs**	**7.52**	**328**	Pn	Pn	05 16 51.9	-0.4
	0.1nm,0.3s,baz=149,slow=13,SNR=4.5						
ASAR				Sn	Sn	05 18 21.0	+2.8
	0.1nm,0.3s,baz=149,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**10.74**	**340**	Pn	Pn	05 17 36.1	-0.4
	0.0nm,0.3s,baz=158,slow=12,SNR=3.3						

*ISK **26** 05:34:20.9, 38°.72N×43°.39E, h5km, ML3.5*
*CSEM **26** 05:34:21.9±0.3, 38°.70N×43°.28E, h2km, ML3.5, Error ellipse: s-maj=8.8km s-min=4.6km az=61.0*
*DDA **26** 05:34:21.3, 38°.65N×43°.24E, h7km, Ml3.6*
ISC 26 05:34:22.4±0.9, 38°.66N±0°.02×43°.22E±0°.03, h11km±7km, n42, σ1§16/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**116**	*e*PG	**Pg**	**05 34 26.0**	**0.0**
VANB				*e*SG	**Sg**	**05 34 28.8**	**+0.3**
VANB	**Van**	**0.15**	**116**	*e*Pg	**Pg**	**05 34 26.0**	**0.0**
VANB				*e*Sg	**Sg**	**05 34 28.8**	**+0.3**
GEVA	**Gevas**	**0.37**	**200**	*i* P	**Pg**	**05 34 29.1**	**-0.7**
GEVA				*i* S	**Sb**	**05 34 36.6**	**-0.4**
TUTA	**Tutak**	**0.80**	**337**	*i* P	**Pg**	**05 34 37.1**	**-0.9**
TUTA				*i* S	**Sb**	**05 34 48.8**	**-0.8**
TUTA	**Tutak**	**0.80**	**337**	P	**Pg**	**05 34 37.1**	**-0.9**
TUTA				S	**Sb**	**05 34 48.8**	**-0.8**
BASK	**Baskale_VAN**	**0.87**	**134**	*i* P	**Pg**	**05 34 37.5**	**-1.7**
BASK				*i* S	**Sb**	**05 34 50.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.93**	**349**	*e*PG	**Pg**	**05 34 38.6**	**-1.8**
AGRB				*e*SG	**Sb**	**05 34 51.5**	**-1.7**
AGRB	**Hanur-Agry**	**0.93**	**349**	*e*Pg	**Pg**	**05 34 38.6**	**-1.8**
AGRB				*e*Sg	**Sb**	**05 34 51.5**	**-1.7**
EKAR	**Karacoban**	**1.08**	**304**	*i* P	**Pb**	**05 34 42.9**	**-0.4**
EKAR	**Karacoban**	**1.08**	**304**	P	**Pb**	**05 34 42.9**	**-0.4**
HAKT	**HAKKARI**	**1.17**	**161**	*i* P	**Pg**	**05 34 42.5**	**-2.4**
HAKT	**HAKKARI**	**1.17**	**161**	P	**Pg**	**05 34 42.5**	**-2.4**
EATA	**Eleskirt**	**1.32**	**335**	*i* P	**Pb**	**05 34 46.7**	**-0.8**
EATA				*i* S	**Sn**	**05 35 06.5**	**+1.5**
EATA	**Eleskirt**	**1.32**	**335**	P	**Pb**	**05 34 46.7**	**-0.8**
EATA				S	**Sn**	**05 35 06.5**	**+1.5**
CUKT	**Cukurca**	**1.45**	**168**	*e*PN	**Pb**	**05 34 49.2**	**-0.3**
CUKT	**Cukurca**	**1.45**	**168**	*i* P	**Pg**	**05 34 50.2**	**0.0**
CUKT	**Cukurca**	**1.45**	**168**	*e*Pn	**Pb**	**05 34 49.2**	**-0.3**
CUKT	**Cukurca**	**1.45**	**168**	P	**Pg**	**05 34 50.2**	**0.0**
BNGL	**BINGOL**	**1.64**	**281**	*i* P	**Pb**	**05 34 52.7**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*e*PN	**Pb**	**05 34 52.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	*i* P	**Pb**	**05 34 52.9**	**-0.3**
SVAN				*i* S	**Sg**	**05 35 16.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.67**	**253**	P	**Pb**	**05 34 52.9**	**-0.3**
SVAN				S	**Sg**	**05 35 16.1**	**+0.1**
BTMN	**Batman**	**1.71**	**244**	*i* P	**Pn**	**05 34 53.3**	**+0.9**
BTMN				*i* S	**Sg**	**05 35 17.8**	**+0.2**
BTMN	**Batman**	**1.71**	**244**	P	**Pn**	**05 34 53.3**	**+0.9**
BTMN				S	**Sg**	**05 35 17.8**	**+0.2**
HOMI	**Horasan**	**1.71**	**324**	*i* P	**Pg**	**05 34 53.9**	**-1.4**
DIGO	**Kars**	**1.75**	**4**	*i* P	**Pg**	**05 34 56.2**	**+0.1**
DIGO	**Kars**	**1.75**	**4**	P	**Pg**	**05 34 56.2**	**+0.1**
ERZM	**Erzurum**	**1.90**	**311**	*i* P	**Pb**	**05 34 57.1**	**-0.2**
ERZM	**Erzurum**	**1.90**	**311**	P	**Pb**	**05 34 57.1**	**-0.2**
BNGB	**Bing¶ll**	**2.01**	**280**	*e*PN	**Pb**	**05 34 58.4**	**-0.7**
EAK	**Akyaka**	**2.04**	**8**	*i* P	Pg	05 35 08.2	+6.5
BINT	**Bingol**	**2.14**	**277**	*e*Pn	**Pn**	**05 34 58.4**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.22**	**291**	*e*PN	**Pn**	**05 35 00.7**	**+1.3**
YEDI				*e*SN	**Sb**	**05 35 30.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.22**	**291**	*e*Pn	**Pn**	**05 35 00.7**	**+1.3**
YEDI				*e*Sn	**Sb**	**05 35 30.2**	**-0.1**
MARD	**Mardin**	**2.35**	**236**	*i* P	**Pb**	**05 35 03.9**	**-1.0**
MAZI	**Mazidag**	**2.50**	**242**	*e*PN	**Pn**	**05 35 03.2**	**+0.1**
MAZI	**Mazidag**	**2.50**	**242**	*e*Pn	**Pn**	**05 35 03.2**	**+0.1**
KOPT	**Kop Dagi**	**2.51**	**304**	*i* P	**Pg**	**05 35 09.1**	**-1.4**
PTK	**Pertek**	**3.00**	**276**	*e*PN	**Pn**	**05 35 12.2**	**+2.2**
PTK	**Pertek**	**3.00**	**276**	*e*Pn	**Pn**	**05 35 12.3**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.08**	**266**	*e*PN	**Pn**	**05 35 13.8**	**+2.6**
SVRC	**Sivrice-ELAZID**	**3.08**	**266**	*e*Pn	**Pn**	**05 35 13.9**	**+2.6**

*IDC **26** 05:56:53.2±3.4, 24°.31S×177°.28W, h102km±29km, mb4.2/12, mb1 4.4/14, mb1mx4.2/30, mbtmp4.5/14, Error ellipse: s-maj=19.6km s-min=15.1km az=120.0*
*ISCJB **26** 05:56:55.7±0.5, 24°.38S±0°.06×177°.4W±0°.1, h132km, mb4.5/18, Error ellipse: s-maj=13.5km s-min=9.1km az=6.8*
*NEIC **26** 05:57:15.1±1.6, 24°.45S×177°.61W, h301km±15km, mb4.2/3, Error ellipse: s-maj=18.1km s-min=12.8km az=193.0*
ISC 26 05:56:56.5±0.5, 24°.40S±0°.08×177°.2W±0°.1, h132km, n51, σ1§31/52, mb4.4/18, 8C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.88**	**188**	S	**Sn**	**05 59 05.1**	**+1.4**
	147nm,0.3s,baz=71,slow=22,SNR=10						
RAO	**Raoul Island**	**4.88**	**188**	*e*Pn	Pn	05 58 30.2	+22
RAO				S	**Sn**	**05 59 05.2**	**+1.4**
AFI	**Afiamalu**	**11.61**	**27**	P	Pn	05 59 34.2	-4.2
	7.0nm,0.3s,baz=274,slow=1.2,SNR=5.1						
AFI				S	Sn	06 01 36.1	-10
	8.8nm,0.3s,baz=167,slow=14,SNR=5.7						
URZ	**Urewera**	**14.65**	**198**	P	**Pn**	**06 00 15.7**	**-1.6**
	3.0nm,0.3s,baz=302,slow=2.1,SNR=16						
URZ				S	Sn	06 02 42.2	-17
	2.9nm,0.3s,baz=48,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**15.24**	**275**	P	**P**	**06 00 31.4**	**+4.6**
	0.8nm,0.3s,baz=89,slow=16,SNR=11						
RPZ	**Rata Peaks**	**21.56**	**204**	P	**P**	**06 01 34.4**	**-1.0**
	9.1nm,0.5s,baz=48,slow=12,SNR=4.4						
EIDS	**Eidsvold**	**28.78**	**261**	*e*P	**P**	**06 02 42.6**	**+0.5**
	8.0nm,1.0s						
CTAO	**Charters Tower**	**34.06**	**270**	*e*P	**P**	**06 03 28.2**	**-0.2**
	57nm,0.5s						
STKA	**Stephens Creek**	**36.94**	**249**	P	**P**	**06 03 52.6**	**-0.3**
	2.7nm,0.5s,baz=98,slow=9.8,SNR=17						
ASAR	**Alice Springs**	**44.50**	**260**	P	**P**	**06 04 54.0**	**-1.1**
	5.9nm,0.4s,baz=88,slow=7.8,SNR=81						
ASAR				PcP	**PcP**	**06 06 35.6**	**-0.6**
	1.9nm,0.8s,baz=90,slow=2.4,SNR=6.0						
WRAB	**Tennant Creek**	**44.94**	**266**	*e*P	**P**	**06 04 56.7**	**-1.8**
	5.4nm,0.4s						
WRA	**Warramunga Arr**	**44.95**	**266**	P	**P**	**06 04 57.0**	**-1.7**
	5.1nm,0.4s,baz=100,slow=7.9,SNR=31						
WRA				PcP	**PcP**	**06 06 37.5**	**-0.3**
	3.4nm,0.8s,baz=98,slow=3.5,SNR=7.7						
VNDA	**Vanda**	**54.12**	**186**	P	**P**	**06 06 08.9**	**+1.6**
	1.5nm,0.7s,baz=0.0,slow=7.4,SNR=6.8						
MAW	**Mawson**	**78.17**	**200**	P	**P**	**06 08 41.4**	**+0.5**
	9.5nm,0.5s,baz=133,slow=7.8,SNR=44						
PETK	**Petropavlovsk-**	**80.21**	**345**	P	**P**	**06 08 52.6**	**+0.6**
	4.0nm,1.0s,baz=158,slow=4.3,SNR=4.4						
SNAA	**Sanae**	**84.11**	**178**	P	**P**	**06 09 11.7**	**-0.7**
SNAA	**Sanae**	**84.11**	**178**	*e*P	**P**	**06 09 11.6**	**-0.7**
	587nm,1.2s						
VNA3	**Neumayer Olymp**	**84.22**	**176**	P	**P**	**06 09 12.1**	**-0.7**
VNA2	**Neumayer--Watz**	**84.67**	**177**	P	**P**	**06 09 14.7**	**-0.3**
	baz=172,slow=3.6						
VNA1	**Neumayer--Stat**	**84.89**	**176**	P	**P**	**06 09 16.2**	**+0.1**
PLCA	**Paso Flores**	**86.06**	**133**	P	**P**	**06 09 23.3**	**+0.6**
	2.1nm,0.7s,baz=285,slow=7.3,SNR=4.7						
TXAR	**Lajitas Array**	**88.52**	**57**	P	**P**	**06 09 35.7**	**+1.2**
	0.9nm,0.8s,baz=219,slow=7.6,SNR=11						
ANMO	**Albuquerque**	**89.25**	**51**	*e*P	**P**	**06 09 39.5**	**+1.5**
	2.3nm,1.1s						
SMCO	**Snowmass**	**91.05**	**47**	P	P	06 09 52.3	+5.8
	56nm,1.1s						
PDAR	**Pinedale Array**	**91.27**	**43**	P	**P**	**06 09 47.8**	**+0.6**
	1.2nm,0.9s,baz=219,slow=3.8,SNR=7.6						
ILAR	**Eielson Array**	**91.93**	**12**	P	**P**	**06 09 49.7**	**+0.3**
	1.5nm,1.0s,baz=231,slow=4.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**92.12**	**289**	P	**P**	**06 09 51.9**	**+0.4**
	1.4nm,0.4s,baz=130,slow=3.5,SNR=6.7						
MKAR	**Makanchi Array**	**114.39**	**312**	PKP	PKPdf	06 15 19.1	-1.5
	0.8nm,0.6s,baz=90,slow=2.9,SNR=6.9						
KKAR	**Karatay Array**	**122.22**	**307**	*e*PKPdf	**PKPdf**	**06 15 31.3**	**-4.5**
GEYT	**Alibeck**	**131.45**	**300**	PKP	**PKPdf**	**06 15 53.2**	**-0.4**
	0.2nm,0.7s,baz=238,slow=5.1,SNR=4.0						
ARCES	**ARCESS Array B**	**132.87**	**349**	PKP	**PKPdf**	**06 15 52.9**	**-2.4**
	1.9nm,0.6s,baz=47,slow=1.6,SNR=17						
FINES	**FINESS Array B**	**139.71**	**343**	PKhKP	PKPpre	06 15 58.9	
	1.3nm,0.8s,baz=132,slow=2.8,SNR=3.9						
FINES				PKP	**PKPdf**	**06 16 07.8**	**-0.3**
	4.4nm,1.0s,baz=60,slow=4.6,SNR=5.4						
NOA	**NORSAR Array B**	**142.92**	**353**	PKhKP	PKPpre	06 16 10.2	
	0.8nm,0.6s,baz=37,slow=4.4,SNR=3.3						
NOA				PKP	**PKPdf**	**06 16 15.7**	**+1.7**
	1.0nm,0.8s,baz=13,slow=4.0,SNR=3.7						
AKASG	**Malin Array Be**	**146.75**	**329**	PKPbc	**PKPdf**	**06 16 21.4**	**+0.6**
	3.0nm,0.5s,baz=43,slow=4.0,SNR=21						
BRTR	**Keskin Array B**	**149.92**	**308**	PKPbc	**PKPbc**	**06 16 30.9**	**-0.6**
	3.4nm,0.9s,baz=114,slow=3.0,SNR=9.8						
BURAR	**Bucovina Array**	**150.79**	**328**	⇓*iP*	**PKPbc**	**06 16 34.0**	**+0.7**
TESR	**Tescani**	**150.82**	**325**	⇑*iP*	**PKPbc**	**06 16 32.2**	**-1.1**
CFR	**Carcaliu**	**150.85**	**322**	⇓*iP*	**PKPbc**	**06 16 33.1**	**-0.3**
HARR	**Harsova**	**151.25**	**321**	⇑*iP*	**PKPab**	**06 16 42.4**	**-0.3**
DOPR	**Dopca**	**151.83**	**325**	⇑*iP*	**PKPbc**	**06 16 35.8**	**+0.1**
CLL	**Collm**	**152.01**	**346**	*i* PKPbc	**PKPbc**	**06 16 35.9**	**0.0**
	comp=Z,16nm,0.8s						
MORC	**Moravsky Berou**	**152.18**	**339**	⇑*iP*	**PKPbc**	**06 16 37.2**	**+0.8**
BRG	**Berggiesshubel**	**152.20**	**345**	*i* P	**PKPbc**	**06 16 36.6**	**+0.3**
	comp=Z,9.1nm,0.7s						
BRG				*e*		06 16 43.8	
	comp=Z,5.0nm,0.7s						
CJR	**Cluj-Napoca**	**152.21**	**328**	⇑*iP*	**PKPbc**	**06 16 36.1**	**-0.4**
VOIR		**152.37**	**325**	⇑*iP*	**PKPbc**	**06 16 38.2**	**+1.2**
DRGR		**152.56**	**330**	⇑*iP*	**PKPbc**	**06 16 36.9**	**-0.5**
ARR	**Arges**	**152.63**	**325**	⇑*iP*	**PKPbc**	**06 16 38.3**	**+0.8**
GZR	**Gura Zlata**	**153.55**	**327**	⇓*iP*	**PKPbc**	**06 16 38.3**	**-1.3**
GERES	**GERESS Array B**	**154.14**	**343**	PKPbc	**PKPbc**	**06 16 40.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=35,slow=2.4,SNR=4.7						
GERES				PKPab	**PKPab**	**06 16 55.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=41,slow=4.3,SNR=4.5						
DBIC	**Dimbokro**	**160.90**	**156**	PKPab	**PKPab**	**06 17 24.9**	**+0.1**
	comp=Z,6.8nm,1.1s,baz=194,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**168.76**	**174**	PKP	**PKPdf**	**06 16 47.4**	**-1.1**
	comp=Z,1.6nm,1.1s,baz=318,slow=2.0,SNR=5.0						
TORD				PKPab	**PKPab**	**06 17 58.6**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=195,slow=3.8,SNR=9.3						

*SKHL **26** 05:56:59.9±0.8, 46°.07N×145°.73E, h35km*
*ISCJB **26** 05:57:14.7±0.7, 43°.19N±0°.07×145°.03E±0°.06, h125km±4km, mb3.7/4, Error ellipse: s-maj=11.8km s-min=6.3km az=158.5*
*IDC **26** 05:57:15.9±1.8, 45°.69N×144°.11E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.8/4, Error ellipse: s-maj=46.9km s-min=21.6km az=120.0*
*JMA **26** 05:57:16.2±0.1, 43°.22N×144°.98E, h118km±1km, M3.4*
ISC 26 05:57:15.6±1.0, 43°.24N±0°.07×145°.02E±0°.05, h125km±6km, n21, σ0§98/29, mb3.7/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.34**	**225**	P	**Pn**	**05 57 33.1**	**-0.1**
JAK				*e*S	**Sn**	**05 57 45.9**	**-0.6**
JNK	**Nakash**	**0.41**	**328**	P	**Pn**	**05 57 33.4**	**-0.1**
JNK				*e*S	**Sn**	**05 57 46.3**	**-0.9**
NEM2	**Nemuro 2**	**0.55**	**76**	P	**Pn**	**05 57 34.3**	**0.0**
NEM2				*e*S	**Sn**	**05 57 47.5**	**-0.9**
JRA	**Rausu**	**0.71**	**6**	P	**Pn**	**05 57 35.7**	**+0.3**
JRA				*e*S	**Sn**	**05 57 50.4**	**0.0**
JAR	**Ashorobuto**	**0.91**	**274**	P	**Pn**	**05 57 37.4**	**+0.2**
JAR				*e*S	**Sn**	**05 57 52.9**	**-0.6**
JOB	**Onbets**	**0.93**	**249**	P	**Pn**	**05 57 37.5**	**+0.2**
JOB				*e*S	**Sn**	**05 57 53.1**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.01**	**37**	*e*P	Pn	05 57 31.6	-6.4
YUK				AMB	AMB	05 57 32.0	
	192nm,0.2s						
YUK				*e*S	**Sn**	**05 57 56.0**	**+0.9**
YUK				A	A	05 57 57.6	
	440nm,0.4s						
YUK				A	A	05 57 57.6	
	250nm,0.4s						
JTKR	**Abashiri--Toko**	**1.09**	**313**	P	**Pn**	**05 57 39.1**	**+0.3**
JTKR				*e*S	**Sn**	**05 57 56.3**	**-0.2**
JCH	**Churui**	**1.36**	**243**	P	**Pn**	**05 57 41.8**	**+0.1**
JCH				*e*S	**Sn**	**05 58 00.2**	**-1.4**
JMP	**Maruseppu**	**1.43**	**303**	P	**Pn**	**05 57 42.6**	**+0.1**
SHO	**Shikotan**	**1.46**	**64**	*e*P	Pn	05 57 36.2	-6.6
SHO				*e*S	**Sn**	**05 58 02.8**	**-0.8**
SHO				A	A	05 58 04.7	
	224nm,0.3s						
SHO				A	A	05 58 04.7	
	89nm,0.3s						
JKK2	**Kamakawa 2**	**1.77**	**292**	P	**Pn**	**05 57 46.8**	**+0.4**
JFR	**Furan**	**1.77**	**268**	*e*S	**Sn**	**05 58 09.3**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.92**	**241**	P	**Pn**	**05 57 47.5**	**-0.8**
ASAJ	**Asahikawa**	**1.96**	**297**	Pn	**Pn**	**05 57 49.7**	**+1.0**
	27nm,0.3s,baz=98,slow=10,SNR=20						
ASAJ				Sn	**Sn**	**05 58 15.3**	**+1.1**
	1.4nm,0.3s,baz=330,slow=20,SNR=4.3						
ASAJ	**Asahikawa**	**1.96**	**297**	P	**Pn**	**05 57 49.6**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.05**	**337**	*e*P	**Pn**	**05 58 12.3**	**-3.4**
NRIK	**Noril'sk**	**38.96**	**332**	P	P	06 04 22.0	-6.9
	3.2nm,0.4s,baz=90,slow=2.0,SNR=3.5						
ILAR	**Eielson Array**	**42.82**	**36**	P	**P**	**06 05 01.8**	**+1.2**
	0.7nm,0.8s,baz=283,slow=8.1,SNR=6.5						
MKAR	**Makanchi Array**	**43.45**	**297**	P	**P**	**06 05 06.2**	**+0.3**
	0.2nm,0.4s,baz=73,slow=9.1,SNR=2.7						
FINES	**FINESS Array B**	**64.62**	**332**	P	**P**	**06 07 39.0**	**-0.2**
	0.9nm,0.6s,baz=28,slow=8.6,SNR=4.4						

IDC 26 06:08:16.4±3.0, 5°.60S×151°.41E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.5/40, mbtmp3.9/4, ML2.2/1, Error ellipse: s-maj=108.8km s-min=39.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**228**	Pn	Pn	06 09 43.7	+1.7
	4.5nm,0.3s,baz=24,slow=18,SNR=3.2						
PMG				Sn	Sn	06 10 49.6	+1.9
	5.9nm,0.3s,baz=88,slow=8.6,SNR=3.6						
WRA	**Warramunga Arr**	**21.88**	**228**	P	P	06 13 10.7	-0.6
	1.2nm,0.5s,baz=54,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.64**	**221**	P	P	06 13 38.6	-0.3
	1.5nm,0.6s,baz=55,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**28.06**	**242**	P	P	06 14 09.8	-0.1
	1.2nm,0.5s,baz=45,slow=8.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	06 28 07.8	-0.3
	0.7nm,0.7s,baz=76,slow=3.0,SNR=4.5						

*ISCJB **26** 06:09:26.7±1.4, 38°.86N±0°.05×43°.9E±0°.1, h8km, Error ellipse: s-maj=13.0km s-min=6.7km az=168.5*
*CSEM **26** 06:09:27.0±0.9, 38°.79N×43°.90E, h20km, ML2.8, Error ellipse: s-maj=22.8km s-min=12.1km az=78.0*
*ISK **26** 06:09:27.1, 38°.80N×43°.76E, h24km, ML2.8*
ISC 26 06:09:27.8±1.5, 38°.80N±0°.05×43°.73E±0°.09, h8km, n15, σ1§12/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**232**	*e*PG	**Pb**	**06 09 35.9**	**-0.3**
VANB				*e*SG	**Sb**	**06 09 42.8**	**+1.1**
VANB	**Van**	**0.34**	**232**	*e*Pg	**Pb**	**06 09 35.9**	**-0.3**
VANB				*e*Sg	**Sb**	**06 09 42.8**	**+1.1**
GEVA	**Gevas**	**0.72**	**227**	*i* P	Pg	06 09 34.5	-7.2
AGRB	**Hanur-Agry**	**0.96**	**324**	*e*PG	**Pb**	**06 09 46.4**	**-0.5**
AGRB				*e*SG	**Sg**	**06 09 59.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.96**	**324**	*e*Pg	**Pb**	**06 09 46.4**	**-0.5**
AGRB				*e*Sg	**Sg**	**06 09 59.1**	**+0.2**
HAKT	**HAKKARI**	**1.24**	**181**	*i* P	**Pn**	**06 09 52.6**	**+1.0**
HAKT	**HAKKARI**	**1.24**	**181**	P	**Pn**	**06 09 52.7**	**+1.0**
EKAR	**Karacoban**	**1.37**	**290**	*i* P	**Pg**	**06 09 54.5**	**+0.3**
EKAR	**Karacoban**	**1.37**	**290**	P	**Pg**	**06 09 54.5**	**+0.3**
EATA	**Eleskirt**	**1.43**	**318**	*i* P	**Pg**	**06 09 56.2**	**+0.9**
EATA	**Eleskirt**	**1.43**	**318**	P	**Pg**	**06 09 56.2**	**+0.9**
CUKT	**Cukurca**	**1.56**	**184**	*e*PN	**Pn**	**06 09 53.7**	**-2.2**
CUKT	**Cukurca**	**1.56**	**184**	*e*Pn	**Pn**	**06 09 53.7**	**-2.2**
SVAN	**Silvan-Diyarba**	**2.09**	**253**	*e*PN	**Pn**	**06 10 02.1**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.09**	**253**	*e*Pn	**Pn**	**06 10 02.1**	**-1.1**

*CSEM **26** 06:12:19.9±0.5, 38°.75N×43°.37E, h12km, ML3.0, Error ellipse: s-maj=13.5km s-min=5.5km az=78.0*
*DDA **26** 06:12:19.0, 38°.75N×43°.39E, h7km, Ml3.0*
*ISK **26** 06:12:19.7, 38°.77N×43°.34E, h15km, ML2.8*
ISC 26 06:12:20.9±1.1, 38°.74N±0°.03×43°.36E±0°.06, h24km±8km, n17, σ1§16/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**171**	*e*PG	**Pb**	**06 12 25.7**	**-0.3**
VANB				*e*SG	**Sb**	**06 12 30.1**	**+0.7**
VANB	**Van**	**0.15**	**171**	*e*Pg	**Pb**	**06 12 25.7**	**-0.3**
VANB				*e*Sg	**Sb**	**06 12 30.1**	**+0.7**
GEVA	**Gevas**	**0.49**	**209**	*i* P	**Pb**	**06 12 28.5**	**-2.6**
GEVA				*i* S	**Sb**	**06 12 36.8**	**-1.1**
GEVA	**Gevas**	**0.49**	**209**	P	**Pb**	**06 12 28.5**	**-2.6**
GEVA				S	**Sb**	**06 12 36.8**	**-1.1**
TUTA	**Tutak**	**0.78**	**327**	*i* P	**Pb**	**06 12 34.6**	**-1.5**
TUTA				*i* S	**Sb**	**06 12 45.2**	**-1.2**
TUTA	**Tutak**	**0.78**	**327**	P	**Pb**	**06 12 34.6**	**-1.5**
TUTA				S	**Sb**	**06 12 45.2**	**-1.2**
AGRB	**Hanur-Agry**	**0.88**	**341**	*e*PG	**Pb**	**06 12 37.0**	**-0.7**
AGRB				*e*SG	**Sb**	**06 12 48.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.88**	**341**	*e*Pg	**Pb**	**06 12 37.0**	**-0.7**
AGRB				*e*Sg	**Sb**	**06 12 48.5**	**-0.6**
EKAR	**Karacoban**	**1.13**	**297**	*i* P	**Pb**	**06 12 42.1**	**+0.2**
EKAR				*i* S	**Sn**	**06 12 57.8**	**+1.3**
EKAR	**Karacoban**	**1.13**	**297**	P	**Pb**	**06 12 42.1**	**+0.2**
EKAR				S	**Sn**	**06 12 57.8**	**+1.3**
HAKT	**HAKKARI**	**1.22**	**167**	*i* P	**Pn**	**06 12 42.5**	**-0.2**
HAKT				*i* S	**Sb**	**06 13 00.7**	**+2.0**
HAKT	**HAKKARI**	**1.22**	**167**	P	**Pn**	**06 12 42.5**	**-0.2**
EATA	**Eleskirt**	**1.30**	**329**	*i* P	**Pn**	**06 12 44.0**	**0.0**
EATA				*i* S	**Sb**	**06 13 02.0**	**+0.6**
EATA	**Eleskirt**	**1.30**	**329**	P	**Pn**	**06 12 44.0**	**0.0**
EATA				S	**Sb**	**06 13 02.0**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*PN	**Pn**	**06 12 50.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*Pn	**Pn**	**06 12 50.9**	**+0.4**
BTMN	**Batman**	**1.85**	**243**	*i* P	**Pb**	**06 12 55.5**	**+1.4**
BTMN				*i* S	**Sb**	**06 13 16.2**	**-0.6**

IDC 26 06:25:35.1±31.0, 60°.17S×163°.33E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/37, mbtmp4.1/3, Error ellipse: s-maj=577.9km s-min=348.0km az=117.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.76**	**323**	P	P	06 32 00.5	-0.2
	1.2nm,0

ASAR				PcP	**PcP**	**06 43 18.1**	**-0.8**
	0.3nm,0.5s,baz=101,slow=4.9,SNR=2.8						
ILAR	**Eielson Array**	**85.25**	**12**	P	**P**	**06 45 50.7**	**+1.7**
	0.4nm,0.9s,baz=224,slow=6.0,SNR=4.1						
NNA	**Nana**	**94.00**	**104**	LR	LR	07 19 17.4	
	comp=Z,12nm,18.8s,baz=114,slow=29						

*CSEM **26** 06:40:03.6±0.5, 38.°76N×43.°57E, h2km, ML3.1, Error ellipse: s-maj=11.5km s-min=5.6km az=71.0*
*DDA **26** 06:40:03.4, 38.°74N×43.°51E, h7km, Ml3.2*
*ISK **26** 06:40:03.5, 38.°75N×43.°51E, h5km, ML3.1*
ISC 26 06:40:04.4±1.3, 38.°78N±0.°02×43.°51E±0.°04, h0km±11km, n40, σ1§23/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**207**	*e*PG	**Pg**	**06 40 08.4**	**+0.1**
VANB				*e*SG	**Sg**	**06 40 13.2**	**+2.3**
VANB	**Van**	**0.20**	**207**	*e*Pg	**Pg**	**06 40 08.4**	**+0.1**
VANB				*e*Sg	**Sg**	**06 40 13.2**	**+2.3**
GEVA	**Gevas**	**0.58**	**217**	*i* P	**Pg**	**06 40 13.5**	**-2.0**
GEVA				*i* S	**Sg**	**06 40 22.9**	**-0.1**
GEVA	**Gevas**	**0.58**	**217**	P	**Pg**	**06 40 13.5**	**-2.0**
GEVA				S	**Sg**	**06 40 22.9**	**-0.1**
BASK	**Baskale_VAN**	**0.82**	**151**	*i* P	**Pg**	**06 40 19.4**	**-0.8**
BASK	**Baskale_VAN**	**0.82**	**151**	P	**Pg**	**06 40 19.4**	**-0.8**
TUTA	**Tutak**	**0.83**	**320**	*i* P	**Pg**	**06 40 19.8**	**-0.5**
TUTA				*i* S	**Sg**	**06 40 31.7**	**+0.7**
TUTA	**Tutak**	**0.83**	**320**	P	**Pg**	**06 40 19.8**	**-0.5**
TUTA				S	**Sg**	**06 40 31.7**	**+0.7**
AGRB	**Hanur-Agry**	**0.89**	**334**	*e*PG	**Pg**	**06 40 21.9**	**+0.4**
AGRB				*e*SG	**Sb**	**06 40 34.2**	**-1.3**
AGRB	**Hanur-Agry**	**0.89**	**334**	*e*Pg	**Pg**	**06 40 21.9**	**+0.4**
AGRB				*e*Sg	**Sb**	**06 40 34.2**	**-1.3**
EKAR	**Karacoban**	**1.22**	**294**	*i* P	**Pg**	**06 40 27.6**	**-0.2**
EKAR				*i* S	**Sn**	**06 40 47.1**	**+0.8**
EKAR	**Karacoban**	**1.22**	**294**	P	**Pg**	**06 40 27.6**	**-0.2**
EKAR				S	**Sn**	**06 40 47.1**	**+0.8**
HAKT	**HAKKARI**	**1.23**	**172**	*i* P	**Pg**	**06 40 25.4**	**-2.5**
HAKT	**HAKKARI**	**1.23**	**172**	P	**Pg**	**06 40 25.4**	**-2.5**
EATA	**Eleskirt**	**1.34**	**324**	*i* P	**Pg**	**06 40 29.3**	**-0.8**
EATA				*i* S	**Sn**	**06 40 51.1**	**+1.7**
EATA	**Eleskirt**	**1.34**	**324**	P	**Pg**	**06 40 29.3**	**-0.8**
EATA				S	**Sn**	**06 40 51.1**	**+1.7**
CUKT	**Cukurca**	**1.53**	**177**	*e*PN	**Pn**	**06 40 32.1**	**-0.9**
CUKT	**Cukurca**	**1.53**	**177**	*i* P	**Pg**	**06 40 33.9**	**+0.2**
CUKT				*i* S	**Sg**	**06 40 56.6**	**+3.1**
CUKT	**Cukurca**	**1.53**	**177**	*e*Pn	**Pn**	**06 40 32.1**	**-0.9**
CUKT	**Cukurca**	**1.53**	**177**	P	**Pg**	**06 40 33.9**	**+0.2**
CUKT				S	**Sg**	**06 40 56.6**	**+3.1**
HOMI	**Horasan**	**1.77**	**316**	*i* P	**Pb**	**06 40 37.1**	**-0.8**
BNGL	**BINGOL**	**1.85**	**276**	*i* P	**Pb**	**06 40 38.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.92**	**252**	*e*PN	**Pn**	**06 40 37.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.92**	**252**	*e*Pn	**Pn**	**06 40 37.6**	**-0.7**
BTMN	**Batman**	**1.97**	**244**	*i* P	**Pn**	**06 40 38.6**	**-0.5**
BTMN				*i* S	**Sb**	**06 41 05.9**	**-0.3**
BTMN	**Batman**	**1.97**	**244**	P	**Pn**	**06 40 38.6**	**-0.5**
BTMN				S	**Sb**	**06 41 05.9**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.00**	**334**	*e*PN	**Pn**	**06 40 38.8**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**334**	*e*Pn	**Pn**	**06 40 38.8**	**-0.8**
ERZM	**Erzurum**	**2.01**	**305**	*i* P	**Pb**	**06 40 42.0**	**+0.1**
ERZM	**Erzurum**	**2.01**	**305**	P	**Pb**	**06 40 42.0**	**+0.1**
BNGB	**Bing¶‖**	**2.22**	**276**	*e*PN	**Pn**	**06 40 42.0**	**-0.5**
BINT	**Bingol**	**2.36**	**273**	*e*Pn	**Pn**	**06 40 42.0**	**-2.5**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*PN	**Pn**	**06 40 44.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.40**	**287**	*e*Pn	**Pn**	**06 40 44.8**	**-0.3**
MAZI	**Mazidag**	**2.75**	**242**	*e*PN	**Pn**	**06 40 49.6**	**-0.2**
MAZI	**Mazidag**	**2.75**	**242**	*e*Pn	**Pn**	**06 40 49.6**	**-0.2**
PTK	**Pertek**	**3.21**	**273**	*e*PN	**Pn**	**06 40 56.4**	**+0.1**
PTK	**Pertek**	**3.21**	**273**	*e*Pn	**Pn**	**06 40 56.4**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.31**	**264**	*e*PN	**Pn**	**06 40 57.8**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.31**	**264**	*e*Pn	**Pn**	**06 40 57.8**	**+0.1**

*CSEM **26** 06:56:27.7, 38.°58N×42.°90E, h9km, ML2.8*
*ISK **26** 06:56:27.7, 38.°58N×42.°90E, h9km, ML2.8*
*ISCJB **26** 06:56:30.4±0.9, 38.°70N±0.°05×42.°72E±0.°10, h15km, Error ellipse: s-maj=10.9km s-min=7.2km az=42.4*
ISC 26 06:56:29.0±1.0, 38.°61N±0.°05×42.°88E±0.°06, h15km, n12, σ1§64/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.33**	**154**	*i* P	**Pn**	**06 56 40.0**	**+0.6**
GEVA				*i* S	**Sn**	**06 56 48.1**	**+2.1**
VANB	**Van**	**0.40**	**92**	*e*PG	**Pg**	**06 56 35.9**	**-1.3**
VANB	**Van**	**0.40**	**92**	*e*Pg	**Pg**	**06 56 35.9**	**-1.3**
AGRB	**Hanur-Agry**	**0.97**	**5**	*e*PG	**Pn**	**06 56 47.9**	**-0.4**
AGRB				*e*SG	**Sg**	**06 57 00.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.97**	**5**	*e*Pg	**Pn**	**06 56 47.9**	**-0.4**
AGRB				*e*Sg	**Sg**	**06 57 00.9**	**+0.3**
VRTB	**Varto-Mus**	**1.24**	**297**	*e*PN	**Pn**	**06 56 51.7**	**-0.3**
VRTB	**Varto-Mus**	**1.24**	**297**	*e*Pn	**Pn**	**06 56 51.7**	**-0.3**
EATA	**Eleskirt**	**1.29**	**347**	*i* S	**Sg**	**06 57 15.3**	**+4.5**
SVAN	**Silvan-Diyarba**	**1.40**	**251**	*e*PN	**Pb**	**06 56 54.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.40**	**251**	*e*Pn	**Pb**	**06 56 54.1**	**-0.7**
BNGB	**Bing¶‖**	**1.76**	**283**	*e*PN	**Pn**	**06 56 59.5**	**+0.4**
BINT	**Bingol**	**1.89**	**279**	*e*Pn	**Pn**	**06 56 59.5**	**-1.4**

ROM 26 07:15:49.4±0.3, 34.°85N×13.°91E, h21km±2km, Ml4.0/13, Error ellipse: s-maj=8.1km s-min=3.7km az=128.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDD	**Wied Dalam**	**1.11**	**27**	Pg	Pb	07 16 10.1	+0.2
WDD				Sg	Sn	07 16 24.8	+0.4
	2μm,0.6s						
HMDC	**Modica**	**2.22**	**18**	Pn	Pn	07 16 25.6	+0.5
HMDC				Sn	Sn	07 16 52.2	+0.3
	1μm,0.4s						
HAVL	**Avola**	**2.33**	**25**	Pn	Pn	07 16 27.2	+0.7
HAVL				Sn	Sn	07 16 55.7	+1.2
	630nm,0.3s						
MEU	**Monte Lauro**	**2.40**	**20**	Pn	Pn	07 16 28.0	+0.5
MEU				Sn	Sn	07 16 56.8	+0.5
	345nm,0.2s						
HVZN	**Vizzini**	**2.42**	**16**	Pn	Pn	07 16 28.7	+0.9
HVZN				Sn	Sn	07 16 57.1	+0.4
	2μm,0.5s						
SSY	**Sortino**	**2.49**	**22**	Pn	Pn	07 16 30.0	+1.3
SSY				Sn	Sn	07 16 59.1	+0.6
	1μm,0.5s						
HCRL	**Carlentini**	**2.59**	**20**	Pn	Pn	07 16 31.2	+1.0
	2μm,0.8s						
HLNI	**Lentini**	**2.61**	**17**	Pn	Pn	07 16 30.9	+0.5
HLNI				Sn	Sn	07 17 02.1	+0.6
	561nm,0.5s						
AGST	**Augusta-Monte**	**2.63**	**24**	Pn	Pn	07 16 31.5	+0.9
HAGA	**Augusta**	**2.63**	**22**	Pn	Pn	07 16 31.3	+0.6
	401nm,0.4s						
CLTB	**Caltabellotta**	**2.78**	**349**	Pn	Pn	07 16 34.4	+1.6
	604nm,0.6s						
ALJA	**Alia**	**2.90**	**358**	Pn	Pn	07 16 35.3	+0.9
	188nm,0.7s						
GALF	**Gagliano Caste**	**2.91**	**10**	Pn	Pn	07 16 36.4	+1.9
	266nm,0.6s						
MMGO	**Monte Magaggia**	**2.91**	**345**	Pn	Pn	07 16 35.3	+0.8
	36nm,0.4s						
CRJA	**Costa Raja**	**3.04**	**346**	Pn	Pn	07 16 36.8	+0.5
	193nm,0.6s						
GIB	**Gibilmanna**	**3.14**	**2**	Pn	Pn	07 16 39.2	+1.5
	447nm,0.5s						
PLLN	**Pollina**	**3.14**	**3**	Pn	Pn	07 16 39.5	+1.7
	195nm,0.5s						
SOLUN	**Solunto**	**3.25**	**355**	Pn	Pn	07 16 39.9	+0.7
	98nm,0.7s						

*DDA **26** 07:24:05.9, 38.°69N×43.°43E, h5km, Ml3.5*
*ISK **26** 07:24:06.7, 38.°78N×43.°43E, h18km, ML2.3*
*CSEM **26** 07:24:08.1±0.3, 38.°73N×43.°15E, h8km, ML3.5, Error ellipse: s-maj=10.0km s-min=5.4km az=65.0*
*ISCJB **26** 07:24:09.1±0.7, 38.°67N±0.°04×43.°18E±0.°10, h17km±7km, Error ellipse: s-maj=12.8km s-min=6.6km az=172.7*
ISC 26 07:24:08.4±1.1, 38.°73N±0.°03×43.°23E±0.°06, h19km±6km, n18, σ1§46/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**137**	*e*PG	**Pg**	**07 24 13.0**	**-0.2**
VANB				*e*SG	**Sg**	**07 24 17.7**	**+1.2**
VANB	**Van**	**0.18**	**137**	*e*Pg	**Pg**	**07 24 13.0**	**-0.2**
VANB				*e*Sg	**Sg**	**07 24 17.7**	**+1.2**
GEVA	**Gevas**	**0.44**	**198**	*i* P	**Pg**	**07 24 15.5**	**-1.9**
GEVA				*i* S	**Sg**	**07 24 22.5**	**-1.0**
GEVA	**Gevas**	**0.44**	**198**	P	**Pg**	**07 24 15.5**	**-1.9**
GEVA				S	**Sg**	**07 24 22.5**	**-1.0**
TUTA	**Tutak**	**0.75**	**334**	*i* P	**Pn**	**07 24 22.7**	**-1.5**
TUTA				*i* S	**Sn**	**07 24 35.8**	**+0.6**
TUTA	**Tutak**	**0.75**	**334**	P	**Pn**	**07 24 22.7**	**-1.5**
AGRB	**Hanur-Agry**	**0.87**	**348**	*e*PG	**Pg**	**07 24 23.9**	**-1.5**
AGRB	**Hanur-Agry**	**0.87**	**348**	*e*Pg	**Pg**	**07 24 23.9**	**-1.5**
EKAR	**Karacoban**	**1.05**	**300**	*i* P	**Pn**	**07 24 28.2**	**-0.2**
EKAR				*i* S	**Sg**	**07 24 46.2**	**+3.4**
EKAR	**Karacoban**	**1.05**	**300**	P	**Pn**	**07 24 28.2**	**-0.2**
HAKT	**HAKKARI**	**1.23**	**162**	*i* P	**Pn**	**07 24 31.9**	**-0.3**
HAKT	**HAKKARI**	**1.23**	**162**	P	**Pg**	**07 24 31.9**	**-0.3**
EATA	**Eleskirt**	**1.27**	**333**	*i* P	**Pg**	**07 24 32.1**	**-1.0**
EATA				*i* S	**Sg**	**07 24 51.6**	**+1.9**
EATA	**Eleskirt**	**1.27**	**333**	P	**Pg**	**07 24 32.1**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.70**	**251**	*e*PN	**Pn**	**07 24 38.5**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.70**	**251**	*e*Pn	**Pn**	**07 24 38.5**	**+1.4**
BNGB	**Bing¶‖**	**2.01**	**278**	*e*PN	**Pn**	**07 24 42.7**	**+1.3**
BINT	**Bingol**	**2.15**	**275**	*e*Pn	**Pn**	**07 24 42.7**	**-0.7**

RSNC 26 07:26:03.0±0.6, 6.°79N×73.°11W, h149km±4km, ML4.0, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**202**	*i* P	Pn	07 26 22.9	-0.7
BARC				*e*S	Sn	07 26 38.4	-0.7
BARC				*i*		07 26 40.0	
	comp=Z,2μm,0.4s						
BTLC	**Betulia, Santa**	**0.21**	**309**	*e*P	Pn	07 26 23.0	-0.5
BRRC	**Barranca, Sant**	**0.68**	**296**	‖*i*P	Pn	07 26 24.7	-0.6
BRRC				*e*S	Sn	07 26 42.1	-0.1
BRRC				*i*		07 26 45.1	
	comp=Z,1μm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**36**	*i* P	Pn	07 26 25.6	-0.3
PAMC				*e*S	Sn	07 26 43.0	-0.3
RUSC	**La Rusia**	**0.89**	**179**	*e*P	Pn	07 26 26.7	-0.6
RUSC				*e*S	Sn	07 26 45.5	-0.5
RUSC				*i*		07 26 47.3	
	comp=Z,1μm,0.5s						
OCAC	**Ocana**	**1.46**	**352**	*e*P	Pn	07 26 31.5	-0.7
OCAC				*e*S	Sn	07 26 54.5	-0.3
OCAC				*i*		07 26 58.2	
	comp=Z,688nm,0.3s						
YOPC	**Yopal, Colombi**	**1.58**	**154**	*i* P	Pn	07 26 33.4	-0.1
YOPC				*e*S	Sn	07 26 55.8	-1.0
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	*e*P	Pn	07 26 35.6	-1.0
ZARC				*e*S	Sn	07 27 01.8	-0.7
ZARC				*i*		07 27 06.5	
	comp=Z,979nm,0.6s						
NORC	**Norcasia**	**2.13**	**235**	*e*P	Pn	07 26 38.4	-1.3
NORC				*e*S	Sn	07 27 07.1	-0.8
ROSC	**El Rosal**	**2.28**	**212**	‖*i*P	Pn	07 26 42.2	+0.4
ROSC				*e*S	Sn	07 27 11.6	-0.1
ROSC				*i*		07 27 18.7	
	comp=Z,947nm,0.4s						
HELC	**Santa Helena**	**2.48**	**256**	*e*P	Pn	07 26 43.3	-0.9
HELC				*e*S	Sn	07 27 15.6	-0.2
HELC				*i*		07 27 21.1	
	comp=Z,466nm,0.7s						
VILC	**Villavicencio,**	**2.72**	**192**	*e*P	Pn	07 26 45.9	-1.1
VILC				*e*S	Sn	07 27 20.4	-0.5
VILC				*i*		07 27 34.0	
	comp=Z,265nm,0.5s						
GUYC	**Guyana, Colomb**	**2.75**	**236**	*e*P	Pn	07 26 47.7	0.0
GUYC				*e*S	Sn	07 27 21.9	-0.2
GUYC				*i*		07 27 28.4	
	comp=Z,843nm,0.3s						
DBBC	**Dabeiba**	**3.09**	**274**	*e*P	Pn	07 26 51.0	-0.5
DBBC				*e*S	Sn	07 27 28.6	-0.5
TOLC	**Tolima**	**3.10**	**225**	*e*P	Pn	07 26 51.7	-0.3
TOLC				*e*S	Sn	07 27 29.6	-0.3
PRAC	**Prado**	**3.53**	**210**	*e*P	Pn	07 26 56.1	-1.1
PRAC				*e*S	Sn	07 27 38.2	-1.0
GUVC	**San Jose del G**	**4.24**	**174**	*e*P	Pn	07 27 05.6	-0.8
GUVC				*e*S	Sn	07 27 54.5	-1.3

*ISCJB **26** 07:32:30.8±0.2, 39.°00S±0.°02×175.°63E±0.°03, h120km±2km, mb4.8/10, Error ellipse: s-maj=4.3km s-min=3.1km az=27.5*
*WEL **26** 07:32:32.4±0.1, 38.°94S×175.°66E, h109km±1km, ML5.3/57, Mw4.6, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, 4.*
WEL Felt between Auckland, Canterbury and Gisborne, maximum reported intensity MM.
*NEIC **26** 07:32:32.5±0.0, 38.°93S×175.°65E, h108km, MG5.2(WEL), After WEL.*
*IDC **26** 07:32:33.0±0.7, 38.°70S×175.°90E, h136km±7km, mb4.5/9, mb1 4.7/9, mb1mx4.2/21, mbtmp4.9/9, MS3.1/6, Ms1 3.1/6, ms1mx2.9/26, Error ellipse: s-maj=18.5km s-min=14.3km az=1.0*
ISC 26 07:32:31.7±0.6, 39.°03S±0.°04×175.°61E±0.°04, h121km±4km, n293, σ1§50/311, mb4.9/10, 40C-33D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.07**	**156**	Pn	**Pn**	**07 32 47.6**	**-0.8**
KRVZ				Sn	**Sn**	**07 32 59.3**	**-1.6**
KRVZ	**Karewarewa**	**0.07**	**156**	PN	**Pn**	**07 32 47.6**	**-0.8**
KRVZ				SN	**Sn**	**07 32 59.3**	**-1.6**
WTVZ	**West Tongariro**	**0.09**	**188**	Pn	**Pn**	**07 32 47.4**	**-0.9**
WTVZ				Sn	**Sn**	**07 32 59.5**	**-1.4**
WTVZ	**West Tongariro**	**0.09**	**188**	⇑PN	**Pn**	**07 32 47.4**	**-0.9**
WTVZ				SN	**Sn**	**07 32 59.5**	**-1.4**
KATZ	**Kakaramea**	**0.09**	**52**	Pn	**Pn**	**07 32 47.2**	**-1.2**
KATZ				Sn	**Sn**	**07 32 59.0**	**-1.9**
KATZ	**Kakaramea**	**0.09**	**52**	‖PN	**Pn**	**07 32 47.2**	**-1.2**
KATZ				SN	**Sn**	**07 32 59.0**	**-1.9**
TWVZ	**Taurewa**	**0.14**	**252**	Pn	**Pn**	**07 32 47.5**	**-0.8**
TWVZ				Sn	**Sn**	**07 32 59.2**	**-1.7**
TWVZ	**Taurewa**	**0.14**	**252**	⇑PN	**Pn**	**07 32 47.5**	**-0.8**
TWVZ				SN	**Sn**	**07 32 59.2**	**-1.7**
OTVZ	**Oturere**	**0.14**	**161**	*e*Pn	**Pn**	**07 32 47.9**	**-0.6**
OTVZ	**Oturere**	**0.14**	**161**	*e*PN	**Pn**	**07 32 47.9**	**-0.6**
NGZ	**Ngauruhoe**	**0.15**	**181**	Pn	**Pn**	**07 32 47.6**	**-0.9**
NGZ	**Ngauruhoe**	**0.15**	**181**	PN	**Pn**	**07 32 47.6**	**-0.9**
RITZ	**Rihia Road**	**0.20**	**75**	Pn	**Pn**	**07 32 47.7**	**-0.7**
RITZ	**Rihia Road**	**0.20**	**75**	‖PN	**Pn**	**07 32 47.7**	**-0.7**
RATZ	**Rangitukua**	**0.21**	**39**	Pn	**Pn**	**07 32 47.0**	**-1.5**
RATZ	**Rangitukua**	**0.21**	**39**	⇑PN	**Pn**	**07 32 47.0**	**-1.5**
FWVZ	**Far West T-bar**	**0.23**	**190**	Pn	**Pn**	**07 32 48.1**	**-0.7**
FWVZ	**Far West T-bar**	**0.23**	**190**	⇑PN	**Pn**	**07 32 48.1**	**-0.7**
DRZ	**Dome Shelter**	**0.25**	**187**	Pn	**Pn**	**07 32 48.7**	**-0.3**
DRZ	**Dome Shelter**	**0.25**	**187**	⇑PN	**Pn**	**07 32 48.7**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.25**	**183**	Pn	**Pn**	**07 32 48.3**	**-0.5**
WHVZ	**Whangaehu Hut**	**0.25**	**183**	PN	**Pn**	**07 32 48.3**	**-0.5**
TRVZ	**Turoa**	**0.27**	**189**	Pn	**Pn**	**07 32 48.5**	**-0.4**
TRVZ	**Turoa**	**0.27**	**189**	PN	**Pn**	**07 32 48.5**	**-0.4**
WNVZ	**Wahianoa**	**0.30**	**181**	Pn	**Pn**	**07 32 48.6**	**-0.4**
WNVZ	**Wahianoa**	**0.30**	**181**	⇑PN	**Pn**	**07 32 48.6**	**-0.4**
PKVZ	**Pokaka**	**0.33**	**218**	Pn	**Pn**	**07 32 48.5**	**-0.4**
PKVZ	**Pokaka**	**0.33**	**218**	PN	**Pn**	**07 32 48.5**	**-0.4**
WATZ	**Wairara**	**0.34**	**17**	Pn	**Pn**	**07 32 47.7**	**-1.2**
WATZ	**Wairara**	**0.34**	**17**	‖PN	**Pn**	**07 32 47.7**	**-1.2**
MTVZ	**Mangateitei**	**0.37**	**196**	Pn	**Pn**	**07 32 49.0**	**-0.1**
MTVZ	**Mangateitei**	**0.37**	**196**	PN	**Pn**	**07 32 49.0**	**-0.1**
MOVZ	**Moawhango**	**0.39**	**163**	Pn	**Pn**	**07 32 48.7**	**-0.5**
MOVZ	**Moawhango**	**0.39**	**163**	⇑PN	**Pn**	**07 32 48.7**	**-0.5**
HATZ	**Hinemaiaia**	**0.40**	**70**	Pn	**Pn**	**07 32 48.0**	**-1.2**
HATZ	**Hinemaiaia**	**0.40**	**70**	‖PN	**Pn**	**07 32 48.0**	**-1.2**
WHTZ	**Whakaora**	**0.46**	**37**	Pn	**Pn**	**07 32 48.5**	**-1.1**
WHTZ	**Whakaora**	**0.46**	**37**	‖PN	**Pn**	**07 32 48.5**	**-1.1**
KUTZ	**Kaahu Road**	**0.57**	**18**	Pn	**Pn**	**07 32 48.9**	**-1.2**
KUTZ	**Kaahu Road**	**0.57**	**18**	‖PN	**Pn**	**07 32 48.9**	**-1.2**
BHHZ	**Black Hill Sta**	**0.58**	**142**	Pn	**Pn**	**07 32 49.9**	**-0.4**
BHHZ	**Black Hill Sta**	**0.58**	**142**	⇑PN	**Pn**	**07 32 49.9**	**-0.4**
BHHZ				AML	AML	07 33 03.2	
BHHZ				AML	AML	07 33 03.3	
MRHZ	**Matea Rd**	**0.66**	**73**	‖PN	**Pn**	**07 32 49.5**	**-1.3**
MRHZ				AML	AML	07 32 53.3	
MRHZ				AML	AML	07 33 04.1	
VRZ	**Vera Road**	**0.67**	**262**	⇑Pn	**Pn**	**07 32 50.6**	**-0.2**
VRZ	**Vera Road**	**0.67**	**262**	⇑PN	**Pn**	**07 32 50.6**	**-0.2**
WPRZ	**Whakapapatarin**	**0.67**	**41**	Pn	**Pn**	**07 32 49.5**	**-1.4**
WPRZ	**Whakapapatarin**	**0.67**	**41**	‖PN	**Pn**	**07 32 49.5**	**-1.4**
TLZ	**Tolley Road**	**0.70**	**356**	Pn	**Pn**	**07 32 49.7**	**-1.5**
TLZ	**Tolley Road**	**0.70**	**356**	PN	**Pn**	**07 32 49.7**	**-1.5**
BKZ	**Black Stump Fm**	**0.70**	**101**	Pn	**Pn**	**07 32 50.4**	**-0.8**
BKZ	**Black Stump Fm**	**0.70**	**101**	⇑PN	**Pn**	**07 32 50.4**	**-0.8**
BKZ				AML	AML	07 33 04.4	
BKZ				AML	AML	07 33 04.4	
BKZ				AML	AML	07 33 05.6	
BKZ				AML	AML	07 33 05.6	
ALRZ	**Allen Road**	**0.74**	**51**	Pn	**Pn**	**07 32 50.0**	**-1.5**
ALRZ	**Allen Road**	**0.74**	**51**	‖PN	**Pn**	**07 32 50.0**	**-1.5**
KWHZ	**Kaweka Forest**	**0.75**	**122**	‖PN	**Pn**	**07 32 51.3**	**-0.2**
KWHZ				AML	AML	07 33 10.6	
KWHZ				AML	AML	07 33 11.1	
HIZ	**Hauiti**	**0.78**	**311**	Pn	**Pn**	**07 32 52.7**	**+0.9**
HIZ	**Hauiti**	**0.78**	**311**	PN	**Pn**	**07 32 52.7**	**+0.9**
GRRZ	**Galatos Road**	**0.79**	**30**	‖PN	**Pn**	**07 32 50.6**	**-1.2**
PRRZ	**Plateau Road**	**0.81**	**50**	Pn	**Pn**	**07 32 50.5**	**-1.5**
PRRZ	**Plateau Road**	**0.81**	**50**	‖PN	**Pn**	**07 32 50.5**	**-1.5**
HRRZ	**Handcock Road**	**0.83**	**40**	Pn	**Pn**	**07 32 51.0**	**-1.2**
HRRZ	**Handcock Road**	**0.83**	**40**	‖PN	**Pn**	**07 32 51.0**	**-1.2**
KRHZ	**Kereru**	**0.85**	**136**	PN	**Pn**	**07 32 52.8**	**+0.4**
KRHZ				AML	AML	07 33 10.1	
KRHZ				AML	AML	07 33 10.2	
WAZ	**Wanganui**	**0.87**	**213**	Pn	**Pn**	**07 32 53.0**	**+0.5**
WAZ	**Wanganui**	**0.87**	**213**	PN	**Pn**	**07 32 53.1**	**+0.5**
HSRZ	**Hossack Road**	**0.88**	**35**	‖PN	**Pn**	**07 32 51.4**	**-1.2**
NMHZ	**Naumai**	**0.94**	**95**	Pn	**Pn**	**07 32 53.4**	**+0.1**
NMHZ	**Naumai**	**0.94**	**95**	‖PN	**Pn**	**07 32 53.3**	**+0.1**
NMHZ				AML	AML	07 33 13.8	
NMHZ				AML	AML	07 33 14.4	
MCHZ	**McNeill Hill**	**0.94**	**116**	Pn	**Pn**	**07 32 53.9**	**+0.7**
MCHZ	**McNeill Hill**	**0.94**	**116**	‖PN	**Pn**	**07 32 53.9**	**+0.7**
MCHZ				AML	AML	07 33 14.0	
MCHZ				AML	AML	07 33 14.5	
UTU	**Utuhina**	**0.97**	**29**	Pn	**Pn**	**07 32 52.4**	**-1.1**
UTU	**Utuhina**	**0.97**	**29**	‖PN	**Pn**	**07 32 52.4**	**-1.1**
HLRZ	**Highlands Stat**	**0.97**	**37**	*e*PN	**Pn**	**07 32 52.9**	**-0.6**
RRRZ	**Republican Roa**	**0.99**	**46**	Pn	**Pn**	**07 32 52.4**	**-1.3**
RRRZ	**Republican Roa**	**0.99**	**46**	‖PN	**Pn**	**07 32 52.4**	**-1.3**
PNHZ	**Pukenui**	**1.00**	**153**	PN	**Pn**	**07 32 54.2**	**+0.4**
PNHZ				AML	AML	07 33 13.1	
PNHZ				AML	AML	07 33 17.0	
MHEZ	**Mangahewa**	**1.00**	**267**	Pn	**Pn**	**07 32 54.4**	**+0.6**
MHEZ	**Mangahewa**	**1.00**	**267**	PN	**Pn**	**07 32 54.3**	**+0.6**
LREZ	**Lake Rotokare**	**1.03**	**245**	⇑PN	**Pn**	**07 32 54.6**	**+0.6**
NGRZ	**Ngongotaha**	**1.03**	**26**	PN	**Pn**	**07 32 53.2**	**-1.0**
TARZ	**Mount Tarawera**	**1.06**	**42**	Pn	**Pn**	**07 32 53.4**	**-1.1**
TARZ	**Mount Tarawera**	**1.06**	**42**	‖PN	**Pn**	**07 32 53.4**	**-1.1**
TSZ	**Takapari Road**	**1.06**	**165**	Pn	**Pn**	**07 32 54.8**	**+0.4**
TSZ	**Takapari Road**	**1.06**	**165**	PN	**Pn**	**07 32 54.8**	**+0.4**
TSZ				AML	AML	07 33 16.4	
TSZ				AML	AML	07 33 16.4	
MUGZ	**Murupara**	**1.06**	**59**	‖PN	**Pn**	**07 32 52.9**	**-1.5**
OMRZ	**Omania**	**1.10**	**33**

RIGZ	**Rimuhau**	**1.71 80**	PN	**Pn**	**07 33 01.1**	**-0.5**
RIGZ			AML	AML	07 33 23.6	
RIGZ			AML	AML	07 33 24.9	
BFZ	**Birch Farm**	**1.72 164**	Pn	**Pn**	**07 33 01.8**	**+0.1**
BFZ	**Birch Farm**	**1.72 164**	PN	**Pn**	**07 33 01.8**	**+0.1**
BFZ			AML	AML	07 33 25.8	
BFZ			AML	AML	07 33 25.8	
BFZ			AML	AML	07 33 26.2	
BFZ			AML	AML	07 33 28.6	
TIWZ	**Tintock**	**1.76 173**	Pn	**Pn**	**07 33 02.5**	**+0.3**
TIWZ	**Tintock**	**1.76 173** ⇑	PN	**Pn**	**07 33 02.5**	**+0.3**
TIWZ			AML	AML	07 33 26.6	
TIWZ			AML	AML	07 33 28.5	
PRGZ	**Paritu Road**	**1.78 87**	Pn	**Pn**	**07 33 01.8**	**-0.7**
PRGZ	**Paritu Road**	**1.78 87**	PN	**Pn**	**07 33 01.8**	**-0.7**
PRGZ			AML	AML	07 33 24.5	
PRGZ			AML	AML	07 33 31.0	
MHGZ	**Mahia Peninsul**	**1.80 95**	Pn	**Pn**	**07 33 02.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.80 95** ⇓	PN	**Pn**	**07 33 02.4**	**-0.3**
MHGZ			AML	AML	07 33 28.3	
MHGZ			AML	AML	07 33 31.5	
OGWZ	**Otaki Gorge**	**1.82 190**	Pn	**Pn**	**07 33 03.3**	**+0.4**
OGWZ	**Otaki Gorge**	**1.82 190** ⇑	PN	**Pn**	**07 33 03.3**	**+0.4**
OGWZ			AML	AML	07 33 27.7	
OGWZ			AML	AML	07 33 28.2	
TKGZ	**Te Karaka**	**1.85 72**	Pn	**Pn**	**07 33 02.7**	**-0.6**
TKGZ	**Te Karaka**	**1.85 72** ⇓	PN	**Pn**	**07 33 02.7**	**-0.6**
TKGZ			AML	AML	07 33 26.3	
TKGZ			AML	AML	07 33 28.4	
HOWZ	**Holdsworth Sta**	**1.87 182**	Pn	**Pn**	**07 33 03.5**	**0.0**
HOWZ	**Holdsworth Sta**	**1.87 182**	PN	**Pn**	**07 33 03.5**	**0.0**
HOWZ			AML	AML	07 33 26.3	
HOWZ			AML	AML	07 33 28.8	
KIW	**Kapiti Island**	**1.91 196**	Pn	**Pn**	**07 33 04.0**	**0.0**
KIW	**Kapiti Island**	**1.91 196** ⇑	PN	**Pn**	**07 33 03.9**	**0.0**
KIW			AML	AML	07 33 28.9	
KIW			AML	AML	07 33 29.2	
CPWZ	**Castlepoint**	**1.93 166**	Pn	**Pn**	**07 33 05.0**	**+0.7**
CPWZ	**Castlepoint**	**1.93 166** ⇑	PN	**Pn**	**07 33 05.0**	**+0.7**
CPWZ			AML	AML	07 33 33.3	
CPWZ			AML	AML	07 33 33.8	
RUGZ	**Raukumara Rang**	**1.94 57**	PN	**Pn**	**07 33 02.7**	**-1.9**
MKAZ	**Moumakai**	**1.95 350**	Pn	**Pn**	**07 33 03.4**	**-1.2**
MKAZ	**Moumakai**	**1.95 350**	PN	**Pn**	**07 33 03.4**	**-1.2**
KBAZ	**Karaka Road Bo**	**2.01 343**	Pn	**Pn**	**07 33 04.8**	**-0.5**
KBAZ	**Karaka Road Bo**	**2.01 343** ⇓	PN	**Pn**	**07 33 04.8**	**-0.5**
TWGZ	**Tauwhareparae**	**2.05 66**	Pn	**Pn**	**07 33 05.1**	**-0.7**
TWGZ	**Tauwhareparae**	**2.05 66**	PN	**Pn**	**07 33 05.1**	**-0.7**
TWGZ			AML	AML	07 33 33.4	
TWGZ			AML	AML	07 33 40.1	
TMWZ	**Te Maipa**	**2.09 174**	Pn	**Pn**	**07 33 06.2**	**0.0**
TMWZ	**Te Maipa**	**2.09 174** ⇑	PN	**Pn**	**07 33 06.2**	**0.0**
TMWZ			AML	AML	07 33 33.6	
TMWZ			AML	AML	07 33 35.9	
AWAZ	**Awhitu Peninsu**	**2.10 339**	PN	**Pn**	**07 33 05.6**	**-0.8**
CNGZ	**Carnagh Statio**	**2.11 76**	Pn	**Pn**	**07 33 05.9**	**-0.5**
CNGZ	**Carnagh Statio**	**2.11 76**	PN	**Pn**	**07 33 05.9**	**-0.5**
CNGZ			AML	AML	07 33 32.2	
CNGZ			AML	AML	07 33 45.0	
CAW	**Cannon Point**	**2.12 191**	Pn	**Pn**	**07 33 06.4**	**-0.2**
CAW	**Cannon Point**	**2.12 191** ⇑	PN	**Pn**	**07 33 06.4**	**-0.2**
CAW			AML	AML	07 33 34.3	
CAW			AML	AML	07 33 34.4	
MTW	**Mount Morrison**	**2.13 182**	Pn	**Pn**	**07 33 06.4**	**-0.3**
MTW	**Mount Morrison**	**2.13 182** ⇑	PN	**Pn**	**07 33 06.4**	**-0.3**
MTW			AML	AML	07 33 34.1	
MTW			AML	AML	07 33 34.6	
HAZ	**Te Kaha**	**2.13 54**	PN	**Pn**	**07 33 05.0**	**-1.8**
HAZ			AML	AML	07 33 34.6	
HAZ			AML	AML	07 33 36.4	
HAZ			AML	AML	07 33 36.4	
HAZ			AML	AML	07 33 38.5	
ETAZ	**East Tamaki Re**	**2.14 345**	Pn	**Pn**	**07 33 05.8**	**-1.1**
ETAZ	**East Tamaki Re**	**2.14 345**	PN	**Pn**	**07 33 05.8**	**-1.1**
DUWZ	**D'Urville Isla**	**2.19 216**	Pn	**Pn**	**07 33 07.3**	**-0.3**
DUWZ	**D'Urville Isla**	**2.19 216** ⇓	PN	**Pn**	**07 33 07.3**	**-0.3**
WTAZ	**Waiatarua**	**2.25 338**	Pn	**Pn**	**07 33 07.7**	**-0.5**
WTAZ	**Waiatarua**	**2.25 338**	PN	**Pn**	**07 33 07.7**	**-0.5**
PKGZ	**Pakihiroa**	**2.25 60**	PN	**Pn**	**07 33 07.4**	**-0.9**
PKGZ			AML	AML	07 33 34.3	
PKGZ			AML	AML	07 33 35.9	
WIAZ	**Waiheke Island**	**2.26 350** ⇑	PN	**Pn**	**07 33 07.4**	**-1.1**
KUZ	**Kuaotunu**	**2.28 2**	Pn	**Pn**	**07 33 07.3**	**-1.4**
KUZ	**Kuaotunu**	**2.28 2**	PN	**Pn**	**07 33 07.3**	**-1.4**
PUZ	**Puketiti**	**2.29 66**	Pn	**Pn**	**07 33 07.2**	**-1.6**
PUZ	**Puketiti**	**2.29 66**	PN	**Pn**	**07 33 07.2**	**-1.6**
PUZ			AML	AML	07 33 34.0	
PUZ			AML	AML	07 33 35.1	
WEL	**Wellington**	**2.34 196**	Pn	**Pn**	**07 33 09.0**	**-0.4**
WEL	**Wellington**	**2.34 196**	PN	**Pn**	**07 33 09.0**	**-0.4**
WEL			AML	AML	07 33 39.1	
WEL			AML	AML	07 33 39.1	
WEL			AML	AML	07 33 39.5	
PAWZ	**Paruwai Farm**	**2.35 183**	Pn	**Pn**	**07 33 09.1**	**-0.5**
PAWZ	**Paruwai Farm**	**2.35 183** ⇑	PN	**Pn**	**07 33 09.1**	**-0.5**
PAWZ			AML	AML	07 33 39.3	
PAWZ			AML	AML	07 33 40.0	
TRWZ	**Traveller**	**2.37 178**	Pn	**Pn**	**07 33 09.3**	**-0.5**
TRWZ	**Traveller**	**2.37 178**	PN	**Pn**	**07 33 09.3**	**-0.5**
TRWZ			AML	AML	07 33 39.9	
TRWZ			AML	AML	07 33 40.2	
SNZO	**South Karori**	**2.38 197** *e*Pn		**Pn**	**07 33 09.5**	**-0.4**
RVAZ	**Riverhead Bore**	**2.40 340**	Pn	**Pn**	**07 33 09.5**	**-0.7**
RVAZ	**Riverhead Bore**	**2.40 340** ⇓	PN	**Pn**	**07 33 09.5**	**-0.7**
MSWZ	**Moikau Station**	**2.40 186** ⇑	PN	**Pn**	**07 33 09.6**	**-0.6**
MSWZ			AML	AML	07 33 39.7	
MSWZ			AML	AML	07 33 40.3	
TCW	**Tory Channel**	**2.41 205**	Pn	**Pn**	**07 33 09.7**	**-0.5**
TCW	**Tory Channel**	**2.41 205** ⇑	PN	**Pn**	**07 33 09.7**	**-0.5**
TCW			AML	AML	07 33 40.4	
TCW			AML	AML	07 33 40.7	
BHW	**Baring Head**	**2.44 193**	Pn	**Pn**	**07 33 10.1**	**-0.6**
BHW	**Baring Head**	**2.44 193** ⇑	PN	**Pn**	**07 33 10.0**	**-0.6**
BHW			AML	AML	07 33 40.9	
BHW			AML	AML	07 33 41.9	
WMGZ	**Waiomatatini S**	**2.52 62**	Pn	**Pn**	**07 33 10.3**	**-1.4**
WMGZ	**Waiomatatini S**	**2.52 62**	PN	**Pn**	**07 33 10.3**	**-1.4**
WMGZ			AML	AML	07 33 41.4	
WMGZ			AML	AML	07 33 43.8	
PLWZ	**Palliser**	**2.55 186**	Pn	**Pn**	**07 33 11.3**	**-0.8**
PLWZ	**Palliser**	**2.55 186** ⇑	PN	**Pn**	**07 33 11.3**	**-0.8**
PLWZ			AML	AML	07 33 43.3	
PLWZ			AML	AML	07 33 43.6	
MXZ	**Matakaoa Point**	**2.58 56**	Pn	**Pn**	**07 33 11.4**	**-1.1**
MXZ	**Matakaoa Point**	**2.58 56**	PN	**Pn**	**07 33 11.4**	**-1.1**
MXZ			AML	AML	07 33 46.0	
MXZ			AML	AML	07 33 53.6	
TUWZ	**Tuamarina**	**2.71 207**	Pn	**Pn**	**07 33 13.3**	**-0.8**
TUWZ	**Tuamarina**	**2.71 207**	PN	**Pn**	**07 33 13.3**	**-0.8**
TUWZ			AML	AML	07 33 47.4	
TUWZ			AML	AML	07 33 48.7	
NNZ	**Nelson**	**2.77 217**	Pn	**Pn**	**07 33 14.1**	**-0.8**
NNZ	**Nelson**	**2.77 217** ⇓	PN	**Pn**	**07 33 14.1**	**-0.8**
GRZ	**Great Barrier**	**2.78 358** ⇑	PN	**Pn**	**07 33 14.0**	**-1.0**
CMWZ	**Cape Campbell**	**2.92 201**	Pn	**Pn**	**07 33 16.8**	**-0.1**
CMWZ	**Cape Campbell**	**2.92 201**	PN	**Pn**	**07 33 16.8**	**-0.1**
CMWZ			AML	AML	07 33 53.8	
CMWZ			AML	AML	07 34 01.5	
QRZ	**Quartz Range**	**2.97 232**	Pn	**Pn**	**07 33 16.7**	**-0.8**
QRZ	**Quartz Range**	**2.97 232** ⇓	PN	**Pn**	**07 33 16.7**	**-0.8**
BSWZ	**Blackbirch Sta**	**2.99 206**	Pn	**Pn**	**07 33 16.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**2.99 206**	PN	**Pn**	**07 33 16.8**	**-1.0**
BSWZ			AML	AML	07 33 53.7	
BSWZ			AML	AML	07 33 57.5	
THZ	**Tophouse**	**3.42 216**	Pn	**Pn**	**07 33 22.5**	**-1.0**
THZ	**Tophouse**	**3.42 216**	PN	**Pn**	**07 33 22.5**	**-1.0**
KHZ	**Kahutara**	**3.73 204**	PN	**Pn**	**07 33 26.2**	**-1.4**
KHZ			AML	AML	07 34 09.9	
KHZ			AML	AML	07 34 09.9	
KHZ			AML	AML	07 34 10.0	
KHZ			AML	AML	07 34 10.0	
DSZ	**Denniston Nort**	**3.97 226**	Pn	**Pn**	**07 33 29.4**	**-1.4**
DSZ	**Denniston Nort**	**3.97 226**	PN	**Pn**	**07 33 29.4**	**-1.4**
LTZ	**Lake Taylor**	**4.52 213**	Pn	**Pn**	**07 33 35.9**	**-2.3**
LTZ	**Lake Taylor**	**4.52 213**	PN	**Pn**	**07 33 35.9**	**-2.3**
INZ	**Inchbonnie**	**4.86 219**	PN	**Pn**	**07 33 40.5**	**-2.1**
CRLZ	**Canterbury Las**	**5.07 205**	Pn	**Pn**	**07 33 42.5**	**-2.9**
CRLZ	**Canterbury Las**	**5.07 205**	PN	**Pn**	**07 33 42.2**	**-3.2**
OXZ	**Oxford**	**5.07 211**	Pn	**Pn**	**07 33 42.1**	**-3.4**
OXZ	**Oxford**	**5.07 211**	PN	**Pn**	**07 33 41.9**	**-3.5**
MQZ	**McQueen's Vall**	**5.17 204**	Pn	**Pn**	**07 33 43.2**	**-3.6**
MQZ	**McQueen's Vall**	**5.17 204**	PN	**Pn**	**07 33 43.2**	**-3.6**
WVZ	**Waitaha Valley**	**5.46 221**	Pn	**Pn**	**07 33 48.3**	**-2.5**
WVZ	**Waitaha Valley**	**5.46 221** ⇑	PN	**Pn**	**07 33 48.3**	**-2.5**
RPZ	**Rata Peaks**	**5.80 215**	P	**Pn**	**07 33 54.1**	**-1.3**
RPZ	32nm,0.3s,baz=45,slow=1.3,SNR=61		S	**Sn**	**07 34 55.3**	**-5.3**
RPZ	130nm,0.3s,baz=13,slow=19,SNR=25		LR	LR	07 36 35.2	
RPZ	comp=Z,187nm,19.6s,baz=19,slow=39					
RPZ	**Rata Peaks**	**5.80 215**	Pn	**Pn**	**07 33 53.5**	**-1.8**
RPZ			P	**Pn**	**07 33 54.1**	**-1.3**
RPZ			S	**Sn**	**07 34 55.3**	**-5.3**
FOZ	**Fox Glacier**	**6.26 222**	Pn	**Pn**	**07 33 58.4**	**-3.2**
FOZ	**Fox Glacier**	**6.26 222** ⇓	PN	**Pn**	**07 33 58.3**	**-3.2**
LBZ	**Lake Benmore**	**6.71 215**	Pn	**Pn**	**07 34 04.4**	**-3.3**
LBZ	**Lake Benmore**	**6.71 215**	PN	**Pn**	**07 34 04.4**	**-3.3**
ODZ	**Otahua Downs**	**7.05 210**	Pn	**Pn**	**07 34 09.2**	**-3.0**
ODZ	**Otahua Downs**	**7.05 210**	PN	**Pn**	**07 34 09.2**	**-3.0**
JCZ	**Jackson Bay**	**7.18 223**	Pn	**Pn**	**07 34 10.1**	**-3.9**
JCZ	**Jackson Bay**	**7.18 223**	PN	**Pn**	**07 34 10.1**	**-3.9**
CTZ	**Chatham Island**	**7.50 131**	Pn	**Pn**	**07 34 18.1**	**-0.2**
CTZ	**Chatham Island**	**7.50 131** *e*PN		**Pn**	**07 34 17.5**	**-0.8**
WKZ	**Wanaka**	**7.59 218**	Pn	**Pn**	**07 34 15.3**	**-4.2**
WKZ	**Wanaka**	**7.59 218**	PN	**Pn**	**07 34 15.3**	**-4.2**
EAZ	**Earnscleugh**	**7.76 215**	Pn	**Pn**	**07 34 18.7**	**-3.2**
EAZ	**Earnscleugh**	**7.76 215**	PN	**Pn**	**07 34 18.7**	**-3.2**
MSZ	**Milford Sound**	**8.04 223**	Pn	**Pn**	**07 34 22.8**	**-2.7**
TUZ	**Tuapeka**	**8.21 211**	Pn	**Pn**	**07 34 25.4**	**-2.4**
TUZ	**Tuapeka**	**8.21 211** ⇑	PN	**Pn**	**07 34 25.4**	**-2.4**
SYZ	**Scrubby Hill**	**8.88 210**	Pn	**Pn**	**07 34 34.1**	**-2.7**
WHZ	**Wether Hill Ro**	**8.89 217**	Pn	**Pn**	**07 34 33.0**	**-4.0**
WHZ	**Wether Hill Ro**	**8.89 217**	PN	**Pn**	**07 34 33.0**	**-4.0**
APZ	**The Paps**	**9.59 213**	PN	**Pn**	**07 34 42.8**	**-3.7**
DZM	**Mont Dzumac**	**18.63 332**	P	**Pn**	**07 36 43.8**	**+2.0**
	0.2nm,0.3s,baz=163,slow=17,SNR=3.2					
STKA	**Stephens Creek**	**28.49 274**	P	**P**	**07 38 18.4**	**+2.9**
	15nm,0.7s,baz=108,slow=11,SNR=32					
STKA			LR	LR	07 48 20.9	
	comp=Z,49nm,19.2s,baz=44,slow=33					
PPT2	**Papeete2**	**37.03 65** *e*LR		LR	07 49 04.9	
	121nm,28.2s					
PPT	**Papeete**	**37.05 65**	P	**P**	**07 39 27.4**	**-2.7**
	29nm,0.7s,baz=252,slow=20,SNR=2.2					
PPT			LR	LR	07 52 38.7	
	comp=Z,25nm,19.8s,baz=222,slow=33					
ASAR	**Alice Springs**	**38.41 281**	P	**P**	**07 39 42.9**	**+1.3**
	26nm,0.9s,baz=122,slow=7.5,SNR=156					
ASAR			PcP	**PcP**	**07 41 51.7**	**-0.8**
	2.3nm,0.6s,baz=127,slow=3.8,SNR=5.8					
ASAR			ScP	**S**	**07 45 26.2**	**-1.5**
	0.3nm,0.7s,baz=129,slow=3.7,SNR=2.6					
ASAR			LR	LR	07 57 22.3	
	comp=Z,32nm,18.0s,baz=126,slow=39					
VNDA	**Vanda**	**39.04 185**	P	**P**	**07 39 49.8**	**+3.7**
	1.8nm,0.7s,baz=6.1,slow=7.6,SNR=11					
VNDA			LR	LR	07 53 22.4	
	comp=Z,30nm,19.7s,baz=43,slow=32					
WRA	**Warramunga Arr**	**40.23 286**	P	**P**	**07 39 58.0**	**+1.3**
	16nm,0.8s,baz=127,slow=7.3,SNR=124					
WRA			PcP	**PcP**	**07 41 56.3**	**-2.0**
	0.7nm,0.6s,baz=131,slow=3.1,SNR=5.5					
WRA			ScP	**ScP**	**07 45 34.5**	**-1.7**
	0.7nm,0.7s,baz=125,slow=3.5,SNR=3.1					
NWAO	**Narrogin (SRO)**	**46.94 259**	P	**P**	**07 40 50.5**	**+0.3**
	16nm,0.7s,baz=152,slow=17,SNR=13					
FITZ	**Fitzroy Crossi**	**47.92 281**	P	**P**	**07 40 59.5**	**+1.6**
	28nm,0.4s,baz=147,slow=6.1,SNR=132					
MAW	**Mawson**	**62.36 204**	P	**P**	**07 42 43.0**	**+2.2**
	8.6nm,0.6s,baz=124,slow=6.9,SNR=31					
SYO	**Syowa Base**	**67.47 196** ⇑	*e*P	**P**	**07 43 13.6**	**-0.3**
SYO	**Syowa Base**	**67.47 196** ⇑	*e*X	**PcP**	**07 43 38.0**	**-2.4**
SNAA	**Sanae**	**69.60 181**	P	**P**	**07 43 29.1**	**+1.9**
VNA3	**Neumayer Olymp**	**69.97 178**	P	**P**	**07 43 31.4**	**+2.0**
VNA2	**Neumayer--Watz**	**70.33 179**	P	**P**	**07 43 34.0**	**+2.3**
	baz=165,slow=4.9					
VNA1	**Neumayer--Stat**	**70.59 179**	P	**P**	**07 43 35.8**	**+2.6**
KSRS	**Korea Array**	**87.85 324**	P	**P**	**07 45 08.9**	**+1.8**
	0.4nm,0.3s,baz=149,slow=7.7,SNR=3.9					
KSAR	**Wonju Array Be**	**87.86 324**	P	**P**	**07 45 08.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**91.54 292**	P	**P**	**07 45 24.4**	**-0.5**
	1.3nm,0.3s,baz=156,slow=3.6,SNR=8.4					
CMAR			LR	LR	08 30 20.3	
	comp=Z,4.1nm,18.6s,baz=210,slow=38					
KURK	**Kurchatov**	**122.98 311**	PKP	**PKPdf**	**07 51 10.6**	**-2.4**
KURBB	**Kurchatov Arra**	**123.00 311**	PKP	**PKPdf**	**07 51 10.6**	**-2.4**
	0.3nm,0.3s,baz=132,slow=1.4,SNR=5.3					
KBZ	**Khabaz**	**144.58 293**	PKP	**PKPab**	**07 51 52.3**	**0.0**
	8.7nm,0.8s,baz=99,slow=3.9,SNR=16					
ARCES	**ARCESS Array B**	**145.54 342**	PKPbc	**PKPdf**	**07 51 54.5**	**+0.1**
	2.7nm,0.5s,baz=50,slow=3.9,SNR=32					
LIC	**Lamto**	**147.34 179**	*e*PKP1	**PKPbc**	**07 52 01.9**	**+0.3**
	46nm,0.9s					
KIC	**Kosan Boka**	**147.48 179**	*e*PKP1	**PKPbc**	**07 52 02.3**	**+0.3**
	32nm,0.8s					
TIC	**Toumodi**	**147.75 179**	*e*PKP1	**PKPbc**	**07 52 03.0**	**+0.2**
DBIC	**Dimbokro**	**147.78 179**	PKPbc	**PKPbc**	**07 52 03.1**	**+0.3**
	7.3nm,0.7s,baz=88,slow=2.3,SNR=10					
BRTR	**Keskin Array B**	**150.73 284**	PKPbc	**PKPbc**	**07 52 08.7**	**-0.9**
	2.1nm,0.7s,baz=140,slow=3.5,SNR=8.1					
FINES	**FINESS Array B**	**150.76 330**	PKPbc	**PKPbc**	**07 52 07.7**	**-1.0**
	1.8nm,0.6s,baz=45,slow=3.5,SNR=8.5					
TORD	**Torodi Ar. Bea**	**153.66 193**	PKPbc	**PKPbc**	**07 52 16.6**	**-0.1**
	1.4nm,0.7s,baz=167,slow=3.5,SNR=9.6					
TORD			PKPab	**PKPab**	**07 52 30.4**	**+0.7**
	9.3nm,0.8s,baz=166,slow=4.1,SNR=34					

IDC 26 07:56:02.6±1.0, 56°.17S×125°.35W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/27, mbtmp4.0/6, MS3.7/11, Ms1 3.7/11, ms1mx3.6/20, Error ellipse: s-maj=43.9km s-min=25.3km az=133.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**31.23**	**28**	LR	LR	08 11 21.7	
	comp=Z,131nm,21.9s,baz=168,slow=29						
VNDA	**Vanda**	**32.32**	**203**	P	P	08 02 33.3	+0.5
	0.6nm,0.3s,baz=86,slow=17,SNR=12						
RKT	**Rikitea**	**33.76**	**344**	*e*T	T	08 37 31.9	
	2.3nm,0.3s						
TBI	**Tubuai**	**37.26**	**322**	*e*LR	LR	08 13 00.0	
	80nm,29.0s						
TBI	**Tubuai**	**37.26**	**322**	*e*T	T	08 42 06.7	
	11nm,0.3s						
PPT2	**Papeete2**	**42.65**	**325**	*e*LR	LR	08 15 43.5	
	127nm,26.8s						
PPT	**Papeete**	**42.67**	**325**	LR	LR	08 16 37.3	
	comp=Z,58nm,21.9s,baz=170,slow=29						
VAH	**Vaihoa**	**44.26**	**328**	*e*T	T	08 50 47.4	
	46nm,0.3s						
RAO	**Raoul Island**	**45.56**	**284**	LR	LR	08 19 34.0	
	comp=Z,177nm,19.1s,baz=92,slow=31						
CPUP	**Villa Florida**	**56.39**	**88**	LR	LR	08 26 23.9	
	comp=Z,81nm,18.0s,baz=228,slow=32						
MAW	**Mawson**	**56.39**	**184**	P	P	08 05 45.5	+0.5
	2.4nm,0.9s,baz=187,slow=11,SNR=5.1						
MAW				LR	LR	08 29 28.8	
	comp=Z,117nm,18.2s,baz=239,slow=36						
LPAZ	**La Paz**	**58.54**	**71**	P	P	08 06 00.1	-1.5
	2.1nm,1.0s,baz=178,slow=7.4,SNR=4.3						
LPAZ				LR	LR	08 24 34.4	
	comp=Z,75nm,20.4s,baz=193,slow=29						
STKA	**Stephens Creek**	**65.78**	**249**	LR	LR	08 31 30.3	
	comp=Z,50nm,18.9s,baz=200,slow=32						
ASAR	**Alice Springs**	**76.39**	**248**	P	P	08 07 53.4	-0.4
	0.9nm,0.7s,baz=147,slow=6.1,SNR=9.7						
ASAR				LR	LR	08 36 24.4	
	comp=Z,59nm,20.2s,baz=150,slow=32						
WRA	**Warramunga Arr**	**79.23**	**250**	P	P	08 08 09.1	-0.6
	1.7nm,0.9s,baz=145,slow=5.0,SNR=8.8						
WRA				LR	LR	08 39 36.4	
	comp=Z,38nm,18.5s,baz=165,slow=33						
FITZ	**Fitzroy Crossi**	**85.25**	**244**	LR	LR	08 40 37.6	
	comp=Z,28nm,21.9s,baz=182,slow=31						
TXAR	**Lajitas Array**	**87.14**	**19**	P	P	08 08 51.8	+1.6
	0.8nm,1.1s,baz=199,slow=7.6,SNR=3.6						
BOSA	**Boshof**	**91.92**	**154**	LR	LR	08 43 07.6	
	comp=Z,26nm,20.3s,baz=199,slow=31						
H11S2	**WAKE ISLAND Hy**	**93.55**	**298**	T	T	09 53 13.1	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**93.56**	**298**	T	T	09 53 09.9	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**93.57**	**298**	T	T	09 53 14.1	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**94.50**	**299**	T	T	09 54 17.2	
	baz=148,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**94.50**	**299**	T	T	09 54 18.9	
	baz=148,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**94.51**	**299**	T	T	09 54 18.9	
	baz=148,slow=76,SNR=7.3						

*ISK **26** 07:59:38.1, 38°.72N×43°.56E, h5km, ML2.8*
*CSEM **26** 07:59:38.1±0.8, 38°.70N×43°.77E, h2km, ML2.8, Error ellipse: s-maj=20.8km s-min=9.2km az=73.0*
*DDA **26** 07:59:41.8, 38°.87N×43°.73E, h9km, Ml3.1*
ISC 26 07:59:37.2±1.6, 38°.74N±0°.03×43°.81E±0°.06, h4km±11km, n26, σ2.9±2.2/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.36**	**246**	*e*PG	**Pg**	**07 59 43.4**	**-0.7**
VANB				*e*SG	**Sg**	**07 59 48.4**	**-0.4**
VANB	**Van**	**0.36**	**246**	*e*Pg	**Pg**	**07 59 43.4**	**-0.7**
VANB				*e*Sg	**Sg**	**07 59 48.4**	**-0.4**
GEVA	**Gevas**	**0.72**	**234**	*i* P	**Pn**	**07 59 56.4**	**+2.1**
GEVA				*i* S	**Sn**	**08 00 07.8**	**+1.8**
TUTA	**Tutak**	**1.02**	**311**	*i* P	**Pb**	**07 59 55.8**	**-1.7**
TUTA	**Tutak**	**1.02**	**311**	P	**Pb**	**07 59 55.8**	**-1.7**
AGRB	**Hanur-Agry**	**1.05**	**323**	*e*PG	**Pn**	**07 59 57.8**	**-1.0**
AGRB				*e*SG	**Sn**	**08 00 11.9**	**-2.1**
AGRB	**Hanur-Agry**	**1.05**	**323**	*e*Pg	**Pn**	**07 59 57.8**	**-1.0**
AGRB				*e*Sg	**Sn**	**08 00 11.9**	**-2.1**
HAKT	**HAKKARI**	**1.18**	**184**	*i* P	**Pb**	**07 59 59.2**	**-1.1**
HAKT	**HAKKARI**	**1.18**	**184**	P	**Pb**	**07 59 59.2**	**-1.1**
EKAR	**Karacoban**	**1.45**	**291**	*i* P	**Pg**	**08 00 07.3**	**+2.3**
EKAR				*i* S	**Sn**	**08 00 26.8**	**+2.8**
EKAR	**Karacoban**	**1.45**	**291**	P	**Pg**	**08 00 07.3**	**+2.3**
EKAR				S	**Sn**	**08 00 26.8**	**+2.8**
CUKT	**Cukurca**	**1.50**	**186**	*e*PN	**Pg**	**08 00 06.8**	**+0.9**
CUKT	**Cukurca**	**1.50**	**186**	*e*Pn	**Pg**	**08 00 06.8**	**+0.9**
EATA	**Eleskirt**	**1.52**	**318**	*i* P	**Pg**	**08 00 07.8**	**+1.6**
EATA				*i* S	**Sg**	**08 00 27.2**	**+1.3**
EATA	**Eleskirt**	**1.52**	**318**	P	**Pg**	**08 00 07.8**	**+1.6**
EATA				S	**Sg**	**08 00 27.2**	**+1.3**
HOMI	**Horasan**	**1.97**	**312**	*i* P	**Pg**	**08 00 16.4**	**+1.5**
BNGL	**BINGOL**	**2.08**	**277**	*i* P	**Pg**	**08 00 18.3**	**+1.2**
BNGL				*i* S	**Sg**	**08 00 46.4**	**+2.2**
SVAN	**Silvan-Diyarba**	**2.13**	**255**	*e*PN	**Pb**	**08 00 14.3**	**-2.0**
SVAN	**Silvan-Diyarba**	**2.13**	**255**	*i* P	Pg	08 00 20.4	+2.4
SVAN	**Silvan-Diyarba**	**2.13**	**255**	*e*Pn	**Pb**	**08 00 14.3**	**-2.0**
BTMN	**Batman**	**2.17**	**248**	*i* P	Pg	08 00 21.6	+2.9
BTMN				*i* S	**Sg**	**08 00 48.9**	**+2.1**
ERZM	**Erzurum**	**2.22**	**302**	*i* P	**Pg**	**08 00 21.6**	**+1.9**
YEDI	**Yedisu-Bingol**	**2.63**	**286**	*e*PN	**Pb**	**08 00 21.7**	**-3.3**
YEDI	**Yedisu-Bingol**	**2.63**	**286**	*e*Pn	**Pb**	**08 00 21.7**	**-3.3**
MAZI	**Mazidag**	**2.94**	**245**	*e*PN	**Pb**	**08 00 25.6**	**-4.6**
MAZI	**Mazidag**	**2.94**	**245**	*e*

JCH	**Churui**	**4.28**	**355**	P		**Pn**	**08 23 09.6 -0.4**
JCH				S		**Sn**	**08 23 57.0 -2.6**
JRY	**Ryogami san**	**4.59**	**241**	P		**Pn**	**08 23 13.5 -0.8**
JRY				S		**Sn**	**08 24 01.6 -5.7**
MJAR	**Matsushiro Arr**	**4.84**	**250**	Pn		**Pn**	**08 23 18.7 +1.0**
	4.8nm,0.3s,baz=81,slow=17,SNR=33						
MAT	**Matsushiro**	**4.84**	**250**	P		**Pn**	**08 23 18.6 +0.9**
MAT				*e*S		**Sn**	**08 24 12.4 -1.1**
ASAJ	**Asahikawa**	**5.84**	**351**	Pn		**Pn**	**08 23 32.6 +1.2**
	2.3nm,0.3s,baz=200,slow=15,SNR=16						
ASAJ				Sn		**Sn**	**08 24 34.5 -3.6**
	1.1nm,0.3s,baz=259,slow=29,SNR=5.5						
YUK	**Yuzh-Kuril'sk**	**5.88**	**14**	*e*P		**Pn**	**08 23 32.4 +0.4**
YUK				AMB		AMB	08 23 34.6
	93nm,0.3s						
YUK				*e*S		**Sn**	**08 24 35.5 -3.6**
YUK				A		A	08 24 36.2
	160nm,0.5s						
YUK				A		A	08 24 36.2
	190nm,0.5s						
SHO	**Shikotan**	**5.96**	**21**	*e*P		**Pn**	**08 23 31.4 -1.6**
SHO				*e*S		**Sn**	**08 24 36.1 -4.9**
SHO				A		A	08 24 36.3
	80nm,0.4s						
SHO				A		A	08 24 36.3
	45nm,0.4s						
JHJ	**Hachijo jima 2**	**6.18**	**214**	Pn		**Pn**	**08 23 34.4 -1.8**
	19nm,0.3s,baz=72,slow=20,SNR=2.4						
USRK	**Ussuriysk Ar.**	**10.67**	**307**	Pn		**Pn**	**08 24 39.6 +2.0**
	0.3nm,0.3s,baz=104,slow=14,SNR=3.2						
USRK				LR		LR	08 28 34.7
	comp=Z,53nm,18.4s,baz=74,slow=36						
KSRS	**Korea Array**	**12.62**	**271**	LR		LR	08 29 45.1
	comp=Z,23nm,19.3s,baz=50,slow=36						
PETK	**Petropavlovsk-**	**17.60**	**29**	LR		LR	08 32 44.4
	comp=Z,22nm,21.0s,baz=146,slow=36						
MA2	**Magadan**	**21.70**	**10**	LR		LR	08 36 58.2
	comp=Z,27nm,18.2s,baz=138,slow=41						
SONM	**Songino Array**	**28.70**	**301**	P		**P**	**08 28 06.0 +3.9**
	0.3nm,0.3s,baz=108,slow=9.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**42.48**	**311**	LR		LR	08 46 49.6
	comp=Z,16nm,18.6s,baz=68,slow=35						
MKAR	**Makanchi Array**	**45.07**	**301**	P		**P**	**08 30 20.9 +0.1**
	0.5nm,0.8s,baz=96,slow=8.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.73**	**307**	P		**P**	**08 30 34.2 +0.5**
	0.6nm,0.2s,baz=83,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**58.66**	**190**	P		**P**	**08 32 01.2 -1.0**
	0.8nm,0.6s,baz=8.7,slow=6.9,SNR=4.8						
ASAR	**Alice Springs**	**62.39**	**190**	P		**P**	**08 32 27.5 -0.1**
	0.3nm,0.5s,baz=7.4,slow=7.1,SNR=4.1						
PDAR	**Pinedale Array**	**75.36**	**47**	P		**P**	**08 33 49.4 +0.8**
	0.2nm,0.4s,baz=281,slow=5.1,SNR=3.0						

*IDC **26** 08:31:36.1±1.2,35.°02N×140.°53E,h0km,mb3.5/4,*
mb1 3.7/5,mb1mx3.5/67,mbtmp3.4/5,ML2.9/1,MS2.8/5,
Ms1 2.8/5,ms1mx2.5/51,Error ellipse: s-maj=31.8km
s-min=20.0km az=79.0
*ISCJB **26** 08:31:38.3±0.6,35.°36N±0.°04×140.°56E±0.°06,h10km,*
mb3.5/4,MS3.1/2,Error ellipse: s-maj=7.8km s-min=5.0km
az=28.1
*JMA **26** 08:31:38.8±0.1,35.°34N×140.°58E,h22km±2km,M3.1*
ISC 26 08:31:37.8±0.8,35.°31N±0.°03×140.°58E±0.°05,h10km,n25,
σ1§75/17,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.27**	**233**	S		**Sb**	**08 31 49.8 +0.4**
JCN	**Nagara**	**0.33**	**289**	P		**Pb**	**08 31 46.5 +0.8**
BSO4	**Boso 4**	**0.38**	**212**	P		**Pb**	**08 31 47.4 +0.9**
CHOJ	**Chosi**	**0.45**	**30**	P		**Pg**	**08 31 47.6 +1.0**
CHOJ				S		**Sb**	**08 31 54.2 -0.4**
BSO3	**Boso 3**	**0.51**	**186**	P		**Pg**	**08 31 49.4 +1.7**
BSO1	**Boso 1**	**0.73**	**153**	P		**Pg**	**08 31 51.9 0.0**
JYT	**Yasato**	**0.96**	**341**	P		**Pg**	**08 31 55.3 -1.1**
MJAR	**Matsushiro Arr**	**2.28**	**303**	Pn		**Pn**	**08 32 15.6 +0.1**
	2.8nm,0.3s,baz=125,slow=16,SNR=15						
MJAR				Sn		**Sb**	**08 32 49.0 +1.7**
	4.8nm,0.3s,baz=150,slow=17,SNR=4.2						
MAT	**Matsushiro**	**2.28**	**303**	P		**Pn**	**08 32 15.8 +0.2**
MAT				*e*S		**Sn**	**08 32 41.6 -2.2**
JHJ	**Hachijo jima 2**	**2.29**	**197**	Pn		Pn	08 32 09.8 -5.7
	16nm,0.3s,baz=240,slow=16,SNR=1.6						
JHJ				Sn		**Sn**	**08 32 39.6 -4.1**
	103nm,0.3s,baz=259,slow=23,SNR=7.8						
KSRS	**Korea Array**	**10.43**	**286**	LR		LR	08 38 31.1
	comp=Z,49nm,19.3s,baz=108,slow=40						
USRK	**Ussuriysk Ar.**	**11.06**	**326**	LR		LR	08 38 24.7
	comp=Z,73nm,20.8s,baz=7.4,slow=36						
KLR	**Kul'dur**	**15.35**	**338**	LR		LR	08 40 49.1
	comp=Z,4.3nm,19.8s,baz=134,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.91**	**117**	T		T	09 06 39.2
	baz=302,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.92**	**117**	T		T	09 06 32.5
	baz=302						
H11N3	**WAKE ISLAND Hy**	**27.93**	**117**	T		T	09 06 37.8
	baz=302,slow=74						
SONM	**Songino Array**	**28.23**	**307**	LR		LR	08 47 50.0
	comp=Z,31nm,21.6s,baz=110,slow=34						
H11S1	**WAKE ISLAND Hy**	**28.55**	**119**	T		T	09 07 18.5
	baz=312,slow=75,SNR=157						
H11S3	**WAKE ISLAND Hy**	**28.55**	**119**	T		T	09 07 26.5
	baz=312,slow=75,SNR=117						
H11S2	**WAKE ISLAND Hy**	**28.57**	**119**	T		T	09 07 28.7
	baz=312,slow=75,SNR=88						
MKAR	**Makanchi Array**	**44.48**	**303**	P		**P**	**08 39 50.3 +1.1**
	0.2nm,0.5s,baz=99,slow=7.7,SNR=2.2						
AAK	**Ala-Archa**	**50.73**	**299**	LR		LR	09 02 06.8
	comp=Z,27nm,20.2s,baz=223,slow=36						
ILAR	**Eielson Array**	**51.31**	**32**	P		**P**	**08 40 43.5 +1.7**
	0.5nm,0.9s,baz=261,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**55.27**	**187**	P		**P**	**08 41 09.4 -1.9**
	0.7nm,0.6s,baz=4.0,slow=7.5,SNR=3.9						
ASAR	**Alice Springs**	**59.00**	**187**	P		**P**	**08 41 35.7 -2.0**
	0.5nm,0.8s,baz=19,slow=8.8,SNR=3.8						

*DDA **26** 08:42:59.7,38.°69N×43.°56E,h24km,MI3.5*
*ISK **26** 08:42:59.3,38.°74N×43.°50E,h5km,ML3.6*
*CSEM **26** 08:43:01.5±0.3,38.°68N×43.°33E,h2km,ML3.6,Error*
ellipse: s-maj=6.4km s-min=6.1km az=108.0
*AZER **26** 08:43:06.0±4.6,38.°62N×43.°56E,h25km,Error ellipse:*
s-maj=46.0km s-min=34.0km az=57.0
ISC 26 08:42:58.7±1.1,38.°72N±0.°02×43.°67E±0.°03,h7km±9km,
n64,σ1§33/76,3C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**241**	*e*PG		**Pg**	**08 43 04.2 +0.4**
VANB				*e*SG		**Sg**	**08 43 08.6 +1.4**
VANB	**Van**	**0.25**	**241**	*e*Pg		**Pg**	**08 43 04.2 +0.4**
GEVA	**Gevas**	**0.63**	**230**	*i* P		**Pg**	**08 43 09.1 -1.8**
GEVA	**Gevas**	**0.63**	**230**	P		**Pg**	**08 43 09.1 -1.8**
TUTA	**Tutak**	**0.95**	**316**	*i* S		**Sg**	**08 43 27.9 -1.5**
TUTA	**Tutak**	**0.95**	**316**	S		**Sg**	**08 43 28.0 -1.5**
AGRB	**Hanur-Agry**	**1.00**	**329**	*e*PG		**Pg**	**08 43 17.8 -0.2**
AGRB				*e*SG		**Sg**	**08 43 29.9 -1.1**
AGRB	**Hanur-Agry**	**1.00**	**329**	*e*Pg		**Pg**	**08 43 17.8 -0.2**
AGRB				*e*Sg		**Sg**	**08 43 30.0 -1.1**
HAKT	**HAKKARI**	**1.16**	**179**	*i* P		**Pn**	**08 43 21.7 +0.1**
HAKT	**HAKKARI**	**1.16**	**179**	P		**Pn**	**08 43 21.7 +0.1**
EKAR	**Karacoban**	**1.36**	**294**	*i* P		**Pg**	**08 43 25.0 +0.1**
EKAR				*i* S		**Sn**	**08 43 43.5 +0.6**
EKAR	**Karacoban**	**1.36**	**294**	P		**Pg**	**08 43 25.0 +0.1**
EATA	**Eleskirt**	**1.46**	**322**	*i* P		**Pn**	**08 43 26.1 +0.2**
EATA				*i* S		**Sb**	**08 43 45.6 +0.2**
EATA	**Eleskirt**	**1.46**	**322**	P		**Pn**	**08 43 26.1 +0.2**
CUKT	**Cukurca**	**1.47**	**182**	*e*PN		**Pg**	**08 43 27.4 +0.5**
CUKT	**Cukurca**	**1.47**	**182**	*i* P		**Pg**	**08 43 31.0 +4.1**
CUKT	**Cukurca**	**1.47**	**182**	*e*Pn		**Pg**	**08 43 27.4 +0.5**
CUKT	**Cukurca**	**1.47**	**182**	P		**Pg**	**08 43 31.0 +4.1**
NAX	**Nakhchivan**	**1.49**	**72**	⇓P		Pg	08 43 32.6 +5.2
	SNR=2.8						
NAX	**Nakhchivan**	**1.49**	**72**	P		Pg	08 43 32.6 +5.2
	SNR=2.8						
SIRN	**S¯–rnak**	**1.57**	**219**	*i* P		**Pb**	**08 43 27.8 -0.4**
SIRN				*i* S		**Sb**	**08 43 48.3 -0.1**
SIRN	**S¯–rnak**	**1.57**	**219**	P		**Pb**	**08 43 27.8 -0.4**
SIRN				S		**Sb**	**08 43 48.3 -0.1**
VRTB	**Varto-Mus**	**1.78**	**285**	*e*PN		**Pn**	**08 43 29.5 -0.6**
VRTB	**Varto-Mus**	**1.78**	**285**	*e*Pn		**Pn**	**08 43 29.5 -0.6**
HOMI	**Horasan**	**1.90**	**315**	*i* P		**Pb**	**08 43 34.4 +0.5**
HOMI				*i* S		**Sg**	**08 44 01.4 +1.4**
BNGL	**BINGOL**	**1.98**	**278**	*i* P		**Pn**	**08 43 33.2 +0.3**
BNGL				*i* S		**Sn**	**08 43 58.6 +0.5**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*e*PN		**Pn**	**08 43 33.3 0.0**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*i* P		**Pn**	**08 43 30.0 -3.3**
SVAN				*i* S		**Sn**	**08 43 57.7 -1.2**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	P		**Pn**	**08 43 30.0 -3.3**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*e*Pn		**Pn**	**08 43 33.3 0.0**
SVAN				S		**Sn**	**08 43 57.7 -1.2**
BTMN	**Batman**	**2.06**	**247**	*i* P		**Pn**	**08 43 33.5 -0.4**
BTMN				*i* S		**Sn**	**08 44 00.0 +0.1**
BTMN	**Batman**	**2.06**	**247**	P		**Pn**	**08 43 33.5 -0.4**
BTMN				S		**Sn**	**08 44 00.0 +0.1**
ERZM	**Erzurum**	**2.14**	**304**	*i* P		**Pb**	**08 43 38.0 -0.1**
ERZM	**Erzurum**	**2.14**	**304**	P		**Pb**	**08 43 38.0 -0.1**
BNGB	**Bing¯¶ll**	**2.35**	**278**	*e*PN		**Pn**	**08 43 37.6 -0.3**
BINT	**Bingol**	**2.49**	**275**	*e*Pn		**Pn**	**08 43 37.6 -2.2**
YEDI	**Yedisu-Bingol**	**2.54**	**287**	*e*PN		**Pn**	**08 43 40.4 -0.1**
YEDI	**Yedisu-Bingol**	**2.54**	**287**	*e*Pn		**Pn**	**08 43 40.4 -0.1**
BGD	**Bogdanovka**	**2.54**	**359**	P		**Pg**	**08 43 51.2 +3.7**
GDB	**GEDABAY**	**2.56**	**38**	⇓P		**Pg**	**08 43 47.8 -0.1**
	SNR=5.6						
GDB				⇓S		**Sg**	**08 44 21.5 +0.3**
GDB	**GEDABAY**	**2.56**	**38**	P		**Pg**	**08 43 47.8 -0.1**
	SNR=5.6						
QZX	**Qazax, Azerbai**	**2.68**	**29**	⇑P		**Pg**	**08 43 48.8 -1.3**
	SNR=5.9						
QZX	**Qazax, Azerbai**	**2.68**	**29**	P		**Pg**	**08 43 48.8 -1.3**
	SNR=5.9						
MARD	**Mardin**	**2.68**	**239**	*i* P		Pn	08 43 42.6 +0.2
AKH	**Akhalkalaki**	**2.69**	**357**	P		**Pg**	**08 43 52.8 +2.5**
GANJ	**Ganja**	**2.81**	**46**	⇑P		**Pg**	**08 43 51.4 -1.2**
GANJ	**Ganja**	**2.81**	**46**	P		**Pg**	**08 43 51.4 -1.2**
MAZI	**Mazidag**	**2.84**	**245**	*e*PN		**Pn**	**08 43 43.7 -0.9**
MAZI	**Mazidag**	**2.84**	**245**	*e*Pn		**Pn**	**08 43 43.7 -0.9**
DGRG	**David-gareji**	**3.02**	**25**	P		**Pg**	**08 43 58.7 +2.0**
ERZN	**Erzincan**	**3.19**	**287**	*e*PN		**Pn**	**08 43 49.7 +0.2**
PTK	**Pertek**	**3.35**	**274**	*e*PN		**Pn**	**08 43 51.9 +0.2**
PTK	**Pertek**	**3.35**	**274**	*e*Pn		**Pn**	**08 43 51.9 +0.2**
SVRC	**Sivrice-ELAZID**	**3.44**	**266**	*e*PN		**Pn**	**08 43 53.3 +0.4**
SVRC	**Sivrice-ELAZID**	**3.44**	**266**	*e*Pn		**Pn**	**08 43 53.3 +0.4**
LRK	**Lerik**	**3.66**	**90**	⇓P		**Pb**	**08 44 02.0 -1.8**
LRK	**Lerik**	**3.66**	**90**	P		**Pb**	**08 44 02.0 -1.8**
SEKA	**Sheki**	**3.68**	**46**	⇓P		**Pb**	**08 44 04.5 +0.4**
SEKA	**Sheki**	**3.68**	**46**	P		**Pb**	**08 44 04.5 +0.4**
GLBA	**Clilabad**	**3.72**	**80**	⇑P		**Pb**	**08 44 03.6 -1.1**
GLBA	**Clilabad**	**3.72**	**80**	P		**Pb**	**08 44 03.6 -1.1**
ONI	**Oni**	**3.87**	**358**	P		**Sn**	**08 44 45.7 +1.2**
URFA	**Urfa**	**4.03**	**253**	*e*PN		**Pn**	**08 44 02.1 +1.1**
URFA	**Urfa**	**4.03**	**253**	*e*Pn		**Pn**	**08 44 02.1 +1.1**

IDC 26 08:49:16.0±1.0,8.°09N×125.°26E,h0km,mb3.8/7,
mb1 4.0/7,mb1mx3.6/65,mbtmp3.8/7,MS3.0/1,Ms1 3.0/1,
ms1mx2.3/42,Error ellipse: s-maj=59.4km
s-min=18.4km az=74.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**18.24**	**185**	LR		LR	09 01 02.7
	comp=Z,53nm,20.4s,baz=153,slow=39						
FITZ	**Fitzroy Crossi**	**26.02**	**179**	P		P	08 54 49.8 -1.2
	1.5nm,0.4s,baz=5.2,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**29.25**	**162**	P		P	08 55 20.6 +0.7
	0.5nm,0.4s,baz=340,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**32.67**	**165**	P		P	08 55 51.0 +0.8
	1.2nm,0.5s,baz=343,slow=7.1,SNR=26						
STKA	**Stephens Creek**	**42.70**	**159**	P		P	08 57 14.4 -0.4
	1.4nm,0.7s,baz=341,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**53.17**	**324**	P		P	08 58 36.8 +0.9
	0.5nm,0.4s,baz=120,slow=6.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**57.31**	**327**	P		P	08 59 05.4 -0.3
	0.5nm,0.6s,baz=127,slow=5.9,SNR=1.6						
ILAR	**Eielson Array**	**81.83**	**26**	P		P	09 01 36.0 -0.8
	0.3nm,0.6s,baz=239,slow=4.7,SNR=8.1						

*ISK **26** 08:49:18.9,38.°68N×43.°59E,h5km,ML4.0*
*DDA **26** 08:49:20.0,38.°64N×43.°52E,h18km,MI4.0*
*AZER **26** 08:49:20.2±0.4,38.°45N×43.°48E,h8km,Error ellipse:*
s-maj=3.9km s-min=2.8km az=101.0
*IDC **26** 08:49:20.4±1.1,38.°63N×43.°42E,h0km,mb3.8/6,*
mb1 3.8/11,mb1mx3.5/81,mbtmp3.7/11,ML2.9/4,MS2.8/6,
Ms1 2.8/6,ms1mx2.5/37,Error ellipse: s-maj=21.4km
s-min=12.6km az=141.0
*TEH **26** 08:49:21.4,38.°87N×43.°37E,h18km,ML4.0*
*CSEM **26** 08:49:22.0±0.1,38.°60N×43.°50E,h10km,ML4.0,Error*
ellipse: s-maj=4.3km s-min=3.2km az=162.0
ISC 26 08:49:22.0±0.8,38.°63N±0.°02×43.°50E±0.°02,h11km±5km,
n157,σ1§65/205,mb3.8/6,19C-21D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**247**	*e*PG		**Pg**	**08 49 24.2 -0.5**
VANB				*e*SG		**Sg**	**08 49 28.3 +1.6**
VANB	**Van**	**0.09**	**247**	*e*Pg		**Pg**	**08 49 24.2 -0.5**
VMUR	**Van-Muradiye**	**0.36**	**9**	*i* P		**Pg**	**08 49 27.3 -2.0**
VMUR				*i* S		**Sg**	**08 49 33.8 -0.3**
VMUR	**Van-Muradiye**	**0.36**	**9**	P		**Pg**	**08 49 27.3 -2.0**
VMUR				S		**Sg**	**08 49 33.8 -0.3**
GEVA	**Gevas**	**0.47**	**227**	*i* P		**Pg**	**08 49 29.9 -1.3**
GEVA				*i* S		**Sg**	**08 49 37.6 +0.1**
GEVA	**Gevas**	**0.47**	**227**	P		**Pg**	**08 49 29.9 -1.3**
GEVA				S		**Sg**	**08 49 37.6 +0.1**
BASK	**Baskale_VAN**	**0.70**	**145**	*i* P		**Pg**	**08 49 33.5 -2.1**
BASK	**Baskale_VAN**	**0.70**	**145**	P		**Pg**	**08 49 33.5 -2.1**
DYDN	**Diyadin**	**0.92**	**9**	*i* P		**Pg**	**08 49 37.1 -2.7**
DYDN				*i* S		**Sg**	**08 49 51.0 -0.9**
DYDN	**Diyadin**	**0.92**	**9**	P		**Pg**	**08 49 37.1 -2.7**
DYDN				S		**Sg**	**08 49 51.0 -0.9**
TUTA	**Tutak**	**0.94**	**325**	*i* P		**Pg**	**08 49 37.9 -2.2**
TUTA	**Tutak**	**0.94**	**325**	P		**Pg**	**08 49 37.9 -2.2**
AGRB	**Hanur-Agry**	**1.02**	**337**	*e*PG		**Pg**	**08 49 39.0 -2.7**
AGRB				*e*SG		**Sg**	**08 49 54.1 -0.9**
AGRB	**Hanur-Agry**	**1.02**	**337**	*e*Pg		**Pg**	**08 49 39.0 -2.7**
AGRB				*e*Sg		**Sg**	**08 49 54.1 -0.9**
HAKT	**HAKKARI**	**1.08**	**171**	*i* P		**Pg**	**08 49 40.0 -2.9**
HAKT				*i* S		**Sn**	**08 49 58.1 -0.3**
HAKT	**HAKKARI**	**1.08**	**171**	P		**Pg**	**08 49 40.0 -2.9**
HAKT				S		**Sn**	**08 49 58.2 -0.3**
EKAR	**Karacoban**	**1.28**	**300**	*i* P		**Pn**	**08 49 42.7 -3.3**
EKAR	**Karacoban**	**1.28**	**300**	P		**Pn**	**08 49 42.7 -3.3**
CUKT	**Cukurca**	**1.39**	**176**	*e*PN		**Pb**	**08 49 46.9 -0.5**
CUKT	**Cukurca**	**1.39**	**176**	*i* P		**Pb**	**08 49 47.4 -0.6**
CUKT	**Cukurca**	**1.39**	**176**	*e*Pn		**Pn**	**08 49 46.9 -0.5**
CUKT	**Cukurca**	**1.39**	**176**	P		**Pb**	**08 49 47.4 -0.6**
SIRN	**S¯–rnak**	**1.42**	**217**	*i* P		**Pb**	**08 49 48.5 0.0**
SIRN				*i* S		**Sg**	**08 50 11.9 +4.2**
SIRN	**S¯–rnak**	**1.42**	**217**	P		**Pb**	**08 49 48.5 0.0**
SIRN				S		**Sg**	**08 50 11.9 +4.2**
EATA	**Eleskirt**	**1.46**	**328**	*i* P		Pn	08 49 43.0 -5.6
EATA				*i* S		**Sb**	**08 50 08.6 +0.6**
NAX	**Nakhchivan**	**1.65**	**70**	⇓P		**Pn**	**08 49 50.6 -0.4**
	SNR=17						
NAX				⇓S		**Sb**	**08 50 13.7 +0.4**
NAX	**Nakhchivan**	**1.65**	**70**	P		**Pn**	**08 49 50.6 -0.4**
	SNR=17						
NAX				S		**Sb**	**08 50 13.7 +0.4**
VRTB	**Varto-Mus**	**1.68**	**289**	*e*PN		**Pn**	**08 49 51.5 0.0**
VRTB	**Varto-Mus**	**1.68**	**289**	*i* P		**Pn**	**08 49 50.9 -0.6**
VRTB	**Varto-Mus**	**1.68**	**289**	P		**Pn**	**08 49 50.8 -0.6**
VRTB	**Varto-Mus**	**1.68**	**289**	*e*Pn		**Pn**	**08 49 51.5 0.0**
ISHB	**Shabestar**	**1.70**	**101**	*e*Pn		**Pn**	**08 49 51.9 +0.1**
ISHB				*e*AMB		AMB	08 49 53.5
	comp=Z,19μm,0.2s						
IMRD	**Marand**	**1.73**	**87**	*e*Pn		**Pn**	**08 49 52.2 +0.1**
IMRD				*e*Sg		**Sg**	**08 50 18.8 +1.2**
IMRD				*e*AMB		AMB	08 50 30.0
	comp=N,78μm,0.4s						
IMRD	**Marand**	**1.73**	**87**	*e*Pn		**Pn**	**08 49 52.2 +0.1**
IMRD				*e*Sg		**Sg**	**08 50 18.8 +1.2**
DIGO	**Kars**	**1.78**	**357**	*i* P		**Pn**	**08 49 53.2 +0.2**
DIGO	**Kars**	**1.78**	**357**	P		**Pn**	**08 49 53.2 +0.2**
GNI	**Garni**	**1.80**	**32**	Pn		**Pb**	**08 49 54.5 -0.5**
	comp=N,37nm,0.3s,baz=284,slow=4.6,SNR=36						
GNI				Lg		Lg	08 50 19.1
	comp=N,32nm,0.3s,baz=11,slow=18,SNR=7.3						
GNI				LR		LR	08 50 41.8
	comp=N,58nm,20.5s,baz=211,slow=44						
BNGL	**BINGOL**	**1.86**	**281**	*i* P		**Pn**	**08 49 52.6 -1.4**
SVAN	**Silvan-Diyarba**	**1.87**	**256**	*e*PN		**Pn**	**08 49 54.3 +0.3**
SVAN	**Silvan-Diyarba**	**1.87**	**256**	*i* P		**Pn**	**08 49 52.4 -1.6**
SVAN	**Silvan-Diyarba**	**1.87**	**256**	P		**Pn**	**08 49 52.4 -1.6**
SVAN	**Silvan-Diyarba**	**1.87**	**256**	*e*Pn		**Pn**	**08 49 54.3 +0.3**
HOMI	**Horasan**	**1.88**	**319**	*i* P		**Pn**	**08 49 52.5 -1.8**
BTMN	**Batman**	**1.90**	**248**	*i* P		**Pn**	**08 49 55.1 +0.6**
BTMN	**Batman**	**1.90**	**248**	P		**Pn**	**08 49 55.1 +0.6**
EAK	**Akyaka**	**2.05**	**2**	*i* P		**Pn**	**08 49 57.0 +0.4**
EAK	**Akyaka**	**2.05**	**2**	P		**Pn**	**08 49 57.0 +0.4**
ERZM	**Erzurum**	**2.09**	**308**	*i* P		**Pn**	**08 49 57.7 +0.5**
ERZM	**Erzurum**	**2.09**	**308**	P		**Pn**	**08 49 57.7 +0.5**
ITBZ	**Tabriz**	**2.12**	**100**	*e*Pn		**Pn**	**08 49 58.4 +0.9**
ITBZ				*e*AMB		AMB	08 50 04.0
	comp=Z,2μm,0.2s						
ITBZ	**Tabriz**	**2.12**	**100**	*e*Pn		**Pn**	**08 49 58.4 +0.9**
SENK	**Senkaya-Erzuru**	**2.12**	**336**	*e*PN		**Pn**	**08 49 56.6 -1.0**
SENK	**Senkaya-Erzuru**	**2.12**	**336**	*e*Pn		**Pn**	**08 49 56.6 -1.0**
ECAT	**Cat-ERZURUM**	**2.19**	**297**	*i* P		**Pb**	**08 50 01.1 -0.7**
ECAT	**Cat-ERZURUM**	**2.19**	**297**	P		**Pb**	**08 50 01.0 -0.7**
BNGB	**Bing¯¶ll**	**2.23**	**280**	*e*PN		**Pn**	**08 49 59.0 -0.1**
BINT	**Bingol**	**2.37**	**277**	*e*Pn		**Pn**	**08 49 59.0 -1.9**
YEDI	**Yedisu-Bingol**	**2.44**	**290**	*e*PN		**Pn**	**08 50 02.5 +0.6**
YEDI	**Yedisu-Bingol**	**2.44**	**290**	*e*Pn		**Pn**	**08 50 02.5 +0.6**
MARD	**Mardin**	**2.52**	**239**	⇑*i*P		**Pn**	**08 50 03.2 +0.2**
DDEM	**Demirkent**	**2.63**	**330**	*i* P		**Pb**	**08 50 07.0 -2.1**
DDEM	**Demirkent**	**2.63**	**330**	P		**Pb**	**08 50 07.0 -2.1**
BGD	**Bogdanovka**	**2.63**	**2**	P		**Pb**	**08 50 10.7 +1.5**
BGD				S		**Sg**	**08 50 51.5 +4.9**
MAZI	**Mazidag**	**2.68**	**245**	*e*PN		**Pn**	**08 50 05.0 -0.2**
MAZI	**Mazidag**	**2.68**	**245**	*e*Pn		**Pn**	**08 50 05.0 -0.2**
KOPT	**Kop Dagi**	**2.71**	**302**	⇓*i*P		**Pb**	**08 50 10.5 -0.1**
KOPT	**Kop Dagi**	**2.71**	**302**	P		**Pb**	**08 50 10.5 -0.1**
GDB	**GEDABAY**	**2.72**	**39**	⇓P		**Pn**	**08 50 06.1 +0.4**
	SNR=7.6						
GDB				⇓S		**Sb**	**08 50 42.7 -1.4**
GDB	**GEDABAY**	**2.72**	**39**	P		**Pn**	**08 50 06.1 +0.4**
	SNR=7.6						
GDB				S		**Sb**	**08 50 42.7 -1.4**
DAGI	**Agillar**	**2.73**	**334**	*i* P		Pn	08 50 08.5 +2.6
AKH	**Akhalkalaki**	**2.77**	**360**	P		**Pb**	**08 50 12.7 +1.0**
AKH				S		**Sg**	**08 50 56.6 +5.4**
IHRS	**Heris**	**2.80**	**95**	*e*AMB		AMB	08 50 18.0
	comp=Z,5μm,0.4s						
IHRS				*e*Pn		**Pn**	**08 50 07.4 +0.5**
QZX	**Qazax, Azerbai**	**2.82**	**30**	⇓P		**Pn**	**08 50 07.3 +0.3**
	SNR=17						
QZX				⇓S		**Sb**	**08 50 44.7 -2.2**
QZX	**Qazax, Azerbai**	**2.82**	**30**	P		**Pn**	**08 50 07.3 +0.3**
	SNR=17						
QZX				S		**Sb**	**08 50 44.7 -2.2**
ARTV	**Artvin**	**2.82**	**335**	*i* P		**Pn**	**08 50 09.0 +1.8**
ARTV	**Artvin**	**2.82**	**335**	P		**Pn**	**08

comp=Z,1.1nm,0.3s,baz=325,slow=23,SNR=6.6
MMAI Mount Meron Ar 8.64 232 Pn **Pn 08 51 29.7 +2.7**
comp=Z,1.3nm,0.3s,baz=90,slow=15,SNR=4.8
MMAI LR LR 08 54 55.8
comp=Z,82nm,20.4s,baz=30,slow=39
EIL Elat 11.40 221 LR LR 08 56 41.0
comp=Z,64nm,20.1s,baz=57,slow=39
GEYT Alibeck 11.51 89 Pn **Pn 08 52 05.4 -1.0**
comp=Z,0.2nm,0.3s,baz=274,slow=19,SNR=2.8
AKTO Aktyubinsk 15.66 36 Pn **Pn 08 53 01.2 -1.3**
comp=Z,0.1nm,0.3s,baz=224,slow=9.2,SNR=6.9
AKTO LR LR 09 01 00.5
comp=Z,27nm,19.9s,baz=243,slow=45
AKASG Malin Array Be 15.74 325 Pn **Pn 08 53 02.7 -0.7**
baz=138,slow=11,SNR=2.3
WSAR Wadi Sarin 20.05 136 LR LR 09 03 45.3
comp=Z,42nm,19.5s,baz=352,slow=43
GERES GERESS Array B 23.69 305 P **P 08 54 33.8 +0.1**
comp=Z,0.3nm,0.2s,baz=103,slow=8.2,SNR=3.4
KURBB Kurchatov Arra 27.40 53 P **P 08 55 09.3 +2.0**
comp=Z,1.8nm,0.6s,baz=265,slow=9.5,SNR=6.8
HFS Hagfors 28.55 329 LR LR 09 07 25.0
comp=Z,34nm,18.9s,baz=336,slow=38
MKAR Makanchi Array 29.40 61 P **P 08 55 26.2 +0.9**
comp=Z,1.0nm,0.8s,baz=276,slow=6.0,SNR=6.9
EKA Eskdalemuir Ar 35.17 314 P **P 08 56 15.2 -0.4**
comp=Z,1.7nm,0.7s,baz=94,slow=9.3,SNR=3.0
TORD Torodi Ar. Bea 44.83 247 P **P 08 57 34.9 -1.4**
comp=Z,0.9nm,1.0s,baz=59,slow=9.9,SNR=4.6
KSRS Korea Array 64.08 62 P **P 08 59 56.2 +0.1**
comp=Z,0.8nm,0.7s,baz=299,slow=5.1,SNR=3.8

*ISCJB **26** 08:51:32.6±1.5, 19°.1N±0°.2×81°.3W±0°.2, h10km, mb3.4/2, MS3.0/3, Error ellipse: s-maj=39.8km s-min=11.7km az=30.7*
*IDC **26** 08:51:32.6±1.5, 18°.95N×81°.42W, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/59, mbtmp3.5/3, ML3.6/1, MS3.0/5, Ms1 3.1/5, ms1mx2.8/17, Error ellipse: s-maj=54.6km s-min=37.0km az=22.0*
*JSN **26** 08:52:27.3±0.3, 18°.24N×77°.56W, h15km, MD3.7*
ISC 26 08:51:33.7±1.3, 19°.0N±0°.3×81°.4W±0°.2, h10km, n13, σ0s54/8, MS3.0/3, 3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBJ	**Bamboo Saint A**	**3.92**	**99**	⇓*iP*		**Pn**	**08 52 33.6**	**-0.5**
BBJ				⇓*ie*			08 52 33.6	
STH	**Stony Hill**	**4.41**	**102**	*eP*		**Pn**	**08 52 40.3**	**-0.5**
HOJ	**Hope**	**4.48**	**102**	⇓*iP*		**Pn**	**08 52 41.7**	**0.0**
CMIG	**Matias Romero**	**13.02**	**264**	LR		LR	08 59 50.1	
	comp=Z,55nm,18.2s,baz=74,slow=38							
ROSC	**El Rosal**	**15.68**	**153**	LR		LR	09 00 50.0	
	comp=Z,47nm,21.6s,baz=356,slow=36							
TKL	**Tuckaleechee C**	**16.70**	**353**	Pn		**Pn**	**08 55 27.8**	**-0.1**
	0.2nm,0.3s,baz=168,slow=13,SNR=4.0							
TXAR	**Lajitas Array**	**22.76**	**301**	P		**P**	**08 56 36.3**	**-0.1**
	0.4nm,0.8s,baz=116,slow=8.7,SNR=5.1							
LPIG	**La Paz**	**27.38**	**286**	LR		LR	09 09 59.7	
	comp=Z,42nm,18.8s,baz=82,slow=40							
PTGA	**Pitinga**	**28.75**	**131**	LR		LR	09 09 03.7	
	comp=Z,29nm,20.7s,baz=122,slow=37							
LPAZ	**La Paz**	**37.43**	**159**	LR		LR	09 15 34.5	
	comp=Z,29nm,18.3s,baz=296,slow=39							
TORD	**Torodi Ar. Bea**	**79.34**	**80**	P		**P**	**09 03 41.3**	**+0.9**
	1.6nm,1.3s,baz=280,slow=4.4,SNR=2.9							
WRA	**Warramunga Arr**	**146.38**	**262**	PKPbc		**PKPbc**	**09 11 15.3**	**-0.4**
	0.5nm,0.5s,baz=86,slow=4.0,SNR=6.7							
ASAR	**Alice Springs**	**146.90**	**256**	PKPbc		**PKPbc**	**09 11 17.2**	**0.0**
	0.5nm,0.8s,baz=109,slow=3.9,SNR=2.2							

*DDA **26** 08:56:18.4, 38°.85N×43°.76E, h9km, Ml3.7*
*ISK **26** 08:56:19.0, 38°.86N×43°.69E, h5km, ML3.4*
*CSEM **26** 08:56:21.8±0.3, 38°.79N×43°.54E, h2km, ML3.4, Error ellipse: s-maj=6.3km s-min=5.9km az=130.0*
*AZER **26** 08:56:25.5±1.6, 38°.73N×43°.86E, h9km, Error ellipse: s-maj=15.7km s-min=6.3km az=86.0*
ISC 26 08:56:20.1±1.0, 38°.86N±0°.02×43°.66E±0°.02, h1km±9km, n60, σ1s57/75, 6C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**219**	*e*PG		**Pb**	**08 56 28.1**	**-0.9**
VANB				*e*SG		**Sb**	**08 56 35.4**	**+0.4**
VANB	**Van**	**0.34**	**219**	*e*Pg		**Pb**	**08 56 28.1**	**-0.9**
GEVA	**Gevas**	**0.72**	**221**	*i* P		**Pg**	**08 56 32.8**	**-1.1**
GEVA	**Gevas**	**0.72**	**221**	P		**Pg**	**08 56 32.8**	**-1.1**
TUTA	**Tutak**	**0.85**	**310**	*i* P		**Pg**	**08 56 35.8**	**-0.6**
TUTA				*i* S		**Sg**	**08 56 49.1**	**+1.6**
TUTA	**Tutak**	**0.85**	**310**	P		**Pg**	**08 56 35.8**	**-0.6**
TUTA				S		**Sg**	**08 56 49.1**	**+1.6**
AGRB	**Hanur-Agry**	**0.88**	**324**	*e*PG		**Pg**	**08 56 37.4**	**+0.4**
AGRB				*e*SG		**Sb**	**08 56 50.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**324**	*e*Pg		**Pg**	**08 56 37.4**	**+0.4**
AGRB				*e*Sg		**Sb**	**08 56 50.9**	**+0.1**
HAKT	**HAKKARI**	**1.30**	**178**	*i* P		**Pg**	**08 56 43.2**	**-1.8**
HAKT				*i* S		**Sn**	**08 57 03.0**	**-0.8**
HAKT	**HAKKARI**	**1.30**	**178**	P		**Pg**	**08 56 43.2**	**-1.8**
HAKT				S		**Sn**	**08 57 03.0**	**-0.8**
EKAR	**Karacoban**	**1.30**	**288**	*i* P		**Pg**	**08 56 45.4**	**+0.3**
EKAR	**Karacoban**	**1.30**	**288**	P		**Pg**	**08 56 45.4**	**+0.3**
EATA	**Eleskirt**	**1.35**	**318**	*i* P		**Pn**	**08 56 44.6**	**-1.8**
EATA				*i* S		**Sn**	**08 57 06.4**	**+1.2**
EATA	**Eleskirt**	**1.35**	**318**	P		**Pn**	**08 56 44.6**	**-1.8**
EATA				S		**Sn**	**08 57 06.4**	**+1.2**
NAX	**Nakhchivan**	**1.46**	**77**	⇑*iP*		**Pb**	**08 56 50.3**	**+2.1**
	SNR=15							
NAX				⇓S		**Sn**	**08 57 09.6**	**+2.0**
NAX	**Nakhchivan**	**1.46**	**77**	P		**Pb**	**08 56 50.3**	**+2.1**
	SNR=15							
NAX				S		**Sn**	**08 57 09.6**	**+2.0**
CUKT	**Cukurca**	**1.61**	**181**	*e*PN		**Pb**	**08 56 50.1**	**-0.6**
CUKT	**Cukurca**	**1.61**	**181**	*i* P		**Pg**	**08 56 54.1**	**+3.2**
CUKT	**Cukurca**	**1.61**	**181**	*e*Pn		**Pb**	**08 56 50.1**	**-0.6**
CUKT	**Cukurca**	**1.61**	**181**	P		**Pg**	**08 56 54.1**	**+3.2**
VRTB	**Varto-Mus**	**1.74**	**281**	*e*PN		**Pn**	**08 56 52.4**	**+0.7**
VRTB	**Varto-Mus**	**1.74**	**281**	*i* P		**Pb**	**08 56 53.0**	**0.0**
VRTB	**Varto-Mus**	**1.74**	**281**	*e*Pn		**Pn**	**08 56 52.4**	**+0.7**
VRTB	**Varto-Mus**	**1.74**	**281**	P		**Pb**	**08 56 53.0**	**0.0**
HOMI	**Horasan**	**1.80**	**312**	*i* P		**Pb**	**08 56 54.0**	**0.0**
EAK	**Akyaka**	**1.82**	**359**	*i* P		**Pg**	**08 56 57.0**	**+1.9**
EAK				*i* S		**Sg**	**08 57 22.2**	**+3.5**
EAK	**Akyaka**	**1.82**	**359**	P		**Pg**	**08 56 57.0**	**+1.9**
EAK				S		**Sg**	**08 57 22.2**	**+3.5**
SENK	**Senkaya-Erzuru**	**1.98**	**330**	*e*PN		**Pn**	**08 56 54.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.98**	**330**	*e*Pn		**Pn**	**08 56 54.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.06**	**251**	*e*PN		**Pn**	**08 56 56.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.06**	**251**	*i* P		**Pb**	**08 56 57.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.06**	**251**	*e*Pn		**Pn**	**08 56 56.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.06**	**251**	P		**Pb**	**08 56 57.6**	**-0.6**
ERZM	**Erzurum**	**2.06**	**301**	*i* P		**Pb**	**08 56 57.9**	**-0.6**
ERZM	**Erzurum**	**2.06**	**301**	P		**Pb**	**08 56 57.9**	**-0.6**
BTMN	**Batman**	**2.11**	**244**	*i* P		**Pn**	**08 56 56.9**	**+0.3**
BTMN	**Batman**	**2.11**	**244**	P		**Pn**	**08 56 56.9**	**+0.3**
GDB	**GEDABAY**	**2.46**	**40**	⇑*iP*		**Pg**	**08 57 06.8**	**-0.5**
	SNR=9.5							
GDB				⇑S		**Sg**	**08 57 37.5**	**-1.7**
GDB	**GEDABAY**	**2.46**	**40**	P		**Pg**	**08 57 06.8**	**-0.5**
	SNR=9.5							
GDB				S		**Sg**	**08 57 37.5**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.49**	**284**	*e*PN		**Pn**	**08 57 02.1**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.49**	**284**	*e*Pn		**Pn**	**08 57 02.1**	**+0.2**
DDEM	**Demirkent**	**2.51**	**325**	*i* P		**Pg**	**08 57 07.6**	**-0.5**
DDEM	**Demirkent**	**2.51**	**325**	P		**Pg**	**08 57 07.6**	**-0.5**
QZX	**Qazax, Azerbai**	**2.56**	**30**	⇓*iP*		**Pg**	**08 57 07.1**	**-2.0**
	SNR=11							
QZX				⇑S		**Sg**	**08 57 40.3**	**-2.0**
QZX	**Qazax, Azerbai**	**2.56**	**30**	P		**Pg**	**08 57 07.1**	**-2.0**
	SNR=11							
QZX				S		**Sg**	**08 57 40.3**	**-2.0**
KOPT	**Kop Dagi**	**2.71**	**296**	*i* P		**Pn**	**08 57 04.1**	**-0.9**
KOPT	**Kop Dagi**	**2.71**	**296**	P		**Pn**	**08 57 04.1**	**-0.9**
GANJ	**Ganja**	**2.72**	**48**	⇓*iP*		**Pg**	**08 57 09.6**	**-2.6**
	SNR=6.4							
GANJ	**Ganja**	**2.72**	**48**	P		**Pg**	**08 57 09.6**	**-2.6**
	SNR=6.4							
MARD	**Mardin**	**2.75**	**237**	*i* P		**Pn**	**08 57 06.3**	**+0.9**
MAZI	**Mazidag**	**2.89**	**242**	*e*PN		**Pn**	**08 57 08.3**	**+0.9**
MAZI	**Mazidag**	**2.89**	**242**	*e*Pn		**Pn**	**08 57 08.3**	**+0.9**
BRDA	**Brd**	**3.06**	**62**	⇑S		**Sb**	**08 57 50.0**	**-3.1**
BRDA	**Brd**	**3.06**	**62**	S		**Sb**	**08 57 50.0**	**-3.1**
PTK	**Pertek**	**3.33**	**272**	*e*PN		**Pn**	**08 57 14.6**	**+1.1**
PTK	**Pertek**	**3.33**	**272**	*e*Pn		**Pn**	**08 57 14.6**	**+1.1**
LRK	**Lerik**	**3.67**	**92**	⇑P		Pb	08 57 20.2	-5.6
LRK	**Lerik**	**3.67**	**92**	P		Pb	08 57 20.2	-5.6
ASTR	**Astara**	**4.03**	**93**	⇓P		**Pn**	**08 57 25.2**	**+2.3**
ASTR	**Astara**	**4.03**	**93**	P		**Pn**	**08 57 25.2**	**+2.3**

*CSEM **26** 09:20:40.5±0.6, 38°.69N×43°.74E, h2km, ML2.6, Error ellipse: s-maj=12.5km s-min=6.0km az=78.0*
*ISK **26** 09:20:41.0, 38°.70N×43°.56E, h5km, ML2.6*
*DDA **26** 09:20:43.1, 38°.69N×43°.44E, h7km, Md2.8*
ISC 26 09:20:42.2±1.3, 38°.71N±0°.03×43°.64E±0°.05, h9km±11km, n24, σ1s30/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**239**	*e*PG		**Pg**	**09 20 46.6**	**-0.2**
VANB				*e*SG		**Sg**	**09 20 51.1**	**+1.1**
VANB	**Van**	**0.23**	**239**	*e*Pg		**Pg**	**09 20 46.6**	**-0.2**
VANB				*e*Sg		**Sg**	**09 20 51.1**	**+1.1**
GEVA	**Gevas**	**0.60**	**229**	*i* P		**Pg**	**09 20 52.6**	**-1.4**
GEVA				*i* S		**Sg**	**09 21 00.7**	**-1.1**
GEVA	**Gevas**	**0.60**	**229**	P		**Pg**	**09 20 52.6**	**-1.4**
GEVA				S		**Sg**	**09 21 00.7**	**-1.1**
TUTA	**Tutak**	**0.94**	**317**	*i* P		**Pg**	**09 20 59.5**	**-0.9**
TUTA				*i* S		**Sg**	**09 21 12.7**	**0.0**
TUTA	**Tutak**	**0.94**	**317**	P		**Pg**	**09 20 59.5**	**-0.9**
TUTA				S		**Sg**	**09 21 12.6**	**0.0**
AGRB	**Hanur-Agry**	**1.00**	**330**	*e*PG		**Pg**	**09 21 00.7**	**-0.7**
AGRB				*e*SG		**Sb**	**09 21 15.4**	**+0.2**
AGRB	**Hanur-Agry**	**1.00**	**330**	*e*Pg		**Pg**	**09 21 00.7**	**-0.7**
AGRB				*e*Sg		**Sb**	**09 21 15.4**	**+0.2**
HAKT	**HAKKARI**	**1.15**	**177**	*i* P		**Pg**	**09 21 00.8**	**-3.6**
HAKT	**HAKKARI**	**1.15**	**177**	P		**Pg**	**09 21 00.8**	**-3.6**
EKAR	**Karacoban**	**1.34**	**294**	*i* P		**Pg**	**09 21 08.7**	**+0.7**
EKAR	**Karacoban**	**1.34**	**294**	P		**Pg**	**09 21 08.7**	**+0.7**
EATA	**Eleskirt**	**1.45**	**323**	*i* P		**Pn**	**09 21 08.9**	**-0.1**
EATA				*i* S		**Sg**	**09 21 29.6**	**+0.6**
EATA	**Eleskirt**	**1.45**	**323**	P		**Pn**	**09 21 08.9**	**-0.1**
EATA				S		**Sg**	**09 21 29.6**	**+0.6**
CUKT	**Cukurca**	**1.46**	**181**	*e*PN		**Pb**	**09 21 09.8**	**+0.1**
CUKT				*e*SN		**Sg**	**09 21 30.0**	**+0.8**
CUKT	**Cukurca**	**1.46**	**181**	*i* P		**Pg**	**09 21 12.8**	**+2.5**
CUKT				*i* S		**Sg**	**09 21 31.2**	**+2.0**
CUKT	**Cukurca**	**1.46**	**181**	*e*Pn		**Pb**	**09 21 09.8**	**+0.1**
CUKT	**Cukurca**	**1.46**	**181**	P		**Pg**	**09 21 12.8**	**+2.5**
CUKT				*e*Sn		**Sg**	**09 21 30.0**	**+0.8**
CUKT				S		**Sg**	**09 21 31.2**	**+2.0**
SVAN	**Silvan-Diyarba**	**1.99**	**254**	*e*PN		**Pn**	**09 21 16.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.99**	**254**	*e*Pn		**Pn**	**09 21 16.1**	**-0.1**
BTMN	**Batman**	**2.03**	**247**	*i* P		**Pn**	**09 21 16.4**	**-0.4**
BTMN				*i* S		**Sb**	**09 21 44.7**	**-0.2**
BTMN	**Batman**	**2.03**	**247**	P		**Pn**	**09 21 16.4**	**-0.4**
BTMN				S		**Sb**	**09 21 44.7**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.51**	**288**	*e*PN		**Pn**	**09 21 23.5**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.51**	**288**	*e*Pn		**Pn**	**09 21 23.5**	**+0.1**

IDC 26 09:34:07.4±8.6, 17°.27S×179°.36W, h685km±107km, mb2.7/5, mb1 3.1/5, mb1mx2.7/29, mbtmp3.8/5, Error ellipse: s-maj=98.2km s-min=34.6km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.86**	**259**	P		P	09 41 16.1	-1.2
	0.5nm,0.9s,baz=94,slow=6.9,SNR=4.4							
ASAR	**Alice Springs**	**44.10**	**254**	P		P	09 41 19.9	+0.8
	0.7nm,0.6s,baz=87,slow=8.6,SNR=13							
ASAR				PcP		PcP	09 42 47.8	-0.4
	0.2nm,0.4s,baz=96,slow=4.3,SNR=4.6							
ILAR	**Eielson Array**	**85.48**	**13**	P		P	09 45 35.5	+0.4
	0.4nm,0.4s,baz=222,slow=5.2,SNR=12							
TXAR	**Lajitas Array**	**86.42**	**58**	P		P	09 45 40.5	-0.1
	0.6nm,0.8s,baz=218,slow=6.1,SNR=9.0							
PDAR	**Pinedale Array**	**87.52**	**44**	P		P	09 45 45.2	-0.3
	0.4nm,0.5s,baz=242,slow=1.9,SNR=5.0							

*DDA **26** 09:35:21.3, 38°.71N×43°.24E, h14km, Md3.1*
*ISK **26** 09:35:21.5, 38°.77N×43°.32E, h7km, ML3.3*
*CSEM **26** 09:35:22.0±0.3, 38°.73N×43°.24E, h2km, ML3.3, Error ellipse: s-maj=8.0km s-min=4.7km az=73.0*
ISC 26 09:35:22.7±0.9, 38°.72N±0°.02×43°.20E±0°.03, h12km±7km, n51, σ1s32/72, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**131**	*e*PG		**Pg**	**09 35 26.9**	**-0.1**
VANB				*e*SG		**Sg**	**09 35 31.5**	**+1.5**
VANB	**Van**	**0.19**	**131**	*e*Pg		**Pg**	**09 35 26.9**	**-0.1**
VANB				*e*Sg		**Sg**	**09 35 31.5**	**+1.5**
GEVA	**Gevas**	**0.43**	**195**	*i* P		**Pg**	**09 35 29.3**	**-1.9**
GEVA				*i* S		**Sg**	**09 35 37.0**	**+0.1**
GEVA	**Gevas**	**0.43**	**195**	P		**Pg**	**09 35 29.3**	**-1.9**
GEVA				S		**Sg**	**09 35 37.0**	**+0.1**
TUTA	**Tutak**	**0.74**	**336**	⇓*iP*		**Pg**	**09 35 36.3**	**-0.9**
TUTA				*i* S		**Sb**	**09 35 47.1**	**-0.9**
TUTA	**Tutak**	**0.74**	**336**	P		**Pg**	**09 35 36.3**	**-0.9**
TUTA				S		**Sb**	**09 35 47.1**	**-0.9**
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*PG		**Pg**	**09 35 38.1**	**-1.3**
AGRB				*e*SG		**Sb**	**09 35 50.6**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**349**	*e*Pg		**Pg**	**09 35 38.2**	**-1.3**
AGRB				*e*Sg		**Sb**	**09 35 50.6**	**-1.0**
DYDN	**Diyadin**	**0.90**	**25**	*i* P		**Pb**	**09 35 39.0**	**-1.5**
DYDN	**Diyadin**	**0.90**	**25**	P		**Pb**	**09 35 39.0**	**-1.5**
BASK	**Baskale_VAN**	**0.92**	**137**	*i* P		**Pg**	**09 35 38.4**	**-2.1**
BASK	**Baskale_VAN**	**0.92**	**137**	P		**Pg**	**09 35 38.4**	**-2.1**
EKAR	**Karacoban**	**1.03**	**301**	*i* P		**Pg**	**09 35 41.5**	**-1.2**
EKAR				*i* S		**Sn**	**09 36 00.3**	**+2.3**
EKAR	**Karacoban**	**1.03**	**301**	P		**Pg**	**09 35 41.5**	**-1.2**
HAKT	**HAKKARI**	**1.23**	**161**	*i* P		**Pg**	**09 35 43.5**	**-2.9**
HAKT				*i* S		**Sn**	**09 36 04.7**	**+2.0**
HAKT	**HAKKARI**	**1.23**	**161**	P		**Pg**	**09 35 43.5**	**-2.9**
HAKT				S		**Sn**	**09 36 04.7**	**+2.0**
EATA	**Eleskirt**	**1.26**	**334**	⇓*iP*		**Pg**	**09 35 45.6**	**-1.4**
EATA				*i* S		**Sn**	**09 36 04.8**	**+1.1**
EATA	**Eleskirt**	**1.26**	**334**	P		**Pg**	**09 35 45.7**	**-1.4**
EATA				S		**Sn**	**09 36 04.8**	**+1.1**
SIRN	**S¨–rnak**	**1.37**	**207**	*i* P		**Pg**	**09 35 48.5**	**-0.6**
SIRN	**S¨–rnak**	**1.37**	**207**	P		**Pg**	**09 35 48.5**	**-0.6**
VRTB	**Varto-Mus**	**1.43**	**288**	*e*PN		**Pg**	**09 35 50.0**	**-0.2**
VRTB	**Varto-Mus**	**1.43**	**288**	*i* P		**Pb**	**09 35 49.0**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**288**	P		**Pb**	**09 35 49.0**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**288**	*e*Pn		**Pg**	**09 35 50.0**	**-0.2**
CUKT	**Cukurca**	**1.51**	**168**	*e*PN		**Pg**	**09 35 50.6**	**-1.1**
CUKT	**Cukurca**	**1.51**	**168**	*i* P		**Pg**	**09 35 50.5**	**-1.1**
CUKT				*i* S		**Sg**	**09 36 12.6**	**+1.4**
CUKT	**Cukurca**	**1.51**	**168**	*e*Pn		**Pg**	**09 35 50.6**	**-1.1**
CUKT				S		**Sg**	**09 36 12.6**	**+1.4**
BNGL	**BINGOL**	**1.62**	**279**	*i* P		**Pb**	**09 35 51.7**	**-1.0**
BNGL				*i* S		**Sb**	**09 36 13.5**	**+0.2**
HOMI	**Horasan**	**1.66**	**323**	*i* P		**Pb**	**09 35 53.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.68**	**251**	*e*PN		**Pb**	**09 35 52.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.68**	**251**	*i* P		**Pb**	**09 35 52.7**	**-0.9**
SVAN				*i* S		**Sg**	**09 36 15.7**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.68**	**251**	P		**Pb**	**09 35 52.7**	**-0.9**
SVAN				S		**Sg**	**09 36 15.7**	**-0.9**
DIGO	**Kars**	**1.69**	**4**	*i* P		**Pg**	**09 35 55.1**	**-0.2**
DIGO	**Kars**	**1.69**	**4**	P		**Pg**	**09 35 55.1**	**-0.2**
BTMN	**Batman**	**1.73**	**242**	*i* P		**Pb**	**09 35 53.6**	**-1.0**
BTMN				*i* S		**Sg**	**09 36 17.6**	**-0.9**
BTMN	**Batman**	**1.73**	**242**	P		**Pb**	**09 35 53.6**	**-1.0**
BTMN				S		**Sg**	**09 36 17.6**	**-0.9**
ERZM	**Erzurum**	**1.85**	**310**	*i* P		**Pb**	**09 35 56.5**	**-0.2**
ERZM	**Erzurum**	**1.85**	**310**	P		**Pb**	**09 35 56.5**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.95**	**341**	*e*PN		**Pn**	**09 35 55.5**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.95**	**341**	*e*Pn		**Pn**	**09 35 55.5**	**-0.4**
BNGB	**Bing¨¶l**	**1.99**	**279**	*e*PN		**Pn**	**09 35 57.0**	**+0.6**
BINT	**Bingol**	**2.13**	**275**	*e*Pn		**Pn**	**09 35 57.0**	**-1.3**
MARD	**Mardin**	**2.38**	**234**	*i* P		**Pn**	**09 36 01.9**	**+0.2**
MARD				*i* S		**Sn**	**09 36 33.0**	**+2.1**
DAGI	**Agillar**	**2.55**	**338**	*i* P		**Pb**	**09 36 08.0**	**-0.6**
ARTV	**Artvin**	**2.65**	**339**	*i* P		**Pb**	**09 36 10.2**	**-0.1**
ARTV	**Artvin**	**2.65**	**339**	P		**Pb**	**09 36 10.1**	**-0.1**
DBOC	**Borcka**	**2.87**	**336**	*i* P		**Pb**	**09 36 14.7**	**+0.7**
PTK	**Pertek**	**2.98**	**274**	*e*PN		**Pn**	**09 36 12.5**	**+2.4**
PTK	**Pertek**	**2.98**	**274**	*e*Pn		**Pn**	**09 36 12.5**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*PN		**Pn**	**09 36 13.3**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*Pn		**Pn**	**09 36 13.4**	**+2.0**

*AZER **26** 09:38:45.8±2.4, 38°.68N×43°.54E, h2km, Error ellipse: s-maj=22.8km s-min=20.0km az=50.0*
*CSEM **26** 09:38:49.3±0.2, 38°.97N×43°.67E, h2km, ML3.3, Error ellipse: s-maj=6.2km s-min=5.4km az=28.0*
*DDA **26** 09:38:49.3, 38°.94N×43°.61E, h7km, Md3.0*
*ISK **26** 09:38:49.7, 38°.96N×43°.51E, h5km, ML3.3*
*TEH **26** 09:38:50.7, 38°.94N×43°.66E, h18km, ML3.4*
ISC 26 09:38:49.4±1.2, 38°.96N±0°.02×43°.62E±0°.02, h5km±11km, n59, σ0s89/73, 5C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.40**	**207**	*e*PG		**Pb**	**09 38 59.2**	**+0.1**
VANB				*e*SG		**Sb**	**09 39 05.7**	**0.0**
VANB	**Van**	**0.40**	**207**	*e*Pg		**Pb**	**09 38 59.2**	**+0.1**
TUTA	**Tutak**	**0.77**	**306**	*i* P		**Pg**	**09 39 04.0**	**-0.3**
TUTA	**Tutak**	**0.77**	**306**	P		**Pg**	**09 39 04.0**	**-0.3**
GEVA	**Gevas**	**0.78**	**215**	*i* P		**Pb**	**09 39 04.6**	**-1.0**
GEVA	**Gevas**	**0.78**	**215**	P		**Pb**	**09 39 04.6**	**-1.0**
AGRB	**Hanur-Agry**	**0.79**	**322**	*e*PG		**Pg**	**09 39 04.1**	**-0.5**
AGRB				*e*SG		**Sg**	**09 39 15.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.79**	**322**	*e*Pg		**Pg**	**09 39 04.1**	**-0.5**
AGRB				*e*Sg		**Sg**	**09 39 15.0**	**+0.1**
BASK	**Baskale_VAN**	**0.95**	**162**	*i* P		**Pg**	**09 39 07.3**	**-0.4**
BASK	**Baskale_VAN**	**0.95**	**162**	P		**Pg**	**09 39 07.3**	**-0.4**
EKAR	**Karacoban**	**1.25**	**284**	*i* P		**Pg**	**09 39 12.7**	**-0.7**
EKAR	**Karacoban**	**1.25**	**284**	P		**Pg**	**09 39 12.7**	**-0.7**
EATA	**Eleskirt**	**1.26**	**316**	*i* P		**Pg**	**09 39 12.7**	**-0.9**
EATA				*i* S		**Sn**	**09 39 31.1**	**-0.3**
EATA	**Eleskirt**	**1.26**	**316**	P		**Pg**	**09 39 12.7**	**-0.9**
EATA				S		**Sn**	**09 39 31.1**	**-0.3**
HAKT	**HAKKARI**	**1.40**	**177**	*i* P		**Pn**	**09 39 15.2**	**-0.6**
HAKT	**HAKKARI**	**1.40**	**177**	P		**Pn**	**09 39 15.2**	**-0.6**
DIGO	**Kars**	**1.47**	**353**	*i* P		**Pg**	**09 39 17.8**	**+0.1**
DIGO	**Kars**	**1.47**	**353**	P		**Pg**	**09 39 17.8**	**+0.1**
NAX	**Nakhchivan**	**1.47**	**81**	⇑P		**Pn**	**09 39 15.4**	**-1.3**
NAX				⇓S		**Sg**	**09 39 36.9**	**+0.1**
NAX	**Nakhchivan**	**1.47**	**81**	P		**Pn**	**09 39 15.4**	**-1.3**
NAX				S		**Sg**	**09 39 36.9**	**+0.1**
IMRD	**Marand**	**1.64**	**98**	*e*Pn		**Pn**	**09 39 17.1**	**-2.0**
IMRD				*e*AMB		AMB	09 39 20.9	
	comp=Z,8μm,0.2s							
IMRD				*e*Sg		**Sb**	**09 39 41.8**	**+0.5**
IMRD				*e*AMB

PET smax smax
comp=N,56nm,0.6s
PET Petropavlovsk 5.59 26 *e*P **Pn 09 50 13.1 +1.9**
PET *e*S **Sn 09 51 13.5 -0.7**
DALK Dalny 5.63 27 PN **Pn 09 50 13.0 +1.3**
DALK S **Sn 09 51 14.0 -1.0**
DALK Dalny 5.63 27 *e*P **Pn 09 50 13.0 +1.3**
DALK *e*S **Sn 09 51 14.0 -1.0**
UGLR Uglovaya 5.81 26 PN **Pn 09 50 16.2 +1.9**
UGLR Uglovaya 5.81 26 *e*P **Pn 09 50 16.2 +1.9**
AVH Avacha 5.83 25 PN **Pn 09 50 16.8 +2.2**
AVH Avacha 5.83 25 *e*P **Pn 09 50 16.8 +2.2**
SDLR Sedlovina 5.89 26 PN **Pn 09 50 15.9 +0.6**
SDLR Sedlovina 5.89 26 *e*P **Pn 09 50 15.9 +0.6**
GNL Ganaly 6.02 19 PN **Pn 09 50 19.5 +2.4**
GNL Ganaly 6.02 19 *e*P **Pn 09 50 19.5 +2.4**
SPN Mys Shipunski 6.11 33 PN **Pn 09 50 17.4 -0.9**
SPN Mys Shipunski 6.11 33 *e*P **Pn 09 50 17.4 -0.9**
BKI Bering 10.05 40 *e*S Sn 09 52 50.5 -13
USRK Ussuriysk Ar. 16.11 264 P **P 09 52 35.5 -1.3**
comp=N,0.3nm,0.3s,baz=69,slow=14,SNR=6.2
KSRS Korea Array 22.15 251 P **P 09 53 42.7 0.0**
comp=N,2.9nm,0.8s,baz=48,slow=10,SNR=11
H11N2 WAKE ISLAND Hy 29.99 156 T T 10 27 05.4
baz=345,slow=74
H11N1 WAKE ISLAND Hy 30.00 156 T T 10 27 23.6
baz=345
H11N3 WAKE ISLAND Hy 30.00 156 T T 10 27 09.3
baz=345,slow=74
H11S1 WAKE ISLAND Hy 31.10 157 T T 10 28 01.1
baz=345,slow=76,SNR=249
H11S3 WAKE ISLAND Hy 31.11 157 T T 10 28 07.7
baz=345,slow=76,SNR=291
H11S2 WAKE ISLAND Hy 31.12 157 T T 10 28 03.8
baz=345,slow=76,SNR=232
MKAR Makanchi Array 47.22 297 P **P 09 57 17.6 -1.6**
comp=N,0.1nm,0.4s,baz=64,slow=11,SNR=2.0
MKAR Makanchi Array 47.22 297 P **P 09 57 17.6 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 50.79 309 P **P 09 57 45.1 -1.2**
comp=Z,0.5nm,0.4s,baz=50,slow=8.7,SNR=3.5
BVAR Borovoye Array 50.79 309 P **P 09 57 45.1 -1.2**
BVAR pmax pmax
comp=Z,5.0nm,0.4s
PDAR Pinedale Array 63.17 55 P **P 09 59 15.4 +1.0**
comp=Z,0.1nm,0.3s,baz=328,slow=3.2,SNR=3.2
GEYT Alibeck 66.77 301 P **P 09 59 37.7 +0.1**
comp=Z,1.5nm,0.4s,baz=64,slow=10,SNR=3.7
ASAR Alice Springs 73.78 200 P **P 10 00 22.0 +1.6**
comp=Z,0.3nm,0.7s,baz=24,slow=5.1,SNR=2.6
TXAR Lajitas Array 75.98 62 P **P 10 00 33.9 +0.5**
comp=Z,0.4nm,0.7s,baz=305,slow=4.5,SNR=5.8

*CSEM **26** 10:02:43.7±0.3, 38°.66N×43°.22E, h2km, MD2.8, Error ellipse: s-maj=8.1km s-min=5.6km az=70.0*
*DDA **26** 10:02:43.0, 38°.64N×43°.27E, h6km, Ml2.9*
*ISK **26** 10:02:43.3, 38°.68N×43°.39E, h8km, MD2.8*
ISC 26 10:02:44.1±0.9, 38°.64N±0°.03×43°.22E±0°.04, h10km±8km, n24, σ1s04/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**108**	*e*PG	**Pg**	**10 02 47.1**	**-0.3**
VANB				*e*SG	**Sg**	**10 02 50.6**	**+0.9**
VANB	**Van**	**0.14**	**108**	*e*Pg	**Pg**	**10 02 47.1**	**-0.3**
VANB				*e*Sg	**Sg**	**10 02 50.6**	**+0.9**
GEVA	**Gevas**	**0.35**	**202**	*i* P	**Pg**	**10 02 49.9**	**-1.3**
GEVA				*i* S	**Sg**	**10 02 57.1**	**+1.3**
GEVA	**Gevas**	**0.35**	**202**	P	**Pg**	**10 02 49.9**	**-1.3**
GEVA				S	**Sg**	**10 02 57.1**	**+1.3**
TUTA	**Tutak**	**0.83**	**337**	*i* P	**Pg**	**10 02 59.1**	**-1.0**
TUTA				*i* S	**Sb**	**10 03 11.9**	**-0.1**
TUTA	**Tutak**	**0.83**	**337**	P	**Pg**	**10 02 59.2**	**-1.0**
TUTA				S	**Sb**	**10 03 11.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*PG	**Pg**	**10 03 01.3**	**-1.2**
AGRB				*e*SG	**Sb**	**10 03 15.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*Pg	**Pg**	**10 03 01.3**	**-1.2**
EKAR	**Karacoban**	**1.09**	**305**	*i* P	**Pg**	**10 03 04.5**	**-0.7**
EKAR				*i* S	**Sn**	**10 03 23.2**	**+2.2**
EKAR	**Karacoban**	**1.09**	**305**	P	**Pg**	**10 03 04.5**	**-0.7**
EATA	**Eleskirt**	**1.35**	**335**	*i* P	**Pn**	**10 03 08.4**	**-0.9**
EATA				*i* S	**Sn**	**10 03 28.9**	**+1.5**
EATA	**Eleskirt**	**1.35**	**335**	P	**Pn**	**10 03 08.4**	**-0.9**
EATA				S	**Sn**	**10 03 28.9**	**+1.5**
CUKT	**Cukurca**	**1.42**	**168**	*e*PN	**Pg**	**10 03 10.8**	**-0.6**
CUKT	**Cukurca**	**1.42**	**168**	*e*Pn	**Pg**	**10 03 10.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*e*PN	**Pb**	**10 03 14.7**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*i* P	**Pn**	**10 03 13.9**	**+0.6**
SVAN				*i* S	**Sg**	**10 03 38.5**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	P	**Pn**	**10 03 13.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**254**	*e*Pn	**Pb**	**10 03 14.7**	**-0.2**
SVAN				S	**Sg**	**10 03 38.5**	**+0.9**
BTMN	**Batman**	**1.71**	**245**	*i* P	**Pn**	**10 03 13.6**	**-0.4**
BTMN				*i* S	**Sn**	**10 03 36.8**	**+0.8**
BTMN	**Batman**	**1.71**	**245**	P	**Pn**	**10 03 13.6**	**-0.4**
BTMN				S	**Sn**	**10 03 36.8**	**+0.8**
ERZM	**Erzurum**	**1.92**	**312**	*i* P	**Pg**	**10 03 20.7**	**-0.3**
ERZM				*i* S	**Sg**	**10 03 47.2**	**+1.4**
ERZM	**Erzurum**	**1.92**	**312**	P	**Pg**	**10 03 20.7**	**-0.3**
MAZI	**Mazidag**	**2.49**	**243**	*e*PN	**Pb**	**10 03 27.2**	**-1.7**
MAZI	**Mazidag**	**2.49**	**243**	*e*Pn	**Pb**	**10 03 27.2**	**-1.7**

*NIED **26** 10:07:00, 38°.20N×144°.50E, h8km, Mw3.6 Best double couple: M0=2.71000×10^14 NP1:φs=340.00000°, δ59.00000°, λ-172.00000°. NP2:φs=246.00000°, δ83.00000°, λ-31.00000°.*
JMA 26 10:07:37.6±0.1, 38°.22N×144°.52E, h33km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.39**	**292**	P	Pn	10 08 16.1	+1.7
OFUJ				S	Sn	10 08 44.6	+2.0
JIO	**Ouri**	**2.50**	**276**	P	Pn	10 08 17.7	+1.7
JIO				S	Sn	10 08 46.8	+1.4
MIYJ	**Miyakonagasawa**	**2.50**	**304**	P	Pn	10 08 17.4	+1.4
MIYJ				*e*S	Sn	10 08 47.5	+2.1
JMK	**Ichinoseki**	**2.69**	**287**	P	Pn	10 08 20.5	+2.0
JMK				*e*S	Sn	10 08 52.0	+2.1
JOM	**Ohasama**	**2.81**	**297**	P	Pn	10 08 22.5	+2.3
JOM				S	Sn	10 08 55.6	+2.6
JANG	**Nango**	**3.17**	**314**	P	Pn	10 08 26.9	+1.7
JANG				S	Sn	10 09 04.3	+2.4
JFT	**Otama**	**3.38**	**259**	S	Sn	10 09 09.0	+1.9

IDC 26 10:18:24.5±640.0, 47°.25N×49°.41E, h0km, Error ellipse: s-maj=246.8km s-min=130.8km az=48.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.51**	**58**	*i*		10 58 00.0	
	baz=245,slow=318,SNR=3.4						
I43RU	**DUBNA INFRASONI**	**2.08**	**326**	*i*		11 34 27.7	
	baz=137,slow=308,SNR=2.2						
I46RU	**ZALESOVO INFRA**	**23.26**	**60**	*i*		12 41 20.0	
	baz=264,slow=310,SNR=2.6						

*CSEM **26** 10:20:18.9±0.5, 38°.87N×43°.75E, h2km, ML3.1, Error ellipse: s-maj=11.8km s-min=5.0km az=73.0*
*ISK **26** 10:20:19.5, 38°.85N×43°.60E, h5km, ML3.1*
*DDA **26** 10:20:25.1, 38°.80N×43°.01E, h7km, Ml2.9*
ISC 26 10:20:21.0±1.4, 38°.85N±0°.03×43°.53E±0°.06, h3km±11km, n27, σ1s56/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**204**	*e*PG	**Pb**	**10 20 27.1**	**-1.5**
VANB				*e*SG	**Sb**	**10 20 32.9**	**-0.8**
VANB	**Van**	**0.27**	**204**	*e*Pg	**Pb**	**10 20 27.1**	**-1.5**
VANB				*e*Sg	**Sb**	**10 20 32.9**	**-0.8**
GEVA	**Gevas**	**0.65**	**215**	*i* P	Pg	10 20 28.7	-4.8
GEVA				*i* S	**Sg**	**10 20 42.4**	**+0.6**
TUTA	**Tutak**	**0.79**	**315**	*i* P	**Pg**	**10 20 35.5**	**-0.6**
TUTA				*i* S	**Sb**	**10 20 47.3**	**-1.3**
TUTA	**Tutak**	**0.79**	**315**	P	**Pg**	**10 20 35.5**	**-0.6**
TUTA				S	**Sb**	**10 20 47.3**	**-1.3**
AGRB	**Hanur-Agry**	**0.84**	**330**	*e*PG	**Pg**	**10 20 36.5**	**-0.6**
AGRB				*e*SG	**Sb**	**10 20 49.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.84**	**330**	*e*Pg	**Pg**	**10 20 36.5**	**-0.6**
AGRB				*e*Sg	**Sb**	**10 20 49.1**	**-1.0**
EKAR	**Karacoban**	**1.21**	**290**	*i* P	**Pg**	**10 20 43.8**	**-0.5**
EKAR				*i* S	**Sn**	**10 21 03.3**	**+1.2**
EKAR	**Karacoban**	**1.21**	**290**	P	**Pg**	**10 20 43.8**	**-0.5**
EKAR				S	**Sn**	**10 21 03.3**	**+1.2**
HAKT	**HAKKARI**	**1.29**	**174**	*i* P	**Pg**	**10 20 42.9**	**-2.9**
HAKT				*i* S	**Sn**	**10 21 04.7**	**+0.6**
HAKT	**HAKKARI**	**1.29**	**174**	P	**Pg**	**10 20 42.9**	**-2.9**
HAKT				S	**Sn**	**10 21 04.7**	**+0.6**
EATA	**Eleskirt**	**1.30**	**322**	*i* P	**Pb**	**10 20 45.3**	**-0.9**
EATA				*i* S	**Sn**	**10 21 05.3**	**+1.0**
EATA	**Eleskirt**	**1.30**	**322**	P	**Pb**	**10 20 45.3**	**-0.9**
EATA				S	**Sn**	**10 21 05.3**	**+1.0**
CUKT	**Cukurca**	**1.60**	**178**	*e*PN	**Pb**	**10 20 49.4**	**-1.8**
CUKT	**Cukurca**	**1.60**	**178**	*i* P	**Pg**	**10 20 54.2**	**+2.6**
CUKT				*i* S	**Sg**	**10 21 16.7**	**+4.4**
CUKT	**Cukurca**	**1.60**	**178**	*e*Pn	**Pb**	**10 20 49.4**	**-1.8**
CUKT	**Cukurca**	**1.60**	**178**	P	**Pg**	**10 20 54.2**	**+2.6**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*e*PN	**Pb**	**10 20 55.9**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.96**	**250**	*e*Pn	**Pb**	**10 20 55.9**	**-1.4**
ERZM	**Erzurum**	**1.98**	**303**	*i* P	**Pb**	**10 20 56.9**	**-1.0**
ERZM				*i* S	**Sg**	**10 21 27.1**	**+2.4**
ERZM	**Erzurum**	**1.98**	**303**	P	**Pb**	**10 20 56.9**	**-1.0**
BTMN	**Batman**	**2.02**	**242**	*i* P	**Pn**	**10 20 55.8**	**-0.2**
BTMN				*i* S	**Sg**	**10 21 25.4**	**-0.4**
BTMN	**Batman**	**2.02**	**242**	P	**Pn**	**10 20 55.8**	**-0.2**
PTK	**Pertek**	**3.23**	**272**	*e*PN	**Pn**	**10 21 13.5**	**+0.7**
PTK	**Pertek**	**3.23**	**272**	*e*Pn	**Pn**	**10 21 13.5**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*PN	**Pn**	**10 21 15.4**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.34**	**263**	*e*Pn	**Pn**	**10 21 15.4**	**+1.1**

*DDA **26** 10:21:20.0, 38°.70N×43°.08E, h7km, Ml3.1*
*CSEM **26** 10:21:20.5±0.3, 38°.70N×43°.07E, h2km, ML2.9, Error ellipse: s-maj=8.3km s-min=4.9km az=70.0*
*ISK **26** 10:21:20.4, 38°.72N×43°.07E, h8km, ML2.9*
ISC 26 10:21:20.6±1.1, 38°.71N±0°.02×43°.09E±0°.03, h3km±11km, n28, σ1s24/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**116**	*e*PG	**Pb**	**10 21 27.4**	**-0.7**
VANB				*e*SG	**Sb**	**10 21 32.6**	**-0.6**
VANB	**Van**	**0.27**	**116**	*e*Pg	**Pb**	**10 21 27.5**	**-0.7**
GEVA	**Gevas**	**0.40**	**183**	*i* P	**Pg**	**10 21 28.2**	**-0.1**
GEVA				*i* S	**Sg**	**10 21 33.4**	**-0.2**
GEVA	**Gevas**	**0.40**	**183**	P	**Pg**	**10 21 28.2**	**-0.1**
GEVA				S	**Sg**	**10 21 33.4**	**-0.2**
TUTA	**Tutak**	**0.72**	**343**	*i* P	**Pg**	**10 21 34.5**	**+0.1**
TUTA				*i* S	**Sg**	**10 21 43.4**	**-0.4**
TUTA	**Tutak**	**0.72**	**343**	P	**Pg**	**10 21 34.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**355**	*e*PG	**Pg**	**10 21 37.4**	**+0.2**
AGRB				*e*SG	**Sb**	**10 21 49.7**	**-0.8**
AGRB	**Hanur-Agry**	**0.86**	**355**	*e*Pg	**Pg**	**10 21 37.4**	**+0.2**
AGRB				*e*Sg	**Sb**	**10 21 49.7**	**-0.8**
DYDN	**Diyadin**	**0.95**	**29**	*i* P	**Pb**	**10 21 39.8**	**-0.1**
DYDN				*i* S	**Sg**	**10 21 52.0**	**+0.8**
DYDN	**Diyadin**	**0.95**	**29**	P	**Pb**	**10 21 39.8**	**-0.1**
EKAR	**Karacoban**	**0.96**	**305**	*i* P	**Pb**	**10 21 40.0**	**-0.1**
EKAR				*i* S	**Sn**	**10 21 56.3**	**+0.6**
EKAR	**Karacoban**	**0.96**	**305**	P	**Pb**	**10 21 40.0**	**-0.1**
BASK	**Baskale_VAN**	**0.98**	**132**	*i* P	**Pg**	**10 21 38.5**	**-0.9**
BASK				*i* S	**Sb**	**10 21 52.8**	**-1.0**
BASK	**Baskale_VAN**	**0.98**	**132**	P	**Pg**	**10 21 38.5**	**-0.9**
BASK				S	**Sb**	**10 21 52.8**	**-1.0**
EATA	**Eleskirt**	**1.24**	**338**	*i* P	**Pg**	**10 21 43.4**	**-0.9**
EATA				*i* S	**Sb**	**10 22 00.9**	**-0.4**
EATA	**Eleskirt**	**1.24**	**338**	P	**Pg**	**10 21 43.4**	**-0.9**
EATA				S	**Sb**	**10 22 00.9**	**-0.4**
HAKT	**HAKKARI**	**1.25**	**157**	*i* P	**Pg**	**10 21 42.5**	**-2.1**
HAKT				*i* S	**Sn**	**10 22 04.3**	**+1.4**
HAKT	**HAKKARI**	**1.25**	**157**	P	**Pg**	**10 21 42.5**	**-2.1**
CUKT	**Cukurca**	**1.52**	**164**	*e*PN	**Pb**	**10 21 48.7**	**-0.8**
CUKT	**Cukurca**	**1.52**	**164**	*i* P	**Pg**	**10 21 50.9**	**+1.2**
CUKT				*i* S	**Sg**	**10 22 14.7**	**+5.3**
CUKT	**Cukurca**	**1.52**	**164**	*e*Pn	**Pb**	**10 21 48.7**	**-0.8**
CUKT	**Cukurca**	**1.52**	**164**	P	**Pg**	**10 21 50.9**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	*e*PN	**Pb**	**10 21 49.4**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.58**	**250**	*e*Pn	**Pb**	**10 21 49.4**	**-1.2**
BTMN	**Batman**	**1.65**	**241**	*i* P	**Pn**	**10 21 50.5**	**-1.2**
BTMN				*i* S	**Sg**	**10 22 14.9**	**+1.4**
BTMN	**Batman**	**1.65**	**241**	P	**Pb**	**10 21 50.5**	**-1.2**
BTMN				S	**Sg**	**10 22 14.9**	**+1.4**
MAZI	**Mazidag**	**2.43**	**240**	*e*PN	**Pn**	**10 22 01.5**	**+0.1**
MAZI	**Mazidag**	**2.43**	**240**	*e*Pn	**Pn**	**10 22 01.5**	**+0.1**

IDC 26 10:22:05.8±2.5, 19°.84S×173°.90W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/28, mbtmp4.0/5, ML4.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/27, Error ellipse: s-maj=93.9km s-min=30.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.23**	**19**	Pn	Pn	10 23 38.2	-0.9
	6.6nm,0.3s,baz=8.7,slow=4.4,SNR=8.7						
AFI				Sn	Sn	10 24 45.2	-6.0
	2.9nm,0.3s,baz=114,slow=20,SNR=2.0						
AFI				LR	LR	10 25 35.7	
	comp=Z,47nm,21.0s,baz=109,slow=34						
DZM	**Mont Dzumac**	**18.50**	**260**	LR	LR	10 32 02.3	
	comp=Z,81nm,19.5s,baz=57,slow=32						
CTA	**Charters Tower**	**37.40**	**263**	P	P	10 29 21.7	+0.9
	1.2nm,0.4s,baz=91,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**41.55**	**244**	P	P	10 29 55.0	-0.3
	1.0nm,0.4s,baz=80,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**48.42**	**256**	P	P	10 30 49.4	-0.8
	1.2nm,0.9s,baz=101,slow=7.8,SNR=14						
ASAR				PcP	PcP	10 32 17.6	+0.9
	0.4nm,0.6s,baz=106,slow=4.1,SNR=4.8						
WRA	**Warramunga Arr**	**48.51**	**261**	P	P	10 30 50.5	-0.5
	0.7nm,0.6s,baz=99,slow=8.7,SNR=7.0						
WRA				PcP	PcP	10 32 16.5	-0.6
	1.6nm,0.8s,baz=100,slow=3.5,SNR=6.6						
MKAR	**Makanchi Array**	**113.55**	**313**	PKiKP	PKiKP	10 40 46.2	+0.2
	0.3nm,0.6s,baz=96,slow=4.3,SNR=2.4						
AKASG	**Malin Array Be**	**144.18**	**335**	PKP	PKPdf	10 41 42.6	-0.9
	0.5nm,0.4s,baz=40,slow=4.2,SNR=4.1						

*DDA **26** 10:24:29.7, 38°.66N×43°.20E, h7km, Ml3.3*
*ISK **26** 10:24:29.1, 38°.70N×43°.31E, h5km, MD2.9*
*CSEM **26** 10:24:30.0±0.3, 38°.68N×43°.23E, h2km, MD2.9, Error ellipse: s-maj=9.9km s-min=5.1km az=66.0*
ISC 26 10:24:30.2±1.1, 38°.67N±0°.02×43°.19E±0°.03, h1km±11km, n24, σ1s25/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**116**	*e*PG	**Pg**	**10 24 33.7**	**+0.1**
VANB				*e*SG	**Sg**	**10 24 37.2**	**+1.3**
VANB	**Van**	**0.17**	**116**	*e*Pg	**Pg**	**10 24 33.7**	**+0.1**
VANB				*e*Sg	**Sg**	**10 24 37.2**	**+1.3**
GEVA	**Gevas**	**0.37**	**196**	*i* P	**Pg**	**10 24 36.2**	**-1.2**
GEVA				*i* S	**Sg**	**10 24 42.1**	**-0.2**
GEVA	**Gevas**	**0.37**	**196**	P	**Pg**	**10 24 36.2**	**-1.2**
GEVA				S	**Sg**	**10 24 42.1**	**-0.2**
TUTA	**Tutak**	**0.79**	**338**	*i* P	**Pg**	**10 24 45.3**	**0.0**
TUTA				*i* S	**Sb**	**10 24 56.5**	**-1.6**
TUTA	**Tutak**	**0.79**	**338**	P	**Pg**	**10 24 45.3**	**0.0**
TUTA				S	**Sb**	**10 24 56.5**	**-1.6**
AGRB	**Hanur-Agry**	**0.91**	**350**	*e*PG	**Pg**	**10 24 46.9**	**-0.9**
AGRB				*e*SG	**Sg**	**10 25 00.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**350**	*e*Pg	**Pg**	**10 24 46.9**	**-0.9**
AGRB				*e*Sg	**Sg**	**10 25 00.0**	**+0.4**
EKAR	**Karacoban**	**1.05**	**304**	*i* P	**Pg**	**10 24 50.2**	**-0.2**
EKAR				*i* S	**Sn**	**10 25 09.5**	**+1.7**
EKAR	**Karacoban**	**1.05**	**304**	P	**Pg**	**10 24 50.2**	**-0.2**
HAKT	**HAKKARI**	**1.19**	**160**	*i* P	**Pg**	**10 24 50.9**	**-2.1**
HAKT				*i* S	**Sb**	**10 25 08.9**	**-0.7**
HAKT	**HAKKARI**	**1.19**	**160**	P	**Pg**	**10 24 50.9**	**-2.1**
HAKT				S	**Sb**	**10 25 08.9**	**-0.7**
EATA	**Eleskirt**	**1.30**	**336**	*i* P	**Pg**	**10 24 54.8**	**-0.5**
EATA				*i* S	**Sn**	**10 25 14.8**	**+0.6**
EATA	**Eleskirt**	**1.30**	**336**	P	**Pg**	**10 24 54.8**	**-0.5**
EATA				S	**Sn**	**10 25 14.8**	**+0.6**
CUKT	**Cukurca**	**1.46**	**167**	*e*PN	**Pn**	**10 24 57.0**	**-0.9**
CUKT	**Cukurca**	**1.46**	**167**	*i* P	**Pg**	**10 24 59.1**	**+0.9**
CUKT				*i* S	**Sg**	**10 25 20.1**	**+2.9**
CUKT	**Cukurca**	**1.46**	**167**	*e*Pn	**Pn**	**10 24 57.0**	**-0.9**
CUKT	**Cukurca**	**1.46**	**167**	P	**Pg**	**10 24 59.1**	**+0.9**
CUKT				S	**Sg**	**10 25 20.1**	**+2.9**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*PN	**Pb**	**10 25 00.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*Pn	**Pb**	**10 25 00.7**	**-0.7**
BTMN	**Batman**	**1.70**	**243**	*i* P	**Pb**	**10 25 01.5**	**-0.8**
BTMN				*i* S	**Sg**	**10 25 26.4**	**+1.6**
BTMN	**Batman**	**1.70**	**243**	P	**Pb**	**10 25 01.5**	**-0.8**
BTMN				S	**Sg**	**10 25 26.4**	**+1.6**
PTK	**Pertek**	**2.98**	**275**	*e*PN	**Pn**	**10 25 20.1**	**+1.4**
PTK	**Pertek**	**2.98**	**275**	*e*Pn	**Pn**	**10 25 20.1**	**+1.4**

*SJA **26** 10:26:31.6±0.8, 32°.57S×71°.74W, h10km±26km, ML2.9, MW3.4*
*GUC **26** 10:26:35.9±0.8, 32°.60S×71°.48W, h25km±6km, ML2.8*
ISC 26 10:26:35.3±2.5, 32°.63S±0°.05×71°.5W±0°.1, h1km±16km, n14, σ1s00/22, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.55**	**128**	*i* P	**Pb**	**10 26 47.0**	**-0.9**
ROCH	**El Roble**	**0.55**	**128**	*e*P	**Pb**	**10 26 47.9**	**0.0**
ROCH				*e*S	**Sb**	**10 26 56.8**	**+0.3**
ROCH				IAML		10 26 59.2	
	comp=E,706nm,0.8s						
PEL	**Peldehue**	**0.88**	**126**	*e*P	**Pg**	**10 26 52.2**	**+0.1**
PEL				*e*S	**Sb**	**10 27 05.2**	**-0.4**
PEL				IAML		10 27 07.9	
	comp=E,964nm,0.1s						
CLCH	**Cerro Calan**	**1.13**	**133**	*e*P	**Pg**	**10 26 56.6**	**-0.4**
CLCH				*e*S	**Sb**	**10 27 12.8**	**-0.1**
CLCH				IAML		10 27 18.3	
	comp=E,289nm,0.3s						
ANTU	**Antumapu**	**1.20**	**141**	*e*P	**Pg**	**10 26 58.3**	**0.0**
ANTU				*e*S	**Sb**	**10 27 14.8**	**-0.1**
FCH	**Farellones**	**1.25**	**124**	*e*P	**Pg**	**10 26 58.5**	**-0.9**
FCH				*e*S	**Sb**	**10 27 15.5**	**-1.1**
FCH				IAML		10 27 17.4	
	comp=N,497nm,0.2s						
AUSP	**Uspallata**	**1.86**	**78**	*i* P	**Pb**	**10 27 09.9**	**-0.3**
RTLS	**Leoncito**	**2.07**	**67**	*i* P	**Pn**	**10 27 12.6**	**+1.2**
RTLS				IAML		10 27 41.7	
	comp=Z,53nm,0.6s						
RTLS				*i* S	**Sg**	**10 27 43.0**	**+1.2**
ARCO	**CERRO ARCO**	**2.20**	**96**	*i* P	**Pb**	**10 27 14.8**	**-1.3**
ARCO				IAML		10 27 27.2	
	comp=Z,41nm,0.3s						
ARCO				*i* S	**Sg**	**10 27 47.0**	**+1.0**
ASAL	**Salagasta**	**2.28**	**90**	*i* P	**Pb**	**10 27 16.1**	**-1.2**
AAGR	**Agrelo**	**2.32**	**102**	*i* P	**Pb**	**10 27 16.5**	**-1.5**
TLL	**Tololo Astrono**	**2.54**	**14**	*e*P	**Pn**	**10 27 18.3**	**+0.4**
ACCO	**Cerro Coronel**	**2.93**	**47**	*i* P	**Pn**	**10 27 25.0**	**+1.6**
ACCO				*i* S	**Sb**	**10 28 03.6**	**-1.4**
ACCO				IAML		10 28 08.1	
	comp=Z,93nm,0.5s						
AMOG	**MOGNA**	**3.09**	**58**	*i* P	**Pn**	**10 27 26.1**	**+0.8**

*MAN **26** 10:28:13, 7°.18N×122°.05E, h44km, mb4.6, ML3.5, MS3.4*
*IDC **26** 10:28:13.5±3.2, 7°.93N×123°.15E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/39, mbtmp3.6/3, Error ellipse: s-maj=386.2km s-min=28.0km az=63.0*
*ISCJB **26** 10:28:15.6±0.6, 7°.30N±0°.04×122°.08E±0°.06, h33km, mb3.6/3, Error ellipse: s-maj=7.9km s-min=5.7km az=1.3*
ISC 26 10:28:17.4±1.0, 7°.30N±0°.04×122°.04E±0°.06, h35km, n12, σ2s93/19, mb3.6/3, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCP	**Zamboanga City**	**0.36**	**175**	⇓*i* P	**Pn**	**10 28 23.7**	**-2.5**
ZCP				*i* S	**Sn**	**10 28 30.1**	**-2.1**
PAGZ	**Pagadian**	**1.44**	**67**	*e*P	**Pn**	**10 28 38.4**	**-2.6**
PAGZ				*e*S	**Sn**	**10 28 57.0**	**-1.7**
CTBH	**Cotabato--PC H**	**2.19**	**92**	*e*P	**Pn**	**10 28 49.0**	**-2.3**
CTBH				*i* S	**Sn**	**10 29 14.8**	**-2.4**
SNPH	**Sibulan**	**2.35**	**30**	⇓*i* P	**Pn**	**10 28 53.0**	**-0.7**
SNPH				*i* S	**Sn**	**10 29 22.6**	**+1.2**
GUIM	**Jordan**	**3.35**	**9**	*e*P	**Pn**	**10 29 07.0**	**-0.4**
GUIM				*e*S	**Sn**	**10 29 44.3**	**-1.6**
RCP	**Roxas**	**4.29**	**9**	⇓*e*P	**Pn**	**10 29 20.5**	**+0.2**
KALP	**Kalibo**	**4.36**	**4**	*e*P	**Pn**	**10 29 21.9**	**+0.6**
BUSP	**Coron**	**5.02**	**339**	*e*P	**Pn**	**10 29 29.4**	**-0.8**
BUSP				*e*S	**Sn**	**10 30 21.7**	**-5.4**
SJMP	**San Jose**	**5.21**	**350**	*e*P	**Pn**	**10 29 32.7**	**-0.2**
SJMP		

comp=E,8.9nm,0.5s
BJI Beijing 19.73 347 P **P 10 48 57.5 -0.2**
BJI pmax pmax
comp=E,27nm,0.6s
SBUM Sibu 20.48 208 *e*P **P 10 49 06.0 0.0**
comp=E,5.5nm,0.8s
MAJO Matsushiro 21.27 39 *e*P **P 10 49 14.4 -0.1**
comp=E,24nm,1.4s
MJAR Matsushiro Arr 21.27 39 P **P 10 49 18.5 +4.1**
comp=E,6.6nm,1.0s,baz=237,slow=11,SNR=10.0
MJB9 Matsu-Tunnel 21.27 39 *e*P **P 10 49 14.7 +0.2**
comp=E,3.5nm,1.1s
CMAR Chiang Mai Arr 21.57 268 P **P 10 49 17.8 -0.1**
comp=E,0.9nm,0.4s,baz=77,slow=9.9,SNR=12
CMAR LR LR 10 57 35.1
comp=E,45nm,21.5s,baz=83,slow=36
HHC Hu-ho-hao-te 21.75 339 *e*P **P 10 49 21.5 +1.9**
HHC pmax pmax
comp=E,16nm,0.5s
HHC pmax pmax
comp=E,56nm,5.3s
LZH Lanzhou 21.81 318 *e*P **P 10 49 21.3 +0.9**
LZH pP pP 10 49 35.5 +1.9
LZH sP sP 10 49 43.0 +1.9
LZH *e*PP **PnPn 10 49 48.5 +4.6**
LZH pmax pmax
comp=E,21nm,1.0s
LZH pmax pmax
comp=E,53nm,4.7s
LZH LR LR
comp=E,250nm,11.2s
LZH LR LR
comp=E,260nm,11.5s
LZH LR LR
comp=E,310nm,14.3s
KSM Kuching 22.22 212 *e*P **P 10 49 25.0 +0.2**
comp=E,20nm,1.6s
USRK Ussuriysk Ar. 24.83 18 LR LR 11 00 42.6
comp=E,34nm,20.8s,baz=82,slow=39
IPM Ipoh 25.85 234 *e*P **P 10 49 58.9 -0.4**
comp=E,11nm,1.1s
ULN Ulaanbaatar 29.46 340 *e*P **P 10 50 31.3 0.0**
comp=E,18nm,1.8s
SONM Songino Array 29.65 339 P **P 10 50 31.6 -1.4**
comp=E,2.6nm,0.9s,baz=157,slow=9.4,SNR=5.8
SONM LR LR 11 03 58.3
comp=E,48nm,18.2s,baz=159,slow=39
TLY Talaya 33.87 340 LR LR 11 06 25.3
comp=E,55nm,19.8s,baz=176,slow=39
WMQ Urumqi 36.38 317 P **P 10 51 35.0 +3.4**
WMQ pP pP 10 51 47.0 +0.3
WMQ sP sP 10 51 56.5 +2.8
WMQ pmax pmax
comp=E,8.0nm,0.8s
WMQ pmax pmax
comp=E,200nm,6.3s
WMQ LR LR
comp=E,19nm,14.1s
WMQ LR LR
comp=E,17nm,17.1s
WMQ LR LR
comp=E,19nm,14.5s
MK31 Makanchi Array 41.12 318 *e*P **P 10 52 11.3 +0.1**
MKAR Makanchi Array 41.12 318 P **P 10 52 08.8 -2.4**
comp=E,2.7nm,0.6s,baz=110,slow=9.7,SNR=29
MKAR Makanchi Array 41.12 318 *e*P **P 10 52 11.4 +0.1**
comp=E,20nm,0.6s
MAKZ Makanchi 41.33 318 *e*P **P 10 52 13.3 +0.4**
comp=E,2.8nm,0.6s
H11N1 WAKE ISLAND Hy 42.29 83 T T 11 37 31.7
baz=282,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 42.29 83 T T 11 37 33.8
baz=282,slow=76,SNR=4.7
H11N3 WAKE ISLAND Hy 42.31 83 T T 11 37 30.1
baz=282,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 42.31 85 T T 11 37 28.5
baz=281,slow=74,SNR=14
H11S1 WAKE ISLAND Hy 42.32 85 T T 11 37 25.8
baz=281,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 42.33 85 T T 11 37 28.0
baz=281,slow=74,SNR=12
WRA Warramunga Arr 42.36 162 P **P 10 52 20.7 -0.8**
comp=E,0.4nm,0.4s,baz=344,slow=9.0,SNR=4.7
PETK Petropavlovsk- 42.41 32 LR LR 11 09 32.0
comp=E,21nm,18.0s,baz=255,slow=35
KSH Kashi 43.20 306 *e*P **P 10 52 31.0 +2.7**
KSH pP sP 10 52 47.5 -3.1
KSH sP pP 10 52 53.5 +10
KSH PcP **PcP 10 54 15.5 -1.4**
KSH PP PP 10 54 19.8 +10
KSH PcS **PcS 10 58 09.0 -0.5**
KSH S **S 10 58 53.0 +2.0**
KSH ScS **ScS 11 02 21.0 -2.3**
KSH pmax pmax
comp=E,4.0nm,0.6s
KSH pmax pmax
comp=E,100nm,4.9s
KSH LR LR
comp=E,200nm,10.2s
KSH LR LR
comp=E,85nm,7.9s
KSH LR LR
comp=E,67nm,7.0s
ZAA0 Zalesovo Array 43.34 329 *e*P **P 10 52 28.6 -0.5**
ZALV Zalesovo Beam 43.34 329 P **P 10 52 28.6 -0.4**
comp=E,4.4nm,0.5s,baz=113,slow=7.7,SNR=17
AAK Ala-Archa 44.98 310 LR LR 11 13 04.4
comp=E,403nm,20.1s,baz=260,slow=38
ASAR Alice Springs 45.79 164 P **P 10 52 49.1 +0.1**
comp=E,0.4nm,0.7s,baz=348,slow=8.8,SNR=12
STKA Stephens Creek 55.76 160 P **P 10 54 01.9 -1.9**
comp=E,1.4nm,0.8s,baz=333,slow=14,SNR=3.8
ARU Arti 58.09 324 LR LR 11 21 18.2
comp=E,13nm,19.9s,baz=230,slow=38
KVAR Kislovodsk Arr 68.09 310 LR LR 11 27 50.9
comp=E,15nm,18.5s,baz=293,slow=38
ILAR Eielson Array 71.97 27 P **P 10 55 49.0 -0.9**
comp=E,0.4nm,0.6s,baz=266,slow=4.8,SNR=8.6
NOA NORSAR Array B 81.41 333 LR LR 11 36 35.4
comp=E,22nm,20.1s,baz=355,slow=38
GERES GERESS Array B 85.74 321 P **P 10 57 05.5 -0.3**
comp=E,0.2nm,0.4s,baz=64,slow=6.5,SNR=3.8
YKA Yellowknife Ar 85.86 23 P **P 10 57 06.1 +0.1**
comp=E,2.9nm,0.8s,baz=152,slow=36,SNR=3.1

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*ISK **26** 10:46:38.9, 38°.64N×43°.43E, h28km, ML3.0*
*ISCJB **26** 10:46:39.3±0.6, 38°.65N±0°.02×43°.23E±0°.06, h2km±7km, Error ellipse: s-maj=8.2km s-min=4.1km az=175.2*
*CSEM **26** 10:46:39.1±0.3, 38°.63N×43°.26E, h5km, ML3.0, Error ellipse: s-maj=7.6km s-min=4.7km az=76.0*
*DDA **26** 10:46:39.2, 38°.63N×43°.16E, h8km, Ml3.3*
ISC 26 10:46:40.2±0.9, 38°.64N±0°.02×43°.18E±0°.03, h12km±8km, n37, σ1§23/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**106**	*e*PG	**Pg**	**10 46 44.3**	**+0.2**
VANB				*e*SG	**Sg**	**10 46 48.7**	**+1.9**
GEVA	**Gevas**	**0.34**	**197**	*i* P	**Pg**	**10 46 46.2**	**-1.0**
GEVA				*i* S	**Sb**	**10 46 52.9**	**-1.0**
GEVA	**Gevas**	**0.34**	**197**	P	**Pg**	**10 46 46.2**	**-1.0**
GEVA				S	**Sb**	**10 46 52.9**	**-1.0**
TUTA	**Tutak**	**0.81**	**339**	*i* P	**Pg**	**10 46 54.9**	**-1.1**
TUTA				*i* S	**Sb**	**10 47 07.6**	**+0.1**
TUTA	**Tutak**	**0.81**	**339**	P	**Pg**	**10 46 54.9**	**-1.1**
TUTA				S	**Sb**	**10 47 07.6**	**+0.1**
BASK	**Baskale_VAN**	**0.87**	**132**	*i* P	**Pg**	**10 46 55.0**	**-2.1**
BASK	**Baskale_VAN**	**0.87**	**132**	P	**Pg**	**10 46 55.0**	**-2.1**
AGRB	**Hanur-Agry**	**0.94**	**351**	*e*PG	**Pb**	**10 46 58.0**	**-0.7**
AGRB				*e*SG	**Sg**	**10 47 10.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**351**	*e*Pg	**Pb**	**10 46 58.0**	**-0.7**
AGRB				*e*Sg	**Sg**	**10 47 10.2**	**-0.6**
EKAR	**Karacoban**	**1.07**	**305**	*i* P	**Pg**	**10 46 59.8**	**-1.0**
EKAR				*i* S	**Sn**	**10 47 18.0**	**+1.8**
EKAR	**Karacoban**	**1.07**	**305**	P	**Pg**	**10 46 59.8**	**-1.0**
EKAR				S	**Sn**	**10 47 18.0**	**+1.8**
HAKT	**HAKKARI**	**1.16**	**159**	*i* P	**Pg**	**10 47 00.7**	**-1.8**
HAKT				*i* S	**Sn**	**10 47 22.6**	**+4.2**
HAKT	**HAKKARI**	**1.16**	**159**	P	**Pg**	**10 47 00.7**	**-1.8**
EATA	**Eleskirt**	**1.33**	**336**	*i* P	**Pn**	**10 47 03.8**	**-1.2**
EATA				*i* S	**Sn**	**10 47 23.8**	**+1.0**
EATA	**Eleskirt**	**1.33**	**336**	P	**Pn**	**10 47 03.8**	**-1.2**
EATA				S	**Sn**	**10 47 23.8**	**+1.0**
VRTB	**Varto-Mus**	**1.45**	**292**	*e*PN	**Pn**	**10 47 06.6**	**+0.2**
VRTB				*e*SN	**Sn**	**10 47 26.1**	**+0.8**
VRTB	**Varto-Mus**	**1.45**	**292**	*e*Pn	**Pn**	**10 47 06.6**	**+0.2**
VRTB				*e*Sn	**Sn**	**10 47 26.2**	**+0.8**
BNGL	**BINGOL**	**1.62**	**282**	*i* P	**Pn**	**10 47 08.7**	**-0.1**
BNGL				*i* S	**Sg**	**10 47 32.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*e*PN	**Pn**	**10 47 08.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*i* P	**Pn**	**10 47 09.7**	**+0.7**
SVAN				*i* S	**Sn**	**10 47 30.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	*e*Pn	**Pn**	**10 47 08.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.64**	**253**	P	**Pn**	**10 47 09.6**	**+0.7**
SVAN				S	**Sn**	**10 47 30.6**	**+0.7**
BTMN	**Batman**	**1.68**	**244**	*i* P	**Pb**	**10 47 10.6**	**-0.6**
BTMN				*i* S	**Sb**	**10 47 33.7**	**+1.3**
BTMN	**Batman**	**1.68**	**244**	P	**Pb**	**10 47 10.6**	**-0.6**
BTMN				S	**Sb**	**10 47 33.7**	**+1.3**
DIGO	**Kars**	**1.78**	**5**	*i* P	**Pb**	**10 47 12.4**	**-0.5**
DIGO				*i* S	**Sg**	**10 47 39.2**	**+1.8**
DIGO	**Kars**	**1.78**	**5**	P	**Pb**	**10 47 12.4**	**-0.5**
ERZM	**Erzurum**	**1.89**	**312**	*i* P	**Pb**	**10 47 14.6**	**-0.3**
ERZM				*i* S	**Sg**	**10 47 41.7**	**+0.6**
ERZM	**Erzurum**	**1.89**	**312**	P	**Pb**	**10 47 14.6**	**-0.3**
ERZM				S	**Sg**	**10 47 41.7**	**+0.6**
BNGB	**Bing¨¶l**	**1.99**	**281**	*e*PN	**Pn**	**10 47 14.2**	**+0.4**
BINT	**Bingol**	**2.12**	**277**	*e*Pn	**Pn**	**10 47 14.2**	**-1.5**
MARD	**Mardin**	**2.32**	**236**	*i* P	**Pb**	**10 47 20.1**	**-1.9**
MARD				*i* S	**Sb**	**10 47 51.0**	**+0.3**
MAZI	**Mazidag**	**2.46**	**242**	*e*PN	**Pn**	**10 47 20.9**	**+0.5**
MAZI	**Mazidag**	**2.46**	**242**	*e*Pn	**Pn**	**10 47 20.9**	**+0.5**
PTK	**Pertek**	**2.98**	**276**	*e*PN	**Pn**	**10 47 28.9**	**+1.4**
PTK	**Pertek**	**2.98**	**276**	*e*Pn	**Pn**	**10 47 28.9**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.05**	**266**	*e*PN	**Pn**	**10 47 29.7**	**+1.2**
SVRC	**Sivrice-ELAZID**	**3.05**	**266**	*e*Pn	**Pn**	**10 47 29.7**	**+1.2**

IDC 26 10:57:29.0±5.2, 28°.05S×176°.31W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/28, mbtmp3.8/2, Error ellipse: s-maj=127.1km s-min=39.2km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.85**	**229**	Pn	Pn	10 58 02.8	+0.8
	33nm,0.3s,baz=75,slow=20,SNR=1.5						
RAO				Sn	Sn	10 58 25.6	-0.4
	313nm,0.3s,baz=121,slow=20,SNR=10						
ASAR	**Alice Springs**	**44.77**	**264**	P	P	11 05 44.3	-0.3
	0.6nm,0.4s,baz=102,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**45.55**	**269**	P	P	11 05 51.0	+0.1
	0.6nm,0.4s,baz=110,slow=7.6,SNR=6.9						
FINES	**FINESS Array B**	**143.41**	**342**	PKP	PKPdf	11 17 03.5	-1.3
	1.1nm,0.7s,baz=29,slow=4.8,SNR=5.0						

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*ISK **26** 10:59:50.9, 38°.71N×43°.25E, h5km, ML3.2*
*CSEM **26** 10:59:51.6±0.2, 38°.70N×43°.17E, h2km, ML3.2, Error ellipse: s-maj=5.7km s-min=4.0km az=60.0*
*DDA **26** 10:59:51.5, 38°.67N×43°.06E, h5km, Ml3.4*
ISC 26 10:59:52.1±1.0, 38°.67N±0°.02×43°.17E±0°.03, h7km±9km, n41, σ1§65/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**113**	*e*PG	**Pg**	**10 59 55.8**	**-0.2**
VANB				*e*SG	**Sg**	**10 59 59.8**	**+1.2**
VANB	**Van**	**0.19**	**113**	*e*Pg	**Pg**	**10 59 55.8**	**-0.2**
VANB				*e*Sg	**Sg**	**10 59 59.8**	**+1.2**
AGRB	**Hanur-Agry**	**0.92**	**352**	*e*PG	**Pg**	**11 00 08.6**	**-1.1**
AGRB				*e*SG	**Sb**	**11 00 20.8**	**-2.1**
AGRB	**Hanur-Agry**	**0.92**	**352**	*e*Pg	**Pg**	**11 00 08.6**	**-1.1**
AGRB				*e*Sg	**Sb**	**11 00 20.8**	**-2.1**
EKAR	**Karacoban**	**1.04**	**305**	*i* P	**Pg**	**11 00 11.2**	**-1.0**
EKAR				*i* S	**Sn**	**11 00 32.9**	**+4.7**
EKAR	**Karacoban**	**1.04**	**305**	P	**Pg**	**11 00 11.1**	**-1.0**
HAKT	**HAKKARI**	**1.19**	**159**	*i* P	**Pg**	**11 00 11.5**	**-3.4**
HAKT				*i* S	**Sn**	**11 00 32.7**	**+0.8**
HAKT	**HAKKARI**	**1.19**	**159**	P	**Pg**	**11 00 11.5**	**-3.4**
HAKT				S	**Sn**	**11 00 32.7**	**+0.8**
EATA	**Eleskirt**	**1.30**	**336**	*i* P	**Pg**	**11 00 15.5**	**-1.6**
EATA				*i* S	**Sn**	**11 00 34.9**	**+0.1**
EATA	**Eleskirt**	**1.30**	**336**	P	**Pg**	**11 00 15.5**	**-1.6**
EATA				S	**Sn**	**11 00 34.9**	**+0.1**
VRTB	**Varto-Mus**	**1.42**	**291**	*e*PN	**Pg**	**11 00 18.6**	**-0.8**
VRTB	**Varto-Mus**	**1.42**	**291**	*e*Pn	**Pg**	**11 00 18.6**	**-0.8**
CUKT	**Cukurca**	**1.46**	**166**	*e*PN	**Pn**	**11 00 19.3**	**+0.3**
CUKT	**Cukurca**	**1.46**	**166**	*i* P	**Pn**	**11 00 18.9**	**-0.1**
CUKT				*i* S	**Sg**	**11 00 45.2**	**+6.1**
CUKT	**Cukurca**	**1.46**	**166**	P	**Pn**	**11 00 18.9**	**-0.1**
CUKT	**Cukurca**	**1.46**	**166**	*e*Pn	**Pn**	**11 00 19.3**	**+0.3**
BNGL	**BINGOL**	**1.60**	**281**	*i* P	**Pn**	**11 00 20.5**	**-0.6**
BNGL				*i* S	**Sg**	**11 00 43.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*PN	**Pn**	**11 00 21.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*i* P	**Pn**	**11 00 20.7**	**-0.6**
SVAN				*i* S	**Sg**	**11 00 44.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	P	**Pn**	**11 00 20.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*Pn	**Pn**	**11 00 21.5**	**+0.2**
SVAN				S	**Sg**	**11 00 44.2**	**-0.3**
BTMN	**Batman**	**1.68**	**243**	*i* P	**Pn**	**11 00 21.6**	**-0.4**
BTMN				*i* S	**Sb**	**11 00 45.4**	**+0.5**
BTMN	**Batman**	**1.68**	**243**	P	**Pn**	**11 00 21.6**	**-0.4**
BTMN				S	**Sb**	**11 00 45.4**	**+0.5**
HOMI	**Horasan**	**1.69**	**325**	*i* P	**Pn**	**11 00 22.0**	**-0.2**
HOMI				*i* S	**Sg**	**11 00 49.4**	**+3.0**
DIGO	**Kars**	**1.75**	**5**	*i* P	**Pn**	**11 00 22.8**	**-0.3**
DIGO				*i* S	**Sg**	**11 00 50.4**	**+1.9**
DIGO	**Kars**	**1.75**	**5**	P	**Pn**	**11 00 22.8**	**-0.3**
ERZM	**Erzurum**	**1.86**	**312**	*i* P	**Pb**	**11 00 25.2**	**-1.5**
ERZM				*i* S	**Sg**	**11 00 54.7**	**+2.6**
ERZM	**Erzurum**	**1.86**	**312**	P	**Pb**	**11 00 25.2**	**-1.5**
BNGB	**Bing¨¶l**	**1.97**	**280**	*e*PN	**Pb**	**11 00 27.5**	**-0.9**
EAK	**Akyaka**	**2.04**	**9**	*i* P	**Pg**	**11 00 30.4**	**-0.9**
EAK	**Akyaka**	**2.04**	**9**	P	**Pg**	**11 00 30.4**	**-0.9**
BINT	**Bingol**	**2.10**	**276**	*e*Pn	**Pn**	**11 00 27.5**	**-0.4**
MARD	**Mardin**	**2.32**	**235**	*i* P	**Pb**	**11 00 32.5**	**-1.8**
MARD				*i* S	**Sb**	**11 01 04.6**	**+1.3**
MAZI	**Mazidag**	**2.46**	**241**	*e*PN	**Pn**	**11 00 33.0**	**+0.2**
MAZI	**Mazidag**	**2.46**	**241**	*e*Pn	**Pn**	**11 00 33.0**	**+0.2**
DDEM	**Demirkent**	**2.47**	**334**	*i* P	**Pb**	**11 00 36.9**	**-0.1**
DAGI	**Agillar**	**2.59**	**339**	*i* P	**Pb**	**11 00 38.5**	**-0.5**
PTK	**Pertek**	**2.96**	**275**	*e*PN	**Pn**	**11 00 41.0**	**+1.3**
PTK	**Pertek**	**2.96**	**275**	*e*Pn	**Pn**	**11 00 41.0**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*PN	**Pn**	**11 00 42.7**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*Pn	**Pn**	**11 00 42.7**	**+1.9**

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*SOME **26** 11:12:57.3, 43°.53N×84°.25E, h10km*
*NNC **26** 11:13:00.7±2.0, 43°.56N×83°.85E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=16.6km s-min=6.1km az=122.0*
ISC 26 11:13:02.1±4.4, 42°.9N±0°.2×84°.4E±0°.2, h35km, n6, σ1§72/9, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.64**	**278**	⇑Pg	**Pn**	**11 13 58.9**	**+3.0**
	0.9nm,0.4s						
PDGK				⇑Lg	Lg	11 14 41.5	
	3.4nm,0.5s						
SHLS	**Shalkode**	**3.65**	**276**	*e*P	**Pn**	**11 13 54.3**	**-1.8**
	1.0nm,0.1s						
SHLS				*e*S	**Sn**	**11 14 36.2**	**-1.7**
	20nm,0.5s						
DJR	**Jarkent**	**3.65**	**295**	*e*P	**Pn**	**11 13 55.3**	**-0.9**
	4.9nm,0.2s						
DJR				*e*S	**Sn**	**11 14 38.0**	**-0.1**
	6.3nm,0.4s						
MK31	**Makanchi Array**	**4.17**	**339**	⇓Pg	**Pn**	**11 14 03.1**	**-0.1**
	0.4nm,0.3s,baz=158,slow=17,SNR=10						
MK31				Lg	Lg	11 14 49.0	
	1.1nm,0.3s,baz=157,slow=29,SNR=8.7						
MAKZ	**Makanchi**	**4.27**	**337**	⇓Pg	**Pn**	**11 14 04.8**	**+0.2**
	0.7nm,0.3s						
MAKZ				⇑Lg	Lg	11 14 52.4	
	1.3nm,0.4s						
MNBS	**Baschi**	**4.54**	**287**	*e*P	**Pn**	**11 14 08.8**	**+0.5**
MNBS				*e*S	**Sn**	**11 15 01.1**	**+1.3**

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*ISK **26** 11:24:54.5, 38°.75N×43°.57E, h7km, ML2.9*
*CSEM **26** 11:24:55.0±0.3, 38°.71N×43°.62E, h2km, ML2.9, Error ellipse: s-maj=8.6km s-min=5.0km az=85.0*
*DDA **26** 11:24:55.5, 38°.71N×43°.52E, h7km, Ml3.0*
ISC 26 11:24:55.8±1.0, 38°.70N±0°.02×43°.58E±0°.04, h17km±7km, n29, σ1§07/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**234**	PG	**Pg**	**11 25 00.2**	**-0.3**
VANB				*e*SG	**Sb**	**11 25 04.6**	**+0.5**
VANB	**Van**	**0.18**	**234**	*i* Pg	**Pg**	**11 25 00.2**	**-0.3**
VANB				*e*Sg	**Sb**	**11 25 04.6**	**+0.5**
GEVA	**Gevas**	**0.56**	**227**	*i* P	**Pg**	**11 25 05.5**	**-1.6**
GEVA				*i* S	**Sg**	**11 25 14.6**	**-0.1**
GEVA	**Gevas**	**0.56**	**227**	P	**Pg**	**11 25 05.5**	**-1.6**
GEVA				S	**Sg**	**11 25 14.6**	**-0.1**
BASK	**Baskale_VAN**	**0.73**	**153**	*i* P	**Pb**	**11 25 10.1**	**-0.1**
BASK				*i* S	**Sn**	**11 25 22.6**	**+0.2**
BASK	**Baskale_VAN**	**0.73**	**153**	P	**Pb**	**11 25 10.1**	**-0.1**
BASK				S	**Sn**	**11 25 22.6**	**+0.2**
DYDN	**Diyadin**	**0.85**	**6**	*i* P	**Pb**	**11 25 11.1**	**-1.1**
DYDN				*i* S	**Sg**	**11 25 24.1**	**+0.5**
DYDN	**Diyadin**	**0.85**	**6**	P	**Pb**	**11 25 11.1**	**-1.1**
DYDN				S	**Sg**	**11 25 24.1**	**+0.5**
TUTA	**Tutak**	**0.92**	**320**	*i* S	**Sb**	**11 25 25.5**	**0.0**
TUTA	**Tutak**	**0.92**	**320**	S	**Sb**	**11 25 25.5**	**0.0**
AGRB	**Hanur-Agry**	**0.98**	**333**	*e*PG	**Pb**	**11 25 12.9**	**-1.6**
AGRB				*e*SG	**Sb**	**11 25 26.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.98**	**333**	*e*Pg	**Pb**	**11 25 12.9**	**-1.6**
AGRB				*e*Sg	**Sb**	**11 25 26.6**	**-0.8**
HAKT	**HAKKARI**	**1.15**	**175**	*i* P	**Pb**	**11 25 16.6**	**-0.7**
HAKT	**HAKKARI**	**1.15**	**175**	P	**Pb**	**11 25 16.6**	**-0.7**
EKAR	**Karacoban**	**1.30**	**296**	*i* P	**Pb**	**11 25 20.3**	**+0.3**
EKAR				*i* S	**Sg**	**11 25 40.0**	**+1.9**
EKAR	**Karacoban**	**1.30**	**296**	P	**Pb**	**11 25 20.3**	**+0.3**
EKAR				S	**Sg**	**11 25 40.0**	**+1.9**
EATA	**Eleskirt**	**1.43**	**324**	*i* P	**Pn**	**11 25 21.1**	**-0.2**
EATA				*i* S	**Sg**	**11 25 42.1**	**-0.1**
EATA	**Eleskirt**	**1.43**	**324**	P	**Pn**	**11 25 21.1**	**-0.2**
EATA				S	**Sg**	**11 25 42.2**	**-0.1**
CUKT	**Cukurca**	**1.45**	**179**	*e*PN	**Pb**	**11 25 22.5**	**+0.1**
CUKT	**Cukurca**	**1.45**	**179**	*e*Pn	**Pb**	**11 25 22.5**	**+0.1**
DIGO	**Kars**	**1.72**	**355**	*i* P	**Pb**	**11 25 27.8**	**+0.7**
DIGO				*i* S	**Sg**	**11 25 53.7**	**+2.4**
DIGO	**Kars**	**1.72**	**355**	P	**Pb**	**11 25 27.8**	**+0.7**
HOMI	**Horasan**	**1.87**	**317**	*i* P	**Pb**	**11 25 28.8**	**-0.8**
HOMI				*i* S	**Sg**	**11 25 60.0**	**+4.0**
BNGL	**BINGOL**	**1.91**	**278**	*i* P	**Pb**	**11 25 29.9**	**-0.4**
BNGL				*i* S	**Sg**	**11 25 57.5**	**0.0**
BTMN	**Batman**	**1.99**	**247**	*i* P	**Pb**	**11 25 30.9**	**-0.7**
BTMN				*i* S	**Sn**	**11 25 52.9**	**-0.3**
BTMN	**Batman**	**1.99**	**247**	P	**Pb**	**11 25 30.9**	**-0.7**
BTMN				S	**Sn**	**11 25 52.9**	**-0.3**
MARD	**Mardin**	**2.61**	**239**	*i* P	**Pn**	**11 25 38.4**	**+1.1**
MARD				*i* S	**Sg**	**11 26 19.4**	**-0.3**
MAZI	**Mazidag**	**2.76**	**244**	*e*PN	**Pn**	**11 25 40.5**	**+1.1**
MAZI	**Mazidag**	**2.76**	**244**	*e*Pn	**Pn**	**11 25 40.5**	**+1.1**

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*ISCJB **26** 11:26:13.4±1.6, 34°.44N±0°.03×36°.75E±0°.10, h5km±8km, Error ellipse: s-maj=13.6km s-min=4.5km az=10.9*
*NSSC **26** 11:26:14.1±1.4, 34°.47N×36°.73E, h4km±9km, ML2.6*
*GRAL **26** 11:26:14.6±0.4, 34°.42N×36°.75E, h0km±3km, MD2.8*
ISC 26 11:26:13.8±2.2, 34°.42N±0°.03×36°.7E±0°.1, h11km±13km, n10, σ0§66/18, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.29**	**291**	*e*P	**Pg**	**11 26 19.5**	**-0.2**
HAWK				*e*S	**Sg**	**11 26 23.6**	**-0.1**
HAWK				AML	AML	11 26 28.3	
	comp=N,1μm,0.3s						
HAWK				AML	AML	11 26 28.9	
	comp=E,914nm,0.3s						
FKH	**Fakeheh**	**0.32**	**237**	*e*P	**Pg**	**11 26 19.8**	**-0.5**
HWQ	**Hawqa**	**0.67**	**258**	*e*P	**Pg**	**11 26 26.7**	**0.0**
HWQ				*e*S	**Sg**	**11 26 35.8**	**+0.3**
BIDA	**Albida**	**0.69**	**331**	*e*P	**Pg**	**11 26 27.0**	**-0.1**
BIDA				*e*S	**Sg**	**11 26 36.5**	**+0.4**
BIDA				AML	AML	11 26 40.7	
	comp=E,600nm,0.4s						
BIDA				AML	AML	11 26 46.2	
	comp=N,471nm,0.4s						
RCY	**Rachaya**	**1.18**	**219**	*e*P	**Pg**	**11 26 35.9**	**-0.6**
RCY				*e*S	**Sg**	**11 26 51.9**	**0.0**
BRBR	**Barbar**	**1.20**	**213**	*e*P	**Pg**	**11 26 37.2**	**+0.4**
BRBR				*e*S	**Sg**	**11 26 53.8**	**+1.4**
BRBR				AML	AML	11 27 01.1	
	comp=N,40nm,0.7s						
BRBR				AML	AML	11 27 01.2	
	comp=E,60nm,0.5s						
DQRL	**Deir Qamar**	**1.20**	**234**	*e*P	**Pg**	**11 26 36.5**	**-0.4**
SHBL	**Chebaa**	**1.35**	**218**	*e*P	**Pn**	**11 26 38.9**	**+0.1**
SHBL				*e*S	**Sg**	**11 26 56.6**	**-0.6**
ARNB	**Al Arnab**	**1.57**	**337**	*e*P	**Pn**	**11 26 42.9**	**+1.1**
ARNB				*e*S	**Sn**	**11 27 02.2**	**0.0**
ARNB				AML	AML	11 27 06.9	
	comp=N,151nm,0.6s						
ARNB				AML	AML	11 27 07.1	
	comp=E,189nm,0.5s						
BTCH	**Batrach**	**1.63**	**352**	*e*P	**Pn**	**11 26 42.4**	**-0.2**
BTCH				*e*S	**Sn**	**11 27 02.6**	**-1.1**
BTCH				AML	AML	11 27 10.5	
	comp=N,158nm,0.4s						
BTCH				AML	AML	11 27 14.4	
	comp=E,86nm,0.6s						

JMA 26 11:27:17.9±0.4, 36°.72N×143°.52E, h55km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.21**	**288**	P	Pn	11 27 53.1	+0.9
JFK				S	Sn	11 28 19.5	+1.1
ONAJ	**Iwakimizuishiy**	**2.21**	**281**	P	Pn	11 27 53.6	+1.3
ONAJ				*e*S	Sn	11 28 19.8	+1.3
JHO	**Hitachi**	**2.38**	**268**	P	Pn	11 27 55.7	+1.3
JHO				*e*S	Sn	11 28 22.6	+0.2
JFT	**Otama**	**2.67**	**288**	P	Pn	11 28 00.4	+2.0
JFT				S	Sn	11 28 32.0	+2.5
JMK	**Ichinoseki**	**2.88**	**321**	P	Pn	11 28 01.9	+0.6
JMK				S

PDGK	**Podgornoye**	**1.78**	**266**	⇑Pn	**Pb**	**11 45 10.9 -0.6**
	5.1nm,0.4s					
PDGK				⇓Sn	**Sb**	**11 45 34.9 +1.0**
	26nm,0.6s					
UZB	**Uzynbulak**	**2.14**	**262**	*e*P	**Pb**	**11 45 16.8 -0.9**
	5.4nm,0.4s					
UZB				*e*S	**Sb**	**11 45 45.2 +0.9**
	12nm,0.3s					
MNBS	**Baschi**	**2.62**	**285**	*e*P	**Pb**	**11 45 24.8 -1.0**
	1.4nm,0.2s					
MNBS				*e*S	**Sb**	**11 45 59.1 +0.9**
	2.3nm,0.5s					
MK31	**Makanchi Array**	**3.34**	**4**	⇑Pn	**Pb**	**11 45 36.4 -1.6**
	0.5nm,0.6s,baz=196,slow=13,SNR=3.6					
MK31				⇑Pg	**Pg**	**11 45 44.3 +1.7**
	0.5nm,0.5s,baz=207,slow=22,SNR=6.6					
MK31				⇓Sn	**Sb**	**11 46 18.8 +0.2**
	0.3nm,0.3s					
MK31				⇑Lg	Lg	11 46 35.0
	0.7nm,0.4s,baz=185,slow=27,SNR=4.8					
MAKZ	**Makanchi**	**3.34**	**1**	⇑Pg	Pg	11 45 45.6 +2.9
	0.6nm,0.4s					
MAKZ				⇑Sn	**Sb**	**11 46 18.6 -0.1**
	0.7nm,0.5s					
MAKZ				⇑Lg	Lg	11 46 34.4
	2.2nm,1.1s					

IDC 26 11:58:24.6±27.0,23°.28S×173°.27W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/30,mbtmp4.3/4,MS3.4/2,Ms1 3.4/2, ms1mx2.8/24,Error ellipse: s-maj=498.9km s-min=149.0km az=78.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.05**	**207**	LR	LR	12 08 16.8	
	comp=Z,71nm,19.1s,baz=8.0,slow=35						
CTA	**Charters Tower**	**37.66**	**267**	P	P	12 05 42.5	+0.7
	2.9nm,0.3s,baz=94,slow=9.4,SNR=8.6						
STKA	**Stephens Creek**	**40.68**	**248**	P	P	12 06 06.1	-0.8
	1.1nm,0.4s,baz=98,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**48.22**	**258**	P	P	12 07 07.2	-0.3
	1.2nm,0.4s,baz=90,slow=8.8,SNR=14						
WRA	**Warramunga Arr**	**48.61**	**263**	P	P	12 07 10.3	-0.1
	1.7nm,0.3s,baz=102,slow=8.2,SNR=14						
YAK	**Yakutsk**	**96.36**	**337**	LR	LR	12 50 04.7	
	comp=Z,32nm,19.6s,baz=74,slow=32						

*IDC **26** 11:59:32.3±2.2,22°.64S×171°.88E,h0km,mb4.2/5, mb1 4.4/6,mb1mx3.9/32,mbtmp4.2/6,ML4.0/1,MS3.3/8, Ms1 3.3/8,ms1mx3.0/32,Error ellipse: s-maj=68.5km s-min=29.8km az=156.0*

ISC 26 11:59:38.9±1.7,22°.8S±0°.4×171°.8E±0°.1,h47km,n12, σ1§06/8,mb4.4/5,MS3.4/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.03**	**277**	Pn	**Pn**	**12 00 50.9**	**-1.0**
	5.6nm,0.3s,baz=112,slow=19,SNR=151						
DZM				Sn	**Sn**	**12 01 49.6**	**+0.8**
	4.5nm,0.3s,baz=187,slow=21,SNR=9.1						
DZM				LR	LR	12 02 44.3	
	comp=Z,301nm,19.2s,baz=206,slow=38						
HNR	**Honiara**	**17.48**	**317**	LR	LR	12 08 48.6	
	comp=Z,50nm,19.0s,baz=233,slow=32						
RPZ	**Rata Peaks**	**20.90**	**182**	LR	LR	12 10 55.1	
	comp=Z,175nm,18.0s,baz=29,slow=32						
CTA	**Charters Tower**	**23.95**	**272**	P	**P**	**12 04 49.9**	**+1.0**
	1.3nm,0.5s,baz=93,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**28.27**	**245**	LR	LR	12 15 19.0	
	comp=Z,79nm,20.7s,baz=32,slow=33						
ASAR	**Alice Springs**	**34.80**	**261**	P	**P**	**12 06 25.0**	**-0.3**
	4.4nm,0.8s,baz=87,slow=9.3,SNR=44						
ASAR				PcP	**PcP**	**12 08 58.1**	**+0.1**
	0.4nm,0.6s,baz=90,slow=3.7,SNR=3.3						
WRA	**Warramunga Arr**	**34.97**	**267**	P	**P**	**12 06 25.7**	**-1.1**
	1.9nm,0.4s,baz=96,slow=8.6,SNR=12						
GUMO	**Guam**	**44.76**	**321**	LR	LR	12 25 43.9	
	comp=Z,32nm,19.5s,baz=134,slow=35						
VNDA	**Vanda**	**55.01**	**183**	LR	LR	12 28 48.3	
	comp=Z,34nm,21.8s,baz=14,slow=32						
MAW	**Mawson**	**76.08**	**202**	LR	LR	12 40 13.5	
	comp=Z,23nm,18.6s,baz=48,slow=32						
PETK	**Petropavlovsk-**	**76.55**	**351**	P	**P**	**12 11 23.4**	**-0.4**
	4.7nm,0.8s,baz=143,slow=5.2,SNR=3.9						
PETK				LR	LR	12 42 39.3	
	comp=Z,18nm,18.8s,baz=100,slow=34						
CMAR	**Chiang Mai Arr**	**82.14**	**294**	P	**P**	**12 11 56.4**	**+1.2**
	0.9nm,0.6s,baz=141,slow=4.4,SNR=7.4						

*IDC **26** 12:03:22.0±1.3,35°.26N×140°.43E,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.5/61,mbtmp3.6/5,ML2.8/3,Error ellipse: s-maj=33.8km s-min=20.8km az=83.0*

*ISCJB **26** 12:03:24.9±0.5,35°.33N±0°.04×140°.42E±0°.07,h34km±6km, mb3.7/3,Error ellipse: s-maj=9.9km s-min=6.5km az=5.3*

*JMA **26** 12:03:26.1,35°.38N×140°.44E,h24km±1km,M3.2*

JMA Felt II J1.

ISC 26 12:03:25.6±0.9,35°.33N±0°.04×140°.45E±0°.05,h27km±6km, n20,σ1§10/19,mb3.6/3,1C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.21**	**211**	⇑P	**Pb**	**12 03 32.1**	**+0.4**
KTR				S	**Sb**	**12 03 36.5**	**+0.7**
JCN	**Nagara**	**0.22**	**293**	⇓P	**Pb**	**12 03 31.5**	**-0.3**
JCN				*e*S	**Sb**	**12 03 35.2**	**-0.7**
BSO4	**Boso 4**	**0.35**	**195**	P	**Pn**	**12 03 34.8**	**0.0**
CHOJ	**Chosi**	**0.50**	**42**	⇓P	**Pb**	**12 03 35.5**	**-0.4**
CHOJ				S	**Sb**	**12 03 42.4**	**-0.4**
BSO3	**Boso 3**	**0.53**	**175**	⇓P	**Pn**	**12 03 37.3**	**+0.2**
BSO1	**Boso 1**	**0.80**	**147**	⇓P	**Pn**	**12 03 40.3**	**-0.3**
BSO1				X		12 03 52.5	
JYT	**Yasato**	**0.92**	**347**	P	**Pn**	**12 03 41.6**	**-1.1**
MJAR	**Matsushiro Arr**	**2.18**	**304**	Pn	**Pn**	**12 03 59.0**	**-1.2**
	2.0nm,0.3s,baz=123,slow=16,SNR=16						
MAT	**Matsushiro**	**2.19**	**304**	P	**Pn**	**12 04 01.0**	**+0.8**
MAT				*e*S	**Sb**	**12 04 30.6**	**-0.5**
JHJ	**Hachijo jima 2**	**2.27**	**194**	Pn	**Pn**	**12 03 59.4**	**-2.0**
	26nm,0.3s,baz=60,slow=14,SNR=3.4						
JHJ				Sn	**Sn**	**12 04 26.0**	**-2.5**
	42nm,0.3s,baz=132,slow=22,SNR=6.8						
USRK	**Ussuriysk Ar.**	**10.99**	**326**	Pn	**Pn**	**12 06 01.9**	**+1.0**
	0.3nm,0.3s,baz=134,slow=15,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.01**	**117**	T	T	12 38 25.8	
	baz=309,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.02**	**117**	T	T	12 38 26.0	
	baz=309,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.03**	**117**	T	T	12 38 18.2	
	baz=309,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	12 39 13.5	
	baz=312,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	12 39 10.2	
	baz=312,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**28.67**	**119**	T	T	12 39 05.7	
	baz=312,slow=76,SNR=19						
KURBB	**Kurchatov Arra**	**46.45**	**309**	P	**P**	**12 11 50.7**	**+0.8**
	0.4nm,0.2s,baz=81,slow=7.6,SNR=2.8						
ILAR	**Eielson Array**	**51.35**	**32**	P	**P**	**12 12 28.2**	**+0.9**
	0.6nm,1.0s,baz=266,slow=6.8,SNR=2.5						
WRA	**Warramunga Arr**	**55.27**	**187**	P	**P**	**12 12 56.6**	**+0.1**
	0.4nm,0.6s,baz=4.0,slow=7.5,SNR=4.5						

*IDC **26** 12:05:13.9±0.6,38°.61N×43°.52E,h0km,mb4.1/22, mb1 4.1/28,mb1mx4.0/70,mbtmp4.1/28,ML3.1/7,MS3.1/11, Ms1 3.1/11,ms1mx2.8/47,Error ellipse: s-maj=11.3km s-min=8.8km az=155.0*

*MOS **26** 12:05:14.4±1.4,38°.60N×43°.57E,h10km,mb4.4/27,Error ellipse: s-maj=7.1km s-min=4.9km az=88.9*

*ISCJB **26** 12:05:14.8±0.5,38°.63N±0°.02×43°.69E±0°.01,h9km±3km, mb4.3/50,MS3.1/9,Error ellipse: s-maj=3.0km s-min=1.9km az=167.9*

*NEIC **26** 12:05:14.8±0.0,38°.74N×43°.49E,h5km,mb4.3/21, ML4.2(ISK),ML4.3(DDA),After ISK.*

*DDA **26** 12:05:14.7,38°.74N×43°.50E,h5km,Ml4.3*

*ISK **26** 12:05:14.8,38°.75N×43°.52E,h3km,ML4.3*

*CSEM **26** 12:05:15.9±0.1,38°.60N×43°.67E,h10km,mb4.3/36,Error ellipse: s-maj=3.8km s-min=2.3km az=169.0*

*AZER **26** 12:05:16.2±0.3,38°.50N×43°.61E,h27km±8km,Error ellipse: s-maj=6.5km s-min=1.7km az=63.0*

*TEH **26** 12:05:21.1,38°.92N×43°.81E,h29km,ML3.9*

ISC 26 12:05:16.1±0.8,38°.70N±0°.01×43°.61E±0°.02,h12km±5km, n405,σ1§54/505,mb4.4/50,MS3.0/11,57C-54D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**240**	PG	**Pg**	**12 05 20.3**	**-0.3**
VANB				*e*SG	**Sg**	**12 05 25.0**	**+1.4**
VANB	**Van**	**0.20**	**240**	*i* Pg	**Pg**	**12 05 20.3**	**-0.3**
VANB				*e*Sg	**Sg**	**12 05 25.0**	**+1.4**
VMUR	**Van-Muradiye**	**0.29**	**354**	⇓*i*P	**Pg**	**12 05 20.9**	**-1.4**
VMUR				*i* S	**Sg**	**12 05 26.1**	**-0.3**
VMUR	**Van-Muradiye**	**0.29**	**354**	P	**Pg**	**12 05 20.9**	**-1.4**
VMUR				S	**Sg**	**12 05 26.1**	**-0.3**
GEVA	**Gevas**	**0.58**	**229**	⇓*i*P	**Pg**	**12 05 25.7**	**-1.7**
GEVA				*i* S	**Sg**	**12 05 34.3**	**-0.8**
GEVA	**Gevas**	**0.58**	**229**	*i* P	**Pg**	**12 05 25.8**	**-1.7**
GEVA				S	**Sg**	**12 05 34.3**	**-0.8**
GEVA	**Gevas**	**0.58**	**229**	*i* P	**Pg**	**12 05 25.8**	**-1.7**
GEVA				*i* S	**Sg**	**12 05 35.5**	**+0.4**
BASK	**Baskale_VAN**	**0.71**	**154**	⇓*i*P	**Pg**	**12 05 29.1**	**-0.9**
BASK				*i* S	**Sb**	**12 05 41.2**	**+0.8**
BASK	**Baskale_VAN**	**0.71**	**154**	P	**Pg**	**12 05 29.1**	**-0.9**
DYDN	**Diyadin**	**0.85**	**4**	⇓*i*P	**Pg**	**12 05 30.4**	**-2.2**
DYDN				*i* S	**Sg**	**12 05 43.1**	**-0.6**
DYDN	**Diyadin**	**0.85**	**4**	P	**Pg**	**12 05 30.4**	**-2.2**
DYDN				S	**Sg**	**12 05 43.1**	**-0.6**
DYDN	**Diyadin**	**0.85**	**4**	*i* P	**Pg**	**12 05 30.8**	**-1.8**
TUTA	**Tutak**	**0.94**	**319**	⇓*i*P	**Pg**	**12 05 31.3**	**-3.0**
TUTA				*i* S	**Sg**	**12 05 44.2**	**-2.4**
TUTA	**Tutak**	**0.94**	**319**	P	**Pg**	**12 05 31.3**	**-3.0**
TUTA	**Tutak**	**0.94**	**319**	*i* P	**Pg**	**12 05 31.3**	**-3.0**
AGRB	**Hanur-Agry**	**1.00**	**331**	*e*PG	**Pg**	**12 05 32.7**	**-2.8**
AGRB				*e*SG	**Sg**	**12 05 46.0**	**-2.6**
HAKT	**HAKKARI**	**1.14**	**176**	⇓*i*P	**Pb**	**12 05 36.2**	**-1.7**
HAKT	**HAKKARI**	**1.14**	**176**	P	**Pb**	**12 05 36.2**	**-1.7**
EKAR	**Karacoban**	**1.33**	**295**	⇓*i*P	**Pn**	**12 05 39.3**	**-1.4**
EKAR				*i* S	**Sg**	**12 06 01.2**	**+2.2**
EKAR	**Karacoban**	**1.33**	**295**	P	**Pn**	**12 05 39.3**	**-1.4**
EKAR				S	**Sg**	**12 06 01.2**	**+2.2**
CUKT	**Cukurca**	**1.45**	**180**	*e*PN	**Pg**	**12 05 43.6**	**-0.2**
CUKT	**Cukurca**	**1.45**	**180**	⇓*i*P	**Pg**	**12 05 43.4**	**-0.5**
CUKT				*i* S	**Sg**	**12 06 08.4**	**+5.7**
CUKT	**Cukurca**	**1.45**	**180**	P	**Pg**	**12 05 43.4**	**-0.5**
EATA	**Eleskirt**	**1.45**	**324**	⇓*i*P	**Pn**	**12 05 40.8**	**-1.7**
EATA				*i* S	**Sn**	**12 06 01.4**	**-0.3**
EATA	**Eleskirt**	**1.45**	**324**	P	**Pn**	**12 05 40.8**	**-1.7**
EATA				S	**Sn**	**12 06 01.4**	**-0.3**
SIRN	**S¨–rnak**	**1.53**	**219**	*i* P	**Pb**	**12 05 44.3**	**-0.1**
SIRN				*i* S	**Sg**	**12 06 05.4**	**+0.1**
SIRN	**S¨–rnak**	**1.53**	**219**	P	**Pb**	**12 05 44.3**	**-0.1**
SIRN				S	**Sg**	**12 06 05.4**	**+0.1**
NAX	**Nakhchivan**	**1.54**	**71**	⇑P	**Pn**	**12 05 42.9**	**-0.6**
	SNR=31						
NAX				⇑S	**Sn**	**12 06 03.3**	**-0.2**
NAX	**Nakhchivan**	**1.54**	**71**	P	**Pn**	**12 05 42.9**	**-0.6**
	SNR=31						
NAX				S	**Sn**	**12 06 03.3**	**-0.2**
ISHB	**Shabestar**	**1.63**	**104**	*e*Pn	**Pb**	**12 05 46.1**	**-0.1**
ISHB				*e*AMB	AMB	12 05 59.4	
	comp=Z,19μm,0.3s						
ISHB				*e*Sg	**Sg**	**12 06 10.3**	**+1.8**
IMRD	**Marand**	**1.64**	**89**	*e*Pn	**Pb**	**12 05 46.0**	**-0.3**
IMRD				*e*AMB	AMB	12 05 54.4	
	comp=Z,33μm,0.3s						
IMRD	**Marand**	**1.64**	**89**	*e*Pn	**Pb**	**12 05 46.0**	**-0.3**
GNI	**Garni**	**1.69**	**31**	Pn	**Pb**	**12 05 47.3**	**0.0**
	comp=Z,94nm,0.3s,baz=264,slow=2.8,SNR=137						
GNI				Lg	Lg	12 06 13.8	
	comp=Z,63nm,0.3s,baz=335,slow=24,SNR=7.9						
GNI	**Garni**	**1.69**	**31**	*e*P	**Pb**	**12 05 46.8**	**-0.5**
GNI				pmax	pmax		
	comp=Z,3μm,0.7s						
GNI	**Garni**	**1.69**	**31**	*e*P	**Pb**	**12 05 46.8**	**-0.5**
	comp=Z,3μm,0.7s						
GNI				*e*Sn	**Sn**	**12 06 07.3**	**-0.1**
GNI	**Garni**	**1.69**	**31**	*e*Pn	**Pb**	**12 05 47.0**	**-0.3**
GNI				*e*Sn	**Sn**	**12 06 07.3**	**-0.1**
GNI				Lg	Lg	12 06 13.8	
DIGO	**Kars**	**1.73**	**354**	⇓*i*P	**Pn**	**12 05 46.9**	**+0.7**
DIGO				*i* S	**Sg**	**12 06 14.0**	**+2.3**
DIGO	**Kars**	**1.73**	**354**	P	**Pn**	**12 05 46.9**	**+0.7**
DIGO				S	**Sg**	**12 06 14.0**	**+2.3**
VRTB	**Varto-Mus**	**1.75**	**286**	*e*PN	**Pn**	**12 05 46.2**	**-0.1**
VRTB	**Varto-Mus**	**1.75**	**286**	*i* P	**Pn**	**12 05 46.3**	**-0.1**
VRTB				*i* S	**Sb**	**12 06 10.3**	**+0.3**
VRTB	**Varto-Mus**	**1.75**	**286**	P	**Pn**	**12 05 46.3**	**-0.1**
VRTB				S	**Sb**	**12 06 10.4**	**+0.3**
HOMI	**Horasan**	**1.89**	**316**	⇑*i*P	**Pn**	**12 05 48.0**	**-0.4**
HOMI				*i* S	**Sb**	**12 06 15.3**	**+1.0**
BNGL	**BINGOL**	**1.94**	**278**	⇑*i*P	**Pn**	**12 05 48.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.97**	**255**	*e*PN	**Pn**	**12 05 49.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.97**	**255**	⇑*i*P	**Pn**	**12 05 48.6**	**-0.8**
SVAN				*i* S	**Sn**	**12 06 14.8**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.97**	**255**	P	**Pn**	**12 05 48.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.97**	**255**	*e*Pn	**Pn**	**12 05 49.7**	**+0.3**
SVAN				S	**Sn**	**12 06 14.8**	**+0.7**
EAK	**Akyaka**	**1.99**	**360**	⇓*i*P	**Pb**	**12 05 52.6**	**+0.3**
EAK				*i* S	**Sg**	**12 06 20.5**	**+0.4**
EAK	**Akyaka**	**1.99**	**360**	P	**Pb**	**12 05 52.6**	**+0.3**
EAK				S	**Sg**	**12 06 20.5**	**+0.4**
BTMN	**Batman**	**2.01**	**247**	⇑*i*P	**Pn**	**12 05 49.7**	**-0.2**
BTMN				*i* S	**Sb**	**12 06 17.7**	**0.0**
BTMN	**Batman**	**2.01**	**247**	P	**Pn**	**12 05 49.7**	**-0.2**
BTMN				S	**Sb**	**12 06 17.7**	**0.0**
ITBZ	**Tabriz**	**2.04**	**102**	*e*Pn	**Pb**	**12 05 52.5**	**-0.7**
ITBZ				*e*AMB	AMB	12 06 12.2	
	comp=Z,4μm,0.3s						
ITBZ	**Tabriz**	**2.04**	**102**	*e*Pn	**Pb**	**12 05 52.5**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.10**	**333**	*e*PN	**Pn**	**12 05 51.2**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.10**	**333**	*e*Pn	**Pn**	**12 05 51.2**	**-0.2**
ERZM	**Erzurum**	**2.12**	**305**	*i* P	**Pn**	**12 05 52.0**	**+0.3**
ERZM	**Erzurum**	**2.12**	**305**	P	**Pn**	**12 05 52.0**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.24**	**295**	*i* P	**Pb**	**12 05 55.8**	**-0.9**
ECAT	**Cat-ERZURUM**	**2.24**	**295**	P	**Pb**	**12 05 55.8**	**-0.9**
BNGB	**Bing¨¶l**	**2.31**	**278**	*e*PN	**Pn**	**12 05 54.4**	**+0.3**
BINT	**Bingol**	**2.45**	**275**	P	**Pn**	**12 05 54.3**	**-1.7**
BINT	**Bingol**	**2.45**	**275**	*e*Pn	**Pn**	**12 05 54.4**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.50**	**288**	*e*PN	**Pn**	**12 05 56.4**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.50**	**288**	*e*Pn	**Pn**	**12 05 56.4**	**-0.4**
BGD	**Bogdanovka**	**2.57**	**360**	P	**Pb**	**12 06 01.9**	**-0.3**
BGD				S	**Sg**	**12 06 38.4**	**-0.2**
GDB	**GEDABAY**	**2.61**	**39**	⇑P	**Pn**	**12 05 59.1**	**+0.8**
	SNR=54						
GDB				⇓S	**Sn**	**12 06 32.6**	**+2.6**
GDB	**GEDABAY**	**2.61**	**39**	P	**Pn**	**12 05 59.1**	**+0.8**
	SNR=54						
GDB				S	**Sn**	**12 06 32.6**	**+2.6**
DDEM	**Demirkent**	**2.62**	**327**	*i* P	**Pb**	**12 06 02.6**	**-0.5**
DDEM	**Demirkent**	**2.62**	**327**	P	**Pb**	**12 06 02.6**	**-0.5**
MARD	**Mardin**	**2.63**	**239**	⇑*i*P	**Pn**	**12 05 58.1**	**-0.4**
MARD	**Mardin**	**2.63**	**239**	*e*Pn	**Pn**	**12 05 58.3**	**-0.2**
MARD	**Mardin**	**2.63**	**239**	*e*Pn	**Pn**	**12 05 58.3**	**-0.2**
AKH	**Akhalkalaki**	**2.71**	**358**	*e*PN	**Pn**	**12 06 00.7**	**+1.0**
AKH	**Akhalkalaki**	**2.71**	**358**	P	**Pb**	**12 06 05.3**	**+0.6**
AKH				S	**Sg**	**12 06 45.7**	**+2.4**
AKH	**Akhalkalaki**	**2.71**	**358**	⇑*i*P	**Pb**	**12 06 04.2**	**-0.5**
AKH	**Akhalkalaki**	**2.71**	**358**	P	**Pb**	**12 06 05.3**	**+0.6**
AKH	**Akhalkalaki**	**2.71**	**358**	*e*Pn	**Pn**	**12 06 00.7**	**+1.0**
AKH	**Akhalkalaki**	**2.71**	**358**	⇑*i*P	**Pb**	**12 06 04.2**	**-0.5**
DAGI	**Agillar**	**2.71**	**332**	*i* P	**Pb**	**12 06 02.4**	**-2.3**
DAGI				*i* S	**Sg**	**12 06 42.2**	**-1.1**
IHRS	**Heris**	**2.72**	**97**	*e*Pn	**Pn**	**12 06 01.1**	**+1.3**
IHRS				*e*AMB	AMB	12 06 17.3	
	comp=Z,7μm,0.4s						
IHRS	**Heris**	**2.72**	**97**	*e*Pn	**Pn**	**12 06 01.1**	**+1.3**
QZX	**Qazax, Azerbai**	**2.72**	**29**	⇓P	**Pn**	**12 06 00.7**	**+1.1**
	SNR=74						
QZX				⇑S	**Sn**	**12 06 35.4**	**+2.9**
QZX	**Qazax, Azerbai**	**2.72**	**29**	P	**Pn**	**12 06 00.7**	**+1.1**
	SNR=74						
QZX				S	**Sn**	**12 06 35.4**	**+2.9**
KOPT	**Kop Dagi**	**2.75**	**300**	⇓*i*P	**Pb**	**12 06 04.4**	**-1.0**
KOPT	**Kop Dagi**	**2.75**	**300**	*e*Pn	**Pb**	**12 06 03.4**	**-2.0**
KOPT	**Kop Dagi**	**2.75**	**300**	P	**Pb**	**12 06 04.4**	**-1.0**
KOPT	**Kop Dagi**	**2.75**	**300**	*e*Pn	**Pb**	**12 06 03.4**	**-2.0**
IBST	**Bostanabad**	**2.77**	**110**	*e*AMB	AMB	12 06 12.4	
	comp=Z,2μm,0.4s						
IBST				*e*Pn	**Pn**	**12 06 02.8**	**+2.3**
MAZI	**Mazidag**	**2.79**	**245**	*e*PN	**Pn**	**12 05 59.9**	**-0.8**
MAZI	**Mazidag**	**2.79**	**245**	*e*Pn	**Pn**	**12 05 59.9**	**-0.8**
ARTV	**Artvin**	**2.80**	**333**	*i* P	**Pb**	**12 06 04.6**	**-1.7**
ARTV	**Artvin**	**2.80**	**333**	*e*Pn	**Pb**	**12 06 04.2**	**-2.0**
ARTV	**Artvin**	**2.80**	**333**	P	**Pb**	**12 06 04.6**	**-1.7**
ARTV	**Artvin**	**2.80**	**333**	*e*Pn	**Pb**	**12 06 04.2**	**-2.0**
ARTV				*e*Pg	**Pn**	**12 06 04.4**	**+3.5**
GANJ	**Ganja**	**2.86**	**46**	⇓P	**Pn**	**12 06 02.1**	**+0.6**
	SNR=30						
GANJ				⇑S	**Sn**	**12 06 37.9**	**+2.0**
GANJ	**Ganja**	**2.86**	**46**	P	**Pn**	**12 06 02.1**	**+0.6**
	SNR=30						
GANJ				S	**Sn**	**12 06 37.9**	**+2.0**
EPOS	**Posof**	**2.89**	**347**	*i* P	**Pb**	**12 06 06.4**	**-1.2**
EPOS	**Posof**	**2.89**	**347**	P	**Pb**	**12 06 06.4**	**-1.2**
DBOC	**Borcka**	**3.04**	**331**	*i* P	**Pb**	**12 06 08.6**	**-1.6**
DBOC	**Borcka**	**3.04**	**331**	P	**Pb**	**12 06 08.6**	**-1.6**
DGRG	**David-gareji**	**3.07**	**26**	P	**Pn**	**12 06 07.1**	**+2.6**
DGRG	**David-gareji**	**3.07**	**26**	P	**Pn**	**12 06 07.0**	**+2.6**
DGRG	**David-gareji**	**3.07**	**26**	P	**Pn**	**12 06 07.0**	**+2.6**
TBLG	**Delisi**	**3.15**	**16**	*e*PN	**Pn**	**12 06 06.5**	**+0.9**
TBLG	**Delisi**	**3.15**	**16**	P	**Pb**	**12 06 09.8**	**-2.3**
TBLG				S	**Sg**	**12 06 56.0**	**-1.3**
TBLG	**Delisi**	**3.15**	**16**	P	**Pb**	**12 06 09.8**	**-2.3**
TBLG				S	**Sg**	**12 06 56.0**	**-1.3**
TBLG	**Delisi**	**3.15**	**16**	*e*Pn	**Pn**	**12 06 06.5**	**+0.9**
TBLG	**Delisi**	**3.15**	**16**	P	**Pb**	**12 06 09.8**	**-2.3**
BRDA	**Brd**	**3.17**	**59**	⇑P	**Pn**	**12 06 05.7**	**-0.1**
	SNR=11						
BRDA				⇑S	**Sn**	**12 06 44.2**	**+0.6**
BRDA	**Brd**	**3.17**	**59**	P	**Pn**	**12 06 05.7**	**-0.1**
	SNR=11						
BRDA				S	**Sn**	**12 06 44.2**	**+0.6**
SEAG	**Tbilisi Sea**	**3.20**	**16**	P	**Pb**	**12 06 10.6**	**-2.3**
SEAG				S	**Sg**	**12 06 57.9**	**-0.9**
TNCL	**Tunceli-Merkez**	**3.20**	**279**	*i* P	**Pb**	**12 06 12.3**	**-0.7**
PTK	**Pertek**	**3.30**	**275**	*e*PN	**Pn**	**12 06 08.2**	**+0.3**
PTK	**Pertek**	**3.30**	**275**	*e*Pn	**Pn**	**12 06 08.2**	**+0.3**
ISRB	**Sarab**	**3.31**	**104**	*e*Pn	**Pn**	**12 06 10.5**	**+2.6**
ISRB				*e*AMB	AMB	12 06 28.9	
	comp=Z,3μm,0.4s						
ISRB	**Sarab**	**3.31**	**104**	*e*Pn	**Pn**	**12 06 10.5**	**+2.6**
MNGR	**Mingechevir, A**	**3.39**	**51**	⇓P	**Pn**	**12 06 09.1**	**+0.3**
	SNR=22						
MNGR				⇓S	**Sn**	**12 06 50.5**	**+1.6**
MNGR	**Mingechevir, A**	**3.39**	**51**	P	**Pn**	**12 06 09.1**	**+0.3**
	SNR=22						
MNGR				S	**Sn**	**12 06 50.5**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.39**	**266**	*e*PN	**Pn**	**12 06 09.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.39**	**266**	*e*Pn	**Pn**	**12 06 09.5**	**+0.5**
DUS	**Dusheti**	**3.49**	**13**	P	**Pb**	**12 06 19.6**	**+1.6**
DUS	**Dusheti**	**3.49**	**13**	P	**Pb**	**12 06 19.5**	**+1.6**
ZRD	**Zardab**	**3.52**	**62**	⇑P	**Pn**	**12 06 10.3**	**-0.3**
ZRD				⇓S	**Sn**	**12 06 52.8**	**+0.6**
ZRD	**Zardab**	**3.52**	**62**	P	**Pn**	**12 06 10.3**	**-0.3**
ZRD				S	**Sn**	**12 06 52.8**	**+0.6**
SFNV	**Sufian**	**3.59**	**232**	*e*P	**Pn**	**12 06 13.5**	**+1.8**
KELT	**Kelkit**	**3.67**	**295**	⇑*i*P	**Pb**	**12 06 21.1**	**+0.1**
KELT				*i* S	**Sg**	**12 07 11.6**	**-2.5**
LRK	**Lerik**	**3.70**	**89**	⇓P	**Pn**	**12 06 11.6**	**-1.

GROC pmax pmax
comp=Z,134nm,1.2s
IVIS Veis 4.91 147 *e*Pn Pn 12 06 34.4 +4.6
IVIS *e*AMB AMB 12 07 15.1
comp=Z,741nm,0.2s
GZT Gaziantep 4.96 256 *i* P **Pg 12 06 47.4 -3.7**
GOBA Gobu 5.03 68 ⇓P **Pn 12 06 30.7 -0.6**
GOBA ⇓S **Sn 12 07 29.8 +0.4**
GOBA Gobu 5.03 68 P **Pn 12 06 30.7 -0.6**
GOBA S **Sn 12 07 29.8 +0.4**
KBZ Khabaz 5.06 354 Pn **Pn 12 06 35.5 +3.8**
comp=Z,0.1nm,0.3s,baz=168,slow=8.8,SNR=6.0
RSDY Resadiye-TOKAT 5.15 291 *e*PN **Pn 12 06 34.1 +1.1**
RSDY Resadiye-TOKAT 5.15 291 *e*Pn **Pn 12 06 34.1 +1.1**
MAK Makhachkala 5.18 33 *e*P **Pn 12 06 34.0 +0.6**
MAK *e*S **Sn 12 07 33.5 +0.4**
MAK pmax pmax
comp=Z,50nm,0.3s
MAK MLR MLR
comp=Z,1µm,12.0s
MAK Makhachkala 5.18 33 *e*P **Pn 12 06 34.0 +0.6**
comp=Z,50nm,0.3s
MAK *e*S **Sn 12 07 33.5 +0.4**
comp=Z,1µm,12.0s
NDR Nardaran 5.27 67 ⇓P **Pn 12 06 34.1 -0.5**
NDR ⇓S **Sn 12 07 35.8 +0.5**
NDR Nardaran 5.27 67 P **Pn 12 06 34.1 -0.5**
KIV Kislovodsk 5.30 353 *e*P **Pn 12 06 36.1 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 5.30 353 *e*P **Pn 12 06 36.1 +0.9**
comp=Z,10.0nm,1.0s
KIV Kislovodsk 5.30 353 *e*Pn **Pn 12 06 36.0 +0.9**
KIV *e*Pg **Pg 12 06 56.1 -1.6**
KVAR Kislovodsk Arr 5.30 353 Pn **Pn 12 06 38.0 +2.8**
baz=180,slow=17,SNR=2.3
KVAR Kislovodsk Arr 5.30 353 Pn **Pn 12 06 38.0 +2.8**
GALA Gala 5.34 69 ⇑P **Pn 12 06 34.9 -0.7**
GALA ⇑S **Sn 12 07 37.1 +0.1**
GALA Gala 5.34 69 P **Pn 12 06 34.9 -0.7**
KMRS Kahramanmaras 5.43 259 *e*PN **Pn 12 06 39.4 +2.5**
KMRS Kahramanmaras 5.43 259 *e*Pn **Pn 12 06 39.4 +2.5**
DRWC Darouich 5.89 252 *e*P Pn 12 06 37.2 -6.0
DRWC *e*S **Sb 12 08 05.4 -3.8**
DRWC AML AML 12 08 37.4
comp=N,71nm,0.5s
BTCH Batrach 6.28 247 *e*P **Pn 12 06 44.0 -4.7**
BTCH *e*S **Sb 12 08 18.3 -2.3**
BTCH AML AML 12 08 54.8
comp=N,252nm,0.7s
ROOS tl_alroos 6.81 230 *e*P **Pn 12 06 56.0 +0.1**
BIDA Aïbida 6.90 240 *e*P **Pn 12 06 54.3 -2.9**
BIDA *e*S **Sb 12 08 38.1 -0.3**
BIDA AML AML 12 09 03.9
comp=N,137nm,0.6s
HAWK Haweek 7.14 236 *e*P **Pn 12 07 00.3 -0.1**
MARH Ras Al Marh 7.40 233 *e*P **Pn 12 07 06.3 +2.1**
BRTR Keskin Array B 7.81 281 Pn **Pn 12 07 11.6 +1.9**
comp=N,0.1nm,0.3s,baz=102,slow=13,SNR=2.4
TOTH TOTAH 7.88 230 *e*P **Pn 12 07 10.8 +0.1**
BRBR Barbar 8.14 232 *e*P **Pn 12 07 13.2 -1.1**
BRBR *e*S Sb 12 09 12.5 -1.6
BRBR AML AML 12 09 56.9
comp=N,21nm,0.6s
BR231 Keskin MP Arra 8.48 281 *e*Sn **Sn 12 08 59.8 +5.2**
ASF Jabal al Asfar 8.51 222 Pn **Pn 12 07 19.0 -0.2**
comp=N,0.2nm,0.3s,baz=351,slow=12,SNR=5.4
ASF Lg Lg 12 09 49.5
comp=N,0.4nm,0.3s,baz=343,slow=19,SNR=3.5
ASF Jabal al Asfar 8.51 222 P **Pn 12 07 19.0 -0.2**
MMAI Mount Meron Ar 8.75 232 Pn **Pn 12 07 23.8 +1.3**
comp=N,3.2nm,0.3s,baz=62,slow=16,SNR=7.5
MMAI Lg Lg 12 10 00.1
comp=N,1.2nm,0.3s,baz=35,slow=23,SNR=3.1
GEYT Alibeck 11.42 89 Pn **Pn 12 08 00.5 +1.4**
comp=N,0.2nm,0.3s,baz=276,slow=14,SNR=2.5
EIL Elat 11.50 221 Lg Lg 12 11 24.4
comp=N,0.2nm,0.3s,baz=284,slow=18,SNR=2.6
PLOR Plostina 14.44 305 ⇑*i*P **P 12 08 48.9 +1.8**
PLOR Plostina 14.44 305 ⇑P **P 12 08 48.9 +1.8**
PLOR Plostina 14.44 305 P **P 12 08 48.9 +1.8**
SANT Santorini 14.59 266 *e*Pn **Pn 12 08 45.4 +3.0**
SANT Santorini 14.59 266 *e*Pn **Pn 12 08 45.4 +3.0**
TESR Tescani 14.71 308 ⇑*i*P **P 12 08 51.1 +1.0**
TESR Tescani 14.71 308 ⇑*i*P **P 12 08 51.1 +1.0**
MLR Muntele Rosu 14.76 303 ⇓*i*P **P 12 08 51.5 +0.8**
MLR Muntele Rosu 14.76 303 ⇓P **P 12 08 51.6 +0.8**
MLR Muntele Rosu 14.76 303 *e*Pn **Pn 12 08 46.9 +2.2**
MLR Muntele Rosu 14.76 303 P **P 12 08 51.6 +0.8**
MLR Muntele Rosu 14.76 303 *e*Pn **Pn 12 08 46.9 +2.2**
RAYN Ar Rayn 15.21 173 *e*Pn **Pn 12 08 47.6 -3.2**
comp=N,18nm,0.9s
RAYN Ar Rayn 15.21 173 *e*Pn **Pn 12 08 47.6 -3.2**
comp=N,18nm,0.9s
DOPR Dopca 15.29 304 ⇑*i*P **P 12 08 58.2 +1.6**
DOPR Dopca 15.29 304 ⇑*i*P **P 12 08 58.2 +1.6**
VOIR 15.33 302 ⇑*i*P **P 12 08 59.0 +2.0**
VOIR 15.33 302 ⇑P **P 12 08 59.0 +2.0**
VOIR 15.33 302 P **P 12 08 59.0 +2.0**
AKTO Aktyubinsk 15.56 36 Pn **Pn 12 08 53.9 -1.3**
comp=N,0.1nm,0.3s,baz=226,slow=13,SNR=7.4
AKTO LR LR 12 16 36.1
comp=N,104nm,18.1s,baz=228,slow=44
AKTO Aktyubinsk 15.56 36 *i*P **Pn 12 08 53.0 -2.2**
AKTO pmax pmax
comp=Z,11nm,1.4s
ARR Arges 15.58 301 ⇑*i*P **P 12 09 01.4 +1.6**
ARR Arges 15.58 301 ⇑*i*P **P 12 09 01.4 +1.6**
AKASG Malin Array Be 15.74 324 Pn **Pn 12 08 56.0 -1.4**
comp=Z,0.4nm,0.3s,baz=134,slow=12,SNR=8.0
AKBB Malin Array Si 15.74 324 *e*Pn **P 12 09 00.2 -1.2**
comp=Z,15nm,1.4s
AKBB Malin Array Si 15.74 324 *e*Pn **P 12 09 00.2 -1.2**
comp=Z,15nm,1.4s
KIEV Kiev 15.74 324 *i*P **Pn 12 08 58.4 +0.9**
KIEV pmax pmax
comp=Z,9.0nm,1.2s
KIEV Kiev 15.74 324 *e*Pn **P 12 09 00.4 -1.0**
comp=Z,5.0nm,0.8s
KIEV Kiev 15.74 324 *e*Pn **P 12 09 00.4 -1.0**
comp=Z,5.0nm,0.8s
AB31 Akbulak array 15.76 43 *ce*P **Pn 12 08 57.5 -0.3**
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 15.76 43 *e*Pn **Pn 12 08 58.7 +0.9**
comp=Z,27nm,0.8s
ABKAR Akbulak array 15.76 43 *e*Pn **Pn 12 08 58.7 +0.9**
comp=Z,27nm,0.8s
VTS Vitosha 15.96 291 ⇑*i*P **P 12 09 02.9 -1.3**
VTS Vitosha 15.96 291 ⇑P **P 12 09 02.9 -1.3**
VTS Vitosha 15.96 291 *e*Pn **Pn 12 09 02.3 +1.7**
comp=Z,12nm,1.2s
VTS Vitosha 15.96 291 P **P 12 09 02.9 -1.3**
VTS Vitosha 15.96 291 *e*Pn **Pn 12 09 02.3 +1.7**
comp=Z,12nm,1.2s
BURAR Bucovina Array 16.08 310 ⇓*i*P **P 12 09 06.6 +1.2**
BURAR Bucovina Array 16.08 310 ⇓P **P 12 09 06.6 +1.2**
BURAR Bucovina Array 16.08 310 ⇓*i*P **P 12 09 06.6 +1.2**
BUR08 Bucovina Ar. S 16.11 310 *e*Pn **P 12 09 06.3 +0.6**
LOT Lotru 16.18 301 ⇑*i*P **P 12 09 08.0 +1.4**
LOT Lotru 16.18 301 ⇑*i*P **P 12 09 08.0 +1.4**
GZR Gura Zlata 16.84 300 ⇓*i*P **P 12 09 15.4 +1.6**
GZR Gura Zlata 16.84 300 ⇓P **P 12 09 15.4 +1.6**
GZR Gura Zlata 16.84 300 P **P 12 09 15.4 +1.6**
OBN Obninsk 17.10 346 LR LR 12 16 18.5
comp=Z,88nm,21.9s,baz=262,slow=39
OBN Obninsk 17.10 346 ⇑*e*P **Pn 12 09 15.0 +0.2**
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,93nm,12.0s
DRGR 17.32 305 ⇓*i*P **P 12 09 20.9 +1.8**
DRGR 17.32 305 ⇓P **P 12 09 20.9 +1.8**
DRGR 17.32 305 P **P 12 09 20.9 +1.8**
UOSS Minazif 17.36 138 *e*Pn **Pn 12 09 16.5 -1.8**
comp=Z,7.6nm,0.8s
UOSS Minazif 17.36 138 *e*Pn **Pn 12 09 16.5 -1.8**
comp=Z,7.6nm,0.8s
BZS Buzias 17.68 300 ⇑*i*P **P 12 09 22.8 -0.2**
BZS Buzias 17.68 300 ⇑P **P 12 09 22.8 -0.2**
BZS Buzias 17.68 300 P **P 12 09 22.8 -0.2**
SIRR Siria 17.84 302 ⇓*i*P **P 12 09 26.2 +1.5**
SIRR Siria 17.84 302 ⇓*i*P **P 12 09 26.2 +1.5**
CRVS Cervenica-Dubn 18.90 310 *e*P **Pn 12 09 37.8 +0.8**
CRVS Cervenica-Dubn 18.90 310 *e*P **Pn 12 09 37.8 +0.8**
PSZ Piszkesteto 19.50 306 *e*P **Pn 12 09 45.0 +0.7**
comp=Z,19nm,1.5s
PSZ Piszkesteto 19.50 306 *e*P **Pn 12 09 45.0 +0.7**
comp=Z,19nm,1.5s
WSAR Wadi Sarin 20.04 136 P Pn 12 09 50.2 -0.6
comp=Z,3.4nm,0.9s,baz=312,slow=10,SNR=2.7
WSAR LR LR 12 19 34.7
comp=Z,72nm,21.6s,baz=346,slow=43
ARU Arti 20.33 24 P **P 12 09 52.5 +0.6**
comp=Z,14nm,0.8s,baz=224,slow=6.2,SNR=14
ARU LR LR 12 20 56.2
comp=Z,54nm,18.2s,baz=162,slow=46
ARU Arti 20.33 24 *d i*P **P 12 09 52.9 +1.0**
ARU 12 10 10.5
ARU S Sn 12 13 42.8 +0.2
ARU SS **SnSn 12 14 01.5 +4.3**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 20.33 24 *i*P **P 12 09 52.9 +1.0**
comp=Z,24nm,1.2s
ARU S Sn 12 13 42.8 +0.2
ARU Arti 20.33 24 *e*P **P 12 09 52.3 +0.4**
comp=Z,23nm,0.9s
VYHS Vyhne 20.36 307 *e*P **P 12 09 53.2 +0.8**
VYHS Vyhne 20.36 307 *e*P **P 12 09 53.2 +0.8**
VYHS Vyhne 20.36 307 *e*P **P 12 09 53.2 +0.8**
KK31 Karatay Array 20.77 69 *ce*P **P 12 09 57.9 +1.1**
KK31 pmax pmax
comp=Z,12nm,0.7s
KK31 Karatay Array 20.77 69 *e*P **P 12 09 57.9 +1.1**
comp=Z,12nm,0.7s
KKAR Karatay Array 20.77 69 *e*P Pn 12 09 58.2 -1.0
comp=Z,12nm,0.6s
KKAR Karatay Array 20.77 69 *e*P Pn 12 09 58.2 -1.0
comp=Z,12nm,0.6s
KBL Kabul 20.80 94 *e*P **P 12 09 56.2 -1.3**
comp=Z,6.6nm,1.0s
KBL Kabul 20.80 94 *e*P **P 12 09 56.2 -1.3**
comp=Z,6.6nm,1.0s
SVE Sverdlovsk 21.34 26 *e*P **P 12 10 06.9 +4.1**
SVE pmax pmax
comp=Z,33nm,1.2s
MES1 Messina Univ. 21.95 278 P **P 12 10 07.3 -2.2**
MES1 S **P 12 10 09.2 -0.3**
VRAC Vranov 22.03 308 P **P 12 10 11.5 +1.1**
comp=Z,8.1nm,0.8s,baz=102,slow=8.9,SNR=5.8
CONA Conrad Observa 22.10 304 *i* pP **P 12 10 12.4 +1.2**
comp=Z,11nm,1.9s
CONA Conrad Observa 22.10 304 P **P 12 10 12.4 +1.2**
comp=Z,11nm,1.9s
MNAS Manas 22.21 71 *i*P **P 12 10 11.3 -1.3**
MNAS pmax pmax
comp=Z,6.0nm,1.3s
MNAS Manas 22.21 71 *i*P **P 12 10 11.3 -1.3**
comp=Z,6.0nm,1.3s
KLMR Klimovskoe 22.33 355 *e*P **P 12 10 14.5 +1.1**
KLMR pmax pmax
comp=Z,29nm,0.9s
KLMR Klimovskoe 22.33 355 *e*P **P 12 10 14.5 +1.1**
comp=Z,29nm,0.9s
DPC Dobruska-Polom 22.54 310 *e*P **P 12 10 16.7 +0.8**
DPC Dobruska-Polom 22.54 310 *e*P **P 12 10 16.7 +0.8**
DPC Dobruska-Polom 22.54 310 *e*P **P 12 10 16.7 +0.8**
UPC Upice 22.78 310 *e*P **P 12 10 19.0 +0.6**
UPC Upice 22.78 310 *e*P **P 12 10 19.0 +0.6**
UPC Upice 22.78 310 *e*P **P 12 10 19.0 +0.6**
MOA Molln 23.13 303 *e*P **P 12 10 23.6 +1.6**
comp=Z,7.9nm,1.3s
MOA Molln 23.13 303 P **P 12 10 23.6 +1.6**
comp=Z,7.9nm,1.3s
BRVK Borovoye 23.30 43 *ce*P **P 12 10 24.5 +0.9**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 23.30 43 *e*P **P 12 10 24.5 +0.9**
comp=Z,13nm,0.7s
BRVK Borovoye 23.30 43 *e*P **P 12 10 24.8 +1.2**
comp=Z,5.8nm,0.8s
BVAR Borovoye Array 23.34 43 P **P 12 10 25.0 +1.0**
comp=Z,3.4nm,0.8s,baz=238,slow=8.3,SNR=14
AAK Ala-Archa 23.68 71 P **P 12 10 28.5 +0.8**
comp=Z,2.3nm,0.6s,baz=234,slow=8.9,SNR=5.1
AAK LR LR 12 19 45.9
comp=Z,24nm,21.9s,baz=265,slow=37
AAK Ala-Archa 23.68 71 ⇓*i*P **P 12 10 30.1 +2.3**
AAK pmax pmax
comp=Z,29nm,2.0s
AAK Ala-Archa 23.68 71 *e*P **P 12 10 28.8 +1.0**
comp=Z,15nm,1.5s
AAK Ala-Archa 23.68 71 *e*P **P 12 10 28.8 +1.0**
comp=Z,15nm,1.5s
GERES GERESS Array B 23.72 305 P **P 12 10 26.9 -1.1**
comp=Z,0.5nm,0.4s,baz=108,slow=8.7,SNR=7.2
FRU Bishkek 23.77 70 *e*P **P 12 10 30.0 +1.5**
FRU pmax pmax
comp=Z,40nm,2.0s
FRU Bishkek 23.77 70 *e*P **P 12 10 30.0 +1.5**
comp=Z,40nm,2.0s
KHC Kasperske Hory 23.87 306 *e*P **P 12 10 29.2 -0.2**
KHC Kasperske Hory 23.87 306 *e*P **P 12 10 29.2 -0.2**
KHC Kasperske Hory 23.87 306 *e*P **P 12 10 29.8 +0.5**
comp=Z,3.0nm,1.1s
KHC Kasperske Hory 23.87 306 *e*P **P 12 10 29.8 +0.5**
comp=Z,3.0nm,1.1s
DAMY Dhamar 24.04 178 *e*P **P 12 10 25.9 -5.5**
comp=Z,16nm,1.1s
TKM2 Tokmak 2 24.49 70 *i*P **P 12 10 37.4 +2.0**
TKM2 pmax pmax
comp=Z,13nm,1.3s
TKM2 Tokmak 2 24.49 70 *i*P **P 12 10 37.4 +2.0**
comp=Z,13nm,1.3s
WTTA Wattenberg 24.77 301 *e*pP **P 12 10 37.6 -0.2**
comp=Z,10nm,1.0s
WTTA Wattenberg 24.77 301 P **P 12 10 37.6 -0.2**
comp=Z,10nm,1.0s
WATA Walderalm 24.82 301 *i*P **P 12 10 38.7 +0.5**
comp=Z,4.7nm,0.8s
WATA Walderalm 24.82 301 P **P 12 10 38.7 +0.5**
comp=Z,4.7nm,0.8s
CLL Collm 24.85 310 *e*P **P 12 10 38.0 -0.2**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 24.85 310 *e*P **P 12 10 38.4 +0.2**
comp=Z,7.1nm,0.8s
CLL Collm 24.85 310 *e*P **P 12 10 38.0 -0.2**
comp=Z,8.0nm,0.9s
CLL *e*S **S 12 15 06.0 +5.3**
CLL Collm 24.85 310 *e*P **P 12 10 38.4 +0.2**
comp=Z,7.1nm,0.8s
KSH Kashi 25.06 78 *e*P **P 12 10 37.8 -2.6**
KSH pP pP 12 10 41.5 -2.5
KSH sP sP 12 10 44.8 -0.7
KSH PP **PnPn 12 11 14.8 +1.1**
KSH PcP **PcP 12 14 15.0 +0.2**
KSH S **S 12 14 56.0 -8.5**
KSH sS pS 12 15 03.5 -4.9
KSH SS **SnSn 12 15 53.0 -0.4**
KSH PcS **PcS 12 17 53.5 -1.7**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,190nm,8.9s
KSH LR LR
comp=N,190nm,8.6s
KSH LR LR
comp=E,100nm,8.3s
KSH LR LR
comp=Z,250nm,9.4s
MOTA Moosalm 25.14 301 *i*P **P 12 10 41.6 +0.5**
comp=Z,3.3nm,0.6s
MOTA Moosalm 25.14 301 P **P 12 10 41.6 +0.5**
comp=Z,3.3nm,0.6s
FINES FINESS Array B 25.23 340 P **P 12 10 40.7 -0.9**
comp=Z,2.1nm,0.8s,baz=161,slow=10,SNR=3.8
FINES LR LR 12 21 26.0
comp=Z,50nm,20.4s,baz=143,slow=38
GRFO Grafenberg 25.50 306 *e*P **P 12 10 45.7 +1.6**
comp=Z,22nm,1.2s
GRFO Grafenberg 25.50 306 *e*P **P 12 10 45.7 +1.6**
comp=Z,22nm,1.2s
RGN Rugen 25.88 318 *e*P **P 12 10 48.8 +1.3**
comp=Z,434nm,1.2s
RGN Rugen 25.88 318 *e*P **P 12 10 48.8 +1.3**
comp=Z,434nm,1.2s
DAVOX Davos/Dischmat 25.90 299 P **P 12 10 46.9 -1.1**
comp=Z,2.9nm,0.4s,baz=84,slow=10,SNR=4.9
TUE Stuetta 26.24 298 *e*P **P 12 10 52.7 +1.5**
comp=Z,6.7nm,1.1s
TUE Stuetta 26.24 298 *e*P **P 12 10 52.7 +1.5**
comp=Z,6.7nm,1.1s
BFO Black Forest 27.13 302 *e*P **P 12 11 00.5 +1.6**
comp=Z,38nm,2.0s
BFO Black Forest 27.13 302 *e*P **P 12 11 00.5 +1.6**
comp=Z,38nm,2.0s
KURBB Kurchatov Arra 27.29 53 P **P 12 11 01.6 +1.3**
comp=Z,7.3nm,0.7s,baz=263,slow=9.0,SNR=40
KEST Kesra 27.36 275 *e*P **P 12 11 01.8 +0.6**
comp=Z,30nm,1.4s
KEST Kesra 27.36 275 *e*P **P 12 11 01.8 +0.6**
comp=Z,30nm,1.4s
KURK Kurchatov 27.37 52 *ce*P **P 12 11 02.5 +1.5**
KURK pmax pmax
comp=Z,54nm,1.2s
KURK Kurchatov 27.37 52 *e*P **P 12 11 01.8 +0.8**
comp=Z,10nm,0.9s
KURK Kurchatov 27.37 52 *e*P **P 12 11 01.8 +0.8**
comp=Z,10nm,0.9s
ECH Echery 27.89 302 *e*P **P 12 11 07.4 +1.7**
comp=Z,28nm,1.8s
ECH Echery 27.89 302 *e*P **P 12 11 07.5 +1.7**
comp=Z,28nm,1.8s
BNI Bardonecchia 28.05 295 *e*P **P 12 11 08.7 +1.4**
comp=Z,13nm,1.3s
BNI Bardonecchia 28.05 295 *e*P **P 12 11 08.7 +1.4**
comp=Z,13nm,1.3s
HFS Hagfors 28.54 328 P **P 12 11 12.2 +0.8**
comp=Z,4.2nm,0.6s,baz=140,slow=11,SNR=4.7
MAKZ Makanchi 29.08 61 *e*P **P 12 11 17.2 +0.8**
comp=Z,4.5nm,1.3s
MAKZ Makanchi 29.08 61 *e*P **P 12 11 17.2 +0.8**
comp=Z,4.5nm,1.3s
MK31 Makanchi Array 29.29 61 *ce*P **P 12 11 18.6 +0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 29.29 61 *e*P **P 12 11 18.6 +0.3**
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 29.29 61 *e*P **P 12 11 18.8 +0.5**
MKAR Makanchi Array 29.29 61 P **P 12 11 19.6 +1.4**
comp=Z,1.0nm,0.6s,baz=258,slow=8.6,SNR=11
MKAR LR LR 12 25 02.4
comp=Z,61nm,19.1s,baz=262,slow=40
MKAR Makanchi Array 29.29 61 *e*P **P 12 11 18.8 +0.5**
comp=Z,10nm,0.6s
MKAR Makanchi Array 29.29 61 *e*P **P 12 11 18.8 +0.5**
comp=Z,10nm,0.6s
NOA NORSAR Array B 30.06 329 P **P 12 11 26.1 +1.2**
comp=Z,0.8nm,0.6s,baz=127,slow=8.9,SNR=4.0
NOA LR LR 12 25 50.0
comp=Z,15nm,21.7s,baz=130,slow=41
NVS Novosibirsk 31.07 46 *e*P **P 12 11 34.5 +0.7**
NVS *e* 12 12 42.0
NVS Novosibirsk 31.07 46 *e*P **P 12 11 34.5 +0.7**
ZALV Zalesovo Beam 31.77 48 P **P 12 11 40.3 +0.3**
comp=Z,1.9nm,0.4s,baz=253,slow=8.4,SNR=1.7
ZALV LR LR 12 26 25.6
comp=Z,36nm,19.8s,baz=250,slow=40
ARCES ARCESS Array B 32.39 348 P **P 12 11 44.8 -0.5**
comp=Z,1.7nm,0.8s,baz=106,slow=8.7,SNR=3.8
WMQ Urumqi 33.23 67 P **P 12 11 55.0 +2.0**
WMQ pP sP 12 11 59.0 +0.8
WMQ sP pP 12 12 02.3 +5.6
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ pmax pmax
comp=Z,62nm,3.7s
WMQ LR LR
comp=N,39nm,25.5s
WMQ LR LR
comp=E,42nm,15.3s
WMQ LR LR
comp=Z,33nm,14.5s
PYUN Piuthan 34.30 96 *e*P **P 12 12 03.4 +0.8**
DANN Dangsing 34.78 95 *e*P **P 12 12 08.6 +1.7**
comp=Z,5.2nm,1.0s
KOLN Koldanda 34.93 96 *e*P **P 12 12 08.9 +0.8**
comp=Z,10nm,0.9s
GKN Gorkha 35.63 95 *e*P **P 12 12 14.9 +0.9**
comp=Z,12nm,0.7s
DMN Daman 36.18 95 *e*P **P 12 12 19.9 +1.0**
KKN Kakani 36.23 95 *e*P **P 12 12 20.5 +1.2**
PKIN Phulchoki 36.42 95 *e*P **P 12 12 21.8 +0.8**
comp=Z,16nm,1.1s
PKI Pulchoki 36.44 95 *e*P **P 12 12 22.2 +1.1**
comp=Z,21nm,1.0s
ESDC Sonseca Array 36.55 287 P **P 12 12 19.1 -2.6**
comp=Z,1.4nm,0.6s,baz=66,slow=8.7,SNR=7.9
GUN Gumba 36.64 94 *e*P **P 12 12 23.8 +0.9**
comp=Z,45nm,1.2s
JIRN Jiri 37.00 94 *e*P **P 12 12 27.4 +1.4**
comp=Z,147nm,0.8s
RAMN Ramite 37.66 95 *e*P **P 12 12 32.1 +0.6**
comp=Z,36nm,1.0s
ODAN Odare 38.32 95 *e*P **P 12 12 38.2 +1.2**
comp=Z,36nm,1.0s
TAPN Taplejung 38.34 94 *e*P **P 12 12 38.3 +1.1**
comp=Z,21nm,0.9s
NRIK Noril'sk 38.55 23 LR LR 12 31 54.8
comp=Z,48nm,18.0s,baz=192,slow=41
GTA Gaotai 43.04 71 *e*P **P 12 13 17.3 +1.6**
GTA pP sP 12 13 22.0 +1.0
GTA sP pP 12 13 24.3 +4.8
GTA pmax pmax
comp=Z,3.0nm,1.1s
TORD Torodi Ar. Bea 44.93 247 P **P 12 13 28.7 -2.4**
comp=Z,2.1nm,0.9s,baz=57,slow=9.6,SNR=12
ULN Ulaanbaatar 45.90 57 *ce*P **P 12 13 39.8 +1.3**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 45.90 57 *e*P **P 12 13 39.8 +1.3**
comp=Z,4.0nm,1.2s
LZH Lanzhou 47.17 73 *e*P **P 12 13 47.3 -1.4**
LZH pP pP 12 13 51.5 -1.0
LZH sP sP 12 13 54.0 +0.1
LZH *e*PP **PP 12 15 37.5 -1.9**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,45nm,6.0s
LZH LR LR
comp=N,120nm,14.3s
LZH LR LR
comp=E,120nm,14.5s
LZH LR LR
comp=Z,140nm,17.8s
HHC Hu-ho-hao-te 51.06 65 *e*P **P 12 14 18.3 0.0**
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,120nm,7.9s
CMAR Chiang Mai Arr 51.80 97 P **P 12 14 23.6 -0.3**
comp=Z,2.6nm,0.9s,baz=298,slow=8.0,SNR=16
CMAR LR LR 12 42 22.9
comp=Z,9.0nm,20.2s,baz=115,slow=43
TIXI Tiksi 52.33 24 P **P 12 14 26.5 -0.8**
comp=Z,0.9nm,0.3s,baz=302,slow=5.6,SNR=4.2
ABPO Ambohimpanom 57.51 176 *i*P **P 12 15 07.9 +2.5**
KSAR Wonju Array Be 63.95 62 P **P 12 15 49.0 -0.1**
KSAR Wonju Array Be 63.95 62 P **P 12 15 49.0 -0.1**
KSRS Korea Array 63.98 62 P **P 12 15 49.0 -0.3**
comp=Z,2.6nm,0.8s,baz=288,slow=6.5,SNR=12
KSRS Korea Array 63.98 62 P **P 12 15 49.0 -0.3**
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 63.98 62 P **P 12 15 49.0 -0.3**
comp=Z,3.0nm,0.8s
SEY Seymchan 63.99 29 P **P 12 15 49.9 +0.9**
comp=Z,4.8nm,0.8s,baz=306,slow=4.4,SNR=8.9
SEY Seymchan 63.99 29 P **P 12 15 49.9 +0.9**
SEY pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 69.12 197 P **P 12 16 22.2 0.0**
comp=Z,3.2nm,0.7s,baz=14,slow=5.0,SNR=5.3
MJAR Matsushiro Arr 71.42 58 P **P 12 16 36.2 -0.1**
comp=Z,1.5nm,0.8s,baz=307,slow=5.3,SNR=3.8
MJAR Matsushiro Arr 71.42 58 P **P 12 16 36.2 -0.1**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 71.42 58 P **P 12 16 36.2 -0.1**
comp=Z,1.0nm,0.7s

*CSEM **26** 12:10:04.8, 37°.21N×22°.05E, h7km, ML1.8/4*
ATH 26 12:10:04.8, 37°.21N×22°.05E, h7km, ML1.8/4, Error ellipse: s-maj=1.0km s-min=0.5km az=114.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**253**	P	Pg	12 10 07.3	+0.2
ITM				AML	AML	12 10 10.1	
	comp=N,693μm,0.1s						
ITM				S	Sg	12 10 10.1	+1.5
ITM				AML	AML	12 10 10.2	
	comp=E,464μm,0.2s						
ITM	**Ithomi**	**0.10**	**253**	P	Pg	12 10 07.3	+0.2
ITM				S	Sg	12 10 10.1	+1.4
VLX	**Vlachokerasia**	**0.31**	**59**	P	Pb	12 10 12.6	-0.1
VLX	**Vlachokerasia**	**0.31**	**59**	P	Pb	12 10 12.6	-0.1
PYL	**PYLOS**	**0.40**	**218**	P	Pg	12 10 12.8	+0.3
PYL				S	Sb	12 10 19.2	-1.2
PYL	**PYLOS**	**0.40**	**218**	P	Pg	12 10 12.8	+0.3
PYL				S	Sb	12 10 19.2	-1.2
AMT	**Artemida-Makis**	**0.42**	**320**	P	Pb	12 10 13.9	-0.6
AMT				S	Sb	12 10 20.4	-0.7
MES2	**Methoni**	**0.47**	**215**	P	Pg	12 10 13.6	-0.2
MES2				S	Sg	12 10 20.5	+0.5
MES2	**Methoni**	**0.47**	**215**	P	Pg	12 10 13.6	-0.3
MES2				S	Sg	12 10 20.5	+0.5
GUR	**Goura**	**0.76**	**18**	P	Pb	12 10 20.1	-0.3
GUR	**Goura**	**0.76**	**18**	P	Pb	12 10 20.1	-0.3
KLV	**Kalavryta, Ach**	**0.84**	**6**	P	Pg	12 10 20.7	-0.2
KLV				S	Sg	12 10 32.3	+0.5
KLV	**Kalavryta, Ach**	**0.84**	**6**	P	Pg	12 10 20.7	-0.2
KLV				S	Sg	12 10 32.3	+0.6
AXS	**Araxos**	**1.12**	**332**	P	Pg	12 10 24.2	-2.0
AXS	**Araxos**	**1.12**	**332**	P	Pg	12 10 24.2	-2.0

*ISCJB **26** 12:19:54.8±0.5, 6°.83N±0°.04×73°.12W±0°.04, h162km±4km, mb3.6/4, Error ellipse: s-maj=7.4km s-min=6.1km az=26.0*
*IDC **26** 12:19:55.9±1.4, 6°.82N×73°.10W, h164km±15km, mb3.3/4, mb1 3.7/6, mb1mx3.3/35, mbtmp3.9/6, Error ellipse: s-maj=27.6km s-min=19.4km az=118.0*
*RSNC **26** 12:19:57.2±0.8, 6°.77N×73°.14W, h149km±4km, ML3.9*
ISC 26 12:19:55.2±0.8, 6°.82N±0°.05×73°.10W±0°.05, h159km±5km, n30, σ0°82/41, mb3.6/5, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.20**	**300**	*eP*	**Pn**	**12 20 17.4**	**+0.4**
BARC	**Barichara**	**0.24**	**201**	*i* P	**Pn**	**12 20 17.2**	**+0.1**
BARC				*eS*	**Sn**	**12 20 32.1**	**-1.7**
BARC				*i*		12 20 35.1	
	comp=Z,2μm,0.4s						
GIRC	**Giron, Santand**	**0.28**	**340**	*i* P	**Pn**	**12 20 17.2**	**+0.2**
GIRC				*eS*	**Sn**	**12 20 33.0**	**-0.7**
PAMC	**Pamplona, Colo**	**0.65**	**37**	*i* P	**Pn**	**12 20 20.0**	**+1.0**
PAMC				*eS*	**Sn**	**12 20 37.1**	**-0.2**
BRRC	**Barranca, Sant**	**0.67**	**295**	⇓*i* P	**Pn**	**12 20 19.0**	**+0.4**
BRRC				*eS*	**Sn**	**12 20 36.2**	**-0.2**
BRRC				*i*		12 20 40.0	
	comp=Z,1μm,0.5s						
RUSC	**La Rusia**	**0.92**	**179**	⇓*i* P	**Pn**	**12 20 20.9**	**+0.1**
RUSC				*eS*	**Sn**	**12 20 39.5**	**-1.1**
CBRI	**Barrientos, No**	**0.94**	**18**	*i* P	**Pn**	**12 20 21.7**	**+1.1**
OCAC	**Ocana**	**1.43**	**351**	*i* P	**Pn**	**12 20 25.6**	**+0.7**
OCAC				*i*		12 20 54.5	
	comp=Z,679nm,0.3s						
YOPC	**Yopal, Colombi**	**1.60**	**155**	*i* P	**Pn**	**12 20 27.6**	**+0.9**
YOPC				*eS*	**Sn**	**12 20 50.1**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*eP*	**Pn**	**12 20 29.8**	**+0.3**
ZARC				*eS*	**Sn**	**12 20 54.9**	**-1.0**
ZARC				*i*		12 21 03.5	
	comp=Z,367nm,0.5s						
NORC	**Norcasia**	**2.16**	**235**	*eP*	**Pn**	**12 20 32.9**	**0.0**
NORC				*eS*	**Sn**	**12 21 00.5**	**-1.3**
ROSC	**El Rosal**	**2.31**	**212**	P	**Pn**	**12 20 36.7**	**+1.7**
	comp=Z,47nm,0.3s,baz=311,slow=5.5,SNR=63						
ROSC				S	**Sn**	**12 21 07.0**	**+1.4**
	comp=Z,93nm,0.3s,baz=341,slow=19,SNR=11						
HELC	**Santa Helena**	**2.50**	**256**	*eP*	**Pn**	**12 20 37.1**	**0.0**
HELC				*eS*	**Sn**	**12 21 09.2**	**-0.2**
HELC				*i*		12 21 15.4	
	comp=Z,275nm,0.3s						
VILC	**Villavicencio,**	**2.75**	**192**	*eP*	**Pn**	**12 20 40.0**	**-0.1**
VILC				*eS*	**Sn**	**12 21 14.8**	**0.0**
VILC				*i*		12 21 25.1	
	comp=Z,250nm,0.4s						
GUYC	**Guyana, Colomb**	**2.78**	**235**	*eP*	**Pn**	**12 20 41.0**	**+0.3**
GUYC				*eS*	**Sn**	**12 21 15.3**	**-0.5**
GUYC				*i*		12 21 27.8	
	comp=Z,505nm,0.4s						
DBBC	**Dabeiba**	**3.10**	**274**	*eP*	**Pn**	**12 20 45.5**	**+1.2**
TOLC	**Tolima**	**3.13**	**225**	*eP*	**Pn**	**12 20 45.7**	**+0.7**
PRAC	**Prado**	**3.56**	**210**	*eP*	**Pn**	**12 20 50.3**	**+0.1**
PLMC	**San Jos^ del**	**3.70**	**239**	*eP*	**Pn**	**12 20 52.6**	**+0.7**
GUVC	**San Jose del G**	**4.27**	**174**	*eP*	**Pn**	**12 20 58.0**	**-1.3**
CAPC	**Capurgana**	**4.59**	**293**	*eP*	**Pn**	**12 21 02.4**	**-1.0**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**12 22 03.3**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=219,slow=6.5,SNR=3.6						
LPAZ	**La Paz**	**23.48**	**168**	pP	pP	12 25 23.4	+1.5
	comp=Z,1.6nm,0.7s,baz=336,slow=11,SNR=6.7						
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**12 26 46.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=125,slow=9.2,SNR=4.5						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**12 28 12.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=156,slow=10.0,SNR=5.0						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**12 28 18.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=123,slow=11,SNR=3.2						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**12 30 06.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=129,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**12 38 31.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=332,slow=3.3,SNR=2.8						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**12 39 25.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=115,slow=3.6,SNR=11						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**12 39 28.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=110,slow=2.5,SNR=3.9						

*NIED **26** 12:25:00, 36°.70N×143°.60E, h5km, Mw3.7 Best double couple: M0 3.75000×10^14 NP1:φs 12.00000°, δ26.00000°, λ-115.00000°. NP2:φs 219.00000°, δ66.00000°, λ-78.00000°.*
*IDC **26** 12:25:30.9±1.0, 36°.46N×144°.02E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/58, mbtmp3.6/8, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32, Error ellipse: s-maj=26.7km s-min=23.1km az=117.0*
*ISCJB **26** 12:25:33.4±0.6, 36°.69N±0°.04×143°.64E±0°.05, h33km, mb3.5/6, Error ellipse: s-maj=5.6km s-min=5.0km az=29.1*
*JMA **26** 12:25:34.1±0.3, 36°.69N×143°.62E, h51km, M3.8*
ISC 26 12:25:35.5±1.0, 36°.72N±0°.05×143°.68E±0°.07, h35km, n36, σ1°90/43, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.34**	**287**	P	**Pn**	**12 26 10.7**	**-0.8**
JFK				*eS*	**Sn**	**12 26 37.3**	**-1.7**
ONAJ	**Iwakimizuishiy**	**2.34**	**280**	P	**Pn**	**12 26 11.2**	**-0.3**
ONAJ				*eS*	**Sn**	**12 26 38.0**	**-1.1**
CHOJ	**Chosi**	**2.50**	**247**	*eS*	**Sn**	**12 26 41.6**	**-1.2**
JHO	**Hitachi**	**2.50**	**268**	P	**Pn**	**12 26 11.5**	**-2.2**
JHO				*eS*	**Sn**	**12 26 40.3**	**-2.7**
JFT	**Otama**	**2.79**	**288**	P	**Pn**	**12 26 17.8**	**+0.1**
JFT				*eS*	**Sn**	**12 26 49.8**	**-0.3**
JOU	**Okura**	**2.91**	**305**	P	**Pn**	**12 26 19.3**	**0.0**
JOU				*eS*	**Sn**	**12 26 52.2**	**-0.8**
JMK	**Ichinoseki**	**2.96**	**320**	P	**Pn**	**12 26 19.3**	**-0.7**
JMK				*eS*	**Sn**	**12 26 53.1**	**-1.2**
BSO1	**Boso 1**	**3.01**	**228**	P	**Pn**	**12 26 19.2**	**-1.0**
JOM	**Ohasama**	**3.33**	**326**	P	**Pn**	**12 26 25.2**	**+0.1**
JAG	**Ashikaga**	**3.42**	**266**	P	**Pn**	**12 26 26.1**	**-0.2**
JYK	**Kaneyama**	**3.43**	**311**	P	**Pn**	**12 26 26.1**	**-0.3**
JYK				*eS*	**Sn**	**12 27 05.4**	**-0.4**
JRG	**Rokugo**	**3.60**	**319**	P	**Pn**	**12 26 29.0**	**+0.3**
JRG				*eS*	**Sn**	**12 27 10.0**	**0.0**
JRY	**Ryogami san**	**3.92**	**261**	P	**Pn**	**12 26 32.6**	**-0.6**
JRY				*eS*	**Sn**	**12 27 15.7**	**-2.3**
JOD2	**Odawara 2**	**4.00**	**250**	P	**Pn**	**12 26 33.4**	**-0.9**
JOD2				*eS*	**Sn**	**12 27 17.8**	**-2.1**
JAH	**Hinai**	**4.21**	**326**	P	**Pn**	**12 26 37.2**	**0.0**
JAH				*eS*	**Sn**	**12 27 25.2**	**+0.1**
MJAR	**Matsushiro Arr**	**4.41**	**269**	Pn	**Pn**	**12 26 40.6**	**+0.8**
	3.0nm,0.3s,baz=89,slow=15,SNR=26						
MJAR				Sn	**Sn**	**12 27 31.1**	**+1.1**
	1.4nm,0.3s,baz=85,slow=23,SNR=4.2						
MAT	**Matsushiro**	**4.41**	**269**	P	**Pn**	**12 26 40.7**	**+0.8**
MAT				S	**Sn**	**12 27 28.7**	**-1.3**
JTM	**Tenmabayashi**	**4.55**	**334**	*eS*	**Sn**	**12 27 29.4**	**-4.0**
JHJ	**Hachijo jima 2**	**4.81**	**223**	Pn	**Pn**	**12 26 44.1**	**-1.3**
	18nm,0.3s,baz=94,slow=18,SNR=2.8						
JHJ				Sn	**Sn**	**12 27 35.6**	**-4.3**
	31nm,0.3s,baz=52,slow=19,SNR=3.5						
ASAJ	**Asahikawa**	**7.44**	**354**	Pn	**Pn**	**12 27 20.8**	**-0.7**
	1.7nm,0.3s,baz=205,slow=8.1,SNR=14						
ASAJ				Sn	**Sn**	**12 28 40.5**	**-4.1**
	0.2nm,0.3s,baz=253,slow=19,SNR=2.6						
KSRS	**Korea Array**	**12.61**	**278**	LR	LR	12 32 40.3	
	comp=Z,34nm,20.3s,baz=52,slow=33						
H11N2	**WAKE ISLAND Hy**	**26.44**	**123**	T	T	12 58 05.3	
	baz=308,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**26.45**	**124**	T	T	12 58 11.4	
	baz=308,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**26.46**	**123**	T	T	12 58 08.5	
	baz=308,slow=76,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**27.18**	**126**	T	T	12 59 14.9	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**27.18**	**126**	T	T	12 59 27.8	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**27.20**	**126**	T	T	12 59 22.6	
	baz=318						
SONM	**Songino Array**	**29.47**	**304**	P	**P**	**12 31 39.8**	**+3.6**
	0.6nm,0.7s,baz=98,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**45.82**	**303**	P	P	12 33 58.4	+4.5
	0.4nm,0.7s,baz=86,slow=5.9,SNR=3.9						
ILAR	**Eielson Array**	**48.79**	**32**	P	**P**	**12 34 17.4**	**+0.7**
	0.4nm,0.7s,baz=261,slow=6.3,SNR=5.9						
WRA	**Warramunga Arr**	**57.04**	**190**	P	**P**	**12 35 17.5**	**-0.5**
	0.3nm,0.5s,baz=11,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**60.76**	**190**	P	**P**	**12 35 43.2**	**-0.6**
	0.3nm,0.6s,baz=9.1,slow=9.3,SNR=5.6						
TXAR	**Lajitas Array**	**88.86**	**54**	P	**P**	**12 38 26.8**	**+0.4**
	0.2nm,0.6s,baz=324,slow=4.5,SNR=2.4						

*DDA **26** 12:31:23.1, 38°.74N×43°.07E, h7km, Ml3.9*
*ISK **26** 12:31:23.0, 38°.75N×43°.11E, h4km, ML3.7*
*CSEM **26** 12:31:23.6±0.2, 38°.73N×43°.08E, h2km, ML3.7, Error ellipse: s-maj=5.8km s-min=4.8km az=84.0*
*ISCJB **26** 12:31:24.5±0.4, 38°.73N±0°.03×43°.11E±0°.04, h15km, Error ellipse: s-maj=5.0km s-min=3.9km az=163.7*
ISC 26 12:31:24.1±0.8, 38°.73N±0°.02×43°.08E±0°.03, h15km, n55, σ1°18/61, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**119**	PG	**Pg**	**12 31 30.2**	**+0.1**
VANB				*eSG*	**Sb**	**12 31 35.5**	**+0.1**
VANB	**Van**	**0.28**	**119**	*i* Pg	**Pg**	**12 31 30.2**	**+0.1**
VANB				*eSg*	**Sb**	**12 31 35.5**	**+0.1**
GEVA	**Gevas**	**0.42**	**182**	⇓*i* P	**Pg**	**12 31 30.8**	**-1.7**
GEVA	**Gevas**	**0.42**	**182**	P	**Pg**	**12 31 30.8**	**-1.7**
VMUR	**Van-Muradiye**	**0.47**	**56**	⇓*i* P	**Pg**	**12 31 33.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.47**	**56**	P	**Pg**	**12 31 33.0**	**-0.5**
TUTA	**Tutak**	**0.70**	**343**	⇓*i* P	**Pg**	**12 31 37.0**	**-0.9**
TUTA	**Tutak**	**0.70**	**343**	P	**Pg**	**12 31 37.0**	**-0.9**
AGRB	**Hanur-Agry**	**0.85**	**355**	PG	**Pg**	**12 31 39.5**	**-1.1**
AGRB				*eSG*	**Sg**	**12 31 51.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**355**	*i* Pg	**Pg**	**12 31 39.6**	**-1.1**
AGRB				*eSg*	**Sg**	**12 31 51.7**	**-0.2**
DYDN	**Diyadin**	**0.94**	**30**	*i* P	**Pb**	**12 31 41.4**	**-0.9**
DYDN	**Diyadin**	**0.94**	**30**	P	**Pb**	**12 31 41.4**	**-0.9**
EKAR	**Karacoban**	**0.95**	**304**	*i* P	**Pb**	**12 31 41.7**	**-0.7**
EKAR	**Karacoban**	**0.95**	**304**	P	**Pb**	**12 31 41.7**	**-0.7**
EATA	**Eleskirt**	**1.22**	**338**	⇓*i* P	**Pn**	**12 31 46.2**	**-0.8**
EATA				*i* S	**Sg**	**12 32 03.8**	**+0.1**
EATA	**Eleskirt**	**1.22**	**338**	P	**Pn**	**12 31 46.2**	**-0.8**
EATA				S	**Sg**	**12 32 03.8**	**+0.1**
HAKT	**HAKKARI**	**1.27**	**157**	*i* P	**Pn**	**12 31 45.8**	**-1.7**
HAKT	**HAKKARI**	**1.27**	**157**	P	**Pn**	**12 31 45.8**	**-1.7**
SIRN	**S¨–rnak**	**1.34**	**203**	*i* P	**Pb**	**12 31 49.2**	**+0.3**
SIRN	**S¨–rnak**	**1.34**	**203**	P	**Pb**	**12 31 49.2**	**+0.3**
VRTB	**Varto-Mus**	**1.34**	**289**	*e*PN	**Pb**	**12 31 49.5**	**+0.5**
VRTB	**Varto-Mus**	**1.34**	**289**	*e*Pn	**Pb**	**12 31 49.5**	**+0.5**
BNGL	**BINGOL**	**1.52**	**279**	*i* P	**Pn**	**12 31 51.1**	**+0.1**
CUKT	**Cukurca**	**1.54**	**164**	*e*PN	**Pb**	**12 31 52.8**	**+0.4**
CUKT	**Cukurca**	**1.54**	**164**	*i* P	**Pb**	**12 31 52.9**	**+0.6**
CUKT	**Cukurca**	**1.54**	**164**	*e*Pn	**Pb**	**12 31 52.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.58**	**249**	*e*PN	**Pn**	**12 31 52.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.58**	**249**	*i* P	**Pb**	**12 31 52.6**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.58**	**249**	*e*Pn	**Pn**	**12 31 52.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.58**	**249**	P	**Pb**	**12 31 52.6**	**-0.5**
HOMI	**Horasan**	**1.60**	**326**	⇓*i* P	**Pb**	**12 31 53.0**	**-0.5**
BTMN	**Batman**	**1.65**	**240**	⇓*i* P	**Pb**	**12 31 54.1**	**-0.2**
BTMN	**Batman**	**1.65**	**240**	P	**Pb**	**12 31 54.1**	**-0.2**
DIGO	**Kars**	**1.70**	**8**	*i* P	**Pb**	**12 31 54.5**	**-0.7**
DIGO	**Kars**	**1.70**	**8**	P	**Pb**	**12 31 54.5**	**-0.7**
ERZM	**Erzurum**	**1.77**	**312**	*i* P	**Pb**	**12 31 56.5**	**0.0**
ERZM	**Erzurum**	**1.77**	**312**	P	**Pb**	**12 31 56.5**	**0.0**
BNGB	**Bing¶ll**	**1.89**	**279**	*e*PN	**Pn**	**12 31 56.7**	**+0.7**
BINT	**Bingol**	**2.03**	**275**	*e*Pn	**Pn**	**12 31 56.7**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*PN	**Pb**	**12 32 00.5**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*Pn	**Pb**	**12 32 00.5**	**-1.4**
MARD	**Mardin**	**2.30**	**233**	*i* P	**Pn**	**12 32 01.7**	**+0.1**
MAZI	**Mazidag**	**2.43**	**239**	*e*PN	**Pn**	**12 32 05.1**	**+1.7**
MAZI	**Mazidag**	**2.43**	**239**	*e*Pn	**Pn**	**12 32 05.1**	**+1.7**
DAGI	**Agillar**	**2.51**	**339**	*i* P	**Pb**	**12 32 08.0**	**-1.0**
BGD	**Bogdanovka**	**2.56**	**9**	P	**Pb**	**12 32 11.3**	**+1.3**
AKH	**Akhalkalaki**	**2.70**	**7**	*e*PN	**Pn**	**12 32 09.2**	**+2.1**
AKH	**Akhalkalaki**	**2.70**	**7**	P	**Pb**	**12 32 13.1**	**+0.9**
AKH	**Akhalkalaki**	**2.70**	**7**	*e*Pn	**Pn**	**12 32 09.2**	**+2.1**
PTK	**Pertek**	**2.88**	**274**	*e*PN	**Pn**	**12 32 11.6**	**+1.9**
PTK	**Pertek**	**2.88**	**274**	*e*Pn	**Pn**	**12 32 11.6**	**+1.9**
SVRC	**Sivrice-ELAZID**	**2.98**	**264**	*e*PN	**Pn**	**12 32 13.4**	**+2.4**
SVRC	**Sivrice-ELAZID**	**2.98**	**264**	*e*Pn	**Pn**	**12 32 13.4**	**+2.4**
URFA	**Urfa**	**3.60**	**250**	*e*PN	**Pn**	**12 32 22.1**	**+2.7**
URFA	**Urfa**	**3.60**	**250**	*e*Pn	**Pn**	**12 32 22.1**	**+2.7**

*AZER **26** 12:34:11.8±2.1, 38°.30N×43°.31E, h7km, Error ellipse: s-maj=22.7km s-min=7.3km az=60.0*
*ISK **26** 12:34:11.0, 38°.72N×43°.69E, h5km, ML4.0*
*IDC **26** 12:34:11.8±1.4, 38°.41N×43°.53E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.4/44, mbtmp3.6/8, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.2/34, Error ellipse: s-maj=23.5km s-min=15.9km az=133.0*
*DDA **26** 12:34:12.8, 38°.65N×43°.58E, h17km, Ml3.8*
*CSEM **26** 12:34:15.5±0.2, 38°.69N×43°.43E, h10km, ML4.0, Error ellipse: s-maj=7.5km s-min=5.6km az=150.0*
ISC 26 12:34:14.8±0.8, 38°.70N±0°.02×43°.48E±0°.02, h17km±6km, n87, σ1°89/98, mb3.6/4, 10C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**215**	PG	**Pg**	**12 34 17.3**	**-1.4**
VANB				*eSG*	**Sg**	**12 34 24.1**	**+2.7**
VANB	**Van**	**0.13**	**215**	*i* Pg	**Pg**	**12 34 17.3**	**-1.4**
GEVA	**Gevas**	**0.51**	**221**	*i* P	**Pg**	**12 34 22.6**	**-2.5**
GEVA				*i* S	**Sg**	**12 34 31.9**	**-0.1**
GEVA	**Gevas**	**0.51**	**221**	P	**Pg**	**12 34 22.6**	**-2.5**
GEVA				S	**Sg**	**12 34 31.9**	**-0.1**
BASK	**Baskale_VAN**	**0.77**	**147**	*i* P	**Pg**	**12 34 26.7**	**-3.1**
BASK	**Baskale_VAN**	**0.77**	**147**	P	**Pg**	**12 34 26.7**	**-3.1**
DYDN	**Diyadin**	**0.86**	**11**	*i* P	**Pg**	**12 34 30.4**	**-1.2**
DYDN	**Diyadin**	**0.86**	**11**	P	**Pg**	**12 34 30.4**	**-1.2**
TUTA	**Tutak**	**0.87**	**324**	*i* P	**Pb**	**12 34 30.7**	**-1.0**
TUTA	**Tutak**	**0.87**	**324**	P	**Pb**	**12 34 30.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.95**	**337**	*e*PG	**Pb**	**12 34 32.0**	**-1.0**
AGRB				*e*SG	**Sn**	**12 34 46.4**	**-0.6**
AGRB	**Hanur-Agry**	**0.95**	**337**	*e*Pg	**Pb**	**12 34 32.1**	**-1.0**
AGRB				*e*Sg	**Sn**	**12 34 46.4**	**-0.6**
HAKT	**HAKKARI**	**1.15**	**171**	*i* P	**Pb**	**12 34 33.4**	**-3.1**
HAKT	**HAKKARI**	**1.15**	**171**	P	**Pb**	**12 34 33.4**	**-3.1**
EKAR	**Karacoban**	**1.24**	**297**	*i* P	**Pg**	**12 34 38.5**	**-0.2**
EKAR	**Karacoban**	**1.24**	**297**	P	**Pg**	**12 34 38.5**	**-0.2**
EATA	**Eleskirt**	**1.39**	**327**	*i* P	**Pg**	**12 34 40.2**	**-1.5**
EATA	**Eleskirt**	**1.39**	**327**	P	**Pg**	**12 34 40.2**	**-1.5**
CUKT	**Cukurca**	**1.45**	**176**	*e*PN	**Pn**	**12 34 40.1**	**-0.3**
CUKT	**Cukurca**	**1.45**	**176**	*i* P	**Pg**	**12 34 42.3**	**-0.5**
CUKT				*i* S	**Sg**	**12 35 05.6**	**+3.8**
CUKT	**Cukurca**	**1.45**	**176**	P	**Pg**	**12 34 42.3**	**-0.5**
CUKT				S	**Sg**	**12 35 05.6**	**+3.8**
SIRN	**S¨–rnak**	**1.47**	**215**	*i* P	**Pg**	**12 34 42.2**	**-0.9**
SIRN	**S¨–rnak**	**1.47**	**215**	P	**Pg**	**12 34 42.2**	**-0.9**
NAX	**Nakhchivan**	**1.64**	**73**	⇓P	**Pb**	**12 34 44.1**	**-0.5**
NAX				⇓S	**Sg**	**12 35 09.4**	**+1.7**
NAX	**Nakhchivan**	**1.64**	**73**	P	**Pb**	**12 34 44.1**	**-0.5**
NAX				S	**Sg**	**12 35 09.4**	**+1.7**
VRTB	**Varto-Mus**	**1.65**	**287**	*e*PN	**Pg**	**12 34 44.6**	**-1.9**
VRTB	**Varto-Mus**	**1.65**	**287**	*i* P	**Pg**	**12 34 45.5**	**-1.0**
VRTB	**Varto-Mus**	**1.65**	**287**	*e*Pn	**Pg**	**12 34 44.6**	**-1.9**
VRTB	**Varto-Mus**	**1.65**	**287**	P	**Pg**	**12 34 45.5**	**-1.0**
DIGO	**Kars**	**1.71**	**357**	*i* P	**Pb**	**12 34 45.1**	**-1.0**
DIGO	**Kars**	**1.71**	**357**	P	**Pb**	**12 34 45.1**	**-1.0**
GNI	**Garni**	**1.75**	**34**	Pn	**Pb**	**12 34 46.4**	**-0.2**
	25nm,0.3s,baz=180,slow=14,SNR=16						
GNI				Lg	Lg	12 35 15.7	
	38nm,0.3s,baz=344,slow=23,SNR=8.2						
GNI				LR	LR	12 35 34.1	
	comp=Z,48nm,20.8s,baz=222,slow=42						
HOMI	**Horasan**	**1.81**	**318**	*i* P	**Pg**	**12 34 47.6**	**-2.2**
BNGL	**BINGOL**	**1.84**	**279**	*i* P	**Pb**	**12 34 47.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.88**	**254**	*e*PN	**Pn**	**12 34 47.0**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.88**	**254**	*i* P	**Pb**	**12 34 47.6**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.88**	**254**	*e*Pn	**Pn**	**12 34 47.0**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.88**	**254**	P	**Pb**	**12 34 47.6**	**-1.1**
BTMN	**Batman**	**1.92**	**246**	*i* P	**Pb**	**12 34 48.2**	**-1.2**
BTMN	**Batman**	**1.92**	**246**	P	**Pb**	**12 34 48.2**	**-1.2**
ERZM	**Erzurum**	**2.04**	**307**	*i* P	**Pg**	**12 34 51.7**	**-2.2**
ERZM	**Erzurum**	**2.04**	**307**	P	**Pg**	**12 34 51.7**	**-2.2**
BNGB	**Bing¶ll**	**2.21**	**278**	*e*PN	**Pb**	**12 34 53.0**	**-1.3**
BINT	**Bingol**	**2.34**	**275**	*e*Pn	**Pn**	**12 34 53.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.40**	**289**	*e*PN	**Pb**	**12 34 55.2**	**-2.5**
YEDI	**Yedisu-Bingol**	**2.40**	**289**	*e*Pn	**Pb**	**12 34 55.2**	**-2.5**
MARD	**Mardin**	**2.54**	**238**	*i* P	**Pn**	**12 34 56.5**	**+1.1**
BGD	**Bogdanovka**	**2.56**	**2**	P	**Pg**	**12 35 02.9**	**-1.1**
KOPT	**Kop Dagi**	**2.66**	**301**	*i* P	**Pg**	**12 35 03.7**	**-2.1**
GDB	**GEDABAY**	**2.67**	**40**	⇑P	**Pb**	**12 35 00.7**	**-1.6**
GDB				⇑S	**Sg**	**12 35 38.5**	**-2.3**
GDB	**GEDABAY**	**2.67**	**40**	P	**Sg**	**12 35 00.7**	**-1.6**
GDB				S	**Sg**	**12 35 38.5**	**-2.3**
MAZI	**Mazidag**	**2.70**	**244**	*e*PN	**Pn**	**12 34 57.6**	**+0.1**
MAZI	**Mazidag**	**2.70**	**244**	*e*Pn	**Pn**	**12 34 57.6**	**+0.1**
AKH	**Akhalkalaki**	**2.71**	**0**	*e*PN	**Pn**	**12 34 57.0**	**-0.7**
AKH	**Akhalkalaki**	**2.71**	**0**	P	**Pg**	**12 35 04.7**	**-2.0**
QZX	**Qazax, Azerbai**	**2.77**	**31**	⇑P	**Pb**	**12 35 03.7**	**-0.2**
QZX				⇑S

BNGL	BINGOL	1.87	278	*i* P	Pn	12 38 41.2	-0.3
SVAN	Silvan-Diyarba	1.91	253	*e*PN	Pn	12 38 42.0	0.0
SVAN	Silvan-Diyarba	1.91	253	*i* P	Pn	12 38 42.0	0.0
SVAN	Silvan-Diyarba	1.91	253	P	Pn	12 38 42.0	0.0
BTMN	Batman	1.96	246	*i* P	Pn	12 38 42.3	-0.4
BTMN	Batman	1.96	246	P	Pn	12 38 42.3	-0.4
EAK	Akyaka	1.97	2	*i* P	Pg	12 38 46.3	-0.7
EAK	Akyaka	1.97	2	P	Pg	12 38 46.3	-0.7
ERZM	Erzurum	2.05	306	*i* P	Pn	12 38 44.8	+0.7
ERZM	Erzurum	2.05	306	P	Pn	12 38 44.8	+0.7
ECAT	Cat-ERZURUM	2.17	295	*i* P	Pb	12 38 48.3	-0.5
ECAT	Cat-ERZURUM	2.17	295	P	Pb	12 38 48.3	-0.5
BNGB	Bing¶ll	2.24	278	*e*PN	Pn	12 38 47.2	+0.6
BINT	Bingol	2.38	275	*e*Pn	Pn	12 38 47.2	-1.3
BGD	Bogdanovka	2.54	1	P	Pb	12 38 55.7	+0.5
DDEM	Demirkent	2.56	328	*i* P	Pb	12 38 54.9	-0.6
DDEM	Demirkent	2.56	328	P	Pb	12 38 54.9	-0.6
GDB	GEDABAY	2.64	40	⇑P	Pb	12 38 55.1	-1.7
GDB				⇓S	Sg	12 39 36.1	+2.1
GDB	GEDABAY	2.64	40	P	Pb	12 38 55.1	-1.7
DAGI	Agillar	2.66	333	*i* P	Pb	12 38 57.3	+0.2
KOPT	Kop Dagi	2.68	300	*i* P	Pb	12 38 58.3	+0.7
AKH	Akhalkalaki	2.69	360	*e*PN	Pn	12 38 52.6	-0.2
AKH	Akhalkalaki	2.69	360	P	Pg	12 38 59.9	-0.9
AKH	Akhalkalaki	2.69	360	⇓*i*P	Pg	12 38 59.3	-1.5
AKH	Akhalkalaki	2.69	360	*e*Pn	Pn	12 38 52.6	-0.2
MAZI	Mazidag	2.73	244	*e*PN	Pn	12 38 54.6	+1.2
MAZI	Mazidag	2.73	244	*e*Pn	Pn	12 38 54.6	+1.2
QZX	Qazax, Azerbai	2.73	31	⇓P	Pb	12 38 58.4	+0.1
QZX				⇓S	Sg	12 39 38.3	+1.2
GANJ	Ganja	2.89	47	⇑P	Pn	12 38 57.9	+2.4
GANJ				⇑S	Sb	12 39 38.6	+2.1
GANJ	Ganja	2.89	47	P	Pn	12 38 57.9	+2.4
ERZN	Erzincan	3.08	288	*e*PN	Pn	12 38 59.2	+1.0
TNCL	Tunceli-Merkez	3.13	278	*i* P	Pb	12 39 04.7	-0.4
TBLG	Delisi	3.15	17	*e*PN	Pn	12 38 58.7	-0.3
TBLG	Delisi	3.15	17	*e*Pn	Pn	12 38 58.7	-0.3
BRDA	Brd	3.22	60	⇑P	Pn	12 39 00.9	+0.9
BRDA				⇓S	Sb	12 39 43.9	-2.0
BRDA	Brd	3.22	60	P	Pn	12 39 00.9	+0.9
PTK	Pertek	3.23	274	*e*PN	Pn	12 39 01.1	+0.8
PTK	Pertek	3.23	274	*e*Pn	Pn	12 39 01.1	+0.8
SVRC	Sivrice-ELAZID	3.32	265	*e*PN	Pn	12 39 02.5	+0.9
SVRC	Sivrice-ELAZID	3.32	265	*e*Pn	Pn	12 39 02.5	+0.9
MNGR	Mingechevir, A	3.43	52	⇑P	Pn	12 39 04.7	+1.9
MNGR	Mingechevir, A	3.43	52	P	Pn	12 39 04.7	+1.9
ZRD	Zardab	3.58	63	⇓P	Pn	12 39 04.7	-0.1
ZRD	Zardab	3.58	63	P	Pn	12 39 04.7	-0.1
KTUT	Trabzon	3.67	309	*e*PN	Pn	12 39 07.4	+1.2
KTUT	Trabzon	3.67	309	*e*Pn	Pn	12 39 07.4	+1.2
ZKTA	Zakatala	3.76	38	⇑P	Pn	12 39 11.2	+3.8
SEKA	Sheki	3.76	47	⇓P	Pn	12 39 10.3	+2.8
SEKA	Sheki	3.76	47	P	Pn	12 39 10.3	+2.8
LRK	Lerik	3.77	90	⇑P	Pn	12 39 03.2	-4.5
LRK	Lerik	3.77	90	P	Pn	12 39 03.2	-4.5
GLBA	Clilabad	3.83	81	⇑P	Pn	12 39 05.6	-2.8
GLBA	Clilabad	3.83	81	P	Pn	12 39 05.6	-2.8
URFA	Urfa	3.92	252	*e*PN	Pn	12 39 11.4	+1.7
URFA	Urfa	3.92	252	*e*Pn	Pn	12 39 11.4	+1.7
KDMR	Kurdemir	3.96	64	⇓P	Pn	12 39 09.9	-0.3
KDMR	Kurdemir	3.96	64	P	Pn	12 39 09.9	-0.3
SAAT	Saatly	3.97	72	⇓P	Pn	12 39 08.9	-1.3
SAAT	Saatly	3.97	72	P	Pn	12 39 08.9	-1.3
LKRN	Lenkeran, Azer	4.11	88	⇑P	Pn	12 39 08.1	-4.1
LKRN	Lenkeran, Azer	4.11	88	P	Pn	12 39 08.1	-4.1
ASTR	Astara	4.13	91	⇓P	Pn	12 39 07.7	-4.7
ASTR	Astara	4.13	91	P	Pn	12 39 07.7	-4.7
IML	Ismayili	4.14	59	⇓P	Pn	12 39 13.3	+0.6
IML	Ismayili	4.14	59	P	Pn	12 39 13.3	+0.6
ESPY	Espiye-Giresun	4.30	302	*e*PN	Pn	12 39 16.3	+1.5
ESPY	Espiye-Giresun	4.30	302	*e*Pn	Pn	12 39 16.3	+1.5
XNQ	Khinaliq	4.31	54	⇓P	Pn	12 39 16.5	+1.3
XNQ	Khinaliq	4.31	54	P	Pn	12 39 16.5	+1.3
PQL	Pirkuli	4.42	61	⇑P	Pn	12 39 16.7	+0.1
PQL	Pirkuli	4.42	61	P	Pn	12 39 16.7	+0.1
ALIB	Äli-Bayra	4.43	72	⇓P	Pn	12 39 15.3	-1.3
ALIB	Äli-Bayra	4.43	72	P	Pn	12 39 15.3	-1.3
GBS	Qobustan	4.56	65	⇑P	Pn	12 39 18.0	-0.5
GBS	Qobustan	4.56	65	P	Pn	12 39 18.0	-0.5
DARE	Darende-Malaty	4.73	270	*e*PN	Pn	12 39 23.3	+2.5
DARE	Darende-Malaty	4.73	270	*e*Pn	Pn	12 39 23.3	+2.5
KBZ	Khabaz	5.03	355	Pn	Pn	12 39 26.6	+1.8
	0.1nm,0.3s,baz=167,slow=17,SNR=2.8						
RSDY	Resadiye-TOKAT	5.07	291	*e*PN	Pn	12 39 27.4	+1.9
RSDY	Resadiye-TOKAT	5.07	291	*e*Pn	Pn	12 39 27.4	+1.9
KVAR	Kislovodsk Arr	5.27	353	Pn	Pn	12 39 31.4	+3.1
	baz=204,slow=12,SNR=2.0						
MMAI	Mount Meron Ar	8.71	232	Pn	Pn	12 40 17.9	+2.5
	1.2nm,0.3s,baz=51,slow=17,SNR=2.5						
MMAI				LR	LR	12 43 48.9	
	comp=Z,86nm,18.2s,baz=35,slow=39						
GEYT	Alibeck	11.49	89	Pn	Pn	12 40 55.5	+2.0
	0.2nm,0.3s,baz=290,slow=8.6,SNR=2.3						
DOPR	Dopca	15.22	304	⇓*i*P	P	12 41 50.9	+1.6
DOPR	Dopca	15.22	304	⇓*i*P	P	12 41 50.9	+1.6
VOIR		15.26	302	⇑*i*P	P	12 41 52.3	+2.5
VOIR		15.26	302	⇑*i*P	P	12 41 52.3	+2.5
ARR	Arges	15.51	301	⇑*i*P	P	12 41 53.8	+1.2
ARR	Arges	15.51	301	⇑*i*P	P	12 41 53.8	+1.2
AKTO	Aktyubinsk	15.58	37	Pn	Pn	12 41 47.5	-1.5
	0.1nm,0.3s,baz=208,slow=12,SNR=4.0						
AKASG	Malin Array Be	15.68	324	Pn	Pn	12 41 50.4	+0.2
	0.7nm,0.3s,baz=132,slow=12,SNR=5.6						
WSAR	Wadi Sarin	20.10	136	P	P	12 42 43.0	-0.3
	2.6nm,0.8s,baz=309,slow=14,SNR=2.1						
VYHS	Vyhne	20.29	307	*e*P	Pn	12 42 46.1	-1.1
ARU	Arti	20.34	25	P	Pn	12 42 46.6	-0.9
	3.0nm,0.6s,baz=255,slow=16,SNR=2.4						
ARU				LR	LR	12 52 22.8	
	comp=Z,38nm,19.8s,baz=191,slow=42						
BVAR	Borovoye Array	23.37	43	P	P	12 43 19.1	+1.2
	0.6nm,0.6s,baz=228,slow=13,SNR=3.4						
GERES	GERESS Array B	23.65	305	P	P	12 43 21.5	+0.6
	0.2nm,0.2s,baz=101,slow=10,SNR=3.8						
AAK	Ala-Archa	23.74	71	P	P	12 43 23.7	+1.8
	0.5nm,0.3s,baz=253,slow=11,SNR=3.0						
FINES	FINESS Array B	25.19	340	P	P	12 43 34.0	-0.8
	1.6nm,0.7s,baz=143,slow=12,SNR=3.6						
KURBB	Kurchatov Arra	27.33	53	P	P	12 43 55.5	+1.2
	1.5nm,0.7s,baz=262,slow=8.9,SNR=9.5						
HFS	Hagfors	28.48	329	P	P	12 44 03.7	-0.7
	3.2nm,0.8s,baz=146,slow=10,SNR=2.6						
MKAR	Makanchi Array	29.34	61	P	P	12 44 12.7	+0.4
	0.4nm,0.7s,baz=304,slow=5.1,SNR=3.6						
NOA	NORSAR Array B	30.01	329	LR	LR	12 56 41.0	
	comp=Z,15nm,18.6s,baz=290,slow=37						
EKA	Eskdalemuir Ar	35.13	314	P	P	12 45 01.6	-1.2
	0.9nm,0.5s,baz=102,slow=8.3,SNR=4.1						
TORD	Torodi Ar. Bea	44.88	247	P	P	12 46 25.6	+1.4
	0.3nm,0.5s,baz=46,slow=8.3,SNR=3.9						
CMAR	Chiang Mai Arr	51.87	97	P	P	12 47 18.0	-0.1
	0.6nm,0.5s,baz=301,slow=8.0,SNR=5.8						
KSRS	Korea Array	64.03	62	P	P	12 48 43.0	-0.1
	0.5nm,0.5s,baz=284,slow=6.8,SNR=2.4						
PDAR	Pinedale Array	95.29	340	LR	LR	13 34 23.9	
	comp=Z,32nm,18.1s,baz=331,slow=35						

*ISCJB **26** 12:55:32.6±0.6, 18°.71N±0°.07×145°.5E±0°.2, h250km, mb3.6/15, Error ellipse: s-maj=25.5km s-min=9.8km az=3.2*
*IDC **26** 12:55:33.1±2.3, 18°.74N×145°.51E, h236km±23km, mb3.4/15, mb1 3.5/17, mb1mx3.4/42, mbtmp4.0/17, Error ellipse: s-maj=20.6km s-min=10.5km az=94.0*
ISC 26 12:55:34.0±0.7, 18°.67N±0°.08×145°.5E±0°.2, h250km, n24, σ0°86/18, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.08	187	P	Pn	12 56 49.1	-1.8
	6.1nm,0.3s,baz=8.7,slow=13,SNR=3.8						
MJAR	Matsushiro Arr	18.92	342	P	P	12 59 36.2	-0.3
	0.5nm,0.3s,baz=172,slow=10,SNR=4.7						
H11S3	WAKE ISLAND Hy 20.11	87	T	T	T	13 20 47.4	
	baz=273,slow=74,SNR=7.9						
H11S1	WAKE ISLAND Hy 20.12	87	T	T	T	13 20 48.7	
	baz=273,slow=74,SNR=5.8						
H11S2	WAKE ISLAND Hy 20.12	87	T	T	T	13 20 49.1	
	baz=273,slow=74,SNR=6.0						
H11N1	WAKE ISLAND Hy 20.25	84	T	T	T	13 21 35.4	
	baz=267						
H11N2	WAKE ISLAND Hy 20.26	84	T	T	T	13 21 23.5	
	baz=267						
H11N3	WAKE ISLAND Hy 20.27	84	T	T	T	13 21 10.8	
	baz=267						
KSRS	Korea Array	24.22	324	P	P	13 00 28.0	-0.1
	1.1nm,0.7s,baz=147,slow=9.5,SNR=4.4						
ASAJ	Asahikawa	25.49	355	P	P	13 00 39.9	+0.4
	4.8nm,0.6s,baz=194,slow=12,SNR=5.5						
KLR	Kul'dur	32.44	343	P	P	13 01 40.5	-0.2
	0.1nm,0.3s,baz=148,slow=11,SNR=6.0						
PETK	Petropavlovsk-	35.67	13	P	P	13 02 09.1	+0.8
	2.0nm,0.7s,baz=203,slow=3.0,SNR=4.3						
WRA	Warramunga Arr	39.90	196	P	P	13 02 45.3	+1.3
	1.5nm,0.8s,baz=13,slow=8.4,SNR=6.6						
FITZ	Fitzroy Crossi	41.41	209	P	P	13 02 57.6	+1.2
	0.7nm,0.3s,baz=33,slow=7.9,SNR=16						
SONM	Songino Array	43.04	322	P	P	13 03 09.6	+0.3
	0.5nm,0.4s,baz=135,slow=8.7,SNR=3.5						
ASAR	Alice Springs	43.56	195	P	P	13 03 14.5	+0.8
	0.3nm,0.7s,baz=15,slow=6.7,SNR=4.6						
MKAR	Makanchi Array	58.34	314	P	P	13 05 03.2	+0.1
	1.2nm,0.5s,baz=90,slow=8.4,SNR=16						
NRIK	Noril'sk	61.57	340	P	P	13 05 23.9	-0.7
	3.2nm,0.5s,baz=122,slow=8.1,SNR=4.2						
ILAR	Eielson Array	63.77	26	P	P	13 05 38.5	-0.7
	1.3nm,0.7s,baz=263,slow=5.3,SNR=15						
INK	Inuvik	69.48	23	P	P	13 06 15.2	+0.1
	4.1nm,1.1s,baz=289,slow=6.7,SNR=5.8						
YKA	Yellowknife Ar	78.11	28	P	P	13 07 05.2	0.0
	1.8nm,0.7s,baz=288,slow=5.5,SNR=3.9						
ARCES	ARCESS Array B	82.46	342	P	P	13 07 28.3	+0.1
	1.7nm,0.7s,baz=63,slow=8.3,SNR=7.6						
FINES	FINESS Array B	86.83	335	P	P	13 07 48.7	-1.4
	0.7nm,0.4s,baz=55,slow=5.3,SNR=6.7						
LPAZ	La Paz	147.88	91	PKPbc	PKPbc	13 14 51.7	+0.5
	0.9nm,0.6s,baz=207,slow=4.5,SNR=3.3						

*DDA **26** 13:00:16.6, 38°.76N×43°.43E, h2km, Ml3.6*
*ISK **26** 13:00:17.1, 38°.77N×43°.49E, h5km, ML3.6*
*AZER **26** 13:00:18.6±2.8, 38°.43N×43°.37E, h20km, Error ellipse: s-maj=28.0km s-min=25.4km az=107.0*
*CSEM **26** 13:00:18.5±0.3, 38°.77N×43°.40E, h2km, ML3.6, Error ellipse: s-maj=7.2km s-min=5.2km az=106.0*
ISC 26 13:00:18.1±0.9, 38°.78N±0°.02×43°.48E±0°.02, h15km±8km, n65, σ1°35/79, 1C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	200	PG	Pg	13 00 22.9	+0.1
VANB				*e*SG	Sg	13 00 26.7	+0.8
VANB	Van	0.20	200	*i* Pg	Pg	13 00 22.9	+0.1
VANB				*e*Sg	Sg	13 00 26.7	+0.8
GEVA	Gevas	0.57	215	*i* P	Pg	13 00 27.2	-2.2
GEVA				*i* S	Sg	13 00 35.8	-1.3
GEVA	Gevas	0.57	215	P	Pg	13 00 27.2	-2.2
GEVA				S	Sg	13 00 35.8	-1.3
DYDN	Diyadin	0.78	12	*i* P	Pg	13 00 31.8	-1.6
DYDN				*i* S	Sg	13 00 41.9	-1.8
DYDN	Diyadin	0.78	12	P	Pg	13 00 31.8	-1.6
DYDN				S	Sg	13 00 41.9	-1.8
TUTA	Tutak	0.81	320	*i* P	Pg	13 00 32.8	-1.1
TUTA				*i* S	Sg	13 00 43.9	-0.7
TUTA	Tutak	0.81	320	P	Pg	13 00 32.8	-1.1
TUTA				S	Sg	13 00 43.9	-0.7
AGRB	Hanur-Agry	0.88	335	*e*PG	Pg	13 00 34.2	-1.0
AGRB				*e*SG	Sb	13 00 46.7	-0.2
AGRB	Hanur-Agry	0.88	335	*e*Pg	Pg	13 00 34.2	-1.0
AGRB				*e*Sg	Sb	13 00 46.7	-0.2
EKAR	Karacoban	1.20	294	*i* P	Pn	13 00 41.8	+1.1
EKAR	Karacoban	1.20	294	P	Pn	13 00 41.8	+1.1
HAKT	HAKKARI	1.23	171	*i* P	Pn	13 00 39.9	-1.3
HAKT	HAKKARI	1.23	171	P	Pn	13 00 39.9	-1.3
EATA	Eleskirt	1.32	325	*i* P	Pn	13 00 42.5	0.0
EATA	Eleskirt	1.32	325	P	Pn	13 00 42.5	0.0
CUKT	Cukurca	1.53	176	*e*PN	Pn	13 00 46.0	+0.8
CUKT	Cukurca	1.53	176	*e*Pn	Pn	13 00 46.0	+0.8
NAX	Nakhchivan	1.62	75	⇓P	Pg	13 00 48.8	-0.5
	SNR=7.5						
NAX				⇓S	Sg	13 01 12.6	+2.2
NAX	Nakhchivan	1.62	75	P	Pg	13 00 48.8	-0.5
	SNR=7.5						
NAX				S	Sg	13 01 12.6	+2.2
VRTB	Varto-Mus	1.62	284	*e*PN	Pb	13 00 47.8	-0.1
VRTB	Varto-Mus	1.62	284	*e*Pn	Pb	13 00 47.8	-0.1
DIGO	Kars	1.64	357	*i* P	Pb	13 00 48.4	+0.2
DIGO	Kars	1.64	357	P	Pb	13 00 48.4	+0.2
HOMI	Horasan	1.75	317	*i* P	Pg	13 00 51.8	-0.1
SVAN	Silvan-Diyarba	1.90	251	*e*PN	Pn	13 00 51.1	+1.0
SVAN	Silvan-Diyarba	1.90	251	*i* P	Pn	13 00 51.3	+1.2
SVAN	Silvan-Diyarba	1.90	251	*e*Pn	Pn	13 00 51.1	+1.0
SVAN	Silvan-Diyarba	1.90	251	P	Pn	13 00 51.3	+1.2
EAK	Akyaka	1.91	3	*i* P	Pg	13 00 54.3	-0.5
EAK	Akyaka	1.91	3	P	Pg	13 00 54.3	-0.5
BTMN	Batman	1.95	244	*i* P	Pn	13 00 52.0	+1.2
BTMN	Batman	1.95	244	P	Pn	13 00 52.0	+1.2
SENK	Senkaya-Erzuru	1.98	334	*e*PN	Pn	13 00 52.9	+1.5
SENK	Senkaya-Erzuru	1.98	334	*e*Pn	Pn	13 00 52.9	+1.5
ERZM	Erzurum	1.99	305	*i* P	Pg	13 00 55.3	-1.0
ERZM	Erzurum	1.99	305	P	Pg	13 00 55.3	-1.0
BNGB	Bing¶ll	2.19	276	*e*PN	Pn	13 00 55.6	+1.4
BINT	Bingol	2.34	273	*e*Pn	Pn	13 00 55.6	-0.6
YEDI	Yedisu-Bingol	2.37	287	*e*PN	Pn	13 00 58.1	+1.3
YEDI	Yedisu-Bingol	2.37	287	*e*Pn	Pn	13 00 58.1	+1.3
DDEM	Demirkent	2.49	328	*i* P	Pg	13 01 04.5	-1.5
MARD	Mardin	2.58	236	*i* P	Pn	13 00 59.2	-0.4
GDB	GEDABAY	2.62	41	⇑P	Pb	13 01 05.1	+0.2
	SNR=16						
GDB				⇓S	Sg	13 01 40.0	-2.2
GDB	GEDABAY	2.62	41	P	Pb	13 01 05.1	+0.2
	SNR=16						
AKH	Akhalkalaki	2.63	0	*e*PN	Pn	13 01 01.6	+1.4
AKH	Akhalkalaki	2.63	0	*e*Pn	Pn	13 01 01.7	+1.4
QZX	Qazax, Azerbai	2.70	32	⇓P	Pb	13 01 05.4	-0.8
	SNR=17						
QZX	Qazax, Azerbai	2.70	32	P	Pb	13 01 05.4	-0.8
	SNR=17						
MAZI	Mazidag	2.73	242	*e*PN	Pn	13 01 02.9	+1.3
MAZI	Mazidag	2.73	242	*e*Pn	Pn	13 01 02.9	+1.3
GANJ	Ganja	2.88	49	⇓P	Pb	13 01 07.3	-2.0
	SNR=6.2						
GANJ				⇓S	Sb	13 01 46.3	+2.0
GANJ	Ganja	2.88	49	P	Pb	13 01 07.3	-2.0
	SNR=6.2						
ERZN	Erzincan	3.03	287	*e*PN	Pn	13 01 07.2	+1.6
TNCL	Tunceli-Merkez	3.09	277	*i* P	Pg	13 01 17.5	+0.2
TBLG	Delisi	3.10	18	*e*PN	Pn	13 01 08.2	+1.6
TBLG	Delisi	3.10	18	*e*Pn	Pn	13 01 08.2	+1.6
PTK	Pertek	3.19	273	*e*PN	Pn	13 01 09.8	+1.7
PTK	Pertek	3.19	273	*e*Pn	Pn	13 01 09.8	+1.7
SVRC	Sivrice-ELAZID	3.29	264	*e*PN	Pn	13 01 11.2	+1.8
SVRC	Sivrice-ELAZID	3.29	264	*e*Pn	Pn	13 01 11.2	+1.8
URFA	Urfa	3.91	251	*e*PN	Pn	13 01 19.8	+2.0
URFA	Urfa	3.91	251	*e*Pn	Pn	13 01 19.8	+2.0
ESPY	Espiye-Giresun	4.23	302	*e*PN	Pn	13 01 24.4	+2.3
ESPY	Espiye-Giresun	4.23	302	*e*Pn	Pn	13 01 24.4	+2.3

LJU 26 13:04:48.3, 46°.27N×14°.60E, h0km, ML0.1 Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	Mozjanca	0.11	280	*i* Pg	Pg	13 04 50.1	-0.3
	comp=Z,6.0nm,0.2s						
VNDS	Vrh nad Dolski	0.19	158	*i* Pg	Pg	13 04 52.0	+0.2
VNDS				*i* Sg	Sg	13 04 55.4	+1.2
	comp=Z,5.0nm,0.2s						
CRNS	Crni Vrh	0.31	231	*i* Pg	Pg	13 04 54.5	+0.4

*CSEM **26** 13:06:52.8±0.2, 44°.40N×22°.43E, h10km, ML1.9, Error ellipse: s-maj=5.0km s-min=3.2km az=104.0*
BEO 26 13:06:54.0±0.3, 44°.42N×22°.46E, h0km, M1.9/8, 2C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJES	Djerdap	0.25	10	*e*Pg	Pg	13 06 57.6	-1.2
DJES				*e*Sg	Sg	13 07 02.5	+0.5
KUBS	Kucevo	0.56	269	*e*Pg	Pg	13 07 02.0	-2.8
KUBS				*e*Sg	Sg	13 07 10.4	-1.7
KUBS	Kucevo	0.56	269	*e*Pg	Pg	13 07 02.0	-2.8
KUBS				*e*Sg	Sg	13 07 10.4	-1.7
ZAGS	Zajecar	0.63	195	*e*Pg	Pg	13 07 04.6	-1.4
ZAGS				*e*Sg	Sg	13 07 13.5	-0.7
ZAGS	Zajecar	0.63	195	*e*Pg	Pg	13 07 04.6	-1.4
ZAGS				*e*Sg	Sg	13 07 13.5	-0.7
MDVR	Moldovita	0.65	304	⇓*i*P	Pg	13 07 05.0	-1.4
MDVR	Moldovita	0.65	304	S	Sg	13 07 13.4	-1.3
MDVR	Moldovita	0.65	304	⇓*i*P	Pg	13 07 05.0	-1.4
MDVR				S	Sg	13 07 13.4	-1.3
BOVS	Bovan	0.95	215	*e*Pg	Pg	13 07 10.8	-1.5
BOVS				*e*Sg	Sg	13 07 25.4	+0.8
BOVS	Bovan	0.95	215	*e*Pg	Pg	13 07 10.8	-1.5
BOVS				*e*Sg	Sg	13 07 25.4	+0.8
GZR	Gura Zlata	1.00	13	⇓*i*P	Pg	13 07 11.7	-1.5
GZR	Gura Zlata	1.00	13	S	Sn	13 07 29.5	-0.7
GZR	Gura Zlata	1.00	13	⇓*i*P	Pg	13 07 11.7	-1.5
ZAPS	Zavoj	1.15	174	*e*Pg	Pg	13 07 15.3	-0.8
BZS	Buzias	1.34	334	*e*Pg	Pg	13 07 18.3	-1.3
BZS				*e*Sg	Sg	13 07 37.1	+0.1
BZS	Buzias	1.34	334	⇑*i*P	Pg	13 07 17.8	-1.8
BZS	Buzias	1.34	334	⇑*i*P	Pg	13 07 17.8	-1.8
BZS	Buzias	1.34	334	*e*Pg	Pg	13 07 18.3	-1.3
BZS				S	Sg	13 07 36.2	-0.8
BZS				*e*Sg	Sb	13 07 37.1	-0.5
GRUS	Gruza	1.36	248	*e*Pg	Pg	13 07 19.4	-0.7
GRUS				*e*Sg	Sb	13 07 38.3	-0.1
GRUS	Gruza	1.36	248	*e*Pg	Pg	13 07 19.4	-0.7
GRUS				*e*Sg	Sb	13 07 38.3	-0.1
LOT	Lotru	1.39	42	⇓*i*P	Pg	13 07 19.0	-1.6
LOT	Lotru	1.39	42	S	Sb	13 07 39.3	+0.1
LOT	Lotru	1.39	42	⇓*i*P	Pg	13 07 19.0	-1.6
LOT				S	Sb	13 07 39.3	+0.1
TRUS	Trudelj	1.49	263	*e*Pg	Pn	13 07 20.4	-1.6
TRUS				*e*Sg	Sb	13 07 41.9	0.0
TRUS	Trudelj	1.49	263	*e*Pg	Pn	13 07 20.4	-1.6
TRUS				*e*Sg	Sb	13 07 41.9	0.0
SELS	Selova	1.54	219	*e*Pg	Pn	13 07 21.7	-1.1
SELS				*e*Sg	Sb	13 07 43.8	+0.2
BARS	Barje	1.67	197	*e*Pg	Pn	13 07 23.6	-0.9
BARS				*e*Sg	Sn	13 07 45.6	-1.0
BARS	Barje	1.67	197	*e*Pg	Pn	13 07 23.6	-0.9
BARS				*e*Sg	Sn	13 07 45.6	-1.0
DIVS	Divibare	1.80	261	*e*Pg	Pn	13 07 26.3	-0.1
DIVS	Divibare	1.80	261	*e*Pg	Pn	13 07 26.3	-0.1
VTS	Vitosha	1.91	163	⇓*i*P	Pn	13 07 23.9	-4.0
VTS	Vitosha	1.91	163	⇓*i*P	Pn	13 07 23.9	-4.0
VTS				S	Sn	13 07 47.5	-5.2
SIRR	Siria	1.93	343	⇓*i*P	Pn	13 07 25.4	-2.7
SIRR	Siria	1.93	343	S	Sn	13 07 51.2	-1.9
SIRR	Siria	1.93	343	⇓*i*P	Pn	13 07 25.4	-2.7
DRGR		2.38	4	⇓*i*P	Pn	13 07 33.2	-1.1
DRGR		2.38	4	⇓*i*P	Pn	13 07 33.2	-1.1
DRGR				S	Sn	13 08 04.2	0.0

*ISK **26** 13:11:13.4, 38°.65N×43°.06E, h5km, ML3.6*
*CSEM **26** 13:11:14.8±0.3, 38°.62N×43°.10E, h2km, ML3.6, Error ellipse: s-maj=7.1km s-min=5.5km az=76

BTMN			*i* S	Sg	13 28 47.5	-0.7
BTMN	**Batman**	**2.06 245**	P	Pg	13 28 20.3	-1.3
BTMN			S	Sg	13 28 47.5	-0.7
ERZM	**Erzurum**	**2.06 303**	*i* P	Pg	13 28 21.4	-0.4

MAN 26 13:28:25.9°90N×122°20E, h25km, mb3.9, ML2.7, MS2.4, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.82**	**28**	*e*P	Pn	13 28 41.5	+0.5
GUIM				*e*S	Sn	13 28 53.2	+0.9
SNPH	**Sibulan**	**1.16**	**118**	⇓*i*P	Pn	13 28 45.2	-0.5
SNPH				*i* S	Sb	13 29 02.2	+1.2
PAGZ	**Pagadian**	**2.34**	**150**	*e*P	Pn	13 29 03.0	+1.0
PAGZ				*e*S	Sn	13 29 28.8	-1.2
BUSP	**Coron**	**2.87**	**317**	*e*P	Pn	13 29 10.9	+1.6
ENPP	**El Nido**	**3.03**	**296**	*e*P	Pn	13 29 12.9	+1.6

*ISK **26** 13:29:33.9, 38°79N×43°41E, h8km, MD3.0*
*CSEM **26** 13:29:34.1±1.0, 38°77N×43°50E, h2km, MD3.0, Error ellipse: s-maj=26.7km s-min=9.3km az=82.0*
*DDA **26** 13:29:34.6, 38°70N×43°30E, h7km, Ml3.0*
ISC 26 13:29:35.8±1.1, 38°76N±0°03×43°38E±0°08, h13km±8km, n24, σ1§59/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**178**	*e*PG	**Pg**	**13 29 39.1**	**-0.8**
VANB				*e*SG	**Sg**	**13 29 45.3**	**+2.6**
VANB	**Van**	**0.17**	**178**	*e*Pg	**Pg**	**13 29 39.1**	**-0.8**
GEVA	**Gevas**	**0.52**	**209**	*i* P	**Pg**	**13 29 43.6**	**-2.4**
GEVA	**Gevas**	**0.52**	**209**	P	**Pg**	**13 29 43.6**	**-2.4**
TUTA	**Tutak**	**0.78**	**325**	*i* P	**Pg**	**13 29 49.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.86**	**340**	*e*PG	**Pg**	**13 29 50.0**	**-2.6**
AGRB				*e*SG	**Sg**	**13 30 03.5**	**-0.4**
AGRB	**Hanur-Agry**	**0.86**	**340**	*e*Pg	**Pg**	**13 29 50.0**	**-2.6**
AGRB				*e*Sg	**Sg**	**13 30 03.6**	**-0.4**
EKAR	**Karacoban**	**1.14**	**296**	*i* P	**Pb**	**13 29 58.1**	**+0.7**
EKAR	**Karacoban**	**1.14**	**296**	P	**Pb**	**13 29 58.1**	**+0.7**
HAKT	**HAKKARI**	**1.23**	**168**	*i* P	**Pg**	**13 29 57.0**	**-2.5**
EATA	**Eleskirt**	**1.30**	**328**	*i* P	**Pn**	**13 29 59.3**	**-0.6**
EATA				*i* S	**Sn**	**13 30 19.2**	**+1.9**
EATA	**Eleskirt**	**1.30**	**328**	P	**Pn**	**13 29 59.3**	**-0.6**
EATA				S	**Sn**	**13 30 19.2**	**+1.9**
CUKT	**Cukurca**	**1.52**	**173**	*e*PN	**Pg**	**13 30 03.0**	**-2.1**
CUKT	**Cukurca**	**1.52**	**173**	*e*Pn	**Pg**	**13 30 03.0**	**-2.1**
DIGO	**Kars**	**1.65**	**360**	*i* P	**Pg**	**13 30 07.5**	**0.0**
DIGO	**Kars**	**1.65**	**360**	P	**Pg**	**13 30 07.5**	**0.0**
BNGL	**BINGOL**	**1.75**	**277**	*i* P	**Pn**	**13 30 06.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	*e*PN	**Pn**	**13 30 06.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	*e*Pn	**Pn**	**13 30 06.5**	**-0.4**
BTMN	**Batman**	**1.88**	**243**	*i* P	**Pb**	**13 30 10.1**	**+0.2**
BTMN				*i* S	**Sn**	**13 30 33.2**	**+2.0**
BTMN	**Batman**	**1.88**	**243**	P	**Pb**	**13 30 10.1**	**+0.2**
BTMN				S	**Sn**	**13 30 33.2**	**+2.0**
ERZM	**Erzurum**	**1.94**	**307**	*i* P	**Pb**	**13 30 10.8**	**-0.2**
ERZM	**Erzurum**	**1.94**	**307**	P	**Pb**	**13 30 10.8**	**-0.2**
DAGI	**Agillar**	**2.57**	**334**	*i* P	**Pb**	**13 30 21.4**	**-0.5**

WEL 26 13:35:08.4±0.5, 37°11S×176°94E, h173km±3km, ML3.5/7, 1D, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.79**	**203**	PN	Pn	13 35 34.7	+0.8
HAZ	**Te Kaha**	**0.93**	**134**	PN	Pn	13 35 34.9	+0.1
HAZ				SN	Sn	13 35 55.3	0.0
RUGZ	**Raukumara Rang**	**1.03**	**146**	PN	Pn	13 35 35.2	-0.5
URZ	**Urewera**	**1.15**	**173**	PN	Pn	13 35 36.5	-0.1
MXZ	**Matakaoa Point**	**1.18**	**113**	PN	Pn	13 35 36.9	+0.1
MXZ				SN	Sn	13 35 58.7	-0.1
MWZ	**Matawai**	**1.30**	**159**	PN	Pn	13 35 37.9	0.0
TWGZ	**Tauwhareparae**	**1.34**	**142**	PN	Pn	13 35 38.8	+0.4
TWGZ				AML	AML	13 36 05.9	
TWGZ				AML	AML	13 36 07.6	
MUGZ	**Murupara**	**1.37**	**186**	PN	Pn	13 35 38.6	+0.1
WMGZ	**Waiomatatini S**	**1.37**	**121**	PN	Pn	13 35 38.7	+0.2
WMGZ				AML	AML	13 36 04.8	
WMGZ				AML	AML	13 36 05.1	
PUZ	**Puketiti**	**1.42**	**133**	⇓PN	Pn	13 35 39.1	+0.1
PUZ				SN	Sn	13 36 02.5	-0.2
RTZ	**Ruatahuna**	**1.50**	**179**	PN	Pn	13 35 39.7	-0.1
TKGZ	**Te Karaka**	**1.51**	**152**	PN	Pn	13 35 40.2	+0.4
TKGZ				AML	AML	13 36 06.6	
TKGZ				AML	AML	13 36 06.8	
SNGZ	**Shannon Statio**	**1.70**	**169**	PN	Pn	13 35 41.9	+0.2
SNGZ				AML	AML	13 36 09.6	
SNGZ				AML	AML	13 36 10.2	
CNGZ	**Carnagh Statio**	**1.70**	**144**	PN	Pn	13 35 42.3	+0.6
RIGZ	**Rimuhau**	**1.72**	**158**	PN	Pn	13 35 42.2	+0.2
RIGZ				AML	AML	13 36 11.4	
RIGZ				AML	AML	13 36 12.0	
MRHZ	**Matea Rd**	**1.77**	**193**	PN	Pn	13 35 42.3	-0.2
NMHZ	**Naumai**	**1.98**	**183**	PN	Pn	13 35 45.2	+0.3
KNZ	**Kokohu**	**1.99**	**163**	PN	Pn	13 35 44.5	-0.3
BKZ	**Black Stump Fm**	**2.08**	**190**	*e*PN	Pn	13 35 44.6	-1.3
ARHZ	**Aropaoanui**	**2.15**	**179**	PN	Pn	13 35 46.6	0.0
KWHZ	**Kaweka Forest**	**2.34**	**190**	PN	Pn	13 35 48.4	-0.4
KWHZ				AML	AML	13 36 31.2	
KWHZ				AML	AML	13 36 31.2	
KRHZ	**Kereru**	**2.57**	**190**	PN	Pn	13 35 50.4	-1.1
KRHZ				SN	Sn	13 36 24.6	-0.5
KAHZ	**Kahuranaki**	**2.68**	**181**	PN	Pn	13 35 52.0	-0.8
PNHZ	**Pukenui**	**2.86**	**192**	SN	Sn	13 36 28.5	-2.8
PXZ	**Pawanui**	**2.91**	**181**	PN	Pn	13 35 54.1	-1.4
PXZ				SN	Sn	13 36 29.5	-2.9
PRHZ	**Porangahau**	**3.16**	**184**	PN	Pn	13 35 56.6	-2.0
DVHZ	**Dannevirke**	**3.24**	**191**	PN	Pn	13 35 57.4	-2.3
MRZ	**Mangatainoka R**	**3.70**	**196**	PN	Pn	13 36 02.6	-2.8
MRZ				AML	AML	13 36 17.3	
MRZ				SN	Sn	13 36 46.6	-3.4
HOWZ	**Holdsworth Sta**	**3.94**	**196**	PN	Pn	13 36 05.0	-3.5
KIW	**Kapiti Island**	**4.06**	**202**	PN	Pn	13 36 06.8	-3.3
KIW				SN	Sn	13 36 53.7	-4.6
MTW	**Mount Morrison**	**4.19**	**195**	PN	Pn	13 36 08.0	-3.7
CAW	**Cannon Point**	**4.25**	**199**	PN	Pn	13 36 08.8	-3.6
PLWZ	**Palliser**	**4.64**	**196**	PN	Pn	13 36 13.2	-4.2
TUWZ	**Tuamarina**	**4.90**	**207**	PN	Pn	13 36 16.8	-4.0

*DDA **26** 13:47:57.7, 38°72N×43°25E, h7km, Ml3.1*
*ISK **26** 13:47:57.0, 38°77N×43°40E, h6km, MD2.8*
*CSEM **26** 13:47:57.7±0.4, 38°76N×43°34E, h2km, ML3.1, Error ellipse: s-maj=12.6km s-min=5.1km az=72.0*
*ISCJB **26** 13:47:58.0±0.8, 38°79N±0°03×43°4E±0°1, h13km±6km, Error ellipse: s-maj=13.3km s-min=4.9km az=170.3*
ISC 26 13:47:58.7±1.0, 38°76N±0°03×43°34E±0°05, h15km±7km, n17, σ1§33/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**167**	*e*PG	**Pg**	**13 48 02.9**	**0.0**
VANB				*e*SG	**Sg**	**13 48 06.5**	**+0.7**
VANB	**Van**	**0.17**	**167**	*e*Pg	**Pg**	**13 48 02.9**	**0.0**
VANB				*e*Sg	**Sg**	**13 48 06.5**	**+0.7**
GEVA	**Gevas**	**0.50**	**206**	*i* P	**Pg**	**13 48 06.0**	**-2.6**
GEVA				*i* S	**Sb**	**13 48 15.3**	**-1.1**
GEVA	**Gevas**	**0.50**	**206**	P	**Pg**	**13 48 06.0**	**-2.6**
GEVA				S	**Sb**	**13 48 15.4**	**-1.1**
TUTA	**Tutak**	**0.76**	**328**	*i* P	**Pg**	**13 48 12.3**	**-1.2**
TUTA				*i* S	**Sg**	**13 48 23.0**	**-0.6**
TUTA	**Tutak**	**0.76**	**328**	P	**Pg**	**13 48 12.3**	**-1.2**
TUTA				S	**Sg**	**13 48 23.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*PG	**Pg**	**13 48 14.2**	**-1.2**
AGRB				*e*SG	**Sb**	**13 48 26.4**	**-0.5**
AGRB	**Hanur-Agry**	**0.86**	**342**	*e*Pg	**Pg**	**13 48 14.2**	**-1.2**
AGRB				*e*Sg	**Sb**	**13 48 26.4**	**-0.5**
BASK	**Baskale_VAN**	**0.88**	**143**	*i* P	**Pg**	**13 48 14.9**	**-0.9**
BASK	**Baskale_VAN**	**0.88**	**143**	P	**Pg**	**13 48 14.9**	**-0.9**
HAKT	**HAKKARI**	**1.24**	**166**	*i* P	**Pg**	**13 48 20.9**	**-1.7**
HAKT	**HAKKARI**	**1.24**	**166**	P	**Pg**	**13 48 20.9**	**-1.7**
EATA	**Eleskirt**	**1.28**	**329**	*i* P	**Pg**	**13 48 22.2**	**-1.2**
EATA				*i* S	**Sn**	**13 48 41.2**	**+1.7**
EATA	**Eleskirt**	**1.28**	**329**	P	**Pg**	**13 48 22.2**	**-1.2**
EATA				S	**Sn**	**13 48 41.2**	**+1.7**

SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*PN	**Pn**	**13 48 29.9**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.79**	**251**	*e*Pn	**Pn**	**13 48 29.9**	**+0.8**
BTMN	**Batman**	**1.84**	**243**	*i* P	**Pg**	**13 48 35.1**	**+1.0**
BTMN				*i* S	**Sb**	**13 48 55.9**	**+0.8**

*IDC **26** 13:49:06.0±2.0, 2°66N×124°48E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, Error ellipse: s-maj=242.8km s-min=24.8km az=64.0*
*DJA **26** 13:49:36.1±1.7, 2°N±5°×12°4E±°, h13km±14km, M4.2/9, mB5.0/1, mb4.2/4, MLv4.1/9, Mw(mB)4.3/1*
ISC 26 13:49:34.2±1.4, 2°2N±0°1×124°45E±0°08, h268km, n15, σ2§63/15, mb2.9/3, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.71**	**196**	P	**Pn**	**13 50 19.8**	**+4.0**
SGSI	**Sangihe**	**1.80**	**37**	P	Pn	13 50 06.7	-10
MRSI	**Marisa**	**3.06**	**235**	P	Pn	13 50 34.2	+5.8
LUWI	**Luwuk**	**3.66**	**207**	P	**Pn**	**13 50 33.6**	**-1.4**
LBMI	**Labuha**	**4.17**	**133**	P	**Pn**	**13 50 41.5**	**+0.6**
LBMI				S	**S**	**13 51 31.3**	**-2.8**
APSI	**Ampana**	**4.19**	**222**	P	**Pn**	**13 50 39.7**	**-1.4**
SANI	**Sanana**	**4.52**	**160**	P	**Pn**	**13 50 44.8**	**-0.1**
SANI				S	**S**	**13 51 37.2**	**-4.2**
MPSI	**Mapaga**	**4.92**	**248**	P	**Pn**	**13 50 49.5**	**-0.2**
PCI	**Palu**	**5.57**	**236**	P	**Pn**	**13 50 58.9**	**+1.5**
NLAI	**Namlea**	**6.05**	**154**	P	**Pn**	**13 51 06.5**	**+3.2**
KDI	**Kendari**	**6.42**	**197**	P	**Pn**	**13 51 10.9**	**+3.0**
TTSI	**Tana Toraja**	**6.99**	**221**	P	**Pn**	**13 51 18.3**	**+3.3**
WRA	**Warramunga Arr**	**24.08**	**157**	P	**P**	**13 54 27.4**	**+1.7**
	0.2nm,0.4s,baz=336,slow=10.0,SNR=2.9						
ASAR	**Alice Springs**	**27.34**	**161**	P	**P**	**13 54 56.0**	**+1.1**
	0.3nm,0.8s,baz=341,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**57.52**	**327**	P	**P**	**13 58 54.7**	**-1.1**
	0.3nm,0.3s,baz=122,slow=7.1,SNR=9.9						

*IDC **26** 13:56:11.4±0.6, 28°93S×178°88W, h272km±8km, mb3.2/3, mb1 3.3/4, mb1mx3.1/33, mbtmp3.9/4, Error ellipse: s-maj=34.3km s-min=23.0km az=143.0*
ISC 26 13:56:12.4±0.8, 29°37S±0°09×178°5W±0°2, h300km, n28, σ1§83/31, mb3.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.55**	**78**	P	**Pn**	**13 56 48.4**	**-2.7**
	260nm,0.3s,baz=239,slow=5.3,SNR=27						
RAO				S	**S**	**13 57 17.7**	**-4.2**
	310nm,0.3s,baz=40,slow=18,SNR=6.2						
WMGZ	**Waiomatatini S**	**8.80**	**196**	*e*Pn	**Pn**	**13 58 16.8**	**+1.2**
HAZ	**Te Kaha**	**8.91**	**199**	*e*PN	**Pn**	**13 58 17.8**	**+0.9**
HAZ				*e*SN	**S**	**14 00 00.2**	**+2.0**
RUGZ	**Raukumara Rang**	**9.13**	**199**	SN	**S**	**14 00 05.1**	**+1.5**
TWGZ	**Tauwhareparae**	**9.25**	**197**	*e*SN	**S**	**14 00 08.8**	**+2.8**
MWZ	**Matawai**	**9.52**	**199**	*e*PN	**P**	**13 58 28.0**	**-0.6**
MWZ				*e*SN	**S**	**14 00 12.8**	**+0.6**
URZ	**Urewera**	**9.57**	**201**	P	**P**	**13 58 28.3**	**-0.9**
	0.4nm,0.3s,baz=272,slow=4.3,SNR=13						
URZ				S	**S**	**14 00 13.5**	**+0.2**
	4.0nm,0.3s,baz=175,slow=21,SNR=17						
URZ	**Urewera**	**9.57**	**201**	*e*Pn	**P**	**13 58 27.6**	**-1.6**
URZ				*e*SN	**S**	**14 00 13.0**	**-0.3**
RTZ	**Ruatahuna**	**9.94**	**201**	*e*Pn	**Pn**	**13 58 29.4**	**-0.3**
RTZ				*e*SN	**S**	**14 00 21.2**	**-0.6**
BKZ	**Black Stump Fm**	**10.60**	**201**	*e*SN	**S**	**14 00 34.5**	**-2.1**
MRZ	**Mangatainoka R**	**12.25**	**202**	*e*SN	**S**	**14 01 09.9**	**-3.9**
OXZ	**Oxford**	**15.84**	**206**	SN	**S**	**14 02 28.3**	**-1.4**
MOZ	**McQueen's Vall**	**15.95**	**204**	*e*SN	**S**	**14 02 30.9**	**-0.8**
ASAR	**Alice Springs**	**42.71**	**266**	P	**P**	**14 03 40.4**	**-0.3**
	0.4nm,0.6s,baz=102,slow=6.6,SNR=8.8						
WRA	**Warramunga Arr**	**43.60**	**271**	P	**P**	**14 03 46.6**	**-1.2**
	0.4nm,0.5s,baz=108,slow=7.9,SNR=4.6						
VNA3	**Neumayer Olymp**	**79.36**	**176**	P	P	14 07 50.2	+5.5
VNA2	**Neumayer--Watz**	**79.79**	**177**	P	P	14 07 52.8	+5.7
	baz=184,slow=4.9						
PETK	**Petropavlovsk-**	**84.70**	**346**	P	**P**	**14 08 12.2**	**-0.2**
	4.4nm,0.8s,baz=104,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**116.75**	**311**	PKP	**PKPdf**	**14 14 21.4**	**+0.5**
	0.2nm,0.6s,baz=90,slow=2.9,SNR=3.6						
BVAR	**Borovoye Array**	**125.34**	**316**	PKP	**PKPdf**	**14 14 38.6**	**+1.5**
	0.9nm,0.5s,baz=44,slow=6.6,SNR=5.1						
SPITS	**Spitsbergen Ar**	**130.65**	**356**	PKP	**PKPdf**	**14 14 48.1**	**+1.5**
	12nm,1.0s,baz=300,slow=2.8,SNR=9.4						
ARCES	**ARCESS Array B**	**137.49**	**348**	PKP	**PKPdf**	**14 15 01.7**	**+2.1**
	1.6nm,0.9s,baz=38,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**144.02**	**340**	PKhKP	PKPpre	14 15 10.0	
	1.7nm,0.5s,baz=70,slow=3.6,SNR=9.1						
NOA	**NORSAR Array B**	**147.67**	**351**	PKPbc	**PKPbc**	**14 15 21.5**	**+0.5**
	0.5nm,0.4s,baz=17,slow=4.7,SNR=2.3						
HFS	**Hagfors**	**148.15**	**348**	PKPbc	**PKPbc**	**14 15 22.6**	**+0.4**
	1.3nm,0.5s,baz=40,slow=2.5,SNR=6.5						
AKASG	**Malin Array Be**	**150.20**	**323**	PKPbc	**PKPbc**	**14 15 28.3**	**+0.7**
	2.6nm,0.5s,baz=48,slow=3.1,SNR=10						
BRTR	**Keskin Array B**	**151.69**	**300**	PKPbc	**PKPbc**	**14 15 32.1**	**+0.5**
	0.6nm,0.5s,baz=118,slow=4.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**163.85**	**181**	PKPab	**PKPab**	**14 16 38.2**	**+3.9**
	0.4nm,0.6s,baz=172,slow=4.0,SNR=4.6						

IDC 26 14:03:24.0±10.0, 27°78S×176°95W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/22, mbtmp3.7/3, Error ellipse: s-maj=199.4km s-min=34.6km az=94.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**210**	Pn	Pn	14 03 54.7	-0.1
	57nm,0.3s,baz=81,slow=19,SNR=4.9						
RAO				Sn	Sb	14 04 17.7	-0.2
	104nm,0.3s,baz=90,slow=20,SNR=4.8						
URZ	**Urewera**	**11.57**	**204**	Pn	Pn	14 06 03.5	-6.9
	0.3nm,0.3s,baz=353,slow=4.3,SNR=2.7						
URZ				Sn	Sn	14 08 01.7	-19
	0.7nm,0.3s,baz=217,slow=21,SNR=5.4						
STKA	**Stephens Creek**	**36.04**	**253**	P	P	14 10 27.3	+0.1
	0.8nm,0.6s,baz=96,slow=9.2,SNR=3.1						
ASAR	**Alice Springs**	**44.24**	**264**	P	P	14 11 35.0	-0.3
	0.4nm,0.6s,baz=97,slow=6.8,SNR=6.4						
WRA	**Warramunga Arr**	**44.99**	**269**	P	P	14 11 41.4	0.0
	0.7nm,0.4s,baz=108,slow=7.9,SNR=8.4						

*AZER **26** 14:07:34.5±2.9, 38°52N×43°23E, h0km, Error ellipse: s-maj=31.0km s-min=21.0km az=165.0*
*DDA **26** 14:07:36.5, 38°69N×43°61E, h7km, Ml3.3*
*ISK **26** 14:07:36.5, 38°69N×43°56E, h6km, ML3.4*
*CSEM **26** 14:07:38.3±0.3, 38°69N×43°43E, h2km, ML3.4, Error ellipse: s-maj=7.1km s-min=5.1km az=103.0*
ISC 26 14:07:37.7±0.9, 38°69N±0°02×43°56E±0°02, h12km±6km, n44, σ1§54/66, 3C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**235**	*e*PG	**Pg**	**14 07 41.1**	**-0.5**
VANB				*e*SG	**Sg**	**14 07 45.2**	**+1.0**
VANB	**Van**	**0.16**	**235**	*e*Pg	**Pg**	**14 07 41.1**	**-0.5**
VANB				*e*Sg	**Sg**	**14 07 45.3**	**+1.0**
GEVA	**Gevas**	**0.54**	**227**	*i* P	**Pg**	**14 07 46.7**	**-1.6**
GEVA				*i* S	**Sb**	**14 07 56.8**	**-0.2**
GEVA	**Gevas**	**0.54**	**227**	P	**Pg**	**14 07 46.7**	**-1.6**
GEVA				S	**Sb**	**14 07 56.8**	**-0.2**
BASK	**Baskale_VAN**	**0.72**	**151**	*i* P	**Pg**	**14 07 50.2**	**-1.6**
BASK				*i* S	**Sb**	**14 08 02.0**	**-0.3**
BASK	**Baskale_VAN**	**0.72**	**151**	P	**Pg**	**14 07 50.2**	**-1.6**
BASK				S	**Sb**	**14 08 02.0**	**-0.3**
DYDN	**Diyadin**	**0.86**	**7**	*i* P	**Pb**	**14 07 53.7**	**-1.1**
DYDN				*i* S	**Sn**	**14 08 09.4**	**+0.9**
DYDN	**Diyadin**	**0.86**	**7**	P	**Pb**	**14 07 53.7**	**-1.1**
DYDN				S	**Sn**	**14 08 09.4**	**+0.9**
TUTA	**Tutak**	**0.92**	**321**	*i* P	**Pg**	**14 07 54.1**	**-1.4**
TUTA				*i* S	**Sb**	**14 08 06.9**	**-1.1**
TUTA	**Tutak**	**0.92**	**321**	P	**Pg**	**14 07 54.1**	**-1.4**
TUTA				S	**Sb**	**14 08 06.9**	**-1.1**
AGRB	**Hanur-Agry**	**0.99**	**334**	*e*PG	**Pb**	**14 07 56.1**	**-0.8**
AGRB				*e*SG	**Sb**	**14 08 09.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.99**	**334**	*e*Pg	**Pb**	**14 07 56.1**	**-0.8**
AGRB				*e*Sg	**Sb**	**14 08 09.7**	**-0.3**
HAKT	**HAKKARI**	**1.13**	**174**	*i* P	**Pg**	**14 07 57.2**	**-2.3**
HAKT				*i* S	**Sn**	**14 08 15.7**	**+0.5**
HAKT	**HAKKARI**	**1.13**	**174**	P	**Pg**	**14 07 57.2**	**-2.3**
HAKT				S	**Sn**	**14 08 15.7**	**+0.5**
EKAR	**Karacoban**	**1.29**	**297**	*i* P	**Pb**	**14 08 01.7**	**-0.4**

EKAR	**Karacoban**	**1.29**	**297**	P	**Pb**	**14 08 01.7**	**-0.4**
CUKT	**Cukurca**	**1.44**	**178**	*e*PN	**Pb**	**14 08 03.8**	**-0.6**
CUKT	**Cukurca**	**1.44**	**178**	*i* P	**Pg**	**14 08 04.4**	**-0.9**
CUKT	**Cukurca**	**1.44**	**178**	P	**Pg**	**14 08 04.4**	**-0.9**
EATA	**Eleskirt**	**1.44**	**325**	*i* P	**Pg**	**14 08 03.9**	**-1.4**
EATA				*i* S	**Sn**	**14 08 26.3**	**+3.5**
EATA	**Eleskirt**	**1.44**	**325**	P	**Pg**	**14 08 03.9**	**-1.4**
SIRN	**S¨–rnak**	**1.49**	**218**	*i* P	**Pg**	**14 08 06.0**	**-0.4**
SIRN				*i* S	**Sg**	**14 08 26.9**	**+1.2**
SIRN	**S¨–rnak**	**1.49**	**218**	P	**Pg**	**14 08 06.0**	**-0.4**
SIRN				S	**Sg**	**14 08 26.9**	**+1.2**
NAX	**Nakhchivan**	**1.59**	**72**	⇑P	**Pg**	**14 08 07.9**	**-0.3**
NAX				⇓S	**Sg**	**14 08 33.5**	**+4.6**
NAX	**Nakhchivan**	**1.59**	**72**	P	**Pg**	**14 08 07.9**	**-0.3**
NAX				S	**Sg**	**14 08 33.5**	**+4.6**
HOMI	**Horasan**	**1.87**	**317**	*i* P	**Pb**	**14 08 11.5**	**-0.4**
BNGL	**BINGOL**	**1.90**	**279**	*i* P	**Pb**	**14 08 12.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*e*PN	**Pn**	**14 08 10.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*e*Pn	**Pn**	**14 08 10.3**	**-0.1**
ERZM	**Erzurum**	**2.09**	**306**	*i* P	**Pg**	**14 08 16.1**	**-1.7**
ERZM	**Erzurum**	**2.09**	**306**	P	**Pg**	**14 08 16.1**	**-1.7**
BNGB	**Bing¨¶l**	**2.27**	**279**	*e*PN	**Pn**	**14 08 15.6**	**+0.5**
BINT	**Bingol**	**2.41**	**275**	*e*Pn	**Pn**	**14 08 15.6**	**-1.4**
GDB	**GEDABAY**	**2.65**	**39**	⇓P	**Pb**	**14 08 24.0**	**-1.1**
GDB				⇑S	**Sg**	**14 09 01.8**	**-1.0**
GDB	**GEDABAY**	**2.65**	**39**	P	**Pb**	**14 08 24.0**	**-1.1**
MAZI	**Mazidag**	**2.74**	**244**	*e*PN	**Pn**	**14 08 22.2**	**+0.6**
MAZI	**Mazidag**	**2.74**	**244**	*e*Pn	**Pn**	**14 08 22.2**	**+0.6**
QZX	**Qazax, Azerbai**	**2.75**	**30**	⇑P	**Pb**	**14 08 24.6**	**-2.2**
QZX				⇓S	**Sb**	**14 09 00.8**	**+0.3**
QZX	**Qazax, Azerbai**	**2.75**	**30**	P	**Pb**	**14 08 24.6**	**-2.2**
QZX				S	**Sb**	**14 09 00.8**	**+0.3**
GANJ	**Ganja**	**2.90**	**47**	⇓P	**Pb**	**14 08 26.2**	**-3.1**
GANJ	**Ganja**	**2.90**	**47**	P	**Pb**	**14 08 26.2**	**-3.1**
ERZN	**Erzincan**	**3.12**	**288**	*e*PN	**Pn**	**14 08 27.9**	**+1.2**
PTK	**Pertek**	**3.26**	**275**	*e*PN	**Pn**	**14 08 30.0**	**+1.2**
PTK	**Pertek**	**3.26**	**275**	*e*Pn	**Pn**	**14 08 30.0**	**+1.2**

*AZER **26** 14:11:42.2±0.5, 37°66N×43°77E, h9km, Error ellipse: s-maj=3.5km s-min=2.9km az=11.0*
*IDC **26** 14:11:45.0±7.6, 37°98N×43°77E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/38, mbtmp3.7/6, ML2.9/2, MS2.6/3, Ms1 2.6/3, ms1mx2.3/42, Error ellipse: s-maj=115.6km s-min=32.5km az=44.0*
*DDA **26** 14:11:46.5, 38°61N×43°54E, h14km, Ml3.5*
*CSEM **26** 14:11:47.3±0.2, 38°60N×43°54E, h2km, ML3.5, Error ellipse: s-maj=6.1km s-min=4.9km az=162.0*
*ISK **26** 14:11:47.6, 38°64N×43°41E, h5km, ML3.8*
ISC 26 14:11:47.6±1.1, 38°61N±0°02×43°51E±0°02, h3km±9km, n124, σ2§05/144, mb3.8/3, 21C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.46**	**231**	*i* P	**Pg**	**14 11 56.5**	**0.0**
GEVA	**Gevas**	**0.46**	**231**	P	**Pg**	**14 11 56.5**	**0.0**
BASK	**Baskale_VAN**	**0.68**	**145**	*i* P	**Pg**	**14 12 00.0**	**-0.5**
BASK	**Baskale_VAN**	**0.68**	**145**	P	**Pg**	**14 12 00.0**	**-0.5**
DYDN	**Diyadin**	**0.94**	**8**	*i* P	**Pg**	**14 12 03.8**	**-1.9**
DYDN				*i* S	**Sb**	**14 12 18.4**	**-1.5**
DYDN	**Diyadin**	**0

ZKTA	Zakatala	3.85	37	⇑P	Pn	14 12 51.0	+3.2
	SNR=4.4						
URFA	Urfa	3.88	254	*e*PN	Pn	14 12 48.2	-0.1
URFA	Urfa	3.88	254	*e*Pn	Pn	14 12 48.2	-0.1
ONI	Oni	3.98	359	P	Pb	14 12 59.5	+1.1
SAAT	Saatly	4.01	70	⇓P	Pn	14 12 46.8	-3.2
	SNR=3.5						
SAAT	Saatly	4.01	70	P	Pn	14 12 46.8	-3.2
	SNR=3.5						
KDMR	Kurdemir	4.02	62	⇑S	Sn	14 13 40.8	+3.1
KDMR	Kurdemir	4.02	62	S	Sn	14 13 40.8	+3.1
QBL	Gabala	4.07	54	⇓P	Pn	14 12 51.1	+0.3
	SNR=6.1						
QBL				⇓S	Sb	14 13 45.2	-4.4
QBL	Gabala	4.07	54	P	Pn	14 12 51.1	+0.3
	SNR=6.1						
LKRN	Lenkeran, Azer	4.12	87	⇓S	Sn	14 13 33.6	-6.6
ASTR	Astara	4.13	89	⇓S	Sn	14 13 33.2	-7.4
IML	Ismayilli	4.21	57	⇓P	Pn	14 12 52.4	-0.4
	SNR=3.3						
IML				⇓S	Sn	14 13 47.2	+4.7
IML	Ismayilli	4.21	57	P	Pn	14 12 52.4	-0.4
	SNR=3.3						
IML				S	Sn	14 13 47.2	+4.7
XNQ	Khinaliq	4.38	53	⇓P	Pn	14 12 55.7	+0.4
	SNR=5.2						
XNQ	Khinaliq	4.38	53	P	Pn	14 12 55.7	+0.4
	SNR=5.2						
PQL	Pirkuli	4.48	59	⇑S	Sn	14 13 53.2	+3.8
PQL	Pirkuli	4.48	59	S	Sn	14 13 53.2	+3.8
GBS	Qobustan	4.62	64	⇑P	Pn	14 12 56.2	-2.2
GBS	Qobustan	4.62	64	P	Pn	14 12 56.2	-2.2
QSAR	Qusar	4.66	50	⇓P	Pn	14 12 59.9	+1.0
QSAR	Qusar	4.66	50	P	Pn	14 12 59.9	+1.0
QUBA	Quba, Azerbaij	4.71	53	⇑P	Pn	14 12 59.6	0.0
QUBA	Quba, Azerbaij	4.71	53	P	Pn	14 12 59.6	0.0
DARE	Darende-Malaty	4.73	271	*e*PN	Pn	14 13 00.6	+0.7
DARE	Darende-Malaty	4.73	271	*e*Pn	Pn	14 13 00.6	+0.7
ATGJ	Altiaghaj	4.75	60	⇑P	Pn	14 12 59.2	-1.0
ATGJ	Altiaghaj	4.75	60	P	Pn	14 12 59.2	-1.0
SIZA	Siyzn	4.82	58	⇓P	Pn	14 13 00.5	-0.8
SIZA	Siyzn	4.82	58	P	Pn	14 13 00.5	-0.8
GOBA	Gobu	5.13	68	⇑P	Pn	14 13 03.0	-2.4
GOBA	Gobu	5.13	68	P	Pn	14 13 03.0	-2.4
KBZ	Khabaz	5.14	355	Pn	Pb	14 13 14.7	-3.5
	0.1nm,0.3s,baz=175,slow=11,SNR=4.1						
KBZ				LR	LR	14 16 00.7	
	comp=Z,25nm,18.6s,baz=135,slow=44						
NDR	Nardaran	5.37	66	⇓P	Pn	14 13 06.5	-2.2
NDR	Nardaran	5.37	66	P	Pn	14 13 06.5	-2.2
KVAR	Kislovodsk Arr	5.38	354	LR	LR	14 15 40.1	
	comp=Z,116nm,18.2s,baz=132,slow=39						
GALA	Gala	5.44	69	⇓P	Pn	14 13 06.8	-2.9
DOPR	Dopca	15.28	305	⇑/P	P	14 15 31.4	+2.2
DOPR	Dopca	15.28	305	⇑/P	P	14 15 31.4	+2.2
VOIR		15.31	302	⇑/P	P	14 15 32.2	+2.6
VOIR		15.31	302	⇑/P	P	14 15 32.2	+2.6
ARR	Arges	15.56	302	⇑/P	P	14 15 34.6	+2.2
ARR	Arges	15.56	302	⇑/P	P	14 15 34.6	+2.2
AKTO	Aktyubinsk	15.68	36	Pn	Pn	14 15 30.2	+0.8
	0.3nm,0.3s,baz=226,slow=14,SNR=4.8						
BURAR	Bucovina Array	16.08	310	⇑/P	P	14 15 41.2	+3.0
ARU	Arti	20.44	24	P	Pn	14 16 29.7	+1.7
	1.5nm,0.4s,baz=230,slow=16,SNR=3.6						
ARU				LR	LR	14 27 58.7	
	comp=Z,17nm,18.2s,baz=190,slow=46						
KURBB	Kurchatov Arra	27.41	53	P	P	14 17 34.8	+0.5
	1.0nm,0.6s,baz=264,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	29.40	61	P	P	14 17 51.0	-1.2
	0.6nm,0.9s,baz=270,slow=7.6,SNR=4.3						
ZALV	Zalesovo Beam	31.88	48	P	P	14 18 13.7	-0.2
	0.6nm,0.5s,baz=263,slow=10.0,SNR=3.6						

AZER ***26*** *14:19:33.5±0.9, 38°.29N×44°.06E, h8km, Error ellipse: s-maj=9.1km s-min=5.5km az=63.0*
DDA ***26*** *14:19:34.4, 38°.84N×43°.61E, h2km, Ml3.5*
CSEM ***26*** *14:19:35.3±0.2, 38°.84N×43°.74E, h2km, ML3.5, Error ellipse: s-maj=7.3km s-min=5.3km az=156.0*
ISK ***26*** *14:19:37.1, 38°.94N×43°.47E, h2km, ML3.6*
ISC 26 14:19:35.6±1.1, 38°.83N±0°.02×43°.63E±0°.02, h25km±13km, n91, σ2°20/107, 10C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.68	221	*i* P	Pb	14 19 47.9	-1.1
DYDN	Diyadin	0.72	4	*i* P	Pb	14 19 48.2	-1.4
DYDN				*i* S	Sb	14 19 59.0	-0.1
DYDN	Diyadin	0.72	4	P	Pb	14 19 48.2	-1.4
DYDN				S	Sb	14 19 59.0	-0.1
BASK	Baskale_VAN	0.83	159	*i* P	Pn	14 19 51.4	-0.5
BASK	Baskale_VAN	0.83	159	P	Pn	14 19 51.3	-0.5
TUTA	Tutak	0.86	312	*i* P	Pb	14 19 50.5	-1.4
TUTA				*i* S	Sn	14 20 03.8	-0.4
AGRB	Hanur-Agry	0.90	327	*e*PG	Pb	14 19 51.7	-0.9
AGRB				*e*SG	Sb	14 20 03.0	-1.2
AGRB	Hanur-Agry	0.90	327	*e*Pg	Pb	14 19 51.7	-0.9
AGRB				*e*Sg	Sb	14 20 03.0	-1.2
HAKT	HAKKARI	1.27	177	*i* P	Pb	14 19 58.3	-0.7
HAKT	HAKKARI	1.27	177	P	Pb	14 19 58.3	-0.7
EKAR	Karacoban	1.29	290	*i* P	Pb	14 19 59.8	+0.4
EKAR	Karacoban	1.29	290	P	Pb	14 19 59.8	+0.4
EATA	Eleskirt	1.36	320	*i* P	Pb	14 19 59.8	-0.8
EATA				*i* S	Sb	14 20 20.6	+3.0
NAX	Nakhchivan	1.49	76	⇑P	Pb	14 20 03.9	+1.3
	SNR=18						
NAX				⇓S	Sb	14 20 23.9	+2.7
NAX	Nakhchivan	1.49	76	P	Pb	14 20 03.9	+1.3
	SNR=18						
CUKT	Cukurca	1.58	181	*e*PN	Pb	14 20 07.9	+3.7
CUKT	Cukurca	1.58	181	*i* P	Pb	14 20 07.8	+3.6
CUKT	Cukurca	1.58	181	*e*Pn	Pb	14 20 07.9	+3.7
DIGO	Kars	1.60	353	*i* P	Pb	14 20 04.9	+0.4
DIGO	Kars	1.60	353	P	Pb	14 20 04.9	+0.4
SIRN	S¨–rnak	1.64	216	*i* P	Pb	14 20 06.8	+1.6
SIRN	S¨–rnak	1.64	216	P	Pb	14 20 06.8	+1.6
HOMI	Horasan	1.81	313	*i* P	Pb	14 20 08.7	+0.6
EAK	Akyaka	1.86	359	*i* P	Pb	14 20 11.0	+2.1
BNGL	BINGOL	1.94	274	*i* P	Pb	14 20 10.7	+0.3
SENK	Senkaya-Erzuru	1.99	331	*e*PN	Pb	14 20 11.0	-0.3
SENK	Senkaya-Erzuru	1.99	331	*e*Pn	Pb	14 20 11.0	-0.3
SVAN	Silvan-Diyarba	2.03	251	*e*PN	Pb	14 20 12.2	+0.5
SVAN	Silvan-Diyarba	2.03	251	*i* P	Pb	14 20 11.9	+0.2
SVAN	Silvan-Diyarba	2.03	251	P	Pb	14 20 11.9	+0.2
SVAN	Silvan-Diyarba	2.03	251	*e*Pn	Pb	14 20 12.2	+0.5
ERZM	Erzurum	2.06	302	*i* P	Pb	14 20 13.0	+0.6
ERZM	Erzurum	2.06	302	P	Pb	14 20 13.0	+0.6
BTMN	Batman	2.08	244	*i* P	Pb	14 20 13.2	+0.5
BTMN				*i* S	Sb	14 20 41.7	+3.6
BTMN	Batman	2.08	244	P	Pb	14 20 13.2	+0.5
BTMN				S	Sb	14 20 41.7	+3.6
BNGB	Bing¨¶l	2.31	275	*e*PN	Pb	14 20 16.0	-0.6
BGD	Bogdanovka	2.43	359	P	Pb	14 20 20.7	+1.9
BINT	Bingol	2.46	272	*e*Pn	Pn	14 20 16.0	+1.8
GDB	GEDABAY	2.50	40	⇓P	Pb	14 20 18.3	-1.6
	SNR=35						
GDB				⇓S	Sb	14 20 53.9	+3.7
GDB	GEDABAY	2.50	40	P	Pb	14 20 18.3	-1.6
	SNR=35						
AKH	Akhalkalaki	2.58	358	*e*PN	Pb	14 20 20.2	-1.1
AKH	Akhalkalaki	2.58	358	P	Pb	14 20 23.2	+2.0
AKH	Akhalkalaki	2.58	358	*e*Pn	Pb	14 20 20.2	-1.1
QZX	Qazax, Azerbai	2.60	30	⇓P	Pb	14 20 20.7	-0.7
	SNR=7.1						
QZX				⇑S	Sb	14 20 57.8	+4.9
QZX	Qazax, Azerbai	2.60	30	P	Pb	14 20 20.7	-0.7
	SNR=7.1						
MARD	Mardin	2.71	237	*i* P	Pb	14 20 21.6	-1.9
GANJ	Ganja	2.76	48	⇑P	Pb	14 20 21.5	-2.6
	SNR=20						
GANJ				⇑S	Sb	14 20 57.7	+0.2
GANJ	Ganja	2.76	48	P	Pb	14 20 21.5	-2.6
	SNR=20						
MAZI	Mazidag	2.86	242	*e*PN	Pb	14 20 24.2	-1.8
MAZI	Mazidag	2.86	242	*e*Pn	Pb	14 20 24.2	-1.8
DGRG	David-gareji	2.94	26	P	Pb	14 20 28.3	+1.0
TBLG	Delisi	3.02	16	*e*PN	Pb	14 20 27.0	-1.7
TBLG	Delisi	3.02	16	P	Pb	14 20 30.0	+1.3
TBLG	Delisi	3.02	16	*e*Pn	Pb	14 20 27.0	-1.7
BRDA	Brd	3.09	61	⇓P	Pn	14 20 23.8	+1.0
BRDA				⇓S	Sn	14 21 01.6	+2.6
BRDA	Brd	3.09	61	P	Pn	14 20 23.8	+1.0
BRDA				S	Sn	14 21 01.6	+2.6
ERZN	Erzincan	3.13	285	*e*PN	Pb	14 20 27.9	-2.7
MNGR	Mingechevir, A	3.29	53	⇓P	Pn	14 20 27.6	+2.0
MNGR				⇓S	Sn	14 21 08.0	+4.1
MNGR	Mingechevir, A	3.29	53	P	Pn	14 20 27.6	+2.0
MNGR				S	Sn	14 21 08.0	+4.1
PTK	Pertek	3.31	272	*e*PN	Pb	14 20 30.1	-3.5
PTK	Pertek	3.31	272	*e*Pn	Pb	14 20 30.2	-3.5
SVRC	Sivrice-ELAZID	3.42	264	*e*PN	Pb	14 20 32.4	-3.1
SVRC	Sivrice-ELAZID	3.42	264	*e*Pn	Pb	14 20 32.4	-3.1
EZC	Erzincan	3.45	287	*e*Pn	Pn	14 20 27.9	+0.1
ZRD	Zardab	3.45	64	⇑P	Pn	14 20 27.7	0.0
ZRD				⇑S	Sn	14 21 09.4	+1.6
ZRD	Zardab	3.45	64	P	Pn	14 20 27.7	0.0
ZRD				S	Sn	14 21 09.4	+1.6
ZKTA	Zakatala	3.62	38	⇓P	Pn	14 20 33.7	+3.6
SEKA	Sheki	3.63	48	⇓P	Pn	14 20 33.0	+2.8
SEKA	Sheki	3.63	48	P	Pn	14 20 33.0	+2.8
LRK	Lerik	3.69	91	⇑P	Pn	14 20 26.9	-4.2
LRK				⇓S	Sn	14 21 07.0	-6.9
LRK	Lerik	3.69	91	P	Pn	14 20 26.9	-4.2
GLBA	Clilabad	3.73	82	⇑P	Pn	14 20 28.6	-2.9
GLBA				⇑S	Sn	14 21 10.7	-4.0
GLBA	Clilabad	3.73	82	P	Pn	14 20 28.6	-2.9
GLBA				S	Sn	14 21 10.7	-4.0
ONI	Oni	3.76	358	P	Pb	14 20 45.5	+4.2
LKRN	Lenkeran, Azer	4.03	90	⇑P	Pn	14 20 31.4	-4.2
LKRN	Lenkeran, Azer	4.03	90	P	Pn	14 20 31.4	-4.2
ASTR	Astara	4.04	92	⇓P	Pn	14 20 31.4	-4.5
ASTR				⇓S	Sn	14 21 15.3	-7.1
XNQ	Khinaliq	4.18	55	⇓P	Pn	14 20 38.6	+0.7
XNQ	Khinaliq	4.18	55	P	Pn	14 20 38.6	+0.7
PQL	Pirkuli	4.29	61	⇓P	Pn	14 20 39.0	-0.5
PQL	Pirkuli	4.29	61	P	Pn	14 20 39.0	-0.5
GBS	Qobustan	4.44	66	⇓P	Pn	14 20 40.1	-1.2
GBS	Qobustan	4.44	66	P	Pn	14 20 40.1	-1.2
QSAR	Qusar	4.45	51	⇓P	Pn	14 20 42.4	+0.9
QSAR	Qusar	4.45	51	P	Pn	14 20 42.4	+0.9
QUBA	Quba, Azerbaij	4.50	54	⇓P	Pn	14 20 42.7	+0.5
QUBA	Quba, Azerbaij	4.50	54	P	Pn	14 20 42.7	+0.5
ATGJ	Altiaghaj	4.56	62	⇓P	Pn	14 20 42.3	-0.8
ATGJ	Altiaghaj	4.56	62	P	Pn	14 20 42.3	-0.8
SIZA	Siyzn	4.63	59	⇓P	Pn	14 20 43.6	-0.4
SIZA	Siyzn	4.63	59	P	Pn	14 20 43.6	-0.4

CSEM ***26*** *14:34:43.5±0.5, 38°.37N×42°.98E, h10km, ML3.2, Error ellipse: s-maj=11.7km s-min=10.2km az=55.0*
DDA ***26*** *14:34:46.4, 37°.59N×42°.64E, h7km, Ml3.2*
ISC 26 14:34:45.6±1.5, 37°.69N±0°.07×42°.68E±0°.04, h2km±13km, n19, σ1°11/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	S¨–rnak	0.28	228	*i* P	Pg	14 34 50.5	-0.6
SIRN				*i* S	Sg	14 34 54.5	-0.3
HAKT	HAKKARI	0.83	99	*i* P	Pb	14 35 03.3	+0.4
HAKT				*i* S	Sb	14 35 14.8	+0.3
HAKT	HAKKARI	0.83	99	P	Pb	14 35 03.3	+0.4
HAKT				S	Sb	14 35 14.8	+0.3
BTMN	Batman	1.13	281	*i* P	Pg	14 35 07.6	+0.2
BTMN				*i* S	Sn	14 35 26.0	+1.2
BTMN	Batman	1.13	281	P	Pg	14 35 07.6	+0.2
BTMN				S	Sn	14 35 26.0	+1.2
SVAN	Silvan-Diyarba	1.26	292	*e*PN	Pn	14 35 10.5	+0.2
SVAN				*e*SN	Sn	14 35 27.8	0.0
SVAN	Silvan-Diyarba	1.26	292	*i* P	Pg	14 35 10.8	+1.1
SVAN				*i* S	Sn	14 35 28.8	+1.0
SVAN	Silvan-Diyarba	1.26	292	*e*Pn	Pn	14 35 10.5	+0.2
SVAN	Silvan-Diyarba	1.26	292	P	Pg	14 35 10.9	+1.1
SVAN				*e*Sn	Sn	14 35 27.8	0.0
SVAN				S	Sn	14 35 28.8	+1.0
MARD	Mardin	1.56	257	*i* P	Pb	14 35 14.9	-0.3
MARD				*i* S	Sg	14 35 35.3	-0.3
EKAR	Karacoban	1.64	343	*i* P	Pn	14 35 12.0	-3.6
EKAR				*i* S	Sn	14 35 34.9	-2.6
BNGB	Bing¨¶l	2.04	310	*e*PN	Pn	14 35 15.9	-5.2
BINT	Bingol	2.09	305	*e*Pn	Pn	14 35 15.9	-5.9
YEDI	Yedisu-Bingol	2.42	317	*e*PN	Pn	14 35 19.8	-6.5
YEDI	Yedisu-Bingol	2.42	317	*e*Pn	Pn	14 35 19.8	-6.5
SVRC	Sivrice-ELAZID	2.75	286	*e*PN	Pn	14 35 31.0	+0.1
SVRC	Sivrice-ELAZID	2.75	286	*e*Pn	Pn	14 35 31.0	+0.1
PTK	Pertek	2.85	296	*e*PN	Pn	14 35 30.1	-2.2
PTK	Pertek	2.85	296	*e*Pn	Pn	14 35 30.1	-2.2

ISK ***26*** *14:34:47.2, 38°.58N×42°.71E, h18km, ML3.0*
CSEM ***26*** *14:34:48.1, 38°.66N×43°.52E, h7km, ML3.3*
DDA ***26*** *14:34:48.1, 38°.66N×43°.52E, h7km, Ml3.3*
ISC 26 14:34:48.8±1.3, 38°.66N±0°.03×43°.61E±0°.04, h17km±10km, n14, σ1°61/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.55	232	*i* P	Pg	14 35 58.0	-1.8
GEVA				*i* S	Sb	14 35 08.0	+0.2
GEVA	Gevas	0.55	232	P	Pg	14 34 58.0	-1.8
GEVA				S	Sb	14 35 08.0	+0.2
BASK	Baskale_VAN	0.68	152	*i* P	Pg	14 35 00.7	-1.5
BASK				*i* S	Sn	14 35 13.9	-0.3
BASK	Baskale_VAN	0.68	152	P	Pg	14 35 00.7	-1.5
BASK				S	Sn	14 35 13.9	-0.3
DYDN	Diyadin	0.89	4	*i* P	Pg	14 35 04.8	-1.3
DYDN				*i* S	Sb	14 35 18.4	+0.9
DYDN	Diyadin	0.89	4	P	Pg	14 35 04.8	-1.3
DYDN				S	Sb	14 35 18.5	+0.9
TUTA	Tutak	0.97	321	*i* P	Pg	14 35 05.5	-2.1
TUTA				*i* S	Sb	14 35 19.4	-0.5
TUTA	Tutak	0.97	321	P	Pg	14 35 05.5	-2.1
TUTA				S	Sb	14 35 19.4	-0.5
AGRB	Hanur-Agry	1.03	333	*e*PG	Pg	14 35 07.0	-1.9
AGRB				*e*SG	Sb	14 35 21.6	-0.2
AGRB	Hanur-Agry	1.03	333	*e*Pg	Pg	14 35 07.0	-1.9
AGRB				*e*Sg	Sb	14 35 21.6	-0.2
EKAR	Karacoban	1.34	297	*i* P	Pn	14 35 12.7	-0.3
EKAR				*i* S	Sg	14 35 35.7	+3.4
EKAR	Karacoban	1.34	297	P	Pn	14 35 12.7	-0.3
EKAR				S	Sg	14 35 35.7	+3.4
CUKT	Cukurca	1.41	180	*e*PN	Pn	14 35 14.3	+0.5
CUKT	Cukurca	1.41	180	*e*Pn	Pn	14 35 14.3	+0.5

AZER ***26*** *14:39:15.0±4.8, 38°.81N×43°.48E, h10km, Error ellipse: s-maj=39.5km s-min=25.8km az=21.0*
DDA ***26*** *14:39:15.8, 39°.00N×43°.76E, h2km, Ml3.8*
CSEM ***26*** *14:39:18.9±0.3, 39°.03N×43°.70E, h2km, ML3.8, Error ellipse: s-maj=7.3km s-min=5.5km az=147.0*
ISK ***26*** *14:39:18.9, 39°.07N×43°.66E, h4km, ML3.6*
ISC 26 14:39:16.9±1.1, 39°.03N±0°.02×43°.69E±0°.02, h10km±13km, n59, σ1°40/71, 2C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.51	360	*i* P	Pb	14 39 27.0	-1.0
AGRB	Hanur-Agry	0.77	315	*e*PG	Pb	14 39 32.0	-0.4
AGRB				*e*SG	Sb	14 39 43.6	+0.6
AGRB	Hanur-Agry	0.77	315	*e*Pg	Pb	14 39 32.0	-0.4
AGRB				*e*Sg	Sb	14 39 43.6	+0.6
TUTA	Tutak	0.78	299	*i* P	Pg	14 39 31.8	-0.1
GEVA	Gevas	0.88	215	*i* P	Pg	14 39 31.8	-1.9
BASK	Baskale_VAN	1.01	166	*i* P	Pg	14 39 34.5	-1.8
EATA	Eleskirt	1.25	312	*i* P	Pg	14 39 40.5	-0.3
EKAR	Karacoban	1.29	280	*i* P	Pg	14 39 42.6	+1.0
EKAR	Karacoban	1.29	280	P	Pg	14 39 42.6	+1.0
NAX	Nakhchivan	1.41	84	⇓P	Pg	14 39 43.6	-0.3
NAX				⇑S	Sg	14 40 05.4	+3.2
NAX	Nakhchivan	1.41	84	P	Pg	14 39 43.6	-0.3
NAX				S	Sg	14 40 05.4	+3.2
HAKT	HAKKARI	1.47	180	*i* P	Pn	14 39 43.2	-0.5
EAK	Akyaka	1.65	358	*i* P	Pg	14 39 50.4	+1.9
EAK	Akyaka	1.65	358	P	Pg	14 39 50.4	+1.9
HOMI	Horasan	1.71	307	*i* P	Pg	14 39 49.8	0.0
VRTB	Varto-Mus	1.75	275	*e*PN	Pg	14 39 50.7	+0.4
VRTB				*e*SN	Sg	14 40 14.0	+1.0
VRTB	Varto-Mus	1.75	275	*e*Pn	Pg	14 39 50.7	+0.4
VRTB				*e*Sn	Sg	14 40 14.0	+1.0
CUKT	Cukurca	1.79	182	*e*PN	Pg	14 39 52.1	+1.0
CUKT				*e*SN	Sg	14 40 14.9	+0.7
CUKT	Cukurca	1.79	182	*i* P	Pb	14 39 50.1	+0.3
CUKT	Cukurca	1.79	182	P	Pb	14 39 50.1	+0.3
CUKT	Cukurca	1.79	182	*e*Pn	Pg	14 39 52.1	+1.0
CUKT				*e*Sn	Sg	14 40 14.9	+0.7
SIRN	S¨–rnak	1.84	214	*i* P	Pb	14 39 50.5	-0.1
SIRN	S¨–rnak	1.84	214	P	Pb	14 39 50.5	-0.1
SENK	Senkaya-Erzuru	1.84	326	*e*PN	Pg	14 39 52.1	-0.1
SENK	Senkaya-Erzuru	1.84	326	*e*Pn	Pg	14 39 52.1	-0.1
BNGL	BINGOL	1.98	268	*i* P	Pg	14 39 54.4	-0.5
ERZM	Erzurum	2.00	297	*i* P	Pg	14 39 55.4	+0.2
ERZM	Erzurum	2.00	297	P	Pg	14 39 55.4	+0.2
SVAN	Silvan-Diyarba	2.15	247	*e*PN	Pb	14 39 55.6	-0.2
SVAN	Silvan-Diyarba	2.15	247	*i* P	Pb	14 39 55.1	-0.7
SVAN	Silvan-Diyarba	2.15	247	P	Pb	14 39 55.1	-0.7
SVAN	Silvan-Diyarba	2.15	247	*e*Pn	Pb	14 39 55.6	-0.2
BTMN	Batman	2.22	240	*i* P	Pb	14 39 56.9	-0.2
BTMN	Batman	2.22	240	P	Pb	14 39 56.9	-0.2
BGD	Bogdanovka	2.23	358	P	Pg	14 39 58.9	-0.7
GDB	GEDABAY	2.31	43	⇓P	Pb	14 39 57.2	-1.6
GDB				⇓S	Sg	14 40 29.1	-2.1
GDB	GEDABAY	2.31	43	P	Pb	14 39 57.2	-1.6
GDB				S	Sg	14 40 29.1	-2.1
BNGB	Bing¨¶l	2.35	270	*e*PN	Pb	14 39 59.0	-0.3
AKH	Akhalkalaki	2.38	356	*e*PN	Pb	14 39 59.9	0.0
AKH	Akhalkalaki	2.38	356	P	Pg	14 40 02.3	-0.2
AKH	Akhalkalaki	2.38	356	*e*Pn	Pb	14 39 59.9	0.0
QZX	Qazax, Azerbai	2.40	32	⇑P	Pb	14 39 59.6	-0.5
	SNR=4.3						
QZX	Qazax, Azerbai	2.40	32	P	Pb	14 39 59.6	-0.5
	SNR=4.3						
YEDI	Yedisu-Bingol	2.48	280	*e*PN	Pb	14 40 01.1	-0.5
YEDI	Yedisu-Bingol	2.48	280	*e*Pn	Pb	14 40 01.1	-0.5
BINT	Bingol	2.50	267	*e*Pn	Pn	14 39 59.0	+1.2
GANJ	Ganja	2.59	51	⇓P	Pb	14 40 00.7	-2.7
GANJ				⇓S	Sb	14 40 36.4	+1.2
GANJ	Ganja	2.59	51	P	Pb	14 40 00.7	-2.7
GANJ				S	Sb	14 40 36.4	+1.2
DGRG	David-gareji	2.73	28	P	Pb	14 40 05.9	0.0
TBLG	Delisi	2.81	16	*e*PN	Pb	14 40 05.9	-1.3
TBLG	Delisi	2.81	16	*e*Pn	Pb	14 40 05.9	-1.3
MAZI	Mazidag	3.00	239	*e*PN	Pb	14 40 08.9	-1.6
MAZI	Mazidag	3.00	239	*e*Pn	Pb	14 40 08.9	-1.6
ERZN	Erzincan	3.13	281	*e*PN	Pb	14 40 10.3	-2.3
PTK	Pertek	3.36	269	*e*PN	Pb	14 40 13.3	-3.3
PTK	Pertek	3.36	269	*e*Pn	Pb	14 40 13.3	-3.3
EZC	Erzincan	3.44	283	*e*Pn	Pn	14 40 10.3	-0.3
SVRC	Sivrice-ELAZID	3.49	261	*e*PN	Pb	14 40 16.1	-2.8
SVRC	Sivrice-ELAZID	3.49	261	*e*Pn	Pb	14 40 16.1	-2.8

ISCJB ***26*** *14:40:13.9±0.8, 38°.99N±0°.04×43°.59E±0°.09, h13km, Error ellipse: s-maj=10.9km s-min=5.7km az=163.8*
CSEM ***26*** *14:40:13.4±0.4, 38°.97N×43°.59E, h5km, ML3.5, Error ellipse: s-maj=11.9km s-min=6.5km az=79.0*
DDA ***26*** *14:40:13.1, 38°.99N×43°.68E, h7km, Ml3.5*
ISK ***26*** *14:40:13.2, 39°.13N×43°.72E, h25km, ML3.2*
ISC 26 14:40:13.4±1.1, 38°.98N±0°.03×43°.65E±0°.06, h13km, n28, σ0°78/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.56	3	*i* P	Pg	14 40 23.8	-0.7
DYDN	Diyadin	0.56	3	P	Pg	14 40 23.8	-0.7
TUTA	Tutak	0.77	303	*i* P	Pb	14 40 28.8	0.0
TUTA	Tutak	0.77	303	P	Pb	14 40 28.8	0.0
AGRB	Hanur-Agry	0.78	320	*e*PG	Pg	14 40 28.1	-0.5
AGRB				*e*SG	Sg	14 40 38.8	-0.1
AGRB

DYDN	Diyadin	0.92	5	⇓*i*P	Pg	15 14 53.8	-2.4
DYDN	Diyadin	0.92	5	*i* P	Pg	15 14 54.3	-1.9
DYDN	Diyadin	0.92	5	*i* P	Pg	15 14 54.3	-1.9
TUTA	Tutak	0.97	323	⇓*i*P	Pg	15 14 54.6	-2.6
TUTA	Tutak	0.97	323	*i* P	Pg	15 14 54.7	-2.6
TUTA	Tutak	0.97	323	*i* P	Pg	15 14 54.7	-2.6
AGRB	Hanur-Agry	1.05	335	*e*PG	Pb	15 14 56.0	-2.7
AGRB				*e*SG	Sg	15 15 11.5	-0.9
AGRB	Hanur-Agry	1.05	335	Pg	Pb	15 14 56.0	-2.7
HAKT	HAKKARI	1.07	174	⇓*i*P	Pb	15 14 58.0	-1.1
HAKT	HAKKARI	1.07	174	P	Pb	15 14 58.0	-1.1
EKAR	Karacoban	1.34	298	*i* P	Pn	15 15 02.3	-0.8
EKAR	Karacoban	1.34	298	*i* P	Pn	15 15 02.3	-0.8
CUKT	Cukurca	1.38	179	*e*PN	Pg	15 15 05.5	+0.6
EATA	Eleskirt	1.49	326	⇑*i*P	Pn	15 15 04.5	-0.9
EATA				*i* S	Sb	15 15 25.2	-0.2
EATA	Eleskirt	1.49	326	P	Pn	15 15 04.5	-0.9
EATA				S	Sb	15 15 25.2	-0.2
NAX	Nakhchivan	1.59	69	⇑P	Pn	15 15 05.9	-0.7
NAX				⇑S	Sn	15 15 27.1	0.0
NAX	Nakhchivan	1.59	69	P	Pn	15 15 05.9	-0.7
NAX	Nakhchivan	1.59	69	P	Pn	15 15 05.9	-0.7
NAX				S	Sn	15 15 27.1	0.0
VRTB	Varto-Mus	1.74	288	*e*PN	Pn	15 15 09.0	+0.4
VRTB	Varto-Mus	1.74	288	*e*Pn	Pn	15 15 09.0	+0.4
GNI	Garni	1.77	30	Pn	Pb	15 15 10.3	-0.6
	100nm,0.3s,baz=243,slow=2.6,SNR=103						
GNI				Lg	Lg	15 15 36.1	
	93nm,0.3s,baz=177,slow=21,SNR=7.9						
GNI	Garni	1.77	30	*c i*P	Pn	15 15 09.6	+0.6
GNI				pmax	pmax		
	comp=Z,2μm,1.0s						
GNI	Garni	1.77	30	*i* P	Pn	15 15 09.6	+0.6
	comp=Z,2μm,1.0s						
GNI	Garni	1.77	30	*e*Pn	Pn	15 15 10.0	+0.9
GNI				Lg	Lg	15 15 36.1	
GNI	Garni	1.77	30	*e*Pn	Pn	15 15 10.0	+0.9
GNI				Lg	Lg	15 15 36.1	
DIGO	Kars	1.79	355	⇑*i*P	Pn	15 15 09.9	+0.4
DIGO				*i* S	Sb	15 15 34.4	+0.5
DIGO	Kars	1.79	355	P	Pn	15 15 09.9	+0.4
DIGO				S	Sb	15 15 34.4	+0.5
HOMI	Horasan	1.92	318	⇑*i*P	Pn	15 15 11.5	+0.4
HOMI				*i* S	Sg	15 15 42.1	+1.9
BNGL	BINGOL	1.92	280	⇑*i*P	Pn	15 15 11.3	+0.1
BNGL				*i* S	Sb	15 15 38.4	+0.7
SVAN	Silvan-Diyarba	1.93	256	*e*PN	Pn	15 15 11.9	+0.8
SVAN	Silvan-Diyarba	1.93	256	*e*Pn	Pn	15 15 11.9	+0.8
EAK	Akyaka	2.06	1	⇑*i*P	Pn	15 15 14.3	+1.3
EAK				*i* S	Sg	15 15 46.9	+2.3
EAK	Akyaka	2.06	1	P	Pn	15 15 14.3	+1.3
ERZM	Erzurum	2.14	307	⇑*i*P	Pn	15 15 14.8	+0.6
ERZM				*i* S	Sg	15 15 46.3	-0.9
ERZM	Erzurum	2.14	307	P	Pn	15 15 14.8	+0.6
ERZM				S	Sg	15 15 46.3	-0.9
SENK	Senkaya-Erzuru	2.15	334	*e*PN	Pn	15 15 14.7	+0.3
SENK	Senkaya-Erzuru	2.15	334	*e*Pn	Pn	15 15 14.7	+0.3
BNGB	Bing ¶ll	2.29	280	*e*PN	Pn	15 15 16.8	+0.6
BINT	Bingol	2.43	277	P	Pn	15 15 16.7	-1.3
BINT	Bingol	2.43	277	*e*Pn	Pn	15 15 16.8	-1.3
YEDI	Yedisu-Bingol	2.50	290	*e*PN	Pn	15 15 19.3	+0.2
YEDI	Yedisu-Bingol	2.50	290	*e*Pn	Pn	15 15 19.3	+0.2
MARD	Mardin	2.57	240	⇑*i*P	Pn	15 15 20.9	+0.8
MARD				*i* S	Sb	15 15 55.9	-0.2
MARD	Mardin	2.57	240	*e*Pn	Pn	15 15 20.6	+0.6
MARD	Mardin	2.57	240	*e*Pn	Pn	15 15 20.6	+0.6
BGD	Bogdanovka	2.63	0	P	Pn	15 15 23.0	+2.0
BGD				S	Sb	15 16 00.5	+2.4
DDEM	Demirkent	2.66	329	⇑*i*P	Pb	15 15 25.7	-0.4
DDEM				*i* S	Sg	15 16 02.7	-1.4
DDEM	Demirkent	2.66	329	P	Pb	15 15 25.7	-0.4
GDB	GEDABAY	2.68	38	⇑P	Pn	15 15 21.8	+0.2
GDB				⇑S	Sn	15 15 55.8	+1.7
GDB	GEDABAY	2.68	38	P	Pn	15 15 21.8	+0.2
GDB				S	Sn	15 15 55.8	+1.7
MAZI	Mazidag	2.73	246	*e*PN	Pn	15 15 22.4	+0.2
MAZI	Mazidag	2.73	246	*e*Pn	Pn	15 15 22.4	+0.2
DAGI	Agillar	2.76	333	⇑*i*P	Pb	15 15 27.1	-0.7
DAGI				*i* S	Sg	15 16 05.8	-1.4
KOPT	Kop Dagi	2.76	301	⇑*i*P	Pb	15 15 27.6	-0.3
KOPT				*i* S	Sg	15 16 08.6	+1.4
KOPT	Kop Dagi	2.76	301	*e*Pn	Pn	15 15 23.8	+1.0
KOPT	Kop Dagi	2.76	301	P	Pb	15 15 27.6	-0.3
KOPT	Kop Dagi	2.76	301	*e*Pn	Pn	15 15 23.8	+1.0
AKH	Akhalkalaki	2.78	359	*e*PN	Pn	15 15 25.1	+2.1
AKH	Akhalkalaki	2.78	359	P	Pb	15 15 30.0	+1.8
AKH				S	Sg	15 16 07.4	-0.4
AKH	Akhalkalaki	2.78	359	⇓*i*P	Pb	15 15 26.6	-1.6
AKH				S	Sg	15 16 07.3	-0.4
AKH	Akhalkalaki	2.78	359	P	Pb	15 15 29.9	+1.8
AKH	Akhalkalaki	2.78	359	*e*Pn	Pn	15 15 25.1	+2.1
AKH	Akhalkalaki	2.78	359	⇓*i*P	Pb	15 15 26.6	-1.6
QZX	Qazax, Azerbai	2.79	29	⇑P	Pn	15 15 23.2	+0.2
QZX				⇓S	Sn	15 15 58.2	+1.5
QZX	Qazax, Azerbai	2.79	29	P	Pn	15 15 23.2	+0.2
QZX				S	Sn	15 15 58.2	+1.5
ARTV	Artvin	2.85	334	*i* P	Pb	15 15 28.1	-1.3
ARTV				*i* S	Sg	15 16 09.2	-0.9
ARTV	Artvin	2.85	334	*e*Pn	Pn	15 15 24.6	+0.6
ARTV	Artvin	2.85	334	P	Pb	15 15 28.1	-1.3
ARTV	Artvin	2.85	334	*e*Pn	Pn	15 15 24.6	+0.6
GANJ	Ganja	2.93	46	⇑P	Pn	15 15 24.9	+0.1
GANJ				⇓S	Sn	16 16 01.6	+1.7
GANJ	Ganja	2.93	46	P	Pn	15 15 24.9	+0.1
GANJ	Ganja	2.93	46	P	Pn	15 15 24.9	+0.1
GANJ				S	Sn	16 16 01.6	+1.7
EPOS	Posof	2.95	348	*i* P	Pn	15 15 26.3	+1.1
EPOS	Posof	2.95	348	P	Pn	15 15 26.3	+1.1
DBOC	Borcka	3.09	332	*i* P	Pb	15 15 32.2	-1.1
DBOC				*i* S	Sg	16 16 23.5	+5.9
DBOC	Borcka	3.09	332	P	Pb	15 15 32.2	-1.1
DGRG	David-gareji	3.14	25	P	Pn	15 15 30.5	+2.6
DGRG				S	Sg	16 16 30.5	+11
DGRG	David-gareji	3.14	25	P	Pn	15 15 30.4	+2.6
DGRG	David-gareji	3.14	25	P	Pn	15 15 30.4	+2.6
ERZN	Erzincan	3.15	289	*e*PN	Pn	15 15 29.1	+1.2
TNCL	Tunceli-Merkez	3.19	280	*i* P	Pb	15 15 33.3	-1.7
TNCL				*i* S	Sg	16 16 23.6	+2.8
TNCL	Tunceli-Merkez	3.19	280	P	Pb	15 15 33.3	-1.7
EUZM	Uzumlu	3.20	291	⇓*i*P	Pb	15 15 34.4	-1.0
EUZM				*i* S	Sg	16 16 22.8	+1.5
TBLG	Delisi	3.23	16	*e*PN	Pn	15 15 32.3	+3.3
TBLG	Delisi	3.23	16	P	Pb	15 15 35.1	-0.6
TBLG				S	Sb	16 16 18.3	+3.4
TBLG	Delisi	3.23	16	P	Pb	15 15 35.1	-0.6
BRDA	Brd	3.23	59	⇑P	Pn	15 15 28.7	-0.3
BRDA				⇓S	Sn	16 16 07.6	+0.2
BRDA	Brd	3.23	59	P	Pn	15 15 28.7	-0.3
BRDA				S	Sn	16 16 07.6	+0.2
SEAG	Tbilisi Sea	3.27	16	P	Pb	15 15 37.8	+1.3
PTK	Pertek	3.28	276	*e*PN	Pn	15 15 30.3	+0.4
PTK	Pertek	3.28	276	*e*Pn	Pn	15 15 30.3	+0.4
SVRC	Sivrice-ELAZID	3.36	267	*e*PN	Pn	15 15 32.1	+1.2
SVRC	Sivrice-ELAZID	3.36	267	*e*Pn	Pn	15 15 32.1	+1.2
MNGR	Mingechevir, A	3.45	51	⇑P	Pn	15 15 31.9	-0.1
MNGR				⇑S	Sn	16 16 14.2	+1.4
MNGR	Mingechevir, A	3.45	51	P	Pn	15 15 31.9	-0.1
MNGR	Mingechevir, A	3.45	51	P	Pn	15 15 31.9	-0.1
MNGR				S	Sn	16 16 14.2	+1.4
ZRD	Zardab	3.58	61	⇑P	Pn	15 15 33.4	-0.4
ZRD				⇓S	Sn	16 16 16.6	+0.6
ZRD	Zardab	3.58	61	P	Pn	15 15 33.4	-0.4
ZRD				S	Sn	16 16 16.6	+0.6
KELT	Kelkit	3.68	296	*i* P	Pb	15 15 43.4	-0.1
KELT				*i* S	Sg	16 16 34.2	-2.3
LRK	Lerik	3.73	88	⇓P	Pn	15 15 34.6	-1.4
LRK				⇑S	Sn	16 16 19.0	-1.0
LRK	Lerik	3.73	88	P	Pn	15 15 34.6	-1.4
LRK				S	Sn	16 16 19.0	-1.0
KTUT	Trabzon	3.76	310	*e*PN	Pn	15 15 38.4	+2.1
KTUT	Trabzon	3.76	310	*e*Pn	Pn	15 15 38.4	+2.1
SEKA	Sheki	3.79	46	⇓P	Pn	15 15 37.5	+0.7
SEKA				⇓S	Sn	16 16 24.3	+2.9
SEKA	Sheki	3.79	46	P	Pn	15 15 37.2	+0.4
SEKA	Sheki	3.79	46	P	Pn	15 15 37.2	+0.4
SEKA				S	Sn	16 16 24.3	+2.9
GLBA	Clilabad	3.81	79	⇓P	Pn	15 15 35.9	-1.0
GLBA				⇓S	Sn	16 16 21.3	-0.3
GLBA	Clilabad	3.81	79	P	Pn	15 15 35.9	-1.0
GLBA				S	Sn	16 16 21.3	-0.3
ZKTA	Zakatala	3.81	37	⇑P	Pn	15 15 37.2	+0.3
ZKTA				⇓S	Sn	15 16 24.1	+2.5
ZKTA	Zakatala	3.81	37	P	Pn	15 15 37.2	+0.3
ZKTA	Zakatala	3.81	37	P	Pn	15 15 37.2	+0.3
URFA	Urfa	3.94	254	*e*PN	Pn	15 15 40.5	+1.7
URFA	Urfa	3.94	254	*e*Pn	Pn	15 15 40.5	+1.7
ONI	Oni	3.96	359	P	Pb	15 15 50.3	+2.0
ONI				S	Sg	16 16 44.3	-1.3
ONI	Oni	3.96	359	P	Pb	15 15 50.2	+2.0
SAAT	Saatly	3.96	70	⇓P	Pn	15 15 38.0	-1.0
SAAT				⇓S	Sn	16 16 25.7	+0.4
SAAT	Saatly	3.96	70	P	Pn	15 15 38.0	-1.0
SAAT				S	Sn	16 16 25.7	+0.4
KDMR	Kurdemir	3.97	62	⇑P	Pn	15 15 38.7	-0.4
KDMR				⇑S	Sn	15 16 26.0	+0.5
KDMR	Kurdemir	3.97	62	P	Pn	15 15 38.7	-0.4
KDMR				S	Sn	15 16 26.0	+0.5
QBL	Gabala	4.02	53	⇓P	Pn	15 15 39.6	-0.2
QBL				⇑S	Sn	15 16 28.2	+1.3
QBL	Gabala	4.02	53	P	Pn	15 15 39.6	-0.2
QBL				S	Sn	15 16 28.2	+1.3
LKRN	Lenkeran, Azer	4.07	87	⇑P	Pn	15 15 39.3	-1.2
LKRN				⇑S	Sn	15 16 27.5	-0.6
LKRN	Lenkeran, Azer	4.07	87	P	Pn	15 15 39.3	-1.2
LKRN	Lenkeran, Azer	4.07	87	P	Pn	15 15 39.3	-1.2
LKRN				S	Sn	15 16 27.5	-0.6
ASTR	Astara	4.09	89	⇑P	Pn	15 15 39.4	-1.3
ASTR				⇓S	Sn	15 16 27.6	-0.9
ASTR	Astara	4.09	89	P	Pn	15 15 39.4	-1.3
ASTR				S	Sn	15 16 27.6	-0.9
IML	Ismayilli	4.16	57	⇑P	Pn	15 15 41.4	-0.4
IML				⇓S	Sn	15 16 31.4	+1.0
IML	Ismayilli	4.16	57	P	Pn	15 15 41.4	-0.4
IML				S	Sn	15 16 31.4	+1.0
ZEI	Tsey	4.16	3	*e*P	Pn	15 15 43.3	+1.3
ZEI				pmax	pmax		
	comp=Z,23nm,0.8s						
XNQ	Khinaliq	4.33	53	⇑P	Pn	15 15 44.0	-0.3
XNQ				⇓S	Sn	15 16 34.6	-0.3
XNQ	Khinaliq	4.33	53	P	Pn	15 15 44.0	-0.3
XNQ				S	Sn	15 16 34.6	-0.3
ALIB	Äli-Bayra	4.42	71	⇓P	Pn	15 15 44.6	-0.7
ALIB				⇑S	Sn	15 16 37.2	+0.6
ALIB	Äli-Bayra	4.42	71	P	Pn	15 15 44.6	-0.7
ALIB				S	Sn	15 16 37.2	+0.6
PQL	Pirkuli	4.43	59	⇓P	Pn	15 15 45.1	-0.5
PQL				⇑S	Sn	15 16 37.7	+0.5
PQL	Pirkuli	4.43	59	P	Pn	15 15 45.1	-0.5
PQL				S	Sn	15 16 37.7	+0.5
GBS	Qobustan	4.56	64	⇑P	Pn	15 15 46.8	-0.6
GBS				⇑S	Sn	15 16 41.1	+0.8
GBS	Qobustan	4.56	64	P	Pn	15 15 46.8	-0.6
GBS				S	Sn	15 16 41.1	+0.8
QSAR	Qusar	4.61	50	⇓P	Pn	15 15 47.8	-0.2
QSAR				⇓S	Sn	15 16 42.7	+1.2
QSAR	Qusar	4.61	50	P	Pn	15 15 47.8	-0.2
QSAR				S	Sn	15 16 42.7	+1.2
QUBA	Quba, Azerbaij	4.66	53	⇑P	Pn	15 15 48.4	-0.2
QUBA				⇑S	Sn	15 16 44.1	+1.5
QUBA	Quba, Azerbaij	4.66	53	P	Pn	15 15 48.4	-0.2
QUBA				S	Sn	15 16 44.1	+1.5
NEY	Neytrino	4.66	352	*e*P	Pn	15 15 49.4	+0.6
NEY	Neytrino	4.66	352	*e*P	Pn	15 15 49.4	+0.6
ATGJ	Altiaghaj	4.70	60	⇓P	Pn	15 15 48.7	-0.5
ATGJ				⇓S	Sn	15 16 45.1	+1.4
ATGJ	Altiaghaj	4.70	60	P	Pn	15 15 48.7	-0.5
ATGJ				S	Sn	15 16 45.1	+1.4
SIZA	Siyzn	4.77	57	⇑P	Pn	15 15 49.8	-0.4
SIZA				⇓S	Sn	15 16 46.3	+0.8
SIZA	Siyzn	4.77	57	P	Pn	15 15 49.8	-0.4
SIZA				S	Sn	15 16 46.3	+0.8
NCK	Nalchik	4.86	0	*e*P	Pn	15 15 52.0	+0.6
NCK	Nalchik	4.86	0	*e*P	Pn	15 15 52.0	+0.6
GOBA	Gobu	5.08	68	⇑P	Pn	15 15 53.8	-0.6
GOBA				⇓S	Sn	16 16 53.1	+0.1
GOBA	Gobu	5.08	68	P	Pn	15 15 53.8	-0.6
GOBA				S	Sn	16 16 53.1	+0.1
KBZ	Khabaz	5.12	354	Pn	Pn	15 15 58.6	+3.7
	comp=Z,0.1nm,0.3s,baz=174,slow=6.8,SNR=7.9						
KBZ				LR	LR	15 18 20.6	
	comp=Z,417nm,19.4s,baz=152,slow=44						
MAK	Makhachkala	5.26	33	*e*P	Pn	15 15 55.8	-1.0
MAK				*e*S	Sn	16 16 56.5	-0.8
MAK				pmax	pmax		
	comp=Z,94nm,0.9s						
MAK				MLR	MLR		
	comp=Z,668nm,10.0s						
MAK	Makhachkala	5.26	33	*e*P	Pn	15 15 55.8	-1.0
	comp=Z,94nm,0.9s						
MAK				*e*S	Sn	16 16 56.5	-0.8
	comp=Z,668nm,10.0s						
NDR	Nardaran	5.32	66	⇑P	Pn	15 15 57.1	-0.6
NDR				⇓S	Sn	16 16 59.2	+0.3
NDR	Nardaran	5.32	66	P	Pn	15 15 57.1	-0.6
NDR				S	Sn	16 16 59.2	+0.3
KIV	Kislovodsk	5.37	353	*e*P	Pn	15 15 58.7	+0.3
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV	Kislovodsk	5.37	353	*e*P	Pn	15 15 58.7	+0.3
	comp=Z,18nm,1.0s						
KVAR	Kislovodsk Arr	5.37	353	Pn	Pn	15 16 01.6	+3.2
	baz=207,slow=9.0,SNR=2.0						
KVAR				LR	LR	15 18 03.1	
	comp=Z,114nm,19.1s,baz=164,slow=38						
GALA	Gala	5.39	69	⇑P	Pn	15 15 58.0	-0.6
GALA				⇑S	Sn	15 17 00.9	+0.3
GALA	Gala	5.39	69	P	Pn	15 15 58.0	-0.6
GALA				S	Sn	15 17 00.9	+0.3
GOF	Gofitskoye	6.44	357	⇑*e*P	Pn	15 16 20.3	+7.3
GOF				pmax	pmax		
	comp=Z,28nm,0.6s						
BRTR	Keskin Array B	7.80	281	Pn	Pn	15 16 33.4	+1.6
	comp=Z,0.1nm,0.3s,baz=86,slow=10,SNR=2.9						
ASF	Jabal al Asfar	8.44	222	Pn	Pn	15 16 42.5	+1.9
	comp=Z,0.7nm,0.3s,baz=20,slow=13,SNR=7.5						
ASF				Lg	Lg	15 19 13.5	
	comp=Z,0.4nm,0.3s,baz=287,slow=20,SNR=2.9						
MMAI	Mount Meron Ar	8.68	232	Pn	Pn	15 16 44.6	+0.6
	comp=Z,3.0nm,0.3s,baz=80,slow=16,SNR=5.1						
MMAI				LR	LR	15 20 13.3	
	comp=Z,152nm,19.4s,baz=65,slow=39						
EIL	Elat	11.43	221	Lg	Lg	15 20 45.2	
	comp=Z,0.2nm,0.3s,baz=57,slow=17,SNR=2.9						
EIL				LR	LR	15 22 07.4	
	comp=Z,147nm,18.4s,baz=329,slow=40						
GEYT	Alibeck	11.45	89	Pn	Pn	15 17 22.9	+1.0
	comp=Z,1.0nm,0.3s,baz=283,slow=14,SNR=6.6						
LPSR	Galich'ya Gora	14.34	348	*e*P	Pn	15 18 01.2	0.0
LPSR				pmax	pmax		
	comp=Z,30nm,1.2s						
VRI	Vrincioaia	14.41	306	⇑*i*P	P	15 18 07.4	-1.7
VRI	Vrincioaia	14.41	306	P	P	15 18 07.4	-1.7
VRI	Vrincioaia	14.41	306	P	P	15 18 07.4	-1.7
PLOR	Plostina	14.45	305	⇓*i*P	P	15 18 07.7	-1.9
PLOR	Plostina	14.45	305	P	P	15 18 07.6	-2.0
MLR	Muntele Rosu	14.77	303	Pn	Pn	15 18 04.2	-3.0
	comp=Z,0.1nm,0.3s,baz=97,slow=17,SNR=2.2						
MLR	Muntele Rosu	14.77	303	⇑*i*P	P	15 18 12.5	-0.7
MLR	Muntele Rosu	14.77	303	⇑*i*P	P	15 18 12.5	-0.7
RAYN	Ar Rayn	15.15	173	*e*Pn	Pn	15 18 08.8	-3.5
	comp=Z,12nm,0.8s						
RAYN	Ar Rayn	15.15	173	*e*Pn	Pn	15 18 08.8	-3.5
	comp=Z,12nm,0.8s						
IDI	Anoyia	15.31	263	LR	LR	15 24 50.4	
	comp=Z,48nm,18.2s,baz=86,slow=40						
DOPR	Dopca	15.31	304	⇑*i*P	P	15 18 19.1	0.0
DOPR	Dopca	15.31	304	⇑*i*P	P	15 18 19.1	0.0
VOIR		15.34	302	⇑*i*P	P	15 18 19.4	-0.1
VOIR		15.34	302	P	Pn	15 18 16.8	+2.0
VOIR				pmax	pmax		
	comp=Z,49nm,1.0s						
VOIR		15.34	302	⇑*i*P	P	15 18 19.4	-0.1
ARR	Arges	15.59	302	⇓*i*P	P	15 18 22.6	+0.3
ARR	Arges	15.59	302	⇓*i*P	P	15 18 22.6	+0.3
AKTO	Aktyubinsk	15.63	36	Pn	Pn	15 18 17.2	-1.2
	comp=Z,0.2nm,0.3s,baz=229,slow=14,SNR=8.5						
AKTO				LR	LR	15 25 59.5	
	comp=Z,81nm,19.4s,baz=224,slow=44						
AKASG	Malin Array Be	15.78	325	Pn	Pn	15 18 17.9	-2.4
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=19						
AKBB	Malin Array Si	15.78	325	*e*P	Pn	15 18 19.0	-1.3
AKBB				pmax	pmax		
	comp=Z,11nm,1.1s						
AKBB	Malin Array Si	15.78	325	*e*Pn	Pn	15 18 19.0	-1.3
	comp=Z,10nm,1.1s						
AKBB	Malin Array Si	15.78	325	*e*Pn	Pn	15 18 19.0	-1.3
	comp=Z,10nm,1.1s						
KIEV	Kiev	15.78	325	*e*P	Pn	15 18 18.2	-2.1
KIEV	Kiev	15.78	325	*e*Pn	Pn	15 18 18.8	-1.5
	comp=Z,9.9nm,1.1s						
KIEV	Kiev	15.78	325	*e*Pn	Pn	15 18 18.8	-1.5
	comp=Z,9.9nm,1.1s						
ABKAR	Akbulak array	15.83	43	*e*Pn	Pn	15 18 21.7	+0.6
	comp=Z,24nm,0.8s						
ABKAR	Akbulak array	15.83	43	*e*Pn	Pn	15 18 21.7	+0.6
	comp=Z,24nm,0.8s						
VTS	Vitosha	15.96	291	⇑*i*P	P	15 18 25.8	-0.7
VTS	Vitosha	15.96	291	*e*P	Pn	15 18 22.1	-0.8
VTS				pmax	pmax		
	comp=Z,18nm,1.3s						
VTS	Vitosha	15.96	291	*e*Pn	Pn	15 18 22.1	-0.8
	comp=Z,18nm,1.3s						
VTS	Vitosha	15.96	291	⇑*i*P	P	15 18 25.8	-0.7
VTS	Vitosha	15.96	291	*e*Pn	Pn	15 18 22.1	-0.8
	comp=Z,18nm,1.3s						
BURAR	Bucovina Array	16.10	310	⇓*i*P	P	15 18 29.4	+1.4
BURAR	Bucovina Array	16.10	310	P	P	15 18 29.3	+1.3
BURAR	Bucovina Array	16.10	310	⇓*i*P	P	15 18 29.4	+1.4
BUR08	Bucovina Ar. S	16.13	310	*e*Pn	Pn	15 18 24.4	-0.6
BUR08	Bucovina Ar. S	16.13	310	*e*Pn	Pn	15 18 24.4	-0.6
OBN	Obninsk	17.16	346	P	Pn	15 18 36.8	-1.0
	comp=Z,4.1nm,0.3s,baz=200,slow=4.2,SNR=6.0						
OBN	Obninsk	17.16	346	⇓*e*P	Pn	15 18 37.3	-0.5
OBN				*e*S	Sn	15 21 51.0	+2.6
OBN				pmax	pmax		
	comp=Z,36nm,1.2s						
OBN				MLR	MLR		
	comp=Z,157nm,15.0s						
DRGR		17.33	305	⇑*i*P	P	15 18 44.2	+2.6
DRGR		17.33	305	⇑*i*P	P	15 18 44.2	+2.6
BZS	Buzias	17.69	300	⇓*i*P	P	15 18 47.6	+2.1
BZS	Buzias	17.69	300	⇓*i*P	P	15 18 47.6	+2.1
SIRR	Siria	17.85	302	⇑*i*P	P	15 18 49.2	+2.0
SIRR	Siria	17.85	302	⇑*i*P	P	15 18 49.2	+2.0
UZH	Uzhgorod	18.31	310	*e*P	Pn	15 18 51.0	-1.2
UZH	Uzhgorod	18.31	310	*e*P	Pn	15 18 51.0	-1.2
KWP	Kalwaria Pacla	18.52	313	P	P	15 18 54.3	-0.3
KWP				pmax	pmax		
	comp=Z,363nm,0.5s						
KWP	Kalwaria Pacla	18.52	313	P	P	15 18 54.3	-0.3
	comp=Z,363nm,0.5s						
CRVS	Cervenica-Dubn	18.92	310	*e*P	Pn	15 19 00.5	+0.8
CRVS	Cervenica-Dubn	18.92	310	*e*P	Pn	15 19 00.5	+0.8
CRVS	Cervenica-Dubn	18.92	310	*e*P	Pn	15 19 00.5	+0.8
PSZ	Piszkesteto	19.52	306	⇑*i*P	Pn	15 19 08.3	+1.4
PSZ	Piszkesteto	19.52	306	*e*P	Pn	15 19 06.6	-0.3
PSZ				pmax	pmax		
	comp=Z,11nm,1.0s						
PSZ	Piszkesteto	19.52	306	*e*P	Pn	15 19 06.6	-0.3
	comp=Z,11nm,1.0s						
PSZ	Piszkesteto	19.52	306	*e*P	Pn	15 19 06.6	-0.3
	comp=Z,11nm,1.0s						
NIE	Niedzica	19.83	310	P	Pn	15 19 11.4	+0.8
NIE				pmax	pmax		
	comp=Z,13nm,1.1s						
WSAR	Wadi Sarin	20.01	136	P	Pn	15 19 14.3	+1.6
	comp=Z,5.4nm,0.7s,baz=318,slow=8.3

comp=Z,18nm,1.7s
KHC Kasperske Hory 23.89 306 *e*P **P 15 19 52.3 +0.4**
comp=Z,18nm,1.7s
KHC Kasperske Hory 23.89 306 *e*P **P 15 19 52.3 +0.4**
comp=Z,18nm,1.7s
WET Wettzell 24.34 306 P **P 15 19 57.0 +1.0**
WET pmax pmax
comp=Z,10.0nm,1.5s
WET Wettzell 24.34 306 P **P 15 19 57.0 +1.0**
comp=Z,10.0nm,1.5s
CLL Collm 24.87 311 *e*P **P 15 20 00.0 -0.8**
CLL *e* 15 20 04.0
CLL *e*S **S 15 24 28.0 +4.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 24.87 311 *e*P **P 15 20 01.2 +0.4**
comp=Z,8.7nm,0.9s
CLL Collm 24.87 311 *e*P **P 15 20 00.0 -0.8**
comp=Z,6.0nm,0.9s
CLL *e*sP **pP 15 20 04.0 -0.4**
CLL *e* 15 20 06.0
CLL *e*S **S 15 24 28.0 +4.6**
CLL Collm 24.87 311 *e*P **P 15 20 01.2 +0.4**
comp=Z,8.7nm,0.9s
NKC Novy Kostel 24.89 308 *e*P **P 15 20 01.6 +0.6**
NKC *e*pP **sP 15 20 06.8 +0.7**
NKC Novy Kostel 24.89 308 *e*P **P 15 20 01.6 +0.6**
NKC *e* 15 20 06.8
NKC Novy Kostel 24.89 308 *e*P **P 15 20 01.6 +0.6**
KSH Kashi 25.10 78 *e*P **P 15 20 03.5 +0.4**
KSH *e*pP sP 15 20 09.3 +1.1
KSH sP pP 15 20 13.8 +7.1
KSH PP **PnPn 15 20 40.5 +3.9**
KSH PcP **PcP 15 23 40.5 +3.2**
KSH S **S 15 24 23.8 -3.8**
KSH sS pS 15 24 31.0 -0.4
KSH SS **SnSn 15 25 20.0 +3.2**
KSH PcS **PcS 15 27 20.5 +2.8**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,95nm,5.1s
KSH LR LR
comp=N,100nm,8.2s
KSH LR LR
comp=E,98nm,9.0s
KSH LR LR
comp=Z,190nm,9.5s
MOTA Moosalm 25.15 301 P **P 15 20 03.1 -0.4**
comp=Z,5.1nm,0.8s
MOTA Moosalm 25.15 301 P **P 15 20 03.1 -0.4**
comp=Z,5.1nm,0.8s
FINES FINESS Array B 25.29 340 P **P 15 20 03.6 -0.8**
comp=Z,3.5nm,1.0s,baz=148,slow=11,SNR=6.0
FINES LR LR 15 30 15.0
comp=Z,40nm,20.9s,baz=159,slow=37
FETA Feichten 25.36 300 *e*P **P 15 20 04.2 -1.3**
comp=Z,12nm,1.5s
FETA Feichten 25.36 300 P **P 15 20 04.2 -1.3**
comp=Z,12nm,1.5s
JOF Joensuu 25.44 347 P **P 15 20 08.6 +2.9**
JOF pmax pmax
comp=Z,23nm,1.0s
GRF Grafenberg Arr 25.52 306 P **P 15 20 10.4 +3.7**
GRF pmax pmax
comp=Z,30nm,1.6s
GRFO Grafenberg 25.52 306 *e*P **P 15 20 04.1 -2.6**
GRFO pmax pmax
comp=Z,46nm,1.4s
GRFO Grafenberg 25.52 306 *e*P **P 15 20 04.1 -2.6**
comp=Z,46nm,1.4s
GRFO Grafenberg 25.52 306 *e*P **P 15 20 04.1 -2.6**
comp=Z,46nm,1.4s
DAVOX Davos/Dischmat 25.91 299 P **P 15 20 09.2 -1.3**
comp=Z,4.2nm,0.7s,baz=107,slow=11,SNR=4.6
DAVA Damuels 25.97 300 P **P 15 20 11.4 +0.4**
comp=Z,15nm,1.6s
KURBB Kurchatov Arra 27.36 53 P **P 15 20 24.7 +1.5**
comp=Z,4.7nm,0.6s,baz=262,slow=9.0,SNR=29
KURK Kurchatov 27.43 52 ⇓*i*P **P 15 20 24.5 +0.6**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 27.43 52 P **P 15 20 24.7 +0.8**
KURK Kurchatov 27.43 52 P **P 15 20 24.7 +0.8**
BNI Bardonecchia 28.05 295 *e*P **P 15 20 28.9 -0.8**
BNI pmax pmax
comp=Z,29nm,1.5s
BNI Bardonecchia 28.05 295 *e*P **P 15 20 28.9 -0.8**
comp=Z,29nm,1.5s
BNI Bardonecchia 28.05 295 *e*P **P 15 20 28.9 -0.8**
comp=Z,29nm,1.5s
HFS Hagfors 28.58 329 P **P 15 20 33.2 -0.9**
comp=Z,6.3nm,1.0s,baz=114,slow=9.6,SNR=2.9
HFS LR LR 15 33 14.0
comp=Z,30nm,19.7s,baz=122,slow=39
MAKZ Makanchi 29.14 61 *e*P **P 15 20 37.2 -2.0**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 29.14 61 *e*P **P 15 20 37.2 -2.0**
comp=Z,8.2nm,1.2s
MAKZ Makanchi 29.14 61 *e*P **P 15 20 37.2 -2.0**
comp=Z,8.2nm,1.2s
MKAR Makanchi Array 29.35 61 P **P 15 20 42.7 +1.6**
comp=Z,2.3nm,0.7s,baz=264,slow=7.6,SNR=18
NOA NORSAR Array B 30.11 329 P **P 15 20 47.5 -0.1**
comp=Z,0.8nm,0.7s,baz=124,slow=8.9,SNR=2.8
NOA LR LR 15 33 46.8
comp=Z,23nm,19.4s,baz=240,slow=38
NVS Novosibirsk 31.14 46 *e*P **P 15 20 57.6 +0.9**
ZAA0 Zalesovo Array 31.83 48 *e*P **P 15 21 02.4 -0.5**
ZAA0 Zalesovo Array 31.83 48 *e*P **P 15 21 02.4 -0.5**
ZALV Zalesovo Beam 31.83 48 P **P 15 21 03.5 +0.6**
comp=Z,2.5nm,0.7s,baz=261,slow=9.4,SNR=10.0
ARCES ARCESS Array B 32.45 348 P **P 15 21 06.1 -2.0**
comp=Z,1.5nm,0.9s,baz=153,slow=9.1,SNR=4.0
ARCES LR LR 15 34 47.0
comp=Z,77nm,19.2s,baz=154,slow=37
WMQ Urumqi 33.28 67 P **P 15 21 16.0 +0.2**
WMQ pP sP 15 21 22.8 +1.9
WMQ sP pP 15 21 27.0 +7.5
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,88nm,3.9s
WMQ LR LR
comp=N,34nm,19.9s
WMQ LR LR
comp=E,18nm,23.5s
WMQ LR LR
comp=Z,35nm,20.9s
PYUN Piuthan 34.32 96 *e*P **P 15 21 26.9 +1.7**
DANN Dangsing 34.80 95 *e*P **P 15 21 31.4 +2.0**
comp=Z,2.8nm,0.9s
KOLN Koldanda 34.95 96 *e*P **P 15 21 32.1 +1.5**
comp=Z,11nm,1.0s
GKN Gorkha 35.65 95 *e*P **P 15 21 37.9 +1.3**
comp=Z,6.7nm,0.5s
TAM Tamanrasset 36.04 255 *e*P **P 15 21 36.0 -3.9**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 36.04 255 *e*P **P 15 21 36.0 -3.9**
comp=Z,3.9nm,0.8s
TAM Tamanrasset 36.04 255 *e*P **P 15 21 36.0 -3.9**
comp=Z,3.9nm,0.8s
DMN Daman 36.20 95 *e*P **P 15 21 43.3 +1.9**
comp=Z,19nm,1.0s
KKN Kakani 36.25 95 *e*P **P 15 21 43.2 +1.4**
PKIN Phulchoki 36.45 95 *e*P **P 15 21 44.7 +1.2**
comp=Z,7.0nm,0.6s
PKI Pulchoki 36.46 95 *e*P **P 15 21 45.1 +1.4**
comp=Z,14nm,0.9s
ESDC Sonseca Array 36.54 287 P **P 15 21 42.4 -1.6**
comp=Z,1.5nm,0.6s,baz=68,slow=8.6,SNR=7.4
GUN Gumba 36.66 94 *e*P **P 15 21 46.9 +1.4**
comp=Z,22nm,0.9s
JIRN Jiri 37.02 94 *e*P **P 15 21 50.1 +1.5**
comp=Z,151nm,0.9s
RAMN Ramite 37.68 95 *e*P **P 15 21 55.4 +1.4**
comp=Z,18nm,0.6s
ODAN Odare 38.34 95 *e*P **P 15 22 01.4 +1.8**
comp=Z,41nm,1.1s
TAPN Taplejung 38.36 94 *e*P **P 15 22 01.3 +1.5**
comp=Z,14nm,0.9s
NRIK Noril'sk 38.62 23 LR LR 15 40 48.8
comp=Z,54nm,18.1s,baz=114,slow=41
KMBO Kilima Mbogo 39.99 190 LR LR 15 38 12.4
comp=Z,65nm,18.5s,baz=84,slow=36
GTA Gaotai 43.09 71 *e*P **P 15 22 41.3 +2.8**
GTA pP sP 15 22 46.0 +2.4
GTA sP pP 15 22 48.3 +6.1
GTA pmax pmax
comp=Z,4.0nm,1.2s
TORD Torodi Ar. Bea 44.88 247 P **P 15 22 51.6 -1.4**
comp=Z,1.0nm,0.5s,baz=48,slow=8.2,SNR=10
SONM Songino Array 45.53 57 P **P 15 22 58.5 +0.5**
comp=Z,0.2nm,0.4s,baz=292,slow=7.6,SNR=3.4
ULN Ulaanbaatar 45.96 57 *e*P **P 15 23 00.8 -0.6**
ULN pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 47.22 73 *e*P **P 15 23 10.0 -1.4**
LZH pP sP 15 23 16.0 -0.6
LZH sP pP 15 23 19.0 +3.9
LZH *e*PP **PP 15 25 00.5 -1.7**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,43nm,6.2s
LZH LR LR
comp=N,120nm,14.3s
LZH LR LR
comp=E,110nm,14.0s
LZH LR LR
comp=Z,140nm,17.8s
BOD Bodaibo 48.27 43 *e*P **P 15 23 16.5 -2.6**
BOD pmax pmax
comp=Z,5.0nm,1.1s
HHC Hu-ho-hao-te 51.11 65 *e*P **P 15 23 40.5 -0.6**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.9s
CHTO Chiang Mai 51.62 96 *e*P **P 15 23 44.0 -1.0**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 51.62 96 *e*P **P 15 23 44.0 -1.0**
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 51.62 96 *e*P **P 15 23 44.0 -1.0**
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 51.82 96 P **P 15 23 47.1 +0.6**
comp=Z,2.1nm,0.9s,baz=302,slow=7.9,SNR=12
CMAR LR LR 15 51 14.1
comp=Z,11nm,20.0s,baz=290,slow=42
TIXI Tiksi 52.41 23 *e*P **P 15 23 49.9 -0.2**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
KSAR Wonju Array Be 64.01 62 P **P 15 25 12.4 +0.5**
KSAR Wonju Array Be 64.01 62 P **P 15 25 12.4 +0.5**
KSAR Wonju Array Be 64.01 62 P **P 15 25 12.4 +0.5**
KSRS Korea Array 64.03 62 P **P 15 25 12.4 +0.4**
comp=Z,5.6nm,0.9s,baz=293,slow=6.0,SNR=7.4
SEY Seymchan 64.07 29 *i*P **P 15 25 10.8 -1.0**
BOSA Boshof 69.05 197 P **P 15 25 44.6 +0.5**
comp=Z,0.7nm,0.4s,baz=57,slow=7.9,SNR=2.4
MJAR Matsushiro Arr 71.48 58 P **P 15 25 59.2 +0.1**
comp=Z,2.0nm,0.8s,baz=307,slow=3.6,SNR=2.7
PETK Petropavlovsk- 72.36 35 LR LR 16 00 42.3
comp=Z,19nm,20.1s,baz=128,slow=38

CSEM ***26*** *15:16:40.7,39°.13N×29°.11E,h7km,ML2.8*
DDA 26 15:16:40.7,39°.13N×29°.11E,h7km,Ml2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.29**	**98**	*i* P			Pg	15 16 47.0	+0.4
GDZ				*i* S			Sg	15 16 51.1	+0.7
GDZ	**Gediz**	**0.29**	**98**	P			Pg	15 16 47.0	+0.5
GDZ				S			Sg	15 16 51.1	+0.6
DEMI	**Demirci**	**0.32**	**254**	*i* P			Pg	15 16 47.6	+0.6
DEMI				*i* S			Sg	15 16 52.0	+0.8
DEMI	**Demirci**	**0.32**	**254**	P			Pg	15 16 47.6	+0.6
DEMI				S			Sg	15 16 52.0	+0.8
MANT	**Manisa**	**0.77**	**214**	*i* P			Pg	15 16 55.7	+0.1
MANT				*i* S			Sg	15 17 05.6	0.0
MANT	**Manisa**	**0.77**	**214**	P			Pg	15 16 55.7	+0.1
MANT				S			Sg	15 17 05.6	0.0
AKHS	**Akhisar**	**1.04**	**256**	*i* P			Pb	15 17 00.9	-0.1
AKHS				*i* S			Sb	15 17 15.1	+0.2
AKHS	**Akhisar**	**1.04**	**256**	P			Pb	15 17 00.9	-0.2
AKHS				S			Sb	15 17 15.1	+0.2

AZER ***26*** *15:31:12.5±0.7,37°.76N×43°.54E,h15km,Error ellipse: s-maj=6.8km s-min=5.4km az=136.0*
ISK ***26*** *15:31:14.4,38°.63N×43°.14E,h5km,ML4.2*
IDC ***26*** *15:31:14.7±0.7,38°.51N×43°.15E,h0km,mb3.8/13, mb1 3.8/22,mb1mx3.7/45,mbtmp3.7/22,ML3.2/8,MS3.0/11, Ms1 3.0/11,ms1mx2.7/46,Error ellipse: s-maj=13.5km s-min=9.1km az=155.0*
NEIC ***26*** *15:31:15.7±0.0,38°.62N×43°.22E,h3km,mb4.2/6, ML4.1(ISK),ML4.3(DDA),After ISK.*
DDA ***26*** *15:31:15.8,38°.64N×43°.10E,h4km,Ml4.2*
CSEM ***26*** *15:31:16.5±0.1,38°.60N×43°.20E,h10km,mb4.3/6,Error ellipse: s-maj=4.6km s-min=3.2km az=160.0*
ISCJB ***26*** *15:31:16.0±0.5,38°.57N±0°.02×43°.23E±0°.02,h14km±3km, mb3.9/17,MS2.8/7,Error ellipse: s-maj=3.9km s-min=2.6km az=158.9*
ISC 26 15:31:16.8±0.8,38°.59N±0°.02×43°.22E±0°.02,h13km±5km, n202,σ2°.00/268,mb4.0/17,MS2.8/7,40C-36D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**89**	PG			**Pg**	**15 31 20.1**	**-0.2**
VANB				*e*SG			**Sb**	**15 31 24.3**	**+0.1**
VANB	**Van**	**0.13**	**89**	*i* Pg			**Pg**	**15 31 20.1**	**-0.2**
VANB				*e*Sg			**Sb**	**15 31 24.3**	**+0.1**
VANB	**Van**	**0.13**	**89**	Pg			**Pg**	**15 31 20.1**	**-0.2**
GEVA	**Gevas**	**0.31**	**205**	⇓*i*P			**Pg**	**15 31 22.0**	**-1.2**
GEVA				*i* S			**Sg**	**15 31 28.4**	**+0.9**
GEVA	**Gevas**	**0.31**	**205**	*i* P			**Pg**	**15 31 22.2**	**-1.0**
GEVA				*i* S			**Sb**	**15 31 29.1**	**-0.2**
GEVA	**Gevas**	**0.31**	**205**	*i* P			**Pg**	**15 31 22.2**	**-1.0**
GEVA				*i* S			**Sb**	**15 31 29.1**	**-0.2**
VMUR	**Van-Muradiye**	**0.48**	**34**	⇓*i*P			**Pg**	**15 31 25.8**	**-0.5**
VMUR				*i* S			**Sb**	**15 31 34.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.48**	**34**	P			**Pg**	**15 31 25.8**	**-0.5**
VMUR				S			**Sb**	**15 31 34.2**	**-0.1**
BASK	**Baskale_VAN**	**0.82**	**131**	*i* P			**Pg**	**15 31 31.9**	**-0.8**
BASK	**Baskale_VAN**	**0.82**	**131**	P			**Pg**	**15 31 31.9**	**-0.8**
TUTA	**Tutak**	**0.87**	**339**	⇓*i*P			**Pg**	**15 31 31.4**	**-2.3**
TUTA				*i* S			**Sg**	**15 31 41.3**	**-3.8**
TUTA	**Tutak**	**0.87**	**339**	P			**Pg**	**15 31 31.4**	**-2.3**
TUTA				S			**Sg**	**15 31 41.3**	**-3.8**
TUTA	**Tutak**	**0.87**	**339**	*i* P			**Pg**	**15 31 31.3**	**-2.3**
AGRB	**Hanur-Agry**	**1.00**	**350**	*e*PG			**Pb**	**15 31 33.5**	**-2.6**
AGRB				*e*SG			**Sb**	**15 31 48.0**	**-1.2**
AGRB	**Hanur-Agry**	**1.00**	**350**	Pg			**Pb**	**15 31 34.9**	**-1.1**
AGRB				*e*Sg			**Sb**	**15 31 48.0**	**-1.2**
AGRB	**Hanur-Agry**	**1.00**	**350**	Pg			**Pb**	**15 31 34.9**	**-1.1**
DYDN	**Diyadin**	**1.02**	**21**	*i* P			**Pb**	**15 31 35.5**	**-0.9**
DYDN				*i* S			**Sn**	**15 31 52.5**	**+1.3**
DYDN	**Diyadin**	**1.02**	**21**	P			**Pb**	**15 31 35.5**	**-0.9**
DYDN				S			**Sn**	**15 31 52.5**	**+1.3**
DYDN	**Diyadin**	**1.02**	**21**	*i* P			**Pb**	**15 31 35.8**	**-0.6**
HAKT	**HAKKARI**	**1.10**	**160**	*i* P			**Pb**	**15 31 34.7**	**-3.1**
HAKT	**HAKKARI**	**1.10**	**160**	P			**Pb**	**15 31 34.7**	**-3.1**
EKAR	**Karacoban**	**1.12**	**307**	⇓*i*P			**Pb**	**15 31 36.0**	**-2.1**
EKAR				*i* S			**Sn**	**15 31 59.8**	**+5.9**
EKAR	**Karacoban**	**1.12**	**307**	*i* P			**Pb**	**15 31 36.2**	**-1.9**
EKAR	**Karacoban**	**1.12**	**307**	*i* P			**Pb**	**15 31 36.2**	**-1.9**
SIRN	**S¨–rnak**	**1.27**	**211**	⇓*i*P			**Pn**	**15 31 39.4**	**-0.8**
SIRN				*i* S			**Sg**	**15 31 58.2**	**+0.6**
SIRN	**S¨–rnak**	**1.27**	**211**	P			**Pn**	**15 31 39.4**	**-0.8**
SIRN				S			**Sg**	**15 31 58.2**	**+0.6**
CUKT	**Cukurca**	**1.38**	**167**	*e*PN			**Pg**	**15 31 43.4**	**+0.1**
CUKT	**Cukurca**	**1.38**	**167**	⇓*i*P			**Pb**	**15 31 43.0**	**+0.5**
CUKT				*i* S			**Sg**	**15 32 05.0**	**+3.8**
CUKT	**Cukurca**	**1.38**	**167**	P			**Pb**	**15 31 43.0**	**+0.5**
CUKT	**Cukurca**	**1.38**	**167**	*e*Pn			**Pg**	**15 31 43.4**	**+0.1**
CUKT				S			**Sg**	**15 32 05.0**	**+3.8**
EATA	**Eleskirt**	**1.39**	**336**	⇓*i*P			**Pn**	**15 31 40.8**	**-1.4**
EATA				*i* S			**Sb**	**15 32 00.2**	**-0.4**
EATA	**Eleskirt**	**1.39**	**336**	P			**Pn**	**15 31 40.8**	**-1.4**
EATA				S			**Sb**	**15 32 00.2**	**-0.4**
VRTB	**Varto-Mus**	**1.49**	**293**	*e*PN			**Pn**	**15 31 42.0**	**-1.4**
VRTB	**Varto-Mus**	**1.49**	**293**	*e*P			**Pn**	**15 31 40.9**	**-2.5**
VRTB	**Varto-Mus**	**1.49**	**293**	P			**Pn**	**15 31 40.9**	**-2.5**
VRTB	**Varto-Mus**	**1.49**	**293**	*e*Pn			**Pn**	**15 31 42.0**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.65**	**255**	*e*PN			**Pn**	**15 31 44.7**	**-0.8**
SVAN				*e*SN			**Sb**	**15 32 07.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.65**	**255**	⇑*i*P			**Pn**	**15 31 45.6**	**+0.1**
SVAN				*i* S			**Sb**	**15 32 08.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.65**	**255**	*e*Pn			**Pn**	**15 31 44.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.65**	**255**	P			**Pn**	**15 31 45.6**	**+0.1**
SVAN				*e*Sn			**Sb**	**15 32 07.5**	**-0.3**
SVAN				S			**Sb**	**15 32 08.7**	**+0.9**
BNGL	**BINGOL**	**1.66**	**283**	*i* P			**Pn**	**15 31 45.2**	**-0.6**
BNGL				*i* S			**Sg**	**15 32 10.3**	**+0.1**
BTMN	**Batman**	**1.69**	**246**	⇑*i*P			**Pn**	**15 31 46.1**	**0.0**
BTMN				*i* S			**Sg**	**15 32 10.9**	**-0.2**
BTMN	**Batman**	**1.69**	**246**	P			**Pn**	**15 31 46.1**	**0.0**
BTMN				S			**Sg**	**15 32 10.9**	**-0.2**
HOMI	**Horasan**	**1.77**	**325**	⇓*i*P			**Pn**	**15 31 47.7**	**+0.3**
HOMI				*i* S			**Sg**	**15 32 13.1**	**-0.8**
DIGO	**Kars**	**1.82**	**4**	⇑*i*P			**Pb**	**15 31 49.3**	**-0.9**
DIGO	**Kars**	**1.82**	**4**	P			**Pb**	**15 31 49.3**	**-0.9**
NAX	**Nakhchivan**	**1.87**	**71**	⇓P			**Pb**	**15 31 50.2**	**-0.6**
NAX				⇑S			**Sg**	**15 32 22.1**	**+5.2**
NAX	**Nakhchivan**	**1.87**	**71**	P			**Pb**	**15 31 50.2**	**-0.6**
ERZM	**Erzurum**	**1.95**	**313**	*i* P			**Pb**	**15 31 50.8**	**-1.5**
ERZM	**Erzurum**	**1.95**	**313**	P			**Pb**	**15 31 50.8**	**-1.5**
GNI	**Garni**	**1.95**	**37**	Pn			**Pb**	**15 31 51.4**	**-0.8**
12nm,0.3s,baz=241,slow=19,SNR=22
GNI Lg Lg 15 32 20.3
16nm,0.3s,baz=211,slow=20,SNR=8.4
GNI Garni 1.95 37 *e*Pn **Pb 15 31 51.0 -1.3**
GNI Lg Lg 15 32 20.3
GNI Garni 1.95 37 *e*Pn **Pb 15 31 51.0 -1.3**
GNI Lg Lg 15 32 20.3
ECAT Cat-ERZURUM 2.02 301 *i* P **Pn 15 31 51.0 +0.3**
ECAT Cat-ERZURUM 2.02 301 P **Pn 15 31 51.0 +0.3**
BNGB Bing¨¶l 2.03 282 *e*PN **Pn 15 31 50.3 -0.5**
SENK Senkaya-Erzuru 2.08 341 *e*PN **Pn 15 31 51.6 +0.1**
SENK Senkaya-Erzuru 2.08 341 *e*Pn **Pn 15 31 51.6 +0.1**
EAK Akyaka 2.11 8 *i* P **Pb 15 31 55.1 +0.1**
EAK Akyaka 2.11 8 P **Pb 15 31 55.1 +0.1**
BINT Bingol 2.16 278 *e*Pn **Pn 15 31 50.3 -2.2**
YEDI Yedisu-Bingol 2.25 293 *e*PN **Pn 15 31 53.6 -0.3**
YEDI Yedisu-Bingol 2.25 293 *e*Pn **Pn 15 31 53.6 -0.3**
MARD Mardin 2.31 237 ⇑*i*P **Pn 15 31 54.8 +0.1**
MAZI Mazidag 2.47 244 *e*PN **Pn 15 31 55.9 -0.9**
MAZI Mazidag 2.47 244 *e*Pn **Pn 15 31 55.9 -0.9**
DIYA Diyarbakir 2.53 256 *i* P **Pb 15 31 59.8 -2.3**
DIYA Diyarbakir 2.53 256 P **Pb 15 31 59.8 -2.3**
KOPT Kop Dagi 2.55 305 *i* P **Pb 15 32 02.3 -0.2**
DDEM Demirkent 2.56 334 *i* P **Pn 15 31 58.9 +0.7**
DDEM Demirkent 2.56 334 P **Pn 15 31 58.8 +0.7**
DAGI Agillar 2.68 338 *i* P **Pb 15 32 04.2 -0.4**
BGD Bogdanovka 2.68 6 P **Pb 15 32 05.9 +1.0**
ARTV Artvin 2.77 339 *i* P **Pn 15 32 00.2 -0.9**
ARTV Artvin 2.77 339 P **Pn 15 32 00.2 -0.9**
AKH Akhalkalaki 2.82 4 *e*PN **Pn 15 32 02.4 +0.6**
AKH Akhalkalaki 2.82 4 P **Pb 15 32 08.3 +1.2**
AKH Akhalkalaki 2.82 4 ⇑*i*P **Pb 15 32 08.0 +0.9**
AKH S **Sn 15 32 33.9 -1.8**
AKH Akhalkalaki 2.82 4 *e*Pn **Pn 15 32 02.4 +0.6**
AKH S **Sn 15 32 33.9 -1.8**
GDB GEDABAY 2.89 42 ⇑P **Pb 15 32 06.2 -2.1**
GDB ⇓S **Sg 15 32 49.6 +0.1**
GDB GEDABAY 2.89 42 P **Pb 15 32 06.2 -2.1**
ERZN Erzincan 2.90 291 *e*PN **Pn 15 32 02.5 -0.2**
TNCL Tunceli-Merkez 2.92 281 *i* P **Pb 15 32 07.6 -1.2**
EPOS Posof 2.93 353 *i* P **Pb 15 32 06.4 -2.6**
EPOS Posof 2.93 353 P **Pb 15 32 06.4 -2.6**
QZX Qazax, Azerbai 2.97 33 ⇑P **Pb 15 32 08.7 -0.8**
QZX ⇓S **Sg 15 32 52.3 +0.2**
PTK Pertek 3.01 277 *e*PN **Pn 15 32 03.8 -0.5**
PTK Pertek 3.01 277 *e*Pn **Pn 15 32 03.8 -0.5**
SVRC Sivrice-ELAZID 3.08 267 *e*PN **Pn 15 32 05.9 +0.6**
SVRC Sivrice-ELAZID 3.08 267 *e*Pn **Pn 15 32 05.9 +0.6**
GANJ Ganja 3.15 48 ⇑P **Pn 15 32 07.9 +1.8**
GANJ ⇓S **Sb 15 32 53.6 +2.5**
GANJ Ganja 3.15 48 P **Pn 15 32 07.9 +1.8**
DGRG David-gareji 3.30 29 P **Pb 15 32 12.4 -2.7**
DGRG David-gareji 3.30 29 P **Pb 15 32 12.0 -3.2**
BRDA Brd 3.49 60 ⇑P **Pn 15 32 10.8 +0.1**
BRDA ⇑S **Sb 15 32 57.0 -3.6**
BRDA Brd 3.49 60 P **Pn 15 32 10.8 +0.1**
BRDA S **Sb 15 32 57.0 -3.6**
URFA Urfa 3.66 253 *e*PN **Pn 15 32 13.1 -0.1**
URFA Urfa 3.66 253 *e*Pn **Pn 15 32 13.1 -0.1**
MNGR Mingechevir, A 3.69 53 ⇑P **Pn 15 32 14.6 +1.1**
MNGR ⇓S **Sb 15 33 03.9 -2.6**
MNGR Mingechevir, A 3.69 53 P **Pn 15 32 14.6 +1.1**
ZRD Zardab 3.84 63 ⇑P **Pn 15 32 14.7 -0.9**
ZRD ⇑S **Sn 15 33 04.2 +3.6**
ZRD Zardab 3.84 63 P **Pn 15 32 14.7 -0.9**
ZRD S **Sn 15 33 04.2 +3.6**
ONI Oni 4.00 2 P **Pb 15 32 24.4 -2.7**
ZKTA Zakatala 4.01 40 ⇑P **Pn 15 32 20.9 +3.0**
ZKTA ⇓S **Sb 15 33 14.6 -1.0**
LRK Lerik 4.01 88 ⇑P **Pn** 15 32 12.5 -5.6
LRK ⇑S **Sn 15 32 59.5 -5.4**
SEKA Sheki 4.02 48 ⇓P **Pn 15 32 20.4 +2.3**
SEKA ⇑S **Sb 15 33 13.3 -2.8**
SEKA Sheki 4.02 48 P **Pn 15 32 20.4 +2.3**
GLBA Clilabad 4.08 79 ⇑P **Pn 15 32 14.4 -4.3**
GLBA ⇑S **Sn 15 33 03.5 -3.1**
GLBA Clilabad 4.08 79 P **Pn 15 32 14.6 -4.3**
GLBA S **Sn 15 33 03.5 -3.1**
ESPY Espiye-Giresun 4.17 305 *e*PN **Pn 15 32 20.7 +0.6**
ESPY Espiye-Giresun 4.17 305 *e*Pn **Pn 15 32 20.7 +0.6**
KDMR Kurdemir 4.23 64 ⇓P **Pn 15 32 20.0 -0.9**
KDMR ⇓S **Sn 15 33 12.4 +2.2**
KDMR Kurdemir 4.23 64 P **Pn 15 32 20.0 -0.9**
KDMR S **Sn 15 33 12.4 +2.2**
SAAT Saatly 4.23 71 ⇓P **Pn 15 32 18.7 -2.2**
SAAT ⇑S **Sn 15 33 09.7 -0.5**
SAAT Saatly 4.23 71 P **Pn 15 32 18.7 -2.2**
SAAT S **Sn 15 33 09.7 -0.5**
QBL Gabala 4.26 55 ⇓P **Pn 15 32 21.3 -0.1**
QBL ⇑S **Sn 15 33 15.8 +4.7**
QBL Gabala 4.26 55 P **Pn 15 32 21.3 -0.1**
QBL S **Sn 15 33 15.8 +4.7**
LKRN Lenkeran, Azer 4.35 87 ⇓P **Pn** 15 32 16.9 -5.7
LKRN ⇓S **Sn 15 33 07.2 -6.0**
ASTR Astara 4.37 89 ⇑P **Pn** 15 32 16.6 -6.2
ASTR ⇓S **Sn 15 33 06.7 -6.8**
IML Ismayilli 4.41 59 ⇑P **Pn 15 32 22.4 -1.1**
IML ⇑S **Sn 15 33 17.7 +3.0**
IML Ismayilli 4.41 59 P **Pn 15 32 22.4 -1.1**
IML S **Sn 15 33 17.7 +3.0**
XNQ Khinaliq 4.58 54 ⇑P **Pn 15 32 25.9 0.0**
XNQ ⇓S **Sn 15 33 22.8 +3.8**
XNQ Khinaliq 4.58 54 P **Pn 15 32 25.9 0.0**
XNQ S **Sn 15 33 22.8 +3.8**
PQL Pirkuli 4.69 60 ⇑P **Pn 15 32 26.0 -1.4**
PQL ⇑S **Sn 15 33 23.5 +1.8**
PQL Pirkuli 4.69 60 P **Pn 15 32 26.0 -1.4**
PQL S **Sn 15 33 23.5 +1.8**
ALIB Äli-Bayra 4.69 71 ⇓P **Pn 15 32 23.6 -3.6**
ALIB ⇓S **Sn 15 33 19.9 -1.6**
ALIB Äli-Bayra 4.69 71 P **Pn 15 32 23.6 -3.6**
ALIB S **Sn 15 33 19.9 -1.6**
GBS Qobustan 4.83 65 ⇑P **Pn 15 32 27.2 -2.0**
GBS ⇓S **Sn 15 33 25.5 +0.5**
GBS Qobustan 4.83 65 P **Pn 15 32 27.2 -2.0**
GBS S **Sn 15 33 25.5 +0.5**
QSAR Qusar 4.85 51 ⇑P **Pn 15 32 29.7 +0.3**
QSAR ⇓S **Sn 15 33 30.1 +4.7**
QSAR Qusar 4.85 51 P **Pn 15 32 29.7 +0.3**
QSAR S **Sn 15 33 30.1 +4.7**
QUBA Quba, Azerbaij 4.90 54 ⇑P **Pn 15 32 30.0 -0.2**
QUBA ⇓S **Sn 15 33 30.6 +3.9**
QUBA Quba, Azerbaij 4.90 54 P **Pn 15 32 30.0 -0.2**
QUBA S **Sn 15 33 30.6 +3.9**
ATGJ Altiaghaj 4.96 61 ⇑P **Pn 15 32 29.6 -1.4**
ATGJ ⇓S **Sn 15 33 29.5 +1.3**
ATGJ Altiaghaj 4.96 61 P **Pn 15 32 29.6 -1.4**
ATGJ S **Sn 15 33 29.5 +1.3**
SIZA Siyzn 5.03 59 ⇑P **Pn 15 32 30.9 -1.0**
SIZA ⇑S **Sn 15 33 32.1 +2.2**
SIZA Siyzn 5.03 59 P **Pn 15 32 30.9

GOBA Gobu 5.35 68 ⇑P Pn 15 32 32.9 -3.4
GOBA ⇑S **Sn 15 33 36.3 -1.5**
GOBA Gobu 5.35 68 P **Pn 15 32 32.9 -3.4**
GOBA S **Sn 15 33 36.3 -1.5**
KVAR Kislovodsk Arr 5.37 356 Pn **Pn 15 32 39.4 +2.6**
baz=122,slow=17,SNR=1.8
KVAR LR LR 15 35 03.3
comp=Z,284nm,18.4s,baz=184,slow=42
NDR Nardaran 5.59 67 ⇑P **Pn 15 32 36.4 -3.2**
NDR ⇓S **Sn 15 33 41.9 -1.7**
GALA Gala 5.66 69 ⇓P **Pn 15 32 37.0 -3.5**
GALA ⇑S **Sn 15 33 43.3 -2.1**
BRTR Keskin Array B 7.53 282 Pn **Pn 15 33 07.5 +1.1**
0.1nm,0.3s,baz=108,slow=16,SNR=2.8
ASF Jabal al Asfar 8.23 221 Pn **Pn 15 33 15.6 -0.3**
0.2nm,0.3s,baz=36,slow=8.7,SNR=2.9
ASF Lg Lg 15 35 39.2
0.3nm,0.3s,baz=184,slow=19,SNR=3.2
MMAI Mount Meron Ar 8.44 231 Pn **Pn 15 33 17.9 -1.0**
1.3nm,0.3s,baz=64,slow=16,SNR=2.3
EIL Elat 11.23 220 Lg Lg 15 37 14.8
0.5nm,0.3s,baz=290,slow=18,SNR=2.0
GEYT Alibeck 11.73 89 LR LR 15 39 43.5
comp=Z,31nm,21.9s,baz=270,slow=43
MLR Muntele Rosu 14.56 304 Pn **Pn 15 34 43.9 +1.4**
0.0nm,0.3s,baz=100,slow=17,SNR=2.0
MLR Muntele Rosu 14.56 304 ⇓*iP* **P 15 34 51.2 +2.2**
MLR Muntele Rosu 14.56 304 ⇓*iP* **P 15 34 51.2 +2.2**
DOPR Dopca 15.10 305 ⇓*iP* **P 15 34 57.8 +2.9**
VOIR 15.12 303 ⇑*iP* **P 15 34 58.2 +2.9**
RAYN Ar Rayn 15.15 172 *e*Pn **Pn 15 34 46.7 -3.8**
4.1nm,0.6s
ARR Arges 15.38 302 ⇓*iP* **P 15 35 01.9 +3.8**
AKASG Malin Array Be 15.64 325 Pn **Pn 15 34 56.4 -0.4**
0.2nm,0.3s,baz=134,slow=12,SNR=4.2
KIEV Kiev 15.65 325 *e*Pn **Pn 15 34 57.3 +0.5**
23nm,1.4s
KIEV Kiev 15.65 325 *e*Pn **Pn 15 34 57.3 +0.5**
23nm,1.4s
KIEV *e* 15 35 01.9
AKTO Aktyubinsk 15.82 37 Pn **Pn 15 34 58.7 -0.4**
0.2nm,0.3s,baz=224,slow=10,SNR=11
AKTO LR LR 15 43 12.2
comp=Z,23nm,19.8s,baz=246,slow=45
BURAR Bucovina Array 15.91 310 ⇓*iP* **P 15 35 06.6 +2.5**
ABKAR Akbulak array 16.05 43 *e*Pn **Pn 15 35 03.0 +1.0**
1.3nm,0.8s
ABKAR Akbulak array 16.05 43 *e*Pn **Pn 15 35 03.0 +1.0**
1.3nm,0.8s
GZR Gura Zlata 16.63 301 ⇑*iP* **P 15 35 18.1 +6.2**
OBN Obninsk 17.13 347 LR LR 15 42 23.9
comp=Z,102nm,18.4s,baz=98,slow=39
CRVS Cervenica-Dubn 18.73 310 *e*P **Pn 15 35 36.4 +0.9**
CRVS Cervenica-Dubn 18.73 310 *e*P **Pn 15 35 36.4 +0.9**
WSAR Wadi Sarin 20.18 135 P Pn 15 35 53.5 +0.5
3.3nm,0.6s,baz=321,slow=9.4,SNR=6.7
WSAR LR LR 15 45 54.8
comp=Z,62nm,20.7s,baz=8.0,slow=44
VYHS Vyhne 20.18 307 *e*P Pn 15 35 52.6 -0.2
4.9nm,1.3s
VYHS Vyhne 20.18 307 *e*P Pn 15 35 52.6 -0.2
VYHS *e* 16 07 05.1
ARU Arti 20.55 25 P **P 15 35 55.7 +0.9**
4.6nm,0.7s,baz=202,slow=7.5,SNR=8.0
KKAR Karatay Array 21.09 69 *e*P **P 15 36 02.3 +1.5**
11nm,0.7s
KKAR Karatay Array 21.09 69 *e*P **P 15 36 02.3 +1.5**
11nm,0.7s
VRAC Vranov 21.85 308 LR LR 15 47 12.9
comp=Z,33nm,19.5s,baz=112,slow=44
GERES GERESS Array B 23.53 305 P **P 15 36 26.0 -0.7**
0.3nm,0.6s,baz=114,slow=9.8,SNR=3.6
GERES LR LR 15 46 14.2
comp=Z,35nm,19.2s,baz=81,slow=38
GERES GERESS Array B 23.53 305 P **P 15 36 26.0 -0.7**
BRVK Borovoye 23.58 43 P **P 15 36 27.6 +0.7**
6.1nm,0.9s
BRVK Borovoye 23.58 43 P **P 15 36 27.6 +0.7**
6.1nm,0.9s
BVAR Borovoye Array 23.62 43 P **P 15 36 28.2 +0.8**
1.4nm,0.8s,baz=235,slow=12,SNR=6.6
AAK Ala-Archa 24.01 70 P **P 15 36 32.0 +0.6**
0.7nm,0.4s,baz=249,slow=8.6,SNR=3.7
AAK LR LR 15 48 19.0
comp=Z,23nm,20.6s,baz=253,slow=42
AAK Ala-Archa 24.01 70 *e*P **P 15 36 31.0 -0.4**
7.0nm,1.5s
AAK Ala-Archa 24.01 70 *e*P **P 15 36 31.0 -0.4**
7.0nm,1.5s
WATA Walderalm 24.61 301 *e*pP **P 15 36 38.3 +1.4**
7.8nm,1.1s
WATA Walderalm 24.61 301 P **P 15 36 38.3 +1.4**
7.8nm,1.1s
MOTA Moosalm 24.93 301 *i*pP **P 15 36 41.1 +1.4**
3.5nm,0.6s
MOTA Moosalm 24.93 301 P **P 15 36 41.1 +1.4**
3.5nm,0.6s
FINES FINESS Array B 25.23 341 P **P 15 36 42.3 +0.2**
3.4nm,0.9s,baz=148,slow=11,SNR=5.4
FINES LR LR 15 47 18.7
comp=Z,42nm,19.2s,baz=163,slow=38
KURBB Kurchatov Arra 27.60 53 P **P 15 37 05.1 +1.5**
1.6nm,0.6s,baz=263,slow=8.9,SNR=16
KURBB PcP **PcP 15 40 20.7 -0.2**
0.6nm,0.8s,baz=270,slow=3.2,SNR=6.6
KURK Kurchatov 27.67 52 *e*P **P 15 37 04.8 +0.5**
27nm,1.1s
KURK Kurchatov 27.67 52 PcP **PcP 15 40 20.7 -0.3**
KURK Kurchatov 27.67 52 *e*P **P 15 37 04.8 +0.5**
27nm,1.1s
KURK PcP **PcP 15 40 20.7 -0.3**
MKAR Makanchi Array 29.61 61 P **P 15 37 23.1 +1.4**
0.9nm,0.8s,baz=265,slow=7.3,SNR=8.2
NOA NORSAR Array B 29.99 329 LR LR 15 50 55.8
comp=Z,21nm,19.5s,baz=125,slow=39
ZALV Zalesovo Beam 32.06 48 P **P 15 37 43.2 +0.2**
0.4nm,0.3s,baz=253,slow=9.8,SNR=3.0
ARCES ARCESS Array B 32.43 348 P **P 15 37 46.1 -0.1**
2.4nm,1.1s,baz=153,slow=8.7,SNR=5.2
ARCES LR LR 15 50 50.6
comp=Z,33nm,21.9s,baz=168,slow=36
ESDC Sonseca Array 36.29 287 P **P 15 38 19.3 -0.6**
0.3nm,0.4s,baz=56,slow=7.1,SNR=3.4
TORD Torodi Ar. Bea 44.61 247 P **P 15 39 27.5 -1.5**
1.0nm,1.1s,baz=63,slow=6.6,SNR=4.0
TORD PcP **PcP 15 41 11.0 -0.8**
0.4nm,0.7s,baz=11,slow=2.2,SNR=2.7
TORD Torodi Ar. Bea 44.61 247 PcP **PcP 15 41 11.0 -0.8**
CMAR Chiang Mai Arr 52.09 96 P **P 15 40 27.0 +0.3**
1.2nm,0.7s,baz=298,slow=8.0,SNR=11
CMAR Chiang Mai Arr 52.09 96 P **P 15 40 27.0 +0.3**
KSAR Wonju Array Be 64.27 62 P **P 15 41 52.3 +0.6**
KSAR Wonju Array Be 64.27 62 P **P 15 41 52.3 +0.6**
KSRS Korea Array 64.29 62 P **P 15 41 52.3 +0.5**
2.7nm,0.8s,baz=293,slow=6.7,SNR=15

IDC ***26*** *15:37:08.3±0.8,41°.74S×86°.23W,h0km,mb4.4/7, mb1 4.6/8,mb1mx4.3/25,mbtmp4.4/8,ML4.2/1,MS3.6/13, Ms1 3.6/13,ms1mx3.5/23,Error ellipse: s-maj=29.3km s-min=25.8km az=76.0*
ISCJB ***26*** *15:37:10.6±0.4,41°.27S±0°.07×85°.55W±0°.09,h14km, mb4.7/43,MS3.6/11,Error ellipse: s-maj=11.8km s-min=8.3km az=42.3*
NEIC ***26*** *15:37:10.6±0.4,41°.47S×85°.73W,h10km,mb4.9/39,Error ellipse: s-maj=12.1km s-min=8.6km az=23.0*
BJI ***26*** *15:37:11.6,41°.30S×85°.60W,h10km,mB5.1/3,Ms5.1/5, Ms7 4.9/5*
ISC 26 15:37:11.7±0.4,**41°.41S**±0°.09×**85°.48W**±0°.09,**h14**km,**n291**, σ1§**07**/292,**mb4.8**/43,**MS3.7**/11,**1C-1D,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**11.29**	**92**	Pn		Pn		15 39 58.9	+6.2
	0.3nm,0.3s,baz=298,slow=13,SNR=7.9								
PLCA				LR		LR		15 43 14.1	
	comp=Z,209nm,21.4s,baz=256,slow=31								
PLCA	**Paso Flores**	**11.29**	**92**	*e*Pn		**Pn**		**15 39 55.8**	**+3.1**
GO05	**HualaæØ**	**12.42**	**63**	*e*Pn		**Pn**		**15 40 06.7**	**-1.3**
ROC1	**El Roble**	**14.26**	**58**	*e*Pn		**Pn**		**15 40 34.8**	**+1.4**
USHA	**Ushuaia**	**17.54**	**146**	LR		LR		15 47 05.1	
	comp=Z,1µm,19.0s,baz=216,slow=34								
TRQA	**Tornquist**	**18.37**	**87**	*e*Pn		**P**		**15 41 28.6**	**+2.6**
	26nm,1.1s								
LVC	**Limon Verde**	**23.35**	**42**	P		**P**		**15 42 25.4**	**+5.3**
	10nm,0.6s,baz=238,slow=8.7,SNR=2.7								
PB01	**IPOC Station P**	**24.40**	**39**	*e*P		**P**		**15 42 30.0**	**+0.2**
	9.7nm,0.9s								
LPAZ	**La Paz**	**29.17**	**36**	P		**P**		**15 43 17.0**	**+3.8**
	1.8nm,0.7s,baz=188,slow=7.1,SNR=7.2								
LPAZ				PcP		**PcP**		**15 46 21.1**	**+0.4**
	0.7nm,0.5s,baz=162,slow=3.2,SNR=3.5								
LPAZ				LR		LR		15 53 13.2	
	comp=Z,26nm,21.9s,baz=204,slow=32								
LPAZ	**La Paz**	**29.17**	**36**	*e*P		**P**		**15 43 12.2**	**-1.0**
	2.4nm,0.8s								
LPAZ				PcP		**PcP**		**15 46 21.1**	**+0.4**
SAML	**Samuel**	**37.87**	**38**	*e*P		**P**		**15 44 30.1**	**+1.9**
	5.2nm,1.1s								
BDFB	**Brasilia**	**41.26**	**63**	LR		LR		16 01 58.8	
	comp=Z,75nm,18.3s,baz=332,slow=36								
VNA3	**Neumayer Olymp**	**46.91**	**155**	P		**P**		**15 45 42.9**	**+1.7**
ROSC	**El Rosal**	**47.14**	**15**	LR		LR		16 03 27.5	
	comp=Z,82nm,19.5s,baz=120,slow=33								
VNA1	**Neumayer--Stat**	**47.41**	**154**	P		**P**		**15 45 47.2**	**+2.1**
VNA2	**Neumayer--Watz**	**47.67**	**154**	P		**P**		**15 45 49.0**	**+1.9**
	baz=274,slow=7.9								
RUSC	**La Rusia**	**48.42**	**17**	*e*P		**P**		**15 45 52.8**	**-1.3**
	2.4nm,0.7s								
SNAA	**Sanae**	**49.04**	**155**	P		**P**		**15 45 59.1**	**+1.4**
SNAA	**Sanae**	**49.04**	**155**	*e*P		**P**		**15 45 58.9**	**+1.2**
	8.0nm,1.0s								
VNDA	**Vanda**	**54.54**	**194**	LR		LR		16 06 18.5	
	comp=Z,30nm,18.0s,baz=122,slow=32								
PPT2	**Papeete2**	**59.25**	**273**	*e*S		**S**		**15 55 25.5**	**+4.9**
	64nm,26.5s								
PPT2				*e*LR		LR		16 04 18.0	
	93nm,28.2s								
SYO	**Syowa Base**	**62.68**	**161**	⇓*e*pP		**P**		**15 47 34.7**	**-0.7**
SYO	**Syowa Base**	**62.68**	**161**	⇓*e*PcP		**PcP**		**15 48 09.5**	**-4.5**
H06S1	**SOCORRO T**	**64.33**	**333**	T		T		16 56 16.4	
	SNR=34								
H06E1	**SOCORRO T-PHAS**	**64.36**	**333**	T		T		16 55 55.1	
	SNR=433								
ZAIG	**Zacatecas**	**65.79**	**343**	*e*P		**P**		**15 47 57.0**	**+0.4**
	13nm,1.0s								
035Z	**Hargill**	**68.53**	**348**	P		**P**		**15 48 14.3**	**+0.8**
	baz=170								
MAW	**Mawson**	**68.70**	**168**	P		**P**		**15 48 12.5**	**-1.7**
	1.8nm,0.9s,baz=236,slow=7.3,SNR=4.8								
035A	**Encino**	**69.00**	**348**	P		**P**		**15 48 17.2**	**+0.8**
	baz=170								
034A	**Hebbronville**	**69.22**	**347**	P		**P**		**15 48 18.5**	**+0.6**
	baz=170								
934A	**Benavides**	**69.72**	**348**	P		**P**		**15 48 21.7**	**+0.8**
	baz=170								
933A	**Laredo**	**69.85**	**347**	P		**P**		**15 48 22.3**	**+0.5**
	baz=169								
835A	**Beeville**	**70.28**	**348**	P		**P**		**15 48 25.0**	**+0.7**
	baz=170								
HPIG		**70.52**	**341**	*e*P		**P**		**15 48 26.3**	**+0.1**
	21nm,0.9s								
833A	**Chaparral WMA,**	**70.57**	**347**	P		**P**		**15 48 27.0**	**+0.9**
	baz=169								
736A	**Circle Diamond**	**70.83**	**349**	P		**P**		**15 48 29.0**	**+1.4**
	baz=171								
735A	**Kenedy**	**70.83**	**349**	P		**P**		**15 48 28.7**	**+1.0**
	baz=170								
637A	**Eagle Lake**	**71.20**	**350**	P		**P**		**15 48 31.3**	**+1.4**
	baz=172								
636A	**Smothers Creek**	**71.34**	**349**	P		**P**		**15 48 31.6**	**+0.8**
	baz=171								
537A	**Green Hill Far**	**71.83**	**350**	P		**P**		**15 48 34.4**	**+0.7**
	baz=172								
446A	**Poplarville**	**71.93**	**356**	P		**P**		**15 48 35.3**	**+1.0**
	baz=177								
439A	**Center Grove,**	**72.35**	**352**	P		**P**		**15 48 38.3**	**+1.5**
	baz=173								
TX31	**Lajitas Ar. Si**	**72.37**	**343**	*e*P		**P**		**15 48 37.2**	**+0.1**
TXAR	**Lajitas Array**	**72.37**	**343**	P		**P**		**15 48 37.1**	**0.0**
	7.7nm,0.8s,baz=166,slow=9.3,SNR=72								
TXAR				LR		LR		16 14 40.5	
	comp=Z,50nm,18.1s,baz=0.0,slow=31								
438A	**Sam Houston St**	**72.39**	**351**	P		**P**		**15 48 38.6**	**+1.6**
	baz=172								
347A	**Saraland**	**72.50**	**357**	P		**P**		**15 48 38.5**	**+0.8**
	baz=178								
342A	**Flagon Creek P**	**72.70**	**354**	P		**P**		**15 48 39.7**	**+0.9**
	baz=175								
435B	**Jarell**	**72.70**	**349**	P		**P**		**15 48 40.1**	**+1.2**
	baz=171								
341A	**Kurthwood**	**72.73**	**353**	P		**P**		**15 48 40.3**	**+1.3**
	baz=174								
JCT	**Junction City**	**72.74**	**347**	P		**P**		**15 48 39.1**	**-0.1**
	baz=169								
JCT	**Junction City**	**72.74**	**347**	*e*P		**P**		**15 48 39.3**	**+0.1**
	26nm,1.3s								
337A	**Centerville**	**73.00**	**351**	P		**P**		**15 48 41.4**	**+0.8**
	baz=172								
246A	**Jackson Lee, B**	**73.14**	**357**	P		**P**		**15 48 42.2**	**+0.7**
	baz=177								
247A	**Quitman**	**73.15**	**357**	P		**P**		**15 48 42.4**	**+0.9**
	baz=178								
248A	**Dixon Mills**	**73.17**	**358**	P		**P**		**15 48 42.5**	**+0.9**
	baz=178								
245A	**Little AP, Sta**	**73.19**	**356**	P		**P**		**15 48 41.9**	**+0.2**
	baz=177								
336A	**Riesel**	**73.19**	**350**	P		**P**		**15 48 42.0**	**+0.3**
	baz=171								
244A	**Avery, Jackson**	**73.24**	**355**	P		**P**		**15 48 42.7**	**+0.7**
	baz=176								
NATX	**Nacogdoches**	**73.30**	**352**	P		**P**		**15 48 42.9**	**+0.5**
	baz=173								
242A	**Grayson**	**73.36**	**354**	P		**P**		**15 48 43.3**	**+0.6**
	baz=175								
238A	**Jacksonville**	**73.59**	**351**	P		**P**		**15 48 45.0**	**+0.9**
	baz=173								
236A	**Katherine and**	**73.75**	**350**	P		**P**		**15 48 45.1**	**0.0**
	baz=172								
146A	**Union**	**73.75**	**357**	P		**P**		**15 48 46.0**	**+0.9**
	baz=177								
147A	**Livingston**	**73.76**	**358**	P		**P**		**15 48 45.2**	**+0.1**
	baz=178								
WHTX	**Lake Whitney,**	**73.87**	**349**	P		**P**		**15 48 45.6**	**-0.1**
	baz=171								
141A	**Papa Simpson,**	**73.97**	**353**	P		**P**		**15 48 46.7**	**+0.4**
	baz=174								
138A	**Matatall Enter**	**74.23**	**352**	P		**P**		**15 48 48.3**	**+0.5**
	baz=173								
137A	**Heron Place, G**	**74.25**	**351**	P		**P**		**15 48 48.5**	**+0.5**
	baz=172								
Z47A	**Carrollton**	**74.28**	**358**	P		**P**		**15 48 48.1**	**0.0**
	baz=178								
Z46A	**Louisville**	**74.30**	**357**	P		**P**		**15 48 48.9**	**+0.6**
	baz=178								
Z48A	**Norport**	**74.44**	**358**	P		**P**		**15 48 49.0**	**-0.1**
	baz=179								
Z45A	**Winona**	**74.51**	**356**	P		**P**		**15 48 50.1**	**+0.6**
	baz=177								
Z38A	**Mt. Pleasant**	**74.81**	**352**	P		**P**		**15 48 51.4**	**+0.2**
	baz=173								
ABTX	**Abilene, Hawle**	**74.81**	**348**	P		**P**		**15 48 51.1**	**-0.2**
	baz=169								
Y47A	**UCPARC, Winfie**	**74.97**	**358**	P		**P**		**15 48 51.6**	**-0.5**
	baz=178,SNR=6.0								
Y46A	**Houston**	**74.99**	**357**	P		**P**		**15 48 51.8**	**-0.4**
	baz=178								
Z36A	**Blue Ridge**	**74.99**	**351**	P		**P**		**15 48 52.3**	**+0.1**
	baz=172								
MNTX	**Cornudas Mount**	**75.03**	**343**	P		**P**		**15 48 52.4**	**-0.1**
	baz=165								
MNTX	**Cornudas Mount**	**75.03**	**343**	*e*P		**P**		**15 48 51.4**	**-1.2**
	4.8nm,1.0s								
Y41A	**Eaglette Beard**	**75.21**	**354**	P		**P**		**15 48 53.8**	**+0.3**
	baz=175								
Y40A	**Okolona**	**75.39**	**353**	P		**P**		**15 48 54.8**	**+0.3**
	baz=174								
Y36A	**Durant**	**75.60**	**351**	P		**P**		**15 48 56.0**	**+0.3**
	baz=172								
X40A	**Basin Creek Fa**	**75.83**	**354**	P		**P**		**15 48 57.3**	**+0.3**
	baz=174								
MIAR	**Mount Ida**	**75.95**	**353**	P		**P**		**15 48 57.8**	**+0.1**
	baz=174								
X39A	**Fountain Ranch**	**75.96**	**353**	P		**P**		**15 48 57.7**	**-0.2**
	baz=174								
PLAL	**Pickwick Lake**	**76.06**	**358**	*e*P		**P**		**15 48 56.9**	**-1.4**
	9.6nm,0.6s								
X37A	**Clayton**	**76.17**	**352**	P		**P**		**15 48 58.6**	**-0.3**
	baz=173								
X38A	**Whitesboro**	**76.19**	**352**	P		**P**		**15 48 58.6**	**-0.5**
	baz=173								
X36A	**Centrahoma**	**76.27**	**351**	P		**P**		**15 48 59.1**	**-0.5**
	baz=172								
W41B	**Gary Mavity, V**	**76.46**	**354**	P		**P**		**15 49 00.4**	**-0.2**
	baz=175								
X301	**Greenbrier Sit**	**76.54**	**354**	*e*P		**P**		**15 49 00.4**	**-0.6**
	15nm,0.8s								
W40A	**Ferguson Farm,**	**76.55**	**354**	P		**P**		**15 49 01.3**	**+0.2**
	baz=174								
WHAR	**Wooly Hollow**	**76.58**	**354**	*e*P		**P**		**15 49 00.6**	**-0.7**
	17nm,0.8s								
MSTX	**Muleshoe**	**76.68**	**345**	P		**P**		**15 49 01.5**	**-0.5**
	baz=167								
MSTX	**Muleshoe**	**76.68**	**345**	*e*P		**P**		**15 49 00.0**	**-2.0**
	33nm,1.2s								
W37B	**Quinton**	**76.72**	**352**	P		**P**		**15 49 01.5**	**-0.6**
	baz=173								
WMOK	**Wichita Mounta**	**76.75**	**349**	P		**P**		**15 49 01.8**	**-0.5**
	baz=170								
W36A	**Wetumka**	**76.81**	**351**	P		**P**		**15 49 01.6**	**-1.0**
	baz=172								
W35A	**Tecumseh**	**76.90**	**350**	P		**P**		**15 49 03.0**	**-0.2**
	baz=172								
TUC	**Tucson**	**76.98**	**338**	P		**P**		**15 49 03.7**	**0.0**
	baz=161								
V42A	**Cord**	**77.03**	**355**	P		**P**		**15 49 03.0**	**-0.9**
	baz=176								
V41A	**Mountainview**	**77.06**	**354**	P		**P**		**15 49 03.2**	**-0.8**
	baz=175								
V40A	**Witts Springs**	**77.13**	**354**	P		**P**		**15 49 04.0**	**-0.5**
	baz=175								
WVT	**Waverly**	**77.19**	**358**	*e*P		**P**		**15 49 03.7**	**-1.1**
	32nm,1.2s								
V39A	**Pettigrew**	**77.24**	**353**	P		**P**		**15 49 04.7**	**-0.3**
	baz=174								
V38A	**Canehill**	**77.33**	**353**	P		**P**		**15 49 05.2**	**-0.3**
	baz=173								
AMTX	**Amarillo**	**77.37**	**346**	P		**P**		**15 49 05.7**	**-0.2**
	baz=168								
AMTX	**Amarillo**	**77.37**	**346**	*e*P		**P**		**15 49 06.1**	**+0.2**
	15nm,0.9s								
V37A	**Hulbert**	**77.43**	**352**	P		**P**		**15 49 05.6**	**-0.4**
	baz=173								
V35A	**Meyer Ranch, C**	**77.50**	**351**	P		**P**		**15 49 06.0**	**-0.5**
	baz=172								
TUL1	**Leonard**	**77.52**	**351**	P		**P**		**15 49 06.1**	**-0.5**
	baz=172								
U42A	**Revenden**	**77.56**	**355**	P		**P**		**15 49 06.2**	**-0.6**
	baz=176								
U41A	**Viola**	**77.60**	**355**	P		**P**		**15 49 06.5**	**-0.5**
	baz=175								
U40A	**Yellville**	**77.68**	**354**	P		**P**		**15 49 06.3**	**-1.2**
	baz=175								
U39A	**Green Forest**	**77.76**	**353**	P		**P**		**15 49 07.3**	**-0.6**
	baz=174								
U38A	**Gravette**	**77.90**	**353**	P		**P**		**15 49 08.3**	**-0.4**
	baz=173								
U37A	**Salina**	**77.94**	**352**	P		**P**		**15 49 08.6**	**-0.3**
	baz=173								
U36A	**Oologah**	**77.99**	**352**	P		**P**		**15 49 08.9**	**-0.3**
	baz=172								
LAZ	**Ladron**	**78.03**	**342**	*e*P		**P**		**15 49 09.0**	**-0.7**
T41A	**Mountain View**	**78.29**	**355**	P		**P**		**15 49 10.2**	**-0.6**
	baz=175								
ANMO	**Albuquerque**	**78.39**	**343**	P		**P**		**15 49 11.8**	**+0.2**
	8.5nm,0.9s,baz=158,slow=8.6,SNR=15								
ANMO	**Albuquerque**	**78.39**	**343**	P		**P**		**15 49 11.6**	**-0.1**
	baz=164								
ANMO	**Albuquerque**	**78.39**	**343**	*e*P		**P**		**15 49 11.3**	**-0.4**
	12nm,1.0s								
T39A	**Clever**	**78.39**	**354**	P		**P**		**15 49 10.9**	**-0.5**
	baz=174								
T40A	**Mansfield**	**78.45**	**354**	P		**P**		**15 49 11.0**	**-0.7**
	baz=175								
T38A	**Diamond**	**78.48**	**353**	P		**P**		**15 49 11.4**	**-0.5**
	baz=174								
T35A	**Sooner Cattle**	**78.60**	**351**	P		**P**		**15 49 12.3**	**-0.3**
	baz=172								
T37A	**Cheneyville 18**	**78.63**	**352**	P		**P**		**15 49 12.1**	**-0.6**
	baz=173								
T36A	**Boggs Farm, Ca**	**78.67**	**352**	P		**P**		**15 49 12.2**	**-0.7**
	baz=172								
S43A	**Fulton Ridge,**	**78.72**	**356**	P		**P**		**15 49 12.2**	**-1.0**
	baz=177								
T34A	**McClaskey Farm**	**78.79**	**350**	P		**P**		**15 49 13.3**	**-0.3**
	baz=171								
S44A	**Carbondale**	**78.80**	**357**	P		**P**		**15 49 13.2**	**-0.4**
	baz=177								
S41A	**Jillco Farms,**	**78.83**	**355**	P		**P**		**15 49 13.2**	**-0.6**
	baz=175,SNR=5.6								
GLA	**Glamis**	**78.87**	**335**	P		**P**		**15 49 14.3**	**+0.1**
	baz=158								
S40A	**Lebanon**	**78.89**	**354**	P		**P**		**15 49 13.9**	**-0.3**
	baz=175								
IKP	**In-Ko-Pah, Jac**	**78.92**	**334**	P		**P**		**15 49 14.7**	**+0.2**
	baz=157								
S42A	**Caledonia**	**78.95**	**356**	P		**P**		**15 49 13.8**	**-0.7**
	baz=176								
S38A	**Stockton**	**79.04**	**353**	P		**P**		**15 49 14.5**	**-0.4**
	baz=174								
S39A	**Bolivar**	**79.05**	**354**	P		**P**		**15 49 14.5**	**-0.6**
	baz=174								
S37A	**Fort Scott**	**79.25**	**352**	P		**P**		**15 49 15.4**	**-0.7**
	baz=173								
CCM	**Cathedral Cave**	**79.26**	**355**	*e*P		**P**		**15 49 15.6**	**-0.5**
	17nm,0.8s								
S36A	**Lake Cedric, C**	**79.30**	**352**	P		**P**		**15 49 16.0**	**-0.3**
	baz=172								
IP04	**Greensprings**	**79.41**	**6**	*e*P		**P**		**15 49 16.5**	**-0.5**
	28nm,1.3s								
R43A	**Red Bud**	**79.41**	**356**	P		**P**		**15 49 16.5**	**-0.5**
	baz=177								
Y12C	**Blythe**	**79.42**	**336**	P		**P**		**15 49 17.0**	**-0.2**
	baz=158								
S34A	**Willow Spring**	**79.45**	**351**	P		**P**		**15 49 17.1**	**-0.1**
	baz=171								
R42A	**Luebbering**	**79.46**	**356**	P		**P**		**15 49 16.8**	**-0.5**
	baz=176								
R39A	**Chumby, Stover**	**79.64**	**354**	P		**P**		**15 49 18.3**	**+0.1**
	baz=174								
PFO	**Pinyon Flats O**	**79.91**	**334**	P		**P**		**15 49 19.7**	**-0.3**
	baz=157								
R35A	**Emporia Munici**	**79.95**	**351**	P		**P**		**15 49 19.7**	**-0.3**
	baz=172								
IRM	**Iron Mountain**	**79.99**	**335**	P		**P**		**15 49 20.8**	**+0.5**
	baz=158								
Q44A	**Meyer Farm, Va**	**80.00**	**357**	P		**P**		**15 49 19.6**	**-0.5**
	baz=178								
R34A	**Isabella, Hill**	**80.06**	**351**	P		**P**		**15 49 20.3**	**-0.2**
	baz=171								
Q43A	**New Douglas**	**80.06**	**357**	P		**P**		**15 49 20.5**	**+0.1**
	baz=177								
T25A	**Trinidad**	**80.07**	**345**	P		**P**		**15 49 21.1**	**+0.3**
	baz=166								
T25A	**Trinidad**	**80.07**	**345**	*e*P		**P**		**15

baz=176
P43A Skaggs, Pawnee 80.75 357 P P 15 49 23.6 -0.6
baz=177
KSU1 Kansas State U 80.77 351 P P 15 49 24.0 -0.3
baz=172
P40A Paris 80.78 355 P P 15 49 23.6 -0.7
baz=175
SDCO Great Sand Dun 80.87 344 P P 15 49 24.8 -0.5
baz=165
SDCO Great Sand Dun 80.87 344 *e*P P 15 49 25.5 +0.2
6.6nm,1.0s
BFSC Mount Baldy Ra 80.89 333 P P 15 49 25.0 -0.2
baz=156
CBKS Cedar Bluff 80.89 349 P P 15 49 25.2 +0.1
baz=169
P38A Dawn 80.98 354 P P 15 49 24.5 -0.9
baz=174,SNR=6.1
HEC Hector,Ludlow 80.99 335 P P 15 49 25.0 -0.7
baz=157
P37A Lathrop 81.02 353 P P 15 49 24.5 -1.1
baz=174
MVCO Mesa Verde 81.03 342 P P 15 49 26.4 +0.4
baz=163
P35A Duane Minner, 81.13 352 P P 15 49 26.2 0.0
baz=172
P36A Good Intent, A 81.13 352 P P 15 49 25.4 -0.8
baz=173
S22A 4UR Ranch, Cre 81.16 343 P P 15 49 26.3 -0.5
baz=164
S22A 4UR Ranch, Cre 81.16 343 *e*P P 15 49 26.7 -0.1
17nm,1.3s
O44A Mansfield 81.22 358 P P 15 49 26.1 -0.5
baz=178
P34A Walnut Farm, R 81.23 351 P P 15 49 26.8 0.0
baz=172,SNR=5.3
U15A North Rim 81.26 338 *e*P P 15 49 27.2 -0.2
8.6nm,1.1s
O41A Passleys Farm, 81.29 356 P P 15 49 26.3 -0.8
baz=176
O42A Bath 81.33 356 P P 15 49 26.3 -0.9
baz=177
O40A La Belle 81.36 355 P P 15 49 26.8 -0.6
baz=175
O43A Sugar Creek Fa 81.39 357 P P 15 49 27.0 -0.6
baz=177
SFIN Lafayette 81.42 359 P P 15 49 27.0 -0.7
baz=179
O38A Galt 81.47 354 P P 15 49 27.4 -0.6
baz=174
O39A Kirksville 81.53 355 P P 15 49 27.6 -0.7
baz=175
O56A Blue Knob Stat 81.54 5 P P 15 49 28.4 0.0
baz=185
KSCO Kaye Shedlock' 81.55 347 P P 15 49 28.5 -0.2
baz=167
GSC Goldstone, Bar 81.58 335 P P 15 49 28.4 -0.4
baz=157
O37A Wolven Farm, M 81.58 353 P P 15 49 28.2 -0.4
baz=174
EDW2 Edwards Air Fo 81.58 333 P P 15 49 28.4 -0.4
baz=156
O36A Bolckow 81.62 353 P P 15 49 27.8 -1.0
baz=173
O33A Hebron 81.85 351 P P 15 49 30.1 +0.1
baz=171
O34A Beatrice 81.85 351 P P 15 49 29.9 -0.1
baz=172
N45A Kentland 81.89 358 P P 15 49 29.6 -0.6
baz=179
PV01 Paradox Valley 81.92 342 *e*P P 15 49 30.6 -0.2
N42A Yates City 81.96 357 P P 15 49 29.7 -0.8
baz=177
KNB Kanab 81.96 338 *e*P P 15 49 31.1 +0.2
8.5nm,1.0s
N40A Mertquake, Sal 82.10 355 P P 15 49 30.5 -0.8
baz=176
N54A Moraine State 82.14 4 P P 15 49 31.0 -0.5
baz=184
N39A Derby Farms, D 82.15 355 P P 15 49 31.1 -0.5
baz=175
SHPR Sheep Range 82.17 336 *e*P P 15 49 32.5 +0.5
15nm,1.5s
M44A Midewin, Midew 82.45 358 P P 15 49 32.6 -0.5
baz=178
ISA Isabella, Lake 82.45 333 P P 15 49 33.3 0.0
baz=156
N34A Lincoln 82.47 352 P P 15 49 32.8 -0.4
baz=172
N33A J Bar K, Exete 82.48 351 P P 15 49 33.3 -0.1
baz=171
CCUT Cedar City 82.61 338 *e*P P 15 49 35.0 +0.6
9.7nm,1.1s
M40A Post Highland 82.61 355 P P 15 49 33.9 0.0
baz=176
M39A Webster 82.73 355 P P 15 49 34.4 -0.1
baz=175
M38A Pleasantville 82.74 354 P P 15 49 34.5 -0.1
baz=174
L43A Garden Prairie 83.26 358 P P 15 49 36.9 -0.4
baz=178
M33A Taylor Creek F 83.28 351 P P 15 49 37.7 +0.3
baz=171
TMUT Trail Mountain 83.67 340 *e*P P 15 49 40.3 +0.4
13nm,1.4s
O20A White River Ci 83.76 343 P P 15 49 40.3 +0.2
baz=163
N23A Red Feather La 84.00 345 P P 15 49 41.5 0.0
baz=165
N23A Red Feather La 84.00 345 *e*P P 15 49 42.3 +0.8
13nm,1.4s
R11A Troy Canyon, C 84.00 337 P P 15 49 42.1 +0.7
baz=158
R11A Troy Canyon, C 84.00 337 *e*P P 15 49 41.2 -0.3
7.7nm,1.2s
K36A Gilmore City 84.06 353 P P 15 49 41.4 0.0
baz=173
K37A Belmond 84.11 354 P P 15 49 41.8 +0.1
baz=174
J42A Columbus 84.41 357 P P 15 49 42.4 -0.7
baz=177
J41A Loganville 84.49 357 P P 15 49 43.2 -0.4
baz=177
BBTS Babate 84.50 65 LR LR 16 24 37.6
comp=Z,50nm,21.8s,baz=176,slow=34
K31A O'Neill 84.50 350 P P 15 49 43.3 -0.4
baz=170
J40A Soldiers Grove 84.55 356 P P 15 49 43.9 0.0
baz=176
J38A Wedel Dairy, R 84.58 355 P P 15 49 43.7 -0.3
baz=175
J37A Redenius Farm, 84.65 354 P P 15 49 44.2 -0.2
baz=174
DUG Dugway, Tooele 84.94 339 P P 15 49 46.6 +0.5
baz=160
I40A Norwalk 85.04 356 P P 15 49 45.6 -0.7
baz=176
I39A Houston 85.05 356 P P 15 49 45.4 -1.0
baz=176
ECSD EROS Data Cent 85.35 352 P P 15 49 47.1 -0.8
baz=172
ECSD EROS Data Cent 85.35 352 *e*P P 15 49 47.0 -0.9
8.8nm,1.0s
BOSA Boshof 85.43 124 LR LR 16 22 43.4
comp=Z,50nm,18.5s,baz=206,slow=32
K22A Casper 85.81 345 P P 15 49 50.6 +0.2
baz=164
K22A Casper 85.81 345 *e*P P 15 49 50.8 +0.4
11nm,0.8s
H33A Prehn Over Nor 86.30 352 P P 15 49 52.0 -0.6
baz=172
G43A Wallace 86.30 358 P P 15 49 52.4 -0.2
baz=178
BW06 Boulder Array 86.56 342 P P 15 49 54.1 -0.1
baz=162
BW06 Boulder Array 86.56 342 *e*P P 15 49 53.9 -0.3
4.2nm,1.1s
PD31 Pinedale Array 86.56 342 *e*P P 15 49 54.0 -0.3
PDAR Pinedale Array 86.56 342 P P 15 49 53.9 -0.3
1.9nm,0.9s,baz=162,slow=5.8,SNR=12
PDAR LR LR 16 22 12.2
comp=Z,39nm,20.8s,baz=41,slow=31
RSSD Black Hills 86.76 347 P P 15 49 55.2 0.0
baz=166
RSSD Black Hills 86.76 347 *e*P P 15 49 55.0 -0.2
8.7nm,1.0s
F43A Flat Rock, Esc 86.87 359 P P 15 49 55.0 -0.3
baz=179
F44A Big Bay de Noc 87.00 359 P P 15 49 56.2 +0.2
baz=180
F40A Park Falls 87.04 357 P P 15 49 56.0 -0.1
baz=177
F39A Loretta 87.08 356 P P 15 49 56.1 -0.2
baz=176
DBIC Dimbokro 87.38 79 LR LR 16 25 19.8
comp=Z,26nm,21.6s,baz=172,slow=33
E43A Lone Tree Farm 87.41 359 P P 15 49 57.8 -0.1
baz=179
IMW Indian Meadow 87.95 342 *e*P P 15 50 01.1 +0.1
8.6nm,1.4s
D35A Remer 88.44 354 P P 15 50 02.3 -0.5
baz=174
HLID Hailey 88.51 339 P P 15 50 03.6 +0.2
baz=159
HLID Hailey 88.51 339 *e*P P 15 50 04.0 +0.5
3.0nm,1.0s
YMR Madison River 88.69 342 *e*P P 15 50 05.2 +0.8
12nm,0.4s
RLMT Red Lodge 88.74 343 P P 15 50 03.9 -0.7
baz=163
YHH Holmes Hill 88.78 342 *e*P P 15 50 05.6 +0.7
10nm,1.1s
M04C Macdoel 89.10 334 P P 15 50 05.8 -0.4
baz=154
EYMN Ely 89.13 356 P P 15 50 05.6 -0.5
baz=176
LAO LASA Array 89.64 346 P P 15 50 08.7 +0.2
baz=165
BOZ Bozeman (W) 89.72 342 P P 15 50 10.2 +1.1
baz=161
TORD Torodi Ar. Bea 96.48 78 P P 15 50 41.9 +1.1
0.7nm,0.8s,baz=245,slow=3.0,SNR=3.0
TORD LR LR 16 32 35.5
comp=Z,17nm,18.1s,baz=10.0,slow=34
LSZ Lusaka 96.83 117 LR LR 16 30 03.5
comp=Z,46nm,19.3s,baz=228,slow=33
GERES GERESS Array B 125.03 53 PKP **PKPdf** 15 56 10.6 -0.3
1.1nm,0.9s,baz=222,slow=1.3,SNR=5.7
BRTR Keskin Array B 134.57 71 PKP **PKPdf** 15 56 29.4 -0.1
1.4nm,0.9s,baz=222,slow=3.9,SNR=5.3
AKASG Malin Array Be 135.11 55 PKP **PKPdf** 15 56 29.9 +0.1
0.2nm,0.3s,baz=268,slow=2.8,SNR=3.1
TIXI Tiksi 145.26 342 PKPbc **PKPbc** 15 56 45.5 -1.9
2.9nm,0.8s,baz=5.5,slow=3.4,SNR=9.9
TIXI Tiksi 145.26 342 *e*PKP **PKPbc** 15 56 45.3 -2.0
MJAR Matsushiro Arr 145.96 276 PKPbc **PKPdf** 15 56 47.1 -2.8
1.1nm,0.9s,baz=166,slow=4.2,SNR=4.1
YAK Yakutsk 150.58 326 *e*PKPbc **PKPbc** 15 57 00.1 -1.8
GEYT Alibeck 151.90 85 PKPbc **PKPbc** 15 57 05.5 -0.5
1.9nm,0.7s,baz=318,slow=1.9,SNR=4.5
NJ2 Nanjing 158.44 252 *e*PKP **PKPdf** 15 57 09.0 +0.6
GYA Guiyang 162.03 218 *e*PKP **PKPdf** 15 57 13.0 +0.2
GYA PKPab **pPKPab** 15 58 02.0 -1.7
GYA PKS **PKSdf** 16 00 44.8 -1.4
GYA PP **PP** 16 01 46.3 +3.8
GYA AMB AMB
comp=Z,120nm,8.2s
KSH Kashi 165.75 92 *e*PKP **PKPdf** 15 57 14.5 -1.3
KSH PKS **PKSdf** 16 00 45.8 -2.9
KSH PP **PP** 16 02 00.8 -2.2
KSH SKS **SKSdf** 16 04 16.0 -3.5
KSH SKKS **SKKSac** 16 08 48.8 -1.0
KSH SS **SS** 16 22 37.8 -3.7
KSH AMB AMB
comp=Z,140nm,7.1s
KSH LR LR
comp=N,67nm,9.4s
KSH LR LR
comp=E,97nm,5.7s
KSH LR LR
comp=Z,98nm,10.0s
ZALV Zalesovo Beam 165.87 24 PKP **PKPdf** 15 57 13.1 -2.1
0.8nm,0.5s,baz=229,slow=1.3,SNR=4.1
HHC Hu-ho-hao-te 167.13 273 *e*PKP **PKPdf** 15 57 18.5 +1.7
HHC PP **PP** 16 02 14.8 +4.7
HHC SS SS 16 22 53.5 -2.0
HHC LR LR
comp=N,170nm,17.3s
HHC LR LR
comp=E,230nm,19.7s
HHC LR LR
comp=Z,96nm,16.0s
MKAR Makanchi Array 169.69 54 PKP **PKPdf** 15 57 17.5 -0.8
0.2nm,0.7s,baz=247,slow=2.2,SNR=2.7
LZH Lanzhou 170.99 237 *e*PKP **PKPdf** 15 57 20.0 +0.5
LZH pPKP pPKPdf 15 57 23.3 -1.0
LZH sPKP 15 57 24.5
LZH PKPab **pPKPab** 15 58 41.3 -1.9
LZH LR LR
comp=N,150nm,18.2s
LZH LR LR
comp=E,150nm,18.1s
LZH LR LR
comp=Z,190nm,20.2s
WMQ Urumqi 174.42 62 *e*PKP **PKPdf** 15 57 21.3 +0.8
WMQ LR LR
comp=N,61nm,23.5s
WMQ LR LR
comp=E,32nm,18.5s
WMQ LR LR
comp=Z,50nm,16.3s

MEX 26 15:38:15.3±0.5, 17°.04N×99°.36W, h20km±81km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.51**	**251**	*e*P	Pb	15 38 24.7	-0.9
ACX				*e*S	Sb	15 38 32.7	+0.1
MEIG	**Mezcala**	**0.92**	**344**	*i* P	Pb	15 38 29.5	-3.1
MEIG				*e*S	Sb	15 38 41.0	-3.4
TLIG	**Tlapa**	**0.92**	**55**	*e*P	Pb	15 38 29.9	-2.7
TLIG				*e*S	Sb	15 38 41.4	-3.0
PNIG	**Pinotepa**	**1.34**	**118**	*e*P	Pn	15 38 36.0	-2.9
PNIG				*e*S	Sn	15 38 51.5	-4.8
PLIG	**Platanillo**	**1.35**	**354**	*e*P	Pn	15 38 36.1	-3.0
PLIG				*i* S	Sn	15 38 52.3	-4.3
ARIG	**Puente Sto Nin**	**1.55**	**323**	*e*P	Pn	15 38 39.2	-2.7
ARIG				*e*S	Sn	15 38 57.0	-4.5

*CSEM **26** 15:50:28.0, 42°.63N×13°.53E, h17km, MD1.7/10*
ROM 26 15:50:28.0±0.1, 42°.63N×13°.53E, h17km±1km, Md1.7/10, Ml1.6/6, Error ellipse: s-maj=1.5km s-min=0.8km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.06**	**101**	Pg	Pg	15 50 31.3	+0.1
TERO				Sg	Sg	15 50 33.7	+0.4
TERO	**Teramo**	**0.06**	**101**	Pg	Pg	15 50 31.3	+0.1
TERO				Sg	Sg	15 50 33.7	+0.4
CAMP	**Campotosto**	**0.13**	**223**	Pg	Pb	15 50 32.1	-0.1
CAMP				Sg	Sb	15 50 35.2	+0.3
103nm,0.8s							
CAMP	**Campotosto**	**0.13**	**223**	Pg	Pb	15 50 32.1	-0.1
CAMP				Sg	Sb	15 50 35.2	+0.3
103nm,0.8s							
SMA1	**SAN MARTINO**	**0.14**	**269**	Pg	Pb	15 50 32.3	-0.1
SMA1				Sg	Sb	15 50 35.4	+0.2
SMA1	**SAN MARTINO**	**0.14**	**269**	Pg	Pb	15 50 32.3	-0.1
SMA1				Sg	Sb	15 50 35.4	+0.2
T0104	**Madonna delle**	**0.31**	**208**	Pg	Pg	15 50 34.5	-0.1
T0104				Sg	Sb	15 50 39.9	0.0
VCEL	**Villa Celiera**	**0.33**	**136**	Pg	Pg	15 50 35.1	+0.1
VCEL				Sg	Sb	15 50 40.9	+0.3
84nm,0.9s							
VCEL	**Villa Celiera**	**0.33**	**136**	Pg	Pg	15 50 35.1	+0.1
VCEL				Sg	Sb	15 50 40.9	+0.3
84nm,0.9s							
LNSS	**Leonessa**	**0.36**	**265**	Pg	Pg	15 50 35.6	0.0
LNSS				Sg	Sb	15 50 41.7	+0.1
90nm,0.1s							
LNSS	**Leonessa**	**0.36**	**265**	Pg	Pg	15 50 35.6	0.0
LNSS				Sg	Sb	15 50 41.7	+0.1
90nm,0.1s							
FAGN	**Fagnano**	**0.37**	**174**	Pg	Pb	15 50 36.2	+0.1
FAGN				Sg	Sb	15 50 41.6	0.0
83nm,0.7s							
FAGN	**Fagnano**	**0.37**	**174**	Pg	Pb	15 50 36.2	+0.1
FAGN				Sg	Sb	15 50 41.6	0.0
83nm,0.7s							
FDMO	**Fiordimonte**	**0.52**	**321**	Pg	Pg	15 50 38.1	-0.3
FDMO				Sg	Sb	15 50 46.3	+0.3
FDMO	**Fiordimonte**	**0.52**	**321**	Pg	Pg	15 50 38.1	-0.3
FDMO				Sg	Sb	15 50 46.3	+0.3
GUMA	**Gualdo di Mace**	**0.52**	**35**	Pg	Pg	15 50 37.4	-1.1
266nm,1.6s							
GUMA	**Gualdo di Mace**	**0.52**	**35**	Pg	Pg	15 50 37.4	-1.1
266nm,1.6s							
CESI	**CESI - Serrava**	**0.59**	**309**	Pg	Pg	15 50 39.4	-0.4
CESI				Sg	Sb	15 50 48.7	+0.6
10.0nm,0.5s							
CESI	**CESI - Serrava**	**0.59**	**309**	Pg	Pg	15 50 39.4	-0.4
CESI				Sg	Sb	15 50 48.7	+0.6
10.0nm,0.5s							

SGS 26 15:56:02.2, 25°.21N×37°.78E, h8km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY12	**LNY12**	**0.06**	**351**	P	Pg	15 56 04.1	0.0
LNY12	**LNY12**	**0.06**	**351**	S	Sg	15 56 05.4	-0.2
LNY12				P	Pg	15 56 04.1	-0.1
LNY10	**LNY10**	**0.09**	**52**	P	Pg	15 56 04.6	0.0
LNY10	**LNY10**	**0.09**	**52**	P	Pg	15 56 04.6	0.0
LNY02	**LNY02**	**0.10**	**136**	P	Pg	15 56 04.8	0.0
LNY02	**LNY02**	**0.10**	**136**	S	Sg	15 56 06.5	0.0
LNY02				P	Pg	15 56 04.8	0.0
LNY11	**LNY11**	**0.10**	**355**	P	Pg	15 56 04.7	-0.1
LNY11	**LNY11**	**0.10**	**355**	P	Pg	15 56 04.7	-0.1
LNY04	**LNY04**	**0.14**	**295**	P	Pg	15 56 05.2	0.0
LNY04				P	Pg	15 56 07.3	+2.1
LNY04	**LNY04**	**0.14**	**295**	P	Pg	15 56 05.2	0.0
LNY05	**LNY05**	**0.18**	**205**	P	Pg	15 56 08.8	+2.8
LNY08	**LNY08**	**0.19**	**161**	P	Pg	15 56 06.2	0.0
LNY08	**LNY08**	**0.19**	**161**	P	Pg	15 56 06.2	0.0

*ISCJB **26** 16:06:08.5±0.6, 51°.50N±0°.03×16°.16E±0°.03, h0km, Error ellipse: s-maj=4.5km s-min=2.8km az=7.5*
*CSEM **26** 16:06:10.2±0.3, 51°.51N×16°.12E, h1km, ML3.2/12, Error ellipse: s-maj=5.6km s-min=3.1km az=179.0*
*WAR **26** 16:06:10.8, 51°.53N×16°.14E, h1km, Mw2.5*
*IDC **26** 16:06:11.8±1.1, 51°.46N×16°.02E, h0km, mb1 3.4/4, mb1mx3.1/47, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=15.4km s-min=9.2km az=119.0*
ISC 26 16:06:09.7±0.9, 51°.56N±0°.04×16°.13E±0°.02, h0km, n48, σ0.73/88, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**16 06 23.9**	**+0.3**
KSP				*i* Sg	**Sg**	**16 06 33.3**	**+0.2**
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**16 06 23.9**	**+0.3**
KSP				*i* Sg	**Sg**	**16 06 33.3**	**+0.2**
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**16 06 23.9**	**+0.3**
KSP				*i* Sg	**Sg**	**16 06 33.3**	**+0.2**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**16 06 30.0**	**0.0**
UPC				*e*SG	**Sg**	**16 06 43.8**	**+0.1**
comp=Z,55nm,0.3s							
UPC	**Upice**	**1.06**	**184**	Pg	**Pg**	**16 06 30.0**	**0.0**
UPC				Sg	**Sg**	**16 06 43.8**	**+0.1**
55nm,0.3s							
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**16 06 32.8**	**-0.3**
DPC				*e*SG	**Sg**	**16 06 47.7**	**-1.2**
comp=Z,20nm,0.4s							
DPC	**Dobruska-Polom**	**1.22**	**174**	Pg	**Pg**	**16 06 32.8**	**-0.3**
DPC				Sg	**Sg**	**16 06 47.7**	**-1.2**
20nm,0.4s							
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pn**	**16 06 36.8**	**-0.1**
PVCC				*e*SG	**Sn**	**16 06 56.3**	**0.0**
comp=Z,63nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**224**	Pg	**Pn**	**16 06 36.8**	**-0.1**
PVCC				Sg	**Sn**	**16 06 56.3**	**0.0**
63nm,0.3s							
BRG	**Berggiesshubel**	**1.54**	**244**	PG	**Pg**	**16 06 39.4**	**+0.3**
BRG				SG	**Sg**	**16 06 59.7**	**+0.7**
37nm,0.4s							
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**16 06 37.9**	**-0.6**
KRLC				*e*SG	**Sg**	**16 06 58.5**	**-0.8**
KRLC	**Kraliky**	**1.55**	**164**	Pg	**Pn**	**16 06 37.9**	**-0.6**
KRLC				Sg	**Sg**	**16 06 58.5**	**-0.8**
PRA	**Prague**	**1.84**	**216**	*e*PN	**Pn**	**16 06 42.3**	**-0.2**
PRA	**Prague**	**1.84**	**216**	Pn	**Pn**	**16 06 42.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PN	**Pn**	**16 06 42.3**	**-0.5**
GOPC				*e*PG	**Pb**	**16 06 44.3**	**-0.2**
GOPC				*e*SG	**Sn**	**16 07 07.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pn	**Pn**	**16 06 42.3**	**-0.5**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**16 06 42.6**	**-0.3**
PRU				*e*PG	**Pb**	**16 06 44.6**	**-0.1**
PRU				*ex*	x	16 07 01.6	
PRU				*e*SG	**Sb**	**16 07 09.1**	**+0.5**
comp=Z,26nm,0.3s							
PRU	**Pruhonice**	**1.87**	**213**	Pn	**Pn**	**16 06 42.6**	**-0.3**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**16 06 43.4**	**-0.9**
CLL				*e*Pg	**Pb**	**16 06 47.0**	**+0.6**
CLL				*i*		16 06 50.7	
CLL				*e*Sg	**Sg**	**16 07 13.0**	**0.0**
comp=Z,17nm,0.7s							
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PG	**Pb**	**16 06 49.9**	**+0.4**
OKC				*e*SG	**Sb**	**16 07 16.3**	**-0.4**
comp=Z,20nm,0.4s							
OKC	**Ostrava-Krasne**	**2.15**	**143**	Pg	**Pb**	**16 06 49.9**	**+0.4**
OKC				Sg	**Sb**	**16 07 16.3**	**-0.4**
comp=Z,20nm,0.4s							
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**16 06 49.0**	**+0.4**
comp=Z,2.3nm,0.3s,baz=354,slow=16,SNR=12							
VRAC				Pg	**Pg**	**16 06 52.9**	**-0.4**
comp=Z,2.3nm,0.3s,baz=352,slow=16,SNR=12							
VRAC				Lg	Lg	16 07 21.3	
comp=Z,3.5nm,0.3s,baz=300,slow=21,SNR=7.5							
TREC	**Trest**	**2.31**	**190**	*e*PN	**Pn**	**16 06 48.9**	**-0.1**
TREC				*e*PG	**Pb**	**16 06 52.7**	**+0.5**
TREC				*e*SG	**Sg**	**16 07 23.1**	**-0.7**
comp=Z,12nm,0.2s							
TREC	**Trest**	**2.31**	**190**	Pn	**Pn**	**16 06 48.9**	**-0.1**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**16 06 54.8**	**+0.7**
NKC				*e*PG	**Pg**	**16 07 01.5**	**+0.4**
NKC				*e*SG	**Sg**	**16 07 35.6**	**-0.2**
comp=Z,29nm,0.6s							
NKC	**Novy Kostel**	**2.68**	**242**	Pn	**Pn**	**16 06 54.8**	**+0.7**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**16 07 01.2**	**0.0**
OJC				*e*Sg	**Sg**	**16 07 35.9**	**-0.1**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**16 07 01.2**	**+0.1**
OJC				*e*Sg	**Sg**	**16 07 35.9**	**0.0**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**16 07 01.2**	**0.0**
OJC				*e*Sg	**Sg**	**16 07 35.9**	**-0.1**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**16 06 57.6**	**0.0**
KHC				*e*PG	**Pb**	**16 07 03.9**	**+1.1**
KHC				*e*SN	**Sn**	**16 07 33.2**	**-0.3**
KHC				*e*SG	**Sb**	**16 07 41.2**	**+2.0**
comp=Z,13nm,0.6s							
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**16 06 57.6**	**0.0**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**16 07 00.7**	**+0.3**
comp=Z,0.8nm,0.3s,baz=29,slow=12,SNR=21							
GERES				Pg	**Pb**	**16 07 06.6**	**+0.3**
comp=Z,1.7nm,0.3s,baz=33,slow=17,SNR=26							
GERES				Lg	Lg	16 07 48.1	
comp=Z,3.1nm,0.3s,baz=32,slow=27,SNR=11							
VYHS	**Vyhne**	**3.53**	**149**	*e*Pg	**Pg**	**16 07 16.0**	**-1.4**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**16 07 16.0**	**-1.4**
CONA	**Conrad Observa**	**3.64**	**183**	*i* Sg	**Sg**	**16 08 06.3**	**-0.3**
comp=Z,6.7nm,0.4s							
CONA	**Conrad Observa**	**3.64**	**183**	Sg	**Sg**	**16 08 06.3**	**-0.3**
comp=Z,6.7nm,0.4s							
MOA	**Molln**	**3.91**	**199**	*i* Pn	**Pn**	**16 07 11.3**	**+0.3**
MOA				*e*Sg	**Sg**	**16 08 14.1**	**-1.1**
comp=Z,2.1nm,0.3s							
MOA	**Molln**	**3.91**	**199**	Pn	**Pn**	**16 07 11.3**	**+0.3**
comp=Z,2.1nm,0.3s							
MOA				Sg	**Sg**	**16 08 14.1**	**-1.1**
comp=Z,11nm,0.6s							
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*Pg	**Pg**	**16 07 24.6**	**0.0**
STHS				*e*Sg	**Sg**	**16 08 16.4**	**+1.2**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**16 07 24.6**	**0.0**
STHS				*e*SG	**Sg**	**16 08 16.4**	**+1.2**
STHS				*e*LG	Lg	16 08 33.4	
KECS	**Kecovo**	**4.17**	**136**	*e*Pg	**Pg**	**16 07 30.7**	**+1.1**
KECS	**Kecovo**	**4.17**	**136**	*e*PG	**Pg**	**16 07 30.7**	**+1.1**
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn	**Pn**	**16 07 19.5**	**+2.7**
comp=Z,0.5nm,0.2s							
ARSA				Sg	**Sg**	**16 08 28.7**	**-0.2**

comp=Z,7.5nm,0.6s
ARSA Arzberg 4.33 185 Pn **Pn 16 07 19.5 +2.7**
comp=Z,0.5nm,0.2s
ARSA Sg **Sg 16 08 28.7 -0.2**
comp=Z,7.5nm,0.6s
KBA Koelnbreinsper 4.84 203 *i* Pn **Pn 16 07 24.4 +0.5**
comp=Z,1.6nm,0.4s
KBA *i* Sg **Sg 16 08 44.6 -0.6**
comp=Z,2.2nm,0.4s
KBA Koelnbreinsper 4.84 203 Pn **Pn 16 07 24.4 +0.5**
comp=Z,1.6nm,0.4s
KBA Sg **Sg 16 08 44.6 -0.6**
comp=Z,2.2nm,0.4s
AKASG Malin Array Be 8.29 91 Pn **Pn 16 08 11.2 +0.2**
comp=Z,0.3nm,0.3s,baz=283,slow=12,SNR=4.1
FINES FINESS Array B 11.31 25 Pn **Pn 16 08 50.9 -1.4**
comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=3.3

IDC ***26*** *16:17:30.0±1.6, 31°.44N×77°.07E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/56, mbtmp3.7/9, ML3.6/3, MS2.6/1, Ms1 2.8/1, ms1mx2.2/46, Error ellipse: s-maj=52.7km s-min=22.9km az=64.0*
ISCJB ***26*** *16:17:32.8±0.8, 31°.55N±0°.03×77°.10E±0°.07, h27km±6km, mb3.6/6, MS2.4/1, Error ellipse: s-maj=10.7km s-min=5.1km az=164.7*
NDI ***26*** *16:17:34.5±2.1, 31°.47N×76°.88E, h10km, ML3.5*
ISC 26 16:17:34.3±1.2, 31°.56N±0°.04×77°.10E±0°.05, h25km±10km, n20, σ1.957/28, mb3.7/6, Northern India

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SMLA	**Simla**	**0.43**	**172**	*e*P		**Pb**	**16 17 41.8**	**-1.6**
SMLA				*e*S		**Sb**	**16 17 48.3**	**-1.2**
SMLA				AML		AML	16 17 48.8	
	comp=E,4μm,0.5s							
SMLA				AML		AML	16 17 48.9	
	comp=N,6μm,0.4s							
DHRM	**DHARAMSHALA**	**0.97**	**316**	*e*P		**Pn**	**16 17 50.7**	**-1.8**
DHRM				*e*S		**Sb**	**16 18 06.9**	**+1.8**
DHRM				AML		AML	16 18 10.4	
	comp=E,773nm,0.9s							
DHRM				AML		AML	16 18 10.7	
	comp=N,721nm,0.5s							
PONG	**Pong**	**1.06**	**292**	*e*x		x	16 17 48.0	
PONG				*e*S		**Sn**	**16 18 05.0**	**-2.3**
DDI	**Dehra Dun**	**1.48**	**146**	*e*P		**Pb**	**16 18 02.6**	**+1.4**
DDI				*e*S		**Sb**	**16 18 22.8**	**+3.2**
DDI				IAML			16 18 26.7	
	comp=N,873nm,0.1s							
DDI				IAML			16 18 27.9	
	comp=E,980nm,0.3s							
KKR	**Kurukshetra**	**1.61**	**189**	*e*P		**Pn**	**16 18 01.8**	**+0.7**
KKR				*e*S		**Sb**	**16 18 23.1**	**-0.1**
JOSI	**Joshimath**	**2.33**	**115**	*e*P		**Pb**	**16 18 15.8**	**0.0**
JOSI				*e*S		**Sb**	**16 18 46.0**	**+1.8**
JOSI				AML		AML	16 18 59.5	
	comp=E,338nm,0.7s							
JOSI				AML		AML	16 19 02.5	
	comp=N,305nm,0.7s							
KALG	**Kalgarh**	**2.49**	**145**	*e*P		**Pn**	**16 18 10.0**	**-3.3**
KALG				*e*S		**Sn**	**16 18 41.1**	**-1.7**
BHGR	**Bahadurgarh**	**2.86**	**183**	*e*P		**Pb**	**16 18 27.5**	**+2.9**
BHGR				*e*S		**Sb**	**16 18 59.4**	**+0.1**
KUDL	**Kundal**	**3.44**	**189**	*e*P		**Pn**	**16 18 25.3**	**-1.0**
KUDL				*e*S		**Sn**	**16 19 06.0**	**-0.2**
KHET	**Khetri**	**3.65**	**198**	*e*P		**Pn**	**16 18 28.7**	**-0.5**
KHET				*e*S		**Sn**	**16 19 10.1**	**-1.3**
AAK	**Ala-Archa**	**11.25**	**350**	Pn		**Pn**	**16 20 14.8**	**+1.2**
	comp=N,0.4nm,0.3s,baz=128,slow=8.7,SNR=6.6							
MKAR	**Makanchi Array**	**15.73**	**13**	Pn		**Pn**	**16 21 15.0**	**+0.8**
	comp=N,0.4nm,0.3s,baz=198,slow=14,SNR=9.4							
KURBB	**Kurchatov Arra**	**19.08**	**3**	P		**P**	**16 21 54.4**	**-0.4**
	comp=N,0.1nm,0.3s,baz=194,slow=10,SNR=8.3							
BVAR	**Borovoye Array**	**22.00**	**349**	P		**P**	**16 22 26.6**	**+0.2**
	comp=N,0.9nm,0.5s,baz=165,slow=12,SNR=9.6							
ZALV	**Zalesovo Beam**	**23.06**	**12**	P		**P**	**16 22 37.6**	**0.0**
	comp=N,0.7nm,0.4s,baz=195,slow=11,SNR=4.1							
AKTO	**Aktyubinsk**	**23.61**	**329**	P		**P**	**16 22 43.2**	**+0.1**
	comp=N,1.3nm,0.4s,baz=130,slow=10.0,SNR=7.7							
CMAR	**Chiang Mai Arr**	**23.65**	**118**	LR		LR	16 34 04.0	
	comp=N,14nm,20.3s,baz=177,slow=42							
FINES	**FINESS Array B**	**44.38**	**328**	P		**P**	**16 25 42.5**	**+0.2**
	comp=N,1.8nm,0.7s,baz=116,slow=7.9,SNR=7.1							
ARCES	**ARCESS Array B**	**47.62**	**338**	P		**P**	**16 26 08.3**	**+0.5**
	comp=N,1.9nm,0.9s,baz=106,slow=8.9,SNR=5.8							
ASAR	**Alice Springs**	**77.25**	**128**	P		**P**	**16 29 26.1**	**-0.4**
	comp=N,0.3nm,0.9s,baz=312,slow=5.8,SNR=2.8							

NSSC ***26*** *16:19:34.6±2.3, 38°.62N×44°.65E, h0km±360km, ML3.2*
IDC ***26*** *16:19:44.0±1.0, 38°.53N×43°.30E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.6/43, mbtmp3.7/16, ML2.7/4, MS3.2/12, Ms1 3.2/12, ms1mx2.9/46, Error ellipse: s-maj=15.9km s-min=11.7km az=152.0*
MOS ***26*** *16:19:44.0±3.2, 38°.27N×43°.39E, h10km, mb4.1/5, Error ellipse: s-maj=9.8km s-min=5.0km az=89.7*
DDA ***26*** *16:19:44.5, 38°.66N×43°.29E, h2km, Ml4.5*
ISK ***26*** *16:19:45.1, 38°.72N×43°.30E, h3km, ML4.2*
NEIC ***26*** *16:19:45.6±0.0, 38°.67N×43°.25E, h3km, mb4.0/2, ML4.0(ISK), After ISK.*
ISCJB ***26*** *16:19:46.2±0.5, 38°.69N±0°.02×43°.28E±0°.02, h4km±3km, mb3.8/13, MS3.2/10, Error ellipse: s-maj=3.1km s-min=2.2km az=145.1*
CSEM ***26*** *16:19:46.4±0.2, 38°.70N×43°.20E, h2km, mb4.1/5, Error ellipse: s-maj=5.0km s-min=4.0km az=162.0*
AZER ***26*** *16:19:53.8±0.7, 38°.70N×43°.71E, h9km, Error ellipse: s-maj=6.6km s-min=5.8km az=170.0*
ISC 26 16:19:46.8±0.7, 38°.70N±0°.02×43°.29E±0°.02, h15km±5km, n197, σ2.931/242, mb3.8/13, MS3.0/10, 25C-35D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VANB	**Van**	**0.13**	**143**	*e*PG		**Pg**	**16 19 50.2**	**-0.3**
VANB				*e*SG		**Sg**	**16 19 53.8**	**+0.9**
VANB	**Van**	**0.13**	**143**	*e*Pg		**Pg**	**16 19 50.2**	**-0.3**
VANB				*e*Sg		**Sg**	**16 19 53.8**	**+0.9**
VANB	**Van**	**0.13**	**143**	Pg		**Pg**	**16 19 50.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.37**	**37**	⇓*i*P		**Pg**	**16 19 53.2**	**-1.2**
VMUR				*i* S		**Sg**	**16 19 59.1**	**-0.4**
VMUR	**Van-Muradiye**	**0.37**	**37**	P		**Pg**	**16 19 53.2**	**-1.2**
VMUR				S		**Sg**	**16 19 59.2**	**-0.4**
GEVA	**Gevas**	**0.42**	**206**	⇓*i*P		**Pg**	**16 19 53.9**	**-1.5**
GEVA				*i* S		**Sg**	**16 20 00.5**	**-0.8**
GEVA	**Gevas**	**0.42**	**206**	P		**Pg**	**16 19 53.9**	**-1.5**
GEVA				S		**Sg**	**16 20 00.4**	**-0.8**
TUTA	**Tutak**	**0.80**	**332**	⇓*i*P		**Pg**	**16 20 00.5**	**-1.9**
TUTA				*i* S		**Sg**	**16 20 11.1**	**-1.9**
TUTA	**Tutak**	**0.80**	**332**	P		**Pg**	**16 20 00.5**	**-1.9**
TUTA				S		**Sg**	**16 20 11.1**	**-1.9**
BASK	**Baskale_VAN**	**0.85**	**139**	⇓*i*P		**Pg**	**16 20 00.9**	**-2.5**
BASK				*i* S		**Sg**	**16 20 13.1**	**-1.5**
BASK	**Baskale_VAN**	**0.85**	**139**	P		**Pg**	**16 20 00.9**	**-2.5**
BASK				S		**Sg**	**16 20 13.1**	**-1.5**
DYDN	**Diyadin**	**0.90**	**20**	⇓*i*P		**Pg**	**16 20 02.0**	**-2.4**
DYDN				*i* S		**Sg**	**16 20 15.0**	**-1.2**
DYDN	**Diyadin**	**0.90**	**20**	P		**Pg**	**16 20 02.0**	**-2.4**
DYDN				S		**Sg**	**16 20 15.0**	**-1.2**
AGRB	**Hanur-Agry**	**0.91**	**345**	*e*PG		**Pg**	**16 20 02.4**	**-2.1**
AGRB				*e*SG		**Sb**	**16 20 15.5**	**-1.0**
AGRB	**Hanur-Agry**	**0.91**	**345**	Pg		**Pb**	**16 20 03.4**	**-1.1**
AGRB				*e*Sg		**Sb**	**16 20 15.5**	**-1.0**
AGRB	**Hanur-Agry**	**0.91**	**345**	Pg		**Pb**	**16 20 03.4**	**-1.1**
EKAR	**Karacoban**	**1.11**	**301**	⇓*i*P		**Pb**	**16 20 06.8**	**-1.1**
EKAR				*i* S		**Sn**	**16 20 24.4**	**+1.1**
EKAR	**Karacoban**	**1.11**	**301**	P		**Pb**	**16 20 06.8**	**-1.1**
EKAR				S		**Sn**	**16 20 24.4**	**+1.1**
HAKT	**HAKKARI**	**1.18**	**164**	⇓*i*P		**Pg**	**16 20 06.9**	**-2.7**
HAKT	**HAKKARI**	**1.18**	**164**	P		**Pg**	**16 20 06.9**	**-2.7**
EATA	**Eleskirt**	**1.32**	**332**	⇓*i*P		**Pg**	**16 20 10.2**	**-2.1**
EATA	**Eleskirt**	**1.32**	**332**	P		**Pg**	**16 20 10.2**	**-2.1**
CUKT	**Cukurca**	**1.47**	**170**	*e*PN		**Pg**	**16 20 14.1**	**-1.0**
CUKT				*e*SN		**Sn**	**16 20 34.5**	**+2.6**
CUKT	**Cukurca**	**1.47**	**170**	⇓*i*P		**Pg**	**16 20 13.9**	**-1.1**
CUKT	**Cukurca**	**1.47**	**170**	*e*Pn		**Pg**	**16 20 14.1**	**-1.0**
CUKT				*e*Sn		**Sn**	**16 20 34.5**	**+2.6**
VRTB	**Varto-Mus**	**1.51**	**289**	*e*PN		**Pg**	**16 20 14.1**	**-1.7**
VRTB	**Varto-Mus**	**1.51**	**289**	⇑*i*P		**Pn**	**16 20 13.6**	**+0.1**
VRTB				*i* S		**Sn**	**16 20 36.6**	**+3.7**
VRTB	**Varto-Mus**	**1.51**	**289**	P		**Pn**	**16 20 13.6**	**+0.1**
VRTB				S		**Sn**	**16 20 36.6**	**+3.7**
VRTB	**Varto-Mus**	**1.51**	**289**	Pn		**Pg**	**16 20 14.1**	**-1.7**
BNGL	**BINGOL**	**1.69**	**279**	⇑*i*P		**Pb**	**16 20 16.8**	**-1.0**
BNGL				*i* S		**Sg**	**16 20 41.5**	**+0.1**
DIGO	**Kars**	**1.72**	**2**	⇓*i*P		**Pn**	**16 20 17.2**	**+0.7**
DIGO	**Kars**	**1.72**	**2**	P		**Pn**	**16 20 17.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	*e*PN		**Pn**	**16 20 17.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	⇑*i*P		**Pn**	**16 20 16.9**	**+0.5**
SVAN				*i* S		**Sg**	**16 20 41.7**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.73**	**252**	P		**Pn**	**16 20 16.9**	**+0.4**
SVAN				S		**Sg**	**16 20 41.7**	**-0.9**
BTMN	**Batman**	**1.78**	**244**	⇑*i*P		**Pn**	**16 20 17.8**	**+0.6**
BTMN				*i* S		**Sg**	**16 20 43.2**	**-1.0**
BTMN	**Batman**	**1.78**	**244**	P		**Pn**	**16 20 17.8**	**+0.6**
BTMN				S		**Sg**	**16 20 43.2**	**-1.0**
NAX	**Nakhchivan**	**1.78**	**74**	⇑P		**Pn**	**16 20 18.2**	**+1.0**
NAX				⇑S		**Sn**	**16 20 41.6**	**+1.9**
NAX	**Nakhchivan**	**1.78**	**74**	P		**Pn**	**16 20 18.2**	**+1.0**
NAX				S		**Sn**	**16 20 41.6**	**+1.9**
GNI	**Garni**	**1.84**	**37**	Pn		**Pn**	**16 20 19.0**	**+1.0**
	32nm,0.3s,baz=240,slow=2.9,SNR=54							
GNI				Lg		Lg	16 20 47.8	
	43nm,0.3s,baz=317,slow=20,SNR=4.6							
GNI				LR		LR	16 21 03.8	
	comp=Z,159nm,19.4s,baz=239,slow=41							
GNI	**Garni**	**1.84**	**37**	*e*i P		**Pn**	**16 20 18.1**	**+0.1**
GNI	**Garni**	**1.84**	**37**	*i* P		**Pn**	**16 20 18.1**	**+0.1**
GNI	**Garni**	**1.84**	**37**	*e*Pn		**Pn**	**16 20 18.6**	**+0.6**
GNI				Lg		Lg	16 20 47.8	
GNI	**Garni**	**1.84**	**37**	*e*Pn		**Pn**	**16 20 18.6**	**+0.6**
GNI				Lg		Lg	16 20 47.8	
ERZM	**Erzurum**	**1.92**	**310**	*i* S		**Sb**	**16 20 45.4**	**-0.4**
ERZM	**Erzurum**	**1.92**	**310**	S		**Sb**	**16 20 45.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*PN		**Pn**	**16 20 21.3**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*Pn		**Pn**	**16 20 21.3**	**+1.0**
EAK	**Akyaka**	**2.00**	**7**	*i* P		**Pb**	**16 20 23.2**	**+0.1**
EAK	**Akyaka**	**2.00**	**7**	P		**Pb**	**16 20 23.2**	**+0.1**
BNGB	**Bing¶l**	**2.06**	**279**	*e*PN		**Pn**	**16 20 22.0**	**+0.9**
BINT	**Bingol**	**2.20**	**276**	P		**Pn**	**16 20 22.0**	**-1.0**
BINT	**Bingol**	**2.20**	**276**	*e*Pn		**Pn**	**16 20 22.0**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.26**	**290**	*e*PN		**Pn**	**16 20 24.8**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.26**	**290**	*e*Pn		**Pn**	**16 20 24.8**	**+0.9**
MAZI	**Mazidag**	**2.56**	**242**	*e*PN		**Pn**	**16 20 27.8**	**-0.1**
MAZI	**Mazidag**	**2.56**	**242**	*e*Pn		**Pn**	**16 20 27.8**	**-0.1**
BGD	**Bogdanovka**	**2.58**	**5**	P		**Pb**	**16 20 33.2**	**+0.3**
DIYA	**Diyarbakir**	**2.61**	**254**	*i* P		**Pb**	**16 20 31.4**	**-2.0**
DIYA	**Diyarbakir**	**2.61**	**254**	P		**Pb**	**16 20 31.4**	**-2.0**
AKH	**Akhalkalaki**	**2.72**	**3**	*e*PN		**Pn**	**16 20 31.3**	**+1.2**
AKH	**Akhalkalaki**	**2.72**	**3**	P		**Pb**	**16 20 36.1**	**+0.8**
AKH	**Akhalkalaki**	**2.72**	**3**	⇑*i*P		**Pg**	**16 20 36.4**	**-2.5**
AKH				S		**Sn**	**16 20 58.2**	**-4.6**
AKH	**Akhalkalaki**	**2.72**	**3**	P		**Pb**	**16 20 36.0**	**+0.8**
AKH	**Akhalkalaki**	**2.72**	**3**	*e*Pn		**Pn**	**16 20 31.3**	**+1.2**
AKH				S		**Sn**	**16 20 58.2**	**-4.6**
GDB	**GEDABAY**	**2.77**	**42**	⇓P		**Pn**	**16 20 32.0**	**+1.1**
GDB				⇓S		**Sn**	**16 21 07.7**	**+3.4**
GDB	**GEDABAY**	**2.77**	**42**	P		**Pn**	**16 20 32.0**	**+1.1**
GDB				S		**Sn**	**16 21 07.7**	**+3.4**
EPOS	**Posof**	**2.84**	**351**	*i* P		**Pn**	**16 20 33.6**	**+1.9**
EPOS	**Posof**	**2.84**	**351**	P		**Pn**	**16 20 33.7**	**+1.9**
QZX	**Qazax, Azerbai**	**2.85**	**33**	⇓P		**Pb**	**16 20 36.6**	**-0.9**
QZX				⇓S		**Sb**	**16 21 10.2**	**-2.0**
QZX	**Qazax, Azerbai**	**2.85**	**33**	P		**Pb**	**16 20 36.6**	**-0.9**
QZX				S		**Sb**	**16 21 10.2**	**-2.0**
ERZN	**Erzincan**	**2.92**	**289**	*e*PN		**Pn**	**16 20 33.9**	**+1.1**
DBOC	**Borcka**	**2.93**	**335**	*i* S		**Sb**	**16 21 13.1**	**-1.2**
GANJ	**Ganja**	**3.04**	**49**	⇑P		**Pb**	**16 20 39.0**	**-1.8**
GANJ				⇓S		**Sn**	**16 21 14.2**	**+3.5**
GANJ	**Ganja**	**3.04**	**49**	P		**Pb**	**16 20 39.0**	**-1.8**
GANJ				S		**Sn**	**16 21 14.2**	**+3.5**
PTK	**Pertek**	**3.05**	**275**	*e*PN		**Pn**	**16 20 35.8**	**+1.0**
PTK	**Pertek**	**3.05**	**275**	*e*Pn		**Pn**	**16 20 35.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.14**	**265**	*e*PN		**Pn**	**16 20 37.3**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.14**	**265**	*e*Pn		**Pn**	**16 20 37.3**	**+1.3**
TBLG	**Delisi**	**3.23**	**20**	*e*PN		**Pn**	**16 20 38.5**	**+1.5**
TBLG	**Delisi**	**3.23**	**20**	P		**Pb**	**16 20 43.8**	**-0.1**
TBLG	**Delisi**	**3.23**	**20**	P		**Pb**	**16 20 43.8**	**-0.1**
TBLG	**Delisi**	**3.23**	**20**	*e*Pn		**Pn**	**16 20 38.5**	**+1.5**
BRDA	**Brd**	**3.39**	**61**	⇓P		**Pn**	**16 20 43.0**	**+3.8**
	SNR=6.2							
BRDA				⇓S		**Sn**	**16 21 20.7**	**+1.5**
BRDA	**Brd**	**3.39**	**61**	P		**Pn**	**16 20 43.0**	**+3.8**
	SNR=6.2							
BRDA				S		**Sn**	**16 21 20.7**	**+1.5**
SFNV	**Sufian**	**3.40**	**229**	*e*P		**Pn**	**16 20 40.8**	**+1.3**
SFNV				AML		AML	16 21 40.0	
	comp=E,201nm,0.6s							
SFNV				AML		AML	16 21 45.0	
	comp=N,241nm,0.6s							
MNGR	**Mingechevir, A**	**3.59**	**53**	⇓P		**Pb**	**16 20 46.3**	**-3.7**
	SNR=3.1							
MNGR				⇓S		**Sn**	**16 21 26.6**	**+2.6**
MNGR	**Mingechevir, A**	**3.59**	**53**	P		**Pb**	**16 20 46.3**	**-3.7**
	SNR=3.1							
MNGR				S		**Sn**	**16 21 26.6**	**+2.6**
ZRD	**Zardab**	**3.75**	**64**	⇑P		**Pn**	**16 20 47.7**	**+3.6**
ZRD				⇑S		**Sn**	**16 21 29.9**	**+1.9**
ZRD	**Zardab**	**3.75**	**64**	P		**Pn**	**16 20 47.7**	**+3.6**
ZRD				S		**Sn**	**16 21 29.9**	**+1.9**
ZKTA	**Zakatala**	**3.89**	**40**	⇑P		**Pb**	**16 20 51.0**	**-4.2**
ZKTA				⇑S		**Sn**	**16 21 35.4**	**+3.8**
ONI	**Oni**	**3.89**	**2**	P		**Pb**	**16 20 55.6**	**+0.3**
ONI	**Oni**	**3.89**	**2**	P		**Pb**	**16 20 55.5**	**+0.3**
SEKA	**Sheki**	**3.91**	**49**	⇑P		**Pn**	**16 20 50.9**	**+4.4**
SEKA				⇓S		**Sn**	**16 21 36.3**	**+4.1**
SEKA	**Sheki**	**3.91**	**49**	P		**Pn**	**16 20 50.9**	**+4.4**
SEKA				S		**Sn**	**16 21 36.3**	**+4.1**
LRK	**Lerik**	**3.95**	**89**	⇓P		**Pn**	**16 20 49.8**	**+2.7**
LRK				⇓S		**Sn**	**16 21 33.4**	**+0.1**
LRK	**Lerik**	**3.95**	**89**	P		**Pn**	**16 20 49.8**	**+2.7**
LRK				S		**Sn**	**16 21 33.4**	**+0.1**
GLBA	**Clilabad**	**4.01**	**81**	⇓P		**Pn**	**16 20 50.8**	**+3.0**
GLBA				⇓S		**Sn**	**16 21 35.3**	**+0.8**
GLBA	**Clilabad**	**4.01**	**81**	P		**Pn**	**16 20 50.8**	**+3.0**
GLBA				S		**Sn**	**16 21 35.3**	**+0.8**
ZEI	**Tsey**	**4.12**	**6**	*e*P		**Pn**	**16 20 50.8**	**+1.4**
ZEI				pmax		pmax		
	comp=Z,15nm,0.6s							
QBL	**Gabala**	**4.16**	**56**	⇓P		**Pn**	**16 20 53.2**	**+3.4**
QBL	**Gabala**	**4.16**	**56**	P		**Pn**	**16 20 53.2**	**+3.4**
LACR	**Lac**	**4.20**	**10**	*e*P		**Pb**	**16 20 56.9**	**-3.6**
LACR				pmax		pmax		
	comp=Z,94nm,1.1s							
LKRN	**Lenkeran, Azer**	**4.29**	**88**	⇓P		**Pn**	**16 20 54.7**	**+3.1**
LKRN	**Lenkeran, Azer**	**4.29**	**88**	P		**Pn**	**16 20 54.7**	**+3.1**
ASTR	**Astara**	**4.31**	**90**	⇓P		**Pn**	**16 20 55.3**	**+3.5**
ASTR	**Astara**	**4.31**	**90**	P		**Pn**	**16 20 55.3**	**+3.5**
IML	**Ismayilli**	**4.31**	**59**	⇓P		**Pn**	**16 20 55.8**	**+3.9**
IML	**Ismayilli**	**4.31**	**59**	P		**Pn**	**16 20 55.8**	**+3.9**
AKT	**Akhty**	**4.40**	**49**	*e*P		**Pb**	**16 21 04.2**	**+0.4**
AKT				*e*S		**Sb**	**16 21 54.4**	**-2.3**
AKT				pmax		pmax		
	comp=Z,19nm,0.4s							
AKT				smax		smax		
	comp=N,51nm,0.9s							
KORR	**Kora**	**4.43**	**7**	*e*P		**Pb**	**16 21 03.8**	**-0.5**
KORR				pmax		pmax		
	comp=Z,97nm,1.1s							
XNQ	**Khinaliq**	**4.47**	**55**	⇑P		**Pn**	**16 20 58.0**	**+3.7**
XNQ	**Khinaliq**	**4.47**	**55**	P		**Pn**	**16 20 58.0**	**+3.7**
NEY	**Neytrino**	**4.57**	**355**	*i* P		**Pn**	**16 20 58.7**	**+3.1**
NEY	**Neytrino**	**4.57**	**355**	*i* P		**Pn**	**16 20 58.7**	**+3.1**
PQL	**Pirkuli**	**4.59**	**61**	⇑P		**Pn**	**16 20 59.7**	**+3.9**
PQL	**Pirkuli**	**4.59**	**61**	P		**Pn**	**16 20 59.7**	**+3.9**
GBS	**Qobustan**	**4.73**	**65**	⇓P		**Pn**	**16 21 01.1**	**+3.3**
GBS	**Qobustan**	**4.73**	**65**	P		**Pn**	**16 21 01.1**	**+3.3**
QSAR	**Qusar**	**4.74**	**52**	⇑P		**Pn**	**16 21 01.9**	**+4.1**
QSAR	**Qusar**	**4.74**	**52**	P		**Pn**	**16 21 01.9**	**+4.1**
QUBA	**Quba, Azerbaij**	**4.79**	**55**	⇑P		**Pn**	**16 21 02.3**	**+3.7**
QUBA	**Quba, Azerbaij**	**4.79**	**55**	P		**Pn**	**16 21 02.3**	**+3.7**
NCK	**Nalchik**	**4.80**	**3**	⇑*e*P		Pb	16 21 04.7	-6.0
ATGJ	**Altiaghaj**	**4.86**	**62**	⇓P		**Pn**	**16 21 02.2**	**+2.7**
ATGJ	**Altiaghaj**	**4.86**	**62**	P		**Pn**	**16 21 02.2**	**+2.7**
SIZA	**Siyzn**	**4.92**	**59**	⇑P		**Pn**	**16 21 03.7**	**+3.3**
SIZA	**Siyzn**	**4.92**	**59**	P		**Pn**	**16 21 03.7**	**+3.3**
KBZ	**Khabaz**	**5.04**	**357**	Pn		**Pn**	**16 21 05.9**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=183,slow=15,SNR=4.2							
KIV	**Kislovodsk**	**5.28**	**355**	*e*P		**Pn**	**16 21 08.4**	**+3.2**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KIV	**Kislovodsk**	**5.28**	**355**	*e*P		**Pn**	**16 21 08.4**	**+3.2**
	comp=Z,8.0nm,0.9s							
KIV	**Kislovodsk**	**5.28**	**355**	Pn		Pn	16 21 10.5	+5.3
KVAR	**Kislovodsk Arr**	**5.28**	**355**	Pn		Pn	16 21 10.4	+5.2
	baz=196,slow=16,SNR=2.5							
BTCH	**Batrach**	**6.05**	**246**	*e*P		**Pn**	**16 21 20.4**	**+4.5**
BTCH				*e*S		**Sb**	**16 22 36.2**	**-8.2**
BTCH				AML		AML	16 23 08.7	
	comp=N,137nm,0.7s							
BTCH				AML		AML	16 23 13.3	
	comp=E,166nm,0.6s							
GOF	**Gofitskoye**	**6.36**	**358**	⇑*e*P		**Pb**	**16 21 33.6**	**-3.6**
HAWK	**Haweek**	**6.93**	**235**	*e*P		**Pn**	**16 21 29.4**	**+1.5**
HAWK				*e*S		**Sn**	**16 22 53.0**	**+6.4**
HAWK				AML		AML	16 23 37.3	
	comp=N,26nm,0.6s							
HAWK				AML		AML	16 23 40.2	
	comp=E,19nm,0.6s							
MARH	**Ras Al Marh**	**7.20**	**232**	*e*P		**Pn**	**16 21 32.9**	**+1.0**
MARH				*e*S		**Sn**	**16 23 00.3**	**+6.7**
MARH				AML		AML	16 23 47.3	
	comp=N,37nm,0.7s							
MARH				AML		AML	16 24 09.0	
	comp=E,39nm,0.7s							
BRTR	**Keskin Array B**	**7.57**	**281**	Pn		**Pn**	**16 21 38.5**	**+1.8**
	comp=E,0.1nm,0.3s,baz=115,slow=15,SNR=3.1							
BRBR	**Barbar**	**7.94**	**231**	*e*P		**Pn**	**16 21 44.4**	**+2.4**
BRBR				*e*S		**Sn**	**16 23 16.3**	**+4.6**
BRBR				AML		AML	16 24 09.0	
	comp=N,7.3nm,0.8s							
BRBR				AML		AML	16 24 13.9	
	comp=E,16nm,0.8s							
SALA	**Sala**	**8.01**	**224**	*e*P		**Pn**	**16 21 44.2**	**+1.4**
SALA				*e*S		**Sn**	**16 23 18.0**	**+4.8**
SALA				AML		AML	16 24 14.8	
	comp=N,18nm,0.7s							
SALA				AML		AML	16 24 17.0	
	comp=E,1.1nm,0.7s							
ASF	**Jabal al Asfar**	**8.34**	**221**	Pn		**Pn**	**16 21 47.6**	**+0.3**
	comp=E,0.5nm,0.3s,baz=12,slow=7.4,SNR=5.3							
MMAI	**Mount Meron Ar**	**8.55**	**231**	Pn		**Pn**	**16 21 51.3**	**+1.1**
	comp=E,3.3nm,0.3s,baz=64,slow=16,SNR=7.9							
GEYT	**Alibeck**	**11.68**	**89**	LR		LR	16 28 04.6	
	comp=E,30nm,19.0s,baz=225,slow=43							
DOPR	**Dopca**	**15.09**	**305**	⇑*i*P		**P**	**16 23 27.8**	**+3.2**
VOIR		**15.12**	**302**	⇓*i*P		**P**	**16 23 28.4**	**+3.4**
VOIR		**15.12**	**302**	⇓P		**P**	**16 23 28.4**	**+3.4**
AKASG	**Malin Array Be**	**15.59**	**325**	Pn		**Pn**	**16 23 25.7**	**-0.2**
	comp=E,0.8nm,0.3s,baz=129,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**15.59**	**325**	*e*P		**P**	**16 23 31.0**	**+0.9**
AKASG				pmax		pm

mpv3.2, Error ellipse: s-maj=156.8km s-min=24.9km az=125.0
*ISCJB **26** 16:24:26.8±1.1, 39.°19N±0.°06×72.°55E±0.°06, h33km, Error ellipse: s-maj=9.2km s-min=6.5km az=18.9*
ISC 26 16:24:26.1±2.0, 39.°1N±0.°1×72.°45E±0.°06, h35km, n9, σ1§33/16, 11C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.59**	**308**	⇓*e*P	**Pn**	**16 24 49.9**	**-2.0**
	baz=308						
BTK				⇓*e*S	**Sn**	**16 25 12.7**	**+1.4**
	baz=308						
ARSB	**Arslanbob**	**2.28**	**10**	⇑*e*P	**Pn**	**16 25 00.1**	**-1.3**
	baz=8.0						
ARSB				⇑*i*S	**Sn**	**16 25 29.4**	**+1.1**
	baz=8.0						
ARK	**Arkit**	**2.74**	**352**	⇓*e*P	**Pn**	**16 25 06.3**	**-1.4**
	baz=351						
ARK				⇓*i*S	**Sn**	**16 25 40.7**	**+1.1**
	baz=351						
KSH	**Kashi**	**2.77**	**80**	Pn	**Pn**	**16 25 08.0**	**-0.1**
KSH				Sn	**Sn**	**16 25 41.3**	**+0.9**
KSH				*s*max	*s*max		
	comp=N,190nm,0.7s						
KSH				*s*max	*s*max		
	comp=E,130nm,0.5s						
DZET	**Dzherino**	**2.84**	**266**	⇑Pn	Pn	16 25 15.2	+6.1
	comp=E,4.7nm,0.4s						
DZET				⇑Sn	Sn	16 25 58.0	+16
	comp=E,42nm,0.5s						
ARLS	**Aral**	**3.12**	**27**	⇑*e*P	**Pn**	**16 25 11.8**	**-1.2**
	baz=25						
ARLS				⇑*e*S	**Sn**	**16 25 49.2**	**0.0**
	baz=25						
MNAS	**Manas**	**3.40**	**1**	⇑*i*P	**Pn**	**16 25 15.6**	**-1.2**
	baz=360						
MNAS				⇑*i*S	**Sn**	**16 25 55.1**	**-0.9**
	baz=360						
MNAS	**Manas**	**3.40**	**1**	⇓Pn	**Pn**	**16 25 16.8**	**0.0**
	comp=E,7.3nm,0.7s						
MNAS				⇑Sn	**Sn**	**16 25 56.2**	**+0.2**
	comp=E,15nm,0.8s						
KK31	**Karatay Array**	**4.28**	**341**	⇑Pn	**Pn**	**16 25 30.5**	**+1.8**
	comp=E,0.8nm,0.3s,baz=144,slow=11,SNR=8.5						
KK31				⇑Sn	**Sn**	**16 26 19.1**	**+1.7**
	comp=E,3.1nm,0.5s,baz=149,slow=23,SNR=4.3						

*DDA **26** 16:28:26.9, 38.°75N×43.°43E, h6km, Ml3.7*
*CSEM **26** 16:28:27.6±0.3, 38.°78N×43.°44E, h8km, ML3.2, Error ellipse: s-maj=7.4km s-min=3.6km az=82.0*
*ISK **26** 16:28:27.2, 38.°76N×43.°39E, h6km, ML3.2*
ISC 26 16:28:28.3±0.9, 38.°76N±0.°02×43.°43E±0.°03, h15km±6km, n45, σ1§19/76, 4C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**191**	*e*PG	**Pg**	**16 28 32.4**	**-0.2**
VANB				*e*SG	**Sg**	**16 28 36.6**	**+1.2**
VANB	**Van**	**0.17**	**191**	*e*Pg	**Pg**	**16 28 32.4**	**-0.2**
VANB				*e*Sg	**Sg**	**16 28 36.6**	**+1.2**
GEVA	**Gevas**	**0.53**	**213**	⇑*i*P	**Pg**	**16 28 37.0**	**-1.9**
GEVA				*i*S	**Sg**	**16 28 45.0**	**-1.0**
GEVA	**Gevas**	**0.53**	**213**	P	**Pg**	**16 28 37.0**	**-1.9**
GEVA				S	**Sg**	**16 28 45.0**	**-1.0**
TUTA	**Tutak**	**0.80**	**324**	⇓*i*P	**Pg**	**16 28 42.6**	**-1.4**
TUTA				*i*S	**Sg**	**16 28 53.8**	**-0.8**
TUTA	**Tutak**	**0.80**	**324**	P	**Pg**	**16 28 42.6**	**-1.4**
TUTA				S	**Sg**	**16 28 53.8**	**-0.8**
DYDN	**Diyadin**	**0.81**	**14**	*i*P	**Pg**	**16 28 43.3**	**-0.8**
DYDN				*i*S	**Sb**	**16 28 54.6**	**-0.4**
DYDN	**Diyadin**	**0.81**	**14**	P	**Pg**	**16 28 43.3**	**-0.8**
DYDN				S	**Sb**	**16 28 54.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*PG	**Pg**	**16 28 44.3**	**-1.2**
AGRB				*e*SG	**Sb**	**16 28 57.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.89**	**338**	*e*Pg	**Pg**	**16 28 44.3**	**-1.2**
AGRB				*e*Sg	**Sb**	**16 28 57.0**	**-0.2**
EKAR	**Karacoban**	**1.18**	**296**	*i*P	**Pn**	**16 28 50.3**	**-0.1**
EKAR				*i*S	**Sn**	**16 29 08.8**	**+2.7**
EKAR	**Karacoban**	**1.18**	**296**	P	**Pn**	**16 28 50.3**	**-0.1**
EKAR				S	**Sn**	**16 29 08.9**	**+2.7**
HAKT	**HAKKARI**	**1.22**	**170**	⇓*i*P	**Pg**	**16 28 49.1**	**-2.7**
HAKT				*i*S	**Sn**	**16 29 08.8**	**+1.6**
HAKT	**HAKKARI**	**1.22**	**170**	P	**Pg**	**16 28 49.1**	**-2.7**
HAKT				S	**Sn**	**16 29 08.8**	**+1.6**
EATA	**Eleskirt**	**1.32**	**327**	⇓*i*P	**Pn**	**16 28 52.1**	**-0.4**
EATA				*i*S	**Sn**	**16 29 12.1**	**+2.1**
EATA	**Eleskirt**	**1.32**	**327**	P	**Pn**	**16 28 52.1**	**-0.4**
EATA				S	**Sn**	**16 29 12.1**	**+2.1**
SIRN	**S¨–rnak**	**1.49**	**213**	⇑*i*P	**Pg**	**16 28 56.2**	**-0.8**
SIRN				*i*S	**Sg**	**16 29 16.7**	**+0.2**
SIRN	**S¨–rnak**	**1.49**	**213**	P	**Pg**	**16 28 56.2**	**-0.8**
SIRN				S	**Sg**	**16 29 16.7**	**+0.2**
CUKT	**Cukurca**	**1.51**	**175**	*e*PN	**Pb**	**16 28 55.5**	**-0.6**
CUKT				*e*SN	**Sg**	**16 29 16.1**	**-1.0**
CUKT	**Cukurca**	**1.51**	**175**	*i*P	**Pg**	**16 28 56.1**	**-1.3**
CUKT				*i*S	**Sg**	**16 29 19.7**	**+2.6**
CUKT	**Cukurca**	**1.51**	**175**	*e*Pn	**Pb**	**16 28 55.5**	**-0.6**
CUKT	**Cukurca**	**1.51**	**175**	P	**Pg**	**16 28 56.1**	**-1.3**
CUKT				*e*Sn	**Sg**	**16 29 16.1**	**-1.0**
CUKT				S	**Sg**	**16 29 19.7**	**+2.6**
VRTB	**Varto-Mus**	**1.59**	**285**	*e*PN	**Pn**	**16 28 56.0**	**0.0**
VRTB				*e*SN	**Sb**	**16 29 17.1**	**-0.2**
VRTB	**Varto-Mus**	**1.59**	**285**	⇑*i*P	**Pn**	**16 28 56.3**	**+0.3**
VRTB				*i*S	**Sg**	**16 29 20.8**	**+1.2**
VRTB	**Varto-Mus**	**1.59**	**285**	*e*Pn	**Pn**	**16 28 56.0**	**0.0**
VRTB	**Varto-Mus**	**1.59**	**285**	P	**Pn**	**16 28 56.3**	**+0.3**
VRTB				*e*Sn	**Sb**	**16 29 17.2**	**-0.2**
VRTB				S	**Sg**	**16 29 20.8**	**+1.2**
BNGL	**BINGOL**	**1.79**	**277**	*i*P	**Pb**	**16 29 00.2**	**-0.7**
BNGL				*i*S	**Sg**	**16 29 26.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*PN	**Pn**	**16 29 00.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	⇑*i*P	**Pb**	**16 29 01.1**	**-0.8**
SVAN				*i*S	**Sg**	**16 29 26.9**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*Pn	**Pn**	**16 29 00.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	P	**Pb**	**16 29 01.1**	**-0.8**
SVAN				S	**Sg**	**16 29 26.9**	**-1.1**
BTMN	**Batman**	**1.91**	**244**	*i*P	**Pn**	**16 29 00.8**	**+0.5**
BTMN				*i*S	**Sb**	**16 29 26.4**	**0.0**
BTMN	**Batman**	**1.91**	**244**	P	**Pn**	**16 29 00.8**	**+0.5**
BTMN				S	**Sb**	**16 29 26.4**	**0.0**
SENK	**Senkaya-Erzuru**	**1.98**	**336**	*e*PN	**Pn**	**16 29 02.0**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.98**	**336**	*e*Pn	**Pn**	**16 29 02.1**	**+0.6**
BNGB	**Bing¨¶l**	**2.16**	**277**	*e*PN	**Pn**	**16 29 04.3**	**+0.5**
BINT	**Bingol**	**2.30**	**274**	*e*Pn	**Pn**	**16 29 04.3**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*PN	**Pn**	**16 29 07.1**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*Pn	**Pn**	**16 29 07.1**	**+0.7**
MAZI	**Mazidag**	**2.69**	**242**	*e*PN	**Pn**	**16 29 11.5**	**+0.5**
MAZI	**Mazidag**	**2.69**	**242**	*e*Pn	**Pn**	**16 29 11.5**	**+0.5**
PTK	**Pertek**	**3.16**	**274**	*e*PN	**Pn**	**16 29 18.1**	**+0.5**
PTK	**Pertek**	**3.16**	**274**	*e*Pn	**Pn**	**16 29 18.1**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*PN	**Pn**	**16 29 19.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.25**	**265**	*e*Pn	**Pn**	**16 29 19.8**	**+0.9**

IDC 26 16:28:59.0±664.0, 55.°21N×0.°10W, h0km, Error ellipse: s-maj=367.5km s-min=200.3km az=109.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.62**	**121**	*i*		17 31 50.0	
	baz=314,slow=324,SNR=0.9						
I43RU	**DUBNA INFRASON**	**20.78**	**70**	*i*		18 35 19.1	
	baz=282,slow=325,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**34.58**	**73**	*i*		20 04 50.0	
	baz=300,slow=327,SNR=0.4						

*ISCJB **26** 16:41:42.0±0.5, 66.°03N±0.°02×13.°21E±0.°08, h0km, Error ellipse: s-maj=5.0km s-min=3.0km az=169.4*
*UPP **26** 16:41:42.5±1.6, 66.°16N×13.°10E, h0km, ML2.0*
*CSEM **26** 16:41:43.4±0.2, 66.°06N×13.°20E, h1km, ML1.5, Error ellipse: s-maj=5.7km s-min=3.6km az=86.0, Suspected Mining explosion.*
*IDC **26** 16:41:44.9±1.3, 66.°04N×13.°48E, h0km, mb1 3.0/4, mb1mx2.9/52, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=17.3km s-min=7.1km az=116.0*
*NAO **26** 16:41:44.4±1.3, 66.°04N×13.°44E, ML2.4*
*BER **26** 16:41:45.5±4.3, 66.°08N×13.°22E, h0km±11km, MD1.6, ML1.5, ML2.4(NAO)*

ISC 26 16:41:43.8±0.9, 66.°07N±0.°03×13.°23E±0.°04, h0km, n46, σ1§61/85, 2D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.27**	**342**	⇓*i*P	**Pg**	**16 41 49.1**	**+0.1**
STOK				*e*S	**Sg**	**16 41 53.6**	**+1.0**
STOK				IAML		16 41 54.6	
	comp=Z,48nm,0.4s						
STOK	**Stokkvaagen**	**0.27**	**342**	⇓*i*P	**Pg**	**16 41 49.1**	**+0.1**
	SNR=90						
STOK				*e*S	**Sg**	**16 41 53.6**	**+1.0**
	SNR=90						
KONS	**Konsvik**	**0.43**	**354**	*e*P	**Pg**	**16 41 52.0**	**0.0**
KONS				*e*S	**Sg**	**16 41 59.0**	**+1.4**
KONS				IAML		16 41 59.8	
	comp=Z,34nm,0.2s						
KONS	**Konsvik**	**0.43**	**354**	*e*P	**Pg**	**16 41 52.0**	**0.0**
	SNR=90						
KONS				*e*S	**Sg**	**16 41 59.0**	**+1.4**
	SNR=90						
STEI	**Steigen**	**2.02**	**22**	*e*P	**Pn**	**16 42 19.7**	**+0.6**
STEI				*e*Sg	**Sg**	**16 42 49.5**	**+0.7**
STEI				IAML		16 42 51.1	
	comp=Z,14nm,0.4s						
STEI	**Steigen**	**2.02**	**22**	*e*P	**Pn**	**16 42 19.7**	**+0.6**
	SNR=50						
STEI				*e*Sg	**Sg**	**16 42 49.5**	**+0.7**
	SNR=90						
LOF	**Lofoten**	**2.07**	**3**	*e*P	**Pn**	**16 42 17.9**	**-1.8**
LOF				*e*S	**Sn**	**16 42 44.5**	**-1.7**
LOF				IAML		16 42 53.7	
	comp=Z,6.0nm,0.3s						
LOF	**Lofoten**	**2.07**	**3**	*e*P	**Pn**	**16 42 17.9**	**-1.8**
	SNR=50						
LOF				*e*S	**Sn**	**16 42 44.5**	**-1.7**
	SNR=50						
LILU	**Lilltraesk**	**2.85**	**103**	P	**Pn**	**16 42 30.2**	**-0.3**
LILU				S	**Sn**	**16 43 06.4**	**+1.0**
LILU	**Lilltraesk**	**2.85**	**103**	P	**Pn**	**16 42 30.2**	**-0.3**
LILU				S	**Sn**	**16 43 06.4**	**+1.0**
SVAU	**Svanoeiden**	**3.10**	**118**	P	**Pn**	**16 42 33.5**	**-0.4**
SVAU				S	**Sn**	**16 43 11.2**	**-0.4**
DUNU	**Dundret**	**3.11**	**67**	P	**Pn**	**16 42 32.6**	**-1.5**
DUNU				S	**Sn**	**16 43 13.8**	**+1.9**
DUNU	**Dundret**	**3.11**	**67**	P	**Pn**	**16 42 32.6**	**-1.5**
DUNU				S	**Sn**	**16 43 13.8**	**+1.9**
BREU	**Bredtraesk**	**3.16**	**132**	P	**Pn**	**16 42 34.5**	**-0.2**
BREU				S	**Sn**	**16 43 13.8**	**+0.8**
BREU	**Bredtraesk**	**3.16**	**132**	P	**Pn**	**16 42 34.5**	**-0.2**
BREU				S	**Sn**	**16 43 13.8**	**+0.8**
SOLU	**Sollefteaa**	**3.32**	**147**	P	**Pn**	**16 42 37.2**	**+0.2**
SOLU	**Sollefteaa**	**3.32**	**147**	P	**Pn**	**16 42 37.2**	**+0.2**
SJUU	**Sjulsmark**	**3.50**	**96**	P	**Pn**	**16 42 38.7**	**-0.6**
SJUU				S	**Sn**	**16 43 20.7**	**-0.6**
ERTU	**Ertsjaerv**	**3.65**	**78**	P	**Pn**	**16 42 40.7**	**-0.7**
ERTU	**Ertsjaerv**	**3.65**	**78**	P	**Pn**	**16 42 40.7**	**-0.7**
BURU	**Burvik**	**3.73**	**110**	P	**Pn**	**16 42 42.0**	**-0.5**
BURU	**Burvik**	**3.73**	**110**	P	**Pn**	**16 42 42.0**	**-0.5**
UMAU	**Umeaa**	**3.85**	**121**	P	**Pn**	**16 42 44.2**	**0.0**
UMAU				S	**Sn**	**16 43 28.9**	**-1.2**
UMAU	**Umeaa**	**3.85**	**121**	P	**Pn**	**16 42 44.2**	**0.0**
UMAU				S	**Sn**	**16 43 28.9**	**-1.2**
KIF	**Kilpisjarvi**	**4.13**	**41**	Pn	**Pn**	**16 42 48.9**	**+0.8**
KIF				Pg	**Pb**	**16 42 59.0**	**+1.7**
KIF				Sn	**Sn**	**16 43 38.1**	**+1.1**
KIF				Lg	Lg	16 43 52.7	
KIF	**Kilpisjarvi**	**4.13**	**41**	Pn	**Pn**	**16 42 48.9**	**+0.8**
KIF				Pg	**Pb**	**16 42 59.0**	**+1.7**
KIF				Sn	**Sn**	**16 43 38.1**	**+1.1**
KIF				Lg	Lg	16 43 52.7	
KIF	**Kilpisjarvi**	**4.13**	**41**	Pn	**Pn**	**16 42 48.9**	**+0.8**
	SNR=50						
AKN	**Aaknes**	**4.77**	**218**	Pn	**Pn**	**16 42 56.0**	**-0.8**
AKN				Sn	**Sn**	**16 43 49.5**	**-3.2**
AKN	**Aaknes**	**4.77**	**218**	Pn	**Pn**	**16 42 56.0**	**-0.8**
AKN				Sn	**Sn**	**16 43 49.5**	**-3.2**
AKN	**Aaknes**	**4.77**	**218**	Pn	**Pn**	**16 42 56.0**	**-0.8**
	SNR=50						
AKN				Sn	**Sn**	**16 43 49.5**	**-3.2**
	SNR=50						
NB2	**NORSAR Subarra**	**5.13**	**191**	Pn	**Pn**	**16 43 02.5**	**+0.6**
	baz=2.0,slow=14						
NB2				Sn	**Sn**	**16 44 01.6**	**-0.2**
NB2				Lg	Lg	16 44 22.6	
NB2	**NORSAR Subarra**	**5.13**	**191**	Pn	**Pn**	**16 43 02.5**	**+0.6**
	baz=2.0,slow=14						
NB2				Sn	**Sn**	**16 44 01.6**	**-0.2**
NB2				Lg	Lg	16 44 22.6	
NB2	**NORSAR Subarra**	**5.13**	**191**	Pn	**Pn**	**16 43 02.5**	**+0.6**
	SNR=50						
NB2				Sn	**Sn**	**16 44 01.5**	**-0.2**
	SNR=50						
NB2				Lg	Lg	16 44 22.5	
NOA	**NORSAR Array B**	**5.13**	**191**	Pn	**Pn**	**16 43 02.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=8.7,slow=14,SNR=3.2						
NOA				Sn	**Sn**	**16 44 00.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=18,slow=13,SNR=3.5						
NOA				Lg	Lg	16 44 23.5	
	comp=Z,0.6nm,0.3s,baz=27,slow=18,SNR=5.1						
ARA0	**ARCESS Array S**	**5.80**	**48**	Pn	**Pn**	**16 43 10.1**	**-0.9**
	baz=233,slow=16						
ARA0				Sn	**Sn**	**16 44 14.8**	**-3.3**
	baz=236,slow=22						
ARA0				Lg	Lg	16 44 44.2	
	baz=237,slow=28						
ARA0	**ARCESS Array S**	**5.80**	**48**	Pn	**Pn**	**16 43 10.1**	**-0.9**
	baz=233,slow=16						
ARA0				Sn	**Sn**	**16 44 14.8**	**-3.3**
	baz=236,slow=22						
ARA0				Lg	Lg	16 44 44.2	
	baz=237,slow=28						
ARA0	**ARCESS Array S**	**5.80**	**48**	Pn	**Pn**	**16 43 10.1**	**-0.9**
	SNR=50						
ARA0				Lg	Lg	16 44 44.2	
ARCES	**ARCESS Array B**	**5.80**	**48**	Pn	**Pn**	**16 43 10.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=235,slow=14,SNR=29						
ARCES				Sn	**Sn**	**16 44 14.8**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=232,slow=20,SNR=6.4						
ARCES				Lg	Lg	16 44 43.0	
	comp=Z,0.7nm,0.3s,baz=237,slow=28,SNR=6.6						
HFS	**Hagfors**	**5.97**	**178**	Pn	**Pn**	**16 43 13.4**	**+0.2**
	baz=343,slow=12						
HFS				Sn	**Sn**	**16 44 20.0**	**-2.2**
	baz=19,slow=28						
HFS				Lg	Lg	16 44 48.5	
	baz=5.4,slow=37						
HFS	**Hagfors**	**5.97**	**178**	Pn	**Pn**	**16 43 13.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=2.1,slow=12,SNR=7.7						
HFS				Sn	**Sn**	**16 44 20.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=4.3,slow=25,SNR=5.1						
HFS				Lg	Lg	16 44 50.2	
	comp=Z,0.2nm,0.3s,baz=354,slow=28,SNR=2.8						
HFS	**Hagfors**	**5.97**	**178**	Pn	**Pn**	**16 43 13.4**	**+0.2**
	baz=343,slow=12						
HFS				Sn	**Sn**	**16 44 20.0**	**-2.2**
	baz=19,slow=28						
HFS				Lg	Lg	16 44 48.5	
	baz=5.4,slow=37						
HFS	**Hagfors**	**5.97**	**178**	Pn	**Pn**	**16 43 13.4**	**+0.2**
	SNR=50						
HFS				Sn	**Sn**	**16 44 20.0**	**-2.2**
	SNR=50						
HFS				Lg	Lg	16 44 48.5	
	SNR=2.6						
FIA0	**FINESS Array S**	**7.34**	**123**	Pn	**Pn**	**16 43 31.1**	**-0.9**
	baz=329,slow=14						
FIA0				Sn	**Sn**	**16 44 51.1**	**-4.8**
	baz=319,slow=22						
FIA0				Lg	Lg	16 45 30.1	
	baz=314,slow=28						
FIA0	**FINESS Array S**	**7.34**	**123**	Pn	**Pn**	**16 43 31.1**	**-0.9**
	baz=329,slow=14						
FIA0				Sn	**Sn**	**16 44 51.1**	**-4.8**
	baz=319,slow=22						
FIA0				Lg	Lg	16 45 30.1	
	baz=314,slow=28						
FIA0	**FINESS Array S**	**7.34**	**123**	Pn	**Pn**	**16 43 31.1**	**-0.9**
	SNR=50						
FIA0				Lg	Lg	16 45 30.1	
	SNR=4.4						
FINES	**FINESS Array B**	**7.34**	**123**	Pn	**Pn**	**16 43 31.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=327,slow=12,SNR=5.0						
FINES				Sn	**Sn**	**16 44 51.3**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=319,slow=22,SNR=5.3						
FINES				Lg	Lg	16 45 30.1	
	comp=Z,0.4nm,0.3s,baz=315,slow=24,SNR=7.6						

*ISCJB **26** 16:44:01.0±0.8, 39.°64N±0.°03×142.°19E±0.°10, h54km±4km, mb3.8/14, MS3.3/4, Error ellipse: s-maj=12.7km s-min=5.4km az=9.7*
*NIED **26** 16:44:00, 39.°60N×142.°10E, h53km, Mw3.9 Best double couple: $M_0$7.22000×10^{14} NP1:ϕ=202.00000°, δ23.00000°, λ92.00000°. NP2:ϕ=20.00000°, δ67.00000°, λ89.00000°.*
*JMA **26** 16:44:02.3, 39.°64N×142.°10E, h48km±1km, M3.9*
JMA Felt II J1.
*IDC **26** 16:44:06.1±2.9, 39.°59N×142.°04E, h85km±25km, mb3.5/14, mb1 3.6/17, mb1mx3.5/52, mbtmp3.8/17, MS3.3/4, Ms1 3.4/4, ms1mx2.7/39, Error ellipse: s-maj=24.4km s-min=15.5km az=89.0*
ISC 26 16:44:02.5±1.0, 39.°62N±0.°04×142.°12E±0.°08, h47km±7km, n38, σ1§46/42, mb3.9/14, MS3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.24**	**259**	P	**Pn**	**16 44 10.7**	**-0.1**
MIYJ				S	**Sn**	**16 44 16.4**	**-0.3**
JTH	**Tanohata**	**0.37**	**328**	P	**Pn**	**16 44 11.8**	**-0.3**
JTH				*e*S	**Sn**	**16 44 18.4**	**-0.6**
OFUJ	**Ofunato**	**0.65**	**213**	P	**Pn**	**16 44 15.1**	**-0.3**
OFUJ				*e*S	**Sn**	**16 44 24.2**	**-0.5**
JOM	**Ohasama**	**0.66**	**257**	P	**Pn**	**16 44 15.5**	**-0.1**
JOM				S	**Sn**	**16 44 24.9**	**-0.1**
JKZ	**Kuzumaki**	**0.71**	**301**	P	**Pn**	**16 44 16.1**	**-0.2**
JKZ				*e*S	**Sn**	**16 44 25.6**	**-0.7**
JANG	**Nango**	**0.88**	**328**	P	**Pn**	**16 44 17.9**	**-0.7**
JANG				*e*S	**Sn**	**16 44 29.4**	**-0.9**
JMK	**Ichinoseki**	**0.97**	**227**	P	**Pn**	**16 44 19.5**	**-0.2**
JMK				*e*S	**Sn**	**16 44 32.4**	**0.0**
JRG	**Rokugo**	**1.17**	**259**	P	**Pn**	**16 44 22.2**	**-0.3**
JAH	**Hinai**	**1.28**	**297**	P	**Pn**	**16 44 23.7**	**-0.2**
JIO	**Ouri**	**1.31**	**208**	P	**Pn**	**16 44 24.1**	**-0.3**
JIO				*e*S	**Sn**	**16 44 40.7**	**0.0**
JTM	**Tenmabayashi**	**1.42**	**326**	P	**Pn**	**16 44 25.4**	**-0.4**
MAT	**Matsushiro**	**4.36**	**226**	P	**Pn**	**16 45 08.3**	**+2.1**
MAT				*e*S	**Sn**	**16 45 59.8**	**+4.1**
MJAR	**Matsushiro Arr**	**4.36**	**226**	P	**Pn**	**16 45 08.6**	**+2.4**
	2.7nm,0.3s,baz=33,slow=13,SNR=53						
ASAJ	**Asahikawa**	**4.50**	**4**	P	**Pn**	**16 45 08.4**	**+0.3**
	1.4nm,0.3s,baz=201,slow=13,SNR=18						
ASAJ				S	**Sn**	**16 46 04.0**	**+4.8**
	1.2nm,0.3s,baz=120,slow=20,SNR=3.2						
USRK	**Ussuriysk Ar.**	**8.83**	**304**	P	**Pn**	**16 46 10.1**	**+2.7**
	0.1nm,0.3s,baz=117,slow=14,SNR=6.6						
KSRS	**Korea Array**	**11.33**	**263**	P	**Pn**	**16 46 45.0**	**+3.4**
	0.6nm,0.3s,baz=70,slow=14,SNR=13						
SEY	**Seymchan**	**24.15**	**11**	P	**P**	**16 49 14.3**	**+0.7**
	1.9nm,0.6s,baz=180,slow=12,SNR=6.3						
SONM	**Songino Array**	**26.90**	**300**	P	**P**	**16 49 39.0**	**+0.1**
	0.4nm,0.5s,baz=86,slow=9.3,SNR=3.6						
SONM				LR	LR	17 00 39.3	
	comp=Z,101nm,19.2s,baz=154,slow=37						
H11N2	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	17 20 43.4	
	baz=319,slow=75,SNR=442						
H11N1	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	17 20 32.7	
	baz=319,slow=75,SNR=285						
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	17 20 40.1	
	baz=319,slow=75,SNR=361						
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	17 21 31.8	
	baz=320,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	17 21 35.9	
	baz=320,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**29.91**	**128**	T	T	17 21 37.7	
	baz=320,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**40.63**	**310**	P	**P**	**16 51 36.8**	**-0.7**
	2.0nm,0.4s,baz=91,slow=8.3,SNR=9.8						
ZALV				PcP	**PcP**	**16 53 38.0**	**-0.5**
	0.6nm,0.4s,baz=111,slow=3.5,SNR=3.2						
ZALV				LR	LR	17 07 32.7	
	comp=Z,21nm,19.9s,baz=72,slow=35						
CMAR	**Chiang Mai Arr**	**42.74**	**253**	P	**P**	**16 51 55.1**	**-0.1**
	0.3nm,0.7s,baz=42,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**16 51 58.5**	**-0.7**
	1.7nm,0.7s,baz=85,slow=9.4,SNR=12						
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**16 52 29.4**	**+0.8**
	0.4nm,0.7s,baz=258,slow=6.4,SNR=5.4						
BVAR	**Borovoye Array**	**49.27**	**311**	P	**P**	**16 52 45.5**	**-0.7**
	0.8nm,0.5s,baz=74,slow=6.6,SNR=5.6						
ARU	**Arti**	**54.81**	**318**	P	**P**	**16 53 26.8**	**-0.5**
	3.6nm,0.6s,baz=90,slow=5.1,SNR=6.2						
WRA	**Warramunga Arr**	**59.70**	**188**	P	**P**	**16 54 00.9**	**-1.2**
	0.7nm,0.8s,baz=7.0,slow=6.9,SNR=3.1						
ARCES	**ARCESS Array B**	**61.78**	**339**	P	**P**	**16 54 14.6**	**-1.1**
	1.3nm,0.8s,baz=65,slow=9.5,SNR=3.8						
ASAR	**Alice

ERZM	Erzurum	1.98 309	*i* P	Pg	16 47 11.7	-0.6
ERZM	Erzurum	1.98 309	P	Pg	16 47 11.7	-0.6
SENK	Senkaya-Erzuru	2.04 337	*e*PN	Pn	16 47 08.4	+0.6
SENK	Senkaya-Erzuru	2.04 337	*e*Pn	Pn	16 47 08.4	+0.6
BNGB	Bing¶‖	2.13 279	*e*PN	Pn	16 47 09.7	+0.7
MAZI	Mazidag	2.62 243	*e*PN	Pn	16 47 16.9	+1.2
MAZI	Mazidag	2.62 243	*e*Pn	Pn	16 47 16.9	+1.2
PTK	Pertek	3.13 275	*e*PN	Pn	16 47 24.0	+1.3
PTK	Pertek	3.13 275	*e*Pn	Pn	16 47 24.0	+1.3
SVRC	Sivrice-ELAZID	3.21 266	*e*PN	Pn	16 47 25.5	+1.6
SVRC	Sivrice-ELAZID	3.21 266	*e*Pn	Pn	16 47 25.5	+1.6

NEIC ***26*** *16:53:13.1±1.2, 19°.05N×108°.87W, h10km, mb4.0/24, Error ellipse: s-maj=19.6km s-min=8.7km az=209.0*
IDC ***26*** *16:53:14.3±3.4, 19°.48N×109°.10W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.8/38, mbtmp3.9/5, ML3.6/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/35, Error ellipse: s-maj=67.7km s-min=43.8km az=30.0*
ISCJB ***26*** *16:53:15.5±1.5, 19°.2N±0°.1×108°.7W±0°.1, h33km, mb4.0/14, MS3.4/9, Error ellipse: s-maj=23.8km s-min=10.3km az=29.0*

ISC 26 16:53:15.9±1.9, 19°.0N±0°.2×108°.8W±0°.2, h35km, n44, σ1¶00/33, mb4.0/14, MS3.5/9, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	9.84	97	*e*Pn	Pn	16 55 35.9	+0.8
LNIG	Linares	10.46	54	*e*Pn	Pn	16 55 44.5	+1.0
TXAR	Lajitas Array	11.29	24	Pn	Pn	16 55 54.3	-0.6
	0.1nm,0.3s,baz=200,slow=14,SNR=21						
TXAR				LR	LR	16 59 38.7	
	comp=Z,213nm,20.3s,baz=0.0,slow=35						
TUC	Tucson	13.35	353	*e*Pn	Pn	16 56 22.6	-0.5
CMIG	Matias Romero	13.39	96	Pn	P	16 56 30.7	-1.9
	0.6nm,0.3s,baz=278,slow=14,SNR=5.7						
CMIG				LR	LR	17 01 30.8	
	comp=Z,211nm,18.6s,baz=316,slow=36						
LAZ	Ladron	15.39	5	*e*Pn	Pn	16 56 47.7	-3.0
X18A	Snowflake	15.48	356	*e*Pn	Pn	16 56 50.8	-1.1
	16nm,1.1s						
X16A	Lo Mia Camp, P	15.51	352	*e*Pn	Pn	16 56 51.9	-0.4
	7.1nm,1.2s						
PFO	Pinyon Flats O	16.06	336	LR	LR	17 01 08.1	
	comp=Z,58nm,19.2s,baz=149,slow=30						
PFO	Pinyon Flats O	16.06	336	*e*Pn	P	16 57 00.5	-1.8
	10.0nm,1.2s						
U15A	North Rim	17.61	351	*e*Pn	P	16 57 19.4	-0.2
	5.9nm,1.1s						
GSC	Goldstone, Bar	17.69	338	*e*Pn	P	16 57 20.2	-0.1
	17nm,1.4s						
MVCO	Mesa Verde	18.12	1	*e*P	Pn	16 57 25.6	+0.5
	24nm,1.6s						
KNB	Kanab	18.27	350	*e*Pn	Pn	16 57 27.4	+0.5
	16nm,1.2s						
SHPR	Sheep Range	18.29	344	*e*P	Pn	16 57 27.4	+0.3
	8.7nm,1.1s						
SDCO	Great Sand Dun	18.88	8	*e*P	P	16 57 33.8	+0.2
	17nm,1.8s						
CCUT	Cedar City	18.89	349	*e*P	Pn	16 57 33.8	-0.6
	13nm,1.3s						
TPNV	Topopah Spring	19.02	341	*e*P	Pn	16 57 35.2	-0.7
	11nm,1.0s						
SMCO	Snowmass	20.15	4	*e*P	P	16 57 47.7	+0.1
	12nm,1.4s						
P18A	Preston Nutter	20.57	357	*e*P	P	16 57 51.6	-0.5
	11nm,1.0s						
WAKR	Walker	21.50	337	*e*P	P	16 58 01.8	-0.2
	7.7nm,1.2s						
JLU	Jordanelle	21.63	355	*e*P	P	16 58 03.7	+0.3
	6.3nm,1.0s						
WHAR	Wooly Hollow	21.83	39	*e*P	P	16 58 06.4	+1.1
	13nm,1.0s						
YERR	Yerington	21.85	338	*e*P	P	16 58 04.8	-0.9
	9.2nm,1.0s						
N23A	Red Feather La	21.94	6	*e*P	P	16 58 06.9	+0.2
	6.6nm,1.1s						
PDAR	Pinedale Array	23.68	359	P	P	16 58 23.4	-1.2
	1.0nm,0.7s,baz=158,slow=12,SNR=6.4						
PDAR				LR	LR	17 07 17.7	
	comp=Z,50nm,21.5s,baz=184,slow=36						
PLAL	Pickwick Lake	24.30	45	*e*P	P	16 58 30.6	+0.5
	13nm,1.3s						
FXWY	Fox Creek	24.61	356	*e*P	P	16 58 33.4	+0.2
	6.6nm,1.0s						
MOOW	Moose Ponds	24.71	357	*e*P	P	16 58 34.1	0.0
	4.1nm,1.1s						
IMW	Indian Meadow	24.87	356	*e*P	P	16 58 35.6	+0.1
	11nm,1.5s						
HLID	Hailey	24.92	350	*e*P	P	16 58 35.9	0.0
	2.6nm,0.8s						
YHH	Holmes Hill	25.75	357	*e*P	P	16 58 42.3	-1.3
	4.7nm,1.1s						
ULM	Lac du Bonnet	32.83	15	LR	LR	17 13 17.0	
	comp=Z,116nm,20.4s,baz=328,slow=37						
SADO	Sadowa	35.62	37	LR	LR	17 13 17.6	
	comp=Z,86nm,19.1s,baz=218,slow=34						
BBB	Bella Bella	36.39	340	LR	LR	17 13 11.0	
	comp=Z,84nm,18.6s,baz=222,slow=33						
TAOE	Nuku Hiva Isla	41.49	231	*e*LR	LR	17 12 21.4	
	102nm,24.2s						
YKA	Yellowknife Ar	43.62	356	LR	LR	17 19 15.1	
	comp=Z,5.2nm,21.5s,baz=180,slow=36						
RPN	Rapa Nui	45.88	181	LR	LR	17 16 21.1	
	comp=Z,77nm,19.9s,baz=127,slow=30						
RKT	Rikitea	49.06	212	*e*T	T	17 55 00.4	
	3.6nm,0.3s						
ILAR	Eielson Array	52.27	340	P	P	17 02 23.4	-0.2
	0.8nm,0.6s,baz=144,slow=6.8,SNR=13						
PPT	Papeete	54.10	230	LR	LR	17 20 48.6	
	comp=Z,14nm,19.2s,baz=53,slow=30						
PPT2	Papeete2	54.11	230	*e*LR	LR	17 18 13.4	
	96nm,25.2s						
PLCA	Paso Flores	69.27	150	LR	LR	17 28 36.9	
	comp=Z,75nm,18.6s,baz=350,slow=30						
ARCES	ARCESS Array B	85.94	15	P	P	17 05 53.9	+1.8
	1.8nm,0.9s,baz=316,slow=3.8,SNR=5.0						
ARCES				LR	LR	17 44 44.3	
	comp=Z,36nm,19.5s,baz=325,slow=36						

MAN 26 16:58:26, 11°.23N×124°.63E, h9km, mb4.0, ML2.8, MS2.5, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.17	186	*e*P	Pg	16 58 31.4	+1.6
OCLP				*e*S	Sg	16 58 34.2	+2.0
PLP	Palo	0.35	100	⇓*i*P	Pb	16 58 33.9	-0.5
PLP				*i*S	Sb	16 58 40.1	0.0
BESP	Borongan	0.88	65	*e*P	Pb	16 58 43.7	+0.3
BESP				*e*S	Sn	16 58 56.7	-0.7
MSLP	Maasin	1.11	168	*e*P	Pn	16 58 47.9	+0.2
MSLP				*e*S	Sn	16 59 05.9	+2.8
LLP	Lapu-Lapu	1.11	216	⇓*e*P	Pg	16 58 46.8	-0.7
LLP				*e*S	Sb	16 59 02.4	+0.4
CNP	Cataman	1.28	2	*e*P	Pn	16 58 49.8	-0.2
CNP				*e*S	Sn	16 59 08.6	+1.3
RCP	Roxas	1.88	280	⇑*e*P	Pb	16 58 59.8	-0.6

NIED ***26*** *17:07:00, 39°.80N×142°.40E, h47km, Mw3.5 Best double couple: M0=2.28000×10^14 NP1:φ=169.00000°, δ=43.00000°, λ=33.00000°. NP2:φ=54.00000°, δ=69.00000°, λ=128.00000°.*
ISCJB ***26*** *17:07:31.1±0.9, 39°.81N±0°.04×142°.5E±0°.1, h56km±6km, mb3.6/7, Error ellipse: s-maj=13.0km s-min=6.4km az=6.1*
IDC ***26*** *17:07:32.6±2.5, 39°.81N×142°.64E, h60km±21km, mb3.3/7, mb1 3.3/10, mb1mx3.2/62, mbtmp3.5/10, ML3.1/3, Error ellipse: s-maj=33.5km s-min=14.1km az=94.0*
JMA ***26*** *17:07:32.3, 39°.81N×142°.39E, h48km±1km, M3.6*

ISC 26 17:07:32.5±1.4, 39°.80N±0°.05×142°.41E±0°.10, h49km±11km, n27, σ0¶91/30, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.45	289	P	Pn	17 07 42.7	-0.3
JTH				*e*S	Sn	17 07 50.3	-0.3
MIYJ	Miyakonagasawa	0.51	245	P	Pn	17 07 43.3	-0.5
MIYJ				*e*S	Sn	17 07 51.2	-0.6
JKZ	Kuzumaki	0.85	283	P	Pn	17 07 48.1	-0.2
JKZ				*e*S	Sn	17 07 59.2	-0.6
JANG	Nango	0.90	310	P	Pn	17 07 48.2	-0.6
JANG				*e*S	Sn	17 07 59.4	-1.4
OFUJ	Ofunato	0.92	219	P	Pn	17 07 48.8	-0.3
JOM	Ohasama	0.92	250	P	Pn	17 07 48.9	-0.2
JOM				*e*S	Sn	17 08 01.2	-0.2
JMK	Ichinoseki	1.25	228	P	Pn	17 07 53.6	0.0
JMK				*e*S	Sn	17 08 09.4	+0.1
JAH	Hinai	1.42	287	P	Pn	17 07 55.9	0.0
JAH				*e*S	Sn	17 08 13.8	+0.4
JTM	Tenmabayashi	1.43	314	P	Pn	17 07 55.9	-0.1
JTM				*e*S	Sn	17 08 13.3	-0.3
JRG	Rokugo	1.43	254	P	Pn	17 07 55.9	-0.1
JIO	Ouri	1.58	212	P	Pn	17 07 57.9	-0.1
ASAJ	Asahikawa	4.32	2	P	Pn	17 08 36.6	+1.1
	0.7nm,0.3s,baz=184,slow=20,SNR=6.9						
ASAJ				S	Sn	17 09 24.6	-0.1
	0.8nm,0.3s,baz=246,slow=20,SNR=2.5						
MJAR	Matsushiro Arr	4.64	227	P	Pn	17 08 41.9	+1.8
	0.5nm,0.3s,baz=29,slow=14,SNR=4.4						
KSRS	Korea Array	11.57	263	P	Pn	17 10 18.1	+3.2
	0.2nm,0.3s,baz=72,slow=14,SNR=3.0						
H11N2	WAKE ISLAND Hy 29.02	126		T	T	17 44 06.3	
	baz=319,slow=75,SNR=114						
H11N1	WAKE ISLAND Hy 29.03	126		T	T	17 44 06.3	
	baz=319,slow=75,SNR=106						
H11N3	WAKE ISLAND Hy 29.04	126		T	T	17 44 05.1	
	baz=319,slow=75,SNR=119						
H11S1	WAKE ISLAND Hy 29.83	128		T	T	17 45 08.4	
	baz=320,slow=76,SNR=23						
H11S3	WAKE ISLAND Hy 29.83	128		T	T	17 45 08.5	
	baz=320,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy 29.84	128		T	T	17 45 07.0	
	baz=320,slow=76,SNR=12						
ZALV	Zalesovo Beam	40.69	310	P	P	17 15 07.4	-0.5
	0.5nm,0.5s,baz=104,slow=8.3,SNR=3.4						
MKAR	Makanchi Array	43.37	300	P	P	17 15 29.6	-0.3
	0.2nm,0.4s,baz=84,slow=11,SNR=4.6						
KURBB	Kurchatov Arra	44.97	306	P	P	17 15 42.0	-0.6
	0.6nm,0.5s,baz=77,slow=9.0,SNR=4.5						
ARU	Arti	54.84	317	P	P	17 16 57.6	+0.3
	1.2nm,0.4s,baz=95,slow=12,SNR=3.5						
WRA	Warramunga Arr	59.90	189	P	P	17 17 32.1	-1.3
	0.2nm,0.6s,baz=5.8,slow=6.9,SNR=2.2						
ASAR	Alice Springs	63.63	189	P	P	17 17 57.6	-0.8
	0.2nm,0.8s,baz=3.4,slow=7.3,SNR=4.0						
FINES	FINESS Array B	66.74	332	P	P	17 18 17.8	-0.4
	1.5nm,1.0s,baz=41,slow=17,SNR=2.0						

JMA ***26*** *17:15:47.2±0.6, 45°.32N×150°.13E, h30km, M4.0*
SKHL ***26*** *17:15:47.1±1.0, 45°.14N×150°.29E, h44km±7km, mb4.2/3*

ISC 26 17:15:48.9±4.4, 45°.0N±0°.1×150°.1E±0°.2, h35km, n13, σ1¶65/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.62	279	*i* P	Pn	17 16 13.6	-1.3
KUR				AMB	AMB	17 16 14.4	
	17nm,0.1s						
KUR				*i* S	Sn	17 16 33.6	-0.9
KUR				A	A	17 16 36.1	
	127nm,0.2s						
KUR				A	A	17 16 36.1	
	260nm,0.2s						
SHO	Shikotan	2.63	245	*e*P	Pn	17 16 28.8	0.0
SHO				AMB	AMB	17 16 33.6	
	23nm,0.3s						
SHO				*e*S	Sn	17 17 00.7	+1.3
SHO				A	A	17 17 12.8	
	36nm,0.4s						
SHO				A	A	17 17 12.8	
	180nm,0.4s						
YUK	Yuzh-Kuril'sk	3.21	254	*e*P	Pn	17 16 38.2	+1.5
YUK				AMB	AMB	17 16 40.5	
	39nm,0.3s						
YUK				*e*S	Sn	17 17 15.7	+2.0
YUK				A	A	17 17 25.2	
	69nm,0.3s						
YUK				A	A	17 17 25.2	
	110nm,0.3s						
NEM2	Nemuro 2	3.56	244	P	Pn	17 16 41.3	-0.3
NEM2				*e*S	Sn	17 17 21.5	-0.9
JRA	Rausu	3.74	255	P	Pn	17 16 46.3	+2.2
JNK	Nakash	4.14	252	P	Pn	17 16 51.2	+1.6
JAK	Akkeshi	4.41	245	P	Pn	17 16 52.8	-0.5
JAK				*e*S	Sn	17 17 41.4	-1.9
JTKR	Abashiri--Toko	4.57	259	P	Pn	17 16 57.4	+1.9
JAR	Ashorobuto	4.89	252	P	Pn	17 17 01.5	+1.6
JMP	Maruseppu	4.95	261	P	Pn	17 17 03.2	+2.5
JCH	Churui	5.45	246	P	Pn	17 17 08.0	+0.4
JCH				*e*S	Sn	17 18 08.3	-0.8
YSS	Yuzh-Sakhalins	5.50	293	*e*P	Pn	17 17 08.3	+0.1
JNBK	Urakawa-nobuka	6.01	246	P	Pn	17 17 15.1	-0.2
JNBK				*e*S	Sn	17 18 19.6	-3.2

MEX 26 17:18:10.0±0.7, 14°.06N×92°.32W, h16km±219km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.85	332	*e*P	Pn	17 18 37.4	-3.8
PCIG				*e*S	Sn	17 18 59.4	-4.9
CCIG	Comitan	2.22	5	*e*P	Pn	17 18 43.1	-3.3
CCIG				*e*S	Sn	17 19 08.6	-5.0
TGIG		2.81	344	*e*P	Pn	17 18 52.4	-2.0
TGIG				*e*S	Sn	17 19 24.4	-3.7

OBM 26 17:27:50.3±0.1, 49°.28N×95°.51E, h2km, MI3.7/1, Error ellipse: s-maj=1.3km s-min=1.1km az=38.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSC	Tosontsengel	1.87	105	*e*Pg	Pb	17 28 24.4	-0.9
TSC				*e*Sg	Sb	17 28 48.6	-0.6
	267nm,0.2s						
ULG	Ulaangom	2.35	288	*e*Pg	Pb	17 28 32.9	-0.4
ULG				*e*Sg	Sb	17 29 03.8	+1.0
	1μm,0.4s						
HTG	Hatgal	3.24	67	*e*Pg	Pb	17 28 49.4	+0.8
HTG				*e*Sg	Sg	17 29 32.1	-2.2
	110nm,0.4s						
BYO	Bayan-Olgiy	3.66	267	*e*Pg	Pg	17 28 58.5	-1.9
BYO				*e*Sg	Sg	17 29 46.4	-1.4
	54nm,0.2s						
TTS	Tsetserleg	4.34	112	*e*Pg	Pb	17 29 09.3	+1.9
TTS				*e*Sg	Sg	17 30 06.2	-3.5
	60nm,0.4s						

ISK ***26*** *17:28:30.6, 38°.66N×43°.59E, h5km, ML3.4*
DDA ***26*** *17:28:31.0, 38°.63N×43°.65E, h20km, MI3.7*
CSEM ***26*** *17:28:32.2±0.2, 38°.63N×43°.56E, h5km, ML3.4, Error ellipse: s-maj=5.3km s-min=4.4km az=147.0*
AZER ***26*** *17:28:32.4±1.6, 38°.37N×43°.70E, h8km, Error ellipse: s-maj=17.2km s-min=9.9km az=80.0*

ISC 26 17:28:32.7±0.9, 38°.65N±0°.02×43°.58E±0°.02, h9km±7km, n76, σ1¶63/114, 12C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	249	*e*PG	Pg	17 28 35.7	-0.5
VANB				*e*SG	Sg	17 28 39.4	+0.8
VANB	Van	0.16	249	*e*Pg	Pg	17 28 35.7	-0.5
VANB				*e*Sg	Sg	17 28 39.4	+0.8
VMUR	Van-Muradiye	0.34	359	⇓*i*P	Pg	17 28 38.4	-1.0
VMUR				*i*S	Sb	17 28 46.2	-0.3
VMUR	Van-Muradiye	0.34	359	P	Pg	17 28 38.4	-1.0
VMUR				S	Sb	17 28 46.2	-0.3
GEVA	Gevas	0.53	230	⇑*i*P	Pg	17 28 41.1	-1.9
GEVA				*i*S	Sg	17 28 51.4	+1.4
GEVA	Gevas	0.53	230	P	Pg	17 28 41.1	-1.9
GEVA				S	Sg	17 28 51.4	+1.4
DYDN	Diyadin	0.89	6	*i*P	Pg	17 28 48.2	-1.7
DYDN				*i*S	Sn	17 29 03.4	-1.4
DYDN	Diyadin	0.89	6	P	Pg	17 28 48.2	-1.7
DYDN				S	Sn	17 29 03.4	-1.4
TUTA	Tutak	0.96	322	⇑*i*P	Pg	17 28 49.3	-1.8
TUTA				*i*S	Sb	17 29 04.2	-0.2
TUTA	Tutak	0.96	322	P	Pg	17 28 49.3	-1.8
TUTA				S	Sb	17 29 04.2	-0.2
AGRB	Hanur-Agry	1.03	334	*e*PG	Pg	17 28 50.6	-1.9
AGRB				*e*SG	Sb	17 29 06.3	-0.2
AGRB	Hanur-Agry	1.03	334	*e*Pg	Pg	17 28 50.6	-1.9
AGRB				*e*Sg	Sb	17 29 06.3	-0.2
HAKT	HAKKARI	1.10	175	⇓*i*P	Pg	17 28 51.1	-2.6
HAKT				*i*S	Sn	17 29 12.2	+2.4
HAKT	HAKKARI	1.10	175	P	Pg	17 28 51.2	-2.6
HAKT				S	Sn	17 29 12.2	+2.4
EKAR	Karacoban	1.32	298	*i*P	Pn	17 28 56.6	-1.0
EKAR				*i*S	Sg	17 29 21.3	+6.0
EKAR	Karacoban	1.32	298	P	Pn	17 28 56.6	-1.0
CUKT	Cukurca	1.40	179	*e*PN	Pn	17 28 58.4	-0.1
CUKT				*e*SN	Sg	17 29 18.1	+0.3
CUKT	Cukurca	1.40	179	*i*P	Pn	17 28 58.8	+0.2
CUKT				*i*S	Sg	17 29 25.1	+7.3
CUKT	Cukurca	1.40	179	*e*Pn	Pn	17 28 58.4	-0.1
CUKT	Cukurca	1.40	179	P	Pn	17 28 58.8	+0.2
CUKT				*e*Sn	Sg	17 29 18.1	+0.3
EATA	Eleskirt	1.47	325	*i*P	Pn	17 28 58.7	-1.0
EATA				*i*S	Sg	17 29 21.6	+1.5
EATA	Eleskirt	1.47	325	P	Pn	17 28 58.7	-1.0
EATA				S	Sg	17 29 21.6	+1.5
NAX	Nakhchivan	1.58	70	⇑P	Pb	17 29 02.2	+0.1
NAX				⇑S	Sg	17 29 26.9	+3.3
NAX	Nakhchivan	1.58	70	P	Pb	17 29 02.2	+0.1
NAX				S	Sg	17 29 26.9	+3.3
VRTB	Varto-Mus	1.73	288	*e*PN	Pn	17 29 03.3	+0.2
VRTB	Varto-Mus	1.73	288	*i*P	Pn	17 29 03.0	-0.1
VRTB				*i*S	Sg	17 29 30.1	+1.7
VRTB				*i*S	Sb	17 29 44.1	+17
VRTB	Varto-Mus	1.73	288	P	Pn	17 29 03.0	-0.1
VRTB	Varto-Mus	1.73	288	*e*Pn	Pn	17 29 03.3	+0.2
HOMI	Horasan	1.90	318	*i*P	Pb	17 29 06.8	-0.9
HOMI				*i*S	Sg	17 29 39.3	+5.5
BNGL	BINGOL	1.92	280	*i*P	Pn	17 29 06.0	+0.3
BNGL				*i*S	Sb	17 29 33.4	+1.2
SVAN	Silvan-Diyarba	1.94	256	*e*PN	Pn	17 29 05.2	-0.5
SVAN	Silvan-Diyarba	1.94	256	*i*P	Pn	17 29 05.9	+0.1
SVAN				*i*S	Sg	17 29 34.9	0.0
SVAN	Silvan-Diyarba	1.94	256	*e*Pn	Pn	17 29 05.3	-0.5
SVAN	Silvan-Diyarba	1.94	256	P	Pn	17 29 05.9	+0.1
SVAN				S	Sg	17 29 34.9	0.0
BTMN	Batman	1.97	248	*i*P	Pn	17 29 06.4	+0.1
BTMN				*i*S	Sb	17 29 33.2	-0.2
BTMN	Batman	1.97	248	P	Pn	17 29 06.4	+0.1
BTMN				S	Sb	17 29 33.2	-0.2
ERZM	Erzurum	2.12	307	*i*P	Pn	17 29 08.6	0.0
ERZM				*i*S	Sg	17 29 42.5	+1.6
ERZM	Erzurum	2.12	307	P	Pn	17 29 08.6	0.0
SENK	Senkaya-Erzuru	2.13	334	*e*PN	Pn	17 29 08.6	0.0
SENK	Senkaya-Erzuru	2.13	334	*e*Pn	Pn	17 29 08.6	0.0
BNGB	Bing¶‖	2.29	279	*e*PN	Pn	17 29 11.1	+0.4
BINT	Bingol	2.42	276	*e*Pn	Pn	17 29 11.1	-1.5
YEDI	Yedisu-Bingol	2.49	289	*e*PN	Pn	17 29 14.2	+0.7
YEDI	Yedisu-Bingol	2.49	289	*e*Pn	Pn	17 29 14.2	+0.7
MARD	Mardin	2.58	240	*i*P	Pn	17 29 14.3	-0.4
MARD				*i*S	Sn	17 29 48.4	+2.0
GDB	GEDABAY	2.66	38	⇓P	Pb	17 29 18.4	-2.2
GDB				⇓S	Sb	17 29 53.9	+0.5
GDB	GEDABAY	2.66	38	P	Pb	17 29 18.4	-2.2
GDB				S	Sb	17 29 53.9	+0.5
MAZI	Mazidag	2.74	245	*e*PN	Pn	17 29 16.3	-0.7
MAZI	Mazidag	2.74	245	*e*Pn	Pn	17 29 16.3	-0.7
AKH	Akhalkalaki	2.75	359	*e*PN	Pn	17 29 17.2	+0.1
AKH	Akhalkalaki	2.75	359	*e*Pn	Pn	17 29 17.3	+0.1
QZX	Qazax, Azerbai	2.77	29	⇑P	Pb	17 29 20.3	-2.1
QZX				⇓S	Sb	17 29 57.2	+0.8
QZX	Qazax, Azerbai	2.77	29	P	Pb	17 29 20.3	-2.1
GANJ	Ganja	2.91	46	⇓P	Pn	17 29 21.1	+2.0
GANJ				⇑S	Sb	17 29 58.2	-2.2
GANJ	Ganja	2.91	46	P	Pn	17 29 21.1	+2.0
GANJ				S	Sb	17 29 58.2	-2.2
ERZN	Erzincan	3.14	288	*e*PN	Pn	17 29 23.3	+0.8
BRDA	Brd	3.22	59	⇓P	Pn	17 29 24.4	+1.1
BRDA				⇓S	Sn	17 30 03.2	+1.4
BRDA	Brd	3.22	59	P	Pn	17 29 24.4	+1.1
BRDA				S	Sn	17 30 03.2	+1.4
PTK	Pertek	3.28	275	*e*PN	Pn	17 29 25.6	+1.3
PTK	Pertek	3.28	275	*e*Pn	Pn	17 29 25.7	+1.3
SVRC	Sivrice-ELAZID	3.36	267	*e*PN	Pn	17 29 26.5	+1.0
SVRC	Sivrice-ELAZID	3.36	267	*e*Pn	Pn	17 29 26.5	+1.0
GLBA	Clilabad	3.80	80	⇑P	Pn	17 29 30.8	-0.6
GLBA	Clilabad	3.80	80	P	Pn	17 29 30.8	-0.6
LKRN	Lenkeran, Azer	4.07	88	⇑P	Pn	17 29 33.5	-1.6
LKRN	Lenkeran, Azer	4.07	88	P	Pn	17 29 33.5	-1.6
ASTR	Astara	4.08	90	⇓P	Pn	17 29 34.0	-1.3
ASTR	Astara	4.08	90	P	Pn	17 29 34.0	-1.3
XNQ	Khinaliq	4.32	53	⇑P	Pn	17 29 39.8	+1.1
XNQ	Khinaliq	4.32	53	P	Pn	17 29 39.8	+1.1
PQL	Pirkuli	4.42	60	⇑P	Pn	17 29 40.4	+0.4
PQL	Pirkuli	4.42	60	P	Pn	17 29 40.4	+0.4
GBS	Qobustan	4.55	64	⇑P	Pn	17 29 41.9	+0.1
GBS	Qobustan	4.55	64	P	Pn	17 29 41.9	+0.1
QUBA	Quba, Azerbaij	4.64	53	⇑P	Pn	17 29 44.2	+1.3
QUBA	Quba, Azerbaij	4.64	53	P	Pn	17 29 44.2	+1.3

IDC ***26*** *17:32:36.7±3.7, 22°.98N×94°.70E, h104km±36km, mb3.4/6, mb1 3.5/7, mb1mx3.1/46, mbtmp3.7/7, Error ellipse: s-maj=72.1km s-min=14.8km az=58.0*
ISCJB ***26*** *17:32:37.3±1.1, 22°.6N±0°.1×93°.56E±0°.10, h100km, mb3.6/6, Error ellipse: s-maj=20.1km s-min=8.4km az=33.0*

ISC 26 17:32:35.3±1.4, 22°.5N±0°.1×93°.7E±0°.1, h100km, n20, σ1¶64/29, mb3.8/6, Myanmar-India border region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

*DDA **26** 17:37:08.2, 38°.72N×43°.51E, h7km, Ml3.3*
ISC 26 17:37:08.3±1.0, 38°.73N±0°.02×43°.62E±0°.05, h15km±6km, n32, σ1§65/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**233**	*e*PG	**Pg**	**17 37 13.0**	**-0.5**
VANB				*e*SG	**Sg**	**17 37 17.7**	**+0.7**
VANB	**Van**	**0.22**	**233**	*e*Pg	**Pg**	**17 37 13.0**	**-0.5**
VANB				*e*Sg	**Sg**	**17 37 17.7**	**+0.7**
VMUR	**Van-Muradiye**	**0.26**	**352**	*i* P	**Pg**	**17 37 13.7**	**-0.5**
VMUR				*i* S	**Sg**	**17 37 19.6**	**+1.5**
VMUR	**Van-Muradiye**	**0.26**	**352**	P	**Pg**	**17 37 13.7**	**-0.5**
VMUR				S	**Sg**	**17 37 19.6**	**+1.5**
GEVA	**Gevas**	**0.60**	**226**	*i* P	**Pg**	**17 37 17.7**	**-2.6**
GEVA				*i* S	**Sb**	**17 37 28.5**	**-0.6**
GEVA	**Gevas**	**0.60**	**226**	P	**Pg**	**17 37 17.7**	**-2.6**
GEVA				S	**Sb**	**17 37 28.5**	**-0.6**
DYDN	**Diyadin**	**0.81**	**4**	*e*P	**Pg**	**17 37 23.0**	**-1.2**
DYDN				*i* S	**Sn**	**17 37 37.1**	**-0.2**
DYDN	**Diyadin**	**0.81**	**4**	P	**Pg**	**17 37 23.0**	**-1.2**
DYDN				S	**Sn**	**17 37 37.1**	**-0.2**
TUTA	**Tutak**	**0.92**	**317**	*i* P	**Pg**	**17 37 23.9**	**-2.3**
TUTA				*i* S	**Sb**	**17 37 37.4**	**-0.7**
TUTA	**Tutak**	**0.92**	**317**	P	**Pg**	**17 37 23.9**	**-2.3**
TUTA				S	**Sb**	**17 37 37.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.97**	**330**	*e*PG	**Pg**	**17 37 25.7**	**-1.6**
AGRB				*e*SG	**Sb**	**17 37 39.3**	**-0.4**
AGRB	**Hanur-Agry**	**0.97**	**330**	*e*Pg	**Pg**	**17 37 25.7**	**-1.6**
AGRB				*e*Sg	**Sb**	**17 37 39.3**	**-0.4**
HAKT	**HAKKARI**	**1.17**	**176**	*i* P	**Pg**	**17 37 29.5**	**-1.5**
HAKT				*i* S	**Sn**	**17 37 48.3**	**+2.1**
HAKT	**HAKKARI**	**1.17**	**176**	P	**Pg**	**17 37 29.5**	**-1.5**
HAKT				S	**Sn**	**17 37 48.3**	**+2.1**
EKAR	**Karacoban**	**1.32**	**294**	*e*P	**Pn**	**17 37 32.0**	**-0.4**
EKAR				*i* S	**Sn**	**17 37 54.5**	**+4.7**
EKAR	**Karacoban**	**1.32**	**294**	P	**Pn**	**17 37 32.0**	**-0.4**
EKAR				S	**Sn**	**17 37 54.5**	**+4.7**
EATA	**Eleskirt**	**1.43**	**323**	*i* P	**Pn**	**17 37 33.6**	**-0.4**
EATA				*i* S	**Sn**	**17 37 54.8**	**+2.2**
EATA	**Eleskirt**	**1.43**	**323**	P	**Pn**	**17 37 33.6**	**-0.4**
EATA				S	**Sn**	**17 37 54.8**	**+2.2**
CUKT	**Cukurca**	**1.48**	**180**	*e*PN	**Pg**	**17 37 36.5**	**-0.4**
CUKT	**Cukurca**	**1.48**	**180**	*e*Pn	**Pg**	**17 37 36.5**	**-0.4**
VRTB	**Varto-Mus**	**1.74**	**285**	*e*PN	**Pb**	**17 37 38.9**	**-1.1**
VRTB	**Varto-Mus**	**1.74**	**285**	*e*Pn	**Pb**	**17 37 38.9**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*PN	**Pb**	**17 37 42.5**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*Pn	**Pb**	**17 37 42.5**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.07**	**332**	*e*PN	**Pn**	**17 37 43.6**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.07**	**332**	*e*Pn	**Pn**	**17 37 43.6**	**+0.8**
BNGB	**Bing¶ll**	**2.31**	**277**	*e*PN	**Pn**	**17 37 46.5**	**+0.6**
BINT	**Bingol**	**2.45**	**274**	*e*Pn	**Pn**	**17 37 46.5**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.49**	**287**	*e*PN	**Pn**	**17 37 49.4**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.49**	**287**	*e*Pn	**Pn**	**17 37 49.4**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.40**	**265**	*e*PN	**Pn**	**17 38 02.5**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.40**	**265**	*e*Pn	**Pn**	**17 38 02.5**	**+1.6**

*CSEM **26** 17:39:21.7±0.2, 49°.84N×18°.43E, h2km, ML3.3/15, Error ellipse: s-maj=4.6km s-min=2.5km az=21.0*
*ISCJB **26** 17:39:22.2±0.2, 49°.76N±0°.02×18°.25E±0°.02, h0km, Error ellipse: s-maj=3.1km s-min=1.5km az=14.9*
*BGR **26** 17:39:22.2±0.4, 49°.83N×18°.51E, h1km, ML3.0/9, Error ellipse: s-maj=6.7km s-min=5.6km az=173.0*
*SIGU **26** 17:39:22.9±0.2, 49°.72N±0°.01×18°.42E±0°.01, h5km, mb2.8/10*
ISC 26 17:39:21.7±0.7, 49°.86N±0°.02×18°.52E±0°.01, h0km, n106, σ1§29/189, 11C-11D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**264**	⇓*i*PG	**Pg**	**17 39 27.4**	**+1.1**
OKC				*e*SG	**Sg**	**17 39 30.7**	**+1.3**
	comp=Z,791nm,0.5s						
OKC	**Ostrava-Krasne**	**0.24**	**264**	*e*Pg	**Pg**	**17 39 27.4**	**+1.1**
	SNR=143						
OKC				*e*Sg	**Sg**	**17 39 31.2**	**+1.7**
	SNR=4.1						
OKC	**Ostrava-Krasne**	**0.24**	**264**	Pg	**Pg**	**17 39 27.4**	**+1.1**
	SNR=143						
OKC				Sg	**Sg**	**17 39 31.2**	**+1.7**
	SNR=4.1						
RAC	**Raciborz**	**0.30**	**317**	*e*Pg	**Pb**	**17 39 29.2**	**-0.8**
RAC				*e*Sg	**Sb**	**17 39 34.1**	**-1.5**
MORC	**Moravsky Berou**	**0.64**	**263**	⇑*i*P	**Pg**	**17 39 34.2**	**+0.3**
MORC				S	**Sg**	**17 39 42.6**	**+0.4**
MORC	**Moravsky Berou**	**0.64**	**263**	*e*Pg	**Pg**	**17 39 34.2**	**+0.3**
	SNR=68						
MORC				*e*Sg	**Sg**	**17 39 43.0**	**+0.8**
	SNR=7.4						
MORC	**Moravsky Berou**	**0.64**	**263**	⇑*i*P	**Pg**	**17 39 34.2**	**+0.3**
MORC				S	**Sg**	**17 39 42.6**	**+0.4**
MORC				Sg	**Sg**	**17 39 43.0**	**+0.8**
	SNR=7.4						
OJC	**Ojcow**	**0.90**	**66**	*e*Pg	**Pb**	**17 39 39.4**	**-0.8**
OJC				*e*Sg	**Sb**	**17 39 52.3**	**-0.4**
OJC	**Ojcow**	**0.90**	**66**	*e*Pg	**Pb**	**17 39 39.4**	**-0.8**
	SNR=50						
OJC	**Ojcow**	**0.90**	**66**	Pg	**Pb**	**17 39 39.4**	**-0.8**
	SNR=50						
OJC				*e*Sg	**Sb**	**17 39 52.3**	**-0.4**
LANS	**Liptovska Anna**	**0.94**	**139**	*e*Pg	**Pb**	**17 39 40.5**	**-0.5**
LANS				*e*Sg	**Sb**	**17 39 55.1**	**+1.0**
LANS	**Liptovska Anna**	**0.94**	**139**	*e*PG	**Pb**	**17 39 40.5**	**-0.5**
LANS				*e*SG	**Sb**	**17 39 55.1**	**+1.0**
KRLC	**Kraliky**	**1.14**	**281**	*e*PG	**Pg**	**17 39 42.7**	**-0.9**
KRLC				*e*SG	**Sg**	**17 39 58.7**	**+0.4**
KRLC	**Kraliky**	**1.14**	**281**	Pg	**Pg**	**17 39 42.7**	**-0.9**
KRLC				Sg	**Sg**	**17 39 58.7**	**+0.4**
JAVC	**Velka Javorina**	**1.15**	**209**	*e*Pg	**Pb**	**17 39 44.5**	**0.0**
	SNR=29						
JAVC	**Velka Javorina**	**1.15**	**209**	Pg	**Pb**	**17 39 44.5**	**0.0**
	SNR=29						
NIE	**Niedzica**	**1.24**	**110**	*e*Pg	**Pn**	**17 39 46.4**	**0.0**
NIE				*e*Sg	**Sn**	**17 40 04.7**	**+0.9**
NIE	**Niedzica**	**1.24**	**110**	*e*Pg	**Pn**	**17 39 46.4**	**0.0**
NIE				*e*Sg	**Sn**	**17 40 04.7**	**+0.9**
VYHS	**Vyhne**	**1.39**	**171**	*e*Pg	**Pg**	**17 39 47.8**	**-0.5**
VYHS				*e*Sn	**Sb**	**17 40 06.8**	**+0.1**
VYHS	**Vyhne**	**1.39**	**171**	*e*PG	**Pg**	**17 39 47.8**	**-0.5**
VYHS				*e*SN	**Sb**	**17 40 06.8**	**+0.1**
VYHS				*e*LG	Lg	17 40 07.8	
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*PG	**Pn**	**17 39 49.4**	**-0.4**
DPC				*e*SG	**Sn**	**17 40 10.5**	**+0.4**
	comp=Z,49nm,0.4s						
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*Pg	**Pn**	**17 39 49.5**	**-0.4**
	SNR=38						
DPC				*e*Sg	**Sn**	**17 40 10.5**	**+0.4**
	SNR=4.4						
DPC	**Dobruska-Polom**	**1.50**	**290**	Pg	**Pn**	**17 39 49.5**	**-0.4**
	SNR=38						
DPC				Sg	**Sn**	**17 40 10.5**	**+0.4**
	SNR=4.4						
SMOL	**Smolenice**	**1.53**	**208**	*e*Pn	**Pn**	**17 39 50.0**	**-0.3**
SMOL				*e*Sn	**Sg**	**17 40 10.4**	**-0.4**
SMOL	**Smolenice**	**1.53**	**208**	*e*PN	**Pn**	**17 39 50.0**	**-0.3**
SMOL				*e*SN	**Sg**	**17 40 10.4**	**-0.4**
KRUC	**Moravsky**	**1.60**	**241**	*e*Pg	**Pn**	**17 39 51.1**	**-0.2**
	SNR=79						
KRUC				*e*Sg	**Sn**	**17 40 12.5**	**-0.1**
	SNR=5.1						
KRUC	**Moravsky**	**1.60**	**241**	Pg	**Pn**	**17 39 51.1**	**-0.2**
	SNR=79						
KRUC				Sg	**Sn**	**17 40 12.5**	**-0.1**
	SNR=5.1						
KSP	**Ksiaz**	**1.73**	**305**	*e*Pn	**Pn**	**17 39 52.6**	**-0.4**
KSP				*e*Pg	**Pg**	**17 39 55.3**	**+0.5**
KSP				*e*Sg	**Sg**	**17 40 18.1**	**+0.9**
KSP	**Ksiaz**	**1.73**	**305**	*e*Pn	**Pn**	**17 39 52.9**	**-0.1**
	SNR=2.3						
KSP				*e*Pg	**Pg**	**17 39 55.3**	**+0.5**
	SNR=5.0						
KSP	**Ksiaz**	**1.73**	**305**	Pn	**Pn**	**17 39 52.9**	**-0.1**
	SNR=2.3						
UPC	**Upice**	**1.73**	**293**	⇓*e*PG	**Pb**	**17 39 53.8**	**-0.6**
UPC				*e*SG	**Sg**	**17 40 17.9**	**+0.5**
	comp=Z,57nm,0.7s						
UPC	**Upice**	**1.73**	**293**	Pg	**Pb**	**17 39 53.8**	**-0.6**
UPC				Sg	**Sg**	**17 40 17.9**	**+0.5**
	57nm,0.7s						
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*Pg	**Pg**	**17 39 57.5**	**+0.8**
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*PG	**Pg**	**17 39 57.5**	**+0.8**
STHS				*e*SN	**Sg**	**17 40 24.2**	**+3.8**
STHS				*e*LG	Lg	17 40 29.5	
KECS	**Kecovo**	**1.89**	**136**	*e*Pg	**Pg**	**17 39 57.4**	**-0.5**
KECS				*e*Sn	**Sb**	**17 40 20.4**	**-0.9**
KECS	**Kecovo**	**1.89**	**136**	*e*PG	**Pg**	**17 39 57.4**	**-0.5**
KECS				*e*SN	**Sb**	**17 40 20.4**	**-0.9**
KECS				*e*LG	Lg	17 40 26.0	
TREC	**Trest**	**2.05**	**255**	⇓*e*PN	**Pn**	**17 39 56.6**	**-0.9**
TREC				*e*PG	**Pb**	**17 39 58.7**	**-1.2**
TREC				*e*SG	**Sb**	**17 40 25.8**	**-0.1**
	comp=Z,34nm,0.4s						
TREC	**Trest**	**2.05**	**255**	Pn	**Pn**	**17 39 56.6**	**-0.9**
TREC	**Trest**	**2.05**	**255**	Pg	**Pb**	**17 39 58.7**	**-1.2**
TREC				Sg	**Sb**	**17 40 25.8**	**-0.1**
	34nm,0.4s						
PSZ	**Piszkesteto**	**2.15**	**154**	⇑*i*P	**Pn**	**17 39 59.0**	**+0.1**
PSZ				S	**Sn**	**17 40 24.0**	**-2.2**
PSZ	**Piszkesteto**	**2.15**	**154**	⇑*e*P	**Pn**	**17 39 59.2**	**+0.3**
PSZ				S	**Sn**	**17 40 24.0**	**-2.2**
PSZ	**Piszkesteto**	**2.15**	**154**	⇑*ex*	**Pn**	**17 39 59.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.41**	**273**	*e*PN	**Pn**	**17 40 01.7**	**-0.7**
GOPC				*e*PG	**Pb**	**17 40 04.8**	**-1.2**
GOPC				*e*SG	**Sb**	**17 40 37.3**	**+1.0**
	comp=Z,19nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.41**	**273**	Pn	**Pn**	**17 40 01.7**	**-0.7**
PRU	**Pruhonice**	**2.57**	**274**	⇓*e*PG	**Pb**	**17 40 07.6**	**-1.1**
PRU				*e*SG	**Sb**	**17 40 41.6**	**+0.8**
	comp=Z,24nm,0.5s						
PRU	**Pruhonice**	**2.57**	**274**	*e*Pg	**Pb**	**17 40 08.2**	**-0.5**
	SNR=5.3						
PRU	**Pruhonice**	**2.57**	**274**	Pg	**Pb**	**17 40 08.2**	**-0.5**
	SNR=5.3						
PRU				Sg	**Sb**	**17 40 41.6**	**+0.8**
	24nm,0.5s						
CONA	**Conrad Observa**	**2.61**	**223**	*e*Pn	**Pn**	**17 40 04.3**	**-0.9**
	2.8nm,0.3s						
CONA				Sn	**Sn**	**17 40 36.8**	**-0.9**
	12nm,0.5s						
CONA	**Conrad Observa**	**2.61**	**223**	Pn	**Pn**	**17 40 04.3**	**-0.9**
	2.8nm,0.3s						
CONA				Sn	**Sn**	**17 40 36.8**	**-0.9**
	12nm,0.5s						
PVCC	**Panska Ves**	**2.62**	**286**	⇓*e*PG	**Pb**	**17 40 10.3**	**+0.7**
PVCC				*e*SG	**Sg**	**17 40 44.9**	**-1.0**
	comp=Z,38nm,0.3s						
PVCC	**Panska Ves**	**2.62**	**286**	Pg	**Pb**	**17 40 10.3**	**+0.7**
PVCC				Sg	**Sg**	**17 40 44.9**	**-1.0**
	38nm,0.3s						
PRA	**Prague**	**2.65**	**276**	⇓*e*PG	**Pb**	**17 40 10.1**	**+0.2**
PRA				*e*SG	**Sg**	**17 40 45.8**	**-0.8**
	comp=Z,41nm,0.6s						
PRA	**Prague**	**2.65**	**276**	Pg	**Pb**	**17 40 10.1**	**+0.2**
PRA				Sg	**Sg**	**17 40 45.8**	**-0.8**
	41nm,0.6s						
UZH	**Uzhgorod**	**2.76**	**115**	*e*Pn	**Pb**	**17 40 11.3**	**-0.7**
UZH				Pmn		17 40 11.5	
UZH				*e*Sn	**Sb**	**17 40 46.9**	**+0.6**
UZH				Smn		17 40 48.7	
ONO	**Onokovtsy**	**2.77**	**114**	*e*Pn	**Pb**	**17 40 12.4**	**+0.3**
ONO				*e*Sn	**Sb**	**17 40 47.0**	**+0.4**
STZU	**Stuzhytsa**	**2.81**	**106**	*e*Pn	**Pb**	**17 40 12.6**	**-0.2**
STZU				Pmn		17 40 17.6	
STZU				*e*Sn	**Sb**	**17 40 49.2**	**+1.5**
STZU				Smn		17 40 51.4	
MUKU	**Mukachevo**	**3.08**	**116**	*e*Pn	**Pb**	**17 40 16.3**	**-1.0**
MUKU				Pmn		17 40 18.4	
MUKU				*e*Sn	**Sb**	**17 40 55.1**	**-0.3**
MUKU				Smn		17 40 56.5	
BRG	**Berggiesshubel**	**3.10**	**291**	PG	**Pb**	**17 40 18.6**	**+0.9**
BRG				SG	**Sg**	**17 41 00.0**	**-1.2**
	24nm,0.9s						
BRG	**Berggiesshubel**	**3.10**	**291**	*e*Pn	**Pn**	**17 40 12.4**	**+0.6**
	SNR=1.1						
BRG				*e*Pg	**Pb**	**17 40 18.8**	**+1.2**
	SNR=2.8						
BRG				*e*Sg	**Sg**	**17 41 00.0**	**-1.2**
	SNR=2.8						
BRG	**Berggiesshubel**	**3.10**	**291**	Pn	**Pn**	**17 40 12.4**	**+0.6**
	SNR=1.1						
BERU	**Beregovo**	**3.17**	**119**	*e*Pn	**Pb**	**17 40 17.1**	**-1.7**
BERU				*e*Sn	**Sb**	**17 40 57.2**	**-0.8**
SHIU	**Shidnytsya**	**3.22**	**100**	*e*Pn	**Pb**	**17 40 18.8**	**-0.9**
SHIU				Pmn		17 40 19.8	
SHIU				*e*Sn	**Sb**	**17 41 00.4**	**+0.9**
SHIU				Smn		17 41 03.4	
ARSA	**Arzberg**	**3.29**	**218**	*e*Pn	**Pn**	**17 40 15.4**	**+1.0**
	1.0nm,0.3s						
ARSA	**Arzberg**	**3.29**	**218**	Pn	**Pn**	**17 40 15.4**	**+1.0**
	1.0nm,0.3s						
KHC	**Kasperske Hory**	**3.30**	**259**	*e*PN	**Pn**	**17 40 14.6**	**-0.1**
KHC				*e*PG	**Pb**	**17 40 21.6**	**+0.4**
KHC				*e*SG	**Sb**	**17 41 04.8**	**+2.9**
	comp=Z,21nm,0.5s						
KHC	**Kasperske Hory**	**3.30**	**259**	*e*Pn	**Pn**	**17 40 14.3**	**-0.4**
	SNR=3.2						
KHC				*e*Pg	**Pb**	**17 40 21.7**	**+0.5**
	SNR=3.1						
KHC	**Kasperske Hory**	**3.30**	**259**	Pn	**Pn**	**17 40 14.3**	**-0.4**
	SNR=3.2						
GEC2	**GERESS Array S**	**3.31**	**254**	*e*Pn	**Pn**	**17 40 14.9**	**+0.1**
	SNR=1.9						
GEC2				*e*Pg	**Pb**	**17 40 22.9**	**+1.6**
	SNR=5.4						
GEC2				*e*Sn	**Sn**	**17 40 50.8**	**-4.2**
GEC2				*e*Sg	**Sg**	**17 41 06.7**	**-1.3**
	SNR=2.9						
GEC2	**GERESS Array S**	**3.31**	**254**	Pn	**Pn**	**17 40 14.9**	**+0.1**
	SNR=1.9						
BRIU	**Brid**	**3.33**	**116**	*e*Pn	**Pb**	**17 40 19.6**	**-2.0**
TRSU	**Trosnyk**	**3.42**	**120**	*e*Pn	**Pb**	**17 40 21.0**	**-2.1**
TRSU				Pmn		17 40 22.6	
MOA	**Molln**	**3.46**	**236**	*e*Pn	**Pn**	**17 40 15.8**	**-1.0**
	1.5nm,0.3s						
MOA				Pg	**Pb**	**17 40 25.3**	**+1.6**
	6.3nm,0.5s						
MOA				Sg	**Sb**	**17 41 08.3**	**+2.0**
	17nm,0.6s						
MOA	**Molln**	**3.46**	**236**	Pn	**Pn**	**17 40 15.8**	**-1.0**
	1.5nm,0.3s						
FBE	**Freiberg**	**3.47**	**290**	*e*Sg	**Sg**	**17 41 11.4**	**-1.7**
	SNR=2.5						
FBE	**Freiberg**	**3.47**	**290**	Sg	**Sg**	**17 41 11.4**	**-1.7**
	SNR=2.5						
KORU	**Korolevo**	**3.49**	**118**	*e*Pn	**Pb**	**17 40 22.5**	**-1.7**
KORU				Pmn		17 40 22.6	
MEZ	**Mezhgor'ye**	**3.54**	**111**	*e*Pn	**Pb**	**17 40 23.8**	**-1.5**
MORS	**Morshin**	**3.58**	**100**	*e*Pn	**Pb**	**17 40 24.4**	**-1.5**
WET	**Wettzell**	**3.75**	**261**	*e*Pn	**Pn**	**17 40 20.1**	**-0.7**
	SNR=2.0						
WET				*e*Pg	**Pb**	**17 40 30.6**	**+1.9**
	SNR=2.6						
WET				*e*Sg	**Sg**	**17 41 19.8**	**-2.2**
	SNR=3.6						
WET	**Wettzell**	**3.75**	**261**	Pn	**Pn**	**17 40 20.1**	**-0.7**
	SNR=2.0						
WET				Sg	**Sg**	**17 41 19.8**	**-2.2**
	SNR=3.6						
CLL	**Collm**	**3.80**	**294**	*e*Pn	**Pn**	**17 40 21.4**	**-0.1**
	SNR=3.1						
CLL				*e*Pg	**Pg**	**17 40 33.2**	**-1.3**
	SNR=1.7						
CLL				*e*Sg	**Sg**	**17 41 23.4**	**-0.3**
	SNR=3.0						
CLL	**Collm**	**3.80**	**294**	Pn	**Pn**	**17 40 21.4**	**-0.1**
	SNR=3.1						
CLL	**Collm**	**3.80**	**294**	*e*Pn	**Pn**	**17 40 21.0**	**-0.5**
CLL				*e*Pg	**Pg**	**17 40 33.0**	**-1.5**
CLL				*e*Sg	**Sg**	**17 41 22.0**	**-1.7**
	comp=Z,17nm,0.7s						
NKC	**Novy Kostel**	**3.93**	**278**	⇓*e*PG	**Pg**	**17 40 34.9**	**-2.1**
NKC				*e*SG	**Sb**	**17 41 23.8**	**+3.9**
	comp=Z,15nm,0.5s						
NKC	**Novy Kostel**	**3.93**	**278**	Pg	**Pg**	**17 40 34.9**	**-2.1**
NKC				Sg	**Sb**	**17 41 23.8**	**+3.9**
	comp=Z,15nm,0.5s						
DRGR		**4.16**	**136**	⇓*i*P	**Pn**	**17 40 26.6**	**+0.2**
DRGR		**4.16**	**136**	⇓*i*P	**Pn**	**17 40 26.6**	**+0.2**
DRGR				S	**Sn**	**17 41 14.6**	**-1.1**
SIRR	**Siria**	**4.17**	**148**	⇑*i*P	**Pn**	**17 40 26.7**	**+0.1**
SIRR	**Siria**	**4.17**	**148**	⇑*i*P	**Pn**	**17 40 26.7**	**+0.1**
NSLU	**Nyzhne Selyshc**	**4.25**	**111**	*e*Pn	**Pn**	**17 40 25.0**	**-2.6**
NSLU				Pmn		17 40 26.7	
KBA	**Koelnbreinsper**	**4.43**	**233**	*e*Pn	**Pn**	**17 40 30.5**	**+0.2**
	comp=Z,2.9nm,0.4s						
KBA				*i* Sn	**Sn**	**17 41 22.7**	**+0.1**
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.43**	**233**	Pn	**Pn**	**17 40 30.5**	**+0.2**
	comp=Z,2.9nm,0.4s						
KBA				Sn	**Sn**	**17 41 22.7**	**+0.1**
	comp=Z,1.5nm,0.4s						
BZS	**Buzias**	**4.74**	**153**	⇓*i*P	**Pn**	**17 40 34.3**	**0.0**
BZS	**Buzias**	**4.74**	**153**	⇓*i*P	**Pn**	**17 40 34.3**	**0.0**
BZS				S	**Sn**	**17 41 27.1**	**-2.8**
BURAR	**Bucovina Array**	**4.97**	**114**	⇑*i*P	**Pn**	**17 40 41.3**	**+3.6**
BURAR	**Bucovina Array**	**4.97**	**114**	⇑*i*P	**Pn**	**17 40 41.3**	**+3.6**
BURAR				S	**Sn**	**17 41 39.7**	**+3.8**
ABTA	**Abfaltersbach**	**5.08**	**234**	Pg	**Pg**	**17 40 57.3**	**-1.6**
	comp=Z,3.6nm,0.4s						
ABTA				Sg	**Sg**	**17 42 05.4**	**+0.7**
	comp=Z,4.5nm,0.7s						
ABTA	**Abfaltersbach**	**5.08**	**234**	Pg	**Pg**	**17 40 57.3**	**-1.6**
	comp=Z,3.6nm,0.4s						
ABTA				Sg	**Sg**	**17 42 05.4**	**+0.7**
	comp=Z,4.5nm,0.7s						
GZR	**Gura Zlata**	**5.32**	**146**	⇑*i*P	**Pn**	**17 40 43.3**	**+0.9**
GZR	**Gura Zlata**	**5.32**	**146**	⇑*i*P	**Pn**	**17 40 43.3**	**+0.9**
GZR				S	**Sn**	**17 41 43.8**	**-0.6**
MOTA	**Moosalm**	**5.53**	**246**	*e*Pn	**Pg**	**17 41 08.7**	**+1.2**
	comp=Z,3.0nm,0.4s						
MOTA				Sg	**Sg**	**17 42 17.6**	**-1.5**
	comp=Z,12nm,0.6s						
RETA	**Reutte**	**5.66**	**248**	Sg	**Sg**	**17 42 24.4**	**+1.0**
	comp=Z,9.1nm,0.6s						
RETA	**Reutte**	**5.66**	**248**	Sg	**Sg**	**17 42 24.4**	**+1.0**
	comp=Z,9.1nm,0.6s						
FETA	**Feichten**	**5.91**	**244**	Sg	**Sg**	**17 42 31.2**	**-0.3**
	comp=Z,4.4nm,0.6s						
FETA	**Feichten**	**5.91**	**244**	Sg	**Sg**	**17 42 31.2**	**-0.3**
	comp=Z,4.4nm,0.6s						
DAVA	**Damuels**	**6.29**	**249**	Sg	**Sg**	**17 42 48.5**	**+5.0**
	comp=Z,11nm,0.5s						

MAN 26 18:00:38, 13°.65N×120°.43E, h32km, mb3.7, ML2.4, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.19**	**294**	*e*P	Pn	18 00 46.4	+1.7
LUBP				*e*S	Sn	18 00 51.2	+2.3
PGP	**Puerto Galera**	**0.53**	**106**	⇑*e*P	Pb	18 00 44.2	-4.8
PGP				*i* S	Sb	18 00 49.7	-7.0
SJMP	**San Jose**	**1.36**	**150**	*e*P	Pn	18 01 01.1	+0.2
SJMP				*e*S	Sn	18 01 18.3	+0.5
BUSP	**Coron**	**1.66**	**188**	*e*P	Pn	18 01 05.5	+0.7

*ISCJB **26** 18:03:56.4±0.5, 66°.04N±0°.02×13°.2E±0°.1, h0km, Error ellipse: s-maj=6.1km s-min=3.5km az=176.9*
*CSEM **26** 18:03:57.8±0.3, 66°.08N×13°.24E, h1km, ML1.4, Error ellipse: s-maj=8.5km s-min=5.1km az=88.0, Suspected Mining explosion.*
*IDC **26** 18:03:58.5±1.4, 66°.07N×13°.41E, h0km, mb1 3.1/4, mb1mx2.9/45, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=18.0km s-min=8.7km az=119.0*
*NAO **26** 18:03:58.6±1.5, 66°.06N×13°.49E, ML2.3*
*BER **26** 18:03:59.1±2.9, 66°.08N×13°.28E, h0km±11km, MD1.7, ML1.4, ML2.3(NAO)*
*UPP **26** 18:04:01.6±0.8, 65°.92N×13°.88E, h0km, ML2.2*
ISC 26 18:03:57.0±0.8, 66°.07N±0°.03×13°.40E±0°.04, h0km, n45, σ1§53/69, 2D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.31**	**330**	⇓*i*P	**Pg**	**18 04 03.2**	**+0.4**
STOK				*e*S	**Sg**	**18 04 07.2**	**+0.4**
STOK				IAML		18 04 08.1	
	comp=Z,36nm,0.2s						
STOK	**Stokkvaagen**	**0.31**	**330**	⇓*i*P	**Pg**	**18 04 03.2**	**+0.4**
	SNR=90						
STOK				*e*S	**Sg**	**18 04 07.2**	**+0.4**
	SNR=90						
KONS	**Konsvik**	**0.45**	**346**	*e*P	**Pg**	**18 04 06.2**	**+0.7**
KONS				*e*S	**Sg**	**18 04 12.7**	**+1.5**
KONS	**Konsvik**	**0.45**	**346**	*e*P	**Pg**	**18 04 06.2**	**+0.7**
	SNR=90						
KONS				*e*S	**Sg**	**18 04 12.7**	**+1.5**
	SNR=90						
STEI	**Steigen**	**2.00**	**20**	*e*Sg	**Sg**	**18 05 03.9**	**+2.6**
STEI				IAML		18

HFS	Hagfors	5.96 179	Pn	Pn	18 05 27.4 +1.1
	SNR=50				
FIA0	FINESS Array S	7.28 124	Pn	Pn	18 05 44.9 +0.5
	baz=320,slow=12				
FIA0			Sn	Sn	18 07 04.7 -3.0
FIA0			Lg	Lg	18 07 43.1
	baz=313,slow=28				
FIA0	FINESS Array S	7.28 124	Pn	Pn	18 05 44.9 +0.5
	baz=320,slow=12				
FIA0			Sn	Sn	18 07 04.7 -3.0
FIA0			Lg	Lg	18 07 43.1
	baz=313,slow=28				
FIA0	FINESS Array S	7.28 124	Pn	Pn	18 05 44.9 +0.5
	SNR=50				
FINES	FINESS Array B	7.28 124	Pn	Pn	18 05 45.3 +0.9
	comp=Z,0.1nm,0.3s,baz=318,slow=12,SNR=4.8				
FINES			Sn	Sn	18 07 05.5 -2.2
	comp=Z,0.1nm,0.3s,baz=344,slow=32,SNR=3.4				
FINES			Lg	Lg	18 07 44.1
	comp=Z,0.2nm,0.3s,baz=315,slow=27,SNR=4.8				

*CSEM **26** 18:06:27.6±0.3,38.°67N×43.°16E,h2km,ML2.4,Error ellipse: s-maj=9.1km s-min=5.6km az=77.0*
*DDA **26** 18:06:27.1,38.°67N×43.°26E,h8km,Ml3.0*
*ISK **26** 18:06:27.0,38.°68N×43.°27E,h4km,ML2.4*
ISC 26 18:06:28.1±0.9,38.°67N±0.°02×43.°23E±0.°03,h11km±7km, n24,σ1§91/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	121	ePG	Pg	18 06 31.7	+0.1
VANB				eSG	Sg	18 06 35.2	+1.1
VANB	Van	0.15	121	ePg	Pg	18 06 31.7	+0.1
VANB				eSg	Sg	18 06 35.2	+1.1
GEVA	Gevas	0.38	200	i P	Pg	18 06 34.3	-1.5
GEVA				i S	Sb	18 06 41.8	-1.1
GEVA	Gevas	0.38	200	P	Pg	18 06 34.3	-1.5
GEVA				S	Sb	18 06 41.8	-1.1
VMUR	Van-Muradiye	0.41	40	i P	Pb	18 06 36.2	-1.3
VMUR				i S	Sb	18 06 42.0	-1.9
VMUR	Van-Muradiye	0.41	40	P	Pb	18 06 36.2	-1.3
VMUR				S	Sb	18 06 42.0	-1.9
TUTA	Tutak	0.80	336	i P	Pg	18 06 42.6	-0.9
TUTA				i S	Sb	18 06 54.3	-0.6
TUTA	Tutak	0.80	336	P	Pg	18 06 42.6	-0.9
TUTA				S	Sb	18 06 54.3	-0.6
AGRB	Hanur-Agry	0.92	349	ePG	Pg	18 06 45.1	-0.7
AGRB				eSG	Sb	18 06 58.4	0.0
AGRB	Hanur-Agry	0.92	349	ePg	Pg	18 06 45.2	-0.7
AGRB				eSg	Sb	18 06 58.4	0.0
EKAR	Karacoban	1.08	303	i P	Pn	18 06 51.0	+1.7
EKAR				i S	Sn	18 07 08.6	+4.3
EKAR	Karacoban	1.08	303	P	Pn	18 06 51.0	+1.7
HAKT	HAKKARI	1.18	161	i P	Pg	18 06 48.3	-2.4
HAKT				i S	Sn	18 07 06.4	-0.3
HAKT	HAKKARI	1.18	161	P	Pg	18 06 48.3	-2.4
HAKT				S	Sn	18 07 06.4	-0.3
EATA	Eleskirt	1.32	335	i P	Pg	18 06 52.1	-1.3
EATA				i S	Sn	18 07 11.6	+1.2
EATA	Eleskirt	1.32	335	P	Pg	18 06 52.1	-1.3
EATA				S	Sn	18 07 11.6	+1.2
CUKT	Cukurca	1.45	168	ePN	Pg	18 06 55.3	-0.7
CUKT	Cukurca	1.45	168	eP	Pg	18 06 57.4	+1.4
CUKT				i S	Sn	18 07 21.4	+7.9
CUKT	Cukurca	1.45	168	ePn	Pg	18 06 55.3	-0.7
CUKT	Cukurca	1.45	168	P	Pg	18 06 57.4	+1.4
SVAN	Silvan-Diyarba	1.68	253	ePN	Pb	18 06 58.3	-0.6
SVAN	Silvan-Diyarba	1.68	253	ePn	Pb	18 06 58.3	-0.6
BTMN	Batman	1.73	244	i P	Pn	18 06 56.7	-1.4
BTMN				i S	Sg	18 07 23.7	+0.1
BTMN	Batman	1.73	244	P	Pn	18 06 56.7	-1.4
BTMN				S	Sg	18 07 23.7	+0.1

*ISK **26** 18:08:25.1,38.°74N×43.°27E,h6km,ML3.1*
*CSEM **26** 18:08:25.7±0.2,38.°72N×43.°22E,h2km,ML3.1,Error ellipse: s-maj=4.8km s-min=3.4km az=73.0*
*DDA **26** 18:09:00.0,38.°72N×43.°27E,h3km,Ml3.7*
ISC 26 18:08:26.6±0.8,38.°73N±0.°02×43.°28E±0.°03,h16km±6km, n48,σ1§29/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	149	ePG	Pg	18 08 30.6	-0.3
VANB				eSG	Sg	18 08 34.7	+0.9
VANB	Van	0.16	149	ePg	Pg	18 08 30.6	-0.3
VANB				eSg	Sg	18 08 34.7	+0.9
VMUR	Van-Muradiye	0.34	41	i P	Pb	18 08 33.7	-0.8
VMUR				i S	Sb	18 08 40.5	+0.8
VMUR	Van-Muradiye	0.34	41	P	Pb	18 08 33.7	-0.8
VMUR				S	Sb	18 08 40.5	+0.8
GEVA	Gevas	0.46	203	i P	Pg	18 08 33.7	-2.2
GEVA				i S	Sb	18 08 41.5	-1.5
GEVA	Gevas	0.46	203	P	Pg	18 08 33.7	-2.2
GEVA				S	Sb	18 08 41.5	-1.5
TUTA	Tutak	0.76	331	i P	Pg	18 08 40.0	-1.6
TUTA				i S	Sg	18 08 50.6	-1.1
TUTA	Tutak	0.76	331	P	Pg	18 08 40.0	-1.6
TUTA				S	Sg	18 08 50.6	-1.1
DYDN	Diyadin	0.87	21	i P	Pb	18 08 42.8	-0.7
DYDN				i S	Sb	18 08 55.6	+0.7
DYDN	Diyadin	0.87	21	P	Pb	18 08 42.8	-0.7
DYDN				S	Sb	18 08 55.6	+0.7
AGRB	Hanur-Agry	0.87	345	ePG	Pg	18 08 42.0	-1.6
AGRB				eSG	Sg	18 08 54.5	-0.6
AGRB	Hanur-Agry	0.87	345	ePg	Pg	18 08 42.0	-1.6
AGRB				eSg	Sg	18 08 54.5	-0.6
BASK	Baskale_VAN	0.89	140	i P	Pg	18 08 41.9	-2.1
BASK				i S	Sb	18 08 55.6	+0.2
BASK	Baskale_VAN	0.89	140	P	Pg	18 08 41.8	-2.1
BASK				S	Sb	18 08 55.6	+0.2
EKAR	Karacoban	1.08	299	i P	Pg	18 08 46.3	-1.3
EKAR				i S	Sn	18 09 03.3	+1.1
EKAR	Karacoban	1.08	299	P	Pg	18 08 46.3	-1.3
EKAR				S	Sn	18 09 03.3	+1.1
HAKT	HAKKARI	1.22	164	i P	Pg	18 08 47.2	-3.0
HAKT				i S	Sn	18 09 06.1	+0.5
HAKT	HAKKARI	1.22	164	P	Pg	18 08 47.2	-3.0
HAKT				S	Sn	18 09 06.1	+0.5
EATA	Eleskirt	1.28	332	i P	Pg	18 08 49.3	-2.1
EATA				i S	Sb	18 09 08.1	+1.1
EATA	Eleskirt	1.28	332	P	Pg	18 08 49.3	-2.1
EATA				S	Sb	18 09 08.1	+1.1
SIRN	S¯–rnak	1.41	209	i P	Pn	18 08 51.9	0.0
SIRN				i S	Sn	18 09 11.2	+1.1
SIRN	S¯–rnak	1.41	209	P	Pn	18 08 51.8	0.0
SIRN				S	Sn	18 09 11.2	+1.1
VRTB	Varto-Mus	1.49	287	ePN	Pn	18 08 52.7	-0.1
VRTB				eSN	Sn	18 09 13.2	+1.2
VRTB	Varto-Mus	1.49	287	ePn	Pn	18 08 52.7	-0.1
VRTB				eSn	Sn	18 09 13.2	+1.2
CUKT	Cukurca	1.51	170	ePN	Pb	18 08 53.5	-0.8
CUKT	Cukurca	1.51	170	i P	Pg	18 08 54.9	-0.8
CUKT				i S	Sg	18 09 18.5	+3.3
CUKT	Cukurca	1.51	170	ePn	Pb	18 08 53.5	-0.8
CUKT	Cukurca	1.51	170	P	Pg	18 08 54.8	-0.8
CUKT				S	Sg	18 09 18.5	+3.3
BNGL	BINGOL	1.68	278	i P	Pn	18 08 56.0	+0.5
BNGL				i S	Sn	18 09 18.2	+1.4
HOMI	Horasan	1.69	321	i P	Pn	18 08 56.7	+1.0
HOMI				i S	Sg	18 09 24.4	+3.3
SVAN	Silvan-Diyarba	1.74	251	ePN	Pn	18 08 56.4	+0.2
SVAN	Silvan-Diyarba	1.74	251	i P	Pn	18 08 56.1	-0.1
SVAN				i S	Sb	18 09 20.3	+0.5
SVAN	Silvan-Diyarba	1.74	251	P	Pn	18 08 56.1	-0.1
SVAN	Silvan-Diyarba	1.74	251	ePn	Pn	18 08 56.4	+0.2
SVAN				S	Sb	18 09 20.3	+0.5
BTMN	Batman	1.79	243	i P	Pn	18 08 57.2	+0.2
BTMN				i S	Sn	18 09 20.0	+0.5
BTMN	Batman	1.79	243	P	Pn	18 08 57.2	+0.2
BTMN				S	Sn	18 09 20.0	+0.5
ERZM	Erzurum	1.89	309	i P	Pb	18 09 00.6	-0.4
ERZM				i S	Sb	18 09 25.6	+1.1
ERZM	Erzurum	1.89	309	P	Pb	18 09 00.6	-0.4
ERZM				S	Sb	18 09 25.6	+1.1
SENK	Senkaya-Erzuru	1.96	339	ePN	Pn	18 08 59.6	+0.2
SENK	Senkaya-Erzuru	1.96	339	ePn	Pn	18 08 59.7	+0.2
BNGB	Bing¶‖	2.05	278	ePN	Pn	18 09 00.6	+0.1
BINT	Bingol	2.19	275	ePn	Pn	18 09 00.6	-1.9
YEDI	Yedisu-Bingol	2.24	289	ePN	Pn	18 09 03.6	+0.3
YEDI	Yedisu-Bingol	2.24	289	ePn	Pn	18 09 03.6	+0.3
MAZI	Mazidag	2.57	241	ePN	Pn	18 09 08.3	+0.5
MAZI	Mazidag	2.57	241	ePn	Pn	18 09 08.3	+0.5
PTK	Pertek	3.04	274	ePN	Pn	18 09 14.9	+0.7
PTK	Pertek	3.04	274	ePn	Pn	18 09 15.0	+0.7

*DDA **26** 18:22:57.7,38.°87N×43.°65E,h8km,Ml3.6*
*ISCJB **26** 18:22:58.3±0.9,38.°89N±0.°03×43.°71E±0.°07,h10km±4km, Error ellipse: s-maj=9.6km s-min=4.6km az=176.2*
*CSEM **26** 18:22:58.5±0.4,38.°90N×43.°62E,h5km,ML3.6,Error ellipse: s-maj=10.4km s-min=5.3km az=83.0*
*ISK **26** 18:22:58.3,38.°88N×43.°48E,h5km,ML2.7*
ISC 26 18:22:58.2±1.0,38.°92N±0.°02×43.°69E±0.°05,h17km±5km, n26,σ0§91/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	308	i P	Pg	18 23 01.4	-0.8
VMUR				i S	Sg	18 23 05.4	+0.5
VMUR	Van-Muradiye	0.12	308	P	Pg	18 23 01.4	-0.8
VMUR				S	Sg	18 23 05.4	+0.5
VANB	Van	0.40	217	ePG	Pg	18 23 06.4	-0.1
VANB				eSG	Sb	18 23 13.5	+0.7
VANB	Van	0.40	217	ePg	Pg	18 23 06.4	-0.1
VANB				eSg	Sb	18 23 13.5	+0.7
DYDN	Diyadin	0.63	360	i P	Pb	18 23 10.5	-0.3
DYDN				i S	Sn	18 23 21.8	-0.5
DYDN	Diyadin	0.63	360	P	Pb	18 23 10.5	-0.3
DYDN				S	Sn	18 23 21.8	-0.5
GEVA	Gevas	0.78	220	i P	Pg	18 23 11.7	-1.9
GEVA				i S	Sg	18 23 22.6	-1.3
GEVA	Gevas	0.78	220	P	Pg	18 23 11.7	-1.9
GEVA				S	Sg	18 23 22.6	-1.3
TUTA	Tutak	0.84	306	i P	Pg	18 23 13.2	-1.4
TUTA				i S	Sg	18 23 25.6	-0.2
TUTA	Tutak	0.84	306	P	Pg	18 23 13.2	-1.4
TUTA				S	Sg	18 23 25.6	-0.2
AGRB	Hanur-Agry	0.85	321	ePG	Pg	18 23 14.3	-0.6
AGRB				eSG	Sg	18 23 26.7	+0.4
AGRB	Hanur-Agry	0.85	321	ePg	Pg	18 23 14.3	-0.6
AGRB				eSg	Sg	18 23 26.7	+0.4
EKAR	Karacoban	1.31	285	i P	Pn	18 23 22.7	+0.7
EKAR				i S	Sg	18 23 41.6	+0.9
EKAR	Karacoban	1.31	285	P	Pn	18 23 22.7	+0.7
EKAR				S	Sg	18 23 41.6	+0.9
EATA	Eleskirt	1.33	316	i P	Pn	18 23 22.6	+0.4
EATA				i S	Sg	18 23 42.1	+0.9
EATA	Eleskirt	1.33	316	P	Pn	18 23 22.6	+0.4
EATA				S	Sg	18 23 42.1	+0.9
HAKT	HAKKARI	1.36	180	i P	Pn	18 23 22.4	-0.2
HAKT				i S	Sg	18 23 43.7	+1.6
HAKT	HAKKARI	1.36	180	P	Pn	18 23 22.4	-0.2
HAKT				S	Sg	18 23 43.7	+1.6
CUKT	Cukurca	1.67	182	ePN	Pg	18 23 29.7	-0.6
CUKT	Cukurca	1.67	182	ePn	Pg	18 23 29.7	-0.6
VRTB	Varto-Mus	1.76	279	ePN	Pn	18 23 28.9	+0.8
VRTB	Varto-Mus	1.76	279	ePn	Pn	18 23 28.9	+0.8
SENK	Senkaya-Erzuru	1.94	328	ePN	Pb	18 23 33.3	0.0
SENK	Senkaya-Erzuru	1.94	328	ePn	Pb	18 23 33.3	0.0
SVAN	Silvan-Diyarba	2.10	249	ePN	Pn	18 23 33.7	+1.1
SVAN	Silvan-Diyarba	2.10	249	ePn	Pn	18 23 33.7	+1.1

*DDA **26** 18:26:33.6,38.°72N×43.°37E,h19km,Ml3.5*
*ISK **26** 18:26:33.0,38.°76N×43.°48E,h5km,ML3.2*
*CSEM **26** 18:26:33.6±0.3,38.°74N×43.°43E,h2km,ML3.2,Error ellipse: s-maj=7.5km s-min=4.0km az=74.0*
ISC 26 18:26:34.6±0.9,38.°74N±0.°02×43.°39E±0.°03,h13km±7km, n50,σ1§09/78,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	180	ePG	Pg	18 26 38.4	+0.1
VANB				eSG	Sb	18 26 42.5	+0.1
VANB	Van	0.14	180	ePg	Pg	18 26 38.4	+0.1
GEVA	Gevas	0.50	211	i P	Pg	18 26 42.6	-1.9
GEVA				i S	Sg	18 26 50.9	-0.3
GEVA	Gevas	0.50	211	P	Pg	18 26 42.6	-1.9
GEVA				S	Sg	18 26 50.9	-0.3
TUTA	Tutak	0.80	326	i P	Pg	18 26 48.8	-1.4
TUTA				i S	Sg	18 27 00.1	-0.6
TUTA	Tutak	0.80	326	P	Pg	18 26 48.8	-1.4
TUTA				S	Sg	18 27 00.1	-0.6
DYDN	Diyadin	0.84	16	eP	Pb	18 26 51.1	+0.2
DYDN				i S	Sb	18 27 01.4	+0.5
DYDN	Diyadin	0.84	16	P	Pg	18 26 51.1	+0.2
BASK	Baskale_VAN	0.84	145	i P	Pg	18 26 49.4	-1.5
BASK				i S	Sn	18 27 04.5	-0.2
BASK	Baskale_VAN	0.84	145	P	Pg	18 26 49.4	-1.5
AGRB	Hanur-Agry	0.89	340	ePG	Pg	18 26 50.8	-1.1
AGRB				eSG	Sg	18 27 03.4	-0.2
AGRB	Hanur-Agry	0.89	340	ePg	Pg	18 26 50.8	-1.1
AGRB				eSg	Sg	18 27 03.4	-0.2
EKAR	Karacoban	1.15	297	i P	Pb	18 26 55.9	-0.8
EKAR				i S	Sn	18 27 13.7	+1.1
EKAR	Karacoban	1.15	297	P	Pb	18 26 55.9	-0.8
EKAR				S	Sn	18 27 13.7	+1.1
HAKT	HAKKARI	1.21	168	i P	Pn	18 26 54.6	-2.9
HAKT				i S	Sg	18 27 14.8	+1.2
HAKT	HAKKARI	1.21	168	P	Pn	18 26 54.6	-2.9
HAKT				S	Sg	18 27 14.8	+1.2
EATA	Eleskirt	1.32	328	i P	Pn	18 26 58.5	-0.6
EATA				i S	Sg	18 27 17.2	-0.1
EATA	Eleskirt	1.32	328	P	Pn	18 26 58.5	-0.6
EATA				S	Sg	18 27 17.2	-0.1
SIRN	S¯–rnak	1.46	212	i P	Pb	18 27 01.4	-0.4
SIRN				i S	Sg	18 27 21.6	-0.2
SIRN	S¯–rnak	1.46	212	P	Pb	18 27 01.4	-0.4
SIRN				S	Sg	18 27 21.5	-0.2
CUKT	Cukurca	1.50	173	ePN	Pn	18 27 01.3	-0.1
CUKT	Cukurca	1.50	173	i P	Pb	18 27 02.8	+0.3
CUKT				i S	Sg	18 27 27.1	+4.1
CUKT	Cukurca	1.50	173	ePn	Pn	18 27 01.3	-0.1
CUKT	Cukurca	1.50	173	P	Pb	18 27 02.8	+0.3
VRTB	Varto-Mus	1.56	286	ePN	Pb	18 27 03.2	-0.4
VRTB	Varto-Mus	1.56	286	i P	Pn	18 27 02.5	+0.1
VRTB				i S	Sg	18 27 24.9	-0.2
VRTB	Varto-Mus	1.56	286	P	Pn	18 27 02.5	+0.1
VRTB	Varto-Mus	1.56	286	ePn	Pb	18 27 03.2	-0.4
VRTB				S	Sg	18 27 24.9	-0.2
BNGL	BINGOL	1.76	278	i P	Pn	18 27 05.1	0.0
BNGL				i S	Sb	18 27 29.6	+0.5
SVAN	Silvan-Diyarba	1.82	252	ePN	Pn	18 27 06.6	+0.9
SVAN	Silvan-Diyarba	1.82	252	i P	Pn	18 27 05.1	-0.6
SVAN				i S	Sb	18 27 30.8	+0.3
SVAN	Silvan-Diyarba	1.82	252	P	Pn	18 27 05.1	-0.6
SVAN	Silvan-Diyarba	1.82	252	ePn	Pn	18 27 06.6	+0.9
SVAN				S	Sb	18 27 30.8	+0.3
BTMN	Batman	1.87	244	i P	Pn	18 27 06.3	-0.2
BTMN				i S	Sb	18 27 32.0	-0.1
BTMN	Batman	1.87	244	P	Pn	18 27 06.3	-0.2
BTMN				S	Sb	18 27 32.0	-0.1
ERZM	Erzurum	1.95	307	i P	Pb	18 27 10.0	-0.3
ERZM				i S	Sg	18 27 37.7	+0.2
ERZM	Erzurum	1.95	307	P	Pb	18 27 10.0	-0.3
ERZM				S	Sg	18 27 37.7	+0.2
SENK	Senkaya-Erzuru	1.99	337	ePN	Pn	18 27 08.6	+0.4
SENK	Senkaya-Erzuru	1.99	337	ePn	Pn	18 27 08.6	+0.4
BNGB	Bing¶‖	2.13	278	ePN	Pn	18 27 10.9	+0.8
BINT	Bingol	2.27	274	ePn	Pn	18 27 10.9	-1.1
YEDI	Yedisu-Bingol	2.32	288	ePN	Pn	18 27 13.9	+1.1
YEDI	Yedisu-Bingol	2.32	288	ePn	Pn	18 27 13.9	+1.1
MARD	Mardin	2.50	236	i P	Pn	18 27 14.8	-0.5
MARD				i S	Sn	18 27 47.4	+1.7
MAZI	Mazidag	2.65	242	ePN	Pn	18 27 18.7	+1.4
MAZI	Mazidag	2.65	242	ePn	Pn	18 27 18.7	+1.4
PTK	Pertek	3.13	274	ePN	Pn	18 27 25.5	+1.7
PTK	Pertek	3.13	274	ePn	Pn	18 27 25.5	+1.7
SVRC	Sivrice-ELAZID	3.22	265	ePN	Pn	18 27 26.9	+1.8
SVRC	Sivrice-ELAZID	3.22	265	ePn	Pn	18 27 26.9	+1.8

IDC 26 18:29:46.2±1.7,7.°16S×126.°36E,h0km,mb3.9/2, mb1 3.9/4,mb1mx3.6/21,mbtmp3.8/4,ML3.5/2,Error ellipse: s-maj=217.7km s-min=26.7km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.88	149	Pn	Pn	18 33 15.8	-2.2
	0.2nm,0.3s,baz=324,slow=14,SNR=4.9						
WRA				Sn	Sn	18 35 54.2	-10
	0.1nm,0.3s,baz=330,slow=21,SNR=2.8						
ASAR	Alice Springs	17.94	157	P	Pn	18 33 56.1	-1.1
	0.2nm,0.3s,baz=337,slow=13,SNR=36						
STKA	Stephens Creek	26.40	152	P	P	18 35 43.9	+1.3
	3.3nm,1.1s,baz=337,slow=7.9,SNR=3.2						
MKAR	Makanchi Array	66.43	329	P	P	18 40 37.1	-0.2
	0.3nm,0.5s,baz=118,slow=7.5,SNR=5.0						

*ISK **26** 18:38:03.7,38.°73N×43.°34E,h5km,ML2.8*
*DDA **26** 18:38:03.4,38.°71N×43.°47E,h8km,Ml3.1*
*ISCJB **26** 18:38:04.4±0.7,38.°76N±0.°03×43.°49E±0.°08,h13km±5km, Error ellipse: s-maj=11.2km s-min=5.1km az=4.1*
*CSEM **26** 18:38:04.1±0.4,38.°78N×43.°53E,h12km,ML2.8,Error ellipse: s-maj=12.8km s-min=6.4km az=87.0*
ISC 26 18:38:04.3±1.0,38.°76N±0.°02×43.°50E±0.°05,h16km±7km, n29,σ1§10/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	207	ePG	Pg	18 38 09.1	+0.2
VANB				eSG	Sg	18 38 12.1	+0.1
VANB	Van	0.18	207	ePg	Pg	18 38 09.1	+0.2
VANB				eSg	Sg	18 38 12.1	+0.1
VMUR	Van-Muradiye	0.24	14	i P	Pg	18 38 09.1	-0.6
VMUR				i S	Sb	18 38 14.5	+0.1
VMUR	Van-Muradiye	0.24	14	P	Pg	18 38 09.1	-0.6
VMUR				S	Sb	18 38 14.5	+0.1
DYDN	Diyadin	0.80	11	i P	Pg	18 38 19.6	-0.3
DYDN	Diyadin	0.80	11	P	Pg	18 38 19.6	-0.3
TUTA	Tutak	0.83	321	i P	Pg	18 38 19.5	-1.1
TUTA				i S	Sb	18 38 33.0	+1.4
TUTA	Tutak	0.83	321	P	Pg	18 38 19.5	-1.1
TUTA				S	Sb	18 38 33.0	+1.4
AGRB	Hanur-Agry	0.90	334	ePG	Pg	18 38 21.2	-0.7
AGRB				eSG	Sg	18 38 33.6	-0.2
AGRB	Hanur-Agry	0.90	334	ePg	Pg	18 38 21.2	-0.7
AGRB				eSg	Sg	18 38 33.6	-0.2
HAKT	HAKKARI	1.21	172	i P	Pg	18 38 26.0	-1.7
HAKT	HAKKARI	1.21	172	P	Pg	18 38 26.0	-1.7
EKAR	Karacoban	1.22	294	i P	Pn	18 38 29.2	+2.2
EKAR	Karacoban	1.22	294	P	Pn	18 38 29.2	+2.2
EATA	Eleskirt	1.35	325	i P	Pn	18 38 29.4	+0.6
EATA	Eleskirt	1.35	325	P	Pn	18 38 29.4	+0.6
CUKT	Cukurca	1.51	177	ePN	Pg	18 38 32.4	-1.0
CUKT	Cukurca	1.51	177	i P	Pg	18 38 35.4	+2.0
CUKT	Cukurca	1.51	177	ePn	Pg	18 38 32.4	-1.0
CUKT	Cukurca	1.51	177	P	Pg	18 38 35.4	+2.0
VRTB	Varto-Mus	1.64	285	ePN	Pn	18 38 31.8	-0.9
VRTB	Varto-Mus	1.64	285	ePn	Pn	18 38 31.8	-0.9
SVAN	Silvan-Diyarba	1.90	252	ePN	Pn	18 38 35.6	-0.6
SVAN	Silvan-Diyarba	1.90	252	ePn	Pn	18 38 35.6	-0.6
BTMN	Batman	1.95	244	i P	Pb	18 38 38.9	-0.7
BTMN	Batman	1.95	244	P	Pb	18 38 38.9	-0.7
SENK	Senkaya-Erzuru	2.00	334	ePN	Pn	18 38 38.9	+1.2
SENK	Senkaya-Erzuru	2.00	334	ePn	Pn	18 38 38.9	+1.2
BNGB	Bing¶‖	2.21	277	ePN	Pn	18 38 40.6	+0.2

WEL 26 18:38:05.0±1.1,36.°81S×177.°99E,h5km,ML3.6/13,3C-2D, Error ellipse: s-maj=7.4km s-min=6.0km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	161	⇑P*	Pg	18 38 19.6	-0.5
MXZ				AML	AML	18 38 45.4	
MXZ				AML	AML	18 38 46.7	
HAZ	Te Kaha	0.96	190	⇑P*	Pg	18 38 21.4	-1.9
HAZ				S*	Sg	18 38 35.3	-0.4
HAZ				S*	Sb	18 38 35.4	-1.6
HAZ				AML	AML	18 38 36.2	
HAZ				AML	AML	18 38 49.4	
WMGZ	Waiomatatini S	1.06	162	P*	Pg	18 38 24.9	-0.4
WMGZ				AML	AML	18 38 47.3	
WMGZ				AML	AML	18 38 47.6	
PKGZ	Pakihiroa	1.07	176	P*	Pg	18 38 24.3	-1.3
PKGZ				AML	AML	18 38 41.6	
PKGZ				AML	AML	18 38 46.8	
RUGZ	Raukumara Rang	1.18	192	P*	Pg	18 38 25.3	-2.3
RUGZ				S*	Sg	18 38 40.1	-2.7
PUZ	Puketiti	1.27	171	⇑P*	Pg	18 38 29.1	-0.3
PUZ				AML	AML	18 38 49.6	
PUZ				AML	AML	18 38 50.2	
TWGZ	Tauwhareparae	1.36	180	PN	Pb	18 38 31.0	0.0
TWGZ				AML	AML	18 38 53.5	
TWGZ				AML	AML	18 39 07.5	
MWZ	Matawai	1.56	194	⇓P*	Pn	18 38 32.2	-1.3
MWZ				AML	AML	18 38 56.0	
MWZ				AML	AML	18 38 56.9	
URZ	Urewera	1.60	206	⇓P*	Pn	18 38 32.1	-1.9
URZ				AML	AML	18 38 50.6	
URZ				AML	AML	18 38 58.3	
TKGZ	Te Karaka	1.63	184	AML	AML	18 38 58.1	
TKGZ				AML	AML	18 39 01.8	
CNGZ	Carnagh Statio	1.68	174	PN	Pb	18 38 36.2	-0.2
CNGZ				AML	AML	18 39 13.5	
KUZ	Kuaotunu	1.82	271	ePN	Pn	18 38 35.7	-1.3

az=59.0
*ISCJB **26** 18:45:41.3±0.8, 3°.56S±0°.10×100°.44E±0°.09, h29km, mb4.0/9, MS2.4/1, Error ellipse: s-maj=18.4km s-min=6.4km az=42.7*
*DJA **26** 18:45:42.2±0.6, 4°.5±5°.×10°.1E±°, h10km, M3.9/13, mb3.9/2, MLv3.8/13*
*NEIC **26** 18:45:44.7±1.5, 3°.49S×100°.47E, h35km, mb4.6/3, Error ellipse: s-maj=61.6km s-min=11.0km az=55.0*
ISC 26 18:45:43.9±0.9, 3°.53S±0°.09×100°.50E±0°.07, h29km, n32, σ1§35/28, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.91**	**327**	P	**Pn**	**18 45 59.8**	**-0.9**
MASI	**Maura Aman, Be**	**1.78**	**77**	P	**Pn**	**18 46 09.9**	**-2.9**
MASI				S	**Sb**	**18 46 41.0**	**+3.1**
MNAI	**Manna**	**2.58**	**109**	P	**Pn**	**18 46 23.5**	**-0.3**
PDSI	**Padang**	**2.60**	**359**	P	**Pn**	**18 46 22.8**	**-1.3**
SISI	**Saibi**	**2.60**	**327**	P	**Pn**	**18 46 26.1**	**+2.0**
LHSI	**Lahat**	**3.03**	**96**	P	**Pn**	**18 46 31.0**	**+1.0**
MDSI	**Maura Dua**	**3.79**	**105**	P	**Pn**	**18 46 40.6**	**+0.2**
LWLI	**Liwa**	**3.84**	**113**	P	**Pn**	**18 46 41.1**	**-0.1**
KLSI		**4.37**	**105**	P	**Pn**	**18 46 49.4**	**+1.0**
KASI	**Kota Agung**	**4.45**	**117**	P	**Pn**	**18 46 48.8**	**-0.7**
DSRI	**Dabo**	**5.08**	**53**	P	**Pn**	**18 46 57.8**	**-0.4**
CGJI	**Cibinong**	**6.01**	**121**	P	**Pn**	**18 47 09.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**21.91**	**356**	P	**P**	**18 50 34.0**	**-0.9**
	0.6nm,0.6s,baz=184,slow=8.1,SNR=5.7						
CMAR				LR	LR	18 58 25.9	
	comp=Z,15nm,21.0s,baz=185,slow=35						
H08S2	**Diego Garcia H**	**28.16**	**260**	T	T	19 20 52.3	
	baz=83,slow=75,SNR=255						
H08S3	**Diego Garcia H**	**28.17**	**260**	T	T	19 20 52.9	
	baz=83,slow=75,SNR=262						
H08S1	**Diego Garcia H**	**28.18**	**260**	T	T	19 20 53.7	
	baz=83,slow=75,SNR=350						
H08N1	**Diego Garcia H**	**29.50**	**263**	T	T	19 23 34.9	
	baz=166						
H08N2	**Diego Garcia H**	**29.52**	**263**	T	T	19 23 36.6	
	baz=166						
H08N3	**Diego Garcia H**	**29.53**	**263**	T	T	19 23 36.6	
	baz=166						
WRA	**Warramunga Arr**	**36.80**	**119**	P	**P**	**18 52 49.0**	**-0.6**
	0.5nm,0.5s,baz=301,slow=8.6,SNR=5.9						
WR1	**Warramunga Arr**	**36.80**	**119**	*e*P	**P**	**18 52 49.0**	**-0.6**
	20nm,1.8s						
ASAR	**Alice Springs**	**37.96**	**125**	P	**P**	**18 52 58.8**	**-0.6**
	1.0nm,0.5s,baz=299,slow=7.8,SNR=40						
ASAR				PcP	**PcP**	**18 55 15.1**	**+0.1**
	0.1nm,0.6s,baz=304,slow=2.8,SNR=2.8						
AS31	**Alice Springs**	**37.96**	**125**	*e*P	**P**	**18 53 02.5**	**+3.1**
	1.2nm,1.0s						
SONA0	**Songino Array**	**51.41**	**5**	*e*P	**P**	**18 54 46.7**	**+0.4**
SONM	**Songino Array**	**51.41**	**5**	P	**P**	**18 54 46.7**	**+0.4**
	2.6nm,0.7s,baz=189,slow=9.5,SNR=22						
MK32	**Makanchi Array**	**52.63**	**344**	*e*P	**P**	**18 54 55.1**	**-0.2**
MKAR	**Makanchi Array**	**52.63**	**344**	P	**P**	**18 54 55.1**	**-0.2**
	1.0nm,0.7s,baz=146,slow=7.1,SNR=6.4						
ZAA0	**Zalesovo Array**	**58.76**	**349**	*e*P	**P**	**18 55 38.1**	**-1.0**
ZAA0				*e*		18 55 38.5	
ZALV	**Zalesovo Beam**	**58.76**	**349**	P	**P**	**18 55 38.2**	**-0.9**
	2.4nm,1.0s,baz=152,slow=6.7,SNR=7.2						
ZAA1	**Zalesovo Array**	**58.76**	**349**	*e*P	**P**	**18 55 38.2**	**-1.0**
ABKAR	**Akbulak array**	**63.22**	**331**	*e*P	**P**	**18 56 09.0**	**-0.5**
	10nm,0.6s						
TXAR	**Lajitas Array**	**145.59**	**39**	PKPbc	**PKPab**	**19 05 20.9**	**+0.1**
	1.5nm,0.8s,baz=283,slow=0.8,SNR=11						

*ISK **26** 18:49:52.6, 38°.25N×43°.28E, h13km, MD2.9*
*CSEM **26** 18:49:53.7±0.2, 38°.58N×43°.09E, h10km, MD2.9, Error ellipse: s-maj=6.8km s-min=5.6km az=134.0*
*ISCJB **26** 18:49:54.6±0.6, 38°.60N±0°.04×43°.19E±0°.08, h25km±7km, Error ellipse: s-maj=10.8km s-min=6.4km az=12.7*
*DDA **26** 18:49:55.0, 38°.66N×43°.09E, h7km, Ml3.1*
ISC 26 18:49:53.5±1.2, 38°.68N±0°.03×43°.17E±0°.03, h15km±10km, n20, σ1§24/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**115**	*e*PG	**Pb**	**18 49 58.8**	**-0.1**
VANB				*e*SG	**Sb**	**18 50 03.1**	**+0.7**
VANB	**Van**	**0.19**	**115**	*e*Pg	**Pb**	**18 49 58.8**	**-0.1**
VANB				*e*Sg	**Sb**	**18 50 03.1**	**+0.7**
GEVA	**Gevas**	**0.38**	**193**	*i* P	**Pg**	**18 50 00.6**	**-0.7**
GEVA				*i* S	**Sb**	**18 50 08.0**	**+0.3**
GEVA	**Gevas**	**0.38**	**193**	P	**Pg**	**18 50 00.6**	**-0.7**
GEVA				S	**Sb**	**18 50 08.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.44**	**45**	*i* P	**Pn**	**18 50 04.4**	**-1.2**
VMUR				*i* S	**Sn**	**18 50 13.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.44**	**45**	P	**Pn**	**18 50 04.4**	**-1.2**
VMUR				S	**Sn**	**18 50 13.4**	**-0.1**
TUTA	**Tutak**	**0.77**	**339**	*i* P	**Pn**	**18 50 09.8**	**-0.4**
TUTA				*i* S	**Sn**	**18 50 20.9**	**-0.8**
TUTA	**Tutak**	**0.77**	**339**	P	**Pn**	**18 50 09.8**	**-0.4**
TUTA				S	**Sn**	**18 50 20.9**	**-0.8**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pn**	**18 50 14.4**	**-1.6**
HAKT				*i* S	**Sn**	**18 50 35.6**	**+3.5**
HAKT	**HAKKARI**	**1.20**	**159**	P	**Pn**	**18 50 14.4**	**-1.6**
BNGL	**BINGOL**	**1.60**	**280**	*e*P	**Pn**	**18 50 21.5**	**0.0**
BNGL				*i* S	**Sg**	**18 50 46.8**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*PN	**Pn**	**18 50 22.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*Pn	**Pn**	**18 50 22.1**	**+0.3**
BTMN	**Batman**	**1.69**	**243**	*i* P	**Pn**	**18 50 22.6**	**0.0**
BTMN				*i* S	**Sg**	**18 50 49.3**	**+1.4**
BTMN	**Batman**	**1.69**	**243**	P	**Pn**	**18 50 22.6**	**0.0**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*PN	**Pg**	**18 50 33.0**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.18**	**291**	*e*PN	**Pb**	**18 50 32.7**	**-0.1**
MAZI	**Mazidag**	**2.47**	**241**	*e*PN	**Pn**	**18 50 32.4**	**-0.9**
MAZI	**Mazidag**	**2.47**	**241**	*e*Pn	**Pn**	**18 50 32.4**	**-0.9**
PTK	**Pertek**	**2.96**	**275**	*e*PN	**Pb**	**18 50 43.0**	**-3.0**

*IDC **26** 18:52:04.4±1.7, 28°.09S×175°.87W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/20, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=58.3km s-min=30.5km az=153.0*
*NEIC **26** 18:52:09.6±4.8, 28°.12S×175°.95W, h38km±35km, mb4.2/2, Error ellipse: s-maj=47.7km s-min=26.0km az=204.0*
ISC 26 18:52:06.9±1.3, 28°.5S±0°.2×175°.6W±0°.2, h35km, n12, σ3§20/11, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**249**	Pn	**Pn**	**18 52 41.7**	**+0.5**
	85nm,0.3s,baz=75,slow=20,SNR=4.1						
RAO				Sn	**Sn**	**18 53 10.6**	**+3.2**
	169nm,0.3s,baz=96,slow=22,SNR=6.9						
URZ	**Urewera**	**11.53**	**210**	Sn	**Sn**	**18 56 52.7**	**-3.6**
	0.8nm,0.3s,baz=76,slow=19,SNR=6.6						
STKA	**Stephens Creek**	**37.03**	**254**	P	P	18 59 15.0	+1.5
	1.4nm,0.6s,baz=99,slow=10.0,SNR=6.1						
AS31	**Alice Springs**	**45.39**	**264**	*e*P	**P**	**19 00 20.8**	**-1.5**
	1.7nm,1.4s						
ASAR	**Alice Springs**	**45.39**	**264**	P	P	19 00 23.3	+1.0
	0.5nm,0.5s,baz=97,slow=6.4,SNR=24						
WR1	**Warramunga Arr**	**46.21**	**269**	*e*P	**P**	**19 00 27.9**	**-1.0**
	17nm,1.8s						
WRA	**Warramunga Arr**	**46.21**	**269**	P	**P**	**19 00 27.9**	**-1.0**
	1.1nm,0.5s,baz=109,slow=7.4,SNR=11						
FIA0	**FINESS Array S**	**144.01**	**342**	*e*PKPdf	**PKPdf**	**19 11 39.0**	**+0.9**
FINES	**FINESS Array B**	**144.01**	**342**	PKP	**PKPdf**	**19 11 39.0**	**+0.9**
	1.8nm,0.8s,baz=103,slow=2.5,SNR=5.7						
AKASG	**Malin Array Be**	**150.96**	**327**	PKPbc	**PKPab**	**19 11 58.5**	**-4.6**
	0.2nm,0.3s,baz=38,slow=3.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**164.54**	**170**	PKPab	**PKPab**	**19 13 06.3**	**+3.9**
	0.5nm,0.8s,baz=204,slow=3.2,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**164.55**	**170**	*e*PKPab	**PKPab**	**19 13 06.3**	**+3.9**

IDC 26 18:53:33.6±5.6, 25°.05S×177°.70W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=288.5km s-min=54.8km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.19**	**183**	Sn	Sn	18 55 10.7	-18
	20nm,0.3s,baz=66,slow=20,SNR=2.8						
ASAR	**Alice Springs**	**43.93**	**261**	P	P	19 01 42.6	+0.1
	0.4nm,0.5s,baz=100,slow=7.7,SNR=6.4						
WRA	**Warramunga Arr**	**44.43**	**267**	P	P	19 01 46.1	-0.4
	0.9nm,0.5s,baz=105,slow=7.7,SNR=5.0						
HFS	**Hagfors**	**144.05**	**350**	PKP	PKPdf	19 13 10.0	-0.7
	3.7nm,1.0s,baz=42,slow=4.5,SNR=3.4						
AKASG	**Malin Array Be**	**147.06**	**328**	PKPbc	PKPbc	19 13 17.4	-0.7
	0.3nm,0.4s,baz=40,slow=1.6,SNR=4.4						

MDD 26 18:54:26.1±4.2, 35°.12N×2°.20E, h0km, mb3.9/3, Error ellipse: s-maj=44.2km s-min=30.3km az=170.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**3.88**	**315**	P	Pn	18 55 26.0	-1.1
	0.6nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**3.96**	**350**	P	Pn	18 55 26.8	-1.3
	2.1nm,0.1s,SNR=10						
EBER	**Berja**	**4.49**	**295**	P	Pn	18 55 33.4	-2.2
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.62**	**321**	P	Pn	18 55 35.9	-1.4
	0.5nm,0.1s,SNR=7.3						
ETOB				S	Sn	18 56 27.1	-4.7
	0.3nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.85**	**309**	P	Pn	18 55 39.9	-0.6
	0.9nm,0.2s,SNR=7.9						
SESP				S	Sn	18 56 32.9	-4.5
	1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.02**	**304**	P	Pn	18 55 42.2	-0.5
	2.5nm,0.3s,SNR=11						
EQES				S	Sn	18 56 37.5	-4.1
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.64**	**339**	P	Pn	18 55 50.3	-1.2
	0.3nm,0.1s,SNR=7.9						

*AZER **26** 18:56:49.6±2.2, 38°.17N×43°.51E, h1km, Error ellipse: s-maj=29.3km s-min=12.5km az=169.0*
*DDA **26** 18:56:52.4, 38°.83N×43°.62E, h18km, Ml3.5*
*ISK **26** 18:56:52.8, 38°.80N×43°.43E, h9km, ML3.3*
*CSEM **26** 18:56:53.3±0.3, 38°.86N×43°.48E, h8km, ML3.5, Error ellipse: s-maj=7.0km s-min=4.6km az=84.0*
ISC 26 18:56:53.7±0.9, 38°.82N±0°.02×43°.51E±0°.02, h10km±7km, n54, σ1§55/78, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**17**	*i* P	**Pg**	**18 56 56.6**	**-1.0**
VMUR				*i* S	**Sg**	**18 57 01.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.17**	**17**	P	**Pg**	**18 56 56.6**	**-1.0**
VMUR				S	**Sg**	**18 57 01.0**	**+0.7**
VANB	**Van**	**0.25**	**202**	*e*PG	**Pg**	**18 56 59.2**	**+0.4**
VANB				*e*SG	**Sg**	**18 57 03.5**	**+1.3**
VANB	**Van**	**0.25**	**202**	*e*Pg	**Pg**	**18 56 59.2**	**+0.4**
VANB				*e*Sg	**Sg**	**18 57 03.5**	**+1.3**
GEVA	**Gevas**	**0.62**	**215**	*i* P	**Pg**	**18 57 04.7**	**-1.1**
GEVA				*i* S	**Sn**	**18 57 17.4**	**-1.5**
GEVA	**Gevas**	**0.62**	**215**	P	**Pg**	**18 57 04.7**	**-1.1**
DYDN	**Diyadin**	**0.73**	**11**	*i* P	**Pg**	**18 57 06.6**	**-1.3**
DYDN				*i* S	**Sb**	**18 57 18.8**	**-0.1**
DYDN	**Diyadin**	**0.73**	**11**	P	**Pg**	**18 57 06.6**	**-1.3**
TUTA	**Tutak**	**0.79**	**317**	*i* P	**Pg**	**18 57 07.8**	**-1.2**
TUTA				*i* S	**Sb**	**18 57 20.1**	**-0.5**
TUTA	**Tutak**	**0.79**	**317**	P	**Pg**	**18 57 07.8**	**-1.2**
AGRB	**Hanur-Agry**	**0.85**	**332**	*e*PG	**Pg**	**18 57 09.0**	**-1.2**
AGRB				*e*SG	**Sb**	**18 57 22.1**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**332**	*e*Pg	**Pg**	**18 57 09.0**	**-1.2**
AGRB				*e*Sg	**Sb**	**18 57 22.1**	**-0.2**
BASK	**Baskale_VAN**	**0.86**	**153**	*i* P	**Pg**	**18 57 08.1**	**-2.3**
BASK				*i* S	**Sn**	**18 57 23.1**	**-1.9**
EKAR	**Karacoban**	**1.20**	**291**	*i* P	**Pn**	**18 57 16.5**	**-0.4**
EKAR				*i* S	**Sn**	**18 57 35.8**	**+2.4**
EKAR	**Karacoban**	**1.20**	**291**	P	**Pn**	**18 57 16.5**	**-0.4**
HAKT	**HAKKARI**	**1.27**	**173**	*i* P	**Pn**	**18 57 15.2**	**-2.6**
HAKT				*i* S	**Sn**	**18 57 38.1**	**+3.1**
EATA	**Eleskirt**	**1.30**	**323**	*i* P	**Pn**	**18 57 17.2**	**-1.1**
EATA				*i* S	**Sn**	**18 57 36.9**	**+1.0**
EATA	**Eleskirt**	**1.30**	**323**	P	**Pn**	**18 57 17.2**	**-1.1**
CUKT	**Cukurca**	**1.58**	**177**	*e*PN	**Pn**	**18 57 21.6**	**-0.3**
CUKT	**Cukurca**	**1.58**	**177**	*i* P	**Pg**	**18 57 22.8**	**-1.2**
CUKT				*i* S	**Sg**	**18 57 50.0**	**+5.5**
CUKT	**Cukurca**	**1.58**	**177**	*e*Pn	**Pn**	**18 57 21.6**	**-0.3**
CUKT	**Cukurca**	**1.58**	**177**	P	**Pg**	**18 57 22.8**	**-1.2**
SIRN	**S¨–rnak**	**1.58**	**213**	*i* P	**Pb**	**18 57 22.1**	**-1.0**
SIRN				*i* S	**Sg**	**18 57 49.7**	**+5.2**
SIRN	**S¨–rnak**	**1.58**	**213**	P	**Pb**	**18 57 22.1**	**-1.0**
NAX	**Nakhchivan**	**1.59**	**77**	⇑P	**Pb**	**18 57 22.4**	**-0.9**
	SNR=10.0						
NAX				⇓S	**Sg**	**18 57 47.7**	**+2.8**
NAX	**Nakhchivan**	**1.59**	**77**	P	**Pb**	**18 57 22.4**	**-0.9**
	SNR=10.0						
NAX				S	**Sg**	**18 57 47.7**	**+2.8**
VRTB	**Varto-Mus**	**1.63**	**283**	*e*PN	**Pn**	**18 57 22.2**	**-0.5**
VRTB	**Varto-Mus**	**1.63**	**283**	*e*Pn	**Pn**	**18 57 22.2**	**-0.5**
BNGL	**BINGOL**	**1.84**	**275**	*i* P	**Pb**	**18 57 27.0**	**-0.6**
BNGL				*i* S	**Sg**	**18 57 54.2**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.93**	**250**	*e*PN	**Pn**	**18 57 26.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**250**	*i* P	**Pb**	**18 57 28.4**	**-0.6**
SVAN				*i* S	**Sg**	**18 57 56.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**250**	*e*Pn	**Pn**	**18 57 26.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**250**	P	**Pb**	**18 57 28.4**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*PN	**Pn**	**18 57 26.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.95**	**333**	*e*Pn	**Pn**	**18 57 26.9**	**-0.2**
ERZM	**Erzurum**	**1.98**	**304**	*i* P	**Pg**	**18 57 30.9**	**-0.9**
ERZM				*i* S	**Sg**	**18 57 60.0**	**+2.6**
BTMN	**Batman**	**1.99**	**243**	*i* P	**Pb**	**18 57 29.1**	**-1.0**
BTMN				*i* S	**Sg**	**18 57 57.2**	**-0.4**
BTMN	**Batman**	**1.99**	**243**	P	**Pb**	**18 57 29.1**	**-1.0**
BNGB	**Bing¶ll**	**2.21**	**275**	*e*PN	**Pn**	**18 57 30.1**	**-0.5**
BINT	**Bingol**	**2.35**	**272**	*e*Pn	**Pn**	**18 57 30.1**	**-2.5**
YEDI	**Yedisu-Bingol**	**2.38**	**286**	*e*PN	**Pn**	**18 57 32.2**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.38**	**286**	*e*Pn	**Pn**	**18 57 32.2**	**-0.8**
BGD	**Bogdanovka**	**2.44**	**2**	P	**Pg**	**18 57 40.1**	**-0.4**
BGD				S	**Sg**	**18 58 14.8**	**+2.7**
GDB	**GEDABAY**	**2.57**	**42**	⇓P	**Pb**	**18 57 39.8**	**-0.2**
	SNR=7.2						
GDB	**GEDABAY**	**2.57**	**42**	P	**Pb**	**18 57 39.8**	**-0.2**
	SNR=7.2						
AKH	**Akhalkalaki**	**2.58**	**360**	P	**Pg**	**18 57 42.8**	**-0.5**
AKH				S	**Sg**	**18 58 18.7**	**+2.0**
QZX	**Qazax, Azerbai**	**2.65**	**32**	⇑P	**Pb**	**18 57 41.2**	**-0.2**
	SNR=4.5						
QZX				⇓S	**Sg**	**18 58 20.5**	**+1.5**
MAZI	**Mazidag**	**2.77**	**241**	*e*PN	**Pn**	**18 57 37.8**	**-0.5**
MAZI	**Mazidag**	**2.77**	**241**	*e*Pn	**Pn**	**18 57 37.8**	**-0.5**
GANJ	**Ganja**	**2.83**	**49**	⇑P	**Pb**	**18 57 43.3**	**-1.1**
	SNR=5.6						
GANJ	**Ganja**	**2.83**	**49**	P	**Pb**	**18 57 43.3**	**-1.1**
	SNR=5.6						
PTK	**Pertek**	**3.21**	**273**	*e*PN	**Pn**	**18 57 43.9**	**-0.5**
PTK	**Pertek**	**3.21**	**273**	*e*Pn	**Pn**	**18 57 43.9**	**-0.5**
ONI	**Oni**	**3.76**	**359**	P	**Pg**	**18 58 07.5**	**+1.6**

*JMA **26** 19:11:18.5±0.2, 23°.31N×120°.36E, h0km, M3.5*
*TAP **26** 19:11:18.2, 23°.25N×120°.33E, h10km, ML3.5, B*
*ISCJB **26** 19:11:19.5±0.3, 23°.26N±0°.01×120°.30E±0°.02, h11km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=5.5*
ISC 26 19:11:19.4±0.8, 23°.27N±0°.02×120°.32E±0°.02, h16km±5km, n57, σ0§89/100, 12C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN8	**Yiju**	**0.12**	**308**	⇓*i*P	**Pg**	**19 11 22.2**	**-0.8**
	baz=316						
CHN8				*i* S	**Sg**	**19 11 25.9**	**+0.4**
	baz=316						
SCLT	**Jiali**	**0.15**	**231**	⇑*i*P	**Pg**	**19 11 22.2**	**-1.1**
	baz=238						
SCLT				*i* S	**Sg**	**19 11 26.0**	**+0.1**
	baz=238						
TWK	**Hsinying**	**0.16**	**91**	⇑*i*P	**Pg**	**19 11 22.6**	**-1.0**
	baz=84						
CHN3	**Shinhua**	**0.20**	**167**	⇓*i*P	**Pg**	**19 11 23.1**	**-0.9**
	baz=176						
CHN3				*e*S	**Sg**	**19 11 27.6**	**+0.4**
	baz=176						
CHN1	**Nanshi**	**0.21**	**114**	⇑*i*P	**Pg**	**19 11 23.4**	**-0.9**
	baz=102						
CHN1				*i* S	**Sg**	**19 11 27.3**	**-0.3**
	baz=102						
TAI1	**Yung-k'ang**	**0.24**	**200**	⇓P	**Pg**	**19 11 24.4**	**-0.4**
	baz=209						
TAI1				*e*S	**Sb**	**19 11 28.7**	**-0.7**
	baz=209						
CHY	**Chiayi**	**0.25**	**23**	⇓*i*P	**Pg**	**19 11 24.9**	**0.0**
	baz=21						
CHY				*i* S	**Sg**	**19 11 29.9**	**+1.4**
	baz=21						
CHN4	**Tsaushan**	**0.27**	**72**	⇑*i*P	**Pg**	**19 11 24.7**	**-0.4**
	baz=66						
CHN4				*i* S	**Sg**	**19 11 29.9**	**+0.8**
	baz=66						
WTP	**Ta-pu**	**0.27**	**95**	⇑*i*P	**Pg**	**19 11 24.7**	**-0.6**
	baz=90						
WTP				S	**Sg**	**19 11 30.0**	**+0.6**
	baz=90						
CHN2	**Minshiung**	**0.30**	**29**	⇓*i*P	**Pb**	**19 11 25.8**	**-0.5**
	baz=25						
CHN2				*i* S	**Sb**	**19 11 31.9**	**+0.8**
	baz=25						
SGST	**Jiashian**	**0.31**	**127**	⇑*i*P	**Pb**	**19 11 25.6**	**-0.9**
	baz=124						
SGST				*i* S	**Sb**	**19 11 31.9**	**+0.6**
	baz=124						
WSF	**Szhu**	**0.38**	**346**	⇓*i*P	**Pb**	**19 11 27.0**	**-0.7**
	baz=347						
WSF				*e*S	**Sb**	**19 11 34.3**	**+1.0**
	baz=347						
STYT	**Tauyuan**	**0.42**	**105**	⇑*i*P	**Pb**	**19 11 27.4**	**-1.0**
	baz=88						
STYT				S	**Sb**	**19 11 34.8**	**+0.3**
	baz=88						
TWM1	**Shoushan**	**0.46**	**168**	*e*P	**Pb**	**19 11 30.1**	**+1.1**
	baz=168						
CHN5	**Tsauling**	**0.46**	**45**	P	**Pb**	**19 11 28.5**	**-0.7**
	baz=42						
CHN5				*i* S	**Sb**	**19 11 36.4**	**+0.5**
	baz=42						
WGK	**Gukeng**	**0.47**	**28**	*e*P	**Pb**	**19 11 28.8**	**-0.5**
	baz=27						
WGK				S	**Sb**	**19 11 37.8**	**+1.8**
	baz=27						
ALS	**Alishan**	**0.51**	**62**	⇑*i*P	**Pb**	**19 11 29.4**	**-0.7**
	baz=59						
ALS				*i* S	**Sb**	**19 11 38.2**	**+0.9**
	baz=59						
SGLT	**Jiouru**	**0.56**	**164**	*e*P	**Pn**	**19 11 32.0**	**-0.7**
	baz=164						
WTCT	**Ta-ch'eng**	**0.59**	**357**	*e*P	**Pb**	**19 11 30.8**	**-0.6**
	baz=356						
WDGT	**Dungji**	**0.61**	**269**	*e*P	**Pg**	**19 11 30.7**	**-0.6**
	baz=272						
YUS	**Yu-Shan**	**0.62**	**69**	⇑P	**Pb**	**19 11 31.6**	**-0.6**
	baz=67						
YUS				*i* S	**Sb**	**19 11 41.1**	**+0.3**
	baz=67						
ELDTW	**Lidau**	**0.65**	**97**	⇑*i*P	**Pb**	**19 11 31.5**	**-0.9**
	baz=94						
WNT	**Mingjian**	**0.69**	**29**	⇓*i*P	**Pb**	**19 11 32.8**	**-0.2**
	baz=28						
WNT				S	**Sb**	**19 11 43.4**	**+1.0**
	baz=28						
PNG	**Penghu**	**0.76**	**293**	*e*P	**Pg**	**19 11 33.0**	**-1.2**
	baz=295						
PNG				*e*S	**Sg**	**19 11 43.9**	**-0.4**
	baz=295						
TYC	**Yuchr**	**0.80**	**38**	⇓*i*P	**Pb**	**19 11 34.8**	**-0.1**
	baz=37						
TYC				*i* S	**Sn**	**19 11 47.0**	**-0.6**
	baz=37						
SMLT	**Sun Moon Lake**	**0.81**	**41**	⇓*i*P	**Pb**	**19 11 34.9**	**-0.3**
	baz=40						
SMLT				*i* S	**Sn**	**19 11 47.4**	**-0.6**
	baz=40						
TWG	**Pinlang**	**0.83**	**123**	*e*P	**Pb**	**19 11 35.1**	**-0.2**
	baz=108						
TWG				S	**Sn**	**19 11 47.9**	**-0.3**
	baz=108						
ECL	**Taimali**	**0.89**	**139**	*e*P	**Pb**	**19 11 36.1**	**-0.3**
	baz=137						
ECL				*e*S	**Sn**	**19 11 49.4**	**-0.4**
	baz=137						
TWF1	**Yuli**	**0.90**	**85**	P	**Pb**	**19 11 36.4**	**-0.2**
	baz=82						
TWF1				S	**Sn**	**19 11 49.5**	**-0.6**
	baz=82						
TTN	**Taitung**	**0.92**	**124**	*e*P	**Pn**	**19 11 37.8**	**+0.1**
	baz=122						
TWP	**Hsiaoliuchiu**	**0.92**	**177**	*e*P	**Pn**	**19 11 37.7**	**+0.1**
	baz=191						
TCU	**Taichung**	**0.93**	**20**	*e*P	**Pn**	**19 11 37.4**	**-0.5**
	baz=19						
SCZT	**Fangliau**	**0.94**	**163**	*e*P	**Pb**	**19 11 37.6**	**+0.4**
	baz=147						
EHY	**Hungye**	**0.95**	**75**	⇑P	**Pb**	**19 11 37.2**	**-0.3**
	baz=74						
EHY				*i* S	**Sn**	**19 11 50.6**	**-0.7**
	baz=74						
CHKT	**Chengkung**	**0.98**	**100**	⇓

JISG *e*S **Sn** 19 13 04.4 +0.8

ISCJB ***26*** *19:11:46.5±0.3, 37°.23N±0°.02×22°.02E±0°.03, h9km±3km, mb3.6/9, Error ellipse: s-maj=3.5km s-min=3.0km az=171.5*
THE ***26*** *19:11:46.6, 37°.23N×22°.03E, h0km±1km, ML3.3/9, Error ellipse: s-maj=1.9km s-min=0.6km az=1.0*
CSEM ***26*** *19:11:46.4±0.1, 37°.23N×22°.03E, h5km, ML3.3, Error ellipse: s-maj=3.1km s-min=2.6km az=78.0*
ATH ***26*** *19:11:46.3, 37°.24N×22°.04E, h2km, ML3.3/13, Error ellipse: s-maj=1.0km s-min=0.5km az=160.0*
IDC ***26*** *19:11:50.1±3.6, 37°.39N×22°.04E, h35km±34km, mb3.5/9, mb1 3.5/13, mb1mx3.3/47, mbtmp3.6/13, ML2.9/4, MS2.2/1, Ms1 2.2/1, ms1mx1.9/50, Error ellipse: s-maj=23.2km s-min=19.1km az=27.0*
ISC 26 19:11:45.9±0.8, 37°.24N±0°.02×22°.03E±0°.02, h10km±5km, n122, σ1$22/159, mb3.7/9, 3C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**233**	P	**Pg**	**19 11 48.4**	**-0.1**
ITM				S	**Sg**	**19 11 50.1**	**-0.3**
ITM	**Ithomi**	**0.10**	**233**	P	**Pg**	**19 11 48.4**	**-0.1**
ITM				S	**Sg**	**19 11 51.0**	**+0.6**
ITM				AML	AML	19 11 53.8	
ITM				AML	AML	19 11 53.8	
ITM	**Ithomi**	**0.10**	**233**	P	**Pg**	**19 11 48.4**	**-0.1**
ITM				S	**Sg**	**19 11 51.0**	**+0.6**
MES3	**Kyparissia**	**0.29**	**271**	P	**Pb**	**19 11 52.1**	**-1.0**
MES3				S	**Sb**	**19 11 57.5**	**-0.5**
MES3				AML	AML	19 11 59.0	
	comp=N,83600μm,0.3s						
MES3				AML	AML	19 11 59.6	
	comp=E,72764μm,0.3s						
MES3	**Kyparissia**	**0.29**	**271**	P	**Pb**	**19 11 52.1**	**-1.0**
MES3				S	**Sb**	**19 11 57.5**	**-0.5**
VLX	**Vlachokerasia**	**0.31**	**65**	P	**Pb**	**19 11 52.7**	**-0.9**
VLX				S	**Sb**	**19 11 57.5**	**-1.2**
VLX	**Vlachokerasia**	**0.31**	**65**	P	**Pb**	**19 11 53.3**	**-0.3**
VLX				S	**Sb**	**19 11 57.7**	**-1.0**
VLX				AML	AML	19 12 03.9	
	comp=N,11390μm,0.6s						
VLX				AML	AML	19 12 04.0	
	comp=E,15770μm,1.3s						
VLX	**Vlachokerasia**	**0.31**	**65**	P	**Pb**	**19 11 52.7**	**-0.9**
VLX				S	**Sb**	**19 11 57.5**	**-1.2**
TRIP	**Tripoli**	**0.34**	**34**	P	**Pb**	**19 11 54.1**	**-0.1**
TRIP				S	**Sb**	**19 11 59.6**	**-0.2**
TRIP				AML	AML	19 12 03.7	
	comp=N,5566μm,0.8s						
TRIP				AML	AML	19 12 05.1	
	comp=E,3081μm,0.6s						
TRIP	**Tripoli**	**0.34**	**34**	P	**Pb**	**19 11 54.1**	**-0.1**
TRIP				S	**Sb**	**19 11 59.6**	**-0.2**
AMT	**Artemida-Makis**	**0.39**	**318**	P	**Pb**	**19 11 54.1**	**-0.8**
AMT				S	**Sb**	**19 12 00.7**	**-0.2**
AMT	**Artemida-Makis**	**0.39**	**318**	P	**Pb**	**19 11 54.2**	**-0.8**
AMT				S	**Sb**	**19 12 01.7**	**+0.7**
AMT				AML	AML	19 12 08.9	
	comp=E,20108μm,0.8s						
AMT				AML	AML	19 12 09.7	
	comp=N,16417μm,0.9s						
AMT	**Artemida-Makis**	**0.39**	**318**	P	**Pb**	**19 11 54.1**	**-0.8**
AMT				S	**Sb**	**19 12 00.7**	**-0.2**
PYL	**PYLOS**	**0.42**	**214**	P	**Pg**	**19 11 53.9**	**-0.1**
PYL				S	**Sg**	**19 12 00.3**	**+0.8**
PYL	**PYLOS**	**0.42**	**214**	P	**Pg**	**19 11 53.4**	**-0.6**
PYL				S	**Sb**	**19 12 01.8**	**+0.1**
PYL				AML	AML	19 12 07.4	
	comp=N,6862μm,0.9s						
PYL				AML	AML	19 12 08.0	
	comp=E,9900μm,0.9s						
PYL	**PYLOS**	**0.42**	**214**	P	**Pg**	**19 11 53.9**	**-0.1**
PYL				S	**Sg**	**19 12 00.3**	**+0.8**
MES2	**Methoni**	**0.49**	**212**	P	**Pg**	**19 11 54.5**	**-0.9**
MES2				S	**Sg**	**19 12 02.7**	**+0.8**
MES2				AML	AML	19 12 06.7	
	comp=E,7882μm,0.8s						
MES2				AML	AML	19 12 12.0	
	comp=N,9587μm,0.9s						
MES2	**Methoni**	**0.49**	**212**	P	**Pg**	**19 11 54.5**	**-0.9**
MES2				S	**Sg**	**19 12 02.7**	**+0.8**
GUR	**Goura**	**0.73**	**20**	P	**Pg**	**19 12 00.2**	**+0.1**
GUR				S	**Sb**	**19 12 12.1**	**+1.0**
GUR	**Goura**	**0.73**	**20**	P	**Pg**	**19 12 00.2**	**+0.1**
GUR	**Goura**	**0.73**	**20**	P	**Pg**	**19 12 00.2**	**+0.1**
GUR				S	**Sb**	**19 12 12.1**	**+1.0**
DRO	**Drossia**	**0.75**	**340**	P	**Pb**	**19 12 01.1**	**0.0**
DRO				S	**Sb**	**19 12 12.8**	**+1.3**
DRO	**Drossia**	**0.75**	**340**	P	**Pb**	**19 12 01.6**	**+0.4**
DRO	**Drossia**	**0.75**	**340**	P	**Pb**	**19 12 01.1**	**0.0**
DRO				S	**Sb**	**19 12 12.8**	**+1.3**
KLV	**Kalavryta, Ach**	**0.81**	**7**	P	**Pb**	**19 12 01.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.81**	**7**	P	**Pg**	**19 12 01.4**	**0.0**
KLV				S	**Sb**	**19 12 13.2**	**+0.1**
KLV				AML	AML	19 12 17.0	
	comp=E,1619μm,0.5s						
KLV				AML	AML	19 12 21.2	
	comp=N,1358μm,0.5s						
KLV	**Kalavryta, Ach**	**0.81**	**7**	P	**Pb**	**19 12 01.6**	**-0.5**
KLV				S	**Sb**	**19 12 13.2**	**+0.1**
VLI	**Veliai**	**0.90**	**126**	P	**Pg**	**19 12 03.2**	**+0.1**
VLI	**Veliai**	**0.90**	**126**	P	**Pg**	**19 12 03.1**	**+0.1**
VLI	**Veliai**	**0.90**	**126**	P	**Pg**	**19 12 03.2**	**+0.1**
RLS	**Riolos of Patr**	**0.93**	**331**	P	**Pb**	**19 12 04.4**	**+0.3**
RLS				S	**Sn**	**19 12 18.5**	**+0.1**
RLS	**Riolos of Patr**	**0.93**	**331**	P	**Pn**	**19 12 04.7**	**-0.4**
RLS	**Riolos of Patr**	**0.93**	**331**	P	**Pb**	**19 12 04.4**	**+0.3**
RLS				S	**Sn**	**19 12 18.5**	**+0.1**
THAL	**Thalero**	**0.94**	**32**	P	**Pb**	**19 12 04.5**	**+0.2**
THAL	**Thalero**	**0.94**	**32**	P	**Pb**	**19 12 04.2**	**-0.1**
THAL	**Thalero**	**0.94**	**32**	P	**Pb**	**19 12 04.5**	**+0.2**
VTN	**Vitineika**	**0.95**	**315**	P	**Pn**	**19 12 05.0**	**-0.3**
VTN	**Vitineika**	**0.95**	**315**	P	**Pn**	**19 12 05.0**	**-0.3**
DID	**Didima**	**1.00**	**74**	P	**Pb**	**19 12 05.4**	**+0.1**
DID				S	**Sn**	**19 12 20.5**	**+0.3**
DID	**Didima**	**1.00**	**74**	P	**Pb**	**19 12 05.7**	**+0.4**
DID	**Didima**	**1.00**	**74**	P	**Pb**	**19 12 05.7**	**+0.4**
DID				S	**Sn**	**19 12 20.5**	**+0.3**
LAKA	**Lakka**	**1.00**	**358**	P	**Pb**	**19 12 05.0**	**-0.3**
LAKA	**Lakka**	**1.00**	**358**	P	**Pg**	**19 12 04.6**	**-0.5**
LAKA	**Lakka**	**1.00**	**358**	P	**Pb**	**19 12 05.0**	**-0.3**
LTK	**Loutraki**	**1.08**	**43**	P	**Pn**	**19 12 07.6**	**+0.5**
LTK	**Loutraki**	**1.08**	**43**	P	**Pg**	**19 12 06.0**	**-0.6**
LTK	**Loutraki**	**1.08**	**43**	P	**Pn**	**19 12 07.6**	**+0.5**
AXS	**Araxos**	**1.08**	**332**	P	**Pb**	**19 12 06.5**	**-0.2**
AXS	**Araxos**	**1.08**	**332**	P	**Pb**	**19 12 06.5**	**-0.2**
TRIZ	**Trizonia**	**1.12**	**2**	P	**Pg**	**19 12 06.7**	**-0.7**
TRIZ				S	**Sn**	**19 12 26.2**	**+3.0**
TRIZ	**Trizonia**	**1.12**	**2**	P	**Pg**	**19 12 06.7**	**-0.7**
TRIZ				S	**Sn**	**19 12 26.2**	**+3.0**
KALE	**Kalithea**	**1.15**	**4**	P	**Pn**	**19 12 08.2**	**0.0**
KALE	**Kalithea**	**1.15**	**4**	P	**Pg**	**19 12 06.9**	**-1.1**
KALE				AML	AML	19 12 29.6	
	comp=N,1423μm,0.6s						
KALE				AML	AML	19 12 33.1	
	comp=E,895μm,0.7s						
KALE	**Kalithea**	**1.15**	**4**	P	**Pn**	**19 12 08.2**	**0.0**
SERG	**Sergoula**	**1.17**	**1**	P	**Pn**	**19 12 08.6**	**+0.2**
SERG	**Sergoula**	**1.17**	**1**	P	**Pn**	**19 12 09.0**	**+0.6**
SERG	**Sergoula**	**1.17**	**1**	P	**Pn**	**19 12 09.0**	**+0.6**
EFP	**Efpalio**	**1.19**	**355**	P	**Pn**	**19 12 08.7**	**+0.1**
EFP				S	**Sn**	**19 12 26.3**	**+1.5**
EFP	**Efpalio**	**1.19**	**355**	P	**Pn**	**19 12 08.9**	**+0.3**
EFP	**Efpalio**	**1.19**	**355**	P	**Pn**	**19 12 08.9**	**+0.3**
EFP				S	**Sn**	**19 12 26.3**	**+1.5**
PROD	**Prodromos**	**1.23**	**34**	P	**Pn**	**19 12 10.2**	**+1.0**
PROD				AML	AML	19 12 30.9	
	comp=E,1561μm,0.6s						
PROD				AML	AML	19 12 31.6	
	comp=N,939μm,0.5s						
PROD	**Prodromos**	**1.23**	**34**	P	**Pn**	**19 12 10.2**	**+1.0**
DSF	**Desfina**	**1.23**	**18**	P	**Pn**	**19 12 09.7**	**+0.4**
DSF	**Desfina**	**1.23**	**18**	P	**Pg**	**19 12 08.2**	**-1.3**
DSF	**Desfina**	**1.23**	**18**	P	**Pn**	**19 12 09.7**	**+0.4**
KYTH	**Kithira**	**1.27**	**140**	P	**Pg**	**19 12 10.3**	**0.0**
KYTH				S	**Sn**	**19 12 28.1**	**+1.1**
KYTH	**Kithira**	**1.27**	**140**	P	**Pg**	**19 12 10.6**	**+0.3**
ANX	**Ano Chora**	**1.35**	**356**	P	**Pg**	**19 12 11.4**	**-0.4**
ANX	**Ano Chora**	**1.35**	**356**	P	**Pn**	**19 12 10.6**	**-0.4**
ANX	**Ano Chora**	**1.35**	**356**	P	**Pg**	**19 12 11.4**	**-0.4**
VILL	**Villia**	**1.37**	**47**	P	**Pg**	**19 12 12.3**	**+0.1**
VIL2	**Platees**	**1.38**	**45**	P	**Pg**	**19 12 12.3**	**0.0**
VIL2				AML	AML	19 12 37.2	
	comp=N,1685μm,0.8s						
VIL2				AML	AML	19 12 39.5	
	comp=E,992μm,0.8s						
PVO	**Paravola**	**1.43**	**344**	P	**Pg**	**19 12 13.6**	**+0.3**
PVO	**Paravola**	**1.43**	**344**	P	**Pg**	**19 12 13.4**	**+0.1**
PVO	**Paravola**	**1.43**	**344**	P	**Pg**	**19 12 13.4**	**+0.1**
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**19 12 12.6**	**0.0**
VLS	**Valsamata**	**1.48**	**310**	P	**Pn**	**19 12 12.6**	**0.0**
PDO	**Prodromos**	**1.51**	**334**	P	**Pg**	**19 12 15.2**	**+0.3**
PDO	**Prodromos**	**1.51**	**334**	P	**Pg**	**19 12 14.2**	**-0.6**
PDO	**Prodromos**	**1.51**	**334**	P	**Pg**	**19 12 14.2**	**-0.6**
VLY	**Voula,Athens**	**1.53**	**66**	P	**Pn**	**19 12 13.6**	**+0.3**
VLY	**Voula,Athens**	**1.53**	**66**	P	**Pn**	**19 12 13.6**	**+0.3**
ATHU	**Athens Univers**	**1.57**	**62**	P	**Pn**	**19 12 14.2**	**+0.3**
ATHU	**Athens Univers**	**1.57**	**62**	P	**Pn**	**19 12 14.2**	**+0.3**
LKR	**Lokris**	**1.60**	**28**	P	**Pb**	**19 12 15.4**	**-0.1**
LKR	**Lokris**	**1.60**	**28**	P	**Pb**	**19 12 15.4**	**-0.1**
EVR	**Evrytania**	**1.68**	**354**	P	**Pg**	**19 12 17.5**	**-0.6**
EVR	**Evrytania**	**1.68**	**354**	P	**Pb**	**19 12 16.9**	**-0.1**
EVR	**Evrytania**	**1.68**	**354**	P	**Pb**	**19 12 16.9**	**-0.1**
ANKY	**Antikythira Is**	**1.71**	**143**	P	**Pb**	**19 12 17.9**	**+0.4**
ANKY				S	**Sg**	**19 12 40.4**	**-0.5**
ANKY	**Antikythira Is**	**1.71**	**143**	P	**Pb**	**19 12 17.9**	**+0.4**
ANKY				S	**Sg**	**19 12 40.4**	**-0.5**
AGG	**Agios Georgios**	**1.79**	**7**	P	**Pb**	**19 12 18.7**	**-0.2**
AGG	**Agios Georgios**	**1.79**	**7**	P	**Pb**	**19 12 18.7**	**-0.2**
SMIA	**Simia**	**1.88**	**29**	P	**Pb**	**19 12 19.8**	**-0.5**
SMIA	**Simia**	**1.88**	**29**	P	**Pb**	**19 12 19.8**	**-0.5**
LKD2	**Lefkada island**	**1.89**	**325**	P	**Pg**	**19 12 21.9**	**-0.2**
LKD2	**Lefkada island**	**1.89**	**325**	P	**Pg**	**19 12 21.9**	**-0.2**
EREA	**Eretria**	**1.91**	**51**	P	**Pn**	**19 12 18.6**	**+0.1**
EREA	**Eretria**	**1.91**	**51**	P	**Pn**	**19 12 18.6**	**+0.1**
DSL	**Palaion Diasel**	**2.03**	**339**	P	**Pg**	**19 12 25.6**	**+0.9**
DSL	**Palaion Diasel**	**2.03**	**339**	P	**Pg**	**19 12 25.6**	**+0.9**
APE	**Apeiranthos**	**2.80**	**93**	⇓*i*P	**Pn**	**19 12 32.9**	**+2.0**
APE	**Apeiranthos**	**2.80**	**93**	⇓*i*P	**Pn**	**19 12 32.9**	**+2.0**
IDI	**Anoyia**	**3.02**	**129**	Pn	**Pb**	**19 12 37.8**	**-2.1**
IDI				comp=E,0.8nm,0.3s,baz=332,slow=16,SNR=7.1 Sn	**Sn**	**19 13 13.9**	**+3.6**
IDI				comp=E,1.7nm,0.3s,baz=73,slow=19,SNR=3.3 LR	LR	19 13 57.9	
GZR	**Gura Zlata**	**8.16**	**4**	⇑*i*P	**Pn**	**19 13 49.2**	**+4.7**
VOIR		**8.49**	**15**	⇑*i*P	**Pn**	**19 13 53.6**	**+4.5**
BRTR	**Keskin Array B**	**9.43**	**71**	Pn	**Pn**	**19 14 05.6**	**+3.6**
MMAI	**Mount Meron Ar**	**11.73**	**107**	Pn	**Pn**	**19 14 33.8**	**+0.3**
GERES	**GERESS Array B**	**13.09**	**335**	Pn	**P**	**19 14 57.7**	**-4.6**
HFS	**Hagfors**	**23.52**	**350**	P	**P**	**19 16 55.9**	**0.0**
FINES	**FINESS Array B**	**24.36**	**5**	P	**P**	**19 17 03.9**	**+0.1**
NOA	**NORSAR Array B**	**24.78**	**347**	P	**P**	**19 17 06.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**30.10**	**222**	P	**P**	**19 17 58.1**	**+2.3**
ARCES	**ARCESS Array B**	**32.41**	**2**	P	**P**	**19 18 14.8**	**-0.7**
KURBB	**Kurchatov Arra**	**41.83**	**53**	P	**P**	**19 19 35.5**	**-0.2**
MKAR	**Makanchi Array**	**44.78**	**58**	P	**P**	**19 19 59.0**	**-0.7**
ZALV	**Zalesovo Beam**	**45.43**	**48**	P	**P**	**19 20 04.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**68.83**	**83**	P	**P**	**19 22 50.2**	**-0.7**
SYO	**Syowa Base**	**106.74**	**173**	⇑*e*P	**Pdif**	**19 25 56.8**	**-3.5**

AZER ***26*** *19:16:44.7±1.2, 38°.14N×43°.42E, h1km, Error ellipse: s-maj=12.8km s-min=4.1km az=62.0*
DDA ***26*** *19:16:45.4, 38°.72N×43°.28E, h5km, Ml4.1*
NSSC ***26*** *19:16:45.3±1.4, 38°.65N×43°.61E, h6km±223km, ML3.2*
IDC ***26*** *19:16:46.1±1.0, 38°.91N×43°.14E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.5/41, mbtmp3.7/11, ML3.0/4, MS2.5/4, Ms1 2.5/4, ms1mx2.3/58, Error ellipse: s-maj=19.0km s-min=9.6km az=149.0*
ISK ***26*** *19:16:46.1, 38°.77N×43°.31E, h5km, ML4.1*
CSEM ***26*** *19:16:47.3±0.2, 38°.71N×43°.23E, h2km, ML4.1*
ISCJB ***26*** *19:16:47.9±0.5, 38°.65N±0°.02×43°.28E±0°.02, h15km±4km, mb3.6/6, MS2.5/1, Error ellipse: s-maj=3.6km s-min=2.7km az=143.8*
ISC 26 19:16:47.8±0.8, 38°.74N±0°.01×43°.32E±0°.02, h16km±5km, n165, σ1$71/218, mb3.7/6, 19C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**160**	PG	**Pg**	**19 16 51.7**	**-0.3**
VANB				*e*SG	**Sg**	**19 16 56.0**	**+1.3**
VANB	**Van**	**0.15**	**160**	*i* Pg	**Pg**	**19 16 51.7**	**-0.3**
VANB				*e*Sg	**Sg**	**19 16 56.0**	**+1.3**
VMUR	**Van-Muradiye**	**0.32**	**38**	⇑*i*P	**Pg**	**19 16 52.7**	**-1.9**
VMUR				*i* S	**Sg**	**19 16 58.4**	**-0.9**
VMUR	**Van-Muradiye**	**0.32**	**38**	P	**Pg**	**19 16 52.7**	**-1.9**
VMUR				S	**Sg**	**19 16 58.4**	**-0.9**
GEVA	**Gevas**	**0.47**	**206**	⇑*i*P	**Pg**	**19 16 55.7**	**-1.7**
GEVA	**Gevas**	**0.47**	**206**	P	**Pg**	**19 16 55.7**	**-1.7**
TUTA	**Tutak**	**0.77**	**329**	⇓*i*P	**Pg**	**19 17 00.8**	**-2.2**
TUTA				*i* S	**Sg**	**19 17 11.8**	**-1.4**
TUTA	**Tutak**	**0.77**	**329**	P	**Pg**	**19 17 00.8**	**-2.2**
TUTA				S	**Sg**	**19 17 11.9**	**-1.4**
DYDN	**Diyadin**	**0.85**	**19**	⇑*i*P	**Pg**	**19 17 01.6**	**-2.9**
DYDN				*i* S	**Sg**	**19 17 13.0**	**-2.8**
DYDN	**Diyadin**	**0.85**	**19**	P	**Pg**	**19 17 01.6**	**-2.9**
DYDN				S	**Sg**	**19 17 13.0**	**-2.8**
BASK	**Baskale_VAN**	**0.87**	**142**	*i* P	**Pg**	**19 17 02.6**	**-2.1**
BASK				*i* S	**Sb**	**19 17 15.5**	**-0.6**
BASK	**Baskale_VAN**	**0.87**	**142**	P	**Pg**	**19 17 02.6**	**-2.1**
BASK				S	**Sb**	**19 17 15.5**	**-0.6**
AGRB	**Hanur-Agry**	**0.88**	**343**	PG	**Pg**	**19 17 02.5**	**-2.4**
AGRB				*e*SG	**Sg**	**19 17 14.4**	**-2.0**
AGRB	**Hanur-Agry**	**0.88**	**343**	*i* Pg	**Pg**	**19 17 02.5**	**-2.4**
AGRB				*e*Sg	**Sg**	**19 17 14.5**	**-2.0**
EKAR	**Karacoban**	**1.11**	**298**	⇓*i*P	**Pg**	**19 17 07.7**	**-1.6**
EKAR				*i* S	**Sn**	**19 17 25.4**	**+1.4**
EKAR	**Karacoban**	**1.11**	**298**	P	**Pg**	**19 17 07.7**	**-1.6**
EKAR				S	**Sn**	**19 17 25.4**	**+1.4**
HAKT	**HAKKARI**	**1.22**	**165**	⇑*i*P	**Pg**	**19 17 08.3**	**-3.0**
HAKT				*i* S	**Sn**	**19 17 27.2**	**+0.5**
HAKT	**HAKKARI**	**1.22**	**165**	P	**Pg**	**19 17 08.3**	**-3.0**
HAKT				S	**Sn**	**19 17 27.2**	**+0.5**
EATA	**Eleskirt**	**1.29**	**330**	⇓*i*P	**Pg**	**19 17 10.5**	**-2.4**
EATA				*i* S	**Sn**	**19 17 29.6**	**+0.9**
EATA	**Eleskirt**	**1.29**	**330**	P	**Pg**	**19 17 10.5**	**-2.4**
EATA				S	**Sn**	**19 17 29.6**	**+0.9**
CUKT	**Cukurca**	**1.50**	**171**	*e*PN	**Pg**	**19 17 15.8**	**-1.0**
CUKT	**Cukurca**	**1.50**	**171**	*i* P	**Pg**	**19 17 15.4**	**-1.4**
CUKT				*i* S	**Sg**	**19 17 36.3**	**-0.1**
CUKT	**Cukurca**	**1.50**	**171**	P	**Pg**	**19 17 15.4**	**-1.4**
CUKT	**Cukurca**	**1.50**	**171**	*e*Pn	**Pg**	**19 17 15.8**	**-1.0**
CUKT				S	**Sg**	**19 17 36.3**	**-0.1**
VRTB	**Varto-Mus**	**1.52**	**287**	*e*PN	**Pn**	**19 17 13.5**	**-0.9**
VRTB				*e*SN	**Sg**	**19 17 34.9**	**-1.9**
VRTB	**Varto-Mus**	**1.52**	**287**	⇓*i*P	**Pn**	**19 17 14.2**	**-0.3**
VRTB				*i* S	**Sg**	**19 17 36.8**	**0.0**
VRTB	**Varto-Mus**	**1.52**	**287**	*e*Pn	**Pn**	**19 17 13.5**	**-0.9**
VRTB	**Varto-Mus**	**1.52**	**287**	P	**Pn**	**19 17 14.2**	**-0.3**
VRTB				*e*Sn	**Sg**	**19 17 34.9**	**-1.9**
VRTB				S	**Sg**	**19 17 36.8**	**0.0**
DIGO	**Kars**	**1.68**	**1**	*i* P	**Pb**	**19 17 17.9**	**-0.6**
DIGO				*i* S	**Sg**	**19 17 43.3**	**+1.4**
DIGO	**Kars**	**1.68**	**1**	P	**Pb**	**19 17 17.9**	**-0.6**
DIGO				S	**Sg**	**19 17 43.3**	**+1.4**
HOMI	**Horasan**	**1.71**	**320**	⇓*i*P	**Pb**	**19 17 17.6**	**-1.4**
HOMI				*i* S	**Sg**	**19 17 43.1**	**+0.3**
BNGL	**BINGOL**	**1.71**	**278**	*i* P	**Pb**	**19 17 17.6**	**-1.4**
BNGL				*i* S	**Sn**	**19 17 38.7**	**-0.1**
NAX	**Nakhchivan**	**1.75**	**75**	⇓P	**Pb**	**19 17 18.5**	**-1.1**
NAX				⇓S	**Sg**	**19 17 44.2**	**0.0**
NAX	**Nakhchivan**	**1.75**	**75**	P	**Pb**	**19 17 18.5**	**-1.1**
NAX				S	**Sg**	**19 17 44.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	*e*PN	**Pn**	**19 17 17.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	⇓*i*P	**Pb**	**19 17 18.9**	**-1.0**
SVAN				*i* S	**Sg**	**19 17 43.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	*e*Pn	**Pn**	**19 17 17.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.77**	**251**	P	**Pb**	**19 17 18.9**	**-1.0**
SVAN				S	**Sg**	**19 17 43.9**	**-0.9**
GNI	**Garni**	**1.79**	**37**	Pn	**Pn**	**19 17 18.5**	**+0.3**
	29nm,0.3s,baz=254,slow=3.1,SNR=44						
GNI				Lg	Lg	19 17 42.0	
	38nm,0.3s,baz=196,slow=3.6,SNR=5.4						
BTMN	**Batman**	**1.82**	**243**	⇑*i*P	**Pb**	**19 17 18.9**	**-1.9**
BTMN				*i* S	**Sg**	**19 17 45.8**	**-0.7**
BTMN	**Batman**	**1.82**	**243**	P	**Pb**	**19 17 18.9**	**-1.9**
BTMN				S	**Sg**	**19 17 45.8**	**-0.7**
ERZM	**Erzurum**	**1.91**	**308**	*i* P	**Pn**	**19 17 20.6**	**+0.6**
ERZM				*i* S	**Sn**	**19 17 43.4**	**-0.5**
ERZM	**Erzurum**	**1.91**	**308**	P	**Pn**	**19 17 20.6**	**+0.6**
ERZM				S	**Sn**	**19 17 43.4**	**-0.5**
EAK	**Akyaka**	**1.96**	**6**	*i* P	**Pb**	**19 17 22.8**	**-0.4**
EAK	**Akyaka**	**1.96**	**6**	P	**Pb**	**19 17 22.8**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**338**	*e*PN	**Pn**	**19 17 20.8**	**0.0**
SENK	**Senkaya-Erzuru**	**1.97**	**338**	*e*Pn	**Pn**	**19 17 20.8**	**0.0**
ECAT	**Cat-ERZURUM**	**2.02**	**296**	⇓*i*P	**Pn**	**19 17 21.6**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.02**	**296**	P	**Pn**	**19 17 21.6**	**+0.2**
BNGB	**Bing¶ll**	**2.08**	**278**	*e*PN	**Pn**	**19 17 22.4**	**+0.2**
BINT	**Bingol**	**2.22**	**274**	*e*Pn	**Pn**	**19 17 22.4**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.27**	**289**	*e*PN	**Pn**	**19 17 25.4**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.27**	**289**	*e*Pn	**Pn**	**19 17 25.4**	**+0.5**
MARD	**Mardin**	**2.46**	**236**	*i* P	**Pn**	**19 17 27.4**	**0.0**
DDEM	**Demirkent**	**2.47**	**331**	*i* P	**Pb**	**19 17 29.6**	**-2.3**
DDEM	**Demirkent**	**2.47**	**331**	P	**Pb**	**19 17 29.6**	**-2.3**
BGD	**Bogdanovka**	**2.53**	**5**	P	**Pb**	**19 17 32.7**	**-0.4**
BGD				S	**Sg**	**19 18 08.6**	**-0.7**
KOPT	**Kop Dagi**	**2.54**	**301**	⇓*i*P	**Pb**	**19 17 33.0**	**-0.1**
KOPT	**Kop Dagi**	**2.54**	**301**	P	**Pb**	**19 17 33.0**	**-0.1**
DAGI	**Agillar**	**2.58**	**336**	*i* P	**Pb**	**19 17 33.4**	**-0.3**
MAZI	**Mazidag**	**2.60**	**242**	*e*PN	**Pn**	**19 17 29.6**	**+0.3**
MAZI	**Mazidag**	**2.60**	**242**	*e*Pn	**Pn**	**19 17 29.6**	**+0.3**
DIYA	**Diyarbakir**	**2.65**	**253**	*i* P	**Pn**	**19 17 29.5**	**-0.4**
DIYA	**Diyarbakir**	**2.65**	**253**	P	**Pn**	**19 17 29.5**	**-0.4**
AKH	**Akhalkalaki**	**2.67**	**3**	*e*PN	**Pn**	**19 17 31.4**	**+1.0**
AKH	**Akhalkalaki**	**2.67**	**3**	P	**Pg**	**19 17 36.6**	**-2.5**
AKH				S	**Sg**	**19 18 13.6**	**-0.1**
AKH	**Akhalkalaki**	**2.67**	**3**	⇓*i*P	**Pg**	**19 17 36.4**	**-2.7**
AKH	**Akhalkalaki**	**2.67**	**3**	*e*Pn	**Pn**	**19 17 31.4**	**+1.0**
GDB	**GEDABAY**	**2.73**	**43**	⇑P	**Pb**	**19 17 35.4**	**-0.9**
GDB	**GEDABAY**	**2.73**	**43**	P	**Pb**	**19 17 35.4**	**-0.9**
EPOS	**Posof**	**2.80**	**351**	*i* P	**Pb**	**19 17 37.5**	**0.0**
EPOS	**Posof**	**2.80**	**351**	P	**Pb**	**19 17 37.5**	**0.0**
KBSD	**Kabsdagh**	**2.80**	**233**	*e*P	**Pn**	**19 17 32.9**	**+0.9**
KBSD				*e*S	**Sn**	**19 18 06.4**	**+1.0**
KBSD				AML	AML	19 18 07.8	
	comp=Z,592nm,0.5s						
QZX	**Qazax, Azerbai**	**2.80**	**34**	⇓P	**Pb**	**19 17 36.4**	**-1.1**
QZX				⇓S	**Sg**	**19 18 17.7**	**-0.2**
QZX	**Qazax, Azerbai**	**2.80**	**34**	P	**Pb**	**19 17 36.4**	**-1.1**
DBOC	**Borcka**	**2.90**	**335**	*i* P	**Pb**	**19 17 37.7**	**-1.5**
DBOC	**Borcka**	**2.90**	**335**	P	**Pb**	**19 17 37.7**	**-1.5**
ERZN	**Erzincan**	**2.92**	**288**	*e*PN	**Pn**	**19 17 35.2**	**+1.4**
TNCL	**Tunceli-Merkez**	**2.97**	**278**	*i* P	**Pb**	**19 17 37.3**	**-3.2**
TNCL	**Tunceli-Merkez**	**2.97**	**278**	P	**Pb**	**19 17 37.3**	**-3.2

RABH AML AML 19 20 43.7
comp=E,20nm,0.8s
ROOS tl_alroos 6.66 229 *e*P **Pn 19 18 26.7 +1.6**
ROOS *e*S **Sn 19 19 39.0 -1.8**
ROOS AML AML 19 20 28.7
comp=E,28nm,0.7s
ROOS AML AML 19 20 47.0
comp=N,37nm,0.7s
BIDA Albida 6.73 239 *e*P **Pn 19 18 27.1 +1.1**
BIDA *e*S **Sn 19 19 41.5 -1.0**
BIDA AML AML 19 20 33.9
comp=N,106nm,0.7s
BIDA AML AML 19 20 34.2
comp=E,90nm,0.7s
HAWK Haweek 6.97 235 *e*P **Pn 19 18 30.2 +0.8**
HAWK *e*S **Sn 19 19 47.3 -1.1**
HAWK AML AML 19 20 40.5
comp=N,29nm,0.6s
HAWK AML AML 19 20 59.8
comp=E,14nm,0.7s
MARH Ras Al Marh 7.25 232 *e*P **Pn 19 18 34.7 +1.3**
MARH *e*S **Sn 19 19 54.3 -1.2**
MARH AML AML 19 20 55.1
comp=E,26nm,0.6s
MARH AML AML 19 21 01.6
comp=N,29nm,0.6s
BRTR Keskin Array B 7.58 281 Pn **Pn 19 18 37.3 -0.5**
comp=N,0.1nm,0.3s,baz=316,slow=12,SNR=3.5
BRBR Barbar 7.99 231 *e*P **Pn 19 18 45.2 +1.8**
BRBR *e*S **Sn 19 20 11.3 -2.3**
BRBR AML AML 19 21 22.3
comp=N,8.8nm,0.7s
BRBR AML AML 19 21 25.4
comp=E,12nm,0.8s
SALA Sala 8.05 224 *e*P **Pn 19 18 45.2 +1.0**
SALA *e*S **Sn 19 20 12.6 -2.5**
SALA AML AML 19 21 32.8
comp=N,13nm,0.6s
SALA AML AML 19 21 43.0
comp=E,0.9nm,0.8s
ASF Jabal al Asfar 8.39 221 Pn **Pn 19 18 49.1 +0.3**
comp=E,0.4nm,0.3s,baz=164,slow=21,SNR=6.4
ASF Lg Lg 19 21 24.6
comp=E,0.2nm,0.3s,baz=30,slow=22,SNR=4.3
MMAI Mount Meron Ar 8.60 231 Pn **Pn 19 18 53.0 +1.4**
comp=E,1.6nm,0.3s,baz=61,slow=15,SNR=6.0
MMAI Lg Lg 19 21 20.2
comp=E,1.4nm,0.3s,baz=354,slow=39,SNR=4.7
MMAI LR LR 19 22 37.3
comp=E,66nm,19.7s,baz=0.0,slow=41
DOPR Dopca 15.08 304 ⇓*i*P **P 19 20 28.3 +2.9**
VOIR 15.11 302 ⇓*i*P **P 19 20 29.3 +3.5**
IDI Anoyia 15.12 263 LR LR 19 26 27.0
comp=E,28nm,20.2s,baz=91,slow=39
AKASG Malin Array Be 15.57 325 Pn **P 19 20 28.8 -1.9**
comp=E,0.4nm,0.3s,baz=132,slow=11,SNR=3.4
AKTO Aktyubinsk 15.66 37 Pn **Pn 19 20 29.4 +1.7**
comp=E,0.1nm,0.3s,baz=245,slow=18,SNR=3.5
BURAR Bucovina Array 15.88 310 ⇑*i*P **P 19 20 36.3 +2.0**
ARU Arti 20.39 25 P **P 19 21 24.6 +0.9**
comp=E,2.2nm,0.7s,baz=225,slow=10.0,SNR=3.2
ARU LR LR 19 31 54.5
comp=E,18nm,18.1s,baz=272,slow=45
FINES FINESS Array B 25.12 340 P **P 19 22 10.7 -0.9**
comp=E,2.7nm,1.0s,baz=138,slow=15,SNR=3.8
KURBB Kurchatov Arra 27.45 53 P **P 19 22 35.5 +2.7**
comp=E,0.5nm,0.6s,baz=266,slow=8.8,SNR=4.6
HFS Hagfors 28.39 329 P **P 19 22 40.8 -0.3**
comp=E,3.9nm,1.0s,baz=110,slow=17,SNR=3.7
EKA Eskdalemuir Ar 35.00 314 P **P 19 23 39.1 -0.1**
comp=E,0.9nm,0.6s,baz=102,slow=9.0,SNR=7.2
TORD Torodi Ar. Bea 44.74 247 P **P 19 24 59.2 -1.4**
comp=E,0.7nm,1.0s,baz=41,slow=8.6,SNR=5.1
CMAR Chiang Mai Arr 52.03 96 P **P 19 25 59.1 +2.3**
comp=E,0.3nm,0.8s,baz=302,slow=8.4,SNR=3.0

*AZER **26** 19:22:43.2±2.2,38°.15N×43°.43E,h1km, Error ellipse: s-maj=24.7km s-min=6.8km az=61.0*
*DDA **26** 19:22:47.4,38°.66N×43°.53E,h13km,MI4.0*
*ISK **26** 19:22:47.6,38°.71N×43°.46E,h5km,ML3.7*
*IDC **26** 19:22:47.5±1.0,38°.71N×43°.43E,h0km,mb3.6/8, mb1 3.5/13,mb1mx3.4/44,mbtmp3.5/13,ML3.3/4,MS2.6/1, Ms1 2.6/1,ms1mx2.1/54,Error ellipse: s-maj=21.7km s-min=10.3km az=152.0*
*CSEM **26** 19:22:48.1±0.2,38°.63N×43°.57E,h2km,ML3.7,Error ellipse: s-maj=4.9km s-min=4.3km az=155.0*
ISC 26 19:22:49.1±0.8,38°.67N±0°.02×43°.52E±0°.02,h12km±5km, n143,σ1§68/170,mb3.5/7,20C-19D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**235**	*e*PG	**Pg**	**19 22 52.2**	**-0.1**
VANB				*e*SG	**Sg**	**19 22 56.2**	**+1.6**
VANB	**Van**	**0.12**	**235**	*e*Pg	**Pg**	**19 22 52.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.33**	**8**	⇓*i*P	**Pg**	**19 22 53.8**	**-2.0**
VMUR				*i*S	**Sg**	**19 23 00.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.33**	**8**	P	**Pg**	**19 22 53.8**	**-2.0**
VMUR				S	**Sg**	**19 23 00.2**	**-0.1**
GEVA	**Gevas**	**0.50**	**226**	*i*P	**Pg**	**19 22 57.3**	**-1.7**
GEVA				*i*S	**Sb**	**19 23 08.5**	**+1.1**
GEVA	**Gevas**	**0.50**	**226**	P	**Pg**	**19 22 57.3**	**-1.7**
BASK	**Baskale_VAN**	**0.72**	**148**	*i*P	**Pg**	**19 23 00.6**	**-2.5**
BASK				*i*S	**Sg**	**19 23 12.7**	**+0.1**
BASK	**Baskale_VAN**	**0.72**	**148**	P	**Pg**	**19 23 00.6**	**-2.5**
BASK				S	**Sg**	**19 23 12.7**	**+0.1**
DYDN	**Diyadin**	**0.89**	**9**	⇓*i*P	**Pg**	**19 23 04.0**	**-2.3**
DYDN				*i*S	**Sb**	**19 23 18.0**	**-0.5**
DYDN	**Diyadin**	**0.89**	**9**	P	**Pg**	**19 23 04.0**	**-2.3**
DYDN				S	**Sb**	**19 23 18.0**	**-0.5**
TUTA	**Tutak**	**0.92**	**324**	⇓*i*P	**Pg**	**19 23 04.4**	**-2.5**
TUTA				*i*S	**Sb**	**19 23 18.8**	**-0.5**
TUTA	**Tutak**	**0.92**	**324**	P	**Pg**	**19 23 04.4**	**-2.5**
TUTA				S	**Sb**	**19 23 18.8**	**-0.5**
AGRB	**Hanur-Agry**	**1.00**	**336**	*e*PG	**Pg**	**19 23 06.0**	**-2.4**
HAKT	**HAKKARI**	**1.11**	**172**	⇓*i*P	**Pg**	**19 23 07.8**	**-2.8**
HAKT				*i*S	**Sb**	**19 23 25.3**	**+0.3**
HAKT	**HAKKARI**	**1.11**	**172**	P	**Pg**	**19 23 07.8**	**-2.8**
HAKT				S	**Sb**	**19 23 25.3**	**+0.3**
EKAR	**Karacoban**	**1.28**	**298**	*i*P	**Pn**	**19 23 12.0**	**-0.9**
EKAR				*i*S	**Sn**	**19 23 31.6**	**+1.5**
EKAR	**Karacoban**	**1.28**	**298**	P	**Pn**	**19 23 12.0**	**-0.9**
EKAR				S	**Sn**	**19 23 31.6**	**+1.5**
CUKT	**Cukurca**	**1.42**	**177**	*e*PN	**Pb**	**19 23 16.0**	**+0.5**
CUKT	**Cukurca**	**1.42**	**177**	⇓*i*P	**Pb**	**19 23 15.1**	**-0.4**
CUKT				*i*S	**Sn**	**19 23 38.2**	**+4.8**
CUKT	**Cukurca**	**1.42**	**177**	P	**Pb**	**19 23 15.1**	**-0.4**
CUKT	**Cukurca**	**1.42**	**177**	*e*Pn	**Pb**	**19 23 16.0**	**+0.5**
EATA	**Eleskirt**	**1.44**	**327**	⇑*i*P	**Pn**	**19 23 14.3**	**-0.9**
EATA				*i*S	**Sn**	**19 23 35.6**	**+1.4**
EATA	**Eleskirt**	**1.44**	**327**	P	**Pn**	**19 23 14.3**	**-0.9**
EATA				S	**Sn**	**19 23 35.6**	**+1.4**
NAX	**Nakhchivan**	**1.62**	**71**	⇑P	**Pn**	**19 23 17.6**	**0.0**
NAX				⇓S	**Sg**	**19 23 42.4**	**+1.0**
NAX	**Nakhchivan**	**1.62**	**71**	P	**Pn**	**19 23 17.6**	**0.0**
NAX				S	**Sg**	**19 23 42.4**	**+1.0**
VRTB	**Varto-Mus**	**1.68**	**288**	*e*PN	**Pb**	**19 23 18.6**	**-1.4**
VRTB	**Varto-Mus**	**1.68**	**288**	⇓*i*P	**Pg**	**19 23 19.5**	**-1.9**
VRTB				*i*S	**Sg**	**19 23 47.4**	**+4.2**
VRTB	**Varto-Mus**	**1.68**	**288**	*e*Pn	**Pb**	**19 23 18.7**	**-1.4**
VRTB	**Varto-Mus**	**1.68**	**288**	P	**Pg**	**19 23 19.5**	**-1.9**
DIGO	**Kars**	**1.75**	**356**	⇑*i*P	**Pn**	**19 23 19.6**	**+0.1**
DIGO				*i*S	**Sg**	**19 23 46.4**	**+0.9**
DIGO	**Kars**	**1.75**	**356**	P	**Pn**	**19 23 19.6**	**+0.1**
DIGO				S	**Sg**	**19 23 46.3**	**+0.9**
GNI	**Garni**	**1.76**	**32**	Pn	**Pn**	**19 23 19.9**	**+0.3**
	32nm,0.3s,baz=287,slow=3.0,SNR=50						
GNI				Lg	Lg	19 23 44.9	
	37nm,0.3s,baz=324,slow=22,SNR=6.7						
HOMI	**Horasan**	**1.86**	**318**	⇑*i*P	**Pb**	**19 23 22.0**	**-1.1**
HOMI				*i*S	**Sg**	**19 23 49.0**	**+0.1**
BNGL	**BINGOL**	**1.87**	**280**	*i*P	**Pb**	**19 23 21.4**	**-1.9**
BNGL				*i*S	**Sg**	**19 23 49.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	*e*PN	**Pb**	**19 23 21.7**	**-1.9**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	⇑*i*P	**Pb**	**19 23 21.4**	**-2.1**
SVAN				*i*S	**Sg**	**19 23 47.9**	**-2.0**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	P	**Pb**	**19 23 21.4**	**-2.1**
SVAN	**Silvan-Diyarba**	**1.89**	**255**	*e*Pn	**Pb**	**19 23 21.7**	**-1.9**
SVAN				S	**Sg**	**19 23 47.9**	**-2.0**
BTMN	**Batman**	**1.93**	**247**	⇑*i*P	**Pb**	**19 23 22.2**	**-2.0**
BTMN				*i*S	**Sg**	**19 23 50.3**	**-0.8**
BTMN	**Batman**	**1.93**	**247**	P	**Pb**	**19 23 22.2**	**-2.0**
BTMN				S	**Sg**	**19 23 50.3**	**-0.8**
EAK	**Akyaka**	**2.02**	**2**	*i*P	**Pn**	**19 23 23.3**	**+0.2**
EAK	**Akyaka**	**2.02**	**2**	P	**Pn**	**19 23 23.3**	**+0.2**
ERZM	**Erzurum**	**2.08**	**307**	*i*P	**Pb**	**19 23 25.1**	**-1.8**
ERZM				*i*S	**Sg**	**19 23 57.3**	**+1.3**
ERZM	**Erzurum**	**2.08**	**307**	P	**Pb**	**19 23 25.1**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.10**	**335**	*e*PN	**Pb**	**19 23 25.1**	**-2.1**
SENK	**Senkaya-Erzuru**	**2.10**	**335**	*e*Pn	**Pb**	**19 23 25.1**	**-2.1**
BNGB	**Bing¶ll**	**2.24**	**279**	*e*PN	**Pn**	**19 23 26.4**	**+0.4**
BINT	**Bingol**	**2.38**	**276**	*e*Pn	**Pn**	**19 23 26.5**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.44**	**289**	*e*PN	**Pn**	**19 23 29.4**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.44**	**289**	*e*Pn	**Pn**	**19 23 29.4**	**+0.5**
MARD	**Mardin**	**2.55**	**239**	*i*P	**Pn**	**19 23 30.1**	**-0.2**
BGD	**Bogdanovka**	**2.60**	**1**	P	**Pg**	**19 23 36.9**	**-2.0**
DDEM	**Demirkent**	**2.61**	**329**	*i*P	**Pb**	**19 23 32.7**	**-3.1**
DDEM	**Demirkent**	**2.61**	**329**	P	**Pb**	**19 23 32.7**	**-3.1**
GDB	**GEDABAY**	**2.68**	**39**	⇑P	**Pn**	**19 23 33.3**	**+1.1**
GDB				⇑S	**Sb**	**19 24 12.0**	**+1.9**
GDB	**GEDABAY**	**2.68**	**39**	P	**Pn**	**19 23 33.3**	**+1.1**
KOPT	**Kop Dagi**	**2.70**	**301**	*i*P	**Pb**	**19 23 37.3**	**-0.2**
KOPT	**Kop Dagi**	**2.70**	**301**	P	**Pb**	**19 23 37.3**	**-0.2**
MAZI	**Mazidag**	**2.71**	**245**	*e*PN	**Pn**	**19 23 31.7**	**-0.8**
MAZI	**Mazidag**	**2.71**	**245**	*e*Pn	**Pn**	**19 23 31.7**	**-0.8**
DAGI	**Agillar**	**2.71**	**333**	*i*P	**Pb**	**19 23 37.2**	**-0.3**
AKH	**Akhalkalaki**	**2.74**	**360**	*e*PN	**Pn**	**19 23 34.2**	**+1.2**
AKH	**Akhalkalaki**	**2.74**	**360**	P	**Pg**	**19 23 39.7**	**-1.9**
AKH	**Akhalkalaki**	**2.74**	**360**	⇑*i*P	**Pg**	**19 23 40.0**	**-1.6**
AKH	**Akhalkalaki**	**2.74**	**360**	*e*Pn	**Pn**	**19 23 34.2**	**+1.2**
QZX	**Qazax, Azerbai**	**2.78**	**30**	⇓P	**Pn**	**19 23 35.2**	**+1.7**
QZX				⇑S	**Sg**	**19 24 19.4**	**+0.9**
QZX	**Qazax, Azerbai**	**2.78**	**30**	P	**Pn**	**19 23 35.2**	**+1.7**
ARTV	**Artvin**	**2.80**	**335**	*i*P	**Pb**	**19 23 36.4**	**-2.7**
ARTV	**Artvin**	**2.80**	**335**	P	**Pb**	**19 23 36.4**	**-2.7**
EPOS	**Posof**	**2.90**	**348**	*i*P	**Pb**	**19 23 38.9**	**-1.9**
EPOS	**Posof**	**2.90**	**348**	P	**Pb**	**19 23 38.9**	**-1.9**
GANJ	**Ganja**	**2.93**	**47**	⇓P	**Pn**	**19 23 36.2**	**+0.7**
GANJ	**Ganja**	**2.93**	**47**	P	**Pn**	**19 23 36.2**	**+0.7**
DBOC	**Borcka**	**3.03**	**333**	*i*P	**Pb**	**19 23 42.5**	**-0.5**
DBOC	**Borcka**	**3.03**	**333**	P	**Pb**	**19 23 42.5**	**-0.5**
ERZN	**Erzincan**	**3.09**	**289**	*e*PN	**Pn**	**19 23 39.2**	**+1.4**
DGRG	**David-gareji**	**3.13**	**27**	P	**Pg**	**19 23 46.6**	**-2.4**
DGRG	**David-gareji**	**3.13**	**27**	P	**Pn**	**19 23 40.1**	**+1.9**
TNCL	**Tunceli-Merkez**	**3.13**	**279**	*i*P	**Pb**	**19 23 43.2**	**-1.6**
TNCL	**Tunceli-Merkez**	**3.13**	**279**	P	**Pb**	**19 23 43.2**	**-1.6**
TBLG	**Delisi**	**3.20**	**17**	*e*PN	**Pn**	**19 23 41.4**	**+2.2**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**19 23 45.7**	**-0.2**
TBLG	**Delisi**	**3.20**	**17**	*e*Pn	**Pn**	**19 23 41.4**	**+2.2**
TBLG	**Delisi**	**3.20**	**17**	P	**Pb**	**19 23 44.6**	**-1.3**
PTK	**Pertek**	**3.23**	**275**	*e*PN	**Pn**	**19 23 41.3**	**+1.5**
PTK	**Pertek**	**3.23**	**275**	*e*Pn	**Pn**	**19 23 41.3**	**+1.5**
BRDA	**Brd**	**3.25**	**59**	⇑P	**Pn**	**19 23 39.7**	**-0.2**
BRDA	**Brd**	**3.25**	**59**	P	**Pn**	**19 23 39.7**	**-0.2**
SVRC	**Sivrice-ELAZID**	**3.31**	**266**	*e*PN	**Pn**	**19 23 41.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.31**	**266**	*e*Pn	**Pn**	**19 23 41.8**	**+0.9**
MNGR	**Mingechevir, A**	**3.46**	**51**	⇓P	**Pn**	**19 23 43.6**	**+0.8**
MNGR	**Mingechevir, A**	**3.46**	**51**	P	**Pn**	**19 23 43.6**	**+0.8**
ZRD	**Zardab**	**3.61**	**62**	⇓P	**Pn**	**19 23 45.0**	**+0.3**
ZRD	**Zardab**	**3.61**	**62**	P	**Pn**	**19 23 45.0**	**+0.3**
KTUT	**Trabzon**	**3.70**	**310**	*e*PN	**Pn**	**19 23 47.8**	**+1.7**
KTUT	**Trabzon**	**3.70**	**310**	*e*Pn	**Pn**	**19 23 47.8**	**+1.7**
LRK	**Lerik**	**3.78**	**89**	⇑P	**Pn**	**19 23 43.0**	**-4.3**
LRK	**Lerik**	**3.78**	**89**	P	**Pn**	**19 23 43.0**	**-4.3**
SEKA	**Sheki**	**3.80**	**47**	⇓P	**Pn**	**19 23 49.5**	**+2.0**
SEKA	**Sheki**	**3.80**	**47**	P	**Pn**	**19 23 49.5**	**+2.0**
ZKTA	**Zakatala**	**3.81**	**38**	⇑P	**Pn**	**19 23 49.5**	**+2.0**
GLBA	**Cilalabad**	**3.84**	**80**	⇓P	**Pn**	**19 23 46.3**	**-1.8**
GLBA	**Cilalabad**	**3.84**	**80**	P	**Pn**	**19 23 46.3**	**-1.8**
URFA	**Urfa**	**3.90**	**253**	*e*PN	**Pn**	**19 23 51.0**	**+2.1**
URFA	**Urfa**	**3.90**	**253**	*e*Pn	**Pn**	**19 23 51.0**	**+2.1**
ONI	**Oni**	**3.92**	**359**	P	**Pb**	**19 23 59.2**	**+1.0**
SAAT	**Saatly**	**3.99**	**71**	⇑P	**Pn**	**19 23 49.2**	**-0.8**
SAAT	**Saatly**	**3.99**	**71**	P	**Pn**	**19 23 49.2**	**-0.8**
KDMR	**Kurdemir**	**3.99**	**63**	⇓P	**Pn**	**19 23 49.6**	**-0.4**
KDMR	**Kurdemir**	**3.99**	**63**	P	**Pn**	**19 23 49.6**	**-0.4**
QBL	**Gabala**	**4.03**	**54**	⇑P	**Pn**	**19 23 51.2**	**+0.5**
QBL	**Gabala**	**4.03**	**54**	P	**Pn**	**19 23 51.2**	**+0.5**
LKRN	**Lenkeran, Azer**	**4.12**	**88**	⇓P	**Pn**	**19 23 49.6**	**-2.2**
LKRN	**Lenkeran, Azer**	**4.12**	**88**	P	**Pn**	**19 23 49.6**	**-2.2**
ASTR	**Astara**	**4.13**	**90**	⇓P	**Pn**	**19 23 48.9**	**-3.1**
ASTR	**Astara**	**4.13**	**90**	P	**Pn**	**19 23 48.9**	**-3.1**
IML	**Ismayilli**	**4.18**	**58**	⇓P	**Pn**	**19 23 52.4**	**-0.3**
IML	**Ismayilli**	**4.18**	**58**	P	**Pn**	**19 23 52.4**	**-0.3**
XNQ	**Khinaliq**	**4.35**	**53**	⇑P	**Pn**	**19 23 55.8**	**+0.6**
XNQ	**Khinaliq**	**4.35**	**53**	P	**Pn**	**19 23 55.8**	**+0.6**
KBZ	**Khabaz**	**5.08**	**355**	Pg	Pb	19 24 12.1	-5.8
	0.1nm,0.3s,baz=207,slow=16,SNR=4.1						
BRTR	**Keskin Array B**	**7.74**	**281**	Pn	**Pn**	**19 24 43.5**	**+1.8**
	0.1nm,0.3s,baz=82,slow=12,SNR=3.5						
ASF	**Jabal al Asfar**	**8.43**	**222**	Lg	Lg	19 27 23.9	
	0.3nm,0.3s,baz=42,slow=16,SNR=2.6						
MMAI	**Mount Meron Ar**	**8.67**	**232**	Pn	**Pn**	**19 24 56.0**	**+1.6**
	1.1nm,0.3s,baz=79,slow=16,SNR=2.7						
EIL	**Elat**	**11.43**	**221**	LR	LR	19 31 02.5	
	comp=Z,28nm,18.0s,baz=316,slow=43						
GEYT	**Alibeck**	**11.50**	**89**	Pn	**Pn**	**19 25 35.2**	**+2.1**
	baz=292,slow=31,SNR=2.9						
DOPR	**Dopca**	**15.25**	**304**	⇑*i*P	**P**	**19 26 31.5**	**+2.5**
DOPR	**Dopca**	**15.25**	**304**	⇑*i*P	**P**	**19 26 31.5**	**+2.5**
VOIR		**15.28**	**302**	⇓*i*P	**P**	**19 26 31.8**	**+2.3**
VOIR		**15.28**	**302**	⇓*i*P	**P**	**19 26 31.8**	**+2.3**
AKTO	**Aktyubinsk**	**15.63**	**36**	Pn	**Pn**	**19 26 27.1**	**-1.9**
	0.1nm,0.3s,baz=217,slow=15,SNR=2.9						
AKASG	**Malin Array Be**	**15.72**	**325**	Pn	**Pn**	**19 26 28.6**	**-1.5**
	0.3nm,0.3s,baz=135,slow=12,SNR=4.2						
BURAR	**Bucovina Array**	**16.04**	**310**	⇑*i*P	**P**	**19 26 40.4**	**+2.5**
BURAR	**Bucovina Array**	**16.04**	**310**	⇑*i*P	**P**	**19 26 40.4**	**+2.5**
VYHS	**Vyhne**	**20.32**	**307**	*e*P	Pn	19 27 25.8	-1.1
ARU	**Arti**	**20.39**	**24**	P	**P**	**19 27 25.0**	**-0.5**
	1.3nm,0.5s,baz=120,slow=20,SNR=3.2						
BVAR	**Borovoye Array**	**23.41**	**43**	P	**P**	**19 27 58.3**	**+0.6**
	0.3nm,0.5s,baz=246,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**25.24**	**340**	P	**P**	**19 28 14.3**	**-0.2**
	0.9nm,0.8s,baz=146,slow=15,SNR=3.2						
KURBB	**Kurchatov Arra**	**27.37**	**53**	P	**P**	**19 28 34.1**	**+0.1**
	0.8nm,0.5s,baz=259,slow=9.0,SNR=5.1						
MKAR	**Makanchi Array**	**29.38**	**61**	P	**P**	**19 28 53.4**	**+1.4**
	0.7nm,0.8s,baz=254,slow=7.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**31.84**	**48**	P	**P**	**19 29 14.4**	**+0.8**
	0.5nm,0.4s,baz=253,slow=8.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**44.85**	**247**	P	**P**	**19 31 01.3**	**-2.0**
	0.3nm,0.5s,baz=46,slow=9.2,SNR=2.8						
KSRS	**Korea Array**	**64.06**	**62**	P	**P**	**19 33 24.1**	**+1.4**
	0.7nm,0.6s,baz=271,slow=6.9,SNR=4.6						

*AZER **26** 19:28:23.4±3.9,37°.70N×43°.89E,h90km±54km, Error ellipse: s-maj=54.6km s-min=25.2km az=93.0*
*ISK **26** 19:28:24.6,38°.72N×43°.51E,h5km,ML3.2*
*CSEM **26** 19:28:25.6±0.2,38°.73N×43°.55E,h5km,ML3.2,Error ellipse: s-maj=4.9km s-min=4.1km az=125.0*
ISC 26 19:28:26.9±0.9,38°.71N±0°.03×43°.46E±0°.04,h10km±9km, n28,σ1§21/37,3C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**206**	*e*PG	**Pg**	**19 28 29.4**	**-0.6**
VANB				*e*SG	**Sg**	**19 28 33.1**	**+0.9**
VANB	**Van**	**0.13**	**206**	*e*Pg	**Pg**	**19 28 29.4**	**-0.6**
VANB				*e*Sg	**Sg**	**19 28 33.1**	**+0.9**
AGRB	**Hanur-Agry**	**0.94**	**337**	*e*PG	**Pg**	**19 28 43.5**	**-1.4**
AGRB				*e*SG	**Sg**	**19 28 55.8**	**-1.4**
AGRB	**Hanur-Agry**	**0.94**	**337**	*e*Pg	**Pg**	**19 28 43.5**	**-1.4**
AGRB				*e*Sg	**Sg**	**19 28 55.8**	**-1.4**
CUKT	**Cukurca**	**1.47**	**176**	*e*PN	**Pn**	**19 28 52.3**	**-1.2**
CUKT	**Cukurca**	**1.47**	**176**	*e*Pn	**Pn**	**19 28 52.3**	**-1.2**
VRTB	**Varto-Mus**	**1.63**	**287**	*e*PN	**Pn**	**19 28 55.6**	**-0.2**
VRTB	**Varto-Mus**	**1.63**	**287**	*e*Pn	**Pn**	**19 28 55.6**	**-0.2**
NAX	**Nakhchivan**	**1.65**	**73**	⇑P	**Pn**	**19 28 55.1**	**-0.9**
NAX				⇓S	**Sb**	**19 29 18.9**	**+0.6**
NAX	**Nakhchivan**	**1.65**	**73**	P	**Pn**	**19 28 55.1**	**-0.9**
NAX				S	**Sb**	**19 29 18.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	*e*PN	**Pn**	**19 28 58.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.86**	**253**	*e*Pn	**Pn**	**19 28 58.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.04**	**335**	*e*PN	**Pn**	**19 29 01.4**	**0.0**
SENK	**Senkaya-Erzuru**	**2.04**	**335**	*e*Pn	**Pn**	**19 29 01.5**	**0.0**
YEDI	**Yedisu-Bingol**	**2.38**	**289**	*e*PN	**Pn**	**19 29 06.5**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.38**	**289**	*e*Pn	**Pn**	**19 29 06.5**	**+0.3**
GDB	**GEDABAY**	**2.67**	**41**	⇓P	**Pb**	**19 29 14.0**	**-0.9**
GDB				⇑S	**Sg**	**19 29 53.0**	**+0.3**
MAZI	**Mazidag**	**2.69**	**243**	*e*PN	**Pn**	**19 29 10.7**	**+0.4**
MAZI	**Mazidag**	**2.69**	**243**	*e*Pn	**Pn**	**19 29 10.7**	**+0.4**
QZX	**Qazax, Azerbai**	**2.76**	**31**	⇓P	**Pb**	**19 29 17.0**	**+0.6**
QZX				⇓S	**Sg**	**19 29 57.2**	**+1.5**
GANJ	**Ganja**	**2.93**	**48**	⇑P	**Pn**	**19 29 16.0**	**+2.4**
GANJ				⇓S	**Sb**	**19 29 58.2**	**+3.0**
GANJ	**Ganja**	**2.93**	**48**	P	**Pn**	**19 29 16.0**	**+2.4**
PTK	**Pertek**	**3.19**	**274**	*e*PN	**Pn**	**19 29 17.9**	**+0.7**
PTK	**Pertek**	**3.19**	**274**	*e*Pn	**Pn**	**19 29 17.9**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.28**	**265**	*e*PN	**Pn**	**19 29 19.3**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.28**	**265**	*e*Pn	**Pn**	**19 29 19.3**	**+0.8**
PQL	**Pirkuli**	**4.46**	**61**	P	**Pn**	**19 29 33.1**	**-1.6**
	SNR=3.0						
PQL	**Pirkuli**	**4.46**	**61**	P	**Pn**	**19 29 33.1**	**-1.6**
	SNR=3.0						

*ISCJB **26** 19:33:01.1±0.6,14°.22N±0°.10×53°.77E±0°.07,h10km, mb3.8/20,Error ellipse: s-maj=13.9km s-min=10.3km az=173.2*
*IDC **26** 19:33:01.2±0.9,14°.19N×53°.78E,h0km,mb3.8/18, mb1 3.9/18,mb1mx3.7/69,mbtmp3.8/18,Error ellipse: s-maj=20.4km s-min=17.2km az=174.0*
*CSEM **26** 19:33:02.7,14°.21N×53°.76E,h10km,mb4.5/2*
*NEIC **26** 19:33:02.7±0.5,14°.21N×53°.76E,h10km,mb4.5/2,Error ellipse: s-maj=12.9km s-min=9.9km az=165.0*
ISC 26 19:33:02.7±0.8,14°.2N±0°.1×53°.79E±0°.10,h10km,n39, σ1§10/36,mb3.8/20,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POO	**Poona**	**19.72**	**75**	*e*P	**P**	**19 37 31.0**	**-1.7**
KMBO	**Kilima Mbogo**	**22.36**	**228**	P	**P**	**19 38 00.2**	**-1.2**
	0.3nm,0.3s,baz=38,slow=12,SNR=2.5						
ASF	**Jabal al Asfar**	**23.64**	**322**	P	**P**	**19 38 14.9**	**+0.5**
	0.6nm,0.3s,baz=19,slow=5.8,SNR=2.2						
GEYT	**Alibeck**	**23.96**	**8**	P	**P**	**19 38 17.0**	**-0.3**
	0.8nm,0.6s,baz=224,slow=10,SNR=4.0						
HYB	**Hyderabad**	**24.04**	**79**	*i*P	**P**	**19 38 19.0**	**+0.8**
H08N2	**Diego Garcia H**	**26.58**	**139**	T	T	20 07 09.8	
	baz=320,slow=76,SNR=19						
H08N3	**Diego Garcia H**	**26.59**	**139**	T	T	20 07 09.5	
	baz=320,slow=76,SNR=13						
H08N1	**Diego Carcia H**	**26.61**	**139**	T	T	20 07 07.9	
	baz=320,slow=76,SNR=18						
AKTO	**Aktyubinsk**	**36.32**	**5**	P	**P**	**19 40 07.4**	**+0.9**
	1.1nm,0.7s,baz=156,slow=17,SNR=4.4						
MK32	**Makanchi Array**	**40.31**	**30**	*e*P	**P**	**19 40 40.7**	**+0.5**
MK32	**Makanchi Array**	**40.31**	**30**	*e*P	**P**	**19 40 40.7**	**+0.5**
MKAR	**Makanchi Array**	**40.31**	**30**	P	**P**	**19 40 40.7**	**+0.5**
	0.4nm,0.7s,baz=230,slow=8.4,SNR=3.7						
BVAR	**Borovoye Array**	**40.93**	**15**	P	**P**	**19

ZAA1	Zalesovo Array	46.60	25	eP		P	19 41 44.5	-1.2
ZAA1	Zalesovo Array	46.60	25	eP		P	19 41 44.5	-1.2
CLL	Collm	49.45	327	eP		P	19 42 07.0	-0.9
TOA0	Torodi Ar. Sit	50.54	275	eP		P	19 42 16.8	+0.1
	6.3nm,0.9s							
TOA0	Torodi Ar. Sit	50.54	275	eP		P	19 42 16.8	+0.1
	6.3nm,0.9s							
TORD	Torodi Ar. Bea	50.54	275	P		P	19 42 16.4	-0.3
	4.3nm,0.9s,baz=90,slow=7.4,SNR=19							
TOA1	Torodi Ar. Sit	50.54	276	eP		P	19 42 16.4	-0.3
	6.8nm,0.9s							
TOA1	Torodi Ar. Sit	50.54	276	eP		P	19 42 16.4	-0.3
	6.8nm,0.9s							
BOSA	Boshof	50.67	213	P		P	19 42 17.4	-0.2
	3.9nm,1.0s,baz=60,slow=8.5,SNR=3.9							
FIA0	FINESS Array S	51.27	343	eP		P	19 42 20.8	-0.7
FIA0	FINESS Array S	51.27	343	eP		P	19 42 20.8	-0.7
FINES	FINESS Array B	51.27	343	P		P	19 42 20.8	-0.7
	1.6nm,0.7s,baz=142,slow=9.6,SNR=5.2							
SONA0	Songino Array	54.81	41	eP		P	19 42 48.3	+0.3
SONA0	Songino Array	54.81	41	eP		P	19 42 48.3	+0.3
SONM	Songino Array	54.81	41	P		P	19 42 48.3	+0.3
	1.5nm,0.9s,baz=238,slow=5.7,SNR=10							
ESDC	Sonseca Array	56.36	308	P		P	19 42 58.3	-0.9
	3.4nm,0.8s,baz=85,slow=6.4,SNR=9.3							
ARA0	ARCESS Array S	58.15	349	eP		P	19 43 09.8	-1.4
ARA0	ARCESS Array S	58.15	349	eP		P	19 43 09.8	-1.4
ARCES	ARCESS Array B	58.15	349	P		P	19 43 09.8	-1.4
	2.7nm,0.9s,baz=148,slow=7.8,SNR=4.7							
FITZ	Fitzroy Crossi	77.74	112	eP		P	19 45 14.2	-1.2
FITZ	Fitzroy Crossi	77.74	112	eP		P	19 45 14.2	-1.2
WR1	Warramunga Arr	86.14	112	eP		P	19 46 00.3	+0.7
	28nm,1.9s							
WR1	Warramunga Arr	86.14	112	eP		P	19 46 00.3	+0.7
	28nm,1.9s							
WRA	Warramunga Arr	86.14	112	P		P	19 46 00.3	+0.8
	1.3nm,0.6s,baz=299,slow=3.9,SNR=10							
ASAR	Alice Springs	86.81	115	P		P	19 46 02.9	+0.1
	1.4nm,0.6s,baz=290,slow=4.7,SNR=11							
AS31	Alice Springs	86.81	115	eP		P	19 46 02.3	-0.6
	2.4nm,1.4s							
AS31	Alice Springs	86.81	115	eP		P	19 46 02.3	-0.6
	2.4nm,1.4s							

ISCJB ***26*** *19:38:14.2±0.4, 14°.19N±0°.06×53°.77E±0°.05, h10km, mb4.4/44, MS3.8/11, Error ellipse: s-maj=9.0km s-min=7.0km az=8.9*
IDC ***26*** *19:38:14.1±0.6, 14°.15N×53°.76E, h0km, mb4.2/31, mb1 4.3/32, mb1mx4.0/82, mbtmp4.2/32, ML2.8/1, MS4.0/12, Ms1 4.0/12, ms1mx3.6/51, Error ellipse: s-maj=14.3km s-min=12.7km az=11.0*
MOS ***26*** *19:38:14.1±1.1, 14°.18N×53°.73E, h10km, mb4.9/10, Error ellipse: s-maj=11.3km s-min=6.1km az=105.8*
GCMT ***26*** *19:38:15.8±0.4, 14°.28N×53°.37E, h14km±1km, MW4.8/70, Moment Tensor Solution. s21,c22; s70,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.09±.16; Mθθ=1.81±.11; Mφφ=0.28±.11; Mrθ=0.77±.26; Mθφ=-0.67±.08; Mφr=0.74±.31; Best double couple: M0=2.31100×10^16 NP1:φs=270.00000°, δ55.00000°, λ=-115.00000°. NP2: φs=129.00000°, δ42.00000°, λ=-59.00000°. Principal axes: T 2.1190, Plg7.0000°, Azm17.0000°; N 0.3870, Plg20.0000°, Azm285.0000°; P -2.5040, Plg69.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *19:38:15.8±0.3, 14°.19N×53°.74E, h10km, mb4.8/17 Error ellipse: s-maj=7.3km s-min=6.2km az=181.0*
CSEM ***26*** *19:38:16.2±0.2, 14°.22N×53°.74E, h10km, mb4.8/18, Error ellipse: s-maj=9.3km s-min=7.6km az=7.0*

ISC 26 19:38:15.9±0.6, 14°.17N±0°.09×53°.75E±0°.08, h10km, n169, σ19°08/161, mb4.4/44, MS3.8/11, 3C-19D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	10.14	26	Pn	Pn	19 40 41.1	-0.6
	0.1nm,0.3s,baz=13,slow=14,SNR=3.5						
WSAR				Sn	Sn	19 42 24.2	-11
	0.3nm,0.3s,baz=114,slow=20,SNR=4.6						
WSAR				LR	LR	19 44 16.8	
	comp=Z,1μm,21.5s,baz=212,slow=36						
ATD	Arta Tunnel	10.95	257	LR	LR	19 44 01.7	
	comp=Z,1μm,20.0s,baz=74,slow=32						
KMBO	Kilima Mbogo	22.31	228	P	P	19 43 14.0	-0.1
	1.3nm,0.6s,baz=31,slow=9.0,SNR=8.8						
KMBO				LR	LR	19 52 28.9	
	comp=Z,539nm,19.4s,baz=82,slow=38						
KMBO	Kilima Mbogo	22.31	228	eP	P	19 43 14.0	-0.1
KMBO				pmax	pmax		
	comp=Z,17nm,1.4s						
KMBO	Kilima Mbogo	22.31	228	eP	P	19 43 14.0	-0.1
	comp=Z,17nm,1.4s						
KMBO	Kilima Mbogo	22.31	228	eP	P	19 43 14.0	-0.1
	comp=Z,17nm,1.4s						
EIL	Elat	23.23	315	P	P	19 43 24.3	+0.9
	comp=Z,6.9nm,1.0s,baz=162,slow=4.5,SNR=4.6						
EIL				LR	LR	19 52 23.2	
	comp=Z,278nm,20.7s,baz=126,slow=36						
ASF	Jabal al Asfar	23.63	322	P	P	19 43 28.4	+0.9
	comp=Z,6.5nm,1.0s,baz=107,slow=4.9,SNR=9.4						
GEYT	Alibeck	23.98	9	P	P	19 43 30.9	+0.1
	comp=Z,4.4nm,0.6s,baz=196,slow=10,SNR=13						
HYB	Hyderabad	24.08	79	i P	P	19 43 34.0	+2.1
MMAI	Mount Meron Ar	25.12	321	P	P	19 43 41.4	+0.2
	comp=Z,6.6nm,0.9s,baz=130,slow=8.9,SNR=6.8						
MMAI				LR	LR	19 54 17.9	
	comp=Z,170nm,18.0s,baz=160,slow=38						
H08N2	Diego Garcia H	26.60	139	T	T	20 12 06.8	
	baz=320,slow=76,SNR=27						
H08N3	Diego Garcia H	26.61	139	T	T	20 12 07.6	
	baz=320,slow=76,SNR=26						
H08N1	Diego Garcia H	26.62	139	T	T	20 12 10.1	
	baz=320,slow=76,SNR=32						
GNI	Garni	27.06	345	LR	LR	19 56 34.3	
	comp=Z,359nm,20.0s,baz=123,slow=41						
ZEI	Tsey	29.76	345	eP	P	19 44 22.8	-0.1
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	Khabaz	30.89	345	P	P	19 44 33.5	+0.9
	comp=Z,2.9nm,1.0s,baz=198,slow=10,SNR=3.7						
KBZ				LR	LR	19 58 55.5	
	comp=Z,338nm,21.5s,baz=162,slow=40						
BR101	Keskin Array S	30.99	329	eP	P	19 44 32.4	-1.3
BR101	Keskin Array S	30.99	329	eP	P	19 44 32.4	-1.3
BRTR	Keskin Array B	30.99	329	P	P	19 44 32.4	-1.3
	comp=Z,1.4nm,0.9s,baz=138,slow=15,SNR=4.4						
BRTR				LR	LR	19 58 46.7	
	comp=Z,176nm,18.2s,baz=7.5,slow=40						
KVAR	Kislovodsk Arr	31.16	344	LR	LR	19 59 12.7	
	comp=Z,285nm,18.7s,baz=148,slow=40						
KIV	Kislovodsk	31.16	344	eP	P	19 44 35.7	+0.6
KIV				pmax	pmax		
	comp=Z,20nm,1.3s						
KIV	Kislovodsk	31.16	344	eP	P	19 44 35.7	+0.6
	comp=Z,20nm,1.3s						
KIV	Kislovodsk	31.16	344	eP	P	19 44 35.7	+0.6
	comp=Z,20nm,1.3s						
IDI	Anoyia	33.40	314	P	P	19 44 55.6	+0.7
	comp=Z,16nm,0.8s,baz=341,slow=8.6,SNR=3.6						
IDI	Anoyia	33.40	314	eP	P	19 44 55.5	+0.7
	comp=Z,144nm,1.8s						
IDI	Anoyia	33.40	314	eP	P	19 44 55.5	+0.7
	comp=Z,144nm,1.8s						
AAK	Ala-Archa	33.54	28	P	P	19 44 57.2	+1.1
	comp=Z,1.2nm,0.7s,baz=210,slow=13,SNR=4.9						
AAK				LR	LR	20 00 21.1	
	comp=Z,173nm,21.2s,baz=220,slow=40						
FRU	Bishkek	33.75	28	eP	P	19 45 00.0	+2.2
FRU	Bishkek	33.75	28	eP	P	19 45 00.0	+2.2
ABKAR	Akbulak array	35.36	7	eP	P	19 45 11.3	-0.2
	comp=Z,26nm,0.6s						
ABKAR	Akbulak array	35.36	7	eP	P	19 45 11.3	-0.2
	comp=Z,26nm,0.6s						
AKTK	Aktyubinsk	36.34	5	P	P	19 45 19.8	-0.1
AKTO	Aktyubinsk	36.34	5	P	P	19 45 19.8	-0.1
	comp=Z,2.8nm,0.7s,baz=182,slow=9.6,SNR=12						
VTS	Vitosha	38.66	323	‖ i P	P	19 45 38.2	-1.7
VTS	Vitosha	38.66	323	‖ P	P	19 45 38.2	-1.7
VTS	Vitosha	38.66	323	P	P	19 45 38.2	-1.7
VRI	Vrincioaia	38.94	330	‖ i P	P	19 45 43.7	+1.6
VRI	Vrincioaia	38.94	330	‖ P	P	19 45 43.7	+1.6
VRI	Vrincioaia	38.94	330	P	P	19 45 43.7	+1.6
PLOR	Plostina	38.97	330	⇑ i P	P	19 45 44.9	+2.6
PLOR	Plostina	38.97	330	⇑ P	P	19 45 44.9	+2.6
MLR	Muntele Rosu	39.07	329	‖ i P	P	19 45 44.0	+0.7
MLR	Muntele Rosu	39.07	329	‖ P	P	19 45 44.0	+0.7
MLR	Muntele Rosu	39.07	329	P	P	19 45 44.0	+0.7
TESR	Tescani	39.44	330	‖ i P	P	19 45 47.4	+1.1
VOIR		39.49	328	‖ i P	P	19 45 51.0	+4.3
VOIR		39.49	328	‖ P	P	19 45 51.0	+4.3
PRAR	RASCA	40.26	331	‖ i P	P	19 45 53.8	+0.8
MK31	Makanchi Array	40.34	30	eP	P	19 45 53.8	0.0
MK31	Makanchi Array	40.34	30	eP	P	19 45 53.8	0.0
MK31	Makanchi Array	40.34	30	eP	P	19 45 53.8	0.0
MK32	Makanchi Array	40.34	30	eP	P	19 45 53.7	-0.1
MK32	Makanchi Array	40.34	30	eP	P	19 45 53.7	-0.1
MKAR	Makanchi Array	40.34	30	P	P	19 45 53.7	0.0
	comp=Z,1.4nm,0.7s,baz=215,slow=7.2,SNR=8.1						
MKAR	Makanchi Array	40.34	30	eP	P	19 45 53.9	+0.1
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	40.34	30	eP	P	19 45 53.8	0.0
	comp=Z,14nm,0.8s						
MKAR	Makanchi Array	40.34	30	eP	P	19 45 53.9	+0.1
	comp=Z,14nm,0.8s						
GZR	Gura Zlata	40.66	326	‖ i P	P	19 46 03.7	+7.3
GZR	Gura Zlata	40.66	326	‖ P	P	19 46 03.7	+7.3
BURAR	Bucovina Array	40.92	330	‖ i P	P	19 45 58.4	-0.2
BURAR	Bucovina Array	40.92	330	‖ P	P	19 45 58.4	-0.2
BUR08	Bucovina Ar. S	40.95	330	eP	P	19 45 58.9	+0.1
BUR08	Bucovina Ar. S	40.95	330	eP	P	19 45 58.9	+0.1
BVAR	Borovoye Array	40.96	15	P	P	19 45 58.4	-0.3
	comp=Z,3.6nm,0.7s,baz=199,slow=7.5,SNR=21						
BRVK	Borovoye	40.96	15	eP	P	19 45 58.9	+0.2
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	40.96	15	eP	P	19 45 58.9	+0.2
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	40.96	15	eP	P	19 45 58.9	+0.2
	comp=Z,6.2nm,0.8s						
ARCR	ARCALIA	40.97	329	⇑ i P	P	19 46 00.6	+1.7
BZS	Buzias	41.43	326	‖ i P	P	19 46 03.5	+0.8
BZS	Buzias	41.43	326	‖ P	P	19 46 03.5	+0.8
BZS	Buzias	41.43	326	P	P	19 46 03.5	+0.8
AKASG	Malin Array Be	41.51	337	P	P	19 46 02.4	-0.9
	comp=Z,1.3nm,0.6s,baz=138,slow=7.5,SNR=18						
AKBB	Malin Array Si	41.51	337	eP	P	19 46 03.2	0.0
AKBB				pmax	pmax		
	comp=Z,22nm,1.6s						
AKBB	Malin Array Si	41.51	337	eP	P	19 46 03.2	0.0
	comp=Z,22nm,1.6s						
AKBB	Malin Array Si	41.51	337	eP	P	19 46 03.2	0.0
	comp=Z,22nm,1.6s						
KURBB	Kurchatov Arra	41.55	24	P	P	19 46 03.8	+0.3
	comp=Z,0.9nm,0.2s,baz=223,slow=8.3,SNR=13						
DRGR		41.60	328	‖ i P	P	19 46 05.7	+1.5
DRGR		41.60	328	‖ P	P	19 46 05.7	+1.5
DRGR		41.60	328	P	P	19 46 05.7	+1.5
KURK	Kurchatov	41.65	24	eP	P	19 46 03.8	-0.6
KURK	Kurchatov	41.65	24	eP	P	19 46 03.8	-0.6
KURK	Kurchatov	41.65	24	eP	P	19 46 03.8	-0.6
LVV	L'vov	43.03	332	eP	P	19 46 14.5	-1.2
LVV	L'vov	43.03	332	eP	P	19 46 14.5	-1.2
UZH	Uzhgorod	43.04	330	eP	P	19 46 15.5	-0.2
UZH				e		19 46 19.1	
UZH				e		19 46 21.7	
UZH	Uzhgorod	43.04	330	eP	P	19 46 15.5	-0.2
CM31	Chiang Mai Arr	43.50	78	eP	P	19 46 21.6	+1.6
CM31	Chiang Mai Arr	43.50	78	eP	P	19 46 21.6	+1.6
CMAR	Chiang Mai Arr	43.50	78	P	P	19 46 20.2	+0.2
	comp=Z,2.2nm,1.0s,baz=273,slow=9.3,SNR=18						
CRVS	Cervenica-Dubn	43.63	329	eP	P	19 46 22.2	+1.6
CRVS	Cervenica-Dubn	43.63	329	eP	P	19 46 22.2	+1.6
VYHS	Vyhne	44.71	327	eP	P	19 46 34.3	+5.1
VYHS	Vyhne	44.71	327	eP	P	19 46 34.2	+5.0
KEST	Kesra	45.15	307	P	P	19 46 34.6	+1.5
	comp=Z,9.4nm,0.9s,baz=12,slow=2.7,SNR=9.7						
KEST	Kesra	45.15	307	eP	P	19 46 33.6	+0.6
	comp=Z,51nm,1.7s						
KEST	Kesra	45.15	307	eP	P	19 46 33.6	+0.6
	comp=Z,51nm,1.7s						
MORC	Moravsky Berou	46.16	328	‖ i P	P	19 46 41.2	+0.4
MORC	Moravsky Berou	46.16	328	eP	P	19 46 40.2	-0.6
MORC				pmax	pmax		
	comp=Z,61nm,1.4s						
MORC	Moravsky Berou	46.16	328	eP	P	19 46 40.2	-0.6
	comp=Z,61nm,1.4s						
MORC	Moravsky Berou	46.16	328	eP	P	19 46 40.2	-0.6
	comp=Z,61nm,1.4s						
TAM	Tamanrasset	46.37	288	eP	P	19 46 44.2	+1.3
TAM				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TAM	Tamanrasset	46.37	288	eP	P	19 46 44.2	+1.3
	comp=Z,6.0nm,1.4s						
TAM	Tamanrasset	46.37	288	eP	P	19 46 44.2	+1.3
	comp=Z,6.0nm,1.4s						
VRAC	Vranov	46.38	327	P	P	19 46 40.6	-1.9
	comp=Z,0.9nm,0.3s,baz=73,slow=12,SNR=3.1						
ZAA0	Zalesovo Array	46.59	25	eP	P	19 46 43.5	-0.4
	comp=Z,5.2nm,1.0s						
ZAA0	Zalesovo Array	46.59	25	eP	P	19 46 43.5	-0.4
	comp=Z,5.2nm,1.0s						
ZALV	Zalesovo Beam	46.59	25	P	P	19 46 42.3	-1.6
	comp=Z,3.0nm,0.7s,baz=234,slow=8.3,SNR=12						
ZAA1	Zalesovo Array	46.59	25	eP	P	19 46 42.3	-1.7
ZAA1	Zalesovo Array	46.59	25	eP	P	19 46 42.3	-1.7
NVS	Novosibirsk	46.62	23	eP	P	19 46 43.4	-0.8
MOA	Molln	46.84	324	Pn	P	19 46 46.2	+0.1
	comp=Z,14nm,2.0s						
MOA	Molln	46.84	324	Pn	P	19 46 46.2	+0.1
	comp=Z,14nm,2.0s						
DPC	Dobruska-Polom	47.14	328	eP	P	19 46 48.2	-0.2
DPC				epP	sP	19 46 54.2	+1.4
DPC	Dobruska-Polom	47.14	328	eP	P	19 46 48.2	-0.2
DPC				e		19 46 54.2	
DPC	Dobruska-Polom	47.14	328	P	P	19 46 48.2	-0.2
UPC	Upice	47.39	328	eP	P	19 46 50.1	-0.2
UPC	Upice	47.39	328	eP	P	19 46 50.1	-0.2
UPC	Upice	47.39	328	P	P	19 46 50.1	-0.2
LBTB	Lobatse	47.65	215	P	P	19 46 52.1	-0.7
	comp=Z,2.1nm,0.8s,baz=217,slow=20,SNR=3.1						
LBTB				LR	LR	20 06 33.3	
	comp=Z,109nm,19.3s,baz=52,slow=36						
LBTB	Lobatse	47.65	215	eP	P	19 46 52.1	-0.7
LBTB				pmax	pmax		
	comp=Z,18nm,1.4s						
LBTB	Lobatse	47.65	215	eP	P	19 46 52.1	-0.7
	comp=Z,18nm,1.4s						
LBTB	Lobatse	47.65	215	eP	P	19 46 52.1	-0.7
	comp=Z,18nm,1.4s						
GEC2	GERESS Array S	47.69	325	eP	P	19 46 52.1	-0.7
GEC2				pmax	pmax		
	comp=Z,28nm,1.7s						
GEC2	GERESS Array S	47.69	325	eP	P	19 46 52.1	-0.7
	comp=Z,28nm,1.7s						
GEC2	GERESS Array S	47.69	325	eP	P	19 46 52.1	-0.7
	comp=Z,28nm,1.7s						
GERES	GERESS Array B	47.69	325	P	P	19 46 52.1	-0.7
	comp=Z,0.3nm,0.6s,baz=132,slow=4.0,SNR=4.1						
GERES				PcP	PcP	19 48 21.4	-0.8
	comp=Z,0.4nm,0.5s,baz=172,slow=2.8,SNR=3.4						
PRU	Pruhonice	47.86	327	eP	P	19 46 53.4	-0.6
PRU				epP	sP	19 46 58.5	+0.1
PRU	Pruhonice	47.86	327	eP	P	19 46 53.4	-0.6
PRU				e		19 46 58.5	
PRU	Pruhonice	47.86	327	P	P	19 46 53.4	-0.6
KHC	Kasperske Hory	47.91	325	eP	P	19 46 53.4	-1.1
KHC				epP	sP	19 47 00.1	+1.2
KHC	Kasperske Hory	47.91	325	eP	P	19 46 53.4	-1.1
KHC				e		19 47 00.1	
KHC	Kasperske Hory	47.91	325	P	P	19 46 53.4	-1.1
TSUM	Tsumeb	48.66	228	LR	LR	20 08 49.8	
	comp=Z,567nm,19.1s,baz=85,slow=38						
NKC	Novy Kostel	49.13	326	eP	P	19 47 04.1	+0.3
NKC	Novy Kostel	49.13	326	eP	P	19 47 04.1	+0.3
NKC	Novy Kostel	49.13	326	P	P	19 47 04.1	+0.3
CLL	Collm	49.41	327	eP	P	19 47 06.0	+0.1
	comp=Z,27nm,1.8s						
TORD	Torodi Ar. Bea	50.51	275	P	P	19 47 14.8	+0.1
	comp=Z,2.5nm,0.9s,baz=86,slow=7.9,SNR=15						
TOA1	Torodi Ar. Sit	50.51	275	eP	P	19 47 14.8	0.0
	comp=Z,14nm,1.4s						
TOA1	Torodi Ar. Sit	50.51	275	eP	P	19 47 14.8	0.0
	comp=Z,14nm,1.4s						
FIA0	FINESS Array S	51.24	343	eP	P	19 47 18.4	-1.1
FIA0	FINESS Array S	51.24	343	eP	P	19 47 18.4	-1.1
FIA0	FINESS Array S	51.24	343	eP	P	19 47 18.4	-1.1
FINES	FINESS Array B	51.24	343	P	P	19 47 18.4	-1.1
	comp=Z,3.3nm,0.8s,baz=148,slow=11,SNR=8.5						
HFS	Hagfors	54.40	337	P	P	19 47 41.7	-1.2
	comp=Z,3.2nm,0.8s,baz=119,slow=12,SNR=3.3						
SONA0	Songino Array	54.81	41	eP	P	19 47 47.4	+1.0
SONA0	Songino Array	54.81	41	eP	P	19 47 47.4	+1.0
SONM	Songino Array	54.81	41	P	P	19 47 47.4	+1.0
	comp=Z,1.7nm,0.8s,baz=237,slow=8.0,SNR=14						
SUR	Sutherland	56.00	214	LR	LR	20 11 39.2	
	comp=Z,8.4nm,20.6s,baz=349,slow=36						
ESDC	Sonseca Array	56.32	308	P	P	19 47 56.5	-0.7
	comp=Z,3.5nm,0.8s,baz=89,slow=6.9,SNR=12						
ARA0	ARCESS Array S	58.12	349	eP	P	19 48 08.3	-1.0
ARA0	ARCESS Array S	58.12	349	eP	P	19 48 08.3	-1.0
ARCES	ARCESS Array B	58.12	349	P	P	19 48 08.3	-1.1
	comp=Z,1.3nm,0.6s,baz=126,slow=6.3,SNR=8.4						
KSAR	Wonju Array Be	69.01	55	P	P	19 49 20.4	-1.5
KSAR	Wonju Array Be	69.01	55	P	P	19 49 20.4	-1.5
KSAR	Wonju Array Be	69.01	55	P	P	19 49 20.4	-1.5
KSRS	Korea Array	69.04	55	P	P	19 49 20.4	-1.6
	comp=Z,1.2nm,0.8s,baz=263,slow=7.2,SNR=5.3						
YAK	Yakutsk	71.00	29	P	P	19 49 32.9	-0.7
	comp=Z,7.8nm,0.5s,baz=291,slow=0.9,SNR=6.1						
YAK	Yakutsk	71.00	29	eP	P	19 49 32.9	-0.7
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	Yakutsk	71.00	29	eP	P	19 49 32.9	-0.7
	comp=Z,12nm,0.7s						
YAK	Yakutsk	71.00	29	eP	P	19 49 32.9	-0.7
	comp=Z,12nm,0.7s						
FITZ	Fitzroy Crossi	77.78	112	P	P	19 50 13.3	-0.6
	comp=Z,3.6nm,0.9s,baz=260,slow=3.6,SNR=5.5						
WRA	Warramunga Arr	86.17	112	P	P	19 50 58.1	0.0
	comp=Z,1.9nm,0.7s,baz=298,slow=3.9,SNR=18						
WR1	Warramunga Arr	86.17	112	eP	P	19 50 58.1	0.0
	comp=Z,4.2nm,0.9s						
WR1	Warramunga Arr	86.17	112	eP	P	19 50 58.1	0.0
	comp=Z,4.2nm,0.9s						
AS31	Alice Springs	86.85	115	eP	P	19 51 01.0	-0.3
	comp=Z,2.0nm,1.4s						
AS31	Alice Springs	86.85	115	eP	P	19 51 01.1	-0.3
	comp=Z,2.0nm,1.4s						
ASAR	Alice Springs	86.85	115	P	P	19 51 01.1	-0.3
	comp=Z,1.5nm,0.7s,baz=288,slow=4.6,SNR=29						

ISCJB ***26*** *19:41:50.6±0.5, 27°.1S±0°.1×67°.3E±0°.1, h10km, mb4.0/16, Error ellipse: s-maj=15.6km s-min=14.2km az=34.4*
IDC ***26*** *19:41:51.0±0.7, 27°.03S×67°.19E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.7/73, mbtmp3.9/13, Error ellipse: s-maj=22.4km s-min=21.2km az=5.0*
NEIC ***26*** *19:41:52.6±0.4, 27°.03S×67°.23E, h10km, mb4.6/5, Error ellipse: s-maj=11.2km s-min=10.1km az=212.0*

ISC 26 19:41:52.6±0.7, 27°.0S±0°.1×67°.2E±0°.1, h10km, n29, σ0°66/26, mb4.1/16, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	19.89	15	T	T	20 06 48.5	
	baz=194,slow=76,SNR=11						
H08S2	Diego Garcia H	19.90	16	T	T	20 06 53.7	
	baz=194,slow=76,SNR=10.0						
H08S3	Diego Garcia H	19.91	15	T	T	20 06 52.6	
	baz=194,slow=76,SNR=13						
LSZ	Lusaka	38.09	280	P	P	19 49 12.2	+0.2
	1.3nm,0.6s,baz=106,slow=9.4,SNR=4.6						
LSZ	Lusaka	38.09	280	eP	P	19 49 13.3	+1.3
	20nm,2.0s						
CM31	Chiang Mai Arr	54.68	38	eP	P	19 51 22.6	+0.6
CMAR	Chiang Mai Arr	54.68	38	P	P	19 51 23.4	+1.3
	1.2nm,0.8s,baz=230,slow=7.4,SNR=12						
SNAA	Sanae	58.35	200	P	P	19 51 47.7	0.0
	0.7nm,0.6s,baz=75,slow=12,SNR=13						
SNAA	Sanae	58.35	200	eP	P	19 51 47.7	0.0
	10nm,1.8s						
ASAR	Alice Springs	59.73	103	P	P	19 51 57.5	-0.5
	0.6nm,0.6s,baz=251,slow=6.5,SNR=9.2						
AS31	Alice Springs	59.73	103	eP	P	19 51 57.1	-0.9
	2.0nm,1.4s						
WR1	Warramunga Arr	61.34	99	eP	P	19 52 08.7	-0.3
	9.2nm,1.4s						
WRA	Warramunga Arr	61.34	99	P	P	19 52 08.7	-0.3
	1.3nm,0.9s,baz=250,slow=6.2,SNR=4.0						
QSPA	South Pole Qui	63.13	180	eP	P	19 52 20.6	+0.2
BR101	Keskin Array S	73.40	334	eP	P	19 53 23.9	-1.2
BRTR	Keskin Array B	73.40	334	P	P	19 53 23.9	-1.

TERO				Sg	Sg	19 45 36.0 +0.3
SMA1	**SAN MARTINO**	**0.15**	**274**	Pg	Pg	19 45 34.7 +0.2
SMA1				Sg	Sg	19 45 37.7 +0.3
SMA1	**SAN MARTINO**	**0.15**	**274**	Pg	Pg	19 45 34.7 +0.2
SMA1				Sg	Sg	19 45 37.7 +0.3
AQU	**L'Aquila**	**0.28**	**201**	Pg	Pg	19 45 36.6 +0.1
AQU				Sg	Sb	19 45 41.5 +0.3
	108nm,0.2s					
AQU	**L'Aquila**	**0.28**	**201**	Pg	Pg	19 45 36.6 +0.1
AQU				Sg	Sb	19 45 41.5 +0.3
	108nm,0.2s					
T0104	**Madonna delle**	**0.30**	**210**	Pg	Pb	19 45 37.0 -0.1
T0104				Sg	Sb	19 45 42.1 +0.4
FAGN	**Fagnano**	**0.35**	**174**	Pg	Pb	19 45 37.9 -0.2
	174nm,0.4s					
FAGN	**Fagnano**	**0.35**	**174**	Pg	Pb	19 45 37.9 -0.2
	174nm,0.4s					
LNSS	**Leonessa**	**0.37**	**268**	Pg	Pg	19 45 38.0 +0.1
LNSS				Sg	Sb	19 45 43.8 0.0
LNSS	**Leonessa**	**0.37**	**268**	Pg	Pg	19 45 38.0 +0.1
LNSS				Sg	Sb	19 45 43.8 0.0
GUMA	**Gualdo di Mace**	**0.53**	**33**	Pg	Pg	19 45 39.7 -1.1
GUMA				Sg	Sg	19 45 47.2 -0.8
	1µm,2.2s					
GUMA	**Gualdo di Mace**	**0.53**	**33**	Pg	Pg	19 45 39.7 -1.1
GUMA				Sg	Sg	19 45 47.2 -0.8
	1µm,2.2s					
FDMO	**Fiordimonte**	**0.53**	**322**	Pg	Pg	19 45 40.4 -0.5
FDMO				Sg	Sb	19 45 48.4 0.0
	109nm,0.2s					
FDMO	**Fiordimonte**	**0.53**	**322**	Pg	Pg	19 45 40.4 -0.5
FDMO				Sg	Sb	19 45 48.4 0.0
	109nm,0.2s					
CESI	**CESI - Serrava**	**0.60**	**310**	Pg	Pg	19 45 41.6 -0.6
CESI				Sg	Sb	19 45 51.0 +0.5
	28nm,0.3s					
CESI	**CESI - Serrava**	**0.60**	**310**	Pg	Pg	19 45 41.6 -0.6
CESI				Sg	Sb	19 45 51.0 +0.5
	28nm,0.3s					
SNTG	**Esanatoglia**	**0.77**	**326**	Pg	Pb	19 45 44.5 -0.7
SNTG				Sg	Sg	19 45 56.1 +0.5
SNTG	**Esanatoglia**	**0.77**	**326**	Pg	Pb	19 45 44.5 -0.7
SNTG				Sg	Sg	19 45 56.1 +0.5
NVLJ	**Novalja**	**2.17**	**26**	*e*Pn	Pn	19 46 04.6 -0.8
NVLJ				Sn	Sn	19 46 32.5 +0.6
NVLJ	**Novalja**	**2.17**	**26**	*e*Pn	Pn	19 46 04.5 -0.9
NVLJ				Sn	Sn	19 46 32.5 +0.6

ISK ***26*** *19:45:27.9, 38.°84N×43.°38E, h4km, ML3.9*
DDA ***26*** *19:45:29.6, 38.°78N×43.°21E, h5km, Ml4.1*
IDC ***26*** *19:45:29.7±1.1, 38.°85N×43.°15E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.5/61, mbtmp3.7/12, ML2.9/3, MS3.7/3, Ms1 3.7/3, ms1mx2.8/39, Error ellipse: s-maj=20.2km s-min=10.5km az=158.0*
CSEM ***26*** *19:45:30.3±0.2, 38.°80N×43.°19E, h2km, ML3.9, Error ellipse: s-maj=5.4km s-min=4.7km az=139.0*
AZER ***26*** *19:45:31.0±0.7, 38.°00N×43.°67E, h8km, Error ellipse: s-maj=7.7km s-min=4.2km az=70.0*

ISC 26 19:45:30.5±0.9, 38.°78N±0.°02×43.°24E±0.°02, h8km±7km, n130, σ1§68/157, mb3.5/8, MS3.6/3, 24C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**147**	*e*PG	**Pg**	**19 45 35.2**	**+0.2**
VANB				*e*SG	**Sg**	**19 45 39.7**	**+1.8**
VANB	**Van**	**0.22**	**147**	*e*Pg	**Pg**	**19 45 35.2**	**+0.2**
VANB				*e*Sg	**Sg**	**19 45 39.7**	**+1.8**
VMUR	**Van-Muradiye**	**0.33**	**51**	*i* P	**Pg**	**19 45 36.7**	**-0.5**
VMUR				*i* S	**Sg**	**19 45 42.7**	**+1.1**
VMUR	**Van-Muradiye**	**0.33**	**51**	P	**Pg**	**19 45 36.7**	**-0.5**
VMUR				S	**Sg**	**19 45 42.7**	**+1.1**
GEVA	**Gevas**	**0.49**	**197**	*i* P	**Pg**	**19 45 38.0**	**-2.0**
GEVA				*i* S	**Sg**	**19 45 47.2**	**+0.8**
GEVA	**Gevas**	**0.49**	**197**	P	**Pg**	**19 45 38.0**	**-2.0**
GEVA				S	**Sg**	**19 45 47.2**	**+0.8**
TUTA	**Tutak**	**0.70**	**332**	*i* P	**Pg**	**19 45 43.0**	**-1.1**
TUTA				*i* S	**Sg**	**19 45 53.2**	**-0.2**
TUTA	**Tutak**	**0.70**	**332**	P	**Pg**	**19 45 43.0**	**-1.1**
TUTA				S	**Sg**	**19 45 53.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.82**	**347**	*e*PG	**Pg**	**19 45 42.8**	**-3.5**
AGRB				*e*SG	**Sg**	**19 45 55.2**	**-1.7**
AGRB	**Hanur-Agry**	**0.82**	**347**	*e*Pg	**Pg**	**19 45 42.8**	**-3.5**
AGRB				*e*Sg	**Sg**	**19 45 55.2**	**-1.7**
DYDN	**Diyadin**	**0.84**	**25**	*e*P	**Pg**	**19 45 46.2**	**-0.5**
DYDN				*i* S	**Sg**	**19 45 56.6**	**-1.0**
DYDN	**Diyadin**	**0.84**	**25**	P	**Pg**	**19 45 46.2**	**-0.5**
DYDN				S	**Sg**	**19 45 56.6**	**-1.0**
EKAR	**Karacoban**	**1.03**	**298**	*i* P	**Pg**	**19 45 49.5**	**-0.8**
EATA	**Eleskirt**	**1.23**	**332**	*i* P	**Pg**	**19 45 52.8**	**-1.3**
EATA				*i* S	**Sb**	**19 46 10.7**	**+0.5**
HAKT	**HAKKARI**	**1.27**	**163**	*i* P	**Pn**	**19 45 52.2**	**-2.7**
HAKT	**HAKKARI**	**1.27**	**163**	P	**Pn**	**19 45 52.2**	**-2.7**
SIRN	**S¨–rnak**	**1.44**	**207**	*i* P	**Pn**	**19 45 57.2**	**+0.2**
SIRN				*i* S	**Sg**	**19 46 16.8**	**+0.1**
SIRN	**S¨–rnak**	**1.44**	**207**	P	**Pn**	**19 45 57.2**	**+0.2**
SIRN				S	**Sg**	**19 46 16.8**	**+0.1**
VRTB	**Varto-Mus**	**1.44**	**286**	*e*PN	**Pn**	**19 45 56.9**	**-0.2**
VRTB	**Varto-Mus**	**1.44**	**286**	*i* P	**Pn**	**19 45 56.4**	**-0.7**
VRTB	**Varto-Mus**	**1.44**	**286**	P	**Pn**	**19 45 56.4**	**-0.7**
VRTB	**Varto-Mus**	**1.44**	**286**	*e*Pn	**Pn**	**19 45 56.9**	**-0.2**
CUKT	**Cukurca**	**1.56**	**169**	*e*PN	**Pn**	**19 45 58.3**	**-0.3**
CUKT	**Cukurca**	**1.56**	**169**	*i* P	**Pg**	**19 46 00.3**	**-0.1**
CUKT	**Cukurca**	**1.56**	**169**	*e*Pn	**Pn**	**19 45 58.3**	**-0.3**
CUKT	**Cukurca**	**1.56**	**169**	P	**Pg**	**19 46 00.3**	**-0.1**
HOMI	**Horasan**	**1.63**	**321**	*i* P	**Pn**	**19 45 59.7**	**-0.1**
HOMI				*i* S	**Sg**	**19 46 24.8**	**+1.7**
DIGO	**Kars**	**1.64**	**4**	*i* P	**Pb**	**19 46 01.0**	**-0.1**
DIGO	**Kars**	**1.64**	**4**	*i* S	**Pb**	**19 46 01.5**	**+0.4**
DIGO	**Kars**	**1.64**	**4**	S	**Pb**	**19 46 01.5**	**+0.4**
BNGL	**BINGOL**	**1.64**	**277**	*i* P	**Pn**	**19 46 00.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	*e*PN	**Pn**	**19 46 01.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	*i* P	**Pn**	**19 46 01.1**	**+0.3**
SVAN				*i* S	**Sn**	**19 46 22.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	P	**Pn**	**19 46 01.1**	**+0.3**
SVAN				S	**Sn**	**19 46 22.2**	**-0.8**
BTMN	**Batman**	**1.78**	**241**	*i* P	**Pb**	**19 46 02.8**	**-0.7**
BTMN				*i* S	**Sb**	**19 46 26.4**	**+0.3**
BTMN	**Batman**	**1.78**	**241**	P	**Pb**	**19 46 02.8**	**-0.7**
BTMN				S	**Sb**	**19 46 26.4**	**+0.3**
GNI	**Garni**	**1.80**	**40**	Pn	**Pb**	**19 46 03.0**	**-0.8**
	24nm,0.3s,baz=232,slow=1.1,SNR=21					
GNI				Lg	Lg	19 46 28.0
	17nm,0.3s,baz=30,slow=17,SNR=3.1					
NAX	**Nakhchivan**	**1.80**	**77**	⇑P	**Pb**	**19 46 03.1**	**-0.7**
NAX				⇑S	**Sg**	**19 46 29.5**	**+1.0**
NAX	**Nakhchivan**	**1.80**	**77**	P	**Pb**	**19 46 03.1**	**-0.7**
NAX				S	**Sg**	**19 46 29.5**	**+1.0**
ERZM	**Erzurum**	**1.84**	**308**	*i* P	**Pb**	**19 46 04.3**	**-0.2**
ERZM	**Erzurum**	**1.84**	**308**	P	**Pb**	**19 46 04.3**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.91**	**339**	*e*PN	**Pn**	**19 46 02.8**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.91**	**339**	*e*Pn	**Pn**	**19 46 02.8**	**-0.7**
EAK	**Akyaka**	**1.93**	**8**	*i* P	**Pg**	**19 46 07.4**	**-0.1**
EAK	**Akyaka**	**1.93**	**8**	P	**Pg**	**19 46 07.4**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.94**	**296**	*i* P	**Pb**	**19 46 05.3**	**-1.0**
ECAT	**Cat-ERZURUM**	**1.94**	**296**	P	**Pb**	**19 46 05.3**	**-1.0**
BNGB	**Bing¨ll**	**2.01**	**277**	*e*PN	**Pn**	**19 46 05.1**	**+0.3**
BINT	**Bingol**	**2.15**	**273**	*e*Pn	**Pn**	**19 46 05.1**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.20**	**288**	*e*PN	**Pn**	**19 46 07.8**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.20**	**288**	*e*Pn	**Pn**	**19 46 07.8**	**+0.3**
DDEM	**Demirkent**	**2.40**	**332**	*i* P	**Pb**	**19 46 13.4**	**-0.7**
DDEM	**Demirkent**	**2.40**	**332**	P	**Pb**	**19 46 13.4**	**-0.7**
KOPT	**Kop Dagi**	**2.46**	**301**	*i* P	**Pb**	**19 46 14.3**	**-0.8**
KOPT				*i* S	**Sg**	**19 46 48.2**	**-1.3**
KOPT	**Kop Dagi**	**2.46**	**301**	P	**Pb**	**19 46 14.3**	**-0.8**
BGD	**Bogdanovka**	**2.50**	**6**	P	**Pg**	**19 46 18.1**	**-0.3**
DAGI	**Agillar**	**2.51**	**337**	*i* P	**Pb**	**19 46 14.3**	**-1.7**
MAZI	**Mazidag**	**2.57**	**240**	*e*PN	**Pn**	**19 46 13.8**	**+1.3**
MAZI	**Mazidag**	**2.57**	**240**	*e*Pn	**Pn**	**19 46 13.8**	**+1.3**
AKH	**Akhalkalaki**	**2.63**	**4**	*e*PN	**Pn**	**19 46 12.5**	**-1.0**
AKH	**Akhalkalaki**	**2.63**	**4**	P	**Pb**	**19 46 17.6**	**-0.4**
AKH	**Akhalkalaki**	**2.63**	**4**	⇓*i*P	Pn	19 46 06.0	-7.5
AKH	**Akhalkalaki**	**2.63**	**4**	*e*Pn	**Pn**	**19 46 12.5**	**-1.0**
GDB	**GEDABAY**	**2.74**	**44**	⇑P	**Pb**	**19 46 21.0**	**+1.1**
	SNR=4.8					
GDB				⇑S	**Sg**	**19 47 00.3**	**+1.7**
EPOS	**Posof**	**2.75**	**352**	*i* P	**Pb**	**19 46 19.0**	**-1.0**
EPOS	**Posof**	**2.75**	**352**	P	**Pb**	**19 46 19.0**	**-1.0**
QZX	**Qazax, Azerbai**	**2.81**	**35**	⇑P	**Pg**	**19 46 23.1**	**-1.2**
	SNR=10.0					
QZX				⇑S	**Sg**	**19 47 05.7**	**+5.1**
DBOC	**Borcka**	**2.83**	**335**	*i* P	**Pb**	**19 46 19.9**	**-1.5**
DBOC	**Borcka**	**2.83**	**335**	P	**Pb**	**19 46 19.9**	**-1.5**
EUZM	**Uzumlu**	**2.90**	**290**	*i* P	**Pb**	**19 46 21.5**	**-1.1**
EUZM	**Uzumlu**	**2.90**	**290**	P	**Pb**	**19 46 21.5**	**-1.1**
PTK	**Pertek**	**3.01**	**273**	*e*PN	**Pn**	**19 46 19.6**	**+1.0**
PTK	**Pertek**	**3.01**	**273**	*e*Pn	**Pn**	**19 46 19.6**	**+1.0**
GANJ	**Ganja**	**3.02**	**51**	⇑P	**Pb**	**19 46 22.9**	**-1.7**
	SNR=2.9					
GANJ				⇓S	**Sg**	**19 47 04.8**	**-2.8**
DGRG	**David-gareji**	**3.13**	**31**	P	**Pb**	**19 46 24.6**	**-1.8**
DGRG	**David-gareji**	**3.13**	**31**	P	**Pn**	**19 46 22.6**	**+2.4**
KELT	**Kelkit**	**3.37**	**295**	*i* P	**Pb**	**19 46 31.5**	**+0.9**
BRDA	**Brd**	**3.39**	**63**	⇑P	**Pn**	**19 46 26.1**	**+2.4**
BRDA				⇑S	**Sb**	**19 47 09.6**	**-2.6**
BRDA	**Brd**	**3.39**	**63**	P	**Pn**	**19 46 26.1**	**+2.4**
BRDA				S	**Sb**	**19 47 09.6**	**-2.6**
MNGR	**Mingechevir, A**	**3.57**	**55**	⇑S	**Sb**	**19 47 15.6**	**-1.8**
KEMA	**Kemaliye**	**3.73**	**279**	*i* P	**Pb**	**19 46 36.1**	**-0.5**
ZRD	**Zardab**	**3.75**	**65**	⇓P	**Pn**	**19 46 29.6**	**+0.9**
ZRD				⇑S	**Sn**	**19 47 16.5**	**+3.6**
ZRD	**Zardab**	**3.75**	**65**	P	**Pn**	**19 46 29.6**	**+0.9**
ZRD				S	**Sn**	**19 47 16.5**	**+3.6**
ONI	**Oni**	**3.81**	**2**	P	**Pb**	**19 46 39.3**	**+1.2**
ZKTA	**Zakatala**	**3.85**	**41**	⇓P	**Pb**	**19 46 36.4**	**-2.4**
SEKA	**Sheki**	**3.89**	**50**	⇓P	**Pb**	**19 46 35.9**	**-3.5**
SEKA	**Sheki**	**3.89**	**50**	P	**Pb**	**19 46 35.9**	**-3.5**
LRK	**Lerik**	**3.99**	**90**	⇑S	**Sn**	**19 47 13.5**	**-5.8**
GLBA	**Clilabad**	**4.04**	**82**	⇑P	**Pn**	**19 46 30.8**	**-1.9**
GLBA				⇑S	**Sn**	**19 47 19.7**	**-0.5**
GLBA	**Clilabad**	**4.04**	**82**	P	**Pn**	**19 46 30.8**	**-1.9**
GLBA				S	**Sn**	**19 47 19.7**	**-0.5**
QBL	**Gabala**	**4.15**	**57**	⇑P	**Pn**	**19 46 37.6**	**+3.5**
IML	**Ismayilli**	**4.31**	**61**	⇑P	**Pn**	**19 46 38.9**	**+2.5**
LKRN	**Lenkeran, Azer**	**4.33**	**89**	⇓P	**Pn**	**19 46 33.9**	**-2.7**
LKRN	**Lenkeran, Azer**	**4.33**	**89**	P	**Pn**	**19 46 33.9**	**-2.7**
ASTR	**Astara**	**4.35**	**91**	⇑P	**Pn**	**19 46 33.8**	**-3.1**
ASTR	**Astara**	**4.35**	**91**	P	**Pn**	**19 46 33.8**	**-3.1**
XNQ	**Khinaliq**	**4.46**	**56**	⇓P	**Pn**	**19 46 42.6**	**+4.0**
PQL	**Pirkuli**	**4.59**	**62**	⇓P	**Pn**	**19 46 41.4**	**+1.1**
PQL	**Pirkuli**	**4.59**	**62**	P	**Pn**	**19 46 41.4**	**+1.1**
QSAR	**Qusar**	**4.72**	**53**	⇑P	**Pn**	**19 46 45.4**	**+3.3**
QSAR	**Qusar**	**4.72**	**53**	P	**Pn**	**19 46 45.4**	**+3.3**
GBS	**Qobustan**	**4.74**	**66**	⇑P	**Pn**	**19 46 43.1**	**+0.8**
GBS	**Qobustan**	**4.74**	**66**	P	**Pn**	**19 46 43.1**	**+0.8**
QUBA	**Quba, Azerbaij**	**4.78**	**56**	⇓P	**Pn**	**19 46 45.7**	**+2.9**
ATGJ	**Altiaghaj**	**4.86**	**63**	⇑P	**Pn**	**19 46 46.1**	**+2.1**
SIZA	**Siyzn**	**4.92**	**60**	⇓P	**Pn**	**19 46 46.9**	**+2.1**
KBZ	**Khabaz**	**4.95**	**357**	Pg	**Pb**	**19 46 57.6**	**+0.2**
	0.1nm,0.3s,baz=320,slow=16,SNR=2.7					
GOBA	**Gobu**	**5.27**	**70**	⇑P	**Pn**	**19 46 50.0**	**+0.4**
GOBA	**Gobu**	**5.27**	**70**	P	**Pn**	**19 46 50.0**	**+0.4**
NDR	**Nardaran**	**5.51**	**69**	⇑P	**Pn**	**19 46 53.7**	**+0.9**
BRTR	**Keskin Array B**	**7.51**	**280**	Pn	**Pn**	**19 47 22.2**	**+1.8**
	0.1nm,0.3s,baz=112,slow=15,SNR=3.6					
ASF	**Jabal al Asfar**	**8.38**	**220**	Pn	**Pn**	**19 47 32.2**	**-0.1**
	0.1nm,0.3s,baz=52,slow=12,SNR=2.0					
ASF				Lg	Lg	19 50 00.3
	0.2nm,0.3s,baz=152,slow=22,SNR=4.5					
VOIR		**15.04**	**302**	⇑*i*P	**P**	**19 49 11.4**	**+2.7**
IDI	**Anoyia**	**15.06**	**262**	Pn	**Pn**	**19 49 01.8**	**-1.9**
	0.2nm,0.3s,baz=37,slow=20,SNR=2.5					
AKASG	**Malin Array Be**	**15.50**	**325**	Pn	**Pn**	**19 49 10.4**	**+1.1**
	0.4nm,0.3s,baz=134,slow=11,SNR=3.0					
AKTO	**Aktyubinsk**	**15.67**	**37**	Pn	**Pn**	**19 49 13.3**	**+1.8**
	0.1nm,0.3s,baz=215,slow=8.1,SNR=5.7					
BURAR	**Bucovina Array**	**15.80**	**310**	⇑*i*P	**P**	**19 49 17.4**	**+0.1**
STHS	**Stebnicka Huta**	**18.97**	**311**	*e*P	**P**	**19 49 52.5**	**+0.3**
VYHS	**Vyhne**	**20.08**	**307**	*e*P	Pn	19 50 05.2	-0.9
ARU	**Arti**	**20.38**	**25**	P	Pn	19 50 08.5	-0.9
	1.8nm,0.7s,baz=204,slow=6.8,SNR=4.2					
GERES	**GERESS Array B**	**23.43**	**305**	P	**P**	**19 50 39.7**	**-0.5**
	0.2nm,0.4s,baz=65,slow=6.9,SNR=3.0					
BVAR	**Borovoye Array**	**23.48**	**44**	P	**P**	**19 50 41.4**	**+1.0**
	0.6nm,0.7s,baz=215,slow=7.0,SNR=2.5					
FINES	**FINESS Array B**	**25.06**	**340**	P	**P**	**19 50 54.1**	**-0.9**
	5.5nm,1.1s,baz=165,slow=5.8,SNR=4.0					
KURBB	**Kurchatov Arra**	**27.48**	**53**	P	**P**	**19 51 16.9**	**-0.1**
	0.6nm,0.9s,baz=266,slow=8.5,SNR=4.5					
MKAR	**Makanchi Array**	**29.51**	**61**	P	**P**	**19 51 34.9**	**-0.4**
	0.3nm,0.6s,baz=263,slow=7.5,SNR=3.5					
MKAR				LR	LR	20 03 44.5
	comp=Z,177nm,20.4s,baz=234,slow=37					
ZALV	**Zalesovo Beam**	**31.93**	**48**	LR	LR	20 08 20.9
	comp=Z,134nm,20.4s,baz=252,slow=43					
ARCES	**ARCESS Array B**	**32.25**	**348**	P	**P**	**19 51 58.2**	**-0.8**
	1.3nm,0.8s,baz=159,slow=10,SNR=5.0					
EKA	**Eskdalemuir Ar**	**34.92**	**314**	P	**P**	**19 52 21.6**	**-0.8**
	5.4nm,0.8s,baz=108,slow=8.8,SNR=11					
TLY	**Talaya**	**43.24**	**52**	LR	LR	20 13 41.9
	comp=Z,86nm,20.3s,baz=214,slow=39					
CMAR	**Chiang Mai Arr**	**52.10**	**96**	P	**P**	**19 54 44.1**	**+2.8**
	0.4nm,0.5s,baz=294,slow=9.7,SNR=4.1					

IDC 26 19:48:40.7±1.2, 14.°15N×53.°76E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/55, mbtmp3.5/5, Error ellipse: s-maj=34.4km s-min=32.8km az=161.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**26.58**	**139**	T	T	20 22 19.3	
	baz=322						
H08N3	**Diego Garcia H**	**26.59**	**139**	T	T	20 22 20.4	
	baz=322						
H08N1	**Diego Carcia H**	**26.60**	**139**	T	T	20 22 20.0	
	baz=322						
BVAR	**Borovoye Array**	**40.97**	**15**	P	P	19 56 26.2	+1.1
	0.5nm,0.8s,baz=190,slow=7.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**41.56**	**24**	P	P	19 56 28.6	-1.4
	0.3nm,0.8s,baz=225,slow=9.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**50.52**	**275**	P	P	19 57 41.0	-0.2
	0.3nm,0.6s,baz=92,slow=7.4,SNR=3.2						
WRA	**Warramunga Arr**	**86.16**	**112**	P	P	20 01 24.7	+0.3
	0.6nm,0.7s,baz=295,slow=3.8,SNR=4.6						
ASAR	**Alice Springs**	**86.83**	**115**	P	P	20 01 27.6	-0.1
	0.4nm,0.7s,baz=288,slow=4.4,SNR=7.7						

MOS ***26*** *19:53:28.8±1.0, 14.°28N×53.°86E, h10km, mb4.8/8, Error ellipse: s-maj=10.4km s-min=6.2km az=93.7*
IDC ***26*** *19:53:28.9±0.6, 14.°22N×53.°80E, h0km, mb4.2/35, mb1 4.2/36, mb1mx4.2/55, mbtmp4.2/36, ML3.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/13, Error ellipse: s-maj=13.4km s-min=11.8km az=141.0*
ISCJB ***26*** *19:53:30.4±0.3, 14.°28N±0.°05×53.°79E±0.°04, h19km, mb4.3/54, MS4.2/3, Error ellipse: s-maj=7.5km s-min=5.4km az=4.2*
NEIC ***26*** *19:53:30.4±0.2, 14.°26N×53.°79E, h10km, mb4.8/14, Error ellipse: s-maj=5.7km s-min=5.1km az=171.0*
CSEM ***26*** *19:53:30.8±0.2, 14.°29N×53.°82E, h10km, mb4.7/17, Error ellipse: s-maj=6.9km s-min=6.2km az=1.0*

ISC 26 19:53:32.0±0.5, 14.°28N±0.°07×53.°81E±0.°07, h19km, n185, σ1§47/184, mb4.4/54, MS4.2/3, 8C-17D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.01**	**26**	Pn	**Pn**	**19 55 54.9**	**0.0**
	0.2nm,0.3s,baz=170,slow=6.1,SNR=3.1						
WSAR				Sn	Sn	19 57 36.6	-10
	0.2nm,0.3s,baz=174,slow=17,SNR=2.3						
RAYN	**Ar Rayn**	**12.09**	**321**	*e*Pn	**Pn**	**19 56 22.3**	**-1.1**
RAYN	**Ar Rayn**	**12.09**	**321**	*e*Pn	**Pn**	**19 56 22.3**	**-1.1**
KMBO	**Kilima Mbogo**	**22.43**	**228**	P	**P**	**19 58 27.8**	**-2.5**
	3.8nm,0.7s,baz=39,slow=14,SNR=11						
KMBO	**Kilima Mbogo**	**22.43**	**228**	*e*P	**P**	**19 58 28.2**	**-2.0**
KMBO	**Kilima Mbogo**	**22.43**	**228**	*e*P	**P**	**19 58 28.2**	**-2.0**
KMBO	**Kilima Mbogo**	**22.43**	**228**	*e*P	**P**	**19 58 28.2**	**-2.0**
EIL	**Elat**	**23.19**	**314**	P	**P**	**19 58 37.9**	**+0.1**
	5.2nm,0.8s,baz=40,slow=2.7,SNR=5.8						
ASF	**Jabal al Asfar**	**23.57**	**322**	P	**P**	**19 58 41.9**	**+0.2**
	6.4nm,1.1s,baz=130,slow=9.6,SNR=5.3						
GEYT	**Alibeck**	**23.86**	**8**	P	**P**	**19 58 45.8**	**+1.4**
	3.5nm,0.7s,baz=203,slow=9.6,SNR=7.4						
HYB	**Hyderabad**	**24.00**	**79**	*i* P	**P**	**19 58 49.0**	**+3.1**
KBL	**Kabul**	**24.42**	**32**	*e*P	**P**	**19 58 46.4**	**-3.4**
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**24.42**	**32**	*e*P	**P**	**19 58 46.4**	**-3.4**
	comp=Z,13nm,0.8s						
MMAI	**Mount Meron Ar**	**25.06**	**321**	P	**P**	**19 58 55.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=95,slow=9.5,SNR=5.4						
PYUN	**Piuthan**	**30.39**	**58**	*e*P	**P**	**19 59 45.5**	**+2.1**
	comp=Z,45nm,1.1s						
KOLN	**Koldanda**	**30.78**	**59**	*e*P	**P**	**19 59 48.1**	**+1.3**
KBZ	**Khabaz**	**30.80**	**344**	P	**P**	**19 59 47.5**	**+1.0**
	comp=Z,2.6nm,1.1s,baz=345,slow=7.0,SNR=2.5						
BR101	**Keskin Array S**	**30.92**	**329**	*e*P	**P**	**19 59 48.5**	**+0.7**
BR101	**Keskin Array S**	**30.92**	**329**	*e*P	**P**	**19 59 48.5**	**+0.7**
BRTR	**Keskin Array B**	**30.92**	**329**	P	**P**	**19 59 48.5**	**+0.7**
	comp=Z,1.7nm,1.1s,baz=139,slow=12,SNR=4.6						
DANN	**Dangsing**	**31.11**	**58**	*e*P	**P**	**19 59 52.6**	**+2.7**
	comp=Z,2.7nm,1.0s						
GKN	**Gorkha**	**31.72**	**60**	*e*P	**P**	**19 59 57.1**	**+2.0**
	comp=Z,11nm,0.7s						
KSH	**Kashi**	**31.80**	**34**	P	**P**	**19 59 54.5**	**-1.1**
KSH				pP	pP	20 00 00.5	-0.9
KSH				sP	sP	20 00 02.5	-1.3
KSH				PP	**PnPn**	**20 00 59.5**	**-0.7**
KSH				PcP	**PcP**	**20 02 49.0**	**+2.4**
KSH				S	**S**	**20 04 59.0**	**-6.1**
KSH				sS	pS	20 05 07.0	-4.7
KSH				PcS	**PcS**	**20 06 26.8**	**-4.4**
KSH				SS	**SnSn**	**20 06 49.3**	**-3.8**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,190nm,5.1s						
KSH				LR	LR		
	comp=N,240nm,11.4s						
KSH				LR	LR		
	comp=E,180nm,10.1s						
KSH				LR	LR		
	comp=Z,210nm,10.7s						
DMN	**Daman**	**31.99**	**60**	*e*P	**P**	**19 59 58.8**	**+1.2**
	comp=Z,7.5nm,0.7s						
KKN	**Kakani**	**32.20**	**60**	*e*P	**P**	**20 00 00.3**	**+1.0**
	comp=Z,16nm,0.7s						
PKIN	**Phulchoki**	**32.23**	**61**	*e*P	**P**	**20 00 01.4**	**+1.7**
	comp=Z,5.3nm,0.7s						
PKI	**Pulchoki**	**32.24**	**61**	*e*P	**P**	**20 00 00.2**	**+0.4**
	comp=Z,6.9nm,0.7s						
GUN	**Gumba**	**32.74**	**60**	*e*P	**P**	**20 00 06.3**	**+2.1**
	comp=Z,53nm,1.1s						
JIRN	**Jiri**	**32.92**	**61**	*e*P	**P**	**20 00 06.5**	**+0.6**
	comp=Z,73nm,0.6s						
RAMN	**Ramite**	**33.07**	**62**	*e*P	**P**	**20 00 07.8**	**+0.7**
	comp=Z,50nm,1.5s						
IDI	**Anoyia**	**33.36**	**314**	P	**P**	**20 00 11.1**	**+1.9**
	comp=Z,13nm,1.0s,baz=113,slow=15,SNR=3.9						
IDI				LR	LR	20 16 29.0	
	comp=Z,218nm,19.6s,baz=82,

LVV L'vov 42.96 332 eP P 20 01 30.8 +1.0
LVV L'vov 42.96 332 eP P 20 01 30.8 +1.0
UZH Uzhgorod 42.97 329 eP P 20 01 30.0 +0.1
UZH Uzhgorod 42.97 329 eP P 20 01 30.0 +0.1
CM31 Chiang Mai Arr 43.42 78 eP P 20 01 34.5 +0.5
CM31 Chiang Mai Arr 43.42 78 eP P 20 01 34.5 +0.5
CMAR Chiang Mai Arr 43.42 78 P P 20 01 34.5 +0.5
comp=Z,3.0nm,0.9s,baz=275,slow=8.6,SNR=21
KEST Kesra 45.13 306 P P 20 01 48.6 +1.0
comp=Z,4.8nm,0.9s,baz=300,slow=5.5,SNR=4.6
MORC Moravsky Berou 46.10 328 ||P P 20 01 54.9 0.0
MORC Moravsky Berou 46.10 328 ||P P 20 01 54.9 0.0
MORC Moravsky Berou 46.10 328 P P 20 01 54.9 0.0
TAM Tamanrasset 46.38 288 eP P 20 01 58.5 +0.7
TAM pmax pmax
comp=Z,10.0nm,1.0s
TAM Tamanrasset 46.38 288 eP P 20 01 58.5 +0.7
comp=Z,10.0nm,1.0s
TAM Tamanrasset 46.38 288 eP P 20 01 58.5 +0.7
comp=Z,10nm,1.0s
ZAA0 Zalesovo Array 46.46 25 eP P 20 01 56.9 -0.7
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 46.46 25 eP P 20 01 56.9 -0.7
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 46.46 25 P P 20 01 56.8 -0.9
comp=Z,3.0nm,0.7s,baz=234,slow=7.6,SNR=11
ZAA1 Zalesovo Array 46.46 25 eP P 20 01 56.8 -0.9
ZAA1 Zalesovo Array 46.46 25 eP P 20 01 56.8 -0.9
NVS Novosibirsk 46.50 23 eP P 20 01 57.6 -0.3
NVS Novosibirsk 46.50 23 eP P 20 01 57.6 -0.3
DPC Dobruska-Polom 47.07 328 eP P 20 02 03.6 +1.0
DPC ex x 20 02 12.8
DPC Dobruska-Polom 47.07 328 eP P 20 02 03.6 +1.0
DPC e 20 02 12.8
DPC Dobruska-Polom 47.07 328 eP P 20 02 03.6 +1.0
GTA Gaotai 47.42 49 eP P 20 02 13.8 +8.2
GTA pP sP 20 02 17.5 +3.6
GTA sP pP 20 02 19.5 +7.9
GEC2 GERESS Array S 47.63 325 eP P 20 02 05.0 -2.0
GEC2 pmax pmax
comp=Z,34nm,2.0s
GEC2 GERESS Array S 47.63 325 eP P 20 02 05.0 -2.0
comp=Z,34nm,2.0s
GEC2 GERESS Array S 47.63 325 eP P 20 02 05.0 -2.0
comp=Z,34nm,2.0s
GERES GERESS Array B 47.63 325 P P 20 02 08.1 +1.1
comp=Z,0.2nm,0.6s,baz=163,slow=5.0,SNR=4.0
LBTB Lobatse 47.77 215 P P 20 02 08.8 +0.4
comp=Z,4.1nm,0.8s,baz=35,slow=15,SNR=6.5
LBTB Lobatse 47.77 215 eP P 20 02 09.5 +1.1
LBTB Lobatse 47.77 215 eP P 20 02 09.5 +1.1
LBTB Lobatse 47.77 215 eP P 20 02 09.5 +1.1
DAVOX Davos/Dischmat 48.86 321 P P 20 02 16.8 +0.2
comp=Z,2.8nm,0.9s,baz=310,slow=16,SNR=2.9
CLL Collm 49.35 327 eP P 20 02 20.0 -0.1
TOA0 Torodi Ar. Sit 50.55 275 eP P 20 02 29.5 -0.3
comp=Z,17nm,1.3s
TOA0 Torodi Ar. Sit 50.55 275 eP P 20 02 29.5 -0.3
comp=Z,17nm,1.3s
TORD Torodi Ar. Bea 50.55 275 P P 20 02 29.1 -0.6
comp=Z,3.4nm,0.9s,baz=90,slow=6.4,SNR=19
TOA1 Torodi Ar. Sit 50.55 275 eP P 20 02 29.1 -0.7
comp=Z,12nm,1.1s
TOA1 Torodi Ar. Sit 50.55 275 eP P 20 02 29.1 -0.7
comp=Z,12nm,1.1s
BOSA Boshof 50.81 213 P P 20 02 31.3 -0.3
comp=Z,2.5nm,0.8s,baz=78,slow=11,SNR=3.1
FIA0 FINESS Array S 51.15 343 eP P 20 02 33.1 -0.4
FIA0 FINESS Array S 51.15 343 eP P 20 02 33.1 -0.4
FIA0 FINESS Array S 51.15 343 eP P 20 02 33.1 -0.4
FINES FINESS Array B 51.15 343 P P 20 02 33.1 -0.4
comp=Z,2.0nm,0.5s,baz=151,slow=7.1,SNR=14
HFS Hagfors 54.31 337 P P 20 02 56.6 -0.4
comp=Z,2.5nm,0.6s,baz=140,slow=7.0,SNR=5.9
SONA0 Songino Array 54.69 41 eP P 20 03 00.6 +0.5
SONA0 Songino Array 54.69 41 eP P 20 03 00.6 +0.5
SONM Songino Array 54.69 41 P P 20 03 00.6 +0.4
comp=Z,3.3nm,0.9s,baz=248,slow=8.1,SNR=16
ULN Ulaanbaatar 55.12 41 eP P 20 03 04.2 +0.9
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 55.12 41 eP P 20 03 04.2 +0.9
comp=Z,5.8nm,0.9s
ULN Ulaanbaatar 55.12 41 eP P 20 03 04.2 +0.9
comp=Z,5.8nm,0.9s
NB200 NORSAR Array S 55.84 337 eP P 20 03 08.0 0.0
NB200 NORSAR Array S 55.84 337 eP P 20 03 08.0 0.0
NOA NORSAR Array B 55.84 337 P P 20 03 08.0 0.0
comp=Z,2.0nm,1.0s,baz=121,slow=7.7,SNR=3.2
ESDC Sonseca Array 56.29 308 P P 20 03 10.7 -1.0
comp=Z,2.2nm,0.6s,baz=87,slow=6.6,SNR=14
ARA0 ARCESS Array S 58.01 349 eP P 20 03 23.1 -0.2
ARA0 ARCESS Array S 58.01 349 eP P 20 03 23.1 -0.2
ARCES ARCESS Array B 58.01 349 P P 20 03 23.1 -0.2
comp=Z,1.1nm,0.6s,baz=146,slow=6.7,SNR=8.9
CN2 Changchun 67.03 48 eP P 20 04 24.3 +0.3
KS15 Wonju Array Si 68.89 55 eP P 20 04 34.9 -0.9
KS15 Wonju Array Si 68.89 55 eP P 20 04 34.9 -0.9
KSAR Wonju Array Be 68.89 55 P P 20 04 34.9 -0.9
KSAR Wonju Array Be 68.89 55 P P 20 04 34.9 -0.9
KSAR Wonju Array Be 68.89 55 P P 20 04 34.9 -0.9
KSRS Korea Array 68.93 55 P P 20 04 34.9 -1.1
comp=Z,1.4nm,0.6s,baz=270,slow=6.4,SNR=6.6
YAK Yakutsk 70.87 29 P P 20 04 48.0 +0.5
comp=Z,7.9nm,0.6s,baz=96,slow=5.4,SNR=5.6
KLR Kul'dur 71.47 43 P P 20 04 52.2 +0.8
comp=Z,0.1nm,0.6s,baz=277,slow=5.7,SNR=6.0
TIXI Tiksi 71.84 19 P P 20 04 53.7 +0.5
comp=Z,1.0nm,0.3s,baz=44,slow=5.5,SNR=4.8
DAG Danmarks Havn 72.19 347 i P P 20 04 55.9 +0.7
comp=Z,4.5nm,1.0s
DAG Danmarks Havn 72.19 347 i P P 20 04 55.9 +0.7
DAG pmax pmax
comp=Z,5.0nm,1.0s
FITZ Fitzroy Crossi 77.77 112 eP P 20 05 28.8 +0.3
FITZ Fitzroy Crossi 77.77 112 eP P 20 05 28.8 +0.3
WR1 Warramunga Arr 86.17 112 eP P 20 06 11.8 -0.8
comp=Z,12nm,1.3s
WR1 Warramunga Arr 86.17 112 eP P 20 06 11.8 -0.8
comp=Z,12nm,1.3s
WRA Warramunga Arr 86.17 112 P P 20 06 11.8 -0.8
comp=Z,2.5nm,0.6s,baz=297,slow=3.9,SNR=20
WB2 Warramunga Arr 86.18 112 eP P 20 06 11.9 -0.8
comp=Z,6.2nm,0.8s
WB2 Warramunga Arr 86.18 112 eP P 20 06 11.8 -0.8
comp=Z,6.2nm,0.8s
ASAR Alice Springs 86.85 115 P P 20 06 15.9 -0.1
comp=Z,2.0nm,0.6s,baz=291,slow=4.7,SNR=37
AS31 Alice Springs 86.85 115 eP P 20 06 16.2 +0.2
comp=Z,1.2nm,0.6s
AS31 Alice Springs 86.85 115 eP P 20 06 16.2 +0.2
comp=Z,1.2nm,0.6s
TBI Tubuai 156.23 116 eLR LR 21 05 16.8
comp=Z,141nm,29.2s
PPT2 Papeete2 157.28 101 eLR LR 21 06 28.4
comp=Z,102nm,23.2s
TAOE Nuku Hiva Isla 165.31 70 eLR LR 21 10 17.5
comp=Z,211nm,25.6s

MOS **26** *19:54:06.6±0.9, 14°.34N×53°.81E, h10km, mb5.1/36, Error ellipse: s-maj=9.4km s-min=5.2km az=112.6*
IDC **26** *19:54:06.5±0.6, 14°.25N×53°.88E, h0km, mb4.4/37, mb1 4.5/39, mb1mx4.4/56, mbtmp4.4/39, ML3.5/2, MS4.3/2, Ms1 4.3/2, ms1mx3.8/11, Error ellipse: s-maj=14.0km s-min=11.7km az=166.0*
NEIC **26** *19:54:08.1±4.2, 14°.28N×53°.86E, h8km±25km, mb4.9/27, Error ellipse: s-maj=7.1km s-min=6.0km az=163.0*
CSEM **26** *19:54:08.8±0.2, 14°.37N×53°.85E, h10km, mb4.9/56, Error ellipse: s-maj=8.1km s-min=6.3km az=7.0*
GCMT **26** *19:54:08.1±0.2, 14°.28N×53°.43E, h12km, MW5.1/110, Moment Tensor Solution. s62,c89; s110,c180; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=4.29±.09; $M_{\theta\theta}$=4.20±.09; $M_{\phi\phi}$0.08±.11; $M_{r\theta}$2.72±.28; $M_{\theta\phi}$-1.20±.08; $M_{r\phi}$2.10±.33; Best double couple: M_0=5.53400×10^16 NP1:ϕ_s259.00000°, δ63.00000°, λ-115.00000°. NP2: ϕ_s126.00000°, δ36.00000°, λ-50.00000°. Principal axes: T 5.0680, Plg15.0000°, Azm7.0000°; N 0.9310, Plg22.0000°, Azm271.0000°; P -6.0000, Plg63.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB **26** *19:54:08.0±0.3, 14°.34N±0°.05×53°.84E±0°.04, h19km,*

mb4.7/96, MS4.3/2 Error ellipse: s-maj=6.6km s-min=5.3km az=175.6
ISC 26 19:54:09.9±0.4, 14°.37N±0°.06×53°.87E±0°.07, h19km, n261, σ1 24/262, mb4.7/96, 4C, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.90**	**26**	Pn	**Pn**	**19 56 30.2**	**-1.1**
	0.2nm,0.3s,baz=227,slow=11,SNR=2.6						
WSAR				Sn	**Sn**	**19 58 16.0**	**-6.1**
	0.4nm,0.3s,baz=216,slow=19,SNR=3.2						
ATD	**Arta Tunnel**	**11.11**	**257**	Pn	**Pn**	**19 56 47.8**	**-0.2**
	1.0nm,0.3s,baz=246,slow=22,SNR=5.1						
KMBO	**Kilima Mbogo**	**22.54**	**228**	P	**P**	**19 59 06.7**	**-2.6**
	5.9nm,0.9s,baz=44,slow=12,SNR=5.6						
KMBO	**Kilima Mbogo**	**22.54**	**228**	eP	**P**	**19 59 06.7**	**-2.6**
KMBO				pmax	pmax		
	comp=Z,59nm,1.6s						
KMBO	**Kilima Mbogo**	**22.54**	**228**	eP	**P**	**19 59 06.7**	**-2.6**
	comp=Z,59nm,1.6s						
EIL	**Elat**	**23.17**	**314**	P	**P**	**19 59 16.4**	**+0.9**
	comp=Z,16nm,0.8s,baz=6.6,slow=2.2,SNR=10						
ASF	**Jabal al Asfar**	**23.54**	**322**	P	**P**	**19 59 19.9**	**+0.6**
	comp=Z,17nm,1.1s,baz=96,slow=4.0,SNR=8.2						
GEYT	**Alibeck**	**23.76**	**8**	P	**P**	**19 59 22.8**	**+1.5**
	comp=Z,5.6nm,0.7s,baz=197,slow=3.0,SNR=5.7						
HYB	**Hyderabad**	**23.92**	**79**	i P	**P**	**19 59 25.0**	**+1.9**
KBL	**Kabul**	**24.31**	**32**	eP	**P**	**19 59 29.2**	**+2.5**
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**24.31**	**32**	eP	**P**	**19 59 29.2**	**+2.5**
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**24.31**	**32**	eP	**P**	**19 59 29.2**	**+2.5**
	comp=Z,13nm,0.8s						
MMAI	**Mount Meron Ar**	**25.03**	**321**	P	**P**	**19 59 33.3**	**+0.2**
	comp=Z,18nm,0.9s,baz=163,slow=10,SNR=6.3						
MARD	**Mardin**	**25.65**	**335**	eP	**P**	**19 59 36.6**	**-2.1**
	comp=Z,83nm,0.6s						
MARD	**Mardin**	**25.65**	**335**	eP	**P**	**19 59 36.6**	**-2.1**
	comp=Z,83nm,0.6s						
H08N2	**Diego Garcia H**	**26.68**	**139**	T	T	20 27 59.6	
	baz=320,slow=76,SNR=77						
H08N3	**Diego Garcia H**	**26.69**	**139**	T	T	20 28 05.6	
	baz=320,slow=76,SNR=64						
H08N1	**Diego Garcia H**	**26.70**	**139**	T	T	20 28 01.2	
	baz=320,slow=76,SNR=66						
KBZ	**Khabaz**	**30.73**	**344**	P	**P**	**20 00 24.4**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=177,slow=6.3,SNR=5.5						
BR101	**Keskin Array S**	**30.88**	**329**	eP	**P**	**20 00 26.0**	**+0.6**
BR101	**Keskin Array S**	**30.88**	**329**	eP	**P**	**20 00 26.0**	**+0.6**
BR131	**Keskin Array S**	**30.88**	**329**	eP	**P**	**20 00 28.3**	**+3.0**
BRTR	**Keskin Array B**	**30.88**	**329**	P	**P**	**20 00 26.0**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=138,slow=8.0,SNR=7.7						
BRTR	**Keskin Array B**	**30.88**	**329**	P	**P**	**20 00 26.0**	**+0.6**
BRTR	**Keskin Array B**	**30.88**	**329**	P	**P**	**20 00 26.0**	**+0.6**
BR231	**Keskin MP Arra**	**31.40**	**328**	eP	**P**	**20 00 31.9**	**+1.9**
BR231	**Keskin MP Arra**	**31.40**	**328**	eP	**P**	**20 00 31.9**	**+1.9**
ANTO	**Ankara**	**31.41**	**328**	eP	**P**	**20 00 32.0**	**+2.0**
ANTO				pmax	pmax		
	comp=Z,24nm,0.8s						
ANTO	**Ankara**	**31.41**	**328**	eP	**P**	**20 00 32.0**	**+2.0**
	comp=Z,24nm,0.8s						
ANTO	**Ankara**	**31.41**	**328**	eP	**P**	**20 00 32.0**	**+2.0**
	comp=Z,24nm,0.8s						
MNAS	**Manas**	**32.30**	**26**	P	**P**	**20 00 38.1**	**+0.2**
MNAS				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MNAS	**Manas**	**32.30**	**26**	P	**P**	**20 00 38.1**	**+0.2**
	comp=Z,7.0nm,1.5s						
AAK	**Ala-Archa**	**33.30**	**28**	P	**P**	**20 00 49.0**	**+2.3**
	comp=Z,3.2nm,0.8s,baz=211,slow=7.4,SNR=9.0						
IDI	**Anoyia**	**33.34**	**314**	P	**P**	**20 00 48.9**	**+1.9**
	comp=Z,23nm,0.9s,baz=132,slow=8.3,SNR=6.6						
IDI	**Anoyia**	**33.34**	**314**	eP	**P**	**20 00 48.9**	**+1.9**
	comp=Z,215nm,1.7s						
IDI	**Anoyia**	**33.34**	**314**	eP	**P**	**20 00 48.9**	**+1.9**
	comp=Z,215nm,1.7s						
FRU	**Bishkek**	**33.51**	**28**	eP	**P**	**20 00 48.0**	**-0.4**
FRU				pmax	pmax		
	comp=Z,90nm,2.4s						
FRU	**Bishkek**	**33.51**	**28**	eP	**P**	**20 00 48.0**	**-0.4**
	comp=Z,90nm,2.4s						
ABPO	**Ambohimpanom**	**33.82**	**191**	P	**P**	**20 00 51.8**	**+0.5**
ABPO				pmax	pmax		
	comp=Z,14nm,1.5s						
ABPO	**Ambohimpanom**	**33.82**	**191**	P	**P**	**20 00 51.8**	**+0.5**
	comp=Z,14nm,1.5s						
MDOK	**Medeo**	**34.92**	**30**	i P	**P**	**20 00 58.8**	**-1.8**
	comp=Z,41nm,2.2s						
MDOK				eS	**S**	**20 06 31.6**	**+0.3**
MDOK				LRM	MLR	20 16 43.9	
	comp=Z,119nm,21.9s						
SATY	**Saty**	**35.52**	**32**	i P	**P**	**20 01 04.0**	**-1.9**
	comp=Z,165nm,1.2s						
SATY				eS	**S**	**20 06 40.6**	**+0.1**
SATY				LRM	MLR	20 17 22.2	
	comp=Z,81nm,10.3s						
AKTK	**Aktyubinsk**	**36.12**	**4**	P	**P**	**20 01 11.8**	**+1.1**
AKTO	**Aktyubinsk**	**36.12**	**4**	P	**P**	**20 01 11.8**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=201,slow=9.7,SNR=5.9						
SHLS	**Shalkode**	**36.13**	**32**	i P	**P**	**20 01 10.9**	**-0.1**
	comp=Z,26nm,1.2s						
SHLS				i S	**S**	**20 06 53.3**	**+3.4**
SHLS				LRM	MLR	20 17 45.7	
	comp=Z,39nm,10.2s						
PDGK	**Podgornoye**	**36.26**	**32**	P	**P**	**20 01 12.6**	**+0.4**
PDGK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PDGK	**Podgornoye**	**36.26**	**32**	P	**P**	**20 01 12.6**	**+0.4**
	comp=Z,10.0nm,1.0s						
CFR	**Carcaliu**	**37.65**	**330**	⇑iP	P	20 01 18.2	-5.5
CFR	**Carcaliu**	**37.65**	**330**	⇑P	P	20 01 18.2	-5.5
VTS	**Vitosha**	**38.57**	**323**	eP	**P**	**20 01 32.3**	**+0.5**
VTS				pmax	pmax		
	comp=Z,52nm,1.8s						
VTS	**Vitosha**	**38.57**	**323**	eP	**P**	**20 01 32.3**	**+0.5**
	comp=Z,52nm,1.8s						
VTS	**Vitosha**	**38.57**	**323**	eP	**P**	**20 01 32.3**	**+0.5**
	comp=Z,52nm,1.8s						
BRZS	**Berezniki**	**38.69**	**19**	eP	**P**	**20 01 30.6**	**-1.9**
	comp=Z,36nm,1.2s						
VRI	**Vrincioaia**	**38.83**	**329**	P	**P**	**20 01 30.4**	**-3.4**
VRI				pmax	pmax		
	comp=Z,164nm,1.1s						
LSZ	**Lusaka**	**38.89**	**222**	P	**P**	**20 01 33.9**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=49,slow=4.4,SNR=3.7						
LSZ				LR	LR	20 17 51.5	
	comp=Z,923nm,19.9s,baz=48,slow=37						
LSZ	**Lusaka**	**38.89**	**222**	eP	**P**	**20 01 33.9**	**-0.8**
LSZ				pmax	pmax		
	comp=Z,20nm,1.6s						
LSZ	**Lusaka**	**38.89**	**222**	eP	**P**	**20 01 33.9**	**-0.8**
	comp=Z,20nm,1.6s						
LSZ	**Lusaka**	**38.89**	**222**	eP	**P**	**20 01 33.9**	**-0.8**
	comp=Z,20nm,1.6s						
MK32	**Makanchi Array**	**40.11**	**30**	eP	**P**	**20 01 44.7**	**+0.3**
MK32	**Makanchi Array**	**40.11**	**30**	eP	**P**	**20 01 44.7**	**+0.3**
MKAR	**Makanchi Array**	**40.11**	**30**	P	**P**	**20 01 44.7**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=201,slow=7.7,SNR=4.0						
BVAR	**Borovoye Array**	**40.73**	**15**	P	**P**	**20 01 49.4**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=189,slow=7.8,SNR=9.2						
BUR08	**Bucovina Ar. S**	**40.83**	**330**	eP	**P**	**20 01 51.9**	**+1.4**
BUR08	**Bucovina Ar. S**	**40.83**	**330**	eP	**P**	**20 01 51.9**	**+1.4**
KURBB	**Kurchatov Arra**	**41.31**	**24**	P	**P**	**20 01 54.7**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=224,slow=8.3,SNR=10						
AKASG	**Malin Array Be**	**41.37**	**336**	P	**P**	**20 01 54.7**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=137,slow=7.7,SNR=6.1						
AKBB	**Malin Array Si**	**41.37**	**336**	eP	**P**	**20 01 55.2**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,22nm,1.3s						
AKBB	**Malin Array Si**	**41.37**	**336**	eP	**P**	**20 01 55.2**	**+0.5**
	comp=Z,22nm,1.3s						
AKBB	**Malin Array Si**	**41.37**	**336**	eP	**P**	**20 01 55.2**	**+0.5**
	comp=Z,22nm,1.3s						
KIEV	**Kiev**	**41.37**	**336**	eP	**P**	**20 01 55.3**	**+0.6**
KIEV				pmax	pmax		
	comp=Z,20nm,1.2s						
KIEV	**Kiev**	**41.37**	**336**	eP	**P**	**20 01 55.3**	**+0.6**
	comp=Z,20nm,1.2s						
KIEV	**Kiev**	**41.37**	**336**	eP	**P**	**20 01 55.3**	**+0.6**
	comp=Z,20nm,1.2s						
KURK	**Kurchatov**	**41.42**	**24**	eP	**P**	**20 01 55.7**	**+0.6**
KURK	**Kurchatov**	**41.42**	**24**	eP	**P**	**20 01 55.7**	**+0.6**
KURK	**Kurchatov**	**41.42**	**24**	eP	**P**	**20 01 55.7**	**+0.6**
SEM	**Semipalatinsk**	**41.83**	**25**	eP	**P**	**20 01 56.8**	**-2.1**
	comp=Z,46nm,1.2s						
SEM				eS	**S**	**20 08 15.8**	**0.0**
SEM				LRM	MLR	20 21 17.7	
	comp=Z,255nm,18.4s						
ZSN	**Zaisan**	**41.84**	**32**	i P	**P**	**20 01 55.2**	**-3.5**
	comp=Z,8.5nm,1.0s						
ZSN				eS	**S**	**20 08 12.5**	**-3.1**
CUC	**Castrocucco**	**41.92**	**315**	eP	**P**	**20 02 00.3**	**+0.8**
	comp=Z,10nm,0.8s						
CUC	**Castrocucco**	**41.92**	**315**	eP	**P**	**20 02 00.3**	**+0.8**
	comp=Z,10nm,0.8s						
ARU	**Arti**	**42.13**	**4**	P	**P**	**20 02 01.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=171,slow=8.0,SNR=3.0						
MOS	**Moscow**	**43.15**	**347**	eP	**P**	**20 02 07.1**	**-2.0**
MOS	**Moscow**	**43.15**	**347**	eP	**P**	**20 02 07.1**	**-2.0**
CM31	**Chiang Mai Arr**	**43.34**	**78**	eP	**P**	**20 02 11.2**	**-0.1**
CM31	**Chiang Mai Arr**	**43.34**	**78**	eP	**P**	**20 02 11.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**43.34**	**78**	P	**P**	**20 02 11.2**	**-0.1**
	comp=Z,6.1nm,1.0s,baz=274,slow=9.1,SNR=9.4						
CRVS	**Cervenica-Dubn**	**43.52**	**329**	eP	**P**	**20 02 13.3**	**+1.0**
CRVS	**Cervenica-Dubn**	**43.52**	**329**	eP	**P**	**20 02 13.3**	**+1.0**
CRVS	**Cervenica-Dubn**	**43.52**	**329**	eP	**P**	**20 02 13.3**	**+1.0**
KECS	**Kecovo**	**43.74**	**328**	eP	**P**	**20 02 15.2**	**+1.2**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KECS	**Kecovo**	**43.74**	**328**	eP	**P**	**20 02 15.2**	**+1.2**
	comp=Z,3.0nm,1.0s						
KECS	**Kecovo**	**43.74**	**328**	eP	**P**	**20 02 15.2**	**+1.2**
STHS	**Stebnicka Huta**	**43.96**	**330**	eP	**P**	**20 02 18.7**	**+2.8**
STHS				pmax	pmax		
	comp=Z,11nm,1.1s						
STHS	**Stebnicka Huta**	**43.96**	**330**	eP	**P**	**20 02 18.7**	**+2.8**
VYHS	**Vyhne**	**44.60**	**327**	eP	**P**	**20 02 21.2**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,21nm,2.0s						
VYHS	**Vyhne**	**44.60**	**327**	eP	**P**	**20 02 21.2**	**+0.2**
	comp=Z,21nm,2.0s						
VYHS	**Vyhne**	**44.60**	**327**	eP	**P**	**20 02 21.2**	**+0.2**
LANS	**Liptovska Anna**	**44.68**	**328**	eP	**P**	**20 02 22.5**	**+0.9**
LANS	**Liptovska Anna**	**44.68**	**328**	eP	**P**	**20 02 22.5**	**+0.9**
LANS	**Liptovska Anna**	**44.68**	**328**	eP	**P**	**20 02 22.5**	**+0.9**
KEST	**Kesra**	**45.13**	**306**	P	**P**	**20 02 26.3**	**+0.9**
	comp=Z,27nm,0.9s,baz=26,slow=1.9,SNR=17						
KEST	**Kesra**	**45.13**	**306**	eP	**P**	**20 02 26.6**	**+1.2**
	comp=Z,36nm,0.9s						
KEST	**Kesra**	**45.13**	**306**	eP	**P**	**20 02 26.6**	**+1.2**
	comp=Z,36nm,0.9s						
OJC	**Ojcow**	**45.20**	**330**	eP	**P**	**20 02 25.9**	**+0.2**
OJC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OJC	**Ojcow**	**45.20**	**330**	eP	**P**	**20 02 25.9**	**+0.2**
	comp=Z,10.0nm,1.1s						
OJC	**Ojcow**	**45.20**	**330**	eP	**P**	**20 02 25.9**	**+0.2**
	comp=Z,10nm,1.1s						
ARSA	**Arzberg**	**45.71**	**324**	eP	**P**	**20 02 32.5**	**+2.7**
	comp=Z,14nm,1.6s						
ARSA	**Arzberg**	**45.71**	**324**	P	**P**	**20 02 32.5**	**+2.7**
	comp=Z,14nm,1.6s						
OKC	**Ostrava-Krasne**	**45.78**	**328**	eP	**P**	**20 02 29.7**	**-0.6**
OKC	**Ostrava-Krasne**	**45.78**	**328**	eP	**P**	**20 02 29.7**	**-0.6**
OKC	**Ostrava-Krasne**	**45.78**	**328**	eP	**P**	**20 02 29.7**	**-0.6**
CONA	**Conrad Observa**	**45.89**	**325**	i P	**P**	**20 02 30.6**	**-0.7**
	comp=Z,24nm,2.0s						
CONA	**Conrad Observa**	**45.89**	**325**	P	**P**	**20 02 30.6**	**-0.7**
	comp=Z,24nm,2.0s						
MORC	**Moravsky Berou**	**46.06**	**328**	eP	**P**	**20 02 31.2**	**-1.4**
MORC				pmax	pmax		
	comp=Z,71nm,1.2s						
MORC	**Moravsky Berou**	**46.06**	**328**	eP	**P**	**20 02 31.2**	**-1.4**
	comp=Z,71nm,1.2s						
MORC	**Moravsky Berou**	**46.06**	**328**	eP	**P**	**20 02 31.2**	**-1.4**
	comp=Z,71nm,1.2s						
ZAA0	**Zalesovo Array**	**46.35**	**25**	eP	**P**	**20 02 35.0**	**+0.3**
	comp=Z,11nm,1.0s						
ZAA0	**Zalesovo Array**	**46.35**	**25**	eP	**P**	**20 02 35.0**	**+0.3**
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**46.35**	**25**	P	**P**	**20 02 34.9**	**+0.2**
	comp=Z,7.6nm,0.9s,baz=247,slow=7.6,SNR=4.4						
ZAA1	**Zalesovo Array**	**46.35**	**25**	eP	**P**	**20 02 34.9**	**+0.1**
ZAA1	**Zalesovo Array**	**46.35**	**25**	eP	**P**	**20 02 34.9**	**+0.1**
TAM	**Tamanrasset**	**46.42**	**288**	eP	**P**	**20 02 35.7**	**-0.3**
TAM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TAM	**Tamanrasset**	**46.42**	**288**	eP	**P**	**20 02 35.7**	**-0.3**
	comp=Z,10.0nm,1.0s						
TAM	**Tamanrasset**	**46.42**	**288**	eP	**P**	**20 02 35.7**	**-0.3**
	comp=Z,10.0nm,1.0s						
MYKA	**Terra Mystica**	**46.48**	**322**	eP	**P**	**20 02 38.4**	**+2.4**
	comp=Z,18nm,2.1s						
MYKA	**Terra Mystica**	**46.48**	**322**	P	**P**	**20 02 38.4**	**+2.4**
	comp=Z,18nm,2.1s						
MOA	**Molln**	**46.75**	**324**	i P	**P**	**20 02 40.3**	**+2.3**
	comp=Z,19nm,1.4s						
MOA	**Molln**	**46.75**	**324**	P	**P**	**20 02 40.3**	**+2.3**
	comp=Z,19nm,1.4s						
DPC	**Dobruska-Polom**	**47.03**	**328**	eP	**P**	**20 02 39.2**	**-1.0**
DPC				ex	x	20 02 50.7	
DPC	**Dobruska-Polom**	**47.03**	**328**	eP	**P**	**20 02 39.2**	**-1.0**
DPC	**Dobruska-Polom**	**47.03**	**328**	eP	**P**	**20 02 39.2**	**-1.0**
UPC	**Upice**	**47.28**	**328**	eP	**P**	**20 02 40.0**	**-2.1**
UPC	**Upice**	**47.28**	**328**	eP	**P**	**20 02 40.0**	**-2.1**
UPC	**Upice**	**47.28**	**328**	eP	**P**	**20 02 40.0**	**-2.1**
GOPC	**GO Pecny, Ondr**	**47.59**	**326**	eP	**P**	**20 02 43.4**	**-1.1**
GOPC	**GO Pecny, Ondr**	**47.59**	**326**	eP	**P**	**20 02 43.4**	**-1.1**
GOPC	**GO Pecny, Ondr**	**47.59**	**326**	eP	**P**	**20 02 43.4**	**-1.1**
GEC2	**GERESS Array S**	**47.60**	**325**	eP	**P**	**20 02 45.2**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,34nm,2.0s						
GEC2	**GERESS Array S**	**47.60**	**325**	eP	**P**	**20 02 45.2

comp=Z,28nm,1.0s
MBDF Montbardon 49.97 317 *e*P **P 20 03 03.0 0.0**
MBDF pmax pmax
comp=Z,9.0nm,1.0s
MBDF Montbardon 49.97 317 *e*P **P 20 03 03.0 0.0**
comp=Z,9.0nm,1.0s
TOA0 Torodi Ar. Sit 50.61 275 *e*P **P 20 03 07.4 -0.7**
comp=Z,17nm,1.3s
TOA0 Torodi Ar. Sit 50.61 275 *e*P **P 20 03 07.4 -0.7**
comp=Z,17nm,1.3s
TORD Torodi Ar. Bea 50.61 275 P **P 20 03 06.8 -1.3**
comp=Z,5.5nm,0.8s,baz=90,slow=7.1,SNR=12
TOA1 Torodi Ar. Sit 50.61 275 *e*P **P 20 03 06.8 -1.3**
comp=Z,12nm,1.1s
TOA1 Torodi Ar. Sit 50.61 275 *e*P **P 20 03 06.8 -1.3**
comp=Z,12nm,1.1s
FIA0 FINESS Array S 51.08 343 *e*P **P 20 03 11.0 +0.1**
FIA0 FINESS Array S 51.08 343 *e*P **P 20 03 11.0 +0.1**
FIA0 FINESS Array S 51.08 343 *e*P **P 20 03 11.0 +0.1**
FINES FINESS Array B 51.08 343 P **P 20 03 11.0 +0.1**
comp=Z,4.6nm,0.6s,baz=140,slow=10.0,SNR=9.6
FINES FINESS Array B 51.08 343 P **P 20 03 11.0 +0.1**
FINES FINESS Array B 51.08 343 P **P 20 03 11.0 +0.1**
CABF La Chapelle 51.13 319 *e*P **P 20 03 11.4 -0.3**
CABF pmax pmax
comp=Z,49nm,1.5s
CABF La Chapelle 51.13 319 *e*P **P 20 03 11.4 -0.3**
comp=Z,49nm,1.5s
VIVF Saint-Julien-l 51.41 316 *e*P **P 20 03 13.6 -0.2**
VIVF pmax pmax
comp=Z,14nm,1.1s
VIVF Saint-Julien-l 51.41 316 *e*P **P 20 03 13.6 -0.2**
comp=Z,14nm,1.1s
SSB Saint Sauveur 51.64 317 *e*P **P 20 03 15.3 -0.2**
SSB pmax pmax
comp=Z,18nm,1.1s
SSB Saint Sauveur 51.64 317 *e*P **P 20 03 15.3 -0.2**
comp=Z,18nm,1.1s
SSB Saint Sauveur 51.64 317 *e*P **P 20 03 15.3 -0.2**
comp=Z,18nm,1.1s
SMF Signal de Mont 52.58 318 *e*P **P 20 03 22.1 -0.3**
SMF pmax pmax
comp=Z,6.0nm,1.1s
SMF Signal de Mont 52.58 318 *e*P **P 20 03 22.1 -0.3**
comp=Z,6.0nm,1.1s
LOR Lormes 52.79 319 *e*P **P 20 03 23.4 -0.6**
LOR pmax pmax
comp=Z,22nm,1.2s
LOR Lormes 52.79 319 *e*P **P 20 03 23.4 -0.6**
comp=Z,22nm,1.2s
SSF Saint Saulge 52.94 319 *e*P **P 20 03 25.1 0.0**
SSF pmax pmax
comp=Z,24nm,0.9s
SSF Saint Saulge 52.94 319 *e*P **P 20 03 25.1 0.0**
comp=Z,24nm,0.9s
CAF Calviac 53.18 316 *e*P **P 20 03 26.8 -0.2**
CAF pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 53.18 316 *e*P **P 20 03 26.8 -0.2**
comp=Z,7.0nm,0.8s
BGF Bois d'Agland 53.19 318 *e*P **P 20 03 24.3 -2.7**
BGF pmax pmax
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 53.52 317 *e*P **P 20 03 28.5 -0.9**
TCF pmax pmax
comp=Z,96nm,2.2s
TCF Toulx Ste Croi 53.52 317 *e*P **P 20 03 28.5 -0.9**
comp=Z,96nm,2.2s
BAIF Baives 53.64 322 *e*P **P 20 03 29.9 -0.2**
BAIF pmax pmax
comp=Z,70nm,1.8s
BAIF Baives 53.64 322 *e*P **P 20 03 29.9 -0.2**
comp=Z,70nm,1.8s
LFF La Frestale 54.09 315 *e*P **P 20 03 33.6 +0.1**
LFF pmax pmax
comp=Z,38nm,1.2s
LFF La Frestale 54.09 315 *e*P **P 20 03 33.6 +0.1**
comp=Z,38nm,1.2s
HFS Hagfors 54.26 337 P **P 20 03 34.0 -0.5**
comp=Z,11nm,0.8s,baz=139,slow=11,SNR=7.0
ETSF Etsaut 54.44 313 *e*P **P 20 03 36.3 0.0**
ETSF pmax pmax
comp=Z,17nm,1.1s
ETSF Etsaut 54.44 313 *e*P **P 20 03 36.3 0.0**
comp=Z,17nm,1.1s
SONA0 Songino Array 54.58 41 *e*P **P 20 03 38.8 +1.6**
SONA0 Songino Array 54.58 41 *e*P **P 20 03 38.8 +1.6**
SONM Songino Array 54.58 41 P **P 20 03 38.8 +1.6**
comp=Z,6.0nm,0.9s,baz=238,slow=7.6,SNR=9.5
SJPF Ste Jean 54.97 313 *e*P **P 20 03 40.2 +0.2**
SJPF pmax pmax
comp=Z,32nm,1.0s
SJPF Ste Jean 54.97 313 *e*P **P 20 03 40.2 +0.2**
comp=Z,32nm,1.0s
ULN Ulaanbaatar 55.01 41 *e*P **P 20 03 41.9 +1.5**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 55.01 41 *e*P **P 20 03 41.9 +1.5**
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 55.01 41 *e*P **P 20 03 41.9 +1.5**
comp=Z,5.8nm,0.9s
LDF La Druitiere 55.76 319 *e*P **P 20 03 44.5 -1.1**
LDF La Druitiere 55.76 319 *e*P **P 20 03 44.5 -1.1**
NB2 NORSAR Subarra 55.78 336 P **P 20 03 45.2 -0.4**
comp=Z,6.4nm,0.9s,baz=120,slow=7.9
NB2 NORSAR Subarra 55.78 336 P **P 20 03 45.2 -0.4**
comp=Z,6.4nm,0.9s,SNR=7.1
NB200 NORSAR Array S 55.78 336 *e*P **P 20 03 45.4 -0.2**
NB200 NORSAR Array S 55.78 336 *e*P **P 20 03 45.4 -0.2**
NOA NORSAR Array B 55.78 336 P **P 20 03 45.4 -0.2**
comp=Z,4.1nm,0.9s,baz=122,slow=7.7,SNR=7.6
ESDC Sonseca Array 56.29 308 P **P 20 03 49.1 -0.5**
comp=Z,8.9nm,0.8s,baz=88,slow=6.6,SNR=16
ESLA Sonseca Array 56.29 308 *e*P **P 20 03 49.2 -0.4**
comp=Z,17nm,1.0s
ESLA Sonseca Array 56.29 308 *e*P **P 20 03 49.2 -0.4**
comp=Z,17nm,1.0s
ARA0 ARCESS Array S 57.94 349 *e*P **P 20 04 00.8 +0.1**
ARA0 ARCESS Array S 57.94 349 *e*P **P 20 04 00.8 +0.1**
ARCES ARCESS Array B 57.94 349 P **P 20 04 00.8 +0.1**
comp=Z,1.6nm,0.7s,baz=134,slow=5.2,SNR=4.3
KSAR Wonju Array Be 68.79 55 P **P 20 05 12.7 -0.4**
KSAR Wonju Array Be 68.79 55 P **P 20 05 12.7 -0.4**
KSAR Wonju Array Be 68.79 55 P **P 20 05 12.7 -0.4**
KSRS Korea Array 68.82 55 P **P 20 05 12.7 -0.6**
comp=Z,2.4nm,0.6s,baz=268,slow=6.8,SNR=7.7
YAK Yakutsk 70.76 29 P **P 20 05 23.6 -1.2**
comp=Z,7.0nm,0.5s,baz=70,slow=0.9,SNR=6.2
YAK Yakutsk 70.76 29 *e*P **P 20 05 23.5 -1.2**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,12nm,1.4s
KLR Kul'dur 71.36 43 P **P 20 05 28.3 -0.3**
comp=E,0.6nm,1.0s,baz=257,slow=7.2,SNR=7.5
USRK Ussuriysk Ar. 71.65 48 P **P 20 05 30.9 +0.5**
comp=E,4.1nm,0.9s,baz=258,slow=6.0,SNR=5.2
TIXI Tiksi 71.73 19 P **P 20 05 30.4 -0.1**
comp=E,1.3nm,0.6s,baz=6.4,slow=2.2,SNR=3.9
TIXI Tiksi 71.73 19 *e*P **P 20 05 29.9 -0.6**
TIXI pmax pmax
comp=Z,19nm,1.8s
TIXI Tiksi 71.73 19 *e*P **P 20 05 29.9 -0.6**
comp=Z,19nm,1.8s
TIXI Tiksi 71.73 19 *e*P **P 20 05 29.9 -0.6**
comp=Z,19nm,1.8s
SUMG Summit 77.09 342 *i*P **P 20 06 02.7 +0.5**
comp=Z,17nm,1.0s
SUMG Summit 77.09 342 *e*P **P 20 06 03.0 +0.8**
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 77.09 342 *e*P **P 20 06 03.0 +0.8**
comp=Z,16nm,1.0s
SUMG Summit 77.09 342 *e*P **P 20 06 03.0 +0.8**
comp=Z,16nm,1.0s
MJAR Matsushiro Arr 77.10 55 P **P 20 06 02.4 -0.1**
comp=Z,1.4nm,0.7s,baz=285,slow=4.2,SNR=3.5
MJAR LR LR 20 40 56.7
comp=Z,102nm,21.8s,baz=305,slow=36
FITZ Fitzroy Crossi 77.75 112 *e*P **P 20 06 06.4 +0.1**
FITZ Fitzroy Crossi 77.75 112 *e*P **P 20 06 06.4 +0.1**
SYO Syowa Base 83.78 185‖ *e*P **P 20 06 37.8 +0.4**
SYO Syowa Base 83.78 185‖ *e*pP pP 20 06 42.0 -1.7
WR1 Warramunga Arr 86.14 112 *e*P **P 20 06 50.3 -0.1**
comp=Z,12nm,1.3s
WR1 Warramunga Arr 86.14 112 *e*P **P 20 06 50.3 -0.1**
comp=Z,12nm,1.3s
WRA Warramunga Arr 86.14 112 P **P 20 06 50.3 -0.2**
comp=Z,3.6nm,0.7s,baz=298,slow=3.9,SNR=10.0
WRAB Tennant Creek 86.14 112 *e*P **P 20 06 50.5 0.0**
WRAB pmax pmax
comp=Z,38nm,1.8s
WRAB Tennant Creek 86.14 112 *e*P **P 20 06 50.5 0.0**
comp=Z,38nm,1.8s
WRAB Tennant Creek 86.14 112 *e*P **P 20 06 50.5 0.0**
comp=Z,38nm,1.8s
WB2 Warramunga Arr 86.15 112 *e*P **P 20 06 50.8 +0.3**
WB2 Warramunga Arr 86.15 112 *e*P **P 20 06 50.8 +0.3**
ASAR Alice Springs 86.83 115 P **P 20 06 53.4 -0.4**
comp=Z,3.3nm,0.7s,baz=288,slow=4.6,SNR=11
AS31 Alice Springs 86.83 115 *e*P **P 20 06 53.5 -0.3**
comp=Z,1.0nm,0.7s
AS31 Alice Springs 86.83 115 *e*P **P 20 06 53.5 -0.3**
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 131.44 334 PKP **PKPdf 20 13 23.1 +1.0**
comp=Z,0.6nm,1.0s,baz=99,slow=1.6,SNR=4.0

*ISCJB **26** 19:58:50.1±0.6, 14°.25N±0°.10×53°.74E±0°.10, h10km, mb3.9/16, Error ellipse: s-maj=15.2km s-min=12.3km az=145.6*
*IDC **26** 19:58:50.1±0.9, 14°.20N×53°.77E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.6/56, mbtmp3.8/13, Error ellipse: s-maj=22.5km s-min=18.9km az=161.0*
*NEIC **26** 19:58:51.6±0.4, 14°.23N×53°.77E, h10km, mb4.4/4, Error ellipse: s-maj=10.5km s-min=8.6km az=155.0*
ISC 26 19:58:51.7±0.8, 14°.2N±0°.1×53°.8E±0°.1, h10km, n21, σ0s56/21, mb3.9/16, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	22.38	228	P	P	20 03 50.7	+0.1
	0.5nm,0.2s,baz=51,slow=14,SNR=4.2						
KMBO	Kilima Mbogo	22.38	228	*e*P	P	20 03 50.7	+0.1
	2.3nm,1.0s						
GEYT	Alibeck	23.91	8	P	P	20 04 05.8	0.0
	1.7nm,0.8s,baz=187,slow=10,SNR=4.1						
MK32	Makanchi Array	40.27	30	*e*P	P	20 06 29.4	+0.5
MKAR	Makanchi Array	40.27	30	P	P	20 06 29.4	+0.5
	0.5nm,0.8s,baz=222,slow=7.6,SNR=3.8						
BVAR	Borovoye Array	40.88	15	P	P	20 06 34.4	+0.6
	0.7nm,0.7s,baz=187,slow=7.0,SNR=3.6						
KURBB	Kurchatov Arra	41.47	24	P	P	20 06 39.0	+0.3
	0.2nm,0.3s,baz=223,slow=7.5,SNR=3.7						
KURK	Kurchatov	41.58	24	*e*P	P	20 06 39.0	-0.6
CMAR	Chiang Mai Arr	43.47	78	P	P	20 06 56.0	+0.6
	0.3nm,0.6s,baz=282,slow=9.1,SNR=4.3						
KEST	Kesra	45.13	307	P	P	20 07 10.1	+1.5
	3.0nm,0.8s,baz=52,slow=2.1,SNR=4.1						
ZALV	Zalesovo Beam	46.51	25	P	P	20 07 18.8	-0.3
	0.4nm,0.4s,baz=291,slow=4.5,SNR=2.9						
ZAA1	Zalesovo Array	46.52	25	*e*P	P	20 07 18.9	-0.3
TORD	Torodi Ar. Bea	50.52	275	P	P	20 07 50.4	-0.3
	1.8nm,0.8s,baz=91,slow=6.5,SNR=11						
TOA1	Torodi Ar. Sit	50.53	275	*e*P	P	20 07 50.4	-0.3
	18nm,1.8s						
FIA0	FINESS Array S	51.18	343	*e*P	P	20 07 54.1	-0.7
FINES	FINESS Array B	51.18	343	P	P	20 07 54.1	-0.7
	0.9nm,0.8s,baz=119,slow=14,SNR=2.5						
ESDC	Sonseca Array	56.30	308	P	P	20 08 32.3	-0.5
	1.9nm,0.7s,baz=88,slow=6.4,SNR=7.7						
WR1	Warramunga Arr	86.18	112	*e*P	P	20 11 33.5	-0.4
	5.7nm,1.0s						
WRA	Warramunga Arr	86.18	112	P	P	20 11 33.5	-0.4
	1.1nm,0.7s,baz=298,slow=4.0,SNR=10						
ASAR	Alice Springs	86.86	115	P	P	20 11 36.9	-0.3
	0.9nm,0.8s,baz=288,slow=4.8,SNR=10						
AS31	Alice Springs	86.86	115	*e*P	P	20 11 36.9	-0.3
	1.8nm,1.4s						

*DDA **26** 19:58:52.0, 38°.60N×43°.10E, h7km, Ml3.2*
*CSEM **26** 19:58:52.7±0.3, 38°.60N×43°.21E, h2km, ML3.0, Error ellipse: s-maj=6.4km s-min=5.2km az=123.0*
*ISK **26** 19:58:52.4, 38°.61N×43°.26E, h7km, ML3.0*
ISC 26 19:58:51.9±1.1, 38°.60N±0°.02×43°.14E±0°.02, h4km±10km, n34, σ1s39/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	91	*e*PG	Pg	19 58 55.4	-0.4
VANB				*e*SG	Sg	19 58 59.5	+1.1
VANB	Van	0.20	91	*e*Pg	Pg	19 58 55.4	-0.4
VANB				*e*Sg	Sg	19 58 59.5	+1.1
GEVA	Gevas	0.29	192	*i*P	Pg	19 58 57.8	+0.1
GEVA				*i*S	Sb	19 59 04.6	-0.6
GEVA	Gevas	0.29	192	P	Pg	19 58 57.8	+0.1
GEVA				S	Sb	19 59 04.6	-0.6
VMUR	Van-Muradiye	0.52	41	*i*P	Pg	19 59 01.6	-0.4
VMUR				*i*S	Sb	19 59 10.8	-0.8
VMUR	Van-Muradiye	0.52	41	P	Pg	19 59 01.5	-0.4
VMUR				S	Sb	19 59 10.8	-0.8
TUTA	Tutak	0.84	343	*i*P	Pg	19 59 07.7	-0.4
TUTA				*i*S	Sb	19 59 20.2	-0.8
TUTA	Tutak	0.84	343	P	Pg	19 59 07.7	-0.4
TUTA				S	Sb	19 59 20.2	-0.8
AGRB	Hanur-Agry	0.98	353	*e*PG	Pb	19 59 11.4	-0.2
AGRB				*e*SG	Sn	19 59 25.9	-1.2
AGRB	Hanur-Agry	0.98	353	*e*Pg	Pb	19 59 11.4	-0.2
AGRB				*e*Sg	Sn	19 59 25.9	-1.2
DYDN	Diyadin	1.03	24	*i*P	Pn	19 59 13.6	+0.2
DYDN				*i*S	Sn	19 59 31.6	+3.2
DYDN	Diyadin	1.03	24	P	Pn	19 59 13.6	+0.2
EKAR	Karacoban	1.06	308	*i*P	Pn	19 59 14.5	+0.7
EKAR				*i*S	Sn	19 59 34.0	+4.8
EKAR	Karacoban	1.06	308	P	Pn	19 59 14.5	+0.7
EATA	Eleskirt	1.36	338	*i*P	Pn	19 59 17.2	-0.7
EATA				*i*S	Sn	19 59 36.3	-0.3
EATA	Eleskirt	1.36	338	P	Pn	19 59 17.2	-0.8
CUKT	Cukurca	1.40	165	*e*PN	Pb	19 59 18.4	-0.3
CUKT	Cukurca	1.40	165	*e*Pn	Pb	19 59 18.4	-0.3
VRTB	Varto-Mus	1.43	294	*e*PN	Pg	19 59 20.3	+1.0
VRTB	Varto-Mus	1.43	294	*e*Pn	Pg	19 59 20.3	+1.0
SVAN	Silvan-Diyarba	1.59	254	*e*PN	Pg	19 59 22.2	-0.1
SVAN				*e*SN	Sg	19 59 44.5	+1.5
SVAN	Silvan-Diyarba	1.59	254	*e*Pn	Pg	19 59 22.3	-0.1
SVAN				*e*Sn	Sg	19 59 44.5	+1.5
BNGB	Bing¨¶l	1.96	282	*e*PN	Pg	19 59 29.0	-0.5
SENK	Senkaya-Erzuru	2.05	343	*e*PN	Pb	19 59 29.6	-0.3
SENK	Senkaya-Erzuru	2.05	343	*e*Pn	Pb	19 59 29.6	-0.3
BINT	Bingol	2.09	278	*e*Pn	Pb	19 59 29.0	-1.5
YEDI	Yedisu-Bingol	2.19	293	*e*PN	Pb	19 59 32.0	-0.1
YEDI	Yedisu-Bingol	2.19	293	*e*Pn	Pb	19 59 32.0	-0.1
MAZI	Mazidag	2.41	243	*e*PN	Pb	19 59 34.6	-1.4
MAZI	Mazidag	2.41	243	*e*Pn	Pb	19 59 34.6	-1.4
PTK	Pertek	2.94	277	*e*PN	Pb	19 59 43.2	-1.9
PTK	Pertek	2.94	277	*e*Pn	Pb	19 59 43.2	-1.9
SVRC	Sivrice-ELAZID	3.02	267	*e*PN	Pb	19 59 42.9	-3.4
SVRC	Sivrice-ELAZID	3.02	267	*e*Pn	Pb	19 59 42.9	-3.4

*IDC **26** 20:01:53.6±0.6, 31°.03N×103°.49E, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.8/63, mbtmp3.9/22, ML3.1/2, MS3.7/6, Ms1 3.7/6, ms1mx3.2/46, Error ellipse: s-maj=20.4km s-min=13.1km az=48.0*
*ISCJB **26** 20:01:54.3±0.3, 30°.98N±0°.03×103°.36E±0°.03, h16km, mb4.0/23, MS3.8/5, Error ellipse: s-maj=4.8km s-min=4.0km az=20.4*
*NEIC **26** 20:01:55.4±0.3, 31°.01N×103°.40E, h10km, mb4.3/5, ML4.0(BJI), Error ellipse: s-maj=7.3km s-min=5.5km az=216.0*
*BJI **26** 20:01:55.4, 31°.03N×103°.30E, h19km, mb4.1/10, mB4.1/1, ML4.0/16, Ms3.8/8, Ms7 3.5/7*
ISC 26 20:01:56.1±0.4, 31°.05N±0°.03×103°.49E±0°.04, h16km, n65, σ2s00/78, mb4.0/23, MS3.8/5, 2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.27	122	‖ *i*Pg	Pb	20 02 03.0	+0.3
CD2				Sg	Sb	20 02 09.5	+2.5
CD2				smax	smax		
	comp=N,28μm,0.6s						
CD2				smax	smax		
	comp=E,50μm,0.4s						
CD2	Chengdu	0.27	122	‖ *i*Pg	Pb	20 02 03.0	+0.3
CD2				Sg	Sb	20 02 09.5	+2.5
LZH	Lanzhou	5.03	3	*e*Pn	Pn	20 03 12.0	+0.9
LZH				Pg	Pb	20 03 26.5	+2.6
LZH				Sn	Sn	20 04 12.0	+3.0
LZH				Sg	Sg	20 04 32.5	-5.1
LZH				smax	smax		
	comp=N,120nm,1.1s						
LZH				smax	smax		
	comp=E,180nm,1.2s						
LZH				LR	LR		
	comp=N,730nm,4.8s						
LZH				LR	LR		
	comp=E,480nm,5.2s						
LZH				LR	LR		
	comp=Z,740nm,5.7s						
LZH	Lanzhou	5.03	3	*e*Pn	Pn	20 03 12.0	+0.9
LZH				Pg	Pb	20 03 26.5	+2.6
LZH				Sn	Sn	20 04 12.0	+3.0
LZH				Sg	Sg	20 04 32.5	-5.1
ENH	Enshi	5.22	97	*e*Pn	Pn	20 03 16.2	+2.6
GYA	Guiyang	5.36	148	Pn	Pn	20 03 16.8	+1.2
GYA				Sn	Sn	20 04 17.8	+0.8
GYA				Sg	Sg	20 04 44.0	-4.2
GYA				smax	smax		
	comp=N,160nm,0.8s						
GYA				smax	smax		
	comp=E,1μm,0.7s						
XAN	Xi'an	5.47	56	Pn	Pn	20 03 17.5	+0.5
XAN				Sn	Sn	20 04 17.5	-2.1
XAN				Sg	Sg	20 04 49.3	-2.4
XAN				smax	smax		
	comp=N,600nm,0.9s						
XAN				smax	smax		
	comp=E,340nm,0.7s						
XAN	Xi'an	5.47	56	Pn	Pn	20 03 17.5	+0.5
XAN				Sn	Sn	20 04 17.5	-2.1
XAN				Sg	Sg	20 04 49.3	-2.4
GTA	Gaotai	8.86	341	*e*P	Pn	20 04 07.0	+3.3
GTA				pP		20 04 10.5	
GTA				sP		20 04 13.0	
GTA				S	Sn	20 05 49.0	+5.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,27nm,3.8s						
GTA				LR	LR		
	comp=N,150nm,10.9s						
GTA				LR	LR		
	comp=E,230nm,10.0s						
GTA				LR	LR		
	comp=Z,170nm,12.4s						
LSA	Lhasa	10.74	266	*e*Pn	Pn	20 04 29.6	-0.2
CMAR	Chiang Mai Arr	13.20	199	Pn	Pn	20 05 03.5	+0.5
	0.0nm,0.3s,baz=11,slow=11,SNR=8.6						
TAPN	Taplejung	14.27	259	*e*P	Pn	20 05 15.8	-2.0
	18nm,1.0s						
ODAN	Odare	14.70	258	*e*P	Pn	20 05 22.6	-1.1
RAMN	Ramite	15.33	259	*e*P	Pn	20 05 30.3	-1.9
	18nm,0.9s						
JIRN	Jiri	15.46	262	*e*P	Pn	20 05 32.2	-1.8
	156nm,1.2s						
GUN	Gumba	15.65	263	*e*P	Pn	20 05 33.3	-3.2
PKI	Pulchoki	16.15	262	*e*P	Pn	20 05 40.1	-2.7
	12nm,0.6s						
PKIN	Phulchoki	16.16	262	*e*P	Pn	20 05 40.0	-2.9
	8.2nm,0.6s						
KKN	Kakani	16.20	263	*e*P	Pn	20 05 41.0	-2.3
	15nm,0.7s						
DMN	Daman	16.40	263	*e*P	Pn	20 05 43.5	-2.4
	20nm,0.9s						
GKN	Gorkha	16.69	264	*e*P	Pn	20 05 47.9	-1.6
	28nm,1.0s						
SONA0	Songino Array	16.91	7	*e*Pn	P	20 05 53.7	-0.4
SONM	Songino Array	16.91	7	Pn	P	20 05 53.7	-0.4
	0.1nm,0.3s,baz=186,slow=10,SNR=4.9						
SONM				LR	LR	20 11 52.3	
	comp=Z,133nm,21.6s,baz=224,slow=35						
DANN	Dangsing	17.35	266	*e*P	Pn	20 05 56.7	-1.3
KOLN	Koldanda	17.64	264	*e*P	Pn	20 05 59.0	-2.4
	17nm,1.1s						
WMQ	Urumqi	17.84	320	*e*P	Pn	20 06 01.5	-2.3
WMQ				pP	P	20 06 06.3	+1.9
WMQ				S	Sn	20 09 17.5	-4.8
WMQ				LR	LR		
	comp=N,160nm,5.5s						
WMQ				LR	LR		
	comp=E,210nm,5.5s						
PYUN	Piuthan	18.07	266	*e*P	Pn	20 06 05.5	-1.3
KS15	Wonju Array Si	21.12	66	*e*P	P	20 06 41.6	+1.5
KSAR	Wonju Array Be	21.12	66	P	P	20 06 41.7	+1.6
KSRS	Korea Array	21.15	66	P	P	20 06 41.7	+1.2
	5.1nm,0.8s,baz=243,slow=9.2,SNR=22						
CN2	Changchun	21.51	48	*e*P	P	20 06 43.5	-0.8
MK32	Makanchi Array	22.68	320	*e*P	P	20 06 58.0	+1.2
MKAR	Makanchi Array	22.68	320	P	P	20 06 58.0	+1.2
	3.4nm,0.9s,baz=130,slow=13,SNR=9.7						
AAK	Ala-Archa	25.80	305	P	P	20 07 28.0	+1.4
	1.8nm,0.7s,baz=44,slow=4.8,SNR=6.1						
AAK	Ala-Archa	25.80	305	*e*P	P	20 07 27.6	+0.9
	4.8nm,0.9s						
USRK	Ussuriysk Ar.	25.96	52	P	P	20 07 28.3	+0.5
	1.4nm,0.5s,baz=247,slow=11,SNR=2.7						
ZALV	Zalesovo Beam	26.54	335	P	P	20 07 33.3	+0.3
	2.5nm,0.7s,baz=138,slow=9.6,SNR=9.2						
ZAA1	Zalesovo Array	26.55	335	*e*P	P	20 07 33.3	+0.2
KURBB	Kurchatov Arra	26.96	324	P	P	20 07 37.2	+0.4
	2.3nm,0.8s,baz=129,slow=9.7,SNR=13						
KURK	Kurchatov	26.98	324	*e*P	P	20 07 37.2	+0.3
PSI	Prapat	28.43	190	LR	LR	20 19 50.2	
	comp=Z,68nm,21.6s,baz=280,slow=38						
BVAR	Borovoye Array	32.51	322	P	P	20 08 25.0	-1.0
	0.4nm,0.5s,baz=139,slow=13,SNR=3.9						
GEYT	Alibeck	37.73	293	P	P	20 09 12.4	+1.3
	3.1nm,0.7s,baz=73,slow=5.1,SNR=11						
ARU	Arti	40.15	323	P	P	20 09 31.2	0.0
	1.6nm,0.6s,baz=146,slow=5.9,SNR=5.3						
ARU	Arti	40.15	323	*e*P	P	20 09 31.2	0.0
	9.7nm,1.5s						
TIXI	Tiksi	42.91	12	P	P	20 09 53.4	-0.1
	1.1nm,0.4s,baz=155,slow=0.9,SNR=6.1						
AKASG	Malin Array Be	57.04	313	P	P	20 11 40.4	-0.7
	0.5nm,0.4s,baz=66,slow=7.5,SNR=2.9						
ARA0	ARCESS Array S	57.09	336	*e*P	P	20 11 41.7	+0.4
ARCES	ARCESS Array B	57.09	336	P	P	20 11 41.7	+0.4
	2.4nm,1.0s,baz=81,slow=8.5,SNR=3.3						
FIA0	FINESS Array S	57.32	326	*e*P	P	20 11 41.9	-1.1
FINES	FINESS Array B	57.32	326	P	P	20 11 41.9	-1.1
	2.1nm,0.9s,baz=88,slow=11,SNR=3.9						
WR1	Warramunga Arr	58.73	146	*e*P	P	20 11 53.0	-0.3
	5.7nm,1.0s						
WRA	Warramunga Arr	58.73	146	P	P	20 11 53.1	-0.3
	2.5nm,0.8s,baz=337,slow=7.4,SNR=12						
AS31	Alice Springs	61.72	148	*e*P	P	20 12 12.9	-0.9
	1.2nm,1.1s						
ASAR	Alice Springs	61.72	148	P	P	20 12 13.7	-0.2
	0.7nm,0.8s,baz=332,slow=6.8,SNR=8.6						
ASAR				LR	LR	20 41 09.4	
	comp=Z,60nm,19.6s,baz=280,slow=38						
NB200	NORSAR Array S	64.42	327	*e*P	P	20 12 30.8	-0.5
NOA	NORSAR Array B	64.42	327	P	P	20 12 30.8	-0.5
	0.5nm,0.5s,baz=64,slow=5.9,SNR=2.9						
GERES	GERESS Array B	67.21	314	P	P	20 12 49.5	-0.1
	0.3nm,0.5s,baz=51,slow=5.3,SNR=3.7						
ILAR	Eielson Array	70.11	25	P	P	20 13 06.8	-0.6
	0.3nm,0.4s,baz=290,slow=4.4,SNR=6.6						
ILB	Eielson Array	70.11	25	*e*P	P	20 13 05.9	-1.4
STKA	Stephens Creek	72.25	147	P	P	20 13 20.3	-0.3
	0.8nm,0.5s,baz=22,slow=3.8,SNR=3.9						
STKA				LR	LR	20 51 23.5	
	comp=Z,30nm,18.0s,baz=225,slow=41						
LBTB	Lobatse	93.01	243	LR	LR	20 54 28.5	
	comp=Z,89nm,21.5s,baz=158,slow=34					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**22.33**	**229**	P	**P**	**20 08 07.7**	**+1.2**
	0.6nm,0.3s,baz=43,slow=13,SNR=4.9						
GEYT	**Alibeck**	**24.18**	**8**	P	**P**	**20 08 25.9**	**+1.1**
	0.6nm,0.6s,baz=226,slow=7.7,SNR=3.8						
AKTO	**Aktyubinsk**	**36.55**	**4**	P	**P**	**20 10 14.8**	**+0.9**
	1.0nm,0.8s,baz=197,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**40.44**	**30**	P	**P**	**20 10 45.8**	**-0.9**
	0.5nm,0.9s,baz=206,slow=6.3,SNR=2.6						
BVAR	**Borovoye Array**	**41.13**	**15**	P	**P**	**20 10 51.8**	**-0.4**
	0.8nm,0.8s,baz=126,slow=4.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.67**	**23**	P	**P**	**20 10 55.7**	**-1.0**
	0.6nm,0.2s,baz=225,slow=8.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**43.33**	**78**	P	**P**	**20 11 12.3**	**+1.6**
	0.6nm,0.7s,baz=277,slow=9.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**46.71**	**25**	P	**P**	**20 11 35.8**	**-1.2**
	0.5nm,0.7s,baz=247,slow=7.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.75**	**276**	P	**P**	**20 12 07.2**	**-1.6**
	1.1nm,0.8s,baz=79,slow=5.2,SNR=7.8						
FINES	**FINESS Array B**	**51.53**	**343**	P	**P**	**20 12 15.2**	**+1.4**
	3.7nm,1.0s,baz=112,slow=14,SNR=3.3						
SONM	**Songino Array**	**54.85**	**41**	P	**P**	**20 12 37.0**	**-1.7**
	0.3nm,0.7s,baz=221,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**86.55**	**115**	P	**P**	**20 15 51.4**	**-0.6**
	0.9nm,0.9s,baz=304,slow=3.9,SNR=5.1						

*ISCJB **26** 20:05:47.8±0.9, 14°.2N±0°.1×53°.7E±0°.1, h10km, mb3.8/15, Error ellipse: s-maj=19.8km s-min=17.9km az=7.4*
*IDC **26** 20:05:47.9±1.2, 14°.21N×53°.68E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.7/55, mbtmp3.9/14, MS3.6/1, Ms1 3.6/1, ms1mx2.8/44, Error ellipse: s-maj=26.9km s-min=22.3km az=9.0*
*NEIC **26** 20:05:49.5±0.6, 14°.25N×53°.69E, h10km, mb4.5/1, Error ellipse: s-maj=14.7km s-min=12.7km az=188.0*
ISC 26 20:05:49.5±1.2, **14°.2N**±0°.2×**53°.7E**±0°.1, **h10**km, **n17**, σ0**61**/16, **mb3.9**/15, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**10.90**	**257**	LR	LR	20 11 32.9	
	comp=Z,295nm,19.1s,baz=78,slow=32						
GEYT	**Alibeck**	**23.94**	**9**	P	**P**	**20 11 04.7**	**+0.8**
	1.5nm,0.9s,baz=211,slow=11,SNR=3.8						
AAK	**Ala-Archa**	**33.52**	**28**	P	**P**	**20 12 29.2**	**-0.4**
	0.4nm,0.3s,baz=233,slow=5.1,SNR=2.7						
AKTO	**Aktyubinsk**	**36.28**	**5**	P	**P**	**20 12 52.4**	**-0.7**
	0.5nm,0.4s,baz=202,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**40.33**	**31**	P	**P**	**20 13 28.2**	**+1.0**
	0.4nm,0.7s,baz=224,slow=10.0,SNR=2.8						
BVAR	**Borovoye Array**	**40.92**	**15**	P	**P**	**20 13 32.3**	**+0.3**
	2.7nm,1.0s,baz=212,slow=5.1,SNR=6.6						
BRVK	**Borovoye**	**40.92**	**15**	*e*P	**P**	**20 13 31.8**	**-0.2**
	12nm,1.3s						
AKASG	**Malin Array Be**	**41.43**	**337**	P	**P**	**20 13 35.4**	**-0.8**
	0.2nm,0.3s,baz=140,slow=7.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**41.52**	**24**	P	**P**	**20 13 37.3**	**+0.4**
	0.6nm,0.2s,baz=224,slow=8.1,SNR=6.2						
KURK	**Kurchatov**	**41.63**	**24**	P	**P**	**20 13 37.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**43.55**	**78**	P	**P**	**20 13 53.4**	**-0.5**
	2.1nm,1.0s,baz=272,slow=8.9,SNR=12						
ZALV	**Zalesovo Beam**	**46.56**	**25**	P	**P**	**20 14 16.6**	**-0.8**
	1.5nm,0.8s,baz=224,slow=8.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**50.44**	**275**	P	**P**	**20 14 48.1**	**+0.3**
	1.2nm,1.0s,baz=80,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**54.81**	**41**	P	**P**	**20 15 20.6**	**+0.7**
	1.5nm,0.9s,baz=260,slow=8.7,SNR=9.1						
ESDC	**Sonseca Array**	**56.24**	**308**	P	**P**	**20 15 30.3**	**+0.1**
	1.9nm,0.9s,baz=96,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**86.25**	**112**	P	**P**	**20 18 32.0**	**-0.1**
	1.1nm,0.9s,baz=291,slow=4.5,SNR=2.9						
ASAR	**Alice Springs**	**86.93**	**115**	P	**P**	**20 18 35.4**	**+0.1**
	0.6nm,0.8s,baz=291,slow=4.9,SNR=4.0						

*ISCJB **26** 20:06:32.7±1.0, 13°.6N±0°.2×53°.5E±0°.2, h10km, mb3.7/7, Error ellipse: s-maj=26.8km s-min=22.2km az=33.9*
*IDC **26** 20:06:32.7±1.3, 13°.55N×53°.59E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.4/54, mbtmp3.7/7, Error ellipse: s-maj=36.8km s-min=29.4km az=23.0*
ISC 26 20:06:34.3±1.2, **13°.6N**±0°.2×**53°.6E**±0°.2, **h10**km, **n10**, σ0**43**/7, **mb3.7**/7, **Socotra region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**24.59**	**9**	P	**P**	**20 11 54.4**	**-0.3**
	1.3nm,0.7s,baz=210,slow=8.3,SNR=2.6						
H08N2	**Diego Garcia H**	**26.27**	**138**	T	T	20 39 42.2	
	baz=320,slow=76,SNR=6.7						
H08N3	**Diego Garcia H**	**26.27**	**138**	T	T	20 39 41.7	
	baz=320,slow=76,SNR=8.0						
H08N1	**Diego Carcia H**	**26.29**	**138**	T	T	20 39 46.3	
	baz=320,slow=76,SNR=6.8						
KURBB	**Kurchatov Arra**	**42.15**	**24**	P	**P**	**20 14 27.1**	**+0.2**
	0.6nm,0.2s,baz=224,slow=8.1,SNR=2.3						
CMAR	**Chiang Mai Arr**	**43.78**	**77**	P	**P**	**20 14 41.1**	**+0.5**
	0.2nm,0.4s,baz=303,slow=8.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**50.41**	**276**	P	**P**	**20 15 32.7**	**+0.3**
	0.8nm,0.8s,baz=83,slow=7.0,SNR=4.7						
FINES	**FINESS Array B**	**51.76**	**344**	P	**P**	**20 15 41.7**	**-0.2**
	1.0nm,0.7s,baz=146,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**86.11**	**111**	P	**P**	**20 19 15.7**	**-0.5**
	0.4nm,0.7s,baz=302,slow=4.0,SNR=2.4						
ASAR	**Alice Springs**	**86.74**	**115**	P	**P**	**20 19 19.0**	**-0.2**
	0.3nm,0.7s,baz=297,slow=4.1,SNR=3.6						

*IDC **26** 20:11:05.1±0.9, 3°.82S×152°.08E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/32, mbtmp3.8/13, ML2.6/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/37, Error ellipse: s-maj=28.4km s-min=17.6km az=102.0*
*ISCJB **26** 20:11:08.4±0.8, 3°.91S±0°.08×152°.1E±0°.2, h33km, mb3.7/13, MS3.8/3, Error ellipse: s-maj=24.2km s-min=10.2km az=13.7*
*NEIC **26** 20:11:10.2±2.7, 4°.05S×152°.39E, h47km±25km, mb4.2/3, Error ellipse: s-maj=18.1km s-min=16.1km az=90.0*
ISC 26 20:11:09.4±0.9, **3°.9S**±0°.1×**152°.3E**±0°.2, **h35**km, **n29**, σ1**38**/25, **mb3.6**/13, **MS3.4**/3, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.45**	**223**	Pn	**Pn**	**20 12 55.9**	**+0.3**
	0.8nm,0.3s,baz=163,slow=19,SNR=2.7						
PMG	**Port Moresby**	**7.45**	**223**	*e*Pn	**Pn**	**20 12 56.4**	**+0.8**
HNR	**Honiara**	**9.38**	**126**	LR	LR	20 17 30.3	
	comp=Z,435nm,18.5s,baz=300,slow=40						
CTA	**Charters Tower**	**17.11**	**200**	P	**Pn**	**20 15 05.2**	**-0.8**
	0.1nm,0.3s,baz=336,slow=12,SNR=2.7						
GUMO	**Guam**	**18.89**	**337**	LR	LR	20 21 22.0	
	comp=Z,44nm,21.3s,baz=134,slow=33						
DZM	**Mont Dzumac**	**22.68**	**144**	P	**P**	**20 16 11.2**	**+3.1**
	6.0nm,0.8s,baz=139,slow=19,SNR=4.2						
DZM				LR	LR	20 23 58.4	
	comp=Z,164nm,21.9s,baz=292,slow=34						
DZM	**Mont Dzumac**	**22.68**	**144**	*e*P	**P**	**20 16 05.6**	**-2.5**
	28nm,1.4s						
WR1	**Warramunga Arr**	**23.65**	**226**	*e*P	**P**	**20 16 16.2**	**-1.5**
	11nm,1.2s						
WRA	**Warramunga Arr**	**23.65**	**226**	P	**P**	**20 16 16.2**	**-1.5**
	2.7nm,1.0s,baz=50,slow=9.7,SNR=7.8						
AS31	**Alice Springs**	**26.45**	**220**	*e*P	**P**	**20 16 43.9**	**+0.5**
	1.1nm,0.7s						
ASAR	**Alice Springs**	**26.46**	**220**	P	**P**	**20 16 44.8**	**+1.4**
	0.9nm,0.7s,baz=52,slow=8.5,SNR=15						
STKA	**Stephens Creek**	**29.56**	**199**	LR	LR	20 28 14.3	
	comp=Z,67nm,19.9s,baz=20,slow=35						
FITZ	**Fitzroy Crossi**	**29.63**	**240**	P	**P**	**20 17 10.8**	**-1.0**
	0.6nm,1.0s,baz=45,slow=7.1,SNR=1.8						
CM31	**Chiang Mai Arr**	**57.03**	**295**	*e*P	**P**	**20 20 52.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.03**	**295**	P	**P**	**20 20 52.4**	**+0.1**
	0.5nm,0.7s,baz=127,slow=8.6,SNR=4.7						
SONA0	**Songino Array**	**65.31**	**328**	*e*P	**P**	**20 21 47.5**	**-0.6**
SONM	**Songino Array**	**65.31**	**328**	P	**P**	**20 21 47.5**	**-0.6**
	0.2nm,0.3s,baz=82,slow=10,SNR=3.9						
VNDA	**Vanda**	**73.72**	**178**	LR	LR	20 51 50.4	
	comp=Z,267nm,19.1s,baz=243,slow=33						
MK32	**Makanchi Array**	**79.32**	**319**	*e*P	**P**	**20 23 12.8**	**+1.1**
MKAR	**Makanchi Array**	**79.32**	**319**	P	**P**	**20 23 12.8**	**+1.1**
	0.6nm,0.9s,baz=107,slow=5.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**80.14**	**326**	P	**P**	**20 23 17.8**	**+2.0**
	0.4nm,0.3s,baz=164,slow=7.7,SNR=4.2						
ZAA1	**Zalesovo Array**	**80.14**	**326**	*e*P	**P**	**20 23 17.8**	**+1.9**
ILAR	**Eielson Array**	**81.55**	**22**	P	**P**	**20 23 23.7**	**+0.5**
	3.0nm,0.9s,baz=251,slow=5.5,SNR=12						
ILB	**Eielson Array**	**81.55**	**22**	*e*P	**P**	**20 23 21.9**	**-1.3**
KURK	**Kurchatov**	**82.76**	**322**	*e*P	**P**	**20 23 28.7**	**-1.1**
KURBB	**Kurchatov Arra**	**82.79**	**322**	P	**P**	**20 23 28.7**	**-1.3**
	0.2nm,0.5s,baz=114,slow=5.4,SNR=3.4						
BVAR	**Borovoye Array**	**88.23**	**323**	P	**P**	**20 23 58.1**	**+1.1**
	0.7nm,0.5s,baz=64,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.53**	**289**	PKPbc	**PKPbc**	**20 30 55.7**	**-0.5**
	0.2nm,0.7s,baz=86,slow=3.6,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**149.53**	**289**	*e*PKPbc	**PKPbc**	**20 30 55.7**	**-0.5**

*ISK **26** 20:16:16.0, 38°.72N×43°.34E, h7km, ML2.4*
*DDA **26** 20:16:17.4, 38°.65N×43°.17E, h7km, Ml2.9*
*CSEM **26** 20:16:17.0±0.2, 38°.67N×43°.20E, h5km, ML2.4, Error ellipse: s-maj=6.6km s-min=5.1km az=69.0*
ISC 26 20:16:17.0±1.0, **38°.65N**±0°.03×**43°.15E**±0°.04, **h7**km±12km, **n21**, σ0**57**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**106**	*e*PG	**Pg**	**20 16 20.1**	**-0.8**
VANB				*e*SG	**Sg**	**20 16 24.6**	**+1.0**
VANB	**Van**	**0.20**	**106**	*e*Pg	**Pg**	**20 16 20.1**	**-0.8**
VANB				*e*Sg	**Sg**	**20 16 24.6**	**+1.0**
GEVA	**Gevas**	**0.34**	**192**	*i* P	**Pg**	**20 16 23.4**	**-0.4**
GEVA				*i* S	**Sb**	**20 16 30.8**	**-0.6**
GEVA	**Gevas**	**0.34**	**192**	P	**Pg**	**20 16 23.4**	**-0.4**
GEVA				S	**Sb**	**20 16 30.8**	**-0.6**
VMUR	**Van-Muradiye**	**0.47**	**44**	*i* P	**Pg**	**20 16 26.1**	**-0.1**
VMUR				*i* S	**Sb**	**20 16 34.5**	**-0.5**
VMUR	**Van-Muradiye**	**0.47**	**44**	P	**Pg**	**20 16 26.1**	**-0.1**
VMUR				S	**Sb**	**20 16 34.5**	**-0.5**
TUTA	**Tutak**	**0.80**	**341**	*i* P	**Pg**	**20 16 32.3**	**0.0**
TUTA	**Tutak**	**0.80**	**341**	P	**Pg**	**20 16 32.3**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**352**	*e*PG	**Pg**	**20 16 34.6**	**-0.3**
AGRB				*e*SG	**Sg**	**20 16 46.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**352**	*e*Pg	**Pg**	**20 16 34.6**	**-0.3**
AGRB				*e*Sg	**Sg**	**20 16 46.3**	**-0.7**
EKAR	**Karacoban**	**1.04**	**306**	*i* P	**Pn**	**20 16 38.9**	**+0.6**
EKAR	**Karacoban**	**1.04**	**306**	P	**Pn**	**20 16 38.9**	**+0.6**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*PN	**Pb**	**20 16 44.2**	**+0.4**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*Pn	**Pb**	**20 16 44.2**	**+0.4**
CUKT	**Cukurca**	**1.45**	**165**	*e*PN	**Pn**	**20 16 44.0**	**+0.3**
CUKT	**Cukurca**	**1.45**	**165**	*e*Pn	**Pn**	**20 16 44.0**	**+0.3**
BNGL	**BINGOL**	**1.59**	**282**	*i* P	**Pb**	**20 16 47.4**	**+0.5**
BTMN	**Batman**	**1.66**	**243**	*i* P	**Pb**	**20 16 48.4**	**+0.4**
BTMN	**Batman**	**1.66**	**243**	P	**Pb**	**20 16 48.4**	**+0.4**
BNGB	**Bing¶ll**	**1.96**	**281**	*e*PN	**Pb**	**20 16 52.7**	**-0.4**
BINT	**Bingol**	**2.09**	**277**	*e*Pn	**Pn**	**20 16 52.7**	**+0.1**

*IDC **26** 20:31:42.1±0.5, 14°.22N×53°.87E, h0km, mb4.5/34, mb1 4.6/36, mb1mx4.5/52, mbtmp4.5/36, ML3.6/2, MS4.5/45, Ms1 4.5/45, ms1mx4.4/56, Error ellipse: s-maj=11.6km s-min=10.8km az=2.0*
*MOS **26** 20:31:42.4±1.5, 14°.22N×54°.01E, h10km, mb5.0/65, MS4.5/21, Error ellipse: s-maj=7.0km s-min=3.6km az=110.1*
*BJI **26** 20:31:42.6, 14°.30N×53°.70E, h10km, mb4.5/33, mB5.1/21, Ms4.6/16, Ms7 4.6/16*
*ISCJB **26** 20:31:43.8±0.2, 14°.24N±0°.03×53°.90E±0°.03, h19km, mb4.8/155, MS4.6/137, Error ellipse: s-maj=5.0km s-min=3.7km az=5.1*
*GCMT **26** 20:31:43.8±0.1, 14°.31N×53°.44E, h12km, MW5.3/118, Moment Tensor Solution. s65,c106; s118,c212; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.78±.01; $M_{\theta\theta}$0.72±.01; $M_{\phi\phi}$0.06±.01; $M_{r\theta}$0.46±.03; $M_{\theta\phi}$-0.18±.01; $M_{r\phi}$0.33±.04; Best double couple: $M_0$0.94500×10^{17} NP1:ϕ_s261.00000°, δ62.00000°, λ-112.00000°. NP2:ϕ_s122.00000°, δ35.00000°, λ-54.00000°. Principal axes: T 0.8570, Plg14.0000°, Azm7.0000°; N 0.1750, Plg20.0000°, Azm272.0000°; P -1.0320, Plg65.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 20:31:43.8±0.2, 14°.22N×53°.83E, h10km, mb4.9/42, MS4.7/80 Error ellipse: s-maj=6.0km s-min=4.9km az=186.0*
*CSEM **26** 20:31:44.1±0.1, 14°.24N×53°.86E, h10km, mb4.9/49, Ms4.7, Mw5.2, Error ellipse: s-maj=6.7km s-min=5.6km az=11.0*
*OMAN **26** 20:31:45.7±46.0, 14°.33N×53°.68E, h18km±1km, Error ellipse: s-maj=5.6km s-min=2.5km az=355.0*
ISC 26 20:31:45.5±0.3, **14°.27N**±0°.05×**53°.89E**±0°.05, **h19**km, **n510**, σ1**71**/446, **mb4.8**/156, **MS4.6**/138, **31C-20D, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.12**	**350**	P	**Pn**	**20 32 33.0**	**-0.8**
	SNR=18						
ABTO	**Aybut**	**3.12**	**350**	Pn	**Pn**	**20 32 33.0**	**-0.8**
	SNR=18						
ABTO	**Aybut**	**3.12**	**350**	P	**Pn**	**20 32 33.0**	**-0.8**
	SNR=18						
RBK	**Rabkut**	**3.23**	**5**	P	**Pn**	**20 32 35.3**	**0.0**
	SNR=13						
RBK	**Rabkut**	**3.23**	**5**	Pn	**Pn**	**20 32 35.3**	**0.0**
	SNR=13						
RBK	**Rabkut**	**3.23**	**5**	P	**Pn**	**20 32 35.3**	**0.0**
	SNR=13						
WHFO	**Wadi Hawf**	**3.63**	**358**	P	**Pn**	**20 32 40.6**	**-0.3**
	SNR=12						
WHFO	**Wadi Hawf**	**3.63**	**358**	Pn	**Pn**	**20 32 40.6**	**-0.3**
	SNR=12						
WHFO	**Wadi Hawf**	**3.63**	**358**	P	**Pn**	**20 32 40.6**	**-0.3**
	SNR=12						
DAMY	**Dhamar**	**9.20**	**273**	*e*Pn	**Pn**	**20 33 57.4**	**-0.2**
DAMY	**Dhamar**	**9.20**	**273**	*e*Pn	**Pn**	**20 33 57.4**	**-0.2**
SMDO	**Samad**	**9.59**	**24**	P	**Pn**	**20 34 03.7**	**+1.0**
	SNR=5.9						
SMDO	**Samad**	**9.59**	**24**	Pn	**Pn**	**20 34 03.7**	**+1.0**
	SNR=5.9						
SMDO	**Samad**	**9.59**	**24**	P	**Pn**	**20 34 03.7**	**+1.0**
	SNR=5.9						
WSAR	**Wadi Sarin**	**9.99**	**26**	Pn	**Pn**	**20 34 09.0**	**+0.9**
	0.1nm,0.3s,baz=254,slow=12,SNR=3.7						
WSAR				Sn	**Sn**	**20 35 52.1**	**-7.7**
	0.8nm,0.3s,baz=252,slow=20,SNR=5.2						
WSAR				LR	LR	20 37 55.7	
	comp=Z,8μm,18.1s,baz=216,slow=37						
WSAR	**Wadi Sarin**	**9.99**	**26**	Pn	**Pn**	**20 34 09.0**	**+0.9**
ATD	**Arta Tunnel**	**11.10**	**257**	Pn	**Pn**	**20 34 23.9**	**+0.5**
	1.5nm,0.3s,baz=72,slow=22,SNR=4.3						
ATD				LR	LR	20 37 41.4	
	comp=Z,8μm,18.8s,baz=77,slow=32						
POO	**Poona**	**19.61**	**75**	*e*P	P	20 36 05.0	-8.0
KMBO	**Kilima Mbogo**	**22.48**	**228**	P	**P**	**20 36 42.3**	**-1.9**
	7.2nm,0.9s,baz=45,slow=13,SNR=14						
KMBO				LR	LR	20 45 58.9	
	comp=Z,3μm,19.0s,baz=48,slow=38						
KMBO	**Kilima Mbogo**	**22.48**	**228**	*e*P	**P**	**20 36 42.3**	**-1.9**
KMBO				pmax	pmax		
	comp=Z,32nm,1.2s						
KMBO	**Kilima Mbogo**	**22.48**	**228**	*e*P	**P**	**20 36 42.3**	**-1.9**
	comp=Z,32nm,1.2s						
KMBO	**Kilima Mbogo**	**22.48**	**228**	*e*P	**P**	**20 36 42.3**	**-1.9**
	comp=Z,32nm,1.2s						
KMBO	**Kilima Mbogo**	**22.48**	**228**	P	**P**	**20 36 43.3**	**-0.9**
	SNR=23						
KMBO	**Kilima Mbogo**	**22.48**	**228**	P	**P**	**20 36 43.3**	**-0.9**
	SNR=23						
KMBO				P	**P**	**20 36 43.3**	**-0.9**
	SNR=23						
EIL	**Elat**	**23.25**	**314**	P	**P**	**20 36 52.5**	**+0.6**
	comp=Z,14nm,0.9s,baz=308,slow=3.0,SNR=7.6						
EIL				LR	LR	20 46 02.3	
	comp=Z,2μm,19.1s,baz=130,slow=37						
ASF	**Jabal al Asfar**	**23.64**	**322**	P	**P**	**20 36 55.7**	**-0.1**
	comp=Z,13nm,1.1s,baz=121,slow=2.7,SNR=12						
ASF				LR	LR	20 46 30.8	
	comp=Z,2μm,20.3s,baz=93,slow=38						
GEYT	**Alibeck**	**23.87**	**8**	P	**P**	**20 36 58.1**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=201,slow=9.0,SNR=20						
GEYT				LR	LR	20 47 56.8	
	comp=Z,3μm,18.7s,baz=180,slow=41						
HYB	**Hyderabad**	**23.93**	**79**	*i* P	**P**	**20 37 00.0**	**+1.3**
KBL	**Kabul**	**24.39**	**32**	*e*P	**P**	**20 37 02.9**	**-0.1**
KBL				pmax	pmax		
	comp=Z,19nm,0.9s						
KBL	**Kabul**	**24.39**	**32**	*e*P	**P**	**20 37 02.9**	**-0.1**
	comp=Z,19nm,0.9s						
KBL	**Kabul**	**24.39**	**32**	*e*P	**P**	**20 37 02.9**	**-0.1**
	comp=Z,19nm,0.9s						
MMAI	**Mount Meron Ar**	**25.12**	**321**	P	**P**	**20 37 10.0**	**+0.6**
	comp=Z,17nm,0.8s,baz=122,slow=10,SNR=16						
MMAI				LR	LR	20 47 48.0	
	comp=Z,2μm,18.1s,baz=150,slow=38						
H08N2	**Diego Garcia H**	**26.59**	**139**	T	T	21 05 40.4	
	baz=320,slow=76,SNR=105						
H08N3	**Diego Garcia H**	**26.60**	**139**	T	T	21 05 39.8	
	baz=320,slow=76,SNR=100						
H08N1	**Diego Carcia H**	**26.61**	**139**	T	T	21 05 42.0	
	baz=320,slow=76,SNR=114						
GNI	**Garni**	**27.00**	**344**	P	**P**	**20 37 28.0**	**+1.5**
	comp=Z,34nm,1.0s,baz=309,slow=6.5,SNR=3.9						
GNI				LR	LR	20 50 04.1	
	comp=Z,2μm,21.1s,baz=140,slow=41						
GNI	**Garni**	**27.00**	**344**	*e*P	**P**	**20 37 27.5**	**+1.0**
GNI				pmax	pmax		
	comp=Z,177nm,1.2s						
GNI	**Garni**	**27.00**	**344**	P	**P**	**20 37 28.0**	**+1.5**
CSS	**Mathiatis**	**27.71**	**322**	PFAKE		20 37 40.0	+7.3
CSS				LR	LR		
	comp=Z,416nm,21.0s						
MAK	**Makhachkala**	**29.12**	**350**	*e*P	**P**	**20 37 44.8**	**-0.3**
MAK				*e*		20 38 41.5	
MAK				*e*S	**S**	**20 42 38.3**	**+2.2**
MAK				pmax	pmax		
	comp=Z,170nm,1.2s						
MAK				MLR	MLR		
	comp=Z,1μm,14.0s						
ZEI	**Tsey**	**29.70**	**345**	*e*P	**P**	**20 37 50.6**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PYUN	**Piuthan**	**30.33**	**58**	*e*P	**P**	**20 37 57.4**	**+1.1**
	comp=Z,48nm,1.0s						
NEY	**Neytrino**	**30.43**	**344**	*e*P	**P**	**20 37 59.3**	**+2.3**
NEY				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NCK	**Nalchik**	**30.44**	**345**	*i* P	**P**	**20 37 58.9**	**+2.0**
NCK				pmax	pmax		
	comp=Z,12nm,0.6s						
KOLN	**Koldanda**	**30.72**	**59**	*e*P	**P**	**20 38 01.7**	**+1.9**
	comp=Z,17nm,1.0s						
AKAS	**Kas**	**30.83**	**320**	*e*P	**P**	**20 38 00.3**	**-0.3**
	comp=Z,22nm,0.9s						
AKAS	**Kas**	**30.83**	**320**	*e*P	**P**	**20 38 00.3**	**-0.3**
	comp=Z,22nm,0.9s						
KBZ	**Khabaz**	**30.84**	**344**	P	**P**	**20 38 01.4**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=160,slow=5.1,SNR=5.3						
KBZ				LR	LR	20 53 22.3	
	comp=Z,2μm,18.6s,baz=160,slow=42						
BRTR	**Keskin Array B**	**30.97**	**329**	P	**P**	**20 38 01.8**	**0.0**
	comp=Z,4.7nm,1.1s,baz=134,slow=8.8,SNR=10						
BRTR				LR	LR	20 52 07.7	
	comp=Z,1μm,18.1s,baz=122,slow=40						
BR101	**Keskin Array S**	**30.97**	**329**	*e*P	**P**	**20 38 01.8**	**0.0**
BR101	**Keskin Array S**	**30.97**	**329**	*e*P	**P**	**20 38 01.8**	**0.0**
BR131	**Keskin Array S**	**30.97**	**329**	*e*P	**P**	**20 38 03.5**	**+1.7**
BR131	**Keskin Array S**	**30.97**	**329**	*e*P	**P**	**20 38 03.5**	**+1.7**
DANN	**Dangsing**	**31.05**	**58**	*e*P	**P**	**20 38 04.4**	**+1.6**
	comp=Z,5.2nm,0.9s						
CHM	**Chimkent**	**31.08**	**23**	*e*P	**P**	**20 38 00.6**	**-1.9**
CHM				*e*S	**S**	**20 43 07.3**	**+0.3**
IUG	**Iuzhnay**	**31.10**	**24**	*i* P	**P**	**20 38 00.7**	**-2.1**
	comp=Z,66nm,0.8s						
IUG				*e*S	**S**	**20 43 07.0**	**-0.4**
IUG				LRM	MLR	20 52 11.8	
	comp=Z,595nm,18.7s						
KVAR	**Kislovodsk Arr**	**31.10**	**344**	LR	LR	20 52 42.1	
	comp=Z,2μm,19.1s,baz=148,slow=40						
KIV	**Kislovodsk**	**31.10**	**344**	*e*P	**P**	**20 38 05.5**	**+2.7**
KIV				*e*PP	**PP**	**20 39 03.2**	**-10**
KIV				*e*		20 39 17.1	
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s						
KIV	**Kislovodsk**	**31.10**	**344**	PFAKE		20 38 10.0	+7.2
KIV				LR	LR		
	comp=Z,2μm,21.0s						
ANTO	**Ankara**	**31.51**	**328**	*e*P	**P**	**20 38 07.0**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,96nm,1.0s						
ANTO				MLR	MLR		
	comp=Z,1μm,21.0s						
ANTO

ABPO Ambohimpanom 33.72 191 PFAKE 20 38 40.0 +14
ABPO LR LR
comp=Z,1μm,20.0s
TAPN Taplejung 34.07 62 *e*P **P** **20 38 29.9 +0.6**
comp=Z,96nm,1.4s
SIM Simferopol' 34.88 335*c i*P **P** **20 38 36.0 +0.3**
SIM *e*S **S** **20 44 14.0 +8.0**
SIM pmax pmax
comp=Z,23nm,1.1s
SIM MLR MLR
comp=Z,400nm,14.0s
AAA Alma-Ata 34.97 30 *e*P **P** **20 38 34.4 -2.2**
AAA *e*S **S** **20 44 06.7 -0.8**
AAA LR LR 20 52 55.9
comp=Z,209nm,15.8s
BTLS Baital 35.12 25 *e*P **P** **20 38 35.8 -1.9**
comp=Z,28nm,1.3s
AB31 Akbulak array 35.24 7 *i* P **P** **20 38 37.6 -1.1**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 35.24 7 *e*P **P** **20 38 38.0 -0.8**
comp=Z,11nm,0.9s
ABKAR Akbulak array 35.24 7 *e*P **P** **20 38 38.0 -0.8**
comp=Z,11nm,0.9s
SATY Saty 35.60 32 *i* P **P** **20 38 40.4 -1.6**
comp=Z,101nm,1.0s
ZHN Zhinishke 35.69 31 *e*P **P** **20 38 40.7 -2.1**
comp=Z,24nm,1.2s
ZHN *e*S **S** **20 44 18.2 -0.5**
ZHN LRM MLR 20 55 01.7
comp=Z,64nm,10.4s
SHLS Shalkode 36.21 32 *i* P **P** **20 38 46.8 -0.5**
comp=Z,32nm,0.9s
AKTO Aktyubinsk 36.23 4 LR LR 20 56 26.0
comp=Z,1μm,19.7s,baz=175,slow=41
AKTO Aktyubinsk 36.23 4 *i* P **P** **20 38 46.4 -0.8**
AKTO pmax pmax
comp=Z,22nm,1.3s
PDGK Podgornoye 36.35 32 *i* P **P** **20 38 47.8 -0.7**
PDGK pmax pmax
comp=Z,4.0nm,0.8s
HARR Harsova 37.49 329⇑*i*P **P** **20 39 01.5 +3.5**
HARR Harsova 37.49 329⇑P **P** **20 39 01.6 +3.5**
LSA Lhasa 37.62 60 *e*P **P** **20 38 57.2 -2.7**
LSA pmax pmax
comp=Z,8.0nm,1.3s
LSA MLR MLR
comp=Z,513nm,21.0s
LSA Lhasa 37.62 60 *e*P **P** **20 38 57.2 -2.7**
comp=Z,8.2nm,1.3s
LSA Lhasa 37.62 60 *e*P **P** **20 38 57.1 -2.7**
comp=Z,8.2nm,1.3s
LSA LR LR
comp=Z,513nm,21.0s
CFR Carcaliu 37.74 330⇑*i*P **P** **20 38 57.7 -2.4**
CFR Carcaliu 37.74 330⇑P **P** **20 38 57.7 -2.4**
ISR Istrita 38.49 329⇑*i*P **P** **20 39 10.2 +3.7**
ISR Istrita 38.49 329⇑P **P** **20 39 10.2 +3.7**
VTS Vitosha 38.66 323⇓*i*P **P** **20 39 08.2 +0.1**
VTS Vitosha 38.66 323 *e*P **P** **20 39 09.8 +1.7**
VTS pmax pmax
comp=Z,37nm,1.6s
VTS Vitosha 38.66 323⇓*i*P **P** **20 39 08.2 +0.1**
VTS Vitosha 38.66 323 *e*P **P** **20 39 09.8 +1.7**
comp=Z,37nm,1.6s
MILM Milestii Mici 38.72 332⇑*i*P **P** **20 39 10.1 +1.8**
FNA Florina 38.72 319 P **P** **20 39 09.4 +0.9**
FNA pmax pmax
comp=Z,13nm,1.2s
VSR Storozhevoye 38.73 345 *i* P **P** **20 39 07.6 -0.7**
VSR pmax pmax
comp=Z,14nm,0.9s
KIS Kishinev 38.77 332 *e*P **P** **20 39 10.0 +1.2**
KIS *e*pP sP 20 39 53.0 +36
KIS Kishinev 38.77 332 *e*PP PP 20 40 40.0 +2.3
KIS *e*S S 20 44 52.0 -13
KIS LRM MLR 20 59 36.0
comp=Z,400nm,15.0s
KIS Kishinev 38.77 332 *e*P **P** **20 39 10.0 +1.2**
KIS *e* 20 39 13.0
KIS *e* 20 39 16.0
KIS *e* 20 40 40.0
KIS MLR MLR
comp=Z,500nm,15.0s
KIS MLR MLR
comp=N,500nm,14.0s
KIS MLR MLR
comp=E,400nm,15.0s
KIS MLR MLR
comp=Z,600nm,16.0s
KIS Kishinev 38.77 332 *e*P **P** **20 39 10.0 +1.2**
KIS Kishinev 38.77 332 *e*PP PP 20 40 40.0 +2.3
BRZS Berezniki 38.78 19 *e*P **P** **20 39 07.1 -1.8**
LSZ Lusaka 38.83 222 P **P** **20 39 09.2 -0.5**
comp=Z,2.1nm,0.7s,baz=35,slow=7.5,SNR=5.8
LSZ Lusaka 38.83 222 P **P** **20 39 09.2 -0.5**
LSZ MLR MLR
comp=Z,1μm,21.0s
LSZ Lusaka 38.83 222 P **P** **20 39 09.2 -0.5**
LSZ LR LR
comp=Z,1μm,21.0s
VRI Vrincioaia 38.93 329⇑*i*P **P** **20 39 11.6 +1.5**
VRI Vrincioaia 38.93 329⇑P **P** **20 39 11.6 +1.5**
VRI Vrincioaia 38.93 329⇑*i*P **P** **20 39 11.6 +1.5**
PLOR Plostina 38.95 329⇓*i*P **P** **20 39 12.0 +1.6**
PLOR Plostina 38.95 329⇓P **P** **20 39 12.0 +1.6**
PLOR Plostina 38.95 329⇓*i*P **P** **20 39 12.0 +1.6**
MLR Muntele Rosu 39.05 328⇓*i*P **P** **20 39 13.8 +2.5**
MLR Muntele Rosu 39.05 328⇓P **P** **20 39 13.8 +2.5**
MLR Muntele Rosu 39.05 328⇓*i*P **P** **20 39 13.8 +2.5**
TESR Tescani 39.43 330⇓*i*P **P** **20 39 14.1 -0.2**
VOIR 39.48 328⇑*i*P **P** **20 39 15.0 +0.2**
VOIR 39.48 328⇑P **P** **20 39 15.0 +0.2**
VOIR 39.48 328⇑*i*P **P** **20 39 15.0 +0.2**
ARR Arges 39.65 327⇑*i*P **P** **20 39 16.1 -0.1**
TIR Tirane 39.99 319 PFAKE 20 39 30.0 +11
TIR LR LR
comp=Z,594nm,20.0s
MAKZ Makanchi 40.05 30 *i* P **P** **20 39 19.5 0.0**
MAKZ pmax pmax
comp=Z,10.0nm,1.4s
MAKZ Makanchi 40.05 30 *e*P **P** **20 39 19.8 +0.3**
comp=Z,11nm,1.3s
MAKZ Makanchi 40.05 30 *e*P **P** **20 39 19.8 +0.3**
comp=Z,11nm,1.3s
LPSR Galich'ya Gora 40.06 346 *e*P **P** **20 39 19.9 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 40.19 30 *i* P **P** **20 39 19.3 -1.4**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 40.19 30 *e*P **P** **20 39 21.5 +0.8**
MK31 Makanchi Array 40.19 30 *e*P **P** **20 39 21.4 +0.8**
MK32 Makanchi Array 40.19 30 *e*P **P** **20 39 21.2 +0.5**
MK32 Makanchi Array 40.19 30 *e*P **P** **20 39 21.2 +0.5**
MKAR Makanchi Array 40.19 30 P **P** **20 39 21.2 +0.5**
comp=Z,3.8nm,0.8s,baz=213,slow=8.2,SNR=22
MKAR LR LR 20 57 53.2
comp=Z,946nm,21.9s,baz=234,slow=39
PRAR RASCA 40.24 331⇓*i*P **P** **20 39 21.0 0.0**
BVAR Borovoye Array 40.83 15 P **P** **20 39 26.1 +0.3**
comp=Z,8.2nm,0.8s,baz=193,slow=5.9,SNR=34
BVAR LR LR 20 59 29.2
comp=Z,946nm,18.7s,baz=230,slow=41
BRVK Borovoye 40.83 15*ce*P **P** **20 39 26.8 +1.0**
BRVK pmax pmax
comp=Z,68nm,1.2s
BRVK Borovoye 40.83 15 P **P** **20 39 26.6 +0.8**
SNR=12
BRVK Borovoye 40.83 15 *e*P **P** **20 39 26.9 +1.1**
BRVK LR LR
comp=Z,594nm,20.0s
BRVK Borovoye 40.83 15 P **P** **20 39 26.6 +0.8**
SNR=12
BRVK Borovoye 40.83 15 P **P** **20 39 26.6 +0.8**
SNR=12
BRVK P **P** **20 39 26.6 +0.8**
SNR=12
BURAR Bucovina Array 40.90 330⇓*i*P **P** **20 39 27.5 +0.9**
BURAR Bucovina Array 40.90 330⇓P **P** **20 39 27.5 +0.9**
BUR08 Bucovina Ar. S 40.93 330 *e*P **P** **20 39 27.2 +0.4**
BUR08 Bucovina Ar. S 40.93 330 *e*P **P** **20 39 27.2 +0.4**
ARCR ARCALIA 40.95 329⇓*i*P **P** **20 39 27.0 +0.1**
CEL Celeste 41.19 313 PFAKE 20 39 40.0 +11
CEL LR LR
comp=Z,249nm,20.0s
WDD Wied Dalam 41.25 309 PFAKE 20 39 40.0 +10
WDD LR LR
comp=Z,570nm,19.0s
KURBB Kurchatov Arra 41.40 24 P **P** **20 39 31.2 +0.7**
comp=Z,7.9nm,1.0s,baz=224,slow=7.7,SNR=29
BZS Buzias 41.43 326⇑*i*P **P** **20 39 33.8 +3.0**
BZS Buzias 41.43 326⇑P **P** **20 39 33.8 +3.0**
AKASG Malin Array Be 41.47 336 P **P** **20 39 30.4 -0.7**
comp=Z,7.8nm,0.9s,baz=136,slow=7.7,SNR=14
AKASG PP **PP** **20 41 02.6 -4.4**
comp=Z,0.2nm,0.2s,baz=137,slow=9.9,SNR=2.8
AKASG LR LR 21 00 26.6
comp=Z,664nm,19.8s,baz=155,slow=42
AKBB Malin Array Si 41.47 336 *e*P **P** **20 39 30.5 -0.6**
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 41.47 336 *e*P **P** **20 39 30.5 -0.6**
comp=Z,13nm,0.9s
AKBB Malin Array Si 41.47 336 *e*P **P** **20 39 30.4 -0.6**
comp=Z,13nm,0.9s
KIEV Kiev 41.47 336⇑*e*P **P** **20 39 29.8 -1.3**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 41.47 336 *e*P **P** **20 39 30.3 -0.8**
comp=Z,11nm,0.8s
KIEV Kiev 41.47 336 *e*P **P** **20 39 30.3 -0.8**
comp=Z,11nm,0.8s
KIEV LR LR
comp=Z,667nm,21.0s
KURK Kurchatov 41.51 24*ce*P **P** **20 39 31.4 0.0**
KURK pmax pmax
comp=Z,55nm,1.5s
KURK Kurchatov 41.51 24 *e*P **P** **20 39 31.5 0.0**
KURK Kurchatov 41.51 24 *e*P **P** **20 39 31.5 0.0**
KURK LR LR
comp=Z,3μm,20.0s
KURK Kurchatov 41.51 24 P **P** **20 39 32.1 +0.7**
SNR=9.3
KURK Kurchatov 41.51 24 P **P** **20 39 32.1 +0.7**
SNR=9.3
KURK P **P** **20 39 32.1 +0.7**
SNR=9.3
DRGR 41.59 328⇑*i*P **P** **20 39 32.8 +0.5**
DRGR 41.59 328⇑P **P** **20 39 32.8 +0.5**
DRGR 41.59 328⇑*i*P **P** **20 39 32.8 +0.5**
SIRR Siria 41.81 326⇓*i*P **P** **20 39 34.9 +0.9**
SEM Semipalatinsk 41.92 25 *e*P **P** **20 39 32.9 -2.2**
comp=Z,27nm,0.9s
SEM *e*S **S** **20 45 52.1 -0.6**
SEM LRM MLR 20 58 46.6
comp=Z,336nm,19.1s
VAE Valguarnera 41.95 311 P **P** **20 39 36.2 +0.9**
comp=Z,6.5nm,0.9s,baz=164,slow=18,SNR=2.5
VAE LR LR 20 58 03.1
comp=Z,141nm,19.7s,baz=123,slow=38
CUC Castrocucco 42.00 315 *e*P **P** **20 39 35.6 -0.1**
comp=Z,17nm,1.0s
CUC Castrocucco 42.00 315 *e*P **P** **20 39 35.6 -0.1**
comp=Z,17nm,1.0s
CUC LR LR
comp=Z,303nm,20.0s
ARU Arti 42.23 4 LR LR 21 00 21.1
comp=Z,2μm,19.9s,baz=182,slow=41
ARU Arti 42.23 4*c i*P **P** **20 39 37.9 +0.7**
ARU 20 41 15.2
ARU 20 41 27.7
ARU PPP PPP 20 41 48.6
ARU S **S** **20 45 59.1 +2.5**
ARU SS **SS** **20 49 07.7 +2.8**
ARU SSS SSS 20 49 39.3
ARU pmax pmax
comp=Z,14nm,1.5s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 42.23 4 *e*P **P** **20 39 37.5 +0.3**
comp=Z,21nm,1.6s
ARU Arti 42.23 4 *e*P **P** **20 39 37.5 +0.3**
comp=Z,21nm,1.6s
CLTB Caltabellotta 42.87 310 PFAKE 20 39 50.0 +7.2
CLTB LR LR
comp=Z,154nm,19.0s
OBN Obninsk 42.93 345 LR LR 21 00 39.1
comp=Z,1μm,20.5s,baz=148,slow=40
OBN Obninsk 42.93 345*ce*P **P** **20 39 42.3 -0.6**
OBN *e* 20 41 26.9
OBN *i* S **S** **20 46 03.0 -3.8**
OBN *i* SS **SS** **20 49 20.4 +1.8**
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 42.93 345 *e*P **P** **20 39 43.3 +0.4**
comp=Z,45nm,1.3s
OBN Obninsk 42.93 345 *e*P **P** **20 39 43.3 +0.4**
comp=Z,45nm,1.3s
LVV L'vov 43.01 332 *e*P **P** **20 39 46.8 +3.1**
UZH Uzhgorod 43.02 329 *e*P **P** **20 39 43.3 -0.5**
UZH *i* 20 39 46.3
UZH *e* 20 39 50.1
MOS Moscow 43.25 347 *e*P **P** **20 39 46.6 +1.1**
MOS pmax pmax
comp=Z,37nm,1.0s
MOS MLR MLR
comp=N,800nm,21.0s
MOS MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 43.34 78 *e*P **P** **20 39 48.2 +1.4**
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO MLR MLR
comp=Z,239nm,20.0s
CHTO Chiang Mai 43.34 78 *e*P **P** **20 39 48.2 +1.4**
comp=Z,9.6nm,1.3s
CHTO Chiang Mai 43.34 78 *e*P **P** **20 39 48.2 +1.4**
comp=Z,9.6nm,1.3s
CHTO LR LR
comp=Z,239nm,20.0s
CM31 Chiang Mai Arr 43.35 78 *e*P **P** **20 39 47.3 +0.4**
CM31 Chiang Mai Arr 43.35 78 *e*P **P** **20 39 47.3 +0.4**
CMAR Chiang Mai Arr 43.35 78 P **P** **20 39 47.2 +0.2**
comp=Z,3.8nm,0.8s,baz=276,slow=9.6,SNR=29
CMAR LR LR 20 57 13.9
comp=Z,128nm,21.9s,baz=282,slow=35
KWP Kalwaria Pacla 43.50 331 P **P** **20 39 48.8 +1.2**
KWP pmax pmax
comp=Z,228nm,1.2s
CRVS Cervenica-Dubn 43.61 329 *e*P **P** **20 39 51.4 +2.8**
CRVS Cervenica-Dubn 43.61 329 *e*P **P** **20 39 51.4 +2.8**
CRVS Cervenica-Dubn 43.61 329 *e*P **P** **20 39 51.4 +2.8**
PSZ Piszkesteto 43.79 327⇓*i*P **P** **20 39 51.5 +1.4**
PSZ Piszkesteto 43.79 327⇓P **P** **20 39 51.5 +1.4**
PSZ Piszkesteto 43.79 327⇓*i*P **P** **20 39 51.5 +1.4**
PSZ Piszkesteto 43.79 327 PFAKE 20 40 00.0 +10
PSZ LR LR
comp=Z,650nm,21.0s
KECS Kecovo 43.84 328 *e*P **P** **20 39 53.0 +2.6**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 43.84 328 *e*P **P** **20 39 53.0 +2.6**
comp=Z,3.1nm,1.0s
KECS Kecovo 43.84 328 *e*P **P** **20 39 53.0 +2.6**
STHS Stebnicka Huta 44.06 330 *e*P **P** **20 39 55.2 +3.0**
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 44.06 330 *e*P **P** **20 39 55.2 +3.0**
NIE Niedzica 44.53 329 P **P** **20 39 56.8 +0.8**
NIE pmax pmax
comp=Z,4.0nm,1.1s
AQU L'Aquila 44.69 317 PFAKE 20 40 10.0 +13
AQU LR LR
comp=Z,415nm,21.0s
VYHS Vyhne 44.70 327 *e*P **P** **20 39 57.9 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 44.70 327 *e*P **P** **20 39 57.9 +0.6**
comp=Z,8.8nm,1.3s
VYHS Vyhne 44.70 327 *e*P **P** **20 39 57.9 +0.6**
LANS Liptovska Anna 44.78 328 *e*P **P** **20 39 59.6 +1.6**
LANS Liptovska Anna 44.78 328 *e*P **P** **20 39 59.6 +1.6**
LANS Liptovska Anna 44.78 328 *e*P **P** **20 39 59.6 +1.6**
MICGM Minsk 45.00 339 *e* **P** **20 40 02.0 +2.5**
MICGM *e*LR LR 20 59 30.0
MNK Minsk 45.00 339 *e*P **P** **20 40 02.0 +2.5**
KEST Kesra 45.20 306 P **P** **20 40 01.9 +0.3**
comp=Z,38nm,1.0s,baz=317,slow=5.7,SNR=11
KEST LR LR 21 00 52.7
comp=Z,318nm,18.4s,baz=10.0,slow=39
OJC Ojcow 45.29 330 P **P** **20 40 01.9 -0.1**
OJC pmax pmax
comp=Z,9.0nm,1.4s
ARSA Arzberg 45.80 324 P **P** **20 40 06.2 +0.1**
comp=Z,11nm,0.9s
ARSA Arzberg 45.80 324 P **P** **20 40 06.2 +0.1**
comp=Z,11nm,0.9s
OKC Ostrava-Krasne 45.88 328 *e*P **P** **20 40 07.8 +1.2**
OKC *e*S S 20 46 59.4 +9.4
OKC AMS AMS 21 02 30.0
comp=Z,600nm,20.9s
OKC Ostrava-Krasne 45.88 328 *e*P **P** **20 40 07.8 +1.2**
OKC *e* 20 46 59.4
OKC MLR MLR
comp=Z,600nm,20.9s
OKC Ostrava-Krasne 45.88 328 P **P** **20 40 07.8 +1.2**
CONA Conrad Observa 45.98 325 P **P** **20 40 07.5 -0.1**
comp=Z,27nm,1.3s
CONA Conrad Observa 45.98 325 P **P** **20 40 07.5 -0.1**
comp=Z,27nm,1.3s
MORC Moravsky Berou 46.15 328⇑*i*P **P** **20 40 08.1 -0.8**
MORC Moravsky Berou 46.15 328 *e*P **P** **20 40 07.2 -1.7**
MORC pmax pmax
comp=Z,97nm,1.3s
MORC Moravsky Berou 46.15 328⇑*i*P **P** **20 40 08.1 -0.8**
MORC Moravsky Berou 46.15 328 *e*P **P** **20 40 07.2 -1.7**
comp=Z,97nm,1.3s
VSL Villasalto 46.36 311 PFAKE 20 40 20.0 +9.4
VSL LR LR
comp=Z,211nm,19.0s
VRAC Vranov 46.37 327 LR LR 21 02 03.3
comp=Z,406nm,21.1s,baz=118,slow=39
SUW Suwalki 46.40 335 P **P** **20 40 09.6 -1.0**
SUW pmax pmax
comp=Z,437nm,1.3s
ZAA0 Zalesovo Array 46.44 25 *e*P **P** **20 40 10.5 -0.5**
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 46.44 25 *e*P **P** **20 40 10.5 -0.5**
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 46.44 25 P **P** **20 40 10.4 -0.5**
comp=Z,8.7nm,0.8s,baz=230,slow=7.9,SNR=25
ZALV LR LR 21 01 50.3
comp=Z,767nm,20.1s,baz=248,slow=39
ZAA1 Zalesovo Array 46.44 25 *e*P **P** **20 40 10.4 -0.6**
ZAA1 Zalesovo Array 46.44 25 *e*P **P** **20 40 10.4 -0.6**
TAM Tamanrasset 46.47 288 *e*P **P** **20 40 10.9 -1.0**
TAM pmax pmax
comp=Z,10.0nm,1.0s
TAM MLR MLR
comp=Z,783nm,19.0s
TAM Tamanrasset 46.47 288 *e*P **P** **20 40 10.9 -1.0**
comp=Z,9.7nm,1.0s
TAM Tamanrasset 46.47 288 *e*P **P** **20 40 10.8 -1.0**
comp=Z,9.7nm,1.0s
TAM LR LR
comp=Z,783nm,19.0s
NVS Novosibirsk 46.48 23 *e*P **P** **20 40 11.5 +0.2**
NVS pmax pmax
comp=Z,35nm,1.0s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.9s
MYKA Terra Mystica 46.57 322 pP **P** **20 40 13.6 +1.3**
comp=E,29nm,1.9s
KRLC Kraliky 46.73 328 *e*P **P** **20 40 12.6 -0.8**
KRLC Kraliky 46.73 328 *e*P **P** **20 40 12.6 -0.8**
KRLC Kraliky 46.73 328 P **P** **20 40 12.6 -0.8**
MOA Molln 46.84 324 *e*P **P** **20 40 14.7 +0.4**
comp=E,13nm,1.0s
MOA Molln 46.84 324 P **P** **20 40 14.7 +0.4**
comp=E,13nm,1.0s
KULM Kulim 46.86 96 PFAKE 20 40 30.0 +15
KULM LR LR
comp=Z,445nm,20.0s
TREC Trest 46.96 326 *e*P **P** **20 40 14.2 -0.9**
TREC AMS AMS 21 05 50.0
comp=Z,600nm,16.8s
TREC Trest 46.96 326 *e*P **P** **20 40 14.2 -0.9**
TREC MLR MLR
comp=Z,600nm,16.8s
TREC Trest 46.96 326 P **P** **20 40 14.2 -0.9**
KBA Koelnbreinsper 46.98 323 P **P** **20 40 16.5 +1.0**
comp=Z,11nm,1.4s
KBA Koelnbreinsper 46.98 323 P **P** **20 40 16.5 +1.0**
comp=Z,11nm,1.4s
DPC Dobruska-Polom 47.13 328 *e*P **P** **20 40 15.9 -0.6**
DPC AMS AMS 21 02 10.0
comp=Z,600nm,21.1s
DPC Dobruska-Polom 47.13 328 *e*P **P** **20 40 15.9 -0.6**
DPC MLR MLR
comp=Z,600nm,21.1s
DPC Dobruska-Polom 47.13 328 P **P** **20 40 15.9 -0.6**
ABTA Abfaltersbach 47.30 322 P **P** **20 40 15.0 -3.0**
comp=Z,20nm,1.8s
GTA Gaotai 47.37 49 *e*P P 20 40 25.3 +6.6
GTA pmax pmax
comp=Z,6.0nm,1.5s
UPC Upice 47.38 328 AMS AMS 21 03 10.0
comp=Z,700nm,22.3s
VLC Villacollemand 47.45 318 PFAKE 20 40 30.0 +11
VLC LR LR
comp=Z,440nm,21.0s
KLMR Klimovskoe 47.68 351 *e*P **P** **20 40 19.7 -0.8**
KLMR *e*S **S** **20 47 12.8 -2.5**
KLMR pmax pmax
comp=Z,27nm,1.5s
GOPC GO Pecny, Ondr 47.68 327 *e*P **P** **20 40 21.3 +0.5**
GOPC *e*S **S** **20 47 24.2 +8.4**
GOPC AMS AMS 21 06 00.0
comp=Z,400nm,17.7s
GOPC GO Pecny, Ondr 47.68 327 *e*P **P** **20 40 21.3 +0.5**
GOPC *e* 20 47 24.2
GOPC MLR MLR
comp=Z,400nm,17.7s
GOPC GO Pecny, Ondr 47.68 327 P **P** **20 40 21.3 +0.5**
GEC2 GERESS Array S 47.69 325 *e*P **P** **20 40 20.6 -0.3**
GEC2 pmax pmax
comp=Z,33nm,1.9s
GEC2 GERESS Array S 47.69 325 *e*P **P** **20 40 20.6 -0.3**
comp=Z,33nm,1.9s
GEC2 GERESS Array S 47.69 325 *e*P **P** **20 40 20.6 -0.3**
comp=Z,33nm,1.9s
GERES GERESS Array B 47.69 325 P **P** **20 40 19.8 -1.2**
comp=Z,0.6nm,0.7s,baz=134,slow=8.4,SNR=6.2
GERES PcP **PcP** **20 41 52.2 +2.0**
comp=Z,0.9nm,0.8s,baz=164,slow=4.8,SNR=4.2
GERES LR LR 21 03 54.4
comp=Z,282nm,19.9s,baz=126,slow=40
PGF Pioggiola 47.73 315 *e*P **P** **20 40 24.1 +2.7**
PGF pmax pmax
comp=Z,38nm,1.3s
LBTB Lobatse 47.81 215 *e*P **P** **20 40 23.1 +1.0**
LBTB pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 47.81 215 *e*P **P** **20 40 23.1 +1.0**
comp=Z,19nm,1.0s
LBTB Lobatse 47.81 215 *e*P **P** **20 40 23.1 +1.0**
comp=Z,19nm,1.0s
PRU Pruhonice 47.85 327 *e*P **P** **20 40 21.3 -0.8**
PRU *e*S **S** **20 47 20.2 +2.0**
PRU AMS AMS 21 03 40.0
comp=Z,400nm,19.6s
PRU Pruhonice 47.85 327 *e*P **P** **20 40 21.3 -0.8**
PRU *e* 20 47 20.2
PRU MLR MLR
comp=Z,400nm,19.6s
PRU Pruhonice 47.85 327 P **P** **20 40 21.3 -0.8**
KHC Kasperske Hory 47.91 325 *e*P **P** **20 40 21.2 -1.4**
KHC *e*pP **pP** **20 40 25.3 -3.3**
KHC *ex* x 20 40 45.1
KHC AMS AMS 21 03 30.0
comp=Z,400nm,17.4s
KHC Kasperske Hory 47.91 325 *e*P **P** **20 40 20.7 -1.9**
KHC pmax pmax
comp=Z,4.0nm,1.4s
KHC Kasperske Hory 47.91 325 *e*P **P** **20 40 20.6 -1.9**
comp=Z,3.8nm,1.4s
KHC Kasperske Hory 47.91 325 *e*P **P** **20 40 20.6 -1.9**
comp=Z,3.8nm,1.4s
WTTA Wattenberg 48.08 322 *e*P **P** **20 40 28.3 +4.2**
comp=Z,9.2nm,0.8s
WATA Walderalm 48.15 322 *i* P **P** **20 40 25.3 +0.7**

comp=Z,5.0nm,0.6s
WATA Walderalm 48.15 322 P **P 20 40 25.3 +0.7**
comp=Z,5.0nm,0.6s
MOTA Moosalm 48.44 322 *i* P **P 20 40 25.1 -1.7**
comp=Z,4.2nm,0.6s
MOTA Moosalm 48.44 322 P **P 20 40 25.1 -1.7**
comp=Z,4.2nm,0.6s
FETA Feichten 48.51 321 *e*P **P 20 40 28.0 +0.6**
comp=Z,10nm,1.3s
FETA Feichten 48.51 321 P **P 20 40 28.0 +0.6**
comp=Z,10nm,1.3s
CD2 Chengdu 48.53 61 *e*P **P 20 40 28.5 +0.8**
VSU Vasula 48.56 341 *ce*P **P 20 40 27.4 0.0**
VSU pmax pmax
comp=Z,99nm,1.3s
BRG Berggiesshubel 48.67 327 *e*P P 20 40 33.3 +4.9
comp=Z,8.4nm,1.5s
BRG *e* 20 40 45.3
comp=Z,22nm,1.6s
BRG Berggiesshubel 48.67 327 *e*P P 20 40 33.3 +5.0
BRG pmax pmax
comp=Z,8.0nm,1.5s
RETA Reutte 48.71 322 P **P 20 40 29.4 +0.6**
comp=Z,15nm,1.4s
RETA Reutte 48.71 322 P **P 20 40 29.4 +0.6**
comp=Z,15nm,1.4s
DAVOX Davos/Dischmat 48.92 321 LR LR 21 03 27.2
comp=Z,250nm,21.9s,baz=92,slow=39
TUE Stuetta 49.11 320 PFAKE 20 40 40.0 +7.9
TUE LR LR
comp=Z,592nm,22.0s
NKC Novy Kostel 49.12 326 *e*P **P 20 40 31.0 -0.9**
NKC *e*S S 20 47 44.8 +8.7
NKC Novy Kostel 49.12 326 *e*P **P 20 40 31.0 -0.9**
NKC *e* 20 47 44.8
NKC Novy Kostel 49.12 326 P **P 20 40 31.0 -0.9**
DAVA Damuels 49.15 321 P **P 20 40 32.0 -0.3**
comp=Z,23nm,1.3s
DAVA Damuels 49.15 321 P **P 20 40 32.0 -0.3**
comp=Z,23nm,1.3s
SAOF Saorge 49.25 316 *e*P **P 20 40 36.0 +3.0**
SBF Sospel 49.29 316 *e*P **P 20 40 36.3 +3.0**
SBF pmax pmax
comp=Z,24nm,1.0s
CLL Collm 49.40 327 *e*P **P 20 40 33.0 -1.0**
CLL pmax pmax
comp=Z,49nm,2.2s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 49.40 327 *e*P **P 20 40 33.0 -1.0**
comp=Z,49nm,2.2s
CLL *e*S **S 20 47 42.0 +2.0**
CLL *e*(SS) 20 51 30.0
CLL LmV 21 07 00.0
comp=Z,400nm,19.3s
FRF La Foret Royal 49.71 316 *e*P **P 20 40 37.5 +1.1**
FRF pmax pmax
comp=Z,35nm,1.2s
COCO West Island 50.02 120 PFAKE 20 40 50.0 +11
COCO LR LR
comp=Z,175nm,19.0s
MBDF Montbardon 50.05 317 *e*P **P 20 40 42.0 +2.8**
MBDF pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 50.24 317 P **P 20 40 42.3 +1.7**
BNI pmax pmax
comp=Z,13nm,1.4s
BNI Bardonecchia 50.24 317 PFAKE 20 40 50.0 +9.4
BNI LR LR
comp=Z,466nm,21.0s
SENIN Lac Senin/Sane 50.35 319 *e*P **P 20 40 40.8 -0.7**
comp=Z,38nm,1.7s
SENIN Lac Senin/Sane 50.35 319 *e*P **P 20 40 40.8 -0.7**
comp=Z,38nm,1.7s
LPG La Plagne 50.36 318 *e*P **P 20 40 42.0 +0.3**
LPG pmax pmax
comp=Z,106nm,2.0s
BFO Black Forest 50.55 322 *i* P **P 20 40 42.8 0.0**
BFO Black Forest 50.55 322 *e*P **P 20 40 41.7 -1.1**
comp=Z,17nm,1.1s
BFO Black Forest 50.55 322 *e*P **P 20 40 41.7 -1.1**
comp=Z,17nm,1.1s
BFO LR LR
comp=Z,260nm,19.0s
TOA0 Torodi Ar. Sit 50.63 275 *e*P **P 20 40 42.7 -1.1**
comp=Z,15nm,0.9s
TOA0 Torodi Ar. Sit 50.63 275 *e*P **P 20 40 42.7 -1.1**
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 50.63 275 P **P 20 40 42.3 -1.5**
comp=Z,5.8nm,0.9s,baz=88,slow=6.8,SNR=17
TOA1 Torodi Ar. Sit 50.63 275 *e*P **P 20 40 42.3 -1.5**
comp=Z,16nm,0.9s
TOA1 Torodi Ar. Sit 50.63 275 *e*P **P 20 40 42.3 -1.5**
comp=Z,16nm,0.9s
GYA Guiyang 50.63 67 *e*P **P 20 40 46.3 +2.4**
GYA pmax pmax
comp=Z,20nm,1.0s
ORIF Oris-en-Rattie 50.71 317 *e*P **P 20 40 47.0 +2.8**
ORIF pmax pmax
comp=Z,15nm,1.3s
BOSA Boshof 50.83 213 P **P 20 40 43.8 -1.4**
comp=Z,1.9nm,0.7s,baz=4.5,slow=5.9,SNR=4.1
BOSA LR LR 21 01 56.6
comp=Z,476nm,20.9s,baz=24,slow=36
TMCR Tamitsa 51.04 351 *e*P **P 20 40 47.1 +1.0**
TMCR pmax pmax
comp=Z,90nm,0.4s
JOF Joensuu 51.14 347 *e*P **P 20 40 48.0 +1.1**
JOF pmax pmax
comp=Z,15nm,0.8s
FIA0 FINESS Array S 51.18 343 *e*P **P 20 40 45.9 -1.4**
FIA0 FINESS Array S 51.18 343 *e*P **P 20 40 45.9 -1.4**
FIA0 FINESS Array S 51.18 343 *e*P **P 20 40 45.9 -1.4**
FINES FINESS Array B 51.18 343 P **P 20 40 45.9 -1.4**
comp=Z,10nm,0.8s,baz=126,slow=9.7,SNR=11
FINES LR LR 21 06 38.1
comp=Z,431nm,19.4s,baz=150,slow=41
FIA1 FINESS Array S 51.19 343 *e*P **P 20 40 47.8 +0.5**
comp=Z,18nm,1.0s
FIA1 FINESS Array S 51.19 343 *e*P **P 20 40 47.8 +0.5**
comp=Z,18nm,1.0s
CABF La Chapelle 51.22 319 *e*P **P 20 40 50.2 +2.3**
CABF pmax pmax
comp=Z,39nm,1.3s
CDF Champ du Feu 51.22 322 *e*P **P 20 40 51.8 +3.9**
CDF pmax pmax
comp=Z,34nm,1.6s
VIVF Saint-Julien-l 51.49 317 *e*P **P 20 40 53.4 +3.4**
VIVF pmax pmax
comp=Z,13nm,1.1s
SSB Saint Sauveur 51.73 317 *e*P **P 20 40 50.4 -1.3**
SSB pmax pmax
comp=Z,16nm,1.0s
SSB Saint Sauveur 51.73 317 *e*P **P 20 40 50.4 -1.3**
comp=Z,16nm,1.0s
SSB Saint Sauveur 51.73 317 *e*P **P 20 40 50.4 -1.3**
comp=Z,16nm,1.0s
SUF Sumiainen 52.21 344 *e*P **P 20 40 55.2 +0.3**
SUF pmax pmax
comp=Z,16nm,1.7s
WLF Walferdange 52.42 323 PFAKE 20 41 10.0 +13
WLF LR LR
comp=Z,336nm,19.0s
MTLF Montolieu 52.69 314 *e*P **P 20 41 01.4 +2.6**
MTLF pmax pmax
comp=Z,8.0nm,1.0s
MOY Mondy 52.95 35 *e*P **P 20 41 01.9 +1.2**
MOY pmax pmax
comp=Z,38nm,3.2s
AVF Avril sur Loir 53.03 318 *e*P **P 20 41 03.8 +2.5**
AVF pmax pmax
comp=Z,13nm,1.0s
BGF Bois d'Agland 53.28 318 *e*P **P 20 41 06.2 +3.1**
BGF pmax pmax
comp=Z,35nm,1.0s
ENH Enshi 53.37 63 *e*P **P 20 41 05.6 +1.5**
comp=Z,2.3nm,0.6s
ENH Enshi 53.37 63 *e*P **P 20 41 05.6 +1.5**
comp=Z,2.3nm,0.6s
ENH LR LR
comp=Z,221nm,19.0s
GIVF Givet 53.38 323 *e*P **P 20 41 08.2 +4.4**
GIVF pmax pmax
comp=Z,61nm,1.6s
QIZ Qiongzhong 53.64 77 PFAKE 20 41 20.0 +14
QIZ LR LR

comp=Z,369nm,19.0s
ZAK Zakamensk 53.69 37 *e*P **P 20 41 05.6 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
BAIF Baives 53.73 322 *e*P **P 20 41 08.7 +2.3**
BAIF pmax pmax
comp=Z,33nm,1.3s
LFF La Frestale 54.17 315 *e*P **P 20 41 13.5 +3.8**
LFF pmax pmax
comp=Z,58nm,1.4s
HFS Hagfors 54.36 337 LR LR 21 08 49.1
comp=Z,614nm,18.0s,baz=130,slow=41
TLY Talaya 54.44 36 LR LR 21 06 10.2
comp=Z,344nm,21.1s,baz=236,slow=38
ETSF Etsaut 54.52 313 *e*P **P 20 41 15.3 +2.9**
ETSF pmax pmax
comp=Z,17nm,1.0s
SONA0 Songino Array 54.65 41 *e*P **P 20 41 14.2 +0.9**
SONA0 Songino Array 54.65 41 *e*P **P 20 41 14.2 +0.9**
SONM Songino Array 54.65 41 P **P 20 41 14.2 +0.9**
comp=Z,3.7nm,0.8s,baz=244,slow=7.1,SNR=30
SONM LR LR 21 07 39.9
comp=Z,531nm,20.9s,baz=268,slow=40
LVZ Lovozero 55.03 351 PFAKE 20 41 30.0 +14
LVZ LR LR
comp=Z,969nm,19.0s
SJPF Ste Jean 55.05 313 *e*P **P 20 41 19.9 +3.8**
SJPF pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 55.08 41 *ce*P **P 20 41 15.8 -0.7**
ULN pmax pmax
comp=Z,12nm,1.6s
ULN Ulaanbaatar 55.08 41 P **P 20 41 17.4 +0.9**
SNR=7.5
ULN Ulaanbaatar 55.08 41 *e*P **P 20 41 17.2 +0.7**
comp=Z,5.2nm,0.8s
ULN LR LR
comp=Z,545nm,22.0s
ULN Ulaanbaatar 55.08 41 P **P 20 41 17.4 +0.9**
SNR=7.5
ULN Ulaanbaatar 55.08 41 P **P 20 41 17.4 +0.9**
SNR=7.5
ULN P **P 20 41 17.4 +0.9**
SNR=7.5
NC405 NORSAR Array S 55.74 337 *e*P **P 20 41 23.2 +2.4**
NC405 NORSAR Array S 55.74 337 *e*P **P 20 41 23.2 +2.4**
LDF La Druitiere 55.85 320 *e*P **P 20 41 24.2 +2.5**
LDF pmax pmax
comp=Z,41nm,1.2s
NB2 NORSAR Subarra 55.88 337 P **P 20 41 20.0 -1.8**
comp=Z,13nm,1.0s,baz=124,slow=7.4
NB2 NORSAR Subarra 55.88 337 P **P 20 41 20.0 -1.8**
comp=Z,13nm,1.0s,SNR=4.0
NB200 NORSAR Array S 55.88 337 *e*P **P 20 41 20.3 -1.6**
NB200 NORSAR Array S 55.88 337 *e*P **P 20 41 20.3 -1.6**
NOA NORSAR Array B 55.88 337 P **P 20 41 20.3 -1.6**
comp=Z,6.7nm,0.9s,baz=122,slow=7.7,SNR=5.0
NOA LR LR 21 09 45.3
comp=Z,529nm,18.6s,baz=130,slow=41
MDT Midelt 56.04 300 LR LR 21 07 01.4
comp=Z,801nm,19.3s,baz=104,slow=38
SGF Sodankyl 56.07 348 *e*P **P 20 41 25.3 +2.3**
SGF pmax pmax
comp=Z,14nm,1.6s
SUR Sutherland 56.16 214 PFAKE 20 41 40.0 +16
SUR LR LR
comp=Z,1μm,19.0s
ESDC Sonseca Array 56.36 308 P **P 20 41 24.2 -1.5**
comp=Z,9.4nm,0.8s,baz=85,slow=6.4,SNR=17
ESDC LR LR 21 06 43.0
comp=Z,156nm,20.1s,baz=135,slow=37
ESLA Sonseca Array 56.36 308 *e*P **P 20 41 24.7 -1.0**
comp=Z,27nm,1.1s
ESLA Sonseca Array 56.36 308 *e*P **P 20 41 24.7 -1.0**
comp=Z,27nm,1.1s
KSM Kuching 57.16 98 PFAKE 20 41 40.0 +8.4
KSM LR LR
comp=Z,189nm,22.0s
KEV Kevo 57.96 349 PFAKE 20 41 50.0 +14
KEV LR LR
comp=Z,859nm,21.0s
RTC Rabat Centre 58.00 301 PFAKE 20 41 50.0 +13
RTC LR LR
comp=Z,2μm,19.0s
ARA0 ARCESS Array S 58.05 349 *e*P **P 20 41 35.5 -1.5**
ARA0 ARCESS Array S 58.05 349 *e*P **P 20 41 35.5 -1.5**
ARCES ARCESS Array B 58.05 349 P **P 20 41 35.5 -1.5**
comp=Z,3.5nm,0.8s,baz=156,slow=6.2,SNR=12
ARCES LR LR 21 09 37.8
comp=Z,796nm,20.9s,baz=148,slow=39
DBIC Dimbokro 58.13 269 P **P 20 41 37.9 -0.6**
comp=Z,5.9nm,1.0s,baz=92,slow=17,SNR=2.1
DBIC LR LR 21 06 20.0
comp=Z,202nm,20.0s,baz=58,slow=36
MVO Moncorvo 58.91 310 *ep*P **P 20 41 46.2 +2.6**
NRIK Noril'sk 58.98 13 P **P 20 41 41.8 -1.7**
comp=Z,4.5nm,0.5s,baz=155,slow=3.0,SNR=3.3
NRIK LR LR 21 11 58.7
comp=Z,1μm,18.7s,baz=240,slow=41
PVRL Vila Real 59.44 310 *ep*P **P 20 41 48.1 +0.9**
POLO Lamas de Olo 59.51 310 *ep*P **P 20 41 48.2 +0.4**
PMTG Montargil 59.55 307 *e*P **P 20 41 52.3 +4.3**
comp=Z,62nm,2.0s
BJT Baijiatuau 59.79 52 PFAKE 20 42 00.0 +10
BJT LR LR
comp=Z,695nm,22.0s
KKM Kota Kinabalu 61.74 91 PFAKE 20 42 20.0 +17
KKM LR LR
comp=Z,244nm,21.0s
BOD Bodaibo 62.27 32 *e*P **P 20 42 03.6 -2.5**
BOD pmax pmax
comp=Z,12nm,1.8s
HIA Hailar 63.59 42 *e*P **P 20 42 16.1 +0.9**
HIA MLR MLR
comp=Z,492nm,22.0s
HIA Hailar 63.59 42 *e*P **P 20 42 16.0 +0.9**
HIA Hailar 63.59 42 *e*P **P 20 42 16.1 +0.9**
HIA LR LR
comp=Z,492nm,22.0s
YHNB Yeheng 63.94 69 PFAKE 20 42 30.0 +12
YHNB LR LR
comp=Z,304nm,21.0s
SHEL Horse Pasture 66.13 245 *i* P **P 20 42 32.8 +0.6**
CN2 Changchun 66.99 48 *e*P **P 20 42 37.8 +0.6**
CN2 pmax pmax
comp=Z,20nm,0.8s
KBS Kingsbay 67.69 352 PFAKE 20 42 50.0 +9.0
KBS LR LR
comp=Z,403nm,20.0s
INCN Inchon 67.84 55 PFAKE 20 42 50.0 +7.2
INCN LR LR
comp=Z,475nm,22.0s
KAPI Kappang 68.06 101 *e*P **P 20 42 47.5 +3.0**
KAPI LR LR
comp=Z,145nm,22.0s
KS15 Wonju Array Si 68.84 55 *e*P **P 20 42 48.1 -0.9**
KS15 Wonju Array Si 68.84 55 *e*P **P 20 42 48.1 -0.9**
KSAR Wonju Array Be 68.84 55 P **P 20 42 48.6 -0.4**
KSAR Wonju Array Be 68.84 55 P **P 20 42 48.5 -0.4**
KSAR Wonju Array Be 68.84 55 P **P 20 42 48.5 -0.4**
KSRS Korea Array 68.87 55 P **P 20 42 48.5 -0.6**
comp=Z,3.1nm,0.7s,baz=269,slow=6.9,SNR=13
KSRS LR LR 21 14 08.8
comp=Z,120nm,21.3s,baz=282,slow=37
MDJ Mudanjiang 69.98 47 P **P 20 42 56.5 +0.6**
MDJ pP pP 20 42 59.0 -3.1
MDJ S **S 20 52 08.0 +2.6**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ pmax pmax
comp=Z,61nm,3.8s
MDJ LR LR
comp=Z,97nm,28.0s
MDJ LR LR
comp=Z,130nm,30.1s
MDJ LR LR
comp=Z,230nm,23.2s
MDJ Mudanjiang 69.98 47 P **P 20 42 58.0 +2.1**
MDJ Mudanjiang 69.98 47 P **P 20 42 58.0 +2.1**
MDJ LR LR
comp=Z,394nm,19.0s
YAK Yakutsk 70.85 29 P **P 20 43 00.1 -0.7**
baz=86,slow=1.3
YAK Yakutsk 70.85 29 *e*P **P 20 43 00.1 -0.7**
YAK *e* 20 43 21.0
YAK *e* 20 45 34.4

YAK *e*PPP PPP 20 47 23.9
YAK *e* 20 52 43.8
YAK *e*SSS SSS 20 59 53.7
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,93nm,4.0s
YAK pmax pmax
comp=N,59nm,4.8s
YAK pmax pmax
comp=E,85nm,4.5s
YAK Yakutsk 70.85 29 *e*P **P 20 42 59.9 -0.9**
comp=E,24nm,0.8s
YAK Yakutsk 70.85 29 *e*P **P 20 42 59.9 -0.9**
comp=E,24nm,0.8s
YAK LR LR
comp=Z,668nm,20.0s
KLR Kul'dur 71.43 43 P **P 20 43 03.5 -1.1**
comp=Z,0.3nm,0.8s,baz=300,slow=8.1,SNR=3.3
MMRI Maumere 71.51 104 *e*P **P 20 43 04.3 -1.4**
comp=Z,24nm,0.8s
MMRI Maumere 71.51 104 *e*P **P 20 43 04.3 -1.4**
comp=Z,24nm,0.8s
USRK Ussuriysk Ar. 71.71 48 P **P 20 43 06.1 -0.3**
comp=Z,3.8nm,0.8s,baz=287,slow=5.2,SNR=8.1
USRK LR LR 21 17 42.0
comp=Z,239nm,19.6s,baz=275,slow=38
TIXI Tiksi 71.83 19 *ce*P **P 20 43 04.4 -2.2**
TIXI pmax pmax
comp=Z,13nm,1.4s
TIXI Tiksi 71.83 19 *e*P **P 20 43 05.3 -1.3**
comp=Z,13nm,1.3s
TIXI Tiksi 71.83 19 *e*P **P 20 43 05.3 -1.3**
comp=Z,13nm,1.3s
TIXI LR LR
comp=Z,556nm,20.0s
DAG Danmarks Havn 72.22 347 *i* P **P 20 43 12.2 +3.3**
comp=Z,11nm,1.0s
DAG Danmarks Havn 72.22 347 *i* P **P 20 43 12.2 +3.3**
DAG pmax pmax
comp=Z,11nm,1.0s
BATI Baumata 73.33 105 P **P 20 43 16.9 +0.3**
baz=258,slow=6.5
MBWA Marble Bar 73.59 117 *e*P **P 20 43 17.3 -0.6**
MBWA Marble Bar 73.59 117 *e*P **P 20 43 17.3 -0.6**
SOEI Soe 73.76 105 *e*P **P 20 43 23.4 +4.2**
comp=Z,57nm,1.1s
NWAO Narrogin (SRO) 76.51 129 *e*P **P 20 43 34.5 -0.1**
NWAO Narrogin (SRO) 76.51 129 *e*P **P 20 43 34.5 -0.1**
NWAO Narrogin (SRO) 76.51 129 *e*P **P 20 43 34.5 -0.1**
MAJO Matsushiro 77.15 55 PFAKE 20 43 50.0 +12
MAJO LR LR
comp=Z,393nm,22.0s
MJAR Matsushiro Arr 77.15 55 P **P 20 43 38.1 -0.2**
comp=Z,1.3nm,0.7s,baz=299,slow=1.8,SNR=4.1
MJAR LR LR 21 20 36.9
comp=Z,126nm,18.9s,baz=275,slow=38
SUMG Summit 77.20 342 *i* P **P 20 43 37.0 -1.3**
comp=Z,12nm,0.8s
SUMG Summit 77.20 342 *e*P **P 20 43 37.7 -0.6**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 77.20 342 *e*P **P 20 43 37.7 -0.6**
comp=Z,16nm,0.9s
SUMG Summit 77.20 342 *e*P **P 20 43 37.7 -0.6**
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 77.69 112 P **P 20 43 41.3 -0.2**
comp=Z,5.1nm,0.8s,baz=280,slow=3.5,SNR=3.5
ERM Erimo 80.07 49 PFAKE 20 44 10.0 +16
ERM LR LR
comp=Z,248nm,19.0s
SEY Seymchan 81.25 27 *i* P P 20 43 54.6 -5.5
MAW Mawson 81.91 177 P **P 20 44 04.1 +0.9**
comp=Z,0.5nm,0.4s,baz=0.0,slow=5.1,SNR=2.6
MAW LR LR 21 12 44.4
comp=Z,395nm,22.0s,baz=54,slow=30
SYO Syowa Base 83.68 185[] *e*P **P 20 44 14.4 +2.0**
BILL Bilibino 84.95 20[] *e*P **P 20 44 19.7 +0.5**
BILL *e* 20 47 39.8
BILL *i* SS SS 21 00 27.6 +8.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,440nm,19.0s
WRA Warramunga Arr 86.09 112 P **P 20 44 25.1 -0.6**
comp=Z,5.6nm,0.6s,baz=297,slow=3.9,SNR=36
WR1 Warramunga Arr 86.09 112 *e*P **P 20 44 25.1 -0.6**
comp=Z,40nm,1.7s
WR1 Warramunga Arr 86.09 112 *e*P **P 20 44 25.1 -0.6**
comp=Z,40nm,1.7s
WRAB Tennant Creek 86.09 112 *e*P **P 20 44 25.3 -0.5**
WRAB pmax pmax
comp=Z,8.0nm,0.6s
WRAB Tennant Creek 86.09 112 *e*P **P 20 44 25.3 -0.5**
comp=Z,8.0nm,0.6s
WRAB Tennant Creek 86.09 112 *e*P **P 20 44 25.3 -0.5**
comp=Z,8.0nm,0.6s
WB2 Warramunga Arr 86.10 112 *e*P **P 20 44 25.0 -0.8**
comp=Z,41nm,1.7s
WB2 Warramunga Arr 86.10 112 *e*P **P 20 44 24.9 -0.8**
comp=Z,41nm,1.7s
ASAR Alice Springs 86.77 115 P **P 20 44 28.4 -0.6**
comp=Z,4.8nm,0.6s,baz=290,slow=4.6,SNR=55
ASAR LR LR 21 18 16.8
comp=Z,71nm,20.1s,baz=294,slow=32
AS31 Alice Springs 86.77 115 *e*P **P 20 44 28.6 -0.4**
comp=Z,1.6nm,0.6s
AS31 Alice Springs 86.77 115 *e*P **P 20 44 28.6 -0.4**
comp=Z,1.6nm,0.6s
PETK Petropavlovsk- 86.80 36 LR LR 21 26 36.3
comp=Z,285nm,21.9s,baz=300,slow=38
PMG Port Moresby 95.42 98 PFAKE 20 45 20.0 +10
PMG LR LR
comp=Z,113nm,19.0s
STKA Stephens Creek 95.49 121 LR LR 21 28 02.3
comp=Z,82nm,18.9s,baz=211,slow=35
ILAR Eielson Array 99.63 9 PP PP 20 49 32.2 +1.4
comp=Z,0.7nm,1.1s,baz=15,slow=3.7,SNR=3.7
ILAR LR LR 21 37 32.3
comp=Z,225nm,18.1s,baz=327,slow=40
QSPA South Pole Qui 104.17 180 PFAKE 20 46 00.0 +12
QSPA LR LR
comp=Z,601nm,19.0s
HNR Honiara 107.73 95 PFAKE 20 50 20.0
HNR LR LR
comp=Z,261nm,22.0s
FFC Flin Flon 108.29 346 PFAKE 20 50 20.0
FFC LR LR
comp=Z,2μm,22.0s
SJG San Juan 112.70 297 PFAKE 20 50 30.0
SJG LR LR
comp=Z,183nm,20.0s
CNNC Cliffs of the 112.84 319 PFAKE 20 50 30.0
CNNC LR LR
comp=Z,442nm,19.0s
HDIL Hopedale 115.64 330 PFAKE 20 50 40.0 +13
HDIL LR LR
comp=Z,902nm,22.0s
SDDR Presa de Saban 116.70 300 PFAKE 20 50 40.0 +10
SDDR LR LR
comp=Z,268nm,19.0s
SAML Samuel 118.28 267 PFAKE 20 50 40.0 +7.4
SAML LR LR
comp=Z,327nm,21.0s
NLWA Neilton Lookou 118.59 358 PFAKE 20 50 40.0 +7.6
NLWA LR LR
comp=Z,235nm,19.0s
TRQA Tornquist 118.96 234 PFAKE 20 50 40.0 +6.7
TRQA LR LR
comp=Z,701nm,20.0s
LKWY Lake 119.73 347 PFAKE 20 50 50.0 +15
LKWY LR LR
comp=Z,735nm,22.0s
BMO Blue Mountains 120.62 353 PFAKE 20 50 50.0 +14
BMO LR LR
comp=Z,451nm,19.0s
OGNE Ogallala 120.71 339 PFAKE 20 50 50.0 +13
OGNE LR LR
comp=Z,364nm,20.0s
BW06 Boulder Array 121.25 346 PFAKE 20 50 50.0 +12
BW06 LR LR
comp=Z,264nm,20.0s
PDAR Pinedale Array 121.25 346 PKP **PKPdf 20 50 37.8 -0.1**
comp=Z,0.3nm,0.6s,baz=62,slow=2.1,SNR=3.2

BRAL	**Brewton**	**121.28**	**321**	PFAKE		20 50 50.0	+12
BRAL				LR	LR		
	comp=Z,271nm,21.0s						
HLID	**Hailey**	**121.47**	**350**	PFAKE		20 50 50.0	+12
HLID				LR	LR		
	comp=Z,351nm,19.0s						
CBKS	**Cedar Bluff**	**121.72**	**336**	PFAKE		20 50 50.0	+11
CBKS				LR	LR		
	comp=Z,413nm,21.0s						
MIAR	**Mount Ida**	**122.44**	**328**	PFAKE		20 50 50.0	+10
MIAR				LR	LR		
	comp=Z,248nm,20.0s						
HWUT	**Hardware Ranch**	**122.81**	**347**	PFAKE		20 50 50.0	+9.1
HWUT				LR	LR		
	comp=Z,334nm,21.0s						
ISCO	**Idaho Springs**	**122.92**	**341**	PFAKE		20 50 50.0	+8.7
ISCO				LR	LR		
	comp=Z,389nm,19.0s						
WVOR	**Wild Horse Val**	**123.17**	**353**	PFAKE		20 50 50.0	+8.5
WVOR				LR	LR		
	comp=Z,418nm,19.0s						
DUG	**Dugway, Tooele**	**124.42**	**348**	PFAKE		20 51 00.0	+16
DUG				LR	LR		
	comp=Z,356nm,19.0s						
SDCO	**Great Sand Dun**	**124.76**	**340**	PFAKE		20 51 00.0	+15
SDCO				LR	LR		
	comp=Z,287nm,19.0s						
WMOK	**Wichita Mounta**	**124.78**	**333**	PFAKE		20 51 00.0	+15
WMOK				LR	LR		
	comp=Z,306nm,22.0s						
MVCO	**Mesa Verde**	**126.18**	**343**	PFAKE		20 51 00.0	+12
MVCO				LR	LR		
	comp=Z,313nm,21.0s						
FUNA	**Funafuti**	**126.18**	**90**	PFAKE		20 51 00.0	+12
FUNA				LR	LR		
	comp=Z,2µm,19.0s						
ANMO	**Albuquerque**	**127.62**	**340**	PFAKE		20 51 00.0	+10
ANMO				LR	LR		
	comp=Z,334nm,20.0s						
BCIP	**Isla Barro Col**	**128.53**	**294**	PFAKE		20 51 00.0	+7.7
BCIP				LR	LR		
	comp=Z,108nm,19.0s						
WUAZ	**Wupatki**	**128.56**	**345**	PFAKE		20 51 00.0	+8.0
WUAZ				LR	LR		
	comp=Z,250nm,19.0s						
JCT	**Junction City**	**128.81**	**331**	PFAKE		20 51 00.0	+7.5
JCT				LR	LR		
	comp=Z,258nm,20.0s						
MNTX	**Cornudas Mount**	**130.16**	**337**	PFAKE		20 51 10.0	+15
MNTX				LR	LR		
	comp=Z,354nm,20.0s						
KVTX	**Kingsville**	**130.23**	**327**	PFAKE		20 51 10.0	+15
KVTX				LR	LR		
	comp=Z,462nm,21.0s						
OTAV	**Otavalo**	**130.69**	**283**	PFAKE		20 51 10.0	+13
OTAV				LR	LR		
	comp=Z,189nm,22.0s						
LTX	**Lajitas**	**131.54**	**334**	*e*PKIKP	**PKPdf**	**20 50 57.2**	**-0.6**
LTX	**Lajitas**	**131.54**	**334**	*e*PKIKP	**PKPdf**	**20 50 57.2**	**-0.6**
LTX	**Lajitas**	**131.54**	**334**	*e*PKPdf	**PKPdf**	**20 50 57.2**	**-0.6**
TXAR	**Lajitas Array**	**131.54**	**334**	PKP	**PKPdf**	**20 50 57.2**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=174,slow=2.5,SNR=5.6						

AZER ***26*** *20:33:27.1±1.2, 37°.98N×43°.09E, h1km, Error ellipse: s-maj=13.3km s-min=4.0km az=62.0*
NSSC ***26*** *20:33:29.7±1.6, 38°.45N×43°.81E, h192km±32km, ML2.8*
DDA ***26*** *20:33:31.9, 38°.69N×43°.31E, h1km, Ml3.5*
ISK ***26*** *20:33:32.5, 38°.69N×43°.36E, h5km, ML3.4*
CSEM ***26*** *20:33:34.0±0.2, 38°.68N×43°.30E, h2km, ML3.4, Error ellipse: s-maj=5.7km s-min=4.2km az=157.0*

ISC 26 20:33:34.0±0.9, 38°.70N±0°.02×43°.33E±0°.02, h10km±7km, n99, σ1§85/130, 9C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**157**	*e*PG	**Pg**	**20 33 36.6**	**-0.3**
VANB				*e*SG	**Sg**	**20 33 40.2**	**+1.3**
VANB	**Van**	**0.12**	**157**	*e*Pg	**Pg**	**20 33 36.6**	**-0.3**
VMUR	**Van-Muradiye**	**0.34**	**33**	⇓*i*P	**Pg**	**20 33 39.3**	**-1.6**
VMUR				*i* S	**Sg**	**20 33 46.1**	**+0.6**
VMUR	**Van-Muradiye**	**0.34**	**33**	P	**Pg**	**20 33 39.3**	**-1.6**
VMUR				S	**Sg**	**20 33 46.1**	**+0.6**
GEVA	**Gevas**	**0.45**	**209**	⇑*i*P	**Pg**	**20 33 41.1**	**-1.6**
GEVA				*i* S	**Sg**	**20 33 47.3**	**-1.3**
GEVA	**Gevas**	**0.45**	**209**	P	**Pg**	**20 33 41.1**	**-1.6**
GEVA				S	**Sg**	**20 33 47.3**	**-1.3**
TUTA	**Tutak**	**0.81**	**330**	⇓*i*P	**Pg**	**20 33 47.7**	**-1.9**
TUTA				*i* S	**Sg**	**20 33 60.0**	**-0.1**
TUTA	**Tutak**	**0.81**	**330**	P	**Pg**	**20 33 47.7**	**-1.9**
TUTA				S	**Sg**	**20 34 00.0**	**-0.1**
DYDN	**Diyadin**	**0.88**	**18**	*i* P	**Pg**	**20 33 48.7**	**-2.4**
DYDN				*i* S	**Sg**	**20 34 02.3**	**-0.3**
DYDN	**Diyadin**	**0.88**	**18**	P	**Pg**	**20 33 48.7**	**-2.4**
DYDN				S	**Sg**	**20 34 02.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*PG	**Pg**	**20 33 49.5**	**-2.0**
EKAR	**Karacoban**	**1.13**	**300**	*i* P	**Pg**	**20 33 54.5**	**-1.3**
EKAR				*i* S	**Sn**	**20 34 14.2**	**+2.3**
EKAR	**Karacoban**	**1.13**	**300**	P	**Pg**	**20 33 54.5**	**-1.3**
EKAR				S	**Sn**	**20 34 14.2**	**+2.3**
EATA	**Eleskirt**	**1.33**	**331**	*i* P	**Pn**	**20 33 57.2**	**-1.7**
EATA				*i* S	**Sg**	**20 34 17.1**	**+0.3**
EATA	**Eleskirt**	**1.33**	**331**	P	**Pn**	**20 33 57.2**	**-1.7**
EATA				S	**Sg**	**20 34 17.1**	**+0.3**
CUKT	**Cukurca**	**1.47**	**171**	*e*PN	**Pn**	**20 34 01.1**	**+0.4**
CUKT	**Cukurca**	**1.47**	**171**	*i* P	**Pn**	**20 34 00.6**	**-0.1**
CUKT				*i* S	**Sg**	**20 34 26.3**	**+5.0**
CUKT	**Cukurca**	**1.47**	**171**	P	**Pn**	**20 34 00.6**	**-0.1**
CUKT	**Cukurca**	**1.47**	**171**	*e*Pn	**Pn**	**20 34 01.1**	**+0.4**
VRTB	**Varto-Mus**	**1.53**	**288**	*e*PN	**Pn**	**20 34 02.3**	**+0.7**
VRTB	**Varto-Mus**	**1.53**	**288**	*i* P	**Pn**	**20 34 01.5**	**-0.1**
VRTB				*i* S	**Sg**	**20 34 29.3**	**+6.0**
VRTB	**Varto-Mus**	**1.53**	**288**	P	**Pn**	**20 34 01.5**	**-0.1**
VRTB	**Varto-Mus**	**1.53**	**288**	*e*Pn	**Pn**	**20 34 02.3**	**+0.7**
BNGL	**BINGOL**	**1.72**	**279**	*i* P	**Pn**	**20 34 04.8**	**+0.5**
BNGL				*i* S	**Sg**	**20 34 29.1**	**-0.2**
NAX	**Nakhchivan**	**1.75**	**74**	⇓P	**Pn**	**20 34 05.4**	**+0.9**
NAX				⇑S	**Sg**	**20 34 34.7**	**+4.4**
NAX	**Nakhchivan**	**1.75**	**74**	P	**Pn**	**20 34 05.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*e*PN	**Pn**	**20 34 05.6**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*i* P	**Pn**	**20 34 05.2**	**+0.5**
SVAN				*i* S	**Sb**	**20 34 29.4**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	P	**Pn**	**20 34 05.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.76**	**252**	*e*Pn	**Pn**	**20 34 05.6**	**+0.9**
SVAN				S	**Sb**	**20 34 29.5**	**+0.8**
BTMN	**Batman**	**1.81**	**244**	*i* P	**Pn**	**20 34 06.1**	**+0.7**
BTMN				*i* S	**Sb**	**20 34 31.0**	**+0.9**
BTMN	**Batman**	**1.81**	**244**	P	**Pn**	**20 34 06.1**	**+0.7**
BTMN				S	**Sb**	**20 34 31.0**	**+0.9**
ERZM	**Erzurum**	**1.94**	**309**	*i* P	**Pb**	**20 34 09.0**	**-0.6**
ERZM				*i* S	**Sg**	**20 34 36.8**	**+0.4**
ERZM	**Erzurum**	**1.94**	**309**	P	**Pb**	**20 34 09.0**	**-0.6**
ERZM				S	**Sg**	**20 34 36.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**338**	*e*PN	**Pn**	**20 34 09.7**	**+1.6**
SENK	**Senkaya-Erzuru**	**2.00**	**338**	*e*Pn	**Pn**	**20 34 09.7**	**+1.6**
ECAT	**Cat-ERZURUM**	**2.04**	**297**	*i* P	**Pn**	**20 34 09.8**	**+1.2**
ECAT				*i* S	**Sg**	**20 34 40.1**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.04**	**297**	P	**Pn**	**20 34 09.8**	**+1.2**
ECAT				S	**Sg**	**20 34 40.1**	**+0.5**
BNGB	**Bing°¶‖**	**2.09**	**279**	*e*PN	**Pn**	**20 34 10.5**	**+1.3**
BINT	**Bingol**	**2.23**	**275**	*e*Pn	**Pn**	**20 34 10.5**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.29**	**290**	*e*PN	**Pn**	**20 34 13.2**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.29**	**290**	*e*Pn	**Pn**	**20 34 13.2**	**+1.2**
BGD	**Bogdanovka**	**2.57**	**5**	P	**Pb**	**20 34 20.4**	**+0.1**
MAZI	**Mazidag**	**2.59**	**242**	*e*PN	**Pn**	**20 34 17.4**	**+1.3**
MAZI	**Mazidag**	**2.59**	**242**	*e*Pn	**Pn**	**20 34 17.4**	**+1.3**
AKH	**Akhalkalaki**	**2.71**	**3**	*e*PN	**Pn**	**20 34 19.9**	**+2.2**
AKH	**Akhalkalaki**	**2.71**	**3**	P	**Pb**	**20 34 23.8**	**+1.2**
AKH	**Akhalkalaki**	**2.71**	**3**	*e*Pn	**Pn**	**20 34 19.9**	**+2.2**
GDB	**GEDABAY**	**2.75**	**42**	⇓P	**Pb**	**20 34 21.6**	**-1.7**
	SNR=4.1						
GDB	**GEDABAY**	**2.75**	**42**	P	**Pb**	**20 34 21.6**	**-1.7**
	SNR=4.1						
KBSD	**Kabsdagh**	**2.79**	**233**	*e*P	**Pn**	**20 34 19.0**	**+0.3**
KBSD				*e*S	**Sn**	**20 34 54.9**	**+2.5**
KBSD				AML	AML	20 35 12.2	
	comp=Z,147nm,0.5s						
QZX	**Qazax, Azerbai**	**2.83**	**33**	⇓P	**Pn**	**20 34 22.6**	**+3.3**
QZX	**Qazax, Azerbai**	**2.83**	**33**	P	**Pn**	**20 34 22.6**	**+3.3**
ERZN	**Erzincan**	**2.94**	**289**	*e*PN	**Pn**	**20 34 23.3**	**+2.3**
GANJ	**Ganja**	**3.02**	**49**	⇓P	**Pn**	**20 34 25.2**	**+3.4**
GANJ				⇑S	**Sg**	**20 35 10.8**	**-0.1**
GANJ	**Ganja**	**3.02**	**49**	P	**Pn**	**20 34 25.2**	**+3.4**
PTK	**Pertek**	**3.08**	**275**	*e*PN	**Pn**	**20 34 25.1**	**+2.2**
PTK	**Pertek**	**3.08**	**275**	*e*Pn	**Pn**	**20 34 25.1**	**+2.2**
DGRG	**David-gareji**	**3.16**	**29**	P	**Pb**	**20 34 28.2**	**-2.1**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*PN	**Pn**	**20 34 25.9**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.17**	**265**	*e*Pn	**Pn**	**20 34 25.9**	**+1.8**
TBLG	**Delisi**	**3.21**	**19**	*e*PN	**Pn**	**20 34 26.8**	**+2.3**
TBLG	**Delisi**	**3.21**	**19**	*e*Pn	**Pn**	**20 34 26.8**	**+2.3**
BRDA	**Brd**	**3.36**	**61**	⇓P	**Pn**	**20 34 28.1**	**+1.6**
BRDA	**Brd**	**3.36**	**61**	P	**Pn**	**20 34 28.1**	**+1.6**
SFNV	**Sufian**	**3.43**	**229**	*e*P	**Pn**	**20 34 28.4**	**+0.9**
SFNV				*e*S	**Sn**	**20 35 09.6**	**+1.3**
SFNV				AML	AML	20 35 36.4	
	comp=Z,48nm,0.5s						
MNGR	**Mingechevir, A**	**3.56**	**53**	⇑P	**Pn**	**20 34 31.6**	**+2.4**
MNGR	**Mingechevir, A**	**3.56**	**53**	P	**Pn**	**20 34 31.6**	**+2.4**
ZRD	**Zardab**	**3.72**	**64**	⇓P	**Pn**	**20 34 33.0**	**+1.6**
ZRD	**Zardab**	**3.72**	**64**	P	**Pn**	**20 34 33.0**	**+1.6**
ZKTA	**Zakatala**	**3.87**	**40**	⇓P	**Pn**	**20 34 37.5**	**+4.0**
ONI	**Oni**	**3.88**	**1**	P	**Pg**	**20 34 46.3**	**-2.1**
LRK	**Lerik**	**3.92**	**89**	⇓P	**Pn**	**20 34 31.8**	**-2.6**
LRK	**Lerik**	**3.92**	**89**	P	**Pn**	**20 34 31.8**	**-2.6**
GLBA	**Cilalbad**	**3.98**	**81**	⇑P	**Pn**	**20 34 34.0**	**-1.1**
GLBA	**Cilalbad**	**3.98**	**81**	P	**Pn**	**20 34 34.0**	**-1.1**
KDMR	**Kurdemir**	**4.11**	**64**	⇓P	**Pn**	**20 34 38.0**	**+1.2**
KDMR	**Kurdemir**	**4.11**	**64**	P	**Pn**	**20 34 38.0**	**+1.2**
SAAT	**Saatly**	**4.12**	**72**	⇓P	**Pn**	**20 34 36.9**	**0.0**
SAAT	**Saatly**	**4.12**	**72**	P	**Pn**	**20 34 36.9**	**0.0**
QBL	**Gabala**	**4.13**	**56**	⇓P	**Pn**	**20 34 39.5**	**+2.3**
QBL	**Gabala**	**4.13**	**56**	P	**Pn**	**20 34 39.5**	**+2.3**
LKRN	**Lenkeran, Azer**	**4.26**	**88**	⇑P	**Pn**	**20 34 36.9**	**-2.0**
LKRN	**Lenkeran, Azer**	**4.26**	**88**	P	**Pn**	**20 34 36.9**	**-2.0**
ASTR	**Astara**	**4.28**	**90**	⇑P	**Pn**	**20 34 36.7**	**-2.4**
ASTR	**Astara**	**4.28**	**90**	P	**Pn**	**20 34 36.7**	**-2.4**
IML	**Ismayilli**	**4.28**	**59**	⇓P	**Pn**	**20 34 40.8**	**+1.5**
IML	**Ismayilli**	**4.28**	**59**	P	**Pn**	**20 34 40.8**	**+1.5**
XNQ	**Khinaliq**	**4.44**	**55**	⇑P	**Pn**	**20 34 44.0**	**+2.4**
XNQ	**Khinaliq**	**4.44**	**55**	P	**Pn**	**20 34 44.0**	**+2.4**
KSRV	**Kasrt alli**	**4.47**	**232**	*e*P	**Pn**	**20 34 44.8**	**+3.1**
KSRV				*e*S	**Sb**	**20 35 41.2**	**-5.2**
KSRV				AML	AML	20 35 57.7	
	comp=Z,16nm,0.5s						
PQL	**Pirkuli**	**4.56**	**61**	⇓P	**Pn**	**20 34 44.5**	**+1.3**
PQL	**Pirkuli**	**4.56**	**61**	P	**Pn**	**20 34 44.5**	**+1.3**
ALIB	**Äli-Bayra**	**4.58**	**72**	⇓P	**Pn**	**20 34 43.7**	**+0.5**
ALIB	**Äli-Bayra**	**4.58**	**72**	P	**Pn**	**20 34 43.7**	**+0.5**
GBS	**Qobustan**	**4.70**	**65**	⇑P	**Pn**	**20 34 45.9**	**+0.8**
GBS	**Qobustan**	**4.70**	**65**	P	**Pn**	**20 34 45.9**	**+0.8**
DRWC	**Darouich**	**5.68**	**251**	*e*P	**Pn**	**20 34 59.2**	**+0.6**
DRWC				*e*S	**Sn**	**20 36 03.5**	**-0.3**
DRWC				AML	AML	20 36 53.0	
	comp=E,16nm,0.7s						
DRWC				AML	AML	20 36 53.4	
	comp=N,8.4nm,0.5s						
BTCH	**Batrach**	**6.08**	**246**	*e*P	**Pn**	**20 35 04.1**	**0.0**
BTCH				*e*S	**Sn**	**20 36 11.1**	**-2.7**
BTCH				AML	AML	20 36 58.8	
	comp=N,27nm,0.7s						
BTCH				AML	AML	20 37 04.5	
	comp=E,30nm,0.6s						

CSEM ***26*** *20:43:16.5, 38°.72N×43°.43E, h5km, MD3.3*

ISK 26 20:43:16.5, 38°.72N×43°.43E, h5km, MD3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**194**	*e*PG	Pg	20 43 21.6	+2.5
VANB				*e*SG	Sg	20 43 25.4	+4.5
VANB	**Van**	**0.13**	**194**	*e*Pg	Pg	20 43 21.6	+2.4
VANB				*e*Sg	Sg	20 43 25.4	+4.5
AGRB	**Hanur-Agry**	**0.92**	**339**	*e*PG	Pb	20 43 34.9	-0.2
AGRB	**Hanur-Agry**	**0.92**	**339**	*e*Pg	Pb	20 43 34.9	-0.2
CUKT	**Cukurca**	**1.48**	**174**	*e*PN	Pg	20 43 45.7	+0.9
CUKT	**Cukurca**	**1.48**	**174**	*e*Pn	Pg	20 43 45.7	+0.9
VRTB	**Varto-Mus**	**1.60**	**287**	*e*PN	Pg	20 43 47.5	+0.4
VRTB	**Varto-Mus**	**1.60**	**287**	*e*Pn	Pg	20 43 47.5	+0.3
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*PN	Pb	20 43 50.4	-0.3
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*Pn	Pb	20 43 50.4	-0.3
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*PN	Pb	20 43 53.4	-0.4
SENK	**Senkaya-Erzuru**	**2.02**	**336**	*e*Pn	Pb	20 43 53.4	-0.4
BNGB	**Bing°¶‖**	**2.16**	**278**	*e*PN	Pb	20 43 55.1	-1.2
BINT	**Bingol**	**2.30**	**275**	*e*Pn	Pn	20 43 55.1	-0.1
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*PN	Pb	20 43 57.9	-1.6
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*Pn	Pb	20 43 57.9	-1.6
MAZI	**Mazidag**	**2.67**	**243**	*e*PN	Pn	20 44 02.3	+2.0
MAZI	**Mazidag**	**2.67**	**243**	*e*Pn	Pn	20 44 02.3	+2.1
PTK	**Pertek**	**3.16**	**274**	*e*PN	Pn	20 44 09.1	+2.1
PTK	**Pertek**	**3.16**	**274**	*e*Pn	Pn	20 44 09.1	+2.0

DDA 26 20:44:14.1, 38°.97N×43°.56E, h8km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.02**	**34**	*i* P	Pg	20 44 14.8	-1.0
VMUR				*i* S	Sg	20 44 17.9	+1.0
DYDN	**Diyadin**	**0.58**	**10**	*i* P	Pg	20 44 24.8	-0.5
DYDN				*i* S	Sb	20 44 34.6	-0.5
TUTA	**Tutak**	**0.72**	**307**	*e*P	Pg	20 44 26.9	-1.1
TUTA				*e*S	Sb	20 44 39.8	+0.6

ISCJB ***26*** *20:50:00.9±0.4, 3°.52N±0°.05×95°.22E±0°.04, h35km, mb4.1/23, Error ellipse: s-maj=7.6km s-min=4.2km az=38.3*
DJA ***26*** *20:50:01.9±0.9, 4°N±4°×9°5E±°, h10km, M4.5/10, mB5.7/2, mb4.6/7, MLv4.5/10, Mw(mB)5.2/2*
NEIC ***26*** *20:50:04.8±1.6, 3°.61N×95°.35E, h55km±12km, mb4.5/6, Error ellipse: s-maj=18.3km s-min=5.1km az=59.0*
IDC ***26*** *20:50:04.1±3.3, 3°.63N×95°.37E, h45km±29km, mb3.7/19, mb1 3.9/21, mb1mx3.7/62, mbtmp4.0/21, ML4.1/2, Error ellipse: s-maj=29.7km s-min=11.5km az=54.0*

ISC 26 20:50:02.9±0.6, 3°.58N±0°.06×95°.25E±0°.07, h35km, n66, σ1§00/69, mb4.0/23, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.33**	**59**	P	**Pn**	**20 50 24.0**	**-1.0**
MLSI				S	**Sn**	**20 50 42.8**	**+1.2**
SNSI	**Sinabang, Aceh**	**1.59**	**137**	P	**Pn**	**20 50 29.0**	**+0.5**
TPTI		**1.95**	**99**	P	**Pn**	**20 50 33.1**	**-0.4**
TPTI				S	**Sn**	**20 50 59.4**	**+2.6**
LHMI	**Lhok Sumawe**	**2.35**	**46**	P	**Pn**	**20 50 41.0**	**+2.0**
LHMI	**Lhok Sumawe**	**2.35**	**46**	*e*Pn	**Pn**	**20 50 40.4**	**+1.4**
KCSI	**Kotacane, Aceh**	**2.52**	**91**	P	**Pn**	**20 50 43.6**	**+2.3**
TSI	**Tuntungan**	**3.31**	**91**	P	**Pn**	**20 50 53.0**	**+0.8**
PSI	**Prapat**	**3.75**	**102**	P	**Pn**	**20 50 59.8**	**+1.4**
	5.7nm,0.3s,baz=315,slow=4.3,SNR=13						
PSI				S	**Sn**	**20 51 40.5**	**-0.8**
	7.3nm,0.3s,baz=302,slow=14,SNR=4.7						
KULM	**Kulim**	**5.64**	**72**	*e*Pn	**Pn**	**20 51 25.2**	**+0.9**
IPM	**Ipoh**	**5.83**	**81**	*e*Pn	**Pn**	**20 51 26.9**	**0.0**
BKNI	**Bangkinang**	**6.63**	**119**	P	**Pn**	**20 51 37.2**	**-0.7**
PDSI	**Padang**	**6.86**	**131**	P	**Pn**	**20 51 42.1**	**+1.0**
	14nm,0.4s,2µm						
PPSI	**Pulau Pagai**	**7.90**	**143**	P	**Pn**	**20 51 57.6**	**+2.3**
MYKOM	**Kota Tinggi**	**8.77**	**102**	*e*Pn	**Pn**	**20 52 07.0**	**-0.3**
MDSI	**Maura Dua**	**11.99**	**132**	P	**Pn**	**20 52 52.5**	**+1.1**
CM31	**Chiang Mai Atr**	**15.22**	**13**	*e*Pn	**P**	**20 53 39.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.22**	**13**	P	**Pn**	**20 53 36.7**	**+1.4**
	0.5nm,0.3s,baz=207,slow=12,SNR=71						
CHTO	**Chiang Mai**	**15.56**	**13**	*e*Pn	**Pn**	**20 53 40.1**	**+0.3**
	5.5nm,0.8s						
ODAN	**Odare**	**24.34**	**343**	*e*P	**P**	**20 55 18.2**	**+0.4**
	10nm,0.7s						
RAMN	**Ramite**	**24.66**	**341**	*e*P	**P**	**20 55 22.3**	**+1.5**
	18nm,0.7s						
TAPN	**Taplejung**	**24.71**	**344**	*e*P	**P**	**20 55 22.2**	**+1.0**
	11nm,0.6s						
H08S2	**Diego Garcia H**	**25.30**	**244**	T	T	21 21 18.4	
	baz=64,slow=75,SNR=138						
H08S3	**Diego Garcia H**	**25.30**	**244**	T	T	21 21 30.0	
	baz=64,slow=75,SNR=119						
H08S1	**Diego Carcia H**	**25.32**	**244**	T	T	21 21 30.6	
	baz=64,slow=75,SNR=129						
JIRN	**Jiri**	**25.46**	**341**	*e*P	**P**	**20 55 29.1**	**+1.0**
	201nm,0.7s						
PKI	**Pulchoki**	**25.64**	**339**	*e*P	**P**	**20 55 30.5**	**+0.8**
	4.3nm,0.5s						
PKIN	**Phulchoki**	**25.65**	**339**	*e*P	**P**	**20 55 29.8**	**+0.1**
	2.9nm,0.4s						
DMN	**Daman**	**25.78**	**339**	*e*P	**P**	**20 55 31.9**	**+1.0**
GUN	**Gumba**	**25.79**	**341**	*e*P	**P**	**20 55 32.0**	**+0.9**
	19nm,0.7s						
KKN	**Kakani**	**25.88**	**339**	*e*P	**P**	**20 55 32.8**	**+1.0**
	17nm,0.9s						
LSA	**Lhasa**	**26.26**	**352**	*e*P	**P**	**20 55 35.0**	**-0.5**
	8.2nm,0.6s						
GKN	**Gorkha**	**26.31**	**338**	*e*P	**P**	**20 55 36.8**	**+1.2**
	9.6nm,0.5s						
KOLN	**Koldanda**	**26.50**	**336**	*e*P	**P**	**20 55 38.8**	**+1.5**
	18nm,0.7s						
PYUN	**Piuthan**	**27.04**	**336**	*e*P	**P**	**20 55 43.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**36.90**	**127**	P	**P**	**20 57 06.4**	**-2.2**
	1.2nm,0.8s,baz=281,slow=5.2,SNR=3.5						
AAK	**Ala-Archa**	**43.06**	**337**	P	**P**	**20 58 00.9**	**+1.3**
	0.8nm,0.6s,baz=159,slow=8.6,SNR=2.2						
MK31	**Makanchi Array**	**44.49**	**347**	*e*P	**P**	**20 58 10.4**	**-0.4**
MK32	**Makanchi Array**	**44.49**	**347**	*e*P	**P**	**20 58 10.7**	**-0.1**
MKAR	**Makanchi Array**	**44.49**	**347**	P	**P**	**20 58 10.7**	**-0.1**
	1.7nm,0.5s,baz=160,slow=8.4,SNR=31						
MKAR	**Makanchi Array**	**44.49**	**347**	*e*P	**P**	**20 58 10.5**	**-0.3**
	23nm,1.1s						
WR1	**Warramunga Arr**	**44.95**	**123**	*e*P	**P**	**20 58 14.6**	**-0.3**
	33nm,2.0s						
WRA	**Warramunga Arr**	**44.95**	**123**	P	**P**	**20 58 14.6**	**-0.3**
	3.0nm,0.6s,baz=301,slow=9.2,SNR=11						
KS15	**Wonju Array Si**	**45.04**	**37**	*e*P	**P**	**20 58 14.7**	**-0.7**
KSAR	**Wonju Array Be**	**45.04**	**37**	P	**P**	**20 58 14.7**	**-0.7**
KSRS	**Korea Array**	**45.07**	**37**	P	**P**	**20 58 14.7**	**-0.9**
	1.0nm,0.6s,baz=220,slow=9.6,SNR=5.7						
SONA0	**Songino Array**	**45.12**	**11**	*e*P	**P**	**20 58 14.6**	**-1.3**
SONA0				*e*PcP	**PcP**	**20 59 56.8**	**+0.6**
SONM	**Songino Array**	**45.12**	**11**	P	**P**	**20 58 14.6**	**-1.3**
	0.8nm,0.5s,baz=190,slow=9.3,SNR=9.2						
SONM				PcP	**PcP**	**20 59 56.8**	**+0.6**
	0.7nm,0.5s,baz=193,slow=3.1,SNR=6.6						
AS31	**Alice Springs**	**46.38**	**128**	*e*P	**P**	**20 58 25.8**	**-0.4**
	0.7nm,1.0s						
ASAR	**Alice Springs**	**46.38**	**128**	P	**P**	**20 58 26.2**	**0.0**
	0.8nm,0.6s,baz=298,slow=8.0,SNR=17						
ASAR				PcP	**PcP**	**21 00 01.2**	**+0.3**
	0.4nm,0.6s,baz=309,slow=3.8,SNR=4.1						
GEYT	**Alibeck**	**48.15**	**320**	P	**P**	**20 58 40.0**	**+0.3**
	0.8nm,0.5s,baz=128,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**48.95**	**346**	P	**P**	**20 58 45.8**	**+0.2**
	2.1nm,0.7s,baz=168,slow=6.8,SNR=25						
KURK	**Kurchatov**	**49.01**	**346**	*e*P	**P**	**20 58 45.8**	**-0.3**
ZAA0	**Zalesovo Array**	**50.93**	**352**	*e*P	**P**	**20 59 00.2**	**-0.4**
	6.3nm,0.8s						
ZALV	**Zalesovo Beam**	**50.93**	**352**	P	**P**	**20 59 00.6**	**0.0**
	6.4nm,0.6s,baz=179,slow=7.5,SNR=31						
ZAA1	**Zalesovo Array**	**50.93**	**352**	*e*P	**P**	**20 59 00.6**	**-0.1**
MJAR	**Matsushiro Arr**	**51.31**	**45**	P	**P**	**20 59 04.0**	**+0.1**

CUKT	**Cukurca**	**1.46**	**172**	*e*PN	**Pb**	**20 55 22.2**	**+0.5**
CUKT	**Cukurca**	**1.46**	**172**	*i* P	**Pb**	**20 55 22.0**	**+0.3**
CUKT				*i* S	**Sg**	**20 55 46.7**	**+4.6**
CUKT	**Cukurca**	**1.46**	**172**	*e*Pn	**Pb**	**20 55 22.2**	**+0.5**
CUKT				S	**Sg**	**20 55 46.7**	**+4.6**
VRTB	**Varto-Mus**	**1.56**	**288**	*e*PN	**Pb**	**20 55 23.7**	**+0.3**
VRTB	**Varto-Mus**	**1.56**	**288**	*i* P	**Pb**	**20 55 23.1**	**-0.3**
VRTB				*i* S	**Sg**	**20 55 47.4**	**+2.2**
VRTB	**Varto-Mus**	**1.56**	**288**	P	**Pb**	**20 55 23.1**	**-0.3**
VRTB	**Varto-Mus**	**1.56**	**288**	*e*Pn	**Pb**	**20 55 23.7**	**+0.3**
VRTB				S	**Sg**	**20 55 47.4**	**+2.2**
DIGO	**Kars**	**1.72**	**0**	*i* P	**Pb**	**20 55 25.6**	**-0.6**
DIGO				*i* S	**Sg**	**20 55 55.1**	**+4.7**
DIGO	**Kars**	**1.72**	**0**	*i* P	Pg	20 55 35.4	+7.3
DIGO				*i* S	Sg	20 55 59.7	+9.3
DIGO	**Kars**	**1.72**	**0**	P	Pg	20 55 35.3	+7.3
DIGO				S	Sg	20 55 59.7	+9.3
DIGO	**Kars**	**1.72**	**0**	P	**Pb**	**20 55 25.6**	**-0.6**
NAX	**Nakhchivan**	**1.73**	**73**	⇓P	**Pb**	**20 55 26.2**	**-0.2**
NAX				⇓S	**Sg**	**20 55 51.6**	**+0.7**
NAX	**Nakhchivan**	**1.73**	**73**	P	**Pb**	**20 55 26.2**	**-0.2**
NAX				S	**Sg**	**20 55 51.6**	**+0.7**
BNGL	**BINGOL**	**1.74**	**279**	*i* P	**Pb**	**20 55 25.6**	**-1.0**
BNGL				*i* S	**Sg**	**20 55 49.8**	**-1.4**
HOMI	**Horasan**	**1.76**	**321**	*i* P	**Pb**	**20 55 26.6**	**-0.3**
HOMI				*i* S	**Sg**	**20 55 52.8**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.78**	**253**	*e*PN	**Pb**	**20 55 26.4**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.78**	**253**	*i* P	**Pb**	**20 55 26.3**	**-0.8**
SVAN				*i* S	**Sb**	**20 55 48.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.78**	**253**	P	**Pb**	**20 55 26.3**	**-0.8**
SVAN				S	**Sb**	**20 55 48.7**	**-0.5**
GNI	**Garni**	**1.81**	**36**	Pn	**Pb**	**20 55 27.0**	**-0.6**
	24nm,0.3s,baz=321,slow=4.4,SNR=84						
GNI				Lg	Lg	20 55 55.5	
	36nm,0.3s,baz=324,slow=23,SNR=12						
ERZM	**Erzurum**	**1.96**	**309**	*i* P	**Pb**	**20 55 29.7**	**-0.7**
ERZM				*i* S	**Sg**	**20 55 57.5**	**-0.7**
ERZM	**Erzurum**	**1.96**	**309**	P	**Pb**	**20 55 29.7**	**-0.7**
ERZM				S	**Sg**	**20 55 57.5**	**-0.7**
EAK	**Akyaka**	**2.00**	**5**	*i* P	**Pb**	**20 55 30.9**	**0.0**
EAK				*i* S	**Sg**	**20 56 07.9**	**+8.6**
EAK	**Akyaka**	**2.00**	**5**	P	**Pb**	**20 55 30.9**	**0.0**
SENK	**Senkaya-Erzuru**	**2.02**	**338**	*e*PN	**Pn**	**20 55 29.6**	**+1.2**
SENK	**Senkaya-Erzuru**	**2.02**	**338**	*e*Pn	**Pn**	**20 55 29.6**	**+1.2**
BNGB	**Bing¶‖**	**2.11**	**279**	*e*PN	**Pb**	**20 55 31.3**	**-1.5**
BINT	**Bingol**	**2.25**	**275**	*e*Pn	**Pn**	**20 55 31.3**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.31**	**290**	*e*PN	**Pn**	**20 55 33.9**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.31**	**290**	*e*Pn	**Pn**	**20 55 33.9**	**+1.5**
MARD	**Mardin**	**2.46**	**237**	*e*Pn	**Pn**	**20 55 35.4**	**+1.0**
MARD	**Mardin**	**2.46**	**237**	*e*Pn	**Pn**	**20 55 35.4**	**+1.0**
BGD	**Bogdanovka**	**2.57**	**4**	P	**Pg**	**20 55 43.6**	**-0.7**
KOPT	**Kop Dagi**	**2.58**	**302**	*e*Pn	**Pn**	**20 55 35.9**	**-0.3**
KOPT	**Kop Dagi**	**2.58**	**302**	*e*Pn	**Pn**	**20 55 35.9**	**-0.3**
MAZI	**Mazidag**	**2.61**	**243**	*e*PN	**Pn**	**20 55 38.5**	**+2.1**
MAZI	**Mazidag**	**2.61**	**243**	*e*Pn	**Pn**	**20 55 38.5**	**+2.1**
AKH	**Akhalkalaki**	**2.71**	**2**	*e*PN	**Pn**	**20 55 39.3**	**+1.4**
AKH	**Akhalkalaki**	**2.71**	**2**	P	**Pg**	**20 55 46.8**	**-0.2**
AKH	**Akhalkalaki**	**2.71**	**2**	*e*Pn	**Pn**	**20 55 39.3**	**+1.4**
ARTV	**Artvin**	**2.72**	**337**	*e*Pn	**Pb**	**20 55 45.0**	**+1.7**
GDB	**GEDABAY**	**2.74**	**42**	⇑P	**Pb**	**20 55 43.5**	**-0.1**
GDB				⇓S	**Sg**	**20 56 22.8**	**-0.2**
GDB	**GEDABAY**	**2.74**	**42**	P	**Pb**	**20 55 43.5**	**-0.1**
QZX	**Qazax, Azerbai**	**2.82**	**33**	⇓P	**Pb**	**20 55 45.5**	**+0.6**
QZX				⇓S	**Sg**	**20 56 24.2**	**-1.4**
QZX	**Qazax, Azerbai**	**2.82**	**33**	P	**Pb**	**20 55 45.5**	**+0.6**
GANJ	**Ganja**	**3.00**	**49**	⇓P	**Pb**	**20 55 47.0**	**-1.0**
GANJ				⇑S	**Sg**	**20 56 31.9**	**+0.4**
GANJ	**Ganja**	**3.00**	**49**	P	**Pb**	**20 55 47.0**	**-1.0**
PTK	**Pertek**	**3.10**	**275**	*e*PN	**Pn**	**20 55 45.4**	**+2.1**
PTK	**Pertek**	**3.10**	**275**	*e*Pn	**Pn**	**20 55 45.4**	**+2.1**
DGRG	**David-gareji**	**3.16**	**29**	P	**Pb**	**20 55 50.2**	**-0.4**
SVRC	**Sivrice-ELAZID**	**3.19**	**266**	*e*PN	**Pn**	**20 55 47.2**	**+2.7**
SVRC	**Sivrice-ELAZID**	**3.19**	**266**	*e*Pn	**Pn**	**20 55 47.2**	**+2.7**
TBLG	**Delisi**	**3.21**	**19**	*e*PN	**Pn**	**20 55 46.6**	**+2.1**
TBLG	**Delisi**	**3.21**	**19**	P	**Pg**	**20 55 54.6**	**-1.9**
TBLG	**Delisi**	**3.21**	**19**	*e*Pn	**Pn**	**20 55 46.7**	**+2.1**
BRDA	**Brd**	**3.35**	**61**	⇓P	**Pn**	**20 55 50.0**	**+3.6**
BRDA	**Brd**	**3.35**	**61**	P	**Pn**	**20 55 50.0**	**+3.6**
MNGR	**Mingechevir, A**	**3.54**	**53**	⇓P	**Pb**	**20 55 53.4**	**-3.8**
MNGR	**Mingechevir, A**	**3.54**	**53**	P	**Pb**	**20 55 53.4**	**-3.8**
ZRD	**Zardab**	**3.70**	**63**	⇓P	**Pn**	**20 55 54.4**	**+3.1**
ZRD	**Zardab**	**3.70**	**63**	P	**Pn**	**20 55 54.4**	**+3.1**
ZKTA	**Zakatala**	**3.86**	**39**	⇓P	**Pb**	**20 55 59.0**	**-3.5**
SEKA	**Sheki**	**3.88**	**48**	⇓P	**Pb**	**20 55 59.2**	**-3.7**
SEKA	**Sheki**	**3.88**	**48**	P	**Pb**	**20 55 59.2**	**-3.7**
ONI	**Oni**	**3.89**	**1**	P	**Pg**	**20 56 08.7**	**-0.8**
LRK	**Lerik**	**3.90**	**89**	⇑P	**Pn**	**20 55 53.7**	**-0.5**
LRK	**Lerik**	**3.90**	**89**	P	**Pn**	**20 55 53.7**	**-0.5**
GLBA	**Clilabad**	**3.96**	**81**	⇓P	**Pn**	**20 55 55.9**	**+1.0**
GLBA	**Clilabad**	**3.96**	**81**	P	**Pn**	**20 55 55.9**	**+1.0**
KDMR	**Kurdemir**	**4.09**	**64**	⇑P	**Pn**	**20 55 59.2**	**+2.5**
KDMR	**Kurdemir**	**4.09**	**64**	P	**Pn**	**20 55 59.2**	**+2.5**
SAAT	**Saatly**	**4.10**	**72**	⇓P	**Pn**	**20 55 59.1**	**+2.4**
SAAT	**Saatly**	**4.10**	**72**	P	**Pn**	**20 55 59.1**	**+2.4**
QBL	**Gabala**	**4.12**	**55**	⇓P	**Pn**	**20 56 00.9**	**+3.8**
QBL	**Gabala**	**4.12**	**55**	P	**Pn**	**20 56 00.9**	**+3.8**
LKRN	**Lenkeran, Azer**	**4.24**	**88**	⇓P	**Pn**	**20 55 59.1**	**+0.4**
LKRN	**Lenkeran, Azer**	**4.24**	**88**	P	**Pn**	**20 55 59.1**	**+0.4**
ASTR	**Astara**	**4.26**	**90**	⇓P	**Pn**	**20 55 57.7**	**-1.3**
ASTR	**Astara**	**4.26**	**90**	P	**Pn**	**20 55 57.7**	**-1.3**
IML	**Ismayilli**	**4.27**	**59**	⇑P	**Pn**	**20 56 02.2**	**+3.0**
IML	**Ismayilli**	**4.27**	**59**	P	**Pn**	**20 56 02.2**	**+3.0**
XNQ	**Khinaliq**	**4.43**	**55**	⇓P	**Pn**	**20 56 05.2**	**+3.6**
XNQ	**Khinaliq**	**4.43**	**55**	P	**Pn**	**20 56 05.2**	**+3.6**
PQL	**Pirkuli**	**4.54**	**61**	⇓P	**Pn**	**20 56 06.0**	**+2.9**
PQL	**Pirkuli**	**4.54**	**61**	P	**Pn**	**20 56 06.0**	**+2.9**
ALIB	**Äli-Bayra**	**4.56**	**72**	⇓P	**Pn**	**20 56 04.7**	**+1.6**
ALIB	**Äli-Bayra**	**4.56**	**72**	P	**Pn**	**20 56 04.7**	**+1.6**
GBS	**Qobustan**	**4.69**	**65**	⇑P	**Pn**	**20 56 07.5**	**+2.6**
GBS	**Qobustan**	**4.69**	**65**	P	**Pn**	**20 56 07.5**	**+2.6**
KBZ	**Khabaz**	**5.04**	**356**	Pg	**Pb**	**20 56 20.6**	**-2.0**
	0.0nm,0.3s,baz=216,slow=18,SNR=2.5						
KVAR	**Kislovodsk Arr**	**5.28**	**355**	Pg	**Pb**	**20 56 27.4**	**+0.6**
	baz=113,slow=18,SNR=2.5						
ASF	**Jabal al Asfar**	**8.37**	**221**	Lg	Lg	20 59 24.9	
	0.2nm,0.3s,baz=163,slow=19,SNR=2.3						
AKASG	**Malin Array Be**	**15.62**	**325**	Pn	**Pn**	**20 58 31.4**	**-2.7**
	0.4nm,0.3s,baz=130,slow=11,SNR=2.6						
AKBB	**Malin Array Si**	**15.62**	**325**	*e*Pn	**Pn**	**20 58 31.4**	**-2.7**
	16nm,1.8s						
AKTO	**Aktyubinsk**	**15.68**	**37**	Pn	**Pn**	**20 58 31.4**	**-3.5**
	0.1nm,0.3s,baz=13,slow=14,SNR=2.9						
ARU	**Arti**	**20.41**	**25**	P	Pn	20 59 32.4	-0.7
	2.9nm,0.5s,baz=228,slow=9.3,SNR=7.0						
ARU	**Arti**	**20.41**	**25**	*e*P	Pn	20 59 32.6	-0.5
	11nm,1.1s						
ARU	**Arti**	**20.41**	**25**	*e*P	Pn	20 59 32.6	-0.5
	11nm,1.1s						
FIA0	**FINESS Array S**	**25.17**	**340**	*e*P	**P**	**21 00 20.0**	**+1.0**
FIA0	**FINESS Array S**	**25.17**	**340**	*e*P	**P**	**21 00 20.1**	**+1.0**
FINES	**FINESS Array B**	**25.17**	**340**	P	**P**	**21 00 20.0**	**+1.0**
	1.7nm,0.7s,baz=147,slow=13,SNR=4.5						
KURBB	**Kurchatov Arra**	**27.45**	**53**	P	**P**	**21 00 41.2**	**+1.4**
	0.7nm,0.8s,baz=263,slow=9.1,SNR=4.6						
KURK	**Kurchatov**	**27.53**	**53**	*e*P	**P**	**21 00 41.2**	**+0.8**
KURK	**Kurchatov**	**27.53**	**53**	*e*P	**P**	**21 00 41.2**	**+0.8**
ARA0	**ARCESS Array S**	**32.35**	**348**	*e*P	**P**	**21 01 23.6**	**+0.6**
ARA0	**ARCESS Array S**	**32.35**	**348**	*e*P	**P**	**21 01 23.6**	**+0.6**
ARCES	**ARCESS Array B**	**32.35**	**348**	P	**P**	**21 01 23.6**	**+0.6**
	0.8nm,0.7s,baz=145,slow=8.9,SNR=5.0						
EKA	**Eskdalemuir Ar**	**35.05**	**314**	P	**P**	**21 01 45.0**	**-1.6**
	1.3nm,0.7s,baz=110,slow=7.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**51.99**	**96**	P	**P**	**21 04 04.0**	**+0.6**
	0.7nm,0.8s,baz=291,slow=7.6,SNR=6.9						

ISCJB ***26*** *20:57:02.7±0.4, 37°30N±0°02×36°28E±0°02, h3km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=11.5*
DDA ***26*** *20:57:02.2, 37°33N×36°32E, h23km, Ml3.5*
ISK ***26*** *20:57:02.2, 37°29N×36°29E, h6km, MD2.9*
CSEM ***26*** *20:57:03.2±0.2, 37°30N×36°25E, h10km, ML3.5, Error ellipse: s-maj=4.7km s-min=3.5km az=153.0*
NSSC ***26*** *20:57:04.9±2.0, 37°31N×36°73E, h34km±11km, ML2.7*
ISC 26 20:57:02.9±1.0, 37°30N±0°02×36°28E±0°02, h6km±9km, n55, σ0=92/81, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.29**	**10**	*i* P	**Pg**	**20 57 08.1**	**-0.5**
ANDN				*i* S	**Sg**	**20 57 12.5**	**+0.1**
ANDN	**Andirin**	**0.29**	**10**	P	**Pg**	**20 57 08.1**	**-0.5**
ANDN				S	**Sg**	**20 57 12.5**	**+0.1**
KAMA	**Osmaniye**	**0.33**	**110**	*i* P	**Pg**	**20 57 09.1**	**-0.2**
KAMA				*i* S	**Sg**	**20 57 14.4**	**+0.8**
KOZT	**Kozan**	**0.41**	**297**	*e*PG	**Pg**	**20 57 10.6**	**-0.2**
KOZT				*e*SG	**Sg**	**20 57 17.1**	**+1.0**
KOZT	**Kozan**	**0.41**	**297**	*e*Pg	**Pg**	**20 57 10.6**	**-0.2**
KOZT				*e*Sg	**Sg**	**20 57 17.1**	**+1.0**
DORT	**Dortyol-Hatay**	**0.48**	**188**	*e*PG	**Pg**	**20 57 11.8**	**-0.2**
DORT	**Dortyol-Hatay**	**0.48**	**188**	*e*Pg	**Pg**	**20 57 11.9**	**-0.2**
HCB	**Kahramanmara¯**	**0.50**	**85**	*i* P	**Pg**	**20 57 12.2**	**-0.4**
HCB				*i* S	**Sg**	**20 57 15.6**	**-3.5**
CEYT	**Ceyhan**	**0.51**	**236**	*e*PG	**Pg**	**20 57 12.9**	**+0.1**
CEYT				*e*SG	**Sg**	**20 57 20.4**	**+1.0**
CEYT	**Ceyhan**	**0.51**	**236**	*e*Pg	**Pg**	**20 57 12.9**	**+0.1**
CEYT				*e*Sg	**Sg**	**20 57 20.5**	**+1.0**
KMRS	**Kahramanmaras**	**0.53**	**67**	*e*PG	**Pg**	**20 57 12.8**	**-0.4**
KMRS				*e*SG	**Sg**	**20 57 20.8**	**+0.7**
KMRS	**Kahramanmaras**	**0.53**	**67**	*e*Pg	**Pg**	**20 57 12.8**	**-0.4**
KMRS				*e*Sg	**Sg**	**20 57 20.8**	**+0.7**
AKO	**Adana**	**0.69**	**284**	*i* P	**Pg**	**20 57 15.4**	**-0.6**
AKO				*i* S	**Sb**	**20 57 27.2**	**+0.2**
YURE	**YUREGIR**	**0.70**	**228**	*e*PG	**Pg**	**20 57 16.4**	**0.0**
YURE	**YUREGIR**	**0.70**	**228**	*i* P	**Pg**	**20 57 16.2**	**-0.2**
YURE				*i* S	**Sn**	**20 57 30.9**	**+0.5**
YURE	**YUREGIR**	**0.70**	**228**	*e*Pg	**Pg**	**20 57 16.4**	**0.0**
DRWC	**Darouich**	**0.74**	**155**	*e*P	**Pg**	**20 57 17.6**	**+0.4**
DRWC				*e*S	**Sb**	**20 57 28.3**	**-0.3**
DRWC				AML	AML	20 57 31.8	
	comp=E,833nm,0.4s						
DRWC				AML	AML	20 57 31.8	
	comp=N,725nm,0.3s						
KUZU	**Kuzuini**	**0.82**	**129**	*i* P	**Pg**	**20 57 19.3**	**+0.6**
KUZU				*i* S	**Sb**	**20 57 31.7**	**+0.8**
KUZU	**Kuzuini**	**0.82**	**129**	P	**Pg**	**20 57 19.3**	**+0.6**
KUZU				S	**Sb**	**20 57 31.7**	**+0.8**
GZT	**Gaziantep**	**1.02**	**86**	*i* P	**Pg**	**20 57 22.7**	**+0.2**
GZT				*i* S	**Sn**	**20 57 38.0**	**-0.6**
KRTS	**Karatas**	**1.03**	**225**	*e*PG	**Pg**	**20 57 22.2**	**-0.3**
KRTS	**Karatas**	**1.03**	**225**	*e*Pg	**Pg**	**20 57 22.2**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.08**	**318**	*i* P	**Pg**	**20 57 22.2**	**-1.4**
YAHY				*i* S	**Sn**	**20 57 40.0**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.08**	**318**	P	**Pg**	**20 57 22.2**	**-1.4**
SARI	**SarD1z-Kayseri**	**1.11**	**6**	*e*PN	**Pg**	**20 57 24.2**	**-0.1**
SARI				*e*SN	**Sb**	**20 57 40.0**	**+0.5**
GULE	**Gulek**	**1.20**	**270**	*i* P	**Pg**	**20 57 24.9**	**-1.0**
GULE				*i* S	**Sn**	**20 57 44.4**	**+1.4**
GULE	**Gulek**	**1.20**	**270**	P	**Pg**	**20 57 24.9**	**-1.0**
BTCH	**Batrach**	**1.27**	**173**	*e*P	**Pn**	**20 57 27.2**	**+0.1**
BTCH				*e*S	**Sg**	**20 57 42.6**	**-0.9**
BTCH				AML	AML	20 57 47.1	
	comp=N,175nm,0.3s						
BTCH				AML	AML	20 57 50.2	
	comp=E,171nm,0.7s						
YAYL	**Yayladag**	**1.27**	**186**	*i* P	**Pn**	**20 57 24.4**	**-2.9**
YAYL				*i* S	**Sg**	**20 57 43.5**	**-0.2**
ARNB	**Al Arnab**	**1.46**	**190**	*e*P	**Pn**	**20 57 29.9**	**+0.1**
ARNB				*e*S	**Sb**	**20 57 49.9**	**+0.7**
ARNB				AML	AML	20 57 56.6	
	comp=N,72nm,0.4s						
ARNB				AML	AML	20 57 57.2	
	comp=E,80nm,0.6s						
MERS	**Mersin**	**1.47**	**254**	*e*PN	**Pn**	**20 57 29.3**	**-0.7**
MERS	**Mersin**	**1.47**	**254**	*e*Pn	**Pn**	**20 57 29.3**	**-0.7**
DARE	**Darende-Malaty**	**1.59**	**36**	*e*PN	**Pn**	**20 57 31.5**	**-0.1**
DARE	**Darende-Malaty**	**1.59**	**36**	*e*Pn	**Pn**	**20 57 31.5**	**-0.1**
BNN	**Bunyan**	**1.59**	**348**	*e*PN	**Pn**	**20 57 31.7**	**0.0**
BNN	**Bunyan**	**1.59**	**348**	*e*Pn	**Pn**	**20 57 31.7**	**0.0**
KERG	**Konya-Eregli**	**1.72**	**275**	*i* P	**Pn**	**20 57 33.2**	**-0.3**
KERG				*i* S	**Sn**	**20 57 56.9**	**+1.0**
KERG	**Konya-Eregli**	**1.72**	**275**	P	**Pn**	**20 57 33.2**	**-0.3**
KERG				S	**Sn**	**20 57 56.9**	**+1.0**
CUALT	**Altinyayla-SIV**	**2.01**	**11**	*i* P	**Pb**	**20 57 39.5**	**-0.3**
CUALT				*i* S	**Sg**	**20 58 07.0**	**-0.4**
CUALT	**Altinyayla-SIV**	**2.01**	**11**	P	**Pb**	**20 57 39.5**	**-0.3**
URFA	**Urfa**	**2.03**	**85**	*e*PN	**Pn**	**20 57 38.2**	**+0.6**
URFA	**Urfa**	**2.03**	**85**	*e*Pn	**Pn**	**20 57 38.2**	**+0.6**
KEBE	**Keben-Mersin**	**2.23**	**248**	*e*PN	**Pn**	**20 57 40.6**	**+0.3**
KEBE	**Keben-Mersin**	**2.23**	**248**	*e*Pn	**Pn**	**20 57 40.6**	**+0.3**
BIDA	**Albida**	**2.28**	**179**	*e*P	**Pn**	**20 57 42.2**	**+1.1**
BIDA				*e*S	**Sn**	**20 58 05.7**	**-3.8**
BIDA				AML	AML	20 58 25.2	
	comp=N,65nm,0.5s						
BIDA				AML	AML	20 58 27.9	
	comp=E,52nm,0.5s						
IKL	**Isikli**	**2.34**	**244**	*e*PN	**Pn**	**20 57 42.0**	**+0.2**
IKL	**Isikli**	**2.34**	**244**	*e*Pn	**Pn**	**20 57 42.0**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.63**	**65**	*e*PN	**Pn**	**20 57 46.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.63**	**65**	*e*Pn	**Pn**	**20 57 46.4**	**+0.5**
SVSK	**Karacayir**	**2.67**	**12**	*e*PN	**Pn**	**20 57 47.3**	**+0.9**
SVSK	**Karacayir**	**2.67**	**12**	*e*Pn	**Pn**	**20 57 47.3**	**+0.9**
PTK	**Pertek**	**2.92**	**56**	*e*PN	**Pn**	**20 57 50.7**	**+0.6**
PTK	**Pertek**	**2.92**	**56**	*e*Pn	**Pn**	**20 57 50.7**	**+0.6**
MAZI	**Mazidag**	**3.32**	**86**	*e*PN	**Pn**	**20 57 56.5**	**+1.0**
MAZI	**Mazidag**	**3.32**	**86**	*e*Pn	**Pn**	**20 57 56.5**	**+1.0**

AZER ***26*** *21:03:40.9±3.4, 38°18N×43°66E, h9km, Error ellipse: s-maj=27.1km s-min=24.3km az=105.0*
DDA ***26*** *21:03:43.2, 38°84N×43°62E, h5km, Ml3.4*
ISK ***26*** *21:03:43.6, 38°85N×43°56E, h4km, ML3.4*
CSEM ***26*** *21:03:44.7±0.2, 38°88N×43°54E, h2km, ML3.4, Error ellipse: s-maj=5.9km s-min=4.6km az=108.0*
ISC 26 21:03:44.6±0.9, 38°86N±0°02×43°58E±0°02, h6km±8km, n58, σ1=59/90, 3C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**358**	*i* P	**Pg**	**21 03 46.6**	**-0.8**
VMUR				*i* S	**Sg**	**21 03 49.9**	**+0.5**
VMUR	**Van-Muradiye**	**0.13**	**358**	P	**Pg**	**21 03 46.6**	**-0.8**
VMUR				S	**Sg**	**21 03 49.8**	**+0.5**
VANB	**Van**	**0.31**	**209**	*e*PG	**Pg**	**21 03 51.2**	**+0.5**
VANB				*e*SG	**Sb**	**21 03 56.3**	**-1.5**
VANB	**Van**	**0.31**	**209**	*e*Pg	**Pg**	**21 03 51.2**	**+0.5**
VANB				*e*Sg	**Sb**	**21 03 56.3**	**-1.5**
GEVA	**Gevas**	**0.68**	**217**	*i* P	**Pg**	**21 03 56.3**	**-1.5**
GEVA				*i* S	**Sn**	**21 04 10.4**	**-1.6**
GEVA	**Gevas**	**0.68**	**217**	P	**Pg**	**21 03 56.3**	**-1.5**
GEVA				S	**Sn**	**21 04 10.4**	**-1.6**
DYDN	**Diyadin**	**0.69**	**7**	*i* P	**Pg**	**21 03 56.9**	**-1.0**
DYDN				*i* S	**Sg**	**21 04 06.2**	**-0.6**
DYDN	**Diyadin**	**0.69**	**7**	P	**Pg**	**21 03 56.9**	**-1.0**
DYDN				S	**Sg**	**21 04 06.2**	**-0.6**
TUTA	**Tutak**	**0.80**	**312**	*i* P	**Pg**	**21 03 58.3**	**-1.8**
TUTA				*i* S	**Sg**	**21 04 11.0**	**+0.5**
TUTA	**Tutak**	**0.80**	**312**	P	**Pg**	**21 03 58.3**	**-1.8**
TUTA				S	**Sg**	**21 04 11.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.84**	**328**	*e*PG	**Pg**	**21 03 59.7**	**-1.2**
AGRB				*e*SG	**Sg**	**21 04 12.2**	**+0.3**
AGRB	**Hanur-Agry**	**0.84**	**328**	*e*Pg	**Pg**	**21 03 59.7**	**-1.2**
AGRB				*e*Sg	**Sg**	**21 04 12.2**	**+0.3**
EKAR	**Karacoban**	**1.24**	**289**	*i* P	**Pg**	**21 04 07.6**	**-0.9**
EKAR				*i* S	**Sn**	**21 04 27.2**	**+1.3**
EKAR	**Karacoban**	**1.24**	**289**	P	**Pg**	**21 04 07.6**	**-0.9**
EKAR				S	**Sn**	**21 04 27.2**	**+1.3**
EATA	**Eleskirt**	**1.31**	**320**	*i* P	**Pg**	**21 04 07.5**	**-2.2**
EATA				*i* S	**Sn**	**21 04 27.9**	**+0.4**
EATA	**Eleskirt**	**1.31**	**320**	P	**Pg**	**21 04 07.5**	**-2.2**
EATA				S	**Sn**	**21 04 28.0**	**+0.4**
NAX	**Nakhchivan**	**1.52**	**78**	⇑P	**Pb**	**21 04 12.7**	**-0.6**
NAX				⇑S	**Sg**	**21 04 34.8**	**+1.1**
NAX	**Nakhchivan**	**1.52**	**78**	P	**Pb**	**21 04 12.7**	**-0.6**
NAX				S	**Sg**	**21 04 34.8**	**+1.1**
DIGO	**Kars**	**1.56**	**354**	*i* P	**Pn**	**21 04 13.1**	**0.0**
DIGO				*i* S	**Sg**	**21 04 39.4**	**+4.6**
DIGO	**Kars**	**1.56**	**354**	P	**Pn**	**21 04 13.1**	**0.0**
CUKT	**Cukurca**	**1.61**	**179**	*e*PN	**Pn**	**21 04 14.0**	**+0.3**
CUKT	**Cukurca**	**1.61**	**179**	*i* P	**Pb**	**21 04 14.1**	**-0.8**
CUKT				*i* S	**Sg**	**21 04 43.4**	**+6.9**
CUKT	**Cukurca**	**1.61**	**179**	P	**Pb**	**21 04 14.1**	**-0.8**
SIRN	**S¨–rnak**	**1.65**	**214**	*i* P	**Pn**	**21 04 14.1**	**0.0**
SIRN				*i* S	**Sg**	**21 04 38.6**	**+1.1**
SIRN	**S¨–rnak**	**1.65**	**214**	P	**Pn**	**21 04 14.1**	**0.0**
SIRN				S	**Sg**	**21 04 38.6**	**+1.1**
VRTB	**Varto-Mus**	**1.68**	**281**	*e*PN	**Pn**	**21 04 14.8**	**+0.1**
VRTB	**Varto-Mus**	**1.68**	**281**	*i* P	**Pb**	**21 04 15.5**	**-0.5**
VRTB				*i* S	**Sg**	**21 04 41.7**	**+3.0**
VRTB	**Varto-Mus**	**1.68**	**281**	*e*Pn	**Pn**	**21 04 14.8**	**+0.1**
VRTB	**Varto-Mus**	**1.68**	**281**	P	**Pb**	**21 04 15.5**	**-0.5**
HOMI	**Horasan**	**1.75**	**313**	*i* P	**Pb**	**21 04 16.6**	**-0.7**
HOMI				*i* S	**Sg**	**21 04 45.7**	**+4.7**
EAK	**Akyaka**	**1.82**	**1**	*i* P	**Pb**	**21 04 18.5**	**0.0**
EAK				*i* S	**Sg**	**21 04 47.6**	**+4.5**
EAK	**Akyaka**	**1.82**	**1**	P	**Pb**	**21 04 18.5**	**0.0**
BNGL	**BINGOL**	**1.90**	**273**	*i* P	**Pb**	**21 04 19.0**	**-0.8**
BNGL				*i* S	**Sg**	**21 04 48.8**	**+3.2**
SENK	**Senkaya-Erzuru**	**1.94**	**331**	*e*PN	**Pn**	**21 04 18.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.94**	**331**	*e*Pn	**Pn**	**21 04 18.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	*e*PN	**Pn**	**21 04 19.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	*i* P	**Pb**	**21 04 20.2**	**-1.2**
SVAN				*i* S	**Sg**	**21 04 47.8**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	*e*PN	**Pn**	**21 04 19.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.00**	**250**	P	**Pb**	**21 04 20.2**	**-1.2**
SVAN				S	**Sg**	**21 04 47.8**	**-1.0**
ERZM	**Erzurum**	**2.01**	**302**	*i* P	**Pb**	**21 04 21.1**	**-0.6**
ERZM				*i* S	**Sb**	**21 04 47.1**	**+0.1**
ERZM	**Erzurum**	**2.01**	**302**	P	**Pb**	**21 04 21.1**	**-0.6**
ERZM				S	**Sb**	**21 04 47.1**	**+0.1**
BNGB	**Bing¶‖**	**2.27**	**274**	*e*PN	**Pn**	**21 04 23.2**	**+0.6**
BINT	**Bingol**	**2.41**

DGRG S **Sg** **21 22 19.3 +2.7**
ERZN Erzincan 3.06 286 *e*PN **Pn** **21 21 29.0 0.0**
TBLG Delisi 3.07 17 *e*PN **Pn** **21 21 30.8 +1.7**
TBLG Delisi 3.07 17 P **Pb** **21 21 35.4 +0.3**
TBLG S **Sb** **21 22 10.3 -2.6**
TBLG Delisi 3.07 17 *e*Pn **Pn** **21 21 30.8 +1.7**
TBLG S **Sb** **21 22 10.3 -2.6**
BRDA Brd 3.18 61 ⇑P **Pn** **21 21 31.0 +0.5**
BRDA Brd 3.18 61 P **Pn** **21 21 31.0 +0.5**
PTK Pertek 3.23 273 *e*PN **Pn** **21 21 31.4 -0.1**
PTK Pertek 3.23 273 *e*Pn **Pn** **21 21 31.4 -0.1**
SVRC Sivrice-ELAZID 3.33 264 *e*PN **Pn** **21 21 32.7 -0.2**
SVRC Sivrice-ELAZID 3.33 264 *e*Pn **Pn** **21 21 32.7 -0.2**
MNGR Mingechevir, A 3.38 53 ⇓P **Pn** **21 21 34.2 +0.9**
MNGR Mingechevir, A 3.38 53 P **Pn** **21 21 34.2 +0.9**
ZRD Zardab 3.54 64 ⇑P **Pn** **21 21 35.6 +0.2**
ZRD Zardab 3.54 64 P **Pn** **21 21 35.6 +0.2**
SFNV Sufian 3.61 230 *e*P **Pn** **21 21 37.0 +0.5**
SFNV *e*S **Sn** **21 22 18.9 -0.5**
SFNV AML AML 21 23 04.7
comp=Z,126nm,0.6s
KTUT Trabzon 3.63 308 *e*PN **Pn** **21 21 37.5 +0.8**
KTUT Trabzon 3.63 308 *e*Pn **Pn** **21 21 37.5 +0.8**
ZKTA Zakatala 3.70 39 ⇑P **Pn** **21 21 39.9 +2.2**
SEKA Sheki 3.71 48 ⇓P **Pn** **21 21 40.2 +2.3**
SEKA Sheki 3.71 48 P **Pn** **21 21 40.2 +2.3**
LRK Lerik 3.77 91 ⇑P **Pn** **21 21 35.9 -2.9**
LRK Lerik 3.77 91 P **Pn** **21 21 35.9 -2.9**
ONI Oni 3.79 359 P **Pb** **21 21 48.9 +1.5**
ONI S **Sg** **21 22 45.2 +3.4**
GLBA Ciliabad 3.81 82 ⇓P **Pn** **21 21 37.8 -1.5**
GLBA Ciliabad 3.81 82 P **Pn** **21 21 37.8 -1.5**
KDMR Kurdemir 3.93 65 ⇑P **Pn** **21 21 41.0 +0.2**
KDMR Kurdemir 3.93 65 P **Pn** **21 21 41.0 +0.2**
SAAT Saatly 3.94 73 ⇑P **Pn** **21 21 40.1 -0.9**
SAAT Saatly 3.94 73 P **Pn** **21 21 40.1 -0.9**
QBL Gabala 3.95 56 ⇓P **Pn** **21 21 42.3 +1.1**
QBL Gabala 3.95 56 P **Pn** **21 21 42.3 +1.1**
URFA Urfa 3.95 251 *e*PN **Pn** **21 21 41.5 +0.2**
URFA Urfa 3.95 251 *e*Pn **Pn** **21 21 41.5 +0.2**
IML Ismayilli 4.10 59 ⇓P **Pn** **21 21 44.3 +1.0**
IML Ismayilli 4.10 59 P **Pn** **21 21 44.3 +1.0**
LKRN Lenkeran, Azer 4.11 90 ⇓P **Pn** **21 21 40.5 -2.8**
LKRN Lenkeran, Azer 4.11 90 P **Pn** **21 21 40.5 -2.8**
ASTR Astara 4.12 92 ⇑P **Pn** **21 21 40.6 -3.0**
ASTR Astara 4.12 92 P **Pn** **21 21 40.6 -3.0**
ALIB Äli-Bayra 4.40 73 ⇑P **Pn** **21 21 46.9 -0.4**
ALIB Äli-Bayra 4.40 73 P **Pn** **21 21 46.9 -0.4**
KSRV Kasrt alli 4.64 232 *e*P **Pn** **21 21 51.5 +0.8**
KSRV *e*S **Sn** **21 22 48.4 +3.5**
KSRV AML AML 21 23 17.6
comp=Z,40nm,0.5s
KBZ Khabaz 4.95 355 Pg **Pb** **21 22 05.1 -2.0**
comp=Z,0.1nm,0.3s,baz=86,slow=4.5,SNR=4.9
KBZ LR LR 21 24 14.5
comp=Z,146nm,20.7s,baz=160,slow=45
KVAR Kislovodsk Arr 5.19 353 Pg **Pb** **21 22 08.0 -3.3**
baz=341,slow=18,SNR=3.5
BRTR Keskin Array B 7.73 280 Pn **Pn** **21 22 29.5 -3.7**
comp=Z,0.1nm,0.3s,baz=147,slow=16,SNR=3.8
ASF Jabal al Asfar 8.54 221 Sn **Sn** **21 24 19.3 -1.6**
comp=Z,0.3nm,0.3s,baz=143,slow=20,SNR=2.0
ASF Lg Lg 21 25 15.9
comp=Z,0.3nm,0.3s,baz=24,slow=18,SNR=2.0
MMAI Mount Meron Ar 8.76 231 Pn **Pn** **21 22 49.2 +1.9**
comp=Z,0.6nm,0.3s,baz=58,slow=14,SNR=2.6
MMAI Lg Lg 21 25 26.5
comp=Z,0.8nm,0.3s,baz=54,slow=37,SNR=3.1
MMAI LR LR 21 26 02.8
comp=Z,37nm,19.9s,baz=230,slow=37
GEYT Alibeck 11.49 90 Pn **Pn** **21 23 26.7 +2.1**
comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=2.6
GEYT LR LR 21 29 17.2
comp=Z,76nm,19.0s,baz=265,slow=45
DOPR Dopca 15.18 304 ⇑*i*P **P** **21 24 24.9 +4.8**
VOIR 15.22 302 ⇑*i*P **P** **21 24 26.7 +6.2**
ARR Arges 15.47 301 ⇓*i*P **P** **21 24 29.1 +5.8**
AKTO Aktyubinsk 15.52 37 Pn **Pn** **21 24 18.7 -0.5**
comp=Z,0.1nm,0.3s,baz=184,slow=9.9,SNR=5.7
AKASG Malin Array Be 15.62 324 Pn **Pn** **21 24 18.1 -2.5**
comp=Z,0.5nm,0.3s,baz=132,slow=11,SNR=3.3
BURAR Bucovina Array 15.97 309 ⇑*i*P **P** **21 24 30.6 +1.7**
OBN Obninsk 16.98 346 LR LR 21 31 44.5
comp=Z,75nm,19.3s,baz=91,slow=40
WSAR Wadi Sarin 20.16 136 LR LR 21 35 22.6
comp=Z,49nm,19.3s,baz=9.0,slow=44
VYHS Vyhne 20.25 307 *e*P Pn 21 25 19.8 +2.0
ARU Arti 20.26 25 P **P** **21 25 14.2 -1.8**
comp=Z,1.3nm,0.6s,baz=270,slow=20,SNR=5.0
BVAR Borovoye Array 23.31 44 P **P** **21 25 50.1 +1.6**
comp=Z,0.4nm,0.7s,baz=245,slow=9.6,SNR=4.3
GERES GERESS Array B 23.61 305 P **P** **21 25 50.3 -1.4**
comp=Z,0.3nm,0.8s,baz=159,slow=22,SNR=2.6
AAK Ala-Archa 23.71 71 P **P** **21 25 53.3 +0.5**
comp=Z,0.4nm,0.3s,baz=227,slow=7.2,SNR=4.2
KURBB Kurchatov Arra 27.28 53 P **P** **21 26 26.4 +1.4**
comp=Z,1.4nm,0.5s,baz=261,slow=9.0,SNR=5.8
HFS Hagfors 28.42 328 P **P** **21 26 33.4 -1.7**
comp=Z,2.9nm,0.8s,baz=104,slow=18,SNR=2.2
MKAR Makanchi Array 29.30 62 P **P** **21 26 44.4 +1.3**
comp=Z,0.5nm,0.8s,baz=263,slow=6.3,SNR=3.0
ZALV Zalesovo Beam 31.75 48 P **P** **21 27 04.0 -0.5**
comp=Z,0.7nm,0.5s,baz=269,slow=10,SNR=3.5
TORD Torodi Ar. Bea 44.91 247 P **P** **21 28 55.3 -0.4**
comp=Z,0.3nm,0.8s,baz=45,slow=12,SNR=2.5
CMAR Chiang Mai Arr 51.87 97 P **P** **21 29 48.4 -0.9**
comp=Z,0.3nm,0.3s,baz=303,slow=8.9,SNR=4.9
SFJD Kangerlussuaq 56.53 332 LR LR 21 54 21.2
comp=Z,64nm,18.4s,baz=26,slow=36
PDAR Pinedale Array 95.22 340 P **P** **21 34 04.6 -0.2**
comp=Z,0.2nm,0.5s,baz=32,slow=7.5,SNR=2.5

*CSEM **26** 21:21:36.5,37.°29N×36.°26E, h7km, ML3.3*
*DDA **26** 21:21:36.5,37.°29N×36.°26E, h7km, Ml3.3*
*NSSC **26** 21:21:38.8±1.7,37.°28N×36.°62E, h24km±14km, ML2.6*
ISC 26 21:21:36.7±1.1,37.°26N±0.°02×36.°22E±0.°03, h6km±10km, n21,σ1§36/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.33**	**17**	*i* P	**Pg**	**21 21 42.8**	**-0.5**
ANDN				*i* S	**Sg**	**21 21 47.3**	**-0.4**
ANDN	**Andirin**	**0.33**	**17**	*e*P	**Pb**	**21 21 45.7**	**+0.5**
ANDN				*i* S	**Sg**	**21 21 49.7**	**+2.0**
ANDN	**Andirin**	**0.33**	**17**	P	**Pg**	**21 21 42.8**	**-0.5**
ANDN				S	**Sg**	**21 21 47.3**	**-0.4**
KAMA	**Osmaniye**	**0.36**	**102**	*i* P	**Pg**	**21 21 43.8**	**0.0**
KAMA				*i* S	**Sg**	**21 21 48.7**	**+0.1**
KAMA	**Osmaniye**	**0.36**	**102**	*e*P	**Pb**	**21 21 46.0**	**+0.4**
KAMA				*i* S	**Sb**	**21 21 50.9**	**-0.8**
HCB	**Kahramanmara¯**	**0.55**	**81**	*i* P	**Pg**	**21 21 47.0**	**-0.4**
HCB				*i* S	**Sg**	**21 21 53.7**	**-0.9**
HCB	**Kahramanmara¯**	**0.55**	**81**	*i* P	**Pb**	**21 21 49.9**	**+1.1**
HCB				*i* S	**Sg**	**21 21 55.9**	**+1.3**
DRWC	**Darouich**	**0.73**	**151**	*e*P	**Pg**	**21 21 50.2**	**-0.6**
DRWC				*e*S	**Sg**	**21 22 00.8**	**+0.5**
DRWC				AML	AML	21 22 04.4	
	comp=E,708nm,0.4s						
DRWC				AML	AML	21 22 04.4	
	comp=N,610nm,0.3s						
KUZU	**Kuzuini**	**0.84**	**125**	*i* P	**Pb**	**21 21 53.7**	**0.0**
KUZU				*i* S	**Sn**	**21 22 06.3**	**-1.5**
KUZU	**Kuzuini**	**0.84**	**125**	*e*P	**Pn**	**21 21 56.3**	**+1.2**
KUZU				*i* S	**Sn**	**21 22 09.6**	**+1.7**
KUZU	**Kuzuini**	**0.84**	**125**	P	**Pb**	**21 21 53.7**	**0.0**
KUZU				S	**Sn**	**21 22 06.3**	**-1.5**
GZT	**Gaziantep**	**1.07**	**85**	*i* P	**Pg**	**21 21 57.2**	**-0.2**
GZT				*i* S	**Sn**	**21 22 12.8**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**1.08**	**321**	*i* P	**Pg**	**21 21 56.6**	**-0.8**
YAHY				*i* S	**Sn**	**21 22 12.9**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**1.08**	**321**	P	**Pg**	**21 21 56.6**	**-0.8**
YAHY				S	**Sn**	**21 22 12.9**	**-1.0**
GULE	**Gulek**	**1.15**	**272**	*i* P	**Pn**	**21 21 59.1**	**-0.5**
GULE				*i* S	**Sn**	**21 22 19.5**	**+3.7**
GULE	**Gulek**	**1.15**	**272**	P	**Pn**	**21 21 59.1**	**-0.5**
GULE				S	**Sn**	**21 22 19.5**	**+3.7**
YAYL	**Yayladag**	**1.23**	**184**	*i* P	**Pb**	**21 21 58.3**	**-2.1**
YAYL				*i* S	**Sn**	**21 22 17.3**	**-0.3**
YAYL	**Yayladag**	**1.23**	**184**	P	**Pb**	**21 21 58.3**	**-2.1**
YAYL				S	**Sn**	**21 22 17.3**	**-0.3**
BTCH	**Batrach**	**1.23**	**171**	*e*P	**Pg**	**21 22 01.7**	**+1.3**
BTCH				*e*S	**Sn**	**21 22 17.4**	**-0.2**
BTCH				AML	AML	21 22 24.9	
	comp=E,172nm,0.6s						
BTCH				AML	AML	21 22 25.4	
	comp=Z,71nm,0.3s						
BTCH				AML	AML	21 22 31.9	
	comp=N,180nm,0.7s						
ARNB	**Al Arnab**	**1.41**	**188**	*e*P	**Pg**	**21 22 04.4**	**+0.7**
ARNB				*e*S	**Sg**	**21 22 23.0**	**+0.9**
ARNB				AML	AML	21 22 31.1	
	comp=N,83nm,0.4s						
ARNB				AML	AML	21 22 32.0	
	comp=E,86nm,0.5s						
BIDA	**Albida**	**2.24**	**178**	*e*P	**Pn**	**21 22 15.7**	**+1.1**
BIDA				*e*S	**Sn**	**21 22 40.2**	**-2.4**
BIDA				AML	AML	21 22 45.6	
	comp=E,46nm,0.4s						
BIDA				AML	AML	21 22 58.8	
	comp=N,74nm,0.5s						

*ISK **26** 21:34:10.0,38.°75N×43.°37E, h4km, MD3.4*
*CSEM **26** 21:34:11.5±0.2,38.°73N×43.°24E, h2km, MD3.4, Error ellipse: s-maj=6.6km s-min=4.2km az=74.0*
*DDA **26** 21:34:11.1,38.°69N×43.°21E, h7km, Ml3.4*
ISC 26 21:34:11.9±0.9,38.°72N±0.°02×43.°23E±0.°03, h8km±9km, n37,σ1§35/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**134**	*e*PG	**Pg**	**21 34 15.6**	**-0.1**
VANB				*e*SG	**Sg**	**21 34 19.4**	**+1.2**
VANB	**Van**	**0.18**	**134**	*e*Pg	**Pg**	**21 34 15.6**	**-0.1**
VANB				*e*Sg	**Sg**	**21 34 19.4**	**+1.2**
VMUR	**Van-Muradiye**	**0.38**	**45**	*i* P	**Pb**	**21 34 19.6**	**-1.4**
VMUR				*i* S	**Sb**	**21 34 27.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.38**	**45**	P	**Pb**	**21 34 19.6**	**-1.4**
VMUR				S	**Sb**	**21 34 27.0**	**-0.2**
GEVA	**Gevas**	**0.43**	**198**	*i* P	**Pg**	**21 34 18.2**	**-2.1**
GEVA				*i* S	**Sg**	**21 34 26.2**	**+0.3**
GEVA	**Gevas**	**0.43**	**198**	P	**Pg**	**21 34 18.2**	**-2.1**
GEVA				S	**Sg**	**21 34 26.2**	**+0.3**
TUTA	**Tutak**	**0.75**	**335**	*i* P	**Pg**	**21 34 25.4**	**-1.1**
TUTA				*i* S	**Sg**	**21 34 36.4**	**0.0**
TUTA	**Tutak**	**0.75**	**335**	P	**Pg**	**21 34 25.4**	**-1.1**
TUTA				S	**Sg**	**21 34 36.3**	**0.0**
AGRB	**Hanur-Agry**	**0.88**	**348**	*e*PG	**Pg**	**21 34 27.2**	**-1.6**
AGRB				*e*SG	**Sb**	**21 34 40.2**	**-1.1**
AGRB	**Hanur-Agry**	**0.88**	**348**	*e*Pg	**Pg**	**21 34 27.2**	**-1.6**
AGRB				*e*Sg	**Sb**	**21 34 40.3**	**-1.1**
EKAR	**Karacoban**	**1.05**	**301**	*i* P	**Pg**	**21 34 31.7**	**-0.4**
EKAR				*i* S	**Sn**	**21 34 48.5**	**+0.4**
EKAR	**Karacoban**	**1.05**	**301**	P	**Pg**	**21 34 31.7**	**-0.4**
EKAR				S	**Sn**	**21 34 48.5**	**+0.4**
EATA	**Eleskirt**	**1.28**	**334**	*i* P	**Pg**	**21 34 34.8**	**-1.6**
EATA				*i* S	**Sn**	**21 34 54.4**	**+0.7**
EATA	**Eleskirt**	**1.28**	**334**	P	**Pg**	**21 34 34.8**	**-1.6**
EATA				S	**Sn**	**21 34 54.4**	**+0.7**
VRTB	**Varto-Mus**	**1.45**	**288**	*e*PN	**Pg**	**21 34 39.4**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**288**	*e*Pn	**Pg**	**21 34 39.4**	**-0.3**
CUKT	**Cukurca**	**1.50**	**168**	*e*PN	**Pn**	**21 34 39.1**	**-0.1**
CUKT	**Cukurca**	**1.50**	**168**	*i* P	**Pn**	**21 34 38.6**	**-0.6**
CUKT				*i* S	**Sg**	**21 35 02.3**	**+2.2**
CUKT	**Cukurca**	**1.50**	**168**	P	**Pn**	**21 34 38.6**	**-0.6**
CUKT	**Cukurca**	**1.50**	**168**	*e*Pn	**Pn**	**21 34 39.1**	**-0.1**
CUKT				S	**Sg**	**21 35 02.3**	**+2.2**
BNGL	**BINGOL**	**1.64**	**279**	*i* P	**Pn**	**21 34 40.9**	**-0.2**
BNGL				*i* S	**Sg**	**21 35 04.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.69**	**251**	*e*PN	**Pn**	**21 34 42.3**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.69**	**251**	*e*Pn	**Pn**	**21 34 42.3**	**+0.6**
DIGO	**Kars**	**1.70**	**4**	*i* P	**Pb**	**21 34 42.8**	**-0.7**
DIGO				*i* S	**Sg**	**21 35 12.4**	**+5.9**
DIGO	**Kars**	**1.70**	**4**	P	**Pb**	**21 34 42.8**	**-0.7**
BTMN	**Batman**	**1.75**	**242**	*i* P	**Pn**	**21 34 42.6**	**+0.1**
BTMN				*i* S	**Sb**	**21 35 06.7**	**+0.4**
BTMN	**Batman**	**1.75**	**242**	P	**Pn**	**21 34 42.6**	**+0.1**
BTMN				S	**Sb**	**21 35 06.7**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.96**	**340**	*e*PN	**Pn**	**21 34 45.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**340**	*e*Pn	**Pn**	**21 34 45.7**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*PN	**Pn**	**21 34 50.0**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.21**	**290**	*e*Pn	**Pn**	**21 34 50.0**	**+1.0**
MAZI	**Mazidag**	**2.53**	**241**	*e*PN	**Pn**	**21 34 54.6**	**+1.3**
MAZI	**Mazidag**	**2.53**	**241**	*e*Pn	**Pn**	**21 34 54.6**	**+1.3**
PTK	**Pertek**	**3.00**	**275**	*e*PN	**Pn**	**21 35 01.6**	**+1.7**
PTK	**Pertek**	**3.00**	**275**	*e*Pn	**Pn**	**21 35 01.6**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.09**	**265**	*e*PN	**Pn**	**21 35 02.7**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.09**	**265**	*e*Pn	**Pn**	**21 35 02.7**	**+1.6**

IDC 26 21:46:13.2±2.2,3.°03S×151.°08E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.5/38, mbtmp3.8/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/30, Error ellipse: s-maj=215.7km s-min=28.3km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.43**	**211**	LR	LR	21 51 17.4	
	comp=Z,187nm,18.0s,baz=72,slow=41						
HNR	**Honiara**	**10.87**	**126**	LR	LR	21 52 36.2	
	comp=Z,182nm,19.8s,baz=327,slow=35						
GUMO	**Guam**	**17.62**	**340**	LR	LR	21 56 11.3	
	comp=Z,30nm,19.0s,baz=118,slow=34						
WRA	**Warramunga Arr**	**23.44**	**223**	P	P	21 51 23.4	-1.0
	1.5nm,0.8s,baz=49,slow=9.9,SNR=6.9						
DZM	**Mont Dzumac**	**24.10**	**143**	LR	LR	21 58 53.8	
	comp=Z,73nm,21.6s,baz=36,slow=32						
ASAR	**Alice Springs**	**26.39**	**218**	P	P	21 51 52.5	+0.9
	1.0nm,0.7s,baz=51,slow=9.5,SNR=10						
MJAR	**Matsushiro Arr**	**41.16**	**344**	LR	LR	22 09 18.9	
	comp=Z,19nm,20.9s,baz=80,slow=34						
ILAR	**Eielson Array**	**81.19**	**23**	P	P	21 58 30.4	-0.2
	1.1nm,0.8s,baz=246,slow=6.0,SNR=5.8						

*IDC **26** 21:47:49.8±2.3,45.°98N×107.°13W, h0km, mb1 3.3/2, mb1mx3.1/50, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=76.4km s-min=9.0km az=131.0*
*ISCJB **26** 21:47:51.7±0.6,45.°84N±0.°04×106.°68W±0.°07, h0km, Error ellipse: s-maj=7.8km s-min=4.6km az=35.9*
*NEIC **26** 21:47:52.4±0.7,45.°85N×106.°70W, h0km, MN2.8, Error ellipse: s-maj=10.0km s-min=8.0km az=103.0, Suspected Mining explosion.*
NEIC 7 km [4 miles] WSW of Colstrip.
ISC 26 21:47:50.2±0.9,45.°94N±0.°04×106.°76W±0.°04, h0km, n21, σ1§64/27, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.84**	**26**	*e*Pg	**Pn**	**21 48 09.1**	**-0.3**
LAO				*e*S	**Sb**	**21 48 20.1**	**+0.5**
RLMT	**Red Lodge**	**1.94**	**246**	*e*Pn	**Pn**	**21 48 24.6**	**-0.1**
RLMT				*e*S	**Sn**	**21 48 49.5**	**-0.4**
RSSD	**Black Hills**	**2.65**	**132**	*e*Pn	**Pn**	**21 48 36.0**	**+1.7**
RSSD				*e*S	**Sb**	**21 49 11.6**	**-0.2**
LKWY	**Lake**	**2.92**	**243**	*e*Pn	**Pb**	**21 48 41.8**	**-1.5**
EGMT	**Eagleton**	**2.93**	**317**	*e*Pn	**Pb**	**21 48 41.9**	**-1.5**
DGMT	**Dagmar**	**3.08**	**34**	*e*Pn	**Pb**	**21 48 44.7**	**-1.1**
H17A	**Grant Village**	**3.11**	**242**	*e*Pn	**Pb**	**21 48 45.4**	**-1.2**
K22A	**Casper**	**3.29**	**177**	*e*Pn	**Pn**	**21 48 43.9**	**+0.8**
BOZ	**Bozeman (W)**	**3.43**	**266**	*e*Pn	**Pn**	**21 48 47.7**	**+2.7**
BOZ				*e*S	**Sb**	**21 49 32.3**	**-1.9**
MOOW	**Moose Ponds**	**3.58**	**234**	*e*Pn	**Pb**	**21 48 54.1**	**-0.5**
LOHW	**Long Hollow**	**3.59**	**231**	*e*Pn	**Pn**	**21 48 49.5**	**+2.2**
IMW	**Indian Meadow**	**3.60**	**237**	*e*Pn	**Pb**	**21 48 52.7**	**-2.3**
IMW				*e*S	**Sn**	**21 49 32.4**	**+1.4**
BW06	**Boulder Array**	**3.75**	**213**	*e*Pn	**Pn**	**21 48 50.9**	**+1.3**
BW06				*e*S	**Sn**	**21 49 35.5**	**+1.0**
PDAR	**Pinedale Array**	**3.75**	**213**	Pn	**Pn**	**21 48 50.5**	**+0.9**
	0.5nm,0.3s,baz=43,slow=9.8,SNR=8.4						
PDAR				Pg	**Pb**	**21 48 57.5**	**0.0**
	2.2nm,0.3s,baz=46,slow=21,SNR=24						
PDAR				Lg	Lg	21 49 44.8	
	2.7nm,0.3s,baz=36,slow=32,SNR=8.2						
TPAW	**Teton Pass**	**3.86**	**232**	*e*Pn	**Pb**	**21 48 56.3**	**-3.0**
REDW	**Red Top Meadow**	**3.89**	**230**	*e*Pn	**Pb**	**21 48 58.7**	**-1.2**
DLMT	**Dillon**	**4.14**	**264**	Pn	**Pn**	**21 48 58.7**	**+3.9**
RWWY	**Rawlins**	**4.26**	**185**	*e*Pn	**Pn**	**21 48 57.1**	**+0.6**
PV01	**Paradox Valley**	**7.91**	**190**	*e*Pn	**Pn**	**21 49 46.0**	**-0.7**
	213nm,0.4s						
I10CA	**LAC DU BONNET**	**8.36**	**55**	*i*		22 36 30.0	
	baz=238,slow=320,SNR=3.2						
ULM	**Lac du Bonnet**	**8.46**	**55**	Pn	**Pn**	**21 49 54.2**	**+0.2**
	0.6nm,0.3s,baz=252,slow=10,SNR=3.8						
ULM				Lg	Lg	21 52 19.3	
	0.4nm,0.3s,baz=336,slow=20,SNR=3.4						

IDC 26 21:52:44.1±2.0,3.°74S×151.°90E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/34, mbtmp3.9/3, Error ellipse: s-maj=163.4km s-min=27.0km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.51**	**225**	P	P	21 57 55.5	-0.6
	4.0nm,1.0s,baz=50,slow=9.6,SNR=8.5						
ASAR	**Alice Springs**	**26.36**	**220**	P	P	21 58 22.9	+0.6
	1.3nm,0.8s,baz=54,slow=8.5,SNR=9.6						
ILAR	**Eielson Array**	**81.52**	**22**	P	P	22 05 03.2	-0.1
	1.7nm,0.9s,baz=242,slow=5.0,SNR=9.2						

IDC 26 22:00:42.9±1.9,3.°77N×127.°54E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/36, mbtmp3.8/5, Error ellipse: s-maj=168.6km s-min=20.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**164**	P	P	22 06 04.3	+0.2
	0.9nm,0.6s,baz=344,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**27.97**	**167**	P	P	22 06 35.4	-0.1
	0.8nm,0.5s,baz=355,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**57.98**	**325**	P	P	22 10 38.0	+0.5
	0.8nm,0.5s,baz=117,slow=7.7,SNR=15						
KURBB	**Kurchatov Arra**	**62.14**	**327**	P	P	22 11 05.4	-0.5
	0.4nm,0.2s,baz=127,slow=6.3,SNR=5.6						
BVAR	**Borovoye Array**	**67.73**	**327**	P	P	22 11 41.9	-0.3
	0.3nm,0.5s,baz=103,slow=6.2,SNR=2.6						

MAN 26 22:10:07,10.°36N×124.°85E, h37km, mb3.9, ML2.7, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.23**	**178**	*e*P	Pn	22 10 16.7	+0.9
MSLP				*e*S	Sn	22 10 23.8	-0.4
PLP	**Palo**	**0.81**	**9**	⇓*i*P	Pn	22 10 23.6	+1.7
PLP				*e*S	Sn	22 10 35.2	+2.5
BESP	**Borongan**	**1.36**	**25**	*e*P	Pn	22 10 31.2	+1.7

*ISCJB **26** 22:10:40.2±0.6,24.°81N±0.°03×121.°82E±0.°02, h87km±4km, Error ellipse: s-maj=5.4km s-min=3.3km az=155.4*
*TAP **26** 22:10:40.4,24.°80N×121.°78E, h84km, ML3.5,B*
*JMA **26** 22:10:40.1±0.1,24.°73N×121.°80E, h82km±2km, M2.6*
ISC 26 22:10:40.0±1.6,24.°83N±0.°05×121.°81E±0.°03, h90km±8km, n49,σ0§58/93, 3C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.09**	**222**	*e*P	**Pn**	**22 10 53.0**	**+0.4**
	baz=222						
ILA				*e*S	**Sn**	**22 11 02.0**	**0.0**
	baz=222						
EGS		**0.11**	**82**	P	**Pn**	**22 10 52.9**	**+0.2**
	baz=75						
EGS				*e*S	**Sn**	**22 11 02.7**	**+0.6**
	baz=75						
TWE	**Neicheng**	**0.17**	**231**	⇓*i*P	**Pn**	**22 10 53.2**	**+0.4**
	baz=242						
TWE				S	**Sn**	**22 11 02.2**	**-0.1**
	baz=242						
TWC	**Suao**	**0.22**	**171**	⇓*i*P	**Pn**	**22 10 53.6**	**+0.5**
	baz=153						
TWC				S	**Sn**	**22 11 03.4**	**+0.8**
	baz=153						
TWB1	**Santiao Chiao**	**0.24**	**42**	*i* P	**Pn**	**22 10 53.3**	**+0.2**
	baz=52						
TWB1				S	**Sn**	**22 11 02.9**	**+0.1**
	baz=52						
NWF	**Wu-fen Shan**	**0.24**	**353**	⇓*i*P	**Pn**	**22 10 53.5**	**+0.3**
	baz=352						
NWF				*i* S	**Sn**	**22 11 02.7**	**-0.3**
	baz=352						
TWA	**Mucha**	**0.26**	**306**	⇓*i*P	**Pn**	**22 10 53.4**	**+0.2**
	baz=310						
TWA				S	**Sn**	**22 11 02.8**	**-0.2**
	baz=310						
ENTT	**Nioudou**	**0.29**	**230**	⇓*i*P	**Pn**	**22 10 53.6**	**+0.2**
	baz=240						
ENTT				*i* S	**Sn**	**22 11 02.9**	**-0.4**
	baz=240						
TAP1	**Taipei**	**0.34**	**309**	P	**Pn**	**22 10 53.5**	**-0.1**
	baz=313						
TAP1				*e*S	**Sn**	**22 11 03.3**	**-0.3**
	baz=313						
TAP	**Taipei**	**0.35**	**307**	P	**Pn**	**22 10 53.4**	**-0.2**
	baz=313						
TAP				S	**Sn**	**22 11 03.4**	**-0.4**
	baz=313						
ENA	**Nanau**	**0.41**	**189**	*e*P	**Pn**	**22 10 54.5**	**+0.4**
	baz=193						
ENA				*e*S	**Sn**	**22 11 04.7**	**+0.3**
	baz=193						
NSK	**Sanguang**	**0.44**	**250**	⇑P	**Pn**	**22 10 54.1**	**-0.3**
	baz=243						
NSK				S	**Sn**	**22 11 03.4**	**-1.6**
	baz=243						
TWS1	**Kuangyinshan**	**0.45**	**307**	P	**Pn**	**22 10 54.7**	**

EHY	**Hungye**	**1.39 199**	*eP*	**Pn**	**22 11 05.0**	**+0.5**
	baz=195					
EHY			*eS*	**Sn**	**22 11 21.6**	**-1.2**
	baz=195					
WNT	**Mingjian**	**1.40 228**	*eP*	**Pn**	**22 11 04.2**	**-0.3**
	baz=228					
TWF1	**Yuli**	**1.54 198**	*eP*	**Pn**	**22 11 07.0**	**+0.7**
	baz=200					
TWF1			*eS*	**Sn**	**22 11 25.0**	**-1.3**
	baz=200					
YUS	**Yu-Shan**	**1.55 211**	*eP*	**Pn**	**22 11 07.6**	**+0.8**
	baz=224					
YUS			*eS*	**Sn**	**22 11 27.9**	**+0.9**
	baz=224					
ALS	**Alishan**	**1.60 215**	*eP*	**Pn**	**22 11 07.6**	**+0.2**
	baz=226					
ALS			*eS*	**Sn**	**22 11 27.9**	**-0.1**
	baz=226					
CHN5	**Tsauling**	**1.60 220**	*eP*	**Pn**	**22 11 07.5**	**+0.4**
	baz=223					
CHN5			*eS*	**Sn**	**22 11 27.3**	**-0.5**
	baz=223					
WGK	**Gukeng**	**1.61 225**	*eP*	**Pn**	**22 11 07.7**	**+0.6**
	baz=228					
WGK			*eS*	**Sn**	**22 11 28.3**	**+0.6**
	baz=228					
CHKT	**Chengkung**	**1.77 193**	*eP*	**Pn**	**22 11 09.9**	**+0.7**
	baz=183					
CHKT			*eS*	**Sn**	**22 11 31.0**	**-0.4**
	baz=183					
ELDTW	**Lidau**	**1.79 204**	*eP*	**Pn**	**22 11 10.4**	**+0.9**
	baz=207					
ELDTW			*eS*	**Sn**	**22 11 32.1**	**+0.1**
	baz=207					
IRIF	**Iriomote-Funau**	**1.81 105**	P	**Pn**	**22 11 09.6**	**-0.2**
IRIF			S	**Sn**	**22 11 31.6**	**-0.8**
CHN4	**Tsaushan**	**1.85 217**	*eP*	**Pn**	**22 11 10.6**	**+0.3**
	baz=221					
CHN4			*eS*	**Sn**	**22 11 33.2**	**+0.1**
	baz=221					
STYT	**Tauyuan**	**1.92 210**	*eP*	**Pn**	**22 11 12.0**	**+0.8**
	baz=222					
STYT			*eS*	**Sn**	**22 11 35.3**	**+0.3**
	baz=222					
WTP	**Ta-pu**	**1.92 215**	*eP*	**Pn**	**22 11 11.3**	**+0.1**
	baz=216					
WTP			*eS*	**Sn**	**22 11 34.8**	**-0.2**
	baz=216					
TWK	**Hsinying**	**1.97 218**	*eP*	**Pn**	**22 11 12.4**	**+0.5**
	baz=221					
TWK			*eS*	**Sn**	**22 11 36.0**	**-0.2**
	baz=221					
CHN1	**Nanshi**	**2.02 216**	*eP*	**Pn**	**22 11 12.8**	**+0.4**
	baz=220					
CHN1			*eS*	**Sn**	**22 11 36.7**	**-0.4**
	baz=220					
JKRS	**Kuro-shima**	**2.09 106**	P	**Pn**	**22 11 13.9**	**+0.6**
JKRS			*eS*	**Sn**	**22 11 39.2**	**+0.4**
TWG	**Pinlang**	**2.11 199**	*eP*	**Pn**	**22 11 14.1**	**+0.4**
	baz=191					
JIJ	**Ishigaki jima**	**2.17 102**	P	**Pn**	**22 11 14.6**	**+0.1**
JIJ			*eS*	**Sn**	**22 11 40.8**	**0.0**
JISG	**Ishigakijimahi**	**2.29 96**	P	**Pn**	**22 11 16.3**	**+0.4**
ECL	**Taimali**	**2.36 200**	*eP*	**Pn**	**22 11 17.3**	**+0.4**
	baz=196					
ECL			*eS*	**Sn**	**22 11 44.0**	**-1.2**
	baz=196					

SJA 26 22:32:03.2±0.5, 31°22S×68°38W, h108km±2km, ML3.4, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.14 217**		*i* P	Pn	22 32 18.5	+0.2
RTLL				*i* S	Sn	22 32 30.3	+0.7
AMOG	**MOGNA**	**0.30 341**		*i* P	Pn	22 32 19.4	+0.6
SJA	**San Juan**	**0.34 207**		*i* P	Pn	22 32 19.5	+0.6
SJA				IAML		22 32 19.7	
	comp=Z,1μm,0.2s						
SJA				*i* S	Sn	22 32 31.4	+0.6
RTCV	**Cerro Valdivia**	**0.66 192**		*i* P	Pn	22 32 21.6	+0.5
RTCV				*i* S	Sn	22 32 35.5	+1.0
ACCO	**Cerro Coronel**	**0.86 317**		*i* P	Pn	22 32 24.1	+0.9
ACCO				*i* S	Sn	22 32 40.4	+2.1
ACCO				IAML		22 32 40.9	
	comp=Z,1μm,0.2s						
AVFE	**Valle Fertil**	**0.97 55**		*i* P	Pn	22 32 24.8	+0.8
AVFE				IAML		22 32 41.0	
	comp=Z,604nm,0.1s						
AVFE				*i* S	Sn	22 32 41.1	+1.4
RTLS	**Leoncito**	**0.97 233**		*i* P	Pn	22 32 25.4	+1.2
RTLS				*i* S	Sn	22 32 42.1	+2.0
RTLS				IAML		22 32 43.2	
	comp=Z,282nm,0.4s						
AUSP	**Uspallata**	**1.32 220**		*i* P	Pn	22 32 29.2	+1.2
AUSP				*i* S	Sn	22 32 48.8	+2.0
ACAN	**Cantantal**	**1.46 136**		*i* P	Pn	22 32 30.7	+1.3
ACAN				*i* S	Sn	22 32 50.3	+1.0
APLL	**PUNTA DE LOS L**	**1.79 63**		*i* P	Pn	22 32 34.5	+1.0
APLL				*i* S	Sn	22 32 57.6	+0.9

DJA 26 22:48:58.8±0.7, 0°S±4°×12°3E±°, h151km±6km, M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.91 179**		P	Pn	22 49 23.5	+0.6
LUWI				S	Sn	22 49 40.9	-0.5
MRSI	**Marisa**	**1.01 307**		P	Pn	22 49 24.0	+0.3
MRSI				S	Sn	22 49 42.5	-0.3
APSI	**Ampana**	**1.35 235**		P	Pn	22 49 28.1	+1.2
APSI				S	Sn	22 49 49.5	+1.2
KMSI	**Cibinong**	**1.42 60**		P	Pn	22 49 27.7	+0.1
KMSI				S	Sn	22 49 51.6	+2.0
MPSI	**Mapaga**	**2.89 279**		P	Pn	22 49 47.2	+2.4
MPSI				S	Sn	22 50 20.2	-0.2
SANI	**Sanana**	**3.76 121**		P	Pn	22 49 54.2	-1.7
KDI	**Kendari**	**3.80 182**		P	Pn	22 49 57.4	+0.8
TTSI	**Tana Toraja**	**4.12 225**		P	Pn	22 49 58.7	-2.0

NIED ***26*** *22:50:00, 38°.40N×141°.80E, h56km, Mw3.7 Best double couple: M0=4.48000×10^14 NP1:φs=221.00000°, δ37.00000°, λ79.00000°. NP2:φs=54.00000°, δ53.00000°, λ98.00000°.*
ISCJB ***26*** *22:50:11.0±0.7, 38°.40N±0°.03×141°.85E±0°.08, h60km±5km, mb3.9/11, Error ellipse: s-maj=10.4km s-min=4.4km az=21.4*
JMA ***26*** *22:50:12.2±0.1, 38°.41N×141°.79E, h55km±1km, M3.8*
JMA Felt II J1.
IDC ***26*** *22:50:15.2±3.2, 38°.36N×141°.65E, h84km±28km, mb3.5/11, mb1 3.7/13, mb1mx3.5/41, mbtmp3.8/13, Error ellipse: s-maj=23.9km s-min=16.8km az=79.0*
ISC 26 22:50:12.1±1.2, 38°.40N±0°.05×141°.86E±0°.08, h52km±10km, n35, σ0°.93/42, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.41 278**		P	**Pn**	**22 50 22.3**	**-0.1**
JIO				S	**Sn**	**22 50 29.2**	**-0.7**
OFUJ	**Ofunato**	**0.70 348**		P	**Pn**	**22 50 25.8**	**-0.1**
OFUJ				*eS*	**Sn**	**22 50 35.8**	**-0.2**
JMK	**Ichinoseki**	**0.75 318**		P	**Pn**	**22 50 26.5**	**0.0**
JMK				*eS*	**Sn**	**22 50 36.6**	**-0.5**
JOU	**Okura**	**0.94 269**		P	**Pn**	**22 50 28.6**	**-0.5**
JOU				*eS*	**Sn**	**22 50 40.8**	**-0.8**
JMM	**Marumori**	**1.00 238**		P	**Pn**	**22 50 29.2**	**-0.6**
JMM				*eS*	**Sn**	**22 50 41.5**	**-1.3**
JOM	**Ohasama**	**1.16 338**		P	**Pn**	**22 50 32.0**	**-0.1**
JOM				*eS*	**Sn**	**22 50 46.7**	**-0.2**
JYK	**Kaneyama**	**1.29 294**		P	**Pn**	**22 50 33.4**	**-0.3**
JYK				*eS*	**Sn**	**22 50 49.2**	**-0.7**
JFK	**Kawauchi**	**1.29 218**		P	**Pn**	**22 50 33.6**	**-0.2**
JFK				*eS*	**Sn**	**22 50 49.3**	**-0.7**
JRG	**Rokugo**	**1.39 317**		P	**Pn**	**22 50 34.8**	**-0.2**
JYS	**Shiratake**	**1.43 264**		P	**Pn**	**22 50 35.4**	**-0.2**
JYS				*eS*	**Sn**	**22 50 52.8**	**-0.4**
JFT	**Otama**	**1.49 234**		P	**Pn**	**22 50 36.7**	**+0.2**
JFT				*eS*	**Sn**	**22 50 54.9**	**0.0**
JYA	**Atsumi**	**1.70 277**		P	**Pn**	**22 50 39.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.45 239**		P	**Pn**	**22 51 04.9**	**+1.6**
	4.5nm,0.3s,baz=35,slow=14,SNR=27						
MJAR				S	**Sn**	**22 51 44.2**	**+1.4**
	1.7nm,0.3s,baz=53,slow=14,SNR=4.8						
MAT	**Matsushiro**	**3.45 239**		P	**Pn**	**22 51 04.6**	**+1.3**
MAT				*eS*	**Sn**	**22 51 43.0**	**+0.1**
JHJ	**Hachijo jima 2**	**5.53 198**		S	**Sn**	**22 52 33.7**	**-0.3**
	15nm,0.3s,baz=90,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**5.74 5**		P	**Pn**	**22 51 34.3**	**-0.4**
	1.6nm,0.3s,baz=222,slow=9.2,SNR=5.5						
ASAJ				S	**Sn**	**22 52 40.2**	**+1.0**
	0.7nm,0.3s,baz=262,slow=19,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.42 311**		P	**Pn**	**22 52 25.7**	**+0.6**
	0.5nm,0.3s,baz=121,slow=14,SNR=5.0						
KSRS	**Korea Array**	**11.05 269**		P	**Pn**	**22 52 50.9**	**+3.5**
	0.4nm,0.3s,baz=80,slow=14,SNR=3.7						
H11N2	**WAKE ISLAND Hy 28.57 124**			T	T	23 26 20.0	
	baz=316,slow=76,SNR=71						
H11N1	**WAKE ISLAND Hy 28.58 124**			T	T	23 26 20.0	
	baz=316,slow=76,SNR=232						
H11N3	**WAKE ISLAND Hy 28.59 124**			T	T	23 26 37.1	
	baz=316,slow=76,SNR=204						
H11S1	**WAKE ISLAND Hy 29.33 126**			T	T	23 27 16.4	
	baz=318,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy 29.33 126**			T	T	23 27 16.7	
	baz=318,slow=76,SNR=138						
H11S2	**WAKE ISLAND Hy 29.34 126**			T	T	23 27 19.7	
	baz=318,slow=76,SNR=60						
ZALV	**Zalesovo Beam**	**41.27 311**		P	**P**	**22 57 51.0**	**-0.9**
	0.9nm,0.3s,baz=98,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**43.71 301**		P	**P**	**22 58 11.2**	**-0.7**
	0.6nm,0.5s,baz=85,slow=8.7,SNR=9.2						
KURBB	**Kurchatov Arra**	**45.46 307**		P	**P**	**22 58 24.8**	**-0.9**
	2.8nm,0.6s,baz=82,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**48.16 33**		P	**P**	**22 58 47.2**	**+0.6**
	0.3nm,0.6s,baz=257,slow=6.3,SNR=3.5						
BVAR	**Borovoye Array**	**49.93 312**		P	**P**	**22 58 59.3**	**-1.0**
	0.4nm,0.3s,baz=51,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**58.46 188**		P	**P**	**23 00 01.6**	**-1.0**
	2.7nm,0.8s,baz=5.6,slow=7.0,SNR=8.5						
ASAR	**Alice Springs**	**62.18 188**		P	**P**	**23 00 27.3**	**-0.7**
	0.6nm,0.6s,baz=9.7,slow=5.3,SNR=7.7						
HFS	**Hagfors**	**73.00 336**		P	**P**	**23 01 35.0**	**-0.8**
	3.4nm,0.9s,baz=29,slow=3.3,SNR=4.5						
NOA	**NORSAR Array B**	**73.07 337**		P	**P**	**23 01 35.6**	**-0.7**
	0.9nm,0.8s,baz=51,slow=5.4,SNR=2.8						
PDAR	**Pinedale Array**	**76.46 46**		P	**P**	**23 01 57.3**	**+0.8**
	0.3nm,0.6s,baz=305,slow=3.2,SNR=3.3						
TXAR	**Lajitas Array**	**89.01 53**		P	**P**	**23 03 02.0**	**+0.4**
	0.3nm,0.7s,baz=274,slow=2.7,SNR=3.7						

SOME ***26*** *23:02:18.5, 48°.18N×84°.17E, h5km*
NNC ***26*** *23:02:20.0±1.3, 48°.36N×84°.17E, h6km±6km, mb3.6, mpv3.2, Error ellipse: s-maj=10.1km s-min=4.1km az=95.0*
ISC 26 23:02:19.1±0.9, 48°.18N±0°.03×84°.13E±0°.04, h10km, n14, σ2°.36/23, 15C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.88 145**		*eP*	**Pg**	**23 02 33.9**	**-2.1**
	21nm,0.2s						
ZSN				*eS*	**Sg**	**23 02 45.5**	**-1.9**
	32nm,0.4s						
MK31	**Makanchi Array**	**1.86 223**		⇑Pn	**Pg**	**23 02 54.4**	**-0.4**
	7.4nm,0.2s,baz=52,slow=17,SNR=827						
MK31				⇑Sn	**Sg**	**23 03 20.9**	**+1.9**
	56nm,0.4s,baz=52,slow=22,SNR=28						
MAKZ	**Makanchi**	**2.00 228**		⇑Pn	**Pg**	**23 02 56.3**	**-1.1**
	15nm,0.3s						
MAKZ				⇑Sn	**Sg**	**23 03 24.7**	**+1.3**
	68nm,0.4s						
SEM	**Semipalatinsk**	**3.38 313**		*eP*	**Pg**	**23 03 21.4**	**-2.5**
	6.7nm,0.2s						
SEM				*eS*	**Sg**	**23 04 06.0**	**-1.7**
	53nm,0.6s						
KURBB	**Kurchatov Arra**	**4.40 306**		⇑Pn	**Pn**	**23 03 26.1**	**+0.2**
	2.7nm,0.4s						
KURBB				⇓Pg	**Pb**	**23 03 39.6**	**+3.1**
	4.6nm,0.6s						
KURBB				⇑Sn	**Sn**	**23 04 17.2**	**0.0**
	20nm,0.7s						
KURBB				⇑Lg	Lg	23 04 37.0	
	114nm,0.7s						
KURK	**Kurchatov**	**4.40 307**		⇓Pn	**Pn**	**23 03 26.0**	**+0.1**
	2.0nm,0.5s						
KURK				⇓Pg	**Pb**	**23 03 38.7**	**+2.3**
	3.5nm,0.9s						
KURK				⇑Sn	**Sn**	**23 04 16.9**	**-0.3**
	4.8nm,0.3s						
KURK				⇑Lg	Lg	23 04 37.4	
	31nm,0.4s						
DJR	**Jarkent**	**4.88 220**		*eP*	**Pb**	**23 03 47.1**	**+2.4**
	5.4nm,1.1s						
DJR				*eS*	**Sg**	**23 04 51.5**	**-4.3**
	19nm,0.5s						
MNBS	**Baschi**	**5.71 226**		*eP*	**Pg**	**23 04 05.7**	**-2.8**
	3.3nm,0.6s						
MNBS				*eS*	**Sg**	**23 05 22.3**	**-0.1**
	7.9nm,0.8s						
ZAA0	**Zalesovo Array**	**5.80 4**		⇑Pg	**Pb**	**23 04 02.7**	**+2.5**
	0.3nm,0.7s						
ZAA0				⇑Sn	**Sn**	**23 04 50.6**	**-1.0**
	0.7nm,0.5s						
ZAA0				⇑Lg	Lg	23 05 19.6	
	1.3nm,0.5s						
PDGK	**Podgornoye**	**5.83 216**		⇑Pn	**Pn**	**23 03 47.4**	**+1.7**
	2.5nm,0.5s						
PDGK				⇑Lg	Lg	23 05 23.8	
	12nm,0.6s						
ARXS	**Arharly**	**5.90 230**		*eP*	**Pg**	**23 04 07.5**	**-4.6**
	2.7nm,0.4s						
ARXS				*eS*	**Sg**	**23 05 25.5**	**-3.0**
	11nm,0.6s						
MDOK	**Medeo**	**7.05 227**		Lg	Lg	23 06 07.8	
MNAS	**Manas**	**9.96 239**		⇓Lg	Lg	23 07 39.6	
	1.6nm,0.7s						
KK31	**Karatay Array**	**10.80 247**		⇑Lg	Lg	23 08 04.7	
	0.6nm,0.5s,baz=0.0,slow=0.1,SNR=4.1						

ISN ***26*** *23:15:00.4±1.2, 39°.47N×43°.92E, h0km±64km, ML4.3*
AZER ***26*** *23:15:07.8±0.4, 38°.95N×43°.67E, h8km±4km, Error ellipse: s-maj=6.2km s-min=1.5km az=65.0*
ISCJB ***26*** *23:15:07.9±0.6, 38°.90N±0°.02×43°.83E±0°.02, h0km±4km, mb4.2/38, MS3.6/21, Error ellipse: s-maj=3.2km s-min=2.1km az=162.8*
ISK ***26*** *23:15:08.6, 38°.93N×43°.57E, h5km, ML4.4*
NEIC ***26*** *23:15:08.9±0.0, 38°.95N×43°.72E, h5km, mb4.3/18, ML4.3(ISK), After ISK.*
CSEM ***26*** *23:15:09.5±0.1, 38°.92N×43°.83E, h5km, mb4.4/6, Error ellipse: s-maj=3.4km s-min=2.3km az=162.0*
MOS ***26*** *23:15:09.0±1.8, 38°.74N×43°.76E, h12km, mb4.4/17, Error ellipse: s-maj=6.1km s-min=4.3km az=94.2*
IDC ***26*** *23:15:09.3±0.7, 38°.93N×43°.59E, h0km, mb3.9/19, mb1 3.9/23, mb1mx3.8/72, mbtmp3.9/23, ML3.5/4, MS3.6/24, Ms1 3.6/24, ms1mx3.5/37, Error ellipse: s-maj=13.9km s-min=10.8km az=164.0*
NSSC ***26*** *23:15:10.0±2.5, 39°.75N×41°.74E, h4km±215km, ML3.2*
ISC 26 23:15:09.3±1.0, 38°.88N±0°.02×43°.74E±0°.02, h1km±6km, n366, σ2°.04/442, mb4.3/41, MS3.6/21, 48C-37D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.40 224**		PG	**Pg**	**23 15 18.0**	**+1.2**
VANB				SG	**Sb**	**23 15 25.6**	**-0.2**
VANB	**Van**	**0.40 224**		*i* Pg	**Pg**	**23 15 18.0**	**+1.2**
VANB				*i* Sg	**Sb**	**23 15 25.6**	**-0.2**
VANB	**Van**	**0.40 224**		Pg	**Pg**	**23 15 16.1**	**-0.7**
VANB				Sg	**Sb**	**23 15 27.1**	**+1.3**
AGRB	**Hanur-Agry**	**0.91 320**		*e*PG	**Pg**	**23 15 24.0**	**-2.7**
AGRB				*e*SG	**Sg**	**23 15 36.5**	**-1.9**
AGRB	**Hanur-Agry**	**0.91 320**		Sg	**Sg**	**23 15 39.0**	**+0.6**
AGRB	**Hanur-Agry**	**0.91 320**		Pg	**Pg**	**23 15 24.0**	**-2.7**
AGRB				Sg	**Sg**	**23 15 39.0**	**+0.6**
NAX	**Nakhchivan**	**1.40 77**		⇑P	**Pn**	**23 15 34.5**	**-1.5**
NAX				⇑S	**Sg**	**23 15 54.0**	**-0.2**
NAX	**Nakhchivan**	**1.40 77**		P	**Pn**	**23 15 34.5**	**-1.5**
NAX	**Nakhchivan**	**1.40 77**		P	**Pn**	**23 15 34.5**	**-1.5**
NAX				S	**Sg**	**23 15 54.0**	**-0.2**
GNI	**Garni**	**1.48 31**		Pn	**Pb**	**23 15 38.2**	**+0.4**
	81nm,0.3s,baz=155,slow=3.3,SNR=142						
GNI				Lg	Lg	23 16 01.3	
	82nm,0.3s,baz=295,slow=20,SNR=14						
GNI	**Garni**	**1.48 31**		⇑*e*P	**Pg**	**23 15 37.6**	**-0.1**
GNI				pmax	pmax		
	comp=Z,2μm,1.0s						
GNI	**Garni**	**1.48 31**		*e*P	**Pg**	**23 15 37.6**	**-0.1**
	comp=Z,2μm,1.0s						
GNI	**Garni**	**1.48 31**		*e*Pn	**Pg**	**23 15 37.6**	**-0.1**
GNI				Lg	Lg	23 16 01.3	
GNI				*e*S	Sn	23 16 06.5	+9.0
CUKT	**Cukurca**	**1.63 184**		*e*PN	**Pb**	**23 15 39.9**	**-0.4**
CUKT	**Cukurca**	**1.63 184**		*e*Pn	**Pb**	**23 15 39.9**	**-0.4**
CUKT				Sn	**Sg**	**23 16 03.5**	**+1.8**
CUKT	**Cukurca**	**1.63 184**		Pn	**Pg**	**23 15 40.5**	**0.0**
CUKT				Sn	**Sg**	**23 16 03.5**	**+1.8**
VRTB	**Varto-Mus**	**1.80 280**		*e*PN	**Pn**	**23 15 39.9**	**-1.8**
VRTB	**Varto-Mus**	**1.80 280**		Pn	**Pn**	**23 15 40.3**	**-1.4**
VRTB				Sn	**Sn**	**23 16 05.3**	**0.0**
VRTB	**Varto-Mus**	**1.80 280**		Pn	**Pn**	**23 15 40.3**	**-1.4**
VRTB				Sn	**Sn**	**23 16 05.3**	**0.0**
SENK	**Senkaya-Erzuru**	**1.99 328**		*e*PN	**Pn**	**23 15 43.4**	**-0.9**
SENK				*e*SN	**Sn**	**23 16 09.4**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.99 328**		*e*Pn	**Pn**	**23 15 43.4**	**-0.9**
SENK				*e*Sn	**Sn**	**23 16 09.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.12 251**		*e*PN	**Pn**	**23 15 44.3**	**-1.7**
SVAN	**Silvan-Diyarba**	**2.12 251**		Pn	**Pn**	**23 15 46.4**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.12 251**		Pn	**Pn**	**23 15 46.4**	**+0.4**
BGD	**Bogdanovka**	**2.38 357**		P	**Pb**	**23 15 52.3**	**-0.8**
BGD				S	**Sg**	**23 16 29.5**	**+3.6**
BNGB	**Bing¶ll**	**2.39 274**		*e*PN	**Pn**	**23 15 48.4**	**-1.3**
BNGB	**Bing¶ll**	**2.39 274**		Pn	**Pn**	**23 15 50.3**	**+0.6**
BNGB	**Bing¶ll**	**2.39 274**		Pn	**Pn**	**23 15 50.3**	**+0.6**
GDB	**GEDABAY**	**2.41 39**		⇓P	**Pn**	**23 15 47.7**	**-2.3**
GDB				⇓S	**Sn**	**23 16 18.0**	**-2.2**
GDB	**GEDABAY**	**2.41 39**		P	**Pn**	**23 15 47.7**	**-2.3**
GDB				S	**Sn**	**23 16 18.0**	**-2.2**
QZX	**Qazax, Azerbai**	**2.51 29**		⇓P	**Pn**	**23 15 48.6**	**-2.7**
QZX				⇑S	**Sn**	**23 16 19.9**	**-2.7**
QZX	**Qazax, Azerbai**	**2.51 29**		P	**Pn**	**23 15 48.6**	**-2.7**
QZX				S	**Sn**	**23 16 19.9**	**-2.7**
AKH	**Akhalkalaki**	**2.53 356**		*e*PN	**Pn**	**23 15 51.8**	**0.0**
AKH	**Akhalkalaki**	**2.53 356**		P	**Pb**	**23 15 55.9**	**+0.2**
AKH				S	**Sg**	**23 16 33.8**	**+3.1**
AKH	**Akhalkalaki**	**2.53 356**		⇓*i*P	**Pb**	**23 15 54.2**	**-1.5**
AKH	**Akhalkalaki**	**2.53 356**		P	**Pb**	**23 15 55.9**	**+0.2**
AKH				S	**Sg**	**23 16 33.8**	**+3.1**
AKH	**Akhalkalaki**	**2.53 356**		*e*Pn	**Pn**	**23 15 51.8**	**0.0**
AKH	**Akhalkalaki**	**2.53 356**		⇓*i*P	**Pb**	**23 15 54.2**	**-1.5**
BINT	**Bingol**	**2.54 271**		P	**Pn**	**23 15 50.3**	**-1.5**
BINT	**Bingol**	**2.54 271**		P	**Pn**	**23 15 50.3**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.55 284**		*e*PN	**Pn**	**23 15 49.9**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.55 284**		Pn	**Pn**	**23 15 52.6**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.55 284**		Pn	**Pn**	**23 15 52.6**	**+0.7**
GANJ	**Ganja**	**2.66 48**		⇓P	**Pn**	**23 15 51.2**	**-2.1**
GANJ				⇑S	**Sn**	**23 16 24.4**	**-1.8**
GANJ	**Ganja**	**2.66 48**		P	**Pn**	**23 15 51.2**	**-2.1**
GANJ	**Ganja**	**2.66 48**		P	**Pn**	**23 15 51.2**	**-2.1**
GANJ				S	**Sn**	**23 16 24.4**	**-1.8**
DGRG	**David-gareji**	**2.86 25**		P	**Pg**	**23 16 03.0**	**-1.0**
DGRG				S	Sg	23 16 52.5	+11
DGRG	**David-gareji**	**2.86 25**		P	**Pg**	**23 16 03.0**	**-1.0**
TBLG	**Delisi**	**2.95 15**		*e*PN	**Pn**	**23 15 58.4**	**+1.1**
TBLG	**Delisi**	**2.95 15**		P	**Pb**	**23 16 03.1**	**+0.5**
TBLG				S	**Sg**	**23 16 44.8**	**+0.8**
TBLG	**Delisi**	**2.95 15**		P	**Pb**	**23 16 03.1**	**+0.5**
TBLG				S	**Sg**	**23 16 44.7**	**+0.8**
TBLG	**Delisi**	**2.95 15**		*e*Pn	**Pn**	**23 15 58.4**	**+1.1**
MAZI	**Mazidag**	**2.96 242**		*e*PN	**Pn**	**23 15 55.2**	**-2.3**
MAZI	**Mazidag**	**2.96 242**		Pn	**Pn**	**23 15 58.5**	**+0.9**
MAZI	**Mazidag**	**2.96 242**		Pn	**Pn**	**23 15 58.5**	**+0.9**
BRDA	**Brd**	**2.99 61**		⇑P	**Pn**	**23 15 56.0**	**-1.9**
BRDA				⇓S	**Sn**	**23 16 32.7**	**-1.7**
BRDA	**Brd**	**2.99 61**		P	**Pn**	**23 15 56.0**	**-1.9**
BRDA				S	**Sn**	**23 16 32.7**	**-1.7**
MNGR	**Mingechevir, A**	**3.19 53**		⇓P	**Pn**	**23 15 58.5**	**-2.1**
MNGR				⇑S	**Sn**	**23 16 37.4**	**-1.9**
MNGR	**Mingechevir, A**	**3.19 53**		P	**Pn**	**23 15 58.5**	**-2.1**
MNGR	**Mingechevir, A**	**3.19 53**		P	**Pn**	**23 15 58.5**	**-2.1**
MNGR				S	**Sn**	**23 16 37.4**	**-1.9**
ERZN	**Erzincan**	**3.20 284**		*e*PN	**Pn**	**23 16 00.0**	**-0.8**
ERZN	**Erzincan**	**3.20 284**		Pn	**Pn**	**23 16 01.6**	**+0.7**
ERZN	**Erzincan**	**3.20 284**		Pn	**Pn**	**23 16 01.6**	**+0.7**
ZRD	**Zardab**	**3.35 64**		⇑P	**Pn**	**23 16 00.8**	**-2.0**
ZRD				⇓S	**Sn**	**23 16 41.3**	**-1.9**
ZRD	**Zardab**	**3.35 64**		P	**Pn**	**23 16 00.8**	**-2.0**
ZRD				S	**Sn**	**23 16 41.3**	**-1.9**
PTK	**Pertek**	**3.39 272**		*e*PN	**Pn**	**23 16 03.4**	**-0.2**
PTK	**Pertek**	**3.39 272**		Pn	**Pn**	**23 16 04.7**	**+1.1**
PTK	**Pertek**	**3.39 272**		Pn	**Pn**	**23 16 04.7**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.51 263**		*e*PN	**Pn**	**23 16 04.7**	**-0.4**
SVRC	**Sivrice-ELAZID**	**3.51 263**		Pn	**Pn**	**23 16 06.5**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.51 263**		Pn	**Pn**	**23 16 06.5**	**+

XNQ Khinaliq 4.08 54 P **Pn 23 16 10.7 -2.3**
XNQ S **Sn 23 16 59.9 -1.6**
URFA Urfa 4.14 251 *e*PN **Pn 23 16 14.1 +0.4**
URFA Urfa 4.14 251 *e*Pn **Pn 23 16 14.1 +0.4**
URFA Urfa 4.14 251 Pn **Pn 23 16 15.8 +2.2**
PQL Pirkuli 4.19 61 ⇓P **Pn 23 16 12.1 -2.4**
PQL ⇑S **Sn 23 17 02.5 -1.7**
PQL Pirkuli 4.19 61 P **Pn 23 16 12.1 -2.4**
PQL S **Sn 23 17 02.5 -1.7**
KORR Kora 4.21 3 *e*P **Pb 23 16 23.8 -0.3**
KORR pmax pmax
comp=Z,197nm,0.8s
ALIB Äli-Bayra 4.22 74 ⇑P **Pn 23 16 12.7 -2.0**
ALIB ⇓S **Sn 23 17 03.1 -1.4**
ALIB Äli-Bayra 4.22 74 P **Pn 23 16 12.7 -2.0**
ALIB S **Sn 23 17 03.1 -1.4**
GBS Qobustan 4.34 66 ⇓P **Pn 23 16 14.3 -2.1**
GBS ⇓S **Sn 23 17 06.1 -1.6**
GBS Qobustan 4.34 66 P **Pn 23 16 14.3 -2.1**
GBS S **Sn 23 17 06.1 -1.6**
QSAR Qusar 4.35 51 ⇑P **Pn 23 16 14.3 -2.3**
QSAR ⇑S **Sn 23 17 06.0 -1.9**
QSAR Qusar 4.35 51 P **Pn 23 16 14.3 -2.3**
QSAR S **Sn 23 17 06.0 -1.9**
ESPY Espiye-Giresun 4.36 299 *e*PN **Pn 23 16 17.3 +0.6**
ESPY Espiye-Giresun 4.36 299 *e*Pn **Pn 23 16 17.3 +0.6**
QUBA Quba, Azerbaij 4.40 54 ⇑P **Pn 23 16 15.1 -2.2**
QUBA ⇑S **Sn 23 17 07.3 -1.9**
QUBA Quba, Azerbaij 4.40 54 P **Pn 23 16 15.1 -2.2**
QUBA S **Sn 23 17 07.3 -1.9**
NEY Neytrino 4.43 350 *e*P **Pn 23 16 20.8 +3.0**
NEY pmax pmax
comp=Z,720nm,1.7s
NEY Neytrino 4.43 350 *e*P **Pn 23 16 20.8 +3.0**
comp=Z,720nm,1.7s
ATGJ Altiaghaj 4.46 62 ⇑P **Pn 23 16 15.9 -2.3**
ATGJ ⇑S **Sn 23 17 09.1 -1.7**
ATGJ Altiaghaj 4.46 62 P **Pn 23 16 15.9 -2.3**
ATGJ S **Sn 23 17 09.1 -1.7**
SIZA Siyzn 4.53 59 ⇓P **Pn 23 16 16.7 -2.3**
SIZA ⇑S **Sn 23 17 10.5 -1.9**
SIZA Siyzn 4.53 59 P **Pn 23 16 16.7 -2.3**
SIZA S **Sn 23 17 10.5 -1.9**
GROC Groznyy 4.59 19 *e*P **Pb 23 16 31.2 +0.6**
GROC pmax pmax
comp=Z,99nm,0.9s
NCK Nalchik 4.61 359 *i* P **Pn 23 16 24.3 +4.1**
NCK Nalchik 4.61 359 *i* P **Pn 23 16 24.3 +4.1**
KSRV Kasrt alli 4.83 233 *e*P **Pn 23 16 25.5 +2.4**
KSRV AML AML 23 17 49.0
comp=Z,88nm,0.7s
GOBA Gobu 4.87 70 ⇓P **Pn 23 16 21.7 -1.9**
GOBA ⇓S **Sn 23 17 19.4 -1.2**
GOBA Gobu 4.87 70 P **Pn 23 16 21.7 -1.9**
GOBA S **Sn 23 17 19.4 -1.2**
KBZ Khabaz 4.89 353 Pg **Pb 23 16 34.8 -0.8**
comp=Z,0.1nm,0.3s,baz=164,slow=11,SNR=5.7
DARE Darende-Malaty 4.90 268 *e*PN **Pn 23 16 24.7 +0.4**
DARE Darende-Malaty 4.90 268 *e*Pn **Pn 23 16 24.7 +0.4**
DARE Darende-Malaty 4.90 268 Pn **Pn 23 16 26.2 +2.0**
NDR Nardaran 5.11 69 ⇓P **Pn 23 16 25.0 -1.9**
NDR ⇑S **Sn 23 17 25.2 -1.3**
NDR Nardaran 5.11 69 P **Pn 23 16 25.0 -1.9**
NDR S **Sn 23 17 25.2 -1.3**
KVAR Kislovodsk Arr 5.13 352 Pn Pn 23 16 33.5 +6.1
baz=283,slow=1.6,SNR=4.6
KVAR LR LR 23 18 58.1
comp=Z,714nm,21.8s,baz=160,slow=45
KIV Kislovodsk 5.13 351 *e*P **Pn 23 16 31.4 +4.0**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,165nm,7.0s
KIV Kislovodsk 5.13 351 *e*Pn **Pn 23 16 25.6 -1.8**
KIV Kislovodsk 5.13 351 *e*P **Pn 23 16 31.4 +4.0**
comp=Z,165nm,7.0s
KIV Kislovodsk 5.13 351 *e*Pg **Pg 23 16 45.7 -1.9**
KIV Kislovodsk 5.13 351 *e*Pn **Pn 23 16 25.6 -1.8**
KIV *e*Pg **Pg 23 16 45.7 -1.9**
KIV *e*S **Sn 23 17 24.1 -3.2**
RSDY Resadiye-TOKAT 5.18 289 *e*PN **Pn 23 16 28.5 +0.5**
RSDY Resadiye-TOKAT 5.18 289 *e*Pn **Pn 23 16 28.5 +0.5**
RSDY Resadiye-TOKAT 5.18 289 Pn **Pn 23 16 29.4 +1.4**
GALA Gala 5.18 71 ⇓P **Pn 23 16 25.9 -2.0**
GALA ⇓S **Sn 23 17 27.1 -1.2**
GALA Gala 5.18 71 P **Pn 23 16 25.9 -2.0**
GALA S **Sn 23 17 27.1 -1.2**
SVSK Karacayir 5.33 283 *e*PN **Pn 23 16 30.7 +0.8**
SVSK Karacayir 5.33 283 *e*Pn **Pn 23 16 30.7 +0.8**
SVSK Karacayir 5.33 283 Pn **Pn 23 16 32.5 +2.6**
KMRS Kahramanmaras 5.56 258 *e*PN **Pn 23 16 34.5 +1.3**
KMRS Kahramanmaras 5.56 258 *e*Pn **Pn 23 16 34.5 +1.3**
KMRS Kahramanmaras 5.56 258 Pn **Pn 23 16 35.6 +2.4**
BHD Baghdad 5.62 175 *e*Pn **Pn 23 16 34.0 0.0**
SNR=3.0
BHD *i* Sn **Sn 23 17 41.0 +1.8**
SNR=3.0
SARI SarD1z-Kayseri 5.75 268 *e*PN **Pn 23 16 37.2 +1.2**
BNN Bunyan 6.16 272 *e*PN **Pn 23 16 43.0 +1.5**
BNN Bunyan 6.16 272 *e*Pn **Pn 23 16 43.0 +1.5**
BNN Bunyan 6.16 272 Pn **Pn 23 16 43.9 +2.3**
GOF Gofitskoye 6.20 355⇑*e*P Pn 23 16 47.0 +5.1
GOF *e*S **Sn 23 17 54.1 +0.8**
GOF pmax pmax
comp=Z,11nm,0.6s
GOF smax smax
comp=E,57nm,1.3s
DORT Dortyol-Hatay 6.31 253 *e*PN **Pn 23 16 45.3 +1.8**
DORT Dortyol-Hatay 6.31 253 *e*Pn **Pn 23 16 45.3 +1.8**
KOZT Kozan 6.39 260 *e*PN **Pn 23 16 46.2 +1.6**
KOZT Kozan 6.39 260 *e*Pn **Pn 23 16 46.2 +1.6**
BTCH Batrach 6.45 246 *e*P Pn 23 16 35.3 -10
BTCH AML AML 23 18 46.2
comp=N,118nm,0.8s
BTCH AML AML 23 18 53.9
comp=E,136nm,0.7s
RTB Rutbah 6.47 207 *e*Pn **Pn 23 16 47.0 +1.3**
SNR=3.0
RTB *i* Sn **Sn 23 18 01.5 +1.3**
SNR=3.0
YURE YUREGIR 6.74 255 *e*PN **Pn 23 16 51.3 +2.0**
YURE YUREGIR 6.74 255 *e*Pn **Pn 23 16 51.3 +2.0**
ARNB Al Arnab 6.88 246 *e*P Pn 23 16 41.3 -10
ARNB AML AML 23 18 58.0
comp=N,56nm,0.8s
ARNB AML AML 23 19 15.8
comp=E,45nm,0.7s
DIKM Dikmen 7.05 296 *e*PN **Pn 23 16 54.9 +1.2**
DIKM Dikmen 7.05 296 *e*Pn **Pn 23 16 54.9 +1.2**
BIDA Albida 7.08 239 *e*P Pn 23 16 43.5 -11
BIDA *e*S Sn 23 17 55.5 -20
BIDA AML AML 23 19 08.0
comp=E,75nm,0.7s
BIDA AML AML 23 19 20.1
comp=N,92nm,0.7s
CORM Corum 7.16 283 *e*PN **Pn 23 16 56.5 +1.2**
CORM Corum 7.16 283 *e*Pn **Pn 23 16 56.5 +1.2**
CORM Corum 7.16 283 Pn **Pn 23 16 59.0 +3.7**
HAWK Haweek 7.32 236 *e*P Pn 23 16 50.1 -7.4
HAWK *e*S Sn 23 18 02.9 -18
HAWK AML AML 23 19 12.6
comp=E,18nm,0.7s
HAWK AML AML 23 19 20.0
comp=N,36nm,0.7s
MARH Ras Al Marh 7.59 233 *e*P Pn 23 16 56.1 -5.3
MARH *e*S Sn 23 18 11.8 -16
MARH AML AML 23 19 29.1
comp=N,36nm,0.8s
MARH AML AML 23 19 32.3
comp=E,33nm,0.8s
BR131 Keskin Array S 7.88 279 *e*Pn **Pn 23 17 06.9 +1.8**
BR131 Keskin Array S 7.88 279 *e*Pn **Pn 23 17 07.0 +1.8**
BRTR Keskin Array B 7.88 279 Pn **Pn 23 17 09.5 +4.3**
comp=E,0.1nm,0.3s,baz=271,slow=14,SNR=7.7
BRTR LR LR 23 19 53.6
comp=E,132nm,20.0s,baz=92,slow=37
TOTH TOTAH 8.08 229 *e*P **Pn 23 17 05.5 -2.4**
TOTH *e*S Sn 23 18 25.7 -14
TOTH AML AML 23 19 43.6
comp=E,21nm,0.7s
TOTH AML AML 23 20 02.7
comp=N,22nm,0.7s
NSR Nassriya 8.09 165 *e*Pn **Pn 23 17 08.5 +0.6**
SNR=3.0
NSR *i* Sn **Sn 23 18 39.0 -1.1**
SNR=3.0
SALA Sala 8.38 225 *e*P **Pn 23 17 10.3 -1.8**
SALA *e*S Sn 23 18 35.8 -12
SALA AML AML 23 19 54.0
comp=E,2.1nm,0.7s
SALA AML AML 23 20 11.2
comp=N,20nm,0.7s
ASF Jabal al Asfar 8.71 222 Pn **Pn 23 17 16.7 +0.2**
comp=N,0.2nm,0.3s,baz=6.3,slow=9.2,SNR=5.6
ASF Lg Lg 23 19 39.1
comp=N,0.2nm,0.3s,baz=198,slow=20,SNR=3.5
MMAI Mount Meron Ar 8.94 232 Pn **Pn 23 17 23.6 +4.0**
comp=N,0.8nm,0.3s,baz=74,slow=16,SNR=6.4
MMAI Lg Lg 23 19 57.9
comp=N,0.3nm,0.3s,baz=25,slow=18,SNR=4.2
MMAI LR LR 23 21 11.7
comp=N,591nm,21.1s,baz=45,slow=41
CSS Mathiatis 9.21 248 *e*Pn **Pn 23 17 27.3 +4.1**
GEYT Alibeck 11.32 90 Pn **Pn 23 17 51.9 -0.4**
comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=2.3
GEYT LR LR 23 23 07.0
comp=N,81nm,20.0s,baz=290,slow=42
EIL Elat 11.71 221 LR LR 23 23 06.3
comp=N,628nm,18.0s,baz=47,slow=41
LPSR Galich'ya Gora 14.12 348 *e*P **Pn 23 18 29.7 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 14.12 348 *e*P **Pn 23 18 29.7 -0.7**
comp=Z,10.0nm,0.6s
VRI Vrincioaia 14.37 305⇓*i*P **P 23 18 41.9 +0.8**
VRI Vrincioaia 14.37 305⇓P **P 23 18 41.9 +0.8**
VRI Vrincioaia 14.37 305 P **P 23 18 41.9 +0.8**
PLOR Plostina 14.41 304⇓*i*P **P 23 18 42.8 +1.2**
PLOR Plostina 14.41 304⇓P **P 23 18 42.8 +1.2**
PLOR Plostina 14.41 304 P **P 23 18 42.8 +1.2**
TESR Tescani 14.68 307⇑*i*P **P 23 18 44.2 -0.3**
MLR Muntele Rosu 14.74 302 *e*P **P 23 18 45.4 +0.1**
MLR Muntele Rosu 14.74 302 *e*P **P 23 18 45.4 +0.1**
MLR Muntele Rosu 14.74 302 *e*Pn **P 23 18 45.4 +0.1**
DOPR Dopca 15.27 304⇑*i*P **P 23 18 51.5 +0.4**
VOIR 15.32 301⇑*i*P **P 23 18 52.3 +0.7**
VOIR 15.32 301⇑P **P 23 18 52.3 +0.7**
VOIR 15.32 301 P **P 23 18 52.3 +0.7**
PRAR RASCA 15.32 309⇓*i*P **P 23 18 51.1 -0.5**
AKTO Aktyubinsk 15.35 37 Pn **Pn 23 18 45.7 -1.3**
comp=Z,0.2nm,0.3s,baz=221,slow=14,SNR=5.3
RAYN Ar Rayn 15.38 174 *e*Pn **Pn 23 18 43.2 -4.4**
comp=Z,9.9nm,0.8s
RAYN *e*S **Sn 23 21 30.2 -8.5**
IDI Anoyia 15.47 262 *e*Pn **P 23 18 52.9 -0.5**
comp=Z,132nm,1.7s
ABKAR Akbulak array 15.56 43 *e*Pn **Pn 23 18 50.2 +0.4**
comp=Z,30nm,1.0s
ABKAR Akbulak array 15.56 43 *e*Pn **Pn 23 18 50.2 +0.4**
comp=Z,30nm,1.0s
ARR Arges 15.57 301⇑*i*P **P 23 18 54.7 +0.2**
AKASG Malin Array Be 15.65 324 Pn **Pn 23 18 48.5 -2.4**
comp=Z,0.8nm,0.3s,baz=131,slow=12,SNR=9.1
AKASG LR LR 23 26 00.2
comp=Z,210nm,18.1s,baz=110,slow=42
AKASG Malin Array Be 15.65 324 *e*P **Pn 23 18 50.0 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 15.65 324 *e*P **P 23 18 54.2 -0.9**
AKBB pmax pmax
comp=Z,38nm,1.4s
AKBB Malin Array Si 15.65 324 *e*P **P 23 18 54.2 -0.9**
comp=Z,38nm,1.4s
AKBB Malin Array Si 15.65 324 *e*Pn **P 23 18 54.2 -0.9**
comp=Z,38nm,1.4s
KIEV Kiev 15.65 324 *i* P **Pn 23 18 49.3 -1.6**
KIEV pmax pmax
comp=Z,15nm,1.2s
KIEV Kiev 15.65 324 *e*Pn **Pn 23 18 48.7 -2.2**
comp=Z,41nm,1.5s
KIEV Kiev 15.65 324 *e*Pn **Pn 23 18 48.7 -2.2**
comp=Z,41nm,1.5s
VTS Vitosha 15.99 290⇑*i*P **Pn 23 18 56.7 +1.1**
VTS Vitosha 15.99 290 *e*P **Pn 23 18 55.1 -0.6**
VTS pmax pmax
comp=Z,16nm,1.2s
VTS Vitosha 15.99 290 *e*Pn **Pn 23 18 55.0 -0.6**
comp=Z,16nm,1.2s
VTS Vitosha 15.99 290 *e*Pn **Pn 23 18 55.0 -0.6**
comp=Z,16nm,1.2s
BURAR Bucovina Array 16.04 309⇑*i*P **P 23 18 59.9 +0.2**
BURAR Bucovina Array 16.04 309⇑P **P 23 18 59.9 +0.2**
BUR08 Bucovina Ar. S 16.07 309 *e*Pn **P 23 18 59.6 -0.4**
CJR Cluj-Napoca 16.70 304⇑*i*P **P 23 19 07.5 +0.6**
CJR Cluj-Napoca 16.70 304⇑P **P 23 19 07.5 +0.6**
CJR Cluj-Napoca 16.70 304 P **P 23 19 07.5 +0.6**
OBN Obninsk 16.95 346 Pn **Pn 23 19 07.8 +0.4**
comp=Z,0.3nm,0.3s,baz=182,slow=20,SNR=4.8
OBN LR LR 23 25 45.7
comp=Z,111nm,21.5s,baz=97,slow=38
OBN Obninsk 16.95 346⇓*e*P **Pn 23 19 07.2 -0.2**
OBN *e*S **Sn 23 22 17.5 +1.3**
OBN pmax pmax
comp=Z,25nm,1.4s
OBN MLR MLR
comp=Z,314nm,16.0s
OBN Obninsk 16.95 346 *e*Pn **Pn 23 19 05.5 -1.9**
OBN Obninsk 16.95 346 *e*P **Pn 23 19 07.2 -0.2**
comp=Z,25nm,1.4s
OBN Obninsk 16.95 346 *e*Pn **Pn 23 19 05.5 -1.9**
DRGR 17.30 304⇑*i*P **P 23 19 13.1 -0.5**
MOS Moscow 17.36 348 *e*P **P 23 19 15.2 +1.1**
MOS pmax pmax
comp=Z,34nm,0.9s
MOS Moscow 17.36 348 *e*P **P 23 19 15.2 +1.1**
comp=Z,34nm,0.9s
SIRR Siria 17.83 302⇓*i*P **P 23 19 19.5 +0.1**
UZH Uzhgorod 18.25 309 *e*P **Pn 23 19 23.3 -0.4**
UZH Uzhgorod 18.25 309 *e*P **Pn 23 19 23.3 -0.4**
CRVS Cervenica-Dubn 18.86 309 *e*P **Pn 23 19 32.1 +0.9**
CRVS Cervenica-Dubn 18.86 309 *e*P **Pn 23 19 32.1 +0.9**
CRVS Cervenica-Dubn 18.86 309 *e*P **Pn 23 19 32.1 +0.9**
STHS Stebnicka Huta 19.20 311 *e*P **Pn 23 19 37.2 +1.8**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 19.20 311 *e*P **Pn 23 19 37.2 +1.8**
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 19.20 311 *e*P **Pn 23 19 37.2 +1.8**
PSZ Piszkesteto 19.48 305⇑*i*P **Pn 23 19 39.2 +0.5**
PSZ Piszkesteto 19.48 305 *e*P **Pn 23 19 38.3 -0.4**
PSZ pmax pmax
comp=Z,23nm,1.3s
PSZ Piszkesteto 19.48 305 *e*P **Pn 23 19 38.3 -0.4**
comp=Z,22nm,1.3s
PSZ Piszkesteto 19.48 305 *e*P **Pn 23 19 38.3 -0.4**
comp=Z,22nm,1.3s
WSAR Wadi Sarin 20.10 137 P Pn 23 19 45.9 -0.3
comp=Z,2.6nm,0.8s,baz=76,slow=12,SNR=2.6
WSAR LR LR 23 29 44.0
comp=Z,150nm,18.7s,baz=338,slow=43
ARU Arti 20.12 24 P **P 23 19 45.1 +0.7**
comp=Z,9.6nm,0.9s,baz=221,slow=5.7,SNR=7.6
ARU LR LR 23 29 38.2
comp=Z,125nm,18.7s,baz=216,slow=43
ARU Arti 20.12 24*d i*P Pn 23 19 45.4 -0.8
ARU 23 20 02.9
ARU PPP PPP 23 20 11.9
ARU S Sn 23 23 34.6 +1.7
ARU SS **SnSn 23 23 52.1 +4.8**
ARU pmax pmax
comp=Z,23nm,2.5s
ARU Arti 20.12 24 *e*P **P 23 19 44.5 +0.1**
comp=Z,45nm,1.5s
ARU Arti 20.12 24 *e*P **P 23 19 44.5 +0.1**
comp=Z,45nm,1.5s
VYHS Vyhne 20.33 306 *e*P **P 23 19 46.8 0.0**
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 20.33 306 *e*P **P 23 19 46.8 0.0**
comp=Z,13nm,1.5s
VYHS Vyhne 20.33 306 *e*P **P 23 19 46.8 0.0**
OJC Ojcow 20.39 312 *e*P **P 23 19 42.7 -4.7**
OJC pmax pmax
comp=Z,15nm,1.4s
OJC Ojcow 20.39 312 *e*P **P 23 19 42.7 -4.7**
comp=Z,15nm,1.4s
KKAR Karatay Array 20.61 70 *e*P Pn 23 19 51.5 -0.6
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 20.61 70 *e*P Pn 23 19 51.5 -0.5
comp=Z,9.8nm,0.9s
KBL Kabul 20.72 94 *e*P Pn 23 19 53.9 +0.3
KBL pmax pmax
comp=Z,10.0nm,1.3s
KBL Kabul 20.72 94 *e*P Pn 23 19 53.9 +0.3
comp=Z,10nm,1.3s
SVE Sverdlovsk 21.13 26 *e*P **P 23 20 01.5 +6.1**
SVE pmax pmax
comp=Z,25nm,1.4s
OKC Ostrava-Krasne 21.22 309 *e*P **P 23 19 58.3 +1.9**
OKC Ostrava-Krasne 21.22 309 *e*P **P 23 19 58.3 +1.9**
OKC Ostrava-Krasne 21.22 309 *e*P **P 23 19 58.3 +1.9**
VRAC Vranov 22.00 307 P **P 23 20 05.9 +1.1**
comp=Z,2.5nm,0.7s,baz=133,slow=6.5,SNR=4.8
VRAC LR LR 23 30 33.3
comp=Z,98nm,18.0s,baz=119,slow=42
CONA Conrad Observa 22.08 303 P **P 23 20 06.1 +0.3**
comp=Z,16nm,1.6s
CONA Conrad Observa 22.08 303 P **P 23 20 06.1 +0.3**
comp=Z,16nm,1.6s
KLMR Klimovskoe 22.16 355 *e*P **P 23 20 06.7 +0.4**
KLMR pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 22.16 355 *e*P **P 23 20 06.7 +0.4**
comp=Z,34nm,1.5s
VSU Vasula 22.46 336*ce*P **P 23 20 09.8 +0.2**
VSU pmax pmax
comp=Z,114nm,2.5s
VSU Vasula 22.46 336 *e*P **P 23 20 09.8 +0.2**
comp=Z,114nm,2.5s
DPC Dobruska-Polom 22.50 310 *e*P **P 23 20 15.0 +4.8**
DPC Dobruska-Polom 22.50 310 *e*P **P 23 20 15.0 +4.8**
TREC Trest 22.68 307 *e*P **P 23 20 13.8 +1.7**
TREC *ex* x 23 20 19.9
TREC Trest 22.68 307 *e*P **P 23 20 13.8 +1.7**
TREC *e* 23 20 19.9
TREC Trest 22.68 307 *e*P **P 23 20 13.8 +1.7**
UPC *ex* x 23 20 19.7
UPC Upice 22.74 310 *e*P **P 23 20 12.8 +0.1**
UPC *ex* x 23 20 19.7
UPC Upice 22.74 310 *e*P **P 23 20 12.8 +0.1**
UPC *e* 23 20 19.7
UPC Upice 22.74 310 *e*P **P 23 20 12.8 +0.1**
BRVK Borovoye 23.09 43*ce*P **P 23 20 18.5 +2.2**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 23.09 43 *e*P **P 23 20 19.3 +3.0**
comp=Z,5.5nm,0.9s
BVAR Borovoye Array 23.13 44 P **P 23 20 17.2 +0.5**
comp=Z,1.4nm,0.9s,baz=235,slow=10.0,SNR=6.5
AAK Ala-Archa 23.53 71 P **P 23 20 23.4 +2.3**
comp=Z,2.0nm,0.9s,baz=256,slow=9.7,SNR=6.2
AAK LR LR 23 31 26.3
comp=Z,142nm,18.6s,baz=263,slow=41
AAK Ala-Archa 23.53 71⇑*e*P **P 23 20 24.7 +3.7**
AAK pmax pmax
comp=Z,22nm,1.5s
AAK Ala-Archa 23.53 71 *e*P **P 23 20 21.6 +0.5**
comp=Z,12nm,1.3s
FRU Bishkek 23.61 70 *e*P **P 23 20 25.0 +3.2**
FRU pmax pmax
comp=Z,85nm,2.0s
PVCC Panska Ves 23.62 309 *e*P **P 23 20 28.0 +6.3**
PVCC Panska Ves 23.62 309 *e*P **P 23 20 28.0 +6.3**
GEC2 GERESS Array S 23.70 305 *e*P **P 23 20 23.0 +0.4**
GEC2 pmax pmax
comp=Z,19nm,1.7s
GEC2 GERESS Array S 23.70 305 *e*P **P 23 20 23.0 +0.4**
comp=Z,19nm,1.7s
GERES GERESS Array B 23.70 305 P **P 23 20 22.3 -0.3**
comp=Z,1.5nm,1.0s,baz=106,slow=9.3,SNR=9.2
GERES LR LR 23 30 53.8
comp=Z,65nm,18.9s,baz=105,slow=40
KHC Kasperske Hory 23.85 305 *e*P **P 23 20 17.1 -6.9**
KHC *ep*P 23 20 21.5
KHC Kasperske Hory 23.85 305 *e*P **P 23 20 17.2 -6.8**
KHC pmax pmax
comp=Z,14nm,1.8s
KHC Kasperske Hory 23.85 305 *e*P **P 23 20 17.2 -6.8**
comp=Z,14nm,1.8s
WTTA Wattenberg 24.77 300 *i* pP **P 23 20 33.0 +0.3**
comp=Z,10nm,1.4s
CLL Collm 24.81 310 *e*P **P 23 20 32.0 -0.7**
CLL *e*S **S 23 25 02.0 +6.0**
CLL pmax pmax
comp=Z,14nm,1.7s
CLL Collm 24.81 310 *e*P **P 23 20 32.0 -0.7**
comp=Z,14nm,1.7s
CLL *e*S **S 23 25 02.0 +6.0**
NKC Novy Kostel 24.84 307 *e*P **P 23 20 35.2 +2.2**
NKC Novy Kostel 24.84 307 *e*P **P 23 20 35.2 +2.2**
KSH Kashi 24.92 78 P **P 23 20 34.5 +0.5**
KSH PP **PnPn 23 21 10.0 +3.7**
KSH PcP **PcP 23 24 14.0 +4.4**
KSH S **S 23 24 56.0 -2.3**
KSH SS **SnSn 23 25 48.8 +3.5**
KSH PcS **PcS 23 27 54.5 +4.6**
KSH Kashi 24.92 78 ScS ScS 23 31 38.5 +0.6
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,320nm,7.4s
KSH LR LR
comp=N,340nm,8.4s
KSH LR LR
comp=E,260nm,9.6s
KSH LR LR
comp=Z,150nm,10.4s
SQTA Sankt Quirin 25.05 300 *e*P **P 23 20 35.3 +0.2**
SQTA Sankt Quirin 25.05 300 P **P 23 20 35.3 +0.2**
FINES FINESS Array B 25.10 340 P **P 23 20 34.7 -0.5**
comp=Z,2.8nm,0.9s,baz=145,slow=14,SNR=5.2
FINES FINESS Array B 25.10 340 *e*P **P 23 20 35.6 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.9s
MOTA Moosalm 25.14 300 pP **P 23 20 34.8 -1.1**
comp=Z,5.2nm,0.8s
FETA Feichten 25.35 299 *e*P **P 23 20 38.1 +0.3**
comp=Z,9.3nm,1.5s
FETA Feichten 25.35 299 P **P 23 20 38.1 +0.3**
comp=Z,9.3nm,1.5s
RETA Reutte 25.39 301 *i* P **P 23 20 36.7 -1.4**
comp=Z,10nm,1.7s
RETA Reutte 25.39 301 P **P 23 20 36.7 -1.4**
comp=Z,10nm,1.7s
DAVA Damuels 25.95 300 *i* pP **P 23 20 42.5 -0.9**
comp=Z,6.9nm,1.3s
KURBB Kurchatov Arra 27.10 53 P **P 23 20 55.5 +2.0**
comp=Z,2.6nm,1.0s,baz=263,slow=9.3,SNR=11
KURK Kurchatov 27.18 53*ce*P **P 23 20 55.0 +0.9**
KURK pmax pmax
comp=Z,22nm,1.2s
KURK Kurchatov 27.18 53 *e*P **P 23 20 56.1 +2.0**
KEST Kesra 27.44 274 LR LR 23 33 24.9
comp=Z,104nm,19.4s,baz=55,slow=40
HFS Hagfors 28.44 328 P **P 23 21 04.3 -1.0**
comp=Z,5.4nm,1.0s,baz=144,slow=10.0,SNR=3.5
MAKZ Makanchi 28.90 62 *e*P **P 23 21 11.9 +2.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 28.90 62 *e*P **P 23 21 11.9 +2.3**
comp=Z,6.2nm,1.3s
MKAR Makanchi Array 29.12 62 P **P 23 21 13.0 +1.4**
comp=Z,1.4nm,0.9s,baz=261,slow=9.6,SNR=4.9
MKAR LR LR 23 34 41.3
comp=Z,144nm,19.5s,baz=249,slow=40
NOA NORSAR Array B 29.96 328 P **P 23 21 19.3 +0.4**
comp=Z,1.5nm,0.9s,baz=125,slow=8.8,SNR=2.6
NOA LR LR 23 34 17.5
comp=Z,90nm,19.8s,baz=115,slow=38
ZALV Zalesovo Beam 31.57 48 P **P 23 21 34.8 +1.7**
comp=Z,0.8nm,0.5s,baz=262,slow=9.5,SNR=3.6
ZALV LR LR 23 36 31.7
comp=Z,115nm,18.6s,baz=248,slow=41
ARCES ARCESS Array B 32.23 348 P **P 23 21 39.4 +0.7**
comp=Z,0.7nm,0.7s,baz=135,slow=13,SNR=3.9
ARCES LR LR 23 35 22.8
comp=Z,176nm,18.2s,baz=149,slow=38
WMQ Urumqi 33.06 67 *e*P **P 23 21 47.8 +1.4**
WMQ pP 23 21 51.3
WMQ sP 23 21 54.8
WMQ S **S 23 27 01.3 -4.9**
WMQ SS **SnSn 23 29 04.0 +0.3**
WMQ pmax pmax
comp=Z,9.0nm,0.7s

WMQ pmax pmax
comp=Z,69nm,3.7s
WMQ LR LR
comp=N,170nm,9.3s
WMQ LR LR
comp=E,160nm,13.5s
WMQ LR LR
comp=Z,99nm,18.5s
PYUN Piuthan 34.22 96 *e*P **P 23 21 59.1 +2.3**
DANN Dangsing 34.70 95 *e*P **P 23 22 03.2 +2.1**
comp=Z,4.7nm,1.0s
KOLN Koldanda 34.85 96 *e*P **P 23 22 03.9 +1.6**
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 35.14 314 P **P 23 22 02.1 -2.1**
comp=Z,3.7nm,0.9s,baz=98,slow=6.1,SNR=4.2
GKN Gorkha 35.54 95 *e*P **P 23 22 09.9 +1.7**
comp=Z,14nm,1.0s
DMN Daman 36.10 96 *e*P **P 23 22 14.8 +1.7**
comp=Z,26nm,1.0s
KKN Kakani 36.15 95 *e*P **P 23 22 14.7 +1.3**
comp=Z,13nm,1.1s
TAM Tamanrasset 36.23 255 *e*P **P 23 22 14.3 +0.2**
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 36.23 255 *e*P **P 23 22 14.3 +0.2**
comp=Z,2.5nm,0.8s
TAM Tamanrasset 36.23 255 *e*P **P 23 22 14.3 +0.2**
comp=Z,2.5nm,0.8s
PKIN Phulchoki 36.34 95 *e*P **P 23 22 16.6 +1.5**
comp=Z,12nm,1.0s
PKI Pulchoki 36.35 95 *e*P **P 23 22 16.9 +1.6**
comp=Z,18nm,1.1s
GUN Gumba 36.55 95 *e*P **P 23 22 19.3 +2.2**
comp=Z,30nm,1.0s
ESDC Sonseca Array 36.59 287 P **P 23 22 16.7 -0.2**
comp=Z,0.6nm,0.5s,baz=62,slow=8.5,SNR=4.6
JIRN Jiri 36.91 95 *e*P **P 23 22 21.8 +1.6**
comp=Z,26nm,0.9s
RAMN Ramite 37.58 95 *e*P **P 23 22 26.7 +1.0**
comp=Z,29nm,1.0s
ODAN Odare 38.24 95 *e*P **P 23 22 33.0 +1.8**
comp=Z,40nm,1.1s
TAPN Taplejung 38.25 94 *e*P **P 23 22 32.9 +1.5**
comp=Z,14nm,0.9s
NRIK Noril'sk 38.34 23 LR LR 23 42 52.5
comp=Z,160nm,18.2s,baz=188,slow=43
GTA Gaotai 42.88 71 *e*P **P 23 23 09.3 -0.1**
GTA pP 23 23 13.8
GTA sP 23 23 16.5
GTA S **S 23 29 34.3 -0.7**
GTA sS sS 23 29 41.5
GTA pmax pmax
comp=Z,3.0nm,1.6s
GTA pmax pmax
comp=Z,56nm,5.0s
GTA LR LR
comp=N,120nm,15.4s
GTA LR LR
comp=E,130nm,15.4s
GTA LR LR
comp=Z,95nm,15.7s
TORD Torodi Ar. Bea 45.10 247 P **P 23 23 25.3 -2.0**
comp=Z,1.5nm,0.8s,baz=61,slow=7.3,SNR=10
TORD LR LR 23 45 14.7
comp=Z,55nm,19.5s,baz=190,slow=40
SONM Songino Array 45.29 57 P **P 23 23 28.7 +0.1**
comp=Z,0.2nm,0.5s,baz=298,slow=9.3,SNR=2.9
SONM LR LR 23 44 26.0
comp=Z,150nm,19.3s,baz=284,slow=39
ULN Ulaanbaatar 45.72 57 *ce*P **P 23 23 34.6 +2.6**
ULN pmax pmax
comp=Z,6.0nm,1.2s
ULN Ulaanbaatar 45.72 57 *e*P **P 23 23 34.4 +2.4**
comp=Z,4.4nm,1.0s
LZH Lanzhou 47.02 74 *e*P **P 23 23 38.0 -4.4**
LZH pP 23 23 42.0
LZH sP 23 23 43.5
LZH *e*PP **PP 23 25 29.3 -3.4**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,42nm,6.0s
LZH LR LR
comp=N,120nm,14.5s
LZH LR LR
comp=E,110nm,14.2s
LZH LR LR
comp=Z,140nm,18.0s
HHC Hu-ho-hao-te 50.89 65 *e*P **P 23 24 11.5 -0.5**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.4s
CMAR Chiang Mai Arr 51.72 97 P **P 23 24 19.4 +1.0**
comp=Z,0.6nm,0.4s,baz=297,slow=6.7,SNR=6.3
CMAR LR LR 23 50 03.5
comp=Z,35nm,22.0s,baz=298,slow=40
DBIC Dimbokro 54.21 247 P **P 23 24 35.0 -1.7**
comp=Z,2.3nm,0.7s,baz=34,slow=11,SNR=4.2
DBIC Dimbokro 54.21 247 P **P 23 24 35.0 -1.7**
KSAR Wonju Array Be 63.78 62 P **P 23 25 43.7 +0.8**
KSAR Wonju Array Be 63.78 62 P **P 23 25 43.7 +0.8**
KSRS Korea Array 63.80 62 P **P 23 25 43.7 +0.7**
comp=Z,0.8nm,0.4s,baz=291,slow=7.0,SNR=5.1
KSRS LR LR 23 56 29.8
comp=Z,41nm,18.1s,baz=100,slow=39
MJAR Matsushiro Arr 71.24 58 P **P 23 26 28.3 -1.9**
comp=Z,0.4nm,0.3s,baz=339,slow=7.4,SNR=4.2
MJAR LR LR 00 00 54.4
comp=Z,54nm,18.1s,baz=320,slow=38
PETK Petropavlovsk- 72.08 35 LR LR 00 02 47.6
comp=Z,67nm,19.0s,baz=319,slow=40

*IDC **26** 23:20:12.5±2.1,41°.22N×143°.60E,h0km,mb3.9/6, mb1 3.9/7,mb1mx3.5/60,mbtmp3.8/7,ML3.0/1,MS2.6/1, Ms1 2.6/1,ms1mx2.2/49,Error ellipse: s-maj=61.2km s-min=25.1km az=79.0*
*JMA **26** 23:20:16.8±0.1,41°.07N×143°.32E,h44km,M3.4*
ISC 26 23:20:17.0±2.1,41°.15N±0°.06×143°.29E±0°.07,h24km±15km, n20,σ0°78/26,mb3.8/6,3C-1D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.87**	**353**	P	**Pn**	**23 20 34.1**	**+0.3**
JEM				*e*S	**Sn**	**23 20 46.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.20**	**341**	⇑P	**Pb**	**23 20 39.0**	**-0.1**
JCH	**Churui**	**1.47**	**2**	P	**Pn**	**23 20 42.4**	**+0.4**
JCH				*e*S	**Sb**	**23 21 01.4**	**-0.4**
JANG	**Nango**	**1.56**	**241**	⇑P	**Pn**	**23 20 42.5**	**-0.7**
JOT	**Ohata**	**1.71**	**279**	⇑P	**Pn**	**23 20 45.5**	**+0.2**
JOT				*e*S	**Sn**	**23 21 06.9**	**+0.6**
JTM	**Tenmabayashi**	**1.72**	**259**	P	**Pn**	**23 20 45.7**	**+0.2**
JTM				*e*S	**Sn**	**23 21 06.8**	**+0.1**
JBT2	**Biratori 2**	**1.77**	**337**	P	**Pn**	**23 20 47.2**	**+1.1**
JOB	**Onbets**	**1.80**	**13**	P	**Pn**	**23 20 47.2**	**+0.7**
JOB				*e*S	**Sn**	**23 21 09.5**	**+0.9**
JKB	**Kayabe**	**1.85**	**294**	P	**Pn**	**23 20 47.6**	**+0.4**
JAK	**Akkeshi**	**2.12**	**29**	P	**Pn**	**23 20 51.2**	**+0.2**
JAK				*e*S	**Sn**	**23 21 16.7**	**+0.2**
JAR	**Ashorobuto**	**2.18**	**9**	⇓P	**Pn**	**23 20 52.0**	**+0.3**
JAR				*e*S	**Sn**	**23 21 17.5**	**-0.4**
JOM	**Ohasama**	**2.27**	**223**	P	**Pn**	**23 20 53.2**	**+0.2**
MJAR	**Matsushiro Arr**	**6.07**	**222**	Pn	**Pn**	**23 21 47.1**	**+1.8**
	0.4nm,0.3s,baz=30,slow=13,SNR=3.5						
KSRS	**Korea Array**	**12.46**	**258**	LR	LR	23 28 07.5	
	comp=Z,26nm,18.0s,baz=98,slow=37						
ZALV	**Zalesovo Beam**	**40.35**	**309**	P	**P**	**23 27 54.0**	**+1.6**
	1.4nm,0.6s,baz=88,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**43.30**	**299**	P	**P**	**23 28 15.3**	**-1.4**
	0.6nm,0.6s,baz=86,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**44.73**	**305**	P	**P**	**23 28 27.5**	**-0.6**
	0.6nm,0.4s,baz=77,slow=9.0,SNR=4.4						
BVAR	**Borovoye Array**	**48.97**	**310**	P	**P**	**23 29 02.0**	**+0.8**
	0.4nm,0.4s,baz=74,slow=7.7,SNR=2.5						
WRA	**Warramunga Arr**	**61.34**	**190**	P	**P**	**23 30 30.6**	**-0.1**
	0.4nm,0.7s,baz=6.3,slow=6.8,SNR=2.7						
FINES	**FINESS Array B**	**65.86**	**332**	P	**P**	**23 30 59.7**	**-0.4**
	15nm,1.3s,baz=73,slow=6.6,SNR=8.7						

*ISK **26** 23:32:53.3,38°.71N×43°.43E,h5km,ML3.0*
*DDA **26** 23:32:55.2,38°.72N×43°.22E,h7km,ml3.7*
*CSEM **26** 23:32:55.4±0.3,38°.73N×43°.30E,h2km,ML3.0,Error ellipse: s-maj=8.0km s-min=4.9km az=74.0*

ISC 26 23:32:55.6±1.1,38°.74N±0°.02×43°.26E±0°.03,h3km±11km, n38,σ1°38/56,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**145**	*e*PG	**Pg**	**23 32 57.9**	**-1.0**
VANB				*e*SG	**Sg**	**23 33 02.0**	**+0.8**
VANB	**Van**	**0.17**	**145**	*e*Pg	**Pg**	**23 32 57.9**	**-1.0**
VANB				*e*Sg	**Sg**	**23 33 02.0**	**+0.8**
TVAN	**Van**	**0.23**	**152**	*i* P	**Pg**	**23 33 01.5**	**+1.4**
TVAN				*i* S	**Sg**	**23 33 05.3**	**+2.1**
TVAN	**Van**	**0.23**	**152**	P	**Pg**	**23 33 01.5**	**+1.4**
TVAN				S	**Sg**	**23 33 05.3**	**+2.1**
VMUR	**Van-Muradiye**	**0.35**	**43**	*i* P	**Pg**	**23 33 01.8**	**-0.6**
VMUR				*i* S	**Sb**	**23 33 08.4**	**-2.2**
VMUR	**Van-Muradiye**	**0.35**	**43**	P	**Pg**	**23 33 01.8**	**-0.6**
VMUR				S	**Sb**	**23 33 08.4**	**-2.2**
GEVA	**Gevas**	**0.45**	**201**	*i* P	**Pg**	**23 33 02.3**	**-2.0**
GEVA				*i* S	**Sg**	**23 33 10.3**	**+0.2**
GEVA	**Gevas**	**0.45**	**201**	P	**Pg**	**23 33 02.3**	**-2.0**
GEVA				S	**Sg**	**23 33 10.3**	**+0.2**
TUTA	**Tutak**	**0.75**	**332**	*i* P	**Pg**	**23 33 09.3**	**-0.7**
TUTA				*i* S	**Sg**	**23 33 21.1**	**+1.3**
TUTA	**Tutak**	**0.75**	**332**	P	**Pg**	**23 33 09.4**	**-0.7**
TUTA				S	**Sg**	**23 33 21.1**	**+1.3**
AGRB	**Hanur-Agry**	**0.86**	**346**	*e*PG	**Pg**	**23 33 11.9**	**-0.2**
AGRB				*e*SG	**Sb**	**23 33 25.7**	**+0.2**
AGRB	**Hanur-Agry**	**0.86**	**346**	*e*Pg	**Pg**	**23 33 12.0**	**-0.2**
AGRB				*e*Sg	**Sb**	**23 33 25.7**	**+0.2**
EKAR	**Karacoban**	**1.07**	**299**	*i* P	**Pg**	**23 33 15.6**	**-0.5**
EKAR				*i* S	**Sn**	**23 33 36.4**	**+3.2**
EKAR	**Karacoban**	**1.07**	**299**	P	**Pg**	**23 33 15.6**	**-0.5**
EATA	**Eleskirt**	**1.27**	**332**	*i* P	**Pg**	**23 33 19.1**	**-1.0**
EATA				*i* S	**Sn**	**23 33 38.5**	**0.0**
EATA	**Eleskirt**	**1.27**	**332**	P	**Pg**	**23 33 19.1**	**-1.0**
EATA				S	**Sn**	**23 33 38.5**	**0.0**
VRTB	**Varto-Mus**	**1.47**	**287**	*e*PN	**Pb**	**23 33 23.5**	**-0.2**
VRTB	**Varto-Mus**	**1.47**	**287**	*e*Pn	**Pb**	**23 33 23.5**	**-0.2**
CUKT	**Cukurca**	**1.51**	**170**	*e*PN	**Pn**	**23 33 22.6**	**-1.1**
CUKT	**Cukurca**	**1.51**	**170**	*i* P	**Pb**	**23 33 23.6**	**-0.7**
CUKT				*i* S	**Sg**	**23 33 47.7**	**+3.6**
CUKT	**Cukurca**	**1.51**	**170**	*e*Pn	**Pn**	**23 33 22.6**	**-1.1**
CUKT	**Cukurca**	**1.51**	**170**	P	**Pb**	**23 33 23.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**251**	*e*PN	**Pb**	**23 33 27.0**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.72**	**251**	*e*Pn	**Pb**	**23 33 27.0**	**-0.9**
BTMN	**Batman**	**1.78**	**242**	*i* P	**Pn**	**23 33 27.0**	**-0.4**
BTMN				*i* S	**Sg**	**23 33 52.8**	**0.0**
BTMN	**Batman**	**1.78**	**242**	P	**Pn**	**23 33 27.0**	**-0.4**
BTMN				S	**Sg**	**23 33 52.8**	**0.0**
SENK	**Senkaya-Erzuru**	**1.96**	**339**	*e*PN	**Pn**	**23 33 30.1**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.96**	**339**	*e*Pn	**Pn**	**23 33 30.1**	**+0.2**
BNGB	**Bing¨¶l**	**2.03**	**278**	*e*PN	**Pn**	**23 33 31.9**	**+1.0**
BINT	**Bingol**	**2.17**	**275**	*e*Pn	**Pn**	**23 33 31.9**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.23**	**289**	*e*PN	**Pb**	**23 33 35.0**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.23**	**289**	*e*Pn	**Pb**	**23 33 35.0**	**-1.6**
MAZI	**Mazidag**	**2.56**	**241**	*e*PN	**Pn**	**23 33 39.4**	**+1.3**
MAZI	**Mazidag**	**2.56**	**241**	*e*Pn	**Pn**	**23 33 39.4**	**+1.3**
PTK	**Pertek**	**3.03**	**274**	*e*PN	**Pn**	**23 33 46.5**	**+1.8**
PTK	**Pertek**	**3.03**	**274**	*e*Pn	**Pn**	**23 33 46.5**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*PN	**Pn**	**23 33 48.3**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.12**	**265**	*e*Pn	**Pn**	**23 33 48.3**	**+2.4**

*ISN **26** 23:42:16.3±1.4,39°.10N×43°.24E,h0km±69km,ML4.7*
*NSSC **26** 23:42:22.9±1.3,37°.93N×44°.24E,h14km±166km,ML3.6*
*IDC **26** 23:42:25.5±0.6,38°.48N×43°.21E,h0km,mb4.1/24, mb1 4.1/31,mb1mx4.1/40,mbtmp4.1/31,ML2.7/5,MS3.4/19, Ms1 3.4/19,ms1mx3.2/57,Error ellipse: s-maj=12.5km s-min=9.1km az=168.0*
*MOS **26** 23:42:26.2±1.3,38°.46N×43°.29E,h10km,mb4.6/29,Error ellipse: s-maj=6.1km s-min=4.3km az=107.5*
*ISK **26** 23:42:26.6,38°.70N×43°.25E,h4km,ML4.4*
*DDA **26** 23:42:26.7,38°.62N×43°.16E,h19km,Ml4.3*
*ISCJB **26** 23:42:27.8±0.3,38°.52N±0°.02×43°.29E±0°.01,h17km±2km, mb4.3/70,MS3.4/18,Error ellipse: s-maj=2.7km s-min=1.6km az=161.4*
*NEIC **26** 23:42:27.3±0.0,38°.70N×43°.40E,h5km,mb4.5/30, ML4.4(ISK),ML4.6(DDA),After ISK.*
*CSEM **26** 23:42:28.1±0.1,38°.53N×43°.26E,h10km,mb4.5/17,Error ellipse: s-maj=3.3km s-min=2.2km az=167.0*
*AZER **26** 23:42:28.7±1.2,38°.49N×43°.14E,h29km±34km,Error ellipse: s-maj=26.8km s-min=6.9km az=60.0*
ISC 26 23:42:28.3±0.6,38°.60N±0°.01×43°.18E±0°.01,h13km±3km, n496,σ1°82/614,mb4.4/70,MS3.4/18,65C-55D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**92**	*e*PG	**Pg**	**23 42 31.6**	**-0.7**
VANB				*e*SG	**Sg**	**23 42 35.6**	**+0.5**
VANB	**Van**	**0.17**	**92**	*e*Pg	**Pg**	**23 42 31.6**	**-0.7**
VANB	**Van**	**0.17**	**92**	Pg	**Pg**	**23 42 31.6**	**-0.7**
VANB				Sg	**Sg**	**23 42 35.6**	**+0.5**
TVAN	**Van**	**0.19**	**112**	⇑*i*P	**Pb**	**23 42 34.7**	**+0.9**
TVAN				*i* S	**Sg**	**23 42 39.0**	**+3.1**
TVAN	**Van**	**0.19**	**112**	P	**Pb**	**23 42 34.7**	**+0.9**
TVAN	**Van**	**0.19**	**112**	*i* P	**Pb**	**23 42 34.7**	**+0.9**
TVAN				*i* S	**Sg**	**23 42 39.0**	**+3.1**
GEVA	**Gevas**	**0.30**	**198**	⇓*i*P	**Pg**	**23 42 33.5**	**-1.1**
GEVA				*i* S	**Sb**	**23 42 39.8**	**-0.8**
GEVA	**Gevas**	**0.30**	**198**	*i* P	**Pg**	**23 42 33.3**	**-1.3**
GEVA				S	**Sb**	**23 42 39.8**	**-0.8**
GEVA	**Gevas**	**0.30**	**198**	*i* P	**Pg**	**23 42 33.3**	**-1.3**
GEVA				*i* S	**Sb**	**23 42 40.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.50**	**38**	⇓*i*P	**Pg**	**23 42 36.8**	**-1.3**
VMUR				*i* S	**Sg**	**23 42 44.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.50**	**38**	P	**Pg**	**23 42 36.8**	**-1.3**
VMUR				S	**Sg**	**23 42 44.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.50**	**38**	*i* P	**Pg**	**23 42 36.8**	**-1.3**
TUTA	**Tutak**	**0.85**	**341**	⇓*i*P	**Pg**	**23 42 42.5**	**-2.3**
TUTA				*i* S	**Sg**	**23 42 54.4**	**-1.5**
TUTA	**Tutak**	**0.85**	**341**	*i* P	**Pg**	**23 42 42.3**	**-2.4**
TUTA				S	**Sg**	**23 42 54.4**	**-1.5**
TUTA	**Tutak**	**0.85**	**341**	*i* P	**Pg**	**23 42 42.4**	**-2.4**
BASK	**Baskale_VAN**	**0.85**	**130**	*i* P	**Pg**	**23 42 43.0**	**-1.7**
BASK				*i* S	**Sb**	**23 42 56.4**	**0.0**
BASK	**Baskale_VAN**	**0.85**	**130**	P	**Pg**	**23 42 43.0**	**-1.7**
BASK				S	**Sb**	**23 42 56.4**	**0.0**
AGRB	**Hanur-Agry**	**0.98**	**352**	*e*PG	**Pg**	**23 42 44.8**	**-2.5**
AGRB				*e*SG	**Sg**	**23 42 57.0**	**-3.2**
AGRB	**Hanur-Agry**	**0.98**	**352**	Sg	**Sg**	**23 42 58.8**	**-1.4**
AGRB	**Hanur-Agry**	**0.98**	**352**	Pg	**Pg**	**23 42 44.8**	**-2.5**
AGRB				Sg	**Sg**	**23 42 58.8**	**-1.4**
DYDN	**Diyadin**	**1.02**	**23**	*i* P	**Pg**	**23 42 45.2**	**-2.8**
DYDN				*i* S	**Sn**	**23 43 03.9**	**+1.0**
DYDN	**Diyadin**	**1.02**	**23**	P	**Pg**	**23 42 45.2**	**-2.8**
DYDN				S	**Sn**	**23 43 03.9**	**+1.0**
EKAR	**Karacoban**	**1.09**	**307**	⇓*i*P	**Pb**	**23 42 47.5**	**-1.6**
EKAR				*i* S	**Sn**	**23 43 10.4**	**+5.8**
EKAR	**Karacoban**	**1.09**	**307**	P	**Pb**	**23 42 47.5**	**-1.6**
EKAR				S	**Sn**	**23 43 10.4**	**+5.8**
SIRN	**S¨–rnak**	**1.26**	**209**	⇓*i*P	**Pn**	**23 42 50.0**	**-1.7**
SIRN	**S¨–rnak**	**1.26**	**209**	P	**Pn**	**23 42 50.0**	**-1.7**
EATA	**Eleskirt**	**1.37**	**337**	⇓*i*P	**Pn**	**23 42 51.9**	**-1.6**
EATA				*i* S	**Sb**	**23 43 10.4**	**-1.1**
EATA	**Eleskirt**	**1.37**	**337**	P	**Pn**	**23 42 51.8**	**-1.6**
EATA				S	**Sb**	**23 43 10.4**	**-1.1**
CUKT	**Cukurca**	**1.39**	**166**	*e*PN	**Pg**	**23 42 54.8**	**-0.3**
CUKT	**Cukurca**	**1.39**	**166**	⇓*i*P	**Pg**	**23 42 54.6**	**-0.5**
CUKT				*i* S	**Sg**	**23 43 19.0**	**+5.8**
CUKT	**Cukurca**	**1.39**	**166**	P	**Pg**	**23 42 54.6**	**-0.5**
CUKT				Sn	**Sg**	**23 43 14.8**	**+1.6**
CUKT	**Cukurca**	**1.39**	**166**	Pn	**Pg**	**23 42 54.8**	**-0.3**
CUKT				Sn	**Sg**	**23 43 14.8**	**+1.6**
VRTB	**Varto-Mus**	**1.46**	**293**	*e*PN	**Pn**	**23 42 53.9**	**-0.5**
VRTB				*e*SN	**Sg**	**23 43 15.5**	**+0.3**
VRTB	**Varto-Mus**	**1.46**	**293**	⇓*i*P	**Pn**	**23 42 53.4**	**-1.1**
VRTB				*i* S	**Sb**	**23 43 15.0**	**+1.2**
VRTB	**Varto-Mus**	**1.46**	**293**	P	**Pn**	**23 42 53.4**	**-1.1**
VRTB	**Varto-Mus**	**1.46**	**293**	*e*Pn	**Pn**	**23 42 53.9**	**-0.5**
VRTB				S	**Sb**	**23 43 15.0**	**+1.2**
VRTB	**Varto-Mus**	**1.46**	**293**	Pn	**Pn**	**23 42 53.9**	**-0.5**
VRTB				Sn	**Sg**	**23 43 17.9**	**+2.7**
SVAN	**Silvan-Diyarba**	**1.62**	**255**	*e*PN	**Pn**	**23 42 57.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.62**	**255**	⇑P	**Pn**	**23 42 57.0**	**+0.4**
SVAN				*i* S	**Sb**	**23 43 19.6**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.62**	**255**	*e*Pn	**Pn**	**23 42 57.1**	**+0.5**
SVAN				S	**Sb**	**23 43 19.6**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.62**	**255**	Pn	**Pb**	**23 42 57.7**	**-0.3**
BNGL	**BINGOL**	**1.62**	**283**	⇓*i*P	**Pn**	**23 42 56.8**	**0.0**
BNGL				*i* S	**Sb**	**23 43 19.8**	**+1.0**
BTMN	**Batman**	**1.66**	**245**	⇓*i*P	**Pn**	**23 42 56.9**	**-0.3**
BTMN				*i* S	**Sg**	**23 43 21.7**	**0.0**
BTMN	**Batman**	**1.66**	**245**	P	**Pn**	**23 42 56.9**	**-0.3**
BTMN				S	**Sg**	**23 43 21.7**	**0.0**
HOMI	**Horasan**	**1.75**	**326**	⇓*i*P	**Pn**	**23 42 58.6**	**+0.1**
HOMI				*i* S	**Sg**	**23 43 25.5**	**+0.9**
DIGO	**Kars**	**1.82**	**5**	⇓*i*P	**Pn**	**23 42 59.8**	**+0.2**
DIGO				*i* S	**Sn**	**23 43 20.3**	**-2.3**
DIGO	**Kars**	**1.82**	**5**	P	**Pn**	**23 42 59.8**	**+0.2**
DIGO				S	**Sn**	**23 43 20.3**	**-2.3**
NAX	**Nakhchivan**	**1.90**	**72**	⇓P	**Pn**	**23 42 60.0**	**-0.5**
NAX				⇑S	**Sn**	**23 43 24.4**	**+0.1**
NAX	**Nakhchivan**	**1.90**	**72**	P	**Pn**	**23 43 00.0**	**-0.5**
NAX				S	**Sn**	**23 43 24.4**	**+0.1**
ERZM	**Erzurum**	**1.92**	**313**	⇓*i*P	**Pn**	**23 43 01.9**	**+1.0**
ERZM	**Erzurum**	**1.92**	**313**	P	**Pn**	**23 43 01.9**	**+1.0**
GNI	**Garni**	**1.97**	**38**	Pn	**Pn**	**23 43 02.0**	**+0.6**
	26nm,0.3s,baz=262,slow=3.1,SNR=116						
GNI				Lg	Lg	23 43 34.8	
	173nm,0.3s,baz=136,slow=22,SNR=11						
GNI	**Garni**	**1.97**	**38**	*ce*P	**Pn**	**23 43 01.7**	**+0.2**
GNI				pmax	pmax		
	comp=Z,1μm,0.7s						
GNI	**Garni**	**1.97**	**38**	*e*P	**Pn**	**23 43 01.7**	**+0.2**
	comp=Z,1μm,0.7s						
GNI	**Garni**	**1.97**	**38**	*e*Pn	**Pn**	**23 43 02.1**	**+0.6**
GNI				*e*Sn	**Sn**	**23 43 19.2**	**-6.9**
GNI				Lg	Lg	23 43 34.8	
ECAT	**Cat-ERZURUM**	**1.99**	**301**	*i* P	**Pn**	**23 43 02.1**	**+0.3**
ECAT				*i* S	**Sb**	**23 43 30.7**	**+1.5**
ECAT	**Cat-ERZURUM**	**1.99**	**301**	P	**Pn**	**23 43 02.1**	**+0.3**
ECAT				S	**Sb**	**23 43 30.7**	**+1.5**
BNGB	**Bing¨¶l**	**1.99**	**282**	*e*PN	**Pn**	**23 43 02.6**	**+0.8**
BNGB	**Bing¨¶l**	**1.99**	**282**	Pn	**Pn**	**23 43 03.5**	**+1.7**
BNGB	**Bing¨¶l**	**1.99**	**282**	Pn	**Pn**	**23 43 03.5**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.06**	**342**	*e*PN	**Pn**	**23 43 02.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.06**	**342**	*e*Pn	**Pn**	**23 43 02.4**	**-0.4**
EAK	**Akyaka**	**2.11**	**9**	⇑*i*P	**Pn**	**23 43 04.7**	**+1.2**
EAK				*i* S	**Sg**	**23 43 36.3**	**+0.2**
EAK	**Akyaka**	**2.11**	**9**	P	**Pn**	**23 43 04.7**	**+1.2**
EAK				S	**Sg**	**23 43 36.3**	**+0.2**
BINT	**Bingol**	**2.12**	**278**	P	**Pn**	**23 43 03.5**	**-0.1**
BINT	**Bingol**	**2.12**	**278**	*e*PN	**Pn**	**23 43 02.6**	**-1.0**
BINT	**Bingol**	**2.12**	**278**	P	**Pn**	**23 43 03.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	*e*PN	**Pn**	**23 43 05.8**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	Pn	**Pn**	**23 43 06.8**	**+1.9**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	Pn	**Pn**	**23 43 06.8**	**+1.9**
MARD	**Mardin**	**2.29**	**237**	⇑*i*P	**Pn**	**23 43 05.9**	**0.0**
MARD				*i* S	**Sb**	**23 43 39.2**	**+1.4**
MARD	**Mardin**	**2.29**	**237**	*e*Pn	**Pn**	**23 43 06.4**	**+0.5**
MARD				*e*Sn	**Sn**	**23 43 32.4**	**-1.6**
MARD	**Mardin**	**2.29**	**237**	*e*Pn	**Pn**	**23 43 06.4**	**+0.5**
MARD				*e*Sn	**Sn**	**23 43 32.4**	**-1.6**
MAZI	**Mazidag**	**2.44**	**243**	*e*PN	**Pn**	**23 43 08.8**	**+0.9**
MAZI	**Mazidag**	**2.44**	**243**	*e*Pn	**Pn**	**23 43 08.8**	**+0.9**
MAZI	**Mazidag**	**2.44**	**243**	Pn	**Pn**	**23 43 08.8**	**+0.9**
DIYA	**Diyarbakir**	**2.50**	**255**	*i* P	**Pn**	**23 43 11.0**	**+2.3**
DIYA				*i* S	**Sb**	**23 43 43.1**	**-0.7**
DIYA	**Diyarbakir**	**2.50**	**255**	P	**Pn**	**23 43 11.0**	**+2.3**
DIYA				S	**Sb**	**23 43 43.1**	**-0.7**
KOPT	**Kop Dagi**	**2.52**	**305**	*i* P	**Pb**	**23 43 13.2**	**-0.3**
KOPT				*i* S	**Sg**	**23 43 51.4**	**+2.3**
KOPT	**Kop Dagi**	**2.52**	**305**	*e*Pn	**Pb**	**23 43 13.1**	**-0.4**
KOPT	**Kop Dagi**	**2.52**	**305**	*e*Pn	**Pb**	**23 43 13.1**	**-0.4**
DDEM	**Demirkent**	**2.54**	**335**	⇑*i*P	**Pn**	**23 43 09.7**	**+0.4**
DDEM	**Demirkent**	**2.54**	**335**	P	**Pn**	**23 43 09.7**	**+0.4**
DAGI	**Agillar**	**2.66**	**339**	*i* P	**Pn**	**23 43 12.0**	**+1.0**
DAGI				*i* S	**Sb**	**23 43 51.7**	**+3.3**
BGD	**Bogdanovka**	**2.68**	**7**	P	**Pb**	**23 43 16.0**	**-0.3**
ARTV	**Artvin**	**2.75**	**340**	⇓*i*P	**Pn**	**23 43 12.5**	**+0.1**
ARTV	**Artvin**	**2.75**	**340**	P	**Pn**	**23 43 12.5**	**+0.1**
ARTV	**Artvin**	**2.75**	**340**	*e*Pn	**Pn**	**23 43 13.0**	**+0.6**
ARTV				*e*Sn	**Sn**	**23 43 46.1**	**+0.4**
ARTV	**Artvin**	**2.75**	**340**	*e*Pn	**Pn**	**23 43 13.0**	**+0.6**
ARTV				*e*Sn	**Sn**	**23 43 46.1**	**+0.4**
AKH	**Akhalkalaki**	**2.82**	**5**	*e*PN	**Pn**	**23 43 13.2**	**+0.1**
AKH	**Akhalkalaki**	**2.82**	**5**	P	**Pb**	**23 43 18.2**	**-0.3**
AKH	**Akhalkalaki**	**2.82**	**5**	⇑*i*P	**Pb**	**23 43 17.9**	**-0.7**
AKH				S	**Sg**	**23 44 04.5**	**+5.7**
AKH	**Akhalkalaki**	**2.82**	**5**	P	**Pb**	**23 43 18.2**	**-0.3**
AKH	**Akhalkalaki**	**2.82**	**5**	*e*Pn	**Pn**	**23 43 13.

SEKA S **Sn** **23 44 19.8 +2.6**
LRK Lerik 4.04 88 ⇓P **Pn** **23 43 29.1 -0.9**
LRK ⇑S **Sn** **23 44 16.7 -0.7**
LRK Lerik 4.04 88 P **Pn** **23 43 29.1 -0.9**
LRK S **Sn** **23 44 16.7 -0.7**
GLBA Clilabad 4.12 79 ⇓P **Pn** **23 43 30.3 -0.6**
GLBA ⇓S **Sn** **23 44 19.1 +0.2**
GLBA Clilabad 4.12 79 P **Pn** **23 43 30.3 -0.6**
GLBA S **Sn** **23 44 19.1 +0.2**
ESPY Espiye-Giresun 4.14 305 *e*PN **Pn** **23 43 32.7 +1.5**
ESPY Espiye-Giresun 4.14 305 *e*Pn **Pn** **23 43 32.7 +1.5**
SUSE Susehri 4.17 294 *i* P **Pb** **23 43 43.8 +2.1**
ZEI Tsey 4.22 7 *e*P **Pn** **23 43 33.9 +1.4**
ZEI pmax pmax
comp=Z,68nm,0.9s
KDMR Kurdemir 4.26 64 ⇓P **Pn** **23 43 32.5 -0.3**
KDMR ⇑S **Sn** **23 44 22.8 +0.4**
KDMR Kurdemir 4.26 64 P **Pn** **23 43 32.5 -0.3**
KDMR S **Sn** **23 44 22.8 +0.4**
SAAT Saatly 4.26 71 ⇓P **Pn** **23 43 32.2 -0.7**
SAAT ⇑S **Sn** **23 44 22.4 -0.1**
SAAT Saatly 4.26 71 P **Pn** **23 43 32.2 -0.7**
SAAT S **Sn** **23 44 22.4 -0.1**
QBL Gabala 4.29 55 ⇑P **Pn** **23 43 33.4 +0.1**
QBL ⇓S **Sn** **23 44 24.1 +0.9**
QBL Gabala 4.29 55 P **Pn** **23 43 33.4 +0.1**
QBL S **Sn** **23 44 24.1 +0.9**
KSRV Kasrt alli 4.31 232 *e*P **Pn** **23 43 37.3 +3.8**
KSRV *e*S **Sb** **23 44 32.3 -3.5**
KSRV AML AML 23 45 02.2
comp=Z,292nm,0.6s
LKRN Lenkeran, Azer 4.39 87 ⇑P **Pn** **23 43 33.9 -0.7**
LKRN ⇑S **Sn** **23 44 25.6 0.0**
LKRN Lenkeran, Azer 4.39 87 P **Pn** **23 43 33.9 -0.7**
LKRN S **Sn** **23 44 25.6 0.0**
CUZAR Zara_SIVAS 4.39 289 *i* P **Pb** **23 43 46.7 +1.3**
ASTR Astara 4.40 89 ⇑P **Pn** **23 43 34.1 -0.7**
ASTR ⇑S **Sn** **23 44 25.2 -0.6**
ASTR Astara 4.40 89 P **Pn** **23 43 34.1 -0.7**
ASTR S **Sn** **23 44 25.2 -0.6**
GRSN GIRESUNGRSN 4.44 303 *i* P **Pb** **23 43 47.4 +1.3**
IML Ismayilli 4.44 59 ⇑P **Pn** **23 43 35.2 -0.1**
IML ⇓S **Sn** **23 44 27.8 +0.9**
IML Ismayilli 4.44 59 P **Pn** **23 43 35.2 -0.1**
IML S **Sn** **23 44 27.8 +0.9**
DARE Darende-Malaty 4.46 271 *e*PN **Pn** **23 43 38.3 +2.6**
DARE Darende-Malaty 4.46 271 *e*Pn **Pn** **23 43 38.3 +2.6**
DARE Darende-Malaty 4.46 271 Pn **Pn** **23 43 40.2 +4.5**
XNQ Khinaliq 4.60 55 ⇑P **Pn** **23 43 37.6 -0.2**
XNQ ⇑S **Sn** **23 44 32.1 +0.9**
XNQ Khinaliq 4.60 55 P **Pn** **23 43 37.6 -0.2**
XNQ S **Sn** **23 44 32.1 +0.9**
GZT Gaziantep 4.61 256 *i* P **Pb** **23 43 46.2 -2.8**
NEY Neytrino 4.66 356 *e*P **Pn** **23 43 41.5 +3.0**
NEY Neytrino 4.66 356 *e*P **Pn** **23 43 41.5 +3.0**
PQL Pirkuli 4.71 61 ⇑P **Pn** **23 43 39.0 -0.2**
PQL ⇓S **Sn** **23 44 34.8 +0.9**
PQL Pirkuli 4.71 61 P **Pn** **23 43 39.0 -0.2**
PQL S **Sn** **23 44 34.8 +0.9**
ALIB Äli-Bayra 4.72 71 ⇑P **Pn** **23 43 38.9 -0.3**
ALIB ⇑S **Sn** **23 44 33.3 -0.5**
ALIB Äli-Bayra 4.72 71 P **Pn** **23 43 38.9 -0.3**
ALIB S **Sn** **23 44 33.3 -0.5**
GBS Qobustan 4.86 65 ⇑P **Pn** **23 43 40.9 -0.2**
GBS ⇓S **Sn** **23 44 37.9 +0.7**
GBS Qobustan 4.86 65 P **Pn** **23 43 40.9 -0.2**
GBS S **Sn** **23 44 37.9 +0.7**
QSAR Qusar 4.87 52 ⇓P **Pn** **23 43 41.4 +0.1**
QSAR ⇑S **Sn** **23 44 38.8 +1.3**
QSAR Qusar 4.87 52 P **Pn** **23 43 41.4 +0.1**
QSAR S **Sn** **23 44 38.8 +1.3**
RSDY Resadiye-TOKAT 4.87 293 *e*PN **Pn** **23 43 43.7 +2.4**
RSDY Resadiye-TOKAT 4.87 293 *e*Pn **Pn** **23 43 43.7 +2.4**
RSDY Resadiye-TOKAT 4.87 293 Pn **Pn** **23 43 45.9 +4.6**
NCK Nalchik 4.90 4 *e*P **Pn** **23 43 46.0 +4.3**
NCK Nalchik 4.90 4 *e*P **Pn** **23 43 46.0 +4.3**
QUBA Quba, Azerbaij 4.92 54 ⇑P **Pn** **23 43 41.9 -0.1**
QUBA ⇑S **Sn** **23 44 40.1 +1.2**
QUBA Quba, Azerbaij 4.92 54 P **Pn** **23 43 41.9 -0.1**
QUBA S **Sn** **23 44 40.1 +1.2**
SVSK Karacayir 4.97 287 *e*PN **Pn** **23 43 45.3 +2.7**
SVSK Karacayir 4.97 287 *e*Pn **Pn** **23 43 45.3 +2.7**
SVSK Karacayir 4.97 287 Pn Pn 23 43 48.2 +5.6
ATGJ Altiaghaj 4.98 61 ⇓P **Pn** **23 43 42.7 -0.2**
ATGJ ⇑S **Sn** **23 44 40.9 +0.5**
ATGJ Altiaghaj 4.98 61 P **Pn** **23 43 42.7 -0.2**
ATGJ S **Sn** **23 44 40.9 +0.5**
GROC Groznyy 5.01 23 *e*P Pb 23 43 51.3 -4.5
GROC pmax pmax
comp=Z,36nm,0.8s
SIZA Siyzn 5.05 59 ⇑P **Pn** **23 43 43.6 -0.2**
SIZA ⇑S **Sn** **23 44 42.5 +0.4**
SIZA Siyzn 5.05 59 P **Pn** **23 43 43.6 -0.2**
SIZA S **Sn** **23 44 42.5 +0.4**
KMRS Kahramanmaras 5.07 260 *e*PN **Pn** **23 43 48.0 +3.9**
KMRS Kahramanmaras 5.07 260 Pn Pn 23 43 50.3 +6.2
HCB Kahramanmara¯ 5.11 258 *i* P **Pb** **23 43 58.1 +0.6**
KBZ Khabaz 5.13 358 ⇑Pn Pn 23 43 49.6 +4.9
comp=Z,0.2nm,0.3s,baz=175,slow=10,SNR=5.2
KUZU Kuzuini 5.17 251 *i* P **Pb** **23 43 59.4 +0.7**
SARI SarD1z-Kayseri 5.31 270 *e*PN **Pn** **23 43 50.7 +3.3**
KIV Kislovodsk 5.36 356 *e*P **Pn** **23 43 52.3 +4.2**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,134nm,7.0s
KIV Kislovodsk 5.36 356 *e*Pn **Pn** **23 43 47.0 -1.1**
KIV Kislovodsk 5.36 356 *e*Pn **Pn** **23 43 47.0 -1.1**
KVAR Kislovodsk Arr 5.36 356 Pn **Pn** **23 43 52.4 +4.3**
baz=110,slow=14,SNR=5.7
KVAR LR LR 23 46 24.5
comp=Z,728nm,20.5s,baz=188,slow=44
GOBA Gobu 5.38 68 ⇓P **Pn** **23 43 48.2 -0.1**
GOBA ⇑S **Sn** **23 44 50.1 +0.1**
GOBA Gobu 5.38 68 P **Pn** **23 43 48.2 -0.1**
GOBA S **Sn** **23 44 50.1 +0.1**
BHD Baghdad 5.41 169 *e*Pn **Pn** **23 43 46.0 -2.6**
SNR=3.0
BHD *i* Sn **Sn** **23 44 49.0 -1.7**
SNR=3.0
TOKA Tokat 5.46 290 *e*Pn **Pn** **23 43 51.4 +2.0**
TOKA Tokat 5.46 290 *e*Pn **Pn** **23 43 51.4 +2.0**
ANDN Andirin 5.49 261 *i* P **Pb** **23 44 02.2 -1.8**
DRWC Darouich 5.53 251 *e*P **Pn** **23 43 54.1 +3.7**
DRWC *e*S **Sn** **23 45 00.7 +6.8**
DRWC AML AML 23 45 40.4
comp=N,160nm,0.9s
DRWC AML AML 23 45 40.4
comp=E,278nm,0.7s
NDR Nardaran 5.62 67 ⇓P **Pn** **23 43 51.2 -0.3**
NDR ⇓S **Sn** **23 44 56.7 +0.8**
NDR Nardaran 5.62 67 P **Pn** **23 43 51.2 -0.3**
NDR S **Sn** **23 44 56.7 +0.8**
GALA Gala 5.69 69 ⇓P **Pn** **23 43 52.3 -0.2**
GALA ⇓S **Sn** **23 44 57.9 +0.2**
GALA Gala 5.69 69 P **Pn** **23 43 52.3 -0.2**
GALA S **Sn** **23 44 57.9 +0.2**
BNN Bunyan 5.74 275 *e*PN **Pn** **23 43 56.3 +3.0**
BNN Bunyan 5.74 275 *e*Pn **Pn** **23 43 56.3 +3.0**
BNN Bunyan 5.74 275 Pn Pn 23 43 58.9 +5.6
KOZT Kozan 5.91 261 *e*PN **Pn** **23 44 00.1 +4.5**
BTCH Batrach 5.93 247 *e*P **Pn** **23 43 58.7 +2.8**
BTCH *e*S **Sn** **23 45 09.0 +5.2**
BTCH AML AML 23 45 48.8
comp=N,462nm,0.6s
BTCH AML AML 23 46 02.0
comp=E,312nm,0.6s
KVT Kavak 6.02 297 *e*PN **Pn** **23 43 59.8 +2.7**
KVT Kavak 6.02 297 P **Pn** **23 44 01.6 +4.5**
KVT Kavak 6.02 297 *e*Pn **Pn** **23 43 59.8 +2.7**
KVT Kavak 6.02 297 Pn **Pn** **23 44 01.6 +4.5**
RTB Rutbah 6.03 204 *e*Pn **Pn** **23 43 55.0 -2.2**
SNR=3.0
RTB *i* Sn **Sn** **23 45 04.0 -2.1**
SNR=3.0
CEYT Ceyhan 6.09 257 *e*PN **Pn** **23 44 01.9 +3.9**
CEYT Ceyhan 6.09 257 Pn Pn 23 44 04.0 +5.9
YURE YUREGIR 6.24 256 *e*PN **Pn** **23 44 04.6 +4.5**
ARNB Al Arnab 6.37 247 *e*P **Pn** **23 44 05.4 +3.5**
ARNB *e*S **Sn** **23 45 18.7 +4.2**
ARNB AML AML 23 46 09.9
comp=E,165nm,0.8s
ARNB AML AML 23 46 12.8
comp=N,180nm,0.6s
GOF Gofitskoye 6.45 359⇑*e*P Pn 23 44 10.7 +7.7
GOF pmax pmax
comp=Z,16nm,0.6s
DIKM Dikmen 6.79 299 *e*PN **Pn** **23 44 10.5 +2.9**
DIKM Dikmen 6.79 299 *e*Pn **Pn** **23 44 10.5 +2.9**
HAWK Haweek 6.80 235 *e*P **Pn** **23 44 07.9 0.0**
HAWK *e*S **Sn** **23 45 25.6 +0.4**
HAWK AML AML 23 46 09.4
comp=N,69nm,0.8s
HAWK AML AML 23 46 18.4
comp=E,73nm,0.7s
CORM Corum 6.80 286 *e*PN **Pn** **23 44 11.1 +3.1**
CORM Corum 6.80 286 *e*Pn **Pn** **23 44 11.1 +3.1**
CORM Corum 6.80 286 Pn Pn 23 44 13.1 +5.2
MARH Ras Al Marh 7.07 232 *e*P **Pn** **23 44 12.7 +0.9**
MARH *e*S **Sn** **23 45 29.8 -2.4**
MARH AML AML 23 46 28.3
comp=N,74nm,0.8s
MARH AML AML 23 46 36.6
comp=E,131nm,0.7s
BR131 Keskin Array S 7.50 282 *e*Pn **Pn** **23 44 19.9 +2.4**
BR131 Keskin Array S 7.50 282 *e*Pn **Pn** **23 44 19.9 +2.4**
BRTR Keskin Array B 7.50 282 Pn **Pn** **23 44 20.0 +2.6**
comp=E,0.1nm,0.3s,baz=104,slow=14,SNR=5.2
TOTH TOTAH 7.56 228 *e*P **Pn** **23 44 17.9 -0.4**
TOTH *e*S **Sn** **23 45 39.9 -4.1**
TOTH AML AML 23 46 44.3
comp=N,44nm,0.7s
TOTH AML AML 23 47 17.7
comp=E,46nm,0.7s
BRBR Barbar 7.81 231 *e*P **Pn** **23 44 20.9 -1.0**
BRBR *e*S **Sn** **23 45 47.1 -3.3**
BRBR AML AML 23 46 50.8
comp=E,51nm,0.7s
BRBR AML AML 23 47 05.2
comp=N,36nm,0.7s
SALA Sala 7.87 224 *e*P **Pn** **23 44 21.3 -1.4**
SALA *e*S **Sn** **23 45 45.7 -6.1**
SALA AML AML 23 47 00.3
comp=N,59nm,0.7s
SALA AML AML 23 47 05.8
comp=E,5.3nm,0.7s
NSR Nassriya 7.95 161 *e*Pn **Pn** **23 44 21.0 -2.6**
SNR=3.0
NSR *i* Sn **Sn** **23 45 50.0 -3.4**
SNR=3.0
ASF Jabal al Asfar 8.21 221 Pn **Pn** **23 44 28.6 +1.4**
comp=E,0.5nm,0.3s,baz=347,slow=18,SNR=8.0
ASF Lg Lg 23 46 50.7
comp=E,0.4nm,0.3s,baz=345,slow=20,SNR=2.7
MMAI Mount Meron Ar 8.42 231 Pn **Pn** **23 44 33.8 +3.7**
comp=E,0.9nm,0.3s,baz=65,slow=14,SNR=3.8
MMAI Lg Lg 23 46 56.2
comp=E,0.8nm,0.3s,baz=25,slow=32,SNR=2.6
MMAI LR LR 23 48 11.5
comp=E,297nm,20.5s,baz=45,slow=41
EIL Elat 11.21 220 Lg Lg 23 48 28.8
comp=E,0.3nm,0.3s,baz=74,slow=17,SNR=2.8
EIL LR LR 23 49 57.8
comp=E,241nm,19.0s,baz=46,slow=41
GEYT Alibeck 11.77 89 Pn **Pn** **23 45 15.7 -0.2**
comp=E,0.1nm,0.3s,baz=265,slow=16,SNR=14
VSR Storozhevoye 12.93 349 *i* P **Pn** **23 45 34.5 +2.9**
VSR pmax pmax
comp=Z,13nm,1.1s
VSR Storozhevoye 12.93 349 *i* P **Pn** **23 45 34.5 +2.9**
comp=Z,13nm,1.1s
VRI Vrincioaia 14.17 306⇓*i*P **P** **23 45 54.8 -1.4**
VRI Vrincioaia 14.17 306 ⇓P **P** **23 45 54.8 -1.4**
VRI Vrincioaia 14.17 306 P **P** **23 45 54.8 -1.4**
PLOR Plostina 14.21 306⇑*i*P **P** **23 45 58.0 +1.3**
PLOR Plostina 14.21 306 ⇑P **P** **23 45 58.0 +1.3**
PLOR Plostina 14.21 306 P **P** **23 45 58.0 +1.3**
LPSR Galich'ya Gora 14.31 349 *e*P **Pn** **23 45 51.2 +0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
TESR Tescani 14.50 308⇑*i*P **P** **23 46 00.2 +0.4**
TESR Tescani 14.50 308⇑*i*P **P** **23 46 00.2 +0.4**
MLR Muntele Rosu 14.52 304⇓*i*P **P** **23 46 01.8 +1.6**
MLR Muntele Rosu 14.52 304 ⇓P **P** **23 46 01.8 +1.6**
MLR Muntele Rosu 14.52 304 P **P** **23 46 01.8 +1.6**
VOIR 15.09 303⇓*i*P **P** **23 46 08.9 +2.5**
VOIR 15.09 303 ⇓P **P** **23 46 08.9 +2.5**
VOIR 15.09 303 P **P** **23 46 08.9 +2.5**
PRAR RASCA 15.16 311⇑*i*P **P** **23 46 08.4 +1.3**
PRAR RASCA 15.16 311⇑*i*P **P** **23 46 08.4 +1.3**
RAYN Ar Rayn 15.16 172 *e*Pn **Pn** **23 45 59.4 -2.8**
comp=E,48nm,1.8s
RAYN Ar Rayn 15.16 172 *e*Pn **Pn** **23 45 59.4 -2.8**
comp=E,48nm,1.8s
ARR Arges 15.34 302⇑*i*P **P** **23 46 10.8 +1.6**
ARR Arges 15.34 302⇑*i*P **P** **23 46 10.8 +1.6**
AKASG Malin Array Be 15.62 325 Pn **Pn** **23 46 06.6 -1.4**
comp=Z,0.8nm,0.3s,baz=133,slow=12,SNR=9.8
AKASG LR LR 23 52 60.0
comp=Z,84nm,20.5s,baz=135,slow=40
AKBB Malin Array Si 15.62 325 *e*P **P** **23 46 12.4 +0.3**
AKBB pmax pmax
comp=Z,24nm,1.2s
AKBB Malin Array Si 15.62 325 *e*P **P** **23 46 12.4 +0.3**
comp=Z,24nm,1.2s
AKBB Malin Array Si 15.62 325 *e*Pn **P** **23 46 12.4 +0.3**
comp=Z,24nm,1.2s
KIEV Kiev 15.62 325⇑*e*P **P** **23 46 12.2 +0.1**
KIEV pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 15.62 325 *e*P **P** **23 46 12.2 +0.1**
comp=Z,16nm,1.1s
KIEV Kiev 15.62 325 *e*Pn **P** **23 46 12.3 +0.1**
comp=Z,19nm,1.1s
VTS Vitosha 15.68 291⇑*i*P **P** **23 46 12.2 -0.9**
VTS Vitosha 15.68 291 *e*P **P** **23 46 11.9 -1.2**
VTS pmax pmax
comp=Z,13nm,1.2s
VTS Vitosha 15.68 291 *e*Pn **P** **23 46 11.9 -1.2**
comp=Z,13nm,1.2s
VTS Vitosha 15.68 291⇑*i*P **P** **23 46 12.2 -0.9**
VTS Vitosha 15.68 291 *e*Pn **P** **23 46 11.9 -1.2**
comp=Z,13nm,1.2s
AKTO Aktyubinsk 15.84 37 Pn **Pn** **23 46 08.3 -2.6**
comp=Z,0.5nm,0.3s,baz=229,slow=12,SNR=19
AKTO LR LR 23 52 59.5
comp=Z,77nm,19.4s,baz=223,slow=40
AKTO Aktyubinsk 15.84 37 *i* P **Pn** **23 46 06.5 -4.4**
AKTO pmax pmax
comp=Z,12nm,0.8s
BURAR Bucovina Array 15.88 310⇑*i*P **P** **23 46 17.0 +1.8**
BURAR Bucovina Array 15.88 310 ⇑P **P** **23 46 17.0 +1.8**
BURAR Bucovina Array 15.88 310⇑*i*P **P** **23 46 17.0 +1.8**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **P** **23 46 14.5 -1.0**
BUR08 Bucovina Ar. S 15.91 310 *e*Pn **P** **23 46 14.5 -1.0**
AB31 Akbulak array 16.07 43 *i* P **Pn** **23 46 12.0 -1.8**
AB31 pmax pmax
comp=Z,4.0nm,1.1s
ABKAR Akbulak array 16.07 43 *e*Pn **Pn** **23 46 12.6 -1.2**
comp=Z,28nm,0.6s
ABKAR Akbulak array 16.07 43 *e*Pn **Pn** **23 46 12.6 -1.2**
comp=Z,28nm,0.6s
DRGR 17.09 305⇓*i*P **P** **23 46 30.5 +1.9**
DRGR 17.09 305 ⇓P **P** **23 46 30.6 +1.9**
DRGR 17.09 305 P **P** **23 46 30.6 +1.9**
OBN Obninsk 17.11 347 P **Pn** **23 46 24.3 -2.7**
comp=Z,0.5nm,0.3s,baz=252,slow=20,SNR=2.3
OBN Obninsk 17.11 347⇑*e*P **P** **23 46 28.6 -0.1**
OBN *e*S **S** **23 49 43.2 -3.3**
OBN pmax pmax
comp=Z,22nm,1.5s
OBN MLR MLR
comp=Z,146nm,16.0s
OBN Obninsk 17.11 347 *e*P **P** **23 46 28.6 -0.1**
comp=Z,146nm,16.0s
OBN Obninsk 17.11 347 *e*Pn **P** **23 46 29.0 +0.3**
comp=Z,32nm,1.2s
OBN Obninsk 17.11 347 *e*Pn **P** **23 46 29.0 +0.3**
comp=Z,32nm,1.2s
BZS Buzias 17.44 301⇓*i*P **P** **23 46 34.2 +1.8**
BZS Buzias 17.44 301 ⇓P **P** **23 46 34.2 +1.8**
BZS Buzias 17.44 301 P **P** **23 46 34.2 +1.8**
UOSS Minazif 17.52 137 *e*Pn **Pn** **23 46 31.0 -1.3**
comp=Z,31nm,1.4s
UOSS Minazif 17.52 137 *e*Pn **Pn** **23 46 31.0 -1.3**
comp=Z,31nm,1.4s
SIRR Siria 17.60 303⇓*i*P **P** **23 46 36.3 +2.1**
SIRR Siria 17.60 303⇓*i*P **P** **23 46 36.3 +2.1**
LVV L'vov 17.67 316 *e*P **P** **23 46 39.2 +4.3**
UZH Uzhgorod 18.09 310 *e*P **P** **23 46 40.4 +0.9**
UZH Uzhgorod 18.09 310 *e*P **P** **23 46 40.4 +0.9**
KWP Kalwaria Pacla 18.31 314 P **Pn** **23 46 42.4 +0.5**
KWP pmax pmax
comp=Z,168nm,1.1s
KWP Kalwaria Pacla 18.31 314 P **Pn** **23 46 42.4 +0.5**
comp=Z,168nm,1.1s
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **23 46 47.6 +0.9**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **23 46 47.6 +0.9**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn** **23 46 47.6 +0.9**
PSZ Piszkesteto 19.28 306⇓*i*P **Pn** **23 46 55.6 +1.8**
PSZ Piszkesteto 19.28 306 ⇓P **Pn** **23 46 55.6 +1.8**
PSZ Piszkesteto 19.28 306 *e*P **P** **23 46 53.7 +0.9**
comp=Z,14nm,1.1s
PSZ Piszkesteto 19.28 306⇑*e*P **Pn** **23 46 57.8 +4.0**
PSZ Piszkesteto 19.28 306 *e*P **P** **23 46 53.6 +0.9**
comp=Z,14nm,1.1s
NIE Niedzica 19.61 311 P **Pn** **23 46 58.8 +1.1**
NIE pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 20.00 309 *e*P Pn 23 47 05.7 +3.4
LANS Liptovska Anna 20.00 309 *e*P Pn 23 47 05.7 +3.4
VYHS Vyhne 20.15 307 *e*P Pn 23 47 03.8 -0.2
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 20.15 307 *e*P Pn 23 47 03.8 -0.2
comp=Z,9.0nm,1.2s
VYHS Vyhne 20.15 307 *e*P Pn 23 47 03.8 -0.2
WSAR Wadi Sarin 20.21 135 P **P** **23 47 03.9 +0.9**
comp=Z,7.3nm,0.8s,baz=333,slow=11,SNR=6.4
WSAR LR LR 23 56 29.5
comp=Z,109nm,18.5s,baz=329,slow=42
OJC Ojcow 20.25 313 *e*P **P** **23 47 03.4 +0.2**
OJC pmax pmax
comp=Z,10.0nm,1.2s
OJC Ojcow 20.25 313 *e*P **P** **23 47 03.4 +0.2**
comp=Z,10nm,1.2s
OJC Ojcow 20.25 313 *e*P **P** **23 47 03.4 +0.2**
comp=Z,10nm,1.2s
ARU Arti 20.56 25 P **P** **23 47 05.9 -0.5**
comp=Z,6.1nm,0.4s,baz=223,slow=7.9,SNR=17
ARU LR LR 23 57 18.0
comp=Z,166nm,18.1s,baz=212,slow=43
ARU Arti 20.56 25*c i*P **P** **23 47 06.4 0.0**
ARU PPP PPP 23 47 33.1
ARU S Sn 23 50 58.8 -1.3
ARU SS **SnSn** **23 51 17.1 +2.3**
ARU pmax pmax
comp=Z,27nm,1.2s
ARU Arti 20.56 25 *e*P **P** **23 47 06.7 +0.2**
comp=Z,80nm,1.6s
ARU Arti 20.56 25 *e*P **P** **23 47 06.7 +0.2**
comp=Z,80nm,1.6s
SUW Suwalki 20.59 325 P **P** **23 47 06.3 -0.5**
SUW pmax pmax
comp=Z,57nm,1.2s
SUW Suwalki 20.59 325 P **P** **23 47 06.3 -0.5**
comp=Z,57nm,1.2s
OKC Ostrava-Krasne 21.06 310 *e*P **P** **23 47 16.4 +4.4**
OKC Ostrava-Krasne 21.06 310 *e*P **P** **23 47 16.4 +4.4**
KK31 Karatay Array 21.12 69*ce*P **P** **23 47 13.1 +0.4**
KK31 pmax pmax
comp=Z,34nm,0.8s
KK31 Karatay Array 21.12 69 *e*P **P** **23 47 13.1 +0.4**
comp=Z,34nm,0.8s
KKAR Karatay Array 21.12 69 *e*P **P** **23 47 13.6 +0.9**
KKAR pmax pmax
comp=Z,37nm,0.8s
KKAR Karatay Array 21.12 69 *e*P **P** **23 47 13.6 +0.9**
comp=Z,37nm,0.8s
KKAR Karatay Array 21.12 69 *e*P **P** **23 47 13.6 +0.9**
comp=Z,37nm,0.8s
KBL Kabul 21.14 93 *e*P **P** **23 47 15.2 +2.0**
KBL pmax pmax
comp=Z,18nm,1.0s
KBL Kabul 21.14 93 *e*P **P** **23 47 15.2 +2.0**
comp=Z,18nm,1.0s
KBL Kabul 21.14 93 *e*P **P** **23 47 15.2 +2.0**
comp=Z,18nm,1.0s
SOP Sopron 21.35 304 P **P** **23 47 18.7 +3.6**
SOP pmax pmax
comp=Z,19nm,1.2s
SOP Sopron 21.35 304 P **P** **23 47 18.7 +3.6**
comp=Z,19nm,1.2s
MORC Moravsky Berou 21.40 310⇓*i*P **P** **23 47 15.2 -0.5**
MORC Moravsky Berou 21.40 310 *e*P **P** **23 47 18.1 +2.4**
MORC pmax pmax
comp=Z,37nm,1.3s
MORC Moravsky Berou 21.40 310 *e*P **P** **23 47 18.1 +2.4**
comp=Z,37nm,1.3s
MORC Moravsky Berou 21.40 310 *e*P **P** **23 47 18.1 +2.4**
comp=Z,37nm,1.3s
SVE Sverdlovsk 21.58 27 *e*P **P** **23 47 18.2 +0.8**
SVE pmax pmax
comp=Z,20nm,1.0s
SVE Sverdlovsk 21.58 27 *e*P **P** **23 47 18.2 +0.8**
comp=Z,20nm,1.0s
VRAC Vranov 21.82 308 P **P** **23 47 21.9 +1.8**
comp=Z,3.8nm,0.7s,baz=122,slow=6.4,SNR=7.4
VRAC LR LR 23 58 38.1
comp=Z,58nm,18.1s,baz=108,slow=44
CONA Conrad Observa 21.87 304 pP **P** **23 47 22.4 +1.6**
comp=Z,12nm,1.1s
CONA Conrad Observa 21.87 304 P **P** **23 47 22.4 +1.6**
comp=Z,12nm,1.1s
DPC Dobruska-Polom 22.34 310 *e*P **P** **23 47 32.5 +6.7**
DPC *ex* x 23 47 38.5
DPC *ex* x 23 47 42.8
DPC Dobruska-Polom 22.34 310 *e*P **P** **23 47 32.5 +6.7**
DPC *e* 23 47 38.5
KLMR Klimovskoe 22.39 355 *e*P **P** **23 47 25.1 -1.1**
KLMR pmax pmax
comp=Z,35nm,1.4s
KLMR Klimovskoe 22.39 355 *e*P **P** **23 47 25.1 -1.1**
comp=Z,35nm,1.4s
TREC Trest 22.50 307 *e*P **P** **23 47 29.0 +1.6**
TREC Trest 22.50 307 *e*P **P** **23 47 29.0 +1.6**
TREC Trest 22.50 307 *e*P **P** **23 47 29.0 +1.6**
VSU Vasula 22.55 337⇓*e*P **P** **23 47 28.1 +0.3**
VSU pmax pmax
comp=Z,65nm,0.8s
VSU Vasula 22.55 337 *e*P **P** **23 47 28.1 +0.3**
comp=Z,65nm,0.8s
MNAS Manas 22.57 71 *i* P **P** **23 47 27.9 -0.5**
MNAS pmax pmax
comp=Z,12nm,1.2s
MNAS Manas 22.57 71 *i* P **P** **23 47 27.9 -0.5**
comp=Z,12nm,1.2s
SOKR Solikamsk 22.74 18⇑*i*P **P** **23 47 29.6 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.3s
SOKR MLR MLR
comp=Z,248nm,22.0s
MOA Molln 22.89 303 *i* P **P** **23 47 32.3 +0.7**
comp=Z,4.8nm,0.9s
MOA Molln 22.89 303 P **P** **23 47 32.3 +0.7**
comp=Z,4.8nm,0.9s
PRU Pruhonice 23.30 309 *e*P **P** **23 47 36.8 +1.1**
PRU *ep*P **sP** **23 47 40.4 -0.7**
PRU Pruhonice 23.30 309 *e*P **P** **23 47 36.8 +1.1**
PRU *e* 23 47 40.4
PRU Pruhonice 23.30 309 *e*P **P** **23 47 36.8 +1.1**
KBA Koelnbreinsper 23.35 301 *i* P **P** **23 47 41.0 +4.5**
comp=Z,8.1nm,1.1s
GERES GERESS Array B 23.50 305 P **P** **23 47 37.7 -0.2**
comp=Z,1.5nm,0.8s,baz=112,slow=8.3,SNR=12
GERES LR LR 23 57 56.2
comp=Z,96nm,18.9s,baz=101,slow=40
BRVK Borovoye 23.60 43*ce*P **P** **23 47 39.2 +0.5**
BRVK pmax pmax
comp=Z,37nm,1.2s
BRVK Borovoye 23.60 43 *e*P **P** **23 47 39.0 +0.3**
comp=Z,16nm,1.2s
BVAR Borovoye Array 23.64 44 P **P** **23 47 39.4 +0.3**
comp=Z,5.5nm,0.9s,baz=243,slow=6.5,SNR=22
KHC Kasperske Hory 23.65 306 *e*P **P** **23 47 39.4 +0.1**
KHC *ex* x 23 47 48.3
KHC Kasperske Hory 23.65 306 *e*P **P** **23 47 40.0 +0.7**
KHC pmax pmax
comp=Z,13nm,2.0s
KHC Kasperske Hory 23.65 306 P **P** **23 47 39.4 +0.1**
KHC Kasperske Hory 23.65 306 *e*P **P** **23 47 40.0 +0.7**

comp=Z,13nm,2.0s
ABTA Abfaltersbach 23.86 300 *i* P **P 23 47 42.3 +1.0**
comp=Z,11nm,1.5s
ABTA Abfaltersbach 23.86 300 P **P 23 47 42.3 +1.0**
comp=Z,11nm,1.5s
BRG Berggiesshubel 23.95 310 *e*(P) **P 23 47 42.4 +0.3**
comp=Z,3.4nm,1.0s
BRG Berggiesshubel 23.95 310 *e*P **P 23 47 42.4 +0.3**
BRG pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 24.04 70 P **P 23 47 43.0 -0.2**
comp=Z,2.6nm,0.8s,baz=246,slow=11,SNR=13
AAK Ala-Archa 24.04 70 P **P 23 47 43.0 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 24.04 70 *e*P **P 23 47 44.1 +0.9**
comp=Z,22nm,1.5s
WTTA Wattenberg 24.53 301 *i* P **P 23 47 49.9 +2.2**
comp=Z,5.0nm,0.6s
WTTA Wattenberg 24.53 301 P **P 23 47 49.9 +2.2**
comp=Z,5.0nm,0.6s
WATA Walderalm 24.58 301 *i* P **P 23 47 49.8 +1.7**
comp=Z,4.4nm,0.8s
WATA Walderalm 24.58 301 P **P 23 47 49.8 +1.7**
comp=Z,4.4nm,0.8s
CLL Collm 24.65 311 *e*P **P 23 47 49.1 +0.6**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 24.65 311 *e*P **P 23 47 48.0 -0.5**
CLL *e* 23 47 51.0
CLL *e*S **S 23 52 14.0 +4.5**
CLL Collm 24.65 311 *e*P **P 23 47 49.1 +0.6**
comp=Z,6.4nm,1.0s
NKC Novy Kostel 24.66 308 *e*P **P 23 47 49.4 +0.8**
NKC Novy Kostel 24.66 308 *e*P **P 23 47 49.4 +0.8**
NKC Novy Kostel 24.66 308 P **P 23 47 49.4 +0.8**
MOTA Moosalm 24.90 301 *i* P **P 23 47 51.4 +0.4**
comp=Z,12nm,0.8s
MOTA Moosalm 24.90 301 P **P 23 47 51.4 +0.4**
comp=Z,12nm,0.8s
FETA Feichten 25.11 300 *i* P **P 23 47 59.3 +6.5**
comp=Z,8.5nm,1.1s
FINES FINESS Array B 25.21 341 P **P 23 47 52.8 -0.6**
comp=Z,2.8nm,0.6s,baz=144,slow=10,SNR=13
FINES LR LR 23 59 01.5
comp=Z,103nm,19.1s,baz=140,slow=39
GRFO Grafenberg 25.28 306 *e*P **P 23 47 56.0 +1.8**
GRFO pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 25.28 306 *e*P **P 23 47 56.0 +1.8**
comp=Z,22nm,1.0s
KSH Kashi 25.41 78 P **P 23 47 55.0 -0.6**
KSH pP pP 23 47 59.5 0.0
KSH sP sP 23 48 02.0 +0.9
KSH PP **PnPn 23 48 33.0 +2.4**
KSH PcP **PcP 23 51 31.0 +3.3**
KSH S **S 23 52 17.0 -5.1**
KSH sS pS 23 52 24.0 -2.3
KSH SS **SnSn 23 53 16.5 +2.5**
KSH PcS **PcS 23 55 11.5 +3.3**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH pmax pmax
comp=Z,100nm,5.9s
KSH LR LR
comp=N,110nm,6.3s
KSH LR LR
comp=E,97nm,7.2s
KSH LR LR
comp=Z,100nm,7.9s
DAVOX Davos/Dischmat 25.65 299 P **P 23 47 57.6 -0.3**
comp=Z,3.4nm,0.8s,baz=248,slow=0.5,SNR=6.0
DAVOX LR LR 23 59 00.7
comp=Z,48nm,21.5s,baz=80,slow=39
DAVA Damuels 25.71 301 *e*P **P 23 47 58.6 +0.2**
comp=Z,9.2nm,0.9s
DAVA Damuels 25.71 301 P **P 23 47 58.6 +0.2**
comp=Z,9.2nm,0.9s
TMCR Tamitsa 25.78 355 *e*P **P 23 47 59.7 +1.1**
TMCR pmax pmax
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 27.62 53 P **P 23 48 16.1 +0.8**
comp=Z,5.3nm,0.6s,baz=263,slow=9.0,SNR=8.7
PDGK Podgornoye 27.68 68 *i* P **P 23 48 15.7 -0.4**
PDGK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 27.70 52⇑ *i* P **P 23 48 15.6 -0.4**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 27.70 52 *e*P **P 23 48 16.9 +0.9**
comp=Z,7.4nm,0.9s
HFS Hagfors 28.44 329 P **P 23 48 22.3 -0.3**
comp=Z,4.5nm,0.7s,baz=142,slow=15,SNR=6.4
HFS LR LR 00 00 13.1
comp=Z,70nm,18.8s,baz=109,slow=37
MAKZ Makanchi 29.42 61 *e*P **P 23 48 32.6 +1.2**
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
MAKZ Makanchi 29.42 61 *e*P **P 23 48 32.6 +1.2**
comp=Z,9.7nm,1.3s
MK31 Makanchi Array 29.64 61 *c e*P **P 23 48 33.7 +0.3**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 29.64 61 *e*P **P 23 48 34.1 +0.7**
MKAR Makanchi Array 29.64 61 P **P 23 48 34.2 +0.8**
comp=Z,3.0nm,0.8s,baz=260,slow=8.6,SNR=20
MKAR LR LR 00 01 04.4
comp=Z,63nm,18.4s,baz=246,slow=38
MKAR Makanchi Array 29.64 61 *e*P **P 23 48 34.1 +0.7**
comp=Z,18nm,0.8s
NOA NORSAR Array B 29.97 329 P **P 23 48 35.2 -0.9**
comp=Z,0.9nm,0.6s,baz=126,slow=8.8,SNR=3.9
NOA LR LR 00 02 20.5
comp=Z,26nm,19.9s,baz=120,slow=40
ZALV Zalesovo Beam 32.08 48 P **P 23 48 54.7 -0.1**
comp=Z,1.8nm,0.6s,baz=256,slow=9.2,SNR=7.4
ZALV LR LR 00 04 21.0
comp=Z,42nm,18.6s,baz=244,slow=41
ARCES ARCESS Array B 32.41 349 P **P 23 48 56.1 -1.4**
comp=Z,2.3nm,0.7s,baz=148,slow=7.1,SNR=8.8
ARCES LR LR 00 02 38.2
comp=Z,113nm,19.0s,baz=152,slow=37
WMQ Urumqi 33.58 67 P **P 23 49 09.5 +1.4**
WMQ pP sP 23 49 14.0 +0.4
WMQ sP pP 23 49 16.8 +4.8
WMQ S **S 23 54 31.8 +1.7**
WMQ SS **SnSn 23 56 33.0 +0.1**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,96nm,4.7s
WMQ LR LR
comp=N,120nm,7.1s
WMQ LR LR
comp=E,120nm,6.3s
WMQ LR LR
comp=Z,90nm,18.1s
ESK Eskdalemuir 35.04 314 *e*P **P 23 49 20.3 -0.2**
ESK pmax pmax
comp=Z,152nm,1.9s
ESK Eskdalemuir 35.04 314 *e*P **P 23 49 20.3 -0.2**
comp=Z,152nm,1.9s
DANN Dangsing 35.11 95 *e*P **P 23 49 22.8 +1.0**
comp=Z,2.9nm,1.0s
KOLN Koldanda 35.26 96 *e*P **P 23 49 23.4 +0.4**
comp=Z,29nm,1.5s
TAM Tamanrasset 35.73 255 *e*P **P 23 49 27.0 0.0**
TAM pmax pmax
comp=Z,4.0nm,1.1s
TAM Tamanrasset 35.73 255 *e*P **P 23 49 26.9 0.0**
comp=Z,3.9nm,1.1s
ESDC Sonseca Array 36.25 287 P **P 23 49 30.2 -0.9**
comp=Z,1.1nm,0.7s,baz=68,slow=8.1,SNR=7.1
DMN Daman 36.51 95 *e*P **P 23 49 34.3 +0.5**
comp=Z,40nm,1.3s
KKN Kakani 36.56 94 *e*P **P 23 49 34.4 +0.3**
comp=Z,10.0nm,0.9s
PKIN Phulchoki 36.75 95 *e*P **P 23 49 36.5 +0.7**
comp=Z,6.2nm,0.6s
PKIN Phulchoki 36.75 95 *e*P **P 23 49 36.7 +0.9**
comp=Z,9.8nm,0.9s
PKI Pulchoki 36.77 95 *e*P **P 23 49 36.4 +0.4**
comp=Z,27nm,1.2s
GUN Gumba 36.97 94 *e*P **P 23 49 38.6 +0.8**
comp=Z,53nm,1.2s
JIRN Jiri 37.34 94 *e*P **P 23 49 41.7 +0.8**
comp=Z,48nm,1.2s

RAMN Ramite 37.99 95 *e*P **P 23 49 46.5 +0.2**
comp=Z,49nm,1.2s
ODAN Odare 38.65 94 *e*P **P 23 49 52.6 +0.7**
comp=Z,62nm,1.2s
TAPN Taplejung 38.67 93 *e*P **P 23 49 52.5 +0.4**
comp=Z,8.1nm,0.6s
NRIK Noril'sk 38.77 23 P **P 23 49 50.6 -1.5**
comp=Z,1.5nm,0.4s,baz=270,slow=1.0,SNR=4.1
NRIK LR LR 00 09 14.9
comp=Z,119nm,18.5s,baz=184,slow=41
KMBO Kilima Mbogo 39.91 189 LR LR 00 05 24.8
comp=Z,123nm,19.7s,baz=89,slow=35
LSA Lhasa 40.30 88 *e*P **P 23 50 05.9 +0.1**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 40.30 88 *e*P **P 23 50 05.9 +0.1**
comp=Z,2.6nm,0.6s
GTA Gaotai 43.39 70⇑P **P 23 50 31.8 +1.2**
GTA pP sP 23 50 36.5 +0.3
GTA sP pP 23 50 38.8 +4.2
GTA S **S 23 56 59.3 +0.9**
GTA sS sS 23 57 06.8 +1.8
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,80nm,4.0s
GTA LR LR
comp=N,79nm,17.6s
GTA LR LR
comp=E,49nm,16.4s
GTA LR LR
comp=Z,89nm,17.1s
TOA0 Torodi Ar. Sit 44.58 247 *e*P **P 23 50 41.1 +0.8**
comp=Z,18nm,1.7s
TORD Torodi Ar. Bea 44.58 247 P **P 23 50 38.3 -2.0**
comp=Z,1.2nm,0.8s,baz=55,slow=9.6,SNR=9.6
TORD PcP **PcP 23 52 21.0 -2.2**
comp=Z,0.8nm,0.8s,baz=58,slow=2.3,SNR=3.6
SONM Songino Array 45.81 57 P **P 23 50 47.6 -2.3**
comp=Z,0.3nm,0.6s,baz=287,slow=7.1,SNR=2.6
SONM PcP **PcP 23 52 26.5 -0.6**
comp=Z,0.5nm,0.8s,baz=204,slow=3.2,SNR=3.2
SONM LR LR 00 12 55.8
comp=Z,50nm,18.9s,baz=286,slow=40
ULN Ulaanbaatar 46.24 57 *c e*P **P 23 50 54.2 +0.9**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 46.24 57 *e*P **P 23 50 53.8 +0.5**
comp=Z,2.7nm,0.8s
LZH Lanzhou 47.52 73 *e*P **P 23 51 01.0 -2.5**
LZH pP pP 23 51 04.8 -2.7
LZH sP sP 23 51 06.5 -2.6
LZH *e*PP **PP 23 52 52.3 -2.5**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,72nm,5.8s
LZH LR LR
comp=N,310nm,14.3s
LZH LR LR
comp=E,320nm,14.5s
LZH LR LR
comp=Z,390nm,17.7s
BOD Bodaibo 48.50 42 *e*P **P 23 51 10.2 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.2s
HHC Hu-ho-hao-te 51.41 64 *e*P **P 23 51 32.3 -0.7**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,80nm,6.3s
CHTO Chiang Mai 51.92 96 *e*P **P 23 51 36.3 -0.7**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 51.92 96 *e*P **P 23 51 36.3 -0.7**
comp=Z,6.5nm,0.6s
CM31 Chiang Mai Arr 52.12 96 *e*P **P 23 51 38.1 -0.4**
CMAR Chiang Mai Arr 52.12 96 P **P 23 51 38.0 -0.4**
comp=Z,4.2nm,0.7s,baz=300,slow=8.5,SNR=26
TIXI Tiksi 52.56 23 *c e*P **P 23 51 41.7 +0.8**
TIXI pmax pmax
comp=Z,11nm,2.5s
DBIC Dimbokro 53.69 246 P **P 23 51 49.4 -0.6**
comp=Z,0.9nm,0.5s,baz=37,slow=6.8,SNR=3.8
DBIC Dimbokro 53.69 246 *e*P **P 23 51 50.2 +0.2**
DBIC pmax pmax
comp=Z,24nm,1.5s
DBIC Dimbokro 53.69 246 *e*P **P 23 51 50.2 +0.2**
comp=Z,24nm,1.5s
NJ2 Nanjing 60.48 71 *e*P **P 23 52 38.0 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 63.68 53 P **P 23 52 58.9 -0.3**
comp=Z,1.1nm,0.6s,baz=266,slow=13,SNR=4.3
KSAR Wonju Array Be 64.30 62 P **P 23 53 03.2 -0.2**
KSAR Wonju Array Be 64.30 62 P **P 23 53 03.2 -0.2**
KSRS Korea Array 64.32 62 P **P 23 53 03.2 -0.3**
comp=Z,5.8nm,0.8s,baz=287,slow=6.4,SNR=21
BOSA Boshof 68.93 197 P **P 23 53 32.4 -0.7**
comp=Z,2.2nm,0.8s,baz=0.2,slow=9.5,SNR=3.8
COCO West Island 71.12 124 *i* P P 23 53 41.4 -5.2
MJAR Matsushiro Arr 71.76 58 P **P 23 53 51.1 +0.7**
comp=Z,2.6nm,0.9s,baz=344,slow=2.5,SNR=4.4
COLD Coldfoot 74.00 5 *e*P **P 23 54 03.7 +0.6**
comp=Z,34nm,2.0s
ILAR Eielson Array 76.66 4 P **P 23 54 18.5 +0.1**
comp=Z,0.4nm,0.7s,baz=348,slow=0.4,SNR=4.3
CCB Clear Creek Bu 76.73 5 *e*P **P 23 54 18.9 +0.1**
PPLA Purkeypile 78.10 7 *e*P **P 23 54 26.5 -0.2**
comp=Z,50nm,1.6s
SCM Sheep Creek Mo 79.55 5 *e*P **P 23 54 35.8 +1.1**
SCM Sheep Creek Mo 79.55 5 *e*P **P 23 54 35.8 +1.1**
comp=Z,150nm,2.0s
KDAK Kodiak Island 83.07 8 *i* P **P 23 54 53.6 +0.4**
KDAK Kodiak Island 83.07 8 *e*P **P 23 54 53.8 +0.6**
comp=Z,140nm,1.8s
TDL Tradedollar La 94.42 350 *e*P **P 23 55 47.8 -0.2**

IDC 26 23:49:08.8±1.4, 5°.04N×125°.23E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, Error ellipse: s-maj=156.5km s-min=20.9km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.39**	**160**	P	P	23 54 47.8	+0.6
	0.7nm,0.7s,baz=341,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**29.76**	**164**	P	P	23 55 16.7	-0.6
	0.1nm,0.3s,baz=354,slow=7.5,SNR=1.9						
SONM	**Songino Array**	**45.59**	**342**	P	P	23 57 31.2	+0.3
	0.3nm,0.6s,baz=168,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**55.63**	**325**	P	P	23 58 46.5	-0.1
	1.3nm,0.6s,baz=123,slow=7.5,SNR=21						
KURBB	**Kurchatov Arra**	**59.84**	**328**	P	P	23 59 15.6	-0.5
	0.6nm,0.2s,baz=127,slow=6.0,SNR=3.9						

*ISCJB **26** 23:58:40.8±0.4, 39°.15N±0°.02×29°.13E±0°.03, h9km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=32.9*
*CSEM **26** 23:58:40.6±0.1, 39°.15N×29°.14E, h10km, ML2.2, Error ellipse: s-maj=2.4km s-min=1.8km az=114.0*
*DDA **26** 23:58:40.8, 39°.15N×29°.15E, h9km, Ml2.6*
*ISK **26** 23:58:40.1, 39°.15N×29°.16E, h12km, ML2.2*
ISC 26 23:58:40.9±0.9, 39°.15N±0°.02×29°.14E±0°.02, h13km±6km, n37, σ0°.37/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**243**	*e*PG	**Pg**	23 58 44.5	+0.1
SIMA				*e*SG	**Sg**	23 58 47.1	+0.1
SIMA	**Simav-Kutahya**	**0.14**	**243**	*e*Pg	**Pg**	23 58 44.5	+0.1
SIMA				*e*Sg	**Sg**	23 58 47.1	+0.1
GDZ	**Gediz**	**0.27**	**102**	*i* P	**Pg**	23 58 46.5	-0.1
GDZ				*i* S	**Sg**	23 58 50.5	0.0
GDZ	**Gediz**	**0.27**	**102**	P	**Pg**	23 58 46.5	-0.1
GDZ				S	**Sg**	23 58 50.5	0.0
DEMI	**Demirci**	**0.35**	**253**	*i* P	**Pg**	23 58 48.0	+0.1
DEMI				*i* S	**Sg**	23 58 52.8	+0.1
DEMI	**Demirci**	**0.35**	**253**	P	**Pg**	23 58 48.0	+0.1
DEMI				S	**Sg**	23 58 52.8	+0.1
TVSB	**Tavsanli**	**0.39**	**39**	*e*PG	**Pg**	23 58 48.4	-0.3
TVSB				*e*SG	**Sg**	23 58 54.0	-0.1
TVSB	**Tavsanli**	**0.39**	**39**	*e*Pg	**Pg**	23 58 48.4	-0.3
TVSB				*e*Sg	**Sg**	23 58 54.0	-0.1
KULA	**Kula-Manisa**	**0.73**	**211**	*e*PG	**Pg**	23 58 54.9	-0.3
KULA				*e*SG	**Sg**	23 59 04.7	-0.1
KULA	**Kula-Manisa**	**0.73**	**211**	*e*Pg	**Pg**	23 58 54.9	-0.3
KULA				*e*Sg	**Sg**	23 59 04.7	-0.1
MANT	**Manisa**	**0.80**	**215**	*i* P	**Pg**	23 58 56.0	-0.4
MANT				*i* S	**Sg**	23 59 06.4	-0.5
MANT	**Manisa**	**0.80**	**215**	P	**Pg**	23 58 56.0	-0.4
MANT				S	**Sg**	23 59 06.4	-0.5
KHAL	**Karahalli**	**0.82**	**160**	*i* P	**Pg**	23 58 56.6	-0.2
KHAL				*i* S	**Sg**	23 59 07.7	+0.1
KHAL	**Karahalli**	**0.82**	**160**	P	**Pg**	23 58 56.6	-0.2
KHAL				S	**Sg**	23 59 07.7	+0.1
ORLT	**Orhaneli**	**0.92**	**348**	*e*PG	**Pg**	23 58 57.9	-0.7
ORLT	**Orhaneli**	**0.92**	**348**	*e*Pg	**Pg**	23 58 57.9	-0.7
BALB	**Balikesir**	**1.09**	**297**	*e*PN	**Pg**	23 59 01.9	-0.1
BALB	**Balikesir**	**1.09**	**297**	*e*Pn	**Pg**	23 59 01.9	-0.1
IGD	**Bursa**	**1.12**	**2**	*i* P	**Pg**	23 59 03.1	+0.7
IGD				*i* S	**Sn**	23 59 18.1	+0.6
CAVI	**Cavuskoy**	**1.18**	**27**	*e*PN	**Pn**	23 59 02.4	-0.8
CAVI	**Cavuskoy**	**1.18**	**27**	*e*Pn	**Pn**	23 59 02.4	-0.8
KZIL	**AFYON_Kizioren**	**1.18**	**138**	*i* P	**Pg**	23 59 03.8	+0.1
KZIL				*i* S	**Sn**	23 59 20.2	+0.9
KZIL	**AFYON_Kizioren**	**1.18**	**138**	P	**Pg**	23 59 03.8	+0.1
KZIL				S	**Sn**	23 59 20.2	+0.9
MDNY	**Mudanya-Bursa**	**1.24**	**351**	*e*PN	**Pb**	23 59 04.0	-0.1
MDNY	**Mudanya-Bursa**	**1.24**	**351**	*e*Pn	**Pb**	23 59 04.0	-0.1
BORA	**Eskisehir**	**1.25**	**54**	*i* P	**Pn**	23 59 04.0	-0.1
BORA				*i* S	**Sg**	23 59 21.5	+0.3
BORA	**Eskisehir**	**1.25**	**54**	P	**Pn**	23 59 04.1	-0.1
BORA				S	**Sg**	23 59 21.5	+0.3
SHUT	**Suhut-Afyon**	**1.25**	**118**	*e*PN	**Pn**	23 59 03.7	-0.5
SHUT	**Suhut-Afyon**	**1.25**	**118**	*e*Pn	**Pn**	23 59 03.7	-0.5
KCTX	**Karacabey (Bur**	**1.27**	**332**	*e*PN	**Pn**	23 59 04.2	-0.2
KCTX	**Karacabey (Bur**	**1.27**	**332**	*e*Pn	**Pn**	23 59 04.2	-0.2
ADVT	**Abdulvahap**	**1.36**	**20**	*e*PN	**Pn**	23 59 05.3	-0.3
ADVT	**Abdulvahap**	**1.36**	**20**	*e*Pn	**Pn**	23 59 05.3	-0.3
YLV	**Yalova**	**1.43**	**7**	*e*PN	**Pb**	23 59 07.4	0.0
YLV	**Yalova**	**1.43**	**7**	*e*Pn	**Pb**	23 59 07.4	0.0
ARMT	**Armutlu**	**1.43**	**351**	*e*PN	**Pn**	23 59 06.7	+0.1
ARMT	**Armutlu**	**1.43**	**351**	*e*Pn	**Pn**	23 59 06.7	+0.1

WEL 26 23:59:48.2±0.5, 41°.17S×172°.65E, h187km±4km, ML3.5/8, 1C-1D, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.35**	**344**	PN	Pn	00 00 13.2	-0.1
QRZ				SN	Sn	00 00 31.0	-1.7
NNZ	**Nelson**	**0.55**	**96**	⇓PN	Pn	00 00 13.9	-0.1
NNZ				SN	Sn	00 00 33.1	-0.8
THZ	**Tophouse**	**0.63**	**163**	PN	Pn	00 00 14.5	0.0
DSZ	**Denniston Nort**	**0.86**	**228**	PN	Pn	00 00 15.4	-0.4
TUWZ	**Tuamarina**	**1.01**	**106**	AML	AML	00 00 17.3	
DUWZ	**D'Urville Isla**	**1.03**	**70**	PN	Pn	00 00 16.7	-0.2
BSWZ	**Blackbirch Sta**	**1.07**	**121**	PN	Pn	00 00 17.2	0.0
TCW	**Tory Channel**	**1.23**	**93**	PN	Pn	00 00 18.4	0.0
KHZ	**Kahutara**	**1.41**	**152**	⇑PN	Pn	00 00 19.9	0.0
LTZ	**Lake Taylor**	**1.64**	**190**	PN	Pn	00 00 22.1	-0.1
KIW	**Kapiti Island**	**1.73**	**81**	PN	Pn	00 00 22.7	-0.4
CAW	**Cannon Point**	**1.82**	**89**	PN	Pn	00 00 23.5	-0.4
PLWZ	**Palliser**	**2.00**	**103**	PN	Pn	00 00 25.3	-0.5
HOWZ	**Holdsworth Sta**	**2.18**	**84**	PN	Pn	00 00 27.2	-0.6
MQZ	**McQueen's Vall**	**2.54**	**180**	PN	Pn	00 00 30.4	-1.3
BFZ	**Birch Farm**	**2.76**	**81**	PN	Pn	00 00 33.7	-0.7

*IDC **27** 00:00:09.0±1.1, 38°.51N×43°.19E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.5/49, mbtmp3.6/12, ML2.8/4, MS3.0/8, Ms1 3.0/8, ms1mx2.6/57, Error ellipse: s-maj=24.1km s-min=13.0km az=166.0*
*ISK **27** 00:00:09.6, 38°.60N×43°.17E, h5km, ML3.7*
*AZER **27** 00:00:09.6±1.2, 38°.12N×43°.15E, h1km±16km, Error ellipse: s-maj=18.7km s-min=3.6km az=61.0*
*DDA **27** 00:00:10.4, 38°.63N×43°.15E, h20km, Ml3.9*
*CSEM **27** 00:00:11.3±0.2, 38°.63N×43°.15E, h2km, ML3.7, Error ellipse: s-maj=5.3km s-min=4.4km az=166.0*
ISC 27 00:00:11.6±0.9, 38°.62N±0°.02×43°.21E±0°.02, h11km±6km, n135, σ1°.74/168, mb3.6/8, MS2.9/6, 14C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**102**	*e*PG	**Pg**	00 00 14.7	-0.3
VANB	**Van**	**0.14**	**102**	*e*Pg	**Pg**	00 00 14.7	-0.3
GEVA	**Gevas**	**0.33**	**201**	⇓*i* P	**Pg**	00 00 16.8	-1.6
GEVA				*i* S	**Sg**	00 00 23.6	+0.8
GEVA	**Gevas**	**0.33**	**201**	P	**Pg**	00 00 16.8	-1.6
GEVA				S	**Sg**	00 00 23.6	+0.8
VMUR	**Van-Muradiye**	**0.46**	**37**	⇓*i* P	**Pg**	00 00 19.8	-0.9
VMUR				*i* S	**Sb**	00 00 28.4	-0.4
VMUR	**Van-Muradiye**	**0.46**	**37**	P	**Pg**	00 00 19.8	-0.9
VMUR				S	**Sb**	00 00 28.4	-0.4
TUTA	**Tutak**	**0.84**	**338**	⇓*i* P	**Pg**	00 00 25.3	-2.5
TUTA				*i* S	**Sg**	00 00 37.8	-1.0
TUTA	**Tutak**	**0.84**	**338**	P	**Pg**	00 00 25.3	-2.5
TUTA				S	**Sg**	00 00 37.8	-1.0
AGRB	**Hanur-Agry**	**0.97**	**350**	*e*PG	**Pg**	00 00 29.3	-1.0
AGRB				*e*SG	**Sn**	00 00 44.5	-0.6
AGRB	**Hanur-Agry**	**0.97**	**350**	*e*Pg	**Pg**	00 00 29.3	-1.0
AGRB				*e*Sg	**Sn**	00 00 44.5	-0.6
DYDN	**Diyadin**	**0.99**	**22**	*i* P	**Pg**	00 00 28.7	-2.0
DYDN				*i* S	**Sn**	00 00 48.8	+3.0
DYDN	**Diyadin**	**0.99**	**22**	P	**Pg**	00 00 28.7	-2.0
DYDN				S	**Sn**	00 00 48.8	+3.0
EKAR	**Karacoban**	**1.10**	**306**	*i* P	**Pb**	00 00 30.9	-1.7
EKAR				*i* S	**Sn**	00 00 53.1	+4.7
EKAR	**Karacoban**	**1.10**	**306**	P	**Pb**	00 00 31.0	-1.7
EATA	**Eleskirt**	**1.36**	**336**	⇓*i* P	**Pn**	00 00 34.9	-1.9
EATA				*i* S	**Sg**	00 00 56.0	+0.6
EATA	**Eleskirt**	**1.36**	**336**	P	**Pn**	00 00 34.9	-1.9
EATA				S	**Sg**	00 00 56.0	+0.6
CUKT	**Cukurca**	**1.41**	**167**	*e*PN	**Pb**	00 00 37.6	-0.3
CUKT				*e*SN	**Sg**	00 00 56.9	0.0
CUKT	**Cukurca**	**1.41**	**167**	*i* P	**Pb**	00 00 38.1	+0.2
CUKT				*i* S	**Sg**	00 01 02.1	+5.2
CUKT	**Cukurca**	**1.41**	**167**	*e*Pn	**Pb**	00 00 37.7	-0.3
CUKT	**Cukurca**	**1.41**	**167**	P	**Pb**	00 00 38.2	+0.2
CUKT				*e*Sn	**Sg**	00 00 56.9	0.0
VRTB	**Varto-Mus**	**1.47**	**292**	*e*PN	**Pn**	00 00 37.6	-0.5
VRTB	**Varto-Mus**	**1.47**	**292**	⇑*i* P	**Pn**	00 00 36.9	-1.3
VRTB				*i* S	**Sg**	00 01 00.1	+1.1
VRTB	**Varto-Mus**	**1.47**	**292**	P	**Pn**	00 00 36.9	-1.3
VRTB	**Varto-Mus**	**1.47**	**292**	*e*Pn	**Pn**	00 00 37.7	-0.5
VRTB				S	**Sg**	00 01 00.1	+1.1
BNGL	**BINGOL**	**1.65**	**282**	*i* P	**Pn**	00 00 40.5	-0.2
BNGL				*i* S	**Sb**	00 01 03.9	+1.0
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*e*PN	**Pn**	00 00 40.7	+0.1
SVAN				*e*SN	**Sb**	00 01 02.8	-0.1
SVAN	**Silvan-Diyarba**	**1.65**	**254**	⇑*i* P	**Pn**	00 00 39.8	-0.8
SVAN				*i* S	**Sb**	00 01 04.0	+1.1
SVAN	**Silvan-Diyarba**	**1.65**	**254**	P	**Pn**	00 00 39.8	-0.8
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*e*Pn	**Pn**	00 00 40.7	+0.1
SVAN				*e*Sn	**Sb**	00 01 02.8	-0.1
SVAN				S	**Sb**	00 01 04.0	+1.1
BTMN	**Batman**	**1.70**	**245**	⇑*i* P	**Pn**	00 00 40.5	-0.7
BTMN				*i* S	**Sb**	00 01 04.9	+0.7
BTMN	**Batman**	**1.70**	**245**	P	**Pn**	00 00 40.5	-0.7
BTMN				S	**Sb**	00 01 04.9	+0.7
HOMI	**Horasan**	**1.75**	**325**	*i* P	**Pn**	00 00 41.5	-0.6
HOMI				*i* S	**Sg**	00 01 08.8	+1.1
DIGO	**Kars**	**1.79**	**4**	*i* P	**Pn**	00 00 43.4	+0.7
DIGO				*i* S	**Sg**	00 01 14.0	+4.7
DIGO	**Kars**	**1.79**	**4**	P	**Pn**	00 00 43.4	+0.7
NAX	**Nakhchivan**	**1.86**	**72**	⇓P	**Pb**	00 00 45.2	-0.5
NAX				⇑S	**Sg**	00 01 14.9	+3.4
NAX	**Nakhchivan**	**1.86**	**72**	P	**Pb**	00 00 45.2	-0.5
ERZM	**Erzurum**	**1.92**	**312**	*i* P	**Pn**	00 00 45.4	+0.9
ERZM				*i* S	**Sg**	00 01 14.4	+1.0
ERZM	**Erzurum**	**1.92**	**312**	P	**Pn**	00 00 45.4	+0.9
GNI	**Garni**	**1.93**	**37**	Pn	**Pn**	00 00 45.6	+1.1
	17nm,0.3s,baz=249,slow=3.4,SNR=29						
ECAT	**Cat-ERZURUM**	**2.00**	**300**	*i* P	**Pn**	00 00 45.5	0.0
ECAT				*i* S	**Sb**	00 01 14.0	+0.9
ECAT	**Cat-ERZURUM**	**2.00**	**300**	P	**Pn**	00 00 45.5	0.0
ECAT				S	**Sb**	00 01 14.0	+0.9
BNGB	**Bing¶**	**2.01**	**281**	*e*PN	**Pn**	00 00 45.5	-0.1
SENK	**Senkaya-Erzuru**	**2.05**	**341**	*e*PN	**Pn**	00 00 46

EAK				*i* S	Sg	00 01 23.7	+5.2
EAK	**Akyaka**	2.08	8	P	Pn	00 00 47.5	+0.9
BINT	**Bingol**	2.15	278	*e*Pn	Pn	00 00 45.5	-1.9
YEDI	**Yedisu-Bingol**	2.23	292	*e*Pn	Pn	00 00 47.9	-0.8
YEDI	**Yedisu-Bingol**	2.23	292	*e*Pn	Pn	00 00 47.9	-0.8
MARD	**Mardin**	2.33	237	*i* P	Pn	00 00 49.2	-0.8
MARD				*i* S	Sb	00 01 22.8	+0.4
MAZI	**Mazidag**	2.47	243	*e*PN	Pn	00 00 51.5	-0.5
MAZI	**Mazidag**	2.47	243	*e*Pn	Pn	00 00 51.5	-0.5
KOPT	**Kop Dagi**	2.52	304	*i* P	Pn	00 00 55.0	+2.2
KOPT				*i* S	Sg	00 01 33.9	+1.1
KOPT	**Kop Dagi**	2.52	304	P	Pn	00 00 55.0	+2.2
DDEM	**Demirkent**	2.53	334	*i* P	Pn	00 00 53.5	+0.8
DDEM				*i* S	Sg	00 01 32.5	-0.4
DDEM	**Demirkent**	2.53	334	P	Pn	00 00 53.5	+0.8
DAGI	**Agillar**	2.65	338	*i* P	Pn	00 00 55.1	+0.8
DAGI				*i* S	Sg	00 01 37.9	+1.2
BGD	**Bogdanovka**	2.65	6	P	Pb	00 01 00.2	+1.0
AKH	**Akhalkalaki**	2.79	4	*e*PN	Pn	00 00 57.8	+1.4
AKH	**Akhalkalaki**	2.79	4	P	Pb	00 01 02.1	+0.5
AKH	**Akhalkalaki**	2.79	4	⇓*i*P	Pb	00 01 01.7	+0.1
AKH	**Akhalkalaki**	2.79	4	*e*Pn	Pn	00 00 57.8	+1.4
AKH	**Akhalkalaki**	2.79	4	⇓*i*P	Pb	00 01 01.7	+0.1
GDB	**GEDABAY**	2.87	42	⇑P	Pb	00 01 02.6	-0.3
GDB				⇓S	Sg	00 01 42.1	-1.6
GDB	**GEDABAY**	2.87	42	P	Pb	00 01 02.6	-0.3
ERZN	**Erzincan**	2.88	291	*e*PN	Pn	00 00 58.4	+0.8
TNCL	**Tunceli-Merkez**	2.91	281	*i* P	Pn	00 01 00.1	+2.2
TNCL				*i* S	Sb	00 01 42.1	+3.0
TNCL	**Tunceli-Merkez**	2.91	281	P	Pn	00 01 00.1	+2.2
QZX	**Qazax, Azerbai**	2.94	34	⇑P	Pb	00 01 03.8	-0.3
QZX				⇓S	Sg	00 01 46.0	-0.2
QZX	**Qazax, Azerbai**	2.94	34	P	Pb	00 01 03.8	-0.3
PTK	**Pertek**	3.00	276	*e*PN	Pn	00 00 59.3	+0.1
PTK	**Pertek**	3.00	276	*e*Pn	Pn	00 00 59.3	+0.1
SVRC	**Sivrice-ELAZID**	3.08	267	*e*PN	Pn	00 01 00.3	0.0
SVRC	**Sivrice-ELAZID**	3.08	267	*e*Pn	Pn	00 01 00.3	0.0
GANJ	**Ganja**	3.14	49	⇑P	Pb	00 01 05.7	-1.7
GANJ				⇓S	Sg	00 01 49.9	-2.5
GANJ	**Ganja**	3.14	49	P	Pb	00 01 05.7	-1.7
DGRG	**Davíd-gareji**	3.27	30	P	Pb	00 01 09.4	-0.4
TBLG	**Delisi**	3.32	20	*e*PN	Pn	00 01 04.6	+1.1
TBLG	**Delisi**	3.32	20	P	Pb	00 01 10.4	0.0
TBLG	**Delisi**	3.32	20	*e*Pn	Pn	00 01 04.6	+1.1
BRDA	**Brd**	3.48	61	⇓P	Pb	00 01 09.4	-3.8
BRDA	**Brd**	3.48	61	P	Pb	00 01 09.4	-3.8
URFA	**Urfa**	3.66	253	*e*PN	Pn	00 01 09.7	+1.4
URFA	**Urfa**	3.66	253	*e*Pn	Pn	00 01 09.7	+1.4
MNGR	**Mingechevir, A**	3.68	53	⇑P	Pb	00 01 12.8	-3.8
MNGR	**Mingechevir, A**	3.68	53	P	Pb	00 01 12.8	-3.8
ZRD	**Zardab**	3.83	63	⇓P	Pn	00 01 13.7	+3.2
ZRD	**Zardab**	3.83	63	P	Pn	00 01 13.7	+3.2
ONI	**Oni**	3.97	3	P	Pb	00 01 22.7	+1.2
ZKTA	**Zakatala**	3.99	40	⇓P	Pb	00 01 18.0	-3.9
SEKA	**Sheki**	4.01	49	⇓P	Pb	00 01 18.0	-4.2
SEKA	**Sheki**	4.01	49	P	Pb	00 01 18.0	-4.2
LRK	**Lerik**	4.01	88	⇓P	Pn	00 01 13.7	+0.5
LRK	**Lerik**	4.01	88	P	Pn	00 01 13.7	+0.5
GLBA	**Clilabad**	4.09	80	⇓P	Pn	00 01 15.3	+1.3
GLBA	**Clilabad**	4.09	80	P	Pn	00 01 15.3	+1.3
SAAT	**Saatly**	4.23	71	⇓P	Pn	00 01 18.1	+2.2
SAAT	**Saatly**	4.23	71	P	Pn	00 01 18.1	+2.2
QBL	**Gabala**	4.25	55	⇓P	Pn	00 01 20.2	+3.9
QBL	**Gabala**	4.25	55	P	Pn	00 01 20.2	+3.9
LKRN	**Lenkeran, Azer**	4.36	87	⇑P	Pn	00 01 18.4	+0.7
LKRN	**Lenkeran, Azer**	4.36	87	P	Pn	00 01 18.4	+0.7
ASTR	**Astara**	4.37	89	⇑P	Pn	00 01 18.2	+0.3
ASTR	**Astara**	4.37	89	P	Pn	00 01 18.2	+0.3
RSDY	**Resadiye-TOKAT**	4.88	293	*e*PN	Pn	00 01 26.8	+1.8
RSDY	**Resadiye-TOKAT**	4.88	293	*e*Pn	Pn	00 01 26.8	+1.8
SVSK	**Karacayir**	4.99	287	*e*PN	Pn	00 01 27.6	+1.1
SVSK	**Karacayir**	4.99	287	*e*Pn	Pn	00 01 27.6	+1.1
KBZ	**Khabaz**	5.11	357	LR	LR	00 03 50.1	
	comp=Z,179nm,20.1s,baz=198,slow=42						
KMRS	**Kahramanmaras**	5.11	259	*e*PN	Pn	00 01 28.5	+0.4
KMRS	**Kahramanmaras**	5.11	259	*e*Pn	Pn	00 01 28.5	+0.4
BRTR	**Keskin Array B**	7.52	281	Pn	Pn	00 02 03.4	+2.1
	0.1nm,0.3s,baz=101,slow=13,SNR=3.5						
VOIR		15.10	303	⇑*i*P	P	00 03 52.5	+2.4
VOIR		15.10	303	⇑*i*P	P	00 03 52.5	+2.4
ARR	**Arges**	15.35	302	⇑*i*P	P	00 03 55.4	+2.5
ARR	**Arges**	15.35	302	⇑*i*P	P	00 03 55.4	+2.5
AKASG	**Malin Array Be**	15.61	325	Pn	Pn	00 03 51.6	+0.1
	0.3nm,0.3s,baz=132,slow=12,SNR=4.6						
AKTO	**Aktyubinsk**	15.80	37	Pn	Pn	00 03 52.8	-1.2
	0.1nm,0.3s,baz=225,slow=10.0,SNR=3.1						
AKTO				LR	LR	00 11 33.1	
	comp=Z,38nm,18.9s,baz=233,slow=43						
BURAR	**Bucovina Array**	15.89	310	⇓*i*P	P	00 04 00.9	+2.0
BURAR	**Bucovina Array**	15.89	310	⇓*i*P	P	00 04 00.9	+2.0
OBN	**Obninsk**	17.10	347	LR	LR	00 11 18.7	
	comp=Z,52nm,19.2s,baz=90,slow=39						
VYHS	**Vyhne**	20.16	307	*e*P	P	00 04 46.2	+0.4
ARU	**Arti**	20.52	25	P	Pn	00 04 50.8	-1.1
	1.7nm,0.4s,baz=231,slow=6.7,SNR=5.8						
ARU				LR	LR	00 14 19.7	
	comp=Z,54nm,19.1s,baz=204,slow=41						
GERES	**GERESS Array B**	23.51	305	P	P	00 05 19.4	-2.1
	0.6nm,0.8s,baz=110,slow=8.7,SNR=3.1						
BVAR	**Borovoye Array**	23.60	44	P	P	00 05 22.3	0.0
	0.9nm,0.7s,baz=242,slow=3.1,SNR=3.6						
FINES	**FINESS Array B**	25.20	341	P	P	00 05 36.5	-0.4
	1.3nm,0.6s,baz=158,slow=12,SNR=5.4						
FINES				LR	LR	00 16 34.1	
	comp=Z,28nm,18.4s,baz=159,slow=39						
KURBB	**Kurchatov Arra**	27.58	53	P	P	00 05 59.4	+0.8
	0.8nm,0.6s,baz=261,slow=9.0,SNR=7.4						
HFS	**Hagfors**	28.44	329	LR	LR	00 18 14.6	
	comp=Z,14nm,18.8s,baz=76,slow=38						
MKAR	**Makanchi Array**	29.60	61	P	P	00 06 17.5	+0.9
	0.9nm,0.8s,baz=268,slow=8.3,SNR=4.1						
NOA	**NORSAR Array B**	29.96	329	LR	LR	00 20 11.5	
	comp=Z,18nm,19.2s,baz=315,slow=40						
ARCES	**ARCESS Array B**	32.40	348	LR	LR	00 20 33.2	
	comp=Z,42nm,19.0s,baz=182,slow=38						
TORD	**Torodi Ar. Bea**	44.62	247	P	P	00 08 22.0	-2.1
	0.7nm,1.1s,baz=41,slow=9.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	52.10	96	P	P	00 09 21.2	-0.6
	0.7nm,0.3s,baz=293,slow=8.4,SNR=5.3						
KSRS	**Korea Array**	64.28	62	P	P	00 10 45.6	-1.3
	6.5nm,0.4s,baz=275,slow=6.7,SNR=5.0						
KDAK	**Kodiak Island**	83.04	8	LR	LR	00 53 52.0	
	comp=Z,352nm,18.0s,baz=150,slow=39						

DDA ***27*** *00:04:30.9, 38°.65N×43°.09E, h6km, Ml3.1*
ISK ***27*** *00:04:30.3, 38°.64N×43°.23E, h8km, ML2.4*
CSEM ***27*** *00:04:31.0±0.2, 38°.66N×43°.15E, h5km, ML2.4, Error ellipse: s-maj=6.0km s-min=4.5km az=67.0*
ISC 27 00:04:31.5±0.8, 38°.65N±0°.02×43°.19E±0°.03, h14km±7km, n32, σ1=39/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.17	110	*e*PG	Pg	00 04 34.3	-1.3
VANB				*e*SG	Sg	00 04 38.3	-0.2
VANB	**Van**	0.17	110	*e*Pg	Pg	00 04 34.3	-1.3
VANB				*e*Sg	Sg	00 04 38.3	-0.2
TVAN	**Van**	0.21	126	*i* P	Pg	00 04 37.6	+1.2
TVAN				*i* S	Sg	00 04 41.8	+2.1
TVAN	**Van**	0.21	126	P	Pg	00 04 37.6	+1.2
TVAN				S	Sg	00 04 41.8	+2.1
GEVA	**Gevas**	0.35	197	*i* P	Pg	00 04 36.5	-2.3
GEVA				*i* S	Sb	00 04 43.7	-1.5
GEVA	**Gevas**	0.35	197	P	Pg	00 04 36.5	-2.3
GEVA				S	Sb	00 04 43.7	-1.5
VMUR	**Van-Muradiye**	0.45	42	*i* P	Pb	00 04 39.8	-1.5
VMUR				*i* S	Sb	00 04 48.6	+0.6
VMUR	**Van-Muradiye**	0.45	42	P	Pb	00 04 39.8	-1.5
VMUR				S	Sb	00 04 48.6	+0.6
TUTA	**Tutak**	0.80	339	*i* P	Pg	00 04 45.5	-1.6
TUTA				*i* S	Sb	00 04 58.1	-0.1
TUTA	**Tutak**	0.80	339	P	Pg	00 04 45.5	-1.6
TUTA				S	Sb	00 04 58.1	-0.1
AGRB	**Hanur-Agry**	0.93	351	*e*PG	Pg	00 04 48.2	-1.4
AGRB				*e*SG	Sn	00 05 03.0	-0.7
AGRB	**Hanur-Agry**	0.93	351	*e*Pg	Pg	00 04 48.2	-1.4
AGRB				*e*Sg	Sn	00 05 03.0	-0.7
EKAR	**Karacoban**	1.06	305	*i* P	Pg	00 04 51.5	-0.6
EKAR				*i* S	Sn	00 05 11.3	+4.4
EKAR	**Karacoban**	1.06	305	P	Pg	00 04 51.5	-0.6
EATA	**Eleskirt**	1.32	336	*i* P	Pn	00 04 55.0	-0.9
EATA				*i* S	Sn	00 05 15.5	+2.0
EATA	**Eleskirt**	1.32	336	P	Pn	00 04 55.0	-0.9
EATA				S	Sn	00 05 15.5	+2.0
CUKT	**Cukurca**	1.44	167	*e*PN	Pb	00 04 57.2	-1.0
CUKT	**Cukurca**	1.44	167	*i* P	Pg	00 04 58.1	-1.1
CUKT				*i* S	Sg	00 05 19.1	+1.1
CUKT	**Cukurca**	1.44	167	*e*Pn	Pb	00 04 57.2	-1.0
CUKT	**Cukurca**	1.44	167	P	Pg	00 04 58.1	-1.1
CUKT				S	Sg	00 05 19.1	+1.1
VRTB	**Varto-Mus**	1.44	291	*e*PN	Pb	00 04 57.9	-0.4
VRTB	**Varto-Mus**	1.44	291	*e*Pn	Pb	00 04 57.9	-0.4
SVAN	**Silvan-Diyarba**	1.64	253	*e*PN	Pn	00 05 00.3	+0.3
SVAN	**Silvan-Diyarba**	1.64	253	*e*Pn	Pn	00 05 00.3	+0.3
BTMN	**Batman**	1.69	244	*i* P	Pb	00 05 01.7	-0.7
BTMN				*i* S	Sb	00 05 24.3	+1.0
BTMN	**Batman**	1.69	244	P	Pb	00 05 01.7	-0.7
BTMN				S	Sb	00 05 24.6	+1.0
BNGB	**Bing˜¶l**	1.99	281	*e*PN	Pn	00 05 05.6	+0.7
SENK	**Senkaya-Erzuru**	2.01	342	*e*PN	Pn	00 05 06.1	+0.8
SENK	**Senkaya-Erzuru**	2.01	342	*e*Pn	Pn	00 05 06.1	+0.8
BINT	**Bingol**	2.12	277	*e*Pn	Pn	00 05 05.6	-1.1
YEDI	**Yedisu-Bingol**	2.20	292	*e*PN	Pn	00 05 08.7	+0.9
YEDI	**Yedisu-Bingol**	2.20	292	*e*Pn	Pn	00 05 08.7	+0.9

ISK ***27*** *00:08:24.3, 38°.73N×43°.39E, h4km, ML2.3*
DDA ***27*** *00:08:25.6, 38°.72N×43°.24E, h6km, Ml3.2*
CSEM ***27*** *00:08:25.9±0.2, 38°.72N×43°.29E, h8km, ML2.3, Error ellipse: s-maj=7.1km s-min=4.1km az=76.0*
ISC 27 00:08:26.2±1.0, 38°.73N±0°.03×43°.27E±0°.04, h6km±10km, n28, σ1=21/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.16	146	*e*PG	Pg	00 08 29.3	-0.3
VANB				*e*SG	Sg	00 08 33.0	+1.2
VANB	**Van**	0.16	146	*e*Pg	Pg	00 08 29.3	-0.3
VANB				*e*Sg	Sg	00 08 33.0	+1.2
VMUR	**Van-Muradiye**	0.35	42	*i* P	Pg	00 08 32.7	-0.4
VMUR				*i* S	Sb	00 08 39.5	-1.3
VMUR	**Van-Muradiye**	0.35	42	P	Pg	00 08 32.7	-0.4
VMUR				S	Sb	00 08 39.5	-1.3
GEVA	**Gevas**	0.45	202	*i* P	Pg	00 08 33.5	-1.5
GEVA				*i* S	Sg	00 08 41.3	+0.5
GEVA	**Gevas**	0.45	202	P	Pg	00 08 33.5	-1.5
GEVA				S	Sg	00 08 41.3	+0.5
TUTA	**Tutak**	0.76	332	*i* P	Pg	00 08 40.3	-0.6
TUTA				*i* S	Sb	00 08 51.7	-1.1
TUTA	**Tutak**	0.76	332	P	Pg	00 08 40.3	-0.6
TUTA				S	Sb	00 08 51.7	-1.1
AGRB	**Hanur-Agry**	0.87	346	*e*PG	Pg	00 08 42.2	-0.8
AGRB				*e*SG	Sb	00 08 55.4	-0.6
AGRB	**Hanur-Agry**	0.87	346	*e*Pg	Pg	00 08 42.2	-0.8
AGRB				*e*Sg	Sb	00 08 55.4	-0.6
EKAR	**Karacoban**	1.08	300	*i* P	Pn	00 08 48.1	0.0
EKAR				*i* S	Sn	00 09 07.4	+3.8
EKAR	**Karacoban**	1.08	300	P	Pn	00 08 48.1	0.0
EATA	**Eleskirt**	1.28	332	*i* P	Pg	00 08 50.1	-0.8
EATA				*i* S	Sn	00 09 09.5	+0.8
EATA	**Eleskirt**	1.28	332	P	Pg	00 08 50.1	-0.8
EATA				S	Sn	00 09 09.5	+0.8
VRTB	**Varto-Mus**	1.48	287	*e*PN	Pb	00 08 53.8	-0.5
VRTB	**Varto-Mus**	1.48	287	*e*Pn	Pb	00 08 53.8	-0.5
CUKT	**Cukurca**	1.50	170	*e*PN	Pn	00 08 52.9	-0.9
CUKT	**Cukurca**	1.50	170	*i* P	Pg	00 08 54.1	-0.9
CUKT				*i* S	Sg	00 09 18.3	+3.8
CUKT	**Cukurca**	1.50	170	*e*Pn	Pn	00 08 52.9	-0.9
CUKT	**Cukurca**	1.50	170	P	Pg	00 08 54.1	-0.9
SVAN	**Silvan-Diyarba**	1.73	251	*e*PN	Pn	00 08 57.1	+0.2
SVAN	**Silvan-Diyarba**	1.73	251	*e*Pn	Pn	00 08 57.1	+0.2
SENK	**Senkaya-Erzuru**	1.96	339	*e*PN	Pn	00 08 59.8	-0.5
SENK	**Senkaya-Erzuru**	1.96	339	*e*Pn	Pn	00 08 59.8	-0.5
BNGB	**Bing˜¶l**	2.04	278	*e*PN	Pn	00 09 01.7	+0.4
BINT	**Bingol**	2.18	275	*e*Pn	Pn	00 09 01.7	-1.5
YEDI	**Yedisu-Bingol**	2.24	289	*e*PN	Pn	00 09 04.5	+0.5
YEDI	**Yedisu-Bingol**	2.24	289	*e*Pn	Pn	00 09 04.5	+0.5

NIED ***27*** *00:08:00, 36°.60N×141°.80E, h29km, Mw3.7 Best double couple: M0 3.53000×10^14 NP1:φ=216.00000°, δ=38.00000°, λ=-94.00000°. NP2:φ=41.00000°, δ=52.00000°, λ=-87.00000°.*
IDC ***27*** *00:08:35.3±1.5, 36°.75N×142°.19E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/60, mbtmp3.9/10, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/64, Error ellipse: s-maj=43.5km s-min=19.7km az=74.0*
JMA ***27*** *00:08:40.9±0.1, 36°.65N×141°.76E, h53km±4km, M3.8*
ISC 27 00:08:38.2±1.9, 36°.67N±0°.05×141°.88E±0°.07, h15km±11km, n26, σ1=10/31, mb3.9/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.97	297	P	Pn	00 08 57.3	0.0
ONAJ				*e*S	Sg	00 09 09.9	+0.1
JHO	**Hitachi**	1.06	267	P	Pb	00 08 58.1	-0.1
JHO				S	Sb	00 09 11.1	-0.7
JFK	**Kawauchi**	1.07	311	P	Pg	00 08 58.8	-0.1
JFK				S	Sb	00 09 12.3	+0.1
JMM	**Marumori**	1.48	324	P	Pb	00 09 05.1	-0.3
JMM				S	Sn	00 09 23.3	0.0
JIO	**Ouri**	1.84	347	P	Pb	00 09 10.5	-1.0
JFY	**Yanaizu**	1.89	294	P	Pb	00 09 11.5	-1.0
JFY				S	Sb	00 09 35.2	-0.7
JOU	**Okura**	1.95	331	P	Pb	00 09 13.2	-0.3
JOU				S	Sb	00 09 37.1	-0.6
JAG	**Ashikaga**	1.97	264	P	Pn	00 09 11.7	+0.7
JAG				S	Sn	00 09 34.2	-1.2
JMK	**Ichinoseki**	2.34	347	P	Pb	00 09 18.5	-1.6
JRY	**Ryogami san**	2.49	256	P	Pn	00 09 19.1	+0.9
JRY				S	Sn	00 09 46.8	-1.5
MJAR	**Matsushiro Arr**	2.96	269	Pn	Pn	00 09 26.5	+1.9
	8.8nm,0.3s,baz=103,slow=10,SNR=68						
MJAR				LR	LR	00 10 46.1	
	comp=Z,64nm,20.4s,baz=95,slow=41						
MAT	**Matsushiro**	2.96	269	P	Pn	00 09 27.0	+2.4
MAT				S	Sn	00 09 58.6	-1.3
JHJ	**Hachijo jima 2**	3.94	207	Pn	Pn	00 09 38.8	+0.7
	12nm,0.3s,baz=92,slow=23,SNR=3.7						
JHJ				Sn	Sn	00 10 21.4	-2.5
	40nm,0.3s,baz=118,slow=22,SNR=8.3						
KSRS	**Korea Array**	11.18	278	LR	LR	00 15 36.6	
	comp=Z,38nm,18.3s,baz=15,slow=37						
H11N2	**WAKE ISLAND Hy**	27.64	121	T	T	00 43 47.9	
	baz=313,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	27.64	121	T	T	00 43 50.0	
	baz=313,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	27.66	121	T	T	00 43 50.7	
	baz=313,slow=75,SNR=13						
SONM	**Songino Array**	28.30	304	P	P	00 14 32.2	+1.0
	1.5nm,0.8s,baz=112,slow=8.6,SNR=8.9						
ZALV	**Zalesovo Beam**	42.44	313	P	P	00 16 33.1	+1.0
	0.7nm,0.6s,baz=145,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	44.63	302	P	P	00 16 50.4	+0.4
	0.6nm,0.7s,baz=90,slow=7.7,SNR=3.5						
KURBB	**Kurchatov Arra**	46.52	308	P	P	00 17 05.0	+0.2
	0.8nm,0.6s,baz=84,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	56.75	188	P	P	00 18 21.7	+0.2
	1.1nm,0.9s,baz=7.6,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	60.48	188	P	P	00 18 48.1	+0.7
	0.5nm,0.6s,baz=16,slow=6.1,SNR=5.4						
NOA	**NORSAR Array B**	74.67	337	P	P	00 20 15.7	-1.0
	0.8nm,0.7s,baz=38,slow=5.9,SNR=3.3						
AKASG	**Malin Array Be**	74.82	323	P	P	00 20 18.0	+0.3
	0.9nm,0.4s,baz=46,slow=5.1,SNR=5.8						
TXAR	**Lajitas Array**	90.05	53	LR	LR	01 00 03.9	
	comp=Z,72nm,18.5s,baz=0.0,slow=34						

TRN 27 00:13:15.7, 17°.50N×62°.79W, h124km, MD3.8, 5C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKDB	**Saint Kitts 2**	0.10	191	*e*P	Pn	00 13 34.5	+1.9
SKI	**Saint Kitts**	0.17	164	⇓*i*P	Pn	00 13 33.8	+1.0
SKI				*e*S	Sn	00 13 47.2	+1.6
SEUS	**St. Eustatius**	0.19	268	*e*P	Pn	00 13 33.8	+1.1
SEUS				*e*S	Sn	00 13 46.4	+0.8
NVBH	**Bath Hotel, Ne**	0.41	157	*e*P	Pn	00 13 35.0	+1.4
NEV	**Hard Times**	0.41	150	⇓*i*P	Pn	00 13 36.1	+2.5
NEV				*e*S	Sn	00 13 48.5	+1.3
SABA	**Saba**	0.45	286	*e*P	Pn	00 13 34.9	+1.1
SABA	**Saba**	0.45	286	*e*P	Pn	00 13 35.5	+1.7
SABA				*e*S	Sn	00 13 48.6	+1.1
SMRT	**St. Maarten**	0.61	334	*e*P	Pn	00 13 36.2	+1.3
SMRT				*e*S	Sn	00 13 50.1	+0.8
MLYT	**Lee's Yard**	0.96	143	*e*P	Pn	00 13 39.1	+1.4
MLYT				*e*S	Sn	00 13 55.3	+0.9
ANWB	**Willy Bob**	0.97	80	⇓*i*P	Pn	00 13 39.5	+1.7
ANWB				*e*S	Sn	00 13 56.3	+1.8
BPA	**Boggy Peak**	1.00	117	*e*P	Pn	00 13 40.0	+2.0
BPA				*e*S	Sn	00 13 56.3	+1.4
SEG	**Port Louis**	1.64	131	⇑*i*P	Pn	00 13 46.1	+1.2
LZG	**Guadaloupe-1**	1.66	144	⇑*i*P	Pn	00 13 46.4	+1.1
SSG	**Sans Toucher**	1.76	143	⇑*i*P	Pn	00 13 47.6	+1.0
TBG	**Guadaloupe-3**	1.97	146	⇑*i*P	Pn	00 13 49.6	+0.7
TBG				*e*S	Sn	00 14 16.0	+1.6
DEG	**La Desirade**	2.03	125	*e*P	Pn	00 13 50.5	+0.7
MGG	**Marie-Galante**	2.11	138	⇓*i*P	Pn	00 13 51.9	+1.2
MGG				*e*S	Sn	00 14 19.1	+1.6
BBL	**Barber's Block**	2.33	147	⇑*i*P	Pn	00 13 54.4	+0.8
DWS	**Wesley**	2.38	143	*e*P	Pn	00 13 54.7	+0.5
MDN	**Morne-Daniel**	2.55	148	*e*P	Pn	00 13 58.1	+1.9
DBCT	**Belle View Cho**	2.61	148	*e*P	Pn	00 13 59.1	+2.0
DLPL	**La Plaine**	2.61	145	*e*P	Pn	00 13 58.9	+1.8
DLPL				*e*S	Sn	00 14 29.9	+0.9
PCM	**Pelee Case Pet**	3.07	150	*e*P	Pn	00 14 03.7	+0.7
PCM	**Pelee Case Pet**	3.07	150	*e*P	Pn	00 14 04.1	+1.1
CXM	**Morne La Croix**	3.09	150	*e*P	Pn	00 14 04.2	+0.7
BAMF	**Morne Balai**	3.10	149	*e*P	Pn	00 14 04.2	+0.7
GBMF	**Grand Be**	3.10	150	*e*P	Pn	00 14 04.1	+0.5
PML	**Morne Lenard**	3.11	150	*e*P	Pn	00 14 04.5	+0.9
FDF	**Fort de France**	3.17	150	*e*P	Pn	00 14 05.6	+1.2
DFF				*e*S	Sn	00 14 41.7	-0.3
ZAM	**Aeronautique**	3.36	150	*e*P	Pn	00 14 07.8	+0.9
TRMF	**Trois Ilets**	3.38	150	*e*P	Pn	00 14 08.0	+0.8
MVM	**Montagne Vaucl**	3.45	148	*e*P	Pn	00 14 08.9	+0.9
SLW	**Petit Monier**	3.89	153	*e*P	Pn	00 14 15.7	+1.8
SLB	**Belfond**	4.02	155	*e*P	Pn	00 14 17.3	+1.7
SLDE	**Delcer**	4.03	155	*e*P	Pn	00 14 16.9	+1.2

**WEL 27 00:13:48.3±0.2, 37°

Plg35.0000°, Azm37.0000°; N 0.3000, Plg18.0000°, Azm140.0000°; P -1.4600, Plg49.0000°, Azm253.0000°;
GCMT ***27*** *00:15:24.5±0.1, 17.98°S×179.40°W, h609km, MW6.0/135, Moment Tensor Solution. s135,c269; s94,c104; Duration: ≥4 Moment tensor: Scale 10^18 Nm; Mrr=0.40±.01; Mθθ=0.46±.01; Mφφ=-0.05±.01; Mrθ=0.50±.01; Mrφ=-0.37±.01; Mθφ=-0.85±.01; Best double couple: M0=1.13800×10^18 NP1:φs=326.00000°, δ=78.00000°, λ=-70.00000°. NP2:φs=85.00000°, δ=23.00000°, λ=-149.00000°. Principal axes: T 1.1620, Plg31.0000°, Azm40.0000°; N -0.0480, Plg19.0000°, Azm142.0000°; P -1.1140, Plg52.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
BJI ***27*** *00:15:25.2, 17.65S×179.50W, h615km, mb5.3/69, mB5.5/55*
NEIC ***27*** *00:15:25.0±0.0, 17.71S×179.53W, h610km Best double couple: NP1:φs=326.00000°, δ=81.00000°, λ=-77.00000°. NP2:φs=90.00000°, δ=15.00000°, λ=-145.00000°. Principal axes: T 1.0200, Plg35.0000°, Azm45.0000°; N 0.0700, Plg12.0000°, Azm144.0000°; P -1.0900, Plg52.0000°, Azm250.0000°;*
ISC 27 00:15:24.4±0.2, 17.94S±0.03×179.43W±0.03, h606km±2km, h607km±pP-P, n1389, σ1=53/1765, mb5.3/372, 89C-49D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.41**	**275**	*eP*		**P**		**00 16 42.0**	**+0.8**
MSVF				*eS*		**S**		**00 17 44.8**	**+1.2**
MSVF	**Nonsavu**	**2.41**	**275**	*eP*		**P**		**00 16 42.0**	**+0.8**
MSVF				*eS*		**S**		**00 17 44.8**	**+1.2**
AFI	**Afiamalu**	**8.38**	**63**	P		**P**		**00 17 24.2**	**-3.5**
	179nm,0.3s,baz=20,slow=0.9,SNR=91								
AFI				S		S		00 18 58.1	-11
	baz=346,slow=22,SNR=1.9								
AFI	**Afiamalu**	**8.38**	**63**	*eP*		**P**		**00 17 24.4**	**-3.4**
AFI				*eS*		**S**		**00 19 01.7**	**-7.1**
AFI	**Afiamalu**	**8.38**	**63**	*eP*		**P**		**00 17 24.4**	**-3.4**
AFI				*eS*		**S**		**00 19 01.7**	**-7.1**
NIUE	**Niue**	**9.09**	**99**	P		**P**		**00 17 33.3**	**-1.1**
	baz=9.0,SNR=77								
FUNA	**Funafuti**	**9.46**	**352**	*eP*		**P**		**00 17 36.2**	**-1.9**
FUNA				*eS*		**S**		**00 19 19.6**	**-8.0**
RAO	**Raoul Island**	**11.34**	**173**	P		**P**		**00 17 54.9**	**-1.6**
	112nm,0.3s,baz=70,slow=11,SNR=11								
RAO	**Raoul Island**	**11.34**	**173**	*eP*		**P**		**00 17 54.9**	**-1.6**
RAO				*eS*		**S**		**00 19 59.0**	**-2.4**
RAO	**Raoul Island**	**11.34**	**173**	*eP*		**P**		**00 17 54.9**	**-1.6**
RAO				*eS*		**S**		**00 19 59.0**	**-2.4**
DZM	**Mont Dzumac**	**13.90**	**250**	P		**P**		**00 18 21.1**	**-1.2**
	8.0nm,0.3s,baz=121,slow=8.7,SNR=78								
DZM				S		**S**		**00 20 47.7**	**0.0**
	baz=257,slow=23,SNR=1.6								
DZM	**Mont Dzumac**	**13.90**	**250**	*eP*		**P**		**00 18 21.4**	**-0.9**
DZM				*eS*		**S**		**00 20 40.1**	**-7.6**
NFK	**Norfolk Island**	**15.99**	**224**	P		**P**		**00 18 42.8**	**+1.4**
	baz=16,SNR=9.3								
OUZ	**Omahuta**	**18.29**	**198**	*eP*		**P**		**00 19 05.0**	**+2.7**
OUZ	**Omahuta**	**18.29**	**198**	PN		**P**		**00 19 05.1**	**+2.8**
RAR	**Rarotonga**	**18.80**	**103**	P		**P**		**00 19 07.8**	**+0.7**
	3.2nm,0.3s,baz=251,slow=8.6,SNR=22								
RAR	**Rarotonga**	**18.80**	**103**	*eP*		**P**		**00 19 07.8**	**+0.7**
RAR				pmax		pmax			
	comp=Z,171nm,0.9s								
RAR	**Rarotonga**	**18.80**	**103**	*eP*		**P**		**00 19 07.8**	**+0.7**
	comp=Z,171nm,0.9s								
MKAZ	**Moumakai**	**19.68**	**193**	PN		**P**		**00 19 16.0**	**+1.2**
HAZ	**Te Kaha**	**19.89**	**187**	PN		**P**		**00 19 16.3**	**-0.4**
RUGZ	**Raukumara Rang**	**20.11**	**187**	*e*PN		**P**		**00 19 17.7**	**-1.1**
URZ	**Urewera**	**20.47**	**188**	P		**P**		**00 19 19.7**	**-2.2**
	comp=Z,19nm,0.4s,baz=12,slow=3.2,SNR=10								
URZ	**Urewera**	**20.47**	**188**	*eP*		**P**		**00 19 20.1**	**-1.8**
	comp=Z,58nm,0.5s								
TARA	**Tarawa**	**20.60**	**338**	*eP*		**P**		**00 19 22.7**	**-0.7**
	comp=Z,20nm,1.1s								
TARA				*eS*		**S**		**00 22 35.3**	**-0.9**
HSRZ	**Hossack Road**	**20.64**	**190**	PN		**P**		**00 19 24.5**	**+0.9**
LHI	**Lord Howe Isla**	**23.70**	**231**	*eP*		**P**		**00 19 49.1**	**-1.7**
	comp=Z,629nm,1.5s								
QRZ	**Quartz Range**	**23.83**	**195**	*e*PN		**P**		**00 19 52.5**	**+0.6**
NNZ	**Nelson**	**24.00**	**193**	PN		**P**		**00 19 52.7**	**-0.7**
THZ	**Tophouse**	**24.63**	**194**	*eP*		**P**		**00 19 57.5**	**-1.5**
	comp=Z,426nm,1.9s								
THZ				*eS*		**S**		**00 23 37.3**	**-1.8**
THZ	**Tophouse**	**24.63**	**194**	*e*PN		**P**		**00 19 56.8**	**-2.1**
DSZ	**Denniston Nort**	**24.88**	**196**	PN		**P**		**00 20 00.8**	**-0.4**
KHZ	**Kahutara**	**25.12**	**192**	*eP*		**P**		**00 20 01.7**	**-1.5**
	comp=Z,61nm,0.9s								
KHZ				*e*PcP		**PcP**		**00 23 14.4**	**-1.4**
KHZ	**Kahutara**	**25.12**	**192**	PN		**P**		**00 20 01.1**	**-2.0**
LTZ	**Lake Taylor**	**25.75**	**194**	*eP*		**P**		**00 20 07.0**	**-1.8**
	comp=Z,77nm,0.7s								
LTZ				*eS*		**S**		**00 23 57.1**	**+0.6**
LTZ	**Lake Taylor**	**25.75**	**194**	PN		**P**		**00 20 06.7**	**-2.0**
OXZ	**Oxford**	**26.32**	**194**	*eP*		**P**		**00 20 11.8**	**-1.9**
	comp=Z,182nm,0.7s								
OXZ	**Oxford**	**26.32**	**194**	PN		**P**		**00 20 11.6**	**-2.1**
WVZ	**Waitaha Valley**	**26.41**	**196**	PN		**P**		**00 20 13.3**	**-1.2**
MQZ	**McQueen's Vall**	**26.54**	**193**	*eP*		**P**		**00 20 15.6**	**-0.1**
	comp=Z,273nm,1.8s								
RPZ	**Rata Peaks**	**26.92**	**195**	P		**P**		**00 20 17.9**	**-1.1**
	comp=Z,51nm,0.6s,baz=28,slow=1.5,SNR=28								
RPZ	**Rata Peaks**	**26.92**	**195**	*eP*		**P**		**00 20 18.2**	**-0.8**
	comp=Z,49nm,0.6s								
FOZ	**Fox Glacier**	**27.08**	**197**	*eP*		**P**		**00 20 19.8**	**-0.6**
	comp=Z,151nm,0.7s								
FOZ	**Fox Glacier**	**27.08**	**197**	PN		**P**		**00 20 19.1**	**-1.3**
LBZ	**Lake Benmore**	**27.77**	**196**	*eP*		**P**		**00 20 24.1**	**-2.3**
	comp=Z,193nm,1.8s								
LBZ				*e*PcP		**PcP**		**00 23 22.2**	**-0.1**
LBZ	**Lake Benmore**	**27.77**	**196**	PN		**P**		**00 20 23.9**	**-2.5**
JCZ	**Jackson Bay**	**27.88**	**198**	PN		**P**		**00 20 26.5**	**-0.9**
JCZ				SN		**S**		**00 24 24.5**	**-5.2**
ODZ	**Otahua Downs**	**28.27**	**195**	*eP*		**P**		**00 20 29.2**	**-1.5**
	comp=Z,33nm,0.8s								
EIDS	**Eidsvold**	**28.34**	**250**	P		**P**		**00 20 31.5**	**-0.1**
	baz=28,SNR=34								
EIDS	**Eidsvold**	**28.34**	**250**	*eP*		**P**		**00 20 31.7**	**0.0**
	comp=Z,144nm,0.8s								
EIDS				*es*P		**PcP**		**00 23 24.8**	**+0.7**
PAE	**Paea**	**28.41**	**94**	⇓*iP*		**P**		**00 20 32.7**	**+0.4**
	comp=Z,25nm,0.7s								
PPT2	**Papeete2**	**28.42**	**94**	*eP*		**P**		**00 20 33.2**	**+0.7**
	comp=Z,254nm,0.8s								
PPT	**Papeete**	**28.42**	**94**	P		**P**		**00 20 33.2**	**+0.8**
	comp=Z,278nm,0.6s,baz=82,slow=2.7,SNR=32								
PPT				ScP		**ScP**		**00 26 14.5**	**+5.4**
	comp=Z,98nm,0.9s,baz=61,slow=6.4,SNR=4.2								
WKZ	**Wanaka**	**28.50**	**197**	*eP*		**P**		**00 20 30.7**	**-2.1**
	comp=Z,108nm,0.7s								
WKZ	**Wanaka**	**28.50**	**197**	PN		**P**		**00 20 31.3**	**-1.5**
TBI	**Tubuai**	**28.52**	**106**	⇓*iP*		**P**		**00 20 34.6**	**+1.4**
	comp=Z,307nm,0.8s								
TIAR	**Tiarei**	**28.64**	**94**	⇓*iP*		**P**		**00 20 35.0**	**+0.7**
	comp=Z,87nm,0.8s								
TVO	**Taravao**	**28.71**	**94**	⇓*iP*		**P**		**00 20 35.6**	**+0.6**
	comp=Z,66nm,0.7s								
ARMA	**Armidale**	**29.09**	**239**	P		**P**		**00 20 39.1**	**+1.0**
	baz=29,SNR=115								
ARMA	**Armidale**	**29.09**	**239**	*eP*		**P**		**00 20 39.2**	**+1.0**
	comp=Z,151nm,0.6s								
MLZ	**Mavora Lakes**	**29.25**	**198**	*eP*		**P**		**00 20 39.3**	**+0.1**
	comp=Z,191nm,0.7s								
MLZ				*eS*		**S**		**00 24 48.4**	**-2.5**
MLZ	**Mavora Lakes**	**29.25**	**198**	PN		**P**		**00 20 39.2**	**-0.1**
TUZ	**Tuapeka**	**29.37**	**196**	PN		**P**		**00 20 39.8**	**-0.4**
XMAS	**Kiritimati**	**29.39**	**50**	*eP*		**P**		**00 20 40.8**	**0.0**
	comp=Z,1μm,1.6s								
KWAJ	**Kwajalein Atol**	**29.49**	**333**	*eP*		**P**		**00 20 40.9**	**-0.7**
KWAJ				pmax		pmax			
	comp=Z,437nm,1.1s								
KWAJ	**Kwajalein Atol**	**29.49**	**333**	*eP*		**P**		**00 20 40.9**	**-0.7**
	comp=Z,437nm,1.1s								
DCZ	**Deep Cove**	**29.64**	**199**	*eP*		**P**		**00 20 42.3**	**-0.2**
	comp=Z,49nm,0.8s								
WHZ	**Wether Hill Ro**	**29.78**	**198**	*eP*		**P**		**00 20 44.0**	**+0.2**
	comp=Z,360nm,1.2s								
MGCD	**Mangrove Creek**	**30.48**	**234**	P		**P**		**00 20 50.8**	**+0.9**
	baz=31,SNR=82								
RMQ	**Roma**	**30.59**	**248**	P		**P**		**00 20 51.7**	**+0.7**
	baz=31,SNR=70								
RABL	**Rabaul**	**30.98**	**293**	*eP*		**P**		**00 20 54.1**	**-0.3**
	comp=Z,185nm,0.6s								
RABL				*eS*		**S**		**00 25 17.8**	**-0.3**
CTA	**Charters Tower**	**32.48**	**261**	P		**P**		**00 21 06.9**	**-0.2**
	comp=Z,58nm,0.4s,baz=90,slow=11,SNR=76								
CTA				ScP		**ScP**		**00 26 26.0**	**+3.4**
	comp=Z,24nm,1.0s,baz=53,slow=4.2,SNR=6.9								
CTAO	**Charters Tower**	**32.48**	**261**	*eP*		**P**		**00 21 06.7**	**-0.4**
CTAO				*e*				00 23 35.6	
CTAO				pmax		pmax			
	comp=Z,174nm,0.9s								
CTAO	**Charters Tower**	**32.48**	**261**	*eP*		**P**		**00 21 06.7**	**-0.4**
	comp=Z,174nm,0.9s								
CTAO				*e*PcP		**PcP**		**00 23 35.6**	**+0.2**
CNB	**Canberra Magne**	**32.64**	**232**	P		**P**		**00 21 09.1**	**+0.8**
	baz=33,SNR=102								
CAN	**Canberra**	**32.91**	**232**	*eP*		**P**		**00 21 11.1**	**+0.5**
CAN				pmax		pmax			
	comp=Z,104nm,0.9s								
CAN	**Canberra**	**32.91**	**232**	*eP*		**P**		**00 21 11.1**	**+0.5**
	comp=Z,104nm,0.9s								
YNG	**Young**	**32.98**	**234**	P		P		00 21 21.8	+11
	baz=33,SNR=12								
PATS	**Pohnpei**	**33.00**	**316**	*eP*		**P**		**00 21 11.8**	**+0.3**
	comp=Z,328nm,1.3s								
PATS				*e*PcP		**PcP**		**00 23 38.9**	**+2.0**
PMG	**Port Moresby**	**33.51**	**280**	P		**P**		**00 21 15.9**	**+0.1**
	comp=Z,359nm,0.8s,baz=84,slow=5.0,SNR=83								
PMG				S		**S**		**00 25 57.5**	**+1.0**
	comp=Z,8.7nm,0.7s,baz=259,slow=16,SNR=5.7								
PMG				ScP		**ScP**		**00 26 29.7**	**+3.4**
	comp=Z,15nm,0.8s,baz=98,slow=5.0,SNR=3.1								
PMG	**Port Moresby**	**33.51**	**280**	*d iP*		**P**		**00 21 16.3**	**+0.5**
PMG				pmax		pmax			
	comp=Z,2μm,1.0s								
PMG	**Port Moresby**	**33.51**	**280**	*eP*		**P**		**00 21 16.8**	**+1.0**
	comp=Z,472nm,0.9s								
PMG				*e*S		**S**		**00 25 57.3**	**+0.9**
PMG				ScP		**ScP**		**00 26 29.7**	**+3.4**
MILA	**Mila**	**33.52**	**229**	P		**P**		**00 21 16.6**	**+0.9**
	baz=34,SNR=23								
CMSA	**Cobar Meteorol**	**34.29**	**240**	P		**P**		**00 21 22.3**	**+0.2**
	baz=34,SNR=224								
MTSU	**Mount Surprise**	**34.44**	**264**	P		**P**		**00 21 23.1**	**-0.5**
	baz=34,SNR=132								
JOHN	**Johnston Islan**	**35.81**	**16**	*eP*		**P**		**00 21 34.6**	**-0.1**
	comp=Z,3μm,1.8s								
COEN	**Coen**	**36.13**	**271**	P		**P**		**00 21 37.7**	**+0.2**
	baz=36,SNR=144								
COEN	**Coen**	**36.13**	**271**	*eP*		**P**		**00 21 37.8**	**+0.2**
	comp=Z,221nm,0.8s								
MANU	**Manus Island**	**36.21**	**292**	*eP*		**P**		**00 21 39.2**	**+1.0**
	comp=Z,524nm,1.0s								
MOO	**Moorlands**	**37.41**	**222**	P		**P**		**00 21 48.4**	**+0.8**
	baz=38,SNR=19								
TAU	**Tasmania Unive**	**37.57**	**221**	*eP*		**P**		**00 21 49.5**	**+0.7**
TAU				pmax		pmax			
	comp=Z,122nm,0.8s								
TAU	**Tasmania Unive**	**37.57**	**221**	*eP*		**P**		**00 21 49.5**	**+0.7**
	comp=Z,122nm,0.8s								
STKA	**Stephens Creek**	**37.76**	**241**	P		**P**		**00 21 51.1**	**+0.6**
	comp=Z,125nm,0.4s,baz=91,slow=11,SNR=393								
STKA	**Stephens Creek**	**37.76**	**241**	*eP*		**P**		**00 21 51.2**	**+0.6**
STKA				pmax		pmax			
	comp=Z,59nm,1.0s								
STKA	**Stephens Creek**	**37.76**	**241**	*eP*		**P**		**00 21 51.2**	**+0.6**
	comp=Z,59nm,1.0s								
QIS	**Mount Isa**	**38.69**	**259**	P		**P**		**00 21 57.5**	**-0.8**
	baz=39,SNR=31								
TAOE	**Nuku Hiva Isla**	**39.19**	**82**	*eP*		**P**		**00 22 03.1**	**+0.7**
	comp=Z,433nm,0.7s								
MMPI	**Merauke**	**40.16**	**278**	P		**P**		**00 22 11.3**	**+1.2**
HTT	**Hallett**	**40.29**	**239**	P		**P**		**00 22 11.3**	**+0.3**
	baz=40,SNR=155								
RKT	**Rikitea**	**41.83**	**105**	⇓*iP*		**P**		**00 22 24.2**	**+1.1**
	comp=Z,240nm,1.4s								
JAY	**Jayapura**	**41.98**	**287**	P		**P**		**00 22 25.3**	**+0.8**
GENI	**Genyem**	**42.44**	**286**	P		**P**		**00 22 27.2**	**-0.8**
BBOO	**Buckleboo**	**42.54**	**241**	P		**P**		**00 22 28.6**	**0.0**
	baz=43,SNR=394								
BBOO	**Buckleboo**	**42.54**	**241**	*eP*		**P**		**00 22 28.6**	**0.0**
	comp=Z,347nm,0.8s								
WC3	**Warramunga Arr**	**43.64**	**260**	*eP*		**P**		**00 22 35.9**	**-1.3**
	comp=Z,609nm,1.6s								
WC3				*e*PcP		**PcP**		**00 24 11.3**	**+0.5**
WB2	**Warramunga Arr**	**43.66**	**260**	*eP*		**P**		**00 22 36.2**	**-1.2**
WB2				*e*PcP		**PcP**		**00 24 09.6**	**-1.2**
WRAB	**Tennant Creek**	**43.66**	**260**	*d iP*		**P**		**00 22 36.3**	**-1.1**
WRAB				pmax		pmax			
	comp=Z,503nm,1.0s								
WRAB	**Tennant Creek**	**43.66**	**260**	*eP*		**P**		**00 22 36.5**	**-0.9**
	comp=Z,558nm,1.6s								
WRAB				*e*PcP		**PcP**		**00 24 11.4**	**+0.6**
WRAB				*e*S		**S**		**00 28 21.5**	**-3.2**
WRA	**Warramunga Arr**	**43.67**	**260**	P		**P**		**00 22 36.2**	**-1.3**
	comp=Z,74nm,0.5s,baz=94,slow=7.2,SNR=176								
WRA				PcP		**PcP**		**00 24 10.4**	**-0.4**
	comp=Z,15nm,0.5s,baz=91,slow=3.6,SNR=7.8								
WRA				pP		**pP**		**00 24 21.0**	**-2.2**
	comp=Z,11nm,0.8s,baz=95,slow=7.8,SNR=2.3								
WRA				ScP		**ScP**		**00 27 07.9**	**+2.4**
	comp=Z,27nm,1.2s,baz=84,slow=4.4,SNR=8.4								
WRA				S		**S**		**00 28 19.5**	**-5.4**
	comp=Z,4.8nm,0.9s,baz=90,slow=14,SNR=5.3								
WRA				ScS		**ScS**		**00 31 31.5**	**+1.6**
	comp=Z,8.7nm,1.3s,baz=97,slow=4.9,SNR=5.9								
AS31	**Alice Springs**	**43.84**	**254**	*eP*		**P**		**00 22 38.4**	**-0.5**
	comp=Z,212nm,0.7s								
AS31				*e*S		**S**		**00 28 25.8**	**-1.6**
ASAR	**Alice Springs**	**43.85**	**254**	P		**P**		**00 22 38.4**	**-0.4**
	comp=Z,744nm,0.7s,baz=88,slow=8.0,SNR=2670								
ASAR				pP		**pP**		**00 24 24.4**	**-0.2**
	comp=Z,33nm,0.9s,baz=84,slow=8.5,SNR=2.7								
ASAR				ScP		**ScP**		**00 27 08.8**	**+2.6**
	comp=Z,16nm,0.8s,baz=95,slow=4.3,SNR=9.2								
ASAR				S		**S**		**00 28 24.2**	**-3.1**
	comp=Z,28nm,1.1s,baz=86,slow=15,SNR=26								
AIN	**Ainahou**	**43.92**	**34**	*eP*		**P**		**00 22 38.9**	**-0.6**
	comp=Z,300nm,1.1s								
MWH	**Moku'aweowe**	**43.95**	**33**	*eP*		**P**		**00 22 39.1**	**-1.1**
	comp=Z,276nm,1.1s								
MLOA	**Mauna Loa Obse**	**44.00**	**33**	*eP*		**P**		**00 22 39.5**	**-0.9**
	comp=Z,348nm,1.1s								
SMPI	**Sarmi**	**44.02**	**286**	P		**P**		**00 22 41.2**	**+1.0**
PUH	**Pauahi**	**44.05**	**34**	*eP*		**P**		**00 22 39.7**	**-0.8**
	comp=Z,1μm,1.6s								
MLH	**Mauna Loa**	**44.06**	**34**	*eP*		**P**		**00 22 41.3**	**+0.6**
MLH				pmax		pmax			
	comp=Z,1μm,1.5s								
MLH	**Mauna Loa**	**44.06**	**34**	*eP*		**P**		**00 22 40.4**	**-0.3**
	comp=Z,1μm,1.6s								
STCH	**Steam Cracks**	**44.11**	**34**	*eP*		**P**		**00 22 41.5**	**+0.6**
	comp=Z,497nm,1.0s								
JCUZ	**Jacuzzi**	**44.12**	**34**	*eP*		**P**		**00 22 41.1**	**+0.2**
	comp=Z,377nm,0.7s								
KEKH	**Kekaha**	**44.12**	**27**	*eP*		**P**		**00 22 40.8**	**0.0**
	comp=Z,1μm,1.4s								
NPOC	**North of Pu'u**	**44.13**	**34**	*eP*		**P**		**00 22 41.6**	**+0.6**
	comp=Z,438nm,0.7s								
POHA	**Pohakuloa**	**44.20**	**33**	*eP*		**P**		**00 22 41.5**	**-0.3**
	comp=Z,895nm,1.4s								
HON	**Honolulu**	**44.31**	**29**	*eP*		**P**		**00 22 42.3**	**0.0**
HON				pmax		pmax			
	comp=Z,647nm,1.4s								
HON	**Honolulu**	**44.31**	**29**	*eP*		**P**		**00 22 42.3**	**0.0**
	comp=Z,647nm,1.4s								
HPAH	**Hawaii Prepara**	**44.34**	**33**	*eP*		**P**		**00 22 43.1**	**+0.4**
	comp=Z,641nm,0.6s								
KIP	**Kipapa**	**44.39**	**29**	⇓*iP*		**P**		**00 22 43.1**	**+0.2**
KIP				pmax		pmax			
	comp=Z,892nm,0.8s								
KIP	**Kipapa**	**44.39**	**29**	*eP*		**P**		**00 22 42.9**	**0.0**
	comp=Z,109nm,0.8s								
OPA	**Opana**	**44.62**	**29**	*eP*		**P**		**00 22 45.7**	**+1.0**
OPA				pmax		pmax			
	comp=Z,360nm,1.3s								
OPA	**Opana**	**44.62**	**29**	*eP*		**P**		**00 22 44.7**	**0.0**
	comp=Z,356nm,1.3s								
HLK	**Haleakala**	**44.67**	**32**	*eP*		**P**		**00 22 45.5**	**+0.1**
	comp=Z,1μm,1.3s								
MIDW	**Midway**	**45.93**	**3**	*eP*		**P**		**00 22 52.9**	**-1.5**
	comp=Z,299nm,1.4s								
KDU	**Kakadu**	**46.58**	**269**	P		**P**		**00 22 59.1**	**-0.6**
	baz=47,SNR=88								
BAKI	**Biak**	**46.72**	**286**	P		**P**		**00 23 01.6**	**+0.9**
	comp=Z,530nm,1.0s,comp=Z,7μm								
GUMO	**Guam**	**47.14**	**309**	P		**P**		**00 23 03.7**	**-0.1**
	comp=Z,564nm,0.8s,baz=165,slow=8.3,SNR=31								
GUMO				ScP		**ScP**		**00 27 22.5**	**+2.6**
	comp=Z,80nm,1.1s,baz=163,slow=8.3,SNR=3.7								
GUMO	**Guam**	**47.14**	**309**	*eP*		**P**		**00 23 04.2**	**+0.4**
GUMO				pmax		pmax			
	comp=Z,615nm,0.8s								
GUMO	**Guam**	**47.14**	**309**	*eP*		**P**		**00 23 04.2**	**+0.4**
	comp=Z,616nm,0.8s								
GUMO				ScP		**ScP**		**00 27 22.5**	**+2.6**
MTN	**Manton Dam**	**47.83**	**269**	P		**P**		**00 23 08.2**	**-0.8**
	baz=48,SNR=244								
MTN	**Manton Dam**	**47.83**	**269**	*eP*		**P**		**00 23 07.9**	**-1.1**
	comp=Z,211nm,0.8s								
KMPI	**Kaimana, Papua**	**48.01**	**282**	P		**P**		**00 23 10.5**	**+0.1**
RKPI	**Ransiki, Papua**	**48.37**	**284**	P		**P**		**00 23 13.9**	**+0.9**
SARN	**Sarigan**	**48.56**	**313**	*eP*		**P**		**00 23 13.8**	**-0.6**
SAUI	**Saumlaki**	**48.89**	**275**	P		**P**		**00 23 14.4**	**-2.5**
SAUI	**Saumlaki**	**48.89**	**275**	*eP*		**P**		**00 23 18.0**	**+1.1**
	comp=Z,496nm,0.9s								
WRKA	**Warakurna**	**48.91**	**252**	P		**P**		**00 23 16.5**	**-0.5**
	baz=49,SNR=719								
FORT	**Forrest**	**49.11**	**245**	P		**P**		**00 23 17.6**	**-0.7**
	baz=49,SNR=240								
FORT	**Forrest**	**49.11**	**245**	*eP*		**P**		**00 23 17.5**	**-0.7**
	comp=Z,5μm,0.7s								
FORT				*e*S		**S**		**00 29 39.3**	**-0.6**
KNRA	**Kununurra**	**49.52**	**264**	P		**P**		**00 23 20.7**	**-0.7**
	baz=50,SNR=127								
FAKI	**Fak Fak**	**49.63**	**282**	P		**P**		**00 23 21.8**	**-0.5**
FAKI	**Fak Fak**	**49.63**	**282**	*eP*		**P**		**00 23 21.9**	**-0.4**
	comp=Z,489nm,1.6s								
BNDI	**Bandanaira**	**51.28**	**279**	P		**P**		**00 23 33.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.06**	**261**	pP		**pP**		**00 25 31.4**	**-0.1**
	comp=Z,14nm,0.6s,baz=78,slow=8.1,SNR=1.6								
FITZ				S		**S**		**00 30 19.4**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=273,slow=17,SNR=5.3								
MSAI	**Masohi**	**52.59**	**280**	P		**P**		**00 23 43.7**	**+0.1**
AAI	**Ambon**	**53.16**	**279**	P		**P**		**00 23 46.9**	**-0.8**
NLAI	**Namlea**	**54.34**	**279**	P		**P**		**00 23 55.6**	**-0.4**
LBMI	**Labuha**	**54.88**	**282**	P		**P**		**00 24 00.9**	**+1.2**
SOEI	**Soe**	**55.10**	**271**	P		**P**		**00 24 03.2**	**+1.8**
SOEI	**Soe**	**55.10**	**271**	*eP*		**P**		**00 24 02.0**	**+0.6**
	comp=Z,590nm,0.8s								
SANI	**Sanana**	**55.79**	**280**	P		**P**		**00 24 05.4**	**-0.6**
MBWA	**Marble Bar**	**57.12**	**256**	*eP*		**P**		**00 24 14.4**	**-0.7**
	comp=Z,668nm,1.6s								
MBWA	**Marble Bar**	**57.12**	**256**	P		**P**		**00 24 14.6**	**-0.5**
	SNR=14								
MBWA	**Marble Bar**	**57.12**	**256**	P		**P**		**00 24 14.6**	**-0.5**
	SNR=14								
MMRI	**Maumere**	**57.33**	**271**	P		**P**		**00 24 16.3**	**-0.2**
MMRI	**Maumere**	**57.33**	**271**	*eP*		**P**		**00 24 15.9**	**-0.7**
	comp=Z,468nm,1.3s								
MMRI				*e*PcP		**PcP**		**00 25 02.3**	**+0.3**
EDFI	**Ende, Flores**	**57.82**	**271**	P		**P**		**00 24 18.9**	**-1.1**
BBSI	**Bau Bau**	**57.91**	**275**	P		**P**		**00 24 20.9**	**+0.4**
KDI	**Kendari**	**58.33**	**277**	P		**P**		**00 24 23.2**	**-0.2**
	comp=Z,126nm,1.2s,comp=Z,2μm								
NWAO	**Narrogin (SRO)**	**58.34**	**242**	P		**P**		**00 24 22.6**	**-0.4**
	comp=Z,69nm,0.8s,baz=350,slow=6.7,SNR=57								
**NWAO

YOJ pmax pmax
comp=Z,276nm,0.8s
YOJ Yonaguni jima 70.17 305 *eP* **P 00 25 37.9 +0.2**
comp=Z,276nm,0.8s
SBUM Sibu 70.25 279 *eP* **P 00 25 39.0 +0.5**
comp=Z,100nm,1.2s
SBUM Sibu 70.25 279 ⇓P **P 00 25 38.8 +0.3**
CMJI Cimerak 70.68 268 P **P 00 25 40.6 -0.4**
ASAJ Asahikawa 70.85 332 *eP* **P 00 25 42.7 +1.4**
comp=Z,155nm,1.5s
TWG Pinlang 70.87 303 *eP* **P 00 25 40.4 -1.6**
comp=Z,123nm,0.6s
YULB Yu-li 70.97 303 *eP* **P 00 25 41.9 -0.6**
comp=Z,39nm,1.0s
NACB Ninganchiao 71.13 304 *eP* **P 00 25 43.0 -0.4**
comp=Z,260nm,1.2s
NIKH Nikolski High 71.21 7 *eP* **P 00 25 42.4 -0.8**
comp=Z,514nm,1.2s
CISI Cisompet, Garu 71.35 268 P **P 00 25 44.4 -0.6**
CISI Cisompet, Garu 71.35 268 *eP* **P 00 25 44.1 -0.9**
comp=Z,240nm,0.5s
SSLB Suanglung 71.44 304 *eP* **P 00 25 44.1 -1.1**
comp=Z,82nm,0.4s
TPUB Ta-pu 71.46 303 *eP* **P 00 25 44.0 -1.3**
comp=Z,179nm,0.9s
YHNB Yeheng 71.55 305 *eP* **P 00 25 45.9 -0.1**
comp=Z,142nm,1.1s
TATO Taipei 71.62 305 *eP* **P 00 25 47.0 +0.8**
comp=Z,218nm,1.0s
KSM Kuching 71.72 278 *eP* **P 00 25 47.5 +0.3**
comp=Z,395nm,1.1s
CNJI Cibinong 72.07 268 P **P 00 25 48.5 -0.6**
QSPA South Pole Qui 72.11 180 *eP* **P 00 25 49.1 +0.5**
UNV Unalaska Valle 72.35 8 *eP* **P 00 25 49.2 -0.6**
comp=Z,82nm,0.6s
XMIS Christmas Isla 72.61 264 *eP* **P 00 25 53.4 +1.2**
comp=Z,358nm,1.5s
DBJI Dramaga 72.65 269 P **P 00 25 52.3 -0.2**
SKJI Sukabumi 72.70 268 P **P 00 25 53.2 +0.4**
MIR Mirnyy 72.73 205 *i* P **P 00 25 52.0 +0.1**
MIR pmax pmax
comp=Z,14nm,1.9s
TNG Tangerang 72.85 269 P **P 00 25 53.2 -0.4**
TNG P **P 00 25 53.8 +0.2**
YSS Yuzh-Sakhalins 73.02 334⇓*eP* **P 00 25 55.0 +1.3**
YSS *eS* **S 00 34 34.0 +0.9**
YSS pmax pmax
comp=Z,110nm,1.2s
YSS smax smax
comp=E,3μm,6.1s
YSS Yuzh-Sakhalins 73.02 334 *eP* **P 00 25 55.1 +1.3**
comp=E,204nm,1.3s
PET Petropavlovsk 73.17 346 *eP* **P 00 25 54.0 -0.5**
PET pmax pmax
comp=Z,54nm,0.6s
PET Petropavlovsk 73.17 346 *eP* **P 00 25 54.0 -0.5**
comp=Z,54nm,0.6s
SBJI Serang 73.36 269 P **P 00 25 56.5 0.0**
PEA0B Petropavlovsk- 73.47 346 *eP* **P 00 25 56.8 +0.6**
comp=Z,204nm,1.3s
PETK Petropavlovsk- 73.47 346 P **P 00 25 55.7 -0.6**
comp=Z,48nm,0.6s,baz=106,slow=7.5,SNR=52
CGJI Cibinong 73.64 268 P **P 00 25 57.6 -0.5**
QZH Quanzhou 73.88 303⇓*i* P **P 00 25 59.5 +0.3**
QZH S **S 00 34 44.5 +1.0**
QZH pmax pmax
comp=Z,340nm,1.0s
QZH pmax pmax
comp=Z,2μm,3.5s
KSRS Korea Array 74.08 319 P **P 00 26 00.5 +0.5**
comp=Z,13nm,0.7s,baz=143,slow=5.7,SNR=46
KSRS pP **pP 00 28 05.4 +1.2**
comp=Z,0.7nm,0.3s,baz=104,slow=5.1,SNR=2.1
KSAR Wonju Array Be 74.10 319 P **P 00 26 00.5 +0.4**
KSAR *PP **pP 00 28 05.4 +1.1**
KSAR Wonju Array Be 74.10 319 P **P 00 26 00.5 +0.4**
KSAR pP **pP 00 28 05.4 +1.1**
BLSI Bandar Lampung 74.42 269 P **P 00 26 01.9 -0.6**
INCN Inchon 74.91 318 *eP* **P 00 26 06.1 +1.4**
comp=Z,76nm,1.0s
INCN Inchon 74.91 318 P **P 00 26 05.7 +0.9**
SNR=8.2
INCN Inchon 74.91 318 P **P 00 26 05.7 +0.9**
SNR=8.2
SSE Sheshan 75.02 310 P **P 00 26 05.0 -0.4**
SSE sP **sP 00 29 13.5 +1.6**
SSE S **S 00 34 57.0 +1.5**
SSE pmax pmax
comp=Z,60nm,0.8s
SSE pmax pmax
comp=Z,410nm,5.8s
KASI Kota Agung 75.09 269 P **P 00 26 05.6 -0.6**
KLSI 75.11 270 P **P 00 26 05.4 -0.9**
comp=Z,49nm,1.7s,comp=Z,1μm
MSHR Mys Shultsa 75.46 325*d i* P **P 00 26 08.4 +0.8**
PMBI Palembang 75.59 272 P **P 00 26 09.5 +0.5**
LWLI Liwa 75.65 269 P **P 00 26 08.9 -0.6**
MDSI Maura Dua 75.69 270 P **P 00 26 08.5 -1.1**
CHGN Chignik 76.05 12 *eP* **P 00 26 10.4 -0.1**
comp=Z,213nm,1.4s
USRK Ussuriysk Ar. 76.10 326 P **P 00 26 10.1 -1.0**
comp=Z,24nm,0.6s,baz=137,slow=3.7,SNR=53
TYV Tymovskoe 76.17 336 *eP* **P 00 26 11.8 +0.5**
TYV *eS* **S 00 35 07.8 +0.8**
TYV pmax pmax
comp=Z,110nm,1.4s
TYV pmax pmax
comp=Z,800nm,5.0s
TYV smax smax
comp=Z,66nm,3.5s
TYV smax smax
comp=N,1μm,3.6s
LHSI Lahat 76.51 270 P **P 00 26 13.6 -0.5**
DSRI Dabo 76.53 274 P **P 00 26 14.2 0.0**
SNCC San Nicolas Is 76.53 48 P **P 00 26 14.8 +1.0**
baz=238
SNCC San Nicolas Is 76.53 48 *eP* **P 00 26 14.7 +1.0**
comp=N,57nm,0.9s
MCO Taipa Grande 76.70 299 P **P 00 26 17.0 +2.2**
SCZ2 Santa Cruz Isl 76.85 48 P **P 00 26 16.4 +0.9**
baz=238,SNR=8.3
MCCM Marconi Confer 76.97 42 *eP* **P 00 26 16.7 +0.7**
comp=N,213nm,1.4s
SBC Santa Barbara 77.03 47 P **P 00 26 17.0 +0.6**
baz=238
JMBI JAMBI 77.06 272 P **P 00 26 17.1 0.0**
SCI2 San Clemente I 77.09 49 P **P 00 26 17.5 +0.7**
baz=238,SNR=6.3
SAO San Andreas Ge 77.12 44 *eP* **P 00 26 18.2 +1.3**
SAO pmax pmax
comp=Z,81nm,0.8s
SAO San Andreas Ge 77.12 44 *eP* **P 00 26 18.2 +1.3**
comp=Z,81nm,0.8s
PKM Mcpherson Peak 77.20 47 P **P 00 26 18.7 +1.1**
baz=237,SNR=21
NJ2 Nanjing 77.21 310 *eP* **P 00 26 18.3 +0.9**
NJ2 sP **sP 00 29 29.5 +4.8**
NJ2 S **S 00 35 22.8 +3.9**
NJ2 sS **sS 00 39 06.0 +3.2**
NJ2 pmax pmax
comp=Z,90nm,1.2s
NJ2 pmax pmax
comp=Z,950nm,3.7s
LRV Little Rabbit 77.22 45 *eP* **P 00 26 20.4 +3.0**
PMPB Monarch Peak 77.25 45 *eP* **P 00 26 19.4 +1.8**
comp=Z,76nm,0.8s
SMMC Simmler 77.31 46 P **P 00 26 19.1 +1.2**
baz=237,SNR=5.4
BLG Laguna Peak, P 77.31 48 P **P 00 26 18.5 +0.6**
baz=238
HOPS Hopland Field 77.34 42 *eP* **P 00 26 19.4 +1.4**
comp=Z,109nm,1.5s
PAGB Antelope Grade 77.36 46 *eP* **P 00 26 19.8 +1.6**
comp=Z,59nm,0.9s
CIS Catalina Islan 77.40 49 P **P 00 26 19.0 +0.5**
baz=238,SNR=6.0
GDXM Geysers 77.41 42 *eP* **P 00 26 18.4 -0.1**
comp=Z,26nm,1.1s
GDXM *ep*P **pP 00 28 26.6 +2.3**
KCPM Cahto Peak 77.43 41 *eP* **P 00 26 19.6 +1.0**
comp=Z,170nm,1.5s
KCPM *ep*P **pP 00 28 25.7 +1.4**
HABR Khabarovsk 77.56 331 *eP* **P 00 26 17.9 -1.0**
HABR *e* 00 26 25.0
HABR *e**PP **pP 00 28 22.4 -2.3**
HABR *e*PPP PPP 00 31 16.6
HABR *e*S **S 00 35 21.5 -0.3**
HABR *e* 00 35 41.0
HABR *e*SS **SS 00 40 39.0 -0.8**
HABR pmax pmax
comp=N,22nm,1.4s
HABR pmax pmax
comp=E,26nm,1.4s
HABR pmax pmax
comp=Z,159nm,1.4s
HABR MLR MLR
comp=Z,43nm,18.0s
FMP Fort Macarthur 77.65 48 P **P 00 26 20.3 +0.5**
baz=238
MDJ Mudanjiang 77.66 325 P **P 00 26 20.5 +1.0**
MDJ pP pP 00 28 26.3 +0.9
MDJ PP **sP 00 29 27.8 +0.8**
MDJ sP PP 00 29 29.3 +2.7
MDJ S **S 00 35 26.5 +3.5**
MDJ SS **SS 00 40 44.8 +3.4**
MDJ pmax pmax
comp=Z,130nm,1.3s
MDJ pmax pmax
comp=Z,510nm,6.7s
MDJ Mudanjiang 77.66 325 *eP* **P 00 26 20.7 +1.2**
comp=Z,114nm,0.8s
MDJ *ep*P **pP 00 28 26.6 +1.2**
KMRM Mail Ridge 77.67 40 *eP* **P 00 26 21.8 +1.9**
comp=Z,186nm,0.8s
KMRM *ep*P **pP 00 28 28.3 +2.6**
OSI Osito Audit: C 77.82 47 P **P 00 26 21.3 +0.5**
baz=238
DECC Green Verdugo 77.90 48 P **P 00 26 21.0 -0.2**
baz=238,SNR=5.3
MYKOM Kota Tinggi 77.93 276 *eP* **P 00 26 22.3 +0.5**
comp=Z,142nm,1.2s
MASI Maura Aman, Be 77.94 271 P **P 00 26 21.6 -0.2**
PASC Pasadena Art C 77.97 48 *eP* **P 00 26 23.0 +1.5**
comp=Z,67nm,0.8s
PASC *ep*P **pP 00 28 27.7 +0.3**
OHAK Old Harbor 78.00 14 *eP* **P 00 26 21.2 +0.2**
comp=Z,86nm,1.2s
ARVC Arvin 78.01 47 P **P 00 26 22.4 +0.7**
baz=238,SNR=8.1
KHMM Horse Mountain 78.04 40 *eP* **P 00 26 23.1 +1.2**
comp=Z,62nm,0.8s
109C Camp Elliot, M 78.08 50 P **P 00 26 22.7 +0.6**
baz=239,SNR=7.7
MWC Mount Wilson 78.08 48 *eP* **P 00 26 23.4 +1.1**
MWC *e**PP **pP 00 28 31.7 +3.3**
MWC pmax pmax
comp=Z,80nm,0.7s
MWC Mount Wilson 78.08 48 *eP* **P 00 26 23.4 +1.1**
comp=Z,80nm,0.7s
MWC *ep*P **pP 00 28 31.7 +3.3**
VES Vestal, Richgr 78.22 46 P **P 00 26 22.8 +0.1**
baz=238,SNR=30
BAR Barrett 78.29 50 *eP* **P 00 26 23.7 +0.4**
comp=Z,44nm,1.1s
BAR *ep*P **pP 00 28 29.5 +0.1**
KRMB Red Mountain 78.32 39 *eP* **P 00 26 24.5 +1.2**
comp=Z,70nm,1.1s
KRMB *ep*P **pP 00 28 32.2 +2.7**
RCTC Rector, Farmer 78.36 46 P **P 00 26 23.9 +0.4**
baz=237
BFSC Mount Baldy Ra 78.37 48 P **P 00 26 24.1 +0.3**
baz=239,SNR=33
MURC Murrieta 78.38 49 P **P 00 26 24.2 +0.5**
baz=239,SNR=13
EDW2 Edwards Air Fo 78.47 47 P **P 00 26 24.7 +0.5**
baz=238,SNR=78
CMB Columbia Colle 78.53 44 *eP* **P 00 26 24.8 +0.3**
CMB *e**PP **pP 00 28 31.8 +1.1**
CMB pmax pmax
comp=Z,71nm,0.8s
CMB Columbia Colle 78.53 44 *eP* **P 00 26 24.8 +0.3**
comp=Z,71nm,0.8s
CMB *ep*P **pP 00 28 31.8 +1.1**
ISA Isabella, Lake 78.54 47 P **P 00 26 25.3 +0.7**
baz=238,SNR=13
ISA Isabella, Lake 78.54 47 *eP* **P 00 26 26.0 +1.4**
ISA pmax pmax
comp=Z,98nm,1.0s
ISA Isabella, Lake 78.54 47 *eP* **P 00 26 26.0 +1.4**
comp=Z,98nm,1.0s
MONP2 Monument Peak 78.58 50 P **P 00 26 25.6 +0.5**
baz=240,SNR=73
QIZ Qiongzhong 78.58 294 P **P 00 26 23.5 -1.5**
QIZ sP **PP 00 29 35.0 +0.4**
QIZ S **S 00 35 38.5 +4.8**
QIZ pmax pmax
comp=Z,650nm,10.4s
WDC Whiskeytown Da 78.60 41 *eP* **P 00 26 26.0 +1.3**
WDC *e**PP **pP 00 28 32.5 +1.5**
WDC pmax pmax
comp=Z,61nm,1.2s
WDC Whiskeytown Da 78.60 41 *eP* **P 00 26 26.0 +1.3**
comp=Z,61nm,1.2s
WDC *ep*P **pP 00 28 32.5 +1.5**
AFDM Forest Hills D 78.66 43 *eP* **P 00 26 25.8 +0.7**
comp=Z,70nm,0.9s
AFDM *ep*P **pP 00 28 34.3 +3.0**
ORV Oroville 78.66 42 *eP* **P 00 26 25.3 +0.3**
ORV *e**PP **pP 00 28 34.1 +2.8**
ORV pmax pmax
comp=Z,50nm,0.9s
ORV Oroville 78.66 42 *eP* **P 00 26 25.3 +0.3**
comp=Z,50nm,0.9s
ORV *ep*P **pP 00 28 34.1 +2.8**
KDAK Kodiak Island 78.67 14 P **P 00 26 25.4 +0.8**
comp=Z,25nm,0.5s,baz=214,slow=2.9,SNR=41
KDAK Kodiak Island 78.67 14 *i* P **P 00 26 24.7 +0.1**
KDAK Kodiak Island 78.67 14 *eP* **P 00 26 25.4 +0.8**
comp=Z,49nm,0.9s
IKP In-Ko-Pah, Jac 78.69 50 P **P 00 26 26.3 +0.9**
baz=240,SNR=31
RGRI Rengat 78.70 273 P **P 00 26 27.2 +1.4**
N02D Trinity Center 78.73 40 P **P 00 26 26.5 +1.0**
baz=234
KEBM Edson Butte 78.88 38 *eP* **P 00 26 26.9 +0.7**
comp=Z,52nm,0.8s
M02C Callahan 78.88 40 P **P 00 26 27.4 +1.1**
baz=234,SNR=7.3
L02D Cave Junction, 78.88 39 P **P 00 26 26.7 +0.5**
baz=233,SNR=9.7
O03D Paynes Creek 78.89 41 P **P 00 26 26.8 +0.5**
baz=235,SNR=13
BBRC Big Bear Solar 78.91 48 P **P 00 26 27.2 +0.4**
baz=239
PFO Pinyon Flats O 78.91 49 P **P 00 26 28.0 +1.3**
comp=Z,15nm,0.9s,baz=272,slow=4.4,SNR=17
PFO PP **sP 00 29 35.2 +0.7**
comp=Z,27nm,1.3s,baz=247,slow=9.7,SNR=8.1
PFO Pinyon Flats O 78.91 49 P **P 00 26 27.3 +0.6**
baz=240,SNR=10
PFO Pinyon Flats O 78.91 49 *eP* **P 00 26 27.0 +0.3**
comp=Z,40nm,1.2s
PFO *ep*P **pP 00 28 32.6 -0.5**
PFO PP **sP 00 29 35.2 +0.7**
XPFO Piæon Flat 78.91 49 *eP* **P 00 26 27.0 +0.3**
comp=Z,42nm,1.2s
XPFO *ep*P **pP 00 28 32.1 -0.9**
DL2 Dalian 78.95 317⇓*i* P **P 00 26 26.0 -0.5**
DL2 pP **pP 00 28 32.8 -0.2**
DL2 sP **PP 00 29 35.8 -1.4**
DL2 S **S 00 35 38.3 +1.6**
DL2 pmax pmax
comp=Z,100nm,1.2s
DL2 pmax pmax
comp=Z,620nm,7.1s
LRMC Laurel Mtn Rad 79.00 47 P **P 00 26 27.8 +0.7**
baz=239,SNR=9.4
SWSC Sam W. Stewart 79.06 50 P **P 00 26 28.1 +0.8**
baz=240,SNR=7.1
SRIG Santa Rosalia 79.13 57 *eP* **P 00 26 26.6 -1.1**
comp=Z,58nm,1.0s
YBH Yreka Blue Hor 79.17 40 *eP* **P 00 26 28.8 +1.0**
YBH *e**PP **pP 00 28 36.8 +2.5**
YBH pmax pmax
comp=Z,47nm,0.8s
YBH Yreka Blue Hor 79.17 40 *eP* **P 00 26 28.8 +1.0**
comp=Z,47nm,0.8s
YBH *ep*P **pP 00 28 36.8 +2.5**
RRX Edison Barstow 79.17 48 P **P 00 26 28.5 +0.6**
baz=239
CWC Cottonwood Cre 79.22 46 P **P 00 26 28.9 +0.6**
baz=238
LPIG La Paz 79.30 60 P **P 00 26 28.3 -0.4**
comp=Z,44nm,0.6s,baz=23,slow=1.5,SNR=6.3
MLAC Mammoth, Mammo 79.34 45 P **P 00 26 29.9 +0.9**
baz=238,SNR=11
SNY Shenyang 79.39 320⇓P **P 00 26 28.8 0.0**
SNY pP **pP 00 28 35.5 +0.1**
SNY sP **PP 00 29 42.0 +1.2**
SNY S **S 00 35 45.5 +4.5**
SNY pmax pmax
comp=Z,65nm,1.9s
SNY pmax pmax
comp=Z,810nm,3.5s
WAKR Walker 79.42 44 *eP* **P 00 26 30.1 +0.8**
comp=Z,98nm,0.8s
WAKR *ep*P **pP 00 28 36.9 +1.0**
SLBS Sierra La Lagu 79.42 61 *eP* **P 00 26 30.8 +1.2**
comp=Z,68nm,0.8s
MPMC Manual Prospec 79.43 47 P **P 00 26 30.1 +0.7**
baz=239,SNR=54
BELC Belle Mtn. Jos 79.44 49 P **P 00 26 30.3 +0.8**
baz=240,SNR=6.0
TIN Tinemaha, Big 79.44 45 P **P 00 26 30.0 +0.7**
baz=238,SNR=9.0
CN2 Changchun 79.46 323⇑P **P 00 26 30.5 +1.4**
CN2 *ep*P pP 00 28 36.5 +0.7
CN2 *eS* **S 00 35 44.0 +2.3**
CN2 pmax pmax
comp=Z,200nm,5.0s
DAC Darwin (Calif) 79.47 46 *eP* **P 00 26 30.1 +0.4**
DAC *e*PP **pP 00 28 36.4 +0.1**
DAC pmax pmax
comp=Z,34nm,0.9s
DAC Darwin (Calif) 79.47 46 *eP* **P 00 26 30.1 +0.4**
comp=Z,34nm,0.9s
DAC *ep*P **pP 00 28 36.4 +0.1**
LBCM Butte Creek Ri 79.49 41 *eP* **P 00 26 30.9 +1.3**
GSC Goldstone, Bar 79.52 48 P **P 00 26 30.3 +0.5**
baz=239,SNR=27
GSC Goldstone, Bar 79.52 48 *eP* **P 00 26 30.7 +0.9**
GSC *e**PP **pP 00 28 37.6 +1.2**
GSC pmax pmax
comp=Z,72nm,1.4s
GSC Goldstone, Bar 79.52 48 *eP* **P 00 26 30.7 +0.9**
comp=Z,72nm,1.4s
GSC *ep*P **pP 00 28 37.6 +1.2**
HUMO Hull Mountain 79.53 39 *eP* **P 00 26 31.2 +1.6**
comp=Z,76nm,1.1s
HUMO *ep*P **pP 00 28 38.8 +2.5**
BEKR Beckworth 79.57 42 *eP* **P 00 26 30.4 +0.4**
comp=Z,191nm,1.5s
BEKR *ep*P **pP 00 28 38.0 +1.3**
HEC Hector,Ludlow 79.61 48 P **P 00 26 30.6 +0.3**
baz=240,SNR=14
PNTR Pine Nut 79.63 43 *eP* **P 00 26 31.2 +0.8**
comp=Z,168nm,0.8s
PNTR *ep*P **pP 00 28 38.6 +1.5**
BC3 Big Chuckawall 79.66 50 P **P 00 26 31.4 +0.8**
baz=240,SNR=9.6
M04C Macdoel 79.73 40 P **P 00 26 31.5 +0.8**
baz=235,SNR=19
KTGM Kuala Trenggan 79.75 279⇑P **P 00 26 31.2 -0.2**
YERR Yerington 79.81 43 *eP* **P 00 26 31.9 +0.6**
comp=Z,108nm,0.6s
YERR *ep*P **pP 00 28 39.4 +1.3**
GLA Glamis 79.82 50 P **P 00 26 32.7 +1.4**
baz=241,SNR=14
GLA Glamis 79.82 50 *eP* **P 00 26 33.2 +1.9**
GLA *e**PP **pP 00 28 39.6 +1.5**
GLA pmax pmax
comp=Z,56nm,0.9s
GLA Glamis 79.82 50 *eP* **P 00 26 33.2 +1.9**
comp=Z,56nm,0.9s
GLA *ep*P **pP 00 28 39.6 +1.5**
WHN Wuhan 79.84 307⇓*i* P **P 00 26 32.3 +0.9**
WHN sP **sP 00 29 41.5 +2.0**
WHN S **S 00 35 49.0 +2.8**
WHN sS **sS 00 39 35.0 +2.9**
WHN SS **SS 00 41 14.0 -0.2**
WHN pmax pmax
comp=Z,190nm,1.1s
WHN pmax pmax
comp=Z,1μm,9.9s
I03D Drain, OR 79.95 38 P **P 00 26 32.3 +0.6**
baz=233,SNR=22
GRAC Grapevine Rang 80.00 46 P **P 00 26 33.1 +0.9**
baz=239,SNR=40
GMRC Granite Mounta 80.07 49 P **P 00 26 33.2 +0.5**
baz=240,SNR=26
FURC Furnace Creek, 80.08 47 P **P 00 26 33.4 +0.9**
baz=239,SNR=24
PAHR Pah Rah Range 80.11 43 *eP* **P 00 26 33.5 +0.6**
comp=Z,61nm,0.8s
PAHR *ep*P **pP 00 28 43.0 +3.3**
IRM Iron Mountain 80.13 49 P **P 00 26 34.1 +1.2**
baz=240,SNR=6.6
BKNI Bangkinang 80.14 274 P **P 00 26 33.8 +0.4**
BKNI Bangkinang 80.14 274 *eP* **P 00 26 33.4 0.0**
comp=Z,449nm,1.2s
PPSI Pulau Pagai 80.18 270 P **P 00 26 34.7 +1.1**
SHOC Shoshone, Teco 80.19 47 P **P 00 26 33.9 +0.7**
baz=240
TUQ Turquoise Moun 80.21 48 P **P 00 26 34.0 +0.5**
baz=240
K04D Chiloquin, OR 80.27 39 P **P 00 26 34.1 +0.6**
baz=235
PDSI Padang 80.31 272 P **P 00 26 33.1 -1.2**
Y12C Blythe 80.38 50 P **P 00 26 35.1 +1.0**
baz=241,SNR=11
Y12C Blythe 80.38 50 *eP* **P 00 26 35.0 +0.8**
comp=Z,49nm,0.9s
J04D Umpqua Nationa 80.41 39 P **P 00 26 35.1 +0.7**
baz=234,SNR=52
COCO West Island 80.45 260 *eP* **P 00 26 36.6 +1.6**
COCO pmax pmax
comp=Z,258nm,1.4s
COCO West Island 80.45 260 *eP* **P 00 26 36.5 +1.6**
comp=Z,258nm,1.4s
113A Mohawk Valley, 80.47 51 *eP* **P 00 26 35.5 +0.8**
comp=Z,45nm,0.9s
113A *ep*P **pP 00 28 42.6 +0.9**
COR Corvallis 80.51 37 *eP* **P 00 26 34.8 +0.3**
COR pmax pmax
comp=Z,48nm,0.8s
COR Corvallis 80.51 37 *eP* **P 00 26 34.8 +0.3**
comp=Z,48nm,0.8s
CNPM China Post 80.55 14 *eP* **P 00 26 34.3 -0.1**
comp=Z,105nm,1.3s
TIA Tai'an 80.56 313⇓P **P 00 26 35.0 0.0**
TIA pmax pmax
comp=Z,80nm,1.0s
LDFC Landfair 80.61 49 *eP* **P 00 26 37.3 +1.8**
comp=Z,190nm,0.7s
MOD Modoc Plateau 80.74 40 *eP* **P 00 26 36.6 +0.5**
comp=Z,77nm,0.8s
MOD *ep*P **pP 00 28 45.1 +1.9**
TPNV Topopah Spring 80.75 46 P **P 00 26 36.9 +0.7**
baz=239,SNR=59
TPNV Topopah Spring 80.75 46 *eP* **P 00 26 37.4 +1.2**
TPNV *e**PP **pP 00 28 44.2 +0.8**
TPNV pmax pmax
comp=Z,90nm,1.1s
TPNV Topopah Spring 80.75 46 *eP* **P 00 26 37.4 +1.2**
comp=Z,90nm,1.1s
TPNV *ep*P **pP 00 28 44.2 +0.8**
214A Organ Pipe Nat 80.80 52 P **P 00 26 37.7 +1.3**
baz=242,SNR=23
NEE2 Needles Airpor 80.81 49 P **P 00 26 37.3 +1.0**
baz=241,SNR=6.7
BRLK Bradley Lake 80.84 14 *eP* **P 00 26 36.3 +0.3**
comp=Z,175nm,1.4s
G03D McMinnville, O 80.90 36 P **P 00 26 37.1 +0.5**
baz=233,SNR=10
HSIG 80.91 56 *eP* **P 00 26 37.8 +0.8**
comp=Z,40nm,0.8s
PDMCI Parker Dam,Lak 80.93 50 P **P 00 26 37.8 +0.8**
baz=241,SNR=9.0
J05D Fort Rock, OR 80.96 39 P **P 00 26 37.8 +0.7**
baz=235,SNR=176
UBPT Khong Chiam 81.02 289 P **P 00 26 39.4 +1.6**
comp=Z,89nm,1.1s
KMOR Kings Mountain 81.03 36 *eP* **P 00 26 38.3 +1.0**
RSO Redoubt South 81.05 13 *eP* **P 00 26 37.1 -0.1**
SVW2 Sparrevohn 81.06 11 *eP* **P 00 26 37.4 +0.3**
comp=Z,22nm,0.8s
SVW2 *ep*P **pP 00 28 46.7 +2.3**
MOON Moon Mountain 81.14 38 *eP* **P 00 26 39.2 +1.4**

F03A **Seaside** 81.17 36 eP P 00 26 38.9 +1.0
comp=Z,140nm,1.3s
SHPR **Sheep Range** 81.28 47 eP P 00 26 39.5 +0.6
comp=Z,46nm,1.0s
SHPR epP pP 00 28 46.1 -0.3
IPM **Ipoh** 81.46 278 eP P 00 26 40.2 0.0
comp=Z,366nm,1.4s
SEW **Seward** 81.48 15 eP P 00 26 39.3 +0.2
comp=Z,172nm,1.7s
SISI **Saibi** 81.49 271 P P 00 26 40.8 +0.5
W13A **Hualapai Mount** 81.50 49 eP P 00 26 41.5 +1.3
comp=Z,34nm,0.8s
W13A epP pP 00 28 46.3 -1.4
I05D **Terrebonne, OR** 81.50 38 P P 00 26 40.2 +0.5
baz=235,SNR=22
E03A **Lebam** 81.54 35 eP P 00 26 40.6 +0.8
comp=Z,155nm,1.0s
F04D **Rainier, OR** 81.57 36 P P 00 26 41.2 +1.2
baz=233,SNR=7.8
Y14A **Wickenburg** 81.58 50 eP P 00 26 41.6 +1.2
comp=Z,194nm,0.8s
Y14A epP pP 00 28 48.7 +0.8
TDH **Tom, Dick, Har** 81.79 37 eP P 00 26 42.1 +0.7
F04A **Amboy** 81.81 36 eP P 00 26 42.2 +1.0
comp=Z,176nm,1.4s
F04A epP pP 00 28 48.7 -0.1
SPU **Mount Spurr** 81.85 13 eP P 00 26 40.2 -0.9
SPU epP pP 00 28 47.7 -1.1
NLWA **Neilton Lookou** 81.89 34 eP P 00 26 42.9 +1.2
comp=Z,73nm,1.1s
BMN **Battle Mountai** 81.89 43 eP P 00 26 42.4 +0.4
BMN e*PP pP 00 28 50.2 +0.5
BMN pmax pmax
comp=Z,92nm,0.9s
BMN **Battle Mountai** 81.89 43 eP P 00 26 42.4 +0.4
comp=Z,92nm,0.9s
BMN epP pP 00 28 50.2 +0.5
R11A **Troy Canyon, C** 81.91 45 P P 00 26 42.5 +0.3
baz=240,SNR=56
R11A **Troy Canyon, C** 81.91 45 eP P 00 26 42.3 +0.1
comp=Z,40nm,1.0s
R11A epP pP 00 28 48.3 -1.5
G05D **Wamic, OR** 82.03 37 P P 00 26 43.0 +0.6
baz=235,SNR=16
WVOR **Wild Horse Val** 82.06 41 eP P 00 26 43.4 +0.6
WVOR e*PP pP 00 28 52.7 +2.2
WVOR pmax pmax
comp=Z,94nm,0.9s
WVOR **Wild Horse Val** 82.06 41 eP P 00 26 43.4 +0.6
comp=Z,94nm,0.9s
WVOR epP pP 00 28 52.7 +2.2
KULM **Kulim** 82.08 278 eP P 00 26 44.1 +0.8
comp=Z,180nm,1.3s
B201 **Coldwater, Mou** 82.11 36 eP P 00 26 44.3 +1.5
RC01 **Rabbit Creek A** 82.28 14 eP P 00 26 44.0 +0.8
comp=Z,45nm,0.9s
G06A **Carlson Farm,** 82.42 38 eP P 00 26 44.5 +0.1
comp=Z,76nm,1.2s
G06A epP pP 00 28 54.5 +2.2
PANO **Nakornpanom** 82.47 291 P P 00 26 46.4 +1.3
comp=Z,174nm,1.0s
TUC **Tucson** 82.49 53 P P 00 26 46.6 +1.5
baz=243
TUC **Tucson** 82.49 53 eP P 00 26 46.4 +1.3
TUC e*PP pP 00 28 54.2 +1.2
TUC pmax pmax
comp=Z,58nm,1.1s
TUC **Tucson** 82.49 53 eP P 00 26 46.4 +1.3
comp=Z,58nm,1.1s
TUC epP pP 00 28 54.2 +1.2
B941 **Kapowsin** 82.54 35 eP P 00 26 45.9 +1.1
LON **Longmire** 82.63 36 eP P 00 26 45.9 +0.5
LON e*PP pP 00 28 52.8 -0.6
LON pmax pmax
comp=Z,25nm,0.8s
LON **Longmire** 82.63 36 eP P 00 26 45.9 +0.5
comp=Z,25nm,0.8s
LON epP pP 00 28 52.8 -0.6
PBSI **Pulau Batu** 82.64 272 P P 00 26 46.4 +0.2
TT01 **Tatalina** 82.66 11 eP P 00 26 45.4 +0.3
TT01 epP pP 00 28 53.0 -0.1
J08A **Circle Bar Ran** 82.67 40 eP P 00 26 43.9 -1.8
comp=Z,86nm,0.8s
J08A epP pP 00 28 54.9 +1.1
TTA **Tatalina** 82.68 11 eP P 00 26 45.7 +0.4
TTA e*PP pP 00 28 54.3 +1.0
TTA eS S 00 36 15.6 +2.1
TTA **Tatalina** 82.68 11 eP P 00 26 45.7 +0.4
TTA epP pP 00 28 54.3 +1.0
TTA eS S 00 36 15.6 +2.1
GLI **Glacier Island** 82.74 15 eP P 00 26 45.4 -0.1
comp=Z,131nm,0.7s
GLI epP pP 00 28 53.8 +0.2
FID **Port Fidalgo** 82.78 16 eP P 00 26 45.3 -0.5
comp=Z,37nm,1.0s
D05A **Enumclaw** 82.79 35 eP P 00 26 45.7 -0.4
comp=Z,176nm,1.4s
D05A epP pP 00 28 56.8 +2.6
BBB **Bella Bella** 82.82 29 P P 00 26 46.9 +0.8
comp=Z,26nm,0.5s,baz=274,slow=5.2,SNR=16
PMR **Palmer** 82.87 14 eP P 00 26 45.9 -0.2
PMR e*PP pP 00 28 54.4 +0.2
PMR pmax pmax
comp=Z,35nm,0.6s
PMR **Palmer** 82.87 14 eP P 00 26 45.9 -0.2
comp=Z,36nm,0.6s
PMR epP pP 00 28 54.4 +0.2
LCMT **Little Creek M** 82.87 48 eP P 00 26 48.4 +1.5
comp=Z,55nm,0.8s
PGC **Sidney** 82.88 34 eP P 00 26 47.0 +0.5
comp=Z,41nm,0.8s
PSI **Prapat** 82.92 275 P P 00 26 46.8 -0.9
comp=Z,37nm,0.4s,baz=180,slow=4.4,SNR=37
PSI PP PP 00 30 07.5 -2.4
comp=Z,8.5nm,0.7s,baz=132,slow=4.8,SNR=7.0
PSI **Prapat** 82.92 275 eP P 00 26 46.6 -1.1
comp=Z,224nm,1.3s
PSI PP PP 00 30 07.5 -2.4
X16A **Lo Mia Camp, P** 82.95 51 eP P 00 26 48.6 +1.1
comp=Z,90nm,0.8s
X16A epP pP 00 28 56.8 +1.2
SKNT **Sakolnakorn** 82.97 290 P P 00 26 48.1 +0.4
comp=Z,269nm,1.1s,comp=Z,4μm
CCUT **Cedar City** 83.04 47 eP P 00 26 49.2 +1.3
comp=Z,49nm,1.0s
BJT **Baijiatuau** 83.12 316 eP P 00 26 48.6 +0.7
BJT pmax pmax
comp=Z,336nm,1.6s
BJT **Baijiatuau** 83.12 316 eP P 00 26 48.6 +0.7
comp=Z,336nm,1.6s
BJI **Beijing** 83.13 316 P P 00 26 48.5 +0.6
BJI pP pP 00 28 59.5 +3.4
BJI sP sP 00 30 02.0 +4.9
BJI S S 00 36 21.0 +2.4
BJI pmax pmax
comp=Z,130nm,1.5s
KNB **Kanab** 83.17 48 eP P 00 26 50.0 +1.5
KNB pmax pmax
comp=Z,58nm,0.9s
KNB **Kanab** 83.17 48 eP P 00 26 50.0 +1.5
comp=Z,58nm,0.9s
PSUT **Pine Spring** 83.18 46 eP P 00 26 49.6 +1.1
comp=Z,46nm,0.7s
319A **Douglas** 83.23 54 eP P 00 26 51.0 +2.2
comp=Z,83nm,0.8s
SML **Sawmill** 83.24 14 eP P 00 26 48.3 +0.2
SML pmax pmax
comp=Z,146nm,1.8s
SML **Sawmill** 83.24 14 eP P 00 26 48.3 +0.2
comp=Z,146nm,1.8s
SZCU **Shurtz Canyon** 83.26 47 eP P 00 26 50.5 +1.5
comp=Z,68nm,0.6s
U15A **North Rim** 83.27 48 eP P 00 26 50.1 +1.0
comp=Z,89nm,0.8s
DIV **Divide** 83.29 16 eP P 00 26 48.3 -0.1
comp=Z,81nm,0.7s
DIV epP pP 00 28 56.9 +0.2
A04D **Lummi Island** 83.31 34 P P 00 26 49.4 +0.8
baz=233,SNR=7.4
B05A **Bryant** 83.37 34 P P 00 26 49.3 +0.4
baz=234,SNR=16
PPLA **Purkeypile** 83.37 12 eP P 00 26 48.0 -0.8
comp=Z,19nm,0.9s
BMRM **Bremner River** 83.46 16 eP P 00 26 49.6 +0.4
comp=Z,283nm,1.6s
BMRM epP pP 00 28 58.0 +0.4

TSI **Tuntungan** 83.48 276 P P 00 26 50.4 +0.1
ENH **Enshi** 83.49 305 eP P 00 26 50.6 +0.6
comp=Z,226nm,1.0s
MAW **Mawson** 83.50 200 P P 00 26 49.8 +0.5
comp=Z,50nm,0.6s,baz=131,slow=5.8,SNR=164
MAW **Mawson** 83.50 200 P P 00 26 50.0 +0.7
baz=83,SNR=113
MAW **Mawson** 83.50 200 eP P 00 26 49.8 +0.5
MAW pmax pmax
comp=Z,12nm,0.6s
MAW **Mawson** 83.50 200 eP P 00 26 49.8 +0.5
comp=Z,12nm,0.6s
SCM **Sheep Creek Mo** 83.50 15 eP P 00 26 49.5 +0.1
SCM pmax pmax
comp=Z,132nm,0.7s
SCM **Sheep Creek Mo** 83.50 15 eP P 00 26 49.5 +0.1
comp=Z,132nm,0.7s
WUAZ **Wupatki** 83.50 50 P P 00 26 50.9 +0.7
baz=243
WUAZ **Wupatki** 83.50 50 eP P 00 26 51.0 +0.8
comp=Z,71nm,0.9s
WUAZ epP pP 00 28 60.0 +1.4
WUAZ ePP PP 00 30 10.7 -3.7
KLU **Klutina** 83.56 15 eP P 00 26 50.1 +0.4
comp=Z,29nm,0.8s
SEY **Seymchan** 83.59 347 P P 00 26 49.4 -0.3
comp=Z,49nm,0.6s,baz=155,slow=4.9,SNR=58
SEY pP pP 00 28 57.5 -0.7
comp=Z,15nm,1.0s,baz=156,slow=4.3,SNR=4.6
SEY **Seymchan** 83.59 347 ⇑ iP P 00 26 49.1 -0.6
E07A **Sunnyside** 83.62 37 eP P 00 26 51.5 +1.1
comp=Z,90nm,0.9s
E07A epP pP 00 28 59.6 +0.9
E07A ePP PP 00 30 13.0 -1.9
CRQM **Cirque** 83.68 17 eP P 00 26 50.2 -0.3
comp=Z,68nm,0.9s
HAWA **Hanford** 83.72 37 eP P 00 26 51.7 +1.0
comp=Z,90nm,0.9s
HAWA epP pP 00 29 01.4 +2.2
PKCU **Pink Cliffs** 83.73 48 eP P 00 26 54.2 +2.8
comp=Z,54nm,1.1s
GSI **Gunungsitoli** 83.73 273 P P 00 26 51.2 -0.4
KHON **Khomkaen** 83.78 289 P P 00 26 53.3 +1.6
comp=Z,40nm,1.1s,comp=Z,787nm
RPW **Rockport** 83.79 35 eP P 00 26 51.5 +0.4
TRTT **Trang** 83.80 280 P P 00 26 53.2 +1.3
comp=Z,196nm,1.1s,comp=Z,3μm
C06D **Leavenworth** 83.82 35 P P 00 26 51.6 +0.4
baz=235
B06A **Marblemount** 83.84 35 eP P 00 26 51.7 +0.4
comp=Z,78nm,1.4s
ETW **Entiat** 83.95 36 eP P 00 26 52.1 0.0
MTPU **Mount Pierson** 84.10 47 eP P 00 26 55.2 +1.9
comp=Z,36nm,0.8s
MTPU epP pP 00 29 02.9 +1.0
MTPU ePP PP 00 30 18.1 -1.2
X18A **Snowflake** 84.10 51 eP P 00 26 54.5 +1.3
comp=Z,73nm,1.4s
X18A epP pP 00 29 02.0 +0.2
BALM **Baldy** 84.14 17 eP P 00 26 52.7 +0.1
BALM pmax pmax
comp=Z,69nm,0.6s
BALM **Baldy** 84.14 17 eP P 00 26 52.7 +0.1
comp=Z,69nm,0.6s
PMSA **Palmer Station** 84.16 157 P P 00 26 54.7 +2.1
comp=Z,9.7nm,0.6s,baz=259,slow=5.2,SNR=4.9
PMSA PP PP 00 30 18.0 0.0
comp=Z,21nm,0.7s,baz=330,slow=13,SNR=6.7
BMO **Blue Mountains** 84.18 39 eP P 00 26 53.7 +0.5
BMO e*PP pP 00 28 59.6 -2.2
BMO e 00 30 18.5
BMO pmax pmax
comp=Z,43nm,1.3s
BMO **Blue Mountains** 84.18 39 eP P 00 26 53.7 +0.5
comp=Z,43nm,1.3s
BMO epP pP 00 28 59.6 -2.2
BMO ePP PP 00 30 18.5 -1.1
TCRU **Three Creeks R** 84.18 46 eP P 00 26 52.3 -1.2
comp=Z,25nm,0.9s
GYA **Guiyang** 84.21 300 ⇑ iP P 00 26 55.5 +1.7
GYA pP pP 00 29 06.5 +4.1
GYA sP sP 00 30 06.0 +2.7
GYA PP PP 00 30 24.5 +4.4
GYA SKS SKSac 00 36 19.5 -1.1
GYA S S 00 36 31.3 +1.3
GYA sS sS 00 40 20.0 +0.7
GYA pmax pmax
comp=Z,60nm,1.2s
GYA pmax pmax
comp=Z,150nm,6.2s
KCSI **Kotacane, Aceh** 84.24 276 P P 00 26 53.5 -0.6
HPIG 84.28 59 eP P 00 26 55.3 +1.1
comp=Z,77nm,1.5s
MSU **Marysvale** 84.32 47 eP P 00 26 55.6 +1.4
MSU e*PP pP 00 29 04.2 +1.3
MSU **Marysvale** 84.32 47 eP P 00 26 55.6 +1.4
MSU epP pP 00 29 04.2 +1.3
MFID **Camas Ranch** 84.33 41 eP P 00 26 54.3 +0.3
comp=Z,53nm,0.9s
MFID epP pP 00 29 03.9 +1.1
CHAI **Chaiyaphum** 84.38 289 P P 00 26 55.2 +0.6
comp=Z,24nm,1.0s,comp=Z,248nm
KRAB **Krabi** 84.39 280 P P 00 26 56.7 +2.0
comp=Z,98nm,0.9s,comp=Z,6μm
PATY **Pattaya** 84.39 285 P P 00 26 57.3 +2.6
comp=Z,31nm,1.1s,comp=Z,1μm
D08A **Wollman Farm,** 84.44 37 eP P 00 26 54.7 +0.4
comp=Z,80nm,0.8s
D08A epP pP 00 29 05.2 +2.1
NAYO **Nakonayok** 84.44 287 P P 00 26 56.6 +1.7
comp=Z,71nm,1.3s
W18A **Petrified Fore** 84.52 51 P P 00 26 55.7 +0.5
baz=244
W18A **Petrified Fore** 84.52 51 eP P 00 26 54.4 -0.8
comp=Z,67nm,1.4s
W18A epP pP 00 29 06.8 +2.8
W18A ePP PP 00 30 20.2 -2.4
RND **Reindeer** 84.52 13 eP P 00 26 54.1 -0.3
RND e*PP pP 00 29 03.3 +0.1
RND e 00 30 22.7
RND pmax pmax
comp=Z,70nm,0.8s
RND **Reindeer** 84.52 13 eP P 00 26 54.1 -0.3
comp=Z,70nm,0.8s
RND epP pP 00 29 03.3 +0.1
RND ePP PP 00 30 22.7 +0.9
HARP **HAARP** 84.53 15 eP P 00 26 53.9 -0.4
comp=Z,77nm,0.7s
DHY **Denali Highway** 84.57 14 eP P 00 26 54.9 +0.2
comp=Z,25nm,0.6s
DHY epP pP 00 29 03.6 +0.1
TIY **Taiyuan** 84.57 312 eP P 00 26 55.3 +0.1
TIY sP sP 00 30 09.3 +4.5
TIY PP PP 00 30 19.8 -2.9
TIY SKS S 00 36 24.0 -8.9
TIY S ScS 00 36 38.0 -2.4
TIY pmax pmax
comp=Z,140nm,0.7s
TIY pmax pmax
comp=Z,620nm,7.6s
BESE **Bessie Mountai** 84.58 22 eP P 00 26 55.8 +1.0
comp=Z,222nm,1.9s
E09A **Wood Farm, Sta** 84.58 37 eP P 00 26 55.5 +0.5
comp=Z,37nm,0.9s
E09A epP pP 00 29 01.6 -2.2
E09A ePP PP 00 30 16.8 -5.8
DUG **Dugway, Tooele** 84.69 45 P P 00 26 56.4 +0.6
baz=241
DUG **Dugway, Tooele** 84.69 45 eP P 00 26 56.7 +0.9
DUG e*PP pP 00 29 03.0 -1.7
DUG e 00 30 19.2
DUG pmax pmax
comp=Z,36nm,1.5s
DUG **Dugway, Tooele** 84.69 45 eP P 00 26 56.7 +0.9
comp=Z,36nm,1.5s
DUG epP pP 00 29 03.0 -1.7
DUG ePP PP 00 30 19.1 -4.6
BPAW **Bear Paw Mtn.** 84.69 12 eP P 00 26 53.8 -1.3
comp=Z,7.6nm,1.0s
BPAW epP pP 00 29 03.1 -0.9
TPTI 84.72 275 P P 00 26 56.3 -0.1
MCK **McKinley** 84.79 13 eP P 00 26 55.3 -0.3
MCK e*PP pP 00 29 04.5 0.0
MCK pmax pmax
comp=Z,102nm,1.3s

MCK **McKinley** 84.79 13 eP P 00 26 55.3 -0.3
comp=Z,102nm,1.3s
MCK epP pP 00 29 04.5 0.0
MMU **Miners Mountai** 84.79 47 eP P 00 26 57.3 +0.8
LLLB **Lillooet** 84.87 33 eP P 00 26 56.9 +0.6
comp=Z,45nm,1.1s
LLLB epP pP 00 29 06.2 +0.9
121A **Cookes Peak, D** 84.87 54 P P 00 26 58.1 +1.1
baz=245
BGU **Big Grassy Mou** 84.89 44 eP P 00 26 58.5 +1.6
BGU epP pP 00 29 04.9 -0.9
BGU ePP PP 00 30 21.1 -4.3
B08A **Colville Reser** 84.93 35 eP P 00 26 56.8 +0.2
comp=Z,60nm,0.7s
B08A epP pP 00 29 06.2 +0.6
B08A ePP PP 00 30 22.1 -3.2
PAX **Paxson** 84.93 15 eP P 00 26 55.8 -0.6
PAX e*PP pP 00 29 08.1 +2.7
PAX pmax pmax
comp=Z,129nm,1.9s
PAX **Paxson** 84.93 15 eP P 00 26 55.8 -0.6
comp=Z,129nm,1.9s
PAX epP pP 00 29 08.1 +2.7
SURT **Suratani** 85.00 281 P P 00 27 00.1 +2.4
comp=Z,55nm,1.5s,comp=Z,1μm
NLU **North Lily Min** 85.07 45 eP P 00 26 58.9 +1.1
NLU epP pP 00 29 10.3 +3.5
NLU ePP PP 00 30 22.8 -4.0
SKAG **Skagway** 85.08 21 eP P 00 26 57.0 -0.1
comp=Z,125nm,1.8s
PKDT **Phuket** 85.09 280 P P 00 27 00.7 +2.6
comp=Z,241nm,1.6s,comp=Z,9μm
Q16A **Castle Valley** 85.21 47 eP P 00 27 00.3 +1.9
comp=Z,164nm,2.0s
Q16A ePP PP 00 30 20.8 -7.2
C09A **Chrisman Ranch** 85.21 36 eP P 00 26 58.9 +0.8
comp=Z,50nm,0.8s
SNSI **Sinabang, Aceh** 85.26 274 P P 00 26 58.6 -0.4
HLID **Hailey** 85.30 41 P P 00 26 59.5 +0.7
baz=240
ZAIG **Zacatecas** 85.30 64 eP P 00 27 01.7 +2.4
comp=Z,47nm,1.3s
MENT **Mentasta** 85.34 16 eP P 00 26 58.2 -0.1
comp=Z,28nm,0.7s
TMUT **Trail Mountain** 85.36 46 eP P 00 27 01.0 +1.7
comp=Z,62nm,0.7s
TMUT epP pP 00 29 13.5 +5.1
TMUT ePP PP 00 30 26.9 -2.4
MOIG **Morelia** 85.39 68 eP P 00 27 01.2 +1.4
comp=Z,89nm,0.8s
MPU **Maple Canyon** 85.40 46 eP P 00 27 01.0 +1.6
comp=Z,20nm,1.0s
MPU ePP PP 00 30 27.1 -2.4
HYT **Haines Junctio** 85.40 19 eP P 00 27 00.1 +1.4
HYT epP pP 00 29 09.7 +1.7
HVU **Hansel Valley** 85.47 44 eP P 00 27 00.9 +1.3
HVU pmax pmax
comp=Z,41nm,0.7s
HVU **Hansel Valley** 85.47 44 eP P 00 27 00.9 +1.3
comp=Z,41nm,0.7s
HVU ePP PP 00 30 22.9 -7.0
XAN **Xi'an** 85.51 308 P P 00 27 00.8 +1.0
XAN pmax pmax
comp=Z,230nm,1.5s
XAN pmax pmax
comp=Z,860nm,7.9s
LHMI **Lhok Sumawe** 85.55 277 P P 00 26 59.4 -1.0
LHMI **Lhok Sumawe** 85.55 277 eP P 00 27 01.0 +0.6
comp=Z,434nm,1.3s
MLY **Manley** 85.57 12 eP P 00 26 59.0 -0.4
MLY epP pP 00 29 08.2 -0.4
WRH **Wood River Hil** 85.62 13 eP P 00 26 58.8 -0.7
WRH epP pP 00 29 08.7 -0.1
CTU **Camp Tracy** 85.64 45 eP P 00 27 00.9 +0.5
comp=Z,23nm,0.8s
CTU ePP PP 00 30 25.5 -5.8
SRU **San Rafael Swe** 85.75 47 eP P 00 27 02.2 +1.2
SRU pmax pmax
comp=Z,47nm,0.8s
SRU **San Rafael Swe** 85.75 47 eP P 00 27 02.2 +1.2
comp=Z,47nm,0.8s
P17A **Butcher Ranch,** 85.76 46 eP P 00 27 00.4 -0.6
P17A epP pP 00 29 10.5 +0.2
P17A ePP PP 00 30 28.8 -3.5
MLSI **Meulaboh, Aceh** 85.76 276 P P 00 27 00.4 -1.0
JLU **Jordanelle** 85.80 45 eP P 00 27 02.4 +1.1
comp=Z,19nm,0.7s
JLU epP pP 00 29 11.1 +0.5
JLU ePP PP 00 30 29.9 -2.8
HDA **Harding Lake** 85.82 14 eP P 00 26 59.9 -0.5
comp=Z,140nm,1.5s
HDA epP pP 00 29 09.4 -0.4
GZU **Grizzly Peak** 85.83 44 eP P 00 27 02.6 +1.1
CCB **Clear Creek Bu** 85.83 13 eP P 00 26 59.4 -1.1
comp=Z,38nm,0.5s
CCB epP pP 00 29 09.7 -0.2
HIA **Hailar** 85.84 325 eP P 00 27 02.3 +1.3
HIA pmax pmax
comp=Z,115nm,1.5s
HIA **Hailar** 85.84 325 eP P 00 27 02.3 +1.3
comp=Z,115nm,1.5s
DOT **Dot Lake** 85.85 15 eP P 00 27 01.1 +0.5
comp=Z,103nm,1.1s
DOT epP pP 00 29 10.4 +0.3
MDM **Murphy Dome** 86.02 13 eP P 00 27 00.5 -1.0
MDM epP pP 00 29 10.6 -0.3
MDM ePP PP 00 30 23.5 -10
MLI **Malad Range** 86.02 44 eP P 00 27 03.8 +1.6
COLA **College** 86.02 13 eP P 00 27 01.4 0.0
COLA e*PP pP 00 29 10.8 -0.1
COLA pmax pmax
comp=Z,220nm,1.7s
COLA **College** 86.02 13 eP P 00 27 01.4 0.0
comp=Z,220nm,1.7s
COLA epP pP 00 29 10.8 -0.1
TCUT **Toone Canyon** 86.07 45 eP P 00 27 03.8 +1.2
comp=Z,99nm,0.7s
TCUT epP pP 00 29 12.8 +0.8
TCUT ePP PP 00 30 31.2 -3.6
NEW **Newport** 86.11 36 P P 00 27 02.8 +0.5
comp=Z,25nm,0.7s,baz=232,slow=4.2,SNR=45
NEW pP pP 00 29 12.1 +0.3
comp=Z,4.6nm,0.9s,baz=234,slow=6.4,SNR=2.2
NEW PP PP 00 30 31.8 -2.9
comp=Z,7.6nm,1.0s,baz=248,slow=9.1,SNR=4.9
NEW **Newport** 86.11 36 P P 00 27 02.4 +0.1
baz=238,SNR=28
NEW **Newport** 86.11 36 eP P 00 27 02.8 +0.5
NEW *PP pP 00 29 12.1 +0.3
NEW e 00 30 31.3
NEW pmax pmax
comp=Z,28nm,0.8s
NEW **Newport** 86.11 36 eP P 00 27 02.8 +0.5
comp=Z,28nm,0.8s
NEW pP pP 00 29 12.1 +0.3
NEW ePP PP 00 30 31.3 -3.4
WHY **Whitehorse** 86.12 20 eP P 00 27 03.3 +1.1
comp=Z,29nm,0.9s
ILAR **Eielson Array** 86.14 13 P P 00 27 00.8 -1.1
comp=Z,14nm,0.8s,baz=235,slow=5.5,SNR=123
ILAR pP pP 00 29 10.1 -1.4
comp=Z,30nm,1.1s,baz=229,slow=5.6,SNR=12
ILAR S SKSac 00 36 29.8 -0.7
comp=Z,0.3nm,0.8s,baz=226,slow=5.9,SNR=3.2
ILAR PKKPbc PKKPdf 00 44 55.9 +3.2
comp=Z,0.6nm,0.5s,baz=351,slow=2.1,SNR=9.5
ILB **Eielson Array** 86.14 13 eP P 00 27 00.9 -1.1
ILB epP pP 00 29 08.0 -3.6
ILB eS S 00 36 45.8 -0.8
LAZ **Ladron** 86.14 52 eP P 00 27 03.8 +0.8
LAZ epP pP 00 29 12.3 -0.1
P18A **Preston Nutter** 86.17 46 eP P 00 27 04.3 +1.2
comp=Z,20nm,0.8s
P18A ePP PP 00 30 32.6 -3.1
Y22D **IRIS PASSCAL I** 86.17 53 P P 00 27 03.7 +0.6
baz=246
Y22D **IRIS PASSCAL I** 86.17 53 eP P 00 27 05.1 +2.0
comp=Z,93nm,1.3s
HWUT **Hardware Ranch** 86.19 44 eP P 00 27 03.6 +0.6
comp=Z,19nm,0.8s
HWUT epP pP 00 29 15.2 +2.7
HWUT ePP PP 00 30 31.8 -3.9
DLBC **Dease Lake** 86.25 24 P P 00 27 03.6 +0.9
comp=Z,16nm,0.8s,baz=221,slow=5.2,SNR=23
DLBC pP pP 00 29 12.8 +0.5

comp=Z,12nm,1.1s,baz=194,slow=3.4,SNR=4.7
PV05 Paradox Valley 86.28 48 *e*P **P 00 27 05.2 +1.6**
UTTA Uttaradit 86.30 290 P **P 00 27 05.2 +1.4**
comp=Z,14nm,1.1s,comp=Z,147nm
MVCO Mesa Verde 86.33 49 P **P 00 27 04.1 +0.2**
baz=244
MVCO Mesa Verde 86.33 49 *e*P **P 00 27 04.8 +0.9**
comp=Z,12nm,0.7s
BILL Bilibino 86.37 355*c i*P **P 00 27 03.8 +0.8**
BILL *e**PP **pP 00 29 15.7 +3.1**
BILL *e* 00 30 39.2
BILL pmax pmax
comp=Z,38nm,1.0s
MNTX Cornudas Mount 86.39 55 P **P 00 27 05.0 +1.0**
baz=246,SNR=64
MNTX Cornudas Mount 86.39 55 *e*P **P 00 27 04.8 +0.8**
comp=Z,38nm,0.8s
MNTX *e*pP **pP 00 29 11.2 -2.4**
MNTX *e*PP **PP 00 30 35.5 -1.8**
JRQG Juriquilla Cam 86.41 67 *e*P **P 00 27 06.1 +1.5**
comp=Z,72nm,0.8s
BNM Barren Site 86.43 53 *e*P **P 00 27 05.0 +0.6**
BNM *e*pP **pP 00 29 13.5 -0.5**
PV09 Paradox Valley 86.44 48 *e*P **P 00 27 05.8 +1.4**
PV10 Paradox Valley 86.46 48 *e*P **P 00 27 05.0 +0.5**
SRDT SRDT 86.46 286 P **P 00 27 06.9 +2.3**
comp=Z,288nm,1.7s,comp=Z,5µm
LPM Los Pinos Moun 86.49 52 *e*P **P 00 27 05.1 +0.4**
LPM *e*pP **pP 00 29 18.0 +3.8**
NANT Nan 86.53 291 P **P 00 27 06.0 +1.1**
comp=Z,14nm,1.1s,comp=Z,178nm
UTHA Uthaitani 86.56 287 P **P 00 27 06.8 +1.7**
comp=Z,20nm,1.0s,comp=Z,197nm
HHC Hu-ho-hao-te 86.60 315 *e*P **P 00 27 05.5 +0.6**
HHC pP pP 00 29 13.3 -1.3
HHC sP sP 00 30 14.5 -0.7
HHC S **S 00 36 57.3 +5.1**
HHC sS sS 00 40 45.0 +1.8
HHC pmax pmax
comp=Z,100nm,1.4s
HHC pmax pmax
comp=Z,790nm,6.8s
PV01 Paradox Valley 86.68 48 *e*P **P 00 27 06.4 +0.9**
PV01 *e*pP **pP 00 29 15.5 +0.3**
TX31 Lajitas Ar. Si 86.83 58 *e*P **P 00 27 07.6 +1.4**
TX31 *e*PP **PP 00 30 37.6 -3.3**
TXAR Lajitas Array 86.84 58 P **P 00 27 07.6 +1.4**
comp=Z,55nm,0.9s,baz=219,slow=5.0,SNR=365
TXAR pP **pP 00 29 16.4 +0.4**
comp=Z,13nm,1.2s,baz=198,slow=2.6,SNR=3.5
TXAR PP **PP 00 30 39.7 -1.2**
comp=Z,3.4nm,1.2s,baz=235,slow=3.2,SNR=2.7
TXAR PKKPbc **PKKPbc 00 44 56.6 0.0**
comp=Z,0.4nm,0.5s,baz=125,slow=2.7,SNR=8.6
TXAR PKPPKP **P'P'df 00 53 02.9 -0.3**
comp=Z,0.3nm,0.9s,baz=47,slow=4.2,SNR=2.2
ANMO Albuquerque 86.88 52 P **P 00 27 07.5 +1.1**
comp=Z,29nm,1.0s,baz=30,slow=6.0,SNR=54
ANMO pP **pP 00 29 16.1 -0.2**
comp=Z,2.4nm,0.8s,baz=69,slow=6.1,SNR=2.4
ANMO PP **PP 00 30 39.4 -1.9**
comp=Z,4.7nm,1.1s,baz=62,slow=5.9,SNR=5.0
ANMO Albuquerque 86.88 52 ‖ *i*P **P 00 27 06.5 0.0**
ANMO pmax pmax
comp=Z,29nm,1.0s
ANMO Albuquerque 86.88 52 *e*P **P 00 27 07.3 +0.9**
comp=Z,22nm,0.8s
ANMO *e*pP **pP 00 29 14.4 -1.9**
ANMO *e*PP **PP 00 30 38.7 -2.6**
MCMT McKenzie Canyo 86.90 41 *e*P **P 00 27 07.7 +1.3**
KMI Kunming 86.98 297 P **P 00 27 08.5 +1.3**
KMI pP pP 00 29 21.5 +4.5
KMI sP sP 00 30 23.0 +5.5
KMI SKS **SKSac 00 36 39.0 +1.2**
KMI S **ScS 00 37 01.3 0.0**
KMI pmax pmax
comp=Z,96nm,1.1s
KMI pmax pmax
comp=Z,810nm,5.0s
USHA Ushuaia 87.00 147 P **P 00 27 07.9 +1.5**
comp=Z,52nm,0.9s,baz=167,slow=6.4,SNR=5.1
TLIG Tlapa 87.00 71 *e*P **P 00 27 08.8 +1.5**
comp=Z,32nm,0.9s
MSO Missoula 87.22 39 P **P 00 27 07.3 -0.3**
baz=240,SNR=33
MSO Missoula 87.22 39 *e*P **P 00 27 07.8 +0.2**
comp=Z,30nm,0.5s
MSO *e*pP **pP 00 29 19.1 +1.5**
BSMT Bassoo Peak 87.23 38 *e*P **P 00 27 08.2 +0.4**
BSMT *e*pP **pP 00 29 18.1 +0.4**
DLMT Dillon 87.31 40 *e*P **P 00 27 09.3 +1.1**
comp=Z,43nm,0.9s
DLMT *e*pP **pP 00 29 17.2 -0.9**
DLMT *e*PP **PP 00 30 37.0 -7.4**
LAMP Lampang 87.39 290 P **P 00 27 10.2 +1.3**
comp=Z,25nm,1.0s,comp=Z,203nm
DAWY Dawson 87.39 16 *e*P **P 00 27 08.3 +0.3**
DAWY *e*pP **pP 00 29 18.6 +0.6**
DAWY *e*PP **PP 00 30 39.0 -5.4**
TPAW Teton Pass 87.47 43 *e*P **P 00 27 10.2 +1.1**
comp=Z,36nm,0.8s
REDW Red Top Meadow 87.47 43 *e*P **P 00 27 09.5 +0.4**
comp=Z,62nm,0.9s
REDW *e*pP **pP 00 29 18.2 -0.8**
JTMT Jette 87.47 38 *e*P **P 00 27 09.3 +0.4**
FXWY Fox Creek 87.49 43 *e*P **P 00 27 09.8 +0.7**
comp=Z,30nm,0.9s
FXWY *e*pP **pP 00 29 21.7 +2.5**
FXWY *e*PP **PP 00 30 41.5 -4.5**
EGAK Eagle 87.50 15 *e*P **P 00 27 08.2 -0.2**
comp=Z,30nm,0.8s
EGAK *e*pP **pP 00 29 19.0 +0.5**
SWMT Swartz Lake 87.52 38 *e*P **P 00 27 09.5 +0.4**
BTO Baotou 87.54 314 *e*P **P 00 27 10.0 +0.7**
BLMT Blacktail Moun 87.56 38 *e*P **P 00 27 09.9 +0.6**
LRM Limekiln Ridge 87.62 40 *e*P **P 00 27 10.8 +1.0**
LRM *e*PP **PP 00 30 43.7 -3.3**
COLD Coldfoot 87.63 11 *e*P **P 00 27 09.1 +0.2**
comp=Z,103nm,1.4s
COLD *e*pP **pP 00 29 20.1 +1.0**
MCID Moose Creek 87.64 42 *e*P **P 00 27 11.0 +1.2**
IMW Indian Meadow 87.66 42 *e*P **P 00 27 11.3 +1.3**
comp=Z,57nm,0.8s
IMW *e*pP **pP 00 29 23.2 +3.1**
IMW *e*PP **PP 00 30 43.0 -4.4**
CHMT Chamberlain Mo 87.67 39 *e*P **P 00 27 10.2 +0.3**
CHMT *e*pP **pP 00 29 20.5 +0.6**
CHMT *e*PP **PP 00 30 43.0 -4.3**
SLMT Seeley Lake 87.69 39 *e*P **P 00 27 09.3 -0.6**
YBMT Yellow Bay 87.69 38 *e*P **P 00 27 10.7 +0.8**
MOOW Moose Ponds 87.72 43 *e*P **P 00 27 11.3 +1.1**
comp=Z,27nm,0.9s
MOOW *e*PP **PP 00 30 43.2 -4.5**
LOHW Long Hollow 87.75 43 *e*P **P 00 27 11.2 +0.9**
comp=Z,28nm,0.6s
LOHW *e*PP **PP 00 30 43.4 -4.6**
CLNS Chul'man 87.75 333 *e*P **P 00 27 10.8 +1.0**
CLNS *e* 00 30 48.9
CLNS *e*S **SKSac 00 36 45.3 +4.8**
CLNS *e* 00 37 10.3
CLNS *e*SS **SS 00 43 12.6 +4.2**
CLNS pmax pmax
comp=Z,45nm,1.3s
CLNS pmax pmax
comp=E,15nm,1.2s
CLNS pmax pmax
comp=N,31nm,1.5s
CLNS pmax pmax
comp=Z,10.0nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS smax smax
comp=N,209nm,10.2s
CLNS smax smax
comp=E,676nm,12.2s
S22A 4UR Ranch, Cre 87.76 49 P **P 00 27 11.1 +0.4**
baz=245,SNR=34
S22A 4UR Ranch, Cre 87.76 49 *e*P **P 00 27 11.9 +1.3**
comp=E,26nm,0.9s
S22A *e*pP **pP 00 29 17.3 -3.4**
O20A White River Ci 87.78 47 P **P 00 27 10.9 +0.3**
baz=244,SNR=48
O20A White River Ci 87.78 47 *e*P **P 00 27 11.5 +1.0**
comp=E,58nm,0.8s
O20A *e*PP **PP 00 30 43.5 -4.8**
QLMT Earthquake Lak 87.79 41 *e*P **P 00 27 12.2 +1.8**
CLNB Carlsbad 87.79 55 *e*P **P 00 27 11.5 +0.8**
YHB Horse Butte 87.90 41 *e*P **P 00 27 12.8 +1.8**
comp=E,47nm,1.0s
YHB *e*pP **pP 00 29 23.4 +2.2**
YHB *e*PP **PP 00 30 45.0 -4.2**
YPP Pitchstone Pla 87.92 42 *e*P **P 00 27 12.3 +1.1**
YPP *e*pP **pP 00 29 20.8 -0.6**
CM31 Chiang Mai Arr 87.98 290 *e*P **P 00 27 13.3 +1.6**
CMAR Chiang Mai Arr 87.98 290 P **P 00 27 12.6 +0.8**
comp=E,36nm,1.0s,baz=111,slow=2.8,SNR=110
CMAR pP **pP 00 29 24.8 +2.9**
comp=E,1.3nm,0.4s,baz=122,slow=1.4,SNR=2.4
CMAR PP **PP 00 30 48.5 -1.5**
comp=E,0.8nm,0.3s,baz=312,slow=52,SNR=2.9
YFT Old Faithful 87.99 42 *e*P **P 00 27 14.0 +2.5**
comp=E,29nm,0.8s
YMR Madison River 88.00 42 *e*P **P 00 27 12.7 +1.2**
comp=E,60nm,1.1s
YMR *e*pP **pP 00 29 22.1 +0.4**
YMR *e*PP **PP 00 30 49.1 -0.9**
BOZ Bozeman (W) 88.02 41 P **P 00 27 12.1 +0.6**
baz=242,SNR=34
BOZ Bozeman (W) 88.02 41 *e*P **P 00 27 12.5 +1.0**
BOZ *e**PP **pP 00 29 24.3 +2.6**
BOZ pmax pmax
comp=Z,57nm,1.4s
BOZ Bozeman (W) 88.02 41 *e*P **P 00 27 12.5 +1.0**
comp=Z,57nm,1.4s
BOZ *e*pP **pP 00 29 24.3 +2.6**
BOZ *e*PP PP 00 30 42.0 -8.0
BW06 Boulder Array 88.05 44 P **P 00 27 11.9 +0.1**
baz=243,SNR=81
BW06 Boulder Array 88.05 44 *e*P **P 00 27 11.7 -0.1**
comp=Z,37nm,0.6s
BW06 *e*pP **pP 00 29 24.0 +2.0**
BW06 *e*PP **PP 00 30 47.5 -2.9**
PD31 Pinedale Array 88.05 44 *e*P **P 00 27 12.2 +0.4**
PD31 *e*pP **pP 00 29 24.1 +2.1**
PD31 *e*PP **PP 00 30 47.5 -2.9**
PDAR Pinedale Array 88.05 44 P **P 00 27 12.2 +0.4**
comp=Z,29nm,0.6s,baz=219,slow=3.1,SNR=250
PDAR pP **pP 00 29 20.8 -1.2**
comp=Z,7.4nm,1.0s,baz=242,slow=5.7,SNR=5.7
PDAR PP **PP 00 30 46.8 -3.5**
comp=Z,3.4nm,0.8s,baz=245,slow=6.4,SNR=8.5
PDAR PKKPbc **PKKPbc 00 44 51.6 -2.8**
comp=Z,0.6nm,0.5s,baz=91,slow=5.1,SNR=8.2
PDAR PKPPKP **P'P'df 00 53 00.3 +0.2**
comp=Z,0.6nm,0.8s,baz=59,slow=5.7,SNR=3.7
CPRX Cap Rock 88.09 54 *e*P **P 00 27 11.7 -0.4**
CHTO Chiang Mai 88.10 290 P **P 00 27 12.9 +0.7**
comp=Z,283nm,1.2s,comp=Z,5µm
CHTO Chiang Mai 88.10 290 *e*P **P 00 27 13.0 +0.7**
CHTO pmax pmax
comp=Z,64nm,1.0s
CHTO Chiang Mai 88.10 290 *e*P **P 00 27 13.0 +0.8**
comp=Z,64nm,1.0s
CHTO Chiang Mai 88.10 290 PcP **P 00 27 12.6 +0.4**
SNR=28
CHTO Chiang Mai 88.10 290 P **P 00 27 12.6 +0.4**
SNR=28
H17A Grant Village 88.12 42 P **P 00 27 13.8 +1.6**
baz=243,SNR=26
H17A Grant Village 88.12 42 *e*P **P 00 27 14.5 +2.3**
comp=Z,48nm,1.0s
H17A *e*pP **pP 00 29 27.2 +4.8**
YHH Holmes Hill 88.13 42 *e*P **P 00 27 13.8 +1.6**
comp=Z,104nm,1.8s
YNR Norris Junctio 88.21 42 *e*P **P 00 27 12.9 +0.4**
YNR *e*pP **pP 00 29 23.0 +0.3**
SMCO Snowmass 88.26 48 *e*P **P 00 27 13.4 +0.3**
comp=Z,41nm,0.9s
SMCO *e*PP **PP 00 30 48.5 -3.8**
CD2 Chengdu 88.27 303 P **P 00 27 13.0 +0.1**
CD2 pP pP 00 29 23.8 +0.7
CD2 SKS **SKSac 00 36 43.3 -1.5**
CD2 S **S 00 37 07.0 -1.0**
CD2 sS sS 00 41 01.0 +0.8
CD2 SS **SS 00 43 16.3 -0.6**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,670nm,4.8s
LKWY Lake 88.31 42 *e*P **P 00 27 14.5 +1.5**
LKWY pmax pmax
comp=Z,33nm,0.9s
LKWY Lake 88.31 42 *e*P **P 00 27 14.5 +1.5**
comp=Z,33nm,0.9s
WALA Waterton Lakes 88.34 37 *e*P **P 00 27 14.1 +1.2**
comp=Z,22nm,0.8s
CMAI Chiengmai2 88.38 291 P **P 00 27 14.4 +0.7**
comp=Z,428nm,0.9s,comp=Z,67µm
HRY Holter Researc 88.43 40 *e*P **P 00 27 14.2 +0.9**
HRY *e*pP **pP 00 29 25.9 +2.3**
LNIG Linares 88.71 63 *e*P **P 00 27 15.2 +0.2**
comp=Z,67nm,1.0s
LNIG *e*pP **pP 00 29 24.6 -0.7**
SDCO Great Sand Dun 88.72 50 P **P 00 27 15.4 +0.4**
baz=246
SDCO Great Sand Dun 88.72 50 *e*P **P 00 27 15.5 +0.4**
SYO Syowa Base 88.90 193‖ *e*P **P 00 27 12.6 -2.4**
SYO Syowa Base 88.90 193‖ *e*PcP **PcP 00 27 15.6 -0.4**
TOLK Toolik Lake Re 88.99 11 P **P 00 27 15.7 +0.4**
baz=208
TOLK Toolik Lake Re 88.99 11 *e*P **P 00 27 15.4 0.0**
TOLK *e*pP **pP 00 29 27.2 +1.3**
MHTCO State Highway 89.07 50 *e*P **P 00 27 17.1 +0.5**
comp=Z,57nm,2.0s
RWWY Rawlins 89.15 46 *e*P **P 00 27 17.6 +0.6**
comp=Z,53nm,1.1s
RWWY *e*pP **pP 00 29 23.8 -3.7**
RWWY *e*PP **PP 00 30 51.7 -7.4**
YAK Yakutsk 89.25 339 P **P 00 27 15.6 -1.0**
comp=Z,11nm,0.4s,baz=42,slow=1.5,SNR=7.8
YAK Yakutsk 89.25 339 *e*P **P 00 27 15.5 -1.0**
YAK *e**PP **pP 00 29 25.4 -1.7**
YAK *e* 00 30 55.3
YAK *e*S **SKSac 00 36 47.4 -1.4**
YAK *e* 00 37 12.3
YAK *e*SS **SS 00 43 29.4 0.0**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=Z,14nm,0.6s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK smax smax
comp=N,86nm,2.9s
YAK smax smax
comp=E,58nm,2.8s
YAK Yakutsk 89.25 339 *e*P **P 00 27 15.8 -0.7**
comp=E,130nm,1.4s
T25A Trinidad 89.28 51 P **P 00 27 18.1 +0.5**
baz=247,SNR=8.2
T25A Trinidad 89.28 51 *e*P **P 00 27 16.9 -0.7**
comp=E,38nm,1.7s
RLMT Red Lodge 89.28 42 P **P 00 27 18.1 +0.7**
baz=244,SNR=21
RLMT Red Lodge 89.28 42 *e*P **P 00 27 18.6 +1.2**
comp=E,25nm,0.8s
MSTX Muleshoe 89.30 54 P **P 00 27 17.8 +0.1**
baz=248
MSTX Muleshoe 89.30 54 *e*P **P 00 27 18.3 +0.6**
comp=E,55nm,0.8s
MSTX *e*pP **pP 00 29 32.1 +3.9**
GCMT Greycliff 89.33 41 *e*P **P 00 27 18.3 +0.8**
GCMT *e*pP **pP 00 29 29.4 +1.3**
Q24A Divide 89.47 49 P **P 00 27 19.5 +0.9**
baz=246,SNR=19
Q24A Divide 89.47 49 *e*P **P 00 27 19.8 +1.2**
comp=E,36nm,0.9s
ISCO Idaho Springs 89.47 48 P **P 00 27 19.1 +0.5**
baz=246,SNR=28
ISCO Idaho Springs 89.47 48 *e*P **P 00 27 19.1 +0.5**
ISCO pmax pmax
comp=Z,17nm,0.9s
N23A Red Feather La 89.69 47 P **P 00 27 20.3 +0.7**
baz=246,SNR=46
N23A Red Feather La 89.69 47 *e*P **P 00 27 20.2 +0.7**
comp=Z,64nm,0.8s
933A Laredo 89.81 61 P **P 00 27 21.4 +1.4**
baz=250,SNR=20
833A Chaparral WMA, 89.96 60 P **P 00 27 21.4 +0.7**
baz=250,SNR=12
K22A Casper 90.01 45 P **P 00 27 21.3 +0.5**
baz=246,SNR=8.6
K22A Casper 90.01 45 *e*P **P 00 27 21.8 +0.9**
K22A *e*PP **PP 00 31 02.0 -3.6**
034A Hebbronville 90.12 62 P **P 00 27 23.3 +1.9**
baz=250,SNR=8.9
LZH Lanzhou 90.14 308 *e*P **P 00 27 23.0 +1.4**
LZH pP pP 00 29 37.0 +4.7
LZH sP sP 00 30 38.0 +5.5
LZH PP **PP 00 31 12.0 +5.2**
LZH SKS **SKSac 00 36 57.0 +1.4**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,640nm,4.8s
CMIG Matias Romero 90.17 72 P **P 00 27 23.2 +1.4**
comp=Z,20nm,0.9s,baz=266,slow=5.0,SNR=18
CMIG pP **pP 00 29 33.2 +0.6**
comp=Z,2.3nm,0.8s,baz=234,slow=7.2,SNR=2.4
PHWY Pilot Hill 90.19 46 *e*P **P 00 27 22.5 +0.7**
comp=Z,34nm,0.8s
PHWY *e*PP **PP 00 31 00.1 -7.1**
EGMT Eagleton 90.28 39 P **P 00 27 22.6 +0.8**
baz=243,SNR=7.1
EGMT Eagleton 90.28 39 *e*P **P 00 27 22.9 +1.1**
EGMT *e*PP **PP 00 31 03.3 -4.3**
JCT Junction City 90.38 58 P **P 00 27 22.9 +0.2**
baz=249,SNR=14
JCT Junction City 90.38 58 *e*P **P 00 27 23.1 +0.5**
JCT pmax pmax
comp=Z,26nm,0.8s
JCT Junction City 90.38 58 *e*P **P 00 27 23.1 +0.5**
comp=Z,26nm,0.8s
035Z Hargill 90.43 62 P **P 00 27 24.3 +1.4**
baz=250
934A Benavides 90.44 61 P **P 00 27 23.8 +0.9**
baz=250,SNR=9.1
AMTX Amarillo 90.47 53 P **P 00 27 23.4 +0.4**
baz=248
AMTX Amarillo 90.47 53 *e*P **P 00 27 23.6 +0.6**
comp=Z,30nm,0.8s
035A Encino 90.56 62 P **P 00 27 24.8 +1.4**
baz=250,SNR=7.7
SNAA Sanae 90.58 179 P **P 00 27 22.2 -0.7**
SNAA Sanae 90.58 179 P **P 00 27 22.1 -0.7**
comp=Z,18nm,0.7s,baz=205,slow=8.5,SNR=180
SNAA Sanae 90.58 179 *e*P **P 00 27 22.1 -0.7**
SNAA pmax pmax
comp=Z,18nm,0.9s
SNAA Sanae 90.58 179 *e*P **P 00 27 22.1 -0.8**
comp=Z,18nm,0.9s
CIT Chita 90.63 325 *e*P **P 00 27 23.5 +0.2**
CIT *e* 00 29 35.4
VNA3 Neumayer Olymp 90.76 177 P **P 00 27 23.1 -0.5**
NVL N'lazarevskaya 91.18 184 *e*P **P 00 27 24.0 -1.5**
NVL *e* 00 30 32.8
NVL *e*SS SS 00 43 52.4 -2.4
VNA2 Neumayer--Watz 91.19 177 P **P 00 27 25.3 -0.3**
baz=193,slow=3.1
835A Beeville 91.24 61 P **P 00 27 28.1 +1.5**
baz=250
835A Beeville 91.24 61 *e*P **P 00 27 29.0 +2.4**
comp=Z,166nm,1.7s
ABTX Abilene, Hawle 91.25 56 P **P 00 27 27.0 +0.4**
baz=250,SNR=22
ABTX Abilene, Hawle 91.25 56 *e*P **P 00 27 27.3 +0.7**
comp=Z,108nm,1.4s
ABTX *e*pP **pP 00 29 40.5 +3.0**
KSCO Kaye Shedlock' 91.30 49 P **P 00 27 27.4 +0.6**
baz=248
KSCO Kaye Shedlock' 91.30 49 *e*P **P 00 27 27.5 +0.7**
comp=Z,36nm,1.2s
VNA1 Neumayer--Stat 91.42 177 P **P 00 27 26.8 +0.2**
735A Kenedy 91.45 60 P **P 00 27 29.5 +2.0**
baz=250
735A Kenedy 91.45 60 *e*P **P 00 27 30.6 +3.1**
comp=Z,74nm,0.9s
PBA Port Blair 91.50 282 *e*P P 00 27 27.4 -0.6
PBA AMB AMB 00 27 29.2
comp=Z,65nm,1.5s
DGPR DIGLIPUR 91.79 283 *e*P **P 00 27 29.4 +0.1**
DGPR AMB AMB 00 27 31.1
comp=Z,72nm,1.2s
LAO LASA Array 91.88 41 P **P 00 27 30.4 +1.2**
baz=246,SNR=38
LAO LASA Array 91.88 41 *e*P **P 00 27 30.1 +0.9**
comp=Z,63nm,0.7s
LAO *e*pP **pP 00 29 41.5 +1.3**
LAO *e*PP **PP 00 31 16.0 -3.8**
PLCA Paso Flores 92.01 134 P **P 00 27 32.3 +2.2**
comp=Z,0.9nm,0.4s,baz=298,slow=5.8,SNR=4.0
736A Circle Diamond 92.10 60 P **P 00 27 32.7 +2.2**
baz=251
736A Circle Diamond 92.10 60 *e*P **P 00 27 33.5 +3.0**
comp=Z,163nm,1.8s
INK Inuvik 92.18 15 P **P 00 27 29.8 -0.1**
comp=Z,16nm,0.8s,baz=191,slow=3.9,SNR=34
RSSD Black Hills 92.27 44 P **P 00 27 32.0 +0.8**
baz=247
RSSD Black Hills 92.27 44 *e*P **P 00 27 31.4 +0.2**
RSSD *e**PP **pP 00 29 45.5 +3.3**
RSSD *e* 00 31 19.6
RSSD pmax pmax
comp=Z,38nm,1.0s
RSSD Black Hills 92.27 44 *e*P **P 00 27 31.4 +0.2**
comp=Z,38nm,1.0s
RSSD *e*pP **pP 00 29 45.5 +3.3**
RSSD *e*PP **PP 00 31 19.6 -3.5**
435B Jarrell 92.28 58 P **P 00 27 31.7 +0.4**
baz=250
636A Smothers Creek 92.28 60 P **P 00 27 33.2 +1.9**
baz=251,SNR=6.7
636A Smothers Creek 92.28 60 *e*P **P 00 27 34.0 +2.6**
comp=Z,46nm,1.0s
OGNE Ogallala 92.44 48 P **P 00 27 33.2 +1.3**
baz=248
OGNE Ogallala 92.44 48 *e*P **P 00 27 33.3 +1.3**
comp=Z,30nm,0.6s
536A Bastrop 92.47 59 P **P 00 27 33.5 +1.3**
baz=251
536A Bastrop 92.47 59 *e*P **P 00 27 34.4 +2.2**
comp=Z,45nm,0.8s
536A *e*pP **pP 00 29 45.8 +2.6**
ULN Ulaanbaatar 92.55 320*c e*P **P 00 27 31.7 -0.7**
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 92.55 320 *e*P **P 00 27 32.4 0.0**
comp=Z,28nm,1.1s
ULN *e*pP **pP 00 29 45.2 +1.8**
ULN Ulaanbaatar 92.55 320 P **P 00 27 31.6 -0.7**
SNR=16
ULN Ulaanbaatar 92.55 320 P **P 00 27 31.6 -0.7**
SNR=16
WMOK Wichita Mounta 92.65 54 P **P 00 27 33.6 +0.6**
baz=250
WMOK Wichita Mounta 92.65 54 *e*P **P 00 27 34.4 +1.4**
WMOK pmax pmax
comp=Z,16nm,1.6s
WMOK Wichita Mounta 92.65 54 *e*P **P 00 27 34.4 +1.4**
comp=Z,16nm,1.6s
WHTX Lake Whitney, 92.78 57 P **P 00 27 34.1 +0.5**
baz=251
WHTX Lake Whitney, 92.78 57 *e*P **P 00 27 34.0 +0.4**
WHTX *e*PP PP 00 31 18.4 -8.7
436A Wall Ranch, Ga 92.91 59 P **P 00 27 35.6 +1.4**
baz=251
SONM Songino Array 92.94 320 P **P 00 27 33.2 -0.9**
comp=Z,1.7nm,0.4s,baz=128,slow=3.9,SNR=32
SONM pP **pP 00 29 45.7 +0.5**
comp=Z,5.4nm,1.2s,baz=139,slow=4.9,SNR=6.4
SONM PP **PP 00 31 24.0 -4.1**
comp=Z,0.9nm,0.6s,baz=150,slow=12,SNR=3.9
U32A Winter Ranch, 93.04 53 P **P 00 27 35.3 +0.6**
baz=250,SNR=14
336A Riesel 93.07 58 P **P 00 27 36.1 +1.2**
baz=251
537A Green Hill Far 93.08 60 P **P 00 27 36.4 +1.4**
baz=251

CBKS	Cedar Bluff	93.33	50	P	P	00 27 36.4 +0.4
	baz=250					
CBKS	Cedar Bluff	93.33	50	eP	P	00 27 36.7 +0.7
CBKS				e		00 31 27.2
CBKS				pmax	pmax	
	comp=Z,30nm,0.9s					
CBKS	Cedar Bluff	93.33	50	eP	P	00 27 36.7 +0.7
	comp=Z,30nm,0.9s					
CBKS				ePP	PP	00 31 27.2 -4.0
HKT	Hockley	93.44	60	eP	P	00 27 38.3 +1.8
HKT				e*PP	pP	00 29 50.3 +2.7
HKT	Hockley	93.44	60	eP	P	00 27 38.3 +1.8
HKT				epP	pP	00 29 50.3 +2.7
437A	Phantom Ranch,	93.47	59	P	P	00 27 38.1 +1.4
	baz=251					
236A	Katherine and	93.53	58	P	P	00 27 37.3 +0.3
	baz=251					
136A	Ennis	93.68	57	P	P	00 27 38.6 +0.9
	baz=251					
Y35A	Marietta	93.74	56	P	P	00 27 38.9 +1.0
	baz=251					
337A	Centerville	93.83	58	P	P	00 27 39.4 +1.0
	baz=251					
DGMT	Dagmar	93.84	40	P	P	00 27 38.8 +0.8
	baz=247,SNR=23					
DGMT	Dagmar	93.84	40	eP	P	00 27 39.5 +1.4
	comp=Z,126nm,1.1s					
DGMT				epP	pP	00 29 50.3 +1.1
DGMT				ePP	PP	00 31 30.5 -4.4
X35A	Drake	93.95	55	P	P	00 27 39.6 +0.8
	baz=251,SNR=6.7					
438A	Sam Houston St	93.98	59	P	P	00 27 40.4 +1.3
	baz=252					
Z36A	Blue Ridge	94.01	56	P	P	00 27 40.2 +1.0
	baz=251					
237A	Washetta, Mont	94.11	58	P	P	00 27 41.7 +2.1
	baz=252					
W35A	Tecumseh	94.27	55	P	P	00 27 41.1 +0.8
	baz=251					
GTA	Gaotai	94.31	310	⇑P	P	00 27 41.0 +0.5
GTA				pP	pP	00 29 54.5 +2.8
GTA				sP	sP	00 30 50.3 -1.5
GTA				PP	PP	00 31 42.5 +3.7
GTA				S	S	00 38 00.0 -1.1
GTA				sS	sS	00 41 53.8 -3.3
GTA				pmax	pmax	
	comp=Z,32nm,1.3s					
GTA				pmax	pmax	
	comp=Z,300nm,6.2s					
Y36A	Durant	94.33	56	P	P	00 27 41.9 +1.3
	baz=251,SNR=12					
X36A	Centrahoma	94.49	55	P	P	00 27 42.0 +0.7
	baz=251					
T34A	McClaskey Farm	94.63	53	P	P	00 27 43.2 +1.3
	baz=251					
Z37A	Pogue Cattle C	94.63	57	P	P	00 27 43.1 +1.1
	baz=252					
238A	Jacksonville	94.66	58	P	P	00 27 43.6 +1.4
	baz=252					
W36A	Wetumka	94.77	55	P	P	00 27 43.7 +1.1
	baz=252					
YKA	Yellowknife Ar	94.77	25	P	P	00 27 42.2 +0.4
	comp=Z,5.1nm,0.6s,baz=238,slow=4.6,SNR=14					
Y37A	Hugo	94.88	56	P	P	00 27 44.4 +1.3
	baz=252					
S34A	Willow Spring	94.91	52	P	P	00 27 43.7 +0.6
	baz=251,SNR=8.8					
R34A	Isabella, Hill	95.00	51	P	P	00 27 44.4 +0.8
	baz=251					
T35A	Sooner Cattle	95.11	53	P	P	00 27 44.8 +0.7
	baz=252,SNR=7.2					
V36A	Jenks	95.19	54	P	P	00 27 45.7 +1.3
	baz=252					
239A	Gary	95.19	58	P	P	00 27 46.3 +1.7
	baz=252					
K31A	O'Neill	95.32	47	P	P	00 27 45.7 +0.8
	baz=251,SNR=6.8					
O33A	Hebron	95.32	50	P	P	00 27 46.2 +1.2
	baz=251,SNR=5.5					
TUL1	Leonard	95.34	54	P	P	00 27 46.2 +1.1
	baz=252					
BGNE	Belgrade	95.35	48	P	P	00 27 46.3 +1.2
	baz=251					
BGNE	Belgrade	95.35	48	eP	P	00 27 45.6 +0.6
	comp=Z,60nm,0.9s					
W37B	Quinton	95.39	55	P	P	00 27 45.8 +0.5
	baz=252					
Q34A	Chapman	95.42	51	P	P	00 27 46.5 +1.1
	baz=251,SNR=12					
139A	Bunkhouse Ranc	95.46	58	P	P	00 27 46.8 +1.1
	baz=252					
340A	Bronson	95.48	59	P	P	00 27 47.1 +1.3
	baz=252					
S35A	Otter Creek Ra	95.50	52	P	P	00 27 47.2 +1.4
	baz=252,SNR=5.6					
U36A	Oologah	95.54	54	P	P	00 27 47.3 +1.3
	baz=252					
J31A	Geddes	95.55	46	P	P	00 27 46.9 +1.0
	baz=251					
T36A	Boggs Farm, Ca	95.64	53	P	P	00 27 47.4 +1.0
	baz=252,SNR=5.7					
P34A	Walnut Farm, R	95.70	50	P	P	00 27 48.0 +1.3
	baz=252,SNR=14					
X38A	Whitesboro	95.71	56	P	P	00 27 47.7 +0.9
	baz=252					
KSU1	Kansas State U	95.72	51	P	P	00 27 48.0 +1.3
	baz=252,SNR=14					
KSU1	Kansas State U	95.72	51	eP	P	00 27 47.8 +1.0
	comp=Z,47nm,0.6s					
KSU1				ePP	PP	00 31 46.2 -3.2
R35A	Emporia Munici	95.79	52	P	P	00 27 48.2 +1.1
	baz=252					
ZAK	Zakamensk	95.80	321	eP	P	00 27 46.9 -0.1
ZAK				e		00 31 45.9
ZAK				pmax	pmax	
	comp=Z,9.0nm,1.3s					
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.4s					
V37A	Hulbert	95.84	54	P	P	00 27 48.2 +0.8
	baz=252					
K32A	Verdigre	95.88	47	P	P	00 27 48.0 +0.6
	baz=251					
TIXI	Tiksi	95.94	346	P	P	00 27 46.5 -0.4
	comp=Z,4.9nm,0.7s,baz=122,slow=5.5,SNR=10					
TIXI				pP	pP	00 29 57.4 -0.9
	comp=Z,1.1nm,0.5s,baz=122,slow=3.7,SNR=2.5					
TIXI	Tiksi	95.94	346	ceP	P	00 27 46.4 -0.6
TIXI				pmax	pmax	
	comp=Z,13nm,1.1s					
TIXI	Tiksi	95.94	346	eP	P	00 27 46.3 -0.7
	comp=Z,12nm,1.1s					
TIXI				epP	pP	00 29 58.0 -0.3
O34A	Beatrice	96.00	50	P	P	00 27 49.1 +1.1
	baz=252					
U37A	Salina	96.02	54	P	P	00 27 49.2 +1.0
	baz=252					
S36A	Lake Cedric, C	96.06	52	P	P	00 27 50.0 +1.7
	baz=252,SNR=6.5					
Q35A	Mercer Eighty,	96.07	51	P	P	00 27 49.7 +1.3
	baz=252					
W38A	Poteau	96.08	55	P	P	00 27 49.2 +0.8
	baz=252					
P35A	Duane Minner,	96.29	51	P	P	00 27 50.5 +1.1
	baz=252,SNR=9.4					
R36A	Gordon, Harris	96.31	52	P	P	00 27 50.7 +1.3
	baz=252,SNR=5.8					
N34A	Lincoln	96.35	49	P	P	00 27 50.5 +0.9
	baz=252					
T37A	Cheneyville 18	96.39	53	P	P	00 27 50.6 +0.8
	baz=252,SNR=9.3					
V38A	Canehill	96.40	55	P	P	00 27 50.6 +0.7
	baz=253					
SHL	Shillong	96.41	295	eP	P	00 27 47.4 -3.0
MDND	Maddock	96.49	42	P	P	00 27 50.5 +0.5
	baz=251					
MDND	Maddock	96.49	42	eP	P	00 27 51.1 +1.1
MDND				epP	pP	00 30 04.5 +3.0
U38A	Gravette	96.59	54	P	P	00 27 51.6 +0.9
	baz=253					
S37A	Fort Scott	96.65	53	P	P	00 27 51.9 +0.9
	baz=253,SNR=6.6					
MIAR	Mount Ida	96.66	56	P	P	00 27 51.8 +0.7
	baz=253					
R37A	Teagarden Farm	96.81	52	P	P	00 27 52.8 +1.1
	baz=253					
T38A	Diamond	96.84	53	P	P	00 27 52.5 +0.6
	baz=253,SNR=11					
P36A	Good Intent, A	96.92	51	P	P	00 27 53.6 +1.5
	baz=253,SNR=6.5					
V39A	Pettigrew	96.99	55	P	P	00 27 53.6 +1.0
	baz=253					
ECSD	EROS Data Cent	97.16	46	P	P	00 27 54.6 +1.5
	baz=252,SNR=8.6					
ECSD	EROS Data Cent	97.16	46	eP	Pdif	00 27 53.1 0.0
ECSD				epP	pP	00 30 04.3 -0.3
O36A	Bolckow	97.25	50	P	P	00 27 55.0 +1.5
	baz=253					
Q37A	Longview Farm,	97.26	52	P	P	00 27 54.9 +1.3
	baz=253					
U39A	Green Forest	97.27	54	P	P	00 27 54.8 +1.0
	baz=253					
S38A	Stockton	97.31	53	P	P	00 27 55.0 +1.1
	baz=253					
N36A	Muff Farm, Cla	97.45	50	P	P	00 27 55.9 +1.4
	baz=253					
R38A	Fenwick Farm,	97.47	52	P	P	00 27 55.8 +1.2
	baz=253,SNR=13					
X41A	Kaden, Bauxite	97.49	56	P	P	00 27 55.6 +0.9
	baz=254					
T39A	Clever	97.53	54	P	P	00 27 56.7 +1.8
	baz=253,SNR=6.7					
P37A	Lathrop	97.54	51	P	P	00 27 56.8 +1.9
	baz=253,SNR=7.0					
V40A	Witts Springs	97.62	55	P	P	00 27 56.0 +0.6
	baz=254					
M36A	Felix, Anita	97.75	49	P	P	00 27 56.9 +1.1
	baz=253					
S39A	Bolivar	97.77	53	P	P	00 27 57.6 +1.7
	baz=253,SNR=8.0					
I34A	Hadley	97.77	46	P	P	00 27 56.8 +1.0
	baz=253					
K35A	Storm Lake	97.82	48	P	P	00 27 57.4 +1.4
	baz=253					
O37A	Wolven Farm, M	97.86	50	P	P	00 27 57.6 +1.3
	baz=253					
W41B	Gary Mavity, V	97.89	56	P	P	00 27 57.8 +1.3
	baz=254					
B31A	Greenbush Farm	97.92	42	P	P	00 27 57.0 +0.7
	baz=252					
L36A	Harm Buss Farm	98.04	48	P	P	00 27 58.1 +1.1
	baz=253					
P38A	Dawn	98.16	51	P	P	00 27 58.7 +1.1
	baz=254					
R39A	Chumby, Stover	98.16	52	P	P	00 27 58.9 +1.2
	baz=254					
LSA	Lhasa	98.19	298	eP	P	00 27 59.6 +0.9
LSA				pmax	pmax	
	comp=Z,22nm,1.8s					
LSA	Lhasa	98.19	298	ePdif	P	00 27 59.6 +0.9
	comp=Z,22nm,1.8s					
T40A	Mansfield	98.23	54	P	P	00 27 58.9 +0.9
	baz=254					
M37A	Trindle Farm,	98.28	49	P	P	00 27 59.3 +1.1
	baz=254					
O38A	Galt	98.34	51	P	P	00 27 59.6 +1.1
	baz=254					
Q39A	Willow Grove F	98.41	52	P	P	00 27 59.5 +0.7
	baz=254					
B32A	Ashes, Strandq	98.61	42	P	P	00 27 59.9 +0.4
	baz=253					
P39B	Salisbury	98.70	51	P	P	00 28 00.7 +0.6
	baz=254					
T41A	Mountain View	98.78	54	P	P	00 28 01.4 +0.8
	baz=254					
M38A	Pleasantville	98.90	49	P	P	00 28 02.0 +1.1
	baz=254					
S41A	Jillco Farms,	98.94	53	P	P	00 28 01.9 +0.7
	baz=254					
K37A	Belmond	98.96	48	P	P	00 28 02.1 +0.9
	baz=254					
G35A	Watkins	99.05	45	P	Pdif	00 28 02.5 +1.0
	baz=254					
J37A	Redenius Farm,	99.17	48	P	Pdif	00 28 02.7 +0.6
	baz=254					
P40A	Paris	99.23	52	P	Pdif	00 28 03.3 +0.9
	baz=254					
N39A	Derby Farms, D	99.26	50	P	Pdif	00 28 03.3 +0.8
	baz=254					
L38A	Oak Wood Farm,	99.27	49	P	Pdif	00 28 03.3 +0.8
	baz=254					
R41A	Rosebud	99.41	53	P	Pdif	00 28 03.9 +0.6
	baz=255					
O40A	La Belle	99.52	51	P	Pdif	00 28 04.4 +0.8
	baz=255					
ULM	Lac du Bonnet	99.56	40	P	Pdif	00 28 04.5 +0.9
	comp=Z,6.1nm,0.9s,baz=248,slow=4.0,SNR=6.1					
B34A	Aery, Baudette	99.84	42	P	Pdif	00 28 05.7 +0.8
	baz=254					
F36A	Milaca	99.88	45	P	Pdif	00 28 05.9 +0.8
	baz=255					
J38A	Wedel Dairy, R	99.93	48	P	Pdif	00 28 05.6 +0.2
	baz=255					
N40A	Mertquake, Sal	99.93	50	P	Pdif	00 28 05.8 +0.3
	baz=255					
L39A	Vinton	99.95	49	P	Pdif	00 28 05.7 +0.2
	baz=255					
K39A	Oelwein	100.18	48	P	Pdif	00 28 07.9 +1.3
	baz=255					
SPMN	Marine on St.	100.20	46	P	Pdif	00 28 07.6 +1.0
	baz=255					
I38A	Scanlan Farm,	100.22	47	P	Pdif	00 28 07.4 +0.7
	baz=255					
E36A	McGregor	100.23	44	P	Pdif	00 28 07.5 +0.9
	baz=255					
O41A	Passleys Farm,	100.25	51	P	Pdif	00 28 07.9 +0.9
	baz=255					
BWNR	Bhubaneshwar	100.36	288	eP	Pdif	00 28 07.2 -0.6
BWNR				AMB	AMB	00 28 08.1
	comp=Z,10nm,4.2s					
D36A	Goodland	100.46	44	P	Pdif	00 28 08.4 +0.7
	baz=255					
J39A	Decorah	100.47	48	P	Pdif	00 28 08.8 +0.9
	baz=255					
TAPN	Taplejung	100.50	295	eP	PP	00 32 24.5 -1.4
	comp=Z,112nm,1.7s					
L40A	Anamosa	100.50	49	P	Pdif	00 28 09.1 +1.1
	baz=255					
P42A	Winchester	100.52	52	P	Pdif	00 28 09.2 +1.1
	baz=256					
ODAN	Odare	100.65	295	eP	PP	00 32 25.8 -1.1
	comp=Z,238nm,1.9s					
K40A	Colesburg	100.72	49	P	Pdif	00 28 09.9 +1.0
	baz=256					
I39A	Houston	100.73	47	P	Pdif	00 28 09.8 +0.8
	baz=256					
H39A	Augusta	101.10	47	P	Pdif	00 28 11.5 +0.9
	baz=256					
J40A	Soldiers Grove	101.17	48	P	Pdif	00 28 12.2 +1.2
	baz=256					
BOK	Bokaro	101.19	291	eP	Pdif	00 28 09.8 -1.7
K41A	Shullsburg	101.29	49	P	Pdif	00 28 12.7 +1.2
	baz=256					
RAMN	Ramite	101.35	295	eP	PP	00 32 31.0 -1.1
I40A	Norwalk	101.38	48	P	Pdif	00 28 12.4 +0.6
	baz=256					
F39A	Loretta	101.65	45	P	Pdif	00 28 13.8 +0.8
	baz=256					
J41A	Loganville	101.68	48	P	Pdif	00 28 14.4 +1.2
	baz=256					
H40A	Chili	101.71	47	P	Pdif	00 28 14.6 +1.3
	baz=256					
JIRN	Jiri	101.88	295	eP	PP	00 32 35.0 -1.2
G40A	Rib Lake	101.99	46	P	Pdif	00 28 15.6 +1.0
	baz=257					
K42A	Prairie Point,	102.02	49	P	Pdif	00 28 15.9 +1.2
	baz=257					
GUN	Gumba	102.21	296	eP	PP	00 32 36.2 -2.4
	comp=Z,319nm,2.0s					
H41A	Junction City	102.22	47	P	Pdif	00 28 16.7 +1.1
	baz=257					
PKI	Pulchoki	102.53	295	eP	PP	00 32 39.8 -1.1
PKIN	Phulchoki	102.54	295	eP	PP	00 32 40.2 -0.7
KKN	Kakani	102.69	295	eP	PP	00 32 39.7 -2.3
	comp=Z,110nm,1.7s					
DMN	Daman	102.80	295	eP	PP	00 32 42.6 -0.2
	comp=Z,23nm,1.0s					
G42A	Mountain	103.21	47	P	Pdif	00 28 20.7 +0.8
	baz=258					
GKN	Gorkha	103.30	295	eP	PP	00 32 44.0 -2.3
MDRS	Chennai	103.59	279	eP	Pdif	00 28 21.7 -0.6
G43A	Wallace	103.72	47	P	Pdif	00 28 23.1 +0.9
	baz=258					
DANN	Dangsing	104.13	296	eP	PP	00 32 50.2 -2.4
KOLN	Koldanda	104.14	295	eP	PP	00 32 51.3 -1.2
	comp=Z,63nm,1.3s					
PYUN	Piuthan	104.74	295	eP	PP	00 32 56.3 -0.6
	comp=Z,144nm,1.4s					
HYB	Hyderabad	106.28	283	i P	PP	00 33 06.0 -2.0
HYB				eSKS	SKSac	00 38 16.0 -0.3
HYB				e		00 39 44.0
HYB	Hyderabad	106.28	283	eP	Pdif	00 28 35.0 +0.7
MTDJ	Mount Denham	106.36	76	ePdif	Pdif	00 28 32.3 -2.4
ZAA0	Zalesovo Array	107.66	322	ePdif	Pdif	00 28 39.9 +0.4
ZALV	Zalesovo Beam	107.66	322	Pdif	Pdif	00 28 39.9 +0.4
	comp=Z,1.7nm,0.8s,baz=158,slow=1.6,SNR=6.9					
ZALV				PKIKP	PKiKP	00 32 42.6 -0.7
	comp=Z,2.2nm,0.4s,baz=118,slow=2.3,SNR=9.8					
MKAR	Makanchi Array	108.46	314	Pdiff	Pdif	00 28 43.3 -0.1
	comp=Z,0.5nm,0.5s,baz=84,slow=6.0,SNR=7.3					
MKAR				PKiKP	PKiKP	00 32 44.0 -1.2
	comp=Z,3.1nm,0.5s,baz=112,slow=1.0,SNR=22					
MKAR				PKKPbc	PKKPbc	00 43 57.8 -0.1
	comp=Z,0.5nm,0.4s,baz=272,slow=3.1,SNR=11					
BHPL	Bhopal	108.62	289	eP	Pdif	00 28 42.2 -2.4
DDI	Dehra Dun	109.40	296	eP	Pdif	00 28 47.5 -0.4
GOA	Goa	110.22	280	eP	PKiKP	00 32 49.3 0.0
DHRM	DHARAMSHALA	111.19	298	eP	PKiKP	00 32 50.4 -0.7
KURK	Kurchatov	111.20	318	c i PKIKP	PKiKP	00 32 50.1 0.0
KURK				pmax	pmax	
	comp=Z,31nm,1.0s					
KURK	Kurchatov	111.20	318	ePdif	Pdif	00 28 55.0 -0.3
KURK				ePKiKP	PKiKP	00 32 47.8 -2.4
KURK				PKKPbc	PKKPbc	00 43 48.8 -0.5
KURK				SKKPbc	SKKPbc	00 46 36.9 -0.6
KURBB	Kurchatov Arra	111.25	318	PKiKP	PKiKP	00 32 49.1 -1.2
	comp=Z,3.6nm,0.6s,baz=98,slow=1.8,SNR=35					
KURBB				PKKPbc	PKKPbc	00 43 48.8 -0.3
	comp=Z,1.2nm,0.5s,baz=278,slow=4.2,SNR=16					
KURBB				SKKPbc	SKKPbc	00 46 36.9 -0.4
	comp=Z,0.7nm,0.9s,baz=274,slow=2.9,SNR=4.6					
KSH	Kashi	112.31	306	ePKP	PKiKP	00 32 53.0 +0.2
KSH				ePP	PP	00 33 56.0 +5.5
KSH				sPKP		00 36 09.5
KSH				PKS	PKSdf	00 36 29.0 -0.6
KSH				SKS	SKSdf	00 39 08.8 +0.4
KSH				SKKS	SKKSac	00 39 47.0 -2.6
KSH				SS	SS	00 48 46.0 0.0
KSH				AMB	AMB	
	comp=Z,290nm,6.4s					
FRU	Bishkek	113.57	309	ePKIKP	PKiKP	00 32 54.0 -1.0
AAK	Ala-Archa	113.65	309	PKiKP	PKiKP	00 32 55.5 +0.1
	baz=155,slow=4.0					
AAK				PKKPbc	PKKPbc	00 43 40.6 -0.7
	comp=Z,0.4nm,0.3s,baz=227,slow=6.7,SNR=5.0					
MNAS	Manas	115.11	309	PKIKP	PKPdf	00 32 57.2 -0.9
MNAS				pmax	pmax	
	comp=Z,20nm,1.3s					
BVA0	Borovoye Array	116.26	321	i PKIKP	PKPdf	00 32 58.7 -1.1
BVA0				pmax	pmax	
	comp=Z,21nm,1.2s					
BVAR	Borovoye Array	116.26	321	PKP	PKPdf	00 32 58.8 -1.0
	comp=Z,5.6nm,0.3s,baz=118,slow=2.3,SNR=41					
BVAR				SKP		00 35 37.3
	comp=Z,0.9nm,0.4s,baz=46,slow=6.2,SNR=3.1					
BRVK	Borovoye	116.32	321	c i PKIKP	PKPdf	00 32 59.5 -0.4
BRVK				pmax	pmax	
	comp=Z,60nm,1.7s					
BRVK	Borovoye	116.32	321	ePKPdf	PKPdf	00 32 58.4 -1.6
BRVK				ePP	PP	00 34 13.8 -3.8
BRVK	Borovoye	116.32	321	PKPdf	PKPdf	00 32 58.9 -1.0
	SNR=5.7					
BRVK	Borovoye	116.32	321	P	PKPdf	00 32 58.9 -1.0
	SNR=5.7					
KK31	Karatay Array	116.59	310	c i PKIKP	PKPdf	00 32 59.7 -1.1
KK31				pmax	pmax	
	comp=Z,11nm,1.0s					
KKAR	Karatay Array	116.59	310	ePKIKP	PKPdf	00 32 59.5 -1.3
KKAR	Karatay Array	116.59	310	ePKPdf	PKPdf	00 32 59.5 -1.3
KBL	Kabul	117.46	300	ePKIKP	PKPdf	00 33 03.0 0.0
KBL				e		00 34 21.5
KBL	Kabul	117.46	300	ePKPdf	PKPdf	00 33 03.0 0.0
KBL				ePP	PP	00 34 21.4 -4.9
SPITS	Spitsbergen Ar	119.24	356	PKP	PKPdf	00 33 04.6 -0.3
	comp=Z,17nm,1.1s,baz=95,slow=4.4,SNR=11					
SUMG	Summit	120.98	13	ePKIKP	PKPdf	00 33 09.0 +0.1
SUMG	Summit	120.98	13	ePKPdf	PKPdf	00 33 09.0 +0.1
SFJD	Kangerlussuaq	121.07	21	PKP	PKPdf	00 33 09.0 +0.4
	comp=Z,5.1nm,0.5s,baz=82,slow=5.0,SNR=4.2					
SVE	Sverdlovsk	121.12	326	ePKIKP	PKPdf	00 33 09.4 +0.4
SVE				pmax	pmax	
	comp=Z,24nm,1.0s					
ABPO	Ambohimpanom	121.27	234	ePKIKP	PKPdf	00 33 11.4 +0.7
ABPO	Ambohimpanom	121.27	234	ePKPdf	PKPdf	00 33 11.4 +0.7
BDFB	Brasilia	121.65	122	PKP	PKPdf	00 33 11.3 -0.2
	comp=Z,2.8nm,0.4s,baz=21,slow=3.6,SNR=5.6					
SOKR	Solikamsk	122.20	330	c i PKIKP	PKPdf	00 33 09.7 -1.2
SOKR				pmax	pmax	
	comp=Z,55nm,1.2s					
ARU	Arti	122.34	326	PKP	PKPdf	00 33 10.7 -0.6
	comp=Z,13nm,0.3s,baz=40,slow=1.2,SNR=37					
ARU	Arti	122.34	326	i PKIKP	PKPdf	00 33 10.8 -0.6
ARU						00 34 57.1
ARU				PPP	PPP	00 37 37.4
ARU						00 39 25.8
ARU				SP	SP	00 43 52.4 -0.6
ARU	Arti	122.34	326	ePKPdf	PKPdf	00 33 10.4 -1.0
ARU				ePP	PP	00 34 53.5 -4.6
AB31	Akbulak array	123.30	318	c i PKIKP	PKPdf	00 33 12.2 -1.3
AB31				pmax	pmax	
	comp=Z,22nm,1.2s					
ABKAR	Akbulak array	123.30	318	ePKPdf	PKPdf	00 33 12.7 -0.8
ABKAR				ePP	PP	00 35 01.7 -3.1
AKTO	Aktyubinsk	124.26	319	PKP	PKPdf	00 33 14.6 -0.6
	comp=Z,12nm,0.9s,baz=69,slow=1.2,SNR=26					
HAMF	Hammerfest	125.49	351	ePKPdf	PKPdf	00 33 15.7 -1.4
WSAR	Wadi Sarin	125.69	286	PKP	PKPdf	00 33 18.9 +0.1
	comp=Z,16nm,1.2s,baz=246,slow=8.9,SNR=8.5					
KEV	Kevo	125.72	349	ePKIKP	PKPdf	00 33 17.1 -0.3
KEV	Kevo	125.72	349	ePKPdf	PKPdf	00 33 17.1 -0.3
ARCES	ARCESS Array B	126.17	349	PKhKP	PKPpre	00 33 03.4
	comp=Z,1.2nm,0.7s,baz=292,slow=0.7,SNR=3.8					
ARCES				PKP	PKPdf	00 33 17.9 -0.5
	comp=Z,11nm,0.7s,baz=92,slow=1.7,SNR=53					
ARCES				PKKPab	PKKPab	00 42 53.8 +0.2
	comp=Z,1.4nm,0.5s,baz=206,slow=2.5,SNR=16					
ARE0	ARCESS Array S	126.17	349	ePKPdf	PKPdf	00 33 17.7 -0.7
ARE0	ARCESS Array S	126.17	349	ePKPdf	PKPdf	00 33 18.0 -0.4
GEYT	Alibeck	126.25	304	PKhKP	PKPpre	00 33 05.8
	comp=Z,3.2nm,0.8s,baz=270,slow=5.8,SNR=6.5					
GEYT				PKP	PKPdf	00 33 19.0 -0.6
	comp=Z,6.5nm,0.4s,baz=259,slow=1.5,SNR=31					
SUR	Sutherland	126.34	201	ePKPdf	PKPdf	00 33 21.8 +1.6
KTK1	Kautokeino	127.02	350	ePKPdf	PKPdf	00 33 19.3 -0.8
KIF	Kilpisjarvi	127.41	351	ePKPdf	PKPdf	00 33 20.1 -0.6
HEF	Hetta	127.49	349	ePKPdf	PKPdf	00 33 20.1 -0.8
BOSA	Boshof	127.92	208	PKP	PKPdf	00 33 23.8 +0.5
	comp=Z,6.3nm,0.6s,baz=142,slow=1.9,SNR=17					
BOSA	Boshof	127.92	208	ePKPdf	PKPdf	00 33 24.7 +1.5
UOSS	Minazif	128.04	288	ePKPdf	PKPdf	00 33 22.8 -0.4
UOSS	Minazif	128.04	288	PKPdf	PKPdf	00 33 22.7 -0.6
UOSS	Minazif	128.04	288	P	PKPdf	00 33 22.7 -0.6
ASHO	Ashiyiah	128.16	288	PKiKP	PKPdf	00 33 23.2 -0.4
	SNR=8.0					
ASHO	Ashiyiah	128.16	288	P	PKPdf	00 33 23.2 -0.4
	SNR=8.0					
KLMR	Klimovskoe	129.01	337	ePKIKP	PKPdf	00 33 23.1 -0.9
KLMR				e		00 35 45.3
KLMR				pmax	pmax	
	comp=Z,42nm,1.4s					
LBTB	Lobatse	130.83	210	ePKIKP	PKPdf

OBN			e			00 39 14.0	
OBN			i SS	SS		00 53 08.7	-4.0
OBN			pmax	pmax			
comp=Z,68nm,2.5s							
OBN	**Obninsk**	**133.88 332**	ePKPdf	**PKPdf**		**00 33 34.1**	**+0.8**
GOF	**Gofitskoye**	**135.53 317⇑**	ePKIKP	**PKPdf**		**00 33 37.8**	**+1.0**
GOF			pmax	pmax			
comp=Z,29nm,1.3s							
ZEI	**Tsey**	**135.81 314**	ePKIKP	**PKPdf**		**00 33 37.7**	**+0.1**
ZEI			pmax	pmax			
comp=Z,8.0nm,1.5s							
GNI	**Garni**	**136.06 310**	c iPKIKP	**PKPdf**		**00 33 35.5**	**-2.6**
GNI			pmax	pmax			
comp=Z,139nm,1.7s							
NC303	**NORSAR Array S**	**136.09 352**	ePKPpre	PKPpre		00 33 26.0	
NC303			ePKPdf	**PKiKP**		**00 33 38.4**	**-0.7**
KBZ	**Khabaz**	**136.15 315**	PKP	**PKPdf**		**00 33 39.5**	**+1.6**
comp=Z,3.3nm,0.8s,baz=91,slow=4.9,SNR=6.1							
KBZ			PP	**PP**		**00 36 28.3**	**+1.5**
comp=Z,9.5nm,1.0s,baz=120,slow=2.7,SNR=5.5							
NC405	**NORSAR Array S**	**136.15 352**	ePKPpre	PKPpre		00 33 24.3	
KIV	**Kislovodsk**	**136.20 316**	i PKIKP	**PKPdf**		**00 33 38.8**	**+0.6**
KIV			e*PP	**pPKPdf**		**00 35 49.4**	**-8.7**
KIV			e			00 36 24.7	
KIV			ePPP	PPP		00 39 31.8	
KIV			e			00 39 51.0	
KIV			eSS	SS		00 53 41.5	0.0
KIV			eSSS	SSS		00 58 56.5	
KIV			pmax	pmax			
comp=Z,21nm,1.1s							
NB201	**NORSAR Array S**	**136.27 352**	ePKPpre	PKPpre		00 33 26.8	
NB2	**NORSAR Subarra**	**136.29 353**	PKP	PKPpre		00 33 26.8	
comp=Z,11nm,1.4s,baz=16,slow=3.2							
NB2	**NORSAR Subarra**	**136.29 353**	PKP	PKPpre		00 33 26.8	
baz=16,slow=3.2							
NOA	**NORSAR Array B**	**136.29 353**	SKPab	**SKPab**		**00 36 21.9**	**+1.3**
comp=Z,4.6nm,0.9s,baz=14,slow=2.9,SNR=4.0							
NBO00	**NORSAR Array S**	**136.35 353**	ePKPpre	PKPpre		00 33 27.9	
NC602	**NORSAR Array S**	**136.54 352**	ePKPpre	PKPpre		00 33 25.9	
AKH	**Akhalkalaki**	**136.56 312⇑**	iPP	PKPpre		00 33 29.3	
AKH	**Akhalkalaki**	**136.56 312⇓**	iPP	**SKPdf**		**00 36 17.6**	**+0.2**
LSZ	**Lusaka**	**137.21 221**	ePKHKP	PKPpre		00 33 31.4	
LSZ			e			00 33 41.4	
LSZ	**Lusaka**	**137.21 221**	ePKPpre	PKPpre		00 33 31.4	
LSZ			ePKPdf	**PKPdf**		**00 33 41.4**	**+0.4**
RAYN	**Ar Rayn**	**137.74 285**	ePKPpre	PKPpre		00 33 33.2	
RAYN			ePKPdf	**PKPdf**		**00 33 42.5**	**+1.0**
ARTV	**Artvin**	**137.75 312**	ePKPdf	**PKPdf**		**00 33 42.8**	**+1.5**
DAMY	**Dhamar**	**137.87 272**	ePKPpre	PKPpre		00 33 33.7	
DAMY			ePKPdf	**PKiKP**		**00 33 43.8**	**-0.7**
NACGM	**Naroch**	**138.01 338**	e	PKPpre		00 33 35.0	
KMBO	**Kilima Mbogo**	**139.23 246**	PKhKP	PKPpre		00 33 38.2	
comp=Z,2.3nm,0.5s,baz=82,slow=6.5,SNR=5.4							
KMBO			SKPbc	**SKiKP**		**00 36 26.0**	**-0.8**
comp=Z,4.6nm,0.8s,baz=81,slow=1.9,SNR=8.0							
KMBO	**Kilima Mbogo**	**139.23 246**	PKHKP	PKPpre		00 33 38.2	
KMBO			e			00 33 47.0	
KMBO	**Kilima Mbogo**	**139.23 246**	PKPpre	PKPpre		00 33 38.2	
KMBO			ePKPdf	**PKiKP**		**00 33 47.0**	**-0.3**
KMBO			SKPbc	**SKiKP**		**00 36 26.0**	**-0.8**
TSUM	**Tsumeb**	**139.48 205**	PKhKP	PKPpre		00 33 37.2	
comp=Z,3.0nm,0.5s,baz=216,slow=1.4,SNR=13							
TSUM	**Tsumeb**	**139.48 205**	ePKPpre	PKPpre		00 33 36.8	
SUW	**Suwalki**	**139.98 339**	ePKP	PKPpre		00 33 39.6	
SUW	**Suwalki**	**139.98 339**	ePKHKP	PKPpre		00 33 39.6	
AKASG	**Malin Array Be**	**140.13 332**	PKhKP	PKPpre		00 33 37.3	
comp=Z,3.1nm,0.3s,baz=41,slow=4.4,SNR=24							
AKASG			SKPbc	**SKPbc**		**00 36 25.7**	**+0.9**
comp=Z,4.8nm,0.6s,baz=42,slow=3.6,SNR=8.1							
AKBB	**Malin Array Si**	**140.13 332**	ePKHKP	PKPpre		00 33 37.6	
AKBB			e			00 33 45.8	
AKBB	**Malin Array Si**	**140.13 332**	ePKPpre	PKPpre		00 33 37.6	
AKBB			ePKPdf	**PKPdf**		**00 33 45.8**	**+0.8**
KIEV	**Kiev**	**140.15 332**	ePKHKP	PKPpre		00 33 37.3	
KIEV			e			00 33 45.5	
KIEV	**Kiev**	**140.15 332**	ePKPpre	PKPpre		00 33 37.3	
KIEV			ePKPdf	**PKPdf**		**00 33 45.5**	**+0.5**
SIM	**Simferopol'**	**141.17 321**	cePKHKP	PKPpre		00 33 43.3	
SIM			pmax	pmax			
comp=Z,45nm,1.1s							
TOKA	**Tokat**	**141.89 313**	ePKPpre	PKPpre		00 33 44.7	
FURI	**Furi**	**141.93 261**	ePKPdf	**PKPdf**		**00 33 49.4**	**-0.3**
GKP	**Gorka Klasztor**	**142.43 344**	ePKP	**PKPdf**		**00 33 46.0**	**-3.0**
GKP			e			00 36 10.9	
GKP	**Gorka Klasztor**	**142.43 344**	ePKIKP	**PKPdf**		**00 33 46.0**	**-3.0**
EKA	**Eskdalemuir Ar**	**142.57 4**	PKhKP	PKPpre		00 33 45.7	
comp=Z,4.4nm,0.4s,baz=340,slow=2.9,SNR=44							
BEL	**Belsk**	**142.60 339**	ePKP	**PKPdf**		**00 33 46.9**	**-2.5**
BEL	**Belsk**	**142.60 339**	ePKIKP	**PKPdf**		**00 33 46.9**	**-2.5**
KIS	**Kishinev**	**142.87 328⇑**	iPKP	**PKPdf**		**00 33 47.0**	**-3.0**
KIS			M	M		00 33 48.0	
comp=Z,400nm,2.0s							
KIS			epPKP	PP		00 36 46.0	-21
KIS			eSKS	SKSdf		00 39 34.0	-29
KIS			eSKKS	SKKSac		00 42 29.0	-30
KIS	**Kishinev**	**142.87 328**	α iPKIKP	**PKPdf**		**00 33 47.0**	**-3.0**
KIS			e			00 37 08.0	
KIS			pmax	pmax			
comp=Z,400nm,2.0s							
KIS			pmax	pmax			
comp=Z,700nm,4.0s							
MILM	**Milestii Mici**	**142.92 327⇑**	iP	**PKPdf**		**00 33 46.7**	**-3.4**
LVV	**L'vov**	**143.03 335**	ePKIKP	**PKPdf**		**00 33 50.2**	**0.0**
EDMD	**Edmundbyers**	**143.13 2**	eP	PKPab		00 33 48.4	+0.1
DRWC	**Darouich**	**143.20 308**	eP	PKPab		00 33 49.3	0.0
LCP	**Cassop**	**143.24 2**	eP	PKPab		00 33 48.6	0.0
KESW	**Keswick, Cumbr**	**143.31 4**	eP	PKPab		00 33 48.5	-0.4
IAS	**Iasi**	**143.36 329⇑**	iP	PKPbc		00 33 49.9	+0.3
IAS	**Iasi**	**143.36 329**	⇑PKIKP	PKPbc		00 33 49.9	+0.3
ILGA	**Ilgaz**	**143.43 316**	ePKPbc	**PKPdf**		**00 33 51.3**	**-0.2**
LEOM	**Leova**	**143.51 327⇑**	iP	PKPbc		00 33 50.2	+0.2
LEOM	**Leova**	**143.51 327**	⇑PKIKP	PKPbc		00 33 50.2	+0.2
BTCH	**Batrach**	**143.56 307**	eP	PKPab		00 33 49.5	-1.1
KFRA	**Kufra**	**143.57 305**	eP	PKPab		00 33 50.6	-0.1
KWP	**Kalwaria Pacla**	**143.71 336**	ePKP	PKPbc		00 33 50.3	-0.3
KWP			e			00 36 15.6	
KWP	**Kalwaria Pacla**	**143.71 336**	ePKIKP	PKPbc		00 33 50.3	-0.3
PRAR	**RASCA**	**143.89 330**	⇓iP	PKPbc		00 33 51.1	-0.2
HPK	**Haverah Park**	**144.01 2**	eP	PKPbc		00 33 51.1	-0.2
TLCR		**144.05 325**	⇑iP	**PKPdf**		**00 33 52.0**	**-0.1**
TLCR		**144.05 325**	⇑PKIKP	**PKPdf**		**00 33 52.0**	**-0.1**
BR131	**Keskin Array S**	**144.11 314**	ePKPbc	PKPbc		00 33 51.8	-0.5
BRTR	**Keskin Array B**	**144.11 314**	PKP	PKPbc		00 33 51.8	-0.6
comp=Z,26nm,0.5s,baz=103,slow=2.2,SNR=190							
BUR08	**Bucovina Ar. S**	**144.17 331**	ePKPbc	**PKPab**		**00 33 52.7**	**+0.1**
BURAR	**Bucovina Array**	**144.18 331**	⇑iP	**PKPdf**		**00 33 52.5**	**+0.1**
BURAR	**Bucovina Array**	**144.18 331**	⇑PKIKP	**PKPdf**		**00 33 52.5**	**+0.1**
TESR	**Tescani**	**144.29 329**	⇓iP	PKPbc		00 33 52.3	-0.2
OJC	**Ojcow**	**144.30 339**	ePKP	PKPbc		00 33 52.1	-0.2
OJC	**Ojcow**	**144.30 339**	ePKIKP	PKPbc		00 33 52.2	-0.2
OJC	**Ojcow**	**144.30 339**	ePKPbc	PKPbc		00 33 52.1	-0.2
DSB	**Dublin**	**144.35 7**	ePKPdf	**PKPab**		**00 33 53.4**	**+0.4**
ASF	**Jabal al Asfar**	**144.36 300**	PKP	PKPbc		00 33 53.3	0.0
comp=Z,59nm,1.0s,baz=33,slow=1.4,SNR=53							
WPS	**Cemaes, Angles**	**144.39 5**	eP	PKPbc		00 33 52.8	+0.3
LHO	**Holmfirth**	**144.42 2**	eP	**PKPdf**		**00 33 52.3**	**-0.2**
CFR	**Carcaliu**	**144.42 326**	⇑iP	**PKPdf**		**00 33 52.2**	**-0.5**
CFR	**Carcaliu**	**144.42 326**	⇑PKIKP	**PKPdf**		**00 33 52.2**	**-0.5**
STHS	**Stebnicka Huta**	**144.44 337**	ePKIKP	**PKPab**		**00 33 53.7**	**+0.2**
STHS	**Stebnicka Huta**	**144.44 337**	ePKP	**PKPab**		**00 33 53.7**	**+0.2**
PETR	**Petresti**	**144.54 327**	⇓iP	**PKPab**		**00 33 54.4**	**+0.5**
LMK	**Market Rasen**	**144.55 1**	eP	PKPbc		00 33 52.9	-0.1
ANTO	**Ankara**	**144.62 315**	PKPab	PKPbc		00 33 53.9	+0.1
SNR=16							
ANTO	**Ankara**	**144.62 315**	P	PKPbc		00 33 53.9	+0.1
SNR=16							
BR231	**Keskin MP Arra**	**144.64 315**	ePKPdf	PKPbc		00 33 54.2	+0.3
UZH	**Uzhgorod**	**144.67 335**	ePKIKP	**PKPdf**		**00 33 53.0**	**-0.1**
UZH			e			00 36 08.3	
VRI	**Vrincioaia**	**144.69 328**	⇓iP	**PKPab**		**00 33 54.3**	**-0.3**
VRI	**Vrincioaia**	**144.69 328**	⇑iP	pPKiKP		00 36 16.2	-0.6
VRI	**Vrincioaia**	**144.69 328**	⇓PKIKP	**PKPab**		**00 33 54.3**	**-0.3**
TIRR	**Tirgusor**	**144.74 325**	⇑iP	PKPbc		00 33 54.3	+0.4
TIRR	**Tirgusor**	**144.74 325**	⇑PKIKP	PKPbc		00 33 54.3	+0.4
TIRR	**Tirgusor**	**144.74 325**	ePKPdf	**PKPab**		**00 33 54.8**	**+0.1**
PLOR	**Plostina**	**144.75 328**	⇓iP	**PKPab**		**00 33 54.4**	**-0.4**
PLOR	**Plostina**	**144.75 328**	⇓iP	pPKiKP		00 36 16.5	-0.4
PLOR	**Plostina**	**144.75 328**	⇓PKIKP	**PKPab**		**00 33 54.4**	**-0.4**
CRVS	**Cervenica-Dubn**	**144.78 336**	ePKIKP	PKPbc		00 33 54.2	+0.3
CRVS	**Cervenica-Dubn**	**144.78 336**	ePKP	PKPbc		00 33 54.2	+0.3
NIE	**Niedzica**	**144.79 338**	ePKP	PKPbc		00 33 54.2	+0.3
NIE	**Niedzica**	**144.79 338**	ePKIKP	PKPbc		00 33 54.3	+0.3
HARR	**Harsova**	**144.85 325**	⇑iP	**PKPab**		**00 33 54.8**	**-0.4**
HARR	**Harsova**	**144.85 325**	⇑PKIKP	**PKPab**		**00 33 54.9**	**-0.3**
STNC	**Stoke**	**144.86 3**	eP	PKPbc		00 33 54.2	+0.3
KSP	**Ksiaz**	**144.86 343**	ePKP	PKPbc		00 33 54.2	+0.2
KSP			e			00 36 16.1	
KSP	**Ksiaz**	**144.86 343**	ePKIKP	PKPbc		00 33 54.3	+0.2
GRER		**144.90 327**	⇑iP	**PKPab**		**00 33 55.6**	**+0.2**
BMR	**Baia Mare**	**144.91 333**	⇑iP	PKPbc		00 33 54.5	+0.2
BMR	**Baia Mare**	**144.91 333**	⇑PKIKP	PKPbc		00 33 54.5	+0.2
RAC	**Raciborz**	**144.95 340**	ePKIKP	**PKPdf**		**00 33 53.8**	**+0.3**
TRPA	**Tarpa**	**144.96 334**	⇑ex	**PKPab**		**00 33 55.1**	**-0.4**
ARCR	**ARCALIA**	**144.97 331**	⇓iP	**PKPab**		**00 33 55.1**	**-0.5**
FOEL	**Foel Wylfa**	**145.00 4**	eP	PKPbc		00 33 54.3	-0.2
LLW	**Llanuwychllyn**	**145.01 4**	eP	**PKPbc**		**00 33 54.8**	**+0.4**
VAL	**Valentia**	**145.02 12**	⇑iP	pPKiKP		00 36 16.9	-0.3
MANR	**Mangalia**	**145.04 324**	⇓iP	**PKPab**		**00 33 55.8**	**-0.2**
OKC	**Ostrava-Krasne**	**145.18 340**	ePKP	**PKPbc**		**00 33 54.5**	**-0.5**
OKC			ex	x		00 33 56.1	
OKC			epPKP	pPKPbc		00 36 12.8	+0.4
OKC			eSKP			00 36 39.1	
OKC			ex	x		00 55 36.8	
OKC	**Ostrava-Krasne**	**145.18 340**	ePKIKP	**PKPbc**		**00 33 54.5**	**-0.5**
OKC			e			00 33 56.1	
OKC			e			00 36 12.8	
AMRR	**Amara**	**145.22 326**	⇓iP	**PKPab**		**00 33 56.1**	**-0.5**
AMRR	**Amara**	**145.22 326**	⇓PKP2	**PKPab**		**00 33 56.1**	**-0.5**
UPC	**Upice**	**145.24 343**	ePKP	**PKPbc**		**00 33 55.4**	**+0.2**
UPC			ex	x		00 33 56.7	
UPC			epPKP	**pPKPdf**		**00 36 14.7**	**+0.5**
UPC			eSKP			00 36 40.1	
UPC			eSS	SS		00 55 27.4	+3.9
UPC	**Upice**	**145.24 343**	ePKP2	**PKPbc**		**00 33 55.4**	**+0.2**
UPC			e			00 33 56.7	
UPC			e			00 36 14.7	
UPC			eSS	SS		00 55 27.4	+3.9
CWF	**Charnwood Fore**	**145.25 2**	ePKPdf	**PKPbc**		**00 33 54.7**	**-0.4**
CLL	**Collm**	**145.27 346**	⇑ePKP2	**PKPbc**		**00 33 55.0**	**-0.3**
CLL			i			00 33 56.5	
CLL			i			00 36 17.3	
CLL			pmax	pmax			
comp=Z,34nm,0.4s							
CLL			pmax	pmax			
comp=Z,249nm,1.0s							
CLL	**Collm**	**145.27 346**	ePKPdf	**PKPbc**		**00 33 55.0**	**-0.3**
comp=Z,34nm,0.4s							
CLL			⇑iPKPbc	**PKPab**		**00 33 56.5**	**-0.1**
comp=Z,249nm,1.0s							
CLL			i PKPab	**PKiKP**		**00 33 57.6**	**-0.6**
comp=Z,118nm,0.7s							
CLL			epPKPdf	pPKPbc		00 36 12.0	-0.6
CLL			i pPKiKP	**pPKiKP**		**00 36 17.3**	**-0.5**
comp=Z,136nm,1.8s							
CLL			eSKPbc	**SKPbc**		**00 36 37.0**	**-0.3**
CLL			esPKPdf	sPKPbc		00 37 11.0	+0.1
CLL			epPP			00 39 21.0	
CLL			eSKKSac	**SKKSac**		**00 43 14.0**	**+1.4**
CLL			eSKSP			00 46 35.0	
CLL			eSPP	SPP		00 49 07.0	
CLL			e			00 54 18.0	
CLL			eSS	**SS**		**00 55 14.0**	**-10**
CLL			ePSS	PSS		00 56 06.0	
CLL			e(PSPS)			00 56 42.0	
CLL			esSS			00 59 09.0	
CLL			e			01 00 06.0	
CLL			eSSSS			01 04 54.0	
CLL			esSSSS			01 08 06.0	
CLL			e			01 11 48.0	
CLL			e			01 15 06.0	
CLL	**Collm**	**145.27 346**	ePKPdf	**PKPdf**		**00 33 54.0**	**0.0**
WACR	**West Acre**	**145.29 360**	eP	**PKPbc**		**00 33 55.3**	**0.0**
DOPR	**Dopca**	**145.29 329**	⇓iP	**PKPbc**		**00 33 55.6**	**+0.1**
DPC	**Dobruska-Polom**	**145.29 342**	ePKP	**PKPbc**		**00 33 55.1**	**-0.3**
DPC			ex	x		00 33 57.1	
DPC			epPKP	**pPKPdf**		**00 36 14.0**	**-0.3**
DPC			eSKP			00 36 40.3	
DPC			eSS	SS		00 55 27.0	+2.8
DPC	**Dobruska-Polom**	**145.29 342**	ePKP2	**PKPbc**		**00 33 55.1**	**-0.3**
DPC			e			00 33 57.1	
DPC			e			00 36 14.0	
DPC			eSS	SS		00 55 27.0	+2.8
ISR	**Istrita**	**145.30 327**	⇑iP	**PKPbc**		**00 33 56.1**	**+0.5**
ISR	**Istrita**	**145.30 327**	⇑PKP2	**PKPbc**		**00 33 56.1**	**+0.5**
LANS	**Liptovska Anna**	**145.32 338**	ePKP2	**PKPab**		**00 33 56.8**	**-0.1**
LANS	**Liptovska Anna**	**145.32 338**	ePKP	**PKPab**		**00 33 56.8**	**-0.1**
MMAI	**Mount Meron Ar**	**145.34 302**	PKPbc	**PKPbc**		**00 33 56.2**	**+0.1**
comp=Z,28nm,0.4s,baz=74,slow=6.2,SNR=271							
MLR	**Muntele Rosu**	**145.35 328**	⇑iP	**PKPbc**		**00 33 55.7**	**-0.2**
MLR	**Muntele Rosu**	**145.35 328**	⇑PKP2	**PKPbc**		**00 33 55.7**	**-0.2**
MLR	**Muntele Rosu**	**145.35 328**	ePKPdf	**PKPdf**		**00 33 54.3**	**-0.2**
HLM1	**Long Mynd**	**145.39 4**	eP	**PKPbc**		**00 33 55.1**	**-0.4**
KRLC	**Kraliky**	**145.40 342**	ePKP	**PKPbc**		**00 33 55.8**	**0.0**
KRLC			ex	x		00 33 57.1	
KRLC			epPKP	**pPKPdf**		**00 36 16.4**	**+1.9**
KRLC	**Kraliky**	**145.40 342**	ePKP2	**PKPbc**		**00 33 55.8**	**0.0**
KRLC			e			00 33 57.1	
KRLC			e			00 36 16.4	
MORC	**Moravsky Berou**	**145.43 341**	⇓iP	**PKPbc**		**00 33 55.6**	**-0.2**
MORC	**Moravsky Berou**	**145.43 341**	⇑iP	pPKPdf		00 36 14.6	0.0
MORC	**Moravsky Berou**	**145.43 341**	⇓PKP2	**PKPbc**		**00 33 55.6**	**-0.2**
MORC	**Moravsky Berou**	**145.43 341**	ePKPdf	**PKPdf**		**00 33 53.8**	**-0.6**
MORC			ePKPbc	**PKPbc**		**00 33 55.7**	**-0.1**
BRG	**Berggiesshubel**	**145.46 345**	⇓iPKP	**PKPbc**		**00 33 55.3**	**-0.5**
comp=Z,31nm,1.1s							
BRG			i			00 33 57.0	
comp=Z,169nm,1.1s							
BRG			pPKP	**pPKPdf**		**00 36 14.5**	**0.0**
comp=Z,51nm,1.9s							
BRG			i			00 36 19.1	
comp=Z,174nm,1.8s							
BRG	**Berggiesshubel**	**145.46 345**	⇓iPKIKP	**PKPbc**		**00 33 55.3**	**-0.5**
BRG			i			00 33 57.0	
BRG						00 36 14.5	
BRG			pmax	pmax			
comp=Z,31nm,1.1s							
BRG			pmax	pmax			
comp=Z,169nm,1.1s							
BRG	**Berggiesshubel**	**145.46 345**	SKKS	**SKKSac**		**00 43 20.0**	**+6.4**
BRG			SS	**SS**		**00 55 26.0**	**+0.2**
KECS	**Kecovo**	**145.50 336**	ePKP2	**PKPbc**		**00 33 56.8**	**+0.8**
KECS	**Kecovo**	**145.50 336**	ePKP	**PKPbc**		**00 33 56.8**	**+0.8**
CJR	**Cluj-Napoca**	**145.59 332**	⇑iP	**PKPbc**		**00 33 56.8**	**+0.4**
CJR	**Cluj-Napoca**	**145.59 332**	⇑PKP2	**PKPbc**		**00 33 56.8**	**+0.4**
SECR		**145.60 327**	⇑iP	**PKPbc**		**00 33 56.5**	**0.0**
PVCC	**Panska Ves**	**145.61 344**	ePKP	**PKPbc**		**00 33 56.3**	**0.0**
PVCC			epPKP	**pPKPdf**		**00 36 14.9**	**+0.1**
PVCC	**Panska Ves**	**145.61 344**	ePKP2	**PKPbc**		**00 33 56.3**	**0.0**
WTSB	**Winterswijk**	**145.69 353**	ePKP	**PKPdf**		**00 33 55.3**	**+0.6**
WTSB			epPKP	**pPKPdf**		**00 36 14.8**	**0.0**
LPW	**Lampeter**	**145.71 5**	eP	**PKPbc**		**00 33 55.7**	**-0.8**
SULR		**145.75 327**	⇑iP	**PKPbc**		**00 33 56.9**	**+0.1**
VOIR		**145.84 329**	⇓iP	**PKPab**		**00 33 58.2**	**-1.0**
VOIR		**145.84 329**	⇑iP	pPKPdf		00 36 16.8	+1.4
VOIR		**145.84 329**	⇓PKP2	**PKPab**		**00 33 58.2**	**-1.0**
MCH1	**Michaelchurch**	**145.90 4**	eP	**PKPbc**		**00 33 56.4**	**-0.6**
DRGR		**145.93 332**	⇑iP	**PKPdf**		**00 33 55.8**	**+0.4**
DRGR		**145.93 332**	⇑PKIKP	**PKPdf**		**00 33 55.9**	**+0.5**
PRA	**Prague**	**146.07 344**	ePKP	**PKPbc**		**00 33 58.0**	**+0.5**
PRA			ex	x		00 33 59.0	
PRA			epPKP	**pPKPdf**		**00 36 15.9**	**+0.3**
PRA			eSS	SS		00 55 34.8	+2.2
PRA	**Prague**	**146.07 344**	ePKP2	**PKPbc**		**00 33 58.0**	**+0.5**
PRA			eSS	SS		00 55 34.8	+2.2
MONM	**Monmouth**	**146.07 4**	eP	**PKPbc**		**00 33 57.0**	**-0.5**
ARR	**Arges**	**146.09 329**	⇓iP	**PKPbc**		**00 33 57.3**	**-0.6**
ARR	**Arges**	**146.09 329**	⇑iP	pPKiKP		00 36 18.0	-1.8
VYHS	**Vyhne**	**146.09 338**	ePKIKP	**PKPdf**		**00 33 56.1**	**+0.6**
VYHS			e			00 33 59.1	
VYHS			e			00 36 16.3	
VYHS	**Vyhne**	**146.09 338**	ePKP	**PKPdf**		**00 33 56.1**	**+0.6**
VYHS			e			00 33 59.1	
VYHS			e			00 36 16.3	
PRD	**Provadia**	**146.10 324**	P	**PKPbc**		**00 33 57.5**	**-0.3**
PRU	**Pruhonice**	**146.11 344**	ePKP	**PKPdf**		**00 33 56.1**	**+0.6**
PRU			ex	x		00 33 58.1	
PRU			epPKP	**pPKPdf**		**00 36 15.8**	**+0.1**
PRU			eSKP			00 36 41.1	
PRU			eSS	SS		00 55 35.6	+2.4
PRU	**Pruhonice**	**146.11 344**	ePKIKP	**PKPdf**		**00 33 56.1**	**+0.6**
PRU			e			00 33 58.1	
PRU			e			00 36 15.8	
PRU			eSS	SS		00 55 35.6	+2.4
GOPC	**GO Pecny, Ondr**	**146.12 343**	ePKP	**PKPbc**		**00 33 57.9**	**+0.2**
GOPC			ex	x		00 33 58.9	
GOPC			epPKP	**pPKPdf**		**00 36 16.9**	**+1.2**
GOPC			eSS	SS		00 55 35.8	+2.5
GOPC	**GO Pecny, Ondr**	**146.12 343**	ePKP2	**PKPbc**		**00 33 57.9**	**+0.2**
GOPC			eSS	SS		00 55 35.8	+2.5
VRAC	**Vranov**	**146.13 341**	PKP	**PKPdf**		**00 33 56.5**	**+0.9**
comp=Z,38nm,1.0s,baz=34,slow=2.7,SNR=37							
VRAC			pPKPbc	**PKPbc**		**00 33 58.3**	**+0.5**
comp=Z,38nm,1.0s,baz=19,slow=4.3,SNR=41							
VRAC			pPKPbc	**pPKPdf**		**00 36 17.4**	**+1.6**
comp=Z,7.7nm,1.0s,baz=70,slow=3.2,SNR=3.5							
STRD	**Stroud**	**146.17 3**	eP	**PKPbc**		**00 33 57.4**	**-0.4**
PSZ	**Piszkesteto**	**146.19 336**	⇑iP	**PKPbc**		**00 33 57.3**	**-0.8**
PSZ	**Piszkesteto**	**146.19 336**	ePKIKP	**PKPdf**		**00 33 55.9**	**+0.1**
PSZ			e			00 33 59.5	
PSZ	**Piszkesteto**	**146.19 336**	⇑ex	**PKPbc**		**00 33 59.3**	**+1.2**
PSZ	**Piszkesteto**	**146.19 336**	ePKPdf	**PKPdf**		**00 33 55.9**	**+0.1**
PSZ			ePKPbc	**PKiKP**		**00 33 59.5**	**-0.9**
MOX	**Moxa**	**146.20 347**	PKIKP	**PKPdf**		**00 33 56.5**	**+0.9**
HGH	**Gray Hill**	**146.27 4**	eP	**PKPbc**		**00 33 57.7**	**-0.3**
CSS	**Mathiatis**	**146.32 307**	ePKPdf	**PKPdf**		**00 33 56.3**	**-0.1**
CSS			ePKPbc	**PKPbc**		**00 33 58.5**	**-0.3**
MAMC	**Mammari**	**146.33 307**	P	**PKPbc**		**00 33 58.6**	**-0.2**
NKC	**Novy Kostel**	**146.41 346**	ePKP	**PKPbc**		**00 33 57.3**	**-1.2**
NKC			ex	x		00 33 59.7	
NKC			epPKP	**pPKPdf**		**00 36 17.5**	**+1.3**
NKC			eSS	SS		00 55 36.0	-0.4
NKC	**Novy Kostel**	**146.41 346**	ePKIKP	**PKPbc**		**00 33 57.3**	**-1.2**
NKC			e			00 33 59.7	
NKC			e			00 36 17.5	
NKC			eSS	SS		00 55 36.0	-0.4
BOLV	**Bolvadin**	**146.43 314**	ePKPbc	**PKPbc**		**00 34 00.4**	**+1.3**
TREC	**Trest**	**146.48 342**	ePKP	**PKPbc**		**00 33 58.8**	**+0.1**
TREC			epPKP	**pPKPdf**		**00 36 18.7**	**+2.3**
TREC	**Trest**	**146.48 342**	ePKP2	**PKPbc**		**00 33 58.8**	**+0.1**
HUMR	**Humele**	**146.51 328**	⇑iP	**PKPbc**		**00 33 58.2**	**-0.8**
DEV	**Deva**	**146.53 331**	⇑iP	pPKiKP		00 36 18.5	-2.0
SMOL	**Smolenice**	**146.56 340**	ePKP2	**PKPbc**		**00 34 00.2**	**+1.2**
SMOL	**Smolenice**	**146.56 340**	ePKP	**PKPbc**		**00 34 00.2**	**+1.2**
EIL	**Elat**	**146.57 297**	PKP	**PKPdf**		**00 33 56.6**	**-0.3**
comp=Z,50nm,1.0s,baz=44,slow=2.2,SNR=25							
E

WATA Walderalm 149.32 345 *i* PKPbc **PKPbc 00 34 05.7 -0.4**
comp=Z,10nm,0.4s,SNR=22
WATA *i* PKPbp **pPKPbc 00 36 25.4 +0.7**
comp=Z,49nm,1.3s,SNR=6.7
ECH Echery 149.33 351 PKP **PKPbc 00 34 06.8 +0.8**
ECH Echery 149.33 351 *e*PKP2 **PKPbc 00 34 06.8 +0.8**
ECH Echery 149.33 351 *e*PKPbc **PKPbc 00 34 06.8 +0.8**
ECH *e*PKPab **PKPab 00 34 13.3 +0.1**
RETA Reutte 149.37 346 *i* PKPbc **PKPbc 00 34 06.1 0.0**
comp=Z,10nm,0.7s,SNR=14
RETA *i* pPKiKP **pPKiKP 00 36 26.4 -0.1**
comp=Z,34nm,1.4s
WTTA Wattenberg 149.37 345 *i* PKPbc **PKPbc 00 34 06.1 -0.2**
comp=Z,35nm,0.5s,SNR=12
WTTA *e*pPKPab **pPKPbc 00 36 25.4 +0.5**
comp=Z,54nm,1.3s
MYKA Terra Mystica 149.42 342 *i* PKPbc **PKPbc 00 34 05.2 -1.2**
comp=Z,12nm,0.4s,SNR=9.8
MYKA *i* pPKiKP **pPKiKP 00 36 26.0 -0.6**
comp=Z,83nm,1.9s,SNR=10
MOTA Moosalm 149.42 346 *i* PKPbc **PKPbc 00 34 06.0 -0.4**
comp=Z,7.7nm,0.3s,SNR=22
MOTA *e*pPKPab **pPKPbc 00 36 25.7 +0.7**
SNR=5.6
THEF They Montfort 149.47 353 PKP **PKPbc 00 34 07.5 +1.2**
SISC Sisak 149.55 338 P **PKPbc 00 34 08.7 +2.2**
ARG Arkhangelos 149.61 312 P **PKPbc 00 34 06.5 -0.5**
ABTA Abfaltersbach 149.63 344 *i* PKPdf **PKPdf 00 34 01.7 +0.2**
comp=Z,4.2nm,0.8s,SNR=19
ABTA *i* PKPbc **PKPbc 00 34 06.2 -0.6**
comp=Z,60nm,1.0s
ABTA *i* pPKPbc **pPKPbc 00 36 25.0 -0.5**
comp=Z,60nm,1.6s,SNR=7.0
LJU Ljubljana 149.68 341 *e*PKPbc **PKPbc 00 34 06.2 -0.6**
LJU *e*pPKPbc **pPKPbc 00 36 25.3 -0.2**
MOF Molkenrain 149.69 351 PKP **PKPbc 00 34 08.0 +1.1**
OZLJ Ozalj 149.75 339 P **PKPbc 00 34 06.8 -0.1**
DAVA Damuels 149.75 347 *i* PKPbc **PKPbc 00 34 07.2 0.0**
comp=Z,20nm,0.6s,SNR=18
DAVA *i* pPKPab **pPKPab 00 36 27.8 -0.8**
comp=Z,93nm,1.6s,SNR=8.2
CADS Cadrg 149.75 342 *e*PKPbc **PKPbc 00 34 05.8 -1.2**
CMLA Cha da Macela 149.80 44 *i* PKHKP **PKPbc 00 34 08.6 +1.2**
FETA Feichten 149.81 346 *i* PKPdf **PKPdf 00 34 02.6 +0.8**
comp=Z,5.5nm,0.9s,SNR=28
FETA *i* PKiKP **PKiKP 00 34 08.4 +0.4**
comp=Z,36nm,1.0s
FETA *i* pPKPab **pPKPab 00 36 28.2 -0.7**
comp=Z,59nm,1.7s,SNR=8.4
BLY Banja Luka 149.87 336 *e*PKPbc **PKPbc 00 34 07.5 +0.2**
BLY *e*PKPab **PKPab 00 34 13.8 -1.8**
KNT Kendrikon 149.96 325 P **PKPbc 00 34 06.4 -1.3**
VAY Valandovo 150.02 326 *e*P **PKPbc 00 34 07.5 -0.2**
PLE Pljevlja 150.10 332⇑ *i*PKP **PKPbc 00 34 07.9 -0.2**
SKO Skopje 150.15 328 *i* P **PKPdf 00 34 02.1 -0.2**
TRI Trieste 150.21 341 *e*PKIKP **PKPbc 00 34 07.4 -0.7**
TRI Trieste 150.21 341 *e*PKPbc **PKPbc 00 34 07.4 -0.7**
LOMF Lomont 150.22 351 PKP **PKPbc 00 34 09.4 +1.2**
IVA Berane 150.22 331⇑ *i*PKP **PKPbc 00 34 08.2 -0.1**
DAVOX Davos/Dischmat 150.23 347 PKP **PKPdf 00 34 03.3 +0.8**
comp=Z,4.4nm,0.8s,baz=190,slow=2.3,SNR=6.2
DAVOX PKPbc **PKPbc 00 34 08.6 +0.2**
comp=Z,60nm,0.7s,baz=243,slow=2.3,SNR=92
DAVOX pPKPbc **pPKPbc 00 36 28.6 +1.4**
comp=Z,19nm,1.1s,baz=346,slow=0.9,SNR=6.6
FUORN Ofenpass-Fuorn 150.30 346 *e*PKPdf **PKPdf 00 34 03.9 +1.2**
FUORN *e*PKPbc **PKiKP 00 34 09.0 -0.1**
FUORN *e*PKPab **PKPab 00 34 19.2 +1.6**
PVY Plav 150.41 330⇑ *i*PKP **PKPbc 00 34 08.6 -0.2**
UPM Unac-Piva 150.41 332⇑ *i*PKP **PKPbc 00 34 08.3 -0.6**
KOME Kolasin 150.42 331⇑ *i*PKP **PKPbc 00 34 08.4 -0.4**
UDBI Udbina 150.59 338 P **PKPbc 00 34 08.7 -0.4**
KARP Karpathos 150.62 312 *e*PKPdf **PKPdf 00 34 03.0 -0.3**
KARP *e*PKPbc **PKPbc 00 34 08.7 -0.7**
TUE Stuetta 150.64 348 *e*PKPdf **PKPdf 00 34 04.1 +1.0**
TUE *e*PKPbc **PKPbc 00 34 09.5 +0.2**
NKY Niksic 150.68 332⇑ *i*PKP **PKPbc 00 34 09.1 -0.3**
NKME Niksic 150.74 332⇑ *i*PKP **PKPbc 00 34 08.9 -0.6**
BRY Bratogost 150.82 332⇑ *i*PKP **PKPbc 00 34 09.0 -0.8**
PDG Podgorica 150.86 331⇑ *i* P **PKPbc 00 34 09.4 -0.3**
PDG Podgorica 150.86 331⇓ *i*P pPKiKP 00 36 30.2 +0.6
TTG Podgorica 150.86 331⇑ *i*PKP **PKPbc 00 34 09.3 -0.4**
NVLJ Novalja 150.87 339 P **PKPbc 00 34 08.7 -0.9**
BIA Bitola 150.90 327 *i* P **PKPbc 00 34 09.3 -0.6**
CEME Cevo 150.93 331⇑ *i*PKP **PKPbc 00 34 09.3 -0.6**
FNA Florina 151.04 326 P **PKPbc 00 34 08.8 -1.4**
DRME Dracevica, Mon 151.09 331⇑ *i*PKP **PKPbc 00 34 09.8 -0.4**
OHR Ohrid 151.10 327 *i* P **PKPbc 00 34 10.9 +0.5**
SENIN Lac Senin/Sane 151.12 350 *e*PKPdf **PKPdf 00 34 05.2 +1.3**
SENIN *e*PKPbc **PKiKP 00 34 10.9 +0.2**
BUM Brajici-Budva 151.13 331⇑ *i*PKP **PKPbc 00 34 09.8 -0.6**
HCY Herceg Novi 151.20 332⇑ *i*PKP **PKPbc 00 34 09.6 -0.9**
STON Ston 151.21 333 P **PKPbc 00 34 09.8 -0.6**
ULC Ulcinj 151.23 330⇑ *i*PKP **PKPbc 00 34 09.5 -1.1**
OG01 Vacheresse 151.24 351 PKP **PKPbc 00 34 12.0 +1.5**
SMIA Simia 151.31 321 P **PKPbc 00 34 10.1 -0.7**
TIR Tirane 151.40 329⇓ *i*P **PKPbc 00 34 10.6 -0.4**
TIR Tirane 151.40 329 *e*PKIKP **PKPbc 00 34 10.6 -0.4**
TIR *e* 00 34 22.0
TIR Tirane 151.40 329 *e*PKPbc **PKPbc 00 34 10.6 -0.4**
TIR *e*PKPab **PKPab 00 34 22.0 -0.2**
THR5 Thira Island, 151.42 315 P **PKPbc 00 34 09.8 -1.3**
THR6 Thira Island, 151.42 315 P **PKPbc 00 34 09.5 -1.6**
AGG Agios Georgios 151.73 322 *e*PKIKP **PKPdf 00 34 04.5 -0.3**
AGG *e* 00 34 11.2
AGG *e* 00 34 23.1
AGG Agios Georgios 151.73 322 *e*PKPdf **PKPdf 00 34 04.5 -0.3**
AGG *e*PKPbc **PKPbc 00 34 11.2 -0.6**
AGG *e*PKPab **PKPab 00 34 23.1 -0.5**
RSL Roselend 151.88 351 PKP **PKPbc 00 34 13.1 +1.0**
AGO Saint Agoulin 151.89 356 PKP **PKPbc 00 34 12.9 +1.0**
PLDF La Plantade 151.94 355 PKP **PKPbc 00 34 13.1 +1.0**
DSF Desfina 152.01 321 P **PKPbc 00 34 10.8 -1.7**
THAL Thalero 152.17 320 P **PKPbc 00 34 11.9 -0.8**
PYM Petit Puy Mans 152.20 356 PKP **PKPbc 00 34 14.0 +1.3**
ANX Ano Chora 152.25 322 P **PKPbc 00 34 12.7 -0.3**
SERG Sergoula 152.29 322 P **PKPbc 00 34 12.0 -1.0**
EFP Efpalio 152.37 322 P **PKPbc 00 34 12.2 -1.0**
GUR Goura 152.43 321 P **PKPbc 00 34 12.2 -1.3**
PVO Paravola 152.47 323 P **PKPbc 00 34 13.6 +0.2**
BNI Bardonecchia 152.49 351 *e*PKIKP **PKPdf 00 34 07.0 +1.1**
BNI *e* 00 37 58.8
BNI Bardonecchia 152.49 351 *e*PKPdf **PKPdf 00 34 07.0 +1.1**
BNI *e*PKPbc **PKiKP 00 34 14.1 +0.6**
BNI *e*PP **PP 00 37 58.8 -3.1**
SSB Saint Sauveur 152.54 354 *e*PKIKP **PKPdf 00 34 07.4 +1.6**
SSB Saint Sauveur 152.54 354 *e*PKPdf **PKPdf 00 34 07.4 +1.6**
SSB *e*PKPbc **PKiKP 00 34 14.5 +1.0**
SIVA Sivas 152.54 313 P **PKPbc 00 34 13.3 -0.3**
FRNF Fournols 152.59 357 PKP **PKPbc 00 34 15.9 +2.4**
LBL Lubilhac 152.70 356 PKP **PKPbc 00 34 14.9 +1.1**
PGAV Gavieira, Arco 154.89 16 *e*PKPab **PKPab 00 34 37.7 +0.6**
PBRG Braganca 155.41 13 *e*PKPab **PKPab 00 34 39.7 +0.5**
POLO Lamas de Olo 155.57 15 *e*PKPab **PKPab 00 34 40.5 +0.5**
PVRL Vila Real 155.68 15 *e*PKPab **PKPab 00 34 41.5 +1.1**
MTE Manteigas 156.55 16 *e*PKPab **PKPab 00 34 44.7 +0.4**
PCAS Casmilo, Conde 156.61 18 *e*PKPab **PKPab 00 34 45.2 +0.7**
SACV Santiago Islan 156.63 94 *e*PKPdf **PKPdf 00 34 10.7 -1.4**
SACV *e*PKPab **PKPab 00 34 45.3 -0.2**
PTOM Tomar 157.04 18 *e*PKPab **PKPab 00 34 47.3 +1.0**
PCBR Castelo Branco 157.09 16 *e*PKPab **PKPab 00 34 47.1 +0.6**
PMRV Marv??o 157.50 16 *e*PKPab **PKPab 00 34 49.2 +0.8**
PMTG Montargil 157.60 18 *e*PKPab **PKPab 00 34 49.1 +0.3**
PESTR Estremoz 157.97 17 *e*PKPab **PKPab 00 34 50.8 +0.4**
ESDC Sonseca Array 157.99 9 PKPab **PKPab 00 34 50.7 +0.2**
comp=Z,2.2nm,0.5s,baz=340,slow=4.4,SNR=14
ESDC pPKPab **pPKPab 00 37 01.1 -1.8**
comp=Z,4.4nm,1.1s,baz=300,slow=2.5,SNR=3.7
PNCL Nicolau / Gran 158.38 20 *e*PKPab **PKPab 00 34 52.8 +0.6**
PBAR Barrancos 158.77 17 *e*PKPab **PKPab 00 34 54.6 +0.7**
PCVE Castro Verde 158.98 19 *e*PKPab **PKPab 00 34 55.2 +0.4**
PVAQ Vaqueiros 159.29 19 *e*PKPab **PKPab 00 34 57.1 +0.9**
KEST Kesra 160.65 338 PKP **PKPdf 00 34 16.3 -0.1**
comp=Z,2.9nm,0.9s,baz=328,slow=8.6,SNR=3.6
KEST PKPab **PKPab 00 35 02.6 +0.3**
comp=Z,8.2nm,0.6s,baz=353,slow=2.0,SNR=19
KEST Kesra 160.65 338 *e*PKPdf **PKPdf 00 34 17.3 +0.9**
KEST *e*PKPab **PKPab 00 35 03.2 +0.9**
MDT Midelt 164.47 17 PKP **PKPdf 00 34 20.5 +0.3**
comp=Z,5.4nm,0.9s,baz=347,slow=2.0,SNR=6.9
MDT PKPab **PKPab 00 35 20.5 +1.3**
comp=Z,15nm,0.8s,baz=5.8,slow=5.3,SNR=18
MDT pPKPab **pPKPab 00 37 32.6 +1.3**
comp=Z,6.5nm,1.1s,baz=25,slow=6.6,SNR=4.2
LIC Lamto 167.13 154 *e*P **PKPab 00 35 31.6 +0.4**
comp=Z,26nm,0.8s
KIC Kosan Boka 167.38 155 *e*P **PKPab 00 35 32.9 +0.6**
comp=Z,29nm,0.7s
TIC Toumodi 167.52 153 *e*P **PKPab 00 35 34.2 +1.2**
DBIC Dimbokro 167.61 154 PKP **PKPdf 00 34 22.6 -0.5**
comp=Z,6.7nm,1.0s,baz=141,slow=2.9,SNR=5.0
DBIC PKPab **PKPab 00 35 34.6 +1.3**
comp=Z,7.4nm,0.6s,baz=186,slow=7.1,SNR=12
DBIC Dimbokro 167.61 154 *e*PKIKP **PKPdf 00 34 23.5 +0.5**
DBIC 00 35 34.6
DBIC Dimbokro 167.61 154 *e*PKPdf **PKPdf 00 34 23.5 +0.5**
DBIC PKPab **PKPab 00 35 34.6 +1.3**
TAM Tamanrasset 173.30 317 *e*PKIKP **PKPdf 00 34 25.2 -0.8**
TAM *e* 00 36 00.5
TAM *e* 00 39 48.9
TAM Tamanrasset 173.30 317 *e*PKPdf **PKPdf 00 34 25.2 -0.8**
TAM *e*PKPab **PKPab 00 36 00.5 +1.8**
TAM *e*PP **PP 00 39 48.9 -2.0**
TOA0 Torodi Ar. Sit 175.11 193 *e*PKPdf **PKPdf 00 34 24.9 -1.7**
TOA0 *e*PKPab **PKPab 00 36 06.1 -0.4**
TORD Torodi Ar. Bea 175.11 193 PKP **PKPdf 00 34 25.2 -1.4**
comp=Z,6.1nm,1.0s,baz=321,slow=0.9,SNR=25
TORD PKPab **PKPab 00 36 06.6 +0.1**
comp=Z,3.5nm,0.7s,baz=156,slow=3.9,SNR=6.8
TORD pPKPab **pPKPab 00 38 19.5 +1.2**
comp=Z,7.2nm,1.1s,baz=154,slow=5.1,SNR=11

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*ISCJB **27** 00:19:58.9±1.0, 14°.2N±0°.2×53°.7E±0°.2, h10km, mb3.6/9, Error ellipse: s-maj=27.0km s-min=22.4km az=21.6*
*IDC **27** 00:19:58.9±1.2, 14°.19N×53°.72E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.5/65, mbtmp3.7/9, MS3.0/1, Ms1 3.0/1, ms1mx2.7/52, Error ellipse: s-maj=30.9km s-min=26.2km az=119.0*
ISC 27 00:20:00.5±1.3, 14°.2N±0°.2×53°.7E±0°.2, h10km, n13, σ0°74/9, mb3.8/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,84nm,20.4s,baz=49,slow=32						
ATD	**Arta Tunnel**	**10.92**	**257**	LR	LR	00 25 44.8	
	0.9nm,0.7s,baz=209,slow=12,SNR=3.3						
GEYT	**Alibeck**	**23.94**	**9**	P	**P**	**00 25 14.1**	**-0.8**
	0.9nm,0.7s,baz=209,slow=12,SNR=3.3						
H08N2	**Diego Garcia H**	**26.66**	**139**	T	T	00 53 52.5	
	baz=320,slow=76,SNR=6.3						
H08N3	**Diego Garcia H**	**26.67**	**139**	T	T	00 53 41.5	
	baz=320,slow=76,SNR=9.7						
H08N1	**Diego Garcia H**	**26.68**	**139**	T	T	00 53 56.0	
	baz=320,slow=76,SNR=9.1						
MKAR	**Makanchi Array**	**40.33**	**31**	P	**P**	**00 27 39.1**	**+0.9**
	0.4nm,0.6s,baz=216,slow=8.5,SNR=3.8						
BVAR	**Borovoye Array**	**40.92**	**15**	P	**P**	**00 27 42.8**	**-0.1**
	1.0nm,0.7s,baz=208,slow=5.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.52**	**24**	P	**P**	**00 27 48.3**	**+0.4**
	0.4nm,0.7s,baz=221,slow=7.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**46.56**	**25**	P	**P**	**00 28 27.5**	**-0.8**
	0.3nm,0.3s,baz=270,slow=7.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**50.46**	**275**	P	**P**	**00 28 59.2**	**+0.2**
	1.5nm,0.9s,baz=88,slow=7.4,SNR=10						
SONM	**Songino Array**	**54.81**	**41**	P	**P**	**00 29 31.4**	**+0.5**
	0.5nm,0.5s,baz=248,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**86.23**	**112**	P	**P**	**00 32 43.2**	**+0.3**
	0.5nm,0.6s,baz=297,slow=3.8,SNR=3.0						
ASAR	**Alice Springs**	**86.91**	**115**	P	**P**	**00 32 45.4**	**-0.8**
	0.4nm,0.5s,baz=284,slow=3.7,SNR=3.2						

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*ISCJB **27** 00:22:32.0±0.6, 17°.9S±0°.2×179°.5W±0°.1, h622km, mb3.9/11, Error ellipse: s-maj=21.2km s-min=14.1km az=161.9*
*IDC **27** 00:22:32.1±4.2, 17°.86S×179°.48W, h607km±46km, mb3.4/11, mb1 3.6/12, mb1mx3.4/41, mbtmp4.4/12, Error ellipse: s-maj=25.8km s-min=22.4km az=77.0*
ISC 27 00:22:33.2±0.6, 17°.9S±0°.2×179°.6W±0°.1, h622km, n48, σ0°75/47, mb3.8/11, 3C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.78**	**250**	P	**P**	**00 25 28.8**	**-0.5**
	1.3nm,0.3s,baz=118,slow=20,SNR=9.2						
CTA	**Charters Tower**	**32.34**	**261**	P	**P**	**00 28 14.1**	**+0.4**
	5.0nm,0.6s,baz=77,slow=9.3,SNR=5.2						
STKA	**Stephens Creek**	**37.67**	**241**	P	**P**	**00 28 58.6**	**+1.0**
	3.3nm,0.4s,baz=86,slow=7.7,SNR=7.3						
WRA	**Warramunga Arr**	**43.53**	**260**	P	**P**	**00 29 44.2**	**+0.1**
	2.1nm,0.6s,baz=94,slow=7.2,SNR=4.6						
ASAR	**Alice Springs**	**43.72**	**254**	P	**P**	**00 29 46.0**	**+0.4**
	20nm,0.5s,baz=89,slow=8.0,SNR=33						
ASAR				pP	**pP**	**00 31 30.9**	**-2.3**
	2.6nm,1.1s,baz=81,slow=7.8,SNR=2.7						
FITZ	**Fitzroy Crossi**	**51.92**	**261**	P	**P**	**00 30 47.8**	**+1.4**
	4.8nm,1.1s,baz=96,slow=9.2,SNR=3.1						
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**00 31 43.9**	**+0.4**
	0.9nm,0.4s,baz=13,slow=7.6,SNR=6.8						
MAW	**Mawson**	**83.53**	**200**	P	**P**	**00 33 57.3**	**+0.5**
	3.5nm,0.6s,baz=133,slow=5.7,SNR=9.0						
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**	**00 34 08.2**	**-0.9**
	0.7nm,0.7s,baz=214,slow=5.5,SNR=6.7						
TXAR	**Lajitas Array**	**86.92**	**58**	P	**P**	**00 34 14.9**	**+1.0**
	1.5nm,0.9s,baz=236,slow=5.2,SNR=6.1						
PDAR	**Pinedale Array**	**88.09**	**44**	P	**P**	**00 34 19.2**	**0.0**
	0.6nm,0.6s,baz=229,slow=3.7,SNR=4.3						
SNAA	**Sanae**	**90.68**	**179**	P	**P**	**00 34 28.8**	**-1.8**
SNAA	**Sanae**	**90.68**	**179**	P	**P**	**00 34 29.7**	**-0.9**
	1.3nm,0.5s,baz=210,slow=8.5,SNR=8.3						
VNA3	**Neumayer Olymp**	**90.87**	**177**	P	**P**	**00 34 30.5**	**-0.9**
VNA2	**Neumayer--Watz**	**91.29**	**177**	P	**P**	**00 34 32.8**	**-0.5**
	baz=180,slow=3.6						
VNA1	**Neumayer--Stat**	**91.53**	**177**	P	**P**	**00 34 33.9**	**-0.4**
MKAR	**Makanchi Array**	**108.28**	**314**	PKiKP	**PKiKP**	**00 39 51.1**	**-0.9**
	0.5nm,0.5s,baz=109,slow=1.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**111.08**	**318**	PKiKP	**PKiKP**	**00 39 56.1**	**-0.9**
	0.7nm,0.7s,baz=93,slow=1.8,SNR=7.6						
BVAR	**Borovoye Array**	**116.08**	**321**	PKiKP	**PKPdf**	**00 40 05.9**	**-0.7**
	1.0nm,0.4s,baz=188,slow=1.0,SNR=5.7						
ARCES	**ARCESS Array B**	**126.05**	**349**	PKP	**PKPdf**	**00 40 24.9**	**-0.5**
	1.1nm,0.5s,baz=100,slow=2.3,SNR=9.7						
GEYT	**Alibeck**	**126.07**	**304**	PKP	**PKPdf**	**00 40 26.9**	**+0.6**
	0.7nm,0.5s,baz=132,slow=2.2,SNR=4.3						
FINES	**FINESS Array B**	**132.81**	**344**	PKhKP	PKPpre	00 40 33.4	
	1.9nm,0.8s,baz=233,slow=16,SNR=3.2						
FINES				PKP	**PKPdf**	**00 40 38.9**	**+0.6**
	2.0nm,0.7s,baz=101,slow=1.9,SNR=5.1						
EKA	**Eskdalemuir Ar**	**142.48**	**3**	PKhKP	PKPpre	00 40 52.7	
	0.3nm,0.3s,baz=346,slow=2.8,SNR=4.7						
BRTR	**Keskin Array B**	**143.93**	**314**	PKP	**PKPdf**	**00 40 59.5**	**0.0**
	2.4nm,0.6s,baz=201,slow=32,SNR=18						
BURAR	**Bucovina Array**	**144.02**	**331**	*i* P	**PKPab**	**00 41 00.3**	**+1.0**
TESR	**Tescani**	**144.12**	**329**	*i* P	**PKPab**	**00 40 59.7**	**+0.1**
PLOR	**Plostina**	**144.58**	**328**	*i* P	PKPbc	00 41 00.7	0.0
DOPR	**Dopca**	**145.13**	**329**	*i* P	**PKPab**	**00 41 03.1**	**-0.4**
CLL	**Collm**	**145.14**	**346**	*i* PKPbc	**PKPbc**	**00 41 02.5**	**+0.4**
	comp=Z,12nm,0.6s						
MMAI	**Mount Meron Ar**	**145.16**	**302**	PKPbc	**PKPbc**	**00 41 03.6**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=61,slow=6.9,SNR=15						
MLR	**Muntele Rosu**	**145.19**	**328**	*i* P	**PKPbc**	**00 41 02.6**	**0.0**
BRG	**Berggiesshubel**	**145.32**	**345**	*i* P	**PKPbc**	**00 41 03.1**	**+0.5**
	comp=Z,10.0nm,1.2s						
VOIR		**145.67**	**329**	*i* P	**PKPbc**	**00 41 04.3**	**+0.4**
DRGR		**145.77**	**332**	*i* P	**PKPbc**	**00 41 04.6**	**+0.5**
ARR	**Arges**	**145.93**	**329**	*i* P	**PKPab**	**00 41 05.9**	**-0.9**
SIRR	**Siria**	**146.63**	**333**	*i* P	**PKPbc**	**00 41 06.9**	**+0.5**
GERES	**GERESS Array B**	**147.25**	**344**	PKPbc	**PKPbc**	**00 41 08.4**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=25,slow=3.1,SNR=20						
CONA	**Conrad Observa**	**147.44**	**341**	*i* PKPbc	**PKPbc**	**00 41 08.9**	**+0.3**
	comp=Z,3.3nm,0.6s						
MOA	**Molln**	**148.00**	**342**	*i* PKPbc	**PKPbc**	**00 41 10.4**	**+0.5**
	comp=Z,1.4nm,0.5s						
VTS	**Vitosha**	**148.62**	**327**	*i* P	**PKPbc**	**00 41 12.3**	**+0.5**
WATA	**Walderalm**	**149.19**	**345**	*i* PKPbc	**PKPbc**	**00 41 12.8**	**-0.2**
	comp=Z,2.6nm,0.5s						
RETA	**Reutte**	**149.24**	**346**	*e*PKPbc	**PKPbc**	**00 41 13.3**	**+0.3**
	comp=Z,1.8nm,0.5s						
WTTA	**Wattenberg**	**149.24**	**345**	*i* PKPbc	**PKPbc**	**00 41 13.4**	**+0.2**
	comp=Z,3.6nm,0.5s						
MYKA	**Terra Mystica**	**149.28**	**342**	*e*PKPbc	**PKPbc**	**00 41 12.7**	**-0.5**
	comp=Z,2.7nm,0.4s						
MOTA	**Moosalm**	**149.29**	**346**	*i* PKPbc	**PKPbc**	**00 41 13.4**	**+0.1**
	comp=Z,1.6nm,0.4s						
ABTA	**Abfaltersbach**	**149.49**	**343**	*i* PKPbc	**PKPbc**	**00 41 13.4**	**-0.3**
	comp=Z,6.4nm,0.7s						
FETA	**Feichten**	**149.68**	**346**	*i* PKPbc	**PKPbc**	**00 41 14.8**	**+0.5**
	comp=Z,4.6nm,0.9s						
DAVOX	**Davos/Dischmat**	**150.10**	**347**	PKPbc	**PKPbc**	**00 41 15.8**	**+0.6**
	comp=Z,6.8nm,0.5s,baz=245,slow=4.4,SNR=13						

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*ISK **27** 00:26:06.8, 38°.78N×43°.27E, h5km, ML3.2*
*CSEM **27** 00:26:07.6±0.2, 38°.78N×43°.18E, h2km, ML3.2, Error ellipse: s-maj=4.3km s-min=3.2km az=88.0*
*DDA **27** 00:26:07.2, 38°.75N×43°.21E, h4km, Ml3.6*
ISC 27 00:26:07.9±0.9, 38°.79N±0°.02×43°.23E±0°.02, h13km±8km, n50, σ0°96/79, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**148**	PG	**Pg**	**00 26 13.0**	**0.0**
VANB				*e*SG	**Sb**	**00 26 17.5**	**-0.7**
VANB	**Van**	**0.23**	**148**	*i* Pg	**Pg**	**00 26 13.0**	**0.0**
VANB				*e*Sg	**Sb**	**00 26 17.5**	**-0.7**
VMUR	**Van-Muradiye**	**0.33**	**53**	⇓ *i* P	**Pg**	**00 26 14.9**	**+0.2**
VMUR				*i* S	**Sb**	**00 26 21.7**	**+0.6**
VMUR	**Van-Muradiye**	**0.33**	**53**	P	**Pg**	**00 26 14.9**	**+0.2**
VMUR				S	**Sb**	**00 26 21.7**	**+0.6**
GEVA	**Gevas**	**0.50**	**196**	⇓ *i* P	**Pg**	**00 26 15.5**	**-2.3**
GEVA				*i* S	**Sg**	**00 26 23.5**	**-0.9**
GEVA	**Gevas**	**0.50**	**196**	P	**Pg**	**00 26 15.5**	**-2.3**
GEVA				S	**Sg**	**00 26 23.5**	**-0.9**
TUTA	**Tutak**	**0.69**	**332**	⇓ *i* P	**Pg**	**00 26 20.7**	**-0.7**
TUTA				*i* S	**Sg**	**00 26 30.6**	**0.0**
TUTA	**Tutak**	**0.69**	**332**	P	**Pg**	**00 26 20.7**	**-0.7**
TUTA				S	**Sg**	**00 26 30.5**	**0.0**
AGRB	**Hanur-Agry**	**0.80**	**347**	*e*PG	**Pg**	**00 26 22.9**	**-0.7**
AGRB				*e*SG	**Sg**	**00 26 34.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.80**	**347**	*e*Pg	**Pg**	**00 26 22.9**	**-0.7**
AGRB				*e*Sg	**Sg**	**00 26 34.5**	**+0.4**
DYDN	**Diyadin**	**0.83**	**25**	*i* P	**Pg**	**00 26 23.4**	**-0.6**
DYDN				*i* S	**Sn**	**00 26 37.3**	**-0.5**
DYDN	**Diyadin**	**0.83**	**25**	P	**Pg**	**00 26 23.4**	**-0.6**
DYDN				S	**Sn**	**00 26 37.3**	**-0.5**
EKAR	**Karacoban**	**1.02**	**297**	*i* P	**Pb**	**00 26 26.6**	**-1.0**
EKAR				*i* S	**Sn**	**00 26 43.5**	**+1.0**
EKAR	**Karacoban**	**1.02**	**297**	P	**Pb**	**00 26 26.6**	**-1.0**
EKAR				S	**Sn**	**00 26 43.5**	**+1.0**
EATA	**Eleskirt**	**1.21**	**332**	⇓ *i* P	**Pn**	**00 26 30.1**	**-0.8**
EATA				*i* S	**Sn**	**00 26 48.1**	**+0.7**
EATA	**Eleskirt**	**1.21**	**332**	P	**Pn**	**00 26 30.1**	**-0.8**
EATA				S	**Sn**	**00 26 48.1**	**+0.7**
VRTB	**Varto-Mus**	**1.43**	**285**	*e*PN	**Pb**	**00 26 34.7**	**+0.1**
VRTB	**Varto-Mus**	**1.43**	**285**	*i* P	**Pn**	**00 26 33.9**	**+0.1**
VRTB				*i* S	**Sg**	**00 26 57.2**	**+3.1**
VRTB	**Varto-Mus**	**1.43**	**285**	P	**Pn**	**00 26 33.9**	**+0.1**
VRTB	**Varto-Mus**	**1.43**	**285**	*e*Pn	**Pb**	**00 26 34.7**	**+0.1**
SIRN	**S¨–rnak**	**1.45**	**207**	*i* P	**Pn**	**00 26 34.3**	**+0.4**
SIRN				*i* S	**Sb**	**00 26 53.8**	**+0.6**
SIRN	**S¨–rnak**	**1.45**	**207**	P	**Pn**	**00 26 34.3**	**+0.4**
SIRN				S	**Sb**	**00 26 53.8**	**+0.6**
CUKT	**Cukurca**	**1.57**	**169**	*e*PN	**Pn**	**00 26 36.0**	**+0.4**
CUKT	**Cukurca**	**1.57**	**169**	⇓ *i* P	**Pb**	**00 26 36.9**	**0.0**
CUKT				*i* S	**Sg**	**00 27 00.5**	**+2.0**
CUKT	**Cukurca**	**1.57**	**169**	*e*Pn	**Pn**	**00 26 36.1**	**+0.4**
CUKT	**Cukurca**	**1.57**	**169**	P	**Pb**	**00 26 36.9**	**0.0**
CUKT				S	**Sg**	**00 27 00.5**	**+2.0**
BNGL	**BINGOL**	**1.63**	**276**	⇓ *i* P	**Pb**	**00 26 37.6**	**-0.4**
BNGL				*i* S	**Sg**	**00 27 00.8**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	*e*PN	**Pn**	**00 26 38.4**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	*i* P	**Pn**	**00 26 37.9**	**+0.2**
SVAN				*i* S	**Sb**	**00 27 00.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	P	**Pn**	**00 26 37.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**249**	*e*Pn	**Pn**	**00 26 38.4**	**+0.8**
SVAN				S	**Sb**	**00 27 00.8**	**-

ISC 27 00:37:42.2±0.7, 17°9S±0°2×179°6W±0°1, h622km, n24, σ0§87/25, mb3.8/7, 2C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.74**	**250**	P	**P**	**00 40 37.2**	**-0.8**
1.1nm,0.3s,baz=104,slow=21,SNR=8.0							
STKA	**Stephens Creek**	**37.63**	**241**	P	**P**	**00 44 07.2**	**+1.0**
1.5nm,0.3s,baz=94,slow=10,SNR=11							
WRA	**Warramunga Arr**	**43.50**	**260**	P	**P**	**00 44 52.5**	**-0.4**
1.9nm,0.5s,baz=95,slow=7.3,SNR=20							
ASAR	**Alice Springs**	**43.68**	**254**	P	**P**	**00 44 54.8**	**+0.5**
18nm,0.6s,baz=89,slow=8.1,SNR=189							
ASAR				PcP	**PcP**	**00 46 27.4**	**+0.3**
0.9nm,0.5s,baz=95,slow=3.5,SNR=5.9							
ASAR				S	**S**	**00 50 41.0**	**+0.2**
0.9nm,0.9s,baz=90,slow=15,SNR=6.5							
VNDA	**Vanda**	**60.37**	**185**	P	**P**	**00 46 52.9**	**+0.6**
0.4nm,0.4s,baz=7.5,slow=9.0,SNR=6.5							
MAW	**Mawson**	**83.48**	**200**	P	**P**	**00 49 06.3**	**+0.7**
2.5nm,0.6s,baz=136,slow=6.1,SNR=6.8							
TXAR	**Lajitas Array**	**86.97**	**58**	P	**P**	**00 49 24.2**	**+1.1**
1.1nm,1.0s,baz=224,slow=3.1,SNR=6.3							
PDAR	**Pinedale Array**	**88.14**	**44**	P	**P**	**00 49 28.0**	**-0.5**
0.4nm,0.6s,baz=172,slow=4.2,SNR=3.8							
SNAA	**Sanae**	**90.64**	**179**	P	**P**	**00 49 36.9**	**-2.5**
VNA3	**Neumayer Olymp**	**90.83**	**177**	P	**P**	**00 49 39.5**	**-0.7**
VNA2	**Neumayer--Watz**	**91.25**	**177**	P	**P**	**00 49 40.8**	**-1.3**
baz=186,slow=2.7							
VNA1	**Neumayer--Stat**	**91.49**	**177**	P	**P**	**00 49 42.7**	**-0.5**
BVAR	**Borovoye Array**	**116.10**	**321**	PKiKP	**PKPdf**	**00 55 15.1**	**-0.5**
0.5nm,0.3s,baz=96,slow=3.0,SNR=4.5							
ARCES	**ARCESS Array B**	**126.09**	**349**	PKiKP	**PKPdf**	**00 55 33.8**	**-0.6**
1.8nm,1.1s,baz=37,slow=2.3,SNR=5.3							
BRTR	**Keskin Array B**	**143.94**	**314**	PKP	PKPab	00 56 08.2	-0.1
1.6nm,0.6s,baz=96,slow=2.5,SNR=15							
BURAR	**Bucovina Array**	**144.05**	**331**	↓↓*i*P	**PKPab**	**00 56 09.1**	**+0.7**
BURAR	**Bucovina Array**	**144.05**	**331**	↓↓*i*P	**PKPab**	**00 56 09.1**	**+0.7**
DOPR	**Dopca**	**145.15**	**329**	↑↑*i*P	**PKPab**	**00 56 12.1**	**-0.5**
DRGR		**145.79**	**332**	↓↓*i*P	**PKPbc**	**00 56 13.3**	**+0.1**
ARR	**Arges**	**145.95**	**329**	↑↑*i*P	**PKPab**	**00 56 15.0**	**-0.9**
GERES	**GERESS Array B**	**147.28**	**344**	PKPbc	**PKPbc**	**00 56 17.2**	**+0.1**
1.1nm,0.5s,baz=18,slow=2.9,SNR=14							
CONA	**Conrad Observa**	**147.47**	**340**	*i* PKPbc	**PKPbc**	**00 56 18.4**	**+0.8**
0.7nm,0.3s							
ABTA	**Abfaltersbach**	**149.53**	**343**	*i* PKPbc	**PKPbc**	**00 56 22.3**	**-0.4**
2.8nm,0.7s							
DAVOX	**Davos/Dischmat**	**150.14**	**347**	PKPbc	**PKPbc**	**00 56 24.8**	**+0.5**
1.5nm,0.5s,baz=249,slow=3.1,SNR=6.2							

*ISK **27** 00:38:25.8, 38°50N×43°08E, h5km, ML3.8*
*IDC **27** 00:38:26.1±3.1, 38°27N×43°45E, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.4/41, mbtmp3.6/7, ML2.4/3, MS2.7/2, Ms1 2.6/2, ms1mx2.5/44, Error ellipse: s-maj=52.3km s-min=15.2km az=152.0*
*CSEM **27** 00:38:27.1±0.2, 38°45N×43°09E, h2km, ML3.8, Error ellipse: s-maj=5.3km s-min=4.2km az=173.0*
*ISCJB **27** 00:38:27.9±0.2, 38°44N±0°02×43°08E±0°02, h10km, mb3.5/2, Error ellipse: s-maj=2.8km s-min=2.1km az=164.0*
*AZER **27** 00:38:39.0±0.7, 37°94N×44°37E, h8km, Error ellipse: s-maj=8.0km s-min=4.7km az=106.0*
*DDA **27** 00:38:56.7, 38°45N×43°05E, h2km, Ml3.8*

ISC 27 00:38:27.9±0.6, 38°46N±0°02×43°06E±0°02, h10km, n131, σ1§95/172, 19C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.14**	**182**	*i* P	**Pg**	**00 38 29.5**	**-1.8**
GEVA				*i* S	**Sg**	**00 38 33.1**	**-0.6**
GEVA	**Gevas**	**0.14**	**182**	P	**Pg**	**00 38 29.5**	**-1.8**
GEVA				S	**Sg**	**00 38 33.1**	**-0.6**
VANB	**Van**	**0.29**	**61**	*e*PG	**Pg**	**00 38 32.1**	**-1.8**
VANB				*e*SG	**Sg**	**00 38 36.5**	**-1.3**
VMUR	**Van-Muradiye**	**0.67**	**37**	*i* P	**Pg**	**00 38 39.8**	**-1.1**
VMUR				*i* S	**Sn**	**00 38 52.7**	**-1.5**
VMUR	**Van-Muradiye**	**0.67**	**37**	P	**Pg**	**00 38 39.8**	**-1.1**
VMUR				S	**Sn**	**00 38 52.7**	**-1.5**
BASK	**Baskale_VAN**	**0.84**	**118**	*i* P	**Pg**	**00 38 41.6**	**-2.6**
BASK				*i* S	**Sn**	**00 38 57.5**	**-1.1**
BASK	**Baskale_VAN**	**0.84**	**118**	P	**Pg**	**00 38 41.6**	**-2.6**
BASK				S	**Sn**	**00 38 57.5**	**-1.1**
TUTA	**Tutak**	**0.96**	**348**	*i* P	**Pg**	**00 38 44.5**	**-2.0**
TUTA				*i* S	**Sg**	**00 38 58.3**	**-0.8**
TUTA	**Tutak**	**0.96**	**348**	P	**Pg**	**00 38 44.5**	**-2.0**
TUTA				S	**Sg**	**00 38 58.3**	**-0.8**
SIRN	**S¨–rnak**	**1.09**	**208**	*i* P	**Pg**	**00 38 46.3**	**-2.5**
SIRN				*i* S	**Sn**	**00 39 06.8**	**+2.4**
SIRN	**S¨–rnak**	**1.09**	**208**	P	**Pg**	**00 38 46.3**	**-2.5**
EKAR	**Karacoban**	**1.12**	**316**	*i* P	**Pg**	**00 38 47.5**	**-1.9**
EKAR				*i* S	**Sn**	**00 39 05.2**	**-0.2**
EKAR	**Karacoban**	**1.12**	**316**	P	**Pg**	**00 38 47.5**	**-1.9**
EKAR				S	**Sn**	**00 39 05.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.12**	**357**	*e*PG	**Pg**	**00 38 47.3**	**-2.2**
AGRB				*e*SG	**Sg**	**00 39 03.5**	**-0.6**
DYDN	**Diyadin**	**1.19**	**24**	*i* P	**Pb**	**00 38 49.0**	**-1.7**
DYDN				*i* S	**Sn**	**00 39 11.3**	**+4.1**
DYDN	**Diyadin**	**1.19**	**24**	P	**Pb**	**00 38 49.0**	**-1.7**
DYDN				S	**Sn**	**00 39 11.3**	**+4.1**
CUKT	**Cukurca**	**1.28**	**160**	*e*PN	**Pg**	**00 38 52.0**	**-0.5**
CUKT				*e*SN	**Sn**	**00 39 11.1**	**+1.8**
CUKT	**Cukurca**	**1.28**	**160**	*i* P	**Pg**	**00 38 52.4**	**-0.1**
CUKT				*i* S	**Sn**	**00 39 17.1**	**+7.8**
CUKT	**Cukurca**	**1.28**	**160**	*e*Pn	**Pg**	**00 38 52.0**	**-0.5**
CUKT	**Cukurca**	**1.28**	**160**	P	**Pg**	**00 38 52.4**	**-0.1**
CUKT				*e*Sn	**Sn**	**00 39 11.1**	**+1.8**
VRTB	**Varto-Mus**	**1.44**	**300**	*e*PN	**Pn**	**00 38 53.0**	**-1.2**
VRTB				*e*SN	**Sg**	**00 39 14.2**	**-0.1**
VRTB	**Varto-Mus**	**1.44**	**300**	*i* P	**Pn**	**00 38 52.8**	**-1.4**
VRTB				*i* S	**Sg**	**00 39 13.8**	**-0.5**
VRTB	**Varto-Mus**	**1.44**	**300**	P	**Pn**	**00 38 52.8**	**-1.4**
VRTB				S	**Sg**	**00 39 13.8**	**-0.5**
VRTB				*e*Sn	**Sg**	**00 39 14.2**	**-0.1**
EATA	**Eleskirt**	**1.47**	**343**	*i* P	**Pn**	**00 38 53.4**	**-1.5**
EATA				*i* S	**Sg**	**00 39 15.3**	**-0.1**
EATA	**Eleskirt**	**1.47**	**343**	P	**Pn**	**00 38 53.4**	**-1.5**
EATA				S	**Sg**	**00 39 15.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.50**	**259**	*e*PN	**Pn**	**00 38 54.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.50**	**259**	*i* P	**Pn**	**00 38 53.9**	**-1.0**
SVAN				*i* S	**Sg**	**00 39 14.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.50**	**259**	P	**Pn**	**00 38 53.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.50**	**259**	*e*Pn	**Pn**	**00 38 54.5**	**-0.4**
SVAN				S	**Sg**	**00 39 14.9**	**-1.2**
BTMN	**Batman**	**1.52**	**249**	*i* P	**Pn**	**00 38 54.5**	**-0.8**
BTMN				*i* S	**Sb**	**00 39 14.9**	**-0.7**
BTMN	**Batman**	**1.52**	**249**	P	**Pn**	**00 38 54.5**	**-0.8**
BTMN				S	**Sb**	**00 39 14.9**	**-0.7**
BNGL	**BINGOL**	**1.58**	**289**	*i* P	**Pn**	**00 38 55.3**	**-0.9**
BNGL				*i* S	**Sg**	**00 39 17.3**	**-1.4**
HOMI	**Horasan**	**1.82**	**331**	*i* P	**Pb**	**00 39 00.1**	**-1.4**
HOMI				*i* S	**Sg**	**00 39 26.8**	**+0.1**
BNGB	**Bing¨¶l**	**1.94**	**287**	*e*PN	**Pn**	**00 39 01.1**	**0.0**
BNGB				*e*SN	**Sb**	**00 39 27.2**	**-0.5**
ERZM	**Erzurum**	**1.96**	**318**	*i* P	**Pb**	**00 39 02.1**	**-1.7**
ERZM				*i* S	**Sg**	**00 39 29.3**	**-1.6**
ERZM	**Erzurum**	**1.96**	**318**	P	**Pb**	**00 39 02.1**	**-1.7**
ERZM				S	**Sg**	**00 39 29.3**	**-1.6**
DIGO	**Kars**	**1.97**	**7**	*i* P	**Pb**	**00 39 02.3**	**-1.8**
DIGO				*i* S	Sg	00 39 40.2	+8.9
DIGO	**Kars**	**1.97**	**7**	P	**Pb**	**00 39 02.3**	**-1.8**
ECAT	**Cat-ERZURUM**	**1.99**	**306**	*i* P	**Pn**	**00 39 01.9**	**+0.1**
ECAT				*i* S	**Sb**	**00 39 29.6**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.99**	**306**	P	**Pn**	**00 39 01.9**	**+0.1**
ECAT				S	**Sb**	**00 39 29.6**	**+0.3**
NAX	**Nakhchivan**	**2.03**	**69**	↑↑P	**Pb**	**00 39 05.0**	**0.0**
NAX				↓↓S	**Sn**	**00 39 25.2**	**-2.5**
NAX	**Nakhchivan**	**2.03**	**69**	P	**Pb**	**00 39 05.0**	**0.0**
NAX				S	**Sn**	**00 39 25.2**	**-2.5**
BINT	**Bingol**	**2.06**	**283**	*e*Sn	**Sn**	**00 39 27.3**	**-1.2**
GNI	**Garni**	**2.13**	**37**	Pn	**Pb**	**00 39 04.7**	**-2.1**
9.2nm,0.3s,baz=219,slow=3.6,SNR=25							
MARD	**Mardin**	**2.14**	**238**	*i* P	**Pn**	**00 39 03.3**	**-0.5**
MARD				*i* S	**Sb**	**00 39 31.6**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.17**	**346**	*e*PN	**Pn**	**00 39 03.9**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.20**	**297**	*e*PN	**Pn**	**00 39 05.1**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.20**	**297**	*e*Pn	**Pn**	**00 39 05.1**	**+0.5**
EAK	**Akyaka**	**2.27**	**10**	*i* P	**Pn**	**00 39 05.6**	**0.0**
EAK				*i* S	**Sg**	**00 39 48.6**	**+7.8**
EAK	**Akyaka**	**2.27**	**10**	P	**Pn**	**00 39 05.6**	**0.0**
MAZI	**Mazidag**	**2.29**	**245**	*e*PN	**Pn**	**00 39 06.3**	**+0.4**
MAZI	**Mazidag**	**2.29**	**245**	*e*Pn	**Pn**	**00 39 06.3**	**+0.4**
DIYA	**Diyarbakir**	**2.38**	**258**	*i* P	**Pn**	**00 39 06.8**	**-0.2**
DIYA				*i* S	**Sb**	**00 39 39.9**	**-0.4**
DIYA	**Diyarbakir**	**2.38**	**258**	P	**Pn**	**00 39 06.8**	**-0.2**
DIYA				S	**Sb**	**00 39 39.9**	**-0.4**
KOPT	**Kop Dagi**	**2.53**	**309**	*i* P	**Pn**	**00 39 10.2**	**+0.8**
KOPT				*i* S	**Sg**	**00 39 50.6**	**+1.4**
KOPT	**Kop Dagi**	**2.53**	**309**	P	**Pn**	**00 39 10.1**	**+0.8**
TNCL	**Tunceli-Merkez**	**2.83**	**285**	*i* P	**Pn**	**00 39 13.1**	**-0.2**
TNCL				*i* S	**Sg**	**00 39 59.1**	**+0.3**
TNCL	**Tunceli-Merkez**	**2.83**	**285**	P	**Pn**	**00 39 13.1**	**-0.2**
BGD	**Bogdanovka**	**2.84**	**8**	P	**Pb**	**00 39 16.0**	**-2.7**
ERZN	**Erzincan**	**2.84**	**294**	*e*PN	**Pn**	**00 39 13.1**	**-0.3**
PTK	**Pertek**	**2.91**	**280**	*e*PN	**Pn**	**00 39 15.6**	**+1.2**
PTK	**Pertek**	**2.91**	**280**	*e*Pn	**Pn**	**00 39 15.6**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.95**	**270**	*e*PN	**Pn**	**00 39 15.4**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.95**	**270**	*e*Pn	**Pn**	**00 39 15.4**	**+0.4**
AKH	**Akhalkalaki**	**2.97**	**6**	*e*PN	**Pn**	**00 39 14.9**	**-0.4**
AKH	**Akhalkalaki**	**2.97**	**6**	P	**Pg**	**00 39 23.9**	**-0.9**
AKH	**Akhalkalaki**	**2.97**	**6**	↑↑*i*P	**Pb**	**00 39 20.8**	**-0.2**
GDB	**GEDABAY**	**3.07**	**42**	↑↑P	**Pb**	**00 39 22.7**	**-0.1**
GDB				↑↑S	**Sb**	**00 40 02.7**	**+2.3**
QZX	**Qazax, Azerbai**	**3.15**	**34**	↑↑P	**Pb**	**00 39 24.4**	**+0.4**
QZX				↓↓S	**Sg**	**00 40 08.1**	**-1.0**
GANJ	**Ganja**	**3.34**	**48**	↓↓P	**Pn**	**00 39 21.2**	**+1.0**
GANJ				↑↑S	**Sb**	**00 40 06.0**	**-1.8**
GANJ	**Ganja**	**3.34**	**48**	P	**Pn**	**00 39 21.2**	**+1.0**
GANJ				S	**Sb**	**00 40 06.0**	**-1.8**
DGRG	**David-gareji**	**3.48**	**30**	P	**Pn**	**00 39 25.2**	**+3.0**
URFA	**Urfa**	**3.50**	**255**	*e*PN	**Pn**	**00 39 23.7**	**+1.2**
URFA	**Urfa**	**3.50**	**255**	*e*Pn	**Pn**	**00 39 23.7**	**+1.2**
TBLG	**Delisi**	**3.52**	**21**	*e*PN	**Pn**	**00 39 23.5**	**+0.9**
TBLG	**Delisi**	**3.52**	**21**	P	**Pb**	**00 39 26.8**	**-3.4**
TBLG	**Delisi**	**3.52**	**21**	P	**Pb**	**00 39 26.8**	**-3.4**
KTUT	**Trabzon**	**3.58**	**316**	*e*PN	**Pn**	**00 39 24.1**	**+0.6**
KTUT	**Trabzon**	**3.58**	**316**	*e*Pn	**Pn**	**00 39 24.2**	**+0.6**
BRDA	**Brd**	**3.67**	**59**	↓↓P	**Pb**	**00 39 29.8**	**-3.0**
BRDA				↓↓S	**Sn**	**00 40 08.6**	**+0.7**
BRDA	**Brd**	**3.67**	**59**	P	**Pb**	**00 39 29.8**	**-3.0**
BRDA				S	**Sn**	**00 40 08.6**	**+0.7**
MNGR	**Mingechevir, A**	**3.87**	**52**	↓↓P	**Pb**	**00 39 34.4**	**-1.9**
ZRD	**Zardab**	**4.02**	**62**	↓↓P	Pb	00 39 33.6	-5.2
ZRD				↓↓S	**Sn**	**00 40 15.2**	**-1.4**
ZRD	**Zardab**	**4.02**	**62**	P	Pb	00 39 33.6	-5.2
ZRD				S	**Sn**	**00 40 15.2**	**-1.4**
LRK	**Lerik**	**4.14**	**86**	↑↑P	**Pn**	**00 39 29.5**	**-1.8**
LRK				↑↑S	Sn	00 40 09.4	-10
LRK	**Lerik**	**4.14**	**86**	P	**Pn**	**00 39 29.5**	**-1.8**
ONI	**Oni**	**4.14**	**4**	P	**Pb**	**00 39 38.3**	**-2.7**
ESPY	**Espiye-Giresun**	**4.15**	**308**	*e*PN	**Pn**	**00 39 32.7**	**+1.4**
ESPY	**Espiye-Giresun**	**4.15**	**308**	*e*Pn	**Pn**	**00 39 32.7**	**+1.4**
ZKTA	**Zakatala**	**4.19**	**40**	↑↑P	**Pb**	**00 39 42.1**	**+0.4**
SEKA	**Sheki**	**4.21**	**48**	↑↑P	**Pb**	**00 39 40.4**	**-1.6**
GLBA	**Cilabad**	**4.23**	**78**	↓↓P	**Pn**	**00 39 32.6**	**+0.1**
GLBA				↓↓S	**Sn**	**00 40 13.6**	**-8.3**
GLBA	**Cilabad**	**4.23**	**78**	P	**Pn**	**00 39 32.6**	**+0.1**
DARE	**Darende-Malaty**	**4.38**	**273**	*e*PN	**Pn**	**00 39 36.3**	**+1.7**
DARE	**Darende-Malaty**	**4.38**	**273**	*e*Pn	**Pn**	**00 39 36.3**	**+1.7**
KDMR	**Kurdemir**	**4.41**	**63**	↑↑P	**Pn**	**00 39 38.0**	**+3.2**
KDMR	**Kurdemir**	**4.41**	**63**	P	**Pn**	**00 39 38.0**	**+3.2**
QBL	**Gabala**	**4.44**	**54**	↓↓P	**Pb**	**00 39 41.3**	**-4.8**
ASTR	**Astara**	**4.49**	**87**	↑↑P	**Pn**	**00 39 34.2**	**-1.8**
ASTR	**Astara**	**4.49**	**87**	P	**Pn**	**00 39 34.2**	**-1.8**
IML	**Ismayilli**	**4.59**	**58**	↑↑P	Pn	00 39 42.0	+4.6
IML				↑↑S	**Sn**	**00 40 31.3**	**+0.5**
IML	**Ismayilli**	**4.59**	**58**	P	Pn	00 39 42.0	+4.6
IML				S	**Sn**	**00 40 31.3**	**+0.5**
XNIQ	**Khinaliq**	**4.76**	**54**	↓↓P	Pb	00 39 45.5	-6.1
XNQ				↑↑S	**Sn**	**00 40 37.3**	**+2.2**
RSDY	**Resadiye-TOKAT**	**4.85**	**295**	*e*PN	**Pn**	**00 39 42.5**	**+1.6**
RSDY	**Resadiye-TOKAT**	**4.85**	**295**	*e*Pn	**Pn**	**00 39 42.5**	**+1.6**
PQL	**Pirkuli**	**4.86**	**60**	↑↑S	**Sn**	**00 40 39.7**	**+2.0**
PQL	**Pirkuli**	**4.86**	**60**	S	**Sn**	**00 40 39.7**	**+2.0**
SVSK	**Karacayir**	**4.93**	**289**	*e*PN	**Pn**	**00 39 44.4**	**+2.3**
SVSK	**Karacayir**	**4.93**	**289**	*e*Pn	**Pn**	**00 39 44.4**	**+2.3**
KMRS	**Kahramanmaras**	**4.96**	**261**	*e*PN	**Pn**	**00 39 44.9**	**+2.4**
KMRS	**Kahramanmaras**	**4.96**	**261**	*e*Pn	**Pn**	**00 39 44.9**	**+2.4**
GBS	**Qobustan**	**5.00**	**64**	↑↑P	**Pn**	**00 39 45.9**	**+2.9**
GBS	**Qobustan**	**5.00**	**64**	P	**Pn**	**00 39 45.9**	**+2.9**
QSAR	**Qusar**	**5.03**	**51**	↑↑P	Pb	00 39 50.0	-6.1
QUBA	**Quba, Azerbaij**	**5.08**	**54**	↑↑P	Pb	00 39 50.2	-6.7
SIZA	**Siyzn**	**5.20**	**58**	↓↓P	Pn	00 39 50.4	+4.5
SIZA	**Siyzn**	**5.20**	**58**	P	Pn	00 39 50.4	+4.5
SARI	**SarD1z-Kayseri**	**5.22**	**272**	*e*PN	**Pn**	**00 39 48.4**	**+2.2**
KBZ	**Khabaz**	**5.27**	**359**	LR	LR	00 41 45.0	
comp=Z,65nm,18.7s,baz=200,slow=36							
KVAR	**Kislovodsk Arr**	**5.50**	**357**	LR	LR	00 42 38.6	
comp=Z,90nm,21.9s,baz=196,slow=44							
BNN	**Bunyan**	**5.66**	**276**	*e*PN	**Pn**	**00 39 54.6**	**+2.4**
BNN	**Bunyan**	**5.66**	**276**	*e*Pn	**Pn**	**00 39 54.6**	**+2.4**
KOZT	**Kozan**	**5.80**	**263**	*e*PN	**Pn**	**00 39 57.0**	**+3.0**
BRTR	**Keskin Array B**	**7.44**	**283**	Pn	Pn	00 40 22.4	+5.8
0.1nm,0.3s,baz=114,slow=14,SNR=3.8							
MMAI	**Mount Meron Ar**	**8.26**	**231**	Pn	**Pn**	**00 40 30.4**	**+2.5**
0.4nm,0.3s,baz=68,slow=15,SNR=4.6							
AKASG	**Malin Array Be**	**15.69**	**326**	Pn	**P**	**00 42 13.4**	**+0.4**
0.5nm,0.3s,baz=134,slow=11,SNR=4.4							
AKTO	**Aktyubinsk**	**16.01**	**37**	Pn	**Pn**	**00 42 13.3**	**+0.3**
0.1nm,0.3s,baz=212,slow=14,SNR=5.2							
VYHS	**Vyhne**	**20.16**	**308**	*e*P	Pn	00 43 06.1	+1.9
ARU	**Arti**	**20.73**	**25**	P	Pn	00 43 09.9	-0.8
2.7nm,0.4s,baz=185,slow=1.3,SNR=5.1							
GERES	**GERESS Array B**	**23.51**	**306**	P	**P**	**00 43 40.3**	**+2.3**
0.8nm,0.9s,baz=132,slow=9.8,SNR=3.8							
FINES	**FINESS Array B**	**25.32**	**341**	P	**P**	**00 43 56.8**	**+2.4**
3.8nm,1.1s,baz=159,slow=8.9,SNR=2.9							

*CSEM **27** 00:45:41.7±0.2, 38°76N×43°18E, h2km, ML2.4, Error ellipse: s-maj=4.9km s-min=3.2km az=80.0*
*DDA **27** 00:45:41.5, 38°74N×43°15E, h9km, Ml2.8*
*ISK **27** 00:45:41.0, 38°77N×43°32E, h8km, ML2.4*

ISC 27 00:45:41.6±0.9, 38°75N±0°02×43°18E±0°03, h13km±8km, n30, σ1§00/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**134**	PG	**Pg**	**00 45 46.5**	**-0.1**
VANB				*e*SG	**Sb**	**00 45 51.4**	**-0.3**
VANB	**Van**	**0.23**	**134**	*i* Pg	**Pg**	**00 45 46.5**	**-0.1**
VANB				*e*Sg	**Sb**	**00 45 51.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.39**	**52**	*i* P	**Pg**	**00 45 49.3**	**-0.1**
VMUR				*i* S	**Sb**	**00 45 56.1**	**-0.3**
VMUR	**Van-Muradiye**	**0.39**	**52**	P	**Pg**	**00 45 49.3**	**-0.1**
VMUR				S	**Sb**	**00 45 56.1**	**-0.3**
GEVA	**Gevas**	**0.45**	**192**	*i* P	**Pg**	**00 45 49.2**	**-1.4**
GEVA				*i* S	**Sg**	**00 45 57.0**	**+0.4**
GEVA	**Gevas**	**0.45**	**192**	P	**Pg**	**00 45 49.2**	**-1.4**
GEVA				S	**Sg**	**00 45 57.0**	**+0.4**
TUTA	**Tutak**	**0.71**	**336**	*i* P	**Pg**	**00 45 55.1**	**-0.4**
TUTA				*i* S	**Sg**	**00 46 05.0**	**+0.1**
TUTA	**Tutak**	**0.71**	**336**	P	**Pg**	**00 45 55.1**	**-0.4**
TUTA				S	**Sg**	**00 46 05.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**350**	*e*PG	**Pb**	**00 45 57.5**	**-0.6**
AGRB				*e*SG	**Sn**	**00 46 10.3**	**-1.2**
AGRB	**Hanur-Agry**	**0.84**	**350**	*e*Pg	**Pb**	**00 45 57.5**	**-0.6**
AGRB				*e*Sg	**Sn**	**00 46 10.3**	**-1.2**
EKAR	**Karacoban**	**1.01**	**300**	*i* P	**Pn**	**00 46 01.5**	**-0.1**
EKAR				*i* S	**Sn**	**00 46 20.1**	**+4.3**
EKAR	**Karacoban**	**1.01**	**300**	P	**Pn**	**00 46 01.5**	**-0.1**
EATA	**Eleskirt**	**1.23**	**334**	*i* P	**Pb**	**00 46 04.7**	**-0.2**
EATA				*i* S	**Sg**	**00 46 22.7**	**+1.3**
EATA	**Eleskirt**	**1.23**	**334**	P	**Pb**	**00 46 04.7**	**-0.2**
EATA				S	**Sg**	**00 46 22.7**	**+1.3**
SIRN	**S¨–rnak**	**1.39**	**206**	*i* P	**Pg**	**00 46 07.9**	**-0.5**
SIRN				*i* S	**Sg**	**00 46 27.2**	**+0.7**
SIRN	**S¨–rnak**	**1.39**	**206**	P	**Pg**	**00 46 07.9**	**-0.5**
SIRN				S	**Sg**	**00 46 27.2**	**+0.7**
VRTB	**Varto-Mus**	**1.41**	**287**	*e*PN	**Pg**	**00 46 08.8**	**+0.2**
VRTB	**Varto-Mus**	**1.41**	**287**	*e*Pn	**Pg**	**00 46 08.8**	**+0.2**
CUKT	**Cukurca**	**1.54**	**167**	*e*PN	**Pb**	**00 46 09.2**	**-0.8**
CUKT	**Cukurca**	**1.54**	**167**	*i* P	**Pb**	**00 46 09.9**	**-0.1**
CUKT				*i* S	**Sg**	**00 46 33.5**	**+2.3**
CUKT	**Cukurca**	**1.54**	**167**	*e*Pn	**Pb**	**00 46 09.2**	**-0.8**
CUKT	**Cukurca**	**1.54**	**167**	P	**Pb**	**00 46 09.9**	**-0.1**
CUKT				S	**Sg**	**00 46 33.5**	**+2.3**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*PN	**Pb**	**00 46 12.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*i* P	**Pb**	**00 46 11.9**	**-0.3**
SVAN				*i* S	**Sg**	**00 46 35.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	P	**Pb**	**00 46 11.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**250**	*e*Pn	**Pb**	**00 46 12.7**	**+0.5**
SVAN				S	**Sg**	**00 46 35.5**	**+0.2**
BTMN	**Batman**	**1.73**	**241**	*i* P	**Pb**	**00 46 12.9**	**-0.4**
BTMN				*i* S	**Sg**	**00 46 36.6**	**-0.7**
BTMN	**Batman**	**1.73**	**241**	P	**Pb**	**00 46 12.9**	**-0.4**
BTMN				S	**Sg**	**00 46 36.6**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.92**	**341**	*e*PN	**Pb**	**00 46 15.8**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.92**	**341**	*e*Pn	**Pb**	**00 46 15.8**	**-0.7**

IDC 27 00:45:45.6±3.9, 16°66S×177°52W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/18, mbtmp4.3/3, Error ellipse: s-maj=166.9km s-min=50.3km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.98**	**240**	P	P	00 53 22.8	+0.6
0.9nm,0.3s,baz=91,slow=13,SNR=6.7							
WRA	**Warramunga Arr**	**45.71**	**258**	P	P	00 54 08.4	-0.4
0.9nm,0.5s,baz=95,slow=7.2,SNR=11							
ASAR	**Alice Springs**	**45.96**	**253**	P	P	00 54 10.2	-0.6
10nm,0.6s,baz=89,slow=8.2,SNR=136							
BRTR	**Keskin Array B**	**144.49**	**317**	PKP	PKPbc	01 05 23.6	+0.6
0.5nm,0.6s,baz=97,slow=3.6,SNR=5.1							
MMAI	**Mount Meron Ar**	**146.16**	**305**	PKPbc	PKPdf	01 05 27.8	+0.3
0.6nm,0.5s,baz=58,slow=5.4,SNR=4.0							

*ISK **27** 00:51:12.6, 38°74N×43°47E, h6km, ML2.9*
*ISCJB **27** 00:51:13.4

BASK				S		Sb	00 52 48.3	-1.0
EKAR	**Karacoban**	**1.10**	**299**	*i* P		**Pg**	**00 52 38.7**	**-1.3**
EKAR				*i* S		**Sb**	**00 52 56.2**	**+0.6**
EKAR	**Karacoban**	**1.10**	**299**	P		**Pg**	**00 52 38.7**	**-1.3**
EKAR				S		**Sb**	**00 52 56.2**	**+0.6**
EATA	**Eleskirt**	**1.29**	**331**	*i* P		**Pn**	**00 52 41.8**	**-2.4**
EATA				*i* S		**Sg**	**00 53 01.5**	**+1.1**
EATA	**Eleskirt**	**1.29**	**331**	P		**Pn**	**00 52 41.8**	**-2.4**
EATA				S		**Sg**	**00 53 01.5**	**+1.1**
SIRN	**S¨–rnak**	**1.42**	**210**	*i* P		**Pn**	**00 52 45.4**	**-0.5**
SIRN				*i* S		**Sg**	**00 53 05.9**	**+1.2**
SIRN	**S¨–rnak**	**1.42**	**210**	P		**Pn**	**00 52 45.4**	**-0.5**
SIRN				S		**Sg**	**00 53 05.9**	**+1.2**
VRTB	**Varto-Mus**	**1.50**	**287**	*e*PN		**Pb**	**00 52 47.4**	**-0.2**
VRTB	**Varto-Mus**	**1.50**	**287**	*i* P		**Pn**	**00 52 46.0**	**-1.0**
VRTB				*i* S		**Sg**	**00 53 08.6**	**+1.4**
VRTB	**Varto-Mus**	**1.50**	**287**	P		**Pn**	**00 52 46.0**	**-1.0**
VRTB	**Varto-Mus**	**1.50**	**287**	*e*Pn		**Pb**	**00 52 47.4**	**-0.2**
VRTB				S		**Sg**	**00 53 08.6**	**+1.4**
CUKT	**Cukurca**	**1.51**	**171**	*e*PN		**Pn**	**00 52 47.0**	**-0.1**
CUKT	**Cukurca**	**1.51**	**171**	*i* P		**Pn**	**00 52 46.1**	**-0.9**
CUKT				*i* S		**Sg**	**00 53 10.0**	**+2.7**
CUKT	**Cukurca**	**1.51**	**171**	P		**Pn**	**00 52 46.2**	**-0.9**
CUKT	**Cukurca**	**1.51**	**171**	*e*Pn		**Pn**	**00 52 47.0**	**-0.1**
DIGO	**Kars**	**1.68**	**2**	*i* P		**Pn**	**00 52 49.4**	**-0.2**
DIGO				*i* S		**Sg**	**00 53 16.2**	**+3.3**
DIGO	**Kars**	**1.68**	**2**	P		**Pn**	**00 52 49.4**	**-0.2**
DIGO				S		**Sg**	**00 53 16.2**	**+3.3**
BNGL	**BINGOL**	**1.70**	**278**	*i* P		**Pn**	**00 52 48.8**	**-1.0**
BNGL				*i* S		**Sg**	**00 53 15.7**	**+2.2**
HOMI	**Horasan**	**1.70**	**321**	*i* P		**Pn**	**00 52 48.4**	**-1.4**
HOMI				*i* S		**Sg**	**00 53 16.0**	**+2.4**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	*e*PN		**Pn**	**00 52 59.3**	**+0.7**
SVAN				*e*SN		**Sb**	**00 53 14.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	*i* P		**Pn**	**00 52 49.4**	**-1.1**
SVAN				*i* S		**Sb**	**00 53 14.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	P		**Pn**	**00 52 49.3**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	*e*Pn		**Pn**	**00 52 51.1**	**+0.7**
SVAN				S		**Sb**	**00 53 14.4**	**+0.1**
NAX	**Nakhchivan**	**1.76**	**75**	⇓P		**Pn**	**00 52 50.4**	**-0.1**
NAX				⇓S		**Sb**	**00 53 13.6**	**-1.0**
NAX	**Nakhchivan**	**1.76**	**75**	P		**Pn**	**00 52 50.4**	**-0.1**
NAX				S		**Sb**	**00 53 13.6**	**-1.0**
BTMN	**Batman**	**1.81**	**243**	*i* P		**Pn**	**00 52 50.5**	**-0.7**
BTMN				*i* S		**Sb**	**00 53 15.2**	**-0.8**
BTMN	**Batman**	**1.81**	**243**	P		**Pn**	**00 52 50.5**	**-0.7**
BTMN				S		**Sb**	**00 53 15.2**	**-0.8**
ERZM	**Erzurum**	**1.90**	**308**	*i* P		**Pn**	**00 52 53.0**	**+0.3**
ERZM				*i* S		**Sg**	**00 53 20.9**	**+0.8**
ERZM	**Erzurum**	**1.90**	**308**	P		**Pn**	**00 52 53.0**	**+0.3**
ERZM				S		**Sg**	**00 53 21.0**	**+0.8**
EAK	**Akyaka**	**1.96**	**7**	*i* P		**Pb**	**00 52 54.2**	**-1.3**
EAK				*i* S		**Sg**	**00 53 28.6**	**+6.6**
EAK	**Akyaka**	**1.96**	**7**	P		**Pb**	**00 52 54.2**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.96**	**338**	*e*PN		**Pn**	**00 52 53.2**	**-0.3**
ECAT	**Cat-ERZURUM**	**2.01**	**296**	*i* P		**Pn**	**00 52 55.1**	**+1.0**
ECAT				*i* S		**Sg**	**00 53 23.6**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.01**	**296**	P		**Pn**	**00 52 55.1**	**+1.0**
ECAT				S		**Sg**	**00 53 23.6**	**+0.1**
BNGB	**Bing¨¶l**	**2.06**	**278**	*e*PN		**Pn**	**00 52 55.5**	**+0.8**
BINT	**Bingol**	**2.20**	**274**	*e*Pn		**Pn**	**00 52 55.5**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.26**	**289**	*e*PN		**Pn**	**00 52 58.5**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.26**	**289**	*e*Pn		**Pn**	**00 52 58.5**	**+1.0**
BGD	**Bogdanovka**	**2.54**	**5**	P		**Pb**	**00 53 05.7**	**+0.4**
AKH	**Akhalkalaki**	**2.67**	**3**	*e*PN		**Pn**	**00 53 03.0**	**-0.2**
AKH	**Akhalkalaki**	**2.67**	**3**	P		**Pb**	**00 53 08.9**	**+1.3**
AKH	**Akhalkalaki**	**2.67**	**3**	⇑P		**Pb**	**00 53 07.1**	**-0.5**
AKH	**Akhalkalaki**	**2.67**	**3**	⇑P		**Pb**	**00 53 07.1**	**-0.5**
GDB	**GEDABAY**	**2.74**	**43**	⇑P		**Pb**	**00 53 06.6**	**-2.1**
GDB	**GEDABAY**	**2.74**	**43**	P		**Pb**	**00 53 06.6**	**-2.1**
QZX	**Qazax, Azerbai**	**2.81**	**34**	⇑P		**Pb**	**00 53 07.6**	**-2.3**
QZX				⇓S		**Sb**	**00 53 42.7**	**-2.1**
QZX	**Qazax, Azerbai**	**2.81**	**34**	P		**Pb**	**00 53 07.6**	**-2.3**
QZX				S		**Sb**	**00 53 42.7**	**-2.1**
GANJ	**Ganja**	**3.01**	**50**	⇓P		**Pn**	**00 53 09.7**	**+2.1**
GANJ				⇓S		**Sb**	**00 53 46.5**	**-4.0**
GANJ	**Ganja**	**3.01**	**50**	P		**Pn**	**00 53 09.7**	**+2.1**
GANJ				S		**Sb**	**00 53 46.5**	**-4.0**
DGRG	**David-gareji**	**3.14**	**30**	P		**Pb**	**00 53 13.3**	**-2.2**
TBLG	**Delisi**	**3.19**	**20**	P		**Pb**	**00 53 16.1**	**-0.2**
TBLG	**Delisi**	**3.19**	**20**	P		**Pb**	**00 53 16.1**	**-0.2**
BRDA	**Brd**	**3.36**	**62**	⇓P		**Pn**	**00 53 14.2**	**+1.7**
BRDA				⇑S		**Sn**	**00 53 53.7**	**+0.8**
BRDA	**Brd**	**3.36**	**62**	P		**Pn**	**00 53 14.2**	**+1.7**
BRDA				S		**Sn**	**00 53 53.7**	**+0.8**
MNGR	**Mingechevir, A**	**3.55**	**54**	⇑S		**Sn**	**00 53 59.3**	**+1.7**
MNGR	**Mingechevir, A**	**3.55**	**54**	S		**Sn**	**00 53 59.3**	**+1.7**
ZRD	**Zardab**	**3.72**	**64**	⇑P		**Pn**	**00 53 18.9**	**+1.5**
ZRD				⇑S		**Sn**	**00 54 02.6**	**+0.9**
ZRD	**Zardab**	**3.72**	**64**	P		**Pn**	**00 53 18.9**	**+1.5**
ZRD				S		**Sn**	**00 54 02.6**	**+0.9**
ONI	**Oni**	**3.85**	**2**	P		**Pg**	**00 53 32.1**	**-0.6**
ZKTA	**Zakatala**	**3.85**	**40**	⇓P		**Pn**	**00 53 22.1**	**+2.9**
ZKTA				⇓S		**Sn**	**00 54 08.0**	**+2.9**
SEKA	**Sheki**	**3.88**	**49**	⇑P		**Pn**	**00 53 22.6**	**+3.0**
SEKA				⇓S		**Sn**	**00 54 09.4**	**+3.6**
SEKA	**Sheki**	**3.88**	**49**	P		**Pn**	**00 53 22.6**	**+3.0**
SEKA				S		**Sn**	**00 54 09.4**	**+3.6**
LRK	**Lerik**	**3.94**	**90**	⇑P		**Pn**	**00 53 21.3**	**+0.7**
LRK				⇓S		**Sn**	**00 54 07.0**	**-0.5**
LRK	**Lerik**	**3.94**	**90**	P		**Pn**	**00 53 21.3**	**+0.7**
LRK				S		**Sn**	**00 54 07.0**	**-0.5**
GLBA	**Clilabad**	**4.00**	**81**	⇓P		**Pn**	**00 53 22.3**	**+1.1**
GLBA				⇑S		**Sn**	**00 54 08.5**	**-0.1**
GLBA	**Clilabad**	**4.00**	**81**	P		**Pn**	**00 53 22.3**	**+1.1**
GLBA				S		**Sn**	**00 54 08.5**	**-0.1**
QBL	**Gabala**	**4.13**	**56**	⇑P		**Pn**	**00 53 25.0**	**+1.9**
QBL	**Gabala**	**4.13**	**56**	P		**Pn**	**00 53 25.0**	**+1.9**
LKRN	**Lenkeran, Azer**	**4.28**	**89**	⇓P		**Pn**	**00 53 26.0**	**+0.9**
LKRN	**Lenkeran, Azer**	**4.28**	**89**	P		**Pn**	**00 53 26.0**	**+0.9**
IML	**Ismayilli**	**4.28**	**60**	⇑P		**Pn**	**00 53 27.0**	**+1.8**
IML	**Ismayilli**	**4.28**	**60**	P		**Pn**	**00 53 27.0**	**+1.8**
ASTR	**Astara**	**4.30**	**91**	⇑P		**Pn**	**00 53 26.3**	**+1.0**
ASTR	**Astara**	**4.30**	**91**	P		**Pn**	**00 53 26.3**	**+1.0**
XNQ	**Khinaliq**	**4.44**	**55**	⇓P		**Pn**	**00 53 29.4**	**+1.9**
XNQ	**Khinaliq**	**4.44**	**55**	P		**Pn**	**00 53 29.4**	**+1.9**
PQL	**Pirkuli**	**4.56**	**62**	⇑P		**Pn**	**00 53 30.7**	**+1.6**
PQL	**Pirkuli**	**4.56**	**62**	P		**Pn**	**00 53 30.7**	**+1.6**
QSAR	**Qusar**	**4.71**	**52**	⇓P		**Pn**	**00 53 33.0**	**+2.0**
QSAR	**Qusar**	**4.71**	**52**	P		**Pn**	**00 53 33.0**	**+2.0**
GBS	**Qobustan**	**4.71**	**66**	⇑P		**Pn**	**00 53 32.4**	**+1.4**
GBS	**Qobustan**	**4.71**	**66**	P		**Pn**	**00 53 32.4**	**+1.4**
QUBA	**Quba, Azerbaij**	**4.76**	**55**	⇓P		**Pn**	**00 53 33.7**	**+1.9**
QUBA	**Quba, Azerbaij**	**4.76**	**55**	P		**Pn**	**00 53 33.7**	**+1.9**
ATGJ	**Altiaghaj**	**4.83**	**62**	⇑P		**Pn**	**00 53 34.3**	**+1.6**
ATGJ	**Altiaghaj**	**4.83**	**62**	P		**Pn**	**00 53 34.3**	**+1.6**
SIZA	**Siyzn**	**4.90**	**60**	⇓P		**Pn**	**00 53 35.2**	**+1.6**
SIZA	**Siyzn**	**4.90**	**60**	P		**Pn**	**00 53 35.2**	**+1.6**
GOBA	**Gobu**	**5.24**	**69**	⇑P		**Pn**	**00 53 40.1**	**+1.8**
GOBA	**Gobu**	**5.24**	**69**	P		**Pn**	**00 53 40.1**	**+1.8**
NDR	**Nardaran**	**5.48**	**68**	⇓P		**Pn**	**00 53 43.3**	**+1.8**
NDR	**Nardaran**	**5.48**	**68**	P		**Pn**	**00 53 43.3**	**+1.8**

*ISK **27** 00:54:12.7, 38.˚55N×43.˚13E, h5km, ML3.3*
*CSEM **27** 00:54:13.6±0.2, 38.˚58N×43.˚14E, h2km, ML3.3, Error ellipse: s-maj=6.2km s-min=4.9km az=98.0*
*DDA **27** 00:54:13.3, 38.˚61N×43.˚09E, h7km, Ml3.7*
ISC 27 00:54:13.3±1.1, 38.˚61N±0.˚02×43.˚14E±0.˚03, h6km±10km, n35, σ1°29/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**94**	*e*PG	**Pg**	**00 54 17.3**	**+0.1**
VANB	**Van**	**0.20**	**94**	*e*Pg	**Pg**	**00 54 17.3**	**+0.1**
GEVA	**Gevas**	**0.30**	**192**	*i* P	**Pg**	**00 54 18.1**	**-1.2**
GEVA				*i* S	**Sb**	**00 54 25.7**	**-0.9**
GEVA	**Gevas**	**0.30**	**192**	P	**Pg**	**00 54 18.1**	**-1.2**
GEVA				S	**Sb**	**00 54 25.7**	**-0.9**
VMUR	**Van-Muradiye**	**0.51**	**41**	*i* P	**Pg**	**00 54 23.2**	**+0.1**
VMUR				*i* S	**Sb**	**00 54 32.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.51**	**41**	P	**Pg**	**00 54 23.2**	**+0.1**
VMUR				S	**Sb**	**00 54 32.2**	**-0.3**
TUTA	**Tutak**	**0.83**	**342**	*i* P	**Pg**	**00 54 28.6**	**-0.7**
TUTA				*i* S	**Sg**	**00 54 40.9**	**+0.7**
TUTA	**Tutak**	**0.83**	**342**	P	**Pg**	**00 54 28.6**	**-0.7**
TUTA				S	**Sg**	**00 54 40.8**	**+0.7**
AGRB	**Hanur-Agry**	**0.97**	**353**	*e*PG	**Pn**	**00 54 33.4**	**-0.4**
AGRB				*e*SG	**Sn**	**00 54 49.0**	**+1.0**
AGRB	**Hanur-Agry**	**0.97**	**353**	*e*Pg	**Pn**	**00 54 33.4**	**-0.4**
EKAR	**Karacoban**	**1.06**	**308**	*i* P	**Pn**	**00 54 34.2**	**-0.8**
EKAR				*i* S	**Sn**	**00 54 53.1**	**+2.9**
EKAR	**Karacoban**	**1.06**	**308**	P	**Pn**	**00 54 34.2**	**-0.8**
SIRN	**S¨–rnak**	**1.25**	**208**	*i* P	**Pn**	**00 54 35.9**	**-1.5**
SIRN	**S¨–rnak**	**1.25**	**208**	P	**Pn**	**00 54 35.9**	**-1.5**
CUKT	**Cukurca**	**1.41**	**165**	*e*PN	**Pg**	**00 54 40.1**	**-0.2**
CUKT				*e*SN	**Sg**	**00 54 59.6**	**+1.0**
CUKT	**Cukurca**	**1.41**	**165**	*i* P	**Pg**	**00 54 40.6**	**+0.3**
CUKT				*i* S	**Sg**	**00 55 03.2**	**+4.6**
CUKT	**Cukurca**	**1.41**	**165**	*e*Pn	**Pg**	**00 54 40.1**	**-0.2**
CUKT	**Cukurca**	**1.41**	**165**	P	**Pg**	**00 54 40.6**	**+0.3**
CUKT				*e*Sn	**Sg**	**00 54 59.6**	**+1.0**
VRTB	**Varto-Mus**	**1.43**	**293**	*e*PN	**Pg**	**00 54 41.0**	**+0.3**
VRTB				*e*SN	**Sg**	**00 55 01.8**	**+2.6**
VRTB	**Varto-Mus**	**1.43**	**293**	*e*Pn	**Pg**	**00 54 41.0**	**+0.3**
VRTB				*e*Sn	**Sg**	**00 55 01.8**	**+2.6**
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*e*PN	**Pb**	**00 54 42.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*i* P	**Pb**	**00 54 42.6**	**-0.6**
SVAN				*i* S	**Sg**	**00 55 04.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*e*Pn	**Pb**	**00 54 42.7**	**-0.6**
SVAN				S	**Sg**	**00 55 04.5**	**-0.1**
BTMN	**Batman**	**1.64**	**245**	*i* P	**Pb**	**00 54 43.4**	**-0.6**
BTMN				*i* S	**Sg**	**00 55 07.0**	**+1.0**
BTMN	**Batman**	**1.64**	**245**	P	**Pb**	**00 54 43.4**	**-0.6**
BTMN				S	**Sg**	**00 55 07.0**	**+1.0**
BNGB	**Bing¨¶l**	**1.96**	**282**	*e*PN	**Pb**	**00 54 48.4**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.04**	**343**	*e*PN	**Pb**	**00 54 50.5**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.04**	**343**	*e*Pn	**Pb**	**00 54 50.5**	**-0.5**
BINT	**Bingol**	**2.09**	**278**	*e*Pn	**Pn**	**00 54 48.4**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.19**	**293**	*e*PN	**Pb**	**00 54 52.0**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.19**	**293**	*e*Pn	**Pb**	**00 54 52.0**	**-1.4**
MAZI	**Mazidag**	**2.42**	**242**	*e*PN	**Pn**	**00 54 54.4**	**+0.9**
MAZI	**Mazidag**	**2.42**	**242**	*e*Pn	**Pn**	**00 54 54.4**	**+0.9**
AKH	**Akhalkalaki**	**2.81**	**5**	*e*PN	**Pb**	**00 55 01.9**	**-2.1**
AKH	**Akhalkalaki**	**2.81**	**5**	*e*Pn	**Pb**	**00 55 01.9**	**-2.1**

*IDC **27** 01:00:16.7±1.1, 29.˚54N×103.˚15E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/61, mbtmp3.8/8, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/34, Error ellipse: s-maj=31.4km s-min=19.0km az=54.0*
*ISCJB **27** 01:00:17.4±0.5, 29.˚73N±0.˚04×103.˚43E±0.˚07, h10km, mb3.7/7, MS3.4/2, Error ellipse: s-maj=8.6km s-min=5.5km az=2.9*
*BJI **27** 01:00:22.8, 29.˚64N×103.˚22E, h24km, ML3.8/18, Ms3.7/2, Ms7 3.5/2*
ISC 27 01:00:20.2±0.7, 29.˚74N±0.˚04×103.˚21E±0.˚08, h10km, n16, σ2°19/18, mb3.7/7, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.26**	**22**	⇑Pg	**Pn**	**01 00 45.0**	**+1.1**
CD2				Sg	**Sb**	**01 01 02.5**	**+2.2**
CD2				smax	smax		
	comp=N,6μm,0.4s						
CD2				smax	smax		
	comp=E,5μm,0.5s						
GYA	**Guiyang**	**4.48**	**136**	Pn	**Pn**	**01 01 27.8**	**-0.4**
GYA				Pg	**Pb**	**01 01 42.5**	**+3.6**
GYA				Sn	**Sn**	**01 02 17.0**	**-3.4**
GYA				Sg	**Sb**	**01 02 35.8**	**+2.8**
GYA				smax	smax		
	comp=N,140nm,0.7s						
GYA				smax	smax		
	comp=E,130nm,0.7s						
KMI	**Kunming**	**4.62**	**185**	Pn	**Pn**	**01 01 30.8**	**+0.5**
KMI				Sn	**Sn**	**01 02 23.5**	**-0.6**
LZH	**Lanzhou**	**6.35**	**5**	Pn	Pn	01 02 00.0	+6.0
LZH				smax	smax		
	comp=N,36nm,0.8s						
LZH				smax	smax		
	comp=E,34nm,0.4s						
LZH				LR	LR		
	comp=N,190nm,7.3s						
LZH				LR	LR		
	comp=E,130nm,6.4s						
LZH				LR	LR		
	comp=Z,310nm,9.2s						
XAN	**Xi'an**	**6.48**	**47**	Pg	Pb	01 02 22.3	+9.3
XAN				Sn	**Sn**	**01 03 05.5**	**-4.1**
XAN				Sg	Sb	01 03 42.3	+12
XAN				smax	smax		
	comp=N,200nm,0.9s						
XAN				smax	smax		
	comp=E,200nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.89**	**200**	Pn	**Pn**	**01 03 10.4**	**+0.5**
	0.7nm,0.3s,baz=14,slow=12,SNR=5.1						
SONM	**Songino Array**	**18.23**	**7**	P	**Pn**	**01 04 35.5**	**+2.1**
	0.2nm,0.3s,baz=185,slow=14,SNR=2.1						
WMQ	**Urumqi**	**18.71**	**323**	*e*P	**P**	**01 04 39.3**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,67nm,4.5s						
KSRS	**Korea Array**	**21.94**	**63**	P	**P**	**01 05 12.7**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=254,slow=9.7,SNR=9.4						
KSRS				LR	LR	01 14 47.8	
	comp=Z,72nm,19.1s,baz=345,slow=40						
MKAR	**Makanchi Array**	**23.54**	**322**	P	**P**	**01 05 30.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=126,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**26.98**	**50**	P	**P**	**01 06 01.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=194,slow=5.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**27.88**	**325**	P	**P**	**01 06 08.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=131,slow=9.3,SNR=12						
BVAR	**Borovoye Array**	**33.40**	**324**	LR	LR	01 23 04.5	
	comp=Z,155nm,21.5s,baz=70,slow=41						
WRA	**Warramunga Arr**	**57.79**	**145**	P	P	01 10 08.9	-2.9
	comp=Z,0.7nm,0.3s,baz=328,slow=9.0,SNR=7.2						
ARCES	**ARCESS Array B**	**58.18**	**336**	P	**P**	**01 10 12.8**	**-1.2**
	comp=Z,2.1nm,1.0s,baz=92,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**60.75**	**148**	P	**P**	**01 10 29.7**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=296,slow=6.4,SNR=4.9						

*ISCJB **27** 01:00:38.2±0.3, 40.˚53N±0.˚02×15.˚56E±0.˚03, h26km±2km, Error ellipse: s-maj=4.1km s-min=2.9km az=140.3*
*CSEM **27** 01:00:38.2±0.1, 40.˚55N×15.˚57E, h10km, ML3.7/10, Error ellipse: s-maj=2.9km s-min=2.5km az=53.0*
*ROM **27** 01:00:38.1±0.1, 40.˚53N×15.˚57E, h9km±1km, Md2.9/15, Ml3.1/32, Error ellipse: s-maj=1.3km s-min=1.1km az=53.0*
ISC 27 01:00:38.5±0.9, 40.˚53N±0.˚02×15.˚57E±0.˚02, h18km±3km, n112, σ1°12/151, 8C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDRU	**Civita di Ruta**	**0.20**	**259**	Pg	**Pb**	**01 00 43.0**	**-0.5**
CDRU				Sg	**Sb**	**01 00 46.4**	**-0.4**
	6μm,0.2s						
CDRU	**Civita di Ruta**	**0.20**	**259**	Pg	**Pb**	**01 00 43.0**	**-0.5**
CDRU				Sg	**Sb**	**01 00 46.4**	**-0.4**
	6μm,0.2s						
PZUN	**Potenza**	**0.22**	**57**	Pg	**Pb**	**01 00 44.1**	**+0.5**
	6μm,0.6s						
PZUN	**Potenza**	**0.22**	**57**	Pg	**Pb**	**01 00 44.1**	**+0.5**
	6μm,0.6s						
MRLC	**Muro Lucano**	**0.24**	**345**	Pg	**Pb**	**01 00 43.6**	**-0.5**
MRLC				Sg	**Sg**	**01 00 48.6**	**+0.8**
	4μm,0.4s						
MRLC	**Muro Lucano**	**0.24**	**345**	Pg	**Pb**	**01 00 43.6**	**-0.5**
CMPR	**Campora**	**0.29**	**224**	Pg	**Pg**	**01 00 44.5**	**-0.4**
	2μm,0.3s						
CMPR	**Campora**	**0.29**	**224**	Pg	**Pg**	**01 00 44.5**	**-0.4**
	2μm,0.3s						
MTSN	**Montesano sull**	**0.30**	**152**	Pg	**Pg**	**01 00 45.0**	**0.0**
MTSN				Sg	**Sg**	**01 00 50.5**	**+1.0**
	4μm,0.4s						
MTSN	**Montesano sull**	**0.30**	**152**	Pg	**Pg**	**01 00 45.0**	**0.0**
MTSN				Sg	**Sg**	**01 00 50.5**	**+1.0**
	4μm,0.4s						
ACER	**Acerenza**	**0.38**	**48**	Pg	**Pg**	**01 00 46.3**	**-0.2**
ACER				Sg	**Sg**	**01 00 52.2**	**+0.3**
	2μm,0.5s						
ACER	**Acerenza**	**0.38**	**48**	Pg	**Pg**	**01 00 46.3**	**-0.2**
ACER				Sg	**Sg**	**01 00 52.2**	**+0.3**
	2μm,0.5s						
MGR	**Morigerati**	**0.39**	**182**	Pg	**Pg**	**01 00 46.2**	**-0.4**
MGR				Sg	**Sg**	**01 00 52.2**	**+0.2**
	2μm,0.2s						
MGR	**Morigerati**	**0.39**	**182**	Pg	**Pg**	**01 00 46.2**	**-0.4**
MGR				Sg	**Sg**	**01 00 52.2**	**+0.2**
	2μm,0.2s						
MCRV	**Calabrutti - M**	**0.40**	**310**	Pg	**Pg**	**01 00 45.9**	**-0.8**
	2μm,0.2s						
MCRV	**Calabrutti - M**	**0.40**	**310**	Pg	**Pg**	**01 00 45.9**	**-0.8**
	2μm,0.2s						
SIRI	**Monte Sirino -**	**0.41**	**146**	Pg	**Pg**	**01 00 46.7**	**-0.3**
SIRI				Sg	**Sg**	**01 00 53.6**	**+0.8**
	2μm,0.2s						
SIRI	**Monte Sirino -**	**0.41**	**146**	Pg	**Pg**	**01 00 46.7**	**-0.3**
SIRI				Sg	**Sg**	**01 00 53.6**	**+0.8**
	2μm,0.2s						
BULG	**Bulgheria - Ca**	**0.47**	**198**	Pg	**Pg**	**01 00 47.9**	**-0.2**
BULG				Sg	**Sb**	**01 00 55.6**	**+0.6**
	2μm,0.5s						
BULG	**Bulgheria - Ca**	**0.47**	**198**	Pg	**Pg**	**01 00 47.9**	**-0.2**
BULG				Sg	**Sb**	**01 00 55.6**	**+0.6**
	2μm,0.5s						
SNAL	**S. Angelo Dei**	**0.48**	**326**	Pg	**Pg**	**01 00 47.7**	**-0.5**
SNAL				Sg	**Sb**	**01 00 56.0**	**+0.7**
	1μm,0.6s						
SNAL	**S. Angelo Dei**	**0.48**	**326**	Pg	**Pg**	**01 00 47.7**	**-0.5**
SNAL				Sg	**Sb**	**01 00 56.0**	**+0.7**
	1μm,0.6s						
SCHR	**S. Chirico Rap**	**0.51**	**130**	Pg	**Pg**	**01 00 48.1**	**-0.6**
SCHR				Sg	**Sg**	**01 00 56.0**	**+0.4**
	736nm,0.2s						
PALZ	**Palazzo San Ge**	**0.51**	**35**	Pg	**Pg**	**01 00 47.9**	**-0.8**
	890nm,0.8s						
PALZ	**Palazzo San Ge**	**0.51**	**35**	Pg	**Pg**	**01 00 47.9**	**-0.8**
	890nm,0.8s						
CAFE	**Carife**	**0.56**	**333**	Pg	**Pb**	**01 00 49.2**	**-0.6**
CAFE				Sg	**Sb**	**01 00 57.6**	**+0.2**
CAFE	**Carife**	**0.56**	**333**	Pg	**Pb**	**01 00 49.2**	**-0.6**
CAFE				Sg	**Sb**	**01 00 57.6**	**+0.2**
CUC	**Castrocucco**	**0.57**	**160**	Pg	**Pb**	**01 00 49.1**	**-0.7**
	471nm,0.5s						
CUC	**Castrocucco**	**0.57**	**160**	Pg	**Pb**	**01 00 49.1**	**-0.7**
	471nm,0.5s						
SGTA	**Sant Agata di**	**0.62**	**346**	Pg	**Pb**	**01 00 50.0**	**-0.9**
	850nm,0.5s						
SGTA	**Sant Agata di**	**0.62**	**346**	Pg	**Pb**	**01 00 50.0**	**-0.9**
	850nm,0.5s						
MIGL	**Miglionico**	**0.67**	**83**	Pg	**Pb**	**01 00 51.0**	**-0.6**
MIGL				Sg	**Sg**	**01 01 01.6**	**+1.0**
	2μm,0.7s						
MIGL	**Miglionico**	**0.67**	**83**	Pg	**Pb**	**01 00 51.0**	**-0.6**
MIGL				Sg	**Sg**	**01 01 01.6**	**+1.0**
	2μm,0.7s						
MMN	**Mormanno**	**0.71**	**153**	Pg	**Pb**	**01 00 51.6**	**-0.7**
	184nm,0.3s						
MMN	**Mormanno**	**0.71**	**153**	Pg	**Pb**	**01 00 51.6**	**-0.7**
	184nm,0.3s						
MRB1	**Monte Rocchett**	**0.75**	**323**	Pg	**Pb**	**01 00 52.1**	**-0.9**
	798nm,0.6s						
MRB1	**Monte Rocchett**	**0.75**	**323**	Pg	**Pb**	**01 00 52.1**	**-0.9**
	798nm,0.

ABTA					*e*Sn	**Sn**	**01 03 29.2**	**-0.2**
	6.0nm,0.9s								
BZS	**Buzias**	**6.74**	**39**	⇑*i*P		**Pn**	**01 02 17.8**	**+1.3**
BZS	**Buzias**	**6.74**	**39**	S		**Sn**	**01 03 26.1**	**-6.7**
BZS	**Buzias**	**6.74**	**39**	⇑*i*P		**Pn**	**01 02 17.8**	**+1.3**
MOA	**Molln**	**7.38**	**353**	*e*Pn		**Pn**	**01 02 27.3**	**+2.0**
	0.8nm,0.3s								
MOA				*e*Sn		**Sn**	**01 03 46.7**	**-1.8**
	1.4nm,0.5s								
MOA	**Molln**	**7.38**	**353**	Pn		**Pn**	**01 02 27.3**	**+2.0**
	0.8nm,0.3s								
MOA				Sn		**Sn**	**01 03 46.7**	**-1.8**
	1.4nm,0.5s								
ARR	**Arges**	**8.22**	**51**	⇑*i*P		**Pn**	**01 02 38.6**	**+1.8**
ARR	**Arges**	**8.22**	**51**	⇑*i*P		**Pn**	**01 02 38.6**	**+1.8**
VOIR		**8.50**	**52**	⇑*i*P		**Pn**	**01 02 42.4**	**+1.7**
VOIR		**8.50**	**52**	⇑*i*P		**Pn**	**01 02 42.4**	**+1.7**

*ISK **27** 01:10:08.0,38.′64N×43.′20E,h5km,ML2.8*
*DDA **27** 01:10:09.1,38.′66N×43.′15E,h7km,Ml3.2*
*CSEM **27** 01:10:09.4±0.2,38.′65N×43.′16E,h2km,ML2.8,Error ellipse: s-maj=4.6km s-min=3.9km az=90.0*
ISC 27 01:10:09.4±1.3,**38.′65N**±0.′02×**43.′14E**±0.′03,**h2**km±15km,
n50,σ0**63**/54,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**105**	*e*PG	**Pg**	**01 10 13.1**	**-0.3**
VANB				*e*SG	**Sg**	**01 10 17.0**	**+0.9**
VANB	**Van**	**0.21**	**105**	*e*Pg	**Pg**	**01 10 13.1**	**-0.3**
VANB				*e*Sg	**Sg**	**01 10 17.0**	**+0.9**
GEVA	**Gevas**	**0.34**	**190**	*i* P	**Pg**	**01 10 15.6**	**-0.4**
GEVA	**Gevas**	**0.34**	**190**	P	**Pg**	**01 10 15.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.48**	**45**	*i* P	**Pg**	**01 10 18.5**	**-0.2**
VMUR	**Van-Muradiye**	**0.48**	**45**	P	**Pg**	**01 10 18.5**	**-0.2**
TUTA	**Tutak**	**0.79**	**342**	*i* P	**Pg**	**01 10 24.3**	**-0.3**
TUTA	**Tutak**	**0.79**	**342**	P	**Pg**	**01 10 24.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*PG	**Pg**	**01 10 26.7**	**-0.6**
AGRB				*e*SG	**Sb**	**01 10 41.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*Pg	**Pg**	**01 10 26.7**	**-0.6**
AGRB				*e*Sg	**Sb**	**01 10 41.5**	**+0.1**
DYDN	**Diyadin**	**0.99**	**26**	*i* P	**Pb**	**01 10 29.0**	**-0.5**
DYDN	**Diyadin**	**0.99**	**26**	P	**Pb**	**01 10 29.0**	**-0.5**
EKAR	**Karacoban**	**1.03**	**306**	*i* P	**Pg**	**01 10 29.4**	**+0.2**
EKAR	**Karacoban**	**1.03**	**306**	P	**Pg**	**01 10 29.4**	**+0.2**
SIRN	**S¨–rnak**	**1.28**	**207**	*i* P	**Pg**	**01 10 33.7**	**-0.3**
SIRN	**S¨–rnak**	**1.28**	**207**	P	**Pg**	**01 10 33.7**	**-0.3**
EATA	**Eleskirt**	**1.31**	**338**	*i* P	**Pg**	**01 10 33.5**	**-1.0**
EATA	**Eleskirt**	**1.31**	**338**	P	**Pg**	**01 10 33.5**	**-1.0**
VRTB	**Varto-Mus**	**1.41**	**292**	*e*PN	**Pb**	**01 10 36.0**	**-0.4**
VRTB	**Varto-Mus**	**1.41**	**292**	*i* P	**Pn**	**01 10 35.9**	**-0.4**
VRTB	**Varto-Mus**	**1.41**	**292**	P	**Pn**	**01 10 35.8**	**-0.4**
VRTB	**Varto-Mus**	**1.41**	**292**	*e*Pn	**Pb**	**01 10 36.1**	**-0.4**
CUKT	**Cukurca**	**1.45**	**165**	*e*PN	**Pn**	**01 10 36.2**	**-0.5**
CUKT	**Cukurca**	**1.45**	**165**	*i* P	**Pg**	**01 10 36.9**	**-0.3**
CUKT	**Cukurca**	**1.45**	**165**	*e*Pn	**Pn**	**01 10 36.2**	**-0.5**
CUKT	**Cukurca**	**1.45**	**165**	P	**Pg**	**01 10 36.9**	**-0.3**
BNGL	**BINGOL**	**1.58**	**282**	*i* P	**Pb**	**01 10 39.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.60**	**253**	*e*PN	**Pb**	**01 10 39.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.60**	**253**	*i* P	**Pb**	**01 10 39.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.60**	**253**	*e*Pn	**Pb**	**01 10 39.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.60**	**253**	P	**Pb**	**01 10 39.5**	**-0.2**
BTMN	**Batman**	**1.65**	**243**	*i* P	**Pb**	**01 10 40.3**	**-0.3**
BTMN	**Batman**	**1.65**	**243**	P	**Pb**	**01 10 40.3**	**-0.3**
HOMI	**Horasan**	**1.69**	**326**	*i* P	**Pb**	**01 10 41.0**	**-0.3**
ERZM	**Erzurum**	**1.86**	**313**	*i* P	**Pg**	**01 10 44.7**	**-0.4**
ERZM	**Erzurum**	**1.86**	**313**	P	**Pg**	**01 10 44.7**	**-0.4**
BNGB	**Bing¶ll**	**1.95**	**281**	*e*PN	**Pb**	**01 10 44.5**	**-1.2**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*PN	**Pn**	**01 10 44.7**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.00**	**343**	*e*Pn	**Pn**	**01 10 44.7**	**+0.2**
BINT	**Bingol**	**2.08**	**277**	*e*Pn	**Pn**	**01 10 44.5**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.17**	**292**	*e*PN	**Pn**	**01 10 47.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.17**	**292**	*e*Pn	**Pn**	**01 10 47.7**	**+1.0**
MAZI	**Mazidag**	**2.43**	**242**	*e*PN	**Pn**	**01 10 51.1**	**+0.8**
MAZI	**Mazidag**	**2.43**	**242**	*e*Pn	**Pn**	**01 10 51.1**	**+0.8**
AKH	**Akhalkalaki**	**2.77**	**6**	*e*PN	**Pn**	**01 10 55.7**	**+0.7**
AKH	**Akhalkalaki**	**2.77**	**6**	*e*Pn	**Pn**	**01 10 55.7**	**+0.7**
PTK	**Pertek**	**2.94**	**276**	*e*PN	**Pn**	**01 10 58.6**	**+1.3**
PTK	**Pertek**	**2.94**	**276**	*e*Pn	**Pn**	**01 10 58.6**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.02**	**266**	*e*PN	**Pn**	**01 10 58.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.02**	**266**	*e*Pn	**Pn**	**01 10 58.9**	**+0.6**

*KRNET **27** 01:13:33.8±0.1,39.′29N×72.′57E,mb3.1*
*SOME **27** 01:13:34.2,39.′50N×72.′60E,h0km*
*NNC **27** 01:13:36.8±6.5,39.′43N×72.′90E,h0km,mb3.9,mpv3.5,Error ellipse: s-maj=67.4km s-min=29.2km az=128.0*
ISC 27 01:13:39.1±1.4,**39.′29N**±0.′08×**72.′44E**±0.′04,**h31**km,**n25,**
σ2**27**/45,**16C-9D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.47**	**302**	⇑*i*P		**Pn**	**01 14 03.9**	**+0.4**
	baz=300							
BTK				⇑*i*S		**Sb**	**01 14 25.9**	**+1.7**
	baz=300							
ARSB	**Arslanbob**	**2.08**	**11**	⇑*e*P		**Pn**	**01 14 10.8**	**-1.1**
	baz=8.0							
ARSB				⇑*e*S		**Sn**	**01 14 39.3**	**+2.5**
	baz=8.0							
TOKL	**Toktogul**	**2.67**	**7**	⇑*e*P		**Pn**	**01 14 20.0**	**0.0**
	baz=5.0							
TOKL				⇑*e*S		**Sn**	**01 14 54.0**	**+2.6**
	baz=5.0							
DZET	**Dzherino**	**2.85**	**261**	⇓Pn		**Pb**	**01 14 28.4**	**-0.9**
	24nm,0.5s							
DZET				⇑Lg		Lg	01 15 14.7	
	87nm,0.6s							
ARLS	**Aral**	**2.95**	**29**	⇓*e*P		**Pn**	**01 14 23.1**	**-0.8**
	baz=27							
ARLS				⇓*e*S		**Sn**	**01 14 59.7**	**+1.4**
	baz=27							
AML	**Almayashu**	**3.00**	**18**	⇑*i*P		**Pn**	**01 14 24.8**	**0.0**
	baz=16							
AML				⇑*i*S		**Sn**	**01 15 01.9**	**+2.0**
	baz=16							
MNAS	**Manas**	**3.20**	**1**	⇓Pn		**Pn**	**01 14 28.4**	**+1.1**
	4.8nm,0.4s							
MNAS				⇓Lg		Lg	01 15 12.6	
	22nm,0.6s							
IUG	**Iuzhnay**	**3.39**	**328**	*e*P		**Pb**	**01 14 36.1**	**-2.4**
	9.9nm,0.2s							
IUG				*e*S		**Sb**	**01 15 20.3**	**+0.9**
	39nm,0.6s							
MRKS	**Merke**	**3.51**	**10**	*e*P		**Pb**	**01 14 36.4**	**-4.0**
	15nm,0.3s							
MRKS				*e*S		**Sb**	**01 15 20.8**	**-1.9**
	61nm,0.5s							
EKS2	**Erkin-Say**	**3.52**	**16**	⇓*i*P		**Pn**	**01 14 31.7**	**-0.1**
	baz=15							
EKS2				⇓*i*S		**Sn**	**01 15 14.2**	**+1.8**
	baz=15							
AAK	**Ala-Archa**	**3.69**	**24**	⇑*i*P		**Pn**	**01 14 33.9**	**-0.2**
	baz=23							
AAK				⇑*i*S		**Sn**	**01 15 17.1**	**+0.4**
	baz=23							
KK31	**Karatay Array**	**4.08**	**340**	⇑Pn		**Pn**	**01 14 41.4**	**+2.0**
	2.0nm,0.3s,baz=147,slow=11,SNR=58							
KK31				⇑Sn		**Sn**	**01 15 30.0**	**+3.9**
	9.2nm,0.5s,baz=148,slow=29,SNR=7.8							
ULHL	**Ulahol**	**4.13**	**43**	⇑*i*P		**Pn**	**01 14 39.2**	**-1.0**
	baz=42							
ULHL				⇑*i*S		**Sn**	**01 15 26.8**	**-0.8**
	baz=42							
BOOM	**Boomskoye usch**	**4.16**	**39**	⇓*e*P		**Pn**	**01 14 40.2**	**-0.3**
	baz=38							
BOOM				⇓*e*S		**Sn**	**01 15 31.0**	**+2.8**
	baz=38							
BRLS	**Borolday**	**4.23**	**333**	*e*P		Pb	01 14 48.1	-4.5
	0.4nm,0.3s							
BRLS				*e*S		**Sb**	**01 15 41.4**	**-1.8**
	2.5nm,0.6s							
DGS	**Degeres**	**4.68**	**31**	*e*P		**Pb**	**01 14 57.8**	**-2.7**
	10.0nm,0.5s							
DGS				*e*S		**Sb**	**01 15 58.2**	**+1.7**
	7.5nm,0.6s							
IZV	**Izvestkoviy**	**4.89**	**39**	*e*P		**Pb**	**01 15 01.1**	**-3.0**
	12nm,0.5s							
IZV				*e*S		**Sb**	**01 16 03.7**	**+1.1**
	13nm,0.8s							
TNSS	**Tian-Shan**	**5.06**	**41**	*e*P		**Pb**	**01 15 04.0**	**-3.1**
	8.6nm,0.5s							
TNSS				*e*S		**Sb**	**01 16 09.1**	**+1.5**
	7.7nm,0.8s							
KOTS	**Kotyrbulak**	**5.29**	**40**	*e*P		**Pb**	**01 15 07.8**	**-3.0**
KOTS				*e*S		**Sb**	**01 16 15.3**	**+1.5**
KTBS	**Karatobe**	**5.45**	**34**	*e*P		**Pb**	**01 15 10.8**	**-2.7**
KTBS				*e*S		**Sb**	**01 16 20.8**	**+2.4**
CHKK	**Chushkaly**	**5.70**	**35**	*e*P		**Pb**	**01 15 16.4**	**-1.3**
	5.2nm,0.4s							
CHKK				*e*S		**Sb**	**01 16 29.7**	**+4.2**
	14nm,0.4s							
ARXS	**Arharly**	**6.36**	**38**	*e*P		**Pb**	**01 15 28.0**	**-1.0**
	4.4nm,0.8s							
ARXS				*e*S		**Sb**	**01 16 49.4**	**+4.8**
	8.5nm,0.6s							
MNBS	**Baschi**	**6.54**	**41**	*e*P		**Pb**	**01 15 30.6**	**-1.6**
	3.1nm,0.6s							
MNBS				*e*S		**Sb**	**01 16 54.8**	**+4.9**
	3.6nm,0.7s							
AB31	**Akbulak array**	**13.38**	**322**	P		**Pn**	**01 16 45.1**	**-1.6**
	0.7nm,0.5s,baz=135,slow=13,SNR=14							
AKTO	**Aktyubinsk**	**15.10**	**322**	⇑P		**P**	**01 17 15.0**	**+0.1**
	1.9nm,0.7s							

*ISCJB **27** 01:20:27.9±0.2,15.′83S±0.′05×168.′23E±0.′06,h10km,mb4.7/51,MS3.6/7,Error ellipse: s-maj=8.2km s-min=6.2km az=22.5*
*IDC **27** 01:20:27.7±0.7,15.′65S×168.′36E,h0km,mb4.3/14,mb1 4.4/15,mb1mx4.2/35,mbtmp4.3/15,ML4.2/1,MS3.6/7,Ms1 3.6/7,ms1mx3.2/32,Error ellipse: s-maj=27.2km s-min=17.0km az=102.0*
*NEIC **27** 01:20:30.8±4.8,15.′71S×168.′21E,h19km±29km,mb4.8/32,Error ellipse: s-maj=10.1km s-min=6.8km az=163.0*
*BJI **27** 01:20:34.1,15.′74S×167.′94E,h40km,mb4.8/20,mB5.0/11,Ms4.9/6,Ms7 4.6/5*
ISC 27 01:20:29.3±0.4,**15.′74S**±0.′06×**168.′24E**±0.′08,**h10**km,**n75,**
σ1°**66**/72,**mb4.8**/49,**MS3.6**/7,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.52**	**195**	Pn		**Pn**	**01 22 06.6**	**+1.1**
	4.8nm,0.3s,baz=226,slow=1.7,SNR=38							
DZM	**Mont Dzumac**	**6.52**	**195**	*e*Pn		**Pn**	**01 22 07.3**	**+1.8**
DZM				*e*Sn		**Sn**	**01 23 17.6**	**-2.5**
MSVF	**Nonsavu**	**9.60**	**103**	*e*Pn		**Pn**	**01 22 48.2**	**+0.4**
HNR	**Honiara**	**10.24**	**307**	LR		LR	01 26 49.3	
	comp=Z,226nm,18.6s,baz=166,slow=37							
PMG	**Port Moresby**	**21.51**	**285**	LR		LR	01 31 32.6	
	comp=Z,146nm,21.8s,baz=102,slow=31							
URZ	**Urewera**	**23.75**	**162**	P		**P**	**01 25 43.3**	**+1.4**
	8.5nm,0.8s,baz=334,slow=9.9,SNR=3.5							
URZ	**Urewera**	**23.75**	**162**	*e*P		**P**	**01 25 43.3**	**+1.4**
	72nm,1.8s							
BKZ	**Black Stump Fm**	**24.43**	**164**	*e*P		**P**	**01 25 45.0**	**-3.4**
	74nm,1.6s							
LBZ	**Lake Benmore**	**28.60**	**177**	*e*P		**P**	**01 26 24.9**	**-0.9**
	162nm,1.8s							
STKA	**Stephens Creek**	**29.08**	**232**	P		**P**	**01 26 31.9**	**+1.8**
	3.0nm,1.0s,baz=51,slow=9.2,SNR=4.6							
STKA				LR		LR	01 38 25.5	
	comp=Z,84nm,18.2s,baz=26,slow=37							
STKA	**Stephens Creek**	**29.08**	**232**	*e*P		**P**	**01 26 31.9**	**+1.8**
	1.6nm,1.2s							
RAR	**Rarotonga**	**30.78**	**105**	*e*P		**P**	**01 26 43.8**	**-1.5**
	225nm,1.9s							
WB2	**Warramunga Arr**	**32.50**	**258**	*e*P		**P**	**01 26 57.9**	**-2.6**
	6.8nm,1.4s							
WRAB	**Tennant Creek**	**32.50**	**258**	*e*P		**P**	**01 26 58.2**	**-2.3**
	11nm,1.1s							
WR1	**Warramunga Arr**	**32.51**	**258**	*e*P		**P**	**01 27 00.8**	**+0.2**
	14nm,1.7s							
WRA	**Warramunga Arr**	**32.51**	**258**	P		**P**	**01 27 00.8**	**+0.2**
	0.5nm,0.6s,baz=88,slow=9.3,SNR=2.9							
WRA				LR		LR	01 39 37.5	
	comp=Z,94nm,19.9s,baz=110,slow=35							
AS31	**Alice Springs**	**33.21**	**251**	*e*P		**P**	**01 27 08.1**	**+1.4**
	1.1nm,0.8s							
ASAR	**Alice Springs**	**33.21**	**251**	P		**P**	**01 27 08.1**	**+1.4**
	1.0nm,0.5s,baz=76,slow=8.8,SNR=11							
ASAR				LR		LR	01 40 38.9	
	comp=Z,119nm,18.2s,baz=67,slow=36							
BBOO	**Buckleboo**	**33.72**	**234**	*e*P		**P**	**01 27 11.7**	**+0.7**
	42nm,1.4s							
FAKI	**Fak Fak**	**37.65**	**286**	*e*P		**P**	**01 27 44.0**	**-1.0**
	44nm,0.8s							
NWAO	**Narrogin (SRO)**	**49.05**	**240**	LR		LR	01 50 37.1	
	comp=Z,111nm,18.2s,slow=37							
VNDA	**Vanda**	**61.88**	**182**	P		**P**	**01 30 48.6**	**+0.2**
	1.3nm,0.7s,baz=350,slow=6.3,SNR=6.9							
VNDA	**Vanda**	**61.88**	**182**	*e*P		**P**	**01 30 47.7**	**-0.8**
	10nm,1.7s							
SBA	**Scott Base**	**62.13**	**180**	*e*P		**P**	**01 30 50.0**	**-0.2**
	11nm,1.0s							
NJ2	**Nanjing**	**67.05**	**316**	*e*P		**P**	**01 31 23.0**	**0.0**
NJ2				pmax		pmax		
	comp=Z,19nm,0.5s							
USRK	**Ussuriysk Ar.**	**68.21**	**333**	P		**P**	**01 31 31.1**	**+1.0**
	1.3nm,0.6s,baz=152,slow=9.1,SNR=4.6							
PETK	**Petropavlovsk-**	**69.17**	**353**	P		**P**	**01 31 35.8**	**0.0**
	11nm,0.9s,baz=142,slow=7.5,SNR=5.0							
PEA1	**Petropavlovsk-**	**69.17**	**353**	*e*P		**P**	**01 31 35.8**	**0.0**
CN2	**Changchun**	**70.99**	**329**	*e*P		**P**	**01 31 50.0**	**+2.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NIKH	**Nikolski High**	**71.23**	**14**	*e*P		**P**	**01 31 48.7**	**+0.2**
	359nm,1.4s							
GYA	**Guiyang**	**73.06**	**304**	*e*P		**P**	**01 32 02.0**	**+1.8**
GYA				pP		PcP	01 32 14.3	-2.7
GYA				PP		**PP**	**01 34 47.5**	**+4.4**
GYA				S		**S**	**01 41 25.0**	**-2.9**
GYA				sS		sS	01 41 45.5	+12
GYA				SKS		**SKSac**	**01 42 00.8**	**-5.7**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.9s							
QSPA	**South Pole Qui**	**74.29**	**180**	*e*P		**P**	**01 32 07.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**76.96**	**319**	*e*P		**P**	**01 32 23.0**	**+0.6**
HHC				pmax		pmax		
	comp=Z,13nm,1.4s							
HHC				pmax		pmax		
	comp=Z,60nm,7.1s							
CD2	**Chengdu**	**77.37**	**307**	*e*P		**P**	**01 32 24.8**	**0.0**
SEY	**Seymchan**	**79.40**	**353**	P		**P**	**01 32 34.9**	**-0.3**
	3.8nm,0.8s,baz=87,slow=7.0,SNR=5.3							
LZH	**Lanzhou**	**79.69**	**312**	*e*P		P	01 32 41.0	+3.3
LZH				pP		PcP	01 32 52.0	+6.5
LZH				sP		sP	01 32 57.0	+15
LZH				pmax		pmax		
	comp=Z,13nm,1.0s							
MAW	**Mawson**	**81.30**	**202**	P		**P**	**01 32 46.1**	**+0.5**
	0.9nm,0.5s,baz=90,slow=6.0,SNR=3.8							
MAW	**Mawson**	**81.30**	**202**	*e*P		**P**	**01 32 46.1**	**+0.5**
	4.5nm,2.0s							
ULN	**Ulaanbaatar**	**83.50**	**324**	*e*P		**P**	**01 32 57.9**	**+0.4**
	7.5nm,0.9s							
SONA0	**Songino Array**	**83.86**	**323**	*e*P		**P**	**01 32 59.3**	**0.0**
	6.0nm,1.0s							
SONM	**Songino Array**	**83.86**	**323**	P		**P**	**01 32 59.3**	**0.0**
	4.0nm,0.9s,baz=147,slow=6.7,SNR=18							
CAST	**Castle Rocks**	**84.68**	**17**	*e*P		**P**	**01 33 01.9**	**-1.2**
	12nm,0.9s							
AFDM	**Forest Hills D**	**85.51**	**48**	*e*P		**P**	**01 33 08.1**	**+0.3**
	4.1nm,0.9s							
CMB	**Columbia Colle**	**85.56**	**49**	*e*P		**P**	**01 33 08.2**	**+0.2**
	9.1nm,1.4s							
BEKR	**Beckworth**	**86.31**	**47**	*e*P		**P**	**01 33 12.2**	**+0.3**
	3.3nm,0.9s							
MDPB	**Devils Postpil**	**86.35**	**49**	*e*P		**P**	**01 33 12.7**	**+0.5**
	7.1nm,1.0s							
WAKR	**Walker**	**86.43**	**49**	*e*P		**P**	**01 33 13.3**	**+0.7**
	5.2nm,1.0s							
MENT	**Mentasta**	**86.86**	**20**	*e*P		**P**	**01 33 14.4**	**+0.5**
	56nm,2.0s							
PAHR	**Pah Rah Range**	**86.94**	**47**	*e*P		**P**	**01 33 15.5**	**+0.5**
	12nm,1.5s							
ILAR	**Eielson Array**	**87.20**	**18**	P		**P**	**01 33 13.8**	**-1.6**
	3.7nm,0.8s,baz=233,slow=5.7,SNR=30							
ILB	**Eielson Array**	**87.20**	**18**	*e*P		**P**	**01 33 14.1**	**-1.4**
F04A	**Amboy**	**87.47**	**41**	*e*P		**P**	**01 33 17.1**	**-0.1**
	40nm,1.0s							
TPNV	**Topopah Spring**	**88.18**	**51**	*e*P		**P**	**01 33 21.5**	**+0.5**
	5.3nm,1.0s							
BMN	**Battle Mountai**	**88.75**	**47**	*e*P		**P**	**01 33 24.6**	**+1.0**
	7.8nm,1.4s							
SHPR	**Sheep Range**	**88.84**	**52**	*e*P		**P**	**01 33 24.9**	**+0.8**
	13nm,1.6s							
R11A	**Troy Canyon, C**	**89.17**	**50**	*e*P		**P**	**01 33 25.9**	**+0.2**
	4.4nm,1.4s							
ELK	**Elko**	**90.27**	**48**	LR		LR	02 14 02.0	
	comp=Z,32nm,18.4s,baz=73,slow=36							
BMO	**Blue Mountains**	**90.34**	**43**	*e*P		**P**	**01 33 31.4**	**+0.5**
	16nm,2.0s							
LCMT	**Little Creek M**	**90.46**	**52**	*e*P		**P**	**01 33 32.6**	**+0.9**
	4.4nm,0.9s							
U15A	**North Rim**	**91.00**	**52**	*e*P		**P**	**01 33 35.3**	**+0.9**
	4.9nm,0.8s							
WUAZ	**Wupatki**	**91.41**	**54**	*e*P		**P**	**01 33 37.6**	**+1.4**
	5.8nm,1.0s							
SNAA	**Sanae**	**92.59**	**183**	P		**P**	**01 33 39.9**	**-1.0**
SNAA	**Sanae**	**92.59**	**183**	*e*P		**P**	**01 33 40.3**	**-0.6**
	3.6nm,1.1s							
VNA3	**Neumayer Olymp**	**93.22**	**181**	P		**P**	**01 33 42.7**	**-1.1**
VNA2	**Neumayer–Watz**	**93.50**	**181**	P		**P**	**01 33 44.3**	**-0.8**
	baz=182,slow=3.9							
WMQ	**Urumqi**	**94.10**	**314**	P		**P**	**01 33 48.5**	**+0.2**
WMQ				pP		sP	01 33 59.5	+6.7
WMQ				sP		pP	01 34 03.5	+12
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,72nm,4.9s							
WMQ				LR		LR		
	comp=N,59nm,27.5s							
WMQ				LR		LR		
	comp=E,28nm,30.3s							
LTX	**Lajitas**	**95.93**	**61**	*e*P		**P**	**01 33 57.1**	**0.0**
TXAR	**Lajitas Array**	**95.93**	**61**	P		**P**	**01 33 57.1**	**0.0**
	0.5nm,0.8s,baz=230,slow=5.7,SNR=5.2							
MK32	**Makanchi Array**	**98.58**	**316**	*e*P		Pdif	01 34 08.7	+0.1
MKAR	**Makanchi Array**	**98.58**	**316**	P		Pdif	01 34 08.6	+0.1
	0.9nm,0.8s,baz=111,slow=6.8,SNR=4.8							
ZALV	**Zalesovo Beam**	**98.76**	**324**	P		Pdif	01 34 07.7	-1.4
	0.4nm,0.3s,baz=108,slow=4.8,SNR=4.6							
ZAA1	**Zalesovo Array**	**98.76**	**324**	*e*P		Pdif	01 34 07.7	-1.4
KSH	**Kashi**	**101.56**	**308**	*e*P		**Pdif**	**01 34 23.5**	**+1.4**
KSH				PP		PKiKP	01 38 37.8	-8.2
KSH				SKS			01 44 56.0	
KSH				S		**Sdif**	**01 45 56.8**	**-6.4**
KSH				sS		sS	01 46 19.0	+10
KSH				SS		**SS**	**01 53 04.5**	**-0.9**
KSH				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KSH				pmax		pmax		
	comp=Z,160nm,5.6s							
KSH				LR		LR		
	comp=Z,75nm,8.2s							
ARA0	**ARCESS Array S**	**121.46**	**346**	*e*PKPdf		**PKPdf**	**01 39 21.5**	**-1.0**
ARCES	**ARCESS Array B**	**121.46**	**346**	PKP		**PKPdf**	**01 39 21.5**	**-1.0**
	1.1nm,0.8s,baz=54,slow=2.3,SNR=5.3							

*NIED **27** 01:22:00,36.′80N×141.′20E,h5km,Mw4.0 Best double couple: M0 1.30000×10^15 NP1:φs=5.00000°,δ44.00000°,λ-120.00000°. NP2:φs=223.00000°,δ53.00000°,λ-65.00000°.*
*ISCJB **27** 01:22:34.8±2.1,36.′72N±0.′04×141.′25E±0.′06,h12km±13km,mb3.8/11,MS3.5/2,Error ellipse: s-maj=8.3km s-min=5.9km az=24.5*
*JMA **27** 01:22:36.6±0.1,36.′75N×141.′13E,h22km±1km,M4.1*
JMA Felt I J1.
*IDC **27** 01:22:40.6±3.4,36.′68N×141.′01E,h39km±29km,mb3.6/11,mb1 3.8/14,mb1mx3.7/42,mbtmp3.8/14,ML3.7/2,MS3.1/5,Ms1 3.2/5,ms1mx2.8/38,Error ellipse: s-maj=24.2km s-min=17.7km az=94.0*
ISC 27 01:22:37.0±1.9,**36.′72N**±0.′06×**141.′00E**±0.′08,**h15**km±10km,
n34,σ1°**19**/31,**mb3.7**/11,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.37**	**253**	P		**Pb**	**01 22 45.9**	**+0.7**
JHO				S		**Sn**	**01 22 52.9**	**-1.7**
ONAJ	**Iwakimizuishiy**	**0.41**	**337**	P		**Pg**	**01 22 45.3**	**0.0**
ONAJ				S		**Sg**	**01 22 52.1**	**+1.0**
JFK	**Kawauchi**	**0.65**	**351**	P		**Pb**	**01 22 49.1**	**-1.0**
JFK				S		**Sb**	**01 22 58.3**	**-0.8**
JYT	**Yasato**	**0.82**	**233**	P		**Pn**	**01

VMUR			S	Sb	01 51 04.8	-0.5
GEVA	**Gevas**	**0.47 206**	*i* P	**Pg**	01 51 00.7	-1.2
GEVA	**Gevas**	**0.47 206**	P	**Pg**	01 51 00.7	-1.2
TUTA	**Tutak**	**0.77 329**	*i* P	**Pg**	01 51 06.5	-1.0
TUTA			*i* S	**Sg**	01 51 17.7	+0.1
TUTA	**Tutak**	**0.77 329**	P	**Pg**	01 51 06.5	-1.0
TUTA			S	**Sg**	01 51 17.7	+0.1
AGRB	**Hanur-Agry**	**0.87 343**	*e*PG	**Pg**	01 51 08.3	-1.1
AGRB			*e*SG	**Sb**	01 51 21.1	-0.2
AGRB	**Hanur-Agry**	**0.87 343**	*e*Pg	**Pg**	01 51 08.3	-1.1
AGRB			*e*Sg	**Sb**	01 51 21.1	-0.2
EKAR	**Karacoban**	**1.11 298**	*i* P	**Pn**	01 51 15.4	+1.4
EKAR	**Karacoban**	**1.11 298**	P	**Pn**	01 51 15.4	+1.4
EATA	**Eleskirt**	**1.29 330**	*i* P	**Pn**	01 51 16.4	-0.2
EATA	**Eleskirt**	**1.29 330**	P	**Pn**	01 51 16.4	-0.2
SIRN	**S¨–rnak**	**1.44 210**	*i* P	**Pb**	01 51 19.3	+0.1
SIRN	**S¨–rnak**	**1.44 210**	P	**Pb**	01 51 19.3	+0.1
CUKT	**Cukurca**	**1.51 171**	*e*PN	**Pn**	01 51 19.6	+0.2
CUKT	**Cukurca**	**1.51 171**	*e*Pn	**Pn**	01 51 19.6	+0.2
VRTB	**Varto-Mus**	**1.51 287**	*e*PN	**Pn**	01 51 19.4	-0.1
VRTB	**Varto-Mus**	**1.51 287**	*i* P	**Pb**	01 51 20.7	+0.2
VRTB	**Varto-Mus**	**1.51 287**	*e*Pn	**Pn**	01 51 19.4	-0.1
VRTB	**Varto-Mus**	**1.51 287**	P	**Pb**	01 51 20.7	+0.2
SVAN	**Silvan-Diyarba**	**1.77 251**	*e*PN	**Pn**	01 51 24.0	+1.1
SVAN	**Silvan-Diyarba**	**1.77 251**	*e*Pn	**Pn**	01 51 24.0	+1.1
SENK	**Senkaya-Erzuru**	**1.97 338**	*e*PN	**Pn**	01 51 26.8	+1.0
SENK	**Senkaya-Erzuru**	**1.97 338**	*e*Pn	**Pn**	01 51 26.8	+1.0
YEDI	**Yedisu-Bingol**	**2.27 289**	*e*PN	**Pn**	01 51 31.3	+1.4
YEDI	**Yedisu-Bingol**	**2.27 289**	*e*Pn	**Pn**	01 51 31.3	+1.4

*ISK **27** 02:04:18.5,38˚.66N×43˚.36E, h5km, ML2.4*
*DDA **27** 02:04:20.0,38˚.59N×43˚.18E, h7km, Md2.7*
*CSEM **27** 02:04:20.0±0.2,38˚.62N×43˚.25E, h2km, ML2.4, Error ellipse: s-maj=5.0km s-min=4.0km az=82.0*

ISC 27 02:04:19.9±1.2, 38˚.62N±0˚.02×43˚.22E±0˚.03, h1km±12km, n45, σ0§70/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13 101**		PG	**Pg**	02 04 22.2	-0.2
VANB				*e*SG	**Sg**	02 04 25.0	+0.8
VANB	**Van**	**0.13 101**		*i* Pg	**Pg**	02 04 22.3	-0.2
VANB				*e*Sg	**Sg**	02 04 25.0	+0.8
GEVA	**Gevas**	**0.33 203**		*i* P	**Pg**	02 04 25.4	-0.9
GEVA	**Gevas**	**0.33 203**		P	**Pg**	02 04 25.4	-0.9
VMUR	**Van-Muradiye**	**0.46 36**		*i* P	**Pg**	02 04 29.0	+0.3
VMUR				*i* S	**Sb**	02 04 38.0	-0.3
VMUR	**Van-Muradiye**	**0.46 36**		P	**Pg**	02 04 29.0	+0.3
VMUR				S	**Sb**	02 04 38.0	-0.3
TUTA	**Tutak**	**0.84 338**		*i* P	**Pg**	02 04 36.0	-0.1
TUTA	**Tutak**	**0.84 338**		P	**Pg**	02 04 36.0	-0.1
AGRB	**Hanur-Agry**	**0.97 349**		*e*PG	**Pg**	02 04 38.0	-0.5
AGRB				*e*SG	**Sb**	02 04 52.2	-0.9
AGRB	**Hanur-Agry**	**0.97 349**		*e*Pg	**Pg**	02 04 38.0	-0.5
AGRB				*e*Sg	**Sb**	02 04 52.2	-0.9
DYDN	**Diyadin**	**0.99 21**		*i* P	**Pb**	02 04 39.3	-0.7
DYDN	**Diyadin**	**0.99 21**		P	**Pb**	02 04 39.3	-0.7
EKAR	**Karacoban**	**1.10 305**		*i* P	**Pb**	02 04 41.8	-0.2
EKAR	**Karacoban**	**1.10 305**		P	**Pb**	02 04 41.8	-0.2
SIRN	**S¨–rnak**	**1.29 210**		*i* P	**Pn**	02 04 44.1	-1.1
SIRN	**S¨–rnak**	**1.29 210**		P	**Pn**	02 04 44.1	-1.1
EATA	**Eleskirt**	**1.36 336**		*i* P	**Pn**	02 04 46.0	-0.4
EATA	**Eleskirt**	**1.36 336**		P	**Pn**	02 04 46.0	-0.4
CUKT	**Cukurca**	**1.40 167**		*e*PN	**Pn**	02 04 46.3	-0.4
CUKT				*e*SN	**Sn**	02 05 06.8	+0.8
CUKT	**Cukurca**	**1.40 167**		*i* P	**Pg**	02 04 46.9	+0.1
CUKT	**Cukurca**	**1.40 167**		*e*Pn	**Pn**	02 04 46.3	-0.4
CUKT	**Cukurca**	**1.40 167**		P	**Pg**	02 04 46.9	+0.1
CUKT				*e*Sn	**Sn**	02 05 06.8	+0.8
VRTB	**Varto-Mus**	**1.48 292**		*e*PN	**Pb**	02 04 48.5	+0.2
VRTB	**Varto-Mus**	**1.48 292**		*i* P	**Pn**	02 04 47.2	-0.6
VRTB	**Varto-Mus**	**1.48 292**		P	**Pn**	02 04 47.2	-0.6
VRTB	**Varto-Mus**	**1.48 292**		*e*Pn	**Pb**	02 04 48.5	+0.2
SVAN	**Silvan-Diyarba**	**1.66 254**		*e*PN	**Pb**	02 04 51.2	-0.1
SVAN	**Silvan-Diyarba**	**1.66 254**		*i* P	**Pn**	02 04 50.6	+0.4
SVAN	**Silvan-Diyarba**	**1.66 254**		P	**Pn**	02 04 50.6	+0.4
SVAN	**Silvan-Diyarba**	**1.66 254**		*e*Pn	**Pb**	02 04 51.2	-0.1
BTMN	**Batman**	**1.70 245**		*i* P	**Pn**	02 04 51.3	+0.5
BTMN	**Batman**	**1.70 245**		P	**Pn**	02 04 51.3	+0.5
HOMI	**Horasan**	**1.75 325**		*i* P	**Pg**	02 04 53.9	+0.4
ERZM	**Erzurum**	**1.93 312**		*i* P	**Pb**	02 04 55.7	-0.3
ERZM	**Erzurum**	**1.93 312**		P	**Pb**	02 04 55.7	-0.3
ECAT	**Cat-ERZURUM**	**2.01 300**		*i* P	**Pb**	02 04 56.7	-0.6
ECAT	**Cat-ERZURUM**	**2.01 300**		P	**Pb**	02 04 56.7	-0.6
BNGB	**Bing¶‖**	**2.02 281**		*e*PN	**Pb**	02 04 56.4	-1.1
SENK	**Senkaya-Erzuru**	**2.05 341**		*e*PN	**Pn**	02 04 55.6	-0.1
SENK	**Senkaya-Erzuru**	**2.05 341**		*e*Pn	**Pn**	02 04 55.6	-0.1
BINT	**Bingol**	**2.15 278**		*e*Pn	**Pn**	02 04 56.4	-0.7
YEDI	**Yedisu-Bingol**	**2.24 292**		*e*PN	**Pn**	02 04 59.3	+1.0
YEDI	**Yedisu-Bingol**	**2.24 292**		*e*Pn	**Pn**	02 04 59.3	+1.0
MAZI	**Mazidag**	**2.48 243**		*e*PN	**Pn**	02 05 03.4	+1.8
MAZI	**Mazidag**	**2.48 243**		*e*Pn	**Pn**	02 05 03.4	+1.8

MEX 27 02:04:39.8±0.4, 17˚.34N×99˚.58W, h9km±4km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.54 209**		*e*P	Pg	02 04 47.4	-2.8
ACX				*e*S	Sg	02 04 55.5	-1.9
MEIG	**Mezcala**	**0.58 357**		*e*P	Pg	02 04 50.0	-1.2
MEIG				*e*S	Sg	02 04 58.8	0.0
TLIG	**Tlapa**	**0.99 77**		*e*P	Pg	02 04 56.2	-2.7
TLIG				*e*S	Sg	02 05 08.9	-3.1
PLIG	**Platanillo**	**1.05 4**		*e*P	Pg	02 04 57.3	-2.7
PLIG				*e*S	Sg	02 05 09.9	-3.8
ARIG	**Puente Sto Nin**	**1.19 322**		*e*P	Pb	02 04 58.6	-3.9
ARIG				*e*S	Sb	02 05 13.7	-4.3
PNIG	**Pinotepa**	**1.68 124**		*e*P	Pn	02 05 06.0	-3.4
PNIG				*e*S	Sn	02 05 26.7	-4.5

*CSEM **27** 02:15:19.9±0.7,38˚.31N×43˚.81E, h10km, ML2.9, Error ellipse: s-maj=17.0km s-min=8.5km az=85.0*
*ISCJB **27** 02:15:21.1±1.1,38˚.37N±0˚.04×43˚.78E±0˚.09, h28km±6km, Error ellipse: s-maj=11.9km s-min=6.9km az=3.3*
*ISK **27** 02:15:21.4,38˚.23N×43˚.59E, h17km, ML2.4*
*DDA **27** 02:15:26.5,38˚.68N×43˚.17E, h5km, Ml2.9*

ISC 27 02:15:20.1±1.4, 38˚.41N±0˚.03×43˚.73E±0˚.06, h24km±11km, n24, σ1§23/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.33 306**		*e*PG	**Pn**	02 15 29.4	-0.1
VANB				*e*SG	**Sb**	02 15 33.2	+0.5
VANB	**Van**	**0.33 306**		*e*Pg	**Pn**	02 15 29.4	-0.1
VANB				*e*Sg	**Sb**	02 15 33.2	+0.5
GEVA	**Gevas**	**0.54 260**		*i* P	**Pn**	02 15 33.2	+0.8
GEVA				*i* S	**Sn**	02 15 40.1	-0.6
GEVA	**Gevas**	**0.54 260**		P	**Pn**	02 15 33.2	+0.8
GEVA				S	**Sn**	02 15 40.2	-0.6
VMUR	**Van-Muradiye**	**0.60 348**		*i* P	**Pn**	02 15 35.1	+1.9
VMUR				*i* S	**Sn**	02 15 42.7	+0.4
VMUR	**Van-Muradiye**	**0.60 348**		P	**Pn**	02 15 35.1	+1.9
VMUR				S	**Sn**	02 15 42.7	+0.4
CUKT	**Cukurca**	**1.16 185**		*e*PG	**Pb**	02 15 40.9	-0.7
CUKT				*e*SG	**Sn**	02 15 54.7	-1.4
CUKT	**Cukurca**	**1.16 185**		*e*Pg	**Pb**	02 15 40.9	-0.7
CUKT				*e*Sg	**Sn**	02 15 54.7	-1.4
TUTA	**Tutak**	**1.23 325**		*i* P	**Pn**	02 15 41.5	-0.4
TUTA				*i* S	**Sn**	02 15 56.3	-1.6
TUTA	**Tutak**	**1.23 325**		P	**Pn**	02 15 41.5	-0.4
SIRN	**S¨–rnak**	**1.38 229**		*i* P	Pb	02 15 52.5	+7.3
SIRN				*i* S	Sb	02 16 12.0	+10
EATA	**Eleskirt**	**1.75 327**		*i* P	**Pb**	02 15 50.8	-0.8
EATA				*i* S	**Sn**	02 16 10.7	-0.1
EATA	**Eleskirt**	**1.75 327**		P	**Pb**	02 15 50.8	-0.8
EATA				S	**Sn**	02 16 10.7	-0.1
VRTB	**Varto-Mus**	**1.93 294**		*e*PN	**Pn**	02 15 53.3	+1.8
VRTB	**Varto-Mus**	**1.93 294**		*e*Pn	**Pn**	02 15 53.3	+1.8
SVAN	**Silvan-Diyarba**	**2.01 264**		*e*PN	**Pn**	02 15 54.0	+1.5
SVAN	**Silvan-Diyarba**	**2.01 264**		*i* P	**Pb**	02 15 57.8	+1.9
SVAN				*i* S	**Sb**	02 16 21.1	+0.5
SVAN	**Silvan-Diyarba**	**2.01 264**		*e*Pn	**Pn**	02 15 54.0	+1.5
SENK	**Senkaya-Erzuru**	**2.40 334**		*e*PN	**Pb**	02 16 02.0	-0.8
SENK	**Senkaya-Erzuru**	**2.40 334**		*e*Pn	**Pb**	02 16 02.0	-0.8
BNGB	**Bing¶‖**	**2.46 285**		*e*PN	**Pb**	02 16 01.5	-2.2
BINT	**Bingol**	**2.58 282**		*e*Pn	**Pn**	02 16 01.5	+1.0
YEDI	**Yedisu-Bingol**	**2.69 294**		*e*PN	**Pb**	02 16 05.8	-1.8
YEDI	**Yedisu-Bingol**	**2.69 294**		*e*Pn	**Pb**	02 16 05.8	-1.8

IDC 27 02:27:32.7±9.4, 55˚.58N×85˚.34E, h0km, Error ellipse: s-maj=52.9km s-min=26.9km az=11.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67 191**		*i*		02 39 10.0	
	baz=11,slow=337,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.67 191**		Pg	Pn	02 28 03.4	+0.3
	0.4nm,0.3s,baz=6.2,slow=15,SNR=4.7						
ZALV				Lg	Lg	02 28 24.9	
	1.0nm,0.3s,baz=9.5,slow=28,SNR=7.4						
I34MN	**SONGINO INFRAS**	**15.16 112**		*i*		03 55 50.0	
	baz=313,slow=330,SNR=0.4						

*IASPEI **27** 02:37:30.9±0.8, 32˚.91N±0˚.02×116˚.22W±0˚.02, h17km±5km, Error ellipse: s-maj=3.6km s-min=3.4km az=156.0, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **27** 02:37:32.4±0.0, 32˚.91N×116˚.23W, h7km, ML2.6(PAS), After PAS.*
NEIC Felt at Lakeside.
*ECX **27** 02:37:32.6±0.5, 32˚.90N×116˚.23W, h7km, MD2.3, ML2.6*

ISC 27 02:37:31.1±1.0, 32˚.91N±0˚.02×116˚.22W±0˚.02, h19km±2km, n42, σ1§15/66, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKC	**Canebrake**	**0.03 245**		*e*P	**Pg**	02 37 33.7	-0.8
MONP2	**Monument Peak**	**0.17 264**		P	**Pg**	02 37 35.9	0.0
	baz=85,SNR=321						
MONP2				S	**Sg**	02 37 38.4	-0.8
	baz=85						
MONP2	**Monument Peak**	**0.17 264**	⇑	*i* P	**Pg**	02 37 36.0	+0.2
MONP2				*e*S	**Sg**	02 37 38.5	-0.5
CRR	**Carrizo Plain**	**0.21 96**	⇑	*i* P	**Pg**	02 37 36.5	+0.2
IKP	**In-Ko-Pah, Jac**	**0.28 160**		P	**Pg**	02 37 37.6	+0.2
	baz=339,SNR=214						
IKP				S	**Sg**	02 37 41.6	0.0
	baz=339						
IKP	**In-Ko-Pah, Jac**	**0.28 160**	⇓	*i* P	**Pg**	02 37 37.6	+0.2
IKP				*e*S	**Sg**	02 37 41.7	0.0
RMX	**La Rumorosa**	**0.33 158**		*e*P	**Pb**	02 37 37.9	-0.5
RMX				*e*S	**Sb**	02 37 42.9	-0.5
SWSC	**Sam W. Stewart**	**0.36 84**		P	**Pb**	02 37 39.1	+0.2
	baz=264,SNR=32						
SWSC				S	**Sb**	02 37 44.2	0.0
	baz=264						
SWSC	**Sam W. Stewart**	**0.36 84**	⇑	*i* P	**Pb**	02 37 39.2	+0.2
YUH	**Yuha Desert**	**0.36 136**	⇓	*i* P	**Pb**	02 37 39.1	+0.1
WESC	**Westside Schoo**	**0.44 110**		*e*P	**Pb**	02 37 40.7	+0.4
BAR	**Barrett**	**0.44 239**	⇑	*i* P	**Pb**	02 37 40.6	+0.3
BAR				*e*S	**Sb**	02 37 46.6	-0.1
BAR	**Barrett**	**0.44 239**		*e*Pg	**Pb**	02 37 40.7	+0.3
BAR				*e*Sg	**Sb**	02 37 46.4	-0.2
TJIG	**Tijuana**	**0.61 219**		*e*P	**Pn**	02 37 43.6	-1.1
SDRC	**San Diego Road**	**0.63 254**		*e*P	**Pn**	02 37 43.9	-1.1
SDRC				*e*S	**Sg**	02 37 52.0	-0.1
CBX	**Cerro Bola**	**0.70 212**		*e*P	**Pn**	02 37 45.1	-1.0
CBX				*e*S	**Sg**	02 37 54.2	-0.2
XPFO	**Piæon Flat**	**0.72 344**		*e*Pg	**Pg**	02 37 45.7	+0.3
XPFO				*e*Pn	Pn	02 37 54.7	+8.2
PFO	**Pinyon Flats O**	**0.73 344**		P	**Pg**	02 37 45.7	+0.3
	baz=165,SNR=25						
PFO				S	**Sb**	02 37 54.8	0.0
	baz=165						
PFO	**Pinyon Flats O**	**0.73 344**		*e*Pg	**Pg**	02 37 45.7	+0.3
PFO				*e*Sg	**Sb**	02 37 54.5	-0.3
109C	**Camp Elliot, M**	**0.74 269**		P	**Pn**	02 37 45.8	-0.7
	baz=88,SNR=39						
109C				S	**Sg**	02 37 55.4	-0.2
	baz=88						
BC3	**Big Chuckawall**	**0.98 41**		S	**Sb**	02 38 02.2	0.0
	baz=221						
MURC	**Murrieta**	**1.07 310**		P	**Pg**	02 37 51.8	0.0
	baz=130,SNR=12						
MURC				S	**Sn**	02 38 05.6	+0.2
	baz=130						
BELC	**Belle Mtn. Jos**	**1.10 10**		P	**Pg**	02 37 52.4	-0.1
	baz=190						
BELC				S	**Sb**	02 38 05.9	+0.3
	baz=190						
GLA	**Glamis**	**1.18 83**		P	**Pn**	02 37 52.5	-0.2
	baz=263						
GLA	**Glamis**	**1.18 83**		*e*Pg	**Pb**	02 37 52.6	-0.3
GLA				*e*Pn	**Pn**	02 37 52.7	+0.1
GLA				*e*Sg	**Sn**	02 38 08.1	-0.1
ZAX	**El Zacaton**	**1.39 182**		*e*	**Sg**	02 38 20.6	+4.4
ZAX				IAML		02 38 20.6	
	comp=N,86nm,0.8s						
BBRC	**Big Bear Solar**	**1.47 337**		Sb	**Sg**	02 38 17.9	-0.8
	baz=157						
IRM	**Iron Mountain**	**1.54 36**		Sb	**Sg**	02 38 19.9	-0.8
	baz=216						
Y12C	**Blythe**	**1.65 59**		*e*Sn	**Sg**	02 38 25.3	+0.9
BFSC	**Mount Baldy Ra**	**1.79 318**		Pb	**Pb**	02 38 03.8	+0.5
	baz=138,SNR=7.6						
BFSC				Sb	**Sb**	02 38 26.7	+1.3
	baz=138						
CIS	**Catalina Islan**	**1.90 286**		Sb	**Sg**	02 38 30.9	-1.5
	baz=104						
HEC	**Hector,Ludlow**	**1.92 357**		Pg	**Pg**	02 38 07.5	-0.5
	baz=177,SNR=16						
GMRC	**Granite Mounta**	**1.93 14**		Pg	**Pg**	02 38 07.6	-0.6
	baz=194,SNR=8.5						
GMRC				Sb	**Sg**	02 38 32.1	-1.1
	baz=194						
MWC	**Mount Wilson**	**2.02 311**		*e*Pn	**Pg**	02 38 08.5	-1.4
MWC				*e*Sn	**Sb**	02 38 33.9	+1.9
RRX	**Edison Barstow**	**2.06 342**		Pg	**Pg**	02 38 10.7	0.0
	baz=162						
GSC	**Goldstone, Bar**	**2.43 349**		Pg	**Pg**	02 38 17.2	-0.6
	baz=169						
GSC	**Goldstone, Bar**	**2.43 349**		*e*Pn	**Pg**	02 38 17.2	-0.6
GSC				*e*Sn	**Sg**	02 38 49.2	-0.2
EDW2	**Edwards Air Fo**	**2.46 324**		Pb	**Pb**	02 38 16.4	+1.7
	baz=143						
EDW2				Sb	**Sb**	02 38 47.0	+2.5
	baz=143						
MPMC	**Manual Prospec**	**3.31 342**		Pg	**Pg**	02 38 32.9	-1.6
	baz=161						
DAC	**Darwin (Calif)**	**3.54 342**		*e*Pn	**Pg**	02 38 36.8	-2.2
DAC				*e*Pg	**Pb**	02 38 37.1	+3.8
SHPR	**Sheep Range**	**3.69 13**		*e*Pn	**Pb**	02 38 37.4	+1.6
TPNV	**Topopah Spring**	**4.03 360**		*e*Pg	**Pg**	02 38 46.0	-2.2
TPNV				*e*Sg	**Sg**	02 39 38.8	-1.6

*AZER **27** 02:40:09.8±2.2, 37˚.90N×43˚.34E, h8km, Error ellipse: s-maj=24.3km s-min=9.3km az=99.0*
*CSEM **27** 02:40:22.2±0.3, 38˚.83N×43˚.77E, h2km, ML3.3, Error ellipse: s-maj=6.4km s-min=4.8km az=130.0*
*DDA **27** 02:40:22.6, 38˚.83N×43˚.63E, h18km, Ml3.3*
*ISK **27** 02:40:22.8, 38˚.77N×43˚.62E, h5km, ML2.8*

ISC 27 02:40:21.7±1.1, 38˚.83N±0˚.02×43˚.82E±0˚.02, h6km±10km, n54, σ1§57/80, 6C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.25 309**		*i* P	**Pg**	02 40 26.5	-0.2
VMUR				*i* S	**Sg**	02 40 30.9	+0.9
VMUR	**Van-Muradiye**	**0.25 309**		P	**Pg**	02 40 26.5	-0.2
VMUR				S	**Sg**	02 40 30.9	+0.9
VANB	**Van**	**0.41 235**		*e*PG	**Pg**	02 40 29.6	-0.1
VANB				*e*SG	**Sg**	02 40 35.6	+0.4
VANB	**Van**	**0.41 235**		*e*Pg	**Pg**	02 40 29.6	-0.1
VANB				*e*Sg	**Sg**	02 40 35.6	+0.4
DYDN	**Diyadin**	**0.71 352**		*i* P	**Pb**	02 40 36.5	-0.3
DYDN				*i* S	**Sb**	02 40 47.9	+1.0
DYDN	**Diyadin**	**0.71 352**		P	**Pb**	02 40 36.5	-0.3
DYDN				S	**Sb**	02 40 47.9	+1.0
GEVA	**Gevas**	**0.79 229**		*i* P	**Pg**	02 40 35.2	-1.7
GEVA				*i* S	**Sg**	02 40 46.6	-0.6
GEVA	**Gevas**	**0.79 229**		P	**Pg**	02 40 35.2	-1.7
GEVA				S	**Sg**	02 40 46.6	-0.6
TUTA	**Tutak**	**0.97 306**		*i* P	**Pg**	02 40 38.4	-1.9
TUTA				*i* S	**Sg**	02 40 51.1	-1.7
TUTA	**Tutak**	**0.97 306**		P	**Pg**	02 40 38.4	-1.9
TUTA				S	**Sg**	02 40 51.2	-1.7
NAX	**Nakhchivan**	**1.35 75**	⇑	P	**Pn**	02 40 46.4	-0.8
NAX			⇑	S	Sn	02 41 13.9	+8.5
NAX	**Nakhchivan**	**1.35 75**		P	**Pn**	02 40 46.4	-0.8
EKAR	**Karacoban**	**1.43 288**		*i* P	**Pn**	02 40 48.1	-0.3
EKAR				*i* S	**Sg**	02 41 11.1	+3.4
EKAR	**Karacoban**	**1.43 288**		P	**Pn**	02 40 48.1	-0.3
EATA	**Eleskirt**	**1.45 315**		*i* P	**Pn**	02 40 48.1	-0.8
EATA				*i* S	**Sg**	02 41 09.5	+1.0
EATA	**Eleskirt**	**1.45 315**		P	**Pn**	02 40 48.1	-0.8
EATA				S	**Sg**	02 41 09.5	+1.0
CUKT	**Cukurca**	**1.59 186**		*e*PN	**Pg**	02 40 52.5	+0.3
CUKT				*e*SN	**Sg**	02 41 13.6	+0.7
CUKT	**Cukurca**	**1.59 186**		*i* P	**Pg**	02 40 52.1	-0.2
CUKT				*i* S	**Sg**	02 41 19.2	+6.3
CUKT	**Cukurca**	**1.59 186**		P	**Pg**	02 40 52.1	-0.2
CUKT	**Cukurca**	**1.59 186**		*e*Pn	**Pg**	02 40 52.5	+0.3
CUKT				*e*Sn	**Sg**	02 41 13.6	+0.7
SIRN	**S¨–rnak**	**1.74 220**		*i* P	**Pn**	02 40 53.2	+0.7
SIRN				*i* S	**Sb**	02 41 15.7	-0.4
SIRN	**S¨–rnak**	**1.74 220**		P	**Pn**	02 40 53.2	+0.7
SIRN				S	**Sb**	02 41 15.7	-0.4
VRTB	**Varto-Mus**	**1.87 281**		*e*PN	**Pn**	02 40 55.2	+0.8
VRTB				*e*SN	**Sn**	02 41 19.1	+0.7
VRTB	**Varto-Mus**	**1.87 281**		*i* P	**Pn**	02 40 54.5	+0.1
VRTB				*i* S	**Sb**	02 41 19.8	-0.2
VRTB	**Varto-Mus**	**1.87 281**		P	**Pn**	02 40 54.5	+0.1
VRTB	**Varto-Mus**	**1.87 281**		*e*Pn	**Pn**	02 40 55.2	+0.8
VRTB				*e*Sn	**Sn**	02 41 19.1	+0.7
SENK	**Senkaya-Erzuru**	**2.06 327**		*e*PN	**Pb**	02 40 59.6	-0.1
SENK	**Senkaya-Erzuru**	**2.06 327**		*e*Pn	**Pb**	02 40 59.6	-0.1
SVAN	**Silvan-Diyarba**	**2.17 252**		*e*PN	**Pn**	02 40 58.4	0.0
SVAN	**Silvan-Diyarba**	**2.17 252**		*i* P	**Pn**	02 40 58.2	-0.2
SVAN				*i* S	**Sb**	02 41 27.9	-0.6
SVAN	**Silvan-Diyarba**	**2.17 252**		P	**Pn**	02 40 58.2	-0.2
SVAN	**Silvan-Diyarba**	**2.17 252**		*e*Pn	**Pn**	02 40 58.4	0.0
SVAN				S	**Sb**	02 41 27.9	-0.6
BTMN	**Batman**	**2.21 246**		*i* P	**Pn**	02 40 58.2	-0.9
BTMN				*i* S	**Sb**	02 41 29.8	-0.1
BTMN	**Batman**	**2.21 246**		P	**Pn**	02 40 58.2	-0.9
GDB	**GEDABAY**	**2.40 38**	⇑	P	**Pb**	02 41 04.5	-1.0
GDB			⇓	S	**Sg**	02 41 43.6	+4.7
GDB	**GEDABAY**	**2.40 38**		P	**Pb**	02 41 04.5	-1.0
BNGB	**Bing¶‖**	**2.45 275**		*e*PN	**Pn**	02 41 03.6	+1.2
QZX	**Qazax, Azerbai**	**2.52 28**	⇑	P	**Pb**	02 41 05.7	-1.7
QZX			⇑	S	**Sg**	02 41 47.2	+4.4
QZX	**Qazax, Azerbai**	**2.52 28**		P	**Pb**	02 41 05.7	-1.7
BINT	**Bingol**	**2.60 272**		*e*Pn	**Pn**	02 41 03.6	-0.8
YEDI	**Yedisu-Bingol**	**2.62 284**		*e*PN	**Pn**	02 41 06.2	+1.5
YEDI	**Yedisu-Bingol**	**2.62 284**		*e*Pn	**Pn**	02 41 06.2	+1.5
GANJ	**Ganja**	**2.65 46**	⇓	P	**Pb**	02 41 07.0	-2.6
GANJ			⇓	S	**Sg**	02 41 48.6	+1.9
GANJ	**Ganja**	**2.65 46**		P	**Pb**	02 41 07.0	-2.6
BRDA	**Brd**	**2.96 60**	⇑	P	**Pn**	02 41 09.2	-0.1
BRDA	**Brd**	**2.96 60**		P	**Pn**	02 41 09.2	-0.1
MAZI	**Mazidag**	**2.99 244**		*e*PN	**Pn**	02 41 11.2	+1.4
MAZI	**Mazidag**	**2.99 244**		*e*Pn	**Pn**	02 41

DMN	Daman	34.04	334	*e*P	P	03 00 04.1	+0.8
	10.0nm,0.5s						
KKN	Kakani	34.12	335	*e*P	P	03 00 04.8	+0.8
	18nm,0.4s						
GKN	Gorkha	34.58	334	*e*P	P	03 00 09.4	+1.5
	15nm,0.3s						
KOLN	Koldanda	34.85	332	*e*P	P	03 00 11.3	+1.0
	6.7nm,0.3s						
DANN	Dangsing	35.27	333	*e*P	P	03 00 15.1	+1.1
	2.8nm,1.0s						
PYUN	Piuthan	35.42	332	*e*P	P	03 00 17.0	+1.8
	11nm,0.2s						
WR1	Warramunga Arr	36.60	120	*e*P	P	03 00 25.0	-0.3
	4.6nm,0.4s						
WRA	Warramunga Arr	36.60	120	P	P	03 00 25.0	-0.3
	2.4nm,0.4s,baz=302,slow=8.8,SNR=38						
WRAB	Tennant Creek	36.61	120	*e*P	P	03 00 25.0	-0.3
	5.0nm,0.7s						
WB2	Warramunga Arr	36.62	120	*e*P	P	03 00 25.0	-0.4
	3.4nm,0.7s						
ASAR	Alice Springs	37.84	126	P	P	03 00 36.1	+0.3
	1.2nm,0.5s,baz=305,slow=8.3,SNR=14						
AS31	Alice Springs	37.85	126	*e*P	P	03 00 36.1	+0.3
	4.8nm,1.8s						
KS15	Wonju Array Si	47.26	29	*e*P	P	03 01 51.3	-0.6
KSRS	Korea Array	47.29	29	LR	LR	03 20 55.9	
	comp=Z,8.6nm,21.0s,baz=275,slow=35						
STKA	Stephens Creek	47.74	132	P	P	03 01 56.1	+0.3
	1.6nm,0.5s,baz=325,slow=9.2,SNR=6.1						
SONA0	Songino Array	50.77	5	*e*P	P	03 02 18.9	+0.2
SONA0				*e*PcP	PcP	03 03 34.9	-0.3
SONM	Songino Array	50.77	5	P	P	03 02 18.9	+0.2
	9.6nm,1.1s,baz=185,slow=9.0,SNR=26						
SONM				PcP	PcP	03 03 34.9	-0.3
	0.5nm,0.4s,baz=175,slow=3.8,SNR=4.1						
MK31	Makanchi Array	52.21	344	*e*P	P	03 02 29.8	+0.4
MK32	Makanchi Array	52.21	344	*e*P	P	03 02 29.5	+0.1
MKAR	Makanchi Array	52.21	344	P	P	03 02 29.5	+0.1
	4.4nm,0.5s,baz=152,slow=7.9,SNR=24						
USRK	Ussuriysk Ar.	54.48	27	P	P	03 02 45.5	-0.6
	2.2nm,0.6s,baz=222,slow=4.9,SNR=6.9						
ZAA0	Zalesovo Array	58.28	349	*e*P	P	03 03 12.8	-0.1
	17nm,0.9s						
ZALV	Zalesovo Beam	58.28	349	P	P	03 03 12.6	-0.4
	13nm,0.7s,baz=171,slow=5.2,SNR=38						
ZAA1	Zalesovo Array	58.28	349	*e*P	P	03 03 12.6	-0.4
BRVK	Borovoye	61.49	339	*e*P	P	03 03 32.8	-2.2
	3.5nm,1.0s						
ABKAR	Akbulak array	62.97	331	*e*P	P	03 03 44.2	-0.7
	47nm,0.6s						
KBZ	Khabaz	69.71	319	P	P	03 04 28.8	+0.5
	2.6nm,0.9s,baz=138,slow=5.2,SNR=5.4						
BR101	Keskin Array S	74.73	312	*e*P	P	03 04 58.0	-0.6
BRTR	Keskin Array B	74.73	312	P	P	03 04 58.0	-0.6
	0.7nm,0.6s,baz=146,slow=8.0,SNR=5.4						
TIXI	Tiksi	76.61	9	*e*P	P	03 05 07.0	-1.4
	2.5nm,0.6s						
FIA0	FINESS Array S	85.43	332	*e*P	P	03 05 55.7	+0.2
FINES	FINESS Array B	85.43	332	P	P	03 05 55.7	+0.2
	2.7nm,0.9s,baz=157,slow=5.4,SNR=6.9						
ARA0	ARCESS Array S	87.71	340	*e*P	P	03 06 06.2	-0.4
ARCES	ARCESS Array B	87.71	340	P	P	03 06 06.2	-0.4
	1.6nm,0.7s,baz=103,slow=5.5,SNR=9.0						
GEC2	GERESS Array S	90.45	319	*e*P	P	03 06 21.1	+1.0
	20nm,2.0s						
GERES	GERESS Array B	90.45	319	P	P	03 06 21.1	+1.0
	0.4nm,0.7s,baz=94,slow=4.1,SNR=3.9						
TXAR	Lajitas Array	144.77	39	PKP	PKPab	03 12 55.2	+0.4
	1.4nm,0.5s,baz=259,slow=0.7,SNR=46						

IDC 27 03:14:56.5±1.9, **11°.53N×74°.91W, h0^{km}, mb3.5**/4, **mb1 3.9**/4, **mb1mx3.6**/36, **mbtmp3.5**/4, **MS3.8**/2, **Ms1 3.7**/2, **ms1mx2.8**/31, **Error ellipse: s-maj=102.6km s-min=27.7km az=65.0, Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	9.94	264	LR	LR	03 21 22.7	
	comp=Z,868nm,18.8s,baz=3.0,slow=39						
LPAZ	La Paz	28.44	166	P	P	03 20 54.0	0.0
	1.0nm,0.8s,baz=351,slow=9.2,SNR=3.5						
TXAR	Lajitas Array	32.11	308	P	P	03 21 25.9	+0.1
	0.6nm,1.1s,baz=158,slow=9.7,SNR=2.7						
CPUP	Villa Florida	41.34	156	LR	LR	03 39 18.3	
	comp=Z,60nm,19.6s,baz=318,slow=35						
PDAR	Pinedale Array	43.27	322	P	P	03 22 59.8	-0.5
	0.1nm,0.5s,baz=118,slow=5.2,SNR=2.4						
YKA	Yellowknife Ar	58.26	340	P	P	03 24 52.9	+0.2
	1.6nm,0.6s,baz=126,slow=6.6,SNR=3.8						

*SOME **27** 03:20:55.6, 41°.28N×74°.40E, h10^{km}*
*NNC **27** 03:20:56.7±2.8, 41°.27N×74°.34E, h0^{km}, mb3.6, mpv3.2, Error ellipse: s-maj=28.1km s-min=16.1km az=171.0*
*KRNET **27** 03:20:56.2±0.1, 41°.36N×74°.34E, h20^{km}, mb2.9*
ISC 27 03:20:56.3±1.5, **41°.35N**±0°.05×**74°.28E**±0°.03, **h2**^{km}±11^{km}, **n33**, σ1§**10**/61, **30C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral	0.51	4	⇑*i*P	Pg	03 21 06.3	+0.2
	baz=359						
ARLS				⇑*i*S	Sg	03 21 13.8	+1.1
	baz=359						
UCH	Uchtor	0.89	11	⇑*i*P	Pg	03 21 13.4	0.0
	baz=8.0						
UCH				⇑*i*S	Sg	03 21 25.7	+0.7
	baz=8.0						
AML	Almayashu	0.89	331	⇑*i*P	Pb	03 21 14.2	-0.6
	baz=327						
AML				⇑*i*S	Sb	03 21 26.8	-0.5
	baz=327						
ARSB	Arslanbob	0.98	269	⇑*i*P	Pn	03 21 15.5	-1.7
	baz=269						
ARSB				⇑*i*S	Sn	03 21 29.7	-2.0
	baz=269						
TOKL	Toktogul	1.21	299	⇓*e*P	Pn	03 21 20.0	-0.3
	baz=298						
TOKL				⇓*e*S	Sn	03 21 37.9	+0.5
	baz=298						
AAK	Ala-Archa	1.29	7	⇑*i*P	Pn	03 21 20.7	-0.9
	baz=5.0						
AAK				⇑*i*S	Sg	03 21 37.9	0.0
	baz=5.0						
EKS2	Erkin-Say	1.36	344	⇓*i*P	Pb	03 21 22.4	-0.2
	baz=343						
EKS2				⇓*i*S	Sb	03 21 40.8	+0.3
	baz=343						
KBK	Karagaybulak	1.39	21	⇑*i*P	Pn	03 21 22.3	-0.7
	baz=19						
KBK				⇑*i*S	Sb	03 21 41.1	-0.4
	baz=19						
MRKS	Merke	1.60	331	*e*P	Pb	03 21 26.5	-0.1
	22nm,0.1s						
MRKS				*e*S	Sg	03 21 48.6	+0.9
	36nm,0.2s						
BOOM	Boomskoye usch	1.68	47	⇑*i*P	Pn	03 21 26.5	-0.4
	baz=46						
BOOM				⇑*e*S	Sb	03 21 49.7	-0.1
	baz=46						
CHMS	Chumysh	1.68	12	⇑*i*P	Pb	03 21 27.2	-0.8
	baz=10.0						
CHMS				⇑*i*S	Sn	03 21 49.2	+0.3
	baz=10.0						
ULHL	Ulahol	1.72	58	⇑*i*P	Pn	03 21 27.0	-0.4
	baz=58						
ULHL				⇑*i*S	Sn	03 21 49.0	-1.1
	baz=58						
MNAS	Manas	1.74	311	⇑*i*P	Pg	03 21 29.3	-0.5
	baz=310						
MNAS				⇑*i*S	Sg	03 21 53.6	+1.3
	baz=310						
MNAS	Manas	1.74	311	⇓Pg	Pg	03 21 29.4	-0.3
	7.5nm,0.4s						
MNAS				⇑Lg	Lg	03 21 56.9	
	16nm,0.3s						
ARK	Arkit	1.79	285	⇑*e*P	Pb	03 21 29.6	-0.4
	baz=284						
ARK				⇑*e*S	Sg	03 21 54.0	0.0
	baz=284						
TKM2	Tokmak 2	1.85	32	⇑*i*P	Pb	03 21 29.7	-1.2
	baz=30						
TKM2				⇑*i*S	Sn	03 21 53.5	+0.2
	baz=30						
USP	Ospenovka	1.92	5	⇑*i*P	Pb	03 21 31.2	-0.9
	baz=3.0						
USP				⇑*i*S	Sb	03 21 56.1	-0.4
	baz=3.0						
KST	Kastek	2.10	36	*e*P	Pb	03 21 34.4	-0.9
	15nm,0.4s						
KST				*e*S	Sb	03 22 02.2	+0.4
	74nm,0.4s						
DGS	Degeres	2.19	30	*e*P	Pb	03 21 36.6	-0.1
	28nm,0.4s						
DGS				*e*S	Sg	03 22 06.2	-0.4
	76nm,0.4s						
MTBS	Maitube	2.39	41	*e*P	Pb	03 21 39.1	-0.9
	44nm,0.3s						
MTBS				*e*S	Sb	03 22 10.7	+0.7
	75nm,0.4s						
IZV	Izvestkoviy	2.41	45	*e*P	Pb	03 21 39.5	-1.1
	21nm,0.5s						
IZV				*e*S	Sb	03 22 11.7	+0.9
	51nm,0.3s						
TNSS	Tian-Shan	2.60	49	*e*P	Pb	03 21 42.9	-1.0
	37nm,0.5s						
TNSS				*e*S	Sb	03 22 17.3	+0.8
	19nm,0.5s						
MDOK	Medeo	2.74	48	Pn	Pb	03 21 44.9	-1.2
MDOK				Lg	Lg	03 22 22.1	
KOTS	Kotyrbulak	2.82	47	*e*P	Pb	03 21 47.2	-0.3
KOTS				*e*S	Sg	03 22 24.6	-2.3
KTBS	Karatobe	2.95	36	*e*P	Pb	03 21 49.9	+0.2
KTBS				*e*S	Sb	03 22 28.6	+2.5
CHKK	Chushkaly	3.20	38	*e*P	Pb	03 21 53.9	0.0
	8.3nm,0.3s						
CHKK				*e*S	Sb	03 22 35.5	+2.2
	94nm,0.5s						
IUG	Iuzhnay	3.28	285	*e*P	Pg	03 21 57.7	-1.4
	9.7nm,0.2s						
IUG				*e*S	Sg	03 22 42.0	+0.4
	40nm,0.4s						
KK31	Karatay Array	3.30	303	Pg	Pb	03 21 56.8	+1.2
	1.3nm,0.2s,baz=121,slow=16,SNR=46						
KK31				⇑Lg	Lg	03 22 42.0	
	4.2nm,0.3s,baz=126,slow=27,SNR=5.5						
BRLS	Borolday	3.70	298	*e*P	Pg	03 22 06.5	-0.7
	0.4nm,0.3s						
BRLS				*e*S	Sg	03 22 56.6	+1.4
	2.9nm,0.3s						
ARXS	Arharly	3.87	41	*e*P	Pb	03 22 05.3	0.0
	10nm,0.4s						
ARXS				*e*S	Sb	03 22 55.3	+2.6
	66nm,0.4s						
MNBS	Baschi	4.08	47	*e*P	Pb	03 22 09.1	+0.2
MNBS				*e*S	Sb	03 23 01.7	+3.0
PDGK	Podgornoye	4.34	61	⇑Pg	Pb	03 22 14.5	+1.1
	1.4nm,0.3s						
PDGK				⇑Lg	Lg	03 23 09.1	
	13nm,0.8s						
DZET	Dzherino	4.90	240	⇓Pn	Pn	03 22 12.9	+1.9
	2.5nm,0.2s						
DZET				Lg	Lg	03 23 35.2	
	12nm,0.5s						

*ISCJB **27** 03:21:51.0±0.6, 50°.29N±0°.04×18°.77E±0°.03, h0^{km}, Error ellipse: s-maj=5.7km s-min=2.7km az=18.5*
*CSEM **27** 03:21:51.9±0.3, 50°.29N×18°.77E, h1^{km}, ML2.5/4, Error ellipse: s-maj=6.8km s-min=3.2km az=14.0*
*PRU **27** 03:21:52.6, 50°.27N×18°.76E, h0^{km}*
*WAR **27** 03:21:59.3, 50°.27N×19°.36E, h1^{km}, Mw2.6*
ISC 27 03:21:52.3±0.8, **50°.19N**±0°.04×**18°.77E**±0°.02, **h0**^{km}, **n29**, σ0§**73**/52, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.53	229	*e*PG	Pb	03 22 04.5	0.0
OKC				*e*SG	Sb	03 22 12.4	-0.3
	comp=Z,27nm,0.6s						
OKC	Ostrava-Krasne	0.53	229	Pg	Pb	03 22 04.5	0.0
OKC				Sg	Sb	03 22 12.4	-0.3
	27nm,0.6s						
OJC	Ojcow	0.66	87	*e*Pg	Pg	03 22 04.7	-0.3
OJC				*e*Sg	Sg	03 22 13.3	-0.3
OJC	Ojcow	0.66	87	*e*Pg	Pg	03 22 04.7	-0.3
OJC				*e*Sg	Sg	03 22 13.3	-0.3
OJC	Ojcow	0.66	87	*e*Pg	Pg	03 22 04.7	-0.3
OJC				*e*Sg	Sg	03 22 13.3	-0.3
MORC	Moravsky Berou	0.89	243	*e*Pg	Pb	03 22 10.4	-0.3
MORC				*e*Sg	Sb	03 22 23.4	+0.3
LANS	Liptovska Anna	1.13	156	*e*Pg	Pn	03 22 15.7	+0.2
LANS				*e*Sg	Sn	03 22 32.3	+0.6
LANS	Liptovska Anna	1.13	156	*e*PG	Pn	03 22 15.7	+0.2
LANS				*e*SG	Sn	03 22 32.3	+0.6
NIE	Niedzica	1.25	127	*e*Pg	Pn	03 22 17.1	-0.1
NIE				*e*Sg	Sn	03 22 35.3	+0.5
NIE	Niedzica	1.25	127	*e*Pg	Pn	03 22 17.1	-0.1
NIE				*e*Sg	Sn	03 22 35.3	+0.5
KRLC	Kraliky	1.28	266	*e*PG	Pg	03 22 16.4	-0.5
KRLC				*e*SG	Sg	03 22 33.7	+0.2
KRLC	Kraliky	1.28	266	Pg	Pg	03 22 16.4	-0.5
KRLC				Sg	Sg	03 22 33.7	+0.2
DPC	Dobruska-Polom	1.58	277	*e*PG	Pn	03 22 21.3	-0.3
DPC				*e*SG	Sn	03 22 41.8	-0.9
	comp=Z,7.5nm,0.6s						
DPC	Dobruska-Polom	1.58	277	Pg	Pn	03 22 21.3	-0.3
DPC				Sg	Sn	03 22 41.8	-0.9
	7.5nm,0.6s						
VRAC	Vranov	1.66	239	*e*Pn	Pb	03 22 23.7	-0.1
VRAC				*e*Sg	Sg	03 22 46.8	+1.2
VYHS	Vyhne	1.69	178	*e*Pn	Pn	03 22 23.5	+0.3
VYHS				*e*Sn	Sn	03 22 44.9	-0.6
VYHS	Vyhne	1.69	178	*e*PN	Pn	03 22 23.5	+0.3
VYHS				*e*SN	Sn	03 22 44.9	-0.6
VYHS				*e*LG	Lg	03 22 54.8	
KSP	Ksiaz	1.71	294	*e*Pg	Pb	03 22 24.5	-0.1
KSP				*e*Sg	Sg	03 22 47.0	-0.3
KSP	Ksiaz	1.71	294	*e*Pg	Pb	03 22 24.5	-0.1
KSP				*e*Sg	Sg	03 22 47.0	-0.3
KSP	Ksiaz	1.71	294	*e*Pg	Pb	03 22 24.5	-0.1
KSP				*e*Sg	Sg	03 22 47.0	-0.3
UPC	Upice	1.79	281	*e*SG	Sg	03 22 49.6	-0.3
	comp=Z,5.8nm,0.3s						
UPC	Upice	1.79	281	Sg	Sg	03 22 49.6	-0.3
	5.8nm,0.3s						
KECS	Kecovo	2.04	146	*e*Sn	Sn	03 22 54.1	0.0
KECS	Kecovo	2.04	146	*e*SN	Sn	03 22 54.1	0.0
KECS				*e*LG	Lg	03 23 06.8	
PRU	Pruhonice	2.73	267	*e*SG	Sb	03 23 17.5	+1.5
PRU	Pruhonice	2.73	267	Sg	Sb	03 23 17.5	+1.5
BRG	Berggiesshubel	3.15	284	PG	Pg	03 22 54.0	+1.2
BRG				SG	Sg	03 23 35.5	+1.9
	2.8nm,0.4s						
KHC	Kasperske Hory	3.53	255	*e*PG	Pb	03 22 55.7	0.0
KHC				*e*SG	Sg	03 23 43.7	-2.1
	comp=Z,20nm,1.4s						
KHC	Kasperske Hory	3.53	255	Pg	Pb	03 22 55.7	0.0
KHC				Sg	Sg	03 23 43.7	-2.1
	20nm,1.4s						

*ATH **27** 03:23:11.8, 39°.01N×19°.73E, h31^{km}±1^{km}, ML2.7/4, Error ellipse: s-maj=2.9km s-min=1.0km az=62.0*
*THE **27** 03:23:12.9, 39°.00N×19°.73E, h22^{km}±1^{km}, ML2.9/4, Error ellipse: s-maj=1.6km s-min=0.5km az=37.0*
*CSEM **27** 03:23:12.5±0.3, 39°.04N×19°.63E, h30^{km}, ML2.7, Error ellipse: s-maj=8.9km s-min=3.8km az=52.0*
ISC 27 03:23:09.6±1.4, **39°.04N**±0°.04×**19°.59E**±0°.04, **h11**^{km}±11^{km}, **n56**, σ1§**05**/76, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.69	13	P	Pn	03 23 26.0	+0.6
KEK				S	Sn	03 23 36.7	+0.6
KEK	Kerkira	0.69	13	P	Pn	03 23 26.0	+0.6
KEK				S	Sn	03 23 37.0	+0.9
KEK				AML	AML	03 23 37.1	
	comp=E,813μm,0.4s						
KEK				AML	AML	03 23 37.4	
	comp=N,851μm,0.2s						
KEK	Kerkira	0.69	13	P	Pn	03 23 26.0	+0.6
KEK				S	Sn	03 23 36.7	+0.6
SGD	Sagiada	0.76	41	P	Pn	03 23 26.2	-0.1
SGD				S	Sn	03 23 37.5	-0.3
SGD	Sagiada	0.76	41	P	Pn	03 23 26.2	-0.1
SGD				S	Sn	03 23 37.5	-0.3
LKD2	Lefkada island	0.87	106	P	Pg	03 23 27.1	+0.8
LKD2				S	Sg	03 23 37.5	-0.2
LKD2				AML	AML	03 23 38.4	
	comp=E,2205μm,0.2s						
LKD2				AML	AML	03 23 38.5	
	comp=N,1800μm,0.3s						
LKD2	Lefkada island	0.87	106	P	Pg	03 23 27.1	+0.8
LKD2				S	Sg	03 23 37.7	0.0
VLS	Valsamata	1.17	137	P	Pg	03 23 31.9	-0.1
VLS				S	Sg	03 23 45.9	-1.2
VLS	Valsamata	1.17	137	P	Pg	03 23 31.8	-0.2
VLS				S	Sg	03 23 46.0	-1.1
VLS				AML	AML	03 23 49.5	
	comp=E,472μm,0.1s						
VLS				AML	AML	03 23 49.8	
	comp=N,647μm,0.2s						
VLS	Valsamata	1.17	137	P	Pg	03 23 31.9	-0.1
VLS				S	Sg	03 23 46.0	-1.1
DSL	Palaion Diasel	1.18	85	P	Pg	03 23 32.1	-0.1
DSL				S	Sg	03 23 46.3	-1.2
DSL	Palaion Diasel	1.18	85	P	Pg	03 23 31.9	-0.3
DSL				S	Sb	03 23 47.3	+0.1
DSL				AML	AML	03 23 48.2	
	comp=E,896μm,0.3s						
DSL				AML	AML	03 23 50.1	
	comp=N,1294μm,0.4s						
DSL	Palaion Diasel	1.18	85	P	Pg	03 23 32.1	-0.1
DSL				S	Sb	03 23 47.3	+0.1
PDO	Prodromos	1.32	109	P	Pn	03 23 34.1	+0.1
PDO	Prodromos	1.32	109	P	Pn	03 23 34.1	+0.1
PVO	Paravola	1.57	105	P	Pn	03 23 38.1	+0.7
PVO	Paravola	1.57	105	P	Pn	03 23 38.6	+1.1
PVO	Paravola	1.57	105	P	Pn	03 23 38.1	+0.7
KPRO	Kipourio	1.65	56	P	Pn	03 23 39.3	+0.7
KPRO	Kipourio	1.65	56	P	Pb	03 23 39.8	-0.2
KPRO	Kipourio	1.65	56	P	Pn	03 23 39.3	+0.7
PENT	Pentalofos	1.66	46	P	Pn	03 23 39.8	+0.9
PENT	Pentalofos	1.66	46	P	Pn	03 23 39.7	+0.9
PENT	Pentalofos	1.66	46	P	Pn	03 23 39.7	+0.9
EVR	Evrytania	1.73	93	P	Pn	03 23 39.5	-0.3
EVR	Evrytania	1.73	93	P	Pn	03 23 39.5	-0.3
RLS	Riolos of Patr	1.77	123	P	Pn	03 23 41.5	+1.4
RLS	Riolos of Patr	1.77	123	P	Pn	03 23 41.5	+1.4
ANX	Ano Chora	1.87	103	P	Pn	03 23 42.6	+0.9
ANX	Ano Chora	1.87	103	P	Pn	03 23 42.6	+0.9
EFP	Efpalio	1.91	108	P	Pn	03 23 42.8	+0.7
EFP	Efpalio	1.91	108	P	Pn	03 23 42.8	+0.7
THL	Klokotos Trika	1.95	74	P	Pn	03 23 43.3	+0.6
THL	Klokotos Trika	1.95	74	P	Pn	03 23 43.1	+0.5
THL	Klokotos Trika	1.95	74	P	Pn	03 23 43.3	+0.6
DRO	Drossia	1.99	123	P	Pn	03 23 44.1	+0.9
DRO	Drossia	1.99	123	P	Pn	03 23 44.1	+0.9
LAKA	Lakka	2.03	112	P	Pn	03 23 44.5	+0.7
LAKA	Lakka	2.03	112	P	Pn	03 23 44.5	+0.7
KALE	Kalithea	2.10	107	P	Pn	03 23 46.2	+1.5
KALE	Kalithea	2.10	107	P	Pn	03 23 46.2	+1.5
AGG	Agios Georgios	2.13	90	P	Pn	03 23 46.4	+1.2
AGG	Agios Georgios	2.13	90	P	Pn	03 23 46.4	+1.2
FNA	Florina	2.22	38	P	Pn	03 23 46.9	+0.5
FNA	Florina	2.22	38	P	Pn	03 23 46.9	+0.5
KLV	Kalavryta, Ach	2.24	116	P	Pn	03 23 47.6	+0.9
KLV	Kalavryta, Ach	2.24	116	P	Pn	03 23 47.6	+0.9
DSF	Desfina	2.38	104	P	Pn	03 23 50.1	+1.5
DSF	Desfina	2.38	104	P	Pn	03 23 50.2	+1.5
STON	Ston	4.09	340	*e*Pn	Pn	03 24 12.6	+0.5
STON				Sn	Sn	03 24 57.9	-2.0
STON	Ston	4.09	340	*e*Pn	Pn	03 24 12.5	+0.5
STON				Sn	Sn	03 24 57.8	-2.0
UDBI	Udbina	6.18	334	*e*Pn	Pn	03 24 43.9	+3.0
UDBI				Sn	Sn	03 25 51.0	-0.6
UDBI	Udbina	6.18	334	*e*Pn	Pn	03 24 43.9	+3.0
UDBI				Sn	Sn	03 25 51.0	-0.6
NVLJ	Novalja	6.55	329	*e*Pn	Pn	03 24 47.1	+1.2
NVLJ				Sn	Sn	03 25 58.2	-2.3
NVLJ	Novalja	6.55	329	*e*Pn	Pn	03 24 47.0	+1.2
NVLJ				Sn	Sn	03 25 58.2	-2.3

*NEIC **27** 03:29:32.8±0.6, 17°.59S×178°.79W, h504^{km}±7^{km}, mb4.4/74, Error ellipse: s-maj=7.1km s-min=4.3km az=136.0*
*IDC **27** 03:29:32.2±1.4, 17°.49S×178°.76W, h496^{km}±15^{km}, mb3.7/12, mb1 4.0/14, mb1mx3.8/35, mbtmp4.6/14, Error ellipse: s-maj=17.1km s-min=11.4km az=138.0*
*ISCJB **27** 03:29:34.7±0.2, 17°.63S±0°.05×178°.91W±0°.05, h539^{km}, mb4.4/86, Error ellipse: s-maj=7.7km s-min=4.6km az=140.5*
ISC 27 03:29:35.5±0.4, **17°.55S**±0°.07×**178°.75W**±0°.07, **h539**^{km}, **n182**, σ1§**37**/186, **mb4.4**/86, **16C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.06	266	*e*P	P	03 30 50.4	+0.3
MSVF				*e*S	S	03 31 48.1	-2.7
AFI	Afiamalu	7.63	63	P	P	03 31 25.1	-4.3
	30nm,0.3s,baz=60,slow=2.7,SNR=24						
AFI				S	S	03 32 56.9	-5.8
	8.2nm,0.3s,baz=111,slow=23,SNR=3.0						
FUNA	Funafuti	9.19	347	*e*P	P	03 31 43.0	-2.0
DZM	Mont Dzumac	14.64	250	P	P	03 32 38.8	-2.8
	1.1nm,0.3s,baz=224,slow=23,SNR=11						
DZM	Mont Dzumac	14.64	250	*e*P	P	03 32 40.2	-1.4
RAR	Rarotonga	18.27	105	*e*P	P	03 33 16.4	-0.1
	103nm,1.5s						
OUZ	Omahuta	18.88	200	*e*P	P	03 33 23.1	+1.3
	10nm,0.8s						
URZ	Urewera	20.95	189	P	P	03 33 38.8	-1.8
	7.0nm,0.5s,baz=355,slow=9.6,SNR=3.9						
URZ	Urewera	20.95	189	*e*P	P	03 33 38.7	-1.8
	37nm,1.4s						
BKZ	Black Stump Fm	21.93	190	*e*P	P	03 33 46.0	-3.5
	19nm,1.2s						
BFZ	Birch Farm	23.45	190	*e*P	P	03 34 01.2	-1.8
	121nm,1.5s						
THZ	Tophouse	25.17	195	*e*P	P	03 34 16.1	-2.2
	66nm,1.6s						
KHZ	Kahutara	25.65	193	*e*P	P	03 34 21.1	-1.2
	142nm,1.9s						
FOZ	Fox Glacier	27.65	198	*e*P	P	03 34 38.7	-1.3
	89nm,1.3s

FORT	Forrest	49.87	244	eP		P	03 37 39.1	-0.6
	244nm,0.6s							
SOEI	Soe	55.74	270	eP		P	03 38 22.8	+0.8
	26nm,0.5s							
MBWA	Marble Bar	57.84	256	eP		P	03 38 35.0	-1.1
	44nm,1.8s							
VNDA	Vanda	60.77	185	P		P	03 38 55.8	+1.1
	1.5nm,0.7s,baz=351,slow=7.1,SNR=12							
VNDA	Vanda	60.77	185	eP		P	03 38 55.8	+1.1
	14nm,1.9s							
MJAR	Matsushiro Arr	67.42	323	P		P	03 39 37.1	-0.6
	6.8nm,0.8s,baz=158,slow=6.3,SNR=12							
MAJO	Matsushiro	67.43	323	eP		P	03 39 37.5	-0.2
	7.8nm,0.6s							
MAT	Matsushiro	67.43	323	P		P	03 39 37.3	-0.3
MAT				eS		S	03 47 54.6	+3.4
MJB9	Matsu-Tunnel	67.43	323	eP		P	03 39 37.3	-0.3
	1.9nm,0.6s							
UGM	Wanagama	69.33	268	eP		P	03 39 49.1	-0.6
	98nm,1.3s							
TPUB	Ta-pu	71.79	303	eP		P	03 40 02.9	-1.1
	182nm,1.9s							
QSPA	South Pole Qui	72.50	180	eP		P	03 40 07.7	+0.2
	33nm,0.8s							
KSRS	Korea Array	74.22	318	P		P	03 40 18.6	+1.1
	1.4nm,0.7s,baz=140,slow=4.3,SNR=5.3							
CHGN	Chignik	75.53	12	eP		P	03 40 23.9	-0.6
	373nm,2.0s							
CMB	Columbia Colle	77.80	43	eP		P	03 40 37.8	+0.4
	7.1nm,1.1s							
AFDM	Forest Hills D	77.93	42	eP		P	03 40 38.5	+0.4
	5.5nm,1.1s							
KDAK	Kodiak Island	78.13	14	eP		P	03 40 34.1	-4.5
	85nm,1.7s							
MDPB	Devils Postpil	78.45	44	eP		P	03 40 41.9	+0.7
	12nm,1.1s							
RCWM	Renegade Canyo	78.53	46	eP		P	03 40 44.4	+2.9
SLBS	Sierra La Lagu	78.67	61	eP		P	03 40 43.4	+1.0
	72nm,1.8s							
WAKR	Walker	78.69	43	eP		P	03 40 43.3	+0.9
	15nm,1.3s							
GSC	Goldstone, Bar	78.78	47	eP		P	03 40 43.5	+0.7
	4.7nm,1.0s							
PNTR	Pine Nut	78.90	43	eP		P	03 40 44.4	+0.8
	12nm,0.9s							
YERR	Yerington	79.08	43	eP		P	03 40 45.1	+0.7
	19nm,1.3s							
PAHR	Pah Rah Range	79.38	42	eP		P	03 40 46.6	+0.6
	7.6nm,1.1s							
TPNV	Topopah Spring	80.01	46	eP		P	03 40 50.1	+0.7
	10.0nm,1.4s							
MOD	Modoc Plateau	80.02	40	eP		P	03 40 49.5	+0.3
	3.9nm,0.8s							
SHPR	Sheep Range	80.54	47	eP		P	03 40 53.2	+1.1
	9.9nm,1.5s							
BMN	Battle Mountai	81.17	43	eP		P	03 40 56.0	+0.7
	15nm,1.4s							
R11A	Troy Canyon, C	81.17	45	eP		P	03 40 55.6	+0.3
	3.6nm,1.2s							
WVOR	Wild Horse Val	81.35	40	eP		P	03 40 56.5	+0.4
	10nm,1.0s							
TUC	Tucson	81.74	52	eP		P	03 40 59.6	+1.3
	9.1nm,1.0s							
LCMT	Little Creek M	82.13	47	eP		P	03 41 01.1	+0.9
	5.7nm,1.0s							
CCUT	Cedar City	82.30	47	eP		P	03 41 02.4	+1.2
	5.8nm,1.0s							
KNB	Kanab	82.43	47	eP		P	03 41 02.9	+1.1
	40nm,2.0s							
319A	Douglas	82.48	54	eP		P	03 41 03.8	+1.7
	14nm,1.1s							
SZCU	Shurtz Canyon	82.52	47	eP		P	03 41 03.4	+1.1
	12nm,1.4s							
U15A	North Rim	82.52	48	eP		P	03 41 03.4	+1.0
	18nm,1.1s							
WUAZ	Wupatki	82.76	49	eP		P	03 41 04.6	+1.1
	11nm,1.1s							
HAWA	Hanford	83.01	37	eP		P	03 41 04.6	+0.3
	16nm,1.4s							
X18A	Snowflake	83.35	51	eP		P	03 41 07.7	+1.2
	3.2nm,0.8s							
MTPU	Mount Pierson	83.36	47	eP		P	03 41 08.2	+1.6
	7.7nm,1.0s							
MSU	Marysvale	83.58	46	eP		P	03 41 09.0	+1.4
MFID	Camas Ranch	83.61	41	eP		P	03 41 08.1	+0.6
	8.2nm,1.2s							
RND	Reindeer	83.99	13	eP		P	03 41 09.2	+0.3
	13nm,1.0s							
MAW	Mawson	84.09	200	eP		P	03 41 13.1	+3.8
	6.0nm,0.3s							
HLID	Hailey	84.57	41	eP		P	03 41 12.6	+0.3
	6.3nm,1.1s							
SRU	San Rafael Swe	85.01	46	eP		P	03 41 15.2	+0.7
	7.1nm,0.5s							
ILAR	Eielson Array	85.61	13	P		P	03 41 15.8	-0.8
	1.2nm,0.5s,baz=222,slow=4.9,SNR=32							
ILB	Eielson Array	85.61	13	eP		P	03 41 15.3	-1.2
MNTX	Cornudas Mount	85.64	55	eP		P	03 41 18.3	+0.7
	4.5nm,1.0s							
TX31	Lajitas Ar. Si	86.08	58	eP		P	03 41 21.1	+1.4
TXAR	Lajitas Array	86.08	58	P		P	03 41 21.1	+1.3
	4.5nm,0.8s,baz=220,slow=6.0,SNR=46							
ANMO	Albuquerque	86.13	52	eP		P	03 41 20.3	+0.2
	7.2nm,1.3s							
MCMT	McKenzie Canyo	86.18	41	eP		P	03 41 20.9	+0.8
REDW	Red Top Meadow	86.75	43	eP		P	03 41 23.5	+0.7
	7.7nm,1.1s							
FXWY	Fox Creek	86.76	42	eP		P	03 41 23.2	+0.3
	10.0nm,1.6s							
SNOW	Snow King Moun	86.86	43	eP		P	03 41 24.2	+0.9
	16nm,1.3s							
IMW	Indian Meadow	86.94	42	eP		P	03 41 24.6	+0.9
	12nm,1.3s							
MOOW	Moose Ponds	86.99	42	eP		P	03 41 24.6	+0.6
	6.8nm,1.3s							
S22A	4UR Ranch, Cre	87.02	49	eP		P	03 41 25.1	+0.8
	6.1nm,1.1s							
LOHW	Long Hollow	87.02	42	eP		P	03 41 24.6	+0.5
	8.0nm,1.5s							
BW06	Boulder Array	87.32	44	eP		P	03 41 25.6	+0.1
	6.5nm,1.4s							
PD31	Pinedale Array	87.32	44	eP		P	03 41 25.6	+0.1
PDAR	Pinedale Array	87.32	44	P		P	03 41 25.4	0.0
	1.4nm,0.6s,baz=205,slow=3.7,SNR=17							
LNIG	Linares	87.96	63	eP		P	03 41 29.1	+0.5
	9.3nm,1.0s							
CMAR	Chiang Mai Arr	88.46	290	P		P	03 41 32.9	+1.9
	2.0nm,0.3s,baz=120,slow=4.6,SNR=6.4							
LZH	Lanzhou	90.41	308	eP		P	03 41 43.8	+3.8
LZH				pP		pP	03 43 34.0	-4.7
LZH				sP		sP	03 44 27.0	-5.9
LZH				PP		PP	03 45 21.5	-2.9
LZH	Lanzhou	90.41	308	S		S	03 51 54.3	+5.0
LZH	Lanzhou	90.41	308	sS		sS	03 55 09.0	-13
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH				pmax		pmax		
	comp=Z,170nm,5.5s							
ABTX	Abilene, Hawle	90.50	56	eP		P	03 41 40.9	+0.6
	comp=Z,9.6nm,0.9s							
SNAA	Sanae	90.96	179	P		P	03 41 40.9	-0.8
SNAA	Sanae	90.96	179	eP		P	03 41 40.2	-1.6
	comp=Z,8.5nm,1.6s							
VNA3	Neumayer Olymp	91.12	176	P		P	03 41 42.2	-0.2
VNA2	Neumayer--Watz	91.55	177	P		P	03 41 44.1	-0.3
	baz=169,slow=3.1							
VNA1	Neumayer--Stat	91.78	177	P		P	03 41 45.9	+0.5
SONM	Songino Array	93.07	319	P		P	03 41 52.6	+0.7
	comp=Z,0.5nm,0.5s,baz=137,slow=7.3,SNR=4.2							
MKAR	Makanchi Array	108.65	314	PKiKP		PKiKP	03 47 03.2	-0.1
	comp=Z,0.6nm,0.5s,baz=56,slow=2.2,SNR=5.1							
KURBB	Kurchatov Arra	111.39	318	PKiKP		PKiKP	03 47 07.9	-0.4
	comp=Z,0.6nm,0.5s,baz=110,slow=1.6,SNR=7.5							
BVAR	Borovoye Array	116.36	321	PKiKP		PKPdf	03 47 17.4	-0.4
	comp=Z,1.7nm,0.7s,baz=75,slow=1.7,SNR=7.4							
AKTO	Aktyubinsk	124.38	320	PKiKP		PKPdf	03 47 33.7	+0.4
	comp=Z,0.9nm,0.8s,baz=192,slow=3.3,SNR=6.3							
KEV	Kevo	125.45	349	ePKPdf		PKPdf	03 47 38.2	+3.4
ARCES	ARCESS Array B	125.90	350	PKP		PKPdf	03 47 36.0	+0.3
	comp=Z,2.1nm,0.8s,baz=346,slow=2.5,SNR=6.1							
GEYT	Alibeck	126.57	304	PKiKP		PKPdf	03 47 38.5	+0.6
	comp=Z,3.0nm,0.9s,baz=228,slow=1.8,SNR=7.2							
TLCR		144.09	326	∥ iP		PKPdf	03 48 10.0	0.0
BUR08	Bucovina Ar. S	144.13	332	ePKPbc		PKPdf	03 48 10.7	+0.5
BURAR	Bucovina Array	144.14	332	∥ iP		PKPdf	03 48 10.8	+0.7
TESR	Tescani	144.28	330	∥ iP		PKPab	03 48 10.4	0.0
BR131	Keskin Array S	144.30	315	ePKPbc		PKPdf	03 48 10.7	0.0
BRTR	Keskin Array B	144.30	315	PKP		PKPdf	03 48 10.8	0.0
	comp=Z,4.2nm,0.8s,baz=132,slow=4.2,SNR=21							
STHS	Stebnicka Huta	144.33	337	ePKP		PKPab	03 48 11.9	+1.4
CFR	Carcaliu	144.46	327	∥ iP		PKPab	03 48 11.5	+0.5
CRVS	Cervenica-Dubn	144.68	337	ePKP		PKPab	03 48 12.0	+0.2
ASF	Jabal al Asfar	144.71	301	PKP		PKPab	03 48 13.0	+0.4
	comp=Z,4.9nm,0.9s,baz=44,slow=2.4,SNR=7.1							
PLOR	Plostina	144.75	329	∥ iP		PKPab	03 48 12.3	+0.1
BMR	Baia Mare	144.85	334	∥ iP		PKPdf	03 48 11.4	+0.2
ARCR	ARCALIA	144.93	332	∥ iP		PKPab	03 48 13.5	+0.7
OKC	Ostrava-Krasne	145.03	341	ePKP		PKPab	03 48 12.8	-0.3
CLL	Collm	145.04	347	i PKPbc		PKPbc	03 48 12.3	+0.1
	comp=Z,15nm,0.7s							
CLL	Collm	145.04	347	ePKPdf		PKPbc	03 48 12.3	+0.1
UPC	Upice	145.05	343	ePKP		PKPbc	03 48 12.5	+0.2
DPC	Dobruska-Polom	145.11	343	ePKP		PKPab	03 48 13.2	-0.3
LANS	Liptovska Anna	145.19	339	ePKP		PKPab	03 48 14.2	+0.4
BRG	Berggiesshubel	145.24	346	i PKP		PKPbc	03 48 13.3	+0.6
	comp=Z,9.7nm,0.7s							
MORC	Moravsky Berou	145.27	341	∥ iP		PKPbc	03 48 13.6	+0.6
MORC	Moravsky Berou	145.27	341	ePKPdf		PKPbc	03 48 13.3	+0.3
DOPR	Dopca	145.28	330	∥ iP		PKPab	03 48 14.2	-0.1
MLR	Muntele Rosu	145.36	329	∥ iP		PKPdf	03 48 05.8	-6.5
KECS	Kecovo	145.39	337	ePKP		PKPab	03 48 14.6	0.0
PVCC	Panska Ves	145.41	345	ePKP		PKPab	03 48 14.4	-0.1
CJR	Cluj-Napoca	145.55	332	∥ iP		PKPbc	03 48 14.5	+0.6
MMAI	Mount Meron Ar	145.67	303	PKPbc		PKPab	03 48 15.6	-0.7
	comp=Z,9.2nm,0.7s,baz=66,slow=4.0,SNR=18							
VOIR		145.83	330	∥ iP		PKPbc	03 48 15.2	+0.4
DRGR		145.87	333	∥ iP		PKPbc	03 48 15.1	+0.2
PRU	Pruhonice	145.91	345	ePKP		PKPbc	03 48 15.6	+0.8
GOPC	GO Pecny, Ondr	145.92	344	ePKP		PKPbc	03 48 15.4	+0.6
VYHS	Vyhne	145.97	339	ePKP		PKPbc	03 48 15.4	+0.4
PSZ	Piszkesteto	146.08	337	∥ iP		PKPbc	03 48 15.6	+0.2
PSZ	Piszkesteto	146.08	337	ePKPdf		PKPbc	03 48 15.4	0.0
ARR	Arges	146.08	330	∥ iP		PKPab	03 48 17.0	-0.5
NKC	Novy Kostel	146.17	347	ePKP		PKPbc	03 48 16.1	+0.6
SIRR	Siria	146.73	334	∥ iP		PKPbc	03 48 18.0	+0.8
MEM	Membach	146.80	354	PKPbc		PKPab	03 48 19.7	-0.3
KHC	Kasperske Hory	146.95	345	ePKP		PKPbc	03 48 18.3	+0.6
KHC	Kasperske Hory	146.95	345	ePKPbc		PKPbc	03 48 18.4	+0.7
EIL	Elat	146.97	298	PKPbc		PKPbc	03 48 18.8	+0.5
	comp=Z,6.4nm,0.9s,baz=340,slow=3.8,SNR=4.3							
GEC2	GERESS Array S	147.18	345	ePKPbc		PKPbc	03 48 19.1	+0.7
GERES	GERESS Array B	147.18	345	PKPbc		PKPbc	03 48 18.6	+0.2
	comp=Z,3.9nm,0.6s,baz=22,slow=3.0,SNR=27							
BZS	Buzias	147.27	333	∥ iP		PKPbc	03 48 18.7	+0.1
DOU	Dourbes	147.42	356	PKPbc		PKPbc	03 48 19.5	+0.7
CONA	Conrad Observa	147.42	342	i PKPbc		PKPbc	03 48 19.8	+0.8
	comp=Z,9.1nm,0.6s							
WLF	Walferdange	147.72	354	PKPbc		PKPbc	03 48 21.1	+1.4
WLF	Walferdange	147.72	354	ePKPbc		PKPbc	03 48 21.4	+1.8
BFO	Black Forest	148.76	351	ePKPbc		PKPbc	03 48 22.9	+0.6
SOKA	Soboth	148.79	342	i PKPbc		PKPbc	03 48 22.7	+0.2
	comp=Z,3.9nm,0.7s							
VTS	Vitosha	148.81	328	∥ iP		PKPbc	03 48 22.9	+0.1
KBA	Koelnbreinsper	148.91	344	ePKPbc		PKPbc	03 48 22.4	-0.4
	comp=Z,6.0nm,0.5s							
RETA	Reutte	149.13	347	i PKPbc		PKPbc	03 48 23.9	+0.6
	comp=Z,2.8nm,0.5s							
WTTA	Wattenberg	149.15	346	i PKPbc		PKPbc	03 48 23.9	+0.4
	comp=Z,7.6nm,0.5s							
MOTA	Moosalm	149.20	347	i PKiKP		PKPbc	03 48 24.5	+0.9
	comp=Z,3.7nm,0.6s							
MYKA	Terra Mystica	149.24	343	i PKPbc		PKPbc	03 48 23.4	-0.2
	comp=Z,5.7nm,0.6s							
ABTA	Abfaltersbach	149.43	345	i PKPbc		PKPbc	03 48 24.1	0.0
	comp=Z,9.9nm,0.6s							
FETA	Feichten	149.58	347	i PKiKP		PKPbc	03 48 25.2	+0.7
	comp=Z,5.7nm,0.7s							
DAVOX	Davos/Dischmat	149.99	348	PKPbc		PKPbc	03 48 26.1	+0.6
	comp=Z,14nm,0.6s,baz=234,slow=4.2,SNR=28							
FUORN	Ofenpass-Fuorn	150.06	348	ePKPbc		PKPbc	03 48 26.6	+0.8
TUE	Stuetta	150.39	349	ePKPbc		PKPbc	03 48 26.9	+0.4
PDG	Podgorica	150.83	332	∥ iP		PKPbc	03 48 27.5	+0.2
TIR	Tirane	151.40	330	∥ iP		PKPdf	03 48 10.7	-11
TORD	Torodi Ar. Bea	175.60	186	PKP		PKPdf	03 48 43.9	-0.7
	comp=Z,1.5nm,0.9s,baz=1.8,slow=1.2,SNR=7.7							
TORD				PKPab		PKPab	03 50 26.2	+0.4
	comp=Z,0.2nm,0.6s,baz=188,slow=4.9,SNR=3.2							

MEX 27 03:33:01.3±0.5, 18°.63N×103°.28W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.34	191	i P	Pg	03 33 07.0	-1.0
MMIG				i S	Sg	03 33 13.1	+0.6
R15V		0.86	309	eP	Pg	03 33 16.2	-1.6
R15V				eS	Sg	03 33 27.6	-1.4
ARIG	Puente Sto Nin	2.80	97	eP	Pn	03 33 44.1	-2.7
ARIG				eS	Sn	03 34 16.7	-4.3

CSEM 27 03:44:56.0±0.7, 51°.41N×16°.17E, h2km, ML3.0/6, Error ellipse: s-maj=10.3km s-min=5.9km az=13.0

WAR 27 03:44:56.5, 51°.44N×16°.19E, h1km, Mw2.3, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.60	174	ePg	Pg	03 45 07.8	-0.1
KSP				eSg	Sg	03 45 15.8	+0.2
KSP	Ksiaz	0.60	174	ePg	Pg	03 45 07.8	-0.1
KSP				eSg	Sg	03 45 15.8	+0.2
KSP	Ksiaz	0.60	174	ePg	Pg	03 45 07.8	-0.1
KSP				eSg	Sg	03 45 15.8	+0.2
UPC	Upice	0.94	187	ePG	Pg	03 45 13.6	-0.8
UPC				eSG	Sg	03 45 26.5	0.0
	comp=Z,26nm,0.3s						
UPC	Upice	0.94	187	Pg	Pg	03 45 13.6	-0.8
UPC				Sg	Sg	03 45 26.5	0.0
	26nm,0.3s						
DPC	Dobruska-Polom	1.09	176	ePG	Pg	03 45 16.8	-0.6
DPC				eSG	Sg	03 45 30.7	-0.8
	comp=Z,7.4nm,0.2s						
DPC	Dobruska-Polom	1.09	176	Pg	Pg	03 45 16.8	-0.6
DPC				Sg	Sg	03 45 30.7	-0.8
	7.4nm,0.2s						
PVCC	Panska Ves	1.37	229	ePG	Pg	03 45 22.5	-0.2
PVCC				eSG	Sb	03 45 41.1	+0.2
	comp=Z,63nm,0.2s						
PVCC	Panska Ves	1.37	229	Pg	Pg	03 45 22.5	-0.2
PVCC				Sg	Sb	03 45 41.1	+0.2
	63nm,0.2s						
KRLC	Kraliky	1.41	164	eSG	Sg	03 45 41.2	-0.6
KRLC	Kraliky	1.41	164	Sg	Sg	03 45 41.2	-0.6
BRG	Berggiesshubel	1.52	249	PG	Pn	03 45 25.1	+0.3
BRG				SG	Sg	03 45 45.4	0.0
	13nm,0.3s						
GOPC	GO Pecny, Ondr	1.77	211	ePG	Pb	03 45 29.2	-0.5
GOPC				eSG	Sb	03 45 52.3	0.0
GOPC	GO Pecny, Ondr	1.77	211	Pg	Pb	03 45 29.2	-0.5
GOPC				Sg	Sb	03 45 52.3	0.0
PRU	Pruhonice	1.79	217	ePG	Pn	03 45 28.8	+0.3
PRU				eSG	Sb	03 45 52.8	-0.1
	comp=Z,6.9nm,0.3s						
PRU	Pruhonice	1.79	217	Pg	Pn	03 45 28.8	+0.3
PRU				Sg	Sb	03 45 52.8	-0.1
	6.9nm,0.3s						
MORC	Moravsky Berou	1.87	152	ePn	Pn	03 45 28.5	-1.2
MORC				eSg	Sn	03 45 54.6	+0.7
CLL	Collm	2.00	268	ePg	Pb	03 45 33.0	-0.7
CLL				eSg	Sg	03 46 00.0	-0.8
	comp=Z,4.0nm,0.4s						
OKC	Ostrava-Krasne	2.03	141	eSG	Sb	03 45 59.2	-0.6
	comp=Z,6.9nm,0.5s						
OKC	Ostrava-Krasne	2.03	141	Sg	Sb	03 45 59.2	-0.6
	comp=Z,6.9nm,0.5s						
VRAC	Vranov	2.15	173	ePn	Pn	03 45 33.5	+0.1
VRAC				eSg	Sb	03 46 03.4	+0.2
NKC	Novy Kostel	2.66	245	eSG	Sg	03 46 20.9	-1.0
	comp=Z,8.2nm,0.3s						
NKC	Novy Kostel	2.66	245	Sg	Sg	03 46 20.9	-1.0
	comp=Z,8.2nm,0.3s						
KHC	Kasperske Hory	2.85	217	ePN	Pn	03 45 43.0	-0.1
KHC				ePG	Pb	03 45 48.4	+0.2
KHC				eSN	Sn	03 46 15.5	-2.6
KHC				eSG	Sb	03 46 25.5	+1.9
KHC	Kasperske Hory	2.85	217	Pn	Pn	03 45 43.0	-0.1

DJA 27 03:46:35.0±1.0, 9°S±9°.×10°9E±°, h62km±17km, M4.1/6, MLv4.1/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.80	351	P	Pn	03 46 51.4	+0.8
CMJI				S	Sn	03 47 03.8	+1.7
CISI	Cisompet, Garu	1.26	324	P	Pn	03 46 56.6	0.0
SMRI	Semarang	2.40	51	P	Pn	03 47 12.8	+0.9
UWJI	Ujung Watu	3.19	48	P	Pn	03 47 22.7	0.0

ISK 27 03:55:04.3, 38°.63N×43°.17E, h5km, ML3.1
CSEM 27 03:55:05.0±0.2, 38°.69N×43°.17E, h2km, ML3.1, Error ellipse: s-maj=5.5km s-min=4.4km az=63.0
DDA 27 03:55:16.8, 38°.67N×43°.22E, h9km, Ml3.6

ISC 27 03:55:05.6±1.0, 38°.67N±0°.02×43°.16E±0°.02, h5km±9km, n46, σ1°56/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	113	PG	Pg	03 55 09.7	+0.1
VANB				eSG	Sg	03 55 13.7	+1.4
VANB	Van	0.20	113	i Pg	Pg	03 55 09.7	+0.1
VANB				eSg	Sg	03 55 13.7	+1.4
GEVA	Gevas	0.37	192	i P	Pg	03 55 11.3	-1.5
GEVA				i S	Sb	03 55 18.8	-2.0
GEVA	Gevas	0.37	192	P	Pg	03 55 11.3	-1.5
GEVA				S	Sb	03 55 18.8	-2.0
VMUR	Van-Muradiye	0.46	46	i P	Pg	03 55 14.1	-0.3
VMUR				i S	Sb	03 55 23.0	-0.4
VMUR	Van-Muradiye	0.46	46	P	Pg	03 55 14.1	-0.3
VMUR				S	Sb	03 55 23.0	-0.4
TUTA	Tutak	0.78	340	i P	Pg	03 55 19.4	-1.2
TUTA				i S	Sb	03 55 31.8	-0.9
TUTA	Tutak	0.78	340	P	Pg	03 55 19.4	-1.2
TUTA				S	Sb	03 55 31.8	-0.9
BASK	Baskale_VAN	0.91	133	i P	Pg	03 55 21.2	-1.9
BASK				i S	Sb	03 55 35.6	-0.9
BASK	Baskale_VAN	0.91	133	P	Pg	03 55 21.2	-1.9
BASK				S	Sb	03 55 35.6	-0.9
DYDN	Diyadin	0.96	25	i P	Pg	03 55 22.0	-2.2
DYDN				i S	Sn	03 55 40.3	+0.1
DYDN	Diyadin	0.96	25	P	Pg	03 55 22.0	-2.2
EKAR	Karacoban	1.03	305	i P	Pg	03 55 24.5	-0.9
EKAR				i S	Sn	03 55 48.0	+6.1
EKAR	Karacoban	1.03	305	P	Pg	03 55 24.5	-0.9
EATA	Eleskirt	1.30	337	i P	Pn	03 55 28.7	-1.9
EATA				i S	Sn	03 55 50.1	+1.6
EATA	Eleskirt	1.30	337	P	Pn	03 55 28.7	-1.9
EATA				S	Sn	03 55 50.1	+1.6
SIRN	S¨–rnak	1.31	207	i P	Pb	03 55 30.3	-0.5
SIRN				i S	Sg	03 55 50.8	+3.0
SIRN	S¨–rnak	1.31	207	P	Pb	03 55 30.3	-0.5
SIRN				S	Sg	03 55 50.8	+3.0
VRTB	Varto-Mus	1.41	291	ePN	Pg	03 55 32.4	-0.3
VRTB				eSN	Sg	03 55 53.2	+2.2
VRTB	Varto-Mus	1.41	291	ePn	Pg	03 55 32.4	-0.3
VRTB				eSn	Sg	03 55 53.2	+2.2
CUKT	Cukurca	1.47	166	ePN	Pb	03 55 32.7	-0.7
CUKT	Cukurca	1.47	166	i P	Pb	03 55 32.9	-0.5
CUKT				i S	Sg	03 55 55.1	+2.4
CUKT	Cukurca	1.47	166	ePn	Pb	03 55 32.7	-0.7
CUKT	Cukurca	1.47	166	P	Pb	03 55 32.9	-0.5
CUKT				S	Sg	03 55 55.1	+2.4
BNGL	BINGOL	1.59	281	i P	Pn	03 55 34.1	-0.5
BNGL				i S	Sg	03 55 56.1	-0.6
SVAN	Silvan-Diyarba	1.62	252	ePN	Pb	03 55 35.2	-0.8
SVAN	Silvan-Diyarba	1.62	252	i P	Pn	03 55 34.7	-0.2
SVAN				i S	Sg	03 55 57.5	-0.3
SVAN	Silvan-Diyarba	1.62	252	P	Pn	03 55 34.7	-0.2
SVAN	Silvan-Diyarba	1.62	252	ePn	Pb	03 55 35.2	-0.8
SVAN				S	Sg	03 55 57.5	-0.3
BTMN	Batman	1.68	243	i P	Pn	03 55 34.7	-0.9
BTMN				i S	Sb	03 55 57.5	-0.9
BTMN	Batman	1.68	243	P	Pn	03 55 34.7	-0.9
BTMN				S	Sb	03 55 57.5	-0.9
DIGO	Kars	1.75	6	i P	Pn	03 55 36.3	-0.5
DIGO				i S	Sg	03 56 05.8	+4.0
DIGO	Kars	1.75	6	P	Pn	03 55 36.3	-0.5
ERZM	Erzurum	1.86	312	i P	Pb	03 55 39.3	-0.9
ERZM				i S	Sg	03 56 06.8	+1.5
ERZM	Erzurum	1.86	312	P	Pb	03 55 39

ISC 27 04:02:29.9±1.2, 38°.71N±0°.03×43°.66E±0°.06, h13km, n23, σ0°56/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**241**	*e*PG	**Pb**	**04 02 36.3**	**+0.1**
VANB				*e*SG	**Sb**	**04 02 40.4**	**0.0**
VANB	**Van**	**0.24**	**241**	*e*Pg	**Pb**	**04 02 36.3**	**+0.1**
VANB				*e*Sg	**Sb**	**04 02 40.4**	**0.0**
VMUR	**Van-Muradiye**	**0.28**	**346**	*i* P	**Pb**	**04 02 36.7**	**-0.3**
VMUR				*i* S	**Sb**	**04 02 42.5**	**+0.7**
VMUR	**Van-Muradiye**	**0.28**	**346**	P	**Pb**	**04 02 36.7**	**-0.3**
VMUR				S	**Sb**	**04 02 42.5**	**+0.7**
GEVA	**Gevas**	**0.62**	**230**	*i* P	**Pg**	**04 02 42.0**	**0.0**
GEVA	**Gevas**	**0.62**	**230**	P	**Pg**	**04 02 42.0**	**0.0**
DYDN	**Diyadin**	**0.83**	**2**	*i* P	**Pn**	**04 02 47.0**	**-0.5**
DYDN	**Diyadin**	**0.83**	**2**	P	**Pn**	**04 02 47.0**	**-0.5**
TUTA	**Tutak**	**0.95**	**317**	*i* P	**Pg**	**04 02 47.3**	**-1.0**
TUTA	**Tutak**	**0.95**	**317**	P	**Pg**	**04 02 47.3**	**-1.0**
EKAR	**Karacoban**	**1.36**	**294**	*i* P	**Pn**	**04 02 55.1**	**+0.3**
EKAR	**Karacoban**	**1.36**	**294**	P	**Pn**	**04 02 55.1**	**+0.3**
EATA	**Eleskirt**	**1.46**	**322**	*i* P	**Pb**	**04 02 57.9**	**+0.7**
EATA	**Eleskirt**	**1.46**	**322**	P	**Pb**	**04 02 57.9**	**+0.7**
CUKT	**Cukurca**	**1.46**	**182**	*e*PN	**Pg**	**04 02 58.0**	**0.0**
CUKT	**Cukurca**	**1.46**	**182**	*e*Pn	**Pg**	**04 02 58.0**	**0.0**
VRTB	**Varto-Mus**	**1.77**	**285**	*e*PN	**Pb**	**04 03 02.3**	**-0.1**
VRTB				*e*SN	**Sn**	**04 03 22.6**	**-0.3**
VRTB	**Varto-Mus**	**1.77**	**285**	*e*Pn	**Pb**	**04 03 02.3**	**-0.1**
VRTB				*e*Sn	**Sn**	**04 03 22.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.01**	**255**	*e*PN	**Pn**	**04 03 03.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.01**	**255**	*e*Pn	**Pn**	**04 03 03.3**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.10**	**332**	*e*PN	**Pg**	**04 03 11.2**	**+0.9**
BNGB	**Bing¶‖**	**2.34**	**278**	*e*PN	**Pn**	**04 03 09.2**	**+1.0**
BINT	**Bingol**	**2.48**	**275**	*e*Pn	**Pn**	**04 03 09.2**	**-0.9**

*DDA **27** 04:07:30.6, 38°.55N×43°.61E, h7km, Ml2.8*
*CSEM **27** 04:07:32.8±0.5, 38°.59N×43°.47E, h2km, ML2.5, Error ellipse: s-maj=13.1km s-min=7.8km az=94.0*
*ISK **27** 04:07:33.2, 38°.53N×43°.40E, h2km, ML2.5*
ISC 27 04:07:31.9±1.3, 38°.64N±0°.03×43°.49E±0°.04, h2km±15km, n26, σ0°86/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**240**	*e*PG	**Pg**	**04 07 33.9**	**+0.2**
VANB				*e*SG	**Sg**	**04 07 34.5**	**-0.3**
VANB	**Van**	**0.09**	**240**	*e*Pg	**Pg**	**04 07 33.9**	**+0.2**
VANB				*e*Sg	**Sg**	**04 07 34.5**	**-0.3**
VMUR	**Van-Muradiye**	**0.36**	**11**	*i* P	**Pb**	**04 07 40.3**	**-0.8**
VMUR	**Van-Muradiye**	**0.36**	**11**	P	**Pb**	**04 07 40.3**	**-0.8**
GEVA	**Gevas**	**0.47**	**226**	*i* P	**Pg**	**04 07 40.4**	**-0.5**
GEVA	**Gevas**	**0.47**	**226**	P	**Pg**	**04 07 40.4**	**-0.5**
TUTA	**Tutak**	**0.93**	**326**	*i* P	**Pg**	**04 07 49.7**	**+0.1**
TUTA	**Tutak**	**0.93**	**326**	P	**Pg**	**04 07 49.7**	**+0.1**
EKAR	**Karacoban**	**1.27**	**299**	*i* P	**Pg**	**04 07 58.0**	**+1.8**
EKAR	**Karacoban**	**1.27**	**299**	P	**Pg**	**04 07 58.0**	**+1.8**
CUKT	**Cukurca**	**1.39**	**176**	*e*PN	**Pg**	**04 07 58.8**	**+0.2**
CUKT				*e*SN	**Sg**	**04 08 17.5**	**+0.9**
CUKT	**Cukurca**	**1.39**	**176**	*e*Pn	**Pg**	**04 07 58.8**	**+0.2**
CUKT				*e*Sn	**Sg**	**04 08 17.5**	**+0.9**
EATA	**Eleskirt**	**1.45**	**328**	*i* P	**Pg**	**04 07 59.8**	**+0.2**
EATA	**Eleskirt**	**1.45**	**328**	P	**Pg**	**04 07 59.8**	**+0.2**
VRTB	**Varto-Mus**	**1.67**	**289**	*e*PN	**Pg**	**04 08 04.0**	**+0.1**
VRTB				*e*SN	**Sg**	**04 08 26.3**	**+0.8**
VRTB	**Varto-Mus**	**1.67**	**289**	*e*Pn	**Pg**	**04 08 04.0**	**+0.1**
VRTB				*e*Sn	**Sg**	**04 08 26.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.86**	**256**	*e*PN	**Pb**	**04 08 05.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.86**	**256**	*e*Pn	**Pb**	**04 08 05.8**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.11**	**336**	*e*PN	**Pg**	**04 08 11.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.11**	**336**	*e*Pn	**Pg**	**04 08 12.0**	**-0.4**
BNGB	**Bing¶‖**	**2.22**	**280**	*e*PN	**Pb**	**04 08 11.6**	**-1.2**
BINT	**Bingol**	**2.36**	**277**	*e*Pn	**Pn**	**04 08 11.6**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.43**	**290**	*e*PN	**Pb**	**04 08 15.0**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.43**	**290**	*e*Pn	**Pb**	**04 08 15.0**	**-1.4**
MAZI	**Mazidag**	**2.67**	**245**	*e*PN	**Pn**	**04 08 17.1**	**+1.0**
MAZI	**Mazidag**	**2.67**	**245**	*e*Pn	**Pn**	**04 08 17.1**	**+1.0**

*DDA **27** 04:11:11.7, 38°.63N×43°.11E, h7km, Ml2.9*
*CSEM **27** 04:11:14.7±0.4, 38°.64N×43°.43E, h5km, MD2.5, Error ellipse: s-maj=13.6km s-min=8.5km az=102.0*
*ISK **27** 04:11:14.0, 38°.60N×43°.42E, h5km, MD2.5*
ISC 27 04:11:12.1±0.9, 38°.70N±0°.05×43°.41E±0°.05, h15km±6km, n19, σ1°27/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**187**	*e*PG	**Pg**	**04 11 16.0**	**+0.5**
VANB				*e*SG	**Sg**	**04 11 17.9**	**+0.1**
VANB	**Van**	**0.10**	**187**	*e*Pg	**Pg**	**04 11 16.0**	**+0.5**
VANB				*e*Sg	**Sg**	**04 11 17.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.32**	**24**	*i* P	**Pn**	**04 11 21.4**	**-1.0**
VMUR				*i* S	**Sn**	**04 11 29.3**	**+0.5**
VMUR	**Van-Muradiye**	**0.32**	**24**	P	**Pn**	**04 11 21.4**	**-1.0**
VMUR				S	**Sn**	**04 11 29.3**	**+0.5**
GEVA	**Gevas**	**0.47**	**215**	*i* P	**Pg**	**04 11 18.4**	**-3.1**
TUTA	**Tutak**	**0.84**	**327**	*i* P	**Pb**	**04 11 27.1**	**-1.4**
TUTA	**Tutak**	**0.84**	**327**	P	**Pb**	**04 11 27.1**	**-1.4**
EKAR	**Karacoban**	**1.19**	**298**	*i* P	**Pg**	**04 11 35.5**	**+0.5**
EKAR	**Karacoban**	**1.19**	**298**	P	**Pg**	**04 11 35.5**	**+0.5**
EATA	**Eleskirt**	**1.36**	**329**	*i* P	**Pn**	**04 11 36.8**	**-0.1**
EATA	**Eleskirt**	**1.36**	**329**	P	**Pn**	**04 11 36.8**	**-0.1**
CUKT	**Cukurca**	**1.46**	**174**	*e*PN	**Pg**	**04 11 41.0**	**+0.9**
CUKT				*e*SN	**Sg**	**04 12 00.9**	**+1.8**
CUKT	**Cukurca**	**1.46**	**174**	*e*Pn	**Pg**	**04 11 41.0**	**+0.9**
CUKT				*e*Sn	**Sg**	**04 12 00.9**	**+1.8**
VRTB	**Varto-Mus**	**1.59**	**287**	*e*PN	**Pg**	**04 11 44.5**	**+1.9**
VRTB	**Varto-Mus**	**1.59**	**287**	*e*Pn	**Pg**	**04 11 44.5**	**+1.9**
SVAN	**Silvan-Diyarba**	**1.82**	**253**	*e*PN	**Pg**	**04 11 47.7**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.82**	**253**	*e*Pn	**Pg**	**04 11 47.7**	**+0.7**
BNGB	**Bing¶‖**	**2.15**	**279**	*e*PN	**Pg**	**04 11 52.8**	**-0.5**
BINT	**Bingol**	**2.29**	**275**	*e*Pn	**Pb**	**04 11 52.8**	**-0.3**

*ISCJB **27** 04:15:33.9±1.0, 43°.57N±0°.06×145°.75E±0°.06, h84km±8km, Error ellipse: s-maj=11.2km s-min=5.6km az=151.6*
*JMA **27** 04:15:34.7±0.1, 43°.55N×145°.73E, h81km±2km, M3.1*
JMA Felt I J1.
*SKHL **27** 04:15:35.1±0.3, 43°.59N×145°.76E, h87km±1km, mb5.1/2, msh5.7/2*
ISC 27 04:15:34.5±1.7, 43°.55N±0°.07×145°.76E±0°.05, h81km±11km, n11, σ0°50/21, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.18**	**184**	P	**Pn**	**04 15 46.5**	**+0.1**
NEM2				*e*S	**Sn**	**04 15 55.3**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.49**	**9**	*i* P	**Pn**	**04 15 48.5**	**+0.2**
YUK				AMB	AMB	04 15 48.7	
	4μm,0.2s						
YUK				*i* S	**Sn**	**04 15 58.8**	**+0.2**
YUK				A	A	04 15 59.3	
	880nm,0.3s						
YUK				A	A	04 15 59.3	
	3μm,0.3s						
JRA	**Rausu**	**0.60**	**310**	P	**Pn**	**04 15 49.4**	**+0.1**
JRA				*e*S	**Sn**	**04 16 00.6**	**+0.3**
JNK	**Nakash**	**0.76**	**273**	P	**Pn**	**04 15 50.5**	**-0.4**
JNK				*e*S	**Sn**	**04 16 01.9**	**-1.2**
SHO	**Shikotan**	**0.84**	**67**	*i* P	**Pn**	**04 15 52.2**	**+0.4**
SHO				AMB	AMB	04 15 53.4	
	78nm,0.2s						
SHO				*i* S	**Sn**	**04 16 04.8**	**+0.1**
SHO				A	A	04 16 05.3	
	760nm,0.4s						
SHO				A	A	04 16 05.3	
	1μm,0.4s						
JAK	**Akkeshi**	**0.95**	**235**	P	**Pn**	**04 15 52.9**	**-0.2**
JAK				*e*S	**Sn**	**04 16 06.5**	**-0.4**
JTKR	**Abashiri--Toko**	**1.41**	**288**	P	**Pn**	**04 15 58.7**	**0.0**
JTKR				*e*S	**Sn**	**04 16 16.5**	**-0.4**
JAR	**Ashorobuto**	**1.47**	**261**	P	**Pn**	**04 15 59.9**	**+0.4**
JAR				*e*S	**Sn**	**04 16 18.7**	**+0.3**
JOB	**Onbets**	**1.55**	**246**	P	**Pn**	**04 16 00.7**	**+0.2**
JOB				*e*S	**Sn**	**04 16 20.3**	**+0.2**
KUR	**Kuril'sk**	**2.26**	**41**	*e*P	**Pn**	**04 16 09.8**	**-0.1**
KUR				*e*S	**Sn**	**04 16 35.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**4.01**	**329**	*e*P	**Pn**	**04 16 34.2**	**+0.6**

IDC 27 04:23:45.0±15.0, 28°.01N×139°.50E, h538km±205km, mb2.8/7, mb1 2.9/7, mb1mx2.7/42, mbtmp3.7/7, Error ellipse: s-maj=41.8km s-min=21.1km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**47.76**	**198**	P	P	04 31 33.5	-0.1
	0.4nm,0.5s,baz=7.1,slow=8.1,SNR=1.1						
WRA	**Warramunga Arr**	**47.93**	**187**	P	P	04 31 34.3	-0.5
	0.3nm,0.3s,baz=2.6,slow=7.9,SNR=1.8						
MKAR	**Makanchi Array**	**48.06**	**309**	P	P	04 31 35.4	-0.2
	0.3nm,0.5s,baz=90,slow=7.2,SNR=1.8						
ASAR	**Alice Springs**	**51.65**	**187**	P	P	04 32 02.3	+0.1
	0.3nm,0.5s,baz=0.4,slow=6.2,SNR=2.4						
BVAR	**Borovoye Array**	**55.76**	**317**	P	P	04 32 30.9	+0.1
	1.5nm,0.4s,baz=96,slow=7.4,SNR=6.7						
ILAR	**Eielson Array**	**58.07**	**29**	P	P	04 32 46.1	-0.3
	0.3nm,0.6s,baz=280,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**76.07**	**333**	P	P	04 34 36.9	-0.1
	0.6nm,0.3s,baz=77,slow=6.1,SNR=2.2						

*IDC **27** 04:30:27.9±1.7, 4°.99S×146°.12E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, ML2.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=50.5km s-min=28.7km az=113.0*
*ISCJB **27** 04:30:31.0±1.4, 5°.2S±0°.1×146°.2E±0°.2, h27km, mb3.4/4, MS2.9/1, Error ellipse: s-maj=25.1km s-min=13.2km az=162.9*
ISC 27 04:30:32.2±1.3, 5°.2S±0°.1×146°.2E±0°.2, h27km, n8, σ1°40/9, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**167**	Pn	**Pn**	**04 31 38.8**	**+2.4**
	4.3nm,0.3s,baz=341,slow=11,SNR=2.9						
PMG				Sn	**Sn**	**04 32 24.6**	**-1.5**
	3.6nm,0.3s,baz=314,slow=18,SNR=2.0						
PMG				LR	LR	04 33 40.0	
	comp=Z,97nm,18.3s,baz=119,slow=43						
CTA	**Charters Tower**	**14.85**	**180**	Pn	**P**	**04 34 04.3**	**-1.7**
	0.6nm,0.3s,baz=344,slow=15,SNR=2.0						
WRA	**Warramunga Arr**	**18.68**	**217**	P	**P**	**04 34 48.0**	**-0.4**
	0.1nm,0.3s,baz=43,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**21.88**	**212**	P	**P**	**04 35 23.4**	**+0.2**
	0.3nm,0.5s,baz=35,slow=7.8,SNR=3.4						
ASAR				LR	LR	04 43 44.5	
	comp=Z,48nm,19.3s,baz=52,slow=36						
FITZ	**Fitzroy Crossi**	**23.84**	**236**	P	**P**	**04 35 43.8**	**+0.5**
	1.6nm,0.4s,baz=58,slow=7.9,SNR=6.2						
STKA	**Stephens Creek**	**26.93**	**189**	P	**P**	**04 36 11.7**	**+0.4**
	1.1nm,0.6s,baz=12,slow=14,SNR=1.9						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**04 43 04.7**	**-0.4**
	0.2nm,0.7s,baz=264,slow=6.0,SNR=1.7						
TORD	**Torodi Ar. Bea**	**144.08**	**285**	PKP	**PKPdf**	**04 50 06.4**	**-0.1**
	0.5nm,1.0s,baz=81,slow=4.5,SNR=1.8						

*DDA **27** 04:38:58.8, 38°.62N×43°.19E, h16km, Ml3.0*
*ISK **27** 04:38:58.1, 38°.68N×43°.34E, h9km, ML2.8*
*CSEM **27** 04:38:58.7±0.2, 38°.65N×43°.22E, h2km, ML2.8, Error ellipse: s-maj=5.1km s-min=4.2km az=85.0*
*ISCJB **27** 04:38:59.1±0.6, 38°.63N±0°.03×43°.37E±0°.07, h17km±5km, Error ellipse: s-maj=9.7km s-min=5.0km az=11.1*
ISC 27 04:38:58.9±0.9, 38°.64N±0°.02×43°.20E±0°.03, h12km±8km, n41, σ1°28/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**105**	*e*PG	**Pg**	**04 39 02.4**	**-0.2**
VANB				*e*SG	**Sg**	**04 39 05.5**	**+0.4**
VANB	**Van**	**0.15**	**105**	*e*Pg	**Pg**	**04 39 02.4**	**-0.2**
VANB				*e*Sg	**Sg**	**04 39 05.6**	**+0.4**
GEVA	**Gevas**	**0.34**	**199**	*i* P	**Pg**	**04 39 04.5**	**-1.4**
GEVA				*i* S	**Sb**	**04 39 11.4**	**-1.1**
GEVA	**Gevas**	**0.34**	**199**	P	**Pg**	**04 39 04.5**	**-1.4**
GEVA				S	**Sb**	**04 39 11.4**	**-1.1**
VMUR	**Van-Muradiye**	**0.46**	**39**	*i* P	**Pg**	**04 39 08.1**	**+0.1**
VMUR				*i* S	**Sb**	**04 39 16.6**	**+0.6**
VMUR	**Van-Muradiye**	**0.46**	**39**	P	**Pg**	**04 39 08.1**	**+0.1**
VMUR				S	**Sb**	**04 39 16.6**	**+0.6**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*PG	**Pb**	**04 39 16.4**	**-1.2**
AGRB				*e*SG	**Sb**	**04 39 29.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*Pg	**Pb**	**04 39 16.4**	**-1.2**
AGRB				*e*Sg	**Sb**	**04 39 29.8**	**-0.4**
EKAR	**Karacoban**	**1.08**	**305**	*i* P	**Pg**	**04 39 20.3**	**+0.5**
EKAR				*i* S	Sn	04 39 43.9	+8.6
EKAR	**Karacoban**	**1.08**	**305**	P	**Pg**	**04 39 20.3**	**+0.5**
SIRN	**S¨–rnak**	**1.29**	**209**	*i* P	**Pg**	**04 39 23.4**	**-0.4**
SIRN				*i* S	**Sg**	**04 39 44.9**	**+4.3**
SIRN	**S¨–rnak**	**1.29**	**209**	P	**Pg**	**04 39 23.4**	**-0.4**
SIRN				S	**Sg**	**04 39 44.9**	**+4.3**
EATA	**Eleskirt**	**1.34**	**336**	*i* P	**Pn**	**04 39 23.6**	**-0.2**
EATA				*i* S	**Sg**	**04 39 42.9**	**+0.6**
EATA	**Eleskirt**	**1.34**	**336**	P	**Pn**	**04 39 23.6**	**-0.2**
EATA				S	**Sg**	**04 39 42.9**	**+0.6**
CUKT	**Cukurca**	**1.42**	**167**	*e*PN	**Pb**	**04 39 25.1**	**-0.4**
CUKT	**Cukurca**	**1.42**	**167**	*i* P	**Pg**	**04 39 25.4**	**-0.8**
CUKT				*i* S	Sg	04 39 54.1	+9.4
CUKT	**Cukurca**	**1.42**	**167**	*e*Pn	**Pb**	**04 39 25.1**	**-0.4**
CUKT	**Cukurca**	**1.42**	**167**	P	**Pg**	**04 39 25.4**	**-0.8**
VRTB	**Varto-Mus**	**1.46**	**292**	*e*PN	**Pg**	**04 39 26.4**	**-0.6**
VRTB	**Varto-Mus**	**1.46**	**292**	*e*Pn	**Pg**	**04 39 26.4**	**-0.6**
BNGL	**BINGOL**	**1.63**	**282**	*i* P	**Pb**	**04 39 28.5**	**-0.6**
BNGL				*i* S	**Sg**	**04 39 53.2**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*e*PN	**Pg**	**04 39 29.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*i* P	**Pb**	**04 39 28.5**	**-0.7**
SVAN				*i* S	**Sg**	**04 39 52.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	P	**Pb**	**04 39 28.5**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*e*Pn	**Pg**	**04 39 29.7**	**-0.8**
SVAN				S	**Sg**	**04 39 52.5**	**+0.7**
BTMN	**Batman**	**1.69**	**245**	*i* P	**Pb**	**04 39 29.2**	**-0.8**
BTMN				*i* S	**Sg**	**04 39 54.1**	**+0.8**
BTMN	**Batman**	**1.69**	**245**	P	**Pb**	**04 39 29.2**	**-0.8**
BTMN				S	**Sg**	**04 39 54.1**	**+0.8**
BNGB	**Bing¶‖**	**2.00**	**281**	*e*PN	**Pb**	**04 39 34.4**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.03**	**341**	*e*PN	**Pn**	**04 39 33.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.03**	**341**	*e*Pn	**Pn**	**04 39 33.4**	**+0.2**
BINT	**Bingol**	**2.13**	**277**	*e*Pn	**Pn**	**04 39 34.4**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.22**	**292**	*e*PN	**Pb**	**04 39 37.3**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.22**	**292**	*e*Pn	**Pb**	**04 39 37.3**	**-1.8**
MARD	**Mardin**	**2.32**	**236**	*i* P	**Pn**	**04 39 36.6**	**-0.5**
MARD				*i* S	**Sb**	**04 40 10.1**	**+0.5**
MAZI	**Mazidag**	**2.47**	**242**	*e*PN	**Pb**	**04 39 41.3**	**-2.0**
MAZI	**Mazidag**	**2.47**	**242**	*e*Pn	**Pb**	**04 39 41.3**	**-2.0**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*PN	**Pn**	**04 39 43.3**	**-0.2**
AKH	**Akhalkalaki**	**2.78**	**5**	*e*Pn	**Pn**	**04 39 43.3**	**-0.2**
ERZN	**Erzincan**	**2.87**	**290**	*e*PN	**Pn**	**04 39 46.6**	**+2.0**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*PN	**Pn**	**04 39 49.7**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.07**	**266**	*e*Pn	**Pn**	**04 39 49.7**	**+2.3**

*ISCJB **27** 04:42:18.9±0.2, 38°.28N±0°.03×74°.06E±0°.04, h124km, mb4.3/18, Error ellipse: s-maj=4.4km s-min=3.5km az=165.3*
*IDC **27** 04:42:18.4±3.1, 38°.13N×73°.94E, h103km±27km, mb3.8/10, mb1 3.9/16, mb1mx3.5/81, mbtmp4.2/16, Error ellipse: s-maj=21.8km s-min=16.5km az=17.0*
*NEIC **27** 04:42:21.1±0.8, 38°.30N×74°.01E, h128km±7km, mb4.5/12, Error ellipse: s-maj=6.9km s-min=6.5km az=163.0*
*BJI **27** 04:42:22.8, 38°.36N×74°.11E, h149km, mb4.2/1*
*NNC **27** 04:42:23.3±4.4, 38°.54N×73°.76E, h143km±59km, mb3.8, mpv4.4, Error ellipse: s-maj=43.4km s-min=20.7km az=150.0*
ISC 27 04:42:20.5±0.5, 38°.35N±0°.04×74°.01E±0°.05, h124km, n73, σ2°40/86, mb4.3/18, 7C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.92**	**52**	P	**Pn**	**04 42 51.3**	**-2.0**
KSH				S	**Sn**	**04 43 10.8**	**-7.5**
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.6s						
DZET	**Dzherino**	**4.09**	**278**	⇑P	**Pn**	**04 43 20.9**	**-0.5**
	38nm,0.4s						
DZET				⇑S	**Sn**	**04 44 08.0**	**-0.6**
	150nm,0.3s						
MNAS	**Manas**	**4.29**	**345**	⇑P	**Pn**	**04 43 25.8**	**+1.8**
	61nm,0.4s						
MNAS				⇑S	**Sn**	**04 44 12.6**	**-0.7**
	455nm,0.6s						
AAK	**Ala-Archa**	**4.29**	**5**	P	**Pn**	**04 43 26.6**	**+2.5**
	5.6nm,0.3s,baz=144,slow=7.0,SNR=43						
AAK				S	**Sn**	**04 44 16.7**	**+3.2**
	14nm,0.3s,baz=313,slow=12,SNR=12						
AAK	**Ala-Archa**	**4.29**	**5**	*e*Pn	**Pn**	**04 43 26.7**	**+2.5**
AAK				*e*Sn	Sn	04 44 04.5	-9.0
AAK				S	**Sn**	**04 44 16.7**	**+3.2**
CHCP	**Chirah Chowk**	**4.72**	**188**	P	**Pn**	**04 43 32.7**	**+2.8**
CEP	**Cherat**	**4.83**	**201**	P	**Pn**	**04 43 33.3**	**+1.9**
CEP				S	**Sn**	**04 44 27.0**	**+0.5**
KK31	**Karatay Array**	**5.44**	**332**	⇑P	**Pn**	**04 43 40.4**	**+1.0**
	18nm,0.3s,baz=156,slow=13						
KK31				⇓S	**Sn**	**04 44 38.1**	**-2.8**
	54nm,0.4s,baz=157,slow=23,SNR=4.3						
KKAR	**Karatay Array**	**5.44**	**332**	*e*Pn	**Pn**	**04 43 40.6**	**+1.2**
KKAR				*e*Sn	**Sn**	**04 44 38.1**	**-2.8**
KBL	**Kabul**	**5.53**	**228**	*e*Pn	**Pn**	**04 43 42.2**	**+1.5**
KBL				*e*Sn	**Sn**	**04 44 42.7**	**-0.6**
THW	**Thamme Wali**	**5.85**	**199**	⇓P	**Pn**	**04 43 47.9**	**+3.0**
PDGK	**Podgornoye**	**6.47**	**38**	⇓P	**Pn**	**04 43 54.2**	**+0.8**
	9.9nm,0.6s						
PDGK				⇓S	**Sn**	**04 45 05.6**	**-0.4**
	14nm,0.8s						
MAKZ	**Makanchi**	**10.28**	**32**	*e*Pn	**Pn**	**04 44 45.5**	**+0.9**
MK31	**Makanchi Array**	**10.40**	**33**	*e*Pn	**Pn**	**04 44 47.9**	**+1.6**
MK32	**Makanchi Array**	**10.40**	**33**	*e*Pn	**Pn**	**04 44 47.5**	**+1.2**
MKAR	**Makanchi Array**	**10.40**	**33**	P	**Pn**	**04 44 47.5**	**+1.2**
	0.3nm,0.3s,baz=204,slow=14,SNR=30						
MKAR	**Makanchi Array**	**10.40**	**33**	*e*Pn	**Pn**	**04 44 47.9**	**+1.6**
WMQ	**Urumqi**	**11.68**	**58**	*e*P	**Pn**	**04 45 06.0**	**+2.8**
GEYT	**Alibeck**	**12.53**	**273**	P	**Pn**	**04 45 11.0**	**-3.4**
	1.0nm,0.3s,baz=101,slow=7.8,SNR=16						
GEYT				S	Sn	04 47 23.7	-8.7
	1.9nm,0.3s,baz=104,slow=15,SNR=3.6						
KURBB	**Kurchatov Arra**	**12.68**	**13**	P	**Pn**	**04 45 15.3**	**-0.9**
	0.2nm,0.3s,baz=201,slow=12,SNR=18						
KURBB	**Kurchatov Arra**	**12.68**	**13**	⇓P	**P**	**04 45 23.5**	**+0.9**
	22nm,0.8s						
PYUN	**Piuthan**	**12.68**	**141**	*e*P	**Pn**	**04 45 13.6**	**-3.0**
	68nm,0.4s						
KURK	**Kurchatov**	**12.79**	**13**	*e*Pn	**Pn**	**04 45 16.7**	**-0.9**
DANN	**Dangsing**	**12.87**	**138**	*e*P	**Pn**	**04 45 17.0**	**-2.2**
KOLN	**Koldanda**	**13.26**	**140**	*e*P	**Pn**	**04 45 21.4**	**-2.7**
	17nm,0.4s						
GKN	**Gorkha**	**13.62**	**136**	*e*P	**Pn**	**04 45 25.8**	**-2.9**
	26nm,0.5s						
KKN	**Kakani**	**14.13**	**135**	*e*P	**Pn**	**04 45 32.8**	**-2.6**
	22nm,0.5s						
DMN	**Daman**	**14.18**	**136**	*e*P	**Pn**	**04 45 33.4**	**-2.6**
	15nm,0.4s						
PKIN	**Phulchoki**	**14.37**	**135**	*e*P	**Pn**	**04 45 35.8**	**-2.6**
	11nm,0.4s						
PKI	**Pulchoki**	**14.38**	**135**	*e*P	**Pn**	**04 45 35.6**	**-3.0**
	14nm,0.5s						
GUN	**Gumba**	**14.38**	**133**	*e*P	**Pn**	**04 45 35.9**	**-2.8**
	14nm,0.5s						
JIRN	**Jiri**	**14.75**	**133**	*e*P	**Pn**	**04 45 41.3**	**-2.1**
	34nm,0.4s						
AB31	**Akbulak array**	**14.87**	**322**	⇑P	**Pn**	**04 45 42.7**	**-1.6**
	6.3nm,0.6s,baz=128,slow=13,SNR=101						
AB31				⇓S	Sn	04 48 17.1	-12
	4.7nm,0.6s,baz=134,slow=24,SNR=7.1						
**

AGRB			*e*SN	Sn	04 48 27.7	-0.3
AGRB	**Hanur-Agry**	**1.18 340**	*e*Pn	Pn	04 48 11.8	+0.2
AGRB			*e*Sn	Sn	04 48 27.7	-0.4
CUKT	**Cukurca**	**1.22 176**	*e*PN	Pn	04 48 12.6	+0.5
CUKT			*e*SN	Sn	04 48 28.8	0.0
CUKT	**Cukurca**	**1.22 176**	*i* P	Sg	04 48 26.0	-1.6
CUKT	**Cukurca**	**1.22 176**	P	Sg	04 48 26.0	-1.6
CUKT	**Cukurca**	**1.22 176**	*e*Pn	Pn	04 48 12.6	+0.5
CUKT			*e*Sn	Sn	04 48 28.8	0.0
EKAR	**Karacoban**	**1.37 306**	*i* P	Pg	04 48 20.3	+5.4
EKAR	**Karacoban**	**1.37 306**	P	Pg	04 48 20.3	+5.4
EATA	**Eleskirt**	**1.60 331**	*i* P	Pn	04 48 11.4	-6.2
VRTB	**Varto-Mus**	**1.74 294**	*e*PN	Pn	04 48 19.7	+0.3
VRTB	**Varto-Mus**	**1.74 294**	*e*Pn	Pn	04 48 19.7	+0.4
SVAN	**Silvan-Diyarba**	**1.84 261**	*e*PN	Pb	04 48 21.6	-0.9
SVAN	**Silvan-Diyarba**	**1.84 261**	*e*Pn	Pb	04 48 21.6	-0.9
BTMN	**Batman**	**1.85 253**	*i* P	Pg	04 48 32.5	+8.6
BTMN			*i* S	Sg	04 48 57.0	+9.0
BTMN	**Batman**	**1.85 253**	P	Pg	04 48 32.5	+8.5
BTMN			S	Sg	04 48 57.0	+9.1
BNGL	**BINGOL**	**1.90 286**	*i* P	Pg	04 48 29.2	+4.2
BNGB	**Bing¶ll**	**2.27 284**	*e*PN	Pn	04 48 27.2	+0.6
BINT	**Bingol**	**2.39 281**	*e*Pn	Pn	04 48 27.2	-1.1

AZER ***27*** *05:50:59.1±1.1,38°.27N×43°.28E,h8km, Error ellipse: s-maj=12.1km s-min=8.5km az=113.0*
ISK ***27*** *05:51:01.6,38°.74N×43°.57E,h5km,ML3.4*
DDA ***27*** *05:51:02.3,38°.72N×43°.53E,h15km,Ml3.7*
CSEM ***27*** *05:51:03.2±0.2,38°.71N×43°.52E,h2km,ML3.4, Error ellipse: s-maj=5.6km s-min=4.9km az=126.0*

ISC 27 04:51:03.8±0.8,**38°.72N**±0°.02×**43°.52E**±0°.02,**h15**km±6km,
n65,σ1§51/96,**8C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**219**	PG	**Pg**	**04 51 07.1**	**-0.9**
VANB				*e*SG	**Sb**	**04 51 12.8**	**+1.0**
VANB	**Van**	**0.16**	**219**	*i* Pg	**Pg**	**04 51 07.1**	**-0.9**
VMUR	**Van-Muradiye**	**0.27**	**8**	*i* P	**Pg**	**04 51 08.0**	**-1.7**
VMUR				*i* S	**Sg**	**04 51 13.9**	**+0.2**
VMUR	**Van-Muradiye**	**0.27**	**8**	P	**Pg**	**04 51 08.0**	**-1.7**
VMUR				S	**Sg**	**04 51 13.9**	**+0.2**
GEVA	**Gevas**	**0.55**	**222**	*i* P	**Pg**	**04 51 12.2**	**-2.4**
GEVA				*i* S	**Sg**	**04 51 21.7**	**-0.2**
GEVA	**Gevas**	**0.55**	**222**	P	**Pg**	**04 51 12.2**	**-2.4**
GEVA				S	**Sg**	**04 51 21.7**	**-0.2**
BASK	**Baskale_VAN**	**0.77**	**150**	*i* P	**Pg**	**04 51 16.5**	**-2.3**
BASK				*i* S	**Sg**	**04 51 28.1**	**-0.9**
BASK	**Baskale_VAN**	**0.77**	**150**	P	**Pg**	**04 51 16.5**	**-2.3**
DYDN	**Diyadin**	**0.83**	**9**	*i* P	**Pg**	**04 51 18.1**	**-1.9**
DYDN				*i* S	**Sg**	**04 51 30.9**	**0.0**
DYDN	**Diyadin**	**0.83**	**9**	P	**Pg**	**04 51 18.1**	**-1.9**
DYDN				S	**Sg**	**04 51 30.9**	**0.0**
TUTA	**Tutak**	**0.88**	**321**	*i* P	**Pg**	**04 51 18.4**	**-2.4**
TUTA				*i* S	**Sg**	**04 51 31.7**	**-0.6**
TUTA	**Tutak**	**0.88**	**321**	P	**Pg**	**04 51 18.4**	**-2.4**
TUTA				S	**Sg**	**04 51 31.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*PG	**Pb**	**04 51 20.9**	**-1.1**
AGRB				*e*SG	**Sb**	**04 51 34.9**	**+0.4**
AGRB	**Hanur-Agry**	**0.95**	**334**	*e*Pg	**Pb**	**04 51 21.0**	**-1.1**
AGRB				*e*Sg	**Sb**	**04 51 34.9**	**+0.4**
EKAR	**Karacoban**	**1.25**	**296**	*i* P	**Pn**	**04 51 26.9**	**-0.1**
EKAR				*i* S	**Sg**	**04 51 46.3**	**+1.9**
EKAR	**Karacoban**	**1.25**	**296**	P	**Pn**	**04 51 26.9**	**-0.1**
EKAR				S	**Sg**	**04 51 46.3**	**+1.9**
EATA	**Eleskirt**	**1.39**	**325**	*i* P	**Pn**	**04 51 28.3**	**-0.7**
EATA				*i* S	**Sg**	**04 51 48.7**	**0.0**
EATA	**Eleskirt**	**1.39**	**325**	P	**Pn**	**04 51 28.3**	**-0.7**
EATA				S	**Sg**	**04 51 48.7**	**0.0**
CUKT	**Cukurca**	**1.47**	**177**	*e*PN	**Pb**	**04 51 30.9**	**-0.1**
CUKT	**Cukurca**	**1.47**	**177**	*i* P	**Pg**	**04 51 31.2**	**-0.9**
CUKT	**Cukurca**	**1.47**	**177**	*e*Pn	**Pb**	**04 51 30.9**	**-0.1**
CUKT	**Cukurca**	**1.47**	**177**	P	**Pg**	**04 51 31.2**	**-0.9**
SIRN	**S¨–rnak**	**1.50**	**216**	*i* P	**Pb**	**04 51 31.4**	**0.0**
SIRN				*i* S	**Sg**	**04 51 52.5**	**+0.2**
SIRN	**S¨–rnak**	**1.50**	**216**	P	**Pb**	**04 51 31.4**	**0.0**
SIRN				S	**Sg**	**04 51 52.5**	**+0.2**
NAX	**Nakhchivan**	**1.60**	**73**	⇑P	**Pb**	**04 51 32.6**	**-0.5**
NAX				⇑S	**Sg**	**04 51 58.1**	**+2.6**
NAX	**Nakhchivan**	**1.60**	**73**	P	**Pb**	**04 51 32.6**	**-0.5**
NAX				S	**Sg**	**04 51 58.1**	**+2.6**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*PN	**Pb**	**04 51 33.8**	**-0.5**
VRTB	**Varto-Mus**	**1.67**	**286**	*i* P	**Pb**	**04 51 33.6**	**-0.7**
VRTB				*i* S	**Sg**	**04 51 59.5**	**+2.0**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*Pn	**Pb**	**04 51 33.8**	**-0.5**
VRTB				S	**Sg**	**04 51 59.5**	**+2.0**
HOMI	**Horasan**	**1.82**	**317**	P	**Pb**	**04 51 36.0**	**-0.9**
BNGL	**BINGOL**	**1.87**	**278**	*i* P	**Pn**	**04 51 36.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*e*PN	**Pb**	**04 51 37.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*i* P	**Pb**	**04 51 37.3**	**-1.0**
SVAN				*i* S	**Sb**	**04 52 03.5**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	P	**Pb**	**04 51 37.3**	**-1.0**
SVAN				S	**Sb**	**04 52 03.5**	**+1.4**
BTMN	**Batman**	**1.96**	**246**	*i* P	**Pn**	**04 51 37.6**	**+1.1**
BTMN				*i* S	**Sb**	**04 52 03.3**	**-0.1**
BTMN	**Batman**	**1.96**	**246**	P	**Pn**	**04 51 37.6**	**+1.1**
BTMN				S	**Sb**	**04 52 03.3**	**-0.1**
ERZM	**Erzurum**	**2.05**	**306**	*i* P	**Pb**	**04 51 40.9**	**+0.1**
ERZM	**Erzurum**	**2.05**	**306**	P	**Pb**	**04 51 40.9**	**+0.1**
BNGB	**Bing¶ll**	**2.23**	**278**	*e*PN	**Pn**	**04 51 41.6**	**+1.2**
BINT	**Bingol**	**2.37**	**275**	*e*Pn	**Pn**	**04 51 41.6**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*PN	**Pb**	**04 51 45.1**	**-2.1**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*Pn	**Pb**	**04 51 45.1**	**-2.1**
BGD	**Bogdanovka**	**2.54**	**1**	P	**Pg**	**04 51 53.6**	**+1.1**
MARD	**Mardin**	**2.58**	**238**	*i* P	**Pn**	**04 51 45.5**	**+0.3**
GDB	**GEDABAY**	**2.64**	**40**	⇑P	**Pb**	**04 51 48.4**	**-2.4**
GDB				⇓S	**Sg**	**04 52 26.6**	**-1.9**
GDB	**GEDABAY**	**2.64**	**40**	P	**Pb**	**04 51 48.4**	**-2.4**
QZX	**Qazax, Azerbai**	**2.73**	**31**	⇓P	**Pn**	**04 51 49.7**	**+2.5**
QZX				⇓S	**Sg**	**04 52 29.1**	**-2.5**
QZX	**Qazax, Azerbai**	**2.73**	**31**	P	**Pn**	**04 51 49.7**	**+2.5**
GANJ	**Ganja**	**2.89**	**47**	⇓P	**Pn**	**04 51 51.9**	**+2.5**
GANJ				⇓S	**Sb**	**04 52 32.3**	**+2.0**
GANJ	**Ganja**	**2.89**	**47**	P	**Pn**	**04 51 51.9**	**+2.5**
GANJ				S	**Sb**	**04 52 32.3**	**+2.0**
DGRG	**David-gareji**	**3.07**	**27**	P	**Pb**	**04 51 58.2**	**0.0**
BRDA	**Brd**	**3.22**	**60**	⇑S	**Sb**	**04 52 39.1**	**-0.6**
BRDA	**Brd**	**3.22**	**60**	S	**Sb**	**04 52 39.1**	**-0.6**
PTK	**Pertek**	**3.23**	**274**	*e*PN	**Pn**	**04 51 56.2**	**+2.0**
PTK	**Pertek**	**3.23**	**274**	*e*Pn	**Pn**	**04 51 56.2**	**+2.0**
ZKTA	**Zakatala**	**3.76**	**38**	⇓P	**Pn**	**04 52 03.8**	**+2.6**
ZKTA				⇓S	**Sb**	**04 52 54.9**	**-0.3**
SEKA	**Sheki**	**3.76**	**48**	⇑P	**Pn**	**04 52 04.4**	**+3.1**
SEKA	**Sheki**	**3.76**	**48**	P	**Pn**	**04 52 04.4**	**+3.1**
LRK	**Lerik**	**3.77**	**90**	⇑P	**Pn**	**04 52 00.4**	**-1.1**
LRK	**Lerik**	**3.77**	**90**	P	**Pn**	**04 52 00.4**	**-1.1**
GLBA	**Clilabad**	**3.83**	**81**	⇑P	**Pn**	**04 52 02.4**	**+0.2**
GLBA	**Clilabad**	**3.83**	**81**	P	**Pn**	**04 52 02.4**	**+0.2**
ONI	**Oni**	**3.87**	**359**	P	**Pg**	**04 52 18.4**	**+0.6**
PQL	**Pirkuli**	**4.42**	**61**	⇑P	**Pn**	**04 52 12.2**	**+1.7**
PQL	**Pirkuli**	**4.42**	**61**	P	**Pn**	**04 52 12.2**	**+1.7**

IDC 27 04:51:42.2±2.3,**16°.43S**×**175°.26W**,**h321**km±32km,
mb3.3/5,**mb1 3.5/6,mb1mx3.1**/44,**mbtmp4.0**/6,**Error ellipse: s-maj=47.5km s-min=24.1km az=126.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.20**	**54**	P	Pn	04 52 51.8	0.0
	8.8nm,0.3s,baz=134,slow=3.7,SNR=3.3						
AFI				S	S	04 53 43.6	-4.1
	11nm,0.3s,baz=67,slow=22,SNR=2.7						
URZ	**Urewera**	**22.75**	**196**	P	P	04 56 17.4	0.0
	7.0nm,0.6s,baz=303,slow=1.8,SNR=3.6						
STKA	**Stephens Creek**	**41.97**	**240**	P	P	04 59 02.6	-0.3
	2.7nm,1.0s,baz=103,slow=5.4,SNR=3.5						
WRA	**Warramunga Arr**	**47.87**	**258**	P	P	04 59 49.0	-0.2
	0.3nm,0.5s,baz=90,slow=7.0,SNR=2.1						
ASAR	**Alice Springs**	**48.09**	**253**	P	P	04 59 50.8	-0.1
	1.8nm,0.5s,baz=88,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**83.81**	**12**	P	P	05 03 35.6	0.0
	0.5nm,0.4s,baz=218,slow=5.5,SNR=6.3						

AZER ***27*** *05:02:14.6±2.6,38°.31N×43°.22E,h8km, Error ellipse: s-maj=29.6km s-min=12.5km az=98.0*
DDA ***27*** *05:02:17.3,38°.72N×43°.47E,h7km,Ml3.3*

CSEM ***27*** *05:02:18.8±0.2,38°.75N×43°.48E,h2km,ML2.9,Error ellipse: s-maj=5.8km s-min=4.9km az=118.0*
ISK ***27*** *05:02:18.7,38°.72N×43°.43E,h4km,ML2.9*

ISC 27 05:02:18.9±0.8,**38°.78N**±0°.02×**43°.47E**±0°.02,**h16**km±6km,
n65,σ1§72/89,**6C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**200**	*e*PG	**Pg**	**05 02 23.7**	**+0.1**
VANB				*e*SG	**Sg**	**05 02 27.4**	**+0.6**
VANB	**Van**	**0.19**	**200**	*e*Pg	**Pg**	**05 02 23.7**	**+0.1**
VANB				*e*Sg	**Sg**	**05 02 27.4**	**+0.6**
VMUR	**Van-Muradiye**	**0.23**	**20**	*i* P	**Pg**	**05 02 23.0**	**-1.2**
VMUR				*i* S	**Sb**	**05 02 28.4**	**-0.4**
VMUR	**Van-Muradiye**	**0.23**	**20**	P	**Pg**	**05 02 23.0**	**-1.2**
VMUR				S	**Sb**	**05 02 28.4**	**-0.4**
GEVA	**Gevas**	**0.57**	**215**	*i* P	**Pg**	**05 02 28.1**	**-2.1**
GEVA				*i* S	**Sb**	**05 02 37.5**	**-1.1**
GEVA	**Gevas**	**0.57**	**215**	P	**Pg**	**05 02 28.1**	**-2.1**
GEVA				S	**Sb**	**05 02 37.5**	**-1.1**
DYDN	**Diyadin**	**0.78**	**12**	*i* P	**Pg**	**05 02 33.1**	**-1.2**
DYDN	**Diyadin**	**0.78**	**12**	P	**Pg**	**05 02 33.1**	**-1.2**
TUTA	**Tutak**	**0.81**	**321**	*i* P	**Pg**	**05 02 33.1**	**-1.5**
TUTA				*i* S	**Sb**	**05 02 46.0**	**+0.4**
TUTA	**Tutak**	**0.81**	**321**	P	**Pg**	**05 02 33.2**	**-1.5**
TUTA				S	**Sb**	**05 02 46.0**	**+0.4**
BASK	**Baskale_VAN**	**0.84**	**150**	*i* P	**Pg**	**05 02 32.4**	**-2.8**
BASK	**Baskale_VAN**	**0.84**	**150**	P	**Pg**	**05 02 32.4**	**-2.8**
AGRB	**Hanur-Agry**	**0.88**	**335**	*e*PG	**Pn**	**05 02 36.9**	**0.0**
AGRB				*e*SG	**Sn**	**05 02 50.8**	**+1.3**
AGRB	**Hanur-Agry**	**0.88**	**335**	*e*Pg	**Pn**	**05 02 36.9**	**0.0**
AGRB				*e*Sg	**Sn**	**05 02 50.8**	**+1.3**
EKAR	**Karacoban**	**1.20**	**294**	*i* P	**Pb**	**05 02 41.1**	**-0.3**
EKAR	**Karacoban**	**1.20**	**294**	P	**Pb**	**05 02 41.1**	**-0.3**
EATA	**Eleskirt**	**1.32**	**325**	*i* P	**Pn**	**05 02 42.6**	**-0.5**
EATA				*i* S	**Sn**	**05 03 03.2**	**+2.6**
EATA	**Eleskirt**	**1.32**	**325**	P	**Pn**	**05 02 42.7**	**-0.5**
EATA				S	**Sn**	**05 03 03.2**	**+2.6**
CUKT	**Cukurca**	**1.53**	**176**	*e*PN	**Pg**	**05 02 46.7**	**-1.7**
CUKT				*e*SN	**Sg**	**05 03 07.7**	**-0.6**
CUKT	**Cukurca**	**1.53**	**176**	*i* P	**Pg**	**05 02 47.5**	**-0.9**
CUKT				*i* S	**Sg**	**05 03 12.4**	**+4.1**
CUKT	**Cukurca**	**1.53**	**176**	*e*Pn	**Pg**	**05 02 46.7**	**-1.7**
CUKT	**Cukurca**	**1.53**	**176**	P	**Pg**	**05 02 47.5**	**-0.9**
CUKT				*e*Sn	**Sg**	**05 03 07.7**	**-0.6**
VRTB	**Varto-Mus**	**1.62**	**284**	*e*PN	**Pb**	**05 02 48.6**	**-1.5**
VRTB	**Varto-Mus**	**1.62**	**284**	*e*Pn	**Pg**	**05 02 48.6**	**-1.5**
NAX	**Nakhchivan**	**1.62**	**75**	⇓P	**Pb**	**05 02 48.3**	**-0.3**
NAX				⇑S	**Sg**	**05 03 14.6**	**+3.3**
NAX	**Nakhchivan**	**1.62**	**75**	P	**Pb**	**05 02 48.3**	**-0.3**
NAX				S	**Sg**	**05 03 14.6**	**+3.3**
HOMI	**Horasan**	**1.75**	**317**	*i* P	**Pb**	**05 02 51.1**	**+0.1**
BNGL	**BINGOL**	**1.82**	**276**	*i* P	**Pb**	**05 02 51.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*e*PN	**Pb**	**05 02 51.5**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*i* P	**Pb**	**05 02 52.2**	**-1.0**
SVAN				*i* S	**Sg**	**05 03 19.0**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	*e*Pn	**Pb**	**05 02 51.6**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.89**	**251**	P	**Pb**	**05 02 52.2**	**-1.0**
SVAN				S	**Sg**	**05 03 19.0**	**-0.8**
BTMN	**Batman**	**1.94**	**244**	*i* P	**Pb**	**05 02 53.2**	**-0.9**
BTMN				*i* S	**Sb**	**05 03 17.9**	**-0.2**
BTMN	**Batman**	**1.94**	**244**	P	**Pb**	**05 02 53.2**	**-0.9**
BTMN				S	**Sb**	**05 03 17.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**334**	*e*PN	**Pb**	**05 02 54.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.98**	**334**	*e*Pn	**Pb**	**05 02 54.3**	**-0.5**
BNGB	**Bing¶ll**	**2.19**	**276**	*e*PN	**Pb**	**05 02 56.8**	**-1.5**
BINT	**Bingol**	**2.33**	**273**	*e*Pn	**Pn**	**05 02 56.8**	**0.0**
YEDI	**Yedisu-Bingol**	**2.37**	**287**	*e*PN	**Pb**	**05 02 59.5**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.37**	**287**	*e*Pn	**Pb**	**05 02 59.5**	**-1.9**
GDB	**GEDABAY**	**2.62**	**41**	⇑P	**Pn**	**05 03 02.6**	**+1.8**
GDB				⇓S	**Sg**	**05 03 42.6**	**-0.5**
GDB	**GEDABAY**	**2.62**	**41**	P	**Pn**	**05 03 02.6**	**+1.8**
AKH	**Akhalkalaki**	**2.63**	**0**	*e*PN	**Pb**	**05 03 04.0**	**-1.8**
AKH	**Akhalkalaki**	**2.63**	**0**	*e*Pn	**Pb**	**05 03 04.0**	**-1.8**
QZX	**Qazax, Azerbai**	**2.71**	**32**	⇓P	**Pb**	**05 03 05.5**	**-1.5**
QZX				⇑S	**Sg**	**05 03 44.9**	**-1.0**
QZX	**Qazax, Azerbai**	**2.71**	**32**	P	**Pb**	**05 03 05.5**	**-1.5**
MAZI	**Mazidag**	**2.73**	**242**	*e*PN	**Pn**	**05 03 04.2**	**+2.0**
MAZI	**Mazidag**	**2.73**	**242**	*e*Pn	**Pn**	**05 03 04.2**	**+2.0**
GANJ	**Ganja**	**2.88**	**49**	⇓P	**Pb**	**05 03 07.6**	**-2.4**
GANJ				⇑S	**Sg**	**05 03 50.1**	**-1.5**
GANJ	**Ganja**	**2.88**	**49**	P	**Pb**	**05 03 07.6**	**-2.4**
ERZN	**Erzincan**	**3.02**	**287**	*e*PN	**Pn**	**05 03 08.8**	**+2.5**
TBLG	**Delisi**	**3.10**	**18**	*e*PN	**Pb**	**05 03 11.1**	**-2.7**
TBLG	**Delisi**	**3.10**	**18**	*e*Pn	**Pb**	**05 03 11.1**	**-2.7**
PTK	**Pertek**	**3.19**	**273**	*e*PN	**Pn**	**05 03 10.8**	**+2.2**
PTK	**Pertek**	**3.19**	**273**	*e*Pn	**Pn**	**05 03 10.9**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.29**	**264**	*e*PN	**Pn**	**05 03 12.3**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.29**	**264**	*e*Pn	**Pn**	**05 03 12.3**	**+2.3**
SEKA	**Sheki**	**3.75**	**49**	⇓P	**Pn**	**05 03 20.3**	**+4.0**
SEKA	**Sheki**	**3.75**	**49**	P	**Pn**	**05 03 20.3**	**+4.0**
LRK	**Lerik**	**3.81**	**91**	⇓P	**Pn**	**05 03 16.9**	**-0.3**
LRK	**Lerik**	**3.81**	**91**	P	**Pn**	**05 03 16.9**	**-0.3**
GLBA	**Clilabad**	**3.86**	**82**	⇑P	**Pn**	**05 03 18.0**	**+0.3**
GLBA	**Clilabad**	**3.86**	**82**	P	**Pn**	**05 03 18.0**	**+0.3**
XNQ	**Khinaliq**	**4.31**	**55**	⇑P	**Pn**	**05 03 26.4**	**+2.3**
XNQ	**Khinaliq**	**4.31**	**55**	P	**Pn**	**05 03 26.4**	**+2.3**

IDC ***27*** *05:03:53.5±0.7,26°.53S×177°.77W,h0km,mb4.4/8, mb1 4.6/9,mb1mx4.4/21,mbtmp4.4/9,ML4.0/1,MS3.5/9, Ms1 3.5/9,ms1mx3.2/38,Error ellipse: s-maj=25.1km s-min=19.8km az=102.0*
NEIC ***27*** *05:04:05.4±0.9,26°.75S×178°.04W,h82km±8km,mb4.6/11, Error ellipse: s-maj=9.2km s-min=7.9km az=93.0*
ISCJB ***27*** *05:04:06.6±0.4,26°.88S±0°.06×178°.10W±0°.08,h100km, mb4.6/23,Error ellipse: s-maj=9.6km s-min=8.0km az=175.2*

ISC 27 05:04:06.9±0.5,**26°.78S**±0°.06×**178°.05W**±0°.10,**h100**km,
n81,σ1§93/68,**mb4.8**/23,**2C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.47**	**177**	Pn	Pn	05 04 39.6	-5.9
	28nm,0.3s,baz=248,slow=19,SNR=2.2						
RAO				Sn	**Sn**	**05 05 13.0**	**-2.2**
	103nm,0.3s,baz=90,slow=20,SNR=4.3						
RAO	**Raoul Island**	**2.47**	**177**	*e*Pn	**Pn**	**05 04 43.5**	**-2.0**
RAO				*e*Sn	**Sn**	**05 05 16.3**	**+1.1**
MSVF	**Nonsavu**	**9.69**	**337**	*e*Pn	**Pn**	**05 06 21.1**	**-2.4**
OUZ	**Omahuta**	**11.05**	**218**	*e*Pn	**Pn**	**05 06 40.5**	**-1.3**
DZM	**Mont Dzumac**	**14.87**	**285**	Pn	**Pn**	**05 07 32.3**	**+0.1**
	0.2nm,0.3s,baz=98,slow=18,SNR=6.1						
DZM				LR	LR	05 11 55.2	
	comp=Z,392nm,21.3s,baz=30,slow=32						
RAR	**Rarotonga**	**17.59**	**76**	LR	LR	05 12 58.9	
	comp=Z,81nm,20.5s,baz=248,slow=32						
FUNA	**Funafuti**	**18.34**	**351**	*e*P	**Pn**	**05 08 13.3**	**-1.4**
	85nm,0.9s						
TBI	**Tubuai**	**26.10**	**89**	*e*LR	LR	05 15 48.6	
	217nm,27.8s						
TBI	**Tubuai**	**26.10**	**89**	*e*T	T	05 36 04.0	
	12nm,0.3s						
EIDS	**Eidsvold**	**27.73**	**266**	*e*P	**P**	**05 09 42.8**	**-3.2**
	12nm,1.1s						
PAE	**Paea**	**27.82**	**77**	*e*T	T	05 38 20.5	
	5.2nm,0.3s						
PPT2	**Papeete2**	**27.86**	**77**	*e*LR	LR	05 16 33.2	
	224nm,28.0s						
PPT2	**Papeete2**	**27.86**	**77**	*e*T	T	05 38 24.8	
	7.1nm,0.3s						
PPT	**Papeete**	**27.86**	**77**	LR	LR	05 17 29.7	
	comp=Z,52nm,21.8s,baz=251,slow=30						
TVO	**Taravao**	**28.06**	**77**	*e*T	T	05 38 38.5	
	2.6nm,0.3s						
VAH	**Vaihoa**	**30.56**	**74**	*e*T	T	05 41 46.2	
	7.0nm,0.3s						
CTAO	**Charters Tower**	**33.34**	**274**	*e*P	**P**	**05 10 36.5**	**+0.9**
	42nm,1.9s						
STKA	**Stephens Creek**	**35.40**	**252**	P	**P**	**05 10 54.6**	**+1.4**
	8.8nm,1.1s,baz=87,slow=8.1,SNR=8.6						
STKA				LR	LR	05 23 41.4	
	comp=Z,92nm,19.4s,baz=28,slow=33						
STKA	**Stephens Creek**	**35.40**	**252**	*e*P	**P**	**05 10 55.1**	**+1.9**
	7.2nm,1.4s						
COEN	**Coen**	**38.36**	**282**	*e*P	**P**	**05 11 19.7**	**+1.2**
	19nm,1.2s						
RKT	**Rikitea**	**39.10**	**94**	*e*T	T	05 52 21.4	
	4.9nm,0.3s						
TAOE	**Nuku Hiva Isla**	**40.04**	**71**	*e*LR	LR	05 22 09.7	
	75nm,28.1s						
AS31	**Alice Springs**	**43.37**	**263**	*e*P	**P**	**05 12 00.4**	**+0.8**
	8.7nm,1.4s						
ASAR	**Alice Springs**	**43.37**	**263**	P	**P**	**05 12 00.3**	**+0.7**
	15nm,1.1s,baz=107,slow=8.1,SNR=57						
ASAR				LR	LR	05 30 15.8	
	comp=Z,80nm,18.1s,baz=104,slow=36						
WB2	**Warramunga Arr**	**44.02**	**268**	*e*P	**P**	**05 12 04.8**	**0.0**
	18nm,0.8s						
WRAB	**Tennant Creek**	**44.02**	**268**	*e*P	**P**	**05 12 05.1**	**+0.3**
	18nm,0.8s						
WRA	**Warramunga Arr**	**44.03**	**268**	P	**P**	**05 12 05.2**	**+0.3**
	14nm,0.7s,baz=106,slow=7.9,SNR=47						
WRA				LR	LR	05 28 53.9	
	comp=Z,46nm,20.7s,baz=105,slow=34						
SBA	**Scott Base**	**51.63**	**184**	*e*P	**P**	**05 13 04.3**	**+1.6**
	14nm,1.3s						
VNDA	**Vanda**	**51.68**	**185**	P	**P**	**05 13 03.8**	**+0.7**
	0.9nm,0.6s,baz=11,slow=7.4,SNR=7.3						
VNDA				LR	LR	05 33 00.7	
	comp=Z,23nm,18.3s,baz=18,slow=34						
VNDA	**Vanda**	**51.68**	**185**	*e*P	**P**	**05 13 04.3**	**+1.2**
	12nm,1.8s						
QSPA	**South Pole Qui**	**63.32**	**180**	*e*P	**P**	**05 14 26.3**	**+1.2**
MAW	**Mawson**	**75.68**	**200**	P	**P**	**05 15 41.1**	**+0.4**
	2.0nm,0.5s,baz=110,slow=12,SNR=1.3						
SYO	**Syowa Base**	**80.62**	**193**⇑	*e*P	**P**	**05 16 07.3**	**-0.8**
SYO	**Syowa Base**	**80.62**	**193**⇓	*e*PcP	**PcP**	**05 16 15.2**	**+0.6**
SNAA	**Sanae**	**81.77**	**178**	P	**P**	**05 16 14.2**	**-0.1**
SNAA	**Sanae**	**81.77**	**178**	*e*P	**P**	**05 16 14.1**	**-0.2**
	5.0nm,1.1s						
VNA3	**Neumayer Olymp**	**81.91**	**176**	P	**P**	**05 16 15.1**	**+0.2**
VNA2	**Neumayer--Watz**	**82.35**	**177**	P	**P**	**05 16 17.6**	**+0.4**
	baz=166,slow=3.9						
LRC	**Lone Oak Road**	**82.55**	**43**	*e*P	**P**	**05 16 21.5**	**+2.9**
VNA1	**Neumayer--Stat**	**82.58**	**177**	P	**P**	**05 16 19.1**	**+0.8**
PFO	**Pinyon Flats O**	**83.80**	**48**	LR	LR	05 51 34.2	
	comp=Z,44nm,18.6s,baz=160,slow=34						
NJ2	**Nanjing**	**83.86**	**310**	*e*P	**P**	**05 16 27.5**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YERR	**Yerington**	**85.41**	**42**	*e*P	**P**	**05 16 34.1**	**+0.7**
	comp=Z,13nm,1.5s						
TUC	**Tucson**	**86.90**	**51**	*e*P	**P**	**05 16 42.0**	**+1.3**
	comp=Z,4.5nm,0.9s						
CN2	**Changchun**	**87.24**	**323**	*e*P	**P**	**05 16 45.0**	**

MGG			*e*S	Sn	05 28 51.8	+0.1	
MGG	**Marie-Galante**	**1.62 218**	*i* P	Pn	05 28 31.9	-0.1	
MGG			*e*S	Sn	05 28 51.8	+0.1	
GDHS	**Morne Mazeau,**	**1.69 237**	*e*P	Pn	05 28 32.7	-0.4	
GDHS			*e*S	Sn	05 28 54.7	+1.1	
DOG	**Dongo Capester**	**1.73 228** ⇑	*i*P	Pn	05 28 34.0	+0.4	
SSG	**Sans Toucher**	**1.74 230** ⇑	*i*P	Pn	05 28 33.9	+0.1	
PHG	**Guadaloupe-2**	**1.76 228** ⇑	*i*P	Pn	05 28 34.5	+0.4	
FNG	**Fond-Bernard**	**1.76 230** ⇑	*i*P	Pn	05 28 34.2	+0.1	
LZG	**Guadaloupe-1**	**1.78 234**	*e*P	Pn	05 28 34.0	-0.2	
MLG	**Mont-d'or**	**1.78 230** ⇑	*i*P	Pn	05 28 34.6	+0.3	
HMG	**Houelmont**	**1.82 228** ⇑	*i*P	Pn	05 28 35.3	+0.5	
HMG			*e*S	Sn	05 28 59.1	+2.3	
TBG	**Guadaloupe-3**	**1.88 224**	*e*P	Pn	05 28 36.2	+0.6	
TBG			*e*S	Sn	05 28 59.4	+1.4	
MLYT	**Lee's Yard**	**1.89 255**	*e*P	Pn	05 28 35.9	+0.2	
MLYT			*e*S	Sn	05 28 58.9	+0.7	
DWS	**Wesley**	**1.91 211**	*e*P	Pn	05 28 35.5	-0.4	
DWS			*e*S	Sn	05 28 58.8	+0.1	
DWS	**Wesley**	**1.91 211**	*e*P	Pn	05 28 35.5	-0.4	
DWS			*e*S	Sn	05 28 58.8	+0.1	
BBL	**Barber's Block**	**2.02 214**	*e*P	Pn	05 28 37.2	-0.4	
BBL			*e*S	Sn	05 29 01.3	-0.4	
BBL	**Barber's Block**	**2.02 214**	*e*P	Pn	05 28 37.2	-0.4	
BBL			*e*S	Sn	05 29 01.3	-0.4	
DLPL	**La Plaine**	**2.08 206** ⇑	*i*P	Pn	05 28 37.9	-0.5	
DLPL			*e*S	Sn	05 29 03.3	+0.2	
DLPL	**La Plaine**	**2.08 206**	*i* P	Pn	05 28 37.9	-0.5	
DLPL			*e*S	Sn	05 29 03.3	+0.2	
NEV	**Hard Times**	**2.19 268** ⇓	*i*P	Pn	05 28 41.0	+1.2	
NEV			*e*S	Sn	05 29 06.3	+0.6	
NEV	**Hard Times**	**2.19 268**	*i* P	Pn	05 28 41.0	+1.2	
NEV			*e*S	Sn	05 29 06.3	+0.6	
SKI	**Saint Kitts**	**2.35 273**	*e*P	Pn	05 28 42.1	+0.1	
SKI			*e*S	Sn	05 29 10.4	+0.8	
SKI	**Saint Kitts**	**2.35 273**	*e*P	Pn	05 28 42.1	+0.1	
SKI			*e*S	Sn	05 29 10.4	+0.8	
BAMF	**Morne Balai**	**2.52 199**	*e*P	Pn	05 28 44.2	-0.2	
CXM	**Morne La Croix**	**2.53 200**	*e*P	Pn	05 28 44.5	-0.2	
CXM			*e*S	Sn	05 29 14.0	-0.4	
PCM	**Pelee Case Pet**	**2.54 201**	*e*P	Pn	05 28 44.3	-0.4	
PCM	**Pelee Case Pet**	**2.54 201**	*e*P	Pn	05 28 44.4	-0.4	
GBMF	**Grand Be**	**2.54 200**	*e*P	Pn	05 28 44.5	-0.4	
PML	**Morne Lenard**	**2.56 200**	*e*P	Pn	05 28 44.8	-0.3	
SEUS	**St. Eustatius**	**2.59 277**	*e*P	Pn	05 28 45.4	+0.1	
FDF	**Fort de France**	**2.60 199**	*e*P	Pn	05 28 45.1	-0.5	
FDF			*e*S	Sn	05 29 16.1	+0.2	
FDF	**Fort de France**	**2.60 199**	*e*P	Pn	05 28 45.1	-0.5	
FDF			*e*S	Sn	05 29 16.1	+0.2	
LPMF	**Morne Lapointe**	**2.70 194**	*e*P	Pn	05 28 47.0	+0.1	
MVM	**Montagne Vaucl**	**2.70 193**	*e*P	Pn	05 28 47.1	+0.1	
ZAM	**Aeronautique**	**2.72 195**	*e*P	Pn	05 28 47.0	-0.1	
TRMF	**Trois Ilets**	**2.76 196**	*e*P	Pn	05 28 47.8	+0.1	
BIM	**Bigot**	**2.78 196**	*e*P	Pn	05 28 48.6	+0.6	
BIM			*e*S	Sn	05 29 21.1	+0.7	
SMRT	**St. Maarten**	**2.79 288**	*e*P	Pn	05 28 47.2	-0.9	
H05S1	**Guadeloupe/Mar**	**2.82 191**	Pn	Pn	05 28 48.3	-0.2	
H05S1			Sn	Sn	05 29 20.3	-0.9	
SLW	**Petit Monier**	**3.23 191**	*e*P	Pn	05 28 55.1	+0.9	
SLW			*e*S	Sn	05 29 31.9	+0.4	
SLW	**Petit Monier**	**3.23 191**	*e*P	Pn	05 28 55.1	+0.9	
SLW			*e*S	Sn	05 29 31.9	+0.4	
SLB	**Belfond**	**3.44 192**	*e*P	Pn	05 28 57.8	+0.7	
SLB			*e*S	Sn	05 29 37.1	+0.4	
SLB	**Belfond**	**3.44 192**	*e*P	Pn	05 28 58.6	+1.4	
SLB			*e*S	Sn	05 29 37.1	+0.4	
SLDE	**Delcer**	**3.47 192**	*e*P	Pn	05 28 57.0	-0.5	
SLDE			*e*S	Sn	05 29 37.8	+0.5	
SLDE	**Delcer**	**3.47 192**	*e*P	Pn	05 28 58.9	+1.4	
SLDE			*e*S	Sn	05 29 37.8	+0.5	
MCLT	**Moule a Chique**	**3.54 190**	*e*P	Pn	05 28 59.2	+0.8	
MCLT			*e*S	Sn	05 29 38.9	-0.1	
MCLT	**Moule a Chique**	**3.54 190**	*e*P	Pn	05 28 59.2	+0.8	
MCLT			*e*S	Sn	05 29 38.9	-0.1	
SVB	**Belmont**	**4.02 194**	*e*P	Pn	05 29 06.3	+1.2	
SVB			*e*S	Sn	05 29 50.2	-0.8	
SVB	**Belmont**	**4.02 194**	*e*P	Pn	05 29 06.3	+1.2	
SVB			*e*S	Sn	05 29 50.2	-0.8	
SJG	**San Juan**	**5.66 280**	Pn	Pn	05 29 27.2	-0.4	
	5.4nm,0.3s,baz=97,slow=12,SNR=4.3						
SJG			Sn	Sn	05 30 30.2	-1.1	
	6.8nm,0.3s,baz=207,slow=20,SNR=6.8						
TOSP	**Speyside**	**5.88 182**	*e*P	Pn	05 29 31.8	+1.1	
TOSP	**Speyside**	**5.88 182**	*e*P	Pn	05 29 31.8	+1.1	
TRN	**Trinidad (W)**	**6.61 190**	*e*P	Pn	05 29 42.1	+1.4	
TRN	**Trinidad (W)**	**6.61 190**	*e*P	Pn	05 29 42.1	+1.4	
PCRV	**Puerto La Cruz**	**8.17 212**	Pn	Pn	05 30 03.1	+1.0	
	0.6nm,0.3s,baz=294,slow=3.4,SNR=6.1						
PCRV			Sn	Sn	05 31 27.0	-6.3	
	0.2nm,0.3s,baz=324,slow=5.3,SNR=3.2						
OCAC	**Ocana**	**15.52 237**	*e*P	P	05 31 45.7	-0.6	
PAMC	**Pamplona, Colo**	**15.59 233**	*e*P	P	05 31 45.8	-1.6	
SJCC	**San Jacinto, C**	**16.19 245**	*e*P	Pn	05 31 51.7	+0.8	
RUSC	**La Rusia**	**16.83 230**	*e*P	P	05 32 01.0	-0.2	
MOTC	**Monteria, Cord**	**17.16 243**	*e*P	Pn	05 32 01.3	-1.7	
PTGA	**Pitinga**	**17.83 179**	Pn	Pn	05 32 10.9	-0.4	
	0.3nm,0.3s,baz=360,slow=16,SNR=5.2						
PTGA			Sn	Sn	05 35 11.8	-17	
	0.4nm,0.3s,baz=13,slow=21,SNR=2.8						
ROSC	**El Rosal**	**18.44 230**	Pn	Pn	05 32 20.7	+1.5	
	1.4nm,0.3s,baz=289,slow=12,SNR=6.7						
PRAC	**Prado**	**19.62 229**	*e*P	P	05 32 29.0	-2.5	
TKL	**Tuckaleechee C**	**27.81 316**	LR	LR	05 47 22.6		
	comp=Z,42nm,18.2s,baz=310,slow=42						
RCBR	**Riachuelo**	**33.24 131**	LR	LR	05 47 39.0		
	comp=Z,27nm,18.5s,baz=19,slow=36						
TXAR	**Lajitas Array**	**41.42 295**	P	P	05 35 50.6	+1.4	
	0.2nm,0.6s,baz=123,slow=6.6,SNR=2.5						
H10N3	**ASCENSION HYDR**	**51.65 115**	T	T	06 33 06.7		
	baz=297,slow=75,SNR=3.0						
H10N2	**ASCENSION HYDR**	**51.65 115**	T	T	06 33 09.5		
	baz=297,slow=75,SNR=3.1						
H10N1	**ASCENSION HYDR**	**51.67 115**	T	T	06 33 09.6		
	baz=297,slow=75,SNR=3.5						
H10S3	**ASCENSION HYDR**	**52.05 116**	T	T	06 33 36.0		
	baz=298,slow=75,SNR=4.2						
H10S1	**ASCENSION HYDR**	**52.06 116**	T	T	06 33 34.7		
	baz=298,slow=75,SNR=3.3						
H10S2	**ASCENSION HYDR**	**52.07 116**	T	T	06 33 43.9		
	baz=298,slow=75,SNR=2.8						
DBIC	**Dimbokro**	**55.07 94**	P	P	05 37 34.2	-0.4	
	5.5nm,1.0s,baz=264,slow=10,SNR=2.6						
PLCA	**Paso Flores**	**58.43 189**	P	P	05 37 59.2	+1.1	
	2.8nm,0.8s,baz=221,slow=20,SNR=3.7						
TORD	**Torodi Ar. Bea**	**59.75 85**	P	P	05 38 06.5	-1.1	
	1.0nm,0.7s,baz=288,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**73.14 333**	P	P	05 39 33.2	+0.7	
	0.4nm,0.8s,baz=112,slow=3.9,SNR=4.2						

NSSC ***27*** *05:28:35.6±1.9, 39°.53N×47°.14E, h37km±999km, ML3.6*
AZER ***27*** *05:29:07.4±0.4, 37°.63N×44°.32E, h8km, Error ellipse: s-maj=3.1km s-min=2.0km az=39.0*
IDC ***27*** *05:29:09.7±1.4, 38°.50N×43°.39E, h0km, mb3.8/7, mb1 3.8/12, mb1mx3.6/69, mbtmp3.8/12, ML3.0/5, MS3.0/16, Ms1 3.0/16, ms1mx2.8/54, Error ellipse: s-maj=25.5km s-min=11.1km az=141.0*
ISK ***27*** *05:29:10.8, 38°.75N×43°.42E, h5km, ML3.9*
MOS ***27*** *05:29:10.3±2.0, 38°.32N×43°.47E, h18km, mb4.0/1, Error ellipse: s-maj=17.7km s-min=7.1km az=79.1*
DDA ***27*** *05:29:11.4, 38°.69N×43°.37E, h20km, Ml4.2*
CSEM ***27*** *05:29:11.9±0.2, 38°.70N×43°.40E, h5km, ML3.9, Error ellipse: s-maj=5.2km s-min=4.1km az=137.0*
NEIC ***27*** *05:29:12.0±0.0, 38°.71N×43°.40E, h22km, mb4.1/2, ML4.1(DDA), After DDA.*
ISC 27 05:29:12.9±0.8,**38°.70N**±0°.02×**43°.45E**±0°.02,**h16**km±6km, **n179,** σ1**90**/212,**mb3.6**/7,**MS2.9**/9,**19C-29D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**202**	*e*PG	**Pg**	**05 29 16.0**	**-0.7**
VANB				*e*SG	**Sb**	05 29 19.7	+0.3
VANB	**Van**	**0.12**	**202**	*e*Pg	**Pg**	**05 29 16.0**	**-0.7**
VMUR	**Van-Muradiye**	**0.30**	**19**	*i* P	**Pg**	**05 29 18.6**	**-0.9**
VMUR				*i* S	**Sb**	**05 29 24.9**	**0.0**
VMUR	**Van-Muradiye**	**0.30**	**19**	P	**Pg**	**05 29 18.6**	**-0.9**
VMUR				S	**Sb**	**05 29 24.9**	**0.0**
VMUR	**Van-Muradiye**	**0.30**	**19**	*i* P	**Pg**	**05 29 18.6**	**-0.9**
VMUR				*i* S	**Sb**	**05 29 24.9**	**0.0**
GEVA	**Gevas**	**0.49**	**218**	⇑*i*P	**Pg**	**05 29 20.5**	**-2.4**
GEVA	**Gevas**	**0.49**	**218**	*i* P	**Pg**	**05 29 20.5**	**-2.4**
GEVA	**Gevas**	**0.49**	**218**	*i* P	**Pg**	**05 29 20.5**	**-2.4**
BASK	**Baskale_VAN**	**0.78**	**146**	*e*P	**Pg**	**05 29 26.8**	**-1.5**
BASK				*i* S	**Sb**	**05 29 39.5**	**+0.7**
BASK	**Baskale_VAN**	**0.78**	**146**	P	**Pg**	**05 29 26.8**	**-1.5**
BASK				S	**Sb**	**05 29 39.5**	**+0.7**
TUTA	**Tutak**	**0.85**	**325**	⇓*i*P	**Pb**	**05 29 26.9**	**-2.7**
TUTA	**Tutak**	**0.85**	**325**	P	**Pb**	**05 29 26.9**	**-2.7**
TUTA	**Tutak**	**0.85**	**325**	*i* P	**Pb**	**05 29 26.8**	**-2.7**
DYDN	**Diyadin**	**0.86**	**13**	⇓*i*P	**Pb**	**05 29 27.8**	**-1.9**
DYDN	**Diyadin**	**0.86**	**13**	P	**Pb**	**05 29 27.8**	**-1.9**
DYDN	**Diyadin**	**0.86**	**13**	*i* P	**Pb**	**05 29 27.6**	**-2.0**
AGRB	**Hanur-Agry**	**0.94**	**338**	*e*PG	**Pb**	**05 29 28.3**	**-2.7**
AGRB				*e*SG	**Sb**	**05 29 41.0**	**-2.3**
EKAR	**Karacoban**	**1.21**	**298**	⇓*i*P	**Pn**	**05 29 33.7**	**-1.7**
EKAR				*i* S	**Sg**	**05 29 53.3**	**+1.1**
EKAR	**Karacoban**	**1.21**	**298**	P	**Pn**	**05 29 33.7**	**-1.7**
EKAR				S	**Sg**	**05 29 53.3**	**+1.1**
EATA	**Eleskirt**	**1.37**	**328**	⇓*i*P	**Pn**	**05 29 36.4**	**-1.4**
EATA				*i* S	**Sb**	**05 29 56.9**	**+1.0**
EATA	**Eleskirt**	**1.37**	**328**	P	**Pn**	**05 29 36.4**	**-1.4**
EATA				S	**Sb**	**05 29 56.9**	**+1.0**
SIRN	**S¨–rnak**	**1.46**	**214**	*i* P	**Pn**	**05 29 37.9**	**-0.7**
SIRN				*i* S	**Sg**	**05 30 03.8**	**+3.9**
SIRN	**S¨–rnak**	**1.46**	**214**	P	**Pn**	**05 29 37.9**	**-0.7**
CUKT	**Cukurca**	**1.46**	**175**	*e*PN	**Pb**	**05 29 39.7**	**-0.1**
CUKT	**Cukurca**	**1.46**	**175**	*i* P	**Pb**	**05 29 40.1**	**+0.3**
CUKT				*i* S	**Sg**	**05 30 02.4**	**+2.3**
CUKT	**Cukurca**	**1.46**	**175**	*e*Pn	**Pb**	**05 29 39.7**	**-0.1**
CUKT	**Cukurca**	**1.46**	**175**	P	**Pb**	**05 29 40.1**	**+0.3**
CUKT				S	**Sg**	**05 30 02.4**	**+2.3**
VRTB	**Varto-Mus**	**1.62**	**287**	*e*PN	**Pn**	**05 29 40.1**	**-0.8**
VRTB	**Varto-Mus**	**1.62**	**287**	*i* P	**Pn**	**05 29 41.1**	**+0.1**
VRTB	**Varto-Mus**	**1.62**	**287**	*e*Pn	**Pn**	**05 29 40.2**	**-0.7**
VRTB	**Varto-Mus**	**1.62**	**287**	P	**Pn**	**05 29 41.1**	**+0.1**
NAX	**Nakhchivan**	**1.67**	**73**	⇑P	**Pb**	**05 29 43.2**	**-0.1**
	SNR=7.2						
NAX				⇑S	**Sn**	**05 30 02.4**	**-0.2**
NAX	**Nakhchivan**	**1.67**	**73**	P	**Pb**	**05 29 43.2**	**-0.1**
	SNR=7.2						
NAX				S	**Sn**	**05 30 02.4**	**-0.2**
DIGO	**Kars**	**1.71**	**358**	⇓*i*P	**Pn**	**05 29 43.1**	**+0.8**
DIGO	**Kars**	**1.71**	**358**	P	**Pn**	**05 29 43.1**	**+0.8**
GNI	**Garni**	**1.76**	**34**	Pn	**Pb**	**05 29 44.8**	**-0.1**
	24nm,0.3s,baz=226,slow=3.9,SNR=41						
GNI				Lg	Lg	05 30 13.3	
	57nm,0.3s,baz=188,slow=22,SNR=9.8						
GNI				LR	LR	05 30 28.6	
	comp=Z,168nm,18.7s,baz=220,slow=40						
HOMI	**Horasan**	**1.79**	**319**	⇓*i*P	**Pn**	**05 29 43.7**	**+0.3**
HOMI				*i* S	**Sg**	**05 30 12.4**	**+1.6**
BNGL	**BINGOL**	**1.81**	**279**	⇓*i*P	**Pn**	**05 29 44.1**	**+0.5**
BNGL				*i* S	**Sb**	**05 30 08.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	*e*PN	**Pn**	**05 29 43.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	⇑*i*P	**Pn**	**05 29 43.7**	**-0.3**
SVAN				*i* S	**Sb**	**05 30 10.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.85**	**253**	*e*Pn	**Pn**	**05 29 43.8**	**-0.3**
SVAN				S	**Sb**	**05 30 10.0**	**+0.7**
BTMN	**Batman**	**1.89**	**245**	⇑*i*P	**Pn**	**05 29 44.7**	**0.0**
BTMN				*i* S	**Sb**	**05 30 11.9**	**+1.3**
BTMN	**Batman**	**1.89**	**245**	P	**Pn**	**05 29 44.7**	**0.0**
BTMN				S	**Sb**	**05 30 11.9**	**+1.3**
EAK	**Akyaka**	**1.98**	**4**	⇓*i*P	**Pn**	**05 29 46.7**	**+0.7**
EAK				*i* S	**Sg**	**05 30 20.0**	**+3.2**
EAK	**Akyaka**	**1.98**	**4**	P	**Pn**	**05 29 46.7**	**+0.7**
ERZM	**Erzurum**	**2.01**	**307**	*i* P	**Pn**	**05 29 47.0**	**+0.5**
ERZM				*i* S	**Sb**	**05 30 15.5**	**+1.3**
ERZM	**Erzurum**	**2.01**	**307**	P	**Pn**	**05 29 47.0**	**+0.5**
ERZM				S	**Sb**	**05 30 15.5**	**+1.3**
SENK	**Senkaya-Erzuru**	**2.04**	**336**	*e*PN	**Pn**	**05 29 45.7**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.04**	**336**	*e*Pn	**Pn**	**05 29 45.7**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.12**	**296**	⇓*i*P	**Pn**	**05 29 48.8**	**+0.9**
ECAT				*i* S	**Sg**	**05 30 19.9**	**-1.4**
ECAT	**Cat-ERZURUM**	**2.12**	**296**	P	**Pn**	**05 29 48.8**	**+0.9**
BNGB	**Bing¶ll**	**2.18**	**278**	*e*PN	**Pn**	**05 29 48.5**	**-0.1**
BINT	**Bingol**	**2.32**	**275**	*e*Pn	**Pn**	**05 29 48.5**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.37**	**289**	*e*PN	**Pn**	**05 29 51.0**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.37**	**289**	*e*Pn	**Pn**	**05 29 51.0**	**-0.3**
MARD	**Mardin**	**2.52**	**237**	⇑*i*P	**Pn**	**05 29 53.1**	**-0.2**
MARD				*i* S	**Sb**	**05 30 28.8**	**+0.1**
DDEM	**Demirkent**	**2.55**	**330**	⇓*i*P	**Pb**	**05 29 57.3**	**-1.0**
DDEM				*i* S	**Sg**	**05 30 35.9**	**+1.1**
DDEM	**Demirkent**	**2.55**	**330**	P	**Pb**	**05 29 57.3**	**-1.0**
BGD	**Bogdanovka**	**2.56**	**3**	P	**Pb**	**05 30 00.1**	**+1.5**
BGD				S	**Sg**	**05 30 38.0**	**+2.8**
KOPT	**Kop Dagi**	**2.64**	**301**	⇓*i*P	**Pb**	**05 29 58.7**	**-1.2**
KOPT				*i* S	**Sb**	**05 30 35.0**	**+2.8**
KOPT	**Kop Dagi**	**2.64**	**301**	P	**Pb**	**05 29 58.7**	**-1.2**
DAGI	**Agillar**	**2.65**	**334**	*i* P	**Pn**	**05 29 55.6**	**+0.6**
DAGI				*i* S	**Sg**	**05 30 36.3**	**-1.7**
MAZI	**Mazidag**	**2.67**	**243**	*e*PN	**Pn**	**05 29 55.1**	**-0.3**
MAZI	**Mazidag**	**2.67**	**243**	*e*Pn	**Pn**	**05 29 55.1**	**-0.3**
GDB	**GEDABAY**	**2.69**	**41**	⇓P	**Pb**	**05 29 59.3**	**-1.4**
	SNR=7.2						
GDB				⇑S	**Sg**	**05 30 40.4**	**+1.1**
GDB	**GEDABAY**	**2.69**	**41**	P	**Pb**	**05 29 59.3**	**-1.4**
	SNR=7.2						
AKH	**Akhalkalaki**	**2.70**	**1**	*e*PN	**Pn**	**05 29 55.2**	**-0.7**
AKH	**Akhalkalaki**	**2.70**	**1**	P	**Pb**	**05 30 02.2**	**+1.1**
AKH				S	**Sg**	**05 30 38.0**	**-1.9**
AKH	**Akhalkalaki**	**2.70**	**1**	P	**Pb**	**05 30 02.1**	**+1.1**
AKH				S	**Sg**	**05 30 37.9**	**-1.9**
AKH	**Akhalkalaki**	**2.70**	**1**	*e*Pn	**Pn**	**05 29 55.2**	**-0.7**
ARTV	**Artvin**	**2.74**	**335**	*i* P	**Pn**	**05 29 57.1**	**+0.7**
ARTV				*i* S	**Sg**	**05 30 42.0**	**+1.0**
ARTV	**Artvin**	**2.74**	**335**	P	**Pn**	**05 29 57.1**	**+0.7**
QZX	**Qazax, Azerbai**	**2.78**	**32**	⇓P	**Pb**	**05 30 02.5**	**+0.2**
	SNR=3.0						
QZX				⇑S	**Sg**	**05 30 45.1**	**+2.8**
QZX	**Qazax, Azerbai**	**2.78**	**32**	P	**Pb**	**05 30 02.5**	**+0.2**
	SNR=3.0						
GANJ	**Ganja**	**2.95**	**48**	⇓P	**Pn**	**05 30 00.8**	**+1.7**
	SNR=16						
GANJ				⇑S	**Sb**	**05 30 42.8**	**+1.9**
GANJ	**Ganja**	**2.95**	**48**	P	**Pn**	**05 30 00.8**	**+1.7**
	SNR=16						
DBOC	**Borcka**	**2.97**	**333**	*i* P	**Pb**	**05 30 04.5**	**-1.0**
DBOC				*i* S	**Sb**	**05 30 43.3**	**+1.7**
DBOC	**Borcka**	**2.97**	**333**	P	**Pb**	**05 30 04.5**	**-1.0**
ERZN	**Erzincan**	**3.03**	**288**	*e*PN	**Pn**	**05 30 00.2**	**-0.1**
DGRG	**David-gareji**	**3.12**	**28**	P	**Pb**	**05 30 07.5**	**-0.6**
DGRG				S	**Sg**	**05 30 56.6**	**+3.5**
DGRG	**David-gareji**	**3.12**	**28**	P	**Pb**	**05 30 07.4**	**-0.6**
DGRG	**David-gareji**	**3.12**	**28**	P	**Pb**	**05 30 06.5**	**-1.5**
PTK	**Pertek**	**3.17**	**275**	*e*PN	**Pn**	**05 30 02.5**	**+0.2**
PTK	**Pertek**	**3.17**	**275**	*e*Pn	**Pn**	**05 30 02.5**	**+0.1**
TBLG	**Delisi**	**3.18**	**18**	*e*PN	**Pn**	**05 30 02.7**	**+0.4**
TBLG	**Delisi**	**3.18**	**18**	P	**Pb**	**05 30 10.2**	**+1.1**
TBLG				S	**Sg**	**05 30 53.5**	**-1.7**
TBLG	**Delisi**	**3.18**	**18**	P	**Pb**	**05 30 10.1**	**+1.1**
TBLG				S	**Sg**	**05 30 53.4**	**-1.7**
TBLG	**Delisi**	**3.18**	**18**	*e*Pn	**Pn**	**05 30 02.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.26**	**266**	*e*PN	**Pn**	**05 30 03.9**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.26**	**266**	*e*Pn	**Pn**	**05 30 03.9**	**+0.3**
BRDA	**Brd**	**3.28**	**60**	⇓P	**Pn**	**05 30 01.4**	**-2.2**
BRDA	**Brd**	**3.28**	**60**	P	**Pn**	**05 30 01.4**	**-2.2**
MNGR	**Mingechevir, A**	**3.48**	**52**	⇓P	**Pn**	**05 30 06.1**	**-0.3**
MNGR				⇓S	**Sb**	**05 30 52.3**	**-4.0**
MNGR	**Mingechevir, A**	**3.48**	**52**	P	**Pn**	**05 30 06.1**	**-0.3**
MNGR				S	**Sb**	**05 30 52.3**	**-4.0**
KTUT	**Trabzon**	**3.64**	**310**	*e*PN	**Pn**	**05 30 08.8**	**+0.3**
KTUT	**Trabzon**	**3.64**	**310**	*e*Pn	**Pn**	**05 30 08.8**	**+0.3**
ZRD	**Zardab**	**3.64**	**63**	⇓P	**Pn**	**05 30 05.4**	**-3.1**
ZRD	**Zardab**	**3.64**	**63**	P	**Pn**	**05 30 05.4**	**-3.1**
ZKTA	**Zakatala**	**3.81**	**39**	⇓P	**Pn**	**05 30 14.3**	**+3.3**
SEKA	**Sheki**	**3.82**	**48**	⇑P	**Pn**	**05 30 12.5**	**+1.4**
SEKA				⇓S	**Sb**	**05 31 03.5**	**-2.5**
SEKA	**Sheki**	**3.82**	**48**	P	**Pn**	**05 30 12.5**	**+1.4**
LRK	**Lerik**	**3.83**	**89**	⇑P	Pn	05 29 59.9	-12
URFA	**Urfa**	**3.86**	**252**	*e*PN	**Pn**	**05 30 12.7**	**+1.0**
URFA	**Urfa**	**3.86**	**252**	*e*Pn	**Pn**	**05 30 12.7**	**+1.0**
ONI	**Oni**	**3.88**	**0**	P	**Pb**	**05 30 23.3**	**+2.3**
ONI				S	**Sg**	**05 31 13.9**	**-3.7**
ONI	**Oni**	**3.88**	**0**	P	**Pb**	**05 30 23.3**	**+2.3**
ONI				S	**Sg**	**05 31 13.9**	**-3.7**
GLBA	**Clilabad**	**3.89**	**81**	⇑P	Pn	05 30 03.1	-8.9
GLBA				⇑S	Sn	05 30 46.3	-11
QBL	**Gabala**	**4.06**	**55**	⇑P	**Pn**	**05 30 12.9**	**-1.5**
QBL				⇓S	**Sn**	**05 31 04.3**	**+2.8**
QBL	**Gabala**	**4.06**	**55**	P	**Pn**	**05 30 12.9**	**-1.5**
QBL				S	**Sn**	**05 31 04.3**	**+2.8**
ZEI	**Tsey**	**4.09**	**5**	*e*P	**Pn**	**05 30 17.6**	**+2.6**
ZEI				pmax	pmax		
	comp=Z,22nm,0.8s						
LKRN	**Lenkeran, Azer**	**4.17**	**88**	⇑P	Pn	05 30 04.3	-12
LKRN				⇑S	Sn	05 30 48.8	-15
ASTR	**Astara**	**4.19**	**90**	⇓P	Pn	05 30 03.8	-12
ASTR				⇓S	Sn	05 30 48.2	-17
IML	**Ismayilli**	**4.21**	**59**	⇓P	**Pn**	**05 30 13.8**	**-2.6**
IML	**Ismayilli**	**4.21**	**59**	P	**Pn**	**05 30 13.8**	**-2.6**
ESPY	**Espiye-Giresun**	**4.25**	**303**	*e*PN	**Pn**	**05 30 17.6**	**+0.6**
ESPY	**Espiye-Giresun**	**4.25**	**303**	*e*Pn	**Pn**	**05 30 17.6**	**+0.6**
XNQ	**Khinaliq**	**4.37**	**54**	⇑P	**Pn**	**05 30 17.3**	**-1.5**
XNQ	**Khinaliq**	**4.37**	**54**	P	**Pn**	**05 30 17.3**	**-1.5**
PQL	**Pirkuli**	**4.48**	**61**	⇓P	**Pn**	**05 30 16.9**	**-3.4**
PQL	**Pirkuli**	**4.48**	**61**	P	**Pn**	**05 30 16.9**	**-3.4**
QSAR	**Qusar**	**4.64**	**51**	⇓P	**Pn**	**05 30 21.8**	**-0.6**
QSAR	**Qusar**	**4.64**	**51**	P	**Pn**	**05 30 21.8**	**-0.6**
DARE	**Darende-Malaty**	**4.67**	**270**	*e*PN	**Pn**	**05 30 23.6**	**+0.7**
DARE	**Darende-Malaty**	**4.67**	**270**	*e*Pn	**Pn**	**05 30 23.6**	**+0.7**
QUBA	**Quba, Azerbaij**	**4.69**	**54**	⇑P	**Pn**	**05 30 21.7**	**-1.4**
QUBA	**Quba, Azerbaij**	**4.69**	**54**	P	**Pn**	**05 30 21.7**	**-1.4**
ATGJ	**Altiaghaj**	**4.75**	**61**	⇑P	**Pn**	**05 30 20.1**	**-3.8**
SIZA	**Siyzn**	**4.82**	**59**	⇓P	**Pn**	**05 30 21.9**	**-3.0**
SIZA	**Siyzn**	**4.82**	**59**	P	**Pn**	**05 30 21.9**	**-3.0**
GROC	**Groznyy**	**4.83**	**21**	*e*P	**Pb**	**05 30 39.5**	**+2.3**
GROC				pmax	pmax		
	comp=Z,70nm,1.0s						
RSDY	**Resadiye-TOKAT**	**5.02**	**292**	*e*PN	**Pn**	**05 30 28.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.39**	**66**	*e*Pg	**Pb**	**05 30 29.6**	**0.0**
OJC				*e*Sg	**Sb**	**05 30 35.7**	**0.0**
OJC	**Ojcow**	**0.39**	**66**	*e*Pg	**Pb**	**05 30 29.6**	**0.0**
OJC				*e*Sg	**Sb**	**05 30 35.7**	**0.0**
LANS	**Liptovska Anna**	**0.92**	**171**	*e*PG	**Pn**	**05 30 39.7**	**0.0**
LANS				*e*SG	**Sn**	**05 30 53.3**	**+0.1**
VYHS	**Vyhne**	**1.59**	**190**	*e*SN	**Sb**	**05 31 10.3**	**0.0**
VYHS				*e*LG	Lg	05 31 12.2	

NIED ***27*** *05:43:00, 35°.40N×142°.70E, h5km, Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φs44.00000°, δ44.00000°, λ-51.00000°. NP2:φs176.00000°, δ58.00000°, λ-121.00000°.*
IDC ***27*** *05:43:11.9±0.7, 35°.34N×142°.75E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.1/53, mbtmp4.1/19, ML3.9/3, MS2.8/6, Ms1 2.8/6, ms1mx2.5/50, Error ellipse: s-maj=18.7km s-min=17.4km az=95.0*
NEIC ***27*** *05:43:13.5±0.4, 35°.40N×142°.82E, h10km, mb4.1/3, Error ellipse: s-maj=10.3km s-min=9.6km az=198.0*
JMA ***27*** *05:43:15.1±0.2, 35°.37N×142°.70E, h64km, M4.2*
ISCJB ***27*** *05:43:17.1±0.5, 35°.35N±0°.03×142°.53E±0°.05, h56km, mb4.1/18, MS3.0/2, Error ellipse: s-maj=5.4km s-min=4.9km az=19.1*

ISC 27 05:43:19.3±0.6, 35°.34N±0°.05×142°.63E±0°.07, h56km, n46, σ2§15/54, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.49**	**284**	P	**Pn**	**05 43 41.2**	**-2.5**
CHOJ				S	**Sn**	**05 43 59.8**	**-2.2**
BSO1	**Boso 1**	**1.52**	**244**	P	**Pn**	**05 43 40.9**	**-2.7**
BSO1				S	**Sn**	**05 44 00.3**	**-1.7**
BSO3	**Boso 3**	**1.82**	**253**	P	**Pn**	**05 43 45.9**	**-2.1**
JFK	**Kawauchi**	**2.46**	**325**	P	**Pn**	**05 43 53.1**	**-4.0**
JAG	**Ashikaga**	**2.79**	**294**	P	**Pn**	**05 43 58.7**	**-2.8**
JFT	**Otama**	**2.85**	**320**	P	**Pn**	**05 44 00.0**	**-2.3**
JFT				*e*S	**Sn**	**05 44 32.7**	**-2.7**
JOD2	**Odawara 2**	**2.90**	**269**	P	**Pn**	**05 44 00.4**	**-2.5**
JOD2				S	**Sn**	**05 44 34.9**	**-1.7**
JRY	**Ryogami san**	**3.11**	**284**	P	**Pn**	**05 44 04.0**	**-1.8**
JRY				*e*S	**Sn**	**05 44 40.1**	**-1.6**
JHJ2	**Mitsune**	**3.22**	**227**	P	**Pn**	**05 44 05.0**	**-2.4**
JHJ2				S	**Sn**	**05 44 40.8**	**-3.7**
JHJ	**Hachijo jima 2**	**3.24**	**228**	Pn	**Pn**	**05 44 03.4**	**-4.2**
	15nm,0.3s,baz=90,slow=20,SNR=7.2						
JHJ				Sn	**Sn**	**05 44 40.5**	**-4.4**
	260nm,0.3s,baz=82,slow=20,SNR=12						
JYN	**Shimob**	**3.34**	**274**	P	**Pn**	**05 44 06.8**	**-2.2**
JNS	**Sasagawa**	**3.63**	**314**	P	**Pn**	**05 44 11.9**	**-1.1**
JNS				*e*S	**Sn**	**05 44 52.2**	**-2.4**
JMK	**Ichinoseki**	**3.77**	**343**	P	**Pn**	**05 44 10.9**	**-4.0**
MJAR	**Matsushiro Arr**	**3.78**	**290**	Pn	**Pn**	**05 44 13.3**	**-1.8**
	8.1nm,0.3s,baz=295,slow=30,SNR=22						
MJAR				LR	LR	05 45 58.0	
	comp=Z,133nm,21.3s,baz=125,slow=43						
MAJO	**Matsushiro**	**3.78**	**290**	*e*Pn	**Pn**	**05 44 13.8**	**-1.3**
MAT	**Matsushiro**	**3.78**	**290**	P	**Pn**	**05 44 13.6**	**-1.5**
MAT				S	**Sn**	**05 44 57.0**	**-1.3**
MAT	**Matsushiro**	**3.78**	**290**	P	**Pn**	**05 44 13.6**	**-1.5**
MAT				S	**Sn**	**05 44 56.7**	**-1.6**
JYK	**Kaneyama**	**4.00**	**334**	P	**Pn**	**05 44 15.2**	**-2.9**
JYK				S	**Sn**	**05 45 00.8**	**-2.9**
JOM	**Ohasama**	**4.26**	**346**	P	**Pn**	**05 44 17.7**	**-3.9**
ASAJ	**Asahikawa**	**8.76**	**360**	Pn	Pn	05 45 18.2	-5.0
	2.6nm,0.3s,baz=198,slow=13,SNR=9.4						
KSRS	**Korea Array**	**12.04**	**284**	LR	LR	05 50 45.8	
	comp=Z,45nm,19.1s,baz=121,slow=37						
USRK	**Ussuriysk Ar.**	**12.04**	**320**	Pn	**Pn**	**05 46 06.0**	**-2.0**
	0.3nm,0.3s,baz=148,slow=8.4,SNR=3.2						
USRK				LR	LR	05 50 31.6	
	comp=Z,59nm,19.8s,baz=135,slow=36						
KLR	**Kul'dur**	**16.02**	**333**	LR	LR	05 53 19.8	
	comp=Z,6.2nm,18.0s,baz=134,slow=38						
ENH	**Enshi**	**28.23**	**269**	*e*P	**P**	**05 49 09.9**	**+2.9**
	7.0nm,0.4s						
SONM	**Songino Array**	**29.56**	**306**	P	**P**	**05 49 20.3**	**+1.6**
	1.7nm,0.8s,baz=109,slow=8.7,SNR=6.8						
TLY	**Talaya**	**32.19**	**313**	LR	LR	06 02 31.6	
	comp=Z,45nm,19.1s,baz=170,slow=36						
CMAR	**Chiang Mai Arr**	**42.06**	**258**	LR	LR	06 12 04.4	
	comp=Z,11nm,18.6s,baz=70,slow=41						
ZALV	**Zalesovo Beam**	**43.78**	**314**	P	**P**	**05 51 19.5**	**+0.3**
	2.3nm,0.5s,baz=98,slow=7.2,SNR=9.2						
ZALV				PcP	**PcP**	**05 53 06.0**	**+1.1**
	2.4nm,0.5s,baz=103,slow=3.3,SNR=6.8						
MKAR	**Makanchi Array**	**45.86**	**304**	P	**P**	**05 51 36.8**	**+1.0**
	0.9nm,0.6s,baz=95,slow=9.9,SNR=5.2						
MKAR				PcP	**PcP**	**05 53 13.6**	**+1.3**
	0.4nm,0.4s,baz=77,slow=6.4,SNR=3.2						
KDAK	**Kodiak Island**	**47.71**	**41**	P	**P**	**05 51 48.8**	**-1.3**
	5.7nm,0.8s,baz=231,slow=14,SNR=6.5						
ILAR	**Eielson Array**	**50.41**	**32**	P	**P**	**05 52 10.9**	**+0.3**
	2.4nm,0.7s,baz=260,slow=5.9,SNR=34						
BVAR	**Borovoye Array**	**52.44**	**313**	PcP	**PcP**	**05 53 36.8**	**+0.8**
	1.1nm,0.5s,baz=87,slow=4.4,SNR=5.1						
WRAB	**Tennant Creek**	**55.53**	**189**	*e*P	**P**	**05 52 48.8**	**0.0**
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**55.54**	**189**	P	**P**	**05 52 48.9**	**0.0**
	1.6nm,0.5s,baz=7.9,slow=7.5,SNR=6.2						
ASAR	**Alice Springs**	**59.27**	**189**	P	**P**	**05 53 15.2**	**+0.1**
	0.8nm,0.7s,baz=6.8,slow=7.9,SNR=10.0						
ABKAR	**Akbulak array**	**59.78**	**311**	*e*P	**P**	**05 53 18.5**	**+0.1**
	0.4nm,0.3s						
AKTO	**Aktyubinsk**	**60.54**	**313**	P	**P**	**05 53 24.1**	**+0.5**
	1.2nm,0.6s,baz=76,slow=14,SNR=4.6						
FINES	**FINESS Array B**	**70.76**	**333**	P	**P**	**05 54 29.3**	**+0.1**
	1.9nm,0.8s,baz=321,slow=2.7,SNR=3.5						
KBZ	**Khabaz**	**72.75**	**312**	P	**P**	**05 54 42.7**	**+1.2**
	2.3nm,0.8s,baz=4.5,slow=2.4,SNR=3.9						
NOA	**NORSAR Array B**	**76.12**	**338**	P	**P**	**05 55 00.8**	**-0.1**
	0.9nm,0.6s,baz=39,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**76.23**	**323**	P	**P**	**05 55 01.1**	**-0.5**
	0.9nm,0.4s,baz=46,slow=6.3,SNR=8.4						
PDAR	**Pinedale Array**	**78.14**	**46**	P	**P**	**05 55 12.4**	**-0.3**
	0.4nm,0.5s,baz=14,slow=0.6,SNR=4.2						
BRTR	**Keskin Array B**	**80.71**	**312**	P	**P**	**05 55 28.5**	**+1.8**
	1.0nm,0.7s,baz=134,slow=3.6,SNR=3.6						
TXAR	**Lajitas Array**	**90.36**	**53**	P	**P**	**05 56 15.9**	**+1.1**
	0.4nm,0.7s,baz=291,slow=3.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**119.22**	**315**	PKP	**PKPdf**	**06 02 03.1**	**+0.4**
	0.1nm,0.5s,baz=17,slow=1.5,SNR=3.1						
LPAZ	**La Paz**	**146.64**	**63**	PKPbc	**PKPab**	**06 02 56.8**	**-0.3**
	1.0nm,0.6s,baz=2.9,slow=13,SNR=6.0						

CSEM ***27*** *05:48:21.8, 34°.41N×54°.54E, h8km, ML2.5*

TEH 27 05:48:21.8, 34°.41N×54°.54E, h8km, ML2.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.17**	**334**	*e*Pg	Pg	05 48 43.3	-1.0
IANJ				*e*AMB	AMB	05 49 02.8	
	comp=Z,612nm,0.1s						
IANJ	**Anjilo**	**1.17**	**334**	*e*Pg	Pg	05 48 43.3	-1.0
ILAS	**Lasjerd**	**1.62**	**307**	*e*Pn	Pn	05 48 50.9	-0.1
ILAS				*e*AMB	AMB	05 49 17.2	
	comp=E,1μm,0.1s						
ILAS	**Lasjerd**	**1.62**	**307**	*e*Pn	Pn	05 48 50.9	-0.1
ISHM	**Shahmirzad**	**1.73**	**324**	*e*Pg	Pn	05 48 52.5	0.0
ISHM				*e*AMB	AMB	05 49 19.6	
	comp=Z,748nm,0.1s						
IFIR	**Firoozkooh**	**1.91**	**311**	*e*Pn	Pn	05 48 54.8	-0.2
IFIR				*e*Sg	Sb	05 49 21.5	+0.2
IFIR				*e*AMB	AMB	05 49 25.0	
	comp=Z,393nm,0.1s						
IFIR	**Firoozkooh**	**1.91**	**311**	*e*Pn	Pn	05 48 54.8	-0.2
IFIR				*e*Sg	Sb	05 49 21.5	+0.2
IZEF	**Zefreh**	**2.38**	**231**	*e*Pn	Pn	05 49 01.3	-0.1
IZEF				*e*AMB	AMB	05 49 34.2	
	comp=Z,133nm,0.1s						
IZEF	**Zefreh**	**2.38**	**231**	*e*Pn	Pn	05 49 01.3	-0.1

DDA ***27*** *05:50:20.6, 38°.87N×43°.47E, h5km, Ml3.5*
ISK ***27*** *05:50:20.7, 38°.89N×43°.40E, h7km, ML3.3*
CSEM ***27*** *05:50:21.8±0.3, 38°.88N×43°.40E, h2km, ML3.5, Error ellipse: s-maj=7.4km s-min=6.3km az=121.0*
AZER ***27*** *05:50:23.0±1.7, 38°.60N×43°.68E, h8km, Error ellipse: s-maj=20.0km s-min=9.6km az=99.0*

ISC 27 05:50:21.1±0.9, 38°.92N±0°.02×43°.46E±0°.02, h9km±7km, n53, σ1§05/71, 3C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**50**	*i* P	**Pg**	**05 50 23.4**	**-0.5**
VMUR				*i* S	**Sg**	**05 50 26.7**	**+0.8**
VMUR	**Van-Muradiye**	**0.11**	**50**	P	**Pg**	**05 50 23.4**	**-0.5**
VMUR				S	**Sg**	**05 50 26.7**	**+0.8**
VANB	**Van**	**0.33**	**190**	*e*PG	**Pg**	**05 50 27.9**	**+0.3**
VANB				*e*SG	**Sb**	**05 50 34.7**	**+0.1**
VANB	**Van**	**0.33**	**190**	*e*Pg	**Pg**	**05 50 27.9**	**+0.3**
VANB				*e*Sg	**Sb**	**05 50 34.7**	**+0.1**
GEVA	**Gevas**	**0.69**	**208**	*i* P	**Pg**	**05 50 32.6**	**-1.7**
GEVA	**Gevas**	**0.69**	**208**	P	**Pg**	**05 50 32.7**	**-1.7**
TUTA	**Tutak**	**0.70**	**314**	*i* P	**Pg**	**05 50 34.5**	**-0.1**
TUTA	**Tutak**	**0.70**	**314**	P	**Pg**	**05 50 34.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.75**	**331**	*e*PG	**Pg**	**05 50 35.6**	**+0.1**
AGRB				*e*SG	**Sb**	**05 50 46.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.75**	**331**	*e*Pg	**Pg**	**05 50 35.7**	**+0.1**
EKAR	**Karacoban**	**1.14**	**288**	*i* P	**Pn**	**05 50 43.4**	**0.0**
EKAR	**Karacoban**	**1.14**	**288**	P	**Pn**	**05 50 43.4**	**0.0**
EATA	**Eleskirt**	**1.21**	**322**	*i* P	**Pb**	**05 50 43.8**	**-0.5**
EATA				*i* S	**Sn**	**05 51 03.7**	**+2.7**
EATA	**Eleskirt**	**1.21**	**322**	P	**Pb**	**05 50 43.8**	**-0.5**
DIGO	**Kars**	**1.49**	**357**	*i* P	**Pg**	**05 50 50.1**	**+0.3**
DIGO	**Kars**	**1.49**	**357**	P	**Pg**	**05 50 50.1**	**+0.3**
NAX	**Nakhchivan**	**1.60**	**80**	P	**Pb**	**05 50 50.6**	**-0.3**
	SNR=24						
NAX				⇑S	**Sg**	**05 51 12.5**	**-0.1**
NAX	**Nakhchivan**	**1.60**	**80**	P	**Pb**	**05 50 50.6**	**-0.3**
	SNR=24						
NAX				S	**Sg**	**05 51 12.5**	**-0.1**
HOMI	**Horasan**	**1.65**	**313**	*i* P	**Pg**	**05 50 52.6**	**-0.1**
CUKT	**Cukurca**	**1.67**	**176**	*e*PN	**Pn**	**05 50 51.0**	**+0.3**
CUKT	**Cukurca**	**1.67**	**176**	*i* P	**Pb**	**05 50 51.8**	**-0.3**
CUKT				*i* S	**Sg**	**05 51 18.3**	**+3.4**
CUKT	**Cukurca**	**1.67**	**176**	*e*Pn	**Pn**	**05 50 51.0**	**+0.3**
CUKT	**Cukurca**	**1.67**	**176**	P	**Pb**	**05 50 51.8**	**-0.3**
BNGL	**BINGOL**	**1.81**	**272**	*i* P	**Pg**	**05 50 55.2**	**-0.5**
ERZM	**Erzurum**	**1.90**	**302**	*i* P	**Pb**	**05 50 56.6**	**+0.5**
ERZM	**Erzurum**	**1.90**	**302**	P	**Pb**	**05 50 56.6**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.94**	**247**	*e*PN	**Pn**	**05 50 54.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.94**	**247**	*i* P	**Pb**	**05 50 55.7**	**-0.8**
SVAN				*i* S	**Sb**	**05 51 20.3**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.94**	**247**	*e*Pn	**Pn**	**05 50 54.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.94**	**247**	P	**Pb**	**05 50 55.7**	**-0.8**
SVAN				S	**Sb**	**05 51 20.3**	**-0.5**
BTMN	**Batman**	**2.01**	**240**	*i* P	**Pb**	**05 50 57.7**	**-0.1**
BTMN				*i* S	**Sb**	**05 51 22.3**	**-0.6**
BTMN	**Batman**	**2.01**	**240**	P	**Pb**	**05 50 57.7**	**-0.1**
BTMN				S	**Sb**	**05 51 22.3**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.05**	**290**	*i* P	**Pb**	**05 50 59.0**	**+0.4**
ECAT	**Cat-ERZURUM**	**2.05**	**290**	P	**Pb**	**05 50 59.0**	**+0.4**
BNGB	**Bing¶ll**	**2.17**	**273**	*e*PN	**Pn**	**05 50 57.5**	**0.0**
BINT	**Bingol**	**2.32**	**270**	*e*Pn	**Pn**	**05 50 57.5**	**-2.1**
YEDI	**Yedisu-Bingol**	**2.33**	**284**	*e*PN	**Pn**	**05 50 59.9**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.33**	**284**	*e*Pn	**Pn**	**05 50 59.9**	**+0.2**
DDEM	**Demirkent**	**2.37**	**327**	*i* P	**Pg**	**05 51 06.3**	**-0.2**
DAGI	**Agillar**	**2.46**	**332**	*i* P	**Pg**	**05 51 08.0**	**-0.2**
AKH	**Akhalkalaki**	**2.49**	**0**	*e*PN	**Pn**	**05 51 03.4**	**+1.5**
AKH	**Akhalkalaki**	**2.49**	**0**	*e*Pn	**Pn**	**05 51 03.4**	**+1.5**
GDB	**GEDABAY**	**2.52**	**44**	⇓P	**Pb**	**05 51 06.9**	**+0.4**
	SNR=12						
GDB				⇓S	**Sg**	**05 51 39.8**	**-2.2**
GDB	**GEDABAY**	**2.52**	**44**	P	**Pb**	**05 51 06.9**	**+0.4**
	SNR=12						
GDB				S	**Sg**	**05 51 39.8**	**-2.2**
QZX	**Qazax, Azerbai**	**2.59**	**34**	⇑P	**Pb**	**05 51 07.2**	**-0.5**
	SNR=7.8						
QZX				⇓S	**Sg**	**05 51 43.1**	**-1.2**
QZX	**Qazax, Azerbai**	**2.59**	**34**	P	**Pb**	**05 51 07.2**	**-0.5**
	SNR=7.8						
MARD	**Mardin**	**2.66**	**234**	*i* P	**Pb**	**05 51 08.3**	**-0.6**
MAZI	**Mazidag**	**2.79**	**239**	*e*PN	**Pn**	**05 51 06.6**	**+0.6**
MAZI	**Mazidag**	**2.79**	**239**	*e*Pn	**Pn**	**05 51 06.6**	**+0.6**
GANJ	**Ganja**	**2.80**	**51**	⇑P	**Pb**	**05 51 09.7**	**-1.5**
	SNR=8.5						
GANJ				⇓S	**Sb**	**05 51 45.5**	**-0.1**
GANJ	**Ganja**	**2.80**	**51**	P	**Pb**	**05 51 09.7**	**-1.5**
	SNR=8.5						
GANJ				S	**Sb**	**05 51 45.5**	**-0.1**
ERZN	**Erzincan**	**2.98**	**284**	*e*PN	**Pn**	**05 51 08.9**	**+0.3**
EZC	**Erzincan**	**3.29**	**286**	*e*Pn	**Pn**	**05 51 09.0**	**-4.0**

IDC ***27*** *05:51:18.3±0.8, 26°.90S×178°.33W, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/33, mbtmp4.1/7, ML4.1/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/37, Error ellipse: s-maj=26.9km s-min=24.6km az=167.0*
NEIC ***27*** *05:51:19.3±0.6, 26°.94S×178°.31W, h10km, mb4.6/2, Error ellipse: s-maj=17.8km s-min=15.8km az=55.0*
ISCJB ***27*** *05:51:20.9±0.8, 26°.9S±0°.1×178°.4W±0°.1, h33km, mb4.2/8, MS3.8/12, Error ellipse: s-maj=19.8km s-min=15.2km az=38.8*
GCMT ***27*** *05:51:20.0±0.5, 26°.72S×178°.03W, h12km, MW4.9/73, Moment Tensor Solution. s22,c27; s73,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.59±.12; Mθθ1.81±.13; Mφφ-1.22±.12; Mrθ0.77±.33; Mφφ2.05±.11; Mφr-0.64±.33; Best double couple: M₀2.77700×10¹⁶ NP1:φs286.00000°, δ78.00000°, λ-22.00000°. NP2: φs20.00000°, δ68.00000°, λ-167.00000°. Principal axes: T 2.8920, Plg7.0000°, Azm334.0000°; N -0.2290, Plg65.0000°, Azm79.0000°; P -2.6620, Plg24.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 05:51:22.8±0.8, 26°.9S±0°.1×178°.3W±0°.2, h35km, n41, σ1§13/19, mb4.2/8, MS3.7/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.35**	**172**	Pn	**Pn**	**05 51 59.6**	**+0.7**
	49nm,0.3s,baz=30,slow=16,SNR=2.7						
RAO				LR	LR	05 52 56.9	
	comp=Z,4μm,18.6s,baz=20,slow=42						
RAO	**Raoul Island**	**2.35**	**172**	*e*Pn	**Pn**	**05 51 57.7**	**-1.2**
TBI	**Tubuai**	**26.32**	**89**	*e*LQ	LQ	06 01 59.6	
	1μm,26.5s						
TBI				*e*LR	LR	06 03 13.2	
	648nm,28.0s,baz=256						
TBI	**Tubuai**	**26.32**	**89**	*e*T	T	06 23 27.7	
	39nm,0.4s						
HNR	**Honiara**	**26.94**	**306**	LR	LR	06 06 26.3	
	comp=Z,194nm,19.9s,baz=131,slow=34						
PAE	**Paea**	**28.06**	**77**	*e*T	T	06 25 32.6	
	6.7nm,0.3s						
PPT2	**Papeete2**	**28.09**	**77**	*e*LQ	LQ	06 02 41.7	
	783nm,24.8s						
PPT2				*e*LR	LR	06 03 58.2	
	978nm,27.8s,baz=242						
PPT2	**Papeete2**	**28.09**	**77**	*e*T	T	06 25 35.6	
	8.6nm,0.3s						
PPT	**Papeete**	**28.10**	**77**	LR	LR	06 06 36.4	
	comp=Z,105nm,18.2s,baz=256,slow=33						
TVO	**Taravao**	**28.30**	**77**	*e*T	T	06 25 50.7	
	6.1nm,0.3s						
VAH	**Vaihoa**	**30.80**	**74**	*e*T	T	06 28 56.0	
	11nm,0.3s						
STKA	**Stephens Creek**	**35.16**	**252**	P	**P**	**05 58 14.6**	**+1.2**
	4.2nm,1.1s,baz=94,slow=4.3,SNR=4.6						
STKA				LR	LR	06 11 19.2	
	comp=Z,432nm,18.9s,baz=47,slow=34						
RKT	**Rikitea**	**39.30**	**94**	*e*T	T	06 39 44.0	
	12nm,0.3s						
TAOE	**Nuku Hiva Isla**	**40.28**	**71**	*e*LR	LR	06 09 34.2	
	427nm,27.4s						
ASAR	**Alice Springs**	**43.15**	**263**	P	**P**	**05 59 20.1**	**-0.2**
	4.5nm,1.0s,baz=109,slow=8.0,SNR=18						
WRAB	**Tennant Creek**	**43.81**	**269**	*e*P	**P**	**05 59 24.0**	**-1.6**
	15nm,1.4s						
WRA	**Warramunga Arr**	**43.82**	**269**	P	**P**	**05 59 24.6**	**-1.1**
	3.9nm,0.8s,baz=104,slow=8.3,SNR=14						
VNDA	**Vanda**	**51.52**	**185**	LR	LR	06 19 25.8	
	comp=Z,68nm,19.3s,baz=18,slow=33						
FITZ	**Fitzroy Crossi**	**52.19**	**267**	LR	LR	06 20 44.5	
	comp=Z,67nm,20.8s,baz=96,slow=34						
FITZ	**Fitzroy Crossi**	**52.19**	**267**	*e*P	**P**	**06 00 30.5**	**0.0**
	5.6nm,0.9s						
QSPA	**South Pole Qui**	**63.18**	**180**	*e*P	**P**	**06 01 46.1**	**-1.1**
MJAR	**Matsushiro Arr**	**75.25**	**325**	LR	LR	06 31 07.1	
	comp=Z,32nm,21.8s,baz=140,slow=32						
MAW	**Mawson**	**75.47**	**200**	LR	LR	06 35 05.6	
	comp=Z,144nm,19.3s,baz=67,slow=35						
KSRS	**Korea Array**	**81.54**	**320**	LR	LR	06 35 06.2	
	comp=Z,34nm,19.5s,baz=140,slow=32						
SNAA	**Sanae**	**81.63**	**179**	P	P	06 03 47.6	+11
SNAA	**Sanae**	**81.63**	**179**	P	**P**	**06 03 37.0**	**+0.1**
	2.4nm,1.2s,baz=217,slow=7.2,SNR=15						
VNA3	**Neumayer Olymp**	**81.78**	**176**	P	**P**	**06 03 37.9**	**+0.2**
VNA2	**Neumayer--Watz**	**82.22**	**177**	P	**P**	**06 03 40.4**	**+0.4**
	baz=182,slow=3.2						
PETK	**Petropavlovsk-**	**82.39**	**346**	LR	LR	06 38 31.0	
	comp=Z,80nm,18.2s,baz=120,slow=34						
VNA1	**Neumayer--Stat**	**82.45**	**177**	P	P	06 03 52.2	+11
USRK	**Ussuriysk Ar.**	**84.12**	**327**	LR	LR	06 34 30.7	
	comp=Z,47nm,21.8s,baz=147,slow=31						
PLCA	**Paso Flores**	**85.07**	**133**	LR	LR	06 33 22.8	
	comp=Z,64nm,21.1s,baz=312,slow=30						
KLR	**Kul'dur**	**87.91**	**330**	LR	LR	06 39 46.7	
	comp=Z,7.7nm,18.5s,slow=33						
TXAR	**Lajitas Array**	**90.73**	**57**	P	**P**	**06 04 22.8**	**+0.3**
	0.5nm,0.9s,baz=204,slow=5.6,SNR=4.5						
PDAR	**Pinedale Array**	**93.79**	**43**	P	**P**	**06 04 35.7**	**-0.8**
	0.5nm,0.8s,baz=243,slow=6.5,SNR=3.4						
ABKAR	**Akbulak array**	**130.40**	**313**	*e*PKPdf	**PKPdf**	**06 10 28.4**	**-0.9**
NB2	**NORSAR Subarra**	**145.28**	**352**	PKP	**PKPdf**	**06 10 57.5**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=19,slow=3.8						
NOA	**NORSAR Array B**	**145.28**	**352**	PKPbc	**PKPdf**	**06 10 57.7**	**+1.4**
	comp=Z,5.4nm,0.9s,baz=15,slow=5.0,SNR=9.4						
AKASG	**Malin Array Be**	**148.33**	**326**	PKPbc	**PKPab**	**06 11 07.0**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=41,slow=4.3,SNR=9.4						
BRTR	**Keskin Array B**	**150.58**	**304**	PKPbc	**PKPbc**	**06 11 12.7**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**166.30**	**180**	PKPab	**PKPab**	**06 12 27.8**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=180,slow=4.3,SNR=3.1						

IDC ***27*** *05:56:17.0±0.6, 49°.79N×155°.76E, h50km±5km, mb4.0/23, mb1 4.2/27, mb1mx4.0/51, mbtmp4.3/27, MS3.5/16, Ms1 3.5/16, ms1mx3.2/46, Error ellipse: s-maj=14.3km s-min=10.5km az=137.0*
MOS ***27*** *05:56:17.7±1.0, 49°.75N×155°.78E, h35km, mb4.8/14, Error ellipse: s-maj=9.6km s-min=4.0km az=72.5*
ISCJB ***27*** *05:56:17.1±0.5, 49°.69N±0°.04×155°.90E±0°.05, h69km±4km, mb4.4/65, Error ellipse: s-maj=7.1km s-min=3.3km az=144.0*
KRSC ***27*** *05:56:17.4±2.8, 49°.74N×156°.86E, h16km±38km, ML4.8*
SKHL ***27*** *05:56:18.1±0.4, 49°.77N×155°.71E, h75km±4km, mb5.1/4*
NEIC ***27*** *05:56:19.8±0.6, 49°.80N×155°.84E, h75km±5km, mb4.6/39, Error ellipse: s-maj=7.5km s-min=3.7km az=147.0*

ISC 27 05:56:17.8±0.5, 49°.70N±0°.05×155°.97E±0°.04, h60km±4km, h60km:pP-P, n193, σ1§55/229, mb4.5/65, MS3.5/15, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**5**	*e*PN	**Pn**	**05 56 34.9**	**-0.7**
SKR				*e*S	**Sn**	**05 56 48.2**	**-0.6**
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax	smax		
	comp=N,10μm,0.9s						
SKR				smax	smax		
	comp=E,9μm,0.8s						
SKR	**Severo-Kuril's**	**0.99**	**5**	*e*P	**Pn**	**05 56 34.9**	**-0.7**
SKR				AMB	AMB	05 56 35.0	
	comp=E,1μm,0.4s						
SKR				*e*S	**Sn**	**05 56 47.8**	**-1.0**
SKR				A	A	05 56 51.8	
	comp=E,10μm,0.9s						
SKR				A	A	05 56 51.8	
	comp=E,9μm,0.9s						
SKR	**Severo-Kuril's**	**0.99**	**5**	*e*P	**Pn**	**05 56 34.7**	**-0.9**
SKR				*e*S	**Sn**	**05 56 48.0**	**-0.8**
MTVR	**Mutnovka**	**3.11**	**26**	PN	**Pn**	**05 57 06.2**	**+1.6**

YUK pmax pmax
comp=Z,61nm,0.4s
YUK pmax pmax
comp=N,39nm,0.1s
YUK pmax pmax
comp=E,213nm,0.3s
YUK Yuzh-Kuril'sk 8.95 235 *e*P **Pn 05 58 24.0 -0.3**
YUK AMB AMB 05 58 25.2
comp=E,61nm,0.4s
UGL Uglegorsk 9.10 271 *e*PN **Pn 05 58 26.2 -0.1**
UGL *e*S **Sn 06 00 08.2 +1.2**
YSS Yuzh-Sakhalins 9.23 258⇓*e*PN **Pn 05 58 32.0 +3.9**
YSS *e*S **Sn 06 00 11.3 +1.0**
YSS pmax pmax
comp=Z,50nm,0.3s
YSS smax smax
comp=N,30nm,0.5s
YSS Yuzh-Sakhalins 9.23 258 *e*Pn **Pn 05 58 29.9 +1.8**
MA2 Magadan 10.34 345 P **Pn 05 58 41.9 -1.3**
comp=N,1.4nm,0.3s,baz=172,slow=9.7,SNR=6.2
MA2 LR LR 06 02 44.6
comp=N,197nm,22.0s,baz=173,slow=38
MA2 Magadan 10.34 345⇑*e*PN **Pn 05 58 43.5 +0.3**
MA2 Magadan 10.34 345 *e*P **Pn 05 58 43.5 +0.3**
ASAJ Asahikawa 10.72 244 P **Pn 05 58 50.5 +2.0**
comp=N,2.6nm,0.3s,baz=64,slow=13,SNR=18
ASAJ Asahikawa 10.72 244 *e*Pn **Pn 05 58 50.6 +2.2**
SEY Seymchan 13.41 353 P **Pn 05 59 26.6 +1.6**
comp=N,0.2nm,0.3s,baz=125,slow=13,SNR=4.4
SEY Seymchan 13.41 353⇑*e*PN **Pn 05 59 27.3 +2.3**
KLR Kul'dur 15.74 278 P **P 05 59 58.5 0.0**
comp=N,0.0nm,0.3s,baz=75,slow=11,SNR=18
USRK Ussuriysk Ar. 17.24 261 P **Pn 06 00 13.0 -1.4**
comp=N,0.4nm,0.3s,baz=89,slow=12,SNR=2.9
MJB9 Matsu-Tunnel 18.41 231 *e*P **Pn 06 00 28.7 0.0**
comp=N,3.1nm,0.9s
MAJO Matsushiro 18.41 231⇓*e*P **P 06 00 28.2 +0.1**
MAJO pmax pmax
comp=Z,37nm,0.6s
MAJO Matsushiro 18.41 231 *e*P **Pn 06 00 28.7 0.0**
MAJO Matsushiro 18.41 231 *e*P **Pn 06 00 28.7 0.0**
comp=Z,12nm,0.9s
MAT Matsushiro 18.41 231 P **Pn 06 00 28.8 +0.1**
MJAR Matsushiro Arr 18.41 231 P **P 06 00 28.1 0.0**
comp=Z,0.9nm,0.3s,baz=33,slow=9.8,SNR=12
MJAR LR LR 06 08 03.9
comp=Z,80nm,18.8s,baz=75,slow=38
ATKA Atka Island 18.90 71 *e*P **P 06 00 32.7 -0.5**
comp=Z,210nm,1.7s
YAK Yakutsk 19.06 320 LR LR 06 08 22.2
comp=Z,94nm,18.1s,baz=90,slow=38
YAK Yakutsk 19.06 320 *e*P **P 06 00 33.0 -2.0**
YAK *e*S **S 06 04 04.6 -3.2**
YAK pmax pmax
comp=Z,48nm,1.2s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
YAK smax smax
comp=N,33nm,2.1s
YAK smax smax
comp=E,104nm,3.4s
YAK Yakutsk 19.06 320 *e*P **Pn 06 00 37.6 +1.3**
YAK Yakutsk 19.06 320 *e*P **P 06 00 34.2 -0.8**
comp=E,36nm,0.8s
CN2 Changchun 21.64 266 *e*P **P 06 01 04.0 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 23.57 249 P **P 06 01 23.2 +0.3**
comp=Z,8.3nm,0.8s,baz=47,slow=9.9,SNR=25
KS15 Wonju Array Si 23.60 249 *e*P **P 06 01 24.1 +0.9**
KSAR Wonju Array Be 23.60 249 P **P 06 01 23.2 0.0**
KSAR Wonju Array Be 23.60 249 P **P 06 01 23.2 0.0**
INCN Inchon 24.34 251 *e*P **P 06 01 31.6 +1.6**
comp=Z,30nm,0.3s
JNU Nakatsue 24.90 238 P **P 06 01 35.2 +0.2**
comp=Z,6.6nm,0.6s,baz=49,slow=9.6,SNR=7.6
JNU Nakatsue 24.90 238 *e*P **P 06 01 35.3 +0.2**
comp=Z,12nm,0.9s
FALS False Pass 25.11 63 *e*P **P 06 01 37.3 +0.6**
comp=Z,998nm,2.0s
TIXI Tiksi 25.25 340 P **P 06 01 35.8 -2.0**
comp=Z,12nm,0.6s,baz=129,slow=9.6,SNR=39
TIXI LR LR 06 12 10.1
comp=Z,82nm,18.4s,baz=170,slow=38
TIXI Tiksi 25.25 340 *e*P **P 06 01 36.0 -1.8**
comp=Z,14nm,0.7s
TT01 Tatalina 28.95 45 *e*P **P 06 02 11.2 +0.1**
BJI Beijing 29.50 266 P **P 06 02 15.5 -0.7**
BJI S **S 06 07 06.5 +0.1**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI LR LR
comp=Z,91nm,22.1s
H11N2 WAKE ISLAND Hy 31.15 160 T T 06 35 26.2
baz=347,slow=76,SNR=315
H11N1 WAKE ISLAND Hy 31.17 160 T T 06 35 22.2
baz=347,slow=76,SNR=287
H11N3 WAKE ISLAND Hy 31.17 160 T T 06 35 20.2
baz=347,slow=76,SNR=484
BPAW Bear Paw Mtn. 31.27 43 *e*P **P 06 02 32.4 +0.8**
comp=Z,37nm,1.8s
MLY Manley 31.42 41 *e*P **P 06 02 33.9 +1.0**
comp=Z,4.1nm,0.9s
COLD Coldfoot 31.82 37 *e*P **P 06 02 37.0 +0.7**
comp=Z,5.1nm,0.8s
ULN Ulaanbaatar 31.84 286⇑*e*P **P 06 02 38.0 +1.1**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 31.84 286 *e*P **P 06 02 38.0 +1.1**
RND Reindeer 32.22 44 *e*P **P 06 02 39.9 -0.1**
RND pmax pmax
comp=Z,28nm,1.6s
RND Reindeer 32.22 44 *e*P **P 06 02 39.9 -0.1**
comp=Z,28nm,1.6s
SONM Songino Array 32.26 286 P **P 06 02 39.4 -1.2**
comp=Z,0.3nm,0.3s,baz=60,slow=8.5,SNR=2.2
SONM PcP **PcP 06 05 27.6 0.0**
comp=Z,0.5nm,0.5s,baz=100,slow=1.5,SNR=5.1
SONM LR LR 06 16 41.4
comp=Z,67nm,19.9s,baz=76,slow=38
H11S1 WAKE ISLAND Hy 32.29 161 T T 06 36 49.8
baz=347,slow=76,SNR=4225
H11S3 WAKE ISLAND Hy 32.30 161 T T 06 36 46.8
baz=347,slow=76,SNR=4223
H11S2 WAKE ISLAND Hy 32.31 161 T T 06 36 46.0
baz=347,slow=76,SNR=2804
MDM Murphy Dome 32.48 41 *e*P **P 06 02 43.6 +1.4**
comp=Z,4.7nm,0.7s
SML Sawmill 32.53 47 *e*P **P 06 02 43.2 +0.5**
SML pmax pmax
comp=Z,28nm,0.7s
SML Sawmill 32.53 47 *e*P **P 06 02 43.2 +0.5**
SML Sawmill 32.53 47 *e*P **P 06 02 43.2 +0.5**
comp=Z,28nm,0.7s
WRH Wood River Hil 32.54 42 *e*P **P 06 02 43.0 +0.3**
comp=Z,5.5nm,1.0s
COLA College 32.64 41 *e*P **P 06 02 43.9 +0.3**
COLA pmax pmax
comp=Z,18nm,0.7s
COLA College 32.64 41 *e*P **P 06 02 43.8 +0.3**
COLA College 32.64 41 *e*P **P 06 02 43.9 +0.3**
comp=Z,18nm,0.7s
HDA Harding Lake 33.03 42 *e*P **P 06 02 46.7 -0.3**
comp=Z,9.1nm,1.0s
ILAR Eielson Array 33.05 41 P **P 06 02 47.3 +0.1**
comp=Z,3.6nm,0.7s,baz=256,slow=5.8,SNR=55
ILB Eielson Array 33.05 41 *e*P **P 06 02 46.7 -0.5**
FYU Fort Yukon 33.73 38 *e*P **P 06 02 54.0 +1.0**
comp=Z,15nm,0.8s
EGAK Eagle 35.51 41 *e*P **P 06 03 07.5 -0.9**
comp=Z,8.4nm,0.8s
NRIK Noril'sk 37.27 327 LR LR 06 20 26.5
comp=Z,70nm,18.6s,baz=92,slow=39
INK Inuvik 38.13 35 P **P 06 03 31.3 +0.7**
comp=Z,4.5nm,0.9s,baz=272,slow=7.0,SNR=4.9
LZH Lanzhou 39.75 270 *e*P **P 06 03 44.5 -0.2**
LZH pP pP 06 04 02.5 +2.7
LZH sP sP 06 04 13.5 +6.8
LZH PP **PnPn 06 05 19.3 -1.1**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,89nm,4.4s
ZALV Zalesovo Beam 42.49 304 P **P 06 04 05.5 -1.2**
comp=Z,1.3nm,0.6s,baz=60,slow=6.0,SNR=6.1
ZALV PcP **PcP 06 05 58.0 -0.5**
comp=Z,1.3nm,0.4s,baz=54,slow=4.2,SNR=4.8
ZALV LR LR 06 22 26.7
comp=Z,58nm,19.0s,baz=65,slow=37
NVS Novosibirsk 42.96 306 *e*P **P 06 04 09.1 -1.4**
WMQ Urumqi 45.68 290 P **P 06 04 32.5 0.0**
WMQ pP pP 06 04 50.3 +2.4
WMQ sP sP 06 05 01.0 +6.3
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,87nm,4.9s
WMQ LR LR
comp=N,32nm,25.5s
WMQ LR LR
comp=E,42nm,27.9s
WMQ LR LR
comp=Z,47nm,18.7s
MKAR Makanchi Array 47.32 296 P **P 06 04 44.5 -0.8**
comp=Z,2.2nm,0.8s,baz=69,slow=6.9,SNR=10.0
MKAR PcP **PcP 06 06 15.7 +0.4**
comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=2.9
MKAR LR LR 06 25 56.8
comp=Z,150nm,18.1s,baz=42,slow=38
KURK Kurchatov 47.35 303 *e*P **P 06 04 44.9 -0.5**
KURK 06 06 15.2
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 47.35 303 *e*P **P 06 04 45.0 -0.5**
KURK Kurchatov 47.35 303 *e*P **P 06 04 44.9 -0.5**
comp=Z,6.1nm,0.8s
KURK PcP **PcP 06 06 15.2 -0.1**
RES Resolute Bay 47.42 20 P **P 06 04 45.5 -0.1**
comp=Z,3.7nm,0.9s,baz=348,slow=6.5,SNR=9.4
KURBB Kurchatov Arra 47.45 302 P **P 06 04 45.0 -1.2**
comp=Z,6.2nm,0.8s,baz=63,slow=7.8,SNR=16
KURBB PcP **PcP 06 06 15.2 -0.4**
comp=Z,0.9nm,0.4s,baz=65,slow=3.1,SNR=7.3
QIZ Qiongzhong 47.77 247 P **P 06 04 49.5 +0.5**
QIZ S **S 06 11 40.0 -1.1**
QIZ LR LR
comp=Z,26nm,33.1s
BVAR Borovoye Array 50.48 309 P **P 06 05 08.6 -0.7**
comp=Z,2.0nm,0.5s,baz=59,slow=7.1,SNR=14
BVAR PcP **PcP 06 06 26.4 -0.2**
comp=Z,1.9nm,0.7s,baz=66,slow=3.6,SNR=6.1
BRVK Borovoye 50.52 309 *de*P **P 06 05 08.9 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 50.52 309 *e*P **P 06 05 09.3 -0.3**
BRVK Borovoye 50.52 309 *e*P **P 06 05 09.3 -0.3**
comp=Z,4.8nm,0.8s
ARU Arti 54.14 317 P **P 06 05 34.2 -2.1**
comp=Z,2.0nm,0.3s,baz=83,slow=2.1,SNR=4.5
ARU Arti 54.14 317 *d*P **P 06 05 34.8 -1.6**
ARU 06 07 36.4
ARU S **S 06 13 06.4 -1.9**
ARU SS **SS 06 16 47.7 -2.2**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 54.14 317 *e*P **P 06 05 35.0 -1.4**
comp=Z,2.4nm,0.6s
AAK Ala-Archa 54.25 296⇓*e*P **P 06 05 37.9 +0.3**
AAK pmax pmax
comp=Z,8.0nm,1.9s
AAK Ala-Archa 54.25 296 *e*P **P 06 05 37.9 +0.3**
CHTO Chiang Mai 54.66 257 *e*P **P 06 05 40.8 +0.2**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 54.66 257 *e*P **P 06 05 40.8 +0.2**
comp=Z,5.7nm,0.7s
CMAR Chiang Mai Arr 54.92 257 P **P 06 05 43.0 +0.5**
comp=Z,3.0nm,0.7s,baz=31,slow=6.9,SNR=12
CMAR LR LR 06 29 36.8
comp=Z,10nm,19.3s,baz=110,slow=36
KEV Kevo 55.19 341 *e*P **pP 06 06 00.5 +1.0**
KEV *e* 06 06 41.7
KEV Kevo 55.19 341 *e*pP **pP 06 06 00.5 +1.0**
KEV *e*PcP **PcP 06 06 41.7 -2.4**
KSH Kashi 55.30 292 *e*P **P 06 05 48.8 +3.6**
KSH *e*pP sP 06 06 07.8 0.0
KSH sP pP 06 06 17.0 +16
KSH *e*PcP **PcP 06 06 47.5 +2.2**
KSH PP **PP 06 07 56.0 +7.0**
KSH PcS **PcS 06 10 46.8 +1.4**
KSH S **S 06 13 24.5 -0.2**
KSH sS sS 06 13 58.5 +7.2
KSH ScS **ScS 06 15 25.3 -3.7**
KSH Kashi 55.30 292 SS **SS 06 17 11.5 +2.3**
KSH pmax pmax
comp=Z,14nm,1.7s
KSH pmax pmax
comp=Z,140nm,6.3s
KSH LR LR
comp=N,100nm,9.0s
KSH LR LR
comp=E,77nm,6.3s
KSH LR LR
comp=Z,120nm,9.1s
ARCES ARCESS Array B 55.68 341 LR LR 06 32 48.3
comp=Z,46nm,20.3s,baz=20,slow=39
WVOR Wild Horse Val 56.64 62 P **P 06 05 55.6 +0.9**
WVOR AP **pP 06 06 10.7 +0.1**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 56.64 62 *e*P **P 06 05 55.6 +0.9**
WVOR *e*pP **pP 06 06 10.7 +0.1**
SUMG Summit 57.60 5 *e*P **P 06 06 01.4 0.0**
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 57.60 5 *e*P **P 06 06 01.4 0.0**
comp=Z,11nm,0.8s
ABKAR Akbulak array 58.00 310 *e*P **P 06 06 02.9 -1.2**
comp=Z,24nm,0.6s
AKTO Aktyubinsk 58.18 312 P **P 06 06 04.0 -1.2**
comp=Z,1.3nm,0.5s,baz=72,slow=7.8,SNR=8.0
YHH Holmes Hill 59.45 56 *e*P **P 06 06 15.2 +0.6**
comp=Z,2.9nm,0.7s
YHH *e*pP **pP 06 06 30.0 -0.4**
RLMT Red Lodge 60.07 55 *e*P **P 06 06 19.7 +1.0**
comp=Z,5.8nm,1.1s
LAO LASA Array 60.60 52 *e*P **P 06 06 23.8 +1.7**
comp=Z,6.9nm,0.9s
BW06 Boulder Array 61.49 57 *e*P **P 06 06 29.3 +0.9**
BW06 *e*pP **pP 06 06 44.0 -0.5**
PD31 Pinedale Array 61.49 57 *e*P **P 06 06 29.1 +0.7**
PD31 *e*pP **pP 06 06 43.9 -0.5**
PDAR Pinedale Array 61.49 57 P **P 06 06 29.6 +1.2**
comp=Z,2.2nm,0.8s,baz=312,slow=2.4,SNR=19
PDAR pP **pP 06 06 43.2 -1.2**
comp=Z,3.3nm,0.9s,baz=298,slow=3.2,SNR=12
FINES FINESS Array B 62.17 335 P **P 06 06 30.8 -1.5**
comp=Z,1.8nm,0.9s,baz=40,slow=6.2,SNR=5.3
FINES pP **pP 06 06 45.0 -3.4**
comp=Z,1.9nm,0.8s,baz=35,slow=7.0,SNR=2.1
FINES LR LR 06 35 59.4
comp=Z,66nm,18.2s,baz=18,slow=38
TMUT Trail Mountain 62.94 60 *e*P **P 06 06 35.8 -2.4**
comp=Z,3.1nm,0.9s
LCMT Little Creek M 63.34 64 *e*P **P 06 06 41.2 +0.5**
comp=Z,3.0nm,0.9s
SRU San Rafael Swe 63.45 60 *e*P **P 06 06 42.3 +0.8**
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael Swe 63.45 60 *e*P **P 06 06 42.3 +0.8**
comp=Z,4.5nm,0.7s
RSSD Black Hills 63.48 52 *e*P **P 06 06 41.9 +0.3**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 63.48 52 *e*P **P 06 06 41.9 +0.3**
comp=Z,6.6nm,1.0s
SMCO Snowmass 65.38 58 *e*P **P 06 06 55.5 +1.2**
comp=Z,2.7nm,0.8s
ISCO Idaho Springs 65.69 57 *e*P **P 06 06 57.8 +1.6**
ISCO *e*PP **pP 06 07 12.3 -0.1**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 65.69 57 *e*P **P 06 06 57.8 +1.6**
comp=Z,3.4nm,0.8s
ISCO *e*pP **pP 06 07 12.3 -0.1**
NOA NORSAR Array B 66.03 342 P **P 06 06 57.6 -0.1**
comp=Z,0.9nm,0.6s,baz=24,slow=6.4,SNR=2.0
NOA LR LR 06 40 14.9
comp=Z,37nm,19.9s,baz=30,slow=40
GEYT Alibeck 66.71 301 P **P 06 07 01.3 -1.1**
comp=Z,2.0nm,0.6s,baz=66,slow=5.0,SNR=5.3
GEYT LR LR 06 37 56.2
comp=Z,39nm,18.4s,baz=50,slow=38
SDCO Great Sand Dun 67.21 58 *e*P **P 06 07 06.5 +0.6**
comp=Z,4.1nm,1.2s
ECSD EROS Data Cent 67.47 48 *e*P **P 06 07 07.2 0.0**
comp=Z,3.5nm,0.8s
MHTCO State Highway 68.10 58 *e*P **P 06 07 13.1 +1.6**
comp=Z,6.1nm,1.1s
ANMO Albuquerque 68.69 61 *e*P **P 06 07 16.4 +1.2**
ANMO pmax pmax
comp=Z,10.0nm,1.8s
ANMO Albuquerque 68.69 61 *e*P **P 06 07 16.4 +1.2**
comp=Z,10nm,1.8s
AKASG Malin Array Be 70.13 327 P **P 06 07 21.1 -2.4**
comp=Z,1.0nm,0.4s,baz=32,slow=6.4,SNR=3.4
AKASG LR LR 06 40 15.0
comp=Z,52nm,20.3s,baz=355,slow=38
KBZ Khabaz 70.16 315 P **P 06 07 22.9 -0.8**
comp=Z,3.0nm,0.8s,baz=47,slow=3.8,SNR=5.1
WRAB Tennant Creek 71.93 201 *e*P **P 06 07 34.8 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,1.1s
WRAB Tennant Creek 71.93 201 *e*P **P 06 07 34.8 +0.1**
comp=Z,7.5nm,1.1s
WB2 Warramunga Arr 71.94 201 *e*P **P 06 07 34.9 +0.1**
comp=Z,11nm,1.3s
WRA Warramunga Arr 71.95 201 P **P 06 07 34.1 -0.7**
comp=Z,3.8nm,0.9s,baz=19,slow=6.6,SNR=12
WRA pP **pP 06 07 48.6 -2.5**
comp=Z,1.1nm,0.7s,baz=16,slow=6.6,SNR=4.2
FITZ Fitzroy Crossi 72.66 210 *e*P **P 06 07 37.8 -1.2**
BUR08 Bucovina Ar. S 74.12 328 *e*P **P 06 07 46.4 -1.2**
TX31 Lajitas Ar. Si 74.41 63 *e*P **P 06 07 50.4 +0.8**
TXAR Lajitas Array 74.41 63 P **P 06 07 50.2 +0.7**
comp=Z,4.6nm,0.7s,baz=298,slow=4.2,SNR=67
TXAR pP **PcP 06 08 04.4 +0.4**
comp=Z,2.9nm,0.8s,baz=296,slow=3.9,SNR=10
ASAR Alice Springs 75.63 201 P **P 06 07 56.7 +0.4**
comp=Z,2.4nm,0.7s,baz=14,slow=5.5,SNR=28
ASAR pP **pP 06 08 11.2 -1.6**
comp=Z,1.0nm,0.7s,baz=13,slow=5.3,SNR=4.3
KHC Kasperske Hory 76.37 336 *e*P P 06 08 05.4 +5.0
KHC Kasperske Hory 76.37 336 *e*P P 06 08 05.4 +5.0
GERES GERESS Array B 76.60 335 LR LR 06 45 50.5
comp=Z,89nm,18.4s,baz=40,slow=39
RAYN Ar Rayn 84.64 300 *e*P **P 06 08 45.0 -0.1**
comp=Z,8.3nm,0.8s
CPUP Villa Florida 145.34 60 PKPbc **PKPbc 06 15 48.4 -0.2**
comp=Z,3.9nm,0.9s,baz=290,slow=3.0,SNR=6.1

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*CSEM **27** 06:00:28.6, 38°.86N×43°.49E, h4km, ML3.6*
DDA 27 06:00:28.6, 38°.86N×43°.49E, h4km, Ml3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**26**	*i* P	Pg	06 00 31.7	+0.1
VMUR				*i* S	Sg	06 00 34.7	+1.1
VMUR	**Van-Muradiye**	**0.15**	**26**	P	Pg	06 00 31.7	+0.1
VMUR				S	Sg	06 00 34.7	+1.1
GEVA	**Gevas**	**0.64**	**212**	*i* P	Pg	06 00 40.6	-0.2
GEVA				*i* S	Sg	06 00 50.5	+1.3
GEVA	**Gevas**	**0.64**	**212**	P	Pg	06 00 40.6	-0.3
GEVA				S	Sb	06 00 50.5	-1.3
EKAR	**Karacoban**	**1.18**	**290**	*i* P	Pn	06 00 52.4	+0.3
EKAR	**Karacoban**	**1.18**	**290**	P	Pn	06 00 52.4	+0.3
EATA	**Eleskirt**	**1.27**	**323**	*i* P	Pg	06 00 52.1	-0.8
EATA	**Eleskirt**	**1.27**	**323**	P	Pg	06 00 52.1	-0.8
CUKT	**Cukurca**	**1.61**	**177**	*i* P	Pg	06 00 59.8	+0.4
CUKT	**Cukurca**	**1.61**	**177**	P	Pg	06 00 59.8	+0.4
HOMI	**Horasan**	**1.71**	**315**	*i* P	Pb	06 01 00.2	-0.5
BNGL	**BINGOL**	**1.83**	**274**	*i* P	Pg	06 01 03.3	-0.3
BNGL				*i* S	Sg	06 01 29.5	+2.2
SVAN	**Silvan-Diyarba**	**1.93**	**249**	*i* P	Pg	06 01 05.3	-0.2
SVAN				*i* S	Sg	06 01 31.4	+0.9
SVAN	**Silvan-Diyarba**	**1.93**	**249**	P	Pg	06 01 05.3	-0.3
SVAN				S	Sg	06 01 31.5	+0.9
ERZM	**Erzurum**	**1.95**	**303**	*i* P	Pg	06 01 05.8	-0.1
ERZM	**Erzurum**	**1.95**	**303**	P	Pg	06 01 05.8	-0.2
BTMN	**Batman**	**1.99**	**242**	*i* P	Pn	06 01 03.9	+0.7
BTMN				*i* S	Sg	06 01 33.9	+1.3
BTMN	**Batman**	**1.99**	**242**	P	Pn	06 01 03.8	+0.7
BTMN				S	Sg	06 01 33.9	+1.3
ECAT	**Cat-ERZURUM**	**2.09**	**292**	*i* P	Pb	06 01 07.4	+0.2
ECAT	**Cat-ERZURUM**	**2.09**	**292**	P	Pb	06 01 07.4	+0.2
MARD	**Mardin**	**2.63**	**235**	*i* P	Pn	06 01 13.4	+1.4
MARD				*i* S	Sn	06 01 46.6	+2.2

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*CSEM **27** 06:09:43.1±0.4, 38°.85N×43°.63E, h15km, ML3.7, Error ellipse: s-maj=11.8km s-min=5.3km az=72.0*
*DDA **27** 06:09:43.2, 38°.77N×43°.50E, h7km, Ml3.7*
*ISK **27** 06:09:43.2, 38°.83N×43°.55E, h10km, ML3.0*
*ISCJB **27** 06:09:44.2±0.7, 38°.81N±0°.03×43°.52E±0°.09, h10km±6km, Error ellipse: s-maj=11.5km s-min=5.1km az=171.2*
ISC 27 06:09:43.5±1.1, 38°.85N±0°.03×43°.65E±0°.06, h19km±3km, n33, σ0°76/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**336**	*i* P	**Pg**	**06 09 47.6**	**-0.5**
VMUR				*i* S	**Sg**	**06 09 52.2**	**+1.0**
VMUR	**Van-Muradiye**	**0.15**	**336**	P	**Pg**	**06 09 47.6**	**-0.5**
VMUR				S	**Sg**	**06 09 52.2**	**+1.0**
VANB	**Van**	**0.33**	**218**	*e*PG	**Pg**	**06 09 50.5**	**-0.2**
VANB				*e*SG	**Sb**	**06 09 55.9**	**+0.3**
VANB	**Van**	**0.33**	**218**	*e*Pg	**Pg**	**06 09 50.5**	**-0.2**
VANB				*e*Sg	**Sb**	**06 09 55.9**	**+0.3**
GEVA	**Gevas**	**0.71**	**221**	*i* P	**Pb**	**06 09 55.4**	**-1.9**
GEVA	**Gevas**	**0.71**	**221**	P	**Pb**	**06 09 55.4**	**-1.9**
BASK	**Baskale_VAN**	**0.85**	**161**	*i* P	**Pb**	**06 09 59.4**	**-0.3**
BASK	**Baskale_VAN**	**0.85**	**161**	P	**Pb**	**06 09 59.4**	**-0.3**
TUTA	**Tutak**	**0.85**	**310**	*i* P	**Pb**	**06 09 59.0**	**-0.7**
TUTA	**Tutak**	**0.85**	**310**	P	**Pb**	**06 09 59.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**325**	*e*PG	**Pb**	**06 10 00.1**	**-0.2**
AGRB				*e*SG	**Sg**	**06 10 12.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.89**	**325**	*e*Pg	**Pb**	**06 10 00.1**	**-0.2**
AGRB				*e*Sg	**Sg**	**06 10 12.5**	**-0.1**
EKAR	**Karacoban**	**1.30**	**289**	*i* P	**Pn**	**06 10 06.0**	**-0.8**
EKAR	**Karacoban**	**1.30**	**289**	P	**Pn**	**06 10 06.0**	**-0.8**
EATA	**Eleskirt**	**1.35**	**319**	*i* P	**Pb**	**06 10 08.1**	**-0.2**
EATA				*i* S	**Sg**	**06 10 27.1**	**-0.2**
EATA	**Eleskirt**	**1.35**	**319**	P	**Pb**	**06 10 08.1**	**-0.2**
EATA				S	**Sg**	**06 10 27.1**	**-0.2**
CUKT	**Cukurca**	**1.60**	**181**	*e*PN	**Pb**	**06 10 12.0**	**-0.5**
CUKT	**Cukurca**	**1.60**	**181**	*i* P	**Pn**	**06 10 11.1**	**+0.2**
CUKT				*i* S	**Sg**	**06 10 35.6**	**+0.4**
CUKT	**Cukurca**	**1.60**	**181**	P	**Pn**	**06 10 11.1**	**+0.2**
CUKT	**Cukurca**	**1.60**	**181**	*e*Pn	**Pb**	**06 10 12.0**	**-0.5**
HOMI	**Horasan**	**1.80**	**312**	*i* P	**Pg**	**06 10 17.4**	**-0.8**
BNGL	**BINGOL**	**1.95**	**274**	*i* P	**Pn**	**06 10 15.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.05**	**251**	*e*PN	**Pn**	**06 10 17.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.05**	**251**	*e*Pn	**Pn**	**06 10 17.3**	**+0.4**
ERZM	**Erzurum**	**2.06**	**301**	*i* P	**Pb**	**06 10 21.5**	**+1.1**
BTMN	**Batman**	**2.10**	**244**	*i* P	**Pb**	**06 10 22.0**	**+1.0**
ECAT	**Cat-ERZURUM**	**2.21**	**291**	*i* P	**Pb**	**06 10 23.3**	**+0.4**
BNGB	**Bing¶ll**	**2.32**	**274**	*e*PN	**Pn**	**06 10 21.5**	**+0.8**
BINT	**Bingol**	**2.47**	**272**	*e*Pn	**Pn**	**06 10 21.5**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.48**	**285**	*e*PN	**Pn**	**06 10 23.8**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.48**	**285**	*e*Pn	**Pn**	**06 10 23.8**	**+0.8**
MAZI	**Mazidag**	**2.88**	**242**	*e*PN	**Pn**	**06 10 29.4**	**+1.0**
MAZI	**Mazidag**	**2.88**	**242**	*e*Pn	**Pn**	**06 10 29.4**	**+1.0**

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*NEIC **27** 06:10:33.5±0.0, 37°.44S×179°.86W, h33km, ML4.0(WEL), After WEL.*
WEL 27 06:10:33.5±0.2, 37°.43S×179°.86W, h33km, ML4.0/38, 1C-1D, Error ellipse: s-maj=2.2km s-min=1.7km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.42**	**254**	Pn	Pn	06 10 56.5	-0.5
WMGZ				Sn	Sn	06 11 13.7	-0.9
WMGZ				Sn	Sb	06 11 14.8	-2.4
WMGZ	**Waiomatatini S**	**1.42**	**254**	PN	Pn	06 10 56.5	-0.5
WMGZ				SN	Sn	06 11 13.6	-0.9
WMGZ				AML	AML	06 11 15.6	
MXZ	**Matakaoa Point**	**1.46**	**264**	Pn	Pn	06 10 57.0	-0.5
MXZ				Sn	Sn	06 11 14.6	-1.0
MXZ	**Matakaoa Point**	**1.46**	**264**	⇑PN	Pn	06 10 57.0	-0.6

MXZ			SN	Sn	06 11 14.6	-1.0
MXZ			AML	AML	06 11 16.8	
PUZ	**Puketiti**	**1.62 246**	Pn	Pn	06 10 58.7	-1.1
PUZ			Sn	Sn	06 11 18.6	-1.0
PUZ	**Puketiti**	**1.62 246**	Pn	Pn	06 10 58.7	-1.1
PUZ			SN	Sn	06 11 18.6	-1.0
PUZ			AML	AML	06 11 24.7	
PKGZ	**Pakihiroa**	**1.70 254**	PN	Pn	06 11 00.2	-0.7
PKGZ			AML	AML	06 11 21.9	
PKGZ			AML	AML	06 11 23.3	
CNGZ	**Carnagh Statio**	**1.85 235**	Pn	Pn	06 11 02.3	-0.7
CNGZ	**Carnagh Statio**	**1.85 235**	PN	Pn	06 11 02.3	-0.7
TWGZ	**Tauwhareparae**	**1.86 246**	Pn	Pn	06 11 02.4	-0.7
TWGZ	**Tauwhareparae**	**1.86 246**	PN	Pn	06 11 02.4	-0.7
TWGZ			AML	AML	06 11 25.5	
TWGZ			AML	AML	06 11 32.6	
HAZ	**Te Kaha**	**1.90 259**	PN	Pn	06 11 03.4	-0.1
HAZ			AML	AML	06 11 29.8	
HAZ			AML	AML	06 11 29.9	
HAZ			AML	AML	06 11 31.4	
RUGZ	**Raukumara Rang**	**2.02 254**	PN	Pn	06 11 04.8	-0.6
TKGZ	**Te Karaka**	**2.07 240**	Pn	Pn	06 11 05.0	-0.9
TKGZ	**Te Karaka**	**2.07 240**	PN	Pn	06 11 05.0	-0.9
TKGZ			AML	AML	06 11 31.4	
TKGZ			AML	AML	06 11 32.0	
MWZ	**Matawai**	**2.25 246**	Pn	Pn	06 11 07.2	-1.3
MWZ	**Matawai**	**2.25 246**	PN	Pn	06 11 07.2	-1.3
MWZ			AML	AML	06 11 34.2	
MWZ			AML	AML	06 11 35.1	
RIGZ	**Rimuhau**	**2.27 235**	PN	Pn	06 11 07.6	-1.0
RIGZ			AML	AML	06 11 35.6	
RIGZ			AML	AML	06 11 35.7	
PRGZ	**Paritu Road**	**2.32 229**	Pn	Pn	06 11 08.2	-1.2
PRGZ	**Paritu Road**	**2.32 229**	PN	Pn	06 11 08.2	-1.2
PRGZ			AML	AML	06 11 36.0	
PRGZ			AML	AML	06 11 36.7	
RAGZ	**Rawiri**	**2.40 243**	Pn	Pn	06 11 09.6	-1.0
RAGZ	**Rawiri**	**2.40 243**	PN	Pn	06 11 09.5	-1.0
RAGZ			AML	AML	06 11 43.7	
RAGZ			AML	AML	06 11 46.6	
MHGZ	**Mahia Peninsul**	**2.46 225**	Pn	Pn	06 11 09.9	-1.4
MHGZ	**Mahia Peninsul**	**2.46 225**	PN	Pn	06 11 09.9	-1.4
MHGZ			AML	AML	06 11 50.9	
MHGZ			AML	AML	06 11 52.9	
KNZ	**Kokohu**	**2.51 230**	Pn	Pn	06 11 10.4	-1.5
KNZ	**Kokohu**	**2.51 230** ⇓	PN	Pn	06 11 10.4	-1.5
KNZ			AML	AML	06 11 39.3	
URZ	**Urewera**	**2.53 250**	Pn	Pn	06 11 12.2	-0.1
URZ	**Urewera**	**2.53 250**	PN	Pn	06 11 12.2	-0.1
URZ			AML	AML	06 11 42.3	
URZ			AML	AML	06 11 42.9	
SNGZ	**Shannon Statio**	**2.58 238**	Pn	Pn	06 11 12.0	-1.1
SNGZ	**Shannon Statio**	**2.58 238**	PN	Pn	06 11 12.0	-1.1
SNGZ			AML	AML	06 11 42.9	
SNGZ			AML	AML	06 11 50.5	
RTZ	**Ruatahuna**	**2.76 244**	PN	Pn	06 11 15.1	-0.4
WHHZ	**Waihua**	**2.81 233**	PN	Pn	06 11 15.4	-0.8
WHHZ			AML	AML	06 11 47.9	
WHHZ			AML	AML	06 11 48.6	
MUGZ	**Murupara**	**2.86 248**	*e*PN	Pn	06 11 15.4	-1.4
TARZ	**Mount Tarawera**	**2.98 253**	Pn	Pn	06 11 18.0	-0.6
TARZ	**Mount Tarawera**	**2.98 253**	PN	Pn	06 11 18.0	-0.6
TARZ			AML	AML	06 11 53.7	
TARZ			AML	AML	06 11 53.8	
ARHZ	**Aropaoanui**	**3.07 233**	Pn	Pn	06 11 18.7	-1.1
ARHZ	**Aropaoanui**	**3.07 233**	PN	Pn	06 11 18.7	-1.1
ARHZ			AML	AML	06 11 56.6	
ARHZ			AML	AML	06 11 57.9	
NMHZ	**Naumai**	**3.10 237**	Pn	Pn	06 11 19.2	-1.0
NMHZ	**Naumai**	**3.10 237**	PN	Pn	06 11 19.2	-1.0
NMHZ			AML	AML	06 11 56.5	
NMHZ			AML	AML	06 11 59.0	
ALRZ	**Allen Road**	**3.20 248**	AML	AML	06 12 12.8	
MRHZ	**Matea Rd**	**3.25 243**	PN	Pn	06 11 21.5	-0.8
MRHZ			AML	AML	06 12 04.3	
MRHZ			AML	AML	06 12 04.3	
CKHZ	**Cape Kidnapper**	**3.27 226**	Pn	Pn	06 11 20.4	-2.0
CKHZ	**Cape Kidnapper**	**3.27 226**	PN	Pn	06 11 20.4	-2.0
CKHZ			AML	AML	06 12 03.0	
BKZ	**Black Stump Fm**	**3.35 238**	Pn	Pn	06 11 22.3	-1.3
BKZ	**Black Stump Fm**	**3.35 238**	PN	Pn	06 11 22.3	-1.3
BKZ			AML	AML	06 12 02.4	
BKZ			AML	AML	06 12 03.5	
MCHZ	**McNeill Hill**	**3.37 232**	Pn	Pn	06 11 22.5	-1.2
MCHZ	**McNeill Hill**	**3.37 232**	PN	Pn	06 11 22.5	-1.2
MCHZ			AML	AML	06 12 02.9	
MCHZ			AML	AML	06 12 04.3	
KAHZ	**Kahuranaki**	**3.48 226**	Pn	Pn	06 11 23.1	-2.3
KAHZ	**Kahuranaki**	**3.48 226**	PN	Pn	06 11 23.1	-2.3
KWHZ	**Kaweka Forest**	**3.53 235**	PN	Pn	06 11 24.4	-1.7
KWHZ			AML	AML	06 12 05.1	
KWHZ			AML	AML	06 12 05.1	
KUZ	**Kuaotunu**	**3.60 280**	Pn	Pn	06 11 25.4	-1.6
KUZ	**Kuaotunu**	**3.60 280**	PN	Pn	06 11 25.4	-1.6
PXZ	**Pawanui**	**3.65 224**	Pn	Pn	06 11 24.8	-2.8
PXZ	**Pawanui**	**3.65 224**	PN	Pn	06 11 24.8	-2.8
KRHZ	**Kereru**	**3.69 232**	PN	Pn	06 11 25.8	-2.4
KRHZ			AML	AML	06 12 07.7	
KRHZ			AML	AML	06 12 08.7	
BHHZ	**Black Hill Sta**	**3.80 236**	Pn	Pn	06 11 28.5	-1.3
BHHZ	**Black Hill Sta**	**3.80 236**	PN	Pn	06 11 28.5	-1.3
BHHZ			AML	AML	06 12 10.8	
KRVZ	**Karewarewa**	**3.91 244**	Pn	Pn	06 11 30.3	-1.0
KRVZ	**Karewarewa**	**3.91 244**	PN	Pn	06 11 30.3	-1.0
PRHZ	**Porangahau**	**3.93 223**	Pn	Pn	06 11 27.6	-4.0
PRHZ	**Porangahau**	**3.93 223**	PN	Pn	06 11 27.6	-4.0
PRHZ			AML	AML	06 12 14.9	
PRHZ			AML	AML	06 12 18.0	
PNHZ	**Pukenui**	**3.95 230**	Pn	Pn	06 11 29.4	-2.5
PNHZ	**Pukenui**	**3.95 230**	PN	Pn	06 11 29.4	-2.5
PNHZ			AML	AML	06 12 16.3	
PNHZ			AML	AML	06 12 17.1	
MOVZ	**Moawhango**	**3.97 239**	Pn	Pn	06 11 31.2	-0.9
MOVZ	**Moawhango**	**3.97 239**	PN	Pn	06 11 31.2	-0.9
NGZ	**Ngauruhoe**	**3.97 243**	Pn	Pn	06 11 31.0	-1.2
NGZ	**Ngauruhoe**	**3.97 243**	PN	Pn	06 11 31.0	-1.2
TUVZ	**Tukino**	**3.97 241**	Pn	Pn	06 11 32.4	+0.1
TUVZ	**Tukino**	**3.97 241**	PN	Pn	06 11 32.4	+0.1
MKAZ	**Moumakai**	**3.98 273**	Pn	Pn	06 11 32.0	-0.2
MKAZ	**Moumakai**	**3.98 273**	PN	Pn	06 11 32.0	-0.2
WNVZ	**Wahianoa**	**4.04 241**	Pn	Pn	06 11 31.9	-1.2
WNVZ	**Wahianoa**	**4.04 241**	PN	Pn	06 11 31.9	-1.3
DVHZ	**Dannevirke**	**4.22 226**	Pn	Pn	06 11 32.4	-3.1
DVHZ	**Dannevirke**	**4.22 226**	PN	Pn	06 11 32.4	-3.1
DVHZ			AML	AML	06 12 20.2	
DVHZ			AML	AML	06 12 20.2	
BFZ	**Birch Farm**	**4.44 222**	Pn	Pn	06 11 34.1	-4.4
BFZ	**Birch Farm**	**4.44 222**	PN	Pn	06 11 34.1	-4.4
PRWZ	**Pori Road**	**4.50 225**	Pn	Pn	06 11 36.6	-2.7
PRWZ	**Pori Road**	**4.50 225**	PN	Pn	06 11 36.6	-2.7
PRWZ			AML	AML	06 12 28.2	
PRWZ			AML	AML	06 12 29.6	
POWZ	**Post Office Ro**	**4.51 228**	Pn	Pn	06 11 37.0	-2.5
POWZ	**Post Office Ro**	**4.51 228**	PN	Pn	06 11 37.0	-2.5
POWZ			AML	AML	06 12 31.8	
MRZ	**Mangatainoka R**	**4.79 226**	Pn	Pn	06 11 39.8	-3.6
MRZ	**Mangatainoka R**	**4.79 226**	PN	Pn	06 11 39.8	-3.6
MRZ			AML	AML	06 12 33.0	
MRZ			AML	AML	06 12 33.4	
TMWZ	**Te Maipa**	**4.93 221**	AML	AML	06 12 36.3	
HOWZ	**Holdsworth Sta**	**4.99 225**	Pn	Pn	06 11 42.2	-3.8
HOWZ	**Holdsworth Sta**	**4.99 225**	PN	Pn	06 11 42.2	-3.8
HOWZ			AML	AML	06 12 37.9	
KIW	**Kapiti Island**	**5.31 228**	Pn	Pn	06 11 46.9	-3.6
KIW	**Kapiti Island**	**5.31 228**	PN	Pn	06 11 46.9	-3.6
PAWZ	**Paruwai Farm**	**5.37 221**	Pn	Pn	06 11 45.9	-5.4
PAWZ	**Paruwai Farm**	**5.37 221**	PN	Pn	06 11 45.9	-5.4
CAW	**Cannon Point**	**5.38 225**	Pn	Pn	06 11 47.1	-4.4
CAW	**Cannon Point**	**5.38 225**	PN	Pn	06 11 47.1	-4.4
MSWZ	**Moikau Station**	**5.49 222**	Pn	Pn	06 11 47.7	-5.3
MSWZ	**Moikau Station**	**5.49 222**	PN	Pn	06 11 47.7	-5.3
PLWZ	**Palliser**	**5.60 221**	Pn	Pn	06 11 49.3	-5.1
PLWZ	**Palliser**	**5.60 221**	PN	Pn	06 11 49.3	-5.1
DUWZ	**D'Urville Isla**	**5.89 233**	Pn	Pn	06 11 55.4	-3.1
DUWZ	**D'Urville Isla**	**5.89 233**	PN	Pn	06 11 55.4	-3.1
DUWZ			AML	AML	06 14 15.9	
TUWZ	**Tuamarina**	**6.24 228**	Pn	Pn	06 11 58.4	-4.8
TUWZ	**Tuamarina**	**6.24 228**	PN	Pn	06 11 58.4	-4.8
NNZ	**Nelson**	**6.46 232**	Pn	Pn	06 12 01.8	-4.4
NNZ	**Nelson**	**6.46 232**	PN	Pn	06 12 01.8	-4.4
NNZ			AML	AML	06 14 32.7	
CTZ	**Chatham Island**	**6.76 160**	Pn	Pn	06 12 10.6	+0.2
CTZ	**Chatham Island**	**6.76 160**	PN	Pn	06 12 10.6	+0.2
QRZ	**Quartz Range**	**6.81 238**	Pn	Pn	06 12 07.6	-3.6
QRZ	**Quartz Range**	**6.81 238**	PN	Pn	06 12 07.6	-3.6
QRZ			AML	AML	06 13 24.9	
QRZ			AML	AML	06 13 27.1	
LTZ	**Lake Taylor**	**8.05 226**	Pn	Pn	06 12 22.8	-5.4
LTZ	**Lake Taylor**	**8.05 226**	PN	Pn	06 12 22.8	-5.4
MQZ	**McQueen's Vall**	**8.46 220**	Pn	Pn	06 12 27.7	-6.1
MQZ			Sn	Sn	06 13 54.8	-13
MQZ	**McQueen's Vall**	**8.46 220**	PN	Pn	06 12 27.7	-6.1
MQZ			SN	Sn	06 13 54.8	-13

*ISCJB **27** 06:12:47.1±0.7, 51°51N±0°03×16°12E±0°03, h0km, Error ellipse: s-maj=4.6km s-min=2.9km az=15.3*
*CSEM **27** 06:12:48.2±0.2, 51°54N×16°11E, h1km, ML3.2/7, Error ellipse: s-maj=3.0km s-min=2.9km az=54.0*
*WAR **27** 06:12:49.4, 51°51N×16°06E, h1km, Mw2.5*
ISC 27 06:12:47.9±0.8, 51°57N±0°03×16°11E±0°02, h0km, n34, σ1§04/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**06 13 02.3**	**+0.4**
KSP				*e*Sg	**Sg**	**06 13 11.4**	**0.0**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**06 13 02.3**	**+0.4**
KSP				*e*Sg	**Sg**	**06 13 11.4**	**0.0**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**06 13 02.3**	**+0.4**
KSP				*e*Sg	**Sg**	**06 13 11.4**	**0.0**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**06 13 08.3**	**+0.1**
UPC				*e*SG	**Sg**	**06 13 21.7**	**-0.3**
comp=Z,53nm,0.3s							
UPC	**Upice**	**1.06**	**183**	Pg	**Pg**	**06 13 08.3**	**+0.1**
UPC				Sg	**Sg**	**06 13 21.7**	**-0.3**
53nm,0.3s							
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**06 13 11.0**	**-0.3**
DPC				*e*SG	**Sg**	**06 13 26.0**	**-1.2**
comp=Z,20nm,0.4s							
DPC	**Dobruska-Polom**	**1.23**	**174**	Pg	**Pg**	**06 13 11.0**	**-0.3**
DPC				Sg	**Sg**	**06 13 26.0**	**-1.2**
20nm,0.4s							
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pb**	**06 13 15.3**	**+0.1**
PVCC				*e*SG	**Sg**	**06 13 33.6**	**+0.1**
comp=Z,71nm,0.2s							
PVCC	**Panska Ves**	**1.42**	**224**	Pg	**Pb**	**06 13 15.3**	**+0.1**
PVCC				Sg	**Sg**	**06 13 33.6**	**+0.1**
71nm,0.2s							
BRG	**Berggiesshubel**	**1.53**	**244**	PG	**Pg**	**06 13 17.3**	**+0.2**
BRG				SG	**Sn**	**06 13 37.8**	**+0.9**
28nm,0.4s							
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pb**	**06 13 17.4**	**-0.1**
KRLC				*e*SG	**Sn**	**06 13 36.9**	**-0.8**
KRLC	**Kraliky**	**1.55**	**164**	Pg	**Pb**	**06 13 17.4**	**-0.1**
KRLC				Sg	**Sn**	**06 13 36.9**	**-0.8**
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	*e*SG	**Sb**	**06 13 46.1**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	Sg	**Sb**	**06 13 46.1**	**-0.3**
PRU	**Pruhonice**	**1.87**	**213**	*e*SG	**Sb**	**06 13 47.2**	**+0.5**
comp=Z,15nm,0.4s							
PRU	**Pruhonice**	**1.87**	**213**	Sg	**Sb**	**06 13 47.2**	**+0.5**
15nm,0.4s							
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**06 13 23.0**	**+0.7**
CLL				*e*Pg	**Pg**	**06 13 26.0**	**+0.6**
CLL				*i* Sg	**Sg**	**06 13 51.8**	**+1.0**
comp=Z,13nm,0.8s							
CLL				LmV		07 24 00.0	
comp=Z,200nm,18.6s							
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**06 13 23.0**	**-0.1**
MORC				*e*Sg	**Sb**	**06 13 50.6**	**-0.3**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*SG	**Sg**	**06 13 56.7**	**-0.6**
comp=Z,15nm,0.5s							
OKC	**Ostrava-Krasne**	**2.16**	**142**	Sg	**Sg**	**06 13 56.7**	**-0.6**
comp=Z,15nm,0.5s							
VRAC	**Vranov**	**2.28**	**172**	*e*Sg	**Sb**	**06 13 59.6**	**+0.9**
NKC	**Novy Kostel**	**2.67**	**241**	*e*SG	**Sg**	**06 14 14.5**	**+0.8**
comp=Z,20nm,0.3s							
NKC	**Novy Kostel**	**2.67**	**241**	Sg	**Sg**	**06 14 14.5**	**+0.8**
comp=Z,20nm,0.3s							
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**06 13 40.0**	**+0.4**
OJC				*e*Sg	**Sg**	**06 14 15.7**	**+1.2**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**06 13 40.0**	**+0.4**
OJC				*e*Sg	**Sg**	**06 14 15.7**	**+1.2**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**06 13 40.0**	**+0.4**
OJC				*e*Sg	**Sg**	**06 14 15.7**	**+1.2**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**06 13 36.1**	**+0.4**
KHC				*e*PG	**Pb**	**06 13 40.4**	**-0.5**
KHC				*e*SG	**Sb**	**06 14 18.8**	**+1.6**
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**06 13 36.1**	**+0.4**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PG	**Pg**	**06 13 48.7**	**-1.2**
LANS				*e*SG	**Sg**	**06 14 32.7**	**+0.9**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**06 13 45.3**	**+0.1**
BSD				*i* S	**Sn**	**06 14 25.7**	**-2.9**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**06 13 45.3**	**+0.1**
BSD				*i* S	**Sn**	**06 14 25.7**	**-2.9**
CONA	**Conrad Observa**	**3.65**	**183**	Pg	**Pg**	**06 13 57.9**	**+0.2**
comp=Z,0.1nm,0.1s							
CONA				*i* Sg	**Sg**	**06 14 44.0**	**-0.9**
comp=Z,4.6nm,0.3s							
CONA	**Conrad Observa**	**3.65**	**183**	Pg	**Pg**	**06 13 57.9**	**+0.2**
comp=Z,0.1nm,0.1s							
CONA				Sg	**Sg**	**06 14 44.0**	**-0.9**
comp=Z,4.6nm,0.3s							
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pg**	**06 14 03.4**	**+0.4**
STHS				*e*SG	**Sg**	**06 14 58.4**	**+4.6**
STHS				*e*LG	Lg	06 15 04.7	

*ISCJB **27** 06:15:57.2±0.6, 17°36S±0°17×179°16W±0°17, h600km, mb4.4/20, Error ellipse: s-maj=21.0km s-min=10.0km az=148.4*
*IDC **27** 06:15:57.5±6.1, 17°36S×179°73W, h582km±77km, mb3.5/8, mb1 3.8/9, mb1mx3.4/32, mbtmp4.5/9, Error ellipse: s-maj=69.7km s-min=27.8km az=157.0*
*NEIC **27** 06:15:59.7±1.0, 17°88S×179°72W, h612km±11km, mb4.2/10, Error ellipse: s-maj=23.9km s-min=12.7km az=147.0*
ISC 27 06:15:58.5±0.8, 18°0S±0°2×179°5W±0°1, h600km, n28, σ1§48/29, mb4.3/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.34**	**276**	*e*P	**P**	**06 17 15.5**	**+1.1**
DZM	**Mont Dzumac**	**13.81**	**251**	P	**P**	**06 18 55.5**	**-0.1**
0.7nm,0.3s,baz=81,slow=17,SNR=8.8							
LHI	**Lord Howe Isla**	**23.61**	**231**	*e*P	**P**	**06 20 25.6**	**+1.2**
243nm,1.4s							
KHZ	**Kahutara**	**25.06**	**192**	*e*P	**P**	**06 20 37.9**	**+0.9**
144nm,1.8s							
CTA	**Charters Tower**	**32.40**	**261**	P	**P**	**06 21 40.0**	**-0.9**
5.6nm,0.6s,baz=97,slow=12,SNR=8.3							
COEN	**Coen**	**36.06**	**271**	*e*P	**P**	**06 22 10.7**	**-0.7**
12nm,0.7s							
STKA	**Stephens Creek**	**37.67**	**241**	P	**P**	**06 22 25.0**	**+0.7**
5.5nm,0.4s,baz=87,slow=10.0,SNR=53							
STKA	**Stephens Creek**	**37.67**	**241**	*e*P	**P**	**06 22 24.2**	**-0.1**
1.6nm,0.6s							
WB2	**Warramunga Arr**	**43.58**	**260**	*e*P	**P**	**06 23 09.8**	**-1.5**
5.8nm,0.6s							
WRAB	**Tennant Creek**	**43.58**	**260**	*e*P	**P**	**06 23 10.1**	**-1.1**
3.0nm,0.6s							
WRA	**Warramunga Arr**	**43.59**	**260**	P	**P**	**06 23 10.3**	**-1.0**
4.3nm,0.5s,baz=92,slow=7.1,SNR=49							
AS31	**Alice Springs**	**43.76**	**254**	*e*P	**P**	**06 23 11.9**	**-0.7**
12nm,0.6s							
ASAR	**Alice Springs**	**43.76**	**254**	P	**P**	**06 23 12.2**	**-0.4**
38nm,0.6s,baz=88,slow=8.1,SNR=534							
SARN	**Sarigan**	**48.54**	**313**	*e*P	**P**	**06 23 47.7**	**-1.0**
FORT	**Forrest**	**49.03**	**245**	*e*P	**P**	**06 23 50.5**	**-1.6**
275nm,0.7s							
FITZ	**Fitzroy Crossi**	**51.98**	**261**	P	**P**	**06 24 13.7**	**0.0**
2.4nm,0.4s,baz=68,slow=7.3,SNR=23							
FITZ	**Fitzroy Crossi**	**51.98**	**261**	*e*P	**P**	**06 24 11.8**	**-1.9**
21nm,1.7s							
MBWA	**Marble Bar**	**57.04**	**256**	*e*P	**P**	**06 24 48.1**	**-0.9**
7.9nm,0.3s							
JLAB	**Laurel Hill**	**77.24**	**44**	*e*P	**P**	**06 26 55.4**	**+3.3**
WVOR	**Wild Horse Val**	**82.15**	**41**	*e*P	**P**	**06 27 17.0**	**-0.8**
3.3nm,0.9s							
HLID	**Hailey**	**85.38**	**41**	*e*P	**P**	**06 27 33.1**	**-0.6**
2.3nm,0.8s							
ILAR	**Eielson Array**	**86.20**	**13**	P	**P**	**06 27 34.5**	**-2.4**
0.7nm,0.7s,baz=211,slow=6.0,SNR=8.7							
HHC	**Hu-ho-hao-te**	**86.59**	**315**	*e*P	**P**	**06 27 40.5**	**+1.1**
HHC				pmax	pmax		
comp=Z,20nm,1.3s							
HHC				pmax	pmax		
comp=Z,77nm,7.8s							
TX31	**Lajitas Ar. Si**	**86.92**	**58**	*e*P	**P**	**06 27 41.4**	**+0.1**
TXAR	**Lajitas Array**	**86.92**	**58**	P	**P**	**06 27 41.6**	**+0.3**
comp=Z,1.9nm,0.9s,baz=217,slow=5.1,SNR=17							
PDAR	**Pinedale Array**	**88.13**	**44**	P	**P**	**06 27 45.5**	**-1.3**
comp=Z,0.9nm,0.7s,baz=227,slow=4.2,SNR=8.4							
LZH	**Lanzhou**	**90.11**	**308**	*e*P	**P**	**06 27 57.5**	**+1.5**
LZH				pP	pP	06 30 07.3	+1.6
LZH				sP	sP	06 31 07.0	+1.6
LZH				PP	**PP**	**06 31 45.0**	**+4.0**
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
KOPT	**Kop Dagi**	**139.15**	**311**	*e*PKPdf	**PKPdf**	**06 34 18.6**	**-0.1**

*ISK **27** 06:18:46.6, 38°69N×43°20E, h5km, ML2.6*
*ISCJB **27** 06:18:48.0±1.1, 38°72N±0°04×43°6E±0°1, h19km±7km, Error ellipse: s-maj=15.1km s-min=6.2km az=4.0*
*CSEM **27** 06:18:47.8±0.6, 38°75N×43°51E, h15km, ML2.6, Error ellipse: s-maj=19.6km s-min=8.5km az=87.0*
*DDA **27** 06:18:47.5, 38°70N×43°49E, h7km, Ml3.4*
ISC 27 06:18:47.9±1.3, 38°72N±0°03×43°57E±0°07, h17km±6km, n18, σ1§61/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**229**	*e*PG	**Pg**	**06 18 52.4**	**-0.4**
VANB				*e*SG	**Sg**	**06 18 57.0**	**+0.9**
VANB	**Van**	**0.19**	**229**	*e*Pg	**Pg**	**06 18 52.4**	**-0.4**
VANB				*e*Sg	**Sg**	**06 18 57.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.27**	**360**	*i* P	**Pg**	**06 18 53.2**	**-0.9**
VMUR				*i* S	**Sg**	**06 18 58.7**	**+0.5**
VMUR	**Van-Muradiye**	**0.27**	**360**	P	**Pg**	**06 18 53.2**	**-0.9**
VMUR				S	**Sg**	**06 18 58.7**	**+0.5**
GEVA	**Gevas**	**0.57**	**225**	*i* P	**Pg**	**06 18 58.0**	**-1.4**
GEVA	**Gevas**	**0.57**	**225**	P	**Pg**	**06 18 58.0**	**-1.4**
TUTA	**Tutak**	**0.90**	**319**	*i* P	**Pg**	**06 19 04.3**	**-1.2**
TUTA				*i* S	**Sb**	**06 19 16.6**	**-0.5**
TUTA	**Tutak**	**0.90**	**319**	P	**Pg**	**06 19 04.3**	**-1.2**
TUTA				S	**Sb**	**06 19 16.6**	**-0.5**
AGRB	**Hanur-Agry**	**0.97**	**332**	*e*PG	**Pg**	**06 19 05.0**	**-1.7**
AGRB				*e*SG	**Sg**	**06 19 18.3**	**-1.2**
AGRB	**Hanur-Agry**	**0.97**	**332**	*e*Pg	**Pg**	**06 19 05.0**	**-1.7**
AGRB				*e*Sg	**Sg**	**06 19 18.3**	**-1.2**
EKAR	**Karacoban**	**1.29**	**295**	*i* P	**Pn**	**06 19 13.2**	**+1.8**
EKAR	**Karacoban**	**1.29**	**295**	P	**Pn**	**06 19 13.2**	**+1.8**
EATA	**Eleskirt**	**1.42**	**324**	*i* P	**Pn**	**06 19 12.7**	**-0.5**
EATA				*i* S	**Sn**	**06 19 35.0**	**+3.4**
EATA	**Eleskirt**	**1.42**	**324**	P	**Pn**	**06 19 12.7**	**-0.5**
EATA				S	**Sn**	**06 19 35.0**	**+3.4**
CUKT	**Cukurca**	**1.47**	**179**	*e*PN	**Pg**	**06 19 15.4**	**-0.9**
CUKT	**Cukurca**	**1.47**	**179**	*e*Pn	**Pg**	**06 19 15.4**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.95**	**254**	*e*PN	**Pn**	**06 19 18.1**	**-2.2**
SVAN	**Silvan-Diyarba**	**1.95**	**254**	*e*Pn	**Pn**	**06 19 18.1**	**-2.2**

IDC 27 06:19:17.4±4.0, 6°34S×147°75E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, ML3.1/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/13, Error ellipse: s-maj=127.9km s-min=43.5km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.10**	**191**	Pn	Pn	06 20 07.3	-0.4
3.8nm,0.3s,baz=61,slow=2.6,SNR=3.3							
PMG				Sn	Sn	06 20 44.0	-1.5
11nm,0.3s,baz=218,slow=19,SNR=6.6							
WRA	**Warramunga Arr**	**18.78**	**223**	P	P	06 23 36.6	-1.9
0.1nm,0.3s,baz=50,slow=12,SNR=2.3							
GUMO	**Guam**	**20.00**	**352**	LR	LR	06 31 06.7	
comp=Z,92nm,19.0s,baz=144,slow=36							
ASAR	**Alice Springs**	**21.78**	**216**	P	P	06 24 12.8	+1.8
0.6nm,

SVAN	Silvan-Diyarba	1.67	255	*i* P	Pb	06 34 01.4 -0.3
SVAN				*i* S	Sb	06 34 23.1 +0.3
SVAN	Silvan-Diyarba	1.67	255	*e*Pn	Pn	06 34 01.1 +0.8
SVAN	Silvan-Diyarba	1.67	255	P	Pb	06 34 01.4 -0.3
SVAN				S	Sb	06 34 23.1 +0.3
BTMN	Batman	1.71	246	*i* P	Pb	06 34 02.4 0.0
BTMN				*i* S	Sg	06 34 25.8 +0.2
BTMN	Batman	1.71	246	P	Pb	06 34 02.4 0.0
BTMN				S	Sg	06 34 25.8 +0.2
HOMI	Horasan	1.77	325	*i* P	Pg	06 34 04.2 -0.4
HOMI				*i* S	Sg	06 34 29.7 +2.3
DIGO	Kars	1.80	3	*i* P	Pg	06 34 04.7 -0.6
DIGO	Kars	1.80	3	P	Pg	06 34 04.7 -0.6
ERZM	Erzurum	1.94	312	*i* P	Pb	06 34 06.8 +0.2
ERZM	Erzurum	1.94	312	P	Pb	06 34 06.8 +0.2
BNGB	Bing¶ll	2.04	282	*e*PN	Pb	06 34 07.4 -0.6
BINT	Bingol	2.17	278	*e*Pn	Pn	06 34 07.4 +0.2
YEDI	Yedisu-Bingol	2.25	292	*e*PN	Pb	06 34 10.6 -1.1
YEDI	Yedisu-Bingol	2.25	292	*e*Pn	Pb	06 34 10.6 -1.1
MARD	Mardin	2.34	237	*i* P	Pn	06 34 10.9 +1.4
MARD				*i* S	Sb	06 34 42.7 +0.5
MAZI	Mazidag	2.49	243	*e*PN	Pb	06 34 14.0 -1.7
MAZI	Mazidag	2.49	243	*e*Pn	Pb	06 34 14.0 -1.7
PTK	Pertek	3.02	277	*e*PN	Pn	06 34 20.9 +1.9
PTK	Pertek	3.02	277	*e*Pn	Pn	06 34 20.9 +1.9
SVRC	Sivrice-ELAZID	3.09	267	*e*PN	Pn	06 34 22.1 +2.1
SVRC	Sivrice-ELAZID	3.09	267	*e*Pn	Pn	06 34 22.1 +2.1

MOS ***27*** *06:37:07.7±0.9, 39°.63N×120°.46W, h10km, mb4.9/16, Error ellipse: s-maj=5.5km s-min=4.6km az=98.0*

IDC ***27*** *06:37:07.6±0.5, 39°.65N×120°.56W, h0km, mb4.3/26, mb1 4.4/32, mb1mx4.3/54, mbtmp4.3/32, ML4.1/5, MS3.9/28, Ms1 3.9/28, ms1mx3.8/47, Error ellipse: s-maj=10.3km s-min=8.3km az=21.0*

ISCJB ***27*** *06:37:08.0±0.1, 39°.611N±0°.009×120°.44W±0°.01, h10km, mb4.6/55, MS3.9/21, Error ellipse: s-maj=1.4km s-min=1.3km az=140.8*

NEIC ***27*** *06:37:08.6±0.0, 39°.61N×120°.47W, h16km, mb4.7/28, ML5.0(REN), MW4.7(BRK), After REN.*

NEIC Felt [V] at Alleghany, Calpine and Sierraville; [IV] at Alta, Blairsden-Graeagle, Brownsville, Challenge, Chilcoot, Clio, Crescent Mills, Doyle, El Portal, Forbestown, Gold Run, Loyalton, Nevada City, Portola, Sierra City, Soda Springs and Westwood. Felt widely in northeastern California, the San Francisco Bay area and in northwestern Nevada.

GCMT ***27*** *06:37:08.6±0.4, 39°.65N×120°.32W, h33km±1km, MW4.9/73, Moment Tensor Solution. s18,c20; s73,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.36±.21; $M_{\theta\theta}$-2.89±.16; $M_{\phi\phi}$2.54±.14; $M_{r\theta}$0.12±.19; $M_{\theta\phi}$0.67±.11; $M_{\phi r}$-0.06±.16; Best double couple: $M_0$2.79900×10^{16} NP1:ϕ_s322.00000°, δ89.00000°, λ-178.00000°. NP2: ϕ_s232.00000°, δ88.00000°, λ-1.00000°. Principal axes: T 2.6220, Plg1.0000°, Azm97.0000°; N 0.3610, Plg88.0000°, Azm337.0000°; P -2.9760, Plg2.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 06:37:10.0±0.6, 39°.58N±0°.02×120°.47W±0°.02, h16km±3km, n718, σ1§41/731, mb4.6/55, MS4.0/22, 4C-6D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEKR	Beckworth	0.30	17	*e*Pg	Pg	06 37 14.7	-1.8
BEKR				*e*Sg	Sg	06 37 18.4	-2.6
EMB	Emerald Bay	0.67	155	*e*Pg	Pg	06 37 21.8	-1.5
AFDM	Forest Hills D	0.74	212	*e*Pg	Pb	06 37 22.7	-1.9
AFDM				*e*Sg	Sg	06 37 32.9	-1.5
ORV	Oroville	0.80	268	*e*P	Pb	06 37 23.6	-1.8
ORV				*e*		06 37 33.9	
ORV	Oroville	0.80	268	*e*Pg	Pb	06 37 23.6	-1.8
ORV				*e*Sg	Sb	06 37 33.9	-2.1
OHCM	Honcut	0.82	253	*e*Pg	Pb	06 37 23.7	-2.1
PNTR	Pine Nut	0.84	126	*e*Pg	Pb	06 37 24.9	-1.3
PNTR				*e*Sg	Sb	06 37 37.4	+0.1
PAHR	Pah Rah Range	0.85	81	*e*Pg	Pb	06 37 24.7	-1.8
PAHR				*e*Sg	Sb	06 37 36.6	-1.1
YERR	Yerington	1.13	122	*e*Pg	Pb	06 37 30.1	-1.1
YERR				*e*Sg	Sb	06 37 45.8	+0.2
LRDM	Redding Peak	1.16	320	*e*Pg	Pn	06 37 30.2	-1.4
O03D	Paynes Creek	1.25	305	P	Pn	06 37 31.0	-1.8
	baz=124,SNR=1000						
O03D				S	Sb	06 37 48.6	-0.4
	baz=124						
AASM	Arroyo Seco	1.25	204	*e*Pn	Pn	06 37 31.6	-1.2
WAKR	Walker	1.34	143	*e*Pn	Pn	06 37 34.2	0.0
WAKR				*e*Sn	Sb	06 37 52.6	+0.7
LBCM	Butte Creek Ri	1.42	332	*e*Pn	Pn	06 37 34.2	-1.1
GARM	Arbuckle	1.52	246	*e*Pn	Pn	06 37 36.8	+0.4
CMB	Columbia Colle	1.55	178	*e*P	Pn	06 37 36.6	-0.3
CMB				*e*		06 37 57.0	
CMB	Columbia Colle	1.55	178	*e*Pn	Pn	06 37 36.6	-0.3
CMB				*e*Sn	Sn	06 37 57.0	+0.4
NBPM	Berryessa Peak	1.62	236	*e*Pn	Pn	06 37 38.2	+0.4
NMTM	Middletown	1.72	244	*e*Pn	Pn	06 37 38.8	-0.4
GASB	Alder Springs	1.73	273	*e*Pn	Pn	06 37 38.8	-0.7
LTIM	Timbered Crate	1.77	334	*e*Pn	Pn	06 37 39.5	-0.5
GRTM	Round Top Moun	1.82	250	*e*Pn	Pn	06 37 40.2	-0.5
WDC	Whiskeytown Da	1.88	303	*e*P	Pn	06 37 40.6	-0.8
WDC				*e*		06 38 04.6	
WDC	Whiskeytown Da	1.88	303	*e*Pn	Pn	06 37 40.6	-0.8
WDC				*e*Sn	Sn	06 38 04.6	-0.1
GSGM	Seigler Mounta	1.88	248	*e*Pn	Pn	06 37 41.4	0.0
GCRM	Castle Rock Sp	1.92	246	*e*Pn	Pn	06 37 41.6	-0.4
NLHM	Lake Herman	1.96	222	*e*Pn	Pn	06 37 42.8	+0.2
GDXM	Geysers	1.96	248	*e*Pn	Pn	06 37 42.3	-0.4
GDXM				*e*Sn	Sn	06 38 06.7	-0.3
CBSNC	Byron Hot Spri	1.98	208	*e*Pn	Pn	06 37 42.8	0.0
CRPB	Russellman Par	2.01	214	*e*Pn	Pn	06 37 42.6	-0.7
LBFM	Black Fox Moun	2.07	329	*e*P	Pn	06 37 44.2	-0.1
LBFM	Black Fox Moun	2.07	329	*e*Pn	Pn	06 37 44.1	-0.1
HOPS	Hopland Field	2.10	255	*e*Pn	Pn	06 37 44.6	+0.1
NMCNC	Mill Creek, So	2.14	243	*e*Pn	Pn	06 37 44.7	-0.3
SKG	Skaggs Springs	2.16	247	*e*Pn	Pn	06 37 45.2	-0.1
CSPM	San Pablo Ridg	2.17	222	*e*Pn	Pn	06 37 46.0	+0.6
CVPM	Vollmer Peak	2.18	219	*e*Pn	Pn	06 37 45.4	-0.2
COSM	Mount Oso	2.19	199	*e*Pn	Pn	06 37 45.3	-0.5
LGBM	Gray Butte	2.20	324	*e*Pn	Pn	06 37 45.4	-0.6
N02D	Trinity Center	2.20	310	P	Pn	06 37 44.7	-1.2
	baz=128,SNR=148						
CLCB	Lake Chabot	2.22	215	*e*Pn	Pn	06 37 46.0	-0.1
CPMM	Point Molate	2.22	223	*e*Pn	Pn	06 37 46.3	+0.2
CVLM	Vallecito	2.23	209	*e*Pn	Pn	06 37 46.3	+0.1
LGMM	Garner Mountai	2.27	333	*e*Pn	Pn	06 37 46.8	-0.1
CMMM	Mount Mocho	2.27	201	*e*Pn	Pn	06 37 46.4	-0.5
CNIC	Niles Canyon	2.29	211	*e*Pn	Pn	06 37 46.8	-0.3
CMLM	Mount Lewis	2.30	204	*e*Pn	Pn	06 37 47.0	-0.2
MLAC	Mammoth, Mammo	2.33	146	P	Pn	06 37 48.6	+0.7
	baz=328						
KIPM	Iron Peak	2.33	277	*e*Pn	Pn	06 37 47.9	+0.2
MSJ	Mission San Jo	2.33	209	*e*Pn	Pn	06 37 47.7	0.0
MCCM	Marconi Confer	2.37	233	*e*Pn	Pn	06 37 47.7	-0.3
CVR	Calaveras Rese	2.37	206	*e*Pn	Pn	06 37 47.7	-0.4
JPRM	Presidio of Sa	2.37	222	*e*Pn	Pn	06 37 48.2	+0.1
ARN	Arnold Ranch	2.38	201	*e*P	Pn	06 37 48.3	0.0
ARN	Arnold Ranch	2.38	201	*e*Pn	Pn	06 37 48.3	0.0
KCPM	Cahto Peak	2.40	273	*e*Pn	Pn	06 37 48.5	-0.2
JSBM	San Bruno Moun	2.42	219	*e*Pn	Pn	06 37 48.7	-0.2
M04C	Macdoel	2.43	335	P	Pn	06 37 48.6	-0.5
	baz=154,SNR=294						
M04C				Sb	Sb	06 38 24.3	+1.1
	baz=154						
LHEM	Herd Peak	2.44	328	*e*Pn	Pn	06 37 49.8	+0.4
SCKWR	San Luis Creek	2.44	191	*e*Pn	Pn	06 37 50.1	+1.0
JCPM	Coyote Point	2.46	217	*e*Pn	Pn	06 37 49.2	-0.2
HSLM	San Luis Dam	2.54	191	*e*Pn	Pn	06 37 51.7	+1.1
JSFB	Stanford Teles	2.55	212	*e*Pn	Pn	06 37 50.6	-0.1
M02C	Callahan	2.56	316	P	Pn	06 37 50.4	-0.5
	baz=134,SNR=324						
M02C				S	Sn	06 38 22.2	+0.5
	baz=134						
KMRM	Mail Ridge	2.57	285	*e*Pn	Pn	06 37 51.5	+0.5
SLD	San Luis Dam	2.57	193	*e*Pn	Pn	06 37 50.9	0.0
JHPM	Huddart Park	2.57	215	*e*Pn	Pn	06 37 51.0	0.0
SFJWR	San Luis Fatjo	2.59	193	*e*Pn	Pn	06 37 51.1	0.0
JSTM	Santa Teresa H	2.59	204	*e*Pn	Pn	06 37 51.0	-0.2
JFP	Foothills Park	2.59	212	*e*Pn	Pn	06 37 51.0	-0.2
HPCM	Pacheco Lake	2.60	194	*e*Pn	Pn	06 37 51.3	0.0
HSPM	Sheep	2.60	199	*e*Pn	Pn	06 37 51.3	0.0
BMN	Battle Mountai	2.64	70	*e*P	Pn	06 37 49.6	-2.4
BMN	Battle Mountai	2.64	70	*e*Pn	Pn	06 37 49.6	-2.4
JJOM	Saint Joseph's	2.65	207	*e*Pn	Pn	06 37 51.7	-0.3
BGH	Bear Gulch	2.67	214	*e*Pn	Pn	06 37 52.1	-0.2
JPC	Peters Creek,	2.68	211	*e*Pn	Pn	06 37 52.2	-0.2
MTUM	Tungsten Hills	2.68	145	*e*Pn	Pn	06 37 53.3	+0.6
B040	Montague	2.69	327	*e*Pn	Pn	06 37 53.2	+0.6
JHUM	Huhtala Lane,	2.71	210	*e*Pn	Pn	06 37 52.7	-0.2
YBH	Yreka Blue Hor	2.74	322	*e*P	Pn	06 37 53.2	-0.2
YBH	Yreka Blue Hor	2.74	322	*e*Pn	Pn	06 37 53.2	-0.2
BRMM	Rolling Bench	2.76	186	*e*Pn	Pn	06 37 54.2	+0.7
CSR	Chase Ranch	2.76	199	*e*Pn	Pn	06 37 53.3	-0.2
CBC	Chamberlain	2.81	200	*e*Pn	Pn	06 37 54.3	+0.1
KHMM	Horse Mountain	2.81	298	*e*Pn	Pn	06 37 54.9	+0.6
ANZ	Anzar Road	2.83	198	*e*Pn	Pn	06 37 54.6	+0.1
HBTM	San Juan Bauti	2.86	198	*e*Pn	Pn	06 37 55.0	+0.2
HSFM	Saint Francis	2.88	197	*e*Pn	Pn	06 37 55.6	+0.4
HTUM	Tustin Road	2.90	199	*e*Pn	Pn	06 37 54.7	-0.7
SAO	San Andreas Ge	2.92	196	*e*P	Pn	06 37 55.8	+0.1
SAO	San Andreas Ge	2.92	196	*e*Pn	Pn	06 37 55.8	+0.1
BVYM	Vineyard	2.92	195	*e*Pn	Pn	06 37 56.1	+0.2
FRP	Fremont Peak	2.94	196	*e*P	Pn	06 37 55.6	-0.4
FRP	Fremont Peak	2.94	196	*e*Pn	Pn	06 37 55.6	-0.4
BCGM	Cienega Road	2.95	194	*e*Pn	Pn	06 37 56.4	+0.3
EMT	Emmet	2.96	190	*e*Pn	Pn	06 37 56.7	+0.4
EKH	Elkhorn Ranch	2.96	191	*e*Pn	Pn	06 37 56.7	+0.4
JCC	Jacoby Creek,	2.99	296	*e*Pn	Pn	06 37 56.5	-0.1
BSRM	Salinas Radio	3.02	196	*e*Pn	Pn	06 37 56.6	-0.6
TIN	Tinemaha, Big	3.08	144	P	Pn	06 37 59.4	+1.4
	baz=326						
JHC	Johnson Canyon	3.12	194	*e*P	Pn	06 37 58.0	-0.4
JHC	Johnson Canyon	3.12	194	*e*Pn	Pn	06 37 58.0	-0.4
BPIM	Pinnacles	3.13	190	*e*Pn	Pn	06 37 58.7	0.0
BPCNC	Pine Canyon	3.14	197	*e*Pn	Pn	06 37 58.4	-0.3
WVOR	Wild Horse Val	3.17	25	*e*P	Pn	06 37 58.0	-1.3
WVOR	Wild Horse Val	3.17	25	*e*Pn	Pn	06 37 58.0	-1.3
LRV	Little Rabbit	3.18	188	*e*Pn	Pn	06 38 00.9	+1.5
K04D	Chiloquin, OR	3.19	343	P	Pn	06 38 00.1	+0.5
	baz=162,SNR=6.2						
K04D				Sb	Sb	06 38 47.4	+2.4
	baz=162						
KTRM	Thompson Ridge	3.21	317	*e*Pn	Pn	06 38 01.7	+1.9
KRMB	Red Mountain	3.26	308	*e*Pn	Pn	06 38 00.8	+0.3
BSMM	Soledad Missio	3.28	194	*e*Pn	Pn	06 38 01.4	+0.6
BPRM	Ponciano Ridge	3.32	198	*e*Pn	Pn	06 38 01.1	-0.2
LRC	Lone Oak Road	3.36	188	*e*Pn	Pn	06 38 02.6	+0.8
PMPB	Monarch Peak	3.37	185	*e*Pn	Pn	06 38 02.6	+0.7
BCWM	Chews Ridge	3.38	195	*e*Pn	Pn	06 38 02.2	0.0
RCTC	Rector, Farmer	3.41	163	P	Pn	06 38 03.4	+0.9
	baz=344						
RCTC				Sb	Sb	06 38 53.8	+2.5
	baz=344						
PTV	Peach Tree Val	3.47	183	*e*Pn	Pn	06 38 04.2	+0.9
L02D	Cave Junction,	3.50	318	P	Pn	06 38 04.6	+0.9
	baz=136,SNR=139						
L02D				Sb	Sb	06 38 56.7	+2.9
	baz=136						
PCCM	Crazy Canyon	3.53	189	*e*Pn	Pn	06 38 04.7	+0.6
GRAC	Grapevine Rang	3.55	136	P	Pn	06 38 04.8	+0.3
	baz=318						
HUMO	Hull Mountain	3.56	329	*e*Pn	Pn	06 38 05.7	+1.2
CWC	Cottonwood Cre	3.66	148	P	Pn	06 38 07.9	+1.8
	baz=330						
CWC				Sb	Sb	06 39 01.9	+3.3
	baz=330						
PAPM	Alder Peak	3.73	191	*e*Pn	Pn	06 38 07.4	+0.4
J05D	Fort Rock, OR	3.74	351	P	Pn	06 38 08.4	+1.2
	baz=171,SNR=73						
J05D				Sb	Sb	06 39 03.9	+3.0
	baz=171						
PAGB	Antelope Grade	3.85	177	*e*Pn	Pn	06 38 09.1	+0.6
J04D	Umpqua Nationa	3.86	342	P	Pn	06 38 10.3	+1.5
	baz=161,SNR=210						
J04D				Sb	Sb	06 39 07.4	+3.2
	baz=161						
VES	Vestal, Richgr	3.89	163	P	Pn	06 38 09.4	+0.3
	baz=344						
VES				Sb	Sb	06 39 09.2	+4.1
	baz=344						
PHCM	Hearst Castle	3.93	188	*e*Pn	Pn	06 38 10.3	+0.6
R11A	Troy Canyon, C	4.00	106	P	Pn	06 38 10.1	-0.7
	baz=290						
R11A	Troy Canyon, C	4.00	106	*e*Pn	Pn	06 38 10.0	-0.7
DAC	Darwin (Calif)	4.01	145	*e*P	Pn	06 38 11.8	+0.9
DAC	Darwin (Calif)	4.01	145	*e*Pn	Pn	06 38 11.8	+0.9
DAC				*e*Sg	Sg	06 39 14.5	-4.2
J08A	Circle Bar Ran	4.06	21	*e*Pn	Pn	06 38 11.5	0.0
DBO	Dodson Butte	4.10	330	*e*Pn	Pn	06 38 14.5	+2.4
ARDC	Alexander Ranc	4.13	186	*e*Pn	Pn	06 38 12.9	+0.6
ELK	Elko	4.17	72	Pn	Pn	06 38 12.9	-0.3
	baz=310,slow=16						
ELK				Lg	Lg	06 39 19.4	
	134nm,0.3s,baz=80,slow=22,SNR=12						
ELK				LR	LR	06 40 00.9	
	comp=Z,859nm,20.9s,baz=298,slow=41						
PTAM	Tassajara Cree	4.19	183	*e*Pn	Pn	06 38 12.6	-0.6
FURC	Furnace Creek,	4.22	136	P	Pn	06 38 15.0	+1.5
	baz=319						
ISA	Isabella, Lake	4.22	157	P	Pn	06 38 15.5	+1.8
	baz=339						
ISA	Isabella, Lake	4.22	157	*e*P	Pn	06 38 15.5	+1.8
ISA	Isabella, Lake	4.22	157	*e*Pn	Pn	06 38 15.5	+1.8
MPMC	Manual Prospec	4.24	145	P	Pn	06 38 14.2	+0.1
	baz=327						
TPNV	Topopah Spring	4.24	127	P	Pn	06 38 14.1	+0.1
	baz=310						
TPNV	Topopah Spring	4.24	127	*e*P	Pn	06 38 14.2	+0.2
TPNV	Topopah Spring	4.24	127	*e*Pn	Pn	06 38 14.2	+0.2
SMMC	Simmler	4.28	175	P	Pn	06 38 14.5	+0.1
	baz=355						
ARVC	Arvin	4.63	163	P	Pn	06 38 20.1	+0.8
	baz=344						
ARVC				Sb	Sb	06 39 28.8	+2.4
	baz=344						
I03D	Drain, OR	4.64	333	P	Pn	06 38 20.7	+1.3
	baz=151,SNR=44						
LRMC	Laurel Mtn Rad	4.66	151	P	Pn	06 38 21.6	+1.9
	baz=333						
PKM	Mcpherson Peak	4.71	173	P	Pn	06 38 21.0	+0.4
	baz=354						
PRLK	Prince Lake	4.76	347	*e*Pn	Pn	06 38 23.5	+2.4
I05D	Terrebonne, OR	4.80	353	P	Pn	06 38 23.3	+1.7
	baz=172,SNR=36						
I05D				Sb	Sb	06 39 34.9	+3.8
	baz=172						
SHOC	Shoshone, Teco	4.96	137	P	Pn	06 38 25.7	+2.0
	baz=319						
EDW2	Edwards Air Fo	5.09	156	P	Pn	06 38 26.9	+1.3
	baz=338						
EDW2				Sb	Sb	06 39 44.6	+5.0
	baz=338						
OSI	Osito Audit: C	5.15	164	P	Pn	06 38 26.9	+0.4
	baz=345						
OSI	Osito Audit: C	5.15	164	*e*Pn	Pn	06 38 28.6	+2.1
SBC	Santa Barbara	5.17	173	P	Pn	06 38 27.5	+0.9
	baz=354						
GSC	Goldstone, Bar	5.17	145	P	Pn	06 38 28.7	+1.9
	baz=327						
GSC	Goldstone, Bar	5.17	145	*e*P	Pn	06 38 28.0	+1.2
GSC	Goldstone, Bar	5.17	145	*e*Pn	Pn	06 38 28.0	+1.2
MFID	Camas Ranch	5.18	41	*e*Pn	Pn	06 38 25.7	-1.2
SHPR	Sheep Range	5.20	125	*e*Pn	Pn	06 38 27.7	+0.5
PSUT	Pine Spring	5.26	99	*e*Pn	Pn	06 38 27.8	-0.2
COR	Corvallis	5.43	338	*e*P	Pn	06 38 33.2	+3.1
COR	Corvallis	5.43	338	*e*Pn	Pn	06 38 33.2	+3.1
RRX	Edison Barstow	5.45	148	P	Pn	06 38 33.0	+2.4
	baz=331						
FSU	Fish Springs	5.47	86	*e*Pn	Pn	06 38 31.1	+0.2
TUQ	Turquoise Moun	5.49	137	P	Pn	06 38 32.5	+1.2
	baz=320						
BLG	Laguna Peak, P	5.58	168	P	Pn	06 38 33.2	+0.9
	baz=349						
DECC	Green Verdugo	5.59	161	P	Pn	06 38 33.0	+0.6
	baz=343						
SCZ2	Santa Cruz Isl	5.62	173	P	Pn	06 38 33.4	+0.5
	baz=353						
G06A	Carlson Farm,	5.65	359	*e*Pn	Pn	06 38 36.2	+2.9
MWC	Mount Wilson	5.69	159	*e*P	Pn	06 38 35.3	+1.4
MWC	Mount Wilson	5.69	159	*e*Pn	Pn	06 38 35.3	+1.4
G05D	Wamic, OR	5.69	354	P	Pn	06 38 36.0	+2.1
	baz=173,SNR=6.2						
PASC	Pasadena Art C	5.70	161	*e*Pn	Pn	06 38 35.3	+1.3
BMO	Blue Mountains	5.77	23	P	Pn	06 38 36.1	+1.2
HEC	Hector,Ludlow	5.78	144	P	Pn	06 38 36.6	+1.5
	baz=327						
ARUT	Antelope Range	5.79	106	*e*P	Pn	06 38 35.4	+0.1
ARUT	Antelope Range	5.79	106	*e*Pn	Pn	06 38 35.4	+0.1
BFSC	Mount Baldy Ra	5.79	156	P	Pn	06 38 36.5	+1.2
	baz=338						
BGU	Big Grassy Mou	5.85	74	*e*Pn	Pn	06 38 35.9	-0.2
DUG	Dugway, Tooele	5.92	82	P	Pn	06 38 37.4	+0.2
	baz=267						
DUG	Dugway, Tooele	5.92	82	*e*P	Pn	06 38 37.3	+0.2
DUG	Dugway, Tooele	5.92	82	*e*Pn	Pn	06 38 37.3	+0.2
CCUT	Cedar City	5.93	108	*e*Pn	Pn	06 38 37.2	-0.1
G03D	McMinnville, O	5.99	341	P	Pn	06 38 39.3	+1.3
	baz=159,SNR=48						
DWU	Dry Willow Pea	6.02	102	*e*Pn	Pn	06 38 38.3	-0.2
HLID	Hailey	6.04	47	P	Pn	06 38 41.3	+2.6
	baz=231						
SZCU	Shurtz Canyon	6.12	107	*e*Pn	Pn	06 38 39.7	-0.1
GMRC	Granite Mounta	6.14	140	P	Pn	06 38 42.5	+2.4
	baz=323						
LDFC	Landfair	6.20	135	*e*Pg	Pg	06 39 04.7	-4.0
LCMT	Little Creek M	6.24	112	*e*Pn	Pn	06 38 41.3	-0.2
HVU	Hansel Valley	6.25	67	*e*P	Pn	06 38 40.5	-1.1
HVU	Hansel Valley	6.25	67	*e*Pn	Pn	06 38 40.5	-1.1
SPUT	South Promonto	6.36	72	*e*Pn	Pn	06 38 46.0	+2.8
FLU	Fool Peak	6.42	89	*e*Pn	Pn	06 38 45.6	+1.6
NLU	North Lily Min	6.48	84	*e*Pn	Pn	06 38 45.5	+0.7
CWU	Camp Williams	6.48	80	*e*Pn	Pn	06 38 45.9	+1.0
MURC	Murrieta	6.53	155	P	Pn	06 38 46.4	+1.1
	baz=337						
WCU	Willow Creek	6.53	93	*e*Pn	Pn	06 38 48.0	+2.4
KNB	Kanab	6.54	111	*e*P	Pn	06 38 46.1	+0.5
KNB	Kanab	6.54	111	*e*Pn	Pn	06 38 46.1	+0.5
MSU	Marysvale	6.54	97	*e*P	Pn	06 38 46.2	+0.5
MSU	Marysvale	6.54	97	*e*Pn	Pn	06 38 46.2	+0.5
BELC	Belle Mtn. Jos	6.62	146	P	Pn	06 38 49.5	+2.7
	baz=329						
MTPU	Mount Pierson	6.65	101	*e*Pn	Pn	06 38 47.9	+0.6
LEVU	Levan	6.69	88	*e*Pn	Pn	06 38 49.1	+1.4
PKCU	Pink Cliffs	6.75	106	*e*Pn	Pn	06 38 50.0	+1.4
EKU	East Kanab	6.75	109	*e*Pn	Pn	06 38 49.5	+1.0
CTU	Camp Tracy	6.78	78	*e*Pn	Pn	06 38 49.3	+0.5
PFO	Pinyon Flats O	6.78	150	Pn	Pn	06 38 50.9	+2.0
	2.7nm,0.3s,baz=331,slow=11,SNR=41						
PFO				Pg	Pb	06 39 12.8	+5.4
	3.9nm,0.3s,baz=329,slow=12,SNR=28						
PFO				Lg	Lg	06 40 42.8	
	5.5nm,0.3s,baz=54,slow=18,SNR=9.8						
PFO				LR	LR	06 41 38.6	
	comp=Z,1μm,19.3s,baz=332,slow=40						
PFO	Pinyon Flats O	6.78	150	P	Pn	06 38 50.2	+1.4
	baz=333						
PFO	Pinyon Flats O	6.78	150	*e*P	Pn	06 38 51.1	+2.3
XPFO	Piæon Flat	6.78	150	*e*Pn	Pn	06 38 51.1	+2.3
HAWA	Hanford	6.84	5	*e*Pn	Pn	06 38 52.8	+3.2
SGU	Sterling	6.85	91	*e*Pn	Pn	06 38 51.9	+1.9
IRM	Iron Mountain	6.89	140	P	Pn	06 38 53.3	+2.9
	baz=324						
W13A	Hualapai Mount	6.89	128	*e*Pn	Pn	06 38 51.6	+1.1
SNO	Snow College	6.92	89	*e*Pn	Pn	06 38 52.6	+1.6
E07A	Sunnyside	6.99	4	*e*Pn	Pn	06 38 54.9	+3.2
JLU	Jordanelle	6.99	79	*e*Pn	Pn	06 38 52.8	+0.9
LDJ	Lady	7.02	79	*e*Pn	Pn	06 38 53.6	+1.3
KLJ	Keetly	7.03	79	*e*Pn	Pn	06 38 53

WALA	Waterton Lakes	10.57	24	ePn	Pn	06 39 44.3	+3.5
TUC	Tucson	10.69	130	P	Pn	06 39 44.1	+1.7
	baz=316						
TUC	Tucson	10.69	130	eP	Pn	06 39 41.4	-1.0
TUC	Tucson	10.69	130	ePn	Pn	06 39 41.4	-1.0
S22A	4UR Ranch, Cre	10.82	95	P	Pn	06 39 45.3	+0.8
	baz=284						
S22A	4UR Ranch, Cre	10.82	95	ePn	Pn	06 39 47.1	+2.6
K22A	Casper	10.96	69	P	Pn	06 39 47.0	+0.8
	baz=258						
K22A	Casper	10.96	69	ePn	Pn	06 39 47.4	+1.1
LLLB	Lillooet	11.07	355	ePn	Pn	06 39 50.9	+3.3
N23A	Red Feather La	11.19	79	P	Pn	06 39 51.0	+1.7
	baz=268						
N23A	Red Feather La	11.19	79	ePn	Pn	06 39 51.1	+1.7
EGMT	Eagleton	11.44	39	P	Pn	06 39 54.2	+1.5
	baz=226						
EGMT	Eagleton	11.44	39	ePn	Pn	06 39 51.5	-1.2
EGMT				eSn	Sn	06 41 55.1	-5.0
ISCO	Idaho Springs	11.45	84	P	Pn	06 39 55.0	+1.9
	baz=274						
ISCO	Idaho Springs	11.45	84	eP	Pn	06 39 56.6	+3.5
ISCO	Idaho Springs	11.45	84	ePn	Pn	06 39 56.6	+3.5
PHWY	Pilot Hill	11.57	77	ePn	Pn	06 39 57.3	+2.6
SDCO	Great Sand Dun	11.85	94	P	Pn	06 39 57.1	-1.4
	baz=284						
SDCO	Great Sand Dun	11.85	94	ePn	Pn	06 39 56.9	-1.6
Q24A	Divide	11.89	88	P	Pn	06 40 01.1	+2.0
	baz=278						
ANMO	Albuquerque	12.08	108	Pn	Pn	06 40 03.5	+1.8
	0.1nm,0.3s,baz=121,slow=12,SNR=5.8						
ANMO				Pg	Pg	06 40 57.0	
	0.2nm,0.3s,baz=112,slow=13,SNR=6.7						
ANMO				Lg	Lg	06 43 29.1	
	baz=310,slow=13,SNR=3.2						
ANMO				LR	LR	06 45 27.2	
	comp=Z,215nm,20.3s,baz=112,slow=41						
ANMO	Albuquerque	12.08	108	P	Pn	06 40 02.6	+0.9
	baz=297						
ANMO	Albuquerque	12.08	108⇓	eP	Pn	06 40 03.1	+1.5
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ANMO	Albuquerque	12.08	108	ePn	Pn	06 40 04.2	+2.6
ANMO				Pg	Pg	06 40 57.0	
ANMO				Lg	Lg	06 43 29.1	
BNM	Barren Site	12.34	112	ePn	Pn	06 40 08.6	+3.5
121A	Cookes Peak, D	12.44	121	P	Pn	06 40 08.0	+1.6
	baz=308						
121A	Cookes Peak, D	12.44	121	ePn	Pn	06 40 05.6	-0.9
LAO	LASA Array	12.59	51	P	Pn	06 40 10.2	+1.8
	baz=241						
T25A	Trinidad	12.84	96	P	Pn	06 40 14.2	+2.2
	baz=286						
T25A	Trinidad	12.84	96	ePn	Pn	06 40 16.0	+4.0
RSSD	Black Hills	13.06	64	P	Pn	06 40 14.6	-0.3
	baz=255						
RSSD	Black Hills	13.06	64	eP	Pn	06 40 14.5	-0.5
RSSD	Black Hills	13.06	64	ePn	Pn	06 40 14.5	-0.5
BBB	Bella Bella	13.67	340	LR	LR	06 45 17.4	
	comp=Z,535nm,21.0s,baz=169,slow=36						
KSCO	Kaye Shedlock'	13.84	87	P	Pn	06 40 27.7	+2.3
	baz=278						
KSCO	Kaye Shedlock'	13.84	87	ePn	Pn	06 40 28.4	+2.9
MNTX	Cornudas Mount	14.56	118	P	Pn	06 40 38.1	+2.7
	baz=307						
DGMT	Dagmar	14.67	47	P	Pn	06 40 36.8	0.0
	baz=239						
MSTX	Muleshoe	15.24	106	P	Pn	06 40 46.2	+1.7
	baz=297						
MSTX	Muleshoe	15.24	106	ePn	P	06 40 48.7	-0.7
	comp=Z,23nm,1.0s						
AMTX	Amarillo	15.68	102	P	P	06 40 52.6	-1.6
	baz=293						
AMTX	Amarillo	15.68	102	ePn	Pn	06 40 49.0	-1.3
	comp=Z,58nm,1.1s						
CBKS	Cedar Bluff	16.09	86	P	P	06 40 58.6	-0.2
	baz=279						
CBKS	Cedar Bluff	16.09	86	P	Pn	06 40 56.0	+0.5
CBKS				pmax	pmax		
	comp=Z,145nm,0.9s						
CBKS	Cedar Bluff	16.09	86	Pn	Pn	06 40 56.0	+0.5
	comp=Z,145nm,0.9s						
K31A	O'Neill	16.64	72	P	Pn	06 41 03.6	+1.2
	baz=267						
J31A	Geddes	16.70	70	P	P	06 41 05.3	-0.2
	baz=265						
I31A	Royce, Wessing	16.94	68	P	Pn	06 41 06.8	+0.7
	baz=262						
H31A	Wolsey	17.04	66	P	P	06 41 10.3	+1.1
	baz=261						
BGNE	Belgrade	17.07	77	P	P	06 41 10.2	+0.6
	baz=271						
MDND	Maddock	17.16	54	P	P	06 41 10.8	+0.3
	baz=249						
MDND	Maddock	17.16	54	ePn	P	06 41 11.6	+1.0
	comp=Z,31nm,0.9s						
L32A	Elgin	17.18	75	P	P	06 41 11.0	+0.2
	baz=270						
TX31	Lajitas Ar. Si	17.19	121	ePn	P	06 41 13.4	+2.3
TXAR	Lajitas Array	17.19	121	Pn	P	06 41 12.9	+1.8
	comp=Z,0.0nm,0.3s,baz=318,slow=10,SNR=21						
TXAR				LR	LR	06 48 35.2	
	comp=Z,670nm,19.4s,baz=0.0,slow=40						
K32A	Verdigre	17.22	72	P	P	06 41 10.9	-0.4
	baz=267						
U32A	Winter Ranch,	17.22	94	P	P	06 41 11.3	0.0
	baz=287						
J32A	Parkston	17.36	70	P	Pn	06 41 11.9	+0.5
	baz=265						
F31A	Hecla	17.46	62	P	P	06 41 13.3	-0.5
	baz=257						
O33A	Hebron	17.58	81	P	Pn	06 41 14.5	+0.3
	baz=276						
N33A	J Bar K, Exete	17.63	79	P	P	06 41 15.7	-0.1
	baz=274						
LPIG	La Paz	17.66	148	LR	LR	06 47 53.5	
	comp=Z,353nm,19.3s,baz=351,slow=36						
I32A	Karley and Nic	17.70	68	P	P	06 41 17.7	+1.1
	baz=264						
L33A	Hoskins	17.73	74	P	P	06 41 17.9	+1.1
	baz=270						
H32A	Carlson Farm,	17.78	66	P	Pn	06 41 16.5	-0.2
	baz=262						
M33A	Taylor Creek F	17.79	76	P	P	06 41 17.9	+0.4
	baz=271						
G32A	Webster	17.86	64	P	P	06 41 18.8	+0.5
	baz=260						
E31A	Nome	17.88	60	P	P	06 41 18.2	-0.3
	baz=255						
K33A	Hardington	17.93	73	P	P	06 41 20.0	+0.9
	baz=268						
WMOK	Wichita Mounta	17.94	99	P	P	06 41 20.3	+1.1
	baz=292						
WMOK	Wichita Mounta	17.94	99	P	P	06 41 19.8	+0.6
WMOK				pmax	pmax		
	comp=Z,17nm,1.0s						
WMOK	Wichita Mounta	17.94	99	Pn	P	06 41 19.8	+0.6
	comp=Z,17nm,1.0s						
R34A	Isabella, Hill	18.11	87	P	Pn	06 41 20.6	-0.2
	baz=281						
I33A	Coleman	18.18	68	P	P	06 41 22.4	+0.6
	baz=264						
ABTX	Abilene, Hawle	18.19	106	P	P	06 41 22.8	+0.8
	baz=298						
ABTX	Abilene, Hawle	18.19	106	ePn	P	06 41 23.5	+1.6
	comp=Z,26nm,1.2s						
P34A	Walnut Farm, R	18.23	83	P	P	06 41 23.7	+1.4
	baz=278						
Q34A	Chapman	18.23	85	P	P	06 41 23.1	+0.7
	baz=280						
F32A	Veblen	18.23	62	P	P	06 41 22.5	+0.2
	baz=258						
O34A	Beatrice	18.25	80	P	P	06 41 23.3	+0.7
	baz=276						
ECSD	EROS Data Cent	18.28	69	P	Pn	06 41 21.6	-1.2
	baz=265						
ECSD	EROS Data Cent	18.28	69	ePn	Pn	06 41 22.6	-0.3
	comp=Z,12nm,0.8s						
H33A	Prehn Over Nor	18.30	66	P	Pn	06 41 22.1	-0.9
	baz=262						
C31A	Landman Farms,	18.33	56	P	Pn	06 41 23.3	-0.1
	baz=252						
S34A	Willow Spring	18.34	88	P	P	06 41 24.9	+1.3
	baz=283						
N34A	Lincoln	18.34	78	P	P	06 41 24.4	+0.8
	baz=274						
L34A	Svendsen Farm,	18.39	75	P	Pn	06 41 24.7	+0.5
	baz=271						
T34A	McClaskey Farm	18.44	91	P	P	06 41 24.1	-0.7
	baz=285						
KSU1	Kansas State U	18.46	84	P	Pn	06 41 25.8	+0.8
	baz=279						
KSU1	Kansas State U	18.46	84	eP	Pn	06 41 26.3	+1.4
	comp=Z,49nm,1.0s						
G33A	Ortonville	18.59	65	P	Pn	06 41 26.6	+0.1
	baz=261						
K34A	Le Mars	18.61	73	P	Pn	06 41 26.8	0.0
	baz=269						
D32A	Dogwood Acres,	18.61	58	P	P	06 41 26.0	-0.4
	baz=255						
J34A	George	18.73	71	P	P	06 41 27.2	-0.7
	baz=267						
F33A	5 Mile Ranch,	18.80	63	P	P	06 41 27.8	-0.8
	baz=259						
O35A	Humboldt	18.84	80	P	Pn	06 41 29.6	-0.1
	baz=276						
P35A	Duane Minner,	18.85	82	P	Pn	06 41 30.1	+0.4
	baz=278						
I34A	Hadley	18.85	68	P	Pn	06 41 29.8	0.0
	baz=265						
R35A	Emporia Munici	18.91	86	P	Pn	06 41 30.6	+0.1
	baz=282						
M35A	Neola	18.92	76	P	Pn	06 41 30.4	-0.1
	baz=273						
Q35A	Mercer Eighty,	18.94	84	P	P	06 41 30.3	+0.1
	baz=280						
S35A	Otter Creek Ra	18.95	88	P	Pn	06 41 31.3	+0.2
	baz=283						
U35A	Pawnee	18.98	92	P	Pn	06 41 31.2	-0.2
	baz=287						
H34A	Spellman Lake,	18.98	66	P	P	06 41 29.6	-1.0
	baz=263						
N35A	Tabor	18.99	78	P	Pn	06 41 32.7	+1.3
	baz=274						
T35A	Sooner Cattle	18.99	90	P	Pn	06 41 31.5	0.0
	baz=286						
L35A	Bielow Farm, R	19.01	74	P	Pn	06 41 32.3	+0.6
	baz=271						
V35A	Meyer Ranch, C	19.08	94	P	Pn	06 41 34.1	+1.6
	baz=289						
C32A	Crookston	19.12	57	P	P	06 41 32.0	0.0
	baz=253						
E33A	Westby DABS, E	19.13	61	P	P	06 41 32.1	-0.1
	baz=258						
G34A	Benson	19.15	65	P	P	06 41 32.3	-0.2
	baz=262						
JCT	Junction City	19.18	112	P	Pn	06 41 33.9	+0.1
	baz=304						
JCT	Junction City	19.18	112	eP	Pn	06 41 34.4	+0.6
JCT				pmax	pmax		
	comp=Z,31nm,1.1s						
JCT	Junction City	19.18	112	eP	Pn	06 41 34.4	+0.6
	comp=Z,30nm,1.1s						
K35A	Storm Lake	19.24	72	P	Pn	06 41 35.0	+0.5
	baz=269						
W35A	Tecumseh	19.25	96	P	Pn	06 41 34.8	+0.2
	baz=290						
J35A	Milford	19.28	71	P	P	06 41 34.0	+0.2
	baz=267						
B32A	Ashes, Strandq	19.28	55	P	Pn	06 41 34.4	-0.5
	baz=252						
D33A	AnnSam, Waubun	19.38	59	P	P	06 41 34.8	-0.2
	baz=256						
R36A	Gordon, Harris	19.45	86	P	Pn	06 41 36.8	-0.1
	baz=282						
T36A	Boggs Farm, Ca	19.45	90	P	P	06 41 36.3	+0.6
	baz=285						
X35A	Drake	19.45	98	P	Pn	06 41 36.8	-0.2
	baz=292						
P36A	Good Intent, A	19.46	82	P	P	06 41 36.1	+0.3
	baz=278						
I35A	Creekview Farm	19.47	69	P	P	06 41 36.1	+0.2
	baz=266						
A32A	Rocking H Ranc	19.48	54	P	P	06 41 36.2	+0.2
	baz=250						
F34A	Alexandria	19.50	63	P	P	06 41 36.3	0.0
	baz=260						
S36A	Lake Cedric, C	19.51	88	P	Pn	06 41 37.1	-0.5
	baz=283						
N36A	Muff Farm, Cla	19.51	78	P	Pn	06 41 38.1	+0.3
	baz=275						
O36A	Bolckow	19.57	80	P	Pn	06 41 39.1	+0.6
	baz=277						
C33A	Trail	19.59	57	P	P	06 41 36.2	-1.0
	baz=254						
M36A	Felix, Anita	19.59	76	P	Pn	06 41 38.2	-0.4
	baz=273						
FFC	Flin Flon	19.59	33	eP	P	06 41 36.7	-0.5
FFC				pmax	pmax		
	comp=Z,31nm,1.0s						
FFC	Flin Flon	19.59	33	eP	P	06 41 36.7	-0.5
	comp=Z,31nm,1.0s						
H35A	Sunnyside Ranc	19.65	67	P	P	06 41 37.4	-0.5
	baz=264						
L36A	Harm Buss Farm	19.66	74	P	P	06 41 38.4	+0.3
	baz=271						
AGMN	Agassiz Nation	19.68	56	P	P	06 41 37.6	-0.6
	baz=253						
AGMN	Agassiz Nation	19.68	56	eP	P	06 41 37.7	-0.5
	comp=Z,26nm,1.1s						
E34A	Wadena	19.70	61	P	P	06 41 38.1	-0.3
	baz=259						
U36A	Oologah	19.74	91	P	Pn	06 41 40.4	-0.1
	baz=287						
W36A	Wetumka	19.76	95	P	Pn	06 41 40.3	-0.4
	baz=290						
V36A	Jenks	19.76	93	P	P	06 41 39.5	+0.3
	baz=288						
D34A	Park Rapids	19.80	59	P	P	06 41 38.4	-1.2
	baz=257						
K36A	Gilmore City	19.82	73	P	P	06 41 40.3	+0.5
	baz=270						
TUL1	Leonard	19.84	93	P	Pn	06 41 41.0	-0.6
	baz=288						
TUL1	Leonard	19.84	93	eP	Pn	06 41 41.1	-0.5
	comp=Z,26nm,0.9s						
DLBC	Dease Lake	19.85	345	P	Pn	06 41 43.7	+2.1
	comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=3.4						
DLBC				LR	LR	06 49 13.6	
	comp=Z,608nm,19.6s,baz=176,slow=37						
B33A	Robert and Kas	19.85	56	P	P	06 41 39.6	-0.5
	baz=253						
J36A	Seneca 1, Swea	19.91	71	P	P	06 41 40.4	-0.4
	baz=268						
G35A	Watkins	19.96	65	P	P	06 41 41.4	+0.2
	baz=263						
R37A	Teagarden Farm	19.97	85	P	P	06 41 42.0	+0.6
	baz=282						
F35A	Swanville	19.99	63	P	P	06 41 41.7	+0.2
	baz=261						
N37A	Lee Faris, Mou	20.08	78	P	P	06 41 43.5	+0.8
	baz=275						
S37A	Fort Scott	20.09	87	P	P	06 41 43.0	+0.2
	baz=283						
WHTX	Lake Whitney,	20.11	105	P	P	06 41 43.8	+0.7
	baz=299						
WHTX	Lake Whitney,	20.11	105	eP	Pn	06 41 44.4	-0.5
P37A	Lathrop	20.12	82	P	P	06 41 43.3	+0.3
	baz=278						
C34A	RKJ Ranch, Bem	20.12	58	P	P	06 41 41.1	-2.0
	baz=256						
M37A	Trindle Farm,	20.15	76	P	P	06 41 43.9	+0.5
	baz=274						
Q37A	Longview Farm,	20.15	84	P	P	06 41 44.0	+0.6
	baz=280						
Y36A	Durant	20.17	99	P	P	06 41 44.0	+0.4
	baz=294						
T37A	Cheneyville 18	20.17	89	P	P	06 41 44.4	+0.7
	baz=285						
I36A	Fitzsimmons Fa	20.18	69	P	P	06 41 44.5	+0.8
	baz=266						
O37A	Wolven Farm, M	20.19	80	P	P	06 41 44.5	+0.6
	baz=277						
U37A	Salina	20.21	91	P	P	06 41 44.1	0.0
	baz=287						
E35A	Pequot Lakes	20.22	61	P	P	06 41 43.6	-0.5
	baz=259						
H36A	Jessenland, He	20.28	67	P	P	06 41 44.4	-0.3
	baz=265						
ULM	Lac du Bonnet	20.33	50	P	P	06 41 44.7	-0.6
	comp=Z,4.5nm,0.8s,baz=250,slow=11,SNR=6.0						
ULM				LR	LR	06 49 45.9	
	comp=Z,390nm,20.6s,baz=244,slow=37						
ULM	Lac du Bonnet	20.33	50	eP	P	06 41 44.7	-0.6
ULM				pmax	pmax		
	comp=Z,12nm,0.9s						
ULM	Lac du Bonnet	20.33	50	eP	P	06 41 44.7	-0.6
	comp=Z,12nm,0.9s						
L37A	Phoenix Point,	20.34	74	P	P	06 41 45.8	+0.4
	baz=272						
V37A	Hulbert	20.35	92	P	P	06 41 46.5	+0.9
	baz=288						
W37B	Quinton	20.37	95	P	P	06 41 45.8	0.0
	baz=290						
K37A	Belmond	20.42	72	P	P	06 41 46.2	0.0
	baz=270						
G36A	St. Michael	20.48	65	P	P	06 41 47.2	+0.3
	baz=264						
J37A	Redenius Farm,	20.48	71	P	P	06 41 46.8	-0.2
	baz=269						
B34A	Aery, Baudette	20.51	56	P	P	06 41 46.0	-1.2
	baz=254						
D35A	Remer	20.56	60	P	P	06 41 47.5	-0.4
	baz=258						
X37A	Clayton	20.61	96	P	P	06 41 48.6	+0.2
	baz=292						
435B	Jarrell	20.62	108	P	P	06 41 49.2	+0.6
	baz=302						
I37A	Lemond, Waseca	20.62	69	P	P	06 41 48.1	-0.4
	baz=267						
Y37A	Hugo	20.65	98	P	P	06 41 49.6	+0.8
	baz=293						
T38A	Diamond	20.68	89	P	P	06 41 49.5	+0.4
	baz=285						
R38A	Fenwick Farm,	20.71	85	P	P	06 41 49.7	+0.2
	baz=282						
F36A	Milaca	20.71	64	P	P	06 41 48.9	-0.5
	baz=262						
O38A	Galt	20.71	80	P	P	06 41 49.7	+0.3
	baz=277						
833A	Chaparral WMA,	20.73	116	P	Pn	06 41 51.1	-1.0
	baz=308						
P38A	Dawn	20.73	81	P	P	06 41 50.1	+0.4
	baz=279						
C35A	Jirik Farms, M	20.75	58	P	P	06 41 49.1	-0.7
	baz=257						
SCIA	State Center	20.75	75	eP	P	06 41 50.6	+0.7
	comp=Z,48nm,0.8s						
U38A	Gravette	20.77	90	P	P	06 41 50.3	+0.2
	baz=287						
Q38A	Cooks Store, C	20.78	83	P	P	06 41 50.5	+0.3
	baz=280						
M38A	Pleasantville	20.79	76	P	P	06 41 51.0	+0.7
	baz=274						
N38A	Joes South For	20.82	78	P	P	06 41 51.3	+0.7
	baz=276						
S38A	Stockton	20.83	87	P	P	06 41 51.0	+0.2
	baz=284						
336A	Riesel	20.86	106	P	P	06 41 51.8	+0.6
	baz=300						
V38A	Canehill	20.92	92	P	P	06 41 51.8	0.0
	baz=288						
L38A	Oak Wood Farm,	20.93	74	P	P	06 41 51.6	-0.2
	baz=272						
E36A	McGregor	21.00	62	P	P	06 41 52.1	-0.4
	baz=261						
X38A	Whitesboro	21.00	95	P	P	06 41 52.8	+0.2
	baz=291						
K38A	Parkersburg	21.06	73	P	P	06 41 52.8	-0.4
	baz=271						
B35A	Bob, Littlefor	21.07	57	P	P	06 41 52.7	-0.5
	baz=255						
W38A	Poteau	21.09	94	P	P	06 41 53.8	+0.2
	baz=290						
SPMN	Marine on St.	21.14	66	P	P	06 41 53.7	-0.4
	baz=264						
SPMN	Marine on St.	21.14	66	eP	P	06 41 54.1	0.0
	comp=Z,51nm,1.0s						
HHAR	Hobbs	21.16	91	eP	P	06 41 54.8	+0.5
	comp=Z,33nm,1.2s						
D36A	Goodland	21.18	60	P	P	06 41 53.9	-0.5
	baz=259						
933A	Laredo	21.25	118	P	P	06 41 56.5	+1.0
	baz=310						
S39A	Bolivar	21.27	86	P	P	06 41 55.9	+0.4
	baz=284						
J38A	Wedel Dairy, R	21.27	71	P	P	06 41 54.8	-0.7
	baz=270						
F37A	Hinrichs Farm,	21.32	64	P	P	06 41 55.9	0.0
	baz=263						
237A	Washetta, Mont	21.35	103	P	P	06 41 56.8	+0.5
	baz=298						
R39A	Chumby, Stover	21.35	85	P	P	06 41 56.9	+0.6
	baz=282						
Y38A	Idabel	21.35	97	P	P	06 41 58.0	+1.7
	baz=293						
P39B	Salisbury	21.35	81	P	P	06 41 56.4	+0.1
	baz=279						
N39A	Derby Farms, D	21.36	78	P	P	06 41 56.7	+0.3
	baz=276						
536A	Bastrop	21.38	109	P	P	06 41 57.5	+0.8
	baz=303						
536A	Bastrop	21.38	109	eP	P	06 41 57.9	+1.2
T39A	Clever	21.39	88	P	P	06 41 57.2	+0.4
	baz=285						
I38A	Scanlan Farm,	21.39	69	P	P	06 41 56.2	-0.6
	baz=268						
O39A	Kirksville	21.40	79	P	P	06 41 57.8	+0.9
	baz=277						
H38A	Maiden Rock	21.46	67	P	P	06 41 57.1	-0.4
	baz=266						
U39A	Green Forest	21.48	90	P	P	06 41 57.5	-0.3
	baz=287						
C36A	Pine Crest Far	21.51	59	P	P	06 41 57.3	-0.7
	baz=258						
V39A	Pettigrew	21.52	92	P	P	06 41 58.4	+0.1
	baz=288						
735A	Kenedy	21.52	113	P	P	06 41 59.2	+0.9
	baz=306						
M39A	Webster	21.56	76	P	P	06 41 58.3	-0.2
	baz=274						
X39A	Fountain Ranch	21.60	95	P	P	06 41 59.3	+0.2
	baz=291						
W39A	Magazine	21.62	93	P	P	06 41 59.8	+0.5
	baz=290						
L39A	Vinton	21.64	74	P	P	06 41 59.3	-0.2
	baz=273						
D37A	Cotton	21.67	60	P	P	06 41 58.8	-0.9
	baz=260						
636A	Smothers Creek	21.71	110	P	P	06 42 01.7	+1.4
	baz=304						
636A	Smothers Creek	21.71	110	eP	P	06 42 02.9	+2.6
K39A	Oelwein	21.71	72	P	P	06 41 59.1	-1.1
	baz=272						
G38A	Ridgeland	21.80	66	P	P	06 42 00.8	-0.4
	baz=265						
J39A	Decorah	21.83	71	P	P	06 42 00.3	-1.3
	baz=270						
835A	Beeville	21.84	114	P	P	06 42 02.4	+0.7
	baz=307						
F38A	Pierce - Schro	21.86	64	P	P	06 42 02.1	+0.3
	baz=263						
P40A	Paris	21.88	81	P	P	06 42 02.1	+0.1
	baz=279						
S40A	Lebanon	21.92	86	P	P	06 42 02.5	0.0
	baz=284						
O40A	La Belle	21.93	79	P	P	06 42 03.0	+0.5
	baz=278						
C37A	Embarrass	21.93	59	P	P	06 42 05.0	+2.4
	baz=259						
R40A	Maddies Statio	21.94	84	P	P	06 42 03.5	+0.7
	baz=282						
Q40A	Laux Farm, Aux	21.95	82	P	P	06 42 02.9	0.0
	baz=281						
I39A	Houston	21.97	69	P	P	06 42 02.1	-0.9
	baz=269						
U40A	Yellville	21.98	90	P	P	06 42 03.5	+0.3
	baz=287						
736A	Circle Diamond	22.00	112	P	P	06 42 04.3	+0.9
	baz=305						
736A	Circle Diamond	22.00	112	eP	P	06 42 05.7	+2.3
	comp=Z,98nm,1.2s						
MIAR	Mount Ida	22.00	95	P	P	06 42 04.4	+1.0
	baz=291						
MIAR	Mount Ida	22.00	95	eP	P	06 42 05.3	+1.9
MIAR				pmax	pmax		
	comp=Z,26nm,1.1s						
MIAR	Mount Ida	22.00	95	eP	P	06 42 05.2	+1.9
	comp=Z,26nm,1.1s						
034A	Hebbronville	22.01	118	P	P	06 42 05.1	+1.5
	baz=310						
T40A	Mansfield	22.02	87	P	P	06 42 04.2	+0.7
	baz=285						

N40A	Mertquake, Sal	22.05	77	P		P	06 42 03.0	-0.9
	baz=276							
M40A	Post Highland	22.06	76	P		P	06 42 04.2	+0.2
	baz=275							
V40A	Witts Springs	22.16	91	P		P	06 42 05.5	+0.3
	baz=288							
E38A	The Farm, Brul	22.17	62	P		P	06 42 05.0	-0.1
	baz=262							
W40A	Ferguson Farm,	22.17	93	P		P	06 42 06.0	+0.8
	baz=290							
H39A	Augusta	22.17	67	P		P	06 42 04.6	-0.6
	baz=267							
L40A	Anamosa	22.23	74	P		P	06 42 05.0	-0.8
	baz=274							
637A	Eagle Lake	22.26	110	P		P	06 42 08.2	+2.1
	baz=304							
K40A	Colesburg	22.26	72	P		P	06 42 04.1	-2.0
	baz=272							
G39A	Holcombe	22.29	66	P		P	06 42 05.2	-1.3
	baz=266							
HKT	Hockley	22.35	108	*e*P		P	06 42 08.5	+1.5
HKT				pmax	pmax			
	comp=Z,93nm,1.4s							
HKT	Hockley	22.35	108	*e*P		P	06 42 08.5	+1.5
	comp=Z,93nm,1.4s							
S41A	Jillco Farms,	22.51	86	P		P	06 42 08.6	-0.2
	baz=284							
F39A	Loretta	22.52	64	P		P	06 42 08.3	-0.7
	baz=264							
C38A	Sawbill Land.	22.54	59	P		P	06 42 08.1	-1.0
	baz=260							
J40A	Soldiers Grove	22.54	71	P		P	06 42 08.1	-1.0
	baz=270							
Q41A	Truxton	22.61	82	P		P	06 42 09.3	-0.5
	baz=281							
P41A	Barry, Barry	22.61	80	P		P	06 42 09.7	-0.2
	baz=279							
N41A	Harden Midland	22.62	78	P		P	06 42 10.3	+0.3
	baz=277							
R41A	Rosebud	22.63	84	P		P	06 42 09.4	-0.7
	baz=282							
I40A	Norwalk	22.63	69	P		P	06 42 09.4	-0.7
	baz=269							
T41A	Mountain View	22.63	87	P		P	06 42 10.4	+0.3
	baz=285							
O41A	Passleys Farm,	22.68	79	P		P	06 42 10.8	+0.2
	baz=278							
WLAR	White Oak Lake	22.68	96	*e*P		P	06 42 11.4	+0.8
	comp=Z,45nm,1.1s							
V41A	Mountainview	22.69	91	P		P	06 42 11.3	+0.6
	baz=288							
U41A	Viola	22.70	89	P		P	06 42 11.3	+0.4
	baz=287							
L41A	Preston	22.77	74	P		P	06 42 10.2	-1.3
	baz=274							
CCM	Cathedral Cave	22.78	84	P		P	06 42 11.8	+0.1
CCM				pmax	pmax			
	comp=Z,23nm,1.0s							
M41A	Milan	22.79	76	P		P	06 42 10.2	-1.5
	baz=276							
H40A	Chili	22.81	67	P		P	06 42 10.6	-1.3
	baz=268							
W41B	Gary Mavity, V	22.81	92	P		P	06 42 11.0	-1.1
	baz=290							
E39A	Mellen	22.83	63	P		P	06 42 11.0	-1.2
	baz=264							
K41A	Shullsburg	22.88	73	P		P	06 42 11.3	-1.3
	baz=273							
JFWS	Jewell Farm	22.91	72	*e*P		P	06 42 12.2	-0.8
JFWS				pmax	pmax			
	comp=Z,27nm,0.8s							
JFWS	Jewell Farm	22.91	72	*e*P		P	06 42 12.2	-0.8
	comp=Z,27nm,0.8s							
G40A	Rib Lake	22.98	66	P		P	06 42 12.4	-1.3
	baz=266							
J41A	Loganville	23.07	71	P		P	06 42 13.3	-1.3
	baz=271							
R42A	Luebbering	23.08	84	P		P	06 42 14.1	-0.7
	baz=283							
F40A	Park Falls	23.08	64	P		P	06 42 13.8	-1.0
	baz=265							
Q42A	Golden Eagle	23.15	82	P		P	06 42 14.4	-1.1
	baz=281							
I41A	Arkdale	23.17	69	P		P	06 42 14.6	-1.1
	baz=270							
P42A	Winchester	23.17	80	P		P	06 42 15.1	-0.6
	baz=280							
S42A	Caledonia	23.20	85	P		P	06 42 15.5	-0.5
	baz=284							
YKA	Yellowknife Ar	23.22	7	P		P	06 42 15.3	-0.6
	comp=Z,3.3nm,0.8s,baz=194,slow=10,SNR=2.6							
YKA				LR	LR		06 52 26.3	
	comp=Z,48nm,20.1s,baz=180,slow=40							
U42A	Revenden	23.23	89	P		P	06 42 17.1	+0.8
	baz=287							
N42A	Yates City	23.23	77	P		P	06 42 15.5	-0.8
	baz=277							
V42A	Cord	23.27	90	P		P	06 42 17.4	+0.7
	baz=288							
O42A	Bath	23.28	79	P		P	06 42 16.0	-0.7
	baz=278							
E40A	Wakefield	23.28	63	P		P	06 42 16.4	-0.5
	baz=264							
H41A	Junction City	23.33	67	P		P	06 42 16.3	-1.0
	baz=268							
FVM	French Village	23.43	84	*e*P		P	06 42 18.5	+0.2
FVM				pmax	pmax			
	comp=Z,33nm,1.0s							
FVM	French Village	23.43	84	*e*P		P	06 42 18.5	+0.2
	comp=Z,33nm,1.0s							
SLM	Saint Louis	23.43	83	*e*P		P	06 42 18.5	+0.2
SLM				pmax	pmax			
	comp=Z,52nm,0.9s							
SLM	Saint Louis	23.43	83	*e*P		P	06 42 18.5	+0.2
	comp=Z,52nm,0.9s							
K42A	Prairie Point,	23.58	72	P		P	06 42 17.8	-1.9
	baz=273							
J42A	Columbus	23.72	71	P		P	06 42 20.0	-1.1
	baz=272							
PBMO	Poplar Bluff	23.73	87	*e*P		P	06 42 20.9	-0.4
	comp=Z,80nm,1.1s							
R43A	Red Bud	23.74	83	P		P	06 42 19.4	-2.0
	baz=283							
T43A	Greenville	23.76	86	P		P	06 42 20.8	-0.7
	baz=285							
F41A	Three Lakes	23.77	65	P		P	06 42 20.8	-0.8
	baz=266							
Q43A	New Douglas	23.78	82	P		P	06 42 20.4	-1.4
	baz=281							
P43A	Skaggs, Pawnee	23.79	80	P		P	06 42 21.3	-0.5
	baz=280							
S43A	Fulton Ridge,	23.80	85	P		P	06 42 21.0	-0.9
	baz=284							
HDIL	Hopedale	23.82	78	P		P	06 42 21.4	-0.7
	baz=278							
HDIL	Hopedale	23.82	78	*e*P		P	06 42 21.6	-0.5
	comp=Z,69nm,0.8s							
O43A	Sugar Creek Fa	23.84	78	P		P	06 42 21.9	-0.4
	baz=279							
I42A	Draeger Farm,	23.86	69	P		P	06 42 20.9	-1.5
	baz=271							
E41A	Kenton	23.93	63	P		P	06 42 23.6	+0.5
	baz=265							
H42A	Shiocton	24.13	68	P		P	06 42 24.3	-0.8
	baz=270							
G42A	Mountain	24.23	66	P		P	06 42 25.1	-0.7
	baz=268							
J43A	Natural Harves	24.23	71	P		P	06 42 24.3	-1.6
	baz=272							
Q44A	Meyer Farm, Va	24.31	81	P		P	06 42 25.2	-1.5
	baz=282							
S44A	Carbondale	24.40	84	P		P	06 42 27.2	-0.3
	baz=284							
R44A	Waltonville	24.40	83	P		P	06 42 27.0	-0.5
	baz=283							
O44A	Mansfield	24.51	78	P		P	06 42 27.8	-0.6
	baz=279							
P44A	Sand Creek, Wi	24.51	80	P		P	06 42 27.6	-0.8
	baz=281							
G43A	Wallace	24.75	66	P		P	06 42 30.1	-0.5
	baz=268							
O45A	Potomac	25.05	78	P		P	06 42 32.9	-0.5
	baz=279							
F43A	Flat Rock, Esc	25.13	65	P		P	06 42 34.0	-0.1
	baz=268							
OXF	Oxford	25.23	92	*e*P		P	06 42 34.7	-0.3
OXF				pmax	pmax			
	comp=Z,35nm,0.9s							
OXF	Oxford	25.23	92	*e*P		P	06 42 34.7	-0.3
	comp=Z,35nm,0.9s							
SFIN	Lafayette	25.50	77	P		P	06 42 37.4	-0.1
	baz=279							
P46A	Rosedale	25.55	79	P		P	06 42 37.7	-0.3
	baz=281							
USIN	University of	25.55	83	*e*P		P	06 42 37.1	-0.8
	comp=Z,46nm,0.9s							
F44A	Big Bay de Noc	25.66	64	P		P	06 42 38.4	-0.4
	baz=268							
N46A	Monticello	25.70	76	P		P	06 42 38.9	-0.4
	baz=278							
O47A	Sheridan	26.23	77	P		P	06 42 45.4	+1.3
	baz=280							
P47A	Martinsville	26.29	79	P		P	06 42 45.0	+0.3
	baz=281							
WCI	Wyandotte Cave	26.54	82	*e*P		P	06 42 46.3	-0.6
WCI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
WCI	Wyandotte Cave	26.54	82	*e*P		P	06 42 46.3	-0.6
	comp=Z,9.6nm,0.6s							
KDAK	Kodiak Island	27.56	322	LR	LR		06 51 49.5	
	comp=Z,378nm,18.8s,baz=117,slow=32							
PMR	Palmer	28.16	331	*e*P		P	06 43 02.4	+1.3
PMR	Palmer	28.16	331	*e*P		P	06 43 02.4	+1.3
TKL	Tuckaleechee C	29.20	86	P		P	06 43 10.7	0.0
	comp=Z,1.8nm,0.7s,baz=232,slow=19,SNR=3.1							
TKL				LR	LR		06 55 27.5	
	comp=Z,458nm,19.5s,baz=290,slow=38							
MCK	McKinley	29.47	334	*e*P		P	06 43 14.0	+1.2
MCK	McKinley	29.47	334	*e*P		P	06 43 14.0	+1.2
ILAR	Eielson Array	29.54	337	P		P	06 43 13.7	+0.3
	comp=Z,1.3nm,0.8s,baz=155,slow=7.9,SNR=16							
ILAR				PcP		PcP	06 46 17.9	-0.1
	comp=Z,0.4nm,0.7s,baz=156,slow=2.5,SNR=4.0							
ILAR				LR	LR		06 55 40.7	
	comp=Z,245nm,19.9s,baz=146,slow=38							
ILB	Eielson Array	29.54	337	*e*P		P	06 43 14.1	+0.7
INK	Inuvik	29.65	350	P		P	06 43 14.4	+0.1
	comp=Z,5.2nm,0.7s,baz=200,slow=11,SNR=20							
INK				LR	LR		06 57 23.4	
	comp=Z,330nm,19.0s,baz=160,slow=41							
CCB	Clear Creek Bu	29.73	337	*e*P		P	06 43 15.3	+0.3
COLA	College	29.90	337⇓	*e*P		P	06 43 24.0	+7.4
COLA				pmax	pmax			
	comp=Z,8.0nm,1.7s							
BPAW	Bear Paw Mtn.	30.40	334	*e*P		P	06 43 21.5	+0.5
SVW2	Sparrevohn	30.48	327	*e*P		P	06 43 22.2	+0.5
SADO	Sadowa	30.82	67	P		P	06 43 26.5	+1.6
	comp=Z,8.5nm,1.0s,baz=142,slow=8.2,SNR=3.7							
MLY	Manley	30.91	335	*e*P		P	06 43 27.5	+1.9
RES	Resolute Bay	37.15	11	P		P	06 44 18.8	-0.7
	comp=Z,3.4nm,0.8s,baz=196,slow=10,SNR=8.1							
SCHQ	Schefferville	38.49	48	LR	LR		07 00 33.0	
	comp=Z,357nm,21.9s,baz=11,slow=36							
JTS	JuntasAbangare	42.97	123⇓	*e*P		P	06 45 09.6	+1.1
JTS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SUMG	Summit	50.40	23	*i* P		P	06 46 06.9	+0.5
	comp=Z,7.0nm,0.9s							
SUMG	Summit	50.40	23	*i* P		P	06 46 06.9	+0.5
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ROSC	El Rosal	54.08	117	LR	LR		07 15 22.5	
	comp=Z,35nm,18.1s,baz=207,slow=42							
SEY	Seymchan	54.41	326	P		P	06 46 35.5	-0.3
	comp=Z,2.2nm,0.6s,baz=101,slow=8.9,SNR=4.7							
DAG	Danmarks Havn	54.47	16	*i* P		P	06 46 32.6	-3.4
	comp=Z,3.7nm,0.8s							
DAG	Danmarks Havn	54.47	16	*e*P		P	06 46 32.6	-3.4
DAG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PETK	Petropavlovsk-	55.07	313	P		P	06 46 41.0	+0.2
	comp=Z,14nm,0.6s,baz=79,slow=12,SNR=11							
PETK				LR	LR		07 07 04.2	
	comp=Z,57nm,22.0s,baz=85,slow=33							
PETK	Petropavlovsk-	55.07	313	P		P	06 46 41.0	+0.2
TIXI	Tiksi	58.96	340	P		P	06 47 07.5	-0.5
	comp=Z,2.5nm,0.2s,baz=67,slow=6.9,SNR=3.1							
TIXI	Tiksi	58.96	340⇑	*e*P		P	06 47 13.8	+5.8
TIXI				pmax	pmax			
	comp=Z,10.0nm,1.4s							
YAK	Yakutsk	64.15	330	LR	LR		07 15 16.6	
	comp=Z,161nm,19.7s,baz=86,slow=36							
ASAJ	Asahikawa	68.09	310	P		P	06 48 08.6	-0.2
	comp=Z,6.0nm,0.6s,baz=337,slow=5.4,SNR=4.0							
ARCES	ARCESS Array B	68.36	12	P		P	06 48 10.9	+0.9
	comp=Z,2.7nm,1.0s,baz=317,slow=18,SNR=3.3							
ARCES				LR	LR		07 20 43.4	
	comp=Z,85nm,18.5s,baz=345,slow=38							
NRIK	Noril'sk	69.44	350	P		P	06 48 18.1	+1.3
	comp=Z,1.2nm,0.6s,baz=13,slow=14,SNR=2.9							
NRIK				LR	LR		07 21 40.9	
	comp=Z,53nm,19.1s,baz=99,slow=38							
NB2	NORSAR Subarra	72.29	22	P		P	06 48 35.3	+1.1
	comp=Z,4.7nm,1.0s,baz=322,slow=6.2							
NOA	NORSAR Array B	72.29	22	P		P	06 48 35.5	+1.2
	comp=Z,1.5nm,0.8s,baz=322,slow=5.8,SNR=3.5							
NOA				LR	LR		07 19 08.1	
	comp=Z,85nm,21.1s,baz=5.0,slow=35							
KONO	Kongsberg	72.90	24⇑	*e*P		P	06 48 43.9	+6.1
LPAZ	La Paz	73.94	128	P		P	06 48 45.9	+0.6
	comp=Z,2.2nm,0.9s,baz=290,slow=11,SNR=3.6							
USRK	Ussuriysk Ar.	74.13	315	P		P	06 48 44.9	-0.5
	comp=Z,3.2nm,0.7s,baz=40,slow=5.7,SNR=6.1							
MDJ	Mudanjiang	75.17	316	P		P	06 48 50.0	-1.4
MDJ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,66nm,4.5s							
MJAR	Matsushiro Arr	75.28	305	P		P	06 48 51.1	-1.1
	comp=Z,7.2nm,0.8s,baz=45,slow=5.6,SNR=15							
MAJO	Matsushiro	75.28	305⇑	*e*P		P	06 48 57.0	+4.8
MAJO				pmax	pmax			
	comp=Z,76nm,0.9s							
MAT	Matsushiro	75.28	305	P		P	06 48 51.1	-1.1
MAT				S		S	06 58 28.6	-2.3
FINES	FINESS Array B	75.72	16	P		P	06 48 54.0	-0.1
	comp=Z,1.9nm,0.6s,baz=328,slow=6.8,SNR=6.1							
KLMR	Klimovskoe	78.59	10	*e*P		P	06 49 13.7	+3.4
KLMR				*e*			06 52 10.2	
KLMR				pmax	pmax			
	comp=Z,19nm,1.4s							
KSRS	Korea Array	80.92	311	P		P	06 49 22.9	-0.5
	comp=Z,2.0nm,0.6s,baz=66,slow=5.2,SNR=7.3							
KSAR	Wonju Array Be	80.95	311	P		P	06 49 23.0	-0.6
KSAR	Wonju Array Be	80.95	311	P		P	06 49 22.9	-0.6
ESDC	Sonseca Array	82.11	44	P		P	06 49 30.7	+0.9
	comp=Z,0.2nm,0.3s,baz=319,slow=5.1,SNR=2.7							
ESDC				LR	LR		07 24 02.7	
	comp=Z,124nm,18.7s,baz=270,slow=34							
GERES	GERESS Array B	83.07	29	LR	LR		07 26 52.3	
	comp=Z,100nm,18.9s,baz=335,slow=36							
ULN	Ulaanbaatar	83.23	330⇓	*e*P		P	06 49 40.6	+5.0
ULN				pmax	pmax			
	comp=Z,2.0nm,1.1s							
SONM	Songino Array	83.51	330	P		P	06 49 36.0	-1.0
	comp=Z,0.8nm,0.5s,baz=356,slow=2.8,SNR=4.9							
SONM				LR	LR		07 26 54.5	
	comp=Z,110nm,20.7s,baz=18,slow=36							
SONM	Songino Array	83.51	330	P		P	06 49 36.0	-1.0
ZALV	Zalesovo Beam	84.33	345	P		P	06 49 39.6	-1.3
	comp=Z,1.1nm,0.5s,baz=18,slow=4.2,SNR=3.7							
ZALV				LR	LR		07 31 50.6	
	comp=Z,67nm,18.7s,baz=90,slow=39							
ARU	Arti	84.35	1*c*	*i* P		P	06 49 45.1	+4.2
ARU							06 52 50.6	
ARU				S		S	07 00 07.6	+1.8
ARU				SS		SS	07 05 32.1	-2.0
ARU				pmax	pmax			
	comp=Z,7.0nm,0.8s							
GUMO	Guam	85.00	283	LR	LR		07 21 07.7	
	comp=Z,23nm,20.1s,baz=134,slow=31							
AKASG	Malin Array Be	86.25	19	P		P	06 49 50.2	-0.3
	comp=Z,0.7nm,0.5s,baz=330,slow=4.0,SNR=2.9							
KIEV	Kiev	86.25	19⇓	*e*P		P	06 49 57.3	+6.8
KIEV				pmax	pmax			
	comp=Z,11nm,1.9s							
HHC	Hu-ho-hao-te	86.97	323	*e*P		P	06 49 53.8	-0.6
HHC				pmax	pmax			
	comp=Z,28nm,1.5s							
HHC				pmax	pmax			
	comp=Z,110nm,7.0s							
BRVK	Borovoye	87.26	354⇓	*e*P		P	06 50 00.4	+4.9
BRVK				pmax	pmax			
	comp=Z,11nm,0.8s							
BVAR	Borovoye Array	87.29	353	P		P	06 49 54.9	-0.7
	comp=Z,0.4nm,0.4s,baz=357,slow=6.2,SNR=4.3							
CPUP	Villa Florida	88.09	127	LR	LR		07 29 58.5	
	comp=Z,34nm,19.0s,baz=314,slow=36							
KURK	Kurchatov	88.53	348	P		P	06 50 01.3	-0.2
KURK	Kurchatov	88.53	348	P		P	06 50 01.3	-0.2
KURBB	Kurchatov Arra	88.64	348	P		P	06 50 01.3	-0.8
	comp=Z,0.9nm,0.6s,baz=15,slow=4.9,SNR=6.2							
NJ2	Nanjing	89.98	313	*e*P		P	06 50 06.3	-2.4
NJ2				pmax	pmax			
	comp=Z,22nm,0.7s							
AKTO	Aktyubinsk	90.35	1	P		P	06 50 10.2	+0.1
	comp=Z,1.2nm,0.6s,baz=18,slow=9.6,SNR=2.9							
PLCA	Paso Flores	91.97	144	LR	LR		07 24 09.9	
	comp=Z,65nm,20.7s,baz=18,slow=31							
WMQ	Urumqi	93.17	340	P		P	06 50 23.8	+0.4
WMQ				pP		pP	06 50 28.8	-0.1
WMQ				sP		sP	06 50 31.3	+0.5
WMQ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,75nm,4.5s							
WMQ				LR	LR			
	comp=N,52nm,30.3s							
WMQ				LR	LR			
	comp=E,32nm,24.7s							
WMQ				LR	LR			
	comp=Z,53nm,20.9s							
LZH	Lanzhou	94.34	325	*e*P		P	06 50 27.3	-1.7
LZH				pP	PcP		06 50 31.8	+2.3
LZH				sP	pP		06 50 34.0	-0.5
LZH				PP	PP		06 54 16.0	+0.7
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
KIV	Kislovodsk	95.47	12	*e*P		P	06 50 37.1	+3.2
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
KIV				MLR	MLR			
	comp=Z,59nm,20.0s							
MAK	Makhachkala	97.12	9	*e*P		Pdif	06 50 41.8	+0.4
MAK				*e*S		SKSac	07 01 14.4	-3.4
KSH	Kashi	99.85	347	*e*P		Pdif	06 50 52.5	-1.3
KSH				pP	pP		06 50 57.8	-1.6
KSH				sP	sP		06 51 01.8	+0.5
KSH				*e*PP	PP		06 54 59.5	+2.2
KSH	Kashi	99.85	347	S	S		07 02 21.3	-6.1
KSH	Kashi	99.85	347	sS	S		07 02 29.0	+1.6
KSH	Kashi	99.85	347	SS	SS		07 09 17.0	-0.4
KSH				pmax	pmax			
	comp=Z,81nm,6.7s							
KSH				LR	LR			
	comp=N,100nm,7.6s							
KSH				LR	LR			
	comp=E,83nm,9.7s							
KSH				LR	LR			
	comp=Z,530nm,6.3s							
ASAR	Alice Springs	116.37	260	PKP	PKPdf		06 55 51.5	-1.5
	comp=Z,0.2nm,0.5s,baz=46,slow=2.7,SNR=2.7							
BOSA	Boshof	149.75	79	PKPbc	PKPbc		06 56 58.9	-0.4
	comp=Z,3.6nm,1.1s,baz=300,slow=15,SNR=3.6							
MAW	Mawson	151.86	183	PKPbc	PKPbc		06 57 04.3	+1.5
	comp=Z,1.0nm,0.6s,baz=236,slow=7.3,SNR=3.1							

IDC 27 06:41:39.4±3.5, 8°.48N×126°.62E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/37, mbtmp3.7/3, Error ellipse: s-maj=288.2km s-min=27.4km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.25	165	P	P	06 47 43.8	+0.4
	1.0nm,0.6s,baz=345,slow=10,SNR=1.5						
ASAR	Alice Springs	32.73	168	P	P	06 48 13.7	-0.4
	0.5nm,0.6s,baz=347,slow=8.1,SNR=4.4						
MKAR	Makanchi Array	53.65	323	P	P	06 51 02.8	-0.1
	0.5nm,0.4s,baz=111,slow=8.2,SNR=7.7						

MEX 27 06:42:27.7±0.4, 17°.42N×94°.69W, h138km±4km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.38	210	*e*P	Pn	06 42 45.8	-1.4
CMIG				*e*S	Sn	06 43 00.1	-1.9
TUIG	Tuzandepetl	0.66	22	*e*P	Pn	06 42 47.4	-1.3
TUIG				*e*S	Sn	06 43 02.5	-2.2
TGIG		1.63	113	*e*P	Pn	06 42 56.9	-1.0
TGIG				*e*S	Sn	06 43 19.0	-1.9
VHO	Vista Hermosa	1.99	260	*e*P	Pn	06 43 00.5	-1.7
VHO				*e*S	Sn	06 43 27.0	-1.6
PCIG		2.21	140	*e*P	Pn	06 43 03.7	-1.1
PCIG				*e*S	Sn	06 43 31.2	-2.0
CCIG	Comitan	2.69	115	*e*P	Pn	06 43 09.6	-1.3
CCIG				*e*S	Sn	06 43 41.8	-2.3

IDC 27 06:47:21.7±423.0, 50°.83N×117°.59E, h0km, Error ellipse: s-maj=167.5km s-min=146.0km az=58.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	7.91	252	*i*		07 36 40.0	
	baz=64,slow=328,SNR=0.5						
I45RU	USSURIYSK INFR	11.77	119	*i*		08 00 30.0	
	baz=309,slow=326,SNR=4.2						
I30JP	ISUMI INFRASON	22.59	125	*i*		09 06 00.0	
	baz=322,slow=323,SNR=0.5						

ISK 27 06:57:01.8, 38°.74N×43°.50E, h13km, ML2.7
DDA 27 06:57:02.9, 38°.68N×43°.14E, h7km, Ml3.3
CSEM 27 06:57:03.7±0.3, 38°.71N×43°.20E, h2km, ML2.7, Error ellipse: s-maj=6.8km s-min=5.3km az=87.0

ISC 27 06:57:03.1±1.0, 38°.69N±0°.02×43°.14E±0°.03, h9km±10km, n26, σ0°97/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	116	PG	Pg	06 57 07.4	-0.1
VANB				*e*SG	Sg	06 57 11.5	+0.9
VANB	Van	0.22	116	*i* Pg	Pg	06 57 07.4	-0.1
VANB				*e*Sg	Sg	06 57 11.5	+0.9
GEVA	Gevas	0.38	190	*i* P	Pg	06 57 10.2	-0.4
GEVA				*i* S	Sb	06 57 17.1	-1.2
GEVA	Gevas	0.38	190	P	Pg	06 57 10.2	-0.4
GEVA				S	Sb	06 57 17.1	-1.2
VMUR	Van-Muradiye	0.45	48	*i* P	Pg	06 57 11.6	-0.3
VMUR				*i* S	Sg	06 57 18.9	+1.0
VMUR	Van-Muradiye	0.45	48	P	Pg	06 57 11.6	-0.3
VMUR				S	Sg	06 57 18.9	+1.0
TUTA	Tutak	0.75	340	*i* P	Pg	06 57 17.6	-0.1
TUTA				*i* S	Sb	06 57 29.0	0.0
TUTA	Tutak	0.75	340	P	Pg	06 57 17.6	-0.1
TUTA				S	Sb	06 57 29.0	0.0
AGRB	Hanur-Agry	0.89	353	*e*PG	Pg	06 57 20.0	-0.3
AGRB				*e*SG	Sb	06 57 33.1	+0.2
AGRB	Hanur-Agry	0.89	353	*e*Pg	Pg	06 57

*NEIC **27** 07:00:25.0±0.0, 38°.31S×175°.95E, h176km, MG4.5(WEL), After WEL.*

WEL 27 07:00:24.9±0.2, 38°.31S×175°.95E, h178km±2km, ML4.5/57, 59C-20D, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.20**	**210**	⇑Pn	Pn	07 00 48.7	+0.2
KUTZ	**Kaahu Road**	**0.20**	**210**	⇑PN	Pn	07 00 48.7	+0.2
WPRZ	**Whakapapatarin**	**0.27**	**142**	Pn	Pn	07 00 48.6	0.0
WPRZ	**Whakapapatarin**	**0.27**	**142**	⇑PN	Pn	07 00 48.6	0.0
HRRZ	**Handcock Road**	**0.27**	**107**	Pn	Pn	07 00 48.7	0.0
HRRZ	**Handcock Road**	**0.27**	**107**	⇑PN	Pn	07 00 48.7	0.0
TLZ	**Tolley Road**	**0.33**	**267**	Pn	Pn	07 00 48.7	-0.1
TLZ	**Tolley Road**	**0.33**	**267**	PN	Pn	07 00 48.7	-0.1
WHTZ	**Whakaora**	**0.35**	**179**	Pn	Pn	07 00 49.1	+0.2
WHTZ	**Whakaora**	**0.35**	**179**	PN	Pn	07 00 49.1	+0.2
KARZ	**Kaharoa**	**0.37**	**38**	Pn	Pn	07 00 48.9	0.0
KARZ				Sn	Sn	07 01 07.3	0.0
KARZ	**Kaharoa**	**0.37**	**38**	⇑PN	Pn	07 00 48.9	0.0
KARZ				SN	Sn	07 01 07.3	0.0
PRRZ	**Plateau Road**	**0.39**	**119**	Pn	Pn	07 00 48.7	-0.2
PRRZ				Sn	Sn	07 01 07.2	-0.3
PRRZ	**Plateau Road**	**0.39**	**119**	⇑PN	Pn	07 00 48.7	-0.2
PRRZ				SN	Sn	07 01 07.2	-0.3
ALRZ	**Allen Road**	**0.40**	**129**	Pn	Pn	07 00 48.9	-0.1
ALRZ				Sn	Sn	07 01 07.3	-0.2
ALRZ	**Allen Road**	**0.40**	**129**	PN	Pn	07 00 48.8	-0.1
ALRZ				SN	Sn	07 01 07.3	-0.3
WATZ	**Wairara**	**0.43**	**203**	Pn	Pn	07 00 49.3	+0.2
WATZ	**Wairara**	**0.43**	**203**	⇑PN	Pn	07 00 49.3	+0.2
TARZ	**Mount Tarawera**	**0.44**	**80**	Pn	Pn	07 00 49.2	0.0
TARZ	**Mount Tarawera**	**0.44**	**80**	PN	Pn	07 00 49.2	0.0
RRRZ	**Republican Roa**	**0.44**	**94**	Pn	Pn	07 00 49.1	-0.1
RRRZ	**Republican Roa**	**0.44**	**94**	⇓PN	Pn	07 00 49.1	-0.1
KMRZ	**Kaimai**	**0.47**	**359**	⇓PN	Pn	07 00 49.3	0.0
RATZ	**Rangitukua**	**0.57**	**194**	Pn	Pn	07 00 49.6	-0.1
RATZ	**Rangitukua**	**0.57**	**194**	⇓PN	Pn	07 00 49.6	-0.1
HATZ	**Hinemaiaia**	**0.59**	**169**	Pn	Pn	07 00 49.6	-0.1
HATZ	**Hinemaiaia**	**0.59**	**169**	⇑PN	Pn	07 00 49.6	-0.1
MRHZ	**Matea Rd**	**0.64**	**145**	⇑PN	Pn	07 00 49.9	-0.2
MRHZ				AML	AML	07 00 50.4	
MRHZ				AML	AML	07 01 10.9	
MUGZ	**Murupara**	**0.66**	**105**	⇑PN	Pn	07 00 49.7	-0.4
OPRZ	**Ohinepanea**	**0.67**	**46**	Pn	Pn	07 00 49.8	-0.3
OPRZ	**Ohinepanea**	**0.67**	**46**	PN	Pn	07 00 49.8	-0.3
RITZ	**Rihia Road**	**0.67**	**186**	Pn	Pn	07 00 50.4	+0.3
RITZ	**Rihia Road**	**0.67**	**186**	PN	Pn	07 00 50.4	+0.3
TOZ	**Tahuroa Road**	**0.68**	**328**	⇓Pn	Pn	07 00 50.4	+0.1
TOZ	**Tahuroa Road**	**0.68**	**328**	⇓PN	Pn	07 00 50.4	+0.1
KATZ	**Kakaramea**	**0.69**	**197**	Pn	Pn	07 00 50.4	0.0
KATZ	**Kakaramea**	**0.69**	**197**	⇑PN	Pn	07 00 50.4	0.0
KRVZ	**Karewarewa**	**0.82**	**197**	Pn	Pn	07 00 51.0	-0.2
KRVZ	**Karewarewa**	**0.82**	**197**	⇑PN	Pn	07 00 51.0	-0.2
WTVZ	**West Tongariro**	**0.85**	**199**	Pn	Pn	07 00 51.2	-0.1
WTVZ	**West Tongariro**	**0.85**	**199**	⇑PN	Pn	07 00 51.2	-0.1
TWVZ	**Taurewa**	**0.86**	**208**	Pn	Pn	07 00 51.4	-0.1
TWVZ	**Taurewa**	**0.86**	**208**	PN	Pn	07 00 51.4	-0.1
RTZ	**Ruatahuna**	**0.86**	**111**	PN	Pn	07 00 50.9	-0.5
OTVZ	**Oturere**	**0.88**	**195**	Pn	Pn	07 00 51.5	-0.1
OTVZ	**Oturere**	**0.88**	**195**	PN	Pn	07 00 51.5	-0.1
MTHZ	**Maungataniwha**	**0.88**	**128**	PN	Pn	07 00 51.6	+0.1
HIZ	**Hauiti**	**0.89**	**257**	Pn	Pn	07 00 53.3	+1.9
HIZ	**Hauiti**	**0.89**	**257**	PN	Pn	07 00 53.3	+1.9
NGZ	**Ngauruhoe**	**0.91**	**198**	Pn	Pn	07 00 51.4	-0.4
NGZ	**Ngauruhoe**	**0.91**	**198**	PN	Pn	07 00 51.4	-0.4
URZ	**Urewera**	**0.91**	**87**	Pn	Pn	07 00 51.0	-0.7
URZ	**Urewera**	**0.91**	**87**	PN	Pn	07 00 51.0	-0.7
URZ				AML	AML	07 01 10.7	
URZ				AML	AML	07 01 11.1	
BKZ	**Black Stump Fm**	**0.95**	**154**	Pn	Pn	07 00 51.4	-0.6
BKZ	**Black Stump Fm**	**0.95**	**154**	PN	Pn	07 00 51.4	-0.6
BKZ				AML	AML	07 01 13.3	
BKZ				AML	AML	07 01 13.4	
TUVZ	**Tukino**	**0.98**	**194**	Pn	Pn	07 00 52.3	-0.1
TUVZ	**Tukino**	**0.98**	**194**	PN	Pn	07 00 52.3	-0.1
FWVZ	**Far West T-bar**	**0.99**	**198**	Pn	Pn	07 00 51.9	-0.6
FWVZ	**Far West T-bar**	**0.99**	**198**	PN	Pn	07 00 51.9	-0.6
DRZ	**Dome Shelter**	**1.01**	**197**	Pn	Pn	07 00 52.7	-0.1
DRZ	**Dome Shelter**	**1.01**	**197**	⇓PN	Pn	07 00 52.7	-0.1
WHVZ	**Whangaehu Hut**	**1.01**	**196**	Pn	Pn	07 00 52.3	-0.3
WHVZ	**Whangaehu Hut**	**1.01**	**196**	⇑PN	Pn	07 00 52.3	-0.3
NMHZ	**Naumai**	**1.03**	**140**	Pn	Pn	07 00 53.3	+0.7
NMHZ	**Naumai**	**1.03**	**140**	⇑PN	Pn	07 00 53.3	+0.7
NMHZ				AML	AML	07 01 15.0	
NMHZ				AML	AML	07 01 15.2	
TRVZ	**Turoa**	**1.04**	**198**	Pn	Pn	07 00 52.5	-0.4
TRVZ	**Turoa**	**1.04**	**198**	PN	Pn	07 00 52.5	-0.4
WNVZ	**Wahianoa**	**1.05**	**195**	Pn	Pn	07 00 52.7	-0.1
WNVZ	**Wahianoa**	**1.05**	**195**	⇑PN	Pn	07 00 52.7	-0.1
PKVZ	**Pokaka**	**1.09**	**206**	Pn	Pn	07 00 52.9	-0.1
PKVZ	**Pokaka**	**1.09**	**206**	⇑PN	Pn	07 00 52.9	-0.1
MOVZ	**Moawhango**	**1.10**	**188**	Pn	Pn	07 00 52.8	-0.4
MOVZ	**Moawhango**	**1.10**	**188**	⇑PN	Pn	07 00 52.7	-0.4
MTVZ	**Mangateitei**	**1.14**	**199**	Pn	Pn	07 00 53.2	-0.2
MTVZ	**Mangateitei**	**1.14**	**199**	PN	Pn	07 00 53.2	-0.2
RAGZ	**Rawiri**	**1.16**	**100**	Pn	Pn	07 00 53.6	-0.1
RAGZ	**Rawiri**	**1.16**	**100**	⇑PN	Pn	07 00 53.6	-0.1
RAGZ				AML	AML	07 01 15.4	
RAGZ				AML	AML	07 01 15.5	
KWHZ	**Kaweka Forest**	**1.17**	**162**	⇑PN	Pn	07 00 53.7	+0.1
KWHZ				AML	AML	07 01 23.1	
KWHZ				AML	AML	07 01 23.1	
BHHZ	**Black Hill Sta**	**1.18**	**176**	Pn	Pn	07 00 53.4	-0.4
BHHZ	**Black Hill Sta**	**1.18**	**176**	⇑PN	Pn	07 00 53.4	-0.4
BHHZ				AML	AML	07 01 17.2	
BHHZ				AML	AML	07 01 18.2	
SNGZ	**Shannon Statio**	**1.18**	**114**	Pn	Pn	07 00 54.0	+0.3
SNGZ	**Shannon Statio**	**1.18**	**114**	⇑PN	Pn	07 00 54.0	+0.3
SNGZ				AML	AML	07 01 23.3	
SNGZ				AML	AML	07 01 24.5	
VRZ	**Vera Road**	**1.24**	**229**	Pn	Pn	07 00 54.2	0.0
VRZ	**Vera Road**	**1.24**	**229**	PN	Pn	07 00 54.2	0.0
MWZ	**Matawai**	**1.24**	**92**	Pn	Pn	07 00 53.9	-0.3
MWZ	**Matawai**	**1.24**	**92**	⇑PN	Pn	07 00 53.9	-0.3
MWZ				AML	AML	07 01 15.8	
MWZ				AML	AML	07 01 16.5	
ARHZ	**Aropaoanui**	**1.25**	**140**	Pn	Pn	07 00 54.8	+0.5
ARHZ	**Aropaoanui**	**1.25**	**140**	⇑PN	Pn	07 00 54.8	+0.5
ARHZ				AML	AML	07 01 17.0	
ARHZ				AML	AML	07 01 17.3	
WHHZ	**Waihua**	**1.26**	**128**	PN	Pn	07 00 54.7	+0.4
WHHZ				AML	AML	07 01 19.0	
WHHZ				AML	AML	07 01 23.1	
MCHZ	**McNeill Hill**	**1.27**	**153**	Pn	Pn	07 00 55.2	+0.7
MCHZ	**McNeill Hill**	**1.27**	**153**	⇑PN	Pn	07 00 55.2	+0.7
MCHZ				AML	AML	07 01 17.7	
MCHZ				AML	AML	07 01 19.0	
MKAZ	**Moumakai**	**1.36**	**332**	⇓Pn	Pn	07 00 55.4	+0.1
MKAZ	**Moumakai**	**1.36**	**332**	⇓PN	Pn	07 00 55.4	+0.1
KRHZ	**Kereru**	**1.37**	**166**	⇑PN	Pn	07 00 55.3	-0.1
KRHZ				AML	AML	07 01 20.6	
KRHZ				AML	AML	07 01 21.6	
RUGZ	**Raukumara Rang**	**1.40**	**76**	PN	Pn	07 00 54.6	-1.2
RIGZ	**Rimuhau**	**1.47**	**106**	⇑PN	Pn	07 00 56.4	+0.1
RIGZ				AML	AML	07 01 19.8	
RIGZ				AML	AML	07 01 24.4	
MHEZ	**Mangahewa**	**1.49**	**239**	Pn	Pn	07 00 56.9	+0.5
MHEZ	**Mangahewa**	**1.49**	**239**	⇑PN	Pn	07 00 56.9	+0.5
TKGZ	**Te Karaka**	**1.50**	**95**	Pn	Pn	07 00 57.2	+0.7
TKGZ	**Te Karaka**	**1.50**	**95**	PN	Pn	07 00 56.9	+0.4
TKGZ				AML	AML	07 01 21.7	
TKGZ				AML	AML	07 01 24.8	
KNZ	**Kokohu**	**1.52**	**118**	Pn	Pn	07 00 56.7	0.0
KNZ	**Kokohu**	**1.52**	**118**	⇑PN	Pn	07 00 56.7	0.0
KNZ				AML	AML	07 01 21.8	
KNZ				AML	AML	07 01 22.2	
HAZ	**Te Kaha**	**1.55**	**70**	⇓PN	Pn	07 00 55.9	-1.1
HAZ				AML	AML	07 01 21.1	
HAZ				AML	AML	07 01 21.1	
HAZ				AML	AML	07 01 26.3	
KUZ	**Kuaotunu**	**1.57**	**353**	⇓Pn	Pn	07 00 57.1	-0.2
KUZ	**Kuaotunu**	**1.57**	**353**	⇓PN	Pn	07 00 57.1	-0.2
TWGZ	**Tauwhareparae**	**1.60**	**86**	Pn	Pn	07 00 58.0	+0.3
TWGZ	**Tauwhareparae**	**1.60**	**86**	PN	Pn	07 00 58.0	+0.3
TWGZ				AML	AML	07 01 24.7	
TWGZ				AML	AML	07 01 25.3	
CKHZ	**Cape Kidnapper**	**1.60**	**147**	Pn	Pn	07 00 57.9	+0.4
CKHZ	**Cape Kidnapper**	**1.60**	**147**	⇑PN	Pn	07 00 57.9	+0.4
CKHZ				AML	AML	07 01 24.7	
CKHZ				AML	AML	07 01 24.7	
PNHZ	**Pukenui**	**1.61**	**173**	Pn	Pn	07 00 57.3	-0.4
PNHZ	**Pukenui**	**1.61**	**173**	⇑PN	Pn	07 00 57.3	-0.4
PNHZ				AML	AML	07 01 23.6	
PNHZ				AML	AML	07 01 24.5	
AWAZ	**Awhitu Peninsu**	**1.62**	**320**	PN	Pn	07 00 57.8	0.0
DREZ	**Durham Road**	**1.63**	**237**	Pn	Pn	07 00 58.1	+0.3
DREZ	**Durham Road**	**1.63**	**237**	PN	Pn	07 00 58.1	+0.3
WAZ	**Wanganui**	**1.63**	**207**	Pn	Pn	07 00 57.4	-0.4
WAZ	**Wanganui**	**1.63**	**207**	⇑PN	Pn	07 00 57.4	-0.4
PRGZ	**Paritu Road**	**1.63**	**113**	Pn	Pn	07 00 57.9	0.0
PRGZ	**Paritu Road**	**1.63**	**113**	PN	Pn	07 00 57.9	0.0
PRGZ				AML	AML	07 01 24.8	
PRGZ				AML	AML	07 01 26.0	
KAHZ	**Kahuranaki**	**1.65**	**154**	Pn	Pn	07 00 58.3	+0.2
KAHZ	**Kahuranaki**	**1.65**	**154**	⇑PN	Pn	07 00 58.3	+0.2
KAHZ				AML	AML	07 01 25.9	
KAHZ				AML	AML	07 01 26.9	
WIAZ	**Waiheke Island**	**1.65**	**336**	⇓PN	Pn	07 00 58.2	+0.1
LREZ	**Lake Rotokare**	**1.67**	**226**	⇑PN	Pn	07 00 58.4	+0.2
PKGZ	**Pakihiroa**	**1.73**	**76**	PN	Pn	07 00 58.7	-0.3
PKGZ				AML	AML	07 01 25.5	
PKGZ				AML	AML	07 01 36.4	
NEZ	**North Egmont**	**1.74**	**236**	Pn	Pn	07 00 59.2	+0.2
NEZ	**North Egmont**	**1.74**	**236**	⇓PN	Pn	07 00 59.2	+0.2
PREZ	**Palmer Road**	**1.74**	**233**	Pn	Pn	07 00 59.1	+0.2
PREZ	**Palmer Road**	**1.74**	**233**	PN	Pn	07 00 59.1	+0.2
MHGZ	**Mahia Peninsul**	**1.74**	**119**	Pn	Pn	07 00 59.3	+0.3
MHGZ	**Mahia Peninsul**	**1.74**	**119**	⇑PN	Pn	07 00 59.3	+0.3
MHGZ				AML	AML	07 01 25.7	
MHGZ				AML	AML	07 01 30.6	
TSZ	**Takapari Road**	**1.75**	**180**	Pn	Pn	07 00 58.5	-0.5
TSZ	**Takapari Road**	**1.75**	**180**	PN	Pn	07 00 58.5	-0.5
TSZ				AML	AML	07 00 58.7	
TSZ				AML	AML	07 01 26.6	
WTAZ	**Waiatarua**	**1.76**	**321**	Pn	Pn	07 00 59.4	+0.2
WTAZ	**Waiatarua**	**1.76**	**321**	⇑PN	Pn	07 00 59.4	+0.2
PKE	**Pukeiti**	**1.77**	**240**	Pn	Pn	07 00 59.4	+0.1
PKE	**Pukeiti**	**1.77**	**240**	PN	Pn	07 00 59.4	+0.1
CNGZ	**Carnagh Statio**	**1.78**	**96**	Pn	Pn	07 00 59.8	+0.5
CNGZ	**Carnagh Statio**	**1.78**	**96**	⇓PN	Pn	07 00 59.8	+0.5
CNGZ				AML	AML	07 01 28.6	
CNGZ				AML	AML	07 01 28.7	
WPHZ	**Waipukurau**	**1.79**	**168**	Pn	Pn	07 00 59.1	-0.4
WPHZ	**Waipukurau**	**1.79**	**168**	⇑PN	Pn	07 00 59.1	-0.4
WPHZ				AML	AML	07 01 30.4	
WPHZ				AML	AML	07 01 30.6	
KHEZ	**Kahui Hut**	**1.81**	**236**	Pn	Pn	07 00 59.7	0.0
KHEZ	**Kahui Hut**	**1.81**	**236**	PN	Pn	07 00 59.7	0.0
PUZ	**Puketiti**	**1.83**	**83**	Pn	Pn	07 00 59.4	-0.5
PUZ	**Puketiti**	**1.83**	**83**	PN	Pn	07 00 59.4	-0.5
PUZ				AML	AML	07 01 27.3	
PUZ				AML	AML	07 01 30.3	
PXZ	**Pawanui**	**1.86**	**158**	Pn	Pn	07 00 59.9	-0.2
PXZ	**Pawanui**	**1.86**	**158**	PN	Pn	07 00 59.9	-0.2
PXZ				AML	AML	07 01 26.5	
PXZ				AML	AML	07 01 28.1	
PXZ				AML	AML	07 01 29.1	
PXZ				AML	AML	07 01 29.2	
NWEZ	**Newall Road**	**1.89**	**239**	Pn	Pn	07 01 00.7	+0.2
NWEZ	**Newall Road**	**1.89**	**239**	⇑PN	Pn	07 01 00.7	+0.2
OHWZ	**Ohakea**	**1.96**	**194**	⇑PN	Pn	07 01 00.9	-0.2
NMEZ	**Namu Road**	**1.96**	**235**	Pn	Pn	07 01 01.1	-0.1
NMEZ	**Namu Road**	**1.96**	**235**	PN	Pn	07 01 01.1	-0.1
DVHZ	**Dannevirke**	**1.99**	**175**	Pn	Pn	07 01 00.8	-0.9
DVHZ	**Dannevirke**	**1.99**	**175**	⇑PN	Pn	07 01 00.8	-0.9
DVHZ				AML	AML	07 01 29.3	
DVHZ				AML	AML	07 01 30.0	
WMGZ	**Waiomatatini S**	**2.00**	**77**	Pn	Pn	07 01 01.5	-0.3
WMGZ	**Waiomatatini S**	**2.00**	**77**	PN	Pn	07 01 01.5	-0.3
WMGZ				AML	AML	07 01 30.7	
WMGZ				AML	AML	07 01 30.9	
MXZ	**Matakaoa Point**	**2.00**	**69**	Pn	Pn	07 01 01.6	-0.1
MXZ	**Matakaoa Point**	**2.00**	**69**	⇓PN	Pn	07 01 01.6	-0.1
MXZ				AML	AML	07 01 32.0	
MXZ				AML	AML	07 01 32.4	
PRHZ	**Porangahau**	**2.02**	**165**	Pn	Pn	07 01 01.4	-0.5
PRHZ	**Porangahau**	**2.02**	**165**	⇑PN	Pn	07 01 01.4	-0.5
PRHZ				AML	AML	07 01 31.7	
PRHZ				AML	AML	07 01 32.5	
POWZ	**Post Office Ro**	**2.08**	**184**	Pn	Pn	07 01 01.6	-1.0
POWZ	**Post Office Ro**	**2.08**	**184**	⇑PN	Pn	07 01 01.6	-1.0
POWZ				AML	AML	07 01 34.8	
POWZ				AML	AML	07 01 38.3	
GRZ	**Great Barrier**	**2.10**	**349**	⇓PN	Pn	07 01 02.2	-0.2
ANWZ	**Angora Road**	**2.18**	**169**	⇑PN	Pn	07 01 03.1	-0.6
ANWZ				AML	AML	07 01 34.8	
ANWZ				AML	AML	07 01 35.0	
PRWZ	**Pori Road**	**2.24**	**180**	Pn	Pn	07 01 03.5	-0.9
PRWZ	**Pori Road**	**2.24**	**180**	⇑PN	Pn	07 01 03.5	-0.9
PRWZ				AML	AML	07 01 37.0	
PRWZ				AML	AML	07 01 37.5	
MRZ	**Mangatainoka R**	**2.36**	**187**	⇑Pn	Pn	07 01 04.3	-1.4
MRZ	**Mangatainoka R**	**2.36**	**187**	⇑PN	Pn	07 01 04.3	-1.4
MRZ				AML	AML	07 01 35.8	
MRZ				AML	AML	07 01 36.8	
BFZ	**Birch Farm**	**2.38**	**175**	Pn	Pn	07 01 04.7	-1.3
BFZ	**Birch Farm**	**2.38**	**175**	PN	Pn	07 01 04.7	-1.3
BFZ				AML	AML	07 01 38.4	
BFZ				AML	AML	07 01 38.4	
BFZ				AML	AML	07 01 38.5	
BFZ				AML	AML	07 01 38.5	
TIWZ	**Tintock**	**2.46**	**181**	Pn	Pn	07 01 05.5	-1.4
TIWZ	**Tintock**	**2.46**	**181**	PN	Pn	07 01 05.5	-1.4
TIWZ				AML	AML	07 01 38.2	
TIWZ				AML	AML	07 01 38.3	
OGWZ	**Otaki Gorge**	**2.57**	**193**	Pn	Pn	07 01 06.7	-1.5
OGWZ	**Otaki Gorge**	**2.57**	**193**	⇑PN	Pn	07 01 06.7	-1.5
OGWZ				AML	AML	07 01 40.0	
OGWZ				AML	AML	07 01 40.5	
CPWZ	**Castlepoint**	**2.60**	**176**	Pn	Pn	07 01 07.6	-1.0
CPWZ	**Castlepoint**	**2.60**	**176**	⇑PN	Pn	07 01 07.6	-1.0
CPWZ				AML	AML	07 01 42.4	
CPWZ				AML	AML	07 01 43.3	
HOWZ	**Holdsworth Sta**	**2.60**	**187**	Pn	Pn	07 01 06.7	-1.9
HOWZ	**Holdsworth Sta**	**2.60**	**187**	PN	Pn	07 01 06.7	-1.9
HOWZ				AML	AML	07 01 39.0	
HOWZ				AML	AML	07 01 40.4	
KIW	**Kapiti Island**	**2.67**	**197**	Pn	Pn	07 01 07.4	-2.0
KIW	**Kapiti Island**	**2.67**	**197**	⇑PN	Pn	07 01 07.4	-2.0
KIW				AML	AML	07 01 42.4	
KIW				AML	AML	07 01 42.9	
TMWZ	**Te Maipa**	**2.79**	**181**	Pn	Pn	07 01 08.9	-1.9
TMWZ	**Te Maipa**	**2.79**	**181**	PN	Pn	07 01 08.9	-1.9
TMWZ				AML	AML	07 01 45.4	
TMWZ				AML	AML	07 01 46.6	
MTW	**Mount Morrison**	**2.86**	**187**	Pn	Pn	07 01 09.5	-2.2
MTW	**Mount Morrison**	**2.86**	**187**	⇑PN	Pn	07 01 09.5	-2.2
MTW				AML	AML	07 01 46.3	
MTW				AML	AML	07 01 46.4	
CAW	**Cannon Point**	**2.88**	**193**	Pn	Pn	07 01 09.7	-2.1
CAW	**Cannon Point**	**2.88**	**193**	⇑PN	Pn	07 01 09.7	-2.1
CAW				AML	AML	07 01 47.6	
CAW				AML	AML	07 01 50.3	
DUWZ	**D'Urville Isla**	**2.94**	**212**	Pn	Pn	07 01 10.3	-2.4
DUWZ	**D'Urville Isla**	**2.94**	**212**	⇑PN	Pn	07 01 10.3	-2.4
TRWZ	**Traveller**	**3.09**	**184**	Pn	Pn	07 01 12.2	-2.2
TRWZ	**Traveller**	**3.09**	**184**	⇓PN	Pn	07 01 12.2	-2.2
TRWZ				AML	AML	07 01 49.8	
TRWZ				AML	AML	07 01 50.2	
PAWZ	**Paruwai Farm**	**3.09**	**187**	Pn	Pn	07 01 12.0	-2.5
PAWZ	**Paruwai Farm**	**3.09**	**187**	⇑PN	Pn	07 01 12.0	-2.5
PAWZ				AML	AML	07 01 49.7	
PAWZ				AML	AML	07 01 51.5	
WEL	**Wellington**	**3.11**	**197**	Pn	Pn	07 01 12.2	-2.4
WEL	**Wellington**	**3.11**	**197**	PN	Pn	07 01 12.2	-2.4
WEL				AML	AML	07 01 51.7	
WEL				AML	AML	07 01 51.8	
MSWZ	**Moikau Station**	**3.15**	**190**	Pn	Pn	07 01 12.6	-2.5
MSWZ	**Moikau Station**	**3.15**	**190**	⇑PN	Pn	07 01 12.6	-2.5
MSWZ				AML	AML	07 01 50.3	
MSWZ				AML	AML	07 01 51.6	
TCW	**Tory Channel**	**3.17**	**204**	Pn	Pn	07 01 13.0	-2.4
TCW	**Tory Channel**	**3.17**	**204**	⇑PN	Pn	07 01 13.0	-2.4
TCW				AML	AML	07 01 52.7	
TCW				AML	AML	07 01 53.8	
BHW	**Baring Head**	**3.20**	**195**	Pn	Pn	07 01 13.2	-2.5
BHW	**Baring Head**	**3.20**	**195**	⇑PN	Pn	07 01 13.2	-2.5
BHW				AML	AML	07 01 51.8	
BHW				AML	AML	07 01 52.9	
PLWZ	**Palliser**	**3.30**	**189**	Pn	Pn	07 01 14.2	-2.8
PLWZ	**Palliser**	**3.30**	**189**	⇑PN	Pn	07 01 14.2	-2.8
PLWZ				AML	AML	07 01 53.4	
PLWZ				AML	AML	07 01 54.3	
TUWZ	**Tuamarina**	**3.48**	**206**	Pn	Pn	07 01 16.3	-2.9
TUWZ	**Tuamarina**	**3.48**	**206**	PN	Pn	07 01 16.3	-2.9
TUWZ				AML	AML	07 01 58.9	
TUWZ				AML	AML	07 01 59.1	
NNZ	**Nelson**	**3.52**	**214**	Pn	Pn	07 01 16.6	-3.0
NNZ	**Nelson**	**3.52**	**214**	⇑PN	Pn	07 01 16.6	-3.0
QRZ	**Quartz Range**	**3.65**	**225**	Pn	Pn	07 01 17.9	-3.4
QRZ	**Quartz Range**	**3.65**	**225**	⇑PN	Pn	07 01 17.9	-3.4
CMWZ	**Cape Campbell**	**3.68**	**201**	PN	Pn	07 01 19.9	-1.8
CMWZ				AML	AML	07 02 10.0	
CMWZ				AML	AML	07 02 10.1	
BSWZ	**Blackbirch Sta**	**3.75**	**204**	Pn	Pn	07 01 19.9	-2.8
BSWZ	**Blackbirch Sta**	**3.75**	**204**	PN	Pn	07 01 19.9	-2.8
BSWZ				AML	AML	07 02 06.7	
BSWZ				AML	AML	07 02 07.3	
THZ	**Tophouse**	**4.17**	**213**	Pn	Pn	07 01 24.8	-3.2
THZ	**Tophouse**	**4.17**	**213**	PN	Pn	07 01 24.8	-3.2
KHZ	**Kahutara**	**4.50**	**203**	PN	Pn	07 01 29.2	-2.9
KHZ				AML	AML	07 02 21.4	
KHZ				AML	AML	07 02 22.0	
DSZ	**Denniston Nort**	**4.68**	**222**	Pn	Pn	07 01 30.5	-4.1
DSZ	**Denniston Nort**	**4.68**	**222**	PN	Pn	07 01 30.5	-4.1
LTZ	**Lake Taylor**	**5.27**	**211**	Pn	Pn	07 01 38.3	-4.0
LTZ	**Lake Taylor**	**5.27**	**211**	PN	Pn	07 01 38.3	-4.0
INZ	**Inchbonnie**	**5.59**	**217**	⇓PN	Pn	07 01 41.4	-4.9
OXZ	**Oxford**	**5.82**	**209**	Pn	Pn	07 01 44.4	-5.0
OXZ	**Oxford**	**5.82**	**209**	PN	Pn	07 01 44.4	-5.0
MQZ	**McQueen's Vall**	**5.94**	**204**	Pn	Pn	07 01 46.0	-4.9
MQZ	**McQueen's Vall**	**5.94**	**204**	⇑PN	Pn	07 01 46.0	-4.9
WVZ	**Waitaha Valley**	**6.19**	**218**	Pn	Pn	07 01 49.7	-4.5
WVZ	**Waitaha Valley**	**6.19**	**218**	PN	Pn	07 01 49.7	-4.5
RPZ	**Rata Peaks**	**6.55**	**213**	Pn	Pn	07 01 54.7	-4.2
RPZ	**Rata Peaks**	**6.55**	**213**	PN	Pn	07 01 54.7	-4.2
FOZ	**Fox Glacier**	**6.98**	**220**	Pn	Pn	07 01 59.8	-4.8
FOZ	**Fox Glacier**	**6.98**	**220**	PN	Pn	07 01 59.8	-4.8
CTZ	**Chatham Island**	**7.80**	**136**	Pn	Pn	07 02 21.1	+5.7
CTZ	**Chatham Island**	**7.80**	**136**	PN	Pn	07 02 21.1	+5.7
ODZ	**Otahua Downs

AAK S **Sn** **07 10 50.3 -2.2**
1.4nm,0.3s,baz=327,slow=18,SNR=8.4
KK31 Karatay Array 6.41 354 ⇑P **Pn** **07 09 43.9 +1.8**
10nm,0.4s,baz=182,slow=13,SNR=140
KK31 ⇑S **Sn** **07 10 51.1 -2.6**
5.6nm,0.4s,baz=185,slow=24,SNR=11
GEYT Alibeck 10.70 280 P **Pn** **07 10 41.5 +1.0**
0.5nm,0.3s,baz=116,slow=10,SNR=6.4
GEYT S **Sn** **07 12 32.8 -5.4**
1.5nm,0.3s,baz=8.1,slow=2.5,SNR=12
MKAR Makanchi Array 12.89 35 P **Pn** **07 11 11.3 +1.7**
0.1nm,0.3s,baz=226,slow=17,SNR=7.6
PYUN Piuthan 12.99 128 *e*P **Pn** **07 11 11.1 -0.1**
4.1nm,0.2s
KOLN Koldanda 13.60 128 *e*P **Pn** **07 11 18.1 -1.2**
5.3nm,0.7s
GKN Gorkha 14.12 124 *e*P **P** **07 11 28.0 -2.4**
12nm,0.5s
KKN Kakani 14.69 123 *e*P **P** **07 11 34.5 -2.3**
KURBB Kurchatov Arra 14.79 18 P **P** **07 11 36.7 -0.7**
0.1nm,0.3s,baz=203,slow=11,SNR=2.9
PKI Pulchoki 14.92 124 *e*P **Pn** **07 11 36.5 +0.2**
AB31 Akbulak array 15.07 330 ⇓P **Pn** **07 11 37.7 0.0**
1.2nm,0.3s,baz=138,slow=14,SNR=36
AB31 ⇑S Sn 07 14 11.3 -13
0.7nm,0.5s,baz=125,slow=25,SNR=4.2
JIRN Jiri 15.39 122 *e*P **P** **07 11 43.6 -1.1**
55nm,0.4s
RAMN Ramite 16.12 123 *e*P **Pn** **07 11 48.5 -2.8**
22nm,0.7s
BVAR Borovoye Array 16.31 358 P **P** **07 11 54.8 +0.4**
0.4nm,0.3s,baz=179,slow=10,SNR=5.9
ODAN Odare 16.72 122 *e*P **Pn** **07 11 55.6 -3.1**
AKTO Aktyubinsk 16.77 329 P **P** **07 12 01.7 +2.2**
0.9nm,0.3s,baz=129,slow=11,SNR=14
AKTO Aktyubinsk 16.77 329 ⇑P **P** **07 12 03.1 +3.6**
2.7nm,0.5s
AKTO ⇓S **Sn** **07 14 57.3 -7.7**
2.7nm,1.3s
ZALV Zalesovo Beam 19.55 24 P **Pn** **07 12 33.6 +1.4**
baz=210,slow=11,SNR=2.1
ARCES ARCESS Array B 41.08 337 P **P** **07 15 47.2 +3.6**
0.7nm,0.5s,baz=108,slow=7.8,SNR=6.5
NOA NORSAR Array B 44.42 323 P **P** **07 16 13.6 +2.8**
0.6nm,0.7s,baz=98,slow=9.0,SNR=2.6

DHMR ***27*** *07:26:23.9±1.2, 11°.99N×44°.17E, h4km±5km, ML4.4*
IDC ***27*** *07:26:25.8±1.2, 11°.67N×44°.26E, h0km, mb3.9/9, mb1 4.1/11,mb1mx3.8/49,mbtmp4.0/11,ML3.7/2,MS3.6/9, Ms1 3.6/9,ms1mx3.1/57, Error ellipse: s-maj=26.2km s-min=12.1km az=162.0*
ISCJB ***27*** *07:26:26.0±0.5, 11°.88N±0°.04×44°.25E±0°.05, h10km, mb4.1/12, MS3.5/7, Error ellipse: s-maj=8.1km s-min=4.7km az=41.9*
NEIC ***27*** *07:26:27.7±0.6, 11°.73N×44°.21E, h10km, mb4.6/5, Error ellipse: s-maj=12.9km s-min=8.8km az=144.0*
CSEM ***27*** *07:26:28.1±0.4, 12°.08N×44°.27E, h2km, mb4.6/4, Error ellipse: s-maj=12.0km s-min=10.0km az=148.0*
ISC 27 07:26:27.4±0.6, 11°.95N±0°.05×44°.21E±0°.05, h10km, n51, σ2§10/56, mb4.3/12, MS3.5/7, 2C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.11**	**43**	*i* P	**Pb**	**07 26 45.2**	**-3.6**
ADEN				*i* S	**Sb**	**07 27 00.6**	**-2.8**
ADEN				AML	AML	07 27 08.6	
	comp=N,9μm,0.9s						
ADEN	**Aden**	**1.11**	**43**	*i* P	**Pb**	**07 26 45.2**	**-3.6**
ADEN				*i* S	**Sb**	**07 27 00.6**	**-2.8**
	comp=N,4μm,0.9s						
TRBA	**At Turbah**	**1.27**	**356**	⇑*i* P	**Pn**	**07 26 47.4**	**-4.1**
TRBA				*i* S	**Sb**	**07 27 04.7**	**-3.6**
ATD	**Arta Tunnel**	**1.40**	**253**	Pn	**Pn**	**07 26 51.8**	**-1.3**
	comp=N,76nm,0.3s,baz=52,slow=1.9,SNR=234						
ATD				Lg	Lg	07 27 10.2	
	comp=N,423nm,0.3s,baz=134,slow=23,SNR=57						
ATD	**Arta Tunnel**	**1.40**	**253**	*e*Pn	**Pn**	**07 26 50.7**	**-2.4**
ATD				*e*Sn	**Sg**	**07 27 11.1**	**-1.4**
ATD	**Arta Tunnel**	**1.40**	**253**	*e*Pn	**Pn**	**07 26 50.7**	**-2.4**
ATD				*e*Sn	**Sg**	**07 27 11.1**	**-1.4**
UDYN	**Al 'Udayn**	**2.02**	**353**	*i* P	**Pn**	**07 26 59.3**	**-2.4**
UDYN				*i* S	**Sn**	**07 27 27.2**	**+0.1**
UDYN	**Al 'Udayn**	**2.02**	**353**	*i* P	**Pn**	**07 26 59.3**	**-2.4**
UDYN				*i* S	**Sn**	**07 27 27.2**	**+0.1**
BDHA	**Al Bayda'**	**2.41**	**33**	*i* P	**Pn**	**07 27 05.3**	**-1.8**
BDHA				*i* S	**Sb**	**07 27 39.2**	**-1.6**
BDHA				AML	AML	07 27 45.6	
	comp=N,3μm,0.7s						
BDHA	**Al Bayda'**	**2.41**	**33**	*i* P	**Pn**	**07 27 05.3**	**-1.8**
DHBB	**Dhamar BB**	**2.61**	**4**	*i* P	**Pn**	**07 27 09.3**	**-0.7**
DHBB				*i* S	**Sb**	**07 27 44.4**	**-2.4**
DHBB				AML	AML	07 27 54.2	
	comp=Z,4μm,0.7s						
DAMY	**Dhamar**	**2.61**	**4**	*e*Pn	**Pb**	**07 27 12.1**	**-2.5**
DAMY	**Dhamar**	**2.61**	**4**	*e*Pn	**Pb**	**07 27 12.1**	**-2.5**
DAMY				*e*Sn	**Sg**	**07 27 51.5**	**+0.1**
HAJJ	**Hajjah**	**3.77**	**351**	*i* P	**Pn**	**07 27 24.8**	**-1.1**
HAJJ	**Hajjah**	**3.77**	**351**	*i* P	**Pn**	**07 27 24.8**	**-1.1**
KMBO	**Kilima Mbogo**	**14.72**	**208**	Pn	**Pn**	**07 29 53.0**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=78,slow=20,SNR=2.8						
KMBO				Lg	Lg	07 34 08.8	
	comp=Z,0.4nm,0.3s,baz=104,slow=15,SNR=4.8						
KMBO				LR	LR	07 35 28.0	
	comp=Z,355nm,19.1s,baz=70,slow=37						
KMBO	**Kilima Mbogo**	**14.72**	**208**	*e*Pn	**Pn**	**07 29 54.4**	**-1.6**
KMBO				Lg	Lg	07 34 08.8	
UOSS	**Minazif**	**17.20**	**40**	*e*Sn	**Sn**	**07 33 39.3**	**-0.1**
UOSS	**Minazif**	**17.20**	**40**	*e*P	**P**	**07 30 32.5**	**+3.0**
	comp=Z,15nm,1.0s						
UOSS				*e*Sn	**Sn**	**07 33 39.3**	**-0.1**
WSAR	**Wadi Sarin**	**17.73**	**49**	P	**P**	**07 30 35.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=261,slow=19,SNR=3.2						
WSAR				LR	LR	07 37 49.4	
	comp=Z,168nm,20.8s,baz=248,slow=38						
EIL	**Elat**	**19.62**	**335**	Lg	Lg	07 36 54.4	
	comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=4.9						
ASF	**Jabal al Asfar**	**21.22**	**343**	P	**P**	**07 31 18.3**	**+4.7**
	comp=Z,1.4nm,0.4s,baz=26,slow=3.5,SNR=4.8						
ASF				Lg	Lg	07 37 42.8	
	comp=Z,1.1nm,0.4s,baz=85,slow=23,SNR=3.8						
MMAI	**Mount Meron Ar**	**22.47**	**340**	P	**P**	**07 31 31.0**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=143,slow=14,SNR=1.9						
GNI	**Garni**	**28.09**	**1**	LR	LR	07 44 01.9	
	comp=Z,119nm,21.7s,baz=172,slow=37						
GEYT	**Alibeck**	**28.70**	**23**	LR	LR	07 45 47.4	
	comp=Z,119nm,18.5s,baz=285,slow=40						
BRTR	**Keskin Array B**	**29.20**	**343**	P	**P**	**07 32 31.5**	**+2.1**
	comp=Z,1.8nm,0.9s,baz=143,slow=8.5,SNR=6.8						
BRTR				LR	LR	07 44 30.7	
	comp=Z,85nm,19.7s,baz=193,slow=37						
BR101	**Keskin Array S**	**29.20**	**343**	*e*P	**P**	**07 32 31.5**	**+2.1**
BR101	**Keskin Array S**	**29.20**	**343**	*e*P	**P**	**07 32 31.5**	**+2.1**
KBZ	**Khabaz**	**31.68**	**358**	LR	LR	07 46 15.7	
	comp=Z,86nm,18.1s,baz=202,slow=37						
ABKAR	**Akbulak array**	**39.41**	**16**	*e*P	**P**	**07 33 59.1**	**+1.7**
	comp=Z,19nm,0.9s						
ABKAR	**Akbulak array**	**39.41**	**16**	*e*P	**P**	**07 33 59.1**	**+1.7**
	comp=Z,19nm,0.9s						
AKTO	**Aktyubinsk**	**40.01**	**14**	LR	LR	07 53 12.4	
	comp=Z,74nm,19.8s,slow=40						
TORD	**Torodi Ar. Bea**	**41.48**	**276**	P	**P**	**07 34 16.2**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=99,slow=9.2,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**41.48**	**276**	*e*P	**P**	**07 34 16.2**	**+1.1**
	comp=Z,27nm,2.0s						
TOA1	**Torodi Ar. Sit**	**41.48**	**276**	*e*P	**P**	**07 34 16.2**	**+1.1**
	comp=Z,27nm,2.0s						
GEC2	**GERESS Array S**	**44.65**	**331**	*e*P	**P**	**07 34 41.7**	**+1.4**
	comp=Z,9.6nm,1.4s						
GEC2	**GERESS Array S**	**44.65**	**331**	*e*P	**P**	**07 34 41.7**	**+1.4**
	comp=Z,9.6nm,1.4s						
GERES	**GERESS Array B**	**44.65**	**331**	P	**P**	**07 34 41.5**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=90,slow=2.7,SNR=6.2						
MK32	**Makanchi Array**	**47.25**	**35**	*e*P	**P**	**07 35 01.4**	**+0.5**
MK32	**Makanchi Array**	**47.25**	**35**	*e*P	**P**	**07 35 01.4**	**+0.5**
MKAR	**Makanchi Array**	**47.25**	**35**	P	**P**	**07 35 01.4**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=224,slow=5.1,SNR=10						
MKAR				LR	LR	07 57 13.5	
	comp=Z,16nm,19.2s,baz=264,slow=39						
ZALV	**Zalesovo Beam**	**52.76**	**29**	P	**P**	**07 35 44.1**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=316,slow=10,SNR=3.6						
ZALV				LR	LR	08 01 43.0	
	comp=Z,144nm,18.3s,baz=88,slow=40						
ZAA1	**Zalesovo Array**	**52.77**	**29**	*e*P	**P**	**07 35 44.1**	**+1.6**
ZAA1	**Zalesovo Array**	**52.77**	**29**	*e*P	**P**	**07 35 44.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**53.05**	**76**	P	**P**	**07 35 45.6**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=270,slow=8.5,SNR=9.4						
PSI	**Prapat**	**54.93**	**95**	*e*P	**P**	**07 36 00.5**	**+1.3**
	comp=Z,14nm,1.3s						
SONA0	**Songino Array**	**62.63**	**42**	*e*P	**P**	**07 36 53.4**	**+1.1**
SONA0	**Songino Array**	**62.63**	**42**	*e*P	**P**	**07 36 53.4**	**+1.1**
SONM	**Songino Array**	**62.63**	**42**	P	**P**	**07 36 53.4**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=240,slow=8.5,SNR=5.6						
SYO	**Syowa Base**	**80.82**	**182**	⇓*e*P	**P**	**07 38 39.4**	**-1.5**
SYO	**Syowa Base**	**80.82**	**182**	⇓epP	pP	07 38 42.3	-1.9

ISK ***27*** *07:43:18.5, 38°.77N×43°.27E, h6km, ML2.6*
ISCJB ***27*** *07:43:19.7±0.5, 38°.78N±0°.03×43°.23E±0°.07, h9km±8km, Error ellipse: s-maj=8.7km s-min=4.5km az=174.8*
DDA ***27*** *07:43:19.2, 38°.76N×43°.26E, h7km, Md2.7*
CSEM ***27*** *07:43:19.4±0.2, 38°.78N×43°.26E, h10km, ML2.6, Error ellipse: s-maj=5.7km s-min=3.2km az=76.0*
ISC 27 07:43:20.1±0.8, 38°.78N±0°.02×43°.25E±0°.05, h12km±9km, n18, σ0§91/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**149**	PG	**Pg**	**07 43 24.4**	**-0.4**
VANB				*e*SG	**Sb**	**07 43 28.8**	**+0.8**
VANB	**Van**	**0.21**	**149**	*i* Pg	**Pg**	**07 43 24.4**	**-0.4**
VANB				*e*Sg	**Sb**	**07 43 28.8**	**+0.8**
VMUR	**Van-Muradiye**	**0.33**	**50**	*i* P	**Pg**	**07 43 25.7**	**-1.2**
VMUR				*i* S	**Sg**	**07 43 31.7**	**+0.3**
VMUR	**Van-Muradiye**	**0.33**	**50**	P	**Pg**	**07 43 25.7**	**-1.2**
VMUR				S	**Sg**	**07 43 31.7**	**+0.3**
GEVA	**Gevas**	**0.49**	**198**	*i* P	**Pg**	**07 43 28.3**	**-1.4**
GEVA				*i* S	**Sg**	**07 43 36.0**	**-0.2**
GEVA	**Gevas**	**0.49**	**198**	P	**Pg**	**07 43 28.3**	**-1.4**
GEVA				S	**Sg**	**07 43 36.0**	**-0.2**
TUTA	**Tutak**	**0.71**	**332**	*i* P	**Pg**	**07 43 33.4**	**-0.5**
TUTA				*i* S	**Sb**	**07 43 44.0**	**-0.3**
TUTA	**Tutak**	**0.71**	**332**	P	**Pg**	**07 43 33.4**	**-0.5**
TUTA				S	**Sb**	**07 43 44.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.82**	**346**	*e*PG	**Pg**	**07 43 35.2**	**-0.8**
AGRB				*e*SG	**Sg**	**07 43 46.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.82**	**346**	*e*Pg	**Pg**	**07 43 35.2**	**-0.8**
AGRB				*e*Sg	**Sg**	**07 43 46.9**	**+0.1**
EKAR	**Karacoban**	**1.04**	**298**	*i* P	**Pb**	**07 43 40.0**	**-0.1**
EKAR				*i* S	**Sn**	**07 43 58.3**	**+3.1**
EKAR	**Karacoban**	**1.04**	**298**	P	**Pb**	**07 43 40.0**	**-0.1**
EATA	**Eleskirt**	**1.23**	**332**	*i* P	**Pn**	**07 43 42.9**	**-0.5**
EATA	**Eleskirt**	**1.23**	**332**	P	**Pn**	**07 43 42.9**	**-0.5**
CUKT	**Cukurca**	**1.56**	**169**	*e*PN	**Pn**	**07 43 47.5**	**-0.2**
CUKT	**Cukurca**	**1.56**	**169**	*e*Pn	**Pn**	**07 43 47.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.73**	**249**	*e*PN	**Pn**	**07 43 49.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.73**	**249**	*e*Pn	**Pn**	**07 43 49.9**	**-0.1**

CSEM ***27*** *07:53:17.5, 47°.31N×14°.75E, h0km, ML1.4/5, Suspected Mining explosion.*
VIE 27 07:53:17.5±0.8, 47°.31N×14°.75E, h0km, mb1.8/2, ML1.4/5, Error ellipse: s-maj=5.0km s-min=3.4km az=93.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.53**	**97**	Pg	Pg	07 53 28.6	+1.0
	2.4nm,0.3s						
ARSA				Sg	Sg	07 53 35.9	+1.5
	4.6nm,0.4s						
MOA	**Molln**	**0.63**	**329**	Pg	Pb	07 53 30.8	-0.6
	0.4nm,0.1s						
MOA				Sg	Sg	07 53 38.2	+0.5
	2.7nm,0.4s						
SOKA	**Soboth**	**0.66**	**163**	Sg	Sg	07 53 39.0	+0.2
	1.1nm,0.3s						
CONA	**Conrad Observa**	**0.97**	**50**	Pg	Pg	07 53 36.4	+0.3
	4.2nm,0.6s						
CONA				Sg	Sg	07 53 48.7	+0.1
	2.8nm,0.3s						
KBA	**Koelnbreinsper**	**0.99**	**257**	Sg	Sg	07 53 45.4	-3.9
	3.6nm,0.6s						

IDC 27 07:57:34.3±3.8, 28°.95S×176°.28W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.8/30, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=258.1km s-min=33.9km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**29.57**	**306**	LR	LR	08 12 29.8	
	comp=Z,46nm,21.4s,baz=194,slow=30						
ASAR	**Alice Springs**	**44.70**	**265**	P	P	08 05 50.0	+0.6
	1.9nm,1.0s,baz=112,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**45.57**	**270**	P	P	08 05 55.0	-1.3
	2.8nm,0.8s,baz=106,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**90.35**	**56**	P	P	08 10 36.4	-1.2
	0.4nm,1.0s,baz=226,slow=3.6,SNR=3.4						
NB2	**NORSAR Subarra147.52 353**			PKP	PKPab	08 17 20.9	-0.9
	comp=Z,1.3nm,0.8s,baz=14,slow=3.3						
NOA	**NORSAR Array B147.52 353**			PKPbc	PKPbc	08 17 20.8	+1.0
	comp=Z,1.1nm,0.7s,baz=15,slow=2.3,SNR=4.0						

NSSC ***27*** *08:04:04.6±1.9, 38°.44N×45°.16E, h163km±90km, ML4.7*
DSN ***27*** *08:04:19.9±1.0, 37°.48N×44°.42E, h15km, mb5.9/1, Error ellipse: s-maj=28.1km s-min=3.8km az=72.0*
TEH ***27*** *08:04:20.8, 37°.39N×43°.59E, h6km, ML5.5*
MOS ***27*** *08:04:20.4±1.5, 37°.18N×43°.91E, h8km, mb5.3/74, MS4.4/34, Error ellipse: s-maj=4.5km s-min=2.8km az=123.0*
ISK ***27*** *08:04:20.8, 37°.34N×43°.94E, h18km, ML5.4*
BJI ***27*** *08:04:20.0, 37°.20N×43°.80E, h10km, mb4.8/56, mB5.0/44, Ms4.8/49, MS7 4.5/47*
IDC ***27*** *08:04:20.0±0.5, 37°.07N×43°.83E, h0km, mb4.7/44, mb1 4.8/53, mb1mx4.7/74, mbtmp4.7/53, ML3.9/9, MS4.4/40, Ms1 4.4/40, ms1mx4.4/49, Error ellipse: s-maj=10.6km s-min=8.3km az=179.0*
ISN ***27*** *08:04:21.8±1.0, 36°.85N×43°.43E, h0km, 2km*
ISCJB ***27*** *08:04:21.8±0.4, 37°.22N±0°.01×43°.86E±0°.01, h15km±2km, mb5.0/240, MS4.5/68, Error ellipse: s-maj=2.2km s-min=1.6km az=166.8*
GCMT ***27*** *08:04:22.4±0.2, 37°.08N×43°.86E, h20km±1km, MW5.2/103, Moment Tensor Solution. s55,c72; s103,c179; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.33±.14; $M_{\theta\theta}$-6.20±.14; $M_{\phi\phi}$5.88±.12; $M_{r\theta}$1.79±.25; $M_{\theta\phi}$-1.22±.10; $M_{\phi r}$0.75±.23; Best double couple: M_0=6.43400×10^{16} NP1:φs=219.00000°, δ84.00000°, λ-15.00000°. NP2: φs=310.00000°, δ75.00000°, λ-174.00000°. Principal axes: T 6.0610, Plg6.0000°, Azm265.0000°; N 0.7510, Plg74.0000°, Azm17.0000°; P -6.8060, Plg15.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DDA ***27*** *08:04:22.1, 37°.38N×43°.83E, h22km, Ml5.6*
NEIC ***27*** *08:04:22.4±0.2, 37°.26N×43°.86E, h10km, mb5.2/97, ML5.4(ISK), ML5.6(DDA), MN5.5(TEH), Error ellipse: s-maj=4.1km s-min=2.5km az=175.0*
NEIC Felt [III] at Orumiyeh, Iran. Felt [II] at Erbil, Iraq. Also felt at Mosul, Tall'Afar and Zakhu. Felt at Antioch, Hakkari, Siirt and Yuksekova, Turkey.
CSEM ***27*** *08:04:22.6±0.1, 37°.28N×43°.85E, h10km, mb5.2/99, Error ellipse: s-maj=2.8km s-min=1.8km az=161.0*
AZER ***27*** *08:04:23.5±0.4, 37°.27N×43°.82E, h18km±13km, Error ellipse: s-maj=14.3km s-min=3.2km az=44.0*
GII ***27*** *08:04:23.1±0.2, 37°.25N×43°.90E, h10km, mb5.2/1, MD5.3/1*
ISC 27 08:04:22.9±0.5, 37°.30N±0°.02×43°.87E±0°.02, h13km±2km, n1153, σ1§71/1263, mb5.1/247, MS4.4/72, 72C-50D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.21**	**257**	PG	**Pg**	**08 04 27.5**	**-0.1**
CUKT				*e*SG	**Sb**	**08 04 31.8**	**-0.8**
CUKT	**Cukurca**	**0.21**	**257**	⇑*i*P	**Pg**	**08 04 27.5**	**-0.1**
CUKT				*i* S	**Sb**	**08 04 32.6**	**0.0**
CUKT	**Cukurca**	**0.21**	**257**	P	**Pg**	**08 04 27.5**	**-0.1**
CUKT				*e*Sg	**Sb**	**08 04 31.8**	**-0.8**
CUKT				S	**Sb**	**08 04 32.6**	**0.0**
CUKT	**Cukurca**	**0.21**	**257**	*i* P	**Pg**	**08 04 27.5**	**-0.1**
CUKT				*i* S	**Sb**	**08 04 32.6**	**0.0**
HAKT	**HAKKARI**	**0.29**	**334**	⇓*i*P	**Pg**	**08 04 27.2**	**-1.8**
HAKT				*i* S	**Sg**	**08 04 31.5**	**-1.6**
BASK	**Baskale_VAN**	**0.76**	**8**	⇓*i*P	**Pg**	**08 04 35.7**	**-2.0**
BASK				*i* S	**Sn**	**08 04 50.0**	**-1.1**
BASK	**Baskale_VAN**	**0.76**	**8**	S	**Sn**	**08 04 50.0**	**-1.1**
MSL	**Mosul**	**1.08**	**214**	*e*Pg	**Pb**	**08 04 42.4**	**-1.1**
	SNR=90						
MSL				*e*Sg	**Sb**	**08 04 57.0**	**-0.5**
	SNR=90						
SIRN	**S¯–rnak**	**1.17**	**280**	⇑*i*P	**Pb**	**08 04 43.4**	**-1.7**
SIRN				*i* S	**Sn**	**08 05 01.3**	**+0.3**
SIRN	**S¯–rnak**	**1.17**	**280**	P	**Pb**	**08 04 43.4**	**-1.7**
SIRN				S	**Sn**	**08 05 01.3**	**+0.3**
SIRN	**S¯–rnak**	**1.17**	**280**	*i* P	**Pb**	**08 04 43.4**	**-1.7**
GEVA	**Gevas**	**1.20**	**328**	⇓*i*P	**Pn**	**08 04 43.7**	**-1.8**
GEVA				*i* S	**Sb**	**08 05 01.1**	**0.0**
GEVA	**Gevas**	**1.20**	**328**	*i* P	**Pn**	**08 04 43.7**	**-1.8**
GEVA				*i* S	**Sb**	**08 05 01.1**	**0.0**
VANB	**Van**	**1.35**	**344**	*e*PN	**Pn**	**08 04 43.8**	**-3.8**
VANB				*e*SN	**Sb**	**08 05 00.6**	**-4.7**
VANB	**Van**	**1.35**	**344**	*e*Pn	**Pn**	**08 04 43.8**	**-3.8**
ISHB	**Shabestar**	**1.70**	**54**	*e*Pn	**Pn**	**08 04 52.2**	**-0.3**
ISHB				*e*Sg	**Sg**	**08 05 18.2**	**+0.6**
ISHB				*e*AMB	AMB	08 05 24.7	
	comp=Z,14μm,0.2s						
ISHB	**Shabestar**	**1.70**	**54**	Pn	**Pn**	**08 04 52.2**	**-0.3**
ISHB				Sg	**Sg**	**08 05 18.2**	**+0.6**
ISHB	**Shabestar**	**1.70**	**54**	Pn	**Pn**	**08 04 52.2**	**-0.3**
ISHB				Sg	**Sg**	**08 05 18.2**	**+0.6**
VMUR	**Van-Muradiye**	**1.71**	**352**	*e*P	**Pb**	**08 04 54.0**	**-0.2**
VMUR				*i* S	**Sg**	**08 05 21.3**	**+3.5**
VMUR	**Van-Muradiye**	**1.71**	**352**	P	**Pb**	**08 04 54.0**	**-0.2**
IMRD	**Marand**	**2.03**	**45**	*e*Pn	**Pn**	**08 04 57.3**	**+0.4**
IMRD				*e*AMB	AMB	08 05 36.4	
	comp=Z,62μm,0.4s						
IMRD	**Marand**	**2.03**	**45**	*e*Pn	**Pn**	**08 04 57.3**	**+0.4**
IMRD	**Marand**	**2.03**	**45**	Pn	**Pn**	**08 04 57.3**	**+0.4**
ITBZ	**Tabriz**	**2.04**	**62**	*e*Pn	**Pn**	**08 04 57.6**	**+0.5**
ITBZ				*e*AMB	AMB	08 05 06.3	
	comp=Z,69μm,0.3s						
ITBZ	**Tabriz**	**2.04**	**62**	Pn	**Pn**	**08 04 57.5**	**+0.5**
ITBZ	**Tabriz**	**2.04**	**62**	Pn	**Pn**	**08 04 57.5**	**+0.5**
BTMN	**Batman**	**2.15**	**287**	⇑*i*P	**Pn**	**08 04 58.2**	**-0.3**
BTMN				*i* S	**Sg**	**08 05 30.9**	**-1.0**
BTMN	**Batman**	**2.15**	**287**	P	**Pn**	**08 04 58.2**	**-0.3**
TUTA	**Tutak**	**2.26**	**339**	*e*P	**Pb**	**08 05 04.3**	**+0.6**
TUTA				*i* S	**Sg**	**08 05 35.2**	**-0.3**
NAX	**Nakhchivan**	**2.27**	**34**	⇑P	**Pn**	**08 05 01.7**	**+1.5**
	SNR=668						
NAX				⇑S	**Sb**	**08 05 31.1**	**-0.7**
NAX	**Nakhchivan**	**2.27**	**34**	P	**Pn**	**08 05 01.7**	**+1.5**
	SNR=668						
NAX				S	**Sb**	**08 05 31.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.28**	**293**	*e*PN	**Pn**	**08 04 59.5**	**-0.8**
SVAN				*e*SN	**Sn**	**08 05 27.2**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.28**	**293**	⇑*i*P	**Pn**	**08 04 59.8**	**-0.5**
SVAN				*i* S	**Sb**	**08 05 33.0**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.28**	**293**	*e*Pn	**Pn**	**08 04 59.5**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.28**	**293**	P	**Pn**	**08 04 59.8**	**-0.5**
SVAN				*e*Sn	**Sn**	**08 05 27.2**	**-1.1**
IBST	**Bostanabad**	**2.44**	**80**	*e*AMB	AMB	08 05 12.2	
	comp=Z,7μm,0.2s						
IBST				*e*Pn	**Pn**	**08 05 03.9**	**+1.3**
MARD	**Mardin**	**2.46**	**271**	⇑*i*P	**Pn**	**08 05 02.7**	**-0.1**
MARD				*i* S	**Sg**	**08 05 40.3**	**-1.7**
MARD	**Mardin**	**2.46**	**271**	*e*Pn	**Pn**	**08 05 02.8**	**-0.1**
MARD				*e*Sn	**Sn**	**08 05 31.5**	**-1.4**
MARD	**Mardin**	**2.46**	**271**	*e*Pn	**Pn**	**08 05 02.8**	**-0.1**
MARD				*e*Sn	**Sn**	**08 05 31.5**	**-1.4**
VRTB	**Varto-Mus**	**2.66**	**315**	*e*PN	**Pn**	**08 05 04.0**	**-1.6**
VRTB	**Varto-Mus**	**2.66**	**315**	*i* P	**Pb**	**08 05 10.7**	**+0.3**
VRTB	**Varto-Mus**	**2.66**	**315**	*e*Pn	**Pn**	**08 05 04.0**	**-1.6**
KBSD	**Kabsdagh**	**2.67**	**265**	*e*P	**Pn**	**08 05 05.9**	**+0.2**
BNGL	**BINGOL**	**2.71**	**308**	⇑*i*P	**Pn**	**08 05 07.9**	**+1.6**
IHRS	**Heris**	**2.71**	**67**	*e*Pn	**Pn**	**08 05 07.2**	**+0.8**
IHRS				*e*AMB	AMB	08 06 00.4	
	comp=Z,24μm,0.6s						
IHRS	**Heris**	**2.71**	**67**	*e*Pn	**Pn**	**08 05 07.2**	**+0.8**
MAZI	**Mazidag**	**2.73**	**274**	*e*PN	**Pn**	**08 05 05.7**	**-0.8**
MAZI	**Mazidag**	**2.73**	**274**	*e*Pn	**Pn**	**08 05 05.7**	**-0.8**
EATA	**Eleskirt**	**2.78**	**338**	⇓*i*P	Pn	08 04 57.2	-10
GNI	**Garni**	**2.93**	**13**	Pn	**Pb**	**08 05 14.0**	**-1.1**
	comp

ERZN	**Erzincan**	**3.98**	**306**	*e*PN	**Pn**	**08 05 22.3**	**-1.4**
URFA	**Urfa**	**4.02**	**274**	*e*PN	**Pn**	**08 05 23.7**	**-0.5**
URFA	**Urfa**	**4.02**	**274**	*e*Pn	**Pn**	**08 05 23.7**	**-0.5**
BHD	**Baghdad**	**4.04**	**174**	*e*Pn	**Pn**	**08 05 23.0**	**-1.4**
	SNR=2.0						
GLBA	**Clilabad**	**4.06**	**60**	⇑P	**Pn**	**08 05 25.0**	**+0.4**
	SNR=20						
GLBA				⇓S	**Sn**	**08 06 13.4**	**+1.4**
GLBA	**Clilabad**	**4.06**	**60**	P	**Pn**	**08 05 25.0**	**+0.4**
	SNR=20						
GLBA				S	**Sn**	**08 06 13.4**	**+1.4**
ASTR	**Astara**	**4.09**	**71**	⇑P	**Pn**	**08 05 25.6**	**+0.5**
	SNR=7.4						
ASTR				⇓S	**Sn**	**08 06 14.5**	**+1.6**
ASTR	**Astara**	**4.09**	**71**	P	**Pn**	**08 05 25.6**	**+0.5**
	SNR=7.4						
ASTR				S	**Sn**	**08 06 14.5**	**+1.6**
AKH	**Akhalkalaki**	**4.12**	**356**	*e*PN	**Pn**	**08 05 24.0**	**-1.6**
AKH	**Akhalkalaki**	**4.12**	**356**	P	**Pn**	**08 05 20.9**	**-4.7**
AKH				S	**Pg**	**08 05 42.7**	**+1.0**
AKH	**Akhalkalaki**	**4.12**	**356**	⇑*i*P	**Pn**	**08 05 21.0**	**-4.7**
AKH	**Akhalkalaki**	**4.12**	**356**	P	**Pn**	**08 05 20.9**	**-4.7**
AKH	**Akhalkalaki**	**4.12**	**356**	*e*Pn	**Pn**	**08 05 24.0**	**-1.6**
LKRN	**Lenkeran, Azer**	**4.13**	**69**	⇑P	**Pn**	**08 05 26.0**	**+0.4**
	SNR=19						
LKRN				⇓S	**Sn**	**08 06 15.3**	**+1.5**
LKRN	**Lenkeran, Azer**	**4.13**	**69**	P	**Pn**	**08 05 26.0**	**+0.4**
	SNR=19						
LKRN				S	**Sn**	**08 06 15.3**	**+1.5**
ARTV	**Artvin**	**4.16**	**339**	*e*Pn	**Pn**	**08 05 23.3**	**-3.0**
ARTV	**Artvin**	**4.16**	**339**	*e*Pn	**Pn**	**08 05 23.3**	**-3.0**
ZRD	**Zardab**	**4.21**	**44**	⇑P	**Pn**	**08 05 27.5**	**+0.7**
	SNR=37						
ZRD				⇑S	**Sn**	**08 06 17.6**	**+1.7**
ZRD	**Zardab**	**4.21**	**44**	P	**Pn**	**08 05 27.5**	**+0.7**
	SNR=37						
ZRD				S	**Sn**	**08 06 17.6**	**+1.7**
MNGR	**Mingechevir, A**	**4.28**	**35**	⇓P	**Pn**	**08 05 28.2**	**+0.5**
	SNR=53						
MNGR				⇓S	**Sn**	**08 06 19.2**	**+1.7**
MNGR	**Mingechevir, A**	**4.28**	**35**	P	**Pn**	**08 05 28.2**	**+0.5**
	SNR=53						
MNGR				S	**Sn**	**08 06 19.2**	**+1.7**
IKOM	**Komasi**	**4.30**	**135**	*e*Pn	**Pn**	**08 05 29.3**	**+1.1**
IKOM				*e*AMB	AMB	08 06 46.7	
	comp=Z,79μm,0.3s						
IKOM	**Komasi**	**4.30**	**135**	*e*Pn	**Pn**	**08 05 29.3**	**+1.1**
SAAT	**Saatly**	**4.39**	**53**	⇑P	**Pn**	**08 05 29.8**	**+0.5**
	SNR=17						
SAAT				⇑S	**Sn**	**08 06 22.1**	**+1.8**
SAAT	**Saatly**	**4.39**	**53**	P	**Pn**	**08 05 29.8**	**+0.5**
	SNR=17						
SAAT				S	**Sn**	**08 06 22.1**	**+1.8**
TBLG	**Delisi**	**4.48**	**8**	P	**Pn**	**08 05 29.1**	**-1.4**
TBLG	**Delisi**	**4.48**	**8**	P	**Pn**	**08 05 29.0**	**-1.4**
TBLG	**Delisi**	**4.48**	**8**	P	**Pn**	**08 05 29.1**	**-1.4**
KDMR	**Kurdemir**	**4.56**	**46**	⇓P	**Pn**	**08 05 32.0**	**+0.4**
	SNR=23						
KDMR				⇑S	**Sn**	**08 06 26.3**	**+1.9**
KDMR	**Kurdemir**	**4.56**	**46**	P	**Pn**	**08 05 32.0**	**+0.4**
	SNR=23						
KDMR				S	**Sn**	**08 06 26.3**	**+1.9**
SEKA	**Sheki**	**4.68**	**32**	⇑P	**Pn**	**08 05 34.3**	**+1.0**
	SNR=10						
SEKA				⇑S	**Sn**	**08 06 30.4**	**+2.8**
SEKA	**Sheki**	**4.68**	**32**	P	**Pn**	**08 05 34.3**	**+1.0**
	SNR=10						
SEKA				S	**Sn**	**08 06 30.4**	**+2.8**
QBL	**Gabala**	**4.78**	**39**	⇑P	**Pn**	**08 05 35.1**	**+0.5**
	SNR=26						
QBL				⇓S	**Sn**	**08 06 31.1**	**+1.3**
QBL	**Gabala**	**4.78**	**39**	P	**Pn**	**08 05 35.1**	**+0.5**
	SNR=26						
QBL				S	**Sn**	**08 06 31.1**	**+1.3**
ALIB	**Äli-Bayra**	**4.82**	**55**	⇓P	**Pn**	**08 05 35.6**	**+0.5**
	SNR=4.8						
ALIB	**Äli-Bayra**	**4.82**	**55**	P	**Pn**	**08 05 35.6**	**+0.5**
	SNR=4.8						
DUS	**Dusheti**	**4.83**	**7**	P	**Pb**	**08 05 43.8**	**-3.6**
DUS	**Dusheti**	**4.83**	**7**	P	**Pb**	**08 05 43.8**	**-3.6**
ZKTA	**Zakatala**	**4.83**	**25**	⇓P	**Pn**	**08 05 35.7**	**+0.4**
ZKTA				⇓S	**Sn**	**08 06 32.9**	**+1.8**
IML	**Ismayilli**	**4.84**	**43**	⇑P	**Pn**	**08 05 35.8**	**+0.3**
	SNR=4.4						
IML				⇓S	**Sn**	**08 06 33.2**	**+1.7**
IML	**Ismayilli**	**4.84**	**43**	P	**Pn**	**08 05 35.8**	**+0.3**
	SNR=4.4						
IML				S	**Sn**	**08 06 33.2**	**+1.7**
PQL	**Pirkuli**	**5.07**	**45**	⇑P	**Pn**	**08 05 39.1**	**+0.4**
	SNR=20						
PQL				⇑S	**Sn**	**08 06 38.6**	**+1.4**
PQL	**Pirkuli**	**5.07**	**45**	P	**Pn**	**08 05 39.1**	**+0.4**
	SNR=20						
PQL				S	**Sn**	**08 06 38.6**	**+1.4**
XNQ	**Khinaliq**	**5.10**	**39**	⇑P	**Pn**	**08 05 39.5**	**+0.3**
	SNR=7.6						
XNQ				⇓S	**Sn**	**08 06 39.4**	**+1.4**
XNQ	**Khinaliq**	**5.10**	**39**	P	**Pn**	**08 05 39.5**	**+0.3**
	SNR=7.6						
XNQ				S	**Sn**	**08 06 39.4**	**+1.4**
GBS	**Qobustan**	**5.11**	**49**	⇑P	**Pn**	**08 05 39.7**	**+0.5**
	SNR=5.7						
GBS				⇓S	**Sn**	**08 06 39.7**	**+1.6**
GBS	**Qobustan**	**5.11**	**49**	P	**Pn**	**08 05 39.7**	**+0.5**
	SNR=5.7						
GBS				S	**Sn**	**08 06 39.7**	**+1.6**
ONI	**Oni**	**5.30**	**357**	P	**Pn**	**08 05 42.0**	**+0.2**
ONI	**Oni**	**5.30**	**357**	P	**Pn**	**08 05 41.9**	**+0.2**
ATGJ	**Altiaghaj**	**5.31**	**46**	⇑P	**Pn**	**08 05 42.5**	**+0.5**
	SNR=5.2						
ATGJ				⇑S	**Sn**	**08 06 44.8**	**+1.6**
ATGJ	**Altiaghaj**	**5.31**	**46**	P	**Pn**	**08 05 42.5**	**+0.5**
	SNR=5.2						
ATGJ				S	**Sn**	**08 06 44.8**	**+1.6**
QUBA	**Quba, Azerbaij**	**5.41**	**40**	⇑P	**Pn**	**08 05 44.1**	**+0.8**
	SNR=4.9						
QUBA				⇑S	**Sn**	**08 06 47.1**	**+1.6**
QSAR	**Qusar**	**5.42**	**38**	⇓P	**Pn**	**08 05 43.7**	**+0.4**
	SNR=15						
QSAR				⇓S	**Sn**	**08 06 47.0**	**+1.4**
SIZA	**Siyzn**	**5.43**	**44**	P	**Pn**	**08 05 44.3**	**+0.7**
	SNR=9.6						
ZEI	**Tsey**	**5.48**	**0**	*e*P	**Pn**	**08 05 41.2**	**-3.3**
ZEI				pmax	pmax		
	comp=Z,170nm,0.9s						
GOBA	**Gobu**	**5.53**	**54**	⇓P	**Pn**	**08 05 45.2**	**+0.4**
DRWC	**Darouich**	**5.80**	**265**	*e*P	**Pn**	**08 05 48.1**	**-0.7**
DRWC				*e*S	**Sn**	**08 06 59.9**	**+4.6**
DRWC				AML	AML	08 07 34.1	
	comp=E,2μm,0.7s						
DRWC				AML	AML	08 07 53.5	
	comp=N,1μm,0.7s						
NEY	**Neytrino**	**6.01**	**352**	⇑*e*P	Pn	08 05 56.7	+5.1
NEY				pmax	pmax		
	comp=Z,776nm,1.7s						
GROC	**Groznyy**	**6.08**	**13**	*e*P	Pn	08 05 57.5	+5.1
GROC				*e*S	**Sb**	**08 07 14.4**	**-6.9**
GROC				pmax	pmax		
	comp=Z,577nm,1.7s						
GROC				smax	smax		
	comp=E,791nm,1.7s						
GROC				smax	smax		
	comp=E,2μm,2.3s						
NCK	**Nalchik**	**6.20**	**358**	⇑*e*P	**Pn**	**08 05 57.5**	**+3.5**
MAK	**Makhachkala**	**6.31**	**25**	*e*P	**Pn**	**08 05 56.7**	**+1.2**
MAK				*e*S	**Sn**	**08 07 08.7**	**+1.3**
MAK				pmax	pmax		
	comp=Z,153nm,1.2s						
MAK				MLR	MLR		
	comp=Z,5μm,12.0s						
KBZ	**Khabaz**	**6.47**	**354**	Pn	Pn	08 06 02.8	+5.1
	comp=Z,1.8nm,0.3s,baz=179,slow=8.7,SNR=72						
KBZ				LR	LR	08 08 59.9	
	comp=Z,6μm,18.1s,baz=130,slow=42						
ARNB	**Al Arnab**	**6.51**	**260**	*e*P	**Pn**	**08 05 58.6**	**+0.1**
TOKA	**Tokat**	**6.51**	**300**	*e*Pn	**Pn**	**08 05 57.8**	**-0.6**
TOKA	**Tokat**	**6.51**	**300**	*e*Pn	**Pn**	**08 05 57.8**	**-0.6**
BIDA	**Albida**	**6.51**	**252**	*e*P	**Pn**	**08 05 58.1**	**-0.5**
HAWK	**Haweek**	**6.66**	**248**	*e*P	**Pn**	**08 06 01.2**	**+0.7**
HAWK				*e*S	Sn	08 07 27.0	+11
HAWK				AML	AML	08 08 14.1	
	comp=N,640nm,0.7s						
HAWK				AML	AML	08 08 15.4	
	comp=E,779nm,0.6s						
KIV	**Kislovodsk**	**6.71**	**353**	*e*P	Pn	08 06 06.1	+4.9
KIV				pmax	pmax		
	comp=Z,725nm,0.9s						
KIV				MLR	MLR		
	comp=Z,1μm,8.0s						
KIV	**Kislovodsk**	**6.71**	**353**	*e*Pn	Pn	08 06 06.6	+5.4
KIV	**Kislovodsk**	**6.71**	**353**	*e*Pn	Pn	08 06 06.6	+5.4
KVAR	**Kislovodsk Arr**	**6.71**	**353**	Pn	Pn	08 06 06.5	+5.2
	baz=100,slow=22,SNR=74						
KVAR				LR	LR	08 09 07.4	
	comp=Z,6μm,20.3s,baz=140,slow=42						
FKH	**Fakeheh**	**6.78**	**246**	*e*P	**Pn**	**08 06 01.9**	**-0.4**
MARH	**Ras Al Marh**	**6.84**	**244**	*e*P	**Pn**	**08 06 04.7**	**+1.5**
MARH				*e*S	Sn	08 07 32.1	+11
MARH				AML	AML	08 08 20.3	
	comp=N,464nm,0.7s						
MARH				AML	AML	08 08 34.9	
	comp=E,977nm,0.6s						
HWQ	**Hawqa**	**7.11**	**247**	*e*P	**Pn**	**08 06 06.7**	**0.0**
BHL	**Bhannes**	**7.50**	**246**	*e*P	**Pn**	**08 06 12.0**	**0.0**
BRBR	**Barbar**	**7.54**	**241**	*e*P	**Pn**	**08 06 14.2**	**+1.5**
RCY	**Rachaya**	**7.57**	**242**	*e*P	**Pn**	**08 06 13.3**	**+0.2**
DQRL	**Deir Qamar**	**7.66**	**245**	*e*P	**Pn**	**08 06 14.7**	**+0.5**
ASF	**Jabal al Asfar**	**7.68**	**230**	Pn	**Pn**	**08 06 13.8**	**-0.8**
	comp=E,3.3nm,0.3s,baz=2.7,slow=8.5,SNR=25						
SHBL	**Chebaa**	**7.72**	**242**	*e*P	**Pn**	**08 06 15.5**	**+0.4**
GOF	**Gofitskoye**	**7.78**	**356**	*i* P	Pn	08 06 22.8	+7.1
GOF				pmax	pmax		
	comp=Z,749nm,1.0s						
KSDI	**Kefar Szold**	**7.86**	**241**	Pn	**Pn**	**08 06 16.8**	**-0.1**
KSDI	**Kefar Szold**	**7.86**	**241**	Pn	**Pn**	**08 06 16.8**	**-0.1**
KSHT	**Keshet**	**7.88**	**239**	Pn	**Pn**	**08 06 17.4**	**+0.2**
KSHT	**Keshet**	**7.88**	**239**	Pn	**Pn**	**08 06 17.4**	**+0.2**
MMA0B	**Mount Meron ar**	**8.14**	**241**	Pn	**Pn**	**08 06 21.2**	**+0.4**
MMA0B	**Mount Meron ar**	**8.14**	**241**	Pn	**Pn**	**08 06 21.2**	**+0.4**
MMAI	**Mount Meron Ar**	**8.14**	**241**	Pn	**Pn**	**08 06 21.2**	**+0.4**
	comp=Z,9.1nm,0.3s,baz=70,slow=14,SNR=35						
MMAI				LR	LR	08 09 48.9	
	comp=Z,2μm,19.9s,baz=45,slow=41						
HNTI	**Hanita**	**8.26**	**242**	Pn	**Pn**	**08 06 23.7**	**+1.3**
HNTI	**Hanita**	**8.26**	**242**	Pn	**Pn**	**08 06 23.7**	**+1.3**
BR101	**Keskin Array S**	**8.38**	**290**	*e*Pn	**Pn**	**08 06 24.2**	**+0.1**
BR101	**Keskin Array S**	**8.38**	**290**	*e*Pn	**Pn**	**08 06 24.2**	**+0.1**
BR131	**Keskin Array S**	**8.38**	**290**	*e*Pn	**Pn**	**08 06 24.3**	**+0.2**
BR131	**Keskin Array S**	**8.38**	**290**	*e*Pn	**Pn**	**08 06 24.3**	**+0.2**
BRTR	**Keskin Array B**	**8.38**	**290**	Pn	**Pn**	**08 06 24.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=112,slow=12,SNR=19						
BLGI	**Bet Lehem HaGe**	**8.45**	**240**	Pn	**Pn**	**08 06 25.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**8.45**	**240**	Pn	**Pn**	**08 06 25.1**	**+0.2**
HMDT	**Nahal Hemdat**	**8.51**	**236**	Pn	**Pn**	**08 06 26.1**	**+0.3**
HMDT	**Nahal Hemdat**	**8.51**	**236**	Pn	**Pn**	**08 06 26.1**	**+0.3**
ILGA	**Ilgaz**	**8.73**	**299**	*e*Pn	**Pn**	**08 06 28.0**	**-1.0**
ILGA	**Ilgaz**	**8.73**	**299**	*e*Pn	**Pn**	**08 06 27.9**	**-1.0**
CSS	**Mathiatis**	**8.84**	**258**	*e*Pn	**Pn**	**08 06 26.2**	**-4.1**
CSS				*e*Sn	Sn	08 07 59.6	-10
CSS	**Mathiatis**	**8.84**	**258**	*e*Pn	**Pn**	**08 06 26.2**	**-4.1**
CSS				*e*Sn	Sn	08 07 59.6	-10
SLTI	**Sal'it**	**8.84**	**238**	Pn	**Pn**	**08 06 30.0**	**-0.3**
SLTI	**Sal'it**	**8.84**	**238**	Pn	**Pn**	**08 06 30.0**	**-0.3**
ANN	**Anapa**	**8.93**	**329**	*e*P	**Pn**	**08 06 33.0**	**+1.5**
ANN				*e*S	**Sn**	**08 08 15.7**	**+3.8**
ANN				pmax	pmax		
	comp=Z,62nm,1.1s						
ANN				MLR	MLR		
	comp=Z,3μm,17.0s						
ANN				MLR	MLR		
	comp=N,3μm,17.0s						
ANN				MLR	MLR		
	comp=E,2μm,17.0s						
DSI	**Dead Sea**	**9.04**	**233**	Pn	**Pn**	**08 06 32.1**	**-1.0**
DSI	**Dead Sea**	**9.04**	**233**	Pn	**Pn**	**08 06 32.1**	**-1.0**
ANTO	**Ankara**	**9.04**	**290**	*e*P	**Pn**	**08 06 34.4**	**+1.2**
ANTO	**Ankara**	**9.04**	**290**	*e*Pn	**Pn**	**08 06 34.4**	**+1.2**
ANTO	**Ankara**	**9.04**	**290**	*e*Pn	**Pn**	**08 06 34.4**	**+1.2**
BR231	**Keskin MP Arra**	**9.05**	**290**	*e*Pn	**Pn**	**08 06 32.8**	**-0.5**
BR231	**Keskin MP Arra**	**9.05**	**290**	*e*Pn	**Pn**	**08 06 32.8**	**-0.5**
MZDA	**Masada**	**9.22**	**232**	Pn	**Pn**	**08 06 34.7**	**-0.9**
MZDA	**Masada**	**9.22**	**232**	Pn	**Pn**	**08 06 34.7**	**-0.9**
SZAC	**Souni**	**9.25**	**257**	P	Pn	08 06 41.6	+5.6
ALFC	**Alefka**	**9.35**	**260**	P	**Pn**	**08 06 40.6**	**+3.2**
AMAZ	**Amatzia**	**9.36**	**235**	Pn	**Pn**	**08 06 37.6**	**0.0**
AMAZ	**Amatzia**	**9.36**	**235**	Pn	**Pn**	**08 06 37.6**	**0.0**
AKMC	**Akamas**	**9.60**	**260**	P	**Pn**	**08 06 42.3**	**+1.5**
PPCY	**Paphos**	**9.63**	**259**	P	**Pn**	**08 06 41.4**	**+0.2**
ZFRI	**Zfri**	**9.86**	**230**	Pn	**Pn**	**08 06 43.4**	**-0.9**
ZFRI	**Zfri**	**9.86**	**230**	Pn	**Pn**	**08 06 43.4**	**-0.9**
RMNI	**Mount Ramon**	**10.09**	**231**	Pn	**Pn**	**08 06 47.1**	**-0.4**
RMNI	**Mount Ramon**	**10.09**	**231**	Pn	**Pn**	**08 06 47.1**	**-0.4**
KZIT	**Kziot**	**10.11**	**234**	Pn	**Pn**	**08 06 47.5**	**-0.2**
KZIT	**Kziot**	**10.11**	**234**	Pn	**Pn**	**08 06 47.5**	**-0.2**
PRNI	**Paran**	**10.11**	**229**	Pn	**Pn**	**08 06 47.6**	**-0.2**
PRNI	**Paran**	**10.11**	**229**	Pn	**Pn**	**08 06 47.6**	**-0.2**
BOLV	**Bolvadin**	**10.29**	**282**	*e*Pn	**Pn**	**08 06 51.4**	**+1.0**
BOLV	**Bolvadin**	**10.29**	**282**	*e*Pn	**Pn**	**08 06 51.4**	**+1.0**
HRFI	**Mount Harif**	**10.32**	**228**	Pn	**Pn**	**08 06 51.0**	**+0.4**
HRFI	**Mount Harif**	**10.32**	**228**	Pn	**Pn**	**08 06 51.0**	**+0.4**
SIM	**Simferopol'**	**10.60**	**319**	*e*P	**Pn**	**08 06 58.7**	**+4.3**
SIM				*e*S	Sn	08 09 05.8	+13
SIM				pmax	pmax		
	comp=Z,23nm,0.9s						
SIM				MLR	MLR		
	comp=Z,870nm,18.7s						
ISP	**Isparta**	**10.61**	**277**	*ce*P	**Pn**	**08 06 59.2**	**+4.5**
EIL	**Elat**	**10.64**	**227**	Pn	**Pn**	**08 06 55.6**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=61,slow=7.2,SNR=7.0						
EIL	**Elat**	**10.64**	**227**	Pn	**Pn**	**08 06 55.0**	**0.0**
EIL	**Elat**	**10.64**	**227**	Pn	**Pn**	**08 06 55.0**	**0.0**
GEYT	**Alibeck**	**11.32**	**82**	Pn	**Pn**	**08 07 04.6**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=293,slow=13,SNR=78						
GEYT				LR	LR	08 13 11.7	
	comp=Z,2μm,18.3s,baz=300,slow=47						
KARP	**Karpathos**	**13.57**	**268**	*e*Pn	**Pn**	**08 07 35.7**	**+0.6**
KARP	**Karpathos**	**13.57**	**268**	*e*Pn	**Pn**	**08 07 35.7**	**+0.6**
TIRR	**Tirgusor**	**13.70**	**306**	⇓*i*P	**Pn**	**08 07 37.9**	**+1.2**
TLCR		**13.78**	**310**	⇑*i*P	**Pn**	**08 07 40.0**	**+2.1**
RAYN	**Ar Rayn**	**13.80**	**174**	*e*Pn	Pn	08 07 32.9	-5.4
RAYN				*e*Sn	**Sn**	**08 10 07.4**	**-4.1**
RAYN	**Ar Rayn**	**13.80**	**174**	*e*Pn	Pn	08 07 32.9	-5.4
RAYN				*e*Sn	**Sn**	**08 10 07.5**	**-4.1**
TLB	**Topalu**	**13.99**	**306**	⇑*i*P	**Pn**	**08 07 42.6**	**+1.9**
CFR	**Carcaliu**	**14.20**	**309**	⇓*i*P	**Pn**	**08 07 45.7**	**+2.1**
CFR	**Carcaliu**	**14.20**	**309**	P	**P**	**08 07 48.8**	**-2.2**
CFR				pmax	pmax		
	comp=Z,38nm,0.9s						
APE	**Apeiranthos**	**14.62**	**275**	⇑*e*P	**P**	**08 07 53.3**	**-2.6**
VORR	**Voronezh**	**14.75**	**349**	*e*P	**P**	**08 07 55.0**	**-2.1**
VORR				pmax	pmax		
	comp=Z,400nm,1.6s						
KIS	**Kishinev**	**14.76**	**316**	*e*P	**Pn**	**08 07 52.0**	**+0.8**
KIS				*e*S	**S**	**08 10 48.0**	**-5.2**
KIS				LRM	MLR	08 15 05.0	
	comp=Z,2μm,16.0s						
KIS	**Kishinev**	**14.76**	**316**	*e*P	**Pn**	**08 07 52.0**	**+0.8**
KIS				*e*S	**S**	**08 10 48.0**	**-5.2**
KIS				MLR	MLR		
	comp=N,500nm,15.0s						
KIS				MLR	MLR		
	comp=Z,1μm,15.0s						
KIS				MLR	MLR		
	comp=E,2μm,18.0s						
KIS				MLR	MLR		
	comp=Z,2μm,16.0s						
LEOM	**Leova**	**14.79**	**313**	⇓*i*P	**Pn**	**08 07 52.1**	**+0.5**
ISR	**Istrita**	**15.18**	**306**	⇓*i*P	**P**	**08 07 59.5**	**-2.5**
ISR	**Istrita**	**15.18**	**306**	P	**P**	**08 08 01.8**	**-0.2**
ISR				pmax	pmax		
	comp=Z,116nm,1.0s						
VRI	**Vrincioaia**	**15.40**	**309**	⇑*i*P	**Pn**	**08 08 00.8**	**+1.0**
VRI	**Vrincioaia**	**15.40**	**309**	P	**P**	**08 08 03.4**	**-1.0**
VRI				pmax	pmax		
	comp=Z,324nm,1.2s						
RZN	**Rozhen**	**15.42**	**292**	P	**Pn**	**08 08 02.0**	**+1.8**
IDI	**Anoyia**	**15.44**	**268**	Pn	**Pn**	**08 08 00.4**	**0.0**
	comp=Z,1.5nm,0.3s,baz=64,slow=13,SNR=12						
IDI				LR	LR	08 15 36.1	
	comp=Z,945nm,20.2s,baz=79,slow=44						
IDI	**Anoyia**	**15.44**	**268**	*e*Pn	**Pn**	**08 07 59.8**	**-0.6**
	comp=Z,293nm,1.2s						
IDI	**Anoyia**	**15.44**	**268**	*e*Pn	**Pn**	**08 07 59.8**	**-0.6**
	comp=Z,293nm,1.2s						
PLOR	**Plostina**	**15.44**	**309**	⇓*i*P	**Pn**	**08 08 02.1**	**+1.8**
BANOM	**Banah**	**15.50**	**133**	*i* P	**Pn**	**08 07 55.6**	**-5.6**
	SNR=10						
BANOM	**Banah**	**15.50**	**133**	P	**Pn**	**08 07 55.6**	**-5.6**
	SNR=10						
BANOM	**Banah**	**15.50**	**133**	Pn	**Pn**	**08 07 56.0**	**-5.2**
	SNR=13						
BANOM	**Banah**	**15.50**	**133**	P	**Pn**	**08 07 56.0**	**-5.2**
	SNR=13						
PLD	**Plovdiv**	**15.51**	**294**	P	**P**	**08 08 06.8**	**+1.2**
LPSR	**Galich'ya Gora**	**15.69**	**349**	*e*P	**P**	**08 08 06.8**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,160nm,1.0s						
MLR	**Muntele Rosu**	**15.72**	**307**	Pn	**P**	**08 08 07.0**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=284,slow=11,SNR=6.9						
MLR	**Muntele Rosu**	**15.72**	**307**	⇑*i*P	**P**	**08 08 06.7**	**-1.4**
MLR	**Muntele Rosu**	**15.72**	**307**	*e*P	**P**	**08 08 06.9**	**-1.2**
MLR				pmax	pmax		
	comp=Z,42nm,1.1s						
MLR	**Muntele Rosu**	**15.72**	**307**	⇑*i*P	**P**	**08 08 06.7**	**-1.4**
MLR	**Muntele Rosu**	**15.72**	**307**	*e*Pn	**P**	**08 08 06.8**	**-1.2**
	comp=Z,42nm,1.1s						
TESR	**Tescani**	**15.75**	**311**	⇑*i*P	**P**	**08 08 06.4**	**-1.9**
NAZ	**Nazwa, Dubai**	**15.87**	**137**	*i* P	**Pn**	**08 08 01.3**	**-4.7**
	SNR=37						
NAZ	**Nazwa, Dubai**	**15.87**	**137**	P	**Pn**	**08 08 01.3**	**-4.7**
	SNR=37						
NAZ	**Nazwa, Dubai**	**15.87**	**137**	Pn	**Pn**	**08 08 01.6**	**-4.5**
	SNR=36						
NAZ	**Nazwa, Dubai**	**15.87**	**137**	P	**Pn**	**08 08 01.6**	**-4.5**
	SNR=36						
PGB	**Panagyurishte**	**15.99**	**295**	P	**P**	**08 08 10.0**	**-1.0**
PAIG	**Paliouri**	**16.00**	**286**	P	**P**	**08 08 13.8**	**+2.8**
PAIG				pmax	pmax		
	comp=Z,104nm,1.2s						
FAQ	**Al Faqa, Dubai**	**16.03**	**138**	*i* P	**Pn**	**08 08 02.7**	**-5.3**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**16.03**	**138**	P	**Pn**	**08 08 02.7**	**-5.3**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**16.03**	**138**	Pn	**Pn**	**08 08 02.6**	**-5.5**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**16.03**	**138**	P	**Pn**	**08 08 02.6**	**-5.5**
	SNR=22						
SRS	**Serrai**	**16.17**	**290**	P	**Pn**	**08 08 11.3**	**+1.5**
SRS	**Serrai**	**16.17**	**290**	P	**Pn**	**08 08 11.3**	**+1.5**
SRS	**Serrai**	**16.17**	**290**	P	**Pn**	**08 08 11.3**	**+1.5**
PLG	**Polygyros**	**16.20**	**287**	P	**P**	**08 08 11.9**	**-1.5**
PLG	**Polygyros**	**16.20**	**287**	P	**P**	**08 08 11.9**	**-1.5**
PLG	**Polygyros**	**16.20**	**287**	P	**P**	**08 08 11.9**	**-1.5**
UOSS	**Minazif**	**16.20**	**136**	P	**Pn**	**08 08 04.7**	**-5.6**
	SNR=23						
UOSS	**Minazif**	**16.20**	**136**	*e*Pn	**Pn**	**08 08 04.8**	**-5.5**
	comp=Z,261nm,0.8s						
HATD	**Hatta, Dubai**	**16.26**	**136**	*i* P	**Pn**	**08 08 06.6**	**-4.4**
	SNR=29						
HATD	**Hatta, Dubai**	**16.26**	**136**	P	**Pn**	**08 08 06.6**	**-4.4**
	SNR=29						
HATD	**Hatta, Dubai**	**16.26**	**136**	Pn	**Pn**	**08 08 06.4**	**-4.6**
	SNR=48						
HATD	**Hatta, Dubai**	**16.26**	**136**	P	**Pn**	**08 08 06.4**	**-4.6**
	SNR=48						
VOIR		**16.27**	**306**	⇑*i*P	**P**	**08 08 14.0**	**-0.2**
VOIR		**16.27**	**306**	P	**P**	**08 08 13.6**	**-0.6**
VOIR				pmax	pmax		
	comp=Z,115nm,1.0s						
VOIR		**16.27**	**306**	⇑*i*P	**P**	**08 08 14.0**	**-0.2**
DOPR	**Dopca**	**16.28**	**308**	⇓*i*P	**Pn**	**08 08 12.1**	**+1.0**
SOH	**Sokhos**	**16.31**	**289**	P	**P**	**08 08 15.0**	**+0.4**
SOH	**Sokhos**	**16.31**	**289**	P	**P**	**08 08 15.8**	**+1.2**
	SNR=35					

OHR pmax pmax
comp=Z,106nm,1.9s
OHR Ohrid 18.27 289⇑ *i* P P 08 08 38.2 +2.0
MDVR Moldovita 18.27 301⇑ *i* P P 08 08 38.3 +2.0
DRGR 18.31 308⇓ *i* P P 08 08 38.8 +2.2
DRGR 18.31 308 P P 08 08 38.5 +1.9
DRGR pmax pmax
comp=Z,123nm,1.0s
DRGR 18.31 308⇓ *i* P P 08 08 38.8 +2.2
LKD2 Lefkada island 18.34 282 P Pn 08 08 35.9 -1.0
LKD2 Lefkada island 18.34 282 P Pn 08 08 35.9 -1.0
BIDO Bidbid 18.40 134 P P 08 08 33.7 -4.0
SNR=8.5
BIDO Bidbid 18.40 134 P P 08 08 33.7 -4.0
SNR=8.5
OBN Obninsk 18.50 347 P P 08 08 37.2 -1.4
comp=Z,4.6nm,0.3s,baz=162,slow=7.7,SNR=14
OBN Obninsk 18.50 347⇓ *i* P P 08 08 38.0 -0.6
OBN *i* S Sn 08 11 57.4 -7.8
OBN pmax pmax
comp=Z,114nm,1.1s
OBN MLR MLR
comp=Z,915nm,17.0s
OBN Obninsk 18.50 347 *e* P Pn 08 08 38.7 0.0
comp=Z,92nm,1.0s
OBN Obninsk 18.50 347 *e* P Pn 08 08 38.7 0.0
comp=Z,92nm,1.0s
BZS Buzias 18.59 304⇓ *i* P Pn 08 08 40.6 +0.7
SMDO Samad 18.72 135 P P 08 08 38.0 -3.4
SNR=21
SMDO Samad 18.72 135 P P 08 08 38.0 -3.4
SNR=21
SIRR Siria 18.78 305⇓ *i* P Pn 08 08 43.8 +1.5
WSAR Wadi Sarin 18.91 134 P P 08 08 39.6 -3.7
comp=Z,8.9nm,0.3s,baz=318,slow=13,SNR=26
WSAR LR LR 08 17 04.8
comp=Z,2μm,19.2s,baz=338,slow=41
MOS Moscow 18.93 349 *e* P P 08 08 43.4 +0.2
MOS *e* S S 08 12 19.7 +1.8
MOS pmax pmax
comp=Z,68nm,1.2s
MOS MLR MLR
comp=Z,1μm,15.0s
KEK Kerkira 18.98 285 P P 08 08 43.4 -0.6
KEK Kerkira 18.98 285 P P 08 08 43.4 -0.6
TRPA Tarpa 18.98 311⇓ *e* P Pn 08 08 46.5 +1.9
TIR Tirane 18.99 290 *e* P P 08 08 42.8 -1.2
TIR pmax pmax
comp=Z,109nm,0.8s
TIR Tirane 18.99 290 *e* P P 08 08 42.8 -1.2
comp=Z,109nm,0.8s
TIR Tirane 18.99 290 *e* P P 08 08 42.8 -1.2
comp=Z,109nm,0.8s
PVY Plav 19.05 294 *e* P Pn 08 08 46.3 +0.6
BEY Berane 19.14 294 *e* P Pn 08 08 47.1 +0.4
IVA Berane 19.14 294 *e* P Pn 08 08 47.1 +0.4
DIVS Divibare 19.30 298 *e* P P 08 08 47.3 -0.2
UZH Uzhgorod 19.36 313 *e* P Pn 08 08 49.1 -0.1
UZH *e* S Sn 08 12 20.9 -5.1
KOME Kolasin 19.41 294 *e* P Pn 08 08 50.9 +0.9
KOME Kolasin 19.41 294 *e* P Pn 08 08 50.9 +0.9
ULC Ulcinj 19.50 291⇑ *i* P Pn 08 08 52.4 +1.4
ULC Ulcinj 19.50 291⇑ *i* P Pn 08 08 52.5 +1.4
PDG Podgorica 19.55 293⇑ *i* P Pn 08 08 54.5 +3.0
PDG Podgorica 19.55 293 *e* P Pn 08 08 53.2 +1.7
TTG Podgorica 19.55 293 *e* P Pn 08 08 53.2 +1.7
DRME Dracevica, Mon 19.57 292 *e* P Pn 08 08 53.0 +1.2
DRME Dracevica, Mon 19.57 292 *e* P Pn 08 08 51.9 +0.1
PLE Pljevlja 19.58 296 *e* P Pn 08 08 51.6 -0.4
PLE Pljevlja 19.58 296 *e* P Pn 08 08 51.6 -0.4
KWP Kalwaria Pacla 19.61 316 *e* P Pn 08 08 53.6 +1.4
KWP LMZ LR 08 18 18.1
comp=Z,1μm,18.0s
KWP Kalwaria Pacla 19.61 316 *e* P Pn 08 08 53.6 +1.4
KWP MLR MLR
comp=Z,1μm,18.0s
KWP Kalwaria Pacla 19.61 316 *e* P Pn 08 08 53.6 +1.4
FRGS Fruska Gora 19.68 301 *e* P Pn 08 08 53.7 +0.7
TEKS Tekeris 19.72 299 *e* P Pn 08 08 53.3 -0.3
NKY Niksic 19.79 294 *e* P Pn 08 08 54.3 -0.2
NKY Niksic 19.79 294 P Pn 08 08 54.0 -0.5
NKY Niksic 19.79 294 *e* P Pn 08 08 54.4 -0.1
BUM Brajici-Budva 19.80 292 *e* P Pn 08 08 55.0 +0.4
BUM Brajici-Budva 19.80 292 *e* P Pn 08 08 55.0 +0.4
CEME Cevo 19.81 293 *e* P Pn 08 08 55.1 +0.4
CEME Cevo 19.81 293 *e* P Pn 08 08 55.1 +0.4
NKME Niksic 19.81 294⇑ *i* P Pn 08 08 55.3 +0.6
NKME Niksic 19.81 294⇑ *i* P Pn 08 08 55.4 +0.7
UPM Unac-Piva 19.91 295 *e* P Pn 08 08 55.5 -0.5
UPM Unac-Piva 19.91 295 *e* P P 08 08 55.0 +0.7
CRVS Cervenica-Dubn 19.97 313 *e* P Pn 08 08 58.1 +1.6
CRVS Cervenica-Dubn 19.97 313 *e* P Pn 08 08 58.1 +1.6
HAPS Han Pijesak,BI 20.03 298 *e* P P 08 08 55.0 -0.6
HCY Herceg Novi 20.11 293 *e* P Pn 08 08 58.3 +0.1
HCY Herceg Novi 20.11 293 P Pn 08 09 00.8 +2.6
HCY Herceg Novi 20.11 293 *e* P Pn 08 08 58.4 +0.2
BRY Bratogost 20.13 294⇑ *i* P Pn 08 08 58.3 -0.3
BRY Bratogost 20.13 294 P Pn 08 09 01.2 +2.6
BRY Bratogost 20.13 294 *e* P P 08 08 57.4 +0.7
TREB Trebinje 20.25 293 *e* P P 08 08 57.1 -0.7
STHS Stebnicka Huta 20.34 314 *e* P Pn 08 09 01.5 +0.7
STHS pmax pmax
comp=Z,50nm,1.2s
STHS Stebnicka Huta 20.34 314 *e* P Pn 08 09 01.5 +0.7
KECS Kecovo 20.37 311 *e* P Pn 08 09 00.7 -0.5
KECS pmax pmax
comp=Z,29nm,1.2s
KECS Kecovo 20.37 311 *e* P Pn 08 09 00.7 -0.5
MICGM Minsk 20.40 333 *e* P Pn 08 09 01.0 -0.5
MICGM *e* S S 08 12 43.0 -4.5
MICGM *e* LR LR 08 17 08.0
MNK Minsk 20.40 333 *e* P Pn 08 09 01.0 -0.5
MNK *e* S S 08 12 43.0 -4.5
PSZ Piszkesteto 20.51 309⇑ *i* P Pn 08 09 02.1 -0.8
PSZ Piszkesteto 20.51 309 *e* P P 08 09 01.0 +0.3
PSZ pmax pmax
comp=Z,55nm,1.0s
PSZ Piszkesteto 20.51 309 *e* P P 08 09 01.0 +0.3
comp=Z,55nm,1.0s
PSZ Piszkesteto 20.51 309 *e* P P 08 09 01.0 +0.3
comp=Z,55nm,1.0s
KBL Kabul 20.56 90 *e* P Pn 08 09 02.7 -1.0
KBL pmax pmax
comp=Z,72nm,1.2s
KBL Kabul 20.56 90 *e* P Pn 08 09 02.7 -1.0
comp=Z,72nm,1.2s
KBL Kabul 20.56 90 *e* P Pn 08 09 02.7 -1.1
comp=Z,72nm,1.2s
BRLS Borolday 20.61 66 *e* P P 08 08 58.9 -3.0
comp=Z,45nm,1.1s
BRLS *e* S S 08 12 48.0 -4.0
IUG Iuzhnay 20.66 68 *e* P P 08 09 01.0 -1.5
comp=Z,216nm,1.2s
IUG *e* S S 08 12 51.7 -1.4
NIE Niedzica 20.89 313 *e* P Pn 08 09 06.8 -0.5
NIE LMZ LR 08 19 49.4
comp=Z,1μm,17.2s
NIE Niedzica 20.89 313 *e* P Pn 08 09 06.8 -0.4
NIE MLR MLR
comp=Z,1μm,17.2s
NIE Niedzica 20.89 313 *e* P Pn 08 09 06.8 -0.4
KK31 Karatay Array 21.12 66 *i* P P 08 09 07.2 -0.1
KK31 pmax pmax
comp=Z,63nm,0.8s
KKAR Karatay Array 21.12 66 *e* P P 08 09 08.2 +1.0
KKAR pmax pmax
comp=Z,478nm,0.8s
KKAR Karatay Array 21.12 66 *e* P P 08 09 08.2 +1.0
comp=Z,478nm,0.8s
KKAR Karatay Array 21.12 66 *e* P P 08 09 08.2 +1.0
comp=Z,478nm,0.8s
NACGM Naroch 21.12 332 *e* P P 08 09 07.0 -0.2
NACGM *e* LQ LQ 08 15 28.0
NACGM *e* LR LR 08 19 34.0
WHFO Wadi Hawf 21.18 153 P P 08 09 05.4 -2.7
SNR=12
WHFO Wadi Hawf 21.18 153 P P 08 09 05.4 -2.7
SNR=12
LANS Liptovska Anna 21.26 312 *e* P P 08 09 09.6 +0.8
LANS Liptovska Anna 21.26 312 *e* P P 08 09 09.6 +0.8
VYHS Vyhne 21.38 309 *e* P P 08 09 12.8 +2.7
VYHS pmax pmax
comp=Z,44nm,1.4s
VYHS Vyhne 21.38 309 *e* P P 08 09 12.8 +2.7
comp=Z,44nm,1.4s
VYHS Vyhne 21.38 309 *e* P P 08 09 12.8 +2.7
comp=Z,44nm,1.4s
BLY Banja Luka 21.40 299 *e* P P 08 09 10.4 +0.2
comp=Z,34nm,0.9s
BLY Banja Luka 21.40 299 *e* P P 08 09 10.4 +0.2
comp=Z,34nm,0.9s
ARU Arti 21.53 23 P P 08 09 05.3 -6.2
comp=Z,8.6nm,0.2s,baz=29,slow=9.0,SNR=1.7
ARU LR LR 08 19 51.1
comp=Z,2μm,18.3s,baz=208,slow=43
ARU Arti 21.53 23*d* *i* P P 08 09 11.5 0.0
ARU PPP PPP 08 09 37.9
ARU S S 08 13 11.1 +1.3
ARU SSS SSS 08 13 46.6
ARU pmax pmax
comp=Z,123nm,0.8s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 21.53 23 *e* P P 08 09 11.6 0.0
ARU Arti 21.53 23 *e* P P 08 09 11.6 0.0
ABTO Aybut 21.54 155 P P 08 09 08.4 -3.5
SNR=10
ABTO Aybut 21.54 155 P P 08 09 08.4 -3.5
SNR=10
OJC Ojcow 21.54 314 *e* P P 08 09 11.1 -0.7
OJC LMZ LR 08 19 35.9
comp=Z,1μm,18.3s
OJC Ojcow 21.54 314 *e* P P 08 09 11.2 -0.5
OJC pmax pmax
comp=Z,60nm,1.1s
OJC Ojcow 21.54 314 *e* P P 08 09 11.2 -0.5
comp=Z,60nm,1.1s
OJC Ojcow 21.54 314 *e* P P 08 09 11.2 -0.5
comp=Z,60nm,1.1s
GRI Girifalco 21.64 282 P P 08 09 12.6 -0.3
GRI Girifalco 21.64 282 P P 08 09 12.6 -0.3
RBK Rabkut 21.72 152 P P 08 09 11.3 -2.6
SNR=11
RBK Rabkut 21.72 152 P P 08 09 11.3 -2.6
SNR=11
SHAO Shalim 21.81 149 P P 08 09 11.3 -3.5
SNR=28
SHAO Shalim 21.81 149 P P 08 09 12.1 -2.7
SNR=12
SHAO Shalim 21.81 149 P P 08 09 12.1 -2.7
SNR=12
BEL Belsk 21.82 319 *e* P P 08 09 18.2 +3.6
BEL LMZ LR 08 17 54.2
comp=Z,600nm,22.8s
BEL Belsk 21.82 319 *e* P P 08 09 18.2 +3.6
BEL MLR MLR
comp=Z,600nm,22.8s
SUW Suwalki 21.97 326 *e* P P 08 09 17.3 +1.1
SUW LMZ LR 08 17 52.0
comp=Z,800nm,25.5s
SUW Suwalki 21.97 326 *e* P P 08 09 17.3 +1.1
SUW MLR MLR
comp=Z,800nm,25.5s
SUW Suwalki 21.97 326 *e* P P 08 09 17.3 +1.1
comp=Z,800nm,25.5s
SOI Samo 22.00 281 P P 08 09 21.2 +4.5
SOI pmax pmax
comp=Z,2.0nm,1.3s
CUC Castrocucco 22.04 286 *e* P P 08 09 17.5 +0.3
comp=Z,226nm,1.5s
CUC Castrocucco 22.04 286 *e* P P 08 09 17.5 +0.3
comp=Z,226nm,1.5s
CEL Celeste 22.10 281 *e* P P 08 09 18.1 +0.2
comp=Z,131nm,1.1s
CEL Celeste 22.10 281 *e* P P 08 09 18.1 +0.2
comp=Z,131nm,1.1s
GMB Gambarie 22.16 281 P P 08 09 18.2 -0.5
GMB Gambarie 22.16 281 P P 08 09 18.2 -0.5
OKC Ostrava-Krasne 22.33 312 *e* P P 08 09 22.2 +2.0
OKC *e* pP sP 08 09 27.1 +1.6
OKC AMS AMS 08 20 30.0
comp=Z,1μm,14.2s
OKC Ostrava-Krasne 22.33 312 *e* P P 08 09 22.2 +2.0
OKC *e* 08 09 27.1
OKC MLR MLR
comp=Z,1μm,14.2s
OKC Ostrava-Krasne 22.33 312 *e* P P 08 09 22.2 +2.0
comp=Z,1μm,14.2s
KOGS Kog 22.41 303 *e* P P 08 09 22.4 +1.3
KOGS *e* S S 08 13 31.3 +4.5
SVE Sverdlovsk 22.52 24⇓ *e* P P 08 09 23.5 +1.4
SVE *e* S S 08 13 24.1 -4.5
SVE pmax pmax
comp=Z,181nm,1.0s
SVE Sverdlovsk 22.52 24 *e* P P 08 09 23.5 +1.4
comp=Z,181nm,1.0s
MNAS Manas 22.52 68 *i* P P 08 09 22.8 +0.3
MNAS pmax pmax
comp=Z,50nm,1.2s
MNAS Manas 22.52 68 *i* P P 08 09 22.8 +0.3
comp=Z,50nm,1.2s
SOP Sopron 22.54 306 *e* P P 08 09 25.1 +2.6
SOP Sopron 22.54 306⇓ *e* P P 08 09 24.6 +2.1
DAMY Dhamar 22.64 179 *e* P P 08 09 24.1 +0.1
comp=Z,121nm,1.0s
DAMY Dhamar 22.64 179 *e* P P 08 09 24.1 +0.1
comp=Z,121nm,1.0s
MORC Moravsky Berou 22.66 312⇑ *i* P P 08 09 25.1 +1.3
MORC Moravsky Berou 22.66 312 *e* P P 08 09 25.2 +1.4
MORC pmax pmax
comp=Z,145nm,1.1s
MORC Moravsky Berou 22.66 312 *e* P P 08 09 25.1 +1.3
MORC Moravsky Berou 22.66 312 *e* P P 08 09 25.2 +1.4
comp=Z,145nm,1.1s
CRES Cresnjev 22.81 301 *e* P P 08 09 25.8 +0.5
VRAC Vranov 23.06 310 P P 08 09 28.7 +0.8
comp=Z,16nm,0.8s,baz=108,slow=8.2,SNR=10
VRAC LR LR 08 20 30.8
comp=Z,1μm,18.0s,baz=128,slow=42
CONA Conrad Observa 23.07 306 *i* P P 08 09 28.3 +0.2
comp=Z,25nm,1.0s,SNR=12
CONA Conrad Observa 23.07 306 P P 08 09 28.3 +0.2
comp=Z,25nm,1.0s,SNR=12
ARSA Arzberg 23.10 304 *i* P P 08 09 29.3 +1.0
comp=Z,27nm,1.0s,SNR=9.2
ARSA Arzberg 23.10 304 P P 08 09 29.3 +1.0
comp=Z,27nm,1.0s,SNR=9.2
SOKA Soboth 23.28 303 *i* P P 08 09 31.1 +0.8
comp=Z,16nm,0.9s,SNR=9.3
SOKA Soboth 23.28 303 P P 08 09 31.1 +0.8
comp=Z,16nm,0.9s,SNR=9.3
VAE Valguarnera 23.36 279 P P 08 09 31.5 +0.3
comp=Z,21nm,0.8s,baz=237,slow=19,SNR=2.3
LJU Ljubljana 23.49 301 *i* P P 08 09 33.6 +1.3
LJU Ljubljana 23.49 301 *e* P P 08 09 33.5 +1.3
CEY Cerknica 23.50 300 *e* P P 08 09 32.5 +0.1
OBKA Obir 23.57 302 *i* pP P 08 09 34.8 +1.7
comp=Z,50nm,1.4s
DPC Dobruska-Polom 23.61 312 *e* P P 08 09 34.2 +0.7
DPC *e* S S 08 13 52.5 +4.9
DPC AMS AMS 08 21 10.0
comp=Z,1μm,11.8s
DPC Dobruska-Polom 23.61 312 *e* P P 08 09 34.2 +0.7
DPC *e* S S 08 13 52.5 +4.9
DPC MLR MLR
comp=Z,1μm,11.8s
DPC Dobruska-Polom 23.61 312 P P 08 09 34.2 +0.7
TREC Trest 23.73 309 AMS AMS 08 20 40.0
comp=Z,2μm,15.2s
KLMR Klimovskoe 23.74 355 *e* P P 08 09 32.4 -2.1
KLMR *e* S S 08 13 47.2 -2.0
KLMR pmax pmax
comp=Z,113nm,1.0s
KLMR MLR MLR
comp=Z,368nm,14.0s
SOKR Solikamsk 23.82 16*c* *i* P P 08 09 35.2 0.0
SOKR S S 08 13 53.0 +2.6
SOKR pmax pmax
comp=Z,59nm,1.2s
SOKR MLR MLR
comp=Z,524nm,16.0s
KSP Ksiaz 23.83 313 *e* P P 08 09 36.0 +0.5
KSP LMZ LR 08 21 35.2
comp=Z,2μm,15.6s
KSP Ksiaz 23.83 313 *e* P P 08 09 36.0 +0.5
KSP MLR MLR
comp=Z,2μm,15.6s
KSP Ksiaz 23.83 313 *e* P P 08 09 36.0 +0.5
UPC Upice 23.86 312 *e* P P 08 09 36.4 +0.6
UPC *e* pP sP 08 09 42.2 +0.9
UPC AMS AMS 08 23 00.0
comp=Z,900nm,14.4s
UPC Upice 23.86 312 *e* P P 08 09 36.4 +0.6
UPC *e* 08 09 42.2
UPC MLR MLR
comp=Z,900nm,14.4s
UPC Upice 23.86 312 P P 08 09 36.4 +0.6
AQU L'Aquila 23.86 292 *e* P P 08 09 36.0 0.0
AQU pmax pmax
comp=Z,75nm,0.9s
AQU L'Aquila 23.86 292 *e* P P 08 09 36.0 0.0
comp=Z,75nm,0.9s
AQU L'Aquila 23.86 292 *e* P P 08 09 36.0 0.0
comp=Z,76nm,0.9s
BTLS Baital 23.90 62 *e* P P 08 09 35.1 -1.1
comp=Z,242nm,1.9s
VSU Vasula 23.95 338*d* *i* P P 08 09 37.3 +0.7
VSU pmax pmax
comp=Z,106nm,0.7s
VSU MLR MLR
comp=Z,2μm,18.0s
AAK Ala-Archa 24.00 68 P P 08 09 38.1 +0.7
comp=Z,5.6nm,0.8s,baz=255,slow=9.3,SNR=26
AAK PcP PcP 08 13 20.1 +0.9
comp=Z,4.6nm,0.7s,baz=187,slow=6.5,SNR=4.2
AAK LR LR 08 21 26.0
comp=Z,782nm,19.1s,baz=259,slow=42
AAK Ala-Archa 24.00 68*c* *i* P P 08 09 37.7 +0.3
AAK pmax pmax
comp=Z,98nm,1.6s
AAK MLR MLR
comp=Z,2μm,17.0s
AAK Ala-Archa 24.00 68 P P 08 09 38.9 +1.5
SNR=26
AAK Ala-Archa 24.00 68 P P 08 09 38.9 +1.5
SNR=26
CADS Cadrg 24.06 301 *e* P P 08 09 37.6 -0.2
MOA Molln 24.08 305 *i* P P 08 09 38.3 +0.4
comp=Z,36nm,0.8s,SNR=13
MOA Molln 24.08 305 P P 08 09 38.3 +0.4
comp=Z,36nm,0.8s,SNR=13
FRU Bishkek 24.09 67 *e* P P 08 09 38.0 -0.2
FRU *i* 08 10 06.0
FRU *i* 08 10 17.0
FRU pmax pmax
comp=Z,650nm,2.5s
FRU MLR MLR
comp=E,1μm,12.0s
BRVK Borovoye 24.20 41⇓ *e* P P 08 09 40.9 +2.0
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 24.20 41 *e* P P 08 09 41.1 +2.2
comp=Z,95nm,0.7s
BRVK Borovoye 24.20 41 *e* P P 08 09 41.1 +2.2
comp=Z,95nm,0.7s
BRVK Borovoye 24.20 41 pP P 08 09 42.0 +3.0
SNR=41
BRVK Borovoye 24.20 41 P P 08 09 42.0 +3.0
SNR=41
MYKA Terra Mystica 24.21 302 *i* pP P 08 09 41.2 +2.0
comp=Z,20nm,0.7s
BVAR Borovoye Array 24.23 41 P P 08 09 39.7 +0.4
comp=Z,4.6nm,0.7s,baz=243,slow=6.5,SNR=14
CLTB Caltabellotta 24.29 280 *e* P P 08 09 40.9 +0.9
comp=Z,168nm,1.8s
CLTB Caltabellotta 24.29 280 *e* P P 08 09 40.9 +0.9
comp=Z,168nm,1.8s
GOPC GO Pecny, Ondr 24.37 310 *e* P P 08 09 40.8 +0.2
GOPC *e* x x 08 09 48.4
GOPC *e* S S 08 14 10.2 +11
GOPC AMS AMS 08 21 00.0
comp=Z,2μm,16.7s
GOPC GO Pecny, Ondr 24.37 310 *e* P P 08 09 40.8 +0.2
GOPC *e* 08 09 48.4
GOPC MLR MLR
comp=Z,2μm,16.7s
GOPC GO Pecny, Ondr 24.37 310 P P 08 09 40.8 +0.2
GKP Gorka Klasztor 24.41 319 *e* P P 08 09 43.9 +3.0
GKP LMZ LR 08 21 20.3
comp=Z,1μm,18.9s
GKP Gorka Klasztor 24.41 319 *e* P P 08 09 43.9 +3.0
GKP MLR MLR
comp=Z,1μm,18.9s
GKP Gorka Klasztor 24.41 319 *e* P P 08 09 43.9 +3.0
KBA Koelnbreinsper 24.50 303 P P 08 09 42.2 +0.2
KBA pmax pmax
comp=Z,103nm,1.0s
KBA Koelnbreinsper 24.50 303 *i* P P 08 09 42.4 +0.4
comp=Z,52nm,0.8s,SNR=36
KBA Koelnbreinsper 24.50 303 P P 08 09 42.4 +0.4
comp=Z,52nm,0.8s,SNR=36
PRU Pruhonice 24.55 310 *e* P P 08 09 42.2 0.0
PRU *e* S S 08 14 16.9 +14
PRU AMS AMS 08 21 10.0
comp=Z,2μm,15.8s
PRU Pruhonice 24.55 310 *e* P P 08 09 42.2 0.0
PRU MLR MLR
comp=Z,2μm,15.8s
PRU Pruhonice 24.55 310 P P 08 09 42.2 0.0
PRA Prague 24.64 311 *e* P P 08 09 42.8 -0.2
PRA AMS AMS 08 21 10.0
comp=Z,2μm,17.1s
PRA Prague 24.64 311 *e* P P 08 09 42.8 -0.2
PRA MLR MLR
comp=Z,2μm,17.1s
PRA Prague 24.64 311 P P 08 09 42.8 -0.2
GEC2 GERESS Array S 24.71 307 *e* P P 08 09 43.6 -0.2
GEC2 pmax pmax
comp=Z,21nm,0.8s
GEC2 GERESS Array S 24.71 307 *e* P P 08 09 43.6 -0.2
comp=Z,21nm,0.8s
GEC2 GERESS Array S 24.71 307 *e* P P 08 09 43.6 -0.2
comp=Z,21nm,0.8s
GERES GERESS Array B 24.71 307 P P 08 09 43.8 0.0
comp=Z,12nm,0.7s,baz=107,slow=8.9,SNR=61
GERES LR LR 08 20 45.4
comp=Z,1μm,19.1s,baz=116,slow=40
PVCC Panska Ves 24.72 312 *e* P P 08 09 40.3 -3.4
PVCC AMS AMS 08 21 10.0
comp=Z,1μm,20.4s
PVCC Panska Ves 24.72 312 P P 08 09 44.7 +1.0
PVCC pmax pmax
comp=Z,39nm,1.1s
KHC Kasperske Hory 24.87 308 *e* P P 08 09 45.1 -0.1
KHC *e* pP sP 08 09 52.5 +1.8
KHC *e* S S 08 14 17.5 +10
KHC AMS AMS 08 20 10.0
comp=Z,1μm,19.1s
KHC Kasperske Hory 24.87 308 *e* P P 08 09 45.0 -0.1
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 24.87 308 P P 08 09 45.1 -0.1
KHC Kasperske Hory 24.87 308 *e* P P 08 09 45.0 -0.2
comp=Z,9.3nm,0.8s
ABTA Abfaltersbach 24.99 302 *i* P P 08 09 46.5 +0.2
comp=Z,50nm,0.8s,SNR=15
ABTA Abfaltersbach 24.99 302 P P 08 09 46.5 +0.2
comp=Z,50nm,0.8s,SNR=15
SFI Santa Sofia 25.09 295 P P 08 09 48.8 +1.7
KSH Kashi 25.19 75 P P 08 09 47.3 -0.9
KSH pP sP 08 09 53.8 +0.1
KSH sP pP 08 09 56.8 +4.7
KSH PP PnPn 08 10 24.0 +1.8
KSH PcP PcP 08 13 24.8 +3.0
KSH S S 08 14 06.8 -6.4
KSH sS pS 08 14 15.3 -2.1
KSH SS SnSn 08 15 03.8 +0.5
KSH PcS PcS 08 17 04.0 +1.8
KSH ScS ScS 08 20 48.8 -0.4
KSH pmax pmax
comp=Z,40nm,0.8s
KSH pmax pmax
comp=Z,250nm,3.5s
KSH LR LR
comp=Z,800nm,10.8s
KSH LR LR
comp=Z,850nm,10.5s
KSH LR LR
comp=Z,2μm,14.3s
WET Wettzell 25.31 308 P P 08 09 49.0 -0.1
WET pmax pmax
comp=Z,21nm,1.8s
ATD Arta Tunnel 25.67 182 P P 08 09 54.8 +2.1
comp=Z,7.4nm,0.9s,baz=14,slow=8.9,SNR=3.5
ATD LR LR 08 19 19.9
comp=Z,844nm,20.4s,baz=353,slow=35

WTTA Wattenberg 25.68 303 *i* P **P 08 09 52.4 -0.2**
comp=Z,30nm,0.7s,SNR=13
WTTA Wattenberg 25.68 303 P **P 08 09 52.4 -0.2**
comp=Z,30nm,0.7s,SNR=13
WATA Walderalm 25.73 303 *i* P **P 08 09 52.5 -0.6**
comp=Z,33nm,0.7s,SNR=8.2
WATA Walderalm 25.73 303 P **P 08 09 52.5 -0.6**
comp=Z,33nm,0.7s,SNR=8.2
AAA Alma-Ata 25.80 66 *e*P **P 08 09 52.4 -1.2**
AAA LR LR 08 20 12.1
comp=Z,218nm,13.4s
MDOK Medeo 25.89 67 *e*P **P 08 09 53.3 -1.3**
comp=Z,21nm,1.1s
MDOK *e*S **S 08 14 23.2 -1.1**
MDOK LR LR 08 20 02.6
comp=Z,313nm,13.6s
NKC Novy Kostel 25.90 310 *e*P **P 08 09 54.8 +0.3**
NKC AMS AMS 08 21 10.0
comp=Z,2μm,17.9s
NKC Novy Kostel 25.90 310 *e*P **P 08 09 54.8 +0.3**
NKC MLR MLR
comp=Z,2μm,17.9s
NKC Novy Kostel 25.90 310 P **P 08 09 54.8 +0.3**
CLL Collm 25.92 313 *e*P **P 08 09 55.0 +0.4**
CLL *e*S **S 08 14 30.0 +5.7**
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,900nm,18.7s
CLL Collm 25.92 313 *e*P **P 08 09 54.7 +0.1**
comp=Z,56nm,0.9s
CLL Collm 25.92 313 *e*P **P 08 09 55.0 +0.4**
comp=Z,21nm,1.0s
CLL *e* 08 10 06.0
comp=Z,70nm,1.0s
CLL *e*S **S 08 14 30.0 +5.7**
CLL *e*SS **SnSn 08 15 29.0 +8.2**
CLL *e*SSS SSS 08 15 46.0
CLL LmV 08 23 00.0
comp=Z,900nm,18.7s
CLL Collm 25.92 313 *e*P **P 08 09 54.7 +0.1**
comp=Z,56nm,0.9s
BDI Bagni Di Lucca 26.00 296 P **P 08 09 56.3 +0.9**
MOTA Moosalm 26.05 303 *i* P **P 08 09 55.1 -0.9**
comp=Z,61nm,0.8s,SNR=38
MOTA Moosalm 26.05 303 P **P 08 09 55.1 -0.9**
comp=Z,61nm,0.8s,SNR=38
FUR Furstenfeldbru 26.10 305 P **P 08 09 57.0 +0.7**
FUR pmax pmax
comp=Z,129nm,1.0s
VLC Villacollemand 26.15 296 *e*P **P 08 09 56.8 0.0**
comp=Z,55nm,0.8s
VLC Villacollemand 26.15 296 *e*P **P 08 09 56.8 0.0**
comp=Z,55nm,0.8s
FETA Feichten 26.24 302 *i* P **P 08 09 57.4 -0.4**
comp=Z,75nm,0.7s,SNR=22
FETA Feichten 26.24 302 P **P 08 09 57.4 -0.4**
comp=Z,75nm,0.7s,SNR=22
RETA Reutte 26.30 303 *i* P **P 08 09 57.3 -0.9**
comp=Z,12nm,0.6s
RETA Reutte 26.30 303 P **P 08 09 57.3 -0.9**
comp=Z,12nm,0.6s
FUORN Ofenpass-Fuorn 26.50 301 *e*P **P 08 10 00.6 +0.4**
comp=Z,41nm,0.8s
FUORN Ofenpass-Fuorn 26.50 301 *e*P **P 08 10 00.6 +0.4**
comp=Z,41nm,0.8s
GRF Grafenberg Arr 26.50 308 P **P 08 10 03.5 +3.6**
GRF pmax pmax
comp=Z,74nm,1.0s
GRFO Grafenberg 26.50 308 *e*P **P 08 10 00.8 +0.9**
GRFO pmax pmax
comp=Z,77nm,1.1s
GRFO Grafenberg 26.50 308 *e*P **P 08 10 00.8 +0.9**
comp=Z,77nm,1.1s
GRFO Grafenberg 26.50 308 *e*P **P 08 10 00.8 +0.9**
comp=Z,77nm,1.1s
FIA0 FINESS Array S 26.62 341 *e*P **P 08 10 00.7 -0.1**
FIA0 FINESS Array S 26.62 341 *e*P **P 08 10 00.7 -0.1**
FIA0 FINESS Array S 26.62 341 *e*P **P 08 10 00.7 -0.1**
FIA1 FINESS Array S 26.62 341 *e*P **P 08 10 00.5 -0.3**
comp=Z,31nm,0.7s
FIA1 FINESS Array S 26.62 341 *e*P **P 08 10 00.5 -0.3**
comp=Z,31nm,0.7s
FINES FINESS Array B 26.62 341 P **P 08 10 00.7 -0.1**
comp=Z,6.2nm,0.4s,baz=144,slow=10,SNR=28
FINES LR LR 08 21 25.7
comp=Z,809nm,21.3s,baz=148,slow=38
DAVOX Davos/Dischmat 26.78 302 P **P 08 10 02.3 -0.4**
comp=Z,34nm,0.6s,baz=107,slow=7.7,SNR=40
DAVOX LR LR 08 23 24.5
comp=Z,741nm,18.1s,baz=87,slow=43
DAVA Damuels 26.86 303 *i* P **P 08 10 02.6 -0.7**
comp=Z,66nm,0.6s,SNR=19
DAVA Damuels 26.86 303 P **P 08 10 02.6 -0.7**
comp=Z,66nm,0.6s,SNR=19
SATY Saty 26.88 67 *e*P **P 08 10 02.5 -1.1**
comp=Z,146nm,1.4s
VSL Villasalto 27.02 285 *e*P **P 08 10 04.8 +0.1**
comp=Z,64nm,0.7s
VSL Villasalto 27.02 285 *e*P **P 08 10 04.8 +0.1**
comp=Z,64nm,0.7s
TUE Stuetta 27.10 301 *e*P **P 08 10 05.4 -0.2**
comp=Z,30nm,1.1s
TUE Stuetta 27.10 301 *e*P **P 08 10 05.4 -0.2**
comp=Z,30nm,1.1s
PGF Pioggiola 27.12 292 *e*P **P 08 10 04.7 -1.0**
PGF pmax pmax
comp=Z,85nm,1.0s
TMCR Tamitsa 27.13 354 *e*P **P 08 10 07.7 +2.4**
TMCR pmax pmax
comp=Z,50nm,0.9s
UZB Uzynbulak 27.33 67 *e*P **P 08 10 06.4 -1.3**
comp=Z,30nm,0.8s
SHLS Shalkode 27.66 67 *e*P **P 08 10 12.0 +1.6**
comp=Z,64nm,0.8s
SHLS LRM MLR 08 22 33.0
comp=Z,52nm,9.6s
PDGK Podgornoye 27.68 66 *i* P **P 08 10 10.2 -0.5**
KEST Kesra 27.70 277 P **P 08 10 12.2 +1.3**
comp=Z,71nm,0.9s,baz=4.9,slow=2.9,SNR=63
KEST LR LR 08 23 09.4
comp=Z,851nm,20.3s,baz=355,slow=41
KEST Kesra 27.70 277 *e*P **P 08 10 11.9 +1.0**
comp=Z,107nm,1.0s
KEST Kesra 27.70 277 *e*P **P 08 10 11.9 +1.0**
comp=Z,107nm,1.0s
KURBB Kurchatov Arra 28.00 51 P **P 08 10 14.8 +1.5**
comp=Z,6.2nm,1.1s,baz=263,slow=9.4,SNR=16
KURBB PcP **PcP 08 13 30.9 +2.9**
comp=Z,4.4nm,0.8s,baz=255,slow=2.9,SNR=7.5
KURBB ScP **ScP 08 17 12.3 +3.8**
comp=Z,1.0nm,0.3s,baz=266,slow=4.3,SNR=4.7
BFO Black Forest 28.07 304 *i* P **P 08 10 17.7 +3.7**
KURK Kurchatov 28.08 50 *e*P **P 08 10 14.8 +0.8**
KURK *e* 08 13 30.9
KURK Kurchatov 28.08 50 *e*P **P 08 10 14.8 +0.8**
KURK Kurchatov 28.08 50 *e*P **P 08 10 14.8 +0.8**
KURK *e*PcP **PcP 08 13 30.9 +2.7**
SBF Sospel 28.27 295 *e*P **P 08 10 15.4 -0.5**
SBF pmax pmax
comp=Z,75nm,0.9s
SENIN Lac Senin/Sane 28.50 300 *e*P **P 08 10 17.2 -0.9**
comp=Z,31nm,1.2s
SENIN Lac Senin/Sane 28.50 300 *e*P **P 08 10 17.2 -0.9**
comp=Z,31nm,1.2s
MBDF Montbardon 28.77 297 *e*P **P 08 10 19.5 -0.9**
MBDF pmax pmax
comp=Z,24nm,0.7s
CDF Champ du Feu 28.77 304 *e*P **P 08 10 20.7 +0.4**
CDF pmax pmax
comp=Z,16nm,1.0s
LPG La Plagne 28.82 298 *e*P **P 08 10 20.5 -0.5**
LPG pmax pmax
comp=Z,35nm,1.0s
LPL La Plagne 28.83 298 *e*P **P 08 10 20.0 -1.0**
LPL pmax pmax
comp=Z,15nm,0.8s
FRF La Foret Royal 28.84 294 *e*P **P 08 10 20.1 -0.8**
FRF pmax pmax
comp=Z,21nm,0.9s
BNI Bardonecchia 28.84 297 *e*P **P 08 10 20.6 -0.5**
BNI pmax pmax
comp=Z,23nm,0.8s
BNI Bardonecchia 28.84 297 *e*P **P 08 10 20.5 -0.5**
comp=Z,23nm,0.8s
BNI Bardonecchia 28.84 297 *e*P **P 08 10 20.6 -0.5**
comp=Z,23nm,0.8s

HINF Hinteralfeld 28.97 303 *e*P **P 08 10 21.4 -0.6**
HINF pmax pmax
comp=Z,17nm,1.2s
SEM Semipalatinsk 29.02 51 *e*P **P 08 10 21.4 -1.2**
SEM LRM MLR 08 23 36.8
comp=Z,190nm,11.9s
CMAH Djebel Manchou 29.02 280 P **P 08 10 23.6 +1.0**
CMAH Djebel Manchou 29.02 280 P **P 08 10 23.6 +1.0**
ABSA Djebel Ababsia 29.05 279 P **P 08 10 26.8 +3.9**
ABSA Djebel Ababsia 29.05 279 P **P 08 10 26.8 +3.9**
HAU Haudompre 29.33 303 *e*P **P 08 10 24.8 -0.4**
HAU pmax pmax
comp=Z,16nm,1.0s
CABF La Chapelle 29.36 301 *e*P **P 08 10 24.8 -0.7**
CABF pmax pmax
comp=Z,44nm,0.7s
MAKZ Makanchi 29.60 59 *e*P **P 08 10 28.2 +0.6**
MAKZ pmax pmax
comp=Z,97nm,2.0s
MAKZ Makanchi 29.60 59 *e*P **P 08 10 28.2 +0.6**
comp=Z,97nm,2.0s
MAKZ Makanchi 29.60 59 *e*P **P 08 10 28.2 +0.6**
comp=Z,97nm,2.0s
CKFL Kef-Lekhel 29.62 280 P **P 08 10 28.7 +0.7**
CKFL Kef-Lekhel 29.62 280 P **P 08 10 28.7 +0.7**
MK31 Makanchi Array 29.81 59 *i* P **P 08 10 28.7 -0.8**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 29.81 59 *e*P **P 08 10 29.9 +0.4**
MK31 Makanchi Array 29.81 59 *e*P **P 08 10 29.9 +0.4**
MK32 Makanchi Array 29.81 59 *e*P **P 08 10 30.0 +0.5**
MK32 Makanchi Array 29.81 59 *e*P **P 08 10 30.0 +0.5**
MK32 *e*PcP **PcP 08 13 36.1 +3.5**
MKAR Makanchi Array 29.81 59 P **P 08 10 30.0 +0.4**
comp=Z,4.9nm,0.7s,baz=262,slow=6.5,SNR=26
MKAR PcP **PcP 08 13 36.1 +3.5**
comp=Z,2.8nm,0.8s,baz=214,slow=1.0,SNR=3.4
MKAR LR LR 08 24 37.0
comp=Z,591nm,19.8s,baz=264,slow=41
MKAR Makanchi Array 29.81 59 *e*P **P 08 10 29.9 +0.4**
MKAR pmax pmax
comp=Z,90nm,0.9s
MKAR Makanchi Array 29.81 59 *e*P **P 08 10 29.9 +0.4**
comp=Z,90nm,0.9s
MKAR Makanchi Array 29.81 59 *e*P **P 08 10 29.9 +0.4**
comp=Z,90nm,0.9s
CASM Ain Smara 29.83 279 P **P 08 10 30.4 +0.6**
CASM Ain Smara 29.83 279 P **P 08 10 30.4 +0.6**
HFS Hagfors 29.84 330 P **P 08 10 29.1 -0.4**
comp=Z,13nm,0.7s,baz=128,slow=9.6,SNR=19
HFS LR LR 08 23 37.3
comp=Z,529nm,18.1s,baz=128,slow=39
CTEI Djebel Teioual 29.94 279 P **P 08 10 31.8 +0.9**
CTEI Djebel Teioual 29.94 279 P **P 08 10 31.8 +0.9**
DFRA Djebel Bou Aff 30.25 280 P **P 08 10 34.7 +1.1**
DFRA Djebel Bou Aff 30.25 280 P **P 08 10 34.7 +1.1**
VIVF Saint-Julien-l 30.26 297 *e*P **P 08 10 32.0 -1.5**
VIVF pmax pmax
comp=Z,19nm,0.8s
SSB Saint Sauveur 30.36 298 *e*P **P 08 10 34.1 -0.3**
SSB pmax pmax
comp=Z,17nm,0.9s
SSB Saint Sauveur 30.36 298 *e*P **P 08 10 34.1 -0.3**
comp=Z,17nm,0.9s
SSB Saint Sauveur 30.36 298 *e*P **P 08 10 34.1 -0.3**
comp=Z,17nm,0.9s
GIVF Givet 30.63 307 *e*P **P 08 10 37.7 +1.0**
GIVF pmax pmax
comp=Z,74nm,1.8s
CKHR Kef el Ahmar 30.66 279 P **P 08 10 38.2 +1.0**
CKHR Kef el Ahmar 30.66 279 P **P 08 10 38.2 +1.0**
SET Setif 30.70 280 P **P 08 10 39.0 +1.4**
SET Setif 30.70 280 P **P 08 10 39.0 +1.4**
APA Apatity 30.89 352 ⇑*i*P **P 08 10 34.4 -4.3**
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,1μm,12.0s
SMF Signal de Mont 30.90 300 *e*P **P 08 10 38.6 -0.5**
SMF pmax pmax
comp=Z,21nm,0.7s
BAIF Baives 31.02 307 *e*P **P 08 10 41.2 +1.2**
BAIF pmax pmax
comp=Z,20nm,1.2s
LVZ Lovozero 31.09 353⇑*e*P **P 08 10 41.9 +1.4**
LVZ pmax pmax
comp=Z,5.0nm,0.7s
LVZ MLR MLR
comp=Z,554nm,18.0s
SSF Saint Saulge 31.16 301 *e*P **P 08 10 40.9 -0.4**
SSF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 31.25 301 *e*P **P 08 10 40.8 -1.3**
AVF pmax pmax
comp=Z,33nm,0.8s
NB2 NORSAR Subarra 31.36 330 P **P 08 10 42.3 -0.7**
comp=Z,5.5nm,0.8s,baz=125,slow=9.3
NB2 NORSAR Subarra 31.36 330 P **P 08 10 42.3 -0.7**
comp=Z,5.5nm,0.8s,baz=125,slow=8.7,SNR=8.4
NB200 NORSAR Array S 31.36 330 *e*P **P 08 10 42.5 -0.5**
NB200 NORSAR Array S 31.36 330 *e*P **P 08 10 42.5 -0.5**
NOA NORSAR Array B 31.36 330 P **P 08 10 42.5 -0.5**
comp=Z,2.5nm,0.6s,baz=126,slow=8.9,SNR=9.6
NOA LR LR 08 24 33.8
comp=Z,566nm,18.2s,baz=130,slow=38
NVS Novosibirsk 31.92 44 *e*P **P 08 10 51.5 +3.6**
NVS pmax pmax
comp=Z,26nm,1.2s
TCF Toulx Ste Croi 32.02 300 *e*P **P 08 10 48.0 -0.9**
TCF pmax pmax
comp=Z,31nm,1.0s
CAF Calviac 32.12 297 *e*P **P 08 10 48.9 -0.9**
CAF pmax pmax
comp=Z,30nm,1.2s
RJF Les Rejaudoux 32.50 298 *e*P **P 08 10 52.7 -0.5**
RJF pmax pmax
comp=Z,51nm,1.2s
ZAA0 Zalesovo Array 32.58 46 *e*P **P 08 10 54.8 +1.1**
comp=Z,47nm,2.0s
ZAA0 Zalesovo Array 32.58 46 *e*P **P 08 10 54.9 +1.1**
comp=Z,47nm,2.0s
ZALV Zalesovo Beam 32.58 46 P **P 08 10 55.6 +2.0**
comp=Z,2.3nm,0.6s,baz=254,slow=12,SNR=9.8
ZALV LR LR 08 25 52.8
comp=Z,554nm,18.4s,baz=253,slow=40
ZAA1 Zalesovo Array 32.58 46 *e*P **P 08 10 55.7 +2.0**
ZAA1 Zalesovo Array 32.58 46 *e*P **P 08 10 55.6 +2.0**
EPF Esparros 33.46 294 *e*P **P 08 10 59.2 -2.5**
EPF pmax pmax
comp=Z,13nm,0.9s
WMQ Urumqi 33.62 65 P **P 08 11 04.0 +1.0**
WMQ pP sP 08 11 10.5 +1.9
WMQ sP pP 08 11 14.3 +7.3
WMQ S **S 08 16 27.0 +1.7**
WMQ SS **SnSn 08 18 29.0 +0.5**
WMQ ScS **ScS 08 21 27.8 -0.8**
WMQ pmax pmax
comp=Z,4.0nm,0.9s
WMQ pmax pmax
comp=Z,89nm,3.8s
WMQ LR LR
comp=Z,530nm,10.9s
WMQ LR LR
comp=Z,400nm,16.3s
WMQ LR LR
comp=Z,310nm,24.7s
ARA0 ARCESS Array S 33.80 349 *e*P **P 08 11 04.5 +0.3**
ARA0 ARCESS Array S 33.80 349 *e*P **P 08 11 04.5 +0.3**
ARCES ARCESS Array B 33.80 349 P **P 08 11 04.5 +0.3**
comp=Z,8.0nm,0.8s,baz=159,slow=7.3,SNR=14
ARCES LR LR 08 25 32.5
comp=Z,1μm,20.1s,baz=158,slow=37
PYUN Piuthan 33.98 94 *e*P **P 08 11 06.8 +0.3**
comp=Z,110nm,0.9s
GRR Gorron 34.16 303 *e*P **P 08 11 06.0 -1.6**
GRR pmax pmax
comp=Z,93nm,1.3s
DANN Dangsing 34.48 93 *e*P **P 08 11 11.9 +0.9**
SJPF Ste Jean 34.60 294 *e*P **P 08 11 11.2 -0.3**
SJPF pmax pmax
comp=Z,28nm,1.0s
KOLN Koldanda 34.61 94 *e*P **P 08 11 12.2 +0.3**
comp=Z,57nm,0.8s
HPK Haverah Park 35.20 313 *e*P **P 08 11 16.4 -0.1**
HPK IAmb IAmb 08 11 19.4
comp=Z,48nm,0.9s
HPK Haverah Park 35.20 313 *e*P **P 08 11 16.4 -0.1**
GKN Gorkha 35.33 93 *e*P **P 08 11 18.4 +0.3**
comp=Z,203nm,1.1s
QUIF Quistinic 35.70 302 *e*P **P 08 11 19.3 -1.6**
QUIF pmax pmax
comp=Z,34nm,0.7s
HLM1 Long Mynd 35.76 310 *e*P **P 08 11 20.2 -1.1**
HLM1 IAmb IAmb 08 11 20.8
comp=Z,50nm,0.9s
HLM1 Long Mynd 35.76 310 *e*P **P 08 11 20.2 -1.1**
ROSF Rostrenen 35.77 303 *e*P **P 08 11 20.1 -1.4**
ROSF pmax pmax
comp=Z,47nm,0.9s
MCH1 Michaelchurch 35.77 309 *e*P **P 08 11 20.9 -0.5**
MCH1 IAmb IAmb 08 11 24.4
comp=Z,61nm,1.1s
MCH1 Michaelchurch 35.77 309 *e*P **P 08 11 20.9 -0.5**
DMN Daman 35.88 93 *e*P **P 08 11 23.4 +0.5**
comp=Z,288nm,1.1s
KKN Kakani 35.94 93 *e*P **P 08 11 23.5 +0.1**
comp=Z,68nm,0.7s
TAM Tamanrasset 35.94 257 *e*P **P 08 11 23.3 -0.1**
TAM pmax pmax
comp=Z,54nm,1.2s
TAM Tamanrasset 35.94 257 *e*P **P 08 11 23.3 -0.1**
comp=Z,54nm,1.2s
TAM Tamanrasset 35.94 257 *e*P **P 08 11 23.3 -0.1**
comp=Z,54nm,1.2s
FOEL Foel Wylfa 35.99 311 *e*P **P 08 11 23.4 +0.1**
FOEL IAmb IAmb 08 11 24.8
comp=Z,47nm,1.1s
FOEL Foel Wylfa 35.99 311 *e*P **P 08 11 23.4 +0.1**
PKIN Phulchoki 36.12 93 *e*P **P 08 11 25.3 +0.3**
comp=Z,84nm,0.7s
PKI Pulchoki 36.13 93 *e*P **P 08 11 25.4 +0.2**
comp=Z,127nm,1.0s
LLW Llanuwychllyn 36.27 311 *e*P **P 08 11 25.0 -0.6**
LLW Llanuwychllyn 36.27 311 *e*P **P 08 11 25.0 -0.6**
EKA Eskdalemuir Ar 36.31 315 P **P 08 11 25.5 -0.6**
comp=Z,7.3nm,0.6s,baz=108,slow=8.5,SNR=5.1
ESK Eskdalemuir 36.34 315 *i* P **P 08 11 29.0 +2.8**
HYB Hyderabad 36.34 114 *i* P **P 08 11 25.0 -1.7**
GUN Gumba 36.36 92 *e*P **P 08 11 27.5 +0.3**
comp=Z,151nm,0.8s
WPM1 Penmaenmawr 36.45 312 *e*P **P 08 11 27.4 +0.1**
WPM1 Penmaenmawr 36.45 312 *e*P **P 08 11 27.4 +0.1**
WME Myndd Eilian 36.71 312 *e*P **P 08 11 29.2 -0.2**
WME Myndd Eilian 36.71 312 *e*P **P 08 11 29.2 -0.2**
JIRN Jiri 36.72 93 *e*P **P 08 11 30.8 +0.6**
comp=Z,933nm,0.8s
ESDC Sonseca Array 37.17 289 P **P 08 11 32.9 -0.7**
comp=Z,18nm,0.8s,baz=67,slow=8.8,SNR=51
ESDC LR LR 08 27 05.9
comp=Z,249nm,20.9s,baz=110,slow=37
ESLA Sonseca Array 37.17 289 *e*P **P 08 11 32.9 -0.7**
comp=Z,108nm,1.8s
ESLA Sonseca Array 37.17 289 *e*P **P 08 11 32.9 -0.7**
comp=Z,108nm,1.8s
RAMN Ramite 37.36 93 *e*P **P 08 11 35.8 +0.2**
comp=Z,219nm,0.6s
ODAN Odare 38.03 93 *e*P **P 08 11 41.8 +0.6**
comp=Z,347nm,1.0s
TAPN Taplejung 38.06 92 *e*P **P 08 11 41.9 +0.3**
comp=Z,140nm,0.9s
KMBO Kilima Mbogo 38.72 191 P **P 08 11 48.1 +1.1**
comp=Z,0.8nm,0.3s,baz=0.7,slow=6.4,SNR=5.3
KMBO LR LR 08 26 51.5
comp=Z,1μm,19.6s,baz=352,slow=35
PBRG Braganca 38.82 293 *e*P **P 08 11 49.8 +2.3**
comp=Z,73nm,1.9s
MDT Midelt 39.59 278 P **P 08 11 53.4 -0.8**
comp=Z,5.7nm,0.9s,baz=99,slow=13,SNR=4.7
NRIK Noril'sk 39.76 23 P **P 08 11 55.7 +0.8**
comp=Z,6.6nm,0.7s,baz=222,slow=5.7,SNR=8.5
NRIK LR LR 08 31 15.3
comp=Z,886nm,19.2s,baz=238,slow=40
NRIK Noril'sk 39.76 23 P **P 08 11 55.7 +0.8**
NRIK pmax pmax
comp=Z,11nm,1.0s
NRIK MLR MLR
comp=Z,886nm,19.2s
PMRV Marv??o 39.81 289 *e*P **P 08 11 55.3 -0.4**
PBAR Barrancos 39.85 287 *e*P **P 08 11 55.4 -0.7**
PESTR Estremoz 40.09 289 *e*P **P 08 11 57.3 -0.8**
comp=Z,87nm,1.7s
PCVE Castro Verde 40.76 287 *e*P **P 08 12 03.3 -0.3**
comp=Z,106nm,1.7s
PBDV Barranco-do-Ve 40.78 286 *e*P **P 08 12 04.1 +0.2**
SPA0 Spitsbergen Ar 42.59 352 *e*P **P 08 12 19.5 +1.4**
SPA0 Spitsbergen Ar 42.59 352 *e*P **P 08 12 19.5 +1.4**
SPITS Spitsbergen Ar 42.59 352 P **P 08 12 19.4 +1.4**
comp=Z,7.0nm,0.7s,baz=141,slow=9.6,SNR=9.2
MSEY Mahe Island 43.14 163 *e*P **P 08 12 22.5 -0.7**
MSEY pmax pmax
comp=Z,115nm,1.5s
MSEY Mahe Island 43.14 163 *e*P **P 08 12 22.5 -0.7**
comp=Z,115nm,1.5s
MSEY Mahe Island 43.14 163 *e*P **P 08 12 22.4 -0.7**
comp=Z,115nm,1.5s
JMIC Jan Mayen 43.15 338 LR LR 08 30 38.1
comp=Z,443nm,21.7s,baz=114,slow=36
GTA Gaotai 43.33 69 ⇑P **P 08 12 25.5 +0.8**
GTA pP sP 08 12 29.5 -0.8
GTA sP pP 08 12 32.5 +3.8
GTA PcP **PcP 08 14 18.3 +4.9**
GTA S **S 08 18 54.5 +2.4**
GTA sS sS 08 19 03.0 +4.3
GTA SS **SS 08 22 04.0 -1.4**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,93nm,5.5s
GTA LR LR
comp=Z,420nm,22.8s
GTA LR LR
comp=Z,280nm,22.3s
GTA LR LR
comp=Z,320nm,23.3s
ZAK Zakamensk 43.67 53 *e*P **P 08 12 28.3 +1.0**
ZAK *e* 08 14 12.8
ZAK pmax pmax
comp=Z,9.0nm,1.3s
ZAK pmax pmax
comp=Z,8.0nm,1.4s
TLY Talaya 43.77 51 *e*P P 08 12 33.0 +5.0
TLY *e*S **S 08 19 06.6 +8.5**
TLY pmax pmax
comp=Z,8.0nm,0.6s
TLY MLR MLR
comp=Z,220nm,13.0s
IRK Irkutsk 44.11 50 *e*P **P 08 12 32.9 +2.2**
IRK pmax pmax
comp=Z,43nm,2.1s
TOA1 Torodi Ar. Sit 44.59 249 *e*P **P 08 12 33.0 -2.0**
comp=Z,21nm,1.1s
TOA1 Torodi Ar. Sit 44.59 249 *e*P **P 08 12 33.0 -2.0**
comp=Z,21nm,1.1s
TOA0 Torodi Ar. Sit 44.59 249 *e*P **P 08 12 33.1 -1.9**
comp=Z,21nm,1.1s
TOA0 Torodi Ar. Sit 44.59 249 *e*P **P 08 12 33.1 -1.9**
comp=Z,21nm,1.1s
TORD Torodi Ar. Bea 44.59 249 P **P 08 12 33.0 -2.0**
comp=Z,5.7nm,0.8s,baz=46,slow=5.5,SNR=31
TORD LR LR 08 34 14.2
comp=Z,66nm,21.4s,baz=25,slow=40
SONA0 Songino Array 46.07 56 *e*P **P 08 12 46.9 +0.3**
SONA0 Songino Array 46.07 56 *e*P **P 08 12 46.9 +0.3**
SONA0 *e*PcP **PcP 08 14 25.7 +3.0**
SONM Songino Array 46.07 56 P **P 08 12 46.9 +0.3**
comp=Z,1.9nm,0.6s,baz=280,slow=9.0,SNR=10
SONM PcP **PcP 08 14 25.7 +3.0**
comp=Z,3.3nm,1.0s,baz=306,slow=4.1,SNR=3.5
SONM LR LR 08 34 40.2
comp=Z,1μm,18.0s,baz=282,slow=39
BORG Borgarnes 46.48 328 LR LR 08 32 47.5
comp=Z,636nm,19.9s,baz=87,slow=37
ULN Ulaanbaatar 46.50 56*c i*P **P 08 12 50.7 +0.8**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN MLR MLR
comp=Z,818nm,17.0s
ULN Ulaanbaatar 46.50 56 *e*P **P 08 12 50.4 +0.5**
comp=Z,14nm,0.9s
ULN Ulaanbaatar 46.50 56 *e*P **P 08 12 50.4 +0.5**
comp=Z,14nm,0.9s

ULN	**Ulaanbaatar**	**46.50**	**56**	P	**P**	**08 12 50.5 +0.5**
	SNR=9.0					
ULN	**Ulaanbaatar**	**46.50**	**56**	P	**P**	**08 12 50.5 +0.5**
	SNR=9.0					
ULN				P	**P**	**08 12 50.5 +0.5**
	SNR=9.0					
LZH	**Lanzhou**	**47.39**	**72**	*e*P	**P**	**08 12 57.8 +0.8**
LZH				pP	pP	08 13 01.5 +0.4
LZH				sP	sP	08 13 04.0 +1.3
LZH				PP	**PP**	**08 14 49.3 +1.2**
LZH				S	**S**	**08 19 45.0 -5.9**
LZH				sS	sS	08 20 04.0 +6.4
LZH				SS	**SS**	**08 23 12.0 -6.3**
LZH				pmax	pmax	
	comp=Z,26nm,1.0s					
LZH				pmax	pmax	
	comp=Z,160nm,4.7s					
LZH				LR	LR	
	comp=Z,580nm,14.6s					
LZH				LR	LR	
	comp=Z,370nm,13.3s					
LZH				LR	LR	
	comp=Z,610nm,16.7s					
DAG	**Danmarks Havn**	**47.79**	**344**	*i* P	**P**	**08 13 01.4 +2.1**
	comp=Z,21nm,1.3s					
DAG	**Danmarks Havn**	**47.79**	**344**	*i* P	**P**	**08 13 01.4 +2.1**
DAG				pmax	pmax	
	comp=Z,41nm,1.3s					
CD2	**Chengdu**	**49.29**	**79**	P	**P**	**08 13 11.8 +0.2**
CD2				pP	pP	08 13 16.3 +0.6
CD2				PcS	**PcS**	**08 18 31.3 +0.3**
CD2				S	**S**	**08 20 17.8 +0.1**
CD2				pmax	pmax	
	comp=Z,40nm,0.6s					
CD2				pmax	pmax	
	comp=Z,260nm,5.0s					
CD2				LR	LR	
	comp=Z,580nm,16.4s					
CD2				LR	LR	
	comp=Z,470nm,13.9s					
CD2				LR	LR	
	comp=Z,740nm,15.4s					
KMI	**Kunming**	**51.06**	**86**	P	**P**	**08 13 27.3 +1.9**
KMI				pP	sP	08 13 34.0 +3.0
KMI				sP	pP	08 13 37.5 +8.1
KMI				S	**S**	**08 20 43.5 +0.6**
KMI				pmax	pmax	
	comp=Z,20nm,1.5s					
KMI				pmax	pmax	
	comp=Z,150nm,3.1s					
KMI				LR	LR	
	comp=Z,460nm,15.0s					
KMI				LR	LR	
	comp=Z,310nm,17.8s					
KMI				LR	LR	
	comp=Z,390nm,20.7s					
CHTO	**Chiang Mai**	**51.26**	**95**	P	**P**	**08 13 26.2 -0.3**
	comp=Z,186nm,1.2s,comp=Z,2μm					
CHTO	**Chiang Mai**	**51.26**	**95**	*e*P	**P**	**08 13 26.3 -0.3**
CHTO				pmax	pmax	
	comp=Z,24nm,0.7s					
CHTO	**Chiang Mai**	**51.26**	**95**	*e*P	**P**	**08 13 26.3 -0.3**
	comp=Z,24nm,0.7s					
CHTO	**Chiang Mai**	**51.26**	**95**	*e*P	**P**	**08 13 26.3 -0.3**
	comp=Z,24nm,0.7s					
CHTO	**Chiang Mai**	**51.26**	**95**	P	**P**	**08 13 26.3 -0.3**
	SNR=12					
CHTO	**Chiang Mai**	**51.26**	**95**	P	**P**	**08 13 26.3 -0.3**
	SNR=12					
CHTO				P	**P**	**08 13 26.3 -0.3**
	SNR=12					
CM31	**Chiang Mai Arr**	**51.45**	**96**	*e*P	**P**	**08 13 30.2 +2.2**
CM31	**Chiang Mai Arr**	**51.45**	**96**	*e*P	**P**	**08 13 30.2 +2.2**
CMAR	**Chiang Mai Arr**	**51.45**	**96**	P	**P**	**08 13 28.1 0.0**
	comp=Z,17nm,0.6s,baz=296,slow=8.5,SNR=17					
CMAR				LR	LR	08 39 27.8
	comp=Z,405nm,19.3s,baz=284,slow=41					
HHC	**Hu-ho-hao-te**	**51.49**	**64**	*e*P	**P**	**08 13 30.0 +1.8**
HHC				S	**S**	**08 20 50.0 +1.9**
HHC				pmax	pmax	
	comp=Z,35nm,1.3s					
HHC				pmax	pmax	
	comp=Z,200nm,5.7s					
HHC				LR	LR	
	comp=Z,640nm,16.4s					
HHC				LR	LR	
	comp=Z,340nm,16.6s					
HHC				LR	LR	
	comp=Z,200nm,17.4s					
LAMP	**Lampang**	**51.96**	**95**	P	**P**	**08 13 32.3 +0.4**
	comp=Z,18nm,0.8s					
XAN	**Xi'an**	**52.01**	**73**	P	**P**	**08 13 31.8 -0.3**
XAN				pP	pP	08 13 36.0 -0.2
XAN				pmax	pmax	
	comp=Z,24nm,0.8s					
XAN				pmax	pmax	
	comp=Z,74nm,4.3s					
XAN				LR	LR	
	comp=Z,500nm,19.7s					
XAN				LR	LR	
	comp=Z,360nm,19.7s					
XAN				LR	LR	
	comp=Z,860nm,19.7s					
SUMG	**Summit**	**52.59**	**338**	*i* P	**P**	**08 13 39.1 +2.8**
	comp=Z,34nm,1.1s					
SUMG	**Summit**	**52.59**	**338**	*i* P	**P**	**08 13 39.1 +2.8**
SUMG				pmax	pmax	
	comp=Z,34nm,1.1s					
SUMG	**Summit**	**52.59**	**338**	*e*P	**P**	**08 13 37.8 +1.5**
	comp=Z,27nm,1.0s					
SUMG	**Summit**	**52.59**	**338**	*e*P	**P**	**08 13 37.8 +1.5**
	comp=Z,27nm,1.0s					
UTTA	**Uttaradit**	**53.12**	**95**	P	**P**	**08 13 40.9 +0.5**
	comp=Z,10nm,0.7s,comp=Z,86nm					
UTHA	**Uthaitani**	**53.47**	**98**	P	**P**	**08 13 45.8 +2.8**
	comp=Z,7.5nm,0.7s,comp=Z,71nm					
TIXI	**Tiksi**	**53.54**	**23**	P	**P**	**08 13 42.4 -0.4**
	comp=Z,1.1nm,0.3s,baz=310,slow=4.8,SNR=1.7					
GYA	**Guiyang**	**53.55**	**82**	P	**P**	**08 13 45.5 +1.8**
GYA				PP	**PP**	**08 15 47.0 +2.8**
GYA				ScP	**ScP**	**08 18 48.5 +0.6**
GYA				S	**S**	**08 21 15.0 -1.6**
GYA				SS	**SS**	**08 24 55.5 -1.3**
GYA				pmax	pmax	
	comp=Z,30nm,1.0s					
GYA				pmax	pmax	
	comp=Z,130nm,5.6s					
GYA				LR	LR	
	comp=Z,560nm,18.8s					
GYA				LR	LR	
	comp=Z,480nm,19.0s					
GYA				LR	LR	
	comp=Z,520nm,18.9s					
DBIC	**Dimbokro**	**53.69**	**248**	P	**P**	**08 13 43.0 -1.6**
	comp=Z,15nm,0.9s,baz=17,slow=10.0,SNR=14					
DBIC				LR	LR	08 38 18.8
	comp=Z,303nm,18.1s,baz=33,slow=38					
DBIC	**Dimbokro**	**53.69**	**248**	P	**P**	**08 13 43.0 -1.6**
DBIC				pmax	pmax	
	comp=Z,15nm,0.9s					
DBIC				MLR	MLR	
	comp=Z,303nm,18.2s					
DBIC	**Dimbokro**	**53.69**	**248**	*e*P	**P**	**08 13 42.3 -2.3**
	comp=Z,37nm,1.3s					
DBIC	**Dimbokro**	**53.69**	**248**	*e*P	**P**	**08 13 42.3 -2.3**
	comp=Z,37nm,1.3s					
KIC	**Kosan Boka**	**53.81**	**248**	*e*P	**P**	**08 13 43.7 -1.8**
	comp=Z,89nm,1.0s					
TIC	**Toumodi**	**53.83**	**248**	*e*P	**P**	**08 13 43.7 -2.0**
ENH	**Enshi**	**54.03**	**77**	*e*P	**P**	**08 13 47.0 0.0**
	comp=Z,12nm,0.8s					
ENH	**Enshi**	**54.03**	**77**	*e*P	**P**	**08 13 47.0 0.0**
	comp=Z,12nm,0.8s					
PBKT	**Sadao Pong**	**54.10**	**96**	P	**P**	**08 13 47.8 +0.2**
	comp=Z,38nm,0.8s,comp=Z,832nm					
LIC	**Lamto**	**54.11**	**248**	*e*P	**P**	**08 13 45.7 -2.0**
	comp=Z,100nm,1.0s					
LSZ	**Lusaka**	**54.34**	**199**	P	**P**	**08 13 50.7 +1.4**
	comp=Z,4.7nm,0.9s,baz=8.9,slow=7.0,SNR=7.0					
LSZ	**Lusaka**	**54.34**	**199**	*e*P	**P**	**08 13 47.2 -2.2**
	comp=Z,26nm,1.4s					
LSZ	**Lusaka**	**54.34**	**199**	*e*P	**P**	**08 13 47.2 -2.2**
	comp=Z,26nm,1.4s					
NONG	**Nongkai**	**55.01**	**93**	P	**P**	**08 13 50.1 -4.1**
	comp=Z,72nm,0.8s					
BJI	**Beijing**	**55.06**	**63**	P	**P**	**08 13 54.5 +0.2**
BJI				S	**S**	**08 21 37.0 +0.5**
BJI				pmax	pmax	
	comp=Z,7.0nm,0.8s					
BJI				pmax	pmax	
	comp=Z,180nm,3.4s					
BJI				LR	LR	
	comp=Z,680nm,16.6s					
CHAI	**Chaiyaphum**	**55.28**	**96**	P	**P**	**08 13 59.1 +2.9**
	comp=Z,6.5nm,0.8s					
NAYO	**Nakonayok**	**55.66**	**98**	P	**P**	**08 14 01.7 +2.8**
	comp=Z,16nm,0.8s,comp=Z,946nm					
KHON	**Khomkaen**	**55.70**	**95**	P	**P**	**08 13 59.7 +0.5**
	comp=Z,26nm,0.8s,comp=Z,1μm					
ABPO	**Ambohimpanom**	**56.10**	**176**	*e*P	**P**	**08 14 02.9 +0.8**
ABPO				pmax	pmax	
	comp=Z,21nm,1.2s					
ABPO	**Ambohimpanom**	**56.10**	**176**	*e*P	**P**	**08 14 02.9 +0.8**
	comp=Z,20nm,1.2s					
ABPO	**Ambohimpanom**	**56.10**	**176**	*e*P	**P**	**08 14 02.9 +0.8**
	comp=Z,20nm,1.2s					
SKNT	**Sakolnakorn**	**56.27**	**94**	P	**P**	**08 14 03.5 +0.2**
	comp=Z,48nm,0.9s					
SRAK	**Srakaew**	**56.41**	**98**	P	**P**	**08 14 08.1 +3.8**
	comp=Z,135nm,0.8s,comp=Z,1μm					
PANO	**Nakornpanom**	**56.67**	**93**	P	**P**	**08 14 07.6 +1.4**
	comp=Z,32nm,1.1s					
WHN	**Wuhan**	**57.66**	**74**	⇑P	**P**	**08 14 13.5 +0.5**
WHN				LR	LR	
	comp=Z,1μm,15.5s					
WHN				LR	LR	
	comp=Z,670nm,11.8s					
WHN				LR	LR	
	comp=Z,1μm,19.4s					
BBTS	**Babate**	**57.79**	**264**	P	**P**	**08 14 14.6 +0.5**
	comp=Z,57nm,1.0s,baz=92,slow=2.5,SNR=3.5					
SFJD	**Kangerlussuaq**	**57.98**	**332**	P	**P**	**08 14 14.8 +0.2**
	comp=Z,5.9nm,0.6s,baz=73,slow=11,SNR=1.9					
MLSI	**Meulaboh, Aceh**	**58.11**	**111**	P	**P**	**08 14 16.1 -0.2**
	comp=Z,57nm,1.0s					
SNSI	**Sinabang, Aceh**	**59.29**	**113**	P	**P**	**08 14 27.2 +2.6**
	comp=Z,89nm,0.9s					
TPTI		**59.35**	**111**	P	**P**	**08 14 25.8 +0.8**
	comp=Z,17nm,0.8s					
DL2	**Dalian**	**59.38**	**62**	P	**P**	**08 14 24.0 -0.9**
DL2				*e*S	**S**	**08 22 30.3 -3.1**
DL2				pmax	pmax	
	comp=Z,41nm,0.7s					
DL2				LR	LR	
	comp=Z,280nm,14.9s					
DL2				LR	LR	
	comp=Z,430nm,13.5s					
DL2				LR	LR	
	comp=Z,400nm,17.5s					
KCSI	**Kotacane, Aceh**	**59.62**	**111**	P	**P**	**08 14 24.6 -2.3**
	comp=Z,22nm,0.9s					
QIZ	**Qiongzhong**	**59.82**	**88**	P	**P**	**08 14 29.0 +0.8**
QIZ				S	**S**	**08 22 40.8 +1.2**
QIZ				sS	**sS**	**08 22 46.0 -0.4**
QIZ				SS	**SS**	**08 26 30.5 -5.1**
QIZ				LR	LR	
	comp=Z,560nm,4.1s					
QIZ				LR	LR	
	comp=Z,330nm,4.4s					
CN2	**Changchun**	**59.95**	**56**	*e*P	**P**	**08 14 31.0 +2.2**
CN2				*es*P	sP	08 14 38.0 +3.5
CN2				*e*S	**S**	**08 22 40.0 -0.7**
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=Z,300nm,16.0s					
CN2				LR	LR	
	comp=Z,400nm,16.0s					
CN2				LR	LR	
	comp=Z,600nm,17.0s					
NJ2	**Nanjing**	**60.39**	**71**	*e*P	**P**	**08 14 33.0 +1.1**
NJ2				pmax	pmax	
	comp=Z,20nm,0.5s					
KULM	**Kulim**	**60.64**	**107**	*e*P	**P**	**08 14 33.0 -0.9**
	comp=Z,34nm,1.2s					
KULM	**Kulim**	**60.64**	**107**	*e*P	**P**	**08 14 33.0 -0.9**
	comp=Z,34nm,1.2s					
PSI	**Prapat**	**60.95**	**111**	P	**P**	**08 14 35.4 -0.8**
	comp=Z,13nm,0.9s,baz=273,slow=7.8,SNR=15					
PSI	**Prapat**	**60.95**	**111**	*e*P	**P**	**08 14 35.7 -0.4**
PSI				pmax	pmax	
	comp=Z,34nm,1.1s					
PSI	**Prapat**	**60.95**	**111**	*e*P	**P**	**08 14 35.7 -0.4**
	comp=Z,34nm,1.1s					
IPM	**Ipoh**	**61.45**	**108**	*e*P	**P**	**08 14 38.8 -0.6**
	comp=Z,26nm,0.7s					
IPM	**Ipoh**	**61.45**	**108**	*e*P	**P**	**08 14 38.8 -0.6**
	comp=Z,26nm,0.7s					
KLR	**Kul'dur**	**61.64**	**48**	P	**P**	**08 14 39.7 -0.5**
	comp=Z,0.3nm,0.7s,baz=304,slow=5.1,SNR=6.8					
MDJ	**Mudanjiang**	**62.30**	**54**	P	**P**	**08 14 45.3 +0.6**
MDJ				PP	**PP**	**08 17 02.8 +1.3**
MDJ				S	**S**	**08 23 07.3 -3.3**
MDJ				SS	**SS**	**08 27 15.0 +1.6**
MDJ				pmax	pmax	
	comp=Z,9.0nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,81nm,4.5s					
MDJ				LR	LR	
	comp=Z,550nm,25.1s					
MDJ				LR	LR	
	comp=Z,310nm,25.1s					
MDJ				LR	LR	
	comp=Z,420nm,18.9s					
PBSI	**Pulau Batu**	**62.39**	**113**	P	**P**	**08 14 46.9 +1.3**
	comp=Z,56nm,1.5s					
SISI	**Saibi**	**63.84**	**114**	P	**P**	**08 14 56.7 +1.4**
	comp=Z,37nm,1.1s					
USRK	**Ussuriysk Ar.**	**64.02**	**53**	P	**P**	**08 14 55.8 -0.3**
	comp=Z,6.0nm,0.8s,baz=267,slow=6.0,SNR=9.8					
USRK				LR	LR	08 45 31.4
	comp=Z,439nm,18.9s,baz=293,slow=38					
BKNI	**Bangkinang**	**64.17**	**111**	P	**P**	**08 14 58.1 +0.6**
	comp=Z,87nm,0.5s					
LBTB	**Lobatse**	**64.32**	**198**	P	**P**	**08 15 00.1 +1.9**
	comp=Z,11nm,0.7s,baz=38,slow=8.7,SNR=3.5					
LBTB	**Lobatse**	**64.32**	**198**	*e*P	**P**	**08 14 57.7 -0.5**
	comp=Z,15nm,0.8s					
LBTB	**Lobatse**	**64.32**	**198**	*e*P	**P**	**08 14 57.7 -0.5**
	comp=Z,15nm,0.8s					
KS15	**Wonju Array Si**	**64.44**	**61**	*e*P	**P**	**08 14 58.5 -0.5**
KS15	**Wonju Array Si**	**64.44**	**61**	*e*P	**P**	**08 14 58.5 -0.5**
KSAR	**Wonju Array Be**	**64.44**	**61**	P	**P**	**08 14 57.9 -1.1**
KSAR	**Wonju Array Be**	**64.44**	**61**	P	**P**	**08 14 57.9 -1.1**
KSAR	**Wonju Array Be**	**64.44**	**61**	P	**P**	**08 14 57.9 -1.1**
KSRS	**Korea Array**	**64.46**	**61**	P	**P**	**08 14 57.9 -1.2**
	comp=Z,9.9nm,0.8s,baz=286,slow=6.4,SNR=36					
KSRS				LR	LR	08 47 23.9
	comp=Z,184nm,18.7s,baz=302,slow=40					
PDSI	**Padang**	**64.57**	**112**	P	**P**	**08 14 59.8 -0.3**
RES	**Resolute Bay**	**65.02**	**349**	P	**P**	**08 15 02.9 +0.7**
	comp=Z,1.5nm,0.7s,baz=49,slow=11,SNR=2.7					
SEY	**Seymchan**	**65.12**	**29**	P	**P**	**08 15 04.2 +1.3**
	comp=Z,13nm,0.8s,baz=292,slow=6.6,SNR=19					
SEY	**Seymchan**	**65.12**	**29**	⇓*e*P	**P**	**08 15 04.7 +1.7**
RGRI	**Rengat**	**65.58**	**111**	P	**P**	**08 15 06.2 -0.5**
FRB	**Frobisher Bay**	**66.10**	**333**	P	**P**	**08 15 09.0 -0.2**
	comp=Z,22nm,0.8s,baz=44,slow=6.9,SNR=3.9					
TPRI	**Tanjung Pinang**	**66.40**	**108**	P	**P**	**08 15 12.2 +0.3**
BILL	**Bilibino**	**66.53**	**20**	⇑*i*P	**P**	**08 15 13.4 +1.4**
BILL				*e*		08 17 36.3
BILL				pmax	pmax	
	comp=Z,10.0nm,1.0s					
BILL				MLR	MLR	
	comp=Z,452nm,22.0s					
MASI	**Maura Aman, Be**	**67.37**	**113**	P	**P**	**08 15 18.8 +0.6**
	comp=Z,156nm,0.9s					
JMBI	**JAMBI**	**67.41**	**111**	P	**P**	**08 15 20.4 +2.1**
	comp=Z,317nm,0.4s					
BOSA	**Boshof**	**67.85**	**198**	P	**P**	**08 15 21.8 +0.9**
	comp=Z,6.0nm,0.7s,baz=26,slow=7.2,SNR=6.3					
BOSA				LR	LR	08 44 30.6
	comp=Z,336nm,19.5s,baz=18,slow=36					
BOSA	**Boshof**	**67.85**	**198**	*e*P	**P**	**08 15 20.5 -0.4**
	comp=Z,30nm,1.4s					
BOSA	**Boshof**	**67.85**	**198**	*e*P	**P**	**08 15 20.5 -0.4**
	comp=Z,30nm,1.4s					
LHSI	**Lahat**	**68.78**	**113**	P	**P**	**08 15 27.2 +0.3**
	comp=Z,39nm,0.8s					
MDSI	**Maura Dua**	**69.70**	**113**	P	**P**	**08 15 31.9 -0.8**
	comp=Z,16nm,1.1s					
LWLI	**Liwa**	**69.97**	**113**	P	**P**	**08 15 34.5 0.0**
	comp=Z,130nm,0.9s					
KLSI		**70.25**	**112**	P	**P**	**08 15 34.3 -1.7**
	comp=Z,17nm,0.9s					
KASI	**Kota Agung**	**70.63**	**113**	P	P	08 15 47.2 +8.8
SCHQ	**Schefferville**	**70.79**	**325**	P	**P**	**08 15 38.1 -0.6**
	comp=Z,8.1nm,0.6s,baz=68,slow=4.7,SNR=4.2					
SCHQ				LR	LR	08 47 15.6
	comp=Z,208nm,19.6s,baz=38,slow=36					
SCHQ	**Schefferville**	**70.79**	**325**	*e*P	**P**	**08 15 36.8 -2.0**
	comp=Z,34nm,1.3s					
SCHQ	**Schefferville**	**70.79**	**325**	*e*P	**P**	**08 15 36.9 -2.0**
	comp=Z,34nm,1.3s					
SBUM	**Sibu**	**71.37**	**101**	*e*P	**P**	**08 15 41.7 -1.2**
	comp=Z,56nm,0.4s					
SBUM	**Sibu**	**71.37**	**101**	*e*P	**P**	**08 15 41.7 -1.2**
	comp=Z,56nm,0.4s					
MAJO	**Matsushiro**	**72.00**	**58**	⇓*e*P	**P**	**08 15 47.6 +1.2**
MJAR	**Matsushiro Arr**	**72.00**	**58**	P	**P**	**08 15 45.7 -0.7**
	comp=Z,5.5nm,0.8s,baz=306,slow=2.4,SNR=8.0					
MJAR				LR	LR	08 50 27.2
	comp=Z,180nm,20.9s,baz=325,slow=38					
CGJI	**Cibinong**	**72.24**	**113**	P	**P**	**08 15 49.7 +1.6**
	comp=Z,60nm,1.0s,comp=Z,3μm					
STKI	**Sintang**	**72.28**	**104**	P	**P**	**08 15 50.6 +2.3**
	comp=Z,42nm,0.7s					
PETK	**Petropavlovsk-**	**73.31**	**35**	LR	LR	08 52 13.4
	comp=Z,262nm,19.2s,baz=298,slow=39					
CNJI	**Cibinong**	**73.76**	**113**	P	**P**	**08 16 00.8 +3.7**
	comp=Z,105nm,1.0s					
TOLK	**Toolik Lake Re**	**73.90**	**5**	P	**P**	**08 15 57.8 +0.6**
	baz=349					
INK	**Inuvik**	**74.69**	**359**	P	**P**	**08 16 02.5 +0.9**
	comp=Z,1.1nm,0.6s,baz=353,slow=8.1,SNR=2.2					
COLD	**Coldfoot**	**75.25**	**6**	*e*P	**P**	**08 16 05.4 +0.4**
	comp=Z,11nm,1.0s					
COLD	**Coldfoot**	**75.25**	**6**	*e*P	**P**	**08 16 05.4 +0.4**
	comp=Z,11nm,1.0s					
MLY	**Manley**	**77.36**	**6**	*e*P	**P**	**08 16 18.0 +0.9**
	comp=Z,12nm,1.1s					
MLY	**Manley**	**77.36**	**6**	*e*P	**P**	**08 16 18.0 +0.9**
	comp=Z,12nm,1.1s					
MDM	**Murphy Dome**	**77.64**	**5**	*e*P	**P**	**08 16 19.5 +1.0**
	comp=Z,29nm,1.5s					
MDM	**Murphy Dome**	**77.64**	**5**	*e*P	**P**	**08 16 19.6 +1.0**
	comp=Z,29nm,1.5s					
COLA	**College**	**77.75**	**5**	⇑*i*P	**P**	**08 16 19.8 +0.7**
COLA				pmax	pmax	
	comp=Z,12nm,0.9s					
ILAR	**Eielson Array**	**77.91**	**5**	P	**P**	**08 16 20.4 +0.3**
	comp=Z,1.9nm,0.9s,baz=329,slow=5.1,SNR=17					
ILAR				LR	LR	08 52 17.1
	comp=Z,116nm,21.3s,baz=325,slow=37					
ILB	**Eielson Array**	**77.91**	**5**	*e*P	**P**	**08 16 21.4 +1.3**
ILB	**Eielson Array**	**77.91**	**5**	*e*P	**P**	**08 16 21.4 +1.3**
CCB	**Clear Creek Bu**	**77.97**	**5**	*e*P	**P**	**08 16 19.7 -0.7**
	comp=Z,32nm,1.7s					
CCB	**Clear Creek Bu**	**77.97**	**5**	*e*P	**P**	**08 16 19.7 -0.7**
	comp=Z,32nm,1.7s					
EGAK	**Eagle**	**78.18**	**2**	*e*P	**P**	**08 16 22.2 +0.6**
	comp=Z,12nm,0.9s					
EGAK	**Eagle**	**78.18**	**2**	*e*P	**P**	**08 16 22.2 +0.6**
	comp=Z,12nm,0.9s					
BPAW	**Bear Paw Mtn.**	**78.26**	**7**	*e*P	**P**	**08 16 22.3 +0.3**
	comp=Z,22nm,1.4s					
BPAW	**Bear Paw Mtn.**	**78.26**	**7**	*e*P	**P**	**08 16 22.3 +0.3**
	comp=Z,22nm,1.4s					
HDA	**Harding Lake**	**78.27**	**5**	*e*P	**P**	**08 16 21.2 -0.9**
	comp=Z,12nm,1.0s					
HDA	**Harding Lake**	**78.27**	**5**	*e*P	**P**	**08 16 21.2 -0.9**
	comp=Z,12nm,1.0s					
MPSI	**Mapaga**	**78.70**	**98**	P	**P**	**08 16 27.4 +2.2**
	comp=Z,18nm,0.9s					
DAWY	**Dawson**	**78.94**	**1**	*e*P	**P**	**08 16 25.4 -0.4**
	comp=Z,17nm,1.0s					
DAWY	**Dawson**	**78.94**	**1**	*e*P	**P**	**08 16 25.4 -0.4**
	comp=Z,17nm,1.0s					
YKA	**Yellowknife Ar**	**79.05**	**350**	P	**P**	**08 16 26.4 0.0**
	comp=Z,1.8nm,0.7s,baz=13,slow=5.2,SNR=3.4					
YKA				LR	LR	08 52 52.0
	comp=Z,37nm,19.5s,baz=0.0,slow=37					
YKB5	**Yellowknife Ar**	**79.05**	**350**	*e*P	**P**	**08 16 26.4 0.0**
YKB5	**Yellowknife Ar**	**79.05**	**350**	*e*P	**P**	**08 16 26.4 0.0**
RND	**Reindeer**	**79.12**	**6**	*e*P	**P**	**08 16 26.1 -0.8**
RND				pmax	pmax	
	comp=Z,10.0nm,0.9s					
RND	**Reindeer**	**79.12**	**6**	*e*P	**P**	**08 16 26.1 -0.8**
	comp=Z,10nm,0.9s					
RND	**Reindeer**	**79.12**	**6**	*e*P	**P**	**08 16 26.1 -0.8**
	comp=Z,10nm,0.9s					
DOT	**Dot Lake**	**79.19**	**4**	*e*P	**P**	**08 16 27.8 +0.6**
	comp=Z,25nm,1.0s					
DOT	**Dot Lake**	**79.19**	**4**	*e*P	**P**	**08 16 27.8 +0.6**
	comp=Z,25nm,1.0s					
DHY	**Denali Highway**	**79.56**	**5**	*e*P	**P**	**08 16 29.2 -0.2**
	comp=Z,10nm,0.9s					
DHY	**Denali Highway**	**79.56**	**5**	*e*P	**P**	**08 16 29.2 -0.2**
	comp=Z,10nm,0.9s					
MENT	**Mentasta**	**79.92**	**4**	*e*P	**P**	**08 16 31.9 +0.7**
	comp=Z,10nm,0.9s					
MENT	**Mentasta**	**79.92**	**4**	*e*P	**P**	**08 16 31.9 +0.7**
	comp=Z,10nm,0.9s					
VLDQ	**Val d'Or**	**80.21**	**324**	*e*P	**P**	**08 16 33.7 +0.8**
	comp=Z,23nm,0.9s					
VLDQ	**Val d'Or**	**80.21**	**324**	*e*P	**P**	**08 16 33.6 +0.8**
	comp=Z,23nm,0.9s					
MRSI	**Marisa**	**80.22**	**97**	P	P	08 16 38.9 +5.4
	comp=Z,33nm,0.4s,comp=Z,1μm					
TTSI	**Tana Toraja**	**80.71**	**101**	P	**P**	**08 16 39.8 +3.7**
	comp=Z,14nm,1.0s					
SUA	**Susitna One**	**80.87**	**7**	*e*P	**P**	**08 16 36.9 +0.5**
	comp=Z,14nm,0.8s					
SUA	**Susitna One**	**80.87**	**7**	*e*P	**P**	**08 16 36.9 +0.5**
	comp=Z,14nm,0.8s					
KLU	**Klutina**	**81.23**	**5**	*e*P	**P**	**08 16 39.0 +0.7**
	comp=Z,22nm,1.0s					
KLU	**Klutina**	**81.23**	**5**	*e*P	**P**	**08 16 39.0 +0.7**
	comp=Z,22nm,1.0s					
LONY	**Lake Ozonia**	**81.31**	**321**	*e*P	**P**	**08 16 38.9 -0.1**
	comp=Z,14nm,0.9s					
LONY	**Lake Ozonia**	**81.31**	**321**	*e*P	**P**	**08 16 38.9 -0.1**
	comp=Z,14nm,0.9s					
RC01	**Rabbit Creek A**	**81.33**	**7**	*e*P	**P**	**08 16 39.0 +0.3**
	comp=Z,23nm,0.9s					
RC01	**Rabbit Creek A**	**81.33**	**7**	*e*P	**P**	**08 16 39.0 +0.3**
	comp=Z,23nm,0.9s					
SADO	**Sadowa**	**83.45**	**323**	P	**P**	**08 16 50.4 +0.3**
	comp=Z,5.0nm,0.6s,baz=118,slow=4.9,SNR=2.7					
SADO	**Sadowa**	**83.45**	**323**	*e*P	**P**	**08 16 49.4 -0.7**
	comp=Z,63nm,1.8s					
SADO	**Sadowa**	**83.45**	**323**	*e*P	**P**	**08 16 49.4 -0.7**
	comp=Z,63nm,1.8s					
KDI	**Kendari**	**83.47**	**100**	P	**P**	**08 16 50.4 -0.2**
	comp=Z,37nm,1.2s					
ODNJ	**Ogdensburg**	**83.82**	**318**	*e*P	**P**	**08 16 52.2 +0.1**
	comp=Z,28nm,1.4s					
ODNJ	**Ogdensburg**	**83.82**	**318**	*e*P	**P**	**08 16 52.2 +0.1**
	comp=Z,28nm,1.4s					
KDAK	**Kodiak Island**	**84.27**	**9**	P	**P**	**08 16 54.8 +0.8**
	comp=Z,10nm,0.7s,baz=12,slow=8.5,SNR=3.8	

ULM	Lac du Bonnet	85.88 335	eP	P	08 17 02.2	0.0
	comp=Z,12nm,0.8s					
ULM	Lac du Bonnet	85.88 335	eP	P	08 17 02.2	0.0
	comp=Z,12nm,0.8s					
MMRI	Maumere	86.05 104	P	P	08 17 02.1	-1.5
	comp=Z,80nm,0.6s					
E42A	Champion	86.09 329	P	P	08 17 02.8	-0.6
	baz=36					
M54A	Oil Creek Stat	86.13 321	P	P	08 17 03.6	-0.1
	baz=42					
EYMN	Ely	86.26 332	P	P	08 17 04.0	-0.3
	baz=34					
EYMN	Ely	86.26 332	eP	P	08 17 04.3	+0.1
	comp=Z,14nm,1.1s					
EYMN	Ely	86.26 332	eP	P	08 17 04.3	+0.1
	comp=Z,14nm,1.1s					
C38A	Sawbill Land.	86.37 331	P	P	08 17 04.0	-0.8
	baz=34					
E41A	Kenton	86.49 329	P	P	08 17 05.0	-0.3
	baz=36					
C37A	Embarrass	86.70 332	P	P	08 17 05.9	-0.5
	baz=34					
B35A	Bob, Littlefor	86.74 333	P	P	08 17 06.6	+0.1
	baz=32					
A33A	Warroad	86.83 334	P	P	08 17 06.7	-0.2
	baz=31					
E40A	Wakefield	86.88 330	P	P	08 17 06.4	-0.9
	baz=35					
C36A	Pine Crest Far	86.92 332	P	P	08 17 07.1	-0.4
	baz=33					
B34A	Aery, Baudette	86.96 334	P	P	08 17 07.2	-0.5
	baz=32					
F41A	Three Lakes	87.13 329	P	P	08 17 08.3	-0.3
	baz=36					
E39A	Mellen	87.19 330	P	P	08 17 08.2	-0.6
	baz=35					
A32A	Rocking H Ranc	87.23 335	P	P	08 17 08.3	-0.6
	baz=31					
D37A	Cotton	87.27 332	P	P	08 17 08.5	-0.7
	baz=33					
E38A	The Farm, Brul	87.40 331	P	P	08 17 09.4	-0.3
	baz=34					
F40A	Park Falls	87.40 330	P	P	08 17 09.1	-0.7
	baz=35					
A31A	Linda, St. Vin	87.45 335	P	P	08 17 10.0	+0.1
	baz=30					
D36A	Goodland	87.53 332	P	P	08 17 09.8	-0.6
	baz=33					
AGMN	Agassiz Nation	87.54 334	P	P	08 17 09.0	-1.4
	baz=31					
MCWV	Mont Chateau	87.60 320	eP	P	08 17 11.1	+0.2
	comp=Z,11nm,0.9s					
MCWV	Mont Chateau	87.60 320	eP	P	08 17 11.1	+0.2
	comp=Z,11nm,0.9s					
B32A	Ashes, Strandq	87.69 335	P	P	08 17 10.8	-0.4
	baz=30					
F39A	Loretta	87.72 330	P	P	08 17 10.6	-0.8
	baz=34					
G40A	Rib Lake	87.96 329	P	P	08 17 12.1	-0.4
	baz=35					
C33A	Trail	87.97 334	P	P	08 17 12.5	-0.1
	baz=31					
B31A	Greenbush Farm	88.04 335	P	P	08 17 12.9	+0.1
	baz=30					
F38A	Pierce - Schro	88.06 331	P	P	08 17 12.7	-0.3
	baz=34					
MSAI	Masohi	88.08 96	P	P	08 17 13.5	0.0
E36A	McGregor	88.12 332	P	P	08 17 13.1	-0.2
	baz=33					
SOEI	Soe	88.31 104	P	P	08 17 14.5	-0.2
G39A	Holcombe	88.34 330	P	P	08 17 13.8	-0.5
	baz=34					
D34A	Park Rapids	88.35 333	P	P	08 17 13.9	-0.4
	baz=32					
SIJI	Sorong	88.45 92	P	P	08 17 17.9	+2.6
	comp=Z,16nm,0.8s,baz=306,slow=7.5,SNR=3.9					
E35A	Pequot Lakes	88.51 333	P	P	08 17 14.3	-0.8
	baz=32					
D33A	AnnSam, Waubun	88.53 334	P	P	08 17 14.2	-1.0
	baz=31					
F37A	Hinrichs Farm,	88.54 331	P	P	08 17 15.0	-0.3
	baz=33					
G38A	Ridgeland	88.70 330	P	P	08 17 15.4	-0.6
	baz=34					
F36A	Milaca	88.77 332	P	P	08 17 16.0	-0.3
	baz=33					
H39A	Augusta	88.88 330	P	P	08 17 16.7	-0.2
	baz=34					
SPMN	Marine on St.	89.03 331	P	P	08 17 17.2	-0.4
	baz=33					
J41A	Loganville	89.44 328	P	P	08 17 19.0	-0.5
	baz=35					
BNDI	Bandanaira	89.56 96	P	P	08 17 18.8	-1.7
F33A	5 Mile Ranch,	89.81 333	P	P	08 17 20.6	-0.6
	baz=31					
I38A	Scanlan Farm,	89.83 330	P	P	08 17 20.7	-0.6
	baz=33					
DGMT	Dagmar	90.00 339	P	P	08 17 22.1	+0.1
	baz=25					
H36A	Jessenland, He	90.01 331	P	P	08 17 22.6	+0.4
	baz=32					
G34A	Benson	90.08 333	P	P	08 17 22.6	+0.1
	baz=31					
J39A	Decorah	90.17 329	P	P	08 17 21.9	-1.0
	baz=34					
H35A	Sunnyside Ranc	90.25 332	P	P	08 17 22.7	-0.5
	baz=32					
I37A	Lemond, Waseca	90.28 331	P	P	08 17 23.4	0.0
	baz=33					
G33A	Ortonville	90.41 333	P	P	08 17 24.1	+0.1
	baz=31					
J38A	Wedel Dairy, R	90.49 330	P	P	08 17 23.6	-0.8
	baz=33					
I36A	Fitzsimmons Fa	90.51 331	P	P	08 17 24.2	-0.3
	baz=32					
H34A	Spellman Lake,	90.62 332	P	P	08 17 24.8	-0.2
	baz=31					
L41A	Preston	90.70 328	P	P	08 17 25.1	-0.3
	baz=35					
K39A	Oelwein	90.77 329	P	P	08 17 25.0	-0.7
	baz=34					
P47A	Martinsville	90.90 324	P	P	08 17 25.1	-1.2
	baz=38					
J37A	Redenius Farm,	90.93 330	P	P	08 17 25.5	-0.9
	baz=33					
H33A	Prehn Over Nor	90.97 333	P	P	08 17 27.0	+0.4
	baz=30					
L40A	Anamosa	91.02 328	P	P	08 17 26.1	-0.8
	baz=34					
K38A	Parkersburg	91.17 330	P	P	08 17 27.0	-0.6
	baz=33					
I34A	Hadley	91.19 332	P	P	08 17 27.3	-0.3
	baz=31					
J36A	Seneca 1, Swea	91.22 331	P	P	08 17 27.5	-0.3
	baz=32					
P46A	Rosedale	91.23 324	P	P	08 17 27.3	-0.6
	baz=37					
L39A	Vinton	91.30 329	P	P	08 17 26.7	-1.4
	baz=34					
H32A	Carlson Farm,	91.37 333	P	P	08 17 28.6	+0.1
	baz=30					
O44A	Mansfield	91.38 325	P	P	08 17 27.4	-1.2
	baz=36					
K37A	Belmond	91.42 330	P	P	08 17 27.5	-1.3
	baz=32					
HDIL	Hopedale	91.42 326	P	P	08 17 27.8	-1.0
	baz=36					
N42A	Yates City	91.53 327	P	P	08 17 28.8	-0.5
	baz=35					
I33A	Coleman	91.53 333	P	P	08 17 28.5	-0.8
	baz=30					
LLLB	Lillooet	91.57 351	eP	P	08 17 29.9	+0.6
	comp=Z,12nm,1.0s					
LLLB	Lillooet	91.57 351	eP	P	08 17 29.9	+0.6
	comp=Z,12nm,1.0s					
O43A	Sugar Creek Fa	91.65 326	P	P	08 17 29.2	-0.6
	baz=36					
L38A	Oak Wood Farm,	91.67 329	P	P	08 17 28.5	-1.5
	baz=33					
M40A	Post Highland	91.69 328	P	P	08 17 29.1	-0.9
	baz=34					
ECSD	EROS Data Cent	91.73 333	P	P	08 17 29.5	-0.7
	baz=30					
ECSD	EROS Data Cent	91.73 333	eP	P	08 17 30.4	+0.2
	comp=Z,8.2nm,1.1s					
ECSD	EROS Data Cent	91.73 333	eP	P	08 17 30.4	+0.2
	comp=Z,8.2nm,1.1s					
KMSC	Kings Mountain	91.78 318	P	P	08 17 29.9	-0.6
	baz=41					
K36A	Gilmore City	91.85 331	P	P	08 17 30.3	-0.4
	baz=32					
J34A	George	91.88 332	P	P	08 17 30.3	-0.6
	baz=31					
WCI	Wyandotte Cave	91.90 323	eP	P	08 17 30.5	-0.6
WCI			pmax	pmax		
	comp=Z,12nm,0.9s					
WCI	Wyandotte Cave	91.90 323	eP	P	08 17 30.5	-0.6
	comp=Z,12nm,0.9s					
WCI	Wyandotte Cave	91.90 323	eP	P	08 17 30.5	-0.6
	comp=Z,12nm,0.9s					
SUSD	Miller	91.95 334	P	P	08 17 31.4	+0.2
	baz=29					
P44A	Sand Creek, Wi	92.00 325	P	P	08 17 30.0	-1.4
	baz=36					
L37A	Phoenix Point,	92.01 330	P	P	08 17 30.5	-1.0
	baz=32					
O42A	Bath	92.06 327	P	P	08 17 30.5	-1.2
	baz=35					
K35A	Storm Lake	92.08 331	P	P	08 17 30.5	-1.3
	baz=31					
N40A	Mertquake, Sal	92.15 328	P	P	08 17 30.4	-1.8
	baz=34					
LAO	LASA Array	92.19 340	P	P	08 17 32.9	+0.6
	baz=23					
LAO	LASA Array	92.19 340	eP	P	08 17 33.7	+1.4
	comp=Z,49nm,1.5s					
LAO	LASA Array	92.19 340	eP	P	08 17 33.7	+1.4
	comp=Z,49nm,1.5s					
J33A	Davis	92.22 333	P	P	08 17 32.1	-0.3
	baz=30					
OLIL	Olney	92.35 324	eP	P	08 17 32.8	-0.3
	comp=Z,24nm,0.8s					
OLIL	Olney	92.35 324	eP	P	08 17 32.9	-0.3
	comp=Z,24nm,0.8s					
M38A	Pleasantville	92.38 329	P	P	08 17 32.4	-0.7
	baz=33					
L36A	Harm Buss Farm	92.39 330	P	P	08 17 32.4	-0.9
	baz=32					
O41A	Passleys Farm,	92.48 327	P	P	08 17 32.7	-0.9
	baz=34					
N39A	Derby Farms, D	92.54 328	P	P	08 17 33.4	-0.5
	baz=33					
Q44A	Meyer Farm, Va	92.64 325	P	P	08 17 33.7	-0.7
	baz=36					
TKL	Tuckaleechee C	92.66 320	P	P	08 17 34.6	0.0
	comp=Z,9.4nm,0.9s,baz=74,slow=5.9,SNR=2.9					
TKL	Tuckaleechee C	92.66 320	eP	P	08 17 35.0	+0.4
TKL			pmax	pmax		
	comp=Z,15nm,0.9s					
TKL	Tuckaleechee C	92.66 320	eP	P	08 17 35.0	+0.4
	comp=Z,15nm,0.9s					
TKL	Tuckaleechee C	92.66 320	eP	P	08 17 35.0	+0.4
	comp=Z,15nm,0.9s					
P42A	Winchester	92.68 326	P	P	08 17 33.8	-0.8
	baz=35					
L35A	Bielow Farm, R	92.72 331	P	P	08 17 33.6	-1.2
	baz=31					
M37A	Trindle Farm,	92.74 330	P	P	08 17 34.1	-0.8
	baz=32					
USIN	University of	92.77 324	eP	P	08 17 34.8	-0.2
	comp=Z,32nm,1.1s					
USIN	University of	92.77 324	eP	P	08 17 34.8	-0.2
	comp=Z,32nm,1.1s					
N38A	Joes South For	92.92 329	P	P	08 17 34.8	-0.9
	baz=33					
Q43A	New Douglas	92.92 326	P	P	08 17 35.0	-0.7
	baz=35					
O39A	Kirksville	93.08 328	P	P	08 17 36.0	-0.4
	baz=33					
NEW	Newport	93.15 347	P	P	08 17 37.5	+0.9
	comp=Z,3.5nm,0.9s,baz=7.6,slow=4.6,SNR=2.3					
NEW	Newport	93.15 347	P	P	08 17 36.8	+0.2
	baz=15					
NEW	Newport	93.15 347	eP	P	08 17 37.6	+0.9
NEW			pmax	pmax		
	comp=Z,34nm,2.0s					
NEW	Newport	93.15 347	eP	P	08 17 37.6	+0.9
	comp=Z,34nm,2.0s					
NEW	Newport	93.15 347	eP	P	08 17 37.6	+0.9
	comp=Z,34nm,2.0s					
K32A	Verdigre	93.16 333	P	P	08 17 36.8	0.0
	baz=30					
L34A	Svendsen Farm,	93.17 331	P	P	08 17 36.6	-0.3
	baz=31					
R44A	Waltonville	93.20 325	P	P	08 17 36.7	-0.3
	baz=36					
CPCT	Cooper Cave	93.21 320	eP	P	08 17 37.1	0.0
	comp=Z,20nm,1.3s					
CPCT	Cooper Cave	93.21 320	eP	P	08 17 37.1	0.0
	comp=Z,20nm,1.3s					
Q42A	Golden Eagle	93.32 326	P	P	08 17 37.1	-0.4
	baz=35					
M35A	Neola	93.33 331	P	P	08 17 37.6	0.0
	baz=31					
N37A	Lee Faris, Mou	93.34 329	P	P	08 17 37.2	-0.5
	baz=32					
S45A	Carrier Mills	93.43 324	P	P	08 17 37.3	-0.8
	baz=36					
P40A	Paris	93.47 327	P	P	08 17 37.4	-0.9
	baz=34					
R43A	Red Bud	93.56 325	P	P	08 17 38.5	-0.2
	baz=35					
HRY	Holter Researc	93.57 344	eP	P	08 17 39.3	+0.5
HRY	Holter Researc	93.57 344	eP	P	08 17 39.3	+0.5
Q41A	Truxton	93.59 327	P	P	08 17 38.0	-0.9
	baz=34					
S44A	Carbondale	93.73 325	P	P	08 17 38.7	-0.7
	baz=36					
P39B	Salisbury	93.81 328	P	P	08 17 39.2	-0.6
	baz=33					
O37A	Wolven Farm, M	93.82 329	P	P	08 17 39.0	-0.9
	baz=32					
RSSD	Black Hills	93.90 337	P	P	08 17 39.4	-1.0
	baz=25					
RSSD	Black Hills	93.90 337	eP	P	08 17 41.1	+0.7
RSSD			pmax	pmax		
	comp=Z,34nm,2.0s					
RSSD	Black Hills	93.90 337	eP	P	08 17 41.1	+0.7
	comp=Z,34nm,2.0s					
RSSD	Black Hills	93.90 337	eP	P	08 17 41.1	+0.7
	comp=Z,34nm,2.0s					
GCMT	Greycliff	93.92 342	eP	P	08 17 39.8	-0.6
GCMT	Greycliff	93.92 342	eP	P	08 17 39.8	-0.6
Q40A	Laux Farm, Aux	93.92 327	P	P	08 17 39.7	-0.7
	baz=34					
P38A	Dawn	94.02 328	P	P	08 17 39.8	-1.0
	baz=33					
R41A	Rosebud	94.20 326	P	P	08 17 40.3	-1.3
	baz=34					
S43A	Fulton Ridge,	94.21 325	P	P	08 17 41.3	-0.4
	baz=35					
Q39A	Willow Grove F	94.27 328	P	P	08 17 41.3	-0.7
	baz=33					
BGNE	Belgrade	94.31 332	P	P	08 17 42.0	-0.1
	baz=29					
S42A	Caledonia	94.37 326	P	P	08 17 40.5	-1.9
	baz=35					
P37A	Lathrop	94.39 329	P	P	08 17 41.1	-1.4
	baz=32					
RLMT	Red Lodge	94.45 341	P	P	08 17 42.0	-0.9
	baz=21					
RLMT	Red Lodge	94.45 341	eP	P	08 17 43.5	+0.5
	comp=Z,18nm,1.4s					
RLMT	Red Lodge	94.45 341	eP	P	08 17 43.5	+0.5
	comp=Z,18nm,1.4s					
FITZ	Fitzroy Crossi	94.46 109	P	P	08 17 42.1	-0.9
	comp=Z,3.7nm,0.9s,baz=257,slow=2.0,SNR=8.5					
FITZ	Fitzroy Crossi	94.46 109	eP	P	08 17 42.5	-0.5
	comp=Z,4.8nm,0.8s					
FITZ	Fitzroy Crossi	94.46 109	eP	P	08 17 42.5	-0.5
	comp=Z,4.8nm,0.8s					
U45A	Rockin P Farm,	94.59 323	P	P	08 17 42.7	-0.8
	baz=36					
R40A	Maddies Statio	94.59 327	P	P	08 17 42.9	-0.6
	baz=34					
T43A	Greenville	94.70 325	P	P	08 17 43.2	-0.8
	baz=35					
O34A	Beatrice	94.82 331	P	P	08 17 43.7	-0.7
	baz=30					
R39A	Chumby, Stover	94.91 327	P	P	08 17 44.9	0.0
	baz=33					
S41A	Jillco Farms,	94.95 326	P	P	08 17 44.6	-0.5
	baz=34					
P35A	Duane Minner,	95.12 330	P	P	08 17 45.6	-0.2
	baz=31					
PLAL	Pickwick Lake	95.35 322	eP	P	08 17 46.0	-1.0
	comp=Z,8.8nm,1.0s					
PLAL	Pickwick Lake	95.35 322	eP	P	08 17 46.0	-1.0
	comp=Z,8.8nm,1.0s					
R38A	Fenwick Farm,	95.39 328	P	P	08 17 45.6	-1.4
	baz=32					
T41A	Mountain View	95.40 326	P	P	08 17 45.8	-1.4
	baz=34					
P34A	Walnut Farm, R	95.42 331	P	P	08 17 46.4	-0.9
	baz=30					
S39A	Bolivar	95.55 327	P	P	08 17 46.5	-1.4
	baz=33					
T40A	Mansfield	95.65 326	P	P	08 17 47.1	-1.3
	baz=34					
U42A	Revenden	95.74 325	P	P	08 17 48.1	-0.6
	baz=34					
S38A	Stockton	95.85 328	P	P	08 17 48.1	-1.2
	baz=32					
K22A	Casper	95.98 338	P	P	08 17 49.0	-0.9
	baz=23					
MOOW	Moose Ponds	96.10 342	eP	P	08 17 50.2	-0.3
	comp=Z,6.4nm,1.4s					
MOOW	Moose Ponds	96.10 342	eP	P	08 17 50.2	-0.3
	comp=Z,6.4nm,1.4s					
Y47A	UCPARC, Winfie	96.11 321	P	P	08 17 49.1	-1.3
	baz=37					
T39A	Clever	96.13 327	P	P	08 17 49.0	-1.5
	baz=33					
S37A	Fort Scott	96.14 328	P	P	08 17 48.8	-1.7
	baz=32					
LRAL	Lakeview Retre	96.37 320	eP	P	08 17 51.0	-0.6
	comp=Z,40nm,2.0s					
LRAL	Lakeview Retre	96.37 320	eP	P	08 17 51.0	-0.6
	comp=Z,40nm,2.0s					
TPAW	Teton Pass	96.40 342	eP	P	08 17 53.5	+1.5
	comp=Z,26nm,1.8s					
TPAW	Teton Pass	96.40 342	eP	P	08 17 53.5	+1.5
	comp=Z,26nm,1.8s					
S36A	Lake Cedric, C	96.48 329	P	P	08 17 50.8	-1.3
	baz=31					
REDW	Red Top Meadow	96.49 342	eP	P	08 17 56.8	+4.4
T38A	Diamond	96.52 328	P	P	08 17 51.1	-1.2
	baz=32					
Y46A	Houston	96.62 322	P	P	08 17 50.9	-1.9
	baz=36					
T37A	Cheneyville 18	96.71 328	P	P	08 17 51.7	-1.4
	baz=32					
U39A	Green Forest	96.72 327	P	P	08 17 51.9	-1.3
	baz=33					
BW06	Boulder Array	96.72 341	P	P	08 17 52.5	-0.8
	baz=21					
PDAR	Pinedale Array	96.72 341	P	P	08 17 52.6	-0.7
	comp=Z,0.3nm,0.4s,baz=338,slow=1.9,SNR=2.3					
PDAR			LR	LR	09 03 39.0	
	comp=Z,253nm,19.9s,baz=16,slow=37					
WRA	Warramunga Arr	102.17 106	P	Pdif	08 18 16.0	-1.7
	comp=Z,0.2nm,0.5s,baz=302,slow=6.5,SNR=2.7					
WRA			PP	PP	08 22 27.8	-2.1
	comp=Z,0.8nm,0.7s,baz=321,slow=6.6,SNR=6.4					
WR1	Warramunga Arr	102.17 106	ePdif	Pdif	08 18 16.0	-1.7
ASAR	Alice Springs	103.96 109	Pdiff	Pdif	08 18 25.2	-0.5
	comp=Z,0.3nm,0.9s,baz=340,slow=5.0,SNR=2.9					
ASAR			PP	PKiKP	08 22 41.1	-2.1
	comp=Z,0.5nm,0.8s,baz=321,slow=6.9,SNR=2.8					
TXAR	Lajitas Array	107.06 331	Pdiff	Pdif	08 18 40.4	+0.8
	comp=Z,0.1nm,0.4s,baz=17,slow=6.6,SNR=3.4					
QSPA	South Pole Qui	127.13 180	ePKIKP	PKPdf	08 23 26.7	+0.8
QSPA	South Pole Qui	127.13 180	ePKPdf	PKPdf	08 23 26.7	+0.8
PLCA	Paso Flores	129.99 245	PKP	PKPdf	08 23 32.7	+0.5
	comp=Z,3.7nm,1.1s,baz=348,slow=1.7,SNR=3.2					
URZ	Urewera	143.34 106	PKP	PKPbc	08 23 54.6	+0.7
	comp=Z,13nm,1.0s,baz=329,slow=6.3,SNR=3.0					

*ISCJB **27** 08:12:41.2±0.4,27°.97N±0°.04×139°.78E±0°.07,h500km, mb3.6/13,Error ellipse: s-maj=8.1km s-min=5.0km az=3.0*
*JMA **27** 08:12:42.3±0.2,28°.10N×140°.26E,h512km,M3.9*
*IDC **27** 08:12:42.9±1.9,27°.97N×139°.70E,h504km±22km, mb3.3/13,mb1 3.3/16,mb1mx3.0/72,mbtmp4.1/16,Error ellipse: s-maj=16.4km s-min=11.5km az=90.0*

ISC 27 08:12:42.2±0.7,28°.01N±0°.07×139°.9E±0°.1,h500km,n39, σ1§20/46,mb3.6/13,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.25	113	P	P	08 13 49.1	+0.5
CBIJ				eS	S	08 14 41.0	-1.6
JHHJ	Haha-jima-NKT	2.48	123	P	P	08 13 50.1	+0.2
JHHJ				S	S	08 14 44.1	-0.8
BSO1	Boso 1	6.70	8	P	P	08 14 26.9	+2.3
BSO3	Boso 3	6.80	5	eS	S	08 15 51.0	0.0
JIE	Ise	6.92	338	P	P	08 14 30.3	+2.9
BSO4	Boso 4	6.97	3	eS	S	08 15 54.3	-0.2
JOD2	Odawara 2	7.26	355	P	P	08 14 32.2	+1.3
JOD2				S	S	08 15 58.3	-1.8
JHU	Hanno	7.84	357	eS	S	08 16 08.9	-1.9
JRY	Ryogami san	8.03	354	P	P	08 14 39.6	+0.8
JRY				S	S	08 16 12.7	-1.8
JYT	Yasato	8.20	2	P	P	08 14 41.1	+0.6
JAG	Ashikaga	8.40	358	P	P	08 14 42.4	-0.2
JAG				eS	S	08 16 18.5	-3.0
JHO	Hitachi	8.60	4	P	P	08 14 45.9	+1.2
JHO				eS	S	08 16 23.1	-2.2
MJAR	Matsushiro Arr	8.62	351	P	P	08 14 44.9	-0.1
	0.9nm,0.3s,baz=172,slow=10,SNR=6.6						
MJAR				S	S	08 16 24.9	-0.9
	0.3nm,0.3s,baz=168,slow=37,SNR=2.8						
JNU	Nakatsue	9.27	306	P	P	08 14 53.1	+1.4
	0.6nm,0.3s,baz=98,slow=1.1,SNR=5.6						
KSRS	Korea Array	13.76	316	P	P	08 15 41.0	+1.7
	0.3nm,0.3s,baz=126,slow=11,SNR=2.7						
SONM	Songino Array	32.63	316	P	P	08 18 31.3	-0.8
	1.0nm,0.7s,baz=137,slow=9.7,SNR=4.8						
TAPN	Taplejung	45.89	282	eP	P	08 20 19.7	0.0
ODAN	Odare	46.28	281	eP	P	08 20 21.9	-0.7
	9.0nm,0.6s						
RAMN	Ramite	46.95	282	eP	P	08 20 27.0	-0.7
	14nm,0.7s						
JIRN	Jiri	47.13	283	eP	P	08 20 29.2	0.0
	136nm,0.6s						
GUN	Gumba	47.34	283	eP	P	08 20 30.7	-0.1
	15nm,0.5s						
ZALV	Zalesovo Beam	47.45	319	P	P	08 20 30.0	-0.7
	1.2nm,0.3s,baz=116,slow=8.9,SNR=3.8						
PKI	Pulchoki	47.82	283	eP	P	08 20 33.6	-0.8
	3.7nm,0.5s						
PKIN	Phulchoki	47.83	283	eP	P	08 20 33.4	-1.0
	2.4nm,0.4s						
FITZ	Fitzroy Crossi	47.86	198	P	P	08 20 34.0	-0.2
	0.8nm,0.6s,baz=35,slow=12,SNR=3.2						
KKN	Kakani	47.88	283	eP	P	08 20 34.3	-0.4
	6.9nm,0.5s						
WRA	Warramunga Arr	47.96	187	P	P	08 20 34.6	-0.4
	0.6nm,0.5s,baz=2.6,slow=7.7,SNR=7.9						
DMN	Daman	48.08	283	eP	P	08 20 35.6	-0.6
	6.6nm,0.4s						
MKAR	Makanchi Array	48.30	309	P	P	08 20 37.1	-0.2
	1.1nm,0.5s,baz=90,slow=9.3,SNR=12						
KOLN	Koldanda	49.33	284	eP	P	08 20 45.1	-0.4
	2.7nm,0.3s						
PYUN	Piuthan	49.78	284	eP	P	08 20 48.4	-0.4
	13nm,0.5s						
KURBB	Kurchatov Arra	50.93	314	P	P	08 20 55.8	-0.8
	4.8nm,0.5s,baz=89,slow=8.2,SNR=19						
ASAR	Alice Springs	51.69	187	P	P	08 21 02.1	-0.3
	0.3nm,0.4s,baz=23,slow=11,SNR=6.0						
AAK	Ala-Archa	54.04	304	P	P	08 21 19.6	+0.3
	1.7nm,0.4s,baz=64,slow=8.3,SNR=4.4						
KDAK	Kodiak Island	54.88	37	P	P	08 21 26.3	+1.7
	20nm,1.2s,baz=274,slow=3.9,SNR=10						
BVAR	Borovoye Array	55.98	317	P	P	08 21 32.5	+0.1
	4.5nm,0.4s,baz=88,slow=7.2,SNR=23						
ILAR	Eielson Array	57.91	29	P	P	08 21 46.2	+0.7
	0.6nm,0.4s,baz=248,slow=5.7,SNR=25						
YKA	Yellowknife Ar	72.32	28	P	P	08 23 17.5	+1.3
	1.0nm,0.5s,baz=298,slow=6.2,SNR=4.9						
FINES	FINESS Array B	76.21	333	P	P	08 23 38.3	0.0
	1.4nm,0.3s,baz=65,slow=5.0,SNR=17						

*IDC **27** 08:16:40.9±15.0,26°.70S×178°.06W,h78km±133km, mb3.8/8,mb1 4.1/8,mb1mx3.8/37,mbtmp4.1/8,MS3.5/5, Ms1 3.5/5,ms1mx3.2/26,Error ellipse: s-maj=43.1km s-min=32.6km az=40.0*
*ISCJB **27** 08:16:42.1±0.8,26°.62S±0°.08×178°.2W±0°.1,h100km, mb4.1/10,Error ellipse: s-maj=18.2km s-min=9.8km*

az=162.3
*NEIC **27** 08:16:44.5±1.6,26°.67S×178°.11W,h110km±13km,mb4.2/2, Error ellipse: s-maj=15.8km s-min=12.0km az=186.0*
ISC 27 08:16:43.4±0.7,26°.62S±0°.09×178°.1W±0°.2,h100km,n36, σ0°.58/19,mb4.2/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.62	177	Pn	Pn	08 17 24.9	+0.8
RAO				Sn	Sn	08 17 55.2	-0.1
URZ	Urewera	12.29	198	LR	LR	08 23 30.7	
	comp=Z,242nm,19.1s,baz=60,slow=34						
DZM	Mont Dzumac	14.80	285	LR	LR	08 24 31.8	
	comp=Z,236nm,21.8s,baz=198,slow=32						
TBI	Tubuai	26.13	89	eLR	LR	08 28 22.4	
	128nm,29.8s						
TBI	Tubuai	26.13	89	eT	T	08 48 21.1	
	12nm,0.3s						
HNR	Honiara	26.91	305	LR	LR	08 32 02.6	
	comp=Z,56nm,18.7s,baz=156,slow=34						
PAE	Paea	27.82	77	eT	T	08 50 25.5	
	4.1nm,0.3s						
PPT2	Papeete2	27.86	77	eLR	LR	08 29 08.6	
	144nm,26.5s						
PPT2	Papeete2	27.86	77	eT	T	08 50 28.8	
	3.7nm,0.3s						
PPT	Papeete	27.86	77	LR	LR	08 31 53.9	
	comp=Z,21nm,18.8s,baz=208,slow=33						
TVO	Taravao	28.06	78	eT	T	08 50 43.5	
	2.4nm,0.3s						
VAH	Vaihoa	30.55	74	eT	T	08 53 48.8	
	5.6nm,0.3s						
STKA	Stephens Creek	35.42	252	P	P	08 23 30.0	+0.2
	1.9nm,1.0s,baz=59,slow=13,SNR=3.0						
RKT	Rikitea	39.14	95	eT	T	09 04 36.7	
	4.4nm,0.3s						
ASAR	Alice Springs	43.36	263	P	P	08 24 35.8	-0.2
	3.5nm,1.0s,baz=111,slow=8.1,SNR=15						
WRAB	Tennant Creek	43.99	268	eP	P	08 24 41.2	+0.1
	2.9nm,0.7s						
WRA	Warramunga Arr	44.00	268	P	P	08 24 40.9	-0.3
	3.6nm,0.8s,baz=105,slow=8.0,SNR=12						
SBA	Scott Base	51.78	184	eP	P	08 25 40.9	+0.5
	2.2nm,0.7s						
VNDA	Vanda	51.83	185	P	P	08 25 40.1	-0.5
	0.5nm,0.6s,baz=344,slow=3.6,SNR=3.4						
FITZ	Fitzroy Crossi	52.38	267	P	P	08 25 45.1	-0.5
	3.1nm,1.0s,baz=130,slow=20,SNR=4.2						
QSPA	South Pole Qui	63.47	180	eP	P	08 27 01.9	-0.7
MAW	Mawson	75.81	200	LR	LR	09 01 59.5	
	comp=Z,228nm,19.6s,baz=58,slow=36						
TXAR	Lajitas Array	90.42	57	P	P	08 29 34.3	+0.3
	1.1nm,1.0s,baz=238,slow=7.2,SNR=6.0						
CMAR	Chiang Mai Arr	92.07	289	P	P	08 29 42.5	+0.8
	1.5nm,0.6s,baz=158,slow=2.9,SNR=3.7						
PDAR	Pinedale Array	93.46	43	P	P	08 29 47.9	0.0
	0.6nm,0.8s,baz=169,slow=2.4,SNR=3.9						
ARCES	ARCESS Array B	134.89	349	PKP	PKPdf	08 35 50.7	+0.9
	1.3nm,0.7s,baz=31,slow=5.0,SNR=3.6						
H10S3	ASCENSION HYDR	141.15	153	T	T	11 14 03.3	
	baz=205,slow=74,SNR=20						
H10S2	ASCENSION HYDR	141.15	153	T	T	11 13 49.7	
	baz=205,slow=74,SNR=21						
H10S1	ASCENSION HYDR	141.16	153	T	T	11 13 55.6	
	baz=205,slow=74,SNR=24						
H10N3	ASCENSION HYDR	142.22	153	T	T	11 15 14.9	
	baz=206,slow=75,SNR=20						
H10N1	ASCENSION HYDR	142.23	153	T	T	11 15 10.6	
	baz=206,slow=75,SNR=22						
H10N2	ASCENSION HYDR	142.24	153	T	T	11 15 16.3	
	baz=206,slow=75,SNR=24						
NB2	NORSAR Subarra	145.01	352	PKP	PKPbc	08 36 07.5	-0.4
	comp=Z,5.8nm,0.8s,baz=16,slow=3.3						
NOA	NORSAR Array B	145.01	352	PKPbc	PKPbc	08 36 07.6	-0.4
	comp=Z,4.1nm,0.8s,baz=15,slow=2.4,SNR=8.5						
AKASG	Malin Array Be	148.19	326	PKPbc	PKPbc	08 36 17.2	-0.1
	comp=Z,0.6nm,0.5s,baz=41,slow=2.5,SNR=4.7						
TORD	Torodi Ar. Bea	166.59	179	PKP	PKPdf	08 36 36.9	-0.9
	comp=Z,0.6nm,1.0s,baz=222,slow=1.9,SNR=2.8						
TORD				PKPab	PKPab	08 37 39.5	-0.8
	comp=Z,0.8nm,0.9s,baz=179,slow=7.4,SNR=3.7						

*ISCJB **27** 08:17:56.9±1.2,37°.31N±0°.04×44°.08E±0°.07,h2km±6km, Error ellipse: s-maj=9.4km s-min=5.4km az=156.3*
*ISK **27** 08:17:57.8,37°.45N×43°.94E,h5km,ML3.6*
*ISN **27** 08:17:59.4±1.5,37°.25N×43°.75E,h0km±6km,ML3.8*
*CSEM **27** 08:17:59.3±0.5,37°.36N×43°.92E,h5km,ML3.8,Error ellipse: s-maj=14.6km s-min=6.8km az=60.0*
*DDA **27** 08:18:02.0,37°.41N×43°.64E,h10km,Ml3.8*
ISC 27 08:17:56.0±2.1,37°.44N±0°.05×44°.09E±0°.08,h1km±12km, n26,σ1°.26/41,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	HAKKARI	0.33	292	i P	Pb	08 18 04.8	0.0
HAKT				i S	Sb	08 18 09.5	-1.2
HAKT	HAKKARI	0.33	292	P	Pb	08 18 04.8	0.0
HAKT				S	Sb	08 18 09.5	-1.2
CUKT	Cukurca	0.42	244	ePG	Pg	08 18 05.0	+0.7
CUKT				eSG	Sg	08 18 09.7	0.0
CUKT	Cukurca	0.42	244	i P	Pg	08 18 04.9	+0.7
CUKT				i S	Sg	08 18 09.6	-0.1
CUKT	Cukurca	0.42	244	P	Pg	08 18 04.9	+0.7
CUKT				S	Sg	08 18 09.6	-0.1
GEVA	Gevas	1.20	317	i P	Pn	08 18 20.8	+0.7
GEVA				i S	Sn	08 18 38.8	+1.8
GEVA	Gevas	1.20	317	P	Pn	08 18 20.8	+0.7
GEVA				S	Sn	08 18 38.8	+1.8
VANB	Van	1.28	335	ePN	Pn	08 18 19.8	-1.4
VANB	Van	1.28	335	ePn	Pn	08 18 19.8	-1.4
MSL	Mosul	1.30	217	ePg	Pn	08 18 22.0	+0.7
	SNR=9.0						
MSL				eSg	Sg	08 18 36.0	-1.7
	SNR=9.0						
SIRN	S¨–rnak	1.33	273	i P	Pg	08 18 21.3	-0.3
SIRN				i S	Sb	08 18 38.6	-0.9
SIRN	S¨–rnak	1.33	273	P	Pg	08 18 21.3	-0.3
SIRN				S	Sb	08 18 38.6	-0.9
BTMN	Batman	2.28	282	i P	Pb	08 18 38.3	+0.3
BTMN				i S	Sb	08 19 07.0	+0.2
BTMN	Batman	2.28	282	P	Pb	08 18 38.3	+0.3
SVAN	Silvan-Diyarba	2.40	288	ePN	Pn	08 18 37.9	+1.4
SVAN				eSN	Sn	08 19 06.0	-0.5
SVAN	Silvan-Diyarba	2.40	288	i P	Pb	08 18 40.1	+0.1
SVAN				i S	Sb	08 19 10.5	+0.4
SVAN	Silvan-Diyarba	2.40	288	ePn	Pn	08 18 37.9	+1.4
SVAN	Silvan-Diyarba	2.40	288	P	Pb	08 18 40.1	+0.1
MARD	Mardin	2.64	268	i P	Pb	08 18 42.1	-2.1
MARD				i S	Sb	08 19 16.0	-1.1
MAZI	Mazidag	2.90	272	ePN	Pn	08 18 43.7	+0.3
MAZI	Mazidag	2.90	272	ePn	Pn	08 18 43.7	+0.3
BNGB	Bing¨¶l	3.10	301	ePN	Pn	08 18 47.5	+1.3
BINT	Bingol	3.18	298	ePn	Pn	08 18 47.5	+0.2
BHD	Baghdad	4.16	177	ePn	Pn	08 19 02.0	+1.3
	SNR=3.0						
BHD				i Sn	Sn	08 19 47.0	-3.0
	SNR=3.0						
RTB	Rutbah	5.37	216	ePn	Pn	08 19 18.0	+0.6
	SNR=3.0						
NSR	Nassriya	6.63	165	ePn	Pn	08 19 38.5	+3.9
	SNR=3.0						

*DDA **27** 08:25:12.8,39°.33N×41°.90E,h7km,Md2.8*
*ISK **27** 08:25:14.6,39°.04N×40°.44E,h12km,ML2.0*
*ISCJB **27** 08:25:15.2±0.5,39°.06N±0°.03×40°.40E±0°.04,h9km±5km, Error ellipse: s-maj=5.3km s-min=4.8km az=144.9*
*CSEM **27** 08:25:15.0±0.2,39°.05N×40°.42E,h10km,MD2.8,Error ellipse: s-maj=4.7km s-min=4.1km az=92.0*
ISC 27 08:25:15.0±0.9,39°.06N±0°.03×40°.43E±0°.03,h14km±8km, n21,σ0°.54/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.19	167	i Pg	Pg	08 25 19.2	-0.3
BINT				eSg	Sg	08 25 22.8	+0.3
BNGB	Bing¨¶l	0.20	110	PG	Pg	08 25 19.2	-0.5
BNGB				eSG	Sg	08 25 22.8	0.0
YEDI	Yedisu-Bingol	0.39	13	ePG	Pg	08 25 23.1	+0.2
YEDI				eSG	Sb	08 25 29.4	-0.3
YEDI	Yedisu-Bingol	0.39	13	ePg	Pg	08 25 23.1	+0.2
YEDI				eSg	Sb	08 25 29.4	-0.3
BNGL	BINGOL	0.57	101	i P	Pb	08 25 27.1	+0.2
BNGL				i S	Sb	08 25 36.7	+1.7
ECAT	Cat-ERZURUM	0.69	37	i P	Pg	08 25 28.3	-0.2
ECAT				i S	Sb	08 25 38.3	-0.1
ECAT	Cat-ERZURUM	0.69	37	P	Pg	08 25 28.3	-0.2
ECAT				S	Sb	08 25 38.3	-0.1
TNCL	Tunceli-Merkez	0.70	275	i P	Pg	08 25 28.6	0.0
TNCL				i S	Sb	08 25 38.8	+0.2
TNCL	Tunceli-Merkez	0.70	275	P	Pg	08 25 28.6	0.0
TNCL				S	Sb	08 25 38.8	+0.2
ERZN	Erzincan	0.76	314	ePG	Pb	08 25 30.5	+0.4
PTK	Pertek	0.83	259	ePG	Pg	08 25 30.8	-0.3
PTK	Pertek	0.83	259	ePg	Pg	08 25 30.8	-0.3
EZC	Erzincan	1.08	310	ePg	Pb	08 25 30.5	-5.2
SVAN	Silvan-Diyarba	1.09	146	ePG	Pb	08 25 35.8	+0.2
SVAN	Silvan-Diyarba	1.09	146	ePg	Pb	08 25 35.8	+0.2
SVRC	Sivrice-ELAZID	1.11	233	ePN	Pg	08 25 36.5	0.0
SVRC	Sivrice-ELAZID	1.11	233	ePn	Pg	08 25 36.5	0.0
BTMN	Batman	1.34	150	i P	Pg	08 25 40.4	-0.4
BTMN				i S	Sg	08 25 59.1	+1.0
BTMN	Batman	1.34	150	P	Pg	08 25 40.4	-0.4
BTMN				S	Sg	08 25 59.2	+1.0
MAZI	Mazidag	1.60	180	ePN	Pn	08 25 42.2	-0.8
MAZI	Mazidag	1.60	180	ePn	Pn	08 25 42.2	-0.8

*CSEM **27** 08:39:58.6±1.1,38°.87N×43°.78E,h17km±2km,ML3.1, Error ellipse: s-maj=24.3km s-min=7.5km az=88.0*
*ISK **27** 08:39:59.4,38°.83N×43°.61E,h19km,ML3.6*
*ISCJB **27** 08:40:01.7±0.7,38°.85N±0°.03×43°.54E±0°.09,h19km±8km, Error ellipse: s-maj=11.9km s-min=5.0km az=164.6*
*DDA **27** 08:40:01.5,38°.84N×43°.51E,h7km,Ml3.1*
*ISN **27** 08:40:06.4±0.3,37°.08N×43°.81E,h0km,ML3.0*
ISC 27 08:40:01.2±1.0,38°.87N±0°.03×43°.59E±0°.06,h16km±7km, n27,σ1°.18/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	355	i P	Pg	08 40 04.1	-0.9
VMUR				i S	Sg	08 40 08.5	+0.9
VMUR	Van-Muradiye	0.12	355	P	Pg	08 40 04.1	-0.9
VMUR				S	Sg	08 40 08.5	+0.9
VANB	Van	0.31	210	ePG	Pg	08 40 08.0	+0.2
VANB				eSG	Sb	08 40 12.8	-0.6
VANB	Van	0.31	210	ePg	Pg	08 40 08.0	+0.2
VANB				eSg	Sb	08 40 12.8	-0.6
GEVA	Gevas	0.69	217	i P	Pg	08 40 13.6	-1.2
GEVA	Gevas	0.69	217	i P	Pg	08 40 13.3	-1.5
GEVA	Gevas	0.69	217	P	Pg	08 40 13.6	-1.2
TUTA	Tutak	0.80	312	i P	Pg	08 40 16.1	-0.8
TUTA				i S	Sb	08 40 27.1	-0.7
TUTA	Tutak	0.80	312	P	Pg	08 40 16.1	-0.8
TUTA				S	Sb	08 40 27.1	-0.7
AGRB	Hanur-Agry	0.84	327	ePG	Pg	08 40 16.5	-1.2
AGRB				eSG	Sb	08 40 30.0	+1.1
AGRB	Hanur-Agry	0.84	327	ePg	Pg	08 40 16.5	-1.2
AGRB				eSg	Sb	08 40 30.0	+1.1
BASK	Baskale_VAN	0.88	158	i P	Pg	08 40 18.9	+0.6
BASK				i S	Sg	08 40 30.1	+0.3
BASK	Baskale_VAN	0.88	158	P	Pg	08 40 18.9	+0.6
BASK				S	Sg	08 40 30.1	+0.3
EKAR	Karacoban	1.25	289	i P	Pn	08 40 25.5	+1.2
EKAR	Karacoban	1.25	289	P	Pn	08 40 25.5	+1.2
EATA	Eleskirt	1.31	320	i P	Pg	08 40 26.7	+0.3
SVAN	Silvan-Diyarba	2.00	250	ePN	Pn	08 40 33.3	-1.2
SVAN	Silvan-Diyarba	2.00	250	ePn	Pn	08 40 33.3	-1.2
BTMN	Batman	2.06	243	i P	Pb	08 40 38.2	-0.2
BTMN				i S	Sg	08 41 11.9	+4.3
BTMN	Batman	2.06	243	P	Pb	08 40 38.2	-0.2
MARD	Mardin	2.70	236	i P	Pb	08 40 49.3	0.0
MAZI	Mazidag	2.85	241	ePN	Pn	08 40 44.7	-1.4
MAZI	Mazidag	2.85	241	ePn	Pn	08 40 44.7	-1.4
PTK	Pertek	3.27	272	ePN	Pn	08 40 51.8	-0.3
PTK	Pertek	3.27	272	ePn	Pn	08 40 51.8	-0.3
SVRC	Sivrice-ELAZID	3.39	263	ePN	Pn	08 40 53.1	-0.6
SVRC	Sivrice-ELAZID	3.39	263	ePn	Pn	08 40 53.1	-0.6

*CSEM **27** 08:40:05.5±0.3,37°.39N×43°.72E,h15km,MD3.3,Error ellipse: s-maj=11.3km s-min=5.9km az=98.0*
*ISN **27** 08:40:08.4±1.7,37°.09N×43°.83E,h0km±999km,ML3.2*
DDA 27 08:40:05.0,37°.34N×43°.86E,h18km,Md3.3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	Cukurca	0.22	245	i P	Pg	08 40 10.4	+0.1
CUKT				i S	Sb	08 40 14.7	+0.3
CUKT	Cukurca	0.22	245	P	Pg	08 40 10.4	+0.1
CUKT				S	Sb	08 40 14.7	+0.3
HAKT	HAKKARI	0.25	331	i P	Pg	08 40 10.3	-0.5
HAKT				i S	Sg	08 40 14.9	+0.1
HAKT	HAKKARI	0.25	331	P	Pg	08 40 10.3	-0.5
HAKT				S	Sg	08 40 14.9	+0.1
MSL	Mosul	1.11	213	ePg	Pb	08 40 25.8	0.0
	baz=40,SNR=90						
MSL				eSg	Sg	08 40 41.3	+0.1
	4μm,0.5s,SNR=90						
SIRN	S¨–rnak	1.16	278	i P	Pb	08 40 26.6	0.0
SIRN				i S	Sg	08 40 43.6	+1.0
SIRN	S¨–rnak	1.16	278	P	Pb	08 40 26.6	0.0

*IDC **27** 08:48:34.9±0.6,34°.67N×84°.70E,h0km,mb3.9/18, mb1 4.1/22,mb1mx3.9/63,mbtmp3.9/22,ML3.3/3,MS3.4/5, Ms1 3.4/5,ms1mx3.0/42,Error ellipse: s-maj=24.7km s-min=11.8km az=46.0*
*NEIC **27** 08:48:36.2±0.4,34°.64N×84°.72E,h10km,mb4.3/4,Error ellipse: s-maj=12.6km s-min=6.6km az=50.0*
*ISCJB **27** 08:48:37.6±0.3,34°.68N±0°.04×84°.72E±0°.08,h33km, mb4.0/20,MS3.4/5,Error ellipse: s-maj=9.7km s-min=4.5km az=162.5*
ISC 27 08:48:39.8±0.5,34°.70N±0°.08×84°.75E±0°.08,h35km,n44, σ1°.02/42,mb4.0/20,MS3.4/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	Piuthan	6.75	193	eP	Pn	08 50 15.2	-1.4
	31nm,0.6s						
GUN	Gumba	6.84	172	eP	Pn	08 50 18.6	+0.7
	24nm,0.5s						
KKN	Kakani	6.90	176	eP	Pn	08 50 19.1	+0.4
	14nm,0.5s						
KOLN	Koldanda	6.98	188	eP	Pn	08 50 19.0	-0.7
	34nm,0.7s						
DMN	Daman	7.07	177	eP	Pn	08 50 21.0	-0.1
PKIN	Phulchoki	7.12	175	eP	Pn	08 50 21.8	0.0
	28nm,0.5s						
JIRN	Jiri	7.12	170	eP	Pn	08 50 23.0	+1.1
	234nm,0.3s						
PKI	Pulchoki	7.13	175	eP	Pn	08 50 21.9	0.0
	34nm,0.7s						
TAPN	Taplejung	7.75	160	eP	Pn	08 50 31.1	+0.6
	34nm,1.2s						
RAMN	Ramite	7.89	168	eP	Pn	08 50 31.4	-0.9
	70nm,1.0s						
ODAN	Odare	8.14	163	eP	Pn	08 50 35.1	-0.6
	7.8nm,0.5s						
AAK	Ala-Archa	11.26	318	Pn	Pn	08 51 18.4	0.0
	0.2nm,0.3s,baz=108,slow=7.0,SNR=7.1						
MKAR	Makanchi Array	12.22	352	Pn	Pn	08 51 29.8	-1.6
	0.1nm,0.3s,baz=182,slow=17,SNR=5.2						
CD2	Chengdu	16.42	98	eP	P	08 52 29.8	-0.3
KURBB	Kurchatov Arra	16.55	346	Pn	Pn	08 52 26.9	-2.0
	0.1nm,0.3s,baz=164,slow=10,SNR=3.8						
KURK	Kurchatov	16.62	346	ePn	Pn	08 52 30.1	+0.2
ZALV	Zalesovo Beam	19.25	0	P	P	08 53 00.7	-0.3
	baz=159,slow=8.6,SNR=3.6						
CHTO	Chiang Mai	20.24	138	eP	P	08 53 10.5	-1.6
	2.0nm,0.6s						
CMAR	Chiang Mai Arr	20.52	138	P	P	08 53 13.5	-1.7
	1.2nm,0.3s,baz=322,slow=12,SNR=12						
SONM	Songino Array	20.82	44	P	P	08 53 18.0	-0.3
	2.3nm,0.9s,baz=226,slow=10,SNR=7.0						
BVAR	Borovoye Array	20.97	335	P	P	08 53 20.1	+0.3
	1.8nm,0.8s,baz=141,slow=9.6,SNR=6.5						
BRVK	Borovoye	21.03	335	eP	P	08 53 21.5	+1.1
	18nm,0.9s						
ULN	Ulaanbaatar	21.21	45	eP	P	08 53 24.5	+2.0
	0.8nm,0.4s						
GEYT	Alibeck	21.67	286	P	P	08 53 28.3	+0.9
	5.5nm,1.1s,baz=107,slow=10,SNR=10						
GEYT				LR	LR	09 03 44.9	
	comp=Z,149nm,18.1s,baz=55,slow=42						
ABKAR	Akbulak array	23.34	316	eP	P	08 53 45.2	+0.4
	1.6nm,0.6s						
AKTO	Aktyubinsk	25.01	317	P	P	08 54 01.1	+0.8
	2.3nm,0.6s,baz=120,slow=9.0,SNR=8.9						
WSAR	Wadi Sarin	25.47	250	LR	LR	09 05 23.9	
	comp=Z,53nm,19.5s,baz=48,slow=40						
BRTR	Keskin Array B	40.56	293	P	P	08 56 16.4	+0.4
	1.4nm,0.9s,baz=85,slow=7.7,SNR=4.8						
MAJO	Matsushiro	43.03	71	eP	P	08 56 34.4	-1.6
	2.6nm,0.4s						
FINES	FINESS Array B	45.34	325	P	P	08 56 53.5	-0.6
	1.6nm,0.9s,baz=97,slow=9.8,SNR=3.6						
FINES				LR	LR	09 18 36.4	
	comp=Z,52nm,18.3s,baz=90,slow=40						
ARCES	ARCESS Array B	47.26	336	LR	LR	09 18 46.8	
	comp=Z,44nm,18.5s,baz=156,slow=38						
HFS	Hagfors	51.35	323	P	P	08 57 40.8	+0.3
	1.8nm,0.6s,baz=79,slow=15,SNR=4.5						
NB2	NORSAR Subarra	52.50	324	P	P	08 57 48.5	-0.6
	comp=Z,1.2nm,0.6s,baz=84,slow=7.4						
NOA	NORSAR Array B	52.50	324	P	P	08 57 48.8	-0.4
	comp=Z,2.3nm,0.8s,baz=84,slow=7.5,SNR=5.0						
NOA				LR	LR	09 21 25.2	
	comp=Z,28nm,19.2s,baz=105,slow=38						
GERES	GERESS Array B	52.97	308	P	P	08 57 54.4	+1.5
	comp=Z,1.0nm,0.5s,baz=54,slow=6.8,SNR=6.2						
EKA	Eskdalemuir Ar	61.17	319	P	P	08 58 50.0	-0.5
	comp=Z,3.4nm,0.9s,baz=77,slow=8.0,SNR=3.5						
FITZ	Fitzroy Crossi	65.33	137	P	P	08 59 18.6	0.0
	comp=Z,1.5nm,0.9s,baz=315,slow=10.0,SNR=2.5						
ESDC	Sonseca Array	68.00	304	P	P	08 59 35.0	-0.5
	comp=Z,0.3nm,0.3s,baz=54,slow=5.3,SNR=3.2						
WRA	Warramunga Arr	71.92	131	P	P	09 00 00.6	+0.9
	comp=Z,2.4nm,0.8s,baz=328,slow=6.0,SNR=11						
WRAB	Tennant Creek	71.92	131	eP	P	09 00 00.7	+1.0
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	72.97	21	P	P	09 00 06.3	+1.0
	comp=Z,0.4nm,0.8s,baz=303,slow=4.2,SNR=5.0						
ASAR	Alice Springs	74.46	134	P	P	09 00 15.4	+0.8
	comp=Z,0.8nm,0.8s,baz=330,slow=6.4,SNR=10						
TORD	Torodi Ar. Bea	76.99	277	P	P	09 00 27.9	-1.4
	comp=Z,0.7nm,0.8s,baz=51,slow=4.3,SNR=4.1						
CTA	Charters Tower	79.87	123	P	P	09 00 46.9	+1.9
	comp=Z,2.8nm,0.9s,baz=295,slow=16,SNR=2.6						

IDC 27 08:50:21.0±441.0,51°.27N×117°.22E,h0km,Error ellipse: s-maj=174.5km s-min=156.3km az=36.0,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	7.84	248	i		09 40 30.0	
	baz=58,slow=332,SNR=0.4						
I45RU	USSURIYSK INFR	12.18	120	i		10 02 20.0	
	baz=308,slow=324,SNR=2.1						
I30JP	ISUMI INFRASON	23.03	125	i		11 12 10.0	
	baz=323,slow=324,SNR=0.4						

*DDA **27** 08:52:42.3,38°.68N×43°.38E,h29km,Md3.2*
*ISK **27** 08:52:42.6,38°.74N×43°.16E,h2km,ML2.7*
*ISCJB **27** 08:52:43.8±0.8,38°.74N±0°.03×43°.24E±0°.08,h3km±7km, Error ellipse: s-maj=10.9km s-min=4.3km az=176.3*
*CSEM **27** 08:52:44.3±0.3,38°.74N×43°.16E,h5km,ML2.7,Error ellipse: s-maj=9.2km s-min=5.4km az=75.0*
ISC 27 08:52:44.4±0.9,38°.71N±0°.02×43°.14E±0°.03,h14km±8km, n33,σ1°.15/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	121	PG	Pg	08 52 49.5	0.0
VANB				eSG	Sg	08 52 54.1	+1.1
VANB	Van	0.23	121	i Pg	Pg	08 52 49.5	0.0
VANB				eSg	Sg	08 52 54.1	+1.1
GEVA	Gevas	0.41	189	i P	Pb	08 52 51.9	-1.6
GEVA				i S	Sb	08 52 59.2	-0.4
GEVA	Gevas	0.41	189	P	Pb	08 52 51.9	-1.6
GEVA				S	Sb	08 52 59.2	-0.4
VMUR	Van-Muradiye	0.43	51	i P	Pg	08 52 45.7	-7.5
VMUR				i S	Sg	08 52 47.5	-12
TUTA	Tutak	0.73	340	i P	Pb	08 52 58.6	-0.5
TUTA				i S	Sb	08 53 09.5	+0.4
TUTA	Tutak	0.73	340	P	Pb	08 52 58.6	-0.5
TUTA				S	Sb	08 53 09.5	+0.4
AGRB	Hanur-Agry	0.87	352	ePG	Pg	08 52 59.3	-2.0
AGRB				eSG	Sb	08 53 12.5	-0.4
AGRB	Hanur-Agry	0.87	352	ePg	Pg	08 52 59.3	-2.0
AGRB				eSg	Sb	08 53 12.5	-0.4
EKAR	Karacoban	1.00	303	i P	Pn	08 53 03.6	-0.6
EKAR				i S	Sn	08 53 22.3	+4.1
EKAR	Karacoban	1.00	303	P	Pn	08 53 03.6	-0.6
EATA	Eleskirt	1.25	336	i P	Pn	08 53 07.8	0.0
EATA				i S	Sn	08 53 25.5	+0.9
EATA	Eleskirt	1.25	336	P	Pn	08 53 07.8	0.0
EATA				S	Sn	08 53 25.5	+0.9
CUKT	Cukurca	1.51	166	ePN	Pg	08 53 12.0	-1.5
CUKT	Cukurca	1.51	166	ePn	Pg	08 53 12.0	-1.5
BNGL	BINGOL	1.57	279	i P	Pg	08 53 14.3	-0.4
BNGL				i S	Sg	08 53 36.3	+1.1
SVAN	Silvan-Diyarba	1.63	250	ePN	Pb	08 53 13.3	-0.9
SVAN	Silvan-Diyarba	1.63	250	i P	Pg	08 53 14.9	-0.8
SVAN				i S	Sg	08 53 36.7	-0.1
SVAN	Silvan-Diyarba	1.63	250	ePn	Pb	08 53 13.3	-0.9
SVAN	Silvan-Diyarba	1.63	250	P	Pg	08 53 14.9	-0.8
SVAN				S	Sg	08 53 36.7	-0.1
BT

TUTA	**Tutak**	**0.79 341**	*i* P		**Pg**	**09 09 27.4**	**-1.2**
TUTA			*i* S		**Sb**	**09 09 39.1**	**-1.1**
TUTA	**Tutak**	**0.79 341**	P		**Pg**	**09 09 27.4**	**-1.2**
TUTA			S		**Sb**	**09 09 39.1**	**-1.1**
AGRB	**Hanur-Agry**	**0.93 352**	*e*PG		**Pg**	**09 09 29.9**	**-1.3**
AGRB			*e*SG		**Sb**	**09 09 43.0**	**-1.1**
AGRB	**Hanur-Agry**	**0.93 352**	*e*Pg		**Pg**	**09 09 29.9**	**-1.3**
AGRB			*e*Sg		**Sb**	**09 09 43.0**	**-1.1**
EKAR	**Karacoban**	**1.04 306**	*i* P		**Pb**	**09 09 33.4**	**-0.2**
EKAR			*i* S		**Sn**	**09 09 52.9**	**+3.9**
EKAR	**Karacoban**	**1.04 306**	P		**Pb**	**09 09 33.4**	**-0.2**
HAKT	**HAKKARI**	**1.18 158**	*i* P		**Pg**	**09 09 32.4**	**-3.7**
HAKT			*i* S		**Sn**	**09 09 53.8**	**+1.3**
HAKT	**HAKKARI**	**1.18 158**	P		**Pg**	**09 09 32.4**	**-3.7**
HAKT			S		**Sn**	**09 09 53.8**	**+1.3**
EATA	**Eleskirt**	**1.31 337**	*i* P		**Pg**	**09 09 36.9**	**-1.7**
EATA			*i* S		**Sb**	**09 09 54.8**	**-0.4**
EATA	**Eleskirt**	**1.31 337**	P		**Pg**	**09 09 36.9**	**-1.7**
EATA			S		**Sb**	**09 09 54.8**	**-0.4**
CUKT	**Cukurca**	**1.45 165**	*e*PN		**Pn**	**09 09 40.8**	**+0.9**
CUKT	**Cukurca**	**1.45 165**	*e*Pn		**Pn**	**09 09 40.8**	**+0.9**
BNGL	**BINGOL**	**1.59 281**	*i* P		**Pb**	**09 09 42.9**	**-0.1**
BNGL			*i* S		**Sb**	**09 10 03.0**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.62 252**	*e*PN		**Pn**	**09 09 41.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.62 252**	*i* P		**Pb**	**09 09 43.3**	**-0.1**
SVAN			*i* S		**Sg**	**09 10 05.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.62 252**	*e*Pn		**Pn**	**09 09 41.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.62 252**	P		**Pb**	**09 09 43.3**	**-0.1**
SVAN			S		**Sg**	**09 10 05.4**	**+0.1**
BTMN	**Batman**	**1.67 243**	*i* P		**Pg**	**09 09 44.7**	**-0.7**
BTMN			*i* S		**Sn**	**09 10 05.2**	**+1.0**
BTMN	**Batman**	**1.67 243**	P		**Pg**	**09 09 44.7**	**-0.7**
BTMN			S		**Sn**	**09 10 05.2**	**+1.0**
DIGO	**Kars**	**1.76 6**	*i* P		**Pb**	**09 09 46.1**	**+0.1**
DIGO	**Kars**	**1.76 6**	P		**Pb**	**09 09 46.1**	**+0.1**
ERZM	**Erzurum**	**1.86 313**	*i* P		**Pb**	**09 09 47.2**	**-0.5**
ERZM			*i* S		**Sb**	**09 10 10.9**	**-0.3**
ERZM	**Erzurum**	**1.86 313**	P		**Pb**	**09 09 47.2**	**-0.5**
ERZM			S		**Sb**	**09 10 10.9**	**-0.3**
BNGB	**Bing¨¶l**	**1.96 281**	*e*PN		**Pn**	**09 09 47.4**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.00 342**	*e*PN		**Pn**	**09 09 47.4**	**0.0**
SENK	**Senkaya-Erzuru**	**2.00 342**	*e*Pn		**Pn**	**09 09 47.4**	**0.0**
BINT	**Bingol**	**2.09 277**	*e*Pn		**Pn**	**09 09 47.4**	**-1.2**
MAZI	**Mazidag**	**2.45 242**	*e*PN		**Pn**	**09 09 54.4**	**+0.9**
MAZI	**Mazidag**	**2.45 242**	*e*Pn		**Pn**	**09 09 54.4**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.03 266**	*e*PN		**Pn**	**09 10 02.7**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.03 266**	*e*Pn		**Pn**	**09 10 02.7**	**+1.1**

*ISCJB **27** 09:12:55.2±0.4, 4°.61N±0°.06×94°.96E±0°.05, h48km, mb4.4/23, MS3.2/4, Error ellipse: s-maj=10.7km s-min=4.3km az=40.2*
*IDC **27** 09:12:57.7±0.8, 4°.73N×94°.98E, h52km±7km, mb4.0/16, mb1 4.1/17, mb1mx3.8/44, mbtmp4.3/17, MS3.1/5, Ms1 3.2/5, ms1mx2.8/45, Error ellipse: s-maj=26.6km s-min=9.9km az=42.0*
*DJA **27** 09:12:59.1±1.1, 5°.N±6°.×9°.5E±1°.1, h62km±29km, M4.3/6, mb4.5/2, MLv4.2/6*
*NEIC **27** 09:13:00.2±1.3, 4°.72N×95°.15E, h77km±10km, mb4.4/5, Error ellipse: s-maj=15.9km s-min=6.2km az=57.0*

ISC 27 09:12:56.7±0.5, 4°.63N±0°.07×94°.95E±0°.07, h48km, n52, σ1§23/57, mb4.4/23, MS3.3/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.50**	**104**	P	**Pn**	**09 13 20.7**	**-0.4**
MLSI				S	**Sn**	**09 13 40.0**	**+0.5**
LHMI	**Lhok Sumawe**	**2.08**	**73**	P	**Pn**	**09 13 29.7**	**+0.6**
LHMI	**Lhok Sumawe**	**2.08**	**73**	*e*Pn	**Pn**	**09 13 29.9**	**+0.8**
SNSI	**Sinabang, Aceh**	**2.60**	**148**	P	**Pn**	**09 13 36.2**	**-0.1**
TPTI		**2.61**	**121**	P	**Pn**	**09 13 35.9**	**-0.5**
TPTI				S	**Sn**	**09 14 04.1**	**-2.8**
KCSI	**Kotacane, Aceh**	**3.02**	**111**	P	**Pn**	**09 13 43.0**	**+0.9**
PSI	**Prapat**	**4.36**	**114**	P	**Pn**	**09 14 02.9**	**+2.3**
PSI	3.9nm,0.3s,baz=323,slow=14,SNR=17			S	**Sn**	**09 14 55.5**	**+5.2**
KULM	**Kulim**	**5.72**	**83**	*e*Pn	**Pn**	**09 14 18.9**	**-0.2**
PBSI	**Pulau Batu**	**5.72**	**144**	P	**Pn**	**09 14 19.8**	**+0.6**
IPM	**Ipoh**	**6.06**	**91**	*e*Pn	**Pn**	**09 14 24.5**	**+0.7**
IPM	15nm,0.4s			*e*Sn	**Sn**	**09 15 29.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**14.29**	**16**	P	**Pn**	**09 16 18.5**	**+2.2**
CMAR	0.7nm,0.3s,baz=204,slow=11,SNR=6.0			LR	LR	09 21 09.9	
CHTO	**Chiang Mai**	**14.62**	**15**	*e*Pn	**Pn**	**09 16 21.9**	**+1.1**
RAMN	**Ramite**	**23.58**	**341**	*e*P	**P**	**09 18 03.8**	**+0.3**
TAPN	**Taplejung**	**23.62**	**344**	*e*P	**P**	**09 18 03.9**	**0.0**
JIRN	**Jiri**	**24.38**	**341**	*e*P	**P**	**09 18 11.1**	**+0.2**
PKI	**Pulchoki**	**24.56**	**339**	*e*P	**P**	**09 18 13.7**	**+1.2**
PKIN	**Phulchoki**	**24.57**	**339**	*e*P	**P**	**09 18 12.4**	**-0.2**
DMN	**Daman**	**24.70**	**339**	*e*P	**P**	**09 18 14.8**	**+1.0**
GUN	**Gumba**	**24.71**	**341**	*e*P	**P**	**09 18 13.7**	**-0.2**
GKN	**Gorkha**	**25.23**	**338**	*e*P	**P**	**09 18 19.1**	**+0.7**
KOLN	**Koldanda**	**25.42**	**336**	*e*P	**P**	**09 18 21.1**	**+0.9**
H08S2	**Diego Garcia H**	**25.51**	**242**	T	T	09 45 27.4	
H08S3	**Diego Garcia H**	**25.51**	**242**	T	T	09 45 27.4	
H08S1	**Diego Carcia H**	**25.53**	**242**	T	T	09 45 26.4	
PYUN	**Piuthan**	**25.96**	**335**	*e*P	**P**	**09 18 25.8**	**+0.6**
NACB	**Ninganchiao**	**32.18**	**50**	*e*P	**P**	**09 19 18.9**	**-1.3**
SOEI	**Soe**	**32.52**	**116**	P	**P**	**09 19 23.4**	**0.0**
AAK	**Ala-Archa**	**41.99**	**337**	*e*P	**P**	**09 20 44.3**	**+0.9**
MKAR	**Makanchi Array**	**43.41**	**347**	P	**P**	**09 20 54.4**	**-0.2**
KKAR	**Karatay Array**	**44.01**	**334**	*e*P	**P**	**09 21 00.5**	**+0.9**
SONM	**Songino Array**	**44.15**	**11**	P	**P**	**09 20 59.3**	**-1.5**
SONM	0.9nm,0.5s,baz=196,slow=2.9,SNR=5.5			pP	**PcP**	**09 22 45.4**	**+0.3**
KSAR	**Wonju Array Be**	**44.40**	**38**	P	**P**	**09 21 02.5**	**-0.3**
KSRS	**Korea Array**	**44.44**	**38**	P	**P**	**09 21 02.5**	**-0.5**
KSRS	1.9nm,0.7s,baz=222,slow=9.0,SNR=7.7			LR	LR	09 41 04.2	
WRA	**Warramunga Arr**	**45.77**	**124**	P	**P**	**09 21 14.0**	**+0.1**
WRAB	**Tennant Creek**	**45.78**	**124**	*e*P	**P**	**09 21 13.4**	**-0.6**
GEYT	**Alibeck**	**47.16**	**320**	P	**P**	**09 21 24.9**	**+0.3**
ASAR	**Alice Springs**	**47.26**	**128**	P	**P**	**09 21 25.6**	**0.0**
ASAR	1.5nm,0.5s,baz=299,slow=7.7,SNR=30			pP	**pP**	**09 21 38.5**	**-0.1**
ASAR	1.3nm,0.5s,baz=297,slow=7.6,SNR=6.6			PcP	**PcP**	**09 22 57.4**	**+1.1**
ZALV	**Zalesovo Beam**	**49.86**	**352**	P	**P**	**09 21 44.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**51.10**	**34**	P	**P**	**09 21 54.1**	**-0.5**
USRK	1.7nm,0.6s,baz=230,slow=8.0,SNR=5.1			LR	LR	09 46 12.7	
BRVK	**Borovoye**	**52.36**	**341**	*e*P	**P**	**09 22 03.7**	**-0.1**
ABKAR	**Akbulak array**	**53.45**	**332**	*e*P	**P**	**09 22 12.9**	**+1.0**
STKA	**Stephens Creek**	**57.31**	**133**	P	**P**	**09 22 40.1**	**+0.1**
NRIK	**Noril'sk**	**64.80**	**357**	P	**P**	**09 23 29.7**	**-0.4**
BRTR	**Keskin Array B**	**65.16**	**312**	P	**P**	**09 23 33.5**	**+0.2**
TIXI	**Tiksi**	**70.24**	**11**	*e*P	**P**	**09 24 02.7**	**-1.7**
AKASG	**Malin Array Be**	**71.19**	**322**	P	**P**	**09 24 10.0**	**-0.5**

FINES	**FINESS Array B**	**75.94**	**332**	P	**P**	**09 24 38.3**	**+0.1**
FINES	2.0nm,0.3s,baz=106,slow=5.8,SNR=26			pP	**pP**	**09 24 52.6**	**+0.5**
ARCES	**ARCESS Array B**	**78.57**	**340**	P	**P**	**09 24 53.2**	**+0.4**
VRAC	**Vranov**	**78.91**	**319**	LR	LR	10 03 20.3	
GERES	**GERESS Array B**	**80.77**	**319**	P	**P**	**09 25 06.4**	**+1.1**
GERES	0.8nm,0.5s,baz=76,slow=5.6,SNR=3.4			pP	**sP**	**09 25 22.3**	**-2.4**
GERES	comp=Z,17nm,21.9s,baz=331,slow=37			LR	LR	10 02 36.8	
DAVOX	**Davos/Dischmat**	**83.27**	**316**	P	**P**	**09 25 19.8**	**+1.2**
TXAR	**Lajitas Array**	**141.79**	**27**	PKhKP	PKPpre	09 32 16.8	
TXAR	0.1nm,0.7s,baz=300,slow=10.0,SNR=2.6			PKP	**PKPdf**	**09 32 22.3**	**-1.7**

IDC 27 09:17:49.0±1.4, 62°.84S×164°.55W, h0km, mb3.8/4, mb1 4.1/5, mb1mx4.0/16, mbtmp3.9/5, ML3.5/1, MS3.9/6, Ms1 3.9/6, ms1mx3.7/9, Error ellipse: s-maj=40.0km s-min=30.4km az=26.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.13**	**203**	P	P	09 22 02.9	+0.8
VNDA	0.1nm,0.3s,baz=60,slow=13,SNR=18			LR	LR	09 27 12.7	
TBI	**Tubuai**	**40.77**	**21**	*e*LQ	LQ	09 34 52.2	
TBI	273nm,30.0s			*e*LR	LR	09 36 34.7	
TBI	**Tubuai**	**40.77**	**21**	*e*T	T	10 08 38.4	
RKT	**Rikitea**	**44.41**	**40**	*e*LQ	LQ	09 36 13.3	
RKT	**Rikitea**	**44.41**	**40**	*e*T	T	10 13 07.4	
MAW	**Mawson**	**45.44**	**203**	P	P	09 26 08.1	-0.8
MAW	1.9nm,1.0s,baz=44,slow=7.8,SNR=3.8			LR	LR	09 43 44.3	
TVO	**Taravao**	**46.26**	**20**	*e*T	T	10 15 29.6	
PAE	**Paea**	**46.32**	**20**	*e*T	T	10 15 34.0	
PPT2	**Papeete2**	**46.40**	**20**	*e*LQ	LQ	09 37 11.6	
PPT2	468nm,26.5s			*e*LR	LR	09 39 07.6	
PPT2	**Papeete2**	**46.40**	**20**	*e*T	T	10 15 40.0	
PPT	**Papeete**	**46.42**	**20**	LR	LR	09 41 04.3	
VAH	**Vaihoa**	**49.02**	**22**	*e*T	T	10 18 55.1	
ASAR	**Alice Springs**	**56.28**	**284**	P	P	09 27 30.9	-0.3
ASAR	1.2nm,1.0s,baz=153,slow=8.4,SNR=6.5			LR	LR	09 48 35.0	
PLCA	**Paso Flores**	**56.41**	**114**	LR	LR	09 46 33.0	
WRA	**Warramunga Arr**	**59.35**	**287**	P	P	09 27 52.8	+0.1
CPUP	**Villa Florida**	**74.33**	**117**	LR	LR	09 59 24.9	
LPAZ	**La Paz**	**78.56**	**103**	P	P	09 29 53.0	+0.1

*CSEM **27** 09:19:34.0, 38°.89N×43°.60E, h5km, ML2.7*

ISK 27 09:19:34.0, 38°.89N×43°.60E, h5km, ML2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**210**	PG	Pb	09 19 42.9	+0.3
VANB				*e*SG	Sb	09 19 49.9	+1.6
VANB	**Van**	**0.34**	**210**	*i* Pg	Pb	09 19 42.9	+0.3
VANB				*e*Sg	Sb	09 19 49.9	+1.6
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*PG	Pb	09 19 51.1	0.0
AGRB				*e*SG	Sb	09 20 03.5	+0.8
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*Pg	Pb	09 19 51.1	0.0
AGRB				*e*Sg	Sb	09 20 03.5	+0.8
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*PN	Pb	09 20 09.6	-0.2
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*Pn	Pb	09 20 09.6	-0.2
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*PN	Pb	09 20 11.3	0.0
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*Pn	Pb	09 20 11.3	0.0
YEDI	**Yedisu-Bingol**	**2.44**	**284**	*e*PN	Pn	09 20 16.2	+1.6
YEDI	**Yedisu-Bingol**	**2.44**	**284**	*e*Pn	Pn	09 20 16.2	+1.5

*ISCJB **27** 09:25:32.8±0.8, 34°.97N±0°.06×23°.15E±0°.08, h71km±6km, mb3.7/6, Error ellipse: s-maj=13.1km s-min=6.3km az=140.8*
*THE **27** 09:25:33.8, 34°.95N×23°.06E, h40km±16km, ML3.8/4, Error ellipse: s-maj=16.5km s-min=1.4km az=52.0*
*CSEM **27** 09:25:33.3±0.4, 34°.95N×23°.10E, h30km, ML3.6, Error ellipse: s-maj=9.3km s-min=4.9km az=46.0*
*ATH **27** 09:25:34.2, 35°.07N×23°.24E, h41km±2km, ML3.6/4, Error ellipse: s-maj=4.1km s-min=1.3km az=49.0*
*IDC **27** 09:25:35.5±2.3, 35°.18N×23°.19E, h65km±23km, mb3.7/6, mb1 3.6/10, mb1mx3.4/39, mbtmp3.8/10, MS3.0/3, Ms1 3.0/3, ms1mx2.4/42, Error ellipse: s-maj=24.0km s-min=21.3km az=136.0*
*HLW **27** 09:25:43.2, 34°.28N×24°.39E, h15km±12km, Md4.4, Ml4.2*

ISC 27 09:25:33.1±1.1, 34°.94N±0°.06×23°.15E±0°.07, h53km±12km, n72, σ1§52/82, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.78**	**97**	P	**Pn**	**09 25 48.8**	**+0.8**
GVD				S	**Sn**	**09 26 01.4**	**+2.5**
GVD	**Gavdhos**	**0.78**	**97**	P	**Pn**	**09 25 48.6**	**+0.6**
GVD				S	**Sn**	**09 25 59.6**	**+0.7**
GVD	comp=N,21007μm,0.5s			AML	AML	09 26 04.9	
GVD	comp=E,13187μm,0.4s			AML	AML	09 26 07.4	
GVD	**Gavdhos**	**0.78**	**97**	P	**Pn**	**09 25 48.6**	**+0.6**
GVD				S	**Sn**	**09 25 59.6**	**+0.7**
IMMV	**Iera Moni Meta**	**0.86**	**53**	P	**Pn**	**09 25 49.2**	**+0.2**
IMMV				S	**Sn**	**09 26 01.5**	**+0.8**
IMMV	**Iera Moni Meta**	**0.86**	**53**	P	**Pn**	**09 25 49.5**	**+0.5**
IMMV				S	**Sn**	**09 25 59.8**	**-1.0**
IMMV	comp=E,14282μm,0.8s			AML	AML	09 26 03.9	
IMMV	comp=N,10018μm,0.7s			AML	AML	09 26 06.0	
IMMV	**Iera Moni Meta**	**0.86**	**53**	P	**Pn**	**09 25 49.5**	**+0.5**
IMMV				S	**Sn**	**09 26 01.5**	**+0.8**
ANKY	**Antikythira Is**	**0.93**	**8**	P	**Pn**	**09 25 49.7**	**-0.3**
ANKY				S	**Sn**	**09 26 02.9**	**+0.5**
ANKY	**Antikythira Is**	**0.93**	**8**	P	**Pn**	**09 25 49.7**	**-0.3**
ANKY				S	**Sn**	**09 26 01.0**	**-1.5**
ANKY	comp=N,2675μm,0.5s			AML	AML	09 26 06.7	
ANKY	comp=E,2874μm,1.1s			AML	AML	09 26 09.6	
ANKY	**Antikythira Is**	**0.93**	**8**	P	**Pn**	**09 25 49.7**	**-0.3**
ANKY				S	**Sn**	**09 26 02.9**	**+0.5**
VAM	**Vamos**	**0.98**	**61**	P	**Pn**	**09 25 51.5**	**+0.8**
VAM				S	**Sn**	**09 26 06.3**	**+2.7**
VAM	**Vamos**	**0.98**	**61**	P	**Pn**	**09 25 51.5**	**+0.8**
VAM				S	**Sn**	**09 26 03.2**	**-0.4**
VAM	comp=N,7269μm,0.7s			AML	AML	09 26 10.0	
VAM	comp=E,4638μm,0.5s			AML	AML	09 26 10.1	
VAM	**Vamos**	**0.98**	**61**	P	**Pn**	**09 25 51.5**	**+0.8**
VAM				S	**Sn**	**09 26 06.3**	**+2.7**
KYTH	**Kithira**	**1.32**	**356**	P	**Pn**	**09 25 55.8**	**+0.5**
KYTH	**Kithira**	**1.32**	**356**	P	**Pn**	**09 25 57.6**	**+2.3**
TMBK	**Timbaki Herakl**	**1.33**	**84**	P	**Pn**	**09 25 56.7**	**+1.3**
TMBK	**Timbaki Herakl**	**1.33**	**84**	P	**Pn**	**09 25 56.7**	**+1.3**
SIVA	**Sivas**	**1.37**	**86**	P	**Pn**	**09 25 57.2**	**+1.4**
SIVA	**Sivas**	**1.37**	**86**	P	**Pn**	**09 25 57.2**	**+1.4**
SIVA	**Sivas**	**1.37**	**86**	P	**Pn**	**09 25 57.2**	**+1.4**
IDI	**Anoyia**	**1.47**	**76**	P	**Pn**	**09 25 58.3**	**+1.0**
IDI	comp=E,12nm,0.3s,baz=301,slow=14,SNR=23			LR	LR	09 26 49.2	
IDI	**Anoyia**	**1.47**	**76**	P	**Pn**	**09 25 58.1**	**+0.8**
IDI	**Anoyia**	**1.47**	**76**	P	**Pn**	**09 25 58.1**	**+0.8**
IDI	**Anoyia**	**1.47**	**76**	P	**Pn**	**09 25 58.1**	**+0.8**
VLI	**Veliai**	**1.78**	**355**	P	**Pn**	**09 26 02.2**	**+0.7**
VLI	**Veliai**	**1.78**	**355**	P	**Pn**	**09 26 03.6**	**+2.1**
VLI	**Veliai**	**1.78**	**355**	P	**Pn**	**09 26 02.2**	**+0.7**
LAST	**Lasithi**	**1.93**	**83**	P	**Pn**	**09 26 04.7**	**+1.2**
LAST	**Lasithi**	**1.93**	**83**	P	**Pn**	**09 26 05.2**	**+1.7**
LAST	**Lasithi**	**1.93**	**83**	P	**Pn**	**09 26 05.2**	**+1.7**
MHLO	**Agia Marina, M**	**2.02**	**30**	P	**Pn**	**09 26 05.5**	**+0.8**
MHLO	**Agia Marina, M**	**2.02**	**30**	P	**Pn**	**09 26 05.5**	**+0.8**
NPS	**Neapolis**	**2.05**	**80**	P	**Pn**	**09 26 06.6**	**+1.5**
NPS	**Neapolis**	**2.05**	**80**	P	**Pn**	**09 26 07.1**	**+2.0**
NPS	**Neapolis**	**2.05**	**80**	P	**Pn**	**09 26 06.6**	**+1.5**
MHLA	**Plaka, Milos I**	**2.08**	**30**	P	**Pn**	**09 26 04.8**	**-0.7**
MHLA	**Plaka, Milos I**	**2.08**	**30**	P	**Pn**	**09 26 04.8**	**-0.7**
ZKR	**Zakros**	**2.52**	**85**	P	**Pn**	**09 26 13.9**	**+2.2**
ZKR	**Zakros**	**2.52**	**85**	P	**Pn**	**09 26 13.9**	**+2.2**
DID	**Didima**	**2.56**	**2**	P	**Pn**	**09 26 13.1**	**+0.9**
DID	**Didima**	**2.56**	**2**	P	**Pn**	**09 26 12.9**	**+0.7**
DID	**Didima**	**2.56**	**2**	P	**Pn**	**09 26 12.9**	**+0.7**
APE	**Apeiranthos**	**2.87**	**42**	P	**Pn**	**09 26 13.9**	**-2.5**
VLY	**Voula,Athens**	**2.95**	**10**	P	**Pn**	**09 26 17.0**	**-0.5**
VLY	**Voula,Athens**	**2.95**	**10**	P	**Pn**	**09 26 17.0**	**-0.5**
GUR	**Goura**	**3.06**	**348**	P	**Pn**	**09 26 20.4**	**+1.3**
GUR	**Goura**	**3.06**	**348**	P	**Pn**	**09 26 20.4**	**+1.3**
KLV	**Kalavryta, Ach**	**3.20**	**346**	P	**Pn**	**09 26 21.2**	**+0.2**
KLV	**Kalavryta, Ach**	**3.20**	**346**	P	**Pn**	**09 26 21.2**	**+0.2**
KARP	**Karpathos**	**3.34**	**78**	P	**Pn**	**09 26 23.4**	**+0.5**
KARP	**Karpathos**	**3.34**	**78**	P	**Pn**	**09 26 23.4**	**+0.5**
EFP	**Efpalio**	**3.62**	**344**	P	**Pn**	**09 26 28.9**	**+2.3**
EFP	**Efpalio**	**3.62**	**344**	P	**Pn**	**09 26 28.9**	**+2.3**
SWA2	baz=169	**6.01**	**160**	P	**Pn**	**09 26 59.9**	**+0.4**
SWA2	baz=169			S	Sn	09 27 55.5	-11
SWA2	comp=E,590μm,0.3s,logA/T=6.3,baz=169			AMP		09 28 00.0	
SWA2		**6.01**	**160**	P	**Pn**	**09 26 59.9**	**+0.4**
HFRF	**Wahat Farafira**	**8.94**	**149**	P	**Pn**	**09 27 37.8**	**-1.8**
STON	baz=153 **Ston**	**8.98**	**333**	*e*Pn	**Pn**	**09 27 36.0**	**-4.0**
STON				Sn	Sn	09 29 09.5	-10
GLL	**Jalalah**	**9.01**	**124**	P	**Pn**	**09 27 37.4**	**-3.1**
BRTR	baz=125 **Keskin Array B**	**9.62**	**57**	P	**Pn**	**09 27 49.8**	**+0.8**
SUZ	comp=E,0.2nm,0.3s,baz=245,slow=12,SNR=3.2 **Suez**	**9.64**	**119**	P	**Pn**	**09 27 46.1**	**-3.0**
MMAI	baz=119 **Mount Meron Ar**	**10.36**	**97**	P	**Pn**	**09 27 58.0**	**-1.0**
MMAI	comp=E,1.3nm,0.3s,baz=294,slow=11,SNR=3.5			LR	LR	09 33 53.6	
GRB	comp=E,22nm,19.1s,baz=165,slow=48 **Gharib**	**10.57**	**126**	P	**Pn**	**09 27 59.0**	**-2.9**
EIL	baz=127 **Elat**	**11.28**	**114**	P	**Pn**	**09 28 15.4**	**+3.8**
GERES	comp=E,0.8nm,0.3s,baz=306,slow=18,SNR=4.4 **GERESS Array B**	**15.55**	**336**	P	**Pn**	**09 29 07.8**	**-1.1**
AKASG	comp=E,0.1nm,0.3s,baz=190,slow=37,SNR=2.3 **Malin Array Be**	**16.36**	**14**	P	**Pn**	**09 29 18.3**	**-0.7**
MDT	comp=E,1.4nm,0.3s,baz=208,slow=9.5,SNR=5.8 **Midelt**	**23.12**	**273**	LR	LR	09 40 47.2	
HFS	comp=E,27nm,19.6s,baz=356,slow=39 **Hagfors**	**25.95**	**349**	P	**P**	**09 30 59.6**	**-0.7**
FINES	comp=E,1.3nm,0.5s,baz=160,slow=14,SNR=8.2 **FINESS Array B**	**26.59**	**3**	P	**P**	**09 31 05.2**	**-0.8**
GEYT	comp=E,1.7nm,0.8s,baz=160,slow=4.4,SNR=3.0 **Alibeck**	**28.19**	**74**	P	**P**	**09 31 21.2**	**+0.5**
TORD	comp=E,0.8nm,0.5s,baz=267,slow=7.2,SNR=2.7 **Torodi Ar. Bea**	**29.11**	**227**	P	**P**	**09 31 31.9**	**+2.9**
MKAR	comp=E,0.3nm,0.3s,baz=30,slow=9.0,SNR=7.4 **Makanchi Array**	**45.27**	**56**	P	**P**	**09 33 44.8**	**-0.5**
ZALV	comp=E,4.8nm,0.9s,baz=268,slow=6.8,SNR=4.9 **Zalesovo Beam**	**46.34**	**46**	P	**P**	**09 33 53.2**	**-0.4**
KSRS	comp=E,1.2nm,0.3s,baz=267,slow=11,SNR=3.0 **Korea Array**	**79.72**	**51**	LR	LR	10 20 33.6	
	comp=E,33nm,18.1s,baz=40,slow=42						

*GUC **27** 09:25:53.6±0.3, 34°.98S×73°.76W, h25km±2km, ML3.9*

ISC 27 09:25:52.3±6.4, 34°.93S±0°.06×73°.9W±0°.2, h33km±19km, n26, σ1§84/36, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.52**	**143**	*e*P	**Pn**	**09 26 16.9**	**-0.2**
COCH				*e*S	**Sn**	**09 26 34.7**	**-1.1**
GO05	**HualaæØ**	**1.64**	**94**	*e*P	**Pn**	**09 26 18.7**	**-0.2**
GO05				*e*S	**Sn**	**09 26 37.8**	**-1.1**
GO05	comp=N,3μm,0.2s			IAML		09 26 38.9	
CHPI	**Pichilemu**	**1.68**	**72**	*e*P	**Pn**	**09 26 18.1**	**-1.2**
CHPI				*i* S	**Sn**	**09 26 37.8**	**-1.7**
NICH	**Los Niches**	**2.22**	**93**	*e*P	**Pn**	**09 26 27.5**	**+0.7**
NICH				*e*S	**Sn**	**09 26 53.6**	**+0.5**
CCHI	**Chillan**	**2.25**	**139**	*e*P	**Pn**	**09 26 28.1**	**+0.9**
CCHI				*e*S	**Sn**	**09 26 54.2**	**+0.4**
CCHI	comp=N,787nm,0.3s			IAML		09 26 58.9	
ROC1	**El Roble**	**3.10**	**52**	*e*P	**Pn**	**09 26 38.3**	**-0.9**
ROC1				*e*S	**Sn**	**09 27 12.7**	**-2.6**
ROCH	**El Roble**	**3.11**	**52**	IAML		09 27 21.7	
CLCH	comp=N,234nm,0.5s **Cerro Calan**	**3.20**	**62**	*e*P	**Pn**	**09 26 39.9**	**-0.5**
CLCH				*e*S	**Sn**	**09 27 16.3**	**-1.1**
CLCH	comp=E,330nm,0.3s			IAML		09 27 22.8	
PEL	**Peldehue**	**3.23**	**57**	IAML		09 27 19.2	
AAGR	comp=E,315nm,0.5s **Agrelo**	**4.62**	**68**	*e*P	**Pn**	**09 27 02.2**	**+2.4**
ARCO	**CERRO ARCO**	**4.65**	**65**	*e*P	**Pn**	**09 27 03.0**	**+2.7**
ARCO	comp=Z,40nm,0.5s			IAML		09 27 12.8	
AUSP	**Uspallata**	**4.65**	**56**	*i* P	**Pn**	**09 27 02.0**	**+1.5**
AUSP				*e*S	**Sn**	**09 27 56.4**	**+2.9**
AUSP				*i* S	Sb	09 27 57.8	-11
ASAL	**Salagasta**	**4.84**	**63**	*e*P	**Pn**	**09 27 05.4**	**+2.5**
ASAL				*e*S	**Sn**	**09 28 01.0**	**+3.1**
RTLS	**Leoncito**	**4.97**	**52**	*e*P	**Pn**	**09 27 06.5**	**+1.6**
RTLS				*i* S	**Sn**	**09 28 05.2**	**+3.7**
RTCV	**Cerro Valdivia**	**5.44**	**57**	*i* P	**Pn**	**09 27 12.5**	**+1.4**
RTLL	**Cerro Villicun**	**5.81**	**53**	*e*P	**Pn**	**09 27 16.9**	**+0.

AGRB				*e*SG	**Sg**	**09 41 41.6**	**+0.8**
AGRB	**Hanur-Agry**	**0.56**	**1**	*e*Pg	**Pg**	**09 41 33.4**	**0.0**
AGRB				*e*Sg	**Sg**	**09 41 41.6**	**+0.8**
GEVA	**Gevas**	**0.70**	**175**	*i* P	**Pg**	**09 41 35.8**	**-0.3**
GEVA				*i* S	**Sb**	**09 41 47.1**	**-0.6**
GEVA	**Gevas**	**0.70**	**175**	P	**Pg**	**09 41 35.8**	**-0.3**
GEVA				S	**Sb**	**09 41 47.1**	**-0.6**
EKAR	**Karacoban**	**0.75**	**289**	*i* P	**Pg**	**09 41 37.0**	**0.0**
EKAR				*i* S	**Sn**	**09 41 50.8**	**-1.5**
EKAR	**Karacoban**	**0.75**	**289**	P	**Pg**	**09 41 37.0**	**0.0**
DYDN	**Diyadin**	**0.77**	**46**	*i* P	**Pg**	**09 41 36.6**	**-0.8**
DYDN				*i* S	**Sg**	**09 41 47.8**	**+0.5**
DYDN	**Diyadin**	**0.77**	**46**	P	**Pg**	**09 41 36.6**	**-0.8**
DYDN				S	**Sg**	**09 41 47.8**	**+0.5**
EATA	**Eleskirt**	**0.93**	**336**	*i* P	**Pg**	**09 41 40.2**	**-0.2**
EATA				*i* S	**Sb**	**09 41 53.9**	**-0.5**
EATA	**Eleskirt**	**0.93**	**336**	P	**Pg**	**09 41 40.2**	**-0.2**
EATA				S	**Sb**	**09 41 53.9**	**-0.5**
VRTB	**Varto-Mus**	**1.19**	**278**	*e*PN	**Pn**	**09 41 46.1**	**-0.2**
VRTB	**Varto-Mus**	**1.19**	**278**	*e*Pn	**Pn**	**09 41 46.1**	**-0.2**
HOMI	**Horasan**	**1.32**	**322**	*i* P	**Pb**	**09 41 48.0**	**-0.2**
HOMI				*i* S	**Sn**	**09 42 08.7**	**+2.3**
BNGL	**BINGOL**	**1.42**	**268**	*i* P	**Pn**	**09 41 49.1**	**-0.5**
BNGL				*i* S	**Sn**	**09 42 11.0**	**+2.1**
ERZM	**Erzurum**	**1.53**	**306**	*i* P	**Pb**	**09 41 51.5**	**-0.3**
ERZM				*i* S	**Sg**	**09 42 11.7**	**-0.1**
ERZM	**Erzurum**	**1.53**	**306**	P	**Pb**	**09 41 51.5**	**-0.3**
ERZM				S	**Sg**	**09 42 11.7**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.62**	**343**	*e*PN	**Pb**	**09 41 52.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.62**	**343**	*e*Pn	**Pb**	**09 41 52.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.64**	**239**	*e*PN	**Pn**	**09 41 52.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.64**	**239**	*e*Pn	**Pn**	**09 41 52.7**	**+0.4**
BTMN	**Batman**	**1.75**	**231**	*i* P	**Pn**	**09 41 53.2**	**-0.7**
BTMN				*i* S	**Sg**	**09 42 18.3**	**-0.4**
BTMN	**Batman**	**1.75**	**231**	P	**Pn**	**09 41 53.2**	**-0.7**
BTMN				S	**Sg**	**09 42 18.3**	**-0.4**
BNGB	**Bing˜¶l**	**1.79**	**270**	*e*PN	**Pn**	**09 41 54.6**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.94**	**283**	*e*PN	**Pn**	**09 41 56.4**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.94**	**283**	*e*Pn	**Pn**	**09 41 56.4**	**-0.2**
BINT	**Bingol**	**1.94**	**267**	*e*Pn	**Pn**	**09 41 54.6**	**-2.0**
MAZI	**Mazidag**	**2.52**	**233**	*e*PN	**Pn**	**09 42 05.3**	**+0.7**
MAZI	**Mazidag**	**2.52**	**233**	*e*Pn	**Pn**	**09 42 05.3**	**+0.7**
PTK	**Pertek**	**2.80**	**269**	*e*PN	**Pn**	**09 42 09.0**	**+0.6**
PTK	**Pertek**	**2.80**	**269**	*e*Pn	**Pn**	**09 42 09.0**	**+0.6**

*CSEM **27** 10:01:12.6, 37˚.17N×22˚.06E, h6km, ML2.7/3*
ATH 27 10:01:12.7, 37˚.17N×22˚.06E, h6km±2km, ML2.7/3, Error ellipse: s-maj=3.3km s-min=1.3km az=93.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**276**	P	Pg	10 01 14.6	-0.3
ITM				S	Sg	10 01 16.6	+0.2
ITM				AML	AML	10 01 18.3	
	comp=E,2358μm,0.3s						
ITM				AML	AML	10 01 19.2	
	comp=N,2886μm,0.5s						
ITM	**Ithomi**	**0.10**	**276**	P	Pg	10 01 14.6	-0.3
ITM				S	Sg	10 01 16.6	+0.2
PYL	**PYLOS**	**0.37**	**223**	P	Pg	10 01 20.2	+0.3
PYL				S	Sg	10 01 25.0	+0.3
PYL	**PYLOS**	**0.37**	**223**	P	Pg	10 01 20.2	+0.4
PYL				S	Sg	10 01 25.0	+0.3
MES2	**Methoni**	**0.44**	**219**	P	Pg	10 01 21.8	+0.6
MES2	**Methoni**	**0.44**	**219**	P	Pg	10 01 21.8	+0.6
AMT	**Artemida-Makis**	**0.46**	**323**	P	Pg	10 01 21.4	-0.1
AMT	**Artemida-Makis**	**0.46**	**323**	P	Pg	10 01 21.4	-0.1

IDC 27 10:02:21.1±1.9, 48˚.23N×32˚.93E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/36, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=48.9km s-min=13.0km az=68.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.46**	**317**	Pn	Pn	10 03 18.3	+2.1
	0.9nm,0.3s,baz=126,slow=17,SNR=4.6						
AKASG				Lg	Lg	10 04 09.9	
	2.0nm,0.3s,baz=126,slow=29,SNR=4.9						
BRTR	**Keskin Array B**	**8.52**	**176**	Pn	Pn	10 04 27.1	+1.3
	0.1nm,0.3s,baz=356,slow=13,SNR=3.1						
ARCES	**ARCESS Array B**	**21.68**	**353**	P	P	10 07 11.4	-1.7
	1.2nm,0.6s,baz=174,slow=9.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**43.53**	**227**	P	P	10 10 24.5	-2.0
	0.3nm,0.6s,baz=36,slow=7.6,SNR=2.3						

*NDI **27** 10:04:52.9±5.9, 32˚.72N×72˚.12E, h15km±86km, ML3.9*
*IDC **27** 10:05:05.0±6.6, 32˚.95N×72˚.78E, h75km±62km, mb3.5/7, mb1 3.6/10, mb1mx3.3/54, mbtmp3.8/10, ML3.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/41, Error ellipse: s-maj=38.6km s-min=21.4km az=30.0*
ISC 27 10:04:54.2±0.9, 32˚.67N±0˚.05×72˚.30E±0˚.06, h10km, n40, σ3§27/43, mb3.7/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.90**	**94**	*e*P	Pn	10 05 34.4	-6.0
THN				*e*S	**Sn**	**10 06 12.2**	**-3.1**
PONG	**Pong**	**3.17**	**102**	*e*P	**Pg**	**10 05 55.0**	**0.0**
PONG				*e*S	**Sb**	**10 06 36.0**	**+6.6**
DHRM	**DHARAMSHALA**	**3.41**	**96**	*e*P	**Pn**	**10 05 48.4**	**+0.8**
DHRM				*e*S	**Sn**	**10 06 27.0**	**-1.2**
DHRM				AML	AML	10 06 48.7	
	comp=N,2μm,0.4s						
DHRM				AML	AML	10 06 52.0	
	comp=E,2μm,0.3s						
JWA	**Jwalamukhi**	**3.51**	**102**	*e*P	**Pn**	**10 05 49.0**	**+0.2**
JWA				*e*S	**Sn**	**10 06 31.0**	**+0.6**
BHK	**Bhakra**	**3.72**	**109**	*e*P	**Pb**	**10 06 00.6**	**+0.7**
BHK				*e*S	**Sn**	**10 06 41.0**	**+5.5**
SMLA	**Simla**	**4.42**	**109**	*e*P	**Pn**	**10 06 02.0**	**+0.7**
SMLA				*e*S	**Sn**	**10 06 49.5**	**-3.3**
SMLA				AML	AML	10 07 17.1	
	comp=N,913nm,0.5s						
SMLA				AML	AML	10 07 17.4	
	comp=E,514nm,0.4s						
KHET	**Khetri**	**5.50**	**146**	*e*P	**Pn**	**10 06 17.1**	**+0.9**
KHET				*e*S	**Sn**	**10 07 16.9**	**-2.5**
KHET				AML	AML	10 07 50.6	
	comp=E,60nm,0.3s						
KHET				AML	AML	10 07 50.8	
	comp=N,59nm,0.3s						
BHGR	**Bahadurgarh**	**5.63**	**134**	*e*P	**Pg**	**10 06 40.8**	**-1.3**
BHGR				*e*S	**Sb**	**10 07 48.9**	**+8.6**
KUDL	**Kundal**	**5.79**	**140**	*e*P	**Pn**	**10 06 21.1**	**+1.0**
KUDL				*e*S	**Sn**	**10 07 21.9**	**-4.6**
KUDL				AML	AML	10 08 03.3	
	comp=N,44nm,0.2s						
KUDL				AML	AML	10 08 09.7	
	comp=E,48nm,0.6s						
NDI	**New Delhi**	**5.81**	**132**	*e*S	**Sn**	**10 07 23.0**	**-4.2**
JASL	**Jaisalmer**	**5.86**	**192**	*e*P	**Pg**	**10 06 49.6**	**+3.2**
JASL				*e*S	**Sb**	**10 07 49.3**	**+2.7**
SONA	**Sohna**	**6.04**	**136**	*e*P	**Pn**	**10 06 24.1**	**+0.5**
SONA				*e*S	**Sn**	**10 07 29.1**	**-3.7**
SONA				AML	AML	10 08 05.5	
	comp=N,48nm,0.5s						
SONA				AML	AML	10 08 07.4	
	comp=E,74nm,0.3s						
KALG	**Kalgarh**	**6.37**	**118**	*e*P	Pn	10 06 18.7	-10
KALG				*e*S	Sn	10 07 24.8	-16
JOSI	**Joshimath**	**6.54**	**107**	*e*P	**Pn**	**10 06 31.1**	**+0.4**
JOSI				*e*S	**Sn**	**10 07 42.2**	**-3.3**
JOSI				AML	AML	10 08 23.4	
	comp=N,335nm,0.9s						
JOSI				AML	AML	10 08 23.6	
	comp=E,275nm,1.0s						
AAK	**Ala-Archa**	**10.10**	**9**	P	Pn	10 07 23.0	+3.6
	comp=E,1.4nm,0.3s,baz=208,slow=10,SNR=11						
AAK				S	**Sn**	**10 09 14.0**	**+1.2**
	comp=E,0.2nm,0.3s,baz=3.4,slow=17,SNR=4.0						
PYUN	**Piuthan**	**10.29**	**113**	*e*P	**Pn**	**10 07 20.5**	**-1.7**
	comp=E,38nm,0.4s						
DANN	**Dangsing**	**10.78**	**111**	*e*P	**Pn**	**10 07 26.7**	**-2.2**
KOLN	**Koldanda**	**10.93**	**114**	*e*P	**Pn**	**10 07 29.1**	**-1.7**
	comp=E,12nm,0.4s						
GKN	**Gorkha**	**11.63**	**110**	*e*P	**Pn**	**10 07 38.2**	**-2.2**
DMN	**Daman**	**12.18**	**111**	*e*P	**Pn**	**10 07 44.7**	**-3.3**
	comp=E,14nm,0.4s						
KKN	**Kakani**	**12.23**	**110**	*e*P	**Pn**	**10 07 45.6**	**-3.1**
	comp=E,32nm,0.5s						
PKIN	**Phulchoki**	**12.42**	**111**	*e*P	**Pn**	**10 07 47.7**	**-3.7**
	comp=E,31nm,0.5s						
PKI	**Pulchoki**	**12.43**	**111**	*e*P	**Pn**	**10 07 47.9**	**-3.7**
	comp=E,11nm,0.2s						
GUN	**Gumba**	**12.66**	**108**	*e*P	**Pn**	**10 07 51.6**	**-3.1**
	comp=E,17nm,0.4s						
JIRN	**Jiri**	**13.01**	**109**	*e*P	**Pn**	**10 07 56.1**	**-3.4**
	comp=E,127nm,0.4s						
RAMN	**Ramite**	**13.66**	**111**	*e*P	Pn	10 08 03.8	-4.5
	comp=E,20nm,0.5s						
POO	**Poona**	**14.15**	**174**	*e*P	**S**	**10 11 06.0**	**-7.1**
ODAN	**Odare**	**14.33**	**110**	*e*P	**Pn**	**10 08 13.5**	**-3.9**
	comp=E,7.8nm,0.4s						
TAPN	**Taplejung**	**14.37**	**108**	*e*P	Pn	10 08 13.8	-4.1
	comp=E,7.1nm,0.4s						
MKAR	**Makanchi Array**	**16.04**	**26**	P	**P**	**10 08 40.8**	**-2.5**
	comp=E,0.0nm,0.3s,baz=208,slow=12,SNR=2.1						
KURBB	**Kurchatov Arra**	**18.52**	**13**	P	**Pn**	**10 09 09.7**	**-1.0**
	comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**20.39**	**357**	P	Pn	10 09 32.7	-0.4
	comp=E,2.3nm,0.6s,baz=172,slow=11,SNR=9.4						
AKTO	**Aktyubinsk**	**20.65**	**333**	P	Pn	10 09 37.2	+1.0
	comp=E,2.9nm,0.5s,baz=132,slow=14,SNR=12						
ZALV	**Zalesovo Beam**	**23.07**	**19**	P	**P**	**10 10 00.2**	**+0.6**
	comp=E,2.4nm,0.4s,baz=214,slow=10,0,SNR=14						
CMAR	**Chiang Mai Arr**	**27.80**	**114**	P	**P**	**10 10 44.5**	**+0.9**
	comp=E,0.6nm,0.4s,baz=300,slow=10,0,SNR=4.3						
OBN	**Obninsk**	**33.58**	**323**	LR	LR	10 26 24.3	
	comp=E,14nm,19.0s,baz=266,slow=38						
KEST	**Kesra**	**51.36**	**292**	LR	LR	10 40 54.5	
	comp=E,57nm,18.8s,baz=300,slow=42						
TORD	**Torodi Ar. Bea**	**66.78**	**271**	P	P	10 15 51.7	+5.4
	comp=E,0.4nm,0.7s,baz=48,slow=3.9,SNR=3.3						
WRA	**Warmunga Arr**	**79.06**	**122**	P	**P**	**10 17 00.5**	**+1.6**
	comp=E,0.4nm,0.5s,baz=321,slow=5.4,SNR=4.6						
ASAR	**Alice Springs**	**81.18**	**125**	P	**P**	**10 17 11.9**	**+1.5**
	comp=E,0.4nm,0.5s,baz=306,slow=4.9,SNR=15						

*ISK **27** 10:14:31.0, 38˚.92N×43˚.75E, h5km, ML3.3*
*DDA **27** 10:14:34.6, 38˚.94N×43˚.47E, h8km, Ml3.3*
*CSEM **27** 10:14:34.0±0.3, 38˚.89N×43˚.55E, h2km, ML3.3, Error ellipse: s-maj=7.2km s-min=5.5km az=162.0*
*AZER **27** 10:14:36.2±0.6, 38˚.65N×43˚.90E, h5km, Error ellipse: s-maj=6.2km s-min=3.7km az=114.0*
ISC 27 10:14:33.6±0.9, 38˚.92N±0˚.02×43˚.56E±0˚.02, h12km±6km, n56, σ1§57/74, 12C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**5**	*i* P	**Pg**	**10 14 36.2**	**-0.2**
VMUR				*i* S	**Sg**	**10 14 39.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.07**	**5**	P	**Pg**	**10 14 36.2**	**-0.2**
VANB	**Van**	**0.35**	**203**	*e*PG	**Pg**	**10 14 41.0**	**+0.4**
VANB	**Van**	**0.35**	**203**	*e*Pg	**Pg**	**10 14 41.1**	**+0.4**
DYDN	**Diyadin**	**0.64**	**9**	*i* P	**Pb**	**10 14 46.4**	**-0.4**
DYDN				*i* S	**Sb**	**10 14 56.9**	**+1.1**
DYDN	**Diyadin**	**0.64**	**9**	P	**Pb**	**10 14 46.4**	**-0.4**
DYDN				S	**Sb**	**10 14 56.9**	**+1.1**
GEVA	**Gevas**	**0.72**	**213**	*i* P	**Pg**	**10 14 45.7**	**-2.0**
GEVA				*i* S	**Sb**	**10 14 58.7**	**+0.6**
TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**10 14 48.1**	**-0.3**
TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**10 14 48.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.80**	**326**	*e*PG	**Pg**	**10 14 49.0**	**-0.1**
AGRB				*e*SG	**Sn**	**10 15 01.9**	**-0.8**
AGRB	**Hanur-Agry**	**0.80**	**326**	*e*Pg	**Pg**	**10 14 49.0**	**-0.1**
AGRB				*e*Sg	**Sn**	**10 15 01.9**	**-0.8**
EKAR	**Karacoban**	**1.22**	**287**	*i* P	**Pn**	**10 14 57.0**	**+0.3**
EKAR	**Karacoban**	**1.22**	**287**	P	**Pn**	**10 14 57.0**	**+0.3**
EATA	**Eleskirt**	**1.26**	**319**	*i* P	**Pn**	**10 14 56.5**	**-0.8**
EATA	**Eleskirt**	**1.26**	**319**	P	**Pn**	**10 14 56.5**	**-0.8**
NAX	**Nakhchivan**	**1.53**	**80**	⇑P	**Pb**	**10 15 01.9**	**0.0**
	SNR=9.1						
NAX				⇑S	**Sb**	**10 15 20.9**	**-0.3**
NAX	**Nakhchivan**	**1.53**	**80**	P	**Pb**	**10 15 01.9**	**0.0**
	SNR=9.1						
NAX				S	**Sb**	**10 15 20.9**	**-0.3**
CUKT	**Cukurca**	**1.67**	**179**	*e*PN	**Pn**	**10 15 02.8**	**+0.1**
CUKT				*e*SN	**Sb**	**10 15 25.4**	**+0.1**
CUKT	**Cukurca**	**1.67**	**179**	*e*Pn	**Pn**	**10 15 02.8**	**+0.1**
CUKT				*e*Sn	**Sb**	**10 15 25.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*PN	**Pn**	**10 15 06.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*Pn	**Pn**	**10 15 06.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.01**	**248**	*e*PN	**Pb**	**10 15 09.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.01**	**248**	*e*Pn	**Pb**	**10 15 09.7**	**-0.4**
BNGB	**Bing˜¶l**	**2.25**	**273**	*e*PN	**Pb**	**10 15 13.3**	**-1.0**
BINT	**Bingol**	**2.40**	**270**	*e*Pn	**Pn**	**10 15 13.3**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*PN	**Pb**	**10 15 15.4**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*Pn	**Pb**	**10 15 15.5**	**-1.4**
GDB	**GEDABAY**	**2.47**	**42**	⇑P	**Pb**	**10 15 18.2**	**+0.2**
	SNR=6.7						
GDB				⇑S	**Sb**	**10 15 50.2**	**+1.7**
GDB	**GEDABAY**	**2.47**	**42**	P	**Pb**	**10 15 18.2**	**+0.2**
	SNR=6.7						
GDB				S	**Sb**	**10 15 50.2**	**+1.7**
QZX	**Qazax, Azerbai**	**2.55**	**32**	⇑P	**Pb**	**10 15 20.0**	**+0.6**
	SNR=8.5						
QZX				⇑S	**Sg**	**10 15 53.2**	**-2.4**
QZX	**Qazax, Azerbai**	**2.55**	**32**	P	**Pb**	**10 15 20.0**	**+0.6**
	SNR=8.5						
QZX				S	**Sg**	**10 15 53.2**	**-2.4**
GANJ	**Ganja**	**2.74**	**50**	⇓P	**Pb**	**10 15 21.1**	**-1.5**
	SNR=6.2						
GANJ				⇑S	**Sb**	**10 15 55.4**	**-0.7**
GANJ	**Ganja**	**2.74**	**50**	P	**Pb**	**10 15 21.1**	**-1.5**
	SNR=6.2						
GANJ				S	**Sb**	**10 15 55.4**	**-0.7**
MAZI	**Mazidag**	**2.85**	**240**	*e*PN	**Pn**	**10 15 20.8**	**+1.7**
MAZI	**Mazidag**	**2.85**	**240**	*e*Pn	**Pn**	**10 15 20.8**	**+1.7**
BRDA	**Brd**	**3.10**	**63**	⇑P	**Pn**	**10 15 24.5**	**+2.2**
BRDA				⇓S	**Sn**	**10 16 01.8**	**+2.5**
BRDA	**Brd**	**3.10**	**63**	P	**Pn**	**10 15 24.5**	**+2.2**
BRDA				S	**Sn**	**10 16 01.8**	**+2.5**
PTK	**Pertek**	**3.25**	**271**	*e*PN	**Pn**	**10 15 27.0**	**+2.3**
PTK	**Pertek**	**3.25**	**271**	*e*Pn	**Pn**	**10 15 27.0**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*PN	**Pn**	**10 15 29.2**	**+2.9**
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*Pn	**Pn**	**10 15 29.2**	**+2.9**
ZKTA	**Zakatala**	**3.59**	**40**	⇓P	**Pb**	**10 15 33.3**	**-3.7**
SEKA	**Sheki**	**3.61**	**49**	⇑P	**Pb**	**10 15 33.5**	**-3.9**
SEKA	**Sheki**	**3.61**	**49**	P	**Pb**	**10 15 33.5**	**-3.9**
LRK	**Lerik**	**3.74**	**93**	⇑P	**Pn**	**10 15 31.1**	**-0.3**
LRK	**Lerik**	**3.74**	**93**	P	**Pn**	**10 15 31.1**	**-0.3**
GLBA	**Clilabad**	**3.77**	**84**	⇓P	**Pn**	**10 15 32.0**	**+0.4**
GLBA	**Clilabad**	**3.77**	**84**	P	**Pn**	**10 15 32.0**	**+0.4**
ASTR	**Astara**	**4.10**	**93**	⇑P	**Pn**	**10 15 35.9**	**-0.2**
ASTR	**Astara**	**4.10**	**93**	P	**Pn**	**10 15 35.9**	**-0.2**
XNQ	**Khinaliq**	**4.17**	**56**	⇑P	**Pn**	**10 15 40.0**	**+2.7**
XNQ	**Khinaliq**	**4.17**	**56**	P	**Pn**	**10 15 40.0**	**+2.7**
PQL	**Pirkuli**	**4.30**	**63**	⇓P	**Pn**	**10 15 40.9**	**+1.9**
PQL	**Pirkuli**	**4.30**	**63**	P	**Pn**	**10 15 40.9**	**+1.9**
ATGJ	**Altiaghaj**	**4.57**	**63**	⇓P	**Pn**	**10 15 44.6**	**+2.0**
ATGJ	**Altiaghaj**	**4.57**	**63**	P	**Pn**	**10 15 44.6**	**+2.0**

*ISCJB **27** 10:28:34.9±0.7, 11˚.52N±0˚.09×143˚.4E±0˚.1, h37km, mb4.1/16, MS3.0/5, Error ellipse: s-maj=18.9km s-min=8.6km az=36.8*
*NEIC **27** 10:28:38.0±1.6, 11˚.55N×143˚.47E, h51km±16km, mb4.2/1, Error ellipse: s-maj=19.2km s-min=10.3km az=103.0*
*IDC **27** 10:28:38.0±0.8, 11˚.52N×143˚.56E, h53km±8km, mb3.8/13, mb1 3.9/14, mb1mx3.7/50, mbtmp4.1/14, MS3.0/6, Ms1 3.0/6, ms1mx2.7/36, Error ellipse: s-maj=24.1km s-min=8.6km az=119.0*
ISC 27 10:28:36.9±0.8, 11˚.6N±0˚.1×143˚.4E±0˚.1, h37km, n26, σ0§84/22, mb4.2/16, MS3.1/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.49**	**35**	P	**Pn**	**10 29 15.9**	**+1.1**
	47nm,0.3s,baz=223,slow=2.6,SNR=34						
GUMO				S	**Sn**	**10 29 44.2**	**+0.2**
	58nm,0.3s,baz=191,slow=17,SNR=9.0						
GUMO				LR	LR	10 30 47.0	
	comp=Z,93nm,18.3s,baz=220,slow=53						
PMG	**Port Moresby**	**21.15**	**170**	LR	LR	10 40 02.7	
	comp=Z,45nm,19.7s,baz=40,slow=32						
H11N1	**WAKE ISLAND Hy**	**24.02**	**67**	T	T	10 58 43.5	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**24.02**	**67**	T	T	10 58 35.7	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**24.03**	**67**	T	T	10 58 42.8	
	baz=256						
YHNB	**Yeheng**	**24.62**	**305**	*e*P	**P**	**10 33 54.0**	**-0.1**
MJAR	**Matsushiro Arr**	**25.32**	**350**	P	**P**	**10 33 58.7**	**-1.6**
	1.2nm,0.7s,baz=194,slow=4.6,SNR=4.4						
KSRS	**Korea Array**	**29.30**	**334**	LR	LR	10 44 58.7	
	comp=Z,13nm,19.2s,baz=140,slow=33						
WRA	**Warramunga Arr**	**32.54**	**196**	P	**P**	**10 35 03.9**	**-0.8**
	1.3nm,0.6s,baz=20,slow=9.8,SNR=13						
WRA				pP	**pP**	**10 35 16.9**	**+1.7**
	2.6nm,0.8s,baz=19,slow=9.7,SNR=3.8						
USRK	**Ussuriysk Ar.**	**33.99**	**345**	P	**P**	**10 35 17.5**	**+0.5**
	2.0nm,0.7s,baz=128,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**36.21**	**195**	P	**P**	**10 35 36.5**	**+0.1**
	0.3nm,0.4s,baz=18,slow=13,SNR=6.1						
ASAR				pP	**sP**	**10 35 50.2**	**-1.2**
	0.4nm,0.7s,baz=17,slow=13,SNR=3.0						
KLR	**Kul'dur**	**38.79**	**348**	P	**P**	**10 35 57.6**	**-0.3**
	0.1nm,0.4s,baz=176,slow=7.6,SNR=5.4						
PETK	**Petropavlovsk-**	**43.01**	**13**	LR	LR	10 53 36.7	
	comp=Z,30nm,20.7s,baz=104,slow=35						
CMAR	**Chiang Mai Arr**	**43.40**	**285**	P	**P**	**10 36 37.4**	**+1.1**
	0.9nm,0.6s,baz=91,slow=6.1,SNR=5.3						
PSI	**Prapat**	**44.91**	**262**	P	**P**	**10 36 48.6**	**-0.1**
	3.5nm,0.6s,baz=11,slow=7.8,SNR=3.7						
YAK	**Yakutsk**	**51.37**	**352**	P	**P**	**10 37 36.7**	**-0.9**
	18nm,0.5s,baz=151,slow=2.4,SNR=2.9						
TIXI	**Tiksi**	**60.72**	**355**	P	**P**	**10 38 44.0**	**-0.3**
	1.0nm,0.4s,baz=147,slow=4.2,SNR=4.1						
MKAR	**Makanchi Array**	**61.97**	**317**	P	**P**	**10 38 53.6**	**+0.4**
	1.0nm,0.7s,baz=104,slow=8.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**62.45**	**325**	LR	LR	11 08 00.6	
	comp=Z,11nm,18.1s,baz=47,slow=38						
BVAR	**Borovoye Array**	**70.64**	**322**	P	**P**	**10 39 48.9**	**+0.2**
	2.9nm,0.7s,baz=101,slow=7.7,SNR=11						
BVAR				pP	**sP**	**10 40 04.3**	**0.0**
	1.9nm,0.7s,baz=101,slow=7.7,SNR=2.9						
ILAR	**Eielson Array**	**71.02**	**25**	P	**P**	**10 39 50.0**	**-0.7**
	1.1nm,0.6s,baz=246,slow=5.9,SNR=12						
ABKAR	**Akbulak array**	**77.09**	**318**	*e*P	**P**	**10 40 26.3**	**-0.1**
	1.5nm,0.6s						
ARU	**Arti**	**77.62**	**325**	P	**P**	**10 40 28.7**	**-0.6**
	1.5nm,0.3s,baz=302,slow=22,SNR=2.1						
AKTO	**Aktyubinsk**	**78.26**	**319**	P	**P**	**10 40 34.2**	**+1.2**
	0.4nm,0.5s,baz=77,slow=14,SNR=2.3						
ARCES	**ARCESS Array B**	**88.57**	**342**	P	**P**	**10 41 25.8**	**+0.2**
	2.8nm,1.0s,baz=87,slow=7.3,SNR=4.0						
HFS	**Hagfors**	**98.11**	**337**	LR	LR	11 26 26.6	
	comp=Z,18nm,19.4s,baz=56,slow=35						

*ISCJB **27** 10:29:31.2±0.4, 38˚.19N±0˚.03×73˚.46E±0˚.06, h100km, mb3.6/11, Error ellipse: s-maj=6.4km s-min=4.6km az=163.8*
*KRNET **27** 10:29:34.8±0.1, 38˚.39N×73˚.62E, mb3.2*
*IDC **27** 10:29:35.8±2.6, 38˚.31N×73˚.56E, h125km±21km, mb3.5/10, mb1 3.6/15, mb1mx3.4/55, mbtmp3.9/15, Error ellipse: s-maj=19.3km s-min=16.1km az=164.0*
*BJI **27** 10:29:36.6, 38˚.40N×73˚.87E, h150km, mb4.2/2*
ISC 27 10:29:32.3±0.6, 38˚.18N±0˚.06×73˚.51E±0˚.06, h100km, n32, σ1§51/39, mb3.9/11, 9C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.34**	**54**	⇑*i*P	**Pn**	**10 30 08.3**	**-1.1**
KSH				S	Sn	10 30 26.8	-11
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		

NAX	Nakhchivan	1.48	54	⇑P	Pg	10 46 47.5	+2.9
NAX				⇓S	Sg	10 47 06.7	+2.8
NAX	Nakhchivan	1.48	54	P	Pg	10 46 47.5	+2.9
NAX				S	Sg	10 47 06.7	+2.8
SVAN	Silvan-Diyarba	2.18	267	ePN	Pb	10 46 55.4	-0.7
SVAN	Silvan-Diyarba	2.18	267	ePn	Pb	10 46 55.4	-0.7
BNGB	Bing¶ll	2.66	286	ePN	Pn	10 46 58.5	-1.2
BINT	Bingol	2.78	283	ePn	Pn	10 46 58.5	-2.9
GDB	GEDABAY	2.79	29	⇑P	Pn	10 47 01.0	-0.5
GDB				⇓S	Sb	10 47 39.2	-1.7
GDB	GEDABAY	2.79	29	P	Pn	10 47 01.0	-0.5
GDB				S	Sb	10 47 39.2	-1.7
MAZI	Mazidag	2.91	254	ePN	Pb	10 47 07.8	-0.7
MAZI	Mazidag	2.91	254	ePn	Pb	10 47 07.8	-0.7
QZX	Qazax, Azerbai	2.96	21	⇓P	Pn	10 47 03.6	-0.1
QZX				⇑S	Sb	10 47 46.4	+0.6
QZX	Qazax, Azerbai	2.96	21	P	Pn	10 47 03.6	-0.1
QZX				S	Sb	10 47 46.4	+0.6
GANJ	Ganja	2.97	37	⇑P	Pn	10 47 03.5	-0.4
GANJ	Ganja	2.97	37	P	Pn	10 47 03.5	-0.4
BGD	Bogdanovka	2.97	355	P	Pn	10 47 01.4	-2.7
BGD				S	Sn	10 47 35.2	-5.0
AKH	Akhalkalaki	3.12	354	ePN	Pn	10 47 00.7	-5.5
AKH	Akhalkalaki	3.12	354	P	Pn	10 47 04.7	-1.5
AKH				S	Sn	10 47 39.1	-4.8
AKH	Akhalkalaki	3.12	354	ePn	Pn	10 47 00.7	-5.5
BRDA	Brd	3.17	51	⇑P	Pn	10 47 06.9	+0.2
BRDA	Brd	3.17	51	P	Pn	10 47 06.9	+0.2
DGRG	David-gareji	3.33	19	P	Pn	10 47 11.8	+3.0
LRK	Lerik	3.45	83	⇓P	Pn	10 47 08.2	-2.5
LRK	Lerik	3.45	83	P	Pn	10 47 08.2	-2.5
TBLG	Delisi	3.48	10	P	Pn	10 47 11.8	+0.9
TBLG				S	Sn	10 47 52.6	+0.3
ERZN	Erzincan	3.54	293	ePN	Pn	10 47 09.8	-2.1
GLBA	Clilabad	3.59	73	⇓P	Pn	10 47 10.7	-1.6
GLBA				⇓S	Sn	10 47 54.9	-0.2
GLBA	Clilabad	3.59	73	P	Pn	10 47 10.7	-1.6
GLBA				S	Sn	10 47 54.9	-0.2
PTK	Pertek	3.63	281	ePN	Pn	10 47 12.7	-0.4
PTK	Pertek	3.63	281	ePn	Pn	10 47 12.7	-0.4
SVRC	Sivrice-ELAZID	3.66	273	ePN	Pn	10 47 14.9	+1.4
SVRC	Sivrice-ELAZID	3.66	273	ePn	Pn	10 47 14.9	+1.4
ASTR	Astara	3.80	85	⇑P	Pn	10 47 12.2	-3.1
ASTR	Astara	3.80	85	P	Pn	10 47 12.2	-3.1
LKRN	Lenkeran, Azer	3.80	82	⇑P	Pn	10 47 12.4	-2.9
LKRN	Lenkeran, Azer	3.80	82	P	Pn	10 47 12.4	-2.9
EZC	Erzincan	3.87	293	ePn	Pn	10 47 09.8	-6.6
ONI	Oni	4.30	355	P	Pb	10 47 28.8	-3.4
XNQ	Khinaliq	4.31	47	⇓P	Pn	10 47 22.8	+0.3
XNQ	Khinaliq	4.31	47	P	Pn	10 47 22.8	+0.3
PQL	Pirkuli	4.36	54	⇑P	Pn	10 47 23.3	+0.2
PQL	Pirkuli	4.36	54	P	Pn	10 47 23.3	+0.2

NNC 27 10:56:08.1±2.3, 51°23N×75°19E, h0km, mb3.7, mpv3.2, 2C-4D, Error ellipse: s-maj=60.7km s-min=13.6km az=22.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.20	105	⇓Pn	Pn	10 56 45.3	-0.6
	17nm,0.5s						
KURBB				⇓Sn	Sb	10 57 15.7	-0.7
	144nm,0.8s						
KURK	Kurchatov	2.23	102	⇑Pn	Pn	10 56 45.1	-1.2
	8.9nm,0.5s						
KURK				⇓Sn	Sn	10 57 15.5	+1.1
	58nm,0.8s						
BVA0	Borovoye Array	3.47	303	⇓Pn	Pn	10 57 02.5	-0.9
	2.0nm,0.6s,baz=113,slow=17,SNR=5.1						
BVA0				Sn	Sn	10 57 48.4	+3.3
	9.0nm,0.6s,baz=112,slow=26,SNR=7.9						
MK31	Makanchi Array	6.44	131	Pn	Pn	10 57 38.4	-5.8
	3.7nm,0.9s,baz=202,slow=42,SNR=3.6						
MK31				Sn	Sn	10 59 02.4	+4.1
	2.1nm,0.7s,baz=318,slow=24,SNR=4.4						
MK31				⇑Lg	Lg	10 59 32.5	
	8.3nm,0.7s,baz=332,slow=30,SNR=8.8						

ISCJB 27 10:59:06.6±0.6, 1°.81S±0°.06×100°.40E±0°.09, h58km, mb3.9/7, Error ellipse: s-maj=13.5km s-min=8.0km az=170.9
DJA 27 10:59:07.2±0.6, 2°.S±3°×10°0E±°, h66km±10km, M3.9/6, MLv3.9/6
IDC 27 10:59:18.9±3.3, 1°.36S×101°.21E, h138km±28km, mb3.3/6, mb1 3.3/8, mb1mx3.2/39, mbtmp3.7/8, Error ellipse: s-maj=84.0km s-min=14.1km az=55.0
ISC 27 10:59:08.0±0.8, 1°.77S±0°.05×100°.40E±0°.08, h58km, n15, σ1§36/15, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.85	4	P	Pn	10 59 24.4	+0.3
PDSI				S	Sn	10 59 36.2	+0.3
PPSI	Pulau Pagai	1.06	202	P	Pn	10 59 25.8	-1.1
PPSI				S	Sn	10 59 43.8	+3.0
SISI	Saibi	1.38	288	P	Pn	10 59 30.2	-0.9
BKNI	Bangkinang	2.17	17	P	Pn	10 59 41.9	0.0
MASI	Maura Aman, Be	2.29	127	P	Pn	10 59 43.3	-0.2
PSI	Prapat	4.77	342	P	Pn	11 00 27.2	+1.0
	1.2nm,0.3s,baz=152,slow=14,SNR=2.8						
CMAR	Chiang Mai Arr	20.15	356	P	Pn	11 03 39.1	-0.8
	baz=185,slow=11,SNR=3.7						
WRA	Warramunga Arr	37.77	121	P	P	11 06 17.7	-1.1
	0.4nm,0.5s,baz=303,slow=8.9,SNR=4.1						
ASAR	Alice Springs	39.07	127	P	P	11 06 29.4	-0.4
	0.6nm,0.6s,baz=299,slow=7.9,SNR=19						
SONM	Songino Array	49.67	5	P	P	11 07 53.0	-1.1
	0.5nm,0.4s,baz=184,slow=8.5,SNR=4.8						
MKAR	Makanchi Array	50.91	344	P	P	11 08 05.2	+1.8
	1.1nm,0.5s,baz=156,slow=9.0,SNR=6.9						
KURBB	Kurchatov Arra	55.44	343	P	P	11 08 38.2	+1.6
	3.3nm,0.2s,baz=67,slow=44,SNR=2.7						
ZALV	Zalesovo Beam	57.02	349	P	P	11 08 47.7	0.0
	0.7nm,0.4s,baz=180,slow=4.4,SNR=4.8						
BVAR	Borovoye Array	60.10	340	P	P	11 09 10.7	+1.4
	0.4nm,0.5s,baz=218,slow=33,SNR=2.7						
TXAR	Lajitas Array	144.27	38	PKP	PKPdf	11 18 37.5	-1.0
	0.2nm,0.6s,baz=299,slow=2.6,SNR=4.0						

CSEM 27 11:07:03.4±0.3, 38°.24N×43°.84E, h2km, ML3.6, Error ellipse: s-maj=10.9km s-min=5.2km az=171.0
ISK 27 11:07:04.1, 38°.84N×43°.54E, h5km, ML3.6
AZER 27 11:07:06.8±1.7, 38°.27N×44°.08E, h6km, Error ellipse: s-maj=17.7km s-min=8.5km az=31.0
ISC 27 11:07:06.5±0.9, 38°.74N±0°.03×43°.66E±0°.03, h26km±9km, n52, σ2§91/75, 12C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	237	ePG	Pb	11 07 11.8	-1.3
VANB				eSG	Sb	11 07 18.1	+0.5
VANB	Van	0.26	237	ePg	Pb	11 07 11.8	-1.3
AGRB	Hanur-Agry	0.99	328	ePG	Pb	11 07 20.9	-4.2
AGRB				eSG	Sb	11 07 34.3	-3.5
CUKT	Cukurca	1.49	182	ePN	Pb	11 07 34.9	+1.4
CUKT				eSN	Sb	11 07 56.5	+4.5
NAX	Nakhchivan	1.49	72	P	Pb	11 07 34.3	+0.7
	SNR=24						
NAX				⇓S	Sb	11 07 58.6	+6.4
NAX	Nakhchivan	1.49	72	P	Pb	11 07 34.3	+0.7
	SNR=24						
NAX				S	Sb	11 07 58.6	+6.4
VRTB	Varto-Mus	1.77	285	ePN	Pb	11 07 35.4	-3.0
SVAN	Silvan-Diyarba	2.02	254	ePN	Pn	11 07 39.8	+0.9
SVAN	Silvan-Diyarba	2.02	254	ePn	Pn	11 07 39.8	+0.9
BNGB	Bing¶ll	2.34	277	ePN	Pn	11 07 43.8	+0.3
BGD	Bogdanovka	2.53	359	P	Pb	11 07 49.4	-1.9
BGD				S	Sb	11 08 26.3	+4.3
GDB	GEDABAY	2.56	38	⇓P	Pb	11 07 51.7	0.0
	SNR=12						
GDB				⇑S	Sb	11 08 25.8	+2.9
GDB	GEDABAY	2.56	38	P	Pb	11 07 51.7	0.0
	SNR=12						
QZX	Qazax, Azerbai	2.67	29	⇑P	Pb	11 07 52.4	-1.2
	SNR=8.4						
QZX				⇑S	Sb	11 08 31.0	+5.2
QZX	Qazax, Azerbai	2.67	29	P	Pb	11 07 52.4	-1.2
	SNR=8.4						
QZX				S	Sb	11 08 31.0	+5.2
AKH	Akhalkalaki	2.67	357	ePN	Pn	11 07 48.5	+0.5
AKH	Akhalkalaki	2.67	357	P	Pb	11 07 55.0	+1.2
AKH				S	Sb	11 08 30.9	+4.7
GANJ	Ganja	2.80	46	⇑P	Pb	11 07 51.8	-4.1
	SNR=11						
GANJ				⇑S	Sb	11 08 30.3	+0.5
GANJ	Ganja	2.80	46	P	Pb	11 07 51.8	-4.1
	SNR=11						
MAZI	Mazidag	2.84	244	ePN	Pn	11 07 51.7	+1.4
TBLG	Delisi	3.10	15	P	Pb	11 07 59.0	-2.0
TBLG				S	Sb	11 08 42.8	+4.4
TBLG	Delisi	3.10	15	P	Pb	11 07 59.0	-2.0
TBLG				S	Sb	11 08 42.8	+4.4
BRDA	Brd	3.12	60	⇑P	Pn	11 07 55.4	+1.5
BRDA				⇓S	Sb	11 08 35.6	-3.2
BRDA	Brd	3.12	60	P	Pn	11 07 55.4	+1.5
BRDA				S	Sb	11 08 35.6	-3.2
ERZN	Erzincan	3.18	287	ePN	Pn	11 07 55.5	+0.6
PTK	Pertek	3.34	274	ePN	Pn	11 07 58.0	+0.8
PTK	Pertek	3.34	274	ePn	Pn	11 07 58.0	+0.8
SVRC	Sivrice-ELAZID	3.43	265	ePN	Pn	11 07 59.6	+1.1
SVRC	Sivrice-ELAZID	3.43	265	ePn	Pn	11 07 59.6	+1.1
ZRD	Zardab	3.47	62	⇑S	Sn	11 08 42.2	+3.2
LRK	Lerik	3.66	90	⇓P	Pn	11 07 59.5	-2.1
LRK				⇓S	Sn	11 08 40.6	-3.4
LRK	Lerik	3.66	90	P	Pn	11 07 59.5	-2.1
LRK				S	Sn	11 08 40.6	-3.4
SEKA	Sheki	3.67	47	⇑P	Pb	11 08 06.4	-4.3
SEKA	Sheki	3.67	47	P	Pb	11 08 06.4	-4.3
ZKTA	Zakatala	3.68	37	⇓P	Pb	11 08 06.2	-4.6
GLBA	Clilabad	3.72	81	⇓P	Pn	11 08 01.7	-0.5
GLBA				⇓S	Sn	11 08 44.3	-0.9
GLBA	Clilabad	3.72	81	P	Pn	11 08 01.7	-0.5
GLBA				S	Sn	11 08 44.3	-0.9
ONI	Oni	3.85	358	P	Pb	11 08 13.7	-0.1
ONI				S	Sb	11 09 08.5	+8.5
LKRN	Lenkeran, Azer	4.00	89	⇑P	Pn	11 08 04.1	-2.0
LKRN				⇑S	Sn	11 08 49.5	-2.6
LKRN	Lenkeran, Azer	4.00	89	P	Pn	11 08 04.1	-2.0
LKRN				S	Sn	11 08 49.5	-2.6
ASTR	Astara	4.02	91	⇓P	Pn	11 08 04.3	-2.0
ASTR				⇑S	Sn	11 08 48.2	-4.3
ASTR	Astara	4.02	91	P	Pn	11 08 04.3	-2.0
ASTR				S	Sn	11 08 48.2	-4.3
URFA	Urfa	4.03	253	ePN	Pn	11 08 08.7	+2.1
URFA	Urfa	4.03	253	ePn	Pn	11 08 08.7	+2.1
XNQ	Khinaliq	4.21	53	⇓P	Pn	11 08 12.2	+3.0
XNQ	Khinaliq	4.21	53	P	Pn	11 08 12.2	+3.0
PQL	Pirkuli	4.32	60	⇓P	Pn	11 08 12.6	+2.0
PQL	Pirkuli	4.32	60	P	Pn	11 08 12.6	+2.0
QSAR	Qusar	4.49	50	⇑P	Pn	11 08 16.0	+3.2
QSAR	Qusar	4.49	50	P	Pn	11 08 16.0	+3.2
ATGJ	Altiaghaj	4.58	61	⇓P	Pn	11 08 15.9	+1.7
ATGJ	Altiaghaj	4.58	61	P	Pn	11 08 15.9	+1.7

ISN 27 11:12:30.8±1.1, 39°.27N×43°.90E, h0km±30km, ML3.7
AZER 27 11:12:39.4±3.8, 37°.39N×43°.00E, h8km, Error ellipse: s-maj=51.6km s-min=20.9km az=107.0
ISK 27 11:12:50.4, 38°.70N×43°.33E, h11km, ML3.7
IDC 27 11:12:50.1±1.3, 38°.56N×43°.14E, h0km, mb3.8/7, mb1 3.7/12, mb1mx3.5/47, mbtmp3.7/12, ML3.2/4, MS3.0/6, Ms1 3.0/6, ms1mx2.5/45, Error ellipse: s-maj=27.1km s-min=13.0km az=156.0
CSEM 27 11:12:51.5±0.3, 38°.66N×43°.20E, h2km, ML3.7, Error ellipse: s-maj=7.4km s-min=6.7km az=173.0
ISC 27 11:12:51.0±1.2, 38°.61N±0°.03×43°.14E±0°.04, h5km±10km, n58, σ1§90/60, mb3.7/6, 8C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	93	ePG	Pg	11 12 54.2	-0.6
VANB				eSG	Sg	11 12 58.4	+1.0
VANB	Van	0.20	93	ePg	Pg	11 12 54.2	-0.6
VANB				eSg	Sg	11 12 58.4	+1.0
AGRB	Hanur-Agry	0.97	353	ePG	Pg	11 13 08.8	-0.9
AGRB				eSG	Sg	11 13 21.4	-1.0
AGRB	Hanur-Agry	0.97	353	ePg	Pg	11 13 08.8	-0.9
AGRB				eSg	Sg	11 13 21.4	-1.0
CUKT	Cukurca	1.41	165	ePN	Pb	11 13 17.4	-0.4
CUKT	Cukurca	1.41	165	ePn	Pb	11 13 17.4	-0.4
VRTB	Varto-Mus	1.43	293	ePN	Pn	11 13 18.6	+0.9
VRTB	Varto-Mus	1.43	293	ePn	Pn	11 13 18.6	+0.9
NAX	Nakhchivan	1.92	72	⇑P	Pn	11 13 24.1	-0.3
NAX				⇓S	Sg	11 13 56.3	+3.6
NAX	Nakhchivan	1.92	72	P	Pn	11 13 24.1	-0.3
BNGB	Bing¶ll	1.96	282	ePN	Pn	11 13 26.1	+1.1
GNI	Garni	1.98	38	Pn	Pb	11 13 26.4	-1.2
	8.0nm,0.3s,baz=268,slow=3.5,SNR=9.8						
BINT	Bingol	2.09	278	ePn	Pn	11 13 26.1	-0.7
MAZI	Mazidag	2.42	243	ePN	Pn	11 13 33.6	+2.3
MAZI	Mazidag	2.42	243	ePn	Pn	11 13 33.6	+2.3
AKH	Akhalkalaki	2.81	5	P	Pb	11 13 41.3	-0.5
ERZN	Erzincan	2.83	291	ePN	Pn	11 13 38.7	+1.7
GDB	GEDABAY	2.92	43	⇓P	Pn	11 13 39.9	+1.6
GDB				⇑S	Sg	11 14 30.4	+5.6
GDB	GEDABAY	2.92	43	P	Pn	11 13 39.9	+1.6
PTK	Pertek	2.94	277	ePN	Pn	11 13 40.5	+1.9
PTK	Pertek	2.94	277	ePn	Pn	11 13 40.5	+1.9
QZX	Qazax, Azerbai	2.99	34	⇑P	Pb	11 13 42.8	-2.0
QZX				⇑S	Sg	11 14 30.3	+3.3
QZX	Qazax, Azerbai	2.99	34	P	Pb	11 13 42.8	-2.0
SVRC	Sivrice-ELAZID	3.02	267	ePN	Pn	11 13 41.7	+2.1
SVRC	Sivrice-ELAZID	3.02	267	ePn	Pn	11 13 41.7	+2.1
GANJ	Ganja	3.19	49	⇓P	Pn	11 13 43.2	+1.4
GANJ				⇑S	Sg	11 14 33.0	-0.4
GANJ	Ganja	3.19	49	P	Pn	11 13 43.2	+1.4
URFA	Urfa	3.60	252	ePN	Pn	11 13 50.8	+3.2
URFA	Urfa	3.60	252	ePn	Pn	11 13 50.8	+3.2
LRK	Lerik	4.07	88	⇓P	Pn	11 13 46.3	-7.8
XNQ	Khinaliq	4.62	55	⇑P	Pn	11 14 02.0	+0.4
XNQ	Khinaliq	4.62	55	P	Pn	11 14 02.0	+0.4
PQL	Pirkuli	4.74	61	⇑P	Pn	11 14 01.8	-1.4
PQL	Pirkuli	4.74	61	P	Pn	11 14 01.8	-1.4
QSAR	Qusar	4.89	52	⇓P	Pn	11 14 05.8	+0.6
QSAR	Qusar	4.89	52	P	Pn	11 14 05.8	+0.6
ATGJ	Altiaghaj	5.00	61	⇑P	Pn	11 14 05.6	-1.2
ATGJ	Altiaghaj	5.00	61	P	Pn	11 14 05.6	-1.2
KBZ	Khabaz	5.12	358	LR	LR	11 16 40.1	
	comp=Z,145nm,20.0s,baz=173,slow=44						
KVAR	Kislovodsk Arr	5.36	357	LR	LR	11 16 48.0	
	comp=Z,146nm,20.2s,baz=104,slow=44						
BHD	Baghdad	5.42	169	eP	Pn	11 14 13.6	+1.2
	SNR=21						
BHD				eS	Sb	11 15 25.1	-6.3
	SNR=21						
RTB	Rutbah	6.02	203	eP	Pn	11 14 27.0	+6.2
	SNR=21						
RTB				eS	Sb	11 15 49.1	+0.3
	SNR=21						
BRTR	Keskin Array B	7.47	282	Pn	Pn	11 14 42.1	+1.4
	0.1nm,0.3s,baz=316,slow=23,SNR=2.2						
NSR	Nassriya	7.97	161	eP	Pn	11 14 50.7	+3.3
	SNR=21						
NSR				eS	Sb	11 16 30.1	-15
	SNR=21						
ASF	Jabal al Asfar	8.20	220	Pn	Pn	11 14 48.7	-2.0
	0.2nm,0.3s,baz=40,slow=11,SNR=1.7						
EIL	Elat	11.20	220	LR	LR	11 20 28.8	
	comp=Z,47nm,18.4s,baz=28,slow=41						
AKASG	Malin Array Be	15.60	325	Pn	Pn	11 16 31.9	+0.5
	0.2nm,0.3s,baz=133,slow=11,SNR=4.9						
AKTO	Aktyubinsk	15.85	37	Pn	Pn	11 16 33.4	-1.3
	0.1nm,0.3s,baz=226,slow=12,SNR=8.4						
OBN	Obninsk	17.10	347	LR	LR	11 24 09.1	
	comp=Z,31nm,20.2s,baz=90,slow=40						
ARU	Arti	20.56	25	P	P	11 17 30.6	+0.3
	3.0nm,0.5s,baz=239,slow=6.1,SNR=5.2						
BVAR	Borovoye Array	23.66	44	P	P	11 18 03.7	+0.6
	1.3nm,0.9s,baz=251,slow=4.5,SNR=5.9						
FINES	FINESS Array B	25.20	341	P	P	11 18 17.1	0.0
	4.0nm,1.0s,baz=145,slow=15,SNR=3.6						
KURBB	Kurchatov Arra	27.64	53	P	P	11 18 40.0	+0.6
	1.2nm,0.6s,baz=264,slow=9.1,SNR=5.4						
HFS	Hagfors	28.42	329	P	P	11 18 46.5	+0.2
	1.3nm,0.7s,baz=123,slow=10,SNR=2.1						
MKAR	Makanchi Array	29.66	61	P	P	11 18 58.0	+0.5
	0.4nm,0.4s,baz=287,slow=5.9,SNR=3.6						
NOA	NORSAR Array B	29.95	329	LR	LR	11 31 09.4	
	comp=Z,14nm,20.9s,baz=10.0,slow=37						
TORD	Torodi Ar. Bea	44.56	247	P	P	11 21 03.9	-0.1
	0.4nm,0.7s,baz=66,slow=11,SNR=3.1						
ELK	Elko	98.59	344	LR	LR	12 14 32.2	
	comp=Z,23nm,18.2s,baz=212,slow=38						

CSEM 27 11:23:22.7, 37°.77N×30°.20E, h7km, MD2.9
ISK 27 11:23:22.7, 37°.77N×30°.20E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.26	79	ePG	Pb	11 23 29.1	-0.7
ISP				eSG	Sg	11 23 32.2	+0.8
ISP	Isparta	0.26	79	ePg	Pb	11 23 29.1	-0.7
ISP				eSg	Sg	11 23 32.2	+0.9
BCK	Bucak	0.44	135	ePG	Pg	11 23 31.4	+0.2
BCK				eSG	Sb	11 23 38.5	-1.2
BCK	Bucak	0.44	135	ePg	Pg	11 23 31.4	+0.2
BCK				eSg	Sb	11 23 38.5	-1.1
SUTC	Sutluce-Ispart	0.70	115	ePG	Pg	11 23 36.0	-0.1
SUTC	Sutluce-Ispart	0.70	115	ePg	Pg	11 23 36.1	-0.1
KHL	Karahalli	0.77	316	ePG	Pg	11 23 37.5	0.0
KHL	Karahalli	0.77	316	ePg	Pg	11 23 37.5	0.0
KORT	Korkueli	0.78	171	ePG	Pb	11 23 38.2	-0.5
KORT	Korkueli	0.78	171	ePg	Pg	11 23 38.2	+0.5
SHUT	Suhut-Afyon	0.82	19	ePG	Pb	11 23 39.5	+0.1
SHUT	Suhut-Afyon	0.82	19	ePg	Pb	11 23 39.5	0.0
GLHS	Glhisar (BURDU	0.83	222	ePG	Pg	11 23 39.1	+0.4
GLHS	Glhisar (BURDU	0.83	222	ePg	Pg	11 23 39.1	+0.4
KULA	Kula-Manisa	1.42	302	ePN	Pn	11 23 49.2	+0.1
KULA	Kula-Manisa	1.42	302	ePn	Pn	11 23 49.2	+0.2
FETY	Fethiye	1.45	218	ePN	Pb	11 23 50.1	+0.2
FETY	Fethiye	1.45	218	ePn	Pb	11 23 50.1	+0.2
DALY	Dalyan (Mu¯la	1.56	233	ePN	Pb	11 23 51.6	-0.3
DALY	Dalyan (Mu¯la	1.56	233	ePn	Pb	11 23 51.6	-0.3
AKAS	Kas	1.61	197	ePN	Pb	11 23 52.9	0.0
AKAS	Kas	1.61	197	ePn	Pb	11 23 52.9	+0.1
KONT	Konya--Tatoy	1.72	84	ePN	Pn	11 23 53.8	+0.7
KONT	Konya--Tatoy	1.72	84	ePn	Pn	11 23 53.8	+0.7
TVSB	Tavsanli	1.77	341	ePN	Pn	11 23 54.0	+0.2
TVSB	Tavsanli	1.77	341	ePn	Pn	11 23 54.0	+0.1

IDC 27 11:49:33.1±4.2, 28°.76S×176°.12W, h63km±33km, mb3.5/3, mb1 3.9/3, mb1mx3.4/31, mbtmp3.8/3, Error ellipse: s-maj=60.6km s-min=30.8km az=171.0
ISC 27 11:49:30.1±1.2, 28°.75±0°.4×176°.0W±0°.2, h38km, n7, σ1§12/8, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.77	251	P	Pn	11 49 58.3	+0.2
	185nm,0.3s,baz=54,slow=7.8,SNR=16						
RAO				S	Sn	11 50 20.4	+1.0
	515nm,0.3s,baz=47,slow=22,SNR=10						
ASAR	Alice Springs	44.97	264	P	P	11 57 40.8	-1.0
	1.0nm,0.6s,baz=100,slow=6.8,SNR=21						
WRA	Warramunga Arr	45.81	269	P	P	11 57 47.5	-1.0
	0.3nm,0.3s,baz=108,slow=7.8,SNR=5.5						
TXAR	Lajitas Array	89.99	56	P	P	12 02 26.9	+1.1
	0.8nm,1.0s,baz=198,slow=7.9,SNR=5.7						
FINES	FINESS Array B	144.09	342	PKP	PKPdf	12 08 60.0	-0.9
	1.2nm,0.6s,baz=45,slow=3.0,SNR=6.7						
AKASG	Malin Array Be	150.91	326	PKPbc	PKPbc	12 09 19.1	+0.8
	0.9nm,0.5s,baz=44,slow=3.0,SNR=5.2						
TORD	Torodi Ar. Bea	164.40	172	PKPab	PKPab	12 10 23.9	-0.6
	1.2nm,0.7s,baz=187,slow=4.8,SNR=6.9						

ISCJB 27 11:52:10.2±0.5, 28°.2S±0°.1×176°.06W±0°.09, h36km, mb4.2/15, MS3.4/4, Error ellipse: s-maj=16.5km s-min=8.8km az=146.6
IDC 27 11:52:12.2±0.5, 28°.23S×176°.08W, h37km±3km, mb3.8/13, mb1 4.0/14, mb1mx3.9/31, mbtmp4.0/14, ML4.3/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/29, Error ellipse: s-maj=17.1km s-min=12.1km az=150.0
NEIC 27 11:52:13.0±0.9, 28°.25S×176°.11W, h47km±7km, mb4.5/1, Error ellipse: s-maj=14.1km s-min=10.6km az=144.0
ISC 27 11:52:11.0±0.5, 28°.3S±0°.1×175°.95W±0°.09, h36km, n36, σ1§35/46, mb4.3/16, MS3.4/4, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.98	240	Pn	Pn	11 52 43.2	+1.2
	169nm,0.3s,baz=103,slow=21,SNR=4.1						
RAO				Sn	Sn	11 53 06.5	+0.9
	218nm,0.3s,baz=272,slow=23,SNR=5.5						
RAR	Rarotonga	16.28	68	LR	LR	12 01 56.5	
	comp=Z,112nm,18.6s,baz=270,slow=36						
DZM

CMAR	Chiang Mai Arr	94.41	288	pP	pP	12 05 41.4	+2.4
	0.4nm,0.3s,baz=108,slow=2.7,SNR=1.8						
ILAR	Eielson Array	95.47	12	P	P	12 05 32.0	+0.7
	0.2nm,0.7s,baz=229,slow=5.1,SNR=6.2						
ILAR				pP	pP	12 05 43.5	+0.8
	0.4nm,0.7s,baz=212,slow=4.7,SNR=3.4						
MKAR	Makanchi Array	117.77	311	PKP	PKPdf	12 10 53.6	+0.3
	0.6nm,0.6s,baz=211,slow=2.9,SNR=5.0						
MKAR				pPKP	pPKPdf	12 11 04.0	-1.0
	0.8nm,0.8s,baz=76,slow=5.6,SNR=3.1						
BVAR	Borovoye Array	126.11	317	PKP	PKPdf	12 11 10.4	+1.3
	0.8nm,0.5s,baz=169,slow=2.3,SNR=5.1						
BVAR				pPKP	pPKPdf	12 11 20.9	+0.1
	1.2nm,0.8s,baz=108,slow=4.8,SNR=4.1						
FINES	FINESS Array B	143.72	342	PKhKP	PKPpre	12 11 40.1	
	1.5nm,0.6s,baz=77,slow=4.1,SNR=8.3						
FINES				pPKP	pPKPdf	12 11 50.6	-2.6
	5.5nm,0.9s,baz=122,slow=7.2,SNR=4.9						
NB2	NORSAR Subarra	146.89	354	PKP	PKPab	12 11 49.3	-1.1
	comp=Z,8.9nm,1.4s,baz=17,slow=2.6						
NOA	NORSAR Array B	146.89	354	PKPbc	PKPab	12 11 50.1	-0.3
	comp=Z,2.1nm,0.9s,baz=8.7,slow=2.5,SNR=3.1						
NOA				pPKPbc	pPKPab	12 12 00.6	-1.3
	comp=Z,4.0nm,0.9s,baz=13,slow=2.7,SNR=5.8						
AKASG	Malin Array Be	150.61	327	PKPbc	PKPbc	12 11 59.8	+1.1
	comp=Z,2.9nm,0.5s,baz=46,slow=3.2,SNR=13						
AKASG				pPKPbc	pPKPbc	12 12 10.7	+0.2
	comp=Z,8.3nm,0.8s,baz=45,slow=3.0,SNR=10						
KIEV	Kiev	150.62	327	ePKPbc	PKPbc	12 11 59.5	+0.7
TORD	Torodi Ar. Bea	164.79	171	PKP	PKPdf	12 12 10.4	-1.4
	comp=Z,1.1nm,1.1s,baz=336,slow=3.3,SNR=4.2						
TORD				PKPab	PKPab	12 13 06.7	-0.7
	comp=Z,1.4nm,0.6s,baz=188,slow=3.9,SNR=7.2						
TORD				pPKPab	pPKPab	12 13 19.0	+0.1
	comp=Z,1.5nm,0.8s,baz=209,slow=2.0,SNR=5.6						

BER 27 11:58:41.3±2.1, 57°.10N×7°.22E, h7km±14km, ML1.3, ML2.1 (DNK), North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	Snartemo	1.24	360	eP	Pb	11 59 03.5	-1.5
SNART				eS	Sg	11 59 20.2	-0.9
MUD	Monsted U'grnd	1.26	120	i P	Pn	11 59 02.3	-2.9
MUD				eS	Sg	11 59 20.7	-0.9
MUD	Monsted U'grnd	1.26	120	eP	Pn	11 59 02.4	-2.9
MUD				eS	Sg	11 59 20.8	-0.9
MUD				IAML		11 59 24.4	
	comp=Z,10nm,0.3s						
HOMB	Homborsund	1.36	30	eP	Pn	11 59 03.7	-2.9
HOMB				eS	Sb	11 59 21.6	-3.0
HOMB				eSg	Sg	11 59 23.6	-1.4

ISCJB 27 12:12:10.8±0.5, 40°.20N±0°.03×29°.95E±0°.03, h2km±6km, Error ellipse: s-maj=5.7km s-min=3.6km az=164.1
DDA 27 12:12:10.2, 40°.19N×29°.95E, h7km, Ml2.6
ISK 27 12:12:10.3, 40°.17N×29°.94E, h6km, ML2.2
CSEM 27 12:12:11.0±0.2, 40°.20N×29°.96E, h5km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.9km az=165.0

ISC 27 12:12:10.9±0.9, 40°.21N±0°.02×29°.95E±0°.02, h9km±7km, n35, σ0°63/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAVI	Cavuskoy	0.09	267	ePG	Pg	12 12 12.9	-0.3
CAVI	Cavuskoy	0.09	267	ePg	Pg	12 12 12.9	-0.3
ADVT	Abdulvahap	0.28	324	ePG	Pg	12 12 16.6	+0.1
ADVT				eSG	Sb	12 12 21.8	-1.1
ADVT	Abdulvahap	0.28	324	ePg	Pg	12 12 16.6	+0.1
ADVT				eSg	Sb	12 12 21.8	-1.1
GPA	Golpazari	0.28	73	ePG	Pg	12 12 16.9	+0.3
GPA	Golpazari	0.28	73	ePg	Pg	12 12 16.9	+0.3
GEYV	SAKARYA_Geyve	0.38	43	i P	Pg	12 12 17.8	-0.6
GEYV				i S	Sg	12 12 24.1	+0.7
GEYV	SAKARYA_Geyve	0.38	43	P	Pg	12 12 17.8	-0.6
GEYV				S	Sg	12 12 24.1	+0.7
GULT	Gulveren	0.48	62	ePG	Pb	12 12 20.7	-0.9
GULT				eSG	Sb	12 12 28.5	-0.3
GULT	Gulveren	0.48	62	ePg	Pb	12 12 20.7	-0.9
GULT				eSg	Sb	12 12 28.5	-0.3
YLV	Yalova	0.57	309	ePG	Pg	12 12 22.1	+0.1
YLV	Yalova	0.57	309	ePg	Pg	12 12 22.1	+0.1
IGD	Bursa	0.58	276	i P	Pg	12 12 21.4	-0.7
TVSB	Tavsanli	0.85	207	ePG	Pg	12 12 26.3	-0.9
TVSB	Tavsanli	0.85	207	ePg	Pg	12 12 26.3	-0.9
ARMT	Armutlu	0.91	294	ePG	Pb	12 12 28.2	-0.6
ARMT	Armutlu	0.91	294	ePg	Pb	12 12 28.2	-0.6
SBT5	Esenkoy-Cinarc	0.92	298	ePG	Pb	12 12 28.8	-0.2
SBT5				eSG	Sb	12 12 41.9	+0.6
SBT5	Esenkoy-Cinarc	0.92	298	ePg	Pb	12 12 28.8	-0.2
SBT5				eSg	Sb	12 12 41.9	+0.6
SAHE	Sakarya_HENDEK	0.94	46	i P	Pg	12 12 28.9	-0.1
SAHE				i S	Sb	12 12 42.2	+0.3
SAHE	Sakarya_HENDEK	0.94	46	P	Pg	12 12 28.9	-0.1
SAHE				S	Sb	12 12 42.2	+0.3
ESKT	Eskisehir	0.97	135	i P	Pg	12 12 28.7	-0.9
ESKT				i S	Sn	12 12 45.9	+1.1
SEYT	Eskypehyr	0.97	135	P	Pg	12 12 28.7	-0.9
SEYT				S	Sn	12 12 45.9	+1.2
MDUB	Mudurnu	0.99	74	ePG	Pb	12 12 30.0	-0.2
MDUB				eSG	Sn	12 12 44.5	-0.5
MDUB	Mudurnu	0.99	74	ePg	Pb	12 12 30.0	-0.2
MDUB				eSg	Sn	12 12 44.5	-0.5
KAVV	Kandilli-Istan	1.09	322	ePN	Pn	12 12 32.0	-0.3
KAVV	Kandilli-Istan	1.09	322	ePn	Pn	12 12 32.0	-0.3
GDZ	Gediz	1.18	198	i P	Pn	12 12 34.6	+1.0
GDZ				i S	Sb	12 12 48.7	-0.1
GDZ	Gediz	1.18	198	i P	Pn	12 12 34.5	+1.0
GDZ				i S	Sg	12 12 47.4	-1.3
GDZ	Gediz	1.18	198	P	Pn	12 12 34.6	+1.0
GDZ				S	Sb	12 12 48.7	-0.1
SVRH	Sivrihisar-ESK	1.43	122	ePN	Pb	12 12 37.2	-0.4
SVRH				eSN	Sg	12 12 57.0	+0.2
SVRH	Sivrihisar-ESK	1.43	122	ePn	Pb	12 12 37.2	-0.4
SVRH				eSn	Sg	12 12 57.0	+0.2
DEMI	Demirci	1.51	220	i P	Pg	12 12 39.6	-0.1
DEMI				i S	Sg	12 12 59.8	+0.5
DEMI	Demirci	1.51	220	i P	Pg	12 12 39.8	0.0
DEMI				i S	Sg	12 13 00.0	+0.8
DEMI	Demirci	1.51	220	P	Pg	12 12 39.8	0.0
DEMI				S	Sg	12 12 59.8	+0.5

TIR 27 12:14:09.1±2.2, 40°.49N×20°.41E, h2km±130km, ML3.0
ISCJB 27 12:14:10.7±0.6, 40°.52N±0°.02×20°.45E±0°.04, h3km±7km, Error ellipse: s-maj=5.6km s-min=3.7km az=22.6
CSEM 27 12:14:10.7±0.3, 40°.53N×20°.44E, h8km, ML2.4, Error ellipse: s-maj=6.5km s-min=3.2km az=123.0
ATH 27 12:14:10.4, 40°.55N×20°.45E, h15km±3km, ML2.3/2, Error ellipse: s-maj=3.7km s-min=1.5km az=123.0
THE 27 12:14:11.1, 40°.51N×20°.47E, h2km±1km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=0.3km az=150.0

ISC 27 12:14:10.7±1.2, 40°.52N±0°.02×20°.46E±0°.03, h4km±11km, n39, σ0°58/64, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.27	68	i PG	Pg	12 14 16.8	+0.7
KBN				i SG	Sb	12 14 22.2	-1.0
KBN	Korca	0.27	68	i Pg	Pg	12 14 16.8	+0.7
	SNR=97						
KBN				i Sg	Sb	12 14 22.2	-1.0
	SNR=97						
PENT	Pentalofos	0.61	122	P	Pg	12 14 22.3	-0.3
PENT				S	Sg	12 14 31.0	+0.4
PENT	Pentalofos	0.61	122	P	Pg	12 14 22.0	-0.5
PENT				S	Sg	12 14 31.4	+0.9
PENT	Pentalofos	0.61	122	P	Pg	12 14 22.3	-0.3
PENT				S	Sg	12 14 31.0	+0.4
OHR	Ohrid	0.64	24	i Pg	Pg	12 14 23.0	-0.1
OHR				i Sg	Sb	12 14 33.2	-0.7
FNA	Florina	0.75	69	P	Pg	12 14 24.9	-0.2
FNA				S	Sb	12 14 35.9	-1.0
FNA	Florina	0.75	69	P	Pg	12 14 25.1	0.0
FNA				S	Sb	12 14 36.5	-0.4
FNA				AML	AML	12 14 39.5	
	comp=N,1247μm,0.4s						
FNA				AML	AML	12 14 40.3	
	comp=E,1564μm,0.3s						
FNA	Florina	0.75	69	P	Pg	12 14 25.1	0.0
FNA				S	Sb	12 14 35.9	-1.0
BIA	Bitola	0.83	53	P	Pg	12 14 26.5	-0.1
BIA				S	Sb	12 14 38.8	-0.4
BIA	Bitola	0.83	53	i Pg	Pg	12 14 26.6	-0.1
BIA				i Sg	Sb	12 14 39.8	+0.6
BIA	Bitola	0.83	53	P	Pg	12 14 26.5	-0.1
BIA				S	Sb	12 14 38.8	-0.4
BIA				i Sg	Sb	12 14 39.8	+0.6
KPRO	Kipourio	0.90	129	P	Pg	12 14 27.7	-0.2
KPRO				S	Sb	12 14 40.5	-0.7
KPRO	Kipourio	0.90	129	P	Pg	12 14 27.6	-0.2
KPRO				S	Sb	12 14 41.6	+0.5
KPRO				AML	AML	12 14 45.1	
	comp=N,132μm,0.5s						
KPRO				AML	AML	12 14 45.8	
	comp=E,194μm,0.3s						
KPRO	Kipourio	0.90	129	P	Pg	12 14 27.7	-0.2
KPRO				S	Sb	12 14 40.5	-0.7
SGD	Sagiada	0.92	191	P	Pg	12 14 28.3	-0.1
SGD				S	Sb	12 14 41.8	-0.1
SGD	Sagiada	0.92	191	P	Pb	12 14 29.2	-0.1
SGD	Sagiada	0.92	191	P	Pg	12 14 28.3	-0.1
SGD				S	Sb	12 14 41.8	-0.1
KEK	Kerkira	0.95	212	P	Pg	12 14 28.8	-0.2
KEK				S	Sb	12 14 42.7	0.0
KEK	Kerkira	0.95	212	P	Pg	12 14 28.7	-0.2
KEK	Kerkira	0.95	212	P	Pg	12 14 28.8	-0.2
KEK				S	Sb	12 14 42.7	0.0
KZN	Kozani	1.03	102	P	Pg	12 14 30.1	-0.3
KZN				S	Sb	12 14 44.9	0.0
KZN	Kozani	1.03	102	P	Pg	12 14 29.7	-0.7
KZN	Kozani	1.03	102	P	Pg	12 14 30.1	-0.3
KZN				S	Sb	12 14 44.9	0.0
KRUS	Krusevo	1.04	35	||i Pg	Pg	12 14 29.6	-1.0
KRUS				i Sg	Sg	12 14 44.3	+0.2
KRUS	Krusevo	1.04	35	||i Pg	Pg	12 14 29.6	-1.0
KRUS				i Sg	Sg	12 14 44.3	+0.2
PHP	Peshkopia	1.16	359	i PG	Pn	12 14 33.6	-0.2
PHP				i SG	Sn	12 14 51.6	+1.5
PHP	Peshkopia	1.16	359	i Sg	Sn	12 14 51.6	+1.5
	SNR=92						
DSL	Palaion Diasel	1.47	160	P	Pb	12 14 38.5	-0.2
DSL	Palaion Diasel	1.47	160	P	Pb	12 14 38.5	-0.2
GRG	Griva	1.54	73	P	Pn	12 14 38.6	-0.4
GRG	Griva	1.54	73	P	Pn	12 14 38.4	-0.6
GRG	Griva	1.54	73	P	Pn	12 14 38.6	-0.4
LIT	Litokhoron	1.61	104	P	Pn	12 14 40.0	+0.1
LIT	Litokhoron	1.61	104	P	Pn	12 14 40.0	+0.1
LKD2	Lefkada island	1.74	175	P	Pb	12 14 42.3	-0.9
LKD2	Lefkada island	1.74	175	P	Pb	12 14 42.3	-0.9
AGG	Agios Georgios	2.08	135	P	Pb	12 14 49.2	+0.1
AGG	Agios Georgios	2.08	135	P	Pb	12 14 49.2	+0.1

CSEM 27 12:31:57.7, 45°.16N×25°.77E, h15km, MD3.2/2

BUC 27 12:31:57.7±0.6, 45°.16N×25°.77E, h15km±5km, MD3.2/2, 24C-27D, Error ellipse: s-maj=6.0km s-min=4.0km az=27.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SECR		0.24	120	⇑iP	Pb	12 32 04.0	+0.2
SECR				i S	Sb	12 32 09.3	+1.4
SECR		0.24	120	⇑iP	Pb	12 32 04.0	+0.2
SECR		0.24	120	S	Sb	12 32 09.3	+1.4
SECR		0.24	120	⇑iP	Pb	12 32 04.0	+0.2
SECR				i S	Sb	12 32 09.3	+1.4
MLR	Muntele Rosu	0.35	20	||iP	Pb	12 32 05.7	-0.1
MLR				i S	Sb	12 32 11.9	+0.7
MLR	Muntele Rosu	0.35	20	||iP	Pb	12 32 05.7	-0.1
MLR	Muntele Rosu	0.35	20	||iP	Pb	12 32 05.7	-0.1
MLR				i S	Sb	12 32 11.9	+0.7
MTUR	Matau	0.50	278	⇑iP	Pb	12 32 08.9	+0.6
MTUR	Matau	0.50	278	⇑iP	Pb	12 32 08.9	+0.6
MTUR	Matau	0.50	278	⇑iP	Pb	12 32 08.9	+0.6
ISR	Istrita	0.55	94	||iP	Pg	12 32 08.7	+0.1
ISR				i S	Sb	12 32 16.9	+0.1
ISR	Istrita	0.55	94	||iP	Pg	12 32 08.7	+0.1
ISR	Istrita	0.55	94	||iP	Pg	12 32 08.7	+0.1
ISR				i S	Sb	12 32 16.9	+0.1
VOIR		0.58	299	⇑iP	Pb	12 32 09.6	0.0
VOIR				i S	Sb	12 32 18.9	+1.3
VOIR		0.58	299	⇑iP	Pb	12 32 09.6	0.0
VOIR		0.58	299	⇑iP	Pb	12 32 09.6	0.0
VOIR				i S	Sb	12 32 18.9	+1.3
SULR		0.59	144	⇑iP	Pb	12 32 09.9	+0.2
SULR				i S	Sn	12 32 19.7	-1.2
SULR		0.59	144	⇑iP	Pb	12 32 09.9	+0.2
SULR		0.59	144	⇑iP	Pb	12 32 09.9	+0.2
SULR				i S	Sn	12 32 19.7	-1.2
ARR	Arges	0.83	285	||iP	Pb	12 32 14.3	+0.5
ARR				i S	Sn	12 32 26.3	-0.6
ARR	Arges	0.83	285	||iP	Pb	12 32 14.3	+0.5
ARR	Arges	0.83	285	||iP	Pb	12 32 14.3	+0.5
ARR				i S	Sn	12 32 26.3	-0.6
HUMR	Humele	0.84	222	||iP	Pn	12 32 15.4	+0.4
HUMR				i S	Sn	12 32 28.7	+1.6
HUMR	Humele	0.84	222	||iP	Pn	12 32 15.4	+0.4
HUMR	Humele	0.84	222	||iP	Pn	12 32 15.4	+0.4
HUMR				i S	Sn	12 32 28.7	+1.6
DOPR	Dopca	0.85	342	||iP	Pn	12 32 14.9	-0.3
DOPR				i S	Sn	12 32 27.1	-0.3
DOPR	Dopca	0.85	342	||iP	Pn	12 32 14.9	-0.3
DOPR	Dopca	0.85	342	||iP	Pn	12 32 14.9	-0.3
DOPR				i S	Sn	12 32 27.1	-0.3
GRER		0.88	75	i S	Sn	12 32 29.8	+1.8
GRER		0.88	75	S	Sn	12 32 29.8	+1.8
GRER		0.88	75	i S	Sn	12 32 29.8	+1.8
PLOR	Plostina	0.93	42	||iP	Pn	12 32 16.5	+0.3
PLOR				i S	Sn	12 32 30.4	+1.1
PLOR	Plostina	0.93	42	||iP	Pn	12 32 16.5	+0.3
PLOR	Plostina	0.93	42	||iP	Pn	12 32 16.5	+0.3
PLOR				i S	Sn	12 32 30.4	+1.1
VRI	Vrincioaia	0.98	43	||iP	Pn	12 32 16.9	0.0
VRI				i S	Sn	12 32 31.4	+0.9
VRI	Vrincioaia	0.98	43	||iP	Pn	12 32 16.9	0.0
VRI	Vrincioaia	0.98	43	||iP	Pn	12 32 16.9	0.0
VRI				i S	Sn	12 32 31.4	+0.9
AMRR	Amara	1.24	116	i S	Sg	12 32 38.8	+1.0
AMRR	Amara	1.24	116	S	Sg	12 32 38.8	+1.0
AMRR	Amara	1.24	116	i S	Sg	12 32 38.8	+1.0
HARR	Harsova	1.61	106	⇑iP	Pb	12 32 26.4	-0.6
HARR	Harsova	1.61	106	⇑iP	Pb	12 32 26.4	-0.6
HARR	Harsova	1.61	106	⇑iP	Pb	12 32 26.4	-0.6
CFR	Carcaliu	1.68	89	⇑iP	Pb	12 32 27.5	-0.7
CFR				i S	Sb	12 32 49.3	+0.3
CFR	Carcaliu	1.68	89	⇑iP	Pb	12 32 27.5	-0.7
CFR	Carcaliu	1.68	89	⇑iP	Pb	12 32 27.5	-0.7
CFR				i S	Sb	12 32 49.3	+0.3
TLB	Topalu	1.71	109	||iP	Pb	12 32 28.0	-0.9
TLB				i S	Sb	12 32 51.4	+1.2
TLB	Topalu	1.71	109	||iP	Pb	12 32 28.0	-0.9
TLB	Topalu	1.71	109	||iP	Pb	12 32 28.0	-0.9
TLB				i S	Sb	12 32 51.4	+1.2
TIRR	Tirgusor	2.01	109	||iP	Pn	12 32 31.8	+0.8
TIRR				i S	Sb	12 32 58.1	-0.5
TIRR	Tirgusor	2.01	109	||iP	Pn	12 32 31.8	+0.8
TIRR	Tirgusor	2.01	109	||iP	Pn	12 32 31.8	+0.8
TIRR				i S	Sb	12 32 58.1	-0.5
BURAR	Bucovina Array	2.49	351	⇑iP	Pn	12 32 39.8	+2.1
BURAR	Bucovina Array	2.49	351	⇑iP	Pn	12 32 39.8	+2.1
BURAR	Bucovina Array	2.49	351	⇑iP	Pn	12 32 39.8	+2.1
DRGR		2.69	309	⇑iP	Pn	12 32 41.1	+0.7
DRGR		2.69	309	⇑iP	Pn	12 32 41.1	+0.7
DRGR		2.69	309	⇑iP	Pn	12 32 41.1	+0.7

ISCJB 27 12:34:13.6±0.5, 39°.06N±0°.04×29°.04E±0°.04, h4km±6km, Error ellipse: s-maj=6.3km s-min=5.4km az=168.6
CSEM 27 12:34:13.7±0.1, 39°.07N×29°.05E, h2km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.6km az=131.0
DDA 27 12:34:13.3, 39°.08N×29°.03E, h7km, Md2.7
ISK 27 12:34:13.2, 39°.06N×29°.02E, h5km, ML2.2

ISC 27 12:34:13.7±0.9, 39°.08N±0°.03×29°.03E±0°.03, h4km±6km, n21, σ0°37/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.03	270	ePG	Pg	12 34 14.8	+0.1
SIMA				eSG	Sg	12 34 15.4	0.0
SIMA	Simav-Kutahya	0.03	270	ePg	Pg	12 34 14.9	+0.1
SIMA				eSg	Sg	12 34 15.5	0.0
DEMI	Demirci	0.24	261	i P	Pg	12 34 18.7	+0.2
DEMI				i S	Sg	12 34 22.3	+0.6
DEMI	Demirci	0.24	261	P	Pg	12 34 18.7	+0.2
DEMI				S	Sg	12 34 22.3	+0.6
GDZ	Gediz	0.35	89	i P	Pg	12 34 20.6	0.0
GDZ				i S	Sg	12 34 25.5	+0.2
GDZ	Gediz	0.35	89	P	Pg	12 34 20.6	0.0
GDZ				S	Sg	12 34 25.5	+0.2
TVSB	Tavsanli	0.50	43	ePG	Pg	12 34 23.8	+0.5
TVSB	Tavsanli	0.50	43	ePg	Pg	12 34 23.8	+0.5
KULA	Kula-Manisa	0.64	207	ePG	Pg	12 34 25.6	-0.3
KULA				eSG	Sg	12 34 34.4	+0.2
KULA	Kula-Manisa	0.64	207	ePg	Pg	12 34 25.7	-0.3
KULA				eSg	Sg	12 34 34.4	+0.2
KHAL	Karahalli	0.80	153	i P	Pg	12 34 29.1	0.0
KHAL	Karahalli	0.80	153	P	Pg	12 34 29.1	0.0
BALB	Balikesir	1.05	302	ePG	Pn	12 34 35.0	-0.2
BALB	Balikesir	1.05	302	ePg	Pn	12 34 35.0	-0.2
IGD	Bursa	1.19	7	i P	Pg	12 34 35.8	-0.7
IGD				i S	Sn	12 34 53.2	-0.5
CAVI	Cavuskoy	1.28	29	ePN	Pb	12 34 38.1	-0.3
CAVI				eSN	Sn	12 34 56.9	+0.7
CAVI	Cavuskoy	1.28	29	ePn	Pb	12 34 38.2	-0.3
CAVI				eSn	Sn	12 34 56.9	+0.7
ARMT	Armutlu	1.49	355	ePN	Pb	12 34 41.8	-0.2
ARMT	Armutlu	1.49	355	ePn	Pb	12 34 41.8	-0.2
YLV	Yalova	1.50	10	ePN	Pn	12 34 41.5	-0.1
YLV	Yalova	1.50	10	ePn	Pn	12 34 41.5	-0.1

BUC 27 12:36:42.8±0.5, 45°.15N×25°.76E, h15km±4km, MD2.9/2, Error ellipse: s-maj=5.3km s-min=3.6km az=30.0
ISCJB 27 12:36:44.2±0.4, 45°.16N±0°.03×25°.76E±0°.03, h19km±5km, Error ellipse: s-maj=4.3km s-min=3.6km az=24.2

ISC 27 12:36:43.3±1.0, 45°.14N±0°.02×25°.78E±0°.02, h16km±9km, n45, σ0°68/58, 24C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SECR		0.23	117	⇑iP	Pb	12 36 48.8	-0.3
SECR				i S	Sb	12 36 54.5	+1.5
SECR		0.23	117	⇑iP	Pb	12 36 48.8	-0.3
SECR		0.23	117	S	Sb	12 36 54.5	+1.5
MLR	Muntele Rosu	0.37	18	⇑iP	Pg	12 36 50.9	-0.1
MLR				i S	Sb	12 36 57.4	+0.2
MLR	Muntele Rosu	0.37	18	⇑iP	Pg	12 36 50.9	-0.1
MTUR	Matau	0.52	280	⇑iP	Pg	12 36 53.7	+0.1
MTUR	Matau	0.52	280	⇑iP	Pg	12 36 53.7	+0.1
ISR	Istrita	0.54	92	||iP	Pb	12 36 54.5	0.0
ISR				i S	Sb	12 37 03.1	+1.1
ISR	Istrita	0.54	92	||iP	Pb	12 36 54.5	0.0
SULR		0.57	144	⇑iP	Pb	12 36 54.8	-0.1
SULR				i S	Sn	12 37 04.5	-1.4
SULR		0.57	144	⇑iP	Pb	12 36 54.8	-0.1
VOIR		0.60	300	⇑iP	Pg	12 36 54.5	-0.6
VOIR				i S	Sb	12 37 03.7	0.0
VOIR		0.60	300	⇑iP	Pg	12 36 54.5	-0.6
HUMR	Humele	0.84	223	||iP	Pb	12 36 59.3	-0.2
HUMR				i S	Sn	12 37 12.6	+0.2
HUMR	Humele	0.84	223	||iP	Pb	12 36 59.3	-0.2
ARR	Arges	0.84	286	⇑iP	Pb	12 36 59.2	-0.4
ARR				i S	Sg	12 37 11.5	+0.7
ARR	Arges	0.84	286	⇑iP	Pb	12 36 59.2	-0.4
DOPR	Dopca	0.87	342	⇑iP	Pb	12 36 59.5	-0.6
DOPR				i S	Sg	12 37 12.1	+0.3
DOPR	Dopca	0.87	342	⇑iP	Pb	12 36 59.5	-0.6
GRER		0.88	74	||iP	Pn	12 37 01.5	+0.5
GRER		0.88	74	||iP	Pn	12 37 01.5	+0.5
PLOR	Plostina	0.94	40	⇑iP	Pb	12 37 01.1	-0.2
PLOR				i S	Sg	12 37 13.8	0.0
PLOR	Plostina	0.94	40	⇑iP	Pb	12 37 01.1	-0.2
VRI	Vrincioaia	0.98	42	||iP	Pg	12 37 02.1	-0.3
VRI				i S	Sn	12 37 16.1	-0.1
VRI	Vrincioaia	0.98	42	||iP	Pg	12 37 02.1	-0.3
TESR	Tescani	1.50	24	i S	Sb	12 37 29.7	+0.1
TESR	Tescani	1.50	24	S	Sb	12 37 29.7	+0.1
HARR	Harsova	1.59	106	||iP	Pn	12 37 11.1	+0.3
HARR	Harsova	1.59	106	||iP	Pn	12 37 11.1	+0.3
CFR	Carcaliu	1.67	88	⇑iP	Pn	12 37 11.9	0.0
CFR				i S	Sb	12 37 34.5	+0.1
CFR	Carcaliu	1.67	88	⇑iP	Pn	12 37 11.9	0.0
TLB	Topalu	1.70	108	||iP	Pn	12 37 12.8	+0.5
TLB				i S	Sb	12 37 35.8	+0.5
TLB	Topalu	1.70	108	||iP	Pn	12 37 12.8	+0.5
SZH	Strazhica	1.88	177	P	Pb	12 37 16.0	-1.2
SZH	Strazhica	1.88	177	P	Pb	12 37 16.0	-1.2
PVL	Pavlikeni	1.95	190	P	Pg	12 37 21.0	+0.3
PVL

BPRM	**Ponciano Ridge**	**1.52**	**164**	*e*Pn	Pn	12 37 09.5 -2.1
BRMM	**Rolling Bench**	**1.54**	**132**	*e*Pn	Pn	12 37 10.9 -0.9
BSMM	**Soledad Missio**	**1.63**	**156**	*e*Pn	Pn	12 37 11.6 -1.5
BPIM	**Pinnacles**	**1.63**	**148**	*e*Pn	Pn	12 37 11.2 -1.9
SHG	**Shirttail Gulc**	**1.66**	**151**	*e*Pn	Pn	12 37 11.6 -1.9
LRV	**Little Rabbit**	**1.75**	**145**	*e*Pn	Pn	12 37 13.7 -1.0
ORV	**Oroville**	**1.78**	**19**	*e*Pn	Pn	12 37 13.1 -2.1
ORV				*e*Sn	Sn	12 37 34.5 -3.4
LRC	**Lone Oak Road**	**1.89**	**149**	*e*Pn	Pn	12 37 15.4 -1.2
PCCM	**Crazy Canyon**	**1.98**	**154**	*e*Pn	Pn	12 37 16.1 -1.8
EMB	**Emerald Bay**	**2.01**	**56**	*e*Pn	Pn	12 37 19.4 +0.8
PMPB	**Monarch Peak**	**2.02**	**145**	*e*Pn	Pn	12 37 18.2 -0.3
PAPM	**Alder Peak**	**2.08**	**160**	*e*Pn	Pn	12 37 17.6 -1.8
KCPM	**Cahto Peak**	**2.09**	**331**	*e*Pn	Pn	12 37 18.9 -0.6
DONR	**Donner Summit**	**2.11**	**45**	*e*Pn	Pn	12 37 20.2 +0.2
WAKR	**Walker**	**2.31**	**73**	*e*Pn	Pn	12 37 24.2 +1.7
PNTR	**Pine Nut**	**2.41**	**59**	*e*Pn	Pn	12 37 24.9 +0.9
BEKR	**Beckworth**	**2.48**	**36**	*e*Pn	Pn	12 37 25.2 +0.2
KMRM	**Mail Ridge**	**2.61**	**335**	*e*Pn	Pn	12 37 27.4 +0.8
YERR	**Yerington**	**2.61**	**64**	*e*Pn	Pn	12 37 27.1 +0.3
LRDM	**Redding Peak**	**2.66**	**13**	*e*Sn	Sn	12 37 57.8 -1.9
PAGB	**Antelope Grade**	**2.67**	**142**	*e*Pn	Pn	12 37 26.9 -0.6
PAHR	**Pah Rah Range**	**2.89**	**50**	*e*Pn	Pn	12 37 30.6 0.0
LBCM	**Butte Creek Ri**	**3.04**	**13**	*e*Pn	Pn	12 37 33.2 +0.5
ISA	**Isabella, Lake**	**3.75**	**125**	*e*Pn	Pn	12 37 42.4 +0.1
KRMB	**Red Mountain**	**3.86**	**341**	*e*Pn	Pn	12 37 45.2 +1.3
DAC	**Darwin (Calif)**	**4.05**	**112**	*e*Pn	Pn	12 37 48.3 +1.7
MOD	**Modoc Plateau**	**4.29**	**20**	*e*Pn	Pb	12 37 55.9 -4.1
BMN	**Battle Mountai**	**4.67**	**55**	*e*Pn	Pn	12 37 56.5 +1.4
TPNV	**Topopah Spring**	**4.87**	**99**	*e*Pn	Pn	12 38 00.1 +2.4
MWC	**Mount Wilson**	**4.98**	**136**	*e*Pn	Pn	12 37 59.0 -0.4
GSC	**Goldstone, Bar**	**5.08**	**119**	*e*Pn	Pn	12 38 00.0 -0.6
PFO	**Pinyon Flats O**	**6.34**	**130**	*e*Pn	Pn	12 38 17.7 -0.3
XPFO	**Piæon Flat**	**6.35**	**130**	*e*Pn	Pn	12 38 17.7 -0.3

NIED ***27*** *12:38:00, 37°.20N×141°.70E, h35km, Mw3.5 Best double couple: M0=2.09000×10^14 NP1:φ=219.00000°, δ=23.00000°, λ=-107.00000°. NP2:φ=58.00000°, δ=68.00000°, λ=-83.00000°.*
ISCJB ***27*** *12:38:37.7±1.3, 37°.19N±0°.05×141°.76E±0°.07, h24km±7km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=7.4km az=30.2*
IDC ***27*** *12:38:38.1±3.4, 37°.50N×141°.36E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.3/50, mbtmp3.3/5, ML3.0/2, Error ellipse: s-maj=75.4km s-min=17.9km az=148.0*
JMA ***27*** *12:38:39.5±0.2, 37°.18N×141°.66E, h40km±2km, M3.5*
ISC 27 12:38:38.0±2.1, 37°.27N±0°.06×141°.69E±0°.07, h15km±11km, n23, σ0=78/26, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.66**	**279**	P	**Pn**	**12 38 52.3**	**-0.5**
JFK				S	**Sb**	**12 39 01.0**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.73**	**257**	P	**Pb**	**12 38 52.8**	**+0.4**
ONAJ				S	**Sb**	**12 39 01.9**	**-0.3**
JMM	**Marumori**	**0.93**	**310**	P	**Pn**	**12 38 56.8**	**+0.3**
JMM				S	**Sn**	**12 39 09.1**	**-0.5**
JFT	**Otama**	**1.10**	**284**	P	**Pg**	**12 38 59.8**	**+0.5**
JFT				S	**Sg**	**12 39 13.6**	**-0.1**
JHO	**Hitachi**	**1.11**	**234**	P	**Pn**	**12 38 57.5**	**-1.5**
JIO	**Ouri**	**1.22**	**347**	P	**Pb**	**12 39 00.9**	**+0.2**
JIO				S	**Sn**	**12 39 16.0**	**-0.7**
JOU	**Okura**	**1.36**	**324**	P	**Pg**	**12 39 03.9**	**-0.4**
JOU				S	**Sg**	**12 39 22.3**	**+0.3**
JFY	**Yanaizu**	**1.59**	**276**	P	**Pn**	**12 39 06.5**	**+0.9**
JFY				S	**Sb**	**12 39 26.9**	**0.0**
JYS	**Shirataka**	**1.60**	**307**	P	**Pb**	**12 39 07.3**	**0.0**
JYS				S	**Sg**	**12 39 28.5**	**-1.0**
JMK	**Ichinoseki**	**1.72**	**348**	P	**Pb**	**12 39 08.6**	**-0.8**
JAG	**Ashikaga**	**1.98**	**246**	P	**Pn**	**12 39 10.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.88**	**257**	Pn	**Pn**	**12 39 24.2**	**+0.8**
	0.8nm,0.3s,baz=81,slow=15,SNR=13						
MJAR				Lg	Lg	12 40 01.9	
	3.4nm,0.3s,baz=317,slow=32,SNR=5.8						
MAT	**Matsushiro**	**2.88**	**257**	P	**Pn**	**12 39 24.7**	**+1.3**
MAT				*e*S	**Sn**	**12 39 56.8**	**-1.0**
ASAJ	**Asahikawa**	**6.88**	**5**	Pn	**Pn**	**12 40 18.5**	**+0.2**
	0.6nm,0.3s,baz=190,slow=18,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**28.08**	**122**	T	T	13 13 57.7	
	baz=314,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	13 13 58.8	
	baz=314,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	13 13 52.3	
	baz=314,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	13 14 54.7	
	baz=316,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	13 14 47.7	
	baz=316,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	13 14 56.6	
	baz=316,slow=76,SNR=26						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**12 46 45.3**	**-0.9**
	0.3nm,0.6s,baz=84,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**12 47 00.5**	**-0.3**
	0.3nm,0.3s,baz=80,slow=7.6,SNR=3.9						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**12 47 26.4**	**+1.4**
	0.4nm,0.7s,baz=271,slow=6.0,SNR=5.1						

ISK ***27*** *12:40:14.3, 38°.82N×43°.58E, h5km, ML2.9*
CSEM ***27*** *12:40:15.4±0.4, 38°.84N×43°.61E, h5km, ML3.0, Error ellipse: s-maj=9.9km s-min=4.8km az=89.0*
DDA ***27*** *12:40:15.5, 38°.82N×43°.56E, h7km, Ml3.0*
ISC 27 12:40:15.5±1.1, 38°.85N±0°.03×43°.61E±0°.05, h17km±7km, n25, σ0=82/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**348**	*i* P	**Pg**	**12 40 19.1**	**-0.7**
VMUR				*i* S	**Sb**	**12 40 22.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.15**	**348**	P	**Pg**	**12 40 19.1**	**-0.7**
VMUR				S	**Sb**	**12 40 22.9**	**-0.1**
VANB	**Van**	**0.30**	**215**	*e*PG	**Pg**	**12 40 21.7**	**-0.4**
VANB				*e*SG	**Sb**	**12 40 27.9**	**+0.5**
VANB	**Van**	**0.30**	**215**	*e*Pg	**Pg**	**12 40 21.7**	**-0.4**
VANB				*e*Sg	**Sb**	**12 40 27.9**	**+0.5**
GEVA	**Gevas**	**0.69**	**219**	*i* P	**Pg**	**12 40 28.7**	**-0.3**
GEVA	**Gevas**	**0.69**	**219**	P	**Pg**	**12 40 28.7**	**-0.3**
DYDN	**Diyadin**	**0.70**	**5**	*i* P	**Pb**	**12 40 29.4**	**0.0**
DYDN				*i* S	**Sn**	**12 40 40.2**	**-1.3**
DYDN	**Diyadin**	**0.70**	**5**	P	**Pb**	**12 40 29.4**	**0.0**
DYDN				S	**Sn**	**12 40 40.2**	**-1.3**
TUTA	**Tutak**	**0.83**	**312**	*i* P	**Pg**	**12 40 30.8**	**-1.0**
TUTA				*i* S	**Sb**	**12 40 42.4**	**-0.3**
TUTA	**Tutak**	**0.83**	**312**	P	**Pg**	**12 40 30.8**	**-1.0**
TUTA				S	**Sb**	**12 40 42.4**	**-0.3**
AGRB	**Hanur-Agry**	**0.87**	**327**	*e*PG	**Pb**	**12 40 32.0**	**-0.3**
AGRB				*e*SG	**Sn**	**12 40 45.7**	**0.0**
AGRB	**Hanur-Agry**	**0.87**	**327**	*e*Pg	**Pb**	**12 40 32.1**	**-0.3**
EKAR	**Karacoban**	**1.27**	**289**	*i* P	**Pg**	**12 40 40.2**	**+0.1**
EKAR	**Karacoban**	**1.27**	**289**	P	**Pg**	**12 40 40.2**	**+0.1**
HAKT	**HAKKARI**	**1.29**	**177**	*i* P	**Pn**	**12 40 38.8**	**-0.2**
HAKT	**HAKKARI**	**1.29**	**177**	P	**Pn**	**12 40 38.8**	**-0.2**
EATA	**Eleskirt**	**1.33**	**320**	*i* P	**Pb**	**12 40 39.9**	**-0.5**
EATA				*i* S	**Sg**	**12 41 00.6**	**+1.8**
EATA	**Eleskirt**	**1.33**	**320**	P	**Pb**	**12 40 39.8**	**-0.5**
EATA				S	**Sg**	**12 41 00.6**	**+1.8**
DIGO	**Kars**	**1.58**	**353**	*i* P	**Pg**	**12 40 45.9**	**0.0**
DIGO	**Kars**	**1.58**	**353**	P	**Pg**	**12 40 45.9**	**0.0**
CUKT	**Cukurca**	**1.60**	**180**	*e*PN	**Pn**	**12 40 44.5**	**+1.3**
CUKT	**Cukurca**	**1.60**	**180**	*e*Pn	**Pn**	**12 40 44.5**	**+1.3**
HOMI	**Horasan**	**1.78**	**313**	*i* P	**Pg**	**12 40 49.8**	**0.0**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	*e*PN	**Pb**	**12 40 50.5**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.02**	**251**	*e*Pn	**Pb**	**12 40 50.5**	**-1.3**

ISCJB ***27*** *12:45:53.9±0.3, 40°.53N±0°.02×15°.55E±0°.03, h21km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=155.4*
CSEM ***27*** *12:45:53.6±0.1, 40°.53N×15°.57E, h20km, ML3.6/10, Error ellipse: s-maj=3.0km s-min=2.4km az=60.0*
ROM ***27*** *12:45:53.5±0.1, 40°.53N×15°.56E, h9km±1km, Ml3.0/27, Error ellipse: s-maj=1.3km s-min=1.3km az=80.0*
ISC 27 12:45:53.7±0.8, 40°.53N±0°.02×15°.56E±0°.02, h16km±6km, n69, σ0=82/99, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDRU	**Civita di Ruta**	**0.20**	**259**	Pg	**Pg**	**12 45 58.5**	**-0.1**
CDRU				Sg	**Sg**	**12 46 01.2**	**-0.6**
	5μm,0.2s						
CDRU	**Civita di Ruta**	**0.20**	**259**	Pg	**Pg**	**12 45 58.5**	**-0.1**
CDRU				Sg	**Sg**	**12 46 01.2**	**-0.6**
	5μm,0.2s						
PZUN	**Potenza**	**0.22**	**58**	Pg	**Pb**	**12 45 59.7**	**+0.3**
PZUN				Sg	**Sb**	**12 46 02.6**	**-0.6**
	4μm,0.5s						
PZUN	**Potenza**	**0.22**	**58**	Pg	**Pb**	**12 45 59.7**	**+0.3**
PZUN				Sg	**Sb**	**12 46 02.6**	**-0.6**
	4μm,0.5s						
MRLC	**Muro Lucano**	**0.23**	**346**	Pg	**Pg**	**12 45 59.1**	**0.0**
MRLC				Sg	**Sg**	**12 46 02.9**	**+0.2**
	2μm,0.5s						
MRLC	**Muro Lucano**	**0.23**	**346**	Pg	**Pg**	**12 45 59.1**	**0.0**
MRLC				Sg	**Sg**	**12 46 02.9**	**+0.2**
	2μm,0.5s						
CMPR	**Campora**	**0.29**	**223**	Pg	**Pg**	**12 46 00.0**	**0.0**
CMPR				Sg	**Sb**	**12 46 04.7**	**-0.5**
	2μm,0.3s						
CMPR	**Campora**	**0.29**	**223**	Pg	**Pg**	**12 46 00.0**	**0.0**
CMPR				Sg	**Sb**	**12 46 04.7**	**-0.5**
	2μm,0.3s						
MTSN	**Montesano sull**	**0.30**	**151**	Pg	**Pb**	**12 46 00.5**	**-0.3**
MTSN				Sg	**Sb**	**12 46 05.4**	**-0.2**
	2μm,0.3s						
MTSN	**Montesano sull**	**0.30**	**151**	Pg	**Pb**	**12 46 00.5**	**-0.3**
MTSN				Sg	**Sb**	**12 46 05.4**	**-0.2**
	2μm,0.3s						
ACER	**Acerenza**	**0.39**	**48**	Pg	**Pb**	**12 46 01.8**	**-0.5**
ACER				Sg	**Sb**	**12 46 08.0**	**-0.1**
	2μm,0.5s						
ACER	**Acerenza**	**0.39**	**48**	Pg	**Pb**	**12 46 01.8**	**-0.5**
ACER				Sg	**Sb**	**12 46 08.0**	**-0.1**
	2μm,0.5s						
MCRV	**Calabrutti - M**	**0.39**	**310**	Pg	**Pg**	**12 46 01.5**	**-0.3**
	1μm,0.3s						
MCRV	**Calabrutti - M**	**0.39**	**310**	Pg	**Pg**	**12 46 01.5**	**-0.3**
	1μm,0.3s						
MGR	**Morigerati**	**0.39**	**181**	Pg	**Pg**	**12 46 01.7**	**0.0**
	1μm,0.2s						
MGR	**Morigerati**	**0.39**	**181**	Pg	**Pg**	**12 46 01.7**	**0.0**
	1μm,0.2s						
SIRI	**Monte Sirino -**	**0.42**	**146**	Pg	**Pg**	**12 46 02.2**	**-0.1**
SIRI				Sg	**Sb**	**12 46 08.8**	**-0.2**
	2μm,0.2s						
SIRI	**Monte Sirino -**	**0.42**	**146**	Pg	**Pg**	**12 46 02.2**	**-0.1**
SIRI				Sg	**Sb**	**12 46 08.8**	**-0.2**
	2μm,0.2s						
BULG	**Bulgheria - Ca**	**0.47**	**197**	Pg	**Pb**	**12 46 03.4**	**-0.3**
BULG				Sg	**Sb**	**12 46 11.1**	**+0.6**
	2μm,0.4s						
BULG	**Bulgheria - Ca**	**0.47**	**197**	Pg	**Pb**	**12 46 03.4**	**-0.3**
BULG				Sg	**Sb**	**12 46 11.1**	**+0.6**
	2μm,0.4s						
SNAL	**S. Angelo Dei**	**0.48**	**326**	Pg	**Pg**	**12 46 03.2**	**-0.1**
SNAL				Sg	**Sb**	**12 46 11.3**	**+0.6**
	772nm,0.5s						
SNAL	**S. Angelo Dei**	**0.48**	**326**	Pg	**Pg**	**12 46 03.2**	**-0.1**
SNAL				Sg	**Sb**	**12 46 11.3**	**+0.6**
	772nm,0.5s						
PALZ	**Palazzo San Ge**	**0.51**	**36**	Pg	**Pg**	**12 46 03.5**	**-0.5**
	874nm,0.9s						
PALZ	**Palazzo San Ge**	**0.51**	**36**	Pg	**Pg**	**12 46 03.5**	**-0.5**
	874nm,0.9s						
SCHR	**S. Chirico Rap**	**0.51**	**130**	Pg	**Pg**	**12 46 03.6**	**-0.4**
	767nm,0.2s						
CAFE	**Carife**	**0.56**	**334**	Pg	**Pb**	**12 46 04.9**	**-0.3**
	779nm,0.5s						
CAFE	**Carife**	**0.56**	**334**	Pg	**Pb**	**12 46 04.9**	**-0.3**
	779nm,0.5s						
CUC	**Castrocucco**	**0.57**	**160**	Pg	**Pg**	**12 46 04.7**	**-0.3**
	360nm,0.4s						
CUC	**Castrocucco**	**0.57**	**160**	Pg	**Pg**	**12 46 04.7**	**-0.3**
	360nm,0.4s						
SGTA	**Sant Agata di**	**0.62**	**346**	Pg	**Pg**	**12 46 05.6**	**-0.5**
	522nm,0.5s						
SGTA	**Sant Agata di**	**0.62**	**346**	Pg	**Pg**	**12 46 05.6**	**-0.5**
	522nm,0.5s						
MIGL	**Miglionico**	**0.68**	**83**	Pg	**Pg**	**12 46 06.3**	**-0.7**
	1μm,0.4s						
MIGL	**Miglionico**	**0.68**	**83**	Pg	**Pg**	**12 46 06.3**	**-0.7**
	1μm,0.4s						
MMN	**Mormanno**	**0.72**	**153**	Pg	**Pn**	**12 46 09.2**	**0.0**
	174nm,0.3s						
MMN	**Mormanno**	**0.72**	**153**	Pg	**Pn**	**12 46 09.2**	**0.0**
	174nm,0.3s						
MRB1	**Monte Rocchett**	**0.74**	**323**	Pg	**Pg**	**12 46 08.2**	**-0.1**
	538nm,0.4s						
MRB1	**Monte Rocchett**	**0.74**	**323**	Pg	**Pg**	**12 46 08.2**	**-0.1**
	538nm,0.4s						
AMUR	**Altamura**	**0.88**	**64**	Pg	**Pb**	**12 46 09.9**	**-0.7**
	366nm,0.4s						
AMUR	**Altamura**	**0.88**	**64**	Pg	**Pb**	**12 46 09.9**	**-0.7**
	366nm,0.4s						
MATE	**Matera**	**0.88**	**82**	Pg	**Pb**	**12 46 09.7**	**-0.9**
MATE				Sg	**Sb**	**12 46 22.7**	**+0.6**
	512nm,0.4s						
MATE	**Matera**	**0.88**	**82**	Pg	**Pb**	**12 46 09.7**	**-0.9**
MATE				Sg	**Sb**	**12 46 22.7**	**+0.6**
	512nm,0.4s						
SALB	**San Lorenzo Be**	**0.89**	**137**	Pg	**Pg**	**12 46 09.8**	**-1.2**
	360nm,0.4s						
SALB	**San Lorenzo Be**	**0.89**	**137**	Pg	**Pg**	**12 46 09.8**	**-1.2**
	360nm,0.4s						
MOCO	**Biccari - m.te**	**0.89**	**340**	Pg	**Pn**	**12 46 11.5**	**-0.3**
SG1	**Sgolgore (BA)**	**0.91**	**70**	*e*Pg	**Pb**	**12 46 10.2**	**-0.9**
SG1				Sg	**Sn**	**12 46 25.8**	**+1.2**
PAOL	**Paolisi**	**0.91**	**304**	Pg	**Pn**	**12 46 12.1**	**+0.2**
	403nm,0.5s						
PAOL	**Paolisi**	**0.91**	**304**	Pg	**Pn**	**12 46 12.1**	**+0.2**
	403nm,0.5s						
PTRJ	**Pietraroja**	**1.14**	**317**	Pg	**Pg**	**12 46 15.8**	**0.0**
	429nm,0.5s						
PTRJ	**Pietraroja**	**1.14**	**317**	Pg	**Pg**	**12 46 15.8**	**0.0**
	429nm,0.5s						
BAI	**Bari**	**1.16**	**60**	*e*Pg	**Pg**	**12 46 15.5**	**-0.5**
BAI				Sg	**Sg**	**12 46 32.8**	**+1.7**
NOCI	**Noci**	**1.17**	**77**	Pg	**Pn**	**12 46 15.3**	**-0.2**
	370nm,0.4s						
NOCI	**Noci**	**1.17**	**77**	Pg	**Pn**	**12 46 15.3**	**-0.2**
	370nm,0.4s						
MS1	**Monte Sant'Ang**	**1.21**	**14**	*e*Pg	**Pn**	**12 46 15.4**	**-0.7**
MS1				Sg	**Sb**	**12 46 31.3**	**-0.4**
MSAG	**Monte S. Angel**	**1.21**	**12**	Pg	**Pn**	**12 46 15.2**	**-0.9**
	334nm,0.3s						
MSAG	**Monte S. Angel**	**1.21**	**12**	Pg	**Pn**	**12 46 15.2**	**-0.9**
	334nm,0.3s						
MASS	**Massafra**	**1.21**	**85**	*e*Pg	**Pn**	**12 46 16.0**	**0.0**
MASS				Sg	**Sg**	**12 46 35.3**	**+2.4**
SGRT	**San Giovanni R**	**1.23**	**6**	Pg	**Pn**	**12 46 15.5**	**-0.9**
SGRT	**San Giovanni R**	**1.23**	**6**	Pg	**Pn**	**12 46 15.5**	**-0.9**
SGG	**Gregorio Mates**	**1.24**	**314**	Pg	**Pg**	**12 46 17.2**	**-0.5**
	256nm,0.7s						
SGG	**Gregorio Mates**	**1.24**	**314**	Pg	**Pg**	**12 46 17.2**	**-0.5**
	256nm,0.7s						
TAR1	**Taranto**	**1.31**	**90**	*e*Pg	**Pn**	**12 46 17.2**	**-0.2**
TAR1				Sg	**Sg**	**12 46 39.2**	**+3.0**
FASA	**Fasano**	**1.39**	**78**	*e*Pg	**Pg**	**12 46 19.8**	**-0.8**
FASA				Sg	**Sg**	**12 46 41.1**	**+2.4**
CGL1	**Ceglie Messapi**	**1.46**	**84**	*e*Pg	**Pb**	**12 46 20.0**	**-0.6**
STON	**Ston**	**2.84**	**34**	*e*Pn	**Pn**	**12 46 38.4**	**+0.1**
STON				Sn	**Sn**	**12 47 10.0**	**-2.2**
STON	**Ston**	**2.84**	**34**	*e*Pn	**Pn**	**12 46 38.4**	**+0.1**
STON				Sn	**Sn**	**12 47 09.9**	**-2.2**
UDBI	**Udbina**	**4.00**	**2**	Sn	**Sn**	**12 47 42.1**	**+1.2**
UDBI	**Udbina**	**4.00**	**2**	Sn	**Sn**	**12 47 42.1**	**+1.2**
NVLJ	**Novalja**	**4.06**	**353**	*e*Pn	**Pn**	**12 46 56.9**	**+1.6**
NVLJ				Sn	**Sn**	**12 47 41.7**	**-0.7**
NVLJ	**Novalja**	**4.06**	**353**	*e*Pn	**Pn**	**12 46 56.8**	**+1.6**
NVLJ				Sn	**Sn**	**12 47 41.7**	**-0.7**

ISK ***27*** *12:57:55.7, 38°.67N×43°.34E, h17km, ML3.0*
ISCJB ***27*** *12:57:56.9±0.7, 38°.67N±0°.03×43°.34E±0°.09, h19km±6km, Error ellipse: s-maj=11.3km s-min=4.9km az=179.4*
CSEM ***27*** *12:57:56.1±0.3, 38°.73N×43°.41E, h19km±1km, ML3.0, Error ellipse: s-maj=8.4km s-min=4.4km az=71.0*
DDA ***27*** *12:57:56.2, 38°.67N×43°.16E, h7km, Ml3.2*
ISC 27 12:57:56.7±0.8, 38°.66N±0°.02×43°.27E±0°.04, h16km±6km, n39, σ0=90/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**124**	*e*PG	**Pg**	**12 58 00.6**	**+0.2**
VANB				*e*SG	**Sg**	**12 58 03.5**	**+0.7**
VANB	**Van**	**0.11**	**124**	*e*Pg	**Pg**	**12 58 00.6**	**+0.2**
VANB				*e*Sg	**Sg**	**12 58 03.5**	**+0.7**
GEVA	**Gevas**	**0.38**	**206**	*i* P	**Pg**	**12 58 02.3**	**-2.3**
GEVA				*i* S	**Sg**	**12 58 09.4**	**-0.6**
GEVA	**Gevas**	**0.38**	**206**	P	**Pg**	**12 58 02.3**	**-2.3**
GEVA				S	**Sg**	**12 58 09.4**	**-0.6**
TUTA	**Tutak**	**0.82**	**335**	*i* P	**Pb**	**12 58 11.4**	**-1.3**
TUTA				*i* S	**Sb**	**12 58 23.5**	**-0.2**
TUTA	**Tutak**	**0.82**	**335**	P	**Pb**	**12 58 11.4**	**-1.3**
TUTA				S	**Sb**	**12 58 23.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.94**	**347**	*e*PG	**Pb**	**12 58 14.0**	**-0.7**
AGRB				*e*SG	**Sn**	**12 58 28.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.94**	**347**	*e*Pg	**Pb**	**12 58 14.0**	**-0.7**
EKAR	**Karacoban**	**1.11**	**303**	*i* P	**Pg**	**12 58 18.9**	**+0.7**
EKAR	**Karacoban**	**1.11**	**303**	P	**Pg**	**12 58 18.9**	**+0.7**
HAKT	**HAKKARI**	**1.15**	**162**	*i* P	**Pg**	**12 58 18.2**	**-0.8**
HAKT	**HAKKARI**	**1.15**	**162**	P	**Pg**	**12 58 18.2**	**-0.8**
SIRN	**S¨–rnak**	**1.34**	**211**	*i* P	**Pb**	**12 58 21.6**	**+0.1**
SIRN				*i* S	**Sg**	**12 58 41.0**	**+0.9**
SIRN	**S¨–rnak**	**1.34**	**211**	P	**Pb**	**12 58 21.6**	**+0.1**
SIRN				S	**Sg**	**12 58 41.0**	**+0.9**
EATA	**Eleskirt**	**1.35**	**334**	*i* P	**Pn**	**12 58 20.6**	**-0.5**
EATA	**Eleskirt**	**1.35**	**334**	P	**Pn**	**12 58 20.6**	**-0.5**
CUKT	**Cukurca**	**1.43**	**169**	*e*PN	**Pn**	**12 58 21.7**	**-0.4**
CUKT	**Cukurca**	**1.43**	**169**	*i* P	**Pg**	**12 58 25.9**	**+1.6**
CUKT	**Cukurca**	**1.43**	**169**	*e*PN	**Pn**	**12 58 21.7**	**-0.4**
CUKT	**Cukurca**	**1.43**	**169**	P	**Pg**	**12 58 25.9**	**+1.6**
VRTB	**Varto-Mus**	**1.50**	**290**	*e*PN	**Pn**	**12 58 23.2**	**+0.1**
VRTB	**Varto-Mus**	**1.50**	**290**	*e*Pn	**Pn**	**12 58 23.2**	**+0.1**
BNGL	**BINGOL**	**1.68**	**281**	*i* P	**Pn**	**12 58 26.1**	**+0.5**
BNGL				*i* S	**Sb**	**12 58 48.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*e*PN	**Pn**	**12 58 25.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	*i* P	**Pn**	**12 58 25.7**	**-0.1**
SVAN				*i* S	**Sn**	**12 58 47.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**253**	P	**Pn**	**12 58 25.7**	**-0.1**
SVAN				S	**Sn**	**12 58 47.3**	**+0.1**
BTMN	**Batman**	**1.75**	**245**	*i* P	**Pn**	**12 58 27.1**	**+0.6**
BTMN				*i* S	**Sb**	**12 58 51.1**	**+1.0**
BTMN	**Batman**	**1.75**	**245**	P	**Pn**	**12 58 27.1**	**+0.6**
BTMN				S	**Sb**	**12 58 51.2**	**+1.0**
ERZM	**Erzurum**	**1.93**	**311**	*i* P	**Pb**	**12 58 32.2**	**+0.5**
ERZM	**Erzurum**	**1.93**	**311**	P	**Pb**	**12 58 32.2**	**+0.5**
BNGB	**Bing¨¶l**	**2.05**	**280**	*e*PN	**Pn**	**12 58 31.9**	**+1.3**
BINT	**Bingol**	**2.19**	**277**	*e*Pn	**Pn**	**12 58 31.9**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.26**	**291**	*e*PN	**Pn**	**12 58 33.3**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.26**	**291**	*e*Pn	**Pn**	**12 58 33.3**	**-0.2**
MARD	**Mardin**	**2.38**	**236**	*i* P	**Pb**	**12 58 38.2**	**-1.1**
MARD				*i* S	**Sb**	**12 59 07.1**	**-1.3**
MAZI	**Mazidag**	**2.53**	**243**	*e*PN	**Pn**	**12 58 38.5**	**+1.4**
MAZI	**Mazidag**	**2.53**	**243**	*e*Pn	**Pn**	**12 58 38.6**	**+1.4**
PTK	**Pertek**	**3.04**	**276**	*e*PN	**Pn**	**12 58 44.9**	**+0.6**
PTK	**Pertek**	**3.04**	**276**	*e*Pn	**Pn**	**12 58 44.9**	**+0.6**

IDC 27 13:04:07.0±11.0, 17°.90S×179°.67W, h616km±105km, mb3.1/4, mb1 3.3/5, mb1mx2.9/25, mbtmp4.1/5, Error ellipse: s-maj=108.1km s-min=74.8km az=124.0, Fiji Islands region

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

WPB			Sn	Sn	13 13 45.0	-1.9
MCW	**Mount Constitu**	**3.71 89**	Pn	Pn	13 13 06.3	-1.1
MCW			Sn	Sn	13 13 49.8	-1.5
SMW	**South Mountain**	**3.71 111**	Pn	Pn	13 13 06.9	-0.6
SMW			Sn	Sn	13 13 48.9	-2.4
BLN	**Blyn Mountain**	**3.72 100**	Pn	Pn	13 13 06.7	-0.9
BCBC	**Bella Coola**	**3.76 16**	Pn	Pn	13 13 08.5	+0.5
HDW	**Hoodsport**	**3.77 105**	Pn	Pn	13 13 07.4	-0.9
HDW			Sn	Sn	13 13 50.3	-2.4
WSLR	**Whistler**	**3.84 67**	Pn	Pn	13 13 09.5	+0.2
WSLR			Sn	Sn	13 13 54.0	-0.5
CPW	**Capitol Peak**	**4.00 115**	Pn	Pn	13 13 10.9	-0.5
CPW			Sn	Sn	13 13 54.4	-3.8
MBW	**Mount Baker**	**4.32 87**	Pn	Pn	13 13 15.6	-0.4
JCW	**Jim Creek**	**4.37 95**	Pn	Pn	13 13 15.9	-0.5
JCW			Sn	Sn	13 14 06.0	-1.3
RPW	**Rockport**	**4.60 91**	Pn	Pn	13 13 19.3	-0.4
RPW			Sn	Sn	13 14 12.3	-1.0
B06A	**Marblemount**	**4.61 91**	Pn	Pn	13 13 19.4	-0.4
LLLB	**Lilloоet**	**4.63 64**	Pn	Pn	13 13 20.2	+0.1
GPW	**Glacier Peak**	**4.90 95**	Pn	Pn	13 13 23.7	-0.3
LON	**Longmire**	**4.90 112**	Pn	Pn	13 13 24.9	+1.0
FMW	**Mount Fremont**	**4.91 110**	Pn	Pn	13 13 24.6	+0.5
C09A	**Chrisman Ranch**	**6.85 94**	P	Pn	13 13 49.8	-0.7
DOWB	**Downie Slide**	**6.94 63**	P	Pn	13 13 52.4	+0.7
MNB	**Mounoet Dainar**	**7.27 58**	P	Pn	13 13 57.5	+1.0
DLBC	**Dease Lake**	**9.73 355**	P	Pn	13 14 32.8	+2.8
FNBB	**Fort Nelson**	**10.62 15**	P	Pn	13 14 42.8	+0.5

*ISK **27** 13:30:48.2, 38.′74N×43.′43E, h21km, ML3.4*
*CSEM **27** 13:30:49.9±0.2, 38.′72N×43.′18E, h2km, ML3.4, Error ellipse: s-maj=5.2km s-min=3.8km az=72.0*
*DDA **27** 13:30:49.8, 38.′71N×43.′18E, h7km, Ml3.6*
ISC 27 13:30:50.5±0.9, 38.′72N±0.′02×43.′24E±0.′03, h13km±7km, n35, σ1§94/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**138**	*e*PG	**Pb**	**13 30 54.2**	**-1.5**
VANB				*e*SG	**Sg**	**13 30 58.6**	**+1.2**
VANB	**Van**	**0.17**	**138**	*e*Pg	**Pb**	**13 30 54.2**	**-1.5**
VANB				*e*Sg	**Sg**	**13 30 58.7**	**+1.2**
VMUR	**Van-Muradiye**	**0.37**	**44**	*i* P	**Pg**	**13 30 57.9**	**-0.1**
VMUR				*i* S	**Sn**	**13 31 06.4**	**-2.5**
VMUR	**Van-Muradiye**	**0.37**	**44**	P	**Pg**	**13 30 57.9**	**-0.1**
VMUR				S	**Sn**	**13 31 06.4**	**-2.5**
GEVA	**Gevas**	**0.44**	**199**	*i* P	**Pg**	**13 30 57.1**	**-2.1**
GEVA				*i* S	**Sg**	**13 31 05.5**	**+0.4**
GEVA	**Gevas**	**0.44**	**199**	P	**Pg**	**13 30 57.1**	**-2.1**
GEVA				S	**Sg**	**13 31 05.5**	**+0.4**
TUTA	**Tutak**	**0.75**	**334**	*i* P	**Pb**	**13 31 03.6**	**-2.1**
TUTA				*i* S	**Sb**	**13 31 15.1**	**-0.9**
TUTA	**Tutak**	**0.75**	**334**	P	**Pb**	**13 31 03.6**	**-2.1**
TUTA				S	**Sb**	**13 31 15.1**	**-0.9**
AGRB	**Hanur-Agry**	**0.87**	**347**	*e*PG	**Pb**	**13 31 06.1**	**-1.6**
AGRB				*e*SG	**Sb**	**13 31 19.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.87**	**347**	*e*Pg	**Pb**	**13 31 06.1**	**-1.6**
AGRB				*e*Sg	**Sb**	**13 31 19.2**	**-0.1**
DYDN	**Diyadin**	**0.89**	**23**	*i* P	**Pn**	**13 31 09.6**	**+0.6**
DYDN				*i* S	**Sn**	**13 31 28.7**	**+6.8**
DYDN	**Diyadin**	**0.89**	**23**	P	**Pn**	**13 31 09.6**	**+0.6**
BASK	**Baskale_VAN**	**0.90**	**138**	*i* P	**Pb**	**13 31 06.4**	**-1.7**
BASK				*i* S	**Sn**	**13 31 20.5**	**-1.6**
BASK	**Baskale_VAN**	**0.90**	**138**	P	**Pb**	**13 31 06.4**	**-1.7**
BASK				S	**Sn**	**13 31 20.5**	**-1.6**
EKAR	**Karacoban**	**1.06**	**300**	*i* P	**Pb**	**13 31 09.2**	**-1.8**
EKAR				*i* S	**Sg**	**13 31 30.4**	**+5.6**
EKAR	**Karacoban**	**1.06**	**300**	P	**Pb**	**13 31 09.1**	**-1.8**
HAKT	**HAKKARI**	**1.22**	**162**	*i* P	**Pb**	**13 31 13.6**	**0.0**
HAKT				*i* S	**Sg**	**13 31 37.2**	**+7.2**
HAKT	**HAKKARI**	**1.22**	**162**	P	**Pb**	**13 31 13.6**	**0.0**
EATA	**Eleskirt**	**1.28**	**333**	*i* P	**Pn**	**13 31 13.7**	**-0.7**
EATA				*i* S	**Sg**	**13 31 32.5**	**+0.7**
EATA	**Eleskirt**	**1.28**	**333**	P	**Pn**	**13 31 13.7**	**-0.7**
EATA				S	**Sg**	**13 31 32.5**	**+0.7**
SIRN	**S¨–rnak**	**1.39**	**208**	*i* P	**Pn**	**13 31 16.1**	**+0.4**
SIRN				*i* S	**Sg**	**13 31 36.8**	**+1.5**
SIRN	**S¨–rnak**	**1.39**	**208**	P	**Pn**	**13 31 16.1**	**+0.4**
SIRN				S	**Sg**	**13 31 36.8**	**+1.5**
HOMI	**Horasan**	**1.68**	**322**	*i* P	**Pb**	**13 31 21.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.70**	**251**	*e*PN	**Pn**	**13 31 19.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.70**	**251**	*i* P	**Pn**	**13 31 19.7**	**-0.2**
SVAN				*i* S	**Sb**	**13 31 43.9**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.70**	**251**	*e*Pn	**Pn**	**13 31 19.8**	**-0.2**
SVAN				S	**Sb**	**13 31 43.9**	**+0.8**
BTMN	**Batman**	**1.76**	**242**	*i* P	**Pn**	**13 31 21.2**	**+0.4**
BTMN				*i* S	**Sb**	**13 31 45.6**	**+0.9**
BTMN	**Batman**	**1.76**	**242**	P	**Pn**	**13 31 21.2**	**+0.4**
BTMN				S	**Sb**	**13 31 45.6**	**+0.9**
MARD	**Mardin**	**2.40**	**235**	*i* P	**Pn**	**13 31 31.4**	**+1.7**
MARD				*i* S	**Sb**	**13 32 04.4**	**+1.2**
MAZI	**Mazidag**	**2.54**	**241**	*e*PN	**Pn**	**13 31 31.4**	**-0.2**
MAZI	**Mazidag**	**2.54**	**241**	*e*Pn	**Pn**	**13 31 31.4**	**-0.2**
PTK	**Pertek**	**3.01**	**274**	*e*PN	**Pn**	**13 31 38.4**	**+0.3**
PTK	**Pertek**	**3.01**	**274**	*e*Pn	**Pn**	**13 31 38.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.10**	**265**	*e*PN	**Pn**	**13 31 39.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**3.10**	**265**	*e*Pn	**Pn**	**13 31 39.6**	**+0.2**

*IDC **27** 13:49:04.1±1.9, 1.′75N×127.′56E, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.7/32, mbtmp4.5/3, Error ellipse: s-maj=158.7km s-min=22.8km az=66.0*
*NEIC **27** 13:49:09.5±1.1, 1.′59N×127.′37E, h35km, mb4.3/1, Error ellipse: s-maj=22.6km s-min=16.5km az=57.0*
*ISCJB **27** 13:49:13.0±0.9, 1.′86N±0.′05×127.′25E±0.′06, h112km, mb4.1/5, Error ellipse: s-maj=9.8km s-min=6.5km az=143.5*
*DJA **27** 13:49:13.9±0.8, 2.′N±4.′×12.′7E±.′, h85km±10km, M4.4/4, mB4.7/2, mb4.6/3, MLv4.3/4, Mw(mB)3.9/2*
ISC 27 13:49:15.2±1.1, 1.′77N±0.′07×127.′19E±0.′08, h112km, n17, σ2§20/23, mb4.2/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.41**	**173**	P	**Pn**	**13 49 55.1**	**+1.4**
LBMI				S	**Sn**	**13 50 24.3**	**+1.2**
SGSI	**Sangihe**	**2.52**	**319**	P	**Pn**	**13 49 51.9**	**-3.2**
SGSI				S	**Sn**	**13 50 21.8**	**-3.9**
KMSI	**Cibinong**	**3.42**	**250**	P	**Pn**	**13 50 08.0**	**+1.1**
KMSI				S	**Sn**	**13 50 48.3**	**+1.4**
SANI	**Sanana**	**3.98**	**198**	P	**Pn**	**13 50 14.2**	**-0.2**
SANI				S	**Sn**	**13 50 58.3**	**-2.0**
NLAI	**Namlea**	**4.98**	**181**	P	**Pn**	**13 50 28.5**	**+0.7**
NLAI				S	**Sn**	**13 51 23.4**	**-0.9**
LUWI	**Luwuk**	**5.23**	**238**	P	**Pn**	**13 50 31.7**	**+0.5**
MRSI	**Marisa**	**5.41**	**256**	P	**Pn**	**13 50 34.8**	**+1.2**
	48nm,0.7s,604nm0.2nm						
TTSI	**Tana Toraja**	**8.79**	**237**	P	**Pn**	**13 51 20.1**	**+0.6**
	24nm,0.7s,607nm						
SPSI	**Sidrap Palu**	**9.35**	**232**	P	**Pn**	**13 51 28.8**	**+1.7**
KAPI	**Kappang**	**10.03**	**228**	*e*Pn	**Pn**	**13 51 31.9**	**-4.5**
KAPI				*e*Sn	**Sn**	**13 53 28.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.81**	**184**	*e*P	**P**	**13 53 33.6**	**-3.4**
WRAB	**Tennant Creek**	**22.68**	**162**	*e*P	**P**	**13 54 05.3**	**-2.2**
	10nm,0.8s						
WRA	**Warramunga Arr**	**22.69**	**162**	P	**P**	**13 54 06.8**	**-0.8**
	8.9nm,0.4s,baz=341,slow=11,SNR=46						
MBWA	**Marble Bar**	**23.93**	**197**	P	**P**	**13 54 19.3**	**+0.3**
ASAR	**Alice Springs**	**26.11**	**166**	P	**P**	**13 54 38.6**	**-0.3**
	1.4nm,0.5s,baz=354,slow=7.6,SNR=42						
STKA	**Stephens Creek**	**36.15**	**159**	P	**P**	**13 56 06.9**	**+0.1**
	5.9nm,0.4s,baz=340,slow=7.9,SNR=28						
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**13 59 10.2**	**+4.1**
	0.1nm,0.3s,baz=124,slow=6.5,SNR=3.3						

*DDA **27** 14:13:14.1, 38.′74N×43.′80E, h7km, Md2.7*
*CSEM **27** 14:13:15.9±0.4, 38.′84N×43.′63E, h2km, MD2.7, Error ellipse: s-maj=10.7km s-min=5.2km az=93.0*
*ISK **27** 14:13:15.4, 38.′75N×43.′19E, h5km, ML2.7*
ISC 27 14:13:15.0±1.2, 38.′78N±0.′02×43.′72E±0.′05, h9km±8km, n22, σ1§40/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.24**	**332**	*i* P	**Pg**	**14 13 20.0**	**+0.1**
VMUR				*i* S	**Sb**	**14 13 26.4**	**+3.1**
VMUR	**Van-Muradiye**	**0.24**	**332**	P	**Pg**	**14 13 20.0**	**+0.1**
VANB	**Van**	**0.31**	**235**	*e*PG	**Pb**	**14 13 22.0**	**-0.8**
VANB				*e*SG	**Sb**	**14 13 27.8**	**-0.3**
VANB	**Van**	**0.31**	**235**	*e*Pg	**Pb**	**14 13 22.0**	**-0.8**
VANB				*e*Sg	**Sb**	**14 13 27.8**	**-0.3**
GEVA	**Gevas**	**0.69**	**228**	*i* P	**Pg**	**14 13 27.9**	**-0.5**
GEVA				*i* S	**Sb**	**14 13 39.8**	**+0.8**
GEVA	**Gevas**	**0.69**	**228**	P	**Pg**	**14 13 27.9**	**-0.5**
GEVA				S	**Sb**	**14 13 39.8**	**+0.8**
DYDN	**Diyadin**	**0.77**	**358**	*i* P	**Pb**	**14 13 29.4**	**-1.2**
DYDN				*i* S	**Sn**	**14 13 42.8**	**-1.1**
DYDN	**Diyadin**	**0.77**	**358**	P	**Pb**	**14 13 29.4**	**-1.2**
TUTA	**Tutak**	**0.94**	**312**	*i* P	**Pg**	**14 13 32.2**	**-0.9**
TUTA				*i* S	**Sb**	**14 13 47.3**	**+1.1**
TUTA	**Tutak**	**0.94**	**312**	P	**Pg**	**14 13 32.2**	**-0.9**
AGRB	**Hanur-Agry**	**0.97**	**325**	*e*PG	**Pg**	**14 13 32.6**	**-1.1**
AGRB				*e*SG	**Sg**	**14 13 45.2**	**-1.2**
AGRB	**Hanur-Agry**	**0.97**	**325**	*e*Pg	**Pg**	**14 13 32.6**	**-1.1**
AGRB				*e*Sg	**Sg**	**14 13 45.2**	**-1.2**
TATV	**Tatvan**	**1.17**	**257**	*i* S	**Sg**	**14 13 51.1**	**-1.4**
TATV	**Tatvan**	**1.17**	**257**	S	**Sg**	**14 13 51.1**	**-1.4**
HAKT	**HAKKARI**	**1.22**	**180**	*i* P	**Pg**	**14 13 36.4**	**-1.9**
HAKT				*i* S	**Sn**	**14 13 56.8**	**+1.7**
EKAR	**Karacoban**	**1.37**	**291**	*i* P	**Pg**	**14 13 42.1**	**+0.8**
EKAR				*i* S	**Sn**	**14 14 02.4**	**+3.5**
EKAR	**Karacoban**	**1.37**	**291**	P	**Pg**	**14 13 42.1**	**+0.8**
EATA	**Eleskirt**	**1.44**	**319**	*i* P	**Pn**	**14 13 41.5**	**0.0**
EATA				*i* S	**Sn**	**14 14 02.4**	**+1.7**
EATA	**Eleskirt**	**1.44**	**319**	P	**Pn**	**14 13 41.5**	**0.0**
CUKT	**Cukurca**	**1.53**	**183**	*e*PN	**Pg**	**14 13 46.0**	**+1.6**
CUKT	**Cukurca**	**1.53**	**183**	*e*Pn	**Pg**	**14 13 46.0**	**+1.6**
DIGO	**Kars**	**1.66**	**351**	*i* P	**Pg**	**14 13 47.7**	**+1.0**

IDC 27 14:20:39.5±12.0, 1.′62S×128.′03E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=190.1km s-min=153.8km az=131.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**162**	P	P	14 25 05.7	+0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**22.64**	**166**	P	P	14 25 43.0	+0.6
	0.2nm,0.4s,baz=345,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**32.70**	**158**	P	P	14 27 13.1	-0.8
	1.3nm,0.7s,baz=328,slow=12,SNR=3.1						

*CSEM **27** 14:20:51.4, 38.′69N×43.′40E, h7km, ML2.9*
DDA 27 14:20:51.4, 38.′69N×43.′40E, h7km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUTA	**Tutak**	**0.84**	**328**	*i* P	Pg	14 21 07.7	+0.1
TUTA				*i* S	Sg	14 21 18.9	+0.4
TUTA	**Tutak**	**0.84**	**328**	P	Pg	14 21 07.7	+0.1
TUTA				S	Sg	14 21 18.9	+0.4
TATV	**Tatvan**	**0.90**	**258**	*i* P	Pg	14 21 08.7	-0.1
TATV				*i* S	Sg	14 21 20.7	+0.1
TATV	**Tatvan**	**0.90**	**258**	P	Pg	14 21 08.6	-0.2
TATV				S	Sg	14 21 20.7	+0.2
EKAR	**Karacoban**	**1.18**	**299**	*i* P	Pn	14 21 17.0	+2.4
EKAR				*i* S	Sn	14 21 32.5	+1.5
EKAR	**Karacoban**	**1.18**	**299**	P	Pn	14 21 17.0	+2.4
EKAR				S	Sn	14 21 32.5	+1.5
EATA	**Eleskirt**	**1.36**	**329**	*i* P	Pg	14 21 17.6	+0.1
EATA				*i* S	Sn	14 21 36.2	+0.6
EATA	**Eleskirt**	**1.36**	**329**	P	Pg	14 21 17.6	0.0
EATA				S	Sn	14 21 36.2	+0.6

*AZER **27** 14:25:24.1±2.2, 38.′37N×43.′26E, h8km, Error ellipse: s-maj=16.0km s-min=12.2km az=29.0*
*ISK **27** 14:25:27.3, 38.′89N×43.′57E, h5km, ML3.3*
*CSEM **27** 14:25:29.0±0.3, 38.′87N×43.′52E, h2km, ML3.3, Error ellipse: s-maj=7.0km s-min=6.0km az=130.0*
*DDA **27** 14:25:30.3, 38.′91N×43.′39E, h5km, Ml3.6*
ISC 27 14:25:28.0±1.0, 38.′87N±0.′02×43.′54E±0.′02, h12km±10km, n52, σ1§90/72, 9C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.30**	**204**	PG	**Pb**	**14 25 36.2**	**+1.0**
VANB	**Van**	**0.30**	**204**	*i* Pg	**Pb**	**14 25 36.3**	**+1.0**
TVAN	**Van**	**0.35**	**198**	*i* P	**Pn**	**14 25 38.5**	**-0.6**
TVAN				*i* S	**Sb**	**14 25 44.5**	**+2.6**
TVAN	**Van**	**0.35**	**198**	P	**Pn**	**14 25 38.5**	**-0.6**
TVAN				S	**Sb**	**14 25 44.5**	**+2.6**
GEVA	**Gevas**	**0.67**	**215**	*i* P	**Pg**	**14 25 40.4**	**-0.6**
GEVA	**Gevas**	**0.67**	**215**	P	**Pg**	**14 25 40.4**	**-0.6**
DYDN	**Diyadin**	**0.69**	**9**	*i* P	**Pb**	**14 25 42.0**	**0.0**
DYDN				*i* S	**Sn**	**14 25 53.9**	**-0.5**
DYDN	**Diyadin**	**0.69**	**9**	P	**Pb**	**14 25 42.0**	**0.0**
DYDN				S	**Sn**	**14 25 53.9**	**-0.5**
TUTA	**Tutak**	**0.78**	**314**	*i* P	**Pb**	**14 25 43.4**	**-0.2**
TUTA				*i* S	**Sb**	**14 25 53.6**	**-0.7**
TUTA	**Tutak**	**0.78**	**314**	P	**Pb**	**14 25 43.4**	**-0.2**
TUTA				S	**Sb**	**14 25 53.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.83**	**329**	*e*PG	**Pb**	**14 25 44.2**	**-0.2**
AGRB				*e*SG	**Sn**	**14 25 56.5**	**-1.4**
AGRB	**Hanur-Agry**	**0.83**	**329**	*e*Pg	**Pb**	**14 25 44.2**	**-0.2**
BASK	**Baskale_VAN**	**0.89**	**156**	*i* P	**Pg**	**14 25 44.8**	**-0.3**
BASK	**Baskale_VAN**	**0.89**	**156**	P	**Pg**	**14 25 44.8**	**-0.3**
TATV	**Tatvan**	**1.06**	**251**	*i* P	**Pg**	**14 25 47.4**	**-1.0**
TATV				*i* S	**Sg**	**14 26 01.4**	**-0.9**
TATV	**Tatvan**	**1.06**	**251**	P	**Pg**	**14 25 47.4**	**-1.0**
TATV				S	**Sg**	**14 26 01.4**	**-0.9**
EKAR	**Karacoban**	**1.22**	**289**	*i* P	**Pg**	**14 25 52.1**	**+0.7**
EKAR				*i* S	**Sn**	**14 26 11.8**	**+4.3**
EKAR	**Karacoban**	**1.22**	**289**	P	**Pg**	**14 25 52.1**	**+0.7**
EATA	**Eleskirt**	**1.29**	**321**	*i* P	**Pg**	**14 25 52.5**	**-0.2**
EATA	**Eleskirt**	**1.29**	**321**	P	**Pg**	**14 25 52.5**	**-0.2**
NAX	**Nakhchivan**	**1.55**	**78**	⇓P	**Pg**	**14 25 57.0**	**-0.7**
NAX				⇑S	**Sg**	**14 26 22.4**	**+4.5**
NAX	**Nakhchivan**	**1.55**	**78**	P	**Pg**	**14 25 57.0**	**-0.7**
NAX				S	**Sg**	**14 26 22.4**	**+4.5**
DIGO	**Kars**	**1.55**	**355**	*i* P	**Pg**	**14 25 58.2**	**+0.4**
DIGO	**Kars**	**1.55**	**355**	P	**Pg**	**14 25 58.2**	**+0.4**
CUKT	**Cukurca**	**1.62**	**178**	*e*PN	**Pg**	**14 25 58.6**	**-0.4**
CUKT				*e*SN	**Sg**	**14 26 21.3**	**+1.3**
CUKT	**Cukurca**	**1.62**	**178**	*e*Pn	**Pg**	**14 25 58.6**	**-0.4**
CUKT				*e*Sn	**Sg**	**14 26 21.3**	**+1.3**
HOMI	**Horasan**	**1.73**	**313**	*i* P	**Pg**	**14 26 00.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*PN	**Pb**	**14 26 03.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*Pn	**Pb**	**14 26 03.2**	**-0.6**
BTMN	**Batman**	**2.04**	**242**	*i* P	**Pg**	**14 26 06.5**	**-0.5**
BTMN	**Batman**	**2.04**	**242**	P	**Pg**	**14 26 06.5**	**-0.5**
DDEM	**Demirkent**	**2.45**	**326**	*i* P	**Pg**	**14 26 14.3**	**-0.6**
GDB	**GEDABAY**	**2.52**	**42**	⇑P	**Pb**	**14 26 11.3**	**-1.9**
	SNR=4.8						
GDB				⇑S	**Sg**	**14 26 50.3**	**+1.5**
GDB	**GEDABAY**	**2.52**	**42**	P	**Pb**	**14 26 11.3**	**-1.9**
	SNR=4.8						
DAGI	**Agillar**	**2.54**	**331**	*i* P	**Pg**	**14 26 16.4**	**-0.2**
QZX	**Qazax, Azerbai**	**2.60**	**32**	⇓P	**Pb**	**14 26 14.6**	**+0.1**
	SNR=3.1						
QZX				⇑S	**Sg**	**14 26 52.8**	**+1.2**
QZX	**Qazax, Azerbai**	**2.60**	**32**	P	**Pb**	**14 26 14.6**	**+0.1**
	SNR=3.1						
ARTV	**Artvin**	**2.63**	**332**	*i* P	**Pg**	**14 26 17.5**	**-0.8**
GANJ	**Ganja**	**2.78**	**49**	⇑P	**Pb**	**14 26 15.4**	**-2.2**
	SNR=7.6						
GANJ				⇑S	**Sg**	**14 26 56.1**	**-1.2**
GANJ	**Ganja**	**2.78**	**49**	P	**Pb**	**14 26 15.4**	**-2.2**
	SNR=7.6						
MAZI	**Mazidag**	**2.82**	**241**	*e*PN	**Pb**	**14 26 16.3**	**-1.9**
MAZI	**Mazidag**	**2.82**	**241**	*e*Pn	**Pb**	**14 26 16.3**	**-1.9**
BRDA	**Brd**	**3.14**	**62**	⇑P	**Pb**	**14 26 19.8**	**-3.8**
BRDA				⇓S	**Sb**	**14 27 03.5**	**+1.7**
BRDA	**Brd**	**3.14**	**62**	P	**Pb**	**14 26 19.8**	**-3.8**
PTK	**Pertek**	**3.24**	**272**	*e*PN	**Pb**	**14 26 22.1**	**-3.4**
PTK	**Pertek**	**3.24**	**272**	*e*Pn	**Pb**	**14 26 22.1**	**-3.4**
LRK	**Lerik**	**3.76**	**92**	⇑P	**Pn**	**14 26 26.0**	**+0.1**
LRK	**Lerik**	**3.76**	**92**	P	**Pn**	**14 26 26.0**	**+0.1**
GLBA	**Clilabad**	**3.79**	**83**	⇑P	**Pn**	**14 26 27.5**	**+1.3**
GLBA				⇓S	**Sb**	**14 27 16.2**	**-4.5**
GLBA	**Clilabad**	**3.79**	**83**	P	**Pn**	**14 26 27.5**	**+1.3**
GLBA				S	**Sb**	**14 27 16.2**	**-4.5**
XNQ	**Khinaliq**	**4.21**	**55**	⇓P	**Pn**	**14 26 35.7**	**+3.5**
XNQ	**Khinaliq**	**4.21**	**55**	P	**Pn**	**14 26 35.7**	**+3.5**

*DDA **27** 14:44:02.9, 38.′81N×43.′60E, h5km, Ml3.7*
*CSEM **27** 14:44:03.6±0.3, 38.′78N×43.′54E, h2km, ML3.7, Error ellipse: s-maj=6.7km s-min=5.1km az=89.0*
*ISK **27** 14:44:03.4, 38.′80N×43.′40E, h5km, ML3.3*
*AZER **27** 14:44:05.1±3.3, 38.′07N×45.′18E, h8km, Error ellipse: s-maj=34.3km s-min=9.5km az=57.0*
ISC 27 14:44:03.3±1.1, 38.′79N±0.′02×43.′61E±0.′02, h5km±9km, n72, σ1§57/100, 2C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**352**	*i* P	**Pg**	**14 44 06.8**	**-0.6**
VMUR				*i* S	**Sg**	**14 44 11.3**	**+1.2**
VMUR	**Van-Muradiye**	**0.20**	**352**	P	**Pg**	**14 44 06.8**	**-0.6**
VMUR				S	**Sg**	**14 44 11.3**	**+1.2**
VANB	**Van**	**0.26**	**222**	PG	**Pb**	**14 44 10.3**	**-0.2**
VANB	**Van**	**0.26**	**222**	*i* Pg	**Pb**	**14 44 10.3**	**-0.2**
TVAN	**Van**	**0.30**	**211**	*i* P	**Pb**	**14 44 12.1**	**+0.7**
TVAN				*i* S	**Sb**	**14 44 18.4**	**+1.6**
GEVA	**Gevas**	**0.64**	**222**	*i* P	**Pg**	**14 44 14.7**	**-0.9**
GEVA				*i* S	**Sb**	**14 44 26.3**	**-0.2**
GEVA	**Gevas**	**0.64**	**222**	P	**Pg**	**14 44 14.7**	**-0.9**
DYDN	**Diyadin**	**0.76**	**5**	*i* P	**Pg**	**14 44 17.2**	**-0.7**
DYDN				*i* S	**Sb**	**14 44 29.4**	**-0.5**
DYDN	**Diyadin**	**0.76**	**5**	P	**Pg**	**14 44 17.2**	**-0.7**
DYDN				S	**Sb**	**14 44 29.4**	**-0.5**
BASK	**Baskale_VAN**	**0.80**	**157**	*i* P	**Pg**	**14 44 18.6**	**0.0**
BASK				*i* S	**Sg**	**14 44 28.1**	**-0.9**
BASK	**Baskale_VAN**	**0.80**	**157**	P	**Pg**	**14 44 18.6**	**0.0**
BASK				S	**Sg**	**14 44 28.1**	**-0.9**
TUTA	**Tutak**	**0.87**	**315**	*i* P	**Pg**	**14 44 18.2**	**-1.9**
TUTA				*i* S	**Sg**	**14 44 31.3**	**-0.1**
TUTA	**Tutak**	**0.87**	**315**	P	**Pg**	**14 44 18.2**	**-1.9**
TUTA				S	**Sg**	**14 44 31.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.92**	**329**	*e*PG	**Pg**	**14 44 20.2**	**-0.8**
AGRB				*e*SG	**Sg**	**14 44 33.4**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**329**	*e*Pg	**Pg**	**14 44 20.2**	**-0.8**
AGRB				*e*Sg	**Sg**	**14 44 33.4**	**+0.4**
TATV	**Tatvan**	**1.09**	**256**	*i* P	**Pg**	**14 44 22.4**	**-1.8**
TATV				*i* S	**Sg**	**14 44 37.7**	**-0.6**
TATV	**Tatvan**	**1.09**	**256**	P	**Pg**	**14 44 22.4**	**-1.8**
TATV				S	**Sg**	**14 44 37.7**	**-0.6**
HAKT	**HAKKARI**	**1.23**	**176**	*i* P	**Pg**	**14 44 25.2**	**-1.7**
HAKT				*i* S	**Sn**	**14 44 47.8**	**+3.2**
HAKT	**HAKKARI**	**1.23**	**176**	P	**Pg**	**14 44 25.2**	**-1.7**
EKAR	**Karacoban**	**1.29**	**292**	*i* P	**Pg**	**14 44 27.1**	**-1.0**
EKAR				*i* S	**Sn**	**14 44 48.1**	**+2.1**
EKAR	**Karacoban**	**1.29**	**292**	P	**Pg**	**14 44 27.1**	**-1.0**
EATA	**Eleskirt**	**1.38**	**321**	*i* P	**Pn**	**14 44 27.5**	**-2.1**
EATA				*i* S	**Sn**	**14 44 48.8**	**+0.4**
EATA	**Eleskirt**	**1.38**	**321**	P	**Pn**	**14 44 27.5**	**-2.1**
EATA				S	**Sn**	**14 44 48.8**	**+0.4**
NAX	**Nakhchivan**	**1.52**	**75**	⇑P	**Pg**	**14 44 32.4**	**-0.1**
NAX				⇓S	**Sn**	**14 44 44.4**	**-7.2**
NAX	**Nakhchivan**	**1.52**	**75**	P	**Pg**	**14 44 32.4**	**-0.1**
CUKT	**Cukurca**	**1.54**	**180**	*e*PN	**Pg**	**14 44 33.7**	**+0.9**
CUKT				*e*SN	**Sg**	**14 44 55.2**	**+2.5**
CUKT	**Cukurca**

JFK	**Kawauchi**	**0.37 263**	P	Pb	14 47 01.8	-0.2
JFK			eS	Sb	14 47 07.2	-0.5
ONAJ	**Iwakimizuishiy**	**0.53 235**	P	Pb	14 47 04.2	-0.3
ONAJ			S	Sb	14 47 11.5	-0.4
JMM	**Marumori**	**0.63 317**	P	Pb	14 47 05.6	-0.5
JMM			S	Sb	14 47 14.0	-0.6
JFT	**Otama**	**0.81 278**	P	Pn	14 47 09.2	+0.1
JFT			S	Sn	14 47 19.9	-0.3
JHO	**Hitachi**	**1.01 218**	P	Pn	14 47 10.6	-1.3
JIO	**Ouri**	**1.04 0**	P	Pn	14 47 11.9	-0.4
JOU	**Okura**	**1.09 331**	P	Pb	14 47 13.6	-0.3
JOU			S	Sb	14 47 28.1	+0.3
JYS	**Shirataka**	**1.29 309**	P	Pb	14 47 16.9	-0.4
JYS			S	Sb	14 47 34.3	+0.8
JFY	**Yanaizu**	**1.30 270**	P	Pb	14 47 16.8	-0.6
JFY			S	Sb	14 47 34.1	+0.3
MAT	**Matsushiro**	**2.65 252**	P	Pb	14 47 37.9	-2.5
MAT			S	Sb	14 48 11.3	-1.3

ISK ***27*** *15:05:08.1,38.°75N×43.°37E,h5km,Ml3.4*
DDA ***27*** *15:05:08.9,38.°73N×43.°40E,h7km,Ml3.8*
ISCJB ***27*** *15:05:09.8±0.5,38.°74N±0.°02×43.°39E±0.°05,h10km±5km, Error ellipse: s-maj=6.3km s-min=4.0km az=13.5*
CSEM ***27*** *15:05:09.6±0.2,38.°76N×43.°38E,h2km,ML3.4, Error ellipse: s-maj=5.5km s-min=4.1km az=94.0*
ISC 27 15:05:10.4±1.1,38.°75N±0.°02×43.°37E±0.°03,h18km±7km, n47,σ1§40/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**175**	PG	**Pg**	**15 05 14.1**	**-0.8**
VANB	**Van**	**0.16**	**175**	*i* Pg	**Pg**	**15 05 14.1**	**-0.8**
TVAN	**Van**	**0.23**	**173**	*i* P	**Pg**	**15 05 16.8**	**+0.9**
TVAN	**Van**	**0.23**	**173**	P	**Pg**	**15 05 16.8**	**+0.9**
VMUR	**Van-Muradiye**	**0.28**	**34**	*i* P	**Pg**	**15 05 15.5**	**-1.3**
VMUR				*i* S	**Sb**	**15 05 21.4**	**-0.2**
VMUR	**Van-Muradiye**	**0.28**	**34**	P	**Pg**	**15 05 15.5**	**-1.3**
VMUR				S	**Sb**	**15 05 21.4**	**-0.2**
GEVA	**Gevas**	**0.50**	**209**	*i* P	**Pg**	**15 05 18.8**	**-1.8**
GEVA	**Gevas**	**0.50**	**209**	P	**Pg**	**15 05 18.8**	**-1.8**
CLDR	**Caldiran**	**0.58**	**47**	*e*PG	**Pg**	**15 05 20.7**	**-1.3**
CLDR				*e*SG	**Sb**	**15 05 29.6**	**-0.6**
CLDR	**Caldiran**	**0.58**	**47**	*i* P	**Pg**	**15 05 20.5**	**-1.5**
CLDR	**Caldiran**	**0.58**	**47**	P	**Pg**	**15 05 20.5**	**-1.5**
CLDR	**Caldiran**	**0.58**	**47**	*e*Pg	**Pg**	**15 05 20.7**	**-1.3**
CLDR				*e*Sg	**Sb**	**15 05 29.6**	**-0.6**
TUTA	**Tutak**	**0.78**	**326**	*i* P	**Pb**	**15 05 24.6**	**-1.1**
TUTA				*i* S	**Sb**	**15 05 36.4**	**+0.3**
TUTA	**Tutak**	**0.78**	**326**	P	**Pb**	**15 05 24.6**	**-1.1**
TUTA				S	**Sb**	**15 05 36.3**	**+0.3**
DYDN	**Diyadin**	**0.83**	**17**	*i* P	**Pg**	**15 05 24.6**	**-2.1**
DYDN				*i* S	**Sb**	**15 05 36.5**	**-0.9**
DYDN	**Diyadin**	**0.83**	**17**	P	**Pg**	**15 05 24.5**	**-2.1**
DYDN				S	**Sb**	**15 05 36.5**	**-0.9**
BASK	**Baskale_VAN**	**0.86**	**144**	*i* P	**Pg**	**15 05 25.2**	**-2.0**
BASK	**Baskale_VAN**	**0.86**	**144**	P	**Pg**	**15 05 25.2**	**-2.0**
AGRB	**Hanur-Agry**	**0.87**	**340**	*e*PG	**Pg**	**15 05 25.9**	**-1.6**
AGRB				*e*SG	**Sb**	**15 05 39.1**	**+0.5**
AGRB	**Hanur-Agry**	**0.87**	**340**	*e*Pg	**Pg**	**15 05 25.9**	**-1.6**
AGRB				*e*Sg	**Sb**	**15 05 39.1**	**+0.5**
TATV	**Tatvan**	**0.90**	**255**	*i* P	**Pg**	**15 05 26.4**	**-1.5**
TATV				*i* S	**Sb**	**15 05 39.1**	**-0.2**
TATV	**Tatvan**	**0.90**	**255**	P	**Pg**	**15 05 26.4**	**-1.5**
TATV				S	**Sb**	**15 05 39.1**	**-0.2**
EKAR	**Karacoban**	**1.14**	**297**	*i* P	**Pn**	**15 05 31.7**	**0.0**
EKAR	**Karacoban**	**1.14**	**297**	P	**Pn**	**15 05 31.7**	**0.0**
HAKT	**HAKKARI**	**1.22**	**167**	*i* P	**Pg**	**15 05 31.0**	**-3.1**
HAKT	**HAKKARI**	**1.22**	**167**	P	**Pg**	**15 05 31.0**	**-3.1**
EATA	**Eleskirt**	**1.30**	**329**	*i* P	**Pb**	**15 05 34.1**	**-0.5**
EATA				*i* S	**Sn**	**15 05 53.5**	**+2.3**
EATA	**Eleskirt**	**1.30**	**329**	P	**Pb**	**15 05 34.1**	**-0.5**
EATA				S	**Sn**	**15 05 53.5**	**+2.3**
SIRN	**S¨–rnak**	**1.46**	**211**	*i* P	**Pb**	**15 05 36.5**	**-0.7**
SIRN	**S¨–rnak**	**1.46**	**211**	P	**Pb**	**15 05 36.5**	**-0.7**
CUKT	**Cukurca**	**1.51**	**173**	*e*PN	**Pg**	**15 05 37.8**	**-1.8**
CUKT	**Cukurca**	**1.51**	**173**	*i* P	**Pg**	**15 05 39.8**	**+0.2**
CUKT	**Cukurca**	**1.51**	**173**	*e*Pn	**Pg**	**15 05 37.8**	**-1.8**
CUKT	**Cukurca**	**1.51**	**173**	P	**Pg**	**15 05 39.8**	**+0.2**
VRTB	**Varto-Mus**	**1.55**	**286**	*e*PN	**Pg**	**15 05 38.8**	**-1.4**
VRTB	**Varto-Mus**	**1.55**	**286**	*e*Pn	**Pg**	**15 05 38.8**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.81**	**251**	*e*PN	**Pb**	**15 05 42.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.81**	**251**	*e*Pn	**Pb**	**15 05 42.4**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*PN	**Pn**	**15 05 44.2**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.97**	**337**	*e*Pn	**Pn**	**15 05 44.2**	**+1.0**
BNGB	**Bing¶ll**	**2.11**	**277**	*e*PN	**Pn**	**15 05 45.4**	**+0.3**
MAZI	**Mazidag**	**2.64**	**242**	*e*PN	**Pn**	**15 05 53.3**	**+1.0**
MAZI	**Mazidag**	**2.64**	**242**	*e*Pn	**Pn**	**15 05 53.3**	**+1.0**
AKH	**Akhalkalaki**	**2.66**	**2**	P	**Pg**	**15 06 01.2**	**-0.2**
DGRG	**David-gareji**	**3.10**	**29**	P	**Pn**	**15 06 01.4**	**+2.9**
SVRC	**Sivrice-ELAZID**	**3.21**	**265**	*e*PN	**Pn**	**15 06 01.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.21**	**265**	*e*Pn	**Pn**	**15 06 01.5**	**+1.4**

DDA ***27*** *15:08:46.7,38.°81N×43.°34E,h7km,Ml2.5*
ISK ***27*** *15:08:46.1,38.°78N×43.°48E,h5km,ML2.4*
ISCJB ***27*** *15:08:47.3±0.6,38.°81N±0.°04×43.°44E±0.°07,h13km, Error ellipse: s-maj=7.9km s-min=4.6km az=23.2*
CSEM ***27*** *15:08:47.1±0.3,38.°82N×43.°45E,h12km,ML2.4, Error ellipse: s-maj=9.7km s-min=5.0km az=113.0*
ISC 27 15:08:47.2±1.0,38.°79N±0.°03×43.°51E±0.°05,h13km,n16, σ1§04/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**15**	*i* P	**Pg**	**15 08 51.7**	**-0.1**
VMUR				*i* S	**Sg**	**15 08 57.0**	**+2.0**
VMUR	**Van-Muradiye**	**0.20**	**15**	P	**Pg**	**15 08 51.7**	**-0.1**
VMUR				S	**Sg**	**15 08 57.0**	**+2.0**
VANB	**Van**	**0.22**	**205**	*e*PG	**Pg**	**15 08 52.0**	**+0.1**
VANB	**Van**	**0.22**	**205**	*e*Pg	**Pg**	**15 08 52.1**	**+0.1**
TVAN	**Van**	**0.28**	**196**	*i* P	**Pb**	**15 08 54.9**	**+0.8**
TVAN	**Van**	**0.28**	**196**	P	**Pb**	**15 08 54.9**	**+0.8**
CLDR	**Caldiran**	**0.47**	**43**	*e*PG	**Pg**	**15 08 56.4**	**-0.2**
CLDR				*e*SG	**Sb**	**15 09 03.3**	**-1.2**
CLDR	**Caldiran**	**0.47**	**43**	*i* P	**Pb**	**15 08 56.8**	**-0.7**
CLDR				*i* S	**Sb**	**15 09 05.4**	**+0.9**
CLDR	**Caldiran**	**0.47**	**43**	*e*Pg	**Pg**	**15 08 56.4**	**-0.2**
CLDR	**Caldiran**	**0.47**	**43**	P	**Pb**	**15 08 56.8**	**-0.7**
CLDR				*e*Sg	**Sb**	**15 09 03.3**	**-1.2**
CLDR				S	**Sb**	**15 09 05.4**	**+0.9**
GEVA	**Gevas**	**0.59**	**216**	*i* P	**Pg**	**15 08 57.9**	**-0.9**
GEVA	**Gevas**	**0.59**	**216**	P	**Pg**	**15 08 57.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*PG	**Pb**	**15 09 03.4**	**-1.0**
AGRB				*e*SG	**Sb**	**15 09 16.1**	**0.0**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*Pg	**Pb**	**15 09 03.4**	**-1.0**
AGRB				*e*Sg	**Sb**	**15 09 16.1**	**0.0**
CUKT	**Cukurca**	**1.55**	**177**	*e*PN	**Pg**	**15 09 15.4**	**-1.5**
CUKT	**Cukurca**	**1.55**	**177**	*e*Pn	**Pg**	**15 09 15.4**	**-1.5**

ISK ***27*** *15:11:09.3,38.°81N×43.°40E,h5km,ML2.7*
ISCJB ***27*** *15:11:10.9±0.7,38.°90N±0.°04×43.°36E±0.°07,h15km±5km, Error ellipse: s-maj=10.4km s-min=4.8km az=29.5*
CSEM ***27*** *15:11:10.8±0.3,38.°88N×43.°39E,h10km,ML2.7, Error ellipse: s-maj=9.9km s-min=5.4km az=117.0*
DDA ***27*** *15:11:11.8,38.°89N×43.°47E,h7km,Ml2.7*
ISC 27 15:11:10.4±1.1,38.°90N±0.°04×43.°36E±0.°05,h18km±3km, n18,σ0§79/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.19**	**61**	*i* P	**Pb**	**15 11 14.7**	**-0.5**
VMUR				*i* S	**Sg**	**15 11 20.0**	**+1.2**
VMUR	**Van-Muradiye**	**0.19**	**61**	P	**Pb**	**15 11 14.7**	**-0.5**
VMUR				S	**Sg**	**15 11 20.0**	**+1.2**
VANB	**Van**	**0.30**	**175**	PG	**Pg**	**15 11 16.5**	**-0.5**
VANB				*e*SG	**Sb**	**15 11 21.8**	**-0.1**
VANB	**Van**	**0.30**	**175**	*i* Pg	**Pg**	**15 11 16.5**	**-0.5**
VANB				*e*Sg	**Sb**	**15 11 21.8**	**-0.1**
TVAN	**Van**	**0.37**	**174**	*i* P	**Pb**	**15 11 19.1**	**+0.5**
TVAN				*i* S	**Sb**	**15 11 25.2**	**+1.1**
TVAN	**Van**	**0.37**	**174**	P	**Pb**	**15 11 19.1**	**+0.5**
TVAN				S	**Sb**	**15 11 25.2**	**+1.1**
CLDR	**Caldiran**	**0.50**	**60**	*e*PG	**Pb**	**15 11 20.6**	**-0.2**
CLDR				*e*SG	**Sb**	**15 11 28.9**	**+1.0**
CLDR	**Caldiran**	**0.50**	**60**	*i* P	**Pg**	**15 11 19.8**	**-0.8**
CLDR				*i* S	**Sb**	**15 11 27.7**	**-0.2**
CLDR	**Caldiran**	**0.50**	**60**	P	**Pg**	**15 11 19.8**	**-0.8**
CLDR	**Caldiran**	**0.50**	**60**	*e*Pg	**Pb**	**15 11 20.6**	**-0.2**
CLDR				S	**Sb**	**15 11 27.7**	**-0.2**
CLDR				*e*Sg	**Sb**	**15 11 28.9**	**+1.0**
GEVA	**Gevas**	**0.63**	**202**	*i* P	**Pb**	**15 11 21.6**	**-1.3**
GEVA	**Gevas**	**0.63**	**202**	P	**Pb**	**15 11 21.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.74**	**337**	*e*PG	**Pn**	**15 11 26.1**	**0.0**
AGRB	**Hanur-Agry**	**0.74**	**337**	*e*Pg	**Pn**	**15 11 26.1**	**0.0**
CUKT	**Cukurca**	**1.66**	**173**	*e*PN	**Pb**	**15 11 39.7**	**-0.8**
CUKT	**Cukurca**	**1.66**	**173**	*e*Pn	**Pb**	**15 11 39.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.85**	**247**	*e*PN	**Pb**	**15 11 43.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.85**	**247**	*e*Pn	**Pb**	**15 11 43.9**	**+0.2**

BEO ***27*** *15:15:35.6±2.6,39.°91N×24.°73E,h0km,M4.0/1*
ISK ***27*** *15:15:37.7,39.°95N×24.°56E,h3km,ML4.1*
ATH ***27*** *15:15:38.3,40.°08N×24.°63E,h28km±1km,ML4.0/10, Error ellipse: s-maj=1.4km s-min=0.8km az=24.0*
ISCJB ***27*** *15:15:38.4±0.5,40.°07N±0.°01×24.°58E±0.°01,h10km±3km, mb4.2/23,MS3.2/7, Error ellipse: s-maj=2.4km s-min=1.8km az=16.9*
CSEM ***27*** *15:15:38.5±0.1,40.°04N×24.°57E,h2km,mb4.3/9, Error ellipse: s-maj=2.6km s-min=1.9km az=13.0*
IDC ***27*** *15:15:39.0±0.8,39.°90N×24.°70E,h0km,mb3.8/11, mb1 3.8/17,mb1mx3.7/47,mbtmp3.8/17,ML3.5/5,MS3.1/12, Ms1 3.1/12,ms1mx2.8/57, Error ellipse: s-maj=13.4km s-min=12.3km az=84.0*
SOF ***27*** *15:15:38.6,40.°18N×24.°65E,h2km,MD4.2*
THE ***27*** *15:15:39.2,40.°09N×24.°63E,h13km,ML4.0/8, Error ellipse: s-maj=0.5km s-min=0.2km az=182.0*
NEIC ***27*** *15:15:39.2±0.0,40.°09N×24.°63E,h13km,mb4.4/7, ML4.0(THE),After THE.*
NEIC Felt at Thasos, Greece.
MOS ***27*** *15:15:39.0±1.0,40.°05N×24.°58E,h20km,mb4.3/4, Error ellipse: s-maj=5.6km s-min=4.5km az=109.6*
DDA ***27*** *15:15:41.3,40.°18N×24.°96E,h26km,Ml3.9*
ISC 27 15:15:39.4±0.9,40.°10N±0.°02×24.°63E±0.°01,h9km±6km, n518,σ1§42/566,mb4.2/23,MS3.1/7,15C-23D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.47**	**115**	P	**Pg**	**15 15 48.4**	**-0.1**
LIA				S	**Sg**	**15 15 55.0**	**+0.3**
LIA	**Limnos Island**	**0.47**	**115**	P	**Pg**	**15 15 48.5**	**-0.1**
LIA				S	**Sg**	**15 15 54.1**	**-0.6**
LIA				AML	AML	15 15 56.3	
	comp=E,44594μm,0.5s						
LIA				AML	AML	15 15 59.1	
	comp=N,27252μm,0.5s						
LIA	**Limnos Island**	**0.47**	**115**	P	**Pg**	**15 15 48.4**	**-0.1**
LIA				S	**Sg**	**15 15 55.0**	**+0.3**
LIA	**Limnos Island**	**0.47**	**115**	P	**Pg**	**15 15 48.4**	**-0.1**
LIA				S	**Sg**	**15 15 55.0**	**+0.3**
OUR	**Ouranopolis**	**0.55**	**296**	*e*PG	**Pb**	**15 15 50.5**	**-0.6**
OUR				*e*SG	**Sb**	**15 15 58.7**	**-0.4**
OUR	**Ouranopolis**	**0.55**	**296**	P	**Pg**	**15 15 49.9**	**-0.1**
OUR				S	**Sg**	**15 15 58.0**	**+0.8**
OUR	**Ouranopolis**	**0.55**	**296**	*e*P	**Pg**	**15 15 49.9**	**-0.1**
OUR	**Ouranopolis**	**0.55**	**296**	P	**Pg**	**15 15 50.2**	**+0.2**
OUR				S	**Sg**	**15 15 57.9**	**+0.8**
OUR				AML	AML	15 16 01.0	
	comp=E,27169μm,0.4s						
OUR				AML	AML	15 16 01.8	
	comp=N,40506μm,0.7s						
OUR	**Ouranopolis**	**0.55**	**296**	P	**Pg**	**15 15 49.9**	**-0.1**
OUR	**Ouranopolis**	**0.55**	**296**	*e*Pg	**Pb**	**15 15 50.6**	**-0.6**
OUR				S	**Sg**	**15 15 58.0**	**+0.8**
OUR	**Ouranopolis**	**0.55**	**296**	*e*Pg	**Pg**	**15 15 49.9**	**-0.1**
PAIG	**Paliouri**	**0.75**	**257**	P	**Pg**	**15 15 53.5**	**-0.2**
PAIG				S	**Sb**	**15 16 04.2**	**-0.6**
PAIG	**Paliouri**	**0.75**	**257**	*e*P	**Pg**	**15 15 53.5**	**-0.2**
PAIG	**Paliouri**	**0.75**	**257**	P	**Pg**	**15 15 53.9**	**+0.1**
PAIG				S	**Sb**	**15 16 05.7**	**+0.8**
PAIG				AML	AML	15 16 06.4	
	comp=N,28585μm,0.9s						
PAIG				AML	AML	15 16 07.4	
	comp=E,15030μm,0.7s						
PAIG	**Paliouri**	**0.75**	**257**	P	**Pg**	**15 15 53.5**	**-0.2**
PAIG				S	**Sb**	**15 16 04.2**	**-0.6**
PAIG	**Paliouri**	**0.75**	**257**	*e*Pg	**Pg**	**15 15 53.5**	**-0.2**
SMTH	**Samothraki Isl**	**0.79**	**61**	P	**Pg**	**15 15 53.7**	**-0.8**
SMTH				S	**Sb**	**15 16 05.8**	**-0.3**
SMTH	**Samothraki Isl**	**0.79**	**61**	P	**Pg**	**15 15 53.6**	**-0.8**
SMTH				S	**Sb**	**15 16 05.3**	**-0.8**
SMTH				AML	AML	15 16 07.0	
	comp=N,13962μm,0.3s						
SMTH				AML	AML	15 16 07.0	
	comp=E,26661μm,0.6s						
SMTH	**Samothraki Isl**	**0.79**	**61**	P	**Pg**	**15 15 53.7**	**-0.8**
SMTH				S	**Sb**	**15 16 05.8**	**-0.3**
SMTH	**Samothraki Isl**	**0.79**	**61**	*e*Pg	**Pg**	**15 15 53.7**	**-0.8**
KAVA	**Kavala**	**0.91**	**355**	P	**Pg**	**15 15 56.5**	**-0.3**
KAVA	**Kavala**	**0.91**	**355**	P	**Pb**	**15 15 57.4**	**+0.1**
KAVA				S	**Sg**	**15 16 08.3**	**-0.2**
KAVA				AML	AML	15 16 10.7	
	comp=N,32017μm,0.3s						
KAVA				AML	AML	15 16 11.1	
	comp=E,33000μm,0.5s						
KAVA	**Kavala**	**0.91**	**355**	P	**Pb**	**15 15 57.3**	**+0.1**
KAVA				S	**Sg**	**15 16 08.3**	**-0.2**
KAVA	**Kavala**	**0.91**	**355**	*e*Pg	**Pg**	**15 15 56.5**	**-0.3**
PLG	**Polygyros**	**0.95**	**287**	P	**Pg**	**15 15 57.0**	**-0.6**
PLG				S	**Sb**	**15 16 10.5**	**-0.2**
PLG	**Polygyros**	**0.95**	**287**	P	**Pg**	**15 15 57.0**	**-0.6**
PLG				S	**Sb**	**15 16 10.5**	**-0.2**
PLG	**Polygyros**	**0.95**	**287**	P	**Pg**	**15 15 57.6**	**0.0**
PLG				S	**Sg**	**15 16 08.7**	**-1.2**
PLG				AML	AML	15 16 11.7	
	comp=E,10840μm,0.6s						
PLG				AML	AML	15 16 12.5	
	comp=N,14199μm,0.5s						
PLG	**Polygyros**	**0.95**	**287**	P	**Pg**	**15 15 57.0**	**-0.6**
PLG				S	**Sg**	**15 16 08.7**	**-1.2**
PLG	**Polygyros**	**0.95**	**287**	P	**Pg**	**15 15 57.0**	**-0.6**
PLG				S	**Sb**	**15 16 10.5**	**-0.2**
GADA	**Gvkgeada**	**0.98**	**84**	*e*PG	**Pb**	**15 15 58.5**	**0.0**
GADA	**Gvkgeada**	**0.98**	**84**	P	**Pg**	**15 15 57.8**	**-0.4**
GADA				S	**Sb**	**15 16 11.5**	**-0.1**
GADA	**Gvkgeada**	**0.98**	**84**	P	**Pg**	**15 15 57.8**	**-0.4**
GADA	**Gvkgeada**	**0.98**	**84**	*e*Pg	**Pb**	**15 15 58.5**	**0.0**
GADA				S	**Sb**	**15 16 11.5**	**-0.1**
GADA	**Gvkgeada**	**0.98**	**84**	*e*Pg	**Pg**	**15 15 57.8**	**-0.4**
BOZC	**Bozcaada**	**1.12**	**103**	*e*PN	**Pg**	**15 16 00.5**	**-0.5**
BOZC	**Bozcaada**	**1.12**	**103**	‖ *i*P	**Pg**	**15 15 60.0**	**-1.0**
BOZC				*i* S	**Sg**	**15 16 14.5**	**-1.1**
BOZC				*i* S	**Sn**	**15 16 16.1**	**-0.8**
BOZC	**Bozcaada**	**1.12**	**103**	*e*Pn	**Pg**	**15 16 00.5**	**-0.5**
SOH	**Sokhos**	**1.21**	**307**	P	**Pb**	**15 16 01.2**	**-1.3**
SOH	**Sokhos**	**1.21**	**307**	*e*P	**Pb**	**15 16 01.2**	**-1.3**
SOH	**Sokhos**	**1.21**	**307**	P	**Pb**	**15 16 01.9**	**-0.7**
SOH				S	**Sb**	**15 16 18.8**	**+0.5**
SOH				AML	AML	15 16 21.4	
	comp=N,10007μm,0.8s						
SOH				AML	AML	15 16 21.7	
	comp=E,8122μm,0.7s						
SOH	**Sokhos**	**1.21**	**307**	P	**Pb**	**15 16 01.9**	**-0.7**
SOH				S	**Sb**	**15 16 18.8**	**+0.5**
SOH	**Sokhos**	**1.21**	**307**	*e*Pn	**Pb**	**15 16 01.2**	**-1.3**
SKY	**Skiros Island**	**1.22**	**183**	P	**Pn**	**15 16 02.5**	**-0.1**
SKY				S	**Sg**	**15 16 17.8**	**-0.7**
SKY				AML	AML	15 16 22.0	
	comp=E,21990μm,0.7s						
SKY				AML	AML	15 16 22.2	
	comp=N,18074μm,0.5s						
SKY	**Skiros Island**	**1.22**	**183**	P	**Pn**	**15 16 02.5**	**-0.1**
SKY				S	**Sg**	**15 16 17.8**	**-0.7**
RDO	**Rodhopi**	**1.26**	**33**	P	**Pn**	**15 16 01.7**	**-1.5**
RDO				S	**Sb**	**15 16 18.5**	**-1.1**
RDO	**Rodhopi**	**1.26**	**33**	P	**Pn**	**15 16 01.3**	**-1.8**
RDO	**Rodhopi**	**1.26**	**33**	P	**Pn**	**15 16 01.7**	**-1.5**
RDO				S	**Sb**	**15 16 18.5**	**-1.1**
RDO	**Rodhopi**	**1.26**	**33**	*e*Pn	**Pn**	**15 16 01.7**	**-1.5**
HORT	**Hortiatis**	**1.27**	**294**	*e*PN	**Pn**	**15 16 02.8**	**-0.6**
HORT	**Hortiatis**	**1.27**	**294**	P	**Pn**	**15 16 01.8**	**-1.6**
HORT				S	**Sb**	**15 16 19.6**	**-0.4**
HORT	**Hortiatis**	**1.27**	**294**	P	**Pn**	**15 16 02.5**	**-0.9**
HORT	**Hortiatis**	**1.27**	**294**	P	**Pn**	**15 16 02.5**	**-0.9**
HORT	**Hortiatis**	**1.27**	**294**	*e*Pn	**Pn**	**15 16 02.8**	**-0.6**
HORT				S	**Sb**	**15 16 19.6**	**-0.4**
HORT	**Hortiatis**	**1.27**	**294**	P	**Pn**	**15 16 01.8**	**-1.6**
HORT				S	**Sb**	**15 16 19.6**	**-0.4**
SRS	**Serrai**	**1.29**	**323**	P	**Pn**	**15 16 01.8**	**-1.8**
SRS	**Serrai**	**1.29**	**323**	*e*P	**Pn**	**15 16 01.8**	**-1.8**
SRS	**Serrai**	**1.29**	**323**	P	**Pn**	**15 16 02.1**	**-1.5**
SRS	**Serrai**	**1.29**	**323**	P	**Pn**	**15 16 02.1**	**-1.5**
SRS	**Serrai**	**1.29**	**323**	*e*Pn	**Pn**	**15 16 01.8**	**-1.8**
SKIA	**Skiathos**	**1.29**	**224**	P	**Pn**	**15 16 01.6**	**-2.0**
SKIA				S	**Sb**	**15 16 19.7**	**-0.8**
SKIA	**Skiathos**	**1.29**	**224**	P	**Pn**	**15 16 01.2**	**-2.5**
SKIA				S	**Sb**	**15 16 20.4**	**-0.1**
SKIA				AML	AML	15 16 25.3	
	comp=N,18014μm,0.6s						
SKIA				AML	AML	15 16 25.6	
	comp=E,21807μm,0.5s						
SKIA	**Skiathos**	**1.29**	**224**	P	**Pn**	**15 16 01.6**	**-2.0**
SKIA				S	**Sb**	**15 16 19.7**	**-0.8**
SIGR	**SIGRI**	**1.30**	**133**	*e*PN	**Pn**	**15 16 02.1**	**-1.5**
SIGR				*e*SN	**Sg**	**15 16 20.4**	**-0.7**
SIGR	**SIGRI**	**1.30**	**133**	P	**Pn**	**15 16 02.0**	**-1.7**
SIGR	**SIGRI**	**1.30**	**133**	P	**Pn**	**15 16 02.0**	**-1.7**
SIGR				S	**Sn**	**15 16 21.8**	**+0.6**
SIGR				AML	AML	15 16 28.9	
	comp=N,17386μm,0.9s						
SIGR				AML	AML	15 16 29.8	
	comp=E,8182μm,0.5s						
SIGR	**SIGRI**	**1.30**	**133**	P	**Pn**	**15 16 02.0**	**-1.7**
SIGR				*e*Sn	**Sg**	**15 16 20.4**	**-0.7**
SIGR				S	**Sn**	**15 16 21.8**	**+0.6**
SIGR	**SIGRI**	**1.30**	**133**	*e*Pn	**Pn**	**15 16 02.0**	**-1.7**
XOR	**Xorichti**	**1.32**	**237**	P	**Pn**	**15 16 02.3**	**-1.8**
XOR	**Xorichti**	**1.32**	**237**	P	**Pn**	**15 16 01.7**	**-2.4**
XOR	**Xorichti**	**1.32**	**237**	P	**Pn**	**15 16 02.3**	**-1.8**
XOR	**Xorichti**	**1.32**	**237**	P	**Pn**	**15 16 02.3**	**-1.8**
ENEZ	**Enez**	**1.33**	**61**	*e*PN	**Pg**	**15 16 05.8**	**+0.9**
ENEZ	**Enez**	**1.33**	**61**	P	**Pn**	**15 16 02.6**	**-1.6**
ENEZ				S	**Sb**	**15 16 21.0**	**-0.7**
ENEZ	**Enez**	**1.33**	**61**	P	**Pn**	**15 16 02.6**	**-1.6**
ENEZ	**Enez**	**1.33**	**61**	*e*Pn	**Pg**	**15 16 05.8**	**+0.9**
ENEZ				S	**Sb**	**15 16 21.0**	**-0.7**
EZN	**Ezine**	**1.33**	**101**	*e*PN	**Pg**	**15 16 04.6**	**-0.3**
EZN	**Ezine**	**1.33**	**101**	P	**Pn**	**15 16 02.7**	**-1.5**
EZN				S	**Sb**	**15 16 20.8**	**-0.9**
EZN	**Ezine**	**1.33**	**101**	*e*P	**Pn**	**15 16 02.7**	**-1.5**
EZN	**Ezine**	**1.33**	**101**	P	**Pn**	**15 16 02.7**	**-1.5**
EZN	**Ezine**	**1.33**	**101**	*e*Pn	**Pg**	**15 16 04.6**	**-0.3**
EZN				S	**Sb**	**15 16 20.8**	**-0.9**
EZN	**Ezine**	**1.33**	**101**	*e*Pn	**Pn**	**15 16 02.7**	**-1.5**
NEO	**Neokhori**	**1.34**	**234**	P	**Pn**	**15 16 02.5**	**-1.8**
NEO	**Neokhori**	**1.34**	**234**	P	**Pn**	**15 16 01.5**	**-2.8**
NEO	**Neokhori**	**1.34**	**234**	P	**Pn**	**15 16 02.5**	**-1.8**
NEO	**Neokhori**	**1.34**	**234**	P	**Pn**	**15 16 02.5**	**-1.8**
THE	**Thessaloniki**	**1.38**	**293**	P	**Pn**	**15 16 03.4**	**-1.4**
THE	**Thessaloniki**	**1.38**	**293**	*e*P	**Pn**	**15 16 03.4**	**-1.4**
THE	**Thessaloniki**	**1.38**	**293**	P	**Pn**	**15 16 03.6**	**-1.2**
THE	**Thessaloniki**	**1.38**	**293**	P	**Pn**	**15 16 03.6**	**-1.2**
THE	**Thessaloniki**	**1.38**	**293**	*e*Pn	**Pn**	**15 16 03.4**	**-1.4**
NVR	**Nevrokopi**	**1.38**	**335**	P	**Pn**	**15 16 03.4**	**-1.5**
NVR	**Nevrokopi**	**1.38**	**335**	P	**Pn**	**15

KNL Bal¯–kesir 2.23 85 eP Pb 15 16 20.6 +0.7
KNL i S Sg 15 16 49.5 -1.4
URLA Izmir 2.31 138 eP Pn 15 16 17.0 -0.7
URLA i S Sg 15 16 54.2 +0.6
URLA Izmir 2.31 138 P Pn 15 16 17.0 -0.7
MRMT Marmara Adasi 2.33 76 ePN Pb 15 16 19.5 -2.0
MRMT Marmara Adasi 2.33 76 ePn Pb 15 16 19.5 -2.0
BALY Balya 2.33 98 i P Pn 15 16 17.3 -0.6
BALY eS Sn 15 16 47.5 +0.7
BALY Balya 2.33 98 P Pn 15 16 17.3 -0.6
BALY S Sn 15 16 47.5 +0.7
VLY Voula,Athens 2.33 196 P Pn 15 16 16.2 -1.7
VLY Voula,Athens 2.33 196 P Pn 15 16 16.2 -1.7
DSF Desfina 2.34 225 P Pn 15 16 16.2 -1.9
DSF Desfina 2.34 225 P Pn 15 16 16.2 -1.9
DSF Desfina 2.34 225 ePn Pn 15 16 16.2 -1.9
GONE Gonen-Balikesi 2.35 90 ePN Pn 15 16 19.3 +1.1
GONE Gonen-Balikesi 2.35 90 ePn Pn 15 16 19.3 +1.1
EDRB Edirne 2.37 42 ePN Pb 15 16 21.0 -1.3
EDRB Edirne 2.37 42 ePn Pb 15 16 21.0 -1.3
PGB Panagyurishte 2.48 352 P Pn 15 16 20.5 +0.5
STEP BALIKESIR_Sava 2.49 106 i P Pn 15 16 19.4 -0.7
STEP eS Sn 15 16 51.1 +0.4
STEP BALIKESIR_Sava 2.49 106 P Pn 15 16 19.5 -0.7
STEP S Sn 15 16 51.1 +0.4
EDC Edincik 2.49 83 ePN Pn 15 16 21.0 +0.8
EDC Edincik 2.49 83 ePn Pn 15 16 21.0 +0.8
KPRO Kipourio 2.51 268 P Pn 15 16 20.9 +0.5
KPRO Kipourio 2.51 268 P Pn 15 16 21.0 +0.5
BALB Balikesir 2.54 99 ePN Pn 15 16 21.5 +0.6
BALB Balikesir 2.54 99 ePn Pn 15 16 21.5 +0.6
THAL Thalero 2.56 217 P Pn 15 16 19.5 -1.6
THAL Thalero 2.56 217 P Pn 15 16 19.5 -1.6
FNA Florina 2.57 287 ePN Pn 15 16 21.5 +0.2
FNA Florina 2.57 287 P Pn 15 16 20.9 -0.4
FNA Florina 2.57 287 P Pn 15 16 20.9 -0.4
FNA Florina 2.57 287 P Pn 15 16 20.9 -0.4
FNA Florina 2.57 287 ePn Pn 15 16 21.5 +0.2
FNA Florina 2.57 287 P Pn 15 16 20.9 -0.4
KALE Kalithea 2.57 229 P Pn 15 16 20.0 -1.3
KALE Kalithea 2.57 229 P Pn 15 16 20.0 -1.3
KALE Kalithea 2.57 229 ePn Pn 15 16 20.0 -1.3
CRLT Corlu 2.58 65 ePN Pn 15 16 23.4 +2.0
CRLT Corlu 2.58 65 ePn Pn 15 16 23.4 +2.0
SBT3 Marmara-Eregli 2.67 72 ePN Pn 15 16 24.3 +1.9
SBT3 Marmara-Eregli 2.67 72 ePn Pn 15 16 24.3 +1.9
PENT Pentalofos 2.67 273 P Pn 15 16 22.2 -0.6
PENT Pentalofos 2.67 273 P Pn 15 16 22.2 -0.6
BIA Bitola 2.68 291 ePn Pn 15 16 22.2 -0.7
BIA Bitola 2.68 291 ePn Pn 15 16 22.1 -0.7
PHSR Pinarhisar 2.68 54 ePN Pb 15 16 25.6 -1.9
PHSR Pinarhisar 2.68 54 ePn Pb 15 16 25.6 -1.9
VTS Vitosha 2.71 337 ||iPn Pn 15 16 23.3 0.0
VTS Vitosha 2.71 337 ||iP Pn 15 16 23.4 +0.1
VTS Vitosha 2.71 337 S Sg 15 17 04.7 -1.8
VTS Vitosha 2.71 337 eP Pn 15 16 23.3 0.0
VTS Vitosha 2.71 337 i P Pn 15 16 23.7 +0.4
VTS Vitosha 2.71 337 ||iP Pn 15 16 23.4 +0.1
VTS Vitosha 2.71 337 ePn Pn 15 16 23.2 0.0
VTS ePg Pg 15 16 30.8 -0.6
JMB Yambol 2.79 31 i P Pn 15 16 23.7 -0.5
GUR Goura 2.79 220 P Pn 15 16 23.0 -1.4
GUR Goura 2.79 220 P Pn 15 16 23.0 -1.4
GUR Goura 2.79 220 ePn Pn 15 16 23.0 -1.4
DID Didima 2.80 203 P Pn 15 16 22.7 -1.8
DID Didima 2.80 203 P Pn 15 16 22.7 -1.8
DID Didima 2.80 203 ePn Pn 15 16 22.7 -1.8
KLV Kalavryta, Ach 2.81 224 P Pn 15 16 23.4 -1.2
KLV Kalavryta, Ach 2.81 224 P Pn 15 16 23.4 -1.2
KLV Kalavryta, Ach 2.81 224 ePn Pn 15 16 23.4 -1.2
KRUS Krusevo 2.86 297 i Pn Pn 15 16 25.1 -0.3
KRUS Krusevo 2.86 297 i Pn Pn 15 16 25.0 -0.3
DSL Palaion Diasel 2.89 252 P Pn 15 16 25.1 -0.6
DSL Palaion Diasel 2.89 252 P Pn 15 16 25.1 -0.6
DSL Palaion Diasel 2.89 252 ePn Pn 15 16 25.1 -0.6
SLVT Silivri 2.95 66 ePN Pn 15 16 29.1 +2.6
SLVT Silivri 2.95 66 ePn Pn 15 16 29.1 +2.6
SKO Skopje 3.05 309 i Pn Pn 15 16 27.7 -0.2
SKO Skopje 3.05 309 P Pn 15 16 28.3 +0.4
SKO Skopje 3.05 309 i Pn Pn 15 16 27.6 -0.2
SKO Skopje 3.05 309 P Pn 15 16 28.3 +0.4
SBT2 Guzelce-Avcila 3.07 74 ePN Pn 15 16 30.7 +2.8
SBT2 Guzelce-Avcila 3.07 74 ePn Pn 15 16 30.7 +2.8
OHR Ohrid 3.08 290 i Pn Pn 15 16 28.7 +0.4
OHR Ohrid 3.08 290 P Pn 15 16 28.9 +0.5
OHR Ohrid 3.08 290 i Pn Pn 15 16 28.7 -0.4
APE Apeiranthos 3.10 167 ePN Pn 15 16 28.3 -0.3
APE Apeiranthos 3.10 167 S Sn 15 16 59.1 -6.8
APE Apeiranthos 3.10 167 deP Pn 15 16 27.0 -1.6
APE Apeiranthos 3.10 167 eP Pn 15 16 27.0 -1.6
APE Apeiranthos 3.10 167 ePn Pn 15 16 28.3 -0.3
CTYL Yalikoy Yolu 3.10 62 ePN Pn 15 16 30.7 +2.2
CTYL Yalikoy Yolu 3.10 62 ePn Pn 15 16 30.7 +2.2
DST Dursunbey 3.11 98 ePN Pn 15 16 29.0 +0.3
DST Dursunbey 3.11 98 ePn Pn 15 16 29.0 +0.3
CTKS Kestanelik-??a 3.16 68 ePN Pn 15 16 30.9 +1.6
CTKS Kestanelik-??a 3.16 68 ePn Pn 15 16 30.9 +1.6
ARMT Armutlu 3.27 80 ePN Pn 15 16 32.3 +1.4
ARMT Armutlu 3.27 80 ePn Pn 15 16 32.3 +1.4
MPEP Malo Peshtene 3.33 349 i P Pn 15 16 32.1 +0.5
BARS Barje 3.44 323 ||iPn Pn 15 16 32.7 -0.5
BARS Barje 3.44 323 ||iPn Pn 15 16 32.7 -0.5
MANT Manisa 3.45 116 ePn Pn 15 16 33.4 -0.1
MANT Manisa 3.45 116 ePn Pn 15 16 33.4 -0.1
BUY Buyukada 3.51 76 ePN Pn 15 16 35.6 +1.5
BUY Buyukada 3.51 76 ePn Pn 15 16 35.6 +1.5
ZAPS Zavoj 3.51 335 ||iPn Pn 15 16 35.1 +0.9
ISK Istanbul-Kandi 3.51 73 ePN Pn 15 16 36.3 +2.1
ISK Istanbul-Kandi 3.51 73 P Pn 15 16 35.4 +1.2
ISK Istanbul-Kandi 3.51 73 P Pn 15 16 35.4 +1.2
ISK Istanbul-Kandi 3.51 73 ePn Pn 15 16 36.3 +2.1
SIMA Simav-Kutahya 3.51 105 ePN Pn 15 16 34.7 +0.4
SIMA Simav-Kutahya 3.51 105 ePn Pn 15 16 34.7 +0.4
KLYT Kilyos 3.55 70 ePN Pn 15 16 37.3 +2.6
KLYT Kilyos 3.55 70 ePn Pn 15 16 37.3 +2.6
YLV Yalova 3.66 81 ePN Pn 15 16 38.7 +2.4
YLV Yalova 3.66 81 P Pn 15 16 37.5 +1.3
YLV Yalova 3.66 81 P Pn 15 16 37.5 +1.3
YLV Yalova 3.66 81 ePn Pn 15 16 38.7 +2.4
BODT Bodrum 3.69 144 ePN Pn 15 16 35.8 -0.8
BODT Bodrum 3.69 144 ePn Pn 15 16 35.8 -0.8
NEF NEVSHA 3.74 31 P Pn 15 16 38.3 +1.0
NEF NEVSHA 3.74 31 P Pn 15 16 38.3 +1.0
TVSB Tavsanli 3.78 98 ePN Pn 15 16 40.1 +2.1
TVSB Tavsanli 3.78 98 ePn Pn 15 16 40.1 +2.1
TIR Tirane 3.83 291 eP Pn 15 16 36.6 -1.9
TIR Tirane 3.83 291 eP Pn 15 16 36.6 -1.9
TIR Tirane 3.83 291 ePn Pn 15 16 36.6 -1.9
SILT Sile 3.96 73 ePN Pn 15 16 42.4 +2.1
SILT Sile 3.96 73 ePn Pn 15 16 42.4 +2.1
SELS Selova 4.08 321 ePn Pn 15 16 41.0 -1.0
DAT Datca 4.08 144 ePN Pn 15 16 42.0 0.0
DAT Datca 4.08 144 ePn Pn 15 16 42.1 0.0
ZAGS Zajecar 4.12 335 ||iPn Pn 15 16 41.6 -0.9
ZAGS Zajecar 4.12 335 ||iPn Pn 15 16 41.6 -0.9
BOVS Bovan 4.16 329 ePn Pn 15 16 42.6 -0.4
BOVS Bovan 4.16 329 ePn Pn 15 16 42.6 -0.4
PSN Preselentsi 4.46 35 P Pn 15 16 49.0 +1.8
PSN S Sn 15 17 35.4 -3.8
PSN Preselentsi 4.46 35 P Pn 15 16 49.0 +1.8
DRME Dracevica, Mon 4.61 299 ePn Pn 15 16 51.0 +1.8
PDG Podgorica 4.67 302 ⇑iP Pn 15 16 44.6 -5.5
PDG Podgorica 4.67 302 ⇑iP Pn 15 16 44.6 -5.5
PDG Podgorica 4.67 302 ePn Pn 15 16 51.6 +1.5
ARG Arkhangelos 4.75 143 P Pn 15 16 50.4 -0.8
ARG Arkhangelos 4.75 143 P Pn 15 16 50.4 -0.8
GRUS Gruza 4.78 324 ePn Pn 15 16 50.8 -0.8
GRUS Gruza 4.78 324 ePn Pn 15 16 50.8 -0.8
IDI Anoyia 4.80 177 Pn Pn 15 16 48.3 -3.7
comp=E,0.4nm,0.3s,baz=354,slow=18,SNR=2.9
IDI Anoyia 4.80 177 ePn Pn 15 16 48.6 -3.4
IDI Anoyia 4.80 177 ePn Pn 15 16 48.6 -3.4
IVAS Ivanjica 4.82 318 ePn Pn 15 16 51.5 -0.7
IVAS Ivanjica 4.82 318 ePn Pn 15 16 51.5 -0.7
KUBS Kucevo 4.84 334 ePn Pn 15 16 50.6 -1.8
KUBS Kucevo 4.84 334 ePn Pn 15 16 50.6 -1.8
FETY Fethiye 4.92 133 ePN Pn 15 16 54.6 +1.1
FETY Fethiye 4.92 133 ePn Pn 15 16 54.6 +1.1
KARP Karpathos 4.96 155 ePn Pn 15 16 53.1 -1.1
KARP Karpathos 4.96 155 ePn Pn 15 16 53.1 -1.1
BOLV Bolvadin 5.09 104 ePn Pn 15 16 56.8 +0.9
BOLV Bolvadin 5.09 104 ePn Pn 15 16 56.8 +0.9
ISP Isparta 5.12 114 ||eP Pn 15 16 58.5 +2.1
ISP Isparta 5.12 114 ePn Pn 15 16 56.0 -0.4
ISP Isparta 5.12 114 eP Pn 15 16 58.5 +2.1
ISP Isparta 5.12 114 ePn Pn 15 16 56.0 -0.4
TLB Topalu 5.15 28 ||iP Pn 15 16 56.7 0.0
TLB Topalu 5.15 28 ||iP Pn 15 16 56.7 0.0
TRUS Trudelj 5.18 324 ePn Pn 15 16 55.0 -2.1
TRUS Trudelj 5.18 324 ePn Pn 15 16 55.0 -2.1
HCY Herceg Novi 5.18 299 ePn Pn 15 16 59.5 +2.4
TIRR Tirgusor 5.19 32 ||iP Pn 15 16 58.3 +1.2
TIRR Tirgusor 5.19 32 eP Pn 15 16 56.6 -0.5
TIRR Tirgusor 5.19 32 eP Pn 15 16 56.6 -0.5
TIRR Tirgusor 5.19 32 ePn Pn 15 16 56.6 -0.5
ARR Arges 5.27 0 ⇑iP Pn 15 16 58.5 +0.1
ARR Arges 5.27 0 ⇑iP Pn 15 16 58.5 +0.1
DIVS Divibare 5.28 321 i Pn Pn 15 16 57.7 -0.8
DIVS Divibare 5.28 321 i Pn Pn 15 16 57.7 -0.8
UPM Unac-Piva 5.29 308 ePn Pn 15 16 59.9 +1.1
VOIR 5.35 3 ⇑iP Pn 15 16 59.7 +0.2
VOIR 5.35 3 P Pn 15 16 59.2 -0.3
VOIR pmax pmax
comp=Z,22nm,0.8s
VOIR 5.35 3 P Pn 15 16 59.2 -0.3
comp=Z,22nm,0.8s
BRY Bratogost 5.36 304 ePn Pn 15 17 01.5 +1.8
LOT Lotru 5.39 354 ⇑iP Pn 15 16 59.8 -0.2
TREB Trebinje 5.40 301 ePn Pn 15 17 02.0 +1.9
BBLS Lazići 5.42 316 ePn Pn 15 17 00.6 +0.2
BBLS Lazići 5.42 316 ePn Pn 15 17 00.6 +0.2
MLR Muntele Rosu 5.48 10 Pn Pn 15 17 03.7 +2.4
comp=Z,0.4nm,0.3s,baz=248,slow=12,SNR=4.2
MLR Lg Lg 15 18 36.9
comp=Z,1.3nm,0.3s,baz=226,slow=12,SNR=7.1
MLR Muntele Rosu 5.48 10 ||iP Pn 15 17 02.3 +1.0
MLR Muntele Rosu 5.48 10 ePn Pn 15 17 01.9 +0.6
MLR Muntele Rosu 5.48 10 ePn Pn 15 17 01.9 +0.6
MLR eLg Lg 15 18 36.9
AKAS Kas 5.50 133 ePN Pn 15 17 02.1 +0.5
AKAS Kas 5.50 133 ePn Pn 15 17 02.1 +0.5
AKAS Kas 5.50 133 ePn Pn 15 17 02.5 +0.9
CFR Carcaliu 5.70 26 ⇑iP Pn 15 17 09.8 +5.6
HAPS Han Pijesak,BI 5.81 315 ePn Pn 15 17 05.1 -0.7
TEKS Tekeris 5.84 321 ePn Pn 15 17 05.5 -0.6
TEKS Tekeris 5.84 321 ePn Pn 15 17 05.5 -0.6
DOPR Dopca 5.90 5 ⇑iP Pn 15 17 08.0 +1.1
DEV Deva 5.92 348 ⇑iP Pn 15 17 07.6 +0.3
DEV Deva 5.92 348 P Pn 15 17 07.4 +0.1
DEV Deva 5.92 348 P Pn 15 17 07.4 +0.1
BZS Buzias 5.95 339 ⇑iP Pn 15 17 06.6 -1.0
VRI Vrincioaia 5.97 14 ||iP Pn 15 17 08.0 0.0
VRI Vrincioaia 5.97 14 P Pn 15 17 08.2 +0.2
VRI pmax pmax
comp=Z,384nm,0.6s
VRI Vrincioaia 5.97 14 P Pn 15 17 08.2 +0.2
comp=Z,384nm,0.6s
BR231 Keskin MP Arra 6.27 90 ePn Pn 15 17 14.4 +2.3
BR231 Keskin MP Arra 6.27 90 ePn Pn 15 17 14.4 +2.3
ANTO Ankara 6.28 89 eP Pn 15 17 13.4 +1.2
ANTO Ankara 6.28 89 eP Pn 15 17 13.4 +1.2
ANTO Ankara 6.28 89 ePn Pn 15 17 13.4 +1.2
SIRR Siria 6.54 342 ⇑iP Pn 15 17 15.8 0.0
TESR Tescani 6.58 12 ⇑iP Pn 15 17 17.2 +0.9
CUC Castrocucco 6.76 272 ePn Pn 15 17 20.2 +1.3
DRGR 6.84 349 ⇑iP Pn 15 17 19.2 -0.7
DRGR 6.84 349 P Pn 15 17 18.8 -1.1
DRGR pmax pmax
comp=Z,53nm,0.8s
DRGR 6.84 349 P Pn 15 17 18.8 -1.1
comp=Z,53nm,0.8s
BR101 Keskin Array S 6.94 90 ePn Pn 15 17 21.5 +0.1
BR101 Keskin Array S 6.94 90 ePn Pn 15 17 21.6 +0.1
BR101 eLg Lg 15 19 21.5
BR131 Keskin Array S 6.94 90 ePn Pn 15 17 21.6 +0.2
BR131 Keskin Array S 6.94 90 ePn Pn 15 17 21.6 +0.3
BRTR Keskin Array B 6.94 90 Pn Pn 15 17 21.6 +0.2
comp=Z,1.8nm,0.3s,baz=262,slow=12,SNR=30
BRTR Lg Lg 15 19 21.5
baz=280,slow=25,SNR=2.9
CEL Celeste 7.03 258 ePn Pn 15 17 22.3 -0.2
CEL Celeste 7.03 258 ePn Pn 15 17 22.3 -0.2
BLY Banja Luka 7.21 313 ePn Pn 15 17 25.4 +0.5
BLY Banja Luka 7.21 313 ePn Pn 15 17 25.4 +0.5
BURAR Bucovina Array 7.53 3 ⇑iP Pn 15 17 29.9 +0.5
BURAR Bucovina Array 7.53 3 P Pn 15 17 29.8 +0.4
KIS Kishinev 7.54 22 eP Pn 15 17 28.0 -1.5
KIS LRM MLR 15 20 40.0
comp=Z,400nm,12.0s
KIS Kishinev 7.54 22 eP Pn 15 17 28.0 -1.5
KIS MLR MLR
comp=Z,400nm,10.0s
KIS MLR MLR
comp=Z,400nm,12.0s
KIS Kishinev 7.54 22 eP Pn 15 17 28.0 -1.5
BUR08 Bucovina Ar. S 7.56 3 ePn Pn 15 17 29.3 -0.5
BUR08 Bucovina Ar. S 7.56 3 ePn Pn 15 17 29.3 -0.5
SEV Sevastopol' 8.04 53 eP Pn 15 17 36.1 -0.2
SEV eS Sn 15 19 02.7 -4.6
SEV Sevastopol' 8.04 53 eP Pn 15 17 36.1 -0.2
NVLJ Novalja 8.49 305 P Pn 15 17 43.3 +0.7
NVLJ Novalja 8.49 305 i P Pn 15 17 43.2 +0.7
PSZ Piszkesteto 8.53 338 eP Pn 15 17 44.3 +1.1
PSZ Piszkesteto 8.53 338 ePn Pn 15 17 44.2 +1.1
PSZ Piszkesteto 8.53 338 ePn Pn 15 17 44.2 +1.1
CRES Cresnjev 8.83 313 ePn Pn 15 17 47.7 +0.5
KECS Kecovo 8.89 342 eP Pn 15 17 53.2 +5.2
KECS Kecovo 8.89 342 ePN Pn 15 17 53.2 +5.2
KECS Kecovo 8.89 342 eSG Sg 15 20 25.6 +0.9
SUDU Sudak 9.04 55 eP Pn 15 17 51.8 +1.8
SUDU Sudak 9.04 55 eP Pn 15 17 51.8 +1.8
CRVS Cervenica-Dubn 9.09 347 eSG Sn 15 20 28.4 +55
SOKA Soboth 9.59 316 Pn Pn 15 18 03.4 +5.7
comp=Z,3.5nm,0.7s
ARSA Arzberg 9.72 320 P Pn 15 18 03.3 +3.9
comp=Z,2.0nm,0.5s
OBKA Obir 9.74 314 ePn Pn 15 18 01.3 +1.5
comp=Z,2.2nm,0.5s
OBKA Obir 9.74 314 Pn Pn 15 18 01.3 +1.5
comp=Z,2.2nm,0.5s
ANN Anapa 10.56 59 eP Pn 15 18 10.7 -0.2
ANN eS Sn 15 20 09.2 -0.1
ANN pmax pmax
comp=Z,68nm,1.4s
ANN Anapa 10.56 59 eP Pn 15 18 10.7 -0.2
comp=Z,68nm,1.4s
ANN eS Sn 15 20 09.2 -0.1
VRAC Vranov 10.83 331 LR LR 15 22 22.5
comp=Z,62nm,19.0s,baz=134,slow=37
KIEV Kiev 11.07 15 ||eP Pn 15 18 25.5 +7.6
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 11.07 15 ePn Pn 15 18 16.2 -1.7
KIEV Kiev 11.07 15 ePn Pn 15 18 16.2 -1.7
AKASG Malin Array Be 11.09 15 Pn Pn 15 18 20.2 +2.2
comp=Z,2.0nm,0.3s,baz=203,slow=12,SNR=5.4
AKASG Malin Array Be 11.09 15 i P Pn 15 18 21.6 +3.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 11.09 15 eP Pn 15 18 16.2 -1.8
AKBB Malin Array Si 11.09 15 eP Pn 15 18 16.2 -1.8
AKBB Malin Array Si 11.09 15 ePn Pn 15 18 16.2 -1.8
MMAI Mount Meron Ar 11.18 126 Pn Pn 15 18 18.9 -0.4
comp=Z,1.5nm,0.3s,baz=318,slow=12,SNR=4.5
MMAI LR LR 15 23 10.4
comp=Z,66nm,21.6s,baz=220,slow=41
MMAI Mount Meron Ar 11.18 126 Pn Pn 15 18 19.0 -0.4
GERES GERESS Array B 11.71 322 Pn Pn 15 18 31.9 +5.2
baz=164,slow=11,SNR=2.3
FETA Feichten 12.22 309 Pn Pn 15 18 38.5 +4.8
comp=Z,1.9nm,0.6s
DAVOX Davos/Dischmat 12.62 307 LR LR 15 24 28.7
comp=Z,126nm,19.5s,baz=79,slow=42
KEST Kesra 12.83 255 LR LR 15 25 12.2
comp=Z,77nm,18.0s,baz=338,slow=45
EIL Elat 13.40 138 LR LR 15 25 41.2
comp=Z,30nm,20.4s,baz=248,slow=46
KIV Kislovodsk 13.97 68 eP Pn 15 18 58.5 +1.0
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 13.97 68 eP Pn 15 18 58.5 +1.0
comp=Z,8.0nm,1.0s
BFO Black Forest 14.27 311 eP Pn 15 19 01.6 -0.1
BFO Black Forest 14.27 311 ePn Pn 15 19 01.6 -0.1
BFO Black Forest 14.27 311 ePn Pn 15 19 01.6 -0.1
GNI Garni 15.39 83 LR LR 15 25 29.2
comp=Z,54nm,19.8s,baz=112,slow=38
OBN Obninsk 17.01 24 LR LR 15 26 26.2
comp=Z,128nm,18.2s,baz=266,slow=38
OBN Obninsk 17.01 24 ||eP P 15 19 39.0 -0.2
OBN eS Sn 15 22 39.0 -7.3
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,95nm,16.0s
OBN Obninsk 17.01 24 eP P 15 19 39.0 -0.2
comp=Z,95nm,16.0s
HFS Hagfors 21.19 345 P P 15 20 27.7 +2.7
comp=Z,2.4nm,1.0s,baz=140,slow=11,SNR=3.1
HFS LR LR 15 29 47.3
comp=Z,78nm,18.9s,baz=161,slow=40
FIA0 FINESS Array S 21.39 2 eP P 15 20 30.3 +3.2
FIA0 FINESS Array S 21.39 2 eP P 15 20 30.3 +3.2
FINES FINESS Array B 21.39 2 P P 15 20 30.3 +3.2
comp=Z,1.8nm,0.9s,baz=169,slow=16,SNR=4.3
NAO01 NORSAR Array S 22.45 342 eP P 15 20 37.2 -1.2
NAO01 NORSAR Array S 22.45 342 eP P 15 20 37.2 -1.2
NC405 NORSAR Array S 22.50 344 eP P 15 20 36.7 -2.3
NB201 NORSAR Array S 22.54 343 eP P 15 20 39.7 +0.3
NB201 NORSAR Array S 22.54 343 eP P 15 20 39.7 +0.3
NB2 NORSAR Subarra 22.54 343 P P 15 20 38.9 -0.6
comp=Z,4.1nm,0.6s,baz=158,slow=10
NB2 NORSAR Subarra 22.54 343 P P 15 20 38.9 -0.6
comp=Z,4.1nm,0.6s,SNR=6.7
NB200 NORSAR Array S 22.54 343 eP P 15 20 42.0 +2.5
NB200 NORSAR Array S 22.54 343 eP P 15 20 42.0 +2.5
NOA NORSAR Array B 22.54 343 P P 15 20 41.9 +2.5
comp=Z,3.6nm,0.8s,baz=156,slow=11,SNR=5.4
NBO00 NORSAR Array S 22.64 342 eP P 15 20 41.1 +0.6
NBO00 NORSAR Array S 22.64 342 eP P 15 20 41.1 +0.6
KLMR Klimovskoe 22.73 19 eP P 15 20 46.4 +5.0
KLMR pmax pmax
comp=Z,13nm,1.4s
NC204 NORSAR Array S 22.86 343 eP P 15 20 40.1 -2.7
EKA Eskdalemuir Ar 23.90 319 P P 15 20 51.4 -1.8
comp=Z,2.0nm,0.9s,baz=99,slow=9.4,SNR=3.1
RAYN Ar Rayn 24.15 127 eP P 15 20 56.9 +1.0
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 24.15 127 eP P 15 20 56.9 +1.0
comp=Z,5.0nm,1.1s
MDT Midelt 24.54 262 LR LR 15 31 13.3
comp=Z,53nm,18.4s,baz=41,slow=38
AKTK Aktyubinsk 25.47 55 P P 15 21 09.4 +1.7
AKTO Aktyubinsk 25.47 55 P P 15 21 09.3 +1.7
comp=Z,0.9nm,0.6s,baz=226,slow=13,SNR=2.8
AKTO LR LR 15 33 42.3
comp=Z,33nm,18.0s,baz=250,slow=42
GEYT Alibeck 26.03 84 P P 15 21 13.7 +0.8
comp=Z,0.7nm,0.5s,baz=280,slow=8.2,SNR=2.4
GEYT LR LR 15 32 13.0
comp=Z,37nm,18.4s,baz=255,slow=38
ARU Arti 27.50 42 P P 15 21 28.5 +2.5
comp=Z,1.2nm,0.4s,baz=253,slow=19,SNR=2.1
ARU Arti 27.50 42 d iP P 15 21 31.0 +5.1
ARU 15 22 14.3
ARU 15 24 45.6
ARU SS SS 15 27 25.3 -37
ARU pmax pmax
comp=Z,4.0nm,1.2s
ARU Arti 27.50 42 eP P 15 21 28.4 +2.5
comp=Z,14nm,1.8s
ARU Arti 27.50 42 PcP PcP 15 24 45.6 +1.8
ARU Arti 27.50 42 eP P 15 21 28.4 +2.5
comp=Z,14nm,1.8s
BRVK Borovoye 33.37 52 ||eP P 15 22 21.3 +3.5
BRVK pmax pmax
comp=Z,11nm,1.7s
TOA1 Torodi Ar. Sit 33.57 223 eP P 15 22 19.9 +0.1
comp=Z,3.1nm,0.6s
TOA1 Torodi Ar. Sit 33.57 223 eP P 15 22 19.9 +0.1
comp=Z,3.1nm,0.6s
TOA0 Torodi Ar. Sit 33.57 223 eP P 15 22 19.9 0.0
comp=Z,3.3nm,0.6s
TOA0 Torodi Ar. Sit 33.57 223 eP P 15 22 19.9 0.0
comp=Z,3.3nm,0.6s
TORD Torodi Ar. Bea 33.57 223 P P 15 22 19.9 +0.1
comp=Z,3.0nm,0.6s,baz=33,slow=9.2,SNR=25
MK31 Makanchi Array 41.58 61 eP P 15 23 27.7 +0.3
MK31 Makanchi Array 41.58 61 eP P 15 23 27.7 +0.3
MK31 Makanchi Array 41.58 61 eP P 15 23 27.7 +0.3
MK32 Makanchi Array 41.58 61 eP P 15 23 28.2 +0.8
MK32 Makanchi Array 41.58 61 eP P 15 23 28.2 +0.8
MKAR Makanchi Array 41.58 61 P P 15 23 28.2 +0.8
comp=Z,1.1nm,0.6s,baz=268,slow=6.7,SNR=9.7
MKAR Makanchi Array 41.58 61 i P P 15 23 30.7 +3.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 41.58 61 eP P 15 23 29.6 +2.2
comp=Z,8.1nm,0.6s
MKAR Makanchi Array 41.58 61 eP P 15 23 29.6 +2.2
comp=Z,8.1nm,0.6s
ZAA0 Zalesovo Array 42.02 50 eP P 15 23 31.5 +0.6
comp=Z,2.2nm,0.8s
ZAA0 Zalesovo Array 42.02 50 eP P 15 23 31.5 +0.6
comp=Z,2.2nm,0.8s
ZAA1 Zalesovo Array 42.02 50 eP P 15 23 32.6 +1.7
ZAA1 Zalesovo Array 42.02 50 eP P 15 23 32.6 +1.7
ZALV Zalesovo Beam 42.02 50 P P 15 23 32.6 +1.7
comp=Z,0.8nm,0.4s,baz=285,slow=6.9,SNR=2.5
DBIC Dimbokro 42.50 226 P P 15 23 34.5 -0.6
comp=Z,1.7nm,0.7s,baz=20,slow=11,SNR=2.6
NRIK Noril'sk 43.64 27 LR LR 15 42 27.3
comp=Z,46nm,18.1s,baz=132,slow=37
WMQ Urumqi 46.04 64 P P 15 24 04.5 +1.1
WMQ pP sP 15 24 09.0 +1.8
WMQ sP pP 15 24 10.8 +4.7
WMQ pmax pmax
comp=Z,4.0nm,0.9s
WMQ pmax pmax
comp=Z,69nm,6.1s
WMQ LR LR
comp=Z,32nm,22.9s
NRS Narsarsuaq 46.53 321 eP P 15 24 06.3 -0.5
NRS pmax pmax
comp=Z,78nm,1.6s
NRS Narsarsuaq 46.53 321 eP P 15 24 06.3 -0.5
comp=Z,78nm,1.6s
NRS Narsarsuaq 46.53 321 eP P 15 24 06.3 -0.5
comp=Z,78nm,1.6s
SFJD Kangerlussuaq 48.19 329 eP P 15 24 20.0 +0.3
SFJD pmax pmax
comp=Z,44nm,1.5s
SFJD Kangerlussuaq 48.19 329 eP P 15 24 20.0 +0.3
comp=Z,44nm,1.5s
SFJD Kangerlussuaq 48.19 329 eP P 15 24 20.0 +0.3
comp=Z,44nm,1.5s
LZH Lanzhou 60.50 66 eP P 15 25 51.5 +1.5
LZH pP sP 15 25 55.5 +1.7
LZH sP pP 15 25 58.3 +5.5
LZH pmax pmax
comp=Z,19nm,1.1s
HHC Hu-ho-hao-te 63.32 58 eP P 15 26 08.8 0.0
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,98nm,7.5s
CMAR Chiang Mai Arr 66.50 85 P P 15 26 31.4 +1.7
comp=Z,0.6nm,0.9s,baz=311,slow=7.5,SNR=4.7
QIZ Qiongzhong 74.43 78 P P 15 27 16.5 -1.6
QIZ S S 15 36 52.8 -0.4
QIZ LR LR
comp=Z,33nm,15.8s

AZER **27** *15:21:14.4±0.8, 37°.64N×43°.54E, h13km±19km, Error ellipse: s-maj=20.3km s-min=5.5km az=47.0*
ISK **27** *15:21:21.5, 38°.69N×43°.53E, h5km, ML3.6*
DDA **27** *15:21:21.9, 38°.74N×43°.49E, h7km, Ml3.6*
CSEM **27** *15:21:22.1±0.2, 38°.69N×43°.59E, h2km, ML3.6, Error ellipse: s-maj=6.4km s-min=4.1km az=154.0*
ISC 27 15:21:22.8±0.9,**38°.67N**±0°.02×**43°.56E**±0°.02,**h17**km±7km,
n92,σ1**958**/124,**10C-15D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**240**	*e*PG	**Pb**	**15 21 26.4**	**-0.8**
VANB	**Van**	**0.15**	**240**	*e*Pg	**Pb**	**15 21 26.4**	**-0.8**

TVAN	**Van**	**0.18**	**220**	*i* P	**Pg**	**15 21 27.9**	**+0.4**
TVAN	**Van**	**0.18**	**220**	P	**Pg**	**15 21 28.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.32**	**2**	*i* P	**Pg**	**15 21 27.4**	**-2.3**
VMUR				*i* S	**Sb**	**15 21 35.2**	**+0.1**
VMUR	**Van-Muradiye**	**0.32**	**2**	P	**Pg**	**15 21 27.5**	**-2.3**
VMUR				S	**Sb**	**15 21 35.2**	**+0.1**
GEVA	**Gevas**	**0.53**	**228**	*i* P	**Pg**	**15 21 31.1**	**-2.4**
GEVA				*i* S	**Sb**	**15 21 41.7**	**+0.6**
GEVA	**Gevas**	**0.53**	**228**	P	**Pg**	**15 21 31.0**	**-2.4**
GEVA				S	**Sb**	**15 21 41.7**	**+0.6**
CLDR	**Caldiran**	**0.55**	**31**	*e*PG	**Pg**	**15 21 32.7**	**-1.2**
CLDR				*e*SG	**Sb**	**15 21 42.4**	**+0.6**
CLDR	**Caldiran**	**0.55**	**31**	*i* P	**Pg**	**15 21 32.1**	**-1.7**
CLDR				*i* S	**Sb**	**15 21 43.1**	**+1.3**
CLDR	**Caldiran**	**0.55**	**31**	P	**Pg**	**15 21 32.2**	**-1.7**
CLDR	**Caldiran**	**0.55**	**31**	*e*Pg	**Pg**	**15 21 32.7**	**-1.2**
CLDR				S	**Sb**	**15 21 43.1**	**+1.3**
DYDN	**Diyadin**	**0.88**	**7**	*i* P	**Pb**	**15 21 37.9**	**-1.8**
DYDN	**Diyadin**	**0.88**	**7**	P	**Pb**	**15 21 37.9**	**-1.8**
TUTA	**Tutak**	**0.93**	**322**	*i* P	**Pb**	**15 21 37.9**	**-2.7**
TUTA				*i* S	**Sg**	**15 21 53.3**	**0.0**
TUTA	**Tutak**	**0.93**	**322**	P	**Pb**	**15 21 37.9**	**-2.7**
TUTA				S	**Sg**	**15 21 53.3**	**0.0**
AGRB	**Hanur-Agry**	**1.00**	**334**	*e*PG	**Pb**	**15 21 41.7**	**-0.1**
AGRB				*e*SG	**Sg**	**15 21 55.5**	**-0.1**
AGRB	**Hanur-Agry**	**1.00**	**334**	*e*Pg	**Pb**	**15 21 41.7**	**-0.1**
AGRB				*e*Sg	**Sg**	**15 21 55.5**	**-0.1**
TATV	**Tatvan**	**1.02**	**261**	*i* P	**Pb**	**15 21 39.6**	**-2.6**
TATV				*i* S	**Sb**	**15 21 55.6**	**+0.2**
TATV	**Tatvan**	**1.02**	**261**	P	**Pb**	**15 21 39.6**	**-2.6**
TATV				S	**Sb**	**15 21 55.6**	**+0.2**
EKAR	**Karacoban**	**1.30**	**297**	*i* P	**Pn**	**15 21 45.5**	**-0.9**
EKAR				*i* S	**Sg**	**15 22 06.8**	**+1.8**
EKAR	**Karacoban**	**1.30**	**297**	P	**Pn**	**15 21 45.5**	**-0.9**
EKAR				S	**Sg**	**15 22 06.8**	**+1.8**
CUKT	**Cukurca**	**1.42**	**178**	*e*PN	**Pb**	**15 21 49.5**	**+0.6**
CUKT	**Cukurca**	**1.42**	**178**	*e*Pn	**Pb**	**15 21 49.5**	**+0.6**
EATA	**Eleskirt**	**1.45**	**326**	*i* P	**Pn**	**15 21 47.6**	**-0.9**
EATA				*i* S	**Sg**	**15 22 10.2**	**+0.5**
EATA	**Eleskirt**	**1.45**	**326**	P	**Pn**	**15 21 47.6**	**-0.9**
EATA				S	**Sg**	**15 22 10.2**	**+0.5**
NAX	**Nakhchivan**	**1.59**	**71**	⇓P	**Pb**	**15 21 51.5**	**-0.3**
NAX				⇓S	**Sg**	**15 22 18.0**	**+3.8**
NAX	**Nakhchivan**	**1.59**	**71**	P	**Pb**	**15 21 51.5**	**-0.3**
VRTB	**Varto-Mus**	**1.71**	**287**	*e*PN	**Pb**	**15 21 53.9**	**+0.1**
VRTB	**Varto-Mus**	**1.71**	**287**	*i* P	**Pb**	**15 21 53.3**	**-0.5**
VRTB	**Varto-Mus**	**1.71**	**287**	P	**Pb**	**15 21 53.3**	**-0.5**
VRTB	**Varto-Mus**	**1.71**	**287**	*e*Pn	**Pb**	**15 21 53.9**	**+0.1**
DIGO	**Kars**	**1.75**	**355**	*i* P	**Pb**	**15 21 54.1**	**-0.5**
DIGO	**Kars**	**1.75**	**355**	P	**Pb**	**15 21 54.1**	**-0.5**
HOMI	**Horasan**	**1.88**	**318**	*i* P	**Pn**	**15 21 55.2**	**+0.9**
BNGL	**BINGOL**	**1.90**	**279**	*i* P	**Pn**	**15 21 55.5**	**+0.9**
BNGL				*i* S	**Sg**	**15 22 23.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*e*PN	**Pb**	**15 21 56.3**	**-1.1**
SVAN				*e*SN	**Sb**	**15 22 22.5**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*i* P	**Pb**	**15 21 56.4**	**-1.0**
SVAN				*i* S	**Sg**	**15 22 23.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	*e*Pn	**Pb**	**15 21 56.3**	**-1.1**
SVAN				*e*Sn	**Sb**	**15 22 22.5**	**+1.4**
SVAN				S	**Sg**	**15 22 23.8**	**-0.9**
BTMN	**Batman**	**1.96**	**247**	*i* P	**Pb**	**15 21 57.1**	**-1.0**
BTMN				*i* S	**Sb**	**15 22 23.8**	**+1.6**
BTMN	**Batman**	**1.96**	**247**	P	**Pb**	**15 21 57.1**	**-1.0**
BTMN				S	**Sb**	**15 22 23.8**	**+1.6**
EAK	**Akyaka**	**2.01**	**1**	*i* P	**Pb**	**15 22 00.1**	**+1.1**
EAK	**Akyaka**	**2.01**	**1**	P	**Pb**	**15 22 00.1**	**+1.1**
ERZM	**Erzurum**	**2.10**	**307**	*i* P	**Pb**	**15 22 00.4**	**-0.2**
ERZM	**Erzurum**	**2.10**	**307**	P	**Pb**	**15 22 00.4**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.11**	**334**	*e*PN	**Pn**	**15 21 58.8**	**+1.4**
SENK	**Senkaya-Erzuru**	**2.11**	**334**	*e*Pn	**Pn**	**15 21 58.8**	**+1.4**
DDEM	**Demirkent**	**2.62**	**329**	*i* P	**Pb**	**15 22 09.8**	**+0.5**
DDEM	**Demirkent**	**2.62**	**329**	P	**Pb**	**15 22 09.8**	**+0.5**
GDB	**GEDABAY** SNR=5.1	**2.66**	**39**	⇓P	**Pb**	**15 22 07.6**	**-2.4**
GDB				⇓S	**Sg**	**15 22 51.4**	**+3.1**
GDB	**GEDABAY** SNR=5.1	**2.66**	**39**	P	**Pb**	**15 22 07.6**	**-2.4**
DAGI	**Agillar**	**2.72**	**333**	*i* P	**Pb**	**15 22 11.3**	**+0.3**
KOPT	**Kop Dagi**	**2.73**	**301**	*i* P	**Pb**	**15 22 11.6**	**+0.4**
KOPT	**Kop Dagi**	**2.73**	**301**	P	**Pb**	**15 22 11.6**	**+0.4**
MAZI	**Mazidag**	**2.73**	**245**	*e*PN	**Pn**	**15 22 07.5**	**+1.6**
MAZI	**Mazidag**	**2.73**	**245**	*e*Pn	**Pn**	**15 22 07.6**	**+1.6**
AKH	**Akhalkalaki**	**2.74**	**359**	P	**Pb**	**15 22 12.9**	**+1.5**
QZX	**Qazax, Azerbai** SNR=11	**2.77**	**30**	⇓P	**Pb**	**15 22 11.6**	**-0.2**
QZX				⇑S	**Sg**	**15 22 55.1**	**+3.5**
QZX	**Qazax, Azerbai** SNR=11	**2.77**	**30**	P	**Pb**	**15 22 11.6**	**-0.2**
ARTV	**Artvin**	**2.81**	**334**	*i* P	**Pb**	**15 22 13.0**	**+0.4**
ARTV	**Artvin**	**2.81**	**334**	P	**Pb**	**15 22 13.0**	**+0.4**
GANJ	**Ganja** SNR=7.0	**2.91**	**46**	⇓P	**Pn**	**15 22 10.5**	**+2.2**
GANJ				⇓S	**Sg**	**15 22 56.2**	**0.0**
GANJ	**Ganja** SNR=7.0	**2.91**	**46**	P	**Pn**	**15 22 10.5**	**+2.2**
DGRG	**David-gareji**	**3.11**	**26**	P	**Pn**	**15 22 13.8**	**+2.8**
BRDA	**Brd**	**3.23**	**59**	⇓P	**Pn**	**15 22 13.6**	**+1.0**
BRDA				⇓S	**Sb**	**15 22 59.6**	**+1.0**
BRDA	**Brd**	**3.23**	**59**	P	**Pn**	**15 22 13.6**	**+1.0**
PTK	**Pertek**	**3.26**	**275**	*e*PN	**Pn**	**15 22 15.9**	**+2.6**
PTK	**Pertek**	**3.26**	**275**	*e*Pn	**Pn**	**15 22 15.9**	**+2.6**
SVRC	**Sivrice-ELAZID**	**3.34**	**266**	*e*PN	**Pn**	**15 22 16.2**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.34**	**266**	*e*Pn	**Pn**	**15 22 16.2**	**+1.8**
ZRD	**Zardab**	**3.58**	**62**	⇑P	**Pn**	**15 22 17.5**	**+0.1**
ZRD	**Zardab**	**3.58**	**62**	P	**Pn**	**15 22 17.5**	**+0.1**
KELT	**Kelkit**	**3.64**	**295**	*i* P	**Pb**	**15 22 28.5**	**+1.7**
LRK	**Lerik**	**3.75**	**89**	⇓P	Pn	15 22 14.2	-5.8
LRK				⇑S	**Sn**	**15 23 00.9**	**-2.8**
ZKTA	**Zakatala**	**3.78**	**37**	⇓S	**Sb**	**15 23 18.8**	**+4.1**
GLBA	**Clilabad**	**3.81**	**80**	⇑P	**Pn**	**15 22 17.1**	**-3.6**
GLBA				⇑S	**Sn**	**15 23 06.3**	**+1.1**
GLBA	**Clilabad**	**3.81**	**80**	P	**Pn**	**15 22 17.1**	**-3.6**
GLBA				S	**Sn**	**15 23 06.3**	**+1.1**
QBL	**Gabala**	**4.00**	**54**	⇑S	**Sb**	**15 23 19.7**	**-1.4**
XNQ	**Khinaliq**	**4.32**	**53**	⇑P	**Pn**	**15 22 29.7**	**+1.8**
XNQ				⇑S	**Sb**	**15 23 28.1**	**-2.2**
XNQ	**Khinaliq**	**4.32**	**53**	P	**Pn**	**15 22 29.7**	**+1.8**
PQL	**Pirkuli**	**4.42**	**60**	⇑P	**Pn**	**15 22 29.6**	**+0.4**
PQL	**Pirkuli**	**4.42**	**60**	P	**Pn**	**15 22 29.6**	**+0.4**
QSAR	**Qusar**	**4.59**	**50**	⇑P	**Pn**	**15 22 33.5**	**+2.0**
QSAR	**Qusar**	**4.59**	**50**	P	**Pn**	**15 22 33.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**4.64**	**53**	⇓P	**Pn**	**15 22 33.9**	**+1.7**
QUBA	**Quba, Azerbaij**	**4.64**	**53**	P	**Pn**	**15 22 33.9**	**+1.7**
ATGJ	**Altiaghaj**	**4.69**	**60**	⇓P	**Pn**	**15 22 33.3**	**+0.4**
ATGJ	**Altiaghaj**	**4.69**	**60**	P	**Pn**	**15 22 33.3**	**+0.4**
GOBA	**Gobu**	**5.08**	**68**	⇓P	**Pn**	**15 22 36.7**	**-1.4**
GOBA	**Gobu**	**5.08**	**68**	P	**Pn**	**15 22 36.7**	**-1.4**
GALA	**Gala**	**5.39**	**69**	⇓P	**Pn**	**15 22 40.5**	**-1.8**
GALA	**Gala**	**5.39**	**69**	P	**Pn**	**15 22 40.5**	**-1.8**

JMA 27 15:24:52.4±0.2, 37°.73N×144°.59E, h38km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.66**	**287**	P	Pn	15 25 34.4	+1.8
JIO				S	Sn	15 26 05.4	+1.8
OFUJ	**Ofunato**	**2.66**	**301**	P	Pn	15 25 34.4	+1.7
OFUJ				*e*S	Sn	15 26 05.8	+2.1
MIYJ	**Miyakonagasawa**	**2.85**	**311**	P	Pn	15 25 36.7	+1.4
MIYJ				S	Sn	15 26 10.0	+1.7
JMK	**Ichinoseki**	**2.92**	**296**	P	Pn	15 25 38.2	+2.0
JOM	**Ohasama**	**3.12**	**305**	P	Pn	15 25 41.6	+2.7
JOM				S	Sn	15 26 17.8	+2.9
JFT	**Otama**	**3.38**	**268**	P	Pn	15 25 45.3	+2.6
JFT				*e*S	Sn	15 26 23.5	+2.0
JYK	**Kaneyama**	**3.53**	**291**	P	Pn	15 25 47.6	+2.9
JYK				*e*S	Sn	15 26 28.3	+3.1

DJA 27 15:33:33.9±1.6, 3°.S±7°.×10°.5E±°, h20km±20km, M3.4/6, MLv3.4/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLSI		**1.29**	**188**	P	Sn	15 34 21.5	+7.9
KLSI		**1.29**	**188**	P	Pn	15 33 57.0	+0.1
MDSI	**Maura Dua**	**1.30**	**214**	P	Sn	15 34 19.1	+5.3
MDSI	**Maura Dua**	**1.30**	**214**	P	Pn	15 33 57.0	0.0
LHSI	**Lahat**	**1.45**	**253**	P	Sn	15 34 24.1	+6.7
LHSI	**Lahat**	**1.45**	**253**	P	Pn	15 33 59.1	+0.1
LWLI	**Liwa**	**1.82**	**208**	P	Pb	15 34 12.0	+5.4
LWLI				S	Sn	15 34 27.7	+1.0
LWLI	**Liwa**	**1.82**	**208**	P	Pn	15 34 03.2	-1.0
LWLI				S	Sn	15 34 27.4	+0.7
BLSI	**Bandar Lampung**	**1.98**	**170**	P	Sn	15 34 24.2	-6.4
BLSI	**Bandar Lampung**	**1.98**	**170**	P	Pn	15 34 06.9	+0.5
KASI	**Kota Agung**	**2.15**	**191**	P	Pb	15 34 10.5	-1.7
KASI				S	Sn	15 34 22.9	-12
KASI	**Kota Agung**	**2.15**	**191**	P	Pn	15 34 07.9	-0.7
KASI				S	Sn	15 34 23.0	-12
MNAI	**Manna**	**2.17**	**244**	P	Pb	15 34 18.0	+5.5
MNAI				S	Sb	15 34 40.2	+1.1
MNAI	**Manna**	**2.17**	**244**	P	Pn	15 34 09.0	+0.1
MASI	**Maura Aman, Be**	**2.68**	**275**	P	Pb	15 34 33.1	+12
TNG	**Tangerang**	**3.25**	**148**	P	Pb	15 34 40.1	+9.1
CGJI	**Cibinong**	**3.29**	**166**	P	Pn	15 34 27.6	+3.3

*IDC **27** 15:36:52.1±1.6, 6°.71S×129°.73E, h0km, mb4.0/3, mb1 4.1/6, mb1mx3.6/42, mbtmp4.0/6, ML4.0/3, Error ellipse: s-maj=83.1km s-min=23.9km az=79.0*
*NEIC **27** 15:37:03.0±1.7, 7°.15S×129°.61E, h102km±22km, mb4.6/2, Error ellipse: s-maj=25.2km s-min=11.7km az=92.0*
ISC 27 15:37:02.8±0.9, 7°.25S±0°.07×129°.7E±0°.1, h100km, n11, σ2°.37/15, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.99**	**31**	*e*Pn	**Pn**	**15 38 15.3**	**-0.2**
FITZ	**Fitzroy Crossi** 1.2nm,0.3s,baz=15,slow=9.3,SNR=21	**11.49**	**200**	Pn	**Pn**	**15 39 46.2**	**+2.4**
FITZ				Sn	**Sn**	**15 41 48.8**	**-1.4**
FITZ	**Fitzroy Crossi** 2.3nm,0.4s	**11.49**	**200**	*e*Pn	**Pn**	**15 39 45.5**	**+1.7**
FITZ				Sn	**Sn**	**15 41 48.8**	**-1.4**
WRAB	**Tennant Creek**	**13.39**	**161**	*e*Pn	**Pn**	**15 40 08.9**	**+0.1**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=343,slow=13,SNR=17	**13.39**	**161**	Pn	**Pn**	**15 40 09.2**	**+0.2**
WRA				Sn	**Sn**	**15 42 31.7**	**-4.7**
COEN	**Coen**	**14.81**	**118**	*e*P	**Pn**	**15 40 30.0**	**+2.7**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=340,slow=9.3,SNR=35	**16.81**	**167**	P	**P**	**15 40 55.5**	**+2.8**
ASAR				S	**Sn**	**15 43 55.7**	**-3.3**
SONM	**Songino Array** 0.3nm,0.4s,baz=157,slow=5.0,SNR=3.6	**58.59**	**342**	P	**P**	**15 46 48.2**	**-1.1**
MKAR	**Makanchi Array** 1.9nm,0.4s,baz=122,slow=7.9,SNR=38	**68.28**	**327**	P	**P**	**15 47 52.3**	**-0.7**
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=124,slow=5.1,SNR=4.3	**72.57**	**329**	P	**P**	**15 48 17.2**	**-1.9**
KURK	**Kurchatov** 9.3nm,0.4s	**72.58**	**329**	*e*P	**P**	**15 48 17.9**	**-1.2**

*ISN **27** 15:41:23.2±1.1, 39°.22N×43°.25E, h0km±67km, ML4.2*
*MOS **27** 15:41:33.2±1.7, 38°.59N×43°.66E, h10km, mb4.5/16, Error ellipse: s-maj=7.2km s-min=4.4km az=88.9*
*DDA **27** 15:41:34.2, 38°.92N×43°.55E, h10km, Ml4.1*
*AZER **27** 15:41:34.0±0.2, 38°.73N×43°.58E, h9km±4km, Error ellipse: s-maj=4.5km s-min=1.1km az=62.0*
*CSEM **27** 15:41:34.7±0.1, 38°.85N×43°.62E, h2km, mb4.2/16, Error ellipse: s-maj=3.9km s-min=2.6km az=164.0*
*ISK **27** 15:41:34.3, 38°.92N×43°.62E, h5km, ML4.1*
*IDC **27** 15:41:34.4±0.8, 38°.86N×43°.55E, h0km, mb3.8/13, mb1 3.9/18, mb1mx3.7/47, mbtmp3.8/18, ML3.0/6, MS3.3/22, Ms1 3.3/22, ms1mx3.1/52, Error ellipse: s-maj=13.6km s-min=8.9km az=152.0*
*NEIC **27** 15:41:35.3±0.0, 38°.91N×43°.60E, h5km, mb4.2/17, ML4.1(DDA), ML4.2(ISK), After ISK.*
ISC 27 15:41:34.6±0.9, 38°.90N±0°.01×43°.59E±0°.01, h0km±6km, n350, σ1°.79/396, mb4.3/28, MS3.1/17, 48C-36D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**352**	⇑*i*P	**Pg**	**15 41 36.6**	**+0.2**
VMUR				*i* S	**Sg**	**15 41 38.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.09**	**352**	*i* P	**Pg**	**15 41 36.7**	**+0.2**
VMUR				S	**Sg**	**15 41 38.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.09**	**352**	*i* P	**Pg**	**15 41 36.6**	**+0.2**
VANB	**Van**	**0.34**	**207**	PG	**Pb**	**15 41 43.5**	**-0.1**
VANB				*e*SG	**Sb**	**15 41 51.5**	**+1.9**
VANB	**Van**	**0.34**	**207**	*i* Pg	**Pb**	**15 41 43.5**	**-0.1**
VANB	**Van**	**0.34**	**207**	Pg	**Pb**	**15 41 44.1**	**+0.5**
CLDR	**Caldiran**	**0.35**	**46**	PG	**Pg**	**15 41 41.8**	**+0.3**
CLDR	**Caldiran**	**0.35**	**46**	⇑*i*P	**Pg**	**15 41 41.8**	**+0.3**
CLDR				*i* S	**Sb**	**15 41 48.5**	**-1.7**
CLDR	**Caldiran**	**0.35**	**46**	P	**Pg**	**15 41 41.8**	**+0.3**
CLDR				S	**Sb**	**15 41 48.5**	**-1.7**
CLDR	**Caldiran**	**0.35**	**46**	*i* P	**Pg**	**15 41 41.8**	**+0.3**
TVAN	**Van**	**0.40**	**201**	*i* P	**Pn**	**15 41 46.0**	**-1.8**
TVAN	**Van**	**0.40**	**201**	*i* P	**Pn**	**15 41 46.0**	**-1.8**
DYDN	**Diyadin**	**0.65**	**7**	⇑*i*P	**Pg**	**15 41 46.5**	**-0.6**
DYDN				*i* S	**Sg**	**15 41 56.5**	**+1.0**
DYDN	**Diyadin**	**0.65**	**7**	*i* P	**Pg**	**15 41 46.7**	**-0.4**
DYDN				S	**Sg**	**15 41 56.5**	**+1.0**
DYDN	**Diyadin**	**0.65**	**7**	*i* P	**Pg**	**15 41 46.7**	**-0.4**
GEVA	**Gevas**	**0.72**	**215**	⇑*i*P	**Pg**	**15 41 47.8**	**-0.6**
GEVA				*i* S	**Sb**	**15 41 59.6**	**-0.9**
GEVA	**Gevas**	**0.72**	**215**	P	**Pg**	**15 41 47.8**	**-0.6**
GEVA	**Gevas**	**0.72**	**215**	*i* P	**Pg**	**15 41 47.9**	**-0.5**
TUTA	**Tutak**	**0.78**	**310**	⇓*i*P	**Pg**	**15 41 48.4**	**-1.3**
TUTA				*i* S	**Sg**	**15 41 59.9**	**+0.1**
TUTA	**Tutak**	**0.78**	**310**	P	**Pg**	**15 41 48.4**	**-1.3**
TUTA				S	**Sg**	**15 41 59.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.82**	**326**	*e*PG	**Pg**	**15 41 50.1**	**-0.2**
AGRB	**Hanur-Agry**	**0.82**	**326**	*e*Pg	**Pg**	**15 41 50.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.82**	**326**	Pg	**Pg**	**15 41 49.8**	**-0.6**
BASK	**Baskale_VAN**	**0.91**	**159**	*i* P	**Pb**	**15 41 52.3**	**-1.0**
BASK				*i* S	**Sn**	**15 42 08.2**	**-0.4**
BASK	**Baskale_VAN**	**0.91**	**159**	P	**Pb**	**15 41 52.3**	**-1.0**
TATV	**Tatvan**	**1.10**	**250**	⇑*i*P	**Pg**	**15 41 53.9**	**-1.9**
TATV				*i* S	**Sb**	**15 42 10.6**	**-1.1**
TATV	**Tatvan**	**1.10**	**250**	P	**Pg**	**15 41 53.9**	**-1.9**
TATV				S	**Sb**	**15 42 10.6**	**-1.1**
EKAR	**Karacoban**	**1.24**	**287**	*i* P	**Pn**	**15 41 56.8**	**-2.6**
EKAR				*i* S	**Sn**	**15 42 20.4**	**+3.5**
EKAR	**Karacoban**	**1.24**	**287**	P	**Pn**	**15 41 56.8**	**-2.6**
EATA	**Eleskirt**	**1.28**	**319**	⇓*i*P	**Pn**	**15 41 57.7**	**-2.4**
EATA				*i* S	**Sn**	**15 42 16.6**	**-1.6**
EATA	**Eleskirt**	**1.28**	**319**	P	**Pn**	**15 41 57.7**	**-2.4**
EATA				S	**Sn**	**15 42 16.6**	**-1.6**
HAKT	**HAKKARI**	**1.34**	**176**	⇓*i*P	**Pn**	**15 41 59.1**	**-1.7**
HAKT				*i* S	**Sg**	**15 42 21.5**	**+3.8**
HAKT	**HAKKARI**	**1.34**	**176**	P	**Pn**	**15 41 59.1**	**-1.7**
NAX	**Nakhchivan** SNR=177	**1.51**	**79**	⇓P	**Pn**	**15 42 02.0**	**-1.0**
NAX				⇑S	**Sg**	**15 42 23.2**	**0.0**
NAX	**Nakhchivan**	**1.51**	**79**	P	**Pn**	**15 42 01.9**	**-1.0**
NAX	**Nakhchivan** SNR=177	**1.51**	**79**	P	**Pn**	**15 42 02.0**	**-1.0**
NAX				S	**Sg**	**15 42 23.2**	**0.0**
DIGO	**Kars**	**1.52**	**354**	⇓*i*P	**Pb**	**15 42 03.3**	**-0.6**
DIGO				*i* S	**Sg**	**15 42 28.2**	**+4.6**
DIGO	**Kars**	**1.52**	**354**	P	**Pb**	**15 42 03.3**	**-0.6**
GNI	**Garni** 176nm,0.3s,baz=280,slow=3.8,SNR=323	**1.54**	**35**	Pg	**Pb**	**15 42 03.4**	**-0.7**
GNI				Lg	Lg	15 42 26.4	
CUKT	**Cukurca**	**1.65**	**179**	*e*PN	**Pb**	**15 42 05.3**	**-0.6**
CUKT	**Cukurca**	**1.65**	**179**	⇓*i*P	**Pg**	**15 42 06.5**	**+0.2**
CUKT				*i* S	**Sg**	**15 42 34.7**	**+7.1**
CUKT	**Cukurca**	**1.65**	**179**	*e*Pn	**Pb**	**15 42 05.3**	**-0.6**
SIRN	**S¨¨rnak**	**1.68**	**214**	*i* P	**Pn**	**15 42 04.5**	**-0.8**
SIRN	**S¨¨rnak**	**1.68**	**214**	P	**Pn**	**15 42 04.5**	**-0.8**
VRTB	**Varto-Mus**	**1.68**	**280**	*e*PN	**Pg**	**15 42 06.5**	**-0.4**
VRTB				*e*SN	**Sg**	**15 42 29.7**	**+1.1**
VRTB	**Varto-Mus**	**1.68**	**280**	*i* P	**Pb**	**15 42 05.3**	**-1.2**
VRTB				*i* S	**Sg**	**15 42 29.4**	**+0.8**
VRTB	**Varto-Mus**	**1.68**	**280**	P	**Pb**	**15 42 05.3**	**-1.2**
VRTB	**Varto-Mus**	**1.68**	**280**	*e*Pn	**Pg**	**15 42 06.5**	**-0.4**
VRTB				S	**Sg**	**15 42 29.4**	**+0.8**
HOMI	**Horasan**	**1.73**	**312**	*i* P	**Pb**	**15 42 06.1**	**-1.4**
HOMI				*i* S	**Sg**	**15 42 32.5**	**+2.2**
EAK	**Akyaka**	**1.79**	**0**	*i* P	**Pg**	**15 42 09.3**	**+0.5**
EAK				*i* S	**Sg**	**15 42 35.6**	**+3.6**
EAK	**Akyaka**	**1.79**	**0**	P	**Pg**	**15 42 09.4**	**+0.5**
BNGL	**BINGOL**	**1.90**	**272**	⇑*i*P	**Pn**	**15 42 08.5**	**0.0**
BNGL				*i* S	**Sg**	**15 42 36.4**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.92**	**331**	*e*PN	**Pb**	**15 42 08.8**	**-1.8**
SENK	**Senkaya-Erzuru**	**1.92**	**331**	*e*Pn	**Pb**	**15 42 08.8**	**-1.8**
ERZM	**Erzurum**	**1.99**	**301**	*i* P	**Pn**	**15 42 09.9**	**+0.1**
ERZM				*i* S	**Sg**	**15 42 42.5**	**+3.8**
ERZM	**Erzurum**	**1.99**	**301**	P	**Pn**	**15 42 09.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*PN	**Pb**	**15 42 11.1**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*i* P	**Pn**	**15 42 09.6**	**-0.3**
SVAN				*i* S	**Sb**	**15 42 38.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.02**	**249**	P	**Pn**	**15 42 09.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.02**	**249**	*e*Pn	**Pb**	**15 42 11.1**	**-1.1**
BTMN	**Batman**	**2.08**	**242**	⇑*i*P	**Pb**	**15 42 12.2**	**-1.1**
BTMN				*i* S	**Sg**	**15 42 41.1**	**-0.3**
BTMN	**Batman**	**2.08**	**242**	P	**Pb**	**15 42 12.1**	**-1.1**
ECAT	**Cat-ERZURUM**	**2.15**	**290**	⇑*i*P	**Pb**	**15 42 13.0**	**-1.5**
ECAT				*i* S	**Sg**	**15 42 43.6**	**0.0**
ECAT	**Cat-ERZURUM**	**2.15**	**290**	P	**Pb**	**15 42 13.0**	**-1.5**
BNGB	**Bing¨¶l**	**2.27**	**273**	*e*PN	**Pb**	**15 42 14.6**	**-1.9**
BGD	**Bogdanovka**	**2.36**	**0**	P	**Pg**	**15 42 20.3**	**+0.3**
BINT	**Bingol**	**2.42**	**270**	*e*Pn	**Pn**	**15 42 14.6**	**-0.9**
DDEM	**Demirkent**	**2.44**	**325**	*i* P	**Pb**	**15 42 18.1**	**-1.3**
DDEM	**Demirkent**	**2.44**	**325**	P	**Pb**	**15 42 18.1**	**-1.3**
GDB	**GEDABAY** SNR=11	**2.47**	**42**	⇑P	**Pn**	**15 42 16.5**	**+0.3**
GDB				⇓S	**Sb**	**15 42 49.6**	**-1.4**
GDB	**GEDABAY** SNR=11	**2.47**	**42**	P	**Pn**	**15 42 16.5**	**+0.3**
GDB				S	**Sb**	**15 42 49.6**	**-1.4**
AKH	**Akhalkalaki**	**2.51**	**358**	*e*PN	**Pn**	**15 42 17.7**	**+0.9**
AKH	**Akhalkalaki**	**2.51**	**358**	P	**Pg**	**15 42 24.1**	**+1.3**
AKH	**Akhalkalaki**	**2.51**	**358**	P	**Pg**	**15 42 24.0**	**+1.3**
AKH	**Akhalkalaki**	**2.51**	**358**	*e*Pn	**Pg**	**15 42 17.7**	**+0.9**
DAGI	**Agillar**	**2.53**	**330**	*i* P	**Pb**	**15 42 19.9**	**-1.0**
QZX	**Qazax, Azerbai** SNR=10.0	**2.56**	**32**	⇓P	**Pn**	**15 42 17.8**	**+0.5**
QZX				⇓S	**Sb**	**15 42 51.5**	**-1.8**
QZX	**Qazax, Azerbai** SNR=10.0	**2.56**	**32**	P	**Pn**	**15 42 17.8**	**+0.5**
QZX				S	**Sb**	**15 42 51.5**	**-1.8**
ARTV	**Artvin**	**2.62**	**331**	*i* P	**Pb**	**15 42 19.7**	**-2.8**
ARTV	**Artvin**	**2.62**	**331**	*e*Pn	**Pb**	**15 42 19.6**	**-2.9**
ARTV	**Artvin**	**2.62**	**331**	*e*Pn	**Pb**	**15 42 19.6**	**-2.9**
KOPT	**Kop Dagi**	**2.64**	**296**	*i* P	**Pb**	**15 42 21

ASTR	**Astara**	**4.08**	**93**	⇑P	**Pn**	**15 42 36.7**	**-1.6**
	SNR=2.9						
ASTR				⇑S	**Sn**	**15 43 25.5**	**-1.3**
ASTR	**Astara**	**4.08**	**93**	P	**Pn**	**15 42 36.7**	**-1.6**
	SNR=2.9						
ASTR				S	**Sn**	**15 43 25.5**	**-1.3**
XNQ	**Khinaliq**	**4.17**	**56**	⇓P	**Pn**	**15 42 39.3**	**-0.3**
	SNR=3.2						
XNQ				⇑S	**Sn**	**15 43 30.2**	**+1.1**
XNQ	**Khinaliq**	**4.17**	**56**	P	**Pn**	**15 42 39.3**	**-0.3**
	SNR=3.2						
XNQ				S	**Sn**	**15 43 30.2**	**+1.1**
ESPY	**Espiye-Giresun**	**4.25**	**300**	*e*PN	**Pn**	**15 42 42.9**	**+2.4**
ESPY	**Espiye-Giresun**	**4.25**	**300**	*e*Pn	**Pn**	**15 42 42.9**	**+2.4**
PQL	**Pirkuli**	**4.29**	**62**	⇑P	**Pn**	**15 42 40.6**	**-0.7**
	SNR=3.0						
PQL				⇓S	**Sn**	**15 43 32.9**	**+0.8**
PQL	**Pirkuli**	**4.29**	**62**	P	**Pn**	**15 42 40.6**	**-0.7**
	SNR=3.0						
PQL				S	**Sn**	**15 43 32.9**	**+0.8**
ALIB	**Äli-Bayra**	**4.33**	**74**	⇓P	**Pn**	**15 42 40.8**	**-0.8**
ALIB				⇑S	**Sn**	**15 43 32.9**	**+0.2**
ALIB	**Äli-Bayra**	**4.33**	**74**	P	**Pn**	**15 42 40.8**	**-0.8**
ALIB				S	**Sn**	**15 43 32.9**	**+0.2**
NEY	**Neytrino**	**4.39**	**352**	⇑*e*P	**Pn**	**15 42 46.2**	**+3.5**
NEY	**Neytrino**	**4.39**	**352**	*e*P	**Pn**	**15 42 46.2**	**+3.5**
QSAR	**Qusar**	**4.43**	**52**	⇑P	**Pn**	**15 42 43.0**	**-0.1**
	SNR=6.0						
QSAR	**Qusar**	**4.43**	**52**	P	**Pn**	**15 42 43.0**	**-0.1**
	SNR=6.0						
GBS	**Qobustan**	**4.44**	**67**	⇓P	**Pn**	**15 42 42.5**	**-0.8**
	SNR=3.3						
GBS	**Qobustan**	**4.44**	**67**	P	**Pn**	**15 42 42.5**	**-0.8**
	SNR=3.3						
QUBA	**Quba, Azerbaij**	**4.49**	**55**	⇑P	**Pn**	**15 42 43.7**	**-0.2**
	SNR=4.8						
QUBA	**Quba, Azerbaij**	**4.49**	**55**	P	**Pn**	**15 42 43.7**	**-0.2**
	SNR=4.8						
ATGJ	**Altiaghaj**	**4.56**	**63**	⇑P	**Pn**	**15 42 44.3**	**-0.6**
	SNR=4.6						
ATGJ	**Altiaghaj**	**4.56**	**63**	P	**Pn**	**15 42 44.3**	**-0.6**
	SNR=4.6						
NCK	**Nalchik**	**4.59**	**0**	⇑*e*P	Pb	15 42 51.1	-5.0
GROC	**Groznyy**	**4.61**	**21**	*e*P	**Pb**	**15 42 59.1**	**+2.7**
GROC				pmax	pmax		
	comp=Z,62nm,1.4s						
SIZA	**Siyzn**	**4.62**	**60**	⇑P	**Pn**	**15 42 45.3**	**-0.5**
SIZA	**Siyzn**	**4.62**	**60**	P	**Pn**	**15 42 45.3**	**-0.5**
DARE	**Darende-Malaty**	**4.78**	**268**	*e*PN	**Pn**	**15 42 51.1**	**+3.1**
DARE	**Darende-Malaty**	**4.78**	**268**	*e*Pn	**Pn**	**15 42 51.1**	**+3.1**
KBZ	**Khabaz**	**4.85**	**354**	Pn	**Pn**	**15 42 52.2**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=144,slow=6.6,SNR=2.8						
KBZ				LR	LR	15 44 37.5	
	comp=Z,98nm,20.4s,baz=198,slow=38						
GOBA	**Gobu**	**4.97**	**71**	⇑P	**Pn**	**15 42 49.8**	**-0.7**
GOBA				⇑P	**Pn**	**15 42 49.8**	**-0.7**
GOBA	**Gobu**	**4.97**	**71**	P	**Pn**	**15 42 49.8**	**-0.7**
MAK	**Makhachkala**	**5.03**	**35**	*e*P	**Pn**	**15 42 52.0**	**+0.8**
MAK				*e*S	**Sn**	**15 43 50.0**	**0.0**
MAK				pmax	pmax		
	comp=Z,22nm,0.4s						
MAK				MLR	MLR		
	comp=Z,621nm,11.0s						
MAK	**Makhachkala**	**5.03**	**35**	*e*P	**Pn**	**15 42 52.0**	**+0.8**
	comp=Z,22nm,0.4s						
MAK				*e*S	**Sn**	**15 43 50.0**	**0.0**
	comp=Z,621nm,11.0s						
RSDY	**Resadiye-TOKAT**	**5.06**	**289**	*e*PN	**Pn**	**15 42 54.5**	**+2.9**
RSDY	**Resadiye-TOKAT**	**5.06**	**289**	*e*Pn	**Pn**	**15 42 54.6**	**+2.9**
KIV	**Kislovodsk**	**5.10**	**353**	*e*P	Pn	15 42 56.9	+4.6
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV	**Kislovodsk**	**5.10**	**353**	*e*Pn	**Pn**	**15 42 55.0**	**+2.7**
KIV	**Kislovodsk**	**5.10**	**353**	*e*P	Pn	15 42 56.9	+4.6
	comp=Z,12nm,1.0s						
KIV	**Kislovodsk**	**5.10**	**353**	*e*Pn	**Pn**	**15 42 55.0**	**+2.7**
NDR	**Nardaran**	**5.21**	**69**	⇑P	**Pn**	**15 42 53.0**	**-0.8**
NDR	**Nardaran**	**5.21**	**69**	P	**Pn**	**15 42 53.0**	**-0.8**
GALA	**Gala**	**5.29**	**71**	⇑P	**Pn**	**15 42 54.1**	**-0.7**
GALA	**Gala**	**5.29**	**71**	P	**Pn**	**15 42 54.1**	**-0.7**
KMRS	**Kahramanmaras**	**5.45**	**257**	*e*PN	**Pn**	**15 42 59.6**	**+2.5**
SARI	**SarD1z-Kayseri**	**5.63**	**267**	*e*PN	**Pn**	**15 43 02.7**	**+2.9**
BHD	**Baghdad**	**5.65**	**173**	*e*Pn	Pn	15 42 55.0	-4.8
	SNR=3.0						
BHD				*e*Sn	**Sn**	**15 43 58.2**	**-7.2**
	SNR=39						
TOKA	**Tokat**	**5.67**	**287**	*e*Pn	**Pn**	**15 42 58.9**	**-1.2**
TOKA	**Tokat**	**5.67**	**287**	*e*Pn	**Pn**	**15 42 58.9**	**-1.2**
GOF	**Gofitskoye**	**6.17**	**356**	⇑*e*P	**Pb**	**15 43 21.4**	**-1.5**
KOZT	**Kozan**	**6.28**	**259**	*e*PN	**Pn**	**15 43 11.6**	**+3.2**
RTB	**Rutbah**	**6.43**	**205**	*e*Pn	Pn	15 43 03.0	-7.6
	SNR=3.0						
RTB				Sn	Sn	15 44 14.0	-11
	SNR=3.0						
BR101	**Keskin Array S**	**7.76**	**279**	*e*Pn	**Pn**	**15 43 30.0**	**+1.1**
BR101	**Keskin Array S**	**7.76**	**279**	*e*Pn	**Pn**	**15 43 30.1**	**+1.1**
BR131	**Keskin Array S**	**7.76**	**279**	*e*Pn	**Pn**	**15 43 29.3**	**+0.4**
BR131	**Keskin Array S**	**7.76**	**279**	*e*Pn	**Pn**	**15 43 29.3**	**+0.4**
BRTR	**Keskin Array B**	**7.76**	**279**	Pn	**Pn**	**15 43 30.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=109,slow=15,SNR=2.1						
BRTR	**Keskin Array B**	**7.76**	**279**	*i* P	Pn	15 43 35.7	+6.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NSR	**Nassriya**	**8.14**	**164**	*e*Pn	**Pn**	**15 43 30.0**	**-4.0**
	SNR=3.0						
NSR				*e*Sn	**Sn**	**15 45 00.1**	**-6.7**
ASF	**Jabal al Asfar**	**8.64**	**221**	Pn	**Pn**	**15 43 41.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=326,slow=7.3,SNR=2.5						
ASF				LR	LR	15 47 28.6	
	comp=Z,253nm,21.0s,baz=323,slow=41						
MMAI	**Mount Meron Ar**	**8.86**	**231**	LR	LR	15 47 46.3	
	comp=Z,259nm,18.4s,baz=45,slow=42						
GEYT	**Alibeck**	**11.44**	**90**	Pn	**Pn**	**15 44 19.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=272,slow=16,SNR=6.6						
EIL	**Elat**	**11.64**	**220**	LR	LR	15 49 23.4	
	comp=Z,272nm,18.4s,baz=63,slow=40						
TESR	**Tescani**	**14.58**	**307**	⇑*i*P	**P**	**15 45 11.3**	**+2.6**
DOPR	**Dopca**	**15.16**	**304**	⇑*i*P	**P**	**15 45 18.2**	**+2.9**
VOIR		**15.20**	**301**	⇓*i*P	**P**	**15 45 19.4**	**+3.6**
VOIR		**15.20**	**301**	⇓P	**P**	**15 45 19.4**	**+3.6**
IDI	**Anoyia**	**15.35**	**262**	LR	LR	15 51 44.1	
	comp=Z,75nm,18.9s,baz=88,slow=40						
AKTO	**Aktyubinsk**	**15.41**	**37**	Pn	**Pn**	**15 45 12.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=7.5						
AKTO				LR	LR	15 52 50.7	
	comp=Z,170nm,18.3s,baz=231,slow=44						
RAYN	**Ar Rayn**	**15.41**	**173**	*e*Pn	**Pn**	**15 45 07.7**	**-5.7**
	comp=Z,13nm,1.3s						
ARR	**Arges**	**15.46**	**301**	⇑*i*P	**P**	**15 45 23.0**	**+4.4**
AKASG	**Malin Array Be**	**15.56**	**324**	Pn	**Pn**	**15 45 15.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=131,slow=12,SNR=6.4						
AKASG	**Malin Array Be**	**15.56**	**324**	*i* P	**P**	**15 45 19.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**15.56**	**324**	*i* P	**P**	**15 45 19.7**	**+0.1**
	comp=Z,5.0nm,1.0s						
AKBB	**Malin Array Si**	**15.56**	**324**	*e*P	**Pn**	**15 45 14.7**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**15.56**	**324**	*e*Pn	**Pn**	**15 45 14.6**	**-0.5**
	comp=Z,4.1nm,0.8s						
AKBB	**Malin Array Si**	**15.56**	**324**	*e*Pn	**Pn**	**15 45 14.7**	**-0.5**
	comp=Z,4.1nm,0.8s						
KIEV	**Kiev**	**15.56**	**324**	⇓*e*P	**P**	**15 45 19.1**	**-0.5**
KIEV	**Kiev**	**15.56**	**324**	*e*Pn	**Pn**	**15 45 15.3**	**+0.2**
KIEV	**Kiev**	**15.56**	**324**	*e*P	**P**	**15 45 19.1**	**-0.5**
KIEV	**Kiev**	**15.56**	**324**	*e*Pn	**Pn**	**15 45 15.3**	**+0.2**
ABKAR	**Akbulak array**	**15.63**	**43**	*e*Pn	**P**	**15 45 18.5**	**-1.9**
	comp=Z,23nm,0.6s						
VTS	**Vitosha**	**15.88**	**290**	⇓*i*P	**P**	**15 45 26.7**	**+3.4**
VTS	**Vitosha**	**15.88**	**290**	*e*P	**Pn**	**15 45 17.9**	**-1.6**
VTS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VTS	**Vitosha**	**15.88**	**290**	*e*Pn	**Pn**	**15 45 17.9**	**-1.6**
	comp=Z,7.4nm,0.8s						
VTS	**Vitosha**	**15.88**	**290**	*e*Pn	**Pn**	**15 45 17.9**	**-1.6**
	comp=Z,7.4nm,0.8s						
BURAR	**Bucovina Array**	**15.94**	**309**	⇓*i*P	**P**	**15 45 26.9**	**+2.9**
BURAR	**Bucovina Array**	**15.94**	**309**	⇓P	**P**	**15 45 26.9**	**+2.9**
BUR08	**Bucovina Ar. S**	**15.96**	**309**	*e*Pn	**Pn**	**15 45 19.5**	**-1.0**
BUR08	**Bucovina Ar. S**	**15.96**	**309**	*e*Pn	**Pn**	**15 45 19.5**	**-1.0**
OBN	**Obninsk**	**16.90**	**346**	⇑*i*P	**P**	**15 45 36.4**	**+2.0**
OBN				*e*S	**Sn**	**15 48 37.9**	**-2.6**
OBN				pmax	pmax		
	comp=Z,22nm,1.0s						
OBN				MLR	MLR		
	comp=Z,61nm,16.0s						
OBN	**Obninsk**	**16.90**	**346**	*e*Pn	**P**	**15 45 32.3**	**-2.1**
	comp=Z,29nm,1.1s						
OBN	**Obninsk**	**16.90**	**346**	*i* P	**P**	**15 45 36.4**	**+2.0**
	comp=Z,61nm,16.0s						
OBN	**Obninsk**	**16.90**	**346**	*e*Pn	**P**	**15 45 32.3**	**-2.1**
	comp=Z,29nm,1.1s						
DRGR		**17.19**	**304**	⇑*i*P	**P**	**15 45 40.0**	**+2.2**
DRGR		**17.19**	**304**	⇑P	**P**	**15 45 40.0**	**+2.2**
DRGR		**17.19**	**304**	P	**P**	**15 45 40.0**	**+2.2**
BZS	**Buzias**	**17.57**	**300**	*i* P	**P**	**15 45 43.1**	**+1.2**
BZS	**Buzias**	**17.57**	**300**	P	**P**	**15 45 43.1**	**+1.2**
BZS	**Buzias**	**17.57**	**300**	P	**P**	**15 45 43.1**	**+1.2**
KWP	**Kalwaria Pacla**	**18.34**	**313**	P	**P**	**15 45 52.1**	**+1.7**
KWP				pmax	pmax		
	comp=Z,132nm,1.1s						
KWP	**Kalwaria Pacla**	**18.34**	**313**	P	**P**	**15 45 52.1**	**+1.7**
	comp=Z,132nm,1.1s						
CRVS	**Cervenica-Dubn**	**18.76**	**309**	*e*P	**Pn**	**15 45 59.7**	**+4.3**
CRVS	**Cervenica-Dubn**	**18.76**	**309**	*e*P	**Pn**	**15 45 59.7**	**+4.3**
PSZ	**Piszkesteto**	**19.37**	**305**	*e*P	**Pn**	**15 46 01.4**	**-1.4**
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PSZ	**Piszkesteto**	**19.37**	**305**	*e*P	**Pn**	**15 46 01.4**	**-1.4**
	comp=Z,7.4nm,1.1s						
PSZ	**Piszkesteto**	**19.37**	**305**	*e*P	**Pn**	**15 46 01.4**	**-1.4**
	comp=Z,7.4nm,1.1s						
ARU	**Arti**	**20.15**	**25**	P	**P**	**15 46 08.6**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=263,slow=5.7,SNR=5.7						
ARU				LR	LR	15 55 04.9	
	comp=Z,41nm,18.9s,baz=209,slow=40						
ARU	**Arti**	**20.15**	**25***d*	*i* P	Pn	15 46 10.9	-1.1
ARU				PPP	PPP	15 46 36.4	
ARU				S	Sn	15 49 57.3	-1.9
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ARU	**Arti**	**20.15**	**25**	*i* P	Pn	15 46 10.9	-1.1
	comp=Z,9.0nm,1.7s						
ARU				S	Sn	15 49 57.3	-1.9
ARU	**Arti**	**20.15**	**25**	*e*P	Pn	15 46 11.0	-0.9
	comp=Z,8.2nm,0.9s						
WSAR	**Wadi Sarin**	**20.20**	**136**	P	**P**	**15 46 10.2**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=147,slow=13,SNR=2.6						
WSAR				LR	LR	15 56 00.7	
	comp=Z,91nm,20.4s,baz=350,slow=43						
VYHS	**Vyhne**	**20.23**	**306**	*e*P	Pn	15 46 14.9	+1.9
VYHS				pmax	pmax		
	comp=Z,29nm,2.3s						
VYHS	**Vyhne**	**20.23**	**306**	*e*P	Pn	15 46 14.9	+1.9
OJC	**Ojcow**	**20.29**	**312**	*e*P	Pn	15 46 12.7	-1.0
OJC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OJC	**Ojcow**	**20.29**	**312**	*e*P	Pn	15 46 12.7	-1.0
	comp=Z,5.8nm,1.0s						
OJC	**Ojcow**	**20.29**	**312**	*e*P	Pn	15 46 12.7	-1.0
	comp=Z,5.8nm,1.0s						
SUW	**Suwalki**	**20.53**	**324**	P	Pn	15 46 14.7	-1.7
SUW				pmax	pmax		
	comp=Z,40nm,0.8s						
SUW	**Suwalki**	**20.53**	**324**	P	Pn	15 46 14.7	-1.7
	comp=Z,40nm,0.8s						
KKAR	**Karatay Array**	**20.71**	**70**	*e*P	**P**	**15 46 15.9**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,44nm,0.8s						
KKAR	**Karatay Array**	**20.71**	**70**	*e*P	**P**	**15 46 15.9**	**-0.5**
	comp=Z,44nm,0.8s						
KKAR	**Karatay Array**	**20.71**	**70**	*e*P	**P**	**15 46 15.9**	**-0.5**
	comp=Z,44nm,0.8s						
KLMR	**Klimovskoe**	**22.13**	**355**	*e*P	**P**	**15 46 32.5**	**+1.1**
KLMR				pmax	pmax		
	comp=Z,28nm,1.2s						
KLMR	**Klimovskoe**	**22.13**	**355**	*e*P	**P**	**15 46 32.5**	**+1.1**
	comp=Z,28nm,1.2s						
VSU	**Vasula**	**22.40**	**336**	⇑*e*P	**P**	**15 46 37.6**	**+3.3**
VSU				pmax	pmax		
	comp=Z,45nm,0.9s						
AQU	**L'Aquila**	**23.11**	**288**	*e*P	**P**	**15 46 40.7**	**-1.4**
AQU				pmax	pmax		
	comp=Z,18nm,1.0s						
AQU	**L'Aquila**	**23.11**	**288**	*e*P	**P**	**15 46 40.7**	**-1.4**
	comp=Z,18nm,1.0s						
AQU	**L'Aquila**	**23.11**	**288**	*e*P	**P**	**15 46 40.6**	**-1.4**
	comp=Z,18nm,1.0s						
BRVK	**Borovoye**	**23.16**	**44**	⇑*e*P	**P**	**15 46 44.7**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**23.16**	**44**	*e*P	**P**	**15 46 44.7**	**+2.2**
	comp=Z,13nm,1.0s						
GERES	**GERESS Array B**	**23.59**	**305**	P	**P**	**15 46 46.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=121,slow=6.8,SNR=5.6						
GERES				LR	LR	15 58 03.1	
	comp=Z,51nm,19.0s,baz=82,slow=42						
AAK	**Ala-Archa**	**23.64**	**71**	P	**P**	**15 46 47.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=213,slow=20,SNR=4.3						
AAK	**Ala-Archa**	**23.64**	**71**	⇓*e*P	**P**	**15 46 49.6**	**+2.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
AAK	**Ala-Archa**	**23.64**	**71**	*e*P	**P**	**15 46 47.4**	**-0.1**
	comp=Z,7.5nm,1.3s						
AAK	**Ala-Archa**	**23.64**	**71**	*e*P	**P**	**15 46 47.4**	**-0.1**
	comp=Z,7.5nm,1.3s						
FRU	**Bishkek**	**23.72**	**70**	*e*P	**P**	**15 46 53.0**	**+4.8**
FRU				*e*		15 47 16.0	
KHC	**Kasperske Hory**	**23.74**	**305**	*e*P	**P**	**15 46 49.8**	**+1.5**
KHC				pmax	pmax		
	comp=Z,10.0nm,2.0s						
KHC	**Kasperske Hory**	**23.74**	**305**	*e*P	**P**	**15 46 49.8**	**+1.5**
	comp=Z,10nm,2.0s						
KHC	**Kasperske Hory**	**23.74**	**305**	*e*P	**P**	**15 46 49.8**	**+1.5**
	comp=Z,10nm,2.0s						
KSH	**Kashi**	**25.03**	**78**	P	**P**	**15 47 00.8**	**+0.3**
KSH				PP	**PnPn**	**15 47 36.3**	**+3.0**
KSH				PcP	**PcP**	**15 50 38.0**	**+2.7**
KSH				S	**S**	**15 51 22.5**	**-3.1**
KSH				SS	**SnSn**	**15 52 19.3**	**+5.8**
KSH				PcS	**PcS**	**15 54 18.3**	**+2.7**
KSH	**Kashi**	**25.03**	**78**	ScS	ScS	15 58 05.3	+1.4
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,52nm,5.4s						
KSH				LR	LR		
	comp=N,72nm,6.3s						
KSH				LR	LR		
	comp=E,110nm,6.2s						
KSH				LR	LR		
	comp=Z,170nm,5.7s						
FIA0	**FINESS Array S**	**25.04**	**340**	*e*P	**P**	**15 46 59.7**	**-0.4**
FIA0	**FINESS Array S**	**25.04**	**340**	*e*P	**P**	**15 46 59.7**	**-0.4**
FIA0	**FINESS Array S**	**25.04**	**340**	*e*P	**P**	**15 46 59.7**	**-0.4**
FINES	**FINESS Array B**	**25.04**	**340**	P	**P**	**15 46 59.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=145,slow=14,SNR=5.8						
FINES				LR	LR	15 57 05.5	
	comp=Z,67nm,19.2s,baz=154,slow=37						
GRFO	**Grafenberg**	**25.37**	**306**	*e*P	**P**	**15 47 02.9**	**-0.3**
GRFO				pmax	pmax		
	comp=Z,20nm,1.2s						
GRFO	**Grafenberg**	**25.37**	**306**	*e*P	**P**	**15 47 02.9**	**-0.3**
	comp=Z,20nm,1.2s						
GRFO	**Grafenberg**	**25.37**	**306**	*e*P	**P**	**15 47 02.9**	**-0.3**
	comp=Z,20nm,1.2s						
DAVOX	**Davos/Dischmat**	**25.79**	**299**	LR	LR	15 58 22.2	
	comp=Z,52nm,18.6s,baz=87,slow=39						
KURBB	**Kurchatov Arra**	**27.18**	**53**	P	**P**	**15 47 20.7**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=263,slow=9.0,SNR=10						
KURK	**Kurchatov**	**27.26**	**53**	⇑*e*P	**P**	**15 47 22.1**	**+1.8**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s						
KURK	**Kurchatov**	**27.26**	**53**	*e*P	**P**	**15 47 19.8**	**-0.5**
	comp=Z,3.1nm,0.8s						
KURK	**Kurchatov**	**27.26**	**53**	*e*P	**P**	**15 47 19.8**	**-0.5**
	comp=Z,3.1nm,0.8s						
HFS	**Hagfors**	**28.36**	**328**	P	**P**	**15 47 30.6**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=128,slow=9.3,SNR=8.4						
HFS				LR	LR	15 59 45.4	
	comp=Z,48nm,20.0s,baz=95,slow=38						
MK31	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.9**	**-1.0**
MK31	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.9**	**-1.0**
MK31	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.9**	**-1.0**
MK32	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 39.0**	**+1.1**
MK32	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 39.0**	**+1.1**
MKAR	**Makanchi Array**	**29.21**	**62**	P	**P**	**15 47 39.0**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=269,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MKAR	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.7**	**-1.1**
	comp=Z,13nm,0.6s						
MKAR	**Makanchi Array**	**29.21**	**62**	*e*P	**P**	**15 47 36.7**	**-1.1**
	comp=Z,13nm,0.6s						
NB200	**NORSAR Array S**	**29.88**	**328**	*e*P	**P**	**15 47 43.7**	**+0.1**
NB200	**NORSAR Array S**	**29.88**	**328**	*e*P	**P**	**15 47 43.7**	**+0.1**
NOA	**NORSAR Array B**	**29.88**	**328**	P	**P**	**15 47 43.7**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=132,slow=6.9,SNR=3.4						
NOA				LR	LR	16 00 41.4	
	comp=Z,41nm,20.0s,baz=140,slow=38						
ZALV	**Zalesovo Beam**	**31.64**	**48**	LR	LR	16 02 58.1	
	comp=Z,68nm,18.9s,baz=52,slow=40						
ARCES	**ARCESS Array B**	**32.19**	**348**	LR	LR	16 00 51.8	
	comp=Z,33nm,18.2s,baz=244,slow=36						
WMQ	**Urumqi**	**33.17**	**67**	P	**P**	**15 48 13.8**	**+1.0**
WMQ				pP		15 48 17.8	
WMQ				sP		15 48 20.8	
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,78nm,5.7s						
WMQ				LR	LR		
	comp=N,26nm,19.3s						
WMQ				LR	LR		
	comp=E,11nm,22.5s						
WMQ				LR	LR		
	comp=Z,48nm,20.9s						
DANN	**Dangsing**	**34.82**	**95**	*e*P	P	15 48 31.3	+3.8
KOLN	**Koldanda**	**34.97**	**96**	*e*P	**P**	**15 48 31.6**	**+2.9**
	comp=Z,10nm,1.0s						
GKN	**Gorkha**	**35.67**	**95**	*e*P	**P**	**15 48 37.5**	**+2.8**
DMN	**Daman**	**36.22**	**95**	*e*P	**P**	**15 48 41.9**	**+2.4**
	comp=Z,20nm,1.1s						
PKIN	**Phulchoki**	**36.46**	**95**	*e*P	**P**	**15 48 44.2**	**+2.6**
	comp=Z,6.2nm,0.7s						
ESDC	**Sonseca Array**	**36.47**	**287**	P	**P**	**15 48 40.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=62,slow=7.6,SNR=3.9						
PKI	**Pulchoki**	**36.47**	**95**	*e*P	**P**	**15 48 43.9**	**+2.1**
	comp=Z,11nm,0.9s						
GUN	**Gumba**	**36.68**	**94**	*e*P	P	15 48 47.0	+3.5
JIRN	**Jiri**	**37.04**	**95**	*e*P	**P**	**15 48 49.0**	**+2.4**
	comp=Z,17nm,0.8s						
RAMN	**Ramite**	**37.70**	**95**	*e*P	**P**	**15 48 52.9**	**+0.8**
	comp=Z,12nm,0.6s						
ODAN	**Odare**	**38.36**	**95**	*e*P	**P**	**15 48 58.8**	**+1.1**
	comp=Z,26nm,1.0s						
TAPN	**Taplejung**	**38.37**	**94**	*e*P	**P**	**15 49 00.0**	**+2.2**
	comp=Z,9.8nm,0.8s						
NRIK	**Noril'sk**	**38.37**	**23**	LR	LR	16 09 37.0	
	comp=Z,58nm,18.4s,baz=130,slow=44						
KMBO	**Kilima Mbogo**	**40.25**	**190**	LR	LR	16 05 10.5	
	comp=Z,89nm,18.6s,baz=77,slow=35						
GTA	**Gaotai**	**42.99**	**71**	*e*P	**P**	**15 49 37.5**	**+1.8**
GTA				pP		15 49 42.3	
GTA				sP		15 49 44.5	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TOA1	**Torodi Ar. Sit**	**44.99**	**247**	*e*P	**P**	**15 49 50.7**	**-1.1**
	comp=Z,11nm,1.8s						
TOA1	**Torodi Ar. Sit**	**44.99**	**247**	*e*P	**P**	**15 49 50.7**	**-1.1**
	comp=Z,11nm,1.8s						
TORD	**Torodi Ar. Bea**	**44.99**	**247**	P	**P**	**15 49 50.7**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=51,slow=8.7,SNR=8.7						
TORD				LR	LR	16 13 31.0	
	comp=Z,28nm,19.1s,baz=180,slow=43						
SONM	**Songino Array**	**45.38**	**57**	LR	LR	16 10 52.0	
	comp=Z,62nm,20.2s,baz=270,slow=39						
ULN	**Ulaanbaatar**	**45.81**	**57**	⇑*e*P	**P**	**15 49 59.3**	**+1.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**45.81**	**57**	*e*P	**P**	**15 49 58.5**	**+0.3**
	comp=Z,5.8nm,1.3s

ETOB				S	Sn	15 47 31.4	+0.6
	1.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.25**	**310**	P	**Pn**	**15 46 53.6**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
ETOB				S	Sn	15 47 31.4	+0.6
	1.2nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.28**	**16**	P	**Pn**	**15 46 52.7**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
ETOS				S	Sn	15 47 31.2	-0.2
	1.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.28**	**16**	P	**Pn**	**15 46 52.7**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
ETOS				S	Sn	15 47 31.2	-0.2
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.95**	**289**	P	**Pn**	**15 47 02.8**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	15 47 48.8	+0.6
	0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.95**	**289**	P	**Pn**	**15 47 02.8**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	15 47 48.8	+0.6
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.10**	**337**	P	**Pn**	**15 47 05.7**	**+1.7**
	1.5nm,0.1s,SNR=19						
EMOS				S	Sn	15 47 50.1	-1.8
	1.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.10**	**337**	P	**Pn**	**15 47 05.7**	**+1.7**
	1.5nm,0.1s,SNR=19						

GUC 27 15:48:40.1±0.6, 22°26S×68°82W, h101km±4km, ML3.5, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**319**	⇑*iP*	Pn	15 48 57.6	+0.5
PB09				*iS*	Sn	15 49 10.5	+0.7
PB09				IAML		15 49 11.2	
	comp=N,3μm,0.6s						
PB06	**IPOC Station P**	**0.83**	**237**	⇑*iP*	Pn	15 48 59.3	+0.3
PB06				*iS*	Sn	15 49 14.2	+1.0
PB06				IAML		15 49 16.7	
	comp=N,1μm,0.1s						
PB07	**IPOC Station P**	**1.12**	**298**	⇑*iP*	Pn	15 49 02.7	+0.6
PB07				*iS*	Sn	15 49 20.1	+1.3
PB07				IAML		15 49 20.2	
	comp=E,1μm,0.4s						
PB04	**IPOC Station P**	**1.23**	**266**	⇑*iP*	Pn	15 49 03.7	+0.3
PB04				*iS*	Sn	15 49 22.3	+1.2
PB04				IAML		15 49 23.6	
	comp=E,1μm,0.6s						
PB01	**IPOC Station P**	**1.36**	**333**	⇑*iP*	Pn	15 49 05.2	+0.3
PB01				*iS*	Sn	15 49 24.4	+0.8
PB01				IAML		15 49 26.6	
	comp=N,498nm,0.2s						
PB02	**IPOC Station P**	**1.37**	**313**	⇑*iP*	Pn	15 49 05.6	+0.6
PB02				*iS*	Sn	15 49 24.8	+1.0
PB02				IAML		15 49 25.6	
	comp=E,988nm,0.4s						
PB10	**IPOC Station P**	**2.03**	**232**	*eP*	Pn	15 49 14.1	+1.0
PB10				IAML		15 49 47.7	
	comp=N,731nm,0.8s						
PB08	**IPOC Station P**	**2.13**	**352**	⇑*iP*	Pn	15 49 15.9	+1.1
PB08				*eS*	Sn	15 49 43.8	+2.5
PB11	**IPOC Station P**	**2.61**	**342**	*eP*	Pn	15 49 16.2	-4.6
PB11				*eS*	Sn	15 49 50.9	-1.2

DDA 27 15:51:10.6, 38°99N×43°52E, h5km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.04**	**83**	*iP*	Pg	15 51 11.8	-0.2
CLDR	**Caldiran**	**0.34**	**63**	*iP*	Pg	15 51 17.5	+0.1
CLDR				*iS*	Sb	15 51 23.9	-1.3
TVAN	**Van**	**0.47**	**191**	*iP*	Pb	15 51 20.6	-0.8
TVAN				*iS*	Sb	15 51 29.6	+0.9

*CSEM **27** 15:53:22.8, 36°96N×33°94E, h5km, ML2.3*

ISK 27 15:53:22.8, 36°96N×33°94E, h5km, ML2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.48**	**101**	*ePG*	Pb	15 53 33.1	-0.6
MERS	**Mersin**	**0.48**	**101**	*ePg*	Pb	15 53 33.1	-0.6
KIZK	**Mersin**	**0.50**	**161**	*ePG*	Pb	15 53 33.6	-0.5
KEBE	**Keben-Mersin**	**0.54**	**200**	*ePG*	Pb	15 53 34.5	-0.3
KEBE				*eSG*	Sb	15 53 43.1	+0.2
KEBE	**Keben-Mersin**	**0.54**	**200**	*ePg*	Pb	15 53 34.5	-0.3
KEBE				*eSg*	Sb	15 53 43.1	+0.2
SLFK	**Silifke-Mersin**	**0.56**	**179**	*ePG*	Pb	15 53 35.0	-0.2
SLFK	**Silifke-Mersin**	**0.56**	**179**	*ePg*	Pb	15 53 35.0	-0.1
TEVE	**Tevekalti-Mers**	**0.66**	**218**	*ePG*	Pb	15 53 36.2	-0.6
TEVE	**Tevekalti-Mers**	**0.66**	**218**	*ePg*	Pb	15 53 36.2	-0.6
IKL	**Isikli**	**0.74**	**196**	*ePG*	Pb	15 53 38.5	+0.3
IKL	**Isikli**	**0.74**	**196**	*ePg*	Pb	15 53 38.5	+0.3
YESI	**Yesilovacik-Me**	**0.80**	**198**	*ePG*	Pb	15 53 39.1	0.0
YESI	**Yesilovacik-Me**	**0.80**	**198**	*ePg*	Pb	15 53 39.1	0.0
BERE	**Bereket-Mersin**	**0.84**	**224**	*ePG*	Pb	15 53 40.1	+0.2
BERE				*eSG*	Sb	15 53 52.6	+1.1
BERE	**Bereket-Mersin**	**0.84**	**224**	*ePg*	Pb	15 53 40.1	+0.2
BERE				*eSg*	Sb	15 53 52.6	+1.1
AKKU	**Akkuyu-Mersin**	**0.86**	**202**	*ePG*	Pb	15 53 40.6	+0.5
AKKU	**Akkuyu-Mersin**	**0.86**	**202**	*ePg*	Pb	15 53 40.6	+0.5
TEKE	**Tekeli-Mersin**	**1.05**	**220**	*ePG*	Pn	15 53 44.3	+0.1
TEKE	**Tekeli-Mersin**	**1.05**	**220**	*ePg*	Pn	15 53 44.3	+0.1
KRTS	**Karatas**	**1.22**	**108**	*ePN*	Pn	15 53 47.0	+0.6
KRTS	**Karatas**	**1.22**	**108**	*ePn*	Pn	15 53 47.0	+0.6
YURE	**YUREGIR**	**1.36**	**95**	*ePN*	Pg	15 53 50.4	+1.5
YURE	**YUREGIR**	**1.36**	**95**	*ePn*	Pg	15 53 50.4	+1.4
CEYT	**Ceyhan**	**1.45**	**87**	*ePN*	Pg	15 53 51.2	+0.6
CEYT	**Ceyhan**	**1.45**	**87**	*ePn*	Pg	15 53 51.2	+0.6
KOZT	**Kozan**	**1.59**	**70**	*ePN*	Pg	15 53 53.9	+0.5
KOZT	**Kozan**	**1.59**	**70**	*ePn*	Pg	15 53 53.9	+0.5
KONT	**Konya--Tatoy**	**1.60**	**309**	*ePN*	Pg	15 53 53.4	0.0
KONT	**Konya--Tatoy**	**1.60**	**309**	*ePn*	Pg	15 53 53.4	0.0

IDC 27 15:55:56.2±5.3, 3°62S×146°84E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.7/4, ML1.3/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/26, Error ellipse: s-maj=115.9km s-min=32.0km az=77.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**177**	Pn	Pn	15 57 23.3	+0.4
	0.5nm,0.3s,baz=3.6,slow=16,SNR=2.1						
PMG				LR	LR	16 00 00.8	
	comp=Z,566nm,19.9s,baz=7.0,slow=42						
HNR	**Honiara**	**14.24**	**115**	LR	LR	16 04 55.0	
	comp=Z,174nm,18.6s,baz=304,slow=38						
GUMO	**Guam**	**17.21**	**354**	LR	LR	16 06 24.7	
	comp=Z,190nm,18.2s,baz=175,slow=36						
WRA	**Warramunga Arr**	**20.30**	**216**	P	P	16 00 33.5	-0.3
	5.3nm,1.1s,baz=41,slow=12,SNR=10						
WRA				LR	LR	16 09 00.9	
	comp=Z,128nm,18.4s,baz=45,slow=39						
ASAR	**Alice Springs**	**23.52**	**211**	P	P	16 01 08.0	-0.2
	1.0nm,0.6s,baz=37,slow=7.5,SNR=16						
ASAR				LR	LR	16 11 22.9	
	comp=Z,111nm,20.2s,baz=38,slow=39						
FITZ	**Fitzroy Crossi**	**25.26**	**234**	LR	LR	16 12 06.6	
	comp=Z,136nm,20.0s,baz=58,slow=38						
DZM	**Mont Dzumac**	**26.42**	**136**	LR	LR	16 10 26.1	
	comp=Z,262nm,20.3s,baz=244,slow=33						
H11S3	**WAKE ISLAND Hy**	**29.41**	**41**	T	T	16 32 23.1	
	baz=223,slow=76,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**29.42**	**41**	T	T	16 32 19.7	
	baz=223,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**29.43**	**41**	T	T	16 32 24.7	
	baz=223,slow=76,SNR=6.7						
LEM	**Lembang**	**39.18**	**264**	LR	LR	16 21 15.9	
	comp=Z,31nm,18.3s,baz=128,slow=39						
NWAO	**Narrogin (SRO)**	**40.21**	**220**	LR	LR	16 21 42.2	
	comp=Z,105nm,19.1s,baz=266,slow=38						
MJAR	**Matsushiro Arr**	**40.76**	**349**	LR	LR	16 19 20.5	
	comp=Z,48nm,18.0s,baz=150,slow=34						
CMAR	**Chiang Mai Arr**	**52.02**	**297**	P	P	16 05 08.1	+0.1
	0.6nm,0.8s,baz=106,slow=5.8,SNR=5.8						
PETK	**Petropavlovsk-**	**57.26**	**8**	LR	LR	16 27 07.7	
	comp=Z,46nm,21.8s,baz=139,slow=33						

IDC 27 15:56:35.4±2.2, 6°86S×129°20E, h0km, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=89.0km s-min=28.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.70**	**197**	Pn	Pn	15 59 22.5	-1.2
	0.2nm,0.3s,baz=9.3,slow=9.6,SNR=9.9						
FITZ				Sn	Sn	16 01 18.8	-16
	0.5nm,0.3s,baz=143,slow=17,SNR=6.4						
WRA	**Warramunga Arr**	**13.93**	**160**	Pn	Pn	15 59 54.5	+0.3
	0.2nm,0.3s,baz=344,slow=14,SNR=6.2						
WRA				Sn	Sn	16 02 17.2	-13
	0.3nm,0.3s,baz=338,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**17.31**	**165**	P	P	16 00 39.5	-0.7
	0.1nm,0.3s,baz=340,slow=10.0,SNR=11						
ASAR				S	Sn	16 03 40.0	-12
	0.1nm,0.3s,baz=330,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	16 07 34.5	0.0
	baz=136,slow=7.2,SNR=5.7						

*TAP **27** 16:00:37.9, 24°21N×121°67E, h32km, ML3.8, B*
*JMA **27** 16:00:37.2, 24°14N×121°65E, h30km±1km, M2.8*
*ISCJB **27** 16:00:38.1±0.2, 24°18N±0°02×121°74E±0°02, h24km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=140.4*

ISC 27 16:00:38.0±0.9, 24°17N±0°02×121°70E±0°02, h29km±6km, n71, σ0°89/112, 8C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.13**	**227**	⇑*iP*	**Pn**	**16 00 43.8**	**-0.3**
	baz=214						
TWD				*iS*	**Sb**	**16 00 48.1**	**+1.1**
	baz=214						
EHP	**Heping Village**	**0.14**	**15**	*eP*	**Pn**	**16 00 44.1**	**-0.3**
	baz=36						
HWA	**Hwalien**	**0.21**	**204**	*eP*	**Pb**	**16 00 44.4**	**+0.2**
	baz=198						
ENA	**Nanau**	**0.26**	**8**	⇑*iP*	**Pb**	**16 00 44.7**	**-0.1**
	baz=12						
ENA				*iS*	**Sb**	**16 00 49.8**	**+0.4**
	baz=12						
ESF	**Shoufeng Towns**	**0.34**	**211**	*eP*	**Pn**	**16 00 46.3**	**-0.8**
	baz=214						
WHF	**Hehuan Shan**	**0.40**	**267**	⇑*iP*	**Pb**	**16 00 47.0**	**-0.1**
	baz=264						
WHF				*iS*	**Sb**	**16 00 53.0**	**-0.3**
	baz=264						
NNS	**Nan Shan**	**0.40**	**312**	⇑*iP*	**Pb**	**16 00 46.5**	**-0.4**
	baz=311						
NNS				*iS*	**Sb**	**16 00 52.6**	**-0.4**
	baz=311						
ESL	**Shilin**	**0.43**	**215**	*eP*	**Pb**	**16 00 46.6**	**-0.6**
	baz=218						
ESL				*eS*	**Sb**	**16 00 53.5**	**-0.1**
	baz=218						
TWC	**Suao**	**0.46**	**17**	⇑*iP*	**Pb**	**16 00 47.6**	**-0.1**
	baz=19						
TWC				*iS*	**Sb**	**16 00 54.4**	**+0.1**
	baz=19						
TEGC	**Jichi Village**	**0.48**	**198**	*eP*	**Pn**	**16 00 48.6**	**-0.3**
	baz=205						
ENTT	**Nioudou**	**0.48**	**345**	⇓*iP*	**Pb**	**16 00 47.7**	**-0.4**
	baz=346						
ENTT				S	**Sb**	**16 00 54.3**	**-0.7**
	baz=346						
TWT	**Tachien**	**0.48**	**280**	⇑*iP*	**Pn**	**16 00 48.5**	**-0.7**
	baz=275						
TWT				S	**Sn**	**16 00 55.5**	**-1.3**
	baz=275						
TWE	**Neicheng**	**0.55**	**357**	⇓*iP*	**Pb**	**16 00 48.7**	**-0.5**
	baz=357						
TWE				S	**Sb**	**16 00 56.5**	**-0.3**
	baz=357						
NSK	**Sanguang**	**0.59**	**328**	P	**Pb**	**16 00 49.3**	**-0.6**
	baz=321						
NSK				*iS*	**Sb**	**16 00 56.9**	**-1.2**
	baz=321						
ILA	**Ilan**	**0.59**	**4**	*eP*	**Pb**	**16 00 50.0**	**+0.1**
	baz=360						
EGS		**0.70**	**17**	*eP*	**Pn**	**16 00 52.0**	**0.0**
	baz=15						
EGS				*eS*	**Sn**	**16 01 02.9**	**+0.9**
	baz=15						
EHY	**Hungye**	**0.74**	**298**	*eP*	**Pb**	**16 00 51.0**	**-1.4**
	baz=205						
NSTT	**Nanjuang**	**0.79**	**306**	⇓*iP*	**Pn**	**16 00 53.2**	**+0.1**
	baz=304						
NSTT				*iS*	**Sb**	**16 01 02.7**	**-0.8**
	baz=304						
SMLT	**Sun Moon Lake**	**0.79**	**249**	*eP*	**Pn**	**16 00 53.3**	**0.0**
	baz=242						
SMLT				*eS*	**Sn**	**16 01 04.0**	**-0.1**
	baz=242						
TWA	**Mucha**	**0.81**	**353**	*eP*	**Pn**	**16 00 52.9**	**-0.7**
	baz=353						
TWA				*eS*	**Sb**	**16 01 02.9**	**-1.4**
	baz=353						
TYC	**Yuchr**	**0.81**	**251**	⇑*iP*	**Pb**	**16 00 53.3**	**-0.3**
	baz=245						
TYC				*eS*	**Sn**	**16 01 03.7**	**-0.9**
	baz=245						
TWQ1	**Liyutan**	**0.86**	**282**	⇓P	**Pb**	**16 00 55.1**	**+0.7**
	baz=280						
TWQ1				S	**Sn**	**16 01 06.5**	**+0.6**
	baz=280						
TWB1	**Santiao Chiao**	**0.88**	**17**	⇑P	**Pb**	**16 00 54.4**	**-0.2**
	baz=24						
TWB1				*iS*	**Sn**	**16 01 06.9**	**+0.7**
	baz=24						
TAP1	**Taipei**	**0.88**	**350**	*eP*	**Pn**	**16 00 53.9**	**-0.6**
	baz=348						
TAP1				*eS*	**Sb**	**16 01 05.8**	**-0.3**
	baz=348						
TAP	**Taipei**	**0.88**	**349**	*eP*	**Pn**	**16 00 54.0**	**-0.5**
	baz=348						
TAP				*eS*	**Sn**	**16 01 05.9**	**-0.5**
	baz=348						
NSY	**Sanyi**	**0.89**	**286**	*eP*	**Pb**	**16 00 55.6**	**+0.7**
	baz=284						
NSY				*eS*	**Sn**	**16 01 07.8**	**+1.2**
	baz=284						
TWF1	**Yuli**	**0.89**	**204**	*eP*	**Pn**	**16 00 53.0**	**-1.6**
	baz=210						
NWF	**Wu-fen Shan**	**0.90**	**5**	⇓P	**Pn**	**16 00 54.7**	**-0.2**
	baz=352						
NWF				*eS*	**Sn**	**16 01 05.8**	**-1.2**
	baz=352						
HSN	**Hsinchu**	**0.92**	**314**	*iP*	**Pb**	**16 00 55.4**	**+0.1**
	baz=315						
HSN				S	**Sb**	**16 01 08.3**	**+1.1**
	baz=315						
NCU	**National Centr**	**0.92**	**330**	P	**Pb**	**16 00 55.1**	**-0.4**
	baz=329						
NCU				S	**Sb**	**16 01 08.6**	**+1.2**
	baz=329						
TCU	**Taichung**	**0.94**	**269**	*eP*	**Pb**	**16 00 56.3**	**+0.6**
	baz=266						
TCU				*eS*	**Sb**	**16 01 09.6**	**+1.9**
	baz=266						
TWS1	**Kuangyinshan**	**0.96**	**345**	*eP*	**Pn**	**16 00 55.3**	**-0.3**
	baz=352						
TWS1				*eS*	**Sb**	**16 01 08.9**	**+0.5**
	baz=352						
YUS	**Yu-Shan**	**0.96**	**225**	*eP*	**Pb**	**16 00 56.1**	**-0.3**
	baz=215						
WNT	**Mingjian**	**0.97**	**253**	*eP*	**Pb**	**16 00 57.0**	**+0.7**
	baz=251						
WNT				*eS*	**Sb**	**16 01 10.4**	**+1.6**
	baz=251						
ALS	**Alishan**	**1.05**	**231**	*eP*	**Pb**	**16 00 57.6**	**-0.1**
	baz=220						
CHN5	**Tsauling**	**1.09**	**239**	*eP*	**Pb**	**16 00 58.7**	**+0.3**
	baz=238						
CHN5				*eS*	**Sb**	**16 01 13.7**	**+1.3**
	baz=238						
TWY	**Chenhua**	**1.10**	**355**	*eP*	**Pn**	**16 00 56.0**	**-1.5**
	baz=341						
CHKT	**Chengkung**	**1.11**	**196**	*eP*	**Pb**	**16 00 58.6**	**+0.1**
	baz=207						
WGK	**Gukeng**	**1.15**	**245**	*eP*	**Pb**	**16 00 60.0**	**+0.8**
	baz=244						
WGK				*eS*	**Sb**	**16 01 15.8**	**+2.1**
	baz=244						
ELDTW	**Lidau**	**1.16**	**213**	*eP*	**Pn**	**16 00 57.9**	**-0.5**
	baz=202						
JYNG	**Yonagunijimaku**	**1.17**	**76**	P	**Pn**	**16 00 58.8**	**+0.4**
JYNG				*eS*	**Sn**	**16 01 14.0**	**+0.5**
YOJ	**Yonaguni jima**	**1.23**	**76**	*eP*	**Pn**	**16 00 59.2**	**0.0**
	baz=77						
YOJ	**Yonaguni jima**	**1.23**	**76**	P	**Pn**	**16 00 59.3**	**0.0**
YOJ				S	**Sn**	**16 01 15.7**	**+0.7**
CHN2	**Minshiung**	**1.29**	**241**	*eP*	**Pb**	**16 01 01.9**	**+0.3**
	baz=229						
CHN4	**Tsaushan**	**1.30**	**231**	*eP*	**Pb**	**16 01 01.9**	**+0.1**
	baz=230						
STYT	**Tauyuan**	**1.32**	**221**	*eP*	**Pb**	**16 01 01.8**	**-0.4**
	baz=212						
WTCT	**Ta-ch'eng**	**1.33**	**257**	*eP*	**Pb**	**16 01 02.3**	**0.0**
	baz=254						
CHY	**Chiayi**	**1.35**	**240**	*eP*	**Pb**	**16 01 03.1**	**+0.6**
	baz=239						
CHY				*eS*	**Sb**	**16 01 21.3**	**+1.9**
	baz=239						
WTP	**Ta-pu**	**1.35**	**227**	*eP*	**Pb**	**16 01 02.4**	**-0.4**
	baz=216						
TWK	**Hsinying**	**1.43**	**231**	*eP*	**Pb**	**16 01 04.1**	**+0.1**
	baz=222						
TWK				*eS*	**Sb**	**16 01 23.1**	**+1.3**
	baz=222						
WSF	**Szhu**	**1.45**	**249**	*eP*	**Pb**	**16 01 03.5**	**-0.8**
	baz=248						
WSF				*eS*	**Sb**	**16 01 23.5**	**+1.0**
	baz=248						
CHN1	**Nanshi**	**1.45**	**228**	*eP*	**Pb**	**16 01 04.1**	**-0.3**
	baz=229						
CHN1				*eS*	**Sb**	**16 01 23.9**	**+1.4**
	baz=229						
TWG	**Pinlang**	**1.46**	**203**	*eP*	**Pb**	**16 01 03.9**	**-0.6**
	baz=193						
SGST	**Jiashian**	**1.49**	**224**	*eP*	**Pb**	**16 01 04.4**	**-0.6**
	baz=215						
SGST				*eS*	**Sb**	**16 01 25.2**	**+1.6**
	baz=215						
PCYT	**Pengchaiyu**	**1.49**	**13**	*eP*	**Pn**	**16 01 02.4**	**-0.5**
	baz=12						
CHN8	**Yiju**	**1.59**	**239**	*eP*	**Pb**	**16 01 06.4**	**-0.3**
	baz=228						
CHN8				*eS*	**Sb**	**16 01 27.4**	**+1.0**
	baz=228						
CHN3	**Shinhua**	**1.64**	**229**	*eP*	**Pb**	**16 01 06.6**	**-0.9**
	baz=229						
SCLT	**Jiali**	**1.70**	**235**	*eP*	**Pb**	**16 01 09.0**	**+0.4**
	baz=234						
ECL	**Taimali**	**1.71**	**204**	*eP*	**Pn**	**16 01 05.1**	**-0.8**
	baz=197						
TWM1	**Shoushan**	**1.78**	**221**	*eP*	**Pb**	**16 01 08.6**	**-1.4**
	baz=223						
IRIF	**Iriomote-Funau**	**1.86**	**85**	P	**Pn**	**16 01 07.9**	**0.0**
IRIF				S	**Sn**	**16 01 31.0**	**+0.5**
HATJ	**Hateruma jima**	**1.93**	**93**	S	**Sn**	**16 01 33.0**	**+0.9**
EAST	**Anshuo**	**1.94**	**204**	*eP*	**Pb**	**16 01 10.7**	**-2.1**
	baz=199						
TAW	**Tawu**	**1.95**	**202**	*eP*	**Pb**	**16 01 11.6**	**-1.2**
	baz=197						
SCZT	**Fangliau**	**2.05**	**209**	*eP*	**Pb**	**16 01 12.2**	**-2.3**
	baz=201						
JKRS	**Kuro-shima**	**2.11**	**88**	P	**Pn**	**16 01 12.0**	**+0.6**
JKRS				S	**Sn**	**16 01 38.2**	**+1.5**
LAY	**Lan-yu**	**2.12**	**184**	*eP*	**Pn**	**16 01 09.2**	**-2.4**
	baz=187						
JIJ	**Ishigaki jima**	**2.24**	**85**	P	**Pn**	**16 01 13.1**	**0.0**
JIJ				*eS*	**Sn**	**16 01 39.7**	**-0.1**
JISG	**Ishigakijimahi**	**2.42**	**80**	P	**Pn**	**16 01 15.7**	**+0.1**
JISG				S	**Sn**	**16 01 44.0**	**-0.2**
JTJ	**Tarama**	**2.78**	**80**	P	**Pn**	**16 01 21.4**	**+0.8**
JTJ				S	**Sn**	**16 01 54.2**	**+1.1**
KNM	**Kinmen**	**2.99**	**275**	*eP*	**Pn**	**16 01 23.6**	**+0.1**
	baz=272						

*SJA **27** 16:06:28.4±0.6, 33°35S×72°01W, h56km±10km, ML3.1, MW3.7*
*GUC **27** 16:06:29.8±0.7, 33°72S×71°53W, h55km±9km, ML3.4*

ISC 27 16:06:29.3±1.8, 33°67S±0°05×71°58W±0°06, h15km±13km, n18, σ1°08/27, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.67**	**75**	*eP*	Pg	16 06 32.2	-10
RCDM				*eS*	Sg	16 06 42.0	-9.3
ANTU	**Antumapu**	**0.80**	**83**	*eP*	**Pb**	**16 06 45.0**	**+0.1**
ANTU				*eS*	**Sb**	**16 06 56.3**	**+0.8**
ANTU				IAML		16 06 56.8	
	comp=N,3μm,0.5s						
CHPI	**Pichilemu**	**0.80**	**206**	*eP*	**Pb**	**16 06 44.9**	**-0.1**
CHPI				*eS*	**Sb**	**16 06 55.8**	**+0.2**
ROC1	**El Roble**	**0.84**	**35**	*iP*	**Pn**	**16 06 46.5**	**-0.2**
ROC1				*iS*	**Sn**	**16 06 59.7**	**+0.7**
ROCH	**El Roble**	**0.84**	**35**	⇑*iP*	**Pn**	**16 06 46.7**	**-0.2**
ROCH				*eS*	**Sn**	**16 06 59.1**	**0.0**
FSR	**Penalolen**	**0.90**	**78**	*eP*	Pb	16 06 41.8	-4.9
FSR				*iS*	**Sb**	**16 06 58.6**	**+0.1**
CLCH	**Cerro Calan**	**0.91**	**73**	*eP*	**Pb**	**16 06 47.0**	**+0.1**
CLCH				*eS*	**Sb**	**16 06 59.6**	**+0.8**
CLCH				IAML		16 07 02.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**0.91**	**55**	*eP*	**Pg**	**16 06 47.1**	**0.0**
PEL				*eS*	**Sn**	**16 06 59.8**	**-0.8**
PEL				IAML		16 07 01.1	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.13**	**73**	*eP*	**Pn**	**16 06 50.4**	**-0.5**
FCH				*iS*	**Sb**	**16 07 05.5**	**+0.2**
YECH	**El Yeso**	**1.25**	**90**	⇑*iP*	**Pn**	**16 06 52.6**	**+0.1**
YECH				*iS*	**Sn**	**16 07 07.2**	**-2.0**
NICH	**Los Niches**	**1.36**	**168**	*eP*	**Pn**	**16 06 54.0**	**+0.2**
NICH				*iS*	**Sn**	**16 07 11.0**	**-0.6**
AUSP	**Uspallata**	**2.34**	**53**	*iP*	**Pb**	**16 07 09.0**	**-2.3**
ARCO	**CERRO ARCO**	**2.37**	**70**	*iP*	**Pb**	**16 07 10.4**	**-1.3**
ARCO				IAML		16 07 26.4	
	comp=Z,86nm,0.5s						
ARCO				*iS*	**Sb**	**16 07 42.1**	**+1.3**
AAGR	**Agrelo**	**2.38**	**77**	*iP*	**Pb**	**16 07 11.4**	**-0.4**
ASAL	**Salagasta**	**2.54**	**66**	*iP*	**Pn**	**16 07 12.7**	**+2.6**
RTLS	**Leoncito**	**2.68**	**47**	*iP*	**Pn**	**16 07 13.6**	**+1.4**
RTLS				IAML		16 07 59.9	
	comp=Z,53nm,0.4s						
RTCV	**Cerro Valdivia**	**3.13**	**56**	*iP*	**Pn**	**16 07 19.4**	**+1.3**
AMOG	**MOGNA**	**3.77**	**45**	*iP*	**Pn**	**16 07 27.3**	**+0.3**

*DDA

AGRB				*e*SG	**Sb**	**16 10 43.0**	**+0.8**
AGRB	**Hanur-Agry**	**0.91**	**352**	*e*Pg	**Pb**	**16 10 29.4**	**-1.0**
AGRB				*e*Sg	**Sb**	**16 10 43.0**	**+0.8**
BASK	**Baskale_VAN**	**0.91**	**133**	*i* P	**Pb**	**16 10 28.8**	**-1.6**
BASK	**Baskale_VAN**	**0.91**	**133**	P	**Pb**	**16 10 28.8**	**-1.6**
DYDN	**Diyadin**	**0.96**	**25**	*i* P	**Pb**	**16 10 30.4**	**-0.8**
DYDN	**Diyadin**	**0.96**	**25**	P	**Pb**	**16 10 30.5**	**-0.8**
EKAR	**Karacoban**	**1.03**	**304**	*i* P	**Pb**	**16 10 32.1**	**-0.4**
EKAR				*i* S	**Sn**	**16 10 50.4**	**+3.4**
EKAR	**Karacoban**	**1.03**	**304**	P	**Pb**	**16 10 32.1**	**-0.4**
EKAR				S	**Sn**	**16 10 50.4**	**+3.4**
HAKT	**HAKKARI**	**1.20**	**159**	*i* P	**Pg**	**16 10 33.0**	**-3.2**
HAKT				*i* S	**Sn**	**16 10 56.1**	**+4.9**
HAKT	**HAKKARI**	**1.20**	**159**	P	**Pg**	**16 10 33.0**	**-3.2**
EATA	**Eleskirt**	**1.29**	**337**	*i* P	**Pg**	**16 10 36.2**	**-1.7**
EATA				*i* S	**Sn**	**16 10 56.5**	**+2.9**
EATA	**Eleskirt**	**1.29**	**337**	P	**Pg**	**16 10 36.2**	**-1.7**
EATA				S	**Sn**	**16 10 56.5**	**+2.9**
VRTB	**Varto-Mus**	**1.41**	**290**	*e*PN	**Pg**	**16 10 39.5**	**-0.7**
VRTB				*e*SN	**Sg**	**16 11 00.7**	**+2.0**
VRTB	**Varto-Mus**	**1.41**	**290**	*i* P	**Pg**	**16 10 39.1**	**-1.1**
VRTB	**Varto-Mus**	**1.41**	**290**	P	**Pg**	**16 10 39.1**	**-1.1**
VRTB	**Varto-Mus**	**1.41**	**290**	*e*Pn	**Pg**	**16 10 39.6**	**-0.7**
CUKT	**Cukurca**	**1.47**	**166**	*e*PN	**Pg**	**16 10 40.1**	**-1.2**
CUKT	**Cukurca**	**1.47**	**166**	*i* P	**Pg**	**16 10 40.3**	**-1.0**
CUKT				*i* S	**Sg**	**16 11 02.9**	**+2.4**
CUKT	**Cukurca**	**1.47**	**166**	*e*Pn	**Pg**	**16 10 40.2**	**-1.2**
CUKT				S	**Sg**	**16 11 02.9**	**+2.4**
BNGL	**BINGOL**	**1.59**	**281**	*i* P	**Pb**	**16 10 42.0**	**-0.1**
BNGL				*i* S	**Sg**	**16 11 05.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*PN	**Pb**	**16 10 42.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*i* P	**Pb**	**16 10 41.8**	**-0.7**
SVAN				*i* S	**Sg**	**16 11 05.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	P	**Pb**	**16 10 41.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.63**	**252**	*e*Pn	**Pb**	**16 10 42.6**	**0.0**
SVAN				S	**Sg**	**16 11 05.2**	**-0.3**
HOMI	**Horasan**	**1.68**	**325**	*i* P	**Pg**	**16 10 43.4**	**-1.8**
BTMN	**Batman**	**1.68**	**243**	*i* P	**Pb**	**16 10 43.1**	**-0.4**
BTMN				*i* S	**Sg**	**16 11 06.2**	**-1.0**
BTMN	**Batman**	**1.68**	**243**	P	**Pb**	**16 10 43.1**	**-0.4**
BTMN				S	**Sg**	**16 11 06.2**	**-1.0**
DIGO	**Kars**	**1.74**	**5**	*i* P	**Pg**	**16 10 44.8**	**-1.7**
DIGO	**Kars**	**1.74**	**5**	P	**Pg**	**16 10 44.8**	**-1.7**
BNGB	**Bing¶ll**	**1.96**	**280**	*e*PN	**Pb**	**16 10 47.2**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*PN	**Pn**	**16 10 46.4**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*Pn	**Pn**	**16 10 46.4**	**+0.5**
BINT	**Bingol**	**2.10**	**276**	*e*Pn	**Pn**	**16 10 47.2**	**-0.2**
MARD	**Mardin**	**2.32**	**235**	*i* P	**Pb**	**16 10 52.7**	**-1.8**
MARD				*i* S	**Sb**	**16 11 22.1**	**-0.8**
MAZI	**Mazidag**	**2.46**	**241**	*e*PN	**Pn**	**16 10 53.9**	**+1.5**
MAZI	**Mazidag**	**2.46**	**241**	*e*Pn	**Pn**	**16 10 53.9**	**+1.5**
ERZN	**Erzincan**	**2.82**	**290**	*e*PN	**Pb**	**16 11 00.6**	**-2.4**
PTK	**Pertek**	**2.95**	**275**	*e*PN	**Pn**	**16 11 02.2**	**+2.9**
PTK	**Pertek**	**2.95**	**275**	*e*Pn	**Pn**	**16 11 02.2**	**+2.9**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*PN	**Pn**	**16 11 03.6**	**+3.2**
SVRC	**Sivrice-ELAZID**	**3.04**	**266**	*e*Pn	**Pn**	**16 11 03.6**	**+3.2**
EZC	**Erzincan**	**3.15**	**291**	*e*Pn	**Pn**	**16 11 00.6**	**-1.3**
BHD	**Baghdad**	**5.49**	**169**	*e*Sn	**Sn**	**16 12 36.0**	**-0.6**
	SNR=3.0						
NSR	**Nassriya**	**8.03**	**161**	*e*Sn	**Sn**	**16 13 37.8**	**-1.4**
	SNR=39						

DDA 27 16:12:46.4, 38°.64N×43°.20E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.34**	**199**	*i* P	Pg	16 12 53.0	-0.2
GEVA				*i* S	Sg	16 12 59.2	+1.4
VMUR	**Van-Muradiye**	**0.46**	**40**	*i* P	Pg	16 12 55.8	+0.5
VMUR				*i* S	Sb	16 13 05.9	+1.9
TATV	**Tatvan**	**0.74**	**260**	*i* P	Pg	16 13 00.3	-0.4
TATV				*i* S	Sb	16 13 11.6	-0.6

IDC ***27*** *16:21:43.1±7.3, 36°.16N×142°.44E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/44, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=164.8km s-min=41.0km az=37.0*
ISCJB ***27*** *16:21:52.4±1.1, 35°.23N±0°.06×141°.34E±0°.09, h25km, mb3.7/2, Error ellipse: s-maj=11.6km s-min=7.3km az=158.5*
JMA ***27*** *16:21:53.9±0.1, 35°.27N×141°.19E, h31km±2km, M3.0*
ISC 27 16:21:54.2±1.4, 35°.27N±0°.05×141°.19E±0°.09, h25km, n17, σ0§96/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.51**	**329**	P	**Pb**	**16 22 04.4**	**-0.2**
CHOJ				S	**Sb**	**16 22 12.0**	**+0.3**
BSO1	**Boso 1**	**0.64**	**196**	P	**Pb**	**16 22 06.0**	**-0.4**
BSO1				X		16 22 15.5	
BSO3	**Boso 3**	**0.72**	**230**	P	**Pb**	**16 22 07.7**	**-0.3**
KTR	**Katsuura**	**0.72**	**261**	P	**Pb**	**16 22 07.7**	**-0.5**
KTR				S	**Sb**	**16 22 17.8**	**+0.1**
BSO4	**Boso 4**	**0.75**	**249**	P	**Pb**	**16 22 08.6**	**+0.1**
BSO4				X		16 22 19.3	
JCN	**Nagara**	**0.82**	**281**	P	**Pn**	**16 22 10.0**	**-0.1**
JYT	**Yasato**	**1.25**	**320**	P	**Pn**	**16 22 15.5**	**-0.6**
MJAR	**Matsushiro Arr**	**2.73**	**299**	Pn	**Pn**	**16 22 37.7**	**+1.2**
	2.4nm,0.3s,baz=93,slow=15,SNR=19						
MAT	**Matsushiro**	**2.73**	**299**	P	**Pn**	**16 22 38.8**	**+2.3**
MAT				*e*S	**Sb**	**16 23 13.9**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	16 56 43.2	
	baz=310,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	16 56 23.0	
	baz=310,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.47**	**118**	T	T	16 56 31.4	
	baz=310,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	16 57 30.1	
	baz=312,slow=76,SNR=124						
H11S1	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	16 57 32.9	
	baz=312,slow=76,SNR=132						
H11S2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	16 57 17.2	
	baz=312,slow=76,SNR=93						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**16 31 25.6**	**0.0**
	0.5nm,0.3s,baz=3.8,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**16 31 51.9**	**-0.1**
	0.3nm,0.8s,baz=1.9,slow=6.0,SNR=5.6						

ISK ***27*** *16:24:59.9, 38°.79N×43°.51E, h14km, ML2.8*
CSEM ***27*** *16:25:01.7±0.3, 38°.75N×43°.30E, h20km, ML2.8, Error ellipse: s-maj=9.3km s-min=6.4km az=82.0*
ISCJB ***27*** *16:25:02.2±0.7, 38°.74N±0°.03×43°.29E±0°.07, h26km±7km, Error ellipse: s-maj=8.6km s-min=5.6km az=179.4*
DDA ***27*** *16:25:02.8, 38°.78N×43°.22E, h7km, Ml3.4*
ISC 27 16:25:01.7±0.9, 38°.75N±0°.03×43°.30E±0°.04, h27km±8km, n22, σ0§88/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**156**	*e*PG	**Pb**	**16 25 06.3**	**-1.1**
VANB	**Van**	**0.17**	**156**	*e*Pg	**Pb**	**16 25 06.4**	**-1.1**
TVAN	**Van**	**0.24**	**159**	*i* P	**Pb**	**16 25 08.9**	**+0.6**
TVAN				*i* S	**Sb**	**16 25 13.5**	**+0.8**
TVAN	**Van**	**0.24**	**159**	P	**Pb**	**16 25 08.9**	**+0.6**
TVAN				S	**Sb**	**16 25 13.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.32**	**41**	*i* P	**Pb**	**16 25 09.1**	**-0.3**
VMUR				*i* S	**Sn**	**16 25 16.1**	**-0.6**
VMUR	**Van-Muradiye**	**0.32**	**41**	P	**Pb**	**16 25 09.1**	**-0.3**
VMUR				S	**Sn**	**16 25 16.1**	**-0.6**
GEVA	**Gevas**	**0.48**	**203**	*i* P	**Pb**	**16 25 10.0**	**-1.8**
GEVA	**Gevas**	**0.48**	**203**	P	**Pb**	**16 25 10.0**	**-1.8**
TUTA	**Tutak**	**0.75**	**330**	*i* P	**Pb**	**16 25 16.3**	**-0.1**
TUTA				*i* S	**Sb**	**16 25 26.7**	**+0.3**
TUTA	**Tutak**	**0.75**	**330**	P	**Pb**	**16 25 16.3**	**-0.1**
TUTA				S	**Sb**	**16 25 26.7**	**+0.3**
TATV	**Tatvan**	**0.84**	**254**	*i* P	**Pn**	**16 25 16.8**	**-1.2**
TATV				*i* S	**Sn**	**16 25 29.6**	**0.0**
TATV	**Tatvan**	**0.84**	**254**	P	**Pn**	**16 25 16.8**	**-1.2**
TATV				S	**Sn**	**16 25 29.6**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**344**	*e*PG	**Pn**	**16 25 17.6**	**-0.7**
AGRB				*e*SG	**Sn**	**16 25 30.0**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**344**	*e*Pg	**Pn**	**16 25 17.6**	**-0.7**
AGRB				*e*Sg	**Sn**	**16 25 30.0**	**0.0**
EKAR	**Karacoban**	**1.09**	**298**	*i* P	**Pb**	**16 25 22.2**	**+0.1**
EKAR	**Karacoban**	**1.09**	**298**	P	**Pb**	**16 25 22.2**	**+0.1**
CUKT	**Cukurca**	**1.52**	**171**	*e*PN	**Pn**	**16 25 27.9**	**+0.7**
CUKT	**Cukurca**	**1.52**	**171**	*e*Pn	**Pn**	**16 25 28.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	*e*PN	**Pb**	**16 25 33.4**	**+0.1**
SVAN				*e*SN	**Sb**	**16 25 57.3**	**+2.4**
SVAN	**Silvan-Diyarba**	**1.75**	**251**	*e*Pn	**Pb**	**16 25 33.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.95**	**338**	*e*PN	**Pn**	**16 25 33.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.95**	**338**	*e*Pn	**Pn**	**16 25 33.4**	**+0.1**

ISN ***27*** *16:28:17.7±0.6, 39°.29N×43°.14E, h0km±39km, ML3.6*
AZER ***27*** *16:28:18.5±2.0, 37°.72N×43°.01E, h6km, Error ellipse: s-maj=21.7km s-min=16.3km az=14.0*
ISK ***27*** *16:28:26.6, 38°.64N×43°.20E, h5km, ML3.5*
DDA ***27*** *16:28:27.8, 38°.70N×43°.11E, h7km, Ml3.9*
CSEM ***27*** *16:28:27.4±0.1, 38°.67N×43°.16E, h2km, ML3.5, Error ellipse: s-maj=3.8km s-min=3.4km az=125.0*
ISCJB ***27*** *16:28:28.0±0.4, 38°.64N±0°.02×43°.20E±0°.02, h12km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=138.3*
ISC 27 16:28:27.7±1.0, 38°.68N±0°.02×43°.15E±0°.02, h6km±8km, n84, σ1§21/119, 9C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**115**	PG	**Pg**	**16 28 31.9**	**+0.1**
VANB				*e*SG	**Sg**	**16 28 35.4**	**+0.8**
VANB	**Van**	**0.20**	**115**	*i* Pg	**Pg**	**16 28 31.9**	**+0.1**
VANB				*e*Sg	**Sg**	**16 28 35.4**	**+0.8**
TVAN	**Van**	**0.25**	**128**	*i* P	**Pb**	**16 28 34.6**	**-0.2**
TVAN				*i* S	**Sb**	**16 28 39.3**	**-0.2**
TVAN	**Van**	**0.25**	**128**	P	**Pb**	**16 28 34.6**	**-0.2**
TVAN				S	**Sb**	**16 28 39.3**	**-0.2**
GEVA	**Gevas**	**0.38**	**191**	*i* P	**Pg**	**16 28 34.2**	**-0.9**
GEVA				*i* S	**Sg**	**16 28 41.1**	**+1.1**
GEVA	**Gevas**	**0.38**	**191**	P	**Pg**	**16 28 34.2**	**-0.9**
GEVA				S	**Sg**	**16 28 41.2**	**+1.1**
VMUR	**Van-Muradiye**	**0.45**	**47**	*i* P	**Pg**	**16 28 36.2**	**-0.2**
VMUR				*i* S	**Sb**	**16 28 44.7**	**-0.5**
VMUR	**Van-Muradiye**	**0.45**	**47**	P	**Pg**	**16 28 36.2**	**-0.2**
VMUR				S	**Sb**	**16 28 44.7**	**-0.5**
TATV	**Tatvan**	**0.71**	**256**	*i* P	**Pg**	**16 28 40.6**	**-0.9**
TATV				*i* S	**Sg**	**16 28 50.8**	**0.0**
TATV	**Tatvan**	**0.71**	**256**	P	**Pg**	**16 28 40.6**	**-0.9**
TATV				S	**Sg**	**16 28 50.8**	**0.0**
CLDR	**Caldiran**	**0.75**	**52**	*e*PG	**Pg**	**16 28 42.3**	**+0.1**
CLDR				*e*SG	**Sb**	**16 28 53.3**	**-0.7**
CLDR	**Caldiran**	**0.75**	**52**	*i* P	**Pg**	**16 28 41.4**	**-0.8**
CLDR				*i* S	**Sb**	**16 28 53.8**	**-0.2**
CLDR	**Caldiran**	**0.75**	**52**	P	**Pg**	**16 28 41.4**	**-0.8**
CLDR	**Caldiran**	**0.75**	**52**	*e*Pg	**Pg**	**16 28 42.3**	**+0.1**
CLDR				*e*Sg	**Sb**	**16 28 53.3**	**-0.7**
TUTA	**Tutak**	**0.77**	**340**	*i* P	**Pg**	**16 28 42.0**	**-0.4**
TUTA	**Tutak**	**0.77**	**340**	P	**Pg**	**16 28 42.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**352**	*e*PG	**Pg**	**16 28 45.1**	**+0.1**
AGRB				*e*SG	**Sn**	**16 28 59.8**	**-0.8**
AGRB	**Hanur-Agry**	**0.90**	**352**	*e*Pg	**Pg**	**16 28 45.1**	**+0.1**
BASK	**Baskale_VAN**	**0.92**	**133**	*i* P	**Pg**	**16 28 43.2**	**-2.1**
BASK				*i* S	**Sg**	**16 28 57.5**	**+0.2**
BASK				*i* S	**Sg**	**16 28 57.9**	**+0.6**
BASK	**Baskale_VAN**	**0.92**	**133**	P	**Pg**	**16 28 43.2**	**-2.1**
BASK				S	**Sg**	**16 28 57.9**	**+0.6**
DYDN	**Diyadin**	**0.96**	**26**	*i* P	**Pg**	**16 28 44.7**	**-1.4**
DYDN	**Diyadin**	**0.96**	**26**	P	**Pg**	**16 28 44.7**	**-1.4**
EKAR	**Karacoban**	**1.02**	**304**	*i* P	**Pb**	**16 28 47.4**	**-0.6**
EKAR	**Karacoban**	**1.02**	**304**	P	**Pb**	**16 28 47.4**	**-0.6**
HAKT	**HAKKARI**	**1.21**	**159**	*i* P	**Pg**	**16 28 48.9**	**-1.9**
HAKT				*i* S	**Sn**	**16 29 10.7**	**+2.7**
HAKT	**HAKKARI**	**1.21**	**159**	P	**Pg**	**16 28 48.9**	**-1.9**
HAKT				S	**Sn**	**16 29 10.7**	**+2.7**
EATA	**Eleskirt**	**1.28**	**337**	*i* P	**Pn**	**16 28 51.4**	**-1.1**
EATA				*i* S	**Sn**	**16 29 11.4**	**+1.2**
EATA	**Eleskirt**	**1.28**	**337**	P	**Pn**	**16 28 51.4**	**-1.1**
EATA				S	**Sn**	**16 29 11.4**	**+1.2**
VRTB	**Varto-Mus**	**1.41**	**290**	*e*PN	**Pg**	**16 28 54.5**	**-0.2**
VRTB	**Varto-Mus**	**1.41**	**290**	*e*Pn	**Pg**	**16 28 54.5**	**-0.2**
CUKT	**Cukurca**	**1.48**	**166**	*e*PN	**Pb**	**16 28 55.0**	**-0.6**
CUKT	**Cukurca**	**1.48**	**166**	*i* P	**Pg**	**16 28 55.8**	**-0.2**
CUKT	**Cukurca**	**1.48**	**166**	*e*Pn	**Pb**	**16 28 55.0**	**-0.6**
CUKT	**Cukurca**	**1.48**	**166**	P	**Pg**	**16 28 55.8**	**-0.2**
BNGL	**BINGOL**	**1.59**	**280**	*i* P	**Pb**	**16 28 57.3**	**-0.3**
BNGL				*i* S	**Sg**	**16 29 20.3**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.62**	**252**	*e*PN	**Pb**	**16 28 58.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.62**	**252**	*i* P	**Pb**	**16 28 57.9**	**-0.2**
SVAN				*i* S	**Sg**	**16 29 20.3**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.62**	**252**	P	**Pb**	**16 28 57.9**	**-0.2**
SVAN				S	**Sg**	**16 29 20.3**	**+0.4**
BTMN	**Batman**	**1.68**	**243**	*i* P	**Pb**	**16 28 58.9**	**-0.2**
BTMN				*i* S	**Sg**	**16 29 22.7**	**+1.1**
BTMN	**Batman**	**1.68**	**243**	P	**Pb**	**16 28 58.9**	**-0.2**
BTMN				S	**Sg**	**16 29 22.7**	**+1.1**
NAX	**Nakhchivan**	**1.89**	**74**	⇑P	**Pn**	**16 28 60.0**	**-0.6**
	SNR=5.3						
NAX				⇓S	**Sg**	**16 29 32.0**	**+3.5**
NAX	**Nakhchivan**	**1.89**	**74**	P	**Pn**	**16 29 00.0**	**-0.6**
	SNR=5.3						
BNGB	**Bing¶ll**	**1.96**	**280**	*e*PN	**Pb**	**16 29 02.6**	**-1.2**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*PN	**Pb**	**16 29 03.8**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.98**	**342**	*e*Pn	**Pb**	**16 29 03.8**	**-0.4**
BINT	**Bingol**	**2.09**	**276**	*e*Pn	**Pn**	**16 29 02.6**	**-0.8**
MAZI	**Mazidag**	**2.46**	**241**	*e*PN	**Pn**	**16 29 08.8**	**+0.4**
MAZI	**Mazidag**	**2.46**	**241**	*e*Pn	**Pn**	**16 29 08.8**	**+0.4**
DAGI	**Agillar**	**2.58**	**339**	*i* P	**Pb**	**16 29 14.9**	**+0.6**
BGD	**Bogdanovka**	**2.60**	**7**	P	**Pb**	**16 29 15.5**	**+0.6**
AKH	**Akhalkalaki**	**2.74**	**5**	*e*PN	**Pn**	**16 29 13.3**	**+1.0**
AKH	**Akhalkalaki**	**2.74**	**5**	P	**Pb**	**16 29 18.2**	**+1.0**
AKH	**Akhalkalaki**	**2.74**	**5**	*e*Pn	**Pn**	**16 29 13.3**	**+1.0**
ERZN	**Erzincan**	**2.82**	**290**	*e*PN	**Pb**	**16 29 15.9**	**-2.5**
GDB	**GEDABAY**	**2.86**	**44**	⇓P	**Pn**	**16 29 15.6**	**+1.6**
	SNR=4.2						
GDB				⇑S	**Sg**	**16 29 59.3**	**-0.3**
GDB	**GEDABAY**	**2.86**	**44**	P	**Pn**	**16 29 15.6**	**+1.6**
	SNR=4.2						
QZX	**Qazax, Azerbai**	**2.92**	**35**	⇑P	**Pb**	**16 29 18.2**	**-2.0**
	SNR=5.4						
QZX				⇓S	**Sg**	**16 30 02.3**	**+0.7**
QZX	**Qazax, Azerbai**	**2.92**	**35**	P	**Pb**	**16 29 18.2**	**-2.0**
	SNR=5.4						
PTK	**Pertek**	**2.95**	**275**	*e*PN	**Pn**	**16 29 16.5**	**+1.3**
PTK	**Pertek**	**2.95**	**275**	*e*Pn	**Pn**	**16 29 16.5**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.03**	**265**	*e*PN	**Pn**	**16 29 17.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.03**	**265**	*e*Pn	**Pn**	**16 29 17.4**	**+1.0**
GANJ	**Ganja**	**3.14**	**50**	⇑P	**Pn**	**16 29 19.4**	**+1.7**
	SNR=6.4						
GANJ				⇑S	**Sb**	**16 30 04.3**	**+2.0**
GANJ	**Ganja**	**3.14**	**50**	P	**Pn**	**16 29 19.4**	**+1.7**
	SNR=6.4						
EZC	**Erzincan**	**3.14**	**291**	*e*Pn	**Pn**	**16 29 15.9**	**-1.9**
TBLG	**Delisi**	**3.28**	**21**	P	**Pb**	**16 29 27.3**	**+1.1**
BRDA	**Brd**	**3.49**	**62**	⇓P	**Pn**	**16 29 22.7**	**+0.2**
BRDA				⇓S	**Sb**	**16 30 12.6**	**+0.1**
BRDA	**Brd**	**3.49**	**62**	P	**Pn**	**16 29 22.7**	**+0.2**
LRK	**Lerik**	**4.06**	**89**	⇓P	Pn	16 29 24.6	-5.9
LRK				⇑S	**Sn**	**16 30 17.0**	**-1.5**
LRK	**Lerik**	**4.06**	**89**	S	**Sn**	**16 30 17.0**	**-1.5**
GLBA	**Cilalbad**	**4.12**	**81**	⇓P	**Pn**	**16 29 27.0**	**-4.2**
GLBA				⇓S	**Sn**	**16 30 21.0**	**+1.3**
GLBA	**Cilalbad**	**4.12**	**81**	P	**Pn**	**16 29 27.0**	**-4.2**
GLBA				S	**Sn**	**16 30 21.0**	**+1.3**
QBL	**Gabala**	**4.26**	**56**	⇑P	**Pn**	**16 29 33.1**	**0.0**
QBL	**Gabala**	**4.26**	**56**	P	**Pn**	**16 29 33.1**	**0.0**
ASTR	**Astara**	**4.42**	**90**	⇑P	Pn	16 29 29.6	-5.6
XNQ	**Khinaliq**	**4.57**	**55**	⇓P	**Pn**	**16 29 37.4**	**-0.2**
XNQ	**Khinaliq**	**4.57**	**55**	P	**Pn**	**16 29 37.4**	**-0.2**
PQL	**Pirkuli**	**4.69**	**62**	⇓P	**Pn**	**16 29 38.6**	**-0.6**
PQL	**Pirkuli**	**4.69**	**62**	P	**Pn**	**16 29 38.6**	**-0.6**
GBS	**Qobustan**	**4.84**	**66**	⇑P	**Pn**	**16 29 39.8**	**-1.3**
GBS	**Qobustan**	**4.84**	**66**	P	**Pn**	**16 29 39.8**	**-1.3**
BHD	**Baghdad**	**5.49**	**169**	*e*Pn	**Pn**	**16 29 50.0**	**0.0**
	SNR=39						
BHD				*e*Sn	**Sn**	**16 30 55.0**	**+1.5**
	SNR=39						
RTB	**Rutbah**	**6.09**	**203**	*e*Pn	**Pn**	**16 29 58.2**	**-0.1**
	SNR=39						
RTB				Sn	**Sn**	**16 31 09.1**	**+0.7**
	SNR=39						
NSR	**Nassriya**	**8.04**	**161**	*e*Pn	**Pn**	**16 30 26.0**	**+1.0**
	SNR=39						
NSR				*e*Sn	**Sn**	**16 31 55.9**	**-0.3**
	SNR=39						

IDC 27 16:33:53.8±4.8, 26°.68N×144°.18E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/40, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=185.6km s-min=22.2km az=72.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**11.07**	**334**	Pn	Pn	16 36 30.1	-3.4
	1.4nm,0.3s,baz=165,slow=12,SNR=18						
KSRS	**Korea Array**	**17.45**	**312**	P	Pn	16 37 59.0	+0.4
	0.1nm,0.3s,baz=121,slow=12,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**22.29**	**107**	T	T	17 02 14.9	
	baz=294,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**22.30**	**107**	T	T	17 02 14.6	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**22.31**	**107**	T	T	17 02 15.9	
	baz=294						
SONM	**Songino Array**	**36.26**	**316**	P	P	16 40 59.2	+0.4
	0.5nm,0.7s,baz=106,slow=9.6,SNR=2.9						
WRA	**Warramunga Arr**	**47.31**	**193**	P	P	16 42 30.0	+0.6
	1.3nm,0.8s,baz=12,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**51.02**	**192**	P	P	16 42 57.0	-0.7
	0.3nm,0.9s,baz=16,slow=6.9,SNR=7.7						
KURBB	**Ciurbatov Arra**	**54.61**	**315**	P	P	16 43 23.2	-0.8
	0.2nm,0.4s,baz=90,slow=7.9,SNR=5.8						
BVAR	**Borovoye Array**	**59.56**	**318**	P	P	16 43 59.2	+0.2
	0.3nm,0.4s,baz=84,slow=3.1,SNR=4.3						

ISK ***27*** *16:37:39.6, 38°.59N×43°.26E, h5km, ML2.2*
CSEM ***27*** *16:37:43.4±0.3, 38°.78N×43°.24E, h5km, ML2.9, Error ellipse: s-maj=7.7km s-min=6.4km az=112.0*
DDA ***27*** *16:37:43.4, 38°.75N×43°.19E, h7km, Ml2.9*
ISC 27 16:37:42.1±1.1, 38°.71N±0°.06×43°.26E±0°.05, h15km±10km, n15, σ1§55/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**138**	*e*PG	**Pg**	**16 37 43.1**	**-3.0**
TVAN	**Van**	**0.21**	**147**	*i* P	Pg	16 37 49.8	+2.7
TVAN				*i* S	**Sg**	**16 37 53.7**	**+3.3**
TVAN	**Van**	**0.21**	**147**	P	Pg	16 37 49.8	+2.7
TVAN				S	**Sg**	**16 37 53.7**	**+3.3**
VMUR	**Van-Muradiye**	**0.37**	**41**	*i* P	**Pb**	**16 37 50.1**	**-0.4**
VMUR				*i* S	**Sb**	**16 37 57.2**	**+1.0**
VMUR	**Van-Muradiye**	**0.37**	**41**	P	**Pb**	**16 37 50.1**	**-0.4**
VMUR				S	**Sb**	**16 37 57.2**	**+1.0**
GEVA	**Gevas**	**0.42**	**202**	*i* P	Pg	16 37 42.1	-8.6
GEVA				*i* S	**Sb**	**16 37 58.8**	**+1.1**
CLDR	**Caldiran**	**0.67**	**49**	*e*PG	**Pb**	**16 37 54.9**	**-0.8**
CLDR				*e*SG	**Sb**	**16 38 05.5**	**+0.6**
CLDR	**Caldiran**	**0.67**	**49**	*e*Pg	**Pb**	**16 37 54.9**	**-0.8**
CLDR				*e*Sg	**Sb**	**16 38 05.5**	**+0.6**
TUTA	**Tutak**	**0.78**	**333**	*i* P	**Pb**	**16 37 57.7**	**+0.2**
TUTA	**Tutak**	**0.78**	**333**	P	**Pb**	**

DDA **27** *17:14:01.6,38.′69N×43.′04E,h7km,Ml3.7*
ISK **27** *17:14:01.1,38.′75N×43.′13E,h3km,ML3.1*
ISCJB **27** *17:14:02.9±0.4,38.′74N±0.′03×43.′10E±0.′03,h15km, Error ellipse: s-maj=4.2km s-min=3.9km az=2.7*
CSEM **27** *17:14:02.0±0.2,38.′72N×43.′06E,h2km,ML3.1, Error ellipse: s-maj=5.0km s-min=4.8km az=12.0*
ISC 27 17:14:02.5±0.8,**38.′71N**±0.′02×**43.′05E**±0.′02,**h15**km,**n53,** σ**1**§**29**/61,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.29**	**113**	PG	**Pg**	**17 14 08.1**	**-0.6**
VANB				*e*SG	**Sg**	**17 14 13.7**	**+0.7**
VANB	**Van**	**0.29**	**113**	*i* Pg	**Pg**	**17 14 08.1**	**-0.6**
VANB				*e*Sg	**Sg**	**17 14 13.7**	**+0.7**
TVAN	**Van**	**0.33**	**122**	*i* P	**Pb**	**17 14 11.0**	**+0.7**
TVAN	**Van**	**0.33**	**122**	P	**Pb**	**17 14 11.0**	**+0.7**
GEVA	**Gevas**	**0.40**	**179**	*i* P	**Pg**	**17 14 08.9**	**-1.7**
GEVA	**Gevas**	**0.40**	**179**	P	**Pg**	**17 14 08.9**	**-1.7**
VMUR	**Van-Muradiye**	**0.50**	**55**	*i* P	**Pg**	**17 14 12.6**	**+0.1**
VMUR	**Van-Muradiye**	**0.50**	**55**	P	**Pg**	**17 14 12.6**	**+0.1**
TATV	**Tatvan**	**0.64**	**252**	*i* P	**Pg**	**17 14 13.9**	**-1.3**
TATV	**Tatvan**	**0.64**	**252**	P	**Pg**	**17 14 13.9**	**-1.3**
TUTA	**Tutak**	**0.72**	**345**	*i* P	**Pg**	**17 14 15.3**	**-1.3**
TUTA	**Tutak**	**0.72**	**345**	P	**Pg**	**17 14 15.3**	**-1.3**
CLDR	**Caldiran**	**0.81**	**57**	*e*PG	**Pg**	**17 14 16.3**	**-1.9**
CLDR	**Caldiran**	**0.81**	**57**	*i* P	**Pg**	**17 14 17.1**	**-1.1**
CLDR				*i* S	**Sb**	**17 14 29.5**	**+0.4**
CLDR	**Caldiran**	**0.81**	**57**	*e*Pg	**Pg**	**17 14 16.3**	**-1.9**
CLDR	**Caldiran**	**0.81**	**57**	P	**Pg**	**17 14 17.1**	**-1.1**
CLDR				S	**Sb**	**17 14 29.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.87**	**357**	*e*PG	**Pg**	**17 14 17.8**	**-1.6**
AGRB				*e*SG	**Sg**	**17 14 30.1**	**-0.8**
AGRB	**Hanur-Agry**	**0.87**	**357**	*e*Pg	**Pg**	**17 14 17.8**	**-1.6**
AGRB				*e*Sg	**Sg**	**17 14 30.1**	**-0.8**
EKAR	**Karacoban**	**0.94**	**306**	*i* P	**Pb**	**17 14 20.5**	**-0.2**
EKAR	**Karacoban**	**0.94**	**306**	P	**Pb**	**17 14 20.5**	**-0.2**
BASK	**Baskale_VAN**	**1.00**	**131**	*i* P	**Pb**	**17 14 19.4**	**-2.2**
BASK	**Baskale_VAN**	**1.00**	**131**	P	**Pb**	**17 14 19.4**	**-2.2**
EATA	**Eleskirt**	**1.23**	**340**	*i* P	**Pn**	**17 14 24.5**	**-1.0**
EATA	**Eleskirt**	**1.23**	**340**	P	**Pn**	**17 14 24.5**	**-1.0**
SIRN	**S¨–rnak**	**1.31**	**203**	*i* P	**Pn**	**17 14 26.1**	**-0.2**
SIRN	**S¨–rnak**	**1.31**	**203**	P	**Pn**	**17 14 26.1**	**-0.2**
BNGL	**BINGOL**	**1.50**	**280**	*i* P	**Pb**	**17 14 30.6**	**+0.4**
CUKT	**Cukurca**	**1.52**	**163**	*e*PN	**Pb**	**17 14 30.4**	**-0.1**
CUKT	**Cukurca**	**1.52**	**163**	*i* P	**Pb**	**17 14 30.6**	**+0.1**
CUKT	**Cukurca**	**1.52**	**163**	*e*Pn	**Pb**	**17 14 30.4**	**-0.1**
CUKT	**Cukurca**	**1.52**	**163**	P	**Pb**	**17 14 30.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**250**	*e*PN	**Pb**	**17 14 31.1**	**0.0**
SVAN	**Silvan-Diyarba**	**1.56**	**250**	*i* P	**Pb**	**17 14 30.6**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.56**	**250**	P	**Pb**	**17 14 30.6**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.56**	**250**	*e*Pn	**Pb**	**17 14 31.1**	**0.0**
HOMI	**Horasan**	**1.60**	**327**	*i* P	**Pb**	**17 14 31.5**	**-0.5**
BTMN	**Batman**	**1.62**	**240**	*i* P	**Pn**	**17 14 31.7**	**+1.1**
BTMN				*i* S	**Sg**	**17 14 54.4**	**-0.4**
BTMN	**Batman**	**1.62**	**240**	P	**Pn**	**17 14 31.7**	**+1.1**
BTMN				S	**Sg**	**17 14 54.3**	**-0.4**
ERZM	**Erzurum**	**1.77**	**313**	*i* P	**Pb**	**17 14 35.6**	**+0.7**
ERZM	**Erzurum**	**1.77**	**313**	P	**Pb**	**17 14 35.6**	**+0.7**
BNGB	**Bing¶ll**	**1.87**	**279**	*e*PN	**Pb**	**17 14 36.0**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.93**	**344**	*e*PN	**Pn**	**17 14 36.0**	**+1.1**
SENK	**Senkaya-Erzuru**	**1.93**	**344**	*e*Pn	**Pn**	**17 14 36.1**	**+1.1**
BINT	**Bingol**	**2.01**	**276**	*e*Pn	**Pn**	**17 14 36.0**	**0.0**
YEDI	**Yedisu-Bingol**	**2.08**	**291**	*e*PN	**Pn**	**17 14 38.6**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.08**	**291**	*e*Pn	**Pn**	**17 14 38.6**	**+1.6**
MAZI	**Mazidag**	**2.40**	**240**	*e*PN	**Pn**	**17 14 43.7**	**+2.3**
MAZI	**Mazidag**	**2.40**	**240**	*e*Pn	**Pn**	**17 14 43.7**	**+2.3**
PTK	**Pertek**	**2.86**	**275**	*e*PN	**Pn**	**17 14 50.1**	**+2.3**
PTK	**Pertek**	**2.86**	**275**	*e*Pn	**Pn**	**17 14 50.1**	**+2.3**
SVRC	**Sivrice-ELAZID**	**2.95**	**265**	*e*PN	**Pn**	**17 14 51.7**	**+2.7**
SVRC	**Sivrice-ELAZID**	**2.95**	**265**	*e*Pn	**Pn**	**17 14 51.7**	**+2.7**
DGRG	**David-gareji**	**3.27**	**32**	P	**Pn**	**17 14 55.4**	**+2.1**

CSEM **27** *17:16:10.6±0.4,38.′79N×43.′62E,h2km,ML3.4, Error ellipse: s-maj=8.1km s-min=5.2km az=118.0*
DDA **27** *17:16:10.3,38.′75N×43.′57E,h7km,Ml3.4*
ISK **27** *17:16:10.3,38.′81N×43.′63E,h6km,ML3.1*
ISCJB **27** *17:16:11.9±0.6,38.′82N±0.′03×43.′62E±0.′05,h15km±4km, Error ellipse: s-maj=7.6km s-min=4.1km az=21.1*
ISC 27 17:16:11.7±0.9,**38.′79N**±0.′02×**43.′58E**±0.′03,**h13**km±**6**km, **n43,** σ**1**§**63**/58,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**359**	*i* P	**Pg**	**17 16 14.9**	**-1.5**
VMUR				*i* S	**Sg**	**17 16 19.3**	**-0.3**
VMUR	**Van-Muradiye**	**0.20**	**359**	P	**Pg**	**17 16 14.9**	**-1.5**
VMUR				S	**Sg**	**17 16 19.3**	**-0.3**
VANB	**Van**	**0.24**	**217**	PG	**Pg**	**17 16 17.7**	**+0.7**
VANB				*e*SG	**Sg**	**17 16 22.9**	**+2.4**
VANB	**Van**	**0.24**	**217**	*i* Pg	**Pg**	**17 16 17.7**	**+0.7**
VANB				*e*Sg	**Sg**	**17 16 22.9**	**+2.4**
TVAN	**Van**	**0.29**	**207**	*i* P	**Pn**	**17 16 20.3**	**-1.6**
TVAN				*i* S	**Sb**	**17 16 25.8**	**+2.1**
CLDR	**Caldiran**	**0.44**	**37**	PG	**Pg**	**17 16 18.8**	**-1.9**
CLDR	**Caldiran**	**0.44**	**37**	*i* P	**Pg**	**17 16 19.1**	**-1.5**
CLDR				*i* S	**Sb**	**17 16 27.9**	**-0.3**
CLDR	**Caldiran**	**0.44**	**37**	*i* Pg	**Pg**	**17 16 18.8**	**-1.9**
CLDR	**Caldiran**	**0.44**	**37**	P	**Pg**	**17 16 19.1**	**-1.5**
GEVA	**Gevas**	**0.62**	**221**	*i* P	**Pg**	**17 16 22.5**	**-1.5**
GEVA	**Gevas**	**0.62**	**221**	P	**Pg**	**17 16 22.5**	**-1.5**
DYDN	**Diyadin**	**0.76**	**7**	*i* P	**Pg**	**17 16 24.7**	**-1.8**
DYDN	**Diyadin**	**0.76**	**7**	P	**Pg**	**17 16 24.7**	**-1.8**
TUTA	**Tutak**	**0.85**	**316**	*i* P	**Pg**	**17 16 26.3**	**-2.0**
TUTA				*i* S	**Sg**	**17 16 39.1**	**-0.4**
TUTA	**Tutak**	**0.85**	**316**	P	**Pg**	**17 16 26.3**	**-2.0**
TUTA				S	**Sg**	**17 16 39.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.91**	**330**	*e*PG	**Pg**	**17 16 27.5**	**-1.8**
AGRB				*e*SG	**Sb**	**17 16 41.2**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**330**	*e*Pg	**Pg**	**17 16 27.5**	**-1.8**
AGRB				*e*Sg	**Sb**	**17 16 41.2**	**-0.3**
TATV	**Tatvan**	**1.06**	**255**	*i* P	**Pg**	**17 16 30.1**	**-2.1**
TATV				*i* S	**Sn**	**17 16 46.1**	**-1.0**
TATV	**Tatvan**	**1.06**	**255**	P	**Pg**	**17 16 30.1**	**-2.1**
TATV				S	**Sn**	**17 16 46.2**	**-1.0**
EKAR	**Karacoban**	**1.27**	**292**	*i* P	**Pb**	**17 16 36.4**	**+0.8**
EKAR				*i* S	**Sn**	**17 16 57.1**	**+4.8**
EKAR	**Karacoban**	**1.27**	**292**	P	**Pb**	**17 16 36.4**	**+0.8**
EATA	**Eleskirt**	**1.36**	**322**	*i* P	**Pg**	**17 16 37.0**	**-1.0**
EATA				*i* S	**Sn**	**17 16 57.4**	**+2.6**
EATA	**Eleskirt**	**1.36**	**322**	P	**Pg**	**17 16 37.0**	**-1.0**
EATA				S	**Sn**	**17 16 57.4**	**+2.6**
CUKT	**Cukurca**	**1.54**	**179**	*e*PN	**Pb**	**17 16 38.7**	**-1.4**
CUKT	**Cukurca**	**1.54**	**179**	*e*Pn	**Pb**	**17 16 38.7**	**-1.4**
DIGO	**Kars**	**1.63**	**355**	*i* P	**Pg**	**17 16 42.5**	**-0.6**
DIGO	**Kars**	**1.63**	**355**	P	**Pg**	**17 16 42.5**	**-0.6**
VRTB	**Varto-Mus**	**1.69**	**283**	*e*PN	**Pb**	**17 16 42.0**	**-0.8**
VRTB	**Varto-Mus**	**1.69**	**283**	*i* P	**Pg**	**17 16 42.8**	**-1.5**
VRTB	**Varto-Mus**	**1.69**	**283**	*e*Pn	**Pb**	**17 16 42.0**	**-0.8**
VRTB	**Varto-Mus**	**1.69**	**283**	P	**Pg**	**17 16 42.8**	**-1.5**
HOMI	**Horasan**	**1.80**	**315**	*i* P	**Pg**	**17 16 45.0**	**-1.4**
EAK	**Akyaka**	**1.90**	**1**	*i* P	**Pg**	**17 16 48.6**	**+0.5**
BNGL	**BINGOL**	**1.90**	**276**	*i* P	**Pb**	**17 16 45.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.97**	**252**	*e*PN	**Pb**	**17 16 45.4**	**-2.1**
SVAN	**Silvan-Diyarba**	**1.97**	**252**	*e*Pn	**Pb**	**17 16 45.4**	**-2.1**
SENK	**Senkaya-Erzuru**	**2.01**	**332**	*e*PN	**Pn**	**17 16 46.2**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.01**	**332**	*e*Pn	**Pn**	**17 16 46.2**	**+0.7**
BNGB	**Bing¶ll**	**2.27**	**276**	*e*PN	**Pb**	**17 16 50.8**	**-1.8**
BINT	**Bingol**	**2.41**	**273**	*e*Pn	**Pn**	**17 16 50.8**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.45**	**286**	*e*PN	**Pn**	**17 16 52.5**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.45**	**286**	*e*Pn	**Pn**	**17 16 52.5**	**+1.0**
DGRG	**David-gareji**	**3.00**	**27**	P	**Pb**	**17 17 06.2**	**+1.2**

MOS **27** *17:19:25.5±2.1,47.′02N×153.′14E,h33km,mb4.2/3, Error ellipse: s-maj=30.9km s-min=12.0km az=54.6*
ISCJB **27** *17:19:26.7±0.7,46.′86N±0.′06×153.′04E±0.′09,h56km, mb3.7/4, MS2.5/2, Error ellipse: s-maj=11.1km s-min=4.9km az=135.7*
SKHL **27** *17:19:26.1±0.9,46.′75N×153.′22E,h31km±4km,mb4.9/4*
IDC **27** *17:19:30.3±3.3,46.′96N×153.′03E,h67km±30km,mb3.4/4, mb1 3.7/6,mb1mx3.2/41,mbtmp3.8/6,ML3.3/2,MS2.6/2, Ms1 2.6/2,ms1mx2.3/36, Error ellipse: s-maj=38.8km s-min=23.5km az=120.0*
ISC 27 17:19:28.1±0.9,**46.′77N**±0.′09×**153.′12E**±0.′10,**h56**km,**n35,** σ**2**§**15**/39,**mb3.8**/4,**3C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**249**	*c i* PN	**Pn**	**17 20 27.5**	**+1.0**
KUR				*i* S	**Sn**	**17 21 14.2**	**+2.5**
KUR	comp=N,37nm,0.1s			pmax	pmax		
KUR	comp=Z,109nm,0.1s			pmax	pmax		
KUR	comp=E,39nm,0.2s			pmax	pmax		
KUR	comp=E,70nm,0.3s			smax	smax		
KUR	comp=N,123nm,0.4s			smax	smax		
KUR	**Kuril'sk**	**3.97**	**249**	*i* P	**Pn**	**17 20 27.5**	**+1.0**
KUR	comp=N,110nm,0.3s			AMB	AMB	17 20 29.8	
KUR				*i* S	**Sn**	**17 21 14.2**	**+2.5**
KUR	comp=N,70nm,0.3s			A	A	17 21 22.2	
KUR	comp=N,123nm,0.3s			A	A	17 21 22.2	
SKR	**Severo-Kuril's**	**4.39**	**26**	*e*PN	Pn	17 20 27.2	-5.0
SKR				*e*S	**Sn**	**17 21 23.5**	**+1.5**
SKR	comp=Z,203nm,1.6s			pmax	pmax		
SKR	comp=E,274nm,1.6s			smax	smax		
SKR	comp=N,220nm,1.2s			smax	smax		
SKR	**Severo-Kuril's**	**4.39**	**26**	*e*P	**Pn**	**17 20 31.1**	**-1.1**
SKR	comp=N,100nm,0.8s			AMB	AMB	17 20 32.5	
SKR				*e*S	**Sn**	**17 21 19.9**	**-2.1**
SHO	**Shikotan**	**5.30**	**239**	*c i* PN	**Pn**	**17 20 43.4**	**-1.3**
SHO	comp=Z,59nm,0.5s			pmax	pmax		
SHO	comp=E,27nm,0.4s			pmax	pmax		
SHO	comp=N,20nm,0.3s			pmax	pmax		
SHO	**Shikotan**	**5.30**	**239**	*e*P	**Pn**	**17 20 43.4**	**-1.3**
SHO	comp=N,59nm,0.5s			AMB	AMB	17 20 46.5	
SHO				*e*S	**Sn**	**17 21 41.3**	**-3.1**
SHO	comp=N,90nm,0.5s			A	A	17 21 46.8	
SHO	comp=N,49nm,0.5s			A	A	17 21 46.8	
YUK	**Yuzh-Kuril'sk**	**5.80**	**245**	*c i* PN	**Pn**	**17 20 52.7**	**+1.2**
YUK	comp=Z,77nm,0.4s			pmax	pmax		
YUK	comp=N,37nm,0.2s			pmax	pmax		
YUK	comp=E,26nm,0.1s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**5.80**	**245**	*e*P	**Pn**	**17 20 52.7**	**+1.2**
YUK	comp=E,77nm,0.4s			AMB	AMB	17 21 01.1	
YUK				*i* S	**Sn**	**17 21 58.0**	**+1.4**
YUK	comp=E,69nm,0.3s			A	A	17 22 10.3	
YUK	comp=E,110nm,0.3s			A	A	17 22 10.3	
NEM2	**Nemuro 2**	**6.24**	**240**	P	**Pn**	**17 20 56.1**	**-1.4**
NEM2				*e*S	**Sn**	**17 22 03.7**	**-3.6**
JRA	**Rausu**	**6.31**	**246**	P	**Pn**	**17 21 00.1**	**+1.6**
JNK	**Nakash**	**6.74**	**245**	P	**Pn**	**17 21 05.1**	**+0.7**
PETK	**Petropavlovsk-**	**7.00**	**23**	P	**Pn**	**17 21 07.3**	**-0.6**
	comp=E,0.5nm,0.3s,baz=178,slow=13,SNR=9.1						
JTKR	**Abashiri--Toko**	**7.07**	**250**	P	**Pn**	**17 21 10.3**	**+1.4**
JAK	**Akkeshi**	**7.07**	**241**	P	**Pn**	**17 21 07.8**	**-1.2**
JAK				*e*S	**Sn**	**17 22 24.3**	**-3.6**
YSS	**Yuzh-Sakhalins**	**7.11**	**275**	*e*P	**Pn**	**17 21 10.7**	**+1.2**
JAR	**Ashorobuto**	**7.48**	**246**	P	**Pn**	**17 21 15.4**	**+0.9**
JAR				*e*S	**Sn**	**17 22 38.9**	**+1.0**
ASAJ	**Asahikawa**	**7.86**	**254**	P	**Pn**	**17 21 22.7**	**+2.9**
	comp=E,0.9nm,0.3s,baz=82,slow=20,SNR=12						
JKK2	**Kamakawa 2**	**7.87**	**252**	P	**Pn**	**17 21 22.1**	**+2.3**
TYV	**Tymovskoe**	**8.03**	**305**	*e*P	**Pn**	**17 21 23.2**	**+1.2**
TYV				*e*S	**Sn**	**17 22 49.9**	**-1.4**
JCH	**Churui**	**8.10**	**243**	P	**Pn**	**17 21 22.0**	**-1.0**
JCH				*e*S	**Sn**	**17 22 48.8**	**-4.3**
JNB	**Noboribetsu**	**9.63**	**248**	P	**Pn**	**17 21 44.5**	**+0.6**
JKB	**Kayabe**	**9.94**	**245**	P	**Pn**	**17 21 46.5**	**-1.7**
JKB				*e*S	**Sn**	**17 23 32.0**	**-6.1**
MJAR	**Matsushiro Arr**	**15.10**	**233**	P	**P**	**17 23 03.8**	**+1.8**
	comp=E,0.3nm,0.3s,baz=34,slow=10,SNR=8.4						
KSRS	**Korea Array**	**20.81**	**253**	LR	LR	17 30 51.4	
	comp=E,18nm,20.8s,baz=105,slow=33						
H11N2	**WAKE ISLAND Hy**	**29.23**	**153**	T	T	17 56 42.6	
	baz=338,SNR=223						
H11N1	**WAKE ISLAND Hy**	**29.25**	**153**	T	T	17 57 21.9	
	baz=338,slow=74,SNR=126						
H11N3	**WAKE ISLAND Hy**	**29.25**	**153**	T	T	17 57 21.9	
	baz=338,slow=74,SNR=97						
H11S1	**WAKE ISLAND Hy**	**30.32**	**154**	T	T	17 58 22.1	
	baz=341,slow=76,SNR=204						
H11S3	**WAKE ISLAND Hy**	**30.33**	**154**	T	T	17 58 03.4	
	baz=341,slow=76,SNR=206						
H11S2	**WAKE ISLAND Hy**	**30.34**	**154**	T	T	17 58 19.1	
	baz=341,slow=76,SNR=187						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**17 29 53.8**	**-1.5**
	comp=E,1.6nm,0.8s,baz=36,slow=10.0,SNR=5.4						
NOA	**NORSAR Array B**	**68.21**	**341**	P	**P**	**17 30 23.0**	**+0.7**
	comp=E,0.8nm,0.8s,baz=42,slow=5.4,SNR=3.3						
NOA				LR	LR	18 02 04.5	
	comp=E,3.4nm,19.7s,baz=215,slow=38						
NOA	**NORSAR Array B**	**68.21**	**341**	P	**P**	**17 30 23.0**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.23**	**198**	P	**P**	**17 30 48.9**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=19,slow=5.9,SNR=3.0						
TXAR	**Lajitas Array**	**77.48**	**61**	P	**P**	**17 31 19.1**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=299,slow=4.2,SNR=4.9						

ISK **27** *17:23:27.1,38.′74N×43.′31E,h7km,ML2.8*
ISCJB **27** *17:23:28.6±0.5,38.′78N±0.′03×43.′31E±0.′05,h14km±5km, Error ellipse: s-maj=6.9km s-min=4.4km az=27.7*
CSEM **27** *17:23:28.2±0.2,38.′78N×43.′32E,h10km,ML2.8, Error ellipse: s-maj=5.8km s-min=5.4km az=121.0*
DDA **27** *17:23:28.5,38.′81N×43.′26E,h7km,Ml3.2*
ISC 27 17:23:28.6±0.9,**38.′77N**±0.′03×**43.′31E**±0.′03,**h11**km±**8**km, **n26,** σ**0**§**98**/41,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**159**	PG	**Pg**	**17 23 32.3**	**-0.4**
VANB				*e*SG	**Sg**	**17 23 36.5**	**+1.0**
VANB	**Van**	**0.18**	**159**	*i* Pg	**Pg**	**17 23 32.3**	**-0.4**
VANB				*e*Sg	**Sg**	**17 23 36.5**	**+1.0**
TVAN	**Van**	**0.25**	**162**	*i* P	**Pb**	**17 23 35.2**	**-0.1**
TVAN				*i* S	**Sb**	**17 23 39.6**	**-0.1**
TVAN	**Van**	**0.25**	**162**	P	**Pb**	**17 23 35.2**	**-0.1**
TVAN				S	**Sb**	**17 23 39.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.30**	**43**	*i* P	**Pg**	**17 23 34.3**	**-0.5**
VMUR				*i* S	**Sb**	**17 23 40.1**	**-1.1**
VMUR	**Van-Muradiye**	**0.30**	**43**	P	**Pg**	**17 23 34.3**	**-0.5**
VMUR				S	**Sb**	**17 23 40.1**	**-1.1**
CLDR	**Caldiran**	**0.61**	**52**	*e*PG	**Pg**	**17 23 39.3**	**-1.1**
CLDR				*e*SG	**Sb**	**17 23 49.1**	**-0.9**
CLDR	**Caldiran**	**0.61**	**52**	*i* P	**Pg**	**17 23 38.9**	**-1.6**
CLDR				*i* S	**Sb**	**17 23 49.1**	**-0.9**
CLDR	**Caldiran**	**0.61**	**52**	P	**Pg**	**17 23 38.9**	**-1.6**
CLDR	**Caldiran**	**0.61**	**52**	*e*Pg	**Pg**	**17 23 39.3**	**-1.1**
CLDR				S	**Sb**	**17 23 49.1**	**-0.9**
TUTA	**Tutak**	**0.74**	**329**	*i* P	**Pg**	**17 23 42.1**	**-0.8**
TUTA	**Tutak**	**0.74**	**329**	P	**Pg**	**17 23 42.1**	**-0.8**
AGRB	**Hanur-Agry**	**0.84**	**343**	*e*PG	**Pg**	**17 23 44.1**	**-0.8**
AGRB				*e*SG	**Sb**	**17 23 57.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.84**	**343**	*e*Pg	**Pg**	**17 23 44.1**	**-0.8**
AGRB				*e*Sg	**Sb**	**17 23 57.0**	**+0.2**
TATV	**Tatvan**	**0.85**	**253**	*i* P	**Pg**	**17 23 43.6**	**-1.5**
TATV				*i* S	**Sg**	**17 23 55.9**	**-0.4**
TATV	**Tatvan**	**0.85**	**253**	P	**Pg**	**17 23 43.6**	**-1.5**
TATV				S	**Sg**	**17 23 55.9**	**-0.4**
EKAR	**Karacoban**	**1.08**	**297**	*i* P	**Pn**	**17 23 51.0**	**+1.1**
EKAR	**Karacoban**	**1.08**	**297**	P	**Pn**	**17 23 51.0**	**+1.1**
EATA	**Eleskirt**	**1.26**	**330**	*i* P	**Pg**	**17 23 52.2**	**-0.7**
EATA				*i* S	**Sn**	**17 24 11.6**	**+2.0**
EATA	**Eleskirt**	**1.26**	**330**	P	**Pg**	**17 23 52.2**	**-0.7**
EATA				S	**Sn**	**17 24 11.6**	**+2.0**
VRTB	**Varto-Mus**	**1.50**	**286**	*e*PN	**Pn**	**17 23 54.9**	**-0.6**
VRTB	**Varto-Mus**	**1.50**	**286**	*e*Pn	**Pn**	**17 23 54.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	*e*PN	**Pn**	**17 23 58.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**250**	*e*Pn	**Pn**	**17 23 58.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.94**	**338**	*e*PN	**Pn**	**17 24 02.3**	**+0.7**
SENK	**Senkaya-Erzuru**	**1.94**	**338**	*e*Pn	**Pn**	**17 24 02.3**	**+0.7**

ISK **27** *17:24:36.9,38.′76N×43.′37E,h2km,ML2.8*
ISCJB **27** *17:24:38.7±0.5,38.′77N±0.′03×43.′25E±0.′06,h9km±9km, Error ellipse: s-maj=8.5km s-min=4.4km az=13.6*
CSEM **27** *17:24:38.0±0.3,38.′77N×43.′28E,h15km,ML2.8, Error ellipse: s-maj=6.6km s-min=4.9km az=118.0*
DDA **27** *17:24:38.4,38.′74N×43.′26E,h7km,Ml2.8*
ISC 27 17:24:37.6±1.3,**38.′77N**±0.′02×**43.′27E**±0.′03,**h3**km±12km, **n22,** σ**0**§**67**/36,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**151**	*e*PG	**Pg**	**17 24 42.9**	**+1.5**
VANB	**Van**	**0.20**	**151**	*e*Pg	**Pg**	**17 24 42.9**	**+1.5**
TVAN	**Van**	**0.26**	**156**	*i* S	**Sb**	**17 24 49.9**	**-0.2**
TVAN	**Van**	**0.26**	**156**	S	**Sb**	**17 24 49.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.33**	**46**	*i* P	**Pb**	**17 24 45.3**	**-0.9**
VMUR				*i* S	**Sb**	**17 24 51.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.33**	**46**	P	**Pb**	**17 24 45.3**	**-0.9**
VMUR				S	**Sb**	**17 24 51.9**	**-0.1**
GEVA	**Gevas**	**0.48**	**200**	*i* P	**Pg**	**17 24 46.8**	**-0.1**
GEVA				*i* S	**Sb**	**17 24 55.4**	**-1.0**
GEVA	**Gevas**	**0.48**	**200**	P	**Pg**	**17 24 46.8**	**-0.1**
GEVA				S	**Sb**	**17 24 55.4**	**-1.0**
CLDR	**Caldiran**	**0.63**	**53**	*e*PG	**Pg**	**17 24 49.1**	**-0.7**
CLDR				*e*SG	**Sg**	**17 24 57.7**	**-0.3**
CLDR	**Caldiran**	**0.63**	**53**	*i* P	**Pg**	**17 24 50.2**	**+0.5**
CLDR				*i* S	**Sb**	**17 25 00.6**	**-0.2**
CLDR	**Caldiran**	**0.63**	**53**	*e*Pg	**Pg**	**17 24 49.1**	**-0.7**
CLDR	**Caldiran**	**0.63**	**53**	P	**Pg**	**17 24 50.2**	**+0.5**
CLDR				*e*Sg	**Sg**	**17 24 57.7**	**-0.3**
CLDR				S	**Sb**	**17 25 00.6**	**-0.2**
TUTA	**Tutak**	**0.73**	**331**	*i* P	**Pb**	**17 24 52.8**	**-0.3**
TUTA	**Tutak**	**0.73**	**331**	P	**Pb**	**17 24 52.8**	**-0.3**
TATV	**Tatvan**	**0.83**	**252**	*i* P	**Pg**	**17 24 53.7**	**+0.2**
TATV				*i* S	**Sb**	**17 25 06.0**	**-0.4**
TATV	**Tatvan**	**0.83**	**252**	P	**Pg**	**17 24 53.7**	**+0.2**
TATV				S	**Sb**	**17 25 06.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.84**	**345**	*e*PG	**Pg**	**17 24 53.9**	**+0.2**
AGRB				*e*SG	**Sb**	**17 25 07.3**	**+0.6**
AGRB	**Hanur-Agry**	**0.84**	**345**	*e*Pg	**Pg**	**17 24 53.9**	**+0.2**
AGRB				*e*Sg	**Sb**	**17 25 07.3**	**+0.6**
EATA	**Eleskirt**	**1.25**	**331**	*i* P	**Pg**	**17 25 01.9**	**+0.3**
EATA				*i* S	**Sn**	**17 25 21.1**	**+1.2**
EATA	**Eleskirt**	**1.25**	**331**	P	**Pg**	**17 25 01.9**	**+0.3**
EATA				S	**Sn**	**17 25 21.1**	**+1.2**
CUKT	**Cukurca**	**1.54**	**170**	*e*PN	**Pb**	**17 25 06.5**	**-0.4**
CUKT	**Cukurca**	**1.54**	**170**	*e*Pn	**Pb**	**17 25 06.5**	**-0.4**

ISCJB **27** *17:34:46.4±1.1,24.′90N±0.′05×123.′94E±0.′04,h10km±7km, mb3.3/4, Error ellipse: s-maj=8.5km s-min=5.6km az=158.1*
JMA **27** *17:34:46.3±0.2,24.′91N×123.′95E,h2km±4km,M3.5*
IDC **27** *17:34:56.4±9.1,24.′78N×123.′80E,h83km±101km,mb3.1/4, mb1 3.3/5,mb1mx3.0/49,mbtmp3.4/5,ML2.4/1, Error ellipse: s-maj=50.9km s-min=27.4km az=55.0*
**ISC 27 17:34:46.

JMA Felt II J1.
ISC 27 17:38:52.2±1.9, 35°31N±0°.04×140°.59E±0°.05, h8km±12km, n42, σ0:89/37, mb3.9/10, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	Katsuura	0.28	234	⇑P	Pb	17 39 01.1	+1.6
KTR				eS	Sb	17 39 05.8	+1.5
JCN	Nagara	0.34	289	⇓P	Pb	17 39 01.3	+0.9
JCN				S	Sb	17 39 06.6	+0.6
BSO4	Boso 4	0.38	213	P	Pn	17 39 04.0	+0.1
BSO4				X		17 39 12.9	
CHOJ	Chosi	0.45	29	⇓P	Pn	17 39 04.2	-0.7
CHOJ				eS	Sb	17 39 10.6	+1.4
BSO3	Boso 3	0.51	188	⇓P	Pn	17 39 06.3	+0.7
BSO1	Boso 1	0.73	154	⇓P	Pn	17 39 09.3	+1.0
BSO1				X		17 39 21.3	
JYT	Yasato	0.97	341	⇓P	Pg	17 39 10.3	-0.6
JIM2	Oshima 3	1.12	238	P	Pb	17 39 12.7	-1.2
JHJ2	Mitsune	2.29	197	ePn	Pn	17 39 30.2	0.0
JHJ	Hachijo jima 2	2.29	197	Pn	Pn	17 39 30.1	-0.1
	55nm,0.3s,baz=134,slow=19,SNR=6.4						
JHJ				Sn	Sn	17 39 56.3	-2.2
	111nm,0.3s,baz=241,slow=21,SNR=6.7						
MJAR	Matsushiro Arr	2.29	303	Pn	Pn	17 39 30.4	+0.1
	2.8nm,0.3s,baz=134,slow=15,SNR=26						
MAJO	Matsushiro	2.29	303	ePn	Pn	17 39 30.7	+0.3
MAT	Matsushiro	2.29	303	P	Pn	17 39 30.2	-0.1
MAT				eS	Sn	17 39 58.1	-0.7
MJB9	Matsu-Tunnel	2.30	303	ePn	Pn	17 39 30.7	+0.3
INU	Inuyama	2.92	272	ePn	Pn	17 39 39.3	+0.3
ASAJ	Asahikawa	8.93	9	Pn	Pn	17 41 01.0	-0.5
	0.6nm,0.3s,baz=258,slow=7.6,SNR=6.1						
KSRS	Korea Array	10.44	286	LR	LR	17 45 24.1	
	comp=Z,74nm,19.1s,baz=125,slow=38						
USRK	Ussuriysk Ar.	11.07	326	LR	LR	17 45 27.4	
	comp=Z,64nm,19.4s,baz=87,slow=36						
KLR	Kul'dur	15.36	338	LR	LR	17 48 01.6	
	comp=Z,7.5nm,19.5s,baz=185,slow=36						
MA2	Magadan	25.17	12	LR	LR	17 54 18.4	
	comp=Z,40nm,18.7s,baz=64,slow=37						
H11N2	WAKE ISLAND Hy 27.90	117		T	T	18 13 50.9	
	baz=309,slow=75,SNR=62						
H11N1	WAKE ISLAND Hy 27.91	117		T	T	18 13 51.4	
	baz=309,slow=75,SNR=52						
H11N3	WAKE ISLAND Hy 27.92	117		T	T	18 13 52.2	
	baz=309,slow=75,SNR=47						
SONA0	Songino Array	28.24	307	eP	P	17 44 45.0	-0.7
SONM	Songino Array	28.24	307	P	P	17 44 45.0	-0.7
	0.4nm,0.6s,baz=111,slow=11,SNR=3.5						
H11S3	WAKE ISLAND Hy 28.54	119		T	T	18 14 43.2	
	baz=308,slow=74,SNR=51						
H11S1	WAKE ISLAND Hy 28.54	119		T	T	18 14 46.6	
	baz=308,slow=74,SNR=86						
H11S2	WAKE ISLAND Hy 28.56	119		T	T	18 14 47.6	
	baz=308						
ZAA1	Zalesovo Array	42.60	314	eP	P	17 46 48.7	+0.2
ZALV	Zalesovo Beam	42.60	314	P	P	17 46 48.7	+0.2
	1.3nm,0.5s,baz=95,slow=7.4,SNR=4.5						
MK32	Makanchi Array	44.49	303	eP	P	17 47 03.5	-0.5
MKAR	Makanchi Array	44.49	303	P	P	17 47 03.5	-0.5
	1.0nm,0.9s,baz=95,slow=9.1,SNR=6.5						
MKAR				LR	LR	18 05 07.7	
	comp=Z,30nm,20.0s,baz=51,slow=36						
SOEI	Soe	47.41	202	eP	P	17 47 27.9	+0.6
	15nm,0.7s						
ILAR	Eielson Array	51.30	32	P	P	17 47 57.4	+1.0
	0.9nm,0.9s,baz=266,slow=6.1,SNR=6.7						
ILB	Eielson Array	51.30	32	eP	P	17 47 54.6	-1.8
WR1	Warramunga Arr	55.27	187	eP	P	17 48 25.5	-0.5
	13nm,1.6s						
WRA	Warramunga Arr	55.27	187	P	P	17 48 25.5	-0.5
	2.0nm,0.7s,baz=5.8,slow=7.4,SNR=14						
ABKAR	Akbulak array	58.55	311	eP	P	17 48 49.7	+0.6
AS31	Alice Springs	58.99	187	eP	P	17 48 52.6	+0.2
	2.6nm,1.8s						
ASAR	Alice Springs	59.00	187	P	P	17 48 52.6	+0.2
	0.8nm,0.9s,baz=10,slow=6.8,SNR=14						
PD31	Pinedale Array	79.35	45	eP	P	17 50 59.5	+0.7
PDAR	Pinedale Array	79.35	45	P	P	17 50 59.5	+0.7
	0.3nm,0.6s,baz=259,slow=2.7,SNR=3.6						

ISK 27 17:44:23.7, 38°.72N×43°.28E, h5km, ML2.8
DDA 27 17:44:25.0, 38°.70N×43°.24E, h7km, Ml3.5
CSEM 27 17:44:25.4±0.2, 38°.73N×43°.24E, h5km, ML2.8, Error ellipse: s-maj=5.0km s-min=4.1km az=131.0
ISC 27 17:44:25.4±0.9, 38°.74N±0°.03×43°.28E±0°.03, h15km±7km, n44, σ1:25/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	149	PG	Pg	17 44 29.4	-0.3
VANB				eSG	Sg	17 44 33.3	+0.7
VANB	Van	0.17	149	i Pg	Pg	17 44 29.4	-0.3
VANB				eSg	Sg	17 44 33.3	+0.7
TVAN	Van	0.24	154	i P	Pb	17 44 32.1	+0.7
TVAN	Van	0.24	154	P	Pb	17 44 32.1	+0.7
VMUR	Van-Muradiye	0.34	43	i P	Pb	17 44 32.6	-0.6
VMUR				i S	Sb	17 44 39.3	+0.8
VMUR	Van-Muradiye	0.34	43	P	Pb	17 44 32.6	-0.6
VMUR				S	Sb	17 44 39.3	+0.8
GEVA	Gevas	0.46	202	i P	Pg	17 44 32.9	-1.7
GEVA				i S	Sg	17 44 39.7	-1.2
GEVA	Gevas	0.46	202	P	Pg	17 44 32.9	-1.7
GEVA				S	Sg	17 44 39.7	-1.2
CLDR	Caldiran	0.64	51	ePG	Pb	17 44 37.5	-0.9
CLDR				eSG	Sb	17 44 48.0	+0.8
CLDR	Caldiran	0.64	51	i P	Pb	17 44 37.7	-0.7
CLDR				i S	Sn	17 44 48.8	-1.3
CLDR	Caldiran	0.64	51	ePg	Pb	17 44 37.5	-0.9
CLDR	Caldiran	0.64	51	P	Pb	17 44 37.7	-0.7
CLDR				eSg	Sb	17 44 48.0	+0.8
TUTA	Tutak	0.75	332	i P	Pg	17 44 39.3	-0.8
TUTA	Tutak	0.75	332	P	Pg	17 44 39.3	-0.8
TATV	Tatvan	0.82	254	i P	Pg	17 44 39.5	-1.9
TATV				i S	Sg	17 44 52.1	-0.2
TATV	Tatvan	0.82	254	P	Pg	17 44 39.5	-1.9
TATV				S	Sg	17 44 52.1	-0.2
AGRB	Hanur-Agry	0.86	345	ePG	Pg	17 44 41.4	-0.7
AGRB	Hanur-Agry	0.86	345	ePg	Pg	17 44 41.4	-0.7
DYDN	Diyadin	0.86	22	i P	Pn	17 44 43.1	-0.1
DYDN	Diyadin	0.86	22	P	Pn	17 44 43.1	-0.1
EKAR	Karacoban	1.07	299	i P	Pn	17 44 48.1	+2.0
EKAR	Karacoban	1.07	299	P	Pn	17 44 48.1	+2.0
EATA	Eleskirt	1.27	332	i P	Pg	17 44 49.4	-0.6
EATA	Eleskirt	1.27	332	P	Pg	17 44 49.4	-0.6
SIRN	S¨–rnak	1.42	209	i P	Pn	17 44 51.0	+0.4
SIRN	S¨–rnak	1.42	209	P	Pn	17 44 51.0	+0.4
VRTB	Varto-Mus	1.48	287	ePN	Pn	17 44 52.8	+1.2
VRTB	Varto-Mus	1.48	287	ePn	Pn	17 44 52.8	+1.2
CUKT	Cukurca	1.52	170	ePN	Pn	17 44 53.1	+1.1
CUKT	Cukurca	1.52	170	ePn	Pn	17 44 53.1	+1.1
SVAN	Silvan-Diyarba	1.73	251	ePN	Pn	17 44 56.5	+1.6
SVAN	Silvan-Diyarba	1.73	251	ePn	Pn	17 44 56.5	+1.6
SENK	Senkaya-Erzuru	1.95	339	ePN	Pn	17 44 59.7	+1.6
SENK	Senkaya-Erzuru	1.95	339	ePn	Pn	17 44 59.7	+1.6
BNGB	Bing¨¶	2.04	278	ePN	Pn	17 45 00.8	+1.6
BINT	Bingol	2.18	274	ePn	Pn	17 45 00.8	-0.4
YEDI	Yedisu-Bingol	2.24	289	ePN	Pn	17 45 03.5	+1.5
YEDI	Yedisu-Bingol	2.24	289	ePn	Pn	17 45 03.5	+1.5
MAZI	Mazidag	2.57	241	ePN	Pn	17 45 08.0	+1.4
MAZI	Mazidag	2.57	241	ePn	Pn	17 45 08.0	+1.4
PTK	Pertek	3.04	274	ePN	Pn	17 45 14.7	+1.7
PTK	Pertek	3.04	274	ePn	Pn	17 45 14.7	+1.7
SVRC	Sivrice-ELAZID	3.13	265	ePN	Pn	17 45 16.6	+2.3
SVRC	Sivrice-ELAZID	3.13	265	ePn	Pn	17 45 16.6	+2.3

MEX 27 18:04:28.5±0.5, 16°.79N×96°.50W, h57km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXBJ	Oaxaca	0.35	323	eP	Pn	18 04 37.3	-1.6
OXBJ				eS	Sn	18 04 44.0	-2.5
VHO	Vista Hermosa	0.36	322	eP	Pn	18 04 37.3	-1.8
VHO				i S	Sn	18 04 44.9	-1.7
HUIG	Huatulco	1.08	159	eP	Pn	18 04 46.1	-1.4
PNIG	Pinotepa	1.60	256	eP	Pn	18 04 52.9	-1.6
PNIG				i S	Sn	18 05 12.5	-1.8
TPIG	Tehuac#an	1.82	333	i P	Pn	18 04 60.0	+2.3
TPIG				eP	Pn	18 05 00.3	+2.7
TPIG				eS	Sn	18 05 17.5	-2.2
TLIG	Tlapa	2.12	292	eP	Pn	18 05 01.1	-0.6
TLIG				i S	Sn	18 05 24.9	-2.0

IDC 27 18:05:22.2±9.0, 12°.78N×87°.84W, h59km±89km, mb3.6/3, mb1 3.8/3, mb1mx3.3/51, mbtmp3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/31, Error ellipse: s-maj=112.5km s-min=23.5km az=62.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	22.08	321	P	P	18 10 12.6	+0.1
	0.7nm,0.5s,baz=143,slow=11,SNR=4.7						
LPAZ	La Paz	34.84	145	P	P	18 12 08.4	-0.1
	1.0nm,0.4s,baz=316,slow=3.7,SNR=2.3						
ULM	Lac du Bonnet	37.95	352	P	P	18 12 33.7	-0.2
	1.3nm,0.5s,baz=166,slow=12,SNR=5.2						
DLBC	Dease Lake	55.45	335	LR	LR	18 42 26.2	
	comp=Z,55nm,19.6s,baz=282,slow=40						
HFS	Hagfors	84.69	30	LR	LR	18 54 42.7	
	comp=Z,13nm,21.8s,slow=35						
CMAR	Chiang Mai Arr	148.25	348	PKPbc	PKPbc	18 25 01.9	-0.6
	0.6nm,0.6s,baz=350,slow=2.3,SNR=6.2						

NIED 27 18:06:00, 37°.80N×144°.40E, h5km, Mw4.6 Best double couple: M0:9.17000×10^15 NP1:φs=58.00000°, δ=26.00000°, λ=-89.00000°. NP2:φs=236.00000°, δ=64.00000°, λ=-91.00000°.
IDC 27 18:06:18.2±0.5, 37°.61N×144°.67E, h0km, mb4.6/33, mb1 4.7/40, mb1mx4.6/68, mbtmp4.6/40, ML3.5/7, MS3.7/23, Ms1 3.7/23, ms1mx3.5/45, Error ellipse: s-maj=13.9km s-min=10.7km az=137.0
ISCJB 27 18:06:19.5±0.8, 37°.86N±0°.02×144°.51E±0°.02, h10km±4km, mb4.8/232, MS4.0/40, Error ellipse: s-maj=4.1km s-min=2.2km az=178.7
MOS 27 18:06:22.3±0.9, 38°.01N×144°.50E, h23km, mb5.1/75, MS4.1/7, Error ellipse: s-maj=6.3km s-min=4.4km az=97.6
GCMT 27 18:06:22.3±0.3, 37°.81N×144°.69E, h13km±1km, MW4.8/80, Moment Tensor Solution. s25,c30; s80,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.99±.12; Mθθ1.43±.08; Mφφ0.55±.07; Mrθ0.26±.17; Mrφ0.52±.05; Mθφ0.17±.23; Best double couple: M0:1.85800×10^16 NP1:φs=244.00000°, δ=50.00000°, λ=-91.00000°. NP2: φs=66.00000°, δ=40.00000°, λ=-88.00000°. Principal axes: T 1.6990, Plg5.0000°, Azm335.0000°; N 0.3170, Plg1.0000°, Azm245.0000°; P -2.0170, Plg85.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 27 18:06:22.3±1.2, 37°.66N×144°.53E, h21km±8km, mb5.0/159 Error ellipse: s-maj=4.5km s-min=2.7km az=159.0
NEIC Recorded [1 JMA] in Miyagi.
JMA 27 18:06:22.2±0.2, 37°.80N×144°.44E, h48km, M4.7
JMA Felt I J1.
BJI 27 18:06:25.3, 38°.02N×144°.33E, h43km, mb4.6/71, mB4.8/56, Ms4.4/65, Ms7 4.2/61.
ISC 27 18:06:22.7±0.7, 37°.71N±0°.04×144°.62E±0°.04, h26km±4km, n746, σ1:40/795, mb4.9/235, MS4.0/43, 30C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.69	287	P	Pn	18 07 02.0	-2.2
JIO				eS	Sn	18 07 31.2	-4.7
OFUJ	Ofunato	2.69	301	P	Pn	18 07 02.1	-2.2
OFUJ				S	Sn	18 07 31.8	-4.2
MIYJ	Miyakonagasawa	2.88	311	P	Pn	18 07 04.4	-2.4
MIYJ				S	Sn	18 07 35.8	-4.8
JMK	Ichinoseki	2.95	296	P	Pn	18 07 05.9	-1.9
JMK				eS	Sn	18 07 38.1	-4.2
JOM	Ohasama	3.15	305	P	Pn	18 07 08.8	-1.7
JOM				eS	Sn	18 07 43.5	-3.7
JFT	Otama	3.41	268	P	Pn	18 07 12.7	-1.4
JFT				S	Sn	18 07 50.1	-3.6
JYK	Kaneyama	3.56	291	P	Pn	18 07 14.9	-1.3
JYK				S	Sn	18 07 54.4	-3.1
JANG	Nango	3.59	319	P	Pn	18 07 14.2	-2.5
JANG				eS	Sn	18 07 53.2	-5.0
BSO1	Boso 1	4.25	225	P	Pn	18 07 22.3	-2.8
BSO1				eS	Sn	18 08 10.3	-3.3
JOT	Ohata	4.59	324	P	Pn	18 07 28.3	-2.0
JOT				S	Sn	18 08 17.4	-5.3
JRY	Ryogami san	4.89	251	P	Pn	18 07 32.2	-2.3
JRY				eS	Sn	18 08 24.0	-6.3
JCH	Churui	4.99	349	P	Pn	18 07 32.7	-3.1
JCH				eS	Sn	18 08 26.6	-6.0
JKB	Kayabe	5.00	328	P	Pn	18 07 34.3	-1.7
JKB				S	Sn	18 08 27.1	-5.8
JOD2	Odawara 2	5.09	243	P	Pn	18 07 34.6	-2.6
JOD2				eS	Sn	18 08 28.1	-7.0
MJAR	Matsushiro Arr	5.26	259	Pn	Pn	18 07 38.6	-0.9
	9.1nm,0.3s,baz=89,slow=15,SNR=109						
MJAR				Sn	Sn	18 08 37.3	-2.0
	21nm,0.3s,baz=90,slow=27,SNR=6.3						
MAJO	Matsushiro	5.26	259	eP	Pn	18 07 38.7	-0.9
MAJO	Matsushiro	5.26	259	ePn	Pn	18 07 38.7	-0.9
MAT	Matsushiro	5.26	259	P	Pn	18 07 38.9	-0.7
MAT				S	Sn	18 08 37.4	-2.0
MJB9	Matsu-Tunnel	5.26	259	ePn	Pn	18 07 38.7	-0.9
NEM2	Nemuro 2	5.71	8	P	Pn	18 07 41.7	-4.0
NEM2				eS	Sn	18 08 41.0	-9.3
JOSM	Okushiri--Mats	5.89	319	P	Pn	18 07 46.7	-1.5
JOSM				eS	Sn	18 08 49.3	-5.5
JHJ2	Mitsune	6.04	222	P	Pn	18 07 45.4	-4.9
JHJ2				eS	Sn	18 08 50.6	-8.0
JHJ2	Mitsune	6.04	222	ePn	Pn	18 07 47.7	-2.6
JHJ2				eSn	Sn	18 08 51.1	-7.4
JHJ	Hachijo jima 2	6.05	222	Pn	Pn	18 07 46.6	-3.9
	28nm,0.3s,baz=155,slow=22,SNR=11						
JHJ				Sn	Sn	18 08 50.2	-8.7
	226nm,0.3s,baz=215,slow=22,SNR=13						
JTKR	Abashiri--Toko	6.27	355	P	Pn	18 07 51.1	-2.3
JTKR				eS	Sn	18 08 57.3	-6.9
SHO	Shikotan	6.37	15	c i P	Pn	18 07 50.6	-4.2
SHO				i S	Sn	18 08 57.2	-9.5
SHO				pmax	pmax		
	comp=N,107nm,0.5s						
SHO				pmax	pmax		
	comp=E,145nm,0.5s						
SHO				pmax	pmax		
	comp=Z,339nm,0.5s						
SHO				smax	smax		
	comp=N,1μm,0.5s						
SHO				smax	smax		
	comp=E,547nm,0.5s						
YUK	Yuzh-Kuril'sk	6.38	8	d i P	Pn	18 07 51.1	-3.8
YUK				i S	Sn	18 08 58.1	-8.8
YUK				pmax	pmax		
	comp=Z,838nm,0.3s						
YUK				pmax	pmax		
	comp=E,193nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,3μm,0.4s						
JHR	Hokuryu	6.41	341	P	Pn	18 07 54.9	-0.5
JHR				S	Sn	18 09 04.4	-3.3
INU	Inuyama	6.56	251	ePn	Pn	18 07 57.0	-0.4
ASAJ	Asahikawa	6.58	347	Pn	Pn	18 07 56.0	-1.6
	comp=E,28nm,0.3s,baz=193,slow=11,SNR=134						
ASAJ				Sn	Sn	18 09 08.5	-3.3
	comp=E,5.7nm,0.3s,baz=177,slow=30,SNR=3.3						
ASAJ	Asahikawa	6.58	347	ePn	Pn	18 07 55.8	-1.8
ASAJ				eSn	Sn	18 09 10.6	-1.1
JIE	Ise	7.22	245	P	Pn	18 08 05.3	-1.2
JIE				eS	Sn	18 09 22.8	-4.8
JWK2	Keihoku	7.87	346	P	Pn	18 08 14.8	-0.5
KUR	Kuril'sk	7.90	17	c i P	Pn	18 08 13.1	-2.6
KUR				eS	Sn	18 09 36.3	-7.8
KUR				pmax	pmax		
	comp=Z,69nm,0.5s						
KUR				pmax	pmax		
	comp=N,33nm,0.2s						
KUR				pmax	pmax		
	comp=E,54nm,0.3s						
YSS	Yuzh-Sakhalins	9.34	352	eP	Pn	18 08 33.3	-2.2
YSS				eS	Sn	18 10 18.5	-1.0
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	Yuzh-Sakhalins	9.34	352	ePn	Pn	18 08 33.2	-2.2
VLA	Vladivostok	11.11	303	c i P	Pn	18 08 59.2	-0.5
MSHR	Mys Shultsa	11.39	299	⇓eP	Pn	18 09 02.8	-0.8
USRK	Ussuriysk Ar.	11.54	308	Pn	Pn	18 09 05.4	-0.2
	comp=E,1.3nm,0.3s,baz=107,slow=16,SNR=17						
USRK				LR	LR	18 13 41.6	
	comp=E,537nm,18.2s,baz=120,slow=38						
JNU	Nakatsue	12.11	252	Pn	Pn	18 09 12.4	-1.1
	comp=E,0.2nm,0.3s,baz=71,slow=7.4,SNR=5.1						
HABR	Khabarovsk	12.82	330	eP	Pn	18 09 18.7	-4.3
HABR				eS	Sn	18 11 37.1	-7.6
HABR				pmax	pmax		
	comp=N,50nm,1.1s						
HABR				pmax	pmax		
	comp=E,35nm,1.1s						
HABR				pmax	pmax		
	comp=Z,54nm,1.1s						
TYV	Tymovskoe	13.22	355	eP	Pn	18 09 18.1	-10
TYV				pmax	pmax		
	comp=Z,26nm,2.3s						
MDJ	Mudanjiang	13.25	306	P	Pn	18 09 28.0	-1.0
MDJ				S	Sn	18 11 56.3	+0.9
MDJ				pmax	pmax		
	comp=Z,49nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,150nm,6.8s						
MDJ				LR	LR		
	comp=Z,360nm,14.3s						
MDJ				LR	LR		
	comp=Z,500nm,15.0s						
MDJ				LR	LR		
	comp=Z,850nm,14.7s						
MDJ	Mudanjiang	13.25	306	ePn	Pn	18 09 27.1	-1.9
KSRS	Korea Array	13.25	274	Pn	Pn	18 09 29.3	+0.2
	comp=Z,0.3nm,0.3s,baz=85,slow=13,SNR=15						
KSRS				LR	LR	18 14 26.7	
	comp=Z,180nm,18.4s,baz=80,slow=37						
KS15	Wonju Array Si	13.29	274	ePn	Pn	18 09 30.4	+0.9
KSAR	Wonju Array Be	13.29	274	P	Pn	18 09 29.3	-0.2
KSAR	Wonju Array Be	13.29	274	Pn	Pn	18 09 29.3	-0.2
KLR	Kul'dur	14.80	325	Pn	Pn	18 09 48.7	-1.5
	comp=Z,0.0nm,0.3s,baz=130,slow=13,SNR=11						
KLR				LR	LR	18 15 20.5	
	comp=Z,34nm,18.8s,baz=142,slow=36						
SKR	Severo-Kuril's	15.34	29	⇓iP	Pn	18 09 56.1	-1.1
CN2	Changchun	15.74	299	eP	Pn	18 10 03.0	+0.5
CN2				esP	sP	18 10 18.3	+1.7
CN2				eS	Sn	18 12 55.0	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,17.0s						
SNY	Shenyang	16.69	291	⇓iP	P	18 10 18.0	+1.3
SNY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SNY				pmax	pmax		
	comp=Z,200nm,10.3s						
SNY				LR	LR		
	comp=Z,260nm,12.8s						
SNY				LR	LR		
	comp=Z,550nm,12.8s						
SNY				LR	LR		
	comp=Z,1μm,15.7s						
PETK	Petropavlovsk-	17.88	26	P	Pn	18 10 27.9	-1.4
	comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=4.1						
PETK				LR	LR	18 16 37.3	
	comp=Z,123nm,21.6s,baz=210,slow=34						
PEA1	Petropavlovsk-	17.88	26	ePn	Pn	18 10 27.9	-1.4
DL2	Dalian	18.08	281	P	Pn	18 10 28.3	-3.6
DL2				sP	sP	18 10 43.5	+0.9
DL2				eS	Sn	18 13 40.5	-12
DL2				pmax	pmax		
	comp=Z,45nm,1.5s						
DL2				LR	LR		
	comp=Z,360nm,10.4s						
DL2				LR	LR		
	comp=Z,550nm,15.1s						
DL2				LR	LR		
	comp=Z,560nm,16.3s						
PET	Petropavlovsk	18.15	28	eP	Pn	18 10 29.7	-3.0
PET				eS	Sn	18 13 50.7	-3.7
SSE	Sheshan	20.41	258	P	Pn	18 10 59.3	-0.5
SSE				S	S	18 14 44.3	-0.7
SSE				pmax	pmax		
	comp=Z,35nm,0.8s						
SSE				pmax	pmax		
	comp=Z,53nm,3.5s						
SSE				LR	LR		
	comp=Z,260nm,20.1s						
SSE				LR	LR		
	comp=Z,140nm,21.0s						
NJ2	Nanjing	21.85	263	eP	P	18 11 15.5	+2.3
NJ2				S	S	18 15 13.0	-0.4
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,230nm,3.9s						
NJ2				LR	LR		
	comp=Z,930nm,15.7s						
NJ2				LR	LR		
	comp=Z,760nm,16.3s						
NJ2				LR	LR		
	comp=Z,620nm,16.3s						
MA2	Magadan	22.23	8	LR	LR	18 19 03.6	
	comp=Z,91nm,21.9s,baz=259,slow=34						
BJI	Beijing	22.23	285	P	P	18 11 17.0	-0.2
BJI				PcP	PcP	18 15 13.0	+0.1
BJI				S	S	18 15 17.5	-3.0
BJI				sS	Sn	18 15 34.3	+1.5
BJI				ScP	ScP	18 18 46.8	-1.7
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=Z,240nm,10.3s						
CLNS	Chul'man	23.19	332	eP	P	18 11 29.5	+2.3
CLNS				pmax	pmax		
	comp=Z,19nm,1.2s						
CLNS				pmax	pmax		
	comp=N,12nm,1.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,292nm,14.0s						
CLNS				MLR	MLR		
	comp=N,160nm,14.0s						
GUMO	Guam	24.03	179	LR	LR	18 19 30.6	
	comp=N,116nm,21.5s,baz=24,slow=33						
SEY	Seymchan	25.69	8	P	P	18 11 51.4	+1.1
	comp=N,6.6nm,0.9s,baz=167,slow=8.0,SNR=8.8						
SEY	Seymchan	25.69	8	⇑eP	P	18 11 51.5	+1.3
HHC	Hu-ho-hao-te	25.70	287	eP	P	18 11 52.0

YAK eS **S** **18 16 23.4 +0.8**
YAK eSS **SnSn** **18 17 25.7 +4.5**
YAK e 18 22 50.5
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK smax smax
comp=N,359nm,4.3s
YAK smax smax
comp=E,91nm,3.5s
YAK MLR MLR
comp=Z,221nm,20.0s
YAK MLR MLR
comp=N,775nm,26.0s
YAK MLR MLR
comp=E,141nm,17.0s
YAK Yakutsk 26.05 344 eP **P** **18 11 53.0 -0.5**
comp=E,28nm,0.9s
H11N2 WAKE ISLAND Hy 26.39 127 T T 18 39 31.2
baz=318,slow=74,SNR=84
H11N1 WAKE ISLAND Hy 26.40 127 T T 18 39 29.8
baz=318,slow=74,SNR=56
H11N3 WAKE ISLAND Hy 26.41 127 T T 18 39 22.9
baz=318,slow=74,SNR=72
BTO Baotou 26.89 287 eP **P** **18 12 02.5 +1.1**
H11S1 WAKE ISLAND Hy 27.18 129 T T 18 39 55.6
baz=318,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 27.18 129 T T 18 40 26.2
baz=318,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 27.20 129 T T 18 40 15.3
baz=318,slow=76,SNR=17
XAN Xi'an 29.05 274 P P 18 12 26.0 +5.2
XAN pP sP 18 12 37.5 +5.8
XAN PP **PnPn** **18 13 20.0 +6.7**
XAN S **S** **18 17 11.3 +0.6**
XAN sS sS 18 17 31.0 +7.5
XAN SS **SnSn** **18 18 40.3 +5.1**
XAN pmax pmax
comp=E,8.0nm,0.9s
XAN pmax pmax
comp=E,38nm,3.9s
XAN LR LR
comp=E,140nm,10.7s
XAN LR LR
comp=E,230nm,11.2s
XAN LR LR
comp=E,330nm,12.4s
ULN Ulaanbaatar 29.12 302⇑ eP **P** **18 12 22.4 +1.0**
ULN pmax pmax
comp=Z,13nm,2.5s
ULN Ulaanbaatar 29.12 302 eP **P** **18 12 21.1 -0.3**
comp=Z,7.1nm,0.9s
SONA0 Songino Array 29.56 302 eP **P** **18 12 26.1 +0.8**
SONM Songino Array 29.56 302 P **P** **18 12 26.1 +0.8**
comp=Z,2.2nm,0.6s,baz=96,slow=8.5,SNR=14
SONM LR LR 18 24 53.9
comp=Z,174nm,18.9s,baz=96,slow=38
ENH Enshi 29.93 266 eP **P** **18 12 27.9 -0.8**
comp=Z,14nm,0.8s
TLY Talaya 31.85 309 eP **P** **18 12 46.4 +1.1**
TLY eS **S** **18 17 52.8 -1.4**
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY MLR MLR
comp=Z,498nm,16.0s
ZAK Zakamensk 31.88 307 eP **P** **18 12 45.6 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 32.47 280 eP **P** **18 12 52.0 +0.9**
LZH pP sP 18 13 01.0 -1.1
LZH sP pP 18 13 08.3 +9.4
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,140nm,5.1s
LZH LR LR
comp=Z,160nm,14.6s
LZH LR LR
comp=Z,220nm,15.8s
LZH LR LR
comp=Z,310nm,18.9s
BILL Bilibino 32.68 15⇑ eP **P** **18 12 52.2 -0.1**
BILL e 18 14 01.5
BILL i S **S** **18 18 09.4 +2.7**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,77nm,17.0s
GYA Guiyang 33.85 262⇑ iP **P** **18 13 02.8 -0.4**
GYA pP sP 18 13 16.5 +2.4
GYA PP **PP** **18 14 18.5 -1.4**
GYA S **S** **18 18 22.3 -3.7**
GYA sS sS 18 18 43.8 +5.0
GYA SS **SnSn** **18 20 30.0 -2.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,510nm,17.8s
GYA LR LR
comp=Z,480nm,18.0s
GYA LR LR
comp=Z,470nm,17.9s
CD2 Chengdu 34.23 271 eP **P** **18 13 06.0 -0.3**
CD2 PP **PP** **18 14 23.8 -0.1**
CD2 S **S** **18 18 29.5 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,7.0s
CD2 LR LR
comp=Z,420nm,11.9s
CD2 LR LR
comp=Z,280nm,12.4s
CD2 LR LR
comp=Z,360nm,10.4s
GTA Gaotai 34.81 287 ⇑P **P** **18 13 12.5 +1.1**
GTA pP sP 18 13 24.0 +1.7
GTA sP pP 18 13 27.8 +8.7
GTA PcP **PcP** **18 15 45.0 +0.7**
GTA S **S** **18 18 39.0 -1.6**
GTA sS sS 18 18 58.5 +5.1
GTA pmax pmax
comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,45nm,5.5s
GTA LR LR
comp=Z,380nm,16.2s
GTA LR LR
comp=Z,380nm,16.2s
GTA LR LR
comp=Z,410nm,15.7s
TIXI Tiksi 34.96 351 P **P** **18 13 11.7 -0.3**
comp=Z,1.2nm,0.3s,baz=288,slow=2.5,SNR=5.2
TIXI Tiksi 34.96 351⇑ eP **P** **18 13 10.6 -1.5**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
QIZ Qiongzhong 35.55 248 P **P** **18 13 17.5 -0.2**
QIZ S **S** **18 18 50.5 -1.5**
QIZ sS sS 18 19 07.5 +2.7
QIZ LR LR
comp=Z,270nm,15.2s
KMI Kunming 37.59 263 P **P** **18 13 36.0 +0.6**
KMI pP sP 18 13 45.8 -0.6
KMI sP pP 18 13 53.3 +10
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI LR LR
comp=Z,170nm,16.7s
KMI LR LR
comp=Z,280nm,13.6s
KMI LR LR
comp=Z,260nm,14.3s
WMQ Urumqi 42.82 297 P **P** **18 14 20.3 +2.0**
WMQ pP sP 18 14 32.0 +2.6
WMQ sP pP 18 14 36.5 +10
WMQ S **S** **18 20 44.5 +3.6**
WMQ ScS **ScS** **18 24 15.3 -2.2**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,92nm,5.9s
WMQ LR LR
comp=Z,30nm,14.9s
WMQ LR LR
comp=Z,86nm,25.7s
WMQ LR LR
comp=Z,93nm,24.3s
CMAI Chiengmai2 43.23 259 P **P** **18 14 23.1 +1.1**
comp=Z,279nm,0.8s
UTTA Uttaradit 43.32 255 P **P** **18 14 23.3 +0.8**
comp=Z,8.1nm,0.9s,comp=Z,71nm
CHAI Chaiyaphum 43.34 252 P **P** **18 14 23.2 +0.4**
comp=Z,9.8nm,0.9s
ZAA1 Zalesovo Array 43.35 312 eP **P** **18 14 22.8 +0.4**
ZAA0 Zalesovo Array 43.36 312 eP **P** **18 14 22.0 -0.4**
comp=Z,4.6nm,0.7s
ZALV Zalesovo Beam 43.36 312 P **P** **18 14 22.8 +0.4**
comp=Z,2.7nm,0.7s,baz=97,slow=6.8,SNR=12
ZALV PcP **PcP** **18 16 10.6 -0.1**
comp=Z,5.1nm,0.6s,baz=95,slow=3.2,SNR=8.0
ZALV LR LR 18 33 04.4
comp=Z,84nm,19.0s,baz=63,slow=37
SVW2 Sparrevohn 43.42 38 eP **P** **18 14 23.9 +1.0**
LAMP Lampang 43.57 257 P **P** **18 14 25.7 +1.1**
comp=Z,14nm,0.8s,comp=Z,117nm
PBKT Sadao Pong 43.70 253 P **P** **18 14 26.3 +0.7**
comp=Z,27nm,1.1s,comp=Z,721nm
NRIK Noril'sk 43.74 334 P **P** **18 14 25.6 +0.3**
comp=Z,4.5nm,0.8s,baz=104,slow=10,SNR=4.0
NRIK LR LR 18 33 23.7
comp=Z,222nm,21.8s,baz=100,slow=37
CHTO Chiang Mai 43.94 258 P **P** **18 14 28.1 +0.6**
comp=Z,88nm,1.2s
CHTO Chiang Mai 43.94 258 eP **P** **18 14 27.7 +0.2**
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 43.94 258 eP **P** **18 14 27.7 +0.2**
comp=Z,19nm,1.0s
CM31 Chiang Mai Arr 44.14 257 eP **P** **18 14 29.5 +0.3**
CMAR Chiang Mai Arr 44.14 257 P **P** **18 14 29.9 +0.8**
comp=Z,4.8nm,0.7s,baz=46,slow=7.0,SNR=60
CMAR LR LR 18 33 49.3
comp=Z,54nm,18.5s,baz=14,slow=37
CMAR Chiang Mai Arr 44.14 257 P **P** **18 14 30.0 +0.8**
SRAK Srakaew 44.49 250 P **P** **18 14 29.6 -2.4**
comp=Z,44nm,0.9s
RSO Redoubt South 44.78 39 eP **P** **18 14 34.5 +0.5**
NAYO Nakonayok 44.84 251 P **P** **18 14 35.9 +1.2**
comp=Z,135nm,1.2s,comp=Z,4um
KDAK Kodiak Island 44.88 42 P **P** **18 14 34.2 -0.3**
comp=Z,39nm,1.0s,baz=273,slow=4.7,SNR=9.6
KDAK Kodiak Island 44.88 42 eP **P** **18 14 34.8 +0.3**
comp=Z,136nm,1.5s
SPU Mount Spurr 45.14 38 eP **P** **18 14 37.5 +0.9**
UTHA Uthaitani 45.48 254 P **P** **18 14 44.3 +4.5**
comp=Z,3.9nm,1.0s
MLY Manley 45.91 32 eP **P** **18 14 44.3 +1.5**
comp=Z,23nm,1.0s
MK31 Makanchi Array 45.92 302 i P **P** **18 14 42.9 -0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 45.92 302 eP **P** **18 14 43.0 0.0**
MK32 Makanchi Array 45.92 302 eP **P** **18 14 43.2 +0.2**
MK32 ePcP **PcP** **18 16 19.2 -0.5**
MKAR Makanchi Array 45.92 302 P **P** **18 14 43.2 +0.2**
comp=Z,5.4nm,0.8s,baz=85,slow=9.3,SNR=42
MKAR PcP **PcP** **18 16 19.2 -0.5**
comp=Z,2.3nm,0.8s,baz=69,slow=7.9,SNR=3.0
MKAR LR LR 18 35 00.7
comp=Z,114nm,18.4s,baz=65,slow=37
MKAR Makanchi Array 45.92 302 eP **P** **18 14 43.0 -0.1**
MKAR 18 16 19.3
MKAR pmax pmax
comp=Z,37nm,0.8s
MKAR Makanchi Array 45.92 302 eP **P** **18 14 43.0 -0.1**
comp=Z,37nm,0.8s
MKAR PcP **PcP** **18 16 19.2 -0.5**
MAKZ Makanchi 46.13 302 eP **P** **18 14 44.8 +0.1**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 46.13 302 eP **P** **18 14 44.8 +0.1**
comp=Z,7.9nm,0.8s
SRDT SRDT 46.47 252 P **P** **18 14 49.6 +2.0**
comp=Z,44nm,0.9s
PMR Palmer 46.55 37 eP **P** **18 14 47.8 +0.1**
PMR pmax pmax
comp=Z,26nm,1.1s
PMR Palmer 46.55 37 eP **P** **18 14 47.8 +0.1**
comp=Z,26nm,1.1s
MCK McKinley 46.64 34 eP **P** **18 14 49.0 +0.6**
MCK pmax pmax
comp=Z,12nm,0.9s
MCK McKinley 46.64 34 eP **P** **18 14 49.0 +0.6**
comp=Z,12nm,0.9s
RND Reindeer 46.67 35 eP **P** **18 14 49.1 +0.3**
RND pmax pmax
comp=Z,37nm,1.2s
RND Reindeer 46.67 35 eP **P** **18 14 49.1 +0.3**
comp=Z,37nm,1.2s
TOLK Toolik Lake Re 46.70 27 P **P** **18 14 49.9 +1.0**
baz=264
TOLK Toolik Lake Re 46.70 27 eP **P** **18 14 50.1 +1.3**
comp=Z,18nm,1.0s
SML Sawmill 46.92 37 eP **P** **18 14 51.4 +0.7**
SML pmax pmax
comp=Z,40nm,1.1s
SML Sawmill 46.92 37 eP **P** **18 14 51.4 +0.7**
comp=Z,40nm,1.1s
PMG Port Moresby 46.93 177 LR LR 18 31 34.5
comp=Z,48nm,19.8s,baz=356,slow=32
MDM Murphy Dome 46.98 32 eP **P** **18 14 52.0 +0.9**
comp=Z,38nm,1.0s
PHET Kaeng Krachan 46.99 251 P **P** **18 14 53.7 +2.0**
WRH Wood River Hil 47.02 33 eP **P** **18 14 51.5 +0.2**
WRH ePcP **PcP** **18 16 23.2 +0.1**
DHY Denali Highway 47.34 35 eP **P** **18 14 54.5 +0.4**
comp=Z,38nm,1.8s
SCM Sheep Creek Mo 47.40 37 eP **P** **18 14 55.4 +0.9**
SCM pmax pmax
comp=Z,62nm,1.4s
SCM Sheep Creek Mo 47.40 37 eP **P** **18 14 55.4 +0.9**
comp=Z,62nm,1.4s
HDA Harding Lake 47.52 33 eP **P** **18 14 55.5 +0.2**
comp=Z,18nm,1.0s
KURK Kurchatov 47.53 308 d iP **P** **18 14 55.4 -0.1**
KURK pmax pmax
comp=Z,50nm,0.8s
KURK Kurchatov 47.53 308 eP **P** **18 14 55.3 -0.2**
comp=Z,13nm,0.8s
KURK ePcP **PcP** **18 16 25.2 0.0**
ILAR Eielson Array 47.55 33 P **P** **18 14 55.4 -0.1**
comp=Z,12nm,0.8s,baz=265,slow=6.3,SNR=101
ILB Eielson Array 47.55 33 eP **P** **18 14 55.6 +0.2**
KURBB Kurchatov Arra 47.60 308 P **P** **18 14 55.9 -0.1**
comp=Z,12nm,0.6s,baz=82,slow=7.9,SNR=119
KURBB PcP **PcP** **18 16 25.2 -0.3**
comp=Z,1.8nm,0.7s,baz=78,slow=3.5,SNR=5.3
KLU Klutina 48.09 37 eP **P** **18 15 00.9 +1.1**
comp=Z,38nm,1.1s
DIV Divide 48.18 38 eP **P** **18 15 01.7 +1.2**
comp=Z,60nm,1.2s
PAX Paxson 48.22 35 eP **P** **18 15 02.2 +1.4**
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 48.22 35 eP **P** **18 15 02.2 +1.4**
comp=Z,8.2nm,0.9s
FYU Fort Yukon 48.24 30 eP **P** **18 15 02.4 +1.7**
comp=Z,43nm,1.1s
TAPN Taplejung 48.44 275 eP **P** **18 15 04.6 +1.4**
comp=Z,19nm,1.0s
PDGK Podgornoye 48.71 298 i P **P** **18 15 04.7 -0.2**
PDGK pmax pmax
comp=Z,17nm,1.3s
BMRM Bremner River 48.76 38 eP **P** **18 15 06.8 +1.8**
comp=Z,40nm,1.3s
DOT Dot Lake 48.81 34 eP **P** **18 15 05.2 -0.1**
comp=Z,22nm,0.9s
ODAN Odare 48.91 275 eP **P** **18 15 07.1 +0.3**
comp=Z,19nm,0.9s
MENT Mentasta 49.02 35 eP **P** **18 15 08.1 +1.2**
comp=Z,14nm,0.9s
JIRN Jiri 49.49 276 eP **P** **18 15 11.9 +0.5**
RAMN Ramite 49.50 275 eP **P** **18 15 11.5 +0.2**
comp=Z,32nm,0.7s
CRQM Cirque 49.50 38 eP **P** **18 15 12.2 +1.5**
comp=Z,65nm,1.1s
GUN Gumba 49.62 277 eP **P** **18 15 12.8 +0.4**
comp=Z,56nm,1.0s
TGL Tana Glacier 49.65 38 eP **P** **18 15 13.2 +1.4**
comp=Z,38nm,1.1s
BALM Baldy 49.85 38 eP **P** **18 15 14.4 +1.0**
BALM pmax pmax
comp=Z,25nm,1.2s
BALM Baldy 49.85 38 eP **P** **18 15 14.4 +1.0**
comp=Z,25nm,1.2s
PKI Pulchoki 50.15 277 eP **P** **18 15 16.1 -0.3**
comp=Z,10nm,0.9s
KKN Kakani 50.15 277 eP **P** **18 15 16.5 +0.3**
comp=Z,19nm,0.7s
PKIN Phulchoki 50.16 277 eP **P** **18 15 15.9 -0.4**
comp=Z,6.1nm,0.7s
DMN Daman 50.37 277 eP **P** **18 15 17.9 0.0**
GKN Gorkha 50.56 278 eP **P** **18 15 19.5 +0.2**
comp=Z,60nm,1.2s
DAWY Dawson 50.84 33 eP **P** **18 15 22.0 +1.3**
comp=Z,8.3nm,1.1s
DANN Dangsing 51.09 278 eP **P** **18 15 23.9 +0.5**
comp=Z,6.6nm,0.9s
KULM Kulim 51.38 242 eP **P** **18 15 26.1 +0.7**
comp=Z,28nm,1.3s
KOLN Koldanda 51.48 278 eP **P** **18 15 25.4 -0.8**
TKM2 Tokmak 2 51.55 299 i P **P** **18 15 27.2 +0.6**
TKM2 pmax pmax
comp=Z,20nm,0.9s
IPM Ipoh 51.70 241 eP **P** **18 15 27.6 -0.1**
comp=Z,15nm,1.0s
PYUN Piuthan 51.81 278 eP **P** **18 15 28.7 0.0**
comp=Z,50nm,1.0s
BRVK Borovoye 52.06 313 d iP **P** **18 15 30.1 +0.2**
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 52.06 313 eP **P** **18 15 30.6 +0.7**
comp=Z,8.8nm,0.9s
HYT Haines Junctio 52.22 37 eP **P** **18 15 33.3 +2.1**
comp=Z,58nm,1.2s
FRU Bishkek 52.26 299 eP **P** **18 15 30.5 -1.1**
AAK Ala-Archa 52.41 299 P **P** **18 15 33.4 +0.5**
comp=Z,1.8nm,0.8s,baz=136,slow=7.0,SNR=6.6
AAK Ala-Archa 52.41 299|| eP **P** **18 15 33.0 +0.1**
AAK pmax pmax
comp=Z,12nm,1.1s
KSH Kashi 52.45 295 P P 18 15 37.8 +4.5
KSH pP sP 18 15 50.5 +6.0
KSH sP pP 18 15 55.5 +14
KSH PcP **PcP** **18 16 46.5 +2.8**
KSH PP **PP** **18 17 38.5 +6.5**
KSH PcS **PcS** **18 20 44.5 +2.3**
KSH S **S** **18 23 01.0 +3.0**
KSH ScS **ScS** **18 25 20.8 -0.7**
KSH SS **SS** **18 26 39.5 +3.7**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,79nm,4.7s
KSH LR LR
comp=Z,100nm,11.0s
KSH LR LR
comp=Z,180nm,13.2s
KSH LR LR
comp=Z,150nm,11.0s
INK Inuvik 52.61 28 P **P** **18 15 34.7 +1.0**
comp=Z,11nm,0.9s,baz=289,slow=7.1,SNR=19
WHY Whitehorse 53.51 37 eP **P** **18 15 42.5 +1.8**
comp=Z,33nm,1.4s
MNAS Manas 53.84 299 i P **P** **18 15 43.6 +0.2**
MNAS pmax pmax
comp=Z,11nm,0.7s
PSI Prapat 54.35 242 P **P** **18 15 47.6 +0.2**
comp=Z,6.6nm,0.5s,baz=53,slow=5.4,SNR=5.0
KKAR Karatay Array 54.99 301 eP **P** **18 15 51.8 +0.2**
KKAR pmax pmax
comp=Z,42nm,0.9s
KKAR Karatay Array 54.99 301 eP **P** **18 15 51.8 +0.2**
comp=Z,42nm,0.9s
SVE Sverdlovsk 56.32 319 eP **P** **18 16 01.6 +0.7**
SVE pmax pmax
comp=Z,14nm,0.9s
SVE MLR MLR
comp=Z,493nm,16.0s
DLBC Dease Lake 56.50 39 P **P** **18 16 01.5 -0.8**
comp=Z,1.2nm,0.4s,baz=334,slow=8.9,SNR=4.0
ARU Arti 57.54 319 c iP **P** **18 16 09.3 -0.2**
ARU 18 16 56.9
ARU 18 18 17.0
ARU S **S** **18 24 05.2 -0.1**
ARU SS **SS** **18 27 56.1 +1.3**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU MLR MLR
comp=Z,435nm,16.0s
ARU Arti 57.54 319 eP **P** **18 16 09.1 -0.4**
comp=Z,22nm,1.4s
WRAB Tennant Creek 58.15 191 d iP **P** **18 16 12.2 -2.0**
WRAB pmax pmax
comp=Z,60nm,0.8s
WR1 Warramunga Arr 58.16 191 eP **P** **18 16 12.3 -1.9**
comp=Z,32nm,0.8s
WRA Warramunga Arr 58.16 191 P **P** **18 16 12.3 -1.9**
comp=Z,22nm,0.8s,baz=11,slow=7.2,SNR=68
FITZ Fitzroy Crossi 58.32 201 P **P** **18 16 14.8 -0.6**
comp=Z,9.4nm,0.9s,baz=10,slow=8.6,SNR=7.2
FITZ Fitzroy Crossi 58.32 201 eP **P** **18 16 14.4 -1.0**
comp=Z,17nm,1.1s
AB31 Akbulak array 59.45 311 i P **P** **18 16 22.7 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 59.45 311 eP **P** **18 16 22.9 -0.1**
comp=Z,52nm,0.6s
AKTO Aktyubinsk 60.11 313 i P **P** **18 16 26.9 -0.6**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
HYB Hyderabad 60.77 270 i P **P** **18 16 32.0 -0.5**
RES Resolute Bay 61.29 15 P **P** **18 16 35.1 0.0**
comp=Z,8.5nm,0.8s,baz=316,slow=7.5,SNR=12
AS31 Alice Springs 61.88 191 eP **P** **18 16 38.5 -1.2**
comp=Z,1.8nm,0.6s
ASAR Alice Springs 61.88 191 P **P** **18 16 38.1 -1.6**
comp=Z,3.9nm,0.8s,baz=13,slow=6.9,SNR=23
ASAR LR LR 18 43 52.6
comp=Z,19nm,18.7s,baz=30,slow=36
LVZ Lovozero 62.53 336⇑ eP **P** **18 16 42.8 -0.8**
LVZ pmax pmax
comp=Z,42nm,2.2s
LLLB Lilloоet 63.98 45 eP **P** **18 16 54.6 +1.1**
comp=Z,15nm,1.2s
ARCES ARCESS Array B 64.25 340 LR LR 18 49 29.6
comp=Z,61nm,18.8s,baz=71,slow=40
NLWA Neilton Lookou 64.36 49 eP **P** **18 16 57.9 +1.9**
comp=Z,46nm,1.3s
KLMR Klimovskoe 64.53 328 eP **P** **18 16 54.8 -2.1**
KLMR e 18 19 15.3
KLMR pmax pmax
comp=Z,13nm,1.5s
B05A Bryant 64.98 47 P **P** **18 17 01.1 +1.0**
baz=299
DAG Danmarks Havn 65.30 356 i P **P** **18 17 01.3 -0.4**
comp=Z,7.2nm,0.9s
DAG Danmarks Havn 65.30 356 i P **P** **18 17 01.3 -0.4**
DAG pmax pmax
comp=Z,6.0nm,0.9s
F04D Rainier, OR 65.51 50 P **P** **18 17 06.1 +2.6**
baz=300
GEYT Alibeck 65.73 300 P **P** **18 17 05.2 +0.1**
comp=Z,8.0nm,0.8s,baz=31,slow=3.5,SNR=24
GEYT LR LR 18 48 32.1
comp=Z,91nm,18.4s,baz=80,slow=38
C06D Leavenworth 65.85 47 P **P** **18 17 06.9 +1.1**
baz=300
LON Longmire 65.90 49 eP **P** **18 17 07.2 +1.1**
LON pmax pmax
comp=Z,12nm,1.3s
LON Longmire 65.90 49 eP **P** **18 17 07.2 +1.1**
comp=Z,12nm,1.3s
I03D Drain, OR 66.48 52 P **P** **18 17 11.1 +1.3**
baz=300
B08A Colville Reser 66.53 46 eP **P** **18 17 11.1 +0.9**
comp=Z,15nm,1.2s
G05D Wamic, OR 66.95 50 P **P** **18 17 14.1 +1.2**
baz=301
L02D Cave Junction, 67.10 54 P **P** **18 17 14.6 +0.7**
baz=301
E07A Sunnyside 67.16 48 eP **P** **18 17 15.6 +1.4**
comp=Z,21nm,1.0s
G06A Carlson Farm, 67.37 50 eP **P** **18 17 16.9 +1.4**
comp=Z,15nm,1.1s

I05D	Terrebonne, OR	67.41	51	P	P	18 17 16.6	+0.9
	baz=301						
C09A	Chrisman Ranch	67.43	46	eP	P	18 17 16.1	+0.2
	comp=Z,28nm,1.2s						
HAWA	Hanford	67.43	48	eP	P	18 17 17.2	+1.4
	comp=Z,19nm,1.3s						
D08A	Wollman Farm,	67.44	47	eP	P	18 17 16.7	+0.8
	comp=Z,12nm,0.8s						
J04D	Umpqua Nationa	67.49	52	P	P	18 17 17.3	+0.8
	baz=301						
E08A	Dider Farm, El	67.66	48	eP	P	18 17 18.1	+0.9
	comp=Z,19nm,1.2s						
NEW	Newport	67.84	46	P	P	18 17 19.1	+0.6
	comp=Z,7.5nm,0.7s,baz=313,slow=3.7,SNR=9.7						
NEW	Newport	67.84	46	P	P	18 17 18.9	+0.4
	baz=302,SNR=5.4						
NEW	Newport	67.84	46	eP	P	18 17 19.2	+0.7
NEW				pmax	pmax		
	comp=Z,17nm,1.0s						
NEW	Newport	67.84	46	eP	P	18 17 19.2	+0.7
	comp=Z,17nm,1.0s						
YBH	Yreka Blue Hor	67.89	54	eP	P	18 17 20.7	+1.8
YBH				pmax	pmax		
	comp=Z,11nm,1.2s						
YBH	Yreka Blue Hor	67.89	54	eP	P	18 17 20.7	+1.8
	comp=Z,11nm,1.2s						
M02C	Callahan	67.98	54	P	P	18 17 20.1	+0.7
	baz=301						
J05D	Fort Rock, OR	68.02	52	P	P	18 17 20.5	+0.8
	baz=302						
E09A	Wood Farm, Sta	68.18	48	eP	P	18 17 21.3	+0.8
	comp=Z,17nm,0.9s						
N02D	Trinity Center	68.29	54	P	P	18 17 22.7	+1.3
	baz=302						
M04C	Macdoel	68.42	53	P	P	18 17 23.3	+1.0
	baz=302						
OBN	Obninsk	69.06	324	ceP	P	18 17 26.1	+0.3
OBN				e		18 19 59.0	
OBN				i S	S	18 26 49.5	+20
OBN				eSS	SS	18 30 51.7	-2.6
OBN				pmax	pmax		
	comp=Z,27nm,1.7s						
OBN				MLR	MLR		
	comp=Z,252nm,15.0s						
WALA	Waterton Lakes	69.20	44	eP	P	18 17 28.0	+1.0
	comp=Z,15nm,1.0s						
O03D	Paynes Creek	69.23	55	P	P	18 17 27.3	0.0
	baz=302						
STKA	Stephens Creek	69.29	183	LR	LR	18 48 30.6	
	comp=Z,25nm,19.4s,baz=22,slow=37						
MOD	Modoc Plateau	69.33	53	eP	P	18 17 29.0	+1.0
	comp=Z,15nm,1.4s						
FIA0	FINESS Array S	69.38	333	eP	P	18 17 27.8	+0.1
FIA0	FINESS Array S	69.38	333	eP	P	18 17 27.8	+0.1
FINES	FINESS Array B	69.38	333	P	P	18 17 27.8	+0.1
	comp=Z,7.9nm,1.0s,baz=39,slow=7.3,SNR=9.0						
FINES				LR	LR	18 51 17.3	
	comp=Z,125nm,18.2s,baz=48,slow=39						
LPSR	Galich'ya Gora	69.40	321	eP	P	18 17 27.9	-0.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BMO	Blue Mountains	69.58	49	eP	P	18 17 30.2	+0.8
BMO				pmax	pmax		
	comp=Z,12nm,1.1s						
BMO	Blue Mountains	69.58	49	eP	P	18 17 30.1	+0.8
	comp=Z,12nm,1.1s						
ORV	Oroville	69.82	55	eP	P	18 17 31.5	+0.6
ORV				pmax	pmax		
	comp=Z,14nm,1.4s						
ORV	Oroville	69.82	55	eP	P	18 17 31.5	+0.6
	comp=Z,14nm,1.4s						
SUMG	Summit	69.98	1	i P	P	18 17 32.6	+0.8
	comp=Z,13nm,1.1s						
SUMG	Summit	69.98	1	i P	P	18 17 32.6	+0.8
SUMG				pmax	pmax		
	comp=Z,13nm,1.1s						
SWMT	Swartz Lake	70.02	45	eP	P	18 17 33.0	+0.9
MAK	Makhachkala	70.03	309	eP	P	18 17 30.6	-1.4
MAK				eS	S	18 26 36.3	-4.6
MAK				MLR	MLR		
	comp=Z,217nm,15.0s						
WVOR	Wild Horse Val	70.08	51	eP	P	18 17 33.8	+1.2
WVOR				pmax	pmax		
	comp=Z,16nm,1.3s						
WVOR	Wild Horse Val	70.08	51	eP	P	18 17 33.8	+1.2
	comp=Z,16nm,1.3s						
BEKR	Beckworth	70.39	54	eP	P	18 17 35.6	+1.0
	comp=Z,13nm,1.1s						
MSO	Missoula	70.43	46	P	P	18 17 34.9	+0.3
	baz=304,SNR=6.0						
MSO	Missoula	70.43	46	eP	P	18 17 35.3	+0.7
	comp=Z,27nm,1.4s						
SLMT	Seeley Lake	70.45	45	eP	P	18 17 35.5	+0.7
AFDM	Forest Hills D	70.50	56	eP	P	18 17 35.9	+0.9
	comp=Z,15nm,1.7s						
PAHR	Pah Rah Range	71.11	54	eP	P	18 17 40.0	+1.1
	comp=Z,12nm,1.1s						
MFID	Camas Ranch	71.26	49	eP	P	18 17 40.2	+0.5
	comp=Z,14nm,1.0s						
PNTR	Pine Nut	71.31	55	eP	P	18 17 41.7	+1.5
	comp=Z,34nm,1.8s						
CMB	Columbia Colle	71.38	56	eP	P	18 17 41.0	+0.6
CMB				pmax	pmax		
	comp=Z,16nm,1.3s						
CMB	Columbia Colle	71.38	56	eP	P	18 17 41.0	+0.6
	comp=Z,16nm,1.3s						
GOF	Gofitskoye	71.53	313⇑	eP	P	18 17 41.4	+0.3
GOF				pmax	pmax		
	comp=Z,18nm,0.8s						
YERR	Yerington	71.60	55	eP	P	18 17 43.3	+1.4
	comp=Z,15nm,1.1s						
FFC	Flin Flon	71.73	34	eP	P	18 17 42.7	+0.5
FFC				pmax	pmax		
	comp=Z,22nm,1.1s						
FFC	Flin Flon	71.73	34	eP	P	18 17 42.7	+0.5
	comp=Z,22nm,1.1s						
WAKR	Walker	71.74	55	eP	P	18 17 44.3	+1.5
	comp=Z,8.3nm,1.1s						
LRM	Limekiln Ridge	71.86	46	eP	P	18 17 44.5	+1.0
HLID	Hailey	72.02	49	P	P	18 17 45.3	+0.9
	baz=305,SNR=11						
HLID	Hailey	72.02	49	eP	P	18 17 45.4	+0.9
	comp=Z,7.8nm,0.9s						
DLMT	Dillon	72.04	46	eP	P	18 17 45.2	+0.8
	comp=Z,13nm,0.8s						
EGMT	Eagleton	72.05	43	P	P	18 17 45.0	+0.7
	baz=307						
BMN	Battle Mountai	72.08	53	eP	P	18 17 46.0	+1.2
BMN				pmax	pmax		
	comp=Z,16nm,1.1s						
BMN	Battle Mountai	72.08	53	eP	P	18 17 46.0	+1.2
	comp=Z,16nm,1.1s						
NCK	Nalchik	72.10	311⇓	i P	P	18 17 46.1	+1.5
NCK				pmax	pmax		
	comp=Z,3.0nm,0.2s						
MCMT	McKenzie Canyo	72.21	47	eP	P	18 17 46.0	+0.5
ZEI	Tsey	72.32	311	eP	P	18 17 42.6	-3.6
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	Kislovodsk	72.37	312	eP	P	18 17 47.1	+0.8
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
KIV	Kislovodsk	72.37	312	eP	P	18 17 47.5	+1.1
	comp=Z,53nm,1.4s						
KBZ	Khabaz	72.38	312	P	P	18 17 46.9	+0.7
	comp=Z,11nm,1.0s,baz=58,slow=1.8,SNR=14						
BOZ	Bozeman (W)	72.45	46	P	P	18 17 47.7	+0.8
	baz=306,SNR=14						
BOZ	Bozeman (W)	72.45	46	eP	P	18 17 47.6	+0.7
BOZ				pmax	pmax		
	comp=Z,12nm,0.9s						
BOZ	Bozeman (W)	72.45	46	eP	P	18 17 47.6	+0.7
	comp=Z,12nm,0.9s						
MLAC	Mammoth, Mammo	72.62	56	P	P	18 17 49.4	+1.2
	baz=304						
NEY	Neytrino	72.76	312⇓	i P	P	18 17 49.8	+1.0
NEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
QLMT	Earthquake Lak	73.02	46	eP	P	18 17 51.7	+1.4
YHB	Horse Butte	73.20	46	eP	P	18 17 52.7	+1.2
	comp=Z,26nm,1.2s						
YHH	Holmes Hill	73.38	46	eP	P	18 17 53.8	+1.2
	comp=Z,12nm,1.2s						
YMR	Madison River	73.38	46	eP	P	18 17 53.9	+1.4
	comp=Z,36nm,1.5s						
VES	Vestal, Richgr	73.47	57	P	P	18 17 53.0	+0.1
	baz=305						
YNR	Norris Junctio	73.52	46	eP	P	18 17 55.5	+2.1
	comp=Z,14nm,1.1s						
PKM	Mcpherson Peak	73.52	59	P	P	18 17 53.3	-0.2
	baz=305						
YFT	Old Faithful	73.59	46	eP	P	18 17 56.2	+2.5
	comp=Z,13nm,1.0s						
YPP	Pitchstone Pla	73.71	46	eP	P	18 17 56.9	+2.3
	comp=Z,15nm,1.2s						
H17A	Grant Village	73.77	46	P	P	18 17 57.3	+2.5
	baz=307,SNR=11						
H17A	Grant Village	73.77	46	eP	P	18 17 57.8	+2.9
	comp=Z,33nm,1.0s						
CWC	Cottonwood Cre	73.80	56	P	P	18 17 55.5	+0.5
	baz=305						
IMW	Indian Meadow	73.86	47	eP	P	18 17 57.1	+1.6
	comp=Z,25nm,1.0s						
GRAC	Grapevine Rang	73.95	56	P	P	18 17 56.5	+0.7
	baz=305						
FXWY	Fox Creek	73.97	47	eP	P	18 17 57.4	+1.4
	comp=Z,19nm,1.0s						
HVU	Hansel Valley	74.04	49	eP	P	18 17 57.5	+1.1
HVU				pmax	pmax		
	comp=Z,13nm,1.1s						
HVU	Hansel Valley	74.04	49	eP	P	18 17 57.5	+1.1
	comp=Z,13nm,1.1s						
MOOW	Moose Ponds	74.06	47	eP	P	18 17 57.9	+1.3
	comp=Z,19nm,1.1s						
RLMT	Red Lodge	74.07	45	P	P	18 17 57.6	+1.1
	baz=308						
RLMT	Red Lodge	74.07	45	eP	P	18 17 57.8	+1.3
	comp=Z,17nm,1.4s						
TPAW	Teton Pass	74.10	47	eP	P	18 17 58.2	+1.4
	comp=Z,34nm,1.4s						
DAC	Darwin (Calif)	74.21	56	eP	P	18 17 58.0	+0.5
DAC				pmax	pmax		
	comp=Z,12nm,1.3s						
DAC	Darwin (Calif)	74.21	56	eP	P	18 17 58.0	+0.5
	comp=Z,12nm,1.3s						
REDW	Red Top Meadow	74.23	47	eP	P	18 17 59.1	+1.6
	comp=Z,20nm,1.1s						
R11A	Troy Canyon, C	74.31	54	P	P	18 17 58.7	+0.7
	baz=306,SNR=20						
R11A	Troy Canyon, C	74.31	54	eP	P	18 17 58.8	+0.7
	comp=Z,20nm,1.4s						
BGU	Big Grassy Mou	74.39	50	eP	P	18 17 59.7	+1.3
	comp=Z,4.7nm,1.0s						
MPMC	Manual Prospec	74.41	56	P	P	18 17 59.3	+0.7
	baz=306,SNR=11						
NC204	NORSAR Array S	74.46	339	eP	P	18 17 58.9	+0.6
NB2	NORSAR Subarra	74.52	338	P	P	18 17 58.0	-0.6
	comp=Z,12nm,0.9s,baz=38,slow=5.9						
NB200	NORSAR Array S	74.52	338	eP	P	18 17 58.5	-0.2
NOA	NORSAR Array B	74.52	338	P	P	18 17 58.5	-0.2
	comp=Z,7.3nm,0.8s,baz=38,slow=5.9,SNR=19						
FURC	Furnace Creek,	74.58	56	P	P	18 17 59.6	+0.3
	baz=306,SNR=7.9						
LRMC	Laurel Mtn Rad	74.61	57	P	P	18 18 00.1	+0.3
	baz=306,SNR=5.2						
DGMT	Dagmar	74.69	40	P	P	18 17 59.6	-0.2
	baz=310						
TPNV	Topopah Spring	74.70	55	P	P	18 18 00.8	+0.5
	baz=306						
TPNV	Topopah Spring	74.70	55	eP	P	18 18 01.0	+0.7
TPNV				pmax	pmax		
	comp=Z,19nm,1.1s						
TPNV	Topopah Spring	74.70	55	eP	P	18 18 01.0	+0.7
	comp=Z,19nm,1.1s						
EDW2	Edwards Air Fo	74.75	58	P	P	18 18 01.2	+0.7
	baz=306,SNR=8.1						
HWUT	Hardware Ranch	74.87	49	eP	P	18 18 02.4	+1.1
	comp=Z,28nm,1.3s						
DUG	Dugway, Tooele	74.96	51	P	P	18 18 02.6	+0.9
	baz=307						
DUG	Dugway, Tooele	74.96	51	eP	P	18 18 02.8	+1.1
DUG				pmax	pmax		
	comp=Z,17nm,1.0s						
DUG	Dugway, Tooele	74.96	51	eP	P	18 18 02.8	+1.1
	comp=Z,17nm,1.0s						
TCUT	Toone Canyon	75.26	49	eP	P	18 18 05.0	+1.4
	comp=Z,29nm,1.2s						
AKASG	Malin Array Be	75.30	324	P	P	18 18 02.8	-0.4
	comp=Z,7.4nm,0.8s,baz=45,slow=6.0,SNR=21						
AKASG				LR	LR	18 54 40.7	
	comp=Z,116nm,18.1s,baz=65,slow=38						
AKASG	Malin Array Be	75.30	324	ceP	P	18 18 03.0	-0.2
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKBB	Malin Array Si	75.30	324	eP	P	18 18 03.1	-0.1
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKBB	Malin Array Si	75.30	324	eP	P	18 18 03.1	-0.1
	comp=Z,8.0nm,0.9s						
GSC	Goldstone, Bar	75.30	57	P	P	18 18 04.2	+0.6
	baz=306						
GSC	Goldstone, Bar	75.30	57	eP	P	18 18 04.6	+1.0
GSC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GSC	Goldstone, Bar	75.30	57	eP	P	18 18 04.6	+1.0
	comp=Z,9.1nm,1.1s						
KIEV	Kiev	75.31	324	d i P	P	18 18 03.0	-0.2
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIEV	Kiev	75.31	324	eP	P	18 18 03.1	-0.2
	comp=Z,7.6nm,0.9s						
CIS	Catalina Islan	75.32	59	P	P	18 18 04.0	+0.3
	baz=306						
BFSC	Mount Baldy Ra	75.35	58	P	P	18 18 04.1	+0.1
	baz=306						
BW06	Boulder Array	75.35	47	P	P	18 18 04.0	0.0
	baz=308						
BW06	Boulder Array	75.35	47	eP	P	18 18 04.2	+0.2
	comp=Z,6.0nm,0.8s						
PD31	Pinedale Array	75.35	47	eP	P	18 18 04.5	+0.5
PDAR	Pinedale Array	75.35	47	P	P	18 18 04.2	+0.2
	comp=Z,3.7nm,0.7s,baz=272,slow=2.4,SNR=28						
JLU	Jordanelle	75.55	50	eP	P	18 18 06.5	+1.3
	comp=Z,9.8nm,1.0s						
NLU	North Lily Min	75.56	51	eP	P	18 18 06.5	+1.2
	comp=Z,8.8nm,0.9s						
SUW	Suwalki	75.67	329	eP	P	18 18 05.8	+0.6
SUW	Suwalki	75.67	329	eP	P	18 18 05.8	+0.6
SHPR	Sheep Range	75.67	55	eP	P	18 18 07.4	+1.5
	comp=Z,15nm,1.1s						
MPU	Maple Canyon	75.79	50	eP	P	18 18 07.9	+1.3
	comp=Z,17nm,1.1s						
TUQ	Turquoise Moun	75.80	56	P	P	18 18 07.3	+0.7
	baz=306						
HEC	Hector,Ludlow	75.89	57	P	P	18 18 07.6	+0.6
	baz=306						
MURC	Murrieta	76.03	58	P	P	18 18 08.0	+0.2
	baz=306						
CCUT	Cedar City	76.20	53	eP	P	18 18 10.5	+1.5
	comp=Z,15nm,1.1s						
GMRC	Granite Mounta	76.36	57	P	P	18 18 10.2	+0.4
	baz=307						
TMUT	Trail Mountain	76.49	51	eP	P	18 18 11.8	+1.1
	comp=Z,70nm,0.7s						
109C	Camp Elliot, M	76.51	59	P	P	18 18 10.8	+0.3
	baz=306						
PFO	Pinyon Flats O	76.52	58	P	P	18 18 11.1	+0.4
	baz=306						
PFO	Pinyon Flats O	76.52	58	eP	P	18 18 11.4	+0.7
PFO				pmax	pmax		
	comp=Z,18nm,1.4s						
PFO	Pinyon Flats O	76.52	58	eP	P	18 18 11.4	+0.7
	comp=Z,18nm,1.4s						
XPFO	Piæon Flat	76.53	58	eP	P	18 18 11.4	+0.7
	comp=Z,20nm,1.4s						
BELC	Belle Mtn. Jos	76.60	57	P	P	18 18 11.2	+0.1
	baz=307						
MTPU	Mount Pierson	76.65	52	eP	P	18 18 13.2	+1.6
	comp=Z,14nm,1.0s						
P17A	Butcher Ranch,	76.67	50	eP	P	18 18 12.9	+1.4
	comp=Z,19nm,0.8s						
Q16A	Castle Valley	76.74	51	eP	P	18 18 13.4	+1.5
	comp=Z,21nm,1.2s						
KNB	Kanab	76.87	53	eP	P	18 18 14.4	+1.7
KNB				pmax	pmax		
	comp=Z,31nm,1.2s						
KNB	Kanab	76.87	53	eP	P	18 18 14.4	+1.7
	comp=Z,31nm,1.2s						
P18A	Preston Nutter	76.87	50	eP	P	18 18 13.1	+0.2
	comp=Z,15nm,1.1s						
SRU	San Rafael Swe	77.02	51	eP	P	18 18 14.4	+0.9
SRU				pmax	pmax		
	comp=Z,27nm,1.0s						
SRU	San Rafael Swe	77.02	51	eP	P	18 18 14.4	+0.9
	comp=Z,27nm,1.0s						
NEE2	Needles Airpor	77.06	56	P	P	18 18 13.8	+0.2
	baz=307						
IRM	Iron Mountain	77.08	57	P	P	18 18 14.2	+0.4
	baz=307						
K22A	Casper	77.16	46	P	P	18 18 14.3	0.0
	baz=310						
K22A	Casper	77.16	46	eP	P	18 18 14.9	+0.7
	comp=Z,21nm,1.0s						
BC3	Big Chuckawall	77.17	57	P	P	18 18 14.7	+0.3
	baz=307						
IKP	In-Ko-Pah, Jac	77.33	59	P	P	18 18 15.5	+0.3
	baz=307						
W13A	Hualapai Mount	77.34	55	eP	P	18 18 16.3	+0.9
	comp=Z,3.8nm,0.6s						
SWSC	Sam W. Stewart	77.36	58	P	P	18 18 15.3	+0.1
	baz=307						
RWWY	Rawlins	77.38	47	eP	P	18 18 16.4	+0.8
	comp=Z,14nm,0.9s						
MDND	Maddock	77.41	38	P	P	18 18 14.9	-0.4
	baz=313						
MARD	Mardin	77.50	308	eP	P	18 18 17.8	+1.6
	comp=Z,28nm,0.8s						
ULM	Lac du Bonnet	77.51	35	P	P	18 18 15.6	-0.2
	comp=Z,3.4nm,0.9s,baz=320,slow=13,SNR=3.4						
U15A	North Rim	77.56	54	eP	P	18 18 17.9	+1.2
	comp=Z,18nm,1.1s						
RSSD	Black Hills	77.60	43	P	P	18 18 16.5	-0.2
	baz=311						
RSSD	Black Hills	77.60	43	eP	P	18 18 16.9	+0.2
RSSD				pmax	pmax		
	comp=Z,21nm,1.5s						
RSSD	Black Hills	77.60	43	eP	P	18 18 16.9	+0.2
	comp=Z,21nm,1.5s						
PDMCI	Parker Dam,Lak	77.65	56	P	P	18 18 17.8	+0.9
	baz=307						
Y12C	Blythe	77.73	57	P	P	18 18 17.9	+0.6
	baz=307						
Y12C	Blythe	77.73	57	eP	P	18 18 18.4	+1.0
	comp=Z,13nm,1.1s						
O20A	White River Ci	77.76	49	P	P	18 18 17.9	+0.2
	baz=309						
O20A	White River Ci	77.76	49	eP	P	18 18 18.5	+0.8
	comp=Z,35nm,1.4s						
GLA	Glamis	77.95	58	P	P	18 18 19.4	+0.8
	baz=307						
A32A	Rocking H Ranc	78.16	36	P	P	18 18 19.6	+0.2
	baz=315						
PV09	Paradox Valley	78.25	50	eP	P	18 18 21.8	+1.2
LVV	L'vov	78.31	325	eP	P	18 18 21.4	+1.2
PV10	Paradox Valley	78.39	50	eP	P	18 18 22.7	+1.5
B32A	Ashes, Strandq	78.51	37	P	P	18 18 21.4	0.0
	baz=315						
PV05	Paradox Valley	78.54	51	eP	P	18 18 23.2	+1.2
N23A	Red Feather La	78.62	47	P	P	18 18 23.4	+0.8
	baz=310						
N23A	Red Feather La	78.62	47	eP	P	18 18 23.5	+1.0
	comp=Z,22nm,1.1s						
PHWY	Pilot Hill	78.64	46	eP	P	18 18 22.9	+0.2
	comp=Z,14nm,1.4s						
A33A	Warroad	78.66	36	P	P	18 18 21.7	-0.5
	baz=316						
WUAZ	Wupatki	78.71	54	P	P	18 18 23.7	+0.8
	baz=308						
WUAZ	Wupatki	78.71	54	eP	P	18 18 24.0	+1.1
	comp=Z,20nm,1.0s						
PV01	Paradox Valley	78.83	50	eP	P	18 18 24.7	+1.1
113A	Mohawk Valley,	78.83	57	eP	P	18 18 24.4	+1.0
	comp=Z,6.5nm,0.6s						
AGMN	Agassiz Nation	78.90	36	P	P	18 18 23.5	0.0
	baz=315						
KWP	Kalwaria Pacla	79.04	326	eP	P	18 18 25.1	+0.8
KWP	Kalwaria Pacla	79.04	326	eP	P	18 18 25.1	+0.8
SMCO	Snowmass	79.12	49	eP	P	18 18 26.5	+1.0
	comp=Z,24nm,1.6s						
E31A	Nome	79.15	39	P	P	18 18 24.7	-0.2
	baz=314						
BUR08	Bucovina Ar. S	79.32	323	eP	P	18 18 26.8	+0.8
C33A	Trail	79.32	37	P	P	18 18 25.6	-0.3
	baz=316						
BURAR	Bucovina Array	79.33	323⇑	i P	P	18 18 26.8	+0.8
X16A	Lo Mia Camp, P	79.35	55	eP	P	18 18 27.6	+1.2
	comp=Z,15nm,1.1s						
TESR	Tescani	79.42	322⇑	i P	P	18 18 27.0	+0.6
MVCO	Mesa Verde	79.46	51	P	P	18 18 27.5	+0.4
	baz=310						
MVCO	Mesa Verde	79.46	51	eP	P	18 18 28.2	+1.1
	comp=Z,25nm,1.4s						
ISCO	Idaho Springs	79.53	48	P	P	18 18 28.1	+0.6
	baz=311						
ISCO	Idaho Springs	79.53	48	eP	P	18 18 28.7	+1.2
ISCO				pmax	pmax		
	comp=Z,21nm,1.6s						
ISCO	Idaho Springs	79.53	48	eP	P	18 18 28.7	+1.2
	comp=Z,21nm,1.6s						
CFR	Carcaliu	79.60	320⇑	i P	P	18 18 27.6	+0.2
VRI	Vrincioaia	79.83	321⇑	i P	P	18 18 31.0	+2.3
B35A	Bob, Littlefor	79.84	35	P	P	18 18 28.5	-0.2
	baz=317						
STHS	Stebnicka Huta	79.84	326	eP	P	18 18 30.0	+1.3
STHS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
STHS	Stebnicka Huta	79.84	326	eP	P	18 18 30.0	+1.3
OJC	Ojcow	79.87	328	eP	P	18 18 29.6	+0.8
OJC	Ojcow	79.87	328	eP	P	18 18 29.8	+1.0
OJC				pmax	pmax		
	comp=Z,20nm,1.1s						
OJC	Ojcow	79.87	328	eP	P	18 18 29.8	+1.0
	comp=Z,20nm,1.1s						
G31A	Conde	79.92	40	P	P	18 18 28.4	-0.7
	baz=314						
UZH	Uzhgorod	79.95	325	eP	P	18 18 29.7	+0.5
UZH				e		18 18 37.3	
W18A	Petrified Fore	80.00	53	P	P	18 18 30.6	+0.5
	baz=309						
W18A	Petrified Fore	80.00	53	eP	P	18 18 31.0	+1.0
	comp=Z,9.3nm,1.0s						
TLB	Topalu	80.06	320⇑	i P	P	18 18 30.8	+0.9
D34A	Park Rapids	80.08	37	P	P	18 18 29.3	-0.7
	baz=316						
E33A	Westby DABS, E	80.11	38	P	P	18 18 29.7	-0.4
	baz=316						
S22A	4UR Ranch, Cre	80.13	50	eP	P	18 18 31.8	+1.0
	comp=Z,17nm,1.3s						
C35A	Jirik Farms, M	80.21	36	P	P	18 18 30.6	-0.1
	baz=317						
X18A	Snowflake	80.24	54	eP	P	18 18 32.5	+1.2
	comp=Z,14nm,1.3s						
G32A	Webster	80.25	39	P	P	18 18 31.1	+0.2
	baz=315						
NIE	Niedzica	80.25	327	eP	P	18 18 31.7	+0.8
NIE	Niedzica	80.25	327	eP	P	18 18 31.7	+0.8
BR101	Keskin Array S	80.29	313	eP	P	18 18 31.9	+0.5
BRTR	Keskin Array B	80.29	313	P	P	18 18 31.9	+0.5
	comp=Z,3.1nm,1.0s,baz=103,slow=3.9,SNR=10						
BRTR				LR	LR	18 59 07.8	
	comp=Z,47nm,19.2s,baz=88,slow=39						
BRTR	Keskin Array B	80.29	313	ceP	P	18 18 31.8	+0.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
Q24A	Divide	80.34	48	P	P	18 18 32.7	+0.7
	baz=311						
DOPR	Dopca	80.42	322⇑	i P	P	18 18 34.0	+2.1
F33A	5 Mile Ranch,	80.44	38	P	P	18 18 32.2	+0.3

baz=316
J31A Geddes 80.99 41 P P 18 18 34.7 -0.2
baz=314
C37A Embarrass 81.01 35 P P 18 18 35.2 +0.2
baz=318
H33A Prehn Over Nor 81.04 39 P P 18 18 35.2 0.0
baz=315
TUC Tucson 81.09 56 P P 18 18 35.8 +0.1
baz=309
TUC Tucson 81.09 56 *e*P **P 18 18 36.9 +1.1**
TUC pmax pmax
comp=Z,10.0nm,1.3s
TUC Tucson 81.09 56 *e*P **P 18 18 36.9 +1.1**
comp=Z,10nm,1.3s
DRGR 81.11 324⇑ *i*P **P 18 18 36.3 +0.7**
MORC Moravsky Berou 81.15 328⇑ *i*P **P 18 18 36.7 +1.0**
MORC Moravsky Berou 81.15 328 *e*P **P 18 18 36.7 +1.0**
MORC pmax pmax
comp=Z,50nm,1.1s
MORC Moravsky Berou 81.15 328 *e*P **P 18 18 36.7 +1.0**
comp=Z,50nm,1.1s
EYMN Ely 81.16 34 P P 18 18 35.2 -0.6
baz=318
DPC Dobruska-Polom 81.21 329 *e*P **P 18 18 36.9 +0.9**
DPC *es*P **sP 18 18 48.1 +0.6**
DPC Dobruska-Polom 81.21 329 *e*P **P 18 18 36.9 +0.9**
DPC *e* 18 18 48.1
baz=316
ARR Arges 81.22 322⇑ *i*P **P 18 18 37.8 +1.6**
KRLC Kraliky 81.23 329 *e*P **P 18 18 36.8 +0.6**
KRLC Kraliky 81.23 329 *e*P **P 18 18 36.8 +0.6**
E36A McGregor 81.41 36 P P 18 18 36.7 -0.4
baz=317
C38A Sawbill Land. 81.43 34 P P 18 18 36.4 -0.8
baz=318
K31A O'Neill 81.45 42 P P 18 18 36.7 -0.7
baz=314
I33A Coleman 81.46 40 P P 18 18 36.5 -0.9
baz=315
PSZ Piszkesteto 81.56 326⇑ *i*P **P 18 18 38.9 +1.0**
PSZ Piszkesteto 81.56 326 *e*P **P 18 18 38.9 +1.0**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 81.56 326 *e*P **P 18 18 38.9 +1.0**
comp=Z,16nm,1.1s
VYHS Vyhne 81.58 327 *e*P **P 18 18 38.9 +0.9**
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS Vyhne 81.58 327 *e*P **P 18 18 38.9 +0.9**
BRG Berggiesshubel 81.73 331 *e*P **P 18 18 38.9 +0.2**
comp=Z,9.7nm,1.3s
BRG Berggiesshubel 81.73 331 *e*P **P 18 18 38.9 +0.2**
BRG pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 81.75 332⇓ *i*P **P 18 18 38.7 0.0**
CLL pmax pmax
comp=Z,20nm,1.2s
CLL Collm 81.75 332⇓ *i*P **P 18 18 38.7 0.0**
comp=Z,20nm,1.2s
CLL Lm MLR 18 58 00.0
comp=Z,100nm,19.9s
CLL Collm 81.75 332 *e*P **P 18 18 38.8 0.0**
comp=Z,16nm,1.1s
F36A Milaca 81.76 37 P P 18 18 38.5 -0.4
baz=317
PVCC Panska Ves 81.77 330 *e*P **P 18 18 39.9 +1.0**
PVCC Panska Ves 81.77 330 *e*P **P 18 18 39.9 +1.0**
G35A Watkins 81.77 38 P P 18 18 38.7 -0.3
baz=317
ECSD EROS Data Cent 81.78 40 P P 18 18 38.3 -0.9
baz=316
ECSD EROS Data Cent 81.78 40 *e*P **P 18 18 38.9 -0.3**
comp=Z,5.7nm,0.9s
KSCO Kaye Shedlock' 81.78 47 P P 18 18 39.1 -0.3
baz=312
MHTCO State Highway 81.82 49 *e*P **P 18 18 41.2 +1.5**
comp=Z,22nm,1.3s
K32A Verdigre 81.83 41 P P 18 18 39.3 -0.1
baz=315
VRAC Vranov 81.91 329⇑ *i*P **P 18 18 40.8 +1.1**
H35A Sunnyside Ranc 81.98 38 P P 18 18 40.1 -0.1
baz=316
T25A Trinidad 81.98 49 P P 18 18 41.4 +0.8
baz=312
T25A Trinidad 81.98 49 *e*P **P 18 18 41.6 +1.1**
comp=Z,15nm,1.1s
GOPC GO Pecny, Ondr 82.17 330 *e*P **P 18 18 41.3 +0.3**
GOPC GO Pecny, Ondr 82.17 330 *e*P **P 18 18 41.3 +0.3**
ANMO Albuquerque 82.18 52 P P 18 18 42.4 +0.8
comp=Z,11nm,1.2s,baz=119,slow=6.5,SNR=11
ANMO Albuquerque 82.18 52 P P 18 18 42.5 +0.9
baz=311
ANMO Albuquerque 82.18 52 *e*P **P 18 18 42.8 +1.2**
ANMO pmax pmax
comp=Z,18nm,1.4s
ANMO Albuquerque 82.18 52 *e*P **P 18 18 42.8 +1.2**
comp=Z,18nm,1.4s
PRU Pruhonice 82.20 330 *e*P **P 18 18 41.9 +0.7**
PRU AMS AMS 19 04 00.0
comp=Z,100nm,15.7s
PRU Pruhonice 82.20 330 *e*P **P 18 18 41.9 +0.7**
PRU MLR MLR
comp=Z,100nm,15.7s
F38A Pierce - Schro 82.47 36 P P 18 18 43.1 +0.4
baz=318
BZS Buzias 82.49 324⇑ *i*P **P 18 18 43.0 +0.2**
H36A Jessenland, He 82.51 38 P P 18 18 43.0 +0.1
baz=317
319A Douglas 82.67 56 *e*P **P 18 18 45.3 +1.1**
comp=Z,18nm,0.9s
PPT Papeete 82.68 119 LR LR 18 46 24.0
comp=Z,67nm,21.8s,baz=347,slow=29
RAYN Ar Rayn 82.74 294 *e*P **P 18 18 44.6 0.0**
comp=Z,6.5nm,0.9s
NKC Novy Kostel 82.82 331 *e*P **P 18 18 44.9 +0.4**
NKC Novy Kostel 82.82 331 *e*P **P 18 18 44.9 +0.4**
121A Cookes Peak, D 82.90 54 P P 18 18 46.0 +0.6
baz=310
F39A Loretta 82.94 35 P P 18 18 45.2 0.0
baz=319
H37A Dierke Farm, C 82.99 37 P P 18 18 44.4 -1.0
baz=318
E40A Wakefield 83.00 35 P P 18 18 45.4 -0.1
baz=320
M33A Taylor Creek F 83.01 42 P P 18 18 44.5 -1.1
baz=315
G38A Ridgeland 83.06 36 P P 18 18 45.4 -0.4
baz=318
L34A Svendsen Farm, 83.16 41 P P 18 18 45.9 -0.5
baz=316
I37A Lemond, Waseca 83.18 38 P P 18 18 46.5 +0.1
baz=318
J36A Seneca 1, Swea 83.22 39 P P 18 18 46.2 -0.4
baz=317
H38A Maiden Rock 83.23 37 P P 18 18 46.7 +0.1
baz=318
KHC Kasperske Hory 83.27 330 *e*P **P 18 18 47.5 +0.8**
KHC *es*P **sP 18 18 58.4 +0.1**
KHC AMS AMS 19 00 40.0
comp=Z,200nm,15.7s
KHC Kasperske Hory 83.27 330 *e*P **P 18 18 47.6 +0.8**
KHC pmax pmax
comp=Z,7.0nm,1.3s
KHC Kasperske Hory 83.27 330 *e*P **P 18 18 47.6 +0.8**
comp=Z,6.9nm,1.3s
CONA Conrad Observa 83.29 328 *i*P **P 18 18 47.9 +0.8**
comp=Z,8.8nm,0.9s
G39A Holcombe 83.30 36 P P 18 18 47.1 +0.1
baz=319
F40A Park Falls 83.30 35 P P 18 18 46.4 -0.6
baz=319
EKA Eskdalemuir Ar 83.31 342 P P 18 18 47.4 +0.5
comp=Z,3.7nm,0.8s,baz=33,slow=6.6,SNR=6.7
E41A Kenton 83.41 34 P P 18 18 47.8 +0.2
baz=320
GEC2 GERESS Array S 83.45 330 *e*P **P 18 18 48.1 +0.3**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 83.45 330 *e*P **P 18 18 48.1 +0.3**
comp=Z,5.8nm,1.0s
GERES GERESS Array B 83.45 330 P P 18 18 48.0 +0.3
comp=Z,2.3nm,0.9s,baz=29,slow=3.8,SNR=15
GERES LR LR 18 58 52.6
comp=Z,100nm,20.9s,baz=30,slow=38
CBKS Cedar Bluff 83.56 45 P P 18 18 48.1 -0.5
baz=314
J37A Redenius Farm, 83.62 39 P P 18 18 47.9 -0.8
baz=317
K36A Gilmore City 83.66 40 P P 18 18 48.9 -0.1
baz=317
I38A Scanlan Farm, 83.68 37 P P 18 18 48.7 -0.3
baz=318
G40A Rib Lake 83.76 35 P P 18 18 50.1 +0.7
baz=319
E42A Champion 83.90 34 P P 18 18 50.6 +0.5
baz=321
F41A Three Lakes 83.90 35 P P 18 18 50.0 -0.1
baz=320
VTS Vitosha 83.94 321⇑ *i*P **P 18 18 51.6 +1.0**
VTS Vitosha 83.94 321 *e*P **P 18 18 51.2 +0.6**
VTS pmax pmax
comp=Z,16nm,1.1s
VTS Vitosha 83.94 321 *e*P **P 18 18 51.2 +0.6**
comp=Z,16nm,1.1s
K37A Belmond 83.98 39 P P 18 18 50.0 -0.6
baz=317
J38A Wedel Dairy, R 84.14 38 P P 18 18 51.5 +0.1
baz=318
H40A Chili 84.16 36 P P 18 18 50.9 -0.5
baz=319
I39A Houston 84.20 37 P P 18 18 51.2 -0.4
baz=319
F42A Maple Grove Fa 84.32 34 P P 18 18 51.6 -0.6
baz=321
N35A Tabor 84.34 41 P P 18 18 52.3 -0.2
baz=316
M36A Felix, Anita 84.35 41 P P 18 18 52.1 -0.4
baz=317
K38A Parkersburg 84.50 39 P P 18 18 53.1 0.0
baz=318
J39A Decorah 84.50 38 P P 18 18 52.4 -0.8
baz=319
H41A Junction City 84.51 36 P P 18 18 52.6 -0.6
baz=320
G42A Mountain 84.59 35 P P 18 18 53.6 0.0
baz=321
E44A Grand Marais A 84.61 32 P P 18 18 53.3 -0.4
baz=322
I40A Norwalk 84.61 37 P P 18 18 54.0 +0.3
baz=319
SOKA Soboth 84.62 328 *i*P **P 18 18 54.3 +0.5**
comp=Z,15nm,1.2s
O35A Humboldt 84.62 42 P P 18 18 53.7 -0.1
baz=316
F43A Flat Rock, Esc 84.69 33 P P 18 18 53.8 -0.3
baz=321
N36A Muff Farm, Cla 84.73 41 P P 18 18 54.1 -0.2
baz=317
M37A Trindle Farm, 84.77 40 P P 18 18 53.9 -0.6
baz=317
I41A Arkdale 84.83 36 P P 18 18 54.4 -0.4
baz=320
K39A Oelwein 84.89 38 P P 18 18 54.6 -0.6
baz=318
MNTX Cornudas Mount 84.99 54 P P 18 18 56.2 +0.4
baz=312
MNTX Cornudas Mount 84.99 54 *e*P **P 18 18 56.4 +0.5**
comp=Z,7.2nm,1.0s
KBA Koelnbreinsper 85.00 329 *i*PcP **P 18 18 57.2 +1.3**
comp=Z,7.5nm,1.0s
Q34A Chapman 85.03 44 P P 18 18 55.4 -0.5
baz=316
KSU1 Kansas State U 85.08 43 P P 18 18 55.9 -0.3
baz=316
MSTX Muleshoe 85.10 50 P P 18 18 57.2 +0.7
baz=313
P35A Duane Minner, 85.10 43 P P 18 18 55.2 -1.0
baz=316
H42A Shiocton 85.11 35 P P 18 18 56.0 -0.1
baz=321
AMTX Amarillo 85.14 49 P P 18 18 56.9 +0.2
baz=313
AMTX Amarillo 85.14 49 *e*P **P 18 18 57.3 +0.7**
comp=Z,12nm,1.0s
N37A Lee Faris, Mou 85.16 41 P P 18 18 56.5 0.0
baz=317
M38A Pleasantville 85.19 40 P P 18 18 56.6 -0.1
baz=318
K40A Colesburg 85.26 38 P P 18 18 56.6 -0.4
baz=319
L39A Vinton 85.27 39 P P 18 18 57.8 +0.8
baz=318
J41A Loganville 85.29 37 P P 18 18 56.7 -0.5
baz=320
I42A Draeger Farm, 85.41 36 P P 18 18 57.4 -0.3
baz=320
P36A Good Intent, A 85.47 42 P P 18 18 57.8 -0.3
baz=317
H43A Windswept, Lux 85.48 35 P P 18 18 58.1 +0.1
baz=321
Q35A Mercer Eighty, 85.57 43 P P 18 18 58.7 +0.1
baz=316
ABTA Abfaltersbach 85.61 329 *i*P **P 18 18 58.2 -0.6**
comp=Z,7.0nm,1.3s
O37A Wolven Farm, M 85.62 41 P P 18 18 58.9 0.0
baz=317
N38A Joes South For 85.63 40 P P 18 18 59.2 +0.3
baz=318
M39A Webster 85.66 39 P P 18 18 59.0 0.0
baz=318
U32A Winter Ranch, 85.67 46 P P 18 18 58.7 -0.5
baz=315
L40A Anamosa 85.70 38 P P 18 18 59.4 +0.3
baz=319
K41A Shullsburg 85.73 37 P P 18 18 58.9 -0.5
baz=320
J42A Columbus 85.75 36 P P 18 18 59.8 +0.3
baz=320
S34A Wilow Spring 85.81 44 P P 18 18 59.6 -0.2
baz=316
R35A Emporia Munici 85.87 44 P P 18 18 59.8 -0.3
baz=316
BFO Black Forest 85.92 332 *i*P **P 18 19 01.1 +0.9**
BFO Black Forest 85.92 332 *e*P **P 18 19 00.7 +0.5**
comp=Z,21nm,1.1s
P37A Lathrop 85.94 42 P P 18 19 00.6 +0.1
baz=317
N39A Derby Farms, D 85.94 40 P P 18 19 00.6 +0.2
baz=318
O38A Galt 86.01 41 P P 18 19 00.3 -0.5
baz=318
J43A Natural Harves 86.03 36 P P 18 19 00.4 -0.4
baz=321
L41A Preston 86.04 38 P P 18 19 59.8 -1.1
baz=319
M40A Post Highland 86.05 39 P P 18 19 00.3 -0.7
baz=319
K42A Prairie Point, 86.06 37 P P 18 19 00.4 -0.6
baz=320
FETA Feichten 86.10 330 *i*PcP **P 18 19 01.6 +0.4**
comp=Z,6.7nm,1.0s
DAVA Damuels 86.21 331 *i*PcP **P 18 19 01.8 0.0**
comp=Z,18nm,1.2s
R36A Gordon, Harris 86.24 43 P P 18 19 01.6 -0.4
baz=317
T34A McClaskey Farm 86.25 45 P P 18 19 02.1 0.0
baz=316
S35A Otter Creek Ra 86.26 44 P P 18 19 01.9 -0.2
baz=316
P38A Dawn 86.34 41 P P 18 19 02.0 -0.4
baz=318
O39A Kirksville 86.39 40 P P 18 19 03.3 +0.7
baz=318
N40A Mertquake, Sal 86.40 39 P P 18 19 03.0 +0.3
baz=319
ECH Echery 86.44 333 *e*P **P 18 19 03.1 +0.3**
ECH pmax pmax
comp=Z,18nm,1.2s
ECH Echery 86.44 333 *e*P **P 18 19 03.1 +0.3**
comp=Z,18nm,1.2s
M41A Milan 86.55 38 P P 18 19 04.1 +0.7
baz=319
FUORN Ofenpass-Fuorn 86.61 330 *e*P **P 18 19 04.5 +0.6**
comp=Z,19nm,1.0s
R37A Teagarden Farm 86.62 43 P P 18 19 03.1 -0.7
baz=317
DAVOX Davos/Dischmat 86.63 331 P P 18 19 04.6 +0.7
comp=Z,4.9nm,1.0s,baz=30,slow=6.3,SNR=3.5
S36A Lake Cedric, C 86.63 44 P P 18 19 04.2 +0.3
baz=316
T35A Sooner Cattle 86.70 45 P P 18 19 04.2 -0.1
baz=316
Q38A Cooks Store, C 86.79 42 P P 18 19 04.3 -0.4
baz=318
O40A La Belle 86.83 40 P P 18 19 04.7 -0.1
baz=319
P39B Salisbury 86.85 41 P P 18 19 04.4 -0.5
baz=318
N41A Harden Midland 86.90 39 P P 18 19 05.9 +0.8
baz=319
T36A Boggs Farm, Ca 86.95 44 P P 18 19 05.2 -0.2
baz=316
WMOK Wichita Mounta 86.95 48 P P 18 19 05.2 -0.4
baz=315
WMOK Wichita Mounta 86.95 48 *e*P **P 18 19 06.2 +0.7**
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 86.95 48 *e*P **P 18 19 06.2 +0.7**
comp=Z,9.8nm,1.3s
U35A Pawnee 86.97 45 P P 18 19 05.0 -0.6
baz=316
S37A Fort Scott 87.02 43 P P 18 19 05.5 -0.2
baz=317
Q39A Willow Grove F 87.06 41 P P 18 19 05.1 -0.9
baz=318
P40A Paris 87.18 40 P P 18 19 06.4 -0.2
baz=319
L44A Lake County Fo 87.19 36 P P 18 19 06.1 -0.5
baz=321
N42A Yates City 87.21 38 P P 18 19 06.1 -0.5
baz=320
O41A Passleys Farm, 87.33 39 P P 18 19 06.8 -0.4
baz=319
V35A Meyer Ranch, C 87.35 46 P P 18 19 07.1 -0.3
baz=316
T37A Cheneyville 18 87.44 44 P P 18 19 07.8 0.0
baz=317
U36A Oologah 87.52 45 P P 18 19 08.0 -0.2
baz=316
Q40A Laux Farm, Aux 87.57 41 P P 18 19 08.2 -0.2
baz=319
R39A Chumby, Stover 87.57 42 P P 18 19 08.8 +0.4
baz=318
P41A Barry, Barry 87.58 40 P P 18 19 08.3 -0.1
baz=319
TX31 Lajitas Ar. Si 87.66 54 *e*P **P 18 19 09.5 +0.4**
LTX Lajitas 87.66 54 *e*P **P 18 19 09.4 +0.2**
LTX Lajitas 87.66 54 *e*P **P 18 19 09.3 +0.2**
TXAR Lajitas Array 87.66 54 P P 18 19 09.3 +0.2
comp=Z,3.2nm,1.0s,baz=270,slow=2.5,SNR=9.0
W35A Tecumseh 87.76 46 P P 18 19 09.2 -0.2
baz=316
HDIL Hopedale 87.78 38 P P 18 19 08.5 -0.9
baz=320
TUL1 Leonard 87.83 45 P P 18 19 09.3 -0.5
baz=316
V36A Jenks 87.83 45 P P 18 19 09.6 -0.2
baz=316
T38A Diamond 87.84 43 P P 18 19 09.3 -0.5
baz=317
U37A Salina 87.85 44 P P 18 19 09.5 -0.3
baz=317
S39A Bolivar 87.88 42 P P 18 19 10.1 +0.1
baz=318
ABTX Abilene, Hawle 87.92 50 P P 18 19 10.1 -0.1
baz=314
O43A Sugar Creek Fa 87.98 38 P P 18 19 10.1 -0.3
baz=320
R40A Maddies Statio 87.99 41 P P 18 19 10.9 +0.4
baz=318
P42A Winchester 88.00 39 P P 18 19 10.2 -0.3
baz=320
Q41A Truxton 88.03 40 P P 18 19 10.3 -0.3
baz=319
W36A Wetumka 88.14 46 P P 18 19 11.6 +0.3
baz=316
N44A Piper City 88.16 37 P P 18 19 11.7 +0.5
baz=321
V37A Hulbert 88.21 45 P P 18 19 12.4 +0.9
baz=317
U38A Gravette 88.22 44 P P 18 19 12.2 +0.6
baz=317
X35A Drake 88.24 47 P P 18 19 12.3 +0.6
baz=316
T39A Clever 88.34 43 P P 18 19 12.8 +0.6
baz=318
P43A Skaggs, Pawnee 88.37 39 P P 18 19 12.0 -0.2
baz=320
S40A Lebanon 88.39 42 P P 18 19 12.7 +0.4
baz=318
N45A Kentland 88.42 37 P P 18 19 13.0 +0.6
baz=321
Q42A Golden Eagle 88.42 40 P P 18 19 12.7 +0.2
baz=320
R41A Rosebud 88.45 41 P P 18 19 12.1 -0.5
baz=319
X36A Centrahoma 88.48 46 P P 18 19 12.5 -0.3
baz=316
O44A Mansfield 88.50 38 P P 18 19 13.2 +0.4
baz=321
V38A Canehill 88.64 44 P P 18 19 13.6 +0.1
baz=317
CCM Cathedral Cave 88.70 41 *e*P **P 18 19 13.8 0.0**
CCM pmax pmax
comp=Z,15nm,1.1s
CCM Cathedral Cave 88.70 41 *e*P **P 18 19 13.8 0.0**
comp=Z,15nm,1.1s
T40A Mansfield 88.71 42 P P 18 19 13.3 -0.6
baz=318
N46A Monticello 88.75 36 P P 18 19 12.8 -1.2
baz=322
U39A Green Forest 88.76 43 P P 18 19 14.0 -0.2
baz=318
R42A Luebbering 88.76 40 P P 18 19 14.5 +0.4
baz=319
O45A Potomac 88.78 37 P P 18 19 14.2 0.0
baz=321
S41A Jillco Farms, 88.79 41 P P 18 19 15.0 +0.7
baz=319
P44A Sand Creek, Wi 88.95 38 P P 18 19 15.1 +0.1
baz=321
SFIN Lafayette 88.98 37 P P 18 19 14.9 -0.1
baz=322
X37A Clayton 89.02 46 P P 18 19 15.2 -0.2
baz=317
V39A Pettigrew 89.07 44 P P 18 19 15.7 0.0
baz=318
U40A Yellville 89.12 43 P P 18 19 15.5 -0.4
baz=318
S42A Caledonia 89.15 41 P P 18 19 15.7 -0.3
baz=319
W38A Poteau 89.15 45 P P 18 19 16.6 +0.6
baz=317
Q44A Meyer Farm, Va 89.19 39 P P 18 19 16.3 +0.2
baz=320
T41A Mountain View 89.19 42 P P 18 19 15.6 -0.6
baz=319
R43A Red Bud 89.21 40 P P 18 19 16.0 -0.2
baz=320
X38A Whitesboro 89.27 45 P P 18 19 17.4 +0.9
baz=317
Y37A Hugo 89.32 46 P P 18 19 16.3 -0.5
baz=317
P46A Rosedale 89.52 37 P P 18 19 17.5 -0.1
baz=322
U41A Viola 89.63 42 P P 18 19 18.5 +0.3
baz=319
R44A Waltonville 89.66 39 P P 18 19 18.7 +0.5
baz=320
S43A Fulton Ridge, 89.67 40 P P 18 19 18.9 +0.5
baz=320
WHTX Lake Whitney, 89.68 49 P P 18 19 18.4 -0.1
baz=316
X39A Fountain Ranch 89.79 45 P P 18 19 18.8 -0.2
baz=318
W40A Ferguson Farm, 89.86 44 P P 18 19 18.6 -0.7
baz=318
Z37A Pogue Cattle C 89.89 47 P P 18 19 19.1 -0.3
baz=317
V41A Mountainview 89.92 43 P P 18 19 18.9 -0.7
baz=319
T43A Greenville 89.93 41 P P 18 19 19.2 -0.3
baz=320
U42A Revenden 89.99 42 P P 18 19 19.6 -0.2
baz=319
S44A Carbondale 90.00 40 P P 18 19 19.6 -0.2
baz=320
MIAR Mount Ida 90.06 45 P P 18 19 19.8 -0.4
baz=318
MIAR Mount Ida 90.06 45 *e*P **P 18 19 20.6 +0.4**
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 90.06 45 *e*P **P 18 19 20.6 +0.4**
comp=Z,18nm,1.0s

P47A	Martinsville	90.07	37	P	P	18 19 20.3	+0.1
	baz=322						
PBMO	Poplar Bluff	90.09	41	eP	P	18 19 20.6	+0.3
	comp=Z,16nm,1.0s						
WHAR	Wooly Hollow	90.22	43	eP	P	18 19 20.9	-0.1
	comp=Z,16nm,1.0s						
V42A	Cord	90.32	42	P	P	18 19 20.5	-0.9
	baz=319						
W41B	Gary Mavity, V	90.33	43	P	P	18 19 21.3	-0.1
	baz=318						
U43A	Rector	90.41	41	P	P	18 19 21.6	-0.2
	baz=320						
336A	Riesel	90.47	49	P	P	18 19 21.3	-0.9
	baz=316						
X40A	Basin Creek Fa	90.52	44	P	P	18 19 22.2	-0.2
	baz=318						
Y42A	Garnett, Star	91.58	44	P	P	18 19 25.7	-1.6
	baz=319						
Z42A	Norrel Spur, H	91.91	44	P	P	18 19 28.8	-0.1
	baz=319						
Y45A	Yeager Farm, C	92.78	42	P	P	18 19 32.1	-0.8
	baz=320						
ESDC	Sonseca Array	97.76	336	LR	LR	19 12 50.9	
	comp=Z,33nm,18.2s,baz=90,slow=41						
TOA1	Torodi Ar. Sit	118.60	318	ePKPdf	PKPdf	18 25 07.5	-1.2
TORD	Torodi Ar. Bea	118.60	318	PKP	PKPdf	18 25 07.5	-1.2
	comp=Z,1.0nm,0.9s,baz=23,slow=2.2,SNR=4.4						
QSPA	South Pole Qui	127.46	180	ePKPdf	PKPdf	18 25 23.1	-1.0
LPAZ	La Paz	144.13	62	PKP	PKPbc	18 25 55.3	+0.1
	comp=Z,2.8nm,1.0s,baz=354,slow=4.1,SNR=7.4						
LPAZ	La Paz	144.13	62	ePKPdf	PKPbc	18 25 56.3	+1.1
MNMC	Minye Minye	144.93	68	ePKPbc	PKPdf	18 25 58.4	+0.3
PB11	IPOC Station P	145.28	69	ePKPbc	PKPab	18 25 58.6	+0.2
PB01	IPOC Station P	146.18	70	ePKPdf	PKPbc	18 26 00.9	-0.1
PB04	IPOC Station P	146.44	73	ePKPdf	PKPdf	18 26 01.3	+0.8
LVC	Limon Verde	147.53	72	ePKPdf	PKPbc	18 26 04.6	-0.6

ISCJB ***27*** *18:09:45.9±0.3, 7°.57S±0°.04×123°.08E±0°.04, h563km, mb3.7/7, Error ellipse: s-maj=5.3km s-min=4.4km az=33.4*
IDC ***27*** *18:09:46.2±3.6, 7°.38S×123°.10E, h534km±53km, mb3.2/7, mb1 3.3/10, mb1mx3.0/43, mbtmp4.2/10, Error ellipse: s-maj=40.6km s-min=18.0km az=73.0*
DJA ***27*** *18:09:47.5±0.3, 8°.S±2°.×12°.3E±°., h536km±4km, M4.0/18, mb4.2/13, mB4.7/9, MLv4.0/18, Mw(mB)3.9/9, Mwp7.2/1*

ISC 27 18:09:47.1±0.7, 7°.53S±0°.06×123°.10E±0°.07, h563km, n35, σ1°53/55, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.39	218	P	P	18 10 53.8	-1.9
MMRI				S	S	18 11 47.5	-4.0
EDFI	Ende, Flores	1.85	229	P	P	18 10 55.5	-2.0
EDFI				S	S	18 11 51.5	-3.2
BBSI	Bau Bau	2.10	345	P	P	18 10 57.2	-1.3
SOEI	Soe	2.50	153	P	P	18 10 58.5	-2.0
SOEI				S	S	18 11 56.8	-3.4
BSSI	Bau Bau, Buton	2.94	298	P	P	18 11 00.9	-1.9
BSSI				S	S	18 12 01.8	-2.6
WSI	Waingapu	3.49	232	P	P	18 11 04.9	-1.4
WSI				S	S	18 12 08.9	-1.9
BASI	Baing, Sumba	3.66	223	P	P	18 11 06.5	-0.9
BASI				S	S	18 12 11.7	-1.2
BKSI	Bulukumba	3.68	306	P	P	18 11 06.4	-1.2
BKSI				S	S	18 12 10.8	-2.4
BNSI	Bone	4.30	316	P	P	18 11 11.3	-0.9
BNSI				S	S	18 12 19.4	-2.1
SPSI	Sidrap Palu	4.85	317	P	P	18 11 15.7	-0.8
SPSI				S	S	18 12 27.0	-2.4
PLAI	Plampang	5.43	256	P	P	18 11 20.2	-1.1
TTSI	Tana Toraja	5.52	324	P	P	18 11 20.8	-1.4
TTSI				S	S	18 12 38.6	-1.2
NLAI	Namlea	5.83	43	P	P	18 11 24.0	-0.9
NLAI				S	S	18 12 42.5	-2.2
SANI	Sanana	6.16	28	P	P	18 11 26.8	-1.0
SANI				S	S	18 12 48.2	-1.9
TWSI	Taliwang, Sumb	6.27	259	P	P	18 11 27.9	-0.9
TWSI				S	S	18 12 51.2	-0.8
AAI	Ambon	6.34	53	P	P	18 11 28.5	-1.0
AAI				S	S	18 12 51.6	-1.6
PCI	Palu	7.34	334	P	P	18 11 38.8	-0.1
PCI				S	S	18 13 09.1	-1.3
DNP	Denpasar	7.90	261	P	P	18 11 44.8	+0.6
IGBI	Denpasar	7.98	260	P	P	18 11 45.0	0.0
MRSI	Marisa	8.04	352	P	P	18 11 45.4	-0.2
MRSI				S	S	18 13 22.6	-0.1
KMSI	Cibinong	8.10	6	P	P	18 11 46.2	0.0
KMSI				S	S	18 13 24.0	+0.2
LBMI	Labuha	8.13	33	P	P	18 11 46.0	-0.5
LBMI				S	S	18 13 23.2	-1.2
MPSI	Mapaga	8.44	338	P	P	18 11 50.0	+0.4
MPSI				S	S	18 13 30.4	+0.4
JAGI	Jajag, Banyuwa	8.91	263	P	P	18 11 53.7	-0.6
FAKI	Fak Fak	10.19	64	P	P	18 12 07.0	-0.3
FAKI				S	S	18 14 02.5	+0.1
FITZ	Fitzroy Crossi	10.80	167	P	P	18 12 13.7	+0.4
	0.8nm,0.3s,baz=359,slow=10,SNR=111						
WRA	Warramunga Arr	16.46	140	P	P	18 13 10.9	+0.4
	0.5nm,0.3s,baz=320,slow=9.8,SNR=24						
ASAR	Alice Springs	19.10	148	P	P	18 13 36.0	+1.6
	0.6nm,0.3s,baz=317,slow=7.8,SNR=34						
STKA	Stephens Creek	29.73	147	P	P	18 15 10.5	+2.0
	3.2nm,0.6s,baz=314,slow=9.6,SNR=12						
KSRS	Korea Array	44.97	5	P	P	18 17 12.7	+0.1
	1.0nm,0.6s,baz=179,slow=10.0,SNR=5.2						
MJAR	Matsushiro Ar	46.07	17	P	P	18 17 20.6	-0.5
	2.3nm,0.9s,baz=196,slow=9.1,SNR=5.0						
USRK	Ussurlysk Ar.	52.11	8	P	P	18 18 05.9	+0.5
	2.6nm,0.4s,baz=189,slow=6.6,SNR=12						
SONM	Songino Array	57.07	347	P	P	18 18 40.5	+0.4
	1.1nm,0.6s,baz=162,slow=7.3,SNR=8.1						
MKAR	Makanchi Array	65.10	330	P	P	18 19 33.7	+1.0
	2.3nm,0.6s,baz=136,slow=7.5,SNR=23						
ZALV	Zalesovo Beam	69.20	337	P	P	18 19 57.6	0.0
	0.5nm,0.3s,baz=134,slow=4.2,SNR=3.7						

IDC 27 18:14:56.4±1.9, 4°.92N×123°.82E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse: s-maj=143.6km s-min=24.5km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.95	176	P	P	18 20 02.6	+0.1
	0.6nm,0.8s,baz=5.5,slow=14,SNR=3.1						
WRA	Warramunga Arr	26.79	158	P	P	18 20 38.6	+0.3
	0.6nm,0.3s,baz=335,slow=9.6,SNR=8.5						
ASAR	Alice Springs	30.07	161	P	P	18 21 07.3	-0.3
	0.2nm,0.3s,baz=339,slow=7.2,SNR=12						
MKAR	Makanchi Array	54.94	326	P	P	18 24 29.2	-0.1
	0.2nm,0.3s,baz=122,slow=7.4,SNR=5.8						

ISCJB ***27*** *18:40:41.0±0.4, 32°.38N±0°.03×115°.18W±0°.02, h19km±3km, Error ellipse: s-maj=4.2km s-min=3.5km az=9.9*
NEIC ***27*** *18:40:41.5±0.0, 32°.37N×115°.22W, h1km, ML3.3(PAS), After PAS.*
ECX ***27*** *18:40:41.7±0.5, 32°.40N×115°.13W, h8km, MD3.1, ML3.4, Fault plane solution: NP1:φs0.00000°, δ30.00000°, λ90.00000°.*
MEX ***27*** *18:40:43.9±1.5, 32°.44N×115°.14W, h11km±8km, MD3.9*

ISC 27 18:40:40.6±0.8, 32°.41N±0°.03×115°.19W±0°.02, h15km±4km, n40, σ0°70/56, 2C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.00	231	eP	Pg	18 40 42.5	-0.7
MBIG				eS	Sg	18 40 44.3	-0.7
MBIG	Mexicali	0.00	231	⇓eP	Pg	18 40 43.1	-0.2
MBIG				eS	Sg	18 40 45.1	+0.1
CPBX	Cerro Prieto	0.09	275	⇓eP	Pg	18 40 44.4	+0.6
CPBX				eS	Sg	18 40 47.2	+1.3
CPBX				IAML		18 40 49.0	
	comp=N,46μm,0.2s						
CPBX				⇑e		18 40 49.0	
SGL	Mount Signal	0.51	298	⇓iP	Pb	18 40 51.5	+0.4
WESC	Westside Schoo	0.57	308	⇓eP	Pb	18 40 52.9	+0.7
COK	Cook Ranch	0.63	314	eP	Pb	18 40 53.9	+0.7
YUH	Yuha Desert	0.66	291	⇓iP	Pb	18 40 54.0	+0.3
GLA	Glamis	0.71	26	P	Pn	18 40 55.6	-0.5
	baz=206,SNR=133						
GLA				S	Sn	18 41 05.9	-0.9
	baz=206						
SWSC	Sam W. Stewart	0.74	316	P	Pb	18 40 55.2	+0.1
	baz=141,SNR=71						
SWSC				S	Sb	18 41 06.1	+1.1
	baz=141						
RMX	La Rumorosa	0.77	285	⇓eP	Pb	18 40 55.7	-0.1
RMX				eS	Sb	18 41 06.0	-0.1
IKP	In-Ko-Pah, Jac	0.81	287	P	Pb	18 40 56.8	+0.4
	baz=112,SNR=173						
IKP				S	Sb	18 41 07.9	+0.8
	baz=112						
IKP	In-Ko-Pah, Jac	0.81	287	⇓iP	Pb	18 40 56.8	+0.4
ECBX	El Chinero	0.94	173	eP	Pn	18 40 59.3	+0.1
ECBX				eS	Sg	18 41 11.8	+0.6
MONP2	Monument Peak	1.14	295	P	Pb	18 41 01.8	-0.3
	baz=118,SNR=57						
MONP2				S	Sg	18 41 17.4	-0.2
	baz=118						
CBX	Cerro Bola	1.25	266	eP	Pb	18 41 03.9	0.0
CBX				eS	Sb	18 41 19.2	-0.6
CBX	Cerro Bola	1.25	266	⇓eP	Pb	18 41 04.0	+0.2
CBX				eS	Sg	18 41 21.9	+1.0
CBX				IAML		18 41 28.8	
	comp=E,668nm,0.7s						
CBX				⇑e		18 41 28.8	
TJIG	Tijuana	1.25	271	eP	Pg	18 41 04.5	-0.3
TJIG				eS	Sb	18 41 19.6	-0.2
113A	Mohawk Valley,	1.26	73	eP	Pb	18 41 03.8	-0.1
113A				eS	Sb	18 41 18.2	-1.7
BC3	Big Chuckawall	1.26	350	P	Pn	18 41 03.6	-0.2
	baz=172,SNR=100						
BC3				S	Sg	18 41 22.4	+1.0
	baz=172						
BAR	Barrett	1.28	283	ePn	Pn	18 41 03.9	0.0
SPIG	San Pedro Mart	1.38	190	eP	Pb	18 41 06.1	-0.1
SPIG				eS	Sn	18 41 23.2	-0.5
Y12C	Blythe	1.45	23	P	Pn	18 41 06.4	+0.1
	baz=203						
Y12C				Sb	Sg	18 41 28.6	+1.2
	baz=203						
PFO	Pinyon Flats O	1.60	319	P	Pn	18 41 07.8	-0.6
	baz=140,SNR=33						
PFO	Pinyon Flats O	1.60	319	ePn	Pn	18 41 07.6	-0.8
109C	Camp Elliot, M	1.68	287	Sb	Sg	18 41 33.6	-1.1
	baz=108						
BELC	Belle Mtn. Jos	1.72	337	P	Pn	18 41 10.2	+0.1
	baz=158						
IRM	Iron Mountain	1.74	1	P	Pn	18 41 10.7	+0.4
	baz=182						
IRM				Sb	Sg	18 41 37.5	+0.8
	baz=182						
214A	Organ Pipe Nat	2.07	102	P	Pn	18 41 14.9	+0.1
	baz=282						
214A				Sb	Sb	18 41 42.8	-0.6
	baz=282						
214A	Organ Pipe Nat	2.07	102	eP	Pn	18 41 14.4	-0.4
214A				iS	Sb	18 41 44.9	+1.5
214A	Organ Pipe Nat	2.07	102	ePn	Pn	18 41 15.1	+0.4
PDMCI	Parker Dam,Lak	2.08	25	Sb	Sg	18 41 47.1	-0.6
	baz=205						
GMRC	Granite Mounta	2.40	351	P	Pn	18 41 19.6	+0.2
	baz=171						
MWC	Mount Wilson	3.00	308	ePn	Pb	18 41 33.1	-0.8
PASC	Pasadena Art C	3.06	306	ePn	Pn	18 41 28.3	-0.1
TUC	Tucson	3.73	90	ePn	Pn	18 41 37.8	+0.1
ISA	Isabella, Lake	4.24	321	ePg	Pg	18 42 07.2	+5.5
DAC	Darwin (Calif)	4.34	333	Pn	Pn	18 41 45.9	-0.2
WUAZ	Wupatki	4.44	45	Pn	Pb	18 41 53.2	-5.1
319A	Douglas	5.13	100	eP	Pn	18 41 48.3	-8.7
121A	Cookes Peak, D	6.26	87	ePn	Pn	18 42 14.5	+2.0
	comp=E,7.2nm,0.5s						

MEX 27 18:48:54.1±0.5, 15°.34N×92°.07W, h168km±6km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.94	356	eP	Pn	18 49 19.0	-1.4
CCIG				eS	Sn	18 49 38.6	-2.2
PCIG		1.16	288	eP	Pn	18 49 20.3	-1.6
PCIG				eS	Sn	18 49 41.5	-1.9
TGIG		1.75	325	eP	Pn	18 49 26.8	-0.9
TGIG				eS	Sn	18 49 51.3	-2.5
CMIG	Matias Romero	3.21	303	eP	Pn	18 49 43.9	-1.0
CMIG				eS	Sn	18 50 22.2	-2.2

IDC 27 18:51:04.6±47.0, 16°.29S×175°.79W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/29, mbtmp4.1/3, Error ellipse: s-maj=884.1km s-min=161.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.60	240	P	P	18 58 55.1	+0.6
	1.0nm,0.4s,baz=98,slow=7.9,SNR=11						
WRA	Warramunga Arr	47.40	258	P	P	18 59 40.9	-0.3
	0.3nm,0.4s,baz=96,slow=7.7,SNR=6.1						
ASAR	Alice Springs	47.65	253	P	P	18 59 42.4	-0.7
	5.6nm,0.6s,baz=88,slow=8.1,SNR=156						

ISK ***27*** *18:57:47.0, 38°.71N×43°.28E, h6km, ML2.4*
CSEM ***27*** *18:57:47.8±0.2, 38°.75N×43°.27E, h10km, ML3.0, Error ellipse: s-maj=6.0km s-min=4.8km az=109.0*
ISCJB ***27*** *18:57:48.5±0.7, 38°.72N±0°.04×43°.32E±0°.06, h22km±6km, Error ellipse: s-maj=9.1km s-min=5.7km az=34.0*
DDA ***27*** *18:57:48.8, 38°.78N×43°.27E, h7km, Ml3.0*

ISC 27 18:57:47.4±1.2, 38°.75N±0°.03×43°.27E±0°.04, h17km±11km, n22, σ0°89/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	147	PG	Pb	18 57 52.1	-0.3
VANB				eSG	Sb	18 57 55.5	-0.2
VANB	Van	0.18	147	iPg	Pb	18 57 52.1	-0.3
VANB				eSg	Sb	18 57 55.5	-0.2
TVAN	Van	0.24	153	iP	Pb	18 57 55.0	+1.5
TVAN				iS	Sb	18 57 59.1	+1.5
TVAN	Van	0.24	153	P	Pb	18 57 55.0	+1.5
TVAN				S	Sb	18 57 59.2	+1.5
VMUR	Van-Muradiye	0.34	44	iP	Pb	18 57 55.2	0.0
VMUR				iS	Sb	18 58 01.7	+1.2
VMUR	Van-Muradiye	0.34	44	P	Pb	18 57 55.2	0.0
VMUR				S	Sb	18 58 01.7	+1.2
GEVA	Gevas	0.46	201	iP	Pb	18 57 56.5	-0.7
GEVA	Gevas	0.46	201	P	Pb	18 57 56.5	-0.7
CLDR	Caldiran	0.65	52	ePG	Pb	18 58 00.1	-0.3
CLDR				eSG	Sb	18 58 09.9	+0.6
CLDR	Caldiran	0.65	52	iP	Pg	18 57 59.2	-1.0
CLDR				iS	Sb	18 58 09.3	+0.1
CLDR	Caldiran	0.65	52	P	Pg	18 57 59.2	-1.0
CLDR	Caldiran	0.65	52	ePg	Pb	18 58 00.1	-0.3
CLDR				S	Sb	18 58 09.3	+0.1
TUTA	Tutak	0.74	332	iP	Pn	18 58 02.8	-0.7
TUTA	Tutak	0.74	332	P	Pn	18 58 02.8	-0.7
TATV	Tatvan	0.82	253	iP	Pn	18 58 03.8	-0.6
TATV				iS	Sn	18 58 16.3	+0.1
TATV	Tatvan	0.82	253	P	Pn	18 58 03.8	-0.6
TATV				S	Sn	18 58 16.3	+0.1
AGRB	Hanur-Agry	0.86	346	ePG	Pn	18 58 04.4	-0.6
AGRB	Hanur-Agry	0.86	346	ePg	Pn	18 58 04.4	-0.6
HAKT	HAKKARI	1.24	163	iP	Pb	18 58 10.1	-0.4
HAKT	HAKKARI	1.24	163	P	Pb	18 58 10.1	-0.4
EATA	Eleskirt	1.27	332	iP	Pg	18 58 11.6	-0.3
EATA				iS	Sg	18 58 30.8	+2.3
EATA	Eleskirt	1.27	332	P	Pg	18 58 11.6	-0.3

AZER ***27*** *19:08:07.2±0.9, 38°.26N×43°.11E, h10km, Error ellipse: s-maj=9.7km s-min=4.1km az=64.0*
ISK ***27*** *19:08:12.6, 38°.73N×43°.54E, h5km, ML4.0*
DDA ***27*** *19:08:12.2, 38°.73N×43°.50E, h13km, Ml4.0*
NEIC ***27*** *19:08:12.1±0.0, 38°.70N×43°.61E, h5km, mb4.0/4, ML4.0(DDA), ML4.2(ISK), After ISK.*
MOS ***27*** *19:08:13.2±1.6, 38°.48N×43°.75E, h8km, mb4.2/6, Error ellipse: s-maj=9.5km s-min=5.6km az=72.2*
CSEM ***27*** *19:08:13.7±0.2, 38°.73N×43°.50E, h10km, ML4.0, Error ellipse: s-maj=4.6km s-min=3.6km az=144.0*
IDC ***27*** *19:08:13.6±1.1, 38°.81N×43°.64E, h0km, mb3.5/7, mb1 3.5/10, mb1mx3.4/51, mbtmp3.5/10, ML3.1/3, MS3.1/17, Ms1 3.2/17, ms1mx3.0/41, Error ellipse: s-maj=25.6km s-min=11.5km az=154.0*
ISN ***27*** *19:08:29.8±1.3, 37°.80N×43°.23E, h0km±4km, ML4.2*

ISC 27 19:08:13.3±1.0, 38°.73N±0°.01×43°.55E±0°.02, h3km±7km, n205, σ1°72/243, mb3.8/11, MS3.1/13, 24C-29D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	222	PG	Pg	19 08 18.0	+1.1
VANB	Van	0.18	222	iPg	Pg	19 08 18.0	+1.1
VANB	Van	0.18	222	Pg	Pg	19 08 18.0	+1.1
VMUR	Van-Muradiye	0.26	4	⇓iP	Pg	19 08 17.8	-0.7
VMUR				iS	Sg	19 08 23.1	+1.3
VMUR	Van-Muradiye	0.26	4	iP	Pg	19 08 18.0	-0.4
VMUR				S	Sg	19 08 23.1	+1.3
VMUR	Van-Muradiye	0.26	4	iP	Pg	19 08 18.0	-0.4
VMUR				iS	Sb	19 08 23.9	-1.9
CLDR	Caldiran	0.50	35	ePG	Pg	19 08 23.0	0.0
CLDR				eSG	Sg	19 08 30.4	+0.8
CLDR	Caldiran	0.50	35	⇑iP	Pg	19 08 22.1	-0.9
CLDR				iS	Sg	19 08 30.8	+1.2
CLDR	Caldiran	0.50	35	P	Pg	19 08 22.1	-0.9
CLDR	Caldiran	0.50	35	ePg	Pg	19 08 23.0	0.0
CLDR				eSg	Sg	19 08 30.4	+0.8
CLDR	Caldiran	0.50	35	Pg	Pg	19 08 23.0	0.0
GEVA	Gevas	0.57	223	⇑iP	Pg	19 08 23.1	-1.1
GEVA				iS	Sb	19 08 32.6	-1.9
GEVA	Gevas	0.57	223	P	Pg	19 08 23.1	-1.1
GEVA				S	Sb	19 08 32.6	-1.9
GEVA	Gevas	0.57	223	iP	Pg	19 08 23.1	-1.1
BASK	Baskale_VAN	0.77	152	iP	Pg	19 08 27.6	-0.4
BASK				iS	Sn	19 08 41.1	-2.2
BASK	Baskale_VAN	0.77	152	P	Pg	19 08 27.6	-0.4
BASK				S	Sn	19 08 41.2	-2.2
DYDN	Diyadin	0.82	8	iP	Pg	19 08 28.1	-1.0
DYDN				iS	Sg	19 08 38.4	-1.4
DYDN	Diyadin	0.82	8	P	Pg	19 08 28.1	-1.0
DYDN				S	Sg	19 08 38.4	-1.4
DYDN	Diyadin	0.82	8	iP	Pg	19 08 28.1	-1.0
TUTA	Tutak	0.88	320	⇓iP	Pg	19 08 28.1	-2.2
TUTA				iS	Sg	19 08 41.2	-0.5
TUTA	Tutak	0.88	320	P	Pg	19 08 28.1	-2.2
TUTA				S	Sg	19 08 41.2	-0.5
AGRB	Hanur-Agry	0.95	333	ePG	Pg	19 08 30.7	-0.8
AGRB				eSG	Sb	19 08 44.7	-0.9
AGRB	Hanur-Agry	0.95	333	ePg	Pg	19 08 30.7	-0.8
AGRB				eSg	Sb	19 08 44.7	-0.9
AGRB	Hanur-Agry	0.95	333	Pg	Pg	19 08 30.0	-1.6
TATV	Tatvan	1.03	258	⇑iP	Pg	19 08 30.8	-2.2
TATV				iS	Sg	19 08 45.2	-1.1
TATV	Tatvan	1.03	258	P	Pg	19 08 30.8	-2.2
TATV				S	Sg	19 08 45.2	-1.1
HAKT	HAKKARI	1.18	174	⇓iP	Pg	19 08 34.1	-1.8
HAKT				iS	Sn	19 08 54.4	+0.8
HAKT	HAKKARI	1.18	174	P	Pg	19 08 34.1	-1.8
HAKT				S	Sn	19 08 54.4	+0.8
EKAR	Karacoban	1.27	295	iP	Pn	19 08 36.2	-2.0
EKAR				iS	Sn	19 08 59.3	+3.5
EKAR	Karacoban	1.27	295	P	Pn	19 08 36.2	-2.0
EATA	Eleskirt	1.40	324	⇓iP	Pn	19 08 37.3	-2.7
EATA				iS	Sg	19 08 58.9	+0.7
EATA	Eleskirt	1.40	324	P	Pn	19 08 37.3	-2.7
EATA				S	Sg	19 08 58.9	+0.7
CUKT	Cukurca	1.48	178	ePN	Pn	19 08 40.3	-0.7
CUKT	Cukurca	1.48	178	⇓iP	Pn	19 08 39.8	-1.2
CUKT				iS	Sg	19 09 06.1	+5.2
CUKT	Cukurca	1.48	178	P	Pn	19 08 39.8	-1.2
CUKT	Cukurca	1.48	178	ePn	Pn	19 08 40.3	-0.7
SIRN	S¨–rnak	1.52	216	iP	Pn	19 08 40.4	-1.1
SIRN				iS	Sg	19 09 06.6	+4.4
SIRN	S¨–rnak	1.52	216	P	Pn	19 08 40.4	-1.1
NAX	Nakhchivan	1.58	73	⇓P	Pb	19 08 43.0	-0.4
	SNR=146						
NAX				⇑S	Sg	19 09 08.7	+4.5
NAX	Nakhchivan	1.58	73	P	Pb	19 08 42.9	-0.4
NAX	Nakhchivan	1.58	73	P	Pb	19 08 42.9	-0.4
NAX				S	Sg	19 09 08.7	+4.5
VRTB	Varto-Mus	1.69	285	ePN	Pn	19 08 43.7	-0.1
VRTB	Varto-Mus	1.69	285	iP	Pn	19 08 43.6	-0.3
VRTB	Varto-Mus	1.69	285	P	Pn	19 08 43.6	-0.3
DIGO	Kars	1.69	356	iP	Pb	19 08 44.4	-0.8
DIGO	Kars	1.69	356	P	Pb	19 08 44.4	-0.8
GNI	Garni	1.69	33	Pn	Pn	19 08 44.0	0.0
	74nm,0.3s,baz=252,slow=3.5,SNR=207						
GNI	Garni	1.69	33	P	Pn	19 08 44.0	0.0
GNI				pmax	pmax		
	comp=Z,74nm,0.3s						
GNI	Garni	1.69	33	P	Pn	19 08 44.0	0.0
	comp=Z,74nm,0.3s						
GNI	Garni	1.69	33	ePn	Pn	19 08 44.0	0.0
HOMI	Horasan	1.83	316	iP	Pn	19 08 45.6	-0.2
HOMI				iS	Sg	19 09 13.1	+1.0
BNGL	BINGOL	1.88	278	iP	Pn	19 08 46.6	0.0
SVAN	Silvan-Diyarba	1.93	253	ePN	Pn	19 08 46.6	-0.5
SVAN	Silvan-Diyarba	1.93	253	iP	Pb	19 08 47.6	-1.6
SVAN				iS	Sb	19 09 13.2	-0.5
SVAN	Silvan-Diyarba	1.93	253	ePn	Pn	19 08 46.7	-0.5
SVAN	Silvan-Diyarba	1.93	253	P	Pb	19 08 47.6	-1.6
SVAN				S	Sb	19 09 13.2	-0.5
EAK	Akyaka	1.95	1	iP	Pn	19 08 48.0	+0.4
EAK				iS	Sg	19 09 19.4	+3.2
EAK	Akyaka	1.95	1	P	Pn	19 08 48.0	+0.4
BTMN	Batman	1.98	246	iP	Pn	19 08 48.2	+0.4
BTMN				iS	Sg	19 09 16.6	-0.2
BTMN	Batman	1.98	246	P	Pn	19 08 48.2	+0.4
BTMN				S	Sg	19 09 16.6	-0.2
SENK	Senkaya-Erzuru	2.05	334	ePN	Pn	19 08 48.3	-0.6
SENK	Senkaya-Erzuru	2.05	334	ePn	Pn	19 08 48.3	-0.6
ERZM	Erzurum	2.06	305	iP	Pn	19 08 48.6	-0.5

TBLG Delisi 3.13 17 P **Pb 19 09 08.1 -1.6**
TBLG S **Sg 19 09 51.8 -2.2**
TBLG Delisi 3.13 17 P **Pb 19 09 08.1 -1.6**
EUZM Uzumlu 3.14 289 *i* P **Pb 19 09 09.1 -0.8**
TNCL Tunceli-Merkez 3.15 278 *i* P **Pb 19 09 08.5 -1.5**
BRDA Brd 3.20 60 ⇑P **Pn 19 09 04.8 +0.3**
SNR=16
BRDA ⇑S **Sb 19 09 50.0 -0.2**
BRDA Brd 3.20 60 P **Pn 19 09 04.8 +0.3**
SNR=16
PTK Pertek 3.25 274 *e*PN **Pn 19 09 05.9 +0.5**
PTK Pertek 3.25 274 *e*Pn **Pn 19 09 05.9 +0.5**
MNGR Mingechevir, A 3.41 52 ⇑P **Pn 19 09 07.8 +0.5**
SNR=21
MNGR Mingechevir, A 3.41 52 P **Pn 19 09 07.8 +0.5**
MNGR Mingechevir, A 3.41 52 P **Pn 19 09 07.8 +0.5**
SNR=21
ZRD Zardab 3.56 63 ⇑P **Pn 19 09 09.8 +0.4**
SNR=8.0
ZRD Zardab 3.56 63 P **Pn 19 09 09.8 +0.4**
SNR=8.0
KELT Kelkit 3.61 294 *i* P **Pb 19 09 18.3 +0.4**
ZKTA Zakatala 3.74 38 ⇓P **Pn 19 09 13.5 +1.5**
SNR=12
ZKTA Zakatala 3.74 38 P **Pn 19 09 13.4 +1.5**
ZKTA Zakatala 3.74 38 P **Pn 19 09 13.4 +1.5**
SEKA Sheki 3.74 47 ⇓P **Pn 19 09 14.0 +2.0**
SNR=11
SEKA ⇑S **Sb 19 10 06.8 +1.0**
SEKA Sheki 3.74 47 P **Pn 19 09 14.0 +2.0**
SEKA Sheki 3.74 47 P **Pn 19 09 14.0 +2.0**
SNR=11
LRK Lerik 3.75 90 ⇓P **Pn 19 09 10.6 -1.7**
SNR=4.8
LRK ⇓S **Sn 19 09 59.5 +2.4**
LRK Lerik 3.75 90 P **Pn 19 09 10.6 -1.7**
SNR=4.8
LRK S **Sn 19 09 59.5 +2.4**
GLBA Ciilabad 3.81 81 ⇑P **Pn 19 09 12.2 -0.7**
SNR=4.0
GLBA ⇑S **Sb 19 10 02.4 -5.4**
GLBA Ciilabad 3.81 81 P **Pn 19 09 12.2 -0.7**
SNR=4.0
GLBA S **Sb 19 10 02.4 -5.4**
KDMR Kurdemir 3.94 64 ⇑P **Pn 19 09 14.6 -0.1**
SNR=5.5
KDMR Kurdemir 3.94 64 P **Pn 19 09 14.6 -0.1**
SNR=5.5
SAAT Saatly 3.95 72 ⇓P **Pn 19 09 13.9 -0.9**
SNR=7.6
SAAT Saatly 3.95 72 P **Pn 19 09 13.9 -0.9**
SNR=7.6
KEMA Kemaliye 3.97 279 *i* P **Pb 19 09 26.4 +2.3**
KEMA *i* S **Sg 19 10 25.6 +4.6**
QBL Gabala 3.98 55 ⇓P **Pn 19 09 15.8 +0.6**
SNR=7.4
QBL ⇓S **Sb 19 10 11.3 -1.3**
QBL Gabala 3.98 55 P **Pn 19 09 15.8 +0.6**
SNR=7.4
ZEI Tsey 4.06 4 *e*P **Pn 19 09 19.7 +3.1**
ZEI pmax pmax
comp=Z,12nm,0.8s
LKRN Lenkeran, Azer 4.09 89 ⇑P **Pn 19 09 15.0 -1.8**
SNR=2.7
LKRN ⇓S **Sn 19 10 07.5 +2.3**
LKRN Lenkeran, Azer 4.09 89 P **Pn 19 09 15.0 -1.8**
LKRN Lenkeran, Azer 4.09 89 P **Pn 19 09 15.0 -1.8**
SNR=2.7
LKRN S **Sn 19 10 07.5 +2.3**
ASTR Astara 4.11 91 ⇓P **Pn 19 09 15.0 -2.0**
SNR=4.0
ASTR ⇓S **Sn 19 10 08.1 +2.5**
ASTR Astara 4.11 91 P **Pn 19 09 15.0 -2.0**
SNR=4.0
ASTR S **Sn 19 10 08.1 +2.5**
IML Ismayilli 4.12 59 ⇓P **Pn 19 09 17.5 +0.2**
SNR=4.6
IML ⇓S **Sb 19 10 13.2 -3.7**
IML Ismayilli 4.12 59 P **Pn 19 09 17.5 +0.2**
SNR=4.6
XNQ Khinaliq 4.29 54 ⇑P **Pn 19 09 20.6 +0.8**
XNQ Khinaliq 4.29 54 P **Pn 19 09 20.6 +0.8**
SUSE Susehri 4.39 291 *i* P **Pb 19 09 32.5 +1.3**
PQL Pirkuli 4.40 61 ⇓P **Pn 19 09 21.4 +0.2**
PQL Pirkuli 4.40 61 P **Pn 19 09 21.4 +0.2**
GBS Qobustan 4.54 65 ⇓P **Pn 19 09 22.5 -0.5**
GBS Qobustan 4.54 65 P **Pn 19 09 22.5 -0.5**
NEY Neytrino 4.56 352⇑*e*P Pb 19 09 29.2 -4.9
QSAR Qusar 4.56 51 ⇑P **Pn 19 09 23.5 +0.2**
QSAR Qusar 4.56 51 P **Pn 19 09 23.5 +0.2**
QUBA Quba, Azerbaij 4.61 54 ⇓P **Pn 19 09 24.4 +0.4**
QUBA Quba, Azerbaij 4.61 54 P **Pn 19 09 24.4 +0.4**
ATGJ Altiaghaj 4.67 61 ⇓P **Pn 19 09 25.3 +0.5**
ATGJ Altiaghaj 4.67 61 P **Pn 19 09 25.3 +0.5**
SIZA Siyzn 4.74 59 ⇓P **Pn 19 09 26.4 +0.7**
SIZA Siyzn 4.74 59 P **Pn 19 09 26.4 +0.7**
NCK Nalchik 4.76 0⇑*e*P **Pn 19 09 29.9 +3.9**
NCK Nalchik 4.76 0 *e*P **Pn 19 09 29.9 +3.9**
GROC Groznyy 4.78 20 *e*P **Pb 19 09 39.1 +1.3**
GROC pmax pmax
comp=Z,62nm,1.5s
MAK Makhachkala 5.18 34 *e*P **Pn 19 09 33.1 +1.3**
MAK *e*S **Sn 19 10 34.6 +2.6**
MAK pmax pmax
comp=Z,222nm,1.2s
MAK MLR MLR
comp=Z,780nm,11.0s
MAK Makhachkala 5.18 34 *e*P **Pn 19 09 33.1 +1.3**
comp=Z,222nm,1.2s
MAK *e*S **Sn 19 10 34.6 +2.6**
comp=Z,780nm,11.0s
KIV Kislovodsk 5.26 353 *e*P Pb 19 09 40.4 -5.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 5.26 353 *e*Pg **Pg 19 09 51.5 -2.6**
KIV Kislovodsk 5.26 353 *e*Pg **Pg 19 09 51.5 -2.6**
GOF Gofitskoye 6.33 357⇑*e*P **Pg 19 10 11.6 -3.1**
BRTR Keskin Array B 7.75 280 Pn Pn 19 10 11.5 +4.3
comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=3.6
BRTR Keskin Array B 7.75 280 *e*P Pn 19 10 15.6 +8.4
MMAI Mount Meron Ar 8.73 232 Pn **Pn 19 10 24.3 +3.8**
comp=Z,1.1nm,0.3s,baz=64,slow=17,SNR=3.3
GEYT Alibeck 11.48 89 LR LR 19 15 58.9
comp=Z,58nm,20.0s,baz=330,slow=41
EIL Elat 11.49 221 LR LR 19 15 55.6
comp=Z,76nm,18.5s,baz=50,slow=40
RAYN Ar Rayn 15.25 173 *e*Pn **Pn 19 11 44.8 -4.9**
comp=Z,7.2nm,0.8s
AKTO Aktyubinsk 15.56 37 Pn **Pn 19 11 51.3 -2.3**
comp=Z,0.1nm,0.3s,baz=225,slow=9.3,SNR=6.5
AKTO LR LR 19 19 43.9
comp=Z,68nm,18.3s,baz=215,slow=45
AKASG Malin Array Be 15.68 324 *e*P **P 19 12 02.3 +3.0**
ABKAR Akbulak array 15.78 43 P **Pn 19 11 56.0 -0.3**
comp=Z,0.7nm,0.6s
OBN Obninsk 17.05 346 LR LR 19 18 40.1
comp=Z,56nm,19.5s,baz=90,slow=37
OBN Obninsk 17.05 346⇑*e*P **P 19 12 18.2 +3.8**
OBN *e*S **S 19 15 29.4 -3.1**
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,72nm,15.0s
WSAR Wadi Sarin 20.10 136 LR LR 19 22 02.1
comp=Z,63nm,18.7s,baz=327,slow=41
VYHS Vyhne 20.30 307 *e*P Pn 19 12 53.8 +1.6
VYHS Vyhne 20.30 307 *e*P Pn 19 12 53.8 +1.6
ARU Arti 20.32 24 P Pn 19 12 50.9 -1.4
comp=Z,1.9nm,0.6s,baz=225,slow=5.6,SNR=7.6
ARU LR LR 19 22 25.2
comp=Z,54nm,20.2s,baz=313,slow=42
ARU Arti 20.32 24*c i*P **P 19 12 49.9 -0.4**
ARU S **S 19 16 36.9 -1.6**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 20.32 24 *e*P **P 19 12 50.4 +0.1**
comp=Z,5.8nm,0.8s
KKAR Karatay Array 20.80 69 *e*P **P 19 12 56.0 +0.3**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 20.80 69 *e*P **P 19 12 56.0 +0.3**
comp=Z,5.2nm,0.7s
KLMR Klimovskoe 22.29 355 *e*P **P 19 13 13.3 +1.8**
KLMR *e* 19 13 36.1
KLMR pmax pmax
comp=Z,22nm,1.1s
BRVK Borovoye 23.31 43⇑*e*P **P 19 13 23.7 +1.5**
BRVK pmax pmax
comp=Z,17nm,2.0s
BVAR Borovoye Array 23.35 43 P **P 19 13 23.4 +0.7**
comp=Z,1.5nm,0.9s,baz=242,slow=7.8,SNR=5.0
GERES GERESS Array B 23.66 305 P **P 19 13 26.4 +0.5**
comp=Z,0.2nm,0.5s,baz=92,slow=3.1,SNR=4.1
GERES LR LR 19 24 11.5
comp=Z,41nm,18.6s,baz=60,slow=40
AAK Ala-Archa 23.72 71 LR LR 19 24 37.4
comp=Z,60nm,18.0s,baz=248,slow=42
AAK Ala-Archa 23.72 71⇑*e*P **P 19 13 28.9 +2.2**
AAK pmax pmax
comp=Z,8.0nm,1.5s
FRU Bishkek 23.81 70 *e*P **P 19 13 25.5 -1.9**
DAVOX Davos/Dischmat 25.84 299 LR LR 19 24 47.5
comp=Z,9.0nm,20.0s,baz=240,slow=38
KURBB Kurchatov Arra 27.31 53 P **P 19 14 00.2 +1.1**
comp=Z,1.6nm,0.8s,baz=264,slow=9.4,SNR=9.4
KURK Kurchatov 27.39 53⇓*e*P **P 19 14 00.6 +0.8**
KURK pmax pmax
comp=Z,14nm,1.0s
HFS Hagfors 28.48 329 LR LR 19 26 01.4
comp=Z,67nm,18.6s,baz=114,slow=38
MKAR Makanchi Array 29.32 61 P **P 19 14 18.0 +0.9**
comp=Z,0.3nm,0.7s,baz=263,slow=8.4,SNR=3.6
MKAR LR LR 19 27 53.3
comp=Z,41nm,21.7s,baz=234,slow=40
NOA NORSAR Array B 30.01 329 LR LR 19 27 54.1
comp=Z,23nm,18.1s,baz=115,slow=39
ARCES ARCESS Array B 32.34 348 LR LR 19 28 28.4
comp=Z,34nm,19.1s,baz=166,slow=38
NRIK Noril'sk 38.54 23 LR LR 19 35 12.6
comp=Z,63nm,18.0s,baz=134,slow=42
TORD Torodi Ar. Bea 44.90 247 P **P 19 16 29.6 +0.2**
comp=Z,1.1nm,1.1s,baz=50,slow=10,SNR=2.7
SONM Songino Array 45.50 57 LR LR 19 37 12.3
comp=Z,28nm,18.2s,baz=318,slow=38
ULN Ulaanbaatar 45.92 57⇓*e*P **P 19 16 40.4 +3.0**
ULN pmax pmax
comp=Z,3.0nm,1.3s
CMAR Chiang Mai Arr 51.85 97 P **P 19 17 22.3 -0.8**
comp=Z,0.4nm,0.6s,baz=308,slow=8.8,SNR=7.0
CMAR LR LR 19 44 45.3
comp=Z,16nm,19.3s,baz=317,slow=42
ASAJ Asahikawa 69.90 49 LR LR 19 50 50.2
comp=Z,65nm,19.5s,baz=324,slow=37

*ISK **27** 19:09:56.9,38°.73N×43°.58E,h5km,MD2.7*
*CSEM **27** 19:09:57.1±0.3,38°.71N×43°.53E,h15km,ML3.0,Error ellipse: s-maj=9.0km s-min=5.0km az=113.0*
*DDA **27** 19:09:57.2,38°.71N×43°.48E,h7km,Ml3.0*
*ISCJB **27** 19:09:58.2±0.5,38°.73N±0°.03×43°.54E±0°.05,h15km±4km, Error ellipse: s-maj=7.5km s-min=3.7km az=26.9*
ISC 27 19:09:59.0±0.9,**38°.76N**±0°.02×**43°.46E**±0°.03,**h17**km±6km,
n25,σ1§90/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**199**	*e*PG	**Pg**	**19 10 03.0**	**-0.5**
VANB				*e*SG	**Sg**	**19 10 07.9**	**+1.4**
VANB	**Van**	**0.17**	**199**	*e*Pg	**Pg**	**19 10 03.0**	**-0.5**
VANB				*e*Sg	**Sg**	**19 10 07.9**	**+1.4**
TVAN	**Van**	**0.23**	**190**	*i* P	**Pg**	**19 10 02.3**	**-2.2**
TVAN				*i* S	**Sg**	**19 10 09.7**	**+1.5**
TVAN	**Van**	**0.23**	**190**	P	**Pg**	**19 10 02.3**	**-2.2**
VMUR	**Van-Muradiye**	**0.25**	**21**	*i* P	**Pg**	**19 10 02.6**	**-2.2**
VMUR				*i* S	**Sb**	**19 10 08.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.25**	**21**	P	**Pg**	**19 10 02.6**	**-2.2**
VMUR				S	**Sb**	**19 10 08.6**	**-0.7**
CLDR	**Caldiran**	**0.53**	**43**	*e*PG	**Pg**	**19 10 07.5**	**-2.1**
CLDR				*e*SG	**Sb**	**19 10 15.8**	**-1.6**
CLDR	**Caldiran**	**0.53**	**43**	*i* P	**Pg**	**19 10 07.6**	**-2.0**
CLDR				*i* S	**Sb**	**19 10 16.6**	**-0.8**
CLDR	**Caldiran**	**0.53**	**43**	P	**Pg**	**19 10 07.6**	**-2.0**
CLDR				*e*Sg	**Sb**	**19 10 15.8**	**-1.6**
CLDR				S	**Sb**	**19 10 16.5**	**-0.8**
GEVA	**Gevas**	**0.54**	**215**	*i* P	**Pg**	**19 10 07.3**	**-2.6**
GEVA				*i* S	**Sb**	**19 10 17.1**	**-0.7**
GEVA	**Gevas**	**0.54**	**215**	P	**Pg**	**19 10 07.3**	**-2.6**
GEVA				S	**Sb**	**19 10 17.1**	**-0.7**
DYDN	**Diyadin**	**0.81**	**13**	*i* P	**Pg**	**19 10 13.2**	**-1.6**
DYDN				*i* S	**Sb**	**19 10 26.4**	**+1.0**
DYDN	**Diyadin**	**0.81**	**13**	P	**Pg**	**19 10 13.2**	**-1.6**
DYDN				S	**Sb**	**19 10 26.4**	**+1.0**
TUTA	**Tutak**	**0.82**	**322**	*i* P	**Pg**	**19 10 13.1**	**-1.9**
TUTA				*i* S	**Sg**	**19 10 26.2**	**+0.4**
TUTA	**Tutak**	**0.82**	**322**	P	**Pg**	**19 10 13.1**	**-1.9**
TUTA				S	**Sg**	**19 10 26.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.90**	**336**	*e*PG	**Pb**	**19 10 16.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.90**	**336**	*e*Pg	**Pb**	**19 10 16.6**	**+0.4**
TATV	**Tatvan**	**0.97**	**255**	*i* P	**Pg**	**19 10 15.3**	**-2.4**
TATV				*i* S	**Sg**	**19 10 30.0**	**-0.5**
TATV	**Tatvan**	**0.97**	**255**	P	**Pg**	**19 10 15.4**	**-2.4**
TATV				S	**Sg**	**19 10 30.0**	**-0.5**
HAKT	**HAKKARI**	**1.21**	**171**	*i* P	**Pg**	**19 10 19.3**	**-3.2**
HAKT				*i* S	**Sn**	**19 10 42.1**	**+4.6**
HAKT	**HAKKARI**	**1.21**	**171**	P	**Pg**	**19 10 19.3**	**-3.2**
EATA	**Eleskirt**	**1.33**	**326**	*i* P	**Pn**	**19 10 23.1**	**-0.1**
EATA				*i* S	**Sn**	**19 10 43.3**	**+2.6**
EATA	**Eleskirt**	**1.33**	**326**	P	**Pn**	**19 10 23.1**	**-0.1**
EATA				S	**Sn**	**19 10 43.3**	**+2.6**
CUKT	**Cukurca**	**1.51**	**176**	*e*PN	**Pg**	**19 10 26.2**	**-1.9**
CUKT	**Cukurca**	**1.51**	**176**	*e*Pn	**Pg**	**19 10 26.2**	**-1.9**

*DDA **27** 19:12:32.7,38°.72N×43°.50E,h7km,Ml3.2*
*ISK **27** 19:12:32.5,38°.72N×43°.55E,h2km,ML2.9*
*ISCJB **27** 19:12:33.5±0.6,38°.71N±0°.03×43°.55E±0°.05,h12km±4km, Error ellipse: s-maj=6.8km s-min=4.2km az=21.0*
*CSEM **27** 19:12:33.2±0.4,38°.73N×43°.52E,h10km,ML2.9,Error ellipse: s-maj=8.7km s-min=5.8km az=104.0*
ISC 27 19:12:33.4±1.0,**38°.74N**±0°.02×**43°.54E**±0°.03,**h17**km±2km,
n36,σ1§21/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**219**	*e*PG	**Pg**	**19 12 38.1**	**-0.1**
VANB	**Van**	**0.19**	**219**	*e*Pg	**Pg**	**19 12 38.1**	**-0.1**
TVAN	**Van**	**0.24**	**206**	*i* P	**Pb**	**19 12 40.5**	**+1.1**
TVAN				*i* S	**Sb**	**19 12 45.6**	**+2.2**
TVAN	**Van**	**0.24**	**206**	P	**Pb**	**19 12 40.5**	**+1.1**
TVAN				S	**Sb**	**19 12 45.6**	**+2.2**
VMUR	**Van-Muradiye**	**0.25**	**6**	*i* P	**Pg**	**19 12 38.0**	**-1.2**
VMUR				*i* S	**Sb**	**19 12 43.8**	**0.0**
VMUR	**Van-Muradiye**	**0.25**	**6**	P	**Pg**	**19 12 38.0**	**-1.2**
VMUR				S	**Sb**	**19 12 43.8**	**0.0**
CLDR	**Caldiran**	**0.50**	**36**	*e*PG	**Pg**	**19 12 43.0**	**-0.5**
CLDR				*e*SG	**Sb**	**19 12 51.5**	**+0.5**
CLDR	**Caldiran**	**0.50**	**36**	*i* P	**Pg**	**19 12 43.0**	**-0.5**
CLDR				*i* S	**Sb**	**19 12 52.3**	**+1.3**
CLDR	**Caldiran**	**0.50**	**36**	P	**Pg**	**19 12 43.0**	**-0.5**
CLDR				*e*Sg	**Sb**	**19 12 51.5**	**+0.5**
CLDR				S	**Sb**	**19 12 52.3**	**+1.3**
GEVA	**Gevas**	**0.57**	**221**	*i* P	**Pg**	**19 12 43.2**	**-1.6**
GEVA				*i* S	**Sg**	**19 12 52.7**	**+0.2**
GEVA	**Gevas**	**0.57**	**221**	P	**Pg**	**19 12 43.2**	**-1.6**
GEVA				S	**Sg**	**19 12 52.7**	**+0.2**
TUTA	**Tutak**	**0.87**	**320**	*i* P	**Pg**	**19 12 48.5**	**-1.9**
TUTA				*i* S	**Sb**	**19 13 02.8**	**+1.2**
TUTA	**Tutak**	**0.87**	**320**	P	**Pg**	**19 12 48.5**	**-1.9**
TUTA				S	**Sb**	**19 13 02.8**	**+1.2**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*PG	**Pb**	**19 12 52.0**	**+0.7**
AGRB				*e*SG	**Sn**	**19 13 05.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*Pg	**Pb**	**19 12 52.0**	**+0.7**
AGRB				*e*Sg	**Sn**	**19 13 05.7**	**+0.5**
TATV	**Tatvan**	**1.02**	**257**	*i* P	**Pb**	**19 12 51.3**	**-1.5**
TATV				*i* S	**Sb**	**19 13 05.4**	**-0.6**
TATV	**Tatvan**	**1.02**	**257**	P	**Pb**	**19 12 51.3**	**-1.5**
TATV				S	**Sb**	**19 13 05.4**	**-0.6**
HAKT	**HAKKARI**	**1.19**	**174**	*i* P	**Pn**	**19 12 54.1**	**-1.4**
HAKT	**HAKKARI**	**1.19**	**174**	P	**Pn**	**19 12 54.1**	**-1.4**
EKAR	**Karacoban**	**1.26**	**295**	*e*P	**Pn**	**19 12 56.5**	**0.0**
EKAR				*i* S	**Sg**	**19 13 18.6**	**+4.3**
EKAR	**Karacoban**	**1.26**	**295**	P	**Pn**	**19 12 56.5**	**0.0**
EATA	**Eleskirt**	**1.38**	**324**	*i* P	**Pn**	**19 12 58.4**	**+0.1**
EATA				*i* S	**Sg**	**19 13 19.4**	**+1.2**
EATA	**Eleskirt**	**1.38**	**324**	P	**Pn**	**19 12 58.4**	**+0.1**
EATA				S	**Sg**	**19 13 19.4**	**+1.2**
CUKT	**Cukurca**	**1.49**	**178**	*e*PN	**Pb**	**19 13 01.0**	**+0.2**
CUKT	**Cukurca**	**1.49**	**178**	*e*Pn	**Pb**	**19 13 01.0**	**+0.2**
VRTB	**Varto-Mus**	**1.68**	**285**	*e*PN	**Pb**	**19 13 03.9**	**0.0**
VRTB	**Varto-Mus**	**1.68**	**285**	*e*P	**Pn**	**19 13 02.4**	**+0.2**
VRTB				*i* S	**Sg**	**19 13 29.4**	**+1.9**
VRTB	**Varto-Mus**	**1.68**	**285**	P	**Pn**	**19 13 02.4**	**+0.2**
VRTB	**Varto-Mus**	**1.68**	**285**	*e*Pn	**Pb**	**19 13 03.9**	**0.0**
BNGL	**BINGOL**	**1.88**	**277**	*e*P	**Pb**	**19 13 07.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*e*PN	**Pb**	**19 13 07.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*e*Pn	**Pb**	**19 13 07.7**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*PN	**Pb**	**19 13 09.3**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*Pn	**Pb**	**19 13 09.3**	**-0.8**
BNGB	**Bing¶‖**	**2.25**	**277**	*e*PN	**Pn**	**19 13 11.9**	**+1.9**
BINT	**Bingol**	**2.39**	**274**	*e*Pn	**Pn**	**19 13 11.9**	**0.0**

SGS 27 19:13:49.4,25°.26N×37°.79E,h6km,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY12	**LNY12**	**0.02**	**318**	P	Pg	19 13 50.7	-0.1
LNY06	**LNY06**	**0.05**	**187**	S	Sg	19 13 52.0	0.0
LNY06				P	Pg	19 13 51.0	0.0
LNY11	**LNY11**	**0.06**	**349**	P	Pg	19 13 51.1	0.0
LNY11	**LNY11**	**0.06**	**349**	P	Pg	19 13 51.1	0.0
LNY10	**LNY10**	**0.07**	**80**	P	Pg	19 13 51.2	0.0
LNY10	**LNY10**	**0.07**	**80**	P	Pg	19 13 51.2	0.0
LNY04	**LNY04**	**0.13**	**276**	P	Pg	19 13 52.1	0.0
LNY04	**LNY04**	**0.13**	**276**	P	Pg	19 13 53.9	+1.8
LNY02	**LNY02**	**0.14**	**150**	P	Pg	19 13 52.2	-0.1
LNY02	**LNY02**	**0.14**	**150**	P	Pg	19 13 52.3	-0.1

*DDA **27** 19:14:52.4,38°.79N×43°.47E,h6km,Ml3.7*
*CSEM **27** 19:14:53.8±0.3,38°.80N×43°.39E,h2km,ML3.0,Error ellipse: s-maj=7.7km s-min=4.7km az=87.0*
*ISK **27** 19:14:53.2,38°.78N×43°.40E,h5km,ML3.0*
ISC 27 19:14:54.6±0.9,**38°.78N**±0°.02×**43°.38E**±0°.03,**h18**km±6km,
n44,σ1§47/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**177**	PG	**Pg**	**19 14 59.0**	**-0.4**
VANB				*e*SG	**Sg**	**19 15 03.3**	**+0.7**
VANB	**Van**	**0.19**	**177**	*i* Pg	**Pg**	**19 14 59.0**	**-0.4**
VANB				*e*Sg	**Sg**	**19 15 03.3**	**+0.7**
VMUR	**Van-Muradiye**	**0.26**	**36**	*i* S	**Sg**	**19 15 05.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.26**	**36**	S	**Sg**	**19 15 05.4**	**+0.8**
GEVA	**Gevas**	**0.53**	**208**	*i* P	**Pg**	**19 15 03.4**	**-1.8**
GEVA				*i* S	**Sb**	**19 15 12.7**	**-0.2**
GEVA	**Gevas**	**0.53**	**208**	P	**Pg**	**19 15 03.4**	**-1.8**
GEVA				S	**Sb**	**19 15 12.7**	**-0.2**
CLDR	**Caldiran**	**0.55**	**49**	*e*PG	**Pb**	**19 15 04.7**	**-1.2**
CLDR	**Caldiran**	**0.55**	**49**	*e*Pg	**Pb**	**19 15 04.7**	**-1.2**
TUTA	**Tutak**	**0.76**	**325**	*i* P	**Pg**	**19 15 07.9**	**-1.6**
TUTA				*i* S	**Sb**	**19 15 19.5**	**-0.1**
TUTA	**Tutak**	**0.76**	**325**	P	**Pg**	**19 15 07.9**	**-1.6**
TUTA				S	**Sb**	**19 15 19.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.85**	**339**	*e*PG	**Pg**	**19 15 09.2**	**-2.0**
AGRB				*e*SG	**Sb**	**19 15 21.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**339**	*e*Pg	**Pg**	**19 15 09.2**	**-2.0**
AGRB				*e*Sg	**Sb**	**19 15 21.9**	**-0.2**
TATV	**Tatvan**	**0.91**	**253**	*i* P	**Pg**	**19 15 10.2**	**-2.1**
TATV				*i* S	**Sg**	**19 15 22.5**	**-1.9**
TATV	**Tatvan**	**0.91**	**253**	P	**Pg**	**19 15 10.2**	**-2.1**
TATV				S	**Sg**	**19 15 22.5**	**-1.9**
EKAR	**Karacoban**	**1.13**	**295**	*i* P	**Pb**	**19 15 15.5**	**-0.2**
EKAR	**Karacoban**	**1.13**	**295**	P	**Pb**	**19 15 15.5**	**-0.2**
EATA	**Eleskirt**	**1.28**	**328**	*i* P	**Pg**	**19 15 17.6**	**-1.8**
EATA				*i* S	**Sn**	**19 15 36.5**	**+1.7**
EATA	**Eleskirt**	**1.28**	**328**	P	**Pg**	**19 15 17.6**	**-1.8**
EATA				S	**Sn**	**19 15 36.5**	**+1.7**
SIRN	**S¨–rnak**	**1.49**	**211**	*i* P	**Pb**	**19 15 21.5**	**-0.3**
SIRN				*i* S	**Sg**	**19 15 44.2**	**+1.5**
SIRN	**S¨–rnak**	**1.49**	**211**	P	**Pb**	**19 15 21.5**	**-0.3**
SIRN				S	**Sg**	**19 15 44.2**	**+1.5**
CUKT	**Cukurca**	**1.54**	**173**	*e*PN	**Pn**	**19 15 21.2**	**-0.1**
CUKT	**Cukurca**	**1.54**	**173**	*e*Pn	**Pn**	**19 15 21.2**	**-0.1**
VRTB	**Varto-Mus**	**1.55**	**285**	*e*PN	**Pb**	**19 15 22.6**	**-0.2**
VRTB	**Varto-Mus**	**1.55**	**285**	*i* P	**Pg**	**19 15 23.0**	**-1.4**
VRTB				*i* S	**Sg**	**19 15 45.9**	**+1.4**
VRTB	**Varto-Mus**	**1.55**	**285**	*e*Pn	**Pb**	**19 15 22.6**	**-0.2**
VRTB	**Varto-Mus**	**1.55**	**285**	P	**Pg**	**19 15 23.0**	**-1.4**
VRTB				S	**Sg**	**19 15 45.9**	**+1.4**
HOMI	**Horasan**	**1.70**	**318**	*i* P	**Pb**	**19 15 24.8**	**-0.7**
HOMI				*i* S	**Sg**	**19 15 53.0**	**+3.5**
BNGL	**BINGOL**	**1.75**	**276**	*i* P	**Pb**	**19 15 25.9**	**-0.4**
BNGL				*i* S	**Sg**	**19 15 51.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	*e*PN	**Pn**	**19 15 26.3**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	*i* P	**Pb**	**19 15 27.3**	**-0.1**
SVAN				*i* S	**Sg**	**19 15 51.6**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	*e*Pn	**Pn**	**19 15 26.3**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.82**	**251**	P	**Pb**	**19 15 27.3**	**-0.1**
SVAN				S	**Sg**	**19 15 51.7**	**-1.6**
SENK	**Senkaya-Erzuru**	**1.95**	**336**	*e*PN	**Pb**	**19 15 28.3**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.95**	**336**	*e*Pn	**Pb**	**19 15 28.3**	**-1.4**
BNGB	**Bing¶‖**	**2.12**	**277**	*e*PN	**Pn**	**19 15 30.5**	**+1.3**
BINT	**Bingol**	**2.26**	**273**	*e*Pn	**Pn**	**19 15 30.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*PN	**Pb**	**19 15 34.0**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.30**	**287**	*e*Pn	**Pb**	**19 15 34.0**	**-1.7**
MAZI	**Mazidag**	**2.66**	**241**	*e*PN	**Pn**	**19 15 38.5**	**+1.8**
MAZI	**Mazidag**	**2.66**	**241**	*e*Pn	**Pn**	**19 15 38.5**	**+1.8**
PTK	**Pertek**	**3.12**	**273**	*e*PN	**Pn**	**19 15 45.6**	**+2.6**
PTK	**Pertek**	**3.12**	**273**	*e*Pn	**Pn**	**19 15 45.6**	**+2.6**
SVRC	**Sivrice-ELAZID**	**3.22**	**264**	*e*PN	**Pn**	**19 15 46.7**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.22**	**264**	*e*Pn	**Pn**	**19 15 46.7**	**+2.3**

IDC 27 19:25:07.3±2.9,**5°.35S×148°.13E,h229**km±32km,**mb3.4**/4,
mb1 3.6/6,**mb1mx3.1**/28,**mbtmp3.9**/6,**Error ellipse: s-maj=58.7km s-min=23.4km az=127.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.14**	**193**	P	Pn	19 26 13.8	+1.9
	5.0nm,0.3s,baz=326,slow=5.9,SNR=15						
PMG				S	S	19 27 02.4

KULA	**Kula-Manisa**	**0.66 204**	*e*PG	**Pg**	**19 28 19.4**	**0.0**
KULA			*e*SG	**Sg**	**19 28 28.1**	**0.0**
KULA	**Kula-Manisa**	**0.66 204**	*e*Pg	**Pg**	**19 28 19.4**	**0.0**
KULA			*e*Sg	**Sg**	**19 28 28.1**	**0.0**
MANT	**Manisa**	**0.71 209**	*i* P	**Pg**	**19 28 20.6**	**+0.1**
MANT			*i* S	**Sg**	**19 28 30.0**	**+0.1**
MANT	**Manisa**	**0.71 209**	P	**Pg**	**19 28 20.6**	**+0.1**
MANT			S	**Sg**	**19 28 30.0**	**+0.1**
KHAL	**Karahalli**	**0.84 153**	*i* P	**Pb**	**19 28 23.1**	**-0.3**
KHAL			*i* S	**Sb**	**19 28 34.2**	**-0.5**
KHAL	**Karahalli**	**0.84 153**	P	**Pb**	**19 28 23.1**	**-0.3**
KHAL			S	**Sb**	**19 28 34.2**	**-0.5**
BALB	**Balikesir**	**1.02 301**	*e*PN	**Pn**	**19 28 27.4**	**+0.4**
BALB	**Balikesir**	**1.02 301**	*e*Pn	**Pn**	**19 28 27.4**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.03 285**	*i* P	**Pg**	**19 28 25.1**	**-1.4**
STEP			*i* S	**Sn**	**19 28 42.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.03 285**	P	**Pg**	**19 28 25.1**	**-1.4**
STEP			S	**Sn**	**19 28 42.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25 337**	*e*PN	**Pg**	**19 28 31.0**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25 337**	*e*Pn	**Pg**	**19 28 31.0**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25 356**	*e*PN	**Pn**	**19 28 30.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25 356**	*e*Pn	**Pn**	**19 28 30.3**	**+0.1**
CAVI	**Cavuskoy**	**1.26 31**	*e*PN	**Pg**	**19 28 31.1**	**+0.1**
CAVI	**Cavuskoy**	**1.26 31**	*e*Pn	**Pg**	**19 28 31.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38 313**	*e*PN	**Pb**	**19 28 32.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38 313**	*e*Pn	**Pb**	**19 28 32.7**	**+0.1**
ARMT	**Armutlu**	**1.45 356**	*e*PN	**Pn**	**19 28 33.2**	**+0.2**
ARMT	**Armutlu**	**1.45 356**	*e*Pn	**Pn**	**19 28 33.2**	**+0.2**
YLV	**Yalova**	**1.48 11**	*e*PN	**Pn**	**19 28 33.7**	**+0.3**
YLV	**Yalova**	**1.48 11**	*e*Pn	**Pn**	**19 28 33.7**	**+0.3**
EDC	**Edincik**	**1.51 325**	*e*PN	**Pb**	**19 28 34.8**	**0.0**
EDC	**Edincik**	**1.51 325**	*e*Pn	**Pb**	**19 28 34.8**	**0.0**
GULT	**Gulveren**	**1.76 41**	*e*PN	**Pn**	**19 28 37.2**	**-0.1**
GULT	**Gulveren**	**1.76 41**	*e*Pn	**Pn**	**19 28 37.2**	**-0.1**

ISCJB ***27*** *19:33:16.0±0.6, 50°.26N±0°.04×18°.74E±0°.03, h0km, Error ellipse: s-maj=5.8km s-min=2.5km az=17.2*
CSEM ***27*** *19:33:16.9±0.3, 50°.28N×18°.75E, h5km, ML2.7/4, Error ellipse: s-maj=6.6km s-min=2.9km az=13.0*
WAR ***27*** *19:33:17.3, 50°.27N×18°.83E, h1km, Mw2.7*
PRU ***27*** *19:33:17.5, 50°.26N×18°.74E, h0km*
ISC 27 19:33:16.6±0.8, 50°.21N±0°.05×18.75E±0°.02, h0km, n32, σ0s83/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.54**	**227**	*e*PG	**Pb**	**19 33 29.2**	**+0.3**
OKC				*e*SG	**Sb**	**19 33 36.1**	**-1.0**
	comp=Z,21nm,0.4s						
OKC	**Ostrava-Krasne**	**0.54**	**227**	Pg	**Pb**	**19 33 29.2**	**+0.3**
OKC				Sg	**Sb**	**19 33 36.1**	**-1.0**
	21nm,0.4s						
OJC	**Ojcow**	**0.68**	**89**	*e*Pg	**Pg**	**19 33 29.2**	**-0.3**
OJC				*e*Sg	**Sb**	**19 33 39.3**	**-1.9**
OJC	**Ojcow**	**0.68**	**89**	*e*Pg	**Pg**	**19 33 29.2**	**-0.3**
OJC				*e*Sg	**Sb**	**19 33 39.3**	**-1.9**
OJC	**Ojcow**	**0.68**	**89**	*e*Pg	**Pg**	**19 33 29.2**	**-0.3**
OJC				*e*Sg	**Sg**	**19 33 39.3**	**+1.0**
MORC	**Moravsky Berou**	**0.89**	**241**	*e*Pg	**Pb**	**19 33 35.1**	**+0.1**
LANS	**Liptovska Anna**	**1.16**	**156**	*e*Pg	**Pn**	**19 33 40.2**	**+0.1**
LANS				*e*Sg	**Sn**	**19 33 57.0**	**+0.3**
LANS	**Liptovska Anna**	**1.16**	**156**	*e*PG	**Pn**	**19 33 40.2**	**+0.1**
LANS				*e*SG	**Sn**	**19 33 56.9**	**+0.3**
KRLC	**Kraliky**	**1.27**	**265**	*e*PG	**Pg**	**19 33 41.2**	**+0.2**
KRLC				*e*SG	**Sg**	**19 33 58.0**	**+0.5**
KRLC	**Kraliky**	**1.27**	**265**	Pg	**Pg**	**19 33 41.2**	**+0.2**
KRLC				Sg	**Sg**	**19 33 58.0**	**+0.5**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg	**Pb**	**19 33 41.7**	**+0.1**
NIE				*e*Sg	**Sn**	**19 33 59.8**	**+0.2**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg	**Pb**	**19 33 41.7**	**+0.1**
NIE				*e*Sg	**Sn**	**19 33 59.8**	**+0.2**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg	**Pb**	**19 33 41.7**	**+0.1**
NIE				*e*Sg	**Sn**	**19 33 59.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.56**	**276**	*e*PG	**Pn**	**19 33 45.9**	**+0.2**
DPC				*e*SG	**Sg**	**19 34 07.1**	**+0.3**
	comp=Z,13nm,0.4s						
DPC	**Dobruska-Polom**	**1.56**	**276**	Pg	**Pn**	**19 33 45.9**	**+0.2**
DPC				Sg	**Sg**	**19 34 07.1**	**+0.3**
	13nm,0.4s						
VRAC	**Vranov**	**1.66**	**238**	*e*Pn	**Pb**	**19 33 48.4**	**+0.3**
VRAC				*e*Sg	**Sg**	**19 34 11.1**	**+1.1**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**19 33 49.2**	**+0.2**
KSP				*e*Sg	**Sg**	**19 34 11.7**	**+0.8**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**19 33 49.2**	**+0.2**
KSP				*e*Sg	**Sg**	**19 34 11.7**	**+0.8**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**19 33 49.2**	**+0.2**
KSP				*e*Sg	**Sg**	**19 34 11.7**	**+0.8**
VYHS	**Vyhne**	**1.72**	**178**	*e*Pn	**Pn**	**19 33 48.1**	**+0.3**
VYHS				*e*Sn	**Sn**	**19 34 10.9**	**+0.5**
VYHS	**Vyhne**	**1.72**	**178**	*e*PN	**Pn**	**19 33 48.0**	**+0.3**
VYHS				*e*SN	**Sn**	**19 34 10.9**	**+0.5**
VYHS				*e*LG	Lg	19 34 16.3	
UPC	**Upice**	**1.78**	**281**	*e*SG	**Sg**	**19 34 14.0**	**+0.3**
	comp=Z,5.1nm,0.3s						
UPC	**Upice**	**1.78**	**281**	Sg	**Sg**	**19 34 14.0**	**+0.3**
	5.1nm,0.3s						
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*Pn	**Pb**	**19 33 50.6**	**+0.1**
STHS				*e*Sg	**Sg**	**19 34 16.2**	**+1.8**
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*PN	**Pb**	**19 33 50.6**	**+0.1**
STHS				*e*SG	**Sg**	**19 34 16.2**	**+1.8**
STHS				*e*LG	Lg	19 34 21.7	
KECS	**Kecovo**	**2.07**	**146**	*e*Sn	**Sn**	**19 34 18.4**	**-0.6**
KECS	**Kecovo**	**2.07**	**146**	*e*SN	**Sn**	**19 34 18.4**	**-0.6**
KECS				*e*LG	Lg	19 34 30.0	
PRU	**Pruhonice**	**2.72**	**267**	*e*SG	**Sg**	**19 34 42.4**	**-1.5**
PRU	**Pruhonice**	**2.72**	**267**	Sg	**Sg**	**19 34 42.4**	**-1.5**
BRG	**Berggiesshubel**	**3.14**	**284**	SG	**Sg**	**19 34 60.0**	**+2.6**
	3.1nm,0.6s						
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG	**Sg**	**19 35 09.1**	**-0.8**
	comp=Z,5.8nm,0.4s						
KHC	**Kasperske Hory**	**3.53**	**254**	Sg	**Sg**	**19 35 09.1**	**-0.8**
	5.8nm,0.4s						

CSEM ***27*** *19:34:48.6, 45°.62N×26°.49E, h148km, MD3.1/3*
BUC 27 19:34:48.6±1.2, 45°.62N×26°.49E, h148km±12km, MD3.1/3, 39C-18D, Error ellipse: s-maj=7.1km s-min=6.8km az=54.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.26**	**25**	⇑*i*P	Pn	19 35 08.8	0.0
PLOR	**Plostina**	**0.26**	**25**	⇑*i*P	Pn	19 35 08.8	0.0
PLOR	**Plostina**	**0.26**	**25**	⇑*i*P	Pn	19 35 08.8	0.0
VRI	**Vrincioaia**	**0.30**	**34**	⇑*i*P	Pn	19 35 09.2	+0.3
VRI				*i* S	Sn	19 35 24.4	-0.1
VRI	**Vrincioaia**	**0.30**	**34**	⇑*i*P	Pn	19 35 09.2	+0.3
VRI	**Vrincioaia**	**0.30**	**34**	⇑*i*P	Pn	19 35 09.2	+0.3
VRI				*i* S	Sn	19 35 24.4	-0.1
MLR	**Muntele Rosu**	**0.40**	**252**	⇑*i*P	Pn	19 35 09.9	+0.4
MLR				*i* S	Sn	19 35 25.6	+0.3
MLR	**Muntele Rosu**	**0.40**	**252**	⇑*i*P	Pn	19 35 09.9	+0.4
MLR	**Muntele Rosu**	**0.40**	**252**	⇑*i*P	Pn	19 35 09.9	+0.4
MLR				*i* S	Sn	19 35 25.6	+0.3
ISR	**Istrita**	**0.50**	**176**	⇓*i*P	Pn	19 35 10.6	+0.8
ISR	**Istrita**	**0.50**	**176**	⇓*i*P	Pn	19 35 10.6	+0.8
ISR	**Istrita**	**0.50**	**176**	⇓*i*P	Pn	19 35 10.6	+0.8
PETR	**Petresti**	**0.53**	**78**	⇑*i*P	Pn	19 35 10.7	+0.9
PETR				*i* S	Sn	19 35 27.0	+1.0
PETR	**Petresti**	**0.53**	**78**	⇑*i*P	Pn	19 35 10.7	+0.9
PETR	**Petresti**	**0.53**	**78**	⇑*i*P	Pn	19 35 10.7	+0.9
PETR				*i* S	Sn	19 35 27.0	+1.0
TESR	**Tescani**	**0.90**	**7**	⇑*i*P	Pn	19 35 12.0	-0.4
TESR				*i* S	Sn	19 35 29.3	-1.3
TESR	**Tescani**	**0.90**	**7**	⇑*i*P	Pn	19 35 12.0	-0.4
TESR	**Tescani**	**0.90**	**7**	⇑*i*P	Pn	19 35 12.0	-0.4
TESR				*i* S	Sn	19 35 29.3	-1.3
SULR		**0.95**	**190**	⇓*i*P	Pn	19 35 13.5	+0.7
SULR		**0.95**	**190**	⇓*i*P	Pn	19 35 13.5	+0.7
SULR		**0.95**	**190**	⇓*i*P	Pn	19 35 13.5	+0.7
VOIR		**1.03**	**260**	⇑*i*P	Pn	19 35 13.3	-0.2
VOIR				*i* S	Sn	19 35 32.0	-0.5
VOIR		**1.03**	**260**	⇑*i*P	Pn	19 35 13.3	-0.2
VOIR		**1.03**	**260**	⇑*i*P	Pn	19 35 13.3	-0.2
VOIR				*i* S	Sn	19 35 32.0	-0.5
MTUR	**Matau**	**1.08**	**249**	⇑*i*P	Pn	19 35 14.1	+0.1
MTUR	**Matau**	**1.08**	**249**	⇑*i*P	Pn	19 35 14.1	+0.1
MTUR	**Matau**	**1.08**	**249**	⇑*i*P	Pn	19 35 14.1	+0.1
CFR	**Carcaliu**	**1.24**	**110**	⇓*i*P	Pn	19 35 15.6	+0.3
CFR				*i* S	Sn	19 35 35.5	-0.2
CFR	**Carcaliu**	**1.24**	**110**	⇓*i*P	Pn	19 35 15.6	+0.3
CFR	**Carcaliu**	**1.24**	**110**	⇓*i*P	Pn	19 35 15.6	+0.3
CFR				*i* S	Sn	19 35 35.5	-0.2
BUC1	**Bucharest**	**1.31**	**195**	⇓*i*P	Pn	19 35 16.5	+0.4
BUC1				*i* S	Sn	19 35 37.2	+0.2
BUC1	**Bucharest**	**1.31**	**195**	⇓*i*P	Pn	19 35 16.5	+0.4
BUC1	**Bucharest**	**1.31**	**195**	⇓*i*P	Pn	19 35 16.5	+0.4
BUC1				*i* S	Sn	19 35 37.2	+0.2
ARR	**Arges**	**1.33**	**260**	⇑*i*P	Pn	19 35 17.0	+0.7
ARR				*i* S	Sn	19 35 37.2	-0.3
ARR	**Arges**	**1.33**	**260**	⇑*i*P	Pn	19 35 17.0	+0.7
ARR	**Arges**	**1.33**	**260**	⇑*i*P	Pn	19 35 17.0	+0.7
ARR				*i* S	Sn	19 35 37.2	-0.3
HARR	**Harsova**	**1.38**	**132**	⇓*i*P	Pn	19 35 16.6	-0.1
HARR	**Harsova**	**1.38**	**132**	⇓*i*P	Pn	19 35 16.6	-0.1
HARR	**Harsova**	**1.38**	**132**	⇓*i*P	Pn	19 35 16.6	-0.1
SGRR	**Singureni**	**1.44**	**195**	⇓*i*P	Pn	19 35 17.5	+0.1
SGRR				*i* S	Sn	19 35 38.9	-0.5
SGRR	**Singureni**	**1.44**	**195**	⇓*i*P	Pn	19 35 17.5	+0.1
SGRR				S	Sn	19 35 38.9	-0.5
SGRR	**Singureni**	**1.44**	**195**	⇓*i*P	Pn	19 35 17.5	+0.1
SGRR				*i* S	Sn	19 35 38.9	-0.5
TLB	**Topalu**	**1.51**	**133**	⇑*i*P	Pn	19 35 18.5	+0.4
TLB				*i* S	Sn	19 35 40.0	-0.6
TLB	**Topalu**	**1.51**	**133**	⇑*i*P	Pn	19 35 18.5	+0.4
TLB	**Topalu**	**1.51**	**133**	⇑*i*P	Pn	19 35 18.5	+0.4
TLB				*i* S	Sn	19 35 40.0	-0.6
HUMR	**Humele**	**1.53**	**225**	⇑*i*P	Pn	19 35 18.1	-0.2
HUMR				*i* S	Sn	19 35 40.3	-0.7
HUMR	**Humele**	**1.53**	**225**	⇑*i*P	Pn	19 35 18.1	-0.2
HUMR	**Humele**	**1.53**	**225**	⇑*i*P	Pn	19 35 18.1	-0.2
HUMR				*i* S	Sn	19 35 40.3	-0.7
TLCR		**1.69**	**104**	*i* S	Sn	19 35 44.4	+0.2
TLCR		**1.69**	**104**	S	Sn	19 35 44.4	+0.2
TLCR		**1.69**	**104**	*i* S	Sn	19 35 44.4	+0.2
ICOR	**Ion Corvin**	**1.77**	**148**	*i* S	Sn	19 35 45.8	+0.1
ICOR	**Ion Corvin**	**1.77**	**148**	S	Sn	19 35 45.8	+0.1
ICOR	**Ion Corvin**	**1.77**	**148**	*i* S	Sn	19 35 45.8	+0.1
TIRR	**Tirgusor**	**1.79**	**130**	⇑*i*P	Pn	19 35 21.6	+0.4
TIRR				*i* S	Sn	19 35 45.4	-0.7
TIRR	**Tirgusor**	**1.79**	**130**	⇑*i*P	Pn	19 35 21.6	+0.4
TIRR	**Tirgusor**	**1.79**	**130**	⇑*i*P	Pn	19 35 21.6	+0.4
TIRR				*i* S	Sn	19 35 45.4	-0.7
MILM	**Milestii Mici**	**2.07**	**50**	⇑*i*P	Pn	19 35 24.4	0.0
MILM				*i* S	Sn	19 35 50.4	-1.5
MILM	**Milestii Mici**	**2.07**	**50**	⇑*i*P	Pn	19 35 24.4	0.0
MILM	**Milestii Mici**	**2.07**	**50**	⇑*i*P	Pn	19 35 24.4	0.0
MILM				*i* S	Sn	19 35 50.4	-1.5
BURAR	**Bucovina Array**	**2.18**	**337**	⇑*i*P	Pn	19 35 26.7	+0.9
BURAR	**Bucovina Array**	**2.18**	**337**	⇑*i*P	Pn	19 35 26.7	+0.9
BURAR	**Bucovina Array**	**2.18**	**337**	⇑*i*P	Pn	19 35 26.7	+0.9

IDC 27 19:36:39.1±28.0, 4°.86S×145°.84E, h250km±229km, mb3.4/2, mb1 3.6/3, mb1mx3.0/29, mbtmp4.0/3, ML3.4/1, MS3.3/4, Ms1 3.2/4, ms1mx2.8/18, Error ellipse: s-maj=163.1km s-min=88.6km az=43.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.70**	**164**	LR	LR	19 39 56.5	
	comp=Z,284nm,18.3s,baz=340,slow=42						
WRA	**Warramunga Arr**	**18.71**	**216**	P	P	19 40 39.0	-0.5
	0.1nm,0.3s,baz=40,slow=11,SNR=23						
ASAR	**Alice Springs**	**21.95**	**210**	P	P	19 41 12.8	0.0
	3.5nm,0.9s,baz=33,slow=6.3,SNR=14						
ASAR				LR	LR	19 51 16.5	
	comp=Z,59nm,20.6s,baz=40,slow=40						
FITZ	**Fitzroy Crossi**	**23.73**	**235**	P	P	19 41 29.4	+0.4
	2.6nm,0.7s,baz=52,slow=7.6,SNR=7.4						
FITZ				LR	LR	19 52 09.2	
	comp=Z,87nm,19.0s,baz=60,slow=39						
STKA	**Stephens Creek**	**27.17**	**188**	LR	LR	19 53 47.4	
	comp=Z,50nm,18.3s,baz=29,slow=38						
TORD	**Torodi Ar. Bea**	**143.68**	**286**	PKP	PKPdf	19 55 44.7	-0.6
	0.7nm,1.0s,baz=134,slow=2.5,SNR=3.7						

ISK ***27*** *19:39:17.4, 38°.67N×43°.27E, h5km, ML2.9*
CSEM ***27*** *19:39:18.8±0.3, 38°.68N×43°.20E, h2km, ML2.9, Error ellipse: s-maj=6.7km s-min=5.0km az=154.0*
DDA ***27*** *19:39:19.1, 38°.71N×43°.15E, h7km, Ml3.5*
ISC 27 19:39:19.3±0.8, 38°.69N±0°.03×43°.21E±0°.02, h16km±7km, n36, σ1s59/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**124**	*e*PG	**Pg**	**19 39 22.1**	**-1.6**
VANB	**Van**	**0.17**	**124**	*e*Pg	**Pg**	**19 39 22.1**	**-1.6**
TVAN	**Van**	**0.22**	**137**	*i* P	**Pg**	**19 39 25.4**	**+0.9**
TVAN				*i* S	**Sg**	**19 39 29.8**	**+1.7**
TVAN	**Van**	**0.22**	**137**	P	**Pg**	**19 39 25.4**	**+0.9**
TVAN				S	**Sg**	**19 39 29.8**	**+1.7**
GEVA	**Gevas**	**0.40**	**198**	*i* P	**Pg**	**19 39 25.3**	**-2.1**
GEVA	**Gevas**	**0.40**	**198**	P	**Pg**	**19 39 25.3**	**-2.1**
VMUR	**Van-Muradiye**	**0.41**	**43**	*i* P	**Pb**	**19 39 27.0**	**-1.3**
VMUR				*i* S	**Sb**	**19 39 35.0**	**+0.6**
VMUR	**Van-Muradiye**	**0.41**	**43**	P	**Pb**	**19 39 27.0**	**-1.3**
VMUR				S	**Sb**	**19 39 35.0**	**+0.6**
CLDR	**Caldiran**	**0.71**	**50**	*e*PG	**Pb**	**19 39 32.0**	**-1.5**
CLDR				*e*SG	**Sb**	**19 39 42.6**	**-0.5**
CLDR	**Caldiran**	**0.71**	**50**	*i* P	**Pb**	**19 39 32.4**	**-1.1**
CLDR				*i* S	**Sn**	**19 39 44.3**	**-1.4**
CLDR	**Caldiran**	**0.71**	**50**	*e*Pg	**Pb**	**19 39 32.0**	**-1.5**
CLDR	**Caldiran**	**0.71**	**50**	P	**Pb**	**19 39 32.4**	**-1.1**
CLDR				*e*Sg	**Sb**	**19 39 42.7**	**-0.5**
CLDR				S	**Sn**	**19 39 44.3**	**-1.4**
TATV	**Tatvan**	**0.76**	**256**	*i* P	**Pg**	**19 39 31.9**	**-2.3**
TATV				*i* S	**Sg**	**19 39 43.3**	**-1.0**
TATV	**Tatvan**	**0.76**	**256**	P	**Pg**	**19 39 31.9**	**-2.3**
TATV				S	**Sg**	**19 39 43.3**	**-1.0**
TUTA	**Tutak**	**0.78**	**337**	*i* P	**Pg**	**19 39 33.0**	**-1.5**
TUTA	**Tutak**	**0.78**	**337**	P	**Pg**	**19 39 33.0**	**-1.5**
AGRB	**Hanur-Agry**	**0.90**	**349**	*e*PG	**Pb**	**19 39 35.6**	**-1.0**
AGRB				*e*SG	**Sn**	**19 39 50.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**349**	*e*Pg	**Pb**	**19 39 35.7**	**-1.0**
EKAR	**Karacoban**	**1.06**	**303**	*i* P	**Pn**	**19 39 39.9**	**+0.2**
EKAR				*i* S	**Sn**	**19 40 00.8**	**+6.5**
EKAR	**Karacoban**	**1.06**	**303**	P	**Pn**	**19 39 39.9**	**+0.2**
EATA	**Eleskirt**	**1.30**	**335**	*i* P	**Pb**	**19 39 42.7**	**-0.8**
EATA				*i* S	**Sg**	**19 40 03.0**	**+1.7**
EATA	**Eleskirt**	**1.30**	**335**	P	**Pb**	**19 39 42.7**	**-0.8**
EATA				S	**Sg**	**19 40 03.0**	**+1.7**
VRTB	**Varto-Mus**	**1.45**	**289**	*e*PN	**Pg**	**19 39 46.5**	**-0.7**
VRTB	**Varto-Mus**	**1.45**	**289**	*e*Pn	**Pg**	**19 39 46.5**	**-0.7**
BNGL	**BINGOL**	**1.63**	**280**	*i* P	**Pg**	**19 39 50.6**	**-0.1**
BNGL				*i* S	**Sg**	**19 40 12.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*PN	**Pb**	**19 39 49.0**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*i* P	**Pb**	**19 39 49.0**	**-0.7**
SVAN				*i* S	**Sg**	**19 40 12.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	P	**Pb**	**19 39 49.0**	**-0.7**
SVAN				S	**Sg**	**19 40 12.7**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*PN	**Pb**	**19 39 54.4**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pb**	**19 39 54.4**	**-0.7**
BNGB	**Bing¶‖**	**2.00**	**279**	*e*PN	**Pb**	**19 39 54.8**	**-0.6**
BINT	**Bingol**	**2.14**	**276**	*e*Pn	**Pn**	**19 39 54.8**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.21**	**291**	*e*PN	**Pb**	**19 39 57.7**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.21**	**291**	*e*Pn	**Pb**	**19 39 57.7**	**-1.2**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*PN	**Pn**	**19 40 09.9**	**+2.5**
SVRC	**Sivrice-ELAZID**	**3.08**	**265**	*e*Pn	**Pn**	**19 40 09.9**	**+2.5**

ISK ***27*** *19:40:06.8, 37°.05N×27°.49E, h6km, ML2.2*
ISCJB ***27*** *19:40:07.7±0.5, 37°.03N±0°.03×27°.49E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=3.6km az=32.1*
CSEM ***27*** *19:40:07.7±0.2, 37°.02N×27°.48E, h1km, ML2.7, Error ellipse: s-maj=4.3km s-min=3.1km az=38.0, Suspected Mining explosion.*
DDA ***27*** *19:40:08.0, 37°.08N×27°.50E, h4km, Ml2.7, Suspected Mining explosion.*
ISC 27 19:40:07.8±1.0, 37°.03N±0°.03×27°.54E±0°.02, h0km, n24, σ1s19/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.08**	**297**	*i* P	**Pg**	**19 40 09.3**	**-0.1**
BDRM				*i* S	**Sg**	**19 40 10.7**	**+0.3**
BDRM	**Kayabasi**	**0.08**	**297**	P	**Pg**	**19 40 09.3**	**-0.1**
BDRM				S	**Sg**	**19 40 10.7**	**+0.3**
BODT	**Bodrum**	**0.18**	**281**	PG	**Pg**	**19 40 10.4**	**-0.9**
BODT				*e*SG	**Sg**	**19 40 13.0**	**-0.7**
BODT	**Bodrum**	**0.18**	**281**	*i* Pg	**Pg**	**19 40 10.4**	**-0.9**
BODT				*e*Sg	**Sg**	**19 40 13.0**	**-0.7**
YKAV	**Yalikavak-Bodr**	**0.23**	**295**	*e*PG	**Pg**	**19 40 10.9**	**-1.2**
YKAV				*e*SG	**Sg**	**19 40 13.9**	**-1.2**
YKAV	**Yalikavak-Bodr**	**0.23**	**295**	*e*Pg	**Pg**	**19 40 10.9**	**-1.2**
YKAV				*e*Sg	**Sg**	**19 40 13.9**	**-1.2**
DATC	**Datca-Mugla**	**0.29**	**160**	*e*PG	**Pg**	**19 40 13.6**	**+0.4**
DATC	**Datca-Mugla**	**0.29**	**160**	*e*Pg	**Pg**	**19 40 13.6**	**+0.4**
DAT	**Datca**	**0.30**	**174**	*e*PG	**Pg**	**19 40 13.5**	**0.0**
DAT	**Datca**	**0.30**	**174**	*i* P	**Pg**	**19 40 13.5**	**0.0**
DAT				*i* S	**Sb**	**19 40 21.1**	**-0.5**
DAT	**Datca**	**0.30**	**174**	P	**Pg**	**19 40 13.5**	**0.0**
NIS1	**Nisyros Isl.**	**0.51**	**214**	*e*PG	**Pg**	**19 40 17.4**	**-0.2**
NIS1	**Nisyros Isl.**	**0.51**	**214**	*e*Pg	**Pg**	**19 40 17.4**	**-0.2**
MRSB	**Marmaris-Mugla**	**0.61**	**120**	*e*PG	**Pg**	**19 40 19.6**	**+0.1**
MRSB	**Marmaris-Mugla**	**0.61**	**120**	*e*Pg	**Pg**	**19 40 19.6**	**+0.1**
AYDN	**Tasoluk**	**0.69**	**23**	*i* P	**Pg**	**19 40 20.9**	**-0.1**
AYDN	**Tasoluk**	**0.69**	**23**	P	**Pg**	**19 40 20.9**	**-0.1**
GCAM	**G?zelcaml?**	**0.71**	**340**	*i* P	**Pg**	**19 40 20.7**	**-0.7**
GCAM				*i* S	**Sg**	**19 40 31.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.71**	**340**	P	**Pg**	**19 40 20.7**	**-0.7**
GCAM				S	**Sg**	**19 40 31.2**	**+0.5**
TURN	**Turunc**	**0.87**	**100**	*i* P	**Pg**	**19 40 20.4**	**-4.0**
TURN				*i* S	**Sg**	**19 40 31.8**	**-3.9**
DALY	**Dalyan (Mu¨la**	**0.92**	**103**	*e*PG	**Pg**	**19 40 25.9**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.92**	**103**	*e*Pg	**Pg**	**19 40 25.9**	**+0.5**
TAVA	**DENIZLI_Tavas**	**1.18**	**68**	*i* P	**Pn**	**19 40 32.7**	**+1.0**
TAVA				*i* S	**Sb**	**19 40 48.2**	**+1.1**
TAVA	**DENIZLI_Tavas**	**1.18**	**68**	P	**Pn**	**19 40 32.7**	**+1.0**
TAVA				S	**Sb**	**19 40 48.2**	**+1.1**

DDA ***27*** *19:43:07.7, 38°.75N×43°.34E, h7km, Ml3.9*
ISK ***27*** *19:43:07.1, 38°.80N×43°.37E, h5km, ML3.5*
AZER ***27*** *19:43:07.6±1.0, 38°.46N×43°.33E, h10km, Error ellipse: s-maj=10.5km s-min=10.4km az=99.0*
CSEM ***27*** *19:43:08.5±0.2, 38°.76N×43°.34E, h2km, ML3.5, Error ellipse: s-maj=4.4km s-min=3.2km az=159.0*
ISC 27 19:43:08.3±1.0, 38°.78N±0°.02×43°.37E±0°.02, h9km±8km, n91, σ1s65/133, 15C-14D, Turkey

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

LRK	**Lerik**	**3.89**	**90**	P	**Pn**	**19 44 07.5**	**-1.0**
LRK				S	**Sn**	**19 44 56.5**	**+2.1**
GLBA	**Clilabad**	**3.94**	**82**	⇑P	**Pn**	**19 44 09.6**	**+0.6**
GLBA				⇑S	**Sn**	**19 44 57.4**	**+2.0**
GLBA	**Clilabad**	**3.94**	**82**	P	**Pn**	**19 44 09.6**	**+0.6**
GLBA				S	**Sn**	**19 44 57.4**	**+2.0**
QBL	**Gabala**	**4.06**	**56**	⇑P	**Pn**	**19 44 13.2**	**+2.5**
QBL				⇑S	**Sb**	**19 45 04.0**	**-5.3**
QBL	**Gabala**	**4.06**	**56**	P	**Pn**	**19 44 13.2**	**+2.5**
QBL				S	**Sb**	**19 45 04.0**	**-5.3**
IML	**Ismayilli**	**4.22**	**60**	⇓P	**Pn**	**19 44 14.6**	**+1.7**
IML	**Ismayilli**	**4.22**	**60**	P	**Pn**	**19 44 14.6**	**+1.7**
LKRN	**Lenkeran, Azer**	**4.23**	**89**	⇓P	**Pn**	**19 44 12.5**	**-0.5**
LKRN	**Lenkeran, Azer**	**4.23**	**89**	P	**Pn**	**19 44 12.5**	**-0.5**
ASTR	**Astara**	**4.25**	**91**	⇑P	**Pn**	**19 44 12.8**	**-0.4**
ASTR	**Astara**	**4.25**	**91**	P	**Pn**	**19 44 12.8**	**-0.4**
PQL	**Pirkuli**	**4.50**	**62**	⇓P	**Pn**	**19 44 18.3**	**+1.5**
PQL	**Pirkuli**	**4.50**	**62**	P	**Pn**	**19 44 18.3**	**+1.5**
QSAR	**Qusar**	**4.64**	**52**	⇑P	**Pn**	**19 44 21.0**	**+2.3**
QSAR	**Qusar**	**4.64**	**52**	P	**Pn**	**19 44 21.0**	**+2.3**
GBS	**Qobustan**	**4.65**	**66**	⇑P	**Pn**	**19 44 19.8**	**+1.0**
GBS	**Qobustan**	**4.65**	**66**	P	**Pn**	**19 44 19.8**	**+1.0**
QUBA	**Quba, Azerbaij**	**4.70**	**55**	⇑P	**Pn**	**19 44 21.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**4.70**	**55**	P	**Pn**	**19 44 21.5**	**+2.0**
ATGJ	**Altiaghaj**	**4.77**	**62**	⇑P	**Pn**	**19 44 21.7**	**+1.2**
ATGJ	**Altiaghaj**	**4.77**	**62**	P	**Pn**	**19 44 21.7**	**+1.2**

*CSEM **27** 19:43:56.8±0.3, 46°.19N×16°.71E, h2km, ML1.7, Error ellipse: s-maj=6.6km s-min=4.2km az=94.0*

VIE 27 19:43:56.3±1.2, 46°.28N×16°.75E, h8km, ML1.7/3, 3D, Error ellipse: s-maj=6.9km s-min=5.9km az=81.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEHE	**Becsehely**	**0.19**	**6**	*e*Pg	Pg	19 44 02.4	+2.2
BEHE				*e*Sg	Sg	19 44 06.8	+4.0
BEHE	**Becsehely**	**0.19**	**6**	*e*Pg	Pg	19 44 02.4	+2.2
BEHE				*e*Sg	Sg	19 44 06.8	+4.0
KOGS	**Kog**	**0.38**	**296**	⇓*i*Pg	Pb	19 44 05.0	-0.3
KOGS				*i* Sg	Sb	19 44 10.9	-0.5
	comp=Z,40nm,0.2s						
KOGS	**Kog**	**0.38**	**296**	⇓*i*Pg	Pb	19 44 05.0	-0.3
KOGS				⇓*i*Sg	Sb	19 44 10.9	-0.5
GROS	**Grobnik**	**0.88**	**282**	*i* Pg	Pg	19 44 13.3	+0.1
GROS	**Grobnik**	**0.88**	**282**	*i* Pg	Pg	19 44 13.3	0.0
GCIS	**Gornji Cirnik**	**0.89**	**242**	*i* Pg	Pg	19 44 13.0	-0.3
GCIS	**Gornji Cirnik**	**0.89**	**242**	*i* Pg	Pg	19 44 12.9	-0.4
DOBS	**Dobrina**	**0.90**	**262**	*i* Pg	Pg	19 44 13.2	-0.4
DOBS	**Dobrina**	**0.90**	**262**	*i* Pg	Pg	19 44 13.1	-0.5
SOKA	**Soboth**	**1.25**	**289**	Pg	Pb	19 44 20.2	0.0
	comp=Z,0.6nm,0.2s						
SOKA				Sg	Sn	19 44 38.5	+1.3
	comp=Z,2.5nm,0.2s						
ARSA	**Arzberg**	**1.28**	**319**	Pg	Pg	19 44 22.3	+1.4
	comp=Z,0.6nm,0.2s						
ARSA				Sg	Sn	19 44 39.3	+1.3
	comp=Z,0.9nm,0.2s						
OBKA	**Obir**	**1.54**	**279**	Sg	Sg	19 44 46.5	+0.7
	comp=Z,2.5nm,0.3s						
UDBI	**Udbina**	**1.89**	**202**	*e*Pn	Pn	19 44 28.0	-0.9
UDBI				Sn	Sn	19 44 52.7	-0.2
UDBI	**Udbina**	**1.89**	**202**	*e*Pn	Pn	19 44 27.9	-1.0
UDBI				Sn	Sn	19 44 52.6	-0.3
NVLJ	**Novalja**	**2.17**	**218**	*e*Pn	Pn	19 44 34.0	+1.3
NVLJ				Sn	Sn	19 44 59.8	+0.1
NVLJ	**Novalja**	**2.17**	**218**	*e*Pn	Pn	19 44 33.9	+1.2
NVLJ				Sn	Sn	19 44 59.7	0.0

*ISK **27** 19:54:04.5, 38°.70N×43°.42E, h5km, ML2.7*
*DDA **27** 19:54:04.8, 38°.73N×43°.30E, h7km, Ml3.0*
*CSEM **27** 19:54:05.5±0.3, 38°.73N×43°.34E, h2km, ML2.7, Error ellipse: s-maj=5.8km s-min=4.5km az=109.0*

ISC 27 19:54:05.3±0.9, 38°.73N±0°.02×43°.34E±0°.03, h11km±8km, n34, σ1°.9 03/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**162**	*e*PG	**Pg**	**19 54 09.0**	**+0.3**
VANB	**Van**	**0.14**	**162**	*e*Pg	**Pg**	**19 54 09.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.32**	**35**	*i* P	**Pg**	**19 54 11.3**	**-0.5**
VMUR				*i* S	**Sb**	**19 54 18.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.32**	**35**	P	**Pg**	**19 54 11.4**	**-0.5**
VMUR				S	**Sb**	**19 54 18.0**	**-0.5**
GEVA	**Gevas**	**0.47**	**208**	*i* P	**Pg**	**19 54 13.0**	**-1.5**
GEVA				*i* S	**Sg**	**19 54 21.2**	**+0.4**
GEVA	**Gevas**	**0.47**	**208**	P	**Pg**	**19 54 13.0**	**-1.5**
GEVA				S	**Sg**	**19 54 21.2**	**+0.4**
CLDR	**Caldiran**	**0.61**	**47**	*e*PG	**Pg**	**19 54 17.1**	**-0.2**
CLDR				*e*SG	**Sb**	**19 54 26.3**	**-0.7**
CLDR	**Caldiran**	**0.61**	**47**	*i* P	**Pg**	**19 54 16.5**	**-0.8**
CLDR				*i* S	**Sb**	**19 54 27.1**	**+0.1**
CLDR	**Caldiran**	**0.61**	**47**	P	**Pg**	**19 54 16.5**	**-0.8**
CLDR	**Caldiran**	**0.61**	**47**	*e*Pg	**Pg**	**19 54 17.1**	**-0.2**
CLDR				*e*Sg	**Sb**	**19 54 26.3**	**-0.7**
CLDR				S	**Sb**	**19 54 27.1**	**+0.1**
TUTA	**Tutak**	**0.79**	**329**	*i* P	**Pg**	**19 54 19.4**	**-1.1**
TUTA				*i* S	**Sg**	**19 54 30.3**	**-0.6**
TUTA	**Tutak**	**0.79**	**329**	P	**Pg**	**19 54 19.5**	**-1.1**
TUTA				S	**Sg**	**19 54 30.3**	**-0.6**
DYDN	**Diyadin**	**0.86**	**19**	*i* S	**Sg**	**19 54 32.5**	**-0.7**
DYDN	**Diyadin**	**0.86**	**19**	S	**Sg**	**19 54 32.5**	**-0.7**
TATV	**Tatvan**	**0.86**	**256**	*i* P	**Pg**	**19 54 20.8**	**-1.2**
TATV				*i* S	**Sb**	**19 54 33.7**	**-0.5**
TATV	**Tatvan**	**0.86**	**256**	P	**Pg**	**19 54 20.8**	**-1.2**
TATV				S	**Sb**	**19 54 33.7**	**-0.5**
AGRB	**Hanur-Agry**	**0.89**	**343**	*e*PG	**Pb**	**19 54 23.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.89**	**343**	*e*Pg	**Pb**	**19 54 23.1**	**+0.2**
EKAR	**Karacoban**	**1.12**	**298**	*i* P	**Pn**	**19 54 27.8**	**+0.6**
EKAR				*i* S	**Sn**	**19 54 46.1**	**+3.3**
EKAR	**Karacoban**	**1.12**	**298**	P	**Pn**	**19 54 27.8**	**+0.6**
HAKT	**HAKKARI**	**1.21**	**166**	*i* P	**Pg**	**19 54 25.7**	**-2.8**
HAKT				*i* S	**Sn**	**19 54 46.1**	**+1.2**
HAKT	**HAKKARI**	**1.21**	**166**	P	**Pg**	**19 54 25.7**	**-2.8**
HAKT				S	**Sn**	**19 54 46.1**	**+1.2**
EATA	**Eleskirt**	**1.31**	**330**	*i* P	**Pg**	**19 54 29.5**	**-1.0**
EATA				*i* S	**Sn**	**19 54 48.2**	**+0.7**
EATA	**Eleskirt**	**1.31**	**330**	P	**Pg**	**19 54 29.5**	**-1.0**
EATA				S	**Sn**	**19 54 48.2**	**+0.7**
CUKT	**Cukurca**	**1.49**	**172**	*e*PN	**Pg**	**19 54 33.5**	**-0.5**
CUKT				*e*SN	**Sg**	**19 54 53.9**	**+0.5**
CUKT	**Cukurca**	**1.49**	**172**	*e*Pn	**Pg**	**19 54 33.5**	**-0.5**
CUKT				*e*Sn	**Sg**	**19 54 53.9**	**+0.5**
VRTB	**Varto-Mus**	**1.53**	**287**	*e*PN	**Pg**	**19 54 34.9**	**+0.2**
VRTB	**Varto-Mus**	**1.53**	**287**	*e*Pn	**Pg**	**19 54 34.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**252**	*e*PN	**Pg**	**19 54 38.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.77**	**252**	*e*Pn	**Pg**	**19 54 38.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.98**	**338**	*e*PN	**Pb**	**19 54 41.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.98**	**338**	*e*Pn	**Pb**	**19 54 41.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.28**	**289**	*e*PN	**Pb**	**19 54 46.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.28**	**289**	*e*Pn	**Pb**	**19 54 46.3**	**-0.4**

*NIED **27** 19:55:00, 37°.90N×142°.70E, h5km, Mw4.0 Best double couple: M0=1.07000×10^15 NP1:φs=347.00000°, δ2.00000°, λ-103.00000°. NP2:φs=181.00000°, δ88.00000°, λ-90.00000°.*
*JMA **27** 19:55:21.4±0.2, 37°.96N×142°.67E, h30km±3km, M4.4*
JMA Felt I J1.
*ISCJB **27** 19:55:22.2±1.5, 37°.94N±0°.04×142°.60E±0°.06, h25km±11km, mb3.7/6, MS3.1/2, Error ellipse: s-maj=8.6km s-min=6.2km az=21.2*
*IDC **27** 19:55:25.7±3.5, 37°.90N×142°.62E, h37km±29km, mb3.5/6, mb1 3.8/11, mb1mx3.6/45, mbtmp3.8/11, ML3.6/4, MS2.8/3, Ms1 2.8/3, ms1mx2.4/38, Error ellipse: s-maj=27.6km s-min=19.8km az=103.0*

ISC 27 19:55:22.1±3.0, 37°.95N±0°.05×142°.51E±0°.07, h10km±17km, n34, σ1°.9 58/35, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.04**	**299**	P	**Pb**	**19 55 41.8**	**-0.4**
JIO				*e*S	**Sn**	**19 55 56.1**	**-1.2**
OFUJ	**Ofunato**	**1.30**	**330**	P	**Pn**	**19 55 44.8**	**-1.5**
OFUJ				*e*S	**Sb**	**19 56 01.8**	**-1.6**
JMM	**Marumori**	**1.36**	**267**	P	**Pn**	**19 55 46.6**	**-0.5**
JMM				S	**Sg**	**19 56 04.6**	**-1.3**
JMK	**Ichinoseki**	**1.42**	**315**	P	**Pn**	**19 55 47.2**	**-0.7**
JFK	**Kawauchi**	**1.42**	**246**	P	**Pn**	**19 55 47.1**	**-0.9**
JFK				*e*S	**Sn**	**19 56 05.7**	**-1.1**
JOU	**Okura**	**1.51**	**286**	P	**Pn**	**19 55 49.3**	**+0.1**
JFT	**Otama**	**1.78**	**256**	P	**Pn**	**19 55 53.6**	**+0.8**
JFT				*e*S	**Sb**	**19 56 16.8**	**-0.3**
JOM	**Ohasama**	**1.79**	**328**	P	**Pn**	**19 55 52.6**	**-0.4**
JYK	**Kaneyama**	**1.94**	**300**	P	**Pn**	**19 55 55.6**	**+0.5**
JYK				*e*S	**Sb**	**19 56 20.8**	**-1.1**
JYS	**Shirataka**	**1.95**	**279**	P	**Pn**	**19 55 55.4**	**+0.2**
JRG	**Rokugo**	**2.06**	**315**	P	**Pn**	**19 55 56.7**	**0.0**
JRG				*e*S	**Sb**	**19 56 22.7**	**-2.4**
JNS	**Sasagawa**	**2.53**	**268**	P	**Pn**	**19 56 04.1**	**+0.9**
JANG	**Nango**	**2.54**	**343**	P	**Pn**	**19 56 03.3**	**0.0**
JANG				*e*S	**Sn**	**19 56 33.6**	**-0.6**
MJAR	**Matsushiro Arr**	**3.71**	**249**	Pn	**Pn**	**19 56 21.4**	**+2.0**
	4.0nm,0.3s,baz=17,slow=4.1,SNR=32						
MAT	**Matsushiro**	**3.71**	**249**	P	**Pn**	**19 56 21.8**	**+2.4**
MAT				*e*S	**Sn**	**19 57 02.3**	**-0.9**
JHJ	**Hachijo jima 2**	**5.31**	**206**	Pn	**Pn**	**19 56 40.6**	**-0.8**
	12nm,0.3s,baz=88,slow=22,SNR=4.9						
JHJ				Sn	**Sn**	**19 57 38.6**	**-4.1**
	36nm,0.3s,baz=248,slow=21,SNR=4.0						
ASAJ	**Asahikawa**	**6.16**	**1**	Pn	**Pn**	**19 56 54.6**	**+1.6**
	1.6nm,0.3s,baz=200,slow=13,SNR=9.4						
USRK	**Ussuriysk Ar.**	**10.10**	**311**	Pn	**Pn**	**19 57 50.1**	**+3.0**
	0.3nm,0.3s,baz=107,slow=15,SNR=4.0						
KSRS	**Korea Array**	**11.57**	**272**	Pn	**Pn**	**19 58 11.2**	**+4.0**
	0.2nm,0.3s,baz=86,slow=13,SNR=7.2						
KLR	**Kul'dur**	**13.69**	**329**	LR	LR	20 03 55.6	
	comp=Z,6.2nm,18.4s,baz=154,slow=37						
MA2	**Magadan**	**22.28**	**11**	LR	LR	20 10 08.2	
	comp=Z,25nm,20.9s,baz=266,slow=40						
H11N2	**WAKE ISLAND Hy 27.90**	**124**		T	T	20 30 21.6	
	baz=316,slow=75,SNR=265						
H11N1	**WAKE ISLAND Hy 27.91**	**124**		T	T	20 30 21.8	
	baz=316,slow=75,SNR=142						
H11N3	**WAKE ISLAND Hy 27.92**	**124**		T	T	20 30 22.6	
	baz=316,slow=75,SNR=179						
SONM	**Songino Array**	**28.01**	**302**	P	**P**	**20 01 14.1**	**+0.8**
	0.6nm,0.4s,baz=112,slow=9.0,SNR=8.8						
H11S1	**WAKE ISLAND Hy 28.66**	**126**		T	T	20 31 14.6	
	baz=318,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy 28.66**	**126**		T	T	20 31 15.8	
	baz=318,slow=76,SNR=106						
H11S2	**WAKE ISLAND Hy 28.68**	**126**		T	T	20 31 24.2	
	baz=318,slow=76,SNR=81						
ZALV	**Zalesovo Beam**	**41.95**	**312**	P	**P**	**20 03 13.2**	**+0.4**
	1.4nm,0.5s,baz=94,slow=6.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**42.57**	**255**	P	**P**	**20 03 19.0**	**+0.8**
	0.4nm,0.7s,baz=45,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**44.38**	**301**	P	**P**	**20 03 32.5**	**0.0**
	0.4nm,0.3s,baz=85,slow=12,SNR=13						
ILAR	**Eielson Array**	**48.25**	**33**	P	**P**	**20 04 02.6**	**-0.1**
	0.7nm,0.8s,baz=269,slow=6.9,SNR=7.7						
WRA	**Warramunga Arr**	**58.10**	**189**	P	**P**	**20 05 15.3**	**-0.3**
	1.0nm,0.7s,baz=6.6,slow=7.1,SNR=6.8						
GERES	**GERESS Array B**	**82.38**	**329**	LR	LR	20 48 02.1	
	comp=Z,26nm,20.6s,baz=298,slow=38						

DDA 27 19:57:43.2, 38°.71N×43°.16E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.41**	**191**	*i* P	Pg	19 57 49.8	-1.4
GEVA				*i* S	Sg	19 57 57.7	+1.2
TATV	**Tatvan**	**0.73**	**254**	*i* P	Pg	19 57 56.9	-0.3
TATV				*i* S	Sg	19 58 07.1	+0.5
TUTA	**Tutak**	**0.74**	**339**	*i* P	Pg	19 57 57.5	+0.2

*IDC **27** 19:59:01.9±1.6, 6°.21N×125°.79E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/39, mbtmp3.8/4, Error ellipse: s-maj=176.5km s-min=23.1km az=68.0*
*ISCJB **27** 19:59:07.8±0.9, 6°.27N±0°.06×126°.28E±0°.06, h56km±10km, mb3.7/5, Error ellipse: s-maj=11.5km s-min=8.9km az=137.7*
*MAN **27** 19:59:10, 6°.46N×126°.22E, h28km, mb4.7, ML3.5, MS3.5*

ISC 27 19:59:08.6±1.6, 6°.29N±0°.08×126°.29E±0°.08, h47km±15km, n17, σ1°.9 19/21, mb3.6/5, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.66**	**357**	*e*P	**Pn**	**19 59 20.9**	**-0.8**
MATI				*e*S	**Sn**	**19 59 31.2**	**+0.1**
DMPH	**Davao City--Mi**	**1.11**	**316**	⇑*e*P	**Pn**	**19 59 28.6**	**+0.9**
DMPH				*e*S	**Sn**	**19 59 43.2**	**+1.3**
GSPH	**General Santos**	**1.34**	**262**	⇓*e*P	**Pn**	**19 59 30.0**	**-1.1**
GSPH				*e*S	**Sn**	**19 59 46.5**	**-1.4**
KCP	**Kidapawan**	**1.39**	**301**	⇑*i*P	**Pn**	**19 59 31.5**	**-0.2**
KCP				*i* S	**Sn**	**19 59 48.1**	**-0.8**
BIPH	**Bislig**	**1.89**	**2**	⇓*i*P	**Pn**	**19 59 38.3**	**-0.1**
BIPH				*i* S	**Sn**	**20 00 01.3**	**+0.3**
BUKP	**Musuan**	**1.99**	**323**	*e*P	**Pn**	**19 59 39.8**	**-0.1**
BUKP				*e*S	**Sn**	**20 00 04.0**	**+0.2**
CTBH	**Cotabato--PC H**	**2.23**	**295**	⇑*i*P	**Pn**	**19 59 44.7**	**+1.6**
CTBH				*i* S	**Sn**	**20 00 09.4**	**-0.1**
PAGZ	**Pagadian**	**3.27**	**298**	*e*P	**Pn**	**19 59 58.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.24**	**181**	P	**P**	**20 04 23.7**	**+2.3**
	1.0nm,0.6s,baz=0.8,slow=9.6,SNR=7.2						
WRA	**Warramunga Arr**	**27.24**	**163**	P	**P**	**20 04 46.8**	**-1.8**
	0.6nm,0.8s,baz=342,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**30.69**	**166**	P	**P**	**20 05 20.6**	**+1.5**
	0.5nm,0.4s,baz=341,slow=7.2,SNR=21						
H11S3	**WAKE ISLAND Hy 41.18**	**69**		T	T	20 50 47.6	
	baz=262,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy 41.19**	**69**		T	T	20 50 51.3	
	baz=262,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy 41.19**	**69**		T	T	20 50 52.8	
	baz=262,slow=75,SNR=9.6						
MKAR	**Makanchi Array**	**55.22**	**324**	P	**P**	**20 08 35.5**	**-1.5**
	0.4nm,0.5s,baz=118,slow=7.0,SNR=5.3						
ARCES	**ARCESS Array B**	**87.91**	**340**	P	**P**	**20 11 52.4**	**-0.7**
	2.5nm,0.9s,baz=58,slow=4.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**121.68**	**290**	PKP	**PKPdf**	**20 17 57.7**	**-0.8**
	0.1nm,0.3s,baz=78,slow=1.7,SNR=4.4						

*ISCJB **27** 20:02:49.3±0.5, 50°.23N±0°.02×12°.52E±0°.03, h13km±6km, Error ellipse: s-maj=3.5km s-min=3.0km az=19.1*
*IASPEI **27** 20:02:50.4±0.8, 50°.23N±0°.02×12°.47E±0°.02, h9km±4km, Error ellipse: s-maj=3.4km s-min=2.4km az=94.2, GT5 selection from ISC bulletin GT5 (identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **27** 20:02:50.2±0.1, 50°.23N×12°.50E, h10km, ML2.8/5, Error ellipse: s-maj=1.5km s-min=1.4km az=59.0*
*PRU **27** 20:02:50.4, 50°.25N×12°.47E, h10km, West Bohemia*
*BGR **27** 20:02:50.5±0.2, 50°.24N×12°.45E, h10km±1km, ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=105.0*

ISC 27 20:02:50.5±0.8, 50°.24N±0°.02×12°.47E±0°.02, h9km±4km, n48, σ0°.9 62/84, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**254**	⇓*i*PG	**Pg**	**20 02 52.2**	**+0.1**
NKC				*e*SG	**Sg**	**20 02 53.1**	**-0.2**
	comp=Z,1μm,0.1s						
NKC	**Novy Kostel**	**0.01**	**254**	*e*Pg	**Pg**	**20 02 52.3**	**+0.1**
NKC				*e*Sg	**Sg**	**20 02 53.2**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**254**	Pg	**Pg**	**20 02 52.3**	**+0.1**
NKC				Sg	**Sg**	**20 02 53.2**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**311**	*e*Pg	**Pg**	**20 02 52.9**	**+0.2**
WERN				*e*Sg	**Sg**	**20 02 54.2**	**-0.1**
WERN	**Wernitzgruen**	**0.08**	**311**	Pg	**Pg**	**20 02 52.9**	**+0.2**
WERN				Sg	**Sg**	**20 02 54.2**	**-0.1**
MULD	**Muldenberg**	**0.18**	**347**	*e*Pg	**Pg**	**20 02 54.5**	**+0.2**
MULD				*e*Sg	**Sg**	**20 02 56.8**	**-0.1**
MULD	**Muldenberg**	**0.18**	**347**	Pg	**Pg**	**20 02 54.5**	**+0.2**
MULD				Sg	**Sg**	**20 02 56.8**	**-0.1**
WERD	**Werda**	**0.23**	**334**	*e*Pg	**Pg**	**20 02 55.5**	**+0.2**
WERD				*e*Sg	**Sg**	**20 02 58.3**	**-0.2**
WERD	**Werda**	**0.23**	**334**	Pg	**Pg**	**20 02 55.5**	**+0.2**
WERD				Sg	**Sg**	**20 02 58.3**	**-0.2**
TRIB	**Obertriebel**	**0.24**	**299**	*e*Pg	**Pg**	**20 02 55.5**	**+0.1**
TRIB	**Obertriebel**	**0.24**	**299**	Pg	**Pg**	**20 02 55.5**	**+0.1**
PLN	**Plauen**	**0.32**	**322**	*e*Pg	**Pg**	**20 02 57.0**	**+0.2**
PLN				*e*Sg	**Sg**	**20 03 01.0**	**0.0**
PLN	**Plauen**	**0.32**	**322**	Pg	**Pg**	**20 02 57.0**	**+0.2**
PLN				Sg	**Sg**	**20 03 01.0**	**0.0**
MANZ	**Manzenberg**	**0.34**	**223**	*e*Pg	**Pg**	**20 02 57.3**	**+0.1**
MANZ				*e*Sg	**Sg**	**20 03 01.8**	**+0.1**
MANZ	**Manzenberg**	**0.34**	**223**	Pg	**Pg**	**20 02 57.3**	**+0.1**
MANZ				Sg	**Sg**	**20 03 01.8**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**355**	*e*Pg	**Pg**	**20 02 59.3**	**+0.2**
SCHF				*e*Sg	**Sg**	**20 03 05.1**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**355**	Pg	**Pg**	**20 02 59.3**	**+0.2**
SCHF				Sg	**Sg**	**20 03 05.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*Pg	**Pg**	**20 03 00.3**	**+0.2**
ROTZ				*e*Sg	**Sg**	**20 03 06.8**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	Pg	**Pg**	**20 03 00.3**	**+0.2**
ROTZ				Sg	**Sg**	**20 03 06.8**	**+0.1**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**20 03 03.6**	**0.0**
MOX				*e*Sg	**Sg**	**20 03 12.3**	**-0.2**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**20 03 03.6**	**0.0**
MOX				Sg	**Sg**	**20 03 12.3**	**-0.2**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pb**	**20 03 07.9**	**-0.1**
FBE				*e*Sg	**Sg**	**20 03 19.2**	**+0.1**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pb**	**20 03 07.9**	**-0.1**
FBE				Sg	**Sg**	**20 03 19.2**	**+0.1**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**20 03 09.2**	**+0.1**
GRA1				Sg	**Sg**	**20 03 21.7**	**-0.1**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**20 03 09.2**	**+0.1**
GRF				*e*Sg	**Sg**	**20 03 21.7**	**-0.1**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pg**	**20 03 12.0**	**-0.1**
CLL				*e*Sg	**Sg**	**20 03 26.5**	**-0.1**
CLL	**Collm**	**1.12**	**17**	Pg	**Pg**	**20 03 12.0**	**-0.1**
CLL				Sg	**Sg**	**20 03 26.5**	**-0.1**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**20 03 12.0**	**-0.1**
CLL				*i*		20 03 14.8	
CLL				*i*		20 03 15.6	
CLL				*i* Sg	**Sb**	**20 03 26.9**	**+0.1**
	comp=Z,8.0nm,0.3s						
CLL				*i*		20 03 30.4	
WET	**Wettzell**	**1.13**	**166**	⇓*e*PG	**Pb**	**20 03 11.7**	**-0.3**
WET				*e*SG	**Sg**	**20 03 26.2**	**-0.5**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pb**	**20 03 11.8**	**-0.3**
WET				*e*Sg	**Sg**	**20 03 26.6**	**-0.1**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pb**	**20 03 11.8**	**-0.3**
WET				Sg	**Sg**	**20 03 26.6**	**-0.1**
BRG	**Berggiesshubel**	**1.14**	**55**	PG	**Pn**	**20 03 12.3**	**-0.2**
BRG				SG	**Sn**	**20 03 27.6**	**-0.6**
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg	**Pb**	**20 03 12.1**	**-0.1**
BRG				*e*Sg	**Sb**	**20 03 26.7**	**-0.4**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg	**Pb**	**20 03 12.1**	**-0.1**
BRG				Sg	**Sb**	**20 03 26.7**	**-0.4**
PRA	**Prague**	**1.28**	**97**	⇓*e*SG	**Sb**	**20 03 30.4**	**-0.7**
PRA	**Prague**	**1.28**	**97**	Sg	**Sb**	**20 03 30.4**	**-0.7**
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	**Pn**	**20 03 14.9**	**-0.2**
KHC				*e*SG	**Sb**	**20 03 32.3**	**-0.2**
	comp=Z,6.3nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**146**	Pg	**Pn**	**20 03 14.9**	**-0.2**
KHC				Sg	**Sb**	**20 03 32.3**	**-0.2**
	comp=Z,6.3nm,0.3s						
PRU	**Pruhonice**	**1.36**	**100**	⇓*e*PG	**Pn**	**20 03 15.6**	**0.0**
PRU				*e*SG	**Sg**	**20 03 34.1**	**0.0**
	comp=Z,7.6nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pn**	**20 03 15.6**	**0.0**
PRU				Sg	**Sg**	**20 03 34

KAVA	**Kavala**	**0.91 354**	P	**Pb**	**20 13 37.1**	**+0.6**
KAVA			S	**Sb**	**20 13 49.4**	**+1.0**
PLG	**Polygyros**	**0.95 288**	P	**Pb**	**20 13 37.2**	**0.0**
PLG			S	**Sg**	**20 13 49.6**	**-0.5**
PLG	**Polygyros**	**0.95 288**	P	**Pb**	**20 13 37.4**	**+0.2**
PLG			S	**Sg**	**20 13 48.7**	**-1.3**
PLG			AML	AML	20 13 50.9	
	comp=N,1050μm,0.3s					
PLG			AML	AML	20 13 51.5	
	comp=E,391μm,0.3s					
PLG	**Polygyros**	**0.95 288**	P	**Pb**	**20 13 37.2**	**0.0**
PLG			S	**Sg**	**20 13 49.6**	**-0.5**
GADA	**Gvkgeada**	**0.98 84**	*e*PG	**Pn**	**20 13 38.4**	**+0.3**
GADA			*e*SG	**Sg**	**20 13 51.2**	**+0.4**
GADA	**Gvkgeada**	**0.98 84**	*e*Pg	**Pn**	**20 13 38.4**	**+0.3**
GADA			*e*Sg	**Sg**	**20 13 51.2**	**+0.4**
BOZC	**Bozcaada**	**1.12 102**	*e*PN	**Pg**	**20 13 41.1**	**+0.4**
BOZC	**Bozcaada**	**1.12 102**	*i* P	**Pb**	**20 13 40.2**	**+0.2**
BOZC	**Bozcaada**	**1.12 102**	*e*Pn	**Pg**	**20 13 41.1**	**+0.4**
SOH	**Sokhos**	**1.22 307**	P	**Pn**	**20 13 41.3**	**-0.2**
SOH			S	**Sb**	**20 13 57.8**	**+0.5**
SOH	**Sokhos**	**1.22 307**	P	**Pn**	**20 13 41.7**	**+0.2**
SOH	**Sokhos**	**1.22 307**	P	**Pn**	**20 13 41.7**	**+0.2**
SOH			S	**Sb**	**20 13 57.8**	**+0.5**
RDO	**Rodhopi**	**1.26 33**	P	**Pn**	**20 13 41.6**	**-0.4**
RDO	**Rodhopi**	**1.26 33**	P	**Pn**	**20 13 41.4**	**-0.7**
RDO	**Rodhopi**	**1.26 33**	P	**Pn**	**20 13 41.6**	**-0.4**
HORT	**Hortiatis**	**1.28 294**	P	**Pn**	**20 13 42.2**	**-0.1**
HORT			S	**Sb**	**20 13 59.0**	**0.0**
HORT	**Hortiatis**	**1.28 294**	P	**Pn**	**20 13 42.3**	**0.0**
HORT			S	**Sb**	**20 13 58.3**	**-0.7**
HORT			AML	AML	20 14 02.4	
	comp=N,257μm,0.4s					
HORT			AML	AML	20 14 04.5	
	comp=E,164μm,0.3s					
HORT	**Hortiatis**	**1.28 294**	P	**Pn**	**20 13 42.3**	**0.0**
HORT			S	**Sb**	**20 13 59.0**	**0.0**
SIGR	**SIGRI**	**1.29 132**	*e*PN	**Pn**	**20 13 42.5**	**+0.1**
SIGR	**SIGRI**	**1.29 132**	P	**Pn**	**20 13 42.1**	**-0.3**
SIGR	**SIGRI**	**1.29 132**	P	**Pn**	**20 13 42.1**	**-0.3**
SIGR	**SIGRI**	**1.29 132**	*e*Pn	**Pn**	**20 13 42.5**	**+0.1**
SKIA	**Skiathos**	**1.29 225**	P	**Pn**	**20 13 41.6**	**-0.8**
SKIA	**Skiathos**	**1.29 225**	P	**Pn**	**20 13 41.6**	**-0.8**
SRS	**Serrai**	**1.30 323**	P	**Pn**	**20 13 42.2**	**-0.4**
SRS			S	**Sb**	**20 14 00.1**	**+0.6**
SRS	**Serrai**	**1.30 323**	P	**Pn**	**20 13 41.9**	**-0.7**
SRS	**Serrai**	**1.30 323**	P	**Pn**	**20 13 42.2**	**-0.4**
SRS			S	**Sb**	**20 14 00.1**	**+0.6**
XOR	**Xorichti**	**1.32 237**	P	**Pn**	**20 13 41.9**	**-1.0**
XOR	**Xorichti**	**1.32 237**	P	**Pn**	**20 13 41.9**	**-1.0**
EZN	**Ezine**	**1.33 101**	*e*PN	**Pg**	**20 13 44.3**	**-0.4**
EZN			*e*SN	**Sg**	**20 14 01.6**	**-0.3**
EZN	**Ezine**	**1.33 101**	*e*Pn	**Pg**	**20 13 44.3**	**-0.4**
EZN			*e*Sn	**Sg**	**20 14 01.6**	**-0.3**
ENEZ	**Enez**	**1.33 60**	*e*PN	**Pg**	**20 13 44.3**	**-0.4**
ENEZ			*e*SN	**Sg**	**20 14 02.9**	**+0.9**
ENEZ	**Enez**	**1.33 60**	P	**Pn**	**20 13 43.1**	**+0.1**
ENEZ	**Enez**	**1.33 60**	P	**Pn**	**20 13 43.1**	**+0.1**
ENEZ	**Enez**	**1.33 60**	*e*Pn	**Pg**	**20 13 44.3**	**-0.4**
ENEZ			*e*Sn	**Sg**	**20 14 02.9**	**+0.9**
NEO	**Neokhori**	**1.34 235**	P	**Pn**	**20 13 41.7**	**-1.4**
NEO	**Neokhori**	**1.34 235**	P	**Pn**	**20 13 41.7**	**-1.4**
NVR	**Nevrokopi**	**1.39 335**	P	**Pn**	**20 13 43.8**	**-0.1**
NVR	**Nevrokopi**	**1.39 335**	P	**Pn**	**20 13 43.6**	**-0.3**
NVR	**Nevrokopi**	**1.39 335**	P	**Pn**	**20 13 43.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.44 77**	*e*PN	**Pn**	**20 13 45.1**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.44 77**	*e*Pn	**Pn**	**20 13 45.1**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**1.51 103**	*i* P	**Pb**	**20 13 46.4**	**-0.4**
BAYC			*i* S	**Sb**	**20 14 06.0**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.51 103**	P	**Pb**	**20 13 46.4**	**-0.4**
BAYC			S	**Sb**	**20 14 06.0**	**+0.3**
PRK	**Paraskevi**	**1.52 123**	P	**Pb**	**20 13 46.8**	**0.0**
PRK	**Paraskevi**	**1.52 123**	P	**Pb**	**20 13 46.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.55 67**	*e*PN	**Pb**	**20 13 47.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.55 67**	*e*Pn	**Pb**	**20 13 47.6**	**+0.2**
SMIA	**Simia**	**1.63 223**	P	**Pn**	**20 13 48.0**	**+0.8**
SMIA	**Simia**	**1.63 223**	P	**Pn**	**20 13 48.0**	**+0.8**
LIT	**Litokhoron**	**1.64 271**	P	**Pn**	**20 13 47.1**	**-0.2**
LIT	**Litokhoron**	**1.64 271**	P	**Pn**	**20 13 46.3**	**-1.0**
LIT	**Litokhoron**	**1.64 271**	P	**Pn**	**20 13 47.1**	**-0.2**
LPK	**Lapseki**	**1.65 79**	*e*PN	**Pb**	**20 13 49.4**	**+0.2**
LPK	**Lapseki**	**1.65 79**	*e*Pn	**Pb**	**20 13 49.4**	**+0.2**
KNT	**Kendrikon**	**1.70 310**	P	**Pn**	**20 13 48.2**	**+0.1**
KNT	**Kendrikon**	**1.70 310**	P	**Pn**	**20 13 48.6**	**+0.5**
KNT	**Kendrikon**	**1.70 310**	P	**Pn**	**20 13 48.6**	**+0.5**
KESN	**Edirne-Kesan**	**1.73 64**	*e*P	**Pb**	**20 13 51.0**	**+0.3**
KESN			*i* S	**Sn**	**20 14 09.7**	**-1.0**
KESN	**Edirne-Kesan**	**1.73 64**	P	**Pb**	**20 13 51.0**	**+0.3**
KESN			S	**Sn**	**20 14 09.7**	**-1.0**
GRG	**Griva**	**1.91 298**	P	**Pn**	**20 13 52.6**	**+1.6**
GRG	**Griva**	**1.91 298**	P	**Pn**	**20 13 52.6**	**+1.6**
PLD	**Plovdiv**	**2.02 1**	*e*Pn	**Pb**	**20 13 56.0**	**+0.7**
AGG	**Agios Georgios**	**2.07 240**	P	**Pn**	**20 13 53.4**	**+0.1**
AGG	**Agios Georgios**	**2.07 240**	P	**Pn**	**20 13 53.3**	**+0.1**
THL	**Klokotos Trika**	**2.08 256**	P	**Pn**	**20 13 53.4**	**+0.1**
THL	**Klokotos Trika**	**2.08 256**	P	**Pn**	**20 13 53.4**	**+0.1**
VLY	**Voula,Athens**	**2.33 197**	P	**Pn**	**20 13 57.6**	**+0.9**
VLY	**Voula,Athens**	**2.33 197**	P	**Pn**	**20 13 57.6**	**+0.9**
EDRB	**Edirne**	**2.38 42**	*e*PN	**Pb**	**20 13 59.7**	**-1.8**
EDRB	**Edirne**	**2.38 42**	*e*Pn	**Pb**	**20 13 59.7**	**-1.8**
FNA	**Florina**	**2.58 287**	P	**Pn**	**20 14 01.3**	**+1.1**
FNA	**Florina**	**2.58 287**	P	**Pn**	**20 14 01.3**	**+1.1**
PENT	**Pentalofos**	**2.68 273**	P	**Pn**	**20 14 03.5**	**+1.8**
PENT	**Pentalofos**	**2.68 273**	P	**Pn**	**20 14 03.5**	**+1.8**
VTS	**Vitosha**	**2.72 337**	*e*Pn	**Pn**	**20 14 03.3**	**+1.0**
BARS	**Barje**	**3.45 323**	*e*Pn	**Pn**	**20 14 13.0**	**+0.8**
ZAGS	**Zajecar**	**4.13 335**	*e*Pn	**Pn**	**20 14 20.7**	**-0.8**

*ISK **27** 20:19:28.7,38.70N×43.07E,h5km,ML3.1*
*CSEM **27** 20:19:29.4±0.2,38.71N×43.09E,h8km,ML3.1,Error ellipse: s-maj=3.9km s-min=3.9km az=84.0*
*DDA **27** 20:19:29.2,38.71N×43.08E,h7km,Ml3.5*
ISC 27 20:19:29.6±1.1,38.71N±0.02×43.07E±0.02,h3km±10km, n57,σ0°94/85,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.28**	**114**	*e*PG	**Pg**	**20 19 35.3**	**+0.4**
VANB	**Van**	**0.28**	**114**	*e*Pg	**Pg**	**20 19 35.3**	**+0.4**
TVAN	**Van**	**0.32**	**124**	*i* P	**Pb**	**20 19 38.0**	**-0.2**
TVAN				*i* S	**Sb**	**20 19 43.3**	**-0.5**
TVAN	**Van**	**0.32**	**124**	P	**Pb**	**20 19 38.0**	**-0.2**
TVAN				S	**Sb**	**20 19 43.3**	**-0.5**
GEVA	**Gevas**	**0.39**	**181**	*i* P	**Pg**	**20 19 36.2**	**-1.0**
GEVA				*i* S	**Sg**	**20 19 43.4**	**+1.0**
GEVA	**Gevas**	**0.39**	**181**	P	**Pg**	**20 19 36.2**	**-1.0**
GEVA	**Gevas**	**0.39**	**181**	S	**Sg**	**20 19 43.4**	**+1.0**
VMUR	**Van-Muradiye**	**0.48**	**54**	*i* P	**Pg**	**20 19 38.6**	**-0.3**
VMUR				*i* S	**Sb**	**20 19 47.1**	**-1.5**
VMUR	**Van-Muradiye**	**0.48**	**54**	P	**Pg**	**20 19 38.6**	**-0.3**
VMUR	**Van-Muradiye**	**0.48**	**54**	S	**Sb**	**20 19 47.1**	**-1.5**
TATV	**Tatvan**	**0.66**	**253**	*i* P	**Pg**	**20 19 41.9**	**-0.4**
TATV				*i* S	**Sg**	**20 19 51.0**	**+0.2**
TATV	**Tatvan**	**0.66**	**253**	P	**Pg**	**20 19 41.8**	**-0.4**
TATV				S	**Sg**	**20 19 51.0**	**+0.2**
TUTA	**Tutak**	**0.72**	**344**	*i* P	**Pg**	**20 19 43.2**	**-0.3**
TUTA				*i* S	**Sg**	**20 19 53.8**	**+0.9**
TUTA	**Tutak**	**0.72**	**344**	P	**Pg**	**20 19 43.2**	**-0.3**
TUTA				S	**Sg**	**20 19 53.8**	**+0.9**
CLDR	**Caldiran**	**0.79**	**56**	*e*PG	**Pg**	**20 19 44.8**	**-0.1**
CLDR				*e*SG	**Sg**	**20 19 56.0**	**+0.9**
CLDR	**Caldiran**	**0.79**	**56**	*i* P	**Pg**	**20 19 43.8**	**-1.0**
CLDR				*i* S	**Sg**	**20 19 56.0**	**+0.9**
CLDR	**Caldiran**	**0.79**	**56**	P	**Pg**	**20 19 43.8**	**-1.0**
CLDR	**Caldiran**	**0.79**	**56**	*e*Pg	**Pg**	**20 19 44.8**	**-0.1**
CLDR				*e*Sg	**Sg**	**20 19 56.0**	**+0.9**
AGRB	**Hanur-Agry**	**0.87**	**356**	*e*PG	**Pg**	**20 19 46.0**	**-0.3**
AGRB				*e*SG	**Sb**	**20 19 58.6**	**-1.1**
AGRB	**Hanur-Agry**	**0.87**	**356**	*e*Pg	**Pg**	**20 19 46.0**	**-0.3**
AGRB				*e*Sg	**Sb**	**20 19 58.6**	**-1.1**
EKAR	**Karacoban**	**0.95**	**305**	*i* P	**Pb**	**20 19 48.6**	**-0.4**
EKAR				*i* S	**Sn**	**20 20 08.0**	**+3.5**
EKAR	**Karacoban**	**0.95**	**305**	P	**Pb**	**20 19 48.6**	**-0.4**
DYDN	**Diyadin**	**0.96**	**30**	*i* P	**Pg**	**20 19 47.8**	**-0.3**
DYDN	**Diyadin**	**0.96**	**30**	P	**Pg**	**20 19 47.8**	**-0.3**
BASK	**Baskale_VAN**	**0.98**	**131**	*i* P	**Pg**	**20 19 46.5**	**-2.0**
BASK				*i* S	**Sg**	**20 20 01.9**	**+0.6**
BASK	**Baskale_VAN**	**0.98**	**131**	P	**Pg**	**20 19 46.5**	**-2.0**
BASK				S	**Sg**	**20 20 01.9**	**+0.6**
EATA	**Eleskirt**	**1.24**	**339**	*i* P	**Pg**	**20 19 52.7**	**-0.7**
EATA				*i* S	**Sn**	**20 20 11.9**	**+0.3**
EATA	**Eleskirt**	**1.24**	**339**	P	**Pg**	**20 19 52.7**	**-0.7**
EATA				S	**Sn**	**20 20 11.9**	**+0.3**
SIRN	**S¨–rnak**	**1.31**	**203**	*i* P	**Pg**	**20 19 54.4**	**-0.4**
SIRN				*i* S	**Sn**	**20 20 13.2**	**+0.1**
SIRN	**S¨–rnak**	**1.31**	**203**	P	**Pg**	**20 19 54.4**	**-0.4**
SIRN				S	**Sn**	**20 20 13.2**	**+0.1**
VRTB	**Varto-Mus**	**1.34**	**290**	*e*PN	**Pg**	**20 19 54.9**	**-0.3**
VRTB	**Varto-Mus**	**1.34**	**290**	*i* P	**Pg**	**20 19 54.9**	**-0.3**
VRTB				*i* S	**Sn**	**20 20 15.1**	**+1.4**
VRTB	**Varto-Mus**	**1.34**	**290**	P	**Pg**	**20 19 54.9**	**-0.3**
VRTB				S	**Sn**	**20 20 15.1**	**+1.4**
BNGL	**BINGOL**	**1.52**	**280**	*i* P	**Pb**	**20 19 58.1**	**-0.5**
BNGL				*i* S	**Sg**	**20 20 19.3**	**+0.9**
CUKT	**Cukurca**	**1.52**	**164**	*e*PN	**Pn**	**20 19 57.3**	**-0.5**
CUKT	**Cukurca**	**1.52**	**164**	*i* P	**Pn**	**20 19 57.9**	**+0.1**
CUKT				*i* S	**Sg**	**20 20 20.6**	**+2.2**
CUKT	**Cukurca**	**1.52**	**164**	*e*Pn	**Pn**	**20 19 57.3**	**-0.5**
CUKT	**Cukurca**	**1.52**	**164**	P	**Pn**	**20 19 57.9**	**+0.1**
CUKT				S	**Sg**	**20 20 20.6**	**+2.2**
SVAN	**Silvan-Diyarba**	**1.57**	**250**	*e*PN	**Pn**	**20 19 58.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.57**	**250**	*i* P	**Pn**	**20 19 58.6**	**+0.1**
SVAN				*i* S	**Sg**	**20 20 20.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.57**	**250**	P	**Pn**	**20 19 58.6**	**+0.1**
BTMN	**Batman**	**1.63**	**241**	*i* P	**Pb**	**20 20 00.5**	**0.0**
BTMN				*i* S	**Sg**	**20 20 23.2**	**+1.2**
BTMN	**Batman**	**1.63**	**241**	P	**Pb**	**20 20 00.4**	**0.0**
BNGB	**Bing¶ll**	**1.89**	**279**	*e*PN	**Pn**	**20 20 02.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.93**	**344**	*e*PN	**Pn**	**20 20 03.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.93**	**344**	*e*Pn	**Pn**	**20 20 03.2**	**-0.4**
BINT	**Bingol**	**2.02**	**276**	*e*Pn	**Pn**	**20 20 02.8**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*PN	**Pn**	**20 20 04.5**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.10**	**291**	*e*Pn	**Pn**	**20 20 04.5**	**-1.3**
MARD	**Mardin**	**2.28**	**233**	*i* P	**Pb**	**20 20 11.0**	**-0.5**
MARD				*i* S	**Sb**	**20 20 41.1**	**+0.9**
MAZI	**Mazidag**	**2.41**	**240**	*e*PN	**Pn**	**20 20 09.9**	**-0.2**
MAZI	**Mazidag**	**2.41**	**240**	*e*Pn	**Pn**	**20 20 09.9**	**-0.2**
PTK	**Pertek**	**2.88**	**275**	*e*PN	**Pn**	**20 20 15.8**	**-0.8**
PTK	**Pertek**	**2.88**	**275**	*e*Pn	**Pn**	**20 20 15.8**	**-0.8**
SVRC	**Sivrice-ELAZID**	**2.97**	**265**	*e*PN	**Pn**	**20 20 17.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**2.97**	**265**	*e*Pn	**Pn**	**20 20 17.5**	**-0.3**
DGRG	**David-gareji**	**3.26**	**32**	P	**Pn**	**20 20 23.2**	**+1.4**

*NIED **27** 20:20:00,37.50N×141.50E,h50km,Mw4.2 Best double couple: M0=2.25000×10^15 NP1:φs=171.00000°,δ17.00000°, λ59.00000°. NP2:φs=23.00000°,δ75.00000°,λ99.00000°.*
*MOS **27** 20:20:15.6±0.9,37.58N×141.56E,h57km,mb4.7/22,Error ellipse: s-maj=9.0km s-min=6.8km az=110.2*
*ISCJB **27** 20:20:15.3±0.6,37.53N±0.04×141.56E±0.06,h55km±3km, mb4.3/43,MS3.1/13,Error ellipse: s-maj=8.4km s-min=4.8km az=29.6*
*JMA **27** 20:20:16.5±0.1,37.52N×141.49E,h46km±2km,M4.1*
JMA Felt II J1.
*IDC **27** 20:20:17.3±0.5,37.51N×141.45E,h53km±5km,mb3.8/16, mb1 4.0/19,mb1mx3.9/36,mbtmp4.1/19,MS3.1/14, Ms1 3.2/14,ms1mx2.9/76,Error ellipse: s-maj=17.7km s-min=9.7km az=103.0*
*NEIC **27** 20:20:18.9±0.7,37.53N×141.45E,h68km±5km,mb4.7/12, Error ellipse: s-maj=7.2km s-min=5.3km az=111.0*
NEIC Recorded [2 JMA] in Fukushima.
ISC 27 20:20:17.1±0.5,37.55N±0.05×141.54E±0.06,h52km±4km, h52km:pP-P,n122,σ1°26/130,mb4.4/43,MS3.3/13,8C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**252**	P	**Pn**	**20 20 27.7**	**-1.5**
JFK				S	**Sn**	**20 20 35.3**	**-2.7**
JMM	**Marumori**	**0.68**	**298**	P	**Pn**	**20 20 29.6**	**-1.0**
JMM				S	**Sn**	**20 20 38.7**	**-1.7**
ONAJ	**Iwakimizuishiy**	**0.74**	**234**	P	**Pn**	**20 20 30.0**	**-1.5**
ONAJ				S	**Sn**	**20 20 39.2**	**-2.8**
JIO	**Ouri**	**0.92**	**350**	P	**Pn**	**20 20 33.3**	**-0.5**
JIO				S	**Sn**	**20 20 44.8**	**-1.2**
JFT	**Otama**	**0.96**	**269**	P	**Pn**	**20 20 33.7**	**-0.6**
JFT				S	**Sn**	**20 20 45.7**	**-1.3**
JOU	**Okura**	**1.07**	**320**	P	**Pn**	**20 20 35.1**	**-0.7**
JYS	**Shiratake**	**1.35**	**300**	P	**Pn**	**20 20 38.9**	**-0.7**
JMK	**Ichinoseki**	**1.43**	**350**	P	**Pn**	**20 20 40.4**	**-0.2**
JFY	**Yanaizu**	**1.47**	**265**	P	**Pn**	**20 20 40.4**	**-0.8**
JYK	**Kaneyama**	**1.66**	**326**	P	**Pn**	**20 20 43.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.85**	**250**	P	**Pn**	**20 21 00.0**	**0.0**
	6.6nm,0.3s,baz=74,slow=14,SNR=65						
MAJO	**Matsushiro**	**2.85**	**250**	*d* iP	**Pn**	**20 21 00.3**	**+0.2**
MAJO	**Matsushiro**	**2.85**	**250**	*e*Pn	**Pn**	**20 21 00.5**	**+0.4**
MAT	**Matsushiro**	**2.85**	**250**	P	**Pn**	**20 21 00.4**	**+0.3**
MAT				*e*S	**Sn**	**20 21 35.1**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.85**	**251**	*e*Pn	**Pn**	**20 21 00.5**	**+0.4**
INU	**Inuyama**	**4.26**	**240**	*e*Pn	**Pn**	**20 21 20.0**	**+0.6**
JHJ	**Hachijo jima 2**	**4.64**	**199**	P	**Pn**	**20 21 25.3**	**+0.7**
	32nm,0.3s,baz=322,slow=23,SNR=4.8						
JHJ				S	**Sn**	**20 22 15.1**	**-2.2**
	56nm,0.3s,baz=93,slow=23,SNR=3.8						
ASAJ	**Asahikawa**	**6.61**	**7**	P	**Pn**	**20 21 53.8**	**+2.2**
	1.8nm,0.3s,baz=209,slow=13,SNR=10						
ASAJ	**Asahikawa**	**6.61**	**7**	*e*Pn	**Pn**	**20 21 53.5**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**7.26**	**25**	P	**Pn**	**20 22 00.9**	**+0.4**
YUK				*i* S	**Sn**	**20 23 18.5**	**-3.0**
YUK				pmax	pmax		
	comp=N,30nm,0.7s						
YUK				pmax	pmax		
	comp=Z,80nm,0.7s						
YUK				pmax	pmax		
	comp=E,26nm,0.4s						
SHO	**Shikotan**	**7.48**	**31**	*e*P	**Pn**	**20 22 01.8**	**-1.7**
SHO				*i* S	**Sn**	**20 23 20.3**	**-6.6**
SHO				pmax	pmax		
	comp=Z,29nm,0.5s						
SHO				pmax	pmax		
	comp=E,9.0nm,0.3s						
KUR	**Kuril'sk**	**9.03**	**30**	P	**Pn**	**20 22 26.3**	**+1.7**
KUR				*i* S	**Sn**	**20 24 02.0**	**-2.8**
VLA	**Vladivostok**	**9.24**	**310**	*i* P	**Pn**	**20 22 27.3**	**-0.2**
VLA				*e*S	**Sn**	**20 24 08.2**	**-1.7**
VLA				pmax	pmax		
	comp=Z,38nm,1.3s						
JNU	**Nakatsue**	**9.77**	**246**	P	**Pn**	**20 22 36.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=36,slow=23,SNR=4.8						
USRK	**Ussuriysk Ar.**	**9.82**	**316**	P	**Pn**	**20 22 39.5**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=128,slow=13,SNR=19						
USRK				LR	LR	20 26 09.4	
	comp=Z,136nm,18.5s,baz=108,slow=36						
KSRS	**Korea Array**	**10.82**	**274**	P	**Pn**	**20 22 52.5**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=91,slow=14,SNR=17						
KSRS				LR	LR	20 26 41.4	
	comp=Z,91nm,20.5s,baz=76,slow=36						
KS15	**Wonju Array Si**	**10.86**	**274**	*e*Pn	**Pn**	**20 22 50.4**	**+0.8**
KSAR	**Wonju Array Be**	**10.86**	**274**	P	**Pn**	**20 22 52.6**	**+2.9**
KSAR	**Wonju Array Be**	**10.86**	**274**	P	**Pn**	**20 22 52.5**	**+2.9**
KLR	**Kul'dur**	**13.66**	**332**	LR	LR	20 28 23.2	
	comp=Z,8.2nm,20.6s,baz=144,slow=36						
MA2	**Magadan**	**22.83**	**12**	LR	LR	20 34 06.0	
	comp=Z,24nm,20.2s,baz=148,slow=36						
GUMO	**Guam**	**24.04**	**172**	LR	LR	20 41 04.0	
	comp=Z,11nm,18.0s,baz=349,slow=52						
YAK	**Yakutsk**	**25.59**	**347**	P	**P**	**20 25 40.7**	**-0.3**
	comp=Z,31nm,0.8s,baz=208,slow=1.0,SNR=16						
YAK	**Yakutsk**	**25.59**	**347**	*e*P	**P**	**20 25 40.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**25.59**	**347**	*e*P	**P**	**20 25 40.2**	**-0.8**
	comp=E,34nm,0.7s						
ULN	**Ulaanbaatar**	**27.16**	**303**	*e*P	**P**	**20 25 55.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ENH	**Enshi**	**27.48**	**264**	*e*P	**P**	**20 25 57.4**	**-1.1**
	comp=Z,12nm,0.8s						
SONA0	**Songino Array**	**27.59**	**303**	*e*P	**P**	**20 25 58.8**	**-0.5**
SONM	**Songino Array**	**27.59**	**303**	P	**P**	**20 25 58.8**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=104,slow=8.7,SNR=16						
SONM				LR	LR	20 35 47.8	
	comp=Z,40nm,19.6s,baz=144,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	20 56 14.5	
	baz=314,slow=75,SNR=362						
H11N1	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	20 56 20.2	
	baz=314,slow=75,SNR=674						
H11N3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	20 56 20.9	
	baz=314,slow=75,SNR=482						
H11S1	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	20 57 12.2	
	baz=316,slow=76,SNR=281						
H11S3	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	20 57 15.1	
	baz=316,slow=76,SNR=265						
H11S2	**WAKE ISLAND Hy**	**29.07**	**124**	T	T	20 57 15.6	
	baz=316,slow=76,SNR=230						
GTA	**Gaotai**	**32.52**	**286**	*e*P	**P**	**20 26 42.8**	**-0.2**
GTA				pP	pP	20 26 46.3	-10
GTA				sP	sP	20 26 48.8	-14
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**34.80**	**353**	LR	LR	20 42 25.9	
	comp=Z,20nm,20.2s,baz=238,slow=38						
TIXI	**Tiksi**	**34.80**	**353**	*e*P	**P**	**20 27 00.8**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAA1	**Zalesovo Array**	**41.65**	**312**	*e*P	**P**	**20 27 59.8**	**-0.2**
ZAA0	**Zalesovo Array**	**41.65**	**312**	*e*P	**P**	**20 28 00.0**	**0.0**
	comp=Z,6.3nm,0.9s						
ZALV	**Zalesovo Beam**	**41.65**	**312**	P	**P**	**20 27 59.8**	**-0.2**
	comp=Z,5.7nm,0.9s,baz=90,slow=7.4,SNR=15						
ZALV				LR	LR	20 46 00.1	
	comp=Z,38nm,18.2s,baz=78,slow=37						
CMAR	**Chiang Mai Arr**	**41.73**	**255**	P	**P**	**20 28 00.7**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=50,slow=7.0,SNR=4.4						
CMAR				LR	LR	20 45 40.1	
	comp=Z,30nm,18.4s,baz=40,slow=37						
MK32	**Makanchi Array**	**43.94**	**302**	*e*P	**P**	**20 28 18.5**	**-0.3**
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**20 28 18.5**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=88,slow=11,SNR=22						
MKAR	**Makanchi Array**	**43.94**	**302**	*ce*P	**P**	**20 28 18.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**43.94**	**302**	*e*P	**P**	**20 28 18.2**	**-0.5**
	comp=Z,19nm,0.8s						
MAKZ	**Makanchi**	**44.15**	**302**	*e*P	**P**	**20 28 20.4**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**44.15**	**302**	*e*P	**P**	**20 28 20.4**	**0.0**
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**45.70**	**308**	*c i*P	**P**	**20 28 31.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,26nm,0.8s						
KURK	**Kurchatov**	**45.70**	**308**	*e*P	**P**	**20 28 32.1**	**-0.5**
	comp=Z,11nm,0.7s						
TAPN	**Taplejung**	**46.01**	**274**	*e*P	**P**	**20 28 35.2**	**-0.5**
ODAN	**Odare**	**46.49**	**273**	*e*P	**P**	**20 28 38.4**	**-1.0**
	comp=Z,14nm,1.0s						
PDGK	**Podgornoye**	**46.63**	**298**	P	**P**	**20 28 39.0**	**-1.2**
PDGK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RAMN	**Ramite**	**47.07**	**274**	*e*P	**P**	**20

KIV pmax pmax
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 73.75 337 P **P 20 31 45.2 -0.1**
comp=Z,1.4nm,0.8s,baz=41,slow=5.9
NB200 NORSAR Array S 73.75 337 *eP* **P 20 31 45.3 -0.1**
NOA NORSAR Array B 73.75 337 P **P 20 31 45.3 -0.1**
comp=Z,1.8nm,0.8s,baz=40,slow=5.7,SNR=5.7
NOA LR LR 21 07 32.9
comp=Z,20nm,20.5s,baz=30,slow=38
AKASG Malin Array Be 73.96 322 P **P 20 31 46.2 -0.4**
comp=Z,1.6nm,0.5s,baz=45,slow=6.1,SNR=7.6
AKASG LR LR 21 05 18.5
comp=Z,29nm,20.1s,baz=280,slow=36
AKASG Malin Array Be 73.96 322 *i P* **P 20 31 46.2 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 73.96 322 *eP* **P 20 31 45.9 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 73.96 322 *eP* **P 20 31 45.9 -0.7**
comp=Z,5.5nm,1.0s
KIEV Kiev 73.97 322 *ceP* **P 20 31 46.2 -0.5**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 77.23 46 P **P 20 32 06.9 +1.1**
comp=Z,0.8nm,0.9s,baz=282,slow=2.9,SNR=3.9
PDAR pP **pP 20 32 21.3 +0.6**
comp=Z,0.7nm,0.5s,baz=286,slow=2.6,SNR=6.2
CLL Collm 80.70 330 *eP* **P 20 32 24.0 -0.4**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 80.70 330 *eP* **P 20 32 24.0 -0.4**
comp=Z,6.0nm,1.2s
GERES GERESS Array B 82.33 328 P **P 20 32 32.7 -0.4**
comp=Z,0.5nm,0.6s,baz=32,slow=5.3,SNR=5.7
ANMO Albuquerque 84.18 50 *eP* **P 20 32 44.1 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 89.73 52 P **P 20 33 10.2 +0.2**
comp=Z,0.6nm,0.6s,baz=315,slow=2.8,SNR=4.4
TXAR pP **pP 20 33 25.7 +0.5**
comp=Z,0.6nm,0.7s,baz=292,slow=3.4,SNR=3.8

NIED ***27*** *20:29:00,37.°80N×140.°00E,h5km,Mw4.0 Best double couple: M0=9.56000×10¹⁴ NP1:φs=201.00000°,δ=40.00000°, λ=110.00000°. NP2:φs=355.00000°,δ=53.00000°,λ=74.00000°.*
IDC ***27*** *20:29:24.5±0.8,37.°83N×139.°96E,h0km,mb3.9/15, mb1 4.1/15,mb1mx3.9/54,mbtmp3.9/15,MS2.8/2, Ms1 2.8/2,ms1mx2.4/67,Error ellipse: s-maj=20.5km s-min=12.4km az=119.0*
ISCJB ***27*** *20:29:26.1±0.3,37.°80N±0.°02×140.°02E±0.°03,h23km±3km, mb4.1/20,MS2.7/2,Error ellipse: s-maj=4.1km s-min=3.9km az=135.8*
JMA ***27*** *20:29:26.1,37.°80N×140.°00E,h9km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs=348.00000°,δ=54.00000°,λ=64.00000°. NP2: φs=208.00000°,δ=43.00000°,λ=122.00000°. Principal axes: T Plg=68.0000°, Azm=201.0000°; N Plg=21.0000°, Azm=4.0000°; P Plg=6.0000°, Azm=96.0000°;*
JMA Felt III J1.
NEIC ***27*** *20:29:31.4±0.7,37.°76N×139.°87E,h52km±6km,mb4.6/4 Error ellipse: s-maj=8.8km s-min=6.3km az=111.0*
NEIC Recorded [3 JMA] in Yamagata.
ISC 27 20:29:26.1±1.0,**37.°79N**±0.°03×**139.°99E**±0.°03,**h11**km±7km, **n54**,σ1§**11**/61,**mb4.1**/20,**1C-8D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.39**	**135**	⇓P	**Pg**	**20 29 33.8**	**0.0**
JFT				S	**Sg**	**20 29 39.0**	**+0.1**
JYS	**Shiratake**	**0.43**	**7**	⇑P	**Pg**	**20 29 34.4**	**-0.3**
JYS				S	**Sg**	**20 29 40.6**	**+0.2**
JFY	**Yanaizu**	**0.45**	**211**	⇓P	**Pg**	**20 29 35.1**	**+0.2**
JFY				S	**Sg**	**20 29 41.1**	**+0.2**
JNS	**Sasagawa**	**0.54**	**273**	⇓P	**Pg**	**20 29 36.5**	**-0.1**
JNS				S	**Sb**	**20 29 43.7**	**-1.6**
JMM	**Marumori**	**0.64**	**83**	⇓P	**Pg**	**20 29 38.0**	**-0.5**
JMM				S	**Sg**	**20 29 46.1**	**-0.8**
JOU	**Okura**	**0.78**	**42**	⇓P	**Pg**	**20 29 40.7**	**-0.5**
JOU				S	**Sg**	**20 29 50.7**	**-0.7**
JFK	**Kawauchi**	**0.82**	**121**	⇓P	**Pg**	**20 29 41.5**	**-0.4**
JFK				S	**Sg**	**20 29 52.5**	**-0.1**
JYA	**Atsumi**	**0.83**	**345**	P	**Pg**	**20 29 41.7**	**-0.5**
JYA				S	**Sg**	**20 29 52.7**	**-0.3**
JAW	**Awa shima**	**0.89**	**319**	⇓P	**Pb**	**20 29 43.1**	**-0.5**
JAW				*eS*	**Sb**	**20 29 55.6**	**+0.2**
JHK	**Hiroka**	**0.95**	**235**	⇓P	**Pg**	**20 29 43.9**	**-0.5**
JHK				S	**Sg**	**20 29 56.1**	**-0.6**
MJAR	**Matsushiro Arr**	**1.89**	**229**	Pn	**Pn**	**20 29 59.2**	**+0.8**
MJAR	24nm,0.3s,baz=27,slow=16,SNR=127			Lg	Lg	20 30 24.8	
	31nm,0.3s,baz=140,slow=32,SNR=11						
MAJO	**Matsushiro**	**1.90**	**229**	*ePn*	**Pn**	**20 29 59.4**	**+1.0**
MAT	**Matsushiro**	**1.90**	**229**	P	**Pn**	**20 29 59.3**	**+0.8**
MAT				S	**Sb**	**20 30 24.7**	**+0.3**
MJB9	**Matsu-Tunnel**	**1.90**	**230**	*ePn*	**Pb**	**20 29 59.7**	**-1.1**
INU	**Inuyama**	**3.42**	**225**	*ePn*	**Pn**	**20 30 21.5**	**+2.1**
ASAJ	**Asahikawa**	**6.62**	**16**	Pn	**Pn**	**20 31 06.6**	**+3.2**
	1.1nm,0.3s,baz=229,slow=11,SNR=7.4						
USRK	**Ussuriysk Ar.**	**8.81**	**319**	Pn	**Pn**	**20 31 36.2**	**+2.8**
	0.2nm,0.3s,baz=115,slow=16,SNR=3.1						
KSRS	**Korea Array**	**9.58**	**272**	Pn	**Pn**	**20 31 47.1**	**+3.1**
	1.3nm,0.3s,baz=83,slow=14,SNR=14						
KS15	**Wonju Array Si**	**9.62**	**272**	*ePn*	**Pn**	**20 31 46.8**	**+2.4**
KSAR	**Wonju Array Be**	**9.62**	**272**	Pn	**Pn**	**20 31 47.1**	**+2.7**
MA2	**Magadan**	**22.87**	**14**	LR	LR	20 44 34.8	
	comp=Z,27nm,18.9s,baz=298,slow=40						
SONA0	**Songino Array**	**26.43**	**303**	*eP*	**P**	**20 35 01.6**	**-1.3**
SONM	**Songino Array**	**26.43**	**303**	P	**P**	**20 35 01.6**	**-1.3**
	0.4nm,0.6s,baz=100,slow=11,SNR=5.9						
SONM				LR	LR	20 45 09.2	
	comp=Z,21nm,19.7s,baz=152,slow=36						
H11N2	**WAKE ISLAND Hy 29.50**	**120**		T	T	21 06 00.1	
	baz=315,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy 29.51**	**120**		T	T	21 05 51.6	
	baz=315,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 29.52**	**120**		T	T	21 05 54.1	
	baz=315,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy 30.22**	**122**		T	T	21 06 46.1	
	baz=317,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy 30.22**	**122**		T	T	21 06 47.9	
	baz=317,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 30.23**	**122**		T	T	21 06 35.1	
	baz=317,slow=76,SNR=11						
TIXI	**Tiksi**	**34.41**	**354**	P	**P**	**20 36 12.1**	**-1.0**
	1.1nm,0.3s,baz=128,slow=8.4,SNR=4.6						
ZAA1	**Zalesovo Array**	**40.57**	**312**	*eP*	**P**	**20 37 05.4**	**0.0**
ZAA1				*ePcP*	**PcP**	**20 39 07.4**	**0.0**
ZALV	**Zalesovo Beam**	**40.57**	**312**	P	**P**	**20 37 05.4**	**0.0**
	1.5nm,0.7s,baz=87,slow=9.4,SNR=5.0						
ZALV				PcP	**PcP**	**20 39 07.4**	**0.0**
	0.9nm,0.6s,baz=66,slow=4.9,SNR=3.5						
MK32	**Makanchi Array**	**42.76**	**301**	*eP*	**P**	**20 37 22.9**	**-0.6**
MKAR	**Makanchi Array**	**42.76**	**301**	P	**P**	**20 37 22.9**	**-0.6**
	0.3nm,0.7s,baz=91,slow=8.5,SNR=4.2						
KURK	**Kurchatov**	**44.58**	**307**	*eP*	**P**	**20 37 37.6**	**-0.4**
	5.6nm,0.8s						
AAK	**Ala-Archa**	**49.14**	**297**	P	**P**	**20 38 14.0**	**0.0**
	0.9nm,0.6s,baz=36,slow=6.7,SNR=3.7						
BVAR	**Borovoye Array**	**49.23**	**312**	P	**P**	**20 38 14.5**	**+0.2**
	1.1nm,0.7s,baz=79,slow=8.0,SNR=9.6						
BVAR				PcP	**PcP**	**20 39 37.2**	**-0.1**
	0.7nm,0.6s,baz=81,slow=4.7,SNR=5.0						
BRVK	**Borovoye**	**49.28**	**312**	*eP*	**P**	**20 38 14.5**	**-0.2**
	2.3nm,0.6s						
ILAR	**Eielson Array**	**49.46**	**33**	P	**P**	**20 38 16.2**	**+0.2**
	2.2nm,0.9s,baz=268,slow=6.2,SNR=17						
ILB	**Eielson Array**	**49.46**	**33**	*eP*	**P**	**20 38 18.3**	**+2.3**
GSI	**Gunungsitoli**	**53.24**	**237**	*eP*	**P**	**20 38 43.6**	**-1.3**
	123nm,0.7s						
INK	**Inuvik**	**54.23**	**27**	P	**P**	**20 38 51.8**	**+0.4**
	0.9nm,0.5s,baz=300,slow=1.9,SNR=3.0						
ABKAR	**Akbulak array**	**56.59**	**309**	*eP*	**P**	**20 39 08.5**	**-0.2**
	8.2nm,0.7s						
WR1	**Warramunga Arr**	**57.67**	**186**	*eP*	**P**	**20 39 16.1**	**-0.5**
	13nm,1.6s						
WRA	**Warramunga Arr**	**57.67**	**186**	P	**P**	**20 39 16.1**	**-0.5**
	2.7nm,0.8s,baz=3.3,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**61.40**	**186**	P	**P**	**20 39 42.5**	**+0.2**
	1.2nm,0.8s,baz=0.6,slow=5.0,SNR=8.5						
FIA0	**FINESS Array S**	**67.61**	**332**	*eP*	**P**	**20 40 21.8**	**-0.8**
FINES	**FINESS Array B**	**67.61**	**332**	P	**P**	**20 40 21.8**	**-0.8**
	1.9nm,0.9s,baz=29,slow=3.2,SNR=3.8						
AKASG	**Malin Array Be**	**73.00**	**322**	P	**P**	**20 40 55.2**	**-0.5**
	0.2nm,0.3s,baz=49,slow=6.8,SNR=4.2						
NB200	**NORSAR Array S**	**73.05**	**337**	*eP*	**P**	**20 40 56.0**	**+0.2**
NOA	**NORSAR Array B**	**73.05**	**337**	P	**P**	**20 40 56.0**	**+0.2**
	2.2nm,0.9s,baz=40,slow=5.9,SNR=4.8						
CLL	**Collm**	**79.87**	**329**	*eP*	**P**	**20 41 34.0**	**-0.6**
GERES	**GERESS Array B**	**81.47**	**327**	P	**P**	**20 41 43.2**	**-0.2**
	0.4nm,0.5s,baz=34,slow=5.3,SNR=5.2						
TXAR	**Lajitas Array**	**90.55**	**51**	P	**P**	**20 42 29.6**	**+0.9**
	0.8nm,0.8s,baz=259,slow=2.6,SNR=5.2						

DDA ***27*** *20:30:47.5,38.°70N×43.°18E,h17km,Ml3.9*
ISK ***27*** *20:30:47.6,38.°72N×43.°26E,h5km,ML3.4*
AZER ***27*** *20:30:48.2±1.7,38.°38N×43.°11E,h10km,Error ellipse: s-maj=17.5km s-min=12.4km az=139.0*
CSEM ***27*** *20:30:49.5±0.2,38.°71N×43.°17E,h5km,ML3.4,Error ellipse: s-maj=5.5km s-min=4.5km az=160.0*
ISC 27 20:30:48.9±0.9,**38.°71N**±0.°02×**43.°18E**±0.°01,**h14**km±7km, **n100**,σ1§**46**/143,**5C-16D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**124**	*ePG*	**Pg**	**20 30 53.7**	**+0.3**
VANB				*eSG*	**Sb**	**20 30 58.1**	**+0.2**
VANB	**Van**	**0.20**	**124**	*ePg*	**Pg**	**20 30 53.7**	**+0.3**
VANB				*eSg*	**Sb**	**20 30 58.1**	**+0.2**
TVAN	**Van**	**0.25**	**135**	⇓*iP*	**Pb**	**20 30 56.3**	**+1.0**
TVAN				*i S*	**Sb**	**20 31 00.9**	**+1.4**
TVAN	**Van**	**0.25**	**135**	P	**Pb**	**20 30 56.3**	**+1.0**
TVAN				S	**Sb**	**20 31 00.9**	**+1.4**
GEVA	**Gevas**	**0.41**	**194**	⇓*iP*	**Pg**	**20 30 55.7**	**-1.4**
GEVA				*i S*	**Sg**	**20 31 02.2**	**-0.5**
GEVA	**Gevas**	**0.41**	**194**	P	**Pg**	**20 30 55.7**	**-1.4**
GEVA				S	**Sg**	**20 31 02.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.41**	**47**	⇓*iP*	**Pg**	**20 30 56.8**	**-0.5**
VMUR				*i S*	**Sg**	**20 31 03.4**	**+0.4**
VMUR	**Van-Muradiye**	**0.41**	**47**	P	**Pg**	**20 30 56.8**	**-0.5**
VMUR				S	**Sg**	**20 31 03.4**	**+0.4**
CLDR	**Caldiran**	**0.72**	**52**	*ePG*	**Pg**	**20 31 01.7**	**-1.3**
CLDR				*eSG*	**Sg**	**20 31 11.5**	**-1.0**
CLDR	**Caldiran**	**0.72**	**52**	⇓*iP*	**Pg**	**20 31 01.6**	**-1.3**
CLDR				*i S*	**Sg**	**20 31 12.1**	**-0.4**
CLDR	**Caldiran**	**0.72**	**52**	P	**Pg**	**20 31 01.6**	**-1.3**
CLDR				S	**Sg**	**20 31 12.1**	**-0.4**
TATV	**Tatvan**	**0.74**	**255**	*i P*	**Pg**	**20 31 01.8**	**-1.6**
TATV				*i S*	**Sg**	**20 31 12.6**	**-0.7**
TATV	**Tatvan**	**0.74**	**255**	P	**Pg**	**20 31 01.8**	**-1.6**
TATV				S	**Sg**	**20 31 12.6**	**-0.7**
TUTA	**Tutak**	**0.75**	**338**	⇓*iP*	**Pg**	**20 31 02.3**	**-1.3**
TUTA				*i S*	**Sg**	**20 31 12.4**	**-1.1**
TUTA	**Tutak**	**0.75**	**338**	P	**Pg**	**20 31 02.3**	**-1.3**
TUTA				S	**Sg**	**20 31 12.4**	**-1.1**
AGRB	**Hanur-Agry**	**0.88**	**350**	*ePG*	**Pg**	**20 31 04.7**	**-1.3**
AGRB				*eSG*	**Sn**	**20 31 18.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.88**	**350**	*ePg*	**Pg**	**20 31 04.7**	**-1.3**
AGRB				*eSg*	**Sn**	**20 31 18.7**	**-1.0**
DYDN	**Diyadin**	**0.93**	**25**	*i P*	**Pb**	**20 31 05.0**	**-1.8**
DYDN	**Diyadin**	**0.93**	**25**	P	**Pb**	**20 31 05.0**	**-1.8**
EKAR	**Karacoban**	**1.03**	**303**	*i P*	**Pb**	**20 31 08.0**	**-0.7**
EKAR	**Karacoban**	**1.03**	**303**	P	**Pb**	**20 31 08.0**	**-0.7**
HAKT	**HAKKARI**	**1.22**	**160**	*i P*	**Pn**	**20 31 09.8**	**-1.9**
HAKT				*i S*	**Sg**	**20 31 30.8**	**+2.5**
HAKT	**HAKKARI**	**1.22**	**160**	P	**Pn**	**20 31 09.8**	**-1.9**
HAKT				S	**Sg**	**20 31 30.8**	**+2.5**
EATA	**Eleskirt**	**1.27**	**335**	⇓*iP*	**Pn**	**20 31 11.7**	**-0.8**
EATA				*i S*	**Sn**	**20 31 29.4**	**-0.2**
EATA	**Eleskirt**	**1.27**	**335**	P	**Pn**	**20 31 11.7**	**-0.8**
EATA				S	**Sn**	**20 31 29.4**	**-0.2**
VRTB	**Varto-Mus**	**1.42**	**289**	*ePN*	**Pg**	**20 31 16.3**	**0.0**
VRTB	**Varto-Mus**	**1.42**	**289**	*i P*	**Pn**	**20 31 14.8**	**+0.4**
VRTB				*i S*	**Sg**	**20 31 36.8**	**+2.0**
VRTB	**Varto-Mus**	**1.42**	**289**	P	**Pn**	**20 31 14.8**	**+0.4**
VRTB	**Varto-Mus**	**1.42**	**289**	*ePn*	**Pg**	**20 31 16.3**	**0.0**
VRTB				S	**Sg**	**20 31 36.8**	**+2.0**
CUKT	**Cukurca**	**1.49**	**167**	*ePN*	**Pn**	**20 31 15.6**	**+0.3**
CUKT	**Cukurca**	**1.49**	**167**	*i P*	**Pn**	**20 31 14.9**	**-0.5**
CUKT				*i S*	**Sg**	**20 31 37.0**	**0.0**
CUKT	**Cukurca**	**1.49**	**167**	P	**Pn**	**20 31 14.9**	**-0.5**
CUKT				S	**Sg**	**20 31 37.0**	**0.0**
BNGL	**BINGOL**	**1.61**	**279**	*i P*	**Pb**	**20 31 18.1**	**-0.4**
BNGL				*i S*	**Sg**	**20 31 40.1**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.66**	**251**	*ePN*	**Pb**	**20 31 19.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.66**	**251**	*i P*	**Pn**	**20 31 18.2**	**+0.7**
SVAN				*i S*	**Sb**	**20 31 40.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.66**	**251**	P	**Pn**	**20 31 18.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.66**	**251**	*ePn*	**Pb**	**20 31 19.3**	**+0.1**
SVAN				S	**Sb**	**20 31 40.6**	**+0.7**
HOMI	**Horasan**	**1.67**	**324**	*i P*	**Pb**	**20 31 18.9**	**-0.5**
HOMI				*i S*	**Sg**	**20 31 43.8**	**+1.3**
BTMN	**Batman**	**1.71**	**242**	*i P*	**Pn**	**20 31 19.1**	**+0.8**
BTMN				*i S*	**Sb**	**20 31 42.2**	**+0.7**
BTMN	**Batman**	**1.71**	**242**	P	**Pn**	**20 31 19.1**	**+0.8**
BTMN				S	**Sb**	**20 31 42.2**	**+0.7**
DIGO	**Kars**	**1.71**	**5**	*i P*	**Pb**	**20 31 19.7**	**-0.6**
DIGO	**Kars**	**1.71**	**5**	P	**Pb**	**20 31 19.7**	**-0.6**
ERZM	**Erzurum**	**1.85**	**311**	*i P*	**Pb**	**20 31 22.0**	**-0.6**
ERZM	**Erzurum**	**1.85**	**311**	P	**Pb**	**20 31 22.0**	**-0.6**
NAX	**Nakhchivan**	**1.86**	**75**	⇓P	**Pb**	**20 31 21.9**	**-0.7**
NAX				⇓S	**Sg**	**20 31 48.6**	**-0.2**
NAX	**Nakhchivan**	**1.86**	**75**	P	**Pb**	**20 31 22.0**	**-0.7**
NAX				S	**Sg**	**20 31 48.6**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.94**	**298**	*i P*	**Pb**	**20 31 23.5**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.94**	**298**	P	**Pb**	**20 31 23.5**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.96**	**341**	*ePN*	**Pb**	**20 31 24.1**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**341**	*ePn*	**Pb**	**20 31 24.2**	**-0.3**
BNGB	**Bing¶ll**	**1.98**	**279**	*ePN*	**Pb**	**20 31 24.9**	**+0.2**
EAK	**Akyaka**	**2.00**	**9**	*i P*	**Pb**	**20 31 24.5**	**-0.7**
EAK	**Akyaka**	**2.00**	**9**	P	**Pb**	**20 31 24.5**	**-0.7**
BINT	**Bingol**	**2.11**	**275**	*ePn*	**Pn**	**20 31 24.9**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*ePN*	**Pb**	**20 31 27.9**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.18**	**290**	*ePn*	**Pb**	**20 31 27.9**	**-0.3**
MARD	**Mardin**	**2.35**	**235**	*i P*	**Pn**	**20 31 27.9**	**+0.7**
DDEM	**Demirkent**	**2.45**	**334**	*i P*	**Pb**	**20 31 32.5**	**-0.2**
DDEM	**Demirkent**	**2.45**	**334**	P	**Pb**	**20 31 32.5**	**-0.2**
KOPT	**Kop Dagi**	**2.46**	**303**	*i P*	**Pb**	**20 31 33.6**	**+0.6**
KOPT	**Kop Dagi**	**2.46**	**303**	P	**Pb**	**20 31 33.6**	**+0.6**
MAZI	**Mazidag**	**2.49**	**241**	*ePN*	**Pb**	**20 31 31.5**	**-2.0**
MAZI	**Mazidag**	**2.49**	**241**	*ePn*	**Pb**	**20 31 31.5**	**-2.0**
DIYA	**Diyarbakir**	**2.53**	**253**	*i P*	**Pb**	**20 31 32.9**	**-1.2**
DIYA				*i S*	**Sb**	**20 32 05.0**	**-0.2**
DIYA	**Diyarbakir**	**2.53**	**253**	P	**Pb**	**20 31 32.9**	**-1.2**
DIYA				S	**Sb**	**20 32 05.0**	**-0.2**
DAGI	**Agillar**	**2.56**	**338**	*i P*	**Pn**	**20 31 32.0**	**+1.9**
ARTV	**Artvin**	**2.66**	**339**	*i P*	**Pb**	**20 31 36.0**	**-0.4**
ARTV	**Artvin**	**2.66**	**339**	P	**Pb**	**20 31 36.0**	**-0.4**
AKH	**Akhalkalaki**	**2.71**	**5**	P	**Pb**	**20 31 38.3**	**+1.0**
AKH	**Akhalkalaki**	**2.71**	**5**	P	**Pb**	**20 31 38.2**	**+0.9**
EPOS	**Posof**	**2.82**	**353**	*i P*	**Pg**	**20 31 41.0**	**-1.8**
GDB	**GEDABAY**	**2.83**	**44**	⇓P	**Pb**	**20 31 37.4**	**-1.8**
GDB				⇓S	**Sb**	**20 32 15.9**	**+2.2**
GDB	**GEDABAY**	**2.83**	**44**	P	**Pb**	**20 31 37.4**	**-1.8**
GDB				S	**Sb**	**20 32 15.9**	**+2.2**
TNCL	**Tunceli-Merkez**	**2.87**	**279**	*i P*	**Pb**	**20 31 37.3**	**-2.6**
TNCL	**Tunceli-Merkez**	**2.87**	**279**	P	**Pb**	**20 31 37.3**	**-2.6**
QZX	**Qazax, Azerbai**	**2.89**	**35**	⇓P	**Pb**	**20 31 38.9**	**-1.3**
QZX				⇑S	**Sb**	**20 32 17.2**	**+1.8**
QZX	**Qazax, Azerbai**	**2.89**	**35**	P	**Pb**	**20 31 38.9**	**-1.3**
QZX				S	**Sb**	**20 32 17.2**	**+1.8**
PTK	**Pertek**	**2.97**	**275**	*ePN*	**Pn**	**20 31 37.9**	**+2.2**
PTK	**Pertek**	**2.97**	**275**	*ePn*	**Pn**	**20 31 37.9**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.06**	**265**	*ePN*	**Pn**	**20 31 39.5**	**+2.6**
SVRC	**Sivrice-ELAZID**	**3.06**	**265**	*ePn*	**Pn**	**20 31 39.5**	**+2.6**
GANJ	**Ganja**	**3.10**	**50**	⇓P	**Pb**	**20 31 41.0**	**-2.8**
GANJ				⇓S	**Sb**	**20 32 21.4**	**-0.1**
GANJ	**Ganja**	**3.10**	**50**	P	**Pb**	**20 31 41.0**	**-2.8**
GANJ				S	**Sb**	**20 32 21.4**	**-0.1**
DGRG	**David-gareji**	**3.21**	**31**	P	**Pn**	**20 31 41.7**	**+2.8**
TBLG	**Delisi**	**3.25**	**21**	P	**Pb**	**20 31 46.9**	**+0.6**
BRDA	**Brd**	**3.46**	**62**	⇑P	**Pn**	**20 31 45.3**	**+3.0**
BRDA				⇑S	**Sb**	**20 32 29.3**	**-2.5**
BRDA	**Brd**	**3.46**	**62**	P	**Pn**	**20 31 45.3**	**+3.0**
BRDA				S	**Sb**	**20 32 29.3**	**-2.5**
URFA	**Urfa**	**3.67**	**251**	*ePN*	**Pn**	**20 31 48.0**	**+2.8**
URFA	**Urfa**	**3.67**	**251**	*ePn*	**Pn**	**20 31 48.0**	**+2.8**
ONI	**Oni**	**3.89**	**3**	P	**Pb**	**20 31 59.4**	**+2.2**
LRK	**Lerik**	**4.04**	**89**	⇑P	**Pn**	**20 31 50.3**	**-0.1**
LRK	**Lerik**	**4.04**	**89**	P	**Pn**	**20 31 50.3**	**-0.1**
GLBA	**Clilabad**	**4.09**	**81**	⇑P	**Pn**	**20 31 51.7**	**+0.7**
GLBA	**Clilabad**	**4.09**	**81**	P	**Pn**	**20 31 51.7**	**+0.7**
QBL	**Gabala**	**4.22**	**57**	⇓P	**Pn**	**20 31 55.9**	**+3.1**
QBL	**Gabala**	**4.22**	**57**	P	**Pn**	**20 31 55.9**	**+3.1**
IML	**Ismayilli**	**4.38**	**60**	⇓P	**Pn**	**20 31 57.8**	**+2.8**
IML	**Ismayilli**	**4.38**	**60**	P	**Pn**	**20 31 57.8**	**+2.8**
XNQ	**Khinaliq**	**4.54**	**56**	⇓P	**Pn**	**20 32 00.0**	**+2.7**
XNQ	**Khinaliq**	**4.54**	**56**	P	**Pn**	**20 32 00.0**	**+2.7**

ISK ***27*** *20:42:23.8,38.°85N×43.°61E,h5km,ML3.2*
DDA ***27*** *20:42:24.2,38.°88N×43.°55E,h5km,Ml3.6*
CSEM ***27*** *20:42:25.5±0.2,38.°91N×43.°53E,h2km,ML3.6,Error ellipse: s-maj=6.0km s-min=3.8km az=109.0*
ISC 27 20:42:24.9±1.0,**38.°88N**±0.°02×**43.°56E**±0.°03,**h5**km±8km, **n48**,σ1§**41**/69,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**4**	*i P*	**Pg**	**20 42 27.3**	**-0.1**
VMUR				*i S*	**Sg**	**20 42 29.5**	**+0.4**
VMUR	**Van-Muradiye**	**0.12**	**4**	P	**Pg**	**20 42 27.3**	**-0.1**
VMUR				S	**Sg**	**20 42 29.5**	**+0.4**
VANB	**Van**	**0.31**	**206**	*ePG*	**Pb**	**20 42 32.1**	**-0.8**
VANB				*eSG*	**Sb**	**20 42 38.7**	**+0.4**
VANB	**Van**	**0.31**	**206**	*ePg*	**Pb**	**20 42 32.2**	**-0.8**
VANB				*eSg*	**Sb**	**20 42 38.7**	**+0.4**
TVAN	**Van**	**0.37**	**199**	*i P*	**Pb**	**20 42 34.9**	**+0.9**
TVAN				*i S*	**Sb**	**20 42 38.8**	**-1.3**
TVAN	**Van**	**0.37**	**199**	P	**Pb**	**20 42 34.9**	**+0.9**
TVAN				S	**Sb**	**20 42 38.8**	**-1.3**
CLDR	**Caldiran**	**0.39**	**46**	*ePG*	**Pg**	**20 42 32.6**	**+0.2**
CLDR				*eSG*	**Sb**	**20 42 38.8**	**-1.8**
CLDR	**Caldiran**	**0.39**	**46**	*i P*	**Pg**	**20 42 32.6**	**+0.2**
CLDR				*i S*	**Sb**	**20 42 39.6**	**-1.1**
CLDR	**Caldiran**	**0.39**	**46**	P	**Pg**	**20 42 32.6**	**+0.2**
CLDR				*eSg*	**Sb**	**20 42 38.8**	**-1.8**
CLDR				S	**Sb**	**20 42 39.6**	**-1.1**
DYDN	**Diyadin**	**0.68**	**8**	*i P*	**Pg**	**20 42 37.5**	**-0.4**
DYDN				*i S*	**Sg**	**20 42 46.5**	**-0.2**
DYDN	**Diyadin**	**0.68**	**8**	P	**Pg**	**20 42 37.5**	**-0.4**
DYDN				S	**Sg**	**20 42 46.5**	**-0.2**
GEVA	**Gevas**	**0.69**	**215**	*i P*	**Pg**	**20 42 37.5**	**-0.6**
GEVA				*i S*	**Sg**	**20 42 46.8**	**-0.2**
GEVA	**Gevas**	**0.69**	**215**	P	**Pg**	**20 42 37.5**	**-0.6**
GEVA				S	**Sg**	**20 42 46.8**	**-0.2**
TUTA	**Tutak**	**0.79**	**312**	*i P*	**Pg**	**20 42 39.3**	**-0.7**
TUTA	**Tutak**	**0.79**	**312**	P	**Pg**	**20 42 39.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.83**	**328**	*ePG*	**Pb**	**20 42 41.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.83**	**328**	*ePg*	**Pb**	**20 42 41.5**	**-0.3**
TATV	**Tatvan**	**1.08**	**251**	*i P*	**Pg**	**20 42 45.0**	**-0.6**
TATV				*i S*	**Sn**	**20 43 00.9**	**-1.3**
TATV	**Tatvan**	**1.08**	**251**	P	**Pg**	**20 42 45.0**	**-0.6**
TATV				S	**Sn**	**20 43 00.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVAN	Silvan-Diyarba	1.94	253	*e*PN	Pb	20 48 48.2	-0.6
SVAN	Silvan-Diyarba	1.94	253	*e*Pn	Pb	20 48 48.2	-0.6
SENK	Senkaya-Erzuru	2.03	333	*e*PN	Pb	20 48 49.1	-1.3
SENK	Senkaya-Erzuru	2.03	333	*e*Pn	Pb	20 48 49.1	-1.3
BNGB	Bing¨¶l	2.25	277	*e*PN	Pn	20 48 52.3	+1.6
BINT	Bingol	2.40	274	*e*Pn	Pn	20 48 52.3	-0.3
YEDI	Yedisu-Bingol	2.44	287	*e*PN	Pn	20 48 54.0	+0.8
YEDI	Yedisu-Bingol	2.44	287	*e*Pn	Pn	20 48 54.0	+0.8
AKH	Akhalkalaki	2.65	359	P	Pg	20 49 03.9	-0.5
MAZI	Mazidag	2.77	243	*e*PN	Pn	20 48 59.3	+1.6
MAZI	Mazidag	2.77	243	*e*Pn	Pn	20 48 59.3	+1.6
DGRG	David-gareji	3.04	27	P	Pg	20 49 10.6	-1.1

*JMA **27** 20:50:27.1±0.1, 36˚.16N×142˚.44E, h90km±5km, M3.1*
*IDC **27** 20:50:34.1±2.7, 36˚.65N×141˚.73E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/75, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=70.6km s-min=29.6km az=58.0*
ISC 27 20:50:31.3±1.6, 36˚.27N±0˚.05×142˚.15E±0˚.08, h19km, n23, σ1§44/21, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.19	242	P	Pn	20 50 51.4	-1.5
CHOJ				*e*S	Sg	20 51 10.0	+0.1
JHO	Hitachi	1.32	285	*e*S	Sg	20 51 14.2	+0.2
ONAJ	Iwakimizuishiy	1.37	308	*e*S	Sg	20 51 15.4	-0.2
JFK	Kawauchi	1.50	317	*e*S	Sb	20 51 17.9	+0.7
BSO1	Boso 1	1.87	211	*e*S	Sn	20 51 23.5	-1.1
JFT	Otama	1.91	311	S	Sb	20 51 29.2	+0.1
JMM	Marumori	1.93	326	*e*S	Sb	20 51 28.1	+1.4
JAG	Ashikaga	2.18	275	S	Sb	20 51 35.4	-1.4
JRY	Ryogami san	2.64	265	P	Pn	20 51 12.1	-0.8
JOD2	Odawara 2	2.68	249	P	Pn	20 51 12.5	-1.0
JOD2				*e*S	Sn	20 51 47.2	+1.8
JMK	Ichinoseki	2.78	345	P	Pn	20 51 12.1	-2.6
JMK				*e*S	Sn	20 51 47.7	0.0
JYK	Kaneyama	3.00	332	P	Pn	20 51 16.8	-1.0
JYK				*e*S	Sn	20 51 54.6	+1.3
MJAR	Matsushiro Arr	3.19	276	Pn	Pn	20 51 20.5	+0.1
	1.6nm,0.3s,baz=89,slow=15,SNR=12						
MAT	Matsushiro	3.19	276	P	Pn	20 51 20.4	0.0
MAT				*e*S	Sn	20 51 55.0	-3.0
H11N2	WAKE ISLAND Hy	27.25	121	T	T	21 24 13.2	
	baz=313,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	27.26	121	T	T	21 24 16.6	
	baz=313,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	27.27	121	T	T	21 24 18.8	
	baz=313,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	27.95	123	T	T	21 25 12.6	
	baz=314,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	27.95	123	T	T	21 25 12.5	
	baz=314,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	27.96	123	T	T	21 25 11.8	
	baz=314,slow=76,SNR=9.5						
SONM	Songino Array	28.70	305	P	P	20 56 27.4	+0.1
	0.4nm,0.6s,baz=108,slow=8.1,SNR=3.8						
MKAR	Makanchi Array	45.03	303	P	P	20 58 48.1	+2.5
	0.4nm,0.7s,baz=86,slow=11,SNR=3.3						
ASAR	Alice Springs	60.12	189	P	P	21 00 45.4	+8.0
	0.2nm,0.6s,baz=3.5,slow=6.1,SNR=2.7						

*DDA **27** 20:55:09.2, 38˚.82N×43˚.58E, h7km, Ml4.0*
*ISK **27** 20:55:09.2, 38˚.88N×43˚.55E, h5km, ML3.9*
*CSEM **27** 20:55:10.7±0.2, 38˚.83N×43˚.53E, h2km, ML4.0, Error ellipse: s-maj=5.1km s-min=4.0km az=141.0*
*AZER **27** 20:55:13.8±2.2, 39˚.02N×44˚.00E, h7km, Error ellipse: s-maj=3.4km s-min=1.9km az=227.0*
ISC 27 20:55:08.4±0.9, 38˚.87N±0˚.02×43˚.75E±0˚.02, h16km±7km, n96, σ1§45/126, 16C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.18	311	⇓*i*P	Pg	20 55 12.9	-0.1
VMUR				*i*S	Sb	20 55 16.5	-0.4
VMUR	Van-Muradiye	0.18	311	P	Pg	20 55 12.9	-0.1
VMUR				S	Sb	20 55 16.5	-0.4
CLDR	Caldiran	0.30	26	*e*PG	Pn	20 55 17.5	-0.9
CLDR				*e*SG	Sn	20 55 25.0	+0.3
CLDR	Caldiran	0.30	26	⇑*i*P	Pn	20 55 17.4	-1.0
CLDR				*i*S	Sn	20 55 24.6	-0.2
CLDR	Caldiran	0.30	26	*e*Pg	Pn	20 55 17.5	-0.9
CLDR				S	Sn	20 55 24.5	-0.2
CLDR				*e*Sg	Sn	20 55 25.0	+0.3
VANB	Van	0.39	226	*e*PG	Pb	20 55 17.5	+0.4
VANB	Van	0.39	226	*e*Pg	Pb	20 55 17.5	+0.4
DYDN	Diyadin	0.67	356	*i*P	Pn	20 55 22.8	-0.7
DYDN				*i*S	Sn	20 55 33.9	+0.1
DYDN	Diyadin	0.67	356	P	Pn	20 55 22.8	-0.7
DYDN				S	Sn	20 55 33.9	+0.1
GEVA	Gevas	0.78	224	⇑*i*P	Pg	20 55 22.2	-1.4
GEVA	Gevas	0.78	224	P	Pg	20 55 22.2	-1.4
TUTA	Tutak	0.90	306	⇓*i*P	Pg	20 55 24.6	-1.3
TUTA				*i*S	Sg	20 55 36.6	-1.2
TUTA	Tutak	0.90	306	P	Pg	20 55 24.6	-1.3
TUTA				S	Sg	20 55 36.6	-1.2
AGRB	Hanur-Agry	0.92	320	*e*PG	Pg	20 55 25.7	-0.5
AGRB				*e*SG	Sb	20 55 38.5	+0.4
AGRB	Hanur-Agry	0.92	320	*e*Pg	Pg	20 55 25.7	-0.5
AGRB				*e*Sg	Sb	20 55 38.5	+0.4
TATV	Tatvan	1.21	253	⇑*i*P	Pn	20 55 29.3	-1.6
TATV				*i*S	Sb	20 55 45.0	-1.6
TATV	Tatvan	1.21	253	P	Pn	20 55 29.3	-1.6
TATV				S	Sb	20 55 45.0	-1.6
HAKT	HAKKARI	1.31	181	⇓*i*P	Pb	20 55 33.0	+0.2
HAKT				*i*S	Sg	20 55 55.2	+4.3
HAKT	HAKKARI	1.31	181	P	Pb	20 55 33.0	+0.2
EKAR	Karacoban	1.36	287	*i*P	Pn	20 55 33.4	+0.4
EKAR				*i*S	Sg	20 55 53.8	+1.2
EKAR	Karacoban	1.36	287	P	Pn	20 55 33.4	+0.4
EATA	Eleskirt	1.39	316	⇓*i*P	Pn	20 55 33.8	+0.4
EATA				*i*S	Sg	20 55 54.2	+0.9
EATA	Eleskirt	1.39	316	P	Pn	20 55 33.8	+0.4
EATA				S	Sg	20 55 54.2	+0.9
NAX	Nakhchivan	1.40	77	⇓P	Pg	20 55 38.8	+3.5
	SNR=74						
NAX				⇑S	Sg	20 55 54.8	+1.3
NAX	Nakhchivan	1.40	77	P	Pg	20 55 38.8	+3.5
	SNR=74						
DIGO	Kars	1.57	350	⇓*i*P	Pg	20 55 39.4	+0.8
DIGO	Kars	1.57	350	P	Pg	20 55 39.4	+0.8
CUKT	Cukurca	1.62	184	*e*PN	Pg	20 55 40.0	+0.3
CUKT	Cukurca	1.62	184	⇓*i*P	Pb	20 55 38.6	+0.6
CUKT	Cukurca	1.62	184	P	Pb	20 55 38.7	+0.6
CUKT	Cukurca	1.62	184	*e*Pn	Pg	20 55 40.0	+0.3
SIRN	S¨–rnak	1.73	218	*i*P	Pb	20 55 39.8	0.0
SIRN				*i*S	Sg	20 56 03.0	-1.1
SIRN	S¨–rnak	1.73	218	P	Pb	20 55 39.8	0.0
SIRN				S	Sg	20 56 03.0	-1.1
VRTB	Varto-Mus	1.81	280	*e*PN	Pb	20 55 41.4	+0.2
VRTB	Varto-Mus	1.81	280	*i*P	Pb	20 55 40.6	-0.6
VRTB				*i*S	Sg	20 56 06.9	+0.2
VRTB	Varto-Mus	1.81	280	P	Pb	20 55 40.6	-0.6
VRTB	Varto-Mus	1.81	280	*e*Pn	Pb	20 55 41.4	+0.2
EAK	Akyaka	1.82	357	*i*P	Pg	20 55 45.1	+1.8
EAK	Akyaka	1.82	357	P	Pg	20 55 45.1	+1.8
HOMI	Horasan	1.85	310	*i*P	Pb	20 55 42.5	+0.6
SENK	Senkaya-Erzuru	2.00	328	*e*PN	Pb	20 55 44.9	+0.4
SENK	Senkaya-Erzuru	2.00	328	*e*Pn	Pb	20 55 44.9	+0.4
BNGL	BINGOL	2.03	273	*i*P	Pb	20 55 44.6	-0.4
ERZM	Erzurum	2.11	300	*i*P	Pb	20 55 46.1	-0.3
ERZM	Erzurum	2.11	300	P	Pb	20 55 46.2	-0.3
SVAN	Silvan-Diyarba	2.12	251	*e*PN	Pb	20 55 45.8	-0.7
SVAN	Silvan-Diyarba	2.12	251	*i*P	Pb	20 55 46.0	-0.6
SVAN	Silvan-Diyarba	2.12	251	*e*Pn	Pb	20 55 45.8	-0.7
BTMN	Batman	2.18	244	*i*P	Pb	20 55 47.1	-0.4
BTMN	Batman	2.18	244	P	Pb	20 55 47.1	-0.4
ECAT	Cat-ERZURUM	2.27	290	⇑*i*P	Pb	20 55 49.0	-0.2
ECAT	Cat-ERZURUM	2.27	290	P	Pb	20 55 49.0	-0.2
BNGB	Bing¨¶l	2.40	274	*e*PN	Pn	20 55 49.0	+1.9
GDB	GEDABAY	2.41	39	⇑P	Pg	20 55 53.4	-1.2
	SNR=23						
GDB				⇑S	Sg	20 56 24.6	-1.3
GDB	GEDABAY	2.41	39	P	Pg	20 55 53.4	-1.2
	SNR=23						
GDB				S	Sg	20 56 24.6	-1.3
QZX	Qazax, Azerbai	2.52	29	⇑P	Pg	20 55 55.7	-0.9
	SNR=14						
QZX				⇓S	Sg	20 56 27.6	-1.7
QZX	Qazax, Azerbai	2.52	29	P	Pg	20 55 55.7	-0.9
	SNR=14						
QZX				S	Sg	20 56 27.6	-1.7
DDEM	Demirkent	2.54	323	*i*P	Pb	20 55 54.5	+0.9
DDEM	Demirkent	2.54	323	P	Pb	20 55 54.5	+0.9
AKH	Akhalkalaki	2.54	356	P	Pg	20 55 56.9	-0.3
AKH				S	Sg	20 56 35.4	+5.3
BINT	Bingol	2.54	271	*e*Pn	Pn	20 55 49.0	-0.1
YEDI	Yedisu-Bingol	2.55	284	*e*PN	Pn	20 55 51.6	+2.3
YEDI	Yedisu-Bingol	2.55	284	*e*Pn	Pn	20 55 51.6	+2.3
DAGI	Agillar	2.62	328	*i*P	Pb	20 55 55.3	+0.3
GANJ	Ganja	2.66	47	⇑P	Pb	20 55 56.9	+1.2
	SNR=7.3						
GANJ				⇓S	Sg	20 56 31.1	-2.8
GANJ	Ganja	2.66	47	P	Pb	20 55 56.9	+1.2
	SNR=7.3						
GANJ				S	Sg	20 56 31.1	-2.8
ARTV	Artvin	2.70	329	*i*P	Pb	20 55 56.7	+0.2
ARTV	Artvin	2.70	329	P	Pb	20 55 56.7	+0.2
KOPT	Kop Dagi	2.76	295	*i*P	Pb	20 55 57.6	0.0
MARD	Mardin	2.81	237	*i*P	Pn	20 55 53.8	+1.0
DGRG	David-gareji	2.86	25	P	Pb	20 56 00.6	+1.5
DGRG				S	Sg	20 56 49.5	+9.2
DBOC	Borcka	2.94	328	*i*P	Pb	20 55 58.3	-2.2
DBOC	Borcka	2.94	328	P	Pb	20 55 58.3	-2.2
TBLG	Delisi	2.96	15	P	Pb	20 56 02.2	+1.5
TBLG				S	Sg	20 56 47.3	+4.0
TBLG	Delisi	2.96	15	P	Pb	20 56 02.2	+1.5
BRDA	Brd	3.00	61	⇓P	Pb	20 56 01.4	0.0
	SNR=8.5						
BRDA	Brd	3.00	61	P	Pb	20 56 01.4	0.0
	SNR=8.5						
DIYA	Diyarbakir	3.00	253	*i*P	Pn	20 55 58.1	+2.7
DIYA	Diyarbakir	3.00	253	P	Pn	20 55 58.1	+2.7
MNGR	Mingechevir, A	3.20	52	⇑P	Pb	20 56 04.0	-0.8
	SNR=7.0						
MNGR	Mingechevir, A	3.20	52	P	Pb	20 56 04.0	-0.8
	SNR=7.0						
EUZM	Uzumlu	3.25	286	*i*P	Pb	20 56 05.2	-0.6
ZRD	Zardab	3.35	64	⇑P	Pb	20 56 06.2	-1.2
	SNR=3.2						
ZRD	Zardab	3.35	64	P	Pb	20 56 06.2	-1.2
	SNR=3.2						
SEKA	Sheki	3.53	48	⇑P	Pb	20 56 09.7	-0.9
	SNR=10.0						
SEKA	Sheki	3.53	48	P	Pb	20 56 09.7	-0.9
	SNR=10.0						
ZKTA	Zakatala	3.53	38	⇓P	Pb	20 56 09.1	-1.4
	SNR=11						
GLBA	Clilabad	3.64	83	⇑P	Pb	20 56 10.7	-1.6
	SNR=7.0						
GLBA	Clilabad	3.64	83	P	Pb	20 56 10.7	-1.6
	SNR=7.0						
ONI	Oni	3.72	357	P	Pb	20 56 15.2	+1.5
QBL	Gabala	3.77	55	⇑P	Pb	20 56 12.5	-2.0
	SNR=5.9						
QBL	Gabala	3.77	55	P	Pb	20 56 12.5	-2.0
	SNR=5.9						
IML	Ismayilli	3.92	59	⇑P	Pb	20 56 14.5	-2.6
	SNR=5.2						
IML	Ismayilli	3.92	59	P	Pb	20 56 14.5	-2.6
	SNR=5.2						
ASTR	Astara	3.96	93	⇑P	Pb	20 56 16.2	-1.5
	SNR=3.0						
ASTR	Astara	3.96	93	P	Pb	20 56 16.2	-1.5
	SNR=3.0						

*ISK **27** 20:58:22.5, 38˚.81N×43˚.53E, h5km, ML3.1*
*CSEM **27** 20:58:24.8±0.3, 38˚.90N×43˚.47E, h2km, ML3.7, Error ellipse: s-maj=6.3km s-min=4.4km az=116.0*
*DDA **27** 20:58:24.4, 38˚.88N×43˚.52E, h18km, Ml3.7*
*ISCJB **27** 20:58:25.1±0.5, 38˚.88N±0˚.02×43˚.48E±0˚.05, h3km±6km, Error ellipse: s-maj=6.0km s-min=3.7km az=10.1*
ISC 27 20:58:24.4±0.9, 38˚.84N±0˚.02×43˚.55E±0˚.03, h8km±8km, n47, σ1§10/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.15	7	*i*P	Pg	20 58 27.2	-0.6
VMUR				*i*S	Sg	20 58 31.4	+1.3
VMUR	Van-Muradiye	0.15	7	P	Pg	20 58 27.2	-0.6
VMUR				S	Sg	20 58 31.4	+1.3
VANB	Van	0.27	208	*e*PG	Pg	20 58 29.8	0.0
VANB	Van	0.27	208	*e*Pg	Pg	20 58 29.8	0.0
TVAN	Van	0.33	200	*i*P	Pb	20 58 32.7	+0.1
TVAN				*i*S	Sb	20 58 38.9	+0.8
TVAN	Van	0.33	200	P	Pb	20 58 32.7	+0.1
TVAN				S	Sb	20 58 38.9	+0.8
CLDR	Caldiran	0.42	43	*e*PG	Pg	20 58 32.2	-0.5
CLDR				*e*SG	Sb	20 58 40.3	-0.5
CLDR	Caldiran	0.42	43	*i*P	Pg	20 58 32.1	-0.6
CLDR				*i*S	Sb	20 58 39.9	-0.9
CLDR	Caldiran	0.42	43	*e*Pg	Pg	20 58 32.2	-0.5
CLDR				S	Sb	20 58 39.9	-0.9
CLDR				*e*Sg	Sb	20 58 40.3	-0.5
GEVA	Gevas	0.65	216	*i*P	Pg	20 58 35.0	-1.9
GEVA				*i*S	Sb	20 58 48.0	+0.7
DYDN	Diyadin	0.71	9	*i*P	Pg	20 58 37.7	-0.5
DYDN				*i*S	Sb	20 58 49.1	-0.3
DYDN	Diyadin	0.71	9	P	Pg	20 58 37.7	-0.5
DYDN				S	Sb	20 58 49.1	-0.3
TUTA	Tutak	0.80	315	*i*P	Pg	20 58 38.5	-1.4
TUTA				*i*S	Sb	20 58 51.4	-0.5
TUTA	Tutak	0.80	315	P	Pg	20 58 38.5	-1.4
TUTA				S	Sb	20 58 51.4	-0.5
AGRB	Hanur-Agry	0.86	330	*e*PG	Pg	20 58 39.8	-1.1
AGRB				*e*SG	Sb	20 58 53.1	-0.3
AGRB	Hanur-Agry	0.86	330	*e*Pg	Pg	20 58 39.8	-1.1
AGRB				*e*Sg	Sb	20 58 53.1	-0.3
TATV	Tatvan	1.06	252	*i*P	Pg	20 58 42.8	-1.9
TATV				*i*S	Sg	20 58 58.4	0.0
TATV	Tatvan	1.06	252	P	Pg	20 58 42.8	-1.9
TATV				S	Sg	20 58 58.4	0.0
EKAR	Karacoban	1.23	290	*i*P	Pg	20 58 47.0	-1.0
EKAR	Karacoban	1.23	290	P	Pg	20 58 47.0	-1.0
HAKT	HAKKARI	1.28	174	*i*P	Pn	20 58 45.8	-3.0
HAKT				*i*S	Sn	20 59 09.7	+3.3
EATA	Eleskirt	1.31	322	*i*P	Pg	20 58 48.4	-1.2
EATA				*i*S	Sn	20 59 08.9	+1.7
EATA	Eleskirt	1.31	322	P	Pg	20 58 48.4	-1.2
CUKT	Cukurca	1.59	178	*e*PN	Pn	20 58 51.7	-1.2
CUKT	Cukurca	1.59	178	*i*P	Pn	20 58 51.9	-1.0
CUKT	Cukurca	1.59	178	*e*Pn	Pn	20 58 51.7	-1.2
VRTB	Varto-Mus	1.66	282	*e*PN	Pn	20 58 54.4	+0.4
VRTB	Varto-Mus	1.66	282	*i*P	Pn	20 58 54.3	+0.3
VRTB	Varto-Mus	1.66	282	*e*Pn	Pn	20 58 54.4	+0.4
SENK	Senkaya-Erzuru	1.96	332	*e*PN	Pn	20 58 58.5	+0.4
SENK	Senkaya-Erzuru	1.96	332	*e*Pn	Pn	20 58 58.5	+0.4
SVAN	Silvan-Diyarba	1.97	250	*e*PN	Pn	20 58 58.9	+0.8
SVAN	Silvan-Diyarba	1.97	250	*i*P	Pb	20 58 59.5	-1.0
SVAN				*i*S	Sg	20 59 27.4	-0.3
SVAN	Silvan-Diyarba	1.97	250	*e*Pn	Pn	20 58 58.9	+0.8
SVAN	Silvan-Diyarba	1.97	250	P	Pb	20 58 59.5	-1.0
BTMN	Batman	2.02	243	*i*P	Pb	20 59 00.6	-0.9
BTMN				*i*S	Sb	20 59 27.8	+0.9
BTMN	Batman	2.02	243	P	Pb	20 59 00.6	-0.9
BTMN				S	Sb	20 59 27.8	+0.9
BNGB	Bing¨¶l	2.24	275	*e*PN	Pn	20 59 01.7	-0.3
BINT	Bingol	2.39	272	*e*Pn	Pn	20 59 01.2	-2.3
YEDI	Yedisu-Bingol	2.41	285	*e*PN	Pn	20 59 05.0	+0.7
YEDI	Yedisu-Bingol	2.41	285	*e*Pn	Pn	20 59 05.0	+0.7
MAZI	Mazidag	2.81	242	*e*PN	Pn	20 59 10.3	+0.6
MAZI	Mazidag	2.81	242	*e*Pn	Pn	20 59 10.3	+0.6
PTK	Pertek	3.25	272	*e*PN	Pn	20 59 16.9	+1.1
PTK	Pertek	3.25	272	*e*Pn	Pn	20 59 16.9	+1.1
SVRC	Sivrice-ELAZID	3.35	263	*e*PN	Pn	20 59 18.1	+0.8
SVRC	Sivrice-ELAZID	3.35	263	*e*Pn	Pn	20 59 18.1	+0.8

*DDA **27** 21:00:45.5, 38˚.84N×43˚.63E, h5km, Ml3.6*
*ISK **27** 21:00:45.3, 38˚.90N×43˚.65E, h5km, ML3.1*
*CSEM **27** 21:00:46.7±0.3, 38˚.91N×43˚.58E, h2km, ML3.6, Error ellipse: s-maj=6.5km s-min=4.5km az=105.0*
*ISCJB **27** 21:00:47.2±0.5, 38˚.91N±0˚.02×43˚.60E±0˚.04, h6km±4km, Error ellipse: s-maj=5.8km s-min=3.7km az=5.4*
ISC 27 21:00:46.2±0.9, 38˚.88N±0˚.02×43˚.65E±0˚.03, h8km±7km, n45, σ1§39/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	331	*i*P	Pg	21 00 49.0	0.0
VMUR				*i*S	Sg	21 00 52.2	+1.2
VMUR	Van-Muradiye	0.12	331	P	Pg	21 00 49.0	0.0
VMUR				S	Sg	21 00 52.2	+1.2
CLDR	Caldiran	0.33	39	*e*PG	Pg	21 00 52.9	0.0
CLDR				*e*SG	Sb	21 00 58.6	-1.5
CLDR	Caldiran	0.33	39	*i*P	Pg	21 00 52.8	-0.1
CLDR				*i*S	Sb	21 00 59.3	-0.8
CLDR	Caldiran	0.33	39	*e*Pg	Pg	21 00 52.9	0.0
CLDR				*e*Sg	Sb	21 00 58.6	-1.5
CLDR				S	Sb	21 00 59.3	-0.8
VANB	Van	0.35	215	*e*PG	Pb	21 00 54.4	-0.3
VANB				*e*SG	Sb	21 01 02.1	+1.6
VANB	Van	0.35	215	*e*Pg	Pb	21 00 54.4	-0.3
VANB				*e*Sg	Sb	21 01 02.1	+1.6
TVAN	Van	0.40	208	*i*P	Pn	21 00 56.9	-1.5
TVAN				*i*S	Sb	21 01 04.4	+2.4
TVAN	Van	0.40	208	P	Pn	21 00 56.9	-1.5
DYDN	Diyadin	0.66	3	*i*P	Pg	21 00 58.5	-0.5
DYDN				*i*S	Sb	21 01 09.1	-0.4
DYDN	Diyadin	0.66	3	P	Pg	21 00 58.5	-0.5
DYDN				S	Sb	21 01 09.1	-0.4
GEVA	Gevas	0.73	219	*i*P	Pg	21 00 59.1	-1.2
GEVA				*i*S	Sb	21 01 12.2	+0.7
GEVA	Gevas	0.73	219	P	Pg	21 00 59.1	-1.2
GEVA				S	Sb	21 01 12.2	+0.7
TUTA	Tutak	0.83	309	*i*P	Pg	21 01 01.0	-1.2
TUTA				*i*S	Sg	21 01 11.8	-1.2
TUTA	Tutak	0.83	309	P	Pg	21 01 01.0	-1.2
TUTA				S	Sg	21 01 11.8	-1.2
AGRB	Hanur-Agry	0.86	324	*e*PG	Pb	21 01 02.8	-0.7
AGRB	Hanur-Agry	0.86	324	*e*Pg	Pb	21 01 02.8	-0.7
TATV	Tatvan	1.14	251	*i*P	Pg	21 01 06.4	-1.7
TATV				*i*S	Sg	21 01 22.1	-0.9
TATV	Tatvan	1.14	251	P	Pg	21 01 06.4	-1.7
TATV				S	Sg	21 01 22.1	-0.9
EKAR	Karacoban	1.29	287	*i*P	Pn	21 01 10.2	-0.5
EKAR				*i*S	Sn	21 01 33.0	+4.8
EKAR	Karacoban	1.29	287	P	Pn	21 01 10.2	-0.5
HAKT	HAKKARI	1.32	178	*i*P	Pn	21 01 09.5	-1.7
HAKT				*i*S	Sn	21 01 31.1	+2.0
EATA	Eleskirt	1.33	318	*i*P	Pg	21 01 10.6	-1.1
EATA				*i*S	Sn	21 01 30.8	+1.5
EATA	Eleskirt	1.33	318	P	Pg	21 01 10.6	-1.1
DIGO	Kars	1.54	352	*i*P	Pg	21 01 15.3	-0.5
DIGO	Kars	1.54	352	P	Pg	21 01 15.3	-0.5
CUKT	Cukurca	1.63	181	*e*PN	Pg	21 01 16.9	-0.6
CUKT	Cukurca	1.63	181	*i*P	Pn	21 01 15.5	+0.2
CUKT				*i*S	Sg	21 01 38.9	+0.2
CUKT	Cukurca	1.63	181	P	Pn	21 01 15.5	+0.2
CUKT	Cukurca	1.63	181	*e*Pn	Pg	21 01 16.9	-0.6
CUKT				S	Sg	21 01 38.9	+0.2
VRTB	Varto-Mus	1.73	280	*e*PN	Pb	21 01 17.6	-0.6
VRTB	Varto-Mus	1.73	280	*i*P	Pb	21 01 17.8	-0.4
VRTB				*i*S	Sg	21 01 40.5	-1.3
VRTB	Varto-Mus	1.73	280	*e*Pn	Pb	21 01 17.7	-0.6
VRTB				S	Sg	21 01 40.5	-1.3
HOMI	Horasan	1.78	311	*i*P	Pg	21 01 19.9	-0.3
HOMI				*i*S	Sg	21 01 47.5	+4.1
EAK	Akyaka	1.80	359	*i*P	Pg	21 01 21.6	+0.8
SENK	Senkaya-Erzuru	1.95	330	*e*PN	Pb	21 01 20.7	-1.4
SENK	Senkaya-Erzuru	1.95	330	*e*Pn	Pb	21 01 20.7	-1.4
SVAN	Silvan-Diyarba	2.06	250	*e*PN	Pb	21 01 22.9	-0.9
SVAN	Silvan-Diyarba	2.06	250	*e*Pn	Pb	21 01 22.9	-0.9
BNGB	Bing¨¶l	2.32	274	*e*PN	Pb	21 01 26.0	-2.3
BINT	Bingol	2.46	271	*e*Pn	Pn	21 01 26.0	-0.8
YEDI	Yedisu-Bingol	2.48	284	*e*PN	Pb	21 01 29.0	-2.0
YEDI	Yedisu-Bingol	2.48	284	*e*Pn	Pb	21 01 29.0	-2.0
PTK	Pertek	3.32	271	*e*PN	Pn	21 01 40.4	+1.8
PTK	Pertek	3.32	271	*e*Pn	Pn	21 01 40.4	+1.8

*IDC **27** 21:07:35.7±1.1, 35˚.21N×141˚.35E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/45, mbtmp

CLDR Caldiran 0.68 35 P **Pg 21 20 52.8 -3.1**
CLDR S **Sb 21 21 06.5 +0.3**
BASK Baskale_VAN 0.70 139 *i* P **Pg 21 20 53.8 -2.6**
BASK *i* S **Sb 21 21 06.6 -0.3**
BASK Baskale_VAN 0.70 139 P **Pg 21 20 53.8 -2.6**
BASK S **Sb 21 21 06.6 -0.3**
TATV Tatvan 0.91 265 *i* P **Pg 21 20 57.4 -2.9**
TATV *i* S **Sg 21 21 11.8 -0.4**
TATV Tatvan 0.91 265 P **Pg 21 20 57.4 -2.9**
TATV S **Sg 21 21 11.8 -0.4**
TUTA Tutak 0.94 330 *i* P **Pg 21 20 57.6 -3.3**
TUTA Tutak 0.94 330 P **Pg 21 20 57.6 -3.3**
DYDN Diyadin 0.98 12 *i* P **Pg 21 20 58.8 -2.8**
DYDN *i* S **Sn 21 21 16.9 +0.3**
DYDN Diyadin 0.98 12 P **Pg 21 20 58.8 -2.8**
DYDN S **Sn 21 21 16.9 +0.3**
AGRB Hanur-Agry 1.04 341 *e*PG **Pg 21 20 59.9 -2.9**
AGRB *e*SG **Sg 21 21 15.3 -1.1**
AGRB Hanur-Agry 1.04 341 *e*Pg **Pg 21 20 59.9 -2.9**
AGRB *e*Sg **Sg 21 21 15.3 -1.1**
HAKT HAKKARI 1.05 168 *i* P **Pg 21 20 59.7 -3.3**
HAKT *i* S **Sn 21 21 20.8 +2.3**
HAKT HAKKARI 1.05 168 P **Pg 21 20 59.7 -3.3**
HAKT S **Sn 21 21 20.8 +2.3**
EKAR Karacoban 1.25 303 *i* P **Pg 21 21 04.3 -2.6**
EKAR Karacoban 1.25 303 P **Pg 21 21 04.3 -2.6**
CUKT Cukurca 1.35 174 *e*PN **Pn 21 21 06.0 -1.6**
CUKT Cukurca 1.35 174 *i* P **Pn 21 21 05.1 -2.5**
CUKT Cukurca 1.35 174 P **Pn 21 21 05.1 -2.5**
CUKT Cukurca 1.35 174 *e*Pn **Pn 21 21 06.0 -1.6**
SIRN S¨–rnak 1.35 217 *i* P **Pn 21 21 05.6 -2.1**
SIRN S¨–rnak 1.35 217 P **Pn 21 21 05.6 -2.1**
EATA Eleskirt 1.47 331 *i* P **Pn 21 21 07.0 -2.5**
EATA *i* S **Sg 21 21 28.4 -1.6**
EATA Eleskirt 1.47 331 P **Pn 21 21 07.0 -2.5**
EATA S **Sg 21 21 28.4 -1.6**
VRTB Varto-Mus 1.64 291 *e*PN **Pn 21 21 09.7 -2.0**
VRTB Varto-Mus 1.64 291 *i* P **Pn 21 21 11.1 -0.6**
VRTB *i* S **Sg 21 21 37.3 +1.8**
VRTB Varto-Mus 1.64 291 *e*Pn **Pn 21 21 09.7 -2.0**
VRTB Varto-Mus 1.64 291 P **Pn 21 21 11.1 -0.6**
NAX Nakhchivan 1.72 69 ⇑P **Pn 21 21 12.9 +0.2**
SNR=85
NAX ⇑S **Sg 21 21 39.4 +1.4**
NAX Nakhchivan 1.72 69 P **Pn 21 21 12.9 +0.2**
SNR=85
NAX S **Sg 21 21 39.4 +1.4**
SVAN Silvan-Diyarba 1.80 257 *e*PN **Pn 21 21 13.0 -0.9**
SVAN Silvan-Diyarba 1.80 257 *i* P **Pn 21 21 13.2 -0.7**
SVAN *i* S **Sg 21 21 41.4 +0.6**
SVAN Silvan-Diyarba 1.80 257 *e*Pn **Pn 21 21 13.0 -0.9**
BNGL BINGOL 1.81 282 *i* P **Pn 21 21 14.2 0.0**
BNGL *i* S **Sg 21 21 41.7 +0.5**
DIGO Kars 1.82 359 *i* P **Pn 21 21 13.5 -0.9**
DIGO Kars 1.82 359 P **Pn 21 21 13.5 -0.9**
BTMN Batman 1.83 248 *i* P **Pn 21 21 14.7 +0.4**
BTMN *i* S **Sg 21 21 41.0 -0.7**
BTMN Batman 1.83 248 P **Pn 21 21 14.7 +0.4**
GNI Garni 1.86 33 Pn **Pn 21 21 14.2 -0.6**
82nm,0.3s,baz=226,slow=3.2,SNR=348
GNI LR LR 21 22 15.9
comp=Z,2µm,18.8s,baz=248,slow=51
HOMI Horasan 1.87 321 *i* P **Pn 21 21 14.7 -0.3**
HOMI *i* S **Sg 21 21 46.7 +3.7**
EAK Akyaka 2.10 4 *i* P **Pn 21 21 18.2 +0.1**
EAK Akyaka 2.10 4 P **Pn 21 21 18.2 +0.1**
SENK Senkaya-Erzuru 2.14 338 *e*PN **Pn 21 21 17.1 -1.5**
SENK Senkaya-Erzuru 2.14 338 *e*Pn **Pn 21 21 17.2 -1.5**
BNGB Bing¨¶l 2.18 281 *e*PN **Pn 21 21 18.1 -1.1**
BINT Bingol 2.31 278 *e*Pn **Pn 21 21 18.1 -2.9**
YEDI Yedisu-Bingol 2.40 292 *e*PN **Pn 21 21 21.3 -0.8**
YEDI Yedisu-Bingol 2.40 292 *e*Pn **Pn 21 21 21.3 -0.8**
MAZI Mazidag 2.61 245 *e*PN **Pn 21 21 24.6 -0.4**
MAZI Mazidag 2.61 245 *e*Pn **Pn 21 21 24.6 -0.4**
GDB GEDABAY 2.79 39 ⇑P **Pn 21 21 29.4 +1.9**
SNR=5.1
GDB ⇓S **Sg 21 22 12.8 +0.5**
GDB GEDABAY 2.79 39 P **Pn 21 21 29.4 +1.9**
SNR=5.1
AKH Akhalkalaki 2.82 1 *e*PN **Pn 21 21 27.2 -0.7**
AKH Akhalkalaki 2.82 1 *e*Pn **Pn 21 21 27.2 -0.7**
QZX Qazax, Azerbai 2.89 31 ⇓P **Pn 21 21 30.1 +1.4**
SNR=42
QZX ⇑S **Sg 21 22 15.9 +0.4**
QZX Qazax, Azerbai 2.89 31 P **Pn 21 21 30.1 +1.4**
SNR=42
GANJ Ganja 3.04 47 P **Pn 21 21 31.0 +0.2**
SNR=48
GANJ ⇓S **Sg 21 22 19.3 -1.0**
GANJ Ganja 3.04 47 P **Pn 21 21 31.0 +0.2**
SNR=48
ERZN Erzincan 3.05 290 *e*PN **Pn 21 21 31.1 0.0**
PTK Pertek 3.17 277 *e*PN **Pn 21 21 31.5 -1.3**
PTK Pertek 3.17 277 *e*Pn **Pn 21 21 31.5 -1.3**
DGRG David-gareji 3.23 27 P **Pb 21 21 39.6 -0.5**
DGRG S **Sg 21 22 31.1 +4.7**
DGRG David-gareji 3.23 27 P **Pb 21 21 39.6 -0.5**
SVRC Sivrice-ELAZID 3.24 268 *e*PN **Pn 21 21 33.4 -0.3**
SVRC Sivrice-ELAZID 3.24 268 *e*Pn **Pn 21 21 33.4 -0.3**
TBLG Delisi 3.30 17 *e*PN **Pn 21 21 33.4 -1.0**
TBLG Delisi 3.30 17 P **Pb 21 21 39.2 -2.1**
TBLG S **Sg 21 22 27.6 -1.1**
TBLG Delisi 3.30 17 P **Pb 21 21 39.2 -2.1**
TBLG S **Sg 21 22 27.5 -1.1**
TBLG Delisi 3.30 17 *e*Pn **Pn 21 21 33.4 -1.0**
TBLG Delisi 3.30 17 P **Pb 21 21 39.2 -2.1**
BRDA Brd 3.35 59 ⇓P **Pn 21 21 37.0 +1.9**
SNR=24
BRDA ⇓S **Sg 21 22 26.9 -3.6**
BRDA Brd 3.35 59 P **Pn 21 21 37.0 +1.9**
SNR=24
MNGR Mingechevir, A 3.57 51 ⇑P **Pn 21 21 39.9 +1.8**
SNR=52
MNGR Mingechevir, A 3.57 51 P **Pn 21 21 39.9 +1.8**
SNR=52
DUS Dusheti 3.63 15 P **Pb 21 21 47.4 +0.3**
DUS Dusheti 3.63 15 P **Pb 21 21 47.3 +0.3**
ZRD Zardab 3.71 62 ⇓P **Pn 21 21 41.6 +1.7**
SNR=14
ZRD ⇑S **Sb 21 22 35.9 +2.8**
ZRD Zardab 3.71 62 P **Pn 21 21 41.6 +1.7**
SNR=14
URFA Urfa 3.81 254 *e*PN **Pn 21 21 41.7 +0.2**
URFA Urfa 3.81 254 *e*Pn **Pn 21 21 41.7 +0.2**
LRK Lerik 3.85 88 ⇓P **Pn 21 21 42.1 0.0**
SNR=5.2
LRK ⇑S **Sb 21 22 35.5 -2.0**
LRK Lerik 3.85 88 P **Pn 21 21 42.1 0.0**
SNR=5.2
LRK S **Sb 21 22 35.5 -2.0**
SEKA Sheki 3.91 47 ⇑P **Pn 21 21 45.2 +2.4**
SNR=9.8
SEKA ⇑S **Sb 21 22 42.5 +3.4**
SEKA Sheki 3.91 47 P **Pn 21 21 45.2 +2.4**
SNR=9.8
ZKTA Zakatala 3.91 38 ⇓P **Pn 21 21 44.8 +2.0**
SNR=17
ZKTA ⇑S **Sb 21 22 41.4 +2.3**
GLBA Clilabad 3.93 79 ⇓P **Pn 21 21 43.5 +0.5**
SNR=8.9
GLBA Clilabad 3.93 79 P **Pn 21 21 43.5 +0.5**
SNR=8.9
ONI Oni 4.00 0 P **Pb 21 21 53.7 +0.4**
ONI S **Sg 21 22 53.0 +1.9**
ONI Oni 4.00 0 P **Pb 21 21 53.7 +0.4**
KDMR Kurdemir 4.09 63 ⇓P **Pn 21 21 47.0 +1.8**
SNR=9.9
KDMR Kurdemir 4.09 63 P **Pn 21 21 47.0 +1.8**
SNR=9.9
QBL Gabala 4.14 54 ⇓P **Pn 21 21 47.9 +2.0**
SNR=34
QBL Gabala 4.14 54 P **Pn 21 21 47.9 +2.0**
SNR=34
LKRN Lenkeran, Azer 4.19 87 ⇓P **Pn 21 21 46.8 +0.2**
SNR=4.7
LKRN ⇑S **Sb 21 22 43.8 -3.4**
LKRN Lenkeran, Azer 4.19 87 P **Pn 21 21 46.8 +0.2**
SNR=4.7
LKRN S **Sb 21 22 43.8 -3.4**
ASTR Astara 4.21 89 ⇓P **Pn 21 21 46.4 -0.4**
SNR=3.4
ASTR ⇓S **Sb 21 22 43.0 -4.5**
ASTR Astara 4.21 89 P **Pn 21 21 46.4 -0.4**
SNR=3.4
ASTR S **Sb 21 22 43.0 -4.5**
ZEI Tsey 4.21 5 *e*P **Pn 21 21 47.4 +0.3**
ZEI pmax pmax
comp=Z,28nm,1.0s
IML Ismayilli 4.28 58 ⇓P **Pn 21 21 49.7 +1.8**
SNR=11
IML Ismayilli 4.28 58 P **Pn 21 21 49.7 +1.8**
SNR=11
ESPY Espiye-Giresun 4.30 304 *e*PN **Pn 21 21 49.1 +0.9**
ESPY Espiye-Giresun 4.30 304 *e*Pn **Pn 21 21 49.1 +0.9**
XNQ Khinaliq 4.45 53 ⇓P **Pn 21 21 52.0 +1.6**
SNR=16
XNQ ⇓P **Pn 21 21 52.0 +1.6**
SNR=16
XNQ Khinaliq 4.45 53 P **Pn 21 21 52.0 +1.6**
SNR=16
PQL Pirkuli 4.55 60 ⇑P **Pn 21 21 53.2 +1.5**
SNR=6.0
PQL Pirkuli 4.55 60 P **Pn 21 21 53.2 +1.5**
SNR=6.0
DARE Darende-Malaty 4.66 272 *e*PN **Pn 21 21 53.3 +0.2**
DARE Darende-Malaty 4.66 272 *e*Pn **Pn 21 21 53.3 +0.2**
GBS Qobustan 4.69 64 ⇑P **Pn 21 21 55.1 +1.6**
SNR=4.5
GBS Qobustan 4.69 64 P **Pn 21 21 55.1 +1.6**
SNR=4.5
NEY Neytrino 4.69 354⇑*e*P **Pn 21 21 55.6 +2.0**
NEY Neytrino 4.69 354 *e*P **Pn 21 21 55.6 +2.0**
QSAR Qusar 4.72 50 ⇓P **Pn 21 21 55.8 +1.8**
SNR=6.2
QSAR Qusar 4.72 50 P **Pn 21 21 55.8 +1.8**
SNR=6.2
QUBA Quba, Azerbaij 4.78 53 ⇓P **Pn 21 21 56.4 +1.7**
SNR=5.2
QUBA Quba, Azerbaij 4.78 53 P **Pn 21 21 56.4 +1.7**
SNR=5.2
ATGJ Altiaghaj 4.82 60 ⇑P **Pn 21 21 56.7 +1.4**
SNR=4.8
ATGJ Altiaghaj 4.82 60 P **Pn 21 21 56.7 +1.4**
SNR=4.8
SIZA Siyzn 4.89 58 ⇓P **Pn 21 21 58.1 +1.7**
SNR=5.9
SIZA Siyzn 4.89 58 P **Pn 21 21 58.1 +1.7**
SNR=5.9
NCK Nalchik 4.91 1⇑*e*P **Pn 21 21 58.0 +1.5**
NCK Nalchik 4.91 1 *e*P **Pn 21 21 58.0 +1.5**
GROC Groznyy 4.95 21 *e*P **Pb 21 22 06.3 -3.1**
GROC pmax pmax
comp=Z,68nm,1.1s
KBZ Khabaz 5.15 356 Pn **Pn 21 22 02.3 +2.5**
comp=Z,0.0nm,0.3s,baz=164,slow=10,SNR=4.3
KBZ LR LR 21 24 20.1
comp=Z,642nm,19.4s,baz=161,slow=42
MAK Makhachkala 5.36 34 *e*P **Pn 21 22 03.3 +0.7**
MAK *e*S **Sn 21 23 04.4 +0.2**
MAK pmax pmax
comp=Z,207nm,1.3s
MAK MLR MLR
comp=Z,1µm,15.0s
MAK Makhachkala 5.36 34 *e*P **Pn 21 22 03.3 +0.7**
comp=Z,207nm,1.3s
BHD Baghdad 5.36 171 *e*Pn **Pn 21 22 07.1 +4.4**
SNR=39
BHD *e*Sn **Sn 21 23 05.1 +0.6**
SNR=39
KIV Kislovodsk 5.39 354 *e*P **Pn 21 22 04.5 +1.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 5.39 354 *e*P **Pn 21 22 04.5 +1.3**
comp=Z,7.0nm,1.0s
KVAR Kislovodsk Arr 5.39 354 LR LR 21 24 28.0
comp=Z,558nm,18.8s,baz=142,slow=42
RTB Rutbah 6.10 205 *e*Pn **Pn 21 22 10.9 -2.0**
SNR=39
MMAI Mount Meron Ar 8.56 232 Pn **Pn 21 22 49.0 +2.2**
comp=Z,0.5nm,0.3s,baz=65,slow=15,SNR=4.1
GEYT Alibeck 11.57 89 Pn **Pn 21 23 26.4 -1.5**
comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=4.2
GEYT LR LR 21 29 18.2
comp=Z,64nm,19.4s,baz=285,slow=45
AKTO Aktyubinsk 15.73 36 Pn **Pn 21 24 21.7 -2.5**
comp=Z,0.1nm,0.3s,baz=203,slow=10,SNR=7.0
AKTO LR LR 21 32 05.9
comp=Z,242nm,18.6s,baz=234,slow=44
AKASG Malin Array Be 15.74 325 Pn **Pn 21 24 23.3 -1.0**
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=11
AKASG Malin Array Be 15.74 325 *i* P **Pn 21 24 24.0 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 15.74 325⇑*i*P **Pn 21 24 24.6 +0.3**
KIEV pmax pmax
comp=Z,7.0nm,1.5s
OBN Obninsk 17.17 347 P **Pn 21 24 42.1 -0.3**
comp=Z,1.9nm,0.3s,baz=123,slow=11,SNR=4.3
OBN LR LR 21 31 51.0
comp=Z,130nm,19.5s,baz=268,slow=39
OBN Obninsk 17.17 347⇓*e*P **Pn 21 24 42.9 +0.5**
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,124nm,16.0s
OBN Obninsk 17.17 347 *e*P **Pn 21 24 42.9 +0.5**
comp=Z,124nm,16.0s
WSAR Wadi Sarin 20.06 135 LR LR 21 33 23.8
comp=Z,48nm,21.5s,baz=324,slow=38
VYHS Vyhne 20.31 307 *e*P Pn 21 25 25.1 +4.4
VYHS pmax pmax
comp=Z,31nm,2.8s
VYHS Vyhne 20.31 307 *e*P Pn 21 25 25.1 +4.4
ARU Arti 20.49 24 P **P 21 25 20.0 -0.4**
comp=Z,2.3nm,0.6s,baz=227,slow=8.6,SNR=7.0
ARU LR LR 21 35 19.4
comp=Z,90nm,19.4s,baz=203,slow=43
ARU Arti 20.49 24*c i*P **P 21 25 19.9 -0.6**
ARU 21 25 38.8
ARU S **S 21 29 11.0 +1.5**
ARU SS **SnSn 21 29 28.8 +0.9**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 20.49 24 *i* P **P 21 25 19.9 -0.6**
comp=Z,8.0nm,1.2s
ARU S **S 21 29 11.0 +1.5**
SVE Sverdlovsk 21.50 26 *e*P **P 21 25 35.7 +4.3**
KLMR Klimovskoe 22.42 355 *e*P **P 21 25 40.1 -1.1**
KLMR pmax pmax
comp=Z,26nm,1.3s
KLMR Klimovskoe 22.42 355 *e*P **P 21 25 40.1 -1.1**
comp=Z,26nm,1.3s
BRVK Borovoye 23.47 43⇓*e*P **P 21 25 52.8 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 23.47 43 *e*P **P 21 25 52.8 +0.6**
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 23.52 43 P **P 21 25 52.5 -0.1**
comp=Z,1.1nm,0.8s,baz=230,slow=11,SNR=8.9
AAK Ala-Archa 23.86 70 LR LR 21 37 14.0
comp=Z,81nm,19.2s,baz=242,slow=42
AAK Ala-Archa 23.86 70⇑*e*P **P 21 25 57.4 +1.1**
AAK pmax pmax
comp=Z,14nm,2.2s
AAK Ala-Archa 23.86 70 *e*P **P 21 25 57.4 +1.1**
comp=Z,14nm,2.2s
FRU Bishkek 23.95 70 *e*P **P 21 25 56.0 -1.0**
FINES FINESS Array B 25.29 340 P **P 21 26 08.2 -0.7**
comp=Z,0.9nm,0.6s,baz=153,slow=13,SNR=4.1
FINES LR LR 21 37 07.8
comp=Z,69nm,19.9s,baz=140,slow=39
FINES FINESS Array B 25.29 340 *e*P **P 21 26 10.0 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 25.29 340 *e*P **P 21 26 10.0 +1.1**
comp=Z,2.0nm,0.9s
ATD Arta Tunnel 26.95 181 LR LR 21 37 41.7
comp=Z,109nm,19.3s,baz=57,slow=38
KURBB Kurchatov Arra 27.47 53 P **P 21 26 29.3 +0.5**
comp=Z,3.2nm,0.8s,baz=263,slow=9.0,SNR=25
KURK Kurchatov 27.55 52⇓*e*P **P 21 26 29.7 +0.2**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 27.55 52 *e*P **P 21 26 29.7 +0.2**
comp=Z,11nm,0.7s
HFS Hagfors 28.55 329 LR LR 21 39 23.6
comp=Z,68nm,20.0s,baz=124,slow=39
MKAR Makanchi Array 29.48 61 P **P 21 26 47.2 +0.5**
comp=Z,1.0nm,0.8s,baz=258,slow=4.8,SNR=7.7
MKAR LR LR 21 40 28.0
comp=Z,103nm,18.0s,baz=258,slow=40
NOA NORSAR Array B 30.08 329 LR LR 21 39 43.9
comp=Z,45nm,18.3s,baz=275,slow=38
ZALV Zalesovo Beam 31.95 48 P **P 21 27 08.9 +0.5**
comp=Z,0.7nm,0.6s,baz=250,slow=8.8,SNR=4.5
ZALV LR LR 21 42 11.4
comp=Z,82nm,18.8s,baz=42,slow=40
ARCES ARCESS Array B 32.47 348 LR LR 21 40 54.7
comp=Z,104nm,18.7s,baz=208,slow=37
NRIK Noril'sk 38.71 23 LR LR 21 47 46.2
comp=Z,51nm,18.1s,baz=156,slow=42
KMBO Kilima Mbogo 39.93 190 LR LR 21 45 20.1
comp=Z,74nm,19.8s,baz=13,slow=37
TORD Torodi Ar. Bea 44.76 247 P **P 21 28 54.5 -2.0**
comp=Z,0.5nm,0.8s,baz=79,slow=7.5,SNR=5.4
SONM Songino Array 45.66 57 LR LR 21 50 23.6
comp=Z,73nm,18.1s,baz=307,slow=39
ULN Ulaanbaatar 46.08 57⇓*e*P **P 21 29 07.3 +0.5**
ULN pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 46.08 57 *e*P **P 21 29 07.3 +0.5**
comp=Z,3.0nm,1.2s
CMAR Chiang Mai Arr 51.93 96 P **P 21 29 52.0 +0.2**
comp=Z,0.5nm,0.8s,baz=301,slow=8.1,SNR=4.7
CMAR Chiang Mai Arr 51.93 96 *e*P **P 21 29 55.4 +3.6**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 52.49 23⇑*e*P **P 21 29 58.0 +2.8**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
TIXI Tiksi 52.49 23 *e*P **P 21 29 58.0 +2.8**
comp=Z,3.0nm,1.4s
KSRS Korea Array 64.16 62 P **P 21 31 15.7 -1.5**
comp=Z,0.5nm,0.5s,baz=298,slow=8.1,SNR=5.0
KSRS Korea Array 64.16 62 *e*P **P 21 31 18.2 +0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 64.16 62 *e*P **P 21 31 18.2 +0.9**
comp=Z,1.0nm,0.5s
BOSA Boshof 68.98 197 LR LR 22 04 11.1
comp=Z,67nm,18.1s,baz=34,slow=38
MJAR Matsushiro Arr 71.60 58 LR LR 22 06 15.9
comp=Z,46nm,19.3s,baz=80,slow=38
PETK Petropavlovsk- 72.46 35 LR LR 22 08 28.2
comp=Z,48nm,19.4s,baz=90,slow=40
YKA Yellowknife Ar 77.72 350 LR LR 22 08 30.5
comp=Z,4.9nm,18.2s,baz=0.0,slow=37

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*BJI **27** 21:25:56.3, 20.˚46S×178.˚73W, h628km, mb4.6/27, mB4.9/18*
*ISCJB **27** 21:25:57.6±0.2, 20.˚78S±0.˚04×179.˚04W±0.˚05, h645km, mb4.6/85, Error ellipse: s-maj=6.3km s-min=4.8km az=38.1*
*NEIC **27** 21:25:58.5±0.5, 20.˚72S×179.˚02W, h641km±6km, mb4.9/54, Error ellipse: s-maj=7.0km s-min=5.5km az=133.0*
*IDC **27** 21:25:58.1±1.2, 20.˚69S×179.˚02W, h631km±14km, mb3.8/17, mb1 4.0/19, mb1mx3.8/36, mbtmp4.8/19, Error ellipse: s-maj=12.8km s-min=12.0km az=108.0*
*MOS **27** 21:26:01.1±2.7, 20.˚81S×179.˚54W, h646km, mb4.8/11, Error ellipse: s-maj=12.3km s-min=10.0km az=35.8*

ISC 27 21:25:58.6±0.3,**20.˚79S**±0.˚05×**178.˚93W**±0.˚05,**h645**km, **n267**,σ1$**25**/294,**mb4.8**/85,**27C-16D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**316**	*e*P	**P**	**21 27 29.1**	**+0.4**
MSVF	**Nonsavu**	**4.17**	**316**	*e*P	**P**	**21 27 29.1**	**+0.4**
RAO	**Raoul Island**	**8.48**	**174**	P	**P**	**21 28 03.5**	**-0.3**
48nm,0.3s,baz=89,slow=22,SNR=3.7							
RAO	**Raoul Island**	**8.48**	**174**	*e*P	**P**	**21 28 02.4**	**-1.4**
RAO	**Raoul Island**	**8.48**	**174**	*e*P	**P**	**21 28 02.4**	**-1.4**
AFI	**Afiamalu**	**9.67**	**46**	P	**P**	**21 28 13.4**	**-1.9**
11nm,0.3s,baz=24,slow=1.1,SNR=12							
AFI				S	**S**	**21 30 01.7**	**-5.7**
17nm,0.3s,baz=26,slow=21,SNR=8.7							
AFI	**Afiamalu**	**9.67**	**46**	*e*P	**P**	**21 28 13.5**	**-1.9**
AFI				*e*S	**S**	**21 30 03.0**	**-4.3**
DZM	**Mont Dzumac**	**13.68**	**262**	P	**P**	**21 28 53.1**	**+0.1**
2.8nm,0.3s,baz=84,slow=16,SNR=34							
DZM				S	**S**	**21 31 16.6**	**+1.2**
baz=266,slow=9.9,SNR=5.3							
DZM	**Mont Dzumac**	**13.68**	**262**	*e*P	**P**	**21 28 52.6**	**-0.4**
DZM				*e*S	**S**	**21 31 16.6**	**+1.2**
OUZ	**Omahuta**	**15.81**	**203**	*e*P	**P**	**21 29 13.5**	**+1.3**
61nm,0.6s							
MXZ	**Matakaoa Point**	**16.89**	**188**	*e*P	**P**	**21 29 22.6**	**+0.6**
38nm,0.9s							
URZ	**Urewera**	**17.74**	**190**	P	**P**	**21 29 27.9**	**-1.9**
5.3nm,0.3s,baz=299,slow=4.1,SNR=19							
URZ				S	**S**	**21 32 15.7**	**-5.2**
0.5nm,0.3s,baz=252,slow=18,SNR=4.6							
URZ	**Urewera**	**17.74**	**190**	*e*P	**P**	**21 29 28.3**	**-1.5**
22nm,0.5s							
URZ				S	**S**	**21 32 15.7**	**-5.2**
BKZ	**Black Stump Fm**	**18.73**	**191**	*e*P	**P**	**21 29 41.1**	**+2.2**
9.8nm,0.6s							
THZ	**Tophouse**	**22.02**	**196**	*e*P	**P**	**21 30 09.1**	**+0.9**
112nm,1.9s							
LHI	**Lord Howe Isla**	**22.41**	**237**	*e*P	**P**	**21 30 10.8**	**-1.0**
263nm,1.5s							
KHZ	**Kahutara**	**22.48**	**195**	*e*P	**P**	**21 30 12.4**	**+0.3**
41nm,1.2s							
LTZ	**Lake Taylor**	**23.14**	**197**	*e*P	**P**	**21 30 18.8**	**+0.6**
123nm,1.9s							
OXZ	**Oxford**	**23.71**	**197**	*e*P	**P**	**21 30 23.3**	**+0.2**
30nm,1.2s							
FOZ	**Fox Glacier**	**24.55**	**200**	*e*P	**P**	**21 30 30.9**	**+0.4**
101nm,1.9s							
MLZ	**Mavora Lakes**	**26.73**	**201**	*e*P	**P**	**21 30 50.1**	**+0.4**
24nm,0.8s							
WHZ	**Wether Hill Ro**	**27.26**	**200**	*e*P	**P**	**21 30 54.8**	**+0.6**
60nm,1.3s							
PPT2	**Papeete2**	**27.89**	**88**	*e*LR	LR	21 37 58.8	
101nm,28.0s							
EIDS	**Eidsvold**	**27.93**	**255**	*e*P	**P**	**21 30 60.0**	**-0.4**
8.0nm,0.4s							
XMAS	**Kiritimati**	**30.95**	**45**	*e*P	**P**	**21 31 26.5**	**+0.1**
52nm,0.8s							
CTA	**Charters Tower**	**32.59**	**265**	P	**P**	**21 31 40.2**	**0.0**
26nm,0.5s,baz=97,slow=10,SNR=43							
CTAO	**Charters Tower**	**32.59**	**265**	*e*P	**P**	**21 31 39.5**	**-0.7**
CTAO				pmax	pmax		
comp=Z,24nm,0.8s							
CTAO	**Charters Tower**	**32.59**	**265**	*e*P	**P**	**21 31 39.5**	**-0.7**
comp=Z,24nm,0.8s							
PMG	**Port Moresby**	**34.56**	**284**	P	**P**	**21 31 56.3**	**-0.3**
comp=Z,37nm,0.7s,baz=97,slow=7.6,SNR=11							
PMG	**Port Moresby**	**34.56**	**284***d i*P		**P**	**21 31 56.2**	**-0.3**
PMG				pmax	pmax		
comp=Z,147nm,0.8s							
PMG	**Port Moresby**	**34.56**	**284**	*e*P	**P**	**21 31 55.9**	**-0.7**
comp=Z,36nm,0.8s							
COEN	**Coen**	**36.73**	**274**	*e*P	**P**	**21 32 14.5**	**+0.2**
comp=Z,20nm,1.0s							
STKA	**Stephens Creek**	**36.88**	**244**	P	**P**	**21 32 15.8**	**+0.5**
comp=Z,6.7nm,0.5s,baz=90,slow=9.9,SNR=29							
STKA				PcP	**PcP**	**21 34 19.0**	**+0.3**
comp=Z,3.6nm,0.7s,baz=17,slow=7.7,SNR=4.7							
TAOE	**Nuku Hiva Isla**	**39.22**	**78**	*e*P	**P**	**21 32 35.6**	**+1.1**
comp=Z,107nm,1.2s							
BBOO	**Buckleboo**	**41.64**	**244**	*e*P	**P**	**21 32 53.1**	**-0.2**
comp=Z,32nm,0.4s							
JAY	**Jayapura**	**43.31**	**289**	P	**P**	**21 33 06.5**	**0.0**
AS31	**Alice Springs**	**43.60**	**257**	*e*P	**P**	**21 33 08.4**	**-0.3**
comp=Z,17nm,0.8s							
AS31				*e*S	**S**	**21 38 51.1**	**-2.5**
ASAR	**Alice Springs**	**43.60**	**257**	P	**P**	**21 33 08.4**	**-0.3**
comp=Z,40nm,0.5s,baz=93,slow=7.8,SNR=552							
ASAR				PcP	**PcP**	**21 34 41.0**	**-0.1**
comp=Z,6.5nm,0.6s,baz=103,slow=3.9,SNR=11							
ASAR				ScP	**ScP**	**21 37 34.9**	**+2.3**
comp=Z,0.6nm,1.0s,baz=119,slow=3.0,SNR=4.2							
ASAR				S	**S**	**21 38 50.3**	**-3.3**
comp=Z,17nm,0.8s,baz=93,slow=15,SNR=53							
WB2	**Warramunga Arr**	**43.69**	**263**	*e*P	**P**	**21 33 08.5**	**-0.8**
comp=Z,57nm,0.9s							
WRAB	**Tennant Creek**	**43.69**	**263***d i*P		**P**	**21 33 08.3**	**-1.0**
WRAB				pmax	pmax		
comp=Z,124nm,1.0s							
WRAB	**Tennant Creek**	**43.69**	**263**	*e*P	**P**	**21 33 08.4**	**-1.0**
comp=Z,53nm,1.0s							
WRA	**Warramunga Arr**	**43.70**	**263**	P	**P**	**21 33 08.3**	**-1.1**
comp=Z,37nm,0.3s,baz=97,slow=7.4,SNR=408							

WRA PcP **PcP** **21 34 41.6 +0.2**
comp=Z,3.3nm,0.8s,baz=89,slow=4.1,SNR=4.8
WRA S **S** **21 38 50.9 -4.1**
comp=Z,5.8nm,0.9s,baz=98,slow=12,SNR=13
KEKH Kekaha 46.47 25 *eP* **P** **21 33 30.1 -0.2**
comp=Z,216nm,1.5s
HPAH Hawaii Prepara 46.51 31 *eP* **P** **21 33 30.9 +0.2**
comp=Z,81nm,0.9s
OPA Opana 46.91 27 *eP* **P** **21 33 33.2 -0.3**
OPA pmax pmax
comp=Z,200nm,1.3s
OPA Opana 46.91 27 *eP* **P** **21 33 33.2 -0.3**
comp=Z,200nm,1.3s
MTN Manton Dam 48.29 271 *eP* **P** **21 33 43.2 -0.9**
comp=Z,59nm,0.5s
FORT Forrest 48.38 247 *eP* **P** **21 33 43.7 -0.8**
comp=Z,389nm,0.6s
GUMO Guam 49.32 311 *eP* **P** **21 33 49.9 -1.6**
comp=Z,309nm,1.6s
ANA2 Anatahan 50.65 314 *eP* **P** **21 34 00.3 -0.9**
FAKI Fak Fak 50.72 284 *eP* **P** **21 34 00.8 -0.9**
comp=Z,36nm,1.3s
FITZ Fitzroy Crossi 52.12 263 P **P** **21 34 11.4 -0.3**
comp=Z,12nm,0.5s,baz=107,slow=4.1,SNR=61
FITZ Fitzroy Crossi 52.12 263 *eP* **P** **21 34 11.5 -0.2**
comp=Z,13nm,0.6s
AAI Ambon 54.12 281 P **P** **21 34 24.3 -1.5**
AAI pmax pmax
comp=Z,56nm,0.6s
SOEI Soe 55.64 272 *eP* **P** **21 34 37.4 +0.9**
comp=Z,102nm,0.7s
MBWA Marble Bar 56.94 258 *eP* **P** **21 34 44.6 -0.6**
comp=Z,30nm,0.8s
NWAO Narrogin (SRO) 57.46 244 *eP* **P** **21 34 48.9 +0.4**
NWAO pmax pmax
comp=Z,53nm,1.4s
NWAO Narrogin (SRO) 57.46 244 *eP* **P** **21 34 48.9 +0.4**
comp=Z,52nm,1.4s
SBA Scott Base 57.53 184 *eP* **P** **21 34 50.3 +2.2**
SBA pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 57.53 184 *eP* **P** **21 34 50.3 +2.2**
comp=Z,10nm,1.0s
VNDA Vanda 57.55 185 P **P** **21 34 50.2 +1.9**
comp=Z,2.0nm,0.5s,baz=1.0,slow=6.6,SNR=26
VNDA Vanda 57.55 185 *eP* **P** **21 34 49.5 +1.2**
VNDA Vanda 57.55 185 *eP* **P** **21 34 49.5 +1.2**
comp=Z,3.0nm,0.8s
MMRI Maumere 57.89 273 *eP* **P** **21 34 50.9 -0.8**
comp=Z,60nm,1.1s
LUWI Luwuk 60.13 281 *eP* **P** **21 35 06.7 +0.1**
comp=Z,70nm,1.2s
PCI Palu 62.88 280 P **P** **21 35 25.9 +1.5**
PCI pmax pmax
comp=Z,78nm,0.9s
MYLDM Lahad Datu 66.57 286 *eP* **P** **21 35 47.9 +0.5**
comp=Z,17nm,0.9s
QSPA South Pole Qui 69.28 180 *eP* **P** **21 36 04.2 +1.1**
comp=Z,60nm,0.8s
MJAR Matsushiro Arr 69.93 324 P **P** **21 36 06.4 -0.8**
comp=Z,6.3nm,0.7s,baz=157,slow=5.9,SNR=16
MAJO Matsushiro 69.93 324 *d iP* **P** **21 36 06.7 -0.5**
MAJO pmax pmax
comp=Z,32nm,0.6s
MAT Matsushiro 69.93 324 P **P** **21 36 06.7 -0.5**
KSM Kuching 72.59 278 *eP* **P** **21 36 23.2 +0.1**
comp=Z,32nm,0.8s
TWG Pinlang 72.80 303 *eP* **P** **21 36 22.1 -2.0**
comp=Z,83nm,0.6s
TPUB Ta-pu 73.40 303 *eP* **P** **21 36 26.3 -1.3**
comp=Z,50nm,0.7s
SSLB Suanglung 73.41 304 *eP* **P** **21 36 26.1 -1.4**
comp=Z,23nm,0.9s
PETK Petropavlovsk- 76.33 346 P **P** **21 36 43.2 +0.2**
comp=Z,8.3nm,0.8s,baz=121,slow=7.4,SNR=6.0
KSRS Korea Array 76.53 319 P **P** **21 36 45.0 +0.5**
comp=Z,1.9nm,0.6s,baz=128,slow=5.8,SNR=9.6
KSAR Wonju Array Be 76.55 319 P **P** **21 36 45.0 +0.4**
KSAR Wonju Array Be 76.55 319 P **P** **21 36 45.0 +0.4**
MYKOM Kota Tinggi 78.70 276 *eP* **P** **21 36 56.8 +0.1**
comp=Z,23nm,0.8s
USRK Ussuriysk Ar. 78.72 326 P **P** **21 36 57.3 +1.2**
comp=Z,7.4nm,0.7s,baz=122,slow=3.2,SNR=16
BPIM Pinnacles 78.86 44 *eP* **P** **21 36 57.6 +0.6**
SKG Skaggs Springs 79.02 41 *eP* **P** **21 36 58.5 +0.7**
NJ2 Nanjing 79.39 310 *eP* **P** **21 37 00.5 +0.6**
NJ2 pmax pmax
comp=Z,17nm,0.5s
HABR Khabarovsk 80.27 331 *eP* **P** **21 37 02.8 -1.2**
HABR *e* 21 40 16.3
HABR *eS* **S** **21 46 19.6 +1.6**
HABR *eSS* **SS** **21 51 49.3 -0.6**
HABR *eSSS* SSS 21 55 22.6
HABR pmax pmax
comp=Z,34nm,1.7s
HABR pmax pmax
comp=N,21nm,1.7s
HABR pmax pmax
comp=E,21nm,1.7s
HABR MLR MLR
comp=Z,43nm,21.0s
MAW Mawson 81.00 200 P **P** **21 37 07.9 +0.4**
comp=Z,3.9nm,0.6s,baz=123,slow=6.5,SNR=17
MAW Mawson 81.00 200 *eP* **P** **21 37 08.1 +0.5**
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 81.00 200 *eP* **P** **21 37 08.1 +0.5**
comp=Z,1.0nm,0.9s
WAKR Walker 81.15 43 *eP* **P** **21 37 08.2 -0.9**
comp=Z,3.7nm,0.8s
PNTR Pine Nut 81.38 43 *eP* **P** **21 37 11.8 +1.5**
comp=Z,10nm,0.9s
CN2 Changchun 82.00 323 *eP* **P** **21 37 11.0 -2.0**
214A Organ Pipe Nat 82.18 52 *eP* **P** **21 37 15.2 +1.0**
comp=Z,111nm,1.0s
IPM Ipoh 82.30 278 *eP* **P** **21 37 15.7 +0.4**
comp=Z,24nm,0.7s
KVN Kaiserville 82.32 43 P **P** **21 37 16.7 +1.7**
TPNV Topopah Spring 82.37 46 *eP* **P** **21 37 16.3 +1.0**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 82.37 46 *eP* **P** **21 37 16.3 +1.0**
comp=Z,3.1nm,0.9s
PSI Prapat 83.65 275 *eP* **P** **21 37 21.0 -1.1**
PSI pmax pmax
comp=Z,14nm,0.8s
PSI Prapat 83.65 275 *eP* **P** **21 37 21.0 -1.1**
comp=Z,14nm,0.8s
319A Douglas 84.52 54 *eP* **P** **21 37 26.9 +1.0**
comp=Z,19nm,0.8s
U15A North Rim 84.80 48 *eP* **P** **21 37 29.0 +1.6**
comp=Z,18nm,1.8s
KRAB Krabi 85.36 281 P **P** **21 37 31.9 +1.7**
comp=Z,35nm,0.8s,comp=Z,350nm
ENH Enshi 85.48 305 *eP* **P** **21 37 31.3 +0.9**
comp=Z,20nm,0.8s
BJI Beijing 85.49 316 P **P** **21 37 30.8 +0.6**
BJI sP sP 21 40 42.3 -7.9
BJI S **S** **21 47 10.0 +0.5**
BJI sS **sS** **21 51 06.8 -4.7**
BJI pmax pmax
comp=Z,12nm,0.6s
BJI pmax pmax
comp=Z,100nm,5.1s
RAGM Ragged Mountai 85.54 16 *eP* **P** **21 37 31.5 +1.4**
comp=Z,58nm,0.6s
GYA Guiyang 86.03 300 *eP* **P** **21 37 34.0 +0.7**
GYA pP pP 21 39 46.5 -2.9
GYA sP sP 21 40 47.8 -5.7
GYA PP **PP** **21 41 07.3 +0.8**
GYA SKS **SKSac** **21 47 00.5 +1.2**
GYA S **S** **21 47 16.5 +0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SYO Syowa Base 86.25 193⇑ *eP* **P** **21 37 31.5 -1.8**
SYO Syowa Base 86.25 193⇓ *eP*cP **P** **21 37 33.4 +0.1**
SEY Seymchan 86.46 347⇑ *eP* **P** **21 37 34.8 +0.6**
PHET Kaeng Krachan 86.70 285 P **P** **21 37 39.4 +2.9**
comp=Z,9.1nm,0.9s
PBKT Sadao Pong 86.89 289 P **P** **21 37 38.9 +1.6**
comp=Z,11nm,1.1s
XAN Xi'an 87.61 308 P **P** **21 37 41.0 +0.6**
XAN pmax pmax
comp=Z,19nm,1.0s
XAN pmax pmax
comp=Z,68nm,5.0s

SNAA Sanae 87.74 179 *eP* **P** **21 37 39.8 -0.6**
SNAA pmax pmax
comp=Z,6.0nm,1.2s
SNAA Sanae 87.74 179 *eP* **P** **21 37 39.8 -0.6**
comp=Z,6.0nm,1.2s
UTHA Uthaitani 87.86 287 P **P** **21 37 43.6 +1.7**
comp=Z,4.2nm,0.8s
TXAR Lajitas Array 87.95 58 P **P** **21 37 44.3 +2.1**
comp=Z,1.1nm,0.7s,baz=222,slow=5.0,SNR=7.2
NANT Nan 87.98 291 P **P** **21 37 44.4 +2.0**
comp=Z,2.9nm,1.0s
NVL N'lazarevskaya 88.38 184 *eP* **P** **21 37 40.9 -2.4**
HIA Hailar 88.42 325⇓ *eP* **P** **21 37 43.7 -0.1**
HIA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 88.68 13⇓ *eP* **P** **21 37 44.0 -0.5**
COLA pmax pmax
comp=Z,5.0nm,0.9s
KMI Kunming 88.70 297 P **P** **21 37 46.5 +0.6**
KMI pmax pmax
comp=Z,13nm,1.0s
ILAR Eielson Array 88.79 13 P **P** **21 37 44.7 -0.5**
comp=Z,1.0nm,0.7s,baz=222,slow=5.0,SNR=8.0
LAMP Lampang 88.81 290 P **P** **21 37 48.1 +1.8**
comp=Z,6.7nm,0.9s,comp=Z,56nm
HHC Hu-ho-hao-te 88.93 315 *eP* **P** **21 37 47.8 +1.3**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,92nm,8.2s
CM31 Chiang Mai Arr 89.39 290 *eP* **P** **21 37 50.8 +1.8**
CMAR Chiang Mai Arr 89.39 290 P **P** **21 37 50.4 +1.4**
comp=Z,7.8nm,0.9s,baz=126,slow=3.0,SNR=51
CHTO Chiang Mai 89.52 290 *eP* **P** **21 37 50.7 +1.1**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 89.52 290 *eP* **P** **21 37 50.7 +1.1**
comp=Z,10nm,0.7s
PLCA Paso Flores 89.71 134 P **P** **21 37 52.0 +1.8**
comp=Z,3.6nm,1.0s,baz=245,slow=6.2,SNR=3.6
PDAR Pinedale Array 89.77 44 P **P** **21 37 51.7 +1.2**
comp=Z,0.4nm,0.5s,baz=191,slow=3.3,SNR=4.8
CMAI Chiengmai2 89.85 291 P **P** **21 37 52.2 +0.9**
CD2 Chengdu 90.21 303 *eP* **P** **21 37 52.5 -0.1**
YAK Yakutsk 92.06 338⇓ *eP* **P** **21 37 59.3 -0.9**
YAK pmax pmax
comp=Z,12nm,1.0s
LZH Lanzhou 92.25 308 *eP* **P** **21 38 02.0 0.0**
LZH PP **PP** **21 41 55.3 +0.4**
LZH S **S** **21 48 13.3 +1.9**
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.3s
ULN Ulaanbaatar 95.01 319⇑ *iP* **P** **21 38 14.0 -0.2**
ULN pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 110.17 321 PKiKP **PKiKP** **21 43 17.0 -1.4**
comp=Z,2.0nm,0.6s,baz=167,slow=0.7,SNR=10
MKAR Makanchi Array 110.76 313 PKiKP **PKiKP** **21 43 18.6 -1.2**
comp=Z,0.7nm,0.4s,baz=299,slow=2.5,SNR=15
KURK Kurchatov 113.61 317⇓ *iPKiKP* **PKiKP** **21 43 23.7 -1.4**
KSH Kashi 114.34 305 *ePKP* PKPdf 21 43 25.5 -1.5
KSH PP **PP** **21 44 40.0 +3.9**
KSH PKS **PKSdf** **21 47 01.5 -2.3**
KSH SKS **SKSdf** **21 49 41.3 +1.9**
KSH SKKS **SKKSac** **21 50 28.8 -2.0**
KSH SS **SS** **21 59 45.8 +4.2**
KSH AMB AMB
comp=Z,80nm,5.0s
AAK Ala-Archa 115.79 308⇑ *iPKiKP* **PKPdf** **21 43 29.1 -0.7**
KKAR Karatay Array 118.74 309 *ePKiKP* **PKPdf** **21 43 34.5 -0.8**
KKAR Karatay Array 118.74 309 *ePKPdf* **PKPdf** **21 43 34.5 -0.8**
BRVK Borovoye 118.80 320⇓ *iPKiKP* **PKPdf** **21 43 34.1 -0.9**
BRVK Borovoye 118.80 320 *ePKPdf* **PKPdf** **21 43 34.5 -0.5**
KBL Kabul 119.26 299 *ePKiKP* **PKPdf** **21 43 36.9 +0.1**
KBL Kabul 119.26 299 *ePKPdf* **PKPdf** **21 43 36.9 +0.1**
MSEY Mahe Island 120.94 251 *iPKiKP* **PKPdf** **21 43 41.3 +0.9**
SVE Sverdlovsk 123.73 325 *ePKiKP* **PKPdf** **21 43 43.7 -0.7**
SVE pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 124.94 325 *iPKiKP* **PKPdf** **21 43 46.3 -0.4**
ARU 21 50 01.0
ARU Arti 124.94 325 *ePKPdf* **PKPdf** **21 43 46.6 -0.1**
ABKAR Akbulak array 125.69 316 *ePKPdf* **PKPdf** **21 43 48.3 -0.1**
GEYT Alibeck 128.20 302 PKP **PKPdf** **21 43 53.9 +0.3**
comp=Z,3.4nm,0.7s,baz=264,slow=1.5,SNR=13
ARCES ARCESS Array B 129.04 349 PKP **PKPdf** **21 43 54.0 -0.2**
comp=Z,5.2nm,0.6s,baz=358,slow=1.2,SNR=29
ARCES ARCESS Array B 129.04 349 PKiKP **PKPdf** **21 43 54.0 -0.2**
KLMR Klimovskoe 131.79 336 *ePKiKP* **PKPdf** **21 43 58.6 -1.0**
KLMR *e* 21 46 24.0
KLMR pmax pmax
comp=Z,5.0nm,0.7s
LSZ Lusaka 135.34 219 *ePKiKP* **PKPdf** **21 44 08.1 +0.3**
LSZ Lusaka 135.34 219 *ePKPdf* **PKPdf** **21 44 08.1 +0.3**
FINES FINESS Array B 135.80 343 PKhKP PKPpre 21 43 54.5
comp=Z,0.8nm,0.5s,baz=48,slow=2.8,SNR=6.0
FINES PKP **PKPdf** **21 44 07.8 +0.7**
comp=Z,3.0nm,0.6s,baz=38,slow=3.2,SNR=13
FINES SKPbc **SKPbc** **21 46 40.7 +1.2**
comp=Z,1.4nm,0.5s,baz=76,slow=2.4,SNR=8.8
OBN Obninsk 136.59 331⇓ *ePKiKP* **PKPdf** **21 44 08.3 -0.4**
OBN *e* 21 47 03.3
OBN pmax pmax
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 138.43 243 *iPKiKP* **PKPdf** **21 44 17.2 +3.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
NEY Neytrino 138.74 313⇓ *iPKiKP* **PKPdf** **21 44 16.6 +3.3**
NB2 NORSAR Subarra139.16 352 PKP PKPpre 21 44 05.8
comp=Z,1.3nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 139.16 352 PKhKP PKPpre 21 44 06.1
comp=Z,1.6nm,0.7s,baz=16,slow=4.7,SNR=6.5
NOA SKPbc **SKPbc** **21 46 50.2 +1.1**
comp=Z,1.9nm,0.8s,baz=18,slow=4.3,SNR=4.3
SUW Suwalki 142.79 338 *ePKP* PKPpre 21 44 17.6
SUW Suwalki 142.79 338 *ePKHKP* PKPpre 21 44 17.6
AKASG Malin Array Be 142.84 330 PKhKP PKPpre 21 44 17.1
comp=Z,15nm,0.4s,baz=43,slow=4.4,SNR=106
AKBB Malin Array Si 142.84 330 *ePKHKP* PKPpre 21 44 17.3
AKBB Malin Array Si 142.84 330 *ePKPpre* PKPpre 21 44 17.2
KIEV Kiev 142.85 330 *ePKHKP* PKPpre 21 44 17.0
KIEV Kiev 142.85 330 *ePKPpre* PKPpre 21 44 16.8
SHEL Horse Pasture 142.87 169 *iPKIKP* **PKPdf** **21 44 22.0 +0.7**
SIM Simferopol' 143.65 319 *d iPKHKP* PKPpre 21 44 21.3
SIM pmax pmax
comp=Z,76nm,0.8s
GKP Gorka Klasztor 145.27 343 *ePKP* **PKPbc** **21 44 25.8 +0.2**
GKP Gorka Klasztor 145.27 343 *ePKIKP* **PKPbc** **21 44 25.8 +0.2**
BEL Belsk 145.41 338 *ePKP* **PKPbc** **21 44 26.6 +0.5**
BEL Belsk 145.41 338 *ePKIKP* **PKPbc** **21 44 26.6 +0.5**
LVV L'vov 145.78 333 *ePKIKP* **PKPab** **21 44 29.0 -0.3**
BR131 Keskin Array S 146.38 311 *ePKPdf* **PKPbc** **21 44 29.0 -0.3**
BRTR Keskin Array B 146.38 311 PKP **PKPdf** **21 44 27.1 +0.4**
comp=Z,6.2nm,0.7s,baz=133,slow=3.7,SNR=30
BRTR PKPbc **PKPbc** **21 44 28.9 -0.5**
comp=Z,6.7nm,0.7s,baz=135,slow=4.3,SNR=31
KWP Kalwaria Pacla 146.47 334 *ePKP* **PKPbc** **21 44 29.3 +0.2**
KWP Kalwaria Pacla 146.47 334 *ePKIKP* **PKPbc** **21 44 29.3 +0.2**
TLCR 146.62 323⇑ *ePKIKP* **PKPbc** **21 44 29.3 -0.3**
BUR08 Bucovina Ar. S 146.86 330 *ePKPbc* **PKPbc** **21 44 30.8 +0.5**
BURAR Bucovina Array 146.88 330⇑ *ePKIKP* **PKPbc** **21 44 30.6 +0.2**
ANTO Ankara 146.91 312 *ePKIKP* **PKPbc** **21 44 30.8 +0.1**
ANTO Ankara 146.91 312 *ePKPbc* **PKPbc** **21 44 30.8 +0.1**
CFR Carcaliu 147.01 324⇑ *ePKIKP* **PKPbc** **21 44 30.9 +0.3**
OJC Ojcow 147.10 338 *ePKP* **PKPbc** **21 44 30.9 +0.1**
OJC Ojcow 147.10 338 *ePKIKP* **PKPbc** **21 44 30.8 +0.1**
OJC Ojcow 147.10 338 *ePKPbc* **PKPbc** **21 44 30.8 +0.1**
STHS Stebnicka Huta 147.22 335 *ePKIKP* **PKPbc** **21 44 31.8 +0.7**
STHS Stebnicka Huta 147.22 335 *ePKP* **PKPbc** **21 44 31.8 +0.7**
VRI Vrincioaia 147.32 326⇑ *PKIKP* **PKPbc** **21 44 31.5 0.0**
PLOR Plostina 147.38 326⇑ *PKIKP* **PKPbc** **21 44 30.9 -0.7**
UZH Uzhgorod 147.42 334⇓ *iPKIKP* **PKPbc** **21 44 32.0 +0.4**
UZH *e* 21 44 39.6
HARR Harsova 147.43 323⇑ *PKIKP* **PKPbc** **21 44 32.1 +0.4**
CRVS Cervenica-Dubn 147.55 335 *ePKIKP* **PKPbc** **21 44 32.1 +0.2**
CRVS Cervenica-Dubn 147.55 335 *ePKP* **PKPbc** **21 44 32.1 +0.2**
NIE Niedzica 147.58 336 *ePKP* **PKPbc** **21 44 32.8 +0.8**
NIE Niedzica 147.58 336 PKIKP **PKPbc** **21 44 32.7 +0.7**
BMR Baia Mare 147.63 331⇑ *PKIKP* **PKPbc** **21 44 32.6 +0.4**
KSP Ksiaz 147.70 342 *ePKP* **PKPbc** **21 44 32.9 +0.6**
KSP Ksiaz 147.70 342 *ePKIKP* **PKPbc** **21 44 32.9 +0.6**
ISR Istrita 147.91 325⇑ *PKIKP* **PKPbc** **21 44 33.4 +0.4**

MLR Muntele Rosu 147.98 326 *ePKIKP* **PKPbc** **21 44 33.1 -0.2**
MLR Muntele Rosu 147.98 326 *ePKPbc* **PKPbc** **21 44 33.1 -0.2**
OKC Ostrava-Krasne 148.00 339⇑ *ePKP* **PKPbc** **21 44 33.3 +0.3**
OKC *ePKPAB* **PKPab** **21 44 38.6 +0.3**
UPC Upice 148.08 342⇑ *ePKP* **PKPbc** **21 44 33.9 +0.7**
UPC Upice 148.08 342 *ePKHKP* **PKPbc** **21 44 33.9 +0.7**
LANS Liptovska Anna 148.11 337 *ePKHKP* **PKPbc** **21 44 34.8 +1.4**
LANS *e* 21 44 38.9
LANS Liptovska Anna 148.11 337 *ePKP* **PKPbc** **21 44 34.8 +1.4**
LANS *e* 21 44 38.9
DPC Dobruska-Polom 148.13 341⇑ *ePKP* **PKPbc** **21 44 33.5 +0.1**
DPC *ePKPAB* **PKPab** **21 44 39.8 +0.9**
DPC *ex* x 21 45 58.6
CLL Collm 148.14 346⇓ *iPKPbc* **PKPbc** **21 44 33.4 +0.1**
comp=Z,17nm,0.7s
CLL *ePKPab* **PKPab** **21 44 39.0 +0.2**
CLL *eSKPdf* **SKPdf** **21 47 03.0 -0.1**
CLL Collm 148.14 346 *ePKPbc* **PKPbc** **21 44 33.4 +0.1**
KRLC Kraliky 148.23 341⇑ *ePKP* **PKPbc** **21 44 34.2 +0.5**
MORC Moravsky Berou 148.25 340 *ePKPbc* **PKPbc** **21 44 34.3 +0.6**
KECS Kecovo 148.27 335 *ePKHKP* **PKPbc** **21 44 35.1 +1.4**
KECS *e* 21 44 39.2
KECS Kecovo 148.27 335 *ePKP* **PKPbc** **21 44 35.1 +1.4**
KECS *e* 21 44 39.2
CJR Cluj-Napoca 148.29 330⇓ *PKHKP* **PKPbc** **21 44 34.2 +0.3**
BRG Berggiesshubel 148.31 344 *i PKP* **PKPbc** **21 44 34.0 +0.3**
comp=Z,9.3nm,0.7s
BRG Berggiesshubel 148.31 344 *i PKHKP* **PKPbc** **21 44 34.0 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.7s
PVCC Panska Ves 148.47 343⇑ *ePKP* **PKPbc** **21 44 34.9 +0.8**
VOIR 148.48 327⇑ *PKHKP* **PKPbc** **21 44 34.7 +0.2**
DRGR 148.64 331⇑ *PKHKP* **PKPbc** **21 44 34.0 -0.8**
VYHS Vyhne 148.89 337 *ePKHKP* **PKPbc** **21 44 35.5 +0.2**
VYHS *e* 21 44 42.0
VYHS Vyhne 148.89 337 *ePKP* **PKPbc** **21 44 35.5 +0.2**
VYHS *e* 21 44 42.0
PRA Prague 148.92 343⇑ *ePKP* **PKPbc** **21 44 35.6 +0.3**
PSZ Piszkesteto 148.96 335 *ePKPbc* **PKPbc** **21 44 35.8 +0.2**
GOPC GO Pecny, Ondr 148.96 343⇑ *ePKP* **PKPbc** **21 44 35.9 +0.5**
PRU Pruhonice 148.96 343⇑ *ePKP* **PKPbc** **21 44 35.6 +0.2**
PRU *ePKPAB* **PKPab** **21 44 42.1 -0.2**
PRU Pruhonice 148.96 343 *ePKHKP* **PKPbc** **21 44 35.6 +0.2**
PRU *e* 21 44 42.1
VRAC Vranov 148.96 340⇑ *PKHKP* **PKPbc** **21 44 36.0 +0.6**
MOX Moxa 149.06 347 PKHKP **PKPbc** **21 44 36.1 +0.5**
NKC Novy Kostel 149.27 346⇑ *ePKP* **PKPbc** **21 44 36.4 +0.3**
SRE Strehaia 149.96 328⇑ *PKHKP* **PKPbc** **21 44 38.7 +0.8**
MEM Membach 149.99 354 PKPbc **PKPbc** **21 44 38.1 +0.3**
KHC Kasperske Hory 150.00 343⇑ *ePKP* **PKPbc** **21 44 38.2 +0.2**
KHC *ePKPAB* **PKPab** **21 44 47.0 +0.3**
KHC Kasperske Hory 150.00 343 *ePKPbc* **PKPbc** **21 44 38.1 +0.2**
BZS Buzias 150.03 330⇑ *PKHKP* **PKPbc** **21 44 38.3 +0.3**
GEC2 GERESS Array S 150.23 343 *ePKIKP* **PKPbc** **21 44 38.9 +0.3**
GEC2 GERESS Array S 150.23 343 *ePKPbc* **PKPbc** **21 44 38.9 +0.3**
GERES GERESS Array B 150.23 343 PKP **PKPdf** **21 44 32.4 -0.2**
comp=Z,0.3nm,0.4s,baz=210,slow=1.1,SNR=4.4
GERES PKPbc **PKPbc** **21 44 38.5 -0.1**
comp=Z,5.7nm,0.8s,baz=34,slow=2.4,SNR=40
CONA Conrad Observa 150.41 340 *i PKiKP* **PKPbc** **21 44 39.2 +0.2**
comp=Z,12nm,0.7s
DOU Dourbes 150.62 355 PKPbc **PKPbc** **21 44 39.7 +0.5**
AKAS Kas 150.72 308 *ePKPbc* **PKPbc** **21 44 39.6 -0.5**
WLF Walferdange 150.90 353 PKPbc **PKPbc** **21 44 40.8 +0.9**
WLF Walferdange 150.90 353 *ePKIKP* **PKPbc** **21 44 40.8 +0.9**
WLF Walferdange 150.90 353 *ePKPbc* **PKPbc** **21 44 40.8 +0.9**
MOA Molln 150.97 342 *i PKPbc* **PKPbc** **21 44 40.0 -0.2**
comp=Z,4.2nm,0.6s
VTS Vitosha 151.39 324 *ePKIKP* **PKPbc** **21 44 41.3 -0.2**
VTS Vitosha 151.39 324 *ePKPbc* **PKPbc** **21 44 41.2 -0.2**
SOKA Soboth 151.78 339 *i PKPbc* **PKPbc** **21 44 41.5 -0.6**
comp=Z,7.1nm,1.0s
KBA Koelnbreinsper 151.94 342 PKIKP **PKPbc** **21 44 41.4 -1.1**
KBA Koelnbreinsper 151.94 342 *i PKPbc* **PKPbc** **21 44 41.5 -1.1**
comp=Z,2.2nm,0.5s
OBKA Obir 152.08 340 *i PKiKP* **PKiKP** **21 44 43.8 +0.8**
comp=Z,2.7nm,0.5s
WATA Walderalm 152.18 345 *ePKiKP* **PKPbc** **21 44 42.9 -0.2**
comp=Z,4.0nm,0.4s
WTTA Wattenberg 152.23 344 *i PKiKP* **PKPbc** **21 44 43.0 -0.1**
RETA Reutte 152.23 346 *ePKPbc* **PKPbc** **21 44 42.9 -0.1**
comp=Z,2.6nm,0.7s
MYKA Terra Mystica 152.26 341 *i PKPbc* **PKPbc** **21 44 42.1 -1.0**
comp=Z,6.1nm,0.6s
MOTA Moosalm 152.28 345 *i PKiKP* **PKPbc** **21 44 43.4 +0.2**
comp=Z,4.9nm,0.9s
VNDS Vrh nad Dolski 152.39 339 *i PKPbc* **PKPbc** **21 44 43.0 -0.4**
ABTA Abfaltersbach 152.48 343 *i PKPbc* **PKPbc** **21 44 42.9 -0.8**
comp=Z,7.8nm,0.6s
CRNS Crni Vrh 152.55 340 *i PKPbc* **PKPbc** **21 44 43.0 -0.7**
FETA Feichten 152.68 346 *i PKiKP* **PKPbc** **21 44 44.1 0.0**
comp=Z,5.7nm,0.9s
FUORN Ofenpass-Fuorn 153.16 346 *ePKPbc* **PKPbc** **21 44 45.0 -0.3**
KEST Kesra 163.44 336 PKPab **PKPab** **21 45 45.5 +0.3**
comp=Z,4.6nm,0.8s,baz=328,slow=5.0,SNR=5.9
DBIC Dimbokro 164.84 157 PKPab **PKPab** **21 45 53.1 +1.4**
comp=Z,2.4nm,0.8s,baz=215,slow=9.4,SNR=3.4
TORD Torodi Ar. Bea 172.38 185 PKP **PKPdf** **21 44 55.2 -0.7**
comp=Z,1.6nm,0.8s,baz=266,slow=0.5,SNR=12
TORD PKPab **PKPab** **21 46 25.0 0.0**
comp=Z,1.3nm,0.9s,baz=170,slow=4.7,SNR=6.8
TORD PP **PP** **21 50 17.8 +1.9**
comp=Z,0.8nm,0.9s,baz=180,slow=6.2,SNR=3.5

SJA 27 21:26:04.0±0.5, 31°.16S×69°.11W, h112km±4km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.57**	**107**	*iP*	Pn		21 26 21.9	+0.3
AMOG	**MOGNA**	**0.57**	**67**	*iP*	Pn		21 26 22.4	+0.7
SJA	**San Juan**	**0.59**	**128**	*iP*	Pn		21 26 22.5	+0.7
SJA				IAML			21 26 22.7	
	comp=Z,264nm,0.3s							
SJA				*iS*	Sn		21 26 36.2	+1.0
RTLS	**Leoncito**	**0.65**	**194**	*iP*	Pn		21 26 23.7	+1.2
RTLS				IAmb	IAmb		21 26 37.9	
RTLS				*iS*	Sn		21 26 37.9	+1.4
RTLS				IAML			21 26 38.0	
	comp=Z,1μm,0.1s							
RTCV	**Cerro Valdivia**	**0.85**	**145**	*iP*	Pn		21 26 24.6	+0.6
AUSP	**Uspallata**	**1.08**	**193**	*iP*	Pn		21 26 27.9	+1.4
ASAL	**Salagasta**	**1.44**	**171**	*iP*	Pn		21 26 31.2	+0.9
AVFE	**Valle Fertil**	**1.51**	**71**	*iP*	Pn		21 26 32.0	+0.9

*DDA **27** 21:28:43.8, 38°.74N×43°.55E, h7km, Ml3.4*
*CSEM **27** 21:28:44.7±0.3, 38°.77N×43°.52E, h2km, ML3.1, Error ellipse: s-maj=6.4km s-min=4.7km az=94.0*
*ISK **27** 21:28:44.3, 38°.81N×43°.48E, h5km, ML3.1*
*ISCJB **27** 21:28:45.5±0.5, 38°.79N±0°.02×43°.50E±0°.04, h9km±4km, Error ellipse: s-maj=5.5km s-min=3.6km az=4.5*

ISC 27 21:28:45.8±0.9, 38°.79N±0°.02×43°.54E±0°.02, h15km±6km, n46, σ1.9±66/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**7**	*iP*		**Pg**	21 28 49.2	**-1.5**
VMUR				*iS*		**Sg**	21 28 54.8	**+0.9**
VMUR	**Van-Muradiye**	**0.20**	**7**	P		**Pg**	21 28 49.2	**-1.5**
VMUR				S		**Sg**	21 28 54.8	**+0.9**
VANB	**Van**	**0.22**	**212**	*ePG*		**Pg**	21 28 50.8	**-0.1**
VANB	**Van**	**0.22**	**212**	*ePg*		**Pg**	21 28 50.8	**-0.1**
TVAN	**Van**	**0.28**	**202**	*iP*		**Pb**	21 28 52.3	**-0.3**
TVAN				*iS*		**Sb**	21 28 58.6	**+1.4**
TVAN	**Van**	**0.28**	**202**	P		**Pb**	21 28 52.3	**-0.3**
CLDR	**Caldiran**	**0.46**	**39**	*ePG*		**Pb**	21 28 54.6	**-1.2**
CLDR				*eSG*		**Sb**	21 29 02.6	**0.0**
CLDR	**Caldiran**	**0.46**	**39**	*iP*		**Pg**	21 28 53.4	**-1.7**
CLDR				*iS*		**Sb**	21 29 01.9	**-0.7**
CLDR	**Caldiran**	**0.46**	**39**	P		**Pg**	21 28 53.4	**-1.7**
CLDR	**Caldiran**	**0.46**	**39**	*ePg*		**Pb**	21 28 54.6	**-1.2**
CLDR				S		**Sb**	21 29 01.9	**-0.7**
CLDR				*eSg*		**Sb**	21 29 02.6	**0.0**
GEVA	**Gevas**	**0.60**	**219**	*iP*		**Pg**	21 28 54.8	**-2.9**
GEVA				*iS*		**Sb**	21 29 06.1	**-0.5**
**GEV

DYDN				S		Sb	21 29 12.2	+0.9
BASK	**Baskale_VAN**	**0.82**	**153**	*i* P		**Pg**	**21 28 58.9**	**-2.8**
BASK				*i* S		**Sb**	**21 29 13.4**	**+0.7**
BASK	**Baskale_VAN**	**0.82**	**153**	P		**Pg**	**21 28 58.9**	**-2.8**
BASK				S		**Sb**	**21 29 13.4**	**+0.7**
TUTA	**Tutak**	**0.84**	**318**	*i* P		**Pg**	**21 29 00.1**	**-2.0**
TUTA				*i* S		**Sb**	**21 29 12.9**	**-0.4**
TUTA	**Tutak**	**0.84**	**318**	P		**Pg**	**21 29 00.1**	**-2.0**
TUTA				S		**Sb**	**21 29 12.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**332**	*e*PG		**Pg**	**21 29 01.5**	**-1.7**
AGRB				*e*SG		**Sb**	**21 29 14.6**	**-0.5**
AGRB	**Hanur-Agry**	**0.90**	**332**	*e*Pg		**Pg**	**21 29 01.5**	**-1.7**
AGRB				*e*Sg		**Sb**	**21 29 14.6**	**-0.5**
TATV	**Tatvan**	**1.03**	**255**	*i* P		**Pg**	**21 29 02.9**	**-2.9**
TATV				*i* S		**Sb**	**21 29 18.0**	**-1.0**
TATV	**Tatvan**	**1.03**	**255**	P		**Pg**	**21 29 02.9**	**-2.9**
TATV				S		**Sb**	**21 29 18.0**	**-1.0**
HAKT	**HAKKARI**	**1.23**	**174**	*i* P		**Pg**	**21 29 06.0**	**-3.6**
HAKT				*i* S		**Sn**	**21 29 25.8**	**+0.5**
HAKT	**HAKKARI**	**1.23**	**174**	P		**Pg**	**21 29 06.0**	**-3.6**
HAKT				S		**Sn**	**21 29 25.8**	**+0.5**
EKAR	**Karacoban**	**1.24**	**293**	*i* P		**Pn**	**21 29 08.7**	**-0.2**
EKAR				*i* S		**Sn**	**21 29 29.8**	**+4.2**
EKAR	**Karacoban**	**1.24**	**293**	P		**Pn**	**21 29 08.7**	**-0.2**
EATA	**Eleskirt**	**1.35**	**323**	*i* P		**Pn**	**21 29 09.8**	**-0.6**
EATA				*i* S		**Sn**	**21 29 30.6**	**+2.3**
EATA	**Eleskirt**	**1.35**	**323**	P		**Pn**	**21 29 09.8**	**-0.6**
EATA				S		**Sn**	**21 29 30.6**	**+2.3**
CUKT	**Cukurca**	**1.54**	**178**	*e*PN		**Pg**	**21 29 14.6**	**-0.7**
CUKT	**Cukurca**	**1.54**	**178**	*i* P		**Pb**	**21 29 13.0**	**-1.1**
CUKT				*i* S		**Sg**	**21 29 39.5**	**+4.2**
CUKT	**Cukurca**	**1.54**	**178**	P		**Pb**	**21 29 13.0**	**-1.1**
CUKT	**Cukurca**	**1.54**	**178**	*e*Pn		**Pg**	**21 29 14.6**	**-0.7**
VRTB	**Varto-Mus**	**1.67**	**284**	*e*PN		**Pb**	**21 29 15.4**	**-0.9**
VRTB	**Varto-Mus**	**1.67**	**284**	*i* P		**Pn**	**21 29 14.7**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**284**	P		**Pn**	**21 29 14.7**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**284**	*e*Pn		**Pb**	**21 29 15.4**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.94**	**252**	*e*PN		**Pb**	**21 29 19.7**	**-1.3**
SVAN	**Silvan-Diyarba**	**1.94**	**252**	*e*Pn		**Pb**	**21 29 19.7**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.00**	**333**	*e*PN		**Pn**	**21 29 20.1**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.00**	**333**	*e*Pn		**Pn**	**21 29 20.1**	**+0.9**
BNGB	**Bing¶ll**	**2.24**	**276**	*e*PN		**Pn**	**21 29 23.1**	**+0.6**
BINT	**Bingol**	**2.39**	**273**	*e*Pn		**Pn**	**21 29 23.1**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.42**	**287**	*e*PN		**Pn**	**21 29 26.1**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.42**	**287**	*e*Pn		**Pn**	**21 29 26.1**	**+1.1**
PTK	**Pertek**	**3.24**	**273**	*e*PN		**Pn**	**21 29 38.1**	**+1.8**
PTK	**Pertek**	**3.24**	**273**	*e*Pn		**Pn**	**21 29 38.1**	**+1.8**

*CSEM **27** 21:33:31.8±0.6, 51°.56N×16°.12E, h2km, ML2.1, Error ellipse: s-maj=8.4km s-min=4.5km az=19.0*
*PRU **27** 21:33:33.1, 51°.53N×16°.12E, h0km*
WAR 27 21:33:33.4, 51°.54N×16°.10E, h1km, Mw2.1, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	Pg	21 33 46.8	-0.2
KSP				*e*Sg	Sg	21 33 56.1	-0.2
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	Pg	21 33 46.8	-0.2
KSP				*e*Sg	Sg	21 33 56.1	-0.2
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg	Pg	21 33 46.8	-0.2
KSP				*e*Sg	Sg	21 33 56.1	-0.2
UPC	**Upice**	**1.04**	**183**	*e*PG	Pg	21 33 52.5	-0.8
UPC				*e*SG	Sg	21 34 06.4	-0.3
	comp=Z,16nm,0.4s						
UPC	**Upice**	**1.04**	**183**	Pg	Pg	21 33 52.5	-0.8
UPC				Sg	Sg	21 34 06.4	-0.3
	16nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	Pg	21 33 55.4	-1.0
DPC				*e*SG	Sg	21 34 11.0	-1.0
	comp=Z,4.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg	Pg	21 33 55.4	-1.0
DPC				Sg	Sg	21 34 11.0	-1.0
	4.0nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	Pn	21 33 59.7	-0.4
PVCC				*e*SG	Sn	21 34 19.3	+0.1
	comp=Z,24nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**224**	Pg	Pn	21 33 59.7	-0.4
PVCC				Sg	Sn	21 34 19.3	+0.1
	24nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**244**	PG	Pn	21 34 01.6	0.0
BRG				SG	Sb	21 34 21.8	-0.1
	7.8nm,0.3s						
KRLC	**Kraliky**	**1.53**	**163**	*e*PG	Pn	21 34 01.2	-0.7
KRLC				*e*SG	Sn	21 34 21.8	-0.7
KRLC	**Kraliky**	**1.53**	**163**	Pg	Pn	21 34 01.2	-0.7
KRLC				Sg	Sn	21 34 21.8	-0.7
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PG	Pn	21 34 06.7	+0.7
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pg	Pn	21 34 06.7	+0.7
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	Pn	21 34 07.0	+0.8
PRU				*e*SG	Sb	21 34 30.8	-0.6
PRU	**Pruhonice**	**1.84**	**213**	Pg	Pn	21 34 07.0	+0.8
PRU				Sg	Sb	21 34 30.8	-0.6
CLL	**Collm**	**1.95**	**264**	*e*Pg	Pb	21 34 09.0	-0.7
CLL				*e*Sg	Sb	21 34 35.0	+0.5
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	Pn	21 34 06.7	-1.6
MORC				*e*Sg	Sb	21 34 35.1	-0.7
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*SG	Sb	21 34 40.3	+0.1
OKC	**Ostrava-Krasne**	**2.15**	**142**	Sg	Sb	21 34 40.3	+0.1
VRAC	**Vranov**	**2.26**	**172**	*e*Sg	Sb	21 34 43.8	+0.3
NKC	**Novy Kostel**	**2.66**	**242**	*e*PG	Pg	21 34 23.1	-1.2
NKC	**Novy Kostel**	**2.66**	**242**	Pg	Pg	21 34 23.1	-1.2
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PG	Pb	21 34 27.4	+1.4
KHC				*e*SG	Sg	21 35 05.6	-1.1
KHC	**Kasperske Hory**	**2.91**	**215**	Pg	Pb	21 34 27.4	+1.4
KHC				Sg	Sg	21 35 05.6	-1.1

*NEIC **27** 21:35:37.1±0.7, 28°.40S×175°.65W, h10km, mb4.6/11, Error ellipse: s-maj=19.2km s-min=11.3km az=148.0*
*ISCJB **27** 21:35:39.6±0.9, 28°.4S±0°.1×175°.8W±0°.1, h36km, mb4.5/15, MS3.3/4, Error ellipse: s-maj=22.6km s-min=9.1km az=138.3*
*IDC **27** 21:35:39.3±1.3, 28°.40S×176°.24W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/26, mbtmp4.1/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=50.4km s-min=24.2km az=153.0*
ISC 27 21:35:42.6±0.8, 28°.5S±0°.1×175°.9W±0°.1, h36km, n31, σ1§70/26, mb4.4/15, MS3.3/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.92**	**245**	Pn	**Pn**	**21 36 12.3**	**-0.4**
	124nm,0.3s,baz=60,slow=12,SNR=9.1						
RAO				Sn	**Sn**	**21 36 34.2**	**-1.5**
	851nm,0.3s,baz=63,slow=21,SNR=13						
RAO	**Raoul Island**	**1.92**	**245**	*e*Pn	**Pn**	**21 36 12.2**	**-0.4**
RAO				*e*Sn	**Sn**	**21 36 34.5**	**-1.1**
AFI	**Afiamalu**	**14.98**	**16**	Pn	**Pn**	**21 39 08.2**	**-3.6**
RAR	**Rarotonga**	**16.33**	**67**	Pn	Pn	21 39 20.9	-8.2
	13nm,0.9s						
DZM	**Mont Dzumac**	**17.16**	**288**	LR	LR	21 45 14.8	
	comp=Z,102nm,19.1s,baz=44,slow=34						
FUNA	**Funafuti**	**20.35**	**346**	P	**P**	**21 40 13.3**	**-2.6**
	25nm,0.4s						
TBI	**Tubuai**	**24.32**	**84**	*e*LR	LR	21 46 49.9	
	128nm,27.5s						
PPT2	**Papeete2**	**26.49**	**72**	*e*LR	LR	21 47 43.1	
	115nm,30.2s						
PPT	**Papeete**	**26.50**	**72**	LR	LR	21 51 11.7	
	comp=Z,34nm,18.2s,baz=188,slow=35						
EIDS	**Eidsvold**	**29.53**	**268**	*e*P	**P**	**21 41 44.6**	**+0.9**
	1.7nm,0.8s						
HNR	**Honiara**	**29.53**	**305**	LR	LR	21 52 16.4	
	comp=Z,34nm,18.5s,baz=158,slow=34						
HNR	**Honiara**	**29.53**	**305**	P	**P**	**21 41 44.2**	**+0.4**
	15nm,0.5s						
CTAO	**Charters Tower**	**35.35**	**275**	*e*P	**P**	**21 42 35.7**	**+0.9**
	11nm,0.6s						
STKA	**Stephens Creek**	**36.72**	**254**	P	**P**	**21 42 46.4**	**+0.1**
	1.3nm,0.8s,baz=80,slow=8.4,SNR=4.5						
STKA				LR	LR	21 56 47.3	
	comp=Z,89nm,18.4s,baz=30,slow=35						
PMG	**Port Moresby**	**39.50**	**291**	*e*P	**P**	**21 43 11.0**	**+1.1**
	6.3nm,0.8s						
ASAR	**Alice Springs**	**45.06**	**264**	P	**P**	**21 43 54.1**	**-1.2**
	3.2nm,1.0s,baz=109,slow=7.9,SNR=13						
ASAR				LR	LR	22 02 03.7	
	comp=Z,84nm,18.0s,baz=98,slow=35						
WRAB	**Tennant Creek**	**45.88**	**269**	*e*P	**P**	**21 44 01.1**	**-0.6**
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**45.88**	**269**	P	**P**	**21 44 00.7**	**-1.1**
	3.8nm,0.8s,baz=109,slow=7.7,SNR=14						
POHA	**Pohakuloa**	**51.82**	**25**	*e*P	P	21 44 43.6	-3.8
	27nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.21**	**267**	P	**P**	**21 45 04.9**	**-0.1**
	2.0nm,0.8s,baz=145,slow=4.9,SNR=5.5						
KSM	**Kuching**	**76.47**	**279**	*e*P	**P**	**21 47 29.1**	**0.0**
	3.5nm,0.5s						
MJAR	**Matsushiro Arr**	**77.71**	**324**	P	**P**	**21 47 39.4**	**+3.8**
	1.2nm,0.7s,baz=146,slow=5.1,SNR=3.5						
SNAA	**Sanae**	**80.03**	**178**	*e*P	**P**	**21 47 45.9**	**-2.2**
	42nm,0.6s						
CHTO	**Chiang Mai**	**94.65**	**289**	*e*P	**P**	**21 49 00.0**	**-0.2**
	0.8nm,0.6s						
RSSD	**Black Hills**	**97.57**	**44**	*e*P	**P**	**21 49 13.2**	**0.0**
	0.6nm,0.4s						
FINES	**FINESS Array B**	**143.90**	**342**	PKP	**PKPdf**	**21 55 13.8**	**+0.5**
	2.5nm,0.7s,baz=70,slow=6.3,SNR=7.5						
KIV	**Kislovodsk**	**145.56**	**307**	*e*PKPdf	**PKPdf**	**21 55 14.8**	**-2.1**
NB2	**NORSAR Subarra**	**147.06**	**354**	PKP	**PKPab**	**21 55 24.1**	**+1.5**
	comp=Z,7.6nm,1.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**147.06**	**354**	PKPbc	**PKPab**	**21 55 23.8**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=8.6,slow=2.8,SNR=7.2						
AKASG	**Malin Array Be**	**150.77**	**326**	PKPbc	**PKPbc**	**21 55 33.2**	**+2.5**
	comp=Z,2.6nm,0.7s,baz=47,slow=3.0,SNR=11						
TORD	**Torodi Ar. Bea**	**164.61**	**171**	PKPab	**PKPab**	**21 56 39.9**	**+1.7**
	comp=Z,2.3nm,1.0s,baz=182,slow=4.0,SNR=9.4						

*DDA **27** 21:44:48.6, 38°.68N×43°.20E, h10km, Ml3.5*
*ISK **27** 21:44:48.2, 38°.72N×43°.24E, h2km, ML3.1*
*CSEM **27** 21:44:49.4±0.2, 38°.73N×43°.19E, h2km, ML3.1, Error ellipse: s-maj=4.5km s-min=4.2km az=168.0*
ISC 27 21:44:50.0±0.9, 38°.69N±0°.02×43°.20E±0°.02, h18km±3km, n57, σ1§76/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**124**	PG	**Pg**	**21 44 54.0**	**-0.8**
VANB				*e*SG	**Sg**	**21 44 58.3**	**+0.4**
VANB	**Van**	**0.17**	**124**	*i* Pg	**Pg**	**21 44 54.0**	**-0.8**
VANB				*e*Sg	**Sg**	**21 44 58.3**	**+0.4**
TVAN	**Van**	**0.23**	**136**	*i* P	**Pg**	**21 44 56.7**	**+1.1**
TVAN				*i* S	**Sg**	**21 45 00.2**	**+0.8**
TVAN	**Van**	**0.23**	**136**	P	**Pg**	**21 44 56.7**	**+1.1**
TVAN				S	**Sg**	**21 45 00.2**	**+0.8**
GEVA	**Gevas**	**0.40**	**197**	*i* P	**Pg**	**21 44 54.2**	**-4.2**
GEVA				*i* S	**Sb**	**21 45 03.9**	**-0.6**
GEVA	**Gevas**	**0.40**	**197**	P	**Pg**	**21 44 54.2**	**-4.2**
GEVA				S	**Sb**	**21 45 03.9**	**-0.6**
VMUR	**Van-Muradiye**	**0.41**	**44**	*i* P	**Pb**	**21 44 57.5**	**-1.4**
VMUR				*i* S	**Sb**	**21 45 04.8**	**-0.2**
VMUR	**Van-Muradiye**	**0.41**	**44**	P	**Pb**	**21 44 57.5**	**-1.4**
VMUR				S	**Sb**	**21 45 04.8**	**-0.2**
CLDR	**Caldiran**	**0.71**	**51**	*e*PG	**Pb**	**21 45 02.4**	**-1.7**
CLDR				*e*SG	**Sb**	**21 45 12.6**	**-1.0**
CLDR	**Caldiran**	**0.71**	**51**	*i* P	**Pb**	**21 45 02.4**	**-1.7**
CLDR				*i* S	**Sb**	**21 45 14.2**	**+0.5**
CLDR	**Caldiran**	**0.71**	**51**	P	**Pb**	**21 45 02.4**	**-1.7**
CLDR				*e*Sg	**Sb**	**21 45 12.6**	**-1.0**
CLDR				S	**Sb**	**21 45 14.2**	**+0.5**
TATV	**Tatvan**	**0.76**	**256**	*i* P	**Pg**	**21 45 03.0**	**-1.9**
TATV				*i* S	**Sg**	**21 45 13.2**	**-1.8**
TATV	**Tatvan**	**0.76**	**256**	P	**Pg**	**21 45 03.0**	**-1.9**
TATV				S	**Sg**	**21 45 13.2**	**-1.8**
TUTA	**Tutak**	**0.77**	**337**	*i* P	**Pg**	**21 45 03.4**	**-1.8**
TUTA	**Tutak**	**0.77**	**337**	P	**Pg**	**21 45 03.4**	**-1.8**
AGRB	**Hanur-Agry**	**0.90**	**349**	*e*PG	**Pg**	**21 45 05.6**	**-1.9**
AGRB				*e*SG	**Sb**	**21 45 18.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**349**	*e*Pg	**Pg**	**21 45 05.6**	**-1.9**
AGRB				*e*Sg	**Sb**	**21 45 18.5**	**-0.3**
BASK	**Baskale_VAN**	**0.90**	**135**	*i* P	**Pg**	**21 45 05.5**	**-2.1**
BASK	**Baskale_VAN**	**0.90**	**135**	P	**Pg**	**21 45 05.4**	**-2.1**
DYDN	**Diyadin**	**0.93**	**24**	*i* P	**Pb**	**21 45 06.2**	**-1.5**
DYDN				*i* S	**Sn**	**21 45 22.1**	**+0.7**
DYDN	**Diyadin**	**0.93**	**24**	P	**Pb**	**21 45 06.2**	**-1.5**
EKAR	**Karacoban**	**1.05**	**303**	*i* P	**Pg**	**21 45 09.0**	**-1.5**
EKAR				*i* S	**Sn**	**21 45 29.3**	**+4.9**
EKAR	**Karacoban**	**1.05**	**303**	P	**Pg**	**21 45 09.0**	**-1.5**
EATA	**Eleskirt**	**1.29**	**335**	*i* P	**Pg**	**21 45 12.7**	**-2.4**
EATA				*i* S	**Sn**	**21 45 31.8**	**+1.3**
EATA	**Eleskirt**	**1.29**	**335**	P	**Pg**	**21 45 12.7**	**-2.4**
EATA				S	**Sn**	**21 45 31.8**	**+1.3**
VRTB	**Varto-Mus**	**1.44**	**289**	*e*PN	**Pb**	**21 45 16.5**	**+0.1**
VRTB	**Varto-Mus**	**1.44**	**289**	*i* P	**Pg**	**21 45 15.9**	**-1.9**
VRTB				*i* S	**Sn**	**21 45 36.7**	**+2.8**
VRTB	**Varto-Mus**	**1.44**	**289**	P	**Pg**	**21 45 15.9**	**-1.9**
VRTB	**Varto-Mus**	**1.44**	**289**	*e*Pn	**Pb**	**21 45 16.5**	**+0.1**
VRTB				S	**Sn**	**21 45 36.7**	**+2.8**
CUKT	**Cukurca**	**1.48**	**167**	*e*PN	**Pn**	**21 45 16.3**	**+0.4**
CUKT	**Cukurca**	**1.48**	**167**	*e*Pn	**Pn**	**21 45 16.3**	**+0.4**
BNGL	**BINGOL**	**1.62**	**280**	*i* P	**Pb**	**21 45 19.2**	**-0.4**
BNGL				*i* S	**Sg**	**21 45 41.4**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*PN	**Pb**	**21 45 20.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*i* P	**Pb**	**21 45 19.8**	**-0.4**
SVAN				*i* S	**Sg**	**21 45 43.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	P	**Pb**	**21 45 19.8**	**-0.4**
SVAN				S	**Sg**	**21 45 43.4**	**-0.4**
HOMI	**Horasan**	**1.68**	**324**	*i* P	**Pg**	**21 45 20.3**	**-2.1**
HOMI				*i* S	**Sg**	**21 45 47.1**	**+2.7**
BTMN	**Batman**	**1.72**	**243**	*i* P	**Pb**	**21 45 20.9**	**-0.2**
BTMN				*i* S	**Sg**	**21 45 44.7**	**-0.8**
BTMN	**Batman**	**1.72**	**243**	P	**Pb**	**21 45 20.9**	**-0.2**
BTMN				S	**Sg**	**21 45 44.7**	**-0.8**
DIGO	**Kars**	**1.72**	**4**	*i* P	**Pg**	**21 45 20.7**	**-2.6**
DIGO	**Kars**	**1.72**	**4**	P	**Pg**	**21 45 20.7**	**-2.6**
ERZM	**Erzurum**	**1.87**	**311**	*i* P	**Pg**	**21 45 24.1**	**-2.0**
ERZM				*i* S	**Sg**	**21 45 52.4**	**+2.0**
ERZM	**Erzurum**	**1.87**	**311**	P	**Pg**	**21 45 24.0**	**-2.0**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*PN	**Pb**	**21 45 23.9**	**-1.7**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pb**	**21 45 23.9**	**-1.7**
BNGB	**Bing¶ll**	**1.99**	**279**	*e*PN	**Pn**	**21 45 24.2**	**+1.3**
EAK	**Akyaka**	**2.01**	**9**	*i* P	**Pg**	**21 45 27.2**	**-1.6**
EAK	**Akyaka**	**2.01**	**9**	P	**Pg**	**21 45 27.2**	**-1.6**
BINT	**Bingol**	**2.13**	**276**	*e*Pn	**Pn**	**21 45 24.2**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.20**	**291**	*e*PN	**Pn**	**21 45 27.3**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.20**	**291**	*e*Pn	**Pn**	**21 45 27.3**	**+1.5**
MARD	**Mardin**	**2.36**	**235**	*i* P	**Pn**	**21 45 28.7**	**+0.7**
MARD				*i* S	**Sn**	**21 45 59.3**	**+2.8**
MAZI	**Mazidag**	**2.50**	**241**	*e*PN	**Pn**	**21 45 31.8**	**+1.9**
MAZI	**Mazidag**	**2.50**	**241**	*e*Pn	**Pn**	**21 45 31.8**	**+1.9**
PTK	**Pertek**	**2.98**	**275**	*e*PN	**Pn**	**21 45 38.7**	**+2.1**
PTK	**Pertek**	**2.98**	**275**	*e*Pn	**Pn**	**21 45 38.7**	**+2.1**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*PN	**Pn**	**21 45 40.0**	**+2.2**
SVRC	**Sivrice-ELAZID**	**3.07**	**265**	*e*Pn	**Pn**	**21 45 40.0**	**+2.2**

*ISK **27** 22:01:24.4, 38°.69N×43°.11E, h3km, ML3.7*
*CSEM **27** 22:01:25.7±0.2, 38°.68N×43°.10E, h5km, ML3.7, Error ellipse: s-maj=4.2km s-min=3.8km az=7.0*
*ISCJB **27** 22:01:25.9±0.5, 38°.68N±0°.02×43°.13E±0°.02, h9km±4km, mb3.6/10, MS2.7/1, Error ellipse: s-maj=3.5km s-min=2.8km az=151.5*
*DDA **27** 22:01:25.1, 38°.68N×43°.11E, h20km, Ml3.7*
*IDC **27** 22:01:28.8±2.4, 38°.68N×43°.38E, h24km±13km, mb3.5/10, mb1 3.5/17, mb1mx3.4/52, mbtmp3.5/17, ML2.6/6, MS2.7/3, Ms1 2.7/3, ms1mx2.2/62, Error ellipse: s-maj=19.5km s-min=10.0km az=175.0*
*AZER **27** 22:01:30.1±3.2, 38°.17N×43°.61E, h10km, Error ellipse: s-maj=35.0km s-min=11.3km az=65.0*
ISC 27 22:01:26.3±0.9, 38°.69N±0°.02×43°.13E±0°.02, h10km±7km, n119, σ1§57/161, mb3.7/10, 12C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**115**	PG	**Pg**	**22 01 31.1**	**+0.1**
VANB	**Van**	**0.23**	**115**	*i* Pg	**Pg**	**22 01 31.1**	**+0.1**
TVAN	**Van**	**0.27**	**127**	*i* P	**Pb**	**22 01 34.3**	**+0.9**
TVAN				*i* S	**Sb**	**22 01 39.6**	**+1.5**
TVAN	**Van**	**0.27**	**127**	P	**Pb**	**22 01 34.3**	**+0.9**
TVAN				S	**Sb**	**22 01 39.6**	**+1.5**
GEVA	**Gevas**	**0.38**	**188**	*i* P	**Pg**	**22 01 32.6**	**-1.3**
GEVA				*i* S	**Sg**	**22 01 39.5**	**+0.5**
GEVA	**Gevas**	**0.38**	**188**	P	**Pg**	**22 01 32.6**	**-1.3**
GEVA				S	**Sg**	**22 01 39.5**	**+0.5**
VMUR	**Van-Muradiye**	**0.46**	**49**	*i* P	**Pg**	**22 01 35.1**	**-0.2**
VMUR				*i* S	**Sb**	**22 01 42.9**	**-0.5**
VMUR	**Van-Muradiye**	**0.46**	**49**	P	**Pg**	**22 01 35.1**	**-0.2**
VMUR				S	**Sb**	**22 01 42.9**	**-0.5**
TUTA	**Tutak**	**0.75**	**341**	*i* P	**Pg**	**22 01 39.7**	**-1.1**
TUTA				*i* S	**Sg**	**22 01 50.3**	**-0.3**
TUTA	**Tutak**	**0.75**	**341**	P	**Pg**	**22 01 39.7**	**-1.1**
TUTA				S	**Sg**	**22 01 50.3**	**-0.3**
CLDR	**Caldiran**	**0.76**	**54**	*e*PG	**Pg**	**22 01 40.1**	**-0.9**
CLDR				*e*SG	**Sb**	**22 01 51.9**	**-0.4**
CLDR	**Caldiran**	**0.76**	**54**	*i* P	**Pg**	**22 01 39.9**	**-1.1**
CLDR				*i* S	**Sb**	**22 01 51.9**	**-0.4**
CLDR	**Caldiran**	**0.76**	**54**	*e*Pg	**Pg**	**22 01 40.1**	**-0.9**
CLDR				S	**Sb**	**22 01 51.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*PG	**Pg**	**22 01 42.3**	**-1.1**
AGRB	**Hanur-Agry**	**0.89**	**353**	*e*Pg	**Pg**	**22 01 42.3**	**-1.1**
BASK	**Baskale_VAN**	**0.94**	**133**	*i* P	**Pg**	**22 01 42.8**	**-1.6**
BASK				*i* S	**Sb**	**22 01 58.1**	**+0.8**
BASK	**Baskale_VAN**	**0.94**	**133**	P	**Pg**	**22 01 42.8**	**-1.6**
BASK				S	**Sb**	**22 01 58.1**	**+0.8**
DYDN	**Diyadin**	**0.96**	**27**	*i* P	**Pg**	**22 01 43.4**	**-1.3**
DYDN				*i* S	**Sb**	**22 01 57.8**	**0.0**
DYDN	**Diyadin**	**0.96**	**27**	P	**Pg**	**22 01 43.4**	**-1.3**
DYDN				S	**Sb**	**22 01 57.8**	**0.0**
EKAR	**Karacoban**	**1.00**	**304**	*i* P	**Pg**	**22 01 44.6**	**-0.9**
EKAR				*i* S	**Sn**	**22 02 02.9**	**+2.0**
EKAR	**Karacoban**	**1.00**	**304**	P	**Pg**	**22 01 44.7**	**-0.9**
HAKT	**HAKKARI**	**1.22**	**158**	*i* P	**Pb**	**22 01 47.0**	**-2.5**
HAKT				*i* S	**Sn**	**22 02 07.0**	**+0.8**
HAKT	**HAKKARI**	**1.22**	**158**	P	**Pb**	**22 01 47.0**	**-2.5**
HAKT				S	**Sn**	**22 02 07.0**	**+0.8**
EATA	**Eleskirt**	**1.27**	**337**	*i* P	**Pn**	**22 01 49.0**	**-1.3**
EATA				*i* S	**Sn**	**22 02 07.6**	**+0.1**
EATA	**Eleskirt**	**1.27**	**337**	P	**Pn**	**22 01 49.0**	**-1.3**
EATA				S	**Sn**	**22 02 07.6**	**+0.1**
VRTB	**Varto-Mus**	**1.39**	**290**	*e*PN	**Pn**	**22 01 50.8**	**-0.9**
VRTB				*e*SN	**Sg**	**22 02 10.9**	**0.0**
VRTB	**Varto-Mus**	**1.39**	**290**	*i* P	**Pn**	**22 01 50.9**	**-0.9**
VRTB				*i* S	**Sb**	**22 02 08.3**	**-1.8**
VRTB	**Varto-Mus**	**1.39**	**290**	P	**Pn**	**22 01 50.9**	**-0.9**
VRTB				S	**Sb**	**22 02 08.3**	**-1.8**
VRTB				*e*Sn	**Sg**	**22 02 10.9**	**0.0**
CUKT	**Cukurca**	**1.49**	**165**	*e*PN	**Pn**	**22 01 52.3**	**-0.9**
CUKT	**Cukurca**	**1.49**	**165**	*i* P	**Pn**	**22 01 52.7**	**-0.5**
CUKT				*i* S	**Sg**	**22 02 16.6**	**+2.4**
CUKT	**Cukurca**	**1.49**	**165**	*e*Pn	**Pn**	**22 01 52.3**	**-0.9**
CUKT	**Cukurca**	**1.49**	**165**	P	**Pn**	**22 01 52.7**	**-0.5**
CUKT				S	**Sg**	**22 02 16.6**	**+2.4**
BNGL	**BINGOL**	**1.57**	**280**	*i* P	**Pn**	**22 01 54.0**	**-0.3**
BNGL				*i* S	**Sg**	**22 02 15.9**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.61**	**251**	*e*PN	**Pn**	**22 01 55.0**	**+0.3**
**SVAN

0.3nm,0.3s,baz=174,slow=23,SNR=6.6
MMAI Mount Meron Ar 8.45 230 Pn **Pn 22 03 30.5 +1.8**
0.2nm,0.3s,baz=59,slow=17,SNR=2.8
GEYT Alibeck 11.80 89 Pn **Pn 22 04 13.2 -1.5**
0.0nm,0.3s,baz=294,slow=4.6,SNR=2.1
AKASG Malin Array Be 15.52 325 Pn **Pn 22 05 05.5 +0.5**
0.4nm,0.3s,baz=134,slow=11,SNR=8.1
AKTO Aktyubinsk 15.79 37 Pn **Pn 22 05 06.6 -1.9**
0.1nm,0.3s,baz=228,slow=12,SNR=3.0
AKTO LR LR 22 12 36.0
comp=Z,21nm,20.7s,baz=172,slow=42
VYHS Vyhne 20.06 307 *e*P Pn 22 06 03.9 +2.6
ARU Arti 20.49 25 P **P 22 06 04.3 +0.2**
1.8nm,0.7s,baz=261,slow=8.9,SNR=4.4
GERES GERESS Array B 23.41 305 P **P 22 06 38.8 +3.5**
0.2nm,0.6s,baz=110,slow=14,SNR=4.4
BVAR Borovoye Array 23.60 44 P **P 22 06 37.0 -0.1**
0.4nm,0.7s,baz=216,slow=14,SNR=3.5
AAK Ala-Archa 24.04 71 LR LR 22 17 15.7
comp=Z,29nm,20.6s,baz=204,slow=40
FINES FINESS Array B 25.11 341 P **P 22 06 50.2 -0.7**
1.8nm,0.9s,baz=174,slow=9.6,SNR=4.3
KURBB Kurchatov Arra 27.59 53 P **P 22 07 13.4 0.0**
0.7nm,0.7s,baz=262,slow=8.9,SNR=6.9
HFS Hagfors 28.34 329 P **P 22 07 20.8 +0.8**
2.0nm,0.9s,baz=108,slow=9.3,SNR=2.8
MKAR Makanchi Array 29.63 61 P **P 22 07 30.9 -0.7**
0.3nm,0.5s,baz=270,slow=5.8,SNR=3.5
CMAR Chiang Mai Arr 52.17 96 P **P 22 10 36.2 -1.0**
0.4nm,0.4s,baz=296,slow=9.1,SNR=4.5
KSRS Korea Array 64.31 62 P **P 22 12 01.1 -0.7**
0.8nm,0.6s,baz=280,slow=5.9,SNR=3.7
PETK Petropavlovsk- 72.51 35 P **P 22 12 53.3 +0.3**
6.6nm,1.0s,baz=327,slow=10,SNR=2.9
YKA Yellowknife Ar 77.58 350 P **P 22 13 22.9 +0.9**
2.9nm,0.9s,baz=16,slow=6.3,SNR=2.9

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*ISCJB **27** 22:11:43.8±1.7,29°.48S±0°.09×175°.8W±0°.1,h36km, mb3.8/3,MS3.3/2,Error ellipse: s-maj=18.5km s-min=12.3km az=158.5*
*IDC **27** 22:11:52.4±4.0,28°.97S×176°.31W,h72km±28km,mb3.5/3, mb1 3.7/3,mb1mx3.3/40,mbtmp3.8/3,MS3.4/3,Ms1 3.4/3, ms1mx2.9/21,Error ellipse: s-maj=58.6km s-min=35.3km az=177.0*
ISC 27 22:11:47.0±1.1,29°.4S±0°.1×176°.0W±0°.1,h36km,n14, σ1§32/13,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**274**	P	**Pn**	**22 12 14.7**	**+0.8**
	182nm,0.3s,baz=82,slow=7.5,SNR=9.5						
RAO				S	**Sn**	**22 12 35.1**	**+0.8**
	437nm,0.3s,baz=91,slow=22,SNR=9.5						
URZ	**Urewera**	**10.54**	**211**	P	**Pn**	**22 14 14.4**	**-1.1**
	0.5nm,0.3s,baz=42,slow=15,SNR=2.6						
URZ				S	**Sn**	**22 16 13.0**	**+0.7**
	1.0nm,0.3s,baz=163,slow=19,SNR=6.3						
DZM	**Mont Dzumac**	**17.41**	**291**	LR	LR	22 20 59.4	
	comp=Z,155nm,18.0s,baz=202,slow=32						
RPZ	**Rata Peaks**	**17.66**	**212**	P	**P**	**22 15 50.3**	**-0.4**
	0.6nm,0.3s,baz=309,slow=1.7,SNR=3.3						
PPT2	**Papeete2**	**26.86**	**70**	eLR	LR	22 23 45.8	
	107nm,28.0s						
PPT	**Papeete**	**26.87**	**70**	LR	LR	22 26 44.7	
	comp=Z,56nm,20.1s,baz=190,slow=33						
ASAR	**Alice Springs**	**44.92**	**265**	P	**P**	**22 19 57.7**	**-0.8**
	0.4nm,0.4s,baz=106,slow=7.9,SNR=6.0						
ASAR				LR	LR	22 38 32.2	
	comp=Z,46nm,18.8s,baz=118,slow=36						
WRA	**Warramunga Arr**	**45.82**	**270**	P	**P**	**22 20 04.2**	**-1.5**
	0.6nm,0.3s,baz=108,slow=7.9,SNR=9.0						
FITZ	**Fitzroy Crossi**	**54.12**	**268**	P	**P**	**22 21 08.6**	**0.0**
	1.3nm,0.8s,baz=98,slow=7.1,SNR=3.1						
ARCES	**ARCESS Array B**	**137.95**	**349**	PKP	**PKPdf**	**22 31 06.6**	**-0.3**
	2.4nm,0.9s,baz=22,slow=22,SNR=11						
FINES	**FINESS Array B**	**144.76**	**342**	PKP	**PKPab**	**22 31 17.3**	**-0.8**
	2.1nm,0.8s,baz=2.9,slow=2.8,SNR=3.1						
NOA	**NORSAR Array B**	**147.98**	**353**	PKPbc	**PKPbc**	**22 31 27.9**	**0.0**
	0.7nm,0.7s,baz=15,slow=4.4,SNR=2.5						
AKASG	**Malin Array Be**	**151.50**	**325**	PKPbc	**PKPbc**	**22 31 37.3**	**+0.5**
	0.2nm,0.3s,baz=44,slow=3.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**163.70**	**172**	PKPab	**PKPab**	**22 32 41.8**	**+3.2**
	1.2nm,0.9s,baz=206,slow=4.3,SNR=6.1						

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*KRNET **27** 22:16:21.1±0.1,39°.88N×72°.33E,h24km,mb2.2*
*NNC **27** 22:16:33.8±8.0,40°.46N×72°.23E,h0km,mb2.7,mpv2.3, Error ellipse: s-maj=74.9km s-min=51.1km az=157.0*
*SOME **27** 22:16:36.4,40°.48N×72°.32E,h25km*
ISC 27 22:16:21.5±1.6,39°.78N±0°.10×72°.35E±0°.04,h14km±13km, n15,σ1§37/26,14C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.92**	**75**	⇑*eP*	**Pg**	**22 16 38.5**	**-0.8**
	baz=81						
SFK				⇑*iS*	**Sg**	**22 16 51.4**	**0.0**
	baz=81						
BTK	**Batken**	**1.21**	**284**	⇑*iP*	**Pn**	**22 16 43.6**	**-0.5**
	baz=279						
BTK				⇑*iS*	**Sb**	**22 16 59.4**	**-0.4**
	baz=279						
ARSB	**Arslanbob**	**1.62**	**17**	⇑*iP*	**Pn**	**22 16 49.0**	**-0.8**
	baz=18						
ARSB				⇑*iS*	**Sn**	**22 17 09.6**	**-1.0**
	baz=18						
TOKL	**Toktogul**	**2.20**	**10**	⇑*iP*	**Pn**	**22 16 58.3**	**+0.6**
	baz=11						
TOKL				⇑*iS*	**Sn**	**22 17 25.0**	**+0.2**
	baz=11						
AML	**Almayashu**	**2.56**	**23**	⇑*iP*	**Pn**	**22 17 03.3**	**+0.3**
	baz=24						
AML				⇑*iS*	**Sn**	**22 17 33.4**	**-0.8**
	baz=24						
MNAS	**Manas**	**2.71**	**2**	⇓*eP*	**Pn**	**22 17 05.0**	**+0.2**
	baz=3.0						
MNAS				⇓*iS*	**Sn**	**22 17 37.5**	**0.0**
	baz=3.0						
MNAS	**Manas**	**2.71**	**2**	⇓Pn	**Pn**	**22 17 05.0**	**+0.2**
	0.6nm,0.4s						
MNAS				⇓Lg	Lg	22 17 40.5	
	1.6nm,0.3s						
IUG	**Iuzhnay**	**2.95**	**324**	*eP*	**Pg**	**22 17 18.2**	**+0.2**
	2.5nm,0.2s						
IUG				*eS*	**Sb**	**22 17 48.1**	**-1.7**
	11nm,0.6s						
MRKS	**Merke**	**3.04**	**12**	*eP*	**Pb**	**22 17 17.2**	**+1.7**
	1.3nm,0.3s						
MRKS				*eS*	**Sn**	**22 17 45.9**	**+0.4**
	3.6nm,0.4s						
EKS2	**Erkin-Say**	**3.08**	**20**	⇓*iP*	**Pn**	**22 17 10.6**	**+0.8**
	baz=21						
EKS2				⇓*iS*	**Sn**	**22 17 45.7**	**-0.8**
	baz=21						
AAK	**Ala-Archa**	**3.29**	**29**	⇑Pn	**Pb**	**22 17 19.0**	**-0.7**
	1.1nm,0.6s						
AAK				⇓Lg	Lg	22 17 58.5	
	2.3nm,0.4s						
KK31	**Karatay Array**	**3.60**	**338**	⇑Pn	**Pb**	**22 17 26.0**	**+1.0**
	0.3nm,0.3s,baz=150,slow=14						
KK31				⇓Lg	Lg	22 18 07.8	
	0.7nm,0.3s,baz=159,slow=30,SNR=3.5						
BRLS	**Borolday**	**3.76**	**331**	*eP*	**Pb**	**22 17 30.6**	**+2.9**
	0.3nm,0.2s						
BRLS				*eS*	**Sb**	**22 18 10.0**	**-3.2**
	0.9nm,0.5s						
TKM2	**Tokmak 2**	**3.98**	**37**	⇑Pn	**Pb**	**22 17 33.7**	**+2.1**
	2.0nm,1.0s						
TKM2				⇑Lg	Lg	22 18 21.5	
	1.7nm,0.6s						
DGS	**Degeres**	**4.31**	**35**	*eP*	**Pg**	**22 17 42.7**	**-1.4**
	0.9nm,0.5s						
DGS				*eS*	**Sb**	**22 18 30.9**	**+1.8**
	2.2nm,0.5s						

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*ISCJB **27** 22:17:59.9±0.5,16°.28S±0°.09×178°.79W±0°.06,h150km, mb4.2/16,Error ellipse: s-maj=12.5km s-min=7.7km az=167.3*
*NEIC **27** 22:18:00.4±0.7,16°.30S×178°.78W,h142km±7km,mb4.5/11, Error ellipse: s-maj=7.8km s-min=6.9km az=200.0*
*IDC **27** 22:18:00.8±4.0,16°.27S×178°.79W,h145km±47km,mb3.9/3, mb1 4.1/4,mb1mx3.5/33,mbtmp4.4/4,Error ellipse: s-maj=88.4km s-min=33.8km az=157.0*
ISC 27 22:18:01.2±0.5,16°.28S±0°.10×178°.76W±0°.07,h150km, n21,σ0§44/23,mb4.3/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.15**	**72**	P	**Pn**	**22 19 43.2**	**-0.1**
	9.0nm,0.3s,baz=250,slow=12,SNR=9.6						
AFI				S	**Sn**	**22 21 03.5**	**+0.1**
	1.7nm,0.3s,baz=36,slow=17,SNR=2.4						
AFI	**Afiamalu**	**7.15**	**72**	*e*Pn	**Pn**	**22 19 42.6**	**-0.7**
	39nm,0.5s						
AFI				S	**Sn**	**22 21 03.5**	**+0.1**
FUNA	**Funafuti**	**7.96**	**345**	*e*Pn	**Pn**	**22 19 53.7**	**-0.4**
RAO	**Raoul Island**	**12.93**	**177**	*e*Pn	**Pn**	**22 20 58.8**	**-0.6**
	93nm,0.4s						
HNR	**Honiara**	**21.83**	**286**	P	**P**	**22 22 41.9**	**0.0**
	9.3nm,0.3s						
CTAO	**Charters Tower**	**33.41**	**258**	P	**P**	**22 24 25.9**	**0.0**
	2.2nm,0.4s						
PMG	**Port Moresby**	**33.88**	**277**	*e*P	**P**	**22 24 29.9**	**0.0**
	6.9nm,0.9s						
WRAB	**Tennant Creek**	**44.60**	**258**	*e*P	**P**	**22 25 58.1**	**-0.7**
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.62**	**258**	P	**P**	**22 25 58.2**	**-0.7**
	0.3nm,0.3s,baz=93,slow=8.0,SNR=8.1						
ASAR	**Alice Springs**	**44.93**	**253**	P	**P**	**22 26 01.8**	**+0.4**
	18nm,0.4s,baz=85,slow=8.3,SNR=150						
GUMO	**Guam**	**46.62**	**307**	*e*P	**P**	**22 26 14.1**	**-0.5**
	99nm,1.2s						
TATO	**Taipei**	**71.21**	**304**	P	**P**	**22 29 04.1**	**0.0**
	3.4nm,0.4s						
KSM	**Kuching**	**72.15**	**277**	*e*P	**P**	**22 29 09.8**	**-0.2**
	1.8nm,0.7s						
CMB	**Columbia Colle**	**76.90**	**44**	P	**P**	**22 29 37.1**	**+0.1**
	2.5nm,0.3s						
KULM	**Kulim**	**82.48**	**278**	*e*P	**P**	**22 30 08.5**	**+0.9**
	3.9nm,0.8s						
ENH	**Enshi**	**83.08**	**304**	*e*P	**P**	**22 30 10.7**	**+0.3**
	1.7nm,0.5s						
PMSA	**Palmer Station**	**85.43**	**157**	*e*P	**P**	**22 30 21.8**	**+0.3**
	13nm,0.9s						
SDCO	**Great Sand Dun**	**87.17**	**49**	P	**P**	**22 30 31.4**	**+0.5**
	0.1nm,0.4s						
SONM	**Songino Array**	**92.10**	**319**	P	**P**	**22 30 53.7**	**+0.1**
	0.6nm,1.0s,baz=114,slow=1.7,SNR=3.2						
EFI	**East Falkland**	**95.01**	**147**	*e*P	**P**	**22 31 07.0**	**+0.3**
	44nm,1.3s						
BOSA	**Boshof**	**129.68**	**208**	PKP	**PKPdf**	**22 36 53.4**	**0.0**
	2.4nm,0.9s,baz=155,slow=3.5,SNR=3.0						

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*AZER **27** 22:31:18.8±2.1,37°.98N×42°.53E,h8km,Error ellipse: s-maj=22.5km s-min=15.8km az=77.0*
*DDA **27** 22:31:25.8,38°.63N×43°.55E,h15km,MI3.8*
*ISK **27** 22:31:26.1,38°.65N×43°.61E,h7km,ML3.7*
*CSEM **27** 22:31:26.7±0.2,38°.64N×43°.53E,h2km,ML3.8,Error ellipse: s-maj=4.9km s-min=4.0km az=128.0*
ISC 27 22:31:26.6±0.7,38°.64N±0°.02×43°.57E±0°.02,h12km±5km, n105,σ2§10/141,13C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**251**	PG	**Pg**	**22 31 30.7**	**+0.5**
VANB	**Van**	**0.15**	**251**	*i* Pg	**Pg**	**22 31 30.7**	**+0.5**
TVAN	**Van**	**0.17**	**229**	*i* P	**Pb**	**22 31 33.4**	**+1.5**
TVAN				*i* S	**Sb**	**22 31 38.0**	**+4.6**
VMUR	**Van-Muradiye**	**0.35**	**0**	*i* P	**Pg**	**22 31 32.7**	**-0.9**
VMUR				*i* S	**Sg**	**22 31 39.6**	**+1.3**
VMUR	**Van-Muradiye**	**0.35**	**0**	P	**Pg**	**22 31 32.7**	**-0.9**
VMUR				S	**Sg**	**22 31 39.6**	**+1.3**
GEVA	**Gevas**	**0.52**	**231**	*i* P	**Pg**	**22 31 36.1**	**-0.7**
GEVA				*i* S	**Sn**	**22 31 47.6**	**-1.3**
GEVA	**Gevas**	**0.52**	**231**	P	**Pg**	**22 31 36.1**	**-0.7**
CLDR	**Caldiran**	**0.57**	**28**	*e*PG	**Pg**	**22 31 37.3**	**-0.4**
CLDR				*e*SG	**Sg**	**22 31 45.4**	**+0.1**
CLDR	**Caldiran**	**0.57**	**28**	*i* P	**Pg**	**22 31 37.0**	**-0.7**
CLDR				*i* S	**Sb**	**22 31 47.9**	**+1.1**
CLDR	**Caldiran**	**0.57**	**28**	P	**Pg**	**22 31 37.0**	**-0.7**
CLDR	**Caldiran**	**0.57**	**28**	*e*Pg	**Pg**	**22 31 37.3**	**-0.4**
CLDR				*e*Sg	**Sg**	**22 31 45.4**	**+0.1**
CLDR				S	**Sb**	**22 31 47.9**	**+1.1**
BASK	**Baskale_VAN**	**0.68**	**150**	*i* P	**Pb**	**22 31 39.7**	**-0.8**
BASK				*i* S	**Sn**	**22 31 51.3**	**-1.6**
BASK	**Baskale_VAN**	**0.68**	**150**	P	**Pb**	**22 31 39.7**	**-0.8**
DYDN	**Diyadin**	**0.90**	**6**	*i* P	**Pb**	**22 31 43.0**	**-1.4**
DYDN				*i* S	**Sn**	**22 31 57.7**	**-0.7**
DYDN	**Diyadin**	**0.90**	**6**	P	**Pb**	**22 31 43.0**	**-1.4**
DYDN				S	**Sn**	**22 31 57.7**	**-0.7**
TUTA	**Tutak**	**0.96**	**322**	*i* P	**Pb**	**22 31 43.8**	**-1.5**
TUTA				*i* S	**Sb**	**22 31 58.3**	**+0.2**
TUTA	**Tutak**	**0.96**	**322**	P	**Pb**	**22 31 43.8**	**-1.5**
TUTA				S	**Sb**	**22 31 58.3**	**+0.2**
TATV	**Tatvan**	**1.03**	**263**	*i* P	**Pb**	**22 31 44.9**	**-1.6**
TATV				*i* S	**Sb**	**22 32 00.6**	**+0.6**
TATV	**Tatvan**	**1.03**	**263**	P	**Pb**	**22 31 44.9**	**-1.6**
TATV				S	**Sb**	**22 32 00.6**	**+0.6**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*PG	**Pb**	**22 31 46.4**	**-0.2**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*Pg	**Pb**	**22 31 46.4**	**-0.2**
HAKT	**HAKKARI**	**1.09**	**174**	*i* P	**Pb**	**22 31 46.3**	**-1.2**
HAKT	**HAKKARI**	**1.09**	**174**	P	**Pb**	**22 31 46.3**	**-1.2**
EKAR	**Karacoban**	**1.32**	**298**	*i* P	**Pn**	**22 31 51.2**	**+0.1**
EKAR	**Karacoban**	**1.32**	**298**	P	**Pn**	**22 31 51.2**	**+0.1**
CUKT	**Cukurca**	**1.39**	**179**	*e*PN	**Pg**	**22 31 52.7**	**-0.7**
CUKT	**Cukurca**	**1.39**	**179**	*i* P	**Pb**	**22 31 51.6**	**-1.0**
CUKT				*i* S	**Sg**	**22 32 16.1**	**+4.7**
CUKT	**Cukurca**	**1.39**	**179**	P	**Pb**	**22 31 51.7**	**-1.0**
CUKT	**Cukurca**	**1.39**	**179**	*e*Pn	**Pg**	**22 31 52.7**	**-0.7**
EATA	**Eleskirt**	**1.48**	**326**	*i* P	**Pn**	**22 31 53.1**	**-0.2**
EATA				*i* S	**Sg**	**22 32 15.2**	**+1.0**
EATA	**Eleskirt**	**1.48**	**326**	P	**Pn**	**22 31 53.2**	**-0.2**
EATA				S	**Sg**	**22 32 15.2**	**+1.0**
NAX	**Nakhchivan**	**1.59**	**70**	⇑P	**Pg**	**22 31 56.4**	**-0.7**
	SNR=31						
NAX				⇓S	**Sg**	**22 32 22.2**	**+4.4**
NAX	**Nakhchivan**	**1.59**	**70**	P	**Pg**	**22 31 56.4**	**-0.7**
	SNR=31						
NAX				S	**Sg**	**22 32 22.2**	**+4.4**
VRTB	**Varto-Mus**	**1.73**	**288**	*e*PN	**Pb**	**22 31 58.3**	**-0.1**
VRTB				*e*SN	**Sb**	**22 32 21.2**	**+1.1**
VRTB	**Varto-Mus**	**1.73**	**288**	*i* P	**Pb**	**22 31 57.8**	**-0.6**
VRTB				*i* S	**Sg**	**22 32 25.1**	**+2.9**
VRTB	**Varto-Mus**	**1.73**	**288**	P	**Pb**	**22 31 57.8**	**-0.6**
VRTB	**Varto-Mus**	**1.73**	**288**	*e*Pn	**Pb**	**22 31 58.3**	**-0.1**
VRTB				*e*Sn	**Sb**	**22 32 21.2**	**+1.1**
DIGO	**Kars**	**1.78**	**355**	*i* P	**Pb**	**22 31 58.9**	**-0.3**
DIGO				*i* S	**Sg**	**22 32 29.8**	**+6.1**
DIGO	**Kars**	**1.78**	**355**	P	**Pb**	**22 31 58.9**	**-0.3**
HOMI	**Horasan**	**1.91**	**318**	*i* P	**Pb**	**22 32 01.1**	**-0.4**
HOMI				*i* S	**Sg**	**22 32 28.9**	**+1.0**
BNGL	**BINGOL**	**1.92**	**280**	*i* P	**Pb**	**22 32 01.1**	**-0.5**
BNGL				*i* S	**Sg**	**22 32 28.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	*e*PN	**Pb**	**22 32 00.6**	**-1.0**
SVAN				*e*SN	**Sb**	**22 32 25.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	*i* P	**Pn**	**22 32 00.4**	**+1.1**
SVAN				*i* S	**Sg**	**22 32 28.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.93**	**256**	P	**Pn**	**22 32 00.4**	**+1.1**
SVAN				*e*Sn	**Sb**	**22 32 25.5**	**-0.2**
BTMN	**Batman**	**1.96**	**248**	*i* P	**Pn**	**22 32 00.8**	**+1.1**
BTMN				*i* S	**Sg**	**22 32 29.9**	**+0.3**
BTMN	**Batman**	**1.96**	**248**	P	**Pn**	**22 32 00.8**	**+1.1**
EAK	**Akyaka**	**2.04**	**1**	*i* P	**Pb**	**22 32 03.1**	**-0.6**
EAK	**Akyaka**	**2.04**	**1**	P	**Pb**	**22 32 03.1**	**-0.6**
ERZM	**Erzurum**	**2.13**	**307**	*i* P	**Pb**	**22 32 04.0**	**-1.2**
ERZM	**Erzurum**	**2.13**	**307**	P	**Pb**	**22 32 04.0**	**-1.2**
SENK	**Senkaya-Erzuru**	**2.13**	**334**	*e*PN	**Pn**	**22 32 02.8**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.13**	**334**	*e*Pn	**Pn**	**22 32 02.8**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.24**	**296**	*i* P	**Pn**	**22 32 04.8**	**+1.1**
ECAT	**Cat-ERZURUM**	**2.24**	**296**	P	**Pn**	**22 32 04.8**	**+1.1**
BNGB	**Bing¶ll**	**2.29**	**280**	*e*PN	**Pn**	**22 32 05.2**	**+1.0**
BINT	**Bingol**	**2.42**	**276**	*e*Pn	**Pn**	**22 32 05.2**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.49**	**290**	*e*PN	**Pn**	**22 32 08.6**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.49**	**290**	*e*Pn	**Pn**	**22 32 08.6**	**+1.6**
MARD	**Mardin**	**2.58**	**240**	*i* P	**Pn**	**22 32 09.5**	**+1.3**
MARD				*i* S	**Sb**	**22 32 44.4**	**-0.1**
DDEM	**Demirkent**	**2.65**	**329**	*i* P	**Pb**	**22 32 14.6**	**+0.6**
GDB	**GEDABAY**	**2.67**	**38**	⇓P	**Pb**	**22 32 13.3**	**-1.1**
	SNR=5.2						
GDB				⇓S	**Sg**	**22 32 57.9**	**+5.4**
GDB	**GEDABAY**	**2.67**	**38**	P	**Pb**	**22 32 13.3**	**-1.1**
	SNR=5.2						
MAZI	**Mazidag**	**2.73**	**245**	*e*PN	**Pn**	**22 32 11.3**	**+0.9**
MAZI	**Mazidag**	**2.73**	**245**	*e*Pn	**Pn**	**22 32 11.3**	**+0.9**
AKH	**Akhalkalaki**	**2.76**	**359**	*e*PN	**Pn**	**22 32 11.1**	**+0.2**
AKH	**Akhalkalaki**	**2.76**	**359**	P	**Pb**	**22 32 17.4**	**+1.4**
AKH				S	**Sg**	**22 32 59.7**	**+4.3**
AKH	**Akhalkalaki**	**2.76**	**359**	*e*Pn	**Pn**	**22 32 11.1**	**+0.2**
QZX	**Qazax, Azerbai**	**2.78**	**29**	⇓P	**Pg**	**22 32 18.2**	**-1.7**
	SNR=4.5						
QZX				⇓S	**Sg**	**22 32 59.2**	**+3.3**
GANJ	**Ganja**	**2.92**	**46**	⇑P	**Pn**	**22 32 15.1**	**+2.2**
	SNR=14						
GANJ				⇑S	**Sg**	**22 33 07.8**	**+7.6**
GANJ	**Ganja**	**2.92**	**46**	P	**Pn**	**22 32 15.1**	**+2.2**
	SNR=14						
DGRG	**David-gareji**	**3.13**	**26**	P	**Pb**	**22 32 23.0**	**+0.9**
ERZN	**Erzincan**	**3.14**	**289**	*e*PN	**Pn**	**22 32 18.3**	**+2.3**
TBLG	**Delisi**	**3.21**	**16**	*e*PN	**Pn**	**22 32 18.7**	**+1.8**
TBLG	**Delisi**	**3.21**	**16**	P	**Pb**	**22 32 24.7**	**+1.1**
TBLG				S	**Sg**	**22 33 09.7**	**0.0**
TBLG	**Delisi**	**3.21**	**16**	*e*Pn	**Pn**	**22 32 18.7**	**+1.8**
BRDA	**Brd**	**3.23**	**59**	⇑S	**Sg**	**22 33 15.7**	**+5.5**
PTK	**Pertek**	**3.28**	**276**	*e*PN	**Pn**	**22 32 20.2**	**+2.3**
PTK	**Pertek**	**3.28**	**276**	*e*Pn	**Pn**	**22 32 20.2**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.36**	**267**	*e*PN	**Pn**	**22 32 21.7**	**+2.7**
SVRC	**Sivrice-ELAZID**	**3.36**	**267**	*e*Pn	**Pn**	**22 32 21.7**	**+2.7**
MNGR	**Mingechevir, A**	**3.44**	**51**	⇑S	**Sg**	**22 33 20.8**	**+3.6**
EZC	**Erzincan**	**3.46**	**290**	*e*Pn	**Pn**	**22 32 18.3**	**-2.1**
ZRD	**Zardab**	**3.58**	**62**	⇑P	**Pb**	**22 32 29.0**	**-0.7**
	SNR=5.4						
ZRD				⇓S	**Sg**	**22 33 24.4**	**+2.9**
LRK	**Lerik**	**3.73**	**89**	P	Pb	22 32 27.8	-4.8
	SNR=5.1						
LRK	**Lerik**	**3.73**	**89**	P	Pb	22 32 27.8	-4.8
	SNR=5.1						
SEKA	**Sheki**	**3.79**	**46**	⇓P	**Pb**	**22 32 33.4**	**0.0**
	SNR=4.1						
SEKA				⇑S	**Sg**	**22 33 30.5**	**+2.3**
ZKTA	**Zakatala**	**3.80**	**37**	⇓P	**Pb**	**22 32 32.6**	**-0.9**
	SNR=12						
ZKTA				⇑S	**Sg**	**22 33 28.7**	**+0.2**
GLBA	**Clilabad**	**3.81**	**79**	⇑P	**Pb**	**22 32 31.2**	**-2.5**
	SNR=4.9						
GLBA				⇑S	**Sg**	**22 33 27.1**	**-1.7**
GLBA	**Clilabad**	**3.81**	**79**	P	**Pb**	**22 32 31.2**	**-2.5**
	SNR=4.9						
URFA	**Urfa**	**3.94**	**254**	*e*PN	**Pn**	**22 32 29.4**	**+2.5**
URFA	**Urfa**	**3.94**	**254**	*e*Pn	**Pn**	**22 32 29.4**	**+2.5**
ONI	**Oni**	**3.94**	**359**	P	**Pb**	**22 32 38.9**	**+2.8**
QBL	**Gabala**	**4.01**	**54**	⇑P	**Pb**	**22 32 35.7**	**-1.5**
	SNR=12						
LKRN	**Lenkeran, Azer**	**4.08**	**87**	⇓P	**Pb**	**22 32 34.0**	**-4.3**
LKRN	**Lenkeran, Azer**	**4.08**	**87**	P	**Pb**	**22 32 34.0**	**-4.3**
ASTR	**Astara**	**4.09**	**90**	⇓P	**Pn**	**22 32 32.8**	**+3.9**
ASTR	**Astara**	**4.09**	**90**	P	**Pn**	**22 32 32.8**	**+3.9**
XNQ	**Khinaliq**	**4.33**	**53**	⇓P	**Pb**	**22 32 40.1**	**-2.6**
	SNR=4.6						
PQL	**Pirkuli**	**4.43**	**59**	⇑P	Pb	22 32 40.0	-4.3
PQL	**Pirkuli**	**4.43**	**59**	P	Pb	22 32 40.0	-4.3
GBS	**Qobustan**	**4.56**	**64**	⇓P	**Pb**	**22 32 43.7**	**-2.8**
QSAR	**Qusar**	**4.60**	**50**	⇓P	**Pb**	**22 32 44.0**	**-3.2**
QUBA	**Quba, Azerbaij**	**4.65**	**53**	⇓P	**Pb**	**22 32 44.5**	**-3.6**
ATGJ	**Altiaghaj**	**4.69**	**60**	⇑P	**Pb**	**22 32 45.1**	**-3.7**
SIZA	**Siyzn**	**4.76**	**58**	⇓P	**Pb**	**22 32 46.2**	**-3.9**

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*NIED **27** 22:32:00,39°.20N×143°.20E,h23km,Mw3.6 Best double couple: M0=2.53000×10^14 NP1:φ=270.00000°,δ=32.00000°, λ=-67.00000°. NP2:φ=64.00000°,δ=61.00000°, λ=-104.00000°.*
JMA 27 22:32:22.6±0.2,39°.24N×143°.20E,h14km±2km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.12**	**288**	P	Pb	22 32 43.1	-0.7
MIYJ				*e*S	Sb	22 32 58.0	-0.2
OFUJ	**Ofunato**	**1.20**	**263**	P	Pn	22 32 44.5	-0.5
JTH	**Tanohata**	**1.25**	**304**	P	Pn	22 32 45.5	-0.1
JTH				*e*S	Sb	22 33 01.8	0.0
JOM	**Ohasama**	**1.50**	**280**	P	Pn	22 32 49.3	+0.3
JOM				*e*S	Sb	22 33 08.8	-0.2
**JMK

KHAL					S		Sn	22 34 09.5	+1.7
BOLV	**Bolvadin**		**1.46**	**13**	*i* P		**Pg**	22 33 50.8	-0.2
BOLV					*i* S		**Sg**	22 34 13.6	+3.7
BOLV	**Bolvadin**		**1.46**	**13**	P		**Pg**	22 33 50.8	-0.2
KMER	**Konya-Meram**		**1.53**	**71**	*i* P		**Pb**	22 33 51.0	-1.2
KMER					*i* S		**Sg**	22 34 13.2	+1.1
KMER	**Konya-Meram**		**1.53**	**71**	P		**Pb**	22 33 51.0	-1.2
KMER					S		**Sg**	22 34 13.2	+1.1
KONT	**Konya--Tatoy**		**1.58**	**65**	*e*PN		**Pg**	22 33 52.8	-0.6
KONT	**Konya--Tatoy**		**1.58**	**65**	*i* P		**Pg**	22 33 52.6	-0.8
KONT					*i* S		**Sg**	22 34 15.6	+1.7
KONT	**Konya--Tatoy**		**1.58**	**65**	*e*Pn		**Pg**	22 33 52.8	-0.6
DALY	**Dalyan (Mu¨la**		**1.58**	**253**	*e*PN		**Pb**	22 33 52.2	-0.9
DALY	**Dalyan (Mu¨la**		**1.58**	**253**	*i* P		**Pb**	22 33 52.0	-1.1
DALY					*i* S		**Sg**	22 34 15.7	+1.7
DALY	**Dalyan (Mu¨la**		**1.58**	**253**	P		**Pb**	22 33 52.0	-1.1
DALY	**Dalyan (Mu¨la**		**1.58**	**253**	*e*Pn		**Pb**	22 33 52.2	-0.9
DALY					S		**Sg**	22 34 15.7	+1.7
TURN	**Turunc**		**1.61**	**255**	*i* P		**Pg**	22 33 57.6	+3.8
TURN					*i* S		Sg	22 34 23.2	+8.5
LADK	**Ladik-KONYA**		**1.70**	**57**	*e*PN		**Pb**	22 33 53.8	-1.4
LADK	**Ladik-KONYA**		**1.70**	**57**	*e*Pn		**Pb**	22 33 53.8	-1.4
KDHN	**Kadinhani**		**1.75**	**45**	*i* P		**Pn**	22 33 53.8	-0.7
KDHN	**Kadinhani**		**1.75**	**45**	P		**Pn**	22 33 53.8	-0.7
KULA	**Kula-Manisa**		**1.92**	**310**	*e*PN		**Pb**	22 33 57.5	-1.4
KULA	**Kula-Manisa**		**1.92**	**310**	*e*Pn		**Pb**	22 33 57.5	-1.4
MANT	**Manisa**		**1.97**	**308**	*i* P		**Pn**	22 33 57.5	-0.2
MANT					*i* S		**Sb**	22 34 24.3	-0.7
MANT	**Manisa**		**1.97**	**308**	P		**Pn**	22 33 57.5	-0.2
MANT					S		**Sb**	22 34 24.3	-0.7
SIMA	**Simav-Kutahya**		**2.17**	**326**	*e*PN		**Pb**	22 34 01.5	-1.6
SIMA	**Simav-Kutahya**		**2.17**	**326**	*e*Pn		**Pb**	22 34 01.5	-1.6
SVRH	**Sivrihisar-ESK**		**2.28**	**19**	*e*PN		**Pb**	22 34 03.0	-2.0
SVRH	**Sivrihisar-ESK**		**2.28**	**19**	*e*Pn		**Pb**	22 34 03.0	-2.0
DAT	**Datca**		**2.44**	**257**	*e*PN		**Pb**	22 34 05.8	-2.0
DAT	**Datca**		**2.44**	**257**	*e*Pn		**Pb**	22 34 05.8	-2.0
SULT	**Sultanhani-AKS**		**2.52**	**68**	*e*PN		**Pb**	22 34 06.7	-2.5
SULT	**Sultanhani-AKS**		**2.52**	**68**	*e*Pn		**Pb**	22 34 06.7	-2.5
BODT	**Bodrum**		**2.59**	**266**	*e*PN		**Pb**	22 34 07.9	-2.4
BODT	**Bodrum**		**2.59**	**266**	*e*Pn		**Pb**	22 34 07.9	-2.4
KEBE	**Keben-Mersin**		**2.68**	**107**	*e*PN		**Pn**	22 34 07.8	+0.5
KEBE	**Keben-Mersin**		**2.68**	**107**	*e*Pn		**Pn**	22 34 07.8	+0.5
IKL	**Isikli**		**2.74**	**112**	*e*PN		**Pn**	22 34 08.2	+0.2
IKL	**Isikli**		**2.74**	**112**	*e*Pn		**Pn**	22 34 08.2	+0.2
SILI	**Silifke-Mersin**		**2.87**	**108**	*e*PN		**Pn**	22 34 11.1	+1.3
SILI	**Silifke-Mersin**		**2.87**	**108**	*e*Pn		**Pn**	22 34 11.1	+1.3
LEF	**Lefka**		**2.88**	**138**	*e*PN		**Pn**	22 34 11.3	+1.2
LEF	**Lefka**		**2.88**	**138**	*e*Pn		**Pn**	22 34 11.3	+1.2

*IDC **27** 22:33:18.9±0.8, 8˚.87S×122˚.92E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/49, mbtmp3.8/10, ML3.6/2, Error ellipse: s-maj=67.0km s-min=17.7km az=63.0*
*NEIC **27** 22:33:23.0±2.2, 8˚.95S×122˚.95E, h28km±17km, mb4.2/8, Error ellipse: s-maj=15.0km s-min=6.2km az=48.0*
*ISCJB **27** 22:33:24.4±0.6, 8˚.96S±0˚.04×123˚.11E±0˚.04, h62km±6km, mb4.1/13, Error ellipse: s-maj=6.8km s-min=5.6km az=153.9*
*DJA **27** 22:33:24.7±0.3, 9˚S±2˚×12˚3E±˚, h10km, M4.1/11, mB4.9/1, mb4.4/3, MLv4.0/11, Mw(mB)4.1/1*
ISC 27 22:33:24.2±0.8, **8˚.97S**±0˚.04×**123˚.09E**±0˚.05, **h38**km±1km, **n36**, σ2°**86**/50, **mb4.1**/12, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.91**	**291**	P	**Pn**	22 33 39.7	-0.7
MMRI				S	**Sn**	22 33 50.8	-1.5
MMRI	**Maumere**	**0.91**	**291**	*e*Pn	**Pn**	22 33 38.6	-1.7
MMRI				*e*Sn	**Sn**	22 33 50.5	-1.8
EDFI	**Ende, Flores**	**1.40**	**279**	P	**Pn**	22 33 48.8	+1.5
EDFI				S	**Sn**	22 34 05.8	+1.2
SOEI	**Soe**	**1.40**	**124**	P	**Pn**	22 33 50.9	+3.6
SOEI				S	**Sn**	22 34 12.3	+7.7
SOEI	**Soe**	**1.40**	**124**	*e*Pn	**Pn**	22 33 49.9	+2.6
SOEI				*e*Sn	**Sn**	22 34 07.2	+2.7
BASI	**Baing, Sumba**	**2.77**	**243**	P	**Pn**	22 34 08.1	+2.1
BASI				S	**Sn**	22 34 42.3	+4.0
WSI	**Waingapu**	**2.84**	**256**	P	**Pn**	22 34 09.7	+2.7
WSI				S	**Sn**	22 34 43.3	+3.3
BBSI	**Bau Bau**	**3.50**	**351**	P	**Pn**	22 34 18.2	+2.2
BBSI				S	**Sn**	22 34 59.2	+3.0
BKSI	**Bulukumba**	**4.67**	**321**	P	**Pn**	22 34 34.3	+2.2
BKSI				S	**Sn**	22 35 26.7	+1.6
KDI	**Kendari**	**5.00**	**355**	P	**Pn**	22 34 37.7	+1.0
KDI				S	**Sn**	22 35 36.2	+2.9
PLAI	**Plampang**	**5.25**	**271**	P	**Pn**	22 34 42.1	+1.9
PLAI				S	**Sn**	22 35 42.2	+2.7
BNSI	**Bone**	**5.42**	**327**	P	**Pn**	22 34 44.6	+2.1
FITZ	**Fitzroy Crossi**	**9.41**	**165**	Pn	**Pn**	22 35 37.1	-0.1
	0.6nm,0.3s,baz=356,slow=10.0,SNR=22						
FITZ				Sn	**Sn**	22 37 19.2	-2.6
	1.0nm,0.3s,baz=120,slow=7.5,SNR=4.6						
FITZ	**Fitzroy Crossi**	**9.41**	**165**	*e*Pn	**Pn**	22 35 37.5	+0.2
FITZ				Sn	**Sn**	22 37 19.2	-2.6
WRA	**Warramunga Arr**	**15.40**	**136**	Pn	**Pn**	22 36 54.4	-4.5
	0.2nm,0.3s,baz=312,slow=13,SNR=6.9						
WRA				Sn	**Sn**	22 39 39.4	-9.1
	0.3nm,0.3s,baz=310,slow=23,SNR=7.7						
WRAB	**Tennant Creek**	**15.41**	**136**	*e*Pn	**Pn**	22 36 58.3	-0.6
	2.4nm,0.7s						
KKM	**Kota Kinabalu**	**16.41**	**335**	Pn	**Pn**	22 37 11.0	-0.9
	9.2nm,0.8s						
KSM	**Kuching**	**16.43**	**309**	Pn	**Pn**	22 37 09.9	-2.0
	3.9nm,0.6s						
ASAR	**Alice Springs**	**17.91**	**146**	P	**Pn**	22 37 30.0	-0.4
	0.1nm,0.3s,baz=321,slow=11,SNR=11						
ASAR				S	**Sn**	22 40 42.0	-7.2
	0.1nm,0.3s,baz=314,slow=21,SNR=6.8						
PMG	**Port Moresby**	**23.76**	**93**	*e*P	**P**	22 38 35.0	+1.6
	8.9nm,0.9s						
STKA	**Stephens Creek**	**28.55**	**146**	P	**P**	22 39 19.4	+3.0
	0.8nm,0.6s,baz=310,slow=7.9,SNR=2.1						
YHNB	**Yeheng**	**33.48**	**357**	*e*P	**P**	22 39 59.8	-0.2
	68nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.20**	**319**	P	**P**	22 40 23.4	-0.1
	0.5nm,0.3s,baz=132,slow=6.2,SNR=2.5						
MAJO	**Matsushiro**	**47.45**	**17**	P	**P**	22 41 55.7	+0.5
	2.5nm,0.6s						
LSA	**Lhasa**	**49.23**	**323**	P	**P**	22 42 09.2	-0.4
	0.9nm,0.4s						
SONM	**Songino Array**	**58.46**	**347**	P	**P**	22 43 16.5	+0.2
	0.3nm,0.6s,baz=155,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**66.34**	**331**	P	**P**	22 44 07.9	-1.1
	0.8nm,0.5s,baz=141,slow=7.4,SNR=19						
AAK	**Ala-Archa**	**67.81**	**323**	P	**P**	22 44 18.1	-0.5
	1.0nm,0.5s,baz=156,slow=9.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**70.52**	**337**	P	**P**	22 44 34.1	-0.8
	0.3nm,0.3s,baz=151,slow=3.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**70.79**	**332**	P	**P**	22 44 35.4	-1.2
	0.3nm,0.4s,baz=142,slow=5.2,SNR=5.5						
KURK	**Kurchatov**	**70.81**	**332**	P	**P**	22 44 35.4	-1.3
LSZ	**Lusaka**	**92.34**	**254**	P	**P**	22 46 31.9	+0.3
	0.5nm,0.3s,baz=86,slow=6.9,SNR=3.6						
LSZ	**Lusaka**	**92.34**	**254**	*e*P	**P**	22 46 31.6	0.0
	1.5nm,0.7s						
MCK	**McKinley**	**97.08**	**27**	P	Pdif	22 46 52.5	+0.4
	8.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**122.44**	**280**	PKP	**PKPdf**	22 52 15.9	-0.5
	0.2nm,0.6s,baz=115,slow=1.5,SNR=2.2						
LPAZ	**La Paz**	**152.56**	**156**	PKPab	**PKPab**	22 53 30.1	+1.5
	1.0nm,0.7s,baz=200,slow=4.2,SNR=5.3						

*ATH **27** 22:34:55.7, 35˚.64N×26˚.36E, h49km±10km, ML3.3/7, Error ellipse: s-maj=10.3km s-min=1.0km az=150.0*
*ISCJB **27** 22:34:56.3±0.7, 35˚.64N±0˚.03×26˚.35E±0˚.03, h48km±13km, Error ellipse: s-maj=6.0km s-min=4.4km az=161.0*
*CSEM **27** 22:34:56.9±0.2, 35˚.65N×26˚.35E, h40km, ML3.3, Error ellipse: s-maj=3.9km s-min=3.3km az=149.0*
*THE **27** 22:34:57.7, 35˚.66N×26˚.35E, h31km±4km, ML3.6/8, Error ellipse: s-maj=4.7km s-min=0.5km az=131.0*
ISC 27 22:34:56.8±1.4, **35˚.64N**±0˚.04×**26˚.35E**±0˚.03, **h42**km±28km, **n71**, σ0°**64**/99, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.54**	**192**	P	**Pn**	22 35 08.4	+0.3
ZKR				S	**Sn**	22 35 16.4	+0.3
ZKR	**Zakros**	**0.54**	**192**	P	**Pn**	22 35 08.8	+0.7
ZKR				S	**Sn**	22 35 15.4	-0.7
ZKR				AML	AML	22 35 17.0	
	comp=N,3554μm,0.2s						
ZKR				AML	AML	22 35 17.1	
	comp=E,7683μm,0.2s						
ZKR	**Zakros**	**0.54**	**192**	P	**Pn**	22 35 08.4	+0.3
ZKR				S	**Sn**	22 35 16.4	+0.3
KARP	**Karpathos**	**0.67**	**98**	P	**Pn**	22 35 09.7	-0.1
KARP				S	**Sn**	22 35 18.8	-0.3
KARP	**Karpathos**	**0.67**	**98**	P	**Pn**	22 35 09.7	-0.1
KARP				S	**Sn**	22 35 18.5	-0.7
KARP				AML	AML	22 35 19.7	
	comp=E,8367μm,0.2s						
KARP				AML	AML	22 35 19.9	
	comp=N,8941μm,0.1s						
KARP	**Karpathos**	**0.67**	**98**	P	**Pn**	22 35 09.7	-0.1
KARP				S	**Sn**	22 35 18.8	-0.3
NPS	**Neapolis**	**0.71**	**238**	P	**Pn**	22 35 10.6	+0.1
NPS				S	**Sn**	22 35 20.1	-0.2
NPS	**Neapolis**	**0.71**	**238**	P	**Pn**	22 35 10.8	+0.3
NPS				S	**Sn**	22 35 19.2	-1.1
NPS				AML	AML	22 35 20.3	
	comp=E,12318μm,0.2s						
NPS				AML	AML	22 35 20.5	
	comp=N,7422μm,0.1s						
NPS	**Neapolis**	**0.71**	**238**	P	**Pn**	22 35 10.6	+0.1
NPS				S	**Sn**	22 35 20.1	-0.2
LAST	**Lasithi**	**0.86**	**236**	P	**Pn**	22 35 12.9	+0.4
LAST				S	**Sn**	22 35 24.0	0.0
LAST	**Lasithi**	**0.86**	**236**	P	**Pn**	22 35 12.9	+0.4
LAST				S	**Sn**	22 35 22.7	-1.3
LAST				AML	AML	22 35 24.3	
	comp=N,3205μm,0.2s						
LAST				AML	AML	22 35 24.4	
	comp=E,1698μm,0.1s						
LAST	**Lasithi**	**0.86**	**236**	P	**Pn**	22 35 12.9	+0.4
LAST				S	**Sn**	22 35 24.0	0.0
SANT	**Santorini**	**1.03**	**315**	P	**Pn**	22 35 14.5	-0.2
SANT				S	**Sn**	22 35 27.8	-0.2
SANT	**Santorini**	**1.03**	**315**	P	**Pn**	22 35 15.1	+0.3
SANT				S	**Sn**	22 35 28.0	0.0
SANT				AML	AML	22 35 28.5	
	comp=N,3262μm,0.2s						
SANT				AML	AML	22 35 29.6	
	comp=E,4371μm,0.2s						
SANT	**Santorini**	**1.03**	**315**	P	**Pn**	22 35 15.1	+0.3
SANT				S	**Sn**	22 35 28.0	0.0
THR6	**Thira Island,**	**1.05**	**313**	P	**Pn**	22 35 15.2	+0.2
THR6	**Thira Island,**	**1.05**	**313**	P	**Pn**	22 35 15.8	+0.7
THR6	**Thira Island,**	**1.05**	**313**	P	**Pn**	22 35 15.2	+0.2
THT1	**Athinios (Pele**	**1.05**	**315**	P	**Pn**	22 35 15.0	-0.1
THT1				S	**Sn**	22 35 28.1	-0.4
THT1	**Athinios (Pele**	**1.05**	**315**	P	**Pn**	22 35 15.0	-0.1
THT1	**Athinios (Pele**	**1.05**	**315**	P	**Pn**	22 35 15.0	-0.1
THT1				S	**Sn**	22 35 28.1	-0.4
SAP1	**Santorini-Akro**	**1.05**	**313**	P	**Pn**	22 35 15.5	+0.4
SAP1				S	**Sn**	22 35 29.8	+1.2
SAP1	**Santorini-Akro**	**1.05**	**313**	P	**Pn**	22 35 15.3	+0.2
SAP1				S	**Sn**	22 35 28.8	+0.2
SAP2K	**Karterados**	**1.06**	**316**	P	**Pn**	22 35 15.5	+0.3
THR7	**Fira-Santorini**	**1.08**	**316**	P	**Pn**	22 35 15.6	+0.1
THR7	**Fira-Santorini**	**1.08**	**316**	P	**Pn**	22 35 16.1	+0.6
THR7	**Fira-Santorini**	**1.08**	**316**	P	**Pn**	22 35 15.6	+0.1
THR3	**Thira Island,**	**1.09**	**315**	P	**Pn**	22 35 15.6	+0.1
THR3	**Thira Island,**	**1.09**	**315**	P	**Pn**	22 35 16.3	+0.8
THR3	**Thira Island,**	**1.09**	**315**	P	**Pn**	22 35 15.6	+0.1
THR2	**Thira island,**	**1.09**	**317**	P	**Pn**	22 35 15.7	+0.1
THR2	**Thira island,**	**1.09**	**317**	P	**Pn**	22 35 16.2	+0.6
THR2	**Thira island,**	**1.09**	**317**	P	**Pn**	22 35 15.7	+0.1
IACM	**Heraklion**	**1.10**	**253**	P	**Pn**	22 35 15.8	+0.1
IACM	**Heraklion**	**1.10**	**253**	P	**Pn**	22 35 15.8	+0.1
THR5	**Thira Island,**	**1.12**	**314**	P	**Pn**	22 35 16.2	+0.2
THR5	**Thira Island,**	**1.12**	**314**	P	**Pn**	22 35 16.1	+0.2
THR5	**Thira Island,**	**1.12**	**314**	P	**Pn**	22 35 16.2	+0.2
CMBO	**Columbo, Santo**	**1.13**	**317**	P	**Pn**	22 35 16.3	+0.2
CMBO				S	**Sn**	22 35 30.7	+0.3
CMBO	**Columbo, Santo**	**1.13**	**317**	P	**Pn**	22 35 16.6	+0.5
CMBO				S	**Sn**	22 35 30.0	-0.4
CMBO	**Columbo, Santo**	**1.13**	**317**	P	**Pn**	22 35 16.3	+0.2
CMBO				S	**Sn**	22 35 30.7	+0.3
NISR	**Nisiros**	**1.15**	**33**	P	**Pn**	22 35 16.4	0.0
NISR				S	**Sn**	22 35 30.8	-0.1
NISR	**Nisiros**	**1.15**	**33**	P	**Pn**	22 35 16.4	0.0
NISR				S	**Sn**	22 35 30.8	-0.1
NIS1	**Nisyros Isl.**	**1.17**	**35**	P	**Pn**	22 35 16.8	+0.2
NIS1	**Nisyros Isl.**	**1.17**	**35**	P	**Pn**	22 35 16.8	+0.2
IDI	**Anoyia**	**1.25**	**254**	P	**Pn**	22 35 17.1	-0.6
IDI				S	**Sn**	22 35 32.3	-1.1
IDI	**Anoyia**	**1.25**	**254**	P	**Pn**	22 35 17.1	-0.6
IDI				S	**Sn**	22 35 32.3	-1.1
SIVA	**Sivas**	**1.41**	**244**	P	**Pn**	22 35 21.7	+1.8
SIVA	**Sivas**	**1.41**	**244**	P	**Pn**	22 35 21.7	+1.8
ARG	**Arkhangelos**	**1.55**	**68**	P	**Pn**	22 35 22.9	+1.1
ARG				S	**Sn**	22 35 40.4	-0.3
ARG				AML	AML	22 35 42.6	
	comp=N,633μm,0.2s						
ARG				AML	AML	22 35 42.7	
	comp=E,1109μm,0.2s						
ARG	**Arkhangelos**	**1.55**	**68**	P	**Pn**	22 35 22.9	+1.1
ARG				S	**Sn**	22 35 40.4	-0.3
APE	**Apeiranthos**	**1.57**	**335**	P	**Pn**	22 35 21.5	-0.7
APE				AML	AML	22 35 42.6	
	comp=E,1173μm,0.2s						
APE				AML	AML	22 35 43.1	
	comp=N,1333μm,0.2s						
APE	**Apeiranthos**	**1.57**	**335**	P	**Pn**	22 35 21.5	-0.7
VAM	**Vamos**	**1.77**	**263**	P	**Pn**	22 35 23.8	-1.1
VAM	**Vamos**	**1.77**	**263**	P	**Pn**	22 35 23.8	-1.1
MHLO	**Agia Marina, M**	**1.89**	**304**	P	**Pn**	22 35 28.0	+1.4
MHLO	**Agia Marina, M**	**1.89**	**304**	P	**Pn**	22 35 28.0	+1.4
IMMV	**Iera Moni Meta**	**1.94**	**265**	P	**Pn**	22 35 27.3	0.0
IMMV	**Iera Moni Meta**	**1.94**	**265**	P	**Pn**	22 35 27.3	0.0
ANKY	**Antikythira Is**	**2.49**	**276**	P	**Pn**	22 35 34.1	-0.7
ANKY	**Antikythira Is**	**2.49**	**276**	P	**Pn**	22 35 34.1	-0.7
CHOS	**Chios island**	**2.75**	**355**	P	**Pn**	22 35 37.4	-1.0
CHOS	**Chios island**	**2.75**	**355**	P	**Pn**	22 35 37.4	-1.0
KYTH	**Kithira**	**2.75**	**284**	P	**Pn**	22 35 38.5	+0.1
KYTH	**Kithira**	**2.75**	**284**	P	**Pn**	22 35 38.5	+0.1
VLI	**Veliai**	**2.96**	**292**	P	**Pn**	22 35 42.3	+1.0
VLI	**Veliai**	**2.96**	**292**	P	**Pn**	22 35 42.3	+1.0
VLY	**Voula,Athens**	**3.02**	**318**	P	**Pn**	22 35 43.1	+1.1
VLY	**Voula,Athens**	**3.02**	**318**	P	**Pn**	22 35 43.1	+1.1
PTL	**Penteli**	**3.12**	**321**	P	**Pn**	22 35 44.1	+0.6
PTL	**Penteli**	**3.12**	**321**	P	**Pn**	22 35 44.1	+0.6

*CSEM **27** 22:37:02.5±0.3, 37˚.30N×43˚.93E, h8km, ML3.3, Error ellipse: s-maj=7.8km s-min=3.2km az=95.0*
*ISN **27** 22:37:04.0±0.3, 37˚.19N×43˚.67E, h0km, ML2.3*
DDA 27 22:37:04.2, 37˚.33N×43˚.83E, h8km**, Ml3.3, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.20**	**244**	*i* P	Pg	22 37 07.9	-0.3
CUKT				*i* S	Sg	22 37 12.4	+1.5
CUKT	**Cukurca**	**0.20**	**244**	P	Pg	22 37 07.9	-0.3
CUKT				S	Sg	22 37 12.4	+1.5
HAKT	**HAKKARI**	**0.24**	**337**	*i* P	Pg	22 37 09.6	+0.4
HAKT				*i* S	Sg	22 37 13.7	+1.2
HAKT	**HAKKARI**	**0.24**	**337**	P	Pg	22 37 09.6	+0.4
HAKT				S	Sg	22 37 13.7	+1.2
MSL	**Mosul**	**1.09**	**212**	*e*Pg	Pg	22 37 24.0	-1.2
	baz=30,SNR=90						
MSL				*e*Sg	Sg	22 37 38.0	-1.4
	86nm,0.3s,SNR=9.0						
SIRN	**S¨–rnak**	**1.14**	**279**	*e*P	Pb	22 37 26.3	+0.1
SIRN				*i* S	Sb	22 37 41.6	+0.4
SIRN	**S¨–rnak**	**1.14**	**279**	P	Pb	22 37 26.3	+0.1
SIRN				S	Sb	22 37 41.6	+0.4
GEVA	**Gevas**	**1.15**	**328**	*i* P	Pg	22 37 25.7	-0.7
GEVA				*i* S	Sn	22 37 45.0	+2.0
GEVA	**Gevas**	**1.15**	**328**	P	Pg	22 37 25.7	-0.6

MEX 27 22:54:12.2±0.4, **15˚.01N**×**98˚.02W, h10**km**, MD3.6, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.38**	**356**	*e*P	Pn	22 54 34.0	-3.6
PNIG				*e*S	Sb	22 54 50.8	-5.1
HUIG	**Huatulco**	**2.00**	**67**	*e*P	Pn	22 54 42.7	-3.3
HUIG				*i* S	Sn	22 55 08.1	-3.0
VHO	**Vista Hermosa**	**2.40**	**31**	*e*P	Pn	22 54 52.4	+0.6
VHO				*e*S	Sb	22 55 25.8	+0.4
ACX	**Acapulco**	**2.56**	**317**	*e*P	Pn	22 54 44.9	-8.9
ACX				*e*S	Sn	22 55 09.9	-15
TLIG	**Tlapa**	**2.59**	**348**	*e*P	Pn	22 54 51.1	-3.3
TLIG				*e*S	Sn	22 55 22.8	-3.2
MEIG	**Mezcala**	**3.28**	**332**	*e*P	Pn	22 55 00.5	-3.3
MEIG				*e*S	Sn	22 55 37.8	-5.2
ARIG	**Puente Sto Nin**	**3.94**	**326**	*e*P	Pn	22 55 10.0	-2.9
ARIG				*e*S	Sn	22 55 54.4	-4.9

*CSEM **27** 22:56:43.7, 38˚.77N×43˚.22E, h7km, ML3.6*
DDA 27 22:56:43.7, 38˚.77N×43˚.22E, h7km**, Ml3.6, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28**	**149**	*i* P	Pb	22 56 50.5	-0.8
TVAN				*i* S	Sg	22 56 54.7	+1.6
TVAN	**Van**	**0.28**	**149**	P	Pb	22 56 50.5	-0.8
TVAN				S	Sb	22 56 54.7	-1.6
VMUR	**Van-Muradiye**	**0.35**	**51**	*i* P	Pg	22 56 50.4	-0.3
VMUR				*i* S	Sb	22 56 56.9	-1.4
VMUR	**Van-Muradiye**	**0.35**	**51**	P	Pg	22 56 50.4	-0.3
VMUR				S	Sg	22 56 56.8	+1.5
GEVA	**Gevas**	**0.47**	**196**	*i* P	Pg	22 56 52.0	-0.9
GEVA				*i* S	Sb	22 57 00.7	-1.0
GEVA	**Gevas**	**0.47**	**196**	P	Pg	22 56 52.0	-0.9
GEVA				S	Sb	22 57 00.7	-1.1
CLDR	**Caldiran**	**0.66**	**55**	*i* P	Pg	22 56 55.5	-1.0
CLDR				*i* S	Sg	22 57 05.8	+0.7
CLDR	**Caldiran**	**0.66**	**55**	P	Pg	22 56 55.5	-1.0
CLDR				S	Sg	22 57 05.8	+0.7
TUTA	**Tutak**	**0.71**	**334**	*i* P	Pb	22 56 58.3	-0.2
TUTA				*i* S	Sb	22 57 08.2	-0.4
TUTA	**Tutak**	**0.71**	**334**	P	Pb	22 56 58.3	-0.2
TUTA				S	Sb	22 57 08.1	-0.5
TATV	**Tatvan**	**0.79**	**251**	*i* P	Pg	22 56 58.9	-0.1
TATV				*i* S	Sb	22 57 10.2	-0.7
TATV	**Tatvan**	**0.79**	**251**	P	Pg	22 56 58.9	0.0
TATV				S	Sb	22 57 10.2	-0.7

*DDA **27** 23:12:56.5, 38˚.62N×43˚.53E, h7km, Ml2.8*
*ISK **27** 23:12:56.2, 38˚.64N×43˚.60E, h5km, ML2.7*
*ISCJB **27** 23:12:57.2±0.7, 38˚.63N±0˚.03×43˚.64E±0˚.06, h8km±5km, Error ellipse: s-maj=8.2km s-min=4.8km az=15.0*
*CSEM **27** 23:12:57.0±0.3, 38˚.62N×43˚.60E, h2km, ML2.8, Error ellipse: s-maj=6.6km s-min=4.4km az=107.0*
ISC 27 23:12:57.4±1.0, **38˚.66N**±0˚.02×**43˚.59E**±0˚.03, **h13**km±8km, **n41**, σ1°**62**/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**248**	PG	**Pg**	23 13 00.8	-0.7
VANB	**Van**	**0.17**	**248**	*i* Pg	**Pg**	23 13 00.8	-0.7
TVAN	**Van**	**0.20**	**229**	*i* P	**Pb**	23 13 03.5	+0.5
TVAN				*i* S	**Sb**	23 13 07.8	+1.1
VMUR	**Van-Muradiye**	**0.33**	**357**	*i* P	**Pg**	23 13 02.6	-1.6
VMUR				*i* S	**Sb**	23 13 10.4	-0.1
CLDR	**Caldiran**	**0.55**	**27**	*e*PG	**Pg**	23 13 08.1	0.0
CLDR				*e*SG	**Sb**	23 13 16.9	+0.2
CLDR	**Caldiran**	**0.55**	**27**	*i* P	**Pg**	23 13 07.5	-0.7
CLDR				*i* S	**Sn**	23 13 18.1	-2.0
CLDR	**Caldiran**	**0.55**	**27**	P	**Pg**	23 13 07.5	-0.7
**CLDR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.57	293	PN	Pn	23 25 04.7	-1.8
SPN				S	Sn	23 25 23.5	-2.1
SPN	Mys Shipunski	1.57	293	eP	Pn	23 25 04.7	-1.8
SPN				eS	Sn	23 25 23.5	-2.1
NLC	Nalytchevo	1.98	290	PN	Pn	23 25 11.0	-1.1
NLC				S	Sn	23 25 34.5	-1.2
NLC	Nalytchevo	1.98	290	eP	Pn	23 25 11.0	-1.1
NLC				eS	Sn	23 25 34.5	-1.2
MKZ	Mys Kozlova	2.08	349	PN	Pn	23 25 11.6	-1.9
MKZ				S	Sn	23 25 35.7	-2.5
MKZ	Mys Kozlova	2.08	349	eP	Pn	23 25 11.6	-1.9
MKZ				eS	Sn	23 25 35.7	-2.5
SDLR	Sedlovina	2.28	291	PN	Pn	23 25 15.4	-0.9
SDLR				S	Sn	23 25 42.3	-0.9
SDLR	Sedlovina	2.28	291	eP	Pn	23 25 15.4	-0.9
SDLR				eS	Sn	23 25 42.3	-0.9
DALK	Dalny	2.29	284	PN	Pn	23 25 15.9	-0.5
DALK				S	Sn	23 25 42.6	-0.7
DALK	Dalny	2.29	284	eP	Pn	23 25 15.9	-0.5
DALK				eS	Sn	23 25 42.6	-0.7
UGLR	Uglovaya	2.29	289	PN	Pn	23 25 15.6	-0.9
UGLR				S	Sn	23 25 42.6	-1.0
UGLR	Uglovaya	2.29	289	eP	Pn	23 25 15.6	-0.9
UGLR				eS	Sn	23 25 42.6	-1.0
KII	Karymskiy	2.35	312	PN	Pn	23 25 16.5	-0.7
KII				S	Sn	23 25 44.5	-0.4
KII	Karymskiy	2.35	312	eP	Pn	23 25 16.5	-0.7
KII				eS	Sn	23 25 44.5	-0.4
PET	Petropavlovsk	2.35	284	ePN	Pn	23 25 18.6	+1.4
PET				eS	Sn	23 25 44.1	-0.7
PET				smax	smax		
	comp=N,141nm,0.7s						
PET	Petropavlovsk	2.35	284	eS	Sn	23 25 43.6	-1.2
AVH	Avacha	2.36	290	PN	Pn	23 25 17.5	+0.1
AVH				S	Sn	23 25 46.0	+0.9
AVH	Avacha	2.36	290	eP	Pn	23 25 17.5	+0.1
AVH				eS	Sn	23 25 46.0	+0.9
KRER	Koryakskii	2.37	291	PN	Pn	23 25 17.1	-0.5
KRER				S	Sn	23 25 45.0	-0.4
KRER	Koryakskii	2.37	291	eP	Pn	23 25 17.1	-0.5
KRER				eS	Sn	23 25 45.0	-0.4
RUS	Russkaya	2.40	270	PN	Pn	23 25 16.7	-1.1
RUS				S	Sn	23 25 44.4	-1.5
RUS	Russkaya	2.40	270	eP	Pn	23 25 16.7	-1.1
RUS				eS	Sn	23 25 44.4	-1.5
KOK	Koryaka	2.43	290	PN	Pn	23 25 17.7	-0.6
KOK				S	Sn	23 25 46.0	-0.8
KOK	Koryaka	2.43	290	eP	Pn	23 25 17.7	-0.6
KOK				eS	Sn	23 25 46.0	-0.8
KRX	Arik	2.44	292	PN	Pn	23 25 17.7	-0.8
KRX				S	Sn	23 25 46.1	-1.1
KRX	Arik	2.44	292	eP	Pn	23 25 17.7	-0.8
KRX				eS	Sn	23 25 46.1	-1.1
MTVR	Mutnovka	2.60	271	PN	Pn	23 25 19.9	-0.8
MTVR				S	Sn	23 25 49.8	-1.3
MTVR	Mutnovka	2.60	271	eP	Pn	23 25 19.9	-0.8
MTVR				eS	Sn	23 25 49.8	-1.3
KRMR	Karymshinskiy	2.64	279	PN	Pn	23 25 20.2	-0.9
KRMR				S	Sn	23 25 50.9	-0.9
KRMR	Karymshinskiy	2.64	279	eP	Pn	23 25 20.2	-0.9
KRMR				eS	Sn	23 25 50.9	-0.9
ASAK	Asacha	2.78	269	eS	Sn	23 25 55.1	-0.3
PETK	Petropavlovsk-	2.93	284	Pn	Pn	23 25 25.3	+0.1
	comp=N,3.1nm,0.3s,baz=101,slow=19,SNR=41						
PETK				Sn	Sn	23 25 58.8	-0.4
	comp=N,5.9nm,0.3s,baz=110,slow=30,SNR=12						
GNL	Ganaly	2.95	295	PN	Pn	23 25 25.8	+0.3
GNL	Ganaly	2.95	295	eP	Pn	23 25 25.8	+0.3
TUMR	Tumrok	3.08	335	PN	Pn	23 25 27.9	+0.6
TUMR				S	Sn	23 26 04.2	+1.2
TUMR	Tumrok	3.08	335	eP	Pn	23 25 27.9	+0.6
TUMR				eS	Sn	23 26 04.2	+1.2
APC	Apacha	3.23	279	eS	Sn	23 26 07.7	+1.2
KMNR	Kamenistaya	3.49	339	PN	Pn	23 25 33.5	+0.5
KMNR	Kamenistaya	3.49	339	eP	Pn	23 25 33.5	+0.5
BZMR	Bezymyannaya	3.61	342	PN	Pn	23 25 34.9	+0.3
BZMR	Bezymyannaya	3.61	342	eP	Pn	23 25 34.9	+0.3
ZLN	Zelenaya	3.63	345	PN	Pn	23 25 35.1	+0.2
ZLN	Zelenaya	3.63	345	eP	Pn	23 25 35.1	+0.2
KIRR	Kirishev	3.66	341	PN	Pn	23 25 35.7	+0.5
KIRR	Kirishev	3.66	341	eP	Pn	23 25 35.7	+0.5
KPT	Kopyto	3.69	340	PN	Pn	23 25 36.1	+0.4
KPT	Kopyto	3.69	340	eP	Pn	23 25 36.1	+0.4
KBTR	Krutoberegovo	3.71	3	PN	Pn	23 25 33.6	-2.2
KBTR	Krutoberegovo	3.71	3	eP	Pn	23 25 33.6	-2.2
CIRR	Tsirk	3.74	345	PN	Pn	23 25 36.7	+0.3
CIRR	Tsirk	3.74	345	eP	Pn	23 25 36.7	+0.3
KRSR	Krestovskiy	3.87	344	PN	Pn	23 25 38.1	0.0
KRSR	Krestovskiy	3.87	344	eP	Pn	23 25 38.1	0.0
MA2	Magadan	9.61	322	LR	LR	23 31 38.9	
	comp=N,22nm,18.9s,baz=322,slow=44						
ILAR	Eielson Array	28.22	45	P	P	23 30 30.3	+0.2
	comp=N,0.3nm,0.7s,baz=265,slow=6.9,SNR=3.7						
H11N2	WAKE ISLAND Hy	32.91	172	T	T	00 06 02.0	
	baz=355						
H11N3	WAKE ISLAND Hy	32.92	172	T	T	00 06 03.8	
	baz=355,slow=74,SNR=2.9						
H11N1	WAKE ISLAND Hy	32.92	172	T	T	00 06 01.0	
	baz=355,slow=74,SNR=3.6						
SONM	Songino Array	35.42	285	P	P	23 31 33.6	0.0
	comp=N,0.1nm,0.4s,baz=30,slow=12,SNR=2.2						
MKAR	Makanchi Array	49.68	297	P	P	23 33 29.8	+0.6
	comp=N,0.4nm,0.9s,baz=55,slow=7.9,SNR=3.0						
BVAR	Borovoye Array	51.85	310	P	P	23 33 45.6	+0.2
	comp=N,0.5nm,0.6s,baz=56,slow=8.9,SNR=3.7						
PDAR	Pinedale Array	56.55	62	P	P	23 34 20.6	+0.6
	comp=N,0.8nm,0.8s,baz=318,slow=4.0,SNR=4.7						
JAY	Jayapura	57.82	206	LR	LR	23 55 37.2	
	comp=N,21nm,21.1s,baz=188,slow=32						
SFJD	Kangerlussuaq	58.23	15	LR	LR	00 02 05.3	
	comp=N,22nm,18.6s,baz=167,slow=39						
CMAR	Chiang Mai Arr	59.47	260	P	P	23 34 41.2	+0.7
	comp=N,0.8nm,0.3s,baz=13,slow=8.5,SNR=2.5						
TXAR	Lajitas Array	69.54	68	P	P	23 35 46.6	+0.3
	comp=N,0.8nm,0.7s,baz=291,slow=3.8,SNR=5.0						

MEX 27 23:46:54.4±0.3, 16°.37N×95°.90W, h25km±39km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.63	199	eP	Pb	23 47 04.7	-2.1
HUIG				eS	Sb	23 47 12.8	-2.4
VHO	Vista Hermosa	1.07	311	eP	Pn	23 47 11.2	-2.8
VHO				eS	Sb	23 47 24.1	-3.9
PNIG	Pinotepa	2.14	271	iP	Pn	23 47 26.4	-2.2
PNIG				eS	Sn	23 47 51.0	-3.4

ISN ***28*** *00:25:23.1±1.5, 39°.11N×43°.23E, h0km±73km, ML4.4*
DDA ***28*** *00:25:33.0, 38°.56N×43°.17E, h11km, Ml4.1*
MOS ***28*** *00:25:33.1±1.1, 38°.45N×43°.26E, h7km, mb4.4/23, Error ellipse: s-maj=6.5km s-min=4.4km az=97.0*
ISCJB ***28*** *00:25:33.3±0.5, 38°.46N±0°.02×43°.31E±0°.02, h6km±3km, mb4.3/51, MS3.1/11, Error ellipse: s-maj=2.9km s-min=2.2km az=153.6*
ISK ***28*** *00:25:33.3, 38°.60N×43°.21E, h5km, ML4.0*
IDC ***28*** *00:25:33.4±0.7, 38°.49N×43°.21E, h0km, mb4.0/17, mb1 4.0/25, mb1mx3.9/47, mbtmp3.9/25, ML3.0/7, MS3.1/18, Ms1 3.1/18, ms1mx3.0/47, Error ellipse: s-maj=12.9km s-min=9.4km az=164.0*
NEIC ***28*** *00:25:33.6±0.0, 38°.58N×43°.18E, h5km, mb4.3/25, ML4.1(DDA), ML4.2(ISK), After ISK.*
CSEM ***28*** *00:25:34.2±0.1, 38°.49N×43°.30E, h2km, mb4.4/13, Error ellipse: s-maj=3.4km s-min=2.8km az=144.0*
AZER ***28*** *00:25:35.7±0.9, 38°.52N×43°.35E, h9km, Error ellipse: s-maj=9.2km s-min=6.3km az=116.0*

ISC 28 00:25:35.3±0.8, 38°.55N±0°.02×43°.17E±0°.02, h11km±5km, n342, σ1§76/397, mb4.3/51, MS3.0/12, 33C-19D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	76	PG	Pg	00 25 37.3	-2.0
VANB	Van	0.18	76	iPg	Pg	00 25 37.3	-2.0
TVAN	Van	0.19	98	iP	Pb	00 25 40.5	-0.4
TVAN				iS	Sg	00 25 44.5	+2.1
TVAN	Van	0.19	98	P	Pb	00 25 40.5	-0.4
GEVA	Gevas	0.26	200	iP	Pg	00 25 38.6	-2.1
GEVA				iS	Sg	00 25 45.0	+0.7
GEVA	Gevas	0.26	200	P	Pg	00 25 38.6	-2.1
GEVA				S	Sg	00 25 45.0	+0.7
GEVA	Gevas	0.26	200	iP	Pg	00 25 38.6	-2.1
GEVA				iS	Sg	00 25 45.0	+0.7
VMUR	Van-Muradiye	0.54	36	iP	Pg	00 25 44.2	-1.6
VMUR				iS	Sb	00 25 53.8	-0.9
VMUR	Van-Muradiye	0.54	36	P	Pg	00 25 44.2	-1.6
VMUR				S	Sb	00 25 53.8	-0.9
VMUR	Van-Muradiye	0.54	36	iP	Pg	00 25 44.2	-1.6
TATV	Tatvan	0.71	267	iP	Pg	00 25 46.2	-2.9
TATV				iS	Sg	00 25 55.7	-2.8
TATV	Tatvan	0.71	267	P	Pg	00 25 46.2	-2.9
TATV				S	Sg	00 25 55.7	-2.8
CLDR	Caldiran	0.83	44	ePG	Pg	00 25 49.5	-1.9
CLDR				eSG	Sg	00 26 01.5	-0.7
CLDR	Caldiran	0.83	44	iP	Pg	00 25 49.1	-2.3
CLDR				iS	Sb	00 26 03.2	0.0
CLDR	Caldiran	0.83	44	P	Pg	00 25 49.1	-2.3
CLDR	Caldiran	0.83	44	ePg	Pg	00 25 49.5	-1.9
CLDR				eSg	Sg	00 26 01.5	-0.7
CLDR				S	Sb	00 26 03.2	0.0
CLDR	Caldiran	0.83	44	iP	Pg	00 25 49.1	-2.3
TUTA	Tutak	0.89	342	iP	Pg	00 25 49.9	-2.7
TUTA				iS	Sg	00 26 03.1	-1.1
TUTA	Tutak	0.89	342	P	Pg	00 25 49.9	-2.7
TUTA				S	Sg	00 26 03.1	-1.1
AGRB	Hanur-Agry	1.03	352	ePG	Pb	00 25 52.9	-2.4
AGRB				eSG	Sg	00 26 08.0	-0.6
DYDN	Diyadin	1.07	22	iP	Pb	00 25 53.3	-2.6
DYDN				iS	Sn	00 26 10.9	-0.5
DYDN	Diyadin	1.07	22	P	Pb	00 25 53.3	-2.6
DYDN				S	Sn	00 26 10.9	-0.5
HAKT	HAKKARI	1.08	157	iP	Pb	00 25 53.4	-2.8
HAKT				iS	Sn	00 26 11.3	-0.3
HAKT	HAKKARI	1.08	157	P	Pb	00 25 53.4	-2.8
EKAR	Karacoban	1.11	309	iP	Pb	00 25 54.0	-2.7
EKAR				iS	Sn	00 26 15.2	+2.7
EKAR	Karacoban	1.11	309	P	Pb	00 25 54.0	-2.7
EKAR				S	Sn	00 26 15.2	+2.7
CUKT	Cukurca	1.35	165	ePN	Pb	00 26 00.8	+0.1
CUKT	Cukurca	1.35	165	iP	Pn	00 25 58.6	-1.6
CUKT				iS	Sg	00 26 21.9	+3.1
CUKT	Cukurca	1.35	165	P	Pn	00 25 58.6	-1.6
CUKT	Cukurca	1.35	165	ePn	Pb	00 26 00.8	+0.1
EATA	Eleskirt	1.41	338	iP	Pn	00 25 59.1	-2.1
EATA				iS	Sb	00 26 20.4	+0.5
EATA	Eleskirt	1.41	338	P	Pn	00 25 59.1	-2.1
EATA				S	Sb	00 26 20.4	+0.5
VRTB	Varto-Mus	1.47	295	ePN	Pn	00 26 01.8	-0.1
VRTB	Varto-Mus	1.47	295	iP	Pn	00 26 00.3	-1.6
VRTB				iS	Sn	00 26 20.2	-1.0
VRTB	Varto-Mus	1.47	295	P	Pn	00 26 00.3	-1.6
VRTB	Varto-Mus	1.47	295	ePn	Pn	00 26 01.8	-0.1
VRTB				S	Sn	00 26 20.2	-1.0
SVAN	Silvan-Diyarba	1.60	256	ePN	Pn	00 26 04.6	+1.0
SVAN	Silvan-Diyarba	1.60	256	iP	Pn	00 26 02.9	-0.7
SVAN				iS	Sb	00 26 26.0	+0.8
SVAN	Silvan-Diyarba	1.60	256	P	Pn	00 26 02.9	-0.7
SVAN	Silvan-Diyarba	1.60	256	ePn	Pn	00 26 04.6	+1.0
SVAN				S	Sb	00 26 26.0	+0.8
BNGL	BINGOL	1.63	285	iP	Pn	00 26 03.7	-0.5
BNGL				iS	Sb	00 26 27.1	+0.9
BTMN	Batman	1.64	247	iP	Pn	00 26 03.6	-0.5
BTMN				iS	Sg	00 26 28.1	+0.2
BTMN	Batman	1.64	247	P	Pn	00 26 03.6	-0.5
BTMN				S	Sg	00 26 28.1	+0.2
HOMI	Horasan	1.78	327	iP	Pn	00 26 06.1	-0.2
HOMI				iS	Sg	00 26 33.0	+0.3
DIGO	Kars	1.87	5	iP	Pn	00 26 07.4	0.0
DIGO	Kars	1.87	5	P	Pn	00 26 07.4	0.0
NAX	Nakhchivan	1.92	70	⇑P	Pn	00 26 07.0	-1.1
	SNR=61						
NAX				⇓S	Sn	00 26 31.5	-0.7
NAX	Nakhchivan	1.92	70	P	Pn	00 26 06.9	-1.1
NAX	Nakhchivan	1.92	70	P	Pn	00 26 06.9	-1.1
	SNR=61						
NAX				S	Sn	00 26 31.5	-0.7
ERZM	Erzurum	1.95	314	iP	Pn	00 26 08.7	+0.1
ERZM				iS	Sg	00 26 38.2	+0.3
ERZM	Erzurum	1.95	314	P	Pn	00 26 08.7	+0.1
ERZM				S	Sg	00 26 38.2	+0.3
BNGB	Bing¶ll	2.00	283	ePN	Pn	00 26 10.1	+1.0
GNI	Garni	2.01	37	Pn	Pn	00 26 09.7	+0.4
	12nm,0.3s,baz=267,slow=2.8,SNR=52						
GNI				Sn	Sg	00 26 46.3	+6.5
	39nm,0.3s,baz=56,slow=23,SNR=3.5						
GNI	Garni	2.01	37	ciP	Pn	00 26 09.3	0.0
GNI				pmax	pmax		
	comp=Z,1μm,0.8s						
GNI	Garni	2.01	37	iP	Pn	00 26 09.3	0.0
	comp=Z,1μm,0.8s						
SENK	Senkaya-Erzuru	2.10	343	ePN	Pn	00 26 10.4	-0.2
SENK	Senkaya-Erzuru	2.10	343	ePn	Pn	00 26 10.5	-0.2
BINT	Bingol	2.12	280	P	Pn	00 26 10.0	-0.9
BINT	Bingol	2.12	280	P	Pn	00 26 10.0	-0.9
EAK	Akyaka	2.16	9	iP	Pn	00 26 12.2	+0.8
EAK				iS	Sg	00 26 46.4	+1.7
EAK	Akyaka	2.16	9	P	Pn	00 26 12.2	+0.8
YEDI	Yedisu-Bingol	2.23	294	ePN	Pn	00 26 13.0	+0.7
YEDI	Yedisu-Bingol	2.23	294	ePn	Pn	00 26 13.0	+0.7
MARD	Mardin	2.26	238	iP	Pn	00 26 11.9	-0.9
MARD				iS	Sb	00 26 44.0	-0.2
MARD	Mardin	2.26	238	ePn	Pn	00 26 12.2	-0.5
MARD	Mardin	2.26	238	ePn	Pn	00 26 12.2	-0.5
MAZI	Mazidag	2.41	244	ePN	Pn	00 26 15.7	+0.9
MAZI	Mazidag	2.41	244	ePn	Pn	00 26 15.7	+0.9
DIYA	Diyarbakir	2.48	256	iP	Pn	00 26 16.5	+0.7
DIYA	Diyarbakir	2.48	256	P	Pn	00 26 16.5	+0.7
KOPT	Kop Dagi	2.54	306	iP	Pn	00 26 18.5	+1.8
KOPT	Kop Dagi	2.54	306	ePn	Pn	00 26 17.5	+0.8
KOPT	Kop Dagi	2.54	306	P	Pn	00 26 18.5	+1.8
KOPT	Kop Dagi	2.54	306	ePn	Pn	00 26 17.5	+0.8
DDEM	Demirkent	2.58	335	iP	Pn	00 26 17.0	-0.1
DDEM	Demirkent	2.58	335	P	Pn	00 26 17.0	-0.1
DAGI	Agillar	2.70	339	iP	Pb	00 26 22.2	-1.5
ARTV	Artvin	2.80	340	iP	Pn	00 26 20.1	-0.2
ARTV	Artvin	2.80	340	P	Pn	00 26 20.0	-0.2
ARTV	Artvin	2.80	340	ePn	Pn	00 26 20.3	+0.1
ARTV	Artvin	2.80	340	ePn	Pn	00 26 20.3	+0.1
AKH	Akhalkalaki	2.86	5	ePN	Pn	00 26 21.1	0.0
AKH	Akhalkalaki	2.86	5	ePn	Pn	00 26 21.1	0.0
ERZN	Erzincan	2.88	292	ePN	Pn	00 26 22.1	+0.9
TNCL	Tunceli-Merkez	2.89	282	iP	Pb	00 26 25.0	-1.9
TNCL	Tunceli-Merkez	2.89	282	P	Pb	00 26 25.0	-1.9
GDB	GEDABAY	2.94	42	⇓P	Pn	00 26 22.1	-0.1
	SNR=7.0						
GDB				⇑S	Sn	00 26 58.5	+0.9
GDB	GEDABAY	2.94	42	P	Pn	00 26 22.1	-0.1
	SNR=7.0						
GDB				S	Sn	00 26 58.5	+0.9
PTK	Pertek	2.98	278	ePN	Pn	00 26 23.8	+1.2
PTK	Pertek	2.98	278	ePn	Pn	00 26 23.8	+1.2
QZX	Qazax, Azerbai	3.02	33	⇓P	Pn	00 26 23.2	+0.1
	SNR=24						
QZX				⇑S	Sn	00 27 00.6	+1.3
QZX	Qazax, Azerbai	3.02	33	P	Pn	00 26 23.2	+0.1
	SNR=24						
QZX				S	Sn	00 27 00.6	+1.3
SVRC	Sivrice-ELAZID	3.04	268	ePN	Pn	00 26 25.0	+1.5
SVRC	Sivrice-ELAZID	3.04	268	ePn	Pn	00 26 25.0	+1.5
GANJ	Ganja	3.21	48	⇑P	Pn	00 26 25.4	-0.3
	SNR=16						
GANJ				⇓S	Sn	00 27 04.8	+0.9
GANJ	Ganja	3.21	48	P	Pn	00 26 25.4	-0.3
	SNR=16						
GANJ				S	Sn	00 27 04.8	+0.9
TBLG	Delisi	3.39	20	ePN	Pn	00 26 29.1	+0.9
TBLG	Delisi	3.39	20	ePn	Pn	00 26 29.1	+0.9
BRDA	Brd	3.54	60	⇓P	Pn	00 26 29.6	-0.7
	SNR=4.7						
BRDA	Brd	3.54	60	P	Pn	00 26 29.6	-0.7
	SNR=4.7						
KTUT	Trabzon	3.58	314	ePN	Pn	00 26 32.4	+1.7
KTUT	Trabzon	3.58	314	ePn	Pn	00 26 32.4	+1.7
URFA	Urfa	3.61	253	ePN	Pn	00 26 33.7	+2.4
URFA	Urfa	3.61	253	ePn	Pn	00 26 33.7	+2.4
MNGR	Mingechevir, A	3.75	52	⇑P	Pn	00 26 32.7	-0.4
	SNR=14						
MNGR	Mingechevir, A	3.75	52	P	Pn	00 26 32.7	-0.4
	SNR=14						
ZRD	Zardab	3.90	62	⇓P	Pn	00 26 34.3	-0.8
	SNR=4.8						
ZRD	Zardab	3.90	62	P	Pn	00 26 34.3	-0.8
	SNR=4.8						
LRK	Lerik	4.05	87	⇑P	Pn	00 26 35.8	-1.6
	SNR=3.6						
LRK				⇑S	Sn	00 27 23.1	-1.8
LRK	Lerik	4.05	87	P	Pn	00 26 35.8	-1.6
	SNR=3.6						
LRK				S	Sn	00 27 23.1	-1.8
ZKTA	Zakatala	4.06	40	⇑P	Pn	00 26 37.4	0.0
	SNR=6.6						
SEKA	Sheki	4.08	48	⇑P	Pn	00 26 38.0	+0.3
	SNR=3.8						
SEKA				⇑S	Sn	00 27 25.5	+0.1
SEKA	Sheki	4.08	48	P	Pn	00 26 37.9	+0.3
SEKA	Sheki	4.08	48	P	Pn	00 26 37.9	+0.3
SEKA				S	Sn	00 27 25.5	+0.1
GLBA	Clilabad	4.13	79	⇓P	Pn	00 26 37.1	-1.2
	SNR=4.9						
GLBA	Clilabad	4.13	79	P	Pn	00 26 37.1	-1.2
	SNR=4.9						
ZEI	Tsey	4.27	7	eP	Pn	00 26 41.1	+0.7
ZEI				pmax	pmax		
	comp=Z,21nm,0.9s						
SAAT	Saatly	4.28	71	⇓P	Pn	00 26 39.1	-1.3
	SNR=5.6						
SAAT	Saatly	4.28	71	P	Pn	00 26 39.1	-1.3
	SNR=5.6						
KDMR	Kurdemir	4.29	63	⇓P	Pn	00 26 39.6	-0.8
	SNR=4.4						
KDMR	Kurdemir	4.29	63	P	Pn	00 26 39.6	-0.8
	SNR=4.4						
QBL	Gabala	4.32	55	⇓P	Pn	00 26 40.3	-0.7
	SNR=16						
QBL	Gabala	4.32	55	P	Pn	00 26 40.3	-0.7
	SNR=16						
DARE	Darende-Malaty	4.46	272	ePN	Pn	00 26 45.0	+2.0
DARE	Darende-Malaty	4.46	272	ePn	Pn	00 26 45.0	+2.0
NEY	Neytrino	4.70	356	⇓eP	Pn	00 26 48.3	+1.9
NEY	Neytrino	4.70	356	eP	Pn	00 26 48.3	+1.9
PQL	Pirkuli	4.74	60	⇓P	Pn	00 26 45.9	-1.0
	SNR=3.2						
PQL				⇑S	Sn	00 27 41.7	-0.2
PQL	Pirkuli	4.74	60	P	Pn	00 26 45.9	-1.0
	SNR=3.2						
PQL				S	Sn	00 27 41.7	-0.2
RSDY	Resadiye-TOKAT	4.88	294	ePN	Pn	00 26 50.7	+2.0
RSDY	Resadiye-TOKAT	4.88	294	ePn	Pn	00 26 50.7	+2.0
NCK	Nalchik	4.95	4	⇓eP	Pn	00 26 53.8	+4.2
NCK	Nalchik	4.95	4	eP	Pn	00 26 53.8	+4.2
ATGJ	Altiaghaj	5.01	61	⇓P	Pn	00 26 49.6	-0.9
	SNR=2.7						
ATGJ				⇓S	Sn	00 27 48.2	-0.3
ATGJ	Altiaghaj	5.01	61	P	Pn	00 26 49.6	-0.9
	SNR=2.7						
ATGJ				S	Sn	00 27 48.2	-0.3
GROC	Groznyy	5.05	22	eP	Pn	00 26 53.0	+2.0
GROC				eS	Sn	00 27 54.9	+5.6
GROC				pmax	pmax		
	comp=Z,17nm,0.8s						
GROC				smax	smax		
	comp=E,24nm,0.8s						
GROC				smax	smax		
	comp=E,47nm,1.0s						
GROC	Groznyy	5.05	22	eP	Pn	00 26 53.0	+2.0
	comp=E,17nm,0.8s						
GROC				eS	Sn	00 27 54.9	+5.6
KMRS	Kahramanmaras	5.06	260	ePN	Pn	00 26 53.8	+2.6
KMRS	Kahramanmaras	5.06	260	ePn	Pn	00 26 53.8	+2.6
KBZ	Khabaz	5.17	358	Pn	Pn	00 26 56.1	+3.5
	comp=E,0.1nm,0.3s,baz=226,slow=2.7,SNR=4.4						
KBZ				LR	LR	00 29 23.9	
	comp=E,368nm,21.1s,baz=196,slow=44						
BHD	Baghdad	5.36	169	ePn	Pn	00 26 53.2	-2.1
	SNR=39						
BHD				eSn	Sn	00 27 55.3	-1.7
	SNR=39						
KIV	Kislovodsk	5.41	356	iP	Pn	00 26 56.8	+0.8
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	Kislovodsk	5.41	356	ePn	Pn	00 26 55.2	-0.8
KIV	Kislovodsk	5.41	356	iP	Pn	00 26 56.8	+0.8
	comp=Z,5.0nm,1.0s						
KIV	Kislovodsk	5.41	356	ePn	Pn	00 26 55.2	-0.8
KVAR	Kislovodsk Arr	5.41	356	Pn	Pn	00 27 00.7	+4.7
	baz=180,slow=15,SNR=2.6						
KVAR				LR	LR	00 29 31.5	
	comp=Z,435nm,20.5s,baz=181,slow=44						
TOKA	Tokat	5.47	291	ePn	Pn	00 26 59.8	+3.0
TOKA	Tokat	5.47	291	ePn	Pn	00 26 59.8	+3.0
MAK	Makhachkala	5.50	35	eP	Pn	00 26 55.6	-1.5
MAK				eS	Sn	00 27 59.7	-0.5
MAK				pmax	pmax		
	comp=Z,101nm,1.3s						

KIEV Kiev 15.65 325 *e*Pn **Pn 00 29 15.2 -0.5**
comp=Z,21nm,0.9s
KIEV Kiev 15.65 325 *e*Pn **Pn 00 29 15.2 -0.5**
comp=Z,21nm,0.9s
AKTO Aktyubinsk 15.88 37 Pn **Pn 00 29 17.0 -1.6**
comp=Z,0.1nm,0.3s,baz=234,slow=13,SNR=10
AKTO LR LR 00 36 54.0
comp=Z,18nm,18.5s,baz=216,slow=43
BURAR Bucovina Array 15.91 310⇑ *i*P **P 00 29 22.9 +0.1**
BURAR Bucovina Array 15.91 310⇑ *i*P **P 00 29 22.9 +0.1**
BUR08 Bucovina Ar. S 15.93 311 *e*Pn **P 00 29 22.4 -0.7**
BUR08 Bucovina Ar. S 15.93 311 *e*Pn **P 00 29 22.4 -0.7**
ABKAR Akbulak array 16.10 43 *e*Pn **Pn 00 29 21.4 -0.1**
comp=Z,18nm,0.6s
ABKAR Akbulak array 16.10 43 *e*Pn **Pn 00 29 21.4 -0.1**
comp=Z,18nm,0.6s
ARCR ARCALIA 16.20 308⇑ *i*P **P 00 29 30.1 +4.2**
ARCR ARCALIA 16.20 308⇑ *i*P **P 00 29 30.1 +4.2**
CJR Cluj-Napoca 16.52 306⇑ *i*P **P 00 29 33.6 +4.0**
CJR Cluj-Napoca 16.52 306 P **P 00 29 33.5 +4.0**
CJR Cluj-Napoca 16.52 306 P **P 00 29 33.5 +4.0**
DRGR 17.12 305⇑ *i*P **P 00 29 39.7 +3.5**
DRGR 17.12 305 P **P 00 29 39.6 +3.4**
DRGR 17.12 305 P **P 00 29 39.6 +3.4**
OBN Obninsk 17.16 347 LR LR 00 37 19.1
comp=Z,35nm,21.1s,baz=85,slow=41
OBN Obninsk 17.16 347*d* *i*P **P 00 29 35.8 -0.6**
OBN pmax pmax
comp=Z,23nm,1.0s
OBN MLR MLR
comp=Z,102nm,15.0s
OBN Obninsk 17.16 347 *i*P **P 00 29 35.8 -0.6**
comp=Z,102nm,15.0s
OBN Obninsk 17.16 347 *e*Pn **P 00 29 36.8 +0.4**
comp=Z,28nm,1.1s
OBN Obninsk 17.16 347 *e*Pn **P 00 29 36.8 +0.4**
comp=Z,28nm,1.1s
UOSS Minazif 17.49 137 *e*Pn **Pn 00 29 38.1 -1.1**
comp=Z,14nm,1.0s
UOSS Minazif 17.49 137 *e*Pn **Pn 00 29 38.1 -1.1**
comp=Z,14nm,1.0s
MOS Moscow 17.59 350 *e*P **P 00 29 42.7 +1.5**
MOS Moscow 17.59 350 *e*P **P 00 29 42.7 +1.5**
SIRR Siria 17.62 303⇑ *i*P **P 00 29 43.9 +2.2**
SIRR Siria 17.62 303⇑ *i*P **P 00 29 43.9 +2.2**
UZH Uzhgorod 18.12 311 *e*P **Pn 00 29 46.7 -0.1**
UZH Uzhgorod 18.12 311 *e*P **Pn 00 29 46.7 -0.1**
KWP Kalwaria Pacla 18.34 314 *e*P **P 00 29 51.1 +1.5**
KWP Kalwaria Pacla 18.34 314 *e*P **P 00 29 51.1 +1.5**
KWP Kalwaria Pacla 18.34 314 *e*P **P 00 29 51.1 +1.5**
CRVS Cervenica-Dubn 18.73 311 *e*P **Pn 00 29 56.1 +1.8**
CRVS Cervenica-Dubn 18.73 311 *e*P **Pn 00 29 56.1 +1.8**
CRVS Cervenica-Dubn 18.73 311 *e*P **Pn 00 29 56.1 +1.8**
PSZ Piszkesteto 19.31 306⇑ *i*P **Pn 00 30 03.9 +2.6**
PSZ Piszkesteto 19.31 306 *e*P **Pn 00 30 02.7 +1.3**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 19.31 306 *e*P **Pn 00 30 02.7 +1.3**
comp=Z,11nm,1.1s
PSZ Piszkesteto 19.31 306 *e*P **Pn 00 30 02.6 +1.3**
comp=Z,11nm,1.1s
NIE Niedzica 19.64 311 *e*P **Pn 00 30 05.4 +0.1**
NIE Niedzica 19.64 311 *e*P **Pn 00 30 05.4 +0.1**
NIE Niedzica 19.64 311 *e*P **Pn 00 30 05.4 +0.1**
NACGM Naroch 19.76 331 *e* **Pn 00 30 07.0 +0.4**
VYHS Vyhne 20.17 307 *e*P **P 00 30 10.5 +0.8**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 20.17 307 *e*P **P 00 30 10.5 +0.8**
comp=Z,5.0nm,1.0s
VYHS Vyhne 20.17 307 *e*P **P 00 30 10.5 +0.8**
WSAR Wadi Sarin 20.18 135 P **P 00 30 10.0 +0.1**
comp=Z,2.5nm,0.5s,baz=336,slow=6.3,SNR=6.6
WSAR LR LR 00 39 34.4
comp=Z,42nm,18.3s,baz=344,slow=42
OJC Ojcow 20.28 313 *e*P Pn 00 30 13.1 +0.3
OJC pmax pmax
comp=Z,6.0nm,1.1s
OJC Ojcow 20.28 313 *e*P Pn 00 30 13.1 +0.3
comp=Z,6.2nm,1.1s
OJC Ojcow 20.28 313 *e*P Pn 00 30 13.1 +0.3
comp=Z,6.2nm,1.1s
ARU Arti 20.60 25 P **P 00 30 14.0 -0.2**
comp=Z,12nm,0.6s,baz=230,slow=5.5,SNR=19
ARU LR LR 00 40 26.9
comp=Z,81nm,19.2s,baz=188,slow=43
ARU Arti 20.60 25*c* *i*P **P 00 30 14.1 -0.1**
ARU 00 30 32.1
ARU S Sn 00 34 06.1 -2.5
ARU SS **SnSn 00 34 22.5 -0.7**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 20.60 25 *i*P **P 00 30 14.1 -0.1**
comp=Z,21nm,1.0s
ARU Arti 20.60 25 *e*P **P 00 30 14.0 -0.2**
comp=Z,21nm,1.0s
SUW Suwalki 20.62 325 P Pn 00 30 16.2 -0.5
SUW pmax pmax
comp=Z,22nm,1.0s
SUW Suwalki 20.62 325 P Pn 00 30 16.2 -0.5
comp=Z,22nm,1.0s
KKAR Karatay Array 21.14 69 *e*P **P 00 30 20.7 +0.5**
KKAR Karatay Array 21.14 69 *e*P **P 00 30 20.7 +0.5**
comp=Z,136nm,0.8s
KKAR Karatay Array 21.14 69 *e*P **P 00 30 20.7 +0.5**
comp=Z,136nm,0.8s
KBL Kabul 21.14 93 *e*P **P 00 30 20.7 +0.2**
KBL pmax pmax
comp=Z,9.0nm,1.3s
KBL Kabul 21.14 93 *e*P **P 00 30 20.7 +0.2**
comp=Z,9.4nm,1.3s
KBL Kabul 21.14 93 *e*P **P 00 30 20.7 +0.2**
comp=Z,9.4nm,1.3s
CEL Celeste 21.35 278 *e*P **P 00 30 23.8 +1.2**
comp=Z,17nm,0.6s
CEL Celeste 21.35 278 *e*P **P 00 30 23.8 +1.2**
comp=Z,17nm,0.6s
SVE Sverdlovsk 21.62 27 *e*P **P 00 30 22.4 -2.8**
VRAC Vranov 21.84 308 P **P 00 30 29.0 +1.4**
comp=Z,2.5nm,0.7s,baz=124,slow=12,SNR=3.1
VRAC LR LR 00 40 40.8
comp=Z,29nm,18.3s,baz=84,slow=41
CONA Conrad Observa 21.89 304 *i*P **P 00 30 29.5 +1.2**
comp=Z,10nm,1.1s
CONA Conrad Observa 21.89 304 P **P 00 30 29.5 +1.2**
comp=Z,10nm,1.1s
ARSA Arzberg 21.95 302 *i*P **P 00 30 34.2 +5.3**
comp=Z,6.4nm,1.1s
SOKA Soboth 22.15 301 *i*P **P 00 30 35.1 +3.9**
comp=Z,7.6nm,1.5s
SOKA Soboth 22.15 301 P **P 00 30 35.1 +3.9**
comp=Z,7.6nm,1.5s
DPC Dobruska-Polom 22.37 311 *e*P **P 00 30 35.7 +2.3**
DPC *ex* x 00 30 40.6
DPC Dobruska-Polom 22.37 311 *e*P **P 00 30 35.7 +2.3**
DPC *e* 00 30 40.6
DPC Dobruska-Polom 22.37 311 *e*P **P 00 30 35.7 +2.3**
KLMR Klimovskoe 22.44 355 *e*P **P 00 30 33.6 -0.3**
KLMR pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 22.44 355 *e*P **P 00 30 33.6 -0.3**
comp=Z,16nm,1.0s
VSU Vasula 22.59 337*c* *i*P **P 00 30 37.5 +2.0**
VSU pmax pmax
comp=Z,86nm,0.8s
VSU Vasula 22.59 337 *i*P **P 00 30 37.5 +2.0**
comp=Z,86nm,0.8s
UPC Upice 22.61 311 *e*P **P 00 30 40.2 +4.3**
UPC Upice 22.61 311 *e*P **P 00 30 40.2 +4.3**
UPC Upice 22.61 311 *e*P **P 00 30 40.2 +4.3**
MOA Molln 22.91 303 *i*P **P 00 30 40.5 +1.4**
comp=Z,5.9nm,1.2s
MOA Molln 22.91 303 P **P 00 30 40.5 +1.4**
comp=Z,5.9nm,1.2s
WDD Wied Dalam 22.94 272 *e*P **P 00 30 41.8 +2.3**
comp=Z,106nm,1.1s
PRU Pruhonice 23.32 309 *e*P **P 00 30 44.9 +1.6**
PRU Pruhonice 23.32 309 *e*P **P 00 30 44.9 +1.6**
PRU Pruhonice 23.32 309 P **P 00 30 44.9 +1.6**
SFK Sufi-Kurgan 23.47 77 P **P 00 30 46.5 +1.4**
SFK pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 23.52 305 *e*P **P 00 30 47.1 +1.7**
GEC2 pmax pmax
comp=Z,9.0nm,1.4s
GEC2 GERESS Array S 23.52 305 *e*P **P 00 30 47.0 +1.7**
comp=Z,8.5nm,1.4s
GERES GERESS Array B 23.52 305 P **P 00 30 45.1 -0.3**
comp=Z,0.8nm,0.6s,baz=106,slow=9.8,SNR=10
GERES LR LR 00 41 14.0
comp=Z,42nm,18.8s,baz=104,slow=40
BRVK Borovoye 23.64 43 *e*P **P 00 30 46.4 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 23.64 43 *e*P **P 00 30 46.4 +0.1**
comp=Z,9.3nm,1.0s
KHC Kasperske Hory 23.68 306 *e*P **P 00 30 47.7 +0.9**
KHC Kasperske Hory 23.68 306 *e*P **P 00 30 47.7 +0.9**
KHC Kasperske Hory 23.68 306 P **P 00 30 47.7 +0.9**
BVAR Borovoye Array 23.68 43 P **P 00 30 46.7 0.0**
comp=Z,2.8nm,0.8s,baz=232,slow=7.3,SNR=17
DAMY Dhamar 23.91 177 *e*P **P 00 30 49.7 +0.1**
comp=Z,13nm,1.0s
AAK Ala-Archa 24.06 70 P **P 00 30 51.8 +1.2**
comp=Z,1.3nm,0.8s,baz=251,slow=9.7,SNR=5.6
AAK LR LR 00 42 08.8
comp=Z,48nm,19.5s,baz=260,slow=41
AAK Ala-Archa 24.06 70*c* *i*P **P 00 30 51.3 +0.6**
AAK pmax pmax
comp=Z,18nm,1.6s
AAK Ala-Archa 24.06 70 *e*P **P 00 30 51.8 +1.2**
comp=Z,5.4nm,1.1s
FRU Bishkek 24.14 70 *e*P **P 00 30 50.0 -1.3**
FRU *e* 00 31 23.5
FRU pmax pmax
comp=Z,50nm,2.0s
WTTA Wattenberg 24.55 301 *i*P **P 00 30 56.4 +1.3**
comp=Z,5.2nm,0.9s
WTTA Wattenberg 24.55 301 P **P 00 30 56.4 +1.3**
comp=Z,5.2nm,0.9s
WATA Walderalm 24.60 301 *i*P **P 00 30 58.3 +2.7**
comp=Z,6.9nm,0.9s
WATA Walderalm 24.60 301 P **P 00 30 58.3 +2.7**
comp=Z,6.9nm,0.9s
CLL Collm 24.68 311 *e*P **P 00 30 57.4 +1.4**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 24.68 311 *e*(sP) **P 00 30 58.0 +2.0**
CLL Collm 24.68 311 *e*P **P 00 30 57.4 +1.4**
comp=Z,7.2nm,1.1s
NKC Novy Kostel 24.68 308 *e*P **P 00 30 57.9 +1.8**
NKC Novy Kostel 24.68 308 *e*P **P 00 30 57.9 +1.8**
NKC Novy Kostel 24.68 308 P **P 00 30 57.9 +1.8**
MOTA Moosalm 24.92 301 *i*pP **P 00 30 59.7 +1.2**
comp=Z,4.0nm,0.7s
MOTA Moosalm 24.92 301 P **P 00 30 59.7 +1.2**
comp=Z,4.0nm,0.7s
FETA Feichten 25.12 300 *i*pP **P 00 31 02.2 +1.9**
comp=Z,5.1nm,1.1s
FETA Feichten 25.12 300 P **P 00 31 02.2 +1.9**
comp=Z,5.1nm,1.1s
FIA1 FINESS Array S 25.25 341 *e*P **P 00 31 02.5 +1.4**
comp=Z,9.4nm,0.9s
FINES FINESS Array B 25.25 341 P **P 00 31 00.6 -0.5**
comp=Z,7.0nm,0.8s,baz=147,slow=11,SNR=12
FINES LR LR 00 41 46.8
comp=Z,57nm,19.0s,baz=152,slow=38
FINES FINESS Array B 25.25 341 *i*P **P 00 31 00.9 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.9s
GRFO Grafenberg 25.31 306 *e*P **P 00 31 03.5 +1.7**
GRFO pmax pmax
comp=Z,14nm,1.0s
GRFO Grafenberg 25.31 306 *e*P **P 00 31 03.5 +1.7**
comp=Z,14nm,1.0s
KSH Kashi 25.43 77 *e*P **P 00 31 02.0 -1.1**
KSH pP pP 00 31 06.5 +0.1
KSH sP sP 00 31 09.5 +1.7
KSH PP **PnPn 00 31 39.3 +1.3**
KSH PcP **PcP 00 34 38.5 +3.5**
KSH S **S 00 35 23.8 -6.0**
KSH sS pS 00 35 31.0 -2.4
KSH SS **SnSn 00 36 23.0 +1.2**
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH pmax pmax
comp=Z,55nm,6.8s
KSH LR LR
comp=N,85nm,7.3s
KSH LR LR
comp=E,100nm,6.9s
KSH LR LR
comp=Z,380nm,6.3s
JOF Joensuu 25.44 347 P **P 00 31 05.6 +2.8**
JOF pmax pmax
comp=Z,17nm,1.2s
DAVOX Davos/Dischmat 25.67 299 LR LR 00 42 04.6
comp=Z,43nm,19.7s,baz=98,slow=38
DAVA Damuels 25.73 301 *i*P **P 00 31 09.1 +3.3**
comp=Z,9.9nm,1.8s
DAVA Damuels 25.73 301 P **P 00 31 09.1 +3.3**
comp=Z,9.9nm,1.8s
STU Stuttgart 26.41 304 *e*P **P 00 31 11.9 +0.1**
STU pmax pmax
comp=Z,12nm,0.5s
STU Stuttgart 26.41 304 *e*P **P 00 31 11.9 +0.1**
comp=Z,12nm,0.5s
KURBB Kurchatov Arra 27.65 53 P **P 00 31 23.4 +0.5**
comp=Z,3.9nm,0.7s,baz=264,slow=9.0,SNR=42
KURBB PcP **PcP 00 34 38.7 -1.2**
comp=Z,0.4nm,0.8s,baz=272,slow=2.6,SNR=4.2
KURK Kurchatov 27.73 52 P **P 00 31 23.4 -0.2**
KURK 00 34 38.7
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 27.73 52 *e*P **P 00 31 24.0 +0.4**
comp=Z,4.8nm,0.8s
KURK PcP **PcP 00 34 38.7 -1.3**
HFS Hagfors 28.48 329 P **P 00 31 29.5 -0.7**
comp=Z,2.4nm,0.7s,baz=126,slow=9.3,SNR=5.1
HFS LR LR 00 44 41.0
comp=Z,47nm,20.3s,baz=108,slow=40
MAKZ Makanchi 29.45 61 *e*P **P 00 31 39.4 +0.4**
MAKZ pmax pmax
comp=Z,10.0nm,1.8s
MAKZ Makanchi 29.45 61 *e*P **P 00 31 39.4 +0.4**
comp=Z,10.0nm,1.8s
MK31 Makanchi Array 29.67 61 *e*P **P 00 31 41.5 +0.6**
MK31 Makanchi Array 29.67 61 *e*P **P 00 31 41.5 +0.6**
MKAR Makanchi Array 29.67 61 P **P 00 31 41.2 +0.3**
comp=Z,1.5nm,0.7s,baz=260,slow=5.7,SNR=12
MKAR Makanchi Array 29.67 61 *e*P **P 00 31 41.5 +0.6**
comp=Z,12nm,0.6s
NOA NORSAR Array B 30.00 329 P **P 00 31 42.5 -1.2**
comp=Z,0.9nm,0.7s,baz=36,slow=8.6,SNR=2.3
NOA LR LR 00 44 44.6
comp=Z,26nm,18.6s,baz=130,slow=38
ZALV Zaleszovo Beam 32.12 48 P **P 00 32 01.8 -0.6**
comp=Z,1.2nm,0.6s,baz=256,slow=8.5,SNR=4.0
ARCES ARCESS Array B 32.46 349 LR LR 00 45 46.2
comp=Z,80nm,18.6s,baz=235,slow=37
WMQ Urumqi 33.60 66 P **P 00 32 16.5 +0.9**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,54nm,3.6s
WMQ LR LR
comp=N,8.0nm,24.7s
WMQ LR LR
comp=E,45nm,19.5s
WMQ LR LR
comp=Z,21nm,19.5s
TAM Tamanrasset 35.71 255 *e*P **P 00 32 35.4 +1.3**
TAM pmax pmax
comp=Z,10.0nm,1.8s
TAM Tamanrasset 35.71 255 *e*P **P 00 32 35.4 +1.3**
comp=Z,9.9nm,1.8s
ESDC Soneoca Array 36.26 287 P **P 00 32 38.2 -0.4**
comp=Z,0.4nm,0.5s,baz=67,slow=8.8,SNR=3.7
TORD Torodi Ar. Bea 44.56 247 P **P 00 33 46.8 -0.6**
comp=Z,1.8nm,0.8s,baz=74,slow=7.4,SNR=15
TORD PcP **PcP 00 35 30.7 +0.2**
comp=Z,0.4nm,0.8s,baz=37,slow=2.7,SNR=3.6
ULN Ulaanbaatar 46.27 57⇓ *e*P **P 00 34 01.4 +0.6**
ULN pmax pmax
comp=Z,6.0nm,2.5s
LZH Lanzhou 47.54 73 *e*P **P 00 34 11.3 +0.4**
LZH pP sP 00 34 15.5 -0.3
LZH sP pP 00 34 18.3 +3.9
LZH pmax pmax
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 51.43 64 *e*P **P 00 34 40.8 +0.3**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,83nm,5.0s
CMAR Chiang Mai Arr 52.12 96 P **P 00 34 45.2 -0.7**
comp=Z,1.1nm,0.3s,baz=294,slow=7.9,SNR=6.2
CMAR Chiang Mai Arr 52.12 96*c*e*P **P 00 34 45.9 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
TIXI Tiksi 52.60 23⇑ *e*P **P 00 34 50.1 +1.5**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
DBIC Dimbokro 53.67 246 P **P 00 34 57.2 +0.1**
comp=Z,1.5nm,0.6s,baz=14,slow=9.3,SNR=4.3
KIC Kosan Boka 53.80 246 *e*P **P 00 34 57.9 -0.3**
comp=Z,130nm,2.1s
TIC Toumodi 53.80 247 *e*P **P 00 34 57.8 -0.4**
LIC Lamto 54.10 246 *e*P **P 00 35 00.0 -0.3**
comp=Z,27nm,0.9s
LHMI Lhok Sumawe 58.83 110 *e*P **P 00 35 33.7 -0.4**
comp=Z,42nm,0.9s
KSAR Wonju Array Be 64.33 62 P **P 00 36 10.0 -0.9**
KSAR Wonju Array Be 64.33 62 P **P 00 36 10.0 -0.9**
KSRS Korea Array 64.35 62 P **P 00 36 10.0 -1.0**
comp=Z,1.8nm,0.8s,baz=286,slow=6.8,SNR=6.0
PETK Petropavlovsk- 72.61 35 LR LR 01 11 53.4
comp=Z,34nm,18.8s,baz=90,slow=38

GUC 28 00:35:46.6±0.6, 21.°40S×69.°05W, h90km±3km, ML3.8, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.43**	**204**	*e*P	Pn	00 36 01.1	+0.1
PB09				*i* S	Sn	00 36 12.4	+0.6
PB09				IAML		00 36 14.6	
comp=N,6μm,0.9s							
PB01	**IPOC Station P**	**0.54**	**311⇑**	*i*P	Pn	00 36 02.0	+0.2
PB01				*i* S	Sn	00 36 13.8	+0.7
PB01				IAML		00 36 14.9	
comp=E,5μm,0.2s							
PB02	**IPOC Station P**	**0.79**	**276**	*e*P	Pn	00 36 04.6	+0.5
PB02				*i* S	Sn	00 36 18.1	+0.8
PB02				IAML		00 36 20.7	
comp=E,4μm,0.2s							
PB07	**IPOC Station P**	**0.84**	**247**	*e*P	Pn	00 36 05.2	+0.5
PB07				*i* S	Sn	00 36 18.9	+0.6
PB07				IAML		00 36 20.6	
comp=E,2μm,0.3s							
LVC	**Limon Verde**	**1.21**	**174⇑**	*i*P	Pn	00 36 10.1	+0.9
LVC				*e*S	Sn	00 36 27.2	+1.2
PB08	**IPOC Station P**	**1.26**	**356**	*e*P	Pn	00 36 10.4	+0.6
PB08				*i* S	Sn	00 36 28.6	+1.4
PB04	**IPOC Station P**	**1.38**	**228⇑**	*i*P	Pn	00 36 11.4	+0.4
PB04				*i* S	Sn	00 36 30.4	+1.0
PB04				IAML		00 36 34.3	
comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.38**	**200⇑**	*i*P	Pn	00 36 11.7	+0.6
PB06				*i* S	Sn	00 36 30.8	+1.3
PB06				IAML		00 36 31.9	
comp=N,1μm,0.3s							
PB11	**IPOC Station P**	**1.73**	**341⇓**	*i*P	Pn	00 36 16.0	+0.5
PB11				*i* S	Sn	00 36 38.8	+1.5
PB11				IAML		00 36 42.2	
comp=E,2μm,0.2s							
PSGC	**Pisagua**	**2.06**	**331**	*e*P	Pn	00 36 19.4	-0.3
PSGC				*e*S	Sn	00 36 45.9	+1.0
PSGC				IAML		00 36 51.7	
comp=N,205nm,0.2s							
MNMC	**Minye Minye**	**2.32**	**347⇓**	*i*P	Pn	00 36 24.1	+0.8
MNMC				*i* S	Sn	00 36 52.7	+1.4
MNMC				IAML		00 37 03.6	
comp=N,593nm,0.1s							
PB10	**IPOC Station P**	**2.52**	**213⇑**	*i*P	Pn	00 36 26.7	+1.0
PB10				*e*S	Sn	00 36 58.2	+2.5
PB10				IAML		00 37 05.3	
comp=E,509nm,0.3s							
ANCH	**Antofagasta**	**2.59**	**209**	*e*P	Pn	00 36 31.3	+4.6
ANCH				*e*S	Sn	00 37 03.2	+5.8
PB12	**IPOC Station P**	**3.02**	**336**	*e*P	Pn	00 36 31.9	-0.7
PB12				*e*S	Sn	00 37 07.5	-0.4
PB12				IAML		00 37 18.6	
comp=E,586nm,0.3s							
PB13	**IPOC Station P**	**3.08**	**352**	*e*P	Pn	00 36 36.0	+2.2
PB13				*i* S	Sn	00 37 14.7	+4.6
PB13				IAML		00 37 22.3	
comp=E,612nm,0.4s							
PB14	**IPOC Station P**	**3.44**	**201**	*e*P	Pn	00 36 42.0	+3.7
PB14				*i* S	Sn	00 37 20.7	+2.3
PB14				IAML		00 37 29.3	
comp=E,206nm,0.2s							

AZER ***28*** *01:34:37.5±0.3, 38.°33N×43.°00E, h12km±9km, Error ellipse: s-maj=9.7km s-min=2.3km az=59.0*
DDA ***28*** *01:34:41.6, 38.°68N×43.°40E, h7km, Ml3.6*
ISK ***28*** *01:34:41.3, 38.°69N×43.°43E, h5km, ML3.7*
CSEM ***28*** *01:34:42.2±0.1, 38.°66N×43.°40E, h2km, ML3.7, Error ellipse: s-maj=3.8km s-min=3.2km az=137.0*

ISC 28 01:34:42.9±1.0, 38.°71N±0.°02×43.°43E±0.°02, h18km±4km, n100, σ1°85/134, 15C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**195**	PG	**Pg**	**01 34 45.8**	**-1.1**
VANB	**Van**	**0.12**	**195**	*i* Pg	**Pg**	**01 34 45.8**	**-1.1**
TVAN	**Van**	**0.18**	**185**	*i* P	**Pg**	**01 34 48.6**	**+0.9**
TVAN	**Van**	**0.18**	**185**	P	**Pg**	**01 34 48.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.30**	**22**	*i* P	**Pb**	**01 34 49.1**	**-0.9**
VMUR				*i* S	**Sb**	**01 34 55.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.30**	**22**	P	**Pb**	**01 34 49.1**	**-0.9**
VMUR				S	**Sb**	**01 34 55.6**	**+0.9**
GEVA	**Gevas**	**0.49**	**216**	*i* P	**Pg**	**01 34 50.7**	**-2.2**
GEVA	**Gevas**	**0.49**	**216**	P	**Pg**	**01 34 50.7**	**-2.2**
CLDR	**Caldiran**	**0.58**	**41**	*e*PG	**Pb**	**01 34 53.7**	**-0.9**
CLDR				*e*SG	**Sb**	**01 35 03.8**	**+1.1**
CLDR	**Caldiran**	**0.58**	**41**	*i* P	**Pb**	**01 34 53.8**	**-0.9**
CLDR				*i* S	**Sb**	**01 35 04.2**	**+1.5**
CLDR	**Caldiran**	**0.58**	**41**	P	**Pb**	**01 34 53.8**	**-0.9**
CLDR				*e*Sg	**Sb**	**01 35 03.8**	**+1.1**
CLDR				S	**Sb**	**01 35 04.2**	**+1.5**
BASK	**Baskale_VAN**	**0.80**	**145**	*i* P	**Pg**	**01 34 56.7**	**-1.8**
BASK	**Baskale_VAN**	**0.80**	**145**	P	**Pg**	**01 34 56.7**	**-1.8**
TUTA	**Tutak**	**0.84**	**326**	*i* P	**Pg**	**01 34 57.8**	**-1.6**
TUTA				*i* S	**Sb**	**01 35 10.5**	**+0.2**
TUTA	**Tutak**	**0.84**	**326**	P	**Pg**	**01 34 57.8**	**-1.6**
TUTA				S	**Sb**	**01 35 10.5**	**+0.2**
DYDN	**Diyadin**	**0.86**	**14**	*i* P	**Pg**	**01 34 58.6**	**-1.2**
DYDN				*i* S	**Sn**	**01 35 12.8**	**+0.2**
DYDN	**Diyadin**	**0.86**	**14**	P	**Pg**	**01 34 58.6**	**-1.2**
DYDN				S	**Sn**	**01 35 12.8**	**+0.2**
TATV	**Tatvan**	**0.93**	**258**	*i* P	**Pg**	**01 34 58.5**	**-2.5**
TATV				*i* S	**Sb**	**01 35 12.8**	**+0.1**
TATV	**Tatvan**	**0.93**	**258**	P	**Pg**	**01 34 58.5**	**-2.5**
TATV				S	**Sb**	**01 35 12.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.93**	**339**	*e*PG	**Pb**	**01 35 00.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**339**	*e*Pg	**Pb**	**01 35 00.2**	**-0.5**
HAKT	**HAKKARI**	**1.17**	**169**	*i* P	**Pg**	**01 35 02.5**	**-3.1**
HAKT				*i* S	**Sn**	**01 35 24.1**	**+3.9**
HAKT	**HAKKARI**	**1.17**	**169**	P	**Pg**	**01 35 02.5**	**-3.1**
EKAR	**Karacoban**	**1.20**	**298**	*i* P	**Pb**	**01 35 04.7**	**-0.5**
EKAR	**Karacoban**	**1.20**	**298**	P	**Pb**	**01 35 04.7**	**-0.5**
EATA	**Eleskirt**	**1.36**	**328**	*i* P	**Pn**	**01 35 07.3**	**-0.1**
EATA				*i* S	**Sn**	**01 35 27.7**	**+2.5**
EATA	**Eleskirt**	**1.36**	**328**	P	**Pn**	**01 35 07.3**	**-0.1**
EATA				S	**Sn**	**01 35 27.7**	**+2.5**
SIRN	**S¨–rnak**	**1.45**	**214**	*i* P	**Pb**	**01 35 08.6**	**-0.8**
SIRN	**S¨–rnak**	**1.45**	**214**	P	**Pb**	**01 35 08.6**	**-0.8**
CUKT	**Cukurca**	**1.46**	**174**	*e*PN	**Pg**	**01 35 09.1**	**-2.1**
CUKT				*e*SN	**Sg**	**01 35 30.6**	**+0.3**
CUKT	**Cukurca**	**1.46**	**174**	*i* P	**Pn**	**01 35 08.1**	**-0.5**
CUKT				*i* S	**Sg**	**01 35 32.0**	**+1.8**
CUKT	**Cukurca**	**1.46**	**174**	P	**Pn**	**01 35 08.1**	**-0.5**
CUKT	**Cukurca**	**1.46**	**174**	*e*Pn	**Pg**	**01 35 09.1**	**-2.1**
CUKT				*e*Sn	**Sg**	**01 35 30.6**	**+0.3**
CUKT				S	**Sg**	**01 35 32.0**	**+1.8**
VRTB	**Varto-Mus**	**1.60**	**287**	*e*PN	**Pg**	**01 35 12.2**	**-1.6**
VRTB	**Varto-Mus**	**1.60**	**287**	*i* P	**Pb**	**01 35 11.8**	**-0.3**
VRTB	**Varto-Mus**	**1.60**	**287**	P	**Pb**	**01 35 11.8**	**-0.3**
VRTB	**Varto-Mus**	**1.60**	**287**	*e*Pn	**Pg**	**01 35 12.2**	**-1.6**

NAX	**Nakhchivan**	**1.68**	**73**	⇑P	**Pb**	**01 35 13.1**	**-0.3**
	SNR=38						
NAX				⇓S	**Sg**	**01 35 40.5**	**+3.4**
NAX	**Nakhchivan**	**1.68**	**73**	P	**Pb**	**01 35 13.1**	**-0.3**
	SNR=38						
DIGO	**Kars**	**1.71**	**359**	*i* P	**Pb**	**01 35 13.8**	**-0.2**
DIGO	**Kars**	**1.71**	**359**	P	**Pb**	**01 35 13.8**	**-0.2**
HOMI	**Horasan**	**1.78**	**319**	*i* P	**Pb**	**01 35 15.1**	**-0.1**
BNGL	**BINGOL**	**1.79**	**279**	*i* P	**Pb**	**01 35 15.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.83**	**253**	*e*PN	**Pb**	**01 35 15.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**253**	*e*Pn	**Pb**	**01 35 15.4**	**-0.6**
BTMN	**Batman**	**1.88**	**245**	*i* P	**Pb**	**01 35 15.1**	**-1.7**
BTMN	**Batman**	**1.88**	**245**	P	**Pb**	**01 35 15.1**	**-1.7**
ERZM	**Erzurum**	**2.00**	**307**	*i* P	**Pg**	**01 35 19.8**	**-1.5**
ERZM	**Erzurum**	**2.00**	**307**	P	**Pg**	**01 35 19.8**	**-1.5**
SENK	**Senkaya-Erzuru**	**2.03**	**336**	*e*PN	**Pb**	**01 35 18.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.03**	**336**	*e*Pn	**Pb**	**01 35 18.6**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.11**	**296**	*i* P	**Pn**	**01 35 18.4**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.11**	**296**	P	**Pn**	**01 35 18.4**	**+0.9**
BNGB	**Bing¶l**	**2.16**	**278**	*e*PN	**Pb**	**01 35 20.0**	**-1.6**
BINT	**Bingol**	**2.30**	**275**	*e*Pn	**Pn**	**01 35 20.0**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*PN	**Pn**	**01 35 22.7**	**+1.8**
YEDI	**Yedisu-Bingol**	**2.36**	**289**	*e*Pn	**Pn**	**01 35 22.7**	**+1.8**
DDEM	**Demirkent**	**2.54**	**330**	*i* P	**Pg**	**01 35 29.1**	**-2.5**
DDEM	**Demirkent**	**2.54**	**330**	P	**Pg**	**01 35 29.1**	**-2.5**
KOPT	**Kop Dagi**	**2.62**	**301**	*i* P	**Pg**	**01 35 31.1**	**-2.1**
DAGI	**Agillar**	**2.64**	**334**	*i* P	**Pg**	**01 35 31.1**	**-2.4**
MAZI	**Mazidag**	**2.66**	**243**	*e*PN	**Pn**	**01 35 26.5**	**+1.5**
MAZI	**Mazidag**	**2.66**	**243**	*e*Pn	**Pn**	**01 35 26.5**	**+1.5**
GDB	**GEDABAY**	**2.70**	**41**	⇑P	**Pn**	**01 35 28.0**	**+2.4**
	SNR=9.7						
GDB				⇑S	**Sg**	**01 36 07.6**	**-2.1**
GDB	**GEDABAY**	**2.70**	**41**	P	**Pn**	**01 35 28.0**	**+2.4**
	SNR=9.7						
AKH	**Akhalkalaki**	**2.70**	**1**	P	**Pg**	**01 35 33.5**	**-1.3**
ARTV	**Artvin**	**2.73**	**336**	*i* P	**Pg**	**01 35 33.9**	**-1.4**
QZX	**Qazax, Azerbai**	**2.79**	**32**	⇑P	**Pb**	**01 35 29.6**	**-2.6**
	SNR=17						
QZX				⇑S	**Sg**	**01 36 09.5**	**-3.0**
QZX	**Qazax, Azerbai**	**2.79**	**32**	P	**Pb**	**01 35 29.6**	**-2.6**
	SNR=17						
EPOS	**Posof**	**2.84**	**349**	*i* P	**Pg**	**01 35 35.3**	**-2.2**
GANJ	**Ganja**	**2.96**	**48**	⇓P	**Pn**	**01 35 31.2**	**+2.2**
	SNR=26						
GANJ				⇓S	**Sb**	**01 36 13.2**	**+2.2**
GANJ	**Ganja**	**2.96**	**48**	P	**Pn**	**01 35 31.2**	**+2.2**
	SNR=26						
DBOC	**Borcka**	**2.96**	**333**	*i* P	**Pg**	**01 35 36.8**	**-2.9**
DGRG	**David-gareji**	**3.12**	**28**	P	**Pb**	**01 35 34.6**	**-3.4**
PTK	**Pertek**	**3.16**	**275**	*e*PN	**Pn**	**01 35 34.0**	**+2.1**
PTK	**Pertek**	**3.16**	**275**	*e*Pn	**Pn**	**01 35 34.0**	**+2.1**
TBLG	**Delisi**	**3.18**	**18**	*e*PN	**Pn**	**01 35 34.0**	**+1.9**
TBLG	**Delisi**	**3.18**	**18**	P	**Pb**	**01 35 39.1**	**+0.1**
TBLG	**Delisi**	**3.18**	**18**	*e*Pn	**Pn**	**01 35 34.0**	**+1.9**
TBLG	**Delisi**	**3.18**	**18**	P	**Pb**	**01 35 39.1**	**+0.1**
BRDA	**Brd**	**3.29**	**61**	⇑P	**Pn**	**01 35 35.6**	**+2.0**
BRDA				⇓S	**Sb**	**01 36 20.5**	**-0.1**
BRDA	**Brd**	**3.29**	**61**	P	**Pn**	**01 35 35.6**	**+2.0**
BRDA				S	**Sb**	**01 36 20.5**	**-0.1**
MNGR	**Mingechevir, A**	**3.50**	**53**	⇑P	**Pn**	**01 35 38.4**	**+2.0**
MNGR				⇑S	**Sb**	**01 36 25.9**	**-0.5**
MNGR	**Mingechevir, A**	**3.50**	**53**	P	**Pn**	**01 35 38.4**	**+2.0**
ZRD	**Zardab**	**3.65**	**63**	⇑P	**Pn**	**01 35 39.9**	**+1.4**
ZRD				⇓S	**Sb**	**01 36 29.2**	**-1.6**
ZRD	**Zardab**	**3.65**	**63**	P	**Pn**	**01 35 39.9**	**+1.4**
ZRD				S	**Sb**	**01 36 29.2**	**-1.6**
ZKTA	**Zakatala**	**3.82**	**39**	⇑P	**Pn**	**01 35 43.0**	**+2.1**
ZKTA				⇓S	**Sb**	**01 36 34.5**	**-1.2**
SEKA	**Sheki**	**3.83**	**48**	⇑P	**Pn**	**01 35 44.0**	**+3.0**
SEKA				⇑S	**Sb**	**01 36 35.8**	**-0.2**
SEKA	**Sheki**	**3.83**	**48**	P	**Pn**	**01 35 44.0**	**+3.0**
LRK	**Lerik**	**3.85**	**89**	⇓P	**Pn**	**01 35 39.9**	**-1.5**
	SNR=3.9						
LRK				⇑S	**Sn**	**01 36 30.8**	**+4.6**
LRK	**Lerik**	**3.85**	**89**	P	**Pn**	**01 35 39.9**	**-1.5**
	SNR=3.9						
LRK				S	**Sn**	**01 36 30.8**	**+4.6**
ONI	**Oni**	**3.88**	**0**	P	**Pg**	**01 35 53.7**	**-3.5**
GLBA	**Clilabad**	**3.91**	**81**	⇓P	**Pn**	**01 35 42.6**	**+0.6**
GLBA				⇓S	**Sb**	**01 36 33.7**	**-4.5**
GLBA	**Clilabad**	**3.91**	**81**	P	**Pn**	**01 35 42.6**	**+0.6**
GLBA				S	**Sb**	**01 36 33.7**	**-4.5**
QBL	**Gabala**	**4.07**	**55**	⇑P	**Pn**	**01 35 46.2**	**+1.9**
QBL	**Gabala**	**4.07**	**55**	P	**Pn**	**01 35 46.2**	**+1.9**
LKRN	**Lenkeran, Azer**	**4.19**	**88**	⇑P	**Pn**	**01 35 45.9**	**0.0**
LKRN	**Lenkeran, Azer**	**4.19**	**88**	P	**Pn**	**01 35 45.9**	**0.0**
IML	**Ismayilli**	**4.22**	**59**	⇓P	**Pn**	**01 35 48.1**	**+1.8**
IML	**Ismayilli**	**4.22**	**59**	P	**Pn**	**01 35 48.1**	**+1.8**

MOS ***28*** *01:35:26.2±1.1, 52.°15N×171.°58W, h33km, mb5.9/126, MS4.9/60, Error ellipse: s-maj=6.3km s-min=5.1km az=88.1*

IDC ***28*** *01:35:27.9±1.6, 52.°07N×171.°55W, h36km±11km, mb5.3/36, mb1 5.3/37, mb1mx5.3/40, mbtmp5.4/37, ML5.3/1, MS4.7/39, Ms1 4.8/39, ms1mx4.7/45, Error ellipse: s-maj=13.6km s-min=9.2km az=176.0*

NEIC ***28*** *01:35:28.4±0.1, 52.°06N×171.°57W, h35km, mb5.7/264, MS5.0/141, MW5.3, Error ellipse: s-maj=4.0km s-min=1.9km az=172.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^{17}Nm; M_{rr}1.06; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$-0.44; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.60; $M_{\phi r}$-0.11; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s65.00000°, δ53.00000°, λ110.00000°. NP2:ϕ_s214.00000°, δ42.00000°, λ66.00000°. Principal axes: T 1.1800, Plg73.0000°, Azm32.0000°; N -0.0200, Plg16.0000°, Azm232.0000°; P -1.1600, Plg6.0000°, Azm141.0000°;*

ISCJB ***28*** *01:35:28.8±0.3, 52.°07N±0.°02×171.°49W±0.°01, h57km±2km, mb5.7/425, MS5.0/212 Error ellipse: s-maj=3.4km s-min=1.5km az=1.7*

GCMT ***28*** *01:35:28.4±0.1, 51.°84N×171.°52W, h37km, MW5.5/139, Moment Tensor Solution. s117, c223; s139, c330; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.65±.03; $M_{\theta\theta}$0.42±.02; $M_{\phi\phi}$-2.07±.02; $M_{r\theta}$0.71±.03; $M_{\theta\phi}$0.60±.01; $M_{\phi r}$-0.92±.02; Best double couple: $M_0$2.27500×10^{17} NP1:ϕ_s151.00000°, δ62.00000°, λ71.00000°. NP2:ϕ_s7.00000°, δ34.00000°, λ121.00000°. Principal axes: T 2.0700, Plg68.0000°, Azm24.0000°; N 0.4090, Plg16.0000°, Azm160.0000°; P -2.4790, Plg15.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***28*** *01:35:32.2, 52.°55N×172.°25W, h61km, mb5.6/70, mB5.4/47, Ms5.2/69, Ms7 5.1/67*

ISC 28 01:35:28.8±0.4, 51.°99N±0.°04×171.°56W±0.°02, h46km±2km, h46km:pP-P, n1741, σ1927/1879, mb5.7/451, MS5.0/213, 143C-22D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.58**	**284**	P	**Pn**	**01 35 56.2**	**+1.9**
KOFP	**Korovin Flat P**	**1.59**	**282**	P	**Pn**	**01 35 56.1**	**+1.6**
KONE	**Korovin Northe**	**1.63**	**286**	P	**Pn**	**01 35 57.1**	**+2.1**
ATKA	**Atka Island**	**1.64**	**279**	P	**Pn**	**01 35 55.9**	**+0.8**
ATKA				*e*Sn	**Sn**	**01 36 16.3**	**+1.3**
ATKA				S	**Sn**	**01 36 17.1**	**+2.1**
KOKL	**Mount Kliuchef**	**1.66**	**283**	P	**Pn**	**01 35 57.2**	**+1.7**
NIKH	**Nikolski High**	**1.93**	**58**	P	**Pn**	**01 35 58.1**	**-1.0**
NIKH				*e*Sn	**Sn**	**01 36 19.6**	**-2.4**
NIKH				S	**Sn**	**01 36 21.2**	**-0.9**
OKSP	**Okmok Steeple**	**2.36**	**56**	P	**Pn**	**01 36 04.7**	**-0.4**
OKSO	**Okmok South**	**2.48**	**55**	P	**Pn**	**01 36 07.1**	**+0.4**
OKSO				S	**Sn**	**01 36 37.5**	**+1.8**
OKCE	**Okmok Cone E**	**2.52**	**54**	P	**Pn**	**01 36 07.8**	**+0.6**
OKCE				S	**Sn**	**01 36 38.1**	**+1.5**
OKNC	**Okmok New Cone**	**2.56**	**53**	P	**Pn**	**01 36 08.8**	**+1.1**
OKNC				S	**Sn**	**01 36 40.2**	**+2.6**
OKTU	**Okmok Mt. Tuli**	**2.56**	**55**	P	**Pn**	**01 36 08.1**	**+0.3**
OKFG	**Magazine Ridge**	**2.64**	**56**	P	**Pn**	**01 36 09.2**	**+0.4**
OKFG				S	**Sn**	**01 36 42.1**	**+2.6**
GSTR	**Great Sitkin T**	**2.78**	**274**	P	**Pn**	**01 36 13.2**	**+2.4**
GSTR				*e*Sn	**Sn**	**01 36 40.1**	**-3.0**
GSTD	**Great Sitkin T**	**2.84**	**273**	P	**Pn**	**01 36 13.2**	**+1.6**
GSCK	**Great Sitkin C**	**2.85**	**272**	P	**Pn**	**01 36 13.2**	**+1.5**
ETKA	**Kagalaska Isla**	**3.00**	**270**	P	**Pn**	**01 36 14.5**	**+0.6**
ADAG	**Mount Adagdak**	**3.12**	**272**	P	**Pn**	**01 36 17.2**	**+1.8**
ADK	**Adak**	**3.17**	**270**	P	**Pn**	**01 36 17.0**	**+0.9**
ADK				S	**Sn**	**01 36 55.0**	**+2.3**
ADK	**Adak**	**3.17**	**270**	P	**Pn**	**01 36 17.0**	**+0.9**
ADK				S	**Sn**	**01 36 55.0**	**+2.3**
MGOD	**Makushin Gods**	**3.37**	**56**	P	**Pn**	**01 36 19.4**	**+0.5**
KIRH	**Kanaga Island**	**3.43**	**271**	P	**Pn**	**01 36 21.7**	**+2.0**
MSW	**Makushin Switc**	**3.48**	**54**	P	**Pn**	**01 36 20.9**	**+0.6**
MSW				S	**Sn**	**01 37 02.0**	**+1.9**
KIKV	**Kanaga Island**	**3.48**	**270**	P	**Pn**	**01 36 22.3**	**+2.0**
KICM	**Kanaga Island**	**3.49**	**271**	P	**Pn**	**01 36 22.4**	**+2.0**
MTBL	**Makushin Table**	**3.56**	**54**	P	**Pn**	**01 36 21.7**	**+0.2**
UNV	**Unalaska Valle**	**3.58**	**57**	P	**Pn**	**01 36 22.2**	**+0.5**
UNV				S	**Sn**	**01 37 03.5**	**+0.7**
TAPA	**Tanaga Point A**	**3.88**	**270**	P	**Pn**	**01 36 27.4**	**+1.6**
TAFL	**Tanaga Flats**	**3.94**	**269**	P	**Pn**	**01 36 28.4**	**+1.8**
AKRB	**Akutan Reef Bi**	**3.95**	**55**	P	**Pn**	**01 36 28.1**	**+1.4**
AKMO	**Akutan Morgan**	**3.96**	**56**	P	**Pn**	**01 36 27.9**	**+1.0**
TAFP	**Tanaga Falls P**	**3.98**	**271**	P	**Pn**	**01 36 28.7**	**+1.5**
AKGG	**Akutan Green G**	**4.02**	**54**	P	**Pn**	**01 36 29.0**	**+1.2**
AKLV	**Akutan Long Va**	**4.02**	**55**	P	**Pn**	**01 36 29.1**	**+1.3**
AKUT	**Akutan**	**4.10**	**56**	P	**Pn**	**01 36 29.9**	**+1.0**
GAEA	**Gareloi East**	**4.46**	**270**	P	**Pn**	**01 36 35.4**	**+1.6**
GALAA	**Gareloi Lava P**	**4.48**	**270**	P	**Pn**	**01 36 35.3**	**+1.3**
WESP	**Westdahl Peak**	**4.81**	**56**	P	**Pn**	**01 36 39.8**	**+1.1**
WESE	**West Dahl East**	**4.87**	**57**	P	**Pn**	**01 36 40.6**	**+1.1**
WESN	**West Dahl Nort**	**4.92**	**56**	P	**Pn**	**01 36 41.6**	**+1.5**
SPIA	**Saint Paul Isl**	**5.26**	**8**	P	**Pn**	**01 36 47.6**	**+2.9**
SSLN	**Shishaldin Nor**	**5.34**	**55**	P	**Pn**	**01 36 47.3**	**+1.5**
FALS	**False Pass**	**5.65**	**56**	P	**Pn**	**01 36 50.5**	**+0.3**
DT1	**Dutton Round H**	**6.35**	**57**	P	**Pn**	**01 36 60.0**	**+0.3**
DTNA	**Dutton South F**	**6.38**	**57**	P	**Pn**	**01 37 00.8**	**+0.6**
DOL	**Dolgoi Island**	**6.58**	**57**	P	**Pn**	**01 37 03.8**	**+0.8**
PS4A	**Pavlof South-4**	**6.67**	**56**	P	**Pn**	**01 37 05.3**	**+1.1**
SDPT	**Sand Point**	**7.39**	**59**	P	**Pn**	**01 37 14.3**	**+0.4**
VNWF	**Veniaminof 8**	**8.19**	**55**	P	**Pn**	**01 37 26.4**	**+1.4**
SMY	**Shemya**	**8.81**	**280**	P	**Pn**	**01 37 35.2**	**+1.8**
SMY	**Shemya**	**8.81**	**280**	P	**Pn**	**01 37 35.1**	**+1.8**
CHGN	**Chignik**	**8.84**	**56**	P	**Pn**	**01 37 34.4**	**+0.6**
SII	**Sitkinak Islan**	**11.13**	**59**	*e*Pn	**Pn**	**01 38 03.8**	**-1.4**
OHAK	**Old Harbor**	**11.80**	**56**	*e*Pn	**Pn**	**01 38 11.2**	**-3.1**
GAMB	**Gambell**	**11.83**	**360**	*e*Pn	**Pn**	**01 38 18.0**	**+3.5**
KDAK	**Kodiak Island**	**12.35**	**55**	Pn	**Pn**	**01 38 18.3**	**-3.4**
	14nm,0.3s,baz=237,slow=3.4,SNR=75						
KDAK				Sn	Sn	01 40 20.9	-17
	baz=13,slow=19,SNR=2.2						
KDAK	**Kodiak Island**	**12.35**	**55**	*e*P	**Pn**	**01 38 18.5**	**-3.2**
SVW2	**Sparrevohn**	**12.65**	**38**	*e*Pn	**Pn**	**01 38 29.9**	**+4.0**
RSO	**Redoubt South**	**13.43**	**43**	*e*Pn	**Pn**	**01 38 40.7**	**+4.1**
CNPM	**China Poot**	**13.66**	**49**	*e*Pn	**Pn**	**01 38 36.9**	**-2.8**
TT01	**Tatalina**	**13.73**	**31**	*e*Pn	**Pn**	**01 38 42.7**	**+2.2**
TTA	**Tatalina**	**13.75**	**31**	*e*P	**Pn**	**01 38 42.5**	**+1.7**
TTA	**Tatalina**	**13.75**	**31**	*e*Pn	**Pn**	**01 38 42.5**	**+1.7**
BRLK	**Bradley Lake**	**13.93**	**48**	*e*Pn	**Pn**	**01 38 41.2**	**-2.1**
SPU	**Mount Spurr**	**14.10**	**42**	*e*Pn	**Pn**	**01 38 48.0**	**+2.4**
SEW	**Seward**	**14.73**	**48**	*e*Pn	**Pn**	**01 38 51.4**	**-2.5**
SEW				*e*Sn	**Sn**	**01 41 31.9**	**-3.6**
RC01	**Rabbit Creek A**	**15.03**	**44**	*e*Pn	**Pn**	**01 38 56.9**	**-0.9**
PMR	**Palmer**	**15.52**	**43**	*e*P	**Pn**	**01 39 05.2**	**+1.0**
PMR				pmax	pmax		
	comp=Z,100nm,1.1s						
PMR	**Palmer**	**15.52**	**43**	*e*Pn	**Pn**	**01 39 03.6**	**-0.6**
	comp=Z,104nm,1.1s						
SML	**Sawmill**	**15.96**	**43**	*e*P	**Pn**	**01 39 10.2**	**+0.3**
SML				pmax	pmax		
	comp=Z,220nm,1.0s						
SML	**Sawmill**	**15.96**	**43**	*e*Pn	**Pn**	**01 39 09.3**	**-0.6**
	comp=Z,223nm,1.0s						
MID	**Middleton Isla**	**15.97**	**52**	*e*P	**P**	**01 39 15.5**	**+2.7**
MID				pmax	pmax		
	comp=Z,860nm,0.9s						
MID	**Middleton Isla**	**15.97**	**52**	*e*Pn	**P**	**01 39 15.5**	**+2.7**
	comp=Z,860nm,0.9s						
GLI	**Glacier Island**	**16.11**	**47**	*e*Pn	**Pn**	**01 39 12.2**	**+0.5**
	comp=Z,137nm,1.2s						
GLI				*e*Sn	**Sn**	**01 42 10.8**	**+1.7**
BPAW	**Bear Paw Mtn.**	**16.20**	**34**	*e*Pn	**Pn**	**01 39 13.3**	**+0.4**
	comp=Z,395nm,1.1s						
FID	**Port Fidalgo**	**16.34**	**48**	*e*Pn	**Pn**	**01 39 12.3**	**-2.3**
	comp=Z,365nm,1.4s						
FID				*e*Sn	**Sn**	**01 42 17.7**	**+3.1**
SCM	**Sheep Creek Mo**	**16.40**	**44**	*e*P	**Pn**	**01 39 14.7**	**-0.8**
SCM				pmax	pmax		
	comp=Z,225nm,0.9s						
SCM	**Sheep Creek Mo**	**16.40**	**44**	*e*Pn	**Pn**	**01 39 14.7**	**-0.8**
	comp=Z,225nm,0.9s						
RND	**Reindeer**	**16.56**	**38**	*e*P	**Pn**	**01 39 18.0**	**+0.5**
RND				pmax	pmax		
	comp=Z,167nm,1.0s						
RND	**Reindeer**	**16.56**	**38**	*e*Pn	**Pn**	**01 39 18.0**	**+0.5**
	comp=Z,167nm,1.0s						
EYAK	**Cordova Ski Ar**	**16.60**	**49**	*e*Pn	**Pn**	**01 39 17.7**	**-0.2**
	comp=Z,149nm,1.2s						
MCK	**McKinley**	**16.71**	**37**	*e*P	**Pn**	**01 39 19.2**	**-0.2**
MCK				pmax	pmax		
	comp=Z,186nm,1.1s						
MCK	**McKinley**	**16.71**	**37**	*e*Pn	**Pn**	**01 39 19.1**	**-0.2**
	comp=Z,186nm,1.1s						
DIV	**Divide**	**16.80**	**47**	*e*Pn	**Pn**	**01 39 19.3**	**-1.2**
	comp=Z,95nm,1.0s						
DIV				*e*Sn	**Sn**	**01 42 18.3**	**-7.6**
KLU	**Klutina**	**16.87**	**46**	*e*Pn	**Pn**	**01 39 18.3**	**-3.1**
	comp=Z,141nm,1.0s						
MLY	**Manley**	**16.88**	**31**	*e*Pn	**P**	**01 39 23.5**	**+0.5**
	comp=Z,107nm,1.0s						
DHY	**Denali Highway**	**16.96**	**40**	*e*Pn	**Pn**	**01 39 22.1**	**-0.4**
	comp=Z,176nm,1.2s						
RAGM	**Ragged Mountai**	**17.05**	**50**	*e*Pn	**P**	**01 39 24.7**	**-0.2**
	comp=Z,310nm,1.0s						
BMRM	**Bremner River**	**17.27**	**48**	*e*Pn	**Pn**	**01 39 26.0**	**-0.3**
	comp=Z,491nm,1.4s						
WRH	**Wood River Hil**	**17.44**	**35**	*e*Pn	**Pn**	**01 39 28.0**	**-0.3**
	comp=Z,223nm,1.4s						
HARP	**HAARP**	**17.57**	**43**	*e*Pn	**Pn**	**01 39 30.0**	**0.0**
	comp=Z,179nm,0.9s						
CCB	**Clear Creek Bu**	**17.64**	**35**	*e*Pn	**Pn**	**01 39 28.5**	**-2.2**
	comp=Z,231nm,1.4s						
MDM	**Murphy Dome**	**17.67**	**34**	*e*Pn	**Pn**	**01 39 29.7**	**-1.6**
	comp=Z,165nm,1.1s						
PAX	**Paxson**	**17.68**	**41**	*e*P	**Pn**	**01 39 30.1**	**-1.3**
PAX				pmax	pmax		
	comp=Z,111nm,1.1s						
PAX	**Paxson**	**17.68**	**41**	*e*Pn	**Pn**	**01 39 30.1**	**-1.3**
	comp=Z,111nm,1.1s						
COLA	**College**	**17.75**	**34**	*e*P	**Pn**	**01 39 31.0**	**-1.2**
COLA				pmax	pmax		
	comp=Z,187nm,1.3s						
COLA	**College**	**17.75**	**34**	*e*Pn	**Pn**	**01 39 31.0**	**-1.2**
	comp=Z,187nm,1.3s						
HDA	**Harding Lake**	**17.82**	**36**	*e*Pn	**Pn**	**01 39 31.3**	**-1.6**
	comp=Z,109nm,1.0s						
CRQM	**Cirque**	**17.89**	**50**	*e*Pn	**Pn**	**01 39 33.0**	**-1.1**
	comp=Z,350nm,0.9s						
ILAR	**Eielson Array**	**18.04**	**35**	P	**Pn**	**01 39 32.8**	**-2.9**
	comp=Z,4.0nm,0.3s,baz=239,slow=11,SNR=90						
ILAR				PcP	**PcP**	**01 44 08.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=260,slow=3.2,SNR=4.5						
ILAR				LR	LR	01 47 12.3	
	comp=Z,3μm,19.4s,baz=242,slow=39						
ILB	**Eielson Array**	**18.04**	**35**	*e*P	**Pn**	**01 39 32.8**	**-2.9**
PET	**Petropavlovsk**	**18.11**	**285**	*d*iP	**P**	**01 39 36.2**	**-0.3**
PET				*e*S	**Sn**	**01 42 54.4**	**-3.1**
PET				pmax	pmax		
	comp=Z,1μm,3.7s						
PET				pmax	pmax		
	comp=Z,800nm,5.1s						
PET				pmax	pmax		
	comp=Z,146nm,1.3s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET				MLR	MLR		
	comp=Z,3μm,19.0s						
PET	**Petropavlovsk**	**18.11**	**285**	*e*P	**Pn**	**01 39 37.4**	**+0.8**
	comp=Z,264nm,1.4s						
BALM	**Baldy**	**18.34**	**49**	*e*P	**P**	**01 39 38.7**	**-0.5**
BALM				pmax	pmax		
	comp=Z,222nm,0.6s						
BALM	**Baldy**	**18.34**	**49**	*e*P	**P**	**01 39 38.7**	**-0.5**
	comp=Z,222nm,0.6s						
MENT	**Mentasta**	**18.39**	**43**	*e*P	**P**	**01 39 38.4**	**-1.2**
	comp=Z,144nm,1.2s						
COLD	**Coldfoot**	**18.55**	**26**	*e*P	**Pn**	**01 39 43.4**	**+1.5**
	comp=Z,174nm,1.2s						
DOT	**Dot Lake**	**18.55**	**40**	*e*P	**P**	**01 39 40.6**	**-0.7**
	comp=Z,546nm,1.1s						
DOT				*e*PcP	**PcP**	**01 44 09.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**18.66**	**286**	*e*P	**Pn**	**01 39 44.9**	**+1.5**
	comp=Z,309nm,1.1s						
PETK	**Petropavlovsk-**	**18.66**	**286**	P	**Pn**	**01 39 44.5**	**+1.1**
	comp=Z,17nm,0.3s,baz=80,slow=15,SNR=113						
PETK				PcP	**PcP**	**01 44 10.1**	**+1.0**
	baz=94,slow=3.0,SNR=4.1						
BILL	**Bilibino**	**19.34**	**335**	*c iP*	**Pn**	**01 39 51.3**	**-0.1**
BILL				*i* S	**S**	**01 43 21.4**	**-4.7**
BILL				pmax	pmax		
	comp=Z,77nm,0.7s						
BILL				MLR	MLR		
	comp=Z,3μm,22.0s						
FYU	**Fort Yukon**	**19.62**	**32**	*e*P	**P**	**01 39 52.6**	**-0.4**
	comp=Z,384nm,1.1s						
TOLK	**Toolik Lake Re**	**19.73**	**24**	P	**Pn**	**01 39 55.2**	**-0.8**
	baz=223,SNR=68						
TOLK	**Toolik Lake Re**	**19.73**	**24**	*e*P	**Pn**	**01 39 55.5**	**-0.5**
	comp=Z,260nm,0.7s						
SKR	**Severo-Kuril's**	**20.15**	**279**	*e*P	**P**	**01 39 54.8**	**-4.1**
SKR				*e*		01 40 08.0	
SKR				*e*PPP	PPP	01 40 36.2	
SKR				*e*S	**S**	**01 43 39.7**	**-2.7**
SKR				pmax	pmax		
	comp=Z,1μm,4.1s						
SKR				pmax	pmax		
	comp=Z,268nm,1.4s						
SKR				MLR	MLR		
	comp=Z,3μm,20.0s						
SKR				MLR	MLR		
	comp=Z,3μm,19.0s						
EGAK	**Eagle**	**20.18**	**39**	*e*P	**P**	**01 39 58.6**	**-0.5**
	comp=Z,252nm,1.0s						
EGAK				LR	LR		
	comp=Z,7μm,19.0s						
HYT	**Haines Junctio**	**20.59**	**51**	*e*P	Pn	01 40 05.4	-1.0
	comp=Z,568nm,0.9s						
DAWY	**Dawson**	**20.61**	**42**	*e*P	**P**	**01 40 02.8**	**-1.0**
	comp=Z,161nm,1.1s						
SKAG	**Skagway**	**21.50**	**55**	*e*P	**P**	**01 40 13.7**	**+0.4**
	comp=Z,559nm,0.9s						
BESE	**Bessie Mountai**	**21.70**	**58**	*e*P	**P**	**01 40 16.7**	**+1.2**
	comp=Z,350nm,1.4s						
WHY	**Whitehorse**	**21.84**	**52**	*e*P	**P**	**01 40 17.9**	**+0.8**
	comp=Z,175nm,1.0s						
SEY	**Seymchan**	**21.95**	**314**	P	**P**	**01 40 18.9**	**+0.8**
	comp=Z,33nm,0.5s,baz=116,slow=5.7,SNR=40						
SEY				PcP	**PcP**	**01 44 16.2**	**+1.2**
	comp=Z,23nm,0.8s,baz=317,slow=1.1,SNR=4.1						
SEY	**Seymchan**	**21.95**	**314**	⇓*e*P	**P**	**01 40 19.5**	**+1.4**
MA2	**Magadan**	**22.25**	**305**	P	**P**	**01 40 23.6**	**+2.3**
	comp=Z,103nm,1.1s,baz=84,slow=9.2,SNR=9.5						
MA2				LR	LR	01 48 25.5	
	comp=Z,2μm,20.6s,baz=101,slow=35						
MA2	**Magadan**	**22.25**	**305**	⇑*e*P	**P**	**01 40 23.3**	**+2.0**
CRAG	**Craig**	**22.80**	**66**	*e*P	**P**	**01 40 29.2**	**+2.0**
	comp=Z,1μm,1.7s						
WRAK	**Wrangell Islan**	**23.13**	**63**	*e*P	**P**	**01 40 31.1**	**+0.6**
	comp=Z,221nm,1.2s						
WRAK				LR	LR		
	comp=Z,3μm,19.0s						
DIB	**Dawson Inlet,**	**23.57**	**71**	*e*P	**P**	**01 40 37.0**	**+

F04A	**Amboy**	**32.31**	**81**	*e*P	**P**	**01 41 54.6 +1.5**
	comp=Z,83nm,0.8s					
TIXI	**Tiksi**	**32.37**	**329**	PcP	**PcP**	**01 44 40.3 +0.5**
	comp=Z,72nm,0.9s,baz=75,slow=2.3,SNR=23					
TIXI				ScP	**ScP**	**01 48 20.7 +1.2**
	comp=Z,23nm,1.0s,baz=102,slow=4.5,SNR=10					
TIXI	**Tiksi**	**32.37**	**329**	*c i*P	**P**	**01 41 52.8 -0.6**
TIXI				pmax	pmax	
	comp=Z,26nm,1.2s					
TIXI				MLR	MLR	
	comp=Z,2μm,19.0s					
TIXI	**Tiksi**	**32.37**	**329**	*e*P	**P**	**01 41 53.0 -0.4**
	comp=Z,21nm,1.1s					
TIXI				*e*PcP	**PcP**	**01 44 40.0 +0.2**
TIXI				*e*ScP	**ScP**	**01 48 19.7 +0.3**
TIXI				LR	LR	
	comp=Z,2μm,19.0s					
YAK	**Yakutsk**	**32.41**	**311**	P	**P**	**01 41 53.8 0.0**
	comp=Z,193nm,1.1s,baz=286,slow=3.7					
YAK				PcP	**PcP**	**01 44 40.6 +0.6**
	comp=Z,92nm,0.9s,baz=160,slow=0.2,SNR=11					
YAK				ScP	**ScP**	**01 48 20.7 +0.9**
	comp=Z,46nm,0.7s,baz=128,slow=1.6,SNR=9.5					
YAK	**Yakutsk**	**32.41**	**311**	*e*P	**P**	**01 41 52.7 -1.1**
YAK				*e**PP	**pP**	**01 42 02.4 -3.5**
YAK				*e*		01 42 54.7
YAK				*e*		01 44 40.0
YAK				*e*S	**S**	**01 47 02.9 -1.7**
YAK				*e**SS	**sS**	**01 47 21.9 -3.1**
YAK				*e*SS	**SnSn**	**01 49 03.1 +2.9**
YAK				*e*		01 52 16.1
YAK				pmax	pmax	
	comp=Z,118nm,1.1s					
YAK				pmax	pmax	
	comp=N,3.0nm,0.9s					
YAK				pmax	pmax	
	comp=E,41nm,1.0s					
YAK				pmax	pmax	
	comp=Z,40nm,1.4s					
YAK				pmax	pmax	
	comp=N,52nm,2.0s					
YAK				pmax	pmax	
	comp=E,54nm,1.8s					
YAK				smax	smax	
	comp=E,338nm,2.9s					
YAK				smax	smax	
	comp=N,15nm,1.3s					
YAK				MLR	MLR	
	comp=Z,3μm,22.0s					
YAK				MLR	MLR	
	comp=E,1μm,20.0s					
YAK				MLR	MLR	
	comp=N,3μm,21.0s					
YAK	**Yakutsk**	**32.41**	**311**	*e*P	**P**	**01 41 52.8 -1.1**
	comp=N,83nm,0.7s					
YAK				*e*PcP	**PcP**	**01 44 40.3 +0.2**
YAK				*e*ScP	**ScP**	**01 48 19.2 -0.5**
YAK				LR	LR	
	comp=Z,3μm,19.0s					
COR	**Corvallis**	**32.44**	**84**	*e*P	**P**	**01 41 56.7 +2.5**
COR				pmax	pmax	
	comp=Z,102nm,0.9s					
COR	**Corvallis**	**32.44**	**84**	*e*P	**P**	**01 41 56.7 +2.5**
	comp=Z,102nm,0.9s					
NLW	**Nelson Butte**	**32.57**	**76**	P	**P**	**01 41 56.9 +1.3**
KEBM	**Edson Butte**	**32.70**	**87**	*e*P	**P**	**01 41 59.0 +2.3**
	comp=Z,92nm,1.0s					
ETW	**Entiat**	**32.79**	**77**	P	**P**	**01 41 58.7 +1.3**
TBM	**Table Mountain**	**32.83**	**78**	P	**P**	**01 41 58.9 +1.2**
I03D	**Drain, OR**	**32.87**	**85**	P	**P**	**01 41 59.9 +1.9**
	baz=302,SNR=10					
EBG	**Ellensburg**	**32.97**	**78**	P	**P**	**01 42 00.4 +1.4**
WTV	**Waterville**	**32.97**	**77**	P	**P**	**01 41 59.9 +0.9**
B08A	**Colville Reser**	**33.05**	**75**	*e*P	**P**	**01 42 00.9 +1.3**
	comp=Z,94nm,0.8s					
KBO	**Bosley Butte**	**33.13**	**88**	*e*P	**P**	**01 42 02.9 +2.5**
	comp=Z,120nm,1.2s					
VFP	**Flag Point**	**33.19**	**81**	P	**P**	**01 42 02.4 +1.4**
SAW	**Saint Andrews**	**33.30**	**76**	P	**P**	**01 42 02.7 +0.9**
G05D	**Wamic, OR**	**33.32**	**81**	P	**P**	**01 42 03.8 +1.8**
	baz=300,SNR=30					
L02D	**Cave Junction,**	**33.55**	**88**	P	**P**	**01 42 05.9 +2.0**
	baz=304,SNR=21					
E07A	**Sunnyside**	**33.57**	**78**	*e*P	**P**	**01 42 05.5 +1.3**
	comp=Z,134nm,1.4s					
HABR	**Khabarovsk**	**33.70**	**286**	*e*P	**P**	**01 42 04.1 -1.0**
HABR				*e**PP	**pP**	**01 42 15.2 -2.1**
HABR				*e**SP	**sP**	**01 42 20.0 -2.8**
HABR				*e*		01 43 16.9
HABR				*e*		01 44 42.8
HABR				*e*S	**S**	**01 47 25.3 +0.4**
HABR				*e**SS	**sS**	**01 47 44.0 -1.3**
HABR				*e*SS	**SnSn**	**01 49 32.4 +0.7**
HABR				*e*SSS	SSS	01 49 49.9
HABR				*e*		01 52 25.2
HABR				pmax	pmax	
	comp=N,14nm,0.9s					
HABR				pmax	pmax	
	comp=Z,19nm,0.9s					
HABR				pmax	pmax	
	comp=E,18nm,0.4s					
HABR				MLR	MLR	
	comp=Z,815nm,20.0s					
HUMO	**Hull Mountain**	**33.70**	**87**	*e*P	**P**	**01 42 07.3 +2.0**
	comp=Z,40nm,1.0s					
HUMO				*e*PcP	**PcP**	**01 44 45.0 +1.0**
KRMB	**Red Mountain**	**33.71**	**89**	*e*P	**P**	**01 42 07.9 +2.4**
	comp=Z,82nm,1.2s					
G06A	**Carlson Farm,**	**33.74**	**81**	*e*P	**P**	**01 42 06.9 +1.2**
	comp=Z,116nm,1.3s					
I05D	**Terrebonne, OR**	**33.77**	**83**	P	**P**	**01 42 07.5 +1.5**
	baz=302,SNR=51					
KTRM	**Thompson Ridge**	**33.83**	**88**	P	**P**	**01 42 08.5 +2.0**
HAWA	**Hanford**	**33.84**	**78**	*e*P	**P**	**01 42 07.7 +1.2**
	comp=Z,170nm,1.0s					
HAWA				*e*PcP	**PcP**	**01 44 45.3 +0.9**
HAWA				*e*ScP	**ScP**	**01 48 24.8 -0.3**
HAWA				LR	LR	
	comp=Z,3μm,21.0s					
J04D	**Umpqua Nationa**	**33.88**	**85**	P	**P**	**01 42 08.7 +1.7**
	baz=303,SNR=24					
D08A	**Wollman Farm,**	**33.89**	**77**	*e*P	**P**	**01 42 07.8 +0.9**
	comp=Z,69nm,0.9s					
C09A	**Chrisman Ranch**	**33.94**	**75**	*e*P	**P**	**01 42 08.2 +1.0**
	comp=Z,85nm,0.8s					
JCC	**Jacoby Creek,**	**34.04**	**90**	*e*P	**P**	**01 42 10.6 +2.4**
	comp=Z,74nm,1.0s					
KHMM	**Horse Mountain**	**34.19**	**90**	*e*P	**P**	**01 42 12.3 +2.5**
	comp=Z,98nm,1.0s					
HPAH	**Hawaii Prepara**	**34.22**	**153**	*e*P	**P**	**01 42 10.8 +0.8**
	comp=Z,198nm,0.9s					
YBH	**Yreka Blue Hor**	**34.34**	**88**	*e*P	**P**	**01 42 13.1 +2.2**
YBH				pmax	pmax	
	comp=Z,46nm,0.9s					
YBH	**Yreka Blue Hor**	**34.34**	**88**	*e*P	**P**	**01 42 13.1 +2.2**
	comp=Z,46nm,0.9s					
J05D	**Fort Rock, OR**	**34.39**	**84**	P	**P**	**01 42 13.4 +1.9**
	baz=303,SNR=59					
NEW	**Newport**	**34.41**	**74**	P	**P**	**01 42 12.4 +1.0**
	baz=297,SNR=203					
NEW	**Newport**	**34.41**	**74**	*e*P	**P**	**01 42 12.2 +0.8**
NEW				*e*		01 44 46.7
NEW				pmax	pmax	
	comp=Z,158nm,0.9s					
NEW				MLR	MLR	
	comp=Z,3μm,22.0s					
NEW	**Newport**	**34.41**	**74**	*e*P	**P**	**01 42 12.2 +0.8**
	comp=Z,158nm,0.9s					
NEW				*e*PcP	**PcP**	**01 44 46.6 +0.6**
NEW				*e*ScP	**ScP**	**01 48 27.2 +0.1**
NEW				LR	LR	
	comp=Z,3μm,22.0s					
K04D	**Chiloquin, OR**	**34.43**	**86**	P	**P**	**01 42 13.4 +1.7**
	baz=304					
M02C	**Callahan**	**34.44**	**88**	P	**P**	**01 42 14.2 +2.4**
	baz=305,SNR=21					
POHA	**Pohakuloa**	**34.52**	**153**	*e*P	**P**	**01 42 13.6 +0.8**
	comp=Z,859nm,1.0s					
POHA				*e*PcP	**PcP**	**01 44 47.8 +0.8**
POHA				LR	LR	
	comp=Z,2μm,20.0s					
KMRM	**Mail Ridge**	**34.59**	**91**	*e*P	**P**	**01 42 15.9 +2.8**
	comp=Z,70nm,0.9s					
E09A	**Wood Farm, Sta**	**34.62**	**77**	*e*P	**P**	**01 42 14.1 +0.8**
	comp=Z,122nm,1.0s					
N02D	**Trinity Center**	**34.77**	**89**	P	**P**	**01 42 16.9 +2.3**
	baz=306,SNR=5.8					
M04C	**Macdoel**	**34.84**	**87**	P	**P**	**01 42 17.1 +1.8**
	baz=305,SNR=46					
KCPM	**Cahto Peak**	**34.98**	**91**	*e*P	**P**	**01 42 18.7 +2.1**
	comp=Z,95nm,1.0s					
WDC	**Whiskeytown Da**	**35.10**	**89**	*e*P	**P**	**01 42 19.2 +1.8**
WDC				pmax	pmax	
	comp=Z,63nm,0.9s					
WDC	**Whiskeytown Da**	**35.10**	**89**	*e*P	**P**	**01 42 19.2 +1.8**
	comp=Z,63nm,0.9s					
KLR	**Kul'dur**	**35.31**	**289**	P	**P**	**01 42 18.4 -0.7**
	comp=Z,0.7nm,0.6s,baz=64,slow=8.7,SNR=14					
KLR				LR	LR	01 58 08.2
	comp=Z,143nm,19.9s,baz=66,slow=38					
LBCM	**Butte Creek Ri**	**35.69**	**88**	*e*P	**P**	**01 42 24.2 +1.6**
HOPS	**Hopland Field**	**35.72**	**92**	*e*P	**P**	**01 42 24.6 +1.8**
	comp=Z,110nm,1.2s					
HOPS				*e*PcP	**PcP**	**01 44 50.2 +0.3**
O03D	**Paynes Creek**	**35.73**	**89**	P	**P**	**01 42 24.1 +1.2**
	baz=306,SNR=76					
O03D	**Paynes Creek**	**35.73**	**89**	P	**P**	**01 42 23.9 +1.0**
MOD	**Modoc Plateau**	**35.73**	**86**	*e*P	**P**	**01 42 24.0 +1.0**
	comp=Z,121nm,1.0s					
MOD				*e*PcP	**PcP**	**01 44 50.6 +0.4**
WALA	**Waterton Lakes**	**35.94**	**71**	*e*P	**P**	**01 42 25.6 +0.9**
	comp=Z,162nm,1.0s					
WALA				*e*PcP	**PcP**	**01 44 51.6 +1.0**
BMO	**Blue Mountains**	**35.97**	**79**	*e*P	**P**	**01 42 25.8 +0.9**
BMO				*e*		01 44 50.2
BMO				pmax	pmax	
	comp=Z,85nm,1.2s					
BMO				MLR	MLR	
	comp=Z,3μm,21.0s					
BMO	**Blue Mountains**	**35.97**	**79**	*e*P	**P**	**01 42 25.8 +0.9**
	comp=Z,85nm,1.2s					
BMO				*e*PcP	**PcP**	**01 44 50.2 -0.5**
BMO				*e*ScP	**ScP**	**01 48 32.4 -0.5**
BMO				LR	LR	
	comp=Z,3μm,21.0s					
BSMT	**Bassoo Peak**	**35.99**	**73**	P	**P**	**01 42 26.0 +0.8**
CLNS	**Chul'man**	**36.11**	**303**	*e*P	**P**	**01 42 24.1 -1.8**
CLNS				pmax	pmax	
	comp=N,6.0nm,0.7s					
CLNS				pmax	pmax	
	comp=Z,14nm,1.0s					
CLNS				pmax	pmax	
	comp=E,11nm,1.1s					
CLNS				MLR	MLR	
	comp=Z,1μm,21.0s					
BLMT	**Blacktail Moun**	**36.16**	**73**	*e*P	**P**	**01 42 27.6 +0.9**
H11N2	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	02 21 01.6
	baz=21,slow=76,SNR=1645					
JTMT	**Jette**	**36.34**	**73**	*e*P	**P**	**01 42 28.9 +0.8**
H11N3	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	02 21 01.7
	baz=21,slow=76,SNR=1416					
H11N1	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	02 21 02.9
	baz=21,slow=76,SNR=1378					
ORV	**Oroville**	**36.35**	**90**	*e*P	**P**	**01 42 28.8 +0.7**
ORV				pmax	pmax	
	comp=Z,39nm,0.9s					
ORV	**Oroville**	**36.35**	**90**	*e*P	**P**	**01 42 28.8 +0.7**
	comp=Z,39nm,0.9s					
YBMT	**Yellow Bay**	**36.44**	**73**	*e*P	**P**	**01 42 29.8 +0.8**
WVOR	**Wild Horse Val**	**36.45**	**84**	*e*P	**P**	**01 42 30.5 +1.3**
WVOR				*e*		01 44 52.9
WVOR				pmax	pmax	
	comp=Z,139nm,0.9s					
WVOR				MLR	MLR	
	comp=Z,3μm,22.0s					
WVOR	**Wild Horse Val**	**36.45**	**84**	*e*P	**P**	**01 42 30.5 +1.3**
	comp=Z,139nm,0.9s					
WVOR				*e*PcP	**PcP**	**01 44 52.9 +0.7**
WVOR				*e*ScP	**ScP**	**01 48 34.9 +0.1**
WVOR				LR	LR	
	comp=Z,3μm,22.0s					
SWMT	**Swartz Lake**	**36.62**	**74**	*e*P	**P**	**01 42 30.9 +0.4**
WAKE	**Wake Island**	**36.83**	**216**	PFAKE		01 42 50.0 +18
WAKE				LR	LR	
	comp=Z,2μm,20.0s					
BEKR	**Beckworth**	**36.87**	**88**	*e*P	**P**	**01 42 33.8 +1.0**
	comp=Z,71nm,1.0s					
MSO	**Missoula**	**36.99**	**75**	P	**P**	**01 42 34.1 +0.5**
	baz=300,SNR=87					
MSO	**Missoula**	**36.99**	**75**	*e*P	**P**	**01 42 34.1 +0.5**
	comp=Z,139nm,1.1s					
AFDM	**Forest Hills D**	**37.04**	**90**	*e*P	**P**	**01 42 35.1 +1.1**
	comp=Z,67nm,1.3s					
SLMT	**Seeley Lake**	**37.05**	**74**	*e*P	**P**	**01 42 34.5 +0.3**
CHMT	**Chamberlain Mo**	**37.36**	**74**	*e*P	**P**	**01 42 36.9 0.0**
H11S1	**WAKE ISLAND Hy**	**37.53**	**215**	T	T	02 22 30.7
	baz=21					
H11S2	**WAKE ISLAND Hy**	**37.54**	**215**	T	T	02 22 33.8
	baz=21					
H11S3	**WAKE ISLAND Hy**	**37.55**	**215**	T	T	02 22 33.0
	baz=21					
PAHR	**Pah Rah Range**	**37.57**	**88**	*e*P	**P**	**01 42 39.9 +1.3**
	comp=Z,184nm,0.9s					
MFID	**Camas Ranch**	**37.63**	**80**	*e*P	**P**	**01 42 39.8 +0.6**
	comp=Z,99nm,1.1s					
MFID				*e*PcP	**PcP**	**01 44 56.5 +0.7**
MFID				*e*ScP	**ScP**	**01 48 39.7 +0.6**
USRK	**Ussuriysk Ar.**	**37.65**	**281**	P	**P**	**01 42 38.4 -0.7**
	comp=Z,19nm,0.8s,baz=60,slow=7.9,SNR=26					
USRK				PcP	**PcP**	**01 44 56.3 +0.6**
	comp=Z,15nm,0.8s,baz=76,slow=4.4,SNR=6.5					
USRK				LR	LR	01 57 25.4
	comp=Z,2μm,21.8s,baz=53,slow=35					
PNTR	**Pine Nut**	**37.81**	**89**	*e*P	**P**	**01 42 42.4 +1.6**
	comp=Z,235nm,1.0s					
CMB	**Columbia Colle**	**37.97**	**91**	*e*P	**P**	**01 42 43.2 +1.3**
CMB				*e*		01 44 56.5
CMB				*e*		01 48 39.7
CMB				pmax	pmax	
	comp=Z,80nm,1.2s					
CMB	**Columbia Colle**	**37.97**	**91**	*e*P	**P**	**01 42 43.2 +1.3**
	comp=Z,80nm,1.2s					
CMB				*e*PcP	**PcP**	**01 44 56.5 -0.3**
CMB				*e*ScP	**ScP**	**01 48 39.7 -0.7**
YERR	**Yerington**	**38.09**	**89**	*e*P	**P**	**01 42 44.6 +1.5**
	comp=Z,185nm,1.0s					
SAO	**San Andreas Ge**	**38.11**	**93**	*e*P	**P**	**01 42 43.9 +0.8**
SAO				pmax	pmax	
	comp=Z,50nm,1.1s					
SAO	**San Andreas Ge**	**38.11**	**93**	*e*P	**P**	**01 42 43.3 +0.2**
	comp=Z,50nm,1.1s					
SAO				*e*PcP	**PcP**	**01 44 57.6 +0.3**
WAKR	**Walker**	**38.27**	**90**	*e*P	**P**	**01 42 46.2 +1.6**
	comp=Z,119nm,0.9s					
VLA	**Vladivostok**	**38.30**	**280**	*e*P	**P**	**01 42 46.6 +2.0**
VLA				pmax	pmax	
	comp=Z,39nm,0.7s					
HRY	**Holter Researc**	**38.30**	**73**	*e*P	**P**	**01 42 45.2 +0.5**
MJAR	**Matsushiro Arr**	**38.33**	**266**	P	**P**	**01 42 45.6 +0.6**
	comp=Z,15nm,0.5s,baz=36,slow=6.4,SNR=30					
MJAR				PcP	**PcP**	**01 44 58.4 +0.4**
	comp=Z,25nm,0.9s,baz=38,slow=0.6,SNR=10					
MJAR				ScP	**ScP**	**01 48 42.5 +0.7**
	comp=Z,3.5nm,0.9s,baz=68,slow=1.8,SNR=4.7					
MJAR				LR	LR	01 56 34.4
	comp=Z,3μm,21.8s,baz=60,slow=33					
MAJO	**Matsushiro**	**38.33**	**266**	*d i*P	**P**	**01 42 46.0 +1.0**
MAJO				pmax	pmax	
	comp=Z,390nm,1.1s					
MAJO	**Matsushiro**	**38.33**	**266**	*e*P	**P**	**01 42 45.5 +0.5**
	comp=Z,118nm,1.0s					
MAJO				*e*PcP	**PcP**	**01 44 58.2 +0.3**
MAJO				LR	LR	
	comp=Z,3μm,21.0s					
MJB9	**Matsu-Tunnel**	**38.33**	**266**	*e*P	**P**	**01 42 46.5 +1.5**
	comp=Z,32nm,1.0s					
LRM	**Limekiln Ridge**	**38.39**	**75**	*e*P	**P**	**01 42 45.9 +0.3**
HLID	**Hailey**	**38.41**	**79**	P	**P**	**01 42 46.7 +0.9**
	baz=304,SNR=118					
HLID	**Hailey**	**38.41**	**79**	*e*P	**P**	**01 42 46.5 +0.7**
	comp=Z,94nm,1.1s					
HLID				*e*PcP	**PcP**	**01 44 59.3 +1.0**
HLID				*e*ScP	**ScP**	**01 48 42.6 +0.5**
HLID				LR	LR	
	comp=Z,2μm,22.0s					
BMN	**Battle Mountai**	**38.47**	**85**	*e*P	**P**	**01 42 47.5 +1.2**
BMN				*e*		01 44 58.9
BMN				*e*		01 48 42.2
BMN				pmax	pmax	
	comp=Z,70nm,0.9s					
BMN	**Battle Mountai**	**38.47**	**85**	*e*P	**P**	**01 42 47.5 +1.2**
	comp=Z,70nm,0.9s					
BMN				*e*PcP	**PcP**	**01 44 58.9 +0.4**
BMN				*e*ScP	**ScP**	**01 48 42.2 -0.2**
DLMT	**Dillon**	**38.54**	**76**	*e*P	**P**	**01 42 47.1 +0.3**
	comp=Z,56nm,1.1s					
DLMT				*e*PcP	**PcP**	**01 44 59.6 +1.0**
MCMT	**McKenzie Canyo**	**38.68**	**77**	*e*P	**P**	**01 42 48.5 +0.5**
PMPB	**Monarch Peak**	**38.86**	**93**	*e*P	**P**	**01 42 50.6 +1.1**
	comp=Z,73nm,1.0s					
EGMT	**Eagleton**	**38.87**	**71**	P	**P**	**01 42 50.1 +0.6**
	baz=300,SNR=127					
EGMT	**Eagleton**	**38.87**	**71**	*e*P	**P**	**01 42 50.0 +0.6**
	comp=Z,434nm,1.1s					
EGMT				*e*PcP	**PcP**	**01 44 59.8 +0.3**
EGMT				LR	LR	
	comp=Z,2μm,21.0s					
MDJ	**Mudanjiang**	**38.88**	**283**	P	**P**	**01 42 45.3 -4.1**
MDJ				S	S	01 48 30.0 -14
MDJ				SS	**SS**	**01 51 25.3 -11**
MDJ				ScS	**ScS**	**01 52 50.0 -4.6**
MDJ				pmax	pmax	
	comp=Z,7.0nm,0.7s					
MDJ				pmax	pmax	
	comp=Z,72nm,6.0s					
MDJ				LR	LR	
	comp=Z,1μm,21.2s					
MDJ				LR	LR	
	comp=Z,2μm,22.7s					
MDJ				LR	LR	
	comp=Z,3μm,24.6s					
MDJ	**Mudanjiang**	**38.88**	**283**	PFAKE		01 43 00.0 +11
MDJ				LR	LR	
	comp=Z,3μm,22.0s					
BGMT	**Barton Gulch**	**38.95**	**76**	*e*P	**P**	**01 42 50.5 +0.3**
BOZ	**Bozeman (W)**	**39.00**	**75**	P	**P**	**01 42 51.0 +0.4**
	baz=302,SNR=96					
BOZ	**Bozeman (W)**	**39.00**	**75**	*e*P	**P**	**01 42 51.1 +0.4**
BOZ				*e*		01 45 00.6
BOZ				*e*		01 48 43.9
BOZ				pmax	pmax	
	comp=Z,140nm,1.1s					
BOZ				MLR	MLR	
	comp=Z,1μm,21.0s					
BOZ	**Bozeman (W)**	**39.00**	**75**	*e*P	**P**	**01 42 51.1 +0.4**
	comp=Z,140nm,1.1s					
BOZ				*e*PcP	**PcP**	**01 45 00.6 +0.5**
BOZ				*e*ScP	**ScP**	**01 48 43.9 -0.5**
BOZ				LR	LR	
	comp=Z,1μm,21.0s					
MSHR	**Mys Shultsa**	**39.05**	**279**	*de*P	**P**	**01 42 52.4 +1.6**
MLAC	**Mammoth, Mammo**	**39.18**	**90**	P	**P**	**01 42 54.4 +2.1**
	baz=309,SNR=21					
PAGB	**Antelope Grade**	**39.52**	**94**	*e*P	**P**	**01 42 56.4 +1.5**
	comp=Z,120nm,1.0s					
QLMT	**Earthquake Lak**	**39.53**	**76**	*e*P	**P**	**01 42 55.6 +0.5**
YHB	**Horse Butte**	**39.71**	**76**	*e*P	**P**	**01 42 57.7 +1.1**
	comp=Z,127nm,1.0s					
RCTC	**Rector, Farmer**	**39.77**	**92**	P	**P**	**01 42 57.9 +1.0**
	baz=310,SNR=13					
INU	**Inuyama**	**39.84**	**266**	*e*P	**P**	**01 42 58.5 +0.9**
YMR	**Madison River**	**39.89**	**76**	*e*P	**P**	**01 42 59.3 +1.1**
	comp=Z,164nm,1.1s					
YHH	**Holmes Hill**	**39.90**	**76**	*e*P	**P**	**01 42 58.7 +0.5**
	comp=Z,183nm,1.1s					
TIN	**Tinemaha, Big**	**39.92**	**90**	P	**P**	**01 43 00.1 +1.8**
	baz=310,SNR=16					
SMMC	**Simmler**	**39.95**	**94**	P	**P**	**01 43 00.1 +1.7**
	baz=311,SNR=9.7					
YPM	**Purple Mountai**	**39.96**	**76**	*e*P	**P**	**01 42 59.7 +0.9**
CRMT	**Chrome Mountai**	**39.96**	**74**	*e*P	**P**	**01 42 59.2 +0.4**
MCID	**Moose Creek**	**40.02**	**76**	*e*P	**P**	**01 43 00.3 +1.0**
YNR	**Norris Junctio**	**40.04**	**76**	*e*P	**P**	**01 43 00.8 +1.4**
	comp=Z,244nm,1.2s					
GCMT	**Greycliff**	**40.06**	**74**	*e*P	**P**	**01 43 00.4 +0.9**
FFC	**Flin Flon**	**40.07**	**58**	*e*P	**P**	**01 42 59.8 +0.6**
FFC				pmax	pmax	
	comp=Z,106nm,0.8s					
FFC				MLR	MLR	
	comp=Z,2μm,21.0s					
FFC	**Flin Flon**	**40.07**	**58**	*e*P	**P**	**01 42 59.8 +0.6**
	comp=Z,106nm,0.8s					
FFC				LR	LR	
	comp=Z,2μm,21.0s					
VES	**Vestal, Richgr**	**40.16**	**93**	P	**P**	**01 43 01.0 +0.8**
	baz=311,SNR=46					
YPP	**Pitchstone Pla**	**40.21**	**76**	*e*P	**P**	**01 43 02.6 +1.7**
	comp=Z,53nm,1.2s					
H17A	**Grant Village**	**40.27**	**76**	P	**P**	**01 43 03.3 +1.9**
	baz=303,SNR=56					
H17A	**Grant Village**	**40.27**	**76**	*e*P	**P**	**01 43 03.5 +2.1**
	comp=Z,210nm,1.2s					
H17A				*e*PcP	**PcP**	**01 45 05.9 +1.6**
LKWY	**Lake**	**40.29**	**76**	*e*P	**P**	**01 43 03.5 +2.0**
LKWY				pmax	pmax	
	comp=Z,113nm,0.9s					
LKWY				MLR	MLR	
	comp=Z,1μm,20.0s					
LKWY	**Lake**	**40.29**	**76**	*e*P	**P**	**01 43 03.5 +2.0**
	comp=Z,113nm,0.9s					
LKWY				LR	LR	
	comp=Z,1μm,20.0s					
IMW	**Indian Meadow**	**40.33**	**77**	*e*P	**P**	**01 43 02.7 +0.8**
	comp=Z,93nm,1.0s					
IMW				*e*PcP	**PcP**	**01 45 05.0 +0.5**
PKM	**Mcpherson Peak**	**40.34**	**94**	P	**P**	**01 43 03.4 +1.5**
	baz=312,SNR=30					
CWC	**Cottonwood Cre**	**40.40**	**91**	P	**P**	**01 43 03.7 +1.3**
	baz=310					
HVU	**Hansel Valley**	**40.42**	**81**	*e*P	**P**	**01 43 03.4 +0.9**
HVU				pmax	pmax	
	comp=Z,64nm,0.9s					
HVU	**Hansel Valley**	**40.42**	**81**	*e*P	**P**	**01 43 03.4 +0.9**
	comp=Z,64nm,0.9s					
FXWY	**Fox Creek**	**40.42**	**77**	*e*P	**P**	**01 43 03.5 +0.9**
	comp=Z,62nm,1.4s					
GRAC	**Grapevine Rang**	**40.49**	**90**	P	**P**	**01 43 04.6 +1.7**
	baz=310,SNR=111					
MOOW	**Moose Ponds**	**40.53**	**77**	*e*P	**P**	**01 43 04.2 +0.7**
	comp=Z,49nm,1.2s					
MOOW				*e*PcP	**PcP**	**01 45 05.7 +0.6**
TPAW	**Teton Pass**	**40.55**	**77**	*e*P	**P**	**01 43 04.8 +1.1**
	comp=Z,110nm,1.3s					
TPAW				*e*PcP	**PcP**	**01 45 05.4 +0.2**
ISA	**Isabella, Lake**	**40.66**	**92**	P	**P**	**01 43 05.0 +0.6**
	baz=311,SNR=19					
ISA	**Isabella, Lake**	**40.66**	**92**	*e*P	**P**	**01 43 05.1 +0.7**
ISA				pmax	pmax	
	comp=Z,95nm,0.9s					
ISA	**Isabella, Lake**	**40.66**	**92**	*e*P	**P**	**01 43 05.1 +0.7**
	comp=Z,95nm,0.9s					
RLMT	**Red Lodge**	**40.66**	**74**	P	**P**	**01 43 05.5 +0.9**
	baz=303,SNR=158					
RLMT	**Red Lodge**	**40.66**	**74**	*e*P	**P**	**01 43 05.4 +0.9**
	comp=Z,259nm,1.0s					
RLMT				LR	LR	
	comp=Z,1μm,20.0s					
REDW	**Red Top Meadow**	**40.68**	**77**	*e*P	**P**	**01 43 05.7 +0.9**
	comp=Z,144nm,1.2s					
SNOW	**Snow King Moun**	**40.68**	**77**	*e*P	**P**	**01 43 06.0 +1.2**
	comp=Z,74nm,1.1s					
SNOW				*e*PcP	**PcP**	**01 45 06.4 +0.8**
LOHW	**Long Hollow**	**40.69**	**77**	*e*P	**P**	**01 43 05.5 +0.7**
	comp=Z,47nm,1.1s					
LOHW				*e*PcP	**PcP**	**01 45 05.8 +0.3**
SBC	**Santa Barbara**	**40.70**	**95**	P	**

baz=310,SNR=137
SCZ2 Santa Cruz Isl 41.04 95 P P 01 43 08.3 +0.8
baz=312
FURC Furnace Creek, 41.13 90 P P 01 43 09.6 +1.4
baz=310,SNR=136
BOD Bodaibo 41.18 308 eP P 01 43 07.3 -1.0
BOD pmax pmax
comp=Z,94nm,1.1s
OSI Osito Audit: C 41.19 94 P P 01 43 09.8 +1.1
baz=312
NAIU Northern Antel 41.20 81 eP P 01 43 09.6 +0.7
TPNV Topopah Spring 41.21 89 P P 01 43 10.1 +1.0
baz=310,SNR=227
TPNV Topopah Spring 41.21 89 eP P 01 43 10.0 +1.0
TPNV pmax pmax
comp=Z,187nm,0.9s
TPNV Topopah Spring 41.21 89 eP P 01 43 09.9 +0.9
comp=Z,186nm,0.9s
HWUT Hardware Ranch 41.25 80 eP P 01 43 10.0 +0.6
comp=Z,67nm,1.1s
HWUT ePcP **PcP 01 45 07.7 +0.3**
HWUT eScP **ScP 01 48 53.7 +0.4**
HWUT LR LR
comp=Z,2μm,21.0s
LRMC Laurel Mtn Rad 41.27 92 P P 01 43 10.0 +0.5
baz=311,SNR=54
BLG Laguna Peak, P 41.32 95 P P 01 43 10.5 +0.8
baz=312,SNR=11
DUG Dugway, Tooele 41.33 83 P P 01 43 10.9 +1.0
baz=307,SNR=136
DUG Dugway, Tooele 41.33 83 eP P 01 43 10.8 +0.9
DUG e 01 45 08.2
DUG pmax pmax
comp=Z,179nm,1.2s
DUG MLR MLR
comp=Z,2μm,21.0s
DUG Dugway, Tooele 41.33 83 eP P 01 43 10.8 +0.9
comp=Z,179nm,1.2s
DUG ePcP **PcP 01 45 08.2 +0.6**
DUG eScP **ScP 01 48 53.7 +0.2**
DUG LR LR
comp=Z,2μm,21.0s
EDW2 Edwards Air Fo 41.47 93 P P 01 43 11.8 +0.7
baz=312,SNR=64
LAO LASA Array 41.61 70 P P 01 43 12.9 +0.8
baz=302,SNR=68
LAO LASA Array 41.61 70 eP P 01 43 13.0 +0.8
comp=Z,124nm,0.7s
LAO ePcP **PcP 01 45 09.2 +0.9**
LAO eScP **ScP 01 48 52.7 -1.7**
LAO LR LR
comp=Z,2μm,20.0s
SNCC San Nicolas Is 41.61 96 P P 01 43 13.3 +1.1
baz=313,SNR=6.3
SNCC San Nicolas Is 41.61 96 eP P 01 43 13.7 +1.5
comp=Z,131nm,1.3s
TCUT Toone Canyon 41.64 81 eP P 01 43 13.4 +0.9
comp=Z,155nm,1.0s
DECC Green Verdugo 41.67 94 P P 01 43 13.5 +0.8
baz=312
CTU Camp Tracy 41.68 81 eP P 01 43 13.5 +0.6
comp=Z,72nm,1.0s
PSUT Pine Spring 41.70 85 eP P 01 43 14.3 +1.2
comp=Z,62nm,1.1s
BW06 Boulder Array 41.80 77 P P 01 43 14.4 +0.5
baz=305,SNR=105
BW06 Boulder Array 41.80 77 eP P 01 43 14.3 +0.5
comp=Z,177nm,1.0s
BW06 eScP **ScP 01 48 54.9 -0.6**
BW06 LR LR
comp=Z,3μm,21.0s
PD31 Pinedale Array 41.80 77 eP P 01 43 14.3 +0.4
PDAR Pinedale Array 41.80 77 P P 01 43 14.1 +0.2
comp=Z,128nm,1.0s,baz=305,slow=5.2,SNR=326
PDAR ScP **ScP 01 48 55.1 -0.4**
comp=Z,4.3nm,1.0s,baz=264,slow=1.5,SNR=5.6
PDAR LR LR 01 58 21.3
comp=Z,2μm,21.1s,baz=313,slow=33
CN2 Changchun 41.81 285 eP P 01 43 13.3 -0.4
CN2 eSP sP 01 43 35.5 +4.0
CN2 eS **S 01 49 25.3 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,24.0s
PASC Pasadena Art C 41.82 94 eP P 01 43 14.6 +0.8
PASC ePcP **PcP 01 45 09.4 +0.3**
DGMT Dagmar 41.84 67 P P 01 43 14.4 +0.5
baz=301,SNR=47
DGMT Dagmar 41.84 67 eP P 01 43 14.4 +0.5
comp=Z,429nm,1.4s
DGMT ePcP **PcP 01 45 09.3 +0.3**
DGMT LR LR
comp=Z,3μm,21.0s
MWC Mount Wilson 41.86 94 eP P 01 43 15.3 +0.9
MWC pmax pmax
comp=Z,209nm,1.3s
MWC Mount Wilson 41.86 94 eP P 01 43 15.3 +0.9
comp=Z,209nm,1.3s
SHOC Shoshone, Teco 41.86 90 P P 01 43 15.2 +1.0
baz=311,SNR=18
JLU Jordanelle 41.92 81 eP P 01 43 15.6 +0.8
comp=Z,112nm,1.1s
NLU North Lily Min 41.92 82 eP P 01 43 15.6 +0.7
comp=Z,78nm,1.0s
GSC Goldstone, Bar 41.92 91 P P 01 43 15.9 +1.0
baz=311,SNR=223
GSC Goldstone, Bar 41.92 91 eP P 01 43 15.8 +1.0
GSC pmax pmax
comp=Z,254nm,1.0s
GSC Goldstone, Bar 41.92 91 eP P 01 43 15.8 +1.0
comp=Z,254nm,1.0s
HTU Hoyt Peak 42.01 81 eP P 01 43 16.5 +0.8
FMP Fort Macarthur 42.06 94 P P 01 43 16.4 +0.7
baz=312
RRX Edison Barstow 42.09 92 P P 01 43 17.1 +1.0
baz=312
BFSC Mount Baldy Ra 42.10 93 P P 01 43 17.3 +1.0
baz=312,SNR=76
SHPR Sheep Range 42.16 89 eP P 01 43 17.6 +0.7
comp=Z,55nm,1.1s
HIA Hailar 42.19 295c iP P 01 43 16.4 -0.3
HIA pmax pmax
comp=Z,149nm,1.0s
HIA Hailar 42.19 295 eP P 01 43 16.7 0.0
comp=Z,214nm,1.2s
HIA LR LR
comp=Z,2μm,22.0s
CIS Catalina Islan 42.19 95 P P 01 43 17.5 +0.6
baz=313,SNR=11
FLU Fool Peak 42.21 83 eP P 01 43 18.2 +0.9
TUQ Turquoise Moun 42.38 90 P P 01 43 19.4 +0.8
baz=311,SNR=46
SCI2 San Clemente I 42.40 95 P P 01 43 19.5 +0.9
baz=313,SNR=7.5
HEC Hector,Ludlow 42.52 91 P P 01 43 20.7 +1.0
baz=312,SNR=118
BBRC Big Bear Solar 42.54 93 P P 01 43 21.0 +1.0
baz=312,SNR=10
CCUT Cedar City 42.61 86 eP P 01 43 21.5 +1.0
comp=Z,264nm,1.9s
SNO Snow College 42.64 83 eP P 01 43 22.4 +1.6
SGU Sterling 42.66 83 eP P 01 43 22.5 +1.6
MSU Marysvale 42.74 84 eP P 01 43 22.7 +1.1
MSU Marysvale 42.74 84 eP P 01 43 22.7 +1.1
SZCU Shurtz Canyon 42.75 86 eP P 01 43 22.5 +0.8
MURC Murrieta 42.81 94 P P 01 43 22.7 +0.7
baz=313,SNR=23
TMUT Trail Mountain 42.85 83 eP P 01 43 23.6 +1.0
ARGU Argyle Ridge 42.94 81 eP P 01 43 24.4 +1.1
GMRC Granite Mounta 42.97 91 P P 01 43 24.4 +1.0
baz=312,SNR=140
LCMT Little Creek M 43.02 87 eP P 01 43 25.0 +1.2
comp=Z,106nm,1.1s
MTPU Mount Pierson 43.03 85 eP P 01 43 25.2 +1.2
P17A Butcher Ranch, 43.03 82 eP P 01 43 24.7 +0.9
Q16A Castle Valley 43.11 83 eP P 01 43 25.6 +1.1
comp=Z,166nm,1.1s
LDFC Landfair 43.12 90 eP P 01 43 25.2 +0.7
P18A Preston Nutter 43.24 81 eP P 01 43 26.6 +0.9
comp=Z,174nm,1.1s

PFO Pinyon Flats O 43.26 93 LR LR 01 57 23.8
comp=Z,2μm,21.9s,baz=308,slow=30
PFO Pinyon Flats O 43.26 93 P P 01 43 26.4 +0.6
baz=312,SNR=48
PFO Pinyon Flats O 43.26 93 eP P 01 43 26.3 +0.6
PFO e 01 45 14.4
PFO pmax pmax
comp=Z,96nm,1.1s
PFO Pinyon Flats O 43.26 93 eP P 01 43 26.3 +0.6
comp=Z,96nm,1.1s
PFO ePcP **PcP 01 45 14.4 +0.3**
PFO eScP **ScP 01 49 00.6 -0.7**
XPFO Piæon Flat 43.26 93 eP P 01 43 26.3 +0.6
comp=Z,93nm,1.0s
BELC Belle Mtn. Jos 43.28 92 P P 01 43 26.5 +0.6
baz=312,SNR=68
KNB Kanab 43.28 86 eP P 01 43 27.2 +1.3
KNB Kanab 43.28 86 eP P 01 43 27.2 +1.3
PKCU Pink Cliffs 43.33 85 eP P 01 43 27.8 +1.4
comp=Z,40nm,0.9s
109C Camp Elliot, M 43.35 94 P P 01 43 27.4 +1.1
baz=313,SNR=17
SRU San Rafael Swe 43.39 82 eP P 01 43 27.5 +0.7
SRU San Rafael Swe 43.39 82 eP P 01 43 27.5 +0.7
EKU East Kanab 43.45 86 eP P 01 43 28.6 +1.3
MMU Miners Mountai 43.48 84 eP P 01 43 27.9 +0.3
NEE2 Needles Airpor 43.63 90 P P 01 43 29.3 +0.8
baz=312,SNR=5.8
K22A Casper 43.69 76 P P 01 43 29.1 0.0
baz=306,SNR=52
K22A Casper 43.69 76 eP P 01 43 29.0 -0.1
comp=Z,188nm,1.2s
IRM Iron Mountain 43.70 91 P P 01 43 29.9 +0.7
baz=312,SNR=79
BAR Barrett 43.76 94 eP P 01 43 30.5 +1.0
MONP2 Monument Peak 43.77 94 P P 01 43 30.9 +1.0
baz=313,SNR=53
RWWY Rawlins 43.84 77 eP P 01 43 30.4 -0.1
comp=Z,219nm,1.4s
RWWY ePcP **PcP 01 45 16.9 +0.7**
BC3 Big Chuckawall 43.85 92 P P 01 43 30.9 +0.4
baz=312,SNR=41
SNY Shenyang 44.08 283 ⇓P P 01 43 33.0 +1.0
SNY S **S 01 49 57.5 -3.5**
SNY pmax pmax
comp=Z,29nm,0.8s
SNY pmax pmax
comp=Z,230nm,6.1s
SNY LR LR
comp=Z,1μm,22.1s
SNY LR LR
comp=Z,2μm,23.1s
SNY LR LR
comp=Z,4μm,23.8s
KSRS Korea Array 44.10 276 P P 01 43 33.1 +0.9
comp=Z,30nm,0.9s,baz=57,slow=7.7,SNR=80
KSRS ScP **ScP 01 49 06.0 +1.5**
comp=Z,3.0nm,0.9s,baz=62,slow=4.0,SNR=3.6
KSRS LR LR 02 01 19.0
comp=Z,989nm,21.6s,baz=54,slow=35
SWSC Sam W. Stewart 44.11 93 P P 01 43 33.1 +0.7
baz=313,SNR=23
IKP In-Ko-Pah, Jac 44.12 94 P P 01 43 33.4 +0.8
baz=313,SNR=40
KSAR Wonju Array Be 44.14 276 P P 01 43 33.2 +0.6
KSAR Wonju Array Be 44.14 276 P P 01 43 33.1 +0.6
KSAR ScP **ScP 01 49 06.0 +1.4**
O20A White River Ci 44.15 80 P P 01 43 33.2 +0.3
baz=308,SNR=138
O20A White River Ci 44.15 80 eP P 01 43 33.2 +0.3
comp=Z,469nm,1.3s
PDMCI Parker Dam,Lak 44.23 90 P P 01 43 33.9 +0.6
baz=312,SNR=48
RSSD Black Hills 44.32 72 P P 01 43 34.1 -0.1
baz=305
RSSD Black Hills 44.32 72 eP P 01 43 34.1 -0.1
RSSD e 01 45 17.8
RSSD pmax pmax
comp=Z,140nm,1.2s
RSSD Black Hills 44.32 72 eP P 01 43 34.1 -0.1
comp=Z,140nm,1.2s
RSSD ePcP **PP 01 45 17.8 -0.1**
Y12C Blythe 44.36 91 P P 01 43 35.2 +0.7
baz=312,SNR=85
Y12C Blythe 44.36 91 eP P 01 43 35.1 +0.7
PV09 Paradox Valley 44.62 82 eP P 01 43 37.0 +0.2
GLA Glamis 44.64 92 P P 01 43 37.6 +0.9
baz=313,SNR=51
MDND Maddock 44.78 65 P P 01 43 38.2 +0.7
baz=304,SNR=85
MDND Maddock 44.78 65 eP P 01 43 37.1 -0.5
comp=Z,1μm,1.4s
MDND ePcP **PcP 01 45 19.5 +0.6**
PV04 Paradox Valley 44.82 82 eP P 01 43 38.3 0.0
PV04 ePcP **PcP 01 45 19.7 +0.3**
INCN Inchon 44.88 276 eP P 01 43 39.5 +1.0
INCN LR LR
comp=Z,823nm,21.0s
PV05 Paradox Valley 44.90 82 eP P 01 43 39.3 +0.4
N23A Red Feather La 45.08 77 P P 01 43 40.9 +0.5
baz=308,SNR=76
N23A Red Feather La 45.08 77 eP P 01 43 40.7 +0.3
JNU Nakatsue 45.11 269 P P 01 43 41.4 +1.0
comp=Z,27nm,0.7s,baz=45,slow=5.3,SNR=9.6
JNU Nakatsue 45.11 269 eP P 01 43 42.0 +1.6
PHWY Pilot Hill 45.13 76 eP P 01 43 40.5 -0.3
comp=Z,47nm,1.1s
PHWY ePcP **PcP 01 45 20.6 0.0**
WUAZ Wupatki 45.14 87 P P 01 43 41.9 +1.1
baz=311,SNR=89
WUAZ Wupatki 45.14 87 eP P 01 43 41.9 +1.1
comp=Z,117nm,0.9s
WUAZ eScP **ScP 01 49 08.9 -0.2**
WUAZ LR LR
comp=Z,3μm,22.0s
PV01 Paradox Valley 45.19 82 eP P 01 43 41.5 +0.2
PV01 ePcP **PcP 01 45 21.3 +0.5**
PV01 eScP **ScP 01 49 09.4 +0.1**
SMCO Snowmass 45.51 80 eP P 01 43 43.0 -1.0
comp=Z,79nm,1.4s
SMCO ePcP **PcP 01 45 23.0 +0.9**
ULM Lac du Bonnet 45.52 61 P P 01 43 43.6 +0.3
comp=Z,150nm,1.1s,baz=302,slow=10,SNR=74
ULM LR LR 02 05 07.1
comp=Z,2μm,18.0s,baz=315,slow=39
A31A Linda, St. Vin 45.52 63 P P 01 43 43.6 +0.2
baz=304,SNR=7.7
B31A Greenbush Farm 45.55 64 P P 01 43 43.9 +0.3
baz=304,SNR=40
MVCO Mesa Verde 45.82 83 P P 01 43 46.6 +0.4
baz=310,SNR=38
MVCO Mesa Verde 45.82 83 eP P 01 43 46.4 +0.1
comp=Z,44nm,0.9s
MVCO LR LR
comp=Z,2μm,22.0s
C31A Landman Farms, 45.85 64 P P 01 43 45.9 -0.1
baz=304,SNR=7.7
A32A Rocking H Ranc 45.91 63 P P 01 43 46.5 0.0
baz=304,SNR=84
ISCO Idaho Springs 45.95 78 P P 01 43 48.0 +0.6
baz=308,SNR=58
ISCO Idaho Springs 45.95 78 eP P 01 43 47.8 +0.5
ISCO e 01 45 24.0
ISCO pmax pmax
comp=Z,127nm,1.5s
ISCO MLR MLR
comp=Z,2μm,20.0s
ISCO Idaho Springs 45.95 78 eP P 01 43 47.8 +0.5
comp=Z,127nm,1.5s
ISCO ePcP **PcP 01 45 24.0 +0.5**
ISCO LR LR
comp=Z,2μm,20.0s
NRIK Noril'sk 46.11 331 P P 01 43 47.4 -0.4
comp=Z,31nm,1.0s,baz=74,slow=7.8,SNR=20
NRIK PcP **PcP 01 45 24.1 +0.9**
comp=Z,52nm,1.0s,baz=43,slow=2.5,SNR=10
NRIK ScP **ScP 01 49 14.6 +2.3**
comp=Z,9.5nm,0.8s,baz=27,slow=2.3,SNR=5.8
NRIK LR LR 02 04 51.8
comp=Z,1μm,19.7s,baz=72,slow=38
B32A Ashes, Strandq 46.18 63 P P 01 43 48.5 -0.1
baz=304,SNR=96
D31A Mcclaflin, Tow 46.28 65 P P 01 43 49.2 -0.3
baz=305,SNR=7.2
W18A Petrified Fore 46.41 86 P P 01 43 51.8 +0.8
baz=311,SNR=66

W18A Petrified Fore 46.41 86 eP P 01 43 51.7 +0.8
comp=Z,124nm,1.0s
KULLO Kullorsuaq 46.45 20 iP P 01 43 50.1 -0.3
comp=Z,176nm,1.0s
KULLO i 01 45 24.2
KULLO Kullorsuaq 46.45 20 iP P 01 43 50.1 -0.3
KULLO i 01 45 24.2
KULLO pmax pmax
comp=Z,180nm,1.0s
E31A Nome 46.47 66 P P 01 43 50.5 -0.4
baz=305,SNR=14
S22A 4UR Ranch, Cre 46.50 81 P P 01 43 52.6 +0.9
baz=310,SNR=88
A33A Warroad 46.51 62 P P 01 43 51.1 0.0
baz=304,SNR=78
C32A Crookston 46.51 64 P P 01 43 51.0 -0.2
baz=305,SNR=12
AGMN Agassiz Nation 46.61 63 P P 01 43 51.8 -0.2
baz=305,SNR=138
AGMN Agassiz Nation 46.61 63 eP P 01 43 51.7 -0.3
comp=Z,465nm,1.2s
AGMN LR LR
comp=Z,3μm,21.0s
D32A Dogwood Acres, 46.63 65 P P 01 43 51.6 -0.5
baz=305,SNR=8.4
214A Organ Pipe Nat 46.63 92 P P 01 43 53.1 +0.7
baz=314,SNR=35
214A Organ Pipe Nat 46.63 92 eP P 01 43 52.6 +0.2
comp=Z,395nm,1.1s
214A ePcP **PcP 01 45 26.2 +0.5**
F31A Hecla 46.66 67 P P 01 43 52.0 -0.5
baz=306,SNR=23
Q24A Divide 46.76 79 P P 01 43 54.2 +0.5
baz=309,SNR=23
Q24A Divide 46.76 79 eP P 01 43 54.1 +0.5
B33A Robert and Kas 46.77 63 P P 01 43 53.2 -0.1
baz=305,SNR=49
E32A Braaten, Kindr 46.91 65 P P 01 43 53.8 -0.5
baz=306,SNR=6.3
C33A Trail 46.96 63 P P 01 43 54.4 -0.4
baz=305,SNR=55
DL2 Dalian 47.04 281 P P 01 43 55.0 -0.4
DL2 S **S 01 50 41.8 -2.0**
DL2 pmax pmax
comp=Z,49nm,1.1s
DL2 LR LR
comp=Z,1μm,25.1s
DL2 LR LR
comp=Z,880nm,26.1s
DL2 LR LR
comp=Z,2μm,25.7s
G31A Conde 47.06 68 P P 01 43 55.1 -0.5
baz=306,SNR=12
SUSD Miller 47.09 69 P P 01 43 55.8 0.0
baz=306,SNR=56
B34A Aery, Baudette 47.16 62 P P 01 43 56.1 -0.2
baz=305,SNR=84
D33A AnnSam, Waubun 47.28 64 P P 01 43 56.9 -0.4
baz=306,SNR=51
F32A Veblen 47.30 66 P P 01 43 56.6 -0.8
baz=306,SNR=17
SDCO Great Sand Dun 47.31 80 P P 01 43 58.8 +0.8
baz=310,SNR=130
SDCO Great Sand Dun 47.31 80 eP P 01 43 58.5 +0.5
comp=Z,184nm,1.4s
SDCO ePcP **PcP 01 45 28.5 +0.2**
SDCO LR LR
comp=Z,2μm,22.0s
H31A Wolsey 47.35 69 P P 01 43 57.7 -0.1
baz=307
OGNE Ogallala 47.40 75 P P 01 43 58.9 +0.5
baz=308,SNR=23
OGNE Ogallala 47.40 75 eP P 01 43 58.9 +0.5
comp=Z,538nm,1.4s
OGNE ePcP **PcP 01 45 28.5 +0.2**
OGNE LR LR
comp=Z,1μm,20.0s
G32A Webster 47.45 67 P P 01 43 58.1 -0.5
baz=306,SNR=31
C34A RKJ Ranch, Bem 47.50 63 P P 01 43 58.6 -0.4
baz=306,SNR=51
E33A Westby DABS, E 47.56 65 P P 01 43 58.9 -0.5
baz=306,SNR=22
I31A Royce, Wessing 47.58 69 P P 01 43 59.5 -0.1
baz=307,SNR=7.3
TUC Tucson 47.65 90 P P 01 44 01.2 +0.9
baz=313
TUC Tucson 47.65 90 eP P 01 44 01.0 +0.7
TUC e 01 45 29.5
TUC pmax pmax
comp=Z,165nm,1.0s
TUC MLR MLR
comp=Z,2μm,19.0s
TUC Tucson 47.65 90 eP P 01 44 01.0 +0.7
comp=Z,165nm,1.0s
TUC ePcP **PcP 01 45 29.4 +0.1**
TUC LR LR
comp=Z,2μm,19.0s
D34A Park Rapids 47.67 64 P P 01 43 59.9 -0.4
baz=306,SNR=66
B35A Bob, Littlefor 47.74 62 P P 01 44 00.5 -0.3
baz=305,SNR=59
F33A 5 Mile Ranch, 47.79 66 P P 01 44 00.6 -0.6
baz=306,SNR=45
J31A Geddes 47.91 70 P P 01 44 02.1 -0.1
baz=307,SNR=86
H32A Carlson Farm, 47.93 68 P P 01 44 01.8 -0.5
baz=307,SNR=69
C35A Jirik Farms, M 47.99 63 P P 01 44 02.2 -0.5
baz=306,SNR=76
E34A Wadena 48.02 65 P P 01 44 02.4 -0.6
baz=306,SNR=10
G33A Ortonville 48.09 67 P P 01 44 02.9 -0.7
baz=307,SNR=66
I32A Karley and Nic 48.20 69 P P 01 44 03.7 -0.7
baz=307
MHTCO State Highway 48.20 80 eP P 01 44 05.8 +1.1
H33A Prehn Over Nor 48.22 67 P P 01 44 04.0 -0.6
baz=307,SNR=60
KSCO Kaye Shedlock' 48.25 77 P P 01 44 05.7 +0.7
baz=310,SNR=53
KSCO Kaye Shedlock' 48.25 77 eP P 01 44 05.2 +0.1
comp=Z,406nm,1.2s
K31A O'Neill 48.30 71 P P 01 44 05.3 0.0
baz=308,SNR=22
D35A Remer 48.31 63 P P 01 44 05.0 -0.2
baz=306,SNR=92
T25A Trinidad 48.37 80 P P 01 44 07.0 +0.9
baz=310,SNR=126
J32A Parkston 48.38 69 P P 01 44 05.3 -0.5
baz=308,SNR=16
F34A Alexandria 48.40 65 P P 01 44 05.4 -0.5
baz=307,SNR=23
E35A Pequot Lakes 48.42 64 P P 01 44 05.9 -0.2
baz=306,SNR=52
LAZ Ladron 48.49 85 eP P 01 44 08.0 +1.0
G34A Benson 48.51 66 P P 01 44 06.2 -0.6
baz=307,SNR=14
ANMO Albuquerque 48.55 84c iP P 01 44 07.5 +0.1
ANMO pmax pmax
comp=Z,68nm,1.2s
I33A Coleman 48.57 68 P P 01 44 06.4 -0.8
baz=308,SNR=11
C36A Pine Crest Far 48.58 62 P P 01 44 07.1 -0.2
baz=306,SNR=63
K32A Verdigre 48.74 70 P P 01 44 08.2 -0.4
baz=308,SNR=36
D36A Goodland 48.74 63 P P 01 44 08.1 -0.4
baz=306,SNR=43
F35A Swanville 48.74 65 P P 01 44 08.2 -0.4
baz=307,SNR=42
H34A Spellman Lake, 48.78 67 P P 01 44 08.2 -0.7
baz=307,SNR=39
IRK Irkutsk 48.83 306 eP P 01 44 08.8 -0.3
IRK e 01 45 33.4
IRK e 01 51 28.0
IRK pmax pmax
comp=Z,240nm,1.5s
Y22D IRIS PASSCAL I 48.84 85 P P 01 44 11.0 +1.4
baz=312
LPM Los Pinos Moun 48.86 85 eP P 01 44 10.7 +0.9
ECSD EROS Data Cent 48.87 68 P P 01 44 08.7 -0.8
baz=308,SNR=78
ECSD EROS Data Cent 48.87 68 eP P 01 44 08.9 -0.7
comp=Z,70nm,0.5s
ECSD LR LR
comp=Z,2μm,21.0s

J33A	**Davis**	**48.92**	**69**	P	**P**	**01 44 09.4**	**-0.6**
	baz=308,SNR=13						
C37A	**Embarrass**	**48.95**	**62**	P	**P**	**01 44 10.0**	**-0.2**
	baz=306,SNR=72						
BNM	**Barren Site**	**48.97**	**85**	*e*P	**P**	**01 44 11.6**	**+0.8**
E36A	**McGregor**	**49.08**	**63**	P	**P**	**01 44 10.9**	**-0.2**
	baz=307,SNR=61						
I34A	**Hadley**	**49.11**	**68**	P	**P**	**01 44 10.5**	**-0.9**
	baz=308,SNR=11						
L32A	**Elgin**	**49.12**	**71**	P	**P**	**01 44 11.6**	**+0.1**
	baz=308,SNR=15						
D37A	**Cotton**	**49.16**	**62**	P	**P**	**01 44 11.3**	**-0.4**
	baz=307,SNR=26						
G35A	**Watkins**	**49.18**	**66**	P	**P**	**01 44 11.5**	**-0.4**
	baz=307,SNR=21						
EYMN	**Ely**	**49.20**	**61**	P	**P**	**01 44 11.8**	**-0.2**
	baz=307,SNR=93						
EYMN	**Ely**	**49.20**	**61**	*e*P	**P**	**01 44 11.7**	**-0.3**
EYMN				LR	LR		
	comp=Z,2μm,21.0s						
H35A	**Sunnyside Ranc**	**49.30**	**66**	P	**P**	**01 44 12.3**	**-0.5**
	baz=308,SNR=20						
F36A	**Milaca**	**49.33**	**64**	P	**P**	**01 44 12.4**	**-0.6**
	baz=307,SNR=28						
KBS	**Kingsbay**	**49.33**	**359**	*e*P	**P**	**01 44 12.5**	**-0.1**
KBS				IAmb	IAmb	01 44 14.7	
	comp=Z,69nm,1.0s						
KBS	**Kingsbay**	**49.33**	**359**	*i* P	**P**	**01 44 13.2**	**+0.6**
KBS				pmax	pmax		
	comp=Z,924nm,2.5s						
KBS	**Kingsbay**	**49.33**	**359**	*e*P	**P**	**01 44 11.9**	**-0.7**
	comp=Z,55nm,0.8s						
KBS				*e*PcP	**PcP**	**01 45 34.6**	**+0.1**
KBS				LR	LR		
	comp=Z,808nm,20.0s						
K33A	**Hardington**	**49.34**	**70**	P	**P**	**01 44 12.9**	**-0.3**
	baz=308,SNR=15						
121A	**Cookes Peak, D**	**49.35**	**87**	P	**P**	**01 44 14.4**	**+0.8**
	baz=313,SNR=69						
121A	**Cookes Peak, D**	**49.35**	**87**	*e*P	**P**	**01 44 13.9**	**+0.3**
	comp=Z,104nm,1.1s						
BGNE	**Belgrade**	**49.41**	**72**	P	**P**	**01 44 13.7**	**0.0**
	baz=309,SNR=49						
BGNE	**Belgrade**	**49.41**	**72**	*e*P	**P**	**01 44 13.5**	**-0.3**
	comp=Z,470nm,0.9s						
BGNE				*e*PcP	**PcP**	**01 45 35.7**	**+0.3**
C38A	**Sawbill Land.**	**49.45**	**61**	P	**P**	**01 44 13.5**	**-0.5**
	baz=307,SNR=49						
L33A	**Hoskins**	**49.45**	**70**	P	**P**	**01 44 13.3**	**-0.7**
	baz=309,SNR=21						
TLY	**Talaya**	**49.47**	**305**	*e*P	**P**	**01 44 14.9**	**+0.8**
TLY				*e*S	**S**	**01 51 23.0**	**+5.1**
TLY				*e*		01 54 06.5	
TLY				pmax	pmax		
	comp=Z,165nm,1.5s						
J34A	**George**	**49.52**	**68**	P	**P**	**01 44 13.9**	**-0.7**
	baz=308,SNR=23						
E37A	**Wrenshall**	**49.53**	**63**	P	**P**	**01 44 14.2**	**-0.3**
	baz=307,SNR=12						
G36A	**St. Michael**	**49.58**	**65**	P	**P**	**01 44 14.7**	**-0.3**
	baz=308,SNR=20						
BJI	**Beijing**	**49.60**	**286**	P	**P**	**01 44 15.8**	**+0.7**
BJI				S	**S**	**01 51 20.8**	**+1.0**
BJI				sS	**sS**	**01 51 43.0**	**+2.0**
BJI				ScS	**ScS**	**01 54 02.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,32nm,0.9s						
BJI				pmax	pmax		
	comp=Z,240nm,4.1s						
BJI				LR	LR		
	comp=Z,1μm,22.2s						
BJI				LR	LR		
	comp=Z,690nm,24.3s						
BJI				LR	LR		
	comp=Z,1μm,30.0s						
BJT	**Baijiatuau**	**49.62**	**286**	*e*P	**P**	**01 44 15.1**	**-0.2**
BJT				pmax	pmax		
	comp=Z,22nm,0.6s						
BJT				MLR	MLR		
	comp=Z,2μm,21.0s						
BJT	**Baijiatuau**	**49.62**	**286**	*e*P	**P**	**01 44 15.1**	**-0.2**
	comp=Z,22nm,0.6s						
BJT				LR	LR		
	comp=Z,2μm,21.0s						
I35A	**Creekview Farm**	**49.73**	**67**	P	**P**	**01 44 15.3**	**-0.8**
	baz=308						
K34A	**Le Mars**	**49.81**	**69**	P	**P**	**01 44 16.5**	**-0.3**
	baz=309,SNR=14						
HSIG		**49.83**	**93**	*e*P	**P**	**01 44 17.3**	**+0.2**
M33A	**Taylor Creek F**	**49.87**	**71**	P	**P**	**01 44 16.8**	**-0.4**
	baz=309,SNR=16						
H36A	**Jessenland, He**	**49.88**	**66**	P	**P**	**01 44 17.4**	**+0.1**
	baz=308,SNR=24						
J35A	**Milford**	**49.90**	**68**	P	**P**	**01 44 16.8**	**-0.6**
	baz=308,SNR=19						
F37A	**Hinrichs Farm,**	**49.91**	**64**	P	**P**	**01 44 17.1**	**-0.4**
	baz=308,SNR=30						
ULN	**Ulaanbaatar**	**49.96**	**300***c*	*i*P	**P**	**01 44 18.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,78nm,1.0s						
ULN	**Ulaanbaatar**	**49.96**	**300**	*e*P	**P**	**01 44 18.0**	**0.0**
	comp=Z,64nm,0.9s						
ULN				LR	LR		
	comp=Z,2μm,19.0s						
ULN	**Ulaanbaatar**	**49.96**	**300**	P	**P**	**01 44 18.2**	**+0.2**
	SNR=26						
ULN	**Ulaanbaatar**	**49.96**	**300**	P	**P**	**01 44 18.2**	**+0.2**
	SNR=26						
E38A	**The Farm, Brul**	**49.97**	**62**	P	**P**	**01 44 17.3**	**-0.6**
	baz=308,SNR=42						
C39A	**Grand Marais**	**50.01**	**60**	P	**P**	**01 44 17.6**	**-0.6**
	baz=307,SNR=26						
SPA0	**Spitsbergen Ar**	**50.01**	**358**	*e*P	**P**	**01 44 17.9**	**+0.1**
SPITS	**Spitsbergen Ar**	**50.01**	**358**	LR	LR	02 07 20.2	
	comp=Z,882nm,18.3s,baz=15,slow=38						
L34A	**Svendsen Farm,**	**50.10**	**70**	P	**P**	**01 44 18.4**	**-0.6**
	baz=309,SNR=69						
CBKS	**Cedar Bluff**	**50.11**	**75**	P	**P**	**01 44 19.5**	**+0.4**
	baz=310,SNR=48						
CBKS	**Cedar Bluff**	**50.11**	**75**	*e*P	**P**	**01 44 19.6**	**+0.4**
CBKS				*e*		01 45 38.4	
CBKS				pmax	pmax		
	comp=Z,607nm,1.3s						
CBKS	**Cedar Bluff**	**50.11**	**75**	*e*P	**P**	**01 44 19.6**	**+0.4**
	comp=Z,606nm,1.3s						
CBKS				*e*PcP	**PcP**	**01 45 38.4**	**+0.3**
SPMN	**Marine on St.**	**50.12**	**65**	P	**P**	**01 44 18.8**	**-0.2**
	baz=308,SNR=38						
SPMN	**Marine on St.**	**50.12**	**65**	*e*P	**P**	**01 44 18.3**	**-0.7**
	comp=Z,111nm,0.9s						
I36A	**Fitzsimmons Fa**	**50.18**	**67**	P	**P**	**01 44 18.7**	**-0.8**
	baz=308						
F38A	**Pierce - Schro**	**50.18**	**63**	P	**P**	**01 44 19.6**	**+0.1**
	baz=308,SNR=88						
N33A	**J Bar K, Exete**	**50.24**	**72**	P	**P**	**01 44 19.6**	**-0.5**
	baz=310						
M34A	**Aspy Farms, Fr**	**50.27**	**71**	P	**P**	**01 44 19.7**	**-0.6**
	baz=309,SNR=11						
K35A	**Storm Lake**	**50.29**	**69**	P	**P**	**01 44 19.8**	**-0.6**
	baz=309,SNR=13						
SONM	**Songino Array**	**50.33**	**300**	P	**P**	**01 44 21.2**	**+0.4**
	comp=Z,40nm,0.9s,baz=57,slow=6.9,SNR=150						
SONM				PcP	**PcP**	**01 45 39.7**	**+0.9**
	comp=Z,33nm,1.0s,baz=57,slow=2.6,SNR=7.7						
SONM				ScP	**ScP**	**01 49 31.9**	**+1.2**
	comp=Z,9.6nm,0.8s,baz=48,slow=4.6,SNR=8.2						
SONM				LR	LR	02 07 55.3	
	comp=Z,2μm,20.3s,baz=58,slow=39						
DAG	**Danmarks Havn**	**50.36**	**8**⇑	*i*P	**P**	**01 44 19.7**	**-0.7**
DAG	**Danmarks Havn**	**50.36**	**8**⇑	*i*P	**P**	**01 44 19.7**	**-0.7**
J36A	**Seneca 1, Swea**	**50.42**	**67**	P	**P**	**01 44 20.7**	**-0.7**
	baz=309,SNR=5.2						
ZAK	**Zakamensk**	**50.43**	**304**	*e*P	**P**	**01 44 21.6**	**+0.2**
ZAK				*e*		01 45 37.5	
ZAK				*e*		01 54 08.2	
ZAK				pmax	pmax		
	comp=Z,85nm,1.4s						
H37A	**Dierke Farm, C**	**50.45**	**65**	P	**P**	**01 44 21.6**	**0.0**
	baz=308,SNR=12						
C40A	**Isle Royale Na**	**50.47**	**60**	P	**P**	**01 44 21.5**	**-0.2**
	baz=308,SNR=11						
L35A	**Bielow Farm, R**	**50.49**	**69**	P	**P**	**01 44 20.9**	**-1.0**
	baz=309						
I37A	**Lemond, Waseca**	**50.53**	**66**	P	**P**	**01 44 22.2**	**0.0**
	baz=309,SNR=71						
O33A	**Hebron**	**50.58**	**73**	P	**P**	**01 44 22.2**	**-0.5**
	baz=310,SNR=53						
E39A	**Mellen**	**50.65**	**62**	P	**P**	**01 44 22.3**	**-0.7**
	baz=308,SNR=36						
G38A	**Ridgeland**	**50.68**	**64**	P	**P**	**01 44 22.7**	**-0.6**
	baz=308,SNR=57						
N34A	**Lincoln**	**50.74**	**71**	P	**P**	**01 44 23.0**	**-0.8**
	baz=310,SNR=19						
F39A	**Loretta**	**50.74**	**63**	P	**P**	**01 44 23.4**	**-0.3**
	baz=308,SNR=24						
H38A	**Maiden Rock**	**50.75**	**65**	P	**P**	**01 44 23.8**	**0.0**
	baz=308,SNR=51						
K36A	**Gilmore City**	**50.79**	**68**	P	**P**	**01 44 23.5**	**-0.6**
	baz=309,SNR=17						
MOY	**Mondy**	**50.80**	**307**	*e*P	**P**	**01 44 25.2**	**+0.9**
MOY				pmax	pmax		
	comp=Z,138nm,1.6s						
M35A	**Neola**	**50.81**	**70**	P	**P**	**01 44 24.1**	**-0.2**
	baz=310,SNR=56						
J37A	**Redenius Farm,**	**50.88**	**67**	P	**P**	**01 44 24.5**	**-0.4**
	baz=309,SNR=68						
E40A	**Wakefield**	**50.97**	**62**	P	**P**	**01 44 25.4**	**0.0**
	baz=308,SNR=67						
G39A	**Holcombe**	**50.99**	**64**	P	**P**	**01 44 24.9**	**-0.7**
	baz=308,SNR=55						
L36A	**Harm Buss Farm**	**51.00**	**69**	P	**P**	**01 44 25.0**	**-0.7**
	baz=309						
O34A	**Beatrice**	**51.04**	**72**	P	**P**	**01 44 25.4**	**-0.7**
	baz=310,SNR=54						
I38A	**Scanlan Farm,**	**51.12**	**66**	P	**P**	**01 44 26.3**	**-0.3**
	baz=309,SNR=40						
K37A	**Belmond**	**51.17**	**68**	P	**P**	**01 44 26.4**	**-0.7**
	baz=309,SNR=50						
F40A	**Park Falls**	**51.17**	**62**	P	**P**	**01 44 26.7**	**-0.3**
	baz=308,SNR=86						
HSPB	**Hornsund (broa**	**51.21**	**358**	*e*P	**P**	**01 44 27.1**	**+0.3**
N35A	**Tabor**	**51.22**	**71**	P	**P**	**01 44 27.4**	**0.0**
	baz=310,SNR=14						
H39A	**Augusta**	**51.30**	**64**	P	**P**	**01 44 27.3**	**-0.6**
	baz=309,SNR=30						
D41A	**Chassel**	**51.31**	**60**	P	**P**	**01 44 28.1**	**+0.1**
	baz=308,SNR=32						
M36A	**Felix, Anita**	**51.33**	**70**	P	**P**	**01 44 27.9**	**-0.4**
	baz=310,SNR=27						
P34A	**Walnut Farm, R**	**51.37**	**73**	P	**P**	**01 44 27.9**	**-0.6**
	baz=310,SNR=34						
MNTX	**Cornudas Mount**	**51.40**	**86**	P	**P**	**01 44 29.6**	**+0.7**
	baz=314,SNR=110						
MNTX	**Cornudas Mount**	**51.40**	**86**	*e*P	**P**	**01 44 29.6**	**+0.7**
	comp=Z,70nm,1.0s						
MNTX				*e*PcP	**PcP**	**01 45 43.7**	**+0.7**
MNTX				LR	LR		
	comp=Z,855nm,20.0s						
O35A	**Humboldt**	**51.45**	**71**	P	**P**	**01 44 28.2**	**-0.9**
	baz=310						
MSTX	**Muleshoe**	**51.46**	**82**	P	**P**	**01 44 29.4**	**0.0**
	baz=313,SNR=96						
MSTX	**Muleshoe**	**51.46**	**82**	*e*P	**P**	**01 44 29.2**	**-0.2**
	comp=Z,253nm,1.3s						
E41A	**Kenton**	**51.47**	**61**	P	**P**	**01 44 28.8**	**-0.4**
	baz=309,SNR=24						
J38A	**Wedel Dairy, R**	**51.49**	**66**	P	**P**	**01 44 29.1**	**-0.3**
	baz=309,SNR=84						
L37A	**Phoenix Point,**	**51.51**	**68**	P	**P**	**01 44 29.2**	**-0.4**
	baz=310,SNR=92						
AMTX	**Amarillo**	**51.51**	**80**	P	**P**	**01 44 29.9**	**+0.1**
	baz=312						
AMTX	**Amarillo**	**51.51**	**80**	*e*P	**P**	**01 44 29.9**	**+0.1**
ILULI	**Ilulissat**	**51.53**	**23**	*i* P	**P**	**01 44 28.2**	**-1.0**
	comp=Z,128nm,1.1s						
ILULI	**Ilulissat**	**51.53**	**23**	*i* P	**P**	**01 44 28.2**	**-1.0**
ILULI				pmax	pmax		
	comp=Z,130nm,1.1s						
G40A	**Rib Lake**	**51.53**	**63**	P	**P**	**01 44 29.3**	**-0.4**
	baz=309,SNR=49						
SUMG	**Summit**	**51.54**	**16**⇑	*i*P	**P**	**01 44 30.0**	**+0.2**
	comp=Z,418nm,1.1s						
SUMG	**Summit**	**51.54**	**16**⇑	*i*P	**P**	**01 44 30.0**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,420nm,1.1s						
SUMG	**Summit**	**51.54**	**16**	*e*P	**P**	**01 44 29.6**	**-0.2**
	comp=Z,401nm,1.1s						
SUMG				*e*PcP	**PcP**	**01 45 42.8**	**-0.4**
N36A	**Muff Farm, Cla**	**51.65**	**70**	P	**P**	**01 44 30.2**	**-0.4**
	baz=310,SNR=5.7						
I39A	**Houston**	**51.69**	**65**	P	**P**	**01 44 30.2**	**-0.7**
	baz=309,SNR=50						
Q34A	**Chapman**	**51.71**	**73**	P	**P**	**01 44 30.8**	**-0.2**
	baz=311,SNR=90						
K38A	**Parkersburg**	**51.74**	**67**	P	**P**	**01 44 30.8**	**-0.5**
	baz=310,SNR=21						
GUMO	**Guam**	**51.75**	**239**	PFAKE		01 44 40.0	+8.4
GUMO				LR	LR		
	comp=Z,719nm,21.0s						
KSU1	**Kansas State U**	**51.79**	**73**	P	**P**	**01 44 31.0**	**-0.7**
	baz=311,SNR=30						
KSU1	**Kansas State U**	**51.79**	**73**	*e*P	**P**	**01 44 31.2**	**-0.5**
	comp=Z,250nm,1.1s						
KSU1				*e*PcP	**PcP**	**01 45 44.2**	**-0.1**
KSU1				LR	LR		
	comp=Z,2μm,20.0s						
HHC	**Hu-ho-hao-te**	**51.79**	**290**	*e*P	**P**	**01 44 32.3**	**+0.5**
HHC				sP	sP	01 44 59.0	+9.1
HHC				S	**S**	**01 51 50.0**	**-0.5**
HHC				sS	sS	01 52 08.5	-3.3
HHC				ScS	**ScS**	**01 54 17.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,81nm,1.3s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
HHC				LR	LR		
	comp=Z,2μm,19.4s						
HHC				LR	LR		
	comp=Z,2μm,19.2s						
HHC				LR	LR		
	comp=Z,2μm,21.0s						
M37A	**Trindle Farm,**	**51.80**	**69**	P	**P**	**01 44 31.7**	**0.0**
	baz=310,SNR=47						
H40A	**Chili**	**51.84**	**64**	P	**P**	**01 44 31.6**	**-0.4**
	baz=309,SNR=32						
F41A	**Three Lakes**	**51.84**	**62**	P	**P**	**01 44 31.7**	**-0.3**
	baz=309,SNR=88						
P35A	**Duane Minner,**	**51.86**	**72**	P	**P**	**01 44 31.5**	**-0.7**
	baz=311,SNR=29						
J39A	**Decorah**	**51.91**	**66**	P	**P**	**01 44 31.6**	**-0.9**
	baz=310,SNR=80						
R34A	**Isabella, Hill**	**51.93**	**74**	P	**P**	**01 44 32.3**	**-0.5**
	baz=311,SNR=24						
L38A	**Oak Wood Farm,**	**51.96**	**68**	P	**P**	**01 44 32.3**	**-0.6**
	baz=310,SNR=55						
SCIA	**State Center**	**51.96**	**68**	*e*P	**P**	**01 44 32.6**	**-0.3**
	comp=Z,224nm,0.9s						
SCIA				LR	LR		
	comp=Z,3μm,20.0s						
E42A	**Champion**	**52.05**	**61**	P	**P**	**01 44 33.4**	**-0.2**
	baz=309,SNR=36						
O36A	**Bolckow**	**52.09**	**71**	P	**P**	**01 44 33.4**	**-0.5**
	baz=310,SNR=26						
N37A	**Lee Faris, Mou**	**52.12**	**70**	P	**P**	**01 44 34.0**	**-0.2**
	baz=310,SNR=122						
G41A	**Antigo**	**52.13**	**63**	P	**P**	**01 44 33.8**	**-0.4**
	baz=309,SNR=8.9						
U32A	**Winter Ranch,**	**52.14**	**77**	P	**P**	**01 44 34.3**	**-0.1**
	baz=312,SNR=44						
I40A	**Norwalk**	**52.17**	**65**	P	**P**	**01 44 33.9**	**-0.6**
	baz=310,SNR=30						
K39A	**Oelwein**	**52.21**	**67**	P	**P**	**01 44 33.7**	**-1.0**
	baz=310,SNR=71						
H41A	**Junction City**	**52.25**	**63**	P	**P**	**01 44 34.5**	**-0.5**
	baz=309,SNR=49						
P36A	**Good Intent, A**	**52.28**	**72**	P	**P**	**01 44 34.5**	**-0.8**
	baz=311						
Q35A	**Mercer Eighty,**	**52.28**	**73**	P	**P**	**01 44 34.5**	**-0.9**
	baz=311,SNR=21						
M38A	**Pleasantville**	**52.28**	**69**	P	**P**	**01 44 34.9**	**-0.4**
	baz=310,SNR=60						
F42A	**Maple Grove Fa**	**52.36**	**61**	P	**P**	**01 44 35.7**	**-0.1**
	baz=309,SNR=13						
S34A	**Willow Spring**	**52.40**	**75**	P	**P**	**01 44 35.5**	**-0.8**
	baz=312,SNR=34						
J40A	**Soldiers Grove**	**52.41**	**65**	P	**P**	**01 44 35.3**	**-1.0**
	baz=310,SNR=40						
I41A	**Arkdale**	**52.48**	**64**	P	**P**	**01 44 36.3**	**-0.4**
	baz=310,SNR=40						
SSE	**Sheshan**	**52.49**	**274**	P	**P**	**01 44 38.5**	**+1.6**
SSE				S	**S**	**01 51 58.5**	**-1.5**
SSE				pmax	pmax		
	comp=Z,130nm,0.8s						
SSE				pmax	pmax		
	comp=Z,63nm,3.8s						
SSE				LR	LR		
	comp=Z,650nm,28.5s						
SSE				LR	LR		
	comp=Z,590nm,28.1s						
SSE				LR	LR		
	comp=Z,960nm,24.5s						
L39A	**Vinton**	**52.52**	**67**	P	**P**	**01 44 36.3**	**-0.8**
	baz=310,SNR=101						
G42A	**Mountain**	**52.52**	**62**	P	**P**	**01 44 36.7**	**-0.3**
	baz=310,SNR=32						
R35A	**Emporia Munici**	**52.54**	**73**	P	**P**	**01 44 36.7**	**-0.5**
	baz=311,SNR=17						
O37A	**Wolven Farm, M**	**52.54**	**70**	P	**P**	**01 44 36.7**	**-0.5**
	baz=311,SNR=56						
Q36A	**Arnold C. Orve**	**52.56**	**72**	P	**P**	**01 44 36.4**	**-1.0**
	baz=311,SNR=17						
E43A	**Lone Tree Farm**	**52.58**	**60**	P	**P**	**01 44 37.4**	**-0.1**
	baz=309,SNR=40						
K40A	**Colesburg**	**52.64**	**66**	P	**P**	**01 44 36.9**	**-1.0**
	baz=310,SNR=39						
N38A	**Joes South For**	**52.66**	**69**	P	**P**	**01 44 37.5**	**-0.6**
	baz=311,SNR=99						
P37A	**Lathrop**	**52.80**	**71**	P	**P**	**01 44 38.3**	**-0.9**
	baz=311,SNR=49						
T34A	**McClaskey Farm**	**52.81**	**75**	P	**P**	**01 44 38.7**	**-0.6**
	baz=312,SNR=67						
F43A	**Flat Rock, Esc**	**52.83**	**61**	P	**P**	**01 44 39.1**	**-0.2**
	baz=310,SNR=24						
M39A	**Webster**	**52.83**	**68**	P	**P**	**01 44 38.9**	**-0.5**
	baz=310,SNR=162						
J41A	**Loganville**	**52.84**	**65**	P	**P**	**01 44 38.6**	**-0.8**
	baz=310,SNR=51						
S35A	**Otter Creek Ra**	**52.89**	**74**	P	**P**	**01 44 39.2**	**-0.6**
	baz=312,SNR=66						
G43A	**Wallace**	**52.92**	**62**	P	**P**	**01 44 39.4**	**-0.5**
	baz=310,SNR=20						
H42A	**Shiocton**	**52.93**	**63**	P	**P**	**01 44 39.4**	**-0.7**
	baz=310,SNR=19						
R36A	**Gordon, Harris**	**52.95**	**73**	P	**P**	**01 44 39.6**	**-0.7**
	baz=311,SNR=128						
O38A	**Galt**	**52.96**	**70**	P	**P**	**01 44 39.7**	**-0.7**
	baz=311,SNR=52						
L40A	**Anamosa**	**53.00**	**67**	P	**P**	**01 44 39.6**	**-0.9**
	baz=310,SNR=35						
JFWS	**Jewell Farm**	**53.00**	**65**	*e*P	**P**	**01 44 39.2**	**-1.4**
JFWS				pmax	pmax		
	comp=Z,135nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,3μm,20.0s						
JFWS	**Jewell Farm**	**53.00**	**65**	*e*P	**P**	**01 44 39.2**	**-1.4**
	comp=Z,135nm,0.9s						
JFWS				LR	LR		
	comp=Z,3μm,20.0s						
E44A	**Grand Marais A**	**53.00**	**59**	P	**P**	**01 44 41.0**	**+0.5**
	baz=310,SNR=18						
N39A	**Derby Farms, D**	**53.03**	**69**	P	**P**	**01 44 40.3**	**-0.5**
	baz=311,SNR=143						
I42A	**Draeger Farm,**	**53.12**	**64**	P	**P**	**01 44 41.0**	**-0.4**
	baz=310,SNR=35						
F44A	**Big Bay de Noc**	**53.15**	**60**	P	**P**	**01 44 41.4**	**-0.2**
	baz=310,SNR=19						
K41A	**Shullsburg**	**53.17**	**66**	P	**P**	**01 44 40.9**	**-0.9**
	baz=310,SNR=44						
Q37A	**Longview Farm,**	**53.21**	**72**	P	**P**	**01 44 40.8**	**-1.4**
	baz=311,SNR=8.8						
P38A	**Dawn**	**53.25**	**71**	P	**P**	**01 44 41.6**	**-0.9**
	baz=311,SNR=84						
M40A	**Post Highland**	**53.26**	**68**	P	**P**	**01 44 41.7**	**-0.9**
	baz=311,SNR=28						
NJ2	**Nanjing**	**53.26**	**277**	*e*P	**P**	**01 44 42.8**	**+0.2**
NJ2				S	**S**	**01 52 11.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,56nm,0.9s						
NJ2				LR	LR		
	comp=Z,1μm,21.7s						
NJ2				LR	LR		
	comp=Z,1μm,19.5s						
NJ2				LR	LR		
	comp=Z,2μm,21.7s						
T35A	**Sooner Cattle**	**53.28**	**75**	P	**P**	**01 44 42.0**	**-0.8**
	baz=312,SNR=34						
S36A	**Lake Cedric, C**	**53.29**	**74**	P	**P**	**01 44 42.0**	**-0.8**
	baz=312,SNR=27						
SFJD	**Kangerlussuaq**	**53.30**	**25**	*i* P	**P**	**01 44 42.2**	**-0.2**
	comp=Z,170nm,1.1s						
SFJD	**Kangerlussuaq**	**53.30**	**25**	*i* P	**P**	**01 44 42.2**	**-0.2**
SFJD				pmax	pmax		
	comp=Z,170nm,1.1s						
SFJD	**Kangerlussuaq**	**53.30**	**25**	*e*P	**P**	**01 44 42.0**	**-0.4**
	comp=Z,218nm,1.2s						
SFJD				*e*PcP	**PcP**	**01 45 49.0**	**-0.4**
SFJD				LR	LR		
	comp=Z,1μm,21.0s						
R37A	**Teagarden Farm**	**53.35**	**73**	P	**P**	**01 44 42.1**	**-1.2**
	baz=312,SNR=24						
J42A	**Columbus**	**53.37**	**64**	P	**P**	**01 44 42.5**	**-0.8**
	baz=310,SNR=37						
WMOK	**Wichita Mounta**	**53.38**	**79**	P	**P**	**01 44 43.4**	**-0.1**
	baz=313,SNR=92						
WMOK	**Wichita Mounta**	**53.38**	**79**	*e*P	**P**	**01 44 43.2**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,93nm,1.1s						
WMOK				MLR	MLR		
	comp=Z,2μm,22.0s						
WMOK	**Wichita Mounta**	**53.38**	**79**	*e*P	**P**	**01 44 43.2**	**-0.3**
	comp=Z,93nm,1.1s						
WMOK				LR	LR		
	comp=Z,2μm,22.0s						
H43A	**Windswept, Lux**	**53.38**	**62**	P	**P**	**01 44 43.0**	**-0.4**
	baz=310,SNR=35						
L41A	**Preston**	**53.40**	**66**	P	**P**	**01 44 42.4**	**-1.1**
	baz=311,SNR=32						
O39A	**Kirksville**	**53.41**	**69**	P	**P**	**01 44 43.0**	**-0.7**
	baz=311,SNR=56						
U35A	**Pawnee**	**53.51**	**76**	P	**P**	**01 44 44.0**	**-0.5**
	baz=312,SNR=42						
N40A	**Mertquake, Sal**	**53.56**	**68**	P	**P**	**01 44 43.8**	**-0.9**
	baz=311,SNR=27						
T36A	**Boggs Farm, Ca**	**53.56**	**74**	P	**P**	**01 44 44.0**	**-0.8**
	baz=312,SNR=31						
E45A	**Wooded Hills,**	**53.57**	**59**	P	**P**	**01 44 44.6**	**-0.1**
	baz=310,SNR=28						
K42A	**Prairie Point,**	**53.59**	**65**	P	**P**	**01 44 44.0**	**-0.9**
	baz=311,SNR=38						
Q38A	**Cooks Store, C**	**53.64**	**71**	P	**P**	**01 44 43.9**	**-1.4**
	baz=312,SNR=74						
J43A	**Natural Harves**	**53.72**	**64**	P	**P**	**01 44 45.0**	**-0.9**
	baz=311,SNR=21						
S37A	**Fort Scott**	**53.72**	**73**	P	**P**	**01 44 45.0**	**-0.9**
	baz=312,SNR=63						
LPIG	**La Paz**	**53.77**	**97**	LR	LR	02 02 27.7	
	comp=Z,633nm,21.8s,baz=306,slow=30						

W35A	Tecumseh	54.25	77	P	P	01 44 49.7	-0.1
	baz=313,SNR=60						
ABTX	Abilene, Hawle	54.29	81	P	P	01 44 50.2	-0.1
	baz=314,SNR=28						
ABTX	Abilene, Hawle	54.29	81	eP	P	01 44 49.8	-0.4
	comp=Z,75nm,0.9s						
L43A	Garden Prairie	54.32	65	P	P	01 44 49.1	-1.1
	baz=311,SNR=11						
S38A	Stockton	54.35	73	P	P	01 44 49.0	-1.6
	baz=312,SNR=93						
V36A	Jenks	54.38	76	P	P	01 44 50.2	-0.6
	baz=313,SNR=36						
TUL1	Leonard	54.38	75	P	P	01 44 50.3	-0.5
	baz=313,SNR=38						
TUL1	Leonard	54.38	75	eP	P	01 44 50.2	-0.6
	comp=Z,134nm,1.1s						
R39A	Chumby, Stover	54.41	71	P	P	01 44 48.9	-2.0
	baz=312,SNR=18						
U37A	Salina	54.45	75	P	P	01 44 50.6	-0.7
	baz=313,SNR=79						
O41A	Passleys Farm,	54.47	68	P	P	01 44 50.5	-0.8
	baz=312,SNR=117						
N42A	Yates City	54.48	67	P	P	01 44 50.5	-0.9
	baz=312,SNR=14						
Q40A	Laux Farm, Aux	54.52	70	P	P	01 44 50.7	-1.1
	baz=312,SNR=104						
T38A	Diamond	54.52	73	P	P	01 44 50.7	-1.1
	baz=312,SNR=28						
W36A	Wetumka	54.65	76	P	P	01 44 52.5	-0.2
	baz=313,SNR=25						
P41A	Barry, Barry	54.65	69	P	P	01 44 51.8	-0.9
	baz=312,SNR=35						
S39A	Bolivar	54.66	72	P	P	01 44 50.8	-2.0
	baz=312,SNR=36						
X35A	Drake	54.70	78	P	P	01 44 52.9	-0.2
	baz=313,SNR=50						
L44A	Lake County Fo	54.79	65	P	P	01 44 52.9	-0.7
	baz=311,SNR=13						
V37A	Hulbert	54.79	75	P	P	01 44 53.0	-0.8
	baz=313,SNR=41						
GLMI	Grayling	54.86	60	eP	P	01 44 53.8	-0.4
	comp=Z,474nm,1.1s						
GLMI				LR	LR		
	comp=Z,2μm,20.0s						
U38A	Gravette	54.87	74	P	P	01 44 53.2	-1.1
	baz=313,SNR=47						
O42A	Bath	54.87	68	P	P	01 44 53.5	-0.8
	baz=312,SNR=24						
R40A	Maddies Statio	54.87	71	P	P	01 44 52.5	-1.8
	baz=312,SNR=34						
X36A	Centrahoma	54.96	77	P	P	01 44 55.1	+0.1
	baz=313,SNR=21						
Y35A	Marietta	55.00	78	P	P	01 44 55.7	+0.4
	baz=314,SNR=45						
Q41A	Truxton	55.03	70	P	P	01 44 54.6	-0.9
	baz=312,SNR=65						
T39A	Clever	55.07	73	P	P	01 44 54.3	-1.5
	baz=313,SNR=69						
HDIL	Hopedale	55.08	67	P	P	01 44 55.2	-0.6
	baz=312,SNR=42						
HDIL	Hopedale	55.08	67	eP	P	01 44 55.0	-0.8
	comp=Z,310nm,0.9s						
HDIL				LR	LR		
	comp=Z,2μm,21.0s						
W37B	Quinton	55.12	76	P	P	01 44 56.3	+0.1
	baz=313,SNR=50						
P42A	Winchester	55.13	69	P	P	01 44 55.2	-0.9
	baz=312,SNR=28						
S40A	Lebanon	55.20	72	P	P	01 44 54.7	-2.0
	baz=312,SNR=16						
M44A	Midewin, Midew	55.24	66	P	P	01 44 56.3	-0.6
	baz=312,SNR=23						
V38A	Canehill	55.24	75	P	P	01 44 56.3	-0.8
	baz=313,SNR=68						
O43A	Sugar Creek Fa	55.25	67	P	P	01 44 56.2	-0.8
	baz=312,SNR=18						
R41A	Rosebud	55.39	70	P	P	01 44 56.7	-1.3
	baz=312,SNR=81						
U39A	Green Forest	55.44	73	P	P	01 44 57.0	-1.4
	baz=313,SNR=60						
Y36A	Durant	55.46	78	P	P	01 44 58.7	+0.1
	baz=314,SNR=44						
Q42A	Golden Eagle	55.47	69	P	P	01 44 58.0	-0.5
	baz=312,SNR=143						
T40A	Mansfield	55.49	72	P	P	01 44 57.1	-1.7
	baz=313,SNR=47						
X37A	Clayton	55.53	76	P	P	01 44 59.2	+0.1
	baz=314,SNR=46						
P43A	Skaggs, Pawnee	55.56	68	P	P	01 44 58.6	-0.7
	baz=312,SNR=62						
N44A	Piper City	55.58	66	P	P	01 44 58.7	-0.7
	baz=312,SNR=11						
CCM	Cathedral Cave	55.63	71	eP	P	01 44 58.0	-1.8
CCM				e		01 45 58.6	
CCM				pmax	pmax		
	comp=Z,661nm,1.1s						
CCM	Cathedral Cave	55.63	71	eP	P	01 44 58.0	-1.8
	comp=Z,661nm,1.1s						
CCM				ePcP	PcP	01 45 58.6	-0.3
S41A	Jillco Farms,	55.65	71	P	P	01 44 58.2	-1.8
	baz=313,SNR=99						
JCT	Junction City	55.68	83	P	P	01 44 59.7	-0.6
	baz=315,SNR=34						
JCT	Junction City	55.68	83	eP	P	01 44 59.3	-1.0
JCT				e		01 45 59.5	
JCT				pmax	pmax		
	comp=Z,107nm,1.1s						
JCT				MLR	MLR		
	comp=Z,2μm,21.0s						
JCT	Junction City	55.68	83	eP	P	01 44 59.3	-1.0
	comp=Z,107nm,1.1s						
JCT				ePcP	PcP	01 45 59.5	+0.2
JCT				LR	LR		
	comp=Z,2μm,21.0s						
V39A	Pettigrew	55.72	74	P	P	01 44 59.3	-1.2
	baz=313,SNR=36						
W38A	Poteau	55.72	75	P	P	01 45 00.3	-0.1
	baz=313,SNR=53						
R42A	Luebbering	55.74	70	P	P	01 44 59.3	-1.2
	baz=313,SNR=34						
Z36A	Blue Ridge	55.80	78	P	P	01 45 00.9	-0.2
	baz=314,SNR=12						
Y37A	Hugo	55.80	77	P	P	01 45 01.1	0.0
	baz=314,SNR=18						
X38A	Whitesboro	55.81	76	P	P	01 45 01.0	-0.1
	baz=314,SNR=32						
O44A	Mansfield	55.82	67	P	P	01 45 00.3	-0.9
	baz=312,SNR=14						
U40A	Yellville	55.83	73	P	P	01 44 59.8	-1.4
	baz=313,SNR=70						
SCO	Scoresbysund	55.89	12⇑	iP	P	01 45 00.9	-0.2
	comp=Z,141nm,1.0s						
SCO	Scoresbysund	55.89	12⇑	iP	P	01 45 00.9	-0.2
SCO				pmax	pmax		
	comp=Z,140nm,1.0s						
N45A	Kentland	55.90	66	P	P	01 45 01.2	-0.5
	baz=312,SNR=23						
Q43A	New Douglas	55.93	69	P	P	01 45 01.3	-0.6
	baz=313,SNR=76						
T41A	Mountain View	56.01	72	P	P	01 45 00.5	-2.0
	baz=313,SNR=33						
WHTX	Lake Whitney,	56.06	80	P	P	01 45 03.2	+0.2
	baz=314,SNR=17						
WHTX	Lake Whitney,	56.06	80	eP	P	01 45 02.8	-0.1
	comp=Z,341nm,1.4s						
W39A	Magazine	56.07	75	P	P	01 45 02.4	-0.6
	baz=314,SNR=49						
S42A	Caledonia	56.09	70	P	P	01 45 01.6	-1.4
	baz=313,SNR=51						
O45A	Potomac	56.18	66	P	P	01 45 03.2	-0.5
	baz=312,SNR=28						
P44A	Sand Creek, Wi	56.19	68	P	P	01 45 03.4	-0.4
	baz=313,SNR=90						
V40A	Witts Springs	56.23	74	P	P	01 45 02.8	-1.3
	baz=313,SNR=56						
R43A	Red Bud	56.24	69	P	P	01 45 03.2	-0.9
	baz=313,SNR=78						
136A	Ennis	56.29	79	P	P	01 45 04.6	0.0
	baz=314,SNR=9.3						
N46A	Monticello	56.30	65	P	P	01 45 03.8	-0.7
	baz=312,SNR=20						
Z37A	Pogue Cattle C	56.34	78	P	P	01 45 04.7	-0.2
	baz=314,SNR=9.4						
X39A	Fountain Ranch	56.34	76	P	P	01 45 04.7	-0.2
	baz=314,SNR=62						
Q44A	Meyer Farm, Va	56.35	68	P	P	01 45 04.1	-0.8
	baz=313,SNR=43						
Y38A	Idabel	56.37	76	P	P	01 45 04.5	-0.6
	baz=314,SNR=9.8						
U41A	Viola	56.39	72	P	P	01 45 03.6	-1.6
	baz=313,SNR=47						
SFIN	Lafayette	56.45	66	P	P	01 45 05.1	-0.4
	baz=313,SNR=42						
SFIN	Lafayette	56.45	66	eP	P	01 45 05.0	-0.5
	comp=Z,246nm,1.0s						
W40A	Ferguson Farm,	56.50	74	P	P	01 45 05.4	-0.6
	baz=314,SNR=35						
236A	Katherine and	56.62	79	P	P	01 45 07.2	+0.3
	baz=315,SNR=21						
SCHQ	Schefferville	56.63	42	P	P	01 45 06.8	+0.1
	comp=Z,175nm,0.9s,baz=322,slow=7.3,SNR=68						
SCHQ				LR	LR	02 10 33.5	
	comp=Z,2μm,19.6s,baz=318,slow=37						
V41A	Mountainview	56.63	73	P	P	01 45 05.5	-1.5
	baz=314,SNR=81						
S43A	Fulton Ridge,	56.64	70	P	P	01 45 06.0	-0.9
	baz=313,SNR=149						
MIAR	Mount Ida	56.64	75	P	P	01 45 06.8	-0.2
	baz=314,SNR=107						
MIAR	Mount Ida	56.64	75	eP	P	01 45 06.6	-0.4
MIAR				e		01 46 02.6	
MIAR				pmax	pmax		
	comp=Z,305nm,1.2s						
MIAR				MLR	MLR		
	comp=Z,1μm,20.0s						
MIAR	Mount Ida	56.64	75	eP	P	01 45 06.6	-0.4
	comp=Z,305nm,1.2s						
MIAR				ePcP	PcP	01 46 02.6	-0.3
MIAR				LR	LR		
	comp=Z,1μm,20.0s						
TATO	Taipei	56.66	269	PFAKE		01 45 20.0	+13
TATO				LR	LR		
	comp=Z,3μm,22.0s						
137A	Heron Place, G	56.67	78	P	P	01 45 07.4	+0.1
	baz=314						
Z38A	Mt. Pleasant	56.68	77	P	P	01 45 07.1	-0.2
	baz=314						
JMIC	Jan Mayen	56.73	7	LR	LR	02 08 21.1	
	comp=Z,754nm,21.9s,baz=1.5,slow=35						
Y39A	Lockesburg	56.75	76	P	P	01 45 07.3	-0.4
	baz=314,SNR=5.5						
R44A	Waltonville	56.76	69	P	P	01 45 06.8	-0.9
	baz=313,SNR=33						
ZALV	Zalesovo Beam	56.79	317	P	P	01 45 07.2	-0.5
	comp=Z,20nm,0.7s,baz=63,slow=4.0,SNR=47						
ZALV				PcP	PcP	01 46 03.6	+0.5
	comp=Z,54nm,1.0s,baz=46,slow=4.2,SNR=12						
ZALV				ScP	ScP	01 49 59.6	+1.0
	comp=Z,6.5nm,0.9s,baz=30,slow=3.8,SNR=3.9						
ZALV				LR	LR	02 13 20.6	
	comp=Z,976nm,19.0s,baz=50,slow=40						
U42A	Revenden	56.79	72	P	P	01 45 06.2	-1.9
	baz=313,SNR=46						
NVS	Novosibirsk	56.83	318	⇓iP	P	01 45 08.3	+0.3
NVS				i		01 46 04.2	
NVS				iS	S	01 52 57.3	-0.3
NVS				i		01 54 56.0	
NVS				pmax	pmax		
	comp=Z,183nm,1.4s						
NVS				pmax	pmax		
	comp=N,42nm,1.1s						
NVS				pmax	pmax		
	comp=E,64nm,1.3s						
NVS				smax	smax		
	comp=N,84nm,2.1s						
NVS				smax	smax		
	comp=E,32nm,2.3s						
435B	Jarrell	56.83	81	P	P	01 45 08.6	+0.2
	baz=315,SNR=9.2						
T43A	Greenville	56.85	71	P	P	01 45 07.2	-1.3
	baz=313,SNR=173						
P46A	Rosedale	56.90	67	P	P	01 45 08.2	-0.5
	baz=313						
YHNB	Yeheng	56.95	269	PFAKE		01 45 20.0	+11
YHNB				LR	LR		
	comp=Z,2μm,22.0s						
W41B	Gary Mavity, V	57.00	74	P	P	01 45 08.6	-0.9
	baz=314,SNR=60						
S44A	Carbondale	57.03	70	P	P	01 45 08.7	-1.0
	baz=313,SNR=36						
138A	Matatall Enter	57.03	78	P	P	01 45 10.1	+0.3
	baz=314,SNR=13						
237A	Washetta, Mont	57.06	79	P	P	01 45 10.2	+0.2
	baz=315,SNR=10						
AAM	Ann Arbor	57.06	62	eP	P	01 45 09.4	-0.5
AAM				pmax	pmax		
	comp=Z,50nm,0.8s						
AAM				MLR	MLR		
	comp=Z,2μm,20.0s						
AAM	Ann Arbor	57.06	62	eP	P	01 45 09.4	-0.5
	comp=Z,50nm,0.8s						
AAM				LR	LR		
	comp=Z,2μm,20.0s						
O47A	Sheridan	57.06	65	P	P	01 45 08.8	-1.2
	baz=313,SNR=46						
V42A	Cord	57.07	73	P	P	01 45 08.5	-1.6
	baz=314,SNR=26						
X40A	Basin Creek Fa	57.12	75	P	P	01 45 09.8	-0.6
	baz=314,SNR=40						
Z39A	Irene McRaven,	57.18	77	P	P	01 45 10.4	-0.4
	baz=314						
Y40A	Okolona	57.19	75	P	P	01 45 10.3	-0.5
	baz=314,SNR=19						
T44A	Benton	57.25	70	P	P	01 45 10.1	-1.2
	baz=314,SNR=33						
U43A	Rector	57.27	71	P	P	01 45 10.0	-1.4
	baz=314,SNR=31						
X41A	Kaden, Bauxite	57.31	74	P	P	01 45 11.2	-0.5
	baz=314,SNR=24						
436A	Wall Ranch, Ga	57.32	81	P	P	01 45 12.4	+0.5
	baz=315,SNR=13						
W42A	Bald Knob	57.36	73	P	P	01 45 11.2	-0.9
	baz=314,SNR=17						
S45A	Carrier Mills	57.43	69	P	P	01 45 11.7	-0.9
	baz=314,SNR=30						
139A	Bunkhouse Ranc	57.44	77	P	P	01 45 12.8	+0.1
	baz=315,SNR=9.2						
833A	Chaparral WMA,	57.46	85	P	P	01 45 13.1	+0.2
	baz=316,SNR=51						
238A	Jacksonville	57.47	78	P	P	01 45 13.4	+0.5
	baz=315,SNR=7.3						
337A	Centerville	57.49	80	P	P	01 45 13.8	+0.7
	baz=315,SNR=6.4						
P47A	Martinsville	57.52	66	P	P	01 45 12.3	-0.9
	baz=313,SNR=42						
V43A	Jonesboro	57.59	72	P	P	01 45 12.6	-1.1
	baz=314,SNR=5.4						
U44A	Portageville	57.59	71	P	P	01 45 12.9	-0.9
	baz=314,SNR=9.8						
Z40A	Long Farm, Mag	57.64	76	P	P	01 45 14.2	+0.1
	baz=314,SNR=9.5						
536A	Bastrop	57.65	81	P	P	01 45 14.4	+0.3
	baz=315						
Y41A	Eaglette Beard	57.68	75	P	P	01 45 14.2	-0.1
	baz=314,SNR=62						
437A	Phantom Ranch,	57.68	80	P	P	01 45 15.1	+0.7
	baz=315,SNR=9.8						
SADO	Sadowa	57.79	57	LR	LR	02 11 43.8	
	comp=Z,2μm,18.3s,baz=336,slow=38						
SADO	Sadowa	57.79	57	eP	P	01 45 14.7	-0.3
	comp=Z,145nm,1.0s						
X42A	Stuttgart	57.80	74	P	P	01 45 14.7	-0.5
	baz=314,SNR=13						
338A	Crockett	57.81	79	P	P	01 45 15.6	+0.3
	baz=315						
KEV	Kevo	57.82	352	eP	P	01 45 14.0	-0.8
KEV				e		01 46 06.9	
KEV				pmax	pmax		
	comp=Z,35nm,0.8s						
KEV				MLR	MLR		
	comp=Z,1μm,22.0s						
KEV	Kevo	57.82	352	eP	P	01 45 14.0	-0.8
	comp=Z,35nm,0.8s						
KEV				ePcP	PcP	01 46 06.9	0.0
KEV				LR	LR		
	comp=Z,1μm,22.0s						
SSLB	Suanglung	57.85	268	eP	P	01 45 16.9	+1.1
	comp=Z,47nm,0.8s						
239A	Gary	57.86	78	P	P	01 45 15.4	-0.2
	baz=315						
U44B	Burton Farm, H	57.90	71	P	P	01 45 15.3	-0.6
	baz=314,SNR=12						
XAN	Xi'an	57.91	285	SS	SS	01 57 20.8	+17
XAN				pmax	pmax		
	comp=Z,130nm,1.0s						
XAN				pmax	pmax		
	comp=Z,410nm,5.0s						
XAN				LR	LR		
	comp=N,970nm,22.5s						
XAN				LR	LR		
	comp=E,2μm,21.2s						
XAN				LR	LR		
	comp=Z,3μm,22.9s						
NATX	Nacogdoches	57.92	78	P	P	01 45 16.4	+0.3
	baz=315,SNR=11						
NATX	Nacogdoches	57.92	78	eP	P	01 45 16.0	-0.1
	comp=Z,227nm,1.4s						
NATX				LR	LR		
	comp=Z,2μm,20.0s						
V44A	Blytheville	57.94	72	P	P	01 45 15.4	-0.8
	baz=314,SNR=5.1						
140A	Cam and Jess,	57.96	77	P	P	01 45 16.6	+0.2
	baz=315,SNR=6.3						
W43A	Forest City	57.97	73	P	P	01 45 15.5	-0.9
	baz=314						
Z41A	Richland Creek	57.99	76	P	P	01 45 16.6	0.0
	baz=315,SNR=9.3						
933A	Laredo	58.04	85	P	P	01 45 17.4	+0.4
	baz=316,SNR=18						
735A	Kenedy	58.05	83	P	P	01 45 17.8	+0.8
	baz=316						
636A	Smothers Creek	58.07	82	P	P	01 45 17.9	+0.7
	baz=316,SNR=10						
537A	Green Hill Far	58.10	81	P	P	01 45 18.2	+0.8
	baz=315,SNR=7.7						
438A	Sam Houston St	58.14	80	P	P	01 45 18.7	+1.0
	baz=315,SNR=13						
ARCES	ARCESS Array B	58.15	353	P	P	01 45 16.1	-1.0
	comp=Z,22nm,0.6s,baz=11,slow=7.0,SNR=211						
ARCES				PcP	PcP	01 46 08.0	-0.3
	comp=Z,58nm,1.1s,baz=0.0,slow=3.6,SNR=15						
ARCES				LR	LR	02 09 56.2	
	comp=Z,629nm,21.9s,baz=6.0,slow=36						
ARCES				PKPPKP	P'P'df	02 15 01.6	-2.5
	comp=Z,5.2nm,0.8s,baz=161,slow=3.8,SNR=5.3						
ARE0	ARCESS Array S	58.15	353	eP	P	01 45 16.3	-0.9
ARE0				IAmb	IAmb	01 45 17.7	
	comp=Z,35nm,0.8s						
Y42A	Garnett, Star	58.20	75	P	P	01 45 18.0	0.0
	baz=314,SNR=11						
U45A	Rockin P Farm,	58.24	70	P	P	01 45 17.7	-0.5
	baz=314,SNR=18						
X43A	Marvell	58.26	73	P	P	01 45 17.9	-0.6
	baz=314,SNR=9.4						
240A	Hunter Patters	58.27	77	P	P	01 45 18.4	-0.1
	baz=315						
339A	Huntington	58.29	79	P	P	01 45 18.7	+0.1
	baz=315						
WCI	Wyandotte Cave	58.37	67	eP	P	01 45 18.1	-1.0
WCI				pmax	pmax		
	comp=Z,740nm,0.9s						
WCI	Wyandotte Cave	58.37	67	eP	P	01 45 18.1	-1.0
	comp=Z,740nm,0.9s						
141A	Papa Simpson,	58.39	76	P	P	01 45 19.4	+0.1
	baz=315,SNR=6.4						
736A	Circle Diamond	58.44	82	P	P	01 45 20.9	+1.2
	baz=316,SNR=13						
835A	Beeville	58.45	83	P	P	01 45 21.0	+1.2
	baz=316,SNR=10						
TRO	Tromso	58.45	356	eP	P	01 45 22.6	+3.4
W44A	Shelby Farms P	58.46	72	P	P	01 45 19.4	-0.4
	baz=314						
HKT	Hockley	58.49	81	eP	P	01 45 20.0	0.0
HKT				pmax	pmax		
	comp=Z,557nm,1.5s						
HKT	Hockley	58.49	81	eP	P	01 45 19.9	0.0
	comp=Z,557nm,1.5s						
Z42A	Norrel Spur, H	58.50	75	P	P	01 45 19.9	-0.1
	baz=315,SNR=14						
538A	Harpers Horsep	58.50	80	P	P	01 45 21.4	+1.3
	baz=316						
934A	Benavides	58.51	85	P	P	01 45 21.4	+1.1
	baz=316,SNR=17						
439A	Center Grove,	58.54	79	P	P	01 45 21.0	+0.6
	baz=315,SNR=8.5						
637A	Eagle Lake	58.54	81	P	P	01 45 21.3	+0.8
	baz=316						
V45A	Humboldt	58.55	71	P	P	01 45 19.9	-0.5
	baz=314,SNR=23						
340A	Bronson	58.63	78	P	P	01 45 21.0	0.0
	baz=315,SNR=5.3						
Y43A	Makayla and Ka	58.66	74	P	P	01 45 20.9	-0.3
	baz=315						
X44A	Crenshaw	58.71	73	P	P	01 45 21.1	-0.5
	baz=314,SNR=12						
241A	Mo Tay, Goldon	58.79	77	P	P	01 45 22.4	+0.3
	baz=315						
034A	Hebbronville	58.80	85	P	P	01 45 23.2	+0.9
	baz=316,SNR=16						
W45A	Hickory Valley	58.82	72	P	P	01 45 22.0	-0.3
	baz=314,SNR=15						
KTK1	Kautokeino	58.83	354	eP	P	01 45 21.2	-0.7
LVZ	Lovozero	58.84	349	⇓iP	P	01 45 21.3	-0.7
LVZ				pmax	pmax		
	comp=Z,122nm,1.0s						
LVZ	Lovozero	58.84	349	eP	P	01 45 20.8	-1.2
	comp=Z,92nm,0.8s						
LVZ				LR	LR		
	comp=Z,1μm,20.0s						
ACSO	Alum Creek Sta	58.85	63	eP	P	01 45 21.4	-1.0
	comp=Z,36nm,0.8s						
ACSO				ePcP	PcP	01 46 11.7	+0.3
ACSO				LR	LR		
	comp=Z,2μm,21.0s						
KVTX	Kingsville	58.94	84	eP	P	01 45 23.5	+0.3
	comp=Z,80nm,0.9s						
KVTX				LR	LR		
	comp=Z,1μm,21.0s						
Z43A	Armstrong Fami	58.96	75	P	P	01 45 23.0	-0.3
	baz=315						
142A	Monroe	59.01	76	P	P	01 45 23.8	+0.2
	baz=315						
Y44A	Strider, Charl	59.05	73	P	P	01 45 23.6	-0.3
	baz=315,SNR=15						
539A	Cross D Ranch,	59.05	80	P	P	01 45 24.6	+0.7
	baz=316						
440A	Kirbyville	59.06	79	P	P	01 45 24.6	+0.5
	baz=316,SNR=5.7						
638A	Rosharon	59.10	81	P	P	01 45 25.4	+1.1
	baz=316						
341A	Kurthwood	59.13	78	P	P	01 45 24.8	+0.3
	baz=315,SNR=19						
OXF	Oxford	59.14	72	eP	P	01 45 23.6	-0.9
OXF				e		01 46 12.8	
OXF				pmax	pmax		
	comp=Z,645nm,1.1s						
OXF	Oxford	59.14	72	eP	P	01 45 23.6	-0.9
	comp=Z,645nm,1.1s						
OXF				ePcP	PcP	01 46 12.8	0.0
X45A	UM Field Stati	59.21	72	P	P	01 45 24.2	-0.8
	baz=315						
143A	Socs Landing,	59.22	75	P	P	01 45 25.0	-0.1
	baz=315						
242A	Grayson	59.22	76	P	P	01 45 25.1	-0.1
	baz=315,SNR=10						
035A	Encino	59.25	85	P	P	01 45 26.3	+1.0
	baz=317,SNR=11						
APA	Apatity	59.30	349	⇓iP	P	01 45 24.5	-0.7
APA				pmax	pmax		
	comp=Z,11nm,1.0s						
APA				MLR	MLR		
	comp=Z,1μm,18.0s						
738A	Farr-Stevens R	59.39	81	P	P	01 45 25.6	-0.7
	baz=316						
HEF	Hetta	59.39	354	eP	P	01 45 25.0	-0.8
Z44A	Pea Ridge, Bel	59.40	74	P	P	01 45 25.9	-0.4
	baz=315,SNR=8.4						
GTA	Gaotai	59.45	296	P	P	01 45 29.3	+2.5
GTA				pP	pP	01 45 42.0	+2.3
GTA				sP	sP	01 45 47.5	+2.5
GTA				ScP	ScP	01 50 13.0	+2.2
GTA				S	S	01 53 32.5	0.0
GTA				sS	sS	01 53 55.0	+0.8
GTA				ScS	ScS	01 55 10.5	-2.5
GTA				pmax	pmax		
	comp=Z,39nm,1.0s						
GTA				pmax	pmax		
	comp=Z,200nm,5.7s						
GTA				LR	LR		
	comp=Z,2μm,19.5s						
GTA				LR	LR		
	comp=Z,1μm,20.0s						
GTA				LR	LR		

comp=Z,2μm,18.1s
Y45A Yeager Farm, C 59.51 73 P P 01 45 26.6 -0.5
baz=315,SNR=21
441A DeRidder 59.52 78 P P 01 45 27.7 +0.5
baz=316
342A Flagon Creek P 59.60 77 P P 01 45 28.0 +0.3
baz=315,SNR=10
035Z Hargill 59.61 85 P P 01 45 28.4 +0.5
baz=317,SNR=7.3
243A Waterproof 59.75 76 P P 01 45 29.1 +0.3
baz=315,SNR=8.9
M54A Oil Creek Stat 59.77 60 P P 01 45 28.7 -0.1
baz=314,SNR=18
Z45A Winona 59.77 73 P P 01 45 28.5 -0.4
baz=315,SNR=7.8
144A Alexander Plac 59.86 75 P P 01 45 29.5 0.0
baz=315,SNR=5.7
Y46A Houston 59.90 73 P P 01 45 29.3 -0.5
baz=315,SNR=59
N54A Moraine State 59.98 61 P P 01 45 30.0 -0.2
baz=315,SNR=21
442A Mamou 60.01 78 P P 01 45 31.3 +0.8
baz=316
VBMS Vicksburg 60.09 75 P P 01 45 31.1 0.0
baz=315,SNR=8.6
244A Avery, Jackson 60.12 75 P P 01 45 31.3 +0.1
baz=316,SNR=47
145A Houston Renfro 60.17 74 P P 01 45 31.4 -0.3
baz=315,SNR=5.1
ENH Enshi 60.22 282 *e*P **P 01 45 31.1 -1.0**
comp=Z,169nm,1.1s
ENH LR LR
comp=Z,1μm,22.0s
LONY Lake Ozonia 60.23 55 *e*P **P 01 45 31.0 -1.0**
comp=Z,73nm,1.0s
LONY LR LR
comp=Z,1μm,20.0s
STEI Steigen 60.30 357 *e*P **P 01 45 31.0 -0.9**
Z46A Louisville 60.34 73 P P 01 45 32.6 -0.2
baz=315,SNR=22
542A Morse 60.36 78 P P 01 45 33.2 +0.3
baz=316
443A Delano Plantat 60.37 77 P P 01 45 33.7 +0.7
baz=316
Y47A UCPARC, Winfie 60.48 72 P P 01 45 33.1 -0.7
baz=315,SNR=102
344A Westbrook Farm 60.51 76 P P 01 45 34.2 +0.3
baz=316,SNR=11
245A Little AP, Sta 60.60 75 P P 01 45 34.2 -0.3
baz=316,SNR=9.3
146A Union 60.67 74 P P 01 45 34.8 -0.2
baz=316,SNR=37
FUNA Funafuti 60.79 190 PFAKE 01 45 50.0 +14
FUNA LR LR
comp=Z,4μm,20.0s
543A St. Martinvill 60.80 78 P P 01 45 37.0 +1.0
baz=316
Z47A Carrollton 60.85 73 P P 01 45 35.6 -0.7
baz=316,SNR=59
444A Pine Grove 61.02 76 P P 01 45 38.1 +0.6
baz=316,SNR=5.2
Z48A Northport 61.03 72 P P 01 45 36.5 -1.0
baz=316,SNR=74
345A Thompson Farm, 61.03 75 P P 01 45 37.7 +0.1
baz=316,SNR=7.8
246A Jackson Lee, B 61.06 74 P P 01 45 37.7 0.0
baz=316
147A Livingston 61.10 73 P P 01 45 37.6 -0.4
baz=316,SNR=44
544A White Castle 61.21 77 P P 01 45 39.5 +0.8
baz=316
O56A Blue Knob Stat 61.23 61 P P 01 45 38.6 -0.3
baz=315,SNR=18
445A Amite 61.26 76 P P 01 45 39.5 +0.4
baz=316,SNR=5.0
SEM Semipalatinsk 61.29 316 *e*P **P 01 45 37.2 -2.1**
comp=Z,290nm,1.0s
SEM *e*S **S 01 53 55.2 -0.8**
SEM LR LR 02 12 24.0
comp=Z,388nm,20.4s
346A Big Creek Wild 61.31 75 P P 01 45 39.1 -0.3
baz=316,SNR=13
SSPA Standing Stone 61.34 60 *e*P **P 01 45 39.5 0.0**
comp=Z,736nm,1.0s
BORG Borgarnes 61.34 14 *e*P **P 01 45 39.9 +0.8**
BORG pmax pmax
comp=Z,258nm,1.1s
BORG Borgarnes 61.34 14 *e*P **P 01 45 39.9 +0.8**
comp=Z,258nm,1.1s
247A Quitman 61.35 74 P P 01 45 39.7 0.0
baz=316,SNR=19
ZSN Zaisan 61.41 311 *i* P **P 01 45 39.4 -0.5**
comp=Z,766nm,1.1s
ZSN *e*S **S 01 53 59.2 +2.0**
LRAL Lakeview Retre 61.60 72 *e*P **P 01 45 39.8 -1.5**
comp=Z,81nm,1.0s
KURK Kurchatov 61.75 317*c i*P **P 01 45 41.5 -0.6**
KURK pmax pmax
comp=Z,810nm,1.1s
KURK Kurchatov 61.75 317 *e*P **P 01 45 41.9 -0.2**
comp=Z,2μm,1.0s
KURK P'P' 02 14 47.3
KURK LR LR
comp=Z,3μm,19.0s
KURK Kurchatov 61.75 317 P P 01 45 42.1 0.0
SNR=76
KURK Kurchatov 61.75 317 P P 01 45 42.1 0.0
SNR=76
446A Poplarville 61.80 75 P P 01 45 42.7 0.0
baz=316,SNR=11
248A Dixon Mills 61.83 73 P P 01 45 42.8 -0.2
baz=316,SNR=51
347A Saraland 61.85 74 P P 01 45 43.1 +0.1
baz=316,SNR=29
KURBB Kurchatov Arra 61.86 317 P P 01 45 42.8 -0.1
comp=Z,124nm,0.8s,baz=42,slow=7.1,SNR=206
KURBB PKPPKP P'P'df 02 14 47.3 -10
comp=Z,0.8nm,0.2s,baz=249,slow=3.1,SNR=4.5
TMCR Tamitsa 61.92 346 *e*P **P 01 45 42.2 -0.8**
TMCR pmax pmax
comp=Z,63nm,1.0s
STOK Stokkvaagen 61.96 358 *e*P **P 01 45 43.8 +0.5**
546A Slidell 61.99 76 P P 01 45 44.1 +0.2
baz=316
645A Chauvin 62.02 77 P P 01 45 45.5 +1.3
baz=316
MOR8 Moi Rana 62.08 357 *e*P **P 01 45 42.0 -2.1**
MOR8 IVmB_BB 01 45 42.9
comp=Z,761nm,1.6s
SOKR Solikamsk 62.13 335*c i*P **P 01 45 42.3 -2.1**
SOKR S **S 01 54 06.6 +0.9**
SOKR pmax pmax
comp=Z,59nm,1.0s
447A Lucedale 62.22 75 P P 01 45 45.6 +0.1
baz=316,SNR=13
348A Jackson 62.22 74 P P 01 45 45.6 0.0
baz=316,SNR=25
N59A State Game Lan 62.26 58 P P 01 45 45.9 +0.1
baz=316,SNR=14
PKME Peaks-Kenny Pk 62.38 51 *e*P **P 01 45 46.0 -0.4**
comp=Z,246nm,1.1s
PKME LR LR
comp=Z,4μm,21.0s
646A Port Sulphur 62.39 77 P P 01 45 48.2 +1.5
baz=317
BLA Blacksburg 62.39 64 *e*P **P 01 45 46.6 -0.1**
BLA pmax pmax
comp=Z,310nm,0.9s
BLA MLR MLR
comp=Z,2μm,20.0s
BLA Blacksburg 62.39 64 *e*P **P 01 45 46.6 -0.1**
comp=Z,310nm,0.9s
BLA LR LR
comp=Z,2μm,20.0s
448A Bay Minette 62.59 74 P P 01 45 48.1 +0.1
baz=316
WMQ Urumqi 62.70 307 P **P 01 45 48.5 -0.1**
WMQ pP sP 01 46 10.3 +3.4
WMQ PcP **PcP 01 46 28.0 +1.0**
WMQ PP **PP 01 48 08.0 +1.6**
WMQ ScP **ScP 01 50 25.8 +0.7**
WMQ S **S 01 54 12.5 -1.1**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,400nm,3.7s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,1μm,19.3s
BRAL Brewton 62.91 73 *e*P **P 01 45 49.7 -0.4**
comp=Z,449nm,1.2s
BRAL LR LR
comp=Z,1μm,21.0s
MK31 Makanchi Array 63.08 312 P **P 01 45 50.1 -1.0**
MK31 pmax pmax
comp=Z,37nm,0.6s
MKAR Makanchi Array 63.08 312 P **P 01 45 50.5 -0.5**
comp=Z,27nm,0.4s,baz=49,slow=7.3,SNR=370
MKAR LR LR 02 17 08.9
comp=Z,732nm,18.9s,baz=32,slow=40
CD2 Chengdu 63.20 287 P **P 01 45 51.8 -0.3**
CD2 PcS 01 50 28.8
CD2 S **S 01 54 20.0 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,3μm,18.9s
CD2 LR LR
comp=Z,1μm,23.8s
CD2 LR LR
comp=Z,2μm,18.9s
BVA0 Borovoye Array 63.22 323 P **P 01 45 51.7 -0.2**
BVA0 pmax pmax
comp=Z,113nm,0.8s
BVAR Borovoye Array 63.22 323 PKPPKP P'P'df 02 14 39.2 -16
comp=Z,1.0nm,0.8s,baz=202,slow=3.1,SNR=4.7
BVAR LR LR 02 17 05.5
comp=Z,964nm,18.4s,baz=50,slow=40
BRVK Borovoye 63.23 323 *e*P **P 01 45 51.5 -0.5**
BRVK *e*S **S 01 54 14.7 -5.2**
BRVK pmax pmax
comp=Z,460nm,1.2s
BRVK MLR MLR
comp=Z,701nm,19.0s
BRVK Borovoye 63.23 323 *e*P **P 01 45 51.5 -0.5**
comp=Z,460nm,1.2s
BRVK *e*S **S 01 54 14.7 -5.2**
BRVK LR LR
comp=Z,701nm,19.0s
BRVK Borovoye 63.23 323 P **P 01 45 51.9 -0.1**
SNR=52
BRVK Borovoye 63.23 323 P **P 01 45 51.9 -0.1**
SNR=52
CBN Corbin Frederi 63.35 62 *e*P **P 01 45 53.3 +0.3**
comp=Z,240nm,1.0s
CBN LR LR
comp=Z,2μm,19.0s
KMSC Kings Mountain 63.36 66 P **P 01 45 52.9 -0.2**
baz=316,SNR=130
KMSC Kings Mountain 63.36 66 *e*P **P 01 45 52.6 -0.5**
comp=Z,357nm,1.0s
SVE Sverdlovsk 63.38 331⇓ *e*P **P 01 45 52.8 -0.1**
SVE pmax pmax
comp=Z,98nm,1.3s
GOGA Godfrey 63.39 69 *e*P **P 01 45 52.1 -1.2**
GOGA pmax pmax
comp=Z,198nm,1.0s
GOGA MLR MLR
comp=Z,2μm,21.0s
GOGA Godfrey 63.39 69 *e*P **P 01 45 52.1 -1.2**
comp=Z,198nm,1.0s
GOGA LR LR
comp=Z,2μm,21.0s
ARU Arti 64.33 332 P **P 01 45 58.7 -0.5**
comp=Z,47nm,0.6s,baz=7.5,slow=1.8,SNR=88
ARU PKPPKP P'P'df 02 14 41.9 -12
comp=Z,1.7nm,0.3s,baz=281,slow=5.2,SNR=4.3
ARU LR LR 02 17 19.8
comp=Z,562nm,19.1s,baz=34,slow=39
ARU Arti 64.33 332*c i*P **P 01 45 58.5 -0.6**
ARU 01 46 32.1
ARU 01 48 22.6
ARU PPP PPP 01 49 51.8
ARU S **S 01 54 34.4 +0.9**
ARU 01 55 44.2
ARU SS **SS 01 58 43.8 +1.1**
ARU pmax pmax
comp=Z,157nm,1.7s
ARU Arti 64.33 332 *e*P **P 01 45 58.3 -0.8**
comp=Z,74nm,0.8s
ARU P'P' 02 14 41.9
GYA Guiyang 64.69 281 P **P 01 46 04.0 +1.9**
GYA pP sP 01 46 19.3 -1.1
GYA sP pP 01 46 25.0 +10
GYA PP **PP 01 48 29.5 +5.0**
GYA ScP 01 50 34.5
GYA S **S 01 54 38.3 -0.7**
GYA SKS **SKSac 01 55 50.0 -2.8**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.2s
GYA LR LR
comp=Z,710nm,18.8s
GYA LR LR
comp=Z,680nm,19.0s
GYA LR LR
comp=Z,670nm,18.9s
TIGA Tifton 64.75 71 P **P 01 46 01.2 -1.0**
baz=317,SNR=15
TIGA Tifton 64.75 71 *e*P **P 01 46 01.1 -1.1**
comp=Z,219nm,1.4s
BRZS Berezniki 64.75 320 *i* P **P 01 46 00.6 -1.4**
comp=Z,189nm,1.3s
KLMR Klimovskoe 64.79 344 *e*P **P 01 46 00.6 -1.4**
KLMR *e* 01 46 34.6
KLMR pmax pmax
comp=Z,54nm,1.4s
TBLU Trondheim 65.10 359 *e*P **P 01 46 02.6 -1.3**
CNNC Cliffs of the 65.23 64 *e*P **P 01 46 05.4 +0.1**
comp=Z,337nm,1.6s
CNNC LR LR
comp=Z,2μm,20.0s
NHSC New Hope 65.50 67 *e*P **P 01 46 07.3 +0.3**
comp=Z,775nm,1.0s
NHSC LR LR
comp=Z,2μm,21.0s
AFI Afiamalu 65.62 180 LR LR 02 10 41.4
comp=Z,322nm,19.1s,baz=32,slow=32
MOL Molde 65.79 0 *e*P **P 01 46 08.4 0.0**
MOL IVmB_BB 01 46 08.6
comp=Z,948nm,1.2s
HNR Honiara 65.90 211 PFAKE 01 46 20.0 +10
HNR LR LR
comp=Z,538nm,19.0s
FINES FINESS Array B 66.05 351 P **P 01 46 08.6 -1.5**
comp=Z,30nm,0.7s,baz=7.6,slow=7.4,SNR=85
FINES PKPPKP P'P'df 02 14 38.3 -13
comp=Z,4.9nm,1.0s,baz=64,slow=3.2,SNR=6.0
FINES LR LR 02 14 49.2
comp=Z,570nm,21.6s,baz=26,slow=36
FINES FINESS Array B 66.05 351 *i* P **P 01 46 09.0 -1.1**
FINES pmax pmax
comp=Z,30nm,0.7s
TDK Taldygorghan 66.20 313 *e*P **P 01 46 10.0 -1.5**
comp=Z,349nm,1.0s
TDK *i* S **S 01 54 56.4 -0.4**
TDK LRM MLR 02 15 27.5
comp=Z,312nm,18.0s
TAOE Nuku Hiva Isla 66.33 146 *e*S **S 01 55 00.0 +1.1**
comp=Z,150nm,25.8s
TAOE Nuku Hiva Isla 66.33 146 *e*LR LR 02 06 30.5
comp=Z,1μm,22.9s,baz=347
TAOE Nuku Hiva Isla 66.33 146 *e*T T 02 58 35.5
comp=Z,68nm,0.2s
PDGK Podgornoye 67.00 311 P **P 01 46 16.6 -0.1**
PDGK pmax pmax
comp=Z,201nm,1.0s
NB2 NORSAR Subarra 67.30 359 P **P 01 46 17.5 -0.8**
comp=Z,124nm,1.2s,baz=1.9,slow=6.2
NB2 NORSAR Subarra 67.30 359 P **P 01 46 17.5 -0.8**
baz=1.9,slow=6.2
NOA NORSAR Array B 67.30 359 P **P 01 46 17.4 -0.8**
comp=Z,33nm,0.9s,baz=0.9,slow=6.3,SNR=44
NOA PKPPKP P'P'df 02 14 40.5 -8.6
comp=Z,5.0nm,0.9s,baz=174,slow=2.7,SNR=4.9
NOA LR LR 02 15 08.5
comp=Z,397nm,21.6s,baz=0.0,slow=35
UZB Uzynbulak 67.36 312 *e*P **P 01 46 17.2 -1.8**
comp=Z,445nm,1.1s
ZHN Zhinishke 67.61 312 *e*P **P 01 46 18.9 -1.7**
comp=Z,318nm,1.1s
ZHN *e*S **S 01 55 13.6 -0.5**
DAV Davao City (W) 67.91 252 PFAKE 01 46 40.0 +17
DAV LR LR
comp=Z,906nm,20.0s
KMI Kunming 68.05 283 P **P 01 46 24.5 +0.8**
KMI pP sP 01 46 42.8 +0.7
KMI sP PcP 01 46 50.3 +0.7
KMI PP **PP 01 48 58.0 +4.1**
KMI S **S 01 55 19.0 -0.9**
KMI pmax pmax
comp=Z,100nm,1.2s
KMI LR LR
comp=Z,480nm,28.5s
KMI LR LR
comp=Z,570nm,29.7s
KMI LR LR
comp=Z,1μm,29.7s
BTLS Baital 68.09 316 *i* P **P 01 46 21.6 -1.8**
comp=Z,581nm,1.0s
BTLS *i* S **S 01 55 19.2 -0.3**
HFS Hagfors 68.16 357 LR LR 02 15 31.6
comp=Z,251nm,21.7s,baz=4.5,slow=35
MDOK Medeo 68.25 313 *i* P **P 01 46 22.9 -1.7**
comp=Z,690nm,1.2s
MDOK *e*S **S 01 55 21.2 -0.5**
MDOK LRM MLR 02 19 01.9
comp=Z,279nm,18.0s
QIZ Qiongzhong 68.26 273 P **P 01 46 26.0 +1.2**
QIZ S **S 01 55 26.3 +4.2**
QIZ sS **sS 01 55 45.5 +1.3**
QIZ pmax pmax
comp=Z,16nm,1.1s
QIZ LR LR
comp=Z,780nm,22.3s
QIZ LR LR
comp=Z,770nm,22.3s
QIZ LR LR
comp=Z,1μm,23.5s
QIZ Qiongzhong 68.26 273 PFAKE 01 46 40.0 +15
QIZ LR LR
comp=Z,1μm,22.0s
DWPF Disney Wildern 68.46 72 *e*P **P 01 46 25.9 0.0**
comp=Z,966nm,1.4s
KONO Kongsberg 68.72 359 *e*P **P 01 46 27.7 +0.7**
KONO *e*S **S 01 55 30.5 +4.1**
KONO Kongsberg 68.72 359*ce*P **P 01 46 25.6 -1.4**
KONO pmax pmax
comp=Z,780nm,1.2s
VSU Vasula 68.91 350*c i*P **P 01 46 27.2 -1.0**
VSU pmax pmax
comp=Z,407nm,1.0s
FRU Bishkek 69.60 314⇑ *i*P **P 01 46 33.0 +0.1**
FRU *i* 01 46 55.5
FRU pmax pmax
comp=Z,450nm,1.8s
FRU MLR MLR
comp=E,700nm,20.0s
MLA1 Latheron 69.65 7⇑ *e*P **P 01 46 32.4 -0.4**
AKTO Aktyubinsk 69.65 329 LR LR 02 20 14.0
comp=E,537nm,20.2s,baz=25,slow=39
AKTO Aktyubinsk 69.65 329 P **P 01 46 32.4 -0.6**
AKTO pmax pmax
comp=Z,104nm,0.8s
AAK Ala-Archa 69.81 314 P **P 01 46 34.5 +0.2**
comp=Z,124nm,0.8s,baz=74,slow=3.1,SNR=246
AAK Ala-Archa 69.81 314*c i*P **P 01 46 34.8 +0.4**
AAK pmax pmax
comp=Z,523nm,1.0s
AAK Ala-Archa 69.81 314 *e*P **P 01 46 34.5 +0.2**
comp=Z,192nm,0.9s
AAK LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 69.81 314 P **P 01 46 34.8 +0.4**
SNR=86
AAK Ala-Archa 69.81 314 P **P 01 46 34.8 +0.4**
SNR=86
RRR Rubha Reidh 69.90 8 *e*P **P 01 46 33.9 -0.4**
MOS Moscow 69.96 343 *e*P **P 01 46 32.6 -2.2**
MOS *e* 01 46 56.1
MOS *e* 01 49 07.5
MOS pmax pmax
comp=Z,106nm,1.5s
MOS pmax pmax
comp=N,75nm,1.2s
MOS MLR MLR
comp=Z,1μm,18.0s
MSVF Nonsavu 70.01 191 PFAKE 01 46 50.0 +14
MSVF LR LR
comp=Z,940nm,21.0s
AB31 Akbulak array 70.04 327 P **P 01 46 34.7 -0.7**
AB31 pmax pmax
comp=Z,16nm,0.5s
ABKAR Akbulak array 70.04 327 *e*P **P 01 46 34.8 -0.5**
comp=Z,17nm,0.4s
KAC Achnashellach 70.30 8 *e*P **P 01 46 36.2 -0.6**
MCD Coleburn Disti 70.37 7 *e*P **P 01 46 37.1 -0.2**
KPL Plockton 70.42 8⇑ *e*P **P 01 46 37.3 -0.3**
KPL IAmb IAmb 01 46 38.3
comp=Z,41nm,0.9s
MDO Dochfour 70.43 7⇑ *e*P **P 01 46 37.3 -0.4**
KSB Sheil Bridge 70.57 8⇑ *e*P **P 01 46 38.8 +0.3**
MME1 Meikle Cairn 70.66 7 *e*P **P 01 46 38.3 -0.8**
PMG Port Moresby 70.67 224⇓ *e*P **P 01 46 39.9 +0.3**
PMG pmax pmax
comp=Z,111nm,1.2s
PMG Port Moresby 70.67 224 *e*P **P 01 46 39.6 +0.1**
comp=Z,69nm,1.2s
PMG LR LR
comp=Z,1μm,20.0s
OBN Obninsk 70.74 343*c i*P **P 01 46 37.7 -1.8**
OBN pmax pmax
comp=Z,67nm,1.2s
OBN MLR MLR
comp=Z,737nm,23.0s
OBN Obninsk 70.74 343 *e*P **P 01 46 38.7 -0.9**
comp=Z,95nm,1.4s
OBN LR LR
comp=Z,727nm,22.0s
MNAS Manas 70.81 315 P **P 01 46 40.4 0.0**
MNAS pmax pmax
comp=Z,90nm,1.1s
DIBR DIBRUGARH 70.93 290 *e*P **P 01 46 40.9 -0.3**
DRUM Mains of Drumt 71.09 6⇑ *e*P **P 01 46 41.0 -0.7**
DRUM IAmb IAmb 01 46 42.7
comp=Z,236nm,1.0s
KK31 Karatay Array 71.16 317 *i* P **P 01 46 42.0 -0.4**
KK31 pmax pmax
comp=Z,100nm,1.0s
KKAR Karatay Array 71.16 317 *e*P **P 01 46 41.8 -0.6**
KKAR pmax pmax
comp=Z,106nm,0.9s
KKAR Karatay Array 71.16 317 *e*P **P 01 46 41.8 -0.6**
comp=Z,106nm,0.9s
LSA Lhasa 71.39 294 P **P 01 46 46.0 +1.5**
LSA pmax pmax
comp=Z,160nm,1.1s
LSA Lhasa 71.39 294 *e*P **P 01 46 46.1 +1.5**
LSA pmax pmax
comp=Z,390nm,1.1s
LSA MLR MLR
comp=Z,839nm,20.0s
LSA Lhasa 71.39 294 *e*P **P 01 46 46.1 +1.5**
comp=Z,390nm,1.1s
LSA LR LR
comp=Z,839nm,20.0s
EDU Dundee 71.42 7⇑ *e*P **P 01 46 43.1 -0.5**
ZIRO ZIRO 71.50 291 *e*P **P 01 46 46.0 +1.1**
BRLS Borolday 71.51 317 *i* P **P 01 46 44.7 +0.2**
comp=Z,14nm,1.3s
KSH Kashi 71.63 311 P **P 01 46 49.0 +3.6**
KSH pP PcP 01 47 06.0 +1.6
KSH PcP **sP 01 47 08.0 +4.1**
KSH sP pP 01 47 12.5 +14
KSH PP **PP 01 49 31.0 +6.8**
KSH S **S 01 56 01.5 +0.2**
KSH SKS **SKSac 01 56 42.5 -2.5**
KSH ScS **ScS 01 56 46.5 -0.3**
KSH SS **SS 02 00 40.3 +4.0**
KSH pmax pmax
comp=Z,170nm,0.9s
KSH pmax pmax
comp=Z,200nm,5.8s

KSH LR LR
comp=Z,380nm,15.7s
KSH LR LR
comp=Z,670nm,15.1s
KSH LR LR
comp=Z,1μm,18.2s
EAB Aberfoyle 71.68 7⇑eP P 01 46 45.1 -0.1
JORH JORHAT 71.86 290 eP **P 01 46 48.0 +1.2**
JORH AMB AMB 01 46 49.2
comp=Z,203nm,1.5s
PPT Papeete 71.86 158 LR LR 02 09 49.4
comp=Z,374nm,20.9s,baz=355,slow=29
ITAN ITANAGAR 71.86 291 eP **P 01 46 48.4 +1.6**
PPT2 Papeete2 71.88 158 eS **SKiKP 01 56 12.8 -7.6**
comp=Z,196nm,32.2s
PPT2 eSS SS 02 00 53.2 +11
comp=Z,130nm,28.5s
PPT2 eLR LR 02 08 23.2
comp=Z,1μm,30.8s,baz=343
PPT2 Papeete2 71.88 158 eT T 03 05 28.5
comp=Z,8.0nm,0.3s
TIAR Tiarei 71.91 158 eT T 03 05 30.0
comp=Z,7.4nm,0.2s
MUD Monsted U'grnd 71.92 360⇑iP **P 01 46 47.1 +0.5**
comp=Z,111nm,1.1s
MUD Monsted U'grnd 71.92 360⇑iP **P 01 46 47.1 +0.5**
MUD pmax pmax
comp=Z,110nm,1.1s
PAE Paea 71.95 158 eT T 03 05 33.4
comp=Z,1.4nm,0.2s
EDI Edinburgh 72.03 7 eP **P 01 46 46.5 -0.8**
EDI IAmb IAmb 01 46 48.0
comp=Z,76nm,1.0s
MOKO MOKOCHONG 72.03 290 eP **P 01 46 47.1 -0.9**
PGBU Glenifferbraes 72.04 8⇑eP **P 01 46 47.0 -0.4**
PGBU IAmb IAmb 01 46 48.2
comp=Z,157nm,1.0s
ESY Stoneypath 72.07 7⇑eP **P 01 46 47.4 -0.2**
IUG Iuzhnay 72.15 317 iP **P 01 46 46.9 -1.5**
comp=Z,808nm,1.2s
CHM Chimkent 72.19 317 eP **P 01 46 47.2 -1.4**
comp=Z,974nm,0.9s
CHM eS **S 01 56 07.2 -0.2**
FAKI Fak Fak 72.31 241 eP **P 01 46 49.8 +0.3**
comp=Z,41nm,1.0s
NACGM Naroch 72.39 349 e **P 01 46 49.0 -0.5**
NACGM eLR LR 02 13 38.0
EKA Eskdalemuir Ar 72.62 7 LR LR 02 18 43.1
comp=Z,262nm,19.3s,baz=340,slow=36
GCL Cushendall 72.62 9 eP **P 01 46 49.8 -1.0**
ESK Eskdalemuir 72.63 7 eP **P 01 46 50.6 -0.2**
ESK IAmb IAmb 01 46 51.8
comp=Z,116nm,1.0s
ESK Eskdalemuir 72.63 7 eP **P 01 46 50.7 -0.2**
ESK pmax pmax
comp=Z,111nm,1.0s
ESK MLR MLR
comp=Z,718nm,19.0s
ESK Eskdalemuir 72.63 7 eP **P 01 46 50.7 -0.2**
comp=Z,111nm,1.0s
ESK LR LR
comp=Z,718nm,19.0s
COP Copenhagen 72.64 358 iP **P 01 46 51.4 +0.4**
comp=Z,121nm,1.3s
COP Copenhagen 72.64 358 iP **P 01 46 51.4 +0.4**
COP pmax pmax
comp=Z,120nm,1.3s
MICGM Minsk 72.65 348⇓eP **P 01 46 50.0 -1.0**
MICGM PM 01 46 51.0
comp=Z,0.2nm,1.0s
MICGM eLR LR 02 16 50.0
MNK Minsk 72.65 348⇓eP **P 01 46 50.0 -1.0**
MNK pmax pmax
comp=Z,210nm,1.0s
LPSR Galich'ya Gora 72.68 341 eP **P 01 46 50.6 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
TEZP TEZPUR 72.80 291 eP **P 01 46 52.7 +0.3**
TEZP AMB AMB 01 46 53.7
comp=Z,100nm,1.0s
BHH Howats Hill 72.85 7 eP **P 01 46 51.6 -0.6**
PANO Nakornpanom 72.91 276 P **P 01 46 55.1 +1.9**
comp=Z,104nm,1.0s
LLD Lille Linde 73.00 358 iP **P 01 46 54.5 +1.4**
LLD Lille Linde 73.00 358 iP **P 01 46 54.5 +1.4**
LBMI Labuha 73.04 246 P P 01 47 00.2 +6.3
BSD Bornholm Skovb 73.13 356⇑iP **P 01 46 53.6 -0.3**
comp=Z,39nm,1.0s
BSD Bornholm Skovb 73.13 356⇑iP **P 01 46 53.6 -0.3**
BSD pmax pmax
comp=Z,39nm,1.0s
EDMD Edmundbyers 73.20 6⇑eP **P 01 46 53.9 -0.4**
EDMD IAmb IAmb 01 46 55.1
comp=Z,110nm,1.0s
LCP Cassop 73.33 6 eP **P 01 46 55.3 +0.2**
KESW Keswick, Cumbr 73.36 7⇑eP **P 01 46 54.9 -0.3**
KESW IAmb IAmb 01 46 56.2
comp=Z,112nm,0.9s
GMM Mts of Mourne 73.47 9⇑eP **P 01 46 55.1 -0.8**
SUW Suwalki 73.66 351 eP **P 01 46 55.5 -1.5**
SUW Suwalki 73.66 351 eP **P 01 46 55.5 -1.5**
GUWA GUWAHATI 73.76 292 eP **P 01 46 58.0 0.0**
UBPT Khong Chiam 73.81 274 P **P 01 47 01.6 +3.2**
comp=Z,55nm,1.8s
VSR Storozhevoye 73.94 340 iP **P 01 46 57.9 -0.8**
VSR pmax pmax
comp=Z,76nm,0.8s
HPK Haverah Park 74.09 6⇑eP **P 01 46 59.5 0.0**
HPK IAmb IAmb 01 47 00.5
comp=Z,231nm,1.4s
SHL Shillong 74.13 291 eP **P 01 47 00.1 -0.4**
SHL AMB AMB 01 47 01.4
comp=Z,147nm,1.8s
CMAI Chiengmai2 74.19 282 P **P 01 47 01.9 +1.0**
comp=Z,715nm,1.7s
KKM Kota Kinabalu 74.34 260 eP **P 01 47 02.1 +0.4**
comp=Z,42nm,1.1s
KKM LR LR
comp=Z,1μm,21.0s
DSB Dublin 74.41 9 eP **P 01 47 00.8 -0.6**
comp=Z,57nm,0.9s
WME Myndd Eilian 74.45 8 eP **P 01 47 01.1 -0.5**
MSAI Masohi 74.47 243 P **P 01 47 04.4 +2.1**
LHO Holmfirth 74.49 6⇑eP **P 01 47 01.4 -0.5**
BBSR BB Station 74.52 57 PFAKE 01 47 10.0 +7.6
BBSR LR LR
comp=Z,1μm,21.0s
WLF1 Llynfaes 74.55 8 eP **P 01 47 01.4 -0.7**
WLF1 IAmb IAmb 01 47 02.7
comp=Z,225nm,1.2s
KHON Khomkaen 74.63 277 P **P 01 47 04.2 +1.0**
comp=Z,47nm,0.9s,comp=Z,5μm
GTK Tadong 74.65 295 eP **P 01 47 04.1 +0.7**
GTK AMB AMB 01 47 05.6
comp=Z,125nm,1.1s
GKP Gorka Klasztor 74.86 355 eP **P 01 47 03.7 -0.3**
GKP Gorka Klasztor 74.86 355 eP **P 01 47 03.7 -0.3**
DHUB DHUBRI 74.86 293 eP **P 01 47 04.4 0.0**
LAMP Lampang 74.91 281 P **P 01 47 06.0 +1.2**
comp=Z,12nm,1.1s,comp=Z,132nm
STNC Stoke 74.92 7 eP **P 01 47 04.6 +0.3**
STNC IAmb IAmb 01 47 05.5
comp=Z,181nm,0.9s
UTTA Uttaradit 74.94 280 P **P 01 47 05.6 +0.6**
comp=Z,18nm,0.9s,comp=Z,168nm
TURI Tura 75.03 292 eP **P 01 47 05.6 +0.1**
TURI AMB AMB 01 47 06.9
comp=Z,127nm,1.1s
FOEL Foel Wylfa 75.04 7⇑eP **P 01 47 05.2 +0.1**
FOEL IAmb IAmb 01 47 06.2
comp=Z,194nm,1.0s
LLW Llanuwychllyn 75.04 8⇑eP **P 01 47 05.0 -0.1**
SANI Sanana 75.06 247 P **P 01 47 04.9 -0.7**
CHTO Chiang Mai 75.11 281 P **P 01 47 06.5 +0.5**
comp=Z,249nm,1.5s,comp=Z,4μm
CHTO Chiang Mai 75.11 281 eP **P 01 47 06.1 +0.1**
CHTO pmax pmax
comp=Z,41nm,1.0s
CHTO MLR MLR
comp=Z,572nm,21.0s
CHTO Chiang Mai 75.11 281 eP **P 01 47 06.1 +0.1**
comp=Z,41nm,1.0s
CHTO LR LR
comp=Z,572nm,21.0s
CHTO Chiang Mai 75.11 281 P **P 01 47 06.5 +0.5**
SNR=18
CHTO Chiang Mai 75.11 281 P **P 01 47 06.5 +0.5**
SNR=18
TAPN Taplejung 75.13 295 eP **P 01 47 07.0 +0.6**
comp=Z,691nm,1.1s
IWEX Carrickbyrne, 75.23 10 eP **P 01 47 06.3 +0.2**
VAL Valentia 75.26 12 eP **P 01 47 07.9 +1.6**
MRSI Marisa 75.34 251 P **P 01 47 07.4 +0.1**
CMAR Chiang Mai Arr 75.38 281 P **P 01 47 08.3 +0.8**
comp=Z,30nm,0.6s,baz=26,slow=7.0,SNR=63
CMAR PKiKP **PKiKP 01 52 56.7 +0.5**
comp=Z,1.3nm,0.3s,baz=350,slow=3.7,SNR=4.5
CMAR PKPPKP **P'P'df 02 14 25.9 -6.2**
comp=Z,1.0nm,0.3s,baz=257,slow=3.2,SNR=6.3
CMAR LR LR 02 21 14.2
comp=Z,549nm,21.6s,baz=54,slow=36
NLAI Namlea 75.40 245 P **P 01 47 11.1 +3.5**
HLM1 Long Mynd 75.43 7⇑eP **P 01 47 07.3 0.0**
HLM1 IAmb IAmb 01 47 07.7
comp=Z,69nm,1.2s
WACR West Acre 75.46 5 eP **P 01 47 07.7 +0.2**
WACR IAmb IAmb 01 47 08.6
comp=Z,398nm,0.9s
CHAI Chaiyaphum 75.48 277 P **P 01 47 09.2 +1.1**
comp=Z,11nm,0.9s,comp=Z,370nm
PBKT Sadao Pong 75.59 278 P **P 01 47 09.3 +0.6**
comp=Z,41nm,0.8s,comp=Z,2μm
ODAN Odare 75.69 295 eP **P 01 47 10.0 +0.5**
comp=Z,453nm,1.5s
GUN Gumba 75.71 297 eP **P 01 47 10.4 +0.6**
JIRN Jiri 75.73 297 eP **P 01 47 10.7 +0.8**
MCH1 Michaelchurch 75.94 7 eP **P 01 47 09.5 -0.7**
MCH1 IAmb IAmb 01 47 11.1
comp=Z,109nm,1.0s
BEL Belsk 76.03 352 eP **P 01 47 10.7 0.0**
BEL Belsk 76.03 352 eP **P 01 47 10.7 0.0**
RAMN Ramite 76.06 296 eP **P 01 47 12.0 +0.4**
comp=Z,1μm,1.0s
LUWI Luwuk 76.08 250 P **P 01 47 10.9 -0.6**
LUWI Luwuk 76.08 250 eP **P 01 47 10.5 -1.0**
comp=Z,195nm,1.1s
MONM Monmouth 76.11 7 eP **P 01 47 11.2 0.0**
MONM IAmb IAmb 01 47 12.2
comp=Z,120nm,1.0s
KKN Kakani 76.13 297 eP **P 01 47 12.5 +0.5**
BELO BELONIA 76.16 290 eP **P 01 47 13.7 +1.8**
AKASG Malin Array Be 76.19 347 P **P 01 47 10.0 -1.6**
comp=Z,3.4nm,0.3s,baz=16,slow=5.8,SNR=78
AKASG PKiKP **PKiKP 01 52 55.4 -1.1**
comp=Z,0.2nm,0.3s,baz=338,slow=0.4,SNR=2.7
AKASG PKPPKP **P'P'df 02 14 28.4 -4.9**
comp=Z,0.2nm,0.3s,baz=222,slow=1.9,SNR=6.0
AKASG LR LR 02 22 07.2
comp=Z,888nm,21.8s,baz=10.0,slow=37
KIEV Kiev 76.19 347c iP **P 01 47 09.8 -1.9**
KIEV pmax pmax
comp=Z,41nm,0.9s
KIEV Kiev 76.19 347 eP **P 01 47 10.5 -1.2**
comp=Z,44nm,1.0s
KIEV LR LR
comp=Z,1μm,21.0s
DZM Mont Dzumac 76.21 201 eP **P 01 47 12.6 +0.5**
comp=Z,44nm,1.1s
STRD Stroud 76.23 7⇑eP **P 01 47 11.8 0.0**
STRD IAmb IAmb 01 47 12.9
comp=Z,251nm,1.1s
PKI Pulchoki 76.23 297 eP **P 01 47 13.0 +0.3**
comp=Z,589nm,1.2s
PKIN Phulchoki 76.23 297 eP **P 01 47 12.8 +0.1**
HGH Gray Hill 76.31 7⇑eP **P 01 47 12.2 -0.1**
GKN Gorkha 76.32 298 eP **P 01 47 13.3 +0.3**
DMN Daman 76.37 297 eP **P 01 47 13.9 +0.5**
WTSB Winterswijk 76.41 1 iP **P 01 47 12.9 0.0**
comp=Z,97nm,1.0s
COEN Coen 76.45 225 eP **P 01 47 13.0 -0.5**
comp=Z,39nm,1.3s
DANN Dangsing 76.52 299 eP **P 01 47 15.5 +1.2**
comp=Z,66nm,1.0s
APSI Ampana 76.63 251 P **P 01 47 16.5 +1.9**
MPSI Mapaga 76.66 253 P **P 01 47 14.9 +0.1**
HTL Hartland 76.81 8 eP **P 01 47 15.6 +0.5**
HTL IAmb IAmb 01 47 16.1
comp=Z,56nm,1.0s
SRAK Srakaew 76.89 276 P **P 01 47 15.2 -1.0**
comp=Z,302nm,0.8s,comp=Z,2μm
CLL Collm 77.01 357⇑iP **P 01 47 16.0 -0.3**
CLL eS **S 01 57 02.0 +1.1**
CLL pmax pmax
comp=Z,84nm,1.1s
CLL MLR MLR
comp=Z,500nm,19.8s
CLL Collm 77.01 357⇑iP **P 01 47 16.0 -0.3**
comp=Z,84nm,1.1s
CLL ePP PP 01 50 18.0 +8.8
CLL eS **S 01 57 02.0 +1.1**
CLL eSS **SS 02 02 06.0 +9.0**
CLL eSSS SSS 02 05 30.0
CLL eSSSS 02 07 48.0
CLL LmV 02 31 00.0
comp=Z,500nm,19.8s
CLL LmV 07 21 00.0
comp=Z,100nm,18.8s
KOLN Koldanda 77.07 298 eP **P 01 47 17.6 +0.3**
PYUN Piuthan 77.14 299 eP **P 01 47 18.2 +0.5**
UTHA Uthaitani 77.30 279 P **P 01 47 19.7 +1.3**
comp=Z,14nm,1.1s,comp=Z,142nm
DHRM DHARAMSHALA 77.30 306 eP **P 01 47 18.5 0.0**
KSP Ksiaz 77.33 355 eP **P 01 47 18.0 -0.1**
KSP Ksiaz 77.33 355 eP **P 01 47 18.0 -0.1**
BRG Berggiesshubel 77.41 356 iP **P 01 47 18.4 -0.2**
comp=Z,111nm,1.1s
BRG e 01 47 28.6
comp=Z,22nm,1.1s
BRG e 01 47 39.3
comp=Z,53nm,1.5s
BRG e 01 47 55.9
comp=Z,24nm,1.1s
comp=N,495nm,20.8s
comp=E,339nm,21.8s
comp=Z,465nm,20.5s
BRG Berggiesshubel 77.41 356 iP **P 01 47 18.4 -0.2**
BRG e 01 47 28.5
BRG pmax pmax
comp=Z,111nm,1.1s
BRG MLR MLR
comp=N,495nm,20.8s
BRG MLR MLR
comp=E,339nm,21.8s
BRG MLR MLR
comp=Z,465nm,20.5s
DYA Yadsworthy 77.42 8 eP **P 01 47 17.6 -1.0**
TBI Tubuai 77.47 159 eS S 01 57 17.8 +12
comp=Z,414nm,29.2s
TBI eSS SS 02 02 17.5 +11
comp=Z,218nm,28.5s
TBI eLR LR 02 11 08.0
comp=Z,890nm,24.8s,baz=344
TBI Tubuai 77.47 159 eT T 03 12 26.6
comp=Z,23nm,0.2s
UCC Uccle 77.53 3 P **P 01 47 19.4 +0.2**
comp=Z,26nm,1.5s
BEBN Eben Emael 77.57 2 P **P 01 47 19.3 -0.1**
comp=Z,31nm,1.2s
HGN Heimansgroeve 77.60 2 eP **P 01 47 19.5 -0.1**
comp=Z,143nm,1.1s
UPC Upice 77.68 355⇑iP **P 01 47 20.0 -0.1**
UPC AMS AMS 02 26 10.0
comp=Z,500nm,19.0s
UPC Upice 77.68 355⇑iP **P 01 47 20.0 -0.1**
UPC MLR MLR
comp=Z,500nm,19.0s
PCI Palu 77.69 252 P **P 01 47 24.6 +4.0**
comp=Z,59nm,1.1s,comp=Z,908nm
MENF Mencas 77.69 4⇑eP **P 01 47 18.7 -1.4**
LVV L'vov 77.71 350 eP **P 01 47 22.0 +1.8**
MOX Moxa 77.71 358 P **P 01 47 20.4 +0.1**
OJC Ojcow 77.72 353 eP **P 01 47 19.9 -0.5**
OJC Ojcow 77.72 353 eP **P 01 47 19.8 -0.5**
PVCC Panska Ves 77.73 356⇑eP **P 01 47 20.7 +0.4**
PVCC AMS AMS 02 26 30.0
comp=Z,400nm,21.6s
PVCC Panska Ves 77.73 356 eP **P 01 47 20.7 +0.4**
PVCC MLR MLR
comp=Z,400nm,21.6s
MEM Membach 77.76 2 P **P 01 47 20.7 +0.2**
comp=Z,68nm,1.3s
SMLA Simla 77.77 305 eP **P 01 47 20.7 -0.1**
SNF Seneffe 77.82 3 P **P 01 47 21.3 +0.5**
DPC Dobruska-Polom 77.82 355⇑iP **P 01 47 21.2 +0.3**
DPC AMS AMS 02 27 30.0
comp=Z,500nm,20.9s
DPC Dobruska-Polom 77.82 355⇑iP **P 01 47 21.2 +0.3**
DPC MLR MLR
comp=Z,500nm,20.9s
BHK Bhakra 77.92 306 eP **P 01 47 21.2 -0.5**
BCLA Clavier 77.94 2 P **P 01 47 21.9 +0.4**
comp=Z,76nm,1.5s
DDI Dehra Dun 77.97 304 eP **P 01 47 21.8 -0.3**
DDI eP **P 01 47 22.1 +0.1**
RAC Raciborz 77.97 354 eP **P 01 47 21.9 +0.2**
KWP Kalwaria Pacla 78.03 351 eP **P 01 47 21.8 -0.3**
KWP Kalwaria Pacla 78.03 351 eP **P 01 47 21.8 -0.3**
KRLC Kraliky 78.07 355⇑iP **P 01 47 22.4 +0.1**
KRLC Kraliky 78.07 355⇑iP **P 01 47 22.4 +0.1**
NKC Novy Kostel 78.10 357⇑iP **P 01 47 23.2 +0.7**
NKC AMS AMS 02 29 20.0
comp=Z,500nm,22.3s
NKC Novy Kostel 78.10 357⇑iP **P 01 47 23.2 +0.7**
NKC MLR MLR
comp=Z,500nm,22.3s
PRA Prague 78.19 356⇑eP **P 01 47 23.5 +0.6**
PRA Prague 78.19 356 eP **P 01 47 23.5 +0.6**
OKC Ostrava-Krasne 78.22 354⇑AMS AMS 02 30 10.0
comp=Z,500nm,17.5s
DOU Dourbes 78.24 3 P **P 01 47 23.3 +0.1**
comp=Z,68nm,1.4s
GIVF Givet 78.24 2 eP **P 01 47 22.4 -0.8**
GIVF pmax pmax
comp=Z,136nm,1.1s
BAIF Baives 78.27 3 eP **P 01 47 22.7 -0.6**
BAIF pmax pmax
comp=Z,114nm,1.0s
PRU Pruhonice 78.27 356⇑iP **P 01 47 23.4 0.0**
PRU epP **PcP 01 47 32.6 0.0**
PRU eS **S 01 57 12.2 -2.4**
PRU ex x 02 02 57.7
PRU AMS AMS 02 27 10.0
comp=Z,600nm,20.8s
PRU Pruhonice 78.27 356⇑iP **P 01 47 23.4 0.0**
PRU e 01 47 32.6
PRU eS **S 01 57 12.2 -2.4**
PRU MLR MLR
comp=Z,600nm,20.8s
MORC Moravsky Berou 78.32 354⇑iP **P 01 47 23.5 -0.2**
MORC Moravsky Berou 78.32 354 eP **P 01 47 23.4 -0.2**
MORC pmax pmax
comp=Z,300nm,1.2s
MORC Moravsky Berou 78.32 354 eP **P 01 47 23.4 -0.3**
comp=Z,300nm,1.2s
GOPC GO Pecny, Ondr 78.33 356⇑eP **P 01 47 23.7 0.0**
GOPC AMS AMS 02 26 40.0
comp=Z,600nm,22.6s
GOPC GO Pecny, Ondr 78.33 356 eP **P 01 47 23.7 0.0**
GOPC MLR MLR
comp=Z,600nm,22.6s
STHS Stebnicka Huta 78.39 352 eP **P 01 47 24.5 +0.4**
STHS pmax pmax
comp=Z,40nm,1.1s
STHS Stebnicka Huta 78.39 352 eP **P 01 47 24.5 +0.4**
GTBY Guantanamo Bay 78.41 73 eP **P 01 47 24.8 +0.3**
comp=Z,137nm,1.4s
GTBY LR LR
comp=Z,1μm,20.0s
SRDT SRDT 78.43 278 P **P 01 47 25.4 +0.7**
comp=Z,264nm,0.8s,comp=Z,4μm
PATY Pattaya 78.46 276 P **P 01 47 26.7 +1.8**
comp=Z,17nm,1.0s
NIE Niedzica 78.47 352 eP **P 01 47 24.2 -0.3**
NIE Niedzica 78.47 352 eP **P 01 47 24.2 -0.3**
KDI Kendari 78.53 248 P **P 01 47 27.3 +2.1**
GRFO Grafenberg 78.67 358 eP **P 01 47 25.8 +0.2**
GRFO pmax pmax
comp=Z,196nm,1.1s
GRFO Grafenberg 78.67 358 eP **P 01 47 25.8 +0.2**
comp=Z,196nm,1.1s
WLF Walferdange 78.71 2 P **P 01 47 26.3 +0.6**
comp=Z,54nm,1.7s
WLF Walferdange 78.71 2 eP **P 01 47 26.0 +0.2**
WLF pmax pmax
comp=Z,107nm,1.4s
WLF MLR MLR
comp=Z,994nm,20.0s
WLF Walferdange 78.71 2 eP **P 01 47 26.0 +0.2**
comp=Z,107nm,1.4s
WLF LR LR
comp=Z,994nm,20.0s
LANS Liptovska Anna 78.81 353 eP **P 01 47 27.4 +1.0**
LANS Liptovska Anna 78.81 353 eP **P 01 47 27.4 +1.0**
GOF Gofitskoye 78.84 336⇑eP **P 01 47 26.5 -0.1**
GOF eS **S 01 57 23.2 +2.4**
GOF pmax pmax
comp=Z,353nm,1.0s
GOF smax smax
comp=N,97nm,1.3s
GOF smax smax
comp=E,92nm,1.5s
VRAC Vranov 78.84 355 PKPPKP 02 14 23.4
comp=E,3.8nm,1.0s,baz=222,slow=2.8,SNR=3.9
VRAC Vranov 78.84 355⇑iP **P 01 47 27.0 +0.4**
CRVS Cervenica-Dubn 78.88 351 eP **P 01 47 26.9 +0.2**
CRVS Cervenica-Dubn 78.88 351 eP **P 01 47 26.9 +0.2**
TREC Trest 78.92 355⇑eP **P 01 47 27.3 +0.3**
TREC ePCP **PcP 01 47 34.6 -0.9**
TREC AMS AMS 02 25 40.0
comp=E,500nm,18.6s
TREC Trest 78.92 355 eP **P 01 47 27.3 +0.3**
TREC e 01 47 34.6
TREC MLR MLR
comp=Z,500nm,18.6s
BOK Bokaro 78.92 294 eP **P 01 47 28.1 +0.7**
BOK AMB AMB 01 47 29.3
comp=Z,205nm,1.3s
UZH Uzhgorod 79.07 351⇓iP **P 01 47 26.8 -0.9**
UZH e 01 47 34.4
UZH e*PP **pP 01 47 42.0 +0.8**
UZH eS **S 01 57 18.6 -4.5**
UZH eSP **SKSac 01 57 37.2 -2.2**
UZH ePS **PnS 01 57 58.4 -12**
KHC Kasperske Hory 79.17 357⇑iP **P 01 47 28.8 +0.4**
KHC ex x 01 47 48.0
KHC eS **S 01 57 25.2 +0.9**
KHC ex x 02 03 02.6
KHC AMS AMS 02 25 10.0
comp=Z,600nm,20.9s
KHC Kasperske Hory 79.17 357⇑iP **P 01 47 28.8 +0.4**
KHC eS **S 01 57 25.2 +0.9**
KHC MLR MLR
comp=Z,600nm,20.9s
KHC Kasperske Hory 79.17 357 eP **P 01 47 28.6 +0.2**
comp=Z,59nm,1.3s
WET Wettzell 79.18 357 P **P 01 47 28.6 +0.2**
PHET Kaeng Krachan 79.23 277 P **P 01 47 30.8 +1.7**
comp=Z,23nm,0.9s,comp=Z,278nm
KECS Kecovo 79.38 352 eP **P 01 47 29.3 -0.2**
KECS pmax pmax
comp=Z,22nm,1.1s
KECS Kecovo 79.38 352 eP **P 01 47 29.3 -0.2**
LANF Langenberg 79.41 0 eP **P 01 47 30.2 +0.5**
TTSI Tana Toraja 79.42 251 P **P 01 47 30.8 +0.7**
GERES GERESS Array B 79.45 356 P **P 01 47 29.7 -0.3**
comp=Z,28nm,0.9s,baz=20,slow=4.3,SNR=163
GERES PKKPbc **PKKPbc 02 06 15.4 -1.1**
comp=Z,1.3nm,0.9s,baz=168,slow=0.9,SNR=6.5
GERES PKPPKP **P'P'df 02 14 21.3 -6.2**
comp=Z,0.9nm,0.9s,baz=223,slow=4.0,SNR=5.8
GRTK Grand Turk 79.50 69 PFAKE 01 47 40.0 +10
GRTK LR LR
comp=Z,2μm,22.0s
VYHS Vyhne 79.51 353 eP **P 01 47 30.3 +0.1**
VYHS pmax pmax
comp=Z,35nm,1.2s
VYHS Vyhne 79.51 353 eP **P 01 47 30.3 +0.1**
LDF La Druitiere 79.53 6 eP **P 01 47 29.1 -1.2**
LDF pmax pmax
comp=Z,142nm,1.1s
MAK Makhachkala 79.57 332 eP **P 01 47 30.8 +0.3**
MAK e 01 50 30.7
MAK eS **S 01 57 29.3 +0.7**
MAK eSS **SS 02 02 34.6 -1.2**
MAK eSSS SSS 02 05 57.2
MAK pmax pmax

comp=Z,229nm,1.5s
SMOL Smolenice 79.58 354 *eP* **P 01 47 31.3 +0.7**
SMOL Smolenice 79.58 354 *eP* **P 01 47 31.3 +0.7**
STU Stuttgart 79.62 359 *eP* **P 01 47 30.9 +0.2**
STU pmax pmax
comp=Z,165nm,1.3s
STU Stuttgart 79.62 359 *eP* **P 01 47 30.9 +0.2**
comp=Z,165nm,1.3s
GRR Gorron 79.69 6 *eP* **P 01 47 30.2 -0.9**
GRR pmax pmax
comp=Z,167nm,1.1s
NDI New Delhi 79.72 304 *eP* **P 01 47 32.0 +0.4**
BURAR Bucovina Array 79.74 349⇑ *iP* **P 01 47 30.9 -0.7**
BURAR Bucovina Array 79.74 349 P **P 01 47 30.9 -0.7**
STR Strasbourg 79.81 0 *eP* **P 01 47 32.1 +0.3**
GROC Groznyy 79.83 333 *eP* **P 01 47 32.0 0.0**
GROC *e* 01 47 39.8
GROC *e*S **S 01 57 31.9 +0.5**
GROC pmax pmax
comp=Z,70nm,1.5s
KIS Kishinev 79.86 346⇑ *iP* **P 01 47 31.0 -1.1**
comp=Z,200nm,1.4s
KIS *e*LR LR 02 22 38.0
comp=Z,800nm,16.0s
KIS Kishinev 79.86 346*a iP* **P 01 47 31.0 -1.1**
KIS *e* 01 57 30.0
KIS pmax pmax
comp=Z,200nm,1.4s
KIS pmax pmax
comp=Z,200nm,1.0s
PRAR RASCA 79.86 348⇓ *iP* **P 01 47 31.2 -0.9**
BMR Baia Mare 79.89 350⇑ *iP* **P 01 47 32.1 -0.1**
JTS JuntasAbangare 79.89 86 *eP* **P 01 47 33.8 +1.0**
JTS pmax pmax
comp=Z,2.0nm,0.7s
JTS JuntasAbangare 79.89 86 *eP* **P 01 47 33.8 +1.0**
comp=Z,2.0nm,0.7s
KIV Kislovodsk 79.96 336*c iP* **P 01 47 32.7 -0.1**
KIV pmax pmax
comp=Z,79nm,1.0s
KIV MLR MLR
comp=Z,652nm,20.0s
KIV Kislovodsk 79.96 336 *eP* **P 01 47 32.9 +0.1**
comp=Z,77nm,1.0s
KIV LR LR
comp=Z,657nm,21.0s
KIV Kislovodsk 79.96 336 P **P 01 47 33.0 +0.2**
SNR=10
KIV Kislovodsk 79.96 336 P **P 01 47 33.0 +0.2**
SNR=10
CDF Champ du Feu 79.98 1 *eP* **P 01 47 32.1 -0.7**
CDF pmax pmax
comp=Z,75nm,1.1s
QUIF Quistinic 79.98 8 *eP* **P 01 47 32.9 +0.2**
QUIF pmax pmax
comp=Z,162nm,1.5s
PSZ Piszkesteto 79.99 352⇓ *iP* **P 01 47 32.7 -0.2**
PSZ Piszkesteto 79.99 352 *eP* **P 01 47 33.1 +0.2**
PSZ pmax pmax
comp=Z,90nm,1.4s
PSZ MLR MLR
comp=Z,787nm,22.0s
PSZ Piszkesteto 79.99 352⇑ *eP* **P 01 47 33.3 +0.4**
PSZ Piszkesteto 79.99 352 *eP* **P 01 47 33.1 +0.2**
comp=Z,90nm,1.4s
PSZ LR LR
comp=Z,787nm,22.0s
BFO Black Forest 80.06 0 *iP* **P 01 47 33.6 +0.4**
BFO Black Forest 80.06 0 *eP* **P 01 47 33.2 0.0**
comp=Z,92nm,1.3s
BFO LR LR
comp=Z,492nm,19.0s
KBZ Khabaz 80.12 335 P **P 01 47 33.8 +0.3**
comp=Z,24nm,0.9s,baz=26,slow=2.7,SNR=38
KBZ LR LR 02 26 39.2
comp=Z,624nm,21.3s,baz=24,slow=38
THEF They Montfort 80.14 2⇑ *eP* **P 01 47 34.0 +0.4**
NCK Nalchik 80.15 335⇑ *eP* **P 01 47 34.3 +0.5**
NCK pmax pmax
comp=Z,185nm,1.1s
ECH Echery 80.17 1⇑ *eP* **P 01 47 34.1 +0.3**
ECH Echery 80.17 1 *eP* **P 01 47 33.5 -0.3**
ECH pmax pmax
comp=Z,117nm,1.1s
ECH MLR MLR
comp=Z,568nm,20.0s
ECH Echery 80.17 1 *eP* **P 01 47 33.5 -0.3**
comp=Z,117nm,1.1s
ECH LR LR
comp=Z,568nm,20.0s
SPSI Sidrap Palu 80.19 251 P **P 01 47 34.3 0.0**
CONA Conrad Observa 80.26 355 *iP* **P 01 47 34.9 +0.6**
comp=Z,114nm,1.1s,SNR=55
BNSI Bone 80.34 250 P **P 01 47 39.6 +4.5**
ARCR ARCALIA 80.37 349⇓ *iP* **P 01 47 35.2 +0.3**
ANN Anapa 80.40 340 *eP* **P 01 47 32.2 -2.8**
ANN *e*S **S 01 57 34.8 -2.5**
ANN pmax pmax
comp=Z,147nm,1.7s
ANN MLR MLR
comp=Z,600nm,23.0s
MOA Molln 80.42 356 *iP* **P 01 47 35.2 +0.1**
comp=Z,41nm,1.1s,SNR=23
LEOM Leova 80.45 346⇑ *iP* **P 01 47 36.0 +0.7**
BUD Budapest 80.50 353 P **P 01 47 36.5 +1.0**
BUD Budapest 80.50 353⇑ *eP* **P 01 47 36.0 +0.5**
GEYT Alibeck 80.53 322 P **P 01 47 36.0 +0.1**
comp=Z,40nm,0.9s,baz=344,slow=4.8,SNR=92
GEYT PP **PP 01 50 38.3 -0.6**
comp=Z,16nm,1.1s,baz=352,slow=4.4,SNR=6.4
GEYT LR LR 02 28 59.6
comp=Z,645nm,18.9s,baz=260,slow=40
MOF Molkenrain 80.53 1 *eP* **P 01 47 35.5 -0.3**
HINF Hinteralfeld 80.57 1 *eP* **P 01 47 35.0 -1.0**
HINF pmax pmax
comp=Z,62nm,1.1s
NEY Neytrino 80.61 335⇓ *iP* **P 01 47 37.3 +0.8**
NEY pmax pmax
comp=Z,13nm,1.7s
TESR Tescani 80.64 347⇑ *iP* **P 01 47 36.0 -0.3**
CTAO Charters Tower 80.66 220 *eP* **P 01 47 36.1 -0.5**
CTAO pmax pmax
comp=Z,461nm,1.4s
CTAO MLR MLR
comp=Z,783nm,21.0s
CTAO Charters Tower 80.66 220 *eP* **P 01 47 36.1 -0.5**
comp=Z,461nm,1.4s
CTAO LR LR
comp=Z,783nm,21.0s
CSKK Cs̈̈tkako 80.67 353⇑ *eP* **P 01 47 37.2 +0.7**
ZEI Tsey 80.73 334 *eP* **P 01 47 34.8 -2.3**
ZEI pmax pmax
comp=Z,36nm,1.1s
CJR Cluj-Napoca 80.82 350⇑ *iP* **P 01 47 38.0 +0.7**
DRGR 80.84 350⇑ *iP* **P 01 47 37.1 -0.4**
DRGR 80.84 350 P **P 01 47 37.0 -0.4**
RETA Reutte 80.89 358 *iP* **P 01 47 38.1 +0.4**
comp=Z,79nm,1.1s,SNR=35
SIM Simferopol' 80.94 342*ceP* **P 01 47 38.2 +0.3**
SIM *e*S **S 01 57 47.0 +4.0**
SIM pmax pmax
comp=Z,66nm,1.1s
ARSA Arzberg 80.96 355 *iP* **P 01 47 38.6 +0.6**
comp=Z,64nm,1.1s,SNR=31
WATA Walderalm 81.02 358 *iP* **P 01 47 39.3 +0.8**
comp=Z,136nm,1.2s,SNR=30
MOTA Moosalm 81.02 358 *iP* **P 01 47 38.8 +0.3**
comp=Z,150nm,1.1s,SNR=71
LOMF Lomont 81.03 1 *eP* **P 01 47 38.3 -0.2**
ONI Oni 81.04 335 P **P 01 47 39.1 +0.5**
ONI Oni 81.04 335 P **P 01 47 39.1 +0.5**
ZKTA Zakatala 81.04 332 P **P 01 47 37.0 -1.6**
KAPI Kappang 81.05 250 *eP* **P 01 47 39.0 +0.2**
comp=Z,34nm,1.1s
KAPI LR LR
comp=Z,216nm,21.0s
KAPI Kappang 81.05 250 P **P 01 47 39.6 +0.7**
SNR=5.5
KAPI Kappang 81.05 250 P **P 01 47 39.6 +0.7**
SNR=5.5
RAO Raoul Island 81.08 186 PFAKE 01 47 50.0 +11
RAO LR LR
comp=Z,1μm,19.0s
WTTA Wattenberg 81.09 358 *iP* **P 01 47 40.1 +1.1**
comp=Z,121nm,1.3s,SNR=28

DAVA Damuels 81.10 359 *iP* **P 01 47 39.6 +0.6**
comp=Z,69nm,1.1s,SNR=16
KBA Koelnbreinsper 81.23 357 P **P 01 47 40.4 +0.8**
KBA Koelnbreinsper 81.23 357 *iP* **P 01 47 40.5 +0.9**
comp=Z,218nm,1.0s,SNR=81
SEKA Sheki 81.27 331 P **P 01 47 38.2 -1.6**
VRI Vrincioaia 81.27 347⇑ *iP* **P 01 47 39.2 -0.5**
VRI Vrincioaia 81.27 347 P **P 01 47 39.2 -0.5**
PLOR Plostina 81.29 347⇑ *iP* **P 01 47 40.7 +0.9**
PETR Petresti 81.34 347⇑ *iP* **P 01 47 41.5 +1.5**
DOPR Dopca 81.34 348⇑ *iP* **P 01 47 40.6 +0.5**
RKT Rikitea 81.35 146 *eT* T 03 17 21.1
comp=Z,4.9nm,0.3s
FETA Feichten 81.35 358 *iP* **P 01 47 40.9 +0.6**
comp=Z,172nm,1.1s,SNR=64
SDDR Presa de Saban 81.39 70 *eP* **P 01 47 40.8 0.0**
comp=Z,110nm,1.5s
SDDR LR LR
comp=Z,1μm,22.0s
SIRR Siria 81.47 351⇑ *iP* **P 01 47 41.3 +0.6**
TBLG Delisi 81.49 333 P **P 01 47 41.3 +0.3**
TBLG Delisi 81.49 333 P **P 01 47 41.2 +0.3**
AVF Avril sur Loir 81.51 4 *eP* **P 01 47 39.2 -1.7**
AVF pmax pmax
comp=Z,156nm,1.1s
KSM Kuching 81.54 262 *eP* **P 01 47 41.8 +0.3**
comp=Z,26nm,1.0s
KSM LR LR
comp=Z,423nm,22.0s
SOKA Soboth 81.55 355 *iP* **P 01 47 41.5 +0.2**
comp=Z,129nm,1.1s,SNR=74
DGRG David-gareji 81.57 333 P **P 01 47 42.0 +0.5**
DGRG David-gareji 81.57 333 P **P 01 47 41.9 +0.5**
ABTA Abfaltersbach 81.58 357 *iP* **P 01 47 41.6 +0.2**
comp=Z,122nm,1.3s,SNR=36
PERS Pernice 81.59 355 *iP* **P 01 47 41.6 +0.2**
TLCR 81.63 346⇑ *iP* **P 01 47 41.8 +0.3**
BEHE Becsehely 81.66 354⇑ *eP* **P 01 47 42.2 +0.5**
MYKA Terra Mystica 81.66 356 *iP* **P 01 47 41.7 -0.1**
comp=Z,46nm,1.3s,SNR=18
MNGR Mingechevir, A 81.70 331 P **P 01 47 40.6 -1.4**
GRER 81.71 347⇑ *iP* **P 01 47 43.7 +1.7**
CFR Carcaliu 81.74 346⇑ *iP* **P 01 47 42.7 +0.6**
MLR Muntele Rosu 81.74 348⇑ *iP* **P 01 47 43.8 +1.5**
OBKA Obir 81.75 356 *iP* **P 01 47 42.4 +0.1**
comp=Z,49nm,1.0s,SNR=21
VOIR 81.91 348⇑ *iP* **P 01 47 44.0 +0.8**
TUE Stuetta 81.92 359 *eP* **P 01 47 43.8 +0.4**
comp=Z,174nm,1.3s
TUE LR LR
comp=Z,521nm,22.0s
STKI Sintang 81.93 260 P **P 01 47 44.0 +0.4**
ISR Istrita 82.02 347⇑ *iP* **P 01 47 44.3 +0.6**
ARR Arges 82.03 349⇑ *iP* **P 01 47 44.2 +0.4**
GANJ Ganja 82.04 332 P **P 01 47 42.3 -1.6**
LOT Lotru 82.05 349⇓ *iP* **P 01 47 44.0 0.0**
MTUR Matau 82.11 348⇑ *iP* **P 01 47 46.4 +2.2**
BZS Buzias 82.12 351⇓ *iP* **P 01 47 43.3 -0.8**
AKH Akhalkalaki 82.13 334⇑ *iP* **P 01 47 45.2 +0.7**
PGOR Pogoanele 82.17 347⇑ *iP* **P 01 47 46.0 +1.6**
SECR 82.17 347⇑ *iP* **P 01 47 45.8 +1.4**
AGO Saint Agoulin 82.23 4⇑ *eP* **P 01 47 45.7 +0.9**
EPOS Posof 82.24 335 *iP* **P 01 47 45.7 +0.6**
HARR Harsova 82.25 346⇑ *iP* **P 01 47 45.5 +0.7**
PLDF La Plantade 82.34 3 *eP* **P 01 47 46.1 +0.7**
SOEI Soe 82.34 244 P **P 01 47 47.5 +1.7**
SOEI Soe 82.34 244 *eP* **P 01 47 45.5 -0.3**
comp=Z,110nm,1.1s
TIRR Tirgusor 82.40 346⇑ *iP* **P 01 47 46.5 +0.9**
VISS Visnje 82.44 355 *iP* **P 01 47 45.1 -0.8**
SULR 82.50 347⇑ *iP* **P 01 47 46.8 +0.7**
VERF Verneugheol 82.51 4 *eP* **P 01 47 46.8 +0.5**
PYM Petit Puy Mans 82.53 4⇑ *eP* **P 01 47 47.2 +0.8**
TRI Trieste 82.58 356 P **P 01 47 46.6 +0.1**
DBOC Borcka 82.67 335 *iP* **P 01 47 47.1 0.0**
RSL Roselend 82.69 1⇑ *eP* **P 01 47 48.1 +0.7**
BOJS Bojanci 82.71 355 *iP* **P 01 47 47.0 -0.3**
ARTV Artvin 82.75 335 *iP* **P 01 47 48.4 +0.6**
EAK Akyaka 82.77 334 *iP* **P 01 47 48.5 +0.6**
COLF Collangettes 82.79 3⇑ *eP* **P 01 47 48.5 +0.8**
SURT Suratani 82.80 275 P **P 01 47 49.4 +1.3**
comp=Z,31nm,1.1s,comp=Z,317nm
HUMR Humele 82.81 348⇑ *iP* **P 01 47 47.5 -0.3**
DAGI Agillar 82.86 335 *iP* **P 01 47 48.5 +0.3**
LPL La Plagne 82.87 1 *eP* **P 01 47 48.7 +0.4**
LPL pmax pmax
comp=Z,25nm,0.9s
LPG La Plagne 82.89 1 *eP* **P 01 47 48.9 +0.4**
LPG pmax pmax
comp=Z,67nm,1.3s
GNI Garni 82.95 333*c iP* **P 01 47 49.3 +0.4**
GNI pmax pmax
comp=Z,119nm,1.2s
GNI Garni 82.95 333 *eP* **P 01 47 49.2 +0.4**
comp=Z,238nm,1.1s
GNI LR LR
comp=Z,747nm,19.0s
EDFI Ende, Flores 82.96 246 P **P 01 47 47.5 -1.5**
SSB Saint Sauveur 83.06 3⇑ *eP* **P 01 47 49.7 +0.6**
SSB Saint Sauveur 83.06 3 *eP* **P 01 47 49.4 +0.3**
SSB pmax pmax
comp=Z,74nm,1.1s
SSB MLR MLR
comp=Z,435nm,19.0s
SSB Saint Sauveur 83.06 3 *eP* **P 01 47 49.4 +0.3**
comp=Z,74nm,1.1s
SSB LR LR
comp=Z,435nm,19.0s
LBL Lubilhac 83.06 4 *eP* **P 01 47 50.1 +0.9**
DDEM Demirkent 83.07 335 *iP* **P 01 47 49.9 +0.6**
DIGO Kars 83.09 334 *iP* **P 01 47 50.5 +0.9**
DGPR DIGLIPUR 83.10 282 *eP* **P 01 47 49.9 +0.2**
TRTT Trang 83.12 274 P **P 01 47 51.7 +1.9**
comp=Z,70nm,1.0s,comp=Z,777nm
GRN Grenoble 83.12 2⇑ *eP* **P 01 47 50.6 +1.1**
KRAB Krabi 83.13 274 P **P 01 47 51.5 +1.7**
comp=Z,108nm,0.5s,comp=Z,3μm
CAF Calviac 83.31 5 *eP* **P 01 47 50.0 -0.4**
CAF pmax pmax
comp=Z,108nm,1.1s
BNI Bardonecchia 83.33 1 *eP* **P 01 47 51.7 +1.1**
BNI pmax pmax
comp=Z,99nm,1.0s
BNI MLR MLR
comp=Z,685nm,19.0s
BNI Bardonecchia 83.33 1 *eP* **P 01 47 51.7 +1.1**
comp=Z,99nm,1.0s
BNI LR LR
comp=Z,685nm,19.0s
ORIF Oris-en-Rattie 83.45 2 *eP* **P 01 47 51.3 +0.1**
ORIF pmax pmax
comp=Z,43nm,1.0s
VIVF Saint-Julien-l 83.48 3 *eP* **P 01 47 51.1 -0.2**
VIVF pmax pmax
comp=Z,51nm,1.1s
ZIMR 83.62 348⇑ *iP* **P 01 47 52.3 +0.4**
NAX Nakhchivan 83.64 332 P **P 01 47 50.8 -1.5**
MBDF Montbardon 83.66 1 *eP* **P 01 47 52.6 +0.3**
MBDF pmax pmax
comp=Z,86nm,1.2s
UDBI Udbina 83.66 355 P **P 01 47 51.5 -0.7**
NVLJ Novalja 83.67 355 P **P 01 47 51.7 -0.5**
EIDS Eidsvold 83.69 214 *eP* **P 01 47 54.0 +1.6**
comp=Z,31nm,1.2s
BCIP Isla Barro Col 83.91 83 *eP* **P 01 47 53.5 -0.4**
comp=Z,86nm,1.5s
BCIP LR LR
comp=Z,540nm,22.0s
PKDT Phuket 83.91 275 P **P 01 47 57.6 +3.7**
comp=Z,60nm,1.2s,comp=Z,3μm
SZH Strazhica 83.92 347 P **P 01 47 52.9 -0.6**
BHPL Bhopal 84.01 300 *eP* **P 01 47 53.8 -0.6**
PVL Pavlikeni 84.06 348 P **P 01 47 53.8 -0.4**
CHLP Challavanipeta 84.14 292 *eP* **P 01 47 54.9 -0.1**
CHLP IAmb IAmb 01 47 56.2
comp=Z,197nm,1.6s
VLC Villacollemand 84.22 359 *eP* **P 01 47 55.0 -0.1**
comp=Z,52nm,0.9s
VLC LR LR
comp=Z,529nm,21.0s
KELT Kelkit 84.40 337 *iP* **P 01 47 56.6 +0.3**
MVIF Mont Vial 84.49 1⇑ *eP* **P 01 47 57.3 +0.7**
LUCF Luceram 84.50 1 *eP* **P 01 47 57.0 +0.4**
KULM Kulim 84.51 272 *eP* **P 01 47 57.7 +0.8**

comp=Z,31nm,0.9s
KULM LR LR
comp=Z,401nm,22.0s
SBF Sospel 84.53 1 *eP* **P 01 47 56.1 -0.6**
SBF pmax pmax
comp=Z,176nm,1.0s
PLE Pljevlja 84.59 352⇑ *iP* **P 01 47 56.4 -0.7**
REVF Revere 84.65 1⇑ *eP* **P 01 47 57.8 +0.5**
UPM Unac-Piva 84.76 352 *eP* **P 01 47 57.2 -0.8**
OSSF Osses 84.77 7⇑ *eP* **P 01 47 57.8 0.0**
FRF La Foret Royal 84.82 1 *eP* **P 01 47 57.6 -0.5**
FRF pmax pmax
comp=Z,118nm,1.0s
LEPF PUYLOUBIER 84.84 2⇑ *eP* **P 01 47 59.3 +1.1**
PTCN Pitcairn Islan 84.89 143 PFAKE 01 48 10.0 +12
PTCN LR LR
comp=Z,1μm,22.0s
MTLF Montolieu 84.90 5 *eP* **P 01 47 58.2 -0.3**
MTLF pmax pmax
comp=Z,83nm,1.0s
IPM Ipoh 84.91 271 *eP* **P 01 47 58.8 -0.1**
comp=Z,44nm,0.8s
SJPF Ste Jean 84.91 7 *eP* **P 01 47 58.7 +0.2**
SJPF pmax pmax
comp=Z,40nm,0.9s
VTS Vitosha 84.94 349⇑ *iP* **P 01 47 58.3 -0.6**
VTS Vitosha 84.94 349 P **P 01 47 57.8 -1.1**
IVA Berane 85.00 352⇑ *iP* **P 01 47 58.5 -0.6**
LARF Larrau 85.00 7⇑ *eP* **P 01 48 00.1 +1.1**
REYF Montagne du Re 85.02 6⇑ *eP* **P 01 47 58.8 -0.4**
SJG San Juan 85.03 67 *eP* **P 01 47 59.9 +0.4**
SJG pmax pmax
comp=Z,134nm,1.5s
SJG MLR MLR
comp=Z,981nm,22.0s
SJG San Juan 85.03 67 *eP* **P 01 47 58.9 -0.6**
SJG San Juan 85.03 67 *eP* **P 01 47 59.9 +0.4**
comp=Z,134nm,1.5s
SJG LR LR
comp=Z,981nm,22.0s
KOME Kolasin 85.06 352⇑ *iP* **P 01 47 59.0 -0.4**
BRY Bratogost 85.09 353⇑ *iP* **P 01 47 58.6 -1.0**
EPF Esparros 85.10 6 *eP* **P 01 47 58.4 -1.2**
EPF pmax pmax
comp=Z,84nm,1.1s
NKY Niksic 85.14 352⇑ *iP* **P 01 47 58.9 -0.9**
NKY Niksic 85.14 352 P **P 01 47 59.7 -0.1**
PAYG Puerto Ayora 85.14 97 PFAKE 01 48 10.0 +10
PAYG LR LR
comp=Z,673nm,22.0s
VIS Vishakhapatnam 85.18 293 *eP* **P 01 48 00.2 0.0**
VIS AMB AMB 01 48 01.5
comp=Z,85nm,1.2s
NKME Niksic 85.19 352 *eP* **P 01 47 59.0 -1.0**
VIEF Viey 85.23 6⇑ *eP* **P 01 48 01.1 +0.9**
PLAI Plampang 85.27 249 P **P 01 47 58.4 -2.2**
PVY Plav 85.27 351 *eP* **P 01 47 59.6 -0.9**
PGAV Gavieira, Arco 85.31 12 *eP* **P 01 48 02.5 +1.8**
PGAV Gavieira, Arco 85.31 12 *eLR* LR 02 17 23.0
comp=Z,414nm,24.0s
RESF Ens 85.33 6⇑ *eP* **P 01 48 01.8 +1.0**
CEME Cevo 85.41 352⇑ *iP* **P 01 47 59.8 -1.3**
PDG Podgorica 85.50 352⇑ *iP* **P 01 48 00.5 -0.9**
TTG Podgorica 85.50 352⇑ *iP* **P 01 48 00.9 -0.5**
CARF Carcanieres 85.52 5⇑ *eP* **P 01 48 02.2 +0.5**
HCY Herceg Novi 85.54 353⇑ *iP* **P 01 48 00.7 -1.0**
RZN Rozhen 85.64 348 P **P 01 48 02.3 -0.1**
BUM Brajici-Budva 85.66 352⇑ *iP* **P 01 48 01.4 -0.9**
PBRG Braganca 85.66 11 *eP* **P 01 48 02.6 +0.2**
comp=Z,96nm,1.5s
PBRG Braganca 85.66 11 *eLR* LR 02 16 58.2
comp=Z,510nm,20.0s
KKB Krupnik 85.67 349 P **P 01 48 02.0 -0.3**
WRAB Tennant Creek 85.70 230*c iP* **P 01 48 01.8 -0.8**
WRAB pmax pmax
comp=Z,117nm,1.3s
WRAB Tennant Creek 85.70 230 *eP* **P 01 48 01.9 -0.8**
comp=Z,68nm,1.4s
WRAB LR LR
comp=Z,1μm,22.0s
TWSI Taliwang, Sumb 85.71 250 P **P 01 48 01.0 -1.8**
WRA Warramunga Arr 85.72 230 P **P 01 48 01.9 -0.8**
comp=Z,42nm,1.3s,baz=37,slow=5.4,SNR=34
WRA LR LR 02 22 18.3
comp=Z,891nm,21.9s,baz=30,slow=33
WRA Warramunga Arr 85.72 230 *iP* **P 01 48 02.0 -0.7**
WRA pmax pmax
comp=Z,42nm,1.3s
SKO Skopje 85.74 350 P **P 01 48 02.7 0.0**
SKO Skopje 85.74 350⇑ *iP* **P 01 48 02.9 +0.2**
SKO Skopje 85.74 350 P **P 01 48 02.7 0.0**
SKO Skopje 85.74 350 P **P 01 48 02.7 0.0**
DRME Dracevica, Mon 85.74 352⇑ *iP* **P 01 48 02.2 -0.5**
PGF Pioggiola 85.84 360 *eP* **P 01 48 02.7 -0.6**
PGF pmax pmax
comp=Z,238nm,1.0s
CAPC Capurgana 85.85 81 *eP* **P 01 48 03.0 -0.6**
MMB Musomiste 85.86 349 P **P 01 48 03.8 +0.5**
AQU L'Aquila 85.94 356 *eP* **P 01 48 04.2 +0.5**
AQU pmax pmax
comp=Z,82nm,1.0s
AQU MLR MLR
comp=Z,503nm,20.0s
AQU L'Aquila 85.94 356 *eP* **P 01 48 04.2 +0.5**
comp=Z,82nm,1.0s
AQU LR LR
comp=Z,503nm,20.0s
POLO Lamas de Olo 85.95 12 *eP* **P 01 48 04.0 +0.1**
POLO Lamas de Olo 85.95 12 *eLR* LR 02 17 30.5
comp=Z,243nm,22.0s
ULC Ulcinj 85.96 352⇑ *iP* **P 01 48 03.0 -0.8**
PVRL Vila Real 86.06 12 *eP* **P 01 48 04.7 +0.4**
RDO Rodhopi 86.06 347 P **P 01 48 04.6 +0.3**
RDO Rodhopi 86.06 347 P **P 01 48 04.6 +0.3**
BRTR Keskin Array B 86.06 341 P **P 01 48 04.4 -0.1**
comp=Z,16nm,1.0s,baz=43,slow=2.1,SNR=44
BRTR PKKPbc **PKKPbc 02 06 01.6 +0.2**
comp=Z,3.6nm,0.9s,baz=172,slow=5.3,SNR=14
BRTR LR LR 02 30 17.5
comp=Z,398nm,21.6s,baz=22,slow=38
PTO Porto 86.08 13 *eP* **P 01 48 05.3 +1.0**
NVR Nevrokopi 86.08 348 P **P 01 48 04.1 -0.3**
NVR Nevrokopi 86.08 348 P **P 01 48 04.1 -0.3**
ANTO Ankara 86.09 341 *eP* **P 01 48 05.1 +0.5**
ANTO pmax pmax
comp=Z,156nm,1.2s
ANTO MLR MLR
comp=Z,376nm,21.0s
ANTO Ankara 86.09 341 *eP* **P 01 48 05.1 +0.5**
comp=Z,156nm,1.2s
ANTO LR LR
comp=Z,376nm,21.0s
SJCC San Jacinto, C 86.19 79 *eP* **P 01 48 03.8 -1.5**
MVO Moncorvo 86.26 12 *eP* **P 01 48 05.4 +0.1**
comp=Z,92nm,1.2s
MVO Moncorvo 86.26 12 *eLR* LR 02 17 47.3
comp=Z,517nm,20.0s
VAY Valandovo 86.26 349 P **P 01 48 04.7 -0.6**
VAY Valandovo 86.26 349 *iP* **P 01 48 05.8 +0.5**
VAY Valandovo 86.26 349 P **P 01 48 04.7 -0.6**
VAY Valandovo 86.26 349 P **P 01 48 04.7 -0.6**
SRS Serrai 86.34 349 P **P 01 48 04.6 -1.1**
SRS Serrai 86.34 349 P **P 01 48 04.6 -1.1**
SRS Serrai 86.34 349 P **P 01 48 04.6 -1.1**
KRUS Krusevo 86.36 350 *iP* **P 01 48 05.6 -0.3**
KNT Kendrikon 86.38 349 P **P 01 48 05.5 -0.4**
KNT Kendrikon 86.38 349 P **P 01 48 05.5 -0.4**
KNT Kendrikon 86.38 349 P **P 01 48 05.5 -0.4**
TIR Tirane 86.52 351⇑ *iP* **P 01 48 07.1 +0.6**
TIR Tirane 86.52 351 *eP* **P 01 48 05.9 -0.6**
TIR pmax pmax
comp=Z,71nm,1.0s
TIR MLR MLR
comp=Z,846nm,21.0s
TIR Tirane 86.52 351 *eP* **P 01 48 05.9 -0.6**
comp=Z,71nm,1.0s
TIR LR LR
comp=Z,846nm,21.0s
PVM Polavaram 86.53 294 *eP* **P 01 48 06.6 -0.3**
PVM IAmb IAmb 01 48 07.8
comp=Z,83nm,0.8s
RPR Rampur 86.54 296 *eP* **P 01 48 06.4 -0.5**
RPR IAmb IAmb 01 48 07.7
comp=Z,448nm,1.7s

GRG	Griva	86.64	349	P	P	01 48 07.4	+0.2
GRG	Griva	86.64	349	P	P	01 48 07.4	+0.2
GRG	Griva	86.64	349	P	P	01 48 07.4	+0.2
OHR	Ohrid	86.66	351⇑	iP	P	01 48 06.9	-0.4
SOH	Sokhos	86.66	349	P	P	01 48 07.1	-0.2
SOH	Sokhos	86.66	349	P	P	01 48 07.1	-0.2
SOH	Sokhos	86.66	349	P	P	01 48 07.1	-0.2
URIC	Uribia, Colomb	86.69	75	eP	P	01 48 05.5	-2.3
BIA	Bitola	86.70	350	P	P	01 48 06.7	-0.8
BIA	Bitola	86.70	350	i P	P	01 48 07.3	-0.2
BIA	Bitola	86.70	350	P	P	01 48 06.7	-0.8
MOTC	Monteria, Cord	86.77	80	eP	P	01 48 07.1	-1.0
FNA	Florina	86.92	350	P	P	01 48 07.9	-0.7
FNA	Florina	86.92	350	P	P	01 48 07.9	-0.7
FNA	Florina	86.92	350	P	P	01 48 07.9	-0.7
SRSP	Sriramsagar	87.01	297	eP	P	01 48 08.2	-1.1
SRSP				IAmb	IAmb	01 48 09.4	
	comp=Z,164nm,1.3s						
OUR	Ouranopolis	87.07	348	P	P	01 48 07.3	-1.9
OUR	Ouranopolis	87.07	348	P	P	01 48 07.3	-1.9
OUR	Ouranopolis	87.07	348	P	P	01 48 07.3	-1.9
PLG	Polygyros	87.09	349	P	P	01 48 07.2	-2.2
PLG	Polygyros	87.09	349	P	P	01 48 07.2	-2.2
PLG	Polygyros	87.09	349	P	P	01 48 07.2	-2.2
PCAS	Casmilo, Conde	87.16	13	eP	P	01 48 09.6	-0.1
PCAS	Casmilo, Conde	87.16	13	eLR	LR	02 17 42.9	
	comp=Z,447nm,20.0s						
KZN	Kozani	87.36	350	P	P	01 48 10.0	-0.7
KZN	Kozani	87.36	350	P	P	01 48 10.0	-0.7
KZN	Kozani	87.36	350	P	P	01 48 10.0	-0.7
LIT	Litokhoron	87.48	349	P	P	01 48 09.4	-1.8
LIT	Litokhoron	87.48	349	P	P	01 48 09.4	-1.8
LIT	Litokhoron	87.48	349	P	P	01 48 09.4	-1.8
PCBR	Castelo Branco	87.50	12	eP	P	01 48 11.0	-0.3
PAIG	Paliouri	87.51	348	P	P	01 48 11.4	+0.1
PSI	Prapat	87.52	271	P	P	01 48 12.4	+0.6
	comp=Z,186nm,1.2s,baz=0.5,slow=4.5,SNR=47						
PENT	Pentalofos	87.53	350	P	P	01 48 11.2	-0.4
PTOM	Tomar	87.60	13	eP	P	01 48 11.7	-0.1
	comp=Z,140nm,1.4s						
KPRO	Kipourio	87.75	350	P	P	01 48 11.1	-1.5
ANWB	Willy Bob	87.84	64	PFAKE		01 48 30.0	+17
ANWB				LR	LR		
	comp=Z,1μm,22.0s						
PMRV	Marv??o	87.92	12	eP	P	01 48 13.3	-0.1
PMRV	Marv??o	87.92	12	eLR	LR	02 18 52.8	
	comp=Z,442nm,20.0s						
BHJ	Bhuj	88.02	306	eP	P	01 48 13.9	-0.2
BHJ				AMB	AMB	01 48 15.3	
	comp=Z,89nm,1.7s						
THL	Klokotos Trika	88.06	350	P	P	01 48 10.7	-3.3
ESDC	Sonseca Array	88.08	10	P	P	01 48 13.6	-0.6
	comp=Z,34nm,0.9s,baz=351,slow=4.7,SNR=91						
ESDC				LR	LR	02 27 43.5	
	comp=Z,188nm,21.4s,baz=335,slow=36						
HYBB	Hyderabad (bro	88.11	296	eP	P	01 48 14.0	-0.6
HYBB				IAmb	IAmb	01 48 15.2	
	comp=Z,190nm,1.0s						
HYB	Hyderabad	88.11	296	i P	P	01 48 14.0	-0.6
	comp=Z,230nm,1.0s						
HYB				epP	pP	01 48 24.5	-3.8
HYB				e		01 48 35.0	
HYB				eSKS	SKSac	01 58 36.0	-3.6
HYB				eS	SKKSac	01 58 52.0	+2.1
HYB	Hyderabad	88.11	296	eP	P	01 48 14.2	-0.4
HYB				AMB	AMB	01 48 15.4	
	comp=Z,192nm,1.6s						
XOR	Xorichti	88.12	349	P	P	01 48 12.1	-2.2
XOR	Xorichti	88.12	349	P	P	01 48 12.1	-2.2
PMAFR	Mafra	88.12	14	eP	P	01 48 14.3	0.0
PMAFR	Mafra	88.12	14	eLR	LR	02 23 27.4	
	comp=Z,506nm,20.0s						
BKNI	Bangkinang	88.14	268	P	P	01 48 15.8	+1.1
BKNI	Bangkinang	88.14	268	eP	P	01 48 15.2	+0.5
	comp=Z,268nm,1.1s						
KEK	Kerkira	88.14	351	P	P	01 48 11.1	-3.3
KEK	Kerkira	88.14	351	P	P	01 48 11.1	-3.3
PMTG	Montargil	88.16	13	eP	P	01 48 13.9	-0.6
	comp=Z,76nm,1.7s						
PMTG	Montargil	88.16	13	eLR	LR	02 19 32.4	
	comp=Z,607nm,18.0s						
PAB	San Pablo	88.17	10	eP	P	01 48 13.7	-0.9
PAB				pmax	pmax		
	comp=Z,35nm,1.1s						
PAB				MLR	MLR		
	comp=Z,650nm,20.0s						
PAB	San Pablo	88.17	10	eP	P	01 48 13.7	-0.9
	comp=Z,35nm,1.1s						
PAB				LR	LR		
	comp=Z,650nm,20.0s						
CUC	Castrocucco	88.17	354	eP	P	01 48 13.1	-1.5
	comp=Z,9.6nm,1.3s						
CUC				LR	LR		
	comp=Z,356nm,20.0s						
SGD	Sagiada	88.20	351	P	P	01 48 13.9	-0.7
ZARC	Zaragoza, Cauc	88.27	80	eP	P	01 48 14.2	-1.1
PMST	Lisbon--Monsan	88.35	14	eP	P	01 48 17.1	+1.7
NJS	Nagarjunasagar	88.39	295	eP	P	01 48 15.2	-0.7
NJS				IAmb	IAmb	01 48 16.4	
	comp=Z,138nm,1.3s						
PESTR	Estremoz	88.45	12	eP	P	01 48 15.4	-0.5
	comp=Z,76nm,1.2s						
PESTR	Estremoz	88.45	12	eLR	LR	02 19 22.0	
	comp=Z,556nm,18.0s						
ADKI	Addanki	88.59	294	eP	P	01 48 16.6	-0.2
ADKI				IAmb	IAmb	01 48 17.9	
	comp=Z,127nm,1.3s						
OCAC	Ocana	88.61	78	eP	P	01 48 17.6	+0.5
KLRI	Killari	88.66	298	eP	P	01 48 16.4	-0.8
KLRI				IAmb	IAmb	01 48 17.7	
	comp=Z,178nm,0.9s						
EVO	Evora	88.72	13	eP	P	01 48 16.9	-0.2
EVR	Evrytania	88.72	350	P	P	01 48 16.1	-1.2
EVR	Evrytania	88.72	350	P	P	01 48 16.1	-1.2
HELC	Santa Helena	88.88	81	eP	P	01 48 18.4	-0.2
VSL	Villasalto	88.89	359	PFAKE		01 48 30.0	+12
VSL				LR	LR		
	comp=Z,540nm,20.0s						
SRLM	Srisailam	88.99	295	eP	P	01 48 17.9	-0.8
SRLM				IAmb	IAmb	01 48 19.2	
	comp=Z,153nm,1.4s						
ANX	Ano Chora	89.03	349	P	P	01 48 17.4	-1.3
PNCL	Nicolau / Gran	89.06	13	eP	P	01 48 18.6	-0.1
PNCL	Nicolau / Gran	89.06	13	eLR	LR	02 18 42.4	
	comp=Z,498nm,20.0s						
ASAR	Alice Springs	89.12	228	P	P	01 48 19.4	+0.3
	comp=Z,33nm,0.9s,baz=35,slow=4.4,SNR=142						
ASAR				LR	LR	02 23 02.3	
	comp=Z,578nm,21.9s,baz=24,slow=32						
DSF	Desfina	89.14	349	P	P	01 48 15.4	-3.8
DSF	Desfina	89.14	349	P	P	01 48 15.4	-3.8
EFP	Efpalio	89.20	349	P	P	01 48 19.3	-0.1
PBAR	Barrancos	89.20	12	eP	P	01 48 19.2	-0.2
	comp=Z,219nm,1.6s						
PBAR	Barrancos	89.20	12	eLR	LR	02 18 06.7	
	comp=Z,1μm,18.0s						
PBEJ	Beja	89.24	13	eP	P	01 48 19.3	-0.3
BRRC	Barranca, Sant	89.27	79	eP	P	01 48 19.6	-0.4
PLMC	San Jos¨ del	89.42	83	eP	P	01 48 19.8	-1.0
KLV	Kalavryta, Ach	89.55	349	P	P	01 48 18.6	-2.5
KLV	Kalavryta, Ach	89.55	349	P	P	01 48 18.6	-2.5
VLS	Valsamata	89.59	350	P	P	01 48 18.6	-2.6
VLS	Valsamata	89.59	350	P	P	01 48 18.6	-2.6
VLS	Valsamata	89.59	350	P	P	01 48 18.6	-2.6
PCVE	Castro Verde	89.60	13	eP	P	01 48 21.0	-0.3
PCVE	Castro Verde	89.60	13	eLR	LR	02 18 52.3	
	comp=Z,498nm,20.0s						
GUR	Goura	89.63	349	P	P	01 48 20.2	-1.4
GUR	Goura	89.63	349	P	P	01 48 20.2	-1.4
PAMC	Pamplona, Colo	89.70	79	eP	P	01 48 22.3	-0.4
PAMC	Pamplona, Colo	89.70	79	eS	P	01 48 22.7	+0.1
GUYC	Guyana, Colomb	89.72	82	eP	P	01 48 23.1	+0.4
SDV	Santo Domingo	89.72	76	eP	P	01 48 22.5	+0.1
	comp=Z,73nm,0.8s						
POO	Poona	89.77	300	eP	P	01 48 22.5	+0.1
POO				AMB	AMB	01 48 23.6	
	comp=Z,169nm,1.4s						
NORC	Norcasia	89.77	81	eP	P	01 48 22.1	-0.4
MORF	Marmelete	89.83	14	eP	P	01 48 22.5	0.0
MORF				AMb	AMB	01 48 24.1	
	comp=Z,107nm,1.2s						
MORF	Marmelete	89.83	14	eP	P	01 48 22.4	0.0
MORF	Marmelete	89.83	14	eLR	LR	02 19 02.2	
	comp=Z,653nm,18.0s						
MORF	Marmelete	89.83	14	eP	P	01 48 22.5	0.0
MORF				pmax	pmax		
	comp=Z,107nm,1.2s						
PVAQ	Vaqueiros	89.87	13	eP	P	01 48 22.8	+0.3
PVAQ	Vaqueiros	89.87	13	eLR	LR	02 19 22.0	
	comp=Z,435nm,20.0s						
CEL	Celeste	89.89	354	eP	P	01 48 22.4	-0.3
	comp=Z,22nm,0.8s						
CEL				LR	LR		
	comp=Z,459nm,19.0s						
MDSI	Maura Dua	89.97	263	P	P	01 48 21.5	-1.7
PFVI	Vila Bisbo	89.98	14	eP	P	01 48 23.5	+0.5
BARC	Barichara	89.99	79	eP	P	01 48 23.5	-0.2
MASI	Maura Aman, Be	90.11	265	P	P	01 48 27.9	+3.9
TOLC	Tolima	90.26	82	eP	P	01 48 24.7	-0.4
SKHT	Srikalahasti	90.43	293	eP	P	01 48 25.3	-0.1
SKHT				IAML		01 48 26.5	
	comp=Z,116nm,1.5s						
FDF	Fort de France	90.58	65	PFAKE		01 48 40.0	+14
FDF				LR	LR		
	comp=Z,1μm,21.0s						
RUSC	La Rusia	90.60	80	eP	P	01 48 25.2	-1.6
RUSC	La Rusia	90.60	80	eS	P	01 48 25.5	-1.3
SISI	Saibi	90.64	269	P	P	01 48 28.0	+1.6
ROSC	El Rosal	90.67	81	P	P	01 48 27.8	+0.7
	comp=Z,8.9nm,0.5s,baz=12,slow=0.7,SNR=13						
ROSC				LR	LR	02 31 16.8	
	comp=Z,132nm,19.4s,baz=356,slow=37						
CLTB	Caltabellotta	90.71	356	PFAKE		01 48 40.0	+13
CLTB				LR	LR		
	comp=Z,307nm,20.0s						
CSS	Mathiatis	90.72	340	eP	P	01 48 26.4	-0.1
	comp=Z,6.8nm,0.9s						
CSS				LR	LR		
	comp=Z,97nm,19.0s						
SANT	Santorini	90.76	346	PFAKE		01 48 40.0	+13
SANT				LR	LR		
	comp=Z,568nm,21.0s						
POPC	Popayan, Colom	91.03	85	eP	P	01 48 28.1	-0.4
PRAC	Prado	91.21	82	eP	P	01 48 29.0	-0.2
CMBC	Cumbal	91.57	86	eP	P	01 48 31.8	+0.5
OTAV	Otavalo	91.73	87	eP	P	01 48 32.2	+0.1
OTAV	Otavalo	91.73	87	eP	P	01 48 32.3	+0.3
	comp=Z,38nm,0.9s						
OTAV				LR	LR		
	comp=Z,334nm,22.0s						
BANOM	Banah	91.83	318	i P	P	01 48 30.8	-1.1
	SNR=7.4						
BANOM	Banah	91.83	318	P	P	01 48 31.0	-0.9
	SNR=5.5						
BANOM	Banah	91.83	318	P	P	01 48 31.0	-0.9
	SNR=5.5						
WDD	Wied Dalam	92.39	355	PFAKE		01 48 50.0	+16
WDD				LR	LR		
	comp=Z,319nm,19.0s						
KEST	Kesra	92.65	359	P	P	01 48 35.3	-0.2
	comp=Z,16nm,1.1s,baz=8.7,slow=1.6,SNR=7.9						
BBGH	Gun Hill	92.76	65	PFAKE		01 48 50.0	+14
BBGH				LR	LR		
	comp=Z,1μm,19.0s						
PMAR	Madeira	92.77	21	eP	P	01 48 38.8	+2.5
	comp=Z,307nm,1.3s						
HATD	Hatta, Dubai	92.88	318	i P	P	01 48 35.4	-1.3
	SNR=19						
NAZ	Nazwa, Dubai	92.93	318	i P	P	01 48 35.6	-1.3
	SNR=21						
ASHO	Ashiyiah	93.03	318	i P	P	01 48 36.2	-1.3
	SNR=28						
ASHO	Ashiyiah	93.03	318	P	P	01 48 36.2	-1.3
	SNR=12						
ASHO	Ashiyiah	93.03	318	P	P	01 48 36.2	-1.3
	SNR=12						
STKA	Stephens Creek	93.05	218	P	P	01 48 37.1	+0.1
	comp=Z,14nm,1.2s,baz=6.3,slow=4.6,SNR=11						
FAQ	Al Faqa, Dubai	93.17	318	i P	P	01 48 36.5	-1.5
	SNR=18						
RTC	Rabat Centre	93.35	13	PFAKE		01 48 50.0	+11
RTC				LR	LR		
	comp=Z,1μm,22.0s						
CAN	Canberra	93.54	211	PFAKE		01 48 50.0	+11
CAN				LR	LR		
	comp=Z,609nm,22.0s						
SNZO	South Karori	93.68	190	PFAKE		01 48 50.0	+10
SNZO				LR	LR		
	comp=Z,456nm,21.0s						
MBWA	Marble Bar	94.15	241	eP	P	01 48 41.8	-0.6
	comp=Z,127nm,1.1s						
MBWA				LR	LR		
	comp=Z,406nm,20.0s						
PALK	Pallekele	95.06	288	i P	P	01 48 47.6	+0.7
PALK	Pallekele	95.06	288	eP	P	01 48 47.1	+0.2
	comp=Z,91nm,1.2s						
RAYN	Ar Rayn	98.11	326	eP	P	01 48 59.9	-0.7
	comp=Z,52nm,1.1s						
RAYN				LR	LR		
	comp=Z,581nm,20.0s						
NNA	Nana	102.23	94	PFAKE		01 49 30.0	+11
NNA				LR	LR		
	comp=Z,270nm,19.0s						
NWAO	Narrogin (SRO)	104.93	235	PFAKE		01 49 40.0	+10
NWAO				LR	LR		
	comp=Z,553nm,21.0s						
TAM	Tamanrasset	105.50	3	PFAKE		01 54 00.0	
TAM				LR	LR		
	comp=Z,381nm,20.0s						
SACV	Santiago Islan	107.75	33	PFAKE		01 54 00.0	
SACV				LR	LR		
	comp=Z,471nm,22.0s						
SAML	Samuel	108.30	81	ePKP	PKiKP	01 53 51.7	-0.3
SAML				LR	LR		
	comp=Z,648nm,21.0s						
LPAZ	La Paz	110.91	90	PKiKP	PKiKP	01 53 56.7	-0.9
	comp=Z,1.1nm,0.6s,baz=304,slow=3.6,SNR=3.6						
TORD	Torodi Ar. Bea	114.88	7	PKP	PKPdf	01 54 03.8	-0.7
	comp=Z,3.8nm,0.8s,baz=359,slow=2.3,SNR=21						
TORD				PP	PP	01 54 59.2	-3.1
	comp=Z,3.4nm,1.1s,baz=0.1,slow=4.6,SNR=4.2						
TORD				PKKPbc	PKKPbc	02 04 38.7	-0.4
	comp=Z,2.1nm,0.8s,baz=172,slow=2.4,SNR=10						
TORD				SKKP		02 08 24.5	
	comp=Z,1.1nm,0.9s,baz=198,slow=4.1,SNR=4.5						
LCO	Las Campanas	118.76	101	ePKPdf	PKPdf	01 54 11.6	-0.2
MSEY	Mahe Island	118.93	304	PFAKE		01 54 20.0	+7.6
MSEY				LR	LR		
	comp=Z,409nm,20.0s						
TIC	Toumodi	120.47	16	ePKP1	PKPdf	01 54 14.7	-0.7
DBIC	Dimbokro	120.47	15	PKP	PKPdf	01 54 14.9	-0.3
	comp=Z,11nm,0.9s,baz=346,slow=3.3,SNR=12						
DBIC	Dimbokro	120.47	15	PKIKP	PKPdf	01 54 15.0	-0.3
KIC	Kosan Boka	120.80	15	ePKP1	PKPdf	01 54 15.3	-0.7
	comp=Z,34nm,1.0s						
LIC	Lamto	120.88	16	ePKP1	PKPdf	01 54 15.6	-0.5
	comp=Z,63nm,1.5s						
RCBR	Riachuelo	121.28	54	PFAKE		01 54 30.0	+13
RCBR				LR	LR		
	comp=Z,737nm,19.0s						
BDFB	Brasilia	122.67	73	PKP	PKPdf	01 54 19.1	-0.4
	comp=Z,14nm,0.9s,baz=54,slow=3.1,SNR=13						
KMBO	Kilima Mbogo	123.86	325	PKP	PKPdf	01 54 22.9	+0.7
	comp=Z,10nm,0.9s,baz=17,slow=4.5,SNR=18						
KMBO	Kilima Mbogo	123.86	325	c iPKIKP	PKPdf	01 54 23.5	+1.4
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMBO	Kilima Mbogo	123.86	325	ePKPdf	PKPdf	01 54 22.9	+0.7
KMBO				LR	LR		
	comp=Z,372nm,19.0s						
CPUP	Villa Florida	125.06	89	PKP	PKPdf	01 54 23.2	-0.5
	comp=Z,14nm,0.8s,baz=321,slow=3.0,SNR=21						
PLCA	Paso Flores	126.91	111	PKP	PKPdf	01 54 26.6	-0.3
	comp=Z,30nm,0.9s,baz=326,slow=2.6,SNR=37						
SPB	Sao Paulo	129.12	78	ePKPdf	PKPdf	01 54 31.6	+0.1
TRQA	Tornquist	130.24	103	ePKPdf	PKPdf	01 54 33.0	-0.2
SBA	Scott Base	130.26	186	ePKIKP	PKPdf	01 54 31.1	-0.9
SBA	Scott Base	130.26	186	ePKPdf	PKPdf	01 54 31.1	-0.9
SBA				eSKPbc	SKPbc	01 57 51.2	+0.1
VNDA	Vanda	130.29	187	PKP	PKPdf	01 54 31.7	-0.4
	comp=Z,2.4nm,0.7s,baz=338,slow=4.6,SNR=11						
ASCN	Ascension	132.26	31	PFAKE		01 54 50.0	+12
ASCN				LR	LR		
	comp=Z,1μm,20.0s						
ABPO	Ambohimpanom	135.29	303	PFAKE		01 55 00.0	+17
ABPO				LR	LR		
	comp=Z,150nm,20.0s						
LSZ	Lusaka	140.13	329	ePKHKP	PKPpre	01 54 45.7	
LSZ				MLR	MLR		
	comp=Z,608nm,20.0s						
LSZ	Lusaka	140.13	329	ePKPpre	PKPpre	01 54 45.7	
LSZ				LR	LR		
	comp=Z,608nm,20.0s						
QSPA	South Pole Qui	141.75	180	ePKPpre	PKPpre	01 54 47.4	
QSPA				LR	LR		
	comp=Z,365nm,19.0s						
TSUM	Tsumeb	146.51	344	ePKPbc	PKPbc	01 55 05.3	+0.3
TSUM				LR	LR		
	comp=Z,573nm,22.0s						
MAW	Mawson	149.74	218	PKPbc	PKPbc	01 55 12.2	+0.3
	comp=Z,122nm,1.0s,baz=66,slow=1.3,SNR=9.3						
BOSA	Boshof	153.49	325	i P	PKPbc	01 55 23.2	+1.2
BOSA	Boshof	153.49	325	PKP	PKPdf	01 55 15.7	+1.4
	comp=Z,7.1nm,0.9s,baz=310,slow=2.5,SNR=7.5						
BOSA				PKPbc	PKiKP	01 55 22.2	+0.1
	comp=Z,22nm,0.7s,baz=21,slow=1.3,SNR=50						
SYO	Syowa Base	157.48	209	eX	PKPpre	01 55 15.0	
SYO	Syowa Base	157.48	209	epPKPdf	pPKPdf	01 55 31.0	-1.3
VNA3	Neumayer Olymp	159.02	164	PKP	PKPdf	01 55 19.1	-1.0
SNAA	Sanae	159.61	170	PKP	PKPdf	01 55 18.3	-2.5
SNAA	Sanae	159.61	170	PKP	PKPdf	01 55 19.3	-1.4
	comp=Z,6.0nm,0.9s,baz=236,slow=1.2,SNR=12						
SNAA				PKPab	PKPab	01 55 58.6	-0.9
	comp=Z,6.3nm,0.9s,baz=234,slow=2.4,SNR=7.3						
SNAA	Sanae	159.61	170	ePKPdf	PKPdf	01 55 18.3	-2.5
SNAA				PKPab	PKPab	01 55 58.6	-0.9
VNA2	Neumayer--Watz	159.68	165	PKP	PKPdf	01 55 14.2	-6.6
	baz=270,slow=2.3						
VNA1	Neumayer--Stat	159.77	164	PKP	PKPdf	01 55 19.6	-1.3

ISCJB ***28*** *01:40:49.0±0.2, 32°.26N±0°.03×104°.82E±0°.03, h15km, mb4.5/36, MS4.3/3, Error ellipse: s-maj=4.3km s-min=3.4km az=31.1*

IDC ***28*** *01:40:48.4±0.7, 32°.30N×104°.87E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.4/40, mbtmp4.5/19, ML4.4/2, MS4.1/4, Ms1 4.1/4, ms1mx3.4/40, Error ellipse: s-maj=19.6km s-min=13.9km az=42.0*

NEIC ***28*** *01:40:50.2±1.3, 32°.28N×104°.82E, h12km±8km, mb4.8/18, ML4.5(BJI), Error ellipse: s-maj=6.1km s-min=5.4km az=81.0*

BJI ***28*** *01:40:50.9, 32°.32N×104°.76E, h15km, mb4.4/12, mB4.5/6, ML4.5/26, Ms4.3/17, Ms7 4.1/10*

ISC 28 01:40:51.2±0.3, 32°.34N±0°.03×104°.86E±0°.03, h15km, n78, σ2°17/102, **mb4.6**/36, **MS4.7**/3, **2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.71**	**214**	⇓ iPg	**Pn**	**Pn**	**01 41 20.5**	**0.0**
CD2				Sg	**Sb**	**Sb**	**01 41 43.8**	**+0.1**
CD2				smax	smax			
	comp=N,24μm,0.7s							
CD2				smax	smax			
	comp=E,29μm,0.6s							
CD2	**Chengdu**	**1.71**	**214**	⇓ iPg	**Pn**	**Pn**	**01 41 20.5**	**0.0**
CD2				Sg	**Sb**	**Sb**	**01 41 43.8**	**+0.1**
XAN	**Xi'an**	**3.81**	**63**	Pn	**Pn**	**Pn**	**01 41 49.5**	**+0.1**
XAN				Pg	**Pb**	**Pb**	**01 42 00.5**	**+2.4**
XAN				Sn	**Sn**	**Sn**	**01 42 34.3**	**+0.4**
XAN				Sg	**Sb**	**Sb**	**01 42 48.0**	**+3.9**
XAN				smax	smax			
	comp=N,1μm,0.8s							
XAN				smax	smax			
	comp=E,2μm,0.9s							
XAN				LR	LR			
	comp=N,3μm,5.9s							
XAN				LR	LR			
	comp=E,2μm,5.0s							
XAN				LR	LR			
	comp=Z,3μm,5.9s							
XAN	**Xi'an**	**3.81**	**63**	Pn	**Pn**	**Pn**	**01 41 49.5**	**+0.1**
XAN				Pg	**Pb**	**Pb**	**01 42 00.5**	**+2.4**
XAN				Sn	**Sn**	**Sn**	**01 42 34.3**	**+0.4**
XAN				Sg	**Sb**	**Sb**	**01 42 48.0**	**+3.9**
LZH	**Lanzhou**	**3.83**	**348**	Pn	**Pn**	**Pn**	**01 41 52.0**	**+2.2**
LZH				Pg	**Pg**	**Pg**	**01 42 02.5**	**-2.1**
LZH				Sn	**Sn**	**Sn**	**01 42 36.5**	**+1.9**
LZH				Sg	**Sg**	**Sg**	**01 42 50.8**	**-3.4**
LZH				smax	smax			
	comp=N,2μm,0.8s							
LZH				smax	smax			
	comp=E,2μm,0.8s							
LZH				LR	LR			
	comp=N,6μm,4.0s							
LZH				LR	LR			
	comp=E,7μm,4.7s							
LZH				LR	LR			
	comp=Z,3μm,5.7s							
LZH	**Lanzhou**	**3.83**	**348**	Pn	**Pn**	**Pn**	**01 41 52.0**	**+2.2**
LZH				Pg	**Pg**	**Pg**	**01 42 02.5**	**-2.1**
LZH				Sn	**Sn**	**Sn**	**01 42 36.5**	**+1.9**
LZH				Sg	**Sg**	**Sg**	**01 42 50.8**	**-3.4**
ENH	**Enshi**	**4.47**	**116**	ePn	**Pn**	**Pn**	**01 41 58.4**	**-0.1**
ENH				ePg	**Pb**	**Pb**	**01 42 11.2**	**+1.7**
ENH				eSg	**Sg**	**Sg**	**01 43 09.3**	**-5.5**
GYA	**Guiyang**	**6.07**	**164**	Pn	**Pn**	**Pn**	**01 42 21.0**	**+0.4**
GYA				Pg	**Pb**	**Pb**	**01 42 40.5**	**+3.7**
GYA				Sn	**Sn**	**Sn**	**01 43 28.8**	**-1.1**
GYA				Sg	**Sb**	**Sb**	**01 43 55.3**	**+5.9**
GYA				smax	smax			
	comp=N,580nm,0.6s							
GYA				smax	smax			
	comp=E,570nm,0.6s							
GYA	**Guiyang**	**6.07**	**164**	Pn	**Pn**	**Pn**	**01 42 21.0**	**+0.4**
GYA				Pg	**Pb**	**Pb**	**01 42 40.5**	**+3.7**
GYA				Sn	**Sn**	**Sn**	**01 43 28.8**	**-1.1**
GYA				Sg	**Sb**	**Sb**	**01 43 55.3**	**+5.9**
KMI	**Kunming**	**7.43**	**195**	Pn	**Pn**	**Pn**	**01 42 43.0**	**+3.7**
KMI				Sn	**Sn**	**Sn**	**01 44 04.0**	**+0.5**
KMI				smax	smax			
	comp=N,86nm,1.6s							
KMI				smax	smax			
	comp=E,84nm,1.9s							
KMI				LR	LR			
	comp=N,900nm,6.5s							
KMI				LR	LR			
	comp=E,880nm,5.3s							
KMI				LR	LR			
	comp=Z,920nm,7.5s					

comp=Z,19nm,0.5s
PKIN Phulchoki 17.51 259 *e*P **Pn 01 44 52.9 -2.3**
comp=Z,22nm,0.7s
KKN Kakani 17.54 260 *e*P **Pn 01 44 54.0 -1.4**
comp=Z,33nm,0.6s
WMQ Urumqi 17.68 315 P **Pn 01 44 55.0 -1.9**
WMQ pP P 01 44 58.5 +0.7
WMQ sP pP 01 45 01.8 -0.2
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,99nm,5.1s
DMN Daman 17.74 260 *e*P **Pn 01 44 56.5 -1.5**
comp=Z,42nm,1.0s
GKN Gorkha 18.00 261 *e*P **Pn 01 44 59.9 -1.3**
comp=Z,42nm,0.7s
DANN Dangsing 18.63 263 *e*P **Pn 01 45 09.1 +0.1**
KOLN Koldanda 18.95 262 *e*P **P 01 45 11.1 -0.9**
comp=Z,31nm,0.8s
PYUN Piuthan 19.36 263 *e*P **Pn 01 45 17.3 -0.3**
comp=Z,40nm,0.8s
KSAR Wonju Array Be 19.55 69 P **Pn 01 45 19.6 0.0**
KSRS Korea Array 19.58 69 P **Pn 01 45 19.6 -0.4**
comp=Z,0.6nm,0.3s,baz=257,slow=10,SNR=9.5
CN2 Changchun 19.79 49 *e*P **Pn 01 45 22.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 24.25 53 P **P 01 46 08.7 +1.1**
comp=Z,13nm,1.0s,baz=253,slow=9.8,SNR=4.3
KSH Kashi 24.39 295 *e*P **P 01 46 12.0 +2.9**
KSH pP sP 01 46 16.5 +1.0
KSH sP pP 01 46 20.5 +6.9
KSH PcP **PcP 01 49 52.0 +3.9**
KSH S **S 01 50 31.3 +3.1**
KSH SS SnSn 01 51 27.8 +16
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,65nm,3.7s
KSH LR LR
comp=Z,100nm,6.1s
KSH LR LR
comp=Z,83nm,5.8s
KSH LR LR
comp=Z,86nm,6.1s
ZALV Zalesovo Beam 25.90 332 P **P 01 46 23.4 +0.9**
comp=Z,6.1nm,0.6s,baz=142,slow=10,SNR=2.3
AAK Ala-Archa 26.07 302 LR LR 01 57 25.5
comp=Z,137nm,20.2s,baz=63,slow=38
KLR Kul'dur 26.24 42 P **P 01 46 26.1 +0.5**
comp=Z,0.4nm,0.7s,baz=263,slow=11,SNR=4.5
KURK Kurchatov 26.66 321 *e*P **P 01 46 27.9 -1.4**
MJAR Matsushiro Arr 27.74 72 P **P 01 46 38.1 -1.2**
comp=Z,2.5nm,0.6s,baz=274,slow=10,SNR=4.2
ABKAR Akbulak array 37.34 310 *e*P **P 01 48 03.0 0.0**
comp=Z,3.1nm,0.6s
ARU Arti 39.86 321 P **P 01 48 24.5 +0.6**
comp=Z,17nm,0.8s,baz=104,slow=6.4,SNR=3.7
ARU Arti 39.86 321 *e*P **P 01 48 24.8 +0.8**
comp=Z,34nm,1.1s
PETK Petropavlovsk- 42.86 45 P **P 01 48 48.3 -0.4**
comp=Z,7.7nm,0.6s,baz=256,slow=1.7,SNR=5.5
KIV Kislovodsk 49.18 302 *e*P **P 01 49 38.4 -0.4**
comp=Z,24nm,1.1s
RAYN Ar Rayn 52.60 276 *e*P **P 01 50 02.5 -2.2**
comp=Z,11nm,1.2s
MBWA Marble Bar 55.07 163 *e*P **P 01 50 22.5 -0.1**
comp=Z,28nm,0.8s
ARCES ARCESS Array B 56.40 335 P **P 01 50 31.2 -0.3**
comp=Z,3.8nm,0.7s,baz=88,slow=7.3,SNR=11
BRTR Keskin Array B 56.69 299 P **P 01 50 35.1 +0.8**
comp=Z,2.1nm,0.8s,baz=98,slow=4.2,SNR=3.7
FINES FINESS Array B 56.90 326 P **P 01 50 35.2 0.0**
comp=Z,4.3nm,0.5s,baz=86,slow=6.8,SNR=18
AKASG Malin Array Be 57.01 313 P **P 01 50 35.6 -0.6**
comp=Z,1.2nm,0.4s,baz=67,slow=6.7,SNR=5.5
KIEV Kiev 57.02 313 *e*P **P 01 50 36.1 -0.2**
comp=Z,3.2nm,0.7s
WRAB Tennant Creek 59.16 147 *e*P **P 01 50 50.7 -0.8**
comp=Z,11nm,0.7s
WRA Warramunga Arr 59.16 147 P **P 01 50 50.9 -0.6**
comp=Z,7.0nm,0.7s,baz=340,slow=7.3,SNR=21
ASAR Alice Springs 62.23 150 P **P 01 51 11.9 -0.5**
comp=Z,3.2nm,0.7s,baz=327,slow=6.4,SNR=9.1
HFS Hagfors 63.10 326 P **P 01 51 17.3 -0.5**
comp=Z,2.8nm,0.4s,baz=93,slow=7.4,SNR=7.8
NB2 NORSAR Subarra 63.96 327 P **P 01 51 22.5 -1.0**
comp=Z,13nm,1.1s,baz=72,slow=6.9
NOA NORSAR Array B 63.96 327 P **P 01 51 22.6 -1.0**
comp=Z,4.8nm,0.8s,baz=73,slow=6.7,SNR=17
MORC Moravsky Berou 64.46 314 *e*P **P 01 51 26.5 -0.5**
comp=Z,46nm,1.4s
COLD Coldfoot 66.08 24 *e*P **P 01 51 37.0 -0.2**
comp=Z,4.7nm,0.9s
GERES GERESS Array B 67.14 314 P **P 01 51 44.9 +0.5**
comp=Z,2.0nm,0.9s,baz=69,slow=5.5,SNR=5.9
BPAW Bear Paw Mtn. 67.21 28 *e*P **P 01 51 44.2 -0.3**
comp=Z,2.0nm,0.8s
COLA College 68.04 26 *e*P **P 01 51 49.6 0.0**
comp=Z,16nm,0.9s
ILAR Eielson Array 68.44 26 P **P 01 51 50.8 -1.4**
comp=Z,1.8nm,0.7s,baz=297,slow=6.0,SNR=11
WLF Walferdange 71.25 317 *e*P **P 01 52 09.8 +0.1**
comp=Z,18nm,1.2s
DAWY Dawson 71.55 25 *e*P **P 01 52 10.7 -0.6**
comp=Z,5.7nm,0.8s
KMBO Kilima Mbogo 71.82 257 *e*P **P 01 52 15.6 +1.6**
comp=Z,8.1nm,1.4s
STKA Stephens Creek 72.70 148 P **P 01 52 17.6 -0.9**
comp=Z,2.9nm,0.8s,baz=336,slow=7.6,SNR=3.3
KEST Kesra 75.91 303 LR LR 02 33 30.1
comp=Z,344nm,20.4s,baz=320,slow=42
CAN Canberra 79.03 145 *e*P **P 01 52 53.5 -1.1**
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 80.32 17 P **P 01 53 01.1 -0.2**
comp=Z,3.3nm,0.7s,baz=330,slow=4.9,SNR=3.7
LSZ Lusaka 87.19 250 *e*P **P 01 53 37.1 -0.3**
comp=Z,5.7nm,1.1s
FFC Flin Flon 90.26 15 *e*P **P 01 53 50.7 -0.5**
comp=Z,14nm,1.1s
NEW Newport 91.39 27 *e*P **P 01 53 56.8 +0.1**
comp=Z,1.7nm,0.5s
TORD Torodi Ar. Bea 93.86 288 LR LR 02 42 33.5
comp=Z,428nm,21.0s,baz=340,slow=40
PMSA Palmer Station 146.83 189 *e*PKPbc **PKPdf 02 00 30.4 +0.3**
OTAV Otavalo 147.44 6 *e*PKPbc **PKPdf 02 00 34.4 +1.0**
SAML Samuel 154.21 332 *e*PKPbc **PKPbc 02 00 50.4 -1.0**

IDC 28 01:44:29.1±419.0, 22°.00N×157°.51W, h0km, Error ellipse: s-maj=212.6km s-min=61.9km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I59US	**HAWAII INFRASO**	**2.83**	**147**	*i*		02 02 50.0	
	baz=328,slow=320,SNR=0.9						
I57US	**PINON FLAT INF**	**37.89**	**63**	*i*		05 33 20.0	
	baz=264,slow=321,SNR=0.6						
I56US	**NEWPORT INFRAS**	**41.46**	**41**	*i*		06 00 00.0	
	baz=244,slow=328,SNR=0.5						

RSNC 28 01:47:43.1±0.5, 6°.78N×73°.10W, h146km±7km, ML1.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**204**	*e*P	Pn	01 48 02.6	-0.7
BARC				*i*		01 48 03.2	
	comp=Z,8.6nm,0.4s						
BARC				*e*S	Sn	01 48 17.7	-1.0
PAMC	**Pamplona, Colo**	**0.68**	**35**	*e*P	Pn	01 48 05.5	-0.2
BRRC	**Barranca, Sant**	**0.69**	**298**	*e*P	Pn	01 48 04.5	-0.6
BRRC				*i*		01 48 04.9	
	comp=Z,10.0nm,0.1s						
BRRC				*e*S	Sn	01 48 21.9	-0.1
RUSC	**La Rusia**	**0.88**	**179**	*e*P	Pn	01 48 06.9	-0.2
RUSC				*i*		01 48 08.8	
	comp=Z,2.0nm,0.2s						

*SOME **28** 01:48:05.2, 39°.63N×74°.62E, h0km*
*NNC **28** 01:48:05.4±5.1, 39°.56N×74°.35E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=36.3km s-min=24.8km az=167.0*
*KRNET **28** 01:48:08.3±0.1, 39°.57N×74°.06E, mb3.4*

ISC 28 01:48:04.8±2.0, 39°.48N±0°.09×74°.31E±0°.05, h10km, n21, σ1§49/39, 16C-16D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.82**	**311**	⇑*iP*	**Pg**	**01 48 20.4**	**-0.2**
	baz=316						
SFK				⇑*iS*	**Sg**	**01 48 29.7**	**-1.6**
	baz=316						
ARSB	**Arslanbob**	**2.10**	**332**	⇓*iP*	**Pg**	**01 48 44.2**	**-0.9**
	baz=335						
ARSB				⇓*iS*	**Sb**	**01 49 09.2**	**-0.1**
	baz=335						
AML	**Almayashu**	**2.69**	**350**	⇑*iP*	**Pb**	**01 48 54.1**	**+0.8**
	baz=354						
AML				⇑*iS*	**Sb**	**01 49 27.3**	**+0.8**
	baz=354						
TOKL	**Toktogul**	**2.69**	**337**	⇓*iP*	**Pb**	**01 48 52.5**	**-0.6**
	baz=339						
TOKL				⇓*iS*	**Sb**	**01 49 24.6**	**-1.6**
	baz=339						
BTK	**Batken**	**2.75**	**283**	⇓*eP*	**Pb**	**01 48 53.0**	**-1.1**
	baz=282						
BTK				⇓*iS*	**Sb**	**01 49 25.5**	**-2.4**
	baz=282						
UCH	**Uchtor**	**2.75**	**3**	⇓*iP*	**Pg**	**01 48 55.9**	**-1.6**
	baz=7.0						
UCH				⇓*iS*	**Sg**	**01 49 31.0**	**-2.2**
	baz=7.0						
ULHL	**Ulahol**	**3.13**	**27**	⇑*iP*	**Pb**	**01 49 00.5**	**-0.1**
	baz=31						
ULHL				⇑*iS*	**Sb**	**01 49 38.8**	**-0.1**
	baz=31						
AAK	**Ala-Archa**	**3.16**	**3**	⇑*iP*	**Pb**	**01 49 00.2**	**-0.9**
	baz=6.0						
AAK				⇑*iS*	**Sb**	**01 49 39.1**	**-0.6**
	baz=6.0						
AAK	**Ala-Archa**	**3.16**	**3**	⇑Pg	**Pb**	**01 49 01.3**	**+0.2**
	19nm,0.6s						
AAK				⇓Lg	Lg	01 49 45.5	
	36nm,0.6s						
EKS2	**Erkin-Say**	**3.21**	**353**	⇓*iP*	**Pb**	**01 49 00.5**	**-1.4**
	baz=356						
EKS2				⇓*iS*	**Sb**	**01 49 39.7**	**-1.3**
	baz=356						
KBK	**Karagaybulak**	**3.21**	**8**	⇑*iP*	**Pb**	**01 49 01.5**	**-0.5**
	baz=12						
KBK				⇑*iS*	**Sb**	**01 49 41.3**	**0.0**
	baz=12						
MNAS	**Manas**	**3.30**	**336**	⇓*iP*	**Pb**	**01 49 00.8**	**-2.7**
	baz=339						
MNAS				⇓*iS*	**Sn**	**01 49 38.6**	**+2.6**
	baz=339						
MNAS	**Manas**	**3.30**	**336**	⇓Pg	**Pb**	**01 49 02.1**	**-1.5**
	8.9nm,0.7s						
MNAS				⇓Lg	Lg	01 49 47.2	
	73nm,0.6s						
MRKS	**Merke**	**3.36**	**346**	*e*P	**Pb**	**01 49 04.4**	**-0.2**
	14nm,0.4s						
MRKS				*e*S	**Sb**	**01 49 47.3**	**+1.7**
	74nm,0.5s						
TKM2	**Tokmak 2**	**3.57**	**15**	⇑*iP*	**Pb**	**01 49 07.2**	**-1.0**
	baz=19						
TKM2				⇑*iS*	**Sb**	**01 49 49.9**	**-1.8**
	baz=19						
TKM2	**Tokmak 2**	**3.57**	**15**	⇑Pg	**Pb**	**01 49 08.6**	**+0.3**
	7.9nm,1.1s						
TKM2				⇓Lg	Lg	01 49 59.0	
	30nm,0.9s						
KST	**Kastek**	**3.77**	**19**	*e*P	**Pb**	**01 49 09.7**	**-1.9**
	7.6nm,0.6s						
KST				*e*S	**Sb**	**01 49 55.9**	**-1.5**
	21nm,0.7s						
DGS	**Degeres**	**3.92**	**16**	*e*P	**Pb**	**01 49 12.8**	**-1.2**
	10nm,0.6s						
DGS				*e*S	**Sb**	**01 50 01.2**	**-0.3**
	28nm,0.5s						
IZV	**Izvestkoviy**	**3.96**	**25**	*e*P	**Pb**	**01 49 13.5**	**-1.2**
	13nm,0.8s						
IZV				*e*S	**Sb**	**01 50 03.0**	**+0.3**
	30nm,0.8s						
TNSS	**Tian-Shan**	**4.07**	**28**	*e*P	**Pb**	**01 49 15.7**	**-1.2**
	11nm,0.4s						
TNSS				*e*S	**Sb**	**01 50 06.4**	**+0.1**
	16nm,0.8s						
KK31	**Karatay Array**	**4.61**	**323**	Pn	**Pn**	**01 49 17.7**	**+3.1**
	2.3nm,0.5s,baz=123,slow=12,SNR=19						
KK31				⇑Sn	**Sn**	**01 50 11.2**	**+2.9**
	4.8nm,0.6s,baz=137,slow=16,SNR=4.2						
KK31				⇑Lg	Lg	01 50 30.2	
	8.7nm,0.4s,baz=130,slow=28,SNR=4.9						

*ISK **28** 01:50:45.9, 38°.73N×43°.40E, h5km, ML2.3*
*ISCJB **28** 01:50:47.1±0.9, 38°.79N±0°.04×43°.30E±0°.09, h11km±7km, Error ellipse: s-maj=12.5km s-min=6.1km az=22.8*
*CSEM **28** 01:50:47.2±0.2, 38°.79N×43°.42E, h10km, ML2.3, Error ellipse: s-maj=10.6km s-min=4.6km az=109.0*
*DDA **28** 01:50:47.1, 38°.81N×43°.37E, h7km, Ml2.7*

ISC 28 01:50:47.9±0.9, 38°.76N±0°.03×43°.37E±0°.06, h15km±6km, n16, σ1§18/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**176**	*e*PG	**Pg**	**01 50 51.2**	**-0.9**
VANB				*e*SG	**Sg**	**01 50 55.1**	**+0.2**
VANB	**Van**	**0.17**	**176**	*e*Pg	**Pg**	**01 50 51.2**	**-0.9**
VANB				*e*Sg	**Sg**	**01 50 55.1**	**+0.2**
TVAN	**Van**	**0.23**	**174**	*i* P	**Pb**	**01 50 54.0**	**0.0**
TVAN	**Van**	**0.23**	**174**	P	**Pb**	**01 50 54.0**	**0.0**
VMUR	**Van-Muradiye**	**0.27**	**34**	*i* P	**Pg**	**01 50 52.7**	**-1.1**
VMUR				*i* S	**Sg**	**01 51 01.4**	**+3.4**
VMUR	**Van-Muradiye**	**0.27**	**34**	P	**Pg**	**01 50 52.7**	**-1.1**
GEVA	**Gevas**	**0.51**	**209**	*i* P	**Pg**	**01 50 57.3**	**-0.8**
GEVA				*i* S	**Sn**	**01 51 09.3**	**-0.2**
GEVA	**Gevas**	**0.51**	**209**	P	**Pg**	**01 50 57.3**	**-0.8**
GEVA				S	**Sn**	**01 51 09.3**	**-0.2**
CLDR	**Caldiran**	**0.57**	**48**	*e*PG	**Pg**	**01 50 58.1**	**-1.1**
CLDR				*e*SG	**Sb**	**01 51 07.6**	**-0.1**
CLDR	**Caldiran**	**0.57**	**48**	*i* P	**Pg**	**01 50 57.4**	**-1.9**
CLDR				*i* S	**Sb**	**01 51 08.1**	**+0.4**
CLDR	**Caldiran**	**0.57**	**48**	P	**Pg**	**01 50 57.3**	**-1.9**
CLDR	**Caldiran**	**0.57**	**48**	*e*Pg	**Pg**	**01 50 58.1**	**-1.1**
CLDR				S	**Sb**	**01 51 08.1**	**+0.4**
AGRB	**Hanur-Agry**	**0.86**	**340**	*e*PG	**Pb**	**01 51 04.4**	**-0.3**
AGRB	**Hanur-Agry**	**0.86**	**340**	*e*Pg	**Pb**	**01 51 04.4**	**-0.3**
CUKT	**Cukurca**	**1.52**	**173**	*e*PN	**Pn**	**01 51 15.3**	**+0.6**
CUKT	**Cukurca**	**1.52**	**173**	*e*Pn	**Pn**	**01 51 15.3**	**+0.6**

MEX 28 01:54:04.5±0.6, 15°.09N×93°.00W, h97km±18km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.65**	**341**	*e*P	Pn	01 54 20.0	-1.2
PCIG				*e*S	Sn	01 54 31.3	-2.3
CCIG	**Comitan**	**1.45**	**35**	*e*P	Pn	01 54 28.7	-1.5
CCIG				*e*S	Sn	01 54 48.4	-1.2
CMIG	**Matias Romero**	**2.69**	**318**	*e*P	Pn	01 54 46.8	+0.7
CMIG				*e*S	Sn	01 55 15.7	-2.3

*ISK **28** 01:56:41.6, 38°.58N×43°.20E, h2km, ML2.9*
*DDA **28** 01:56:41.9, 38°.61N×43°.12E, h5km, Ml3.4*
*CSEM **28** 01:56:42.5±0.2, 38°.59N×43°.17E, h2km, ML2.9, Error ellipse: s-maj=5.8km s-min=5.3km az=128.0*

ISC 28 01:56:42.6±1.0, 38°.61N±0°.02×43°.17E±0°.02, h7km±9km, n75, σ1§81/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**95**	PG	**Pg**	**01 56 46.0**	**-0.1**
VANB	**Van**	**0.17**	**95**	*i* Pg	**Pg**	**01 56 46.0**	**-0.1**
TVAN	**Van**	**0.20**	**114**	*i* P	**Pg**	**01 56 48.8**	**+2.1**
TVAN	**Van**	**0.20**	**114**	P	**Pg**	**01 56 48.8**	**+2.1**
GEVA	**Gevas**	**0.31**	**196**	*i* P	**Pg**	**01 56 47.7**	**-1.1**
GEVA				*i* S	**Sb**	**01 56 54.8**	**-1.2**
GEVA	**Gevas**	**0.31**	**196**	P	**Pg**	**01 56 47.7**	**-1.1**
GEVA				S	**Sb**	**01 56 54.8**	**-1.2**
TATV	**Tatvan**	**0.71**	**262**	*i* P	**Pg**	**01 56 54.5**	**-1.9**
TATV				*i* S	**Sg**	**01 57 05.0**	**-0.7**
TATV	**Tatvan**	**0.71**	**262**	P	**Pg**	**01 56 54.5**	**-1.9**
TATV				S	**Sg**	**01 57 05.0**	**-0.7**
CLDR	**Caldiran**	**0.79**	**47**	*e*PG	**Pb**	**01 56 57.9**	**-0.9**
CLDR				*e*SG	**Sn**	**01 57 09.9**	**-2.7**
CLDR	**Caldiran**	**0.79**	**47**	*i* P	**Pb**	**01 56 57.5**	**-1.3**
CLDR	**Caldiran**	**0.79**	**47**	P	**Pb**	**01 56 57.5**	**-1.3**
CLDR	**Caldiran**	**0.79**	**47**	*e*Pg	**Pb**	**01 56 57.9**	**-0.9**
CLDR				*e*Sg	**Sn**	**01 57 09.9**	**-2.7**
TUTA	**Tutak**	**0.84**	**341**	*i* P	**Pg**	**01 56 57.6**	**-1.1**
TUTA				*i* S	**Sg**	**01 57 07.2**	**-2.4**
TUTA	**Tutak**	**0.84**	**341**	P	**Pg**	**01 56 57.6**	**-1.1**
TUTA				S	**Sg**	**01 57 07.2**	**-2.4**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*PG	**Pb**	**01 57 01.4**	**-0.6**
AGRB				*e*SG	**Sn**	**01 57 16.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*Pg	**Pb**	**01 57 01.4**	**-0.6**
AGRB				*e*Sg	**Sn**	**01 57 16.5**	**-0.7**
DYDN	**Diyadin**	**1.02**	**23**	*i* P	**Pg**	**01 57 01.6**	**-0.5**
DYDN	**Diyadin**	**1.02**	**23**	P	**Pg**	**01 57 01.6**	**-0.5**
EKAR	**Karacoban**	**1.08**	**307**	*i* P	**Pg**	**01 57 02.9**	**-0.4**
EKAR				*i* S	**Sn**	**01 57 24.2**	**+4.4**
EKAR	**Karacoban**	**1.08**	**307**	*i* P	**Pg**	**01 57 02.6**	**-0.7**
EKAR				*i* S	**Sn**	**01 57 23.5**	**+3.7**
EKAR	**Karacoban**	**1.08**	**307**	P	**Pg**	**01 57 02.9**	**-0.4**
EKAR				S	**Sn**	**01 57 24.2**	**+4.4**
EKAR	**Karacoban**	**1.08**	**307**	P	**Pg**	**01 57 02.6**	**-0.7**
EKAR				S	**Sn**	**01 57 23.5**	**+3.7**
HAKT	**HAKKARI**	**1.13**	**158**	*i* P	**Pg**	**01 57 02.6**	**-1.7**
HAKT				*i* S	**Sn**	**01 57 25.5**	**+4.4**
HAKT	**HAKKARI**	**1.13**	**158**	P	**Pg**	**01 57 02.7**	**-1.7**
HAKT				S	**Sn**	**01 57 25.5**	**+4.4**
EATA	**Eleskirt**	**1.36**	**337**	*i* P	**Pn**	**01 57 06.8**	**-1.5**
EATA				*i* S	**Sg**	**01 57 29.2**	**+2.9**
EATA	**Eleskirt**	**1.36**	**337**	*i* P	**Pn**	**01 57 07.5**	**-0.8**
EATA				*i* S	**Sg**	**01 57 29.1**	**+2.8**
EATA	**Eleskirt**	**1.36**	**337**	P	**Pn**	**01 57 06.8**	**-1.5**
EATA				S	**Sg**	**01 57 29.2**	**+2.9**
EATA	**Eleskirt**	**1.36**	**337**	P	**Pn**	**01 57 07.5**	**-0.8**
EATA				S	**Sg**	**01 57 29.0**	**+2.8**
CUKT	**Cukurca**	**1.40**	**166**	*e*PN	**Pg**	**01 57 08.4**	**-1.1**
CUKT	**Cukurca**	**1.40**	**166**	*i* P	**Pg**	**01 57 08.0**	**-1.5**
CUKT	**Cukurca**	**1.40**	**166**	P	**Pg**	**01 57 08.0**	**-1.5**
CUKT	**Cukurca**	**1.40**	**166**	*e*Pn	**Pg**	**01 57 08.4**	**-1.1**
VRTB	**Varto-Mus**	**1.45**	**293**	*e*PN	**Pb**	**01 57 09.5**	**-0.5**
VRTB	**Varto-Mus**	**1.45**	**293**	*i* P	**Pb**	**01 57 09.1**	**-0.9**
VRTB				*i* S	**Sg**	**01 57 29.8**	**+0.7**
VRTB	**Varto-Mus**	**1.45**	**293**	*i* P	**Pb**	**01 57 09.0**	**-1.0**
VRTB				*i* S	**Sg**	**01 57 32.9**	**+3.8**
VRTB	**Varto-Mus**	**1.45**	**293**	P	**Pb**	**01 57 09.1**	**-0.9**
VRTB	**Varto-Mus**	**1.45**	**293**	*e*Pn	**Pb**	**01 57 09.5**	**-0.5**
VRTB				S	**Sg**	**01 57 29.8**	**+0.7**
VRTB	**Varto-Mus**	**1.45**	**293**	P	**Pb**	**01 57 09.0**	**-0.9**
VRTB				S	**Sg**	**01 57 32.9**	**+3.8**
BNGL	**BINGOL**	**1.61**	**283**	*i* P	**Pb**	**01 57 12.2**	**-0.8**
BNGL				*i* S	**Sg**	**01 57 34.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.62**	**254**	*e*PN	**Pb**	**01 57 12.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.62**	**254**	*i* P	**Pb**	**01 57 12.1**	**-0.7**
SVAN				*i* S	**Sg**	**01 57 35.9**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.62**	**254**	*e*Pn	**Pb**	**01 57 12.1**	**-0.7**
SVAN				S	**Sg**	**01 57 35.9**	**+1.4**
BTMN	**Batman**	**1.66**	**245**	*i* P	**Pb**	**01 57 12.7**	**-0.9**
BTMN				*i* S	**Sg**	**01 57 35.5**	**-0.4**
BTMN	**Batman**	**1.66**	**245**	P	**Pb**	**01 57 12.7**	**-0.9**
BTMN				S	**Sg**	**01 57 35.5**	**-0.4**
HOMI	**Horasan**	**1.74**	**326**	*i* P	**Pb**	**01 57 14.8**	**-0.2**
HOMI				*i* S	**Sg**	**01 57 40.0**	**+1.5**
HOMI	**Horasan**	**1.74**	**326**	*i* P	**Pb**	**01 57 14.6**	**-0.4**
DIGO	**Kars**	**1.81**	**5**	*i* P	**Pg**	**01 57 16.6**	**-0.7**
DIGO	**Kars**	**1.81**	**5**	*i* P	**Pb**	**01 57 16.1**	**-0.2**
DIGO	**Kars**	**1.81**	**5**	P	**Pg**	**01 57 16.6**	**-0.7**
ERZM	**Erzurum**	**1.91**	**313**	*i* P	**Pb**	**01 57 16.3**	**-1.6**
ERZM	**Erzurum**	**1.91**	**313**	*i* P	**Pb**	**01 57 17.4**	**-0.5**
ERZM				*i* S	**Sg**	**01 57 46.9**	**+3.0**
ERZM	**Erzurum**	**1.91**	**313**	P	**Pb**	**01 57 16.3**	**-1.6**
ERZM	**Erzurum**	**1.91**	**313**	P	**Pb**	**01 57 17.4**	**-0.5**
ERZM				S	**Sg**	**01 57 46.9**	**+3.0**
ECAT	**Cat-ERZURUM**	**1.98**	**301**	*i* P	**Pg**	**01 57 19.4**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.98**	**301**	*i* P	**Pg**	**01 57 19.4**	**-1.1**
ECAT				*i* S	**Sg**	**01 57 48.3**	**+2.2**
ECAT	**Cat-ERZURUM**	**1.98**	**301**	P	**Pg**	**01 57 19.4**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.98**	**301**	P	**Pg**	**01 57 19.4**	**-1.1**
ECAT				S	**Sg**	**01 57 48.3**	**+2.2**
BNGB	**Bing¨¶l**	**1.98**	**282**	*e*PN	**Pb**	**01 57 18.0**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.05**	**342**	*e*PN	**Pb**	**01 57 18.5**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.05**	**342**	*e*Pn	**Pb**	**01 57 18.5**	**-1.8**
EAK	**Akyaka**	**2.10**	**9**	*i* P	**Pg**	**01 57 21.9**	**-1.0**
EAK	**Akyaka**	**2.10**	**9**	*i* P	**Pg**	**01 57 22.4**	**-0.4**
EAK	**Akyaka**	**2.10**	**9**	P	**Pg**	**01 57 21.9**	**-1.0**
BINT	**Bingol**	**2.11**	**278**	*e*Pn	**Pn**	**01 57 18.0**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	*e*PN	**Pb**	**01 57 21.4**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	*e*Pn	**Pb**	**01 57 21.4**	**-1.5**
MAZI	**Mazidag**	**2.44**	**243**	*e*PN	**Pb**	**01 57 24.0**	**-2.9**
MAZI	**Mazidag**	**2.44**	**243**	*e*Pn	**Pb**	**01 57 24.0**	**-2.9**
DDEM	**Demirkent**	**2.53**	**335**	*i* P	**Pg**	**01 57 30.0**	**-1.1**
DDEM	**Demirkent**	**2.53**	**335**	*i* P	**Pg**	**01 57 30.2**	**-0.9**
DDEM	**Demirkent**	**2.53**	**335**	P	**Pg**	**01 57 30.0**	**-1.1**
PTK	**Pertek**	**2.97**	**277**	*e*PN	**Pn**	**01 57 31.6**	**+1.3**
PTK	**Pertek**	**2.97**	**277**	*e*Pn	**Pn**	**01 57 31.6**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.04**	**267**	*e*PN	**Pn**	**01 57 33.1**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.04**	**267**	*e*Pn	**Pn**	**01 57 33.1**	**+1.8**

JMA 28 02:06:38.8±0.1, 38°.87N×142°.02E, h53km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.34**	**308**	P	Pn	02 06 48.7	+0.1
JMK	**Ichinoseki**	**0.63**	**278**	P	Pn	02 06 51.9	+0.1
JIO	**Ouri**	**0.67**	**232**	P	Pn	02 06 52.4	+0.1
JIO				S	Sn	02 07 01.3	-0.7
JOM	**Ohasama**	**0.83**	**317**	P	Pn	02 06 54.5	+0.2
JOM				S	Sn	02 07 05.3	-0.4
JOU	**Okura**	**1.18**	**245**	P	Pn	02 06 59.1	+0.1
JRG	**Rokugo**	**1.20**	**296**	P	Pn	02 06 59.4	+0.1
JYK	**Kaneyama**	**1.30**	**273**	P	Pn	02 07 00.8	+0.2
JMM	**Marumori**	**1.39**	**224**	P	Pn	02 07 02.0	+0.1
JANG	**Nango**	**1.55**	**346**	P	Pn	02 07 04.2	+0.1

*ISCJB **28** 02:06:45.5±0.9, 38°.87

USRK	Ussuriysk Ar.	9.21 309	P	Pn	02 08 59.6	+2.6
	0.8nm,0.3s,baz=116,slow=12,SNR=17					
KSRS	Korea Array	11.18 267	P	Pn	02 09 27.8	+3.9
	0.4nm,0.3s,baz=79,slow=14,SNR=5.3					
KSAR	Wonju Array Be	11.21 267	P	Pn	02 09 27.8	+3.5
SONM	Songino Array	27.20 301	P	P	02 12 26.5	+1.1
	0.5nm,0.4s,baz=114,slow=9.9,SNR=3.6					
H11N2	WAKE ISLAND Hy	28.74 124	T	T	02 43 01.2	
	baz=317,slow=76,SNR=217					
H11N1	WAKE ISLAND Hy	28.75 124	T	T	02 43 04.8	
	baz=317,slow=76,SNR=108					
H11N3	WAKE ISLAND Hy	28.75 124	T	T	02 43 06.0	
	baz=317,slow=76,SNR=63					
H11S1	WAKE ISLAND Hy	29.51 126	T	T	02 44 02.1	
	baz=319,slow=76,SNR=69					
H11S3	WAKE ISLAND Hy	29.51 126	T	T	02 44 11.1	
	baz=319,slow=76,SNR=73					
H11S2	WAKE ISLAND Hy	29.53 126	T	T	02 44 12.2	
	baz=319,slow=76,SNR=62					
ZALV	Zalesovo Beam	41.05 311	P	P	02 14 24.4	-0.4
	3.5nm,0.6s,baz=99,slow=9.2,SNR=12					
MKAR	Makanchi Array	43.57 301	P	P	02 14 44.9	-0.4
	5.3nm,0.8s,baz=85,slow=9.5,SNR=32					
KURK	Kurchatov	45.20 307	*e*P	P	02 14 57.6	-0.6
	102nm,1.1s					
KURBB	Kurchatov Arra	45.27 307	P	P	02 14 58.5	-0.3
	7.3nm,0.5s,baz=79,slow=8.5,SNR=5.0					
ILAR	Eielson Array	47.71 33	P	P	02 15 18.7	+1.0
	0.6nm,0.7s,baz=264,slow=6.1,SNR=7.1					
BVAR	Borovoye Array	49.71 311	P	P	02 15 33.0	-0.2
	2.6nm,0.5s,baz=64,slow=8.1,SNR=15					
BRVK	Borovoye	49.76 311	*e*P	P	02 15 33.1	-0.4
	8.6nm,0.7s					
KKAR	Karatay Array	52.63 299	*e*P	P	02 15 54.7	-0.6
	1.9nm,0.8s					
ARU	Arti	55.31 318	P	P	02 16 14.5	-0.1
	2.8nm,0.4s,baz=35,slow=1.3,SNR=9.0					
ARU	Arti	55.31 318	*e*P	P	02 16 14.2	-0.4
	6.4nm,0.7s					
ABKAR	Akbulak array	57.13 309	*e*P	P	02 16 27.1	-0.6
	2.9nm,0.6s					
AKTO	Aktyubinsk	57.81 311	P	P	02 16 31.7	-0.8
	2.9nm,0.7s,baz=75,slow=12,SNR=8.4					
WRA	Warramunga Arr	58.93 188	P	P	02 16 40.3	-0.2
	0.9nm,0.5s,baz=5.8,slow=7.0,SNR=11					
ASAR	Alice Springs	62.65 188	P	P	02 17 05.9	+0.2
	0.5nm,0.7s,baz=0.8,slow=5.5,SNR=5.1					
GEYT	Alibeck	63.37 298	P	P	02 17 10.3	-0.2
	1.0nm,0.7s,baz=72,slow=4.7,SNR=4.1					
FINES	FINESS Array B	67.42 332	P	P	02 17 36.1	-0.1
	1.7nm,0.6s,baz=37,slow=9.8,SNR=7.8					
KBZ	Khabaz	70.07 310	P	P	02 17 53.8	+0.8
	2.5nm,0.8s,baz=108,slow=3.2,SNR=5.0					
AKASG	Malin Array Be	73.14 322	P	P	02 18 10.7	-0.7
	0.8nm,0.4s,baz=44,slow=6.3,SNR=4.8					
BRTR	Keskin Array B	77.99 312	P	P	02 18 39.4	-0.2
	0.5nm,0.4s,baz=56,slow=2.6,SNR=5.2					
GERES	GERESS Array B	81.41 328	P	P	02 18 57.0	-0.8
	0.4nm,0.7s,baz=40,slow=8.0,SNR=3.3					

*ISK **28** 02:11:13.8, 38.°76N×43.°59E, h5km, ML2.6*
*ISCJB **28** 02:11:15.4±0.4, 38.°75N±0.°03×43.°57E±0.°07, h7km±6km, Error ellipse: s-maj=9.1km s-min=5.1km az=11.9*
*CSEM **28** 02:11:15.4±0.4, 38.°77N×43.°55E, h5km, ML3.1, Error ellipse: s-maj=7.8km s-min=5.6km az=104.0*
*DDA **28** 02:11:17.2, 38.°80N×43.°43E, h7km, Ml3.1*
ISC 28 02:11:16.0±1.0, **38.°77N**±0.°03×**43.°54E**±0.°03, **h8**km±9km, **n30**, σ1§**04**/45, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	214	PG	Pg	02 11 20.3	0.0
VANB	Van	0.21	214	*i* Pg	Pg	02 11 20.3	0.0
VMUR	Van-Muradiye	0.22	7	*i* P	Pg	02 11 19.8	-0.9
VMUR				*i* S	Sg	02 11 25.6	+1.8
VMUR	Van-Muradiye	0.22	7	P	Pg	02 11 19.8	-0.9
VMUR				S	Sg	02 11 25.6	+1.8
TVAN	Van	0.26	204	*i* P	Pb	02 11 23.1	0.0
TVAN	Van	0.26	204	P	Pb	02 11 23.1	0.0
CLDR	Caldiran	0.48	38	*e*PG	Pg	02 11 24.1	-1.3
CLDR				*e*SG	Sg	02 11 31.5	-0.2
CLDR	Caldiran	0.48	38	*e*Pg	Pg	02 11 24.1	-1.3
CLDR				*e*Sg	Sg	02 11 31.5	-0.2
GEVA	Gevas	0.59	220	*i* P	Pg	02 11 25.8	-1.6
GEVA	Gevas	0.59	220	P	Pg	02 11 25.8	-1.6
TUTA	Tutak	0.85	319	*i* P	Pg	02 11 30.9	-1.5
TUTA				*i* S	Sg	02 11 43.3	-0.2
TUTA	Tutak	0.85	319	P	Pg	02 11 30.9	-1.5
TUTA				S	Sg	02 11 43.3	-0.2
AGRB	Hanur-Agry	0.91	332	*e*PG	Pg	02 11 32.1	-1.5
AGRB				*e*SG	Sb	02 11 47.2	+0.6
AGRB	Hanur-Agry	0.91	332	*e*Pg	Pg	02 11 32.1	-1.5
AGRB				*e*Sg	Sb	02 11 47.2	+0.6
TATV	Tatvan	1.03	256	*i* P	Pg	02 11 35.0	-0.8
TATV				*i* S	Sg	02 11 48.8	-0.3
TATV	Tatvan	1.03	256	P	Pg	02 11 35.0	-0.8
TATV				S	Sg	02 11 48.8	-0.3
EKAR	Karacoban	1.25	294	*i* P	Pg	02 11 39.2	-0.8
EKAR				*i* S	Sn	02 11 59.9	+2.8
EKAR	Karacoban	1.25	294	P	Pg	02 11 39.2	-0.8
EATA	Eleskirt	1.36	324	*i* P	Pb	02 11 41.9	0.0
EATA				*i* S	Sn	02 11 59.9	-0.1
EATA	Eleskirt	1.36	324	P	Pb	02 11 41.9	0.0
EATA				S	Sn	02 11 59.9	-0.1
CUKT	Cukurca	1.52	178	*e*PN	Pb	02 11 43.5	0.0
CUKT	Cukurca	1.52	178	*e*Pn	Pn	02 11 43.5	0.0
VRTB	Varto-Mus	1.67	284	*e*PN	Pb	02 11 46.3	-0.8
VRTB	Varto-Mus	1.67	284	*i* P	Pn	02 11 46.1	+0.4
VRTB				*i* S	Sg	02 12 09.5	-0.2
VRTB	Varto-Mus	1.67	284	P	Pn	02 11 46.1	+0.4
VRTB	Varto-Mus	1.67	284	*e*Pn	Pb	02 11 46.3	-0.8
VRTB				S	Sg	02 12 09.5	-0.2
BNGB	Bing¨¶‖	2.24	277	*e*PN	Pn	02 11 54.3	+0.8
BINT	Bingol	2.38	274	*e*Pn	Pn	02 11 54.3	-1.2
YEDI	Yedisu-Bingol	2.42	287	*e*PN	Pn	02 11 57.4	+1.4
YEDI	Yedisu-Bingol	2.42	287	*e*Pn	Pn	02 11 57.4	+1.4

*SOME **28** 02:21:22.5, 44.°55N×79.°32E, h15km*
*NNC **28** 02:21:23.6±0.6, 44.°41N×79.°37E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=5.6km s-min=4.0km az=92.0*
ISC 28 02:21:22.0±1.1, **44.°54N**±0.°03×**79.°34E**±0.°03, **h12**km±10km, **n32**, σ1§**37**/56, **11C-13D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.38	122	*e*P	Pb	02 21 31.1	+0.3
	210nm,0.1s						
DJR				*e*S	Sg	02 21 36.3	+1.6
	2μm,0.2s						
TDK	Taldyqorghan	0.81	305	*e*P	Pb	02 21 38.2	+0.1
	70nm,0.2s						
TDK				*e*S	Sb	02 21 48.4	-0.6
	356nm,0.5s						
MNBS	Baschi	0.82	236	*e*P	Pg	02 21 37.6	-0.1
	212nm,0.1s						
MNBS				*e*S	Sg	02 21 47.6	-0.8
	346nm,0.2s						
ARXS	Arharly	1.13	254	*e*P	Pb	02 21 43.4	-0.1
	85nm,0.2s						
ARXS				*e*S	Sb	02 21 57.6	-0.7
	457nm,0.2s						
PDGK	Podgornoye	1.21	175	⇓P	Pn	02 21 44.4	-0.6
	115nm,0.3s						
PDGK				⇓S	Sb	02 21 59.6	-1.1
	201nm,0.5s						
KURS	Kuram	1.35	219	*e*P	Pn	02 21 46.5	-0.2
	39nm,0.3s						
KURS				*e*S	Sn	02 22 03.7	-0.9
	244nm,0.3s						
SHLS	Shalkode	1.38	176	*e*P	Pb	02 21 48.2	+0.3
	49nm,0.2s						
SHLS				*e*S	Sb	02 22 06.7	+1.1
	504nm,0.2s						
UZB	Uzynbulak	1.41	190	*e*P	Pn	02 21 47.5	-0.2
	70nm,0.2s						
UZB				*e*S	Sn	02 22 05.1	-1.1
	906nm,0.2s						
ZHN	Zhinishke	1.52	206	*e*P	Pn	02 21 49.3	+0.2
	119nm,0.1s						
ZHN				*e*S	Sn	02 22 08.1	-0.7
	3μm,0.2s						
SATY	Saty	1.63	205	*e*P	Pn	02 21 51.5	+0.9
	368nm,0.1s						
SATY				*e*S	Sn	02 22 11.9	+0.4
	2μm,0.2s						
CHKK	Chushkaly	1.82	249	*e*P	Pb	02 21 54.4	-1.0
	62nm,0.2s						
CHKK				*e*S	Sb	02 22 17.4	-0.7
	782nm,0.2s						
KOTS	Kotyrbulak	2.07	232	*e*P	Pb	02 21 59.3	-0.4
KOTS				*e*S	Sb	02 22 26.4	+0.9
KTBS	Karatobe	2.08	248	*e*P	Pb	02 21 59.5	-0.2
KTBS				*e*S	Sb	02 22 26.0	+0.3
MDOK	Medeo	2.15	231	⇑Pn	Pn	02 21 59.2	+1.3
MDOK				⇓Sn	Sb	02 22 27.6	-0.1
MDOK	Medeo	2.15	231	*e*P	Pb	02 21 59.8	-1.2
	50nm,0.5s						
MDOK				*e*S	Sn	02 22 25.7	+1.1
	156nm,0.3s						
KNDC	Almaty	2.17	233	⇓Pn	Pb	02 22 00.1	-1.1
	60nm,0.5s						
KNDC				⇑Sn	Sb	02 22 28.2	+0.2
	167nm,0.3s						
AAA	Alma-Ata	2.20	234	*e*P	Pb	02 22 01.2	-0.5
	58nm,0.3s						
AAA				*e*S	Sb	02 22 29.7	+0.7
	765nm,0.2s						
TNSS	Tian-Shan	2.29	230	*e*P	Pb	02 22 02.2	-1.3
	20nm,0.2s						
TNSS				*e*S	Sb	02 22 30.6	-1.4
	172nm,0.3s						
IZV	Izvestkoviy	2.48	234	*e*P	Pb	02 22 05.8	-0.8
	38nm,0.3s						
IZV				*e*S	Sb	02 22 36.8	-0.4
	196nm,0.2s						
MTBS	Maitube	2.53	237	*e*P	Pb	02 22 06.1	-1.3
	31nm,0.4s						
MTBS				*e*S	Sb	02 22 37.6	-1.0
	362nm,0.4s						
KST	Kastek	2.87	240	*e*P	Pb	02 22 12.2	-0.9
	6.1nm,0.2s						
KST				*e*S	Sb	02 22 48.0	-0.2
	114nm,0.3s						
DGS	Degeres	2.89	245	*e*P	Pb	02 22 13.0	-0.4
	12nm,0.4s						
DGS				*e*S	Sb	02 22 48.9	+0.1
	126nm,0.5s						
MAKZ	Makanchi	2.93	38	⇓Pn	Pb	02 22 11.9	-2.2
	1.5nm,0.3s						
MAKZ				⇑Pg	Pg	02 22 19.6	+1.5
	3.6nm,0.5s						
MAKZ				⇑Lg	Lg	02 22 58.0	
	12nm,0.5s						
MK31	Makanchi Array	3.06	41	⇑Pn	Pb	02 22 14.4	-2.0
	1.2nm,0.2s,baz=217,slow=15,SNR=214						
MK31				Pg	Pg	02 22 21.1	+0.5
	3.5nm,0.2s,baz=218,slow=17,SNR=21						
MK31				⇑Lg	Lg	02 22 59.3	
	50nm,0.5s,baz=217,slow=25						
TKM2	Tokmak 2	3.16	241	⇑Pn	Pn	02 22 13.4	+1.7
	1.1nm,0.2s						
TKM2				⇓Pg	Pb	02 22 18.8	+0.6
	6.1nm,0.4s						
TKM2				⇓Lg	Lg	02 22 59.1	
	72nm,0.7s						
AAK	Ala-Archa	4.00	243	⇓Pn	Pn	02 22 27.5	+4.3
	3.9nm,0.4s						
AAK				⇓Lg	Lg	02 23 29.2	
	29nm,0.9s						
MRKS	Merke	4.79	250	*e*P	Pb	02 22 47.7	+1.9
	4.7nm,0.4s						
MRKS				*e*S	Sb	02 23 48.1	+4.7
	20nm,0.7s						
ZSN	Zaisan	4.83	51	*e*P	Pb	02 22 45.6	-0.9
	1.6nm,0.2s						
ZSN				*e*S	Sb	02 23 44.6	+0.1
	4.9nm,0.5s						
MNAS	Manas	5.38	250	⇓Pg	Pg	02 23 01.7	-3.3
	2.1nm,0.6s						
MNAS				⇓Lg	Lg	02 24 09.2	
	14nm,0.8s						
KURBB	Kurchatov Arra	6.11	355	⇓Pn	Pb	02 23 00.2	-8.1
	3.7nm,0.7s						
KURBB				⇑Lg	Lg	02 24 40.6	
	35nm,0.6s						
KURK	Kurchatov	6.20	356	⇑Pn	Pn	02 23 00.2	+6.9
	2.7nm,0.4s						
KURK				⇑Lg	Lg	02 24 41.0	
	77nm,1.8s						
KK31	Karatay Array	6.55	260	Pn	Pn	02 23 03.1	+5.1
	0.1nm,0.3s,baz=75,slow=10,SNR=4.6						
KK31				⇑Pg	Pg	02 23 21.9	-5.3
	0.7nm,0.4s,baz=74,slow=16,SNR=6.5						
KK31				⇓Lg	Lg	02 24 48.5	
	2.7nm,0.5s,baz=69,slow=12,SNR=3.8						

*ISK **28** 02:28:12.6, 38.°61N×43.°22E, h2km, ML3.2*
*ISCJB **28** 02:28:14.0±0.5, 38.°63N±0.°02×43.°17E±0.°03, h4km±5km, Error ellipse: s-maj=4.5km s-min=3.7km az=25.4*
*CSEM **28** 02:28:13.5±0.2, 38.°63N×43.°18E, h2km, ML3.2, Error ellipse: s-maj=4.6km s-min=4.0km az=120.0*
*DDA **28** 02:28:14.1, 38.°67N×43.°10E, h7km, Ml3.6*
ISC 28 02:28:14.8±0.9, **38.°62N**±0.°02×**43.°15E**±0.°02, **h13**km±7km, **n61**, σ1§**48**/86, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	98	PG	Pg	02 28 17.1	-2.1
VANB	Van	0.19	98	*i* Pg	Pg	02 28 17.1	-2.1
TVAN	Van	0.22	115	*i* P	Pg	02 28 20.4	+0.6
TVAN				*i* S	Sg	02 28 24.7	+1.5
TVAN	Van	0.22	115	P	Pg	02 28 20.4	+0.6
TVAN				S	Sg	02 28 24.7	+1.5
GEVA	Gevas	0.32	193	*i* P	Pg	02 28 19.6	-1.7
GEVA				*i* S	Sb	02 28 26.9	-0.6
GEVA	Gevas	0.32	193	P	Pg	02 28 19.6	-1.7
GEVA				S	Sb	02 28 26.9	-0.6
VMUR	Van-Muradiye	0.49	42	*i* P	Pg	02 28 22.8	-1.8
VMUR				*i* S	Sb	02 28 32.1	-0.5
VMUR	Van-Muradiye	0.49	42	P	Pg	02 28 22.8	-1.8
VMUR				S	Sb	02 28 32.1	-0.5
TATV	Tatvan	0.70	261	*i* P	Pg	02 28 26.1	-2.3
TATV				*i* S	Sg	02 28 37.7	0.0
TATV	Tatvan	0.70	261	P	Pg	02 28 26.1	-2.3
TATV				S	Sg	02 28 37.7	0.0
CLDR	Caldiran	0.79	49	*e*PG	Pg	02 28 28.1	-2.1
CLDR				*e*SG	Sb	02 28 39.9	-1.4
CLDR	Caldiran	0.79	49	*i* P	Pg	02 28 27.8	-2.4
CLDR				*i* S	Sb	02 28 40.6	-0.7
CLDR	Caldiran	0.79	49	P	Pg	02 28 27.8	-2.4
CLDR	Caldiran	0.79	49	*e*Pg	Pg	02 28 28.1	-2.1
CLDR				*e*Sg	Sb	02 28 39.9	-1.4
CLDR				S	Sb	02 28 40.6	-0.7
TUTA	Tutak	0.82	342	*i* P	Pg	02 28 28.4	-2.3
TUTA				*i* S	Sg	02 28 41.1	-0.5
TUTA	Tutak	0.82	342	P	Pg	02 28 28.4	-2.3
TUTA				S	Sg	02 28 41.1	-0.5
AGRB	Hanur-Agry	0.96	353	*e*PG	Pg	02 28 31.8	-1.5
AGRB	Hanur-Agry	0.96	353	*e*Pg	Pg	02 28 31.8	-1.5
DYDN	Diyadin	1.01	24	*i* P	Pg	02 28 32.9	-1.4
DYDN	Diyadin	1.01	24	P	Pg	02 28 32.9	-1.4
EKAR	Karacoban	1.06	307	*i* P	Pg	02 28 33.7	-1.5
EKAR				*i* S	Sn	02 28 52.2	+2.1
EKAR	Karacoban	1.06	307	P	Pg	02 28 33.7	-1.5
EKAR				S	Sn	02 28 52.2	+2.1
HAKT	HAKKARI	1.15	157	*i* P	Pg	02 28 34.0	-3.0
HAKT	HAKKARI	1.15	157	P	Pg	02 28 34.0	-3.0
SIRN	S¨–rnak	1.27	208	*i* P	Pn	02 28 38.9	+0.7
SIRN	S¨–rnak	1.27	208	P	Pn	02 28 38.9	+0.7
EATA	Eleskirt	1.34	338	*i* P	Pg	02 28 37.9	-2.7
EATA				*i* S	Sn	02 28 58.9	+1.6
EATA	Eleskirt	1.34	338	P	Pg	02 28 37.9	-2.7
EATA				S	Sn	02 28 58.9	+1.6
CUKT	Cukurca	1.42	165	*e*PN	Pn	02 28 39.8	-0.6
CUKT				*e*SN	Sn	02 28 59.7	+0.8
CUKT	Cukurca	1.42	165	*i* P	Pn	02 28 39.4	-1.0
CUKT	Cukurca	1.42	165	P	Pn	02 28 39.4	-1.0
CUKT	Cukurca	1.42	165	*e*Pn	Pn	02 28 39.8	-0.6
CUKT				*e*Sn	Sn	02 28 59.7	+0.8
VRTB	Varto-Mus	1.43	293	*e*PN	Pb	02 28 41.4	+0.1
VRTB	Varto-Mus	1.43	293	*i* P	Pn	02 28 39.9	-0.6
VRTB	Varto-Mus	1.43	293	P	Pn	02 28 39.9	-0.6
VRTB	Varto-Mus	1.43	293	*e*Pn	Pb	02 28 41.4	+0.1
BNGL	BINGOL	1.60	283	*i* P	Pn	02 28 43.3	+0.5
BNGL				*i* S	Sg	02 29 07.1	+0.9
SVAN	Silvan-Diyarba	1.60	254	*e*PN	Pn	02 28 43.7	+0.9
SVAN	Silvan-Diyarba	1.60	254	*i* P	Pn	02 28 43.5	+0.7
SVAN				*i* S	Sn	02 29 04.7	+1.3
SVAN	Silvan-Diyarba	1.60	254	P	Pn	02 28 43.5	+0.7
SVAN	Silvan-Diyarba	1.60	254	*e*Pn	Pn	02 28 43.7	+0.9
SVAN				S	Sn	02 29 04.7	+1.3
BTMN	Batman	1.65	244	*i* P	Pb	02 28 44.7	-0.3
BTMN				*i* S	Sg	02 29 09.6	+1.8
BTMN	Batman	1.65	244	P	Pb	02 28 44.7	-0.3
BTMN				S	Sg	02 29 09.6	+1.8
HOMI	Horasan	1.72	326	*i* P	Pn	02 28 44.9	+0.3
ERZM	Erzurum	1.89	313	*i* P	Pb	02 28 48.5	-0.7
ERZM	Erzurum	1.89	313	P	Pb	02 28 48.5	-0.7
BNGB	Bing¨¶‖	1.96	282	*e*PN	Pn	02 28 49.0	+1.2
SENK	Senkaya-Erzuru	2.03	343	*e*PN	Pn	02 28 49.7	+0.8
SENK	Senkaya-Erzuru	2.03	343	*e*Pn	Pn	02 28 49.7	+0.8
BINT	Bingol	2.09	278	*e*Pn	Pn	02 28 49.0	-0.6
YEDI	Yedisu-Bingol	2.19	293	*e*PN	Pn	02 28 51.8	+0.9
YEDI	Yedisu-Bingol	2.19	293	*e*Pn	Pn	02 28 51.8	+0.9
MAZI	Mazidag	2.43	242	*e*PN	Pn	02 28 55.3	+1.1
MAZI	Mazidag	2.43	242	*e*Pn	Pn	02 28 55.3	+1.1
KOPT	Kop Dagi	2.48	305	*i* P	Pb	02 29 00.1	+0.7
KOPT	Kop Dagi	2.48	305	P	Pb	02 29 00.1	+0.7
PTK	Pertek	2.95	276	*e*PN	Pn	02 29 03.1	+1.7
PTK	Pertek	2.95	276	*e*Pn	Pn	02 29 03.1	+1.7
SVRC	Sivrice-ELAZID	3.02	267	*e*PN	Pn	02 29 04.0	+1.5
SVRC	Sivrice-ELAZID	3.02	267	*e*Pn	Pn	02 29 04.0	+1.5
DGRG	David-gareji	3.30	30	P	Pn	02 29 08.8	+2.6

*ISK **28** 02:32:40.4, 38.°77N×43.°32E, h5km, ML3.0*
*CSEM **28** 02:32:41.2±0.2, 38.°76N×43.°23E, h2km, ML3.0, Error ellipse: s-maj=4.9km s-min=4.1km az=92.0*
*DDA **28** 02:32:41.1, 38.°76N×43.°13E, h7km, Ml3.6*
ISC 28 02:32:41.7±0.9, **38.°75N**±0.°02×**43.°20E**±0.°02, **h10**km±8km, **n54**, σ1§**19**/79, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	136	PG	Pg	02 32 46.1	-0.1
VANB				*e*SG	Sg	02 32 50.3	+1.1
VANB	Van	0.21	136	*i* Pg	Pg	02 32 46.1	-0.1
VANB				*e*Sg	Sg	02 32 50.3	+1.1
TVAN	Van	0.27	144	*i* P	Pb	02 32 48.9	+0.1
TVAN				*i* S	Sb	02 32 53.6	+0.1
TVAN	Van	0.27	144	P	Pb	02 32 48.9	+0.1
TVAN				S	Sb	02 32 53.6	+0.1
VMUR	Van-Muradiye	0.38	50	*i* P	Pg	02 32 48.9	-0.4
VMUR				*i* S	Sb	02 32 56.2	-0.4
VMUR	Van-Muradiye	0.38	50	P	Pg	02 32 48.9	-0.4
VMUR				S	Sb	02 32 56.2	-0.4
GEVA	Gevas	0.45	195	*i* P	Pg	02 32 48.6	-2.0
GEVA				*i* S	Sg	02 32 57.3	+0.8
GEVA	Gevas	0.45	195	P	Pg	02 32 48.6	-2.0
GEVA				S	Sg	02 32 57.3	+0.8
CLDR	Caldiran	0.68	54	*e*PG	Pg	02 32 52.7	-2.3
CLDR	Caldiran	0.68	54	*i* P	Pg	02 32 53.9	-1.1
CLDR				*i* S	Sb	02 33 05.2	-0.3
CLDR	Caldiran	0.68	54	*e*Pg	Pg	02 32 52.7	-2.3
CLDR	Caldiran	0.68	54	P	Pg	02 32 53.9	-1.1
CLDR				S	Sb	02 33 05.2	-0.3
TUTA	Tutak	0.72	335	*i* P	Pg	02 32 54.9	-0.8
TUTA	Tutak	0.72	335	P	Pg	02 32 54.9	-0.8
TATV	Tatvan	0.77	252	*i* P	Pg	02 32 55.0	-1.6
TATV				*i* S	Sg	02 33 05.9	-0.8
TATV	Tatvan	0.77	252	P	Pg	02 32 55.0	-1.6
TATV				S	Sg	02 33 05.9	-0.8
AGRB	Hanur-Agry	0.84	349	*e*PG	Pg	02 32 56.9	-1.1
AGRB				*e*SG	Sb	02 33 09.2	-0.9
AGRB	Hanur-Agry	0.84	349	*e*Pg	Pg	02 32 56.9	-1.1
AGRB				*e*Sg	Sb	02 33 09.2	-0.9
DYDN	Diyadin	0.88	25	*i* P	Pg	02 32 57.9	-0.9
DYDN	Diyadin	0.88	25	P	Pg	02 32 57.9	-0.9
EKAR	Karacoban	1.02	300	*i* P	Pn	02 33 02.4	0.0
EKAR				*i* S	Sn	02 33 19.9	+3.0
EKAR	Karacoban	1.02	300	P	Pn	02 33 02.4	0.0
EATA	Eleskirt	1.24	334	*i* P	Pg	02 33 04.1	-1.5
EATA				*i* S	Sn	02 33 23.0	+0.5
EATA	Eleskirt	1.24	334	P	Pg	02 33 04.1	-1.5
EATA				S	Sn	02 33 23.0	+0.5
HAKT	HAKKARI	1.25	161	*i* P	Pg	02 33 02.9	-2.9
HAKT				*i* S	Sn	02 33 23.3	+0.8
HAKT	HAKKARI	1.25	161	P	Pg	02 33 02.9	-2.9
HAKT				S	Sn	02 33 23.3	+0.8
SIRN	S¨–rnak	1.40	207	*i* S	Sg	02 33 26.6	0.0
SIRN	S¨–rnak	1.40	207	S	Sg	02 33 26.6	0.0
VRTB	Varto-Mus	1.42	287	*e*PN	Pg	02 33 08.7	-0.4
VRTB	Varto-Mus	1.42	287	*e*Pn	Pg	02 33 08.7	-0.4
CUKT	Cukurca	1.53	168	*e*PN	Pn	02 33 09.1	-0.1
CUKT	Cukurca	1.53	168	*i* P	Pb	02 33 09.9	-0.4
CUKT				*i* S	Sb	02 33 30.0	+0.3
CUKT	Cukurca	1.53	168	*e*Pn	Pn	02 33 09.1	-0.1
CUKT	Cukurca	1.53	168	P	Pb	02 33 09.9	-0.4
CUKT				S	Sb	02 33 30.0	+0.3
BNGL	BINGOL	1.62	278	*i* P	Pn	02 33 09.7	-0.8
DIGO	Kars	1.67	4	*i* P	Pb	02 33 12.2	-0.5
DIGO	Kars	1.67

DBJI				S		Sn	02 39 35.4	-1.5
SBJI	**Serang**	**2.43**	**18**	P		Pn	02 39 09.6	-1.2
SBJI				S		Sn	02 39 37.4	-1.9
CISI	**Cisompet, Garu**	**2.59**	**70**	P		Pn	02 39 12.4	-0.6
CISI				S		Sn	02 39 43.4	+0.1
CISI	**Cisompet, Garu**	**2.59**	**70**	*e*Pn		Pn	02 39 11.2	-1.8
CISI				*e*Sn		Sn	02 39 42.7	-0.6
KASI	**Kota Agung**	**3.02**	**344**	P		Pn	02 39 17.2	-1.7
KASI				S		Sn	02 39 51.9	-2.0
BLSI	**Bandar Lampung**	**3.06**	**358**	P		Pn	02 39 18.2	-1.2
BLSI				S		Sn	02 39 54.1	-0.7
CMJI	**Cimerak**	**3.13**	**78**	P		Pn	02 39 18.4	-2.0
CMJI				S		Sn	02 39 55.6	-1.0
LWLI	**Liwa**	**3.64**	**339**	P		Pn	02 39 25.4	-2.1
LWLI				S		Sn	02 40 08.0	-1.3
KLSI		**3.78**	**351**	P		Pn	02 39 28.2	-1.1
MDSI	**Maura Dua**	**4.10**	**343**	P		Pn	02 39 32.5	-1.2
MDSI				S		Sn	02 40 19.2	-1.3
MNAI	**Manna**	**4.71**	**329**	*e*Pn		Pn	02 39 41.8	-0.3
MNAI				*e*Sn		Sn	02 40 33.5	-1.9
UGM	**Wanagama**	**5.14**	**84**	S		Sn	02 40 42.1	-4.2
MASI	**Maura Aman, Be**	**6.11**	**329**	S		Sn	02 41 09.4	-0.8
JAGI	**Jajag, Banyuwa**	**8.70**	**91**	P		Pn	02 40 37.0	0.0
JAGI				S		Sn	02 42 09.7	-4.3
JAGI	**Jajag, Banyuwa** 24nm,0.4s	**8.70**	**91**	*e*Pn		Pn	02 40 37.0	0.0
JAGI				*e*Sn		Sn	02 42 09.0	-4.9
IGBI	**Denpasar**	**9.69**	**93**	P		Pn	02 40 51.6	+1.1
KKM	**Kota Kinabalu**	**18.01**	**37**	*e*Pn		Pn	02 42 41.1	-0.3
SOEI	**Soe** 22nm,0.9s	**18.72**	**95**	*e*P		**P**	02 42 49.8	+0.3
MBWA	**Marble Bar**	**18.77**	**134**	*e*P		**P**	02 42 49.7	0.0
FITZ	**Fitzroy Crossi** 3.2nm,0.8s,baz=294,slow=10.0,SNR=5.4	**21.93**	**118**	P		**P**	02 43 25.2	+1.2
CMAR	**Chiang Mai Arr** 2.1nm,0.4s,baz=183,slow=8.3,SNR=13	**27.47**	**347**	P		**P**	02 44 16.7	+0.2
CHTO	**Chiang Mai** 1.9nm,0.6s	**27.81**	**347**	*e*P		**P**	02 44 19.8	+0.1
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=287,slow=10,SNR=4.7	**30.28**	**115**	P		**P**	02 44 42.8	+1.2
WRAB	**Tennant Creek** 3.8nm,1.0s	**30.28**	**115**	*e*P		**P**	02 44 41.9	+0.2
ASAR	**Alice Springs** 0.4nm,0.7s,baz=291,slow=7.8,SNR=4.4	**31.24**	**122**	P		**P**	02 44 51.8	+1.7
H08S2	**Diego Garcia H** baz=90,slow=75,SNR=13	**32.54**	**269**	T		T	03 20 15.5	
H08S3	**Diego Garcia H** baz=90,slow=75,SNR=12	**32.55**	**269**	T		T	03 20 14.1	
H08S1	**Diego Carcia H** baz=90,slow=75,SNR=14	**32.56**	**269**	T		T	03 20 16.9	
ENH	**Enshi** 6.1nm,0.4s	**38.70**	**6**	*e*P		**P**	02 45 53.9	-0.3
ODAN	**Odare** 15nm,0.7s	**39.18**	**334**	*e*P		**P**	02 45 59.8	+1.2
TAPN	**Taplejung**	**39.48**	**335**	*e*P		**P**	02 46 02.6	+1.5
RAMN	**Ramite**	**39.61**	**333**	*e*P		**P**	02 46 03.4	+1.3
LSA	**Lhasa** 8.4nm,0.5s	**40.31**	**341**	*e*P		**P**	02 46 09.4	+1.3
JIRN	**Jiri** 176nm,0.8s	**40.40**	**333**	*e*P		**P**	02 46 10.1	+1.3
GUN	**Gumba**	**40.76**	**333**	*e*P		**P**	02 46 12.7	+1.0
DMN	**Daman**	**40.85**	**332**	*e*P		**P**	02 46 13.3	+0.9
STKA	**Stephens Creek** 2.2nm,0.7s,baz=309,slow=6.4,SNR=6.0	**40.93**	**130**	P		**P**	02 46 15.2	+2.4
GKN	**Gorkha** 8.1nm,0.4s	**41.41**	**332**	*e*P		**P**	02 46 18.2	+1.4
KOLN	**Koldanda**	**41.70**	**330**	*e*P		**P**	02 46 20.7	+1.3
PYUN	**Piuthan**	**42.28**	**330**	*e*P		**P**	02 46 24.7	+0.6
GTA	**Gaotai**	**47.89**	**354**	⇓P		**P**	02 47 10.3	+1.9
GTA				pP		pP	02 47 19.0	+0.2
GTA				sP		sP	02 47 22.8	-0.1
GTA	comp=Z,8.0nm,1.0s			pmax		pmax		
KSAR	**Wonju Array Be**	**50.28**	**23**	P		**P**	02 47 26.5	0.0
KSRS	**Korea Array** comp=Z,2.2nm,0.6s,baz=219,slow=8.2,SNR=11	**50.31**	**23**	P		**P**	02 47 26.5	-0.2
KSH	**Kashi**	**54.95**	**332**	*e*P		**P**	02 48 03.5	+2.3
KSH				pP		pP	02 48 13.0	+1.2
KSH				sP		sP	02 48 17.8	+1.9
KSH				PcP		**PcP**	02 49 05.8	+3.0
KSH				PP		**PP**	02 50 07.3	+2.7
KSH				PcS		**PcS**	02 53 00.5	-2.3
KSH				S		**S**	02 55 35.0	-5.8
KSH				sS		pS	02 55 51.5	-1.9
KSH				ScS		**ScS**	02 57 42.5	-5.5
KSH	**Kashi**	**54.95**	**332**	SS		**SS**	02 59 17.3	-7.7
KSH	comp=Z,4.0nm,0.9s			pmax		pmax		
KSH	comp=Z,130nm,5.3s			pmax		pmax		
KSH	comp=N,80nm,7.3s			LR		LR		
KSH	comp=E,91nm,5.1s			LR		LR		
KSH	comp=Z,130nm,6.5s			LR		LR		
CN2	**Changchun**	**55.10**	**18**	*e*P		**P**	02 48 02.5	+0.4
CN2				*e*pP		pP	02 48 12.0	-0.7
CN2	comp=Z,10.0nm,0.7s			pmax		pmax		
SONM	**Songino Array** comp=Z,2.5nm,0.5s,baz=182,slow=7.9,SNR=14	**56.04**	**1**	P		**P**	02 48 10.2	+1.2
ULN	**Ulaanbaatar** comp=Z,2.6nm,0.7s	**56.08**	**1**	*e*P		**P**	02 48 09.2	-0.1
USRK	**Ussuriysk Ar.** comp=Z,5.1nm,0.9s,baz=211,slow=8.2,SNR=4.2	**57.68**	**22**	P		**P**	02 48 20.6	+0.1
MKAR	**Makanchi Array** comp=Z,3.1nm,0.5s,baz=151,slow=7.3,SNR=26	**58.71**	**342**	P		**P**	02 48 28.0	+0.4
KURK	**Kurchatov** comp=Z,25nm,0.8s	**63.32**	**341**	*e*P		**P**	02 48 59.4	+0.6
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.4s,baz=152,slow=6.6,SNR=9.7	**64.54**	**347**	P		**P**	02 49 06.9	+0.2
BRVK	**Borovoye** comp=Z,5.1nm,0.4s	**68.14**	**338**	*e*P		**P**	02 49 30.0	+0.1
KMBO	**Kilima Mbogo** comp=Z,1.3nm,0.7s	**68.18**	**272**	*e*P		**P**	02 49 31.5	+0.3
ABKAR	**Akbulak array** comp=Z,3.7nm,0.5s	**69.83**	**330**	*e*P		**P**	02 49 40.9	+0.5
TXAR	**Lajitas Array** comp=Z,2.1nm,1.0s,baz=316,slow=2.5,SNR=6.5	**145.74**	**49**	PKPbc		**PKPab**	02 58 11.6	+1.6

*ISK **28** 02:51:49.6, 38°.80N×43°.31E, h3km, ML2.5*
*DDA **28** 02:51:50.1, 38°.77N×43°.28E, h7km, Ml2.9*
*CSEM **28** 02:51:50.6±0.2, 38°.78N×43°.25E, h2km, ML2.5, Error ellipse: s-maj=4.7km s-min=4.0km az=147.0*
ISC 28 02:51:50.7±1.1, 38°.79N±0°.02×43°.27E±0°.02, h5km±10km, n36, σ1§00/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**154**	PG		**Pg**	02 51 55.7	+0.8
VANB	**Van**	**0.22**	**154**	*i* Pg		**Pg**	02 51 55.7	+0.8
VMUR	**Van-Muradiye**	**0.31**	**50**	*i* P		**Pg**	02 51 57.0	+0.3
VMUR				*i* S		**Sb**	02 52 03.1	-1.1
VMUR	**Van-Muradiye**	**0.31**	**50**	P		**Pg**	02 51 57.0	+0.3
VMUR				S		**Sb**	02 52 03.1	-1.1
CLDR	**Caldiran**	**0.61**	**55**	*e*PG		**Pg**	02 52 02.1	-0.4
CLDR				*e*SG		**Sg**	02 52 10.4	-0.2
CLDR	**Caldiran**	**0.61**	**55**	*i* P		**Pg**	02 52 02.1	-0.4
CLDR				*i* S		**Sg**	02 52 11.4	+0.8
CLDR	**Caldiran**	**0.61**	**55**	P		**Pg**	02 52 02.2	-0.4
CLDR				*e*Sg		**Sg**	02 52 10.4	-0.2
CLDR				S		**Sg**	02 52 11.4	+0.8
TUTA	**Tutak**	**0.71**	**330**	*i* P		**Pg**	02 52 03.8	-0.4
TUTA				*i* S		**Sg**	02 52 14.2	+0.7
TUTA	**Tutak**	**0.71**	**330**	P		**Pg**	02 52 03.8	-0.4
TUTA				S		**Sg**	02 52 14.2	+0.7
AGRB	**Hanur-Agry**	**0.81**	**345**	*e*PG		**Pg**	02 52 05.8	-0.5
AGRB				*e*SG		**Sb**	02 52 17.8	-0.9
AGRB	**Hanur-Agry**	**0.81**	**345**	*e*Pg		**Pg**	02 52 05.8	-0.5
AGRB				*e*Sg		**Sb**	02 52 17.8	-0.9
DYDN	**Diyadin**	**0.82**	**23**	*i* P		**Pb**	02 52 06.8	-0.7
DYDN				*i* S		**Sg**	02 52 17.0	-0.1
DYDN	**Diyadin**	**0.82**	**23**	P		**Pb**	02 52 06.8	-0.7
DYDN				S		**Sg**	02 52 17.0	-0.1
TATV	**Tatvan**	**0.83**	**251**	*i* P		**Pg**	02 52 05.5	-1.2
TATV				*i* S		**Sg**	02 52 17.3	-0.2
TATV	**Tatvan**	**0.83**	**251**	P		**Pg**	02 52 05.5	-1.2
TATV				S		**Sg**	02 52 17.3	-0.2
EKAR	**Karacoban**	**1.05**	**297**	*i* P		**Pb**	02 52 11.4	0.0
EKAR				*i* S		**Sn**	02 52 30.6	+3.3
EKAR	**Karacoban**	**1.05**	**297**	P		**Pb**	02 52 11.4	0.0
EATA	**Eleskirt**	**1.23**	**331**	*i* P		**Pg**	02 52 14.0	-0.3
EATA				*i* S		**Sn**	02 52 31.8	-0.1
EATA	**Eleskirt**	**1.23**	**331**	P		**Pg**	02 52 14.0	-0.3
EATA				S		**Sn**	02 52 31.8	-0.1
VRTB	**Varto-Mus**	**1.46**	**285**	*e*PN		**Pg**	02 52 18.6	-0.1
VRTB	**Varto-Mus**	**1.46**	**285**	*i* P		**Pn**	02 52 17.0	-0.8
VRTB				*i* S		**Sn**	02 52 39.6	+2.2
VRTB	**Varto-Mus**	**1.46**	**285**	P		**Pn**	02 52 17.0	-0.8
VRTB	**Varto-Mus**	**1.46**	**285**	*e*Pn		**Pg**	02 52 18.6	-0.1
VRTB				S		**Sn**	02 52 39.6	+2.2
CUKT	**Cukurca**	**1.56**	**170**	*e*PN		**Pb**	02 52 19.6	-0.5
CUKT	**Cukurca**	**1.56**	**170**	*e*Pn		**Pb**	02 52 19.6	-0.5
DIGO	**Kars**	**1.62**	**3**	*i* P		**Pg**	02 52 22.3	+0.5
DIGO	**Kars**	**1.62**	**3**	P		**Pg**	02 52 22.3	+0.5
HOMI	**Horasan**	**1.64**	**320**	*i* P		**Pb**	02 52 21.1	-0.4
HOMI				*i* S		**Sg**	02 52 47.0	+3.6
SVAN	**Silvan-Diyarba**	**1.75**	**249**	*e*PN		**Pn**	02 52 21.8	+0.2
SVAN	**Silvan-Diyarba**	**1.75**	**249**	*e*Pn		**Pn**	02 52 21.8	+0.2
ERZM	**Erzurum**	**1.85**	**308**	*i* P		**Pb**	02 52 24.9	-0.2
ERZM	**Erzurum**	**1.85**	**308**	P		**Pb**	02 52 24.9	-0.2
SENK	**Senkaya-Erzuru**	**1.91**	**338**	*e*PN		**Pn**	02 52 24.1	+0.1
SENK	**Senkaya-Erzuru**	**1.91**	**338**	*e*Pn		**Pn**	02 52 24.1	+0.1
BNGB	**Bing¶‖**	**2.03**	**276**	*e*PN		**Pb**	02 52 26.7	-1.4
BINT	**Bingol**	**2.17**	**273**	*e*Pn		**Pn**	02 52 26.7	-0.9

*NIED **28** 03:02:00, 38°.30N×141°.80E, h98km, Mw3.9 Best double couple: M0:8.67000×10^14 NP1:φ0:139.00000°, δ20.00000°, λ50.00000°. NP2:φ0:0.00000°, δ74.00000°, λ103.00000°.*
*IDC **28** 03:02:49.3±2.1, 38°.27N×142°.07E, h45km±19km, mb3.5/4, mb1 3.7/8, mb1mx3.4/40, mbtmp3.8/8, ML3.3/4, Error ellipse: s-maj=36.8km s-min=12.0km az=95.0*
*JMA **28** 03:02:49.9±0.1, 38°.30N×141°.83E, h47km±1km, M3.7*
JMA Felt I J1.
ISC 28 03:02:47.4±1.1, 38°.24N±0°.04×141°.93E±0°.08, h21km±4km, n26, σ1§21/33, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.50**	**295**	P		**Pn**	03 03 00.0	+0.7
JIO				S		**Sn**	03 03 06.9	-0.4
OFUJ	**Ofunato**	**0.86**	**346**	P		**Pn**	03 03 04.7	+0.5
OFUJ				S		**Sb**	03 03 15.0	+0.3
JMK	**Ichinoseki**	**0.90**	**322**	P		**Pn**	03 03 05.4	+0.7
JMK				S		**Sb**	03 03 16.1	+0.3
JMM	**Marumori**	**0.97**	**247**	P		**Pb**	03 03 06.1	+0.6
JMM				S		**Sb**	03 03 17.8	0.0
JOU	**Okura**	**1.00**	**277**	P		**Pn**	03 03 06.8	+0.6
JOU				S		**Sb**	03 03 19.2	+0.5
JFK	**Kawauchi**	**1.21**	**224**	P		**Pn**	03 03 09.8	+0.7
JFK				S		**Sb**	03 03 24.4	-0.3
JOM	**Ohasama**	**1.32**	**338**	P		**Pb**	03 03 11.5	0.0
JOM				*e*S		**Sn**	03 03 27.1	-0.5
JYK	**Kaneyama**	**1.40**	**299**	P		**Pn**	03 03 12.2	+0.5
JFT	**Otama**	**1.45**	**241**	P		**Pn**	03 03 13.6	+1.2
JFT				*e*S		**Sn**	03 03 30.6	-0.2
JYS	**Shirataka**	**1.47**	**270**	P		**Pn**	03 03 13.3	+0.7
JRG	**Rokugo**	**1.53**	**319**	P		**Pn**	03 03 14.4	+0.9
JRG				*e*S		**Sn**	03 03 33.0	+0.3
MJAR	**Matsushiro Arr** 3.1nm,0.3s,baz=59,slow=11,SNR=16	**3.41**	**241**	P		**Pn**	03 03 41.7	+2.3
MJAR	1.6nm,0.3s,baz=20,slow=17,SNR=3.2			S		**Sb**	03 04 27.1	-1.1
MAT	**Matsushiro**	**3.42**	**241**	P		**Pn**	03 03 41.9	+2.5
MAT				S		**Sb**	03 04 24.8	-3.4
JHJ	**Hachijo jima 2** 20nm,0.3s,baz=76,slow=22,SNR=4.3	**5.40**	**199**	P		**Pn**	03 04 08.2	+1.5
JHJ	17nm,0.3s,baz=79,slow=22,SNR=2.7			S		**Sn**	03 05 09.5	+1.3
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=212,slow=15,SNR=3.5	**5.89**	**5**	P		**Pn**	03 04 14.3	+1.0
ASAJ	1.1nm,0.3s,baz=204,slow=20,SNR=2.6			S		**Sn**	03 05 19.4	-0.7
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=141,slow=12,SNR=3.3	**9.56**	**312**	P		**Pn**	03 05 05.4	+1.7
H11N2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=109	**28.44**	**123**	T		T	03 38 53.3	
H11N1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=85	**28.45**	**123**	T		T	03 38 52.6	
H11N3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=122	**28.46**	**123**	T		T	03 38 53.6	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=64	**29.20**	**125**	T		T	03 39 50.6	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=90	**29.20**	**125**	T		T	03 39 48.2	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=69	**29.22**	**125**	T		T	03 39 51.9	
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=86,slow=8.8,SNR=3.1	**41.41**	**311**	P		**P**	03 10 31.2	-0.8
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=80,slow=9.3,SNR=4.1	**43.83**	**301**	P		**P**	03 10 51.4	-0.4
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=5.1,slow=7.1,SNR=6.3	**58.31**	**188**	P		**P**	03 12 39.5	-1.2
ASAR	**Alice Springs** 0.2nm,0.4s,baz=10.0,slow=5.4,SNR=6.7	**62.04**	**188**	P		**P**	03 13 05.7	-0.6

BUC 28 03:02:57.7±0.7, 45°.41N×25°.33E, h11km±12km, MD1.8/2, 4C-6D, Error ellipse: s-maj=3.3km s-min=2.3km az=328.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOIR		**0.20**	**277**	⇑*i* P		Pg	03 03 02.3	+0.3
VOIR				*i* S		Sg	03 03 05.6	+0.7
VOIR		**0.20**	**277**	⇑P		Pg	03 03 02.3	+0.3
VOIR		**0.20**	**277**	S		Sg	03 03 05.6	+0.7
MTUR	**Matau**	**0.27**	**225**	⇑*i* P		Pg	03 03 03.7	+0.5
MTUR	**Matau**	**0.27**	**225**	⇑P		Pg	03 03 03.7	+0.5
MLR	**Muntele Rosu**	**0.44**	**80**	⇓*i* P		Pg	03 03 06.8	+0.5
MLR				*i* S		Sb	03 03 14.0	-0.2
MLR	**Muntele Rosu**	**0.44**	**80**	⇓*i* P		Pg	03 03 06.8	+0.5
MLR	**Muntele Rosu**	**0.44**	**80**	S		Sb	03 03 14.0	-0.2
ARR	**Arges**	**0.49**	**265**	⇓*i* P		Pb	03 03 08.0	-0.5
ARR				*i* S		Sb	03 03 14.9	-0.9
ARR	**Arges**	**0.49**	**265**	⇓*i* P		Pb	03 03 08.0	-0.5
ARR	**Arges**	**0.49**	**265**	S		Sb	03 03 14.9	-0.9
DOPR	**Dopca**	**0.56**	**4**	⇓*i* P		Pb	03 03 09.1	-0.4
DOPR				*i* S		Sb	03 03 17.6	+0.1
DOPR	**Dopca**	**0.56**	**4**	⇓*i* P		Pb	03 03 09.1	-0.4

*IDC **28** 03:15:55.8±2.5, 0°.91S×132°.95E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.6/46, mbtmp3.9/5, ML4.0/2, Error ellipse: s-maj=122.9km s-min=15.6km az=79.0*
*DJA **28** 03:15:59.5±0.3, 2°.5±3°×13°.3E±°, h12km, M4.6/4, mB5.0/2, mb4.9/4, MLv4.5/3, Mw(mB)4.3/2*
ISC 28 03:15:59.9±1.1, 1°.46S±0°.07×133°.44E±0°.07, h35km, n16, σ3§13/16, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.74**	**94**	P		**Pn**	03 16 14.9	+1.1
FAKI	**Fak Fak**	**1.88**	**219**	P		Pn	03 16 37.0	+7.4
FAKI				S		**Sn**	03 16 54.5	+2.4
KMPI	**Kaimana, Papua**	**2.21**	**173**	P		**Pn**	03 16 32.7	-1.4
BAKI	**Biak**	**2.68**	**84**	P		**Pn**	03 16 44.2	+3.7
BNDI	**Bandanaira**	**4.67**	**229**	P		**Pn**	03 17 08.4	+0.5
MSAI	**Masohi**	**4.89**	**247**	P		Pn	03 17 17.2	+6.3
AAI	**Ambon** 118nm,0.7s,0.5nm	**5.69**	**247**	P		**Pn**	03 17 23.5	+1.5
LBMI	**Labuha**	**6.00**	**278**	P		**Pn**	03 17 27.0	+0.8
LBMI				S		**Sn**	03 18 38.5	+4.8
NLAI	**Namlea** 58nm,0.6s,707nm	**6.58**	**254**	P		**Pn**	03 17 36.9	+2.7
APSI	**Ampana**	**11.80**	**272**	P		**Pn**	03 18 46.7	+0.8
SOEI	**Soe**	**12.30**	**228**	P		**P**	03 19 01.3	-3.3
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=29,slow=12,SNR=11	**18.23**	**204**	P		**P**	03 20 15.6	+5.3
FITZ	0.3nm,0.3s,baz=143,slow=15,SNR=3.8			S		**Sn**	03 23 31.2	-1.7
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=355,slow=13,SNR=12	**18.39**	**177**	P		Pn	03 20 20.8	+8.4
WRA	0.2nm,0.3s,baz=7.5,slow=23,SNR=5.6			S		**S**	03 23 41.4	+0.9
ASAR	**Alice Springs** 3.2nm,0.6s,baz=3.1,slow=11,SNR=34	**22.09**	**179**	P		P	03 20 59.7	+7.6
ASAR	0.6nm,0.6s,baz=352,slow=20,SNR=5.8			S		Sn	03 25 07.6	+1.8
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=116,slow=6.6,SNR=6.9	**65.64**	**324**	P		**P**	03 26 37.4	-3.2
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=124,slow=5.1,SNR=4.3	**69.72**	**326**	P		**P**	03 27 01.9	-4.3

*AZER **28** 03:23:19.0±2.3, 37°.47N×44°.03E, h5km, Error ellipse: s-maj=19.4km s-min=17.2km az=30.0*
*ISN **28** 03:23:24.5±1.2, 39°.00N×43°.17E, h0km±56km, ML4.1*
*ISK **28** 03:23:29.9, 38°.86N×43°.64E, h5km, ML4.0*
*IDC **28** 03:23:30.4±1.2, 38°.86N×43°.62E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.6/40, mbtmp3.7/12, ML2.7/4, MS3.1/7, Ms1 3.1/7, ms1mx2.8/47, Error ellipse: s-maj=22.8km s-min=12.3km az=155.0*
*DDA **28** 03:23:30.1, 38°.85N×43°.58E, h10km, Ml4.1*
*NEIC **28** 03:23:30.6±0.0, 38°.86N×43°.63E, h5km, mb3.9/3, ML4.0(ISK), ML4.1(DDA), After ISK.*
*CSEM **28** 03:23:31.1±0.2, 38°.84N×43°.69E, h2km, ML4.1, Error ellipse: s-maj=5.4km s-min=4.0km az=126.0*
ISC 28 03:23:30.6±1.1, 38°.82N±0°.02×43°.59E±0°.02, h1km±8km, n167, σ1§88/201, mb3.5/8, MS3.1/3, 21C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**356**	⇓*i* P		**Pg**	03 23 33.5	-0.4
VMUR				*i* S		**Sg**	03 23 36.7	+0.4
VMUR	**Van-Muradiye**	**0.17**	**356**	*i* P		**Pg**	03 23 33.6	-0.4
VMUR				*i* S		**Sg**	03 23 37.0	+0.7
VMUR	**Van-Muradiye**	**0.17**	**356**	*i* P		**Pg**	03 23 33.6	-0.3
VMUR				*i* S		**Sg**	03 23 37.0	+0.7
VANB	**Van**	**0.27**	**215**	PG		**Pb**	03 23 38.4	+0.1
VANB				*e*SG		**Sb**	03 23 45.3	+1.9
VANB	**Van**	**0.27**	**215**	*i* Pg		**Pb**	03 23 38.4	+0.1
VANB				*e*Sg		**Sb**	03 23 45.3	+1.9
VANB	**Van**	**0.27**	**215**	Pg		**Pb**	03 23 38.4	+0.1
TVAN	**Van**	**0.32**	**206**	⇑*i* P		**Pn**	03 23 41.1	-1.5
TVAN				*i* S		**Sb**	03 23 48.2	+3.2
TVAN	**Van**	**0.32**	**206**	P		**Pn**	03 23 41.1	-1.5
CLDR	**Caldiran**	**0.42**	**38**	PG		**Pg**	03 23 38.1	-0.5
CLDR	**Caldiran**	**0.42**	**38**	⇑*i* P		**Pg**	03 23 38.0	-0.5
CLDR				*i* S		**Sg**	03 23 44.6	+0.6
CLDR	**Caldiran**	**0.42**	**38**	*i* Pg		**Pg**	03 23 38.1	-0.5
CLDR				S		**Sg**	03 23 44.6	+0.6
CLDR	**Caldiran**	**0.42**	**38**	*i* P		**Pg**	03 23 38.1	-0.5
GEVA	**Gevas**	**0.65**	**220**	*i* P		**Pg**	03 23 43.2	+0.2
GEVA				*i* S		**Sn**	03 23 57.3	-0.9
GEVA	**Gevas**	**0.65**	**220**	*i* P		**Pg**	03 23 43.4	+0.4
GEVA				S		**Sn**	03 23 57.3	-0.9
GEVA	**Gevas**	**0.65**	**220**	*i* P		**Pg**	03 23 43.4	+0.4
DYDN	**Diyadin**	**0.73**	**6**	⇓*i* P		**Pg**	03 23 43.3	-1.3
DYDN				*i* S		**Sg**	03 23 54.1	0.0
DYDN	**Diyadin**	**0.73**	**6**	*i* P		**Pg**	03 23 44.0	-0.6
DYDN				S		**Sg**	03 23 54.1	0.0
DYDN	**Diyadin**	**0.73**	**6**	*i* P		**Pg**	03 23 44.0	-0.6
BASK	**Baskale_VAN**	**0.83**	**157**	*i* P		**Pb**	03 23 48.1	+0.3
BASK	**Baskale_VAN**	**0.83**	**157**	P		**Pb**	03 23 48.2	+0.3
TUTA	**Tutak**	**0.84**	**314**	*i* P		**Pg**	03 23 45.3	-1.4
TUTA				*i* S		**Sg**	03 23 57.9	+0.3
TUTA	**Tutak**	**0.84**	**314**	*i* P		**Pg**	03 23 45.4	-1.4
AGRB	**Hanur-Agry**	**0.89**	**329**	PG		**Pg**	03 23 47.0	-0.6
AGRB	**Hanur-Agry**	**0.89**	**329**	*i* Pg		**Pg**	03 23 47.0	-0.6
AGRB	**Hanur-Agry**	**0.89**	**329**	Pg		**Pg**	03 23 46.4	-1.2
TATV	**Tatvan**	**1.08**	**254**	⇑*i* P		**Pg**	03 23 50.2	-1.0
TATV				*i* S		**Sg**	03 24 05.5	+0.3
HAKT	**HAKKARI**	**1.26**	**176**	⇓*i* P		**Pg**	03 23 53.9	-0.8
HAKT				*i* S		**Sn**	03 24 16.1	+2.8
HAKT	**HAKKARI**	**1.26**	**176**	P		**Pg**	03 23 53.9	-0.8
EKAR	**Karacoban**	**1.27**	**291**	*i* P		**Pg**	03 23 54.0	-0.8
EKAR				*i* S		**Sn**	03 24 14.1	+0.6
EATA	**Eleskirt**	**1.35**	**321**	⇓*i* P		**Pg**	03 23 54.5	-1.9
EATA				*i* S		**Sn**	03 24 15.1	-0.6
NAX	**Nakhchivan** SNR=182	**1.53**	**76**	⇑P		**Pb**	03 23 59.3	-0.5
NAX				⇑S		**Sg**	03 24 22.2	+2.5
NAX	**Nakhchivan** SNR=182	**1.53**	**76**	P		**Pb**	03 23 59.3	-0.5
CUKT	**Cukurca**	**1.56**	**179**	*e*PN		**Pb**	03 24 00.7	+0.3
**CUK

DBOC	Borcka	2.93	330	*i* P		Pb	03 24 23.7	+0.1
DGRG	David-gareji	2.97	27	P		Pn	03 24 21.1	+2.2
DGRG				S		Sg	03 25 08.2	+2.3
DGRG	David-gareji	2.97	27	P		Pn	03 24 18.5	-0.4
TBLG	Delisi	3.04	16	*e*PN		Pn	03 24 19.9	0.0
TBLG	Delisi	3.04	16	P		Pn	03 24 20.8	+0.9
TBLG				S		Sg	03 25 07.8	-0.5
TBLG	Delisi	3.04	16	*e*Pn		Pn	03 24 19.9	0.0
TBLG	Delisi	3.04	16	P		Pn	03 24 21.8	+1.9
SEAG	Tbilisi Sea	3.09	17	P		Pb	03 24 24.6	-1.8
BRDA	Brd	3.13	61	⇓P		Pn	03 24 17.4	-3.7
	SNR=6.2							
BRDA				⇓S		Sb	03 25 02.2	-3.5
BRDA	Brd	3.13	61	P		Pn	03 24 17.4	-3.7
	SNR=6.2							
TNCL	Tunceli-Merkez	3.17	277	*i* P		Pb	03 24 26.9	-0.8
PTK	Pertek	3.28	273	*e*PN		Pn	03 24 25.0	+1.7
PTK	Pertek	3.28	273	*e*Pn		Pn	03 24 25.0	+1.7
DUS	Dusheti	3.38	14	P		Pg	03 24 34.6	-0.7
DUS				S		Sg	03 25 22.1	+2.9
SVRC	Sivrice-ELAZID	3.38	264	*e*PN		Pn	03 24 26.5	+1.8
SVRC	Sivrice-ELAZID	3.38	264	*e*Pn		Pn	03 24 26.5	+1.8
ZRD	Zardab	3.49	64	⇑P		Pn	03 24 21.6	-4.4
	SNR=6.0							
ZRD				⇓S		Sn	03 25 09.4	+1.5
ZRD	Zardab	3.49	64	P		Pn	03 24 21.6	-4.4
	SNR=6.0							
ZRD				S		Sn	03 25 09.4	+1.5
KELT	Kelkit	3.61	293	*i* P		Pb	03 24 35.3	0.0
ZKTA	Zakatala	3.65	39	⇓P		Pn	03 24 30.0	+1.7
	SNR=8.9							
SEKA	Sheki	3.66	48	⇓P		Pn	03 24 28.7	+0.2
	SNR=10.0							
SEKA	Sheki	3.66	48	P		Pn	03 24 28.7	+0.2
	SNR=10.0							
LRK	Lerik	3.72	91	⇓P		Pn	03 24 16.0	-13
	SNR=5.7							
LRK				⇓S		Sn	03 24 58.5	-15
GLBA	Clilabad	3.77	82	⇑P		Pn	03 24 19.5	-10
	SNR=10							
ONI	Oni	3.77	358	P		Pg	03 24 40.7	-2.1
ONI				S		Sg	03 25 39.5	+7.7
REFA	Refahiye_ERZ~	3.80	280	*i* P		Pb	03 24 37.0	-1.5
QBL	Gabala	3.90	56	⇓P		Pn	03 24 29.1	-2.6
	SNR=6.9							
QBL	Gabala	3.90	56	P		Pn	03 24 29.1	-2.6
	SNR=6.9							
KEMA	Kemaliye	3.99	278	*i* P		Pb	03 24 42.5	+0.7
URFA	Urfa	4.00	251	*e*PN		Pn	03 24 35.5	+2.4
URFA	Urfa	4.00	251	*e*Pn		Pn	03 24 35.5	+2.4
LKRN	Lenkeran, Azer	4.06	90	⇑P		Pn	03 24 21.0	-13
	SNR=3.2							
LKRN				⇓S		Sn	03 25 07.1	-15
ASTR	Astara	4.08	92	⇓P		Pn	03 24 20.7	-13
	SNR=3.7							
XNQ	Khinaliq	4.21	55	⇓P		Pn	03 24 33.7	-2.5
	SNR=6.1							
XNQ	Khinaliq	4.21	55	P		Pn	03 24 33.7	-2.5
	SNR=6.1							
PQL	Pirkuli	4.33	61	⇓P		Pn	03 24 33.1	-4.6
	SNR=3.8							
PQL	Pirkuli	4.33	61	P		Pn	03 24 33.1	-4.6
	SNR=3.8							
SURC	SANLIURFA_SURC	4.39	245	*i* P		Pb	03 24 50.6	+2.2
QSAR	Qusar	4.48	52	⇑P		Pn	03 24 37.8	-1.9
	SNR=3.0							
QSAR	Qusar	4.48	52	P		Pn	03 24 37.8	-1.9
	SNR=3.0							
ATGJ	Altiaghaj	4.60	62	⇓P		Pn	03 24 36.6	-4.8
	SNR=3.2							
ATGJ	Altiaghaj	4.60	62	P		Pn	03 24 36.6	-4.8
	SNR=3.2							
CUZAR	Zara_SIVAS	4.63	285	*i* P		Pb	03 24 50.1	-2.6
KBZ	Khabaz	4.94	354	Pn		Pn	03 24 49.6	+3.8
	0.1nm,0.3s,baz=188,slow=13,SNR=2.6							
KVAR	Kislovodsk Arr	5.18	353	LR		LR	03 27 22.4	
	comp=Z,122nm,21.1s,baz=166,slow=45							
KIV	Kislovodsk	5.18	353	Pn		Pn	03 24 47.4	-1.9
KIV	Kislovodsk	5.18	353	Pn		Pn	03 24 47.4	-1.9
BHD	Baghdad	5.57	173	*e*Pn		Pn	03 24 53.5	-1.1
	SNR=39							
BRTR	Keskin Array B	7.77	280	Pn		Pn	03 25 27.5	+2.5
	0.0nm,0.3s,baz=114,slow=11,SNR=2.3							
ASF	Jabal al Asfar	8.58	221	Pn		Pn	03 25 36.9	+0.9
	0.4nm,0.3s,baz=25,slow=14,SNR=3.9							
MMAI	Mount Meron Ar	8.80	231	LR		LR	03 29 22.0	
	comp=Z,140nm,18.9s,baz=50,slow=40							
GEYT	Alibeck	11.44	90	Pn		Pn	03 26 15.5	+0.3
	0.1nm,0.3s,baz=302,slow=14,SNR=2.9							
EIL	Elat	11.58	221	LR		LR	03 31 17.5	
	comp=Z,169nm,18.1s,baz=59,slow=40							
DOPR	Dopca	15.21	304	⇑*i*P		P	03 27 13.5	+1.8
DOPR	Dopca	15.21	304	⇑*i*P		P	03 27 13.5	+1.8
VOIR		15.25	302	⇑*i*P		P	03 27 15.5	+3.3
VOIR		15.25	302	⇑*i*P		P	03 27 15.5	+3.3
RAYN	Ar Rayn	15.33	173	*e*Pn		Pn	03 27 04.5	-3.7
	5.6nm,0.9s							
AKTO	Aktyubinsk	15.47	37	Pn		Pn	03 27 09.2	-0.8
	0.1nm,0.3s,baz=226,slow=10,SNR=4.8							
AKTO				LR		LR	03 34 38.2	
	comp=Z,54nm,21.0s,baz=226,slow=43							
AKASG	Malin Array Be	15.63	324	Pn		Pn	03 27 10.1	-1.9
	0.6nm,0.3s,baz=131,slow=12,SNR=5.3							
ABKAR	Abkulak array	15.69	43	*e*P		Pn	03 27 13.1	+0.3
BURAR	Bucovina Array	15.99	309	⇓*i*P		P	03 27 21.8	+1.3
BURAR	Bucovina Array	15.99	309	⇓*i*P		P	03 27 21.8	+1.3
ARU	Arti	20.23	25	P		P	03 28 05.1	-1.8
	2.3nm,0.5s,baz=206,slow=7.7,SNR=3.5							
ARU				LR		LR	03 37 21.8	
	comp=Z,41nm,18.1s,baz=265,slow=41							
ARU	Arti	20.23	25	*e*P		P	03 28 07.1	+0.2
	11nm,1.1s							
ARU	Arti	20.23	25	*e*P		P	03 28 07.1	+0.2
	11nm,1.1s							
VYHS	Vyhne	20.28	307	*e*P		Pn	03 28 14.0	+4.6
KKAR	Karatay Array	20.74	69	*e*P		P	03 28 13.4	+0.7
	2.2nm,0.6s							
KKAR	Karatay Array	20.74	69	*e*P		P	03 28 13.3	+0.7
	2.2nm,0.6s							
BVAR	Borovoye Array	23.26	44	P		P	03 28 42.6	+3.2
	0.6nm,0.5s,baz=249,slow=12,SNR=2.7							
GERES	GERESS Array B	23.64	305	P		P	03 28 43.4	+0.1
	0.6nm,0.9s,baz=119,slow=7.9,SNR=4.6							
FINES	FINESS Array B	25.12	340	P		P	03 28 57.1	+0.4
	4.4nm,1.1s,baz=160,slow=8.6,SNR=4.6							
KURBB	Kurchatov Arra	27.23	53	P		P	03 29 17.0	+1.0
	1.2nm,0.8s,baz=262,slow=9.1,SNR=6.3							
HFS	Hagfors	28.43	328	P		P	03 29 25.8	-0.7
	5.4nm,1.5s,baz=120,slow=10,SNR=3.7							
MKAR	Makanchi Array	29.25	62	P		P	03 29 35.5	+1.4
	0.4nm,0.7s,baz=297,slow=9.5,SNR=3.0							
ZALV	Zalesovo Beam	31.70	48	LR		LR	03 44 55.7	
	comp=Z,40nm,18.2s,baz=52,slow=41							
ARCES	ARCESS Array B	32.27	348	LR		LR	03 43 37.8	
	comp=Z,41nm,20.4s,baz=255,slow=38							
ESDC	Sonseca Array	36.50	287	P		P	03 30 38.1	+0.6
	0.9nm,0.7s,baz=72,slow=9.3,SNR=4.5							
TORD	Torodi Ar. Bea	44.96	247	P		P	03 31 46.0	-1.5
	0.2nm,0.4s,baz=40,slow=8.9,SNR=4.8							

CASC 28 03:23:58.8±1.8, 11°.95N×86°.73W, h98km±9km, MD3.9, ML4.1, 1C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.26	30	*e*P	Pn	03 24 13.2	+0.2
COPN				AML	AML	03 24 32.7	
	comp=Z,2μm,0.4s						
CRUN	El Crucero	0.42	86	*e*P	Pn	03 24 14.9	+0.9
XAVN	Gruta Xavier	0.43	64	*e*P	Pn	03 24 14.3	+0.3
XAVN				AML	AML	03 24 34.4	
	comp=Z,3μm,0.5s						
TISN	Laguna Tiscapa	0.48	67	*e*P	Pn	03 24 13.5	-0.8
TISN				AML	AML	03 24 27.8	
	comp=Z,4μm,0.1s						
MOMN	Momotombo	0.49	22	*e*P	Pn	03 24 14.1	-0.3
MGAN	Managua	0.51	68	*e*P	Pn	03 24 14.4	0.0
MGAN				*e*S	Sn	03 24 27.0	+0.9
MASN	Masaya	0.56	87	*e*P	Pn	03 24 15.4	+0.5
MASN				*e*S	Sn	03 24 28.7	+1.7
CRIN	San Cristobal	0.81	337	*e*P	Pn	03 24 16.9	-0.3
CRIN				*e*S	Sn	03 24 31.4	+0.5
CRIN				AML	AML	03 24 32.2	
	comp=N,18μm,0.2s						
CONN	Concepcion	1.14	110	*e*P	Pn	03 24 21.1	+0.4
ESTN	Estel	1.19	17	*e*P	Pn	03 24 21.3	-0.1
CRZ1	La Cruz	1.38	129	⇓*e*P	Pn	03 24 24.3	+0.8
CRZ1				*e*S	Sn	03 24 40.0	-2.2
MESS	Mesas	1.93	129	*e*P	Pn	03 24 31.1	+0.6
MESS				*e*S	Sn	03 24 53.6	-1.0
COLC	Colonia	1.97	130	*e*P	Pn	03 24 31.6	+0.6
CUI	Cuipilapa	2.00	130	⇓*e*P	Pn	03 24 32.0	+0.7
CUI				*e*S	Sn	03 24 55.6	-0.7
VCR	Vista de Mar	2.11	149	⇑*e*P	Pn	03 24 33.8	+0.9
LCY	Lacayo	2.12	314	*e*P	Pn	03 24 33.6	+0.6
LCY				*e*S	Sn	03 24 58.6	-0.4
TGUH	Tegucigalpa,Un	2.16	346	⇓*i*P	Pn	03 24 33.6	+0.2
PACA	Pacayal	2.17	314	*i* P	Pn	03 24 34.6	+1.0
PACA				*e*S	Sn	03 25 00.8	+0.6
ESPN	Las Esperanzas	2.38	84	*e*P	Pn	03 24 36.6	+0.3
ESPN				*e*S	Sn	03 25 05.9	+0.8
ARE1	Arenal 1	2.46	127	*e*P	Pn	03 24 35.0	-2.4
LFRS	El Faro	2.82	306	*e*P	Pn	03 24 42.8	+0.6
CGA2	Cerro Gallo 2	2.94	131	*e*P	Pn	03 24 44.7	+0.8

*ISCJB **28** 03:46:32.3±0.8, 38°.48N±0°.04×43°.46E±0°.07, h12km±4km, Error ellipse: s-maj=9.6km s-min=5.6km az=33.1*
*CSEM **28** 03:46:32.5±0.3, 38°.54N×43°.40E, h12km, ML2.7, Error ellipse: s-maj=9.2km s-min=5.6km az=125.0*
*ISK **28** 03:46:32.2, 38°.52N×43°.40E, h8km, ML2.7*
*DDA **28** 03:46:34.0, 38°.66N×43°.34E, h7km, Ml2.9*
ISC 28 03:46:33.6±0.9, 38°.57N±0°.03×43°.42E±0°.04, h14km±5km, n26, σ1°.38/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.03	315	*e*PG	Pg	03 46 34.0	-2.5
VANB	Van	0.03	315	*e*Pg	Pg	03 46 34.0	-2.5
TVAN	Van	0.04	194	*i* P	Pg	03 46 36.6	0.0
TVAN				*i* S	Sg	03 46 40.7	+2.1
TVAN	Van	0.04	194	P	Pg	03 46 36.6	0.0
TVAN				S	Sg	03 46 40.7	+2.1
GEVA	Gevas	0.38	228	*i* P	Pg	03 46 40.6	-0.9
GEVA				*i* S	Sb	03 46 49.5	+1.4
GEVA	Gevas	0.38	228	P	Pg	03 46 40.6	-0.9
VMUR	Van-Muradiye	0.43	16	*i* P	Pg	03 46 41.0	-1.4
VMUR				*i* S	Sb	03 46 50.3	+0.6
VMUR	Van-Muradiye	0.43	16	P	Pg	03 46 41.0	-1.4
VMUR				S	Sb	03 46 50.3	+0.6
CLDR	Caldiran	0.69	34	*e*PG	Pg	03 46 47.0	-0.2
CLDR				*e*SG	Sb	03 46 58.0	+0.9
CLDR	Caldiran	0.69	34	*i* P	Pg	03 46 46.1	-1.0
CLDR				*i* S	Sb	03 46 57.4	+0.3
CLDR	Caldiran	0.69	34	P	Pg	03 46 46.2	-1.0
CLDR	Caldiran	0.69	34	*e*Pg	Pg	03 46 47.0	-0.2
CLDR				S	Sb	03 46 57.4	+0.3
CLDR				*e*Sg	Sb	03 46 58.0	+0.9
TATV	Tatvan	0.91	266	*i* P	Pb	03 46 49.5	-1.7
TATV	Tatvan	0.91	266	P	Pb	03 46 49.5	-1.7
TUTA	Tutak	0.95	331	*i* P	Pb	03 46 50.7	-1.4
TUTA				*i* S	Sn	03 47 06.5	+0.1
TUTA	Tutak	0.95	331	P	Pb	03 46 50.7	-1.4
TUTA				S	Sn	03 47 06.5	+0.1
AGRB	Hanur-Agry	1.06	342	*e*PN	Pb	03 46 53.8	0.0
AGRB				*e*SN	Sn	03 47 09.6	+0.8
AGRB	Hanur-Agry	1.06	342	*e*Pn	Pb	03 46 53.8	0.0
AGRB				*e*Sn	Sn	03 47 09.6	+0.8
EKAR	Karacoban	1.26	303	*i* P	Pb	03 46 57.4	+0.1
EKAR				*i* S	Sg	03 47 18.9	+4.5
EKAR	Karacoban	1.26	303	P	Pb	03 46 57.4	+0.1
CUKT	Cukurca	1.33	174	*e*PN	Pn	03 46 56.9	-1.0
CUKT	Cukurca	1.33	174	*e*Pn	Pn	03 46 56.9	-1.0
EATA	Eleskirt	1.48	331	*i* P	Pn	03 46 59.7	-0.4
EATA				*i* S	Sg	03 47 22.3	+0.9
EATA	Eleskirt	1.48	331	P	Pn	03 46 59.7	-0.4
EATA				S	Sg	03 47 22.3	+0.9
BNGB	Bing~¶‖	2.18	282	*e*PN	Pn	03 47 09.6	0.0
BINT	Bingol	2.31	278	*e*Pn	Pn	03 47 09.6	-1.8

*CSEM **28** 03:51:32.3, 38°.72N×43°.08E, h7km, ML3.5*
DDA 28 03:51:32.3, 38°.72N×43°.08E, h7km, Ml3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.32	127	*i* P	Pg	03 51 39.2	+0.7
TVAN				*i* S	Sg	03 51 44.0	+1.2
TVAN	Van	0.32	127	P	Pg	03 51 39.2	+0.6
TVAN				S	Sg	03 51 44.0	+1.2
GEVA	Gevas	0.41	183	*i* P	Pg	03 51 39.3	-1.0
GEVA				*i* S	Sg	03 51 46.9	+1.3
GEVA	Gevas	0.41	183	P	Pg	03 51 39.3	-1.0
GEVA				S	Sg	03 51 46.9	+1.3
TATV	Tatvan	0.67	252	*i* P	Pg	03 51 45.0	-0.3
TATV				*i* S	Sb	03 51 56.7	+0.6
TATV	Tatvan	0.67	252	P	Pg	03 51 45.0	-0.3
TATV				S	Sb	03 51 56.7	+0.6
TUTA	Tutak	0.71	343	*i* P	Pg	03 51 46.3	+0.2
TUTA				*i* S	Sb	03 51 56.7	-0.7
TUTA	Tutak	0.71	343	P	Pg	03 51 46.3	+0.2
TUTA				S	Sb	03 51 56.7	-0.7
EKAR	Karacoban	0.96	304	*i* P	Pn	03 51 54.4	+2.0
EKAR	Karacoban	0.96	304	P	Pn	03 51 54.4	+2.0
EATA	Eleskirt	1.23	338	*i* P	Pg	03 51 55.6	-0.4
EATA				*i* S	Sn	03 52 14.8	+1.5
EATA	Eleskirt	1.23	338	P	Pg	03 51 55.6	-0.4
EATA				S	Sn	03 52 14.8	+1.5
BTMN	Batman	1.65	241	*i* P	Pb	03 52 03.5	+0.4
BTMN				*i* S	Sg	03 52 27.2	+1.9
BTMN	Batman	1.65	241	P	Pg	03 52 03.5	-0.4
BTMN				S	Sg	03 52 27.2	+1.9

CASC 28 04:04:13.1±1.1, 12°.76N×88°.38W, h56km±23km, MD3.5, ML2.9, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	Lacayo	0.67	7	⇑*i*P	Pn	04 04 27.1	+0.2
LCY				*e*S	Sn	04 04 37.4	+0.5
VSM	San Miguel	0.68	9	*e*P	Pn	04 04 27.3	+0.2
PACA	Pacayal	0.71	4	*e*P	Pn	04 04 27.7	+0.3
PACA				*e*S	Sn	04 04 38.4	+0.6
SNVI	San Vicente	0.96	332	*e*P	Pn	04 04 31.0	+0.3
SNVI				*e*S	Sn	04 04 44.3	+0.8
LFRS	El Faro	1.09	322	*i* P	Pn	04 04 32.4	+0.1
LFRS				*e*S	Sn	04 04 46.4	-0.2
LBRS	Las Brisas	1.17	326	*i* P	Pn	04 04 33.9	+0.6
SNET	Serv Nac Est T	1.24	318	*e*P	Pn	04 04 34.8	+0.5
SNET				*e*S	Sn	04 04 50.5	+0.3
SNET				AML	AML	04 04 51.9	
	comp=Z,328nm,0.2s						
CRIN	San Cristobal	1.30	92	*e*P	Pn	04 04 35.5	+0.4
BOQS	Boqueron	1.31	318	*e*P	Pn	04 04 35.9	+0.6
TGUH	Tegucigalpa,Un	1.68	40	*e*P	Pn	04 04 40.3	+0.1
MOMN	Momotombo	1.83	101	*e*P	Pn	04 04 42.0	-0.2
COPN	Copaltepe	1.84	108	*e*P	Pn	04 04 41.9	-0.4
COPN				*e*S	Sn	04 05 03.2	-1.2
COPN				AML	AML	04 05 04.1	
	comp=Z,52nm,0.2s						
ESTN	Estel	1.99	80	*e*P	Pn	04 04 44.2	-0.2
BOAB	BOACO BROADBAN	2.66	96	*e*P	Pn	04 04 52.8	-0.8

*ISK **28** 04:05:54.7, 38°.76N×43°.25E, h5km, ML2.7*
*CSEM **28** 04:05:56.3±0.2, 38°.77N×43°.24E, h5km, ML2.7, Error ellipse: s-maj=4.7km s-min=4.2km az=117.0*
*DDA **28** 04:05:56.0, 38°.78N×43°.22E, h7km, Ml3.1*
ISC 28 04:05:56.0±1.1, 38°.77N±0°.02×43°.24E±0°.03, h5km±10km, n32, σ0°.75/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	145	PG	Pg	04 06 00.8	+0.7
VANB	Van	0.21	145	*i* Pg	Pg	04 06 00.8	+0.7
TVAN	Van	0.27	151	*i* P	Pb	04 06 03.3	-0.2
TVAN				*i* S	Sb	04 06 08.0	-0.5
TVAN	Van	0.27	151	P	Pb	04 06 03.3	-0.2
TVAN				S	Sb	04 06 08.0	-0.5
VMUR	Van-Muradiye	0.34	49	*i* P	Pg	04 06 02.8	0.0
VMUR				*i* S	Sb	04 06 09.6	-1.1
VMUR	Van-Muradiye	0.34	49	P	Pg	04 06 02.8	0.0
VMUR				S	Sb	04 06 09.6	-1.1
GEVA	Gevas	0.47	197	*i* P	Pg	04 06 04.3	-0.9
GEVA				*i* S	Sg	04 06 11.5	+0.1
GEVA	Gevas	0.47	197	P	Pg	04 06 04.3	-0.9
GEVA				S	Sg	04 06 11.5	+0.1
CLDR	Caldiran	0.65	54	*e*PG	Pg	04 06 08.7	+0.1
CLDR				*e*SG	Sb	04 06 18.2	-1.3
CLDR	Caldiran	0.65	54	*i* P	Pg	04 06 07.9	-0.7
CLDR				*i* S	Sb	04 06 18.5	-1.0
CLDR	Caldiran	0.65	54	P	Pg	04 06 07.9	-0.7
CLDR	Caldiran	0.65	54	*e*Pg	Pg	04 06 08.7	+0.1
CLDR				*e*Sg	Sb	04 06 18.2	-1.3
TUTA	Tutak	0.72	333	*i* P	Pg	04 06 09.9	+0.1
TUTA				*i* S	Sg	04 06 19.4	+0.2
TUTA	Tutak	0.72	333	P	Pg	04 06 09.9	+0.1
TUTA				S	Sg	04 06 19.4	+0.2
TATV	Tatvan	0.80	252	*i* P	Pg	04 06 11.0	-0.5
TATV				*i* S	Sg	04 06 22.8	+1.0
TATV	Tatvan	0.80	252	P	Pg	04 06 11.0	-0.5
TATV				S	Sg	04 06 22.8	+1.0
AGRB	Hanur-Agry	0.83	347	*e*PG	Pg	04 06 11.6	-0.4
AGRB				*e*SG	Sb	04 06 23.9	-0.8
AGRB	Hanur-Agry	0.83	347	*e*Pg	Pg	04 06 11.6	-0.4
AGRB				*e*Sg	Sb	04 06 23.9	-0.8
EKAR	Karacoban	1.04	299	*i* P	Pn	04 06 18.7	+1.2
EKAR				*i* S	Sn	04 06 34.5	+2.0
EKAR	Karacoban	1.04	299	P	Pn	04 06 18.7	+1.2
EATA	Eleskirt	1.24	332	*i* P	Pg	04 06 19.7	-0.1
EATA				*i* S	Sn	04 06 38.3	+0.7
EATA	Eleskirt	1.24	332	P	Pg	04 06 19.7	-0.1
EATA				S	Sn	04 06 38.3	+0.7
VRTB	Varto-Mus	1.44	286	*e*PN	Pb	04 06 23.5	0.0
VRTB	Varto-Mus	1.44	286	*e*Pn	Pb	04 06 23.5	0.0
CUKT	Cukurca	1.54	169	*e*PN	Pn	04 06 24.7	+0.4
CUKT	Cukurca	1.54	169	*e*Pn	Pn	04 06 24.7	+0.4
SVAN	Silvan-Diyarba	1.71	250	*e*PN	Pb	04 06 27.4	-0.6
SVAN	Silvan-Diyarba	1.71	250	*e*Pn	Pb	04 06 27.4	-0.6
BTMN	Batman	1.78	241	*i* P	Pb	04 06 28.6	-0.5
BTMN				*i* S	Sn	04 06 51.0	+0.5
BTMN	Batman	1.78	241	P	Pb	04 06 28.6	-0.5
BTMN				S	Sn	04 06 51.0	+0.5
BNGB	Bing~¶‖	2.01	277	*e*PN	Pb	04 06 32.0	-1.1
BINT	Bingol	2.15	274	*e*Pn	Pn	04 06 32.0	-0.7

IDC 28 04:10:12.4±430.0, 51°.26N×116°.68E, h0km, Error ellipse: s-maj=173.4km s-min=143.2km az=50.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	7.52	247	*i*		04 57 10.0	
	baz=59,slow=332,SNR=0.5						
I45RU	USSURIYSK INFR	12.47	119	*i*		05 24 50.0	
	baz=309,slow=323,SNR=3.3						
I30JP	ISUMI INFRASON	23.30	124	*i*		06 34 00.0	
	baz=323,slow=318,SNR=0.4						

*NEIC **28** 04:27:19.7±0.7, 26°.32S×70°.75W, h44km±7km, mb4.6/20, Error ellipse: s-maj=11.7km s-min=5.4km az=91.0*
NEIC Felt [IV] at Alto del Carmen; [III] at Caldera, Copiapo and Diego de Almagro; [II] at Vallenar.
*ISCJB **28** 04:27:20.3±0.4, 26°.26S±0°.02×70°.81W±0°.06, h66km±4km, mb4.8/34, Error ellipse: s-maj=9.0km s-min=3.2km az=179.0*
*GUC **28** 04:27:20.1±0.7, 26°.29S×70°.65W, h68km±17km, ML4.5*
*SJA **28** 04:27:21.9±0.8, 26°.36S×70°.87W, h50km±17km, ML4.1*
*IDC **28** 04:27:23.5±0.9, 25°.99S×70°.51W, h62km±6km, mb3.6/4, mb1 4.0/8, mb1mx3.7/25, mbtmp4.0/8, MS3.1/3, Ms1 3.1/3, ms1mx2.8/19, Error ellipse: s-maj=26.5km s-min=23.8km az=127.0*
ISC 28 04:27:19.6±0.6, 26°.26S±0°.03×70°.91W±0°.06, h41km±5km, n90, σ1°.95/110, mb4.8/34, 16D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.81	174	⇓*i*P	Pn	04 27 36.7	+2.1
CDCH				*i* S	Sn	04 27 47.7	+2.3
CPCH	Copiapo	1.20	156	⇓*i*P	Pn	04 27 41.0	+1.0
CPCH				*i* S	Sn	04 27 56.2	+1.1
PB14	IPOC Station P	1.69	16	⇓*i*P	Pn	04 27 48.9	+1.9
PB14				*i* S	Sn	04 28 09.6	+1.9
PB14				IAML		04 28 11.9	
	comp=E,5μm,0.3s						
VACH	Vallenar	2.31	177	⇓*i*P	Pn	04 27 56.7	+1.5
VACH				*i* S	Sn	04 28 23.6	+1.2
ANCH	Antofagasta	2.61	10	*e*P	Pn	04 28 01.8	+2.5
ANCH				*i* S	Sn	04 28 32.5	+2.7
LCO	Las Campanas	2.75	176	*e*P	Pn	04 28 02.5	+1.0
LCO				*e*S	Sn	04 28 35.5	+2.0
LCO	Las Campanas	2.75	176	*e*Pn	Pn	04 28 02.2	+0.7
PB10	IPOC Station P	2.76	7	⇓*i*P	Pn	04 28 02.3	+1.0
PB10				*i* S	Sn	04 28 33.8	+0.4
P

comp=Z,18nm,1.1s
EFI East Falkland 27.19 162 *e*P **P 04 32 57.6 -1.6**
comp=Z,159nm,1.8s
OTAV Otavalo 27.33 343 *e*P **P 04 33 03.3 +1.9**
comp=Z,2.7nm,0.9s
PRAC Prado 30.05 352 *e*P **P 04 33 25.7 +0.7**
comp=Z,32nm,1.7s
RUSC La Rusia 32.03 356 *e*P **P 04 33 44.6 +1.6**
comp=Z,2.7nm,0.8s
HELC Santa Helena 32.57 351 *e*P **P 04 33 48.9 +1.3**
comp=Z,12nm,0.9s
FDF Fort de France 41.84 14 *e*P **P 04 35 06.6 +0.9**
comp=Z,146nm,1.4s
TGUH Tegucigalpa,Un 43.12 336 *e*P **P 04 35 17.1 +0.9**
comp=Z,8.7nm,1.0s
GDHS Morne Mazeau, 43.20 13 *e*P **P 04 35 16.3 -0.6**
comp=Z,52nm,0.8s
SKI Saint Kitts 44.06 11 *e*P **P 04 35 21.5 -2.2**
comp=Z,188nm,0.9s
CDVI St. Croix 44.16 8 *e*P **P 04 35 24.6 +0.2**
comp=Z,86nm,0.6s
SJG San Juan 44.35 6 *e*P **P 04 35 26.1 +0.2**
comp=Z,27nm,1.3s
ANWB Willy Bob 44.56 12 *e*P **P 04 35 26.6 -1.0**
comp=Z,70nm,0.9s
MTDJ Mount Denham 44.69 351 *e*P **P 04 35 29.1 +0.3**
comp=Z,291nm,1.9s
TBVI Tortola 44.83 8 *e*P **P 04 35 30.5 +0.7**
TLIG Tlapa 51.19 325 *e*P **P 04 36 19.3 +0.2**
comp=Z,20nm,1.7s
LVIG Laguna Verde 51.99 329 *e*P **P 04 36 26.2 +1.3**
comp=Z,31nm,1.0s
PTCN Pitcairn Islan 52.94 257 *e*P **P 04 36 31.9 -0.2**
comp=Z,836nm,1.5s
ASCN Ascension 56.59 82 *e*P **P 04 36 56.1 -2.6**
comp=Z,231nm,1.4s
ZAIG Zacatecas 57.58 325 *e*P **P 04 37 06.0 +0.3**
comp=Z,13nm,1.8s
LNIG Linares 57.86 329 *e*P **P 04 37 08.1 +0.7**
comp=Z,15nm,1.6s
SNAA Sanae 58.43 160 *e*P **P 04 37 09.5 -1.3**
comp=Z,6.7nm,1.4s
BBSR BB Station 58.61 6 *e*P **P 04 37 12.0 -0.3**
comp=Z,96nm,1.6s
BRAL Brewton 59.16 344 *e*P **P 04 37 16.3 +0.1**
comp=Z,36nm,0.9s
NHSC New Hope 59.70 351 *e*P **P 04 37 20.4 +0.5**
comp=Z,159nm,1.8s
JCT Junction City 62.83 332 *e*P **P 04 37 42.8 +1.5**
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 63.58 328 P **P 04 37 48.1 +1.8**
comp=Z,0.7nm,0.6s,baz=145,slow=8.4,SNR=5.3
QSPA South Pole Qui 63.95 180 *e*P **P 04 37 48.8 +0.4**
MNTX Cornudas Mount 66.37 328 *e*P **P 04 38 05.3 +1.0**
comp=Z,2.6nm,0.8s
MSTX Muleshoe 67.11 332 *e*P **P 04 38 10.3 +1.2**
comp=Z,6.5nm,0.9s
VNDA Vanda 71.86 191 P **P 04 38 41.8 +4.1**
comp=Z,0.1nm,0.3s,baz=176,slow=4.1,SNR=4.0
CCUT Cedar City 74.96 326 *e*P **P 04 38 58.4 +1.6**
comp=Z,4.1nm,1.0s
P17A Butcher Ranch, 75.22 329 *e*P **P 04 38 56.0 -2.2**
comp=Z,8.7nm,0.9s
HLID Hailey 80.14 329 *e*P **P 04 39 27.5 +2.0**
comp=Z,3.8nm,1.0s
TORD Torodi Ar. Bea 80.67 70 P **P 04 39 28.0 -0.8**
comp=Z,0.6nm,0.5s,baz=268,slow=5.3,SNR=12
TORD pP **sP 04 39 45.2 -0.7**
comp=Z,3.8nm,0.6s,baz=261,slow=5.3,SNR=18
KURK Kurchatov 146.28 35 *e*PKPbc **PKPbc 04 46 54.9 -0.5**
ZALV Zalesovo Beam 147.02 27 PKPbc **PKPdf 04 46 56.2 +0.7**
comp=Z,2.0nm,0.6s,baz=270,slow=1.5,SNR=5.3
ZALV pPKPbc **sPKPbc 04 47 15.3 +0.3**
comp=Z,1.7nm,0.4s,baz=228,slow=1.8,SNR=3.6
AAK Ala-Archa 147.40 51 *e*PKPbc **PKPbc 04 46 58.4 -0.8**
KSH Kashi 149.39 56 *e*PKPbc **PKPbc 04 47 02.3 -2.1**
KSH PKS **PKSdf 04 50 35.3 +0.3**
KSH *e*PP **PP 04 50 41.0 +3.8**
KSH SKKS 04 55 19.3
MKAR Makanchi Array 150.51 39 PKPbc **PKPbc 04 47 06.6 -0.2**
comp=Z,2.0nm,0.6s,baz=348,slow=2.1,SNR=16
MKAR pPKPbc **sPKPbc 04 47 24.0 -0.3**
comp=Z,2.5nm,0.7s,baz=316,slow=1.9,SNR=9.7
KLR Kul'dur 151.11 328 PKPbc **PKPbc 04 47 08.4 +0.3**
comp=Z,0.1nm,0.5s,baz=304,slow=3.6,SNR=3.2
LZH Lanzhou 169.23 23 PKP **PKPdf 04 47 22.5 -0.3**
LZH pPKP pPKPdf 04 47 33.3 -2.6
LZH sPKP 04 47 36.5
LZH PP PP 04 52 32.0 +8.2
GYA Guiyang 177.81 84 *e*PKPbc **PKPdf 04 47 24.0 -2.2**
GYA sPKP 04 47 42.0
GYA PKPab PKPab 04 49 12.3 -1.3
GYA PKS **PKSdf 04 50 55.5 -3.1**
GYA PP **PP 04 53 06.3 -1.1**
GYA AMB AMB
comp=Z,110nm,8.5s

DDA ***28*** *04:39:08.7,38°.73N×43°.51E,h7km, Ml3.7*
ISK ***28*** *04:39:08.4,38°.76N×43°.50E,h5km, ML3.6*
CSEM ***28*** *04:39:11.7±0.2,38°.71N×43°.27E,h5km,ML3.6, Error ellipse: s-maj=5.4km s-min=4.9km az=176.0*
AZER ***28*** *04:39:19.5±1.6,38°.98N×43°.86E,h10km, Error ellipse: s-maj=17.5km s-min=8.7km az=92.0*
ISC 28 04:39:09.5±0.9,**38°.77N**±0°.02×**43°.55E**±0°.02,**h14**km±8km,
n81,σ2§**01**/105,**12C-9D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**216**	*e*PG	**Pg**	**04 39 14.7**	**+0.3**
VANB	**Van**	**0.22**	**216**	*e*Pg	**Pg**	**04 39 14.7**	**+0.3**
TVAN	**Van**	**0.27**	**205**	*i* P	**Pb**	**04 39 16.6**	**+0.3**
TVAN				*i* S	**Sb**	**04 39 26.1**	**+5.4**
TVAN	**Van**	**0.27**	**205**	P	**Pb**	**04 39 16.6**	**+0.3**
CLDR	**Caldiran**	**0.47**	**37**	*e*PG	**Pb**	**04 39 18.7**	**-1.1**
CLDR				*e*SG	**Sb**	**04 39 27.7**	**+1.1**
CLDR	**Caldiran**	**0.47**	**37**	*i* P	**Pg**	**04 39 18.2**	**-0.7**
CLDR				*i* S	**Sb**	**04 39 26.9**	**+0.3**
GEVA	**Gevas**	**0.60**	**220**	*i* P	**Pg**	**04 39 19.1**	**-2.2**
GEVA	**Gevas**	**0.60**	**220**	P	**Pg**	**04 39 19.1**	**-2.2**
DYDN	**Diyadin**	**0.78**	**8**	*i* P	**Pb**	**04 39 24.2**	**-0.8**
DYDN	**Diyadin**	**0.78**	**8**	P	**Pb**	**04 39 24.2**	**-0.8**
BASK	**Baskale_VAN**	**0.80**	**153**	*i* P	**Pg**	**04 39 23.5**	**-1.6**
BASK				*i* S	**Sn**	**04 39 39.3**	**+0.9**
TUTA	**Tutak**	**0.85**	**318**	*i* P	**Pg**	**04 39 24.5**	**-1.6**
TUTA	**Tutak**	**0.85**	**318**	P	**Pg**	**04 39 24.5**	**-1.6**
AGRB	**Hanur-Agry**	**0.91**	**332**	*e*PG	**Pb**	**04 39 26.9**	**-0.4**
AGRB				*e*SG	**Sn**	**04 39 40.0**	**-1.2**
AGRB	**Hanur-Agry**	**0.91**	**332**	*e*Pg	**Pb**	**04 39 26.9**	**-0.4**
AGRB				*e*Sg	**Sn**	**04 39 40.0**	**-1.2**
TATV	**Tatvan**	**1.04**	**256**	*i* P	**Pg**	**04 39 26.9**	**-2.7**
TATV				*i* S	**Sg**	**04 39 41.3**	**-1.9**
TATV	**Tatvan**	**1.04**	**256**	P	**Pg**	**04 39 26.9**	**-2.7**
TATV				S	**Sg**	**04 39 41.3**	**-1.9**
HAKT	**HAKKARI**	**1.22**	**174**	*i* P	**Pb**	**04 39 30.6**	**-1.9**
HAKT	**HAKKARI**	**1.22**	**174**	P	**Pb**	**04 39 30.6**	**-1.9**
EKAR	**Karacoban**	**1.25**	**293**	*i* P	**Pg**	**04 39 32.9**	**-0.8**
EKAR	**Karacoban**	**1.25**	**293**	P	**Pg**	**04 39 32.9**	**-0.8**
EATA	**Eleskirt**	**1.36**	**323**	*i* P	**Pg**	**04 39 34.9**	**-0.9**
EATA				*i* S	**Sg**	**04 39 56.2**	**+2.6**
EATA	**Eleskirt**	**1.36**	**323**	P	**Pg**	**04 39 34.9**	**-0.9**
EATA				S	**Sg**	**04 39 56.2**	**+2.6**
CUKT	**Cukurca**	**1.52**	**178**	*e*PN	**Pg**	**04 39 37.7**	**-1.1**
CUKT	**Cukurca**	**1.52**	**178**	*i* P	**Pb**	**04 39 37.4**	**-0.3**
CUKT	**Cukurca**	**1.52**	**178**	P	**Pb**	**04 39 37.3**	**-0.3**
CUKT	**Cukurca**	**1.52**	**178**	*e*Pn	**Pg**	**04 39 37.7**	**-1.1**
NAX	**Nakhchivan**	**1.57**	**75**	⇑P	**Pg**	**04 39 38.7**	**-1.0**
NAX				⇑S	**Sg**	**04 40 02.0**	**+1.9**
NAX	**Nakhchivan**	**1.57**	**75**	P	**Pg**	**04 39 38.7**	**-1.0**
NAX				S	**Sg**	**04 40 02.0**	**+1.9**
DIGO	**Kars**	**1.65**	**355**	*i* P	**Pg**	**04 39 41.8**	**+0.6**
DIGO	**Kars**	**1.65**	**355**	P	**Pg**	**04 39 41.8**	**+0.6**
VRTB	**Varto-Mus**	**1.68**	**284**	*e*PN	**Pb**	**04 39 40.0**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**284**	*e*Pn	**Pb**	**04 39 40.0**	**-0.3**
BNGL	**BINGOL**	**1.88**	**276**	*i* P	**Pg**	**04 39 44.7**	**-1.0**
BNGL				*i* S	**Sg**	**04 40 08.7**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	*e*PN	**Pb**	**04 39 43.3**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	*i* P	**Pb**	**04 39 43.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	*e*Pn	**Pb**	**04 39 43.3**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	P	**Pb**	**04 39 43.9**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.01**	**333**	*e*PN	**Pb**	**04 39 45.1**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.01**	**333**	*e*Pn	**Pb**	**04 39 45.1**	**-0.9**
ERZM	**Erzurum**	**2.04**	**304**	*i* P	**Pg**	**04 39 46.9**	**-1.7**
ERZM	**Erzurum**	**2.04**	**304**	P	**Pg**	**04 39 46.9**	**-1.7**
BNGB	**Bing'¶ll**	**2.25**	**276**	*e*PN	**Pb**	**04 39 47.8**	**-2.3**
BINT	**Bingol**	**2.39**	**273**	*e*Pn	**Pn**	**04 39 47.8**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.43**	**287**	*e*PN	**Pn**	**04 39 50.5**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.43**	**287**	*e*Pn	**Pn**	**04 39 50.5**	**+1.5**
GDB	**GEDABAY**	**2.58**	**40**	P	**Pb**	**04 39 53.6**	**-2.1**
GDB				⇓S	**Sb**	**04 40 26.5**	**-0.9**
GDB	**GEDABAY**	**2.58**	**40**	P	**Pb**	**04 39 53.6**	**-2.1**
GDB				S	**Sb**	**04 40 26.5**	**-0.9**
AKH	**Akhalkalaki**	**2.64**	**359**	P	**Pg**	**04 39 58.6**	**-1.5**
AKH				S	**Sg**	**04 40 41.0**	**+6.7**
QZX	**Qazax, Azerbai**	**2.68**	**31**	⇑P	**Pg**	**04 39 58.8**	**-2.1**
QZX				⇓S	**Sb**	**04 40 28.8**	**-1.2**
QZX	**Qazax, Azerbai**	**2.68**	**31**	P	**Pg**	**04 39 58.8**	**-2.1**
QZX				S	**Sb**	**04 40 28.8**	**-1.2**
MAZI	**Mazidag**	**2.78**	**243**	*e*PN	**Pn**	**04 39 55.2**	**+1.5**
MAZI	**Mazidag**	**2.78**	**243**	*e*Pn	**Pn**	**04 39 55.2**	**+1.5**
GANJ	**Ganja**	**2.84**	**48**	⇑P	**Pb**	**04 40 00.5**	**+0.4**
GANJ				⇓S	**Sb**	**04 40 32.7**	**-2.0**
GANJ	**Ganja**	**2.84**	**48**	P	**Pb**	**04 40 00.5**	**+0.4**
GANJ				S	**Sb**	**04 40 32.7**	**-2.0**
DGRG	**David-gareji**	**3.02**	**27**	P	**Pb**	**04 39 60.0**	**-3.1**
TBLG	**Delisi**	**3.09**	**17**	P	**Pb**	**04 40 03.6**	**-0.7**
TBLG				S	**Sg**	**04 40 49.6**	**+0.7**
TBLG	**Delisi**	**3.09**	**17**	P	**Pb**	**04 40 03.6**	**-0.7**
BRDA	**Brd**	**3.18**	**61**	⇑P	**Pb**	**04 40 05.5**	**-0.2**
BRDA				⇑S	**Sb**	**04 40 40.6**	**-3.7**
BRDA	**Brd**	**3.18**	**61**	P	**Pb**	**04 40 05.5**	**-0.2**
PTK	**Pertek**	**3.25**	**273**	*e*PN	**Pn**	**04 40 02.5**	**+2.2**
PTK	**Pertek**	**3.25**	**273**	*e*Pn	**Pn**	**04 40 02.5**	**+2.2**
MNGR	**Mingechevir, A**	**3.38**	**53**	⇓P	**Pb**	**04 40 08.4**	**-0.7**
MNGR				⇑S	**Sn**	**04 40 45.4**	**+3.7**
MNGR	**Mingechevir, A**	**3.38**	**53**	P	**Pb**	**04 40 08.4**	**-0.7**
ZRD	**Zardab**	**3.53**	**63**	⇓P	**Pb**	**04 40 10.8**	**-1.0**
ZRD	**Zardab**	**3.53**	**63**	P	**Pb**	**04 40 10.8**	**-1.0**
ZKTA	**Zakatala**	**3.71**	**38**	⇑P	**Pb**	**04 40 12.7**	**-2.0**
ZKTA				⇑S	**Sn**	**04 40 53.8**	**+4.0**
SEKA	**Sheki**	**3.71**	**48**	⇓P	**Pb**	**04 40 14.0**	**-0.9**
SEKA	**Sheki**	**3.71**	**48**	P	**Pb**	**04 40 14.0**	**-0.9**
LRK	**Lerik**	**3.75**	**90**	⇑P	**Pb**	**04 40 14.2**	**-1.4**
LRK	**Lerik**	**3.75**	**90**	P	**Pb**	**04 40 14.2**	**-1.4**
GLBA	**Cilalbad**	**3.80**	**81**	⇓P	**Pb**	**04 40 14.4**	**-2.0**
GLBA	**Cilalbad**	**3.80**	**81**	P	**Pb**	**04 40 14.4**	**-2.0**
KDMR	**Kurdemir**	**3.92**	**64**	⇓P	**Pb**	**04 40 15.8**	**-2.6**
KDMR	**Kurdemir**	**3.92**	**64**	P	**Pb**	**04 40 15.8**	**-2.6**
QBL	**Gabala**	**3.95**	**55**	⇓P	**Pb**	**04 40 15.6**	**-3.3**
QBL	**Gabala**	**3.95**	**55**	P	**Pb**	**04 40 15.6**	**-3.3**
XNQ	**Khinaliq**	**4.26**	**54**	⇑P	**Pb**	**04 40 20.7**	**-3.7**
XNQ	**Khinaliq**	**4.26**	**54**	P	**Pb**	**04 40 20.7**	**-3.7**
PQL	**Pirkuli**	**4.38**	**61**	⇑P	**Pb**	**04 40 22.1**	**-4.2**
PQL	**Pirkuli**	**4.38**	**61**	P	**Pb**	**04 40 22.1**	**-4.2**

IDC ***28*** *04:46:51.8±1.1,14°.92S×174°.69W,h0km,mb3.8/5, mb1 4.1/6,mb1mx3.8/36,mbtmp3.9/6,ML3.5/1,MS4.1/20, Ms1 4.1/20,ms1mx3.9/32, Error ellipse: s-maj=48.6km s-min=22.2km az=134.0*
ISCJB ***28*** *04:46:55.8±0.7,14°.8S±0°.1×174°.8W±0°.1,h33km,mb4.1/11, MS4.1/19, Error ellipse: s-maj=25.4km s-min=14.2km az=138.4*
GCMT ***28*** *04:46:57.8±0.2,14°.97S×174°.45W,h12km,MW4.9/84, Moment Tensor Solution. s25,c30; s84,c120; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.78±.09; Mθθ-0.81±.10; Mφφ1.59±.08; Mrθ0.32±.24; Mθφ2.33±.06; Mφr0.80±.23; Best double couple: M0=2.71900×10¹⁶ NP1:φs346.00000°,δ86.00000°,λ167.00000°. NP2: φs77.00000°,δ77.00000°,λ4.00000°. Principal axes: T 3.1940, Plg12.0000°, Azm301.0000°; N -0.9480, Plg76.0000°, Azm149.0000°; P -2.2430, Plg6.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *04:46:57.8±0.6,14°.83S×174°.79W,h35km,mb4.3/4 Error ellipse: s-maj=28.0km s-min=14.2km az=140.0*
ISC 28 04:46:58.3±0.7,**14°.9S**±0°.2×**174°.8W**±0°.2,**h35**km,**n63**,
σ2§**02**/32,**mb4.3**/11,**MS4.1**/19,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.06**	**71**	Pn	Pn	04 47 34.2	-10
AFI				Sn	Sn	04 48 04.1	-15
RAR	**Rarotonga**	**15.55**	**116**	LR	LR	04 54 50.3	
DZM	**Mont Dzumac**	**19.18**	**245**	P	**P**	**04 51 19.1**	**-0.2**
DZM	**Mont Dzumac**	**19.18**	**245**	*e*P	**P**	**04 51 19.3**	**+0.1**
PAE	**Paea**	**24.31**	**100**	*e*T	T	05 16 50.5	
PPT	**Papeete**	**24.31**	**100**	LR	LR	04 59 11.3	
PPT2	**Papeete2**	**24.31**	**100**	*e*LQ	LQ	04 56 43.3	
PPT2				*e*LR	LR	04 57 40.8	
PPT2	**Papeete2**	**24.31**	**100**	*e*T	T	05 16 51.8	
URZ	**Urewera**	**24.33**	**196**	P	**P**	**04 52 13.0**	**+0.2**
TIAR	**Tiarei**	**24.53**	**100**	*e*T	T	05 17 07.0	
TVO	**Taravao**	**24.63**	**100**	*e*T	T	05 17 14.8	
TBI	**Tubuai**	**25.29**	**113**	*e*LQ	LQ	04 57 11.5	
TBI				*e*LR	LR	04 58 13.3	
TBI	**Tubuai**	**25.29**	**113**	*e*T	T	05 18 12.7	
HNR	**Honiara**	**25.31**	**280**	LR	LR	05 01 16.0	
VAH	**Vaihoa**	**26.19**	**94**	*e*T	T	05 19 07.9	
TAOE	**Nuku Hiva Isla**	**34.37**	**84**	*e*LR	LR	05 02 16.6	
PMG	**Port Moresby**	**37.60**	**274**	LR	LR	05 08 21.7	
H11S2	**WAKE ISLAND Hy**	**37.90**	**331**	T	T	05 34 41.0	
H11S3	**WAKE ISLAND Hy**	**37.91**	**331**	T	T	05 34 37.9	
H11S1	**WAKE ISLAND Hy**	**37.91**	**331**	T	T	05 34 41.4	
RKT	**Rikitea**	**38.38**	**108**	*e*T	T	05 34 30.6	
H11N3	**WAKE ISLAND Hy**	**38.87**	**332**	T	T	05 35 44.0	
H11N1	**WAKE ISLAND Hy**	**38.87**	**332**	T	T	05 35 45.6	
H11N2	**WAKE ISLAND Hy**	**38.88**	**332**	T	T	05 35 45.4	
COEN	**Coen**	**40.71**	**266**	*e*P	**P**	**04 54 36.7**	**+0.7**
STKA	**Stephens Creek**	**43.15**	**239**	LR	LR	05 13 46.5	
BBOO	**Buckleboo**	**47.93**	**239**	*e*P	**P**	**04 55 34.8**	**+1.2**
WRAB	**Tennant Creek**	**48.67**	**256**	*e*P	**P**	**04 55 39.4**	**-0.1**
WRA	**Warramunga Arr**	**48.68**	**256**	P	**P**	**04 55 37.0**	**-2.5**
WRA				LR	LR	05 14 48.6	
ASAR	**Alice Springs**	**49.02**	**252**	P	**P**	**04 55 39.8**	**-2.3**
ASAR				LR	LR	05 14 40.4	
VNDA	**Vanda**	**63.72**	**186**	LR	LR	05 20 01.2	
MJAR	**Matsushiro Arr**	**67.74**	**320**	LR	LR	05 21 55.8	
KSRS	**Korea Array**	**74.91**	**316**	LR	LR	05 29 06.2	
QSPA	**South Pole Qui**	**75.11**	**180**	*e*P	**P**	**04 58 35.6**	**-1.1**
MCK	**McKinley**	**80.91**	**11**	*e*P	**P**	**04 59 06.4**	**-2.1**
TXAR	**Lajitas Array**	**81.44**	**57**	P	**P**	**04 59 13.7**	**+1.4**
TXAR				LR	LR	05 27 30.5	
ILAR	**Eielson Array**	**82.24**	**12**	P	**P**	**04 59 14.8**	**-0.7**
ILAR				LR	LR	05 28 48.3	
PDAR	**Pinedale Array**	**82.79**	**42**	P	**P**	**04 59 17.4**	**-1.8**
PDAR				LR	LR	05 31 11.3	
CMIG	**Matias Romero**	**84.96**	**71**	LR	LR	05 29 35.4	
MAW	**Mawson**	**87.82**	**199**	LR	LR	05 37 15.8	
YKA	**Yellowknife Ar**	**90.19**	**24**	LR	LR	05 37 11.8	
PLCA	**Paso Flores**	**90.80**	**133**	LR	LR	05 31 22.3	
CMAR	**Chiang Mai Arr**	**91.22**	**289**	LR	LR	05 35 49.0	
SONM	**Songino Array**	**93.62**	**319**	LR	LR	05 37 00.6	
ULM	**Lac du Bonnet**	**94.39**	**39**	LR	LR	05 36 52.8	
KMBO	**Kilima Mbogo**	**144.55**	**246**	PKP	**PKPdf**	**05 06 33.7**	**+1.2**
PSZ	**Piszkesteto**	**144.94**	**343**	*e*PKPdf	**PKPab**	**05 06 30.7**	**-0.4**
BRTR	**Keskin Array B**	**144.96**	**320**	PKPbc	**PKPab**	**05 06 31.3**	**-0.3**
KHC	**Kasperske Hory**	**145.21**	**350**	*e*PKP	**PKPbc**	**05 06 31.6**	**-0.3**
KHC				*e*pPKP	**PKiKP**	**05 06 37.6**	**+1.4**
KHC				*e*sPKP		05 06 45.1	
KHC	**Kasperske Hory**	**145.21**	**350**	*e*PKPdf	**PKPbc**	**05 06 31.7**	**-0.2**
GERES	**GERESS Array B**	**145.47**	**350**	PKPbc	**PKPdf**	**05 06 32.0**	**-0.8**
CONA	**Conrad Observa**	**145.94**	**347**	*i* PKiKP	**PKPab**	**05 06 35.4**	**+0.6**
MOA	**Molln**	**146.33**	**349**	*i* pPKPdf	**PKiKP**	**05 06 43.3**	**+4.8**
ARSA	**Arzberg**	**146.65**	**347**	*i* PKiKP	**PKiKP**	**05 06 38.9**	**-0.3**
RETA	**Reutte**	**147.21**	**353**	*i* pPKPdf	**PKiKP**	**05 06 44.0**	**+3.6**
KBA	**Koelnbreinsper**	**147.24**	**350**	*i* PKiKP	**PKPab**	**05 06 39.8**	**-0.2**
SOKA	**Soboth**	**147.30**	**347**	*i* PKPab	**PKPbc**	**05 06 37.6**	**-0.7**
MOTA	**Moosalm**	**147.31**	**353**	*i* PKPab	**PKPbc**	**05 06 37.4**	**-1.0**
DAVA	**Damuels**	**147.50**	**354**	*i* pPKPdf	**PKiKP**	**05 06 46.3**	**+5.1**
OBKA	**Obir**	**147.56**	**348**	*i* pPKPdf	**PKPab**	**05 06 44.4**	**+3.2**
MYKA	**Terra Mystica**	**147.62**	**349**	*i* PKiKP	**PKiKP**	**05 06 40.9**	**-0.4**
FETA	**Feichten**	**147.67**	**353**	*i* pPKPdf	**PKiKP**	**05 06 45.2**	**+3.7**
ABTA	**Abfaltersbach**	**147.70**	**351**	*i* PKiKP	**PKiKP**	**05 06 40.8**	**-0.7**

ISK ***28*** *04:47:25.3,38°.62N×43°.76E,h5km,ML3.4*
ISCJB ***28*** *04:47:27.4±0.6,38°.70N±0°.03×43°.69E±0°.05,h7km±4km, Error ellipse: s-maj=7.0km s-min=3.9km az=23.3*
CSEM ***28*** *04:47:27.3±0.3,38°.71N×43°.66E,h5km,ML3.8, Error ellipse: s-maj=8.2km s-min=5.4km az=105.0*
DDA ***28*** *04:47:27.0,38°.72N×43°.58E,h10km,Ml3.8*
ISC 28 04:47:27.3±0.9,**38°.73N**±0°.02×**43°.64E**±0°.03,**h15**km±7km,
n47,σ1§**01**/69,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**236**	PG	**Pg**	**04 47 32.4**	**-0.2**
VANB				*e*SG	**Sb**	**04 47 37.6**	**+0.3**
VANB	**Van**	**0.24**	**236**	*i* Pg	**Pg**	**04 47 32.4**	**-0.2**
VANB				*e*Sg	**Sb**	**04 47 37.7**	**+0.3**
VMUR	**Van-Muradiye**	**0.27**	**349**	*i* P	**Pg**	**04 47 32.4**	**-0.8**
VMUR				*i* S	**Sg**	**04 47 38.0**	**+0.8**
VMUR	**Van-Muradiye**	**0.27**	**349**	P	**Pg**	**04 47 32.4**	**-0.8**
VMUR				S	**Sg**	**04 47 38.0**	**+0.8**
TVAN	**Van**	**0.27**	**223**	*i* P	**Pb**	**04 47 35.3**	**+1.3**
TVAN				*i* S	**Sb**	**04 47 40.2**	**+1.7**
TVAN	**Van**	**0.27**	**223**	P	**Pb**	**04 47 35.3**	**+1.3**
CLDR	**Caldiran**	**0.47**	**27**	*e*PG	**Pg**	**04 47 36.8**	**+0.1**
CLDR				*e*SG	**Sb**	**04 47 45.5**	**+1.2**
CLDR	**Caldiran**	**0.47**	**27**	*i* P	**Pg**	**04 47 36.4**	**-0.4**
CLDR				*i* S	**Sn**	**04 47 46.8**	**-1.0**
CLDR	**Caldiran**	**0.47**	**27**	P	**Pg**	**04 47 36.4**	**-0.4**
CLDR	**Caldiran**	**0.47**	**27**	*e*Pg	**Pg**	**04 47 36.8**	**+0.1**
CLDR				*e*Sg	**Sb**	**04 47 45.5**	**+1.2**
GEVA	**Gevas**	**0.61**	**228**	*i* P	**Pg**	**04 47 37.9**	**-1.5**
GEVA				*i* S	**Sg**	**04 47 47.5**	**-0.1**
GEVA	**Gevas**	**0.61**	**228**	P	**Pg**	**04 47 37.9**	**-1.5**
GEVA				S	**Sg**	**04 47 47.5**	**-0.1**
BASK	**Baskale_VAN**	**0.73**	**157**	*i* P	**Pb**	**04 47 41.3**	**-0.6**
BASK	**Baskale_VAN**	**0.73**	**157**	P	**Pb**	**04 47 41.3**	**-0.6**
DYDN	**Diyadin**	**0.82**	**3**	*i* P	**Pb**	**04 47 42.6**	**-0.7**
DYDN				*i* S	**Sn**	**04 47 56.0**	**-0.5**
DYDN	**Diyadin**	**0.82**	**3**	P	**Pb**	**04 47 42.6**	**-0.7**
DYDN				S	**Sn**	**04 47 56.0**	**-0.5**
TUTA	**Tutak**	**0.93**	**317**	*i* P	**Pb**	**04 47 44.1**	**-1.2**
TUTA				*i* S	**Sb**	**04 47 56.2**	**-1.4**
TUTA	**Tutak**	**0.93**	**317**	P	**Pb**	**04 47 44.1**	**-1.2**
TUTA				S	**Sb**	**04 47 56.2**	**-1.4**
TATV	**Tatvan**	**1.10**	**259**	*i* P	**Pb**	**04 47 46.4**	**-1.7**
TATV				*i* S	**Sb**	**04 48 01.9**	**-0.3**
TATV	**Tatvan**	**1.10**	**259**	P	**Pb**	**04 47 46.4**	**-1.7**
TATV				S	**Sb**	**04 48 02.0**	**-0.3**
HAKT	**HAKKARI**	**1.17**	**177**	*i* P	**Pn**	**04 47 48.0**	**-1.3**
HAKT	**HAKKARI**	**1.17**	**177**	P	**Pn**	**04 47 48.0**	**-1.3**
EKAR	**Karacoban**	**1.34**	**294**	*i* P	**Pb**	**04 47 52.8**	**+0.6**
EKAR	**Karacoban**	**1.34**	**294**	P	**Pb**	**04 47 52.8**	**+0.6**
EATA	**Eleskirt**	**1.44**	**322**	*i* P	**Pn**	**04 47 53.3**	**+0.1**
EATA				*i* S	**Sg**	**04 48 14.2**	**+0.3**
EATA	**Eleskirt**	**1.44**	**322**	P	**Pn**	**04 47 53.3**	**+0.1**
EATA				S	**Sg**	**04 48 14.2**	**+0.3**
CUKT	**Cukurca**	**1.48**	**181**	*e*PN	**Pn**	**04 47 52.8**	**-0.7**
CUKT	**Cukurca**	**1.48**	**181**	*i* P	**Pg**	**04 47 56.2**	**+0.5**
CUKT	**Cukurca**	**1.48**	**181**	*e*Pn	**Pn**	**04 47 52.8**	**-0.7**
CUKT	**Cukurca**	**1.48**	**181**	P	**Pg**	**04 47 56.2**	**+0.5**
DIGO	**Kars**	**1.70**	**353**	*i* P	**Pb**	**04 47 59.1**	**+0.7**
DIGO	**Kars**	**1.70**	**353**	P	**Pb**	**04 47 59.1**	**+0.7**
HOMI	**Horasan**	**1.88**	**315**	*i* P	**Pb**	**04 48 01.2**	**-0.3**
BNGL	**BINGOL**	**1.96**	**277**	*i* P	**Pb**	**04 48 03.6**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.00**	**254**	*e*PN	**Pb**	**04 48 02.5**	**-0.9**
SVAN				*e*SN	**Sb**	**04 48 29.6**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.00**	**254**	*e*Pn	**Pb**	**04 48 02.5**	**-0.9**
SVAN				*e*

MAN 28 04:53:52, 10.42N×124.70E, h27km, mb4.1, ML2.9, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.33	151	eP	Pn	04 54 02.4	+1.5
MSLP				eS	Sn	04 54 10.1	+3.2
PLP	Palo	0.79	20	⇑iP	Pn	04 54 07.9	+0.5
PLP				i S	Sn	04 54 19.6	+1.2
BESP	Borongan	1.38	32	eP	Pb	04 54 16.6	-0.6
BESP				eS	Sb	04 54 34.6	+0.2

IDC 28 04:58:07.6±1.9, 2.81S×130.32E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML3.5/2, MS3.6/3, Ms1 3.7/3, ms1mx2.9/36, Error ellipse: s-maj=107.3km s-min=23.2km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.88	196	Pn	Pn	05 01 52.7	+0.1
	0.1nm,0.3s,baz=11,slow=15,SNR=3.3						
WRA	Warramunga Arr	17.48	167	P	P	05 02 14.1	-0.1
	0.2nm,0.3s,baz=348,slow=9.6,SNR=5.5						
ASAR	Alice Springs	21.02	171	P	P	05 02 52.5	-0.6
	6.0nm,0.8s,baz=350,slow=9.8,SNR=26						
GUMO	Guam	21.76	41	LR	LR	05 11 09.1	
	comp=Z,106nm,21.8s,baz=120,slow=36						
MKAR	Makanchi Array	64.94	326	P	P	05 08 49.5	+0.3
	0.3nm,0.8s,baz=114,slow=7.9,SNR=2.2						
KURBB	Kurchatov Arra	69.15	328	P	P	05 09 15.4	-0.4
	0.4nm,0.2s,baz=126,slow=5.7,SNR=5.6						
ARCES	ARCESS Array B	97.78	340	LR	LR	06 00 09.5	
	comp=Z,43nm,19.8s,baz=38,slow=38						
FINES	FINESS Array B	99.25	332	LR	LR	05 59 38.6	
	comp=Z,31nm,18.3s,baz=36,slow=37						

*IDC **28** 05:03:42.5±3.0, 30.54N×79.56E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/44, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=93.2km s-min=30.8km az=77.0*
*ISCJB **28** 05:03:49.5±0.7, 31.00N±0.06×80.1E±0.1, h33km, mb3.5/3, Error ellipse: s-maj=13.8km s-min=7.0km az=19.6*
*NDI **28** 05:03:53.4±2.2, 30.67N×80.04E, h10km, ML3.1*

ISC 28 05:03:50.6±0.9, 30.92N±0.08×80.07E±0.08, h35km, n10, σ2.90/12, mb3.5/3, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	Joshimath	0.57	231	eP	Pn	05 04 01.8	-0.6
JOSI				eS	Sn	05 04 08.8	-1.9
JOSI				AML	AML	05 04 14.0	
	comp=E,3μm,0.5s						
JOSI				AML	AML	05 04 14.5	
	comp=N,2μm,0.2s						
PTH	Pithoragarh	1.37	175	eP	Pn	05 04 13.5	+0.1
PTH				eS	Sn	05 04 31.2	+0.8
KKR	Kurukshetra	2.96	252	eP	Pn	05 04 41.0	+5.8
KKR				ex	x	05 05 19.8	
NDI	New Delhi	3.33	229	eP	Pn	05 04 43.0	+2.7
NDI				ex	x	05 05 38.0	
KHET	Khetri	4.67	234	eP	Pn	05 05 01.6	+2.9
KHET				eS	Sn	05 05 50.1	-1.7
KHET				AML	AML	05 06 20.4	
	comp=N,32nm,0.4s						
KHET				AML	AML	05 06 20.6	
	comp=E,18nm,0.5s						
MKAR	Makanchi Array	15.95	6	Pn	Pn	05 07 30.4	-1.9
	comp=E,0.1nm,0.3s,baz=189,slow=14,SNR=3.8						
KURBB	Kurchatov Arra	19.72	357	P	P	05 08 17.0	+0.1
	comp=E,0.3nm,0.4s,baz=181,slow=9.8,SNR=4.0						
SONM	Songino Array	26.26	42	P	P	05 09 24.9	+2.3
	comp=E,0.9nm,0.6s,baz=226,slow=9.8,SNR=4.4						
WRA	Warramunga Arr	72.61	127	P	P	05 15 12.7	-2.0
	comp=E,0.4nm,0.6s,baz=324,slow=6.1,SNR=3.2						
ILAR	Eielson Array	77.85	19	P	P	05 15 44.8	+0.6
	comp=E,0.4nm,0.8s,baz=319,slow=4.8,SNR=4.5						

*DDA **28** 05:07:48.7, 38.77N×43.65E, h6km, Ml3.5*
*ISK **28** 05:07:48.1, 38.71N×43.49E, h5km, ML3.2*
*CSEM **28** 05:07:49.3±0.4, 38.73N×43.59E, h8km, ML3.2, Error ellipse: s-maj=10.2km s-min=6.7km az=101.0*

ISC 28 05:07:50.3±1.0, 38.76N±0.03×43.50E±0.04, h14km±7km, n30, σ1.79/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	209	PG	Pg	05 07 52.8	-1.9
VANB	Van	0.19	209	i Pg	Pg	05 07 52.8	-1.9
VMUR	Van-Muradiye	0.24	13	i P	Pg	05 07 54.4	-1.2
VMUR				i S	Sb	05 08 00.9	+0.2
VMUR	Van-Muradiye	0.24	13	P	Pg	05 07 54.4	-1.2
VMUR				S	Sb	05 08 00.9	+0.2
TVAN	Van	0.24	199	i P	Pg	05 07 55.5	-0.1
TVAN				i S	Sg	05 08 03.3	+4.0
TVAN	Van	0.24	199	P	Pg	05 07 55.5	-0.1
CLDR	Caldiran	0.50	40	ePG	Pb	05 07 59.4	-1.7
CLDR				eSG	Sb	05 08 08.9	+0.5
CLDR	Caldiran	0.50	40	ePg	Pb	05 07 59.4	-1.7
AGRB	Hanur-Agry	0.91	334	ePG	Pb	05 08 07.4	-0.6
AGRB				eSG	Sn	05 08 21.1	-0.8
AGRB	Hanur-Agry	0.91	334	ePg	Pb	05 08 07.4	-0.6
AGRB				eSg	Sn	05 08 21.2	-0.8
EKAR	Karacoban	1.23	294	i P	Pn	05 08 13.0	-0.3
EKAR				i S	Sn	05 08 33.2	+3.4
EKAR	Karacoban	1.23	294	P	Pn	05 08 13.0	-0.3
EKAR				S	Sn	05 08 33.2	+3.4
EATA	Eleskirt	1.35	325	i P	Pg	05 08 14.6	-1.8
EATA				i S	Sn	05 08 35.9	+2.8
EATA	Eleskirt	1.35	325	P	Pg	05 08 14.6	-1.8
EATA				S	Sn	05 08 35.9	+2.8
CUKT	Cukurca	1.51	177	ePN	Pg	05 08 16.8	-2.6
CUKT	Cukurca	1.51	177	ePn	Pg	05 08 16.8	-2.6
SVAN	Silvan-Diyarba	1.91	252	ePN	Pb	05 08 23.2	-1.8
SVAN	Silvan-Diyarba	1.91	252	ePn	Pb	05 08 23.2	-1.8
EAK	Akyaka	1.93	2	i P	Pg	05 08 27.1	-0.2
EAK	Akyaka	1.93	2	P	Pg	05 08 27.1	-0.2
ERZM	Erzurum	2.02	305	i P	Pg	05 08 26.7	-2.3
ERZM				i S	Sg	05 08 55.6	+0.4
ERZM	Erzurum	2.02	305	P	Pg	05 08 26.7	-2.3
ERZM				S	Sg	05 08 55.6	+0.4
BNGB	Bing¨¶l	2.22	277	ePN	Pb	05 08 28.2	-2.1
BINT	Bingol	2.36	274	ePn	Pn	05 08 28.2	-0.6
MAZI	Mazidag	2.74	243	ePN	Pn	05 08 34.5	+0.5
MAZI	Mazidag	2.74	243	ePn	Pn	05 08 34.5	+0.5
PTK	Pertek	3.21	274	ePN	Pn	05 08 42.0	+1.4
PTK	Pertek	3.21	274	ePn	Pn	05 08 42.0	+1.4
SVRC	Sivrice-ELAZID	3.31	265	ePN	Pn	05 08 43.3	+1.4
SVRC	Sivrice-ELAZID	3.31	265	ePn	Pn	05 08 43.3	+1.4

MAN 28 05:07:54, 10.15N×125.40E, h40km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.53	269	eP	Pn	05 08 07.1	+1.9
MSLP				eS	Sn	05 08 15.4	+2.4
PLP	Palo	1.09	338	⇑iP	Pn	05 08 13.2	+0.4
PLP				i S	Sn	05 08 27.7	+1.0
BESP	Borongan	1.45	2	eP	Pn	05 08 16.6	-1.1
BESP				eS	Sn	05 08 37.0	+1.6

*ISCJB **28** 05:19:34.9±0.7, 29.33N±0.05×51.97E±0.08, h25km, Error ellipse: s-maj=9.8km s-min=6.8km az=158.9*
*CSEM **28** 05:19:34.6±0.3, 29.36N×51.99E, h10km, ML3.4, Error ellipse: s-maj=9.3km s-min=6.7km az=67.0*
*OMAN **28** 05:19:34.2, 29.30N×51.79E, h12km*
*TEH **28** 05:19:34.2, 29.30N×51.79E, h12km, ML3.1*

ISC 28 05:19:36.6±1.1, 29.31N±0.05×51.98E±0.05, h25km, n27, σ1.73/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	AHRAM	0.75	233	ePg	Pb	05 19 51.3	+0.3
AHBU				eSg	Sn	05 20 04.3	+2.2
ISRV	Sarvestan	0.99	86	ePg	Pn	05 19 55.0	-0.2
ISRV				eSg	Sn	05 20 11.2	+2.6
ISRV				eAMB	AMB	05 20 12.3	
	comp=Z,7μm,0.1s						
ISRV	Sarvestan	0.99	86	ePg	Pn	05 19 55.0	-0.2
ISRV				eSg	Sn	05 20 11.2	+2.6
IPAR	Pars	1.07	60	ePg	Pn	05 19 55.8	-0.5
IPAR				eAMB	AMB	05 20 11.3	
	comp=Z,4μm,0.4s						
IPAR	Pars	1.07	60	ePg	Pn	05 19 55.8	-0.5
GHIR	Ghir-Karzin	1.35	139	ePg	Pn	05 20 00.7	+0.7
GHIR				eSg	Sb	05 20 20.9	+2.7
IRAM	Ramesheh	2.51	8	ePn	Pn	05 20 14.3	-1.7
IRAM				eAMB	AMB	05 21 00.9	
	comp=Z,825nm,0.2s						
IRAM	Ramesheh	2.51	8	ePn	Pn	05 20 14.3	-1.7
ISAD	Sadrabad	2.98	29	ePn	Pn	05 20 22.4	-0.1
ISAD				eAMB	AMB	05 21 19.5	
	comp=Z,592nm,0.3s						
ISAD	Sadrabad	2.98	29	ePn	Pn	05 20 22.4	-0.1
IMEH	Mehriz	3.08	47	ePn	Pn	05 20 24.0	+0.2
IMEH				eAMB	AMB	05 21 05.8	
	comp=Z,423nm,0.3s						
IMEH	Mehriz	3.08	47	ePn	Pn	05 20 24.0	+0.2
IPIR	Pirpir	3.49	345	ePn	Pn	05 20 28.3	-1.2
IPIR				eAMB	AMB	05 21 13.6	
	comp=Z,370nm,0.3s						
IPIR	Pirpir	3.49	345	ePn	Pn	05 20 28.3	-1.2
IZEF	Zefreh	3.58	5	ePn	Pn	05 20 30.8	0.0
IZEF				eAMB	AMB	05 21 44.2	
	comp=Z,150nm,0.2s						
IZEF	Zefreh	3.58	5	ePn	Pn	05 20 30.8	0.0
IKLH	Kolahrood	4.01	355	ePn	Pn	05 20 35.3	-1.3
IKLH				eAMB	AMB	05 21 29.5	
	comp=Z,197nm,0.2s						
IKLH	Kolahrood	4.01	355	ePn	Pn	05 20 35.3	-1.3
KRBR	Kerman	4.21	80	ePn	Pn	05 20 38.2	-1.3
KHMZ	Khomeyn	4.74	339	ePn	Pn	05 20 44.4	-2.2
BANOM	Banah	5.11	130	P	Pn	05 20 50.8	-0.8
	SNR=16						
BANOM	Banah	5.11	130	P	Pn	05 20 50.8	-0.8
	SNR=16						
UOSS	Minazif	5.75	138	P	Pn	05 21 00.2	-0.2
	SNR=8.0						
UOSS	Minazif	5.75	138	Pn	Pn	05 21 00.2	-0.2
	SNR=8.0						
UOSS	Minazif	5.75	138	P	Pn	05 21 00.2	-0.2
	SNR=8.0						
UOSS				S	Sn	05 22 00.6	-5.0
ASHO	Ashiyiah	5.87	141	P	Pn	05 21 00.9	-1.2
	SNR=16						
ASHO	Ashiyiah	5.87	141	P	Pn	05 21 00.9	-1.2
	SNR=16						
ASHO				S	Sn	05 22 04.9	-3.7

DDA 28 05:26:06.2, 39.20N×41.30E, h7km, Ml3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.13	106	i P	Pg	05 26 08.6	-0.4
VRTB				i S	Sg	05 26 11.6	+0.6
BNGL	BINGOL	0.27	205	i P	Pg	05 26 11.7	+0.1
BNGL				i S	Sg	05 26 16.4	+1.2
EKAR	Karacoban	0.60	84	i P	Pb	05 26 18.6	-0.5
EKAR				i S	Sb	05 26 29.5	+1.6
HOMI	Horasan	0.97	29	i P	Pg	05 26 24.7	-0.1

*NIED **28** 05:33:00, 37.30N×142.00E, h8km, Mw3.8 Best double couple: M0:5.58000×10^14 NP1:φ=242.00000°, δ=26.00000°, λ=-69.00000°. NP2:φ=39.00000°, δ=66.00000°, λ=-100.00000°.*
*ISCJB **28** 05:33:38.7±1.8, 37.31N±0.04×141.96E±0.06, h13km±12km, mb3.7/8, Error ellipse: s-maj=7.7km s-min=6.4km az=25.8*
*IDC **28** 05:33:38.7±1.1, 37.42N×141.97E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/59, mbtmp3.7/9, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/44, Error ellipse: s-maj=29.7km s-min=20.6km az=74.0*
*JMA **28** 05:33:39.9±0.2, 37.30N×141.91E, h30km±4km, M4.0*
JMA Felt I J1.

ISC 28 05:33:38.9±2.2, 37.34N±0.05×141.90E±0.07, h3km±12km, n27, σ1.45/29, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.82	272	P	Pg	05 33 55.1	+0.5
ONAJ	Iwakimizuishiy	0.91	256	P	Pg	05 33 56.5	+0.1
ONAJ				eS	Sg	05 34 08.5	+0.3
JMM	Marumori	1.03	301	P	Pb	05 33 58.5	-0.9
JMM				eS	Sb	05 34 12.0	-1.3
JIO	Ouri	1.20	339	P	Pn	05 34 01.1	-1.5
JIO				eS	Sb	05 34 16.8	-1.4
JFT	Otama	1.26	279	P	Pn	05 34 02.8	-0.6
JFT				eS	Sb	05 34 18.8	-1.2
JHO	Hitachi	1.29	236	P	Pn	05 34 01.6	-2.2
JHO				eS	Sb	05 34 18.1	-2.7
JOU	Okura	1.42	317	P	Pn	05 34 05.2	-0.5
JOU				eS	Sn	05 34 23.9	-1.0
JMK	Ichinoseki	1.70	342	P	Pn	05 34 09.1	-0.4
JYS	Shiratake	1.70	302	P	Pb	05 34 10.3	-0.6
JYS				eS	Sn	05 34 31.7	-0.1
JYK	Kaneyama	2.00	323	P	Pn	05 34 13.4	-0.1
MJAR	Matsushiro Arr	3.06	256	Pn	Pn	05 34 28.7	+0.4
	2.2nm,0.3s,baz=78,slow=16,SNR=13						
MAT	Matsushiro	3.06	256	P	Pn	05 34 28.8	+0.5
MAT				eS	Sn	05 35 06.7	+1.3
KSRS	Korea Array	11.12	275	Pn	Pn	05 36 23.1	+4.2
	0.3nm,0.3s,baz=88,slow=14,SNR=3.3						
KSRS				LR	LR	05 40 09.2	
	comp=Z,41nm,19.4s,baz=50,slow=35						
SONM	Songino Array	27.94	303	P	P	05 39 31.4	+0.9
	0.6nm,0.5s,baz=106,slow=11,SNR=3.4						
H11N2	WAKE ISLAND Hy	27.97	122	T	T	06 08 50.5	
	baz=315,slow=75,SNR=196						
H11N1	WAKE ISLAND Hy	27.98	122	T	T	06 08 49.6	
	baz=315,slow=75,SNR=153						
H11N3	WAKE ISLAND Hy	27.99	122	T	T	06 08 50.3	
	baz=315,slow=75,SNR=170						
H11S1	WAKE ISLAND Hy	28.70	124	T	T	06 09 45.1	
	baz=316,slow=76,SNR=130						
H11S3	WAKE ISLAND Hy	28.70	124	T	T	06 09 46.5	
	baz=316,slow=76,SNR=141						
H11S2	WAKE ISLAND Hy	28.71	124	T	T	06 09 47.9	
	baz=316,slow=76,SNR=83						
ZALV	Zalesovo Beam	42.00	312	P	P	05 41 31.6	+0.4
	0.7nm,0.5s,baz=66,slow=3.5,SNR=3.1						
MKAR	Makanchi Array	44.29	302	P	P	05 41 49.6	-0.2
	0.4nm,0.5s,baz=90,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	46.12	308	P	P	05 42 04.2	-0.1
	1.2nm,0.5s,baz=84,slow=8.8,SNR=12						
ILAR	Eielson Array	49.03	33	P	P	05 42 26.1	-0.7
	0.9nm,0.9s,baz=267,slow=6.0,SNR=6.7						
WRA	Warramunga Arr	57.41	188	P	P	05 43 27.7	-1.1
	0.4nm,0.6s,baz=7.1,slow=7.2,SNR=3.4						
ASAR	Alice Springs	61.14	188	P	P	05 43 57.4	+2.7
	0.9nm,0.7s,baz=16,slow=7.4,SNR=9.3						
AKASG	Malin Array Be	74.30	322	P	P	05 45 16.9	-0.5
	0.5nm,0.5s,baz=49,slow=5.8,SNR=4.2						

*HLW **28** 05:39:20.4, 37.16N×29.46E, h10km±16km, Md4.0*
*DDA **28** 05:39:21.7, 36.98N×29.11E, h21km, Ml3.4*
*CSEM **28** 05:39:21.9±0.1, 36.98N×29.16E, h5km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.9km az=117.0*
*ISCJB **28** 05:39:21.8±0.3, 36.96N±0.02×29.18E±0.02, h8km±3km, mb3.9/8, MS3.1/3, Error ellipse: s-maj=2.7km s-min=2.5km az=40.8*
*ISK **28** 05:39:21.1, 37.00N×29.15E, h9km, ML3.5*
*THE **28** 05:39:22.3, 36.93N×29.21E, h0km±1km, ML3.8/2, Error ellipse: s-maj=3.5km s-min=1.3km az=46.0*
*IDC **28** 05:39:26.4±2.1, 36.91N×29.25E, h40km±25km, mb3.7/8, mb1 3.8/13, mb1mx3.6/43, mbtmp3.9/13, ML3.7/5, MS3.0/7, Ms1 3.0/7, ms1mx2.8/48, Error ellipse: s-maj=21.0km s-min=13.3km az=157.0*

ISC 28 05:39:22.0±0.9, 36.97N±0.01×29.19E±0.01, h8km±7km, n169, σ1.43/214, mb3.9/8, MS3.1/3, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETI	Fethiye-Mugla	0.29	195	ePG	Pg	05 39 27.7	0.0
FETI				eSG	Sg	05 39 33.0	+1.4
FETI	Fethiye-Mugla	0.29	195	ePg	Pg	05 39 27.7	0.0
FETI				eSg	Sg	05 39 33.0	+1.4
GLHS	Glhisar (BURDU	0.31	54	ePG	Pg	05 39 27.9	-0.2
GLHS				eSG	Sb	05 39 33.3	-1.8
GLHS	Glhisar (BURDU	0.31	54	ePg	Pg	05 39 27.9	-0.2
GLHS				eSg	Sb	05 39 33.3	-1.8
FETY	Fethiye	0.35	194	ePG	Pg	05 39 28.6	-0.1
FETY				eSG	Sg	05 39 34.2	+0.8
FETY	Fethiye	0.35	194	P	Pg	05 39 28.7	-0.1
FETY				S	Sg	05 39 34.7	+1.3
FETY	Fethiye	0.35	194	P	Pg	05 39 28.7	-0.1
FETY				eSg	Sg	05 39 34.2	+0.8
GOLH	Golhisar	0.40	49	i P	Pb	05 39 30.2	-1.2
GOLH				i S	Sb	05 39 37.6	-0.1
GOLH	Golhisar	0.40	49	P	Pb	05 39 30.2	-1.2
GOLH				S	Sb	05 39 37.6	-0.1
DALY	Dalyan (Mu¨la	0.46	250	ePG	Pg	05 39 30.0	-0.7
DALY				eSG	Sg	05 39 36.8	0.0
DALY	Dalyan (Mu¨la	0.46	250	i P	Pg	05 39 30.1	-0.7
DALY				i S	Sg	05 39 37.2	+0.5
DALY	Dalyan (Mu¨la	0.46	250	P	Pg	05 39 30.1	-0.7
DALY				eSg	Sg	05 39 36.8	0.0
DALY				S	Sg	05 39 37.2	+0.5
TURN	Turunc	0.48	258	i P	Pn	05 39 35.7	+0.6
TURN				i S	Sb	05 39 48.7	+8.8
TAVA	DENIZLI_Tavas	0.54	336	i P	Pg	05 39 31.6	-0.8
TAVA				i S	Sg	05 39 39.8	+0.4
TAVA	DENIZLI_Tavas	0.54	336	P	Pg	05 39 31.6	-0.8
TAVA				S	Sg	05 39 39.8	+0.4
ELL	Elmali	0.62	111	ePG	Pg	05 39 34.0	+0.1
ELL	Elmali	0.62	111	ePg	Pg	05 39 34.0	+0.1
DNZL	Cakiroluk	0.72	351	i P	Pg	05 39 35.1	-0.8
DNZL				i S	Sb	05 39 46.8	-0.4
DNZL	Cakiroluk	0.72	351	P	Pg	05 39 35.1	-0.8
DNZL				S	Sb	05 39 46.8	-0.4
DENT	Denizli	0.79	351	ePG	Pg	05 39 36.3	-0.8
DENT	Denizli	0.79	351	ePg	Pg	05 39 36.3	-0.8
AKAS	Kas	0.81	155	ePG	Pb	05 39 37.9	-0.5
AKAS	Kas	0.81	155	i P	Pb	05 39 38.3	-0.1
AKAS				i S	Sn	05 39 55.5	+3.3
AKAS	Kas	0.81	155	ePg	Pb	05 39 37.9	-0.5
AKAS	Kas	0.81	155	P	Pb	05 39 38.3	-0.1
MRSB	Marmaris-Mugla	0.83	252	ePG	Pg	05 39 37.1	-0.9
MRSB	Marmaris-Mugla	0.83	252	ePg	Pg	05 39 37.1	-0.9
KSL	Kastellorizon	0.88	159	P	Pb	05 39 39.4	-0.1
KSL				S	Sb	05 39 52.0	+0.6
KORT	Korkueli	0.93	88	ePG	Pb	05 39 40.1	-0.4
KORT	Korkueli	0.93	88	i P	Pn	05 39 40.9	-0.6
KORT				i S	Sn	05 39 57.3	+2.2
KORT	Korkueli	0.93	88	ePg	Pb	05 39 40.1	-0.4
KORT	Korkueli	0.93	88	P	Pn	05 39 40.9	-0.6
KORT				S	Sn	05 39 57.3	+2.2
BRDR	BURDUR-Merkez	1.00	44	i P	Pn	05 39 42.1	-0.4
BRDR				i S	Sb	05 39 54.2	-0.9
BRDR	BURDUR-Merkez	1.00	44	P	Pn	05 39 42.1	-0.4
BRDR				S	Sb	05 39 54.2	-0.9
ARG	Arkhangelos	1.14	229	P	Pb	05 39 42.4	-1.5
ARG				S	Sn	05 40 00.4	+0.3
ARG	Arkhangelos	1.14	229	P	Pb	05 39 42.4	-1.5
ARG				S	Sn	05 40 00.4	+0.3
ANTB	Antalya	1.18	93	ePN	Pg	05 39 44.8	+0.3
ANTB	Antalya	1.18	93	ePn	Pg	05 39 44.8	+0.3
BCK	Bucak	1.22	66	ePN	Pg	05 39 45.0	-0.3
BCK	Bucak	1.22	66	ePn	Pg	05 39 45.1	-0.3
AYDN	Tasoluk	1.25	304	i P	Pn	05 39 44.5	-1.3
AYDN				i S	Sn	05 40 05.8	+2.9
AYDN	Tasoluk	1.25	304	P	Pn	05 39 44.5	-1.3
AYDN				S	Sn	05 40 05.8	+2.9
DAT	Datca	1.31	260	ePN	Pn	05 39 45.8	-1.0
DAT	Datca	1.31	260	i P	Pg	05 39 47.4	+0.2
DAT				i S	Sg	05 40 06.6	+2.4
DAT	Datca	1.31	260	ePn	Pn	05 39 45.8	-1.0
DAT	Datca	1.31	260	P	Pg	05 39 47.3	+0.2
DAT				S	Sg	05 40 06.6	+2.4
KHL	Karahalli	1.37	11	ePN	Pn	05 39 46.2	-1.4
KHL	Karahalli	1.37	11	ePn	Pn	05 39 46.2	-1.4
BDRM	Kayabasi	1.40	274	i P	Pg	05 39 48.8	0.0
BDRM				i S	Sg	05 40 08.5	+1.6
BDRM	Kayabasi	1.40	274	P	Pg	05 39 48.8	0.0
BDRM				S	Sg	05 40 08.5	+1.6
KHAL	Karahalli	1.42	10	i P	Pb	05 39 48.6	-0.1
KHAL				i S	Sg	05 40 08.5	+1.0
KHAL	Karahalli	1.42	10	P	Pb	05 39 48.6	-0.1
KHAL				S	Sg	05 40 08.5	+1.0
KZIL	AFYON_Kizioren	1.49	30	i P	Pg	05 39 50.3	-0.2
KZIL				i S	Sg	05 40 13.6	+3.7
KZIL	AFYON_Kizioren	1.49	30	P	Pg	05 39 50.3	-0.2
KZIL				S	Sg	05 40 13.6	+3.7
BODT	Bodrum	1.50	274	ePN	Pn	05 39 48.6	-0.7
BODT	Bodrum	1.50	274	P	Pn	05 39 49.5	+0.2
BODT				S	Sg	05 40 10.5	+0.2
BODT	Bodrum	1.50	274	ePn	Pn	05 39 48.6	-0.7
BODT	Bodrum	1.50	274	P	Pn	05 39 49.5	+0.2
BODT				S	Sg	05 40 10.5	+0.2
SUTC	Sutluce-Ispart	1.53	70	ePN	Pb	05 39 50.1	-0.6
SUTC	Sutluce-Ispart	1.53	70	ePn	Pb	05 39 50.1	-0.6
KULA	Kula-Manisa	1.59	345	ePN	Pn	05 39 49.6	-1.0
KULA	Kula-Manisa	1.59	345	ePn	Pn	05 39 49.6	-1.0
MANT	Manisa	1.59	342	i P	Pn	05 39 50.9	+0.1
MANT				i S	Sg	05 40 13.1	-0.2
MANT	Manisa	1.59	342	P	Pn	05 39 50.9	+0.1
MANT				S	Sg	05 40 13.1	-0.2
BAGO	Egridir - ISPA	1.63	51	i P	Pg	05 39 53.4	+0.2
BAGO				i S	Sg	05 40 17.2	+2.9
NIS1	Nisyros Isl.	1.66	258	ePN	Pn	05 39 50.8	-0.5
NIS1	Nisyros Isl.	1.66	258	ePn	Pn	05 39 50.8	-0.5
GCAM	G?zelcaml?	1.72	296	i P	Pb	05 39 53.8	0.0
GCAM				i S	Sb	05 40 15.7	+0.1
GCAM	G?zelcaml?	1.72	296	P	Pb	05 39 53.8	0.0
GCAM				S	Sb	05 40 15.7	+0.1
SHUT	Suhut-Afyon	1.91	34	ePN	Pn	05 39 54.8	-0.2
SHUT	Suhut-Afyon	1.91	34	ePn	Pn	05 39 54.8	-0.2
DEMI	Demirci	2.10	350	i P	Pn	05 39 58.0	+0.4
DEMI				i S	Sg	05 40 33.1	+3.7
DEMI	Demirci	2.10	350

SIGR	SIGRI	3.45	311	*e*PN	Pn	05 40 16.2	+0.2
EDC	Edincik	3.52	343	*e*PN	Pn	05 40 18.2	+1.1
EDC	Edincik	3.52	343	*e*Pn	Pn	05 40 18.2	+1.1
YLV	Yalova	3.59	2	*e*PN	Pn	05 40 18.7	+0.7
YLV	Yalova	3.59	2	*e*Pn	Pn	05 40 18.7	+0.7
ARMT	Armutlu	3.60	356	*e*PN	Pn	05 40 18.2	+0.1
ARMT	Armutlu	3.60	356	*e*Pn	Pn	05 40 18.2	+0.1
AKKU	Akkuyu-Mersin	3.60	102	*e*PN	Pn	05 40 19.4	+1.3
AKKU	Akkuyu-Mersin	3.60	102	*e*Pn	Pn	05 40 19.4	+1.3
GULT	Gulveren	3.61	16	*e*PN	Pn	05 40 18.7	+0.4
GULT	Gulveren	3.61	16	*e*Pn	Pn	05 40 18.7	+0.4
SBT5	Esenkoy-Cinarc	3.66	356	*e*PN	Pn	05 40 19.9	+1.1
SBT5	Esenkoy-Cinarc	3.66	356	*e*Pn	Pn	05 40 19.9	+1.1
KEBE	Keben-Mersin	3.67	97	*e*PN	Pn	05 40 20.4	+1.2
KEBE	Keben-Mersin	3.67	97	*e*Pn	Pn	05 40 20.4	+1.2
IKL	Isikli	3.69	100	*e*PN	Pn	05 40 20.4	+1.1
IKL	Isikli	3.69	100	*e*Pn	Pn	05 40 20.4	+1.1
SZAC	Souni	3.73	125	P	Pn	05 40 23.0	+3.1
MDUB	Mudurnu	3.83	24	*e*PN	Pn	05 40 22.2	+0.8
MDUB	Mudurnu	3.83	24	*e*Pn	Pn	05 40 22.2	+0.8
IDI	Anoyia	3.86	245	Pn	Pn	05 40 23.9	+2.1
	10nm,0.3s,baz=58,slow=16,SNR=23						
IDI				Sn	Sn	05 41 08.7	+1.2
	17nm,0.3s,baz=308,slow=20,SNR=11						
IDI				LR	LR	05 42 33.8	
	comp=Z,35nm,21.0s,baz=77,slow=48						
BRTR	Keskin Array B	4.45	51	Pn	Pn	05 40 32.1	+2.2
	1.0nm,0.3s,baz=229,slow=13,SNR=35						
BRTR				Sn	Sn	05 41 25.1	+3.1
	0.6nm,0.3s,baz=357,slow=24,SNR=4.1						
MMAI	Mount Meron Ar	6.45	126	Pn	Pn	05 40 58.3	+1.0
	7.8nm,0.3s,baz=311,slow=12,SNR=15						
MMAI				Sn	Sn	05 42 11.4	+0.3
	2.8nm,0.3s,baz=304,slow=26,SNR=5.4						
RSH		7.08	147	P	Pn	05 41 05.7	-0.3
	baz=149						
RSH		7.08	147	P	Pn	05 41 05.7	-0.3
VTS	Vitosha	7.26	322	‖ *i*P	Pg	05 41 43.0	+2.1
HHAG	Hagoal	7.41	160	P	Pn	05 41 11.3	+0.8
	baz=162						
HHAG				S	Sn	05 42 31.8	-3.0
	baz=162						
HHAG	Hagoal	7.41	160	P	Pn	05 41 11.3	+0.8
HSAF	As Saff	7.60	164	P	Pn	05 41 14.2	+1.1
	baz=166						
HSAF	As Saff	7.60	164	P	Pn	05 41 14.1	+1.1
GLL	Jalalah	7.67	163	P	Pn	05 41 14.4	+0.3
	baz=165						
GLL	Jalalah	7.67	163	P	Pn	05 41 14.4	+0.3
ASF	Jabal al Asfar	7.96	125	Pn	Pn	05 41 18.1	+0.1
	0.2nm,0.3s,baz=180,slow=20,SNR=2.6						
HNKL	Nakhl	8.09	149	P	Pn	05 41 19.7	-0.1
	baz=151						
HNKL	Nakhl	8.09	149	P	Pn	05 41 19.7	-0.1
EIL	Elat	8.73	145	Pn	Pn	05 41 28.6	0.0
	1.4nm,0.3s,baz=305,slow=2.0,SNR=4.4						
EIL				Sn	Sn	05 43 03.1	-4.1
	1.8nm,0.3s,baz=87,slow=16,SNR=5.2						
EIL				LR	LR	05 46 13.1	
	comp=Z,54nm,18.2s,baz=248,slow=47						
MLR	Muntele Rosu	8.85	345	‖ *i*P	Pn	05 41 36.8	+6.5
VOIR		9.01	341	‖ *i*P	Pn	05 41 37.8	+5.4
PLOR	Plostina	9.07	349	‖ *i*P	Pn	05 41 41.3	+8.1
VRI	Vrincioaia	9.07	349	‖ *i*P	Pn	05 41 39.1	+5.8
MDVR	Moldovita	9.63	326	‖ *i*P	Pn	05 41 37.8	-3.1
AKASG	Malin Array Be	13.72	0	Pn	P	05 42 41.3	-4.2
	0.6nm,0.3s,baz=170,slow=12,SNR=4.7						
GERES	GERESS Array B	16.38	321	Pn	P	05 43 18.2	+3.0
	0.1nm,0.3s,baz=129,slow=12,SNR=9.9						
GERES				LR	LR	05 50 07.5	
	comp=Z,64nm,19.9s,baz=124,slow=39						
DAVOX	Davos/Dischmat	17.36	310	LR	LR	05 50 43.5	
	comp=Z,96nm,19.0s,baz=95,slow=39						
GEYT	Alibeck	22.95	79	P	P	05 44 27.8	+1.0
	1.6nm,0.8s,baz=265,slow=8.5,SNR=3.3						
FINES	FINESS Array B	24.57	356	P	P	05 44 43.4	+1.3
	2.8nm,0.7s,baz=131,slow=5.8,SNR=7.5						
AKTO	Aktyubinsk	24.62	48	P	P	05 44 43.2	+0.5
	1.7nm,0.7s,baz=258,slow=9.7,SNR=6.7						
HFS	Hagfors	25.21	342	P	P	05 44 49.1	+1.2
	4.3nm,0.8s,baz=146,slow=14,SNR=5.3						
HFS				LR	LR	05 56 34.4	
	comp=Z,54nm,18.4s,baz=88,slow=41						
ESDC	Sonseca Array	26.07	286	P	P	05 44 56.1	+0.2
	2.7nm,0.8s,baz=78,slow=10.0,SNR=9.5						
NOA	NORSAR Array B	26.63	340	LR	LR	05 56 57.1	
	comp=Z,30nm,18.9s,baz=5.0,slow=39						
TORD	Torodi Ar. Bea	34.17	233	P	P	05 46 08.0	+0.1
	5.7nm,0.7s,baz=36,slow=9.2,SNR=38						
KURBB	Kurchatov Arra	37.44	53	P	P	05 46 35.9	+0.4
	1.2nm,0.8s,baz=275,slow=8.7,SNR=9.7						
MKAR	Makanchi Array	40.05	59	P	P	05 46 55.6	-1.9
	0.9nm,0.8s,baz=276,slow=5.9,SNR=6.0						
SPITS	Spitsbergen Ar	41.67	356	LR	LR	06 04 18.3	
	comp=Z,50nm,18.4s,baz=340,slow=36						

HLW ***28*** *05:48:07.5, 34.°58N×32.°32E, h10km±12km, Md3.8, MI3.7*
ISK ***28*** *05:48:08.0, 34.°29N×32.°10E, h14km, ML3.4*
NIC ***28*** *05:48:11.2±0.2, 34.°42N×31.°97E, h22km, ML3.7*
CSEM ***28*** *05:48:11.3±0.1, 34.°39N×32.°02E, h32km, MD3.2/5*
ESSC ***28*** *05:48:29.7±1.6, 34.°49N×33.°66E, h39km±999km, ML2.7*

ISC 28 05:48:10.7±1.3, 34.°37N±0.°03×32.°10E±0.°04, h17km±10km, n126, σ0.°61/151, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.56	21	P	Pb	05 48 22.1	+0.1
PPCY	Paphos	0.56	21	P	Pb	05 48 22.1	+0.1
	baz=214						
AKMC	Akamas	0.69	16	P	Pg	05 48 24.2	0.0
AKMC	Akamas	0.69	16	P	Pg	05 48 24.2	0.0
	baz=206						
SZAC	Souni	0.75	59	P	Pg	05 48 25.8	+0.4
SZAC	Souni	0.75	59	P	Pg	05 48 25.8	+0.4
	baz=246						
SZAC				S	Sn	05 48 37.8	+0.1
ALFC	Alefka	0.89	27	P	Pb	05 48 27.2	-0.5
ALFC				S	Sb	05 48 39.2	-0.1
ALFC	Alefka	0.89	27	P	Pb	05 48 27.2	-0.5
	baz=215						
ALFC				S	Sb	05 48 39.2	-0.1
LEF	Lefka	0.99	41	PG	Pb	05 48 28.2	-1.3
LEF				*e*SG	Sg	05 48 42.9	-0.1
LEF	Lefka	0.99	41	*i* Pg	Pb	05 48 28.2	-1.3
LEF				*e*Sg	Sg	05 48 42.9	-0.1
CSS	Mathiatis	1.17	59	Pg	Pn	05 48 31.2	-1.2
CSS	Mathiatis	1.17	59	Pg	Pn	05 48 31.2	-1.2
CSS	Mathiatis	1.17	59	P	Pn	05 48 32.0	-0.4
CSS				S	Sn	05 48 47.9	-0.2
CSS	Mathiatis	1.17	59	P	Pn	05 48 32.0	-0.4
	baz=244						
CSS				S	Sn	05 48 47.9	-0.2
TEKE	Tekeli-Mersin	1.96	25	*e*PN	Pn	05 48 42.6	-0.5
TEKE	Tekeli-Mersin	1.96	25	*e*Pn	Pn	05 48 42.7	-0.5
AKK2	Akkuyu-Mersin	2.13	33	*e*PN	Pn	05 48 45.2	-0.3
AKK2				*e*SN	Sn	05 49 12.1	+0.6
AKK2	Akkuyu-Mersin	2.13	33	*e*Pn	Pn	05 48 45.2	-0.3
AKK2				*e*Sn	Sn	05 49 12.1	+0.6
AKK1	Akkuyu-Mersin	2.13	33	*e*PN	Pn	05 48 45.0	-0.5
AKK1				*e*SN	Sn	05 49 12.1	+0.6
AKK1	Akkuyu-Mersin	2.13	33	*e*Pn	Pn	05 48 45.0	-0.5
AKK1				*e*Sn	Sn	05 49 12.1	+0.6
AKKU	Akkuyu-Mersin	2.15	33	*e*PN	Pn	05 48 45.3	-0.4
AKKU	Akkuyu-Mersin	2.15	33	*e*Pn	Pn	05 48 45.3	-0.4
BERE	Bereket-Mersin	2.18	25	*e*PN	Pn	05 48 45.9	-0.5
BERE	Bereket-Mersin	2.18	25	*e*Pn	Pn	05 48 45.9	-0.5
TEPE	Tepekoy-Mersin	2.20	32	*e*PN	Pn	05 48 46.2	-0.4
TEPE	Tepekoy-Mersin	2.20	32	*e*Pn	Pn	05 48 46.2	-0.4
YESI	Yesilovacik-Me	2.22	34	*e*PN	Pn	05 48 46.3	-0.4
YESI	Yesilovacik-Me	2.22	34	*e*Pn	Pn	05 48 46.3	-0.4
IKL	Isikli	2.27	34	*e*PN	Pn	05 48 47.0	-0.5
IKL	Isikli	2.27	34	*e*Pn	Pn	05 48 47.0	-0.5
TEVE	Tevekalti-Mers	2.34	28	*e*PN	Pn	05 48 48.1	-0.4
TEVE	Tevekalti-Mers	2.34	28	*e*Pn	Pn	05 48 48.1	-0.4
KEBE	Keben-Mersin	2.46	32	*e*PN	Pn	05 48 49.8	-0.3
KEBE	Keben-Mersin	2.46	32	*e*Pn	Pn	05 48 49.8	-0.3
AKAS	Kas	2.77	313	*e*PN	Pn	05 48 53.9	-0.5
AKAS	Kas	2.77	313	*e*Pn	Pn	05 48 53.9	-0.5
HNTI	Hanita	2.86	116	Pn	Pn	05 48 56.1	+0.5
HNTI				Sn	Sn	05 49 29.3	-0.4
HNTI	Hanita	2.86	116	Pn	Pn	05 48 56.1	+0.5
HNTI				Sn	Sn	05 49 29.3	-0.4
ELL	Elmali	2.98	324	*e*PN	Pn	05 48 57.0	-0.3
ELL	Elmali	2.98	324	*e*Pn	Pn	05 48 57.0	-0.3
KORT	Korkueli	2.99	332	*e*PN	Pn	05 48 57.6	+0.1
KORT	Korkueli	2.99	332	*e*Pn	Pn	05 48 57.7	+0.1
BLGI	Bet Lehem HaGe	3.05	121	Pn	Pn	05 49 00.0	+1.8
BLGI	Bet Lehem HaGe	3.05	121	Pn	Pn	05 49 00.0	+1.8
MMA0B	Mount Meron ar	3.06	115	Pn	Pn	05 48 59.4	+0.9
MMA0B	Mount Meron ar	3.06	115	Pn	Pn	05 48 59.4	+0.9
KSDI	Kefar Szold	3.18	111	Pn	Pn	05 49 00.3	+0.3
KSDI	Kefar Szold	3.18	111	Pn	Pn	05 49 00.3	+0.3
SUTC	Sutluce-Ispart	3.23	344	*e*PN	Pn	05 49 01.1	+0.3
SUTC	Sutluce-Ispart	3.23	344	*e*Pn	Pn	05 49 01.1	+0.3
SLTI	Sal'it	3.25	130	Pn	Pn	05 49 00.8	-0.1
SLTI				Sn	Sn	05 49 38.5	-0.7
SLTI	Sal'it	3.25	130	Pn	Pn	05 49 00.8	-0.1
SLTI				Sn	Sn	05 49 38.5	-0.7
BCK	Bucak	3.32	339	*e*PN	Pn	05 49 02.3	+0.3
BCK	Bucak	3.32	339	*e*Pn	Pn	05 49 02.3	+0.3
BRBR	Barbar	3.34	105	*e*P	Pn	05 49 03.0	+0.6
BRBR				*e*S	Sn	05 49 28.1	-14
BRBR				AML	AML	05 49 44.0	
	comp=N,65nm,0.2s						
BRBR				AML	AML	05 49 48.8	
	comp=E,107nm,0.3s						
FETY	Fethiye	3.35	313	*e*PN	Pn	05 49 02.2	-0.1
FETY	Fethiye	3.35	313	*e*Pn	Pn	05 49 02.2	-0.1
FETI	Fethiye-Mugla	3.38	314	*e*PN	Pn	05 49 02.6	-0.1
FETI	Fethiye-Mugla	3.38	314	*e*Pn	Pn	05 49 02.6	-0.1
KSHT	Keshet	3.39	113	Pn	Pn	05 49 03.7	+0.8
KSHT	Keshet	3.39	113	Pn	Pn	05 49 03.7	+0.8
GLHS	Glhisar (BURDU	3.50	323	*e*PN	Pn	05 49 04.8	+0.3
GLHS	Glhisar (BURDU	3.50	323	*e*Pn	Pn	05 49 04.8	+0.3
ARNB	Al Arnab	3.50	64	*e*P	Pn	05 49 05.6	+1.1
ARNB				*e*S	Sn	05 49 32.3	-13
ARNB				AML	AML	05 49 47.4	
	comp=N,73nm,0.2s						
ARNB				AML	AML	05 49 50.5	
	comp=E,70nm,0.2s						
BIDA	Albida	3.54	78	*e*P	Pn	05 49 04.8	-0.1
BIDA				*e*S	Sn	05 49 30.3	-16
BIDA				AML	AML	05 49 53.9	
	comp=E,227nm,0.4s						
BIDA				AML	AML	05 49 54.5	
	comp=N,158nm,0.4s						
HMDT	Nahal Hemdat	3.56	125	Pn	Pn	05 49 05.8	+0.6
HMDT	Nahal Hemdat	3.56	125	Pn	Pn	05 49 05.8	+0.6
HAWK	Haweek	3.56	86	*e*P	Pn	05 49 05.8	+0.5
HAWK				*e*S	Sn	05 49 30.5	-17
HAWK				AML	AML	05 49 54.1	
	comp=N,57nm,0.3s						
HAWK				AML	AML	05 49 55.6	
	comp=E,108nm,0.3s						
KONT	Konya--Tatoy	3.58	3	*e*PN	Pn	05 49 06.1	+0.6
KONT	Konya--Tatoy	3.58	3	*e*Pn	Pn	05 49 06.1	+0.6
MARH	Ras Al Marh	3.65	94	*e*P	Pn	05 49 07.9	+1.2
RSH		3.66	158	P	Pn	05 49 06.4	-0.2
	baz=161						
RSH		3.66	158	P	Pn	05 49 06.4	-0.2
AMAZ	Amatzia	3.68	139	Pn	Pn	05 49 07.3	+0.3
AMAZ				Sn	Sn	05 49 49.8	-0.2
AMAZ	Amatzia	3.68	139	Pn	Pn	05 49 07.3	+0.3
AMAZ				Sn	Sn	05 49 49.8	-0.2
DALY	Dalyan (Mu¨la	3.73	312	*e*PN	Pn	05 49 07.5	0.0
DALY	Dalyan (Mu¨la	3.73	312	*e*Pn	Pn	05 49 07.5	0.0
DSI	Dead Sea	3.92	134	Pn	Pn	05 49 10.2	0.0
DSI	Dead Sea	3.92	134	Pn	Pn	05 49 10.2	0.0
YTIR	Yattir	3.92	139	Pn	Pn	05 49 11.1	+0.8
YTIR	Yattir	3.92	139	Pn	Pn	05 49 11.1	+0.8
KZIT	Kziot	3.96	150	Pn	Pn	05 49 11.8	+1.1
KZIT	Kziot	3.96	150	Pn	Pn	05 49 11.8	+1.1
MRSB	Marmaris-Mugla	3.96	307	*e*PN	Pn	05 49 11.1	+0.4
MRSB	Marmaris-Mugla	3.96	307	*e*Pn	Pn	05 49 11.1	+0.4
MZDA	Masada	4.10	137	Pn	Pn	05 49 13.3	+0.7
MZDA				Sn	Sn	05 50 00.5	+0.3
MZDA	Masada	4.10	137	Pn	Pn	05 49 13.3	+0.7
MZDA				Sn	Sn	05 50 00.5	+0.3
RABH	Abou Rabah	4.22	88	*e*P	Pn	05 49 15.7	+1.3
RABH				*e*S	Sn	05 49 46.3	-17
RABH				AML	AML	05 50 10.9	
	comp=E,33nm,0.4s						
RABH				AML	AML	05 50 18.5	
	comp=N,26nm,0.4s						
KARP	Karpathos	4.23	288	*e*PN	Pn	05 49 14.6	+0.2
KARP	Karpathos	4.23	288	*e*Pn	Pn	05 49 14.6	+0.2
ROOS	tl_alroos	4.30	91	*e*P	Pn	05 49 16.6	+1.1
DRWC	Darouich	4.35	58	*e*P	Pn	05 49 17.7	+1.6
DAT	Datca	4.38	304	*e*PN	Pn	05 49 16.6	+0.1
DAT	Datca	4.38	304	*e*Pn	Pn	05 49 16.7	+0.1
RMNI	Mount Ramon	4.38	148	Pn	Pn	05 49 17.0	+0.4
RMNI	Mount Ramon	4.38	148	Pn	Pn	05 49 17.0	+0.4
HHAG	Hagoal	4.40	180	P	Pn	05 49 17.6	+0.8
	baz=183						
HHAG	Hagoal	4.40	180	P	Pn	05 49 17.6	+0.8
SUZ	Suez	4.55	172	P	Pn	05 49 19.4	+0.5
	baz=174						
SUZ	Suez	4.55	172	P	Pn	05 49 19.4	+0.5
NIS1	Nisyros Isl.	4.60	300	*e*PN	Pn	05 49 19.7	+0.2
NIS1	Nisyros Isl.	4.60	300	*e*Pn	Pn	05 49 19.7	+0.2
ZFRI	Zfri	4.60	145	Pn	Pn	05 49 19.3	-0.3
ZFRI				Sn	Sn	05 50 12.8	+0.1
ZFRI	Zfri	4.60	145	Pn	Pn	05 49 19.3	-0.3
ZFRI				Sn	Sn	05 50 12.8	+0.1
PRNI	Paran	4.70	148	Pn	Pn	05 49 21.1	+0.2
PRNI	Paran	4.70	148	Pn	Pn	05 49 21.1	+0.2
HNKL	Nakhl	4.70	160	P	Pn	05 49 20.7	-0.2
	baz=162						
HNKL				AMP		05 50 00.0	
	comp=N,180μm,0.5s,logA/T=5.6,baz=162						
HNKL				S	Sn	05 50 14.6	-0.6
	baz=162						
HNKL	Nakhl	4.70	160	P	Pn	05 49 20.7	-0.2
HNKL				S	Sn	05 50 14.6	-0.6
BODT	Bodrum	4.74	306	*e*PN	Pn	05 49 21.6	+0.2
BODT	Bodrum	4.74	306	*e*Pn	Pn	05 49 21.6	+0.2
HSAF	As Saff	4.76	186	P	Pn	05 49 23.1	+1.4
	baz=188						
HSAF	As Saff	4.76	186	P	Pn	05 49 23.1	+1.4
HRFI	Mount Harif	4.98	149	Pn	Pn	05 49 24.6	-0.2
HRFI	Mount Harif	4.98	149	Pn	Pn	05 49 24.6	-0.2
KULA	Kula-Manisa	4.98	327	*e*PN	Pn	05 49 24.9	+0.1
KULA	Kula-Manisa	4.98	327	*e*Pn	Pn	05 49 24.9	+0.1
MBRI	Mt Berech	5.14	152	Pn	Pn	05 49 27.5	+0.4
MBRI	Mt Berech	5.14	152	Pn	Pn	05 49 27.5	+0.4
EIL	Elat	5.27	152	Pn	Pn	05 49 29.2	+0.5
EIL				Sn	Sn	05 50 28.6	-0.5
EIL	Elat	5.27	152	Pn	Pn	05 49 29.2	+0.5
EIL				Sn	Sn	05 50 28.6	-0.5
TVSB	Tavsanli	5.50	338	*e*PN	Pn	05 49 32.5	+0.6
TVSB	Tavsanli	5.50	338	*e*Pn	Pn	05 49 32.5	+0.6
HDHB	Dhahab	6.02	158	P	Pn	05 49 39.4	+0.4
	baz=160						
HDHB	Dhahab	6.02	158	P	Pn	05 49 39.4	+0.4
CHOS	Chios island	6.32	311	*e*PN	Pn	05 49 44.5	+1.3
CHOS	Chios island	6.32	311	*e*Pn	Pn	05 49 44.5	+1.3

WEL 28 05:48:55.3±0.3, 37.°99S×176.°44E, h154km±2km, ML3.7/38, 29C-8D, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	Mount Tarawera	0.25	167	PN	Pn	05 49 16.7	+0.4
PRRZ	Plateau Road	0.51	184	⇑PN	Pn	05 49 17.3	+0.2
MUGZ	Murupara	0.55	152	⇑PN	Pn	05 49 17.3	-0.1
ALRZ	Allen Road	0.57	187	PN	Pn	05 49 17.7	+0.2
URZ	Urewera	0.59	117	PN	Pn	05 49 17.3	-0.2
URZ				SN	Sn	05 49 33.8	-0.8
URZ				AML	AML	05 49 34.6	
RTZ	Ruatahuna	0.76	146	PN	Pn	05 49 18.7	0.0
RTZ				SN	Sn	05 49 36.6	-0.1
TLZ	Tolley Road	0.79	244	⇑PN	Pn	05 49 19.3	+0.5
MRHZ	Matea Rd	0.84	181	⇑PN	Pn	05 49 19.3	+0.1
MRHZ				AML	AML	05 49 19.8	
MRHZ				AML	AML	05 49 20.4	
RAGZ	Rawiri	0.92	123	⇑PN	Pn	05 49 20.2	+0.3
RAGZ				SN	Sn	05 49 38.5	-0.2
RAGZ				AML	AML	05 49 40.3	
MWZ	Matawai	0.93	112	PN	Pn	05 49 20.1	+0.2
MWZ				SN	Sn	05 49 37.9	-0.8
MWZ				AML	AML	05 49 40.7	
RUGZ	Raukumara Rang	0.98	89	⇓PN	Pn	05 49 19.5	-0.9
SNGZ	Shannon Statio	1.06	138	⇑PN	Pn	05 49 21.4	+0.4
SNGZ				AML	AML	05 49 41.4	
SNGZ				AML	AML	05 49 42.4	
HAZ	Te Kaha	1.09	78	PN	Pn	05 49 20.5	-0.7
HAZ				AML	AML	05 49 40.0	
HAZ				AML	AML	05 49 40.0	
HAZ				AML	AML	05 49 40.1	
NMHZ	Naumai	1.14	165	PN	Pn	05 49 22.4	+0.7
NMHZ				AML	AML	05 49 44.3	
NMHZ				AML	AML	05 49 44.4	
KATZ	Kakaramea	1.14	210	PN	Pn	05 49 21.8	0.0
BKZ	Black Stump Fm	1.17	178	⇑PN	Pn	05 49 21.8	-0.2
BKZ				SN	Sn	05 49 41.7	-0.9
BKZ				AML	AML	05 49 43.2	
TWGZ	Tauwhareparae	1.23	99	PN	Pn	05 49 22.7	+0.1
TWGZ				AML	AML	05 49 46.1	
TWGZ				AML	AML	05 49 46.6	
WHHZ	Waihua	1.25	150	PN	Pn	05 49 23.0	+0.3
WHHZ				AML	AML	05 49 45.1	
WHHZ				AML	AML	05 49 48.1	
RIGZ	Rimuhau	1.26	125	PN	Pn	05 49 23.2	+0.3
RIGZ				AML	AML	05 49 44.5	
RIGZ				AML	AML	05 49 44.7	
KRVZ	Karewarewa	1.27	209	⇑PN	Pn	05 49 22.9	-0.1
PKGZ	Pakihiroa	1.30	86	PN	Pn	05 49 22.7	-0.5
PKGZ				AML	AML	05 49 44.1	
PKGZ				AML	AML	05 49 44.7	
WTVZ	West Tongariro	1.30	210	PN	Pn	05 49 23.2	-0.1
OTVZ	Oturere	1.32	207	⇑PN	Pn	05 49 23.7	+0.3
TWVZ	Taurewa	1.33	216	⇑PN	Pn	05 49 23.6	0.0
ARHZ	Aropaoanui	1.34	161	PN	Pn	05 49 24.0	+0.4
ARHZ				AML	AML	05 49 47.0	
ARHZ				AML	AML	05 49 48.3	
MKAZ	Moumakai	1.35	311	⇓PN	Pn	05 49 24.0	+0.4
NGZ	Ngauruhoe	1.35	209	PN	Pn	05 49 23.9	+0.1
KNZ	Kokohu	1.41	137	⇑PN	Pn	05 49 24.3	+0.1
TUVZ	Tukino	1.41	205	⇑PN	Pn	05 49 24.5	0.0
KWHZ	Kaweka Forest	1.43	180	PN	Pn	05 49 24.4	-0.1
KWHZ				AML	AML	05 49 48.1	
KWHZ				AML	AML	05 49 55.6	
FWVZ	Far West T-bar	1.44	208	PN	Pn	05 49 24.3	-0.5
PUZ	Puketiti	1.44	94	⇓PN	Pn	05 49 24.2	-0.4
PUZ				AML	AML	05 49 52.8	
WHVZ	Whangaehu Hut	1.45	207	⇑PN	Pn	05 49 24.8	0.0
MCHZ	McNeill Hill	1.47	172	PN	Pn	05 49 25.2	+0.5
MCHZ				AML	AML	05 49 56.4	
PRGZ	Paritu Road	1.47	130	PN	Pn	05 49 25.0	+0.2
PRGZ				AML	AML	05 49 49.3	
PRGZ				AML	AML	05 49 51.8	
CNGZ	Carnagh Statio	1.48	110	PN	Pn	05 49 26.1	+1.2
TRVZ	Turoa	1.48	208	PN	Pn	05 49 25.0	-0.2
WNVZ	Wahianoa	1.49	206	⇑PN	Pn	05 49 25.0	-0.2
MOVZ	Moawhango	1.51	201	⇑PN	Pn	05 49 24.7	-0.6
BHHZ	Black Hill Sta	1.52	191	⇑PN	Pn	05 49 25.0	-0.4
BHHZ				AML	AML	05 49 48.5	
BHHZ				AML	AML	05 49 49.2	
MXZ	Matakaoa Point	1.54	74	PN	Pn	05 49 25.7	+0.1
MXZ				AML	AML	05 49 50.5	
MXZ				AML	AML	05 49 51.8	
PKVZ	Pokaka	1.55	213	⇑PN	Pn	05 49 25.6	-0.1
WMGZ	Waiomatatini S	1.57	84	⇓PN	Pn	05 49 25.8	-0.1
WMGZ				AML	AML	05 49 50.3	
WMGZ				AML	AML	05 49 53.1	
MHGZ	Mahia Peninsul	1.64	136	⇑PN	Pn	05 49 26.9	+0.3
KRHZ	Kereru	1.65	182	PN	Pn	05 49 26.3	-0.4
KRHZ				AML	AML	05 49 53.3	
KRHZ				AML	AML	05 49 59.5	
CKHZ	Cape Kidnapper	1.74	163	⇑PN	Pn	05 49 27.8	+0.1
CKHZ				AML	AML	05 49 28.4	
CKHZ				AML	AML	05 49 55.0	
KAHZ

TISN	Laguna Tiscapa	1.24 119	eP	Pn	05 51 14.7	-0.5
TISN			AML	AML	05 51 37.0	
	comp=Z,561nm,0.2s					
MGAN	Managua	1.25 119	eP	Pn	05 51 15.1	-0.2
MGAN			eS	Sn	05 51 37.4	+1.7
TGUH	Tegucigalpa,Un	1.30 4	eP	Pn	05 51 15.9	+0.1
TGUH			⇓iP	Pn	05 51 16.1	+0.3
BOAB	BOACO BROADBAN	.69 100	eP	Pn	05 51 20.1	+0.1
BOAB			eS	Sn	05 51 44.8	+0.9
LFRS	El Faro	1.86 298	eP	Pn	05 51 22.2	+0.2
LBRS	Las Brisas	1.90 301	eP	Pn	05 51 23.3	+0.9
CONN	Concepcion	2.08 125	eP	Pn	05 51 24.7	+0.3
MESS	Mesas	2.92 133	eP	Pn	05 51 34.3	-0.7
CUI	Cuipilapa	3.00 134	eP	Pn	05 51 36.2	+0.3
ESPN	Las Esperanzas	3.05 100	eP	Pn	05 51 36.6	+0.1
VCR	Vista de Mar	3.12 147⇑	eP	Pn	05 51 38.3	+0.8
ARE1	Arenal 1	3.46 131	eP	Pn	05 51 43.5	+1.7
CGA2	Cerro Gallo 2	3.94 133	eP	Pn	05 51 49.6	+1.5
QCR1	Quepos	4.56 136	eP	Pn	05 51 58.4	+2.1
URSC	Urasca	4.57 129	eP	Pn	05 51 59.9	+3.5

IDC ***28*** *05:57:12.7±1.9, 10°.51S×161°.52E, h56km±15km, mb4.6/19, mb1 4.8/22, mb1mx4.7/28, mbtmp4.9/22, MS4.2/21, Ms1 4.2/21, ms1mx4.1/29, Error ellipse: s-maj=17.5km s-min=9.9km az=69.0*

ISCJB ***28*** *05:57:12.6±0.1, 10°.62S±0°.02×161°.32E±0°.02, h61km, mb5.2/218, Error ellipse: s-maj=3.6km s-min=3.1km az=154.0*

MOS ***28*** *05:57:13.5±0.9, 10°.48S×161°.24E, h69km, mb5.3/45, MS4.3/4, Error ellipse: s-maj=8.8km s-min=6.8km az=60.8*

BJI ***28*** *05:57:13.4, 10°.00S×161°.68E, h62km, mb5.0/47, mB5.1/33, Ms4.8/26, Ms7 4.5/26*

NEIC ***28*** *05:57:15.0±0.7, 10°.60S×161°.34E, h70km±6km, mb5.2/164, Error ellipse: s-maj=3.6km s-min=3.2km az=92.0*

GCMT ***28*** *05:57:15.0±0.2, 10°.64S×161°.30E, h36km, MW5.1/71, Moment Tensor Solution. s58,c76; s71,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.17±.19; $M_{\theta\theta}$-0.93±.14; $M_{\phi\phi}$-3.24±.12; $M_{r\theta}$0.66±.17; $M_{\theta\phi}$2.63±.09; $M_{\phi r}$~1.37±.13; Best double couple: $M_0$4.81100×10^{16} NP1:ϕ_s324.00000°, δ36.00000°, λ85.00000°. Principal axes: T 4.4230, Plg80.0000°, Azm76.0000°; N 0.7790, Plg3.0000°, Azm328.0000°; P -5.1990, Plg9.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s.*

ISC 28 05:57:13.7±0.3, 10°.60S±0°.04×161°.44E±0°.05, h61km, n456, σ1°.25/467, mb5.1/214, 8C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.88**	**308**	P	**Pn**	**05 57 41.5**	**-2.1**
	677nm,0.3s,baz=172,slow=2.5,SNR=77						
HNR				S	**Sn**	**05 58 06.0**	**-0.2**
	712nm,0.3s,baz=307,slow=20,SNR=16						
HNR				LR	LR	05 58 33.2	
	comp=Z,7μm,19.3s,baz=142,slow=43						
HNR	**Honiara**	**1.88**	**308**	*i* P	**Pn**	**05 57 41.0**	**-2.6**
HNR				*i* S	**Sn**	**05 58 04.0**	**-2.2**
HNR	**Honiara**	**1.88**	**308**	*e*P	**Pn**	**05 57 41.8**	**-1.7**
HNR				*e*		05 58 08.3	
HNR	**Honiara**	**1.88**	**308**	*e*Pn	**Pn**	**05 57 41.8**	**-1.7**
HNR				*e*Sn	**Sn**	**05 58 08.3**	**+2.1**
DZM	**Mont Dzumac**	**12.37**	**158**	P	**Pn**	**06 00 06.5**	**-0.7**
	2.7nm,0.3s,baz=328,slow=8.4,SNR=38						
DZM				S	Sn	06 02 15.2	-8.3
	1.4nm,0.3s,baz=307,slow=20,SNR=4.2						
DZM				LR	LR	06 04 14.2	
	comp=Z,1μm,18.8s,baz=354,slow=34						
DZM	**Mont Dzumac**	**12.37**	**158**	*e*Pn	**Pn**	**06 00 06.7**	**-0.5**
DZM				*e*Sn	**Sn**	**06 02 15.8**	**-7.7**
PMG	**Port Moresby**	**14.12**	**274**	P	**Pn**	**06 00 32.8**	**+2.0**
	1.1nm,0.3s,baz=97,slow=8.9,SNR=10						
PMG	**Port Moresby**	**14.12**	**274**	*de*P	**Pn**	**06 00 32.4**	**+1.6**
PMG				pmax	pmax		
	comp=Z,327nm,1.2s						
PMG	**Port Moresby**	**14.12**	**274**	*e*Pn	**Pn**	**06 00 32.9**	**+2.1**
MANU	**Manus Island**	**16.36**	**300**	*e*Pn	**Pn**	**06 00 58.1**	**-1.6**
	comp=Z,257nm,0.1s						
CTA	**Charters Tower**	**17.41**	**235**	P	**P**	**06 01 13.3**	**+0.2**
	comp=Z,5.1nm,0.3s,baz=66,slow=14,SNR=85						
CTAO	**Charters Tower**	**17.41**	**235**	*e*P	**P**	**06 01 13.2**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,312nm,0.9s						
CTAO	**Charters Tower**	**17.41**	**235**	*e*Pn	**P**	**06 01 13.2**	**+0.1**
	comp=Z,312nm,0.9s						
MSVF	**Nonsavu**	**17.59**	**116**	*e*P	**P**	**06 01 15.8**	**+0.6**
MSVF				pmax	pmax		
	comp=Z,100nm,1.5s						
MSVF	**Nonsavu**	**17.59**	**116**	*e*P	**P**	**06 01 15.8**	**+0.6**
	comp=Z,100nm,1.5s						
PATS	**Pohnpei**	**17.60**	**350**	*e*P	**P**	**06 01 16.1**	**+0.9**
	comp=Z,647nm,2.0s						
EIDS	**Eidsvold**	**17.67**	**212**	P	**P**	**06 01 16.9**	**+1.0**
	baz=18,SNR=48						
EIDS	**Eidsvold**	**17.67**	**212**	*e*P	**P**	**06 01 17.0**	**+1.0**
	comp=Z,168nm,1.0s						
COEN	**Coen**	**18.16**	**258**	P	**Pn**	**06 01 23.7**	**+1.9**
	baz=18,SNR=14						
COEN	**Coen**	**18.16**	**258**	*e*P	**Pn**	**06 01 22.5**	**+0.6**
	comp=Z,60nm,0.9s						
MTSU	**Mount Surprise**	**18.19**	**244**	P	**Pn**	**06 01 24.2**	**+2.0**
	baz=18,SNR=39						
RMQ	**Roma**	**19.83**	**215**	P	**Pn**	**06 01 41.8**	**+0.2**
	baz=20,SNR=41						
KWAJ	**Kwajalein Atol**	**20.23**	**18**	*e*P	Pn	06 01 45.6	-0.8
KWAJ				pmax	pmax		
	comp=Z,220nm,1.0s						
KWAJ	**Kwajalein Atol**	**20.23**	**18**	*e*P	Pn	06 01 45.6	-0.8
	comp=Z,220nm,1.0s						
ARMA	**Armidale**	**21.73**	**203**	P	**P**	**06 02 00.5**	**+0.4**
	baz=22,SNR=15						
ARMA	**Armidale**	**21.73**	**203**	*e*P	**P**	**06 02 01.0**	**+0.8**
	comp=Z,22nm,0.8s						
JAY	**Jayapura**	**22.10**	**290**	P	**P**	**06 02 04.3**	**+0.1**
QLP	**Quilpie**	**22.73**	**223**	P	**P**	**06 02 10.9**	**+0.1**
	baz=23,SNR=12						
QIS	**Mount Isa**	**23.22**	**242**	P	**P**	**06 02 16.1**	**+0.3**
	baz=23,SNR=15						
SMPI	**Sarmi**	**24.14**	**289**	P	**P**	**06 02 24.3**	**0.0**
MGCD	**Mangrove Creek**	**24.43**	**201**	P	**P**	**06 02 28.1**	**+1.4**
	baz=25,SNR=6.0						
CMSA	**Cobar Meteorol**	**25.43**	**213**	P	**P**	**06 02 36.0**	**+0.1**
	baz=26,SNR=15						
OUZ	**Omahuta**	**26.89**	**158**	*e*P	**P**	**06 02 50.9**	**+1.9**
	comp=Z,60nm,1.4s						
CAN	**Canberra**	**27.09**	**203**	*e*P	**P**	**06 02 51.7**	**+0.8**
CAN				pmax	pmax		
	comp=Z,29nm,1.3s						
CAN	**Canberra**	**27.09**	**203**	*e*P	**P**	**06 02 51.7**	**+0.8**
	comp=Z,29nm,1.3s						
WRAB	**Tennant Creek**	**27.70**	**247**	*ce*P	**P**	**06 02 57.0**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,72nm,1.2s						
WRAB	**Tennant Creek**	**27.70**	**247**	*e*P	**P**	**06 02 56.4**	**0.0**
	comp=Z,19nm,0.8s						
WB2	**Warramunga Arr**	**27.70**	**247**	*e*P	**P**	**06 02 56.2**	**-0.2**
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**06 02 56.2**	**-0.4**
	comp=Z,6.2nm,0.5s,baz=77,slow=8.9,SNR=35						
WRA				LR	LR	06 13 47.2	
	comp=Z,1μm,18.2s,baz=70,slow=36						
WRA	**Warramunga Arr**	**27.71**	**247**	*i* P	**P**	**06 02 56.5**	**-0.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
STKA	**Stephens Creek**	**28.02**	**218**	P	**P**	**06 02 59.6**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=33,slow=11,SNR=8.1						
STKA				LR	LR	06 14 13.1	
	comp=Z,2μm,18.4s,baz=37,slow=36						
STKA	**Stephens Creek**	**28.02**	**218**	P	**P**	**06 02 59.6**	**+0.4**
	baz=28,SNR=7.2						
STKA	**Stephens Creek**	**28.02**	**218**	*e*P	**P**	**06 02 59.6**	**+0.4**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**28.02**	**218**	*e*P	**P**	**06 02 59.6**	**+0.4**
	comp=Z,3.0nm,1.0s						
GUMO	**Guam**	**29.12**	**325**	*e*P	**P**	**06 03 11.3**	**+2.2**
GUMO				pmax	pmax		
	comp=Z,464nm,1.7s						
GUMO	**Guam**	**29.12**	**325**	*e*P	**P**	**06 03 11.2**	**+2.2**
	comp=Z,464nm,1.7s						
AS31	**Alice Springs**	**29.28**	**240**	*e*P	**P**	**06 03 09.8**	**-0.7**
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**29.28**	**240**	P	**P**	**06 03 09.6**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=64,slow=9.9,SNR=42						
ASAR				ScP	**ScP**	**06 09 55.6**	**+2.7**
	comp=Z,1.7nm,1.1s,baz=74,slow=3.3,SNR=4.2						
ASAR				LR	LR	06 14 59.5	
	comp=Z,1μm,18.1s,baz=72,slow=36						
MTN	**Manton Dam**	**29.75**	**263**	P	**P**	**06 03 15.2**	**+0.5**
	baz=30,SNR=4.5						
MTN	**Manton Dam**	**29.75**	**263**	*e*P	**P**	**06 03 15.7**	**+1.0**
	comp=Z,24nm,1.1s						
HIZ	**Hauiti**	**30.28**	**159**	*e*P	**P**	**06 03 19.6**	**+0.5**
	comp=Z,46nm,0.9s						
TOO	**Toolangi**	**30.45**	**206**	P	**P**	**06 03 21.5**	**+0.8**
	baz=31,SNR=22						
TOO	**Toolangi**	**30.45**	**206**	P	**P**	**06 03 22.3**	**+1.6**
TOO				pmax	pmax		
	comp=Z,36nm,0.8s						
HTT	**Hallett**	**30.72**	**219**	P	**P**	**06 03 23.6**	**+0.4**
	baz=31,SNR=10.0						
MXZ	**Matakaoa Point**	**30.84**	**153**	*e*P	**P**	**06 03 25.1**	**+1.0**
	comp=Z,32nm,0.7s						
URZ	**Urewera**	**30.92**	**156**	P	**P**	**06 03 25.2**	**+0.5**
	comp=Z,13nm,0.6s,baz=306,slow=1.1,SNR=10						
URZ	**Urewera**	**30.92**	**156**	*e*P	**P**	**06 03 25.4**	**+0.7**
	comp=Z,15nm,0.7s						
BKZ	**Black Stump Fm**	**31.45**	**157**	*e*P	**P**	**06 03 29.9**	**+0.4**
	comp=Z,45nm,0.8s						
BNDI	**Bandanaira**	**31.82**	**279**	P	**P**	**06 03 34.9**	**+1.9**
	comp=Z,133nm,0.7s						
BBOO	**Buckleboo**	**32.16**	**223**	P	**P**	**06 03 35.8**	**+0.1**
	baz=32,SNR=28						
BBOO	**Buckleboo**	**32.16**	**223**	*e*P	**P**	**06 03 36.1**	**+0.3**
	comp=Z,42nm,0.9s						
KNRA	**Kununurra**	**32.20**	**257**	P	**P**	**06 03 36.2**	**-0.1**
	baz=32,SNR=14						
THZ	**Tophouse**	**32.63**	**164**	*e*P	**P**	**06 03 39.4**	**-0.5**
	comp=Z,49nm,1.0s						
BFZ	**Birch Farm**	**32.70**	**159**	*e*P	**P**	**06 03 39.8**	**-0.5**
	comp=Z,62nm,1.2s						
SNZO	**South Karori**	**32.74**	**161**	*e*P	**P**	**06 03 41.1**	**+0.4**
	comp=Z,54nm,1.1s						
KHZ	**Kahutara**	**33.41**	**164**	*e*P	**P**	**06 03 47.6**	**+1.0**
	comp=Z,55nm,1.5s						
LTZ	**Lake Taylor**	**33.42**	**165**	*e*P	**P**	**06 03 47.1**	**+0.4**
	comp=Z,18nm,0.7s						
FOZ	**Fox Glacier**	**33.60**	**169**	*e*P	**P**	**06 03 48.7**	**+0.5**
	comp=Z,119nm,1.7s						
OXZ	**Oxford**	**33.88**	**166**	*e*P	**P**	**06 03 50.9**	**+0.3**
	comp=Z,147nm,1.7s						
RPZ	**Rata Peaks**	**34.03**	**168**	P	**P**	**06 03 52.1**	**+0.2**
	comp=Z,16nm,0.7s,baz=314,slow=3.1,SNR=10						
RPZ	**Rata Peaks**	**34.03**	**168**	*e*P	**P**	**06 03 52.6**	**+0.7**
	comp=Z,21nm,0.8s						
MQZ	**McQueen's Vall**	**34.39**	**166**	*e*P	**P**	**06 03 54.9**	**-0.1**
	comp=Z,28nm,0.9s						
WRKA	**Warakurna**	**34.55**	**241**	P	**P**	**06 03 55.6**	**-1.1**
	baz=35,SNR=24						
NLAI	**Namlea**	**34.84**	**280**	P	**P**	**06 04 01.6**	**+2.3**
	comp=Z,28nm,1.4s						
DCZ	**Deep Cove**	**35.08**	**173**	*e*P	**P**	**06 04 01.0**	**+0.1**
	comp=Z,44nm,1.0s						
MLZ	**Mavora Lakes**	**35.11**	**172**	*e*P	**P**	**06 04 01.1**	**-0.2**
	comp=Z,94nm,1.9s						
ODZ	**Otahua Downs**	**35.22**	**169**	*e*P	**P**	**06 04 02.7**	**+0.5**
	comp=Z,80nm,1.8s						
FITZ	**Fitzroy Crossi**	**35.43**	**254**	P	**P**	**06 04 03.7**	**-0.7**
	baz=36,SNR=55						
FITZ	**Fitzroy Crossi**	**35.43**	**254**	*e*P	**P**	**06 04 03.9**	**-0.4**
	comp=Z,19nm,0.6s						
WHZ	**Wether Hill Ro**	**35.60**	**172**	*e*P	**P**	**06 04 05.5**	**+0.1**
	comp=Z,132nm,1.9s						
SANI	**Sanana**	**36.21**	**281**	P	**P**	**06 04 11.3**	**+0.2**
	comp=Z,58nm,1.2s,comp=Z,604nm						
SOEI	**Soe**	**36.59**	**268**	P	**P**	**06 04 17.6**	**+3.2**
	comp=Z,24nm,1.4s						
SOEI	**Soe**	**36.59**	**268**	*e*P	**P**	**06 04 15.4**	**+1.0**
	comp=Z,37nm,1.0s						
EDFI	**Ende, Flores**	**39.21**	**269**	P	**P**	**06 04 37.3**	**+0.7**
	comp=Z,29nm,1.3s						
LUWI	**Luwuk**	**39.58**	**281**	P	**P**	**06 04 40.1**	**+0.6**
	comp=Z,75nm,1.4s,comp=Z,2μm						
LUWI	**Luwuk**	**39.58**	**281**	*e*P	**P**	**06 04 38.5**	**-1.0**
	comp=Z,61nm,0.8s						
APSI	**Ampana**	**40.69**	**281**	P	**P**	**06 04 50.1**	**+1.4**
	comp=Z,55nm,0.8s,comp=Z,662nm						
MRSI	**Marisa**	**40.79**	**283**	P	P	06 05 01.1	+12
MBWA	**Marble Bar**	**41.35**	**250**	*e*P	**P**	**06 04 54.2**	**+0.2**
	comp=Z,11nm,0.6s						
BNSI	**Bone**	**41.41**	**275**	P	**P**	**06 04 54.8**	**+0.2**
	comp=Z,86nm,0.9s,comp=Z,629nm						
KAPI	**Kappang**	**41.65**	**274**	*e*P	**P**	**06 04 57.0**	**+0.4**
	comp=Z,20nm,0.8s						
SPSI	**Sidrap Palu**	**41.83**	**276**	P	**P**	**06 04 57.1**	**-0.9**
	comp=Z,19nm,0.9s,comp=Z,3μm						
TTSI	**Tana Toraja**	**41.97**	**277**	P	**P**	**06 05 01.0**	**+1.8**
	comp=Z,16nm,1.0s						
PCI	**Palu**	**42.45**	**280**	P	**P**	**06 05 05.8**	**+2.7**
	comp=Z,80nm,1.1s						
MPSI	**Mapaga**	**42.71**	**282**	P	**P**	**06 05 04.9**	**-0.3**
	comp=Z,22nm,0.9s						
PLAI	**Plampang**	**43.05**	**268**	P	**P**	**06 05 07.0**	**-1.0**
	comp=Z,84nm,1.0s,comp=Z,844nm						
TWSI	**Taliwang, Sumb**	**43.94**	**268**	P	**P**	**06 05 16.1**	**+1.0**
	comp=Z,40nm,0.8s,comp=Z,1μm						
MYLDM	**Lahad Datu**	**45.54**	**288**	*e*P	**P**	**06 05 28.8**	**+1.0**
	comp=Z,44nm,1.2s						
IGBI	**Denpasar**	**45.64**	**268**	P	**P**	**06 05 28.0**	**-0.6**
	comp=Z,177nm,1.0s						
BLDU	**Balidu**	**45.99**	**238**	P	**P**	**06 05 31.6**	**+0.3**
	baz=46,SNR=6.1						
NWAO	**Narrogin (SRO)**	**46.24**	**234**	P	**P**	**06 05 33.5**	**+0.3**
	baz=46,SNR=6.2						
NWAO				P	**P**	**06 05 33.5**	**+0.3**
	baz=46,SNR=6.2						
NWAO	**Narrogin (SRO)**	**46.24**	**234**	*e*P	**P**	**06 05 33.1**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,72nm,1.6s						
NWAO	**Narrogin (SRO)**	**46.24**	**234**	*e*P	**P**	**06 05 33.1**	**-0.1**
	comp=Z,72nm,1.6s						
JAGI	**Jajag, Banyuwa**	**46.65**	**268**	P	**P**	**06 05 34.9**	**-1.7**
	comp=Z,122nm,0.8s,comp=Z,1μm						
JAGI	**Jajag, Banyuwa**	**46.65**	**268**	*e*P	**P**	**06 05 35.5**	**-1.1**
	comp=Z,90nm,0.8s						
PPT	**Papeete**	**47.91**	**104**	LR	LR	06 22 15.9	
	comp=Z,293nm,19.1s,baz=280,slow=31						
PPT2	**Papeete2**	**47.91**	**104**	*e*S	**S**	**06 12 42.0**	**+2.2**
	comp=Z,112nm,30.5s						
PPT2				*e*LQ	LQ	06 17 33.3	
	comp=Z,588nm,28.5s						
PPT2				*e*LR	LR	06 19 36.9	
	comp=Z,474nm,22.2s,baz=274						
KKM	**Kota Kinabalu**	**47.97**	**288**	*e*P	**P**	**06 05 46.5**	**-0.5**
	comp=Z,27nm,0.9s						
TBI	**Tubuai**	**48.42**	**112**	*e*S	**S**	**06 12 49.2**	**+2.5**
	comp=Z,80nm,33.8s						
TBI				*e*LQ	LQ	06 17 44.7	
	comp=Z,453nm,36.0s						
TBI				*e*LR	LR	06 19 49.8	
	comp=Z,264nm,25.0s						
KEKH	**Kekaha**	**50.01**	**49**	*e*P	**P**	**06 06 03.5**	**+1.2**
	comp=Z,110nm,1.0s						
UGM	**Wanagama**	**50.28**	**268**	*e*P	**P**	**06 06 03.9**	**-0.7**
	comp=Z,160nm,1.3s						
STKI	**Sintang**	**50.79**	**279**	P	**P**	**06 06 09.9**	**+1.5**
KIP	**Kipapa**	**50.97**	**51**	*ce*P	**P**	**06 06 09.2**	**-0.4**
KIP				pmax	pmax		
	comp=Z,1μm,2.5s						
KIP	**Kipapa**	**50.97**	**51**	*e*P	**P**	**06 06 10.5**	**+1.0**
	comp=Z,119nm,1.4s						
OPA	**Opana**	**51.12**	**51**	*e*P	**P**	**06 06 11.9**	**+1.2**
OPA				pmax	pmax		
	comp=Z,155nm,0.7s						
OPA	**Opana**	**51.12**	**51**	*e*P	**P**	**06 06 11.9**	**+1.2**
	comp=Z,155nm,0.7s						
INU	**Inuyama**	**51.21**	**334**	*e*P	**P**	**06 06 12.0**	**+0.9**
	comp=Z,24nm,0.9s						
MJAR	**Matsushiro Arr**	**51.74**	**336**	P	**P**	**06 06 13.2**	**-2.0**
	comp=Z,5.9nm,0.9s,baz=168,slow=8.4,SNR=15						
MAJO	**Matsushiro**	**51.74**	**336**	*e*P	**P**	**06 06 15.3**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**51.74**	**336**	*e*P	**P**	**06 06 15.3**	**+0.2**
	comp=Z,10nm,0.9s						
MAT	**Matsushiro**	**51.74**	**336**	P	**P**	**06 06 13.8**	**-1.3**
MAT				S	**S**	**06 13 32.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**51.75**	**336**	*e*P	**P**	**06 06 15.4**	**+0.2**
	comp=Z,2.6nm,0.9s						
MWH	**Moku'aweowe**	**51.82**	**55**	*e*P	**P**	**06 06 16.8**	**+0.3**
	comp=Z,210nm,1.4s						
AIN	**Ainahou**	**51.87**	**55**	*e*P	**P**	**06 06 17.4**	**+0.9**
	comp=Z,176nm,1.1s						
POHA	**Pohakuloa**	**52.01**	**55**	*e*P	**P**	**06 06 18.6**	**+1.0**
	comp=Z,110nm,1.1s						
KSM	**Kuching**	**52.26**	**280**	⇑P	**P**	**06 06 19.0**	**-0.4**
SSLB	**Suanglung**	**52.29**	**311**	*e*P	**P**	**06 06 20.1**	**+0.7**
	comp=Z,112nm,1.9s						
JNU	**Nakatsue**	**52.34**	**327**	*e*P	**P**	**06 06 19.3**	**-0.3**
	comp=Z,17nm,0.9s						
CISI	**Cisompet, Garu**	**52.99**	**268**	P	**P**	**06 06 24.0**	**-0.9**
	comp=Z,63nm,0.9s						
CISI	**Cisompet, Garu**	**52.99**	**268**	*e*P	**P**	**06 06 23.3**	**-1.6**
	comp=Z,54nm,0.9s						
CGJI	**Cibinong**	**55.21**	**269**	P	**P**	**06 06 39.5**	**-1.4**
	comp=Z,94nm,0.5s,comp=Z,2μm						
MDSI	**Maura Dua**	**57.03**	**272**	P	**P**	**06 06 53.3**	**-0.6**
ASAJ	**Asahikawa**	**57.09**	**344**	*e*P	**P**	**06 06 54.0**	**+0.3**
	comp=Z,18nm,0.9s						
KSRS	**Korea Array**	**57.21**	**328**	P	**P**	**06 06 54.3**	**-0.4**
	comp=Z,11nm,1.1s,baz=144,slow=7.0,SNR=24						
KSRS				LR	LR	06 30 16.0	
	comp=Z,149nm,20.1s,baz=130,slow=35						
KSAR	**Wonju Array Be**	**57.22**	**328**	P	**P**	**06 06 54.3**	**-0.5**
KSAR	**Wonju Array Be**	**57.22**	**328**	P	**P**	**06 06 54.3**	**-0.5**
TAOE	**Nuku Hiva Isla**	**57.53**	**94**	*e*S	**S**	**06 14 55.4**	**+4.2**
	comp=Z,122nm,28.4s						
TAOE				*e*LR	LR	06 24 03.5	
	comp=Z,394nm,23.2s,baz=268						
MYKOM	**Kota Tinggi**	**58.60**	**279**	⇓P	**P**	**06 07 04.5**	**-0.5**
QIZ	**Qiongzhong**	**58.77**	**300**	P	**P**	**06 07 09.0**	**+3.0**
QIZ				S	**S**	**06 15 10.5**	**+3.5**
QIZ				SS	**SS**	**06 18 58.5**	**-2.8**
QIZ				LR	LR		
	comp=Z,290nm,24.8s						
QIZ				LR	LR		
	comp=Z,400nm,26.7s						
NJ2	**Nanjing**	**58.79**	**318**	*e*P	**P**	**06 07 07.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
KTGM	**Kuala Trenggan**	**60.17**	**282**	⇑P	**P**	**06 07 15.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**60.74**	**336**	P	**P**	**06 07 19.3**	**+0.2**
	comp=Z,32nm,0.9s,baz=139,slow=6.8,SNR=29						
USRK				LR	LR	06 32 08.4	
	comp=Z,120nm,20.0s,baz=147,slow=34						
IPM	**Ipoh**	**61.98**	**281**	*e*P	**P**	**06 07 27.6**	**-0.5**
	comp=Z,53nm,1.3s						
MDJ	**Mudanjiang**	**62.06**	**335**	P	**P**	**06 07 27.5**	**-0.5**
MDJ				pP	pP	06 07 41.5	-2.9
MDJ				sP	sP	06 07 47.5	-3.7
MDJ				PP	**PP**	**06 09 44.3**	**-1.1**
MDJ				S	**S**	**06 15 42.5**	**-5.8**
MDJ				SS	**SS**	**06 19 48.8**	**-3.4**
MDJ				pmax	pmax		
	comp=Z,19nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,98nm,4.3s						
MDJ				LR	LR		
	comp=Z,170nm,22.5s						
MDJ				LR	LR		
	comp=Z,170nm,20.9s						
MDJ				LR	LR		
	comp=Z,240nm,20.9s						
MDJ	**Mudanjiang**	**62.06**	**335**	*e*P	**P**	**06 07 28.6**	**+0.6**
	comp=Z,21nm,1.0s						
KULM	**Kulim**	**62.55**	**282**	*e*P	**P**	**06 07 30.9**	**-1.0**
	comp=Z,23nm,1.0s						
CN2	**Changchun**	**63.26**	**332**	*e*P	**P**	**06 07 35.3**	**-0.7**
CN2				*es*P	pP	06 07 55.8	+3.4
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
PETK	**Petropavlovsk-**	**63.54**	**357**	P	**P**	**06 07 36.0**	**-1.6**
	comp=Z,7.3nm,0.8s,baz=167,slow=7.3,SNR=5.1						
PETK				LR	LR	06 30 26.9	
	comp=Z,225nm,21.9s,baz=164,slow=31						
PSI	**Prapat**	**63.62**	**278**	*e*P	**P**	**06 07 38.2**	**-1.0**
PSI				pmax	pmax		
	comp=Z,14nm,1.1s						
PSI	**Prapat**	**63.62**	**278**	*e*P	**P**	**06 07 38.2**	**-1.0**
	comp=Z,14nm,1.1s						
KHON	**Khomkaen**	**63.87**	**294**	P	**P**	**06 07 41.4**	**+0.9**
	comp=Z,13nm,1.0s,comp=Z,1μm						
NONG	**Nongkai**	**64.20**	**296**	P	P	06 07 49.7	+7.0
CHAI	**Chaiyaphum**	**64.47**	**293**	P	**P**	**06 07 44.0**	**-0.5**
	comp=Z,4.5nm,0.9s						
GSI	**Gunungsitoli**	**64.61**	**277**	*e*P	**P**	**06 07 45.1**	**-0.4**
	comp=Z,21nm,0.8s						
GYA	**Guiyang**	**64.70**	**306**	*e*P	**P**	**06 07 49.3**	**+3.3**
GYA				pP	pP	06 08 04.5	+2.0
GYA				sP	sP	06

comp=Z,51nm,20.7s,baz=126,slow=35
CMAR Chiang Mai Arr 68.08 295 *i* P **P 06 08 07.6 0.0**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 68.20 295 P **P 06 08 08.0 -0.3**
comp=Z,49nm,1.1s
CHTO Chiang Mai 68.20 295 *e*P **P 06 08 06.7 -1.6**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 68.20 295 *e*P **P 06 08 06.7 -1.6**
comp=Z,14nm,1.1s
NIKH Nikolski High 68.23 19 *e*P **P 06 08 08.4 +0.7**
comp=Z,162nm,1.4s
CMAI Chiengmai2 68.49 296 P **P 06 08 10.2 -0.1**
comp=Z,68nm,1.2s,comp=Z,5μm
HHC Hu-ho-hao-te 68.81 322 *e*P **P 06 08 14.0 +2.2**
HHC sP PcP 06 08 39.0 +3.0
HHC S **S 06 17 11.3 +0.2**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,66nm,5.9s
HHC LR LR
comp=Z,1μm,18.4s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,1μm,17.5s
CD2 Chengdu 69.00 309 *e*P **P 06 08 13.5 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
UNV Unalaska Valle 69.73 20 *e*P **P 06 08 16.6 -0.4**
comp=Z,135nm,1.4s
AKUT Akutan 70.21 20 *e*P **P 06 08 19.8 -0.2**
comp=Z,341nm,1.5s
MA2 Magadan 70.47 354 LR LR 06 35 53.7
comp=Z,128nm,20.7s,baz=113,slow=33
LZH Lanzhou 71.36 314 *e*P **P 06 08 29.8 +2.1**
LZH pP pP 06 08 44.3 -0.1
LZH sP sP 06 08 51.5 +0.4
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,580nm,17.5s
LZH LR LR
comp=Z,750nm,18.0s
LZH LR LR
comp=Z,160nm,18.4s
MIR Mirnyy 71.81 203 *i* P **P 06 08 29.5 -0.1**
MIR pmax pmax
comp=Z,4.0nm,1.1s
SDPT Sand Point 73.02 22 *e*P **P 06 08 36.5 -0.4**
comp=Z,98nm,1.3s
CHGN Chignik 74.50 22 *e*P **P 06 08 45.0 -0.5**
comp=Z,171nm,1.8s
ULN Ulaanbaatar 75.50 326 *ce*P **P 06 08 51.7 0.0**
ULN pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 75.50 326 *e*P **P 06 08 52.4 +0.7**
comp=Z,32nm,1.1s
GTA Gaotai 75.74 315 ||P **P 06 08 53.5 +0.3**
GTA pP pP 06 09 10.3 +0.2
GTA sP sP 06 09 17.0 +0.2
GTA S **S 06 18 31.0 +0.5**
GTA SKS **SKSac 06 18 54.5 -4.0**
GTA sS SKKSac 06 19 00.0 +1.1
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,91nm,18.3s
GTA LR LR
comp=Z,110nm,20.7s
GTA LR LR
comp=Z,150nm,20.4s
SONM Songino Array 75.85 325 P **P 06 08 53.5 -0.2**
comp=Z,19nm,1.0s,baz=138,slow=6.2,SNR=53
SONM LR LR 06 44 17.3
comp=Z,150nm,18.3s,baz=94,slow=37
SII Sitkinak Islan 76.30 23 *e*P **P 06 08 58.2 +2.4**
comp=Z,469nm,1.6s
YAK Yakutsk 76.53 345 *e*P **P 06 08 55.5 -1.5**
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.0s
YAK Yakutsk 76.53 345 *e*P **P 06 08 56.7 -0.3**
comp=N,44nm,0.8s
OHAK Old Harbor 77.11 23 *e*P **P 06 09 00.9 +0.5**
comp=N,127nm,1.7s
KDAK Kodiak Island 77.78 23 *ce*P **P 06 09 04.5 +0.4**
KDAK Kodiak Island 77.78 23 *e*P **P 06 09 04.9 +0.8**
comp=N,168nm,1.8s
BOD Bodaibo 78.38 336 *e*P **P 06 09 05.7 -1.7**
BOD pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 78.51 2 *e*P **P 06 09 07.5 -0.5**
BILL *i* 06 09 18.9
BILL *i* 06 12 03.9
BILL pmax pmax
comp=Z,19nm,1.0s
ZAK Zakamensk 78.95 326 *e*P **P 06 09 09.9 -1.0**
ZAK *e* 06 09 39.9
ZAK pmax pmax
comp=Z,15nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
SVW2 Sparrevohn 79.06 20 *e*P **P 06 09 12.3 +1.1**
comp=Z,52nm,0.8s
QSPA South Pole Qui 79.40 180 *e*P **P 06 09 13.5 +0.3**
TLY Talaya 79.45 328 *e*P **P 06 09 13.1 -0.4**
TLY pmax pmax
comp=Z,22nm,1.0s
TLY MLR MLR
comp=Z,134nm,18.0s
RSO Redoubt South 79.58 21 *e*P **P 06 09 13.4 -0.8**
BRLK Bradley Lake 79.78 22 *e*P **P 06 09 15.7 +0.6**
comp=Z,68nm,1.4s
TT01 Tatalina 80.26 18 *e*P **P 06 09 18.2 +0.6**
TTA Tatalina 80.28 18 *e*P **P 06 09 18.2 +0.4**
TTA pmax pmax
comp=Z,20nm,1.0s
TTA Tatalina 80.28 18 *e*P **P 06 09 18.2 +0.4**
comp=Z,20nm,1.0s
TAPN Taplejung 80.71 300 *e*P **P 06 09 20.1 -1.1**
ODAN Odare 80.84 300 *e*P **P 06 09 20.7 -1.1**
MOY Mondy 80.85 327 *e*P **P 06 09 20.8 -0.4**
MOY pmax pmax
comp=Z,19nm,1.4s
PMR Palmer 81.65 22 *e*P **P 06 09 25.0 0.0**
PMR pmax pmax
comp=Z,37nm,1.6s
PMR Palmer 81.65 22 *e*P **P 06 09 25.0 0.0**
comp=Z,37nm,1.6s
GLI Glacier Island 81.94 23 *e*P **P 06 09 27.1 +0.5**
comp=Z,86nm,1.6s
JIRN Jiri 82.09 300 *e*P **P 06 09 27.6 -1.0**
FID Port Fidalgo 82.09 23 *e*P **P 06 09 27.1 -0.3**
comp=Z,43nm,1.2s
EYAK Cordova Ski Ar 82.25 23 *e*P **P 06 09 28.3 +0.1**
comp=Z,132nm,1.9s
GUN Gumba 82.43 300 *e*P **P 06 09 29.3 -1.0**
SCM Sheep Creek Mo 82.46 22 *e*P **P 06 09 30.0 +0.6**
SCM pmax pmax
comp=Z,140nm,2.0s
SCM Sheep Creek Mo 82.46 22 *e*P **P 06 09 30.0 +0.6**
comp=Z,140nm,2.0s
BPAW Bear Paw Mtn. 82.70 19 *e*P **P 06 09 29.8 -0.7**
comp=Z,45nm,1.8s
PKI Pulchoki 82.73 300 *e*P **P 06 09 30.6 -1.3**
PKIN Phulchoki 82.75 300 *e*P **P 06 09 31.1 -0.8**
KLU Klutina 82.77 23 *e*P **P 06 09 31.3 +0.3**
comp=Z,19nm,1.0s
KKN Kakani 82.90 300 *e*P **P 06 09 31.5 -1.1**
RND Reindeer 82.94 20 *e*P **P 06 09 31.7 -0.1**
RND pmax pmax
comp=Z,9.0nm,0.7s
RND Reindeer 82.94 20 *e*P **P 06 09 31.7 -0.1**
comp=Z,8.9nm,0.7s
BMRM Bremner River 82.96 23 *e*P **P 06 09 32.4 +0.4**
comp=Z,26nm,1.2s

DMN Daman 83.00 300 *e*P **P 06 09 32.2 -1.0**
comp=Z,60nm,1.1s
MCK McKinley 83.12 20 *e*P **P 06 09 32.5 -0.2**
MCK pmax pmax
comp=Z,36nm,1.0s
MCK McKinley 83.12 20 *e*P **P 06 09 32.5 -0.2**
comp=Z,36nm,1.0s
DHY Denali Highway 83.23 21 *e*P **P 06 09 33.7 +0.2**
comp=Z,29nm,1.6s
CRQM Ciue 83.41 24 *e*P **P 06 09 35.6 +1.1**
comp=Z,22nm,0.9s
MLY Manley 83.41 18 *e*P **P 06 09 34.6 +0.4**
comp=Z,11nm,0.8s
GKN Gorkha 83.51 300 *e*P **P 06 09 34.3 -1.4**
comp=Z,36nm,1.0s
MAW Mawson 83.53 202 P **P 06 09 35.4 +0.6**
comp=Z,54nm,0.8s,baz=104,slow=6.5,SNR=179
MAW LR LR 06 41 17.8
comp=Z,92nm,21.7s,baz=60,slow=32
MAW Mawson 83.53 202 P **P 06 09 35.3 +0.6**
baz=84,SNR=118
MAW Mawson 83.53 202 *e*P **P 06 09 35.5 +0.7**
comp=Z,13nm,0.8s
HARP HAARP 83.62 22 *e*P **P 06 09 35.9 +0.6**
comp=Z,90nm,1.7s
BALM Baldy 83.89 24 *e*P **P 06 09 37.5 +0.7**
BALM pmax pmax
comp=Z,16nm,0.9s
BALM Baldy 83.89 24 *e*P **P 06 09 37.5 +0.7**
comp=Z,16nm,0.9s
WRH Wood River Hil 83.89 20 *e*P **P 06 09 36.2 -0.4**
comp=Z,8.2nm,0.8s
CCB Clear Creek Bu 84.10 20 *e*P **P 06 09 36.9 -0.8**
comp=Z,6.9nm,0.7s
MDM Murphy Dome 84.16 19 *e*P **P 06 09 37.5 -0.5**
comp=Z,9.5nm,0.9s
COLA College 84.23 19 *e*P **P 06 09 37.9 -0.4**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 84.23 19 *e*P **P 06 09 37.9 -0.4**
comp=Z,16nm,0.8s
HDA Harding Lake 84.23 20 *e*P **P 06 09 38.3 -0.1**
comp=Z,17nm,1.0s
KOLN Koldanda 84.33 299 *e*P **P 06 09 38.2 -1.7**
comp=Z,29nm,1.0s
DANN Dangsing 84.35 300 *e*P **P 06 09 38.6 -1.5**
MENT Mentasta 84.47 22 *e*P **P 06 09 40.5 +0.9**
comp=Z,8.7nm,0.8s
ILAR Eielson Array 84.48 20 P **P 06 09 38.9 -0.7**
comp=Z,6.2nm,0.9s,baz=259,slow=5.2,SNR=32
ILAR LR LR 06 43 06.1
comp=Z,240nm,19.6s,baz=242,slow=33
ILB Eielson Array 84.48 20 *e*P **P 06 09 39.5 -0.1**
DOT Dot Lake 84.77 21 *e*P **P 06 09 41.6 +0.6**
comp=Z,33nm,0.8s
TIXI Tiksi 84.89 350 *e*P **P 06 09 40.4 -1.1**
TIXI Tiksi 84.89 350 *e*P **P 06 09 40.4 -1.1**
PYUN Piuthan 84.94 300 *e*P **P 06 09 41.0 -2.0**
COLD Coldfoot 85.07 17 *e*P **P 06 09 43.3 +0.8**
comp=Z,8.5nm,1.2s
KHMM Horse Mountain 85.64 47 *e*P **P 06 09 46.8 +0.7**
comp=Z,34nm,1.6s
GDXM Geysers 85.71 49 *e*P **P 06 09 47.1 +0.6**
comp=Z,7.1nm,0.9s
HYT Haines Junctio 85.77 25 *e*P **P 06 09 47.2 +0.9**
comp=Z,10nm,0.9s
WMQ Urumqi 85.81 316 P **P 06 09 45.5 -1.3**
WMQ pP pP 06 10 05.5 +1.6
WMQ sP sP 06 10 12.8 +2.2
WMQ pmax pmax
comp=Z,11nm,0.5s
WMQ pmax pmax
comp=Z,81nm,4.7s
WMQ LR LR
comp=Z,77nm,25.5s
WMQ LR LR
comp=Z,62nm,28.7s
WMQ LR LR
comp=Z,72nm,25.5s
BESE Bessie Mountai 85.84 28 *e*P **P 06 09 48.0 +1.4**
comp=Z,119nm,1.8s
SKAG Skagway 86.04 27 *e*P **P 06 09 48.2 +0.8**
comp=Z,21nm,1.3s
FYU Fort Yukon 86.14 19 *e*P **P 06 09 49.6 +1.9**
comp=Z,88nm,2.0s
TOLK Toolik Lake Re 86.20 16 P **P 06 09 49.8 +1.6**
baz=228
N02D Trinity Center 86.41 47 P **P 06 09 51.0 +1.2**
baz=253
WDC Whiskeytown Da 86.42 48 *e*P **P 06 09 51.0 +1.2**
WDC pmax pmax
comp=Z,13nm,1.4s
WDC Whiskeytown Da 86.42 48 *e*P **P 06 09 51.0 +1.2**
comp=Z,13nm,1.4s
M02C Callahan 86.43 47 P **P 06 09 51.3 +1.4**
baz=253
EGAK Eagle 86.46 21 *e*P **P 06 09 50.5 +1.1**
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 86.63 47 *e*P **P 06 09 52.0 +1.1**
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 86.63 47 *e*P **P 06 09 52.0 +1.1**
comp=Z,6.5nm,1.0s
DAWY Dawson 86.71 22 *e*P **P 06 09 51.6 +0.9**
comp=Z,19nm,1.1s
HUMO Hull Mountain 86.72 46 *e*P **P 06 09 52.1 +0.8**
comp=Z,9.4nm,0.8s
SNCC San Nicolas Is 86.73 55 P **P 06 09 52.6 +1.1**
baz=255
I03D Drain, OR 86.78 45 P **P 06 09 52.4 +1.0**
baz=252
PAGB Antelope Grade 86.80 53 *e*P **P 06 09 52.3 +0.5**
comp=Z,11nm,1.1s
WHY Whitehorse 86.81 26 *e*P **P 06 09 51.9 +0.5**
comp=Z,34nm,1.5s
SCZ2 Santa Cruz Isl 86.84 55 P **P 06 09 52.7 +0.7**
baz=255
O03D Paynes Creek 86.87 48 P **P 06 09 52.6 +0.4**
baz=253,SNR=6.7
ORV Oroville 86.89 49 *e*P **P 06 09 52.9 +0.8**
ORV pmax pmax
comp=Z,5.0nm,1.0s
ORV Oroville 86.89 49 *e*P **P 06 09 52.9 +0.8**
comp=Z,4.6nm,1.0s
PKM Mcpherson Peak 86.92 54 P **P 06 09 53.4 +0.8**
baz=255
AFDM Forest Hills D 87.11 50 *e*P **P 06 09 54.2 +1.0**
comp=Z,9.1nm,1.1s
M04C Macdoel 87.27 47 P **P 06 09 54.9 +0.8**
baz=253,SNR=6.0
G03D McMinnville, O 87.30 43 P **P 06 09 54.9 +0.9**
baz=252
CMB Columbia Colle 87.31 51 *e*P **P 06 09 54.8 +0.6**
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 87.31 51 *e*P **P 06 09 54.8 +0.6**
comp=Z,4.4nm,0.9s
SCI2 San Clemente I 87.46 56 P **P 06 09 55.5 +0.4**
baz=256
J04D Umpqua Nationa 87.50 45 P **P 06 09 56.0 +0.7**
baz=253
E03A Lebam 87.51 42 *e*P **P 06 09 55.3 +0.4**
comp=Z,85nm,1.7s
K04D Chiloquin, OR 87.57 46 P **P 06 09 56.3 +0.8**
baz=253
VES Vestal, Richgr 87.74 53 P **P 06 09 57.0 +0.7**
baz=255
ARVC Arvin 87.76 54 P **P 06 09 57.4 +0.9**
baz=256
BEKR Beckworth 87.82 49 *e*P **P 06 09 57.8 +1.0**
comp=Z,6.4nm,1.1s
J05D Fort Rock, OR 88.13 45 P **P 06 09 59.2 +1.0**
baz=254
WAKR Walker 88.15 50 *e*P **P 06 09 59.8 +1.4**
comp=Z,21nm,1.6s
MWC Mount Wilson 88.16 55 *e*P **P 06 09 59.6 +1.0**
MWC pmax pmax
comp=Z,24nm,1.0s
MWC Mount Wilson 88.16 55 *e*P **P 06 09 59.6 +1.0**
comp=Z,24nm,1.0s
ISA Isabella, Lake 88.18 53 P **P 06 09 59.1 +0.6**
baz=256
PNTR Pine Nut 88.18 50 *e*P **P 06 10 00.0 +1.4**
comp=Z,9.5nm,1.1s
I05D Terrebonne, OR 88.35 44 P **P 06 10 00.1 +1.0**
baz=254
EDW2 Edwards Air Fo 88.37 54 P **P 06 10 00.1 +0.7**
baz=256,SNR=8.6

MLAC Mammoth, Mammo 88.39 51 P **P 06 10 00.3 +0.7**
baz=255
MOD Modoc Plateau 88.41 47 *e*P **P 06 10 00.6 +1.0**
comp=Z,7.9nm,1.0s
YERR Yerington 88.42 50 *e*P **P 06 10 00.4 +0.7**
comp=Z,11nm,1.5s
BFSC Mount Baldy Ra 88.48 55 P **P 06 10 00.4 +0.3**
baz=256,SNR=6.4
PAHR Pah Rah Range 88.50 49 *e*P **P 06 10 01.1 +1.1**
comp=Z,20nm,1.5s
109C Camp Elliot, M 88.61 56 P **P 06 10 01.3 +0.8**
baz=256
CWC Cottonwood Cre 88.68 53 P **P 06 10 01.9 +1.0**
baz=256
MURC Murrieta 88.71 56 P **P 06 10 01.4 +0.4**
baz=256
A04D Lummi Island 88.73 40 P **P 06 10 02.1 +1.4**
baz=252
LRMC Laurel Mtn Rad 88.76 54 P **P 06 10 02.1 +0.8**
baz=256,SNR=15
BAR Barrett 88.92 57 *e*P **P 06 10 03.1 +1.1**
comp=Z,16nm,1.4s
B05A Bryant 88.98 41 P **P 06 10 02.7 +0.9**
baz=253
DAC Darwin (Calif) 89.02 53 *e*P **P 06 10 04.2 +1.6**
DAC pmax pmax
comp=Z,14nm,1.0s
DAC Darwin (Calif) 89.02 53 *e*P **P 06 10 04.2 +1.6**
comp=Z,14nm,1.0s
MPMC Manual Prospec 89.05 53 P **P 06 10 03.5 +0.7**
baz=256,SNR=15
RRX Edison Barstow 89.16 54 P **P 06 10 03.9 +0.8**
baz=257
MONP2 Monument Peak 89.17 56 P **P 06 10 04.3 +0.9**
baz=257,SNR=17
PFO Pinyon Flats O 89.31 56 P **P 06 10 04.0 0.0**
baz=257
PFO Pinyon Flats O 89.31 56 *e*P **P 06 10 04.9 +1.0**
PFO pmax pmax
comp=Z,7.0nm,1.0s
PFO Pinyon Flats O 89.31 56 *e*P **P 06 10 04.9 +1.0**
comp=Z,6.5nm,1.0s
XPFO Piæon Flat 89.31 56 *e*P **P 06 10 04.9 +1.0**
comp=Z,6.3nm,1.0s
GRAC Grapevine Rang 89.37 52 P **P 06 10 05.1 +1.0**
baz=256
IKP In-Ko-Pah, Jac 89.38 57 P **P 06 10 05.1 +0.9**
baz=257,SNR=6.0
GSC Goldstone, Bar 89.42 54 P **P 06 10 05.0 +0.7**
baz=257,SNR=5.3
GSC Goldstone, Bar 89.42 54 *e*P **P 06 10 05.4 +1.1**
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC Goldstone, Bar 89.42 54 *e*P **P 06 10 05.4 +1.1**
comp=Z,7.7nm,1.0s
FURC Furnace Creek, 89.64 53 P **P 06 10 06.2 +1.0**
baz=257,SNR=27
HEC Hector,Ludlow 89.68 55 P **P 06 10 06.3 +0.8**
baz=257
SWSC Sam W. Stewart 89.70 57 P **P 06 10 06.4 +0.9**
baz=257,SNR=6.0
WVOR Wild Horse Val 89.74 47 *e*P **P 06 10 06.8 +1.1**
WVOR pmax pmax
comp=Z,22nm,1.2s
WVOR Wild Horse Val 89.74 47 *e*P **P 06 10 06.8 +1.1**
comp=Z,22nm,1.2s
BELC Belle Mtn. Jos 89.77 55 P **P 06 10 07.0 +0.9**
baz=257,SNR=9.4
SHOC Shoshone, Teco 89.97 54 P **P 06 10 07.6 +0.7**
baz=257,SNR=9.8
J08A Circle Bar Ran 90.09 46 *e*P **P 06 10 08.9 +1.6**
comp=Z,20nm,1.1s
BC3 Big Chuckawall 90.14 56 P **P 06 10 08.5 +0.8**
baz=257,SNR=6.8
TUQ Turquoise Moun 90.15 54 P **P 06 10 08.7 +0.9**
baz=257
GMRC Granite Mounta 90.22 55 P **P 06 10 08.9 +0.7**
baz=257,SNR=9.8
TPNV Topopah Spring 90.23 53 P **P 06 10 09.0 +0.8**
baz=257,SNR=15
TPNV Topopah Spring 90.23 53 *e*P **P 06 10 09.0 +0.8**
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 90.23 53 *e*P **P 06 10 09.0 +0.8**
comp=Z,12nm,0.9s
BMN Battle Mountai 90.29 49 *e*P **P 06 10 09.8 +1.4**
BMN pmax pmax
comp=Z,13nm,1.0s
BMN Battle Mountai 90.29 49 *e*P **P 06 10 09.8 +1.4**
comp=Z,13nm,1.0s
MK31 Makanchi Array 90.33 318 *e*P **P 06 10 07.2 -1.0**
MK31 Makanchi Array 90.33 318 *e*P **P 06 10 07.2 -1.0**
MKAR Makanchi Array 90.33 318 P **P 06 10 06.9 -1.4**
comp=Z,2.5nm,0.5s,baz=90,slow=6.5,SNR=26
MKAR LR LR 06 50 12.7
comp=Z,73nm,21.8s,baz=86,slow=35
MKAR Makanchi Array 90.33 318 *e*P **P 06 10 07.2 -1.0**
comp=Z,81nm,1.4s
IRM Iron Mountain 90.49 55 P **P 06 10 10.2 +0.8**
baz=258,SNR=12
GLA Glamis 90.52 57 P **P 06 10 10.8 +1.3**
baz=258
MAKZ Makanchi 90.54 318 *e*P **P 06 10 08.2 -1.0**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 90.54 318 *e*P **P 06 10 08.2 -1.0**
comp=Z,11nm,1.1s
D08A Wollman Farm, 90.71 42 *e*P **P 06 10 11.1 +1.1**
comp=Z,7.2nm,0.9s
ZALV Zalesovo Beam 90.74 325 P **P 06 10 07.9 -2.0**
comp=Z,2.9nm,0.8s,baz=134,slow=8.5,SNR=7.5
ZALV LR LR 06 49 56.0
comp=Z,96nm,21.5s,baz=72,slow=35
B08A Colville Reser 90.78 41 *e*P **P 06 10 10.7 +0.3**
comp=Z,8.2nm,1.0s
Y12C Blythe 90.91 56 P **P 06 10 12.1 +0.9**
baz=258,SNR=8.2
Y12C Blythe 90.91 56 *e*P **P 06 10 12.7 +1.5**
comp=Z,11nm,0.9s
SYO Syowa Base 90.94 198 ||*e*P **P 06 10 08.5 -2.2**
SHPR Sheep Range 90.98 53 *e*P **P 06 10 13.3 +1.5**
comp=Z,12nm,1.0s
R11A Troy Canyon, C 91.05 51 P **P 06 10 12.7 +0.7**
baz=257,SNR=16
R11A Troy Canyon, C 91.05 51 *e*P **P 06 10 13.1 +1.0**
comp=Z,8.8nm,1.0s
E09A Wood Farm, Sta 91.09 43 *e*P **P 06 10 12.7 +0.9**
comp=Z,15nm,1.1s
BMO Blue Mountains 91.27 45 *e*P **P 06 10 13.7 +0.9**
BMO pmax pmax
comp=Z,10.0nm,1.2s
BMO Blue Mountains 91.27 45 *e*P **P 06 10 13.7 +0.9**
comp=Z,9.7nm,1.2s
C09A Chrisman Ranch 91.33 42 *e*P **P 06 10 13.5 +0.7**
comp=Z,8.9nm,1.0s
113A Mohawk Valley, 91.33 57 *e*P **P 06 10 14.8 +1.6**
comp=Z,4.4nm,0.9s
PDMCI Parker Dam,Lak 91.34 55 P **P 06 10 14.0 +0.8**
baz=258
W13A Hualapai Mount 91.71 55 *e*P **P 06 10 16.4 +1.2**
comp=Z,4.7nm,0.8s
MFID Camas Ranch 91.98 46 *e*P **P 06 10 17.4 +1.3**
comp=Z,7.7nm,1.1s
NEW Newport 92.19 41 P **P 06 10 17.6 +0.7**
baz=257
NEW Newport 92.19 41 *e*P **P 06 10 17.4 +0.5**
NEW pmax pmax
comp=Z,15nm,1.2s
NEW Newport 92.19 41 *e*P **P 06 10 17.4 +0.5**
comp=Z,15nm,1.2s
LCMT Little Creek M 92.59 53 *e*P **P 06 10 19.7 +0.5**
comp=Z,7.8nm,1.3s
CCUT Cedar City 92.61 52 *e*P **P 06 10 20.5 +1.2**
comp=Z,18nm,1.7s
SZCU Shurtz Canyon 92.83 52 *e*P **P 06 10 20.9 +0.6**
comp=Z,16nm,1.7s
KNB Kanab 92.93 53 *e*P **P 06 10 21.9 +1.2**
KNB pmax pmax
comp=Z,26nm,1.9s
KNB Kanab 92.93 53 *e*P **P 06 10 21.9 +1.2**
comp=Z,26nm,1.9s
HLID Hailey 93.02 46 P **P 06 10 22.2 +1.2**
baz=258
HLID Hailey 93.02 46 *e*P **P 06 10 22.4 +1.4**
comp=Z,7.7nm,1.1s
KSH Kashi 93.20 309 *e*P **P 06 10 23.8 +2.0**
KSH *e*pP pP 06 10 40.5 +1.4
KSH sP sP 06 10 47.5 +1.7

KSH				*e*PP	**PP**	**06 14 10.5**	**+4.3**
KSH				SKS	**SKSac**	**06 20 48.8**	**-2.3**
KSH				S	**S**	**06 21 21.5**	**-2.8**
KSH				sS	sS	06 21 50.5	-3.2
KSH				SS	**SS**	**06 27 43.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,71nm,4.8s						
KSH				LR	LR		
	comp=Z,84nm,8.6s						
KSH				LR	LR		
	comp=Z,160nm,6.3s						
KSH				LR	LR		
	comp=Z,130nm,6.9s						
U15A	**North Rim**	**93.23**	**54**	*e*P	**P**	**06 10 23.6**	**+1.3**
	comp=Z,4.3nm,0.9s						
X16A	**Lo Mia Camp, P**	**93.55**	**56**	*e*P	**P**	**06 10 24.9**	**+1.2**
	comp=Z,2.7nm,0.9s						
KURK	**Kurchatov**	**93.61**	**32**	*ce*P	**P**	**06 10 22.0**	**-1.3**
KURK				pmax	pmax		
	comp=Z,33nm,1.2s						
KURK	**Kurchatov**	**93.61**	**32**	*e*P	**P**	**06 10 21.5**	**-1.7**
	comp=Z,8.1nm,1.1s						
TUC	**Tucson**	**93.72**	**58**	P	**P**	**06 10 25.0**	**+0.7**
	baz=260						
TUC	**Tucson**	**93.72**	**58**	*e*P	**P**	**06 10 25.7**	**+1.3**
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TUC	**Tucson**	**93.72**	**58**	*e*P	**P**	**06 10 25.7**	**+1.3**
	comp=Z,3.9nm,1.0s						
HVU	**Hansel Valley**	**93.86**	**48**	*e*P	**P**	**06 10 26.3**	**+1.4**
HVU				pmax	pmax		
	comp=Z,15nm,1.6s						
HVU	**Hansel Valley**	**93.86**	**48**	*e*P	**P**	**06 10 26.3**	**+1.4**
	comp=Z,15nm,1.6s						
NRIK	**Noril'sk**	**94.25**	**340**	LR	LR	06 51 17.6	
	comp=Z,274nm,21.9s,baz=108,slow=34						
WALA	**Waterton Lakes**	**94.44**	**41**	*e*P	**P**	**06 10 28.6**	**+1.3**
	comp=Z,33nm,1.9s						
DLMT	**Dillon**	**94.64**	**45**	*e*P	**P**	**06 10 29.2**	**+0.8**
	comp=Z,9.2nm,1.4s						
X18A	**Snowflake**	**94.78**	**56**	*e*P	**P**	**06 10 30.0**	**+0.7**
	comp=Z,5.7nm,1.0s						
W18A	**Petrified Fore**	**95.05**	**55**	P	**P**	**06 10 31.0**	**+0.5**
	baz=261						
W18A	**Petrified Fore**	**95.05**	**55**	*e*P	**P**	**06 10 31.1**	**+0.5**
	comp=Z,8.3nm,1.1s						
BOZ	**Bozeman (W)**	**95.34**	**45**	P	**P**	**06 10 32.5**	**+0.9**
	baz=260						
BOZ	**Bozeman (W)**	**95.34**	**45**	*e*P	**P**	**06 10 32.6**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,24nm,2.0s						
BOZ	**Bozeman (W)**	**95.34**	**45**	*e*P	**P**	**06 10 32.6**	**+1.0**
	comp=Z,24nm,2.0s						
MVCO	**Mesa Verde**	**96.36**	**53**	P	**P**	**06 10 37.3**	**+0.7**
	baz=262						
BW06	**Boulder Array**	**96.37**	**48**	P	**P**	**06 10 37.0**	**+0.5**
	baz=262						
PDAR	**Pinedale Array**	**96.37**	**48**	P	**P**	**06 10 36.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=202,slow=1.6,SNR=9.1						
PDAR				LR	LR	06 49 03.0	
	comp=Z,151nm,18.6s,baz=291,slow=32						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**06 10 35.1**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=245,slow=4.6,SNR=5.0						
YKA				LR	LR	06 46 49.4	
	comp=Z,16nm,21.6s,baz=180,slow=31						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**06 10 35.1**	**-1.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RLMT	**Red Lodge**	**96.92**	**45**	P	**P**	**06 10 39.6**	**+0.7**
	baz=262						
EGMT	**Eagleton**	**96.99**	**43**	P	**P**	**06 10 39.5**	**+0.6**
	baz=262						
SNAA	**Sanae**	**97.24**	**185**	P	**P**	**06 10 38.5**	**-1.2**
SNAA	**Sanae**	**97.24**	**185**	⇓*i*P	**P**	**06 10 38.7**	**-0.9**
SNAA	**Sanae**	**97.24**	**185**	*e*P	**P**	**06 10 38.9**	**-0.7**
	comp=Z,5.6nm,1.0s						
ANMO	**Albuquerque**	**97.69**	**56**	P	Pdif	06 10 43.3	+0.7
	baz=262						
ANMO	**Albuquerque**	**97.69**	**56**	⇓*e*P	**P**	**06 10 42.1**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**97.69**	**56**	*e*P	Pdif	06 10 43.4	+0.8
	comp=Z,3.7nm,1.0s						
S22A	**4UR Ranch, Cre**	**97.75**	**53**	P	**P**	**06 10 43.0**	**+0.1**
	baz=263						
VNA3	**Neumayer Olymp**	**98.12**	**183**	P	**P**	**06 10 42.3**	**-1.2**
VNA2	**Neumayer--Watz**	**98.31**	**184**	P	**P**	**06 10 43.5**	**-0.9**
	baz=264,slow=4.2						
VNA1	**Neumayer--Stat**	**98.63**	**183**	P	**P**	**06 10 44.6**	**-1.1**
BVAR	**Borovoye Array**	**99.01**	**322**	P	Pdif	06 10 45.6	-2.1
	comp=Z,2.2nm,0.9s,baz=94,slow=4.6,SNR=6.8						
BRVK	**Borovoye**	**99.08**	**322**	*ce*P	**Pdif**	**06 10 46.8**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,11nm,1.7s						
LAO	**LASA Array**	**99.22**	**44**	P	**Pdif**	**06 10 49.9**	**+0.9**
	baz=264						
LAO	**LASA Array**	**99.22**	**44**	*e*P	**Pdif**	**06 10 50.4**	**+1.4**
	comp=Z,13nm,1.0s						
TXAR	**Lajitas Array**	**99.34**	**62**	P	**Pdif**	**06 10 54.7**	**+4.7**
	comp=Z,0.3nm,0.6s,baz=224,slow=3.8,SNR=3.4						
TXAR				LR	LR	06 47 04.8	
	comp=Z,192nm,21.9s,baz=0.0,slow=30						
DGMT	**Dagmar**	**100.73**	**42**	P	**Pdif**	**06 10 56.1**	**+0.5**
	baz=266						
AMTX	**Amarillo**	**101.59**	**56**	P	**Pdif**	**06 11 00.3**	**+0.5**
	baz=265						
Q34A	**Chapman**	**105.59**	**52**	P	**PKiKP**	**06 15 30.2**	**-0.3**
	baz=269						
Y36A	**Durant**	**105.98**	**58**	P	**PKiKP**	**06 15 31.2**	**-0.2**
	baz=268						
544A	**White Castle**	**110.24**	**62**	P	**PKiKP**	**06 15 38.5**	**-0.9**
	baz=269						
Q42A	**Golden Eagle**	**110.59**	**52**	P	**PKiKP**	**06 15 40.1**	**+0.3**
	baz=273						
C40A	**Isle Royale Na**	**110.79**	**43**	P	**PKiKP**	**06 15 40.5**	**+0.6**
	baz=277						
P43A	**Skaggs, Pawnee**	**111.33**	**52**	P	**PKiKP**	**06 15 40.9**	**-0.3**
	baz=274						
L43A	**Garden Prairie**	**111.72**	**49**	P	**PKiKP**	**06 15 41.4**	**-0.4**
	baz=276						
K43A	**Burlington**	**111.97**	**48**	P	**PKiKP**	**06 15 42.3**	**0.0**
	baz=276						
Z47A	**Carrollton**	**112.84**	**58**	P	**PKiKP**	**06 15 43.3**	**-0.9**
	baz=272						
F44A	**Big Bay de Noc**	**112.91**	**45**	P	**PKiKP**	**06 15 43.8**	**-0.2**
	baz=279						
ARCES	**ARCESS Array B**	**114.81**	**344**	PKP	PKPdf	06 15 45.1	-1.8
	comp=Z,2.0nm,0.8s,baz=76,slow=2.7,SNR=7.5						
KIV	**Kislovodsk**	**117.91**	**314**	*e*PKIKP	**PKPdf**	**06 15 51.5**	**-2.3**
KIV				*i*		06 17 05.4	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,83nm,21.0s						
OBN	**Obninsk**	**118.20**	**328**	*e*PKIKP	**PKPdf**	**06 15 53.9**	**+0.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,151nm,21.0s						
PLVO	**Plevna**	**119.53**	**44**	*e*PKPdf	**PKPdf**	**06 15 56.9**	**+0.1**
O56A	**Blue Knob Stat**	**119.58**	**50**	P	**PKPdf**	**06 15 56.9**	**-0.2**
	baz=282						
CVRD	**Centerville Ro**	**120.60**	**52**	*e*PKPdf	**PKPdf**	**06 15 58.5**	**-0.5**
CNNC	**Cliffs of the**	**121.03**	**55**	*e*PKPdf	**PKPdf**	**06 15 59.7**	**-0.2**
BOSA	**Boshof**	**122.46**	**226**	PKP	**PKPdf**	**06 16 02.7**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=148,slow=5.0,SNR=3.2						
BOSA	**Boshof**	**122.46**	**226**	*e*PKPdf	**PKPdf**	**06 16 02.9**	**-0.2**
AKASG	**Malin Array Be**	**124.14**	**325**	PKP	**PKPdf**	**06 16 03.6**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=54,slow=2.7,SNR=4.5						
LPAZ	**La Paz**	**124.15**	**118**	PKP	**PKPdf**	**06 16 06.5**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=244,slow=3.5,SNR=5.4						
LPAZ	**La Paz**	**124.15**	**118**	*e*PKPdf	**PKPdf**	**06 16 06.7**	**-0.5**
LMN	**Caledonia Moun**	**127.29**	**39**	*e*PKPdf	**PKPdf**	**06 16 12.7**	**+1.1**
CPUP	**Villa Florida**	**127.39**	**135**	*e*PKIKP	**PKPdf**	**06 16 12.3**	**-0.1**
CPUP	**Villa Florida**	**127.39**	**135**	*e*PKPdf	**PKPdf**	**06 16 12.3**	**-0.1**
SAML	**Samuel**	**131.53**	**112**	*e*PKPdf	**PKPdf**	**06 16 20.5**	**-0.1**
GERES	**GERESS Array B**	**133.35**	**331**	PKP	**PKPdf**	**06 16 22.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=251,slow=3.0,SNR=3.7						
PTGA	**Pitinga**	**137.31**	**103**	*e*PKPdf	**PKPdf**	**06 16 30.7**	**-0.7**
KEST	**Kesra**	**144.41**	**319**	PKP	**PKPab**	**06 16 41.9**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=324,slow=11,SNR=3.7						
ESDC	**Sonseca Array**	**148.27**	**338**	PKPbc	**PKPbc**	**06 16 52.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=49,slow=1.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**160.02**	**279**	PKP	**PKPdf**	**06 17 06.2**	**-0.9**
	comp=Z,2.2nm,1.1s,baz=277,slow=0.1,SNR=8.2						
TORD				PKPab	**PKPab**	**06 17 46.3**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=93,slow=4.7,SNR=7.8						
DBIC	**Dimbokro**	**165.90**	**255**	PKPab	**PKPab**	**06 18 12.9**	**0.0**
	comp=Z,4.9nm,0.9s,baz=113,slow=10,SNR=3.6						

IDC **28** *06:07:52.3±430.0,* **51°31N×116°73E, h0**km, **Error ellipse: s-maj=173.4km s-min=142.4km az=50.0, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.57**	**246**	*i*		06 54 20.0	
	baz=60,slow=327,SNR=0.3						
I45RU	**USSURIYSK INFR**	**12.47**	**119**	*i*		07 23 15.0	
	baz=310,slow=322,SNR=5.0						
I30JP	**ISUMI INFRASON**	**23.31**	**124**	*i*		08 31 50.0	
	baz=322,slow=323,SNR=0.4						

CSEM **28** *06:10:24.1±0.1, 46°08N×14°64E, h10km, ML1.9/11, Error ellipse: s-maj=1.8km s-min=1.5km az=15.0*
LJU **28** *06:10:24.0, 46°07N×14°65E, h10km, ML1.4*
VIE 28 06:10:24.1±0.2, **46°10N×14°65E, h4**km, **mb0.9**/3, **ML1.3**/4, **4C-8D, Error ellipse: s-maj=1.5km s-min=1.2km az=178.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDS	**Vrh nad Dolski**	**0.03**	**83**	⇓*i*Pg	Pg	06 10 26.6	+1.5
VNDS				*i* Sg	Sg	06 10 28.0	+2.2
	comp=Z,171nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.03**	**83**	⇓*i*Pg	Pg	06 10 26.6	+1.5
VNDS				*i* Sg	Sg	06 10 28.0	+2.2
	comp=Z,171nm,0.1s						
LJU	**Ljubljana**	**0.10**	**239**	*i* Pg	Pg	06 10 26.9	+0.7
LJU				*i* Sg	Sg	06 10 28.5	+0.9
	comp=Z,81nm,0.1s						
LJU	**Ljubljana**	**0.10**	**239**	*i* Pg	Pg	06 10 26.9	+0.7
LJU				*i* Sg	Sg	06 10 28.5	+0.9
	comp=Z,81nm,0.1s						
GBAS	**Gorenja Brezov**	**0.22**	**222**	⇓*i*Pg	Pg	06 10 28.5	+0.1
GBAS				*i* Sg	Sg	06 10 31.1	-0.1
	comp=Z,35nm,0.1s						
GBAS	**Gorenja Brezov**	**0.22**	**222**	⇓*i*Pg	Pg	06 10 28.5	+0.1
GBAS				*i* Sg	Sg	06 10 31.1	-0.1
PDKS	**Podkum**	**0.24**	**98**	*i* Pg	Pg	06 10 29.7	+0.9
PDKS				*i* Sg	Sg	06 10 33.0	+1.1
	comp=Z,37nm,0.1s						
PDKS	**Podkum**	**0.24**	**98**	*i* Pg	Pg	06 10 29.7	+0.9
PDKS				*i* Sg	Sg	06 10 33.0	+1.0
	comp=Z,37nm,0.1s						
MOZS	**Mozjanca**	**0.24**	**323**	*i* Pg	Pg	06 10 30.1	+1.3
	comp=Z,14nm,0.1s						
MOZS	**Mozjanca**	**0.24**	**323**	*i* Pg	Pg	06 10 30.1	+1.2
	comp=Z,14nm,0.1s						
CRNS	**Crni Vrh**	**0.27**	**267**	*i* Pg	Pg	06 10 29.9	+0.5
CRNS				*i* Sg	Sg	06 10 33.9	+0.9
	comp=Z,39nm,0.1s						
CRNS	**Crni Vrh**	**0.27**	**267**	*i* Pg	Pg	06 10 29.9	+0.5
CRNS				*i* Sg	Sg	06 10 33.9	+0.9
	comp=Z,39nm,0.1s						
VISS	**Visnje**	**0.32**	**156**	*i* Pg	Pg	06 10 30.3	0.0
	comp=Z,38nm,0.1s						
VISS	**Visnje**	**0.32**	**156**	*i* Pg	Pg	06 10 30.3	0.0
	comp=Z,38nm,0.1s						
CEY	**Cerknica**	**0.39**	**204**	⇓*i*Pg	Pg	06 10 31.3	-0.3
	comp=Z,4.0nm,0.0s						
CEY	**Cerknica**	**0.39**	**204**	⇓*i*Pg	Pg	06 10 31.3	-0.3
	comp=Z,4.0nm,0.0s						
OBKA	**Obir**	**0.42**	**350**	Pg	Pg	06 10 33.0	+0.8
	comp=Z,1.4nm,0.1s						
OBKA				Sg	Sg	06 10 37.1	-0.6
	comp=Z,8.2nm,0.2s						
LEGS	**Legarje**	**0.49**	**108**	⇑*i*Pg	Pg	06 10 33.7	+0.3
LEGS				*i* Sg	Sg	06 10 40.4	+0.7
LEGS	**Legarje**	**0.49**	**108**	⇑*i*Pg	Pg	06 10 33.7	+0.3
LEGS				*i* Sg	Sg	06 10 40.4	+0.7
GORS	**Gorjuse**	**0.51**	**296**	*i* Pg	Pg	06 10 34.3	+0.4
GORS				*i* Sg	Sg	06 10 41.6	+1.1
	comp=Z,5.0nm,0.1s						
GORS	**Gorjuse**	**0.51**	**296**	*i* Pg	Pg	06 10 34.3	+0.4
GORS				*i* Sg	Sg	06 10 41.6	+1.1
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.54**	**263**	*i* Pg	Pg	06 10 34.3	-0.2
VOJS				*e*Sg	Sg	06 10 41.7	+0.2
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.54**	**263**	*i* Pg	Pg	06 10 34.3	-0.2
VOJS				*e*Sg	Sg	06 10 41.7	+0.2
	comp=Z,4.0nm,0.1s						
DOBS	**Dobrina**	**0.57**	**84**	*i* Pg	Pg	06 10 35.4	+0.4
	comp=Z,4.0nm,0.1s						
DOBS	**Dobrina**	**0.57**	**84**	*i* Pg	Pg	06 10 35.4	+0.4
	comp=Z,4.0nm,0.1s						
GBRS	**Gornja Briga**	**0.58**	**169**	*i* Pg	Pg	06 10 34.8	-0.4
	comp=Z,9.0nm,0.1s						
KNDS	**Knezji Dol**	**0.60**	**199**	*i* Pg	Pg	06 10 35.1	-0.5
	comp=Z,2.0nm,0.1s						
KNDS	**Knezji Dol**	**0.60**	**199**	*i* Pg	Pg	06 10 35.1	-0.5
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.62**	**116**	*i* Pg	Pg	06 10 36.0	0.0
CRES	**Cresnjev**	**0.62**	**116**	*i* Pg	Pg	06 10 36.0	0.0
PERS	**Pernice**	**0.63**	**31**	⇓*i*Pg	Pg	06 10 36.9	+0.7
PERS				*e*Sg	Sg	06 10 44.6	+0.3
	comp=Z,5.0nm,0.1s						
PERS	**Pernice**	**0.63**	**31**	⇓*i*Pg	Pg	06 10 36.9	+0.8
PERS				*e*Sg	Sg	06 10 44.6	+0.3
	comp=Z,5.0nm,0.1s						
SOKA	**Soboth**	**0.64**	**24**	Pg	Pg	06 10 36.2	-0.2
	comp=Z,1.5nm,0.2s						
SOKA				Sg	Sg	06 10 45.4	+0.8
	comp=Z,0.8nm,0.1s						
CADS	**Cadrg**	**0.65**	**282**	*i* Pg	Pg	06 10 36.5	-0.1
	comp=Z,4.0nm,0.1s						
CADS	**Cadrg**	**0.65**	**282**	*i* Pg	Pg	06 10 36.5	-0.1
	comp=Z,4.0nm,0.1s						
GOLS	**Golise**	**0.68**	**97**	⇑*i*Pg	Pg	06 10 37.5	+0.3
	comp=Z,5.0nm,0.1s						
GOLS	**Golise**	**0.68**	**97**	⇑*i*Pg	Pg	06 10 37.5	+0.3
	comp=Z,5.0nm,0.1s						
GROS	**Grobnik**	**0.69**	**58**	*i* Pg	Pg	06 10 37.9	+0.5
	comp=Z,5.0nm,0.1s						
GROS	**Grobnik**	**0.69**	**58**	*i* Pg	Pg	06 10 37.8	+0.4
	comp=Z,5.0nm,0.1s						
DRE	**Drenchia**	**0.71**	**277**	*e*Pg	Pg	06 10 37.7	0.0
DRE				*e*Sg	Sb	06 10 48.8	-0.3
DRE	**Drenchia**	**0.71**	**277**	*e*P	Pg	06 10 37.7	0.0
SKDS	**Skadanscina**	**0.71**	**219**	*i* Pg	Pg	06 10 36.7	-1.0
SKDS				*i* Sg	Sg	06 10 46.0	-0.8
SKDS	**Skadanscina**	**0.71**	**219**	*i* Pg	Pg	06 10 36.7	-1.0
SKDS				*i* Sg	Sg	06 10 46.0	-0.9
GCIS	**Gornji Cirnik**	**0.72**	**108**	*i* Pg	Pg	06 10 38.0	+0.2
GCIS	**Gornji Cirnik**	**0.72**	**108**	*i* Pg	Pg	06 10 38.0	+0.2
BOJS	**Bojanci**	**0.73**	**145**	*i* Pg	Pg	06 10 37.8	-0.2
	comp=Z,3.0nm,0.1s						
BOJS	**Bojanci**	**0.73**	**145**	*i* Pg	Pg	06 10 37.8	-0.2
	comp=Z,3.0nm,0.1s						
SABO	**M.te Sabotino**	**0.74**	**261**	*e*Pg	Pg	06 10 37.4	-0.9
SABO				*e*Sg	Sg	06 10 48.5	+0.5
SABO	**M.te Sabotino**	**0.74**	**261**	*e*P	Pg	06 10 37.4	-0.9
OZLJ	**Ozalj**	**0.75**	**130**	*e*Pg	Pg	06 10 38.2	-0.2
OZLJ				Sg	Sg	06 10 47.6	-0.4
OZLJ	**Ozalj**	**0.75**	**130**	*e*Pg	Pg	06 10 38.2	-0.2
OZLJ				Sg	Sg	06 10 47.6	-0.4
MYKA	**Terra Mystica**	**0.88**	**308**	Pg	Pg	06 10 41.1	+0.1
	comp=Z,0.9nm,0.2s						
MYKA				Sg	Sg	06 10 53.1	+0.7
	comp=Z,1.5nm,0.2s						
KBA	**Koelnbreinsper**	**1.33**	**318**	Pg	Pg	06 10 49.3	-0.4
	comp=Z,0.6nm,0.2s						
KBA				Sg	Sn	06 11 08.3	+0.3
	comp=Z,0.4nm,0.1s						
NVLJ	**Novalja**	**1.54**	**174**	*e*Pn	Pb	06 10 53.0	-0.2
NVLJ				Sn	Sg	06 11 13.5	-0.1
NVLJ	**Novalja**	**1.54**	**174**	*e*Pn	Pb	06 10 52.9	-0.3
NVLJ				Sn	Sg	06 11 13.5	-0.1

ISCJB **28** *06:18:32.7±0.6, 34°3N±0°1×136°2E±0°1, h380km±6km, mb2.8/4, Error ellipse: s-maj=20.0km s-min=13.3km az=160.8*
JMA **28** *06:18:32.8±0.2, 34°22N×136°22E, h378km±2km, M2.8*
IDC **28** *06:18:34.1±1.4, 34°43N×136°23E, h376km±17km, mb2.8/4, mb1 3.0/6, mb1mx2.8/43, mbtmp3.5/6, Error ellipse: s-maj=25.2km s-min=18.9km az=78.0*
ISC 28 06:18:33.6±1.0, **34°3N±0°1×136°20E**±0°09, **h371**km±9km, **n18**, σ0°69/19, **mb2.8**/4, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.11**	**145**	P	**Pn**	**06 19 19.9**	**+0.1**
JWY	**Kouya**	**0.51**	**258**	P	**Pn**	**06 19 20.5**	**+0.1**
JWZ	**Kozaga**	**0.89**	**207**	P	**Pn**	**06 19 21.1**	**-0.3**
JWT	**Wachi**	**1.16**	**326**	P	**Pn**	**06 19 23.6**	**+1.4**
JAO	**Obara**	**1.28**	**43**	P	**Pn**	**06 19 23.3**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.36**	**67**	P	**Pn**	**06 19 23.7**	**+0.6**
JHMK	**Hamakita**	**1.38**	**69**	P	**Pn**	**06 19 23.5**	**+0.4**
JAI	**Aioi**	**1.55**	**250**	P	**Pn**	**06 19 24.0**	**-0.2**
JNY	**Yasuok**	**1.71**	**53**	P	**Pn**	**06 19 25.3**	**+0.2**
JHS	**Saijyo**	**2.63**	**286**	P	**Pn**	**06 19 31.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.75**	**36**	P	**Pn**	**06 19 32.9**	**+0.4**
	0.9nm,0.3s,baz=210,slow=8.5,SNR=8.3						
JRY	**Ryogami san**	**2.78**	**52**	P	**Pn**	**06 19 33.0**	**+0.3**
JHU	**Hanno**	**2.95**	**58**	P	**Pn**	**06 19 34.3**	**+0.2**
JHU				S	**S**	**06 20 22.2**	**-0.7**
KSRS	**Korea Array**	**7.41**	**297**	P	**Pn**	**06 20 21.4**	**+0.3**
	1.0nm,0.3s,baz=112,slow=12,SNR=30						
MKAR	**Makanchi Array**	**42.03**	**304**	P	**P**	**06 25 50.0**	**-0.1**
	0.3nm,0.6s,baz=85,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**54.00**	**182**	P	**P**	**06 27 20.7**	**-0.2**
	0.7nm,0.4s,baz=358,slow=7.7,SNR=4.6						
ILAR	**Eielson Array**	**54.02**	**31**	P	**P**	**06 27 19.6**	**-0.9**
	0.2nm,0.5s,baz=258,slow=5.1,SNR=5.2						
ASAR	**Alice Springs**	**57.72**	**182**	P	**P**	**06 27 48.4**	**+1.5**
	0.2nm,0.6s,baz=8.8,slow=14,SNR=3.1						

CSEM **28** *06:18:51.4, 37°57N×29°84E, h7km, MD2.5*
DDA 28 06:18:51.4, 37°57N×29°84E, h7km, **Md2.5, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDR	**BURDUR-Merkez**	**0.22**	**54**	*i* P	Pg	06 18 56.1	+0.3
BRDR				*i* S	Sg	06 19 00.3	+1.5
BRDR	**BURDUR-Merkez**	**0.22**	**54**	P	Pg	06 18 56.1	+0.3
BRDR				S	Sg	06 19 00.3	+1.5
GOLH	**Golhisar**	**0.40**	**214**	*i* P	Pg	06 18 59.5	+0.3
GOLH				*i* S	Sb	06 19 07.6	+0.4
GOLH	**Golhisar**	**0.40**	**214**	P	Pg	06 18 59.5	+0.3
GOLH				S	Sb	06 19 07.6	+0.4
DNZL	**Cakiroluk**	**0.64**	**281**	*i* P	Pg	06 19 00.4	-3.4
DNZL				*i* S	Sb	06 19 13.3	-1.0
DNZL	**Cakiroluk**	**0.64**	**281**	P	Pg	06 19 00.4	-3.4
DNZL				S	Sb	06 19 13.3	-0.9
KORT	**Korkueli**	**0.70**	**144**	*i* P	Pn	06 19 09.2	+1.4
KORT				*i* S	Sn	06 19 19.4	+0.5
KORT	**Korkueli**	**0.70**	**144**	P	Pn	06 19 09.2	+1.4
KORT				S	Sn	06 19 19.5	+0.6
TAVA	**DENIZLI_Tavas**	**0.74**	**262**	*i* P	Pg	06 19 00.5	-5.2
TAVA				*i* S	Sg	06 19 15.3	0.0
TAVA	**DENIZLI_Tavas**	**0.74**	**262**	P	Pg	06 19 00.5	-5.2
TAVA				S	Sg	06 19 15.4	+0.1
KHAL	**Karahalli**	**0.85**	**341**	*i* P	Pg	06 19 07.8	+0.1
KHAL				*i* S	Sn	06 19 22.4	-0.2
KHAL	**Karahalli**	**0.85**	**341**	P	Pg	06 19 07.8	+0.1
KHAL				S	Sn	06 19 22.4	-0.2

ISK **28** *06:19:48.2, 38°68N×43°38E, h5km, ML3.0*
ISCJB **28** *06:19:49.5±0.4, 38°70N±0°02×43°33E±0°05, h10km±5km, Error ellipse: s-maj=7.0km s-min=3.8km az=15.6*
CSEM **28** *06:19:49.2±0.2, 38°69N×43°33E, h5km, ML3.0, Error ellipse: s-maj=5.7km s-min=4.6km az=102.0*
DDA **28** *06:19:49.4, 38°75N×43°29E, h6km, Ml3.7*
ISC 28 06:19:49.7±0.9, **38°69N**±0°02×**43°34E**±0°04, **h18**km±5km, **n43**, σ1°31/63, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**157**	*e*PG	**Pg**	**06 19 52.0**	**-1.5**
VANB	**Van**	**0.10**	**157**	*e*Pg	**Pg**	**06 19 52.0**	**-1.5**
TVAN	**Van**	**0.17**	**162**	*i* P	**Pg**	**06 19 55.2**	**+0.7**
TVAN				*i* S	**Sg**	**06 19 58.8**	**+1.2**
TVAN	**Van**	**0.17**	**162**	P	**Pg**	**06 19 55.2**	**+0.7**
TVAN				S	**Sg**	**06 19 58.8**	**+1.2**
VMUR	**Van-Muradiye**	**0.35**	**32**	*i* P	**Pg**	**06 19 56.2**	**-1.0**
VMUR				*i* S	**Sg**	**06 20 02.8**	**+0.5**
**

GEVA	**Gevas**	**0.34 190**	P		**Pg**	**06 21 27.6**	**-1.2**
GEVA			S		**Sb**	**06 21 34.6**	**-0.6**
VMUR	**Van-Muradiye**	**0.48 45**	*i* P		**Pg**	**06 21 30.8**	**-0.6**
VMUR			*i* S		**Sb**	**06 21 39.4**	**0.0**
VMUR	**Van-Muradiye**	**0.48 45**	P		**Pg**	**06 21 30.8**	**-0.6**
VMUR			S		**Sb**	**06 21 39.4**	**0.0**
TATV	**Tatvan**	**0.69 259**	*i* P		**Pg**	**06 21 34.6**	**-0.8**
TATV			*i* S		**Sb**	**06 21 45.8**	**+0.3**
TATV	**Tatvan**	**0.69 259**	P		**Pg**	**06 21 34.6**	**-0.8**
TATV			S		**Sb**	**06 21 45.8**	**+0.3**
CLDR	**Caldiran**	**0.79 51**	*e*PG		**Pg**	**06 21 36.0**	**-1.2**
CLDR			*e*SG		**Sb**	**06 21 47.7**	**-0.5**
CLDR	**Caldiran**	**0.79 51**	*e*Pg		**Pg**	**06 21 36.0**	**-1.2**
CLDR			*e*Sg		**Sb**	**06 21 47.7**	**-0.5**
TUTA	**Tutak**	**0.79 342**	*i* P		**Pg**	**06 21 36.7**	**-0.6**
TUTA			*i* S		**Sb**	**06 21 48.4**	**0.0**
TUTA	**Tutak**	**0.79 342**	P		**Pg**	**06 21 36.7**	**-0.6**
TUTA			S		**Sb**	**06 21 48.4**	**0.0**
AGRB	**Hanur-Agry**	**0.93 353**	*e*PG		**Pg**	**06 21 39.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.93 353**	*e*Pg		**Pg**	**06 21 39.3**	**-0.6**
CUKT	**Cukurca**	**1.45 165**	*e*PN		**Pn**	**06 21 47.9**	**+0.1**
CUKT	**Cukurca**	**1.45 165**	*e*Pn		**Pn**	**06 21 47.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.60 253**	*e*PN		**Pn**	**06 21 50.7**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.60 253**	*e*Pn		**Pn**	**06 21 50.7**	**+0.8**
ECAT	**Cat-ERZURUM**	**1.93 300**	*i* P		**Pn**	**06 21 55.5**	**+0.9**
ECAT	**Cat-ERZURUM**	**1.93 300**	P		**Pn**	**06 21 55.5**	**+0.9**

*ISK **28** 06:38:50.8, 38.°77N×43.°39E, h2km, ML2.6*
*DDA **28** 06:38:52.0, 38.°76N×43.°32E, h7km, Ml3.5*
*CSEM **28** 06:38:52.1±0.2, 38.°77N×43.°33E, h2km, ML2.6, Error ellipse: s-maj=5.6km s-min=4.5km az=88.0*
ISC 28 06:38:52.5±0.8, 38.°77N±0.°02×43.°35E±0.°02, h16km±7km, n34, σ1§04/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**170**	*e*PG	**Pg**	**06 38 56.7**	**-0.3**
VANB	**Van**	**0.18**	**170**	*e*Pg	**Pg**	**06 38 56.7**	**-0.3**
TVAN	**Van**	**0.25**	**170**	*i* P	**Pb**	**06 38 59.4**	**+0.6**
TVAN				*i* S	**Sb**	**06 39 04.3**	**+1.3**
TVAN	**Van**	**0.25**	**170**	P	**Pb**	**06 38 59.4**	**+0.6**
TVAN				S	**Sb**	**06 39 04.3**	**+1.3**
VMUR	**Van-Muradiye**	**0.28**	**39**	*i* P	**Pg**	**06 38 58.2**	**-0.4**
VMUR				*i* S	**Sg**	**06 39 03.8**	**+1.0**
VMUR	**Van-Muradiye**	**0.28**	**39**	P	**Pg**	**06 38 58.2**	**-0.4**
VMUR				S	**Sg**	**06 39 03.8**	**+1.0**
GEVA	**Gevas**	**0.51**	**207**	*i* P	**Pg**	**06 39 01.2**	**-1.6**
GEVA				*i* S	**Sg**	**06 39 09.7**	**+0.1**
GEVA	**Gevas**	**0.51**	**207**	P	**Pg**	**06 39 01.2**	**-1.6**
GEVA				S	**Sg**	**06 39 09.7**	**+0.1**
CLDR	**Caldiran**	**0.58**	**50**	*e*PG	**Pg**	**06 39 02.7**	**-1.3**
CLDR				*e*SG	**Sg**	**06 39 11.2**	**-0.6**
CLDR	**Caldiran**	**0.58**	**50**	*i* P	**Pg**	**06 39 03.4**	**-0.6**
CLDR				*i* S	**Sb**	**06 39 12.8**	**+0.3**
CLDR	**Caldiran**	**0.58**	**50**	*e*Pg	**Pg**	**06 39 02.7**	**-1.3**
CLDR	**Caldiran**	**0.58**	**50**	P	**Pg**	**06 39 03.4**	**-0.6**
CLDR				*e*Sg	**Sg**	**06 39 11.2**	**-0.6**
CLDR				S	**Sb**	**06 39 12.8**	**+0.3**
TUTA	**Tutak**	**0.76**	**327**	*i* P	**Pb**	**06 39 06.4**	**-1.1**
TUTA				*i* S	**Sg**	**06 39 16.7**	**-0.6**
TUTA	**Tutak**	**0.76**	**327**	P	**Pb**	**06 39 06.4**	**-1.1**
TUTA				S	**Sg**	**06 39 16.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.85**	**341**	*e*PG	**Pb**	**06 39 08.2**	**-0.9**
AGRB				*e*SG	**Sg**	**06 39 21.1**	**+0.8**
AGRB	**Hanur-Agry**	**0.85**	**341**	*e*Pg	**Pb**	**06 39 08.2**	**-0.9**
AGRB				*e*Sg	**Sg**	**06 39 21.1**	**+0.8**
TATV	**Tatvan**	**0.89**	**253**	*i* P	**Pb**	**06 39 08.3**	**-1.4**
TATV				*i* S	**Sb**	**06 39 20.1**	**-1.3**
TATV	**Tatvan**	**0.89**	**253**	P	**Pb**	**06 39 08.3**	**-1.4**
TATV				S	**Sb**	**06 39 20.1**	**-1.3**
EKAR	**Karacoban**	**1.11**	**296**	*i* P	**Pb**	**06 39 13.7**	**+0.2**
EKAR				*i* S	**Sg**	**06 39 31.0**	**+2.4**
EKAR	**Karacoban**	**1.11**	**296**	P	**Pb**	**06 39 13.7**	**+0.2**
EKAR				S	**Sg**	**06 39 31.0**	**+2.4**
HAKT	**HAKKARI**	**1.24**	**167**	*i* P	**Pn**	**06 39 13.7**	**-1.8**
HAKT				*i* S	**Sn**	**06 39 32.7**	**+0.6**
HAKT	**HAKKARI**	**1.24**	**167**	P	**Pn**	**06 39 13.7**	**-1.8**
HAKT				S	**Sn**	**06 39 32.7**	**+0.6**
EATA	**Eleskirt**	**1.28**	**329**	*i* P	**Pn**	**06 39 16.1**	**0.0**
EATA				*i* S	**Sg**	**06 39 34.6**	**+0.7**
EATA	**Eleskirt**	**1.28**	**329**	P	**Pn**	**06 39 16.1**	**0.0**
EATA				S	**Sg**	**06 39 34.6**	**+0.7**
CUKT	**Cukurca**	**1.54**	**172**	*e*PN	**Pn**	**06 39 20.0**	**+0.6**
CUKT	**Cukurca**	**1.54**	**172**	*i* P	**Pg**	**06 39 21.9**	**-0.2**
CUKT	**Cukurca**	**1.54**	**172**	*e*Pn	**Pn**	**06 39 20.0**	**+0.6**
CUKT	**Cukurca**	**1.54**	**172**	P	**Pg**	**06 39 21.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*PN	**Pb**	**06 39 24.3**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.80**	**251**	*e*Pn	**Pb**	**06 39 24.3**	**-0.9**
ERZM	**Erzurum**	**1.91**	**307**	*i* P	**Pb**	**06 39 27.4**	**+0.2**
ERZM				*i* S	**Sb**	**06 39 52.3**	**+1.4**
ERZM	**Erzurum**	**1.91**	**307**	P	**Pb**	**06 39 27.4**	**+0.2**
ERZM				S	**Sb**	**06 39 52.3**	**+1.4**
BNGB	**Bing¶ll**	**2.10**	**277**	*e*PN	**Pn**	**06 39 28.8**	**+1.7**
BINT	**Bingol**	**2.24**	**274**	*e*Pn	**Pn**	**06 39 28.8**	**-0.3**

*ISN **28** 06:41:29.4±0.3, 37.°17N×43.°66E, h0km, ML2.3*
*ISK **28** 06:41:33.8, 38.°92N×43.°44E, h20km, ML3.0*
*DDA **28** 06:41:34.8, 38.°81N×43.°59E, h8km, Ml3.6*
*CSEM **28** 06:41:35.2±0.3, 38.°94N×43.°41E, h10km, ML3.6, Error ellipse: s-maj=9.7km s-min=6.8km az=117.0*
*ISCJB **28** 06:41:36.2±0.6, 38.°87N±0.°03×43.°58E±0.°06, h16km±8km, Error ellipse: s-maj=8.2km s-min=4.3km az=22.9*
ISC 28 06:41:34.7±1.1, 38.°86N±0.°02×43.°54E±0.°03, h17km±5km, n32, σ1§03/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**12**	*i* P	**Pg**	**06 41 38.6**	**-0.2**
VMUR				*i* S	**Sb**	**06 41 42.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.13**	**12**	P	**Pg**	**06 41 38.6**	**-0.2**
VMUR				S	**Sb**	**06 41 42.0**	**+0.3**
VANB	**Van**	**0.29**	**203**	*e*PG	**Pb**	**06 41 42.1**	**+0.6**
VANB				*e*SG	**Sn**	**06 41 49.5**	**-0.8**
VANB	**Van**	**0.29**	**203**	*e*Pg	**Pb**	**06 41 42.1**	**+0.6**
VANB				*e*Sg	**Sn**	**06 41 49.5**	**-0.8**
TVAN	**Van**	**0.35**	**197**	*i* P	**Pn**	**06 41 45.3**	**+0.1**
TVAN				*i* S	**Sn**	**06 41 51.7**	**-0.1**
TVAN	**Van**	**0.35**	**197**	P	**Pn**	**06 41 45.3**	**+0.1**
CLDR	**Caldiran**	**0.41**	**46**	*e*PG	**Pg**	**06 41 43.1**	**-0.1**
CLDR				*e*SG	**Sb**	**06 41 49.9**	**+0.2**
CLDR	**Caldiran**	**0.41**	**46**	*i* P	**Pg**	**06 41 43.1**	**-0.1**
CLDR				*i* S	**Sb**	**06 41 50.4**	**+0.7**
CLDR	**Caldiran**	**0.41**	**46**	P	**Pg**	**06 41 43.1**	**-0.1**
CLDR				*e*Sg	**Sb**	**06 41 49.9**	**+0.2**
CLDR				S	**Sb**	**06 41 50.4**	**+0.7**
GEVA	**Gevas**	**0.66**	**214**	*i* P	**Pg**	**06 41 47.6**	**-0.2**
GEVA				*i* S	**Sn**	**06 41 58.9**	**-0.7**
GEVA	**Gevas**	**0.66**	**214**	P	**Pg**	**06 41 47.6**	**-0.2**
GEVA				S	**Sn**	**06 41 58.9**	**-0.7**
DYDN	**Diyadin**	**0.69**	**10**	*i* P	**Pb**	**06 41 49.4**	**+0.9**
DYDN				*i* S	**Sn**	**06 42 00.3**	**-0.1**
DYDN	**Diyadin**	**0.69**	**10**	P	**Pb**	**06 41 49.4**	**+0.9**
TUTA	**Tutak**	**0.78**	**314**	*i* P	**Pg**	**06 41 50.4**	**+0.4**
TUTA				*i* S	**Sn**	**06 42 02.2**	**-0.4**
TUTA	**Tutak**	**0.78**	**314**	P	**Pg**	**06 41 50.4**	**+0.4**
AGRB	**Hanur-Agry**	**0.83**	**330**	*e*PG	**Pb**	**06 41 49.2**	**-1.6**
AGRB	**Hanur-Agry**	**0.83**	**330**	*e*Pg	**Pb**	**06 41 49.2**	**-1.6**
TATV	**Tatvan**	**1.05**	**251**	*i* P	**Pn**	**06 41 55.2**	**+0.3**
TATV				*i* S	**Sn**	**06 42 09.7**	**+0.5**
TATV	**Tatvan**	**1.05**	**251**	P	**Pn**	**06 41 55.2**	**+0.3**
EKAR	**Karacoban**	**1.21**	**289**	*i* P	**Pg**	**06 41 59.6**	**+1.4**
EATA	**Eleskirt**	**1.29**	**321**	*i* P	**Pg**	**06 42 00.2**	**+0.6**
EATA				*i* S	**Sg**	**06 42 18.8**	**+2.4**
HOMI	**Horasan**	**1.73**	**314**	*i* P	**Pg**	**06 42 08.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*PN	**Pn**	**06 42 06.5**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.97**	**250**	*e*Pn	**Pn**	**06 42 06.5**	**-0.8**
ERZM	**Erzurum**	**1.98**	**302**	*i* P	**Pg**	**06 42 13.2**	**+0.5**
BNGB	**Bing¶ll**	**2.23**	**274**	*e*PN	**Pn**	**06 42 09.6**	**-1.4**
BINT	**Bingol**	**2.38**	**271**	*e*Pn	**Pn**	**06 42 09.6**	**-3.4**
YEDI	**Yedisu-Bingol**	**2.40**	**285**	*e*PN	**Pn**	**06 42 11.9**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.40**	**285**	*e*Pn	**Pn**	**06 42 11.9**	**-1.4**
MARD	**Mardin**	**2.67**	**235**	*i* P	**Pn**	**06 42 14.6**	**-2.4**
MAZI	**Mazidag**	**2.81**	**241**	*e*PN	**Pn**	**06 42 18.3**	**-0.6**
MAZI	**Mazidag**	**2.81**	**241**	*e*Pn	**Pn**	**06 42 18.3**	**-0.6**

WEL 28 06:41:47.2±0.3, 37.°97S×176.°66E, h138km±2km, ML3.9/48, 37C-10D, Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.15**	**327**	⇑PN	Pn	06 42 05.8	0.0
OPRZ				SN	Sn	06 42 20.5	+0.5
WHRZ	**Whale Island**	**0.28**	**66**	*e*PN	Pn	06 42 06.7	+0.5
TARZ	**Mount Tarawera**	**0.29**	**204**	PN	Pn	06 42 06.3	-0.1
RRRZ	**Republican Roa**	**0.39**	**197**	⇑PN	Pn	06 42 06.7	+0.1
TGRZ	**Tauranga**	**0.39**	**307**	PN	Pn	06 42 06.8	+0.2
URZ	**Urewera**	**0.46**	**129**	⇑PN	Pn	06 42 06.6	-0.3
URZ				SN	Sn	06 42 21.5	-0.4
URZ				AML	AML	06 42 22.3	
MUGZ	**Murupara**	**0.52**	**170**	⇑PN	Pn	06 42 07.1	-0.1
PRRZ	**Plateau Road**	**0.57**	**201**	⇑PN	Pn	06 42 07.6	+0.1
ALRZ	**Allen Road**	**0.64**	**202**	⇑PN	Pn	06 42 08.1	+0.1
RTZ	**Ruatahuna**	**0.69**	**159**	⇓PN	Pn	06 42 08.3	-0.1
MWZ	**Matawai**	**0.78**	**118**	⇑PN	Pn	06 42 08.8	-0.2
MWZ				SN	Sn	06 42 25.4	-0.2
MWZ				AML	AML	06 42 27.3	
RAGZ	**Rawiri**	**0.80**	**132**	⇑PN	Pn	06 42 09.4	+0.2
RAGZ				AML	AML	06 42 10.5	
RAGZ				AML	AML	06 42 10.6	
RUGZ	**Raukumara Rang**	**0.81**	**90**	⇑PN	Pn	06 42 08.3	-1.0
MRHZ	**Matea Rd**	**0.89**	**192**	⇑PN	Pn	06 42 09.8	-0.1
MRHZ				AML	AML	06 42 27.8	
MRHZ				AML	AML	06 42 28.9	
HAZ	**Te Kaha**	**0.92**	**77**	⇑PN	Pn	06 42 09.3	-0.7
HAZ				SN	Sn	06 42 26.4	-0.9
HAZ				AML	AML	06 42 26.7	
HAZ				AML	AML	06 42 26.7	
TLZ	**Tolley Road**	**0.95**	**247**	⇓PN	Pn	06 42 10.9	+0.5
SNGZ	**Shannon Statio**	**0.97**	**147**	⇑PN	Pn	06 42 10.9	+0.4
SNGZ				AML	AML	06 42 30.9	
SNGZ				AML	AML	06 42 32.9	
TKGZ	**Te Karaka**	**1.05**	**117**	⇑PN	Pn	06 42 11.5	+0.3
TKGZ				AML	AML	06 42 31.3	
TKGZ				AML	AML	06 42 32.8	
TWGZ	**Tauwhareparae**	**1.07**	**102**	⇑PN	Pn	06 42 11.7	+0.3
TWGZ				AML	AML	06 42 32.6	
TWGZ				AML	AML	06 42 34.3	
PKGZ	**Pakihiroa**	**1.13**	**86**	PN	Pn	06 42 11.8	-0.2
PKGZ				AML	AML	06 42 30.8	
PKGZ				AML	AML	06 42 32.9	
NMHZ	**Naumai**	**1.13**	**174**	PN	Pn	06 42 12.6	+0.5
NMHZ				AML	AML	06 42 35.0	
NMHZ				AML	AML	06 42 42.4	
RIGZ	**Rimuhau**	**1.14**	**131**	⇑PN	Pn	06 42 12.5	+0.3
RIGZ				AML	AML	06 42 33.9	
RIGZ				AML	AML	06 42 34.7	
RITZ	**Rihia Road**	**1.19**	**212**	PN	Pn	06 42 12.9	+0.3
WHHZ	**Waihua**	**1.20**	**158**	PN	Pn	06 42 13.0	+0.4
WHHZ				AML	AML	06 42 35.3	
WHHZ				AML	AML	06 42 38.2	
BKZ	**Black Stump Fm**	**1.20**	**186**	PN	Pn	06 42 12.3	-0.4
BKZ				SN	Sn	06 42 31.4	-0.9
BKZ				AML	AML	06 42 33.0	
KATZ	**Kakaramea**	**1.26**	**217**	⇑PN	Pn	06 42 13.3	-0.1
PUZ	**Puketiti**	**1.27**	**95**	⇑PN	Pn	06 42 12.9	-0.4
PUZ				AML	AML	06 42 34.6	
PUZ				AML	AML	06 42 34.8	
ARHZ	**Aropaoanui**	**1.32**	**168**	⇑PN	Pn	06 42 14.2	+0.3
ARHZ				AML	AML	06 42 35.8	
ARHZ				AML	AML	06 42 36.5	
KNZ	**Kokohu**	**1.32**	**143**	⇑PN	Pn	06 42 13.8	0.0
KNZ				AML	AML	06 42 36.0	
KNZ				AML	AML	06 42 36.6	
PRGZ	**Paritu Road**	**1.35**	**135**	PN	Pn	06 42 14.4	+0.2
PRGZ				AML	AML	06 42 39.2	
PRGZ				AML	AML	06 42 40.6	
MXZ	**Matakaoa Point**	**1.37**	**73**	⇑PN	Pn	06 42 14.5	+0.1
MXZ				AML	AML	06 42 37.3	
MXZ				AML	AML	06 42 38.1	
KRVZ	**Karewarewa**	**1.38**	**215**	⇑PN	Pn	06 42 14.5	-0.1
WMGZ	**Waiomatatini S**	**1.40**	**84**	⇑PN	Pn	06 42 14.6	0.0
WMGZ				AML	AML	06 42 35.4	
WMGZ				AML	AML	06 42 36.8	
WTVZ	**West Tongariro**	**1.42**	**216**	⇑PN	Pn	06 42 14.9	-0.1
OTVZ	**Oturere**	**1.42**	**213**	PN	Pn	06 42 15.2	0.0
TWVZ	**Taurewa**	**1.46**	**221**	⇑PN	Pn	06 42 15.3	-0.2
NGZ	**Ngauruhoe**	**1.46**	**214**	⇓PN	Pn	06 42 15.6	0.0
KWHZ	**Kaweka Forest**	**1.47**	**187**	⇑PN	Pn	06 42 15.3	-0.2
KWHZ				AML	AML	06 42 38.1	
KWHZ				AML	AML	06 42 38.2	
MKAZ	**Moumakai**	**1.47**	**306**	⇓PN	Pn	06 42 15.8	+0.4
MCHZ	**McNeill Hill**	**1.48**	**179**	PN	Pn	06 42 15.7	+0.2
MCHZ				AML	AML	06 42 39.0	
MCHZ				AML	AML	06 42 52.3	
TUVZ	**Tukino**	**1.52**	**211**	⇑PN	Pn	06 42 16.0	-0.1
HIZ	**Hauiti**	**1.52**	**248**	⇓PN	Pn	06 42 16.4	+0.5
MHGZ	**Mahia Peninsul**	**1.54**	**141**	⇑PN	Pn	06 42 16.4	+0.2
MHGZ				AML	AML	06 42 40.7	
MHGZ				AML	AML	06 42 44.2	
FWVZ	**Far West T-bar**	**1.55**	**214**	PN	Pn	06 42 16.2	-0.4
WHVZ	**Whangaehu Hut**	**1.56**	**212**	PN	Pn	06 42 16.3	-0.3
TRVZ	**Turoa**	**1.59**	**213**	⇑PN	Pn	06 42 16.8	-0.2
BHHZ	**Black Hill Sta**	**1.59**	**197**	⇑PN	Pn	06 42 16.2	-0.6
BHHZ				AML	AML	06 42 39.3	
BHHZ				AML	AML	06 42 40.3	
WNVZ	**Wahianoa**	**1.59**	**211**	PN	Pn	06 42 16.6	-0.4
MOVZ	**Moawhango**	**1.60**	**206**	⇑PN	Pn	06 42 16.2	-0.8
PKVZ	**Pokaka**	**1.67**	**217**	⇑PN	Pn	06 42 17.5	-0.2
WIAZ	**Waiheke Island**	**1.69**	**314**	⇓PN	Pn	06 42 18.2	+0.3
KRHZ	**Kereru**	**1.69**	**188**	PN	Pn	06 42 17.2	-0.7
KRHZ				AML	AML	06 42 41.2	
KRHZ				AML	AML	06 42 42.4	
CKHZ	**Cape Kidnapper**	**1.72**	**169**	⇑PN	Pn	06 42 18.2	-0.1
CKHZ				AML	AML	06 42 19.1	
CKHZ				AML	AML	06 42 43.6	
KAHZ	**Kahuranaki**	**1.83**	**175**	PN	Pn	06 42 19.3	-0.3
KAHZ				AML	AML	06 42 44.5	
KAHZ				AML	AML	06 42 46.1	
AWAZ	**Awhitu Peninsu**	**1.84**	**299**	⇓PN	Pn	06 42 19.9	+0.2
PNHZ	**Pukenui**	**1.98**	**190**	PN	Pn	06 42 20.2	-1.0
PNHZ				AML	AML	06 42 48.7	
PNHZ				AML	AML	06 42 49.5	
PXZ	**Pawanui**	**2.07**	**176**	⇑PN	Pn	06 42 21.4	-0.9
PXZ				AML	AML	06 42 22.9	
PXZ				AML	AML	06 42 50.8	
PXZ				AML	AML	06 42 50.9	
PXZ				AML	AML	06 42 50.9	
WPHZ	**Waipukurau**	**2.10**	**185**	⇓PN	Pn	06 42 21.8	-0.9
WPHZ				AML	AML	06 42 54.0	
WPHZ				AML	AML	06 42 55.4	
TSZ	**Takapari Road**	**2.16**	**194**	PN	Pn	06 42 21.3	-1.6
TSZ				AML	AML	06 42 49.7	
TSZ				AML	AML	06 42 51.6	
PRHZ	**Porangahau**	**2.29**	**180**	⇑PN	Pn	06 42 23.9	-1.2
PRHZ				AML	AML	06 42 55.7	
PRHZ				AML	AML	06 42 55.9	
DVHZ	**Dannevirke**	**2.36**	**189**	PN	Pn	06 42 24.2	-1.7
DVHZ				AML	AML	06 42 54.2	
DVHZ				AML	AML	06 42 54.5	
ANWZ	**Angora Road**	**2.49**	**183**	⇑PN	Pn	06 42 26.3	-1.3
ANWZ				AML	AML	06 43 00.1	
ANWZ				AML	AML	06 43 01.9	
POWZ	**Post Office Ro**	**2.52**	**196**	PN	Pn	06 42 26.2	-1.7
POWZ				AML	AML	06 43 02.7	
POWZ				AML	AML	06 43 03.8	
PRWZ	**Pori Road**	**2.64**	**191**	PN	Pn	06 42 27.9	-1.5
PRWZ				AML	AML	06 42 29.1	
PRWZ				AML	AML	06 43 00.6	
BFZ	**Birch Farm**	**2.73**	**187**	⇑PN	Pn	06 42 28.5	-2.0
BFZ				AML	AML	06 43 02.5	
BFZ				AML	AML	06 43 03.4	
MRZ	**Mangatainoka R**	**2.82**	**197**	⇑PN	Pn	06 42 29.5	-2.2
MRZ				AML	AML	06 43 03.8	
MRZ				AML	AML	06 43 04.3	
TIWZ	**Tintock**	**2.87**	**192**	⇓PN	Pn	06 42 30.5	-1.9
TIWZ				AML	AML	06 43 04.6	
TIWZ				AML	AML	06 43 06.5	
CPWZ	**Castlepoint**	**2.96**	**187**	⇓PN	Pn	06 42 32.1	-1.3
CPWZ				AML	AML	06 43 08.5	
CPWZ				AML	AML	06 43 10.8	
HOWZ	**Holdsworth Sta**	**3.06**	**196**	AML	AML	06 43 08.7	
HOWZ				AML	AML	06 43 08.9	
OGWZ	**Otaki Gorge**	**3.07**	**202**	PN	Pn	06 42 32.4	-2.5
OGWZ				AML	AML	06 43 09.3	
OGWZ				AML	AML	06 43 09.8	
KIW	**Kapiti Island**	**3.19**	**205**	PN	Pn	06 42 33.4	-3.0
KIW				AML	AML	06 43 11.3	
KIW				AML	AML	06 43 13.7	
TMWZ	**Te Maipa**	**3.19**	**190**	PN	Pn	06 42 34.0	-2.5
TMWZ				AML	AML	06 43 12.7	
TMWZ				AML	AML	06 43 12.7	
MTW	**Mount Morrison**	**3.31**	**195**	PN	Pn	06 42 34.8	-3.2
CAW	**Cannon Point**	**3.37**	**201**	PN	Pn	06 42 35.7	-3.1
CAW				AML	AML	06 43 15.9	
CAW				AML	AML	06 43 15.9	
TRWZ	**Traveller**	**3.51**	**192**	PN	Pn	06 42 37.4	-3.1
TRWZ				AML	AML	06 43 21.0	
DUWZ	**D'Urville Isla**	**3.54**	**216**	PN	Pn	06 42 37.4	-3.6
PAWZ	**Paruwai Farm**	**3.54**	**195**	PN	Pn	06 42 37.8	-3.2
PAWZ				AML	AML	06 43 19.3	
MSWZ	**Moikau Station**	**3.61**	**197**	PN	Pn	06 42 38.5	-3.5
BHW	**Baring Head**	**3.70**	**201**	*e*PN	Pn	06 42 39.5	-3.5
TCW	**Tory Channel**	**3.72**	**209**	PN	Pn	06 42 39.6	-3.8
TCW				AML	AML	06 43 24.4	
TCW				AML	AML	06 43 24.4	
PLWZ	**Palliser**	**3.75**	**196**	PN	Pn	06 42 40.1	-3.8
TUWZ	**Tuamarina**	**4.04**	**210**	*e*PN	Pn	06 42 43.9	-3.7
TUWZ				AML	AML	06 43 30.9	
TUWZ				AML	AML	06 43 31.7	
NNZ	**Nelson**	**4.12**	**217**	PN	Pn	06 42 44.9	-3.6
BSWZ	**Blackbirch Sta**	**4.31**	**209**	*e*PN	Pn	06 42 47.5	-3.6
THZ	**Tophouse**	**4.76**	**216**	PN	Pn	06 42 53.1	-4.1
LTZ	**Lake Taylor**	**5.86**	**213**	*e*PN	Pn	06 43 06.6	-5.2
INZ	**Inchbonnie**	**6.20**	**218**	*e*PN	Pn	06 43 12.4	-3.9
MQZ	**McQueen's Vall**	**6.49**	**207**	PN	Pn	06 43 14.0	-6.2

*ISCJB **28** 06:46:37.4±1.1, 38.°78N±0.°06×43.°59E±0.°08, h19km±7km, Error ellipse: s-maj=11.0km s-min=9.3km az=22.1*
*ISK **28** 06:46:37.1, 38.°83N×43.°51E, h16km, MD2.6*
*CSEM **28** 06:46:38.3±0.3, 38.°91N×43.°50E, h15km, MD2.8, Error ellipse: s-maj=7.9km s-min=6.9km az=111.0*
*DDA **28** 06:46:39.2, 38.°94N×43.°53E, h17km, Md2.8*
ISC 28 06:46:37.9±1.0, 38.°87N±0.°03×43.°56E±0.°05, h16km±7km, n19, σ0§62/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**5**	*i* P	**Pg**	**06 46 41.4**	**-0.4**
VMUR				*i* S	**Sb**	**06 46 45.5**	**+0.7**
VMUR	**Van-Muradiye**	**0.12**	**5**	P	**Pg**	**06 46 41.3**	**-0.4**
VMUR				S	**Sb**	**06 46 45.5**	**+0.7**
VANB	**Van**	**0.30**	**206**	*e*PG	**Pg**	**06 46 44.4**	**+0.1**
VANB	**Van**	**0.30**	**206**	*e*Pg	**Pg**	**06 46 44.4**	**+0.1**
TVAN	**Van**	**0.36**	**200**	*i* P	**Pn**	**06 46 48.2**	**-0.5**
TVAN				*i* S	**Sn**	**06 46 55.2**	**-0.4**
TVAN	**Van**	**0.36**	**200**	P	**Pn**	**06 46 48.2**	**-0.5**
CLDR	**Caldiran**	**0.39**	**45**	*e*PG	**Pb**	**06 46 46.4**	**-0.2**
CLDR				*e*SG	**Sb**	**06 46 53.4**	**+0.8**
CLDR	**Caldiran**	**0.39**	**45**	*i* P	**Pb**	**06 46 46.3**	**-0.4**
CLDR				*i* S	**Sb**	**06 46 53.7**	**+1.1**
CLDR	**Caldiran**	**0.39**	**45**	*e*Pg	**Pb**	**06 46 46.4**	**-0.2**
CLDR				*e*Sg	**Sb**	**06 46 53.4**	**+0.8**
TUTA	**Tutak**	**0.79**	**313**	*i* P	**Pg**	**06 46 52.8**	**-0.5**
TUTA				*i* S	**Sn**	**06 47 05.8**	**-0.4**
TUTA	**Tutak**	**0.79**	**313**	P	**Pg**	**06 46 52.8**	**-0.5**
AGRB	**Hanur-Agry**	**0.83**	**328**	*e*PG	**Pg**	**06 46 53.9**

TLY	Talaya	29.80 309	LR	LR	07 16 32.9	
	comp=Z,32nm,18.8s,baz=23,slow=35					
JAY	Jayapura	40.56 182	LR	LR	07 23 01.2	
	comp=Z,27nm,18.5s,slow=35					
ZALV	Zalesovo Beam	41.34 311	P	P	07 07 02.5	-0.6
	2.3nm,0.5s,baz=87,slow=8.0,SNR=6.3					
MK31	Makanchi Array	43.75 301	*e*pP	pP	07 07 33.6	-0.9
MKAR	Makanchi Array	43.75 301	P	P	07 07 22.7	-0.2
	1.4nm,0.6s,baz=86,slow=11,SNR=14					
MKAR			pP	pP	07 07 33.2	-1.3
	2.4nm,0.3s,baz=187,slow=15,SNR=26					
MKAR	Makanchi Array	43.75 301	*e*P	P	07 07 22.4	-0.5
MKAR			*e*pP	pP	07 07 33.6	-0.9
MAKZ	Makanchi	43.96 301	*e*P	P	07 07 25.3	+0.8
	2.5nm,1.0s					
KURK	Kurchatov	45.44 307	*e*P	P	07 07 34.2	-2.0
	5.5nm,0.8s					
KURK			pP	pP	07 07 47.3	-0.6
KURBB	Kurchatov Arra	45.52 307	P	P	07 07 36.1	-0.7
	3.7nm,0.7s,baz=81,slow=8.3,SNR=21					
KURBB			pP	pP	07 07 47.3	-1.2
	4.1nm,0.7s,baz=83,slow=8.4,SNR=6.1					
TAPN	Taplejung	46.18 273	*e*P	P	07 07 42.3	-0.4
	6.0nm,0.6s					
ODAN	Odare	46.66 273	*e*P	P	07 07 46.3	-0.1
	4.7nm,0.5s					
JIRN	Jiri	47.23 274	*e*P	P	07 07 51.0	0.0
	36nm,0.4s					
RAMN	Ramite	47.24 273	*e*P	P	07 07 50.5	-0.4
	20nm,1.0s					
GUN	Gumba	47.35 275	*e*P	P	07 07 51.7	-0.3
KKN	Kakani	47.88 275	*e*P	P	07 07 55.7	-0.2
PKI	Pulchoki	47.88 275	*e*P	P	07 07 55.2	-0.8
PKIN	Phulchoki	47.89 275	*e*P	P	07 07 55.9	-0.1
GKN	Gorkha	48.29 276	*e*P	P	07 07 58.5	-0.5
ILAR	Eielson Array	48.32 33	P	P	07 08 00.3	+1.8
	0.4nm,0.8s,baz=284,slow=3.6,SNR=3.1					
ILAR			pP	pP	07 08 10.8	+0.6
	0.6nm,0.8s,baz=268,slow=7.0,SNR=3.1					
DANN	Dangsing	48.81 276	*e*P	P	07 08 03.4	+0.2
PYUN	Piuthan	49.53 277	*e*P	P	07 08 08.3	-0.3
BVAR	Borovoye Array	50.00 312	P	P	07 08 11.2	-0.3
	0.5nm,0.5s,baz=55,slow=13,SNR=3.5					
BVAR			PcP	PcP	07 09 30.3	-0.7
	0.9nm,0.7s,baz=124,slow=2.6,SNR=3.9					
WRA	Warramunga Arr	58.29 188	P	P	07 09 11.2	-1.0
	0.9nm,0.7s,baz=6.4,slow=7.4,SNR=6.6					
ASAR	Alice Springs	62.02 188	P	P	07 09 36.8	-0.9
	0.6nm,0.7s,baz=13,slow=7.5,SNR=6.2					
KEV	Kevo	62.43 339	*e*P	P	07 09 43.6	+3.8
ARCES	ARCESS Array B	62.98 339	P	P	07 09 42.9	-0.7
	1.7nm,0.9s,baz=48,slow=7.2,SNR=6.0					
FINES	FINESS Array B	67.90 332	P	P	07 10 14.8	-0.7
	2.0nm,0.8s,baz=211,slow=2.2,SNR=5.0					
KBZ	Khabaz	70.36 310	P	P	07 10 30.4	-0.6
	1.9nm,0.8s,baz=204,slow=11,SNR=3.7					
NB2	NORSAR Subarra	73.20 337	P	P	07 10 46.9	-0.9
	comp=Z,0.8nm,0.7s,baz=40,slow=5.9					
NOA	NORSAR Array B	73.20 337	P	P	07 10 47.1	-0.7
	comp=Z,0.9nm,0.7s,baz=45,slow=10.0,SNR=3.9					
AKASG	Malin Array Be	73.54 322	P	P	07 10 48.7	-1.2
	comp=Z,0.8nm,0.4s,baz=46,slow=6.5,SNR=4.8					
PDAR	Pinedale Array	76.61 46	P	P	07 11 09.9	+1.9
	comp=Z,0.2nm,0.5s,baz=347,slow=3.7,SNR=3.4					
PDAR			pP	pP	07 11 22.2	+1.7
	comp=Z,0.7nm,0.6s,baz=245,slow=1.9,SNR=6.7					
CLL	Collm	80.21 330	*e*P	P	07 11 27.0	-0.5
RAR	Rarotonga	80.62 126	LR	LR	07 44 32.6	
	comp=Z,96nm,19.5s,baz=302,slow=34					

*ISK **28** 07:00:18.9, 38°.65N×43°.26E, h5km, ML3.3*
*ISCJB **28** 07:00:19.8±0.5, 38°.64N±0°.03×43°.24E±0°.04, h6km±5km, Error ellipse: s-maj=4.9km s-min=4.4km az=165.4*
*CSEM **28** 07:00:19.4±0.2, 38°.64N×43°.25E, h2km, ML3.3, Error ellipse: s-maj=4.0km s-min=3.9km az=20.0*
*DDA **28** 07:00:19.3, 38°.59N×43°.21E, h7km, Mld3.8*
ISC 28 07:00:20.1±0.8, 38°.65N±0°.02×43°.26E±0°.02, h13km±6km, n54, σ1§22/77, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.12	118	*e*PG	Pg	07 00 23.4	-0.1
VANB				*e*SG	Sg	07 00 26.5	+0.7
VANB	Van	0.12	118	*e*Pg	Pg	07 00 23.4	-0.1
GEVA	Gevas	0.37	205	*i* P	Pg	07 00 26.4	-1.2
GEVA	Gevas	0.37	205	P	Pg	07 00 26.5	-1.2
VMUR	Van-Muradiye	0.42	36	*i* P	Pb	07 00 29.1	-0.4
VMUR				*i* S	Sb	07 00 37.2	+1.3
VMUR	Van-Muradiye	0.42	36	P	Pb	07 00 29.1	-0.4
VMUR				S	Sb	07 00 37.2	+1.3
CLDR	Caldiran	0.71	46	*e*PG	Pg	07 00 33.2	-0.8
CLDR				*e*SG	Sb	07 00 43.7	-0.7
CLDR	Caldiran	0.71	46	*i* P	Pg	07 00 34.1	+0.1
CLDR				*i* S	Sn	07 00 46.3	-0.8
CLDR	Caldiran	0.71	46	*e*Pg	Pg	07 00 33.2	-0.8
CLDR	Caldiran	0.71	46	P	Pg	07 00 34.1	+0.1
CLDR				*e*Sg	Sb	07 00 43.7	-0.7
CLDR				S	Sn	07 00 46.3	-0.8
TATV	Tatvan	0.79	260	*i* P	Pg	07 00 33.3	-2.1
TATV				*i* S	Sg	07 00 44.8	-1.0
TATV	Tatvan	0.79	260	P	Pg	07 00 33.3	-2.1
TATV				S	Sg	07 00 44.8	-1.0
TUTA	Tutak	0.83	336	*i* P	Pg	07 00 35.1	-1.1
TUTA				*i* S	Sg	07 00 46.5	-0.5
TUTA	Tutak	0.83	336	P	Pg	07 00 35.1	-1.1
TUTA				S	Sg	07 00 46.5	-0.5
BASK	Baskale_VAN	0.84	135	*i* P	Pg	07 00 35.5	-0.8
BASK				*i* S	Sg	07 00 46.6	-0.8
BASK	Baskale_VAN	0.84	135	P	Pg	07 00 35.5	-0.8
BASK				S	Sg	07 00 46.6	-0.8
AGRB	Hanur-Agry	0.95	348	*e*PG	Pg	07 00 37.5	-0.9
AGRB	Hanur-Agry	0.95	348	*e*Pg	Pg	07 00 37.5	-0.9
EKAR	Karacoban	1.11	303	*i* P	Pb	07 00 40.3	-1.0
EKAR				*i* S	Sn	07 01 00.6	+3.7
EKAR	Karacoban	1.11	303	P	Pb	07 00 40.3	-1.0
HAKT	HAKKARI	1.15	162	*i* P	Pb	07 00 40.1	-1.8
HAKT	HAKKARI	1.15	162	P	Pb	07 00 40.1	-1.8
EATA	Eleskirt	1.35	334	*i* P	Pn	07 00 44.8	-0.2
EATA				*i* S	Sn	07 01 03.1	+0.2
EATA	Eleskirt	1.35	334	P	Pn	07 00 44.8	-0.2
EATA				S	Sn	07 01 03.1	+0.2
CUKT	Cukurca	1.43	169	*e*PN	Pn	07 00 45.8	-0.1
CUKT	Cukurca	1.43	169	*i* P	Pn	07 00 45.2	-0.6
CUKT				*i* S	Sg	07 01 10.7	+4.6
CUKT	Cukurca	1.43	169	P	Pn	07 00 45.2	-0.6
CUKT	Cukurca	1.43	169	*e*Pn	Pn	07 00 45.8	-0.1
VRTB	Varto-Mus	1.49	291	*e*PN	Pn	07 00 47.2	+0.4
VRTB	Varto-Mus	1.49	291	*e*Pn	Pn	07 00 47.2	+0.4
BNGL	BINGOL	1.67	281	*i* P	Pb	07 00 50.5	-0.4
BNGL				*i* S	Sg	07 01 14.0	0.0
SVAN	Silvan-Diyarba	1.69	254	*e*PN	Pn	07 00 50.1	+0.7
SVAN	Silvan-Diyarba	1.69	254	*i* P	Pn	07 00 50.3	+0.9
SVAN				*i* S	Sb	07 01 13.3	+1.0
SVAN	Silvan-Diyarba	1.69	254	*e*Pn	Pn	07 00 50.1	+0.7
SVAN	Silvan-Diyarba	1.69	254	P	Pn	07 00 50.3	+0.9
SVAN				S	Sb	07 01 13.3	+1.0
BTMN	Batman	1.74	245	*i* P	Pb	07 00 51.4	-0.5
BTMN				*i* S	Sg	07 01 15.7	-0.3
BTMN	Batman	1.74	245	P	Pb	07 00 51.4	-0.5
BTMN				S	Sg	07 01 15.7	-0.3
HOMI	Horasan	1.74	324	*i* P	Pb	07 00 52.4	+0.2
BNGB	Bing¶ll	2.04	280	*e*PN	Pn	07 00 55.0	+0.7
BINT	Bingol	2.17	277	*e*Pn	Pn	07 00 55.0	-1.1
YEDI	Yedisu-Bingol	2.25	291	*e*PN	Pn	07 00 58.0	+0.8
YEDI	Yedisu-Bingol	2.25	291	*e*Pn	Pn	07 00 58.0	+0.8
MARD	Mardin	2.37	236	*i* P	Pn	07 01 00.7	+1.9
MARD				*i* S	Sb	07 01 32.4	+0.5
MAZI	Mazidag	2.52	243	*e*PN	Pn	07 01 01.8	+1.0
MAZI	Mazidag	2.52	243	*e*Pn	Pn	07 01 01.8	+1.0
ERZN	Erzincan	2.90	290	*e*PN	Pn	07 01 07.2	+1.1
PTK	Pertek	3.03	276	*e*PN	Pn	07 01 09.0	+1.0
PTK	Pertek	3.03	276	*e*Pn	Pn	07 01 09.0	+1.0
SVRC	Sivrice-ELAZID	3.11	266	*e*PN	Pn	07 01 10.2	+1.1
SVRC	Sivrice-ELAZID	3.11	266	*e*Pn	Pn	07 01 10.2	+1.1
URFA	Urfa	3.70	252	*e*PN	Pn	07 01 18.8	+1.7
URFA	Urfa	3.70	252	*e*Pn	Pn	07 01 18.8	+1.7
KMRS	Kahramanmaras	5.14	259	*e*PN	Pn	07 01 39.0	+2.1
KMRS	Kahramanmaras	5.14	259	*e*Pn	Pn	07 01 39.0	+2.1

*DDA **28** 07:03:36.9, 38°.74N×43°.59E, h7km, Md2.8*

*ISK **28** 07:03:36.0, 38°.81N×43°.39E, h3km, ML2.6*
*ISCJB **28** 07:03:37.9±0.6, 38°.82N±0°.03×43°.48E±0°.07, h12km±6km, Error ellipse: s-maj=9.4km s-min=5.0km az=11.9*
*CSEM **28** 07:03:37.4±0.3, 38°.83N×43°.49E, h10km, ML2.6, Error ellipse: s-maj=7.5km s-min=4.8km az=119.0*
ISC 28 07:03:38.0±0.9, 38°.83N±0°.03×43°.48E±0°.04, h17km±6km, n20, σ1§10/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.18	23	*i* P	Pg	07 03 41.8	-0.9
VMUR				*i* S	Sg	07 03 46.9	+0.9
VMUR	Van-Muradiye	0.18	23	P	Pg	07 03 41.8	-0.9
VMUR				S	Sg	07 03 46.9	+0.9
VANB	Van	0.24	198	*e*PG	Pg	07 03 42.8	-0.8
VANB				*e*SG	Sg	07 03 47.8	+0.3
VANB	Van	0.24	198	*e*Pg	Pg	07 03 42.8	-0.8
VANB				*e*Sg	Sg	07 03 47.8	+0.3
CLDR	Caldiran	0.46	47	*e*PG	Pg	07 03 46.9	-0.6
CLDR				*e*SG	Sb	07 03 55.0	+0.4
CLDR	Caldiran	0.46	47	*i* P	Pg	07 03 45.6	-1.9
CLDR				*i* S	Sb	07 03 54.2	-0.4
CLDR	Caldiran	0.46	47	P	Pg	07 03 45.6	-1.9
CLDR	Caldiran	0.46	47	*e*Pg	Pg	07 03 46.9	-0.6
CLDR				S	Sb	07 03 54.2	-0.4
CLDR				*e*Sg	Sb	07 03 55.0	+0.4
GEVA	Gevas	0.61	213	*i* P	Pg	07 03 48.4	-1.8
GEVA				*i* S	Sg	07 03 58.2	-0.2
GEVA	Gevas	0.61	213	P	Pg	07 03 48.4	-1.8
GEVA				S	Sg	07 03 58.2	-0.2
TUTA	Tutak	0.78	318	*i* P	Pb	07 03 53.3	+0.1
TUTA				*i* S	Sn	07 04 06.4	+0.7
TUTA	Tutak	0.78	318	P	Pb	07 03 53.3	+0.1
TUTA				S	Sn	07 04 06.4	+0.7
AGRB	Hanur-Agry	0.84	333	*e*PG	Pg	07 03 52.7	-1.7
AGRB				*e*SG	Sg	07 04 04.5	-1.1
AGRB	Hanur-Agry	0.84	333	*e*Pg	Pg	07 03 52.7	-1.7
AGRB				*e*Sg	Sg	07 04 04.5	-1.1
TATV	Tatvan	1.00	252	*i* P	Pg	07 03 56.7	-0.8
TATV	Tatvan	1.00	252	P	Pg	07 03 56.7	-0.8
EKAR	Karacoban	1.19	292	*i* P	Pn	07 04 01.6	+1.6
EKAR	Karacoban	1.19	292	P	Pn	07 04 01.6	+1.6
CUKT	Cukurca	1.58	176	*e*PN	Pn	07 04 05.7	+0.3
CUKT	Cukurca	1.58	176	*e*Pn	Pn	07 04 05.7	+0.3

MAN 28 07:23:48, 13°.89N×120°.60E, h115km, mb3.6, ML2.4, MS1.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.38	246	*e*P	Pn	07 24 07.5	+2.8
LUBP				*e*S	Sn	07 24 21.0	+3.8
PGP	Puerto Galera	0.51	138	*e*P	Pn	07 24 08.1	+2.5
PGP				*i* S	Sn	07 24 21.8	+3.1
SJMP	San Jose	1.50	160	*e*P	Pn	07 24 17.4	+2.3
SJMP				*e*S	Sn	07 24 38.5	+2.7
BUSP	Coron	1.91	192	*e*P	Pn	07 24 21.2	+1.1
BUSP				*e*S	Sn	07 24 46.4	+1.7
ENPP	El Nido	2.90	203	*e*P	Pn	07 24 34.3	+1.5

*ISK **28** 07:27:39.6, 38°.79N×43°.75E, h5km, ML2.7*
*DDA **28** 07:27:40.1, 38°.86N×43°.53E, h5km, Ml3.1*
*CSEM **28** 07:27:40.5±0.3, 38°.89N×43°.53E, h5km, ML3.1, Error ellipse: s-maj=7.7km s-min=5.6km az=107.0*
*ISCJB **28** 07:27:41.1±0.6, 38°.89N±0°.04×43°.57E±0°.08, h14km±6km, Error ellipse: s-maj=10.7km s-min=5.2km az=26.4*
ISC 28 07:27:40.8±0.9, 38°.89N±0°.03×43°.52E±0°.04, h10km±7km, n19, σ0§65/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.10	22	*i* P	Pg	07 27 42.9	-0.7
VMUR				*i* S	Sg	07 27 46.5	+0.9
VMUR	Van-Muradiye	0.10	22	P	Pg	07 27 42.9	-0.7
VMUR				S	Sg	07 27 46.5	+0.9
VANB	Van	0.32	199	*e*PG	Pb	07 27 48.2	-0.3
VANB				*e*SG	Sb	07 27 54.8	+1.0
VANB	Van	0.32	199	*e*Pg	Pb	07 27 48.3	-0.3
VANB				*e*Sg	Sb	07 27 54.8	+1.0
CLDR	Caldiran	0.40	51	*e*PG	Pg	07 27 48.2	-0.4
CLDR				*e*SG	Sg	07 27 54.5	+0.5
CLDR	Caldiran	0.40	51	*i* P	Pg	07 27 48.2	-0.4
CLDR				*i* S	Sg	07 27 54.7	+0.8
CLDR	Caldiran	0.40	51	*e*Pg	Pg	07 27 48.3	-0.4
CLDR				*e*Sg	Sg	07 27 54.5	+0.5
DYDN	Diyadin	0.66	11	*i* P	Pg	07 27 53.9	+0.3
DYDN				*i* S	Sb	07 28 03.8	-0.1
DYDN	Diyadin	0.66	11	P	Pg	07 27 53.9	+0.3
DYDN				S	Sb	07 28 03.8	-0.1
GEVA	Gevas	0.68	212	*i* P	Pg	07 27 53.5	-0.5
GEVA	Gevas	0.68	212	P	Pg	07 27 53.5	-0.5
TUTA	Tutak	0.75	313	*i* P	Pg	07 27 54.6	-0.7
TUTA				*i* S	Sb	07 28 06.2	-0.2
TUTA	Tutak	0.75	313	P	Pg	07 27 54.6	-0.7
TUTA				S	Sb	07 28 06.2	-0.2
EKAR	Karacoban	1.19	288	*i* P	Pn	07 28 04.7	+1.0
EKAR	Karacoban	1.19	288	P	Pn	07 28 04.7	+1.0
EATA	Eleskirt	1.25	321	*i* P	Pn	07 28 04.1	-0.6
EATA	Eleskirt	1.25	321	P	Pn	07 28 04.1	-0.6
CUKT	Cukurca	1.65	178	*e*PN	Pn	07 28 09.4	-0.5
CUKT	Cukurca	1.65	178	*e*Pn	Pn	07 28 09.4	-0.5

MAN 28 07:27:47, 8°.79N×126°.25E, h31km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.61	169	*i* P	Pn	07 28 00.1	+0.5
BIPH				*i* S	Sb	07 28 07.1	-0.7
BUKP	Musuan	1.48	232	*e*P	Pn	07 28 12.7	+1.1
BUKP				*e*S	Sb	07 28 31.5	-1.0
MATI	Mati	1.83	180	*e*P	Pb	07 28 18.5	-1.4
MATI				*e*S	Sn	07 28 39.5	+0.9
BESP	Borongan	2.90	344	*e*P	Pb	07 28 43.3	+5.2

*CSEM **28** 07:45:48.9±0.3, 38°.69N×43°.59E, h2km, ML3.4, Error ellipse: s-maj=6.9km s-min=4.7km az=107.0*
*DDA **28** 07:45:48.5, 38°.69N×43°.56E, h6km, Ml3.5*
*ISK **28** 07:45:48.3, 38°.70N×43°.54E, h5km, ML3.4*
*ISCJB **28** 07:45:49.1±0.7, 38°.70N±0°.03×43°.62E±0°.06, h8km±5km, Error ellipse: s-maj=7.4km s-min=4.8km az=14.8*
ISC 28 07:45:49.8±0.9, 38°.71N±0°.02×43°.56E±0°.03, h15km±6km, n53, σ1§24/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	231	*e*PG	Pg	07 45 53.8	-0.3
VANB				*e*SG	Sg	07 45 57.8	+0.8
VANB	Van	0.17	231	*e*Pg	Pg	07 45 53.8	-0.3
VANB				*e*Sg	Sg	07 45 57.8	+0.8
VMUR	Van-Muradiye	0.28	1	*i* P	Pg	07 45 54.5	-1.4
VMUR				*i* S	Sb	07 46 00.8	-0.6
VMUR	Van-Muradiye	0.28	1	P	Pg	07 45 54.5	-1.4
VMUR				S	Sb	07 46 00.8	-0.6
CLDR	Caldiran	0.52	32	*e*PG	Pb	07 45 59.7	-1.0
CLDR	Caldiran	0.52	32	*i* P	Pg	07 45 59.0	-1.1
CLDR				*i* S	Sn	07 46 13.4	+1.8
CLDR	Caldiran	0.52	32	P	Pg	07 45 59.0	-1.1
CLDR	Caldiran	0.52	32	*e*Pg	Pb	07 45 59.7	-1.0
GEVA	Gevas	0.56	225	*i* P	Pg	07 45 59.1	-1.6
GEVA				*i* S	Sn	07 46 13.1	+0.7
GEVA	Gevas	0.56	225	P	Pg	07 45 59.2	-1.6
BASK	Baskale_VAN	0.74	152	*i* P	Pg	07 46 03.0	-1.2
BASK	Baskale_VAN	0.74	152	P	Pg	07 46 03.0	-1.2
DYDN	Diyadin	0.84	7	*i* P	Pb	07 46 05.5	-0.8
DYDN	Diyadin	0.84	7	P	Pb	07 46 05.5	-0.8
TUTA	Tutak	0.91	320	*i* P	Pg	07 46 06.1	-1.3
TUTA	Tutak	0.91	320	P	Pg	07 46 06.1	-1.3
AGRB	Hanur-Agry	0.98	333	*e*PG	Pg	07 46 07.5	-1.2
AGRB				*e*SG	Sb	07 46 22.3	+1.0
AGRB	Hanur-Agry	0.98	333	*e*Pg	Pg	07 46 07.5	-1.2
AGRB				*e*Sg	Sb	07 46 22.3	+1.0
TATV	Tatvan	1.03	259	*i* P	Pg	07 46 07.9	-1.9
TATV				*i* S	Sn	07 46 24.7	+0.5
TATV	Tatvan	1.03	259	P	Pg	07 46 07.9	-1.9
TATV				S	Sn	07 46 24.7	+0.5
HAKT	HAKKARI	1.15	174	*i* P	Pg	07 46 10.1	-1.9
HAKT	HAKKARI	1.15	174	P	Pg	07 46 10.1	-1.9
EKAR	Karacoban	1.29	296	*i* P	Pb	07 46 13.6	-0.3
EATA	Eleskirt	1.42	325	*i* P	Pn	07 46 15.2	-0.2
EATA	Eleskirt	1.42	325	P	Pn	07 46 15.2	-0.2
CUKT	Cukurca	1.46	179	*e*PN	Pg	07 46 16.6	-1.2
CUKT	Cukurca	1.46	179	*e*Pn	Pg	07 46 16.6	-1.2
VRTB	Varto-Mus	1.71	286	*e*PN	Pb	07 46 20.1	-0.8
VRTB	Varto-Mus	1.71	286	*e*Pn	Pb	07 46 20.1	-0.8
DIGO	Kars	1.71	355	*i* P	Pb	07 46 21.1	0.0
DIGO	Kars	1.71	355	P	Pb	07 46 21.1	0.0
SVAN	Silvan-Diyarba	1.94	254	*e*PN	Pb	07 46 23.3	-1.5
SVAN	Silvan-Diyarba	1.94	254	*i* P	Pb	07 46 24.5	-0.3
SVAN	Silvan-Diyarba	1.94	254	*e*Pn	Pb	07 46 23.3	-1.5
BTMN	Batman	1.98	246	*i* P	Pb	07 46 25.5	0.0
SENK	Senkaya-Erzuru	2.08	334	*e*PN	Pn	07 46 25.5	+1.2
SENK	Senkaya-Erzuru	2.08	334	*e*Pn	Pn	07 46 25.5	+1.2
ERZM	Erzurum	2.08	306	*i* P	Pg	07 46 28.3	-1.4
ERZM	Erzurum	2.08	306	P	Pg	07 46 28.3	-1.4
ECAT	Cat-ERZURUM	2.21	295	*i* P	Pn	07 46 20.1	-5.9
BNGB	Bing¶ll	2.27	278	*e*PN	Pn	07 46 28.0	+1.2
BINT	Bingol	2.41	275	*e*Pn	Pn	07 46 28.0	-0.8
YEDI	Yedisu-Bingol	2.46	288	*e*PN	Pn	07 46 30.8	+1.3
YEDI	Yedisu-Bingol	2.46	288	*e*Pn	Pn	07 46 30.8	+1.3
DAGI	Agillar	2.69	332	*i* P	Pg	07 46 39.1	-2.2
AKH	Akhalkalaki	2.70	359	*e*PN	Pn	07 46 34.5	+1.6
AKH	Akhalkalaki	2.70	359	P	Pg	07 46 41.0	-0.6
AKH	Akhalkalaki	2.70	359	*e*Pn	Pn	07 46 34.5	+1.6
MAZI	Mazidag	2.76	244	*e*PN	Pn	07 46 35.1	+1.6
MAZI	Mazidag	2.76	244	*e*Pn	Pn	07 46 35.1	+1.6
DGRG	David-gareji	3.07	26	P	Pb	07 46 42.8	-1.4
PTK	Pertek	3.26	275	*e*PN	Pn	07 46 42.1	+1.5
PTK	Pertek	3.26	275	*e*Pn	Pn	07 46 42.1	+1.5

PGC 28 07:49:58.6±4.2, 50°.55N×130°.29W, h10km, MLSn3.2/15, Mw3.8/15, Mw3.8/15, 203km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.38	85	Pn	Pn	07 50 17.0	-6.9
PACB	Port Alice, BC	1.79	93	Pn	Pn	07 50 26.9	-2.6
PACB				Sn	Sn	07 50 47.4	-4.9
PHC	Port Hardy	1.83	84	Pn	Pn	07 50 28.0	-2.0
PHC				Sn	Sn	07 50 49.2	-4.0
MAYB	Maynard	2.00	93	Pn	Pn	07 50 28.8	-3.7
BBB	Bella Bella	2.13	39	Pn	Pn	07 50 32.3	-1.9
TLCB	Telegraph Cove	2.21	89	Pn	Pn	07 50 33.6	-1.5
TLCB				Sn	Sn	07 50 59.3	-3.2
BNB	Barry Inlet	2.23	336	Pn	Pn	07 50 33.8	-1.8
BNB				Sn	Sn	07 50 59.0	-4.1
WOSB	Woss	2.42	98	Pn	Pn	07 50 36.5	-1.7
NCRB	Newcastle Ridg	2.71	91	Pn	Pg	07 50 55.4	+4.9
GDR	Gold River	2.84	104	Pn	Pn	07 50 42.4	-1.6
BCBC	Bella Coola	2.87	49	Pn	Pn	07 50 43.8	-0.5
BCBC				Sn	Sn	07 51 17.3	-1.5
CBB	Campbell River	3.20	97	Pn	Pn	07 50 47.1	-1.8
CBB				Sn	Sn	07 51 22.3	-4.8
TXB	Texada	3.86	100	Pn	Pn	07 50 57.6	-0.4
MGB	Mount Grey	3.95	111	Pn	Pn	07 50 55.4	-3.9
SHB	Sechelt	4.24	101	Pn	Pn	07 51 00.1	-3.2
NLLB	Nanaimo Lost L	4.29	106	Pn	Pn	07 51 03.5	-0.2
PFB	Port Renfrew	4.29	115	Pn	Pn	07 51 02.7	-1.2
GOBB	Galiano Island	4.68	107	Pn	Pn	07 51 09.6	+0.4
WSLR	Whistler	4.74	92	Pn	Pn	07 51 12.9	+2.8
LLLB	Lillooet	5.36	86	Pn	Pn	07 51 20.1	+1.5
HDW	Hoodsport	5.57	119	Pn	Pn	07 51 22.5	+1.0
RPW	Rockport	6.09	107	Pn	Pn	07 51 29.1	+0.4
FMW	Mount Fremont	6.75	119	Pn	Pn	07 51 39.5	+1.7
DLBC	Dease Lake	7.91	1	Pn	Pn	07 51 56.0	+2.5

IDC 28 07:54:00.9±3.0, 7°.21S×129°.32E, h67km±40km, mb2.9/1, mb1 3.6/5, mb1mx3.3/43, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=60.3km s-min=22.3km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.59	17	P	Pn	07 55 34.6	-0.7
	1.2nm,0.3s,baz=221,slow=20,SNR=5.5						
SIJI				S	Sn	07 56 41.1	-8.0
	0.6nm,0.3s,ba

	baz=150							
WTCT	**Ta-ch'eng**	**0.61**	**356**	*e*P		Pb	07 59 13.0	+0.1
	baz=357							
WDGT	**Dungji**	**0.62**	**271**	*e*P		Pb	07 59 12.6	-0.3
	baz=271							
YUS	**Yu-Shan**	**0.62**	**67**	⇑*i*P		Pb	07 59 13.4	+0.1
	baz=67							
YUS				S		Sb	07 59 23.2	+1.0
	baz=67							
ELDTW	**Lidau**	**0.64**	**95**	⇑P		Pb	07 59 13.5	+0.1
	baz=94							
WNT	**Mingjian**	**0.70**	**27**	*e*P		Pb	07 59 14.7	+0.2
	baz=28							
WNT				*e*S		Sn	07 59 26.0	-1.1
	baz=28							
PNG	**Penghu**	**0.78**	**294**	⇓*i*P		Pg	07 59 14.8	-0.3
	baz=294							
PNG				S		Sg	07 59 25.7	+0.5
	baz=294							
TWG	**Pinlang**	**0.81**	**122**	*e*P		Pb	07 59 16.8	+0.5
	baz=108							
TWG				*e*S		Sn	07 59 29.9	+0.3
	baz=108							
TYC	**Yuchr**	**0.81**	**37**	P		Pb	07 59 16.6	+0.4
	baz=37							
TYC				S		Sn	07 59 29.0	-0.7
	baz=37							
SMLT	**Sun Moon Lake**	**0.82**	**40**	P		Pb	07 59 16.7	+0.2
	baz=40							
SMLT				S		Sn	07 59 29.3	-0.8
	baz=40							
ECL	**Taimali**	**0.87**	**138**	*e*P		Pn	07 59 18.0	-0.4
	baz=137							
WDT	**Danda**	**0.89**	**56**	⇑*i*P		Pb	07 59 18.4	+0.5
	baz=55							
WDT				*e*S		Sn	07 59 31.5	-0.7
	baz=55							
TWF1	**Yuli**	**0.90**	**83**	P		Pb	07 59 18.1	+0.3
	baz=83							
TWF1				S		Sn	07 59 31.3	-0.5
	baz=83							
SCZT	**Fangliau**	**0.92**	**163**	*e*P		Pn	07 59 19.9	+0.8
	baz=147							
SCZT				*e*S		Sn	07 59 34.2	+1.9
	baz=147							
EHY	**Hungye**	**0.95**	**74**	⇑P		Pb	07 59 18.9	+0.3
	baz=74							
EHY				*i* S		Sn	07 59 32.2	-0.9
	baz=74							
TCU	**Taichung**	**0.95**	**19**	*e*P		Pb	07 59 18.8	+0.2
	baz=19							
CHKT	**Chengkung**	**0.96**	**99**	P		Pn	07 59 19.6	-0.1
	baz=97							
EAST	**Anshuo**	**0.99**	**151**	*e*P		Pn	07 59 20.3	+0.3
	baz=142							
TAW	**Tawu**	**1.03**	**149**	*e*P		Pn	07 59 22.3	+1.6
	baz=149							
ESL	**Shilin**	**1.16**	**61**	*e*P		Pn	07 59 23.5	+1.1
	baz=59							
TWQ1	**Liyutan**	**1.17**	**20**	*e*P		Pn	07 59 22.6	+0.1
	baz=21							
TWQ1				*e*S		Sn	07 59 39.6	+1.1
	baz=21							
NSY	**Sanyi**	**1.23**	**19**	*e*P		Pg	07 59 23.7	+0.1
	baz=20							
NSY				*e*S		Sn	07 59 41.5	+1.5
	baz=20							
WHF	**Hehuan Shan**	**1.24**	**44**	*e*P		Pg	07 59 23.9	0.0
	baz=44							
WHF				*e*S		Sn	07 59 41.6	+0.8
	baz=44							
TWT	**Tachien**	**1.26**	**38**	*e*P		Pb	07 59 24.2	+0.1
	baz=27							
TWT				*e*S		Sn	07 59 41.4	+0.2
	baz=27							
TWK1	**Hengchun**	**1.37**	**161**	*e*P		Pg	07 59 27.6	+1.1
	baz=162							
TWD	**Chiawan**	**1.42**	**54**	*e*P		Pn	07 59 25.2	-0.9
	baz=52							
NSTT	**Nanjuang**	**1.50**	**24**	*e*P		Pn	07 59 27.3	+0.1
	baz=23							
NSK	**Sanguang**	**1.70**	**33**	*e*P		Pn	07 59 28.4	-1.5
	baz=17							
ENA	**Nanau**	**1.74**	**48**	*e*P		Pb	07 59 32.2	0.0
	baz=64							
ENTT	**Nioudou**	**1.79**	**39**	*e*P		Pb	07 59 32.3	-0.6
	baz=31							
ENTT				*e*S		Sg	07 59 56.9	-0.7
	baz=31							
TWE	**Neicheng**	**1.91**	**40**	*e*P		Pb	07 59 33.9	-1.1
	baz=23							
TWC	**Suao**	**1.94**	**45**	*e*P		Pb	07 59 34.6	-0.9
	baz=47							
TWC				*e*S		Sb	08 00 01.1	+1.3
	baz=47							
NWF	**Wu-fen Shan**	**2.25**	**36**	*e*P		Pb	07 59 41.0	+0.2
	baz=16							

AZER ***28*** *08:02:38.8±0.5, 38°.50N×43°.39E, h5km, Error ellipse: s-maj=5.0km s-min=3.4km az=146.0*
NEIC ***28*** *08:02:38.8±0.0, 38°.71N×43°.56E, h5km, mb4.1/6, ML3.9(ISK), After ISK.*
ISK ***28*** *08:02:38.8, 38°.71N×43°.57E, h5km, ML3.8*
DDA ***28*** *08:02:39.4, 38°.70N×43°.58E, h18km, Ml3.9*
IDC ***28*** *08:02:39.2±1.0, 38°.71N×43°.53E, h0km, mb3.9/11, mb1 3.9/16, mb1mx3.7/48, mbtmp3.8/16, ML3.0/3, MS3.1/11, Ms1 3.1/11, ms1mx2.8/55, Error ellipse: s-maj=17.9km s-min=10.8km az=157.0*
MOS ***28*** *08:02:40.5±1.8, 38°.55N×43°.59E, h12km, mb4.1/13, Error ellipse: s-maj=8.5km s-min=5.2km az=93.4*
CSEM ***28*** *08:02:40.6±0.1, 38°.69N×43°.53E, h2km, mb4.0/5, Error ellipse: s-maj=3.9km s-min=2.8km az=150.0*
ISC 28 08:02:40.8±0.7, 38°.70N±0°.01×43°.56E±0°.02, h5km±4km, n252, σ1§66/311, mb4.0/20, MS3.0/6, 35C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**233**	*e*PG		**Pg**	**08 02 44.4**	**+0.3**
VANB	**Van**	**0.17**	**233**	*e*Pg		**Pg**	**08 02 44.4**	**+0.3**
VANB	**Van**	**0.17**	**233**	Pg		**Pg**	**08 02 44.4**	**+0.3**
TVAN	**Van**	**0.20**	**216**	*i* P		**Pg**	**08 02 44.4**	**-0.5**
TVAN				*i* S		**Sg**	**08 02 49.0**	**+1.4**
TVAN	**Van**	**0.20**	**216**	P		**Pg**	**08 02 44.4**	**-0.5**
TVAN				S		**Sg**	**08 02 49.0**	**+1.4**
TVAN	**Van**	**0.20**	**216**	P		**Pg**	**08 02 44.4**	**-0.5**
TVAN				S		**Sg**	**08 02 49.0**	**+1.4**
VMUR	**Van-Muradiye**	**0.29**	**2**	*i* P		**Pg**	**08 02 45.2**	**-1.4**
VMUR				*i* S		**Sg**	**08 02 51.7**	**+1.2**
VMUR	**Van-Muradiye**	**0.29**	**2**	P		**Pg**	**08 02 45.2**	**-1.4**
VMUR				S		**Sg**	**08 02 51.7**	**+1.2**
VMUR	**Van-Muradiye**	**0.29**	**2**	P		**Pg**	**08 02 45.2**	**-1.4**
VMUR				S		**Sg**	**08 02 51.7**	**+1.2**
CLDR	**Caldiran**	**0.53**	**32**	*e*PG		**Pg**	**08 02 49.6**	**-1.4**
CLDR				*e*SG		**Sg**	**08 02 58.1**	**+0.2**
CLDR	**Caldiran**	**0.53**	**32**	*i* P		**Pg**	**08 02 49.3**	**-1.7**
CLDR				*i* S		**Sg**	**08 02 58.1**	**+0.2**
CLDR	**Caldiran**	**0.53**	**32**	P		**Pg**	**08 02 49.3**	**-1.7**
CLDR	**Caldiran**	**0.53**	**32**	*e*Pg		**Pg**	**08 02 49.6**	**-1.4**
CLDR				S		**Sg**	**08 02 58.1**	**+0.2**
CLDR	**Caldiran**	**0.53**	**32**	Pg		**Pg**	**08 02 49.5**	**-1.5**
CLDR				Sg		**Sg**	**08 02 58.5**	**+0.6**
GEVA	**Gevas**	**0.55**	**226**	*i* P		**Pg**	**08 02 49.8**	**-1.6**
GEVA				*i* S		**Sg**	**08 02 59.1**	**+0.6**
GEVA	**Gevas**	**0.55**	**226**	P		**Pg**	**08 02 49.8**	**-1.6**
GEVA	**Gevas**	**0.55**	**226**	*e*Pg		**Pg**	**08 02 50.6**	**-0.8**
GEVA				*e*Sg		**Sg**	**08 02 56.4**	**-2.1**
GEVA				S		**Sg**	**08 02 59.1**	**+0.6**
GEVA	**Gevas**	**0.55**	**226**	*e*Pg		**Pg**	**08 02 50.6**	**-0.8**
GEVA				*e*Sg		**Sg**	**08 02 56.4**	**-2.1**
BASK	**Baskale_VAN**	**0.73**	**151**	*i* P		**Pg**	**08 02 53.5**	**-1.3**
BASK				*i* S		**Sg**	**08 03 04.8**	**+0.4**
BASK	**Baskale_VAN**	**0.73**	**151**	P		**Pg**	**08 02 53.5**	**-1.3**
BASK				S		**Sg**	**08 03 04.8**	**+0.4**
DYDN	**Diyadin**	**0.85**	**7**	*i* P		**Pg**	**08 02 55.4**	**-1.8**
DYDN	**Diyadin**	**0.85**	**7**	P		**Pg**	**08 02 55.4**	**-1.8**
DYDN	**Diyadin**	**0.85**	**7**	P		**Pg**	**08 02 55.4**	**-1.8**
TUTA	**Tutak**	**0.91**	**321**	*i* P		**Pg**	**08 02 56.8**	**-1.6**
TUTA				*i* S		**Sg**	**08 03 10.4**	**+0.2**
TUTA	**Tutak**	**0.91**	**321**	P		**Pg**	**08 02 56.8**	**-1.6**
TUTA				S		**Sg**	**08 03 10.4**	**+0.2**
TUTA	**Tutak**	**0.91**	**321**	P		**Pg**	**08 02 56.8**	**-1.6**
TUTA				S		**Sg**	**08 03 10.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.98**	**334**	*e*PG		**Pg**	**08 02 58.6**	**-1.1**
AGRB				*e*SG		**Sg**	**08 03 13.0**	**+0.6**
AGRB	**Hanur-Agry**	**0.98**	**334**	*e*Pg		**Pg**	**08 02 58.6**	**-1.1**
AGRB				Sg		**Sb**	**08 03 13.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.98**	**334**	Pg		**Pg**	**08 02 57.6**	**-2.1**
AGRB				Sg		**Sb**	**08 03 13.6**	**-0.3**
TATV	**Tatvan**	**1.03**	**260**	*i* P		**Pg**	**08 02 58.7**	**-1.9**
TATV				*i* S		**Sg**	**08 03 14.3**	**+0.4**
TATV	**Tatvan**	**1.03**	**260**	P		**Pg**	**08 02 58.7**	**-1.9**
TATV				S		**Sg**	**08 03 14.3**	**+0.4**
HAKT	**HAKKARI**	**1.14**	**174**	*i* P		**Pg**	**08 03 00.5**	**-2.2**
HAKT				*i* S		**Sb**	**08 03 18.4**	**-0.1**
HAKT	**HAKKARI**	**1.14**	**174**	P		**Pg**	**08 03 00.5**	**-2.2**
HAKT				S		**Sb**	**08 03 18.4**	**-0.1**
EKAR	**Karacoban**	**1.29**	**296**	*i* P		**Pg**	**08 03 04.6**	**-1.0**
EKAR	**Karacoban**	**1.29**	**296**	P		**Pg**	**08 03 04.6**	**-1.0**
EKAR	**Karacoban**	**1.29**	**296**	P		**Pg**	**08 03 04.6**	**-1.0**
EATA	**Eleskirt**	**1.43**	**325**	*i* P		**Pn**	**08 03 05.5**	**-2.3**
EATA				*i* S		**Sn**	**08 03 27.6**	**+0.5**
EATA	**Eleskirt**	**1.43**	**325**	P		**Pn**	**08 03 05.5**	**-2.3**
EATA	**Eleskirt**	**1.43**	**325**	P		**Pn**	**08 03 05.5**	**-2.3**
EATA				S		**Sn**	**08 03 27.6**	**+0.5**
CUKT	**Cukurca**	**1.45**	**178**	*e*PN		**Pn**	**08 03 07.3**	**-0.4**
CUKT	**Cukurca**	**1.45**	**178**	*i* P		**Pn**	**08 03 07.2**	**-0.6**
CUKT	**Cukurca**	**1.45**	**178**	P		**Pn**	**08 03 07.2**	**-0.6**
CUKT	**Cukurca**	**1.45**	**178**	Pn		**Pn**	**08 03 07.4**	**-0.4**
SIRN	**S¨–rnak**	**1.50**	**217**	*i* P		**Pb**	**08 03 09.2**	**0.0**
SIRN				*i* S		**Sg**	**08 03 31.7**	**+2.7**
SIRN	**S¨–rnak**	**1.50**	**217**	P		**Pb**	**08 03 09.2**	**0.0**
SIRN				S		**Sg**	**08 03 31.7**	**+2.7**
SIRN	**S¨–rnak**	**1.50**	**217**	P		**Pb**	**08 03 09.2**	**0.0**
SIRN				S		**Sg**	**08 03 31.7**	**+2.7**
NAX	**Nakhchivan**	**1.58**	**72**	⇓P		**Pb**	**08 03 09.7**	**-1.0**
	SNR=65							
NAX				⇑S		**Sg**	**08 03 34.1**	**+2.4**
NAX	**Nakhchivan**	**1.58**	**72**	P		**Pb**	**08 03 09.7**	**-1.0**
	SNR=65							
NAX				S		**Sg**	**08 03 34.1**	**+2.4**
VRTB	**Varto-Mus**	**1.70**	**286**	*e*PN		**Pn**	**08 03 10.8**	**-0.6**
VRTB	**Varto-Mus**	**1.70**	**286**	*i* P		**Pn**	**08 03 11.8**	**+0.4**
VRTB	**Varto-Mus**	**1.70**	**286**	*e*Pn		**Pn**	**08 03 10.8**	**-0.6**
VRTB	**Varto-Mus**	**1.70**	**286**	P		**Pn**	**08 03 11.8**	**+0.4**
VRTB	**Varto-Mus**	**1.70**	**286**	Pn		**Pn**	**08 03 10.8**	**-0.6**
GNI	**Garni**	**1.72**	**32**	Pn		**Pn**	**08 03 11.3**	**-0.3**
	98nm,0.3s,baz=273,slow=4.0,SNR=91							
GNI				Sn		**Sg**	**08 03 38.9**	**+2.9**
	70nm,0.3s,baz=317,slow=20,SNR=11							
GNI				LR		LR	08 03 54.4	
	comp=Z,230nm,18.6s,baz=216,slow=44							
HOMI	**Horasan**	**1.86**	**317**	*i* P		**Pn**	**08 03 13.7**	**+0.1**
HOMI				*i* S		**Sg**	**08 03 41.6**	**+1.0**
HOMI	**Horasan**	**1.86**	**317**	P		**Pn**	**08 03 13.7**	**+0.1**
HOMI				S		**Sg**	**08 03 41.6**	**+1.0**
HOMI	**Horasan**	**1.86**	**317**	P		**Pn**	**08 03 13.7**	**+0.1**
HOMI				S		**Sg**	**08 03 41.6**	**+1.0**
BNGL	**BINGOL**	**1.90**	**279**	*i* P		**Pn**	**08 03 13.2**	**-0.9**
BNGL				*i* S		**Sb**	**08 03 40.2**	**-0.1**
BNGL	**BINGOL**	**1.90**	**279**	P		**Pn**	**08 03 13.2**	**-0.9**
BNGL				S		**Sb**	**08 03 40.2**	**-0.1**
BNGL	**BINGOL**	**1.90**	**279**	P		**Pn**	**08 03 13.2**	**-0.9**
BNGL				S		**Sb**	**08 03 40.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*PN		**Pn**	**08 03 14.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*i* P		**Pn**	**08 03 14.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*Pn		**Pn**	**08 03 14.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	Pn		**Pn**	**08 03 14.2**	**-0.2**
BTMN	**Batman**	**1.97**	**247**	*i* P		**Pn**	**08 03 14.8**	**-0.1**
BTMN	**Batman**	**1.97**	**247**	P		**Pn**	**08 03 14.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.08**	**334**	*e*PN		**Pn**	**08 03 16.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.08**	**334**	*e*Pn		**Pn**	**08 03 16.3**	**-0.4**
BNGB	**Bing¨¶l**	**2.27**	**278**	*e*PN		**Pn**	**08 03 19.2**	**+0.1**
BNGB	**Bing¨¶l**	**2.27**	**278**	Pn		**Pn**	**08 03 19.2**	**+0.1**
BNGB	**Bing¨¶l**	**2.27**	**278**	Pn		**Pn**	**08 03 19.2**	**+0.1**
BINT	**Bingol**	**2.41**	**275**	P		**Pn**	**08 03 19.1**	**-1.9**
BINT	**Bingol**	**2.41**	**275**	*e*Pn		**Pn**	**08 03 19.2**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.46**	**288**	*e*PN		**Pn**	**08 03 21.8**	**0.0**
YEDI	**Yedisu-Bingol**	**2.46**	**288**	*e*Pn		**Pn**	**08 03 21.8**	**0.0**
YEDI	**Yedisu-Bingol**	**2.46**	**288**	Pn		**Pn**	**08 03 21.8**	**0.0**
MARD	**Mardin**	**2.59**	**239**	*e*Pn		**Pn**	**08 03 23.2**	**-0.4**
MARD	**Mardin**	**2.59**	**239**	*e*Pn		**Pn**	**08 03 23.2**	**-0.4**
GDB	**GEDABAY**	**2.64**	**39**	⇓P		**Pn**	**08 03 25.4**	**+1.2**
	SNR=33							
GDB				⇑S		**Sb**	**08 04 01.9**	**+0.4**
GDB	**GEDABAY**	**2.64**	**39**	P		**Pn**	**08 03 25.4**	**+1.2**
	SNR=33							
AKH	**Akhalkalaki**	**2.71**	**359**	*e*PN		**Pn**	**08 03 24.8**	**-0.5**
AKH	**Akhalkalaki**	**2.71**	**359**	P		**Pb**	**08 03 30.2**	**+0.3**
AKH				S		**Sg**	**08 04 11.9**	**+4.0**
AKH	**Akhalkalaki**	**2.71**	**359**	⇑*i*P		**Pb**	**08 03 30.8**	**+0.8**
AKH	**Akhalkalaki**	**2.71**	**359**	P		**Pb**	**08 03 30.2**	**+0.3**
AKH	**Akhalkalaki**	**2.71**	**359**	*e*Pn		**Pn**	**08 03 24.8**	**-0.5**
AKH	**Akhalkalaki**	**2.71**	**359**	P		**Pb**	**08 03 30.2**	**+0.3**
KOPT	**Kop Dagi**	**2.72**	**300**	*e*PN		**Pb**	**08 03 29.9**	**-0.2**
KOPT	**Kop Dagi**	**2.72**	**300**	*e*Pn		**Pb**	**08 03 29.9**	**-0.2**
QZX	**Qazax, Azerbai**	**2.74**	**30**	⇓P		**Pn**	**08 03 26.6**	**+1.0**
	SNR=7.9							
QZX				⇓S		**Sb**	**08 04 04.3**	**0.0**
QZX	**Qazax, Azerbai**	**2.74**	**30**	P		**Pn**	**08 03 26.6**	**+1.0**
	SNR=7.9							
QZX				S		**Sb**	**08 04 04.3**	**0.0**
MAZI	**Mazidag**	**2.75**	**244**	*e*PN		**Pn**	**08 03 26.2**	**+0.5**
MAZI	**Mazidag**	**2.75**	**244**	*e*Pn		**Pn**	**08 03 26.2**	**+0.5**
MAZI	**Mazidag**	**2.75**	**244**	Pn		**Pn**	**08 03 24.7**	**-1.0**
ARTV	**Artvin**	**2.78**	**334**	*e*Pn		**Pb**	**08 03 29.9**	**-1.3**
ARTV	**Artvin**	**2.78**	**334**	*e*Pn		**Pb**	**08 03 29.9**	**-1.3**
GANJ	**Ganja**	**2.89**	**47**	⇑P		**Pn**	**08 03 28.7**	**+1.2**
	SNR=25							
GANJ				⇓S		**Sb**	**08 04 08.1**	**-0.5**
GANJ	**Ganja**	**2.89**	**47**	P		**Pn**	**08 03 28.7**	**+1.2**
	SNR=25							
DGRG	**David-gareji**	**3.08**	**26**	P		**Pb**	**08 03 34.1**	**-2.2**
DGRG	**David-gareji**	**3.08**	**26**	P		**Pb**	**08 03 34.0**	**-2.2**
DGRG	**David-gareji**	**3.08**	**26**	P		**Pb**	**08 03 34.0**	**-2.2**
ERZN	**Erzincan**	**3.11**	**288**	*e*PN		**Pn**	**08 03 31.0**	**+0.3**
ERZN	**Erzincan**	**3.11**	**288**	Pn		**Pn**	**08 03 31.0**	**+0.3**
ERZN	**Erzincan**	**3.11**	**288**	Pn		**Pn**	**08 03 31.0**	**+0.3**
TBLG	**Delisi**	**3.16**	**16**	*e*PN		**Pn**	**08 03 31.4**	**+0.1**
TBLG	**Delisi**	**3.16**	**16**	P		**Pb**	**08 03 36.7**	**-0.9**
TBLG				S		**Sg**	**08 04 24.7**	**+2.3**
TBLG	**Delisi**	**3.16**	**16**	P		**Pb**	**08 03 36.6**	**-0.9**
TBLG	**Delisi**	**3.16**	**16**	*e*Pn		**Pn**	**08 03 31.5**	**+0.1**
TBLG	**Delisi**	**3.16**	**16**	P		**Pb**	**08 03 36.6**	**-0.9**
BRDA	**Brd**	**3.21**	**60**	⇑P		**Pn**	**08 03 32.8**	**+0.9**
BRDA				⇓S		**Sb**	**08 04 15.0**	**-2.7**
BRDA	**Brd**	**3.21**	**60**	P		**Pn**	**08 03 32.8**	**+0.9**
BRDA				S		**Sb**	**08 04 15.0**	**-2.7**
PTK	**Pertek**	**3.26**	**275**	*e*PN		**Pn**	**08 03 33.3**	**+0.5**
PTK	**Pertek**	**3.26**	**275**	*e*Pn		**Pn**	**08 03 33.3**	**+0.5**
PTK	**Pertek**	**3.26**	**275**	Pn		**Pn**	**08 03 33.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.35**	**266**	*e*PN		**Pn**	**08 03 34.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.35**	**266**	*e*Pn		**Pn**	**08 03 34.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.35**	**266**	Pn		**Pn**	**08 03 34.4**	**+0.3**
MNGR	**Mingechevir, A**	**3.42**	**52**	⇑P		**Pn**	**08 03 36.0**	**+1.2**
MNGR				⇓S		**Sb**	**08 04 21.0**	**-2.8**
MNGR	**Mingechevir, A**	**3.42**	**52**	P		**Pn**	**08 03 36.0**	**+1.2**
MNGR				S		**Sb**	**08 04 21.0**	**-2.8**
EZC	**Erzincan**	**3.43**	**289**	P		**Pn**	**08 03 30.9**	**-4.2**
EZC	**Erzincan**	**3.43**	**289**	P		**Pn**	**08 03 30.9**	**-4.2**
DUS	**Dusheti**	**3.50**	**14**	P		**Pb**	**08 03 43.6**	**+0.2**
DUS	**Dusheti**	**3.50**	**14**	P		**Pb**	**08 03 43.5**	**+0.2**
ZRD	**Zardab**	**3.56**	**62**	⇑P		**Pn**	**08 03 37.6**	**+0.9**
ZRD				⇑S		**Sb**	**08 04 23.7**	**-4.2**
ZRD	**Zardab**	**3.56**	**62**	P		**Pn**	**08 03 37.6**	**+0.9**
KTUT	**Trabzon**	**3.71**	**309**	*e*PN		**Pn**	**08 03 39.4**	**+0.6**
KTUT	**Trabzon**	**3.71**	**309**	*e*Pn		**Pn**	**08 03 39.4**	**+0.6**
KTUT	**Trabzon**	**3.71**	**309**	Pn		**Pn**	**08 03 39.4**	**+0.6**
LRK	**Lerik**	**3.74**	**89**	⇓P		**Pn**	**08 03 39.3**	**-0.1**
LRK				⇑S		**Sn**	**08 04 26.5**	**+2.5**
LRK	**Lerik**	**3.74**	**89**	P		**Pn**	**08 03 39.3**	**-0.1**
LRK				S		**Sn**	**08 04 26.5**	**+2.5**
SEKA	**Sheki**	**3.76**	**47**	⇓P		**Pn**	**08 03 41.3**	**+1.7**
SEKA				⇓S		**Sb**	**08 04 30.8**	**-2.8**
SEKA	**Sheki**	**3.76**	**47**	P		**Pn**	**08 03 41.3**	**+1.7**
ZKTA	**Zakatala**	**3.76**	**38**	⇑P		**Pn**	**08 03 41.0**	**+1.4**
ZKTA				⇑S		**Sb**	**08 04 29.6**	**-4.0**
GLBA	**Clilabad**	**3.81**	**80**	⇑P		**Pn**	**08 03 40.6**	**+0.4**
GLBA				⇑S		**Sn**	**08 04 28.2**	**+2.9**
GLBA	**Clilabad**	**3.81**	**80**	P		**Pn**	**08 03 40.6**	**+0.4**
GLBA				S		**Sn**	**08 04 28.2**	**+2.9**
ONI	**Oni**	**3.89**	**359**	P		**Pb**	**08 03 51.2**	**+1.2**
ONI				S		**Sg**	**08 04 50.8**	**+5.0**
ONI	**Oni**	**3.89**	**359**	P		**Pb**	**08 03 51.2**	**+1.2**
URFA	**Urfa**	**3.94**	**253**	*e*PN		**Pn**	**08 03 42.8**	**+0.7**
URFA	**Urfa**	**3.94**	**253**	*e*Pn		**Pn**	**08 03 42.8**	**+0.7**
URFA	**Urfa**	**3.94**	**253**	Pn		**Pn**	**08 03 42.8**	**+0.7**
QBL	**Gabala**	**3.99**	**54**	⇓S		**Sb**	**08 04 34.9**	**-5.3**
QBL	**Gabala**	**3.99**	**54**	S		**Sb**	**08 04 34.9**	**-5.3**
LKRN	**Lenkeran, Azer**	**4.08**	**88**	⇑P		**Pn**	**08 03 43.9**	**-0.1**
LKRN				⇓S		**Sn**	**08 04 35.4**	**+3.3**
LKRN	**Lenkeran, Azer**	**4.08**	**88**	P		**Pn**	**08 03 43.9**	**-0.1**
LKRN				S		**Sn**	**08 04 35.4**	**+3.3**
ZEI	**Tsey**	**4.10**	**4**	*e*P		**Pn**	**08 03 45.3**	**+1.0**
ZEI				pmax	pmax			
	comp=Z,24nm,0.8s							
ASTR	**Astara**	**4.10**	**90**	⇑P		**Pn**	**08 03 44.1**	**0.0**
ASTR	**Astara**	**4.10**	**90**	P		**Pn**	**08 03 44.1**	**0.0**
IML	**Ismayilli**	**4.13**	**58**	⇓P		**Pn**	**08 03 45.7**	**+1.0**
IML				⇑S		**Sn**	**08 04 37.3**	**+3.8**
IML	**Ismayilli**	**4.13**	**58**	P		**Pn**	**08 03 45.7**	**+1.0**
IML				S		**Sn**	**08 04 37.3**	**+3.8**
XNQ	**Khinaliq**	**4.30**	**53**	⇓P		**Pn**	**08 03 48.1**	**+0.9**
XNQ	**Khinaliq**	**4.30**	**53**	P		**Pn**	**08 03 48.1**	**+0.9**
PQL	**Pirkuli**	**4.41**	**60**	⇑P		**Pn**	**08 03 49.1**	**+0.6**
PQL	**Pirkuli**	**4.41**	**60**	P		**Pn**	**08 03 49.2**	**+0.6**
GBS	**Qobustan**	**4.54**	**64**	⇑P		**Pn**	**08 03 51.1**	**+0.7**
GBS	**Qobustan**	**4.54**	**64**	P		**Pn**	**08 03 51.1**	**+0.7**
QSAR	**Qusar**	**4.58**	**51**	⇑P		**Pn**	**08 03 51.8**	**+1.0**
QSAR	**Qusar**	**4.58**	**51**	P		**Pn**	**08 03 51.8**	**+1.0**
NEY	**Neytrino**	**4.59**	**352**	*i* P		**Pn**	**08 03 54.8**	**+3.7**
NEY	**Neytrino**	**4.59**	**352**	*i* P		**Pn**	**08 03 54.8**	**+3.7**
QUBA	**Quba, Azerbaij**	**4.63**	**53**	⇑P		**Pn**	**08 03 52.6**	**+1.1**
QUBA	**Quba, Azerbaij**	**4.63**	**53**	P		**Pn**	**08 03 52.6**	**+1.1**
ATGJ	**Altiaghaj**	**4.67**	**61**	⇑P		**Pn**	**08 03 52.5**	**+0.3**
ATGJ	**Altiaghaj**	**4.67**	**61**	P		**Pn**	**08 03 52.5**	**+0.3**
SIZA	**Siyzn**	**4.75**	**58**	⇑P		**Pn**	**08 03 54.3**	**+1.1**
SIZA	**Siyzn**	**4.75**	**58**	P		**Pn**	**08 03 54.3**	**+1.1**
NCK	**Nalchik**	**4.80**	**0**	*i* P		**Pn**	**08 03 56.4**	**+2.6**
NCK	**Nalchik**	**4.80**	**0**	*i* P		**Pn**	**08 03 56.4**	**+2.6**
GROC	**Groznyy**	**4.81**	**20**	*e*P		**Pb**	**08 04 08.4**	**+2.8**
GROC				pmax	pmax			
	comp=Z,42nm,0.8s							
KBZ	**Khabaz**	**5.05**	**355**	Pn		**Pn**	**08 03 58.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=9.7,SNR=11							
MAK	**Makhachkala**	**5.21**	**34**	*e*P		**Pn**	**08 03 57.0**	**-2.4**
MAK				*e*S		**Sn**	**08 04 57.9**	**-1.9**
MAK				pmax	pmax			
	comp=Z,78

GEC2	GERESS Array S	23.69	305	eP		P	08 07 55.3	+1.8
GEC2	GERESS Array S	23.69	305	eP		P	08 07 55.3	+1.8
GEC2	GERESS Array S	23.69	305	eP		P	08 07 55.3	+1.8
GERES	GERESS Array B	23.69	305	P		P	08 07 53.2	-0.3
	comp=Z,0.7nm,0.5s,baz=112,slow=10,SNR=7.0							
AAK	Ala-Archa	23.72	71	i P		P	08 07 54.8	+0.8
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AAK	Ala-Archa	23.72	71	i P		P	08 07 54.8	+0.8
	comp=Z,4.0nm,0.9s							
KHC	Kasperske Hory	23.84	306	eP		P	08 07 56.6	+1.8
KHC				pmax	pmax			
	comp=Z,4.0nm,1.3s							
KHC	Kasperske Hory	23.84	306	eP		P	08 07 56.6	+1.8
	comp=Z,4.3nm,1.3s							
KHC	Kasperske Hory	23.84	306	eP		P	08 07 56.6	+1.8
	comp=Z,4.3nm,1.3s							
CLL	Collm	24.82	311	eP		P	08 08 03.0	-0.7
CLL				i			08 08 06.6	
CLL				pmax	pmax			
	comp=Z,7.0nm,1.2s							
CLL	Collm	24.82	311	eP		P	08 08 03.0	-0.7
	comp=Z,7.0nm,1.2s							
CLL	Collm	24.82	311	eP		P	08 08 03.0	-0.7
	comp=Z,7.0nm,1.2s							
CLL				i sP		sP	08 08 06.6	+0.9
FINES	FINESS Array B	25.22	340	P		P	08 08 06.3	-0.9
	comp=Z,3.5nm,0.9s,baz=164,slow=7.5,SNR=4.3							
FINES				LR	LR		08 20 12.4	
	comp=Z,40nm,20.9s,baz=182,slow=42							
FINES	FINESS Array B	25.22	340	ceP		P	08 08 09.3	+2.0
FINES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DAVOX	Davos/Dischmat	25.87	299	P		P	08 08 14.3	+0.7
	comp=Z,1.6nm,0.5s,baz=104,slow=3.3,SNR=4.1							
KURBB	Kurchatov Arra	27.32	53	P		P	08 08 26.7	+0.2
	comp=Z,2.1nm,0.7s,baz=263,slow=9.0,SNR=14							
KURK	Kurchatov	27.40	53	i P		P	08 08 30.3	+3.2
KURK				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KURK	Kurchatov	27.40	53	eP		P	08 08 27.4	+0.3
	comp=Z,5.1nm,1.0s							
HFS	Hagfors	28.52	329	P		P	08 08 36.5	-0.5
	comp=Z,5.9nm,1.0s,baz=115,slow=8.2,SNR=3.7							
HFS				LR	LR		08 20 57.6	
	comp=Z,48nm,18.2s,baz=108,slow=38							
MKAR	Makanchi Array	29.33	61	P		P	08 08 44.5	+0.1
	comp=Z,1.1nm,0.9s,baz=260,slow=6.0,SNR=5.0							
MKAR	Makanchi Array	29.33	61	ceP		P	08 08 48.2	+3.8
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	NORSAR Array B	30.04	329	LR	LR		08 22 36.2	
	comp=Z,20nm,18.4s,baz=250,slow=40							
ZALV	Zalesovo Beam	31.80	48	P		P	08 09 04.9	-1.1
	comp=Z,0.5nm,0.3s,baz=265,slow=8.3,SNR=4.5							
ARCES	ARCESS Array B	32.38	348	LR	LR		08 23 09.7	
	comp=Z,58nm,19.0s,baz=185,slow=38							
ESDC	Sonseca Array	36.51	287	P		P	08 09 44.2	-3.0
	comp=Z,1.1nm,0.6s,baz=142,slow=20,SNR=5.7							
TORD	Torodi Ar. Bea	44.89	247	P		P	08 10 53.8	-2.8
	comp=Z,1.8nm,1.0s,baz=79,slow=7.6,SNR=7.9							
ULN	Ulaanbaatar	45.94	57	ceP		P	08 11 07.7	+3.0
ULN				pmax	pmax			
	comp=Z,7.0nm,1.7s							
TIXI	Tiksi	52.35	23	ceP		P	08 11 55.8	+2.6
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
NRS	Narsarsuaq	56.54	324	eP		P	08 12 26.1	+2.3
NRS				pmax	pmax			
	comp=Z,34nm,1.2s							
NRS	Narsarsuaq	56.54	324	eP		P	08 12 26.1	+2.3
	comp=Z,34nm,1.2s							
KSAR	Wonju Array Be	63.99	62	P		P	08 13 14.6	-0.7
KSAR	Wonju Array Be	63.99	62	P		P	08 13 14.6	-0.7
KSRS	Korea Array	64.01	62	P		P	08 13 14.6	-0.8
	comp=Z,0.5nm,0.4s,baz=293,slow=6.6,SNR=7.4							
BKNI	Bangkinang	64.90	111	eP		P	08 13 20.7	-0.8

MEX 28 08:08:37.2±0.4, 14°.20N×92°.76W, h10km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.57	343	eP	Pn	08 09 01.2	-3.9
PCIG				eS	Sn	08 09 20.7	-4.8
CCIG	Comitan	2.16	16	eP	Pn	08 09 10.4	-3.0
CCIG				i S	Sn	08 09 35.7	-4.7
TGIG		2.59	352	eP	Pn	08 09 16.2	-3.0
TGIG				eS	Sn	08 09 46.3	-4.6
CMIG	Matias Romero	3.54	325	eP	Pn	08 09 30.1	-2.1
CMIG				eS	Sn	08 10 09.7	-4.4

ZUR 28 08:12:51.1, 46°.37N×7°.63E, h3km±2km, ML0.9/2, 3C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBD2	Leukerbad 2	0.01	58	⇑ i Pg	Pg	08 12 52.2	+0.1
LKBD	Leukerbad	0.02	344	⇑ i Pg	Pg	08 12 52.2	+0.2
	156nm,0.3s						
LKBD				i Sg	Sg	08 12 52.8	+0.2
	156nm,0.3s						
SENIN	Lac Senin/Sane	0.23	268	⇑ i Pg	Pg	08 12 55.8	+0.2
	27nm,0.2s						
SENIN				eSg	Sg	08 12 59.2	+0.5
	27nm,0.2s						

MEX 28 08:13:58.4±1.2, 15°.38N×93°.15W, h93km±18km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.33	348	eP	Pn	08 14 10.6	-1.8
PCIG				eS	Sn	08 14 21.5	-1.2
CCIG	Comitan	1.32	47	eP	Pn	08 14 21.9	-0.5
CCIG				eS	Sn	08 14 37.9	-2.5
TGIG		1.39	1	eP	Pn	08 14 23.9	+0.8
TGIG				eS	Sn	08 14 39.8	-1.8

BJI ***28*** *08:14:24.8, 4°.78N×94°.28E, h59km, mb4.8/45, mB4.9/29, Ms4.4/19, Ms7 4.1/18*

ISCJB ***28*** *08:14:26.8±0.8, 5°.07N±0°.03×94°.23E±0°.05, h52km±6km, mb4.7/80, MS3.8/19, Error ellipse: s-maj=8.5km s-min=4.4km az=150.1*

MOS ***28*** *08:14:27.8±1.0, 5°.26N×94°.36E, h57km, mb4.8/18, Error ellipse: s-maj=13.3km s-min=6.8km az=110.7*

IDC ***28*** *08:14:28.5±0.4, 5°.21N×94°.32E, h47km±3km, mb4.2/28, mb1 4.3/29, mb1mx4.1/60, mbtmp4.4/29, MS3.6/14, Ms1 3.6/14, ms1mx3.3/60, Error ellipse: s-maj=13.6km s-min=8.9km az=54.0*

NEIC ***28*** *08:14:30.1±0.9, 5°.14N×94°.26E, h61km±7km, mb5.0/39, Error ellipse: s-maj=8.7km s-min=5.0km az=57.0*

NEIC Felt [III] at Banda Aceh.

DJA ***28*** *08:14:31.6±0.7, 5°.N±3°.×9°.5E±°, h60km±6km, M4.7/7, mB4.8/2, mb4.8/4, MLv4.7/7, Mw(mB)4.0/2*

ISC 28 08:14:28.2±0.4, 5°.10N±0°.04×94°.22E±0°.05, h47km±3km, h47km:pP-P, n217, σ1°.77/258, mb4.7/80, MS3.8/19, 7C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	2.33	111	P	Pn	08 15 03.6	-0.5
MLSI				S	Sn	08 15 29.0	-2.5
LHMI	Lhok Sumawe	2.72	87	P	Pn	08 15 10.5	+1.1
LHMI	Lhok Sumawe	2.72	87	ePn	Pn	08 15 10.4	+1.0
SNSI	Sinabang, Aceh	3.41	142	P	Pn	08 15 19.3	+0.5
SNSI				S	Sn	08 15 56.3	-1.7
TPTI		3.48	122	P	Pn	08 15 19.1	-0.7
TPTI				S	Sn	08 15 57.2	-2.5
KCSI	Kotacane, Aceh	3.88	114	P	Pn	08 15 25.5	+0.2
PKDT	Phuket	4.94	56	P	Pn	08 15 39.8	-0.1
GSI	Gunungsitoli	5.05	138	ePn	Pn	08 15 43.8	+2.4
PSI	Prapat	5.22	116	eP	Pn	08 15 45.3	+1.4
PSI	Prapat	5.22	116	ePn	Pn	08 15 45.3	+1.4
KRAB	Krabi	5.84	58	P	Pn	08 15 53.5	+1.3
SURT	Suratani	5.94	50	P	Pn	08 15 54.1	+0.5
TRTT	Trang	6.08	63	P	Pn	08 15 55.2	-0.3
	159nm,0.6s,2μm0.6nm						
KULM	Kulim	6.41	88	ePn	Pn	08 16 00.2	+0.1
PBSI	Pulau Batu	6.54	142	P	Pn	08 16 01.3	-0.5
	98nm,0.8s						
PBSI				S	Sn	08 17 09.6	-5.5
	98nm,0.8s						
SKLT	Songkhla	6.69	72	P	Pn	08 16 04.9	+1.0
	98nm,0.7s						
IPM	Ipoh	6.81	95	ePn	Pn	08 16 05.7	0.0
SRDT	SRDT	10.38	27	P	Pn	08 17 01.6	+7.1
	47nm,1.0s,5μm						
CHAI	Chaiyaphum	13.17	35	P	P	08 17 41.6	+0.2
PBKT	Sadao Pong	13.18	30	P	Pn	08 17 35.4	+2.6
	20nm,0.6s,4μm						
MDSI	Maura Dua	13.77	134	P	Pn	08 17 38.7	-2.2
KHON	Khomkaen	14.00	36	P	P	08 17 51.2	+0.5
	32nm,0.7s,701nm						
UTTA	Uttaradit	14.01	26	P	P	08 17 50.5	-0.3
	35nm,0.6s,310nm						
CM31	Chiang Mai Arr	14.05	19	ePn	P	08 17 48.6	-2.7
CMAR	Chiang Mai Arr	14.05	19	P	Pn	08 17 44.8	+0.1
	4.9nm,0.3s,baz=206,slow=14,SNR=36						
CMAR				LR	LR	08 22 41.4	
	comp=Z,174nm,21.6s,baz=212,slow=35						
CMAR	Chiang Mai Arr	14.05	19	eP	P	08 17 48.5	-2.8
CMAR				pmax	pmax		
	comp=Z,19nm,0.5s						
KLSI		14.31	133	P	P	08 18 01.5	+7.3
LAMP	Lampang	14.35	21	P	P	08 17 54.1	-0.5
	comp=Z,30nm,0.7s,comp=Z,229nm						
CHTO	Chiang Mai	14.39	18	P	P	08 17 54.2	-0.8
	comp=Z,240nm,0.8s,comp=Z,2μm						
CHTO	Chiang Mai	14.39	18	eP	P	08 17 51.9	-3.1
CHTO	Chiang Mai	14.39	18	ePn	P	08 17 51.9	-3.1
CMAI	Chiengmai2	15.47	17	P	P	08 18 06.6	-0.6
	comp=Z,154nm,0.9s						
KSM	Kuching	16.46	102	eP	P	08 18 18.6	+0.5
	comp=Z,24nm,0.6s						
STKI	Sintang	17.95	106	P	P	08 18 37.6	+3.1
HYB	Hyderabad	19.62	310	i P	Pn	08 18 58.0	+3.4
QIZ	Qiongzhong	20.59	46	P	P	08 19 03.0	-0.4
QIZ				S	S	08 22 52.5	+1.4
QIZ				pmax	pmax		
	comp=Z,22nm,1.5s						
QIZ				LR	LR		
	comp=Z,410nm,14.3s						
QIZ				LR	LR		
	comp=Z,300nm,15.6s						
QIZ				LR	LR		
	comp=Z,390nm,19.6s						
QIZ	Qiongzhong	20.59	46	eP	P	08 19 03.9	+0.6
	comp=Z,118nm,1.8s						
KMI	Kunming	21.52	21	P	P	08 19 16.5	+2.9
KMI				pP	pP	08 19 24.8	0.0
KMI				S	S	08 23 08.0	-1.9
KMI				pmax	pmax		
	comp=Z,29nm,0.5s						
ODAN	Odare	22.60	344	eP	P	08 19 25.2	+0.1
	comp=Z,19nm,0.6s						
RAMN	Ramite	22.91	342	eP	P	08 19 27.0	-1.4
	comp=Z,36nm,0.5s						
TAPN	Taplejung	22.98	345	eP	P	08 19 29.1	0.0
	comp=Z,40nm,0.7s						
JIRN	Jiri	23.70	342	eP	P	08 19 35.5	-0.7
	comp=Z,130nm,0.6s						
PKI	Pulchoki	23.87	340	eP	P	08 19 36.4	-1.3
PKIN	Phulchoki	23.88	340	eP	P	08 19 36.9	-0.8
	comp=Z,21nm,0.5s						
DMN	Daman	24.00	340	eP	P	08 19 38.3	-0.6
	comp=Z,23nm,0.8s						
GUN	Gumba	24.03	342	eP	P	08 19 38.0	-1.2
	comp=Z,24nm,0.5s						
KKN	Kakani	24.11	340	eP	P	08 19 39.6	-0.3
	comp=Z,19nm,0.6s						
MYLDM	Lahad Datu	24.18	89	eP	P	08 19 41.6	+1.2
	comp=Z,28nm,1.1s						
GYA	Guiyang	24.34	28	⇑ i P	P	08 19 41.5	-0.4
GYA				pP	pP	08 19 55.5	+1.3
GYA				sP	sP	08 20 02.5	+2.6
GYA				PP	PnPn	08 20 21.0	+7.1
GYA				PcP	PcP	08 23 22.5	+1.8
GYA				S	S	08 23 59.0	+0.8
GYA				sS	sS	08 24 20.0	+1.2
GYA				SS	SnSn	08 24 55.3	+10
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=Z,580nm,16.8s						
GYA				LR	LR		
	comp=Z,520nm,17.0s						
GYA				LR	LR		
	comp=Z,550nm,17.2s						
GKN	Gorkha	24.53	339	eP	P	08 19 43.2	-0.4
	comp=Z,51nm,0.7s						
LSA	Lhasa	24.64	354	eP	P	08 19 45.4	+0.5
LSA				pmax	pmax		
	comp=Z,17nm,0.9s						
LSA	Lhasa	24.64	354	eP	P	08 19 45.4	+0.5
	comp=Z,17nm,0.9s						
KOLN	Koldanda	24.70	337	eP	P	08 19 45.1	-0.1
	comp=Z,44nm,0.6s						
H08S3	Diego Garcia H	25.10	240	T	T	08 45 48.3	
	baz=60,slow=75,SNR=907						
H08S2	Diego Garcia H	25.10	240	T	T	08 45 43.3	
	baz=60,slow=75,SNR=1044						
H08S1	Diego Carcia H	25.12	240	T	T	08 45 44.6	
	baz=60,slow=75,SNR=289						
DANN	Dangsing	25.16	338	eP	P	08 19 49.4	-0.1
	comp=Z,4.1nm,0.7s						
PYUN	Piuthan	25.24	336	eP	P	08 19 50.0	-0.1
	comp=Z,44nm,0.5s						
MPSI	Mapaga	26.08	100	P	P	08 19 57.7	+0.1
TTSI	Tana Toraja	26.83	107	P	P	08 20 14.7	+10
CD2	Chengdu	27.20	18	eP	P	08 20 08.5	+0.9
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
KAPI	Kappang	27.41	111	LR	LR	08 32 39.3	
	comp=Z,3μm,18.7s,baz=109,slow=40						
ENH	Enshi	28.88	28	eP	P	08 20 21.2	-1.4
	comp=Z,19nm,0.8s						
KMSI	Cibinong	30.06	98	P	P	08 20 37.8	+4.6
DAV	Davao City (W)	31.24	85	LR	LR	08 35 42.1	
	comp=Z,49nm,18.3s,baz=202,slow=41						
TWG	Pinlang	31.35	53	eP	P	08 20 46.5	+2.0
	comp=Z,111nm,1.1s						
YULB	Yu-li	31.82	52	eP	P	08 20 50.0	+1.4
	comp=Z,58nm,1.5s						
XAN	Xi'an	31.87	24	P	P	08 20 47.3	-1.6
XAN				pP	pP	08 20 59.3	-2.1
XAN				sP	sP	08 21 05.3	-1.7
XAN				PP	PnPn	08 21 52.5	-2.5
XAN				S	S	08 25 50.3	-6.2
XAN				pmax	pmax		
	comp=Z,61nm,0.7s						
XAN				pmax	pmax		
	comp=Z,87nm,5.2s						
XAN				LR	LR		
	comp=Z,120nm,12.6s						
XAN				LR	LR		
	comp=Z,110nm,14.6s						
XAN				LR	LR		
	comp=Z,260nm,12.6s						
LZH	Lanzhou	32.08	15	eP	P	08 20 49.8	-1.1
LZH				pP	pP	08 21 05.3	+1.9
LZH				sP	sP	08 21 08.5	-0.5
LZH				PP	PnPn	08 21 58.0	+0.2
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				LR	LR		
	comp=Z,210nm,13.3s						
LZH				LR	LR		
	comp=Z,170nm,15.1s						
LZH				LR	LR		
	comp=Z,300nm,15.8s						
YHNB	Yeheng	32.54	51	eP	P	08 20 56.7	+1.7
	comp=Z,107nm,1.4s						
SOEI	Soe	33.38	116	P	P	08 21 12.0	+9.5
GTA	Gaotai	34.53	8	⇑ P	P	08 21 11.5	-0.7
GTA				pP	pP	08 21 25.3	+0.6
GTA				sP	sP	08 21 30.3	0.0
GTA				S	S	08 26 37.0	-0.8
GTA				SS	SnSn	08 28 51.5	-1.1
GTA				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA				pmax	pmax		
	comp=Z,140nm,5.2s						
NJ2	Nanjing	35.36	38	eP	P	08 21 19.3	0.0
NJ2				pmax	pmax		
	comp=Z,27nm,0.6s						
KBL	Kabul	37.44	325	eP	P	08 21 37.8	+0.6
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	Kabul	37.44	325	eP	P	08 21 37.8	+0.6
	comp=Z,3.3nm,0.6s						
KSH	Kashi	38.02	337	P	P	08 21 41.0	-1.0
KSH				pP	pP	08 21 54.5	-0.2
KSH				sP	sP	08 21 59.5	-0.8
KSH				PP	PnPn	08 23 12.5	+1.1
KSH				PcP	PcP	08 23 57.0	+0.2
KSH				S	S	08 27 26.8	-4.5
KSH				PcS	PcS	08 27 42.8	-3.0
KSH				SS	SnSn	08 30 06.3	-11
KSH				ScS	ScS	08 31 44.3	-5.9
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,130nm,4.8s						
KSH				LR	LR		
	comp=Z,160nm,7.7s						
KSH				LR	LR		
	comp=Z,120nm,5.9s						
KSH				LR	LR		
	comp=Z,130nm,7.4s						
FITZ	Fitzroy Crossi	38.63	127	P	P	08 21 46.5	-0.7
	comp=Z,7.2nm,0.6s,baz=312,slow=6.3,SNR=26						
FITZ				pP	pP	08 22 00.0	+0.1
	comp=Z,8.7nm,0.9s,baz=290,slow=2.6,SNR=6.9						
FITZ	Fitzroy Crossi	38.63	127	P	P	08 21 46.6	-0.7
	baz=39,SNR=11						
FITZ	Fitzroy Crossi	38.63	127	eP	P	08 21 46.9	-0.4
	comp=Z,6.8nm,0.6s						
FITZ				pP	pP	08 22 00.0	+0.1
FAKI	Fak Fak	38.82	101	eP	P	08 21 48.6	-0.4
	comp=Z,9.9nm,0.7s						
HHC	Hu-ho-hao-te	38.85	21	eP	P	08 21 51.5	+2.6
HHC				pP	sP	08 22 07.8	+0.6
HHC				S	S	08 27 50.8	+7.2
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,88nm,4.7s						
HHC				LR	LR		
	comp=Z,690nm,16.5s						
HHC				LR	LR		
	comp=Z,670nm,12.9s						
HHC				LR	LR		
	comp=Z,640nm,18.2s						
WMQ	Urumqi	38.99	352	P	P	08 21 50.8	+0.8
WMQ				pP	pP	08 22 04.8	+2.1
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.7s						
JOW	Kunigami	39.01	53	eP	P	08 21 50.7	+0.3
	comp=Z,100nm,1.4s						
KNRA	Kununurra	39.95	122	P	P	08 21 57.4	-0.9
	baz=40						
PDGK	Podgornoye	40.23	343	P	P	08 22 00.7	+0.2
PDGK				pmax	pmax		
	comp=Z,18nm,1.4s						
MTN	Manton Dam	40.78	116	P	P	08 22 04.0	-1.1
	baz=41,SNR=13						
MTN	Manton Dam	40.78	116	eP	P	08 22 04.1	-1.1
	comp=Z,14nm,0.9s						
AAK	Ala-Archa	41.28	338	P	P	08 22 09.7	+0.5
	comp=Z,2.4nm,0.6s,baz=240,slow=4.6,SNR=5.5						
AAK				pP	pP	08 22 21.4	-0.5
	comp=Z,2.1nm,0.6s,baz=271,slow=10,SNR=3.5						
AAK				PcP	PcP	08 24 08.9	+1.7
	comp=Z,2.4nm,0.5s,baz=120,slow=4.8,SNR=4.7						
AAK	Ala-Archa	41.28	338	i P	P	08 22 09.2	+0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	Ala-Archa	41.28	338	eP	P	08 22 09.6	+0.5
	comp=Z,5.8nm,0.8s						
AAK				pP	pP	08 22 21.4	-0.5
AAK				PcP	PcP	08 24 08.9	+1.7
MK31	Makanchi Array	42.79	348	i P	P	08 22 20.6	-0.6
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MK31	Makanchi Array	42.79	348	eP	P	08 22 21.2	0.0
MKAR	Makanchi Array	42.79	348	P	P	08 22 21.1	-0.1
	comp=Z,7.5nm,0.6s,baz=167,slow=8.2,SNR=70						
MKAR				pP	pP	08 22 33.7	-0.3
	comp=Z,10nm,0.6s,baz=168,slow=8.0,SNR=14						
MKAR				PcP	PcP	08 24 12.6	+0.6
	comp=Z,1.3nm,0.6s,baz=160,slow=3.3,SNR=3.5						
MKAR				LR	LR	08 43 10.5	
	comp=Z,47nm,22.0s,baz=166,slow=40						
MKAR	Makanchi Array	42.79	348	eP	P	08 22 21.2	-0.1
	comp=Z,77nm,0.6s						
MKAR				pP	pP	08 22 33.7	-0.3
MKAR				PcP	PcP	08 24 12.6	+0.6
MAKZ	Makanchi	42.87	348	eP	P	08 22 21.6	-0.3
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAKZ	Makanchi	42.87	348	eP	P	08 22 21.6	-0.3
	comp=Z,8.2nm,0.8s						
KK31	Karatay Array	43.27	335	i P	P	08 22 25.0	-0.1
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	Karatay Array	43.27	335	eP	P	08 22 25.6	+0.5
KKAR				pmax	pmax		
	comp=Z,32nm,0.5s						
KKAR	Karatay Array	43.27	335	eP	P	08 22 25.6	+0.5
	comp=Z,32nm,0.5s						
SONM	Songino Array	43.84	12	P	P	08 22 29.1	-0.7
	comp=Z,7.8nm,0.7s,baz=191,slow=8.7,SNR=36						
SONM				pP	pP	08 22 41.7	-0.9
	comp=Z,3.5nm,0.8s,baz=197,slow=9.3,SNR=5.3						
SONM				PcP	PcP	08 24 15.9	+0.4
	comp=Z,2.0nm,0.5s,baz=206,slow=2.9,SNR=4.8						
ULN	Ulaanbaatar	44.01	12	i P	P	08 22 28.2	-2.9
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	Ulaanbaatar	44.01	12	eP	P	08 22 30.1	-1.1
	comp=Z,5.8nm,0.7s						
JNU	Nakatsue	44.06	46	P	P	08 22 31.2	-0.5
	comp=Z,7.5nm,0.9s,baz=166,slow=9.6,SNR=3.9						
KSAR	Wonju Array Be	44.49	39	P	P	08 22 34.9	-0.1
KSAR				*PP	pP	08 22 47.0	-0.9
KSAR	Wonju Array Be	44.49	39	P	P	08 22 34.9	-0.1
KSAR				pP	pP	08 22 47.0	-0.9
KSRS	Korea Array	44.52	39	P	P	08 22 34.9	-0.3
	comp=Z,1.1nm,0.6s,baz=221,slow=11,SNR=5.8						
KSRS				pP	pP	08 22 47.0	-1.1
	comp=Z,1.1nm,0.6s,baz=216,slow=7.4,SNR=3.6						
WRKA	Warakurna	44.67	134	P	P	08 22 37.0	+0.4
	baz=45,SNR=5.7						
GEYT	Alibeck	46.33	320	P	P	08 22 50.4	+0.8
	comp=Z,5.8nm,0.6s,baz=148,slow=8.7,SNR=16						
GEYT				pP	pP	08 23 02.8	+0.2
	comp=Z,6.2nm,0.8s,baz=136,slow=9.3,SNR=6.1						
GEYT				LR	LR	08 46 09.7	
	comp=Z,48nm,18.7s,baz=210,slow=41						
WRA	Warramunga Arr	46.64	124	P	P	08 22 52.4	+0.1
	comp=Z,9.2nm,0.7s,baz=302,slow=9.2,SNR=60						
WRA				pP	pP	08 23 05.7	+0.5
	comp=Z,26nm,0.9s,baz=303,slow=9.0,SNR=12						
WRAB	Tennant Creek	46.64	123	c i P	P	08 22 52.2	-0.1
WRAB				pmax	pmax		
	comp=Z,38nm,0.7s						
WRAB	Tennant Creek	46.64	123	eP	P	08 22 52.5	+0.2
	comp=Z,31nm,0.9s						
WB2	Warramunga Arr	46.65	123	eP	P	08 22 52.5	+0.1
	comp=Z,35nm,1.0s						
KURK	Kurchatov	47.30	347	c i P	P	08 22 57.0	+0

HIA pmax pmax
comp=Z,3.0nm,1.0s
ZAA0 Zalesovo Array 49.30 353 *e*P **P 08 23 12.3 +0.1**
ZALV Zalesovo Beam 49.30 353 P **P 08 23 12.2 0.0**
comp=Z,9.0nm,0.5s,baz=186,slow=7.3,SNR=20
ZALV pP **pP 08 23 25.0 -0.3**
comp=Z,16nm,0.8s,baz=180,slow=6.3,SNR=5.1
ZALV LR LR 08 48 00.7
comp=Z,55nm,19.1s,baz=68,slow=41
RAYN Ar Rayn 50.33 296 *e*P **P 08 23 22.5 +1.8**
comp=Z,2.7nm,0.8s
MJAR Matsushiro Arr 50.99 46 P **P 08 23 24.0 -1.4**
comp=Z,1.7nm,0.7s,baz=196,slow=9.1,SNR=5.5
MJAR PcP **PcP 08 24 41.1 0.0**
comp=Z,1.8nm,0.7s,baz=195,slow=1.7,SNR=3.7
MJAR LR LR 08 47 51.9
comp=Z,61nm,18.2s,baz=240,slow=39
USRK Ussuriysk Ar. 51.12 34 P **P 08 23 26.0 -0.2**
comp=Z,1.9nm,0.6s,baz=242,slow=9.4,SNR=3.8
QIS Mount Isa 51.34 121 P **P 08 23 28.2 -0.1**
baz=52,SNR=8.9
BVA0 Borovoye Array 51.62 342 *i*P **P 08 23 29.0 -0.9**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 51.69 342 *de*P **P 08 23 30.1 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 51.69 342 *e*P **P 08 23 30.4 +0.1**
comp=Z,5.8nm,0.8s
AB31 Akbulak array 52.70 332 *i*P **P 08 23 37.7 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 52.70 332 *e*P **P 08 23 38.0 +0.1**
comp=Z,41nm,0.6s
KLR Kul'dur 54.23 29 P **P 08 23 49.1 0.0**
comp=Z,0.1nm,0.5s,baz=254,slow=5.7,SNR=6.8
AKTO Aktyubinsk 54.41 332 *i*P **P 08 23 49.1 -1.4**
AKTO pmax pmax
comp=Z,6.0nm,0.9s
MTSU Mount Surprise 54.53 116 P **P 08 23 52.1 +0.2**
baz=55,SNR=5.1
BBOO Buckleboo 54.74 137 P **P 08 23 52.6 -0.5**
baz=55
KMBO Kilima Mbogo 57.23 265 LR LR 08 47 15.1
comp=Z,63nm,18.2s,baz=87,slow=34
ASAJ Asahikawa 57.47 40 P **P 08 24 12.8 +0.4**
comp=Z,4.2nm,0.5s,baz=93,slow=12,SNR=4.2
ASAJ Asahikawa 57.47 40 *e*P **P 08 24 13.4 +1.0**
comp=Z,9.2nm,1.0s
QLP Quilpie 57.74 126 P **P 08 24 15.6 +1.0**
baz=58,SNR=5.1
STKA Stephens Creek 58.17 133 P **P 08 24 17.6 0.0**
comp=Z,2.6nm,0.8s,baz=326,slow=5.5,SNR=4.5
STKA pP **pP 08 24 30.9 +0.1**
comp=Z,4.7nm,0.8s,baz=338,slow=4.7,SNR=5.2
STKA LR LR 08 54 02.7
comp=Z,57nm,18.1s,baz=16,slow=41
STKA Stephens Creek 58.17 133 P **P 08 24 17.3 -0.3**
baz=58
STKA Stephens Creek 58.17 133 *e*P **P 08 24 18.2 +0.7**
STKA *PP **pP 08 24 30.9 +0.1**
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 58.17 133 *e*P **P 08 24 18.2 +0.7**
comp=Z,1.0nm,0.8s
STKA pP **pP 08 24 30.9 +0.1**
ARU Arti 58.46 338 *c i*P **P 08 24 18.5 -0.6**
ARU *PP **pP 08 24 33.1 +0.7**
ARU S **S 08 32 20.1 +1.2**
ARU SS **SS 08 36 09.7 -2.2**
ARU pmax pmax
comp=Z,11nm,1.7s
KBZ Khabaz 59.19 319 P **P 08 24 24.8 +0.3**
comp=Z,0.9nm,0.4s,baz=124,slow=15,SNR=3.1
KBZ pP **pP 08 24 38.0 +0.2**
comp=Z,2.9nm,0.8s,baz=204,slow=6.7,SNR=2.9
EIL Elat 60.89 301 LR LR 08 51 00.1
comp=Z,81nm,20.1s,baz=46,slow=36
CMSA Cobar Meteorol 61.07 130 P **P 08 24 38.5 +1.0**
baz=61,SNR=20
TOO Toolangi 63.80 136 P **P 08 24 55.2 -0.5**
baz=64
NRIK Noril'sk 64.30 357 P **P 08 24 57.9 -0.5**
comp=Z,3.4nm,0.5s,baz=175,slow=7.0,SNR=7.4
NRIK pP **pP 08 25 10.4 -1.4**
comp=Z,1.6nm,0.3s,baz=178,slow=11,SNR=2.5
BR131 Keskin Array S 64.30 312 *e*P **P 08 24 59.1 0.0**
BRTR Keskin Array B 64.30 312 P **P 08 24 59.0 -0.2**
comp=Z,3.2nm,0.6s,baz=131,slow=7.8,SNR=16
BRTR pP **pP 08 25 12.4 -0.2**
comp=Z,1.9nm,0.8s,baz=120,slow=8.5,SNR=3.2
CAN Canberra 65.23 133 *e*P **P 08 25 06.3 +1.1**
CAN pmax pmax
comp=Z,66nm,1.7s
CAN Canberra 65.23 133 *e*P **P 08 25 06.3 +1.1**
comp=Z,66nm,1.7s
OBN Obninsk 67.76 328 *i*P **P 08 25 19.0 -1.8**
OBN pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 68.97 335 *e*P **P 08 25 25.1 -3.2**
KLMR *e* 08 27 58.0
KLMR pmax pmax
comp=Z,4.0nm,0.6s
MA2 Magadan 69.18 27 P **P 08 25 28.4 -1.2**
comp=Z,8.2nm,0.6s,baz=222,slow=7.9,SNR=5.0
TIXI Tiksi 69.92 11 P **P 08 25 32.5 -1.4**
comp=Z,12nm,0.5s,baz=218,slow=3.2,SNR=28
TIXI Tiksi 69.92 11 *i*P **P 08 25 31.2 -2.7**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 69.92 11 *e*P **P 08 25 32.7 -1.3**
comp=Z,16nm,0.6s
PETK Petropavlovsk- 70.21 35 LR LR 09 00 36.2
comp=Z,34nm,18.9s,baz=62,slow=40
AKASG Malin Array Be 70.37 322 P **P 08 25 35.9 -1.2**
comp=Z,0.9nm,0.5s,baz=90,slow=5.0,SNR=6.7
AKASG Malin Array Be 70.37 322 *i*P **P 08 25 35.9 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 70.38 322 *i*P **P 08 25 36.4 -0.7**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
KIEV Kiev 70.38 322 *e*P **P 08 25 36.5 -0.7**
comp=Z,12nm,1.5s
SEY Seymchan 71.40 24 P **P 08 25 42.3 -0.8**
comp=Z,3.6nm,0.4s,baz=237,slow=2.9,SNR=13
BUR08 Bucovina Ar. S 72.16 318 *e*P **P 08 25 49.0 +0.8**
BOSA Boshof 74.20 239 P **P 08 26 03.2 +2.6**
comp=Z,1.3nm,0.5s,baz=113,slow=7.7,SNR=3.4
BOSA pP **PcP 08 26 15.6 +0.2**
comp=Z,4.4nm,0.9s,baz=161,slow=2.8,SNR=3.6
BOSA LR LR 08 52 46.3
comp=Z,42nm,20.6s,baz=26,slow=31
FIA1 FINESS Array S 75.18 333 *e*P **P 08 26 05.3 -0.2**
comp=Z,37nm,1.7s
FINES FINESS Array B 75.19 333 P **P 08 26 05.1 -0.3**
comp=Z,4.4nm,0.5s,baz=94,slow=5.3,SNR=29
FINES pP **pP 08 26 19.3 +0.1**
comp=Z,1.6nm,0.6s,baz=99,slow=5.9,SNR=2.8
MAW Mawson 75.86 192 LR LR 08 54 17.4
comp=Z,45nm,19.6s,baz=152,slow=31
OJC Ojcow 76.14 320 *e*P **P 08 26 12.0 +0.8**
OJC pmax pmax
comp=Z,15nm,1.2s
OJC Ojcow 76.14 320 *e*P **P 08 26 12.0 +0.8**
comp=Z,15nm,1.2s
ARCES ARCESS Array B 77.88 340 P **P 08 26 20.0 -0.6**
comp=Z,4.8nm,1.0s,baz=73,slow=5.3,SNR=8.8
DPC Dobruska-Polom 78.37 320 *e*P **P 08 26 24.7 +1.0**
DPC *e*pP **pP 08 26 37.9 +0.4**
DPC Dobruska-Polom 78.37 320 *e*P **P 08 26 24.7 +1.0**
DPC *e* 08 26 37.9
GERES GERESS Array B 79.94 319 P **P 08 26 33.4 +1.0**
comp=Z,1.4nm,0.6s,baz=97,slow=6.9,SNR=14
GERES pP **pP 08 26 46.8 +0.5**
comp=Z,4.0nm,0.7s,baz=96,slow=5.4,SNR=11
KHC Kasperske Hory 80.03 319 *e*P **P 08 26 37.5 +4.6**
KHC *ex* x 08 26 46.6
KHC Kasperske Hory 80.03 319 *e*P **P 08 26 37.5 +4.6**
NC405 NORSAR Array S 81.93 331 *e*P **P 08 26 43.0 +0.4**
NC602 NORSAR Array S 81.99 331 *e*P **P 08 26 42.5 -0.4**
VLC Villacollemand 82.05 314 *e*P **P 08 26 42.0 -1.7**
comp=Z,95nm,1.6s
NB2 NORSAR Subarra 82.17 331 P **P 08 26 42.8 -1.2**
comp=Z,0.7nm,0.6s,baz=81,slow=7.9
NOA NORSAR Array B 82.17 331 P **P 08 26 43.5 -0.5**
comp=Z,1.4nm,0.7s,baz=96,slow=5.4,SNR=3.7

SYO Syowa Base 82.80 197⇑ *e*PcP **PcP 08 26 52.0 +0.4**
SYO Syowa Base 82.80 197 *es*P sP 08 27 10.5 +4.4
OXZ Oxford 84.67 134 *e*P **P 08 26 56.7 -0.4**
comp=Z,86nm,2.0s
BKZ Black Stump Fm 87.22 130 *e*P **P 08 27 09.8 0.0**
comp=Z,31nm,1.5s
VNDA Vanda 90.22 168 P **P 08 27 23.8 +0.6**
comp=Z,0.3nm,0.7s,baz=288,slow=8.6,SNR=3.1
TTA Tatalina 94.33 26 *e*P **P 08 27 42.9 +0.3**
TTA pmax pmax
comp=Z,33nm,1.8s
TTA Tatalina 94.33 26 *e*P **P 08 27 42.9 +0.3**
comp=Z,33nm,1.8s
TT01 Tatalina 94.34 26 *e*P **P 08 27 43.0 +0.4**
TOLK Toolik Lake Re 94.53 19 *e*P **P 08 27 44.1 +0.7**
comp=Z,46nm,1.9s
BPAW Bear Paw Mtn. 95.97 24 *e*P **P 08 27 50.5 +0.5**
comp=Z,10nm,1.4s
WRH Wood River Hil 96.95 23 *e*P **P 08 27 55.4 +1.0**
comp=Z,38nm,1.8s
ILAR Eielson Array 97.27 22 P **P 08 27 54.8 -1.0**
comp=Z,0.2nm,0.5s,baz=275,slow=6.6,SNR=3.5
ILAR pP **pP 08 28 09.1 -0.8**
comp=Z,0.3nm,0.6s,baz=318,slow=4.1,SNR=3.4
DBIC Dimbokro 98.39 277 LR LR 09 11 45.8
comp=Z,35nm,18.1s,baz=18,slow=35
PAX Paxson 98.69 24 *e*P **P 08 28 01.8 -0.6**
PAX pmax pmax
comp=Z,21nm,1.7s
PAX Paxson 98.69 24 *e*P **P 08 28 01.8 -0.6**
comp=Z,21nm,1.7s
REDW Red Top Meadow 126.70 23 *e*PKPdf **PKPdf 08 33 27.6 +0.5**
EYMN Ely 126.94 5 *e*PKPdf **PKPdf 08 33 27.8 +0.7**
PDAR Pinedale Array 127.70 22 PKP **PKPdf 08 33 29.1 0.0**
comp=Z,0.3nm,0.5s,baz=79,slow=3.2,SNR=4.5
PDAR pPKP **pPKPdf 08 33 43.3 -0.2**
comp=Z,0.3nm,0.4s,baz=72,slow=4.8,SNR=3.5
DUG Dugway, Tooele 128.52 26 *e*PKIKP **PKPdf 08 33 31.9 +1.3**
DUG Dugway, Tooele 128.52 26 *e*PKPdf **PKPdf 08 33 31.9 +1.3**
R11A Troy Canyon, C 128.68 30 *e*PKPdf **PKPdf 08 33 32.5 +1.6**
MSU Marysvale 130.18 27 *e*PKIKP **PKPdf 08 33 35.7 +1.8**
MSU Marysvale 130.18 27 *e*PKPdf **PKPdf 08 33 35.7 +1.8**
PFO Pinyon Flats O 131.78 35 *i*PKIKP **PKPdf 08 33 38.9 +2.0**
TXAR Lajitas Array 141.69 26 PKhKP PKPpre 08 33 49.8
comp=Z,0.4nm,0.5s,baz=229,slow=0.4,SNR=6.4
TXAR PKP **PKPdf 08 33 54.2 -1.1**
comp=Z,0.3nm,0.5s,baz=253,slow=2.4,SNR=4.9
JCT Junction City 142.16 20 *e*PKPpre PKPpre 08 33 51.0
636A Smothers Creek 143.95 17 *e*PKPdf PKPbc 08 33 57.4 +0.4
CPUP Villa Florida 145.58 229 PKPbc **PKPdf 08 34 01.8 -0.2**
comp=Z,2.2nm,0.8s,baz=69,slow=3.8,SNR=4.8
CPUP pPKPbc **pPKPdf 08 34 16.6 0.0**
comp=Z,2.1nm,0.7s,baz=107,slow=4.8,SNR=2.8
CPUP Villa Florida 145.58 229 *e*PKP2 **PKPdf 08 34 01.5 -0.6**
CPUP Villa Florida 145.58 229 *e*PKPdf **PKPdf 08 34 01.4 -0.6**
CPUP pPKPbc **pPKPdf 08 34 16.6 0.0**
LNIG Linares 147.34 23 *e*PKPbc **PKPbc 08 34 07.3 -0.2**
MTP Monte Pirata 149.51 320 *e*PKPbc **PKPbc 08 34 14.0 +0.7**
HUMP Col San Antoni 149.67 320 *e*PKPbc **PKPbc 08 34 14.7 +1.0**
GRTK Grand Turk 149.90 332 *e*PKPbc **PKPbc 08 34 14.8 +0.7**
CELP Cerrillos 150.18 321 *e*PKPbc **PKPbc 08 34 16.1 +1.2**
IDE Isla Desecheo 150.49 323 *e*PKPbc **PKPbc 08 34 16.9 +1.2**
PTGA Pitinga 153.86 279 *e*PKPbc **PKPbc 08 34 25.1 +1.7**

*ISCJB **28** 08:18:32.6±0.5, 37.00N±0.02×29.11E±0.03, h2km±8km, Error ellipse: s-maj=4.9km s-min=3.7km az=38.7*
*DDA **28** 08:18:32.4, 37.00N×29.12E, h7km, Ml2.9*
*ISK **28** 08:18:32.0, 37.01N×29.12E, h6km, ML2.5*
*CSEM **28** 08:18:32.7±0.1, 37.00N×29.13E, h8km, ML2.5, Error ellipse: s-maj=3.5km s-min=2.8km az=135.0*
ISC 28 08:18:32.6±1.0, 37.01N±0.02×29.13E±0.02, h7km±9km, n40, σ0.59/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.33**	**63**	*e*PG	**Pg**	**08 18 39.0**	**-0.2**
GLHS				*e*SG	**Sg**	**08 18 44.4**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.33**	**63**	*e*Pg	**Pg**	**08 18 39.0**	**-0.2**
GLHS				*e*Sg	**Sg**	**08 18 44.4**	**+0.9**
FETY	**Fethiye**	**0.38**	**186**	*e*PG	**Pg**	**08 18 39.5**	**-0.5**
FETY				*e*SG	**Sb**	**08 18 45.7**	**-1.9**
FETY	**Fethiye**	**0.38**	**186**	P	**Pg**	**08 18 39.2**	**-0.8**
FETY	**Fethiye**	**0.38**	**186**	*e*Pg	**Pg**	**08 18 39.5**	**-0.5**
FETY				S	**Sg**	**08 18 45.0**	**+0.1**
GOLH	**Golhisar**	**0.41**	**56**	*i*P	**Pg**	**08 18 40.8**	**+0.1**
GOLH				*i*S	**Sb**	**08 18 48.1**	**-0.7**
GOLH	**Golhisar**	**0.41**	**56**	P	**Pg**	**08 18 40.8**	**+0.1**
GOLH				S	**Sb**	**08 18 48.1**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.43**	**244**	*e*PG	**Pg**	**08 18 40.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.43**	**244**	*i*P	**Pb**	**08 18 41.8**	**-0.7**
DALY				*i*S	**Sg**	**08 18 47.2**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.43**	**244**	*e*Pg	**Pg**	**08 18 40.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.43**	**244**	P	**Pb**	**08 18 41.8**	**-0.7**
DALY				S	**Sg**	**08 18 47.2**	**+0.6**
TURN	**Turunc**	**0.45**	**252**	*i*P	**Pn**	**08 18 46.8**	**+1.5**
TAVA	**DENIZLI_Tavas**	**0.49**	**339**	*i*P	**Pg**	**08 18 41.9**	**-0.2**
TAVA				*i*S	**Sg**	**08 18 48.9**	**+0.3**
TAVA	**DENIZLI_Tavas**	**0.49**	**339**	P	**Pg**	**08 18 41.9**	**-0.2**
TAVA				S	**Sg**	**08 18 48.8**	**+0.3**
ELL	**Elmali**	**0.68**	**112**	*e*PG	**Pg**	**08 18 45.5**	**-0.2**
ELL	**Elmali**	**0.68**	**112**	*e*Pg	**Pg**	**08 18 45.5**	**-0.2**
DNZL	**Cakiroluk**	**0.68**	**354**	*i*P	**Pg**	**08 18 45.5**	**-0.3**
DNZL				*i*S	**Sb**	**08 18 56.5**	**-0.2**
DNZL	**Cakiroluk**	**0.68**	**354**	P	**Pg**	**08 18 45.5**	**-0.3**
DNZL				S	**Sb**	**08 18 56.5**	**-0.2**
DENT	**Denizli**	**0.75**	**354**	*e*PG	**Pg**	**08 18 46.1**	**-0.9**
DENT	**Denizli**	**0.75**	**354**	*e*Pg	**Pg**	**08 18 46.1**	**-0.9**
MRSB	**Marmaris-Mugla**	**0.81**	**249**	*e*PG	**Pg**	**08 18 48.0**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.81**	**249**	*e*Pg	**Pg**	**08 18 48.0**	**-0.1**
AKAS	**Kas**	**0.86**	**154**	*i*P	**Pg**	**08 18 49.2**	**-0.1**
AKAS				*i*S	**Sn**	**08 19 04.8**	**+0.6**
AKAS	**Kas**	**0.86**	**154**	P	**Pg**	**08 18 49.2**	**-0.1**
AKAS				S	**Sn**	**08 19 04.8**	**+0.6**
KORT	**Korkueli**	**0.98**	**90**	*e*PG	**Pb**	**08 18 52.0**	**+0.1**
KORT	**Korkueli**	**0.98**	**90**	*i*P	**Pg**	**08 18 51.1**	**-0.3**
KORT	**Korkueli**	**0.98**	**90**	P	**Pg**	**08 18 51.1**	**-0.3**
KORT	**Korkueli**	**0.98**	**90**	*e*Pg	**Pb**	**08 18 52.0**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.01**	**47**	*i*P	**Pn**	**08 18 53.5**	**+0.2**
BRDR				*i*S	**Sn**	**08 19 07.7**	**0.0**
BRDR	**BURDUR-Merkez**	**1.01**	**47**	P	**Pn**	**08 18 53.5**	**+0.2**
BRDR				S	**Sn**	**08 19 07.7**	**0.0**
DAT	**Datca**	**1.28**	**258**	*e*PN	**Pg**	**08 18 56.9**	**-0.2**
DAT	**Datca**	**1.28**	**258**	*i*P	**Pg**	**08 18 58.4**	**+1.2**
DAT	**Datca**	**1.28**	**258**	*e*Pn	**Pg**	**08 18 56.9**	**-0.2**
DAT	**Datca**	**1.28**	**258**	P	**Pg**	**08 18 58.4**	**+1.2**
KHAL	**Karahalli**	**1.39**	**12**	*i*P	**Pg**	**08 18 59.3**	**0.0**
KHAL	**Karahalli**	**1.39**	**12**	P	**Pg**	**08 18 59.3**	**0.0**
BODT	**Bodrum**	**1.46**	**273**	*e*PN	**Pb**	**08 18 59.6**	**-0.5**
BODT	**Bodrum**	**1.46**	**273**	*e*Pn	**Pb**	**08 18 59.6**	**-0.5**
KULA	**Kula-Manisa**	**1.55**	**346**	*e*PN	**Pn**	**08 19 00.7**	**0.0**
KULA	**Kula-Manisa**	**1.55**	**346**	*e*Pn	**Pn**	**08 19 00.6**	**0.0**

*NSSC **28** 08:47:29.8±5.4, 39.36N×47.01E, h0km±999km, ML3.7*
*AZER **28** 08:48:03.6±0.6, 38.18N×43.34E, h7km, Error ellipse: s-maj=6.0km s-min=5.2km az=91.0*
*IDC **28** 08:48:07.8±0.7, 38.53N×43.55E, h0km, mb4.1/16, mb1 4.1/22, mb1mx4.0/59, mbtmp4.1/22, ML3.2/6, MS3.3/7, Ms1 3.3/7, ms1mx2.8/51, Error ellipse: s-maj=13.2km s-min=9.8km az=152.0*
*ISK **28** 08:48:07.9, 38.65N×43.65E, h4km, ML4.3*
*NEIC **28** 08:48:07.4±0.0, 38.65N×43.64E, h5km, mb4.6/22, ML4.2(ISK), After ISK.*
*DDA **28** 08:48:08.4, 38.66N×43.56E, h21km, Ml4.2*
*MOS **28** 08:48:08.3±1.7, 38.53N×43.82E, h10km, mb4.6/17, Error ellipse: s-maj=7.2km s-min=4.4km az=99.2*
*ISCJB **28** 08:48:08.5±0.5, 38.62N±0.02×43.68E±0.02, h8km±3km, mb4.4/50, MS3.4/6, Error ellipse: s-maj=3.2km s-min=2.4km az=155.2*
*CSEM **28** 08:48:09.0±0.1, 38.65N×43.64E, h2km, mb4.3/13, Error ellipse: s-maj=4.1km s-min=3.0km az=155.0*
ISC 28 08:48:10.1±0.7, 38.67N±0.02×43.57E±0.02, h12km±4km, n362, σ1.82/416, mb4.3/53, MS3.2/6, 35C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**243**	*e*PG	**Pg**	**08 48 13.2**	**-0.7**
VANB				*e*SG	**Sg**	**08 48 17.3**	**+0.7**
VANB	**Van**	**0.16**	**243**	Pg	**Pg**	**08 48 13.1**	**-0.8**
VANB	**Van**	**0.16**	**243**	Pg	**Pg**	**08 48 13.1**	**-0.8**
TVAN	**Van**	**0.19**	**223**	*i*P	**Pg**	**08 48 13.3**	**-1.1**
TVAN				*i*S	**Sg**	**08 48 17.6**	**+0.2**
TVAN	**Van**	**0.19**	**223**	P	**Pg**	**08 48 13.3**	**-1.1**
TVAN				S	**Sg**	**08 48 17.6**	**+0.2**
TVAN	**Van**	**0.19**	**223**	P	**Pg**	**08 48 13.3**	**-1.1**
TVAN				S	**Sg**	**08 48 17.6**	**+0.2**
VMUR	**Van-Muradiye**	**0.32**	**0**	*i*P	**Pg**	**08 48 14.5**	**-2.2**
VMUR				*i*S	**Sg**	**08 48 22.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.32**	**0**	P	**Pg**	**08 48 14.5**	**-2.2**
VMUR				S	**Sg**	**08 48 22.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.32**	**0**	P	**Pg**	**08 48 14.5**	**-2.2**
VMUR				S	**Sg**	**08 48 22.0**	**+0.9**
GEVA	**Gevas**	**0.54**	**229**	*i*P	**Pg**	**08 48 18.9**	**-1.7**
GEVA	**Gevas**	**0.54**	**229**	P	**Pg**	**08 48 18.9**	**-1.7**
GEVA	**Gevas**	**0.54**	**229**	*e*Pg	**Pg**	**08 48 20.5**	**-0.1**
GEVA	**Gevas**	**0.54**	**229**	*e*Pg	**Pg**	**08 48 20.5**	**-0.1**
CLDR	**Caldiran**	**0.55**	**30**	*e*PG	**Pg**	**08 48 18.7**	**-2.1**
CLDR				*e*SG	**Sg**	**08 48 26.6**	**-1.6**
CLDR	**Caldiran**	**0.55**	**30**	*i*P	**Pg**	**08 48 18.8**	**-2.1**
CLDR				*i*S	**Sb**	**08 48 29.4**	**-0.2**
CLDR	**Caldiran**	**0.55**	**30**	P	**Pg**	**08 48 18.8**	**-2.1**
CLDR				Sg	**Sg**	**08 48 27.6**	**-0.6**
CLDR	**Caldiran**	**0.55**	**30**	Pg	**Pg**	**08 48 18.6**	**-2.3**
CLDR				Sg	**Sg**	**08 48 27.6**	**-0.6**
BASK	**Baskale_VAN**	**0.70**	**151**	*i*P	**Pg**	**08 48 22.4**	**-1.3**
BASK				*i*S	**Sb**	**08 48 35.1**	**+1.1**
BASK	**Baskale_VAN**	**0.70**	**151**	P	**Pg**	**08 48 22.4**	**-1.3**
DYDN	**Diyadin**	**0.88**	**6**	*i*P	**Pg**	**08 48 24.5**	**-2.7**
DYDN	**Diyadin**	**0.88**	**6**	P	**Pg**	**08 48 24.5**	**-2.7**
DYDN	**Diyadin**	**0.88**	**6**	P	**Pg**	**08 48 24.5**	**-2.7**
TUTA	**Tutak**	**0.94**	**321**	*i*P	**Pg**	**08 48 25.5**	**-2.8**
TUTA				*i*S	**Sg**	**08 48 40.8**	**+0.2**
TUTA	**Tutak**	**0.94**	**321**	P	**Pg**	**08 48 25.5**	**-2.8**
TUTA				S	**Sg**	**08 48 40.8**	**+0.2**
AGRB	**Hanur-Agry**	**1.01**	**334**	*e*PG	**Pg**	**08 48 26.8**	**-2.9**
AGRB	**Hanur-Agry**	**1.01**	**334**	Pg	**Pg**	**08 48 27.1**	**-2.5**
AGRB				Sg	**Sn**	**08 48 44.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.01**	**334**	Pg	**Pg**	**08 48 27.1**	**-2.5**
AGRB				Sg	**Sn**	**08 48 44.1**	**-0.5**
TATV	**Tatvan**	**1.03**	**262**	*i*P	**Pg**	**08 48 27.7**	**-2.3**
TATV				*i*S	**Sg**	**08 48 38.0**	**-5.6**
TATV	**Tatvan**	**1.03**	**262**	P	**Pg**	**08 48 27.7**	**-2.3**
HAKT	**HAKKARI**	**1.11**	**174**	*i*P	**Pb**	**08 48 29.2**	**-2.2**
HAKT	**HAKKARI**	**1.11**	**174**	P	**Pb**	**08 48 29.2**	**-2.2**
EKAR	**Karacoban**	**1.31**	**297**	*i*P	**Pn**	**08 48 33.6**	**-0.9**
EKAR	**Karacoban**	**1.31**	**297**	P	**Pn**	**08 48 33.6**	**-0.9**
EKAR	**Karacoban**	**1.31**	**297**	P	**Pn**	**08 48 33.6**	**-0.9**
CUKT	**Cukurca**	**1.42**	**179**	*e*PN	**Pn**	**08 48 35.2**	**-0.6**
CUKT	**Cukurca**	**1.42**	**179**	*i*P	**Pn**	**08 48 35.5**	**-0.3**
CUKT	**Cukurca**	**1.42**	**179**	*e*Pn	**Pn**	**08 48 35.2**	**-0.6**
CUKT	**Cukurca**	**1.42**	**179**	P	**Pn**	**08 48 35.5**	**-0.3**
CUKT	**Cukurca**	**1.42**	**179**	Pn	**Pn**	**08 48 35.2**	**-0.6**
EATA	**Eleskirt**	**1.46**	**325**	*i*P	**Pn**	**08 48 35.0**	**-1.5**
EATA				*i*S	**Sn**	**08 48 56.0**	**+0.3**
EATA	**Eleskirt**	**1.46**	**325**	P	**Pn**	**08 48 35.0**	**-1.5**
EATA				S	**Sn**	**08 48 56.0**	**+0.3**
EATA	**Eleskirt**	**1.46**	**325**	P	**Pn**	**08 48 35.0**	**-1.5**
EATA				S	**Sn**	**08 48 56.0**	**+0.3**
NAX	**Nakhchivan**	**1.58**	**71**	⇓P	**Pn**	**08 48 38.6**	**+0.5**
NAX	SNR=217			⇓S	**Sg**	**08 49 04.0**	**+2.9**
NAX	**Nakhchivan**	**1.58**	**71**	P	**Pn**	**08 48 38.6**	**+0.5**
NAX	SNR=217						
VRTB	**Varto-Mus**	**1.72**	**287**	*e*PN	**Pn**	**08 48 40.6**	**+0.6**
VRTB	**Varto-Mus**	**1.72**	**287**	*e*Pn	**Pn**	**08 48 40.6**	**+0.6**
VRTB	**Varto-Mus**	**1.72**	**287**	Pn	**Pn**	**08 48 40.6**	**+0.6**
GNI	**Garni**	**1.74**	**31**	Pn	**Pb**	**08 48 41.2**	**-0.8**
GNI	133nm,0.3s,baz=261,slow=3.5,SNR=132			Sn	**Sg**	**08 49 07.8**	**+1.8**
GNI	**Garni**	**1.74**	**31**	*de*P	**Pn**	**08 48 40.3**	**+0.1**
GNI	88nm,0.3s,baz=320,slow=19,SNR=6.2			pmax	pmax		
GNI	**Garni**	**1.74**	**31**	*e*P	**Pn**	**08 48 40.3**	**+0.1**
GNI	comp=Z,5μm,1.2s **Garni**	**1.74**	**31**	*e*Pn	**Pn**	**08 48 40.5**	**+0.3**
GNI	comp=Z,5μm,1.2s			Sn	**Sg**	**08 49 07.8**	**+1.8**
DIGO	**Kars**	**1.75**	**355**	*i*P	**Pn**	**08 48 40.7**	**+0.2**
DIGO	**Kars**	**1.75**	**355**	P	**Pn**	**08 48 40.7**	**+0.2**
DIGO	**Kars**	**1.75**	**355**	P	**Pn**	**08 48 40.7**	**+0.2**
HOMI	**Horasan**	**1.89**	**317**	*i*P	**Pn**	**08 48 42.7**	**+0.3**
HOMI	**Horasan**	**1.89**	**317**	P	**Pn**	**08 48 42.7**	**+0.3**
HOMI	**Horasan**	**1.89**	**317**	P	**Pn**	**08 48 42.7**	**+0.3**
BNGL	**BINGOL**	**1.91**	**279**	*i*P	**Pn**	**08 48 43.4**	**+0.7**
BNGL	**BINGOL**	**1.91**	**279**	P	**Pn**	**08 48 43.4**	**+0.7**
BNGL	**BINGOL**	**1.91**	**279**	P	**Pn**	**08 48 43.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*e*PN	**Pn**	**08 48 43.4**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	*i*P	**Pn**	**08 48 43.4**	**+0.6**
SVAN				*i*S	**Sg**	**08 49 11.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	P	**Pn**	**08 48 43.4**	**+0.6**
SVAN				S	**Sg**	**08 49 11.6**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.93**	**255**	Pn	**Pn**	**08 48 43.4**	**+0.6**
BTMN	**Batman**	**1.97**	**248**	*i*P	**Pn**	**08 48 43.9**	**+0.5**
BTMN				*i*S	**Sg**	**08 49 13.0**	**-0.4**
BTMN	**Batman**	**1.97**	**248**	P	**Pn**	**08 48 43.8**	**+0.5**
ERZM	**Erzurum**	**2.11**	**307**	*i*P	**Pb**	**08 48 47.9**	**-0.5**
ERZM	**Erzurum**	**2.11**	**307**	P	**Pb**	**08 48 47.9**	**-0.5**
ERZM	**Erzurum**	**2.11**	**307**	P	**Pb**	**08 48 47.9**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.11**	**334**	*e*PN	**Pn**	**08 48 45.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.11**	**334**	*e*Pn	**Pn**	**08 48 45.6**	**+0.1**
BNGB	**Bing¨¶l**	**2.28**	**279**	*e*PN	**Pn**	**08 48 48.3**	**+0.6**
BNGB	**Bing¨¶l**	**2.28**	**279**	Pn	**Pn**	**08 48 48.5**	**+0.8**
BNGB	**Bing¨¶l**	**2.28**	**279**	Pn	**Pn**	**08 48 48.5**	**+0.8**
BINT	**Bingol**	**2.42**

SVRC Sivrice-ELAZID 3.36 266 *e*Pn **Pn 08 49 03.7 +1.2**
SVRC Sivrice-ELAZID 3.36 266 Pn **Pn 08 49 03.9 +1.4**
MNGR Mingechevir, A 3.43 51 ⇓P **Pn 08 49 03.6 +0.3**
MNGR ⇓S **Sb 08 49 51.1 -1.3**
MNGR Mingechevir, A 3.43 51 P **Pn 08 49 03.6 +0.3**
EZC Erzincan 3.45 290 *e*Pn **Pn 08 49 00.5 -3.3**
DUS Dusheti 3.53 14 P **Pb 08 49 13.1 +0.6**
DUS Dusheti 3.53 14 P **Pb 08 49 13.1 +0.6**
SFNV Sufian 3.55 232 *e*P **Pn 08 49 06.0 +0.9**
SFNV *e*S **Sg 08 50 07.9 +3.9**
SFNV AML AML 08 50 20.6
comp=Z,334nm,0.6s
ZRD Zardab 3.57 62 ⇑P **Pn 08 49 04.8 -0.4**
ZRD Zardab 3.57 62 P **Pn 08 49 04.8 -0.4**
KTUT Trabzon 3.73 310 *e*PN **Pn 08 49 08.8 +1.3**
KTUT Trabzon 3.73 310 *e*Pn **Pn 08 49 08.8 +1.3**
KTUT Trabzon 3.73 310 Pn **Pn 08 49 09.1 +1.6**
LRK Lerik 3.73 89 ⇓P **Pn 08 49 04.1 -3.6**
LRK ⇑S **Sn 08 49 52.0 +0.3**
LRK Lerik 3.73 89 P **Pn 08 49 04.1 -3.6**
LRK S **Sn 08 49 52.0 +0.3**
SEKA Sheki 3.77 47 ⇓P **Pn 08 49 08.9 +0.8**
SEKA Sheki 3.77 47 P **Pn 08 49 08.9 +0.8**
ZKTA Zakatala 3.78 37 ⇓P **Pn 08 49 09.3 +1.2**
ZKTA ⇓S **Sb 08 50 01.0 -1.5**
GLBA Clilabad 3.80 80 ⇑P **Pn 08 49 06.1 -2.4**
GLBA ⇑S **Sn 08 49 56.1 +3.0**
GLBA Clilabad 3.80 80 P **Pn 08 49 06.1 -2.4**
GLBA S **Sn 08 49 56.1 +3.0**
ONI Oni 3.92 359 P **Pb 08 49 18.9 -0.3**
ONI S **Sg 08 50 18.0 +2.1**
ONI Oni 3.92 359 P **Pb 08 49 18.8 -0.3**
URFA Urfa 3.94 253 *e*PN **Pn 08 49 11.8 +1.3**
URFA Urfa 3.94 253 *e*Pn **Pn 08 49 11.8 +1.3**
URFA Urfa 3.94 253 Pn **Pn 08 49 12.1 +1.7**
QBL Gabala 4.00 54 ⇓P **Pn 08 49 10.9 -0.3**
QBL ⇓S **Sb 08 50 04.3 -4.4**
QBL Gabala 4.00 54 P **Pn 08 49 10.9 -0.3**
LKRN Lenkeran, Azer 4.08 88 ⇑P **Pn 08 49 09.7 -2.5**
LKRN Lenkeran, Azer 4.08 88 P **Pn 08 49 09.7 -2.5**
ASTR Astara 4.09 90 ⇓P **Pn 08 49 09.2 -3.2**
ASTR ⇑S **Sn 08 49 59.9 -0.3**
ASTR Astara 4.09 90 P **Pn 08 49 09.2 -3.2**
ASTR S **Sn 08 49 59.9 -0.3**
ZEI Tsey 4.12 3 *e*P **Pn 08 49 14.3 +1.2**
ZEI pmax pmax
comp=Z,33nm,0.7s
IML Ismayilli 4.14 58 ⇓P **Pn 08 49 13.4 +0.2**
IML Ismayilli 4.14 58 P **Pn 08 49 13.4 +0.2**
XNQ Khinaliq 4.31 53 ⇑P **Pn 08 49 15.6 -0.1**
XNQ Khinaliq 4.31 53 P **Pn 08 49 15.6 -0.1**
ALIB Äli-Bayra 4.41 71 ⇓P **Pn 08 49 15.0 -1.7**
ALIB Äli-Bayra 4.41 71 P **Pn 08 49 15.0 -1.7**
PQL Pirkuli 4.41 60 ⇓P **Pn 08 49 16.8 -0.2**
PQL Pirkuli 4.41 60 P **Pn 08 49 16.8 -0.2**
GBS Qobustan 4.55 64 ⇑P **Pn 08 49 17.8 -1.0**
GBS Qobustan 4.55 64 P **Pn 08 49 17.8 -1.0**
QSAR Qusar 4.59 50 ⇑P **Pn 08 49 19.4 +0.1**
QSAR Qusar 4.59 50 P **Pn 08 49 19.4 +0.1**
KSRV Kasrt alli 4.59 234 *e*P **Pn 08 49 21.9 +2.6**
KSRV AML AML 08 50 54.2
comp=Z,76nm,0.6s
NEY Neytrino 4.62 352 *e*P **Pn 08 49 20.1 +0.2**
NEY Neytrino 4.62 352 *e*P **Pn 08 49 20.1 +0.2**
QUBA Quba, Azerbaij 4.64 53 ⇑P **Pn 08 49 19.9 0.0**
QUBA Quba, Azerbaij 4.64 53 P **Pn 08 49 19.9 0.0**
ATGJ Altiaghaj 4.68 60 ⇑P **Pn 08 49 19.8 -0.8**
ATGJ Altiaghaj 4.68 60 P **Pn 08 49 19.8 -0.8**
SIZA Siyzn 4.75 58 ⇑P **Pn 08 49 21.0 -0.6**
SIZA Siyzn 4.75 58 P **Pn 08 49 21.0 -0.6**
DARE Darende-Malaty 4.77 271 *e*PN **Pn 08 49 23.7 +1.9**
DARE Darende-Malaty 4.77 271 *e*Pn **Pn 08 49 23.7 +1.9**
DARE Darende-Malaty 4.77 271 Pn **Pn 08 49 23.9 +2.0**
NCK Nalchik 4.82 0 *e*P **Pn 08 49 23.6 +1.1**
NCK Nalchik 4.82 0 *e*P **Pn 08 49 23.6 +1.1**
GROC Groznyy 4.83 20 *e*P **Pb 08 49 34.3 -0.4**
GROC pmax pmax
comp=Z,116nm,1.0s
KBZ Khabaz 5.08 354 Pn **Pn 08 49 30.8 +4.8**
comp=Z,0.2nm,0.3s,baz=164,slow=6.3,SNR=11
SLMH Al Salmeh 5.11 243 *e*P **Pn 08 49 26.4 -0.1**
SLMH *e*S **Sg 08 50 51.3 -3.0**
SLMH AML AML 08 51 15.3
comp=N,254nm,0.7s
SLMH AML AML 08 51 16.6
comp=E,245nm,0.6s
MAK Makhachkala 5.22 34 *e*P **Pn 08 49 25.9 -2.1**
MAK *e*S **Sn 08 50 27.3 -0.8**
MAK pmax pmax
comp=Z,221nm,1.6s
MAK MLR MLR
comp=Z,888nm,8.0s
MAK Makhachkala 5.22 34 *e*P **Pn 08 49 25.9 -2.1**
comp=Z,221nm,1.6s
MAK *e*S **Sn 08 50 27.3 -0.8**
comp=Z,888nm,8.0s
SVSK Karacayir 5.25 286 *e*PN **Pn 08 49 30.8 +2.5**
SVSK Karacayir 5.25 286 *e*Pn **Pn 08 49 30.8 +2.5**
SVSK Karacayir 5.25 286 Pn **Pn 08 49 30.8 +2.5**
KIV Kislovodsk 5.33 353 *e*P **Pn 08 49 32.2 +2.8**
KIV Kislovodsk 5.33 353 *e*P **Pn 08 49 32.2 +2.8**
KIV Kislovodsk 5.33 353 *e*Pn **Pn 08 49 32.2 +2.8**
KVAR Kislovodsk Arr 5.33 353 Pn **Pn 08 49 33.4 +4.0**
baz=126,slow=8.7,SNR=2.6
KVAR LR LR 08 52 05.7
comp=Z,481nm,19.5s,baz=114,slow=44
KMRS Kahramanmaras 5.39 260 *e*PN **Pn 08 49 32.7 +2.4**
KMRS Kahramanmaras 5.39 260 *e*Pn **Pn 08 49 32.7 +2.4**
KMRS Kahramanmaras 5.39 260 Pn **Pn 08 49 32.7 +2.4**
DRWC Darouich 5.85 252 *e*P **Pn 08 49 37.0 +0.3**
DRWC *e*S **Sb 08 51 08.0 +5.9**
DRWC AML AML 08 51 40.8
comp=N,54nm,0.7s
DRWC AML AML 08 51 41.7
comp=E,62nm,0.6s
GOF Gofitskoye 6.40 357⇑*e*P **Pn 08 49 46.1 +2.0**
GOF *e*S **Sb 08 51 11.0 -6.7**
GOF pmax pmax
comp=Z,15nm,0.6s
GOF smax smax
comp=E,51nm,0.9s
GOF Gofitskoye 6.40 357 *e*P **Pn 08 49 46.1 +2.0**
comp=E,15nm,0.6s
RABH Abou Rabah 6.64 232 *e*P **Pn 08 49 47.6 +0.2**
RABH *e*S **Sb 08 51 21.5 -3.3**
RABH AML AML 08 51 55.2
comp=E,38nm,0.8s
RABH AML AML 08 52 02.4
comp=N,25nm,0.7s
ARNB Al Arnab 6.67 248 *e*P **Pn 08 49 47.1 -0.9**
ARNB *e*S **Sb 08 51 30.0 +4.2**
ARNB AML AML 08 51 56.8
comp=E,56nm,0.7s
ARNB AML AML 08 52 07.3
comp=N,57nm,0.7s
ROOS tl_alroos 6.77 230 *e*P **Pn 08 49 49.3 0.0**
ROOS *e*S **Sb 08 51 28.6 +0.2**
ROOS AML AML 08 52 10.0
comp=E,43nm,0.7s
ROOS AML AML 08 52 24.0
comp=N,63nm,0.7s
BIDA Albida 6.86 240 *e*P **Pn 08 49 51.9 +1.4**
BIDA *e*S **Sb 08 51 30.6 -0.6**
BIDA AML AML 08 51 59.4
comp=N,120nm,0.6s
BIDA AML AML 08 52 07.6
comp=E,126nm,0.6s
HAWK Haweek 7.09 237 *e*P **Pn 08 49 49.5 -4.3**
HAWK *e*S **Sb 08 51 36.6 -1.3**
HAWK AML AML 08 52 08.2
comp=N,30nm,0.7s
HAWK AML AML 08 52 19.9
comp=E,32nm,0.6s
MARH Ras Al Marh 7.36 233 *e*P **Pn 08 49 59.1 +1.5**
MARH *e*S **Sb 08 51 43.0 -2.7**
MARH AML AML 08 52 22.8
comp=N,33nm,0.7s
MARH AML AML 08 52 31.4
comp=E,22nm,0.7s
BRTR Keskin Array B 7.79 281 Pn **Pn 08 50 05.0 +1.7**
comp=E,0.1nm,0.3s,baz=105,slow=12,SNR=4.6
BRTR Keskin Array B 7.79 281 *e*P **Pn 08 50 07.8 +4.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
TOTH TOTAH 7.84 230 *e*P Pn 08 49 58.5 -5.5
TOTH *e*S **Sb 08 51 53.9 -5.5**
TOTH AML AML 08 52 41.4
comp=N,21nm,0.6s
TOTH AML AML 08 52 42.2
comp=E,21nm,0.9s
BRBR Barbar 8.10 232 *e*P **Pn 08 50 03.1 -4.5**
BRBR *e*S Sb 08 52 00.9 -6.0
BRBR AML AML 08 52 55.8
comp=N,15nm,0.7s
BRBR AML AML 08 53 09.3
comp=E,17nm,0.7s
ASF Jabal al Asfar 8.46 222 Pn **Pn 08 50 14.1 +1.5**
comp=E,0.3nm,0.3s,baz=12,slow=12,SNR=5.1
ASF Lg Lg 08 52 35.8
comp=E,0.1nm,0.3s,baz=172,slow=15,SNR=3.2
MMAI Mount Meron Ar 8.70 232 Pn **Pn 08 50 17.2 +1.4**
comp=E,1.8nm,0.3s,baz=80,slow=16,SNR=2.9
MMAI LR LR 08 53 23.0
comp=E,65nm,21.3s,baz=325,slow=37
GEYT Alibeck 11.46 89 Pn **Pn 08 50 53.0 -0.5**
comp=E,0.1nm,0.3s,baz=305,slow=10,SNR=4.0
ISR Istrita 14.21 302⇑*i*P **P 08 51 38.2 -0.4**
ISR Istrita 14.21 302⇑P **P 08 51 38.2 -0.4**
ISR Istrita 14.21 302 P **P 08 51 38.2 -0.4**
LPSR Galich'ya Gora 14.30 348 *e*P **Pn 08 51 32.6 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.6s
PLOR Plostina 14.43 305⇑*i*P **P 08 51 41.8 +0.9**
PLOR Plostina 14.43 305⇑P **P 08 51 41.8 +0.9**
PLOR Plostina 14.43 305 P **P 08 51 41.8 +0.9**
MLR Muntele Rosu 14.74 303⇑*i*P **P 08 51 44.9 +0.4**
MLR Muntele Rosu 14.74 303⇑P **P 08 51 44.9 +0.4**
MLR Muntele Rosu 14.74 303 P **P 08 51 44.9 +0.4**
RAYN Ar Rayn 15.19 173 *e*Pn **Pn 08 51 40.9 -3.6**
comp=Z,10nm,0.8s
DOPR Dopca 15.28 304⇓*i*P **P 08 51 52.2 +1.8**
VOIR 15.31 302⇓*i*P **P 08 51 52.0 +1.2**
VOIR 15.31 302⇓P **P 08 51 52.0 +1.2**
VOIR 15.31 302 P **P 08 51 52.0 +1.2**
ARR Arges 15.57 302⇑*i*P **P 08 51 55.4 +1.8**
AKTO Aktyubinsk 15.60 36 Pn **Pn 08 51 50.0 +0.3**
comp=Z,0.3nm,0.3s,baz=227,slow=11,SNR=13
AKTO LR LR 08 59 42.0
comp=Z,77nm,18.6s,baz=211,slow=44
AKTO Aktyubinsk 15.60 36 P **Pn 08 51 50.0 +0.3**
AKTO Aktyubinsk 15.60 36 Pn **Pn 08 51 50.0 +0.3**
AKASG Malin Array Be 15.74 324 Pn **Pn 08 51 52.2 +0.7**
comp=Z,0.6nm,0.3s,baz=135,slow=12,SNR=2.9
AKASG Malin Array Be 15.74 324 *i* P **P 08 51 57.0 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 15.74 324 *i* P **P 08 51 57.0 +1.6**
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 15.74 324 *e*P **P 08 51 54.6 -0.8**
AKBB pmax pmax
comp=Z,22nm,1.6s
AKBB Malin Array Si 15.74 324 *e*P **P 08 51 54.6 -0.8**
comp=Z,22nm,1.6s
AKBB Malin Array Si 15.74 324 *e*Pn **P 08 51 54.6 -0.8**
comp=Z,22nm,1.6s
KIEV Kiev 15.74 324 *e*P **Pn 08 51 52.7 +1.2**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
KIEV Kiev 15.74 324 *e*Pn **P 08 51 54.3 -1.1**
comp=Z,19nm,1.5s
KIEV Kiev 15.74 324 *e*Pn **P 08 51 54.3 -1.1**
comp=Z,19nm,1.5s
ABKAR Akbulak array 15.81 43 *e*Pn **Pn 08 51 53.2 +0.9**
comp=Z,31nm,0.8s
ABKAR Akbulak array 15.81 43 *e*Pn **Pn 08 51 53.2 +0.9**
comp=Z,31nm,0.8s
BURAR Bucovina Array 16.07 310⇑*i*P **P 08 52 02.4 +3.1**
BURAR Bucovina Array 16.07 310⇑P **P 08 52 02.4 +3.1**
BUR08 Bucovina Ar. S 16.10 310 *e*Pn **P 08 51 59.8 +0.2**
OBN Obninsk 17.12 346 *e*P **P 08 52 11.4 +0.8**
OBN pmax pmax
comp=Z,27nm,1.2s
OBN Obninsk 17.12 346 *e*P **P 08 52 11.4 +0.8**
comp=Z,27nm,1.2s
DRGR 17.31 305⇑*i*P **P 08 52 15.2 +2.3**
DRGR 17.31 305⇑P **P 08 52 15.2 +2.3**
DRGR 17.31 305 P **P 08 52 15.2 +2.3**
UOSS Minazif 17.36 138 *e*Pn **P 08 52 13.1 -0.5**
comp=Z,12nm,0.9s
UOSS Minazif 17.36 138 *e*Pn **P 08 52 13.1 -0.5**
comp=Z,12nm,0.9s
MDVR Moldovita 17.40 298⇑*i*P **P 08 52 15.0 +1.1**
SIRR Siria 17.82 302⇓*i*P **P 08 52 20.8 +2.2**
UZH Uzhgorod 18.28 310 *e*P **Pn 08 52 20.0 -3.4**
CRVS Cervenica-Dubn 18.89 310 *e*P **Pn 08 52 34.8 +3.9**
CRVS Cervenica-Dubn 18.89 310 *e*P **Pn 08 52 34.8 +3.9**
WSAR Wadi Sarin 20.04 136 P Pn 08 52 44.9 +0.1
comp=Z,0.4nm,0.3s,baz=335,slow=9.3,SNR=5.8
VYHS Vyhne 20.35 307 *e*P Pn 08 52 50.7 +2.4
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 20.35 307 *e*P Pn 08 52 50.7 +2.4
ARU Arti 20.37 24 P **P 08 52 47.2 +0.8**
comp=Z,8.5nm,0.4s,baz=228,slow=5.1,SNR=18
ARU LR LR 09 02 43.7
comp=Z,71nm,20.5s,baz=303,slow=43
ARU Arti 20.37 24*d*i*P* **P 08 52 47.1 +0.8**
ARU 08 53 02.1
ARU S Sn 08 56 37.5 0.0
ARU SS **SnSn 08 56 55.5 +3.4**
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 20.37 24 *i* P **P 08 52 47.1 +0.8**
comp=Z,31nm,1.0s
ARU Arti 20.37 24 *e*P **P 08 52 46.6 +0.3**
comp=Z,24nm,0.8s
SUW Suwalki 20.71 324 P Pn 08 52 51.7 -0.7
SUW pmax pmax
comp=Z,39nm,0.8s
SUW Suwalki 20.71 324 P Pn 08 52 51.7 -0.7
comp=Z,39nm,0.8s
VRAC Vranov 22.02 308 P **P 08 53 06.2 +2.0**
comp=Z,4.7nm,0.8s,baz=123,slow=6.4,SNR=4.5
VRAC Vranov 22.02 308⇓*i*P **P 08 53 06.2 +2.0**
BOJS Bojanci 22.03 297 *e*P **P 08 53 10.5 +6.2**
CONA Conrad Observa 22.09 304 *i* pP **P 08 53 06.9 +1.9**
comp=Z,5.7nm,1.2s
ARSA Arzberg 22.15 302 *i* pP **P 08 53 07.1 +1.4**
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 22.36 355 *e*P **P 08 53 06.6 -1.0**
KLMR pmax pmax
comp=Z,36nm,0.9s
KLMR Klimovskoe 22.36 355 *e*P **P 08 53 06.6 -1.0**
comp=Z,36nm,0.9s
VISS Visnje 22.36 298 *e*P P 08 53 16.5 +8.7
DPC Dobruska-Polom 22.54 310 *e*P **P 08 53 11.3 +1.5**
DPC Dobruska-Polom 22.54 310 *e*P **P 08 53 11.3 +1.5**
DPC Dobruska-Polom 22.54 310 *e*P **P 08 53 11.3 +1.5**
SOKR Solikamsk 22.58 18⇑*i*P **P 08 53 08.5 -1.5**
SOKR pmax pmax
comp=Z,11nm,0.9s
OBKA Obir 22.67 300 *i* P **P 08 53 15.2 +4.0**
comp=Z,4.9nm,1.1s
TREC Trest 22.70 307 *e*P **P 08 53 13.6 +2.1**
TREC Trest 22.70 307 *e*P **P 08 53 13.6 +2.1**
TREC Trest 22.70 307 *e*P **P 08 53 13.6 +2.1**
MOA Molln 23.11 303 *i* P **P 08 53 17.1 +1.3**
comp=Z,14nm,1.8s
MOA Molln 23.11 303 P **P 08 53 17.1 +1.3**
comp=Z,14nm,1.8s
AQU L'Aquila 23.17 289 *e*P **P 08 53 20.1 +3.6**
AQU pmax pmax
comp=Z,25nm,1.1s
AQU L'Aquila 23.17 289 *e*P **P 08 53 20.1 +3.6**
comp=Z,25nm,1.1s
AQU L'Aquila 23.17 289 *e*P **P 08 53 20.1 +3.6**
comp=Z,25nm,1.1s
BRVK Borovoye 23.34 43*ce*P **P 08 53 18.9 +0.9**
BRVK pmax pmax
comp=Z,53nm,2.5s
BRVK Borovoye 23.34 43 *e*P **P 08 53 18.9 +0.9**
comp=Z,53nm,2.5s
BVAR Borovoye Array 23.38 43 P **P 08 53 19.0 +0.6**
comp=Z,4.1nm,0.9s,baz=238,slow=8.5,SNR=11
PRU Pruhonice 23.50 308 *e*P **P 08 53 22.9 +3.3**
PRU Pruhonice 23.50 308 *e*P **P 08 53 22.9 +3.3**
PRU Pruhonice 23.50 308 *e*P **P 08 53 22.9 +3.3**
KBA Koelnbreinsper 23.58 301 *i* pP **P 08 53 20.8 +0.1**
comp=Z,7.5nm,1.2s
GERES GERESS Array B 23.71 305 P **P 08 53 22.0 +0.2**
comp=Z,1.1nm,0.7s,baz=120,slow=6.6,SNR=9.6
GERES GERESS Array B 23.71 305 P **P 08 53 22.0 +0.2**
GERES GERESS Array B 23.71 305 P **P 08 53 22.0 +0.2**
KHC Kasperske Hory 23.86 306 *e*P **P 08 53 23.5 +0.4**
KHC Kasperske Hory 23.86 306 *e*P **P 08 53 23.6 +0.4**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 23.86 306 *e*P **P 08 53 23.6 +0.4**
comp=Z,2.5nm,1.0s
KHC Kasperske Hory 23.86 306 *e*P **P 08 53 23.6 +0.4**
comp=Z,2.5nm,1.0s
BRG Berggiesshubel 24.14 310 *e*(P) **P 08 53 32.0 +6.3**
comp=Z,4.9nm,1.0s
BRG Berggiesshubel 24.14 310 *e*P **P 08 53 32.0 +6.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s
WTTA Wattenberg 24.76 301 *i* pP **P 08 53 32.3 +0.7**
comp=Z,7.6nm,1.0s
WTTA Wattenberg 24.76 301 P **P 08 53 32.3 +0.7**
comp=Z,7.6nm,1.0s
WATA Walderalm 24.81 301 *i* P **P 08 53 33.8 +1.8**
comp=Z,5.0nm,0.7s
WATA Walderalm 24.81 301 P **P 08 53 33.8 +1.8**
comp=Z,5.0nm,0.7s
CLL Collm 24.84 311⇑*i*P **P 08 53 32.1 0.0**
CLL *e* 08 53 35.0
CLL *e* 08 53 38.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 24.84 311 *e*P **P 08 53 32.2 0.0**
comp=Z,10nm,1.0s
CLL Collm 24.84 311⇑*i*P **P 08 53 32.1 0.0**
comp=Z,5.0nm,0.8s
CLL *es*P **pP 08 53 35.0 -0.8**
CLL *e* 08 53 38.0
CLL Collm 24.84 311 *e*P **P 08 53 32.1 0.0**
comp=Z,10nm,1.0s
KSH Kashi 25.09 78 *e*P **P 08 53 34.5 -0.2**
KSH pP pP 08 53 38.8 +0.5
KSH sP sP 08 53 42.0 +2.1
KSH PP **PnPn 08 54 11.3 +3.1**
KSH PcP **PcP 08 57 11.8 +2.9**
KSH S **S 08 57 55.0 -4.1**
KSH sS pS 08 58 02.3 -0.7
KSH SS **SnSn 08 58 52.0 +3.7**
KSH PcS **PcS 09 00 52.3 +3.1**
KSH pmax pmax
comp=Z,28nm,0.7s
KSH pmax pmax
comp=Z,240nm,6.1s
KSH LR LR
comp=N,99nm,9.0s
KSH LR LR
comp=E,140nm,6.1s
KSH LR LR
comp=Z,190nm,6.6s
MOTA Moosalm 25.13 301 *i* pP **P 08 53 36.0 +1.1**
comp=Z,7.6nm,0.7s
MOTA Moosalm 25.13 301 P **P 08 53 36.0 +1.1**
comp=Z,7.6nm,0.7s
FINES FINESS Array B 25.25 340 P **P 08 53 34.5 -1.2**
comp=Z,1.2nm,0.8s,baz=176,slow=12,SNR=3.9
FINES LR LR 09 04 04.2
comp=Z,68nm,20.6s,baz=129,slow=38
FETA Feichten 25.34 300 *i* pP **P 08 53 38.8 +2.0**
comp=Z,7.5nm,1.1s
FETA Feichten 25.34 300 P **P 08 53 38.8 +2.0**
comp=Z,7.5nm,1.1s
RETA Reutte 25.38 301 *i* P **P 08 53 38.1 +1.0**
comp=Z,4.5nm,1.0s
RETA Reutte 25.38 301 P **P 08 53 38.1 +1.0**
comp=Z,4.5nm,1.0s
FUORN Ofenpass-Fuorn 25.61 299 *e*P **P 08 53 40.4 +1.0**
comp=Z,8.6nm,1.2s
DAVOX Davos/Dischmat 25.89 299 P **P 08 53 40.7 -1.2**
comp=Z,2.5nm,0.5s,baz=11,slow=10,SNR=3.5
DAVA Damuels 25.95 300 *e*P **P 08 53 42.4 0.0**
comp=Z,6.3nm,0.9s
DAVA Damuels 25.95 300 P **P 08 53 42.4 0.0**
comp=Z,6.3nm,0.9s
KURBB Kurchatov Arra 27.34 53 P **P 08 53 55.8 +1.1**
comp=Z,7.8nm,0.8s,baz=263,slow=9.1,SNR=48
KURK Kurchatov 27.41 52*ce*P **P 08 53 56.9 +1.6**
KURK pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 27.41 52 *e*P **P 08 53 56.7 +1.4**
comp=Z,11nm,0.9s
HFS Hagfors 28.55 329 P **P 08 54 06.0 +0.6**
comp=Z,2.5nm,0.6s,baz=121,slow=9.0,SNR=3.7
HFS Hagfors 28.55 329 P **P 08 54 06.0 +0.6**
MAKZ Makanchi 29.12 61 *e*P **P 08 54 10.0 -0.7**
MAKZ pmax pmax
comp=Z,16nm,0.7s
MAKZ Makanchi 29.12 61 *e*P **P 08 54 10.0 -0.7**
comp=Z,16nm,0.7s
MK31 Makanchi Array 29.34 61 *e*P **P 08 54 11.4 -1.2**
MK31 Makanchi Array 29.34 61 *e*P **P 08 54 11.4 -1.2**
MKAR Makanchi Array 29.34 61*ce*P **P 08 54 10.8 -1.8**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 29.34 61*ce*P **P 08 54 10.8 -1.8**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 29.34 61 *e*P **P 08 54 11.4 -1.2**
comp=Z,52nm,0.6s
ZALV Zalesovo Beam 31.81 48 P **P 08 54 34.5 +0.3**
comp=Z,2.7nm,0.7s,baz=263,slow=9.2,SNR=7.8
ARCES ARCESS Array B 32.41 348 LR LR 09 08 21.7
comp=Z,104nm,19.2s,baz=42,slow=37
WMQ Urumqi 33.27 67 P **P 08 54 48.0 +0.7**
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,150nm,6.5s
WMQ LR LR
comp=N,44nm,20.1s
WMQ LR LR
comp=E,65nm,31.7s
WMQ LR LR
comp=Z,31nm,18.5s
TAM Tamanrasset 36.04 255 *e*P **P 08 55 12.4 +0.9**
TAM pmax pmax
comp=Z,7.0nm,1.2s
TAM Tamanrasset 36.04 255 *e*P **P 08 55 12.4 +0.9**
comp=Z,6.8nm,1.2s
ESDC Sonseca Array 36.53 287 P **P 08 55 14.0 -1.4**
comp=Z,1.0nm,0.5s,baz=72,slow=8.2,SNR=6.5
NRIK Noril'sk 38.59 23 P **P 08 55 33.6 +1.2**
comp=Z,1.2nm,0.4s,baz=270,slow=4.8,SNR=3.8
KMBO Kilima Mbogo 40.02 190 LR LR 09 11 24.1
comp=Z,41nm,20.0s,baz=92,slow=35
GTA Gaotai 43.08 71 *e*P **P 08 56 12.0 +2.0**
GTA pP sP 08 56 17.3 +2.0
GTA sP pP 08 56 20.3 +6.5
GTA pmax pmax
comp=Z,6.0nm,1.4s
TOA0 Torodi Ar. Sit 44.89 247 *e*P **P 08 56 23.8 -0.8**
comp=Z,8.2nm,1.3s
TORD Torodi Ar. Bea 44.89 247 P **P 08 56 22.6 -2.0**
comp=Z,3.0nm,1.0s,baz=46,slow=7.8,SNR=12
ULN Ulaanbaatar 45.94 57*ce*P **P 08 56 34.7 +1.9**
ULN pmax pmax
comp=Z,7.0nm,1.2s
LZH Lanzhou 47.21 73 *e*P **P 08 56 44.8 +1.9**
LZH pP sP 08 56 48.0 -0.3
LZH sP pP 08 56 51.8 +5.0
LZH PP PP 08 57 54.5 -39
LZH S **S 09 03 31.5 -4.2**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=N,160nm,15.2s
LZH LR LR
comp=E,150nm,15.8s
LZH LR LR
comp=Z,220nm,15.7s
KMI Kunming 51.21 87 P **P 08 57 13.8 0.0**
KMI pP pP 08 57 17.0 -0.6
KMI sP sP 08 57 18.3 -0.8
KMI pmax pmax
comp=Z,16nm,0.5s
CMAR Chiang Mai Arr 51.83 97 P **P 08 57 18.5 +0.3**

comp=Z,1.4nm,0.3s,baz=301,slow=7.6,SNR=9.7
XAN Xi'an 51.84 74 P P 08 57 14.0 -4.2
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,95nm,5.9s
TIXI Tiksi 52.37 23 *e*P **P 08 57 21.2 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 52.37 23 *e*P **P 08 57 23.4 +2.0**
comp=Z,4.9nm,0.8s
HIA Hailar 53.65 52 *e*P **P 08 57 32.3 +1.0**
HIA pmax pmax
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. 63.40 54 P **P 08 58 38.6 -0.7**
comp=Z,0.8nm,0.5s,baz=297,slow=8.2,SNR=5.2
KSAR Wonju Array Be 64.00 62 P **P 08 58 43.3 -0.1**
KSAR Wonju Array Be 64.00 62 P **P 08 58 43.2 -0.1**
KSRS Korea Array 64.02 62 P **P 08 58 43.2 -0.2**
comp=Z,3.1nm,1.0s,baz=286,slow=6.5,SNR=11
SEY Seymchan 64.03 29 *e*P **P 08 58 44.9 +1.7**
BOSA Boshof 69.09 197 P **P 08 59 16.4 +0.5**
comp=Z,3.1nm,0.8s,baz=355,slow=5.9,SNR=4.2
BOSA Boshof 69.09 197 *e*P **P 08 59 16.2 +0.3**
comp=Z,41nm,1.6s
TOLK Toolik Lake Re 72.56 5 *e*P **P 08 59 37.1 +0.6**
comp=Z,33nm,1.7s
PET Petropavlovsk 72.82 35⇑*e*P **P 08 59 36.7 -1.6**
PET pmax pmax
comp=Z,37nm,1.0s
TTA Tatalina 77.53 9 *e*P **P 09 00 05.6 +0.2**
TTA pmax pmax
comp=Z,27nm,1.8s
TTA Tatalina 77.53 9 *e*P **P 09 00 05.6 +0.2**
comp=Z,27nm,1.8s
DAWY Dawson 77.58 1 *e*P **P 09 00 05.5 -0.1**
comp=Z,24nm,1.8s
MENT Mentasta 78.57 3 *e*P **P 09 00 11.7 +0.6**
comp=Z,19nm,1.7s
DIV Divide 80.26 5 *e*P **P 09 00 19.3 -1.0**
comp=Z,16nm,0.9s
WRA Warramunga Arr 102.76 105 *i*P **Pdif 09 02 06.9 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.9s

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*IDC **28** 08:50:48.7±3.4, 35°.88N×70°.28E, h67km±29km, mb3.9/13, mb1 4.0/19, mb1mx3.6/78, mbtmp4.3/19, ML3.9/6, MS2.8/3, Ms1 2.8/3, ms1mx2.4/55, Error ellipse: s-maj=23.4km s-min=17.5km az=173.0*
*MOS **28** 08:50:49.1±0.9, 36°.12N×70°.24E, h69km, mb4.3/10, Error ellipse: s-maj=12.9km s-min=6.2km az=84.2*
*NEIC **28** 08:50:50.0±3.1, 36°.06N×70°.21E, h59km±25km, mb4.2/4, Error ellipse: s-maj=29.8km s-min=12.3km az=207.0*
*NNC **28** 08:50:56.9±3.9, 36°.73N×69°.93E, h64km±101km, mb4.2, mpv4.1, Error ellipse: s-maj=29.8km s-min=25.6km az=154.0*
ISC 28 08:50:47.7±0.7, 36°.05N±0°.07×70°.17E±0°.06, h50km, n80, σ2§70/84, mb4.1/20, 6C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.68**	**15**	⇓Pn	**Pn**	**08 52 25.2**	**+1.9**
	4.6nm,0.3s						
MNAS				⇑Sn	**Sn**	**08 53 34.3**	**-3.8**
	43nm,0.5s						
MNAS	**Manas**	**6.68**	**15**	*i* PN	**Pn**	**08 52 25.8**	**+2.5**
MNAS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KK31	**Karatay Array**	**7.05**	**2**	⇓Pn	**Pn**	**08 52 30.3**	**+2.0**
	comp=Z,14nm,0.6s,baz=189,slow=13,SNR=118						
KK31				Sn	**Sn**	**08 53 40.2**	**-6.9**
	comp=Z,52nm,0.8s,baz=192,slow=18,SNR=3.8						
KK31	**Karatay Array**	**7.05**	**2**	*e*PN	**Pn**	**08 52 30.0**	**+1.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KKAR	**Karatay Array**	**7.05**	**2**	*e*PN	**Pn**	**08 52 30.3**	**+2.0**
KKAR	**Karatay Array**	**7.05**	**2**	*e*Pn	**Pn**	**08 52 30.3**	**+2.0**
AAK	**Ala-Archa**	**7.38**	**26**	P	**Pn**	**08 52 34.7**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=179,slow=5.2,SNR=18						
AAK	**Ala-Archa**	**7.38**	**26**	⇑Pn	**Pn**	**08 52 34.6**	**+1.7**
	comp=Z,5.8nm,0.5s						
AAK				⇓Sn	**Sn**	**08 53 51.8**	**-3.6**
	comp=Z,56nm,1.1s						
AAK	**Ala-Archa**	**7.38**	**26**	P	**Pn**	**08 52 35.7**	**+2.7**
AAK				S	**Sn**	**08 53 53.3**	**-2.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK				smax	smax		
	comp=N,41nm,0.8s						
TKM2	**Tokmak 2**	**8.04**	**30**	⇓Pn	**Pn**	**08 52 42.9**	**+0.9**
	comp=N,4.4nm,0.5s						
TKM2				⇓Sn	**Sn**	**08 54 07.5**	**-4.2**
	comp=N,19nm,0.8s						
TKM2	**Tokmak 2**	**8.04**	**30**	P	**Pn**	**08 52 42.9**	**+0.9**
TKM2				S	**Sn**	**08 54 07.5**	**-4.2**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TKM2				smax	smax		
	comp=N,19nm,0.8s						
GEYT	**Alibeck**	**9.83**	**285**	P	**Pn**	**08 53 08.3**	**+2.0**
	comp=N,2.2nm,0.3s,baz=118,slow=11,SNR=21						
GEYT				LR	LR	08 57 48.8	
	comp=N,32nm,18.5s,baz=250,slow=42						
PDGK	**Podgornoye**	**10.21**	**42**	⇓Pn	**Pn**	**08 53 13.4**	**+1.7**
	comp=N,2.2nm,0.6s						
PDGK				⇑Sn	**Sn**	**08 55 09.7**	**+4.9**
	comp=N,12nm,0.9s						
PDGK	**Podgornoye**	**10.21**	**42**	P	**Pn**	**08 53 13.4**	**+1.7**
PDGK				S	**Sn**	**08 55 09.7**	**+4.9**
PDGK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDGK				smax	smax		
	comp=N,12nm,0.9s						
PYUN	**Piuthan**	**13.44**	**123**	*e*P	Pn	08 53 51.9	-4.0
	comp=N,48nm,0.7s						
DANN	**Dangsing**	**13.82**	**120**	*e*P	Pn	08 53 57.4	-3.8
MAKZ	**Makanchi**	**13.91**	**36**	*e*P	**Pn**	**08 54 03.3**	**+1.3**
MAKZ				pmax	pmax		
	comp=Z,16nm,0.7s						
MAKZ	**Makanchi**	**13.91**	**36**	*e*Pn	**Pn**	**08 54 03.3**	**+1.3**
	comp=Z,16nm,0.7s						
MK31	**Makanchi Array**	**14.05**	**36**	*e*P	**Pn**	**08 54 06.1**	**+2.2**
MK31	**Makanchi Array**	**14.05**	**36**	*e*Pn	**Pn**	**08 54 06.0**	**+2.2**
MKAR	**Makanchi Array**	**14.05**	**36**	P	**Pn**	**08 54 06.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=226,slow=14,SNR=13						
MKAR	**Makanchi Array**	**14.05**	**36**	*e*P	**Pn**	**08 54 06.0**	**+2.2**
	comp=Z,52nm,0.6s						
KOLN	**Koldanda**	**14.07**	**122**	*e*P	Pn	08 54 00.3	-4.1
	comp=Z,21nm,0.4s						
GKN	**Gorkha**	**14.65**	**119**	*e*P	Pn	08 54 07.5	-4.5
	comp=Z,21nm,0.3s						
GKN				*e*S	Sn	08 56 38.1	-15
AB31	**Akbulak array**	**15.17**	**334**	⇓Pn	**Pn**	**08 54 18.8**	**+0.2**
	comp=Z,9.2nm,0.5s,baz=153,slow=12,SNR=154						
AB31				⇑Sn	Sn	08 56 54.3	-11
	comp=Z,6.5nm,0.6s,baz=150,slow=24,SNR=8.8						
AB31	**Akbulak array**	**15.17**	**334**	*i* P	**Pn**	**08 54 19.1**	**+0.5**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ABKAR	**Akbulak array**	**15.17**	**334**	*e*P	**Pn**	**08 54 18.8**	**+0.2**
	comp=Z,78nm,1.0s						
DMN	**Daman**	**15.21**	**119**	*e*P	**Pn**	**08 54 14.9**	**-4.6**
	comp=Z,48nm,0.8s						
KKN	**Kakani**	**15.23**	**118**	*e*P	**Pn**	**08 54 15.5**	**-4.2**
	comp=Z,52nm,0.6s						
PKIN	**Phulchoki**	**15.44**	**119**	*e*P	**Pn**	**08 54 18.1**	**-4.4**
	comp=Z,45nm,0.5s						
PKI	**Pulchoki**	**15.45**	**119**	*e*P	**Pn**	**08 54 17.8**	**-4.9**
	comp=Z,23nm,0.4s						
GUN	**Gumba**	**15.59**	**117**	*e*P	**Pn**	**08 54 19.9**	**-4.6**
	comp=Z,15nm,0.4s						
KURBB	**Kurchatov Arra**	**15.77**	**20**	P	**P**	**08 54 29.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=12						
KURK	**Kurchatov**	**15.88**	**20**	*e*P	**Pn**	**08 54 29.2**	**+1.5**
KURK	**Kurchatov**	**15.88**	**20**	P	**P**	**08 54 29.5**	**-1.1**
JIRN	**Jiri**	**15.96**	**117**	*e*P	**Pn**	**08 54 24.6**	**-4.6**
	comp=Z,283nm,0.4s						
RAMN	**Ramite**	**16.67**	**118**	*e*P	**Pn**	**08 54 33.2**	**-4.9**
	comp=Z,33nm,0.5s						
AKTO	**Aktyubinsk**	**16.86**	**332**	P	**P**	**08 54 43.0**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=140,slow=13,SNR=13						
AKTO	**Aktyubinsk**	**16.86**	**332**	⇑Pn	**Pn**	**08 54 41.3**	**+1.3**
	comp=Z,16nm,0.9s						
AKTO				⇓Sn	**Sn**	**08 57 37.5**	**-8.7**
	comp=Z,20nm,1.1s						
AKTO	**Aktyubinsk**	**16.86**	**332**	*i* P	**P**	**08 54 42.4**	**+1.0**
AKTO				pmax	pmax		
	comp=Z,16nm,0.9s						
BVAR	**Borovoye Array**	**16.98**	**0**	P	**P**	**08 54 43.1**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=165,slow=9.7,SNR=18						
BRVK	**Borovoye**	**17.01**	**0**	*e*P	**P**	**08 54 45.6**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**17.01**	**0**	*e*P	**P**	**08 54 44.9**	**+1.8**
	comp=Z,11nm,0.6s						
TAPN	**Taplejung**	**17.24**	**115**	*e*P	**Pn**	**08 54 42.6**	**-2.6**
	comp=Z,44nm,0.6s						
ODAN	**Odare**	**17.29**	**117**	*e*P	**Pn**	**08 54 42.1**	**-3.7**
	comp=Z,12nm,0.4s						
LSA	**Lhasa**	**18.71**	**104**	*e*P	**Pn**	**08 55 04.2**	**+0.9**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**18.71**	**104**	*e*P	**Pn**	**08 55 04.2**	**+0.9**
	comp=Z,11nm,0.8s						
GNI	**Garni**	**20.41**	**289**	*e*P	Pn	08 55 26.5	+3.4
GNI				pmax	pmax		
	comp=Z,59nm,0.9s						
ZALV	**Zalesovo Beam**	**20.61**	**25**	P	**P**	**08 55 22.4**	**0.0**
	comp=Z,32nm,0.4s,baz=223,slow=11,SNR=84						
NVS	**Novosibirsk**	**20.84**	**22**	*e*P	**P**	**08 55 26.2**	**+1.2**
NVS				pmax	pmax		
	comp=N,21nm,0.9s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,22nm,0.9s						
ZEI	**Tsey**	**21.33**	**296**	*e*P	**P**	**08 55 35.4**	**+4.8**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**21.85**	**343**	P	**P**	**08 55 37.7**	**+1.9**
	comp=Z,6.0nm,0.2s,baz=173,slow=5.7,SNR=4.0						
ARU	**Arti**	**21.85**	**343**	*c i*P	**P**	**08 55 38.3**	**+2.5**
ARU						08 56 05.7	
ARU				S	**S**	**08 59 36.7**	**+2.3**
ARU				SS	**SnSn**	**09 00 02.8**	**+0.5**
ARU				pmax	pmax		
	comp=Z,21nm,1.7s						
ARU	**Arti**	**21.85**	**343**	*e*P	**P**	**08 55 38.2**	**+2.4**
	comp=Z,5.8nm,0.6s						
KIV	**Kislovodsk**	**22.42**	**299**	*i* P	**P**	**08 55 42.9**	**+0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRTR	**Keskin Array B**	**28.94**	**288**	P	**P**	**08 56 43.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=70,slow=12,SNR=2.7						
BRTR				LR	LR	09 12 02.9	
	comp=Z,26nm,18.6s,baz=330,slow=44						
ULN	**Ulaanbaatar**	**29.58**	**55**	*i* P	**P**	**08 56 49.7**	**+1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
OBN	**Obninsk**	**29.85**	**320**	*i* P	**P**	**08 56 48.7**	**-1.3**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**32.55**	**69**	*e*P	**P**	**08 57 14.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
AKASG	**Malin Array Be**	**32.71**	**310**	*i* P	**P**	**08 57 12.5**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**32.72**	**310**	*i* P	**P**	**08 57 16.5**	**+1.2**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NRIK	**Noril'sk**	**34.69**	**11**	P	**P**	**08 57 32.9**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=208,slow=6.1,SNR=5.9						
FINES	**FINESS Array B**	**37.49**	**327**	P	**P**	**08 57 57.6**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=116,slow=9.3,SNR=13						
FINES	**FINESS Array B**	**37.49**	**327**	*e*P	**P**	**08 57 58.5**	**+2.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NJ2	**Nanjing**	**40.20**	**81**	*e*P	P	08 58 15.3	-4.0
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**08 58 28.9**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=131,slow=7.1,SNR=6.4						
HFS	**Hagfors**	**43.01**	**322**	P	**P**	**08 58 42.9**	**+1.0**
	comp=Z,6.6nm,0.6s,baz=96,slow=10,SNR=11						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**08 58 53.4**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**08 58 53.2**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=98,slow=8.0,SNR=11						
NOA	**NORSAR Array B**	**44.34**	**323**	*e*P	**P**	**08 58 54.0**	**+1.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**45.66**	**70**	LR	LR	09 20 59.1	
	comp=Z,8.8nm,21.9s,baz=330,slow=40						
TIXI	**Tiksi**	**46.44**	**22**	P	**P**	**08 59 09.2**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=285,slow=4.9,SNR=8.4						
TIXI	**Tiksi**	**46.44**	**22**	*i* P	**P**	**08 59 08.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,19nm,2.6s						
TORD	**Torodi Ar. Bea**	**65.04**	**268**	P	**P**	**09 01 21.7**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=50,slow=6.2,SNR=8.1						
INK	**Inuvik**	**74.46**	**9**	P	**P**	**09 02 18.6**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=341,slow=8.0,SNR=3.3						
ILAR	**Eielson Array**	**75.39**	**15**	P	**P**	**09 02 23.1**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=334,slow=4.6,SNR=4.5						
WRA	**Warramunga Arr**	**82.32**	**121**	P	**P**	**09 03 03.7**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=323,slow=4.9,SNR=5.1						
WRA	**Warramunga Arr**	**82.32**	**121**	*e*P	**P**	**09 03 06.0**	**+1.8**
ASAR	**Alice Springs**	**84.55**	**124**	P	**P**	**09 03 13.7**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.4,SNR=4.1						
ASAR	**Alice Springs**	**84.55**	**124**	*e*P	**P**	**09 03 15.5**	**-0.1**

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*CSEM **28** 08:56:34.1, 37°.16N×22°.04E, h6km, ML1.6/4*
ATH 28 08:56:34.1, 37°.16N×22°.04E, h6km±2km, ML1.6/4, Error ellipse: s-maj=3.1km s-min=1.4km az=98.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.09**	**284**	P	Pg	08 56 36.2	0.0
ITM				S	Sg	08 56 37.6	0.0
ITM				AML	AML	08 56 38.3	
	comp=N,299μm,0.3s						
ITM				AML	AML	08 56 38.3	
	comp=E,133μm,0.1s						
ITM	**Ithomi**	**0.09**	**284**	P	Pg	08 56 36.2	0.0
ITM				S	Sg	08 56 37.6	0.0
PYL	**PYLOS**	**0.35**	**222**	P	Pg	08 56 40.7	-0.2
PYL				S	Sg	08 56 46.8	+1.2
PYL	**PYLOS**	**0.35**	**222**	P	Pg	08 56 40.7	-0.2
PYL				S	Sg	08 56 46.8	+1.2
AMT	**Artemida-Makis**	**0.46**	**325**	P	Pg	08 56 43.2	+0.3
AMT				AML	AML	08 56 53.2	
	comp=N,152μm,0.3s						
AMT				AML	AML	08 56 54.2	
	comp=E,120μm,0.7s						
AMT	**Artemida-Makis**	**0.46**	**325**	P	Pg	08 56 43.2	+0.3

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*UPP **28** 08:58:33.7±2.7, 67°.62N×34°.01E, h0km, ML1.8*
*HEL **28** 08:58:33.7±0.8, 67°.70N×33°.92E, h0km, ML2.0, Explosion*
*CSEM **28** 08:58:34.7±0.5, 67°.67N×33°.70E, h1km, ML2.5, Error ellipse: s-maj=11.2km s-min=5.2km az=73.0, Mining explosion.*
*KOLA **28** 08:58:34.5, 67°.65N×33°.99E, h0km*
*NAO **28** 08:58:34.4±1.5, 67°.62N×33°.97E, ML2.5*
ISC 28 08:58:32.6±2.0, 67°.67N±0°.04×34°.05E±0°.09, h0km, n50, σ1§36/77, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.27**	**249**	P	**Pg**	**08 58 38.7**	**+1.0**
APA				S	**Sg**	**08 58 41.8**	**+0.7**
APZ9	**Apatity**	**0.27**	**249**	Pg	**Pg**	**08 58 38.8**	**+1.1**
APZ9				Lg	Lg	08 58 42.3	
APZ9	**Apatity**	**0.27**	**249**	Pg	**Pg**	**08 58 38.8**	**+1.1**
APZ9				Lg	Lg	08 58 42.3	
APZ9	**Apatity**	**0.27**	**249**	Pg	**Pg**	**08 58 38.8**	**+1.1**
	SNR=91						
APZ9				Lg	Lg	08 58 42.3	
APA0	**Apatity Array**	**0.41**	**262**	Pg	**Pg**	**08 58 41.2**	**+0.8**
	baz=87,slow=16						
APA0				Lg	Lg	08 58 46.8	
	baz=58,slow=37						
APA0	**Apatity Array**	**0.41**	**262**	P	**Pg**	**08 58 41.3**	**+0.8**
APA0				S	**Sg**	**08 58 46.3**	**+0.6**
APA0	**Apatity Array**	**0.41**	**262**	Pg	**Pg**	**08 58 41.2**	**+0.8**
	SNR=90						
APA0				Lg	Lg	08 58 46.8	
	SNR=7.6						
KU6	**Riekki**	**2.33**	**227**	*e*P	**Pn**	**08 59 12.9**	**+0.8**
KU6				*e*S	**Sn**	**08 59 42.5**	**+1.1**
KU6				MSG		08 59 48.8	
	comp=Z,7.6nm,0.2s						
KU6	**Riekki**	**2.33**	**227**	P	**Pn**	**08 59 12.9**	**+0.8**
KU6				S	**Sn**	**08 59 42.5**	**+1.1**
MSF	**Maaselka**	**2.66**	**231**	*e*P	**Pn**	**08 59 18.4**	**+1.8**
MSF				*e*S	**Sb**	**08 59 53.8**	**-0.3**
MSF	**Maaselka**	**2.66**	**231**	P	**Pn**	**08 59 18.4**	**+1.8**
SGF	**Sodankyl**	**2.90**	**269**	*e*P	**Pn**	**08 59 20.4**	**+0.5**
SGF				*e*S	**Sn**	**08 59 55.3**	**-0.1**
SGF	**Sodankyl**	**2.90**	**269**	P	**Pn**	**08 59 20.4**	**+0.5**
SGF				S	**Sn**	**08 59 55.3**	**-0.1**
ARA0	**ARCESS Array S**	**3.65**	**305**	Pn	**Pn**	**08 59 31.5**	**+1.2**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**09 00 13.4**	**-0.5**
	baz=122,slow=22						
ARA0				Lg	Lg	09 00 26.3	
	baz=128,slow=28						
ARA0	**ARCESS Array S**	**3.65**	**305**	Pn	**Pn**	**08 59 31.5**	**+1.2**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**09 00 13.4**	**-0.5**
	baz=122,slow=22						
ARA0				Lg	Lg	09 00 26.3	
	baz=128,slow=28						
ARA0	**ARCESS Array S**	**3.65**	**305**	Pn	**Pn**	**08 59 31.5**	**+1.2**
	SNR=50						
ARA0				Sn	**Sn**	**09 00 13.4**	**-0.5**
	SNR=50						
ARA0				Lg	Lg	09 00 26.3	
	SNR=55						
ARE0	**ARCESS Array S**	**3.65**	**305**	*e*P	**Pn**	**08 59 31.0**	**+0.7**
ARE0				*e*S	**Sn**	**09 00 13.4**	**-0.6**
ARE0	**ARCESS Array S**	**3.65**	**305**	P	**Pn**	**08 59 30.9**	**+0.7**
ARE0				S	**Sn**	**09 00 13.3**	**-0.6**
HEF	**Hetta**	**3.97**	**286**	*e*P	**Pn**	**08 59 35.2**	**+0.5**
HEF				*e*S	**Sn**	**09 00 18.2**	**-3.8**
HEF	**Hetta**	**3.97**	**286**	P	**Pn**	**08 59 35.2**	**+0.5**
HEF				S	**Sn**	**09 00 18.1**	**-3.8**
OUL	**Oulu**	**4.18**	**235**	*e*P	**Pn**	**08 59 37.3**	**-0.3**
OUL	**Oulu**	**4.18**	**235**	P	**Pn**	**08 59 37.2**	**-0.3**
PAJU	**Pajala**	**4.28**	**266**	P	**Pn**	**08 59 39.1**	**+0.2**
PAJU				S	**Sn**	**09 00 28.8**	**-0.7**
PAJU	**Pajala**	**4.28**	**266**	P	**Pn**	**08 59 39.1**	**+0.2**
PAJU				S	**Sn**	**09 00 28.8**	**-0.7**
LANU	**Lannavaara**	**4.58**	**280**	P	**Pn**	**08 59 43.1**	**0.0**
LANU	**Lannavaara**	**4.58**	**280**	P	**Pn**	**08 59 43.1**	**0.0**
KALU	**Kalix**	**4.61**	**252**	P	**Pn**	**08 59 43.7**	**+0.3**
KALU	**Kalix**	**4.61**	**252**	P	**Pn**	**08 59 43.7**	**+0.3**
ERTU	**Ertsjaerv**	**4.76**	**262**	P	**Pn**	**08 59 45.9**	**+0.3**
ERTU	**Ertsjaerv**	**4.76**	**262**	P	**Pn**	**08 59 45.9**	**+0.3**
JOF	**Joensuu**	**4.91**	**195**	*e*S	**Sn**	**09 00 41.7**	**-3.1**
JOF	**Joensuu**	**4.91**	**195**	S	**Sn**	**09 00 41.7**	**-3.1**
OUFX	**Oulainen**	**5.05**	**233**	*e*P	**Pn**	**08 59 49.0**	**-0.4**
KIF	**Kilpisjarvi**	**5.09**	**291**	*e*P	**Pn**	**08 59 50.3**	**+0.3**
KIF				*e*S	**Sn**	**09 00 46.0**	**-3.3**
KIF	**Kilpisjarvi**	**5.09**	**291**	P	**Pn**	**08 59 50.3**	**+0.3**
KIF				S	**Sn**	**09 00 46.0**	**-3.3**
KUA	**Kurravaara**	**5.21**	**280**	P	**Pn**	**08 59 51.9**	**+0.3**
KUA				S	**Sn**	**09 00 50.9**	**-1.4**
KUA	**Kurravaara**	**5.21**	**280**	P	**Pn**	**08 59 51.9**	**+0.3**
KUA				S	**Sn**	**09 00 50.9**	**-1.4**
SJUU	**Sjulsmark**	**5.41**	**252**	P	**Pn**	**08 59 53.5**	**-1.0**
RATU	**Laukkuluspa**	**5.50**	**278**	P	**Pn**	**08 59 55.5**	**-0.1**
RATU				S	**Sn**	**09 00 57.5**	**-2.0**
NIKU	**Nikkaluokta**	**5.70**	**279**	P	**Pn**	**08 59 58.2**	**-0.2**
NIKU				S	**Sn**	**09 01 03.6**	**-0.9**
NIKU	**Nikkaluokta**	**5.70**	**279**	P	**Pn**	**08 59 58.2**	**-0.2**
NIKU				S	**Sn**	**09 01 03.6**	**-0.9**
SUF	**Sumiainen**	**5.97**	**217**	*e*P	**Pn**	**09 00 02.9**	**+0.7**
SUF				*e*S	**Sn**	**09 01 09.4**	**-1.7**
SUF	**Sumiainen**	**5.97**	**217**	P	**Pn**	**09 00 02.8**	**+0.7**
SUF				S	**Sn**	**09 01 09.4**	**-1.7**
BURU	**Burvik**	**6.00**	**245**	P	**Pn**	**09 00 01.6**	**-0.9**
KAF	**Kangasniemi**	**6.47**	**214**	*e*P	**Pn**	**09 00 10.6**	**+1.6**
KAF				*e*S	**Sn**	**09 01 20.9**	**-2.6**
KAF	**Kangasniemi**	**6.47**	**214**	P	**Pn**	**09 00 10.6**	**+1.6**
KAF				S	**Sn**	**09 01 20.8**	**-2.6**
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**	**09 00 18.2**	**+0.3**
	baz=33,slow=12						
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**	**09 00 18.2**	**+0.3**
	baz=33,slow=12						
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**	**09 00 18.2**	**+0.3**
	SNR=50						

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*IDC **28** 08:58:36.5±2.3, 53°.58N×87°.80E, h0km, mb1 3.5/3, mb1mx3.1/74, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=20.7km s-min=13.1km az=62.0*
*NNC **28** 08:58:39.2±8.3, 53°.54N×87°.55E, h16km±42km, mb3.6, mpv3.3, Error ellipse: s-maj=55.9km s-min=40.4km az=32.0*
ISC 28 08:58:41.3±3.6, 53°.7N±0°.1×87°.6E±0°.2, h35km, n10, σ1§44/15, 6C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**281**	*i*		09 12 30.0	
	baz=96,slow=336,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.64**	**281**	Pn	**Pn**	**08 59 08.2**	**+0.5**
	12nm,0.3s,baz=97,slow=15,SNR=80						
ZALV				Lg	Lg	08 59 33.1	
	20nm,0.3s,baz=100,slow=26,SNR=29						
KURK	**Kurchatov**	**6.23**	**245**	⇓Pn	**Pn**	**09 00 10.5**	**-0.1**
	1.2nm,0.6s						
KURK				⇓Sn	**Sn**	**09 01 19.0**	**-1.5**
	2.3nm,1.0s						
KURK				⇑Lg	Lg	09 01 51.6	
	16nm,1.4s						
KURBB	**Kurchatov Arra**	**6.33**	**245**	Pn	**Pn**	**09 00 12.9**	**+0.9**
	0.3

MEIG	**Mezcala**	**0.94**	**28**	*i* P	Pg	09 02 38.3	-2.8
MEIG				*e*S	Sg	09 02 51.1	-2.3
ARIG	**Puente Sto Nin**	**1.22**	**348**	*e*P	Pb	09 02 42.9	-3.3
ARIG				*e*S	Sb	09 02 58.0	-4.0
PLIG	**Platanillo**	**1.41**	**23**	*e*P	Pn	09 02 45.5	-3.5
PLIG				*e*S	Sb	09 03 02.3	-5.5
ZIIG	**Zihuatanejo**	**1.42**	**292**	*e*P	Pn	09 02 45.1	-3.9
ZIIG				*e*S	Sn	09 03 03.1	-4.7
TLIG	**Tlapa**	**1.52**	**72**	*e*P	Pn	09 02 46.7	-3.8
TLIG				*e*S	Sn	09 03 05.4	-5.1
PNIG	**Pinotepa**	**2.00**	**110**	*e*P	Pn	09 02 52.0	-4.9
PNIG				*e*S	Sn	09 03 12.8	-9.3
YAIG	**Yautepec**	**2.01**	**28**	*e*P	Pn	09 02 53.1	-4.2
YAIG				*e*S	Sn	09 03 18.4	-4.4

IDC 28 09:03:15.0±430.0, 51°.00N×117°.00E, h0km, Error ellipse: s-maj=173.6km s-min=151.2km az=46.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.61**	**249**	*i*		09 51 10.0	
	baz=61,slow=327,SNR=0.4						
I45RU	**USSURIYSK INFR**	**12.18**	**118**	*i*		10 16 20.0	
	baz=307,slow=316,SNR=3.1						
I30JP	**ISUMI INFRASON**	**22.99**	**124**	*i*		11 24 50.0	
	baz=322,slow=324,SNR=0.4						

DDA 28 09:03:18.6, 40°.69N×41°.08E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	**Demirkent**	**0.55**	**68**	*i* P	Pg	09 03 29.7	+0.5
DDEM				*i* S	Sb	09 03 37.9	-0.9
DAGI	**Agillar**	**0.74**	**58**	*i* P	Pb	09 03 34.2	+0.2
DAGI				*i* S	Sg	09 03 43.5	+0.8
DBOC	**Borcka**	**0.79**	**34**	*i* P	Pg	09 03 34.0	+0.1
DBOC				*i* S	Sb	09 03 45.6	-0.1
ARTV	**Artvin**	**0.81**	**52**	*i* P	Pg	09 03 34.0	-0.3
ARTV				*i* S	Sg	09 03 43.0	-1.8

JMA 28 09:04:34.2±0.1, 36°.87N×141°.07E, h50km±1km, M2.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.32**	**317**	P	Pn	09 04 43.3	-0.3
ONAJ				S	Sn	09 04 49.6	-0.6
JHO	**Hitachi**	**0.48**	**237**	P	Pn	09 04 45.0	-0.2
JHO				S	Sn	09 04 52.7	-0.4
JFK	**Kawauchi**	**0.52**	**343**	P	Pn	09 04 45.4	-0.4
JFK				S	Sn	09 04 53.3	-0.7
JFT	**Otama**	**0.87**	**318**	P	Pn	09 04 51.0	+0.8
JFT				S	Sn	09 05 02.7	+0.7
JMM	**Marumori**	**1.02**	**348**	P	Pn	09 04 51.9	-0.3
JMM				S	Sn	09 05 04.7	-0.7
MAT	**Matsushiro**	**2.32**	**263**	P	Pn	09 05 11.3	+1.3
MAT				*e*S	Sn	09 05 37.5	+0.1

*ISCJB **28** 09:08:35.7±0.4, 40°.57S±0°.04×126°.39E±0°.07, h10km, mb4.7/28, MS3.7/7, Error ellipse: s-maj=8.0km s-min=6.4km az=172.8*
*IDC **28** 09:08:36.9±0.6, 40°.76S×126°.88E, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.4/37, mbtmp4.5/10, ML4.5/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/31, Error ellipse: s-maj=37.4km s-min=16.7km az=96.0*
*NEIC **28** 09:08:38.1±0.4, 40°.61S×126°.60E, h10km, mb4.8/13, Error ellipse: s-maj=10.3km s-min=7.5km az=103.0*
ISC 28 09:08:38.8±0.4, 40°.48S±0°.05×126°.57E±0°.06, h10km, n82, σ2§71/89, mb4.8/28, MS3.7/7, 1D, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**9.61**	**305**	P	**Pn**	**09 10 55.3**	**-1.8**
	baz=9.2,SNR=138						
FORT	**Forrest**	**9.75**	**8**	*e*Pn	**Pn**	**09 11 00.8**	**+1.8**
FORT				*e*Sn	**Sn**	**09 12 45.9**	**-2.7**
KMBL	**Kambalda**	**9.85**	**336**	S	**Sn**	**09 12 45.8**	**-5.3**
	baz=9.4						
NWAO	**Narrogin (SRO)**	**10.62**	**312**	Pn	**Pn**	**09 11 10.2**	**-0.8**
	30nm,0.3s,baz=5.7,slow=12,SNR=187						
NWAO				Sn	**Sn**	**09 13 03.1**	**-6.8**
	30nm,0.3s,baz=174,slow=22,SNR=18						
NWAO				LR	LR	09 14 47.4	
	comp=Z,486nm,20.4s,baz=303,slow=34						
NWAO	**Narrogin (SPO)**	**10.62**	**312**	P	**Pn**	**09 11 10.0**	**-1.0**
	baz=10,SNR=133						
NWAO				P	**Pn**	**09 11 10.0**	**-1.0**
	baz=10,SNR=133						
NWAO	**Narrogin (SPO)**	**10.62**	**312**	*e*Pn	**Pn**	**09 11 10.2**	**-0.8**
NWAO				*e*Sn	**Sn**	**09 13 05.0**	**-5.0**
BBOO	**Buckleboo**	**10.79**	**48**	P	**Pn**	**09 11 13.8**	**+0.5**
	baz=10						
BBOO	**Buckleboo**	**10.79**	**48**	*e*Pn	**Pn**	**09 11 14.2**	**+0.9**
BBOO				*e*Sn	**Sn**	**09 13 09.3**	**-4.9**
KLBR	**Kellerberrin**	**11.38**	**318**	P	**Pn**	**09 11 19.8**	**-1.5**
	baz=11,SNR=39						
MUN	**Mundaring**	**11.91**	**312**	P	**Pn**	**09 11 26.4**	**-2.1**
	baz=12						
BLDU	**Ballidu**	**12.69**	**318**	P	**Pn**	**09 11 37.3**	**-1.9**
	baz=12,SNR=19						
STKA	**Stephens Creek**	**14.84**	**59**	Pn	**Pn**	**09 12 08.2**	**-0.5**
	1.3nm,0.3s,baz=237,slow=11,SNR=16						
STKA				Sn	Sn	09 14 44.1	-9.1
	2.1nm,0.3s,baz=126,slow=22,SNR=5.2						
STKA				LR	LR	09 18 20.4	
	comp=Z,87nm,18.8s,baz=223,slow=39						
STKA	**Stephens Creek**	**14.84**	**59**	*e*Pn	**Pn**	**09 12 08.3**	**-0.4**
STKA				*e*Sn	**Sn**	**09 14 45.6**	**-7.6**
MEEK	**Meekatharra**	**15.30**	**332**	P	**Pn**	**09 12 12.1**	**-2.8**
	baz=15						
WRKA	**Warakurna**	**15.46**	**6**	P	**Pn**	**09 12 16.3**	**-0.7**
	baz=15,SNR=29						
ASAR	**Alice Springs**	**17.86**	**22**	P	**Pn**	**09 12 45.5**	**-1.9**
	0.3nm,0.3s,baz=197,slow=12,SNR=49						
ASAR				S	Sn	09 15 55.5	-11
	1.8nm,0.3s,baz=206,slow=22,SNR=11						
ASAR				LR	LR	09 19 49.0	
	comp=Z,355nm,18.9s,baz=216,slow=37						
AS31	**Alice Springs**	**17.86**	**22**	*e*Pn	**Pn**	**09 12 46.0**	**-1.5**
	6.1nm,0.9s						
MILA	**Mila**	**17.93**	**86**	P	**P**	**09 12 53.1**	**+4.3**
	baz=18,SNR=7.5						
CAN	**Canberra**	**18.41**	**81**	P	**Pn**	**09 12 58.8**	**+4.7**
	baz=18						
CNB	**Canberra Magne**	**18.69**	**81**	P	**Pn**	**09 13 03.0**	**+5.4**
	baz=19						
MBWA	**Marble Bar**	**20.12**	**341**	*e*P	**P**	**09 13 12.8**	**0.0**
	101nm,1.8s						
WRA	**Warramunga Arr**	**21.52**	**20**	P	**P**	**09 13 29.6**	**+1.6**
	28nm,0.7s,baz=198,slow=11,SNR=82						
WRA				S	**S**	**09 17 19.7**	**-6.8**
	3.9nm,0.7s,baz=204,slow=23,SNR=8.4						
WRA				LR	LR	09 21 54.0	
	comp=Z,223nm,19.0s,baz=200,slow=37						
WB2	**Warramunga Arr**	**21.52**	**20**	*e*P	**P**	**09 13 29.8**	**+1.8**
	18nm,0.8s						
WRAB	**Tennant Creek**	**21.53**	**20**	*e*P	**P**	**09 13 29.6**	**+1.5**
	19nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.31**	**358**	P	**P**	**09 13 38.7**	**+2.3**
	7.7nm,0.6s,baz=189,slow=10,SNR=31						
FITZ				S	**S**	**09 17 37.4**	**-4.4**
	5.1nm,0.5s,baz=307,slow=18,SNR=8.8						
FITZ	**Fitzroy Crossi**	**22.31**	**358**	*e*P	**P**	**09 13 37.3**	**+0.9**
ARMA	**Armidale**	**22.68**	**72**	*e*P	**P**	**09 13 40.7**	**+0.2**
	35nm,1.1s						
EIDS	**Eidsvold**	**25.38**	**61**	*e*P	**P**	**09 14 05.2**	**-1.0**
	11nm,0.8s						
CTA	**Charters Tower**	**26.38**	**45**	LR	LR	09 25 53.5	
	comp=Z,233nm,20.2s,baz=222,slow=39						
SOEI	**Soe**	**30.66**	**356**	P	**P**	**09 14 56.8**	**+3.2**
SPSI	**Sidrap Palu**	**36.86**	**349**	P	P	09 15 53.3	+6.0
NLAI	**Namlea**	**37.07**	**1**	P	P	09 15 55.0	+5.9
BKZ	**Black Stump Fm**	**37.95**	**105**	*e*P	**P**	**09 15 55.6**	**-0.9**
	13nm,0.9s						
VNDA	**Vanda**	**39.95**	**169**	P	**P**	**09 16 10.2**	**-2.5**
	15nm,0.9s,baz=318,slow=8.4,SNR=99						
VNDA				LR	LR	09 30 46.3	
	comp=Z,172nm,18.3s,baz=350,slow=34						
VNDA	**Vanda**	**39.95**	**169**	*e*P	**P**	**09 16 10.2**	**-2.5**
	22nm,0.9s						

SBA	**Scott Base**	**40.94**	**168**	*e*P	**P**	**09 16 19.1**	**-1.8**
	11nm,1.0s						
MAW	**Mawson**	**43.39**	**210**	P	**P**	**09 16 39.2**	**-1.7**
	10nm,1.0s,baz=74,slow=9.6,SNR=25						
MAW				PcP	**PcP**	**09 18 28.3**	**-0.9**
	2.9nm,0.8s,baz=74,slow=2.8,SNR=4.3						
MAW				LR	LR	09 32 19.0	
	comp=Z,58nm,18.1s,baz=243,slow=33						
MAW	**Mawson**	**43.39**	**210**	*e*P	**P**	**09 16 38.7**	**-2.2**
	2.5nm,0.9s						
QSPA	**South Pole Qui**	**49.65**	**180**	*e*P	**P**	**09 17 28.0**	**-2.2**
	25nm,0.7s						
KCSI	**Kotacane, Aceh**	**51.12**	**322**	P	**P**	**09 17 44.1**	**+2.3**
KCSI				pP	**sP**	**09 17 50.5**	**+4.3**
KULM	**Kulim**	**51.39**	**326**	*e*P	**P**	**09 17 43.1**	**-0.7**
	17nm,0.9s						
SYO	**Syowa Base**	**51.86**	**207**	⇓*e*X	**P**	**09 17 42.4**	**-4.2**
QIZ	**Qiongzhong**	**61.21**	**342**	P	**P**	**09 18 54.8**	**+1.0**
QIZ				S	**S**	**09 27 17.8**	**+4.2**
QIZ				LR	LR		
	comp=Z,110nm,25.7s						
SNAA	**Sanae**	**62.60**	**196**	P	**P**	**09 19 01.0**	**-1.7**
SNAA	**Sanae**	**62.60**	**196**	*e*P	**P**	**09 19 00.9**	**-1.7**
	comp=Z,54nm,1.3s						
CMAR	**Chiang Mai Arr**	**64.02**	**331**	P	**P**	**09 19 15.3**	**+2.8**
	comp=Z,4.5nm,0.6s,baz=170,slow=5.4,SNR=21						
VNA2	**Neumayer--Watz**	**64.12**	**195**	P	**P**	**09 19 10.0**	**-2.6**
	baz=133,slow=6.1						
VNA3	**Neumayer Olymp**	**64.31**	**194**	P	**P**	**09 19 09.8**	**-4.1**
CHTO	**Chiang Mai**	**64.35**	**331**	*e*P	**P**	**09 19 13.8**	**-0.9**
	comp=Z,13nm,1.1s						
VNA1	**Neumayer--Stat**	**64.51**	**195**	P	**P**	**09 19 12.0**	**-3.2**
KMI	**Kunming**	**68.93**	**337**	P	**P**	**09 19 43.5**	**-0.6**
KMI				pmax	pmax		
	comp=Z,24nm,0.5s						
GYA	**Guiyang**	**69.12**	**341**	*e*P	**P**	**09 19 49.0**	**+3.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**72.52**	**353**	*e*P	**P**	**09 20 06.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PPT	**Papeete**	**74.22**	**100**	LR	LR	09 45 20.1	
	comp=Z,33nm,21.7s,baz=274,slow=30						
XAN	**Xi'an**	**75.92**	**345**	P	**P**	**09 20 29.8**	**+4.4**
XAN				pmax	pmax		
	comp=Z,18nm,1.0s						
XAN				pmax	pmax		
	comp=Z,100nm,5.4s						
KSAR	**Wonju Array Be**	**77.55**	**1**	P	**P**	**09 20 35.0**	**+0.5**
KSRS	**Korea Array**	**77.56**	**1**	P	**P**	**09 20 35.0**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=181,slow=5.0,SNR=6.8						
LZH	**Lanzhou**	**79.00**	**341**	*e*P	**P**	**09 20 44.8**	**+2.0**
LZH				pP	PcP	09 20 49.5	-1.8
LZH				sP	sP	09 20 52.0	+4.7
LZH				PP	**PP**	**09 23 45.5**	**+3.2**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,7.2s						
HHC	**Hu-ho-hao-te**	**82.09**	**349**	*e*P	**P**	**09 21 01.8**	**+2.7**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,7.3s						
GTA	**Gaotai**	**83.18**	**339**	*e*P	**P**	**09 21 08.3**	**+3.4**
GTA				pP	PcP	09 21 13.3	+3.9
GTA				sP	sP	09 21 15.3	+5.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
USRK	**Ussuriysk Ar.**	**84.43**	**4**	P	**P**	**09 21 12.2**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=184,slow=5.1,SNR=6.8						
SONM	**Songino Array**	**89.74**	**347**	P	**P**	**09 21 38.2**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=166,slow=5.8,SNR=7.7						
WMQ	**Urumqi**	**90.93**	**333**	P	**P**	**09 21 42.8**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,11nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,89nm,3.7s						
WMQ				LR	LR		
	comp=N,31nm,26.7s						
WMQ				LR	LR		
	comp=E,46nm,34.5s						
WMQ				LR	LR		
	comp=Z,28nm,25.1s						
KSH	**Kashi**	**92.02**	**323**	P	**P**	**09 21 50.5**	**+2.8**
KSH				pP	sP	09 21 54.8	+2.6
KSH				sP	pP	09 21 57.5	+6.5
KSH				*e*PP	**PP**	**09 25 31.8**	**+3.9**
KSH	**Kashi**	**92.02**	**323**	SKS	**SKSac**	**09 32 21.5**	**+0.9**
KSH	**Kashi**	**92.02**	**323**	S	**S**	**09 32 49.8**	**+0.3**
KSH	**Kashi**	**92.02**	**323**	sS	sS	09 32 58.5	+3.4
KSH	**Kashi**	**92.02**	**323**	SS	SS	09 39 02.8	+3.4
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,140nm,5.8s						
KSH				LR	LR		
	comp=N,110nm,6.6s						
KSH				LR	LR		
	comp=E,130nm,4.8s						
KSH				LR	LR		
	comp=Z,140nm,6.6s						
MKAR	**Makanchi Array**	**95.43**	**331**	P	**P**	**09 22 05.4**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=150,slow=6.0,SNR=4.3						
AKASG	**Malin Array Be**	**124.13**	**310**	PKP	**PKPdf**	**09 27 36.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=79,slow=2.0,SNR=2.8						
ILAR	**Eielson Array**	**124.37**	**31**	PKP	**PKPdf**	**09 27 35.9**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=279,slow=3.3,SNR=17						
TORD	**Torodi Ar. Bea**	**124.83**	**257**	PKP	**PKPdf**	**09 27 38.2**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=81,slow=1.1,SNR=9.0						
DBIC	**Dimbokro**	**125.17**	**246**	PKP	**PKPdf**	**09 27 39.2**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=158,slow=1.0,SNR=3.7						
FINES	**FINESS Array B**	**129.33**	**322**	PKP	**PKPdf**	**09 27 46.8**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=100,slow=1.9,SNR=2.8						
ARCES	**ARCESS Array B**	**131.06**	**333**	PKP	**PKPdf**	**09 27 50.7**	**+1.2**
	comp=Z,3.8nm,1.0s,baz=48,slow=1.8,SNR=3.9						
YKA	**Yellowknife Ar**	**138.02**	**37**	PKP	**PKPdf**	**09 28 02.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=275,slow=1.8,SNR=4.9						
YKA	**Yellowknife Ar**	**138.02**	**37**	PKP	**PKPdf**	**09 28 02.0**	**-0.7**
FFC	**Flin Flon**	**145.04**	**49**	*e*PKPbc	**PKPbc**	**09 28 15.0**	**+0.1**
MDND	**Maddock**	**146.48**	**62**	*e*PKPbc	**PKPbc**	**09 28 19.5**	**-0.2**
BGNE	**Belgrade**	**146.49**	**73**	*e*PKPbc	**PKPbc**	**09 28 19.4**	**-0.5**
ECSD	**EROS Data Cent**	**148.06**	**70**	*e*PKPbc	**PKPbc**	**09 28 23.6**	**-0.6**
ULM	**Lac du Bonnet**	**149.00**	**57**	PKPbc	**PKPbc**	**09 28 25.7**	**-0.7**
	comp=Z,8.3nm,0.6s,baz=237,slow=3.3,SNR=6.6						

*IDC **28** 09:13:43.6±1.2, 15°.47S×173°.92W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/39, mbtmp4.1/8, ML3.8/2, MS4.0/21, Ms1 4.0/21, ms1mx3.9/29, Error ellipse: s-maj=51.7km s-min=21.9km az=140.0*
*ISCJB **28** 09:13:47.5±0.5, 15°.3S±0°.1×174°.09W±0°.08, h33km, mb4.3/13, MS4.0/18, Error ellipse: s-maj=17.8km s-min=7.6km az=149.9*
*NEIC **28** 09:13:49.4±0.6, 15°.25S×174°.08W, h35km, mb4.7/5, Error ellipse: s-maj=19.9km s-min=11.5km az=145.0*
*GCMT **28** 09:13:49.4±0.3, 14°.93S×174°.45W, h17km±1km, MW4.9/75, Moment Tensor Solution. s19,c20; s75,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.68±.13; $M_{\theta\theta}$-0.63±.10; $M_{\phi\phi}$1.31±.11; $M_{r\theta}$-0.55±.25; $M_{\theta\phi}$2.09±.08; $M_{\phi r}$0.93±.28; Best double couple: $M_0$2.60400×10^{16} NP1:ϕ_s171.00000°, δ77.00000°, λ-153.00000°. NP2: ϕ_s74.00000°, δ64.00000°, λ-15.00000°. Principal axes: T 2.7180, Plg9.0000°, Azm301.0000°; N -0.2310, Plg60.0000°, Azm195.0000°; P -2.4890, Plg29.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 09:13:50.5±0.7, 15°.4S±0°.1×174°.3W±0°.1, h35km, n48, σ1§35/31, mb4.2/13, MS4.1/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.79**	**59**	Pn	Pn	09 14 26.8	-6.0
	42nm,0.3s,baz=310,slow=15,SNR=44						
AFI				LR	LR	09 14 52.4	
	comp=Z,315nm,19.4s,baz=248,slow=26						
AFI				Sn	Sn	09 14 57.2	-8.1
	49nm,0.3s,baz=338,slow=20,SNR=9.2						
AFI	**Afiamalu**	**2.79**	**59**	*e*Pn	Pn	09 14 26.7	-6.1
AFI				*e*Sn	Sn	09 14 59.1	-6.2
MSVF	**Nonsavu**	**7.76**	**251**	*e*Pn	**Pn**	**09 15 42.1**	**+1.0**
MSVF				*e*Sn	**Sn**	**09 17 08.2**	**+0.5**
RAR	**Rarotonga**	**14.92**	**115**	LR	LR	09 21 42.3	
	comp=Z,695nm,21.1s,baz=276,slow=33						
DZM	**Mont Dzumac**	**19.46**	**247**	P	**P**	**09 18 13.9**	**-0.5**
	0.1nm,0.3s,baz=81,slow=19,SNR=3.7						
DZM				LR	LR	09 24 14.7	
	comp=Z,268nm,20.6s,baz=81,slow=32						
DZM	**Mont Dzumac**	**19.46**	**247**	*e*P	**P**	**09 18 13.1**	**-1.4**
	18nm,1.1s						
PPT	**Papeete**	**23.76**	**99**	LR	LR	09 26 32.7	
	comp=Z,174nm,18.7s,baz=274,slow=33						
URZ	**Urewera**	**24.05**	**197**	P	**P**	**09 19 04.2**	**+1.8**
	6.3nm,0.9s,baz=34,slow=3.6,SNR=4.0						
URZ				LR	LR	09 27 28.6	
	comp=Z,304nm,18.2s,baz=20,slow=34						
HNR	**Honiara**	**25.87**	**280**	LR	LR	09 28 09.1	
	comp=Z,349nm,18.1s,baz=128,slow=33						
HNR	**Honiara**	**25.87**	**280**	*e*P	**P**	**09 19 19.6**	**+0.4**
	48nm,0.5s						
PMG	**Port Moresby**	**38.12**	**274**	LR	LR	09 35 14.9	
	comp=Z,378nm,18.1s,baz=101,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.52**	**330**	T	T	10 01 32.1	
	baz=150,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**38.53**	**330**	T	T	10 01 30.5	
	baz=150,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.53**	**330**	T	T	10 01 30.9	
	baz=150,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	10 02 39.5	
	baz=151,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	10 02 37.5	
	baz=151,slow=76,SNR=132						
H11N2	**WAKE ISLAND Hy**	**39.49**	**331**	T	T	10 02 40.9	
	baz=151,slow=76,SNR=58						
STKA	**Stephens Creek**	**43.35**	**240**	P	**P**	**09 21 49.0**	**-0.5**
	3.1nm,0.9s,baz=46,slow=2.5,SNR=3.0						
STKA				LR	LR	09 40 29.7	
	comp=Z,221nm,18.4s,baz=43,slow=37						
WRAB	**Tennant Creek**	**49.05**	**257**	*e*P	**P**	**09 22 34.0**	**-0.6**
	3.7nm,1.0s						
WRA	**Warramunga Arr**	**49.06**	**257**	P	**P**	**09 22 34.7**	**0.0**
	0.8nm,0.8s,baz=94,slow=7.9,SNR=3.0						
WRA				LR	LR	09 41 50.8	
	comp=Z,334nm,18.7s,baz=90,slow=34						
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**09 22 32.4**	**-4.5**
	3.1nm,0.8s,baz=84,slow=8.4,SNR=13						
ASAR				LR	LR	09 41 33.1	
	comp=Z,332nm,20.9s,baz=92,slow=34						
GUMO	**Guam**	**49.63**	**303**	LR	LR	09 40 06.5	
	comp=Z,174nm,21.9s,baz=114,slow=32						
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**09 24 16.4**	**+0.8**
	1.0nm,0.9s,baz=23,slow=7.0,SNR=4.2						
VNDA				LR	LR	09 47 03.2	
	comp=Z,43nm,20.5s,baz=26,slow=32						
MJAR	**Matsushiro Arr**	**68.38**	**320**	LR	LR	09 50 14.8	
	comp=Z,85nm,21.8s,baz=170,slow=32						
QSPA	**South Pole Qui**	**74.68**	**180**	*e*P	**P**	**09 25 26.6**	**+0.2**
	21nm,1.1s						
KSRS	**Korea Array**	**75.56**	**316**	P	**P**	**09 25 32.6**	**+1.0**
	0.3nm,0.3s,baz=125,slow=7.8,SNR=4.4						
KSAR	**Wonju Array Be**	**75.58**	**316**	P	**P**	**09 25 32.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**76.86**	**323**	LR	LR	09 54 06.4	
	comp=Z,130nm,21.7s,baz=132,slow=31						
TXAR	**Lajitas Array**	**81.27**	**56**	LR	LR	09 54 12.7	
	comp=Z,111nm,21.9s,baz=0.0,slow=30						
COLA	**College**	**82.48**	**11**	*e*P	**P**	**09 26 08.0**	**-0.9**
	7.2nm,0.8s						
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**	**09 26 07.7**	**-1.7**
	0.7nm,0.8s,baz=220,slow=6.8,SNR=7.6						
ILAR				LR	LR	09 55 19.5	
	comp=Z,102nm,20.3s,baz=214,slow=30						
PDAR	**Pinedale Array**	**82.78**	**42**	LR	LR	09 56 08.1	
	comp=Z,92nm,20.6s,baz=262,slow=31						
MAW	**Mawson**	**87.57**	**199**	P	**P**	**09 26 33.3**	**-1.4**
	1.6nm,1.0s,baz=149,slow=7.3,SNR=4.3						
MAW				LR	LR	10 03 32.8	
	comp=Z,108nm,18.1s,baz=63,slow=34						
YKA	**Yellowknife Ar**	**90.39**	**24**	LR	LR	10 02 05.8	
	comp=Z,12nm,18.1s,baz=180,slow=32						
CMAR	**Chiang Mai Arr**	**91.83**	**289**	P	**P**	**09 26 56.5**	**+0.9**
	0.7nm,0.3s,baz=128,slow=1.0,SNR=4.7						
CMAR				LR	LR	10 03 46.6	
	comp=Z,70nm,21.9s,baz=100,slow=33						
ULM	**Lac du Bonnet**	**94.41**	**39**	LR	LR	10 03 13.6	
	comp=Z,187nm,18.5s,baz=262,slow=32						
KMBO	**Kilima Mbogo**	**144.81**	**245**	PKPbc	**PKPab**	**09 33 24.1**	**-0.1**
	0.9nm,0.3s,baz=159,slow=2.8,SNR=4.3						
BRTR	**Keskin Array B**	**145.61**	**320**	PKPbc	**PKPdf**	**09 33 24.4**	**-1.2**
	2.4nm,1.0s,baz=101,slow=3.1,SNR=7.2						
KHC	**Kasperske Hory**	**145.72**	**351**	*e*PKPbc	**PKPdf**	**09 33 25.7**	**+0.3**
GERES	**GERESS Array B**	**145.97**	**351**	PKPbc	**PKPdf**	**09 33 24.7**	**-1.2**
	2.3nm,0.8s,baz=43,slow=2.4,SNR=6.3						
CONA	**Conrad Observa**	**146.47**	**348**	*i* PKiKP	**PKPdf**	**09 33 28.0**	**+1.2**
CONA				*i* PKiKP	**PKPdf**	**09 33 28.0**	**+1.2**
	15nm,1.7s						
MOA	**Molln**	**146.84**	**349**	*i* PKPab	**PKPdf**	**09 33 28.4**	**+1.1**
	4.8nm,1.0s						
RETA	**Reutte**	**147.70**	**354**	*i* PKiKP	**PKPbc**	**09 33 31.8**	**+0.2**
	8.2nm,1.4s						
KBA	**Koelnbreinsper**	**147.75**	**350**	*i* PKPab	**PKPdf**	**09 33 30.5**	**+1.4**
	1.9nm,0.6s						
MOTA	**

BVAR	**Borovoye Array**	**10.42**	**274**	Pn	**Pn**	**09 17 18.5**	**-1.5**
	0.6nm,0.3s,baz=74,slow=14,SNR=6.0						
BVAR				Sn	**Sn**	**09 19 13.9**	**-1.6**
	0.6nm,0.3s,baz=79,slow=24,SNR=7.8						
BRVK	**Borovoye**	**10.48**	**274**	⇓Pn	**Pn**	**09 17 19.7**	**-1.1**
	3.2nm,0.8s						
BRVK				⇓Sn	**Sn**	**09 19 17.9**	**+1.0**
	8.7nm,0.8s						

*ATH **28** 09:15:30.6, 39°.21N×24°.46E, h29km±1km, ML2.8/2, Error ellipse: s-maj=1.3km s-min=0.9km az=298.0*
*CSEM **28** 09:15:31.3±0.1, 39°.22N×24°.45E, h15km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.9km az=153.0*
THE 28 09:15:31.5, 39°.22N×24°.45E, h5km±9km, ML2.6/7, Error ellipse: s-maj=9.8km s-min=0.4km az=138.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.35**	**167**	P	Pg	09 15 38.4	+0.2
SKY				S	Sg	09 15 43.0	+0.2
SKY	**Skiros Island**	**0.35**	**167**	P	Pg	09 15 38.4	+0.2
SKY				S	Sg	09 15 43.5	+0.7
SKY				AML	AML	09 15 44.0	
	comp=N,3976μm,0.2s						
SKY				AML	AML	09 15 44.3	
	comp=E,4666μm,0.1s						
SKY	**Skiros Island**	**0.35**	**167**	P	Pg	09 15 38.4	+0.2
SKY				S	Sg	09 15 43.5	+0.7
SKIA	**Skiathos**	**0.77**	**266**	P	Pg	09 15 46.0	-0.2
SKIA				S	Sg	09 15 57.0	+0.8
SKIA	**Skiathos**	**0.77**	**266**	P	Pg	09 15 46.1	-0.1
SKIA				S	Sg	09 15 56.8	+0.6
SKIA	**Skiathos**	**0.77**	**266**	P	Pg	09 15 46.2	0.0
SKIA				S	Sg	09 15 56.8	+0.6
LIA	**Limnos Island**	**0.88**	**40**	P	Pg	09 15 48.1	-0.4
LIA				S	Sb	09 16 00.7	-0.8
LIA	**Limnos Island**	**0.88**	**40**	P	Pg	09 15 48.5	0.0
LIA				S	Sg	09 15 60.0	0.0
LIA	**Limnos Island**	**0.88**	**40**	P	Pg	09 15 48.5	0.0
LIA				S	Sg	09 16 00.0	+0.1
EREA	**Eretria**	**0.90**	**207**	P	Pg	09 15 48.1	-0.6
EREA				S	Sb	09 16 01.4	-0.4
EREA	**Eretria**	**0.90**	**207**	P	Pg	09 15 48.1	-0.5
EREA				S	Sg	09 16 00.2	-0.1
EREA				AML	AML	09 16 02.9	
	comp=E,1259μm,0.3s						
EREA				AML	AML	09 16 04.8	
	comp=N,1048μm,0.4s						
EREA	**Eretria**	**0.90**	**207**	P	Pg	09 15 48.1	-0.6
EREA				S	Sg	09 16 00.2	-0.1
PAIG	**Paliouri**	**0.93**	**320**	P	Pg	09 15 49.0	-0.3
PAIG				S	Sb	09 16 02.8	+0.1
PAIG	**Paliouri**	**0.93**	**320**	P	Pg	09 15 49.5	+0.2
PAIG				S	Sb	09 16 02.8	+0.1
PAIG	**Paliouri**	**0.93**	**320**	P	Pg	09 15 49.0	-0.3
PAIG				S	Sb	09 16 02.8	+0.1
NEO	**Neokhori**	**0.96**	**276**	P	Pg	09 15 49.3	-0.6
NEO				S	Sb	09 16 03.6	0.0
NEO	**Neokhori**	**0.96**	**276**	P	Pg	09 15 49.8	0.0
NEO				S	Sb	09 16 03.2	-0.4
NEO	**Neokhori**	**0.96**	**276**	P	Pg	09 15 49.8	-0.1
NEO				S	Sb	09 16 03.2	-0.4
XOR	**Xorichti**	**0.99**	**279**	P	Pg	09 15 50.1	-0.4
XOR				S	Sb	09 16 04.2	-0.3
XOR	**Xorichti**	**0.99**	**279**	P	Pg	09 15 50.2	-0.3
XOR				S	Sb	09 16 04.6	+0.1
XOR	**Xorichti**	**0.99**	**279**	P	Pg	09 15 50.1	-0.4
XOR				S	Sb	09 16 04.2	-0.3
SMIA	**Simia**	**1.02**	**251**	P	Pg	09 15 50.9	-0.3
SMIA				S	Sb	09 16 05.3	-0.3
SMIA	**Simia**	**1.02**	**251**	P	Pg	09 15 50.9	-0.3
SMIA				S	Sb	09 16 05.3	-0.3
SIGR	**SIGRI**	**1.09**	**90**	P	Pg	09 15 51.9	-0.5
SIGR				S	Sg	09 16 05.8	-0.7
SIGR	**SIGRI**	**1.09**	**90**	P	Pg	09 15 51.9	-0.5
SIGR				S	Sg	09 16 05.8	-0.7
OUR	**Ouranopolis**	**1.17**	**342**	P	Pg	09 15 52.8	-1.2
OUR	**Ouranopolis**	**1.17**	**342**	P	Pg	09 15 52.8	-1.2
FYTO	**Fytoko, Volos**	**1.19**	**280**	P	Pg	09 15 52.8	-1.5
FYTO	**Fytoko, Volos**	**1.19**	**280**	P	Pg	09 15 52.8	-1.5
PTL	**Penteli**	**1.25**	**202**	P	Pg	09 15 54.7	-0.9
PTL	**Penteli**	**1.25**	**202**	P	Pg	09 15 54.7	-0.8
LKR	**Lokris**	**1.27**	**244**	P	Pg	09 15 53.3	-2.5
LKR	**Lokris**	**1.27**	**244**	P	Pg	09 15 53.3	-2.5
ATHU	**Athens Univers**	**1.35**	**203**	P	Pn	09 15 56.9	-0.3
ATHU	**Athens Univers**	**1.35**	**203**	P	Pn	09 15 56.9	-0.2
VLY	**Voula,Athens**	**1.46**	**201**	P	Pn	09 15 58.0	-0.5
VLY	**Voula,Athens**	**1.46**	**201**	P	Pn	09 15 58.0	-0.5
SMTH	**Samothraki Isl**	**1.50**	**33**	P	Pn	09 15 57.1	-2.0
SMTH	**Samothraki Isl**	**1.50**	**33**	P	Pn	09 15 57.1	-2.1
CHOS	**Chios island**	**1.50**	**123**	P	Pn	09 15 58.0	-1.2
CHOS	**Chios island**	**1.50**	**123**	P	Pn	09 15 58.0	-1.2
LTK	**Loutraki**	**1.67**	**225**	P	Pn	09 15 59.7	-1.7
LTK	**Loutraki**	**1.67**	**225**	P	Pn	09 15 59.7	-1.7
DSF	**Desfina**	**1.71**	**242**	P	Pn	09 15 59.9	-2.1
DSF	**Desfina**	**1.71**	**242**	P	Pn	09 15 59.9	-2.1
KAVA	**Kavala**	**1.78**	**2**	P	Pn	09 16 00.6	-2.3
KAVA	**Kavala**	**1.78**	**2**	P	Pn	09 16 00.6	-2.3
DID	**Didima**	**1.96**	**210**	P	Pn	09 16 03.0	-2.5
DID	**Didima**	**1.96**	**210**	P	Pn	09 16 03.0	-2.4
GUR	**Goura**	**2.09**	**233**	P	Pn	09 16 06.0	-1.4
GUR	**Goura**	**2.09**	**233**	P	Pn	09 16 06.0	-1.3

*ISCJB **28** 09:17:39.8±0.5, 64°.79N±0°.02×30°.23E±0°.07, h0km, Error ellipse: s-maj=4.6km s-min=3.1km az=25.0*
*HEL **28** 09:17:40.2±0.1, 64°.73N×30°.58E, h0km, ML2.1, Explosion*
*KOLA **28** 09:17:40.3, 64°.75N×30°.15E, h0km*
*CSEM **28** 09:17:41.5±0.4, 64°.81N×30°.50E, h1km, ML2.1, Error ellipse: s-maj=9.3km s-min=4.8km az=106.0, Mining explosion.*
*IDC **28** 09:17:41.3±2.4, 64°.75N×31°.05E, h0km, mb1 3.3/4, mb1mx3.0/67, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=33.6km s-min=8.4km az=101.0*
*NAO **28** 09:17:42.9±1.2, 64°.83N×30°.25E, ML2.6*
*UPP **28** 09:17:43.7±2.9, 64°.77N×30°.22E, h0km, ML1.6*
*BER **28** 09:17:43.6±3.8, 64°.83N×30°.17E, h0km, ML2.6(NAO), Suspected explosion*
ISC 28 09:17:41.4±0.9, 64°.82N±0°.03×30°.37E±0°.04, h0km, n67, σ1§73/104, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.23**	**351**	PG	**Pg**	**09 18 04.0**	**-1.0**
	baz=170						
KU6				SG	**Sg**	**09 18 21.1**	**+0.2**
KU6	**Riekki**	**1.23**	**351**	Pg	**Pg**	**09 18 04.0**	**-1.0**
KU6				Sg	**Sg**	**09 18 21.1**	**+0.2**
MSF	**Maaselka**	**1.23**	**334**	PG	**Pg**	**09 18 04.7**	**-0.3**
MSF				SG	**Sb**	**09 18 22.2**	**+0.2**
MSF	**Maaselka**	**1.23**	**334**	Pg	**Pg**	**09 18 04.7**	**-0.3**
MSF				Sg	**Sb**	**09 18 22.2**	**+0.2**
OUL	**Oulu**	**1.92**	**280**	PG	**Pn**	**09 18 16.5**	**+1.1**
OUL				SG	**Sb**	**09 18 42.9**	**+1.1**
OUL	**Oulu**	**1.92**	**280**	Pg	**Pn**	**09 18 16.4**	**+1.1**
OUL				Sg	**Sb**	**09 18 42.9**	**+1.1**
JOF	**Joensuu**	**1.95**	**167**	PG	**Pn**	**09 18 13.3**	**-2.4**
	baz=346						
JOF				SN	**Sn**	**09 18 39.1**	**-1.7**
OUFX	**Oulainen**	**2.49**	**262**	PG	**Pn**	**09 18 24.8**	**+1.8**
OUFX				SG	**Sb**	**09 19 00.5**	**+2.5**
OUFX	**Oulainen**	**2.49**	**262**	Pg	**Pn**	**09 18 24.8**	**+1.8**
SUF	**Sumiainen**	**2.82**	**224**	PG	**Pn**	**09 18 29.5**	**+1.9**
SUF				MSG		09 19 03.1	
	comp=Z,6.6nm,0.2s						
SUF				SG	**Sb**	**09 19 08.6**	**+1.0**
SUF	**Sumiainen**	**2.82**	**224**	Pg	**Pn**	**09 18 29.5**	**+1.9**
APA0	**Apatity Array**	**3.00**	**20**	Pn	**Pn**	**09 18 29.8**	**-0.3**
	baz=186,slow=12						
APA0				Pg	**Pb**	**09 18 36.2**	**+0.7**
	baz=198,slow=16						
APA0				Sn	**Sn**	**09 19 06.6**	**-0.1**
	baz=207,slow=28						
APA0				Lg	Lg	09 19 15.8	
	baz=200,slow=37						
APA0	**Apatity Array**	**3.00**	**20**	P	**Pn**	**09 18 29.6**	**-0.5**
APA0				S	**Sn**	**09 19 06.6**	**-0.1**
APA0	**Apatity Array**	**3.00**	**20**	Pn	**Pn**	**09 18 29.8**	**-0.3**
	baz=186,slow=12						
APA0				Pg	**Pb**	**09 18 36.2**	**+0.7**
	baz=198,slow=16						
APA0				Sn	**Sn**	**09 19 06.6**	**-0.1**
	baz=207,slow=28						
APA0				Lg	Lg	09 19 15.8	
	baz=200,slow=37						
APA0	**Apatity Array**	**3.00**	**20**	Pn	**Pn**	**09 18 29.8**	**-0.3**
	SNR=50						
APA0				Sn	**Sn**	**09 19 06.6**	**-0.1**
	SNR=50						
APA0				Lg	Lg	09 19 15.8	
	SNR=4.6						
APA	**Apatity**	**3.03**	**23**	P	**Pn**	**09 18 30.2**	**-0.3**
APA				S	**Sn**	**09 19 07.4**	**0.0**
SGF	**Sodankyl**	**3.07**	**331**	PN	**Pn**	**09 18 31.4**	**+0.4**
SGF	**Sodankyl**	**3.07**	**331**	Pn	**Pn**	**09 18 31.4**	**+0.4**
KALU	**Kalix**	**3.12**	**293**	PB	**Pn**	**09 18 33.8**	**+2.0**
KALU				SG	**Sg**	**09 19 20.0**	**-1.6**
KALU	**Kalix**	**3.12**	**293**	Pb	**Pn**	**09 18 33.8**	**+2.0**
KAF	**Kangasniemi**	**3.27**	**216**	PB	**Pn**	**09 18 35.8**	**+2.0**
KAF	**Kangasniemi**	**3.27**	**216**	Pb	**Pn**	**09 18 35.8**	**+2.0**
KEF	**Keuruu**	**3.63**	**225**	PB	**Pn**	**09 18 41.0**	**+2.3**
KEF	**Keuruu**	**3.63**	**225**	Pb	**Pn**	**09 18 41.0**	**+2.3**
PAJU	**Pajala**	**3.71**	**310**	P	**Pn**	**09 18 41.4**	**+1.5**
PAJU	**Pajala**	**3.71**	**310**	P	**Pn**	**09 18 41.4**	**+1.5**
SJUU	**Sjulsmark**	**3.76**	**285**	P	**Pn**	**09 18 41.9**	**+1.3**
SJUU	**Sjulsmark**	**3.76**	**285**	P	**Pn**	**09 18 41.9**	**+1.3**
ERTU	**Ertsjaerv**	**3.81**	**301**	P	**Pn**	**09 18 42.9**	**+1.7**
ERTU	**Ertsjaerv**	**3.81**	**301**	PN	**Pn**	**09 18 43.2**	**+2.0**
	baz=114						
ERTU				SG	**Sg**	**09 19 43.2**	**-0.3**
ERTU	**Ertsjaerv**	**3.81**	**301**	P	**Pn**	**09 18 42.9**	**+1.7**
ERTU	**Ertsjaerv**	**3.81**	**301**	Pn	**Pn**	**09 18 43.2**	**+2.0**
VAF	**Ylistaro**	**3.84**	**246**	PB	**Pn**	**09 18 45.0**	**+3.4**
VAF	**Ylistaro**	**3.84**	**246**	Pb	**Pn**	**09 18 44.9**	**+3.4**
BURU	**Burvik**	**3.87**	**271**	P	**Pn**	**09 18 42.7**	**+0.7**
BURU	**Burvik**	**3.87**	**271**	PN	**Pn**	**09 18 42.8**	**+0.7**
BURU	**Burvik**	**3.87**	**271**	P	**Pn**	**09 18 42.7**	**+0.7**
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 18 42.8**	**+0.2**
	baz=31,slow=12						
FIA0				Pg	**Pb**	**09 18 51.8**	**+0.8**
	baz=18,slow=16						
FIA0				Sn	**Sn**	**09 19 30.3**	**+1.3**
	baz=38,slow=28						
FIA0				Lg	Lg	09 19 42.1	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 18 42.8**	**+0.2**
	baz=31,slow=12						
FIA0				Pg	**Pb**	**09 18 51.8**	**+0.8**
	baz=18,slow=16						
FIA0				Sn	**Sn**	**09 19 30.3**	**+1.3**
	baz=38,slow=28						
FIA0				Lg	Lg	09 19 42.1	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**3.91**	**212**	PN	**Pn**	**09 18 43.4**	**+0.9**
FIA0	**FINESS Array S**	**3.91**	**212**	Pn	**Pn**	**09 18 42.8**	**+0.2**
	SNR=50						
FIA0				Sn	**Sn**	**09 19 30.3**	**+1.3**
	SNR=50						
FIA0				Lg	Lg	09 19 42.1	
	SNR=55						
FINES	**FINESS Array B**	**3.91**	**212**	Pn	**Pn**	**09 18 43.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=9.7						
FINES				Pg	**Pb**	**09 18 51.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=32,slow=16,SNR=12						
FINES				Sn	**Sn**	**09 19 30.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=37,slow=23,SNR=5.5						
FINES				Lg	Lg	09 19 46.1	
	comp=Z,1.8nm,0.3s,baz=29,slow=28,SNR=19						
UMAU	**Umeaa**	**4.32**	**262**	P	**Pn**	**09 18 48.6**	**+0.4**
UMAU	**Umeaa**	**4.32**	**262**	PN	**Pn**	**09 18 48.4**	**+0.3**
UMAU				SG	**Sg**	**09 19 58.1**	**-1.8**
UMAU	**Umeaa**	**4.32**	**262**	P	**Pn**	**09 18 48.6**	**+0.4**
VJF	**Virojoki**	**4.48**	**198**	SN	**Sb**	**09 19 57.5**	**+2.2**
HEF	**Hetta**	**4.49**	**326**	PN	**Pn**	**09 18 52.9**	**+2.3**
HEF				SG	**Sg**	**09 20 01.4**	**-4.1**
HEF	**Hetta**	**4.49**	**326**	Pn	**Pn**	**09 18 52.8**	**+2.3**
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**09 18 59.0**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 19 56.9**	**-1.7**
	baz=157,slow=28						
ARA0				Lg	Lg	09 20 18.7	
	baz=151,slow=37						
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**09 18 59.0**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 19 56.9**	**-1.7**
	baz=157,slow=28						
ARA0				Lg	Lg	09 20 18.7	
	baz=151,slow=37						
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn	**Pn**	**09 18 59.0**	**0.0**
	SNR=50						
ARA0				Sn	**Sn**	**09 19 56.8**	**-1.7**
	SNR=50						
ARCES	**ARCESS Array B**	**5.10**	**340**	Pn	**Pn**	**09 18 59.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=156,slow=14,SNR=62						
ARCES				Sn	**Sn**	**09 19 56.5**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=152,slow=26,SNR=5.8						
ARCES				Lg	Lg	09 20 19.6	
	comp=Z,1.4nm,0.3s,baz=154,slow=31,SNR=16						
HUSU	**Husum**	**5.11**	**258**	P	**Pn**	**09 19 00.5**	**+1.4**
HUSU	**Husum**	**5.11**	**258**	P	**Pn**	**09 19 00.5**	**+1.4**
BREU	**Bredtraesk**	**5.21**	**265**	P	**Pn**	**09 19 00.7**	**+0.3**
BREU				S	**Sn**	**09 20 00.8**	**-0.2**
BREU	**Bredtraesk**	**5.21**	**265**	P	**Pn**	**09 19 00.7**	**+0.3**
BREU				S	**Sn**	**09 20 00.8**	**-0.2**
SALU	**Saltoluokta**	**5.47**	**303**	P	**Pn**	**09 19 05.7**	**+1.7**
SALU	**Saltoluokta**	**5.47**	**303**	P	**Pn**	**09 19 05.7**	**+1.7**
HEMU	**Hemsoen**	**5.88**	**254**	P	**Pn**	**09 19 09.9**	**+0.3**
HEMU				S	**Sn**	**09 20 18.8**	**+1.2**
HEMU	**Hemsoen**	**5.88**	**254**	P	**Pn**	**09 19 09.9**	**+0.3**
HEMU				S	**Sn**	**09 20 18.8**	**+1.2**
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 19 52.5**	**-0.2**
	baz=55,slow=12						
HFS				Sn	**Sn**	**09 21 27.5**	**-7.4**
HFS				Lg	Lg	09 22 16.6	
	baz=54,slow=28						
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 19 52.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=60,slow=13,SNR=5.1						
HFS				Lg	Lg	09 22 23.6	
	comp=Z,0.4nm,0.3s,baz=59,slow=29,SNR=4.1						
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 19 52.5**	**-0.2**
	baz=55,slow=12						
HFS				Sn	**Sn**	**09 21 27.5**	**-7.4**
HFS				Lg	Lg	09 22 16.6	
	baz=54,slow=28						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 20 01.0**	**+1.7**
	baz=63,slow=14						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 20 01.0**	**+1.7**
	baz=63,slow=14						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 20 01.0**	**+1.7**
	SNR=50						
NOA	**NORSAR Array B**	**9.50**	**255**	Pn	**Pn**	**09 19 58.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=57,slow=12,SNR=3.3						
NOA				Lg	Lg	09 22 40.4	
	comp=Z,0.3nm,0.3s,baz=63,slow=15,SNR=4.6						

*ISK **28** 09:18:39.9, 38°.70N×43°.23E, h5km, ML2.2*
*CSEM **28** 09:18:41.4±0.2, 38°.72N×43°.21E, h2km, ML2.2, Error ellipse: s-maj=5.4km s-min=4.4km az=89.0*
*DDA **28** 09:18:41.0, 38°.68N×43°.19E, h7km, Md2.6*
ISC 28 09:18:41.2±0.9, 38°.70N±0°.02×43°.22E±0°.03, h15km±8km, n24, σ0§57/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**127**	*e*PG	**Pg**	**09 18 45.8**	**+0.3**
VANB				*e*SG	**Sb**	**09 18 50.0**	**+0.5**
VANB	**Van**	**0.17**	**127**	*e*Pg	**Pg**	**09 18 45.8**	**+0.3**
VANB				*e*Sg	**Sb**	**09 18 50.0**	**+0.5**
TVAN	**Van**	**0.23**	**139**	*i* P	**Pg**	**09 18 46.0**	**-0.4**
TVAN				*i* S	**Sg**	**09 18 49.4**	**-0.5**
TVAN	**Van**	**0.23**	**139**	P	**Pg**	**09 18 46.0**	**-0.4**
TVAN				S	**Sg**	**09 18 49.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.40**	**44**	*i* P	**Pg**	**09 18 49.7**	**+0.3**
VMUR				*i* S	**Sb**	**09 18 56.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.40**	**44**	P	**Pg**	**09 18 49.7**	**+0.3**
VMUR				S	**Sb**	**09 18 56.6**	**+0.3**
GEVA	**Gevas**	**0.40**	**198**	*i* P	**Pg**	**09 18 49.1**	**-0.3**
GEVA				*i* S	**Sb**	**09 18 56.2**	**-0.1**
GEVA	**Gevas**	**0.40**	**198**	P	**Pg**	**09 18 49.1**	**-0.3**
GEVA				S	**Sb**	**09 18 56.2**	**-0.1**
CLDR	**Caldiran**	**0.70**	**51**	*e*PG	**Pg**	**09 18 54.4**	**-0.6**
CLDR				*e*SG	**Sb**	**09 19 05.7**	**+0.7**
CLDR	**Caldiran**	**0.70**	**51**	*e*Pg	**Pg**	**09 18 54.4**	**-0.6**
CLDR				*e*Sg	**Sb**	**09 19 05.7**	**+0.7**
TATV	**Tatvan**	**0.77**	**256**	*i* P	**Pg**	**09 18 55.5**	**-0.7**
TATV				*i* S	**Sb**	**09 19 06.6**	**-0.2**
TATV	**Tatvan**	**0.77**	**256**	P	**Pg**	**09 18 55.5**	**-0.7**
TUTA	**Tutak**	**0.77**	**336**	*i* P	**Pg**	**09 18 56.0**	**-0.3**
TUTA				*i* S	**Sg**	**09 19 06.2**	**-0.3**
TUTA	**Tutak**	**0.77**	**336**	P	**Pg**	**09 18 56.0**	**-0.3**
TUTA				S	**Sg**	**09 19 06.2**	**-0.3**
AGRB	**Hanur-Agry**	**0.89**	**349**	*e*PG	**Pb**	**09 18 57.4**	**-1.2**
AGRB	**Hanur-Agry**	**0.89**	**349**	*e*Pg	**Pb**	**09 18 57.4**	**-1.2**
HAKT	**HAKKARI**	**1.20**	**161**	*i* P	**Pn**	**09 19 03.4**	**-0.3**
HAKT	**HAKKARI**	**1.20**	**161**	P	**Pn**	**09 19 03.4**	**-0.3**
EATA	**Eleskirt**	**1.29**	**334**	*i* P	**Pn**	**09 19 05.4**	**+0.3**
EATA				*i* S	**Sg**	**09 19 23.9**	**+0.9**
EATA	**Eleskirt**	**1.29**	**334**	P	**Pn**	**09 19 05.4**	**+0.3**
EATA				S	**Sg**	**09 19 23.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	*e*PN	**Pb**	**09 19 12.4**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.68**	**252**	*e*Pn	**Pb**	**09 19 12.4**	**+0.6**
BTMN	**Batman**	**1.73**	**243**	*i* P	**Pb**	**09 19 13.6**	**+0.9**
BTMN				*i* S	**Sg**	**09 19 37.1**	**+0.2**
BTMN	**Batman**	**1.73**	**243**	P	**Pb**	**09 19 13.6**	**+0.9**
BTMN				S	**Sg**	**09 19 37.1**	**+0.2**

IDC 28 09:21:18.2±3.1, 53°.67N×88°.00E, h0km, mb1 3.1/2, mb1mx2.8/62, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=28.6km s-min=17.1km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**280**	*i*		09 35 50.0	
	baz=95,slow=343,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.91**	**280**	Pg	Pn	09 21 52.2	+0.2
	2.4nm,0.3s,baz=93,slow=16,SNR=15						
ZALV				Lg	Lg	09 22 19.3	
	7.4nm,0.3s,baz=100,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.58**	**246**	Pn	Pn	09 22 56.8	+0.7
	0.2nm,0.3s,baz=62,slow=14,SNR=5.7						
KURBB				Lg	Lg	09 24 44.5	
	0.1nm,0.3s,baz=61,slow=33,SNR=4.8						
MKAR	**Makanchi Array**	**7.79**	**210**	Pn	Pn	09 23 14.1	+1.3
	0.1nm,0.3s,baz=32,slow=14,SNR=4.5						
MKAR				Lg	Lg	09 25 25.0	
	0.2nm,0.3s,baz=26,slow=30,SNR=5.6						

*CSEM **28** 09:21:20.1, 37°.24N×28°.17E, h7km, MD2.7, Suspected Mining explosion.*
DDA 28 09:21:20.1, 37°.24N×28°.17E, h7km, Md2.7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.48**	**331**	*i* P	Pg	09 21 29.5	+0.1
AYDN	**Tasoluk**	**0.48**	**331**	P	Pg	09 21 29.5	+0.1
TURN	**Turunc**	**0.51**	**137**	*i* P	Pg	09 21 28.4	-1.5
TURN				*i* S	Sg	09 21 36.0	-0.5
TURN	**Turunc**	**0.51**	**137**	P	Pg	09 21 28.4	-1.5
TURN				S	Sg	09 21 36.0	-0.5
DALY	**Dalyan (Mu¨la**	**0.57**	**138**	*i* P	Pg	09 21 30.3	-0.9
DALY	**Dalyan (Mu¨la**	**0.57**	**138**	P	Pg	09 21 30.3	-0.9
BDRM	**Kayabasi**	**0.61**	**253**	*i* P	Pg	09 21 32.3	+0.4
BDRM	**Kayabasi**	**0.61**	**253**	P	Pg	09 21 32.3	+0.5
TAVA	**DENIZLI_Tavas**	**0.63**	**69**	*i* P	Pg	09 21 31.7	-0.6
TAVA	**DENIZLI_Tavas**	**0.63**	**69**	P	Pg	09 21 31.7	-0.6
DAT	**Datca**	**0.70**	**223**	*i* P	Pg	09 21 34.1	+0.5
DAT				*i* S	Sn	09 21 48.0	+0.4
DAT	**Datca**	**0.70**	**223**	P	Pg	09 21 34.1	+0.5
DAT				S	Sn	09 21 48.0	+0.4
GCAM	**G?zelcaml?**	**0.87**	**302**	*i* P	Pb	09 21 37.4	-0.2
GCAM				*i* S	Sb	09 21 49.8	+0.3
GCAM	**G?zelcaml?**	**0.87**	**302**	P	Pb	09 21 37.4	-0.2
GCAM				S	Sb	09 21 49.8	+0.3
FETY	**Fethiye**	**0.95**	**129**	P	Pb	09 21 39.3	+0.4
FETY				S	Sn	09 21 53.8	+0.1
AKAS	**Kas**	**1.53**	**131**	*i* P	Pb	09 21 49.2	+0.3

*ISK **28** 09:22:43.7, 38°.66N×43°.06E, h4km, MD2.1*
*CSEM **28** 09:22:45.2±0.2, 38°.69N×43°.09E, h5km, ML2.6, Error ellipse: s-maj=5.2km s-min=4.3km az=134.0*
*DDA **28** 09:22:45.4, 38°.69N×43°.14E, h7km, Ml2.6*
ISC 28 09:22:45.0±1.0, 38°.67N±0°.03×43°.08E±0°.03, h12km±11km, n14, σ0§36/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**107**	*e*PG	**Pg**	**09 22 50.5**	**+0.1**
VANB				*e*SG	**Sb**	**09 22 55.8**	**-0.4**
VANB	**Van**	**0.26**	**107**	*e*Pg	**Pg**	**09 22 50.5**	**+0.1**
VANB				*e*

comp=Z,2.0nm,0.8s
MK31 Makanchi Array 8.28 320 ⇑Pn **Pn 09 26 42.2 -0.7**
comp=Z,3.5nm,0.3s,baz=133,slow=14,SNR=159
MK31 ⇓Lg Lg 09 28 13.5
comp=Z,2.2nm,0.5s,baz=132,slow=25,SNR=5.6
MAKZ Makanchi 8.44 319 ⇑Pn **Pn 09 26 43.6 -1.6**
comp=Z,2.7nm,0.5s
MAKZ ⇑Lg Lg 09 28 13.7
comp=Z,2.9nm,0.8s
LZH Lanzhou 11.74 109 *e*P **Pn 09 27 32.5 +1.9**
LZH pP 09 27 35.0
LZH sP 09 27 38.0

IDC 28 09:27:35.6±420.0, 50°.81N×116°.78E, h0km, Error ellipse: s-maj=170.3km s-min=147.8km az=47.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.42**	**250**	*i*		10 13 40.0	
baz=63,slow=331,SNR=0.4							
I45RU	**USSURIYSK INFR**	**12.21**	**117**	*i*		10 40 20.0	
baz=308,slow=316,SNR=2.8							
I30JP	**ISUMI INFRASON**	**23.00**	**123**	*i*		11 49 40.0	
baz=322,slow=324,SNR=0.4							

*IDC **28** 09:29:59.4±4.6, 2°.35S×139°.20E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/42, mbtmp3.4/3, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/13, Error ellipse: s-maj=186.2km s-min=28.2km az=87.0*
*DJA **28** 09:29:59.0±3.3, 3°.5±15°×13°.9E±1°.8, h16km±53km, M3.6/2, MLv3.6/2*
*ISCJB **28** 09:30:03.6±0.8, 2°.45S±0°.08×139°.02E±0°.07, h37km, mb3.3/2, MS2.7/1, Error ellipse: s-maj=13.2km s-min=7.6km az=33.7*
ISC 28 09:30:04.7±1.0, 2°.4S±0°.1×139°.05E±0°.08, h37km, n7, σ1§58/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.51**	**318**	P	**Pn**	**09 30 13.8**	**-1.6**
SMPI				S	**Sn**	**09 30 24.2**	**+1.3**
GENI	**Genyem**	**1.14**	**101**	P	**Pn**	**09 30 22.2**	**-1.8**
GENI				S	**Sn**	**09 30 40.1**	**+1.7**
JAY	**Jayapura**	**1.66**	**95**	P	**Pn**	**09 30 30.1**	**-1.1**
WRA	**Warramunga Arr**	**18.06**	**194**	P	**Pn**	**09 34 13.0**	**+0.2**
0.3nm,0.3s,baz=17,slow=13,SNR=9.6							
ASAR	**Alice Springs**	**21.75**	**193**	P	**P**	**09 34 53.2**	**+0.1**
0.5nm,0.6s,baz=24,slow=11,SNR=9.1							
KLR	**Kul'dur**	**51.78**	**354**	LR	LR	09 59 02.6	
comp=Z,6.4nm,19.0s,slow=34							
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**	**09 41 11.7**	**+0.8**
0.4nm,0.6s,baz=113,slow=7.0,SNR=3.5							

*ISK **28** 09:36:17.9, 38°.71N×43°.22E, h5km, ML2.8*
*DDA **28** 09:36:18.8, 38°.70N×43°.22E, h15km, Ml3.6*
*CSEM **28** 09:36:19.0±0.2, 38°.71N×43°.22E, h2km, ML2.8, Error ellipse: s-maj=4.1km s-min=3.9km az=83.0*
ISC 28 09:36:19.4±1.0, 38°.71N±0°.02×43°.20E±0°.02, h8km±8km, n53, σ1§19/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**127**	*e*PG	**Pg**	**09 36 23.4**	**+0.1**
VANB	**Van**	**0.19**	**127**	*e*Pg	**Pg**	**09 36 23.4**	**+0.1**
TVAN	**Van**	**0.24**	**138**	*i* P	**Pg**	**09 36 23.6**	**-0.8**
TVAN				*i* S	**Sg**	**09 36 28.1**	**+0.4**
TVAN	**Van**	**0.24**	**138**	P	**Pg**	**09 36 23.5**	**-0.8**
VMUR	**Van-Muradiye**	**0.40**	**46**	*i* P	**Pg**	**09 36 27.1**	**-0.3**
VMUR				*i* S	**Sb**	**09 36 33.8**	**-1.6**
VMUR	**Van-Muradiye**	**0.40**	**46**	P	**Pg**	**09 36 27.1**	**-0.3**
VMUR				S	**Sb**	**09 36 33.8**	**-1.6**
GEVA	**Gevas**	**0.41**	**196**	*i* P	**Pg**	**09 36 26.7**	**-0.8**
GEVA				*i* S	**Sb**	**09 36 34.1**	**-1.5**
GEVA	**Gevas**	**0.41**	**196**	P	**Pg**	**09 36 26.7**	**-0.8**
GEVA				S	**Sb**	**09 36 34.1**	**-1.5**
CLDR	**Caldiran**	**0.71**	**52**	*e*PG	**Pg**	**09 36 32.6**	**-0.5**
CLDR				*e*SG	**Sb**	**09 36 43.7**	**-0.5**
CLDR	**Caldiran**	**0.71**	**52**	*i* P	**Pg**	**09 36 32.3**	**-0.8**
CLDR				*i* S	**Sb**	**09 36 43.3**	**-0.9**
CLDR	**Caldiran**	**0.71**	**52**	P	**Pg**	**09 36 32.3**	**-0.8**
CLDR	**Caldiran**	**0.71**	**52**	*e*Pg	**Pg**	**09 36 32.6**	**-0.5**
CLDR				S	**Sb**	**09 36 43.3**	**-0.9**
TUTA	**Tutak**	**0.75**	**337**	*i* P	**Pg**	**09 36 33.2**	**-0.8**
TUTA				*i* S	**Sg**	**09 36 43.8**	**-0.1**
TUTA	**Tutak**	**0.75**	**337**	P	**Pg**	**09 36 33.2**	**-0.8**
TUTA				S	**Sg**	**09 36 43.8**	**-0.1**
TATV	**Tatvan**	**0.76**	**255**	*i* P	**Pg**	**09 36 32.9**	**-1.1**
TATV				*i* S	**Sg**	**09 36 43.8**	**-0.2**
TATV	**Tatvan**	**0.76**	**255**	P	**Pg**	**09 36 32.9**	**-1.1**
TATV				S	**Sg**	**09 36 43.8**	**-0.2**
AGRB	**Hanur-Agry**	**0.88**	**349**	*e*PG	**Pg**	**09 36 35.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**349**	*e*Pg	**Pg**	**09 36 35.7**	**-0.7**
BASK	**Baskale_VAN**	**0.91**	**136**	*i* P	**Pg**	**09 36 35.2**	**-1.8**
BASK				*i* S	**Sb**	**09 36 48.8**	**-1.2**
BASK	**Baskale_VAN**	**0.91**	**136**	P	**Pg**	**09 36 35.2**	**-1.8**
BASK				S	**Sb**	**09 36 48.8**	**-1.2**
EKAR	**Karacoban**	**1.04**	**302**	*i* P	**Pn**	**09 36 40.4**	**-0.2**
EKAR				*i* S	**Sn**	**09 36 55.4**	**-0.1**
EKAR	**Karacoban**	**1.04**	**302**	P	**Pn**	**09 36 40.4**	**-0.2**
EKAR				S	**Sn**	**09 36 55.4**	**-0.1**
HAKT	**HAKKARI**	**1.22**	**161**	*i* P	**Pg**	**09 36 40.6**	**-2.2**
HAKT				*i* S	**Sn**	**09 37 02.1**	**+2.3**
HAKT	**HAKKARI**	**1.22**	**161**	P	**Pg**	**09 36 40.6**	**-2.2**
EATA	**Eleskirt**	**1.28**	**335**	*i* P	**Pg**	**09 36 42.9**	**-1.1**
EATA				*i* S	**Sn**	**09 37 01.3**	**-0.1**
EATA	**Eleskirt**	**1.28**	**335**	P	**Pg**	**09 36 42.9**	**-1.1**
EATA				S	**Sn**	**09 37 01.3**	**-0.1**
SIRN	**S¨–rnak**	**1.36**	**207**	*i* P	**Pg**	**09 36 45.5**	**-0.1**
SIRN				*i* S	**Sn**	**09 37 05.4**	**+2.3**
SIRN	**S¨–rnak**	**1.36**	**207**	P	**Pg**	**09 36 45.5**	**-0.1**
SIRN				S	**Sn**	**09 37 05.4**	**+2.3**
VRTB	**Varto-Mus**	**1.43**	**289**	*e*PN	**Pn**	**09 36 46.0**	**+0.1**
VRTB				*e*SN	**Sg**	**09 37 06.9**	**+1.4**
VRTB	**Varto-Mus**	**1.43**	**289**	*i* P	**Pn**	**09 36 44.2**	**-1.7**
VRTB				*i* S	**Sg**	**09 37 06.8**	**+1.3**
VRTB	**Varto-Mus**	**1.43**	**289**	P	**Pn**	**09 36 44.2**	**-1.7**
VRTB	**Varto-Mus**	**1.43**	**289**	*e*Pn	**Pn**	**09 36 46.0**	**+0.1**
VRTB				*e*Sn	**Sg**	**09 37 06.9**	**+1.4**
CUKT	**Cukurca**	**1.49**	**167**	*e*PN	**Pg**	**09 36 47.6**	**-0.5**
CUKT	**Cukurca**	**1.49**	**167**	*i* P	**Pg**	**09 36 47.6**	**-0.5**
CUKT				*i* S	**Sg**	**09 37 09.0**	**+1.5**
CUKT	**Cukurca**	**1.49**	**167**	P	**Pg**	**09 36 47.6**	**-0.5**
CUKT				S	**Sg**	**09 37 09.0**	**+1.5**
BNGL	**BINGOL**	**1.62**	**279**	*i* P	**Pn**	**09 36 48.8**	**+0.3**
BNGL				*i* S	**Sg**	**09 37 11.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**251**	*e*PN	**Pn**	**09 36 49.4**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**251**	*i* P	**Pb**	**09 36 49.9**	**-0.5**
SVAN				*i* S	**Sg**	**09 37 14.2**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.67**	**251**	*e*Pn	**Pn**	**09 36 49.4**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**251**	P	**Pb**	**09 36 49.9**	**-0.5**
SVAN				S	**Sg**	**09 37 14.2**	**+1.1**
HOMI	**Horasan**	**1.67**	**323**	*i* P	**Pb**	**09 36 50.4**	**-0.2**
HOMI				*i* S	**Sg**	**09 37 15.8**	**+2.6**
DIGO	**Kars**	**1.71**	**4**	*i* P	**Pb**	**09 36 50.3**	**-1.0**
DIGO				*i* S	**Sg**	**09 37 18.9**	**+4.5**
DIGO	**Kars**	**1.71**	**4**	P	**Pb**	**09 36 50.3**	**-1.0**
BTMN	**Batman**	**1.72**	**242**	*i* P	**Pb**	**09 36 50.9**	**-0.5**
BTMN				*i* S	**Sg**	**09 37 15.4**	**+0.6**
BTMN	**Batman**	**1.72**	**242**	P	**Pb**	**09 36 50.9**	**-0.5**
BTMN				S	**Sg**	**09 37 15.4**	**+0.6**
ERZM	**Erzurum**	**1.86**	**311**	*i* P	**Pb**	**09 36 54.0**	**+0.2**
ERZM				*i* S	**Sb**	**09 37 17.3**	**-0.1**
ERZM	**Erzurum**	**1.86**	**311**	P	**Pb**	**09 36 54.0**	**+0.2**
ERZM				S	**Sb**	**09 37 17.3**	**-0.1**
BNGB	**Bing¨¶l**	**1.99**	**279**	*e*PN	**Pn**	**09 36 54.1**	**+0.7**
BINT	**Bingol**	**2.12**	**275**	*e*Pn	**Pn**	**09 36 54.2**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.19**	**290**	*e*PN	**Pn**	**09 36 57.6**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.19**	**290**	*e*Pn	**Pn**	**09 36 57.6**	**+1.2**
MAZI	**Mazidag**	**2.50**	**241**	*e*PN	**Pn**	**09 37 02.0**	**+1.4**
MAZI	**Mazidag**	**2.50**	**241**	*e*Pn	**Pn**	**09 37 02.0**	**+1.4**

MAN 28 09:39:04, 8°.79N×126°.25E, h31km, mb4.1, ML2.9, MS2.6, Mindanao

*IDC **28** 09:40:07.0±5.7, 5°.74S×152°.23E, h57km±47km, mb3.6/7, mb1 3.8/8, mb1mx3.5/38, mbtmp3.9/8, ML1.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/25, Error ellipse: s-maj=71.0km s-min=24.4km az=118.0*
ISC 28 09:40:06.6±1.8, 5°.6S±0°.3×152°.0E±0°.4, h45km, n10, σ1§60/10, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.11**	**232**	P	**Pn**	**09 41 36.0**	**+1.5**
1.4nm,0.3s,baz=56,slow=7.3,SNR=4.3							
PMG				S	**Sn**	**09 42 40.7**	**-2.4**
2.1nm,0.3s,baz=143,slow=17,SNR=2.2							
PMG				LR	LR	09 44 26.6	
comp=Z,70nm,18.4s,baz=196,slow=42							
WRA	**Warramunga Arr**	**22.32**	**229**	P	**P**	**09 45 00.1**	**-0.6**
2.0nm,0.7s,baz=52,slow=9.9,SNR=18							
ASAR	**Alice Springs**	**25.03**	**222**	P	**P**	**09 45 26.4**	**-0.4**
3.1nm,0.7s,baz=59,slow=8.5,SNR=43							
FITZ	**Fitzroy Crossi**	**28.59**	**242**	P	**P**	**09 46 00.5**	**+1.7**
1.0nm,0.3s,baz=39,slow=13,SNR=11							
PETK	**Petropavlovsk-**	**58.69**	**4**	P	**P**	**09 50 00.4**	**+1.0**
2.1nm,0.4s,baz=208,slow=7.5,SNR=5.4							
SONM	**Songino Array**	**66.59**	**328**	P	**P**	**09 50 51.1**	**-1.3**
0.5nm,0.3s,baz=156,slow=3.8,SNR=3.9							
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**09 52 14.4**	**+0.8**
0.3nm,0.7s,baz=116,slow=3.4,SNR=3.6							
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**09 52 26.6**	**-1.2**
0.3nm,0.6s,baz=244,slow=5.1,SNR=5.1							
KURBB	**Kurchatov Arra**	**83.94**	**322**	P	P	09 52 27.9	-4.1
0.2nm,0.2s,baz=98,slow=4.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**149.79**	**286**	PKPbc	**PKPbc**	**09 59 51.5**	**-1.3**
1.6nm,0.5s,baz=77,slow=3.2,SNR=16							

*AZER **28** 09:47:53.7±3.1, 38°.67N×43°.06E, h6km±82km, Error ellipse: s-maj=85.9km s-min=19.6km az=64.0*
*MOS **28** 09:47:54.9±2.1, 38°.49N×43°.59E, h10km, mb4.3/13, Error ellipse: s-maj=7.0km s-min=5.2km az=109.6*
*IDC **28** 09:47:55.2±0.8, 38°.73N×43°.42E, h0km, mb3.9/17, mb1 4.0/20, mb1mx3.8/48, mbtmp3.9/20, ML3.8/2, MS3.4/23, Ms1 3.4/23, ms1mx3.3/47, Error ellipse: s-maj=16.4km s-min=9.1km az=165.0*
*DDA **28** 09:47:55.8, 38°.76N×43°.51E, h19km, Ml4.5*
*ISCJB **28** 09:47:56.1±0.5, 38°.73N±0°.02×43°.55E±0°.02, h0km±3km, mb4.2/33, MS3.4/18, Error ellipse: s-maj=3.3km s-min=2.7km az=139.2*
*NEIC **28** 09:47:56.2±0.0, 38°.73N×43°.59E, h9km, mb4.3/13, ML4.2(ISK), ML4.5(DDA), After ISK.*
*CSEM **28** 09:47:56.5±0.1, 38°.74N×43°.52E, h2km, mb4.3/12, Error ellipse: s-maj=4.5km s-min=3.5km az=141.0*
*ISK **28** 09:47:56.2, 38°.73N×43°.59E, h9km, ML4.2*
ISC 28 09:47:57.5±0.8, 38°.73N±0°.01×43°.52E±0°.02, h11km±5km, n274, σ1§84/305, mb4.1/38, MS3.4/18, 11C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**217**	*e*PG	**Pg**	**09 48 01.7**	**+0.4**
VANB				*e*SG	**Sg**	**09 48 06.7**	**+2.7**
VANB	**Van**	**0.17**	**217**	*e*Pg	**Pg**	**09 48 01.7**	**+0.4**
TVAN	**Van**	**0.22**	**204**	⇓*i*P	**Pg**	**09 48 01.7**	**-0.6**
TVAN				*i* S	**Sg**	**09 48 06.7**	**+1.2**
TVAN	**Van**	**0.22**	**204**	P	**Pg**	**09 48 01.7**	**-0.6**
TVAN				S	**Sg**	**09 48 06.7**	**+1.2**
VMUR	**Van-Muradiye**	**0.26**	**9**	⇓*i*P	**Pg**	**09 48 01.2**	**-1.7**
VMUR				*i* S	**Sg**	**09 48 06.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.26**	**9**	P	**Pg**	**09 48 01.2**	**-1.7**
VMUR				S	**Sg**	**09 48 06.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.26**	**9**	*i* P	**Pg**	**09 48 01.2**	**-1.7**
CLDR	**Caldiran**	**0.51**	**37**	*e*PG	**Pg**	**09 48 05.9**	**-1.7**
CLDR				*e*SG	**Sg**	**09 48 13.6**	**-0.8**
CLDR	**Caldiran**	**0.51**	**37**	⇑*i*P	**Pg**	**09 48 05.6**	**-1.9**
CLDR				*i* S	**Sg**	**09 48 14.2**	**-0.3**
CLDR	**Caldiran**	**0.51**	**37**	*e*Pg	**Pg**	**09 48 05.9**	**-1.7**
CLDR				*e*Sg	**Sg**	**09 48 13.6**	**-0.8**
CLDR				S	**Sg**	**09 48 14.2**	**-0.3**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pg**	**09 48 05.7**	**-1.9**
GEVA	**Gevas**	**0.55**	**221**	⇑*i*P	**Pg**	**09 48 06.8**	**-1.5**
GEVA	**Gevas**	**0.55**	**221**	P	**Pg**	**09 48 06.8**	**-1.5**
GEVA	**Gevas**	**0.55**	**221**	*i* P	**Pg**	**09 48 06.8**	**-1.5**
BASK	**Baskale_VAN**	**0.78**	**151**	⇓*i*P	**Pg**	**09 48 10.8**	**-1.7**
BASK				*i* S	**Sb**	**09 48 23.8**	**+0.1**
BASK	**Baskale_VAN**	**0.78**	**151**	P	**Pg**	**09 48 10.8**	**-1.7**
BASK				S	**Sb**	**09 48 23.8**	**+0.1**
DYDN	**Diyadin**	**0.82**	**9**	⇓*i*P	**Pg**	**09 48 10.9**	**-2.5**
DYDN				*i* S	**Sg**	**09 48 21.4**	**-2.8**
DYDN	**Diyadin**	**0.82**	**9**	*i* P	**Pg**	**09 48 11.0**	**-2.4**
DYDN				S	**Sg**	**09 48 21.4**	**-2.8**
DYDN	**Diyadin**	**0.82**	**9**	*i* P	**Pg**	**09 48 11.0**	**-2.4**
TUTA	**Tutak**	**0.87**	**321**	⇓*i*P	**Pg**	**09 48 11.6**	**-2.6**
TUTA	**Tutak**	**0.87**	**321**	P	**Pg**	**09 48 11.6**	**-2.6**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*PG	**Pg**	**09 48 14.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*Pg	**Pg**	**09 48 14.9**	**-0.7**
TATV	**Tatvan**	**1.01**	**258**	⇑*i*P	**Pg**	**09 48 14.5**	**-2.4**
TATV				*i* S	**Sg**	**09 48 28.8**	**-1.2**
TATV	**Tatvan**	**1.01**	**258**	P	**Pg**	**09 48 14.5**	**-2.4**
TATV				S	**Sg**	**09 48 28.8**	**-1.2**
HAKT	**HAKKARI**	**1.18**	**173**	⇓*i*P	**Pb**	**09 48 17.8**	**-2.2**
HAKT	**HAKKARI**	**1.18**	**173**	P	**Pb**	**09 48 17.8**	**-2.2**
EKAR	**Karacoban**	**1.25**	**295**	⇓*i*P	**Pn**	**09 48 19.5**	**-1.6**
EKAR				*i* S	**Sn**	**09 48 42.1**	**+4.1**
EKAR	**Karacoban**	**1.25**	**295**	P	**Pn**	**09 48 19.5**	**-1.6**
EATA	**Eleskirt**	**1.38**	**325**	⇓*i*P	**Pn**	**09 48 21.1**	**-1.9**
EATA				*i* S	**Sb**	**09 48 40.1**	**-1.2**
EATA	**Eleskirt**	**1.38**	**325**	P	**Pn**	**09 48 21.1**	**-1.9**
EATA				S	**Sb**	**09 48 40.1**	**-1.2**
CUKT	**Cukurca**	**1.48**	**177**	*e*PN	**Pn**	**09 48 23.6**	**-0.7**
CUKT	**Cukurca**	**1.48**	**177**	⇓*i*P	**Pn**	**09 48 23.5**	**-0.7**
CUKT	**Cukurca**	**1.48**	**177**	P	**Pn**	**09 48 23.5**	**-0.7**
SIRN	**S¨–rnak**	**1.51**	**216**	*i* P	**Pn**	**09 48 24.4**	**-0.1**
SIRN				*i* S	**Sg**	**09 48 45.8**	**-0.3**
SIRN	**S¨–rnak**	**1.51**	**216**	P	**Pn**	**09 48 24.4**	**-0.1**
SIRN				S	**Sg**	**09 48 45.8**	**-0.3**
NAX	**Nakhchivan**	**1.60**	**73**	⇑P	**Pb**	**09 48 26.5**	**-0.6**
NAX				⇓S	**Sg**	**09 48 52.2**	**+3.1**
NAX	**Nakhchivan**	**1.60**	**73**	P	**Pb**	**09 48 26.5**	**-0.6**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*PN	**Pn**	**09 48 27.0**	**+0.3**
VRTB	**Varto-Mus**	**1.67**	**286**	⇓*i*P	**Pn**	**09 48 26.7**	**0.0**
VRTB				*i* S	**Sg**	**09 48 52.8**	**+1.8**
VRTB	**Varto-Mus**	**1.67**	**286**	P	**Pn**	**09 48 26.7**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*Pn	**Pn**	**09 48 27.0**	**+0.3**
VRTB				S	**Sg**	**09 48 52.8**	**+1.8**
DIGO	**Kars**	**1.68**	**356**	⇓*i*P	**Pn**	**09 48 27.0**	**-0.1**
DIGO	**Kars**	**1.68**	**356**	P	**Pn**	**09 48 27.0**	**-0.1**
GNI	**Garni**	**1.70**	**33**	Pn	**Pn**	**09 48 27.5**	**+0.2**
79nm,0.3s,baz=249,slow=1.7,SNR=75							
GNI				Sn	**Sg**	**09 48 53.8**	**+1.6**
156nm,0.3s,baz=293,slow=23,SNR=6.5							
HOMI	**Horasan**	**1.81**	**317**	⇓*i*P	**Pn**	**09 48 28.6**	**-0.3**
HOMI				*i* S	**Sg**	**09 48 57.0**	**+1.2**
BNGL	**BINGOL**	**1.86**	**278**	*i* P	**Pn**	**09 48 28.9**	**-0.6**
BNGL				*i* S	**Sg**	**09 48 56.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*e*PN	**Pn**	**09 48 30.8**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	⇑*i*P	**Pn**	**09 48 30.0**	**0.0**
SVAN				*i* S	**Sb**	**09 48 57.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	P	**Pn**	**09 48 30.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.91**	**253**	*e*Pn	**Pn**	**09 48 30.8**	**+0.8**
SVAN				S	**Sb**	**09 48 57.0**	**+0.7**
EAK	**Akyaka**	**1.95**	**2**	⇓*i*P	**Pn**	**09 48 31.4**	**+0.7**
EAK				*i* S	**Sg**	**09 49 00.5**	**+0.2**
EAK	**Akyaka**	**1.95**	**2**	P	**Pn**	**09 48 31.4**	**+0.7**
EAK				S	**Sg**	**09 49 00.5**	**+0.2**
BTMN	**Batman**	**1.96**	**245**	⇑*i*P	**Pn**	**09 48 30.9**	**+0.2**
BTMN				*i* S	**Sb**	**09 48 57.8**	**+0.2**
BTMN	**Batman**	**1.96**	**245**	P	**Pn**	**09 48 30.9**	**+0.2**
BTMN				S	**Sb**	**09 48 57.8**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*PN	**Pn**	**09 48 31.9**	**0.0**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*Pn	**Pn**	**09 48 31.9**	**0.0**
ERZM	**Erzurum**	**2.04**	**306**	*i* P	**Pn**	**09 48 31.6**	**-0.5**
ERZM	**Erzurum**	**2.04**	**306**	P	**Pn**	**09 48 31.5**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.16**	**295**	*i* P	**Pn**	**09 48 33.5**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.16**	**295**	P	**Pn**	**09 48 33.5**	**-0.1**
BNGB	**Bing¨¶l**	**2.23**	**278**	*e*PN	**Pn**	**09 48 35.2**	**+0.7**
BINT	**Bingol**	**2.37**	**274**	P	**Pn**	**09 48 35.2**	**-1.2**
BINT	**Bingol**	**2.37**	**274**	*e*Pn	**Pn**	**09 48 35.2**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*PN	**Pn**	**09 48 37.8**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*Pn	**Pn**	**09 48 37.8**	**+0.7**
DDEM	**Demirkent**	**2.55**	**328**	⇓*i*P	**Pb**	**09 48 42.2**	**-1.1**
DDEM	**Demirkent**	**2.55**	**328**	P	**Pb**	**09 48 42.2**	**-1.1**
MARD	**Mardin**	**2.59**	**238**	⇑*i*P	**Pn**	**09 48 39.3**	**-0.1**
MARD	**Mardin**	**2.59**	**238**	*e*Pn	**Pn**	**09 48 39.4**	**0.0**
MARD	**Mardin**	**2.59**	**238**	*e*Pn	**Pn**	**09 48 39.4**	**0.0**
GDB	**GEDABAY**	**2.63**	**40**	⇑P	**Pn**	**09 48 40.7**	**+0.7**
SNR=46							
GDB				⇓S	**Sb**	**09 49 18.5**	**+1.4**
GDB	**GEDABAY**	**2.63**	**40**	P	**Pn**	**09 48 40.7**	**+0.7**
SNR=46							
DAGI	**Agillar**	**2.65**	**333**	*i* P	**Pn**	**09 48 40.2**	**+0.1**
KOPT	**Kop Dagi**	**2.67**	**300**	*e*Pn	**Pb**	**09 48 44.7**	**-0.7**
KOPT	**Kop Dagi**	**2.67**	**300**	*e*Pn	**Pb**	**09 48 44.7**	**-0.7**
AKH	**Akhalkalaki**	**2.67**	**360**	*e*PN	**Pn**	**09 48 40.9**	**+0.2**
AKH	**Akhalkalaki**	**2.67**	**360**	P	**Pb**	**09 48 46.1**	**+0.7**
AKH				S	**Sg**	**09 49 26.9**	**+3.4**
AKH	**Akhalkalaki**	**2.67**	**360**	P	**Pb**	**09 48 46.1**	**+0.7**
AKH				S	**Sg**	**09 49 26.8**	**+3.4**
AKH	**Akhalkalaki**	**2.67**	**360**	*e*Pn	**Pn**	**09 48 40.9**	**+0.2**
QZX	**Qazax, Azerbai**	**2.73**	**31**	⇑P	**Pn**	**09 48 42.3**	**+1.1**
SNR=41							
QZX				⇑S	**Sb**	**09 49 19.0**	**-0.7**
QZX	**Qazax, Azerbai**	**2.73**	**31**	P	**Pn**	**09 48 42.3**	**+1.1**
SNR=41							
QZX				S	**Sb**	**09 49 19.0**	**-0.7**
MAZI	**Mazidag**	**2.74**	**243**	*e*PN	**Pn**	**09 48 41.4**	**0.0**
MAZI	**Mazidag**	**2.74**	**243**	*e*Pn	**Pn**	**09 48 41.4**	**0.0**
ARTV	**Artvin**	**2.74**	**334**	*i* P	**Pn**	**09 48 42.0**	**+0.4**
ARTV	**Artvin**	**2.74**	**334**	P	**Pn**	**09 48 42.0**	**+0.4**
ARTV	**Artvin**	**2.74**	**334**	*e*Pn	**Pb**	**09 48 44.8**	**-1.8**
ARTV	**Artvin**	**2.74**	**334**	*e*Pn	**Pb**	**09 48 44.8**	**-1.8**
EPOS	**Posof**	**2.83**	**348**	*i* P	**Pn**	**09 48 44.0**	**+1.2**
EPOS	**Posof**	**2.83**	**348**	P	**Pn**	**09 48 44.0**	**+1.2**
GANJ	**Ganja**	**2.89**	**48**	⇓P	**Pn**	**09 48 44.4**	**+1.0**
SNR=37							
GANJ				⇓S	**Sb**	**09 49 25.1**	**+0.9**
GANJ	**Ganja**	**2.89**	**48**	P	**Pn**	**09 48 44.4**	**+1.0**
SNR=37							
DBOC	**Borcka**	**2.97**	**332**	*i* P	**Pb**	**09 48 49.6**	**-0.9**
DBOC	**Borcka**	**2.97**	**332**	P	**Pb**	**09 48 49.6**	**-0.9**
DGRG	**David-gareji**	**3.06**	**27**	P	**Pn**	**09 48 47.8**	**+1.9**
DGRG				S	**Sg**	**09 49 35.9**	**-0.1**
DGRG	**David-gareji**	**3.06**	**27**	P	**Pn**	**09 48 47.7**	**+1.9**
DGRG				S	**Sg**	**09 49 35.8**	**-0.1**
DGRG	**David-gareji**	**3.06**	**27**	P	**Pn**	**09 48 47.5**	**+1.6**
ERZN	**Erzincan**	**3.07**	**287**	*e*PN	**Pn**	**09 48 47.0**	**+1.0**
TNCL	**Tunceli-Merkez**	**3.13**	**278**	*i* P	**Pb**	**09 48 52.4**	**-0.7**
TBLG	**Delisi**	**3.14**	**17**	*e*PN	**Pn**	**09 48 47.3**	**+0.4**
TBLG	**Delisi**	**3.14**	**17**	P	**Pb**	**09 48 52.0**	**-1.2**
TBLG				S	**Sg**	**09 49 39.8**	**+1.5**
TBLG	**Delisi**	**3.14**	**17**	P	**Pb**	**09 48 52.0**	**-1.2**
TBLG	**Delisi**	**3.14**	**17**	*e*Pn	**Pn**	**09 48 47.3**	**+0.4**
TBLG	**Delisi**	**3.14**	**17**	P	**Pn**	**09 48 50.0**	**+3.2**
SEAG	**Tbilisi Sea**	**3.18**	**18**	P	**Pb**	**09 48 56.0**	**+2.0**
BRDA	**Brd**	**3.22**	**60**	⇓P	**Pn**	**09 48 50.2**

BUR08	Bucovina Ar. S	16.03	310	ePn	P	09 51 47.0	+0.8
OBN	Obninsk	17.05	346	LR	LR	09 58 36.5	
	comp=Z,64nm,21.2s,baz=97,slow=38						
DRGR		17.24	305	P	Pn	09 51 57.7	-0.4
DRGR				pmax	pmax		
	comp=Z,15nm,0.9s						
DRGR		17.24	305	P	Pn	09 51 57.7	-0.4
	comp=Z,15nm,0.9s						
UOSS	Minazif	17.44	138	eP	Pn	09 52 00.6	-0.2
	comp=Z,8.8nm,0.9s						
UZH	Uzhgorod	18.21	310	eP	Pn	09 52 08.6	-1.4
UZH	Uzhgorod	18.21	310	eP	Pn	09 52 08.6	-1.4
CRVS	Cervenica-Dubn	18.82	310	eP	Pn	09 52 22.3	+4.8
CRVS	Cervenica-Dubn	18.82	310	eP	Pn	09 52 22.3	+4.8
KECS	Kecovo	19.25	308	eSG	S	09 56 21.0	+21
WSAR	Wadi Sarin	20.11	136	P	Pn	09 52 34.2	+1.1
	comp=Z,4.4nm,0.6s,baz=305,slow=13,SNR=9.6						
WSAR				LR	LR	10 01 55.1	
	comp=Z,80nm,19.5s,baz=314,slow=42						
VYHS	Vyhne	20.28	307	eP	Pn	09 52 37.9	+2.9
VYHS	Vyhne	20.28	307	eP	Pn	09 52 37.9	+2.9
ARU	Arti	20.33	25	P	P	09 52 33.9	+0.6
	comp=Z,3.6nm,0.3s,baz=225,slow=5.6,SNR=5.6						
ARU				LR	LR	10 02 39.3	
	comp=Z,126nm,19.1s,baz=198,slow=43						
ARU	Arti	20.33	25	d iP	P	09 52 33.8	+0.4
ARU						09 52 51.3	
ARU				S	Sn	09 56 24.9	+0.8
ARU				SS	PcP	09 56 45.3	-0.8
ARU				pmax	pmax		
	comp=Z,27nm,1.7s						
ARU	Arti	20.33	25	eP	P	09 52 34.0	+0.6
	comp=Z,32nm,1.4s						
ARU				S	Sn	09 56 24.9	+0.8
ARU	Arti	20.33	25	PcP	PcP	09 56 45.3	-0.8
ARU	Arti	20.33	25	eP	P	09 52 34.0	+0.6
	comp=Z,32nm,1.4s						
KKAR	Karatay Array	20.82	69	eP	P	09 52 39.6	+0.7
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	Karatay Array	20.82	69	eP	P	09 52 39.6	+0.7
	comp=Z,7.2nm,0.7s						
KKAR	Karatay Array	20.82	69	eP	P	09 52 39.6	+0.7
	comp=Z,7.2nm,0.7s						
KBL	Kabul	20.88	94	P	P	09 52 40.6	+0.8
KBL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KBL	Kabul	20.88	94	P	P	09 52 40.6	+0.8
	comp=Z,8.0nm,1.4s						
VRAC	Vranov	21.95	308	P	P	09 52 51.4	+0.4
	comp=Z,3.2nm,0.7s,baz=120,slow=8.2,SNR=5.0						
CONA	Conrad Observa	22.02	304	i pP	P	09 52 56.4	+4.6
	comp=Z,9.1nm,1.3s						
ARSA	Arzberg	22.09	302	i pP	P	09 52 54.4	+1.9
	comp=Z,3.4nm,0.8s						
ARSA	Arzberg	22.09	302	P	P	09 52 54.4	+1.9
	comp=Z,3.4nm,0.8s						
MNAS	Manas	22.27	71	P	P	09 52 54.1	-0.5
MNAS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MNAS	Manas	22.27	71	P	P	09 52 54.1	-0.5
	comp=Z,6.0nm,1.0s						
DPC	Dobruska-Polom	22.46	310	eP	P	09 52 58.2	+1.7
DPC	Dobruska-Polom	22.46	310	eP	P	09 52 58.2	+1.7
DPC	Dobruska-Polom	22.46	310	eP	P	09 52 58.2	+1.7
KSP	Ksiaz	22.66	311	eSg	Sn	09 57 20.0	-0.2
KSP	Ksiaz	22.66	311	eSg	Sn	09 57 20.0	-0.2
UPC	Upice	22.70	310	eP	P	09 53 03.0	+4.0
UPC	Upice	22.70	310	eP	P	09 53 03.0	+4.0
TRI	Trieste	23.02	297	P	P	09 53 02.2	-0.2
TRI				pmax	pmax		
	comp=Z,14nm,0.7s						
TRI	Trieste	23.02	297	P	P	09 53 02.2	-0.2
	comp=Z,14nm,0.7s						
TRI	Trieste	23.02	297	eP	P	09 53 06.4	+4.0
	comp=Z,11nm,0.7s						
MOA	Molln	23.05	303	i pP	P	09 53 06.5	+3.8
	comp=Z,9.6nm,1.6s						
GOPC	GO Pecny, Ondr	23.25	308	eP	P	09 53 09.5	+4.8
GOPC	GO Pecny, Ondr	23.25	308	eP	P	09 53 09.5	+4.8
BRVK	Borovoye	23.32	43	eP	P	09 53 06.6	+1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	23.32	43	eP	P	09 53 06.6	+1.3
	comp=Z,4.7nm,0.8s						
BRVK	Borovoye	23.32	43	eP	P	09 53 06.6	+1.3
	comp=Z,4.7nm,0.8s						
BVAR	Borovoye Array	23.36	44	P	P	09 53 06.6	+0.9
	comp=Z,0.4nm,0.4s,baz=200,slow=13,SNR=3.6						
PRU	Pruhonice	23.43	308	eP	P	09 53 10.5	+4.1
PRU	Pruhonice	23.43	308	eP	P	09 53 10.5	+4.1
KBA	Koelnbreinsper	23.51	301	P	P	09 53 06.4	-1.1
KBA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBA	Koelnbreinsper	23.51	301	i pP	P	09 53 10.5	+3.0
	comp=Z,11nm,1.2s						
KBA	Koelnbreinsper	23.51	301	P	P	09 53 06.4	-1.1
	comp=Z,7.0nm,1.1s						
GERES	GERESS Array B	23.64	305	P	P	09 53 08.9	+0.2
	comp=Z,1.8nm,0.6s,baz=113,slow=10,SNR=6.7						
GERES				LR	LR	10 03 22.2	
	comp=Z,38nm,18.1s,baz=112,slow=39						
AAK	Ala-Archa	23.74	71	P	P	09 53 10.5	+0.7
	comp=Z,1.9nm,0.8s,baz=237,slow=8.9,SNR=5.1						
KHC	Kasperske Hory	23.79	306	eP	P	09 53 13.5	+3.4
KHC	Kasperske Hory	23.79	306	eP	P	09 53 13.7	+3.6
KHC				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KHC	Kasperske Hory	23.79	306	eP	P	09 53 13.7	+3.6
	comp=Z,6.0nm,1.4s						
ABTA	Abfaltersbach	24.02	300	i pP	P	09 53 14.7	+2.3
	comp=Z,8.0nm,1.5s						
ABTA	Abfaltersbach	24.02	300	P	P	09 53 14.7	+2.3
	comp=Z,8.0nm,1.5s						
WTTA	Wattenberg	24.69	301	i pP	P	09 53 19.5	+0.9
	comp=Z,7.8nm,0.8s						
WTTA	Wattenberg	24.69	301	P	P	09 53 19.5	+0.9
	comp=Z,7.8nm,0.8s						
WATA	Walderalm	24.74	301	i pP	P	09 53 22.4	+3.4
	comp=Z,4.2nm,0.5s						
CLL	Collm	24.77	310	eP	P	09 53 20.0	+1.0
	comp=Z,8.0nm,1.2s						
MOTA	Moosalm	25.06	301	i pP	P	09 53 25.7	+3.9
	comp=Z,14nm,0.9s						
KSH	Kashi	25.12	78	eP	P	09 53 23.5	+1.1
KSH				pP	sP	09 53 27.8	+0.6
KSH				sP	pP	09 53 30.3	+4.5
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	25.18	340	P	P	09 53 20.5	-2.0
	comp=Z,3.7nm,1.0s,baz=142,slow=14,SNR=2.9						
FINES				LR	LR	10 03 58.4	
	comp=Z,81nm,20.1s,baz=174,slow=38						
FETA	Feichten	25.27	300	i pP	P	09 53 26.5	+2.7
	comp=Z,9.3nm,0.9s						
FETA	Feichten	25.27	300	P	P	09 53 26.5	+2.7
	comp=Z,9.3nm,0.9s						
RETA	Reutte	25.31	301	i pP	P	09 53 27.1	+3.0
	comp=Z,15nm,1.3s						
DAVOX	Davos/Dischmat	25.82	299	P	P	09 53 26.4	-2.4
	comp=Z,1.9nm,0.5s,baz=183,slow=17,SNR=2.4						
DAVOX				LR	LR	10 04 25.1	
	comp=Z,61nm,21.1s,baz=86,slow=38						
DAVA	Damuels	25.88	300	i P	P	09 53 27.9	-1.4
	comp=Z,9.0nm,1.1s						
DAVA	Damuels	25.88	300	P	P	09 53 27.9	-1.4
	comp=Z,9.0nm,1.1s						
KURBB	Kurchatov Arra	27.33	53	P	P	09 53 42.7	+0.6
	comp=Z,2.3nm,0.6s,baz=263,slow=8.9,SNR=15						
KURK	Kurchatov	27.40	53	eP	P	09 53 43.5	+0.7
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
KURK	Kurchatov	27.40	53	eP	P	09 53 43.5	+0.7
	comp=Z,11nm,1.3s						
KURK	Kurchatov	27.40	53	eP	P	09 53 43.5	+0.7
	comp=Z,11nm,1.3s						
HFS	Hagfors	28.47	329	P	P	09 53 51.0	-1.2
	comp=Z,2.4nm,0.8s,baz=131,slow=7.9,SNR=3.0						
HFS				LR	LR	10 05 45.6	
	comp=Z,83nm,19.9s,baz=132,slow=38						
HFS	Hagfors	28.47	329	P	P	09 53 51.0	-1.2
HFS	Hagfors	28.47	329	P	P	09 53 51.0	-1.2
MK31	Makanchi Array	29.34	61	eP	P	09 54 00.1	-0.1
MK31	Makanchi Array	29.34	61	eP	P	09 54 00.1	-0.1
MK31	Makanchi Array	29.34	61	eP	P	09 54 00.1	-0.1
MKAR	Makanchi Array	29.34	61	P	P	09 54 01.3	+1.2
	comp=Z,2.3nm,0.7s,baz=266,slow=6.3,SNR=17						
MKAR	Makanchi Array	29.34	61	eP	P	09 53 59.4	-0.8
MKAR				pmax	pmax		
	comp=Z,18nm,0.8s						
MKAR	Makanchi Array	29.34	61	eP	P	09 53 59.4	-0.8
	comp=Z,18nm,0.8s						
MKAR	Makanchi Array	29.34	61	eP	P	09 53 59.4	-0.8
	comp=Z,18nm,0.8s						
NOA	NORSAR Array B	29.99	329	LR	LR	10 07 07.9	
	comp=Z,57nm,18.4s,baz=125,slow=38						
ZALV	Zalesovo Beam	31.80	48	P	P	09 54 21.5	-0.2
	comp=Z,0.4nm,0.3s,baz=254,slow=9.0,SNR=2.3						
ZALV				LR	LR	10 09 05.1	
	comp=Z,111nm,20.7s,baz=70,slow=40						
ARCES	ARCESS Array B	32.34	348	LR	LR	10 08 14.1	
	comp=Z,44nm,19.4s,baz=150,slow=38						
WMQ	Urumqi	33.28	67	P	P	09 54 38.0	+3.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,59nm,3.7s						
WMQ				LR	LR		
	comp=N,82nm,22.5s						
WMQ				LR	LR		
	comp=E,68nm,23.5s						
WMQ				LR	LR		
	comp=Z,76nm,18.3s						
EKA	Eskdalemuir Ar	35.12	314	P	P	09 54 49.8	-0.8
	comp=Z,4.6nm,0.8s,baz=329,slow=26,SNR=4.5						
TAM	Tamanrasset	36.02	255	eP	P	09 55 03.5	+4.6
TAM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TAM	Tamanrasset	36.02	255	eP	P	09 55 03.5	+4.6
	comp=Z,1.3nm,0.4s						
ESDC	Sonseca Array	36.47	287	P	P	09 55 00.8	-1.7
	comp=Z,0.5nm,0.3s,baz=68,slow=8.8,SNR=7.6						
NRIK	Noril'sk	38.55	23	LR	LR	10 15 08.0	
	comp=Z,118nm,19.3s,baz=142,slow=42						
KMBO	Kilima Mbogo	40.08	190	LR	LR	10 11 09.4	
	comp=Z,112nm,19.1s,baz=316,slow=35						
TORD	Torodi Ar. Bea	44.88	247	P	P	09 56 10.3	-1.8
	comp=Z,2.0nm,0.9s,baz=32,slow=8.7,SNR=7.6						
TORD				LR	LR	10 17 26.7	
	comp=Z,46nm,19.4s,baz=290,slow=40						
SONM	Songino Array	45.52	57	P	P	09 56 17.6	+0.7
	comp=Z,0.3nm,0.7s,baz=292,slow=7.6,SNR=2.3						
SONM				LR	LR	10 17 27.7	
	comp=Z,106nm,18.1s,baz=233,slow=39						
LZH	Lanzhou	47.23	73	eP	P	09 56 34.0	+3.4
LZH				pP	sP	09 56 38.0	+2.5
LZH				sP	pP	09 56 40.8	+6.7
LZH				PP	PP	09 58 14.3	-7.1
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,5.3s						
HHC	Hu-ho-hao-te	51.11	65	eP	P	09 57 01.5	+1.3
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,95nm,6.7s						
CMAR	Chiang Mai Arr	51.87	97	P	P	09 57 06.1	+0.1
	comp=Z,0.9nm,0.3s,baz=308,slow=6.5,SNR=6.6						
KSAR	Wonju Array Be	64.00	62	P	P	09 58 30.5	-0.4
KSAR	Wonju Array Be	64.00	62	P	P	09 58 30.5	-0.4
KSAR	Wonju Array Be	64.00	62	P	P	09 58 30.4	-0.4
KSRS	Korea Array	64.02	62	P	P	09 58 30.5	-0.6
	comp=Z,0.8nm,0.8s,baz=292,slow=38,SNR=4.3						
MJAR	Matsushiro Arr	71.46	58	LR	LR	10 33 21.5	
	comp=Z,57nm,18.5s,baz=285,slow=38						
PETK	Petropavlovsk-	72.30	35	LR	LR	10 35 11.9	
	comp=Z,43nm,18.4s,baz=337,slow=39						
YKA	Yellowknife Ar	77.59	350	LR	LR	10 38 17.0	
	comp=Z,5.6nm,18.5s,baz=0.0,slow=39						
PDAR	Pinedale Array	95.28	340	LR	LR	10 43 14.0	
	comp=Z,19nm,21.5s,baz=28,slow=35						

WEL 28 09:50:44.0±0.1, 43°.58S×171°.75E, h17km±2km, ML3.7/17, 7C-2D, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	Oxford	0.33	40	⇑P*	Pg	09 50 50.4	-0.6
OXZ				AML	AML	09 50 50.5	
OXZ				S*	Sg	09 50 55.1	-0.6
OXZ				AML	AML	09 50 57.9	
OXZ				AML	AML	09 50 57.9	
RPZ	Rata Peaks	0.52	255	⇑P*	Pg	09 50 54.2	-0.3
RPZ				AML	AML	09 51 03.2	
RPZ				AML	AML	09 51 03.4	
CRLZ	Canterbury Las	0.64	90	⇓P*	Pg	09 50 56.3	-0.3
CRLZ				S*	Sb	09 51 05.5	+0.3
CRLZ				AML	AML	09 51 06.5	
MQZ	McQueen's Vall	0.67	101	⇓P*	Pg	09 50 56.6	-0.6
MQZ				AML	AML	09 51 06.9	
MQZ				AML	AML	09 51 08.0	
INZ	Inchbonnie	0.88	345	P*	Pb	09 51 00.4	-0.5
LTZ	Lake Taylor	0.88	26	⇑P*	Pb	09 50 59.8	-1.1
LTZ				AML	AML	09 51 01.0	
WVZ	Waitaha Valley	0.89	304	P*	Pb	09 51 00.8	-0.2
WVZ				AML	AML	09 51 14.1	
WVZ				AML	AML	09 51 14.1	
LBZ	Lake Benmore	1.39	234	PN	Pn	09 51 07.4	-1.2
LBZ				AML	AML	09 51 29.6	
LBZ				AML	AML	09 51 29.7	
LBZ				AML	AML	09 51 30.4	
LBZ				AML	AML	09 51 30.4	
FOZ	Fox Glacier	1.41	271	⇑PN	Pn	09 51 09.0	+0.2
FOZ				AML	AML	09 51 32.1	
FOZ				AML	AML	09 51 32.1	
FOZ				AML	AML	09 51 33.4	
FOZ				AML	AML	09 51 33.5	
ODZ	Otahua Downs	1.67	208	⇑PN	Pn	09 51 10.8	-1.7
ODZ				AML	AML	09 51 38.0	
ODZ				AML	AML	09 51 41.7	
ODZ				AML	AML	09 51 43.1	
ODZ				AML	AML	09 51 43.2	
KHZ	Kahutara	1.75	49	ePN	Pn	09 51 12.0	-1.6
DSZ	Denniston Nort	1.83	1	PN	Pn	09 51 13.7	-1.0
DSZ				AML	AML	09 51 42.6	
DSZ				AML	AML	09 51 42.6	
DSZ				AML	AML	09 51 42.7	
DSZ				AML	AML	09 51 45.8	
THZ	Tophouse	2.00	26	⇑PN	Pn	09 51 15.6	-1.5
THZ				AML	AML	09 51 25.8	
THZ				AML	AML	09 51 53.0	
JCZ	Jackson Bay	2.20	256	PN	Pn	09 51 19.2	-0.7
JCZ				AML	AML	09 51 59.0	
JCZ				AML	AML	09 51 59.0	
WKZ	Wanaka	2.33	237	PN	Pn	09 51 19.7	-1.9
WKZ				AML	AML	09 51 59.2	
WKZ				AML	AML	09 51 59.2	
WKZ				AML	AML	09 52 01.8	
EAZ	Earnscleugh	2.41	226	PN	Pn	09 51 20.8	-1.8
EAZ				AML	AML	09 52 00.4	
EAZ				AML	AML	09 52 00.5	
EAZ				AML	AML	09 52 02.2	
EAZ				AML	AML	09 52 02.3	
HHSZ	Highcliff Hill	2.45	199	AML	AML	09 52 07.9	
HHSZ				AML	AML	09 52 08.6	
NNZ	Nelson	2.65	28	⇑PN	Pn	09 51 25.1	-0.8
QRZ	Quartz Range	2.81	12	PN	Pn	09 51 26.6	-1.5
QRZ				AML	AML	09 51 39.0	
QRZ				AML	AML	09 52 15.8	
MSZ	Milford Sound	2.96	247	AML	AML	09 52 19.9	
MSZ				AML	AML	09 52 26.4	
DUWZ	D'Urville Isla	3.21	31	PN	Pn	09 51 33.1	-0.6
SYZ	Scrubby Hill	3.49	211	PN	Pn	09 51 36.2	-1.3
WHZ	Wether Hill Ro	3.56	228	PN	Pn	09 51 35.8	-2.7

*CSEM **28** 09:54:50.6, 43°.35N×13°.34E, h3km±2km, MD2.0/6*

ROM 28 09:54:50.6±0.5, 43°.35N×13°.34E, h3km±2km, Md2.0/6, Ml1.4/6, Error ellipse: s-maj=4.7km s-min=2.5km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	Cingoli	0.11	282	Pg	Pg	09 54 53.5	+0.8
CING				Sg	Sg	09 54 54.7	+0.5
CING	Cingoli	0.11	282	Pg	Pg	09 54 53.5	+0.8
CING				Sg	Sg	09 54 54.7	+0.5
FDMO	Fiordimonte	0.37	210	Pg	Pg	09 54 58.6	+1.0
FDMO				Sg	Sb	09 55 04.5	-1.3
	26nm,0.3s						
FDMO	Fiordimonte	0.37	210	Pg	Pg	09 54 58.6	+1.0
FDMO				Sg	Sb	09 55 04.5	-1.3
	26nm,0.3s						
FRON	Frontone	0.47	290	Pg	Pg	09 55 00.6	+0.9
FRON				Sg	Sb	09 55 08.5	-0.5
	20nm,0.3s						
FRON	Frontone	0.47	290	Pg	Pg	09 55 00.6	+0.9
FRON				Sg	Sb	09 55 08.5	-0.5
	20nm,0.3s						
ATCC	AVT- Casa Cast	0.54	252	Pg	Pb	09 55 03.1	+0.4
ATCC				Sg	Sb	09 55 10.4	-0.4
	29nm,0.3s						
ATCC	AVT- Casa Cast	0.54	252	Pg	Pb	09 55 03.1	+0.4
ATCC				Sg	Sb	09 55 10.4	-0.4
	29nm,0.3s						
MURB	Monte Urbino	0.60	262	Pg	Pb	09 55 03.5	-0.3
MURB				Sg	Sb	09 55 13.0	+0.3
	38nm,0.3s						
MURB	Monte Urbino	0.60	262	Pg	Pb	09 55 03.5	-0.3
MURB				Sg	Sb	09 55 13.0	+0.3
	38nm,0.3s						
PIEI	Pieia	0.61	288	Pg	Pg	09 55 03.1	+0.7
PIEI				Sg	Sb	09 55 12.7	-0.3
	9.0nm,0.3s						
PIEI	Pieia	0.61	288	Pg	Pg	09 55 03.1	+0.7
PIEI				Sg	Sb	09 55 12.7	-0.3
	9.0nm,0.3s						
ATPC	Poggio Castell	0.66	282	Pg	Pb	09 55 04.2	-0.5
ATPC				Sg	Sb	09 55 14.7	+0.5
	16nm,0.3s						
ATPC	Poggio Castell	0.66	282	Pg	Pb	09 55 04.2	-0.5
ATPC				Sg	Sb	09 55 14.7	+0.5
	16nm,0.3s						

*ISCJB **28** 09:55:17.2±0.9, 67°.69N±0°.03×34°.1E±0°.1, h0km, Error ellipse: s-maj=7.2km s-min=5.0km az=174.5*
*KOLA **28** 09:55:18.8, 67°.66N×34°.13E, h0km*
*HEL **28** 09:55:18.0±0.8, 67°.76N×34°.42E, h0km, ML2.3, Explosion*
*NAO **28** 09:55:20.8±1.2, 67°.61N×33°.95E, ML3.0*
*CSEM **28** 09:55:20.4±0.6, 67°.68N×33°.89E, h2km, ML3.0, Error ellipse: s-maj=13.2km s-min=6.9km az=81.0, Mining explosion.*
*IDC **28** 09:55:23.2±2.4, 67°.74N×33°.76E, h0km, mb1 3.5/4, mb1mx3.1/50, mbtmp3.4/4, ML3.1/4, Error ellipse: s-maj=25.2km s-min=10.3km az=74.0*

ISC 28 09:55:18.6±1.4, 67°.65N±0°.04×34°.07E±0°.07, h0km, n50, σ1§28/80, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.27	252	P	Pg	09 55 24.0	+0.3
APA				S	Sg	09 55 27.8	+0.7
APZ9	Apatity	0.27	252	Pg	Pg	09 55 23.9	+0.3
APZ9				Lg	Lg	09 55 28.5	
APZ9	Apatity	0.27	252	Pg	Pg	09 55 23.9	+0.3
APZ9				Lg	Lg	09 55 28.5	
APZ9	Apatity	0.27	252	Pg	Pg	09 55 24.0	+0.3
APZ9				Lg	Lg	09 55 28.5	
	SNR=68						
APA0	Apatity Array	0.41	264	Pg	Pg	09 55 26.6	+0.1
	baz=89,slow=16						
APA0				Lg	Lg	09 55 33.2	
	baz=66,slow=28						
APA0				Rg	Rg	09 55 36.0	
	baz=72,slow=37						
APA0	Apatity Array	0.41	264	P	Pg	09 55 26.6	+0.1
APA0				S	Sg	09 55 32.3	+0.5
APA0	Apatity Array	0.41	264	Pg	Pg	09 55 26.6	+0.1
	baz=89,slow=16						
APA0				Lg	Lg	09 55 33.2	
	baz=66,slow=28						
APA0				Rg	Rg	09 55 36.0	
	baz=72,slow=37						
APA0	Apatity Array	0.41	264	Pg	Pg	09 55 26.6	+0.1
	SNR=631						
APA0				Lg	Lg	09 55 33.2	
	SNR=50						
KU6	Riekki	2.32	227	eP	Pb	09 56 00.9	-0.4
KU6				eS	Sb	09 56 29.1	-1.4
KU6				MSG		09 56 37.6	
	comp=Z,14nm,0.3s						
KU6	Riekki	2.32	227	P	Pb	09 56 00.9	-0.4
KU6				S	Sb	09 56 29.1	-1.4
MSF	Maaselka	2.65	231	eP	Pb	09 56 06.2	-0.7
MSF				eS	Sb	09 56 39.9	0.0
MSF	Maaselka	2.65	231	P	Pb	09 56 06.1	-0.7
MSF				S	Sb	09 56 39.9	0.0
SGF	Sodankyl	2.90	269	eP	Pn	09 56 07.5	+1.6
SGF				eS	Sb	09 56 44.2	-2.9
SGF	Sodankyl	2.90	269	P	Pn	09 56 07.5	+1.6
ARA0	ARCESS Array S	3.66	305	Pn	Pn	09 56 17.3	+0.9
	baz=122,slow=14						
ARA0				Sn	Sn	09 56 59.6	-0.6
	baz=123,slow=28						
ARA0				Lg	Lg	09 57 11.8	
	baz=116,slow=37						
ARA0				Lg	Lg	09 57 14.8	
	baz=118,slow=37						
ARA0	ARCESS Array S	3.66	305	Pn	Pn	09 56 17.3	+0.9
	baz=122,slow=14						
ARA0				Sn	Sn	09 56 59.6	-0.6
	baz=123,slow=28						
ARA0				Lg	Lg	09 57 11.8	
	baz=116,slow=37						
ARA0				Lg	Lg	09 57 14.8	
	baz=118,slow=37						
ARA0	ARCESS Array S	3.66	305	Pn	Pn	09 56 17.3	+0.9
	SNR=292						
ARA0				Sn	Sn	09 56 59.7	-0.6
	SNR=0.8						
ARA0				Lg	Lg	09 57 14.9	
	SNR=55						
ARCES	ARCESS Array B	3.66	305	Pn	Pn	09 56 18.8	+2.3
	comp=Z,7.6nm,0.3s,baz=121,slow=15,SNR=176						
ARCES				Sn	Sn	09 57 01.4	+1.2
	comp=Z,4.8nm,0.3s,baz=119,slow=25,SNR=15						
ARCES				Lg	Lg	09 57 12.0	
	comp=Z,12nm,0.3s,baz=117,slow=35,SNR=16						
ARE0	ARCESS Array S	3.66	305	eP	Pn	09 56 17.5	+1.1
ARE0	ARCESS Array S	3.66	305	eP	Pn	09 56 17.0	+0.6
ARE0				eS	Sn	09 56 59.3	-0.9
ARE0	ARCESS Array S	3.66	305	P	Pn	09 56 17.0	+0.6
ARE0				S	Sn	09 56 59.3	-0.9
HEF	Hetta	3.98	286	eP	Pn	09 56 22.7	+1.9
HEF	Hetta	3.98	286	eP	Pn	09 56 22.1	+1.2
HEF				eS	Sn	09 57 07.9	-0.2
HEF	Hetta	3.98	286	P	Pn	09 56 22.0	+1.2
HEF				S	Sn	09 57 07.9	-0.2
OUL	Oulu	4.18	236	eP	Pn	09 56 25.3	+1.9
OUL				eS	Sn	09 57 15.2	+2.3
OUL	Oulu	4.18	236	P	Pn	09 56

baz=30,slow=14
FIA0 Sn Sn 09 58 22.4 -2.8
baz=36,slow=22
FIA0 Lg Lg 09 58 56.2
baz=18,slow=28
FIA0 FINESS Array S 7.12 213 Pn Pn 09 57 04.9 +1.1
baz=30,slow=14
FIA0 Sn Sn 09 58 22.4 -2.8
baz=36,slow=22
FIA0 Lg Lg 09 58 56.2
baz=18,slow=28
FIA0 FINESS Array S 7.12 213 Pn Pn 09 57 04.9 +1.1
SNR=7.0
FINES FINESS Array B 7.12 213 Pn Pn 09 57 05.2 +1.4
comp=Z,0.2nm,0.3s,baz=25,slow=14,SNR=6.3
FINES Sn Sn 09 58 26.6 +1.4
comp=Z,0.4nm,0.3s,baz=40,slow=26,SNR=4.5
FINES Lg Lg 09 58 58.0
comp=Z,1.0nm,0.3s,baz=25,slow=26,SNR=6.5
HFS Hagfors 11.66 240 Pn Pn 09 58 05.8 -0.2
baz=27,slow=14
HFS Hagfors 11.66 240 Pn Pn 09 58 06.4 +0.3
comp=Z,0.2nm,0.3s,baz=39,slow=14,SNR=3.0
HFS Hagfors 11.66 240 Pn Pn 09 58 05.8 -0.2
baz=27,slow=14
HFS Hagfors 11.66 240 Pn Pn 09 58 05.8 -0.2
SPA0 Spitsbergen Ar 11.69 342 Pn Pn 09 58 07.2 +0.9
baz=136,slow=16
SPA0 Spitsbergen Ar 11.69 342 Pn Pn 09 58 07.2 +0.9
baz=136,slow=16
SPA0 Spitsbergen Ar 11.69 342 Pn Pn 09 58 07.2 +0.9
SNR=4.1
NOA NORSAR Array B 11.85 247 Pn Pn 09 58 07.8 -0.8
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=3.8
NOA Lg Lg 10 01 33.0
comp=Z,0.2nm,0.3s,baz=226,slow=27,SNR=2.8

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*CSEM **28** 09:57:50.2±0.7, 37°.28N×44°.17E, h10km, ML3.5, Error ellipse: s-maj=15.3km s-min=6.8km az=62.0*
*ISN **28** 09:57:51.1±0.6, 37°.22N×43°.91E, h0km±2km, ML3.5*
*DDA **28** 09:57:52.5, 37°.30N×43°.97E, h3km, Ml3.5*
ISC 28 09:57:51.7±2.9, 37°.26N±0°.08×44°.0E±0°.1, h13km±16km, n11, σ1§50/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.29**	**267**	*i* P	**Pb**	**09 57 58.4**	**-0.6**
CUKT				*i* S	**Sg**	09 58 02.0	0.0
CUKT	**Cukurca**	**0.29**	**267**	P	**Pb**	**09 57 58.4**	**-0.6**
HAKT	**HAKKARI**	**0.36**	**324**	*i* P	**Pb**	**09 58 00.0**	**-0.3**
HAKT				*i* S	**Sg**	09 58 04.2	0.0
HAKT	**HAKKARI**	**0.36**	**324**	P	**Pb**	**09 58 00.0**	**-0.3**
HAKT				S	**Sg**	09 58 04.2	0.0
MSL	**Mosul**	**1.11**	**219**	*e*Pg	**Pn**	**09 58 14.0**	**+1.0**
SNR=9.0							
MSL				*e*Sg	**Sn**	**09 58 30.0**	**+1.8**
SNR=9.0							
SIRN	**S¨–rnak**	**1.27**	**281**	*i* P	**Pg**	**09 58 16.5**	**+0.4**
SIRN				*i* S	**Sg**	**09 58 35.0**	**+2.4**
SIRN	**S¨–rnak**	**1.27**	**281**	P	**Pg**	**09 58 16.5**	**+0.4**
SIRN				S	**Sg**	**09 58 35.0**	**+2.4**
BTMN	**Batman**	**2.24**	**287**	*i* P	**Pb**	**09 58 32.8**	**+0.6**
BTMN				*i* S	**Sg**	**09 59 03.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.38**	**293**	*i* P	**Pg**	**09 58 35.6**	**-1.7**
MARD	**Mardin**	**2.55**	**272**	*i* P	**Pg**	**09 58 39.5**	**-1.2**
MARD				*i* S	**Sg**	**09 59 11.4**	**-2.3**
RTB	**Rutbah**	**5.18**	**217**	*e*Pn	**Pn**	**09 59 10.0**	**+0.9**
SNR=3.0							
RTB				*i* Sn	**Sn**	**10 00 06.0**	**-2.9**
SNR=3.0							

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*ISK **28** 10:00:14.6, 38°.63N×43°.09E, h5km, ML2.9*
*CSEM **28** 10:00:15.7±0.2, 38°.61N×43°.06E, h2km, ML2.9, Error ellipse: s-maj=4.1km s-min=3.5km az=165.0*
*DDA **28** 10:00:15.7, 38°.60N×43°.02E, h7km, Ml3.7*
ISC 28 10:00:15.9±1.1, 38°.60N±0°.02×43°.06E±0°.02, h3km±10km, n47, σ1§15/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**92**	*e*PG	**Pg**	**10 00 21.2**	**+0.3**
VANB				*e*SG	**Sb**	**10 00 26.1**	**-2.0**
VANB	**Van**	**0.26**	**92**	*e*Pg	**Pg**	**10 00 21.2**	**+0.3**
VANB				*e*Sg	**Sb**	**10 00 26.2**	**-2.0**
TVAN	**Van**	**0.28**	**105**	*i* P	**Pg**	**10 00 21.2**	**-0.2**
TVAN				*i* S	**Sb**	**10 00 27.9**	**-1.0**
TVAN	**Van**	**0.28**	**105**	P	**Pg**	**10 00 21.2**	**-0.2**
TVAN				S	**Sb**	**10 00 27.9**	**-1.0**
GEVA	**Gevas**	**0.29**	**180**	*i* P	**Pg**	**10 00 21.2**	**-0.4**
GEVA				*i* S	**Sg**	**10 00 27.1**	**+1.7**
GEVA	**Gevas**	**0.29**	**180**	P	**Pg**	**10 00 21.2**	**-0.4**
GEVA				S	**Sg**	**10 00 27.1**	**+1.7**
VMUR	**Van-Muradiye**	**0.56**	**46**	*i* P	**Pg**	**10 00 26.5**	**-0.1**
VMUR				*i* S	**Sb**	**10 00 35.9**	**-0.9**
VMUR	**Van-Muradiye**	**0.56**	**46**	P	**Pg**	**10 00 26.5**	**-0.1**
VMUR				S	**Sb**	**10 00 35.9**	**-0.9**
TATV	**Tatvan**	**0.63**	**261**	*i* P	**Pg**	**10 00 27.2**	**-0.8**
TATV				*i* S	**Sg**	**10 00 35.2**	**-1.0**
TATV	**Tatvan**	**0.63**	**261**	P	**Pg**	**10 00 27.2**	**-0.8**
TATV				S	**Sg**	**10 00 35.2**	**-1.0**
TUTA	**Tutak**	**0.82**	**347**	*i* P	**Pg**	**10 00 30.9**	**-0.8**
TUTA				*i* S	**Sb**	**10 00 43.2**	**-1.3**
TUTA	**Tutak**	**0.82**	**347**	P	**Pg**	**10 00 30.9**	**-0.8**
TUTA				S	**Sb**	**10 00 43.2**	**-1.3**
CLDR	**Caldiran**	**0.86**	**51**	*e*PG	**Pg**	**10 00 31.6**	**-0.8**
CLDR				*e*SG	**Sg**	**10 00 44.0**	**+0.4**
CLDR	**Caldiran**	**0.86**	**51**	*e*Pg	**Pg**	**10 00 31.6**	**-0.8**
CLDR				*e*Sg	**Sg**	**10 00 44.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.97**	**357**	*e*PG	**Pg**	**10 00 33.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.97**	**357**	*e*Pg	**Pg**	**10 00 33.9**	**-0.7**
EKAR	**Karacoban**	**1.01**	**310**	*i* P	**Pb**	**10 00 35.9**	**-0.4**
EKAR				*i* S	**Sn**	**10 00 56.4**	**+4.3**
EKAR	**Karacoban**	**1.01**	**310**	P	**Pb**	**10 00 35.9**	**-0.4**
HAKT	**HAKKARI**	**1.16**	**154**	*i* P	**Pg**	**10 00 37.0**	**-1.2**
HAKT				*i* S	**Sn**	**10 00 56.8**	**+1.0**
HAKT	**HAKKARI**	**1.16**	**154**	P	**Pg**	**10 00 37.0**	**-1.2**
HAKT				S	**Sn**	**10 00 56.8**	**+1.0**
EATA	**Eleskirt**	**1.33**	**341**	*i* P	**Pg**	**10 00 40.0**	**-1.5**
EATA				*i* S	**Sn**	**10 00 59.9**	**-0.2**
EATA	**Eleskirt**	**1.33**	**341**	P	**Pg**	**10 00 40.0**	**-1.5**
EATA				S	**Sn**	**10 00 59.9**	**-0.2**
VRTB	**Varto-Mus**	**1.37**	**294**	*e*PN	**Pg**	**10 00 41.9**	**-0.3**
VRTB	**Varto-Mus**	**1.37**	**294**	*e*Pn	**Pg**	**10 00 41.9**	**-0.3**
CUKT	**Cukurca**	**1.42**	**162**	*e*PN	**Pb**	**10 00 42.7**	**-0.4**
CUKT	**Cukurca**	**1.42**	**162**	*e*Pn	**Pb**	**10 00 42.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*e*PN	**Pb**	**10 00 44.4**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*i* P	**Pn**	**10 00 43.9**	**-0.3**
SVAN				*i* S	**Sg**	**10 01 05.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	P	**Pn**	**10 00 43.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.53**	**253**	*e*Pn	**Pb**	**10 00 44.4**	**-0.5**
SVAN				S	**Sg**	**10 01 04.9**	**-0.2**
BNGL	**BINGOL**	**1.53**	**284**	*i* P	**Pg**	**10 00 45.4**	**+0.1**
BNGL				*i* S	**Sg**	**10 01 05.9**	**+0.7**
BTMN	**Batman**	**1.58**	**244**	*i* P	**Pb**	**10 00 45.2**	**-0.6**
BTMN				*i* S	**Sg**	**10 01 07.8**	**+1.1**
BTMN	**Batman**	**1.58**	**244**	P	**Pb**	**10 00 45.2**	**-0.6**
BTMN				S	**Sg**	**10 01 07.8**	**+1.1**
HOMI	**Horasan**	**1.69**	**328**	*i* P	**Pg**	**10 00 47.9**	**-0.5**
HOMI				*i* S	**Sg**	**10 01 14.9**	**+4.5**
BNGB	**Bing¨¶l**	**1.90**	**282**	*e*PN	**Pn**	**10 00 49.6**	**+0.3**
BINT	**Bingol**	**2.03**	**278**	*e*Pn	**Pn**	**10 00 49.6**	**-1.5**
YEDI	**Yedisu-Bingol**	**2.13**	**294**	*e*PN	**Pn**	**10 00 52.8**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.13**	**294**	*e*Pn	**Pn**	**10 00 52.8**	**+0.3**
MARD	**Mardin**	**2.21**	**235**	*i* P	**Pn**	**10 00 54.3**	**+0.6**
MARD				*i* S	**Sb**	**10 01 23.9**	**-0.6**
MAZI	**Mazidag**	**2.36**	**242**	*e*PN	**Pn**	**10 00 56.2**	**+0.7**
MAZI	**Mazidag**	**2.36**	**242**	*e*Pn	**Pn**	**10 00 56.3**	**+0.7**
PTK	**Pertek**	**2.88**	**277**	*e*PN	**Pn**	**10 01 03.6**	**+0.7**
PTK	**Pertek**	**2.88**	**277**	*e*Pn	**Pn**	**10 01 03.6**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.95**	**267**	*e*PN	**Pn**	**10 01 04.6**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.95**	**267**	*e*Pn	**Pn**	**10 01 04.6**	**+0.7**
URFA	**Urfa**	**3.54**	**252**	*e*PN	**Pn**	**10 01 13.2**	**+1.4**
URFA	**Urfa**	**3.54**	**252**	*e*Pn	**Pn**	**10 01 13.2**	**+1.4**

IDC 28 10:01:49.0±3.1, 7°.14S×155°.30E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/28, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/23, Error ellipse: s-maj=90.9km s-min=35.3km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.36**	**254**	LR	LR	10 07 05.6	
comp=Z,76nm,18.5s,baz=65,slow=38							
WRA	**Warramunga Arr**	**23.98**	**236**	P	P	10 07 04.4	-1.1
0.9nm,0.7s,baz=58,slow=9.7,SNR=4.9							
ASAR	**Alice Springs**	**26.30**	**229**	P	P	10 07 27.3	+0.7
0.6nm,0.7s,baz=65,slow=8.5,SNR=7.9							
CMAR	**Chiang Mai Arr**	**61.11**	**296**	P	P	10 12 06.2	+0.7
1.1nm,0.5s,baz=123,slow=6.6,SNR=6.6							
MKAR	**Makanchi Array**	**83.71**	**319**	P	P	10 14 19.6	-0.4
0.5nm,0.6s,baz=107,slow=6.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**153.35**	**285**	PKPbc	PKPbc	10 21 50.5	+0.2
0.4nm,0.5s,baz=94,slow=3.0,SNR=5.4							
TORD				PKPab	PKPab	10 22 01.2	-1.0
0.6nm,0.8s,baz=33,slow=3.1,SNR=3.2							

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*NIED **28** 10:05:00, 40°.40N×143°.50E, h17km, Mw3.6 Best double couple: M0=2.63000×10^14 NP1:φ=295.00000°, δ=38.00000°, λ=172.00000°. NP2:φ=31.00000°, δ=85.00000°, λ=52.00000°.*
JMA 28 10:05:08.8±0.2, 40°.44N×143°.52E, h16km±3km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.36**	**249**	P	Pn	10 05 33.2	0.0
JTH				*e*S	Sb	10 05 51.1	0.0
JANG	**Nango**	**1.53**	**268**	P	Pn	10 05 35.9	+0.4
MIYJ	**Miyakonagasawa**	**1.56**	**237**	P	Pn	10 05 36.5	+0.6
MIYJ				*e*S	Sn	10 05 56.0	+0.1
JNBK	**Urakawa-nobuka**	**1.93**	**343**	P	Pn	10 05 42.1	+1.2
JOM	**Ohasama**	**1.97**	**241**	P	Pn	10 05 42.6	+1.2
JOM				*e*S	Sb	10 06 07.2	-1.3
JOT	**Ohata**	**2.10**	**297**	P	Pn	10 05 44.6	+1.4
JCH	**Churui**	**2.18**	**357**	P	Pn	10 05 44.5	+0.2
JCH				*e*S	Sn	10 06 10.5	-0.4
JMK	**Ichinoseki**	**2.31**	**231**	P	Pn	10 05 47.2	+1.0
JMK				*e*S	Sn	10 06 14.9	+0.6
JRG	**Rokugo**	**2.45**	**246**	*e*S	Sn	10 06 18.9	+1.1
JAK	**Akkeshi**	**2.70**	**19**	*e*S	Sn	10 06 21.9	-2.0
JEW	**Eniwo**	**2.86**	**328**	*e*S	Sn	10 06 29.7	+2.0
JAR	**Ashorobuto**	**2.86**	**4**	P	Pn	10 05 53.4	-0.4
JAR				*e*S	Sn	10 06 26.1	-1.7
JYK	**Kaneyama**	**2.87**	**239**	P	Pn	10 05 55.5	+1.6
JOU	**Okura**	**3.03**	**228**	P	Pn	10 05 56.8	+0.7
JOU				*e*S	Sn	10 06 33.0	+0.9
JFT	**Otama**	**3.83**	**221**	P	Pn	10 06 07.5	+0.4
JFT				*e*S	Sn	10 06 53.1	+1.3
MAT	**Matsushiro**	**5.70**	**229**	P	Pn	10 06 34.7	+1.9
MAT				*e*S	Sn	10 07 35.5	-2.4

IDC 28 10:06:33.8±9.8, 55°.57N×85°.31E, h0km, Error ellipse: s-maj=54.9km s-min=27.8km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**190**	*i*		10 18 50.0	
baz=11,slow=330,SNR=1.1							
ZALV	**Zalesovo Beam**	**1.65**	**190**	Pg	Pn	10 07 04.4	+0.4
0.4nm,0.3s,baz=11,slow=15,SNR=2.5							
ZALV				Lg	Lg	10 07 25.4	
0.7nm,0.3s,baz=4.9,slow=29,SNR=4.0							
I34MN	**SONGINO INFRAS**	**15.18**	**112**	*i*		11 36 50.0	
baz=313,slow=328,SNR=0.3							

KRSC 28 10:21:29.0±1.2, 51°.02N×158°.01E, h40km±16km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.24**	**255**	*e*P	Pn	10 21 51.0	+1.1
SKR				*e*S	Sn	10 22 05.7	+0.3
ASAK	**Asacha**	**1.37**	**357**	*e*P	Pn	10 21 53.4	+1.7
ASAK				*e*S	Sn	10 22 10.1	+1.5
RUS	**Russkaya**	**1.45**	**12**	*e*P	Pn	10 21 54.1	+1.4
RUS				*e*S	Sn	10 22 11.3	+0.8
MTVR	**Mutnovka**	**1.47**	**4**	*e*P	Pn	10 21 54.9	+1.8
MTVR				*e*S	Sn	10 22 12.3	+1.1
KRMR	**Karymshinskiy**	**1.81**	**2**	P	Pn	10 22 00.7	+3.0
KRMR				*e*S	Sn	10 22 23.0	+3.6
APC	**Apacha**	**1.98**	**345**	*e*P	Pn	10 22 02.6	+2.6
APC				*e*S	Sn	10 22 26.4	+2.9
PET	**Petropavlovsk**	**2.05**	**11**	*e*P	Pn	10 22 03.1	+2.2
PET				*e*S	Sn	10 22 27.1	+1.9
DALK	**Dalny**	**2.07**	**13**	*e*P	Pn	10 22 03.2	+2.0
DALK				*e*S	Sn	10 22 27.2	+1.6
AVH	**Avacha**	**2.29**	**11**	*e*P	Pn	10 22 07.9	+3.5
KOK	**Koryaka**	**2.31**	**9**	*e*P	Pn	10 22 08.4	+3.8
KOK				*e*S	Sn	10 22 36.3	+4.5
SDLR	**Sedlovina**	**2.33**	**13**	P	Pn	10 22 07.6	+2.8
KRER	**Koryakskii**	**2.33**	**11**	*e*P	Pn	10 22 08.5	+3.5
KRER				*e*S	Sn	10 22 36.4	+3.9
KRX	**Arik**	**2.38**	**9**	*e*P	Pn	10 22 08.9	+3.3
KRX				*e*S	Sn	10 22 36.3	+2.8
SPN	**Mys Shipunski**	**2.42**	**30**	*e*P	Pn	10 22 08.5	+2.4
SPN				*e*S	Sn	10 22 36.3	+1.8
GNL	**Ganaly**	**2.68**	**359**	*e*P	Pn	10 22 12.8	+3.1

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*ISCJB **28** 10:21:57.9±0.9, 10°.0N±0°.1×93°.0E±0°.2, h43km, mb3.9/9, Error ellipse: s-maj=27.9km s-min=14.6km az=158.3*
*IDC **28** 10:22:03.8±7.6, 10°.09N×93°.09E, h77km±63km, mb3.6/9, mb1 3.8/10, mb1mx3.5/43, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=66.9km s-min=15.6km az=59.0*
ISC 28 10:21:59.5±1.1, 10°.0N±0°.1×92°.9E±0°.2, h43km, n13, σ0§73/10, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.31**	**34**	P	**Pn**	**10 24 25.6**	**+0.7**
0.5nm,0.3s,baz=225,slow=15,SNR=7.6							
H08S3	**Diego Garcia H**	**26.77**	**230**	T	T	10 55 40.8	
baz=48,slow=76,SNR=9.8							
H08S2	**Diego Garcia H**	**26.77**	**230**	T	T	10 55 43.9	
baz=48,slow=76,SNR=9.0							
H08S1	**Diego Carcia H**	**26.79**	**230**	T	T	10 55 42.0	
baz=48,slow=76,SNR=7.4							
MKAR	**Makanchi Array**	**37.80**	**348**	P	**P**	**10 29 11.8**	**+0.1**
0.5nm,0.6s,baz=161,slow=8.3,SNR=4.8							
SONM	**Songino Array**	**39.45**	**14**	P	**P**	**10 29 24.9**	**-0.7**
0.2nm,0.3s,baz=198,slow=8.5,SNR=3.3							
KURBB	**Kurchatov Arra**	**42.23**	**346**	P	**P**	**10 29 48.4**	**0.0**
0.4nm,0.2s,baz=167,slow=7.1,SNR=4.9							
ZALV	**Zalesovo Beam**	**44.34**	**353**	P	**P**	**10 30 05.5**	**+0.2**
0.4nm,0.3s,baz=163,slow=10,SNR=2.3							
WRA	**Warramunga Arr**	**50.50**	**126**	P	**P**	**10 30 53.5**	**-0.2**
2.0nm,0.4s,baz=307,slow=8.2,SNR=56							
ASAR	**Alice Springs**	**52.22**	**130**	P	**P**	**10 31 06.0**	**-0.6**
1.1nm,0.5s,baz=307,slow=7.3,SNR=32							
STKA	**Stephens Creek**	**62.45**	**134**	P	**P**	**10 32 19.4**	**+0.8**
0.9nm,0.3s,baz=315,slow=11,SNR=4.0							
GERES	**GERESS Array B**	**75.44**	**318**	P	**P**	**10 33 39.9**	**+0.7**
0.4nm,0.4s,baz=101,slow=5.1,SNR=4.6							
ILAR	**Eielson Array**	**93.30**	**22**	P	**P**	**10 35 08.4**	**-1.1**
0.5nm,0.6s,baz=308,slow=5.3,SNR=5.7							

JMA 28 10:37:04.6, 35°.32N×136°.95E, h9km±1km, M2.7, 1D Broadband fault plane solution: P waves. NP1: φs=181.00000°, δ=73.00000°, λ=56.00000°. **NP2:** φs=68.00000°, δ=37.00000°, λ=152.00000°. **Principal axes:** T Plg50.0000°, Azm53.0000°; N Plg32.0000°, Azm192.0000°; P Plg21.0000°, Azm296.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.26**	**102**	||P	Pg	10 37 09.9	+0.1
JAO				S	Sg	10 37 13.5	+0.2
TSUJ	**Tsu 2**	**0.75**	**216**	P	Pg	10 37 19.3	+0.3
TSUJ				S	Sg	10 37 29.0	+0.2
JIE	**Ise**	**0.95**	**192**	P	Pg	10 37 22.6	-0.2
JIE				S	Sg	10 37 35.0	-0.1
MAT	**Matsushiro**	**1.59**	**40**	P	Pb	10 37 33.8	-0.4
MAT				S	Sb	10 37 54.3	-0.1

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*JMA **28** 10:41:22.2±0.2, 36°.33N×142°.16E, h49km, M3.3*

*IDC **28** 10:41:25.8±1.2, 36°.70N×141°.61E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/32, mbtmp3.5/7, ML3.3/2, MS3.5/4, Ms1 3.5/4, ms1mx2.8/46, Error ellipse: s-maj=29.0km s-min=23.0km az=93.0*
*ISCJB **28** 10:41:26.3±0.9, 36°.50N±0°.04×141°.7E±0°.1, h19km, mb3.5/5, MS3.8/3, Error ellipse: s-maj=12.4km s-min=5.8km az=15.0*
ISC 28 10:41:26.7±1.0, 36°.48N±0°.06×141°.78E±0°.08, h19km, n20, σ2§01/17, mb3.6/5, MS4.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.99**	**278**	P	**Pb**	**10 41 44.7**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.00**	**308**	P	**Pb**	**10 41 45.1**	**-0.4**
CHOJ	**Chosi**	**1.08**	**224**	P	**Pb**	**10 41 43.5**	**-3.3**
CHOJ				*e*S	**Sb**	**10 41 58.4**	**-2.1**
JMM	**Marumori**	**1.59**	**330**	P	**Pn**	**10 41 52.4**	**-1.5**
JAG	**Ashikaga**	**1.88**	**269**	P	**Pn**	**10 41 57.0**	**-0.9**
JIO	**Ouri**	**2.00**	**350**	*e*S	**Sn**	**10 42 23.3**	**-0.6**
JMK	**Ichinoseki**	**2.50**	**350**	S	**Sn**	**10 42 36.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.88**	**272**	Pn	**Pn**	**10 42 11.6**	**-0.1**
5.1nm,0.3s,baz=110,slow=9.0,SNR=41							
MAT	**Matsushiro**	**2.88**	**272**	P	**Pn**	**10 42 12.1**	**+0.4**
MAT				*e*S	**Sb**	**10 42 52.1**	**-0.3**
JHJ	**Hachijo jima 2**	**3.74**	**207**	Pn	Pn	10 42 18.8	-4.6
26nm,0.3s,baz=42,slow=14,SNR=5.4							
ASAJ	**Asahikawa**	**7.65**	**4**	Pn	**Pn**	**10 43 13.6**	**-3.5**
0.5nm,0.3s,baz=243,slow=15,SNR=3.6							
KSRS	**Korea Array**	**11.13**	**279**	LR	LR	10 48 32.5	
comp=Z,39nm,18.3s,baz=70,slow=39							
SONM	**Songino Array**	**28.34**	**305**	P	**P**	**10 47 18.8**	**-0.7**
1.3nm,0.8s,baz=99,slow=8.5,SNR=5.1							
TLY	**Talaya**	**30.92**	**312**	LR	LR	11 01 46.8	
comp=Z,23nm,18.2s,baz=357,slow=40							
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**10 49 38.4**	**+0.2**
1.0nm,0.6s,baz=86,slow=10,SNR=8.6							
ILAR	**Eielson Array**	**49.80**	**32**	P	**P**	**10 50 19.8**	**+1.9**
0.2nm,0.6s,baz=288,slow=6.2,SNR=3.1							
WRA	**Warramunga Arr**	**56.56**	**188**	P	**P**	**10 51 10.9**	**+2.9**
0.3nm,0.5s,baz=2.6,slow=7.6,SNR=4.6							
ASAR	**Alice Springs**	**60.29**	**188**	P	**P**	**10 51 37.5**	**+3.4**
0.2nm,0.8s,baz=19,slow=11,SNR=4.2							
GNI	**Garni**	**72.27**	**307**	LR	LR	11 27 44.0	
comp=Z,84nm,18.9s,baz=200,slow=39							
HFS	**Hagfors**	**74.71**	**336**	LR	LR	11 27 33.6	
comp=Z,155nm,18.1s,baz=194,slow=37							

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*ISCJB **28** 10:49:41.9±1.0, 36°.69N±0°.05×142°.39E±0°.10, h19km, mb3.5/4, MS3.0/1, Error ellipse: s-maj=11.8km s-min=6.0km az=24.6*
*JMA **28** 10:49:42.0±0.4, 36°.70N×142°.35E, h17km±5km, M3.4*
*IDC **28** 10:49:50.8±5.0, 37°.33N×141°.97E, h37km±43km, mb3.3/4, mb1 3.6/6, mb1mx3.3/51, mbtmp3.5/6, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/28, Error ellipse: s-maj=35.2km s-min=24.1km az=115.0*
ISC 28 10:49:43.3±1.3, 36°.66N±0°.06×142°.34E±0°.09, h19km, n25, σ1§11/24, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**290**	P	**Pn**	**10 50 05.5**	**-1.2**
JFK	**Kawauchi**	**1.37**	**302**	P	**Pn**	**10 50 06.4**	**-1.0**
JHO	**Hitachi**	**1.42**	**269**	P	**Pn**	**10 50 07.2**	**-1.0**
CHOJ	**Chosi**	**1.53**	**232**	*e*S	**Sb**	**10 50 28.7**	**-1.4**
JMM	**Marumori**	**1.72**	**315**	P	**Pn**	**10 50 11.1**	**-1.2**
JFT	**Otama**	**1.81**	**299**	P	**Pn**	**10 50 13.7**	**+0.1**
BSO1	**Boso 1**	**2.29**	**209**	P	**Pn**	**10 50 20.3**	**+0.8**
BSO1				S	**Sb**	**10 50 48.6**	**-2.7**
JAG	**Ashikaga**	**2.33**	**265**	P	**Pn**	**10 50 20.7**	**0.0**
JMK	**Ichinoseki**	**2.45**	**339**	P	**Pn**	**10 50 22.2**	**-0.1**
JYK	**Kaneyama**	**2.75**	**326**	P	**Pn**	**10 50 26.4**	**+0.1**
JRY	**Ryogami san**	**2.85**	**258**	P	**Pn**	**10 50 27.7**	**-0.1**
JOM	**Ohasama**	**2.93**	**344**	P	**Pn**	**10 50 28.6**	**-0.2**
JYN	**Shimob**	**3.28**	**250**	P	**Pn**	**10 50 34.9**	**+1.1**
MJAR	**Matsushiro Arr**	**3.32**	**269**	Pn	**Pn**	**10 50 35.5**	**+1.1**
5.9nm,0.3s,baz=98,slow=10,SNR=53							
MJAR				Sn	**Sb**	**10 51 20.6**	**-1.2**
1.1nm,0.3s,baz=223,slow=30,SNR=5.2							
MJAR				LR	LR	10 52 04.9	
comp=Z,82nm,18.9s,baz=120,slow=43							
MAT	**Matsushiro**	**3.33**	**269**	P	**Pn**	**10 50 35.4**	**+1.1**
MAT				*e*S	**Sn**	**10 51 14.7**	**+1.4**
MAT	**Matsushiro**	**3.33**	**269**	P	**Pn**	**10 50 35.7**	**+1.4**
JSD	**Sado**	**3.53**	**294**	P	**Pn**	**10 50 37.0**	**-0.1**
ASAJ	**Asahikawa**	**7.45**	**1**	Pn	**Pn**	**10 51 29.9**	**-1.1**
1.1nm,0.3s,baz=221,slow=9.3,SNR=10.0							
H11N2	**WAKE ISLAND Hy**	**27.32**	**121**	T	T	11 24 08.5	
baz=314,slow=75,SNR=6.0							
H11N1	**WAKE ISLAND Hy**	**27.33**	**121**	T	T	11 24 09.8	
baz=314,slow=75,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**27.34**	**121**	T	T	11 24

OKC	**Ostrava-Krasne**	**2.03 141**	Sg	Sb	11 05 42.1	-0.3
TREC	**Trest**	**2.19 192**	*e*PG	Pb	11 05 19.6	+0.1
TREC	**Trest**	**2.19 192**	Pg	Pb	11 05 19.6	+0.1
NKC	**Novy Kostel**	**2.66 245**	*e*SG	Sg	11 06 03.3	-1.3
	comp=Z,14nm,0.3s					
NKC	**Novy Kostel**	**2.66 245**	Sg	Sg	11 06 03.3	-1.3
	14nm,0.3s					
KHC	**Kasperske Hory**	**2.85 217**	*e*PN	Pn	11 05 25.4	-0.4
KHC			*e*PG	Pb	11 05 31.3	+0.5
KHC			*e*SG	Sb	11 06 08.2	+2.0
	comp=Z,2.9nm,0.3s					
KHC	**Kasperske Hory**	**2.85 217**	Pn	Pn	11 05 25.4	-0.4

CSEM ***28*** *11:05:24.8±0.3,38°.75N×43°.29E,h10km,ML2.5,Error ellipse: s-maj=6.2km s-min=4.9km az=100.0*
DDA ***28*** *11:05:24.5,38°.75N×43°.25E,h7km,Ml3.3*
ISK ***28*** *11:05:24.0,38°.73N×43°.27E,h14km,ML2.5*
ISCJB ***28*** *11:05:25.1±0.6,38°.73N±0°.03×43°.31E±0°.05,h23km±7km, Error ellipse: s-maj=6.8km s-min=5.0km az=9.8*
ISC 28 11:05:25.0±1.0,**38°.75N**±0°.03×**43°.28E**±0°.03,**h18**km±5km, **n22**,σ0**°79/38**,**Turkey**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17 151**	*e*PG	**Pg**	**11 05 30.0**	**+0.3**
VANB			*e*SG	**Sg**	**11 05 33.7**	**+0.9**
VANB	**Van**	**0.17 151**	*e*Pg	**Pg**	**11 05 30.0**	**+0.3**
VANB			*e*Sg	**Sg**	**11 05 33.7**	**+0.9**
TVAN	**Van**	**0.24 156**	*i* P	**Pg**	**11 05 29.9**	**-0.8**
TVAN			*i* S	**Sg**	**11 05 34.3**	**-0.3**
TVAN	**Van**	**0.24 156**	P	**Pg**	**11 05 29.9**	**-0.8**
TVAN			S	**Sg**	**11 05 34.3**	**-0.3**
VMUR	**Van-Muradiye**	**0.33 43**	*i* P	**Pg**	**11 05 31.9**	**-0.3**
VMUR			*i* S	**Sb**	**11 05 37.8**	**+0.2**
VMUR	**Van-Muradiye**	**0.33 43**	P	**Pg**	**11 05 31.9**	**-0.3**
VMUR			S	**Sb**	**11 05 37.8**	**+0.2**
GEVA	**Gevas**	**0.47 202**	*i* P	**Pg**	**11 05 33.8**	**-0.8**
GEVA	**Gevas**	**0.47 202**	P	**Pg**	**11 05 33.8**	**-0.8**
CLDR	**Caldiran**	**0.63 51**	*e*PG	**Pg**	**11 05 36.9**	**-0.7**
CLDR			*e*SG	**Sb**	**11 05 46.8**	**+0.5**
CLDR	**Caldiran**	**0.63 51**	*i* P	**Pg**	**11 05 37.4**	**-0.2**
CLDR			*i* S	**Sg**	**11 05 46.2**	**+0.1**
CLDR	**Caldiran**	**0.63 51**	*e*Pg	**Pg**	**11 05 36.9**	**-0.7**
CLDR	**Caldiran**	**0.63 51**	P	**Pg**	**11 05 37.4**	**-0.2**
CLDR			S	**Sg**	**11 05 46.2**	**+0.1**
TUTA	**Tutak**	**0.75 331**	*i* P	**Pg**	**11 05 39.1**	**-0.6**
TUTA			*i* S	**Sg**	**11 05 47.8**	**-1.9**
TUTA	**Tutak**	**0.75 331**	P	**Pg**	**11 05 39.1**	**-0.6**
TATV	**Tatvan**	**0.83 254**	*i* P	**Pn**	**11 05 43.0**	**+1.0**
TATV			*i* S	**Sb**	**11 05 52.2**	**+0.3**
TATV	**Tatvan**	**0.83 254**	P	**Pn**	**11 05 43.0**	**+1.0**
TATV			S	**Sb**	**11 05 52.2**	**+0.3**
AGRB	**Hanur-Agry**	**0.86 345**	*e*PG	**Pg**	**11 05 41.0**	**-0.8**
AGRB			*e*SG	**Sb**	**11 05 53.7**	**+1.0**
AGRB	**Hanur-Agry**	**0.86 345**	*e*Pg	**Pg**	**11 05 41.0**	**-0.8**
AGRB			*e*Sg	**Sb**	**11 05 53.7**	**+1.0**
HAKT	**HAKKARI**	**1.23 164**	*i* P	**Pn**	**11 05 46.4**	**-1.2**
HAKT	**HAKKARI**	**1.23 164**	P	**Pn**	**11 05 46.4**	**-1.2**
EATA	**Eleskirt**	**1.27 331**	*i* P	**Pg**	**11 05 49.0**	**-0.6**
EATA			*i* S	**Sn**	**11 06 05.8**	**+0.8**
EATA	**Eleskirt**	**1.27 331**	P	**Pg**	**11 05 49.0**	**-0.6**
EATA			S	**Sn**	**11 06 05.8**	**+0.8**

IDC ***28*** *11:06:54.5±0.3,28°.55S×176°.03W,h0km,mb5.3/22, mb1 5.4/22,mb1mx5.3/28,mbtmp5.3/22,MS4.7/28, Ms1 4.7/28,ms1mx4.7/31,Error ellipse: s-maj=15.4km s-min=14.8km az=143.0*
BJI ***28*** *11:06:55.1,28°.17S×175°.69W,h12km,mb5.5/47, mB5.8/47,Ms5.2/45,Ms7 4.9/40*
ISCJB ***28*** *11:06:58.5±0.1,28°.98S±0°.03×176°.12W±0°.03,h44km, mb5.6/286,MS5.0/168,Error ellipse: s-maj=4.5km s-min=2.4km az=140.9*
MOS ***28*** *11:07:00.1±1.1,28°.42S×176°.19W,h40km,mb5.9/75, MS5.1/40,Error ellipse: s-maj=8.9km s-min=7.1km az=71.9*
GCMT ***28*** *11:07:01.1±0.1,28°.59S×175°.71W,h12km,MW5.3/120, Moment Tensor Solution. s88,c146; s120,c255; Duration: 1ŝ1 Moment tensor: Scale 10^17^Nm; M_{rr}=0.95±.02; $M_{\theta\theta}$=0.22±.01; $M_{\phi\phi}$=1.17±.01; $M_{r\theta}$=0.36±.04; $M_{r\phi}$=0.16±.01; $M_{\theta\phi}$=0.50±.04; Best double couple: M_0=1.24300×10^17^ NP1:φs=23.00000°,δ61.00000°, λ-71.00000°. NP2:φs168.00000°,δ35.00000°, λ-120.00000°. Principal axes: T 1.3190, Plg14.0000°, Azm99.0000°; N -0.1510, Plg16.0000°, Azm193.0000°; P -1.1670, Plg68.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***28*** *11:07:01.1±0.1,28°.78S×176°.12W,mb5.7/235,MS5.1/123 Error ellipse: s-maj=4.8km s-min=2.8km az=141.0*
ISC 28 11:06:59.1±0.3,**28°.69S**±0°.04×**176°.00W**±0°.04,**h34**km±1km, **h34**km:**pP-P,n1039**,σ1**°34**/1011,**mb5.7**/285,**MS5.0**/168, **40C-32D,Kermadec Islands region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77 251**	Pn	**Pn**	**11 07 29.5**	**+2.1**
	460nm,0.3s,baz=85,slow=6.0,SNR=26					
RAO			Sn	**Sn**	**11 07 51.3**	**+2.6**
	3μm,0.3s,baz=253,slow=20,SNR=15					
RAO	**Raoul Island**	**1.77 251**	*e*Pn	**Pn**	**11 07 26.0**	**-1.4**
RAO			*e*Sn	**Sn**	**11 07 44.2**	**-4.5**
MXZ	**Matakaoa Point**	**10.05 207**	*e*PN	Pn	11 09 16.0	-5.1
MXZ			*e*SN	**Sn**	**11 11 07.1**	**-5.5**
WMGZ	**Waiomatatini S**	**10.23 206**	*e*PN	Pn	11 09 18.8	-4.7
PKGZ	**Pakihiroa**	**10.42 207**	*e*PN	Pn	11 09 20.3	-5.9
HAZ	**Te Kaha**	**10.43 208**	*e*PN	Pn	11 09 20.5	-5.7
PUZ	**Puketiti**	**10.51 206**	PN	Pn	11 09 18.6	-8.8
PUZ			*e*SN	**Sn**	**11 11 17.5**	**-6.4**
RUGZ	**Raukumara Rang**	**10.65 208**	PN	Pn	11 09 24.0	-5.4
TWGZ	**Tauwhareparae**	**10.71 206**	PN	Pn	11 09 23.1	-7.0
OUZ	**Omahuta**	**10.97 231**	*e*Pn	**Pn**	**11 09 36.1**	**+2.4**
MWZ	**Matawai**	**11.03 208**	*e*PN	Pn	11 09 27.5	-6.9
NIUE	**Niue**	**11.06 31**	P	Pn	11 09 25.9	-9.2
	baz=11,SNR=9.4					
URZ	**Urewera**	**11.14 209**	Pn	Pn	11 09 30.2	-5.8
	1.4nm,0.3s,baz=262,slow=3.6,SNR=16					
URZ			Sn	**Sn**	**11 11 33.4**	**-5.8**
	13nm,0.3s,baz=65,slow=23,SNR=14					
URZ	**Urewera**	**11.14 209**	*e*Pn	Pn	11 09 30.2	-5.7
URZ			*e*Sn	**Sn**	**11 11 34.9**	**-4.4**
URZ	**Urewera**	**11.14 209**	*e*PN	Pn	11 09 28.6	-7.3
URZ			*e*SN	**Sn**	**11 11 33.3**	**-5.8**
RAGZ	**Rawiri**	**11.21 208**	*e*PN	Pn	11 09 28.5	-8.5
RIGZ	**Rimuhau**	**11.25 206**	PN	Pn	11 09 30.9	-6.7
MUGZ	**Murupara**	**11.46 210**	PN	Pn	11 09 33.1	-7.4
MUGZ			SN	Sn	11 11 38.7	-8.7
KNZ	**Kokohu**	**11.56 205**	*e*PN	Pn	11 09 36.0	-5.8
NMHZ	**Naumai**	**11.97 208**	PN	Pn	11 09 40.8	-6.6
BKZ	**Black Stump Fm**	**12.16 209**	*e*Pn	Pn	11 09 44.8	-5.2
BKZ			*e*Sn	Sn	11 11 50.1	-14
MSVF	**Nonsavu**	**12.20 332**	*e*P	**Pn**	**11 09 49.6**	**-1.0**
MSVF	**Nonsavu**	**12.20 332**	*e*Pn	**Pn**	**11 09 49.6**	**-1.0**
MCHZ	**McNeill Hill**	**12.31 207**	SN	**Sn**	**11 12 01.7**	**-6.3**
HIZ	**Hauiti**	**12.40 215**	*e*Pn	**Pn**	**11 09 52.6**	**-0.7**
KWHZ	**Kaweka Forest**	**12.40 208**	PN	Pn	11 09 45.9	-7.4
KAHZ	**Kahuranaki**	**12.54 206**	PN	Pn	11 09 47.1	-8.0
WNVZ	**Wahianoa**	**12.68 211**	PN	Pn	11 09 53.1	-4.2
PXZ	**Pawanui**	**12.75 206**	SN	Sn	11 12 08.4	-10
PRHZ	**Porangahau**	**13.04 206**	PN	Pn	11 09 52.3	-10
TSZ	**Takapari Road**	**13.13 208**	*e*SN	Sn	11 12 17.5	-11
BFZ	**Birch Farm**	**13.55 206**	*e*Pn	**Pn**	**11 10 07.4**	**-1.4**
BFZ			*e*Sn	Sn	11 12 29.0	-9.2
BFZ	**Birch Farm**	**13.55 206**	*e*PN	Pn	11 10 02.6	-6.3
BFZ			*e*SN	Sn	11 12 26.4	-12
MRZ	**Mangatainoka R**	**13.79 208**	*e*PN	Pn	11 10 02.5	-10
MRZ			SN	Sn	11 12 30.8	-13
NFK	**Norfolk Island**	**14.08 265**	P	**Pn**	**11 10 17.7**	**+1.5**
	baz=14,SNR=3.2					
DUWZ	**D'Urville Isla**	**14.63 212**	PN	Pn	11 10 14.1	-10
DUWZ			*e*SN	Sn	11 12 53.7	-11
SNZO	**South Karori**	**14.70 209**	*e*Pn	**Pn**	**11 10 21.5**	**-3.0**
SNZO			*e*Sn	Sn	11 12 54.0	-12
CTZ	**Chatham Island**	**15.02 182**	PN	Pn	11 10 25.0	-3.9
NNZ	**Nelson**	**15.21 212**	PN	Pn	11 10 21.7	-10
NNZ			*e*SN	Sn	11 13 04.5	-14
AFI	**Afiamalu**	**15.22 16**	Pn	Pn	11 10 22.8	-9.0
	6.8nm,0.3s,baz=178,slow=1.9,SNR=16					
AFI			Sn	Sn	11 12 59.9	-20
	45nm,0.3s,baz=139,slow=21,SNR=9.6					
AFI			LR	LR	11 18 45.8	
	comp=Z,421nm,18.8s,baz=184,slow=47					
AFI	**Afiamalu**	**15.22 16**	*e*P	**Pn**	**11 10 26.4**	**-5.4**
AFI			pmax	pmax		
	comp=Z,202nm,0.8s					
AFI	**Afiamalu**	**15.22 16**	*e*Pn	**Pn**	**11 10 26.4**	**-5.4**
	comp=Z,202nm,0.8s					
AFI			*e*Sn	Sn	11 13 03.9	-16
QRZ	**Quartz Range**	**15.32 215**	SN	Sn	11 13 12.2	-9.2
THZ	**Tophouse**	**15.86 212**	*e*Pn	**Pn**	**11 10 38.0**	**-1.9**
	comp=Z,46nm,0.6s					
THZ			*e*Sn	Sn	11 13 22.3	-12
THZ	**Tophouse**	**15.86 212**	PN	Pn	11 10 30.3	-10
THZ			SN	Sn	11 13 20.2	-14
KHZ	**Kahutara**	**16.10 209**	*e*Pn	**Pn**	**11 10 38.7**	**-4.2**
	comp=Z,127nm,0.9s					
KHZ			*e*Sn	Sn	11 13 25.1	-15
KHZ	**Kahutara**	**16.10 209**	PN	Pn	11 10 34.2	-8.6
KHZ			*e*SN	Sn	11 13 21.7	-19
RAR	**Rarotonga**	**16.48 67**	Pn	Pn	11 10 38.9	-9.0
	comp=Z,5.9nm,0.3s,baz=254,slow=11,SNR=19					
RAR			Sn	Sn	11 13 23.4	-26
	comp=Z,21nm,0.3s,baz=68,slow=18,SNR=8.4					
RAR			LR	LR	11 16 08.4	
	comp=Z,2μm,19.6s,baz=245,slow=34					
RAR	**Rarotonga**	**16.48 67**	*e*P	Pn	11 10 39.0	-8.9
LTZ	**Lake Taylor**	**16.95 211**	*e*Pn	**Pn**	**11 10 49.5**	**-4.2**
	comp=Z,54nm,1.0s					
LTZ			*e*Sn	Sn	11 13 44.4	-17
DZM	**Mont Dzumac**	**17.17 289**	P	**P**	**11 10 59.9**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=96,slow=15,SNR=28					
DZM			LR	LR	11 16 52.3	
	comp=Z,5μm,18.1s,baz=108,slow=35					
DZM	**Mont Dzumac**	**17.17 289**	*e*Pn	**Pn**	**11 10 58.4**	**+1.8**
	comp=Z,501nm,1.5s					
INZ	**Inchbonnie**	**17.29 213**	PN	Pn	11 10 51.9	-5.9
INZ			SN	Sn	11 13 50.8	-18
CRLZ	**Canterbury Las**	**17.44 209**	*e*Pn	**Pn**	**11 10 59.4**	**-0.2**
	comp=Z,358nm,1.9s					
OXZ	**Oxford**	**17.49 210**	*e*Pn	**Pn**	**11 10 56.3**	**-4.0**
	comp=Z,84nm,0.6s					
OXZ			*e*Sn	Sn	11 13 57.5	-17
OXZ	**Oxford**	**17.49 210**	*e*PN	Pn	11 10 51.9	-8.4
MQZ	**McQueen's Vall**	**17.53 208**	*e*Pn	**Pn**	**11 10 56.6**	**-4.2**
	comp=Z,137nm,1.6s					
MQZ			*e*Sn	Sn	11 14 00.9	-14
MQZ	**McQueen's Vall**	**17.53 208**	SN	Sn	11 13 55.4	-20
RPZ	**Rata Peaks**	**18.24 211**	P	P	11 11 03.4	-6.1
	comp=Z,2.2nm,0.3s,baz=358,slow=1.1,SNR=12					
RPZ			S	Sn	11 14 13.5	-19
	comp=Z,2.2nm,0.3s,baz=351,slow=22,SNR=7.6					
RPZ	**Rata Peaks**	**18.24 211**	*e*Pn	**P**	**11 11 08.0**	**-1.5**
	comp=Z,54nm,1.0s					
FOZ	**Fox Glacier**	**18.68 214**	*e*P	**P**	**11 11 13.7**	**-0.7**
	comp=Z,47nm,0.9s					
ODZ	**Otahua Downs**	**19.46 209**	*e*P	**P**	**11 11 22.7**	**-0.2**
	comp=Z,57nm,1.0s					
JCZ	**Jackson Bay**	**19.59 214**	*e*PN	**P**	**11 11 21.5**	**-2.9**
FUNA	**Funafuti**	**20.56 346**	*e*P	**P**	**11 11 31.8**	**-3.3**
	comp=Z,883nm,1.1s					
FUNA			LR	LR		
	comp=Z,3μm,19.0s					
WHZ	**Wether Hill Ro**	**21.33 212**	*e*P	**P**	**11 11 46.1**	**+3.0**
	comp=Z,61nm,1.2s					
LHI	**Lord Howe Isla**	**21.74 256**	P	**P**	**11 11 49.7**	**+2.0**
	baz=22,SNR=3.7					
LHI	**Lord Howe Isla**	**21.74 256**	*e*P	**P**	**11 11 47.8**	**+0.1**
	comp=Z,779nm,1.6s					
TBI	**Tubuai**	**24.41 84**	*e*P	**P**	**11 12 12.7**	**-1.9**
	comp=Z,350nm,1.1s					
TBI			*e*S	S	11 16 20.3	-12
	comp=Z,896nm,22.9s					
TBI			*e*LQ	LQ	11 16 46.6	
	comp=Z,3μm,30.0s					
TBI			*e*LR	LR	11 18 03.7	
	comp=Z,5μm,29.8s,baz=251					
TBI	**Tubuai**	**24.41 84**	*e*T	T	11 35 49.7	
	comp=Z,40nm,0.3s					
PAE	**Paea**	**26.59 71**	*e*P	**P**	**11 12 33.3**	**-1.1**
	comp=Z,41nm,1.1s					
PAE	**Paea**	**26.59 71**	*e*T	T	11 38 24.3	
	comp=Z,37nm,0.4s					
PPT2	**Papeete2**	**26.63 71**	*e*P	**P**	**11 12 34.2**	**-0.7**
	comp=Z,213nm,1.4s					
PPT2			*e*LQ	LQ	11 17 40.0	
	comp=Z,5μm,24.8s					
PPT2			*e*LR	LR	11 19 16.3	
	comp=Z,4μm,25.2s,baz=232					
PPT2	**Papeete2**	**26.63 71**	*e*T	T	11 38 29.2	
	comp=Z,35nm,0.3s					
PPTF	**Pamatai, Papee**	**26.64 71**	*e*P	**P**	**11 12 33.5**	**-1.5**
	comp=Z,242nm,1.2s					
PPT	**Papeete**	**26.64 71**	P	**P**	**11 12 34.3**	**-0.6**
	comp=Z,86nm,1.0s,baz=219,slow=10,SNR=6.7					
PPT			LR	LR	11 20 31.4	
	comp=Z,1μm,20.2s,baz=246,slow=31					
PPT	**Papeete**	**26.64 71**	*e*P	**P**	**11 12 32.4**	**-2.5**
TVO	**Taravao**	**26.81 72**	*e*P	**P**	**11 12 35.5**	**-0.9**
	comp=Z,55nm,1.3s					
TVO	**Taravao**	**26.81 72**	*e*T	T	11 38 32.8	
	comp=Z,2.3nm,0.3s					
TIAR	**Tiarei**	**26.84 71**	*e*P	**P**	**11 12 35.8**	**-0.9**
	comp=Z,83nm,1.0s					
ARMA	**Armidale**	**28.16 258**	P	**P**	**11 12 50.4**	**+1.8**
	baz=28,SNR=9.9					
ARMA	**Armidale**	**28.16 258**	*e*P	**P**	**11 12 50.0**	**+1.4**
	comp=Z,54nm,1.1s					
VAH	**Vaihoa**	**29.43 69**	*e*T	T	11 41 54.9	
	comp=Z,45nm,0.2s					
EIDS	**Eidsvold**	**29.46 269**	P	**P**	**11 13 00.4**	**+0.4**
	baz=30,SNR=16					
EIDS	**Eidsvold**	**29.46 269**	*e*P	**P**	**11 13 00.4**	**+0.4**
	comp=Z,106nm,1.3s					
HNR	**Honiara**	**29.62 306**	P	**P**	**11 12 59.4**	**-2.0**
	comp=Z,174nm,0.8s,baz=223,slow=4.8,SNR=7.6					
HNR			LR	LR	11 24 19.2	
	comp=Z,1μm,18.5s,baz=142,slow=35					
HNR	**Honiara**	**29.62 306**	*e*P	**P**	**11 13 00.0**	**-1.4**
HNR			pmax	pmax		
	comp=Z,205nm,0.8s					
HNR			MLR	MLR		
	comp=Z,1μm,19.0s					
HNR	**Honiara**	**29.62 306**	*e*P	**P**	**11 13 00.0**	**-1.4**
	comp=Z,204nm,0.8s					
HNR			LR	LR		
	comp=Z,1μm,19.0s					
CNB	**Canberra Magne**	**30.00 248**	P	**P**	**11 13 06.2**	**+1.5**
	baz=30,SNR=5.1					
CAN	**Canberra**	**30.30 248**	*e*P	**P**	**11 13 08.1**	**+0.7**
CAN			pmax	pmax		
	comp=Z,50nm,1.0s					
CAN			MLR	MLR		
	comp=Z,2μm,19.0s					
CAN	**Canberra**	**30.30 248**	*e*P	**P**	**11 13 08.1**	**+0.7**
	comp=Z,50nm,1.0s					
CAN			LR	LR		
	comp=Z,2μm,19.0s					
RMQ	**Roma**	**31.24 266**	P	**P**	**11 13 17.0**	**+1.2**
	baz=31,SNR=16					
TARA	**Tarawa**	**31.71 339**	*e*P	**P**	**11 13 18.5**	**-1.4**
	comp=Z,272nm,1.1s					
TARA			LR	LR		
	comp=Z,114nm,20.0s					
TAU	**Tasmania Unive**	**32.68 234**	PFAKE		11 13 40.0	+12
TAU			LR	LR		
	comp=Z,3μm,20.0s					
CMSA	**Cobar Meteorol**	**33.15 255**	P	**P**	**11 13 32.6**	**+0.2**
	baz=33,SNR=27					
TOO	**Toolangi**	**33.25 244**	P	**P**	**11 13 34.5**	**+1.2**
	baz=34,SNR=7.1					
TOO	**Toolangi**	**33.25 244**	P	**P**	**11 13 35.2**	**+1.9**
TOO			pmax	pmax		
	comp=Z,27nm,1.1s					
QLP	**Quilpie**	**35.18 264**	P	**P**	**11 13 50.7**	**+0.6**
	baz=35,SNR=4.5					
CTA	**Charters Tower**	**35.31 275**	LR	LR	11 27 41.4	
	comp=Z,3μm,18.0s,baz=104,slow=35					
CTAO	**Charters Tower**	**35.31 275**	*e*P	**P**	**11 13 51.1**	**-0.2**
CTAO			pmax	pmax		
	comp=Z,42nm,0.8s					
CTAO			MLR	MLR		
	comp=Z,4μm,19.0s					
CTAO	**Charters Tower**	**35.31 275**	*e*P	**P**	**11 13 51.1**	**-0.2**
	comp=Z,42nm,0.8s					
CTAO			LR	LR		
	comp=Z,4μm,19.0s					
XMAS	**Kiritimati**	**35.37 33**	*e*P	**P**	**11 13 50.6**	**-1.1**
	comp=Z,111nm,0.9s					
ARPS	**Mount Arapiles**	**36.14 246**	P	**P**	**11 13 59.0**	**+0.8**
	baz=36,SNR=6.7					
STKA	**Stephens Creek**	**36.59 254**	P	**P**	**11 14 02.0**	**0.0**
	comp=Z,31nm,1.1s,baz=94,slow=9.1,SNR=24					
STKA			LR	LR	11 29 08.4	
	comp=Z,3μm,18.0s,baz=95,slow=36					
STKA	**Stephens Creek**	**36.59 254**	P	**P**	**11 14 02.2**	**+0.1**
	baz=37,SNR=16					
STKA	**Stephens Creek**	**36.59 254**	*e*P	**P**	**11 14 02.1**	**0.0**
STKA			pmax	pmax		
	comp=Z,25nm,1.4s					
STKA	**Stephens Creek**	**36.59 254**	*e*P	**P**	**11 14 02.1**	**0.0**
	comp=Z,25nm,1.4s					
RKT	**Rikitea**	**37.19 91**	*e*S	**S**	**11 19 46.9**	**-5.1**
	comp=Z,488nm,26.0s					
RKT			*e*LR	LR	11 24 00.4	
	comp=Z,3μm,30.0s,baz=257					
RKT	**Rikitea**	**37.19 91**	*e*T	T	11 52 00.6	
	comp=Z,5.7nm,0.3s					
MTSU	**Mount Surprise**	**37.75 277**	P	**P**	**11 14 12.0**	**-0.1**
	baz=38,SNR=9.3					
HTT	**Hallett**	**38.67 251**	P	**P**	**11 14 19.6**	**-0.2**
	baz=39,SNR=9.7					
RABL	**Rabaul**	**38.82 303**	*e*P	**P**	**11 14 21.1**	**-0.1**
	comp=Z,120nm,0.9s					
TAOE	**Nuku Hiva Isla**	**39.03 67**	*e*S	S	11 20 11.3	-8.9
	comp=Z,452nm,24.7s					
TAOE			*e*LR	LR	11 24 45.3	
	comp=Z,2μm,25.0s					
PMG	**Port Moresby**	**39.52 292**	LR	LR	11 29 13.8	
	comp=Z,2μm,19.2s,baz=136,slow=34					
PMG	**Port Moresby**	**39.52 292**	*c i*P	**P**	**11 14 27.0**	**0.0**
PMG			pmax	pmax		
	comp=Z,535nm,1.0s					
PMG			MLR	MLR		
	comp=Z,6μm,17.0s					
PMG	**Port Moresby**	**39.52 292**	*e*P	**P**	**11 14 26.4**	**-0.6**
	comp=Z,136nm,1.0s					
PMG			LR	LR		
	comp=Z,2μm,20.0s					
COEN	**Coen**	**40.54 282**	P	**P**	**11 14 35.5**	**0.0**
	baz=41,SNR=7.7					
COEN	**Coen**	**40.54 282**	*e*P	**P**	**11 14 35.5**	**0.0**
	comp=Z,43nm,1.1s					
COEN			*e*pP	**sP**	**11 14 54.0**	**+4.6**
PTCN	**Pitcairn Islan**	**40.91 96**	PFAKE		11 14 50.0	+12
PTCN			LR	LR		
	comp=Z,2μm,20.0s					
QIS	**Mount Isa**	**40.97 271**	P	**P**	**11 14 38.1**	**-0.9**
	baz=41,SNR=8.9					
BBOO	**Buckleboo**	**41.13 252**	P	**P**	**11 14 39.6**	**-0.5**
	baz=41,SNR=9.9					
BBOO	**Buckleboo**	**41.13 252**	*e*P	**P**	**11 14 39.4**	**-0.8**
	comp=Z,175nm,1.7s					
BBOO			*e*pP	**sP**	**11 14 54.0**	**-0.1**
MANU	**Manus Island**	**43.82 301**	*e*P	**P**	**11 15 00.4**	**-1.8**
	comp=Z,130nm,1.0s					
AS31	**Alice Springs**	**44.97 264**	*e*P	**P**	**11 15 10.1**	**-1.3**
	comp=Z,23nm,1.3s					
ASAR	**Alice Springs**	**44.98 264**	P	**P**	**11 15 10.3**	**-1.1**
	comp=Z,58nm,1.1s,baz=99,slow=6.2,SNR=130					
ASAR			ScP	ScP	11 20 58.0	+16
	comp=Z,1.9nm,0.9s,baz=116,slow=4.2,SNR=4.4					
ASAR			S	**S**	**11 21 43.0**	**-4.8**
	comp=Z,3.6nm,1.3s,baz=108,slow=14,SNR=3.6					
ASAR			LR	LR	11 33 49.1	
	comp=Z,2μm,18.1s,baz=104,slow=36					
WB2	**Warramunga Arr**	**45.80 269**	*e*P	**P**	**11 15 16.6**	**-1.4**
	comp=Z,187nm,1.6s					
WRAB	**Tennant Creek**	**45.81 269**	*e*P	**P**	**11 15 16.5**	**-1.5**
WRAB			*e**PP	**sP**	**11 15 30.9**	**-1.1**
WRAB			pmax	pmax		
	comp=Z,244nm,1.8s					
WRAB			MLR	MLR		
	comp=Z,1μm,19.0s					
WRAB	**Tennant Creek**	**45.81 269**	*e*P	**P**	**11 15 16.5**	**-1.5**
	comp=Z,244nm,1.8s					
WRAB			*e*pP	**sP**	**11 15 30.9**	**-1.1**
WRAB			LR	LR		
	comp=Z,1μm,19.0s					
WRA	**Warramunga Arr**	**45.81 269**	P	**P**	**11 15 16.7**	**-1.4**
	comp=Z,29nm,0.7s,baz=109,slow=7.8,SNR=100					
WRA			PcP	**PcP**	**11 16 56.1**	**+0.9**
	comp=Z,12nm,1.0s,baz=104,slow=4.1,SNR=4.9					
WRA			S	**S**	**11 21 54.8**	**-5.2**
	comp=Z,5.8nm,1.2s,baz=111,slow=14,SNR=5.4					
WRA			LR	LR	11 34 27.5	
	comp=Z,1μm,18.1s,baz=115,slow=36					
FORT	**Forrest**	**48.19 253**	P	**P**	**11 15 34.9**	**-1.5**
	baz=48,SNR=7.8					
FORT	**Forrest**	**48.19 253**	*e*P	**P**	**11 15 36.0**	**-0.4**
	comp=Z,582nm,0.8s					
JAY	**Jayapura**	**48.73 294**	P	P	11 15 36.1	-4.7
	comp=Z,533nm,1.0s,comp=Z,6μm					
GENI	**Genyem**	**49.11 294**	P	**P**	**11 15 42.1**	**-1.6**
WRKA	**Warakurna**	**49.45 260**	P	**P**	**11 15 44.3**	**-1.9**
	baz=50,SNR=22					
SBA	**Scott Base**	**49.87 185**	*e*P	**P**	**11 15 45.6**	**-3.1**
SBA			pmax	pmax		
	comp=Z,42nm,1.1s					
SBA			MLR	MLR		
	comp=Z,594nm,19.0s					
SBA	**Scott Base**	**49.87 185**	*e*P	**P**	**11 15 45.6**	**-3.1**
	comp=Z,42nm,1.1s					
SBA			LR	LR		
	comp=Z,594nm,19.0s					
VNDA	**Vanda**	**49.97 186**	P	**P**	**11

SOEI	Soe	58.87	276	P	P	11 16 53.7	-1.5
	comp=Z,66nm,1.0s,comp=Z,1µm						
NLAI	Namlea	59.61	284	P	P	11 16 58.5	-1.6
	comp=Z,66nm,1.1s,comp=Z,1µm						
PALU	Palau	59.67	299	P	P	11 16 59.1	-1.4
	baz=60,SNR=5.3						
LBMI	Labuha	60.65	287	P	P	11 17 05.1	-2.1
	comp=Z,58nm,1.2s,comp=Z,710nm						
SANI	Sanana	61.18	285	P	P	11 17 08.6	-2.2
	comp=Z,66nm,1.2s,comp=Z,927nm						
QSPA	South Pole Qui	61.41	180	eP	P	11 17 13.9	+2.1
	comp=Z,78nm,1.2s						
QSPA				LR	LR		
	comp=Z,1µm,20.0s						
EDFI	Ende, Flores	61.59	276	P	P	11 17 14.1	+0.3
	comp=Z,40nm,1.1s,comp=Z,736nm						
GIRL	Giralia	62.38	258	P	P	11 17 19.4	+0.5
	baz=62,SNR=3.6						
MIR	Mirnyy	64.43	206	i P	P	11 17 33.0	+1.4
MIR				pmax	pmax		
	comp=Z,6.0nm,1.8s						
LUWI	Luwuk	64.44	284	P	P	11 17 33.4	+0.8
	comp=Z,141nm,1.1s,comp=Z,2µm						
LUWI	Luwuk	64.44	284	eP	P	11 17 32.5	-0.1
	comp=Z,160nm,1.1s						
PLAI	Plampang	64.98	274	P	P	11 17 34.0	-2.1
BNSI	Bone	65.05	279	P	P	11 17 36.0	-0.5
	comp=Z,74nm,1.3s,comp=Z,1µm						
KAPI	Kappang	65.05	278	PFAKE		11 17 50.0	+13
KAPI				LR	LR		
	comp=Z,535nm,19.0s						
APSI	Ampana	65.47	283	P	P	11 17 38.4	-0.8
	comp=Z,101nm,1.2s,comp=Z,992nm						
SPSI	Sidrap Palu	65.55	279	P	P	11 17 38.0	-1.8
TWSI	Taliwang, Sumb	65.81	273	P	P	11 17 40.3	-1.1
MRSI	Marisa	65.94	285	P	P	11 17 40.0	-2.3
	comp=Z,21nm,1.2s						
TTSI	Tana Toraja	65.96	280	P	P	11 17 42.1	-0.3
DAV	Davao City (W)	66.53	293	PFAKE		11 18 00.0	+14
DAV				LR	LR		
	comp=Z,366nm,19.0s						
MPSI	Mapaga	67.61	283	P	P	11 17 51.0	-1.9
	comp=Z,46nm,1.3s,comp=Z,618nm						
MTKI	Muara Teweh, K	71.27	279	P	P	11 18 15.3	-0.3
MYLDM	Lahad Datu	71.33	287	eP	P	11 18 16.6	+0.7
	comp=Z,46nm,1.2s						
TSM	Tawau	71.39	286	⇓P	P	11 18 16.4	+0.1
UGM	Wanagama	71.77	271	P	P	11 18 18.0	-0.6
UGM	Wanagama	71.77	271	eP	P	11 18 18.7	0.0
	comp=Z,159nm,1.1s						
UGM	Wanagama	71.77	271	⇑P	P	11 18 18.7	0.0
SDKM	Sandakan	72.68	287	⇑P	P	11 18 24.0	-0.1
PBKI	Pangkalan Bun	73.22	276	P	P	11 18 26.7	-0.5
KKM	Kota Kinabalu	73.72	286	eP	P	11 18 29.7	-0.6
	comp=Z,104nm,1.3s						
KKM				LR	LR		
	comp=Z,284nm,19.0s						
KKM	Kota Kinabalu	73.72	286	⇑P	P	11 18 30.2	-0.1
TGY	Tagaytay City	74.30	296	LR	LR	11 47 46.7	
	comp=Z,247nm,21.9s,baz=132,slow=33						
CISI	Cisompet, Garu	74.31	270	P	P	11 18 33.1	-0.7
CISI	Cisompet, Garu	74.31	270	eP	P	11 18 33.0	-0.7
	comp=Z,216nm,1.1s						
MAW	Mawson	74.51	200	P	P	11 18 35.9	+2.1
	comp=Z,37nm,1.1s,baz=124,slow=7.0,SNR=72						
MAW				LR	LR	11 53 41.4	
	comp=Z,331nm,18.7s,baz=95,slow=38						
MAW	Mawson	74.51	200	P	P	11 18 35.7	+1.8
	baz=75,SNR=38						
STKI	Sintang	74.73	279	P	P	11 18 36.7	+0.6
BTM	Bintulu	74.91	282	⇓P	P	11 18 37.6	+0.4
CNJI	Cibinong	75.03	270	P	P	11 18 37.2	-0.6
SBUM	Sibu	75.27	281	eP	P	11 18 39.6	+0.4
	comp=Z,123nm,1.2s						
SKJI	Sukabumi	75.67	270	P	P	11 18 40.8	-0.7
	comp=Z,211nm,1.1s						
DBJI	Dramaga	75.71	270	P	P	11 18 41.5	-0.2
KSM	Kuching	76.44	279	eP	P	11 18 45.9	0.0
	comp=Z,136nm,1.1s						
KSM				LR	LR		
	comp=Z,304nm,20.0s						
SBJI	Serang	76.46	270	P	P	11 18 45.1	-0.9
	comp=Z,65nm,0.4s,comp=Z,6µm						
CGJI	Cibinong	76.61	270	P	P	11 18 46.2	-0.6
	comp=Z,204nm,1.2s,comp=Z,3µm						
JOW	Kunigami	76.84	311	eP	P	11 18 48.0	+0.2
	comp=Z,120nm,1.1s						
INU	Inuyama	77.59	322	eP	P	11 18 52.0	+0.2
	comp=Z,86nm,1.3s						
MJAR	Matsushiro Arr	77.86	324	P	P	11 18 53.1	-0.3
	comp=Z,27nm,1.0s,baz=161,slow=5.7,SNR=50						
MJAR				LR	LR	11 47 42.0	
	comp=Z,97nm,21.7s,baz=140,slow=32						
MAJO	Matsushiro	77.87	324	deP	P	11 18 53.0	-0.3
MAJO				pmax	pmax		
	comp=Z,140nm,2.5s						
MAJO				MLR	MLR		
	comp=Z,1µm,19.0s						
MAJO	Matsushiro	77.87	324	eP	P	11 18 53.2	-0.1
	comp=Z,58nm,1.1s						
MAJO				LR	LR		
	comp=Z,360nm,21.0s						
MAT	Matsushiro	77.87	324	P	P	11 18 53.1	-0.2
MAT				S	S	11 28 46.0	+2.0
MJB9	Matsu-Tunnel	77.87	324	eP	P	11 18 53.4	0.0
	comp=Z,16nm,1.1s						
KLSI		78.36	271	P	P	11 18 55.2	-1.4
	comp=Z,109nm,1.2s,comp=Z,1µm						
LWLI	Liwa	78.79	270	P	P	11 18 56.8	-2.4
SYO	Syowa Base	79.16	192	eP	P	11 18 59.6	-0.4
SYO	Syowa Base	79.16	192	i PcP	P	11 19 05.2	+5.2
SYO	Syowa Base	79.16	192	i pP	pP	11 19 13.0	+2.4
JNU	Nakatsue	79.47	317	eP	P	11 19 02.4	+0.1
	comp=Z,74nm,1.1s						
SNAA	Sanae	79.80	178	P	P	11 19 04.5	+0.9
SNAA	Sanae	79.80	178	d iP	P	11 19 03.7	+0.1
SNAA	Sanae	79.80	178	eP	P	11 19 04.0	+0.4
	comp=Z,82nm,1.3s						
ERM	Erimo	79.82	330	PFAKE		11 19 20.0	+16
ERM				LR	LR		
	comp=Z,1µm,20.0s						
VNA3	Neumayer Olymp	79.88	176	P	P	11 19 04.5	+0.6
ADK	Adak	80.23	360	eP	P	11 19 05.9	+0.1
ADK				pmax	pmax		
	comp=Z,151nm,0.9s						
ADK	Adak	80.23	360	eP	P	11 19 05.9	+0.1
	comp=Z,151nm,0.9s						
YHNB	Yeheng	80.25	305	PFAKE		11 19 20.0	+13
YHNB				LR	LR		
	comp=Z,577nm,19.0s						
VNA2	Neumayer--Watz	80.33	176	P	P	11 19 07.4	+1.0
	baz=191,slow=5.6						
YUK	Yuzh-Kuril'sk	80.35	333	c iP	P	11 19 06.5	-0.2
YUK				S	S	11 29 11.7	+1.7
VNA1	Neumayer--Stat	80.55	176	P	P	11 19 08.6	+1.0
ATKA	Atka Island	80.56	1	eP	P	11 19 07.9	+0.3
	comp=Z,199nm,1.0s						
NVL	N'lazarevskaya	80.67	183	eP	P	11 19 07.6	-0.6
NVL				eS	S	11 29 07.0	-5.8
NIKH	Nikolski High	81.56	4	eP	P	11 19 13.2	+0.3
	comp=Z,217nm,0.9s						
SNCC	San Nicolas Is	81.61	45	P	P	11 19 14.0	+0.3
	baz=228						
ASAJ	Asahikawa	81.76	331	eP	P	11 19 16.0	+1.8
	comp=Z,39nm,0.9s						
COCO	West Island	81.80	261	PFAKE		11 19 30.0	+15
COCO				LR	LR		
	comp=Z,1µm,19.0s						
SCI2	San Clemente I	82.04	46	P	P	11 19 16.5	+0.6
	baz=228						
SCZ2	Santa Cruz Isl	82.04	44	P	P	11 19 16.7	+0.7
	baz=228						
SLBS	Sierra La Lagu	82.18	58	eP	P	11 19 17.1	+0.1
	comp=Z,84nm,1.6s						
MYKOM	Kota Tinggi	82.22	276	eP	P	11 19 17.6	+0.2
	comp=Z,101nm,1.1s						
SBC	Santa Barbara	82.29	44	P	P	11 19 18.1	+0.8
	baz=227						
PLCA	Paso Flores	82.38	132	P	P	11 19 19.4	+1.4
	comp=Z,26nm,1.2s,baz=247,slow=4.9,SNR=11						
PLCA				LR	LR	11 48 35.6	
	comp=Z,746nm,19.5s,baz=312,slow=30						
PLCA	Paso Flores	82.38	132	eP	P	11 19 19.1	+1.1
	comp=Z,69nm,1.4s						
CIS	Catalina Islan	82.40	45	P	P	11 19 18.2	+0.3
	baz=228,SNR=5.1						
BLG	Laguna Peak, P	82.47	45	P	P	11 19 18.2	0.0
	baz=228						
PKM	Mcpherson Peak	82.53	44	P	P	11 19 19.6	+0.8
	baz=227						
FMP	Fort Macarthur	82.68	45	P	P	11 19 19.6	+0.4
	baz=228						
SMMC	Simmler	82.71	43	P	P	11 19 20.6	+1.1
	baz=227						
PAGB	Antelope Grade	82.84	43	eP	P	11 19 21.2	+1.1
	comp=Z,183nm,1.8s						
PMPB	Monarch Peak	82.85	42	eP	P	11 19 21.3	+1.1
	comp=Z,102nm,1.6s						
SAO	San Andreas Ge	82.85	41	eP	P	11 19 20.9	+0.8
SAO				pmax	pmax		
	comp=Z,68nm,1.4s						
SAO	San Andreas Ge	82.85	41	eP	P	11 19 20.9	+0.8
	comp=Z,68nm,1.4s						
109C	Camp Elliot, M	82.89	47	P	P	11 19 20.7	+0.3
	baz=229						
OSI	Osito Audit: C	83.01	44	P	P	11 19 21.7	+0.6
	baz=228						
DECC	Green Verdugo	83.02	45	P	P	11 19 21.1	+0.1
	baz=228						
BAR	Barrett	83.03	47	eP	P	11 19 21.8	+0.6
	comp=Z,48nm,1.5s						
PASC	Pasadena Art C	83.05	45	eP	P	11 19 21.7	+0.5
	comp=Z,39nm,1.3s						
MWC	Mount Wilson	83.17	45	eP	P	11 19 22.4	+0.3
MWC				pmax	pmax		
	comp=Z,56nm,1.3s						
MWC	Mount Wilson	83.17	45	eP	P	11 19 22.4	+0.3
	comp=Z,56nm,1.3s						
EFI	East Falkland	83.26	146	eP	P	11 19 22.7	+0.6
EFI				pmax	pmax		
	comp=Z,96nm,1.1s						
EFI				MLR	MLR		
	comp=Z,2µm,21.0s						
EFI	East Falkland	83.26	146	eP	P	11 19 22.7	+0.6
	comp=Z,96nm,1.1s						
EFI				LR	LR		
	comp=Z,2µm,21.0s						
ARVC	Arvin	83.29	44	P	P	11 19 22.7	+0.3
	baz=228						
MURC	Murrieta	83.30	46	P	P	11 19 23.1	+0.5
	baz=229,SNR=14						
MONP2	Monument Peak	83.33	47	P	P	11 19 23.4	+0.4
	baz=230,SNR=24						
IKP	In-Ko-Pah, Jac	83.38	47	P	P	11 19 23.5	+0.4
	baz=230,SNR=18						
BFSC	Mount Baldy Ra	83.42	45	P	P	11 19 23.7	+0.4
	baz=229,SNR=23						
HOPS	Hopland Field	83.49	39	eP	P	11 19 24.6	+1.2
	comp=Z,138nm,1.4s						
VES	Vestal, Richgr	83.61	43	P	P	11 19 24.5	+0.4
	baz=228,SNR=23						
EDW2	Edwards Air Fo	83.64	45	P	P	11 19 24.9	+0.6
	baz=228,SNR=34						
KCPM	Cahto Peak	83.70	38	eP	P	11 19 25.6	+1.0
	comp=Z,82nm,1.3s						
SWSC	Sam W. Stewart	83.77	47	P	P	11 19 25.5	+0.6
	baz=230,SNR=7.8						
PFO	Pinyon Flats O	83.77	46	P	P	11 19 25.8	+0.7
	comp=Z,25nm,1.0s,baz=239,slow=3.9,SNR=34						
PFO	Pinyon Flats O	83.77	46	P	P	11 19 25.7	+0.5
	baz=230,SNR=30						
PFO	Pinyon Flats O	83.77	46	eP	P	11 19 25.6	+0.5
PFO				pmax	pmax		
	comp=Z,53nm,1.2s						
PFO				MLR	MLR		
	comp=Z,1µm,19.0s						
PFO	Pinyon Flats O	83.77	46	eP	P	11 19 25.6	+0.5
	comp=Z,53nm,1.2s						
PFO				LR	LR		
	comp=Z,1µm,19.0s						
XPFO	Piæon Flat	83.77	46	eP	P	11 19 25.6	+0.5
	comp=Z,56nm,1.2s						
ISA	Isabella, Lake	83.86	44	P	P	11 19 26.3	+0.9
	baz=228						
ISA	Isabella, Lake	83.86	44	eP	P	11 19 26.6	+1.1
ISA				pmax	pmax		
	comp=Z,144nm,1.8s						
ISA	Isabella, Lake	83.86	44	eP	P	11 19 26.6	+1.1
	comp=Z,144nm,1.8s						
BBRC	Big Bear Solar	83.90	46	P	P	11 19 26.3	+0.4
	baz=229,SNR=10						
BKNI	Bangkinang	83.97	274	eP	P	11 19 26.5	0.0
	comp=Z,114nm,0.9s						
YSS	Yuzh-Sakhalins	84.00	333	eP	P	11 19 27.2	+1.5
YSS				pmax	pmax		
	comp=Z,131nm,1.0s						
YSS	Yuzh-Sakhalins	84.00	333	eP	P	11 19 27.2	+1.5
	comp=Z,180nm,1.1s						
YSS				LR	LR		
	comp=Z,208nm,20.0s						
KMRM	Mail Ridge	84.02	38	eP	P	11 19 27.4	+1.2
	comp=Z,96nm,1.1s						
KSRS	Korea Array	84.20	318	P	P	11 19 28.1	+1.1
	comp=Z,22nm,1.0s,baz=141,slow=5.9,SNR=69						
KSRS				LR	LR	11 56 08.9	
	comp=Z,145nm,18.1s,baz=117,slow=35						
KS15	Wonju Array Si	84.22	318	eP	P	11 19 27.0	-0.1
KSAR	Wonju Array Be	84.22	318	P	P	11 19 28.2	+1.1
KSAR	Wonju Array Be	84.22	318	P	P	11 19 28.1	+1.1
LRMC	Laurel Mtn Rad	84.23	44	P	P	11 19 28.2	+0.8
	baz=229,SNR=34						
RRX	Edison Barstow	84.25	45	P	P	11 19 28.0	+0.6
	baz=229						
BELC	Belle Mtn. Jos	84.31	46	P	P	11 19 28.6	+0.7
	baz=230,SNR=45						
PET	Petropavlovsk	84.32	345	eP	P	11 19 33.7	+6.5
PET	Petropavlovsk	84.32	345	PFAKE		11 19 40.0	+13
PET				LR	LR		
	comp=Z,405nm,19.0s						
CMB	Columbia Colle	84.33	41	eP	P	11 19 28.2	+0.4
CMB				pmax	pmax		
	comp=Z,52nm,1.1s						
CMB	Columbia Colle	84.33	41	eP	P	11 19 28.2	+0.4
	comp=Z,52nm,1.1s						
GO05	HualaæØ	84.41	127	eP	P	11 19 29.1	+0.6
	comp=Z,69nm,1.5s						
BC3	Big Chuckawall	84.44	47	P	P	11 19 29.4	+0.9
	baz=230,SNR=33						
GLA	Glamis	84.46	48	P	P	11 19 29.7	+1.1
	baz=230,SNR=14						
GLA	Glamis	84.46	48	eP	P	11 19 29.6	+1.1
GLA				pmax	pmax		
	comp=Z,75nm,1.3s						
GLA	Glamis	84.46	48	eP	P	11 19 29.6	+1.1
	comp=Z,75nm,1.3s						
KHMM	Horse Mountain	84.47	37	eP	P	11 19 29.8	+1.3
	comp=Z,53nm,1.0s						
HSIG		84.60	53	eP	P	11 19 29.5	+0.2
	comp=Z,44nm,1.0s						
CWC	Cottonwood Cre	84.62	43	P	P	11 19 30.2	+0.8
	baz=228						
PEA0B	Petropavlovsk-	84.62	344	eP	P	11 19 29.2	+0.4
	comp=Z,229nm,1.1s						
PETK	Petropavlovsk-	84.62	344	P	P	11 19 29.4	+0.7
	comp=Z,97nm,0.9s,baz=124,slow=7.0,SNR=48						
PETK				LR	LR	11 54 31.5	
	comp=Z,417nm,19.1s,baz=154,slow=34						
AFDM	Forest Hills D	84.63	40	eP	P	11 19 29.5	+0.3
	comp=Z,57nm,1.2s						
HEC	Hector,Ludlow	84.64	45	P	P	11 19 30.0	+0.6
	baz=230,SNR=18						
GSC	Goldstone, Bar	84.65	45	P	P	11 19 30.3	+0.7
	baz=229,SNR=40						
GSC	Goldstone, Bar	84.65	45	eP	P	11 19 30.2	+0.7
GSC				pmax	pmax		
	comp=Z,125nm,1.6s						
GSC	Goldstone, Bar	84.65	45	eP	P	11 19 30.2	+0.7
	comp=Z,125nm,1.6s						
MPMC	Manual Prospec	84.72	44	P	P	11 19 30.8	+0.8
	baz=229,SNR=51						
ORV	Oroville	84.75	39	eP	P	11 19 30.2	+0.4
ORV				pmax	pmax		
	comp=Z,41nm,1.2s						
ORV	Oroville	84.75	39	eP	P	11 19 30.2	+0.4
	comp=Z,41nm,1.2s						
DAC	Darwin (Calif)	84.81	44	eP	P	11 19 30.9	+0.5
DAC				pmax	pmax		
	comp=Z,18nm,1.1s						
DAC	Darwin (Calif)	84.81	44	eP	P	11 19 30.9	+0.5
	comp=Z,18nm,1.1s						
MDPB	Devils Postpil	84.82	42	eP	P	11 19 31.2	+0.7
	comp=Z,31nm,1.1s						
KRMB	Red Mountain	84.84	37	eP	P	11 19 31.4	+1.1
	comp=Z,112nm,1.4s						
WDC	Whiskeytown Da	84.90	38	eP	P	11 19 31.2	+0.7
WDC				pmax	pmax		
	comp=Z,82nm,1.0s						
WDC	Whiskeytown Da	84.90	38	eP	P	11 19 31.2	+0.7
	comp=Z,82nm,1.0s						
TIN	Tinemaha, Big	84.94	43	P	P	11 19 31.8	+0.8
	baz=228						
IRM	Iron Mountain	84.96	47	P	P	11 19 32.2	+1.2
	baz=230,SNR=65						
MLAC	Mammoth, Mammo	84.96	42	P	P	11 19 32.2	+1.1
	baz=228						
113A	Mohawk Valley,	84.98	48	eP	P	11 19 31.8	+0.7
	comp=Z,56nm,1.3s						
INCN	Inchon	84.98	318	PFAKE		11 19 40.0	+9.0
INCN				LR	LR		
	comp=Z,302nm,22.0s						
GMRC	Granite Mounta	85.03	46	P	P	11 19 32.4	+0.9
	baz=230,SNR=31						
N02D	Trinity Center	85.09	38	P	P	11 19 32.8	+1.3
	baz=225,SNR=14						
O03D	Paynes Creek	85.10	39	P	P	11 19 32.1	+0.4
	baz=226,SNR=41						
Y12C	Blythe	85.10	47	P	P	11 19 32.7	+1.1
	baz=231,SNR=16						
Y12C	Blythe	85.10	47	eP	P	11 19 32.6	+0.9
	comp=Z,51nm,1.3s						
KBO	Bosley Butte	85.17	36	eP	P	11 19 32.7	+0.8
	comp=Z,200nm,1.5s						
WAKR	Walker	85.20	41	eP	P	11 19 33.1	+0.8
	comp=Z,99nm,1.3s						
TUQ	Turquoise Moun	85.28	45	P	P	11 19 33.5	+0.7
	baz=230						
M02C	Callahan	85.31	37	P	P	11 19 33.9	+1.3
	baz=225,SNR=16						
SHOC	Shoshone, Teco	85.37	45	P	P	11 19 33.6	+0.7
	baz=230,SNR=10						
FURC	Furnace Creek,	85.37	44	P	P	11 19 33.6	+0.7
	baz=229,SNR=24						
KTRM	Thompson Ridge	85.40	37	eP	P	11 19 34.4	+1.3
GRAC	Grapevine Rang	85.42	43	P	P	11 19 34.4	+1.1
	baz=229,SNR=22						
L02D	Cave Junction,	85.46	36	P	P	11 19 34.4	+1.1
	baz=224,SNR=7.4						
PNTR	Pine Nut	85.50	41	eP	P	11 19 34.6	+0.7
	comp=Z,84nm,1.0s						
LDFC	Landfair	85.57	46	eP	P	11 19 36.0	+1.9
	comp=Z,341nm,1.6s						
KEBM	Edson Butte	85.59	35	eP	P	11 19 34.4	+0.4
	comp=Z,120nm,1.1s						
BEKR	Beckworth	85.60	40	eP	P	11 19 34.6	+0.4
	comp=Z,140nm,1.8s						
YBH	Yreka Blue Hor	85.62	37	eP	P	11 19 35.0	+0.8
YBH				pmax	pmax		
	comp=Z,46nm,1.1s						
YBH	Yreka Blue Hor	85.62	37	eP	P	11 19 35.0	+0.8
	comp=Z,46nm,1.1s						
YERR	Yerington	85.64	41	eP	P	11 19 35.0	+0.5
	comp=Z,62nm,1.1s						
SPIA	Saint Paul Isl	85.67	3	eP	P	11 19 34.9	+1.1
	comp=Z,942nm,1.4s						
NEE2	Needles Airpor	85.68	46	P	P	11 19 35.5	+1.0
	baz=230,SNR=6.8						
PDMCI	Parker Dam,Lak	85.69	47	P	P	11 19 35.5	+0.9
	baz=231,SNR=22						
QIZ	Qiongzhong	85.86	294	P	P	11 19 35.5	-0.3
QIZ				S	S	11 30 08.0	+1.0
QIZ				pmax	pmax		
	comp=Z,330nm,8.0s						
QIZ	Qiongzhong	85.86	294	PFAKE		11 19 50.0	+14
QIZ				LR	LR		
	comp=Z,305nm,20.0s						
PAYG	Puerto Ayora	85.92	89	PFAKE		11 19 50.0	+14
PAYG				LR	LR		
	comp=Z,775nm,21.0s						
IPM	Ipoh	85.98	277	eP	P	11 19 36.9	+0.3
	comp=Z,58nm,1.0s						
MSHR	Mys Shultsa	85.99	324	d iP	P	11 19 36.3	+0.5
VLA	Vladivostok	86.00	325	d iP	P	11 19 35.5	-0.4
VLA				pmax	pmax		
	comp=Z,40nm,1.4s						
VLA				MLR	MLR		
	comp=Z,232nm,18.0s						
PAHR	Pah Rah Range	86.04	40	eP	P	11 19 36.8	+0.4
	comp=Z,50nm,1.1s						
TPNV	Topopah Spring	86.06	44	P	P	11 19 37.3	+0.7
	baz=229,SNR=36						
TPNV	Topopah Spring	86.06	44	eP	P	11 19 37.5	+0.9
TPNV				pmax	pmax		
	comp=Z,53nm,1.1s						
TPNV	Topopah Spring	86.06	44	eP	P	11 19 37.5	+0.9
	comp=Z,53nm,1.1s						
HUMO	Hull Mountain	86.11	36	eP	P	11 19 37.6	+1.1
	comp=Z,125nm,1.5s						
M04C	Macdoel	86.12	37	P	P	11 19 37.4	+0.7
	baz=226,SNR=18						
Y14A	Wickenburg	86.20	48	eP	P	11 19 38.0	+0.8
	comp=Z,221nm,1.0s						
W13A	Hualapai Mount	86.36	47	eP	P	11 19 39.2	+1.0
	comp=Z,50nm,1.3s						
SHPR	Sheep Range	86.45	45	eP	P	11 19 39.3	+0.8
	comp=Z,67nm,1.4s						
NJ2	Nanjing	86.48	309	eP	P	11 19 39.8	+1.3
NJ2				sP	sP	11 19 54.3	+1.2
NJ2				pmax	pmax		
	comp=Z,54nm,1.5s						
TUC	Tucson	86.69	50	P	P	11 19 41.0	+1.3
	baz=233						
TUC	Tucson	86.69	50	eP	P	11 19 41.0	+1.3
TUC				pmax	pmax		
	comp=Z,65nm,1.0s						
TUC				MLR	MLR		
	comp=Z,1µm,19.0s						
TUC	Tucson	86.69	50	eP	P	11 19 41.0	+1.3
	comp=Z,65nm,1.0s						
TUC				LR	LR		
	comp=Z,1µm,19.0s						
I03D	Drain, OR	86.69	35	P	P	11 19 40.2	+1.0
	baz=224,SNR=6.2						
KULM	Kulim	86.70	278	eP	P	11 19 41.1	+1.1
	comp=Z,153nm,1.4s						
KULM				LR	LR		
	comp=Z,409nm,19.0s						
USRK	Ussuriysk Ar.	86.72	325	P	P	11 19 40.5	+1.1
	comp=Z,48nm,1.0s,baz=136,slow=3.4,SNR=58						
USRK				LR	LR	11 52 52.0	
	comp=Z,397nm,21.4s,baz=125,slow=32						
K04D	Chiloquin, OR	86.75	37	P	P	11 19 40.4	+0.6
	baz=226						
J04D	Umpqua Nationa	87.00	36	P	P	11 19 41.7	+0.6
	baz=225,SNR=6.3						
PSI	Prapat	87.01	275	eP	P	11 19 41.0	-0.8
PSI				pmax	pmax		
	comp=Z,163nm,1.3s						
PSI	Prapat	87.01	275	eP	P	11 19 41.0	-0.8
	comp=Z,163nm,1.3s						
MOD	Modoc Plateau	87.03	38	eP	P	11 19 41.5	+0.3
	comp=Z,24nm,0.9s						
319A	Douglas	87.16	52	eP	P	11 19 43.1	+1.1
	comp=Z,55nm,0.9s						
HPIG		87.21	57	eP	P	11 19 42.6	+0.1
	comp=Z,22nm,1.0s						
TYV	Tymovskoe	87.22	335	eP	P	11 19 41.9	+0.3
TYV				e		11 30 16.4	
TYV				pmax	pmax		
	comp=Z,600nm,3.4s						
TYV				pmax	pmax		
	comp=Z,60nm,1.3s						
ZAIG	Zacatecas	87.

baz=224
LCMT Little Creek M 87.96 45 *e*P **P 11 19 46.8 +1.0**
comp=Z,34nm,1.1s
I05D Terrebonne, OR 88.17 36 P **P 11 19 47.2 +0.7**
baz=226,SNR=12
U15A North Rim 88.20 46 *e*P **P 11 19 48.5 +1.4**
comp=Z,162nm,1.7s
CCUT Cedar City 88.22 45 *e*P **P 11 19 48.4 +1.3**
comp=Z,34nm,1.2s
KNB Kanab 88.22 46 *e*P **P 11 19 48.3 +1.2**
KNB pmax pmax
comp=Z,83nm,1.3s
KNB Kanab 88.22 46 *e*P **P 11 19 48.3 +1.2**
comp=Z,83nm,1.3s
MDJ Mudanjiang 88.23 324 P **P 11 19 47.8 +1.1**
MDJ pP pP 11 19 57.5 +0.1
MDJ sP sP 11 20 01.0 -0.2
MDJ PP **PP 11 23 12.5 -2.1**
MDJ S **S 11 30 32.3 +3.5**
MDJ pmax pmax
comp=Z,59nm,1.1s
MDJ pmax pmax
comp=Z,420nm,6.1s
MDJ LR LR
comp=Z,190nm,21.8s
MDJ LR LR
comp=Z,200nm,20.0s
MDJ Mudanjiang 88.23 324 *e*P **P 11 19 48.0 +1.3**
comp=Z,66nm,1.0s
MDJ LR LR
comp=Z,381nm,20.0s
WUAZ Wupatki 88.23 48 P **P 11 19 48.0 +0.9**
baz=232
WUAZ Wupatki 88.23 48 *e*P **P 11 19 48.3 +1.1**
comp=Z,94nm,1.4s
WUAZ *e*pP **sP 11 20 01.9 +0.2**
WUAZ LR LR
comp=Z,627nm,20.0s
WVOR Wild Horse Val 88.30 39 *e*P **P 11 19 47.5 +0.2**
WVOR pmax pmax
comp=Z,35nm,1.2s
WVOR MLR MLR
comp=Z,2μm,19.0s
WVOR Wild Horse Val 88.30 39 *e*P **P 11 19 47.5 +0.2**
comp=Z,35nm,1.2s
WVOR LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 88.36 12 P **P 11 19 47.4 +0.5**
comp=Z,31nm,1.1s,baz=264,slow=7.1,SNR=4.8
SZCU Shurtz Canyon 88.42 45 *e*P **P 11 19 49.3 +1.2**
comp=Z,74nm,1.5s
HABR Khabarovsk 88.43 330 *e*P **P 11 19 46.3 -1.2**
HABR *e**PP **pP 11 19 56.9 -1.3**
HABR *e**SP **sP 11 20 01.1 -0.9**
HABR *e* 11 23 14.0
HABR S **SKSac 11 30 11.6 -2.0**
HABR *e* 11 30 34.4
HABR *e*SS **SS 11 36 19.6 -2.2**
HABR *e*SSS SSS 11 39 55.0
HABR pmax pmax
comp=Z,620nm,2.3s
HABR pmax pmax
comp=Z,181nm,1.1s
HABR MLR MLR
comp=Z,181nm,17.0s
LCO Las Campanas 88.43 122 PFAKE 11 20 00.0 +11
LCO LR LR
comp=Z,603nm,19.0s
F04D Rainier, OR 88.56 34 P **P 11 19 49.5 +1.3**
baz=224
X18A Snowflake 88.57 49 *e*P **P 11 19 50.1 +1.3**
comp=Z,122nm,1.8s
E03A Lebam 88.62 33 *e*P **P 11 19 49.8 +1.4**
comp=Z,91nm,1.2s
WHN Wuhan 88.73 306 ⇑P **P 11 19 51.0 +1.6**
WHN S **S 11 30 36.5 +2.3**
WHN LR LR
comp=Z,900nm,21.6s
F04A Amboy 88.74 34 *e*P **P 11 19 49.9 +0.9**
comp=Z,168nm,1.6s
G05D Wamic, OR 88.81 35 P **P 11 19 49.5 +0.1**
baz=226
PKCU Pink Cliffs 88.81 46 *e*P **P 11 19 52.0 +2.0**
comp=Z,38nm,1.2s
121A Cookes Peak, D 88.87 52 P **P 11 19 51.3 +1.1**
baz=235
DL2 Dalian 88.90 316 P **P 11 19 51.3 +1.3**
DL2 S **S 11 30 40.0 +4.6**
DL2 pmax pmax
comp=Z,92nm,1.3s
DL2 pmax pmax
comp=Z,460nm,7.7s
DL2 LR LR
comp=Z,230nm,16.7s
DL2 LR LR
comp=Z,380nm,17.7s
DL2 LR LR
comp=Z,610nm,17.0s
J08A Circle Bar Ran 89.01 38 *e*P **P 11 19 50.8 +0.3**
comp=Z,40nm,1.2s
W18A Petrified Fore 89.06 49 P **P 11 19 52.1 +1.0**
baz=233
W18A Petrified Fore 89.06 49 *e*P **P 11 19 52.6 +1.5**
comp=Z,96nm,1.4s
W18A *e*pP **sP 11 20 07.6 +2.0**
NLWA Neilton Lookou 89.08 32 *e*P **P 11 19 52.3 +1.6**
comp=Z,64nm,1.3s
NLWA LR LR
comp=Z,1μm,20.0s
G06A Carlson Farm, 89.15 36 *e*P **P 11 19 51.5 +0.4**
comp=Z,238nm,1.9s
MTPU Mount Pierson 89.26 45 *e*P **P 11 19 53.8 +1.6**
comp=Z,97nm,1.5s
TRQA Tornquist 89.38 134 *e*P **P 11 19 53.3 +0.7**
comp=Z,69nm,1.4s
TRQA LR LR
comp=Z,1μm,21.0s
MSU Marysvale 89.55 45 *e*P **P 11 19 54.7 +1.4**
MSU Marysvale 89.55 45 *e*P **P 11 19 54.7 +1.4**
GL2 New Goldendale 89.56 35 P **P 11 19 54.2 +1.2**
SNY Shenyang 89.61 319 ⇓P **P 11 19 53.5 +0.3**
SNY pmax pmax
comp=Z,38nm,1.1s
SNY pmax pmax
comp=Z,510nm,6.8s
SNY LR LR
comp=Z,210nm,14.2s
SNY LR LR
comp=Z,260nm,18.5s
SNY LR LR
comp=Z,280nm,16.7s
LON Longmire 89.62 34 *e*P **P 11 19 53.4 +0.2**
LON pmax pmax
comp=Z,114nm,1.9s
LON Longmire 89.62 34 *e*P **P 11 19 53.4 +0.2**
comp=Z,114nm,1.9s
D05A Enumclaw 89.84 33 *e*P **P 11 19 55.9 +1.7**
comp=Z,200nm,1.2s
CN2 Changchun 89.86 322 *e*P **P 11 19 55.0 +0.7**
CN2 *es*P sP 11 20 09.5 +0.6
CN2 *e*S **S 11 30 43.8 -0.3**
CN2 pmax pmax
comp=Z,90nm,1.1s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,300nm,25.0s
TRW Toppenish Ridg 89.93 35 P **P 11 19 55.5 +0.8**
TX31 Lajitas Ar. Si 90.00 56 *e*P **P 11 19 56.1 +0.6**
TXAR Lajitas Array 90.00 56 P **P 11 19 56.0 +0.5**
comp=Z,19nm,1.0s,baz=212,slow=6.8,SNR=97
TXAR LR LR 11 52 47.3
comp=Z,403nm,19.8s,baz=0.0,slow=31
MNTX Cornudas Mount 90.07 54 P **P 11 19 56.1 +0.4**
baz=236,SNR=27
MNTX Cornudas Mount 90.07 54 *e*P **P 11 19 56.1 +0.4**
comp=Z,29nm,1.2s
MNTX LR LR
comp=Z,543nm,19.0s
DUG Dugway, Tooele 90.20 43 P **P 11 19 56.3 +0.1**
baz=232
DUG Dugway, Tooele 90.20 43 *e*P **P 11 19 56.9 +0.7**
DUG pmax pmax
comp=Z,29nm,1.6s
DUG MLR MLR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 90.20 43 *e*P **P 11 19 56.9 +0.7**
comp=Z,29nm,1.6s
DUG LR LR
comp=Z,1μm,20.0s
PATY Pattaya 90.21 285 P **P 11 19 59.6 +2.9**
comp=Z,29nm,1.0s,comp=Z,793nm
KHON Khomkaen 90.24 288 P **P 11 19 59.1 +2.4**
comp=Z,31nm,1.1s
CNPM China Poot 90.25 12 *e*P **P 11 19 56.6 +0.8**
comp=Z,93nm,1.1s
HOPE Hope Point 90.28 158 *e*P **P 11 19 57.5 +1.1**
comp=Z,77nm,0.9s
HOPE LR LR
comp=Z,652nm,20.0s
Y22D IRIS PASSCAL I 90.34 51 P **P 11 19 58.0 +1.0**
baz=235
Y22D IRIS PASSCAL I 90.34 51 *e*P **P 11 19 58.2 +1.1**
comp=Z,47nm,1.0s
LAZ Ladron 90.38 50 *e*P **P 11 19 58.1 +0.8**
Q16A Castle Valley 90.42 45 *e*P **P 11 19 57.3 -0.1**
comp=Z,27nm,1.3s
E07A Sunnyside 90.46 35 *e*P **P 11 19 58.1 +1.0**
comp=Z,107nm,1.0s
KLR Kul'dur 90.46 329 P **P 11 19 58.2 +1.2**
comp=Z,2.6nm,1.0s,baz=126,slow=2.7,SNR=43
MFID Camas Ranch 90.50 39 *e*P **P 11 19 57.8 +0.3**
comp=Z,85nm,1.7s
NLU North Lily Min 90.50 44 *e*P **P 11 19 58.4 +0.7**
comp=Z,17nm,1.2s
BENWA Benson Ranch 90.50 35 P **P 11 19 58.1 +0.8**
HAWA Hanford 90.51 35 *e*P **P 11 19 58.0 +0.7**
comp=Z,83nm,1.1s
HAWA LR LR
comp=Z,1μm,19.0s
BGU Big Grassy Mou 90.52 42 *e*P **P 11 19 58.4 +0.6**
comp=Z,39nm,1.6s
LTY Liberty 90.53 34 *e*P **P 11 19 57.8 +0.3**
comp=Z,62nm,1.3s
BRLK Bradley Lake 90.53 12 *e*P **P 11 19 58.0 +0.9**
comp=Z,82nm,1.1s
MDW Midway 90.54 35 *e*P **P 11 19 58.3 +0.8**
MDW Midway 90.54 35 *e*P **P 11 19 58.3 +0.8**
B05A Bryant 90.55 33 P **P 11 19 58.3 +0.9**
baz=225,SNR=17
A04D Lummi Island 90.58 32 P **P 11 19 58.7 +1.2**
baz=225,SNR=7.3
BNM Barren Site 90.58 51 *e*P **P 11 19 59.0 +0.7**
GBB Gable Butte 90.61 35 P **P 11 19 58.5 +0.7**
TMUT Trail Mountain 90.63 45 *e*P **P 11 19 59.4 +1.0**
comp=Z,38nm,1.2s
BMO Blue Mountains 90.63 37 *e*P **P 11 19 58.0 -0.1**
BMO pmax pmax
comp=Z,96nm,1.8s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 90.63 37 *e*P **P 11 19 58.0 -0.1**
comp=Z,96nm,1.8s
BMO LR LR
comp=Z,1μm,20.0s
LPM Los Pinos Moun 90.67 51 *e*P **P 11 19 59.9 +1.2**
MPU Maple Canyon 90.80 44 *e*P **P 11 19 60.0 +0.8**
comp=Z,17nm,1.2s
E08A Dider Farm, El 90.81 35 *e*P **P 11 19 59.2 +0.5**
comp=Z,43nm,1.1s
LNIG Linares 90.81 62 *e*P **P 11 19 58.7 -0.6**
comp=Z,82nm,1.3s
RSO Redoubt South 90.85 11 *e*P **P 11 19 58.9 +0.1**
C06D Leavenworth 90.88 33 P **P 11 19 59.2 +0.1**
baz=226
SRU San Rafael Swe 90.94 45 *e*P **P 11 20 00.7 +0.9**
SRU pmax pmax
comp=Z,49nm,1.3s
SRU San Rafael Swe 90.94 45 *e*P **P 11 20 00.7 +0.9**
comp=Z,48nm,1.3s
SVW2 Sparrevohn 91.00 10 *e*P **P 11 19 59.5 +0.2**
comp=Z,17nm,1.0s
B06A Marblemount 91.01 33 *e*P **P 11 20 00.3 +0.7**
comp=Z,47nm,1.2s
P17A Butcher Ranch, 91.02 45 *e*P **P 11 20 01.3 +1.2**
comp=Z,47nm,1.4s
MVCO Mesa Verde 91.10 48 P **P 11 20 01.0 +0.4**
baz=234
MVCO Mesa Verde 91.10 48 *e*P **P 11 20 01.3 +0.7**
comp=Z,30nm,1.5s
MVCO LR LR
comp=Z,812nm,19.0s
SPUT South Promonto 91.11 42 *e*P **P 11 20 01.2 +0.8**
comp=Z,46nm,1.2s
CTU Camp Tracy 91.14 43 *e*P **P 11 20 01.4 +0.7**
comp=Z,17nm,1.1s
ANMO Albuquerque 91.15 50 P **P 11 20 01.5 +0.6**
baz=235
ANMO Albuquerque 91.15 50 *de*P **P 11 20 01.5 +0.6**
ANMO pmax pmax
comp=Z,38nm,1.2s
ANMO Albuquerque 91.15 50 *e*P **P 11 20 01.4 +0.6**
comp=Z,36nm,1.1s
ANMO LR LR
comp=Z,659nm,21.0s
WTV Waterville 91.19 34 *e*P **P 11 20 00.8 +0.3**
HVU Hansel Valley 91.20 42 *e*P **P 11 20 01.4 +0.5**
HVU pmax pmax
comp=Z,100nm,1.6s
HVU Hansel Valley 91.20 42 *e*P **P 11 20 01.4 +0.5**
comp=Z,100nm,1.6s
PV05 Paradox Valley 91.22 47 *e*P **P 11 20 02.0 +0.8**
D08A Wollman Farm, 91.27 35 *e*P **P 11 20 01.6 +0.7**
comp=Z,91nm,0.9s
JLU Jordanelle 91.27 43 *e*P **P 11 20 02.0 +0.7**
comp=Z,35nm,1.5s
E09A Wood Farm, Sta 91.30 36 *e*P **P 11 20 01.7 +0.7**
comp=Z,81nm,1.0s
HLID Hailey 91.38 40 P **P 11 20 02.4 +0.7**
baz=230
HLID Hailey 91.38 40 *e*P **P 11 20 02.2 +0.5**
comp=Z,36nm,1.1s
HLID LR LR
comp=Z,1μm,19.0s
PV10 Paradox Valley 91.44 46 *e*P **P 11 20 02.4 +0.2**
PV09 Paradox Valley 91.45 46 *e*P **P 11 20 03.2 +0.9**
PV01 Paradox Valley 91.59 47 *e*P **P 11 20 03.1 +0.2**
TCUT Toone Canyon 91.61 43 *e*P **P 11 20 03.8 +0.9**
comp=Z,98nm,1.4s
SPU Mount Spurr 91.65 11 *e*P **P 11 20 01.7 -0.6**
CPRX Cap Rock 91.87 53 *e*P P 11 20 00.3 -3.8
PBKT Sadao Pong 91.90 288 P P 11 20 13.9 +9.5
B08A Colville Reser 91.94 34 *e*P **P 11 20 03.8 -0.2**
comp=Z,90nm,1.9s
RC01 Rabbit Creek A 91.98 12 *e*P **P 11 20 04.6 +0.8**
comp=Z,100nm,1.3s
C09A Chrisman Ranch 92.09 35 *e*P **P 11 20 05.3 +0.7**
comp=Z,49nm,1.1s
ENH Enshi 92.10 303 *e*P **P 11 20 06.4 +1.3**
comp=Z,191nm,1.3s
ENH LR LR
comp=Z,169nm,19.0s
MA2 Magadan 92.13 344 P **P 11 20 04.4 -0.1**
comp=Z,13nm,0.8s,baz=144,slow=3.6,SNR=6.7
MA2 Magadan 92.13 344 *ce*P **P 11 20 04.9 +0.4**
SUA Susitna One 92.14 12 *e*P **P 11 20 04.9 +0.2**
comp=Z,44nm,1.0s
NNA Nana 92.19 105 PFAKE 11 20 20.0 +14
NNA LR LR
comp=Z,250nm,20.0s
GYA Guiyang 92.23 299 *e*P **P 11 20 06.0 0.0**
GYA pP pP 11 20 16.8 +0.1
GYA PP **PP 11 23 49.3 +2.4**
GYA SKS **SKSac 11 30 35.8 -1.2**
GYA S **S 11 31 04.5 -2.3**
GYA sS pS 11 31 22.0 +1.4
GYA SS **SS 11 37 20.0 +2.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.3s
GYA LR LR
comp=Z,620nm,20.8s
GYA LR LR
comp=Z,560nm,20.0s
GYA LR LR
comp=Z,590nm,19.2s
GLI Glacier Island 92.31 14 *e*P **P 11 20 06.1 +0.8**
comp=Z,61nm,0.9s
933A Laredo 92.36 60 P **P 11 20 06.7 +0.3**
baz=239
S22A 4UR Ranch, Cre 92.49 48 P **P 11 20 07.9 +0.8**
baz=235,SNR=23
S22A 4UR Ranch, Cre 92.49 48 *e*P **P 11 20 07.9 +0.8**
comp=Z,20nm,1.0s
034A Hebbronville 92.53 61 P **P 11 20 08.0 +0.8**
baz=239
PMR Palmer 92.56 12 *e*P **P 11 20 06.6 +0.2**
PMR *e**PP **sP 11 20 19.0 -2.0**
PMR pmax pmax
comp=Z,63nm,1.3s
PMR Palmer 92.56 12 *e*P **P 11 20 06.5 +0.2**
comp=Z,63nm,1.3s
PMR *e*pP **sP 11 20 19.0 -2.0**
833A Chaparral WMA, 92.64 59 P **P 11 20 07.6 0.0**
baz=239
TT01 Tatalina 92.67 9 *e*P **P 11 20 07.6 +0.7**
UTTA Uttaradit 92.81 289 P **P 11 20 13.1 +4.4**
comp=Z,3.4nm,0.9s
DIV Divide 92.82 14 *e*P **P 11 20 08.4 +0.6**
comp=Z,47nm,1.2s
DIV *e*pP **sP 11 20 22.4 +0.1**
035A Encino 92.91 61 P **P 11 20 09.1 +0.2**
baz=239
934A Benavides 92.93 60 P **P 11 20 09.9 +0.9**
baz=239
BMRM Bremner River 92.93 15 *e*P **P 11 20 09.1 +0.9**
comp=Z,39nm,1.0s
BJT Baijiatuau 92.94 315 PFAKE 11 20 20.0 +11
BJT LR LR
comp=Z,300nm,20.0s
BJI Beijing 92.95 315 P **P 11 20 09.0 +0.2**
BJI PP **PP 11 23 51.0 -1.1**
BJI S **S 11 31 13.5 +1.2**
BJI sS **sS 11 31 29.0 -1.1**
BJI SS **SS 11 37 28.0 +0.5**
BJI pmax pmax
comp=Z,30nm,1.1s
BJI pmax pmax
comp=Z,370nm,6.0s
BJI LR LR
comp=Z,230nm,22.1s
BJI LR LR
comp=Z,110nm,19.5s
BJI LR LR
comp=Z,390nm,31.6s
O20A White River Ci 92.97 45 P **P 11 20 09.2 0.0**
baz=234,SNR=5.9
O20A White River Ci 92.97 45 *e*P **P 11 20 09.6 +0.4**
comp=Z,13nm,0.9s
O20A *e*pP **sP 11 20 27.5 +3.8**
NEW Newport 92.98 35 P **P 11 20 08.7 -0.1**
baz=229
NEW Newport 92.98 35 *e*P **P 11 20 08.9 +0.1**
NEW pmax pmax
comp=Z,31nm,1.5s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 92.98 35 *e*P **P 11 20 08.9 +0.1**
comp=Z,31nm,1.5s
NEW LR LR
comp=Z,2μm,19.0s
MCMT McKenzie Canyo 93.05 39 *e*P **P 11 20 10.0 +0.5**
CRQM Cirque 93.08 15 *e*P **P 11 20 10.1 +1.0**
comp=Z,34nm,1.0s
SCM Sheep Creek Mo 93.13 13 *e*P **P 11 20 10.1 +0.9**
SCM pmax pmax
comp=Z,46nm,1.0s
SCM Sheep Creek Mo 93.13 13 *e*P **P 11 20 10.1 +0.9**
comp=Z,46nm,1.0s
MSTX Muleshoe 93.15 53 P **P 11 20 09.9 -0.1**
baz=237,SNR=22
MSTX Muleshoe 93.15 53 *e*P **P 11 20 10.1 +0.1**
comp=Z,37nm,1.0s
MSTX *e*pP **sP 11 20 23.9 -0.8**
TGL Tana Glacier 93.15 16 *e*P **P 11 20 10.4 +1.0**
comp=Z,49nm,1.1s
NANT Nan 93.20 290 P **P 11 20 12.7 +2.2**
comp=Z,7.1nm,1.0s
LVC Limon Verde 93.21 118 *e*P **P 11 20 12.4 +1.4**
comp=Z,32nm,1.3s
LVC LR LR
comp=Z,753nm,20.0s
SMCO Snowmass 93.22 47 *e*P **P 11 20 11.2 +0.7**
comp=Z,23nm,1.1s
REDW Red Top Meadow 93.30 42 *e*P **P 11 20 11.1 +0.4**
comp=Z,58nm,1.1s
REDW *e*pP **sP 11 20 25.1 -0.1**
TPAW Teton Pass 93.31 41 *e*P **P 11 20 11.2 +0.4**
comp=Z,41nm,1.3s
TPAW *e*pP **sP 11 20 27.6 +2.3**
FXWY Fox Creek 93.36 41 *e*P **P 11 20 11.7 +0.8**
comp=Z,26nm,1.1s
SDCO Great Sand Dun 93.36 48 P **P 11 20 11.3 +0.1**
baz=236,SNR=13
SDCO Great Sand Dun 93.36 48 *e*P **P 11 20 11.3 +0.1**
comp=Z,13nm,1.1s
SDCO LR LR
comp=Z,405nm,19.0s
SNOW Snow King Moun 93.41 41 *e*P **P 11 20 11.8 +0.6**
comp=Z,47nm,0.9s
JCT Junction City 93.45 57 P **P 11 20 11.1 -0.3**
baz=239
JCT Junction City 93.45 57 *e*P **P 11 20 11.3 -0.1**
JCT pmax pmax
comp=Z,34nm,1.2s
JCT MLR MLR
comp=Z,663nm,20.0s
JCT Junction City 93.45 57 *e*P **P 11 20 11.3 -0.1**
comp=Z,34nm,1.2s
JCT LR LR
comp=Z,663nm,20.0s
BALM Baldy 93.51 16 *e*P **P 11 20 12.1 +1.1**
BALM pmax pmax
comp=Z,41nm,1.2s
BALM Baldy 93.51 16 *e*P **P 11 20 12.1 +1.1**
comp=Z,41nm,1.2s
DLMT Dillon 93.52 39 *e*P **P 11 20 12.0 +0.5**
comp=Z,34nm,1.1s
MHTCO State Highway 93.56 49 *e*P **P 11 20 12.5 +0.6**
comp=Z,16nm,1.3s
IMW Indian Meadow 93.57 41 *e*P **P 11 20 12.4 +0.5**
comp=Z,36nm,1.1s
LOHW Long Hollow 93.59 41 *e*P **P 11 20 12.3 +0.3**
comp=Z,40nm,1.4s
MOOW Moose Ponds 93.59 41 *e*P **P 11 20 12.2 +0.2**
comp=Z,38nm,1.5s
PB01 IPOC Station P 93.60 116 *e*P **P 11 20 13.5 +1.0**
comp=Z,22nm,1.3s
BW06 Boulder Array 93.70 43 P **P 11 20 12.3 -0.2**
baz=234,SNR=9.3
BW06 Boulder Array 93.70 43 *e*P **P 11 20 12.5 0.0**
comp=Z,9.0nm,1.0s
BW06 LR LR
comp=Z,1μm,19.0s
PD31 Pinedale Array 93.70 43 *e*P **P 11 20 12.5 0.0**
PDAR Pinedale Array 93.70 43 P **P 11 20 12.1 -0.4**
comp=Z,5.8nm,0.9s,baz=219,slow=4.0,SNR=31
PDAR LR LR 11 55 51.6
comp=Z,1μm,19.9s,baz=246,slow=31
MSO Missoula 93.70 37 P **P 11 20 11.7 -0.6**
baz=231,SNR=6.9
MSO Missoula 93.70 37 *e*P **P 11 20 12.1 -0.2**
comp=Z,20nm,1.3s
T25A Trinidad 93.75 49 P **P 11 20 12.7 -0.1**
baz=236,SNR=5.6
T25A Trinidad 93.75 49 *e*P **P 11 20 13.4 +0.6**
comp=Z,24nm,1.2s
QLMT Earthquake Lak 93.85 40 *e*P **P 11 20 14.3 +1.1**
YPP Pitchstone Pla 93.87 41 *e*P **P 11 20 14.6 +1.3**
comp=Z,15nm,1.2s
LRM Limekiln Ridge 93.89 39 *e*P **P 11 20 13.9 +0.6**
YHB Horse Butte 93.94 40 *e*P **P 11 20 14.0 +0.5**
comp=Z,26nm,1.0s
LAMP Lampang 93.95 289 P **P 11 20 16.4 +2.5**
comp=Z,7.9nm,1.0s,comp=Z,66nm
YFT Old Faithful 93.96 41 *e*P **P 11 20 15.8 +2.2**
comp=Z,25nm,1.0s
YMR Madison River 94.02 40 *e*P **P 11 20 15.1 +1.2**
comp=Z,64nm,1.2s
TIY Taiyuan 94.05 311 *e*P **P 11 20 13.3 -0.7**
TIY SKS **SKSac 11 30 48.0 +1.6**
TIY S **S 11 31 21.8 -0.5**
TIY sS **pS 11 31 33.3 -2.8**
TIY pmax pmax
comp=Z,220nm,5.1s
TIY LR LR

comp=Z,150nm,5.5s
TIY LR LR
comp=Z,420nm,18.2s
TIY LR LR
comp=Z,280nm,19.0s
H17A Grant Village 94.08 41 P **P 11 20 15.7 +1.5**
baz=233,SNR=13
H17A Grant Village 94.08 41 *e*P **P 11 20 16.2 +2.0**
comp=Z,26nm,1.0s
CHMT Chamberlain Mo 94.13 38 *e*P **P 11 20 14.1 -0.2**
PB11 IPOC Station P 94.15 115 *e*P **P 11 20 15.4 +0.3**
comp=Z,22nm,1.1s
YHH Holmes Hill 94.15 40 *e*P **P 11 20 15.5 +0.9**
comp=Z,46nm,1.3s
SLMT Seeley Lake 94.20 37 *e*P **P 11 20 14.1 -0.5**
BOZ Bozeman (W) 94.20 39 P **P 11 20 15.0 +0.3**
baz=232,SNR=41
BOZ Bozeman (W) 94.20 39 *e*P **P 11 20 15.2 +0.6**
BOZ pmax pmax
comp=Z,40nm,1.0s
BOZ MLR MLR
comp=Z,995nm,19.0s
BOZ Bozeman (W) 94.20 39 *e*P **P 11 20 15.2 +0.6**
comp=Z,40nm,1.0s
BOZ LR LR
comp=Z,995nm,19.0s
YNR Norris Junctio 94.21 41 *e*P **P 11 20 16.5 +1.7**
comp=Z,28nm,1.2s
Q24A Divide 94.27 48 P **P 11 20 15.6 +0.2**
baz=236
Q24A Divide 94.27 48 *e*P **P 11 20 16.2 +0.9**
comp=Z,20nm,1.3s
LKWY Lake 94.28 41 *e*P **P 11 20 17.1 +1.9**
LKWY pmax pmax
comp=Z,33nm,1.0s
LKWY MLR MLR
comp=Z,2μm,20.0s
LKWY Lake 94.28 41 *e*P **P 11 20 17.1 +1.9**
comp=Z,33nm,1.0s
LKWY LR LR
comp=Z,2μm,20.0s
RND Reindeer 94.28 12 *e*P **P 11 20 14.6 +0.1**
RND pmax pmax
comp=Z,44nm,1.0s
RND Reindeer 94.28 12 *e*P **P 11 20 14.6 +0.1**
comp=Z,44nm,1.0s
AMTX Amarillo 94.40 53 P **P 11 20 15.5 -0.2**
baz=238
AMTX Amarillo 94.40 53 *e*P **P 11 20 15.5 -0.2**
comp=Z,20nm,1.2s
ISCO Idaho Springs 94.44 47 P **P 11 20 15.6 -0.5**
baz=236
ISCO Idaho Springs 94.44 47 *e*P **P 11 20 16.6 +0.6**
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO MLR MLR
comp=Z,765nm,21.0s
ISCO Idaho Springs 94.44 47 *e*P **P 11 20 16.6 +0.6**
comp=Z,6.1nm,1.0s
ISCO LR LR
comp=Z,765nm,21.0s
XAN Xi'an 94.49 306 P **P 11 20 17.3 +1.2**
XAN pP pP 11 20 28.0 +1.2
XAN sP sP 11 20 31.8 +1.1
XAN SKS **SKSac 11 30 49.8 +0.9**
XAN S **ScS 11 31 30.3 +2.9**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,120nm,19.7s
XAN LR LR
comp=Z,290nm,19.0s
XAN LR LR
comp=Z,440nm,18.4s
RWWY Rawlins 94.50 44 *e*P **P 11 20 16.2 0.0**
comp=Z,34nm,1.3s
CMAR Chiang Mai Arr 94.50 288 P **P 11 20 18.4 +2.0**
comp=Z,6.1nm,1.0s,baz=137,slow=3.2,SNR=35
CMAR PP **PP 11 24 04.1 -0.6**
comp=Z,2.3nm,1.0s,baz=132,slow=6.3,SNR=5.3
CMAR LR LR 12 01 22.5
comp=Z,128nm,21.9s,baz=85,slow=35
MNMC Minye Minye 94.53 115 *e*P **P 11 20 17.9 +0.9**
comp=Z,37nm,1.5s
PAX Paxson 94.54 13 *e*P **P 11 20 16.0 +0.3**
PAX pmax pmax
comp=Z,15nm,1.2s
PAX Paxson 94.54 13 *e*P **P 11 20 16.0 +0.3**
comp=Z,15nm,1.2s
MCK McKinley 94.57 12 *e*P **P 11 20 15.9 +0.2**
MCK pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 94.57 12 *e*P **P 11 20 15.9 +0.2**
comp=Z,27nm,1.0s
KMI Kunming 94.62 296 P **P 11 20 19.5 +2.3**
KMI pmax pmax
comp=Z,20nm,1.7s
KMI LR LR
comp=Z,220nm,19.2s
KMI LR LR
comp=Z,130nm,21.0s
KMI LR LR
comp=Z,310nm,24.0s
CHTO Chiang Mai 94.67 289 P **P 11 20 19.0 +1.8**
comp=Z,86nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 94.67 289 *e*P **P 11 20 17.9 +0.7**
CHTO pmax pmax
comp=Z,24nm,1.3s
CHTO MLR MLR
comp=Z,217nm,20.0s
CHTO Chiang Mai 94.67 289 *e*P **P 11 20 17.9 +0.7**
comp=Z,24nm,1.3s
CHTO LR LR
comp=Z,217nm,20.0s
ABTX Abilene, Hawle 94.67 55 P **P 11 20 16.6 -0.3**
baz=239
ABTX Abilene, Hawle 94.67 55 *e*P **P 11 20 16.9 0.0**
comp=Z,28nm,1.3s
SEY Seymchan 94.73 346 P **P 11 20 16.9 +0.5**
comp=Z,42nm,1.0s,baz=142,slow=5.4,SNR=25
HRY Holter Researc 94.77 38 *e*P **P 11 20 17.8 +0.6**
N23A Red Feather La 94.84 46 P **P 11 20 17.8 0.0**
baz=236
N23A Red Feather La 94.84 46 *e*P **P 11 20 18.4 +0.5**
comp=Z,7.8nm,1.0s
MENT Mentasta 94.88 14 *e*P **P 11 20 17.9 +0.8**
comp=Z,12nm,0.9s
CMAI Chiengmai2 95.11 290 P **P 11 20 22.3 +2.9**
WALA Waterton Lakes 95.12 36 *e*P **P 11 20 18.0 -0.7**
comp=Z,17nm,1.1s
RLMT Red Lodge 95.26 41 P **P 11 20 20.1 +0.5**
baz=234,SNR=9.9
RLMT Red Lodge 95.26 41 *e*P **P 11 20 20.1 +0.5**
comp=Z,16nm,1.0s
RLMT LR LR
comp=Z,1μm,19.0s
WRH Wood River Hil 95.40 12 *e*P **P 11 20 19.7 +0.3**
comp=Z,39nm,0.9s
GCMT Greycliff 95.42 40 *e*P **P 11 20 21.1 +0.9**
DOT Dot Lake 95.43 14 *e*P **P 11 20 20.1 +0.4**
comp=Z,35nm,0.9s
K22A Casper 95.46 44 P **P 11 20 20.5 0.0**
baz=236,SNR=9.4
K22A Casper 95.46 44 *e*P **P 11 20 20.8 +0.3**
comp=Z,21nm,0.9s
CCB Clear Creek Bu 95.61 12 *e*P **P 11 20 20.0 -0.4**
comp=Z,20nm,0.9s
COLA College 95.81 12 *e*P **P 11 20 21.4 +0.2**
COLA pmax pmax
comp=Z,31nm,0.9s
COLA MLR MLR
comp=Z,369nm,19.0s
COLA College 95.81 12 *e*P **P 11 20 21.4 +0.2**
comp=Z,31nm,0.9s
COLA LR LR
comp=Z,369nm,19.0s
MDM Murphy Dome 95.82 11 *e*P **P 11 20 21.3 0.0**
comp=Z,29nm,1.0s
ILAR Eielson Array 95.89 12 P **P 11 20 21.4 -0.3**
comp=Z,7.9nm,0.8s,baz=218,slow=5.4,SNR=68
ILAR PP **PP 11 24 09.8 -4.7**
comp=Z,4.2nm,1.1s,baz=216,slow=7.3,SNR=6.1
ILAR LR LR 11 58 01.5
comp=Z,175nm,19.1s,baz=192,slow=32
ILB Eielson Array 95.89 12 *e*P **P 11 20 21.3 -0.3**
KSCO Kaye Shedlock' 95.95 49 P **P 11 20 22.6 -0.2**
baz=238

HHC Hu-ho-hao-te 96.32 313 *e*P **P 11 20 25.3 +0.9**
HHC SKS **SKSac 11 30 55.5 -3.0**
HHC S **S 11 31 43.5 +1.6**
HHC sS pS 11 31 56.3 +0.5
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,240nm,5.7s
HHC LR LR
comp=Z,240nm,19.8s
HHC LR LR
comp=Z,230nm,18.0s
HHC LR LR
comp=Z,260nm,18.6s
WMOK Wichita Mounta 96.37 54 P **P 11 20 24.1 -0.6**
baz=239
HIA Hailar 96.37 324 *e*P **P 11 20 23.6 -0.7**
HIA pmax pmax
comp=Z,4.0nm,1.0s
HIA Hailar 96.37 324 PFAKE 11 20 40.0 +16
HIA LR LR
comp=Z,381nm,19.0s
CD2 Chengdu 96.67 301 P **P 11 20 27.5 +1.4**
CD2 S **S 11 31 49.5 +4.2**
CD2 SS **SS 11 38 26.0 +5.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,340nm,7.4s
CD2 LR LR
comp=Z,410nm,15.9s
CD2 LR LR
comp=Z,310nm,17.9s
CD2 LR LR
comp=Z,250nm,20.9s
EGMT Eagleton 96.69 38 P **P 11 20 26.0 +0.2**
baz=234
EGMT Eagleton 96.69 38 PFAKE 11 20 40.0 +14
EGMT LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 96.74 93 PFAKE 11 20 40.0 +13
OTAV LR LR
comp=Z,318nm,19.0s
136A Ennis 96.86 57 P **P 11 20 26.5 -0.4**
baz=240
U32A Winter Ranch, 97.04 52 P **P 11 20 27.7 0.0**
baz=240
EGAK Eagle 97.04 14 PFAKE 11 20 40.0 +13
EGAK LR LR
comp=Z,735nm,19.0s
LPAZ La Paz 97.23 113 P Pdif 11 20 31.1 +1.3
comp=Z,1.6nm,0.8s,baz=208,slow=4.7,SNR=4.9
LPAZ LR LR 11 55 30.6
comp=Z,110nm,19.0s,baz=230,slow=30
LPAZ La Paz 97.23 113 *e*P **P 11 20 30.6 +0.8**
comp=Z,11nm,1.5s
BILL Bilibino 97.34 353 *d i*P **P 11 20 28.1 -0.1**
BILL *i* 11 24 21.8
BILL pmax pmax
comp=Z,22nm,1.2s
BILL MLR MLR
comp=Z,328nm,19.0s
OGNE Ogallala 97.35 47 PFAKE 11 20 40.0 +11
OGNE LR LR
comp=Z,860nm,19.0s
X35A Drake 97.49 55 P **P 11 20 29.2 -0.5**
baz=240
COLD Coldfoot 97.59 10 *e*P **P 11 20 30.1 +0.8**
comp=Z,7.4nm,1.2s
CBKS Cedar Bluff 97.77 50 PFAKE 11 20 40.0 +9.0
CBKS LR LR
comp=Z,635nm,19.0s
RSSD Black Hills 97.79 44 P **P 11 20 31.2 0.0**
baz=237
RSSD Black Hills 97.79 44 *e*P **P 11 20 31.1 0.0**
RSSD pmax pmax
comp=Z,36nm,1.0s
RSSD Black Hills 97.79 44 *e*P **P 11 20 31.1 0.0**
comp=Z,36nm,1.0s
LAO LASA Array 97.90 41 P **P 11 20 32.0 +0.7**
baz=236
LAO LASA Array 97.90 41 *e*P Pdif 11 20 32.6 +1.2
comp=Z,85nm,1.8s
LAO LR LR
comp=Z,1μm,20.0s
NATX Nacogdoches 97.90 58 PFAKE 11 20 40.0 +8.3
NATX LR LR
comp=Z,692nm,19.0s
X36A Centrahoma 98.02 55 P **P 11 20 31.7 -0.4**
baz=241
TOLK Toolik Lake Re 98.99 10 P **P 11 20 36.1 +0.5**
baz=203
LZH Lanzhou 99.11 306 *e*P **Pdif 11 20 38.5 +1.3**
LZH pP pP 11 20 48.0 +0.1
LZH sP sP 11 20 53.0 +1.2
LZH SKS **SKSac 11 31 12.0 -1.1**
LZH S **S 11 32 05.3 -0.8**
LZH sS pS 11 32 16.0 -4.0
LZH pmax pmax
comp=Z,28nm,1.3s
LZH pmax pmax
comp=Z,200nm,4.9s
LZH LR LR
comp=Z,160nm,16.5s
LZH LR LR
comp=Z,150nm,18.1s
LZH LR LR
comp=Z,360nm,19.5s
CPUP Villa Florida 99.65 127 LR LR 11 57 51.2
comp=Z,587nm,21.2s,baz=231,slow=31
BCIP Isla Barro Col 99.72 85 PFAKE 11 20 50.0 +10
BCIP LR LR
comp=Z,382nm,20.0s
U37A Salina 99.78 54 P **Pdif 11 20 38.4 -1.5**
baz=242
DGMT Dagmar 100.02 40 PFAKE 11 20 50.0 +9.3
DGMT LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 100.02 56 P **Pdif 11 20 40.0 -1.0**
baz=242
MIAR Mount Ida 100.02 56 PFAKE 11 20 50.0 +9.0
MIAR LR LR
comp=Z,639nm,19.0s
KSU1 Kansas State U 100.03 51 PFAKE 11 20 50.0 +9.1
KSU1 LR LR
comp=Z,871nm,19.0s
BGNE Belgrade 100.11 48 P **Pdif 11 20 40.4 -0.9**
baz=241
YAK Yakutsk 100.35 337 P **Pdif 11 20 40.9 -0.9**
comp=Z,4.5nm,0.4s,baz=110,slow=5.6,SNR=4.1
YAK Yakutsk 100.35 337 *e*P **Pdif 11 20 37.9 -3.8**
YAK *e* 11 24 44.4
YAK *e*PS **PS 11 33 45.2 -3.6**
YAK *e*SS SS 11 39 09.8 -1.3
YAK *e*SSS SSS 11 42 59.7
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,180nm,2.3s
YAK pmax pmax
comp=E,65nm,2.5s
YAK pmax pmax
comp=N,90nm,2.5s
YAK MLR MLR
comp=Z,381nm,20.0s
YAK MLR MLR
comp=N,336nm,18.0s
YAK Yakutsk 100.35 337 P **Pdif 11 20 40.9 -0.9**
YAK LR LR
comp=Z,460nm,19.0s
INK Inuvik 101.68 15 P **Pdif 11 20 45.0 -2.5**
comp=Z,1.1nm,0.3s,baz=130,slow=28,SNR=14
INK Inuvik 101.68 15 P **Pdif 11 20 45.0 -2.5**
ECSD EROS Data Cent 102.22 47 PFAKE 11 21 00.0 +9.4
ECSD LR LR
comp=Z,744nm,20.0s
ULN Ulaanbaatar 102.68 318 PFAKE 11 21 00.0 +7.3
ULN LR LR
comp=Z,390nm,20.0s
SONM Songino Array 103.05 318 P **Pdif 11 20 53.8 -0.5**
comp=Z,0.3nm,0.3s,baz=127,slow=3.9,SNR=4.5
SONM PP **PP 11 25 06.6 -3.0**

comp=Z,1.3nm,0.9s,baz=126,slow=7.5,SNR=3.5
SCIA State Center 103.62 50 PFAKE 11 21 10.0 +13
SCIA LR LR
comp=Z,329nm,20.0s
FFC Flin Flon 104.41 35 PFAKE 11 21 10.0 +10
FFC LR LR
comp=Z,978nm,19.0s
AGMN Agassiz Nation 104.78 43 PFAKE 11 21 10.0 +8.2
AGMN LR LR
comp=Z,825nm,20.0s
DGAR Diego Garcia 105.00 253 PFAKE 11 21 10.0 +6.3
DGAR LR LR
comp=Z,443nm,20.0s
SAML Samuel 105.24 109 PFAKE 11 25 30.0
SAML LR LR
comp=Z,871nm,21.0s
HDIL Hopedale 105.72 52 PFAKE 11 25 30.0
HDIL LR LR
comp=Z,1μm,19.0s
MTDJ Mount Denham 105.75 78 PFAKE 11 25 30.0
MTDJ LR LR
comp=Z,552nm,19.0s
LSA Lhasa 105.87 295 PFAKE 11 25 30.0
LSA LR LR
comp=Z,186nm,19.0s
JFWS Jewell Farm 106.04 50 PFAKE 11 25 30.0
JFWS LR LR
comp=Z,577nm,19.0s
TLY Talaya 106.39 320 PFAKE 11 25 30.0
TLY LR LR
comp=Z,230nm,19.0s
TIXI Tiksi 107.09 344 Pdiff **Pdif 11 21 11.4 -0.1**
comp=Z,1.0nm,0.5s,baz=125,slow=3.0,SNR=4.2
TIXI PP **PP 11 25 35.9 -2.9**
comp=Z,4.7nm,0.9s,baz=122,slow=7.7,SNR=7.4
TIXI Tiksi 107.09 344 P **Pdif 11 21 11.4 -0.1**
TIXI 11 25 35.9
TIXI MLR MLR
comp=Z,404nm,20.0s
TIXI Tiksi 107.09 344 Pdif **Pdif 11 21 11.4 -0.1**
TIXI PP **PP 11 25 35.9 -2.9**
TIXI LR LR
comp=Z,404nm,20.0s
GOGA Godfrey 107.11 61 PFAKE 11 25 30.0
GOGA LR LR
comp=Z,533nm,21.0s
EYMN Ely 107.28 44 PFAKE 11 25 30.0
EYMN LR LR
comp=Z,1μm,20.0s
SDV Santo Domingo 107.66 89 PFAKE 11 25 40.0
SDV LR LR
comp=Z,267nm,20.0s
SPB Sao Paulo 108.21 131 PFAKE 11 25 40.0
SPB LR LR
comp=Z,522nm,20.0s
NHSC New Hope 109.54 62 PFAKE 11 25 40.0
NHSC LR LR
comp=Z,319nm,21.0s
ACSO Alum Creek Sta 110.04 54 PFAKE 11 25 40.0
ACSO LR LR
comp=Z,538nm,19.0s
AAM Ann Arbor 110.30 52 PFAKE 11 25 40.0
AAM LR LR
comp=Z,491nm,20.0s
SDDR Presa de Saban 111.44 80 PFAKE 11 25 40.0
SDDR LR LR
comp=Z,342nm,19.0s
CNNC Cliffs of the 112.08 61 PFAKE 11 25 40.0
CNNC LR LR
comp=Z,471nm,19.0s
WMQ Urumqi 113.54 308 PKP **PKiKP 11 25 31.5 -2.2**
WMQ LR LR
comp=Z,93nm,30.1s
WMQ LR LR
comp=Z,150nm,22.5s
WMQ LR LR
comp=Z,240nm,26.3s
SJG San Juan 115.55 83 PFAKE 11 25 50.0 +12
SJG LR LR
comp=Z,302nm,19.0s
ABPO Ambohimpanom 116.80 227 *e*PKIKP **PKPdf 11 25 42.5 +1.5**
ABPO Ambohimpanom 116.80 227 *e*PKPdf **PKPdf 11 25 42.5 +1.5**
OPO Ambohidratompo117.16 227 PKP **PKPdf 11 25 42.3 +0.7**
comp=Z,2.5nm,0.9s,baz=255,slow=8.2,SNR=3.5
SUR Sutherland 117.20 196 PKP **PKPdf 11 25 41.6 +0.1**
comp=Z,1.2nm,1.0s,baz=228,slow=5.1,SNR=4.8
LONY Lake Ozonia 117.29 52 PFAKE 11 25 50.0 +9.1
LONY LR LR
comp=Z,718nm,20.0s
ZALV Zalesovo Beam 117.91 319 PKP **PKPdf 11 25 41.2 -0.4**
comp=Z,5.9nm,0.8s,baz=180,slow=1.5,SNR=24
ZALV PP **PP 11 26 57.7 +1.3**
comp=Z,2.5nm,0.9s,baz=99,slow=4.7,SNR=4.1
MK31 Makanchi Array 118.00 310 *i* PKIKP **PKPdf 11 25 40.8 -1.4**
MK31 pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 118.00 310 *e*PKPdf **PKPdf 11 25 41.7 -0.5**
MKAR Makanchi Array 118.00 310 PKP **PKPdf 11 25 41.6 -0.6**
comp=Z,13nm,0.9s,baz=72,slow=4.0,SNR=50
MAKZ Makanchi 118.22 310 *e*PKIKP **PKPdf 11 25 42.2 -0.4**
MAKZ Makanchi 118.22 310 *e*PKPdf **PKPdf 11 25 42.2 -0.4**
FDF Fort de France 118.55 88 PFAKE 11 26 00.0 +16
FDF LR LR
comp=Z,258nm,19.0s
NRIK Noril'sk 118.78 336 PKP **PKPdf 11 25 42.7 -0.2**
comp=Z,9.1nm,0.8s,baz=108,slow=3.9,SNR=10
NRIK PP **PP 11 26 57.8 -4.2**
comp=Z,8.2nm,0.9s,baz=100,slow=6.1,SNR=5.6
NVS Novosibirsk 118.98 319 *e*PKIKP **PKPdf 11 25 43.5 -0.2**
NVS *e* 11 26 59.9
NVS pmax pmax
comp=Z,33nm,1.4s
PDGK Podgornoye 119.16 306 PKIKP **PKPdf 11 25 42.5 -2.1**
PDGK pmax pmax
comp=Z,14nm,1.0s
BOSA Boshof 119.50 201 PKP **PKPdf 11 25 47.2 +1.3**
comp=Z,8.9nm,1.0s,baz=128,slow=3.7,SNR=6.6
MSEY Mahe Island 120.44 245 PFAKE 11 26 00.0 +12
MSEY LR LR
comp=Z,437nm,19.0s
KSH Kashi 120.86 301 *e*PKP **PKPdf 11 25 49.3 +1.3**
KSH PP **PP 11 27 22.5 +5.1**
KSH PKS **PKSdf 11 29 24.5 -0.3**
KSH SKS **SKSdf 11 32 56.5 -1.2**
KSH SKKS **SKKSac 11 34 09.3 -4.9**
KSH SS **SS 11 43 50.8 +3.8**
KSH AMB AMB
comp=Z,160nm,7.3s
KSH LR LR
comp=Z,80nm,8.7s
KSH LR LR
comp=Z,85nm,6.2s
KSH LR LR
comp=Z,190nm,5.4s
PKME Peaks-Kenny Pk 121.10 52 PFAKE 11 26 00.0 +12
PKME LR LR
comp=Z,845nm,21.0s
KURK Kurchatov 121.12 314 *c i*PKIKP **PKPdf 11 25 47.1 -0.9**
KURK pmax pmax
comp=Z,272nm,1.2s
KURK Kurchatov 121.12 314 *e*PKPdf **PKPdf 11 25 47.5 -0.5**
KURK LR LR
comp=Z,504nm,19.0s
KURBB Kurchatov Arra 121.16 314 PKP **PKPdf 11 25 47.5 -0.6**
comp=Z,13nm,0.9s,baz=103,slow=2.2,SNR=83
KURBB PP **PP 11 27 20.1 +1.1**
comp=Z,4.9nm,1.1s,baz=87,slow=7.0,SNR=5.5
AAK Ala-Archa 122.60 304 PKP **PKPdf 11 25 51.3 0.0**
comp=Z,8.6nm,1.0s,baz=195,slow=3.2,SNR=11
AAK Ala-Archa 122.60 304 *d i*PKIKP **PKPdf 11 25 51.2 -0.1**
AAK pmax pmax
comp=Z,56nm,1.7s
AAK Ala-Archa 122.60 304 *e*PKPdf **PKPdf 11 25 51.7 +0.3**
AAK LR LR
comp=Z,322nm,20.0s
LBTB Lobatse 122.70 203 PKP **PKPdf 11 25 52.2 +0.1**
comp=Z,6.8nm,1.0s,baz=235,slow=6.8,SNR=4.3
LBTB Lobatse 122.70 203 *e*PKPdf **PKPdf 11 25 52.7 +0.6**
MNAS Manas 124.02 304 PKIKP **PKPdf 11 25 52.9 -1.2**
MNAS pmax pmax
comp=Z,39nm,1.2s
KBL Kabul 125.14 294 *e*PKIKP **PKPdf 11 25 56.9 +0.4**
KBL Kabul 125.14 294 *e*PKPdf **PKPdf 11 25 56.9 +0.4**
KK31 Karatay Array 125.57 304 *i* PKIKP **PKPdf 11 25 56.3 -0.5**
KK31 pmax pmax

comp=Z,29nm,1.1s
KKAR Karatay Array 125.57 304 *e*PKIKP **PKPdf 11 25 56.8 0.0**
KKAR Karatay Array 125.57 304 *e*PKPdf **PKPdf 11 25 56.8 0.0**
BVA0 Borovoye Array 126.38 317 *i* PKIKP **PKPdf 11 25 57.5 -0.5**
BVA0 pmax pmax
comp=Z,44nm,1.3s
BVAR Borovoye Array 126.38 317 PKP **PKPdf 11 25 58.3 +0.3**
comp=Z,16nm,0.9s,baz=93,slow=3.0,SNR=50
BRVK Borovoye 126.45 317 *d* PKIKP **PKPdf 11 25 57.8 -0.3**
BRVK pmax pmax
comp=Z,135nm,1.7s
BRVK Borovoye 126.45 317 *e*PKPdf **PKPdf 11 25 57.6 -0.5**
BRVK LR LR
comp=Z,130nm,20.0s
RCBR Riachuelo 128.49 125 PFAKE 11 26 10.0 +6.7
RCBR LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 129.56 358 PKIKP **PKPdf 11 26 04.0 +0.6**
KBS Kingsbay 129.56 358 PFAKE 11 26 20.0 +17
KBS LR LR
comp=Z,304nm,20.0s
SFJD Kangerlussuaq 129.73 25 PFAKE 11 26 20.0 +16
SFJD LR LR
comp=Z,463nm,19.0s
SPA0 Spitsbergen Ar 130.11 357 *e*PKPdf **PKPdf 11 26 04.4 -0.1**
SPITS Spitsbergen Ar 130.11 357 PKP **PKPdf 11 26 04.6 +0.1**
comp=Z,18nm,0.8s,baz=110,slow=7.2,SNR=5.3
LSZ Lusaka 130.42 211 PKP **PKPdf 11 26 08.3 +1.2**
comp=Z,5.7nm,0.9s,baz=152,slow=2.3,SNR=9.6
LSZ Lusaka 130.42 211 *e*PKIKP **PKPdf 11 26 08.5 +1.4**
LSZ MLR MLR
comp=Z,422nm,20.0s
LSZ Lusaka 130.42 211 *e*PKPdf **PKPdf 11 26 08.5 +1.4**
LSZ LR LR
comp=Z,422nm,20.0s
SUMG Summit 130.60 16 *i* P **PKPdf 11 26 06.0 0.0**
comp=Z,15nm,0.9s
SUMG Summit 130.60 16 *e*PKIKP **PKPdf 11 26 06.9 +0.9**
SUMG Summit 130.60 16 *e*PKPdf **PKPdf 11 26 06.9 +0.9**
TSUM Tsumeb 130.61 197 PKP **PKPdf 11 26 08.4 +1.1**
comp=Z,5.8nm,1.0s,baz=155,slow=2.2,SNR=3.7
TSUM Tsumeb 130.61 197 *e*PKPdf **PKPdf 11 26 08.3 +0.9**
TSUM LR LR
comp=Z,935nm,21.0s
WSAR Wadi Sarin 130.93 277 PKP **PKPdf 11 26 08.7 +1.1**
comp=Z,9.0nm,1.1s,baz=124,slow=3.7,SNR=6.8
SVE Sverdlovsk 131.65 322 *e*PKIKP **PKPdf 11 26 08.0 +0.1**
SVE pmax pmax
comp=Z,34nm,1.6s
ARU Arti 132.85 322 PKP **PKPdf 11 26 10.5 +0.3**
comp=Z,7.7nm,0.7s,baz=107,slow=2.5,SNR=14
ARU Arti 132.85 322 *i* PKIKP **PKPdf 11 26 09.8 -0.4**
ARU SS SS 11 46 08.9 -6.2
ARU MLR MLR
comp=Z,441nm,20.0s
ARU Arti 132.85 322 *e*PKPdf **PKPdf 11 26 10.5 +0.3**
ARU LR LR
comp=Z,481nm,20.0s
SOKR Solikamsk 132.96 326 *c* *i*PKIKP **PKPdf 11 26 09.3 -0.9**
SOKR pmax pmax
comp=Z,37nm,1.1s
AB31 Akbulak array 133.09 312 *i* PKHKP PKPpre 11 25 57.5
AB31 pmax pmax
comp=Z,13nm,1.2s
ABKAR Akbulak array 133.09 312 *e*PKPdf **PKPdf 11 26 11.3 +0.4**
UOSS Minazif 133.56 278 *e*PKPdf **PKPdf 11 26 13.2 +0.7**
AKTO Aktyubinsk 134.21 314 PKP **PKPdf 11 26 13.3 +0.4**
comp=Z,10.0nm,0.9s,baz=88,slow=2.9,SNR=20
AKTO Aktyubinsk 134.21 314 PKIKP **PKPdf 11 26 11.0 -2.0**
AKTO pmax pmax
comp=Z,16nm,1.1s
GEYT Alibeck 134.39 296 PKhKP PKPpre 11 26 05.3
comp=Z,1.9nm,0.8s,baz=259,slow=1.5,SNR=3.9
GEYT PKP **PKPdf 11 26 13.8 0.0**
comp=Z,9.2nm,0.9s,baz=48,slow=2.2,SNR=15
KMBO Kilima Mbogo 136.49 233 PKP **PKPdf 11 26 20.7 +2.0**
comp=Z,12nm,1.1s,baz=3.4,slow=0.8,SNR=14
KMBO Kilima Mbogo 136.49 233 *e*PKPdf **PKPdf 11 26 21.4 +2.8**
KMBO LR LR
comp=Z,264nm,19.0s
LVZ Lovozero 136.73 344 PFAKE 11 26 30.0 +13
LVZ LR LR
comp=Z,253nm,20.0s
KEV Kevo 136.82 349 PFAKE 11 26 30.0 +13
KEV LR LR
comp=Z,280nm,20.0s
ARCES ARCESS Array B 137.27 349 PKhKP PKPpre 11 26 11.2
comp=Z,5.8nm,0.8s,baz=66,slow=4.1,SNR=6.7
ARCES PKP **PKPdf 11 26 18.2 +0.1**
comp=Z,16nm,0.8s,baz=48,slow=1.8,SNR=13
TMCR Tamitsa 138.45 338 *e*PKIKP **PKPdf 11 26 21.6 +1.3**
TMCR pmax pmax
comp=Z,22nm,0.9s
H10S3 ASCENSION HYDR 138.46 152 T T 14 02 24.9
baz=200
H10S2 ASCENSION HYDR 138.47 152 T T 14 02 16.6
baz=200,slow=74,SNR=3.9
H10S1 ASCENSION HYDR 138.48 152 T T 14 02 22.7
baz=200,slow=74,SNR=7.0
ASCN Ascension 139.51 151 PFAKE 11 26 40.0 +16
ASCN LR LR
comp=Z,685nm,20.0s
H10N3 ASCENSION HYDR 139.53 151 T T 14 03 38.1
baz=201
H10N1 ASCENSION HYDR 139.53 151 T T 14 03 40.0
baz=201
H10N2 ASCENSION HYDR 139.55 151 T T 14 03 57.0
baz=201
KLMR Klimovskoe 140.04 334 *e*PKHKP PKPpre 11 26 16.3
KLMR pmax pmax
comp=Z,68nm,1.5s
DAMY Dhamar 140.11 258 *e*PKPdf **PKPdf 11 26 28.5 +3.2**
MAK Makhachkala 142.38 304 *i* P **Pdif 11 23 47.9 -1.2**
MAK *i* 11 26 30.2
MAK *e* 11 29 40.5
MAK *e*SS SS 11 47 58.9 -10
MAK *e*SSS SSS 11 53 30.1
MAK pmax pmax
comp=Z,44nm,0.5s
RAYN Ar Rayn 142.51 272 *e*PKPdf **PKPdf 11 26 26.9 -2.2**
RAYN LR LR
comp=Z,314nm,19.0s
MOS Moscow 143.87 328 *e*PKHKP PKPpre 11 26 26.2
MOS pmax pmax
comp=Z,154nm,1.3s
FIA1 FINESS Array S 144.10 342 *e*PKPdf **PKPab 11 26 28.3 +0.1**
FINES FINESS Array B 144.10 342 PKP **PKPab 11 26 28.8 +0.6**
comp=Z,94nm,0.9s,baz=62,slow=4.5,SNR=147
PUL Pulkovo 144.14 337 *i* PKIKP **PKPab 11 26 28.8 +0.4**
TBLG Delisi 144.59 303 P **PKPab 11 26 31.5 +0.8**
TBLG Delisi 144.59 303 PKIKP **PKPab 11 26 31.5 +0.8**
OBN Obninsk 144.72 328 PKP **PKPab 11 26 31.4 +0.8**
comp=Z,154nm,0.9s,baz=24,slow=1.2,SNR=55
OBN Obninsk 144.72 328 *d* PKIKP **PKPab 11 26 30.7 0.0**
OBN *i* 11 26 42.7
OBN *i* SS SS 11 48 31.1 -3.4
OBN pmax pmax
comp=Z,262nm,1.1s
OBN Obninsk 144.72 328 *e*PKPdf **PKPab 11 26 31.3 +0.6**
OBN LR LR
comp=Z,270nm,20.0s
GNI Garni 144.78 300 *c* *i*PKIKP **PKPab 11 26 32.5 +0.8**
GNI pmax pmax
comp=Z,280nm,1.2s
GNI Garni 144.78 300 *e*PKPdf **PKPab 11 26 32.2 +0.5**
GNI LR LR
comp=Z,304nm,20.0s
LPSR Galich'ya Gora 144.87 323 *e*PKIKP **PKPab 11 26 31.3 0.0**
LPSR pmax pmax
comp=Z,180nm,1.0s
ZEI Tsey 145.03 305 *i* PKHKP PKPpre 11 26 27.6
ZEI pmax pmax
comp=Z,55nm,1.0s
NCK Nalchik 145.11 306 *c* *i*PKIKP **PKPbc 11 26 31.3 -1.2**
GOF Gofitskoye 145.14 309 ⇓ *i*PKIKP **PKPbc 11 26 33.1 +0.6**
GOF pmax pmax
comp=Z,199nm,1.0s
ONI Oni 145.39 304 P **PKPbc 11 26 34.5 +1.0**
ONI Oni 145.39 304 PKIKP **PKPbc 11 26 34.5 +1.0**
KBZ Khabaz 145.56 306 PKPbc **PKPdf 11 26 34.5 +0.8**
comp=Z,39nm,1.0s,baz=60,slow=1.2,SNR=31
AKH Akhalkalaki 145.56 302 P **PKPab 11 26 35.6 +1.0**
AKH Akhalkalaki 145.56 302 ⇑ *i*P **PKPab 11 26 35.8 +1.3**
AKH Akhalkalaki 145.56 302 PKIKP **PKPab 11 26 35.5 +1.0**
KVAR Kislovodsk Arr 145.65 307 PKPbc **PKPdf 11 26 34.6 +0.6**
comp=Z,127nm,1.2s,baz=218,slow=0.6,SNR=30
KIV Kislovodsk 145.65 307 *d* *i*PKIKP **PKPdf 11 26 33.8 -0.2**
KIV *i* 11 26 52.7
KIV pmax pmax
comp=Z,147nm,1.0s
KIV Kislovodsk 145.65 307 *e*PKPdf **PKPdf 11 26 35.1 +1.1**
KIV LR LR
comp=Z,342nm,20.0s
NEY Neytrino 145.78 306 *i* PKIKP **PKPab 11 26 36.3 +1.0**
ARTV Artvin 146.76 302 *e*PKPbc **PKPbc 11 26 38.8 +0.8**
NC303 NORSAR Array S 147.09 353 *e*PKPbc **PKPbc 11 26 38.0 0.0**
NC204 NORSAR Array S 147.10 354 *e*PKPbc **PKPbc 11 26 38.3 +0.2**
NC405 NORSAR Array S 147.17 353 *e*PKPbc **PKPdf 11 26 37.9 +2.0**
NB201 NORSAR Array S 147.28 353 *e*PKPdf **PKPdf 11 26 38.0 +1.9**
NB2 NORSAR Subarra 147.29 354 PKP **PKPdf 11 26 38.2 +2.0**
comp=Z,120nm,1.0s,baz=12,slow=2.9
NB2 NORSAR Subarra 147.29 354 PKP **PKPdf 11 26 38.2 +2.0**
baz=12,slow=2.9
NB2 NORSAR Subarra 147.29 354 PKP2 **PKPbc 11 26 38.9 +0.4**
NOA NORSAR Array B 147.29 354 PKPbc **PKPbc 11 26 38.6 +0.1**
comp=Z,45nm,0.8s,baz=11,slow=2.6,SNR=59
NBO00 NORSAR Array S 147.34 354 *e*PKPbc **PKPbc 11 26 39.0 +0.3**
NAO01 NORSAR Array S 147.52 354 *e*PKPbc **PKPbc 11 26 39.0 -0.1**
NC602 NORSAR Array S 147.56 353 *e*PKPdf **PKPdf 11 26 38.5 +2.0**
SOC Sochi 147.83 307 *e*PKHKP PKPpre 11 26 36.0
SOC *i* 11 26 41.1
SOC *e* 11 30 03.5
HFS Hagfors 147.88 351 PKPbc **PKPdf 11 26 39.3 +2.3**
comp=Z,71nm,0.9s,baz=42,slow=2.3,SNR=44
MARD Mardin 148.14 295 *e*PKPbc **PKPbc 11 26 42.8 +1.1**
KONO Kongsberg 148.81 355 *i* PKIKP **PKPdf 11 26 40.6 +2.0**
KONO pmax pmax
comp=Z,134nm,1.2s
KONO Kongsberg 148.81 355 *e*PKPbc **PKPbc 11 26 42.7 +0.2**
MNK Minsk 148.93 333 ⇑ *e*PKP2 **PKPbc 11 26 42.0 -1.0**
MNK pmax pmax
comp=Z,420nm,1.0s
ANN Anapa 149.02 310 *c* *i*PKP2 **PKPbc 11 26 45.2 +1.7**
ANN pmax pmax
comp=Z,202nm,1.2s
JHLN Al Jahlan 150.14 292 *e*P **PKPbc 11 26 50.7 +4.0**
SLMH Al Salmeh 150.51 294 *e*P **PKPbc 11 26 49.1 +1.5**
AKASG Malin Array Be 150.93 326 PKP **PKPdf 11 26 40.9 -1.4**
comp=Z,3.1nm,0.9s,baz=36,slow=1.7,SNR=12
AKASG PKPbc **PKPbc 11 26 47.9 -0.1**
comp=Z,78nm,0.8s,baz=43,slow=2.5,SNR=117
AKASG PP **PP 11 30 23.6 -1.8**
comp=Z,0.2nm,0.3s,baz=41,slow=6.7,SNR=4.9
AKBB Malin Array Si 150.93 326 *e*PKIKP **PKPbc 11 26 48.1 +0.1**
AKBB *e* 11 26 55.1
AKBB Malin Array Si 150.93 326 *e*PKPbc **PKPbc 11 26 48.1 +0.1**
AKBB *e*PKPab **PKPab 11 26 55.1 -0.3**
KIEV Kiev 150.94 326 *e*PKIKP **PKPbc 11 26 48.0 0.0**
KIEV *e* 11 26 55.2
KIEV MLR MLR
comp=Z,265nm,21.0s
KIEV Kiev 150.94 326 *e*PKPbc **PKPbc 11 26 48.0 0.0**
KIEV *e*PKPab **PKPab 11 26 55.2 -0.2**
KIEV LR LR
comp=Z,265nm,21.0s
SUW Suwalki 151.08 336 *e*PKP **PKPbc 11 26 48.5 +0.3**
SUW Suwalki 151.08 336 *e*PKIKP **PKPbc 11 26 48.5 +0.3**
SIM Simferopol' 151.16 312 *de*PKIKP **PKPbc 11 26 49.4 +0.7**
SIM *e* 11 26 57.3
SIM pmax pmax
comp=Z,51nm,1.0s
DRWC Darouich 151.48 295 *e*P **PKPbc 11 26 51.0 +1.1**
SALA Sala 151.63 286 *e*P **PKPbc 11 26 52.1 +1.7**
BTCH Batrach 151.71 293 *e*P **PKPbc 11 26 52.2 +1.8**
MARH Ras Al Marh 151.83 289 *e*P **PKPbc 11 26 53.2 +2.2**
HAWK Haweek 151.87 290 *e*P **PKPbc 11 26 52.3 +1.5**
TOTH TOTAH 151.89 288 *e*P **PKPbc 11 26 52.2 +1.3**
BIDA Albida 151.91 291 *e*P **PKPbc 11 26 51.9 +1.1**
MUD Monsted U'grnd 152.01 354 *i* P **PKPbc 11 26 50.7 +0.5**
comp=Z,176nm,1.3s
MUD Monsted U'grnd 152.01 354 *i* PKIKP **PKPbc 11 26 50.7 +0.5**
MUD pmax pmax
comp=Z,180nm,1.3s
ARNB Al Arnab 152.12 293 *e*P **PKPbc 11 26 52.5 +1.1**
BRBR Barbar 152.29 288 *e*P **PKPbc 11 26 53.1 +1.2**
COP Copenhagen 152.35 350 *i* P **PKPbc 11 26 51.6 +0.6**
COP *i* 11 27 01.5
COP Copenhagen 152.35 350 *i* PKIKP **PKPbc 11 26 51.6 +0.6**
COP *i* 11 27 01.5
BSD Bornholm Skovb 152.44 346 *i* P **PKPbc 11 26 51.1 -0.2**
comp=Z,178nm,1.2s
BSD *i* 11 27 01.6
BSD Bornholm Skovb 152.44 346 *i* PKIKP **PKPbc 11 26 51.1 -0.2**
BSD *i* 11 27 01.6
BSD pmax pmax
comp=Z,180nm,1.2s
LLD Lille Linde 152.73 350 *i* P **PKPbc 11 26 52.1 +0.2**
comp=Z,125nm,0.9s
LLD Lille Linde 152.73 350 *e*PKIKP **PKPbc 11 26 52.1 +0.2**
LLD pmax pmax
comp=Z,120nm,0.9s
ILGA Ilgaz 152.81 305 *e*PKPbc **PKPbc 11 26 54.3 +1.4**
EKA Eskdalemuir Ar 152.88 9 PKPbc **PKPbc 11 26 51.2 -1.0**
comp=Z,8.1nm,0.8s,baz=316,slow=2.3,SNR=8.1
EKA PKPab **PKPab 11 27 03.0 -0.3**
comp=Z,17nm,1.1s,baz=350,slow=2.9,SNR=7.8
EIL Elat 153.00 280 PKPbc **PKPbc 11 26 54.5 +1.1**
comp=Z,39nm,0.9s,baz=12,slow=1.1,SNR=24
EIL PKPab **PKPab 11 27 06.7 +1.9**
comp=Z,29nm,1.0s,baz=247,slow=2.8,SNR=6.6
BR131 Keskin Array S 153.25 302 *e*PKPbc **PKPbc 11 26 53.8 0.0**
BR131 *e*PKPab **PKPab 11 27 06.3 +0.6**
BRTR Keskin Array B 153.25 302 PKP **PKPdf 11 26 45.8 -0.5**
comp=Z,8.2nm,1.2s,baz=143,slow=4.3,SNR=7.1
BRTR PKPbc **PKPbc 11 26 53.9 0.0**
comp=Z,15nm,1.0s,baz=116,slow=3.4,SNR=19
BRTR PKPab **PKPab 11 27 06.2 +0.5**
comp=Z,13nm,1.0s,baz=128,slow=2.0,SNR=8.8
BRTR PP **PP 11 30 39.1 -0.6**
comp=Z,2.7nm,1.1s,baz=3.8,slow=7.4,SNR=4.5
KIS Kishinev 153.38 320 *e*PKP **PKPdf 11 26 45.0 -1.0**
KIS Kishinev 153.38 320 *e*PP PP 11 30 42.0 +2.4
KIS *e*L L 12 28 30.0
KIS LRM MLR 12 39 02.0
comp=Z,200nm,20.0s
BEL Belsk 153.70 336 *e*PKP **PKPbc 11 26 55.2 +1.1**
BEL Belsk 153.70 336 *e*PKIKP **PKPbc 11 26 55.2 +1.1**
ANTO Ankara 153.83 303 *e*PKIKP **PKPbc 11 26 55.5 +0.5**
ANTO *e* 11 27 05.2
ANTO MLR MLR
comp=Z,255nm,19.0s
ANTO Ankara 153.83 303 *e*PKPbc **PKPbc 11 26 55.5 +0.5**
ANTO *e*PKPab **PKPab 11 27 05.2 -2.9**
ANTO LR LR
comp=Z,255nm,19.0s
LVV L'vov 153.97 330 *e*PKIKP **PKPdf 11 26 48.6 +1.8**
CSS Mathiatis 154.36 292 *e*PKPab **PKPab 11 27 10.3 -0.1**
CSS LR LR
comp=Z,106nm,20.0s
KWP Kalwaria Pacla 154.68 331 *e*PKP **PKPdf 11 26 48.1 +0.4**
KWP Kalwaria Pacla 154.68 331 *e*PKIKP **PKPdf 11 26 48.2 +0.4**
CFR Carcaliu 154.78 317 ⇑ *i*P **PKPbc 11 26 57.5 +0.8**
CFR Carcaliu 154.78 317 ⇑⇑PKIKP **PKPbc 11 26 57.5 +0.8**
TESR Tescani 154.88 321 ⇓ *i*P **PKPdf 11 26 49.1 +0.9**
BUR08 Bucovina Ar. S 154.92 325 *e*PKPdf **PKPdf 11 26 50.0 +1.7**
BURAR Bucovina Array 154.94 325 ⇑ *i*P PKPpre 11 26 44.2
BURAR Bucovina Array 154.94 325 ⇑⇑PKIKP PKPpre 11 26 44.2
TIRR Tirgusor 154.99 316 ⇑ *i*P PKPpre 11 26 41.0
TIRR Tirgusor 154.99 316 *e*PKIKP PKPbc 11 26 53.9 -3.2
TIRR Tirgusor 154.99 316 *e*PKPbc PKPbc 11 26 53.9 -3.2
TIRR *e*PKPab **PKPab 11 27 13.3 +0.5**
VRI Vrincioaia 155.22 320 ⇓ *i*P PKPpre 11 26 38.0
PLOR Plostina 155.27 320 ⇓ *i*P **PKPdf 11 26 49.4 +0.6**
PLOR Plostina 155.27 320 ⇓⇓PKIKP **PKPdf 11 26 49.4 +0.6**
OJC Ojcow 155.38 335 *e*PKP **PKPdf 11 26 48.7 -0.1**
OJC Ojcow 155.38 335 *e*PKIKP **PKPdf 11 26 48.9 +0.2**
OJC *e* 11 26 58.8
OJC Ojcow 155.38 335 *e*PKPdf **PKPdf 11 26 48.9 +0.2**
OJC *e*PKPbc PKPbc 11 26 58.8
OJC *e*PKPab **PKPab 11 27 15.1 +0.9**
STHS Stebnicka Huta 155.46 332 *e*PKIKP **PKPdf 11 26 50.7 +1.8**
STHS *e* 11 30 47.7
STHS Stebnicka Huta 155.46 332 *e*PKP **PKPdf 11 26 50.7 +1.8**
STHS *e* 11 27 16.1
STHS *e*PP **PP 11 30 47.7 -3.2**
UZH Uzhgorod 155.61 330 *e*PKIKP **PKPdf 11 26 50.2 +1.1**
UZH *e* 11 26 53.8
UZH *e* 11 27 02.4
UZH *i* 11 27 15.4
ARCR ARCALIA 155.72 325 ⇓ *i*P **PKPdf 11 26 50.3 +1.0**
CRVS Cervenica-Dubn 155.77 331 *e*PKIKP **PKPdf 11 26 50.1 +0.8**
CRVS *e* 11 27 15.3
CRVS Cervenica-Dubn 155.77 331 *e*PKP **PKPdf 11 26 50.1 +0.8**
CRVS *e* 11 27 15.3
NIE Niedzica 155.84 333 *e*PKP **PKPdf 11 26 49.8 +0.4**
NIE Niedzica 155.84 333 *e*PKIKP **PKPdf 11 26 49.8 +0.4**
TRPA Tarpa 155.87 329 ⇓⇓ *e*PKPdf **PKPdf 11 26 48.9 -0.5**
TRPA ⇑ *ex* x 11 27 17.0
MLR Muntele Rosu 155.88 320 PKPab **PKPab 11 27 17.5 +0.8**
comp=Z,2.9nm,0.9s,baz=276,slow=10,SNR=8.0
MLR Muntele Rosu 155.88 320 ⇓ *i*P **PKPdf 11 26 51.5 +1.8**
MLR Muntele Rosu 155.88 320 ⇓⇓PKIKP **PKPdf 11 26 51.5 +1.8**
MLR Muntele Rosu 155.88 320 *e*PKPdf **PKPdf 11 26 51.1 +1.4**
MLR *e*PKPab **PKPab 11 27 17.4 +0.8**
DOPR Dopca 155.90 321 ⇓ *i*P **PKPdf 11 26 51.0 +1.4**
KSP Ksiaz 156.01 341 *e*PKP **PKPdf 11 26 49.9 +0.3**
KSP Ksiaz 156.01 341 *e*PKIKP **PKPdf 11 26 49.9 +0.3**
LIC Lamto 156.08 157 *e*PKP1 **PKPdf 11 26 50.7 -0.1**
comp=Z,102nm,1.3s
OKC Ostrava-Krasne 156.29 337 *e*PKPDF **PKPdf 11 26 50.1 +0.2**
OKC *e*PKPAB **PKPab 11 27 18.8 +0.7**
OKC Ostrava-Krasne 156.29 337 *e*PKIKP **PKPdf 11 26 50.1 +0.2**
KIC Kosan Boka 156.30 158 *e*PKP1 **PKPdf 11 26 51.0 -0.1**
comp=Z,70nm,1.3s
LANS Liptovska Anna 156.38 334 *e*PKIKP PKPdf 11 27 00.7 +11
LANS *e* 11 27 19.1
LANS *e* 11 30 54.3
LANS Liptovska Anna 156.38 334 *e* PKPdf 11 27 00.7 +11
LANS Liptovska Anna 156.38 334 *e*PKP **PKPab 11 27 19.1 +0.6**
LANS *e*PP **PP 11 30 54.3 -1.7**
UPC Upice 156.39 341 *e*PKPDF **PKPdf 11 26 49.9 -0.2**
UPC *ex* x 11 27 01.1
UPC *e*PKPAB **PKPab 11 27 19.1 +0.6**
UPC AMS AMS 12 42 10.0
comp=Z,400nm,19.7s
UPC Upice 156.39 341 *e*PKIKP **PKPdf 11 26 49.9 -0.2**
UPC *e* 11 27 01.1
UPC MLR MLR
comp=Z,400nm,19.7s
CLL Collm 156.42 346 *e*PKIKP **PKPdf 11 26 51.1 +1.0**
CLL Collm 156.42 346 ⇑ *i*PKPdf **PKPdf 11 26 50.3 +0.3**
comp=Z,41nm,1.7s
CLL *i* PKPdiff **pPKPdf 11 27 00.4 -0.7**
comp=Z,22nm,1.1s
CLL ⇑ *i*PKPab **PKPab 11 27 18.8 +0.3**
comp=Z,85nm,1.0s
CLL *e*pPKPab **sPKPab 11 27 32.0 -1.2**
CLL *e*PP **PP 11 30 52.0 -3.9**
CLL *e*PSKS 11 41 17.0
CLL *e* 11 42 09.0
CLL *e*SSSS 12 00 48.0
CLL LmH 12 45 00.0
comp=N,200nm,19.6s
CLL LmH 12 45 00.0
comp=E,100nm,21.9s
CLL LmV 12 46 00.0
comp=Z,300nm,18.9s
CLL Collm 156.42 346 *e*PKPdf **PKPdf 11 26 51.0 +1.0**
CLL *e*PKPab **PKPab 11 27 18.8 +0.3**
DPC Dobruska-Polom 156.44 340 *e*PKPDF **PKPdf 11 26 50.7 +0.5**
DPC *e*PKPAB **PKPab 11 27 20.0 +1.2**
DPC AMS AMS 12 47 00.0
comp=Z,300nm,16.9s
DPC Dobruska-Polom 156.44 340 *e*PKIKP **PKPdf 11 26 50.7 +0.5**
DPC MLR MLR
comp=Z,300nm,16.9s
TIC Toumodi 156.47 157 *e*PKP1 **PKPdf 11 26 51.7 +0.4**
KECS Kecovo 156.50 332 *e*PKP2 **PKPab 11 27 19.2 +0.1**
KECS Kecovo 156.50 332 *e*PKP **PKPab 11 27 19.2 +0.1**
KRLC Kraliky 156.53 339 *e*PKPDF **PKPdf 11 26 50.8 +0.5**
KRLC *e*PKPAB **PKPab 11 27 20.1 +0.9**
KRLC Kraliky 156.53 339 *e*PKIKP **PKPdf 11 26 50.8 +0.5**
MORC Moravsky Berou 156.55 338 ⇑ *i*P **PKPdf 11 26 50.9 +0.5**
MORC Moravsky Berou 156.55 338 *e*PKIKP **PKPdf 11 26 50.4 +0.1**
MORC Moravsky Berou 156.55 338 *e*PKPdf **PKPdf 11 26 50.4 +0.1**
MORC *e*PKPab **PKPab 11 27 19.8 +0.5**
DBIC Dimbokro 156.55 157 PKP **PKPdf 11 26 51.5 +0.1**
comp=Z,9.1nm,1.1s,baz=176,slow=0.2,SNR=4.5
DBIC Dimbokro 156.55 157 *e*PKIKP **PKPdf 11 26 52.4 +1.0**
DBIC Dimbokro 156.55 157 *e*PKPdf **PKPdf 11 26 52.4 +1.0**
BRG Berggiesshubel 156.61 344 *i* PKP **PKPdf 11 26 50.6 +0.3**
comp=Z,24nm,1.4s
BRG Berggiesshubel 156.61 344 *i* PKP PKPdf 11 27 01.3 +11
comp=Z,18nm,1.1s
BRG *i* 11 27 19.5
comp=Z,79nm,1.0s
BRG Berggiesshubel 156.61 344 *i* PKIKP **PKPdf 11 26 50.6 +0.3**
BRG *i* 11 27 01.3
BRG pmax pmax
comp=Z,24nm,1.4s
ARR Arges 156.69 321 ⇑ *i*P **PKPdf 11 26 51.7 +1.0**
DRGR 156.75 326 ⇓ *i*P **PKPdf 11 26 51.2 +0.5**
DRGR 156.75 326 ⇓⇓PKIKP **PKPdf 11 26 51.2 +0.5**
PVCC Panska Ves 156.77 343 *e*PKPDF **PKPdf 11 26 50.8 +0.3**
PVCC *ex* x 11 27 01.8
PVCC *e*PKPAB **PKPab 11 27 20.9 +0.8**
PVCC AMS AMS 12 53 40.0
comp=Z,400nm,19.1s
PVCC Panska Ves 156.77 343 *e*PKIKP **PKPdf 11 26 50.8 +0.3**
PVCC *e* 11 27 01.8
PVCC MLR MLR
comp=Z,400nm,19.1s
VYHS Vyhne 157.15 334 *e*PKIKP **PKPdf 11 26 51.3 +0.1**
VYHS Vyhne 157.15 334 *e*PKP **PKPdf 11 26 51.2 +0.1**
VYHS *e* 11 27 22.5
PSZ Piszkesteto 157.19 332 ⇑ *i*P **PKPdf 11 26 52.1 +0.8**
PSZ Piszkesteto 157.19 332 ⇑⇑PKIKP **PKPdf 11 26 52.1 +0.8**
PSZ Piszkesteto 157.19 332 ⇑⇑ *e*PKPdf **PKPdf 11 26 51.9 +0.6**
PSZ ⇑ *ex* x 11 27 22.8
PSZ Piszkesteto 157.19 332 *e*PKPdf **PKPdf 11 26 52.0 +0.8**
PSZ *e*PKPab **PKPab 11 27 22.8 +0.7**
PSZ LR LR
comp=Z,385nm,19.0s
PRA Prague 157.22 342 *e*PKPAB **PKPab 11 27 22.9 +0.9**
PRA Prague 157.22 342 *e*PKP2 **PKPab 11 27 22.9 +0.9**
VRAC Vranov 157.26 338 PKP **PKPdf 11 26 51.9 +0.6**
comp=Z,6.7nm,1.1s,baz=306,slow=3.8,SNR=9.4
VRAC PKPab **PKPab 11 27 23.5 +1.2**
comp=Z,41nm,1.1s,baz=35,slow=4.0,SNR=28
VRAC Vranov 157.26 338 ⇑ *i*P **PKPdf 11 26 52.4 +1.2**
VRAC Vranov 157.26 338 ⇑⇑PKIKP **PKPdf 11 26 52.4 +1.2**
PRU Pruhonice 157.27 342 *e*PKPDF **PKPdf 11 26 50.9 -0.3**
PRU *ex* x 11 27 02.6
PRU *e*PKPAB **PKPab 11 27 22.9 +0.6**
PRU AMS AMS 12 50 20.0
comp=Z,400nm,20.3s
PRU Pruhonice 157.27 342 *e*PKIKP **PKPdf 11 26 50.9 -0.3**
PRU *e* 11 27 02.6
PRU MLR MLR
comp=Z,400nm,20.3s
GOPC GO Pecny, Ondr 157.27 342 *e*PKPDF **PKPdf 11 26 51.5 +0.3**
GOPC *e*PKPAB **PKPab 11 27 23.1 +0.8**
GOPC AMS AMS 12 48 40.0
comp=Z,300nm,19.5s
GOPC GO Pecny, Ondr 157.27 342 *e*PKIKP **PKPdf 11 26 51.5 +0.3**
GOPC MLR MLR
comp=Z,300nm,19.5s
NKC Novy Kostel 157.55 346 *e*PKPAB **PKPab 11 27 24.1 +0.6**
NKC AMS AMS 12 46 10.0
comp=Z,400nm,21.6s
NKC Novy Kostel 157.55 346 *e*PKP2 **PKPab 11 27 24.1 +0.6**
NKC MLR MLR
comp=Z,400nm,21.6s
TREC Trest 157.62 340 *e*PKPDF **PKPdf 11 26 51.9 +0.2**
TREC *e*PKPAB **PKPab 11 27 24.6 +0.7**
TREC AMS AMS 12 47 10.0
comp=Z,300nm,17.6s
TREC Trest 157.62 340 *e*PKIKP **PKPdf 11 26 51.9 +0.2**
TREC MLR MLR
comp=Z,300nm,17.6s
SIRR Siria 157.63 326 ⇓ *i*P **PKPdf 11 26 52.5 +0.7**
BUD Budapest 157.89 332 ⇑ *e*pPKPdf **PKPab 11 27 25.8 +0.7**
MEM Membach 158.06 357 PKPab **PKPab 11 27 25.3 -0.3**
BZS Buzias 158.11 325 ⇓ *i*P **PKPdf 11 26 52.1 -0.3**
BZS Buzias 158.11 325 ⇓PKIKP **PKPdf 11 26 52.1 -0.3**
SNF Seneffe 158.21 360 PKPab **PKPab 11 27 26.8 +0.5**
BCLA Clavier 158.28 358 PKPab **PKPab 11 27 26.8 +0.2**
KHC Kasperske Hory 158.31 343 *e*PKPDF **PKPdf 11 26 52.0 -0.6**
KHC *e*PKPAB **PKPab 11 27 27.7 +0.9**
KHC AMS AMS 12 51 00.0
comp=Z,300nm,18.9s

KHC	**Kasperske Hory**	**158.31**	**343**	*e*PKIKP	**PKPdf**	**11 26 52.8 +0.2**
KHC				*e*		11 27 27.5
KHC	**Kasperske Hory**	**158.31**	**343**	*e*PKPdf	**PKPdf**	**11 26 52.8 +0.2**
KHC				*e*PKPab	**PKPab**	**11 27 27.5 +0.7**
GRFO	**Grafenberg**	**158.32**	**347**	*e*PKIKP	**PKPdf**	**11 26 53.1 +0.6**
GRFO				*e*		11 27 27.4
GRFO	**Grafenberg**	**158.32**	**347**	*e*PKPdf	**PKPdf**	**11 26 53.1 +0.6**
GRFO				*e*PKPab	**PKPab**	**11 27 27.4 +0.6**
GEC2	**GERESS Array S**	**158.54**	**342**	*e*PKIKP	**PKPdf**	**11 26 53.2 +0.3**
GEC2				*e*		11 27 28.4
GEC2	**GERESS Array S**	**158.54**	**342**	*e*PKPdf	**PKPdf**	**11 26 53.2 +0.3**
GEC2				*e*PKPab	**PKPab**	**11 27 28.4 +0.5**
GERES	**GERESS Array B**	**158.54**	**342**	PKP	**PKPdf**	**11 26 52.8 -0.2**
	comp=Z,1.8nm,0.9s,baz=117,slow=1.5,SNR=11					
GERES				PKPab	**PKPab**	**11 27 28.4 +0.5**
	comp=Z,9.0nm,0.9s,baz=35,slow=4.9,SNR=20					
DOU	**Dourbes**	**158.62**	**359**	PKPab	**PKPab**	**11 27 28.0 -0.1**
PGB	**Panagyurishte**	**158.62**	**316**	P	**PKPab**	**11 27 29.8 +1.3**
MDVR	**Moldovita**	**158.64**	**323**	⇓*i*P	**PKPdf**	**11 26 53.4 +0.3**
CONA	**Conrad Observa**	**158.70**	**338**	*i* PKPab	**PKPab**	**11 27 30.1 +1.4**
	comp=Z,70nm,1.2s,SNR=16					
WLF	**Walferdange**	**158.99**	**356**	PKPab	**PKPab**	**11 27 30.5 +0.8**
WLF	**Walferdange**	**158.99**	**356**	*e*PKP2	**PKPab**	**11 27 30.3 +0.6**
WLF				MLR	MLR	
	comp=Z,341nm,19.0s					
WLF	**Walferdange**	**158.99**	**356**	*e*PKPab	**PKPab**	**11 27 30.3 +0.6**
WLF				LR	LR	
	comp=Z,341nm,19.0s					
VTS	**Vitosha**	**159.18**	**317**	⇑*i*P	**PKPdf**	**11 26 55.1 +1.1**
VTS	**Vitosha**	**159.18**	**317**	⇑PKIKP	**PKPdf**	**11 26 55.1 +1.1**
VTS	**Vitosha**	**159.18**	**317**	P	**PKPab**	**11 27 31.4 +0.3**
VTS	**Vitosha**	**159.18**	**317**	*e*PKPdf	**PKPdf**	**11 26 53.5 -0.5**
VTS				*e*PKPab	**PKPab**	**11 27 32.4 +1.3**
KARP	**Karpathos**	**159.25**	**295**	*e*PKPab	**PKPab**	**11 27 32.9 +1.4**
MOA	**Molln**	**159.28**	**340**	*i* PKPab	**PKPab**	**11 27 32.2 +1.1**
	comp=Z,83nm,1.6s,SNR=16					
ARSA	**Arzberg**	**159.41**	**337**	*i* PKPab	**PKPab**	**11 27 32.5 +0.9**
	comp=Z,25nm,1.1s,SNR=8.3					
LANF	**Langenberg**	**159.53**	**353**	PKP	**PKPab**	**11 27 32.6 +0.5**
BEHE	**Becsehely**	**159.62**	**334**	⇑*e*pPKPdf	**PKPab**	**11 27 32.8 +0.2**
KKB	**Krupnik**	**159.67**	**315**	P	**PKPab**	**11 27 33.7 +0.6**
SOKA	**Soboth**	**160.07**	**337**	*i* PKPab	**PKPab**	**11 27 35.2 +0.6**
	comp=Z,76nm,1.5s,SNR=20					
PERS	**Pernice**	**160.08**	**337**	*i* PKPdf	**PKPdf**	**11 26 54.5 -0.2**
PERS				*i* PKPbc	**PKPab**	**11 27 35.1 +0.5**
BFO	**Black Forest**	**160.11**	**351**	*e*PKIKP	**PKPdf**	**11 26 54.5 -0.2**
BFO				*e*		11 27 34.7
BFO				MLR	MLR	
	comp=Z,420nm,20.0s					
BFO	**Black Forest**	**160.11**	**351**	*e*PKPdf	**PKPdf**	**11 26 54.5 -0.2**
BFO				*e*PKPab	**PKPab**	**11 27 34.7 +0.1**
BFO				LR	LR	
	comp=Z,420nm,20.0s					
KBA	**Koelnbreinsper**	**160.25**	**341**	*i* PKPab	**PKPab**	**11 27 36.9 +1.4**
	comp=Z,39nm,1.1s,SNR=9.7					
VAY	**Valandovo**	**160.30**	**315**	⇑*e*PKP	**PKPab**	**11 27 36.5 +0.8**
ECH	**Echery**	**160.35**	**354**	PKP	**PKPab**	**11 27 35.4 -0.3**
ECH	**Echery**	**160.35**	**354**	PFAKE		11 27 10.0 +15
ECH				LR	LR	
	comp=Z,365nm,20.0s					
OBKA	**Obir**	**160.38**	**338**	*i* PKPab	**PKPab**	**11 27 36.3 +0.3**
	comp=Z,26nm,1.1s,SNR=6.2					
WATA	**Walderalm**	**160.47**	**344**	*i* PKPab	**PKPab**	**11 27 37.2 +0.7**
	comp=Z,69nm,1.2s,SNR=8.7					
RETA	**Reutte**	**160.51**	**346**	*i* PKPab	**PKPab**	**11 27 37.1 +0.6**
	comp=Z,44nm,1.2s,SNR=10					
WTTA	**Wattenberg**	**160.52**	**344**	*i* PKPab	**PKPab**	**11 27 37.6 +0.9**
	comp=Z,67nm,1.8s,SNR=8.4					
MYKA	**Terra Mystica**	**160.56**	**340**	*i* PKPab	**PKPab**	**11 27 36.9 +0.1**
	comp=Z,64nm,1.3s,SNR=14					
MOTA	**Moosalm**	**160.57**	**345**	*i* PKPab	**PKPab**	**11 27 37.3 +0.5**
	comp=Z,52nm,1.2s,SNR=9.8					
SKO	**Skopje**	**160.61**	**318**	*i* PKP	**PKPab**	**11 27 38.0 +0.9**
MOF	**Molkenrain**	**160.72**	**354**	PKP	**PKPab**	**11 27 37.3 -0.1**
ABTA	**Abfaltersbach**	**160.78**	**342**	*i* PKPab	**PKPab**	**11 27 37.8 +0.1**
	comp=Z,54nm,1.2s,SNR=9.8					
LJU	**Ljubljana**	**160.79**	**337**	*e*PKPdf	**PKPdf**	**11 26 55.5 0.0**
LJU				*e*		11 27 37.5
DAVA	**Damuels**	**160.88**	**348**	*i* PKPdf	**PKPdf**	**11 26 55.6 -0.2**
	comp=Z,9.0nm,1.2s					
DAVA				*i* PKPab	**PKPab**	**11 27 38.7 +0.5**
	comp=Z,27nm,1.1s,SNR=5.6					
VISS	**Visnje**	**160.90**	**336**	*i* PKPdf	**PKPdf**	**11 26 55.2 -0.4**
VISS				*i* PKPbc	**PKPab**	**11 27 38.3 +0.1**
FETA	**Feichten**	**160.96**	**346**	*i* PKPdf	**PKPdf**	**11 26 56.1 +0.2**
	comp=Z,26nm,1.5s,SNR=5.9					
FETA				*i* PKPab	**PKPab**	**11 27 39.3 +0.8**
	comp=Z,35nm,1.2s,SNR=5.2					
BOJS	**Bojanci**	**161.00**	**335**	*i* PKPdf	**PKPdf**	**11 26 55.4 -0.3**
BOJS				*i* PKPbc	**PKPab**	**11 27 38.9 +0.3**
KRUS	**Krusevo**	**161.08**	**316**	⇑*i*PKP	**PKPab**	**11 27 39.7 +0.4**
LOMF	**Lomont**	**161.24**	**354**	PKP	**PKPab**	**11 27 40.2 +0.5**
TRI	**Trieste**	**161.34**	**338**	*e*PKIKP	**PKPdf**	**11 26 55.8 -0.2**
TRI				*e*		11 27 39.8
TRI	**Trieste**	**161.34**	**338**	*e*PKPdf	**PKPdf**	**11 26 55.8 -0.2**
TRI				*e*PKPab	**PKPab**	**11 27 39.8 -0.3**
DAVOX	**Davos/Dischmat**	**161.36**	**347**	PKP	**PKPdf**	**11 26 56.2 -0.1**
	comp=Z,6.0nm,1.1s,baz=118,slow=3.0,SNR=6.6					
DAVOX				PKPab	**PKPab**	**11 27 40.5 +0.1**
	comp=Z,13nm,0.8s,baz=327,slow=1.3,SNR=9.7					
FUORN	**Ofenpass-Fuorn**	**161.44**	**346**	*e*PKPdf	**PKPdf**	**11 26 56.8 +0.3**
FUORN				*e*PKPab	**PKPab**	**11 27 41.7 +0.9**
OHR	**Ohrid**	**161.51**	**316**	⇑*i*PKP	**PKPab**	**11 27 41.4 +0.3**
PDG	**Podgorica**	**161.55**	**322**	⇓*i*P	PKPdf	11 27 11.8 +15
TUE	**Stuetta**	**161.76**	**348**	*e*PKPdf	**PKPdf**	**11 26 56.9 +0.2**
TUE				*e*PKPab	**PKPab**	**11 27 42.9 +0.7**
TUE				LR	LR	
	comp=Z,469nm,20.0s					
TIR	**Tirane**	**161.92**	**318**	*e*PKP2	**PKPab**	**11 27 43.5 +0.7**
TIR				MLR	MLR	
	comp=Z,356nm,21.0s					
TIR	**Tirane**	**161.92**	**318**	*e*PKPab	**PKPab**	**11 27 43.5 +0.7**
TIR				LR	LR	
	comp=Z,356nm,21.0s					
SENIN	**Lac Senin/Sane**	**162.17**	**353**	*e*PKPdf	**PKPdf**	**11 26 57.6 +0.5**
SENIN				*e*PKPab	**PKPab**	**11 27 44.4 +0.5**
AGO	**Saint Agoulin**	**162.66**	**2**	PKP	**PKPab**	**11 27 46.4 +0.6**
PLDF	**La Plantade**	**162.75**	**1**	PKP	**PKPab**	**11 27 46.3 0.0**
PYM	**Petit Puy Mans**	**162.95**	**2**	PKP	**PKPab**	**11 27 47.2 0.0**
SSB	**Saint Sauveur**	**163.44**	**359**	PFAKE		11 27 10.0 +12
SSB				LR	LR	
	comp=Z,363nm,19.0s					
LBL	**Lubilhac**	**163.48**	**2**	PKP	**PKPab**	**11 27 48.4 -1.1**
BNI	**Bardonecchia**	**163.53**	**353**	*e*PKIKP	**PKPdf**	**11 26 59.4 +1.0**
BNI				MLR	MLR	
	comp=Z,454nm,20.0s					
BNI	**Bardonecchia**	**163.53**	**353**	*e*PKPdf	**PKPdf**	**11 26 59.4 +1.0**
BNI				*e*PKPab	**PKPab**	**11 27 50.8 +1.0**
BNI				LR	LR	
	comp=Z,454nm,20.0s					
VLC	**Villacollemand**	**163.74**	**343**	*e*PKPdf	**PKPdf**	**11 26 59.3 +0.8**
VLC				*e*PKPab	**PKPab**	**11 27 50.9 +0.3**
VLC				LR	LR	
	comp=Z,341nm,19.0s					
AQU	**L'Aquila**	**164.38**	**333**	PFAKE		11 27 10.0 +11
AQU				LR	LR	
	comp=Z,565nm,21.0s					
TOA0	**Torodi Ar. Sit**	**164.38**	**172**	*e*PKPdf	**PKPdf**	**11 27 00.1 +0.2**
TOA0				*e*PKPab	**PKPab**	**11 27 54.9 +0.8**
TORD	**Torodi Ar. Bea**	**164.38**	**172**	PKP	**PKPdf**	**11 27 00.1 +0.2**
	comp=Z,7.8nm,1.0s,baz=269,slow=1.2,SNR=33					
TORD				PKPab	**PKPab**	**11 27 54.9 +0.8**
	comp=Z,15nm,0.9s,baz=186,slow=3.9,SNR=18					
TORD				PP	**PP**	**11 31 41.1 +2.4**
	comp=Z,2.0nm,1.0s,baz=156,slow=7.0,SNR=4.0					
MVO	**Moncorvo**	**164.64**	**33**	*e*PKPdf	**PKPdf**	**11 27 00.9 +1.4**
MVO	**Moncorvo**	**164.64**	**33**	*e*PKPab	**PKPab**	**11 27 54.4 -0.4**
PMAFR	**Mafra**	**164.96**	**44**	*e*pPKPdf	pPKPdf	11 27 09.2 -1.6
PTOM	**Tomar**	**165.04**	**40**	*e*PKPdf	**PKPdf**	**11 26 59.6 -0.2**
PTOM	**Tomar**	**165.04**	**40**	*e*PKPab	**PKPab**	**11 27 56.4 -0.2**
CUC	**Castrocucco**	**165.10**	**322**	PFAKE		11 27 10.0 +10
CUC				LR	LR	
	comp=Z,356nm,20.0s					
PCBR	**Castelo Branco**	**165.40**	**37**	*e*PKPdf	**PKPdf**	**11 27 01.4 +1.3**
PMRV	**Marv??o**	**165.74**	**38**	*e*PKPab	**PKPab**	**11 27 58.8 -0.9**
PNCL	**Nicolau / Gran**	**165.95**	**45**	*e*PKPdf	**PKPdf**	**11 27 02.5 +1.9**
PNCL	**Nicolau / Gran**	**165.95**	**45**	*e*PKPab	**PKPab**	**11 27 58.0 -2.6**
EVO	**Evora**	**166.00**	**42**	*e*PKPdf	**PKPdf**	**11 27 01.0 +0.4**
CEL	**Celeste**	**166.24**	**317**	*e*PKPdf	**PKPdf**	**11 27 02.7 +1.8**
CEL				*e*PKPab	**PKPab**	**11 28 03.5 +1.5**
CEL				LR	LR	
	comp=Z,363nm,20.0s					
PBEJ	**Beja**	**166.41**	**44**	*e*PKPdf	**PKPdf**	**11 27 02.0 +1.0**
PAB	**San Pablo**	**167.16**	**30**	*e*PKIKP	**PKPdf**	**11 27 03.3 +1.7**
PAB				MLR	MLR	
	comp=Z,657nm,20.0s					
PAB	**San Pablo**	**167.16**	**30**	*e*PKPdf	**PKPdf**	**11 27 03.3 +1.7**
PAB				LR	LR	
	comp=Z,657nm,20.0s					
ESDC	**Sonseca Array**	**167.22**	**29**	PKP	**PKPdf**	**11 27 02.0 +0.4**
	comp=Z,1.7nm,0.6s,baz=325,slow=1.5,SNR=13					
ESDC				PKPab	**PKPab**	**11 28 06.1 -0.1**
	comp=Z,3.3nm,0.7s,baz=310,slow=3.6,SNR=9.0					
CLTB	**Caltabellotta**	**168.25**	**321**	PFAKE		11 27 10.0 +7.6
CLTB				LR	LR	
	comp=Z,189nm,19.0s					
VSL	**Villasalto**	**168.34**	**339**	PFAKE		11 27 10.0 +7.7
VSL				LR	LR	
	comp=Z,502nm,20.0s					
WDD	**Wied Dalam**	**168.60**	**311**	PFAKE		11 27 10.0 +7.4
WDD				LR	LR	
	comp=Z,412nm,20.0s					
RTC	**Rabat Centre**	**169.32**	**58**	PFAKE		11 27 10.0 +6.9
RTC				LR	LR	
	comp=Z,2μm,20.0s					
KEST	**Kesra**	**171.65**	**329**	PKPab	**PKPab**	**11 28 26.6 +0.6**
	comp=Z,12nm,1.1s,baz=136,slow=3.9,SNR=3.7					
TAM	**Tamanrasset**	**173.97**	**194**	*e*PKIKP	**PKPdf**	**11 27 07.6 +1.7**
TAM				*e*		11 28 38.8
TAM				MLR	MLR	
	comp=Z,528nm,20.0s					
TAM	**Tamanrasset**	**173.97**	**194**	*e*PKPdf	**PKPdf**	**11 27 07.6 +1.7**
TAM				*e*PKPab	**PKPab**	**11 28 38.8 +2.3**
TAM				LR	LR	
	comp=Z,528nm,20.0s					

BJI ***28*** *11:10:03.8, 42°.06N×87°.62E, h8km, mb3.7/2, ML3.5/7*
IDC ***28*** *11:10:04.7±3.6, 41°.71N×86°.86E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.3/67, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=76.0km s-min=31.7km az=77.0*
ISCJB ***28*** *11:10:06.5±1.0, 42°.09N±0°.07×87°.33E±0°.08, h33km, mb3.6/2, Error ellipse: s-maj=10.5km s-min=8.3km az=19.1*
NNC ***28*** *11:10:09.5±2.1, 42°.36N×87°.12E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=15.2km s-min=11.9km az=112.0*

ISC 28 11:10:08.8±1.2, 42°.23N±0°.09×87°.43E±0°.07, h35km, n11, σ2°32/14, 3C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.61**	**7**	Pg	**Pn**	**11 10 35.8**	**+1.0**
WMQ				Sg	**Sn**	**11 10 57.8**	**+3.5**
WMQ				smax	smax		
	comp=N,470nm,0.3s						
WMQ				smax	smax		
	comp=E,830nm,0.3s						
MK31	**Makanchi Array**	**5.86**	**323**	⇑Pn	**Pn**	**11 11 35.2**	**+2.0**
	1.5nm,0.4s,baz=139,slow=14,SNR=43						
MK31				⇓Sn	**Sn**	**11 12 40.9**	**+1.8**
	2.2nm,0.5s,baz=141,slow=16,SNR=4.4						
MK31				⇓Lg	Lg	11 13 07.5	
	6.3nm,0.6s,baz=141,slow=29,SNR=5.9						
MKAR	**Makanchi Array**	**5.86**	**323**	Pn	**Pn**	**11 11 35.1**	**+1.9**
	1.3nm,0.3s,baz=140,slow=14,SNR=37						
MKAR				Lg	Lg	11 13 14.9	
	2.0nm,0.3s,baz=140,slow=27,SNR=7.0						
PDGK	**Podgornoye**	**5.95**	**283**	⇑Pn	**Pn**	**11 11 35.6**	**+1.1**
	7.2nm,0.5s						
PDGK				⇑Sn	**Sn**	**11 12 42.5**	**+1.1**
	9.7nm,0.7s						
PDGK				⇓Lg	Lg	11 13 13.4	
	16nm,0.5s						
MAKZ	**Makanchi**	**6.01**	**321**	⇓Pn	**Pn**	**11 11 35.8**	**+0.6**
	1.7nm,0.7s						
MAKZ				⇓Sn	**Sn**	**11 12 43.8**	**+0.9**
	4.0nm,0.8s						
MAKZ				⇓Lg	Lg	11 13 16.3	
	19nm,1.1s						
GTA	**Gaotai**	**9.80**	**103**	*e*P	**Pn**	**11 12 27.8**	**+0.5**
GTA				pP		11 12 31.0	
GTA				sP		11 12 34.0	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURBB	**Kurchatov Arra**	**10.40**	**327**	Pn	Pn	11 12 43.4	+8.1
	0.1nm,0.3s,baz=128,slow=14,SNR=2.5						
KURBB				Lg	Lg	11 15 35.6	
	0.0nm,0.3s,baz=148,slow=28,SNR=5.7						
ZALV	**Zalesovo Beam**	**11.86**	**352**	Pn	Pn	11 13 02.6	+7.4
	0.2nm,0.3s,baz=169,slow=10,SNR=3.5						
ZALV				Sn	**Sn**	**11 15 01.0**	**-5.1**
	0.4nm,0.3s,baz=171,slow=24,SNR=6.4						
BVAR	**Borovoye Array**	**15.72**	**319**	Pn	**Pn**	**11 13 45.6**	**-1.9**
	0.1nm,0.3s,baz=129,slow=11,SNR=3.1						
AKTO	**Aktyubinsk**	**21.79**	**302**	P	**P**	**11 14 57.7**	**+0.2**
	0.8nm,0.4s,baz=90,slow=9.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**78.16**	**277**	P	**P**	**11 22 03.6**	**-1.2**
	0.7nm,0.8s,baz=35,slow=4.5,SNR=3.7						

CSEM ***28*** *11:10:12.1, 37°.18N×22°.03E, h8km, ML2.2/4*

ATH 28 11:10:12.1, 37°.18N×22°.03E, h8km±2km, ML2.2/4, Error ellipse: s-maj=2.6km s-min=1.4km az=239.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**267**	P	Pg	11 10 14.2	+0.1
ITM				S	Sg	11 10 15.3	-0.3
ITM				AML	AML	11 10 15.8	
	comp=E,1244μm,0.2s						
ITM				AML	AML	11 10 16.5	
	comp=N,1341μm,0.3s						
ITM	**Ithomi**	**0.08**	**267**	P	Pg	11 10 14.2	+0.1
ITM				S	Sg	11 10 15.3	-0.3
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	11 10 18.2	-0.5
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	11 10 18.2	-0.5
PYL	**PYLOS**	**0.37**	**218**	P	Pg	11 10 19.1	-0.1
PYL				S	Sg	11 10 24.1	+0.1
PYL	**PYLOS**	**0.37**	**218**	P	Pg	11 10 19.1	-0.1
PYL				S	Sg	11 10 24.1	0.0
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pb	11 10 21.9	-0.1
AMT				AML	AML	11 10 29.6	
	comp=N,744μm,0.3s						
AMT				AML	AML	11 10 29.7	
	comp=E,474μm,0.2s						
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pb	11 10 21.9	-0.1

ISK 28 11:10:12.7, 38°.56N×43°.76E, h18km, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.29**	**278**	*e*PG	Pg	11 10 19.2	-0.1
VANB				*e*SG	Sb	11 10 24.2	+0.1
CLDR	**Caldiran**	**0.60**	**12**	*e*PG	Pb	11 10 25.6	+0.8
CLDR				*e*SG	Sb	11 10 33.7	+0.7
AGRB	**Hanur-Agry**	**1.18**	**330**	*e*PN	Pb	11 10 34.9	+0.1

MEX 28 11:14:46.1±0.7, 15°.97N×93°.05W, h163km±9km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.31**	**213**	*e*P	Pn	11 15 07.0	-1.2
PCIG				*e*S	Sn	11 15 22.6	-2.5
TGIG		**0.81**	**355**	*e*P	Pn	11 15 09.2	-1.6
TGIG				*i* S	Sn	11 15 26.6	-3.1
CCIG	**Comitan**	**0.93**	**70**	*e*P	Pn	11 15 10.2	-1.5
CCIG				*e*S	Sn	11 15 28.5	-2.8
CMIG	**Matias Romero**	**2.09**	**303**	*e*P	Pn	11 15 22.2	-0.8
CMIG				*i* S	Sn	11 15 49.8	-1.7
HUIG	**Huatulco**	**2.95**	**267**	*e*P	Pn	11 15 31.6	-1.8
HUIG				*i* S	Sn	11 16 07.2	-2.8
VHO	**Vista Hermosa**	**3.70**	**288**	*e*P	Pn	11 15 42.0	-1.1
VHO				*i* S	Sn	11 16 25.1	-2.3

AZER ***28*** *11:22:43.6±0.6, 38°.15N×43°.84E, h8km, Error ellipse: s-maj=6.4km s-min=3.7km az=77.0*
DDA ***28*** *11:22:45.9, 38°.85N×43°.59E, h6km, Ml3.9*
ISK ***28*** *11:22:45.8, 38°.83N×43°.61E, h7km, ML3.6*
ISCJB ***28*** *11:22:46.5±0.5, 38°.83N±0°.03×43°.58E±0°.03, h5km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=137.6*
CSEM ***28*** *11:22:46.2±0.2, 38°.84N×43°.59E, h2km, ML3.9, Error ellipse: s-maj=5.4km s-min=3.5km az=139.0*

ISC 28 11:22:46.2±0.9, 38°.80N±0°.02×43°.68E±0°.02, h16km±7km, n94, σ1°63/121, 15C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**336**	*i* P	**Pg**	**11 22 49.8**	**-1.4**
VMUR				*i* S	**Sg**	**11 22 55.0**	**+0.5**
VMUR	**Van-Muradiye**	**0.20**	**336**	P	**Pg**	**11 22 49.8**	**-1.4**
VANB	**Van**	**0.30**	**228**	*e*PG	**Pg**	**11 22 52.8**	**0.0**
VANB				*e*SG	**Sb**	**11 22 59.2**	**+1.0**
VANB	**Van**	**0.30**	**228**	*e*Pg	**Pg**	**11 22 52.8**	**0.0**
VANB				*e*Sg	**Sb**	**11 22 59.2**	**+1.0**
TVAN	**Van**	**0.34**	**218**	*i* P	**Pg**	**11 22 53.1**	**-0.4**
TVAN				*i* S	**Sb**	**11 22 59.6**	**+0.2**
TVAN	**Van**	**0.34**	**218**	P	**Pg**	**11 22 53.1**	**-0.4**
TVAN				S	**Sb**	**11 22 59.7**	**+0.2**
CLDR	**Caldiran**	**0.39**	**29**	*e*PG	**Pg**	**11 22 54.0**	**-0.3**
CLDR				*e*SG	**Sb**	**11 23 00.6**	**-0.1**
CLDR	**Caldiran**	**0.39**	**29**	*i* P	**Pg**	**11 22 53.7**	**-0.6**
CLDR				*i* S	**Sb**	**11 23 01.1**	**+0.3**
CLDR	**Caldiran**	**0.39**	**29**	P	**Pg**	**11 22 53.7**	**-0.6**
CLDR	**Caldiran**	**0.39**	**29**	*e*Pg	**Pg**	**11 22 54.0**	**-0.3**
CLDR				*e*Sg	**Sb**	**11 23 00.6**	**-0.1**
CLDR				S	**Sb**	**11 23 01.1**	**+0.3**
GEVA	**Gevas**	**0.69**	**225**	*i* P	**Pg**	**11 22 58.3**	**-1.4**
GEVA				*i* S	**Sg**	**11 23 08.8**	**-0.1**
GEVA	**Gevas**	**0.69**	**225**	P	**Pg**	**11 22 58.3**	**-1.4**
GEVA				S	**Sg**	**11 23 08.8**	**-0.1**
DYDN	**Diyadin**	**0.74**	**1**	*i* P	**Pg**	**11 22 59.7**	**-1.1**
DYDN	**Diyadin**	**0.74**	**1**	P	**Pg**	**11 22 59.7**	**-1.1**
BASK	**Baskale_VAN**	**0.79**	**161**	*i* P	**Pg**	**11 23 01.3**	**-0.4**
BASK				*i* S	**Sn**	**11 23 16.4**	**+1.9**
BASK	**Baskale_VAN**	**0.79**	**161**	P	**Pg**	**11 23 01.3**	**-0.4**
TUTA	**Tutak**	**0.90**	**312**	*i* P	**Pg**	**11 23 01.5**	**-2.3**
TUTA	**Tutak**	**0.90**	**312**	P	**Pg**	**11 23 01.5**	**-2.3**
AGRB	**Hanur-Agry**	**0.94**	**326**	*e*PG	**Pg**	**11 23 02.6**	**-1.8**
AGRB	**Hanur-Agry**	**0.94**	**326**	*e*Pg	**Pg**	**11 23 02.7**	**-1.8**
TATV	**Tatvan**	**1.14**	**256**	*i* P	**Pb**	**11 23 06.3**	**-1.4**
TATV				*i* S	**Sb**	**11 23 21.3**	**-1.0**
TATV	**Tatvan**	**1.14**	**256**	P	**Pb**	**11 23 06.3**	**-1.4**
TATV				S	**Sb**	**11 23 21.3**	**-1.0**
EKAR	**Karacoban**	**1.33**	**290**	*i* P	**Pn**	**11 23 10.7**	**+0.3**
EKAR	**Karacoban**	**1.33**	**290**	P	**Pn**	**11 23 10.7**	**+0.3**
EATA	**Eleskirt**	**1.40**	**319**	*i* P	**Pn**	**11 23 10.8**	**-0.6**
EATA	**Eleskirt**	**1.40**	**319**	P	**Pn**	**11 23 10.8**	**-0.6**
NAX	**Nakhchivan**	**1.47**	**75**	⇓P	**Pn**	**11 23 12.8**	**+0.7**
	SNR=36						
NAX				⇑S	**Sg**	**11 23 35.3**	**+1.8**
NAX	**Nakhchivan**	**1.47**	**75**	P	**Pn**	**11 23 12.8**	**+0.7**
	SNR=36						
NAX				S	**Sg**	**11 23 35.3**	**+1.8**
CUKT	**Cukurca**	**1.55**	**182**	*e*PN	**Pb**	**11 23 14.7**	**0.0**
CUKT	**Cukurca**	**1.55**	**182**	*i* P	**Pn**	**11 23 14.5**	**+1.2**
CUKT	**Cukurca**	**1.55**	**182**	*e*Pn	**Pb**	**11 23 14.7**	**0.0**
SIRN	**S¨–rnak**	**1.64**	**218**	*i* P	**Pg**	**11 23 17.7**	**-0.1**
SIRN	**S¨–rnak**	**1.64**	**218**	P	**Pg**	**11 23 17.7**	**-0.1**
VRTB	**Varto-Mus**	**1.77**	**282**	*e*PN	**Pn**	**11 23 17.4**	**+1.1**
VRTB	**Varto-Mus**	**1.77**	**282**	*i* P	**Pb**	**11 23 18.2**	**-0.1**
VRTB	**Varto-Mus**	**1.77**	**282**	*e*Pn	**Pn**	**11 23 17.4**	**+1.1**
VRTB	**Varto-Mus**	**1.77**	**282**	P	**Pb**	**11 23 18.2**	**-0.1**
HOMI	**Horasan**	**1.85**	**313**	*i* P	**Pn**	**11 23 19.1**	**+1.6**
BNGL	**BINGOL**	**1.98**	**275**	*i* P	**Pb**	**11 23 21.4**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**330**	*e*PN	**Pn**	**11 23 20.6**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**330**	*e*Pn	**Pn**	**11 23 20.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	*e*PN	**Pn**	**11 23 21.0**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.05**	**252**	*e*Pn	**Pn**	**11 23 21.0**	**+0.9**
BTMN	**Batman**	**2.10**	**245**	*i* P	**Pb**	**11 23 24.0**	**0.0**
BTMN	**Batman**	**2.10**	**245**	P	**Pb**	**11 23 24.0**	**0.0**
BNGB	**Bing¶ll**	**2.35**	**276**	*e*PN	**Pn**	**11 23 25.2**	**+1.0**
BINT	**Bingol**	**2.49**	**273**	*e*Pn	**Pn**	**11 23 25.2**	**-1.

468nm,26.5s
PPT Papeete 27.71 77 LR LR 11 39 07.2
comp=Z,173nm,18.6s,baz=256,slow=33
STKA Stephens Creek 35.57 252 P **P 11 31 01.9 +0.6**
4.3nm,1.0s,baz=71,slow=8.9,SNR=4.6
STKA LR LR 11 41 59.7
comp=Z,175nm,20.6s,baz=43,slow=30
PMG Port Moresby 37.14 291 LR LR 11 44 48.7
comp=Z,295nm,18.5s,baz=170,slow=33
RKT Rikitea 39.02 95 eLR LR 11 41 53.8
367nm,31.0s
ASAR Alice Springs 43.50 263 P **P 11 32 07.6 0.0**
12nm,1.1s,baz=108,slow=8.2,SNR=46
WRAB Tennant Creek 44.13 268 eP **P 11 32 11.0 -1.6**
15nm,1.0s
WRA Warramunga Arr 44.14 268 P **P 11 32 12.7 0.0**
12nm,0.9s,baz=105,slow=8.1,SNR=27
SBA Scott Base 51.88 184 eP **P 11 33 12.3 +0.6**
11nm,1.3s
FITZ Fitzroy Crossi 52.52 267 P **P 11 33 16.3 -1.0**
11nm,1.0s,baz=117,slow=5.5,SNR=11
FITZ PcP **PcP 11 34 29.1 +1.2**
3.9nm,0.4s,baz=303,slow=0.1,SNR=21
FITZ Fitzroy Crossi 52.52 267 eP **P 11 33 16.8 -0.5**
FITZ PcP **PcP 11 34 29.1 +1.2**
QSPA South Pole Qui 63.56 180 eP **P 11 34 33.3 -0.9**
46nm,1.1s
MAW Mawson 75.93 200 P P 11 35 47.3 -2.9
1.0nm,0.8s,baz=216,slow=5.3,SNR=4.2
SYO Syowa Base 80.88 193 eP P 11 36 14.4 -3.1
SNAA Sanae 82.00 178 eP P 11 36 21.7 -1.8
342nm,1.3s
CMB Columbia Colle 83.87 42 eP **P 11 36 33.7 +0.1**
12nm,0.9s
PLCA Paso Flores 85.10 133 P **P 11 36 39.5 -0.6**
3.5nm,1.0s,baz=255,slow=9.1,SNR=3.9
TUC Tucson 86.67 51 eP **P 11 36 49.2 +1.4**
5.3nm,1.0s
TXAR Lajitas Array 90.26 57 P **P 11 37 06.3 +1.3**
1.8nm,1.0s,baz=216,slow=7.7,SNR=9.3
CMAR Chiang Mai Arr 92.17 289 P **P 11 37 14.8 +0.9**
2.5nm,1.1s,baz=156,slow=2.3,SNR=12
CHTO Chiang Mai 92.33 290 eP **P 11 37 15.0 +0.3**
3.7nm,1.0s
PDAR Pinedale Array 93.31 43 P **P 11 37 18.2 -0.7**
2.0nm,0.9s,baz=100,slow=2.4,SNR=11
ILAR Eielson Array 94.16 13 P **P 11 37 22.1 0.0**
0.6nm,0.9s,baz=235,slow=5.9,SNR=4.4
MKAR Makanchi Array 115.30 312 PKP **PKPdf 11 42 43.6 -1.8**
0.8nm,0.9s,baz=72,slow=9.2,SNR=4.4
ARCES ARCESS Array B 134.83 349 PKP **PKPdf 11 43 20.0 -2.0**
2.2nm,0.8s,baz=352,slow=1.8,SNR=3.2
H10S3 ASCENSION HYDR 141.16 153 T T 14 21 29.6
baz=205,slow=75,SNR=26
H10S2 ASCENSION HYDR 141.16 153 T T 14 21 20.5
baz=205,slow=75,SNR=30
H10S1 ASCENSION HYDR 141.18 153 T T 14 21 23.6
baz=205,slow=75,SNR=35
FINES FINESS Array B 141.53 342 PKP **PKPdf 11 43 31.9 -2.5**
1.9nm,0.8s,baz=20,slow=2.0,SNR=2.5
H10N3 ASCENSION HYDR 142.24 153 T T 14 22 39.5
baz=206,slow=75,SNR=32
H10N1 ASCENSION HYDR 142.24 153 T T 14 22 43.3
baz=206,slow=75,SNR=40
H10N2 ASCENSION HYDR 142.25 153 T T 14 22 34.6
baz=206,slow=75,SNR=30
NB2 NORSAR Subarra 144.95 352 PKP **PKPab 11 43 39.2 -0.6**
comp=Z,17nm,0.9s,baz=19,slow=3.8
NOA NORSAR Array B 144.95 352 PKPbc **PKPab 11 43 39.2 -0.6**
comp=Z,12nm,0.9s,baz=17,slow=2.5,SNR=15
AKASG Malin Array Be 148.19 327 PKPbc **PKPdf 11 43 47.9 +1.6**
comp=Z,0.7nm,0.3s,baz=42,slow=3.4,SNR=8.1
KIEV Kiev 148.20 327 ePKPdf **PKPdf 11 43 45.7 -0.6**
KIEV ePKPbc **PKPbc 11 43 49.0 -0.6**
KIEV ePKPab **pPKPdf 11 43 52.0 +2.3**
BRTR Keskin Array B 150.63 305 PKPbc **PKPdf 11 43 55.1 +4.3**
comp=Z,2.0nm,1.0s,baz=149,slow=2.6,SNR=5.4
BRTR PKPab **pPKPbc 11 44 03.0 +3.3**
comp=Z,3.4nm,1.0s,baz=72,slow=5.3,SNR=5.5
CLL Collm 153.90 344 ePKPbc **PKPbc 11 44 04.0 +1.0**
BRG Berggiesshubel 154.06 343 e(P) **PKPbc 11 44 03.1 -0.2**
comp=Z,5.1nm,1.0s
TORD Torodi Ar. Bea 166.67 178 PKP **PKPdf 11 44 08.0 -2.2**
comp=Z,1.2nm,1.0s,baz=151,slow=1.3,SNR=5.6
TORD PKPab **PKPab 11 45 10.8 -1.6**
comp=Z,1.9nm,0.9s,baz=176,slow=4.3,SNR=7.1

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*ISK **28** 11:26:15.5, 38°.77N×43°.16E, h5km, ML2.9*
*ISCJB **28** 11:26:16.9±0.6, 38°.77N±0°.03×43°.15E±0°.05, h15km±5km, Error ellipse: s-maj=6.1km s-min=4.5km az=11.6*
*CSEM **28** 11:26:16.4±0.2, 38°.77N×43°.13E, h10km, ML2.9, Error ellipse: s-maj=4.9km s-min=4.3km az=95.0*
*DDA **28** 11:26:16.8, 38°.75N×43°.15E, h7km, Ml3.5*
ISC 28 11:26:16.6±1.0, **38°.76N**±0°.02×**43°.15E**±0°.03, **h10**km±10km, **n20**, σ0°**66**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**131**	*e*PG	**Pb**	**11 26 22.8**	**-0.6**
VANB				*e*SG	**Sb**	**11 26 28.6**	**+0.7**
VANB	**Van**	**0.25**	**131**	*e*Pg	**Pb**	**11 26 22.8**	**-0.6**
VANB				*e*Sg	**Sb**	**11 26 28.6**	**+0.7**
TVAN	**Van**	**0.31**	**139**	*i* P	**Pg**	**11 26 22.6**	**-0.3**
TVAN				*i* S	**Sg**	**11 26 28.1**	**+0.9**
TVAN	**Van**	**0.31**	**139**	P	**Pg**	**11 26 22.6**	**-0.3**
TVAN				S	**Sg**	**11 26 28.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.40**	**56**	*i* P	**Pg**	**11 26 24.9**	**+0.3**
VMUR				*i* S	**Sb**	**11 26 31.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.40**	**56**	P	**Pg**	**11 26 24.9**	**+0.3**
VMUR				S	**Sb**	**11 26 31.6**	**-0.7**
GEVA	**Gevas**	**0.46**	**189**	*i* P	**Pg**	**11 26 25.1**	**-0.5**
GEVA				*i* S	**Sb**	**11 26 33.2**	**-0.6**
GEVA	**Gevas**	**0.46**	**189**	P	**Pg**	**11 26 25.1**	**-0.5**
GEVA				S	**Sb**	**11 26 33.2**	**-0.6**
TUTA	**Tutak**	**0.69**	**338**	*i* P	**Pg**	**11 26 30.2**	**+0.2**
TUTA	**Tutak**	**0.69**	**338**	P	**Pg**	**11 26 30.2**	**+0.2**
CLDR	**Caldiran**	**0.71**	**57**	*e*PG	**Pg**	**11 26 30.3**	**-0.1**
CLDR				*e*SG	**Sb**	**11 26 40.9**	**-0.3**
CLDR	**Caldiran**	**0.71**	**57**	*i* P	**Pg**	**11 26 29.9**	**-0.5**
CLDR				*i* S	**Sg**	**11 26 39.5**	**-0.2**
CLDR	**Caldiran**	**0.71**	**57**	P	**Pg**	**11 26 29.9**	**-0.5**
CLDR	**Caldiran**	**0.71**	**57**	*e*Pg	**Pg**	**11 26 30.3**	**-0.1**
CLDR				S	**Sg**	**11 26 39.5**	**-0.2**
CLDR				*e*Sg	**Sb**	**11 26 40.9**	**-0.3**
TATV	**Tatvan**	**0.73**	**250**	*i* P	**Pg**	**11 26 30.6**	**-0.3**
TATV				*i* S	**Sg**	**11 26 41.1**	**+0.6**
TATV	**Tatvan**	**0.73**	**250**	P	**Pg**	**11 26 30.6**	**-0.3**
TATV				S	**Sg**	**11 26 41.1**	**+0.6**
AGRB	**Hanur-Agry**	**0.82**	**352**	*e*PG	**Pg**	**11 26 32.5**	**0.0**
AGRB				*e*SG	**Sb**	**11 26 44.7**	**+0.3**
AGRB	**Hanur-Agry**	**0.82**	**352**	*e*Pg	**Pg**	**11 26 32.5**	**0.0**
AGRB				*e*Sg	**Sb**	**11 26 44.7**	**+0.3**
EATA	**Eleskirt**	**1.21**	**335**	*i* P	**Pg**	**11 26 38.5**	**-1.4**
EATA				*i* S	**Sn**	**11 26 57.8**	**+1.2**
EATA	**Eleskirt**	**1.21**	**335**	P	**Pg**	**11 26 38.5**	**-1.4**
EATA				S	**Sn**	**11 26 57.8**	**+1.2**

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*AZER **28** 11:27:42.9±0.4, 38°.38N×43°.40E, h8km, Error ellipse: s-maj=4.5km s-min=3.2km az=134.0*
*ISK **28** 11:27:44.7, 38°.95N×43°.53E, h5km, ML3.5*
*DDA **28** 11:27:45.9, 38°.92N×43°.54E, h7km, Ml3.9*
*IASPEI **28** 11:27:46.4±0.9, 38°.92N±0°.03×43°.52E±0°.03, h5km±8km, Error ellipse: s-maj=4.9km s-min=3.8km az=93.1, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **28** 11:27:46.4±0.2, 38°.90N×43°.51E, h2km, ML3.9, Error ellipse: s-maj=6.2km s-min=4.8km az=150.0*
ISC 28 11:27:46.3±0.9, **38°.92N**±0°.02×**43°.54E**±0°.02, **h5**km±6km, **n89**, σ1°**36**/112, **14C-11D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.08**	**21**	*i* P	**Pg**	**11 27 47.9**	**-0.3**
VMUR				*i* S	**Sg**	**11 27 50.2**	**+0.7**
VMUR	**Van-Muradiye**	**0.08**	**21**	P	**Pg**	**11 27 47.9**	**-0.3**
VMUR				S	**Sg**	**11 27 50.2**	**+0.7**
VANB	**Van**	**0.34**	**200**	*e*PG	**Pb**	**11 27 54.4**	**-0.5**
VANB				*e*SG	**Sb**	**11 28 02.4**	**+1.7**
VANB	**Van**	**0.34**	**200**	*e*Pg	**Pb**	**11 27 54.4**	**-0.5**
CLDR	**Caldiran**	**0.37**	**53**	*e*PG	**Pg**	**11 27 52.9**	**-0.7**
CLDR				*e*SG	**Sg**	**11 27 59.0**	**+0.5**
CLDR	**Caldiran**	**0.37**	**53**	*i* P	**Pg**	**11 27 52.8**	**-0.7**
CLDR				*i* S	**Sg**	**11 27 59.3**	**+0.7**
CLDR	**Caldiran**	**0.37**	**53**	*e*Pg	**Pg**	**11 27 52.9**	**-0.7**
CLDR				*e*Sg	**Sg**	**11 27 59.0**	**+0.5**
TVAN	**Van**	**0.40**	**195**	*i* P	**Pg**	**11 27 54.2**	**+0.1**
TVAN				*i* S	**Sb**	**11 28 02.7**	**+0.2**
TVAN	**Van**	**0.40**	**195**	P	**Pg**	**11 27 54.2**	**+0.1**
DYDN	**Diyadin**	**0.64**	**11**	*i* P	**Pg**	**11 27 58.2**	**-0.4**
DYDN				*i* S	**Sg**	**11 28 07.5**	**+0.6**
DYDN	**Diyadin**	**0.64**	**11**	P	**Pg**	**11 27 58.2**	**-0.4**
DYDN				S	**Sg**	**11 28 07.5**	**+0.6**
GEVA	**Gevas**	**0.71**	**212**	*i* P	**Pg**	**11 27 59.3**	**-0.7**
GEVA	**Gevas**	**0.71**	**212**	P	**Pg**	**11 27 59.3**	**-0.7**
TUTA	**Tutak**	**0.74**	**311**	*i* P	**Pg**	**11 27 59.9**	**-0.7**
TUTA				*i* S	**Sb**	**11 28 11.3**	**-1.0**
TUTA	**Tutak**	**0.74**	**311**	P	**Pg**	**11 27 59.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.78**	**327**	*e*PG	**Pg**	**11 27 60.0**	**-1.3**
AGRB	**Hanur-Agry**	**0.78**	**327**	*e*Pg	**Pg**	**11 28 00.0**	**-1.3**
BASK	**Baskale_VAN**	**0.94**	**157**	*i* P	**Pg**	**11 28 03.9**	**-0.4**
BASK				*i* S	**Sn**	**11 28 21.4**	**+1.2**
BASK	**Baskale_VAN**	**0.94**	**157**	P	**Pg**	**11 28 03.9**	**-0.4**
TATV	**Tatvan**	**1.07**	**248**	*i* P	**Pg**	**11 28 05.8**	**-1.1**
TATV	**Tatvan**	**1.07**	**248**	P	**Pg**	**11 28 05.8**	**-1.1**
EKAR	**Karacoban**	**1.19**	**287**	*i* P	**Pn**	**11 28 10.6**	**+0.8**
EKAR	**Karacoban**	**1.19**	**287**	P	**Pn**	**11 28 10.6**	**+0.8**
EATA	**Eleskirt**	**1.24**	**320**	*i* P	**Pg**	**11 28 09.2**	**-0.9**
EATA	**Eleskirt**	**1.24**	**320**	P	**Pg**	**11 28 09.2**	**-0.9**
DIGO	**Kars**	**1.50**	**355**	*i* P	**Pg**	**11 28 14.9**	**-0.2**
DIGO	**Kars**	**1.50**	**355**	P	**Pg**	**11 28 14.9**	**-0.2**
NAX	**Nakhchivan**	**1.55**	**80**	⇓P	**Pn**	**11 28 14.9**	**+0.3**
NAX				⇓S	**Sg**	**11 28 38.6**	**+2.6**
NAX	**Nakhchivan**	**1.55**	**80**	P	**Pn**	**11 28 14.9**	**+0.3**
NAX				S	**Sg**	**11 28 38.6**	**+2.6**
VRTB	**Varto-Mus**	**1.64**	**279**	*e*PN	**Pn**	**11 28 15.5**	**-0.4**
VRTB	**Varto-Mus**	**1.64**	**279**	*e*Pn	**Pn**	**11 28 15.5**	**-0.4**
CUKT	**Cukurca**	**1.67**	**178**	*e*PN	**Pb**	**11 28 16.8**	**-0.8**
CUKT	**Cukurca**	**1.67**	**178**	*i* P	**Pg**	**11 28 18.0**	**-0.3**
CUKT	**Cukurca**	**1.67**	**178**	*e*Pn	**Pb**	**11 28 16.8**	**-0.8**
CUKT	**Cukurca**	**1.67**	**178**	P	**Pg**	**11 28 18.0**	**-0.3**
HOMI	**Horasan**	**1.69**	**312**	*i* P	**Pg**	**11 28 18.8**	**0.0**
EAK	**Akyaka**	**1.77**	**2**	*i* P	**Pg**	**11 28 23.2**	**+3.0**
BNGL	**BINGOL**	**1.86**	**272**	*i* P	**Pg**	**11 28 21.6**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.88**	**331**	*e*PN	**Pn**	**11 28 19.1**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.88**	**331**	*e*Pn	**Pn**	**11 28 19.1**	**-0.1**
ERZM	**Erzurum**	**1.95**	**301**	*i* P	**Pb**	**11 28 22.0**	**-0.4**
ERZM	**Erzurum**	**1.95**	**301**	P	**Pb**	**11 28 22.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99**	**248**	*e*PN	**Pn**	**11 28 21.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.99**	**248**	*i* P	**Pn**	**11 28 23.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.99**	**248**	*e*Pn	**Pn**	**11 28 21.5**	**+0.9**
BNGB	**Bing¶ll**	**2.23**	**273**	*e*PN	**Pn**	**11 28 24.4**	**+0.5**
BINT	**Bingol**	**2.38**	**270**	*e*Pn	**Pn**	**11 28 24.4**	**-1.6**
GDB	**GEDABAY**	**2.48**	**43**	⇑P	**Pb**	**11 28 30.7**	**-0.8**
GDB				⇑S	**Sg**	**11 29 06.5**	**+0.4**
GDB	**GEDABAY**	**2.48**	**43**	P	**Pb**	**11 28 30.7**	**-0.8**
AKH	**Akhalkalaki**	**2.49**	**359**	*e*PN	**Pn**	**11 28 28.0**	**+0.4**
AKH	**Akhalkalaki**	**2.49**	**359**	*e*Pn	**Pn**	**11 28 28.0**	**+0.4**
QZX	**Qazax, Azerbai**	**2.56**	**33**	⇑P	**Pb**	**11 28 31.6**	**-1.1**
QZX				⇓S	**Sg**	**11 29 09.3**	**+0.7**
QZX	**Qazax, Azerbai**	**2.56**	**33**	P	**Pb**	**11 28 31.6**	**-1.1**
GANJ	**Ganja**	**2.75**	**50**	⇓P	**Pn**	**11 28 33.2**	**+2.1**
GANJ				⇑S	**Sg**	**11 29 13.1**	**-1.7**
GANJ	**Ganja**	**2.75**	**50**	P	**Pn**	**11 28 33.2**	**+2.1**
MAZI	**Mazidag**	**2.84**	**240**	*e*PN	**Pn**	**11 28 32.7**	**+0.4**
MAZI	**Mazidag**	**2.84**	**240**	*e*Pn	**Pn**	**11 28 32.7**	**+0.4**
DGRG	**David-gareji**	**2.90**	**29**	P	**Pn**	**11 28 35.2**	**+2.1**
ERZN	**Erzincan**	**3.04**	**284**	*e*PN	**Pn**	**11 28 36.0**	**+0.9**
BRDA	**Brd**	**3.12**	**63**	⇑P	**Pn**	**11 28 37.2**	**+1.1**
BRDA				⇑S	**Sb**	**11 29 19.8**	**-0.7**
BRDA	**Brd**	**3.12**	**63**	P	**Pn**	**11 28 37.2**	**+1.1**
BRDA				S	**Sb**	**11 29 19.8**	**-0.7**
PTK	**Pertek**	**3.23**	**271**	*e*PN	**Pn**	**11 28 39.0**	**+1.1**
PTK	**Pertek**	**3.23**	**271**	*e*Pn	**Pn**	**11 28 39.0**	**+1.1**
MNGR	**Mingechevir, A**	**3.30**	**55**	⇑S	**Sb**	**11 29 25.5**	**-0.2**
EZC	**Erzincan**	**3.35**	**286**	*e*Pn	**Pn**	**11 28 36.0**	**-3.4**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*PN	**Pn**	**11 28 39.6**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*Pn	**Pn**	**11 28 39.6**	**+0.1**
ZRD	**Zardab**	**3.48**	**66**	⇑S	**Sb**	**11 29 28.1**	**-2.8**
ZRD	**Zardab**	**3.48**	**66**	S	**Sb**	**11 29 28.1**	**-2.8**
ZKTA	**Zakatala**	**3.60**	**40**	⇓P	**Pn**	**11 28 45.9**	**+3.2**
ZKTA				⇓S	**Sb**	**11 29 34.9**	**+0.5**
SEKA	**Sheki**	**3.62**	**50**	⇓P	**Pn**	**11 28 46.5**	**+3.4**
SEKA	**Sheki**	**3.62**	**50**	P	**Pn**	**11 28 46.5**	**+3.4**
LRK	**Lerik**	**3.77**	**93**	⇓P	**Pn**	**11 28 43.2**	**-1.9**
LRK				⇑S	**Sn**	**11 29 28.9**	**-1.0**
LRK	**Lerik**	**3.77**	**93**	P	**Pn**	**11 28 43.2**	**-1.9**
LRK				S	**Sn**	**11 29 28.9**	**-1.0**
GLBA	**Cililabad**	**3.79**	**84**	⇓P	**Pn**	**11 28 44.6**	**-0.7**
GLBA				⇓S	**Sn**	**11 29 32.5**	**+2.1**
GLBA	**Cililabad**	**3.79**	**84**	P	**Pn**	**11 28 44.6**	**-0.7**
GLBA				S	**Sn**	**11 29 32.5**	**+2.1**
QBL	**Gabala**	**3.88**	**57**	⇑S	**Sb**	**11 29 39.1**	**-3.3**
URFA	**Urfa**	**4.00**	**250**	*e*PN	**Pn**	**11 28 49.5**	**+1.3**
URFA	**Urfa**	**4.00**	**250**	*e*Pn	**Pn**	**11 28 49.6**	**+1.3**
LKRN	**Lenkeran, Azer**	**4.10**	**91**	⇑P	**Pn**	**11 28 48.1**	**-1.5**
LKRN	**Lenkeran, Azer**	**4.10**	**91**	P	**Pn**	**11 28 48.1**	**-1.5**
ASTR	**Astara**	**4.12**	**93**	⇑P	**Pn**	**11 28 48.1**	**-1.8**
ASTR	**Astara**	**4.12**	**93**	P	**Pn**	**11 28 48.1**	**-1.8**
XNQ	**Khinaliq**	**4.19**	**56**	⇑P	**Pn**	**11 28 53.0**	**+2.0**
XNQ	**Khinaliq**	**4.19**	**56**	P	**Pn**	**11 28 53.0**	**+2.0**
ATGJ	**Altiaghaj**	**4.59**	**63**	⇑P	**Pn**	**11 28 57.3**	**+0.9**
ATGJ	**Altiaghaj**	**4.59**	**63**	P	**Pn**	**11 28 57.3**	**+0.9**
SIZA	**Siyzn**	**4.65**	**61**	⇓P	**Pn**	**11 28 58.8**	**+1.6**
SIZA	**Siyzn**	**4.65**	**61**	P	**Pn**	**11 28 58.8**	**+1.6**

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*IDC **28** 11:29:51.0±1.0, 28°.29S×175°.98W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/30, mbtmp4.1/10, ML4.2/2, Error ellipse: s-maj=25.4km s-min=21.6km az=113.0*
*ISCJB **28** 11:29:55.4±1.2, 28°.35S±0°.07×176°.2W±0°.2, h36km, mb4.3/12, Error ellipse: s-maj=23.7km s-min=8.9km az=168.1*
*NEIC **28** 11:29:56.6±0.8, 28°.32S×176°.10W, h35km, mb4.8/5, Error ellipse: s-maj=18.9km s-min=11.4km az=83.0*
ISC 28 11:29:56.4±0.8, **28°.38S**±0°.07×**176°.0W**±0°.1, **h36**km, **n22**, σ2°**04**/26, **mb4.1**/12, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.91**	**242**	Pn	**Pn**	**11 30 26.7**	**+0.3**
	199nm,0.3s,baz=333,slow=23,SNR=9.9						
RAO				Sn	**Sn**	**11 30 52.0**	**+2.9**
	178nm,0.3s,baz=100,slow=20,SNR=15						
RAO	**Raoul Island**	**1.91**	**242**	*e*Pn	**Pn**	**11 30 25.5**	**-0.9**
RAO				*e*Sn	**Sn**	**11 30 52.7**	**+3.6**
URZ	**Urewera**	**11.41**	**209**	Pn	**Pn**	**11 32 36.8**	**-0.1**
	1.0nm,0.3s,baz=303,slow=3.3,SNR=6.5						
URZ				Sn	**Sn**	**11 34 36.3**	**-6.8**
	0.8nm,0.3s,baz=18,slow=22,SNR=7.1						
MSVF	**Nonsavu**	**11.93**	**331**	*e*Pn	**Pn**	**11 32 41.0**	**-3.1**
MSVF				*e*Sn	**Sn**	**11 34 55.9**	**-0.2**
RPZ	**Rata Peaks**	**18.51**	**211**	P	**P**	**11 34 09.0**	**-0.5**
	1.1nm,0.3s,baz=222,slow=0.9,SNR=5.3						
HNR	**Honiara**	**29.45**	**305**	*e*P	**P**	**11 35 57.6**	**+0.6**
	49nm,0.7s						
CTA	**Charters Tower**	**35.30**	**275**	P	**P**	**11 36 49.1**	**+0.9**
	1.1nm,0.3s,baz=131,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**36.69**	**254**	P	**P**	**11 37 00.8**	**+0.8**
	3.8nm,0.8s,baz=105,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**45.02**	**264**	P	**P**	**11 38 07.0**	**-1.7**
	0.9nm,0.6s,baz=101,slow=6.9,SNR=19						
WRAB	**Tennant Creek**	**45.83**	**269**	*e*P	**P**	**11 38 14.3**	**-0.9**
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**45.84**	**269**	P	**P**	**11 38 13.4**	**-1.8**
	1.4nm,0.7s,baz=108,slow=7.8,SNR=8.6						
VNDA	**Vanda**	**50.28**	**186**	P	**P**	**11 38 50.4**	**+1.7**
	1.1nm,0.9s,baz=38,slow=6.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**54.17**	**267**	P	**P**	**11 39 18.0**	**-0.4**
	2.2nm,0.9s,baz=145,slow=9.9,SNR=4.0						
FITZ	**Fitzroy Crossi**	**54.17**	**267**	*e*P	**P**	**11 39 17.9**	**-0.6**
	1.8nm,0.7s						
QSPA	**South Pole Qui**	**61.72**	**180**	*e*P	**P**	**11 40 12.1**	**+1.1**
	13nm,0.8s						
KAPI	**Kappang**	**65.03**	**278**	*e*P	**P**	**11 40 34.4**	**+1.0**
	11nm,1.0s						
MAW	**Mawson**	**74.80**	**200**	P	**P**	**11 41 33.2**	**+0.6**
	1.4nm,0.7s,baz=136,slow=7.5,SNR=12						
MJAR	**Matsushiro Arr**	**77.62**	**324**	P	**P**	**11 41 50.1**	**+1.2**
	1.0nm,0.8s,baz=157,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**117.81**	**310**	PKP	**PKPdf**	**11 48 38.9**	**+0.2**
	0.3nm,0.7s,baz=14,slow=1.8,SNR=3.0						
FINES	**FINESS Array B**	**143.81**	**342**	PKhKP	PKPre	11 49 23.0	
	2.9nm,1.0s,baz=48,slow=2.8,SNR=3.5						
AKASG	**Malin Array Be**	**150.68**	**326**	PKPbc	**PKPbc**	**11 49 43.2**	**-1.1**
	2.0nm,0.6s,baz=50,slow=3.0,SNR=11						
AKASG				PKPab	**PKPab**	**11 49 51.1**	**-0.2**
	2.9nm,0.8s,baz=44,slow=2.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**164.69**	**171**	PKPab	**PKPab**	**11 50 52.2**	**-0.2**
	0.9nm,0.7s,baz=186,slow=3.8,SNR=5.7						

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*ISK **28** 11:40:53.9, 38°.68N×43°.20E, h5km, ML3.2*
*CSEM **28** 11:40:54.8±0.2, 38°.69N×43°.15E, h2km, ML3.2, Error ellipse: s-maj=4.2km s-min=4.1km az=125.0*
*DDA **28** 11:40:54.0, 38°.66N×43°.14E, h7km, Ml3.6*
ISC 28 11:40:54.9±0.9, **38°.69N**±0°.02×**43°.14E**±0°.02, **h11**km±8km, **n48**, σ1°**05**/70, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**115**	*e*PG	**Pg**	**11 40 59.6**	**+0.1**
VANB				*e*SG	**Sg**	**11 41 04.1**	**+1.4**
VANB	**Van**	**0.22**	**115**	*e*Pg	**Pg**	**11 40 59.6**	**+0.1**
VANB				*e*Sg	**Sg**	**11 41 04.1**	**+1.4**
TVAN	**Van**	**0.26**	**127**	*i* P	**Pg**	**11 40 59.4**	**-1.0**
TVAN				*i* S	**Sg**	**11 41 04.0**	**0.0**
TVAN	**Van**	**0.26**	**127**	P	**Pg**	**11 40 59.4**	**-1.0**
TVAN				S	**Sg**	**11 41 04.1**	**0.0**
GEVA	**Gevas**	**0.38**	**189**	*i* P	**Pg**	**11 41 01.6**	**-0.9**
GEVA				*i* S	**Sb**	**11 41 08.5**	**-1.2**
GEVA	**Gevas**	**0.38**	**189**	P	**Pg**	**11 41 01.6**	**-0.9**
GEVA				S	**Sb**	**11 41 08.5**	**-1.2**
VMUR	**Van-Muradiye**	**0.45**	**48**	*i* P	**Pg**	**11 41 03.5**	**-0.4**
VMUR				*i* S	**Sb**	**11 41 10.2**	**-1.7**
VMUR	**Van-Muradiye**	**0.45**	**48**	P	**Pg**	**11 41 03.5**	**-0.4**
VMUR				S	**Sb**	**11 41 10.2**	**-1.7**
TATV	**Tatvan**	**0.70**	**256**	*i* P	**Pg**	**11 41 07.1**	**-1.5**
TATV				*i* S	**Sg**	**11 41 16.6**	**-1.2**
TATV	**Tatvan**	**0.70**	**256**	P	**Pg**	**11 41 07.1**	**-1.5**
TATV				S	**Sg**	**11 41 16.6**	**-1.2**
TUTA	**Tutak**	**0.76**	**341**	*i* P	**Pg**	**11 41 08.8**	**-0.8**
TUTA	**Tutak**	**0.76**	**341**	P	**Pg**	**11 41 08.8**	**-0.8**
CLDR	**Caldiran**	**0.76**	**53**	*e*PG	**Pg**	**11 41 08.9**	**-0.7**
CLDR	**Caldiran**	**0.76**	**53**	*i* P	**Pg**	**11 41 08.9**	**-0.7**
CLDR				*i* S	**Sb**	**11 41 20.0**	**-0.7**
CLDR	**Caldiran**	**0.76**	**53**	P	**Pg**	**11 41 08.9**	**-0.7**
CLDR				S	**Sb**	**11 41 20.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.90**	**353**	*e*PG	**Pg**	**11 41 11.8**	**-0.4**
AGRB				*e*SG	**Sn**	**11 41 26.4**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**353**	*e*Pg	**Pg**	**11 41 11.8**	**-0.4**
BASK	**Baskale_VAN**	**0.93**	**133**	*i* P	**Pg**	**11 41 11.2**	**-1.7**
BASK				*i* S	**Sb**	**11 41 24.9**	**-0.7**
BASK	**Baskale_VAN**	**0.93**	**133**	P	**Pg**	**11 41 11.2**	**-1.7**
BASK				S	**Sb**	**11 41 24.9**	**-0.7**
DYDN	**Diyadin**	**0.96**	**26**	*i* P	**Pg**	**11 41 12.7**	**-0.7**
DYDN	**Diyadin**	**0.96**	**26**	P	**Pg**	**11 41 12.7**	**-0.7**
EKAR	**Karacoban**	**1.01**	**305**	*i* P	**Pb**	**11 41 14.2**	**-0.4**
EKAR	**Karacoban**	**1.01**	**305**	P	**Pb**	**11 41 14.2**	**-0.4**
EATA	**Eleskirt**	**1.28**	**337**	*i* P	**Pg**	**11 41 18.5**	**-0.9**
EATA				*i* S	**Sn**	**11 41 37.6**	**+1.3**
EATA	**Eleskirt**	**1.28**	**337**	P	**Pg**	**11 41 18.5**	**-0.9**
EATA				S	**Sn**	**11 41 37.6**	**+1.3**

BTMN	**Batman**	**1.98 245**	*i* P	**Pb**	**11 49 47.1**	**+0.6**
BTMN			*i* S	**Sb**	**11 50 13.9**	**+3.1**
BTMN	**Batman**	**1.98 245**	P	**Pb**	**11 49 47.1**	**+0.6**
MARD	**Mardin**	**2.61 237**	*i* P	**Pb**	**11 49 56.8**	**-0.5**
MARD			*i* S	**Sb**	**11 50 27.3**	**-1.6**
DGRG	**David-gareji**	**3.04 27**	P	**Pb**	**11 50 08.7**	**+4.1**

KRNET ***28*** *11:53:28.2±0.1, 42°.99N×71°.15E, h1km, mb2.5*
ISCJB ***28*** *11:53:29.8±0.4, 42°.93N±0°.08×71°.05E±0°.06, h0km, Error ellipse: s-maj=13.0km s-min=2.1km az=25.7*
NNC ***28*** *11:53:29.1±0.6, 42°.89N×71°.08E, h0km, mb2.4, mpv2.2, Error ellipse: s-maj=35.6km s-min=1.5km az=23.0*

ISC 28 11:53:29.1±0.9, 43°.0N±0°.1×71°.13E±0°.04, h0km, n18, σ0s56/35, 26C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK06	**Karatay Array**	**0.46**	**287**	⇑P	**Pg**	**11 53 38.0**	**+0.2**
KK06				⇓S	**Sg**	**11 53 43.8**	**+0.1**
KK05	**Karatay Array**	**0.47**	**289**	⇑P	**Pg**	**11 53 38.2**	**+0.2**
KK05				⇑S	**Sg**	**11 53 44.1**	**+0.1**
KK02	**Karatay Array**	**0.47**	**287**	⇑P	**Pg**	**11 53 38.3**	**+0.2**
KK02				⇑S	**Sg**	**11 53 44.4**	**+0.2**
KK31	**Karatay Array**	**0.47**	**287**	⇑P	**Pg**	**11 53 38.4**	**+0.3**
	1.8nm,0.5s,baz=330,slow=40,SNR=74						
KK31				⇓S	**Sg**	**11 53 44.3**	**+0.1**
	3.7nm,0.4s,baz=119,slow=32,SNR=33						
KK07	**Karatay Array**	**0.47**	**285**	⇑P	**Pg**	**11 53 38.3**	**+0.2**
KK07				⇑S	**Sg**	**11 53 44.2**	**-0.1**
KK01	**Karatay Array**	**0.47**	**287**	⇑P	**Pg**	**11 53 38.4**	**+0.2**
KK01				⇑S	**Sg**	**11 53 44.4**	**0.0**
KK04	**Karatay Array**	**0.48**	**288**	⇑P	**Pg**	**11 53 38.4**	**+0.2**
KK04				⇑S	**Sg**	**11 53 44.1**	**-0.3**
KK03	**Karatay Array**	**0.48**	**287**	⇑P	**Pg**	**11 53 38.4**	**+0.2**
KK03				⇑S	**Sg**	**11 53 44.4**	**0.0**
KK09	**Karatay Array**	**0.48**	**289**	⇑P	**Pg**	**11 53 38.6**	**+0.2**
KK09				⇑S	**Sg**	**11 53 44.9**	**+0.2**
KK08	**Karatay Array**	**0.49**	**287**	⇑P	**Pg**	**11 53 38.6**	**+0.2**
KK08				⇓S	**Sg**	**11 53 44.9**	**+0.1**
MNAS	**Manas**	**1.12**	**115**	⇓*i*P	**Pg**	**11 53 49.8**	**-0.8**
	baz=116						
MNAS				⇓*i*S	**Sb**	**11 54 06.3**	**-0.4**
	baz=116						
MNAS	**Manas**	**1.12**	**115**	⇑P	**Pg**	**11 53 50.6**	**0.0**
	3.3nm,1.0s						
MNAS				⇓S	**Sg**	**11 54 05.7**	**+0.6**
	1.9nm,0.4s						
ARK	**Arkit**	**1.32**	**152**	⇓*i*P	**Pn**	**11 53 54.8**	**-0.1**
	baz=153						
ARK				⇓*i*S	**Sn**	**11 54 13.9**	**+0.7**
	baz=153						
TOKL	**Toktogul**	**1.65**	**128**	⇑*i*P	**Pn**	**11 53 59.4**	**0.0**
	baz=129						
TOKL				⇑*i*S	**Sg**	**11 54 22.7**	**+0.7**
	baz=129						
EKS2	**Erkin-Say**	**1.98**	**98**	⇑*i*P	**Pg**	**11 54 07.0**	**+0.1**
	baz=98						
EKS2				⇑*i*S	**Sg**	**11 54 33.5**	**+1.0**
	baz=98						
AML	**Almayashu**	**2.07**	**113**	⇑*i*P	**Pb**	**11 54 07.6**	**-0.2**
	baz=114						
AML				⇑*i*S	**Sb**	**11 54 34.6**	**+0.3**
	baz=114						
AAK	**Ala-Archa**	**2.50**	**96**	Pg	**Pb**	**11 54 13.7**	**-1.3**
	2.6nm,0.8s						
AAK				Lg	Lg	11 54 49.2	
	2.7nm,0.7s						
ARLS	**Aral**	**2.61**	**114**	⇑*i*P	**Pn**	**11 54 14.1**	**+1.4**
	baz=114						
ARLS				⇑*i*S	**Sb**	**11 54 47.9**	**-1.6**
	baz=114						

IDC ***28*** *11:55:19.8±1.5, 28°.07S×176°.05W, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/19, mbtmp4.0/7, ML4.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/27, Error ellipse: s-maj=34.0km s-min=27.6km az=18.0*
NEIC ***28*** *11:55:26.1±1.1, 28°.17S×176°.21W, h35km, mb4.5/4, Error ellipse: s-maj=25.9km s-min=16.6km az=215.0*

ISC 28 11:55:25.1±1.0, 28°.1S±0°.2×176°.2W±0°.1, h28km, n17, σ1s11/17, mb4.1/9, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.90**	**234**	Pn	**Pn**	**11 55 56.4**	**+0.9**
	78nm,0.3s,baz=30,slow=20,SNR=4.1						
RAO				Sn	**Sb**	**11 56 22.7**	**+0.5**
	138nm,0.3s,baz=277,slow=23,SNR=6.2						
RAO	**Raoul Island**	**1.90**	**234**	*e*Pn	**Pn**	**11 55 55.0**	**-0.6**
RAO				*e*Sn	**Sb**	**11 56 21.6**	**-0.7**
URZ	**Urewera**	**11.55**	**207**	Pn	Pn	11 58 01.1	-7.0
	0.3nm,0.3s,baz=0.0,slow=14,SNR=4.3						
URZ				Sn	Sn	12 00 05.2	-11
	0.4nm,0.3s,baz=195,slow=19,SNR=5.2						
DZM	**Mont Dzumac**	**16.86**	**287**	LR	LR	12 04 23.4	
	comp=Z,187nm,19.4s,baz=30,slow=32						
CTA	**Charters Tower**	**35.11**	**275**	P	**P**	**12 02 15.2**	**-1.1**
	2.2nm,0.6s,baz=117,slow=2.3,SNR=2.6						
CTAO	**Charters Tower**	**35.11**	**275**	*e*P	**P**	**12 02 17.7**	**+1.5**
	23nm,0.9s						
STKA	**Stephens Creek**	**36.60**	**254**	P	**P**	**12 02 29.2**	**+0.3**
	3.7nm,0.8s,baz=104,slow=9.6,SNR=5.9						
ASAR	**Alice Springs**	**44.88**	**264**	P	**P**	**12 03 36.8**	**-0.6**
	0.9nm,0.6s,baz=97,slow=7.4,SNR=16						
ASAR				LR	LR	12 20 41.6	
	comp=Z,54nm,19.0s,baz=142,slow=34						
WRAB	**Tennant Creek**	**45.67**	**269**	*e*P	**P**	**12 03 42.7**	**-0.9**
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**45.67**	**269**	P	**P**	**12 03 43.1**	**-0.6**
	1.4nm,0.7s,baz=107,slow=7.6,SNR=6.4						
SBA	**Scott Base**	**50.41**	**185**	*e*P	**P**	**12 04 21.2**	**+1.7**
	1.7nm,0.8s						
VNDA	**Vanda**	**50.50**	**186**	P	**P**	**12 04 19.7**	**-0.4**
	0.4nm,0.8s,baz=355,slow=7.7,SNR=2.9						
QSPA	**South Pole Qui**	**61.97**	**180**	*e*P	**P**	**12 05 41.6**	**-0.7**
	15nm,1.1s						
MAW	**Mawson**	**74.98**	**200**	P	**P**	**12 07 03.1**	**-0.2**
	1.5nm,0.8s,baz=123,slow=6.0,SNR=5.5						
SYO	**Syowa Base**	**79.67**	**192**	⇓*e*PcP	**PcP**	**12 07 39.0**	**+1.7**
AKASG	**Malin Array Be**	**150.39**	**327**	PKPbc	**PKPbc**	**12 15 14.2**	**+0.7**
	0.4nm,0.4s,baz=42,slow=2.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**164.95**	**172**	PKPab	**PKPab**	**12 16 21.5**	**-1.9**
	0.4nm,0.6s,baz=192,slow=4.2,SNR=5.7						

MOS ***28*** *12:09:29.2±1.2, 45°.46N×151°.79E, h44km, mb4.1/1, Error ellipse: s-maj=31.3km s-min=15.3km az=175.1*
SKHL ***28*** *12:09:33.0±0.4, 45°.46N×151°.50E, h47km±4km, mb4.5/3*

ISC 28 12:09:33.5±3.9, 45°.3N±0°.1×151°.5E±0°.2, h35km, n21, σ2s23/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**269**	*e*PN	**Pn**	**12 10 12.5**	**-0.1**
KUR				pmax	pmax		
	comp=Z,208nm,0.2s						
KUR				pmax	pmax		
	comp=N,140nm,0.2s						
KUR	**Kuril'sk**	**2.57**	**269**	*e*P	**Pn**	**12 10 11.9**	**-0.7**
KUR				AMB	AMB	12 10 13.0	
	comp=N,173nm,0.5s						
KUR				*e*S	**Sn**	**12 10 41.0**	**-1.5**
KUR				A	A	12 10 44.9	
	comp=N,210nm,0.3s						
SHO	**Shikotan**	**3.64**	**248**	*e*PN	**Pn**	**12 10 27.8**	**+0.6**
SHO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SHO	**Shikotan**	**3.64**	**248**	*e*P	**Pn**	**12 10 27.8**	**+0.6**
SHO				AMB	AMB	12 10 31.0	
	comp=Z,56nm,0.7s						
SHO				*e*S	**Sn**	**12 11 09.2**	**+0.3**
SHO				A	A	12 11 19.9	
	comp=Z,210nm,0.6s						
SHO				A	A	12 11 19.9	
	comp=Z,87nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.22**	**254**	*e*PN	**Pn**	**12 10 36.3**	**+1.0**
YUK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.22**	**254**	*e*P	**Pn**	**12 10 36.3**	**+1.0**
YUK				AMB	AMB	12 10 36.6	
	comp=Z,53nm,0.6s						
YUK				*e*S	**Sn**	**12 11 23.5**	**+0.2**
YUK				A	A	12 11 30.3	
	comp=Z,42nm,0.3s						
YUK				A	A	12 11 30.3	
	comp=Z,230nm,0.3s						
NEM2	**Nemuro 2**	**4.57**	**247**	P	**Pn**	**12 10 41.0**	**+1.0**
NEM2				*e*S	**Sn**	**12 11 32.2**	**+0.4**
JNK	**Nakash**	**5.16**	**253**	P	**Pn**	**12 10 50.3**	**+2.2**
JNK				*e*S	**Sn**	**12 11 49.5**	**+3.1**
JAK	**Akkeshi**	**5.42**	**247**	P	**Pn**	**12 10 52.6**	**+0.9**
JAR	**Ashorobuto**	**5.90**	**253**	P	**Pn**	**12 11 00.7**	**+2.3**
JAR				*e*S	**Sn**	**12 12 08.9**	**+4.1**
JMP	**Maruseppu**	**5.95**	**260**	P	**Pn**	**12 11 02.3**	**+3.2**
JOB	**Onbets**	**6.02**	**249**	P	**Pn**	**12 11 01.7**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.30**	**288**	*e*PN	**Pn**	**12 11 04.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**6.30**	**288**	*e*P	**Pn**	**12 11 04.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**7.02**	**247**	P	**Pn**	**12 11 14.7**	**+1.0**
JNBK				*e*S	**Sn**	**12 12 31.3**	**-0.9**
JBT2	**Biratori 2**	**7.06**	**252**	P	**Pn**	**12 11 15.7**	**+1.5**
JNB	**Noboribetsu**	**8.07**	**253**	P	**Pn**	**12 11 29.7**	**+1.5**
TYV	**Tymovskoe**	**8.12**	**316**	*e*PN	**Pn**	**12 11 28.0**	**-0.7**
TYV	**Tymovskoe**	**8.12**	**316**	*e*P	**Pn**	**12 11 28.0**	**-0.7**
JKB	**Kayabe**	**8.33**	**249**	P	**Pn**	**12 11 32.1**	**+0.4**
JKB				*e*S	**Sn**	**12 13 00.0**	**-4.5**
JANG	**Nango**	**8.84**	**240**	P	**Pn**	**12 11 38.0**	**-0.7**
JANG				*e*S	**Sn**	**12 13 10.1**	**-7.0**

MEX 28 12:22:18.3±0.6, 29°.03N×113°.17W, h12km±24km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.89**	**154**	*e*P	Pn	12 22 46.9	-3.4
SRIG				*e*S	Sn	12 23 08.9	-5.1
HSIG		**1.94**	**90**	*e*P	Pn	12 22 47.6	-3.6
HSIG				*e*S	Sn	12 23 10.8	-4.6
GUYB	**Guaymas**	**2.31**	**119**	*e*P	Pn	12 22 53.6	-2.5
GUYB				*e*S	Sn	12 23 20.6	-3.9
CBX	**Cerro Bola**	**4.45**	**318**	*e*P	Pn	12 23 28.7	+3.0

IDC ***28*** *12:27:13.8±1.2, 10°.88S×165°.18E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/39, mbtmp4.1/12, ML4.2/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/29, Error ellipse: s-maj=33.3km s-min=20.4km az=129.0*
NEIC ***28*** *12:27:15.5±0.7, 10°.88S×165°.22E, h10km, mb4.3/2, Error ellipse: s-maj=14.9km s-min=13.7km az=107.0*
ISCJB ***28*** *12:27:17.0±0.7, 11°.03S±0°.08×165°.11E±0°.09, h31km, mb4.0/11, MS3.5/6, Error ellipse: s-maj=13.4km s-min=9.5km az=143.5*

ISC 28 12:27:18.6±0.8, 10°.96S±0°.08×165°.24E±0°.09, h31km, n28, σ1s95/23, mb3.9/11, MS3.4/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43**	**286**	Pn	**Pn**	**12 28 36.1**	**-1.3**
	22nm,0.3s,baz=168,slow=2.8,SNR=18						
HNR				Sn	**Sn**	**12 29 36.5**	**-2.3**
	4.2nm,0.3s,baz=20,slow=15,SNR=1.5						
HNR				LR	LR	12 30 57.6	
	comp=Z,890nm,20.0s,baz=129,slow=42						
HNR	**Honiara**	**5.43**	**286**	*e*P	**Pn**	**12 28 36.0**	**-1.4**
HNR				*e*S	**Sn**	**12 29 45.0**	**+6.1**
HNR	**Honiara**	**5.43**	**286**	*e*Pn	**Pn**	**12 28 36.5**	**-0.9**
HNR				*e*Sn	**Sn**	**12 29 37.8**	**-1.1**
DZM	**Mont Dzumac**	**11.11**	**174**	Pn	**Pn**	**12 29 56.9**	**+1.4**
	0.7nm,0.3s,baz=314,slow=11,SNR=12						
DZM				Sn	**Sn**	**12 31 55.8**	**-2.9**
	0.1nm,0.3s,baz=72,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**11.11**	**174**	*e*Pn	**Pn**	**12 29 55.3**	**-0.2**
DZM				*e*Sn	**Sn**	**12 31 58.9**	**+0.1**
PMG	**Port Moresby**	**17.86**	**273**	LR	LR	12 37 44.2	
	comp=Z,298nm,19.5s,baz=114,slow=35						
CTA	**Charters Tower**	**20.40**	**241**	P	**P**	**12 31 54.1**	**+0.9**
	23nm,0.8s,baz=70,slow=13,SNR=20						
CTAO	**Charters Tower**	**20.40**	**241**	*e*P	**P**	**12 31 54.2**	**+1.0**
	201nm,0.9s						
AFI	**Afiamalu**	**22.63**	**100**	LR	LR	12 40 00.1	
	comp=Z,153nm,21.2s,baz=280,slow=34						
H11S2	**WAKE ISLAND Hy 29.30**	**3**		T	T	13 03 49.4	
	baz=184,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy 29.30**	**3**		T	T	13 03 49.9	
	baz=184,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy 29.31**	**3**		T	T	13 03 50.8	
	baz=184,slow=76,SNR=55						
STKA	**Stephens Creek**	**30.17**	**223**	P	**P**	**12 33 26.7**	**+0.7**
	2.3nm,0.8s,baz=49,slow=9.3,SNR=2.6						
STKA				LR	LR	12 44 58.5	
	comp=Z,132nm,18.7s,baz=28,slow=35						
H11N1	**WAKE ISLAND Hy 30.52**	**3**		T	T	13 05 19.8	
	baz=182,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy 30.53**	**3**		T	T	13 05 20.3	
	baz=182,slow=76,SNR=54						
H11N2	**WAKE ISLAND Hy 30.54**	**3**		T	T	13 05 21.1	
	baz=182,slow=76,SNR=38						
WRAB	**Tennant Creek**	**31.04**	**250**	*e*P	**P**	**12 33 33.8**	**-0.1**
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**31.05**	**250**	P	**P**	**12 33 31.9**	**-2.1**
	4.4nm,1.2s,baz=79,slow=9.2,SNR=6.8						
WRA				LR	LR	12 46 27.3	
	comp=Z,148nm,18.2s,baz=50,slow=37						
GUMO	**Guam**	**31.67**	**320**	LR	LR	12 45 39.8	
	comp=Z,60nm,18.6s,baz=104,slow=35						
ASAR	**Alice Springs**	**32.39**	**243**	P	**P**	**12 33 44.3**	**-1.5**
	2.5nm,0.6s,baz=68,slow=9.8,SNR=32						
ASAR				LR	LR	12 46 05.5	
	comp=Z,75nm,18.4s,baz=94,slow=35						
FITZ	**Fitzroy Crossi**	**38.92**	**255**	P	**P**	**12 34 40.9**	**-1.0**
	2.0nm,0.9s,baz=73,slow=11,SNR=5.7						
PPT	**Papeete**	**44.20**	**104**	LR	LR	12 49 26.3	
	comp=Z,50nm,19.1s,baz=292,slow=30						
CMAR	**Chiang Mai Arr**	**71.62**	**294**	P	**P**	**12 38 37.7**	**0.0**
	0.4nm,0.3s,baz=119,slow=4.5,SNR=5.1						
SONM	**Songino Array**	**78.30**	**324**	P	**P**	**12 39 16.4**	**+0.6**
	0.5nm,0.7s,baz=135,slow=4.6,SNR=2.1						
QSPA	**South Pole Qui**	**79.05**	**180**	*e*P	**P**	**12 39 21.9**	**+2.3**
	6.5nm,0.9s						
ILAR	**Eielson Array**	**83.59**	**19**	P	**P**	**12 39 43.0**	**-0.5**
	0.8nm,0.8s,baz=235,slow=5.0,SNR=8.5						
MKAR	**Makanchi Array**	**93.12**	**317**	P	**P**	**12 40 29.1**	**-0.6**
	0.2nm,0.6s,baz=101,slow=6.5,SNR=2.6						
PDAR	**Pinedale Array**	**93.86**	**47**	P	**P**	**12 40 33.1**	**-0.3**
	0.3nm,0.7s,baz=249,slow=4.0,SNR=3.4						

ISK ***28*** *12:32:15.6, 38°.65N×43°.16E, h7km, ML2.4*
ISCJB ***28*** *12:32:16.7±0.5, 38°.67N±0°.03×43°.14E±0°.04, h3km±9km, Error ellipse: s-maj=5.3km s-min=4.4km az=11.2*
DDA ***28*** *12:32:16.4, 38°.63N×43°.14E, h7km, Ml3.2*
CSEM ***28*** *12:32:16.5±0.2, 38°.66N×43°.15E, h2km, ML2.4, Error ellipse: s-maj=5.3km s-min=3.7km az=139.0*

ISC 28 12:32:16.6±1.0, 38°.65N±0°.03×43°.14E±0°.03, h8km±11km, n25, σ0s55/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**107**	*e*PG	**Pg**	**12 32 21.0**	**+0.2**
VANB	**Van**	**0.20**	**107**	*e*Pg	**Pg**	**12 32 21.0**	**+0.2**
TVAN	**Van**	**0.24**	**121**	*i* P	**Pg**	**12 32 20.9**	**-0.6**
TVAN				*i* S	**Sg**	**12 32 24.8**	**0.0**
TVAN	**Van**	**0.24**	**121**	P	**Pg**	**12 32 20.9**	**-0.6**
TVAN				S	**Sg**	**12 32 24.8**	**0.0**
GEVA	**Gevas**	**0.35**	**191**	*i* P	**Pg**	**12 32 22.9**	**-0.6**
GEVA				*i* S	**Sb**	**12 32 30.8**	**-0.1**
GEVA	**Gevas**	**0.35**	**191**	P	**Pg**	**12 32 22.9**	**-0.6**
GEVA				S	**Sb**	**12 32 30.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.47**	**45**	*i* P	**Pg**	**12 32 26.1**	**+0.3**
VMUR				*i* S	**Sb**	**12 32 34.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.47**	**45**	P	**Pg**	**12 32 26.1**	**+0.3**
VMUR				S	**Sb**	**12 32 34.7**	**+0.1**
TATV	**Tatvan**	**0.70**	**258**	*i* P	**Pg**	**12 32 30.1**	**-0.1**
TATV				*i* S	**Sb**	**12 32 40.4**	**-0.7**
TATV	**Tatvan**	**0.70**	**258**	P	**Pg**	**12 32 30.1**	**-0.1**
TATV				S	**Sb**	**12 32 40.4**	**-0.7**
CLDR	**Caldiran**	**0.78**	**51**	*e*PG	**Pg**	**12 32 30.6**	**-1.0**
CLDR				*e*SG	**Sg**	**12 32 42.0**	**+0.3**
CLDR	**Caldiran**	**0.78**	**51**	*i* P	**Pg**	**12 32 31.5**	**-0.1**
CLDR				*i* S	**Sb**	**12 32 43.5**	**+0.1**
CLDR	**Caldiran**	**0.78**	**51**	*e*Pg	**Pg**	**12 32 30.6**	**-1.0**
CLDR	**Caldiran**	**0.78**	**51**	P	**Pg**	**12 32 31.5**	**-0.1**
CLDR				*e*Sg	**Sg**	**12 32 42.0**	**+0.3**
CLDR				S	**Sb**	**12 32 43.5**	**+0.1**
TUTA	**Tutak**	**0.79**	**341**	*i* P	**Pg**	**12 32 31.9**	**0.0**
TUTA				*i* S	**Sb**	**12 32 43.1**	**-0.6**
TUTA	**Tutak**	**0.79**	**341**	P	**Pg**	**12 32 31.9**	**0.0**
TUTA				S	**Sb**	**12 32 43.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*PG	**Pg**	**12 32 33.9**	**-0.6**
AGRB				*e*SG	**Sb**	**12 32 47.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*Pg	**Pg**	**12 32 33.9**	**-0.6**
AGRB				*e*Sg	**Sb**	**12 32 47.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*PN	**Pn**	**12 32 45.1**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*Pn	**Pn**	**12 32 45.1**	**-0.2**
BTMN	**Batman**	**1.66**	**243**	*i* P	**Pb**	**12 32 47.3**	**-0.2**
BTMN				*i* S	**Sg**	**12 33 11.0**	**+1.0**
BTMN	**Batman**	**1.66**	**243**	P	**Pb**	**12 32 47.3**	**-0.2**
BTMN				S	**Sg**	**12 33 11.0**	**+1.0**
BNGB	**Bingˇ¶l**	**1.95**	**281**	*e*PN	**Pn**	**12 32 50.2**	**0.0**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**12 32 58.0**	**+1.1**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**12 32 58.0**	**+1.1**

ISK ***28*** *12:36:18.9, 38°.73N×43°.49E, h3km, ML2.9*
ISCJB ***28*** *12:36:19.9±0.5, 38°.73N±0°.02×43°.49E±0°.05, h8km±4km, Error ellipse: s-maj=6.4km s-min=3.3km az=15.5*
CSEM ***28*** *12:36:19.3±0.3, 38°.71N×43°.48E, h5km, ML2.9, Error ellipse: s-maj=6.4km s-min=4.1km az=109.0*
DDA ***28*** *12:36:19.4, 38°.72N×43°.45E, h7km, Ml3.4*

ISC 28 12:36:20.2±0.8, 38°.71N±0°.02×43°.50E±0°.03, h14km±6km, n39, σ1s36/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**217**	*e*PG	**Pg**	**12 36 23.6**	**-0.4**
VANB				*e*SG	**Sg**	**12 36 28.1**	**+1.5**
VANB	**Van**	**0.14**	**217**	*e*Pg	**Pg**	**12 36 23.6**	**-0.4**
TVAN	**Van**	**0.20**	**202**	*i* P	**Pg**	**12 36 23.6**	**-1.2**
TVAN				*i* S	**Sg**	**12 36 28.0**	**0.0**
TVAN	**Van**	**0.20**	**202**	P	**Pg**	**12 36 23.6**	**-1.2**
TVAN				S	**Sg**	**12 36 28.0**	**0.0**
VMUR	**Van-Muradiye**	**0.28**	**11**	*i* P	**Pg**	**12 36 24.7**	**-1.6**
VMUR				*i* S	**Sb**	**12 36 31.2**	**-0.7**
VMUR	**Van-Muradiye**	**0.28**	**11**	P	**Pg**	**12 36 24.7**	**-1.6**
VMUR				S	**Sb**	**12 36 31.2**	**-0.7**
GEVA	**Gevas**	**0.53**	**221**	*i* P	**Pg**	**12 36 28.8**	**-1.8**
GEVA				*i* S	**Sb**	**12 36 38.8**	**0.0**
GEVA	**Gevas**	**0.53**	**221**	P	**Pg**	**12 36 28.8**	**-1.8**
GEVA				S	**Sb**	**12 36 38.8**	**0.0**
CLDR	**Caldiran**	**0.54**	**37**	*e*PG	**Pg**	**12 36 30.1**	**-0.7**
CLDR				*e*SG	**Sg**	**12 36 38.1**	**-0.1**
CLDR	**Caldiran**	**0.54**	**37**	*i* P	**Pg**	**12 36 29.8**	**-1.1**
CLDR				*i* S	**Sb**	**12 36 39.5**	**+0.2**
CLDR	**Caldiran**	**0.54**	**37**	P	**Pg**	**12 36 29.8**	**-1.1**
CLDR	**Caldiran**	**0.54**	**37**	*e*Pg	**Pg**	**12 36 30.2**	**-0.7**
CLDR				*e*Sg	**Sg**	**12 36 38.1**	**-0.1**
CLDR				S	**Sb**	**12 36 39.5**	**+0.2**
DYDN	**Diyadin**	**0.84**	**10**	*i* P	**Pg**	**12 36 34.7**	**-1.9**
DYDN				*i* S	**Sb**	**12 36 49.1**	**+1.0**
DYDN	**Diyadin**	**0.84**	**10**	P	**Pg**	**12 36 34.7**	**-1.9**
DYDN				S	**Sb**	**12 36 49.1**	**+1.0**
TUTA	**Tutak**	**0.87**	**323**	*i* P	**Pg**	**12 36 34.9**	**-2.3**
TUTA				*i* S	**Sb**	**12 36 48.2**	**-0.7**
TUTA	**Tutak**	**0.87**	**323**	P	**Pg**	**12 36 34.9**	**-2.3**
TUTA				S	**Sb**	**12 36 48.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.95**	**336**	*e*PG	**Pg**	**12 36 37.5**	**-1.1**
AGRB				*e*SG	**Sb**	**12 36 51.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**336**	*e*Pg	**Pg**	**12 36 37.5**	**-1.1**
AGRB				*e*Sg	**Sb**	**12 36 51.0**	**-0.1**
TATV	**Tatvan**	**0.99**	**259**	*i* P	**Pg**	**12 36 36.7**	**-2.6**
TATV				*i* S	**Sg**	**12 36 51.3**	**-0.9**
TATV	**Tatvan**	**0.99**	**259**	P	**Pg**	**12 36 36.7**	**-2.6**
TATV				S	**Sg**	**12 36 51.3**	**-0.9**
HAKT	**HAKKARI**	**1.16**	**172**	*i* P	**Pg**	**12 36 40.0**	**-2.6**
HAKT				*i* S	**Sn**	**12 36 59.0**	**+1.0**
HAKT	**HAKKARI**	**1.16**	**172**	P	**Pg**	**12 36 40.0**	**-2.6**
HAKT				S	**Sn**	**12 36 59.0**	**+1.0**
EKAR	**Karacoban**	**1.25**	**296**	*i* P	**Pg**	**12 36 42.9**	**-1.3**
EKAR				*i* S	**Sn**	**12 37 02.5**	**+2.5**
EKAR	**Karacoban**	**1.25**	**296**	P	**Pg**	**12 36 42.9**	**-1.3**
EKAR				S	**Sn**	**12 37 02.5**	**+2.5**
EATA	**Eleskirt**	**1.39**	**326**	*i* P	**Pn**	**12 36 44.8**	**-0.7**
EATA				*i* S	**Sn**	**12 37 06.0**	**+2.2**
EATA	**Eleskirt**	**1.39**	**326**	P	**Pn**	**12 36 44.8**	**-0.7**
EATA				S	**Sn**	**12 37 06.0**	**+2.2**
CUKT	**Cukurca**	**1.46**	**177**	*e*PN	**Pb**	**12 36 47.2**	**0.0**
CUKT	**Cukurca**	**1.46**	**177**	*

H11S2	WAKE ISLAND Hy	28.80	124	T		T	13 17 07.7
	baz=316,slow=76,SNR=10.0						
ZALV	Zalesovo Beam	41.94	312	P		P	12 48 33.9 -0.5
	0.4nm,0.3s,baz=92,slow=7.2,SNR=3.0						
MKAR	Makanchi Array	44.21	302	P		P	12 48 52.2 -0.7
	1.0nm,0.6s,baz=87,slow=11,SNR=9.4						
ILAR	Eielson Array	49.15	32	P		P	12 49 32.0 +0.6
	0.4nm,0.9s,baz=262,slow=6.2,SNR=3.6						
WRA	Warramunga Arr	57.34	188	P		P	12 50 31.7 -0.2
	0.3nm,0.5s,baz=6.8,slow=7.4,SNR=6.0						

*ISK **28** 12:45:18.5,38°.69N×43°.51E,h5km,ML2.9*
*ISCJB **28** 12:45:19.6±0.5,38°.66N±0°.02×43°.55E±0°.05,h8km±5km, Error ellipse: s-maj=6.3km s-min=3.8km az=9.4*
*CSEM **28** 12:45:19.3±0.2,38°.67N×43°.55E,h5km,ML2.9,Error ellipse: s-maj=4.9km s-min=3.7km az=105.0*
*DDA **28** 12:45:19.1,38°.66N×43°.53E,h6km,Ml3.4*
ISC 28 12:45:19.9±1.0,38°.67N±0°.02×43°.55E±0°.03,h8km±8km, n40,σ1§07/63,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	239	*e*PG	Pg	12 45 23.2	+0.1
VANB	Van	0.15	239	*e*Pg	Pg	12 45 23.2	+0.1
TVAN	Van	0.18	219	*i* P	Pg	12 45 23.1	-0.7
TVAN				*i* S	Sg	12 45 27.6	+1.2
TVAN	Van	0.18	219	P	Pg	12 45 23.1	-0.7
TVAN				S	Sg	12 45 27.6	+1.2
VMUR	Van-Muradiye	0.32	3	*i* P	Pg	12 45 25.5	-0.8
VMUR				*i* S	Sb	12 45 32.4	-1.0
VMUR	Van-Muradiye	0.32	3	P	Pg	12 45 25.5	-0.8
VMUR				S	Sb	12 45 32.4	-1.0
GEVA	Gevas	0.53	227	*i* P	Pg	12 45 28.8	-1.4
GEVA				*i* S	Sg	12 45 37.1	0.0
GEVA	Gevas	0.53	227	P	Pg	12 45 28.8	-1.4
GEVA				S	Sg	12 45 37.1	0.0
CLDR	Caldiran	0.55	31	*e*PG	Pg	12 45 30.4	-0.2
CLDR				*e*SG	Sb	12 45 39.2	-0.9
CLDR	Caldiran	0.55	31	*i* P	Pg	12 45 29.8	-0.8
CLDR				*i* S	Sb	12 45 41.5	+1.4
CLDR	Caldiran	0.55	31	P	Pg	12 45 29.8	-0.8
CLDR	Caldiran	0.55	31	*e*Pg	Pg	12 45 30.5	-0.2
CLDR				*e*Sg	Sb	12 45 39.2	-0.9
CLDR				S	Sb	12 45 41.5	+1.4
BASK	Baskale_VAN	0.71	150	*i* P	Pg	12 45 32.4	-1.3
BASK				*i* S	Sb	12 45 43.7	-1.0
BASK	Baskale_VAN	0.71	150	P	Pg	12 45 32.4	-1.3
BASK				S	Sb	12 45 43.7	-1.0
TUTA	Tutak	0.93	322	*i* P	Pg	12 45 36.7	-1.1
TUTA				*i* S	Sb	12 45 50.8	-0.2
TUTA	Tutak	0.93	322	P	Pg	12 45 36.7	-1.1
TUTA				S	Sb	12 45 50.8	-0.2
AGRB	Hanur-Agry	1.00	334	*e*PG	Pg	12 45 38.3	-0.9
AGRB				*e*SG	Sb	12 45 53.0	-0.1
AGRB	Hanur-Agry	1.00	334	*e*Pg	Pg	12 45 38.3	-0.9
AGRB				*e*Sg	Sb	12 45 53.0	-0.1
TATV	Tatvan	1.02	261	*i* P	Pg	12 45 37.7	-1.8
TATV				*i* S	Sg	12 45 51.8	-1.0
TATV	Tatvan	1.02	261	P	Pg	12 45 37.7	-1.8
TATV				S	Sg	12 45 51.8	-1.0
EKAR	Karacoban	1.30	297	*i* P	Pn	12 45 44.3	-0.3
EKAR				*i* S	Sn	12 46 06.9	+4.7
EKAR	Karacoban	1.30	297	P	Pn	12 45 44.3	-0.3
CUKT	Cukurca	1.42	178	*e*PN	Pg	12 45 46.7	-0.5
CUKT	Cukurca	1.42	178	*e*Pn	Pg	12 45 46.7	-0.5
EATA	Eleskirt	1.45	326	*i* P	Pn	12 45 45.7	-1.0
EATA				*i* S	Sn	12 46 06.9	+0.9
EATA	Eleskirt	1.45	326	P	Pn	12 45 45.7	-1.0
EATA				S	Sn	12 46 06.9	+0.9
VRTB	Varto-Mus	1.71	287	*e*PN	Pn	12 45 50.1	+0.1
VRTB	Varto-Mus	1.71	287	*e*Pn	Pn	12 45 50.2	+0.1
SVAN	Silvan-Diyarba	1.92	255	*e*PN	Pn	12 45 53.2	+0.2
SVAN	Silvan-Diyarba	1.92	255	*e*Pn	Pn	12 45 53.2	+0.2
BTMN	Batman	1.96	247	*i* P	Pn	12 45 53.9	+0.4
BTMN				*i* S	Sg	12 46 22.2	-0.6
BTMN	Batman	1.96	247	P	Pn	12 45 53.9	+0.4
BTMN				S	Sg	12 46 22.2	-0.6
BNGB	Bing¶	2.27	279	*e*PN	Pn	12 45 58.1	+0.3
BINT	Bingol	2.40	276	*e*Pn	Pn	12 45 58.1	-1.6
MAZI	Mazidag	2.73	245	*e*PN	Pn	12 46 04.2	0.0
MAZI	Mazidag	2.73	245	*e*Pn	Pn	12 46 04.2	0.0
PTK	Pertek	3.26	275	*e*PN	Pn	12 46 12.2	+0.7
PTK	Pertek	3.26	275	*e*Pn	Pn	12 46 12.2	+0.7
SVRC	Sivrice-ELAZID	3.34	266	*e*PN	Pn	12 46 13.6	+1.0
SVRC	Sivrice-ELAZID	3.34	266	*e*Pn	Pn	12 46 13.6	+1.0

*ISK **28** 12:47:06.9,38°.95N×43°.63E,h8km,ML3.2*
*ISCJB **28** 12:47:07.9±0.5,38°.94N±0°.02×43°.56E±0°.04,h5km±4km, Error ellipse: s-maj=5.8km s-min=3.6km az=5.0*
*CSEM **28** 12:47:07.5±0.3,38°.97N×43°.59E,h5km,ML3.5,Error ellipse: s-maj=6.8km s-min=4.3km az=93.0*
*DDA **28** 12:47:07.2,38°.93N×43°.57E,h10km,Ml3.5*
ISC 28 12:47:07.6±0.9,38°.92N±0°.02×43°.57E±0°.03,h5km±7km, n34,σ1§46/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.07	3	*i* P	Pg	12 47 08.7	-0.7
VMUR				*i* S	Sg	12 47 11.3	+0.8
VMUR	Van-Muradiye	0.07	3	P	Pg	12 47 08.7	-0.7
VMUR				S	Sg	12 47 11.4	+0.8
CLDR	Caldiran	0.35	51	*e*PG	Pg	12 47 13.5	-1.0
CLDR	Caldiran	0.35	51	*i* P	Pg	12 47 13.7	-0.8
CLDR				*i* S	Sb	12 47 20.6	-1.9
CLDR	Caldiran	0.35	51	P	Pg	12 47 13.7	-0.8
VANB	Van	0.35	203	*e*PG	Pb	12 47 16.3	-0.2
VANB				*e*SG	Sb	12 47 23.8	+1.3
VANB	Van	0.35	203	*e*Pg	Pb	12 47 16.3	-0.2
VANB				*e*Sg	Sb	12 47 23.8	+1.3
TVAN	Van	0.41	198	*i* P	Pg	12 47 15.4	-0.2
TVAN				*i* S	Sb	12 47 23.8	-0.4
TVAN	Van	0.41	198	P	Pg	12 47 15.4	-0.2
TVAN				S	Sb	12 47 23.8	-0.4
DYDN	Diyadin	0.63	9	*i* P	Pg	12 47 19.2	-0.5
DYDN				*i* S	Sb	12 47 29.6	-0.8
DYDN	Diyadin	0.63	9	P	Pg	12 47 19.2	-0.5
GEVA	Gevas	0.73	213	*i* P	Pg	12 47 19.8	-1.8
GEVA				*i* S	Sb	12 47 33.1	-0.1
TUTA	Tutak	0.76	310	*i* P	Pg	12 47 21.1	-1.1
TUTA				*i* S	Sg	12 47 32.1	+0.1
TUTA	Tutak	0.76	310	P	Pg	12 47 21.0	-1.1
TUTA				S	Sg	12 47 32.1	+0.1
AGRB	Hanur-Agry	0.79	326	*e*PG	Pg	12 47 22.3	-0.5
AGRB				*e*SG	Sb	12 47 34.5	-0.6
AGRB	Hanur-Agry	0.79	326	*e*Pg	Pg	12 47 22.3	-0.5
AGRB				*e*Sg	Sb	12 47 34.5	-0.6
TATV	Tatvan	1.10	248	*i* P	Pg	12 47 27.3	-1.4
TATV				*i* S	Sg	12 47 43.7	+0.8
EKAR	Karacoban	1.22	286	*i* P	Pn	12 47 31.6	+0.1
EKAR				*i* S	Sn	12 47 50.1	+1.6
EKAR	Karacoban	1.22	286	P	Pn	12 47 31.6	+0.1
EATA	Eleskirt	1.25	319	*i* P	Pg	12 47 30.4	-1.3
EATA				*i* S	Sn	12 47 48.8	-0.8
EATA	Eleskirt	1.25	319	P	Pg	12 47 30.4	-1.3
EATA				S	Sn	12 47 48.8	-0.8
HAKT	HAKKARI	1.37	175	*i* P	Pn	12 47 31.7	-1.9
HAKT				*i* S	Sn	12 47 53.3	+1.1
DIGO	Kars	1.50	354	*i* P	Pb	12 47 35.4	-0.7
DIGO				*i* S	Sg	12 48 03.6	+7.8
DIGO	Kars	1.50	354	P	Pb	12 47 35.4	-0.7
BNGL	BINGOL	1.89	272	*i* P	Pb	12 47 42.2	-0.5
BNGL				*i* S	Sg	12 48 10.0	+1.8
SVAN	Silvan-Diyarba	2.01	248	*e*PN	Pn	12 47 42.9	+0.6
SVAN	Silvan-Diyarba	2.01	248	*e*Pn	Pn	12 47 42.9	+0.6
BTMN	Batman	2.08	241	*i* P	Pn	12 47 43.7	+0.5
BTMN				*i* S	Sg	12 48 14.1	-0.3
BTMN	Batman	2.08	241	P	Pn	12 47 43.7	+0.5
BNGB	Bing¶	2.25	273	*e*PN	Pn	12 47 46.1	+0.4
BINT	Bingol	2.40	270	*e*Pn	Pn	12 47 46.1	-1.6
MAZI	Mazidag	2.86	240	*e*PN	Pn	12 47 55.3	+1.3
MAZI	Mazidag	2.86	240	*e*Pn	Pn	12 47 55.3	+1.3
DGRG	David-gareji	2.88	28	P	Pb	12 47 59.4	-0.1

IDC 28 12:47:53.7±2.5,5°.57N×126°.10E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.2/52,mbtmp3.5/3,Error ellipse: s-maj=209.8km s-min=27.8km az=65.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.61	162	P	P	12 53 34.5	+0.5
	0.5nm,0.8s,baz=342,slow=10,SNR=3.9						
ASAR	Alice Springs	30.04	166	P	P	12 54 04.0	-0.6
	0.5nm,1.0s,baz=339,slow=7.0,SNR=5.3						
MKAR	Makanchi Array	55.70	325	P	P	12 57 31.9	-0.1
	0.4nm,0.5s,baz=125,slow=7.6,SNR=4.3						

*CSEM **28** 13:03:29.6±0.2,38°.76N×43°.48E,h12km,ML2.9,Error ellipse: s-maj=5.4km s-min=3.5km az=117.0*
*DDA **28** 13:03:29.4,38°.76N×43°.47E,h21km,Ml3.2*
*ISK **28** 13:03:29.3,38°.77N×43°.44E,h8km,ML2.9*
*ISCJB **28** 13:03:30.0±0.6,38°.74N±0°.03×43°.52E±0°.05,h19km±5km, Error ellipse: s-maj=7.3km s-min=4.0km az=20.8*
ISC 28 13:03:30.2±0.9,38°.78N±0°.02×43°.42E±0°.03,h10km±8km, n32,σ1§10/58,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	187	*e*PG	Pb	13 03 35.0	+0.8
VANB	Van	0.18	187	*e*Pg	Pb	13 03 35.0	+0.8
VMUR	Van-Muradiye	0.24	30	*i* P	Pg	13 03 35.3	0.0
VMUR				*i* S	Sg	13 03 40.3	+1.6
VMUR	Van-Muradiye	0.24	30	P	Pg	13 03 35.3	0.0
VMUR				S	Sg	13 03 40.3	+1.6
TVAN	Van	0.25	182	*i* P	Pg	13 03 35.3	-0.1
TVAN				*i* S	Sg	13 03 39.6	+0.7
TVAN	Van	0.25	182	P	Pg	13 03 35.3	-0.1
TVAN				S	Sg	13 03 39.6	+0.7
CLDR	Caldiran	0.53	47	*e*PG	Pg	13 03 40.0	-0.7
CLDR				*e*SG	Sg	13 03 47.7	-0.1
CLDR	Caldiran	0.53	47	*i* P	Pg	13 03 39.8	-0.9
CLDR				*i* S	Sb	13 03 48.8	-0.9
CLDR	Caldiran	0.53	47	P	Pg	13 03 39.8	-0.9
CLDR	Caldiran	0.53	47	*e*Pg	Pg	13 03 40.0	-0.7
CLDR				*e*Sg	Sg	13 03 47.7	-0.1
CLDR				S	Sb	13 03 48.8	-0.9
GEVA	Gevas	0.54	211	*i* P	Pg	13 03 40.2	-0.6
GEVA				*i* S	Sb	13 03 49.5	-0.4
GEVA	Gevas	0.54	211	P	Pg	13 03 40.2	-0.6
GEVA				S	Sb	13 03 49.5	-0.4
TUTA	Tutak	0.78	323	*i* P	Pg	13 03 44.9	-0.4
TUTA				*i* S	Sg	13 03 56.4	+0.9
TUTA	Tutak	0.78	323	P	Pg	13 03 44.9	-0.4
TUTA				S	Sg	13 03 56.4	+0.9
DYDN	Diyadin	0.79	15	*i* P	Pg	13 03 44.9	-0.7
DYDN				*i* S	Sb	13 03 56.4	-0.7
DYDN	Diyadin	0.79	15	P	Pg	13 03 44.9	-0.7
DYDN				S	Sb	13 03 56.4	-0.7
AGRB	Hanur-Agry	0.86	338	*e*PG	Pg	13 03 46.6	-0.2
AGRB				*e*SG	Sb	13 03 59.1	0.0
AGRB	Hanur-Agry	0.86	338	*e*Pg	Pg	13 03 46.6	-0.2
AGRB				*e*Sg	Sb	13 03 59.1	0.0
TATV	Tatvan	0.94	254	*i* P	Pg	13 03 47.5	-0.8
TATV				*i* S	Sg	13 04 00.8	+0.2
TATV	Tatvan	0.94	254	P	Pg	13 03 47.5	-0.8
TATV				S	Sg	13 04 00.8	+0.2
EKAR	Karacoban	1.16	295	*i* P	Pn	13 03 53.8	+1.1
EKAR				*i* S	Sn	13 04 10.5	+1.8
EKAR	Karacoban	1.16	295	P	Pn	13 03 53.8	+1.1
EKAR				S	Sn	13 04 10.5	+1.8
HAKT	HAKKARI	1.24	169	*i* P	Pb	13 03 51.7	-2.2
HAKT				*i* S	Sn	13 04 14.0	+3.3
HAKT	HAKKARI	1.24	169	P	Pb	13 03 51.7	-2.2
HAKT				S	Sn	13 04 14.0	+3.3
EATA	Eleskirt	1.30	327	*i* P	Pn	13 03 54.2	-0.5
EATA				*i* S	Sn	13 04 13.5	+1.2
EATA	Eleskirt	1.30	327	P	Pn	13 03 54.2	-0.5
EATA				S	Sn	13 04 13.5	+1.2
SVAN	Silvan-Diyarba	1.85	251	*e*PN	Pn	13 04 02.2	+0.2
SVAN	Silvan-Diyarba	1.85	251	*e*Pn	Pn	13 04 02.3	+0.2
BTMN	Batman	1.91	243	*i* P	Pn	13 04 03.5	+0.7
BTMN				*i* S	Sg	13 04 30.9	-0.6
BTMN	Batman	1.91	243	P	Pn	13 04 03.5	+0.7
BTMN				S	Sg	13 04 30.9	-0.6
BNGB	Bing¶	2.15	277	*e*PN	Pn	13 04 06.8	+0.6
BINT	Bingol	2.29	273	*e*Pn	Pn	13 04 06.8	-1.4

*IDC **28** 13:06:11.5±1.6,2°.45N×128°.61E,h229km±15km,mb3.7/18, mb1 3.8/19,mb1mx3.7/33,mbtmp4.3/19,Error ellipse: s-maj=15.9km s-min=7.7km az=81.0*
*ISCJB **28** 13:06:12.2±0.3,2°.39N±0°.03×128°.49E±0°.05,h250km, mb3.9/17,Error ellipse: s-maj=6.9km s-min=4.6km az=176.9*
*DJA **28** 13:06:13.5±0.5,2°N±4°×12°8E±°,h215km±4km,M4.5/12, mb4.6/12,mB4.7/7,MLv4.8/12,Mw(mB)4.0/7*
ISC 28 13:06:13.4±0.5,2°.34N±0°.05×128°.38E±0°.07,h250km,n53, σ1§70/61,mb4.1/17,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	3.09	197	P	Pn	13 07 06.2	-0.6
LBMI				S	S	13 07 48.2	-1.0
SGSI	Sangihe	3.15	295	P	Pn	13 07 05.8	-1.7
SGSI				S	S	13 07 46.7	-3.6
KMSI	Cibinong	4.74	248	P	Pn	13 07 26.0	0.0
KMSI				S	S	13 08 23.3	-0.5
SANI	Sanana	4.97	209	P	Pn	13 07 28.0	-0.9
SANI				S	S	13 08 22.6	-6.5
MSAI	Masohi	5.67	174	P	Pn	13 07 38.8	+1.3
	63nm,1.0s,558nm						
NLAI	Namlea	5.69	193	P	Pn	13 07 38.0	+0.3
	63nm,1.1s,855nm0.3nm						
NLAI				S	S	13 08 44.7	-0.4
	63nm,1.1s,855nm0.3nm						
AAI	Ambon	5.99	182	P	Pn	13 07 43.0	+1.6
	39nm,0.9s						
FAKI	Fak Fak	6.50	143	P	Pn	13 07 46.9	-0.9
	127nm,0.9s,1μm						
MRSI	Marisa	6.70	254	P	Pn	13 07 50.5	+0.2
	164nm,0.6s,2μm						
BNDI	Bandanaira	6.98	167	P	Pn	13 07 53.9	0.0
	87nm,1.1s						
APSI	Ampana	7.47	244	P	Pn	13 08 00.5	+0.5
	170nm,0.5s,2μm						
MPSI	Mapaga	8.71	257	P	Pn	13 08 16.9	+1.2
	24nm,0.9s,377nm						
TTSI	Tana Toraja	10.09	238	P	Pn	13 08 33.3	+0.1
	95nm,0.7s,716nm						
BNSI	Bone	10.64	231	P	P	13 08 42.4	-2.5
SPSI	Sidrap Palu	10.64	234	P	P	13 08 42.6	-2.4
GUMO	Guam	19.77	55	P	P	13 10 22.3	-2.8
	3.8nm,0.3s,baz=211,slow=19,SNR=3.1						
FITZ	Fitzroy Crossi	20.49	187	P	P	13 10 33.2	+0.4
	0.6nm,0.3s,baz=356,slow=8.0						
WRA	Warramunga Arr	22.90	165	P	P	13 10 55.7	-0.1
	4.4nm,0.4s,baz=345,slow=11,SNR=56						
WRA				PcP	PcP	13 14 39.1	+0.8
	0.5nm,0.8s,baz=333,slow=2.0,SNR=3.4						
WRA				S	S	13 14 46.9	+0.2
	0.8nm,1.0s,baz=338,slow=17,SNR=3.6						
WRA				ScP	ScP	13 17 54.1	+1.9
	1.3nm,0.6s,baz=345,slow=3.1,SNR=8.0						
ASAR	Alice Springs	26.40	169	P	P	13 11 27.9	+0.6
	2.5nm,0.6s,baz=355,slow=7.7,SNR=101						
ASAR				pP	pP	13 12 15.1	-1.2
	2.0nm,0.7s,baz=344,slow=11,SNR=4.0						
ASAR				PcP	PcP	13 14 47.0	+1.0
	1.2nm,0.4s,baz=350,slow=2.3,SNR=12						
ASAR				S	S	13 15 40.0	-2.1
	1.9nm,0.9s,baz=350,slow=21,SNR=8.6						
ASAR				ScP	ScP	13 18 04.2	+2.2
	0.9nm,0.7s,baz=344,slow=2.2,SNR=13						
CMAR	Chiang Mai Arr	32.99	301	P	P	13 12 27.8	+2.4
	7.9nm,0.9s,baz=119,slow=7.3,SNR=47						
CMAR				ScP	ScP	13 18 27.0	+3.5
	0.3nm,0.3s,baz=123,slow=3.3,SNR=4.7						
KSRS	Korea Array	34.95	359	P	P	13 12 41.4	-0.4
	5.0nm,0.8s,baz=176,slow=9.5,SNR=22						
MJAR	Matsushiro Arr	35.22	14	P	P	13 12 41.2	-3.1
	2.1nm,0.8s,baz=186,slow=9.6,SNR=6.0						
STKA	Stephens Creek	36.27	161	P	P	13 12 53.6	+0.4
	4.3nm,0.6s,baz=339,slow=8.4,SNR=12						
STKA				PcP	PcP	13 15 13.6	+1.1
	1.8nm,0.7s,baz=5.0,slow=3.7,SNR=3.1						
H11S3	WAKE ISLAND Hy	40.81	64	T	T	13 57 49.8	
	baz=254						
H11S2	WAKE ISLAND Hy	40.83	64	T	T	13 57 42.4	
	baz=254						
H11S1	WAKE ISLAND Hy	40.83	64	T	T	13 57 51.1	
	baz=254						
H11N1	WAKE ISLAND Hy	41.39	63	T	T	13 58 11.0	
	baz=248,slow=75						
H11N2	WAKE ISLAND Hy	41.40	62	T	T	13 58 17.8	
	baz=248						
H11N3	WAKE ISLAND Hy	41.41	63	T	T	13 58 28.4	
	baz=248,slow=75						
USRK	Ussuriysk Ar.	41.81	4	P	P	13 13 38.2	-0.4
	2.4nm,0.5s,baz=158,slow=4.7,SNR=5.2						
TAPN	Taplejung	46.16	307	*e*P	P	13 14 15.4	+1.5
	27nm,0.9s						
ODAN	Odare	46.22	306	*e*P	P	13 14 15.8	+1.6
	36nm,0.6s						
RAMN	Ramite	46.89	305	*e*P	P	13 14 21.3	+1.8
	66nm,0.6s						
JIRN	Jiri	47.52	306	*e*P	P	13 14 26.1	+1.7
GUN	Gumba	47.87	306	*e*P	P	13 14 28.6	+1.5
PKI	Pulchoki	48.11	306	*e*P	P	13 14 29.9	+1.0
PKIN	Phulchoki	48.13	306	*e*P	P	13 14 30.0	+1.0
KKN	Kakani	48.31	306	*e*P	P	13 14 31.4	+1.1
	10nm,0.5s						
DMN	Daman	48.38	306	*e*P	P	13 14 32.1	+1.3
GKN	Gorkha	48.91	306	*e*P	P	13 14 35.9	+1.1
SONM	Songino Array	49.14	341	P	P	13 14 36.2	+0.1
	3.1nm,0.8s,baz=154,slow=9.0,SNR=15						
KOLN	Koldanda	49.67	305	*e*P	P	13 14 42.2	+1.6
	46nm,0.6s						
DANN	Dangsing	49.76	306	*e*P	P	13 14 42.9	+1.5
PYUN	Piuthan	50.29	305	*e*P	P	13 14 46.9	+1.7
	24nm,0.5s						
PETK	Petropavlovsk-	56.11	21	P	P	13 15 26.5	-0.3
	2.1nm,0.8s,baz=201,slow=2.5,SNR=3.9						
MKAR	Makanchi Array	59.63	325	P	P	13 15 52.0	+0.6
	5.3nm,0.4s,baz=113,slow=7.8,SNR=100						
ZALV	Zalesovo Beam	62.57	333	P	P	13 16 09.8	-1.1
	1.5nm,0.3s,baz=113,slow=6.5,SNR=9.0						
BVAR	Borovoye Array	69.38	327	P	P	13 16 54.2	+0.1
	4.5nm,0.8s,baz=121,slow=7.6,SNR=16						
GEYT	Alibeck	73.05	309	P	P	13 17 17.4	+1.0
	2.2nm,0.6s,baz=123,slow=5.5,SNR=6.7						
VNDA	Vanda	81.85	173	P	P	13 18 05.3	+1.1
	2.0nm,0.7s,baz=319,slow=6.0,SNR=19						
MAW	Mawson	83.04	201	P	P	13 18 12.0	+1.6
	0.5nm,0.6s,baz=60,slow=14,SNR=5.1						
ILAR	Eielson Array	85.64	25	P	P	13 18 22.6	-1.1
	0.2nm,0.5s,baz=249,slow=5.0,SNR=5.2						
ARCES	ARCESS Array B	92.31	340	P	P	13 18 54.3	-0.7
	1.0nm,0.5s,baz=89,slow=6.2,SNR=6.0						

*IDC **28** 13:37:22.0±0.7,41°.91N×77°.56E,h0km,mb3.9/14, mb1 4.1/21,mb1mx3.9/57,mbtmp4.0/21,ML3.6/7,MS3.3/12, Ms1 3.4/12,ms1mx3.0/60,Error ellipse: s-maj=13.2km s-min=11.6km az=7.0*
*ISCJB **28** 13:37:23.1±0.7,41°.98N±0°.02×77°.68E±0°.02,h4km±4km, mb3.9/18,MS3.4/7,Error ellipse: s-maj=3.0km s-min=2.6km az=32.0*
*SOME **28** 13:37:24.9,42°.07N×77°.52E,h10km,MS3.5*
*KRNET **28** 13:37:24.7±0.1,42°.09N×77°.53E,h22km,mb4.6*
*BJI **28** 13:37:25.5,42°.13N×77°.65E,h8km,mb4.2/12,mB4.3/5, ML4.3/9,Ms3.7/4,Ms7 3.5/4*
*NNC **28** 13:37:26.2±0.7,42°.13N×77°.55E,h0km,mb4.8,mpv4.5, Error ellipse: s-maj=5.0km s-min=4.1km az=5.0*
*MOS **28** 13:37:27.9±1.1,42°.09N×77°.66E,h28km,mb4.2/6,Error ellipse: s-maj=8.8km s-min=7.1km az=104.3*
MOS Felt (III-IV) at Almaty.
*NEIC **28** 13:37:28.8±1.1,42°.14N×77°.57E,h47km±10km,mb4.1/2, Error ellipse: s-maj=11.9km s-min=8.0km az=171.0*
ISC 28 13:37:25.6±0.9,42°.09N±0°.02×77°.47E±0°.02,h16km±6km, n137,σ2§31/192,mb4.0/18,MS3.4/7,32C-36D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	Anan'yevo	0.71	12	⇓*i* P	Pg	13 37 38.8	-0.7
	baz=8.0						
ANVS				⇓*i* S	Sb	13 37 49.2	-0.1
	baz=8.0						
ULHL	Ulahol	0.93	280	⇓*i* P	Pb	13 37 43.6	+0.2
	baz=279						
ULHL				⇓*i* S	Sb	13 37 56.8	+1.2
	baz=279						
TNSS	Tian-Shan	1.02	338	*e*P	Pb	13 37 45.2	0.0
	5μm,0.2s						
TNSS				*e*S	Sb	13 37 59.8	+1.2
	8μm,0.3s						
MDOK	Medeo	1.12	344	*e*P	Pb	13 37 46.7	+0.1
	6μm,0.2s						
MDOK				*e*S	Sn	13 38 02.3	+0.3
	5μm,0.5s						
IZV	Izvestkoviy	1.14	327	*e*P	Pn	13 37 47.7	+0.6
	1μm,0.5s						
IZV				*e*S	Sn	13 38 03.9	+1.5
	2μm,0.4s						
KOTS	Kotyrbulak	1.18	347	*e*P	Pg	13 37 48.4	+0.1
KOTS				*e*S	Sn	13 38 05.3	+2.0
KNDC	Almaty	1.19	342	⇑P	Pg	13 37 48.2	-0.3
	4μm,0.3s						
KNDC				⇑S	Sn	13 38 04.8	+1.3
	2μm,0.4s						
SATY	Saty	1.19	35	*e*P	Pb	13 37 46.9	-1.0
	6μm,0.5s						
SATY				*e*S	Sb

PDGK	**Podgornoye**	**1.94**	**50**	⇓*i*P		**Pb**	**13 37 59.3**	**-1.4**
	baz=49							
PDGK				⇓*i*S		**Sb**	**13 38 24.5**	**-0.1**
	baz=49							
PDGK	**Podgornoye**	**1.94**	**50**	⇑P		**Pb**	**13 37 59.2**	**-1.4**
	comp=N,336nm,0.5s							
PDGK				⇑S		**Sb**	**13 38 24.6**	**-0.1**
	comp=N,3μm,0.6s							
PDGK	**Podgornoye**	**1.94**	**50**	PN		**Pb**	**13 37 59.2**	**-1.4**
PDGK				S		**Sb**	**13 38 24.6**	**-0.1**
PDGK				pmax	pmax			
	comp=Z,336nm,0.5s							
PDGK				smax	smax			
	comp=N,3μm,0.6s							
KBK	**Karagaybulak**	**1.95**	**288**	⇓*i*P		**Pb**	**13 38 01.4**	**+0.5**
	baz=287							
KBK				⇓*i*S		**Sg**	**13 38 27.8**	**-0.6**
	baz=287							
MNBS	**Baschi**	**2.10**	**19**	*e*P		**Pb**	**13 38 02.7**	**-0.7**
ARXS	**Arharly**	**2.14**	**7**	*e*P		**Pb**	**13 38 04.3**	**+0.3**
	comp=N,716nm,0.4s							
ARXS				*e*S		**Sb**	**13 38 32.2**	**+1.8**
	comp=N,3μm,0.4s							
UCH	**Uchtor**	**2.20**	**275**	⇓*i*P		**Pb**	**13 38 05.9**	**+0.6**
	baz=275							
UCH				⇓*i*S		**Sb**	**13 38 34.2**	**+1.7**
	baz=275							
CHMS	**Chumysh**	**2.20**	**295**	⇓*i*P		**Pb**	**13 38 04.8**	**-0.3**
	baz=295							
CHMS				⇓*i*S		**Sb**	**13 38 34.0**	**+1.8**
	baz=295							
FRU1	**Bishkek**	**2.22**	**290**	⇑*i*P		**Pb**	**13 38 05.5**	**+0.1**
	baz=290							
FRU1				⇑*i*S		**Sb**	**13 38 34.9**	**+2.2**
	baz=290							
FRU	**Bishkek**	**2.24**	**290**	*e*PN		**Pb**	**13 38 05.0**	**-0.7**
FRU				*i* S		**Sg**	**13 38 36.0**	**-1.5**
FRU				pmax	pmax			
	comp=Z,720nm,1.7s							
FRU				smax	smax			
	comp=E,10μm,2.0s							
FRU				smax	smax			
	comp=N,2μm,1.9s							
AAK	**Ala-Archa**	**2.27**	**285**	Pn		**Pb**	**13 38 06.0**	**-0.3**
	comp=N,119nm,0.3s,baz=109,slow=9.8,SNR=1223							
AAK				Lg	Lg		13 38 37.5	
	comp=N,195nm,0.3s,baz=133,slow=2.8,SNR=5.1							
AAK	**Ala-Archa**	**2.27**	**285**	⇑*i*P		**Pb**	**13 38 06.2**	**-0.1**
	baz=285							
AAK				⇑*i*S		**Sb**	**13 38 36.6**	**+2.4**
	baz=285							
AAK	**Ala-Archa**	**2.27**	**285**	⇓Pn		**Pb**	**13 38 06.6**	**+0.3**
	comp=N,271nm,0.5s							
AAK				⇑Lg	Lg		13 38 38.1	
	comp=N,1μm,0.5s							
AAK	**Ala-Archa**	**2.27**	**285**	*e*PN		**Pb**	**13 38 06.3**	**-0.1**
AAK	**Ala-Archa**	**2.27**	**285**	*e*Pn		**Pb**	**13 38 06.3**	**0.0**
AAK				*e*Sn		**Sn**	**13 38 30.3**	**-0.1**
USP	**Ospenovka**	**2.49**	**299**	⇓*i*P		**Pb**	**13 38 08.4**	**-1.5**
	baz=299							
USP				⇓*i*S		**Sb**	**13 38 40.9**	**+0.6**
	baz=299							
EKS2	**Erkin-Say**	**2.79**	**283**	⇓*i*P		**Pb**	**13 38 13.6**	**-1.6**
	baz=283							
EKS2				⇓*i*S		**Sb**	**13 38 48.5**	**-0.8**
	baz=283							
AML	**Almayashu**	**2.81**	**272**	⇓*i*P		**Pb**	**13 38 14.7**	**-0.9**
	baz=272							
AML				⇓*i*S		**Sb**	**13 38 50.2**	**+0.3**
	baz=272							
KSH	**Kashi**	**2.81**	**204**	Pn		**Pg**	**13 38 19.8**	**+0.4**
KSH				Sn		**Sg**	**13 39 02.0**	**+6.2**
KSH				smax	smax			
	comp=N,930nm,0.5s							
KSH				smax	smax			
	comp=N,1μm,1.1s							
DJR	**Jarkent**	**2.81**	**36**	*e*P		**Pb**	**13 38 14.9**	**-0.6**
	comp=N,661nm,0.4s							
DJR				*e*S		**Sb**	**13 38 50.4**	**+0.7**
	comp=N,3μm,0.4s							
TDK	**Taldyqorghan**	**2.99**	**13**	*e*P		**Pb**	**13 38 18.5**	**0.0**
	comp=N,1μm,0.5s							
TDK				*e*S		**Sb**	**13 38 56.9**	**+2.1**
	comp=N,5μm,0.6s							
ARSB	**Arslanbob**	**3.44**	**259**	⇑*i*P		**Pn**	**13 38 21.7**	**+3.0**
	baz=259							
ARSB				⇑*i*S		**Sn**	**13 39 03.6**	**+4.3**
	baz=259							
KAPS	**Kapalarasan**	**3.48**	**23**	*e*P		**Pb**	**13 38 27.4**	**+0.6**
	comp=N,481nm,0.4s							
KAPS				*e*S		**Sb**	**13 39 12.2**	**+3.4**
	comp=N,2μm,0.5s							
SFK	**Sufi-Kurgan**	**3.65**	**237**	⇑*i*P		**Pn**	**13 38 25.1**	**+3.5**
	baz=237							
SFK				⇑*i*S		**Sn**	**13 39 07.6**	**+3.2**
	baz=237							
MNAS	**Manas**	**3.71**	**278**	⇓*e*P		**Pn**	**13 38 25.8**	**+3.5**
	baz=278							
MNAS				⇓*i*S		**Sn**	**13 39 10.4**	**+4.7**
	baz=278							
MNAS	**Manas**	**3.71**	**278**	⇑Pn		**Pn**	**13 38 26.5**	**+4.2**
	comp=N,46nm,0.6s							
MNAS				⇑Lg	Lg		13 39 23.7	
	comp=N,226nm,0.5s							
MNAS	**Manas**	**3.71**	**278**	PN		**Pn**	**13 38 26.5**	**+4.2**
MNAS				pmax	pmax			
	comp=Z,46nm,0.6s							
BTLS	**Baital**	**3.86**	**321**	*e*P		**Pb**	**13 38 34.5**	**+1.2**
	comp=Z,135nm,0.3s							
BTLS				*e*S		**Sb**	**13 39 24.8**	**+5.0**
	comp=Z,681nm,0.6s							
DZA	**Taraz**	**4.61**	**282**	*e*P		**Pb**	**13 38 49.8**	**+3.8**
	comp=Z,83nm,0.1s							
DZA				*e*S		**Sg**	**13 39 50.4**	**-3.1**
	comp=Z,606nm,0.6s							
KK31	**Karatay Array**	**5.24**	**284**	⇑Pn		Pn	13 38 50.1	+6.9
	comp=Z,4.8nm,0.6s,baz=95,slow=14,SNR=63							
KK31				⇑Pg		**Pg**	**13 39 02.7**	**-3.1**
	comp=Z,13nm,0.3s,baz=92,slow=15,SNR=13							
KK31				⇓Lg	Lg		13 40 10.9	
	comp=Z,232nm,0.6s,baz=96,slow=29,SNR=17							
KK31	**Karatay Array**	**5.24**	**284**	PN		Pb	13 38 50.9	-5.8
KK31				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KKAR	**Karatay Array**	**5.24**	**284**	PN		**Pn**	**13 38 46.7**	**+3.5**
KKAR				pmax	pmax			
	comp=Z,49nm,0.4s							
KKAR	**Karatay Array**	**5.24**	**284**	Pn		**Pn**	**13 38 46.7**	**+3.5**
	comp=Z,49nm,0.4s							
KKAR				*e*Sn		**Sn**	**13 39 38.7**	**-4.6**
IUG	**Iuzhnay**	**5.53**	**273**	*e*P		Pg	13 39 06.8	-4.7
	comp=Z,110nm,0.5s							
IUG				*e*S		**Sg**	**13 40 20.5**	**-2.6**
	comp=Z,1μm,4.5s							
MAKZ	**Makanchi**	**5.71**	**33**	⇓Pn		**Pn**	**13 38 51.6**	**+1.8**
	comp=Z,12nm,0.5s							
MAKZ				⇑Pg		Pg	13 39 10.1	-4.8
	comp=Z,23nm,0.5s							
MAKZ				⇑Lg	Lg		13 40 24.6	
	comp=Z,106nm,0.6s							
MAKZ	**Makanchi**	**5.71**	**33**	PN		**Pn**	**13 38 51.6**	**+1.8**
MAKZ				pmax	pmax			
	comp=Z,12nm,0.5s							
MK31	**Makanchi Array**	**5.83**	**35**	⇑Pn		**Pn**	**13 38 53.1**	**+1.6**
	comp=Z,10nm,0.3s,baz=212,slow=11,SNR=330							
MK31				⇓Lg	Lg		13 40 26.9	
	comp=Z,46nm,0.6s,baz=219,slow=25,SNR=4.4							
MK31	**Makanchi Array**	**5.83**	**35**	PN		**Pn**	**13 38 53.5**	**+2.1**
MK31				pmax	pmax			
	comp=Z,11nm,0.4s							
MKAR	**Makanchi Array**	**5.83**	**35**	Pn		**Pn**	**13 38 52.9**	**+1.5**
	comp=Z,4.8nm,0.3s,baz=218,slow=14,SNR=122							
MKAR				Lg	Lg		13 40 19.5	
	comp=Z,24nm,0.3s,baz=203,slow=25,SNR=7.6							
MKAR				LR	LR		13 41 28.7	
	comp=Z,241nm,19.5s,baz=215,slow=42							
CHM	**Chimkent**	**5.85**	**275**	*e*P		**Pg**	**13 39 13.1**	**-4.4**
	comp=Z,68nm,0.2s							
CHM				*e*S		**Sg**	**13 40 31.5**	**-1.7**
	comp=Z,409nm,0.5s							
WMQ	**Urumqi**	**7.70**	**74**	Pn		**Pn**	**13 39 18.0**	**+0.9**
WMQ				Sn		**Sn**	**13 40 46.0**	**+2.0**
WMQ				smax	smax			
	comp=Z,86nm,1.1s							
WMQ				smax	smax			
	comp=Z,130nm,0.9s							
KURBB	**Kurchatov Arra**	**8.57**	**5**	Pn		**Pn**	**13 39 29.6**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=191,slow=12,SNR=14							
KURBB				Sn		**Sn**	**13 41 04.7**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=186,slow=26,SNR=4.7							
KURBB				Lg	Lg		13 41 51.0	
	comp=Z,2.8nm,0.3s,baz=192,slow=31,SNR=6.8							
KURBB	**Kurchatov Arra**	**8.57**	**5**	⇑Pn		**Pn**	**13 39 30.0**	**+1.1**
	comp=Z,10nm,0.5s							
KURBB				⇑Lg	Lg		13 42 00.2	
	comp=Z,299nm,1.0s							
KURK	**Kurchatov**	**8.67**	**5**	⇑Pn		**Pn**	**13 39 31.1**	**+0.9**
	comp=Z,11nm,0.5s							
KURK				⇑Lg	Lg		13 41 56.7	
	comp=Z,339nm,0.9s							
KURK	**Kurchatov**	**8.67**	**5**	*d i*P		**Pn**	**13 39 31.5**	**+1.3**
KURK	**Kurchatov**	**8.67**	**5**	*e*Pn		**Pn**	**13 39 30.0**	**-0.2**
KURK				*e*Sn		**Sn**	**13 41 06.4**	**-1.1**
CHCP	**Chirah Chowk**	**9.05**	**203**	⇑P		**Pn**	**13 39 38.1**	**+2.5**
CEP	**Cherat**	**9.34**	**210**	P		**Pn**	**13 39 43.2**	**+3.5**
THW	**Thamme Wali**	**10.33**	**208**	P		**Pn**	**13 39 55.7**	**+2.6**
BVA0	**Borovoye Array**	**11.93**	**339**	⇑Pn		**Pn**	**13 40 18.8**	**+3.8**
	comp=Z,25nm,0.8s							
BVA0				⇑Lg	Lg		13 43 43.3	
	comp=Z,57nm,0.8s,baz=148,slow=32,SNR=6.9							
BVA0	**Borovoye Array**	**11.93**	**339**	P		**Pn**	**13 40 18.8**	**+3.8**
BVA0				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BVAR	**Borovoye Array**	**11.93**	**339**	Pn		**Pn**	**13 40 14.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=146,slow=14,SNR=12							
BVAR				Sn		**Sn**	**13 42 26.3**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=152,slow=23,SNR=3.2							
BVAR				Lg	Lg		13 43 35.9	
	comp=Z,3.7nm,0.3s,baz=144,slow=30,SNR=4.0							
BRVK	**Borovoye**	**11.99**	**339**	⇓Pn		**Pn**	**13 40 14.4**	**-1.3**
	comp=Z,23nm,0.6s							
BRVK				⇓Lg	Lg		13 43 45.3	
	comp=Z,121nm,1.1s							
BRVK	**Borovoye**	**11.99**	**339**	*d i*P		**Pn**	**13 40 15.6**	**-0.1**
BRVK	**Borovoye**	**11.99**	**339**	*e*Pn		**Pn**	**13 40 14.9**	**-0.8**
	comp=Z,70nm,0.6s							
BRVK				*e*Sn		**Sn**	**13 42 26.9**	**-2.2**
ZALV	**Zalesovo Beam**	**12.84**	**20**	Pn		**Pn**	**13 40 28.1**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=214,slow=15,SNR=14							
ZALV				Sn		**Sn**	**13 42 44.8**	**-4.9**
	comp=Z,0.7nm,0.3s,baz=214,slow=21,SNR=2.7							
ZALV				Lg	Lg		13 44 05.6	
	comp=Z,0.5nm,0.3s,baz=195,slow=25,SNR=2.6							
ZALV				LR	LR		13 45 39.7	
	comp=Z,168nm,18.6s,baz=254,slow=38							
NVS	**Novosibirsk**	**13.31**	**15**	*e*P		**P**	**13 40 45.4**	**+2.0**
NVS				*e*			13 42 56.0	
AB31	**Akbulak array**	**14.18**	**306**	Pn		**Pn**	**13 40 45.4**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=117,slow=12,SNR=42							
AB31				⇓Sn		**Sn**	**13 43 30.1**	**+7.7**
	comp=Z,5.1nm,0.7s,baz=113,slow=24,SNR=5.8							
AB31				⇓Lg	Lg		13 44 56.8	
	comp=Z,12nm,0.7s,baz=102,slow=24,SNR=4.1							
AB31	**Akbulak array**	**14.18**	**306**	P		**Pn**	**13 40 45.4**	**-0.2**
AB31				S		**Sn**	**13 43 30.9**	**+8.5**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AB31				smax	smax			
	comp=N,5.0nm,0.7s							
ABKAR	**Akbulak array**	**14.18**	**306**	*e*Pn		**Pn**	**13 40 42.9**	**-2.7**
	comp=N,5.3nm,0.6s							
PYUN	**Piuthan**	**14.66**	**160**	*e*P		**Pn**	**13 40 48.8**	**-3.8**
KOLN	**Koldanda**	**15.14**	**159**	*e*P		**Pn**	**13 40 55.6**	**-3.3**
GKN	**Gorkha**	**15.22**	**155**	*e*P		**Pn**	**13 40 57.2**	**-2.8**
GEYT	**Alibeck**	**15.39**	**261**	Pn		**Pn**	**13 41 00.0**	**-2.1**
	comp=N,0.1nm,0.3s,baz=76,slow=14,SNR=3.0							
GEYT				LR	LR		13 47 51.4	
	comp=N,56nm,21.6s,baz=280,slow=41							
KKN	**Kakani**	**15.62**	**153**	*e*P		**Pn**	**13 41 02.0**	**-3.3**
AKTO	**Aktyubinsk**	**15.80**	**309**	Pn		**Pn**	**13 41 06.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=111,slow=17,SNR=3.1							
AKTO				Lg	Lg		13 45 39.3	
	comp=N,0.3nm,0.3s,baz=204,slow=19,SNR=2.4							
AKTO				LR	LR		13 47 43.9	
	comp=N,81nm,21.2s,baz=117,slow=39							
AKTO	**Aktyubinsk**	**15.80**	**309**	⇑Pn		**P**	**13 41 12.0**	**+1.0**
	comp=N,7.5nm,1.0s							
AKTO				⇓Sn		**S**	**13 44 10.2**	**-6.2**
	comp=N,6.2nm,0.8s							
AKTO				⇓Lg	Lg		13 45 49.7	
	comp=N,19nm,0.8s							
AKTO	**Aktyubinsk**	**15.80**	**309**	P		**P**	**13 41 12.0**	**+1.0**
AKTO				S		**S**	**13 44 10.2**	**-6.2**
AKTO				pmax	pmax			
	comp=Z,8.0nm,1.0s							
AKTO				smax	smax			
	comp=N,6.0nm,0.8s							
PKIN	**Phulchoki**	**15.86**	**153**	*e*P		**Pn**	**13 41 05.1**	**-3.3**
PKI	**Pulchoki**	**15.87**	**153**	*e*P		**Pn**	**13 41 05.2**	**-3.4**
JIRN	**Jiri**	**16.06**	**151**	*e*P		**Pn**	**13 41 09.4**	**-1.7**
RAMN	**Ramite**	**16.86**	**151**	*e*P		**Pn**	**13 41 19.3**	**-1.8**
TAPN	**Taplejung**	**16.92**	**147**	*e*P		**P**	**13 41 23.8**	**-0.1**
GTA	**Gaotai**	**17.14**	**92**	*e*P		**Pn**	**13 41 21.5**	**-3.0**
GTA				pP		P	13 41 25.0	-1.1
GTA				S		**Sn**	**13 44 31.5**	**-3.2**
GTA				sS		S	13 44 38.0	-6.1
GTA				SS		**SnSn**	**13 44 54.5**	**+6.7**
GTA				pmax	pmax			
	comp=N,4.0nm,1.6s							
GTA				LR	LR			
	comp=N,91nm,13.8s							
GTA				LR	LR			
	comp=N,160nm,12.4s							
GTA				LR	LR			
	comp=N,150nm,14.3s							
ODAN	**Odare**	**17.23**	**149**	*e*P		**Pn**	**13 41 26.4**	**+0.6**
SVE	**Sverdlovsk**	**18.29**	**330**	*e*P		**P**	**13 41 45.2**	**+6.7**
ARU	**Arti**	**18.83**	**326**	P		**Pn**	**13 41 46.8**	**+1.8**
	comp=N,0.0nm,0.3s,baz=113,slow=4.2,SNR=5.3							
ARU				S		**Sn**	**13 45 10.6**	**-4.6**
	comp=N,0.0nm,0.3s,baz=155,slow=14,SNR=2.7							
ARU				Lg	Lg		13 47 09.4	
	comp=N,0.0nm,0.3s,baz=168,slow=18,SNR=3.0							
ARU				LR	LR		13 49 27.7	
	comp=N,118nm,20.1s,baz=156,slow=38							
ARU	**Arti**	**18.83**	**326**	*d i*P		**Pn**	**13 41 46.7**	**+1.7**
ARU				S		**S**	**13 45 19.3**	**+1.3**
ARU				pmax	pmax			
	comp=Z,17nm,2.5s							
ARU	**Arti**	**18.83**	**326**	*e*P		**P**	**13 41 43.7**	**-0.8**
	comp=Z,5.8nm,0.6s							
SONM	**Songino Array**	**21.19**	**64**	P		**P**	**13 42 10.1**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=279,slow=12,SNR=17							
SONM				LR	LR		13 51 18.9	
	comp=Z,205nm,18.1s,baz=269,slow=40							
SONM	**Songino Array**	**21.19**	**64**	*e*P		**P**	**13 42 10.5**	**+0.2**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
LZH	**Lanzhou**	**21.29**	**98**	*e*P		**P**	**13 42 13.5**	**+2.0**
LZH				pP	sP		13 42 17.0	-1.1
LZH				sP	pP		13 42 20.8	+4.7
LZH				pmax	pmax			
	comp=Z,16nm,1.0s							
ULN	**Ulaanbaatar**	**21.63**	**64**	*e*P		**P**	**13 42 14.7**	**-0.4**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WSAR	**Wadi Sarin**	**24.50**	**226**	LR	LR		13 54 47.0	
	comp=Z,44nm,21.9s,baz=110,slow=43							
GNI	**Garni**	**24.65**	**277**	*e*P		**P**	**13 42 47.4**	**+1.8**
GNI				pmax	pmax			
	comp=Z,25nm,1.0s							
KVAR	**Kislovodsk Arr**	**25.38**	**286**	LR	LR		13 55 08.0	
	comp=Z,62nm,18.4s,baz=76,slow=42							
KIV	**Kislovodsk**	**25.39**	**286**	*i* P		**P**	**13 42 51.0**	**-1.2**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**29.82**	**136**	P		**P**	**13 43 29.8**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=321,slow=9.4,SNR=9.4							
CMAR	**Chiang Mai Arr**	**29.82**	**136**	*e*P		**P**	**13 43 31.9**	**0.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
RAYN	**Ar Rayn**	**32.37**	**245**	*e*P		**P**	**13 43 54.5**	**0.0**
	comp=Z,3.8nm,0.7s							
BRTR	**Keskin Array B**	**32.94**	**281**	P		**P**	**13 44 00.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=96,slow=8.8,SNR=6.8							
BRTR	**Keskin Array B**	**32.94**	**281**	*e*P		**P**	**13 44 01.9**	**+2.4**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**36.02**	**320**	P		**P**	**13 44 25.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=76,slow=5.9,SNR=5.1							
FINES				LR	LR		13 59 54.2	
	comp=Z,82nm,20.0s,baz=50,slow=37							
FINES	**FINESS Array B**	**36.02**	**320**	*i* P		**P**	**13 44 29.3**	**+3.7**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**38.15**	**333**	P		**P**	**13 44 44.0**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=97,slow=6.3,SNR=6.7							
ARCES				LR	LR		14 01 26.3	
	comp=Z,64nm,18.1s,baz=272,slow=38							
ARCES	**ARCESS Array B**	**38.15**	**333**	*e*P		**P**	**13 44 42.7**	**-0.9**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KSAR	**Wonju Array Be**	**38.58**	**80**	P		**P**	**13 44 46.5**	**-1.1**
KSAR	**Wonju Array Be**	**38.58**	**80**	P		**P**	**13 44 46.5**	**-1.1**
KSRS	**Korea Array**	**38.60**	**80**	P		**P**	**13 44 46.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=288,slow=8.9,SNR=5.5							
KSRS	**Korea Array**	**38.60**	**80**	*e*P		**P**	**13 44 46.9**	**-0.9**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TIXI	**Tiksi**	**38.69**	**23**	P		**P**	**13 44 47.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=277,slow=3.0,SNR=4.3							
HFS	**Hagfors**	**42.03**	**318**	P		**P**	**13 45 15.8**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=93,slow=13,SNR=2.5							
NB2	**NORSAR Subarra**	**43.18**	**319**	P		P	13 45 30.7	+5.4
	comp=Z,1.3nm,0.6s,baz=84,slow=8.6							
NOA	**NORSAR Array B**	**43.18**	**319**	P		**P**	**13 45 25.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=86,slow=8.0,SNR=2.4							
NOA				LR	LR		14 04 06.3	
	comp=Z,55nm,20.4s,baz=300,slow=37							
NOA	**NORSAR Array B**	**43.18**	**319**	*e*P		P	13 45 31.1	+5.8
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MDT	**Midelt**	**63.48**	**291**	LR	LR		14 17 46.5	
	comp=Z,26nm,21.5s,slow=38							
INK	**Inuvik**	**67.50**	**12**	P		**P**	**13 48 19.9**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=342,slow=7.2,SNR=11							
ILAR	**Eielson Array**	**67.96**	**19**	P		**P**	**13 48 21.9**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=319,slow=5.5,SNR=13							
ILAR	**Eielson Array**	**67.96**	**19**	*e*P		**P**	**13 48 22.3**	**-1.0**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.78**	**271**	P		**P**	**13 48 40.5**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=47,slow=5.4,SNR=16							
KDAK	**Kodiak Island**	**72.07**	**26**	*i* P		**P**	**13 48 48.4**	**-0.1**
WRA	**Warramunga Arr**	**81.01**	**127**	P		**P**	**13 49 38.0**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=332,slow=5.5,SNR=5.0							
WRA	**Warramunga Arr**	**81.01**	**127**	*i* P		**P**	**13 49 37.0**	**-2.6**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**83.64**	**130**	P		**P**	**13 49 51.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=324,slow=5.3,SNR=9.0							
ASAR	**Alice Springs**	**83.64**	**130**	*e*P		**P**	**13 49 52.0**	**-1.4**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*IDC **28** 13:44:15.7±2.1, 29°.26S×175°.48W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/14, Error ellipse: s-maj=56.0km s-min=35.6km az=16.0*

*ISCJB **28** 13:44:19.9±2.1, 29°.5S±0°.1×175°.6W±0°.2, h33km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=20.8km s-min=13.7km az=158.5*

ISC 28 13:44:21.6±1.7, 29°.4S±0°.1×175°.6W±0°.1, h35km, n7, σ0§61/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.00**	**272**	Pn		**Pn**	**13 44 53.3**	**+0.6**
	76nm,0.3s,baz=105,slow=20,SNR=5.8							
RAO				Sn		**Sn**	**13 45 15.8**	**-0.7**
	181nm,0.3s,baz=51,slow=20,SNR=4.5							
URZ	**Urewera**	**10.73**	**212**	Pn		**Pn**	**13 46 52.6**	**-0.1**
	0.1nm,0.3s,baz=29,slow=19,SNR=2.3							
URZ				Sn		**Sn**	**13 48 52.0**	**+0.3**
	0.5nm,0.3s,baz=300,slow=20,SNR=4.6							
PPT	**Papeete**	**26.56**	**70**	LR		LR	13 59 37.4	
	comp=Z,36nm,18.5s,baz=138,slow=35							
ASAR	**Alice Springs**	**45.23**	**265**	P		**P**	**13 52 36.0**	**+0.3**
	0.2nm,0.5s,baz=104,slow=7.3,SNR=5.6							
WRA	**Warramunga Arr**	**46.13**	**270**	P		**P**	**13 52 42.5**	**-0.3**
	0.7nm,0.7s,baz=108,slow=7.9,SNR=2.9							
FINES	**FINESS Array B**	**144.83**	**342**	PKP		**PKPdf**	**14 03 54.5**	**+0.4**
	0.9nm,0.5s,baz=50,slow=2.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**163.69**	**171**	PKPab		**PKPab**	**14 05 12.5**	**-0.7**
	0.2nm,0.3s,baz=199,slow=3.1,SNR=3.1							

*CSEM **28** 13:53:57.7, 38°.63N×43°.66E, h5km, ML2.4*

ISK 28 13:53:57.7, 38°.63N×43°.66E, h5km, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.21**	**262**	*e*PG		Pg	13 54 03.2

SVAN	Silvan-Diyarba	1.51	252	P		Pb	14 00 29.3	+0.1
SVAN				S		Sg	14 00 50.6	+1.3
BTMN	Batman	1.56	243	*i* P		Pg	14 00 30.5	-0.3
BTMN				*i* S		Sg	14 00 51.8	+0.8
BTMN	Batman	1.56	243	P		Pg	14 00 30.5	-0.3
BTMN				S		Sg	14 00 51.8	+0.8
HOMI	Horasan	1.67	329	*i* P		Pg	14 00 32.3	-0.5
HOMI				*i* S		Sg	14 00 57.8	+3.4
DIGO	Kars	1.81	9	*i* P		Pg	14 00 34.6	-1.0
DIGO				*i* S		Sg	14 01 05.7	+6.5
DIGO	Kars	1.81	9	P		Pg	14 00 34.6	-1.0
ERZM	Erzurum	1.82	315	*i* P		Pg	14 00 35.1	-0.6
ERZM	Erzurum	1.82	315	P		Pg	14 00 35.1	-0.6
BNGB	Bing¶‖	1.87	282	*e*PN		Pb	14 00 35.0	-0.4
BINT	Bingol	2.00	278	*e*Pn		Pn	14 00 35.0	-0.2
SENK	Senkaya-Erzuru	2.01	345	*e*PN		Pb	14 00 36.4	-1.4
SENK	Senkaya-Erzuru	2.01	345	*e*Pn		Pb	14 00 36.4	-1.4
EAK	Akyaka	2.11	12	*i* P		Pg	14 00 40.6	-0.7
EAK	Akyaka	2.11	12	P		Pg	14 00 40.7	-0.7
MARD	Mardin	2.20	234	*i* P		Pn	14 00 39.4	+1.4
MARD				*i* S		Sn	14 01 04.7	-0.8
MAZI	Mazidag	2.34	241	*e*PN		Pb	14 00 41.9	-1.6
MAZI	Mazidag	2.34	241	*e*Pn		Pb	14 00 41.9	-1.6
KOPT	Kop Dagi	2.41	306	*i* P		Pg	14 00 45.4	-1.6
KOPT	Kop Dagi	2.41	306	P		Pg	14 00 45.4	-1.6
DDEM	Demirkent	2.47	337	*i* P		Pg	14 00 46.9	-1.4
DDEM	Demirkent	2.47	337	P		Pg	14 00 46.9	-1.4
KBSD	Kabsdagh	2.54	231	*e*P		Pn	14 00 44.3	+1.6
KBSD				*e*S		Sb	14 01 18.5	+0.1
KBSD				AML		AML	14 01 25.3	
	comp=Z,716nm,0.5s							
DAGI	Agillar	2.60	341	*i* P		Pb	14 00 48.2	+0.3
ARTV	Artvin	2.70	342	*i* P		Pb	14 00 49.5	-0.1
ARTV	Artvin	2.70	342	P		Pb	14 00 49.5	-0.1
TNCL	Tunceli-Merkez	2.76	281	*i* P		Pg	14 00 52.5	-1.3
AKH	Akhalkalaki	2.81	7	P		Pg	14 00 52.7	-2.0
SFNV	Sufian	3.19	227	*e*P		Pn	14 00 53.4	+1.8
SFNV				*e*S		Sb	14 01 37.3	+0.2
SFNV				AML		AML	14 01 49.0	
	comp=Z,470nm,0.5s							
DGRG	David-gareji	3.35	32	P		Pb	14 00 56.9	-3.8
MZRK	Al-Mazaregh	3.37	215	*e*P		Pn	14 00 56.4	+2.4
MZRK				*e*S		Sb	14 01 40.6	-1.6
MZRK				AML		AML	14 01 56.3	
	comp=Z,316nm,0.6s							
TBLG	Delisi	3.37	22	P		Pg	14 01 04.6	-0.9
ONI	Oni	3.98	5	P		Pg	14 01 13.7	-3.4
KSRV	Kasrt alli	4.22	231	*e*P		Pn	14 01 01.3	-4.4

*ISK **28** 14:03:29.6,38°.91N×43°.62E,h5km,ML3.5*
*CSEM **28** 14:03:30.5±0.2,38°.90N×43°.57E,h2km,ML3.6,Error ellipse: s-maj=4.9km s-min=3.8km az=105.0*
*DDA **28** 14:03:30.4,38°.92N×43°.60E,h17km,Ml3.6*
*ISCJB **28** 14:03:31.6±0.4,38°.96N±0°.02×43°.56E±0°.04,h9km±3km, Error ellipse: s-maj=5.7km s-min=3.8km az=1.9*
ISC 28 14:03:30.8±0.8,38°.92N±0°.02×43°.58E±0°.02,h10km±5km, n40,σ0°91/61,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.07	355	*i* P		Pg	14 03 32.9	-0.5
VMUR				*i* S		Sg	14 03 35.9	+0.7
VMUR	Van-Muradiye	0.07	355	P		Pg	14 03 32.9	-0.5
VMUR				S		Sg	14 03 35.8	+0.7
CLDR	Caldiran	0.35	49	*e*PG		Pg	14 03 37.3	-0.5
CLDR				*e*SG		Sg	14 03 43.0	+0.5
CLDR	Caldiran	0.35	49	*i* P		Pg	14 03 37.6	-0.3
CLDR				*i* S		Sb	14 03 44.2	-0.7
CLDR	Caldiran	0.35	49	*e*Pg		Pg	14 03 37.3	-0.5
CLDR	Caldiran	0.35	49	P		Pg	14 03 37.6	-0.3
CLDR				*e*Sg		Sg	14 03 43.0	+0.5
CLDR				S		Sb	14 03 44.2	-0.7
VANB	Van	0.35	205	*e*PG		Pb	14 03 38.9	-0.3
VANB				*e*SG		Sb	14 03 46.3	+1.4
VANB	Van	0.35	205	*e*Pg		Pb	14 03 38.9	-0.3
TVAN	Van	0.41	200	*i* P		Pg	14 03 38.9	-0.1
TVAN				*i* S		Sb	14 03 46.9	+0.2
TVAN	Van	0.41	200	P		Pg	14 03 38.8	-0.1
DYDN	Diyadin	0.63	8	*i* P		Pg	14 03 43.0	-0.2
DYDN				*i* S		Sb	14 03 53.0	-0.1
DYDN	Diyadin	0.63	8	P		Pg	14 03 43.0	-0.2
DYDN				S		Sb	14 03 53.0	-0.1
ADCV	BITLIS_Adilcev	0.68	261	*i* P		Pg	14 03 43.8	-0.2
ADCV				*i* S		Sb	14 03 54.9	+0.6
ADCV	BITLIS_Adilcev	0.68	261	P		Pg	14 03 43.8	-0.2
GEVA	Gevas	0.73	214	*i* P		Pg	14 03 43.8	-1.1
GEVA				*i* S		Sn	14 03 58.2	-0.4
GEVA	Gevas	0.73	214	P		Pg	14 03 43.8	-1.1
TUTA	Tutak	0.77	309	*i* P		Pg	14 03 45.0	-0.7
TUTA				*i* S		Sg	14 03 56.6	+0.8
TUTA	Tutak	0.77	309	P		Pg	14 03 45.0	-0.7
TUTA				S		Sg	14 03 56.6	+0.8
AGRB	Hanur-Agry	0.80	325	*e*PG		Pg	14 03 46.0	-0.4
AGRB	Hanur-Agry	0.80	325	*e*Pg		Pg	14 03 46.0	-0.4
BASK	Baskale_VAN	0.92	159	*e*P		Pg	14 03 46.9	-1.8
BASK				*i* S		Sn	14 04 04.9	+1.5
BASK	Baskale_VAN	0.92	159	P		Pg	14 03 46.9	-1.8
TATV	Tatvan	1.10	249	*i* P		Pg	14 03 50.6	-1.5
TATV				*i* S		Sg	14 04 06.1	-0.4
TATV	Tatvan	1.10	249	P		Pg	14 03 50.6	-1.5
TATV				S		Sg	14 04 06.1	-0.4
EKAR	Karacoban	1.23	287	*i* P		Pb	14 03 53.8	-0.5
EKAR				*i* S		Sn	14 04 13.2	+2.1
EKAR	Karacoban	1.23	287	P		Pb	14 03 53.8	-0.5
HAKT	HAKKARI	1.36	176	*i* P		Pn	14 03 55.2	-0.9
HAKT				*i* S		Sg	14 04 16.6	+2.0
HAKT	HAKKARI	1.36	176	P		Pn	14 03 55.2	-0.9
HAKT				S		Sg	14 04 16.6	+2.0
CUKT	Cukurca	1.67	179	*e*PN		Pb	14 04 01.3	-0.4
CUKT	Cukurca	1.67	179	*i* P		Pn	14 04 00.6	+0.4
CUKT				*i* S		Sg	14 04 26.2	+1.9
CUKT	Cukurca	1.67	179	P		Pn	14 04 00.6	+0.4
CUKT	Cukurca	1.67	179	*e*Pn		Pb	14 04 01.3	-0.4
VRTB	Varto-Mus	1.67	279	*e*PN		Pb	14 04 01.8	0.0
VRTB	Varto-Mus	1.67	279	*e*Pn		Pb	14 04 01.8	0.0
SENK	Senkaya-Erzuru	1.90	330	*e*PN		Pb	14 04 05.2	-0.5
SENK	Senkaya-Erzuru	1.90	330	*e*Pn		Pb	14 04 05.2	-0.5
SVAN	Silvan-Diyarba	2.02	249	*e*PN		Pb	14 04 06.9	-0.7
SVAN	Silvan-Diyarba	2.02	249	*e*Pn		Pb	14 04 06.9	-0.7
BNGB	Bing¶‖	2.26	273	*e*PN		Pb	14 04 10.4	-1.4
BINT	Bingol	2.41	270	*e*Pn		Pn	14 04 10.4	-0.1

*KRNET **28** 14:06:55.0±0.1,39°.87N×70°.24E,mb2.8*
*NNC **28** 14:06:56.7±1.4,40°.11N×69°.94E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=36.0km s-min=8.7km az=123.0*
ISC 28 14:06:53.8±1.3,39°.94N±0°.05×70°.37E±0°.05,h14km±12km, n13,σ1°90/24,14C-12D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.36	71	⇓*i*P		Pn	14 07 04.3	-0.4
	baz=67						
BTK				⇓*i*S		Sn	14 07 11.8	+0.1
	baz=67						
DZET	Dzherino	1.65	227	⇓P		Pb	14 07 23.2	-0.8
	14nm,0.4s						
DZET				⇓S		Sg	14 07 47.4	+0.4
	119nm,0.4s						
ARK	Arkit	2.21	33	⇑*i*P		Pg	14 07 37.1	+0.9
	baz=34						
ARK				⇑*i*S		Sg	14 08 06.7	+1.9
	baz=34						
SFK	Sufi-Kurgan	2.41	87	⇑*i*P		Pg	14 07 39.7	-0.2
	baz=86						
SFK				⇑*i*S		Sg	14 08 11.3	+0.2
	baz=86						
ARSB	Arslanbob	2.42	54	⇓*i*P		Pg	14 07 40.1	0.0
	baz=54						
ARSB				⇓*i*S		Sg	14 08 12.2	+0.7
	baz=54						
MNAS	Manas	3.01	32	⇑*i*P		Pb	14 07 47.3	+0.1
	baz=33						
MNAS				⇑*i*S		Sb	14 08 26.3	+2.5
	baz=33						
MNAS	Manas	3.01	32	⇓Pn		Pb	14 07 45.5	-1.7
	0.5nm,0.4s						
MNAS				⇑Pg		Pg	14 07 51.4	+0.1
	10nm,0.4s						
MNAS				⇑Lg		Lg	14 08 32.3	
	5.0nm,0.4s						
KK31	Karatay Array	3.16	2	Pn		Pb	14 07 47.7	-2.0
	1.0nm,0.5s,baz=180,slow=12,SNR=16						
KK31				⇓Pg		Pg	14 07 52.9	-1.4
	1.2nm,0.3s,baz=186,slow=16,SNR=8.9						
KK31				Lg		Lg	14 08 35.2	
	1.8nm,0.3s,baz=194,slow=32,SNR=7.2						
AML	Almayashu	3.33	48	⇑*i*P		Pb	14 07 50.8	-2.0
	baz=48						
AML				⇑*i*S		Sb	14 08 32.1	-1.3
	baz=48						
ARLS	Aral	3.55	56	⇓*e*P		Pb	14 07 54.8	-1.7
	baz=56						
ARLS				⇓*i*S		Sb	14 08 38.9	-0.7
	baz=56						
EKS2	Erkin-Say	3.73	42	⇑*i*P		Pb	14 07 56.0	-3.6
	baz=43						
EKS2				⇑*i*S		Sb	14 08 41.3	-3.5
	baz=43						
AAK	Ala-Archa	4.11	48	⇓Pn		Pb	14 08 06.2	+0.2
	3.6nm,0.5s						
AAK				⇓Lg		Lg	14 09 12.4	
	4.9nm,0.8s						
TKM2	Tokmak 2	4.92	51	⇑Pn		Pn	14 08 11.7	+4.1
	3.5nm,0.9s						
TKM2				⇑Lg		Lg	14 09 35.7	
	3.5nm,0.9s						

*NEIC **28** 14:07:46.2±0.0,52°.18N×168°.16W,h26km,ML3.2(AEIC), After AEIC.*
*IDC **28** 14:07:47.7±1.5,52°.90N×168°.51W,h0km,mb3.8/9, mb1 3.9/10,mb1mx3.6/59,mbtmp3.8/10,ML3.2/1,MS2.6/1, Ms1 2.6/1,ms1mx2.2/49,Error ellipse: s-maj=38.2km s-min=22.1km az=168.0*
ISC 28 14:07:47.6±2.0,52°.40N±0°.08×168°.14W±0°.07, h16km±10km,n33,σ1°89/33,mb4.0/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.72	323	P		Pn	14 08 02.5	-0.5
NIKH				S		Sn	14 08 15.0	+1.2
OKSP	Okmok Steeple	0.86	354	P		Pn	14 08 04.9	-0.1
OKSO	Okmok South	0.96	359	P		Pg	14 08 05.9	-0.2
OKSO				S		Sn	14 08 22.0	+2.3
OKTU	Okmok Mt. Tuli	0.99	3	P		Pn	14 08 06.7	-0.1
OKFG	Magazine Ridge	1.02	8	P		Pg	14 08 07.9	+0.6
OKFG				S		Sn	14 08 23.9	+2.7
OKCE	Okmok Cone E	1.03	359	P		Pg	14 08 08.1	+0.7
OKNC	Okmok New Cone	1.06	0	P		Pg	14 08 08.9	+0.9
MGOD	Makushin Gods	1.59	28	P		Pn	14 08 15.8	+0.8
MGOD				S		Sb	14 08 36.9	+0.5
MSW	Makushin Switc	1.72	28	P		Pn	14 08 17.6	+0.8
MSW				S		Sg	14 08 41.6	-1.4
UNV	Unalaska Valle	1.75	34	P		Pn	14 08 17.3	+0.1
MTBL	Makushin Table	1.80	29	P		Pn	14 08 18.7	+0.8
ZRO	Akutan Zero	2.13	37	P		Pn	14 08 23.3	+0.8
AKGG	Akutan Green G	2.21	35	P		Pn	14 08 25.1	+1.5
AKGG				S		Sb	14 08 55.8	+1.5
AKUT	Akutan	2.24	38	P		Pn	14 08 24.7	+0.7
ATKA	Atka Island	3.73	269	P		Pn	14 08 42.9	-1.4
KDAK	Kodiak Island	10.41	53	Pn		Pn	14 10 14.6	-1.3
	0.2nm,0.3s,baz=179,slow=4.5,SNR=13						
KDAK				Sn		Sn	14 12 05.4	-6.6
	0.1nm,0.3s,baz=297,slow=18,SNR=1.8						
ILAR	Eielson Array	16.51	33	Pn		Pn	14 11 35.8	-2.3
	0.0nm,0.3s,baz=227,slow=8.5,SNR=3.8						
PETK	Petropavlovsk-	20.58	286	P		P	14 12 25.4	-0.1
	2.9nm,0.6s,baz=83,slow=14,SNR=6.7						
INK	Inuvik	22.91	33	P		P	14 12 49.2	-1.0
	1.6nm,0.9s,baz=228,slow=11,SNR=3.3						
MA2	Magadan	23.75	304	LR		LR	14 22 27.3	
	comp=Z,15nm,21.0s,baz=36,slow=38						
H11N2	WAKE ISLAND Hy	37.96	220	T		T	14 56 16.4	
	baz=24,slow=76,SNR=4.8						
H11N3	WAKE ISLAND Hy	37.96	220	T		T	14 56 11.1	
	baz=24,slow=76,SNR=5.3						
H11N1	WAKE ISLAND Hy	37.98	220	T		T	14 56 17.7	
	baz=24,slow=76,SNR=3.3						
H11S1	WAKE ISLAND Hy	39.14	220	T		T	14 57 30.8	
	baz=23,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	39.16	220	T		T	14 57 23.9	
	baz=23,slow=76,SNR=6.5						
H11S3	WAKE ISLAND Hy	39.16	220	T		T	14 57 39.2	
	baz=23,slow=76,SNR=7.2						
TXAR	Lajitas Array	51.99	90	P		P	14 17 00.6	+4.6
	0.3nm,0.6s,baz=313,slow=4.5,SNR=2.4						
ARCES	ARCESS Array B	57.97	354	P		P	14 17 37.5	-1.0
	1.5nm,0.8s,baz=8.9,slow=6.4,SNR=3.7						
BVAR	Borovoye Array	64.11	325	P		P	14 18 19.9	-0.6
	0.4nm,0.4s,baz=50,slow=4.5,SNR=4.3						
FINES	FINESS Array B	65.94	353	P		P	14 18 31.1	-1.0
	3.3nm,0.9s,baz=4.1,slow=8.0,SNR=4.6						
HFS	Hagfors	67.81	359	P		P	14 18 43.4	-0.7
	1.5nm,0.3s,baz=29,slow=3.3,SNR=14						
AKTO	Aktyubinsk	70.36	331	P		P	14 18 59.9	-0.2
	1.0nm,0.8s,baz=59,slow=12,SNR=3.8						
CMAR	Chiang Mai Arr	77.35	284	P		P	14 19 42.1	+0.6
	0.3nm,0.3s,baz=38,slow=6.0,SNR=4.1						

*CSEM **28** 14:10:48.9±0.2,38°.74N×43°.35E,h2km,ML2.9,Error ellipse: s-maj=5.2km s-min=4.4km az=86.0*
*DDA **28** 14:10:48.7,38°.74N×43°.32E,h7km,Ml3.5*
*ISK **28** 14:10:48.8,38°.74N×43°.45E,h7km,ML2.9*
*ISCJB **28** 14:10:49.5±0.4,38°.75N±0°.02×43°.35E±0°.03,h12km±3km, Error ellipse: s-maj=4.4km s-min=3.6km az=3.5*
ISC 28 14:10:49.6±0.8,38°.74N±0°.02×43°.35E±0°.02,h17km±5km, n38,σ1°62/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	168	*e*PG		Pg	14 10 53.7	-0.1
VANB				*e*SG		Sg	14 10 57.7	+1.1
VANB	Van	0.15	168	*e*Pg		Pg	14 10 53.7	-0.1
VANB				*e*Sg		Sg	14 10 57.7	+1.1
TVAN	Van	0.21	168	*i* P		Pg	14 10 53.6	-1.2
TVAN				*i* S		Sg	14 10 58.1	-0.2
TVAN	Van	0.21	168	P		Pg	14 10 53.6	-1.2
TVAN				S		Sg	14 10 58.1	-0.2
ERCV	ERCIS-VAN	0.28	358	*e*PG		Pb	14 10 55.1	-1.1
ERCV				*e*SG		Sb	14 10 59.9	-1.0
ERCV	ERCIS-VAN	0.28	358	*e*Pg		Pb	14 10 55.2	-1.1
ERCV				*e*Sg		Sb	14 10 59.9	-1.0
VMUR	Van-Muradiye	0.30	34	*i* P		Pb	14 10 55.6	-1.1
VMUR				*i* S		Sb	14 11 01.5	0.0
VMUR	Van-Muradiye	0.30	34	P		Pb	14 10 55.6	-1.1
VMUR				S		Sb	14 11 01.5	0.0
GEVA	Gevas	0.48	208	*i* P		Pg	14 10 57.6	-1.7
GEVA				*i* S		Sb	14 11 05.9	-0.7
GEVA	Gevas	0.48	208	P		Pg	14 10 57.6	-1.7
GEVA				S		Sb	14 11 05.9	-0.7
ADCV	BITLIS_Adilcev	0.49	278	*i* P		Pg	14 10 58.6	-0.9
ADCV				*i* S		Sb	14 11 07.0	0.0
ADCV	BITLIS_Adilcev	0.49	278	P		Pg	14 10 58.7	-0.9
ADCV				S		Sb	14 11 07.0	0.0
CLDR	Caldiran	0.60	47	*e*PG		Pg	14 10 59.9	-1.6
CLDR	Caldiran	0.60	47	*i* P		Pg	14 11 00.3	-1.3
CLDR				*i* S		Sb	14 11 10.2	+0.2
CLDR	Caldiran	0.60	47	*e*Pg		Pg	14 10 59.9	-1.6
CLDR	Caldiran	0.60	47	P		Pg	14 11 00.3	-1.3
CLDR				S		Sb	14 11 10.2	+0.2
TUTA	Tutak	0.78	328	*i* P		Pg	14 11 03.5	-1.4
TUTA				*i* S		Sg	14 11 14.8	-0.6
TUTA	Tutak	0.78	328	P		Pg	14 11 03.5	-1.4
TUTA				S		Sg	14 11 14.8	-0.6
BASK	Baskale_VAN	0.86	143	*i* P		Pg	14 11 04.0	-2.3
BASK				*i* S		Sb	14 11 18.3	+0.9
BASK	Baskale_VAN	0.86	143	P		Pg	14 11 04.0	-2.3
BASK				S		Sb	14 11 18.3	+0.9
TATV	Tatvan	0.88	255	*i* P		Pg	14 11 04.8	-1.9
TATV				*i* S		Sg	14 11 17.2	-1.1
TATV	Tatvan	0.88	255	P		Pg	14 11 04.8	-1.9
TATV				S		Sg	14 11 17.2	-1.1
AGRB	Hanur-Agry	0.88	342	*e*PG		Pg	14 11 05.8	-1.0
AGRB	Hanur-Agry	0.88	342	*e*Pg		Pg	14 11 05.8	-1.0
EKAR	Karacoban	1.13	298	*i* P		Pg	14 11 09.9	-1.5
EKAR				*i* S		Sn	14 11 30.7	+4.7
EKAR	Karacoban	1.13	298	P		Pg	14 11 09.9	-1.5
EKAR				S		Sn	14 11 30.7	+4.7
HAKT	HAKKARI	1.21	166	*i* P		Pg	14 11 10.3	-2.6
HAKT				*i* S		Sn	14 11 31.0	+2.9
HAKT	HAKKARI	1.21	166	P		Pg	14 11 10.4	-2.6
HAKT				S		Sn	14 11 31.0	+2.9
CUKT	Cukurca	1.50	172	*e*PN		Pb	14 11 16.7	-0.4
CUKT	Cukurca	1.50	172	*e*Pn		Pb	14 11 16.7	-0.4
VRTB	Varto-Mus	1.54	287	*e*PN		Pg	14 11 18.3	-0.8
VRTB	Varto-Mus	1.54	287	*e*Pn		Pg	14 11 18.3	-0.8
SVAN	Silvan-Diyarba	1.79	252	*e*PN		Pb	14 11 21.9	0.0
SVAN	Silvan-Diyarba	1.79	252	*e*Pn		Pb	14 11 21.9	0.0
BNGB	Bing¶‖	2.10	278	*e*PN		Pb	14 11 26.5	-0.8
BINT	Bingol	2.24	274	*e*Pn		Pn	14 11 26.5	+0.5
MAZI	Mazidag	2.62	242	*e*PN		Pb	14 11 33.8	-2.3
MAZI	Mazidag	2.62	242	*e*Pn		Pb	14 11 33.8	-2.3

*ISK **28** 14:12:25.8,38°.94N×43°.49E,h12km,ML2.8*
*ISCJB **28** 14:12:26.7±0.6,38°.95N±0°.03×43°.52E±0°.05,h15km±6km, Error ellipse: s-maj=7.6km s-min=4.7km az=28.2*
*CSEM **28** 14:12:26.4±0.2,38°.96N×43°.51E,h12km,ML3.2,Error ellipse: s-maj=6.6km s-min=4.6km az=121.0*
*DDA **28** 14:12:26.7,38°.89N×43°.57E,h7km,Ml3.2*
ISC 28 14:12:26.3±0.8,38°.94N±0°.03×43°.50E±0°.03,h13km±5km, n21,σ0°61/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.07	52	*i* P		Pg	14 12 28.7	-0.5
VMUR				*i* S		Sg	14 12 31.4	+0.3
VMUR	Van-Muradiye	0.07	52	P		Pg	14 12 28.7	-0.5
VMUR				S		Sg	14 12 31.5	+0.3
ERCV	ERCIS-VAN	0.14	301	*e*PG		Pg	14 12 29.6	-0.4
ERCV	ERCIS-VAN	0.14	301	*e*Pg		Pg	14 12 29.6	-0.4
VANB	Van	0.36	194	*e*PG		Pb	14 12 34.4	-0.2
VANB				*e*SG		Sb	14 12 41.6	+1.4
VANB	Van	0.36	194	*e*Pg		Pb	14 12 34.4	-0.2
VANB				*e*Sg		Sb	14 12 41.6	+1.4
CLDR	Caldiran	0.38	59	*e*PG		Pg	14 12 38.8	-0.2
CLDR				*e*SG		Sg	14 12 40.0	+0.7
CLDR	Caldiran	0.38	59	*i* P		Pg	14 12 33.6	-0.4
CLDR				*i* S		Sb	14 12 40.8	-0.2
CLDR	Caldiran	0.38	59	*e*Pg		Pg	14 12 33.8	-0.2
CLDR				*e*Sg		Sg	14 12 40.0	+0.7
TVAN	Van	0.42	190	*i* P		Pg	14 12 34.2	-0.5
TVAN				*i* S		Sb	14 12 42.0	-0.1
TVAN	Van	0.42	190	P		Pg	14 12 34.2	-0.5
TVAN				S		Sb	14 12 42.0	-0.1
DYDN	Diyadin	0.62	14	*i* P		Pb	14 12 39.2	+0.1
DYDN				*i* S		Sn	14 12 49.7	-1.2
DYDN	Diyadin	0.62	14	P		Pb	14 12 39.2	+0.1
ADCV	BITLIS_Adilcev	0.62	258	*i* P		Pb	14 12 39.2	+0.2
ADCV				*i* S		Sn	14 12 49.9	-1.0
ADCV	BITLIS_Adilcev	0.62	258	P		Pb	14 12 39.2	+0.2
ADCV				S		Sn	14 12 49.9	-1.0
AGRB	Hanur-Agry	0.74	328	*e*PG		Pg	14 12 40.5	-0.2
AGRB	Hanur-Agry	0.74	328	*e*Pg		Pg	14 12 40.5	-0.2
CUKT	Cukurca	1.70	177	*e*PN		Pn	14 12 56.0	+0.3
CUKT	Cukurca	1.70	177	*e*Pn		Pn	14 12 56.0	+0.3
SVAN	Silvan-Diyarba	1.97	247	*e*PN		Pn	14 12 59.8	+0.4
SVAN	Silvan-Diyarba	1.97	247	*e*Pn		Pn	14 12 59.8	+0.4

*DDA **28** 14:25:40.2,38°.83N×43°.52E,h19km,Ml3.8*
*ISK **28** 14:25:40.3,38°.83N×43°.49E,h5km,ML3.5*
*AZER **28** 14:25:41.5±1.3,38°.33N×43°.40E,h29km±21km,Error ellipse: s-maj=17.0km s-min=3.9km az=59.0*
*CSEM **28** 14:25:41.4±0.3,38°.82N×43°.44E,h10km,ML3.8,Error ellipse: s-maj=6.7km s-min=5.8km az=138.0*
ISC 28 14:25:41.1±0.9,38°.82N±0°.02×43°.50E±0°.02,h18km±3km, n70,σ1°74/95,11C-8D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.18	20	⇑*i*P		Pb	14 25 44.4	-1.1
VMUR				*i* S		Sg	14 25 49.0	-0.2
VMUR	Van-Muradiye	0.18	20	P		Pb	14 25 44.4	-1.1
VMUR				S		Sg	14 25 49.0	-0.2
VANB	Van	0.24	200	*e*PG		Pg	14 25 47.1	+0.3
VANB				*e*SG		Sg	14 25 52.3	+1.5
VANB	Van	0.24	200	*e*Pg		Pg	14 25 47.1	+0.3
VANB				*e*Sg		Sg	14 25 52.3	+1.5
TVAN	Van	0.30	193	⇓*i*P		Pg	14 25 47.1	-0.8
TVAN				*i* S		Sb	14 25 53.3	+0.6
TVAN	Van	0.30	193	P		Pg	14 25 47.1	-0.8
CLDR	Caldiran	0.46	46	*e*PG		Pg	14 25 49.8	-0.8
CLDR	Caldiran	0.46	46	⇑*i*P		Pg	14 25 49.5	-1.1
CLDR				*i* S		Sb	14 25 58.2	+0.

GLBA	Clilabad	3.84	82	⇑P	Pn	14 26 40.7 +1.4
GLBA	Clilabad	3.84	82	P	Pn	14 26 40.7 +1.4
KDMR	Kurdemir	3.94	65	⇓P	Pn	14 26 43.9 +3.2
KDMR	Kurdemir	3.94	65	P	Pn	14 26 43.9 +3.2
SAAT	Saatly	3.96	73	⇓P	Pn	14 26 43.1 +2.2
SAAT	Saatly	3.96	73	P	Pn	14 26 43.1 +2.2

CASC 28 14:28:01.7±2.0, 6°.27N×82°.67W, h35km±65km, MD4.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	Azuero	2.82	57	eP	Pn	14 28 44.2	0.0
AZU				eS	Sn	14 29 16.4	-0.6
QCR1	Quepos	3.47	335	eP	Pn	14 28 52.6	-0.5
QCR1				eS	Sn	14 29 30.2	-2.8
URSC	Urasca	3.71	343	eP	Pn	14 28 57.1	+0.4
URSC				eS	Sn	14 29 40.4	+1.2
VTR0	Volcan Turrial	3.87	344	eP	Pn	14 29 00.5	+1.3
VTR0				eS	Sn	14 29 45.8	+2.1
BCIP	Isla Barro Col	4.02	44	eP	Pn	14 29 01.9	+1.1
BCIP				eS	Sn	14 29 48.7	+2.0
CGA2	Cerro Gallo 2	4.12	335	eP	Pn	14 29 02.1	-0.2
CGA2				eS	Sn	14 29 49.8	+0.4
TRT1	Tortuguero	4.42	347	eP	Pn	14 29 08.1	+1.9
TRT1				eS	Sn	14 29 58.6	+2.2

*ISCJB **28** 14:43:57.2±1.0, 36°.3N±0°.06×142°.34E±0°.10, h15km, mb3.7/4, Error ellipse: s-maj=11.3km s-min=8.2km az=7.4*
*IDC **28** 14:43:57.1±2.0, 36°.23N×142°.37E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/54, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=45.7km s-min=23.2km az=81.0*
*JMA **28** 14:43:59.7±0.2, 36°.35N×142°.24E, h62km±5km, M3.1*
ISC 28 14:43:58.5±1.2, 36°.29N±0°.06×142°.32E±0°.10, h15km, n24, σ1§70/23, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.32	244	P	Pn	14 44 22.1	-0.4
JHO	Hitachi	1.45	283	P	Pn	14 44 23.0	-1.2
ONAJ	Iwakimizuishiy	1.47	304	P	Pn	14 44 23.4	-1.1
JMM	Marumori	1.99	323	P	Pn	14 44 30.7	-0.9
JMM				eS	Sn	14 44 53.8	-2.5
JAG	Ashikaga	2.32	274	P	Pn	14 44 35.9	-0.3
JRY	Ryogami san	2.78	265	P	Pn	14 44 41.9	-0.6
JOD2	Odawara 2	2.82	250	P	Pn	14 44 43.0	-0.1
JYK	Kaneyama	3.05	330	P	Pn	14 44 46.5	+0.3
JYN	Shimob	3.17	257	P	Pn	14 44 48.5	+0.6
MJAR	Matsushiro Arr	3.33	276	Pn	Pn	14 44 49.0	-1.1
MJAR	3.3nm,0.3s,baz=95,slow=8.6,SNR=25			Sn	Sn	14 45 26.0	-3.3
MAT	Matsushiro	3.33	276	P	Pn	14 44 50.7	+0.7
MAT				S	Sn	14 45 29.7	+0.4
MAT	Matsushiro	3.33	276	P	Pn	14 44 50.8	+0.7
JHJ	Hachijo jima 2	3.79	214	Pn	Pn	14 44 56.1	-0.3
JHJ	12nm,0.3s,baz=296,slow=7.1,SNR=5.5			Sn	Sn	14 45 37.0	-3.8
ASAJ	Asahikawa	7.82	1	Pn	Pn	14 45 51.0	-0.7
ASAJ	0.5nm,0.3s,baz=229,slow=20,SNR=5.6			Sn	Sn	14 47 17.2	-2.7
H11N2	WAKE ISLAND Hy 27.14 121			T	T	15 18 04.0	
H11N1	baz=313,slow=75,SNR=8.2 WAKE ISLAND Hy 27.15 121			T	T	15 18 19.2	
H11N3	baz=313,slow=75,SNR=7.0 WAKE ISLAND Hy 27.16 121			T	T	15 18 05.7	
H11S1	baz=313,slow=75,SNR=7.0 WAKE ISLAND Hy 27.84 123			T	T	15 19 10.6	
H11S3	baz=315,slow=76,SNR=4.6 WAKE ISLAND Hy 27.84 123			T	T	15 19 00.1	
H11S2	baz=315,slow=76,SNR=3.2 WAKE ISLAND Hy 27.86 123			T	T	15 19 01.5	
SONM	baz=315,slow=76,SNR=3.0 Songino Array	28.80	305	P	P	14 49 57.2	+1.2
ZALV	1.1nm,0.8s,baz=115,slow=9.7,SNR=5.3 Zalesovo Beam	42.95	313	P	P	14 51 58.0	+1.3
MKAR	0.3nm,0.3s,baz=96,slow=7.5,SNR=2.6 Makanchi Array	45.13	303	P	P	14 52 17.1	+2.8
WRA	0.9nm,0.6s,baz=85,slow=9.6,SNR=8.6 Warramunga Arr	56.44	189	P	P	14 53 40.0	+0.3
	0.7nm,0.8s,baz=6.2,slow=7.3,SNR=3.0						

*ISK **28** 14:55:54.7, 38°.61N×43°.16E, h2km, MD2.9*
*CSEM **28** 14:55:55.8±0.2, 38°.64N×43°.13E, h5km, ML3.2, Error ellipse: s-maj=5.3km s-min=4.3km az=121.0*
*ISCJB **28** 14:55:56.0±0.7, 38°.65N±0°.04×43°.13E±0°.06, h8km±7km, Error ellipse: s-maj=8.2km s-min=4.9km az=32.5*
*DDA **28** 14:55:57.0, 38°.61N×43°.22E, h7km, Ml3.2*
ISC 28 14:55:56.0±1.2, 38°.63N±0°.03×43°.22E±0°.04, h14km±9km, n21, σ0§61/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	104	ePG	Pb	14 56 00.2	-0.2
VANB				eSG	Sb	14 56 03.7	+0.3
VANB	Van	0.14	104	ePg	Pb	14 56 00.2	-0.2
VANB				eSg	Sb	14 56 03.7	+0.3
TVAN	Van	0.18	124	iP	Pg	14 56 00.3	0.0
TVAN				iS	Sb	14 56 04.3	-0.3
TVAN	Van	0.18	124	P	Pg	14 56 00.3	0.0
TVAN				S	Sb	14 56 04.3	-0.3
GEVA	Gevas	0.34	202	iP	Pg	14 56 02.5	-0.5
GEVA				iS	Sb	14 56 09.6	+0.3
GEVA	Gevas	0.34	202	P	Pg	14 56 02.5	-0.5
GEVA				S	Sb	14 56 09.6	+0.3
VMUR	Van-Muradiye	0.45	37	iP	Pb	14 56 05.8	-0.1
VMUR				iS	Sb	14 56 14.0	+1.4
VMUR	Van-Muradiye	0.45	37	P	Pb	14 56 05.8	-0.1
VMUR				S	Sb	14 56 14.0	+1.4
CLDR	Caldiran	0.75	46	ePG	Pb	14 56 10.8	-0.2
CLDR				eSG	Sn	14 56 22.9	-0.8
CLDR	Caldiran	0.75	46	iP	Pb	14 56 10.8	-0.2
CLDR				iS	Sn	14 56 23.1	-0.6
CLDR	Caldiran	0.75	46	P	Pb	14 56 10.8	-0.2
CLDR				eSg	Sn	14 56 22.9	-0.8
TUTA	Tutak	0.84	338	iP	Pg	14 56 11.2	-1.0
TUTA				iS	Sn	14 56 26.6	+0.7
TUTA	Tutak	0.84	338	P	Pg	14 56 11.2	-1.0
AGRB	Hanur-Agry	0.96	349	ePG	Pg	14 56 14.2	-0.5
AGRB	Hanur-Agry	0.96	349	ePg	Pg	14 56 14.2	-0.5
CUKT	Cukurca	1.41	167	ePN	Pb	14 56 22.1	-0.1
CUKT	Cukurca	1.41	167	ePn	Pb	14 56 22.1	-0.1
SVAN	Silvan-Diyarba	1.66	254	ePN	Pn	14 56 25.0	+0.3
SVAN	Silvan-Diyarba	1.66	254	ePn	Pn	14 56 25.0	+0.3
MAZI	Mazidag	2.48	243	ePN	Pn	14 56 36.8	+0.7
MAZI	Mazidag	2.48	243	ePn	Pn	14 56 36.8	+0.7

*IDC **28** 14:57:48.7±1.0, 28°.28S×175°.98W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/28, mbtmp4.0/8, ML3.7/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=31.0km s-min=23.8km az=146.0*
*NEIC **28** 14:57:53.7±0.9, 28°.50S×176°.09W, h35km, mb4.1/2, Error ellipse: s-maj=19.9km s-min=17.3km az=129.0*
ISC 28 14:57:53.2±0.9, 28°.7S±0°.1×175°.8W±0°.1, h36km, n26, σ2§25/21, mb4.0/9, MS3.3/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.93	252	Pn	Pn	14 58 25.2	+1.8
RAO	123nm,0.3s,baz=159,slow=1.8,SNR=7.3			Sn	Sn	14 58 50.1	+3.7
RAO	Raoul Island	1.93	252	ePn	Pn	14 58 21.8	-1.6
RAO	150nm,0.3s,baz=115,slow=21,SNR=7.8			eSn	Sn	14 58 49.6	+3.3
URZ	Urewera	11.24	210	Pn	Pn	15 00 27.5	-3.8
URZ	0.2nm,0.3s,baz=307,slow=5.1,SNR=6.3			Sn	Sn	15 02 33.7	-1.9
SNZO	0.6nm,0.3s,baz=121,slow=23,SNR=7.9 South Karori	14.80	209	ePn	Pn	15 01 19.5	-0.3
AFI	Afiamalu	15.15	15	Pn	Pn	15 01 13.2	-11
AFI	0.7nm,0.3s,baz=233,slow=20,SNR=2.4			Sn	Sn	15 03 47.6	-24
DZM	0.7nm,0.3s,baz=151,slow=19,SNR=2.9 Mont Dzumac	17.30	288	LR	LR	15 06 35.4	
RPZ	comp=Z,211nm,18.7s,baz=67,slow=31 Rata Peaks	18.35	212	P	Pn	15 02 06.0	+1.4
	0.3nm,0.3s,baz=37,slow=5.1,SNR=2.8						
TBI	Tubuai	24.26	83	eLR	LR	15 08 47.9	
PPT2	150nm,28.0s Papeete2	26.48	71	eLR	LR	15 09 44.0	
PPT	108nm,25.2s Papeete	26.49	71	LR	LR	15 12 29.5	
HNR	comp=Z,63nm,18.1s,baz=175,slow=33 Honiara	29.72	305	LR	LR	15 13 19.4	
CAN	comp=Z,88nm,19.6s,baz=162,slow=32 Canberra	30.45	248	P	P	15 04 01.7	-0.8
CTAO	4.5nm,0.8s Charters Tower	35.46	275	P	P	15 04 42.8	-3.5
STKA	Stephens Creek	36.74	254	P	P	15 04 58.5	+1.3
ASAR	2.0nm,0.7s,baz=100,slow=11,SNR=6.0 Alice Springs	45.13	264	P	P	15 06 04.8	-1.6
ASAR	1.0nm,0.7s,baz=94,slow=7.0,SNR=18			LR	LR	15 23 55.3	
WRAB	comp=Z,23nm,18.4s,baz=101,slow=35 Tennant Creek	45.96	269	eP	P	15 06 11.5	-1.5
WRA	1.8nm,1.0s Warramunga Arr	45.97	269	P	P	15 06 11.1	-1.9
FITZ	1.2nm,0.6s,baz=107,slow=7.5,SNR=7.9 Fitzroy Crossi	54.29	268	P	P	15 07 16.6	+0.5
FITZ	2.0nm,0.8s,baz=132,slow=7.8,SNR=3.9			LR	LR	15 30 34.9	
GUMO	comp=Z,29nm,18.7s,baz=90,slow=36 Guam	56.64	312	LR	LR	15 30 30.8	
NWAO	comp=Z,13nm,19.1s,baz=144,slow=35 Narrogin (SRO)	56.80	248	LR	LR	15 30 35.9	
QSPA	comp=Z,60nm,20.0s,slow=35 South Pole Qui	61.45	180	eP	P	15 08 05.8	0.0
MAW	Mawson	74.59	200	P	P	15 09 31.7	+3.6
MJAR	2.1nm,0.8s,baz=125,slow=5.6,SNR=8.4 Matsushiro Arr	77.93	324	P	P	15 09 47.2	-0.2
TXAR	1.4nm,0.8s,baz=155,slow=6.3,SNR=3.7 Lajitas Array	89.85	56	P	P	15 10 49.1	+0.5
AKASG	0.4nm,0.8s,baz=217,slow=7.4,SNR=5.1 Malin Array Be	150.99	326	PKPbc	PKPbc	15 17 41.8	0.0
TORD	0.5nm,0.3s,baz=46,slow=3.2,SNR=9.0 Torodi Ar. Bea	164.40	171	PKPab	PKPab	15 18 49.7	+1.9
	1.1nm,0.8s,baz=189,slow=4.4,SNR=6.5						

MEX 28 14:59:46.6±0.8, 16°.42N×90°.41W, h20km±55km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.66	265	eP	Pn	15 00 11.2	-3.5
CCIG				iS	Sn	15 00 31.7	-3.9
TGIG		2.62	278	eP	Pn	15 00 25.6	-2.3
TGIG				eS	Sn	15 00 51.1	-8.1
SCIG	Sabancuy	2.64	344	iP	Pn	15 00 26.2	-1.9
SCIG				eS	Sn	15 00 55.3	-4.1
PCIG		2.79	256	iP	Pn	15 00 27.9	-2.3
PCIG				eS	Sn	15 00 59.5	-3.7

*AZER **28** 15:19:26.3±1.4, 38°.03N×43°.37E, h15km, Error ellipse: s-maj=15.1km s-min=4.0km az=60.0*
*ISCJB **28** 15:19:31.3±0.5, 38°.65N±0°.02×43°.61E±0°.03, h7km±3km, Error ellipse: s-maj=4.3km s-min=2.8km az=145.2*
*CSEM **28** 15:19:31.4±0.2, 38°.67N×43°.55E, h2km, ML3.6, Error ellipse: s-maj=5.3km s-min=3.6km az=147.0*
*ISK **28** 15:19:31.4, 38°.68N×43°.53E, h5km, ML3.6*
*DDA **28** 15:20:07.7, 38°.70N×43°.56E, h7km, Ml3.9*
ISC 28 15:19:32.2±0.9, 38°.70N±0°.02×43°.55E±0°.02, h11km±7km, n108, σ1§65/145, 15C-19D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	230	ePG	Pg	15 19 36.0	+0.2
VANB	Van	0.16	230	ePg	Pg	15 19 36.0	+0.2
TVAN	Van	0.20	213	⇑iP	Pg	15 19 35.9	-0.7
TVAN				iS	Sg	15 19 40.6	+1.0
TVAN	Van	0.20	213	P	Pg	15 19 35.9	-0.7
TVAN				S	Sg	15 19 40.6	+1.0
VMUR	Van-Muradiye	0.29	4	⇓iP	Pg	15 19 37.1	-1.1
VMUR				iS	Sb	15 19 43.5	-1.1
VMUR	Van-Muradiye	0.29	4	P	Pg	15 19 37.1	-1.1
VMUR				S	Sb	15 19 43.5	-1.1
ERCV	ERCIS-VAN	0.36	333	ePG	Pg	15 19 38.7	-0.8
ERCV				eSG	Sg	15 19 45.1	+0.8
ERCV	ERCIS-VAN	0.36	333	ePg	Pg	15 19 38.7	-0.8
ERCV				eSg	Sg	15 19 45.1	+0.8
CLDR	Caldiran	0.53	33	ePG	Pg	15 19 42.5	-0.1
CLDR				eSG	Sb	15 19 51.0	-0.5
CLDR	Caldiran	0.53	33	⇑iP	Pg	15 19 41.8	-0.8
CLDR				iS	Sb	15 19 51.1	-0.5
CLDR	Caldiran	0.53	33	P	Pg	15 19 41.8	-0.8
CLDR	Caldiran	0.53	33	ePg	Pg	15 19 42.5	-0.1
CLDR				eSg	Sb	15 19 51.0	-0.5
GEVA	Gevas	0.54	225	⇑iP	Pg	15 19 41.3	-1.5
GEVA				iS	Sb	15 19 51.3	-0.5
GEVA	Gevas	0.54	225	P	Pg	15 19 41.3	-1.5
GEVA				S	Sb	15 19 51.3	-0.5
DYDN	Diyadin	0.85	7	iP	Pg	15 19 47.2	-1.5
DYDN				iS	Sb	15 20 01.1	+0.3
DYDN	Diyadin	0.85	7	P	Pg	15 19 47.2	-1.5
DYDN				S	Sb	15 20 01.1	+0.3
TUTA	Tutak	0.91	321	⇓iP	Pg	15 19 47.3	-2.4
TUTA				iS	Sg	15 20 00.6	-0.9
TUTA	Tutak	0.91	321	P	Pg	15 19 47.3	-2.4
TUTA				S	Sg	15 20 00.6	-0.9
TATV	Tatvan	1.02	260	iP	Pg	15 19 49.2	-2.7
TATV				iS	Sg	15 20 03.3	-1.8
TATV	Tatvan	1.02	260	P	Pg	15 19 49.2	-2.7
TATV				S	Sg	15 20 03.3	-1.8
HAKT	HAKKARI	1.15	174	⇓iP	Pg	15 19 52.1	-2.1
HAKT				iS	Sn	15 20 17.5	+7.2
HAKT	HAKKARI	1.15	174	P	Pg	15 19 52.1	-2.1
EKAR	Karacoban	1.28	296	iP	Pn	15 19 55.6	-0.7
EKAR				iS	Sn	15 20 16.9	+3.2
EKAR	Karacoban	1.28	296	P	Pn	15 19 55.6	-0.7
EKAR				S	Sn	15 20 16.9	+3.2
EATA	Eleskirt	1.42	325	⇓iP	Pn	15 19 56.8	-1.5
EATA				iS	Sg	15 20 18.8	+0.7
EATA	Eleskirt	1.42	325	P	Pn	15 19 56.8	-1.5
EATA				S	Sg	15 20 18.8	+0.7
CUKT	Cukurca	1.45	178	ePN	Pb	15 19 58.6	-0.7
CUKT	Cukurca	1.45	178	iP	Pn	15 19 57.9	-0.6
CUKT				iS	Sg	15 20 21.5	+2.7
CUKT	Cukurca	1.45	178	P	Pn	15 19 57.9	-0.6
CUKT	Cukurca	1.45	178	ePn	Pb	15 19 58.6	-0.7
NAX	Nakhchivan	1.59	72	⇑P	Pg	15 20 02.3	-0.5
NAX				⇓S	Sg	15 20 26.7	+3.2
NAX	Nakhchivan	1.59	72	P	Pg	15 20 02.3	-0.5
VRTB	Varto-Mus	1.69	286	ePN	Pb	15 20 02.6	-0.8
VRTB	Varto-Mus	1.69	286	iP	Pn	15 20 02.3	+0.4
VRTB				iS	Sg	15 20 26.1	-0.6
VRTB	Varto-Mus	1.69	286	P	Pn	15 20 02.3	+0.4
VRTB	Varto-Mus	1.69	286	ePn	Pb	15 20 02.7	-0.8
VRTB				S	Sg	15 20 26.1	-0.6
HOMI	Horasan	1.85	317	⇓iP	Pn	15 20 04.1	-0.1
HOMI				iS	Sg	15 20 32.8	+1.0
BNGL	BINGOL	1.89	278	iP	Pb	15 20 05.5	-1.4
BNGL				iS	Sb	15 20 31.1	+0.5
SVAN	Silvan-Diyarba	1.92	254	ePN	Pn	15 20 05.1	+0.2
SVAN	Silvan-Diyarba	1.92	254	iP	Pn	15 20 05.3	+0.3
SVAN				iS	Sb	15 20 31.6	+0.2
SVAN	Silvan-Diyarba	1.92	254	P	Pn	15 20 05.3	+0.3
SVAN				S	Sb	15 20 31.6	+0.2
BTMN	Batman	1.96	246	iP	Pn	15 20 05.1	-0.5
BTMN				iS	Sb	15 20 33.2	+0.6
BTMN	Batman	1.96	246	P	Pn	15 20 05.1	-0.5
BTMN				S	Sb	15 20 33.2	+0.6
ERZM	Erzurum	2.08	306	iP	Pn	15 20 07.7	+0.4
ERZM				iS	Sg	15 20 40.2	+1.2
ERZM	Erzurum	2.08	306	P	Pn	15 20 07.7	+0.4
SENK	Senkaya-Erzuru	2.08	334	ePN	Pn	15 20 08.2	+0.9
SENK	Senkaya-Erzuru	2.08	334	ePn	Pn	15 20 08.2	+0.9
BNGB	Bing¶ll	2.26	278	ePN	Pn	15 20 10.3	+0.6
BINT	Bingol	2.40	275	ePn	Pn	15 20 10.3	-1.2
MARD	Mardin	2.59	239	iP	Pn	15 20 14.0	-0.1
MARD				iS	Sn	15 20 46.0	+0.3
GDB	GEDABAY	2.64	39	⇓P	Pn	15 20 17.0	+2.0
GDB				⇑S	Sg	15 20 57.0	-0.1
GDB	GEDABAY	2.64	39	P	Pn	15 20 17.0	+2.0
AKH	Akhalkalaki	2.71	359	ePN	Pn	15 20 17.4	+1.5
AKH	Akhalkalaki	2.71	359	P	Pg	15 20 22.8	-1.4
AKH	Akhalkalaki	2.71	359	ePn	Pn	15 20 17.4	+1.5
MAZI	Mazidag	2.74	244	ePN	Pn	15 20 16.9	+0.6
MAZI	Mazidag	2.74	244	ePn	Pn	15 20 16.9	+0.6
QZX	Qazax, Azerbai	2.74	30	⇓P	Pb	15 20 19.0	-2.3
QZX				⇑S	Sg	15 21 00.3	-0.1
QZX	Qazax, Azerbai	2.74	30	P	Pb	15 20 19.0	-2.3
GANJ	Ganja	2.89	47	⇑P	Pn	15 20 20.3	+2.0
GANJ				⇓S	Sg	15 21 02.5	-2.6
GANJ	Ganja	2.89	47	P	Pn	15 20 20.3	+2.0
DGRG	David-gareji	3.09	26	P	Pn	15 20 23.6	+2.7
ERZN	Erzincan	3.10	288	ePN	Pn	15 20 22.6	+1.3
TBLG	Delisi	3.16	16	ePN	Pn	15 20 23.6	+1.6
TBLG	Delisi	3.16	16	P	Pn	15 20 29.6	+1.1
TBLG	Delisi	3.16	16	ePn	Pn	15 20 23.6	+1.6
BRDA	Brd	3.22	60	⇓P	Pn	15 20 23.4	+0.7
BRDA	Brd	3.22	60	P	Pn	15 20 23.4	+0.7
PTK	Pertek	3.25	275	ePN	Pn	15 20 24.7	+1.3
PTK	Pertek	3.25	275	ePn	Pn	15 20 24.7	+1.3
SVRC	Sivrice-ELAZID	3.34	266	ePN	Pn	15 20 26.2	+1.6
SVRC	Sivrice-ELAZID	3.34	266	ePn	Pn	15 20 26.2	+1.6
MNGR	Mingechevir, A	3.43	52	⇓P	Pn	15 20 26.9	+1.3
MNGR	Mingechevir, A	3.43	52	P	Pn	15 20 26.9	+1.3
ZRD	Zardab	3.57	62	⇓P	Pn	15 20 27.7	+0.2
ZRD	Zardab	3.57	62	P	Pn	15 20 27.7	+0.2
LRK	Lerik	3.75	89	⇑P	Pn	15 20 26.5	-3.7
LRK	Lerik	3.75	89	P	Pn	15 20 26.5	-3.7
SEKA	Sheki	3.76	47	⇓P	Pn	15 20 32.5	+2.2
SEKA	Sheki	3.76	47	P	Pn	15 20 32.5	+2.2
ZKTA	Zakatala	3.77	38	⇑P	Pn	15 20 32.6	+2.4
GLBA	Clilabad	3.82	80	⇑P	Pn	15 20 28.6	-2.3
GLBA	Clilabad	3.82	80	P	Pn	15 20 28.6	-2.3
ONI	Oni	3.89	359	P	Pg	15 20 43.8	-2.8
URFA	Urfa	3.93	253	ePN	Pn	15 20 34.4	+1.8
URFA	Urfa	3.93	253	ePn	Pn	15 20 34.4	+1.8
KDMR	Kurdemir	3.96	63	⇑P	Pn	15 20 32.6	-0.3
KDMR	Kurdemir	3.96	63	P	Pn	15 20 32.6	-0.3
SAAT	Saatly	3.96	71	⇑P	Pn	15 20 31.4	-1.4
SAAT	Saatly	3.96	71	P	Pn	15 20 31.4	-1.4
QBL	Gabala	3.99	54	⇑P	Pn	15 20 34.1	+0.6
QBL	Gabala	3.99	54	P	Pn	15 20 34.1	+0.6
LKRN	Lenkeran, Azer	4.09	88	⇑P	Pn	15 20 31.3	-3.4
LKRN	Lenkeran, Azer	4.09	88	P	Pn	15 20 31.3	-3.4
ASTR	Astara	4.11	90	⇓P	Pn	15 20 31.0	-4.0
ASTR	Astara	4.11	90	P	Pn	15 20 31.0	-4.0
IML	Ismayilli	4.14	58	⇓P	Pn	15 20 35.8	+0.3
IML	Ismayilli	4.14	58	P	Pn	15 20 35.8	+0.3
XNQ	Khinaliq	4.31	54	⇓P	Pn	15 20 38.5	+0.6
XNQ	Khinaliq	4.31	54	P	Pn	15 20 38.5	+0.6
PQL	Pirkuli	4.42	60	⇑P	Pn	15 20 39.1	-0.2
PQL	Pirkuli	4.42	60	P	Pn	15 20 39.1	-0.2
ALIB	Äli-Bayra	4.42	72	⇓P	Pn	15 20 37.7	-1.5
ALIB	Äli-Bayra	4.42	72	P	Pn	15 20 37.7	-1.5
GBS	Qobustan	4.55	65	⇓P	Pn	15 20 40.4	-0.7
GBS	Qobustan	4.55	65	P	Pn	15 20 40.4	-0.7
QSAR	Qusar	4.58	51	⇓P	Pn	15 20 42.3	+0.8
QSAR	Qusar	4.58	51	P	Pn	15 20 42.3	+0.8

*ISCJB **28** 15:21:23.5±0.4, 5°.59N±0°.04×127°.59E±0°.05, h100km, mb3.9/20, Error ellipse: s-maj=7.1km s-min=5.2km az=174.2*
*MAN **28** 15:21:30, 5°.34N×127°.04E, h71km, mb4.8, ML3.7, MS3.8*
*IDC **28** 15:21:32.4±5.0, 5°.49N×127°.32E, h170km±48km, mb3.7/19, mb1 3.7/19, mb1mx3.5/43, mbtmp4.1/19, MS3.2/1, Ms1 3.2/1, ms1mx2.3/39, Error ellipse: s-maj=23.4km s-min=10.5km az=85.0*
*DJA **28** 15:21:37.0±1.2, 5°.N±9°.×12°.7E±°, h166km±9km, M4.4/6, mb4.5/4, mB4.7/3, MLv4.5/6, Mw(mB)3.9/3*
ISC 28 15:21:24.9±0.5, 5°.49N±0°.05×127°.52E±0°.09, h100km, n37, σ1§81/42, mb4.0/20, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.91	319	eP	Pn	15 21 58.9	+2.5
MATI				eS	Sn	15 22 21.9	+1.5
SGSI	Sangihe	2.67	228	P	Pn	15 22 09.9	+3.6
SGSI				S	Sn	15 22 40.1	+2.0
KCP	Kidapawan	2.84	302	⇓eP	Pn	15 22 12.0	+3.3
KCP				iS	Sn	15 22 43.8	+1.4
BIPH	Bislig	2.91	337	⇑iP	Pn	15 22 12.2	+2.8
BIPH				iS	Sn	15 22 43.1	-0.7
CTBH	Cotabato--PC H	3.68	298	⇓iP	Pn	15 22 21.3	+1.6
CTBH				iS	Sn	15 23 00.8	-1.4
KMSI	Cibinong	6.03	216	P	Pn	15 22 53.7	+2.1
	95nm,0.7s,943nm0.3nm						
MRSI	Marisa	7.47	228	P	Pn	15 23 13.2	+2.0
SANI	Sanana	7.64	192	P	Pn	15 23 15.4	+1.8
SANI				S	Sn	15 24 34.3	-4.3
APSI	Ampana	8.65	223	P	Pn	15 23 28.8	+1.6
NLAI	Namlea	8.68	183	P	Pn	15 23 31.9	+4.2
TGY	Tagaytay City	10.73	323	LR	LR	15 27 55.0	
	comp=Z,142nm,21.7s,baz=82,slow=36						
FITZ	Fitzroy Crossi	23.52	184	P	P	15 26 27.1	+1.0
	1.7nm,0.7s,baz=358,slow=7.4,SNR=7.2						
WRA	Warramunga Arr	26.15	165	P	P	15 26 51.4	+1.5
	0.8nm,0.6s,baz=341,slow=11,SNR=8.7						
ASAR	Alice Springs	29.64	168	P	P	15 27 22.0	+0.9
	0.3nm,0.3s,baz=345,slow=7.2,SNR=21						
ASAR				PcP	PcP	15 30 22.9	-0.6
	0.2nm,0.3s,baz=348,slow=2.4,SNR=5.8						
KSRS	Korea Array

VMUR	**Van-Muradiye**	**0.23**	**17**	P	**Pb**	**15 21 57.2**	**0.0**
VMUR				S	**Sb**	**15 22 02.7**	**+1.4**
TVAN	**Van**	**0.25**	**195**	⇓*i*P	**Pb**	**15 21 57.1**	**-0.4**
TVAN				*i*S	**Sb**	**15 22 01.6**	**-0.3**
TVAN	**Van**	**0.25**	**195**	P	**Pb**	**15 21 57.1**	**-0.4**
TVAN				S	**Sb**	**15 22 01.6**	**-0.3**
ERCV	**ERCIS-VAN**	**0.27**	**335**	*e*PG	**Pb**	**15 21 55.9**	**-1.9**
ERCV	**ERCIS-VAN**	**0.27**	**335**	*e*Pg	**Pb**	**15 21 55.9**	**-1.9**
CLDR	**Caldiran**	**0.50**	**42**	*e*PG	**Pn**	**15 22 02.6**	**-0.2**
CLDR				*e*SG	**Sn**	**15 22 11.1**	**+0.3**
CLDR	**Caldiran**	**0.50**	**42**	*i*P	**Pn**	**15 22 01.9**	**-0.9**
CLDR				*i*S	**Sn**	**15 22 11.1**	**+0.3**
CLDR	**Caldiran**	**0.50**	**42**	P	**Pn**	**15 22 01.9**	**-0.9**
CLDR	**Caldiran**	**0.50**	**42**	*e*Pg	**Pn**	**15 22 02.6**	**-0.2**
CLDR				S	**Sn**	**15 22 11.1**	**+0.3**
GEVA	**Gevas**	**0.57**	**216**	*i*P	**Pb**	**15 22 02.4**	**-0.1**
GEVA				*i*S	**Sn**	**15 22 12.2**	**-0.2**
GEVA	**Gevas**	**0.57**	**216**	P	**Pb**	**15 22 02.4**	**-0.1**
GEVA				S	**Sn**	**15 22 12.2**	**-0.2**
TUTA	**Tutak**	**0.82**	**320**	*i*P	**Pn**	**15 22 08.2**	**+1.0**
TUTA	**Tutak**	**0.82**	**320**	P	**Pn**	**15 22 08.2**	**+1.0**
HAKT	**HAKKARI**	**1.23**	**172**	*i*P	**Pb**	**15 22 13.4**	**-0.3**
HAKT	**HAKKARI**	**1.23**	**172**	P	**Pb**	**15 22 13.4**	**-0.3**

*ISK **28** 15:30:28.7, 38°.98N×43°.62E, h5km, ML3.1*
*DDA **28** 15:30:29.4, 38°.93N×43°.55E, h5km, Ml3.6*
*CSEM **28** 15:30:30.2±0.3, 38°.96N×43°.61E, h2km, ML3.6, Error ellipse: s-maj=6.0km s-min=4.6km az=104.0*
ISC 28 15:30:30.3±1.0, 38°.96N±0°.02×43°.61E±0°.02, h2km±8km, n57, σ1°59/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**317**	*i*P	**Pg**	**15 30 31.1**	**-0.2**
VMUR				*i*S	**Sg**	**15 30 33.2**	**+1.2**
VMUR	**Van-Muradiye**	**0.05**	**317**	P	**Pg**	**15 30 31.1**	**-0.2**
VMUR				S	**Sg**	**15 30 33.2**	**+1.2**
ERCV	**ERCIS-VAN**	**0.22**	**287**	*e*PG	**Pg**	**15 30 34.1**	**-0.5**
ERCV				*e*SG	**Sg**	**15 30 38.5**	**+1.0**
ERCV	**ERCIS-VAN**	**0.22**	**287**	*e*Pg	**Pg**	**15 30 34.1**	**-0.5**
ERCV				*e*Sg	**Sg**	**15 30 38.5**	**+1.0**
CLDR	**Caldiran**	**0.30**	**51**	*e*PG	**Pg**	**15 30 35.8**	**-0.3**
CLDR				*e*SG	**Sg**	**15 30 40.4**	**+0.3**
CLDR	**Caldiran**	**0.30**	**51**	*i*P	**Pg**	**15 30 36.3**	**+0.2**
CLDR				*i*S	**Sb**	**15 30 43.5**	**-0.6**
CLDR	**Caldiran**	**0.30**	**51**	*e*Pg	**Pg**	**15 30 35.8**	**-0.3**
CLDR	**Caldiran**	**0.30**	**51**	P	**Pg**	**15 30 36.3**	**+0.2**
CLDR				*e*Sg	**Sg**	**15 30 40.4**	**+0.3**
VANB	**Van**	**0.40**	**206**	*e*PG	**Pb**	**15 30 38.5**	**-1.6**
VANB				*e*SG	**Sb**	**15 30 47.4**	**+0.6**
VANB	**Van**	**0.40**	**206**	*e*Pg	**Pb**	**15 30 38.5**	**-1.6**
VANB				*e*Sg	**Sb**	**15 30 47.4**	**+0.6**
TVAN	**Van**	**0.46**	**201**	*i*P	**Pg**	**15 30 38.8**	**-0.2**
TVAN				*i*S	**Sb**	**15 30 47.4**	**-1.1**
TVAN	**Van**	**0.46**	**201**	P	**Pg**	**15 30 38.8**	**-0.2**
TVAN				S	**Sb**	**15 30 47.4**	**-1.1**
DYDN	**Diyadin**	**0.59**	**6**	*i*P	**Pb**	**15 30 41.8**	**-1.7**
DYDN				*i*S	**Sb**	**15 30 51.3**	**-1.1**
DYDN	**Diyadin**	**0.59**	**6**	P	**Pb**	**15 30 41.8**	**-1.7**
DYDN				S	**Sb**	**15 30 51.3**	**-1.1**
TUTA	**Tutak**	**0.77**	**306**	*i*P	**Pg**	**15 30 43.7**	**-1.2**
TUTA				*i*S	**Sb**	**15 30 55.7**	**-1.7**
TUTA	**Tutak**	**0.77**	**306**	P	**Pg**	**15 30 43.7**	**-1.2**
TUTA				S	**Sb**	**15 30 55.7**	**-1.7**
GEVA	**Gevas**	**0.78**	**214**	*i*P	**Pg**	**15 30 43.6**	**-1.5**
GEVA				*i*S	**Sb**	**15 30 56.7**	**-0.9**
GEVA	**Gevas**	**0.78**	**214**	P	**Pg**	**15 30 43.6**	**-1.5**
GEVA				S	**Sb**	**15 30 56.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.79**	**322**	*e*PG	**Pg**	**15 30 44.5**	**-0.8**
AGRB	**Hanur-Agry**	**0.79**	**322**	*e*Pg	**Pg**	**15 30 44.5**	**-0.8**
TATV	**Tatvan**	**1.14**	**247**	*i*P	**Pg**	**15 30 50.4**	**-1.8**
TATV				*i*S	**Sn**	**15 31 09.2**	**-0.7**
TATV	**Tatvan**	**1.14**	**247**	P	**Pg**	**15 30 50.4**	**-1.8**
TATV				S	**Sn**	**15 31 09.2**	**-0.7**
EKAR	**Karacoban**	**1.24**	**284**	*i*P	**Pn**	**15 30 54.0**	**-0.9**
EKAR				*i*S	**Sn**	**15 31 17.7**	**+5.3**
EKAR	**Karacoban**	**1.24**	**284**	P	**Pn**	**15 30 54.0**	**-0.9**
EATA	**Eleskirt**	**1.25**	**317**	*i*P	**Pg**	**15 30 53.4**	**-1.0**
EATA				*i*S	**Sn**	**15 31 12.8**	**0.0**
EATA	**Eleskirt**	**1.25**	**317**	P	**Pg**	**15 30 53.4**	**-1.0**
EATA				S	**Sn**	**15 31 12.8**	**0.0**
HAKT	**HAKKARI**	**1.40**	**177**	*i*P	**Pn**	**15 30 55.7**	**-1.3**
HAKT				*i*S	**Sn**	**15 31 20.2**	**+4.0**
HAKT	**HAKKARI**	**1.40**	**177**	P	**Pn**	**15 30 55.7**	**-1.3**
DIGO	**Kars**	**1.47**	**353**	*i*P	**Pg**	**15 30 58.8**	**+0.4**
DIGO	**Kars**	**1.47**	**353**	P	**Pg**	**15 30 58.8**	**+0.4**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*PN	**Pn**	**15 31 00.4**	**-0.6**
VRTB	**Varto-Mus**	**1.69**	**278**	*i*P	**Pb**	**15 31 01.1**	**-1.1**
VRTB				*i*S	**Sg**	**15 31 28.2**	**+3.6**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*Pn	**Pn**	**15 31 00.4**	**-0.6**
VRTB	**Varto-Mus**	**1.69**	**278**	P	**Pb**	**15 31 01.1**	**-1.1**
CUKT	**Cukurca**	**1.71**	**180**	*e*PN	**Pb**	**15 31 00.9**	**-1.5**
CUKT	**Cukurca**	**1.71**	**180**	*i*P	**Pg**	**15 31 02.4**	**-0.5**
CUKT				*i*S	**Sg**	**15 31 28.4**	**+3.4**
CUKT	**Cukurca**	**1.71**	**180**	*e*Pn	**Pb**	**15 31 00.9**	**-1.5**
CUKT	**Cukurca**	**1.71**	**180**	P	**Pg**	**15 31 02.4**	**-0.5**
HOMI	**Horasan**	**1.71**	**310**	*i*P	**Pg**	**15 31 03.7**	**+0.7**
HOMI				*i*S	**Sg**	**15 31 29.8**	**+4.5**
EAK	**Akyaka**	**1.73**	**360**	*i*P	**Pg**	**15 31 05.3**	**+1.9**
BNGL	**BINGOL**	**1.92**	**271**	*i*P	**Pb**	**15 31 05.1**	**-1.0**
BNGL				*i*S	**Sg**	**15 31 36.9**	**+4.9**
ERZM	**Erzurum**	**1.98**	**299**	*i*P	**Pg**	**15 31 06.9**	**-1.4**
ERZM				*i*S	**Sg**	**15 31 36.6**	**+2.7**
ERZM	**Erzurum**	**1.98**	**299**	P	**Pg**	**15 31 06.9**	**-1.4**
SVAN	**Silvan-Diyarba**	**2.06**	**248**	*e*PN	**Pn**	**15 31 05.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.06**	**248**	*i*P	**Pb**	**15 31 07.2**	**-1.1**
SVAN				*i*S	**Sg**	**15 31 37.7**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.06**	**248**	*e*Pn	**Pn**	**15 31 05.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.06**	**248**	P	**Pb**	**15 31 07.2**	**-1.1**
BTMN	**Batman**	**2.12**	**241**	*i*P	**Pb**	**15 31 08.8**	**-0.8**
BTMN				*i*S	**Sg**	**15 31 40.3**	**+1.8**
BTMN	**Batman**	**2.12**	**241**	P	**Pb**	**15 31 08.8**	**-0.8**
BNGB	**Bing¶ll**	**2.29**	**272**	*e*PN	**Pn**	**15 31 09.3**	**+0.2**
DDEM	**Demirkent**	**2.41**	**324**	*i*P	**Pg**	**15 31 15.5**	**-0.9**
BINT	**Bingol**	**2.44**	**269**	*e*Pn	**Pn**	**15 31 09.3**	**-2.0**
DAGI	**Agillar**	**2.49**	**329**	*i*P	**Pg**	**15 31 16.4**	**-1.6**
MAZI	**Mazidag**	**2.91**	**240**	*e*PN	**Pn**	**15 31 18.2**	**+0.5**
MAZI	**Mazidag**	**2.91**	**240**	*e*Pn	**Pn**	**15 31 18.2**	**+0.5**
PTK	**Pertek**	**3.29**	**270**	*e*PN	**Pn**	**15 31 23.9**	**+0.8**
PTK	**Pertek**	**3.29**	**270**	*e*Pn	**Pn**	**15 31 23.9**	**+0.8**

*IDC **28** 15:31:02.7±2.2, 51°.61N×176°.55E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.6/46, mbtmp3.8/11, ML3.2/2, Error ellipse: s-maj=56.1km s-min=19.9km az=8.0*
*ISCJB **28** 15:31:06.0±1.5, 51°.7N±0°.2×176°.6E±0°.2, h31km, mb3.8/10, Error ellipse: s-maj=35.4km s-min=8.8km az=17.2*
*NEIC **28** 15:31:07.7±1.4, 51°.62N×176°.47E, h35km, mb3.9/1, Error ellipse: s-maj=35.9km s-min=10.5km az=186.0*
ISC 28 15:31:06.9±1.5, 51°.6N±0°.3×176°.4E±0°.1, h31km, n21, σ0°97/16, mb3.8/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.85**	**310**	*e*Pn	**Pn**	**15 31 36.7**	**+0.2**
SMY				*e*Sn	**Sn**	**15 31 58.4**	**-0.4**
PETK	**Petropavlovsk-**	**11.56**	**285**	Pn	**Pn**	**15 33 48.2**	**-1.5**
	0.1nm,0.3s,baz=85,slow=16,SNR=2.5						
KDAK	**Kodiak Island**	**18.86**	**59**	P	**P**	**15 35 22.3**	**-1.8**
	0.7nm,0.3s,baz=221,slow=5.0,SNR=9.6						
ILAR	**Eielson Array**	**23.02**	**41**	P	**P**	**15 36 07.5**	**-1.4**
	0.4nm,0.6s,baz=254,slow=9.1,SNR=7.4						
TIXI	**Tiksi**	**29.02**	**331**	P	**P**	**15 37 04.4**	**+0.8**
	0.6nm,0.5s,baz=105,slow=4.6,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**32.63**	**197**	T	T	16 12 53.2	
	baz=11,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.64**	**197**	T	T	16 12 56.9	
	baz=11,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**32.65**	**197**	T	T	16 12 56.1	
	baz=11,slow=76,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**33.86**	**197**	T	T	16 14 22.4	
	baz=13						
H11S3	**WAKE ISLAND Hy**	**33.88**	**197**	T	T	16 14 26.4	
	baz=13						
H11S2	**WAKE ISLAND Hy**	**33.88**	**197**	T	T	16 14 22.4	
	baz=13						
NEW	**Newport**	**41.60**	**67**	P	**P**	**15 38 52.7**	**+1.0**
	1.5nm,0.6s						
PDAR	**Pinedale Array**	**49.07**	**70**	P	**P**	**15 39 51.2**	**-0.1**
	0.1nm,0.4s,baz=324,slow=2.3,SNR=2.5						
SPITS	**Spitsbergen Ar**	**49.95**	**355**	P	**P**	**15 39 57.2**	**0.0**
	4.8nm,0.7s,baz=46,slow=8.3,SNR=5.3						
KURK	**Kurchatov**	**56.69**	**311**	P	**P**	**15 40 48.3**	**+1.3**
KURBB	**Kurchatov Arra**	**56.80**	**311**	P	**P**	**15 40 48.3**	**+0.6**
	0.5nm,0.6s,baz=42,slow=6.9,SNR=5.0						
ARCES	**ARCESS Array B**	**57.36**	**348**	P	**P**	**15 40 51.6**	**+0.2**
	3.2nm,1.0s,baz=37,slow=9.1,SNR=2.7						
ARCES	**ARCESS Array B**	**57.36**	**348**	P	**P**	**15 40 51.6**	**+0.1**
BVAR	**Borovoye Array**	**58.77**	**317**	P	**P**	**15 41 02.5**	**+0.9**
	1.8nm,0.6s,baz=50,slow=8.2,SNR=8.5						
TXAR	**Lajitas Array**	**61.56**	**78**	P	**P**	**15 41 21.1**	**-0.1**
	0.3nm,0.6s,baz=301,slow=5.6,SNR=5.0						
AKASG	**Malin Array Be**	**74.38**	**339**	P	**P**	**15 42 41.5**	**+0.2**
	0.6nm,0.4s,baz=25,slow=6.4,SNR=4.4						

*IDC **28** 15:33:21.0±0.6, 52°.93N×107°.30E, h0km, mb3.9/13, mb1 4.0/19, mb1mx3.8/46, mbtmp3.9/19, ML3.3/6, MS3.1/7, Ms1 3.1/7, ms1mx2.8/52, Error ellipse: s-maj=14.2km s-min=10.2km az=142.0*
*MOS **28** 15:33:21.2±1.0, 52°.93N×107°.34E, h13km, mb4.5/6, Error ellipse: s-maj=8.3km s-min=5.3km az=64.2*
MOS Felt (II) at Elantsy.
*OBM **28** 15:33:22.1±0.3, 52°.96N×107°.23E, h2km, Ml4.1/1, Error ellipse: s-maj=4.7km s-min=2.6km az=19.0*
*BYKL **28** 15:33:22.8±0.2, 52°.92N×107°.23E, FELT I=IV MSK at Yelantsy, Tyrgan, Petrovo, Popovo*
*NEIC **28** 15:33:22.7±0.3, 52°.94N×107°.31E, h10km, mb4.4/4, Error ellipse: s-maj=6.8km s-min=5.3km az=143.0*
ISC 28 15:33:22.0±0.6, 52°.88N±0°.02×107°.32E±0°.02, h12km±4km, n130, σ2°35/200, mb4.1/18, MS3.3/4, 10C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELR	**Kotokel**	**0.48**	**104**	⇑*i*Pg	**Pb**	**15 33 32.4**	**+0.1**
KELR				*e*Sg	**Sb**	**15 33 39.4**	**+0.1**
TRG	**Tyrgan**	**0.60**	**259**	⇑*i*Pg	**Pg**	**15 33 33.7**	**0.0**
TRG				*e*Pb	**Pn**	**15 33 36.8**	**+0.5**
TRG				max		15 33 37.0	
	1μm,0.1s						
TRG				*e*Sg	**Sb**	**15 33 42.5**	**-0.3**
TRG				Smax		15 33 47.9	
	6μm,0.3s						
TRG	**Tyrgan**	**0.60**	**259**	⇓*i*PG	**Pg**	**15 33 33.9**	**+0.2**
TRG				*e*		15 33 42.3	
TRG				pmax	pmax		
	comp=Z,1μm,0.1s						
TRG				smax	smax		
	comp=E,6μm,0.3s						
TRG	**Tyrgan**	**0.60**	**259**	*e*P	**Pg**	**15 33 33.9**	**+0.2**
TRTB	**Turuntaevo**	**0.68**	**163**	⇓*i*Pg	**Pb**	**15 33 36.3**	**+0.6**
	comp=E,2μm,0.5s						
TRTB				⇑*i*Pg	**Pb**	**15 33 36.3**	**+0.6**
	comp=E,450nm,0.5s						
TRTB				⇑*i*Pg	**Pb**	**15 33 36.3**	**+0.6**
	comp=E,2μm,0.5s						
TRTB				Pmax		15 33 36.9	
	comp=E,4μm,0.4s						
TRTB				*e*Pb	**Pn**	**15 33 38.9**	**+1.5**
TRTB				*e*Sg	**Sb**	**15 33 46.1**	**+1.1**
TRTB				Smax		15 33 46.3	
	comp=E,11μm,0.6s						
OGRR	**Ongureny**	**0.78**	**12**	⇑*i*Pg	**Pg**	**15 33 36.9**	**-0.3**
OGRR				*e*Pb	**Pn**	**15 33 39.6**	**+0.8**
OGRR				max		15 33 40.6	
	comp=E,407nm,0.3s						
OGRR				*e*Sg	**Sg**	**15 33 47.2**	**-0.2**
OGRR				Smax		15 33 48.2	
	comp=E,6μm,0.9s						
OGRR	**Ongureny**	**0.78**	**12**	*e*PG	**Pg**	**15 33 36.9**	**-0.3**
OGRR				*e*		15 33 47.0	
OGRR				pmax	pmax		
	comp=Z,370nm,0.2s						
OGRR				smax	smax		
	comp=E,3μm,0.4s						
KAB	**Kabansk**	**0.92**	**206**	*e*Pg	**Pb**	**15 33 40.7**	**+0.8**
KAB				Pmax		15 33 45.8	
	comp=E,775nm,0.3s						
KAB				*e*Sg	**Sb**	**15 33 53.6**	**+1.5**
KAB				Smax		15 33 58.8	
	comp=E,12μm,0.7s						
KAB	**Kabansk**	**0.92**	**206**	*e*PG	**Pn**	**15 33 41.5**	**+0.8**
KAB				*e*		15 33 54.0	
KAB				pmax	pmax		
	comp=Z,2μm,0.5s						
KAB				smax	smax		
	comp=N,2μm,0.9s						
KAB	**Kabansk**	**0.92**	**206**	⇑*i*P	**Pn**	**15 33 41.5**	**+0.8**
MXMB	**Maximikha**	**0.94**	**65**	⇑*i*Pg	**Pb**	**15 33 40.4**	**+0.1**
MXMB				*e*Sg	**Sn**	**15 33 54.0**	**-0.4**
HRMR	**Khuramsha**	**1.27**	**190**	⇑*i*Pg	**Pn**	**15 33 44.9**	**-0.6**
HRMR				Pmax		15 33 45.6	
	comp=N,3μm,0.4s						
HRMR				*e*Sg	**Sn**	**15 34 03.2**	**+0.7**
HRMR				Smax		15 34 04.4	
	comp=N,23μm,0.6s						
BGT	**Bolshoye Golou**	**1.44**	**235**	*e*Pg	**Pb**	**15 33 48.7**	**+0.1**
BGT				*e*		15 33 52.8	
BGT				max		15 33 53.0	
	comp=N,1μm,0.6s						
BGT				*e*Sg	**Sg**	**15 34 08.7**	**+0.5**
BGT				Smax		15 34 19.9	
	comp=N,5μm,0.5s						
BGT	**Bolshoye Golou**	**1.44**	**235**	*e*PN	**Pb**	**15 33 48.6**	**0.0**
BGT				*e*		15 34 08.3	
BGT				pmax	pmax		
	comp=Z,546nm,0.3s						
BGT				smax	smax		
	comp=N,5μm,0.5s						
SYVR	**Suvo**	**1.79**	**63**	⇓*i*Pn	**Pn**	**15 33 53.5**	**+0.8**
SYVR				*e*Pg	**Pb**	**15 33 55.3**	**+0.6**
SYVR				*e*		15 34 02.5	
SYVR				max		15 34 04.0	
	comp=N,805nm,1.1s						
SYVR				*e*Sn	**Sb**	**15 34 16.4**	**-0.6**
SYVR				*e*Sg	**Sg**	**15 34 21.1**	**+1.6**
SYVR				Smax		15 34 21.9	
	comp=N,3μm,0.4s						
SYVR	**Suvo**	**1.79**	**63**	*e*PN	**Pb**	**15 33 53.8**	**-0.9**
SYVR				*e*		15 33 55.2	
SYVR				*e*		15 34 16.6	
SYVR				pmax	pmax		
	comp=Z,665nm,0.6s						
SYVR				smax	smax		
	comp=E,3μm,0.4s						
SYVR	**Suvo**	**1.79**	**63**	*e*P	**Pb**	**15 33 53.8**	**-0.9**
LSTR	**Listvyanka**	**1.83**	**237**	⇓*i*Pg	**Pn**	**15 33 54.0**	**+0.9**
LSTR				*e*		15 33 59.0	
LSTR				max		15 34 04.9	
	comp=E,772nm,1.0s						
LSTR				*e*Sg	**Sb**	**15 34 18.3**	**+0.2**
LSTR				Smax		15 34 21.6	
	comp=E,2μm,0.6s						
LSTR				*e*		15 34 30.4	
LSTR	**Listvyanka**	**1.83**	**237**	*e*PN	**Pn**	**15 33 54.1**	**+0.9**
LSTR				*e*		15 33 56.1	
LSTR				*e*S	**Sn**	**15 34 17.6**	**+1.4**
LSTR				*e*		15 34 19.5	
LSTR				pmax	pmax		
	comp=Z,121nm,0.2s						
LSTR				smax	smax		
	comp=N,2μm,0.5s						
IRK	**Irkutsk**	**1.96**	**252**	*e*Pn	**Pn**	**15 33 55.9**	**+0.9**
IRK				*e*Pg	**Pb**	**15 33 58.1**	**+0.4**
IRK				Pmax		15 34 13.2	
	comp=N,933nm,0.9s						
IRK				*e*Sg	**Sb**	**15 34 23.7**	**+1.7**
IRK				Smax		15 34 25.1	
	comp=N,10μm,0.9s						
IRK	**Irkutsk**	**1.96**	**252**	*e*PN	**Pn**	**15 33 56.1**	**+1.1**
IRK				*e*		15 33 58.3	
IRK				*e*S	**Sb**	**15 34 22.0**	**0.0**
IRK				*e*		15 34 23.7	
IRK				pmax	pmax		
	comp=Z,528nm,0.2s						
IRK				smax	smax		
	comp=N,10μm,0.7s						
IRK	**Irkutsk**	**1.96**	**252**	*e*P	**Pb**	**15 33 58.0**	**+0.4**
IVK	**Ivanovka**	**2.08**	**240**	*e*Pn	**Pn**	**15 33 57.6**	**+0.9**
IVK				*e*Pg	**Pb**	**15 34 00.3**	**+0.7**
IVK				Pmax		15 34 00.7	
	comp=N,308nm,0.5s						
IVK				*e*		15 34 03.7	
IVK				*e*Sn	**Sb**	**15 34 24.8**	**-0.6**
IVK				*e*Sg	**Sg**	**15 34 27.1**	**-1.7**
IVK				Smax		15 34 28.0	
	comp=N,2μm,0.9s						
IVK				*e*		15 34 38.3	
IVK	**Ivanovka**	**2.08**	**240**	*e*PN	**Pn**	**15 33 57.4**	**+0.7**
IVK				*e*		15 34 00.5	
IVK				*e*S	**Sb**	**15 34 24.5**	**-0.9**
IVK				*e*		15 34 26.9	
IVK				pmax	pmax		
	comp=Z,301nm,0.4s						
IVK				smax	smax		
	comp=N,4μm,2.1s						
TLY	**Talaya**	**2.56**	**243**	Pn	**Pn**	**15 34 03.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=56,slow=8.9,SNR=38						
TLY				Pg	**Pb**	**15 34 07.8**	**+0.1**
	comp=N,0.3nm,0.3s,baz=62,slow=11,SNR=41						
TLY				Sn	**Sn**	**15 34 35.9**	**+1.8**
	comp=N,0.3nm,0.3s,baz=342,slow=20,SNR=3.9						
TLY				Lg	Lg	15 34 41.3	
	comp=N,1.3nm,0.3s,baz=149,slow=18,SNR=14						
TLY				LR	LR	15 35 26.7	
	comp=N,278nm,19.7s,baz=34,slow=49						
TLY	**Talaya**	**2.56**	**243**	*e*Pn	**Pn**	**15 34 03.9**	**+0.8**
TLY				*e*Pg	**Pb**	**15 34 07.6**	**-0.1**
TLY				Pmax		15 34 12.3	
	comp=N,152nm,0.6s						
TLY				*e*		15 34 35.3	
TLY				*e*Sg	**Sb**	**15 34 41.4**	**+2.4**
TLY				Smax		15 34 56.2	
	comp=N,1μm,0.3s						
TLY	**Talaya**	**2.56**	**243**	*e*PN	**Pn**	**15 34 03.8**	**+0.6**
TLY				*e*		15 34 08.1	
TLY				*e*		15 34 41.3	
TLY				pmax	pmax		
	comp=Z,103nm,0.5s						
YLYR	**Ulyunkhan**	**3.03**	**47**	⇓*i*Pn	**Pn**	**15 34 10.7**	**+1.0**
YLYR				*e*Pg	**Pb**	**15 34 16.8**	**+1.0**
YLYR				*e*		15 34 24.8	
YLYR				max		15 34 27.5	
	comp=Z,108nm,0.9s						
YLYR				*e*Sg	**Sg**	**15 34 57.0**	**-2.2**
YLYR				Smax		15 35 05.1	
	comp=Z,854nm,0.7s						
YLYR	**Ulyunkhan**	**3.03**	**47**	*e*PN	**Pn**	**15 34 11.0**	**+1.3**
YLYR				*e*		15 34 16.7	
YLYR				*e*S	**Sn**	**15 34 46.1**	**+0.2**
YLYR				*e*		15 34 54.9	
YLYR				pmax	pmax		
	comp=Z,108nm,0.4s						
YLYR				smax	smax		
	comp=N,855nm,0.7s						
ARS	**Arshan**	**3.15**	**254**	*e*Pn	**Pn**	**15 34 12.9**	**+1.6**
ARS				*e*Pg	**Pb**	**15 34 17.6**	**-0.2**
ARS				*e*		15 34 20.3	
ARS				max		15 34 24.6	
	comp=N,654nm,0.6s						
ARS				*e*Sg	**Sb**	**15 34 58.4**	**+2.3**
ARS				*e*		15 35 00.9	
ARS				max		15 35 05.1	
	comp=N,4μm,0.6s						
ARS	**Arshan**	**3.15**	**254**	*e*PN	**Pn**	**15 34 13.1**	**+1.8**
ARS				*e*		15 34 17.4	
ARS				*e*		15 35 00.0	
ARS				pmax	pmax		
	comp=Z,657nm,0.3s						
ARS				smax	smax		
	comp=E,4μm,0.6s						
NIZ	**Nizh Angarsk**	**3.18**	**23**	*e*Pn	**Pn**	**15 34 13.3**	**+1.5**
NIZ				*e*Pg	**Pb**	**15 34 18.7**	**+0.3**
NIZ				Pmax		15 34 24.0	
	comp=E,135nm,0.4s						
NIZ				*e*Sn	**Sn**	**15 34 51.2**	**+1.6**
NIZ				*e*Sg	**Sg**	**15 35 00.6**	**-3.5**
NIZ				*e*		15 35 06.1	
NIZ				max		15 35 06.7	
	comp=E,1μm,0.8s						
NIZ	**Nizh Angarsk**	**3.18**	**23**	*e*PN	**Pn**	**15 34 13.3**	**+1.5**
NIZ				*e*		15 34 19.8	
NIZ				*e*S	**Sn**	**15 34 51.0**	**+1.4**
NIZ				*e*		15 35 00.7	
NIZ				pmax	pmax		
	comp=Z,3μm,0.4s						
NIZ				smax	smax		
	comp=N,5μm,0.3s						
ZAK	**Zakamensk**	**3.55**	**227**	*e*Pn	**Pn**	**15 34 18.6**	**+1.7**
ZAK				*e*Pg	**Pb**	**15 34 27.1**	**+2.5**
ZAK				Pmax		15 34 42.2	
	comp=N,90nm,1.2s						
ZAK				*e*Sg	**Sg**	**15 35 14.2**	**-1.6**
ZAK				Smax		15 35 36.2	
	comp=N,432nm,1.4s						
ZAK	**Zakamensk**	**3.55**	**227**	*e*PN	**Pn**	**15 34 18.4**	**+1.5**
ZAK				*e*		15 34 27.0	
ZAK				*e*S	**Sn**	**15 34 59.6**	**+0.9**
ZAK				*e*		15 35 13.1	
ZAK				pmax	pmax		
	comp=Z,83nm,0.4s						
ZAK				smax	smax		
	comp=E,336nm,0.6s						
KMO	**Kumora**	**3.77**	**35**	*e*Pn	**Pn**	**15 34 21.3**	**+1.4**
KMO				*e*Pg	**Pb**	**15 34 28.7**	**+0.3**
KMO				Pmax		15 34 47.0	
	comp=E,155nm,0.6s						
KMO				*e*Sg	**Sg**	**15 35 18.5**	**-4.6**
KMO				Smax		15 35 39.2	
	comp=E,1μm,

KPC				*e*			15 34 42.9
KPC				*e*			15 35 43.0
KPC				pmax	pmax		
	comp=Z,159nm,0.4s						
KPC				smax	smax		
	comp=E,1μm,1.3s						
UKT	**Uakit**	**4.54**	**52**	*e*Pn	**Pn**	**15 34 31.2**	**+0.8**
UKT				*e*		15 34 40.7	
UKT				*e*Pg	**Pb**	**15 34 44.3**	**+2.8**
UKT				*e*		15 34 48.5	
UKT				max		15 35 01.7	
	comp=E,73nm,0.7s						
UKT				*e*Sg	**Sg**	**15 35 44.5**	**-3.0**
UKT				Smax		15 35 57.3	
	comp=E,446nm,2.0s						
UKT	**Uakit**	**4.54**	**52**	*e*PN	**Pb**	**15 34 44.1**	**+2.6**
UKT				*e*S	**Sg**	**15 35 41.8**	**-5.7**
ORL	**Orlik**	**4.58**	**269**	*e*Pn	**Pn**	**15 34 33.0**	**+2.0**
ORL				*e*		15 34 37.9	
ORL				*e*Pg	**Pb**	**15 34 42.1**	**-0.1**
ORL				Pmax		15 34 55.8	
	comp=E,141nm,1.0s						
ORL				*e*		15 35 26.3	
ORL				*e*Sg	**Sb**	**15 35 40.4**	**+3.1**
ORL				Smax		15 35 52.4	
	comp=E,418nm,1.2s						
ORL	**Orlik**	**4.58**	**269**	*e*PN	**Pn**	**15 34 33.1**	**+2.0**
ORL				*e*		15 34 45.0	
BLGM	**Bulgan**	**4.75**	**212**	*e*Pn	**Pn**	**15 34 35.6**	**+2.3**
BLGM	**Bulgan**	**4.75**	**212**	*e*Pg	**Pb**	**15 34 49.0**	**+3.9**
BLGM				*e*Sg	**Sg**	**15 35 50.3**	**-3.9**
	comp=E,526nm,0.6s						
SVKR	**Severomuysk**	**4.87**	**46**	*e*Pn	**Pn**	**15 34 36.7**	**+1.7**
SVKR				*e*Pg	**Pb**	**15 34 49.6**	**+2.4**
SVKR				Pmax		15 35 07.7	
	comp=E,126nm,0.7s						
SVKR				*e*Sg	**Sg**	**15 35 54.5**	**-3.8**
SVKR				*e*		15 36 00.2	
SVKR				max		15 36 25.7	
	comp=E,1μm,1.3s						
ALFM		**4.91**	**184**	*e*Pn	**Pn**	**15 34 37.4**	**+1.8**
ALFM		**4.91**	**184**	*e*Pg	**Pg**	**15 34 53.5**	**-2.4**
ALFM				*e*Sg	**Sg**	**15 35 56.4**	**-3.0**
	comp=E,1μm,0.9s						
ARTM		**4.96**	**180**	*e*Pn	**Pn**	**15 34 38.3**	**+2.0**
ARTM		**4.96**	**180**	*e*Pg	**Pg**	**15 34 55.6**	**-1.2**
ARTM				*e*Sg	**Sg**	**15 35 59.3**	**-1.7**
	comp=E,1μm,0.9s						
ULN	**Ulaanbaatar**	**5.02**	**182**	*c i*PN	**Pn**	**15 34 39.3**	**+2.1**
ULN	**Ulaanbaatar**	**5.02**	**182**	*e*P	**Pn**	**15 34 38.9**	**+1.7**
	comp=E,42nm,0.5s						
HTG	**Hatgal**	**5.06**	**244**	*e*Pn	**Pn**	**15 34 40.5**	**+2.7**
HTG	**Hatgal**	**5.06**	**244**	*e*Pg	**Pb**	**15 34 54.3**	**+3.8**
HTG				*e*Sg	**Sb**	**15 35 58.1**	**+6.8**
	comp=E,336nm,0.6s						
SONA0	**Songino Array**	**5.08**	**187**	*e*Sg	**Sg**	**15 36 02.5**	**-2.6**
	comp=E,505nm,0.8s						
SONM	**Songino Array**	**5.08**	**187**	Pn	**Pn**	**15 34 39.9**	**+1.8**
	comp=E,3.2nm,0.3s,baz=0.5,slow=13,SNR=41						
SONM				Pg	**Pb**	**15 34 55.2**	**+4.3**
	comp=E,8.6nm,0.3s,baz=358,slow=16,SNR=18						
SONM				Lg	Lg	15 36 02.6	
	comp=E,59nm,0.3s,baz=358,slow=29,SNR=20						
UGDM		**5.25**	**179**	*e*Pn	**Pn**	**15 34 42.3**	**+2.0**
UGDM		**5.25**	**179**	*e*Pg	**Pg**	**15 34 59.6**	**-2.8**
UGDM				*e*Sg	**Sg**	**15 36 07.6**	**-2.7**
	comp=E,1μm,1.1s						
SEMM		**5.33**	**182**	*e*Pn	**Pn**	**15 34 43.5**	**+2.1**
SEMM		**5.33**	**182**	*e*Pg	**Pg**	**15 35 00.8**	**-3.2**
SEMM				*e*Sg	**Sg**	**15 36 10.6**	**-2.4**
NLYR	**Nelyaty**	**6.06**	**50**	*e*Pn	**Pn**	**15 34 52.7**	**+1.4**
NLYR				*e*Pg	**Pb**	**15 35 11.9**	**+4.5**
NLYR				Pmax		15 35 13.6	
	comp=E,49nm,0.9s						
NLYR				*e*Sg	**Sg**	**15 36 31.8**	**-4.5**
NLYR				Smax		15 36 40.9	
	comp=E,664nm,1.1s						
NLYR				*e*		15 37 07.0	
NLYR	**Nelyaty**	**6.06**	**50**	*e*PN	**Pn**	**15 34 52.8**	**+1.4**
NLYR				*e*		15 35 13.2	
BOD	**Bodaibo**	**6.25**	**35**	*e*Pn	**Pn**	**15 34 54.6**	**+0.8**
BOD				*e*		15 35 02.8	
BOD				max		15 35 38.5	
	comp=E,33nm,0.8s						
BOD				*e*Sg	**Sg**	**15 36 33.6**	**-8.7**
BOD				Smax		15 36 49.0	
	comp=E,262nm,1.6s						
BOD	**Bodaibo**	**6.25**	**35**	*e*PN	**Pn**	**15 34 53.4**	**-0.4**
BOD				*e*		15 35 13.9	
BOD				*e*		15 36 36.6	
BOD				pmax	pmax		
	comp=Z,14nm,0.3s						
BOD				smax	smax		
	comp=E,261nm,1.3s						
TTS	**Tsetserleg**	**6.59**	**217**	*e*Pn	**Pn**	**15 35 00.9**	**+2.2**
TTS	**Tsetserleg**	**6.59**	**217**	*e*Pg	**Pg**	**15 35 24.4**	**-3.7**
TTS				*e*Sg	**Sg**	**15 36 49.9**	**-3.5**
	comp=E,156nm,0.5s						
TSC	**Tosontsengel**	**7.06**	**238**	*e*Pn	**Pn**	**15 35 08.8**	**+3.6**
TSC	**Tosontsengel**	**7.06**	**238**	*e*Pg	Pb	15 35 30.7	+6.2
TSC				*e*Sg	**Sg**	**15 37 03.3**	**-5.2**
	comp=E,116nm,0.6s						
CRS	**Chara**	**7.49**	**53**	*e*	Pn	15 35 19.0	+8.1
CRS				*e*Pg	Pb	15 35 37.5	+5.8
CRS				Pmax		15 36 01.7	
	comp=E,56nm,1.1s						
CRS				*e*Sg	**Sg**	**15 37 15.4**	**-6.7**
CRS				*e*		15 37 31.2	
CRS				max		15 37 33.5	
	comp=E,354nm,1.3s						
TUP	**Tupik**	**7.67**	**73**	*e*Pn	**Pn**	**15 35 13.9**	**+0.5**
TUP				*e*Pg	Pb	15 35 41.1	+6.3
TUP				Pmax		15 35 53.7	
	comp=E,24nm,1.9s						
TUP				*e*Sg	**Sg**	**15 37 20.4**	**-7.5**
TUP				*e*		15 37 23.1	
TUP				max		15 37 28.5	
	comp=E,868nm,1.2s						
TUP	**Tupik**	**7.67**	**73**	*e*PN	**Pn**	**15 35 13.6**	**+0.2**
TUP				*e*		15 35 39.4	
TUP				*e*S	**Sn**	**15 36 39.0**	**-1.1**
TUP				*e*		15 37 19.7	
TUP				pmax	pmax		
	comp=Z,21nm,0.8s						
TUP				smax	smax		
	comp=N,870nm,1.2s						
HIA	**Hailar**	**8.62**	**110**	*i*PN	**Pn**	**15 35 27.6**	**+1.2**
DZBM		**9.26**	**193**	*e*Pn	**Pn**	**15 35 37.9**	**+2.5**
DZBM				*e*Sg	Sn	15 38 14.0	+55
ULG	**Ulaangom**	**9.97**	**259**	*e*Sg	Sn	15 38 30.9	+54
TNDR	**Tynda**	**10.49**	**71**	*e*		15 38 34.2	
TNDR				*e*Sg		15 38 50.4	
TNDR				*e*		15 39 01.4	
IENR	**Ienga**	**10.72**	**65**	*e*Sg		15 38 57.0	
IENR				*e*		15 39 26.9	
HBD	**Hovd**	**11.11**	**250**	*e*Pg	Pn	15 36 45.9	+45
HBD				*e*Sg		15 39 08.7	
BYO	**Bayan-Olgiy**	**11.63**	**257**	*e*Sg		15 39 23.9	
	comp=N,227nm,1.6s						
ZALV	**Zalesovo Beam**	**13.45**	**284**	Pn	**Pn**	**15 36 33.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=81,slow=9.3,SNR=6.5						
ZALV				Lg	Lg	15 40 14.1	
	comp=N,0.3nm,0.3s,baz=77,slow=25,SNR=4.4						
GTA	**Gaotai**	**14.43**	**204**	*e*P	**P**	**15 36 54.8**	**+2.0**
GTA				pP	pP	15 36 59.3	
GTA				sP	sP	15 37 01.8	
GTA				S	**S**	**15 39 43.5**	**-2.3**
GTA				sS	sS	15 39 48.5	
GTA				SS	SnSn	15 39 59.8	+22
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,32nm,3.8s						
GTA				LR	LR		
	comp=N,220nm,11.2s						
GTA				LR	LR		
	comp=E,150nm,9.7s						
GTA				LR	LR		
	comp=Z,280nm,11.6s						
YAK	**Yakutsk**	**15.05**	**44**	Sn	**Sn**	**15 39 32.2**	**-8.2**
	comp=Z,0.0nm,0.3s,baz=167,slow=17,SNR=1.9						
YAK				Lg	Lg	15 41 10.6	
	comp=Z,0.0nm,0.3s,baz=342,slow=20,SNR=3.1						
YAK	**Yakutsk**	**15.05**	**44**	*i* P	**Pn**	**15 36 55.7**	**+1.6**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,310nm,12.0s						
YAK				MLR	MLR		
	comp=N,153nm,9.0s						
YAK				MLR	MLR		
	comp=E,135nm,10.0s						
CN2	**Changchun**	**15.06**	**120**	*e*P	**P**	**15 37 01.0**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
KLR	**Kul'dur**	**15.77**	**94**	Sn	**Sn**	**15 40 01.2**	**+3.2**
	comp=Z,0.0nm,0.3s,baz=358,slow=16,SNR=1.8						
KLR				Lg	Lg	15 41 37.0	
	comp=Z,0.0nm,0.3s,baz=253,slow=18,SNR=10						
KLR				LR	LR	15 43 45.1	
	comp=Z,9.4nm,18.4s,baz=289,slow=40						
MKAR	**Makanchi Array**	**17.20**	**259**	P	**P**	**15 37 23.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=67,slow=10,SNR=8.0						
MKAR				Lg	Lg	15 42 18.6	
	comp=Z,0.0nm,0.3s,baz=55,slow=29,SNR=2.6						
MKAR				LR	LR	15 44 15.6	
	comp=Z,122nm,19.1s,baz=66,slow=38						
KURK	**Kurchatov**	**17.83**	**275**	*i* P	**P**	**15 37 30.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KURK	**Kurchatov**	**17.83**	**275**	Pn	**Pn**	**15 37 25.7**	**-3.9**
	comp=Z,35nm,0.8s						
KURBB	**Kurchatov Arra**	**17.91**	**274**	P	**Pn**	**15 37 29.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=73,slow=11,SNR=9.1						
KURBB				Lg	Lg	15 42 38.1	
	comp=Z,0.0nm,0.3s,baz=77,slow=30,SNR=4.3						
HABR	**Khabarovsk**	**18.07**	**93**	*e*P	**P**	**15 37 36.5**	**+3.6**
HABR				*e*S	**Sn**	**15 40 55.4**	**+1.6**
HABR				pmax	pmax		
	comp=Z,12nm,1.5s						
HABR				pmax	pmax		
	comp=E,12nm,1.5s						
HABR				pmax	pmax		
	comp=N,11nm,1.5s						
USRK	**Ussuriysk Ar.**	**18.43**	**108**	Lg	Lg	15 43 02.3	
	comp=N,0.1nm,0.3s,baz=337,slow=20,SNR=5.3						
NRIK	**Noril'sk**	**18.90**	**338**	P	**P**	**15 37 40.7**	**-1.3**
	comp=N,0.7nm,0.3s,baz=126,slow=12,SNR=12						
NRIK				S	Sn	15 40 58.1	-16
	comp=N,0.3nm,0.3s,baz=180,slow=17,SNR=3.6						
NRIK				Lg	Lg	15 43 11.1	
	baz=49,slow=19,SNR=2.9						
KSAR	**Wonju Array Be**	**21.07**	**129**	P	**P**	**15 38 07.8**	**+2.1**
KSAR	**Wonju Array Be**	**21.07**	**129**	P	**P**	**15 38 07.8**	**+2.1**
KSRS	**Korea Array**	**21.07**	**129**	P	**P**	**15 38 07.8**	**+2.0**
	comp=N,1.0nm,1.0s,baz=335,slow=11,SNR=4.0						
TIXI	**Tiksi**	**21.09**	**19**	P	**P**	**15 38 04.8**	**-1.0**
	comp=N,4.9nm,0.5s,baz=221,slow=5.3,SNR=22						
TIXI				S	S	15 41 47.1	-13
	comp=N,3.1nm,0.7s,baz=233,slow=15,SNR=3.5						
TIXI				Lg	Lg	15 44 19.2	
	comp=N,9.2nm,1.0s,baz=130,slow=19,SNR=3.7						
UGL	**Uglegorsk**	**22.07**	**86**	*e*P	**P**	**15 38 16.2**	**-0.2**
UGL				*e**SP	**sP**	**15 38 22.6**	**+1.0**
UGL				*e*PPP	PPP	15 38 46.3	
UGL				*e*		15 42 13.0	
UGL				*e*S	**S**	**15 42 20.4**	**+1.1**
UGL				*e**SS	**sS**	**15 42 27.8**	**+2.7**
UGL				*e*SS	**SnSn**	**15 42 48.5**	**+3.2**
UGL				*e*SSS	SSS	15 43 01.9	
UGL				*e*		15 49 34.6	
BVAR	**Borovoye Array**	**22.10**	**285**	P	**P**	**15 38 16.9**	**+0.2**
	comp=N,2.4nm,0.5s,baz=61,slow=11,SNR=9.3						
BRVK	**Borovoye**	**22.15**	**285**	*i* P	**P**	**15 38 16.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AAK	**Ala-Archa**	**24.13**	**258**	*i* P	**P**	**15 38 37.8**	**+0.2**
MA2	**Magadan**	**24.69**	**57**	LR	LR	15 47 26.8	
	comp=Z,20nm,18.3s,baz=300,slow=34						
SEY	**Seymchan**	**25.43**	**49**	P	**P**	**15 38 50.4**	**+1.4**
	comp=Z,4.8nm,1.1s,baz=242,slow=17,SNR=3.8						
SEY	**Seymchan**	**25.43**	**49**	*e*P	**P**	**15 38 50.6**	**+1.6**
KKAR	**Karatay Array**	**26.23**	**263**	*e*P	**P**	**15 38 58.2**	**+1.6**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**26.23**	**263**	*e*P	**P**	**15 38 58.1**	**+1.6**
	comp=Z,5.0nm,0.9s						
MAJO	**Matsushiro**	**27.08**	**115**	*e*P	**P**	**15 39 00.2**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MAJO	**Matsushiro**	**27.08**	**115**	*e*P	**P**	**15 39 00.2**	**-4.0**
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**27.95**	**297**	*c i*P	P	15 39 19.8	+8.0
ARU						15 40 05.4	
ARU						15 42 28.6	
ARU				SS	SS	15 45 30.4	-22
ARU				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ABKAR	**Akbulak array**	**29.56**	**282**	P	**P**	**15 39 22.4**	**-3.9**
AKTO	**Aktyubinsk**	**30.20**	**285**	P	**P**	**15 39 34.0**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=71,slow=10,SNR=3.3						
AKTO				LR	LR	15 52 18.0	
	comp=Z,58nm,19.5s,baz=76,slow=38						
CMAR	**Chiang Mai Arr**	**34.97**	**194**	P	**P**	**15 40 15.2**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=360,slow=8.1,SNR=11						
CMAR	**Chiang Mai Arr**	**34.97**	**194**	*i* P	**P**	**15 40 15.8**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GEYT	**Alibeck**	**36.87**	**266**	LR	LR	15 56 34.1	
	comp=Z,65nm,18.4s,baz=40,slow=38						
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**15 41 12.9**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=64,slow=8.7,SNR=5.9						
FINES	**FINESS Array B**	**42.10**	**315**	*i* P	**P**	**15 41 13.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**46.10**	**300**	*i* P	**P**	**15 41 42.4**	**-3.1**
NOA	**NORSAR Array B**	**48.43**	**320**	LR	LR	16 04 07.0	
	comp=Z,57nm,19.2s,baz=310,slow=38						
ILAR	**Eielson Array**	**49.61**	**33**	P	**P**	**15 42 13.9**	**+1.4**
	comp=Z,2.7nm,0.9s,baz=305,slow=6.1,SNR=28						
ILAR	**Eielson Array**	**49.61**	**33**	P	**P**	**15 42 14.0**	**+1.4**
RES	**Resolute Bay**	**51.85**	**7**	P	**P**	**15 42 29.3**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=349,slow=11,SNR=3.2						
CLL	**Collm**	**53.80**	**309**	*e*P	**P**	**15 42 43.0**	**-1.0**
RAYN	**Ar Rayn**	**54.66**	**263**	P	**P**	**15 42 47.7**	**-2.9**
	comp=Z,4.2nm,1.0s						
ESDC	**Sonseca Array**	**70.36**	**310**	P	**P**	**15 44 37.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=26,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**76.22**	**154**	P	**P**	**15 45 10.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=345,slow=6.2,SNR=3.5						
ASAR	**Alice Springs**	**79.66**	**155**	P	**P**	**15 45 29.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=352,slow=5.3,SNR=16						
TORD	**Torodi Ar. Bea**	**88.81**	**290**	P	**P**	**15 46 16.3**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=33,slow=4.2,SNR=7.6						

ISK ***28*** *15:43:03.1,38.°91N×43.°54E, h13km, ML2.5*
CSEM ***28*** *15:43:03.5±0.3,38.°92N×43.°57E, h15km, MD2.6, Error ellipse: s-maj=7.1km s-min=4.9km az=113.0*
ISCJB ***28*** *15:43:04.5±0.7,38.°92N±0.°03×43.°57E±0.°07, h11km±5km, Error ellipse: s-maj=9.4km s-min=4.7km az=22.9*
DDA ***28*** *15:43:04.1,38.°90N×43.°57E, h7km, Md2.6*
ISC 28 15:43:03.7±0.9, 38.°91N±0.°03×43.°57E±0.°04, h15km±5km, n18, σ0.°70/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**2**	*i* P	**Pg**	**15 43 06.3**	**-0.7**
VMUR				*i* S	**Sg**	**15 43 10.1**	**+0.9**
VMUR	**Van-Muradiye**	**0.07**	**2**	P	**Pg**	**15 43 06.3**	**-0.7**
VMUR				S	**Sg**	**15 43 10.1**	**+0.9**
ERCV	**ERCIS-VAN**	**0.21**	**300**	*e*PG	**Pg**	**15 43 07.8**	**-0.9**
ERCV	**ERCIS-VAN**	**0.21**	**300**	*e*Pg	**Pg**	**15 43 07.8**	**-0.9**
VANB	**Van**	**0.35**	**204**	*e*PG	**Pb**	**15 43 11.8**	**+0.1**
VANB				*e*SG	**Sb**	**15 43 18.0**	**+0.9**
VANB	**Van**	**0.35**	**204**	*e*Pg	**Pb**	**15 43 11.8**	**+0.1**
VANB				*e*Sg	**Sb**	**15 43 18.0**	**+0.9**
CLDR	**Caldiran**	**0.35**	**50**	*e*PG	**Pg**	**15 43 10.9**	**-0.2**
CLDR				*e*SG	**Sb**	**15 43 16.9**	**-0.5**
CLDR	**Caldiran**	**0.35**	**50**	*i* P	**Pg**	**15 43 10.6**	**-0.5**
CLDR				*i* S	**Sb**	**15 43 17.8**	**+0.4**
CLDR	**Caldiran**	**0.35**	**50**	P	**Pg**	**15 43 10.6**	**-0.5**
CLDR	**Caldiran**	**0.35**	**50**	*e*Pg	**Pg**	**15 43 10.9**	**-0.2**
CLDR				*e*Sg	**Sb**	**15 43 16.9**	**-0.5**
CLDR				S	**Sb**	**15 43 17.8**	**+0.4**
TVAN	**Van**	**0.41**	**198**	*i* P	**Pg**	**15 43 11.4**	**-0.6**
TVAN				*i* S	**Sb**	**15 43 19.0**	**+0.2**
TVAN	**Van**	**0.41**	**198**	P	**Pg**	**15 43 11.4**	**-0.6**
TVAN				S	**Sb**	**15 43 19.0**	**+0.2**
DYDN	**Diyadin**	**0.64**	**8**	*i* P	**Pb**	**15 43 16.4**	**-0.2**
DYDN				*i* S	**Sb**	**15 43 26.9**	**+1.4**
DYDN	**Diyadin**	**0.64**	**8**	P	**Pb**	**15 43 16.5**	**-0.2**
DYDN				S	**Sb**	**15 43 26.9**	**+1.4**
TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**15 43 18.5**	**-0.2**
TUTA				*i* S	**Sn**	**15 43 30.8**	**-0.7**
TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**15 43 18.5**	**-0.2**
TUTA				S	**Sn**	**15 43 30.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.80**	**326**	*e*PG	**Pg**	**15 43 18.8**	**-0.5**
AGRB	**Hanur-Agry**	**0.80**	**326**	*e*Pg	**Pg**	**15 43 18.8**	**-0.5**

IASPEI ***28*** *15:43:33.3±0.9, 35.°37N±0.°02×92.°28W±0.°02, h8km±7km, Error ellipse: s-maj=3.3km s-min=2.8km az=140.3, GT5 selection from ISC bulletin GT5 identified by Bond˙¡r and McLaughlin (2009) selection criteria Bond˙¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***28*** *15:43:33.3±0.3, 35.°36N±0.°01×92.°28W±0.°02, h4km±2km, Error ellipse: s-maj=2.3km s-min=2.1km az=141.5*
NEIC ***28*** *15:43:33.6±0.0, 35.°36N×92.°27W, h7km, MN3.0, After CERI.*
NEIC Felt [III] at Quitman. Also felt at Batesville, Damascus, Greenbrier, Pine Bluff and Roland.
ISC 28 15:43:33.7±0.8, 35.°37N±0.°02×92.°28W±0.°02, h8km±6km, n73, σ0.°91/108, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHAR	**Wooly Hollow**	**0.08**	**186**	*e*Pg	**Pg**	**15 43 35.4**	**-0.3**
WHAR				*e*Sg	**Sg**	**15 43 36.7**	**-0.5**
X301	**Greenbrier Sit**	**0.16**	**218**	*e*Pg	**Pg**	**15 43 38.1**	**+1.0**
X301				*e*Sg	**Sg**	**15 43 39.0**	**-0.4**
W41B	**Gary Mavity, V**	**0.19**	**172**	P	**Pg**	**15 43 37.3**	**-0.3**
	baz=354,SNR=1000						
W41B				S	**Sg**	**15 43 40.0**	**-0.3**
	baz=354						
V41A	**Mountainview**	**0.43**	**14**	P	**Pg**	**15 43 41.9**	**-0.2**
	baz=192,SNR=900						
V41A				S	**Sg**	**15 43 47.9**	**+0.1**
	baz=192						
V40A	**Witts Springs**	**0.62**	**315**	P	**Pg**	**15 43 45.5**	**-0.2**
	baz=135,SNR=615						
V40A				S	**Sg**	**15 43 53.9**	**0.0**
	baz=135						
W42A	**Bald Knob**	**0.63**	**98**	P	**Pg**	**15 43 45.5**	**-0.2**
	baz=278,SNR=30						
W42A				S	**Sg**	**15 43 54.0**	**+0.1**
	baz=278						
W40A	**Ferguson Farm,**	**0.67**	**255**	P	**Pg**	**15 43 46.4**	**-0.2**
	baz=76,SNR=130						
W40A				S	**Sg**	**15 43 55.8**	**+0.5**
	baz=76						
W40A	**Ferguson Farm,**	**0.67**	**255**	*e*Pg	**Pg**	**15 43 46.4**	**-0.2**
W40A				*e*Sb	**Sg**	**15 43 55.6**	**+0.3**
V42A	**Cord**	**0.85**	**59**	P	**Pg**	**15 43 49.2**	**-0.7**
	baz=238,SNR=231						
V42A				S	**Sg**	**15 44 00.6**	**-0.4**
	baz=238						
X41A	**Kaden, Bauxite**	**0.89**	**193**	P	**Pg**	**15 43 50.2**	**-0.6**
	baz=13,SNR=16						
X41A				S	**Sg**	**15 44 02.3**	**-0.1**
	baz=13						
X42A	**Stuttgart**	**0.97**	**146**	P	**Pg**	**15 43 51.9**	**-0.5**
	baz=327,SNR=49						
X42A				S	**Sb**	**15 44 05.2**	**-0.5**
	baz=327						
X40A	**Basin Creek Fa**	**0.99**	**208**	P	**Pg**	**15 43 52.0**	**-0.7**
	baz=28,SNR=85						
X40A				S	**Sg**	**15 44 05.5**	**0.0**
	baz=28						
U41A	**Viola**	**1.02**	**17**	P	**Pg**	**15 43 52.5**	**-0.7**
	baz=196,SNR=370						
U41A				S	**Sg**	**15 44 06.4**	**-0.1**
	baz=196						
U40A	**Yellville**	**1.09**	**335**	P	**Pg**	**15 43 54.0**	**-0.7**
	baz=154,SNR=300						
U40A				S	**Sg**	**15 44 08.2**	**-0.7**
	baz=154						
V39A	**Pettigrew**	**1.21**	**293**	P	**Pg**	**15 43 56.0**	**-0.9**
	baz=113,SNR=270						
V39A				S	**Sg**	**15 44 11.9**	**-0.7**
	baz=113						
W39A	**Magazine**	**1.24**	**263**	P	**Pn**	**15 43 56.7**	**-0.6**
	baz=82,SNR=115						
W39A				S	**Sg**	**15 44 13.6**	**-0.1**
	baz=82						
U42A	**Revenden**	**1.30**	**40**	P	**Pn**	**15 43 57.3**	**-0.8**
	baz=220,SNR=131						
U42A				S	**Sb**	**15 44 14.4**	**-0.6**
	baz=220						
W43A	**Forest City**	**1.32**	**102**	P	**Pn**	**15 43 57.8**	**-0.5**
	baz=282,SNR=13						
W43A				S	**Sn**	**15 44 16.1**	**0.0**
	baz=282						
HBAR	**Harrisburg**	**1.34**	**81**	*e*Pn	**Pn**	**15 43 58.5**	**-0.1**
HBAR				*e*Sn	**Sn**	**15 44 16.6**	**+0.1**
MIAR	**Mount Ida**	**1.34**	**233**	P	**Pn**	**15 43 58.3**	**-0.4**
	baz=52,SNR=132						
MIAR				S	**Sb**	**15 44 16.4**	**+0.1**
	baz=52						
MIAR	**Mount Ida**	**1.34**	**233**	*e*Pn	**Pn**	**15 43 58.2**	**-0.4**
MIAR				*e*Sg	**Sb**	**15 44 16.5**	**+0.1**
U39A	**Green Forest**	**1.41**	**316**	P	**Pn**	**15 43 59.4**	**-0.2**
	baz=136,SNR=61						
U39A				S	**Sb**	**15 44 17.9**	**-0.3**
	baz=136						
X43A	**Marvell**	**1.43**	**126**	P	**Pn**	**15 43 59.7**	**-0.1**
	baz=307,SNR=11						
X43A				S	**Sg**	**15 44 19.6**	**+0.1**
	baz=307						
V43A	**Jonesboro**	**1.48**	**73**	P	**Pn**	**15

	baz=122,SNR=39						
PBMO	**Poplar Bluff**	**2.06**	**46**	*e*Pn	**Pb**	**15 44 10.0**	**-1.2**
PBMO				*e*Sn	**Sb**	**15 44 37.1**	**+0.1**
Z42A	**Norrel Spur, H**	**2.10**	**172**	P	**Pn**	**15 44 09.5**	**+0.3**
	baz=353						
X38A	**Whitesboro**	**2.21**	**252**	P	**Pn**	**15 44 12.0**	**+1.4**
	baz=71,SNR=51						
S40A	**Lebanon**	**2.23**	**355**	P	**Pn**	**15 44 12.4**	**+1.4**
	baz=175,SNR=97						
S41A	**Jillco Farms,**	**2.26**	**11**	P	**Pn**	**15 44 12.8**	**+1.5**
	baz=191,SNR=43						
T38A	**Diamond**	**2.33**	**316**	P	**Pn**	**15 44 13.4**	**+1.1**
	baz=135,SNR=22						
T43A	**Greenville**	**2.35**	**43**	P	**Pn**	**15 44 14.1**	**+1.5**
	baz=223,SNR=17						
V37A	**Hulbert**	**2.39**	**283**	P	**Pn**	**15 44 13.9**	**+0.9**
	baz=102,SNR=29						
U44A	**Portageville**	**2.39**	**61**	P	**Pn**	**15 44 14.2**	**+1.1**
	baz=242,SNR=18						
S39A	**Bolivar**	**2.47**	**340**	P	**Pn**	**15 44 15.3**	**+1.1**
	baz=160,SNR=57						
U37A	**Salina**	**2.53**	**295**	P	**Pn**	**15 44 16.1**	**+1.2**
	baz=114,SNR=8.2						
U44B	**Burton Farm, H**	**2.57**	**67**	P	**Pn**	**15 44 16.2**	**+0.7**
	baz=248,SNR=21						
W37B	**Quinton**	**2.59**	**266**	P	**Pn**	**15 44 16.6**	**+0.7**
	baz=84,SNR=14						
GLAT	**Glass**	**2.59**	**69**	*e*Pn	**Pn**	**15 44 16.5**	**+0.7**
S38A	**Stockton**	**2.61**	**330**	P	**Pn**	**15 44 17.1**	**+1.0**
	baz=149,SNR=26						
T37A	**Cheneyville 18**	**2.76**	**310**	P	**Pn**	**15 44 19.4**	**+1.2**
	baz=129,SNR=18						
CCM	**Cathedral Cave**	**2.81**	**17**	*e*Pn	**Pn**	**15 44 20.6**	**+1.8**
TUL1	**Leonard**	**2.91**	**282**	*e*Pn	**Pn**	**15 44 21.2**	**+1.0**
R40A	**Maddies Statio**	**2.92**	**0**	P	**Pn**	**15 44 21.1**	**+0.8**
	baz=180,SNR=10						
R39A	**Chumby, Stover**	**3.00**	**349**	P	**Pn**	**15 44 22.4**	**+0.9**
	baz=168,SNR=9.9						
FVM	**French Village**	**3.01**	**29**	*e*Pn	**Pn**	**15 44 22.3**	**+0.7**
V36A	**Jenks**	**3.02**	**279**	P	**Pn**	**15 44 22.4**	**+0.7**
	baz=97,SNR=7.6						
R42A	**Luebbering**	**3.14**	**22**	P	**Pn**	**15 44 24.4**	**+1.0**
	baz=202,SNR=9.3						
W36A	**Wetumka**	**3.24**	**267**	P	**Pn**	**15 44 25.4**	**+0.7**
	baz=85,SNR=9.0						
PLAL	**Pickwick Lake**	**3.46**	**95**	*e*Pn	**Pn**	**15 44 28.4**	**+0.5**
WVT	**Waverly**	**3.70**	**77**	*e*Pn	**Pn**	**15 44 30.7**	**-0.3**
W35A	**Tecumseh**	**3.77**	**268**	P	**Pn**	**15 44 32.6**	**+0.6**
	baz=86,SNR=10						
P40A	**Paris**	**4.16**	**2**	P	**Pn**	**15 44 38.3**	**+0.8**
	baz=182,SNR=7.9						
O39A	**Kirksville**	**4.88**	**358**	P	**Pn**	**15 44 48.0**	**+0.6**
	baz=177,SNR=6.7						
LRAL	**Lakeview Retre**	**4.96**	**116**	*e*Pn	**Pn**	**15 44 48.4**	**+0.1**
LRAL				*e*Sg	**Sb**	**15 46 05.9**	**+5.5**
WMOK	**Wichita Mounta**	**5.37**	**265**	*e*Pn	**Pn**	**15 44 55.2**	**+1.2**
WMOK				*e*Sn	**Sn**	**15 45 54.9**	**-1.2**

*ISCJB **28** 15:46:07.2±0.7, 33°.78N±0°.02×35°.67E±0°.06, h25km±5km, Error ellipse: s-maj=8.5km s-min=4.0km az=178.8*
*CSEM **28** 15:46:08.5, 33°.79N×35°.79E, h2km, ML2.8*
*GRAL **28** 15:46:08.5±0.3, 33°.79N×35°.79E, h2km±12km, MD2.8*
*NSSC **28** 15:46:08.4±1.1, 33°.79N×35°.76E, h27km±4km, ML2.0*
ISC 28 15:46:07.1±0.9, 33°.78N±0°.02×35°.74E±0°.03, h17km±6km, n21, σ0s61/40, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**330**	*e*P	**Pb**	**15 46 11.4**	**+0.1**
BHL				*e*S	**Sg**	**15 46 13.5**	**-0.4**
BHL	**Bhannes**	**0.14**	**330**	*e*P	**Pb**	**15 46 11.4**	**+0.1**
BHL				*e*S	**Sg**	**15 46 13.5**	**-0.4**
DQRL	**Deir Qamar**	**0.16**	**241**	*e*P	**Pb**	**15 46 12.1**	**+0.4**
DQRL				*e*S	**Sb**	**15 46 14.9**	**+0.2**
DQRL	**Deir Qamar**	**0.16**	**241**	*e*P	**Pb**	**15 46 12.1**	**+0.4**
DQRL				*e*S	**Sb**	**15 46 14.9**	**+0.2**
RCY	**Rachaya**	**0.30**	**164**	*e*P	**Pg**	**15 46 13.9**	**+0.3**
RCY				*e*S	**Sg**	**15 46 17.8**	**-0.2**
BRBR	**Barbar**	**0.41**	**154**	*e*P	**Pb**	**15 46 16.2**	**+0.1**
BRBR				*e*S	**Sb**	**15 46 22.1**	**0.0**
BRBR	**Barbar**	**0.41**	**154**	*e*P	**Pb**	**15 46 16.2**	**+0.1**
BRBR				*e*S	**Sb**	**15 46 23.1**	**+1.0**
BRBR				AML	AML	15 46 25.6	
	comp=E,134nm,0.5s						
BRBR				AML	AML	15 46 29.3	
	comp=N,75nm,0.7s						
HWQ	**Hawqa**	**0.52**	**19**	*e*P	**Pg**	**15 46 17.6**	**0.0**
HWQ	**Hawqa**	**0.52**	**19**	*e*P	**Pg**	**15 46 17.6**	**0.0**
MARH	**Ras Al Marh**	**0.66**	**68**	*e*P	**Pn**	**15 46 21.5**	**-0.5**
MARH				*e*S	**Sn**	**15 46 32.0**	**-0.2**
MARH				AML	AML	15 46 36.0	
	comp=N,106nm,0.5s						
MARH				AML	AML	15 46 38.3	
	comp=E,89nm,0.5s						
MARH	**Ras Al Marh**	**0.66**	**68**	*e*P	**Pn**	**15 46 21.4**	**-0.7**
MARH				*e*S	**Sb**	**15 46 30.6**	**+1.1**
MARH				AML	AML	15 46 36.0	
	comp=N,106nm,0.5s						
MARH				AML	AML	15 46 38.3	
	comp=E,89nm,0.5s						
TOTH	**TOTAH**	**0.71**	**126**	*e*P	**Pn**	**15 46 22.4**	**-0.1**
TOTH				*e*S	**Sb**	**15 46 31.6**	**+0.9**
TOTH				AML	AML	15 46 40.8	
	comp=N,39nm,0.5s						
TOTH				AML	AML	15 46 47.3	
	comp=E,30nm,0.4s						
TOTH	**TOTAH**	**0.71**	**126**	*e*P	**Pn**	**15 46 22.3**	**-0.1**
TOTH				*e*S	**Sb**	**15 46 31.6**	**+0.9**
TOTH				AML	AML	15 46 40.8	
	comp=N,39nm,0.5s						
TOTH				AML	AML	15 46 47.3	
	comp=E,30nm,0.4s						
HAWK	**Haweek**	**0.92**	**37**	*e*P	**Pn**	**15 46 25.8**	**+0.4**
HAWK				*e*S	**Sn**	**15 46 38.8**	**+0.5**
HAWK				AML	AML	15 46 44.2	
	comp=E,35nm,0.4s						
HAWK				AML	AML	15 46 48.6	
	comp=N,25nm,0.6s						
HAWK	**Haweek**	**0.92**	**37**	*e*P	**Pn**	**15 46 25.8**	**+0.4**
HAWK				*e*S	**Sg**	**15 46 37.0**	**-0.1**
HAWK				AML	AML	15 46 44.2	
	comp=E,35nm,0.4s						
HAWK				AML	AML	15 46 48.6	
	comp=N,25nm,0.6s						
TCHB	**Talchebab**	**1.13**	**170**	*e*P	**Pg**	**15 46 29.2**	**+0.3**
TCHB				*e*S	**Sn**	**15 46 43.4**	**+0.2**
TCHB				AML	AML	15 46 54.6	
	comp=E,36nm,0.7s						
TCHB				AML	AML	15 46 59.1	
	comp=N,48nm,0.6s						
BIDA	**Albida**	**1.32**	**21**	*e*P	**Pg**	**15 46 32.5**	**0.0**
BIDA				*e*S	**Sg**	**15 46 49.9**	**+0.1**
BIDA				AML	AML	15 46 54.9	
	comp=E,174nm,0.4s						
BIDA				AML	AML	15 46 56.7	
	comp=N,96nm,0.5s						
BIDA	**Albida**	**1.32**	**21**	*e*P	**Pg**	**15 46 32.1**	**-0.4**
BIDA				*e*S	**Sb**	**15 46 47.8**	**-0.3**
BIDA				AML	AML	15 46 54.4	
	comp=Z,82nm,0.6s						
BIDA				AML	AML	15 46 56.6	
	comp=N,96nm,0.5s						
ROOS	**tl_alroos**	**1.34**	**73**	*e*P	**Pb**	**15 46 32.0**	**+0.2**
ROOS				*e*S	**Sn**	**15 46 48.0**	**-0.7**
ROOS				AML	AML	15 47 00.9	
	comp=N,35nm,0.4s						
ROOS				AML	AML	15 47 01.5	
	comp=E,30nm,0.5s						
SALA	**Sala**	**1.36**	**142**	*e*P	**Pn**	**15 46 30.1**	**-1.4**
SALA				*e*S	**Sn**	**15 46 47.4**	**-1.7**
SALA				AML	AML	15 47 00.1	
	comp=E,2.6nm,0.5s						
SALA				AML	AML	15 47 00.3	
	comp=N,26nm,0.4s						
KFRA	**Kufra**	**1.67**	**31**	*e*P	**Pn**	**15 46 36.4**	**+0.8**
KFRA				*e*S	**Sn**	**15 46 55.8**	**-1.0**
KFRA				AML	AML	15 47 04.5	
	comp=N,168nm,0.5s						
KFRA				AML	AML	15 47 10.0	
	comp=E,59nm,0.5s						

*DDA **28** 15:51:09.0, 38°.64N×43°.51E, h7km, Md2.4*

*ISK **28** 15:51:08.9, 38°.68N×43°.25E, h9km, MD2.5*
*ISCJB **28** 15:51:09.4±0.6, 38°.72N±0°.03×43°.27E±0°.07, h13km, Error ellipse: s-maj=8.0km s-min=4.4km az=174.3*
*CSEM **28** 15:51:09.2±0.3, 38°.70N×43°.27E, h10km, MD2.5, Error ellipse: s-maj=10.6km s-min=6.9km az=101.0*
ISC 28 15:51:09.2±0.9, 38°.69N±0°.03×43°.36E±0°.05, h13km, n14, σ1s26/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**168**	*e*PG	**Pb**	**15 51 13.4**	**+1.1**
VANB				*e*SG	**Sb**	**15 51 17.3**	**+2.9**
VANB	**Van**	**0.10**	**168**	*e*Pg	**Pb**	**15 51 13.4**	**+1.1**
VANB				*e*Sg	**Sb**	**15 51 17.3**	**+2.9**
TVAN	**Van**	**0.17**	**168**	*i* P	**Pb**	**15 51 13.6**	**-0.7**
TVAN				*i* S	**Sb**	**15 51 17.4**	**-0.2**
TVAN	**Van**	**0.17**	**168**	P	**Pb**	**15 51 13.6**	**-0.7**
TVAN				S	**Sb**	**15 51 17.4**	**-0.2**
VMUR	**Van-Muradiye**	**0.34**	**29**	*i* P	**Pg**	**15 51 15.8**	**-0.4**
VMUR	**Van-Muradiye**	**0.34**	**29**	P	**Pg**	**15 51 15.8**	**-0.4**
GEVA	**Gevas**	**0.45**	**212**	*i* P	**Pg**	**15 51 16.6**	**-1.5**
GEVA				*i* S	**Sg**	**15 51 25.2**	**+1.1**
GEVA	**Gevas**	**0.45**	**212**	P	**Pg**	**15 51 16.6**	**-1.5**
GEVA				S	**Sg**	**15 51 25.2**	**+1.1**
CLDR	**Caldiran**	**0.62**	**44**	*e*PG	**Pn**	**15 51 22.8**	**-1.2**
CLDR	**Caldiran**	**0.62**	**44**	*e*Pg	**Pn**	**15 51 22.8**	**-1.2**
AGRB	**Hanur-Agry**	**0.93**	**342**	*e*PG	**Pb**	**15 51 27.4**	**+0.1**
AGRB				*e*SG	**Sb**	**15 51 40.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.93**	**342**	*e*Pg	**Pb**	**15 51 27.4**	**+0.1**
AGRB				*e*Sg	**Sb**	**15 51 40.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.78**	**253**	*e*PN	**Pn**	**15 51 39.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.78**	**253**	*e*Pn	**Pn**	**15 51 39.4**	**-0.3**

*CSEM **28** 16:00:58.5, 37°.18N×22°.02E, h5km±2km, ML1.5/6*
ATH 28 16:00:58.5, 37°.18N×22°.02E, h5km±2km, ML1.5/6, Error ellipse: s-maj=2.5km s-min=0.8km az=131.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**268**	P	Pg	16 00 59.9	-0.3
ITM				S	Sg	16 01 00.9	-0.5
ITM				AML	AML	16 01 01.6	
	comp=N,1128μm,0.2s						
ITM				AML	AML	16 01 01.6	
	comp=E,808μm,0.1s						
ITM	**Ithomi**	**0.08**	**268**	P	Pg	16 00 59.9	-0.3
ITM				S	Sg	16 01 00.9	-0.6
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	16 01 05.5	+0.4
VLX				S	Sg	16 01 08.3	-1.3
VLX				AML	AML	16 01 11.3	
	comp=E,95μm,0.3s						
VLX				AML	AML	16 01 11.3	
	comp=N,68μm,0.5s						
VLX	**Vlachokerasia**	**0.34**	**56**	P	Pg	16 01 05.5	+0.4
VLX				S	Sg	16 01 08.3	-1.3
PYL	**PYLOS**	**0.36**	**218**	P	Pg	16 01 05.0	-0.5
PYL				S	Sg	16 01 10.7	+0.4
PYL				AML	AML	16 01 12.4	
	comp=E,89μm,0.2s						
PYL				AML	AML	16 01 12.7	
	comp=N,55μm,0.3s						
PYL	**PYLOS**	**0.36**	**218**	P	Pg	16 01 05.1	-0.4
PYL				S	Sg	16 01 10.7	+0.4
TRIP	**Tripoli**	**0.40**	**30**	P	Pg	16 01 06.5	+0.3
TRIP				S	Sg	16 01 12.3	+0.8
TRIP	**Tripoli**	**0.40**	**30**	P	Pg	16 01 06.5	+0.3
TRIP				S	Sg	16 01 12.3	+0.9
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	16 01 07.5	+0.7
AMT				S	Sg	16 01 13.3	+0.8
AMT				AML	AML	16 01 15.1	
	comp=N,283μm,0.3s						
AMT				AML	AML	16 01 16.6	
	comp=E,177μm,0.3s						
AMT	**Artemida-Makis**	**0.43**	**324**	P	Pg	16 01 07.5	+0.7
AMT				S	Sg	16 01 13.3	+0.8
MES2	**Methoni**	**0.44**	**216**	P	Pg	16 01 07.0	+0.1
MES2				S	Sb	16 01 14.1	-1.4
MES2	**Methoni**	**0.44**	**216**	P	Pg	16 01 07.0	+0.1
MES2				S	Sb	16 01 14.1	-1.4

*ISCJB **28** 16:01:31.9±0.5, 34°.49N±0°.02×36°.29E±0°.04, h10km±4km, Error ellipse: s-maj=5.4km s-min=3.1km az=2.9*
*CSEM **28** 16:01:31.7, 34°.52N×36°.38E, h0km, ML2.7*
*NSSC **28** 16:01:31.6±1.9, 34°.49N×36°.27E, h5km±7km, ML1.9*
*GRAL **28** 16:01:31.7±0.3, 34°.52N×36°.38E, h0km±77km, MD2.7*
ISC 28 16:01:31.3±1.0, 34°.51N±0°.03×36°.36E±0°.04, h9km±9km, n19, σ0s56/34, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.27**	**171**	*e*P	**Pg**	**16 01 36.7**	**-0.1**
FKH				*e*S	**Sg**	**16 01 40.4**	**0.0**
HWQ	**Hawqa**	**0.41**	**236**	*e*P	**Pg**	**16 01 39.4**	**0.0**
HWQ				*e*S	**Sg**	**16 01 45.2**	**+0.3**
HWQ	**Hawqa**	**0.41**	**236**	*e*P	**Pg**	**16 01 39.4**	**0.0**
HWQ				*e*S	**Sg**	**16 01 45.2**	**+0.3**
MARH	**Ras Al Marh**	**0.49**	**168**	*e*P	**Pg**	**16 01 41.0**	**0.0**
MARH				*e*S	**Sg**	**16 01 48.1**	**+0.7**
MARH				AML	AML	16 01 52.6	
	comp=E,76nm,0.3s						
MARH				AML	AML	16 01 57.3	
	comp=N,133nm,0.4s						
BIDA	**Albida**	**0.50**	**356**	*e*P	**Pb**	**16 01 42.5**	**+0.1**
BIDA				*e*S	**Sb**	**16 01 50.3**	**+0.4**
BIDA				AML	AML	16 01 57.3	
	comp=N,172nm,0.5s						
BIDA				AML	AML	16 02 00.5	
	comp=E,213nm,0.4s						
RABH	**Abou Rabah**	**0.70**	**96**	*e*P	**Pn**	**16 01 48.0**	**+0.5**
RABH				*e*S	**Sn**	**16 01 57.3**	**-1.1**
RABH				AML	AML	16 02 04.7	
	comp=E,36nm,0.3s						
RABH				AML	AML	16 02 10.7	
	comp=N,22nm,0.4s						
KFRA	**Kufra**	**0.79**	**27**	*e*P	**Pb**	**16 01 47.1**	**-0.1**
KFRA				*e*S	**Sb**	**16 01 57.6**	**-0.4**
KFRA				AML	AML	16 02 07.3	
	comp=E,89nm,0.5s						
KFRA				AML	AML	16 02 11.6	
	comp=N,187nm,0.3s						
ROOS	**tl_alroos**	**0.84**	**114**	*e*P	**Pn**	**16 01 50.0**	**+0.7**
ROOS				*e*S	**Sn**	**16 02 01.6**	**-0.2**
BHL	**Bhannes**	**0.84**	**224**	*e*P	**Pg**	**16 01 47.1**	**-0.4**
BHL	**Bhannes**	**0.84**	**224**	*e*P	**Pg**	**16 01 47.1**	**-0.4**
DQRL	**Deir Qamar**	**1.04**	**219**	*e*P	**Pg**	**16 01 50.6**	**-0.6**
DQRL	**Deir Qamar**	**1.04**	**219**	*e*P	**Pg**	**16 01 50.6**	**-0.6**
BRBR	**Barbar**	**1.15**	**197**	*e*P	**Pg**	**16 01 53.9**	**+0.5**
BRBR				*e*S	**Sg**	**16 02 07.6**	**-0.7**
BRBR				AML	AML	16 02 20.7	
	comp=E,22nm,0.5s						
BRBR				AML	AML	16 02 20.9	
	comp=N,20nm,0.4s						
TOTH	**TOTAH**	**1.15**	**177**	*e*P	**Pg**	**16 01 52.5**	**-0.8**
TOTH				*e*S	**Sg**	**16 02 08.4**	**+0.2**
TOTH				AML	AML	16 02 11.6	
	comp=N,32nm,0.6s						
TOTH				AML	AML	16 02 16.8	
	comp=E,25nm,0.3s						
ARNB	**Al Arnab**	**1.39**	**347**	*e*P	**Pb**	**16 01 57.5**	**+0.1**
ARNB				*e*S	**Sb**	**16 02 15.1**	**-0.1**
ARNB				AML	AML	16 02 21.9	
	comp=N,47nm,0.4s						
ARNB				AML	AML	16 02 22.0	
	comp=E,44nm,0.3s						
BTCH	**Batrach**	**1.53**	**3**	*e*P	**Pg**	**16 02 00.7**	**+0.1**
BTCH				*e*S	**Sg**	**16 02 20.0**	**-0.5**
BTCH				AML	AML	16 02 29.9	
	comp=N,34nm,0.5s						
BTCH				AML	AML	16 02 34.6	
	comp=E,27nm,0.3s						
SALA	**Sala**	**1.82**	**170**	*e*P	**Pn**	**16 02 04.2**	**+1.2**
SALA				*e*S	**Sn**	**16 02 26.9**	**+0.7**
SALA				AML	AML	16 02 31.7	
	comp=N,28nm,0.8s						
SALA				AML	AML	16 02 33.0	
	comp=E,2.6nm,0.6s						
TCHB	**Talchebab**	**1.86**	**190**	*e*P	**Pn**	**16 02 03.3**	**-0.1**
TCHB				*e*S	**Sn**	**16 02 26.2**	**-0.9**
TCHB				AML	AML	16 02 32.0	
	comp=N,44nm,0.5s						

DRWC	**Darouich**	**2.12**	**7**	*e*P	**Pb**	**16 02 09.2**	**-0.8**
DRWC				*e*S	**Sn**	**16 02 34.0**	**+0.5**
DRWC				AML	AML	16 02 47.0	
	comp=E,23nm,0.4s						
DRWC				AML	AML	16 02 48.9	
	comp=Z,9.3nm,0.6s						
DRWC				AML	AML	16 02 50.4	
	comp=N,14nm,0.5s						

*CSEM **28** 16:01:47.4, 37°.18N×22°.02E, h5km, ML1.6/2*
ATH 28 16:01:47.4, 37°.18N×22°.02E, h5km±2km, ML1.6/2, Error ellipse: s-maj=2.1km s-min=0.7km az=150.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.07**	**268**	P	Pg	16 01 49.0	0.0
ITM				S	Sg	16 01 49.9	-0.3
ITM				AML	AML	16 01 50.6	
	comp=N,1342μm,0.2s						
ITM				AML	AML	16 01 50.9	
	comp=E,766μm,0.1s						
ITM	**Ithomi**	**0.07**	**268**	P	Pg	16 01 49.0	0.0
MES3	**Kyparissia**	**0.28**	**284**	P	Pg	16 01 51.5	-1.3
MES3				S	Sg	16 01 57.5	+0.9
MES3	**Kyparissia**	**0.28**	**284**	P	Pg	16 01 51.5	-1.4
MES3				S	Sg	16 01 57.5	+0.9
VLX	**Vlachokerasia**	**0.35**	**57**	P	Pg	16 01 54.3	+0.2
VLX				S	Sg	16 01 58.4	-0.3
VLX	**Vlachokerasia**	**0.35**	**57**	P	Pg	16 01 54.3	+0.2
VLX				S	Sg	16 01 58.4	-0.3
PYL	**PYLOS**	**0.36**	**217**	P	Pg	16 01 53.8	-0.5
PYL				S	Sg	16 02 00.2	+1.1
PYL	**PYLOS**	**0.36**	**217**	P	Pg	16 01 53.8	-0.5
PYL				S	Sg	16 02 00.2	+1.1
TRIP	**Tripoli**	**0.40**	**30**	P	Pg	16 01 55.4	+0.2
TRIP				S	Sg	16 02 01.1	+0.7
TRIP	**Tripoli**	**0.40**	**30**	P	Pg	16 01 55.3	+0.1
TRIP				S	Sg	16 02 01.1	+0.7
AMT	**Artemida-Makis**	**0.43**	**325**	P	Pg	16 01 56.2	+0.6
AMT				S	Sg	16 02 02.4	+1.1
AMT				AML	AML	16 02 04.1	
	comp=N,324μm,0.3s						
AMT				AML	AML	16 02 05.6	
	comp=E,241μm,0.3s						
AMT	**Artemida-Makis**	**0.43**	**325**	P	Pg	16 01 56.2	+0.6
AMT				S	Sg	16 02 02.4	+1.2
MES2	**Methoni**	**0.43**	**215**	P	Pg	16 01 55.8	+0.1
MES2				S	Sg	16 02 02.6	+1.2
MES2	**Methoni**	**0.43**	**215**	P	Pg	16 01 55.8	+0.1
MES2				S	Sg	16 02 02.6	+1.2
GUR	**Goura**	**0.80**	**19**	P	Pg	16 02 02.0	-0.6
GUR				S	Sb	16 02 14.7	-0.2
GUR	**Goura**	**0.80**	**19**	P	Pg	16 02 02.0	-0.7
GUR				S	Sb	16 02 14.7	-0.2
KLV	**Kalavryta, Ach**	**0.87**	**7**	P	Pg	16 02 03.5	-0.5
KLV				S	Sg	16 02 16.0	+0.7
KLV	**Kalavryta, Ach**	**0.87**	**7**	P	Pg	16 02 03.5	-0.5
KLV				S	Sg	16 02 16.0	+0.7
DID	**Didima**	**1.03**	**71**	P	Pg	16 02 06.7	-0.4
DID	**Didima**	**1.03**	**71**	P	Pg	16 02 06.7	-0.4

*ISCJB **28** 16:02:19.8±0.7, 3°.6N±0°.2×122°.8E±0°.2, h602km, mb3.5/9, Error ellipse: s-maj=37.1km s-min=7.6km az=148.4*
*IDC **28** 16:02:19.4±1.6, 3°.52N×122°.61E, h569km±19km, mb2.9/9, mb1 3.0/9, mb1mx2.7/51, mbtmp3.8/9, Error ellipse: s-maj=76.6km s-min=9.0km az=67.0*
ISC 28 16:02:22.0±0.8, 3°.5N±0°.2×122°.7E±0°.4, h602km, n21, σ1s39/27, mb3.6/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**172**	P	**P**	**16 06 29.9**	**-0.9**
	0.7nm,0.4s,baz=349,slow=6.1,SNR=9.5						
WRA	**Warramunga Arr**	**25.98**	**154**	P	**P**	**16 07 07.7**	**-1.2**
	2.1nm,0.3s,baz=336,slow=9.5,SNR=27						
WRA				S	**S**	**16 10 56.2**	**-2.5**
	0.2nm,0.6s,baz=320,slow=17,SNR=2.4						
WRA				ScP	**ScP**	**16 13 04.1**	**+4.3**
	0.5nm,0.8s,baz=334,slow=3.0,SNR=2.9						
ASAR	**Alice Springs**	**29.16**	**158**	P	**P**	**16 07 36.3**	**-0.2**
	1.0nm,0.5s,baz=338,slow=7.6,SNR=50						
ASAR				PcP	**PcP**	**16 10 23.5**	**-0.7**
	0.3nm,0.9s,baz=348,slow=3.9,SNR=3.1						
ASAR				S	**S**	**16 11 48.2**	**+0.3**
	0.4nm,1.0s,baz=328,slow=13,SNR=3.4						
ASAR				ScP	**ScP**	**16 13 13.7**	**+4.0**
	0.6nm,0.8s,baz=344,slow=2.6,SNR=9.1						
STKA	**Stephens Creek**	**39.54**	**154**	P	**P**	**16 09 03.1**	**+0.4**
	1.1nm,0.4s,baz=331,slow=6.7,SNR=4.7						
TAPN	**Taplejung**	**40.93**	**309**	*e*P	**P**	**16 09 13.7**	**-0.5**
	3.1nm,0.4s						
RAMN	**Ramite**	**41.61**	**308**	*e*P	**P**	**16 09 19.5**	**+0.1**
	6.8nm,0.6s						
JIRN	**Jiri**	**42.26**	**308**	*e*P	**P**	**16 09 24.4**	**-0.3**
	40nm,0.5s						
GUN	**Gumba**	**42.62**	**308**	*e*P	**P**	**16 09 27.3**	**-0.2**
	16nm,0.7s						
PKI	**Pulchoki**	**42.83**	**308**	*e*P	**P**	**16 09 28.4**	**-0.7**
	3.6nm,0.5s						
PKIN	**Phulchoki**	**42.85**	**308**	*e*P	**P**	**16 09 29.3**	**+0.2**
KKN	**Kakani**	**43.04**	**308**	*e*P	**P**	**16 09 29.9**	**-0.6**
DMN	**Daman**	**43.09**	**308**	*e*P	**P**	**16 09 30.8**	**-0.2**
GKN	**Gorkha**	**43.64**	**308**	*e*P	**P**	**16 09 35.8**	**+0.7**
KOLN	**Koldanda**	**44.36**	**307**	*e*P	**P**	**16 09 40.8**	**+0.1**
	11nm,0.6s						
DANN	**Dangsing**	**44.49**	**308**	*e*P	**P**	**16 09 42.0**	**+0.2**
PYUN	**Piuthan**	**44.99**	**307**	*e*P	**P**	**16 09 45.6**	**+0.1**
	17nm,0.6s						
SONM	**Songino Array**	**46.32**	**345**	P	**P**	**16 09 54.8**	**-0.4**
	0.3nm,0.3s,baz=139,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**55.48**	**327**	P	**P**	**16 11 01.2**	**0.0**
	0.6nm,0.4s,baz=127,slow=8.0,SNR=14						
MKAR				PcP	**PcP**	**16 11 51.8**	**-0.3**
	0.7nm,0.6s,baz=142,slow=3.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**59.00**	**335**	P	**P**	**16 11 24.4**	**-0.5**
	0.3nm,0.3s,baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1μm,0.3s						
AAA	**Alma-Ata**	**1.23**	**337**	*e*PG	**Pg**	**16 12 37.5**	**-0.7**
AAA				*e*S	**Sg**	**16 12 54.5**	**+0.3**
AAA	comp=Z,10μm,0.2s			pmax	pmax		
AAA	comp=N,5μm,0.2s			smax	smax		
AAA	**Alma-Ata**	**1.23**	**337**	*e*P	**Pg**	**16 12 37.6**	**-0.7**
AAA	comp=N,10μm,0.3s			*e*S	**Sg**	**16 12 54.7**	**+0.4**
	comp=N,5μm,0.2s						
BOOM	**Boomskoye usch**	**1.27**	**290**	⇑*i*P	**Pg**	**16 12 37.3**	**-1.8**
BOOM	baz=290			⇑*i*S	**Sg**	**16 12 54.8**	**-0.8**
	baz=290						
MTBS	**Maitube**	**1.34**	**322**	*e*P	**Pn**	**16 12 38.7**	**-1.1**
MTBS	comp=N,343nm,0.1s			*e*S	**Sg**	**16 12 56.8**	**-1.1**
	comp=N,1μm,0.2s						
KURS	**Kuram**	**1.48**	**18**	*e*P	**Pn**	**16 12 41.5**	**-0.1**
KURS	comp=N,88nm,0.1s			*e*S	**Sb**	**16 13 01.1**	**-0.3**
	comp=N,296nm,0.5s						
KST	**Kastek**	**1.52**	**310**	*e*P	**Pn**	**16 12 41.7**	**-0.6**
KST	comp=N,85nm,0.2s			*e*S	**Sn**	**16 13 01.7**	**-0.7**
	comp=N,2μm,0.3s						
TKM2	**Tokmak 2**	**1.68**	**301**	⇓*i*P	**Pn**	**16 12 44.4**	**-0.2**
TKM2	baz=301			⇓*i*S	**Sn**	**16 13 06.7**	**+0.4**
	baz=301						
TKM2	**Tokmak 2**	**1.68**	**301**	⇑P	**Pn**	**16 12 44.3**	**-0.2**
TKM2	comp=N,66nm,0.4s			⇑S	**Sn**	**16 13 07.0**	**+0.6**
	comp=N,309nm,0.3s						
TKM2	**Tokmak 2**	**1.68**	**301**	PN	**Pn**	**16 12 44.3**	**-0.2**
TKM2				S	**Sn**	**16 13 06.9**	**+0.6**
TKM2	comp=Z,66nm,0.4s			pmax	pmax		
TKM2	comp=N,309nm,0.4s			smax	smax		
KTBS	**Karatobe**	**1.76**	**339**	*e*P	**Pb**	**16 12 47.0**	**-0.1**
KTBS				*e*S	**Sb**	**16 13 10.9**	**+1.5**
DGS	**Degeres**	**1.76**	**312**	*e*P	**Pn**	**16 12 46.5**	**+1.0**
DGS	comp=N,173nm,0.2s			*e*S	**Sn**	**16 13 10.2**	**+2.0**
	comp=N,1μm,0.5s						
SHLS	**Shalkode**	**1.77**	**52**	*e*P	**Pg**	**16 12 50.8**	**+2.1**
SHLS	comp=N,119nm,0.3s			*e*S	**Sg**	**16 13 17.6**	**+5.9**
	comp=N,1μm,0.5s						
CHKK	**Chushkaly**	**1.82**	**347**	*e*P	**Pb**	**16 12 48.0**	**-0.3**
PDGK	**Podgornoye**	**1.90**	**48**	⇓*i*P	**Pn**	**16 12 48.4**	**+1.0**
PDGK	baz=48			⇓*i*S	**Sb**	**16 13 13.4**	**-0.1**
	baz=48						
PDGK	**Podgornoye**	**1.90**	**48**	⇓P	**Pn**	**16 12 48.2**	**+0.8**
PDGK	comp=N,21nm,0.2s			⇑S	**Sb**	**16 13 13.4**	**-0.1**
	comp=N,438nm,0.4s						
PDGK	**Podgornoye**	**1.90**	**48**	PN	**Pn**	**16 12 48.2**	**+0.8**
PDGK				S	**Sb**	**16 13 13.3**	**-0.1**
PDGK	comp=Z,21nm,0.2s			pmax	pmax		
PDGK	comp=N,438nm,0.4s			smax	smax		
KBK	**Karagaybulak**	**2.02**	**288**	⇑*i*P	**Pn**	**16 12 50.3**	**+1.1**
KBK	baz=288			⇑*i*S	**Sn**	**16 13 16.5**	**+1.8**
	baz=288						
KUU	**Kurty**	**2.02**	**334**	*e*P	**Pn**	**16 12 50.6**	**+1.6**
KUU	comp=N,367nm,0.3s			*e*S	**Sb**	**16 13 17.4**	**+0.4**
	comp=N,1μm,0.4s						
MNBS	**Baschi**	**2.09**	**17**	*e*P	**Pb**	**16 12 52.2**	**-0.8**
MNBS				*e*S	**Sb**	**16 13 20.3**	**+1.1**
ARXS	**Arharly**	**2.14**	**5**	*e*P	**Pb**	**16 12 53.0**	**-0.8**
ARXS	comp=N,241nm,0.3s			*e*S	**Sb**	**16 13 21.7**	**+1.1**
	comp=N,1μm,0.3s						
UCH	**Uchtor**	**2.27**	**275**	⇑*i*P	**Pn**	**16 12 54.6**	**+1.7**
UCH	baz=275			⇑*i*S	**Sn**	**16 13 24.1**	**+2.9**
	baz=275						
CHMS	**Chumysh**	**2.27**	**295**	⇑*i*P	**Pn**	**16 12 53.8**	**+1.3**
CHMS	baz=295			⇑*i*S	**Sn**	**16 13 22.4**	**+1.8**
	baz=295						
FRU1	**Bishkek**	**2.29**	**290**	⇑*i*P	**Pn**	**16 12 53.8**	**+1.0**
FRU1	baz=290			⇑*i*S	**Sn**	**16 13 23.5**	**+2.4**
	baz=290						
AAK	**Ala-Archa**	**2.34**	**285**	Pn	**Pn**	**16 12 55.5**	**+2.0**
AAK	comp=N,20nm,0.3s,baz=104,slow=10.0,SNR=142			Lg	Lg	16 13 26.7	
	comp=N,80nm,0.3s,baz=235,slow=22,SNR=77						
AAK	**Ala-Archa**	**2.34**	**285**	⇓*i*P	**Pn**	**16 12 55.4**	**+1.8**
AAK	baz=285			⇓*i*S	**Sn**	**16 13 25.6**	**+3.1**
	baz=285						
AAK	**Ala-Archa**	**2.34**	**285**	⇑Pn	**Pn**	**16 12 55.6**	**+2.0**
AAK	comp=N,10nm,0.2s			⇑Lg	Lg	16 13 27.2	
	comp=N,177nm,0.5s						
AAK	**Ala-Archa**	**2.34**	**285**	*i* PN	**Pn**	**16 12 55.5**	**+2.0**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.2s						
ARLS	**Aral**	**2.42**	**266**	⇑*i*P	**Pn**	**16 12 55.3**	**+0.6**
ARLS	baz=266			⇑*i*S	**Sn**	**16 13 26.3**	**+1.7**
	baz=266						
USP	**Ospenovka**	**2.55**	**299**	⇑*i*P	**Pn**	**16 12 57.3**	**+1.0**
USP	baz=299			⇑*i*S	**Sn**	**16 13 29.2**	**+1.6**
	baz=299						
DJR	**Jarkent**	**2.78**	**35**	*e*P	**Pb**	**16 13 03.0**	**-1.7**
DJR	comp=Z,119nm,0.4s			*e*S	**Sb**	**16 13 38.6**	**-0.4**
	comp=Z,682nm,0.5s						
EKS2	**Erkin-Say**	**2.86**	**283**	⇑*e*P	**Pn**	**16 13 03.8**	**+3.1**
EKS2	baz=283			⇑*i*S	**Sn**	**16 13 38.4**	**+3.0**
	baz=283						
AML	**Almayashu**	**2.88**	**272**	⇑*i*P	**Pn**	**16 13 03.7**	**+2.6**
AML	baz=273			⇑*i*S	**Sn**	**16 13 40.0**	**+3.9**
	baz=273						
TDK	**Taldygorghan**	**2.99**	**12**	*e*P	**Pb**	**16 13 07.3**	**-0.8**
TDK	comp=Z,204nm,0.4s			*e*S	**Sb**	**16 13 45.7**	**+0.9**
	comp=Z,989nm,0.4s						
KAPS	**Kapalarasan**	**3.46**	**22**	*e*P	**Pb**	**16 13 15.7**	**-0.5**
KAPS	comp=Z,38nm,0.4s			*e*S	**Sb**	**16 13 59.9**	**+1.5**
	comp=Z,220nm,0.5s						
ARSB	**Arslanbob**	**3.51**	**259**	⇑*i*P	**Pn**	**16 13 10.3**	**+0.7**
ARSB	baz=259			⇑*i*S	**Sn**	**16 13 51.5**	**+0.2**
	baz=259						
SFK	**Sufi-Kurgan**	**3.69**	**237**	⇑*i*P	**Pn**	**16 13 12.8**	**+0.5**
SFK	baz=237			⇑*i*S	**Sn**	**16 13 56.1**	**0.0**
	baz=237						
MNAS	**Manas**	**3.77**	**278**	⇑*i*P	**Pn**	**16 13 14.0**	**+0.8**
MNAS	baz=278			⇑*i*S	**Sn**	**16 13 58.5**	**+0.6**
	baz=278						
MNAS	**Manas**	**3.77**	**278**	⇓Pn	**Pn**	**16 13 15.4**	**+2.1**
MNAS	comp=Z,2.8nm,0.6s			⇑Lg	Lg	16 14 12.3	
	comp=Z,63nm,0.9s						
MNAS	**Manas**	**3.77**	**278**	*i* PN	**Pn**	**16 13 15.4**	**+2.1**
MNAS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BTLS	**Baital**	**3.91**	**320**	*e*P	**Pb**	**16 13 24.9**	**+1.1**
BTLS	comp=Z,21nm,0.3s			*e*S	**Sb**	**16 14 15.5**	**+4.2**
	comp=Z,114nm,0.5s						
ARK	**Arkit**	**4.18**	**268**	⇑*i*P	**Pn**	**16 13 19.6**	**+0.7**
ARK	baz=268			⇑*i*S	**Sn**	**16 14 07.7**	**-0.2**
	baz=268						
KK31	**Karatay Array**	**5.30**	**284**	⇑Pg	**Pb**	**16 13 49.3**	**+1.7**
KK31	comp=Z,2.5nm,0.4s,baz=93,slow=15,SNR=12			Lg	Lg	16 14 58.2	
	comp=Z,29nm,0.5s,baz=98,slow=32,SNR=15						
KK31	**Karatay Array**	**5.30**	**284**	PN	**Pb**	**16 13 49.2**	**+1.7**
KK31						16 14 58.2	
KK31	comp=Z,3.0nm,0.4s			pmax	pmax		
KK31	comp=N,29nm,0.5s			pmax	pmax		
IUG	**Iuzhnay**	**5.60**	**273**	*e*P	**Pb**	**16 13 56.7**	**+4.0**
IUG	comp=N,13nm,0.6s			*e*S	**Sg**	**16 15 10.4**	**-4.0**
	comp=N,74nm,0.6s						
MAKZ	**Makanchi**	**5.69**	**32**	⇑Pn	**Pn**	**16 13 41.6**	**+2.1**
MAKZ	comp=N,1.6nm,0.3s			⇑Lg	Lg	16 15 12.4	
	comp=N,13nm,0.5s						
MAKZ	**Makanchi**	**5.69**	**32**	PN	**Pn**	**16 13 41.6**	**+2.1**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK31	**Makanchi Array**	**5.81**	**34**	⇑Pn	**Pn**	**16 13 42.2**	**+1.2**
MK31	comp=Z,2.0nm,0.3s			⇑Lg	Lg	16 15 14.8	
	comp=Z,8.2nm,0.5s						
MK31	**Makanchi Array**	**5.81**	**34**	*i* PN	**Pn**	**16 13 42.2**	**+1.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MKAR	**Makanchi Array**	**5.81**	**34**	Pn	**Pn**	**16 13 42.6**	**+1.6**
MKAR	comp=Z,0.6nm,0.3s,baz=216,slow=15,SNR=32			Sn	**Sn**	**16 14 50.2**	**+2.4**
	comp=Z,2.2nm,0.3s,baz=218,slow=26,SNR=3.4						
KURBB	**Kurchatov Arra**	**8.57**	**4**	Pn	**Pn**	**16 14 17.4**	**-1.6**
KURBB	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=3.8			Lg	Lg	16 16 44.1	
	comp=Z,0.4nm,0.3s,baz=196,slow=30,SNR=5.8						
KURBB	**Kurchatov Arra**	**8.57**	**4**	⇑Pn	**Pn**	**16 14 19.6**	**+0.7**
KURBB	comp=Z,5.1nm,0.8s			⇓Sn	**Sn**	**16 15 59.0**	**+3.2**
	comp=Z,11nm,0.7s						
KURBB				⇓Lg	Lg	16 16 44.3	
	comp=Z,72nm,0.7s						
KURK	**Kurchatov**	**8.67**	**4**	⇑Pn	**Pn**	**16 14 20.5**	**+0.2**
KURK	comp=Z,0.9nm,0.3s			⇑Sn	**Sn**	**16 15 59.1**	**+0.9**
	comp=Z,1.8nm,0.5s						
KURK				⇑Lg	Lg	16 16 46.4	
	comp=Z,26nm,0.8s						
KURK	**Kurchatov**	**8.67**	**4**	*e*P	**Pn**	**16 14 20.1**	**-0.2**
BVA0	**Borovoye Array**	**11.97**	**339**	⇑Pn	**Pn**	**16 15 08.4**	**+3.0**
BVA0	comp=Z,1.4nm,0.5s,baz=138,slow=13,SNR=15			⇑Lg	Lg	16 18 32.6	
	comp=Z,14nm,1.1s,baz=144,slow=28,SNR=3.9						
BVA0	**Borovoye Array**	**11.97**	**339**	P	**Pn**	**16 15 08.4**	**+3.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**11.97**	**339**	Pn	**Pn**	**16 15 03.6**	**-1.8**
BVAR	comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=3.1			Lg	Lg	16 18 28.7	
	comp=Z,0.6nm,0.3s,baz=142,slow=31,SNR=6.5						
BRVK	**Borovoye**	**12.03**	**338**	⇑Pn	**Pn**	**16 15 09.6**	**+3.4**
BRVK	comp=Z,2.6nm,0.6s			⇑Lg	Lg	16 18 32.6	
	comp=Z,16nm,1.1s						
BRVK	**Borovoye**	**12.03**	**338**	*e*P	**Pn**	**16 15 05.9**	**-0.3**
ZALV	**Zalesovo Beam**	**12.82**	**20**	Pn	**Pn**	**16 15 17.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=208,slow=16,SNR=2.1						
AB31	**Akbulak array**	**14.24**	**306**	*i* P	**Pn**	**16 15 37.9**	**+1.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**18.88**	**326**	*e*P	**P**	**16 16 33.9**	**-1.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**21.13**	**64**	P	**P**	**16 16 58.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=267,slow=10,SNR=4.4						
ULN	**Ulaanbaatar**	**21.58**	**64**	*e*P	**P**	**16 17 05.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.2s						
OBN	**Obninsk**	**29.62**	**310**	*i* P	**P**	**16 18 18.9**	**-1.2**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**70.85**	**271**	P	**P**	**16 23 29.5**	**-2.7**
	comp=Z,0.4nm,0.6s,baz=47,slow=4.9,SNR=3.5						
WRA	**Warramunga Arr**	**80.95**	**127**	P	**P**	**16 24 26.5**	**-3.2**
	comp=Z,0.3nm,0.5s,baz=332,slow=5.4,SNR=2.9						

ISK ***28*** *16:22:44.4,38°.74N×43°.50E,h5km,ML3.2*
ISCJB ***28*** *16:22:45.9±0.5,38°.73N±0'.02×43'.52E±0'.05,h7km±4km, Error ellipse: s-maj=6.5km s-min=3.3km az=7.7*
CSEM ***28*** *16:22:45.3±0.2,38°.73N×43°.56E,h5km,ML3.2,Error ellipse: s-maj=5.3km s-min=3.2km az=96.0*
DDA ***28*** *16:22:45.3,38°.71N×43°.51E,h7km,Md2.5*
ISC 28 16:22:46.3±0.9,38.73N±0'.02×43.52E±0'.03,h10km±7km, n42,σ1§35/68,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**217**	*e*PG	**Pg**	**16 22 50.5**	**+0.3**
VANB	**Van**	**0.17**	**217**	*e*Pg	**Pg**	**16 22 50.5**	**+0.3**
TVAN	**Van**	**0.22**	**204**	*i* P	**Pg**	**16 22 50.1**	**-1.0**
TVAN				*i* S	**Sg**	**16 22 55.2**	**+0.9**
TVAN	**Van**	**0.22**	**204**	P	**Pg**	**16 22 50.1**	**-1.0**
TVAN				S	**Sg**	**16 22 55.2**	**+0.9**
VMUR	**Van-Muradiye**	**0.26**	**8**	*i* P	**Pg**	**16 22 51.2**	**-0.5**
VMUR				*i* S	**Sb**	**16 22 56.8**	**-1.0**
VMUR	**Van-Muradiye**	**0.26**	**8**	P	**Pg**	**16 22 51.2**	**-0.5**
VMUR				S	**Sb**	**16 22 56.8**	**-1.0**
ERCV	**ERCIS-VAN**	**0.32**	**333**	*e*PG	**Pg**	**16 22 51.9**	**-1.0**
ERCV				*e*SG	**Sg**	**16 22 57.0**	**-0.2**
ERCV	**ERCIS-VAN**	**0.32**	**333**	*e*Pg	**Pg**	**16 22 51.9**	**-1.0**
ERCV				*e*Sg	**Sg**	**16 22 57.0**	**-0.2**
CLDR	**Caldiran**	**0.51**	**37**	*e*PG	**Pg**	**16 22 55.2**	**-1.1**
CLDR				*e*SG	**Sb**	**16 23 04.2**	**-0.9**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pg**	**16 22 54.9**	**-1.5**
CLDR				*i* S	**Sn**	**16 23 11.7**	**+2.8**
CLDR	**Caldiran**	**0.51**	**37**	P	**Pg**	**16 22 54.9**	**-1.5**
CLDR	**Caldiran**	**0.51**	**37**	*e*Pg	**Pg**	**16 22 55.3**	**-1.1**
GEVA	**Gevas**	**0.56**	**221**	*i* P	**Pg**	**16 22 56.0**	**-1.2**
GEVA				*i* S	**Sb**	**16 23 04.8**	**-1.5**
GEVA	**Gevas**	**0.56**	**221**	P	**Pg**	**16 22 56.0**	**-1.2**
GEVA				S	**Sb**	**16 23 04.8**	**-1.5**
DYDN	**Diyadin**	**0.82**	**9**	*i* P	**Pg**	**16 23 01.0**	**-1.2**
DYDN				*i* S	**Sb**	**16 23 14.5**	**+0.5**
DYDN	**Diyadin**	**0.82**	**9**	P	**Pg**	**16 23 01.0**	**-1.2**
DYDN				S	**Sb**	**16 23 14.5**	**+0.5**
TUTA	**Tutak**	**0.87**	**321**	*i* P	**Pg**	**16 23 02.0**	**-1.1**
TUTA				*i* S	**Sb**	**16 23 14.8**	**-0.6**
TUTA	**Tutak**	**0.87**	**321**	P	**Pg**	**16 23 02.0**	**-1.1**
TUTA				S	**Sb**	**16 23 14.8**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*PG	**Pg**	**16 23 02.7**	**-1.7**
AGRB				*e*SG	**Sb**	**16 23 17.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*Pg	**Pg**	**16 23 02.7**	**-1.7**
AGRB				*e*Sg	**Sb**	**16 23 17.1**	**-0.3**
TATV	**Tatvan**	**1.01**	**258**	*i* P	**Pg**	**16 23 03.8**	**-2.0**
TATV				*i* S	**Sb**	**16 23 18.3**	**-1.1**
TATV	**Tatvan**	**1.01**	**258**	P	**Pg**	**16 23 03.8**	**-2.0**
TATV				S	**Sb**	**16 23 18.3**	**-1.1**
HAKT	**HAKKARI**	**1.18**	**173**	*i* P	**Pg**	**16 23 06.7**	**-2.4**
HAKT				*i* S	**Sb**	**16 23 24.1**	**-0.3**
HAKT	**HAKKARI**	**1.18**	**173**	P	**Pg**	**16 23 06.7**	**-2.4**
HAKT				S	**Sb**	**16 23 24.1**	**-0.3**
EKAR	**Karacoban**	**1.25**	**295**	*i* P	**Pn**	**16 23 11.1**	**+1.0**
EKAR				*i* S	**Sn**	**16 23 31.0**	**+3.9**
EKAR	**Karacoban**	**1.25**	**295**	P	**Pn**	**16 23 11.1**	**+1.0**
EKAR				S	**Sn**	**16 23 31.0**	**+3.9**
EATA	**Eleskirt**	**1.38**	**325**	*i* P	**Pg**	**16 23 11.8**	**-1.2**
EATA				*i* S	**Sn**	**16 23 31.3**	**+0.8**
EATA	**Eleskirt**	**1.38**	**325**	P	**Pg**	**16 23 11.8**	**-1.2**
EATA				S	**Sn**	**16 23 31.3**	**+0.8**
CUKT	**Cukurca**	**1.48**	**177**	*e*PN	**Pb**	**16 23 13.0**	**-1.1**
CUKT	**Cukurca**	**1.48**	**177**	*i* P	**Pg**	**16 23 13.8**	**-1.1**
CUKT				*i* S	**Sg**	**16 23 36.1**	**+2.1**
CUKT	**Cukurca**	**1.48**	**177**	*e*Pn	**Pb**	**16 23 13.0**	**-1.1**
CUKT	**Cukurca**	**1.48**	**177**	P	**Pg**	**16 23 13.8**	**-1.1**
CUKT				S	**Sg**	**16 23 36.2**	**+2.1**
VRTB	**Varto-Mus**	**1.67**	**285**	*e*PN	**Pn**	**16 23 15.6**	**-0.1**
VRTB	**Varto-Mus**	**1.67**	**285**	*e*Pn	**Pn**	**16 23 15.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*PN	**Pn**	**16 23 19.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*Pn	**Pn**	**16 23 19.0**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*PN	**Pn**	**16 23 21.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.04**	**334**	*e*Pn	**Pn**	**16 23 21.0**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*PN	**Pn**	**16 23 26.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*Pn	**Pn**	**16 23 26.3**	**+0.2**
MAZI	**Mazidag**	**2.74**	**243**	*e*PN	**Pn**	**16 23 30.8**	**+0.3**
MAZI	**Mazidag**	**2.74**	**243**	*e*Pn	**Pn**	**16 23 30.8**	**+0.3**

NEIC ***28*** *16:34:10.0±0.0,38°.91N×43°.62E,h5km,mb4.4/12, ML4.4(DDA),ML4.5(ISK),After ISK.*
CSEM ***28*** *16:34:10.5±0.1,38°.78N×43°.71E,h2km,ML4.5,Error ellipse: s-maj=4.6km s-min=2.5km az=166.0*
AZER ***28*** *16:34:10.6±0.8,38°.72N×43°.81E,h0km±10km,Error ellipse: s-maj=12.8km s-min=4.2km az=65.0*
DDA ***28*** *16:34:10.7,38°.90N×43°.58E,h12km,Ml4.5*
ISK ***28*** *16:34:10.8,38°.91N×43°.62E,h5km,ML4.4*
DSN ***28*** *16:34:11.8±1.4,38°.79N×43°.89E,h5km,Error ellipse: s-maj=37.3km s-min=6.8km az=73.0*
IDC ***28*** *16:34:11.2±0.8,38°.90N×43°.67E,h0km,mb3.9/15, mb1 4.0/21,mb1mx3.9/40,mbtmp3.9/21,ML3.9/4,MS3.8/27, Ms1 3.8/27,ms1mx3.7/49,Error ellipse: s-maj=14.7km s-min=9.6km az=171.0*
MOS ***28*** *16:34:13.1±1.8,38°.96N×43°.66E,h10km,mb4.6/17,Error ellipse: s-maj=6.8km s-min=4.5km az=111.8*
NSSC ***28*** *16:34:16.4±2.2,37°.40N×43°.97E,h5km±999km,ML3.3*
ISC 28 16:34:11.2±0.7,38°.87N±0'.01×43'.61E±0'.01,h2km±4km, n372,σ2§27/460,mb4.3/47,MS3.8/26,52C-47D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**346**	⇓*i*P	**Pg**	**16 34 12.8**	**-0.8**
VMUR				*i* S	**Sg**	**16 34 15.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.12**	**346**	*i* P	**Pg**	**16 34 13.1**	**-0.5**
VMUR				*i* S	**Sg**	**16 34 15.9**	**+0.6**
VMUR	**Van-Muradiye**	**0.12**	**346**	*i* P	**Pg**	**16 34 13.1**	**-0.5**
VMUR				*i* S	**Sg**	**16 34 15.9**	**+0.6**
ERCV	**ERCIS-VAN**	**0.26**	**305**	*e*PG	**Pg**	**16 34 16.6**	**+0.4**
ERCV	**ERCIS-VAN**	**0.26**	**305**	*e*Pg	**Pg**	**16 34 16.6**	**+0.4**
VANB	**Van**	**0.33**	**212**	*e*PG	**Pb**	**16 34 20.6**	**+0.8**
VANB				*e*SG	**Sb**	**16 34 27.7**	**+2.2**
VANB	**Van**	**0.33**	**212**	*e*Pg	**Pb**	**16 34 20.6**	**+0.8**
CLDR	**Caldiran**	**0.36**	**41**	*e*PG	**Pg**	**16 34 18.1**	**-0.1**
CLDR				*e*SG	**Sb**	**16 34 24.2**	**-2.5**
CLDR	**Caldiran**	**0.36**	**41**	⇑*i*P	**Pg**	**16 34 17.9**	**-0.3**
CLDR				*i* S	**Sb**	**16 34 24.9**	**-1.8**
CLDR	**Caldiran**	**0.36**	**41**	*e*Pg	**Pg**	**16 34 18.1**	**-0.1**
CLDR				*e*Sg	**Sb**	**16 34 24.2**	**-2.5**
CLDR	**Caldiran**	**0.36**	**41**	*i* P	**Pg**	**16 34 17.9**	**-0.3**
TVAN	**Van**	**0.38**	**205**	⇑*i*P	**Pg**	**16 34 19.5**	**+1.1**
TVAN				*i* S	**Sb**	**16 34 28.2**	**+1.2**
DYDN	**Diyadin**	**0.67**	**5**	⇓*i*P	**Pg**	**16 34 23.1**	**-1.1**
DYDN				*i* S	**Sb**	**16 34 32.7**	**-2.9**
DYDN	**Diyadin**	**0.67**	**5**	*i* P	**Pg**	**16 34 23.3**	**-0.8**
DYDN	**Diyadin**	**0.67**	**5**	*i* P	**Pg**	**16 34 23.3**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.69**	**265**	⇑*i*P	**Pg**	**16 34 24.0**	**-0.5**
ADCV				*i* S	**Sb**	**16 34 35.0**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.69**	**265**	P	**Pg**	**16 34 24.0**	**-0.5**
ADCV				S	**Sb**	**16 34 35.0**	**-1.2**
GEVA	**Gevas**	**0.71**	**218**	⇑*i*P	**Pg**	**16 34 24.5**	**-0.2**
GEVA				*i* S	**Sn**	**16 34 38.1**	**-1.7**
GEVA	**Gevas**	**0.71**	**218**	P	**Pg**	**16 34 24.5**	**-0.2**
GEVA	**Gevas**	**0.71**	**218**	*i* P	**Pg**	**16 34 24.8**	**+0.1**
TUTA	**Tutak**	**0.81**	**311**	⇓*i*P	**Pg**	**16 34 25.2**	**-1.6**
TUTA				*i* S	**Sb**	**16 34 37.2**	**-2.5**
AGRB	**Hanur-Agry**	**0.85**	**326**	*e*PG	**Pg**	**16 34 27.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.85**	**326**	*e*Pg	**Pg**	**16 34 27.0**	**-0.5**
BASK	**Baskale_VAN**	**0.87**	**159**	⇓*i*P	**Pg**	**16 34 28.5**	**+0.5**
BASK				*i* S	**Sn**	**16 34 46.7**	**+2.7**
TATV	**Tatvan**	**1.11**	**251**	⇑*i*P	**Pg**	**16 34 31.2**	**-1.3**
TATV				*i* S	**Sg**	**16 34 46.7**	**-0.2**
TATV	**Tatvan**	**1.11**	**251**	P	**Pg**	**16 34 31.2**	**-1.3**
TATV				S	**Sg**	**16 34 46.7**	**-0.2**
EKAR	**Karacoban**	**1.26**	**288**	⇑*i*P	**Pn**	**16 34 34.1**	**-2.0**
EKAR				*i* S	**Sn**	**16 34 54.7**	**+1.0**
HAKT	**HAKKARI**	**1.31**	**177**	⇓*i*P	**Pn**	**16 34 35.5**	**-1.3**
HAKT				*i* S	**Sg**	**16 34 58.8**	**+5.4**
EATA	**Eleskirt**	**1.31**	**319**	⇓*i*P	**Pn**	**16 34 34.5**	**-2.4**
EATA				*i* S	**Sn**	**16 34 53.8**	**-1.3**
NAX	**Nakhchivan**	**1.50**	**78**	⇑P	**Pn**	**16 34 37.2**	**-1.9**
NAX				⇑S	**Sn**	**16 34 57.0**	**-2.3**
NAX	**Nakhchivan**	**1.50**	**78**	P	**Pn**	**16 34 37.2**	**-1.9**
NAX				S	**Sn**	**16 34 57.0**	**-2.3**
GNI	**Garni**	**1.55**	**34**	Pn	**Pg**	**16 34 40.3**	**-0.6**
GNI	86nm,0.3s,baz=226,slow=3.1,SNR=266			Lg	Lg	16 35 01.8	
	146nm,0.3s,baz=125,slow=23,SNR=14						
GNI	**Garni**	**1.55**	**34**	*e*P	**Pg**	**16 34 39.8**	**-1.1**
	SNR=118						
GNI	**Garni**	**1.55**	**34**	*e*Pg	**Pg**	**16 34 39.9**	**-1.0**
GNI	**Garni**	**1.55**	**34**	*i* P	**Pg**	**16 34 39.9**	**-1.0**
GNI	**Garni**	**1.55**	**34**	*e*Pn	**Pg**	**16 34 40.4**	**-0.5**
GNI				*e*Sn	**Sg**	**16 35 02.1**	**+1.2**
GNI	**Garni**	**1.55**	**34**	*e*Pn	**Pg**	**16 34 40.4**	**-0.5**
GNI				*e*Sn	**Sg**	**16 35 02.1**	**+1.2**
DIGO	**Kars**	**1.55**	**353**	⇓*i*P	**Pg**	**16 34 39.7**	**-1.2**
DIGO				*i* S	**Sg**	**16 35 05.7**	**+4.6**
DIGO	**Kars**	**1.55**	**353**	P	**Pg**	**16 34 39.7**	**-1.2**
DIGO		

EPOS Posof 2.71 346 P Pb 16 34 58.3 -2.2
MARD Mardin 2.72 236 *i* P Pn 16 34 55.8 -0.2
MARD Mardin 2.72 236 *e*Pn Pn 16 34 56.8 +0.8
MARD Mardin 2.72 236 *e*Pn Pn 16 34 56.8 +0.8
GANJ Ganja 2.74 49 ⇑P Pn 16 34 55.8 -0.4
GANJ ⇑S Sb 16 35 30.0 -5.0
GANJ Ganja 2.74 49 P Pn 16 34 55.8 -0.4
GANJ S Sb 16 35 30.0 -5.0
MAZI Mazidag 2.86 241 *e*PN Pb 16 34 59.8 -3.2
MAZI Mazidag 2.86 241 *e*Pn Pb 16 34 59.8 -3.2
DBOC Borcka 2.88 330 *i* P Pb 16 35 01.4 -1.9
DBOC Borcka 2.88 330 P Pb 16 35 01.5 -1.9
DIYA Diyarbakir 2.90 252 *i* P Pn 16 34 56.6 -1.8
DIYA *i* S Sg 16 35 43.9 -0.4
DIYA Diyarbakir 2.90 252 P Pn 16 34 56.6 -1.8
DGRG David-gareji 2.91 27 P Pg 16 35 05.1 -1.8
DGRG S Sg 16 35 50.4 +5.8
DGRG David-gareji 2.91 27 P Pg 16 35 05.1 -1.8
DGRG David-gareji 2.91 27 P Pn 16 34 58.9 +0.4
TBLG Delisi 2.98 16 *e*PN Pb 16 35 00.5 -4.5
TBLG Delisi 2.98 16 P Pg 16 35 05.5 -2.8
TBLG S Sg 16 35 49.0 +1.9
TBLG Delisi 2.98 16 P Pg 16 35 05.5 -2.8
TBLG Delisi 2.98 16 *e*Pn Pb 16 35 00.5 -4.5
TBLG Delisi 2.98 16 P Pb 16 35 00.8 -4.2
KBSD Kabsdagh 3.06 233 *e*P Pn 16 35 01.5 +0.9
KBSD *e*S Sn 16 35 33.1 -4.6
KBSD AML AML 16 35 57.3
comp=Z,405nm,0.5s
BRDA Brd 3.09 62 ⇑P Pn 16 34 59.7 -1.2
BRDA ⇑S Sn 16 35 37.3 -1.1
BRDA Brd 3.09 62 P Pn 16 34 59.7 -1.2
BRDA S Sn 16 35 37.3 -1.1
ERZN Erzincan 3.10 285 *e*PN Pn 16 35 02.8 +1.5
TNCL Tunceli-Merkez 3.18 276 *i* P Pb 16 35 06.8 -1.6
MNGR Mingechevir, A 3.28 54 ⇑P Pn 16 35 02.9 -0.7
MNGR ⇑S Sn 16 35 43.0 -0.1
MNGR Mingechevir, A 3.28 54 P Pn 16 35 02.9 -0.7
MNGR S Sn 16 35 43.0 -0.1
PTK Pertek 3.29 272 *e*PN Pn 16 35 05.8 +1.9
PTK Pertek 3.29 272 *e*Pn Pn 16 35 05.8 +1.9
SVRC Sivrice-ELAZID 3.41 263 *e*PN Pn 16 35 07.6 +2.1
SVRC Sivrice-ELAZID 3.41 263 *e*Pn Pn 16 35 07.6 +2.1
EZC Erzincan 3.42 286 P Pn 16 35 02.7 -2.8
EZC Erzincan 3.42 286 *e*Pn Pn 16 35 02.8 -2.8
ZRD Zardab 3.45 65 ⇓P Pn 16 35 04.6 -1.2
ZRD ⇑S Sn 16 35 46.0 -1.2
ZRD Zardab 3.45 65 P Pn 16 35 04.6 -1.2
ZRD S Sn 16 35 46.0 -1.2
ZKTA Zakatala 3.60 39 ⇓P Pn 16 35 08.1 +0.1
ZKTA ⇓S Sn 16 35 52.5 +1.5
KELT Kelkit 3.60 292 *i* P Pb 16 35 16.5 +0.8
SEKA Sheki 3.61 49 ⇓P Pn 16 35 08.4 +0.3
SEKA ⇓S Sn 16 35 53.2 +1.8
SEKA Sheki 3.61 49 P Pn 16 35 08.4 +0.3
SEKA S Sn 16 35 53.2 +1.8
KTUT Trabzon 3.63 307 *e*PN Pn 16 35 10.6 +2.2
KTUT Trabzon 3.63 307 *e*Pn Pn 16 35 10.6 +2.2
SFNV Sufian 3.70 230 *e*P Pn 16 35 10.3 +0.9
SFNV *e*S Sn 16 35 46.5 -7.1
SFNV AML AML 16 36 24.6
comp=Z,182nm,0.5s
LRK Lerik 3.71 92 ⇑P Pn 16 35 06.8 -2.7
LRK ⇓S Sn 16 35 50.3 -3.6
LRK Lerik 3.71 92 P Pn 16 35 06.8 -2.7
LRK S Sn 16 35 50.3 -3.6
ONI Oni 3.72 358 P Pg 16 35 20.1 -2.3
ONI S Sg 16 36 14.3 +3.7
ONI Oni 3.72 358 P Pn 16 35 10.0 +0.4
GLBA Clilabad 3.74 83 ⇑P Pn 16 35 07.7 -2.2
GLBA ⇓S Sn 16 35 52.0 -2.5
GLBA Clilabad 3.74 83 P Pn 16 35 07.7 -2.2
GLBA S Sn 16 35 52.0 -2.5
REFA Refahiye_ERZ˜ 3.80 279 *i* P Pg 16 35 21.2 -2.8
KDMR Kurdemir 3.84 66 ⇑P Pn 16 35 09.9 -1.3
KDMR ⇑S Sn 16 35 55.5 -1.4
KDMR Kurdemir 3.84 66 P Pn 16 35 09.9 -1.3
KDMR S Sn 16 35 55.5 -1.4
QBL Gabala 3.85 56 ⇑P Pn 16 35 10.7 -0.8
QBL ⇑S Sn 16 35 56.6 -0.8
QBL Gabala 3.85 56 P Pn 16 35 10.7 -0.8
QBL S Sn 16 35 56.6 -0.8
SAAT Saatly 3.86 74 ⇑P Pn 16 35 09.3 -2.2
SAAT ⇓S Sn 16 35 54.7 -2.7
SAAT Saatly 3.86 74 P Pn 16 35 09.3 -2.2
SAAT S Sn 16 35 54.7 -2.7
ZEI Tsey 3.92 3 *e*P Pb 16 35 15.8 -5.3
ZEI pmax pmax
comp=Z,73nm,1.1s
KEMA Kemaliye 4.00 277 *i* P Pb 16 35 17.9 -4.5
IML Ismayilli 4.01 60 ⇑P Pn 16 35 12.7 -0.9
IML ⇑S Sn 16 36 00.3 -0.9
IML Ismayilli 4.01 60 P Pn 16 35 12.7 -0.9
IML S Sn 16 36 00.3 -0.9
URFA Urfa 4.04 251 *e*PN Pn 16 35 16.8 +2.8
URFA Urfa 4.04 251 *e*Pn Pn 16 35 16.8 +2.8
LKRN Lenkeran, Azer 4.04 91 ⇓P Pn 16 35 11.5 -2.5
LKRN ⇓S Sn 16 35 58.4 -3.5
LKRN Lenkeran, Azer 4.04 91 P Pn 16 35 11.5 -2.5
LKRN S Sn 16 35 58.4 -3.5
ASTR Astara 4.07 93 ⇑P Pn 16 35 11.8 -2.5
ASTR ⇓S Sn 16 35 59.3 -3.2
ASTR Astara 4.07 93 P Pn 16 35 11.8 -2.5
ASTR S Sn 16 35 59.3 -3.2
XNQ Khinaliq 4.17 55 ⇓P Pn 16 35 14.9 -1.1
XNQ ⇓S Sn 16 36 05.3 -0.1
XNQ Khinaliq 4.17 55 P Pn 16 35 14.9 -1.1
XNQ S Sn 16 36 05.3 -0.1
PQL Pirkuli 4.29 62 ⇓P Pn 16 35 16.3 -1.3
PQL ⇓S Sn 16 36 07.4 -0.8
PQL Pirkuli 4.29 62 P Pn 16 35 16.3 -1.3
PQL S Sn 16 36 07.4 -0.8
ALIB Äli-Bayra 4.32 74 ⇓P Pn 16 35 15.9 -1.9
ALIB ⇓S Sn 16 36 06.8 -1.9
ALIB Äli-Bayra 4.32 74 P Pn 16 35 15.9 -1.9
ALIB S Sn 16 36 06.8 -1.9
QSAR Qusar 4.43 52 ⇑P Pn 16 35 18.6 -0.9
QSAR ⇑S Sn 16 36 12.1 +0.4
QSAR Qusar 4.43 52 P Pn 16 35 18.6 -0.9
QSAR S Sn 16 36 12.1 +0.4
GBS Qobustan 4.44 66 ⇑P Pn 16 35 17.9 -1.6
GBS ⇓S Sn 16 36 10.3 -1.4
GBS Qobustan 4.44 66 P Pn 16 35 17.9 -1.6
GBS S Sn 16 36 10.3 -1.4
QUBA Quba, Azerbaij 4.49 55 ⇑P Pn 16 35 19.3 -0.9
QUBA ⇓S Sn 16 36 12.9 -0.2
QUBA Quba, Azerbaij 4.49 55 P Pn 16 35 19.3 -0.9
QUBA S Sn 16 36 12.9 -0.2
ATGJ Altiaghaj 4.56 62 ⇓P Pn 16 35 19.7 -1.5
ATGJ ⇓S Sn 16 36 13.8 -1.0
ATGJ Altiaghaj 4.56 62 P Pn 16 35 19.7 -1.5
ATGJ S Sn 16 36 13.8 -1.0
SIZA Siyzn 4.62 60 ⇑P Pn 16 35 20.8 -1.3
SIZA ⇓S Sn 16 36 16.0 -0.4
SIZA Siyzn 4.62 60 P Pn 16 35 20.8 -1.3
SIZA S Sn 16 36 16.0 -0.4
GROC Groznyy 4.63 20 *e*P Pb 16 35 34.7 +1.6
GROC pmax pmax
comp=Z,180nm,1.1s
KSRV Kasrt alli 4.74 232 *e*P Pn 16 35 25.8 +2.1
KSRV *e*S Sn 16 36 15.8 -3.3
KSRV AML AML 16 36 59.6
comp=Z,109nm,0.7s
KBZ Khabaz 4.88 354 Pn Pn 16 35 27.2 +1.6
comp=Z,0.1nm,0.3s,baz=148,slow=19,SNR=1.7
KBZ Lg Lg 16 36 49.0
baz=347,slow=18,SNR=1.6
GOBA Gobu 4.97 70 ⇓P Pn 16 35 25.0 -1.7
GOBA ⇓S Sn 16 36 23.1 -1.6
GOBA Gobu 4.97 70 P Pn 16 35 25.0 -1.7
GOBA S Sn 16 36 23.1 -1.6
MAK Makhachkala 5.04 35 *e*P Pn 16 35 26.4 -1.3
MAK *e*S Sn 16 36 25.8 -0.7
MAK pmax pmax
comp=Z,123nm,1.6s
MAK MLR MLR
comp=Z,2μm,10.0s
MAK Makhachkala 5.04 35 *e*P Pn 16 35 26.4 -1.3
comp=Z,123nm,1.6s
MAK *e*S Sn 16 36 25.8 -0.7
comp=Z,2μm,10.0s
KIV Kislovodsk 5.13 353 *i* P Pn 16 35 31.0 +2.0
SNR=6.7
KIV Kislovodsk 5.13 353 *i* P Pn 16 35 28.7 -0.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,692nm,18.0s
KIV Kislovodsk 5.13 353 *i* P Pn 16 35 28.7 -0.3
comp=Z,692nm,18.0s
NDR Nardaran 5.21 69 ⇑P Pn 16 35 28.5 -1.5
NDR ⇑S Sn 16 36 28.8 -1.8
NDR Nardaran 5.21 69 P Pn 16 35 28.5 -1.5
NDR S Sn 16 36 28.8 -1.8
SLMH Al Salmeh 5.24 241 *e*P Pn 16 35 33.0 +2.5
SLMH *e*S Sn 16 36 27.4 -4.0
SLMH AML AML 16 37 13.9
comp=E,232nm,0.6s
SLMH AML AML 16 37 14.0
comp=N,242nm,0.7s
GALA Gala 5.28 71 ⇑P Pn 16 35 29.4 -1.6
GALA ⇓S Sn 16 36 30.7 -1.7
GALA Gala 5.28 71 P Pn 16 35 29.4 -1.6
GALA S Sn 16 36 30.7 -1.7
SOC Sochi 5.55 329 *e*P Pn 16 35 36.1 +1.4
SOC MLR MLR
comp=Z,667nm,10.0s
SOC Sochi 5.55 329 *e*P Pn 16 35 36.1 +1.4
comp=Z,667nm,10.0s
DRWC Darouich 5.94 250 *e*P Pn 16 35 43.5 +3.3
DRWC AML AML 16 37 32.8
comp=E,62nm,0.6s
DRWC AML AML 16 37 46.5
comp=N,49nm,0.7s
GOF Gofitskoye 6.20 356⇑*e*P Pn 16 35 41.4 -2.2
GOF pmax pmax
comp=Z,12nm,0.6s
KFRA Kufra 6.56 238 *e*P Pn 16 35 49.7 +1.1
KFRA *e*S Sn 16 36 56.3 -7.6
KFRA AML AML 16 37 51.9
comp=E,102nm,0.6s
KFRA AML AML 16 38 04.0
comp=N,214nm,0.8s
ARNB Al Arnab 6.78 246 *e*P Pn 16 35 55.6 +3.8
ARNB *e*S Sn 16 37 06.1 -3.5
ARNB AML AML 16 38 06.9
comp=E,73nm,0.8s
ARNB AML AML 16 38 08.2
comp=N,67nm,0.7s
RABH Abou Rabah 6.79 231 *e*P Pn 16 35 50.4 -1.4
RABH AML AML 16 38 22.6
comp=N,30nm,0.7s
RABH AML AML 16 38 30.1
comp=E,38nm,0.8s
BIDA Albida 6.99 239 *e*P Pn 16 35 53.8 -0.8
BIDA *e*S Sn 16 37 07.1 -7.6
BIDA AML AML 16 38 04.0
comp=E,90nm,0.6s
BIDA AML AML 16 38 20.4
comp=N,84nm,0.7s
MARH Ras Al Marh 7.51 232 *e*P Pn 16 36 00.7 -1.3
MARH *e*S Sn 16 37 14.9 -13
BRTR Keskin Array B 7.78 279 Pn Pn 16 36 09.5 +4.0
comp=N,0.1nm,0.3s,baz=101,slow=13,SNR=7.8
BRTR LR LR 16 39 36.7
comp=N,786nm,18.4s,baz=93,slow=42
TOTH TOTAH 8.00 229 *e*P Pn 16 36 06.9 -1.5
TOTH *e*S Sn 16 37 24.7 -15
TOTH AML AML 16 38 42.7
comp=E,18nm,0.7s
TOTH AML AML 16 38 50.0
comp=N,21nm,0.7s
BRBR Barbar 8.25 231 *e*P Pn 16 36 08.4 -3.6
BRBR *e*S Sn 16 37 32.0 -14
BRBR AML AML 16 39 13.4
comp=N,14nm,0.8s
BRBR AML AML 16 39 23.1
comp=E,24nm,0.8s
SALA Sala 8.30 224 *e*P Pn 16 36 08.0 -4.8
SALA *e*S Sn 16 37 28.4 -19
SALA AML AML 16 38 54.6
comp=E,2.4nm,0.7s
SALA AML AML 16 39 06.7
comp=N,26nm,0.8s
SIM Simferopol' 9.32 314 *e*P Pn 16 36 20.0 -6.5
GEYT Alibeck 11.43 90 Pn Pn 16 36 54.5 -0.8
comp=N,0.3nm,0.3s,baz=294,slow=16,SNR=5.8
EIL Elat 11.63 221 LR LR 16 41 59.8
comp=N,1μm,19.3s,baz=46,slow=40
LPSR Galich'ya Gora 14.11 348 *e*P Pn 16 37 33.6 +1.7
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRI Vrincioaia 14.29 305⇓*i*P P 16 37 39.4 -2.5
PLOR Plostina 14.33 305⇓*i*P P 16 37 41.4 -1.0
TESR Tescani 14.61 307⇑*i*P P 16 37 44.5 -0.9
DOPR Dopca 15.19 304⇓*i*P P 16 37 51.2 -0.7
VOIR 15.23 301⇑*i*P P 16 37 50.5 -1.9
VOIR 15.23 301 P P 16 37 51.9 -0.5
VOIR pmax pmax
comp=Z,24nm,1.3s
VOIR 15.23 301 P P 16 37 51.9 -0.5
comp=Z,24nm,1.3s
IDI Anoyia 15.36 262 LR LR 16 44 46.7
comp=Z,286nm,20.1s,baz=64,slow=41
RAYN Ar Rayn 15.39 173 *e*Pn Pn 16 37 45.8 -3.6
comp=Z,28nm,1.1s
RAYN Ar Rayn 15.39 173 *e*Pn Pn 16 37 45.8 -3.6
comp=Z,28nm,1.1s
RAYN *e*Sn Sn 16 40 32.2 -8.2
AKTO Aktyubinsk 15.42 37 Pn Pn 16 37 47.8 -1.9
comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=9.4
AKTO LR LR 16 45 17.3
comp=Z,496nm,19.1s,baz=224,slow=43
AKASG Malin Array Be 15.59 324 Pn Pn 16 37 51.4 -0.5
comp=Z,0.6nm,0.3s,baz=134,slow=11,SNR=9.3
AKASG LR LR 16 44 42.4
comp=Z,212nm,21.2s,baz=115,slow=40
AKASG Malin Array Be 15.59 324 *i* P P 16 37 53.4 -2.8
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 15.59 324 *e*P P 16 37 54.0 -2.2
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 15.59 324 *e*Pn P 16 37 54.0 -2.2
comp=Z,13nm,1.1s
AKBB Malin Array Si 15.59 324 *e*Pn P 16 37 54.0 -2.2
comp=Z,13nm,1.1s
KIEV Kiev 15.60 324 *e*P P 16 37 53.8 -2.5
KIEV pmax pmax
comp=Z,8.0nm,1.1s
KIEV Kiev 15.60 324 *e*Pn Pn 16 37 52.0 +0.1
comp=Z,15nm,1.2s
KIEV Kiev 15.60 324 *e*Pn Pn 16 37 52.0 +0.1
comp=Z,15nm,1.2s
ABKAR Akbulak array 15.64 43 *e*Pn Pn 16 37 50.9 -1.6
comp=Z,44nm,1.0s
ABKAR Akbulak array 15.64 43 *e*Pn Pn 16 37 50.9 -1.6
comp=Z,44nm,1.0s
VTS Vitosha 15.90 290⇑*i*P Pn 16 37 51.1 -5.0
VTS Vitosha 15.90 290 *e*P Pn 16 37 55.2 -0.9
VTS pmax pmax
comp=Z,11nm,1.0s
VTS Vitosha 15.90 290 *e*Pn Pn 16 37 55.2 -0.9
comp=Z,11nm,1.0s
VTS Vitosha 15.90 290 *e*Pn Pn 16 37 55.2 -0.9
comp=Z,11nm,1.0s
BURAR Bucovina Array 15.97 309⇓*i*P P 16 38 03.9 +3.3
BUR08 Bucovina Ar. S 15.99 309 *e*Pn P 16 37 58.6 -2.2
BUR08 Bucovina Ar. S 15.99 309 *e*Pn P 16 37 58.6 -2.2
BANOM Banah 16.75 137 *i* P Pn 16 38 04.3 -2.7
SNR=22
OBN Obninsk 16.93 346 Pn Pn 16 38 08.0 -0.9
comp=Z,3.2nm,0.3s,baz=131,slow=20,SNR=2.2
OBN LR LR 16 45 29.5
comp=Z,182nm,20.1s,baz=106,slow=40
OBN Obninsk 16.93 346 *i* P P 16 38 10.1 -0.9
OBN pmax pmax
comp=Z,37nm,1.0s
OBN MLR MLR
comp=Z,354nm,15.0s
OBN Obninsk 16.93 346 *e*Pn P 16 38 08.8 -2.2
comp=Z,36nm,1.1s
OBN Obninsk 16.93 346 *i* P P 16 38 10.1 -0.9
comp=Z,354nm,15.0s
OBN Obninsk 16.93 346 *e*Pn P 16 38 08.8 -2.2
comp=Z,36nm,1.1s
DRGR 17.22 304⇓*i*P P 16 38 13.8 -0.6
DRGR 17.22 304⇓P P 16 38 13.8 -0.6
DRGR 17.22 304 P P 16 38 13.8 -0.6
MOS Moscow 17.34 349 *e*P P 16 38 23.2 +7.6
ASHO Ashiyiah 17.64 140 P Pn 16 38 16.9 -1.2
SIRR Siria 17.74 302⇑*i*P P 16 38 22.2 +2.1
CRVS Cervenica-Dubn 18.79 309 *e*P Pn 16 38 31.0 -1.0
CRVS Cervenica-Dubn 18.79 309 *e*P Pn 16 38 31.0 -1.0
CRVS Cervenica-Dubn 18.79 309 *e*P Pn 16 38 31.0 -1.0
CRVS *e* 16 38 36.5
KECS Kecovo 19.22 307 *e*P Pn 16 38 46.1 +8.8
KECS Kecovo 19.22 307 *e* Pn 16 38 46.1 +8.8
PSZ Piszkesteto 19.40 305⇑*i*P Pn 16 38 42.7 +3.2
PSZ Piszkesteto 19.40 305 *e*P Pn 16 38 39.9 +0.4
PSZ pmax pmax
comp=Z,42nm,1.5s
PSZ Piszkesteto 19.40 305 *e*P Pn 16 38 39.9 +0.4
comp=Z,42nm,1.5s
PSZ Piszkesteto 19.40 305 *e*P Pn 16 38 39.9 +0.4
comp=Z,42nm,1.5s
NIE Niedzica 19.69 310 *e*P Pn 16 38 45.1 +2.2
NIE Niedzica 19.69 310 *e*P Pn 16 38 45.1 +2.2
NIE Niedzica 19.69 310 *e*P Pn 16 38 45.1 +2.2
WSAR Wadi Sarin 20.16 136 P P 16 38 45.2 -1.6
comp=Z,2.1nm,0.8s,baz=39,slow=6.5,SNR=2.3
WSAR LR LR 16 48 46.3
comp=Z,225nm,18.4s,baz=336,slow=43
ARU Arti 20.17 25 P P 16 38 44.8 -1.8
comp=Z,3.9nm,0.5s,baz=215,slow=7.3,SNR=11
ARU LR LR 16 48 41.2
comp=Z,161nm,19.2s,baz=225,slow=43
ARU Arti 20.17 25*d* *i*P Pn 16 38 47.7 -0.8
ARU 16 39 07.5
ARU S Sn 16 42 34.9 -0.9
ARU SS **SnSn** 16 42 52.6 +2.5
ARU pmax pmax
comp=Z,39nm,1.7s
ARU MLR MLR
comp=Z,253nm,16.0s
ARU Arti 20.17 25 *i* P Pn 16 38 47.7 -0.8
comp=Z,39nm,1.7s
ARU S Sn 16 42 34.9 -0.9
VYHS Vyhne 20.26 306 *e*P Pn 16 38 51.5 +1.9
VYHS Vyhne 20.26 306 *e*P Pn 16 38 51.5 +1.9
OJC Ojcow 20.32 312 *e*P Pn 16 38 52.3 +2.0
OJC Ojcow 20.32 312 *e*P Pn 16 38 52.3 +2.0
SUW Suwalki 20.56 324 P Pn 16 38 52.5 -0.6
SUW pmax pmax
comp=Z,56nm,0.8s
SUW Suwalki 20.56 324 P Pn 16 38 52.5 -0.6
comp=Z,56nm,0.8s
KKAR Karatay Array 20.71 70 *e*P Pn 16 38 53.3 -1.6
KKAR pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 20.71 70 *e*P Pn 16 38 53.2 -1.7
comp=Z,17nm,1.0s
KKAR Karatay Array 20.71 70 *e*P Pn 16 38 53.2 -1.7
comp=Z,17nm,1.0s
OKC Ostrava-Krasne 21.15 310 *e*P P 16 39 02.8 +5.5
OKC Ostrava-Krasne 21.15 310 *e*P P 16 39 02.8 +5.5
SVE Sverdlovsk 21.18 26 *e*P P 16 39 01.1 +3.5
SVE pmax pmax
comp=Z,47nm,1.7s
VRAC Vranov 21.92 307 P P 16 39 05.0 -0.6
comp=Z,0.6nm,0.3s,baz=149,slow=5.9,SNR=2.0
VRAC Vranov 21.92 307⇑*i*P P 16 39 09.0 +3.4
VRAC Vranov 21.92 307 P P 16 39 05.0 -0.6
VRAC Vranov 21.92 307 P P 16 39 05.0 -0.6
CONA Conrad Observa 22.00 303 *i* pP P 16 39 09.3 +2.7
comp=Z,16nm,1.7s
KRLC Kraliky 22.06 309 *e*P P 16 39 14.7 +7.6
KRLC Kraliky 22.06 309 *e*P P 16 39 14.7 +7.6
ARSA Arzberg 22.07 301 *i* pP P 16 39 10.7 +3.4
comp=Z,2.6nm,0.6s
KLMR Klimovskoe 22.16 355 *e*P P 16 39 08.5 +0.5
KLMR *e*S S 16 43 12.3 -0.2
KLMR pmax pmax
comp=Z,40nm,1.2s
KLMR Klimovskoe 22.16 355 *e*P P 16 39 08.5 +0.5
comp=Z,40nm,1.2s
MNAS Manas 22.16 71 P P 16 39 11.4 +3.0
MNAS pmax pmax
comp=Z,5.0nm,1.0s
SOKA Soboth 22.29 300 *i* pP P 16 39 12.7 +3.0
comp=Z,4.6nm,1.2s
SOKR Solikamsk 22.38 18*c* *i*P P 16 39 13.6 +3.3
SOKR S Sn 16 43 20.2 -8.4
SOKR pmax pmax
comp=Z,22nm,1.1s
SOKR MLR MLR
comp=Z,187nm,17.0s
DPC Dobruska-Polom 22.43 310 *e*P P 16 39 15.4 +4.3
DPC Dobruska-Polom 22.43 310 *e*P P 16 39 15.4 +4.3
OBKA Obir 22.59 299 *i* pP P 16 39 16.6 +3.7
comp=Z,8.7nm,1.7s
TREC Trest 22.61 307 *e*P P 16 39 18.5 +5.5
TREC Trest 22.61 307 *e*P P 16 39 18.5 +5.5
KSP Ksiaz 22.62 311 *e*P P 16 39 16.7 +3.6
KSP Ksiaz 22.62 311 *e*P P 16 39 16.7 +3.6
KSP Ksiaz 22.62 311 *e*P P 16 39 16.7 +3.6
MOA Molln 23.03 302 *i* pP P 16 39 20.6 +3.2
comp=Z,13nm,1.2s
SFK Sufi-Kurgan 23.07 78 P P 16 39 21.4 +3.2
SFK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 23.17 44*d* *i*P P 16 39 21.6 +2.8
BRVK pmax pmax
comp=Z,33nm,1.2s
BVAR Borovoye Array 23.21 44 P P 16 39 20.0 +0.8
comp=Z,1.4nm,0.8s,baz=251,slow=14,SNR=8.5
BVAR LR LR 16 49 42.8
comp=Z,274nm,21.6s,baz=248,slow=40
GOPC GO Pecny, Ondr 23.22 308 *e*P P 16 39 22.2 +2.8
GOPC *e*x x 16 39 25.6
GOPC GO Pecny, Ondr 23.22 308 *e*P P 16 39 22.2 +2.8
GOPC *e* 16 39 25.6
GOPC GO Pecny, Ondr 23.22 308 *e*P P 16 39 22.2 +2.8
PRU Pruhonice 23.40 308 *e*P P 16 39 24.4 +3.3
PRU Pruhonice 23.40 308 *e*P P 16 39 24.4 +3.3
PRU Pruhonice 23.40 308 *e*P P 16 39 24.4 +3.3
KBA Koelnbreinsper 23.50 300 *i* pP P 16 39 24.1 +1.7
comp=Z,9.4nm,1.3s
GEC2 GERESS Array S 23.62 305 *e*P P 16 39 26.2 +2.7
GEC2 pmax pmax
comp=Z,19nm,1.4s
GEC2 GERESS Array S 23.62 305 *e*P P 16 39 26.2 +2.7
comp=Z,19nm,1.4s
GERES GERESS Array B 23.62 305 P P 16 39 24.5 +1.0
comp=Z,2.8nm,1.0s,baz=108,slow=8.7,SNR=20
GERES LR LR 16 50 32.6
comp=Z,107nm,18.2s,baz=112,slow=42
AAK Ala-Archa 23.63 71 P P 16 39 24.7 +0.9
comp=Z,2.2nm,1.0s,baz=0.0,slow=0.0,SNR=2.5
AAK LR LR 16 50 37.9
comp=Z,250nm,18.6s,baz=262,slow=42
AAK Ala-Archa 23.63 71 *e*P P 16 39 25.2 +1.5
AAK pmax pmax
comp=Z,12nm,1.1s
KHC Kasperske Hory 23.77 305 *e*P P 16 39 27.8 +2.9
KHC *e*S S 16 43 48.0 +7.0
KHC AMS AMS 16 50 50.0
comp=Z,200nm,15.3s
KHC Kasperske Hory 23.77 305 *e*P P 16 39 27.8 +2.9
KHC *e*S S 16 43 48.0 +7.0
KHC MLR MLR
comp=Z,200nm,15.3s
KHC Kasperske Hory 23.77 305 *e*P P 16 39 27.6 +2.7
comp=Z,12nm,1.5s
ABTA Abfalterbach 24.02 299 *i* pP P 16 39 29.7 +2.4
comp=Z,8.4nm,1.4s
BRG Berggiesshubel 24.03 310 *e*P P 16 39 29.8 +2.5
comp=Z,7.5nm,1.5s
BRG Berggiesshubel 24.03 310 *e*P P 16 39 29.8 +2.5
BRG pmax pmax
comp=Z,8.0nm,1.5s
WET Wettzell 24.22 305 P P 16 39 31.6 +2.5
WET pmax pmax
comp=Z,16nm,1.3s
WTTA Wattenberg 24.68 300 *i* pP P 16 39 35.9 +2.3
comp=Z,6.7nm,0.7s
CLL Collm 24.73 310 *e*P P 16 39 39.0 +5.3
CLL *e*S S 16 43 58.0 +1.7
CLL Collm 24.73 310 *e*(sP) sP 16 39 35.0 +0.3
CLL *e* 16 39 43.0

CLL *e*PP **PnPn** **16 40 04.0 -1.2**
CLL *e*S **S** **16 43 58.0 +1.7**
CLL *e* 16 44 31.0
CLL LmH 16 51 00.0
comp=N,200nm,20.0s
CLL LmH 16 51 00.0
comp=E,200nm,18.6s
WATA Walderalm 24.73 300 *i* pP **P** **16 39 35.7 +1.8**
comp=E,9.2nm,1.1s
NKC Novy Kostel 24.76 307 *e*P **P** **16 39 38.0 +4.0**
NKC Novy Kostel 24.76 307 *e*P **P** **16 39 38.0 +4.0**
KSH Kashi 25.02 78 *e*P **P** **16 39 37.3 +0.7**
KSH PP **PnPn** **16 40 13.3 +3.8**
KSH PcP **PcP** **16 43 16.8 +5.3**
KSH S **S** **16 43 58.0 -3.5**
KSH SS **SnSn** **16 44 53.0 +3.5**
KSH PcS **PcS** **16 46 57.0 +5.2**
KSH Kashi 25.02 78 ScS ScS 16 50 43.5 +3.7
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,5.0s
KSH LR LR
comp=N,220nm,7.8s
KSH LR LR
comp=E,180nm,7.6s
KSH LR LR
comp=Z,210nm,12.4s
MOTA Moosalm 25.05 300 *i* pP **P** **16 39 37.4 +0.5**
comp=Z,14nm,1.2s
FINES FINESS Array B 25.07 340 P **P** **16 39 37.5 +0.8**
comp=Z,6.7nm,1.0s,baz=134,slow=14,SNR=5.3
FINES LR LR 16 50 18.0
comp=Z,266nm,19.0s,baz=169,slow=39
FETA Feichten 25.26 300 *i* pP **P** **16 39 40.1 +1.3**
comp=Z,9.9nm,1.2s
RETA Reutte 25.30 301 *i* pP **P** **16 39 42.1 +3.1**
comp=Z,14nm,1.4s
GRFO Grafenberg 25.40 306 *e*P **P** **16 39 42.8 +3.0**
GRFO pmax pmax
comp=Z,39nm,1.4s
GRFO Grafenberg 25.40 306 *e*P **P** **16 39 42.8 +3.0**
comp=Z,39nm,1.4s
DAVOX Davos/Dischmat 25.82 299 P **P** **16 39 45.2 +1.4**
comp=Z,2.7nm,0.8s,baz=141,slow=6.5,SNR=2.7
DAVA Damuels 25.87 300 *i* pP **P** **16 39 46.3 +2.0**
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 27.19 53 P **P** **16 39 56.9 +1.0**
comp=Z,2.8nm,0.9s,baz=263,slow=9.0,SNR=16
KURBB PcP **PcP** **16 43 17.0 +0.9**
comp=Z,0.2nm,0.6s,baz=247,slow=3.6,SNR=4.5
KURK Kurchatov 27.26 53 *c*e*P* **P** **16 39 58.9 +2.3**
KURK pmax pmax
comp=Z,43nm,1.7s
KURK Kurchatov 27.26 53 *e*P **P** **16 39 57.5 +0.9**
comp=Z,17nm,1.5s
KURK PcP **PcP** **16 43 17.0 +0.7**
KEST Kesra 27.34 274 LR LR 16 52 38.0
comp=Z,259nm,19.4s,baz=320,slow=40
HFS Hagfors 28.39 328 P **P** **16 40 06.8 +0.2**
comp=Z,3.8nm,0.8s,baz=141,slow=7.1,SNR=4.9
HFS LR LR 16 52 23.6
comp=Z,163nm,20.3s,baz=122,slow=38
MKAR Makanchi Array 29.21 62 P **P** **16 40 14.2 +0.1**
comp=Z,1.8nm,0.9s,baz=264,slow=8.3,SNR=6.9
MKAR LR LR 16 53 43.5
comp=Z,268nm,19.7s,baz=256,slow=40
NOA NORSAR Array B 29.91 328 LR LR 16 53 21.2
comp=Z,125nm,21.9s,baz=125,slow=38
ZALV Zalesovo Beam 31.65 48 P **P** **16 40 36.2 +0.7**
comp=Z,0.8nm,0.6s,baz=252,slow=8.7,SNR=3.1
ZALV LR LR 16 55 33.8
comp=Z,225nm,18.1s,baz=250,slow=41
ARCES ARCESS Array B 32.22 348 LR LR 16 54 33.1
comp=Z,171nm,18.2s,baz=154,slow=38
WMQ Urumqi 33.16 67 P **P** **16 40 50.0 +1.0**
WMQ pP sP 16 40 54.5 +4.5
WMQ sP pP 16 40 57.0 +7.3
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,180nm,5.3s
WMQ LR LR
comp=N,170nm,21.1s
WMQ LR LR
comp=E,110nm,24.9s
WMQ LR LR
comp=Z,81nm,26.3s
DANN Dangsing 34.80 95 *e*P **P** **16 41 06.4 +2.8**
KOLN Koldanda 34.95 96 *e*P **P** **16 41 07.9 +3.1**
comp=Z,7.9nm,0.9s
GKN Gorkha 35.65 95 *e*P **P** **16 41 13.4 +2.6**
comp=Z,16nm,1.0s
DMN Daman 36.20 95 *e*P **P** **16 41 17.8 +2.2**
KKN Kakani 36.25 95 *e*P **P** **16 41 18.5 +2.5**
PKIN Phulchoki 36.44 95 *e*P **P** **16 41 20.5 +2.8**
PKI Pulchoki 36.45 95 *e*P **P** **16 41 20.5 +2.6**
comp=Z,23nm,1.2s
ESDC Sonseca Array 36.50 287 P **P** **16 41 19.1 +1.3**
comp=Z,2.9nm,1.0s,baz=60,slow=8.3,SNR=7.9
ESDC LR LR 16 56 14.0
comp=Z,42nm,19.4s,baz=105,slow=36
GUN Gumba 36.66 94 *e*P **P** **16 41 21.3 +1.7**
comp=Z,30nm,1.1s
JIRN Jiri 37.02 95 *e*P **P** **16 41 24.4 +1.7**
comp=Z,178nm,1.0s
RAMN Ramite 37.68 95 *e*P **P** **16 41 29.5 +1.3**
comp=Z,21nm,0.7s
ODAN Odare 38.34 95 *e*P **P** **16 41 34.2 +0.4**
comp=Z,54nm,1.4s
TAPN Taplejung 38.35 94 *e*P **P** **16 41 35.2 +1.3**
comp=Z,19nm,1.0s
NRIK Noril'sk 38.39 23 LR LR 17 01 46.8
comp=Z,204nm,18.4s,baz=240,slow=43
KMBO Kilima Mbogo 40.23 190 LR LR 16 57 29.3
comp=Z,280nm,19.0s,baz=354,slow=35
GTA Gaotai 42.98 71 *e*P **P** **16 42 12.8 +0.9**
GTA pP sP 16 42 17.3 +4.4
GTA sP pP 16 42 19.8 +7.2
GTA pmax pmax
comp=Z,2.0nm,1.6s
TORD Torodi Ar. Bea 45.00 247 P **P** **16 42 27.0 -1.2**
comp=Z,4.7nm,1.1s,baz=53,slow=5.7,SNR=13
TORD LR LR 17 03 56.0
comp=Z,114nm,19.5s,baz=195,slow=40
TORD Torodi Ar. Bea 45.00 247 P **P** **16 42 27.0 -1.2**
SONM Songino Array 45.38 57 LR LR 17 03 28.4
comp=Z,258nm,18.6s,baz=266,slow=39
ULN Ulaanbaatar 45.81 57 *c*e*P* **P** **16 42 36.7 +2.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 47.12 74 *e*P **P** **16 42 43.0 -1.9**
LZH pP sP 16 42 48.3 +2.4
LZH sP pP 16 42 50.0 +4.4
LZH pmax pmax
comp=Z,12nm,1.0s
BOD Bodaibo 48.08 43 *e*P **P** **16 42 52.6 +0.8**
BOD pmax pmax
comp=Z,9.0nm,2.0s
BOD Bodaibo 48.08 43 *e*P **P** **16 42 52.6 +0.8**
comp=Z,9.0nm,2.0s
HHC Hu-ho-hao-te 50.99 65 *e*P **P** **16 43 14.8 +0.4**
HHC S **S** **16 50 34.5 +2.3**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,92nm,4.8s
HHC LR LR
comp=N,160nm,12.9s
HHC LR LR
comp=E,140nm,13.9s
HHC LR LR
comp=Z,110nm,15.3s
XAN Xi'an 51.76 74 P **P** **16 43 21.5 +1.3**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,22nm,3.3s
CMAR Chiang Mai Arr 51.82 97 P **P** **16 43 20.7 0.0**
comp=Z,0.7nm,0.7s,baz=298,slow=7.6,SNR=8.3
CMAR LR LR 17 07 54.5
comp=Z,30nm,19.3s,baz=105,slow=39
CMAR Chiang Mai Arr 51.82 97 *i* P **P** **16 43 22.3 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 52.17 24 *c*e*P* P 16 43 25.8 +3.1
TIXI pmax pmax
comp=Z,5.0nm,1.2s
HIA Hailar 53.50 52 *e*P **P** **16 43 33.8 +0.9**
HIA pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 54.11 247 LR LR 17 09 53.6
comp=Z,68nm,19.5s,baz=56,slow=40
SFJD Kangerlussuaq 56.49 332 LR LR 17 07 43.8
comp=Z,123nm,18.2s,baz=92,slow=36
NJ2 Nanjing 60.07 71 *e*P **P** **16 44 19.3 -0.4**
NJ2 pmax pmax
comp=Z,16nm,0.5s
KS15 Wonju Array Si 63.87 62 *e*P **P** **16 44 44.9 -0.3**
BOSA Boshof 69.29 197 LR LR 17 15 55.6
comp=Z,122nm,18.8s,baz=356,slow=36

JMA 28 16:36:14.5±0.1, 37.73N×141.92E, h23km±2km, M3.5,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.85**	**328**	P	Pb	16 36 30.3	-0.3
JIO				S	Sb	16 36 41.1	-0.5
JMM	**Marumori**	**0.90**	**279**	P	Pb	16 36 30.9	-0.6
JMM				S	Sb	16 36 42.5	-0.6
JFK	**Kawauchi**	**0.91**	**247**	P	Pb	16 36 31.3	-0.3
JFK				S	Sb	16 36 43.1	-0.1
ONAJ	**Iwakimizuishiy**	**1.09**	**235**	P	Pn	16 36 34.0	-0.4
ONAJ				S	Sb	16 36 48.6	+0.1
JOU	**Okura**	**1.18**	**303**	P	Pb	16 36 36.1	-0.1
JOU				S	Sb	16 36 51.1	+0.1
JFT	**Otama**	**1.27**	**261**	P	Pb	16 36 37.6	-0.2
JFT				S	Sb	16 36 53.9	+0.1
JMK	**Ichinoseki**	**1.34**	**336**	P	Pn	16 36 38.0	+0.2
OFUJ	**Ofunato**	**1.36**	**352**	P	Pn	16 36 37.6	-0.5
OFUJ				S	Sn	16 36 54.3	-1.2
JYS	**Shiratake**	**1.54**	**289**	S	Sb	16 37 02.0	+0.4
JYK	**Kaneyama**	**1.71**	**314**	P	Pn	16 36 43.6	+0.8
JYK				S	Sn	16 37 05.0	+1.0
JFY	**Yanaizu**	**1.79**	**260**	P	Pb	16 36 45.8	-0.8
JFY				S	Sb	16 37 08.1	-0.5
JOM	**Ohasama**	**1.81**	**344**	P	Pn	16 36 44.8	+0.6

*ISK **28** 16:48:42.4, 38.77N×43.41E, h5km, ML3.3*
*AZER **28** 16:48:42.1±0.8, 38.38N×43.35E, h10km, Error ellipse:*
s-maj=9.1km s-min=3.9km az=94.0
*CSEM **28** 16:48:43.9±0.2, 38.76N×43.38E, h5km, ML3.3, Error*
ellipse: s-maj=4.5km s-min=3.8km az=133.0
*DDA **28** 16:48:43.1, 38.76N×43.33E, h5km, Ml3.7*
ISC 28 16:48:44.2±0.8, 38.76N±0.02×43.39E±0.02, h16km±5km,
n87, σ19.37/111, 7C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**180**	*e*PG	**Pg**	**16 48 48.7**	**+0.1**
VANB	**Van**	**0.17**	**180**	*e*Pg	**Pg**	**16 48 48.7**	**+0.1**
TVAN	**Van**	**0.23**	**177**	*i* P	**Pg**	**16 48 48.6**	**-1.0**
TVAN				*i* S	**Sg**	**16 48 54.0**	**+0.7**
TVAN	**Van**	**0.23**	**177**	P	**Pg**	**16 48 48.6**	**-1.0**
TVAN				S	**Sg**	**16 48 54.0**	**+0.7**
ERCV	**ERCIS-VAN**	**0.26**	**351**	*e*PG	**Pg**	**16 48 48.8**	**-1.3**
ERCV				*e*SG	**Sg**	**16 48 53.2**	**-0.8**
ERCV	**ERCIS-VAN**	**0.26**	**351**	*e*Pg	**Pg**	**16 48 48.8**	**-1.3**
ERCV				*e*Sg	**Sg**	**16 48 53.3**	**-0.8**
VMUR	**Van-Muradiye**	**0.27**	**32**	*i* P	**Pg**	**16 48 49.1**	**-1.1**
VMUR				*i* S	**Sb**	**16 48 54.2**	**-1.0**
VMUR	**Van-Muradiye**	**0.27**	**32**	P	**Pg**	**16 48 49.1**	**-1.1**
VMUR				S	**Sb**	**16 48 54.2**	**-1.0**
GEVA	**Gevas**	**0.52**	**210**	*i* P	**Pg**	**16 48 53.2**	**-1.4**
GEVA				*i* S	**Sb**	**16 49 02.6**	**+0.2**
GEVA	**Gevas**	**0.52**	**210**	P	**Pg**	**16 48 53.2**	**-1.4**
GEVA				S	**Sb**	**16 49 02.6**	**+0.2**
CLDR	**Caldiran**	**0.56**	**47**	*e*PG	**Pg**	**16 48 53.7**	**-1.6**
CLDR				*e*SG	**Sb**	**16 49 02.7**	**-0.9**
CLDR	**Caldiran**	**0.56**	**47**	*i* P	**Pg**	**16 48 53.8**	**-1.6**
CLDR				*i* S	**Sg**	**16 49 02.4**	**-0.5**
CLDR	**Caldiran**	**0.56**	**47**	P	**Pg**	**16 48 53.8**	**-1.6**
CLDR				S	**Sg**	**16 49 02.4**	**-0.5**
TUTA	**Tutak**	**0.78**	**325**	*i* P	**Pg**	**16 48 57.9**	**-1.6**
TUTA	**Tutak**	**0.78**	**325**	P	**Pg**	**16 48 57.9**	**-1.6**
DYDN	**Diyadin**	**0.81**	**16**	*i* P	**Pg**	**16 48 58.1**	**-1.9**
DYDN	**Diyadin**	**0.81**	**16**	P	**Pg**	**16 48 58.2**	**-1.9**
BASK	**Baskale_VAN**	**0.86**	**146**	*i* P	**Pg**	**16 49 00.2**	**-0.7**
BASK				*i* S	**Sn**	**16 49 14.7**	**+0.6**
BASK	**Baskale_VAN**	**0.86**	**146**	P	**Pg**	**16 49 00.2**	**-0.7**
BASK				S	**Sn**	**16 49 14.7**	**+0.6**
AGRB	**Hanur-Agry**	**0.87**	**339**	*e*PG	**Pg**	**16 49 00.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.87**	**339**	*e*Pg	**Pg**	**16 49 00.1**	**-1.0**
TATV	**Tatvan**	**0.92**	**254**	*i* P	**Pg**	**16 49 00.3**	**-1.7**
TATV				*i* S	**Sg**	**16 49 13.2**	**-0.9**
TATV	**Tatvan**	**0.92**	**254**	P	**Pg**	**16 49 00.3**	**-1.7**
TATV				S	**Sg**	**16 49 13.2**	**-0.9**
EKAR	**Karacoban**	**1.15**	**296**	*i* P	**Pn**	**16 49 06.3**	**+0.5**
EKAR	**Karacoban**	**1.15**	**296**	P	**Pn**	**16 49 06.3**	**+0.5**
HAKT	**HAKKARI**	**1.23**	**168**	*i* P	**Pg**	**16 49 05.5**	**-2.4**
HAKT	**HAKKARI**	**1.23**	**168**	P	**Pg**	**16 49 05.5**	**-2.4**
EATA	**Eleskirt**	**1.30**	**328**	*i* P	**Pg**	**16 49 07.3**	**-2.0**
EATA				*i* S	**Sn**	**16 49 26.7**	**+1.5**
EATA	**Eleskirt**	**1.30**	**328**	P	**Pg**	**16 49 07.3**	**-2.0**
EATA				S	**Sn**	**16 49 26.7**	**+1.5**
CUKT	**Cukurca**	**1.52**	**173**	*e*PN	**Pb**	**16 49 11.7**	**-0.4**
CUKT	**Cukurca**	**1.52**	**173**	*i* P	**Pg**	**16 49 12.6**	**-0.9**
CUKT	**Cukurca**	**1.52**	**173**	*e*Pn	**Pb**	**16 49 11.7**	**-0.4**
CUKT	**Cukurca**	**1.52**	**173**	P	**Pg**	**16 49 12.6**	**-0.9**
VRTB	**Varto-Mus**	**1.56**	**285**	*e*PN	**Pb**	**16 49 12.3**	**-0.5**
VRTB	**Varto-Mus**	**1.56**	**285**	*e*Pn	**Pb**	**16 49 12.3**	**-0.5**
DIGO	**Kars**	**1.65**	**360**	*i* P	**Pg**	**16 49 14.7**	**-1.3**
DIGO	**Kars**	**1.65**	**360**	P	**Pg**	**16 49 14.7**	**-1.3**
NAX	**Nakhchivan**	**1.69**	**75**	⇑P	**Pn**	**16 49 14.1**	**+1.0**
NAX				⇓S	**Sg**	**16 49 38.4**	**-0.3**
NAX	**Nakhchivan**	**1.69**	**75**	P	**Pn**	**16 49 14.1**	**+1.0**
NAX				S	**Sg**	**16 49 38.4**	**-0.3**
HOMI	**Horasan**	**1.72**	**319**	*i* P	**Pb**	**16 49 15.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	*e*PN	**Pb**	**16 49 16.2**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	*i* P	**Pb**	**16 49 16.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	*e*Pn	**Pb**	**16 49 16.2**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.83**	**251**	P	**Pb**	**16 49 16.6**	**-0.6**
BTMN	**Batman**	**1.88**	**243**	*i* P	**Pb**	**16 49 17.1**	**-1.1**
BTMN				*i* S	**Sg**	**16 49 43.7**	**-1.1**
BTMN	**Batman**	**1.88**	**243**	P	**Pb**	**16 49 17.1**	**-1.1**
BTMN				S	**Sg**	**16 49 43.7**	**-1.1**
EAK	**Akyaka**	**1.93**	**5**	*i* P	**Pg**	**16 49 21.0**	**-0.3**
EAK	**Akyaka**	**1.93**	**5**	P	**Pg**	**16 49 21.0**	**-0.3**
ERZM	**Erzurum**	**1.94**	**307**	*i* P	**Pb**	**16 49 19.2**	**-0.2**
ERZM	**Erzurum**	**1.94**	**307**	P	**Pb**	**16 49 19.2**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*PN	**Pn**	**16 49 18.1**	**+1.1**
SENK	**Senkaya-Erzuru**	**1.97**	**336**	*e*Pn	**Pn**	**16 49 18.2**	**+1.1**
BNGB	**Bing¨¶l**	**2.13**	**277**	*e*PN	**Pn**	**16 49 20.6**	**+1.5**
BINT	**Bingol**	**2.27**	**274**	*e*Pn	**Pn**	**16 49 20.6**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.31**	**288**	*e*PN	**Pn**	**16 49 23.1**	**+1.3**
YEDI	**Yedisu-Bingol**	**2.31**	**288**	*e*Pn	**Pn**	**16 49 23.1**	**+1.3**
DDEM	**Demirkent**	**2.47**	**330**	*i* P	**Pb**	**16 49 29.1**	**+0.8**
DDEM	**Demirkent**	**2.47**	**330**	P	**Pb**	**16 49 29.1**	**+0.8**
KOPT	**Kop Dagi**	**2.57**	**300**	*i* P	**Pb**	**16 49 31.0**	**+0.9**
KOPT	**Kop Dagi**	**2.57**	**300**	P	**Pb**	**16 49 31.0**	**+0.9**
DAGI	**Agillar**	**2.58**	**334**	*i* P	**Pb**	**16 49 30.7**	**+0.6**
MAZI	**Mazidag**	**2.66**	**242**	*e*PN	**Pn**	**16 49 28.1**	**+1.6**
MAZI	**Mazidag**	**2.66**	**242**	*e*Pn	**Pn**	**16 49 28.1**	**+1.6**
GDB	**GEDABAY**	**2.67**	**42**	⇓P	**Pb**	**16 49 30.5**	**-1.3**
GDB				⇓S	**Sb**	**16 50 06.8**	**+2.4**
GDB	**GEDABAY**	**2.67**	**42**	P	**Pb**	**16 49 30.5**	**-1.3**
QZX	**Qazax, Azerbai** SNR=3.5	**2.75**	**33**	⇑P	**Pn**	**16 49 30.3**	**+2.6**
QZX				⇓S	**Sg**	**16 50 09.5**	**-3.2**
QZX	**Qazax, Azerbai** SNR=3.5	**2.75**	**33**	P	**Pn**	**16 49 30.3**	**+2.6**
GANJ	**Ganja**	**2.94**	**49**	⇑P	**Pn**	**16 49 31.7**	**+1.4**
GANJ				⇑S	**Sb**	**16 50 14.2**	**+2.3**
GANJ	**Ganja**	**2.94**	**49**	P	**Pn**	**16 49 31.7**	**+1.4**
DGRG	**David-gareji**	**3.09**	**29**	P	**Pn**	**16 49 34.3**	**+2.0**
PTK	**Pertek**	**3.13**	**274**	*e*PN	**Pn**	**16 49 34.8**	**+1.8**
PTK	**Pertek**	**3.13**	**274**	*e*Pn	**Pn**	**16 49 34.8**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.22**	**264**	*e*PN	**Pn**	**16 49 36.2**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.22**	**264**	*e*Pn	**Pn**	**16 49 36.2**	**+1.9**
BRDA	**Brd**	**3.29**	**62**	⇓P	**Pn**	**16 49 36.8**	**+1.8**
BRDA	**Brd**	**3.29**	**62**	P	**Pn**	**16 49 36.8**	**+1.8**
MNGR	**Mingechevir, A**	**3.48**	**54**	⇓P	**Pn**	**16 49 40.2**	**+2.5**
MNGR	**Mingechevir, A**	**3.48**	**54**	P	**Pn**	**16 49 40.2**	**+2.5**
ZRD	**Zardab**	**3.65**	**64**	⇑P	**Pn**	**16 49 41.2**	**+1.2**
ZRD	**Zardab**	**3.65**	**64**	P	**Pn**	**16 49 41.2**	**+1.2**
ZKTA	**Zakatala**	**3.79**	**40**	⇓P	**Pn**	**16 49 45.0**	**+3.1**
LRK	**Lerik**	**3.87**	**90**	⇑P	**Pn**	**16 49 42.4**	**-0.8**
LRK	**Lerik**	**3.87**	**90**	P	**Pn**	**16 49 42.4**	**-0.8**
GLBA	**Clilabad**	**3.93**	**81**	⇓P	**Pn**	**16 49 43.7**	**-0.1**
GLBA	**Clilabad**	**3.93**	**81**	P	**Pn**	**16 49 43.7**	**-0.1**
KDMR	**Kurdemir**	**4.04**	**65**	⇑P	**Pn**	**16 49 46.5**	**+1.2**
KDMR	**Kurdemir**	**4.04**	**65**	P	**Pn**	**16 49 46.5**	**+1.2**

*BJI **28** 16:50:33.3, 6.51S×144.15E, h10km, mb4.7/46, mB5.0/31,*
Ms4.9/28, Ms7 4.6/27
*NEIC **28** 16:50:34.1±0.3, 6.81S×143.92E, h10km, mb4.9/18, Error*
ellipse: s-maj=7.0km s-min=5.8km az=81.0
*ISCJB **28** 16:50:35.2±0.2, 6.83S±0.03×144.07E±0.03, h30km,*
mb4.7/44, MS4.3/17, Error ellipse: s-maj=5.0km
s-min=3.4km az=158.2
*IDC **28** 16:50:37.2±4.7, 6.79S×144.09E, h33km±37km, mb4.4/17,*
mb1 4.5/20, mb1mx4.4/33, mbtmp4.7/20, ML4.4/4, MS4.0/8,
Ms1 4.0/8, ms1mx3.7/29, Error ellipse: s-maj=20.5km
s-min=11.4km az=76.0
*DJA **28** 16:50:38.1±0.4, 7.3S±4.3×144.4E±, h41km±5km, M5.0/25,*
mb5.0/25, mB5.3/18, MLv5.6/6, Mw(mB)4.8/18
ISC 28 16:50:37.0±0.3, 6.93S±0.04×143.92E±0.04, h30km, n138,
σ29.19/163, mb4.7/43, MS4.2/17, 2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.83**	**246**	P	**Pb**	**16 51 39.7**	**-4.1**
MMPI				S	**Sb**	**16 52 37.3**	**+7.6**
PMG	**Port Moresby**	**4.04**	**128**	Pn	**Pn**	**16 51 36.0**	**-0.8**
PMG				Sn	**Sn**	**16 52 19.8**	**-3.3**
PMG	**Port Moresby**	**4.04**	**128**	*e*Pn	**Pn**	**16 51 36.0**	**-0.8**
PMG				*e*Sn	**Sn**	**16 52 24.1**	**+1.0**
JAY	**Jayapura**	**5.43**	**324**	P	**Pn**	**16 51 56.5**	**+0.5**
GENI	**Genyem**	**5.71**	**319**	P	**Pn**	**16 52 00.9**	**+1.2**
MANU	**Manus Island**	**5.95**	**35**	*e*Pn	**Pn**	**16 52 01.6**	**-1.5**
COEN	**Coen**	**7.02**	**186**	*e*Pn	**Pn**	**16 52 19.3**	**+1.5**
COEN				*e*Sn	**Sn**	**16 53 32.7**	**-4.0**
SMPI	**Sarmi**	**7.15**	**313**	P	**Pn**	**16 52 23.7**	**+4.2**
RABL	**Rabaul**	**8.64**	**72**	*e*Pn	**Pn**	**16 52 38.0**	**-2.1**
MTSU	**Mount Surprise** baz=11,SNR=36	**11.14**	**178**	P	**Pn**	**16 53 15.9**	**+1.6**
FAKI	**Fak Fak**	**12.29**	**288**	P	**Pn**	**16 53 28.3**	**-1.8**
FAKI				S	**Sn**	**16 55 41.7**	**-4.5**
FAKI	**Fak Fak**	**12.29**	**288**	*e*Pn	**Pn**	**16 53 28.0**	**-2.1**
FAKI				*e*Sn	**Sn**	**16 55 42.4**	**-3.8**
SAUI	**Saumlaki** 890nm,0.8s,6μm	**12.56**	**264**	P	P	16 53 39.4	-5.6
SAUI	**Saumlaki**	**12.56**	**264**	*e*Pn	**Pn**	**16 53 32.8**	**-1.0**
KDU	**Kakadu** baz=12,SNR=9.5	**12.65**	**242**	P	**Pn**	**16 53 33.1**	**-1.8**
CTA	**Charters Tower** 0.6nm,0.3s,baz=348,slow=16,SNR=6.8	**13.27**	**170**	Pn	**Pn**	**16 53 45.9**	**+2.4**
CTA				Lg	Lg	16 57 31.8	
CTAO	**Charters Tower** 0.8nm,0.3s,baz=235,slow=21,SNR=4.2	**13.27**	**170**	*e*Pn	**Pn**	**16 53 46.9**	**+3.4**
CTAO				*e*Sn	**Sn**	**16 56 14.2**	**+4.0**
MTN	**Manton Dam** baz=14,SNR=19	**13.90**	**244**	P	**Pn**	**16 53 50.8**	**-1.3**
MTN	**Manton Dam**	**13.90**	**244**	*e*Pn	**Pn**	**16 53 50.6**	**-1.5**
BNDI	**Bandanaira**	**14.15**	**279**	P	**Pn**	**16 53 54.7**	**-0.8**
QIS	**Mount Isa** baz=14,SNR=19	**14.18**	**197**	P	**Pn**	**16 53 55.7**	**-0.2**
MSAI	**Masohi**	**15.35**	**283**	P	P	16 54 24.8	+8.8
WRAB	**Tennant Creek** 37nm,0.6s	**15.92**	**215**	*e*Pn	**Pn**	**16 54 17.4**	**-1.6**
WRAB				*e*Sn	**Sn**	**16 57 18.2**	**+3.5**
WB2	**Warramunga Arr** 44nm,0.6s	**15.93**	**215**	*e*Pn	**Pn**	**16 54 17.6**	**-1.5**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=33,slow=13,SNR=52	**15.93**	**215**	Pn	**Pn**	**16 54 17.3**	**-1.9**
WRA				Sn	**Sn**	**16 57 12.4**	**-2.6**
WRA	0.9nm,0.3s,baz=27,slow=22,SNR=3.5			Lg	Lg	16 59 00.1	
WRA	3.1nm,0.3s,baz=38,slow=26,SNR=5.0			LR	LR	17 01 18.4	
AAI	**Ambon** comp=Z,516nm,21.6s,baz=30,slow=40	**15.99**	**281**	P	**P**	**16 54 25.9**	**+2.8**
HNR	**Honiara** 6.5nm,0.3s,baz=116,slow=3.6,SNR=7.7	**16.05**	**100**	Pn	**Pn**	**16 54 20.4**	**-0.3**
HNR	**Honiara**	**16.05**	**100**	*e*P	**Pn**	**16 54 21.0**	**+0.3**
HNR	**Honiara** 765nm,1.6s	**16.05**	**100**	*e*Pn	**Pn**	**16 54 19.3**	**-1.4**
PALU	**Palau** baz=17,SNR=4.7	**17.03**	**326**	P	**P**	**16 54 37.3**	**+2.7**
NLAI	**Namlea**	**17.15**	**282**	P	**Pn**	**16 54 34.8**	**+0.2**
KNRA	**Kununurra** baz=17,SNR=22	**17.21**	**238**	P	**Pn**	**16 54 32.9**	**-2.4**
LBMI	**Labuha**	**17.53**	**290**	P	**P**	**16 54 39.9**	**-0.3**
SANI	**Sanana**	**18.52**	**284**	P	**Pn**	**16 54 53.0**	**+1.5**
AS31	**Alice Springs** 23nm,0.7s	**19.22**	**209**	*e*P	**Pn**	**16 55 01.1**	**+1.2**
ASAR	**Alice Springs** 7.7nm,0.3s,baz=40,slow=9.8,SNR=536	**19.22**	**209**	P	**Pn**	**16 55 01.8**	**+1.8**
ASAR				S	**S**	**16 58 35.0**	**0.0**
ASAR	0.7nm,0.3s,baz=37,slow=20,SNR=3.5			Lg	Lg	17 00 39.1	
QLP	**Quilpie** baz=20,SNR=32	**19.55**	**179**	P	**Pn**	**16 55 04.8**	**+1.0**
EIDS	**Eidsvold** baz=20,SNR=9.9	**19.57**	**160**	P	**Pn**	**16 55 05.7**	**+1.6**
EIDS	**Eidsvold** 116nm,1.4s	**19.57**	**160**	*e*P	**P**	**16 55 02.7**	**+0.1**
SOEI	**Soe**	**19.65**	**260**	P	**Pn**	**16 55 06.1**	**+0.9**
SOEI	**Soe** 160nm,0.9s	**19.65**	**260**	*e*P	**P**	**16 55 03.7**	**0.0**
RMQ	**Roma** baz=20,SNR=23	**19.98**	**167**	P	**Pn**	**16 55 10.5**	**+1.5**
GUMO	**Guam** 123nm,0.8s,baz=200,slow=11,SNR=5.8	**20.41**	**3**	P	**P**	**16 55 09.9**	**-1.9**
GUMO				LR	LR	17 02 31.9	
FITZ	**Fitzroy Crossi** 27nm,0.7s,baz=58,slow=10,SNR=47	**21.00**	**236**	P	**P**	**16 55 19.0**	**+1.0**
FITZ				S	**S**	**16 59 01.7**	**-8.9**
FITZ	16nm,0.8s,baz=131,slow=11,SNR=3.3			Lg	Lg	17 01 35.8	
FITZ	50nm,1.0s,baz=161,slow=12,SNR=4.8			LR	LR	17 04 24.1	
FITZ	**Fitzroy Crossi** baz=21,SNR=31	**21.00**	**236**	P	**P**	**16 55 19.1**	**+1.0**
FITZ	**Fitzroy Crossi** 24nm,0.8s	**21.00**	**236**	*e*P	**P**	**16 55 19.2**	**+1.0**
FITZ				S	**S**	**16 59 01.7**	**-8.9**
MMRI	**Maumere**	**21.55**	**264**	P	**P**	**16 55 29.1**	**+4.9**
LUWI	**Luwuk**	**21.89**	**285**	P	**P**	**16 55 30.1**	**+2.4**
EDFI	**Ende, Flores**	**22.10**	**264**	P	**P**	**16 55 31.7**	**+1.6**
APSI	**Ampana**	**23.00**	**284**	P	**P**	**16 55 41.5**	**+1.9**
MRSI	**Marisa**	**

30nm,1.1s
HTT Hallett 26.77 189 P **P 16 56 14.6 +0.2**
baz=27,SNR=7.9
MSVF Nonsavu 34.96 111 *e*P **P 16 57 25.7 -1.1**
29nm,1.2s
HIZ Hauiti 42.06 143 *e*P P 16 58 32.1 +6.0
50nm,1.0s
QIZ Qiongzhong 42.35 308 P **P 16 58 28.0 -0.7**
QIZ S **S 17 04 47.8 -0.5**
QIZ sS **sS 17 05 01.3 -1.7**
QIZ LR LR
comp=Z,310nm,16.2s
THZ Tophouse 43.17 148 *e*P **P 16 58 38.5 +3.4**
19nm,0.8s
URZ Urewera 43.28 141 P **P 16 58 34.9 -1.1**
4.7nm,0.4s,baz=233,slow=2.7,SNR=8.5
URZ Urewera 43.28 141 *e*P **P 16 58 37.2 +1.2**
23nm,1.1s
BKZ Black Stump Fm 43.46 143 *e*P **P 16 58 39.1 +1.5**
34nm,1.0s
MJAR Matsushiro Arr 43.57 353 P **P 16 58 35.4 -2.9**
4.0nm,0.8s,baz=182,slow=9.1,SNR=10
MJAR LR LR 17 16 18.6
comp=Z,156nm,19.7s,baz=65,slow=36
MAJO Matsushiro 43.58 353 *e*P **P 16 58 37.0 -1.4**
30nm,1.4s
MJB9 Matsu-Tunnel 43.58 353 *e*P **P 16 58 37.3 -1.1**
7.7nm,1.4s
SSE Sheshan 43.63 331 P **P 16 58 40.3 +1.5**
SSE S **S 17 05 13.5 +6.9**
SSE pmax pmax
comp=Z,51nm,0.7s
SSE LR LR
comp=N,120nm,21.6s
SSE LR LR
comp=E,75nm,22.0s
SSE LR LR
comp=Z,150nm,20.0s
RPZ Rata Peaks 43.68 151 P **P 16 58 40.1 +0.9**
14nm,0.6s,baz=300,slow=4.9,SNR=13
IPM Ipoh 44.29 284 *e*P **P 16 58 45.2 +0.6**
19nm,1.2s
NJ2 Nanjing 45.55 330 *e*P **P 16 58 53.5 -0.6**
NJ2 pmax pmax
comp=Z,12nm,1.2s
PSI Prapat 45.94 281 *e*P **P 16 58 57.3 -0.5**
20nm,1.1s
KS15 Wonju Array Si 46.62 342 *e*P **P 16 59 02.4 -0.1**
KSAR Wonju Array Be 46.62 342 P **P 16 59 02.3 -0.2**
KSRS Korea Array 46.62 342 P **P 16 59 02.3 -0.2**
16nm,0.8s,baz=162,slow=9.1,SNR=60
INCN Inchon 47.04 341 *e*P **P 16 59 05.7 -0.2**
19nm,0.6s
GYA Guiyang 49.06 314 *e*P **P 16 59 22.8 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
UTTA Uttaradit 49.35 300 P **P 16 59 26.5 +2.6**
3.0nm,1.0s
NANT Nan 49.69 302 P **P 16 59 28.0 +1.4**
5.8nm,0.9s
LAMP Lampang 50.47 301 P **P 16 59 36.2 +3.7**
4.4nm,0.9s
CM31 Chiang Mai Arr 51.03 300 *e*P **P 16 59 38.4 +1.6**
CMAR Chiang Mai Arr 51.03 300 P **P 16 59 37.7 +0.9**
6.3nm,0.7s,baz=117,slow=5.9,SNR=53
CMAR LR LR 17 23 04.9
comp=Z,69nm,18.8s,baz=130,slow=38
CHTO Chiang Mai 51.19 301 P **P 16 59 39.0 +1.1**
62nm,1.0s
CHTO Chiang Mai 51.19 301 *e*P **P 16 59 38.5 +0.6**
9.9nm,0.9s
KMI Kunming 51.19 310 P **P 16 59 38.3 +0.2**
KMI sP pP 16 59 44.8 -2.4
KMI S **S 17 06 50.5 -4.5**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=N,130nm,21.7s
KMI LR LR
comp=E,180nm,23.6s
KMI LR LR
comp=Z,200nm,23.4s
CMAI Chiengmai2 51.59 302 P **P 16 59 42.7 +1.6**
375nm,1.2s
USRK Ussuriysk Ar. 52.02 349 P **P 16 59 43.1 -0.6**
4.1nm,0.6s,baz=180,slow=7.9,SNR=9.3
XAN Xi'an 52.52 323 P **P 16 59 47.3 -0.3**
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN pmax pmax
comp=Z,51nm,5.9s
CN2 Changchun 53.19 343 *e*P **P 16 59 52.0 -0.4**
CN2 *e*S **S 17 07 21.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,14.0s
BJI Beijing 53.29 334 P **P 16 59 52.5 -0.6**
BJI S **S 17 07 21.5 -1.3**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=N,430nm,18.5s
BJI LR LR
comp=E,240nm,14.9s
CD2 Chengdu 53.79 317 *e*P **P 16 59 57.8 +0.8**
HHC Hu-ho-hao-te 56.08 331 *e*P **P 17 00 14.8 +1.3**
HHC sP sP 17 00 25.0 -1.3
HHC PP **PP 17 02 20.3 +1.5**
HHC S **S 17 08 04.3 +3.8**
HHC sS sS 17 08 14.5 -1.2
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.7s
HHC LR LR
comp=N,360nm,14.7s
HHC LR LR
comp=E,380nm,17.1s
HHC LR LR
comp=Z,260nm,17.5s
KLR Kul'dur 56.93 351 P **P 17 00 18.5 -0.7**
0.2nm,0.6s,baz=175,slow=1.6,SNR=7.9
LZH Lanzhou 56.98 322 *e*P **P 17 00 22.0 +1.9**
LZH pP pP 17 00 26.0 -3.3
LZH sP sP 17 00 28.5 -4.3
LZH PP **PP 17 02 29.0 +2.0**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=N,990nm,13.8s
LZH LR LR
comp=E,370nm,12.1s
LZH LR LR
comp=Z,440nm,15.0s
GTA Gaotai 61.55 322 *e*P **P 17 00 52.3 +0.7**
GTA pP pP 17 00 56.8 -4.1
GTA sP sP 17 00 59.3 -5.1
GTA S **S 17 09 12.0 +0.3**
GTA sS pS 17 09 20.0 -2.9
GTA SS **SS 17 13 13.5 +0.1**
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,40nm,5.2s
GTA LR LR
comp=N,440nm,18.5s
GTA LR LR
comp=E,500nm,20.4s
GTA LR LR
comp=Z,490nm,15.7s
ULN Ulaanbaatar 63.50 333 *e*P **P 17 01 05.1 +0.6**
SONM Songino Array 63.78 333 P **P 17 01 06.1 -0.2**
1.1nm,0.7s,baz=152,slow=3.2,SNR=9.2
TAPN Taplejung 64.13 305 *e*P **P 17 01 09.9 +0.6**
33nm,1.1s
ODAN Odare 64.20 304 *e*P **P 17 01 10.1 +0.5**
RAMN Ramite 64.89 304 *e*P **P 17 01 14.8 +0.7**
JIRN Jiri 65.50 304 *e*P **P 17 01 19.0 +0.8**
GUN Gumba 65.85 305 *e*P **P 17 01 21.0 +0.5**
43nm,1.1s
PKI Pulchoki 66.10 304 *e*P **P 17 01 22.6 +0.5**
16nm,1.0s
PKIN Phulchoki 66.11 304 *e*P **P 17 01 23.2 +1.1**
KKN Kakani 66.29 304 *e*P **P 17 01 23.5 +0.3**
20nm,0.9s
DMN Daman 66.37 304 *e*P **P 17 01 24.2 +0.5**
23nm,0.8s
GKN Gorkha 66.90 304 *e*P **P 17 01 27.3 +0.3**
KOLN Koldanda 67.67 304 *e*P **P 17 01 32.3 +0.4**
19nm,0.8s
DANN Dangsing 67.75 304 *e*P **P 17 01 33.6 +1.1**
PYUN Piuthan 68.29 304 *e*P **P 17 01 36.0 +0.2**
VNDA Vanda 71.19 176 P **P 17 01 53.3 +0.8**
3.3nm,1.0s,baz=323,slow=7.0,SNR=12
VNDA LR LR 17 32 20.1
comp=Z,128nm,18.2s,baz=348,slow=35
VNDA Vanda 71.19 176 *e*P **P 17 01 53.5 +0.9**
WMQ Urumqi 71.53 321 P **P 17 01 57.0 +1.7**
WMQ pP pP 17 02 01.5 -3.2
WMQ sP sP 17 02 04.0 -4.2
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,98nm,3.8s
WMQ LR LR
comp=N,740nm,22.9s
WMQ LR LR
comp=E,500nm,21.1s
WMQ LR LR
comp=Z,330nm,21.1s
SBA Scott Base 71.88 175 *e*P **P 17 01 59.8 +3.1**
POO Poona 73.55 292 *e*P **P 17 02 04.0 -3.8**
MK31 Makanchi Array 76.29 322 *e*P **P 17 02 23.4 +0.4**
MKAR Makanchi Array 76.29 322 P **P 17 02 22.9 -0.1**
2.8nm,0.8s,baz=106,slow=6.2,SNR=18
MAKZ Makanchi 76.49 321 *e*P **P 17 02 24.5 +0.3**
KSH Kashi 77.74 313 P **P 17 02 31.8 +0.3**
KSH pP pP 17 02 37.3 -3.7
KSH sP PcP 17 02 39.3 -2.1
KSH PcP **sP 17 02 43.0 -1.5**
KSH PP **PP 17 05 31.3 +4.1**
KSH S **S 17 12 22.0 -0.1**
KSH sS pS 17 12 30.8 -3.2
KSH SKS **SKSac 17 12 39.5 -3.8**
KSH ScS **SKKSac 17 12 46.3 +2.1**
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH pmax pmax
comp=Z,190nm,6.4s
KSH LR LR
comp=N,250nm,8.7s
KSH LR LR
comp=E,190nm,9.4s
KSH LR LR
comp=Z,350nm,12.8s
ZALV Zalesovo Beam 78.19 329 P **P 17 02 32.4 -1.1**
3.4nm,0.6s,baz=112,slow=5.1,SNR=17
KURK Kurchatov 80.14 324 *e*P **P 17 02 42.1 -2.1**
MAW Mawson 80.22 203 P **P 17 02 45.1 +0.8**
4.2nm,1.0s,baz=106,slow=7.4,SNR=3.0
MAW LR LR 17 35 35.9
comp=Z,86nm,19.2s,baz=60,slow=34
NRIK Noril'sk 85.23 343 P **P 17 03 09.4 -0.9**
8.8nm,0.7s,baz=114,slow=4.7,SNR=14
ILAR Eielson Array 87.54 24 P **P 17 03 19.7 -2.0**
1.7nm,0.7s,baz=252,slow=5.1,SNR=5.7
SYO Syowa Base 88.67 200‖ *e*P **P 17 03 26.6 -0.4**
SYO Syowa Base 88.67 200‖ *e*PcP **PcP 17 03 30.4 +1.8**
GERES GERESS Array B 120.90 324 PKP **PKPdf 17 09 26.5 -0.1**
0.4nm,0.7s,baz=52,slow=1.6,SNR=3.0
TORD Torodi Ar. Bea 142.33 282 PKhKP PKPpre 17 10 02.4
0.6nm,0.8s,baz=71,slow=2.0,SNR=4.3
TORD PKP **PKPdf 17 10 07.2 -0.6**
0.9nm,0.8s,baz=77,slow=3.1,SNR=5.5
DBIC Dimbokro 149.00 271 PKPbc **PKPbc 17 10 22.6 -0.6**
2.7nm,0.8s,baz=63,slow=4.5,SNR=2.5

NEIC ***28*** *16:55:49.9±0.0, 51.°11N×176.°43E, h44km, mb4.9/79, ML4.8(AEIC), After AEIC.*
IDC ***28*** *16:55:51.6±3.1, 51.°48N×176.°65E, h22km±19km, mb4.3/30, mb1 4.4/33, mb1mx4.3/50, mbtmp4.4/33, ML3.3/2, MS4.3/20, Ms1 4.3/20, ms1mx4.0/40, Error ellipse: s-maj=17.9km s-min=10.6km az=162.0*
BJI ***28*** *16:55:52.0, 51.°73N×176.°55E, h42km, mb4.6/43, mB5.1/33, Ms4.8/26, Ms7 4.5/26*
MOS ***28*** *16:55:52.5±1.2, 51.°47N×176.°60E, h40km, mb5.0/43, MS4.6/8, Error ellipse: s-maj=7.6km s-min=5.5km az=98.5*
ISCJB ***28*** *16:55:53.1±0.6, 51.°46N±0.°05×176.°63E±0.°03, h48km±4km, mb4.7/134, MS4.4/36, Error ellipse: s-maj=7.8km s-min=3.0km az=3.3*
ISC 28 16:55:53.4±0.7**, 51.°46N**±0.°08×**176.°60E**±0.°03**, h33**km±2km**, n424,** σ1§**43**/438**, mb4.8**/147**, MS4.5**/36**, 24C-14D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.00**	**311**	*e*P	**Pn**	**16 56 24.0**	**-0.8**
SMY	**Shemya**	**2.00**	**311**	*e*Pn	**Pn**	**16 56 24.0**	**-0.8**
GALAA	**Gareloi Lava P**	**2.91**	**82**	P	**Pn**	**16 56 37.2**	**0.0**
GAEA	**Gareloi East**	**2.92**	**82**	P	**Pn**	**16 56 37.3**	**-0.2**
TASE	**Tanaga Southea**	**3.37**	**81**	P	**Pn**	**16 56 44.0**	**+0.4**
TASE				S	**Sn**	**16 57 25.1**	**+2.7**
TAFL	**Tanaga Flats**	**3.45**	**83**	P	**Pn**	**16 56 44.9**	**+0.3**
ADK	**Adak**	**4.21**	**82**	*e*P	**Pn**	**16 56 55.4**	**+0.3**
ADK	**Adak**	**4.21**	**82**	*e*Pn	**Pn**	**16 56 55.4**	**+0.3**
ETKA	**Kagalaska Isla**	**4.38**	**82**	P	**Pn**	**16 56 57.8**	**+0.3**
KOWE	**Korovin West**	**5.74**	**77**	P	**Pn**	**16 57 17.2**	**+1.0**
ATKA	**Atka Island**	**5.76**	**79**	*e*Pn	**Pn**	**16 57 16.9**	**+0.5**
KOKL	**Mount Kliuchef**	**5.77**	**78**	P	**Pn**	**16 57 17.5**	**+0.9**
KOFP	**Korovin Flat P**	**5.83**	**78**	P	**Pn**	**16 57 18.3**	**+0.9**
NIKH	**Nikolski High**	**9.07**	**75**	P	**Pn**	**16 58 03.7**	**+1.9**
OKSP	**Okmok Steeple**	**9.43**	**73**	P	**Pn**	**16 58 09.1**	**+2.4**
OKSO	**Okmok South**	**9.51**	**72**	P	**Pn**	**16 58 10.1**	**+2.2**
OKNC	**Okmok New Cone**	**9.54**	**72**	P	**Pn**	**16 58 11.4**	**+3.1**
SPIA	**Saint Paul Isl**	**9.58**	**48**	P	**Pn**	**16 58 12.8**	**+4.0**
OKTU	**Okmok Mt. Tuli**	**9.59**	**72**	P	**Pn**	**16 58 11.7**	**+2.7**
UNV	**Unalaska Valle**	**10.55**	**70**	*e*Pn	**Pn**	**16 58 24.4**	**+2.4**
AKUT	**Akutan**	**11.01**	**69**	*e*Pn	**Pn**	**16 58 31.1**	**+2.8**
PET	**Petropavlovsk**	**11.11**	**285**	*e*P	**Pn**	**16 58 34.2**	**+4.4**
PET				*e*S	**Sn**	**17 00 37.3**	**+4.6**
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PEA0B	**Petropavlovsk-**	**11.69**	**286**	*e*Pn	**Pn**	**16 58 40.1**	**+2.4**
PETK	**Petropavlovsk-**	**11.69**	**286**	Pn	**Pn**	**16 58 36.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=92,slow=19,SNR=14						
PETK				Sn	**Sn**	**17 00 38.5**	**-8.4**
	comp=Z,0.2nm,0.3s,baz=92,slow=20,SNR=2.1						
PETK				LR	LR	17 04 23.7	
	comp=Z,759nm,18.3s,baz=96,slow=44						
FALS	**False Pass**	**12.46**	**66**	*e*Pn	**Pn**	**16 58 50.0**	**+1.8**
SKR	**Severo-Kuril's**	**12.90**	**275**	*e*P	**P**	**16 58 59.8**	**-4.7**
SKR				*e*S	**Sn**	**17 01 23.5**	**+7.1**
SKR				MLR	MLR		
	comp=Z,400nm,17.0s						
MA2	**Magadan**	**16.64**	**309**	LR	LR	17 05 37.6	
	comp=Z,498nm,20.1s,baz=112,slow=35						
SEY	**Seymchan**	**17.31**	**321**	P	**P**	**16 59 52.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=115,slow=12,SNR=4.8						
BILL	**Bilibino**	**17.38**	**347**	*e*P	**P**	**16 59 55.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
SVW2	**Sparrevohn**	**18.07**	**47**	*e*P	**P**	**17 00 03.0**	**+1.2**
	comp=Z,22nm,0.9s						
OHAK	**Old Harbor**	**18.38**	**60**	*e*P	**P**	**17 00 02.9**	**-2.3**
	comp=Z,47nm,1.2s						
TT01	**Tatalina**	**18.58**	**41**	*e*P	**Pn**	**17 00 09.2**	**+1.4**
TTA	**Tatalina**	**18.59**	**41**	*e*P	**Pn**	**17 00 08.9**	**+0.9**
TTA	**Tatalina**	**18.59**	**41**	*e*P	**Pn**	**17 00 08.9**	**+0.9**
KDAK	**Kodiak Island**	**18.82**	**58**	P	**P**	**17 00 07.9**	**-2.0**
	comp=Z,4.1nm,0.3s,baz=269,slow=5.3,SNR=41						
KDAK	**Kodiak Island**	**18.82**	**58**	*c*e*P*	**P**	**17 00 08.3**	**-1.6**
KDAK	**Kodiak Island**	**18.82**	**58**	*e*P	**P**	**17 00 08.5**	**-1.4**
	comp=Z,34nm,0.7s						
RSO	**Redoubt South**	**19.21**	**50**	*e*P	**Pn**	**17 00 15.3**	**-0.2**
SPU	**Mount Spurr**	**19.73**	**48**	*e*P	**P**	**17 00 20.1**	**+0.1**
CNPM	**China Poot**	**19.76**	**53**	*e*P	**P**	**17 00 20.2**	**-0.1**
	comp=Z,51nm,0.6s						

BRLK Bradley Lake 19.98 53 *e*P **P 17 00 22.2 -0.5**
comp=Z,50nm,0.8s
KUR Kuril'sk 20.00 263 *e*P P 17 00 08.6 -14
KUR *e*S S 17 03 52.2 -14
KUR pmax pmax
comp=Z,279nm,1.5s
KUR MLR MLR
comp=Z,221nm,10.0s
KUR MLR MLR
comp=N,192nm,11.0s
KUR MLR MLR
comp=E,191nm,9.0s
SEW Seward 20.75 52 *e*P **P 17 00 30.6 -0.4**
comp=E,131nm,1.4s
BPAW Bear Paw Mtn. 21.13 41 *e*P **P 17 00 36.2 +1.2**
comp=E,29nm,1.0s
MLY Manley 21.58 39 *e*P **P 17 00 39.8 -0.1**
comp=E,40nm,1.0s
SML Sawmill 21.61 48 *e*P **P 17 00 40.2 -0.1**
SML pmax pmax
comp=Z,63nm,0.8s
SML Sawmill 21.61 48 *e*P **P 17 00 40.2 -0.1**
comp=Z,63nm,0.8s
RND Reindeer 21.79 43 *e*P **P 17 00 42.6 +0.4**
RND pmax pmax
comp=Z,78nm,1.7s
RND Reindeer 21.79 43 *e*P **P 17 00 42.6 +0.4**
comp=Z,78nm,1.7s
MCK McKinley 21.86 43 *e*P **P 17 00 42.9 +0.1**
MCK pmax pmax
comp=Z,42nm,1.2s
MCK McKinley 21.86 43 *e*P **P 17 00 42.9 +0.1**
comp=Z,42nm,1.2s
GLI Glacier Island 22.03 51 *e*P **P 17 00 43.6 -1.1**
comp=Z,42nm,0.8s
SCM Sheep Creek Mo 22.09 48 *e*P **P 17 00 45.2 -0.2**
SCM pmax pmax
comp=Z,125nm,1.2s
SCM Sheep Creek Mo 22.09 48 *e*P **P 17 00 45.2 -0.2**
comp=Z,125nm,1.2s
FID Port Fidalgo 22.31 51 *e*P **P 17 00 47.0 -0.6**
comp=Z,96nm,1.3s
DHY Denali Highway 22.35 45 *e*P **P 17 00 47.5 -0.8**
comp=Z,32nm,0.8s
YSS Yuzh-Sakhalins 22.44 272 *e*P **P 17 00 51.2 +2.1**
WRH Wood River Hil 22.44 41 *e*P **P 17 00 48.2 -0.8**
comp=Z,33nm,1.0s
MDM Murphy Dome 22.55 40 *e*P **P 17 00 50.3 +0.1**
comp=Z,30nm,0.7s
CCB Clear Creek Bu 22.61 41 *e*P **P 17 00 50.1 -0.8**
comp=Z,23nm,1.1s
COLA College 22.67 40 *e*P **P 17 00 50.6 -0.9**
COLA pmax pmax
comp=Z,9.0nm,0.9s
KLU Klutina 22.69 49 *e*P **P 17 00 51.8 0.0**
comp=Z,23nm,0.8s
DIV Divide 22.70 50 *e*P **P 17 00 52.2 +0.2**
comp=Z,53nm,1.4s
COLD Coldfoot 22.73 33 *e*P **P 17 00 51.8 -0.3**
comp=Z,12nm,0.9s
ILAR Eielson Array 23.03 41 P **P 17 00 53.0 -2.2**
comp=Z,3.8nm,0.7s,baz=241,slow=9.9,SNR=26
ILAR LR LR 17 10 30.6
comp=Z,768nm,20.0s,baz=245,slow=38
ILB Eielson Array 23.03 41 *e*P **P 17 00 53.0 -2.2**
RAGM Ragged Mountai 23.15 52 *e*P **P 17 00 56.5 0.0**
comp=Z,62nm,1.0s
PAX Paxson 23.17 46 *e*P **P 17 00 56.0 -0.8**
PAX pmax pmax
comp=Z,60nm,1.1s
PAX Paxson 23.17 46 *e*P **P 17 00 56.0 -0.8**
comp=Z,60nm,1.1s
HARP HAARP 23.20 47 *e*P **P 17 00 57.0 0.0**
comp=Z,42nm,0.8s
BMRM Bremner River 23.25 51 *e*P **P 17 00 56.9 -0.6**
comp=Z,62nm,1.2s
TOLK Toolik Lake Re 23.62 31 P **P 17 01 01.1 0.0**
baz=241
TOLK Toolik Lake Re 23.62 31 *e*P **P 17 01 00.8 -0.2**
comp=Z,23nm,0.7s
ASAJ Asahikawa 23.83 265 P **P 17 01 03.1 0.0**
comp=Z,20nm,0.8s,baz=80,slow=5.3,SNR=11
ASAJ Asahikawa 23.83 265 *e*P **P 17 01 03.3 +0.2**
comp=Z,19nm,0.8s
DOT Dot Lake 23.93 44 *e*P **P 17 01 03.2 -0.8**
comp=Z,66nm,0.6s
CRQM Cirque 23.94 51 *e*P **P 17 01 03.9 -0.4**
comp=Z,44nm,1.0s
MENT Mentasta 23.95 46 *e*P **P 17 01 04.0 -0.2**
comp=Z,156nm,1.4s
FYU Fort Yukon 24.26 37 *e*P **P 17 01 07.4 +0.4**
comp=Z,99nm,1.6s
EGAK Eagle 25.41 42 *e*P **P 17 01 17.0 -0.4**
comp=Z,50nm,0.9s
DAWY Dawson 26.04 44 *e*P **P 17 01 23.3 +0.1**
comp=Z,43nm,1.0s
HABR Khabarovsk 26.63 280 *e*P **P 17 01 27.3 -1.3**
HABR *e**PP **sP 17 01 40.1 -2.2**
HABR *e**SP pP 17 01 46.4 +8.2
HABR *e* 17 02 10.0
HABR *e*S **S 17 05 59.7 -1.4**
HABR *e**SS **sS 17 06 22.2 +5.2**
HABR *e*SS **SnSn 17 07 08.0 +2.9**
HABR *e* 17 12 16.0
HABR pmax pmax
comp=N,15nm,1.8s
HABR pmax pmax
comp=E,31nm,1.8s
HABR pmax pmax
comp=Z,28nm,1.8s
HABR MLR MLR
comp=Z,119nm,17.0s
YAK Yakutsk 27.20 311 P **P 17 01 32.6 -0.9**
comp=Z,41nm,0.9s,baz=268,slow=3.5,SNR=29
YAK LR LR 17 12 11.7
comp=Z,261nm,18.2s,baz=84,slow=36
YAK Yakutsk 27.20 311 *e*P **P 17 01 31.9 -1.6**
YAK *e**PP **pP 17 01 42.3 -0.8**
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 27.20 311 *e*P **P 17 01 31.6 -2.0**
comp=N,49nm,0.9s
KLR Kul'dur 28.37 283 P **P 17 01 44.3 +0.1**
comp=N,0.8nm,0.8s,baz=45,slow=7.5,SNR=8.3
INK Inuvik 29.07 36 P **P 17 01 49.8 -0.3**
comp=N,3.2nm,0.8s,baz=246,slow=9.1,SNR=9.7
INK LR LR 17 13 40.8
comp=N,660nm,20.4s,baz=242,slow=37
TIXI Tiksi 29.16 331 P **P 17 01 49.8 -1.2**
comp=N,3.4nm,0.7s,baz=120,slow=10,SNR=16
TIXI PcP **PcP 17 04 57.2 -0.3**
comp=N,2.8nm,0.8s,baz=98,slow=2.8,SNR=4.1
TIXI ScP **ScP 17 08 36.5 +0.2**
comp=N,1.7nm,1.0s,baz=90,slow=3.3,SNR=3.8
TIXI LR LR 17 14 17.7
comp=N,991nm,18.0s,baz=91,slow=38
TIXI Tiksi 29.16 331 *c*e*P* **P 17 01 51.6 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 29.16 331 *e*P **P 17 01 49.9 -1.2**
comp=Z,4.0nm,0.8s
TIXI PcP **PcP 17 04 57.2 -0.3**
TIXI ScP **ScP 17 08 36.5 +0.2**
MJAR Matsushiro Arr 30.97 256 P **P 17 02 07.9 +0.6**
comp=Z,2.0nm,0.9s,baz=59,slow=7.1,SNR=4.8
MAJO Matsushiro 30.97 256 *e*P **P 17 02 08.3 +0.9**
MAJO pmax pmax
comp=Z,42nm,1.0s
MAJO Matsushiro 30.97 256 *e*P **P 17 02 07.2 -0.1**
comp=Z,7.8nm,0.9s
MDJ Mudanjiang 31.71 276 P **P 17 02 13.3 -0.4**
MDJ pP pP 17 02 24.0 +0.6
MDJ sP sP 17 02 29.3 +1.9
MDJ S **S 17 07 19.0 -1.9**
MDJ sS sS 17 07 38.0 +1.1
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,49nm,4.1s
MDJ LR LR
comp=Z,410nm,17.1s
MDJ LR LR
comp=Z,230nm,17.9s

MDJ LR LR
comp=Z,450nm,19.6s
H11N2 WAKE ISLAND Hy 32.57 197 T T 17 37 45.4
baz=10,slow=76
H11N3 WAKE ISLAND Hy 32.58 197 T T 17 37 41.2
baz=10
H11N1 WAKE ISLAND Hy 32.58 197 T T 17 37 46.1
baz=10,slow=76
H11S1 WAKE ISLAND Hy 33.80 197 T T 17 39 20.6
baz=15
H11S3 WAKE ISLAND Hy 33.81 197 T T 17 39 21.6
baz=15,slow=74
H11S2 WAKE ISLAND Hy 33.81 197 T T 17 39 25.4
baz=15,slow=74
HIA Hailar 35.56 289 *d iP* **P 17 02 45.4 -1.8**
HIA pmax pmax
comp=Z,5.0nm,0.9s
BOD Bodaibo 35.60 305 *eP* **P 17 02 46.2 -1.2**
BOD pmax pmax
comp=Z,17nm,0.9s
KSRS Korea Array 36.76 267 P **P 17 02 58.8 +1.3**
comp=Z,3.3nm,0.8s,baz=60,slow=8.6,SNR=13
KSAR Wonju Array Be 36.79 267 P **P 17 02 58.8 +1.0**
KSAR Wonju Array Be 36.79 267 P **P 17 02 58.8 +1.0**
YKA Yellowknife Ar 37.26 46 P **P 17 03 01.4 0.0**
comp=Z,3.6nm,0.6s,baz=286,slow=8.5,SNR=8.0
CIT Chita 37.95 296 *eP* **P 17 03 06.5 -1.0**
CIT *e* 17 03 16.9
I03D Drain, OR 40.22 77 P **P 17 03 27.3 +0.8**
baz=303
G05D Wamic, OR 40.62 74 P **P 17 03 30.1 +0.2**
baz=302
I04A Tendick Farm, 40.74 76 P **P 17 03 31.4 +0.6**
baz=303
L02D Cave Junction, 40.92 79 P **P 17 03 33.0 +0.7**
baz=305
HAWA Hanford 41.09 71 *eP* **P 17 03 33.9 +0.2**
comp=Z,7.9nm,0.7s
J04D Umpqua Nationa 41.23 77 P **P 17 03 36.0 +0.9**
baz=304
J05D Fort Rock, OR 41.73 76 P **P 17 03 39.3 +0.1**
baz=304
M02C Callahan 41.82 79 P **P 17 03 40.8 +1.0**
baz=305
M04C Macdoel 42.21 78 P **P 17 03 43.8 +0.7**
baz=305
MOD Modoc Plateau 43.08 77 *eP* **P 17 03 50.1 -0.1**
comp=Z,5.7nm,0.6s
O03D Paynes Creek 43.10 80 P **P 17 03 50.8 +0.6**
baz=307
NMTM Middletown 43.60 82 *eP* **P 17 03 54.3 +0.1**
ULN Ulaanbaatar 43.62 294 *ceP* **P 17 03 55.1 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 43.62 294 *eP* **P 17 03 53.1 -1.3**
comp=Z,6.1nm,1.1s
WVOR Wild Horse Val 43.79 75 *eP* **P 17 03 55.7 -0.1**
WVOR pmax pmax
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 43.79 75 *eP* **P 17 03 55.7 -0.1**
comp=Z,5.5nm,0.8s
SONM Songino Array 44.01 294 P **P 17 03 57.7 +0.1**
comp=Z,3.2nm,0.8s,baz=59,slow=7.3,SNR=12
SONM PcP **PcP 17 05 42.7 +0.1**
comp=Z,1.4nm,0.7s,baz=54,slow=2.4,SNR=3.5
HHC Hu-ho-hao-te 44.88 283 *eP* **P 17 04 04.8 +0.3**
HHC sP sP 17 04 24.8 +6.4
HHC S **S 17 10 43.0 +3.1**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,130nm,4.1s
HHC LR LR
comp=Z,320nm,15.7s
HHC LR LR
comp=Z,390nm,18.6s
HHC LR LR
comp=Z,260nm,17.1s
PNTR Pine Nut 45.19 80 *eP* **P 17 04 07.7 +0.6**
comp=Z,25nm,0.8s
CMB Columbia Colle 45.35 82 *eP* **P 17 04 09.1 +0.9**
CMB pmax pmax
comp=Z,12nm,1.2s
CMB Columbia Colle 45.35 82 *eP* **P 17 04 09.1 +0.9**
comp=Z,12nm,1.2s
YERR Yerington 45.47 80 *eP* **P 17 04 09.9 +0.6**
comp=Z,8.7nm,0.8s
GUMO Guam 45.60 226 LR LR 17 22 26.1
comp=Z,159nm,18.1s,baz=54,slow=35
WAKR Walker 45.65 80 *eP* **P 17 04 11.8 +1.1**
comp=Z,10nm,0.6s
HLID Hailey 45.67 72 P **P 17 04 11.2 +0.3**
baz=306
HLID Hailey 45.67 72 *eP* **P 17 04 11.3 +0.3**
comp=Z,6.6nm,1.0s
BMN Battle Mountai 45.83 77 *eP* **P 17 04 12.7 +0.6**
BMN pmax pmax
comp=Z,7.0nm,0.6s
BMN Battle Mountai 45.83 77 *eP* **P 17 04 12.7 +0.6**
comp=Z,6.8nm,0.6s
NJ2 Nanjing 45.93 268 *eP* **P 17 04 12.5 -0.3**
NJ2 pmax pmax
comp=Z,11nm,1.3s
PMPB Monarch Peak 46.23 84 *eP* **P 17 04 15.4 +0.1**
comp=Z,16nm,0.8s
YHH Holmes Hill 47.06 68 *eP* **P 17 04 21.0 -0.9**
comp=Z,5.0nm,0.9s
VES Vestal, Richgr 47.54 83 P **P 17 04 25.4 +0.1**
baz=310
HVU Hansel Valley 47.70 73 *eP* **P 17 04 27.0 +0.2**
HVU Hansel Valley 47.70 73 *eP* **P 17 04 27.0 +0.2**
PKM Mcpherson Peak 47.71 84 P **P 17 04 27.4 +0.5**
baz=311
RLMT Red Lodge 47.78 67 *eP* **P 17 04 26.1 -1.3**
comp=Z,29nm,1.6s
CWC Cottonwood Cre 47.78 82 P **P 17 04 27.6 +0.2**
baz=310
GRAC Grapevine Rang 47.87 81 P **P 17 04 28.1 +0.2**
baz=310
R11A Troy Canyon, C 48.11 78 P **P 17 04 29.8 -0.2**
baz=309,SNR=18
R11A Troy Canyon, C 48.11 78 *eP* **P 17 04 29.9 -0.2**
comp=Z,7.1nm,0.7s
DAC Darwin (Calif) 48.19 81 *eP* **P 17 04 31.2 +0.6**
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 48.19 81 *eP* **P 17 04 31.2 +0.6**
comp=Z,6.1nm,0.8s
MPMC Manual Prospec 48.39 82 P **P 17 04 32.3 +0.1**
baz=310,SNR=11
SCZ2 Santa Cruz Isl 48.40 85 P **P 17 04 33.0 +0.9**
baz=312
FURC Furnace Creek, 48.52 81 P **P 17 04 33.4 +0.6**
baz=310,SNR=9.5
TPNV Topopah Spring 48.59 80 P **P 17 04 34.1 +0.4**
baz=310,SNR=46
TPNV Topopah Spring 48.59 80 *eP* **P 17 04 33.6 -0.1**
TPNV pmax pmax
comp=Z,30nm,0.7s
TPNV Topopah Spring 48.59 80 *eP* **P 17 04 33.6 -0.1**
comp=Z,30nm,0.7s
DUG Dugway, Tooele 48.64 74 P **P 17 04 34.4 +0.3**
baz=308,SNR=9.2
DUG Dugway, Tooele 48.64 74 *eP* **P 17 04 35.0 +0.9**
DUG pmax pmax
comp=Z,6.0nm,0.6s
DUG Dugway, Tooele 48.64 74 *eP* **P 17 04 35.0 +0.9**
comp=Z,6.4nm,0.6s
LRMC Laurel Mtn Rad 48.65 82 P **P 17 04 34.0 -0.1**
baz=311,SNR=8.5
BLG Laguna Peak, P 48.68 85 P **P 17 04 34.5 +0.2**
baz=312
EDW2 Edwards Air Fo 48.84 83 P **P 17 04 35.6 +0.1**
baz=311
PD31 Pinedale Array 49.01 70 *eP* **P 17 04 35.9 -1.0**
PDAR Pinedale Array 49.01 70 P **P 17 04 36.0 -0.9**
comp=Z,2.6nm,0.7s,baz=290,slow=3.2,SNR=16
MWC Mount Wilson 49.23 84 *eP* **P 17 04 36.7 -2.0**
MWC pmax pmax
comp=Z,20nm,1.0s
MWC Mount Wilson 49.23 84 *eP* **P 17 04 36.7 -2.0**
comp=Z,20nm,1.0s
SHOC Shoshone, Teco 49.24 81 P **P 17 04 39.3 +0.8**
baz=311
GSC Goldstone, Bar 49.30 82 P **P 17 04 39.2 +0.1**
baz=311,SNR=30
GSC Goldstone, Bar 49.30 82 *eP* **P 17 04 39.4 +0.3**

GSC pmax pmax
comp=Z,27nm,0.8s
GSC Goldstone, Bar 49.30 82 *eP* **P 17 04 39.4 +0.3**
comp=Z,27nm,0.8s
BFSC Mount Baldy Ra 49.47 84 P **P 17 04 40.7 +0.3**
baz=312,SNR=5.1
SHPR Sheep Range 49.54 80 *eP* **P 17 04 41.9 +0.9**
comp=Z,5.4nm,1.1s
CIS Catalina Islan 49.56 85 P **P 17 04 41.3 +0.3**
baz=312
TUQ Turquoise Moun 49.76 81 P **P 17 04 42.7 +0.1**
baz=311
HEC Hector,Ludlow 49.91 82 P **P 17 04 43.8 +0.1**
baz=311,SNR=14
BBRC Big Bear Solar 49.91 83 P **P 17 04 44.0 +0.1**
baz=312
CCUT Cedar City 49.97 77 *eP* **P 17 04 45.2 +0.8**
comp=Z,3.4nm,0.8s
SPITS Spitsbergen Ar 50.07 355 P **P 17 04 43.7 -0.5**
comp=Z,4.0nm,0.4s,baz=46,slow=6.0,SNR=32
MSU Marysvale 50.08 76 *eP* **P 17 04 46.3 +1.1**
MSU Marysvale 50.08 76 *eP* **P 17 04 46.3 +1.1**
MURC Murrieta 50.18 84 P **P 17 04 46.3 +0.6**
baz=312
GMRC Granite Mounta 50.35 82 P **P 17 04 47.1 0.0**
baz=312,SNR=15
LCMT Little Creek M 50.39 78 *eP* **P 17 04 48.5 +1.1**
comp=Z,11nm,0.8s
PFO Pinyon Flats O 50.63 83 P **P 17 04 49.4 +0.2**
baz=312
PFO Pinyon Flats O 50.63 83 *eP* **P 17 04 49.5 +0.3**
PFO pmax pmax
comp=Z,5.0nm,0.8s
PFO Pinyon Flats O 50.63 83 *eP* **P 17 04 49.5 +0.3**
comp=Z,5.3nm,0.8s
XPFO Piæon Flat 50.64 83 *eP* **P 17 04 49.7 +0.4**
comp=Z,5.6nm,0.8s
KNB Kanab 50.65 77 *eP* **P 17 04 50.2 +0.9**
KNB pmax pmax
comp=Z,8.0nm,0.7s
KNB Kanab 50.65 77 *eP* **P 17 04 50.2 +0.9**
comp=Z,7.8nm,0.7s
BELC Belle Mtn. Jos 50.66 83 P **P 17 04 49.2 -0.2**
baz=312,SNR=11
109C Camp Elliot, M 50.72 84 P **P 17 04 50.3 +0.6**
baz=312
XAN Xi'an 50.80 278 P P 17 05 01.8 +11
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,49nm,4.9s
NEE2 Needles Airpor 51.01 81 P **P 17 04 52.1 +0.2**
baz=312
IRM Iron Mountain 51.09 82 P **P 17 04 52.5 0.0**
baz=312,SNR=12
BAR Barrett 51.12 84 *eP* **P 17 04 53.5 +0.6**
comp=Z,13nm,0.6s
MONP2 Monument Peak 51.14 84 P **P 17 04 53.1 0.0**
baz=313,SNR=9.7
BC3 Big Chuckawall 51.23 83 P **P 17 04 53.2 -0.5**
baz=312,SNR=7.0
W13A Hualapai Mount 51.24 80 *eP* **P 17 04 54.3 +0.4**
comp=Z,7.3nm,0.8s
U15A North Rim 51.35 78 *eP* **P 17 04 55.2 +0.4**
comp=Z,14nm,0.7s
IKP In-Ko-Pah, Jac 51.49 84 P **P 17 04 56.4 +0.8**
baz=313
PDMCI Parker Dam,Lak 51.61 81 P **P 17 04 57.2 +0.8**
baz=312
DAG Danmarks Havn 51.68 4 *i* P **P 17 04 55.7 -0.6**
comp=Z,3.5nm,0.7s
DAG Danmarks Havn 51.68 4 *i* P **P 17 04 55.7 -0.6**
DAG pmax pmax
comp=Z,2.0nm,0.7s
Y12C Blythe 51.74 82 P **P 17 04 57.7 +0.3**
baz=312,SNR=5.3
ZALV Zalesovo Beam 51.85 311 P **P 17 04 56.8 -1.1**
comp=Z,1.7nm,0.6s,baz=25,slow=4.8,SNR=5.3
ZALV PcP **PcP 17 06 10.7 +0.3**
comp=Z,2.2nm,0.7s,baz=27,slow=4.8,SNR=3.7
ZALV ScP **ScP 17 10 04.7 +0.3**
comp=Z,0.3nm,0.4s,baz=76,slow=6.1,SNR=2.4
ZALV LR LR 17 30 12.1
comp=Z,259nm,18.2s,baz=69,slow=40
ULM Lac du Bonnet 52.02 54 P **P 17 04 58.2 -1.0**
comp=Z,1.6nm,0.5s,baz=292,slow=8.8,SNR=4.3
ULM LR LR 17 28 52.8
comp=Z,683nm,18.2s,baz=308,slow=38
GLA Glamis 52.02 83 P **P 17 04 59.7 +0.2**
baz=313,SNR=8.5
GLA Glamis 52.02 83 *eP* **P 17 05 00.0 +0.4**
GLA pmax pmax
comp=Z,19nm,0.6s
GLA Glamis 52.02 83 *eP* **P 17 04 60.0 +0.4**
comp=Z,19nm,0.6s
NVS Novosibirsk 52.04 313 *eP* **P 17 04 58.0 -1.3**
NVS pmax pmax
comp=Z,18nm,1.5s
PV04 Paradox Valley 52.13 74 *eP* **P 17 04 58.1 -2.4**
PV05 Paradox Valley 52.22 74 *eP* **P 17 04 59.2 -2.0**
PV01 Paradox Valley 52.50 74 *eP* **P 17 05 01.2 -2.0**
WUAZ Wupatki 52.51 78 P **P 17 05 03.3 0.0**
baz=312,SNR=9.2
WUAZ Wupatki 52.51 78 *eP* **P 17 05 01.6 -1.7**
LZH Lanzhou 52.57 283 *eP* **P 17 05 06.0 +2.3**
LZH pP sP 17 05 18.5 +0.7
LZH sP pP 17 05 23.0 +9.2
LZH PP **PP 17 07 04.0 +1.3**
LZH S **S 17 12 23.0 -5.5**
LZH sS sS 17 12 48.0 +2.9
LZH pmax pmax
comp=Z,17nm,1.2s
LZH pmax pmax
comp=Z,86nm,5.0s
LZH LR LR
comp=Z,300nm,15.6s
LZH LR LR
comp=Z,870nm,15.2s
LZH LR LR
comp=Z,440nm,16.0s
GTA Gaotai 52.84 289 ⇑P **P 17 05 05.5 -0.1**
GTA pP sP 17 05 18.3 -1.3
GTA sP pP 17 05 23.5 +7.8
GTA S **S 17 12 30.5 -1.4**
GTA sS sS 17 12 51.5 +3.0
GTA SS **SS 17 16 09.8 -0.6**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,320nm,16.6s
GTA LR LR
comp=Z,350nm,17.1s
GTA LR LR
comp=Z,490nm,15.4s
MVCO Mesa Verde 53.14 74 *eP* **P 17 05 06.5 -1.5**
ISCO Idaho Springs 53.18 70 P **P 17 05 09.6 +1.3**
baz=310
X16A Lo Mia Camp, P 53.20 79 *eP* **P 17 05 06.7 -1.7**
comp=Z,8.0nm,0.8s
W18A Petrified Fore 53.77 77 P **P 17 05 13.4 +0.8**
baz=312
W18A Petrified Fore 53.77 77 *eP* **P 17 05 11.4 -1.2**
comp=Z,10nm,0.9s
S22A 4UR Ranch, Cre 53.80 73 P **P 17 05 13.6 +0.7**
baz=311
S22A 4UR Ranch, Cre 53.80 73 *eP* **P 17 05 13.4 +0.6**
comp=Z,18nm,1.6s
SUMG Summit 53.88 12 *i* P **P 17 05 13.2 +0.1**
comp=Z,9.4nm,0.7s
SUMG Summit 53.88 12 *i* P **P 17 05 13.2 +0.1**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 53.88 12 *eP* **P 17 05 13.1 +0.1**
comp=Z,13nm,0.8s
214A Organ Pipe Nat 54.01 82 P **P 17 05 14.1 -0.1**
baz=313,SNR=5.8
214A Organ Pipe Nat 54.01 82 *eP* **P 17 05 10.7 -3.5**
comp=Z,36nm,0.9s
SDCO Great Sand Dun 54.59 72 *eP* **P 17 05 18.0 -0.6**
comp=Z,13nm,1.5s
TUC Tucson 55.03 80 P **P 17 05 22.3 +0.7**
baz=314
TUC Tucson 55.03 80 *eP* **P 17 05 20.7 -0.9**
TUC pmax pmax
comp=Z,10.0nm,0.9s

TUC Tucson 55.03 80 *eP* **P 17 05 20.7 -0.9**
comp=Z,9.5nm,0.9s
EYMN Ely 55.70 54 P **P 17 05 25.2 -1.0**
baz=311
ANMO Albuquerque 55.88 75 *ceP* **P 17 05 27.7 -0.2**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
CD2 Chengdu 56.12 278 *eP* **P 17 05 27.5 -2.0**
CD2 S **S 17 13 12.5 -3.6**
CD2 SS **SS 17 17 00.0 -2.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.0s
CD2 LR LR
comp=Z,250nm,15.9s
CD2 LR LR
comp=Z,310nm,16.9s
CD2 LR LR
comp=Z,310nm,15.4s
319A Douglas 56.59 80 *eP* **P 17 05 31.0 -2.0**
comp=Z,14nm,1.0s
121A Cookes Peak, D 56.72 78 P **P 17 05 34.1 +0.2**
baz=314
KURK Kurchatov 56.84 311 *ceP* **P 17 05 34.2 0.0**
KURK pmax pmax
comp=Z,67nm,1.0s
KURK Kurchatov 56.84 311 *eP* **P 17 05 34.0 -0.2**
comp=Z,18nm,0.9s
WMQ Urumqi 56.84 300 P **P 17 05 35.8 +1.3**
WMQ sP sP 17 05 47.5 -1.1
WMQ S **S 17 13 27.5 +2.1**
WMQ ScS **ScS 17 15 12.8 -8.1**
WMQ SS **SS 17 17 14.3 +1.1**
WMQ pmax pmax
comp=Z,12nm,0.5s
WMQ pmax pmax
comp=Z,210nm,7.7s
WMQ LR LR
comp=Z,770nm,21.1s
WMQ LR LR
comp=Z,490nm,24.7s
WMQ LR LR
comp=Z,360nm,19.5s
GYA Guiyang 57.44 273 *eP* **P 17 05 40.3 +1.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 57.48 348 P **P 17 05 38.0 -0.5**
comp=Z,3.5nm,0.7s,baz=28,slow=7.1,SNR=8.6
ARCES LR LR 17 31 15.5
comp=Z,334nm,20.8s,baz=38,slow=37
E40A Wakefield 57.52 55 P **P 17 05 38.2 -0.9**
baz=312
MKAR Makanchi Array 57.69 306 P **P 17 05 39.4 -0.9**
comp=Z,2.3nm,0.6s,baz=58,slow=6.0,SNR=5.7
MKAR LR LR 17 32 31.4
comp=Z,501nm,18.1s,baz=38,slow=38
F41A Three Lakes 58.40 55 P **P 17 05 44.4 -0.9**
baz=313
J39A Decorah 58.67 59 P **P 17 05 46.0 -1.2**
baz=313
MNTX Cornudas Mount 58.76 77 P **P 17 05 48.6 +0.5**
baz=314
MNTX Cornudas Mount 58.76 77 *eP* **P 17 05 48.5 +0.4**
comp=Z,6.9nm,0.8s
AMTX Amarillo 58.79 72 P **P 17 05 48.4 +0.1**
baz=314
L38A Oak Wood Farm, 58.81 60 P **P 17 05 47.5 -0.7**
baz=313
BVA0 Borovoye Array 58.92 317 *i* P **P 17 05 48.5 -0.3**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 58.94 317 *ceP* **P 17 05 49.3 +0.4**
BRVK pmax pmax
comp=Z,57nm,1.0s
BRVK Borovoye 58.94 317 *eP* **P 17 05 49.1 +0.2**
comp=Z,17nm,0.7s
E43A Lone Tree Farm 59.03 53 P **P 17 05 48.2 -1.4**
baz=314
R34A Isabella, Hill 59.04 66 P **P 17 05 49.1 -0.7**
baz=314
G42A Mountain 59.09 55 P **P 17 05 49.1 -1.0**
baz=314
Q35A Mercer Eighty, 59.35 65 P **P 17 05 51.3 -0.6**
baz=314
E44A Grand Marais A 59.40 53 P **P 17 05 50.9 -1.3**
baz=314
K40A Colesburg 59.41 59 P **P 17 05 52.0 -0.4**
baz=314
G43A Wallace 59.46 55 P **P 17 05 51.2 -1.4**
baz=314
SVE Sverdlovsk 59.93 325 *eP* **P 17 05 57.0 +1.3**
T34A McClaskey Farm 59.95 67 P **P 17 05 56.1 0.0**
baz=314
H43A Windswept, Lux 59.96 55 P **P 17 05 55.6 -0.5**
baz=314
J43A Natural Harves 60.38 57 P **P 17 05 57.8 -1.2**
baz=314
WMOK Wichita Mounta 60.61 70 P **P 17 06 00.2 -0.5**
baz=315
O40A La Belle 60.80 61 P **P 17 06 00.9 -1.0**
baz=314
KMI Kunming 60.85 274 P **P 17 06 03.5 +0.8**
KMI pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 60.97 326 *c i* P **P 17 06 03.2 +0.4**
ARU *PP **sP 17 06 16.6 -0.3**
ARU 17 06 47.5
ARU 17 08 17.9
ARU S **S 17 14 20.3 +1.9**
ARU SS **SS 17 18 18.3 +1.2**
ARU pmax pmax
comp=Z,16nm,1.0s
ARU MLR MLR
comp=Z,584nm,19.0s
P40A Paris 61.12 62 P **P 17 06 02.8 -1.2**
baz=315
T37A Cheneyville 18 61.19 66 P **P 17 06 03.7 -0.9**
baz=315
W35A Tecumseh 61.44 69 P **P 17 06 05.9 -0.4**
baz=315
TX31 Lajitas Ar. Si 61.48 78 *eP* **P 17 06 07.1 +0.3**
TXAR Lajitas Array 61.48 78 P **P 17 06 07.2 +0.5**
comp=Z,4.6nm,0.5s,baz=306,slow=5.2,SNR=75
U37A Salina 61.57 66 P **P 17 06 05.8 -1.4**
baz=315
SCHQ Schefferville 61.68 36 P **P 17 06 07.2 -0.5**
comp=Z,6.4nm,0.8s,baz=320,slow=7.9,SNR=3.8
X35A Drake 61.91 69 P **P 17 06 09.3 -0.2**
baz=315
M44A Midewin, Midew 61.98 58 P **P 17 06 08.4 -1.4**
baz=315
X36A Centrahoma 62.15 69 P **P 17 06 10.1 -1.0**
baz=315
Y35A Marietta 62.22 70 P **P 17 06 10.2 -1.4**
baz=315
S41A Jillco Farms, 62.65 63 P **P 17 06 12.9 -1.5**
baz=316
KLMR Klimovskoe 62.88 338 *eP* **P 17 06 14.3 -1.2**
KLMR pmax pmax
comp=Z,23nm,1.4s
U40A Yellville 62.90 65 P **P 17 06 15.1 -1.0**
baz=316
O45A Potomac 62.96 59 P **P 17 06 15.8 -0.6**
baz=316
JCT Junction City 63.01 74 P **P 17 06 16.6 -0.3**
baz=316
JCT Junction City 63.01 74 *eP* **P 17 06 15.4 -1.5**
JCT pmax pmax
comp=Z,8.0nm,0.6s
JCT Junction City 63.01 74 *eP* **P 17 06 15.3 -1.5**
comp=Z,7.9nm,0.6s
N46A Monticello 63.02 58 P **P 17 06 16.0 -0.8**
baz=316
W39A Magazine 63.19 67 P **P 17 06 17.4 -0.7**
baz=316
V40A Witts Springs 63.31 65 P **P 17 06 17.4 -1.4**
baz=316
WHTX Lake Whitney, 63.33 72 P **P 17 06 18.1 -0.9**
baz=316
U43A Rector 64.27 63 P **P 17 06 23.8 -1.3**
baz=316
AAK Ala-Archa 64.55 307 *i* P **P 17 06 26.4 -0.7**
AAK pmax pmax
comp=Z,15nm,0.9s
AAK Ala-Archa 64.55 307 *eP* **P 17 06 24.8 -2.3**
comp=Z,10nm,1.0s

FINES FINESS Array B 65.01 345 P **P 17 06 28.6 -1.0**
comp=Z,6.5nm,0.8s,baz=38,slow=3.4,SNR=11
FINES FINESS Array B 65.01 345 *ce*P **P 17 06 29.0 -0.5**
FINES pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 65.90 322 P **P 17 06 34.6 -0.9**
AKTO pmax pmax
comp=Z,18nm,0.8s
AB31 Akbulak array 66.08 320 *i* P **P 17 06 36.1 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
KSH Kashi 66.10 304 P **P 17 06 41.0 +3.9**
KSH pP sP 17 06 54.5 +3.2
KSH sP PcP 17 06 59.3 -8.0
KSH PcP **PcP 17 07 11.0 +3.7**
KSH PP **PP 17 09 08.5 +6.2**
KSH PcS 17 11 13.0
KSH S **S 17 15 24.5 +1.5**
KSH sS sS 17 15 46.0 +6.0
KSH ScS **SKSac 17 16 29.3 -1.2**
KSH SS **SS 17 19 41.5 +3.4**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH pmax pmax
comp=Z,160nm,3.7s
KSH LR LR
comp=Z,250nm,8.7s
KSH LR LR
comp=Z,460nm,16.1s
KSH LR LR
comp=Z,390nm,14.4s
KK31 Karatay Array 66.16 310 *i* P **P 17 06 36.7 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 66.16 310 *e*P **P 17 06 37.5 +0.2**
KKAR pmax pmax
comp=Z,57nm,0.8s
KKAR Karatay Array 66.16 310 *e*P **P 17 06 37.5 +0.2**
comp=Z,57nm,0.8s
Y46A Houston 66.94 64 P **P 17 06 41.4 -1.0**
baz=318
SFK Sufi-Kurgan 67.00 306 P **P 17 06 46.3 +3.3**
SFK pmax pmax
comp=Z,7.0nm,1.2s
NB201 NORSAR Array S 67.23 352 *e*P **P 17 06 44.3 +0.5**
NB2 NORSAR Subarra 67.25 352 P **P 17 06 43.5 -0.4**
comp=Z,2.8nm,0.7s,baz=11,slow=6.5
NOA NORSAR Array B 67.25 352 P **P 17 06 43.9 -0.1**
comp=Z,5.1nm,0.8s,baz=11,slow=6.4,SNR=12
NOA LR LR 17 37 51.1
comp=Z,98nm,19.3s,baz=15,slow=38
HFS Hagfors 67.91 351 P **P 17 06 47.1 -1.0**
comp=Z,3.3nm,0.7s,baz=46,slow=6.2,SNR=11
CMAR Chiang Mai Arr 68.13 272 P **P 17 06 49.5 -0.6**
comp=Z,1.4nm,0.6s,baz=44,slow=6.9,SNR=12
CMAR Chiang Mai Arr 68.13 272 *ce*P **P 17 06 50.0 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
TAPN Taplejung 68.45 287 *e*P **P 17 06 52.4 0.0**
comp=Z,29nm,1.0s
N59A State Game Lan 68.57 51 P **P 17 06 51.2 -1.4**
baz=320
OBN Obninsk 68.72 337 *i* P **P 17 06 52.2 -0.9**
OBN pmax pmax
comp=Z,10.0nm,0.7s
OBN MLR MLR
comp=Z,696nm,18.0s
ODAN Odare 69.00 287 *e*P **P 17 06 55.7 0.0**
comp=Z,12nm,0.8s
GUN Gumba 69.12 289 *e*P **P 17 06 56.7 +0.1**
comp=Z,42nm,0.9s
JIRN Jiri 69.13 288 *e*P **P 17 06 56.9 +0.2**
comp=Z,160nm,0.7s
RAMN Ramite 69.41 288 *e*P **P 17 06 58.2 -0.1**
comp=Z,46nm,0.8s
KKN Kakani 69.57 289 *e*P **P 17 06 59.4 +0.2**
comp=Z,19nm,0.9s
PKI Pulchoki 69.66 289 *e*P **P 17 06 59.8 -0.1**
comp=Z,40nm,1.3s
PKIN Phulchoki 69.66 289 *e*P **P 17 07 00.3 +0.5**
comp=Z,23nm,0.8s
GKN Gorkha 69.79 290 *e*P **P 17 07 00.4 -0.1**
comp=Z,24nm,1.0s
DMN Daman 69.81 289 *e*P **P 17 07 00.9 +0.2**
DANN Dangsing 70.05 291 *e*P **P 17 07 02.8 +0.6**
comp=Z,3.5nm,0.9s
KOLN Koldanda 70.57 290 *e*P **P 17 07 05.0 -0.4**
TAOE Nuku Hiva Isla 70.67 134 *e*LR LR 17 28 45.3
comp=Z,415nm,21.7s
PYUN Piuthan 70.69 291 *e*P **P 17 07 06.0 0.0**
comp=Z,31nm,0.8s
KBL Kabul 73.47 305 P **P 17 07 21.9 -0.7**
KBL pmax pmax
comp=Z,21nm,0.9s
EKA Eskdalemuir Ar 73.58 360 P **P 17 07 22.9 +0.3**
comp=Z,3.5nm,0.7s,baz=8.5,slow=5.3,SNR=11
AKASG Malin Array Be 74.52 339 P **P 17 07 28.0 -0.2**
comp=Z,2.9nm,0.4s,baz=23,slow=6.3,SNR=10
AKASG LR LR 17 44 22.5
comp=Z,291nm,18.6s,baz=25,slow=39
AKASG Malin Array Be 74.52 339 *ce*P **P 17 07 30.5 +2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
KIEV Kiev 74.53 339 *i* P **P 17 07 28.0 -0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
PPT Papeete 74.82 147 LR LR 17 34 54.3
comp=Z,379nm,19.7s,baz=322,slow=31
PPT2 Papeete2 74.84 147 *e*S **S 17 17 06.6 +1.6**
comp=Z,412nm,25.0s
PPT2 Papeete2 74.84 147 *e*LR LR 17 30 31.0
comp=Z,365nm,21.8s,baz=338
GOF Goftskoye 75.83 328⇑ *e*P **P 17 07 36.6 +0.7**
GOF pmax pmax
comp=Z,25nm,0.9s
GEYT Alibeck 76.02 314 P **P 17 07 38.0 +0.9**
comp=Z,8.0nm,0.8s,baz=6.9,slow=4.9,SNR=22
GEYT LR LR 17 44 26.5
comp=Z,602nm,19.3s,baz=90,slow=38
MAK Makhachkala 76.11 324 *e*P **P 17 07 37.3 -0.1**
MAK *e* 17 10 26.3
MAK *e*S **S 17 17 17.4 -1.1**
MAK *e*SS **SS 17 22 07.2 -3.6**
MAK pmax pmax
comp=Z,60nm,0.8s
MAK MLR MLR
comp=Z,799nm,19.0s
CLL Collm 76.67 350 *e*P **P 17 07 40.0 -0.5**
CLL *e* 17 07 46.0
CLL Collm 76.67 350 *e*P **P 17 07 40.0 -0.5**
CLL *e* 17 07 46.0
CLL *e* 17 08 04.0
CLL LmV 18 05 00.0
comp=Z,100nm,20.4s
CLL Collm 76.67 350 *e*P **P 17 07 40.0 -0.5**
OJC Ojcow 76.80 345 *e*P **P 17 07 42.3 +1.1**
OJC Ojcow 76.80 345 *e*P **P 17 07 42.3 +1.1**
KIV Kislovodsk 76.93 328 *i* P **P 17 07 42.1 -0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 77.06 327 P **P 17 07 43.8 +1.0**
comp=Z,5.3nm,0.8s,baz=224,slow=0.3,SNR=11
KBZ LR LR 17 48 16.6
comp=Z,221nm,18.0s,baz=22,slow=41
UPC Upice 77.08 347 AMS AMS 17 48 50.0
comp=Z,300nm,16.4s
DPC Dobruska-Polom 77.19 347 *e*P **P 17 07 42.5 -1.0**
DPC *e*pP **PcP 17 07 55.9 +1.7**
DPC AMS AMS 17 42 30.0
comp=Z,200nm,16.6s
DPC Dobruska-Polom 77.19 347 *e*P **P 17 07 42.5 -1.0**
DPC *e* 17 07 55.9
DPC MLR MLR
comp=Z,200nm,16.6s
STHS Stebnicka Huta 77.33 344 *e*P **P 17 07 45.7 +1.4**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 77.33 344 *e*P **P 17 07 45.7 +1.4**
KRLC Kraliky 77.40 347 *e*pP P 17 07 53.9 +9.2
KRLC Kraliky 77.40 347 *e*P P 17 07 53.9 +9.2
OKC Ostrava-Krasne 77.43 346 *e*P **P 17 07 45.2 +0.4**
OKC AMS AMS 17 44 00.0
comp=Z,200nm,16.2s
OKC Ostrava-Krasne 77.43 346 *e*P **P 17 07 45.2 +0.4**
OKC MLR MLR
comp=Z,200nm,16.2s

NIE Niedzica 77.49 344 *e*P **P 17 07 46.5 +1.3**
NIE Niedzica 77.49 344 *e*P **P 17 07 46.5 +1.3**
ZEI Tsey 77.55 326 *e*P **P 17 07 45.7 -0.1**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 77.58 346⇓ *i*P **P 17 07 44.3 -1.4**
MORC Moravsky Berou 77.58 346⇓ *i*P **P 17 07 44.3 -1.4**
PRU Pruhonice 77.78 348 *e*P **P 17 07 43.5 -3.3**
PRU AMS AMS 17 47 10.0
comp=Z,200nm,19.6s
PRU Pruhonice 77.78 348 *e*P **P 17 07 43.5 -3.3**
PRU MLR MLR
comp=Z,200nm,19.6s
CRVS Cervenica-Dubn 77.79 344 *e*P **P 17 07 47.8 +1.0**
CRVS Cervenica-Dubn 77.79 344 *e*P **P 17 07 47.8 +1.0**
GOPC GO Pecny, Ondr 77.83 348 AMS AMS 17 50 50.0
comp=Z,300nm,19.8s
LANS Liptovska Anna 77.89 345 *e*P **P 17 07 49.0 +1.6**
LANS Liptovska Anna 77.89 345 *e*P **P 17 07 49.0 +1.6**
UZH Uzhgorod 77.90 343 *e*P **P 17 07 47.8 +0.4**
UZH *e* 17 07 57.2
VRAC Vranov 78.17 347⇓ *i*P **P 17 07 49.7 +0.7**
VRAC Vranov 78.17 347⇓ *i*P **P 17 07 49.7 +0.7**
BURAR Bucovina Array 78.30 341⇑ *i*P P 17 07 42.5 -7.3
BURAR Bucovina Array 78.30 341⇑ *i*P P 17 07 42.5 -7.3
KECS Kecovo 78.36 344 *e*P **P 17 07 50.9 +0.9**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 78.36 344 *e*P **P 17 07 50.9 +0.9**
VYHS Vyhne 78.62 345 *e*P **P 17 07 52.3 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 78.62 345 *e*P **P 17 07 52.3 +0.8**
KHC Kasperske Hory 78.75 349 *e*P **P 17 07 52.4 +0.2**
KHC AMS AMS 17 47 20.0
comp=Z,300nm,19.0s
KHC Kasperske Hory 78.75 349 *e*P **P 17 07 52.4 +0.2**
KHC MLR MLR
comp=Z,300nm,19.0s
ARCR ARCALIA 78.98 341⇑ *i*P **P 17 07 50.4 -3.0**
PSZ Piszkesteto 79.01 344⇓ *i*P **P 17 07 51.2 -2.5**
PSZ Piszkesteto 79.01 344⇓ *i*P **P 17 07 51.2 -2.5**
GERES GERESS Array B 79.01 349 P **P 17 07 53.4 -0.3**
comp=Z,1.2nm,0.7s,baz=30,slow=6.2,SNR=12
GERES LR LR 17 45 20.2
comp=Z,130nm,20.8s,baz=30,slow=38
TESR Tescani 79.04 339⇓ *i*P **P 17 07 52.3 -1.5**
DRGR 79.58 342⇑ *i*P P 17 07 48.9 -7.9
DRGR 79.58 342⇑ *i*P P 17 07 48.9 -7.9
CONA Conrad Observa 79.63 347 *i* PcP **P 17 07 57.9 +0.8**
comp=Z,5.4nm,0.8s
VRI Vrincioaia 79.63 339⇓ *i*P **P 17 07 56.8 -0.2**
VRI Vrincioaia 79.63 339⇓ *i*P **P 17 07 56.8 -0.2**
MOA Molln 79.92 348 *i* PcP **P 17 07 58.3 -0.2**
comp=Z,5.1nm,1.4s
CFR Carcaliu 79.96 338⇓ *i*P **P 17 07 58.8 0.0**
CFR Carcaliu 79.96 338⇓ *i*P **P 17 07 58.8 0.0**
WRA Warramunga Arr 80.14 220 P **P 17 07 59.0 -1.0**
comp=Z,1.4nm,0.7s,baz=27,slow=4.1,SNR=7.7
WRA Warramunga Arr 80.14 220 P **P 17 07 59.0 -1.0**
MLR Muntele Rosu 80.16 340⇑ *i*P **P 17 08 00.2 +0.1**
MLR Muntele Rosu 80.16 340⇑ *i*P **P 17 08 00.2 +0.1**
TBI Tubuai 80.23 149 *e*LR LR 17 32 53.1
comp=Z,344nm,22.8s,baz=339
ARSA Arzberg 80.34 347 *i* PcP **P 17 08 01.9 +1.1**
comp=Z,6.1nm,0.9s
VOIR 80.41 340⇑ *i*P **P 17 08 02.4 +1.1**
VOIR 80.41 340⇑ *i*P **P 17 08 02.4 +1.1**
RETA Reutte 80.69 350 *i* PcP **P 17 08 03.3 +0.6**
comp=Z,8.1nm,1.7s
WATA Walderalm 80.75 350 *i* PcP **P 17 08 04.1 +0.9**
comp=Z,4.5nm,0.6s
MOTA Moosalm 80.79 350 *i* PcP **P 17 08 03.9 +0.4**
comp=Z,2.9nm,0.6s
KBA Koelnbreinsper 80.79 348 P **P 17 08 04.7 +1.2**
KBA pmax pmax
comp=Z,28nm,0.8s
KBA Koelnbreinsper 80.79 348 *i* PcP **P 17 08 04.8 +1.4**
comp=Z,23nm,0.8s
WTTA Wattenberg 80.81 350 *i* PcP **P 17 08 04.2 +0.6**
comp=Z,7.4nm,0.6s
BZS Buzias 80.92 343⇑ *i*P **P 17 08 04.4 +0.4**
BZS Buzias 80.92 343⇑ *i*P **P 17 08 04.4 +0.4**
SOKA Soboth 80.97 347 *i* PcP **P 17 08 05.1 +0.8**
comp=Z,5.1nm,0.6s
DAVA Damuels 80.98 351 *i* PcP **P 17 08 05.2 +0.8**
comp=Z,4.8nm,0.9s
PERS Pernice 81.00 347 *i* P **P 17 08 05.2 +0.8**
FETA Feichten 81.15 350 *i* PcP **P 17 08 06.0 +0.6**
comp=Z,3.8nm,0.7s
OBKA Obir 81.20 348 *i* PcP **P 17 08 06.6 +1.1**
comp=Z,13nm,0.8s
MYKA Terra Mystica 81.20 348 *i* PcP **P 17 08 06.0 +0.5**
comp=Z,3.7nm,0.8s
ABTA Abfaltersbach 81.22 349 *i* PcP **P 17 08 06.1 +0.5**
comp=Z,6.0nm,0.9s
VISS Visnje 81.85 347 *e*P **P 17 08 09.0 +0.1**
BOJS Bojanci 82.08 347 *i* P **P 17 08 10.5 +0.4**
POO Poona 83.37 291 *e*P P 17 08 11.0 -6.2
VTS Vitosha 83.52 341⇓ *i*P **P 17 08 18.3 +0.5**
VTS Vitosha 83.52 341⇓ *i*P **P 17 08 18.3 +0.5**
BRTR Keskin Array B 83.60 332 P **P 17 08 18.6 +0.4**
comp=Z,6.1nm,0.8s,baz=58,slow=3.2,SNR=30
BRTR LR LR 17 50 55.6
comp=Z,52nm,18.5s,baz=19,slow=40
BRTR Keskin Array B 83.60 332 *ce*P **P 17 08 19.0 +0.7**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
ASAR Alice Springs 83.67 219 P **P 17 08 18.1 -0.4**
comp=Z,1.6nm,0.8s,baz=22,slow=6.1,SNR=4.4
ASAR LR LR 17 46 20.6
comp=Z,67nm,18.6s,baz=21,slow=36
KEST Kesra 92.46 350 LR LR 17 54 50.9
comp=Z,83nm,19.1s,baz=330,slow=38
TORD Torodi Ar. Bea 115.52 354 PKP **PKPdf 17 14 30.6 -1.4**
comp=Z,0.4nm,0.6s,baz=301,slow=2.6,SNR=2.7
PLCA Paso Flores 133.77 104 PKP **PKPdf 17 15 05.7 -0.4**
comp=Z,1.3nm,0.7s,baz=266,slow=4.1,SNR=4.0
MAW Mawson 144.78 217 PKP **PKPab 17 15 23.8 -0.4**
comp=Z,12nm,0.9s,baz=86,slow=3.5,SNR=32
BOSA Boshof 148.69 306 PKPbc **PKPbc 17 15 36.6 -0.4**
comp=Z,3.1nm,0.6s,baz=49,slow=2.4,SNR=7.2

*TIR **28** 17:02:43.4±1.3, 40°.24N×20°.59E, h2km±999km, ML2.8*
*ATH **28** 17:02:45.8, 40°.23N×20°.60E, h30km±7km, ML2.1/3, Error ellipse: s-maj=7.4km s-min=1.0km az=142.0*
*ISCJB **28** 17:02:47.0±0.5, 40°.23N±0°.03×20°.57E±0°.04, h10km±6km, Error ellipse: s-maj=6.5km s-min=3.5km az=137.3*
*THE **28** 17:02:46.5, 40°.25N×20°.56E, h0km±2km, ML2.2/5, Error ellipse: s-maj=2.2km s-min=0.6km az=320.0*
*CSEM **28** 17:02:46.9±0.2, 40°.21N×20°.59E, h10km, ML2.1, Error ellipse: s-maj=4.8km s-min=2.9km az=130.0*
ISC 28 17:02:46.7±1.2, 40°.23N±0°.03×20°.60E±0°.03, h12km±10km, n23, σ0°60/46, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENT	**Pentalofos**	**0.42**	**94**	P	**Pg**	**17 02 54.2**	**-0.8**
PENT				S	**Sb**	**17 03 02.7**	**+0.3**
PENT	**Pentalofos**	**0.42**	**94**	P	**Pg**	**17 02 54.7**	**-0.3**
PENT				S	**Sb**	**17 03 02.7**	**+0.3**
KBN	**Korca**	**0.42**	**20**	*i* PG	**Pb**	**17 02 55.4**	**-0.8**
KBN				*i* SG	**Sb**	**17 03 03.0**	**+0.4**
KBN	**Korca**	**0.42**	**20**	*i* Pg	**Pb**	**17 02 55.4**	**-0.8**
KBN	SNR=90			*i* Sg	**Sb**	**17 03 03.0**	**+0.4**
	SNR=90						
SRN	**Sarande**	**0.57**	**233**	*i* PG	**Pg**	**17 02 57.5**	**-0.4**
SRN				*i* SG	**Sb**	**17 03 07.6**	**+0.8**
SRN	**Sarande**	**0.57**	**233**	*i* Pg	**Pg**	**17 02 57.5**	**-0.4**
SRN	SNR=90			*i* Sg	**Sb**	**17 03 07.6**	**+0.8**
	SNR=90						
KPRO	**Kipourio**	**0.65**	**114**	P	**Pg**	**17 02 58.6**	**-0.7**
KPRO				S	**Sb**	**17 03 08.9**	**-0.2**
KPRO				AML	AML	17 03 14.8	
	comp=N,318μm,0.3s						
KPRO				AML	AML	17 03 15.1	
	comp=E,341μm,0.6s						
KPRO	**Kipourio**	**0.65**	**114**	P	**Pg**	**17 02 58.9**	**-0.4**
KPRO				S	**Sb**	**17 03 08.9**	**-0.2**
SGD	**Sagiada**	**0.67**	**204**	P	**Pg**	**17 02 59.8**	**+0.1**
SGD				S	**Sb**	**17 03 09.7**	**0.0**
SGD	**Sagiada**	**0.67**	**204**	P	**Pg**	**17 02 59.8**	**+0.1**
SGD				S	**Sb**	**17 03 10.0**	**+0.3**
KEK	**Kerkira**	**0.80**	**230**	P	**Pg**	**17 03 01.5**	**-0.6**
KEK				S	**Sb**	**17 03 13.4**	**+0.1**
KEK				AML	AML	17 03 17.6	
	comp=E,213μm,0.5s						
KEK				AML	AML	17 03 18.6	
	comp=N,254μm,0.7s						
KEK	**Kerkira**	**0.80**	**230**	P	**Pg**	**17 03 01.5**	**-0.6**
KEK				S	**Sb**	**17 03 13.4**	**+0.1**
FNA	**Florina**	**0.82**	**47**	P	**Pg**	**17 03 02.0**	**-0.5**
FNA				S	**Sb**	**17 03 14.2**	**+0.3**
FNA				AML	AML	17 03 17.3	
	comp=E,351μm,0.2s						
FNA				AML	AML	17 03 20.3	
	comp=N,387μm,0.5s						
FNA	**Florina**	**0.82**	**47**	P	**Pg**	**17 03 02.0**	**-0.5**
FNA				S	**Sb**	**17 03 14.2**	**+0.3**
OHR	**Ohrid**	**0.90**	**10**	*i* Pg	**Pn**	**17 03 04.9**	**-0.3**
OHR				*i* Sg	**Sn**	**17 03 17.5**	**-0.7**
OHR	**Ohrid**	**0.90**	**10**	*i* Pg	**Pn**	**17 03 04.9**	**-0.4**
OHR				*i* Sg	**Sn**	**17 03 17.5**	**-0.7**
KZN	**Kozani**	**0.90**	**85**	P	**Pg**	**17 03 04.0**	**-0.2**
KZN				S	**Sn**	**17 03 17.6**	**-0.8**
KZN	**Kozani**	**0.90**	**85**	P	**Pg**	**17 03 04.0**	**-0.2**
KZN				S	**Sn**	**17 03 17.6**	**-0.8**
BIA	**Bitola**	**0.97**	**35**	*i* Pg	**Pn**	**17 03 06.1**	**-0.1**
BIA				*i* Sg	**Sn**	**17 03 20.5**	**+0.5**
BIA	**Bitola**	**0.97**	**35**	*i* Pg	**Pn**	**17 03 06.1**	**-0.1**
BIA				*i* Sg	**Sn**	**17 03 20.4**	**+0.5**
KRUS	**Krusevo**	**1.25**	**23**	*e*Pg	**Pg**	**17 03 10.7**	**+0.1**
KRUS				*i* Sg	**Sn**	**17 03 28.1**	**+1.2**
KRUS	**Krusevo**	**1.25**	**23**	*e*Pg	**Pg**	**17 03 10.7**	**+0.1**
KRUS				*i* Sg	**Sn**	**17 03 28.0**	**+1.2**
LIT	**Litokhoron**	**1.46**	**94**	P	**Pb**	**17 03 14.1**	**+0.3**
LIT				S	**Sg**	**17 03 35.3**	**+1.7**

*ISCJB **28** 17:11:28.3±0.3, 51°.53N±0°.06×176°.46E±0°.04, h31km, mb4.5/90, MS3.5/2, Error ellipse: s-maj=8.9km s-min=3.2km az=176.2*
*IDC **28** 17:11:28.2±4.1, 51°.52N×176°.62E, h23km±25km, mb3.9/26, mb1 4.1/29, mb1mx4.0/43, mbtmp4.1/29, ML2.9/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/52, Error ellipse: s-maj=21.3km s-min=12.1km az=165.0*
*MOS **28** 17:11:29.0±1.1, 51°.56N×176°.46E, h39km, mb4.7/24, Error ellipse: s-maj=9.4km s-min=7.4km az=97.7*
*NEIC **28** 17:11:31.4±0.6, 51°.53N×176°.48E, h48km±5km, mb4.7/64, ML4.4(AEIC), Error ellipse: s-maj=8.7km s-min=3.7km az=178.0*
ISC 28 17:11:29.8±0.5, 51°.46N±0°.09×176°.34E±0°.04, h31km, n199, σ1°41/202, mb4.5/93, 4C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.88**	**314**	*e*P	**Pn**	**17 12 00.9**	**+1.2**
SMY				*e*		17 12 28.3	
SMY	**Shemya**	**1.88**	**314**	*e*Pn	**Pn**	**17 12 00.9**	**+1.2**
SMY				*e*Sn	**Sb**	**17 12 28.2**	**+1.8**
GALAA	**Gareloi Lava P**	**3.06**	**82**	*e*Pn	**Pn**	**17 12 16.4**	**+0.4**
TASE	**Tanaga Southea**	**3.52**	**82**	*e*Pn	**Pn**	**17 12 22.8**	**+0.4**
TAFL	**Tanaga Flats**	**3.60**	**83**	*e*Pn	**Pn**	**17 12 24.0**	**+0.6**
TAFL				*e*Sn	**Sn**	**17 13 07.8**	**+2.8**
ADK	**Adak**	**4.36**	**82**	P	**Pn**	**17 12 34.9**	**+1.0**
ADK				S	**Sn**	**17 13 25.6**	**+2.0**
ADK	**Adak**	**4.36**	**82**	*e*Pn	**Pn**	**17 12 31.9**	**-2.0**
ADK				*e*Sn	**Sn**	**17 13 26.0**	**+2.4**
GSCK	**Great Sitkin C**	**4.69**	**80**	*e*Pn	**Pn**	**17 12 39.2**	**+0.8**
GSTD	**Great Sitkin T**	**4.71**	**80**	*e*Pn	**Pn**	**17 12 40.3**	**+1.6**
ATKA	**Atka Island**	**5.92**	**79**	*e*Pn	**Pn**	**17 12 54.8**	**-0.4**
NIKH	**Nikolski High**	**9.22**	**75**	*e*Pn	**Pn**	**17 13 40.8**	**+0.3**
SPIA	**Saint Paul Isl**	**9.70**	**49**	*e*Pn	**Pn**	**17 13 48.9**	**+1.9**
UNV	**Unalaska Valle**	**10.70**	**70**	*e*Pn	**Pn**	**17 13 58.6**	**-2.1**
PET	**Petropavlovsk**	**10.96**	**285**	*e*P	**Pn**	**17 14 04.9**	**+0.6**
PET	**Petropavlovsk**	**10.96**	**285**	*e*Pn	**Pn**	**17 14 04.9**	**+0.6**
AKUT	**Akutan**	**11.15**	**69**	*e*Pn	**Pn**	**17 14 07.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**11.54**	**286**	*e*Pn	**Pn**	**17 14 14.1**	**+1.9**
PETK	**Petropavlovsk-**	**11.54**	**286**	Pn	**Pn**	**17 14 13.3**	**+1.1**
	0.4nm,0.3s,baz=94,slow=18,SNR=7.5						
PETK				Sn	**Sn**	**17 16 14.1**	**-5.7**
	0.2nm,0.3s,baz=92,slow=35,SNR=3.8						
SDPT	**Sand Point**	**14.34**	**65**	*e*Pn	**Pn**	**17 14 50.3**	**-0.2**
SEY	**Seymchan**	**17.21**	**321**	P	**Pn**	**17 15 26.8**	**-0.7**
	0.0nm,0.3s,baz=197,slow=19,SNR=2.2						
BILL	**Bilibino**	**17.34**	**347**	*e*P		**17 15 32.5**	**+2.2**
BILL				pmax	pmax		
	comp=Z,13nm,1.2s						
SVW2	**Sparrevohn**	**18.19**	**47**	*e*P		**17 15 39.6**	**-0.1**
	comp=Z,14nm,1.0s						
OHAK	**Old Harbor**	**18.52**	**60**	*e*P		**17 15 39.7**	**-3.6**
	comp=Z,133nm,1.8s						
TT01	**Tatalina**	**18.68**	**42**	*e*P	**Pn**	**17 15 46.8**	**+1.2**
TTA	**Tatalina**	**18.70**	**41**	*e*P	**Pn**	**17 15 45.5**	**-0.4**
TTA	**Tatalina**	**18.70**	**41**	*e*P	**Pn**	**17 15 45.5**	**-0.4**
KDAK	**Kodiak Island**	**18.95**	**58**	P		**17 15 43.9**	**-4.2**
	comp=Z,2.3nm,0.3s,baz=275,slow=4.4,SNR=30						
KDAK	**Kodiak Island**	**18.95**	**58**	*e*P		**17 15 45.1**	**-3.0**
KDAK				pmax	pmax		
	comp=Z,134nm,1.8s						
KDAK	**Kodiak Island**	**18.95**	**58**	*e*P		**17 15 45.1**	**-3.0**
	comp=Z,134nm,1.8s						
RSO	**Redoubt South**	**19.34**	**50**	*e*P	**Pn**	**17 15 53.5**	**-0.2**
HOM	**Homer**	**19.71**	**53**	*e*P		**17 15 54.3**	**-2.1**
	comp=Z,281nm,1.2s						
SPU	**Mount Spurr**	**19.85**	**48**	*e*P	**Pn**	**17 15 58.5**	**-1.1**
CNPM	**China Poot**	**19.89**	**53**	*e*P		**17 15 56.4**	**-1.9**
	comp=Z,74nm,1.6s						
BRLK	**Bradley Lake**	**20.11**	**53**	*e*P		**17 15 58.6**	**-2.1**
	comp=Z,65nm,1.3s						
SUA	**Susitna One**	**20.53**	**48**	*e*P		**17 16 04.7**	**-0.7**
	comp=Z,23nm,1.0s						
SEW	**Seward**	**20.88**	**52**	*e*P		**17 16 08.2**	**-0.8**
	comp=Z,50nm,1.2s						
RC01	**Rabbit Creek A**	**20.92**	**49**	*e*P		**17 16 09.4**	**0.0**
	comp=Z,32nm,1.1s						
BPAW	**Bear Paw Mtn.**	**21.23**	**41**	*e*P		**17 16 12.9**	**+0.1**
	comp=Z,30nm,1.5s						
MLY	**Manley**	**21.68**	**39**	*e*P		**17 16 18.1**	**+0.5**
	comp=Z,36nm,1.3s						
SML	**Sawmill**	**21.73**	**48**	*e*P		**17 16 18.4**	**+0.2**
SML				pmax	pmax		
	comp=Z,31nm,1.0s						
SML	**Sawmill**	**21.73**	**48**	*e*P		**17 16 18.4**	**+0.2**
	comp=Z,31nm,1.0s						
RND	**Reindeer**	**21.90**	**44**	*e*P		**17 16 17.9**	**-2.1**
RND				pmax	pmax		
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**21.90**	**44**	*e*P		**17 16 17.9**	**-2.1**
	comp=Z,12nm,1.0s						
MCK	**McKinley**	**21.96**	**43**	*e*P		**17 16 19.9**	**-0.7**
MCK				pmax	pmax		
	comp=Z,21nm,1.2s						
MCK	**McKinley**	**21.96**	**43**	*e*P		**17 16 19.9**	**-0.7**
	comp=Z,21nm,1.2s						
GLI	**Glacier Island**	**22.15**	**51**	*e*P		**17 16 20.3**	**-2.3**
	comp=Z,66nm,1.6s						
SCM	**Sheep Creek Mo**	**22.20**	**48**	*e*P		**17 16 22.0**	**-1.3**
SCM				pmax	pmax		
	comp=Z,61nm,1.3s						
SCM	**Sheep Creek Mo**	**22.20**	**48**	*e*P		**17 16 22.0**	**-1.3**
	comp=Z,61nm,1.3s						
FID	**Port Fidalgo**	**22.43**	**51**	*e*P		**17 16 23.5**	**-2.2**
	comp=Z,57nm,1.5s						
DHY	**Denali Highway**	**22.46**	**45**	*e*P		**17 16 24.5**	**-1.6**
	comp=Z,20nm,1.2s						
WRH	**Wood River Hil**	**22.54**	**41**	*e*P		**17 16 24.1**	**-2.7**
	comp=Z,9.5nm,1.0s						
MDM	**Murphy Dome**	**22.65**	**40**	*e*P		**17 16 25.7**	**-2.2**
	comp=Z,14nm,1.0s						
CCB	**Clear Creek Bu**	**22.72**	**41**	*e*P		**17 16 26.3**	**-2.3**
	comp=Z,12nm,1.2s						
KLU	**Klutina**	**22.80**	**49**	*e*P		**17 16 27.3**	**-2.5**
	comp=Z,32nm,1.4s						
COLD	**Coldfoot**	**22.81**	**34**	*e*P		**17 16 28.3**	**-1.4**
	comp=Z,22nm,1.8s						
DIV	**Divide**	**22.82**	**50**	*e*P		**17 16 29.1**	**-0.8**
	comp=Z,66nm,1.8s						
ILAR	**Eielson Array**	**23.13**	**41**	P		**17 16 29.6**	**-3.3**
	comp=Z,2.7nm,0.9s,baz=249,slow=8.1,SNR=17						
ILB	**Eielson Array**	**23.13**	**41**	*e*P		**17 16 30.8**	**-2.2**
PAX	**Paxson**	**23.28**	**46**	*e*P		**17 16 32.9**	**-1.6**
PAX				pmax	pmax		

comp=Z,42nm,1.5s
PAX Paxson 23.28 46 *e*P **P 17 16 32.9 -1.6**
comp=Z,42nm,1.5s
HARP HAARP 23.31 47 *e*P **P 17 16 32.7 -2.1**
comp=Z,123nm,1.8s
BMRM Bremner River 23.37 51 *e*P **P 17 16 35.4 0.0**
comp=Z,56nm,1.6s
ASAJ Asahikawa 23.67 265 P **P 17 16 39.3 +0.9**
comp=Z,11nm,0.8s,baz=26,slow=9.2,SNR=5.8
ASAJ Asahikawa 23.67 265 *e*P **P 17 16 39.5 +1.2**
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 23.70 31 *e*P **P 17 16 38.0 -0.5**
comp=Z,8.6nm,0.8s
DOT Dot Lake 24.04 44 *e*P **P 17 16 39.5 -2.2**
comp=Z,18nm,0.8s
CRQM Cirque 24.06 51 *e*P **P 17 16 40.8 -1.4**
comp=Z,122nm,1.8s
TGL Tana Glacier 24.21 52 *e*P **P 17 16 42.7 -0.7**
comp=Z,30nm,1.2s
FYU Fort Yukon 24.35 37 *e*P **P 17 16 44.0 -0.5**
comp=Z,112nm,2.0s
BALM Baldy 24.47 51 *e*P **P 17 16 44.0 -1.8**
BALM pmax pmax
comp=Z,23nm,1.3s
BALM Baldy 24.47 51 *e*P **P 17 16 44.0 -1.8**
comp=Z,23nm,1.3s
EGAK Eagle 25.51 42 *e*P **P 17 16 53.6 -1.5**
comp=Z,41nm,1.4s
YKU2 Yakutat 25.76 55 *e*P **P 17 16 54.8 -2.5**
comp=Z,6μm,1.9s
DAWY Dawson 26.15 44 *e*P **P 17 16 58.8 -2.1**
comp=Z,12nm,0.9s
HYT Haines Junctio 26.82 52 *e*P **P 17 17 08.7 +1.6**
comp=Z,27nm,1.4s
YAK Yakutsk 27.07 311 P **P 17 17 08.6 -0.5**
comp=Z,6.0nm,0.4s,baz=269,slow=9.5,SNR=12
YAK Yakutsk 27.07 311 *e*P **P 17 17 08.8 -0.3**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK Yakutsk 27.07 311 *e*P **P 17 17 08.7 -0.5**
comp=N,50nm,1.3s
KLR Kul'dur 28.21 283 P **P 17 17 19.4 -0.1**
comp=N,0.4nm,0.9s,baz=65,slow=9.7,SNR=7.6
TIXI Tiksi 29.09 331 P **P 17 17 26.3 -0.7**
comp=N,2.5nm,0.5s,baz=131,slow=11,SNR=16
TIXI PcP **PcP 17 20 33.7 -0.4**
comp=N,0.5nm,0.4s,baz=92,slow=2.8,SNR=2.4
TIXI ScP **ScP 17 24 12.0 -1.1**
comp=N,0.8nm,0.7s,baz=75,slow=3.3,SNR=2.2
TIXI LR LR 17 28 45.2
comp=N,167nm,18.6s,baz=103,slow=36
TIXI Tiksi 29.09 331 *e*P **P 17 17 26.8 -0.2**
TIXI 17 20 33.7
TIXI 17 24 12.0
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 29.09 331 *e*P **P 17 17 26.8 -0.2**
comp=Z,2.9nm,0.5s
TIXI PcP **PcP 17 20 33.7 -0.4**
TIXI ScP **ScP 17 24 12.0 -1.1**
INK Inuvik 29.16 36 P **P 17 17 25.9 -1.8**
comp=Z,0.9nm,0.5s,baz=236,slow=11,SNR=3.8
USRK Ussuriysk Ar. 30.26 274 LR LR 17 28 35.1
comp=Z,69nm,20.7s,baz=129,slow=34
MJAR Matsushiro Arr 30.82 256 P **P 17 17 44.2 +1.5**
comp=Z,0.9nm,0.9s,baz=57,slow=7.0,SNR=3.5
H11N2 WAKE ISLAND Hy 32.52 197 T T 17 52 43.9
baz=11,slow=76,SNR=37
H11N3 WAKE ISLAND Hy 32.53 197 T T 17 52 44.3
baz=11,slow=76,SNR=43
H11N1 WAKE ISLAND Hy 32.54 197 T T 17 52 44.9
baz=11,slow=76,SNR=32
H11S1 WAKE ISLAND Hy 33.75 197 T T 17 54 16.1
baz=5.3,slow=74
H11S3 WAKE ISLAND Hy 33.77 197 T T 17 54 16.7
baz=5.3,slow=74
H11S2 WAKE ISLAND Hy 33.77 197 T T 17 54 16.9
baz=5.3
BOD Bodaibo 35.47 305 *e*P **P 17 18 21.7 -1.3**
BOD pmax pmax
comp=Z,8.0nm,1.0s
KSRS Korea Array 36.60 267 P **P 17 18 35.4 +2.6**
comp=Z,1.4nm,0.8s,baz=47,slow=9.2,SNR=5.3
KSAR Wonju Array Be 36.63 267 P **P 17 18 35.4 +2.3**
KSAR Wonju Array Be 36.63 267 P **P 17 18 35.4 +2.3**
YKA Yellowknife Ar 37.37 46 P **P 17 18 37.5 -1.6**
comp=Z,0.6nm,0.4s,baz=280,slow=9.1,SNR=3.5
NRIK Noril'sk 42.77 328 P **P 17 19 23.1 -0.8**
comp=Z,2.0nm,0.7s,baz=58,slow=9.9,SNR=3.2
SONM Songino Array 43.86 294 P **P 17 19 34.1 +1.1**
comp=Z,1.0nm,0.5s,baz=67,slow=7.7,SNR=5.8
SONM PcP **PcP 17 21 18.2 -0.7**
comp=Z,0.9nm,0.8s,baz=101,slow=2.9,SNR=3.0
ORV Oroville 43.89 80 *e*P **P 17 19 31.9 -1.3**
ORV pmax pmax
comp=Z,18nm,1.9s
ORV Oroville 43.89 80 *e*P **P 17 19 31.9 -1.3**
comp=Z,18nm,1.9s
MCCM Marconi Confer 43.89 83 *e*P **P 17 19 32.4 -0.8**
comp=Z,112nm,1.6s
ZAK Zakamensk 44.27 299 *e*P **P 17 19 35.3 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SLMT Seeley Lake 44.30 67 *e*P **P 17 19 35.9 -0.8**
BEKR Beckworth 44.40 79 *e*P **P 17 19 35.8 -1.8**
comp=Z,4.6nm,1.2s
PAHR Pah Rah Range 45.10 79 *e*P **P 17 19 42.9 -0.2**
comp=Z,4.0nm,0.9s
PNTR Pine Nut 45.34 80 *e*P **P 17 19 45.0 -0.1**
comp=Z,12nm,1.1s
CMB Columbia Colle 45.51 81 *e*P **P 17 19 46.1 -0.1**
CMB pmax pmax
comp=Z,19nm,1.8s
CMB Columbia Colle 45.51 81 *e*P **P 17 19 46.1 -0.1**
comp=Z,19nm,1.8s
YERR Yerington 45.63 80 *e*P **P 17 19 44.0 -3.3**
comp=Z,20nm,1.7s
BMN Battle Mountai 45.98 77 *e*P **P 17 19 49.5 -0.6**
BMN pmax pmax
comp=Z,2.0nm,0.6s
BMN Battle Mountai 45.98 77 *e*P **P 17 19 49.5 -0.6**
comp=Z,2.3nm,0.6s
MDPB Devils Postpil 46.56 81 *e*P **P 17 19 53.0 -1.8**
comp=Z,3.7nm,0.7s
YHB Horse Butte 47.03 68 *e*P **P 17 19 57.4 -0.9**
comp=Z,14nm,1.4s
PAGB Antelope Grade 47.05 84 *e*P **P 17 19 57.5 -0.8**
comp=Z,11nm,1.0s
R11A Troy Canyon, C 48.26 78 *e*P **P 17 20 07.2 -0.8**
comp=Z,14nm,1.9s
TPNV Topopah Spring 48.74 80 *e*P **P 17 20 11.0 -0.6**
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV Topopah Spring 48.74 80 *e*P **P 17 20 11.0 -0.6**
comp=Z,8.4nm,1.0s
PDAR Pinedale Array 49.16 69 P **P 17 20 12.9 -1.8**
comp=Z,0.5nm,0.6s,baz=293,slow=3.5,SNR=4.7
GSC Goldstone, Bar 49.46 82 *e*P **P 17 20 14.5 -2.5**
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 49.46 82 *e*P **P 17 20 14.5 -2.5**
comp=Z,6.8nm,0.9s
SPITS Spitsbergen Ar 50.05 355 P **P 17 20 19.9 -0.8**
comp=Z,1.9nm,0.4s,baz=46,slow=10,SNR=11
SPITS Spitsbergen Ar 50.05 355 P **P 17 20 20.0 -0.8**
LCMT Little Creek M 50.55 78 *e*P **P 17 20 24.8 -0.5**
comp=Z,23nm,1.9s
U15A North Rim 51.51 78 *e*P **P 17 20 31.4 -1.3**
comp=Z,5.1nm,0.9s
ZALV Zalesovo Beam 51.73 311 P **P 17 20 33.3 -0.4**
comp=Z,0.4nm,0.3s,baz=27,slow=6.3,SNR=3.3
NVS Novosibirsk 51.92 313 *e*P **P 17 20 35.1 0.0**
NVS pmax pmax
comp=Z,9.0nm,1.6s
NVS pmax pmax
comp=N,3.0nm,0.8s
KURK Kurchatov 56.72 311 *e*P **P 17 21 10.2 +0.1**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 56.72 311 *e*P **P 17 21 10.2 +0.1**
comp=Z,22nm,1.3s
ARCES ARCESS Array B 57.44 348 P **P 17 21 14.8 -0.2**
comp=Z,1.8nm,0.8s,baz=12,slow=6.6,SNR=4.1

MK31 Makanchi Array 57.56 306 *e*P **P 17 21 14.9 -1.2**
MK31 Makanchi Array 57.56 306 *e*P **P 17 21 14.9 -1.2**
MKAR Makanchi Array 57.56 306 P **P 17 21 16.0 -0.1**
comp=Z,1.1nm,0.5s,baz=51,slow=6.2,SNR=14
MKAR Makanchi Array 57.56 306 P **P 17 21 16.0 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 57.56 306 *e*P **P 17 21 14.9 -1.2**
comp=Z,13nm,0.6s
BRVK Borovoye 58.83 317 *e*P **P 17 21 25.4 +0.5**
BRVK pmax pmax
comp=Z,32nm,1.5s
BRVK Borovoye 58.83 317 *e*P **P 17 21 25.4 +0.5**
comp=Z,32nm,1.5s
ARU Arti 60.88 326*c i*P **P 17 21 39.7 +0.8**
ARU 17 21 59.6
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 60.88 326 *e*P **P 17 21 39.6 +0.7**
comp=Z,18nm,1.3s
TX31 Lajitas Ar. Si 61.63 78 *e*P **P 17 21 43.6 -0.9**
TXAR Lajitas Array 61.63 78 P **P 17 21 43.0 -1.5**
comp=Z,0.9nm,0.6s,baz=293,slow=4.7,SNR=11
FINES FINESS Array B 64.97 345 P **P 17 22 05.7 -0.3**
comp=Z,1.5nm,0.7s,baz=12,slow=9.8,SNR=6.4
ABKAR Akbulak array 65.98 320 *e*P **P 17 22 13.1 +0.4**
comp=Z,29nm,0.8s
KKAR Karatay Array 66.03 310 *e*P **P 17 22 13.2 0.0**
KKAR pmax pmax
comp=Z,39nm,1.1s
KKAR Karatay Array 66.03 310 *e*P **P 17 22 13.2 0.0**
comp=Z,39nm,1.1s
PLAL Pickwick Lake 66.72 63 *e*P **P 17 22 20.2 +2.5**
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 67.22 352 P **P 17 22 20.1 -0.4**
comp=Z,0.9nm,0.6s,baz=10,slow=6.5
NOA NORSAR Array B 67.22 352 P **P 17 22 20.1 -0.4**
comp=Z,3.5nm,1.0s,baz=11,slow=6.4,SNR=4.5
CMAR Chiang Mai Arr 67.97 272 P **P 17 22 26.1 +0.3**
comp=Z,0.8nm,0.8s,baz=23,slow=7.6,SNR=7.5
TAPN Taplejung 68.30 287 *e*P **P 17 22 28.8 +0.7**
GUN Gumba 68.97 289 *e*P **P 17 22 33.2 +0.8**
JIRN Jiri 68.97 288 *e*P **P 17 22 33.4 +0.9**
RAMN Ramite 69.25 287 *e*P **P 17 22 34.7 +0.6**
comp=Z,20nm,0.7s
KKN Kakani 69.42 289 *e*P **P 17 22 35.8 +0.8**
comp=Z,5.7nm,0.5s
PKI Pulchoki 69.50 289 *e*P **P 17 22 36.3 +0.6**
PKIN Phulchoki 69.51 289 *e*P **P 17 22 37.0 +1.4**
GKN Gorkha 69.64 289 *e*P **P 17 22 36.9 +0.6**
DMN Daman 69.66 289 *e*P **P 17 22 37.3 +0.8**
DANN Dangsing 69.90 290 *e*P **P 17 22 39.2 +1.1**
PYUN Piuthan 70.53 291 *e*P **P 17 22 42.5 +0.6**
KBL Kabul 73.34 305 *e*P **P 17 22 58.1 -0.5**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 73.34 305 *e*P **P 17 22 58.1 -0.5**
comp=Z,9.4nm,0.9s
AKASG Malin Array Be 74.46 339 P **P 17 23 04.8 +0.2**
comp=Z,2.4nm,0.4s,baz=22,slow=6.3,SNR=12
KIEV Kiev 74.47 339 *e*P **P 17 23 04.5 -0.1**
KIEV pmax pmax
comp=Z,19nm,1.8s
KIEV Kiev 74.47 339 *e*P **P 17 23 04.5 -0.1**
comp=Z,19nm,1.8s
GEYT Alibeck 75.90 314 P **P 17 23 14.3 +1.1**
comp=Z,4.2nm,0.9s,baz=73,slow=5.0,SNR=9.4
CLL Collm 76.64 349 *e*P **P 17 23 19.0 +1.9**
KBZ Khabaz 76.97 327 P **P 17 23 20.0 +1.0**
comp=Z,3.8nm,1.1s,baz=324,slow=2.7,SNR=4.6
KBZ Khabaz 76.97 327 P **P 17 23 20.0 +1.0**
STHS Stebnicka Huta 77.28 344 *e*P **P 17 23 22.3 +1.6**
STHS pmax pmax
comp=Z,7.0nm,1.3s
STHS Stebnicka Huta 77.28 344 *e*P **P 17 23 22.3 +1.6**
ZEI Tsey 77.45 326 *e*P **P 17 23 21.2 -0.9**
ZEI pmax pmax
comp=Z,4.0nm,1.4s
CRVS Cervenica-Dubn 77.74 343 *e*P **P 17 23 24.1 +0.7**
CRVS Cervenica-Dubn 77.74 343 *e*P **P 17 23 24.0 +0.7**
BUR08 Bucovina Ar. S 78.22 341 *e*P **P 17 23 26.4 +0.3**
BURAR Bucovina Array 78.24 341 ⇓*i*P **P 17 23 27.1 +0.9**
KECS Kecovo 78.31 344 *e*P **P 17 23 27.0 +0.5**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 78.31 344 *e*P **P 17 23 27.0 +0.5**
VYHS Vyhne 78.58 345 *e*P **P 17 23 28.3 +0.3**
VYHS pmax pmax
comp=Z,55nm,3.4s
VYHS Vyhne 78.58 345 *e*P **P 17 23 28.3 +0.3**
PSZ Piszkesteto 78.96 344 ⇑*i*P **P 17 23 32.2 +2.0**
GERES GERESS Array B 78.98 348 P **P 17 23 30.3 0.0**
comp=Z,0.4nm,0.6s,baz=35,slow=4.9,SNR=4.3
CONA Conrad Observa 79.59 347 *i* P **P 17 23 34.7 +1.1**
comp=Z,6.3nm,1.2s
VOIR 80.35 340 ⇑*i*P **P 17 23 39.2 +1.4**
WATA Walderalm 80.72 350 *i* P **P 17 23 40.4 +0.7**
comp=Z,2.4nm,0.5s
KBA Koelnbreinsper 80.76 348 *i* P **P 17 23 40.5 +0.5**
comp=Z,7.4nm,0.6s
MOTA Moosalm 80.76 350 *i* P **P 17 23 40.4 +0.4**
comp=Z,2.1nm,0.6s
WTTA Wattenberg 80.78 350 *i* P **P 17 23 40.4 +0.2**
comp=Z,3.8nm,0.5s
BZS Buzias 80.87 342 ⇑*i*P **P 17 23 41.9 +1.5**
SQTA Sankt Quirin 80.87 350 *i* P **P 17 23 40.8 +0.2**
SOKA Soboth 80.93 347 *i* PcP **P 17 23 41.9 +1.1**
comp=Z,4.3nm,0.6s
PERS Pernice 80.96 347 *i* P **P 17 23 41.7 +0.8**
FETA Feichten 81.12 350 *i* PcP **P 17 23 43.5 +1.5**
comp=Z,4.3nm,1.0s
OBKA Obir 81.16 347 *i* PcP **P 17 23 43.4 +1.3**
comp=Z,2.9nm,0.4s
ABTA Abfaltersbach 81.19 349 *i* P **P 17 23 42.2 0.0**
comp=Z,3.7nm,0.8s
BOJS Bojanci 82.05 347 *i* P **P 17 23 47.4 +0.8**
BR131 Keskin Array S 83.53 332 *e*P **P 17 23 54.4 -0.2**
BRTR Keskin Array B 83.53 332 P **P 17 23 55.0 +0.4**
comp=Z,1.9nm,0.7s,baz=38,slow=2.4,SNR=8.4
ASAR Alice Springs 83.57 219 P **P 17 23 54.7 0.0**
comp=Z,0.4nm,0.7s,baz=18,slow=5.5,SNR=4.5
MAW Mawson 144.69 217 PKP **PKPab 17 31 00.1 -0.5**
comp=Z,3.6nm,0.8s,baz=90,slow=5.6,SNR=12

*IDC **28** 17:12:09.8±1.7, 35°.72N×141°.08E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/41, mbtmp3.5/7, ML3.5/3, MS4.1/4, Ms1 4.1/4, ms1mx3.3/35, Error ellipse: s-maj=45.4km s-min=20.2km az=74.0*
*ISCJB **28** 17:12:10.9±1.1, 35°.82N±0°.05×141°.06E±0°.08, h20km±7km, mb3.5/4, MS4.1/4, Error ellipse: s-maj=11.8km s-min=8.1km az=151.6*
*JMA **28** 17:12:13.4±0.1, 35°.77N×140°.87E, h14km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ±225.00000°, δ45.00000°, λ-89.00000°. NP2: ϕ±43.00000°, δ45.00000°, λ-91.00000°. Principal axes: T Plg0.0000°, Azm314.0000°; N Plg1.0000°, Azm44.0000°; P Plg89.0000°, Azm224.0000°;*
JMA Felt II J1.
ISC 28 17:12:12.7±1.1, 35°.75N±0°.06×140°.95E±0°.07, h17km±5km, n26, σ1§03/20, mb3.5/4, MS4.1/4, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**241**	⇓P	**Pg**	**17 12 16.0**	**-0.1**
CHOJ				S	**Sg**	**17 12 18.0**	**-0.3**
JCN	**Nagara**	**0.69**	**242**	⇑P	**Pb**	**17 12 26.8**	**+0.4**
KTR	**Katsuura**	**0.79**	**221**	P	**Pb**	**17 12 28.3**	**+0.3**
KTR				S	**Sb**	**17 12 39.1**	**+0.6**
BSO4	**Boso 4**	**0.91**	**214**	P	**Pb**	**17 12 30.4**	**+0.5**
BSO2	**Boso 2**	**1.00**	**189**	S	**Sb**	**17 12 45.7**	**+1.4**
BSO3	**Boso 3**	**1.01**	**201**	⇑P	**Pb**	**17 12 31.6**	**0.0**
BSO1	**Boso 1**	**1.09**	**179**	⇑P	**Pn**	**17 12 32.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.36**	**290**	Pn	**Pn**	**17 12 49.8**	**-0.9**
	8.2nm,0.3s,baz=98,slow=8.7,SNR=76						
MJAR				Sn	**Sn**	**17 13 17.8**	**-1.6**
	8.2nm,0.3s,baz=118,slow=13,SNR=6.4						
MAT	**Matsushiro**	**2.36**	**290**	P	**Pn**	**17 12 50.1**	**-0.6**
MAT				S	**Sn**	**17 13 20.9**	**+1.5**
JHJ	**Hachijo jima 2**	**2.79**	**201**	Pn	**Pn**	**17 12 57.4**	**+0.8**
	7.3nm,0.3s,baz=101,slow=19,SNR=2.8						
JHJ				Sn	**Sn**	**17 13 27.8**	**-2.1**
	16nm,0.3s,baz=97,slow=16,SNR=2.6						
ASAJ	**Asahikawa**	**8.46**	**8**	Pn	**Pn**	**17 14 13.9**	**-0.5**
	1.0nm,0.3s,baz=240,slow=11,SNR=7.5						
KLR	**Kul'dur**	**15.07**	**336**	LR	LR	17 20 16.5	
	comp=Z,36nm,20.6s,baz=140,slow=32						
YAK	**Yakutsk**	**27.25**	**348**	LR	LR	17 29 32.6	
	comp=Z,213nm,19.0s,baz=88,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	17 47 03.0	
	baz=311,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	17 46 57.3	
	baz=311,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	17 47 04.9	
	baz=311,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	17 47 51.0	
	baz=312,slow=76,SNR=74						
H11S3	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	17 47 42.4	
	baz=312,slow=76,SNR=98						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	17 47 49.2	
	baz=312,slow=76,SNR=77						
ZALV	**Zalesovo Beam**	**42.52**	**313**	P	**P**	**17 20 07.8**	**+0.7**
	0.6nm,0.7s,baz=108,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**17 20 23.8**	**+0.6**
	0.5nm,0.7s,baz=90,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**17 21 48.0**	**-0.5**
	0.3nm,0.4s,baz=5.1,slow=7.5,SNR=5.8						
ASAR	**Alice Springs**	**59.46**	**188**	P	**P**	**17 22 13.7**	**-1.0**
	0.2nm,0.5s,baz=16,slow=10,SNR=5.6						
ARCES	**ARCESS Array B**	**65.07**	**340**	LR	LR	17 55 43.0	
	comp=Z,127nm,18.8s,baz=71,slow=40						
HFS	**Hagfors**	**75.11**	**336**	LR	LR	18 02 17.2	
	comp=Z,161nm,18.4s,slow=40						
NOA	**NORSAR Array B**	**75.23**	**337**	LR	LR	18 00 11.1	
	comp=Z,96nm,20.8s,baz=25,slow=38						

*IDC **28** 17:19:44.4±0.8, 51°.39N×176°.58E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/48, mbtmp4.0/18, ML2.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/49, Error ellipse: s-maj=23.3km s-min=15.5km az=171.0*
*ISCJB **28** 17:19:47.5±0.7, 51°.4N±0°.1×176°.57E±0°.09, h31km, mb4.0/24, MS3.4/1, Error ellipse: s-maj=17.2km s-min=7.6km az=174.3*
*NEIC **28** 17:19:50.5±1.2, 51°.44N×176°.58E, h41km±9km, mb4.3/7, Error ellipse: s-maj=14.0km s-min=6.2km az=173.0*
ISC 28 17:19:49.5±0.9, 51°.4N±0°.2×176°.41E±0°.07, h31km, n36, σ1§49/33, mb4.1/24, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.93**	**313**	*e*Pn	**Pn**	**17 20 21.3**	**+1.2**
UNV	**Unalaska Valle**	**10.66**	**70**	*e*Pn	**Pn**	**17 22 20.9**	**+1.0**
PETK	**Petropavlovsk-**	**11.59**	**286**	Pn	**Pn**	**17 22 34.1**	**+1.5**
	0.1nm,0.3s,baz=85,slow=18,SNR=4.0						
PETK				Sn	**Sn**	**17 24 35.2**	**-5.5**
	0.2nm,0.3s,baz=103,slow=19,SNR=2.7						
KDAK	**Kodiak Island**	**18.93**	**58**	P	**P**	**17 24 05.5**	**-2.0**
	2.8nm,0.3s,baz=274,slow=3.4,SNR=34						
BPAW	**Bear Paw Mtn.**	**21.23**	**41**	*e*P	**P**	**17 24 32.7**	**+0.3**
	2.0nm,1.2s						
COLA	**College**	**22.77**	**40**	*e*P	**P**	**17 24 48.3**	**-0.5**
ILAR	**Eielson Array**	**23.13**	**41**	P	**P**	**17 24 50.0**	**-2.5**
	0.8nm,0.4s,baz=249,slow=8.0,SNR=22						
PAX	**Paxson**	**23.27**	**46**	*e*P	**P**	**17 24 52.7**	**-1.5**
	6.3nm,0.7s						
DOT	**Dot Lake**	**24.03**	**44**	*e*P	**P**	**17 24 59.4**	**-2.0**
	7.8nm,0.5s						
EGAK	**Eagle**	**25.50**	**42**	*e*P	**P**	**17 25 13.3**	**-1.3**
	11nm,0.9s						
DAWY	**Dawson**	**26.14**	**44**	*e*P	**P**	**17 25 19.3**	**-1.2**
	14nm,1.1s						
YAK	**Yakutsk**	**27.13**	**311**	P	**P**	**17 25 29.5**	**+0.2**
	3.3nm,0.4s,baz=77,slow=0.3,SNR=4.0						
TIXI	**Tiksi**	**29.13**	**331**	P	**P**	**17 25 46.7**	**-0.4**
	1.0nm,0.4s,baz=125,slow=7.6,SNR=6.1						
TIXI				PcP	**PcP**	**17 28 53.4**	**-0.4**
	1.2nm,0.3s,baz=93,slow=1.9,SNR=1.9						
INK	**Inuvik**	**29.16**	**36**	P	**P**	**17 25 47.4**	**0.0**
	0.6nm,0.4s,baz=239,slow=5.9,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**32.51**	**197**	T	T	18 01 09.5	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**32.52**	**197**	T	T	18 01 12.0	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**32.52**	**197**	T	T	18 01 10.9	
	baz=11						
YKA	**Yellowknife Ar**	**37.36**	**46**	P	**P**	**17 26 58.0**	**-0.7**
	1.0nm,0.5s,baz=280,slow=9.2,SNR=3.2						
SONM	**Songino Array**	**43.91**	**294**	P	**P**	**17 27 54.3**	**+1.2**
	0.5nm,0.4s,baz=75,slow=7.9,SNR=4.3						
ELK	**Elko**	**46.96**	**75**	LR	LR	17 45 21.8	
	comp=Z,42nm,18.1s,baz=246,slow=33						
PDAR	**Pinedale Array**	**49.13**	**69**	P	**P**	**17 28 32.5**	**-1.7**
	0.4nm,0.7s,baz=304,slow=3.4,SNR=4.0						
KURK	**Kurchatov**	**56.77**	**311**	P	**P**	**17 29 31.6**	**+1.4**
KURBB	**Kurchatov Arra**	**56.88**	**311**	P	**P**	**17 29 31.6**	**+0.7**
	1.2nm,0.5s,baz=42,slow=6.8,SNR=22						
ARCES	**ARCESS Array B**	**57.48**	**348**	P	**P**	**17 29 34.6**	**-0.3**
	2.5nm,0.9s,baz=28,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**57.61**	**306**	P	**P**	**17 29 36.1**	**-0.1**
	0.4nm,0.4s,baz=51,slow=7.0,SNR=11						
BRVK	**Borovoye**	**58.88**	**317**	*e*P	**P**	**17 29 45.9**	**+0.9**
	7.0nm,0.4s						
ARU	**Arti**	**60.93**	**326**	*e*P	**P**	**17 29 59.7**	**+0.8**
TXAR	**Lajitas Array**	**61.59**	**78**	P	**P**	**17 30 04.1**	**+0.1**
	0.7nm,0.5s,baz=303,slow=5.1,SNR=9.7						
FINES	**FINESS Array B**	**65.01**	**345**	P	**P**	**17 30 25.7**	**-0.2**
	3.0nm,0.9s,baz=1.4,slow=5.8,SNR=7.0						
ABKAR	**Akbulak array**	**66.03**	**320**	*e*P	**P**	**17 30 33.8**	**+1.1**
	0.5nm,0.5s						
NOA	**NORSAR Array B**	**67.26**	**352**	P	**P**	**17 30 40.5**	**+0.1**
	1.6nm,0.9s,baz=1.2,slow=6.4,SNR=3.7						
AKASG	**Malin Array Be**	**74.50**	**339**	P	**P**	**17 31 25.0**	**+0.5**
	1.9nm,0.4s,baz=23,slow=6.6,SNR=14						
WRA	**Warramunga Arr**	**80.05**	**220**	P	**P**	**17 31 55.2**	**-0.7**
	2.5nm,1.1s,baz=30,slow=5.9,SNR=4.7						
ASAR	**Alice Springs**	**83.57**	**219**	P	**P**	**17 32 14.6**	**+0.2**
	0.4nm,1.0s,baz=23,slow=5.8,SNR=4.9						
BRTR	**Keskin Array B**	**83.57**	**332**	P	**P**	**17 32 15.5**	**+1.0**
	0.4nm,0.5s,baz=3.4,slow=4.6,SNR=3.1						
MAW	**Mawson**	**144.69**	**217**	PKP	PKPbc	17 39 20.3	-0.1
	1.4nm,0.7s,baz=174,slow=0.6,SNR=5.0						

*ISK **28** 17:32:24.8, 38°.94N×43°.59E, h5km, MD2.5*
*DDA **28** 17:32:25.5, 38°.92N×43°.61E, h7km, Ml2.8*
*ISCJB **28** 17:32:26.6±0.8, 38°.99N±0°.05×43°.56E±0°.08, h5km±10km, Error ellipse: s-maj=11.9km s-min=6.4km az=29.8*
*CSEM **28** 17:32:26.1±0.3, 38°.98N×43°.56E, h5km, ML2.8, Error ellipse: s-maj=10.3km s-min=6.8km az=107.0*
ISC 28 17:32:25.7±1.2, 38°.95N±0°.03×43°.60E±0°.04, h7km±8km, n15, σ0§57/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.04**	**334**	*i* P	**Pg**	**17 32 27.5**	**+0.1**
VMUR	**Van-Muradiye**	**0.04**	**334**	P	**Pg**	**17 32 27.5**	**+0.1**
CLDR	**Caldiran**	**0.32**	**52**	*e*PG	**Pg**	**17 32 32.3**	**+0.4**
CLDR				*e*SG	**Sb**	**17 32 38.4**	**-0.8**
CLDR	**Caldiran**	**0.32**	**52**	*i* P	**Pg**	**17 32 32.4**	**+0.4**
CLDR	**Caldiran**	**0.32**	**52**	*e*Pg	**Pg**	**17 32 32.3**	**+0.4**
CLDR				*e*Sg	**Sb**	**17 32 38.4**	**-0.8**
VANB	**Van**	**0.39**	**204**	*e*PG	**Pb**	**17 32 34.6**	**-0.3**
VANB				*e*SG	**Sb**	**17 32 42.3**	**+1.1**
VANB	**Van**	**0.39**	**204**	*e*Pg	**Pb**	**17 32 34.6**	**-0.3**
VANB				*e*Sg	**Sb**	**17 32 42.3**	**+1.1**
TVAN	**Van**	**0.45**	**199**	*i* P	**Pg**	**17 32 34.1**	**-0.3**
TVAN	**Van**	**0.45**	**199**	P	**Pg**	**17 32 34.1**	**-0.3**
DYDN	**Diyadin**	**0.60**	**7**	*i* P	**Pg**	**17 32 37.6**	**+0.4**
DYDN	**Diyadin**	**0.60**	**7**	P	**Pg**	**17 32 37.6**	**+0.4**
TUTA	**Tutak**	**0.76**	**307**	*i* P	**Pg**	**17 32 39.9**	**-0.3**
TUTA				*i* S	**Sb**	**17 32 52.3**	**+0.4**
TUTA	**Tutak**	**0.76**	**307**	P	**Pg**	**17 32 39.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.78**	**323**	*e*PG	**Pg**	**17 32 40.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.78**	**323**	*e*Pg	**Pg**	**17 32 40.9**	**+0.2**

*ISK **28** 17:33:17.8, 38°.92N×43°.54E, h5km, MD2.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.03**	**25**	*i* P	**Pg**	**17 33 20.4**	**-0.3**
VMUR				*i* S	**Sg**	**17 33 22.9**	**+0.5**
VMUR	**Van-Muradiye**	**0.03**	**25**	P	**Pg**	**17 33 20.4**	**-0.3**
VMUR				S	**Sg**	**17 33 22.9**	**+0.5**
ERCV	**ERCIS-VAN**	**0.18**	**290**	*e*PG	**Pg**	**17 33 22.1**	**-0.3**
ERCV	**ERCIS-VAN**	**0.18**	**290**	*e*Pg	**Pg**	**17 33 22.1**	**-0.3**
CLDR	**Caldiran**	**0.34**	**57**	*e*PG	**Pg**	**17 33 25.5**	**+0.2**
CLDR				*e*SG	**Sb**	**17 33 31.4**	**-0.7**
CLDR	**Caldiran**	**0.34**	**57**	*i* P	**Pg**	**17 33 25.4**	**+0.2**
CLDR				*i* S	**Sb**	**17 33 31.6**	**-0.4**
CLDR	**Caldiran**	**0.34**	**57**	*e*Pg	**Pg**	**17 33 25.5**	**+0.2**
CLDR				S	**Sb**	**17 33 31.6**	**-0.4**
VANB	**Van**	**0.39**	**200**	*e*PG	**Pg**	**17 33 26.8**	**+0.7**
VANB				*e*SG	**Sb**	**17 33 33.0**	**-0.3**
VANB	**Van**	**0.39**	**200**	*e*Pg	**Pg**	**17 33 26.8**	**+0.7**
VANB				*e*Sg	**Sb**	**17 33 33.0**	**-0.3**
TVAN	**Van**	**0.45**	**195**	*i* P	**Pg**	**17 33 26.2**	**-1.0**
TVAN				*i* S	**Sb**	**17 33 35.8**	**+0.6**
TVAN	**Van**	**0.45**	**195**	P	**Pg**	**17 33 26.2**	**-1.0**
TVAN				S	**Sb**	**17 33 35.8**	**+0.6**
TUTA	**Tutak**	**0.72**	**308**	*i* P	**Pg**	**17 33 32.7**	**+0.2**
TUTA	**Tutak**	**0.72**	**308**	P	**Pg**	**17 33 32.7**	**+0.2**
AGRB	**Hanur-Agry**	**0.75**	**325**	*e*PG	**Pb**	**17 33 33.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.75**	**325**	*e*Pg	**Pb**	**17 33 33.6**	**-0.1**

*ISCJB **28** 17:43:57.0±1.0, 38°.84N±0°.05×43°.53E±0°.09, h22km±10km, Error ellipse: s-maj=12.6km s-min=8.1km az=15.0*
*CSEM **28** 17:43:56.8±0.3, 38°.87N×43°.49E, h15km, ML2.8, Error ellipse: s-maj=9.0km s-min=5.8km az=117.0*
*DDA **28** 17:43:56.8, 38°.86N×43°.42E, h7km, Ml2.8*
*ISK **28** 17:43:56.3, 38°.86N×43°.49E, h17km, MD2.8*
ISC 28 17:43:56.9±1.1, 38°.87N±0°.04×43°.51E±0°.04, h14km±9km, n13, σ0§44/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**21**	*i* P	**Pg**	**17 44 00.6**	**0.0**
VMUR				*i* S	**Sb**	**17 44 05.1**	**+0.8**
VMUR	**Van-Muradiye**	**0.13**	**21**	P	**Pg**	**17 44 00.6**	**0.0**
VMUR				S	**Sb**	**17 44 05.1**	**+0.8**
VANB	**Van**	**0.29**	**199**	*e*PG	**Pb**	**17 44 04.0**	**+0.1**
VANB	**Van**	**0.29**	**199**	*e*Pg	**Pb**	**17 44 04.1**	**+0.1**
TVAN	**Van**	**0.35**	**194**	*i* P	**Pg**	**17 44 04.2**	**+0.1**
TVAN				*i* S	Sn	17 44 25.7	+11
TVAN	**Van**	**0.35**	**194**	P	**Pg**	**17 44 04.2**	**+0.1**
CLDR	**Caldiran**	**0.42**	**49**	*e*PG	**Pg**	**17 44 05.2**	**-0.2**
CLDR				*e*SG	**Sb**	**17 44 12.6**	**0.0**
CLDR	**Caldiran**	**0.42**	**49**	*i* P	**Pg**	**17 44 05.2**	**-0.2**
CLDR				*i* S	**Sb**	**17 44 13.2**	**+0.6**
CLDR	**Caldiran**	**0.42**	**49**	P	**Pg**	**17 44 05.2**	**-0.2**
CLDR				*e*Sg	**Sb**	**17 44 12.6**	**0.0**
CLDR				S	**Sb**	**17 44 13.2**	**+0.6**
AGRB	**Hanur-Agry**	**0.81**	**330**	*e*PG	**Pg**	**17 44 12.6**	**-0.2**
AGRB				*e*SG	**Sb**	**17 44 24.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.81**	**330**	*e*Pg	**Pg**	**17 44 12.6**	**-0.2**
AGRB				*e*Sg	**Sb**	**17 44 24.4**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	*e*PN	**Pn**	**17 44 29.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	*e*Pn	**Pn**	**17 44 29.2**	**-0.5**

IDC 28 17:45:16.7±2.0, 51°.27N×176°.54E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/63, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=53.2km s-min=26.2km az=3.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**18.95**	**58**	P	P	17 49 38.1	-0.9
	0.6nm,0.3s,baz=270,slow=3.0,SNR=9.1						
ILAR	**Eielson Array**	**23.19**	**40**	P	P	17 50 23.8	-0.9
	0.5nm,0.7s,baz=252,slow=8.1,SNR=6.3						
TIXI	**Tiksi**	**29.31**	**331**	P	P	17 51 21.3	+0.9
	0.9nm,0.3s,baz=99,slow=2.7,SNR=3.9						
MKAR	**Makanchi Array**	**57.77**	**306**	P	P	17 55 08.9	-0.4
	0.2nm,0.4s,baz=50,slow=7.2,SNR=5.2						
TXAR	**Lajitas Array**	**61.55**	**78**	P	P	17 55 36.6	+0.9
	0.4nm,0.5s,baz=316,slow=5.2,SNR=4.7						
AKASG	**Malin Array Be**	**74.68**	**339**	P	P	17 56 57.7	+0.1
	0.6nm,0.4s,baz=23,slow=6.0,SNR=4.5						
MAW	**Mawson**	**144.62**	**217**	PKP	PKPab	18 04 52.3	0.0
	0.7nm,0.4s,baz=56,slow=11,SNR=3.7						

*IDC **28** 17:46:05.2±0.8, 51°.38N×176°.68E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.8/64, mbtmp4.0/17, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/46, Error ellipse: s-maj=22.2km s-min=15.6km az=166.0*
*ISCJB **28** 17:46:08.8±0.5, 51°.45N±0°.07×176°.52E±0°.05, h31km, mb4.4/61, Error ellipse: s-maj=10.5km s-min=4.9km az=179.8*
*MOS **28** 17:46:10.7±0.9, 51°.49N×176°.60E, h49km, mb4.8/14, Error ellipse: s-maj=12.8km s-min=9.2km az=80.3*
*NEIC **28** 17:46:13.2±0.7, 51°.50N×176°.59E, h54km±5km, mb4.5/55, Error ellipse: s-maj=7.7km s-min=3.9km az=183.0*
ISC 28 17:46:10.6±0.7, 51°.5N±0°.1×176°.42E±0°.05, h31km, n134, σ1§29/133, mb4.5/61, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.91**	**312**	*e*P	**Pb**	**17 46 43.7**	**-0.9**
SMY	**Shemya**	**1.91**	**312**	*e*Pn	**Pb**	**17 46 43.7**	**-0.9**
ADK	**Adak**	**4.31**	**82**	*e*P	**Pn**	**17 47 13.8**	**-0.2**
ADK	**Adak**	**4.31**	**82**	*e*Pn	**Pn**	**17 47 13.8**	**-0.2**
ATKA	**Atka Island**	**5.87**	**79**	*e*Pn	**Pn**	**17 47 36.8**	**+1.5**
NIKH	**Nikolski High**	**9.17**	**75**	*e*Pn	**Pn**	**17 48 21.0**	**+0.5**
SPIA	**Saint Paul Isl**	**9.66**	**49**	*e*Pn	**Pn**	**17 48 29.2**	**+2.0**
UNV	**Unalaska Valle**	**10.65**	**70**	*e*Pn	**Pn**	**17 48 42.0**	**+1.2**
AKUT	**Akutan**	**11.11**	**69**	*e*Pn	**Pn**	**17 48 49.0**	**+1.9**
PETK	**Petropavlovsk-**	**11.58**	**285**	Pn	**Pn**	**17 48 56.1**	**+2.5**
	0.2nm,0.3s,baz=165,slow=11,SNR=2.7						
PETK				Sn	**Sn**	**17 50 57.0**	**-4.7**
	baz=82,slow=22,SNR=2.8						
PETK				LR	LR	17 54 13.7	
	comp=Z,83nm,19.4s,baz=89,slow=42						
PETK	**Petropavlovsk-**	**11.58**	**285**	Pn	**Pn**	**17 48 56.1**	**+2.5**
PETK	**Petropavlovsk-**	**11.58**	**285**	Sn	**Sn**	**17 50 57.0**	**-4.7**
FALS	**False Pass**	**12.56**	**66**	*e*Pn	**Pn**	**17 49 07.6**	**+0.7**
CHGN	**Chignik**	**15.56**	**62**	*e*Pn	**Pn**	**17 49 48.2**	**+0.8**
	97nm,1.6s						
SVW2	**Sparrevohn**	**18.15**	**47**	*e*P	**Pn**	**17 50 19.6**	**-0.3**
	27nm,1.6s						
OHAK	**Old Harbor**	**18.47**	**60**	*e*P	**P**	**17 50 21.0**	**-2.5**
	61nm,1.5s						
TTA	**Tatalina**	**18.66**	**41**	*e*P	**Pn**	**17 50 26.0**	**-0.1**
TTA				pmax	pmax		
	comp=Z,17nm,1.3s						
TTA	**Tatalina**	**18.66**	**41**	*e*P	**Pn**	**17 50 26.0**	**-0.1**
	comp=Z,17nm,1.3s						
KDAK	**Kodiak Island**	**18.91**	**58**	P	**P**	**17 50 26.0**	**-2.2**
	comp=Z,1.2nm,0.3s,baz=260,slow=4.7,SNR=11						
KDAK	**Kodiak Island**	**18.91**	**58**	*e*P	**P**	**17 50 26.1**	**-2.2**
KDAK				pmax	pmax		
	comp=Z,67nm,1.6s						
KDAK	**Kodiak Island**	**18.91**	**58**	*e*P	**P**	**17 50 26.1**	**-2.2**
	comp=Z,67nm,1.6s						
RSO	**Redoubt South**	**19.29**	**50**	*e*P	**Pn**	**17 50 33.9**	**0.0**
SPU	**Mount Spurr**	**19.80**	**48**	*e*P	**P**	**17 50 37.2**	**-0.9**
CNPM	**China Poot**	**19.84**	**53**	*e*P	**P**	**17 50 37.6**	**-1.0**
	comp=Z,217nm,2.0s						
BRLK	**Bradley Lake**	**20.06**	**53**	*e*P	**P**	**17 50 39.4**	**-1.6**
	comp=Z,48nm,1.3s						
SUA	**Susitna One**	**20.49**	**48**	*e*P	**P**	**17 50 46.3**	**+0.6**
SEW	**Seward**	**20.83**	**52**	*e*P	**P**	**17 50 47.7**	**-1.5**
	comp=Z,30nm,1.1s						
RC01	**Rabbit Creek A**	**20.88**	**49**	*e*P	**P**	**17 50 49.4**	**-0.4**
	comp=Z,24nm,1.3s						
BPAW	**Bear Paw Mtn.**	**21.19**	**41**	*e*P	**P**	**17 50 53.5**	**+0.3**
	comp=Z,6.3nm,1.0s						
MLY	**Manley**	**21.64**	**39**	*e*P	**P**	**17 50 58.5**	**+0.5**
	comp=Z,25nm,1.5s						
RND	**Reindeer**	**21.86**	**44**	*e*P	**P**	**17 50 59.9**	**-0.4**
RND				pmax	pmax		
	comp=Z,26nm,1.9s						
RND	**Reindeer**	**21.86**	**44**	*e*P	**P**	**17 50 59.9**	**-0.4**
	comp=Z,26nm,1.9s						
MCK	**McKinley**	**21.92**	**43**	*e*P	**P**	**17 51 00.1**	**-0.9**
MCK				pmax	pmax		
	comp=Z,15nm,1.2s						
MCK	**McKinley**	**21.92**	**43**	*e*P	**P**	**17 51 00.1**	**-0.9**
	comp=Z,14nm,1.2s						
GLI	**Glacier Island**	**22.11**	**51**	*e*P	**P**	**17 51 01.9**	**-1.1**
	comp=Z,18nm,1.2s						
SCM	**Sheep Creek Mo**	**22.16**	**48**	*e*P	**P**	**17 51 03.0**	**-0.6**
SCM				pmax	pmax		
	comp=Z,104nm,1.8s						
SCM	**Sheep Creek Mo**	**22.16**	**48**	*e*P	**P**	**17 51 03.0**	**-0.6**
	comp=Z,104nm,1.8s						
FID	**Port Fidalgo**	**22.38**	**51**	*e*P	**P**	**17 51 04.2**	**-1.8**
	comp=Z,113nm,1.9s						
DHY	**Denali Highway**	**22.42**	**45**	*e*P	**P**	**17 51 05.5**	**-0.9**
	comp=Z,19nm,1.4s						
WRH	**Wood River Hil**	**22.50**	**41**	*e*P	**P**	**17 51 04.8**	**-2.4**
	comp=Z,34nm,1.8s						
MDM	**Murphy Dome**	**22.61**	**40**	*e*P	**P**	**17 51 08.4**	**0.0**
	comp=Z,45nm,1.8s						
CCB	**Clear Creek Bu**	**22.68**	**41**	*e*P	**P**	**17 51 08.7**	**-0.3**
	comp=Z,9.2nm,1.2s						
KLU	**Klutina**	**22.76**	**49**	*e*P	**P**	**17 51 09.3**	**-0.8**
	comp=Z,43nm,1.8s						
ILAR	**Eielson Array**	**23.09**	**41**	P	**P**	**17 51 10.7**	**-2.6**
	comp=Z,1.5nm,0.9s,baz=250,slow=8.3,SNR=9.1						
ILAR	**Eielson Array**	**23.09**	**41**	P	**P**	**17 51 10.7**	**-2.6**
ILB	**Eielson Array**	**23.09**	**41**	*e*P	**P**	**17 51 12.8**	**-0.5**
RAGM	**Ragged Mountai**	**23.23**	**52**	*e*P	**P**	**17 51 14.8**	**0.0**
	comp=Z,73nm,1.5s						
PAX	**Paxson**	**23.24**	**46**	*e*P	**P**	**17 51 14.1**	**-0.8**
PAX				pmax	pmax		
	comp=Z,26nm,1.6s						
PAX	**Paxson**	**23.24**	**46**	*e*P	**P**	**17 51 14.1**	**-0.8**
	comp=Z,26nm,1.6s						
HARP	**HAARP**	**23.27**	**47**	*e*P	**P**	**17 51 15.7**	**+0.5**
	comp=Z,15nm,1.3s						
TOLK	**Toolik Lake Re**	**23.66**	**31**	*e*P	**P**	**17 51 18.9**	**0.0**
	comp=Z,43nm,1.8s						
DOT	**Dot Lake**	**24.00**	**44**	*e*P	**P**	**17 51 21.0**	**-1.1**
	comp=Z,12nm,0.7s						
CRQM	**Cirque**	**24.02**	**52**	*e*P	**P**	**17 51 23.1**	**+0.6**
	comp=Z,21nm,1.3s						
MENT	**Mentasta**	**24.02**	**46**	*e*P	**P**	**17 51 22.6**	**+0.4**
	comp=Z,19nm,1.3s						
TGL	**Tana Glacier**	**24.17**	**52**	*e*P	**P**	**17 51 24.2**	**+0.4**
	comp=Z,41nm,1.6s						
FYU	**Fort Yukon**	**24.32**	**37**	*e*P	**P**	**17 51 19.1**	**-5.8**
	comp=Z,53nm,1.8s						
BALM	**Baldy**	**24.42**	**51**	*e*P	**P**	**17 51 25.2**	**-0.9**
BALM				pmax	pmax		
	comp=Z,54nm,1.8s						
BALM	**Baldy**	**24.42**	**51**	*e*P	**P**	**17 51 25.2**	**-0.9**
	comp=Z,54nm,1.8s						
EGAK	**Eagle**	**25.47**	**42**	*e*P	**P**	**17 51 35.1**	**-0.3**
	comp=Z,12nm,1.1s						
DAWY	**Dawson**	**26.11**	**44**	*e*P	**P**	**17 51 40.5**	**-0.8**
	comp=Z,8.7nm,1.0s						
HYT	**Haines Junctio**	**26.78**	**52**	*e*P	**P**	**17 51 46.4**	**-1.1**
	comp=Z,44nm,1.9s						
YAK	**Yakutsk**	**27.10**	**311**	P	**P**	**17 51 50.1**	**0.0**
	comp=Z,5.6nm,0.5s,baz=320,slow=4.7,SNR=4.6						
YAK	**Yakutsk**	**27.10**	**311**	P	**P**	**17 51 50.1**	**0.0**
TIXI	**Tiksi**	**29.10**	**331**	P	**P**	**17 52 08.9**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=129,slow=11,SNR=9.9						
TIXI	**Tiksi**	**29.10**	**331**	P	**P**	**17 52 08.9**	**+1.0**
INK	**Inuvik**	**29.12**	**36**	P	**P**	**17 52 06.4**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=259,slow=10,SNR=2.9						
INK	**Inuvik**	**29.12**	**36**	P	**P**	**17 52 06.4**	**-1.7**
YKA	**Yellowknife Ar**	**37.33**	**46**	P	**P**	**17 53 18.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=277,slow=9.2,SNR=2.9						
YKA	**Yellowknife Ar**	**37.33**	**46**	P	**P**	**17 53 18.5**	**-1.0**
SONM	**Songino Array**	**43.90**	**294**	P	**P**	**17 54 15.8**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=61,slow=6.3,SNR=5.1						
SONM	**Songino Array**	**43.90**	**294**	P	**P**	**17 54 15.8**	**+1.7**
PAHR	**Pah Rah Range**	**45.05**	**79**	*e*P	**P**	**17 54 23.9**	**+0.4**
	comp=Z,6.1nm,1.1s						
YERR	**Yerington**	**45.58**	**80**	*e*P	**P**	**17 54 28.1**	**+0.4**
	comp=Z,6.9nm,1.2s						
MDPB	**Devils Postpil**	**46.52**	**81**	*e*P	**P**	**17 54 34.8**	**-0.4**
	comp=Z,3.6nm,0.7s						
R11A	**Troy Canyon, C**	**48.22**	**78**	*e*P	**P**	**17 54 47.5**	**-0.7**
	comp=Z,2.3nm,1.0s						
TPNV	**Topopah Spring**	**48.69**	**80**	*e*P	**P**	**17 54 51.1**	**-0.8**
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TPNV	**Topopah Spring**	**48.69**	**80**	*e*P	**P**	**17 54 51.1**	**-0.8**
	comp=Z,7.1nm,1.0s						
PDAR	**Pinedale Array**	**49.11**	**69**	P	**P**	**17 54 53.2**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=302,slow=5.2,SNR=2.9						
PDAR	**Pinedale Array**	**49.11**	**69**	P	**P**	**17 54 53.2**	**-1.9**
MWC	**Mount Wilson**	**49.34**	**84**	*e*P	**P**	**17 54 56.7**	**-0.3**
MWC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MWC	**Mount Wilson**	**49.34**	**84**	*e*P	**P**	**17 54 56.7**	**-0.3**
	comp=Z,7.2nm,0.9s						
GSC	**Goldstone, Bar**	**49.41**	**82**	*e*P	**P**	**17 54 57.3**	**-0.1**
GSC				pmax	pmax		
	comp=Z,20nm,1.8s						
GSC	**Goldstone, Bar**	**49.41**	**82**	*e*P	**P**	**17 54 57.3**	**-0.1**
	comp=Z,20nm,1.8s						
SPB5	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.9**	**+0.5**
SPB1	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.8**	**+0.3**
SPA1	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.7**	**+0.2**
SPA0	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.2**	**-0.4**
SPB4	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.8**	**+0.3**
SPITS	**Spitsbergen Ar**	**50.04**	**355**	P	**P**	**17 55 01.6**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=40,slow=6.6,SNR=5.8						
SPITS	**Spitsbergen Ar**	**50.04**	**355**	P	**P**	**17 55 01.6**	**+0.1**
SPA2	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.6**	**+0.1**
SPA3	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.4**	**-0.1**
SPB2	**Spitsbergen Ar**	**50.04**	**355**	*e*P	**P**	**17 55 01.2**	**-0.3**
SPB3	**Spitsbergen Ar**	**50.05**	**355**	*e*P	**P**	**17 55 01.9**	**+0.3**
MTPU	**Mount Pierson**	**50.48**	**76**	*e*P	**P**	**17 55 06.1**	**+0.3**
	comp=Z,8.7nm,1.4s						
LCMT	**Little Creek M**	**50.50**	**78**	*e*P	**P**	**17 55 05.9**	**+0.2**
	comp=Z,6.0nm,1.1s						
W13A	**Hualapai Mount**	**51.35**	**80**	*e*P	**P**	**17 55 11.0**	**-1.2**
	comp=Z,4.2nm,1.1s						
U15A	**North Rim**	**51.46**	**78**	*e*P	**P**	**17 55 12.7**	**-0.4**
	comp=Z,7.1nm,1.1s						
Y14A	**Wickenburg**	**52.66**	**80**	*e*P	**P**	**17 55 21.2**	**-0.6**
	comp=Z,34nm,1.6s						
X16A	**Lo Mia Camp, P**	**53.30**	**79**	*e*P	**P**	**17 55 26.8**	**+0.1**
	comp=Z,2.2nm,0.9s						
KURK	**Kurchatov**	**56.75**	**311**	*e*P	**P**	**17 55 51.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,17nm,1.5s						
KURK	**Kurchatov**	**56.75**	**311**	*e*P	**P**	**17 55 51.6**	**+0.6**
	comp=Z,17nm,1.5s						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**17 55 57.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=54,slow=6.4,SNR=8.8						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**17 55 57.4**	**+0.3**
BRVK	**Borovoye**	**58.86**	**317**	*e*P	**P**	**17 56 06.7**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**58.86**	**317**	*e*P	**P**	**17 56 06.7**	**+0.8**
	comp=Z,4.9nm,0.7s						
ARU	**Arti**	**60.90**	**326**	*e*P	**P**	**17 56 21.0**	**+1.2**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ARU	**Arti**	**60.90**	**326**	*e*P	**P**	**17 56 21.0**	**+1.2**
	comp=Z,14nm,1.7s						
TX31	**Lajitas Ar. Si**	**61.58**	**78**	*e*P	**P**	**17 56 23.9**	**-1.0**
TXAR	**Lajitas Array**	**61.58**	**78**	P	**P**	**17 56 24.8**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=307,slow=6.1,SNR=7.2						
TXAR	**Lajitas Array**	**61.58**	**78**	P	**P**	**17 56 24.8**	**-0.1**
FINES	**FINESS Array B**	**64.97**	**345**	P	**P**	**17 56 46.8**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=38,slow=7.5,SNR=5.0						
FINES	**FINESS Array B**	**64.97**	**345**	P	**P**	**17 56 46.8**	**+0.1**
ABKAR	**Akbulak array**	**66.00**	**320**	*e*P	**P**	**17 56 54.9**	**+1.3**
	comp=Z,54nm,1.7s						
KKAR	**Karatay Array**	**66.07**	**310**	*e*P	**P**	**17 56 55.1**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,62nm,1.6s						
KKAR	**Karatay Array**	**66.07**	**310**	*e*P	**P**	**17 56 55.0**	**+0.9**
	comp=Z,62nm,1.6s						
NOA	**NORSAR Array B**	**67.22**	**352**	P	**P**	**17 57 00.8**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=23,slow=6.7,SNR=4.7						
NOA	**NORSAR Array B**	**67.22**	**352**	P	**P**	**17 57 00.8**	**-0.4**
CSU	**Charleston Sou**	**72.55**	**59**	*e*P	**P**	**17 57 32.3**	**-2.1**
KBL	**Kabul**	**73.37**	**305**	*e*P	**P**	**17 57 40.4**	**+0.8**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	**Kabul**	**73.37**	**305**	*e*P	**P**	**17 57 40.4**	**+0.8**
	comp=Z,4.1nm,0.6s						
AKASG	**Malin Array Be**	**74.46**	**339**	P	**P**	**17 57 45.9**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=23,slow=6.3,SNR=9.6						
AKASG	**Malin Array Be**	**74.46**	**339**	P	**P**	**17 57 45.9**	**+0.6**
AKBB	**Malin Array Si**	**74.46**	**339**	*e*P	**P**	**17 57 45.8**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKBB	**Malin Array Si**	**74.46**	**339**	*e*P	**P**	**17 57 45.8**	**+0.5**
	comp=Z,2.3nm,0.5s						
KIEV	**Kiev**	**74.47**	**339**	*e*P	**P**	**17 57 45.8**	**+0.4**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KIEV	**Kiev**	**74.47**	**339**	*e*P	**P**	**17 57 45.8**	**+0.4**
	comp=Z,5.9nm,1.4s						
BUR08	**Bucovina Ar. S**	**78.22**	**341**	*e*P	**P**	**17 58 07.6**	**+0.7**
WRA	**Warramunga Arr**	**80.08**	**220**	P	**P**	**17 58 16.2**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=35,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**80.08**	**220**	P	**P**	**17 58 16.2**	**-1.0**
ASAR	**Alice Springs**	**83.61**	**219**	P	**P**	**17 58 35.3**	**-0.3**
	comp=Z,0.7nm,1.1s,baz=14,slow=7.8,SNR=3.5						
ASAR	**Alice Springs**	**83.61**	**219**	P	**P**	**17 58 35.3**	**-0.3**
MAW	**Mawson**	**144.73**	**217**	PKP	PKPbc	18 05 41.6	0.0
	comp=Z,0.9nm,0.5s,baz=77,slow=3.6,SNR=3.6						
MAW	**Mawson**	**144.73**	**217**	PKP	PKPbc	18 05 41.6	0.0

*IDC **28** 17:46:52.9±0.8, 51°.42N×176°.63E, h0km, mb4.1/27, mb1 4.2/29, mb1mx4.1/65, mbtmp4.1/29, ML3.5/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/41, Error ellipse: s-maj=22.3km s-min=13.3km az=170.0*
*ISCJB **28** 17:46:56.2±0.3, 51°.41N±0°.06×176°.55E±0°.04, h31km, mb4.5/119, MS3.9/5, Error ellipse: s-maj=7.9km s-min=3.5km az=178.0*
*MOS **28** 17:46:57.0±1.0, 51°.37N×176°.52E, h42km, mb4.8/33, Error ellipse: s-maj=9.3km s-min=7.7km az=83.7*
*NEIC **28** 17:46:59.7±0.7, 51°.47N×176°.55E, h47km±5km, mb4.6/93, Error ellipse: s-maj=7.1km s-min=3.4km az=180.0*
ISC 28 17:46:57.9±0.5, 51°.42N±0°.09×176°.41E±0°.04, h31km, n224, σ1§30/218, mb4.5/121, MS3.9/5, 4C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.94**	**314**	*e*P	**Pb**	**17 47 31.8**	**-0.8**
SMY				*e*		17 48 00.5	
SMY	**Shemya**	**1.94**	**314**	*e*Pn	**Pb**	**17 47 31.8**	**-0.8**
SMY				*e*Sn	**Sb**	**17 48 00.5**	**+4.1**
ADK	**Adak**	**4.32**	**81**	*e*P	**Pn**	**17 48 02.5**	**+1.1**
ADK				*e*		17 48 49.0	
ADK	**Adak**	**4.32**	**81**	*e*Pn	**Pn**	**17 48 02.5**	**+1.1**
ADK				*e*Sn	**Sn**	**17 48 49.0**	**-1.8**
ATKA	**Atka Island**	**5.88**	**79**	*e*Pn	**Pn**	**17 48 23.9**	**+1.2**
NIKH	**Nikolski High**	**9.19**	**74**	*e*Pn	**Pn**	**17 49 08.0**	**-0.1**
SPIA	**Saint Paul Isl**	**9.69**	**48**	*e*Pn	**Pn**	**17 49 14.3**	**-0.8**
UNV	**Unalaska Valle**	**10.67**	**70**	*e*Pn	**Pn**	**17 49 28.4**	**0.0**
PETK	**Petropavlovsk-**	**11.59**	**286**	Pn	**Pn**	**17 49 42.2**	**+1.2**
	0.2nm,0.3s,baz=92,slow=19,SNR=3.2						
PETK				Sn	**Sn**	**17 51 43.0**	**-6.3**
	baz=344,slow=41,SNR=2.2						
PETK	**Petropavlovsk-**	**11.59**	**286**	Pn	**Pn**	**17 49 42.2**	**+1.2**
PETK				Sn	**Sn**	**17 51 43.0**	**-6.3**
FALS	**False Pass**	**12.58**	**66**	*e*Pn	**Pn**	**17 49 55.1**	**+0.5**
SDPT	**Sand Point**	**14.32**	**65**	*e*Pn	**Pn**	**17 50 19.9**	**+1.7**
CHGN	**Chignik**	**15.59**	**62**	*e*Pn	**P**	**17 50 38.7**	**-0.4**
	262nm,1.6s						
SVW2	**Sparrevohn**	**18.18**	**47**	*e*P	**P**	**17 51 08.5**	**+0.8**
	15nm,1.1s						
OHAK	**Old Harbor**	**18.50**	**60**	*e*P	**P**	**17 51 08.3**	**-2.9**
	167nm,2.0s						
TTA	**Tatalina**

HYT	Haines Junctio	26.82	51	eP	P	17 52 33.7	-1.5
	comp=Z,11nm,0.9s						
YAK	Yakutsk	27.14	311	P	P	17 52 37.9	+0.1
	comp=Z,15nm,0.8s,baz=253,slow=9.7,SNR=6.9						
YAK	Yakutsk	27.14	311	eP	P	17 52 36.2	-1.6
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=E,13nm,1.4s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK	Yakutsk	27.14	311	eP	P	17 52 37.4	-0.4
	comp=N,22nm,0.9s						
KLR	Kul'dur	28.27	283	P	P	17 52 49.0	+0.9
	comp=N,0.3nm,0.6s,baz=25,slow=13,SNR=5.3						
KLR	Kul'dur	28.27	283	P	P	17 52 49.0	+0.9
TIXI	Tiksi	29.15	331	P	P	17 52 56.7	+1.0
	comp=N,1.0nm,0.3s,baz=131,slow=13,SNR=3.9						
TIXI				PcP	PcP	17 56 01.1	-1.2
	comp=N,0.5nm,0.3s,baz=84,slow=2.8,SNR=2.9						
INK	Inuvik	29.17	36	P	P	17 52 53.9	-2.0
	comp=N,1.4nm,0.8s,baz=233,slow=5.5,SNR=3.3						
MAJO	Matsushiro	30.85	256	eP	P	17 53 11.9	+0.8
MAJO				pmax	pmax		
	comp=Z,27nm,1.7s						
MAJO	Matsushiro	30.85	256	eP	P	17 53 11.9	+0.8
	comp=Z,27nm,1.7s						
MJB9	Matsu-Tunnel	30.85	256	eP	P	17 53 11.8	+0.7
	comp=Z,6.8nm,1.7s						
H11N2	WAKE ISLAND Hy	32.49	197	T	T	18 28 13.2	
	baz=11,slow=76,SNR=35						
H11N3	WAKE ISLAND Hy	32.51	197	T	T	18 28 09.2	
	baz=11,slow=76,SNR=22						
H11N1	WAKE ISLAND Hy	32.51	197	T	T	18 28 09.3	
	baz=11,slow=76,SNR=23						
H11S1	WAKE ISLAND Hy	33.72	197	T	T	18 29 06.5	
	baz=5.4						
H11S3	WAKE ISLAND Hy	33.74	197	T	T	18 29 09.8	
	baz=5.4						
H11S2	WAKE ISLAND Hy	33.74	197	T	T	18 29 06.5	
	baz=5.4						
KSRS	Korea Array	36.64	267	P	P	17 54 02.6	+1.3
	comp=Z,0.8nm,0.8s,baz=50,slow=8.3,SNR=4.6						
KSAR	Wonju Array Be	36.67	267	P	P	17 54 02.7	+1.1
KSAR	Wonju Array Be	36.67	267	P	P	17 54 02.6	+1.1
NRIK	Noril'sk	42.84	329	P	P	17 54 53.0	+0.6
	comp=Z,3.0nm,1.0s,baz=114,slow=12,SNR=3.0						
SONM	Songino Array	43.92	294	P	P	17 55 02.7	+1.0
	comp=Z,0.9nm,0.6s,baz=52,slow=9.6,SNR=4.7						
PAHR	Pah Rah Range	45.06	79	eP	P	17 55 09.8	-1.1
	comp=Z,5.5nm,1.0s						
ARN	Arnold Ranch	45.18	83	eP	P	17 55 09.1	-2.6
ARN	Arnold Ranch	45.18	83	eP	P	17 55 09.1	-2.6
PNTR	Pine Nut	45.30	80	eP	P	17 55 13.3	+0.4
	comp=Z,7.1nm,0.8s						
CMB	Columbia Colle	45.47	81	eP	P	17 55 13.1	-0.9
CMB				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CMB	Columbia Colle	45.47	81	eP	P	17 55 13.1	-0.9
	comp=Z,9.3nm,1.5s						
GUMO	Guam	45.49	226	LR	LR	18 10 22.3	
	comp=Z,20nm,19.9s,baz=72,slow=31						
YERR	Yerington	45.59	80	eP	P	17 55 15.1	0.0
	comp=Z,3.3nm,0.8s						
WAKR	Walker	45.76	80	eP	P	17 55 16.6	+0.1
	comp=Z,19nm,1.8s						
HLID	Hailey	45.79	71	eP	P	17 55 15.8	-0.9
	comp=Z,6.2nm,1.4s						
EGMT	Eagleton	45.98	64	eP	P	17 55 17.6	-0.3
	comp=Z,32nm,1.8s						
PMPB	Monarch Peak	46.35	84	eP	P	17 55 21.9	+0.9
	comp=Z,35nm,1.7s						
FFC	Flin Flon	46.52	52	eP	P	17 55 22.5	+0.5
FFC				pmax	pmax		
	comp=Z,21nm,1.6s						
FFC	Flin Flon	46.52	52	eP	P	17 55 22.5	+0.5
	comp=Z,20nm,1.6s						
MDPB	Devils Postpil	46.53	81	eP	P	17 55 22.2	-0.4
	comp=Z,5.6nm,0.9s						
ELK	Elko	46.96	75	P	P	17 55 26.3	+0.3
	comp=Z,1.0nm,0.7s,baz=333,slow=12,SNR=4.6						
YHB	Horse Butte	47.00	68	eP	P	17 55 25.9	-0.3
	comp=Z,5.7nm,1.0s						
HVU	Hansel Valley	47.82	72	eP	P	17 55 32.6	+0.1
HVU				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HVU	Hansel Valley	47.82	72	eP	P	17 55 32.6	+0.1
	comp=Z,6.3nm,1.3s						
ISA	Isabella, Lake	48.15	83	eP	P	17 55 34.2	-0.8
ISA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ISA	Isabella, Lake	48.15	83	eP	P	17 55 34.2	-0.8
	comp=Z,5.7nm,0.8s						
R11A	Troy Canyon, C	48.23	78	eP	P	17 55 34.8	-0.9
	comp=Z,2.7nm,0.8s						
DAC	Darwin (Calif)	48.30	81	eP	P	17 55 35.1	-1.2
DAC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAC	Darwin (Calif)	48.30	81	eP	P	17 55 35.1	-1.2
	comp=Z,3.0nm,0.9s						
TPNV	Topopah Spring	48.70	80	eP	P	17 55 39.5	+0.1
TPNV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TPNV	Topopah Spring	48.70	80	eP	P	17 55 39.5	+0.1
	comp=Z,9.7nm,0.8s						
PD31	Pinedale Array	49.13	69	eP	P	17 55 42.0	-0.7
PDAR	Pinedale Array	49.13	69	P	P	17 55 40.9	-1.8
	comp=Z,0.7nm,0.7s,baz=283,slow=4.3,SNR=3.1						
PASC	Pasadena Art C	49.31	84	eP	P	17 55 43.5	-0.3
	comp=Z,16nm,0.4s						
MWC	Mount Wilson	49.35	84	eP	P	17 55 43.8	-0.6
MWC				pmax	pmax		
	comp=Z,19nm,1.4s						
MWC	Mount Wilson	49.35	84	eP	P	17 55 43.8	-0.6
	comp=Z,19nm,1.4s						
GSC	Goldstone, Bar	49.42	82	eP	P	17 55 43.7	-1.1
GSC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GSC	Goldstone, Bar	49.42	82	eP	P	17 55 43.7	-1.1
	comp=Z,8.5nm,0.8s						
SPB5	Spitsbergen Ar	50.09	355	eP	P	17 55 49.2	0.0
SPB1	Spitsbergen Ar	50.09	355	eP	P	17 55 49.2	0.0
SPA1	Spitsbergen Ar	50.09	355	eP	P	17 55 49.2	0.0
SPA0	Spitsbergen Ar	50.10	355	eP	P	17 55 49.0	-0.3
SPB4	Spitsbergen Ar	50.10	355	eP	P	17 55 48.6	-0.7
SPITS	Spitsbergen Ar	50.10	355	P	P	17 55 48.4	-0.9
	comp=Z,8.1nm,0.8s,baz=59,slow=5.3,SNR=5.1						
SPA2	Spitsbergen Ar	50.10	355	eP	P	17 55 49.1	-0.1
SPA3	Spitsbergen Ar	50.10	355	eP	P	17 55 49.0	-0.3
SPB2	Spitsbergen Ar	50.10	355	eP	P	17 55 49.3	0.0
SPB3	Spitsbergen Ar	50.10	355	eP	P	17 55 49.2	-0.1
MSU	Marysvale	50.20	75	eP	P	17 55 50.0	-0.9
MSU	Marysvale	50.20	75	eP	P	17 55 50.0	-0.9
TMUT	Trail Mountain	50.29	74	eP	P	17 55 52.2	+0.5
	comp=Z,14nm,0.5s						
P17A	Butcher Ranch,	50.46	74	eP	P	17 55 54.3	+1.5
	comp=Z,18nm,1.8s						
MTPU	Mount Pierson	50.50	76	eP	P	17 55 52.1	-1.2
	comp=Z,13nm,1.8s						
LCMT	Little Creek M	50.51	78	eP	P	17 55 52.6	-0.5
	comp=Z,5.2nm,0.9s						
LDFC	Landfair	50.62	81	eP	P	17 55 53.5	-0.4
	comp=Z,14nm,0.4s						
PFO	Pinyon Flats O	50.75	83	eP	P	17 55 52.2	-2.8
PFO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PFO	Pinyon Flats O	50.75	83	eP	P	17 55 52.2	-2.8
	comp=Z,3.6nm,1.0s						
XPFO	Piæon Flat	50.75	83	eP	P	17 55 52.5	-2.5
	comp=Z,3.8nm,1.0s						
KNB	Kanab	50.77	77	eP	P	17 55 54.9	-0.2
KNB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KNB	Kanab	50.77	77	eP	P	17 55 54.9	-0.2
	comp=Z,5.2nm,1.0s						
TWG	Pinlang	51.01	258	eP	P	17 55 56.5	-0.3
	comp=Z,386nm,1.9s						
BAR	Barrett	51.24	84	eP	P	17 55 58.4	-0.1
	comp=Z,5.2nm,0.8s						
W13A	Hualapai Mount	51.36	80	eP	P	17 55 58.5	-1.1
	comp=Z,3.7nm,0.9s						
U15A	North Rim	51.47	78	eP	P	17 56 00.4	-0.1
	comp=Z,7.8nm,0.9s						
ZALV	Zalesovo Beam	51.79	311	P	P	17 56 02.0	-0.2
	comp=Z,0.6nm,0.4s,baz=46,slow=4.2,SNR=3.2						
GLA	Glamis	52.14	83	eP	P	17 56 03.6	-1.6
GLA				pmax	pmax		
	comp=Z,12nm,1.1s						
GLA	Glamis	52.14	83	eP	P	17 56 03.6	-1.6
	comp=Z,12nm,1.1s						
Y14A	Wickenburg	52.67	80	eP	P	17 56 08.2	-1.0
	comp=Z,26nm,1.3s						
X16A	Lo Mia Camp, P	53.32	79	eP	P	17 56 12.7	-1.4
	comp=Z,3.5nm,0.9s						
X18A	Snowflake	54.16	78	eP	P	17 56 20.1	-0.2
	comp=Z,3.6nm,0.8s						
TUC	Tucson	55.14	80	eP	P	17 56 26.0	-1.3
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TUC	Tucson	55.14	80	eP	P	17 56 26.0	-1.3
	comp=Z,3.2nm,0.8s						
EYMN	Ely	55.82	54	eP	P	17 56 31.4	-0.4
	comp=Z,42nm,1.9s						
KURK	Kurchatov	56.78	311	eP	P	17 56 39.2	+0.6
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
KURK	Kurchatov	56.78	311	eP	P	17 56 39.2	+0.6
	comp=Z,11nm,0.9s						
MK31	Makanchi Array	57.62	306	eP	P	17 56 43.9	-0.8
MK31	Makanchi Array	57.62	306	eP	P	17 56 43.9	-0.8
MKAR	Makanchi Array	57.62	306	P	P	17 56 44.7	0.0
	comp=Z,1.2nm,0.7s,baz=49,slow=6.3,SNR=5.8						
MKAR	Makanchi Array	57.62	306	eP	P	17 56 43.8	-0.9
	comp=Z,32nm,1.5s						
TGY	Tagaytay City	57.78	251	LR	LR	18 19 35.9	
	comp=Z,2km,21.2s,baz=126,slow=34						
BRVK	Borovoye	58.90	317	eP	P	17 56 54.1	+0.6
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	Borovoye	58.90	317	eP	P	17 56 54.1	+0.6
	comp=Z,8.3nm,0.8s						
ARU	Arti	60.94	326	eP	P	17 57 07.9	+0.5
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	Arti	60.94	326	eP	P	17 57 07.9	+0.5
	comp=Z,7.3nm,0.9s						
TX31	Lajitas Ar. Si	61.59	78	eP	P	17 57 11.5	-0.9
TXAR	Lajitas Array	61.59	78	P	P	17 57 12.4	0.0
	comp=Z,2.4nm,0.9s,baz=305,slow=4.4,SNR=5.5						
TUL1	Leonard	61.65	67	eP	P	17 57 14.7	+2.1
	comp=Z,31nm,1.8s						
FINES	FINESS Array B	65.02	345	P	P	17 57 33.4	-1.0
	comp=Z,4.3nm,1.0s,baz=358,slow=9.7,SNR=4.5						
ABKAR	Akbulak array	66.04	320	eP	P	17 57 42.1	+0.8
	comp=Z,59nm,1.4s						
KKAR	Karatay Array	66.10	310	eP	P	17 57 41.9	+0.1
KKAR				pmax	pmax		
	comp=Z,24nm,0.7s						
KKAR	Karatay Array	66.10	310	eP	P	17 57 41.9	+0.1
	comp=Z,24nm,0.7s						
NB201	NORSAR Array S	67.25	352	eP	P	17 57 49.5	+0.7
NOA	NORSAR Array B	67.27	352	P	P	17 57 48.0	-0.9
	comp=Z,2.9nm,0.9s,baz=10,slow=6.3,SNR=3.8						
NOA	NORSAR Array B	67.27	352	P	P	17 57 48.0	-0.9
SSPA	Standing Stone	67.86	52	eP	P	17 57 54.0	+1.0
	comp=Z,45nm,1.8s						
HFS	Hagfors	67.93	351	P	P	17 57 52.2	-0.8
	comp=Z,1.7nm,0.8s,baz=8.5,slow=2.9,SNR=3.8						
CMAR	Chiang Mai Arr	68.02	272	P	P	17 57 54.7	+0.5
	comp=Z,1.0nm,0.9s,baz=32,slow=6.9,SNR=5.9						
KBL	Kabul	73.40	305	eP	P	17 58 26.6	-0.4
KBL				pmax	pmax		
	comp=Z,12nm,1.2s						
KBL	Kabul	73.40	305	eP	P	17 58 26.6	-0.4
	comp=Z,12nm,1.2s						
EKA	Eskdalemuir Ar	73.62	360	P	P	17 58 26.4	-1.2
	comp=Z,1.1nm,0.6s,baz=14,slow=5.9,SNR=4.8						
AKASG	Malin Array Be	74.51	339	P	P	17 58 33.0	0.0
	comp=Z,1.4nm,0.4s,baz=23,slow=6.3,SNR=6.3						
AKBB	Malin Array Si	74.51	339	eP	P	17 58 33.4	+0.4
AKBB				pmax	pmax		
	comp=Z,15nm,1.4s						
AKBB	Malin Array Si	74.51	339	eP	P	17 58 33.4	+0.4
	comp=Z,15nm,1.4s						
KIEV	Kiev	74.52	339	eP	P	17 58 33.1	+0.1
KIEV				pmax	pmax		
	comp=Z,29nm,1.8s						
KIEV	Kiev	74.52	339	eP	P	17 58 33.1	+0.1
	comp=Z,29nm,1.8s						
GOF	Gofitskoye	75.81	328	eP	P	17 58 40.9	+0.3
GOF				pmax	pmax		
	comp=Z,16nm,1.0s						
GEYT	Alibeck	75.97	314	P	P	17 58 42.7	+1.1
	comp=Z,3.5nm,0.9s,baz=316,slow=6.2,SNR=6.3						
KVAR	Kislovodsk Arr	76.90	328	LR	LR	18 35 45.0	
	comp=Z,38nm,20.9s,slow=38						
KBZ	Khabaz	77.03	327	P	P	17 58 48.1	+0.6
	comp=Z,3.0nm,0.9s,baz=0.0,slow=5.1,SNR=3.9						
ZEI	Tsey	77.52	326	eP	P	17 58 50.1	-0.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VRAC	Vranov	78.19	347	P	P	17 58 54.9	+1.0
	comp=Z,2.2nm,0.7s,baz=22,slow=4.6,SNR=3.2						
VRAC	Vranov	78.19	347	iP	P	17 58 55.2	+1.3
BUR08	Bucovina Ar. S	78.27	341	eP	P	17 58 55.5	+1.0
BURAR	Bucovina Array	78.30	341	iP	P	17 58 56.4	+1.8
CCIG	Comiran	78.34	79	eP	P	17 58 54.6	-0.8
	comp=Z,15nm,0.7s						
PSZ	Piszkesteto	79.02	344	eP	P	17 58 59.0	+0.5
PSZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PSZ	Piszkesteto	79.02	344	eP	P	17 58 59.0	+0.5
	comp=Z,5.4nm,1.1s						
GEC2	GERESS Array S	79.03	348	eP	P	17 58 58.3	-0.4
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GEC2	GERESS Array S	79.03	348	eP	P	17 58 58.3	-0.4
	comp=Z,2.3nm,0.6s						
GERES	GERESS Array B	79.03	348	P	P	17 58 58.5	-0.1
	comp=Z,0.6nm,0.7s,baz=349,slow=4.1,SNR=4.7						
DRGR		79.59	342	iP	P	17 59 01.6	-0.1
CONA	Conrad Observa	79.64	347	iP	P	17 59 03.4	+1.4
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	80.04	220	P	P	17 59 03.4	-0.8
	comp=Z,0.7nm,0.8s,baz=28,slow=5.9,SNR=3.1						
MLR	Muntele Rosu	80.16	339	iP	P	17 59 07.2	+2.3
ARSA	Arzberg	80.35	347	iP	P	17 59 06.9	+1.1
	comp=Z,2.4nm,0.5s						
VOIR		80.41	340	iP	P	17 59 07.8	+1.6
WATA	Walderalm	80.77	350	iP	P	17 59 08.4	+0.3
	comp=Z,2.8nm,0.5s						
KBA	Koelnbreinsper	80.81	348	i PcP	P	17 59 09.7	+1.3
	comp=Z,13nm,1.0s						
MOTA	Moosalm	80.81	350	iP	P	17 59 09.4	+1.0
	comp=Z,6.2nm,1.2s						
WTTA	Wattenberg	80.83	350	eP	P	17 59 09.3	+0.7
	comp=Z,3.3nm,0.7s						
SOKA	Soboth	80.98	347	i PcP	P	17 59 11.0	+1.8
	comp=Z,6.2nm,1.0s						
FETA	Feichten	81.17	350	iP	P	17 59 11.0	+0.7
	comp=Z,4.4nm,1.2s						
OBKA	Obir	81.21	347	iP	P	17 59 10.9	+0.4
	comp=Z,4.0nm,0.5s						
MYKA	Terra Mystica	81.21	348	iP	P	17 59 11.3	+0.8
	comp=Z,1.6nm,0.5s						
ABTA	Abfaltersbach	81.24	349	iP	P	17 59 11.4	+0.8
	comp=Z,4.4nm,0.9s						
MARD	Mardin	83.47	326	eP	P	17 59 24.4	+1.9
	comp=Z,7.2nm,0.8s						
BR131	Keskin Array S	83.58	332	eP	P	17 59 23.7	+0.7
BRTR	Keskin Array B	83.59	332	P	P	17 59 23.9	+0.9
	comp=Z,1.9nm,0.8s,baz=42,slow=1.7,SNR=7.6						
BRTR	Keskin Array B	83.59	332	P	P	17 59 24.0	+0.9
URZ	Urewera	89.30	179	LR	LR	18 35 17.8	
	comp=Z,54nm,18.4s,baz=76,slow=32						
RPZ	Rata Peaks	94.86	184	LR	LR	18 40 18.3	
	comp=Z,34nm,18.4s,baz=36,slow=34						
MAW	Mawson	144.68	217	PKP	PKPab	18 06 28.2	-0.5
	comp=Z,4.0nm,0.8s,baz=73,slow=6.2,SNR=6.7						

NIED ***28*** *17:48:00, 39.°60N×143.°60E, h23km, Mw3.6 Best double couple: M0=2.72000×10^14 NP1:φs=234.00000°, δ36.00000°, λ146.00000°. NP2:φs=352.00000°, δ71.00000°, λ59.00000°.*

JMA 28 17:48:14.3±0.1, 39.°58N×143.°56E, h39km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.34	270	P	Pn	17 48 37.3	+0.8
MIYJ				eS	Sn	17 48 53.6	+0.4
JANG	Nango	1.76	297	P	Pn	17 48 43.3	+1.0
JFT	Otama	3.26	232	eS	Sn	17 49 42.3	+1.9
JAK	Akkeshi	3.52	14	P	Pn	17 49 06.1	-0.3
JAR	Ashorobuto	3.72	2	P	Pn	17 49 09.0	-0.1
JAR				eS	Sn	17 49 49.7	-1.9
NEM2	Nemuro 2	4.12	23	P	Pn	17 49 13.9	-0.8
NEM2				eS	Sn	17 49 58.4	-3.2

JMA 28 17:51:59.0±0.1, 38.°42N×142.°16E, h33km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.64	273	P	Pn	17 52 11.5	-0.2
JIO				S	Sb	17 52 19.9	-0.6
OFUJ	Ofunato	0.76	330	P	Pn	17 52 13.4	-0.1
OFUJ				S	Sn	17 52 23.5	-0.3
JMK	Ichinoseki	0.91	306	P	Pn	17 52 15.7	+0.3
JMK				S	Sn	17 52 27.6	+0.2
JOU	Okura	1.18	268	P	Pn	17 52 19.7	+0.5
JOU				S	Sn	17 52 34.7	+0.6
JMM	Marumori	1.21	243	P	Pn	17 52 19.2	-0.4
JMM				eS	Sn	17 52 34.5	-0.4
JOM	Ohasama	1.25	328	P	Pn	17 52 21.0	+0.8
JOM				S	Sb	17 52 37.3	-0.5
JFK	Kawauchi	1.46	224	P	Pn	17 52 22.6	-0.5
JFK				eS	Sn	17 52 39.2	-1.9
JYK	Kaneyama	1.50	290	P	Pn	17 52 24.4	+0.9
JRG	Rokugo	1.54	310	P	Pn	17 52 25.1	+1.0
JYS	Shirataka	1.66	264	P	Pn	17 52 26.6	+0.8
JYS				eS	Sn	17 52 47.0	+1.0

ISK ***28*** *17:52:44.7, 38.°76N×43.°28E, h5km, ML3.0*
CSEM ***28*** *17:52:45.5±0.2, 38.°77N×43.°26E, h2km, ML3.0, Error ellipse: s-maj=4.7km s-min=3.8km az=101.0*
DDA ***28*** *17:52:45.1, 38.°76N×43.°25E, h7km, Ml3.5*
ISCJB ***28*** *17:52:46.2±0.5, 38.°77N±0.°03×43.°25E±0.°04, h11km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=28.6*

ISC 28 17:52:46.6±1.0, 38.°76N±0.°02×43.°27E±0.°03, h19km±2km, n59, σ1=51/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	151	ePG	Pg	17 52 51.5	-0.2
VANB				eSG	Sg	17 52 55.9	+0.8
VANB	Van	0.19	151	ePg	Pg	17 52 51.5	-0.2
TVAN	Van	0.26	155	i P	Pb	17 52 51.4	-1.1
TVAN	Van	0.26	155	P	Pb	17 52 51.4	-1.1
ERCV	ERCIS-VAN	0.26	12	ePG	Pb	17 52 51.6	-1.1
ERCV	ERCIS-VAN	0.26	12	ePg	Pb	17 52 51.6	-1.1
VMUR	Van-Muradiye	0.33	46	i P	Pb	17 52 52.8	-1.1
VMUR				i S	Sb	17 53 00.1	+1.3
VMUR	Van-Muradiye	0.33	46	P	Pb	17 52 52.8	-1.1
VMUR				S	Sb	17 53 00.1	+1.3
GEVA	Gevas	0.48	200	i P	Pg	17 52 54.6	-1.9
GEVA	Gevas	0.48	200	P	Pg	17 52 54.6	-1.9
CLDR	Caldiran	0.63	53	ePG	Pg	17 52 57.3	-2.0
CLDR				eSG	Sb	17 53 08.2	+0.7
CLDR	Caldiran	0.63	53	i P	Pg	17 52 57.6	-1.7
CLDR				i S	Sb	17 53 08.5	+0.9
CLDR	Caldiran	0.63	53	ePg	Pg	17 52 57.3	-2.0
CLDR	Caldiran	0.63	53	P	Pg	17 52 57.6	-1.7
CLDR				S	Sb	17 53 08.5	+0.9
TUTA	Tutak	0.73	331	i P	Pg	17 52 59.3	-1.8
TUTA	Tutak	0.73	331	P	Pg	17 52 59.3	-1.8
TATV	Tatvan	0.82	252	i P	Pg	17 53 00.4	-2.4
TATV	Tatvan	0.82	252	P	Pg	17 53 00.4	-2.4
AGRB	Hanur-Agry	0.84	345	ePG	Pg	17 53 01.2	-1.9
AGRB	Hanur-Agry	0.84	345	ePg	Pg	17 53 01.2	-1.9
DYDN	Diyadin	0.85	23	i P	Pg	17 53 01.5	-1.7
DYDN	Diyadin	0.85	23	P	Pg	17 53 01.5	-1.7
BASK	Baskale_VAN	0.91	141	i P	Pg	17 53 02.6	-1.8
BASK	Baskale_VAN	0.91	141	P	Pg	17 53 02.7	-1.8
HAKT	HAKKARI	1.25	164	i P	Pg	17 53 08.2	-2.7
HAKT	HAKKARI	1.25	164	P	Pg	17 53 08.2	-2.7
EATA	Eleskirt	1.25	331	i P	Pg	17 53 09.0	-1.9
EATA	Eleskirt	1.25	331	P	Pg	17 53 09.0	-1.9
SIRN	S¨¨rnak	1.43	208	i P	Pb	17 53 12.3	-0.4
SIRN	S¨¨rnak	1.43	208	P	Pb	17 53 12.3	-0.4
VRTB	Varto-Mus	1.47	286	ePN	Pg	17 53 13.5	-1.5
VRTB	Varto-Mus	1.47	286	ePn	Pg	17 53 13.5	-1.5
CUKT	Cukurca	1.54	170	ePN	Pb	17 53 14.2	-0.3
CUKT	Cukurca	1.54	170	i P	Pb	17 53 13.9	-0.6
CUKT	Cukurca	1.54	170	P	Pb	17 53 13.9	-0.6
CUKT	Cukurca	1.54	170	ePn	Pb	17 53 14.2	-0.3
DIGO	Kars	1.65	3	i P	Pb	17 53 15.9	-0.7
DIGO	Kars	1.65	3	P	Pb	17 53 15.9	-0.7
BNGL	BINGOL	1.67	277	i P	Pb	17 53 15.9	-0.9
SVAN	Silvan-Diyarba	1.74	250	ePN	Pb	17 53 17.4	-0.4
SVAN	Silvan-Diyarba	1.74	250	ePn	Pb	17 53 17.4	-0.4
BTMN	Batman	1.80	242	i P	Pn	17 53 17.3	+0.7
BTMN	Batman	1.80	242	P	Pn	17 53 17.3	+0.7
ERZM	Erzurum	1.87	308	i P	Pg	17 53 22.2	-0.3
ERZM	Erzurum	1.87	308	P	Pg	17 53 22.2	-0.3
SENK	Senkaya-Erzuru	1.93	339	ePN	Pb	17 53 20.3	-1.0
SENK	Senkaya-Erzuru	1.93	339	ePn	Pb	17 53 20.3	-1.0
EAK	Akyaka	1.94	8	i P	Pg	17 53 23.1	-0.8
EAK	Akyaka	1.94	8	P	Pg	17 53 23.1	-0.8
BNGB	Bing¨¶l	2.04	277	ePN	P

H11S2 WAKE ISLAND Hy 27.82 121 T T 18 40 15.0
baz=313,slow=76,SNR=7.7
SONM Songino Array 28.90 306 P **P 18 11 13.6 +1.2**
1.0nm,0.7s,baz=108,slow=9.5,SNR=5.6
TIXI Tiksi 36.87 353 LR LR 18 30 23.2
comp=Z,43nm,18.2s,baz=184,slow=41
CMAR Chiang Mai Arr 41.38 257 LR LR 18 33 28.0
comp=Z,27nm,18.7s,baz=200,slow=41
ZALV Zalesovo Beam 43.17 314 P **P 18 13 14.8 +0.9**
1.0nm,0.6s,baz=93,slow=8.9,SNR=6.5
MKAR Makanchi Array 45.19 303 P **P 18 13 31.9 +1.7**
0.8nm,0.7s,baz=81,slow=8.8,SNR=4.5
KURK Kurchatov 47.12 309 *eP* **P 18 13 46.6 +1.3**
71nm,0.8s
ILAR Eielson Array 50.68 32 P **P 18 14 13.5 +1.1**
0.3nm,0.8s,baz=290,slow=7.3,SNR=4.1
BRVK Borovoye 51.88 313 *eP* **P 18 14 21.4 -0.3**
3.5nm,0.7s
CTAO Charters Tower 55.42 175 P **P 18 14 45.9 -1.9**
WRA Warramunga Arr 55.55 188 P **P 18 14 49.3 +0.6**
1.2nm,0.7s,baz=7.1,slow=7.6,SNR=2.6
ARU Arti 57.71 319 *eP* **P 18 15 03.2 -0.5**
ABKAR Akbulak array 59.16 311 *eP* **P 18 15 13.6 -0.4**
0.7nm,0.5s
OBN Obninsk 69.51 324 *eP* **P 18 16 19.6 -2.1**
10.0nm,0.5s
AKASG Malin Array Be 75.70 323 P **P 18 16 59.0 +0.5**
0.6nm,0.5s,baz=50,slow=5.9,SNR=4.0

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*IDC **28** 18:10:43.2±1.4,6°.88S×143°.97E,h0km,mb3.9/5, mb1 4.1/8,mb1mx3.8/39,mbtmp4.0/8,ML3.8/2,MS3.1/2, Ms1 3.1/2,ms1mx2.6/33,Error ellipse: s-maj=35.4km s-min=23.6km az=88.0*
*ISCJB **28** 18:10:45.0±0.5,6°.96S±0°.05×143°.98E±0°.06,h30km, mb4.5/9,MS2.9/1,Error ellipse: s-maj=8.5km s-min=6.8km az=157.3*
*NEIC **28** 18:10:45.3±10.0,6°.95S×143°.91E,h17km±69km,mb4.1/4, Error ellipse: s-maj=25.1km s-min=11.2km az=183.0*
ISC 28 18:10:46.4±0.7,6°.94S±0°.07×144°.01E±0°.06,h30km,n22, σ1§73/26,mb4.1/9,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**128**	Pn	**Pn**	**18 11 46.5**	**+1.3**
	9.6nm,0.3s,baz=26,slow=3.9,SNR=29						
PMG				Sn	**Sn**	**18 12 30.5**	**-0.2**
	12nm,0.3s,baz=60,slow=21,SNR=11						
PMG	**Port Moresby**	**3.96**	**128**	*e*Pn	**Pn**	**18 11 46.2**	**+0.9**
PMG				*e*Sn	**Sn**	**18 12 29.9**	**-0.8**
COEN	**Coen**	**7.02**	**187**	*e*Pn	**Pn**	**18 12 29.3**	**+2.0**
COEN				*e*Sn	**Sn**	**18 13 47.7**	**+1.5**
MTN	**Manton Dam**	**13.97**	**244**	*e*Pn	**Pn**	**18 14 01.5**	**-1.0**
MTN				*e*Sn	Sn	18 16 26.4	-10
WRAB	**Tennant Creek**	**15.96**	**215**	*e*Pn	**Pn**	**18 14 27.8**	**-1.1**
WB2	**Warramunga Arr**	**15.96**	**215**	*e*Pn	**Pn**	**18 14 28.1**	**-0.9**
	4.9nm,0.8s						
WRA	**Warramunga Arr**	**15.97**	**215**	Pn	**Pn**	**18 14 27.8**	**-1.3**
	0.3nm,0.3s,baz=36,slow=13,SNR=7.5						
WRA				Lg	Lg	18 19 15.6	
	0.1nm,0.3s,baz=33,slow=27,SNR=5.4						
AS31	**Alice Springs**	**19.25**	**209**	*e*P	**Pn**	**18 15 11.8**	**+2.0**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**19.26**	**209**	P	**Pn**	**18 15 11.5**	**+1.7**
	0.5nm,0.3s,baz=44,slow=8.9,SNR=73						
ASAR				Lg	Lg	18 21 00.9	
	0.1nm,0.3s,baz=20,slow=31,SNR=4.6						
ASAR				LR	LR	18 22 42.1	
	comp=Z,56nm,19.0s,baz=44,slow=37						
FITZ	**Fitzroy Crossi**	**21.06**	**237**	P	**P**	**18 15 27.8**	**-0.5**
	5.8nm,1.0s,baz=60,slow=9.8,SNR=6.0						
FITZ				S	**S**	**18 19 17.9**	**-3.5**
	3.5nm,1.0s,baz=207,slow=3.6,SNR=3.1						
FITZ				Lg	Lg	18 21 50.9	
	8.0nm,1.1s,baz=164,slow=12,SNR=5.5						
FITZ				LR	LR	18 24 19.1	
	comp=Z,45nm,19.8s,baz=76,slow=39						
FITZ	**Fitzroy Crossi**	**21.06**	**237**	*e*P	**P**	**18 15 28.1**	**-0.2**
	5.8nm,0.9s						
FITZ				S	**S**	**18 19 17.9**	**-3.5**
FITZ				Lg	Lg	18 21 50.9	
LHI	**Lord Howe Isla**	**28.21**	**152**	*e*P	P	18 16 31.1	-5.6
	254nm,1.8s						
KSM	**Kuching**	**34.66**	**283**	P	**P**	**18 17 32.1**	**-1.5**
MSVF	**Nonsavu**	**34.88**	**111**	*e*P	**P**	**18 17 36.7**	**+1.2**
	64nm,2.0s						
AFI	**Afiamalu**	**43.98**	**103**	*e*P	**P**	**18 18 48.0**	**-3.5**
	154nm,1.8s						
KSRS	**Korea Array**	**46.65**	**342**	P	**P**	**18 19 13.0**	**+0.8**
	2.0nm,0.8s,baz=163,slow=9.0,SNR=8.0						
KSAR	**Wonju Array Be**	**46.65**	**342**	P	**P**	**18 19 13.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**51.12**	**300**	P	**P**	**18 19 48.6**	**+1.8**
	1.8nm,0.8s,baz=121,slow=6.2,SNR=18						
CHTO	**Chiang Mai**	**51.27**	**301**	*e*P	**P**	**18 19 49.1**	**+1.1**
	2.5nm,0.8s						
ULN	**Ulaanbaatar**	**63.55**	**333**	P	**P**	**18 21 14.3**	**0.0**
MKAR	**Makanchi Array**	**76.35**	**321**	P	**P**	**18 22 33.9**	**+1.1**
	1.5nm,1.0s,baz=107,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**78.25**	**329**	P	**P**	**18 22 43.3**	**+0.1**
	0.4nm,0.3s,baz=123,slow=7.1,SNR=4.5						

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*IDC **28** 18:13:15.8±2.4,43°.43N×105°.20W,h0km,mb1 3.8/2, mb1mx3.2/54,mbtmp3.6/2,ML3.5/2,Error ellipse: s-maj=55.4km s-min=9.5km az=154.0*
*ISCJB **28** 18:13:17.8±0.6,43°.79N±0°.04×105°.26W±0°.07,h0km,Error ellipse: s-maj=7.0km s-min=6.4km az=169.5*
*NEIC **28** 18:13:18.9±0.6,43°.79N×105°.21W,h0km,ML3.2,Error ellipse: s-maj=7.7km s-min=7.1km az=126.0,Suspected Mining explosion.*
NEIC 61 km [38 miles] SSE of Gillette.
ISC 28 18:13:17.5±1.1,43°.79N±0°.05×105°.34W±0°.04,h0km,n27, σ2§25/26,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**70**	*e*Pg	**Pb**	**18 13 36.9**	**-0.8**
K22A	**Casper**	**1.44**	**218**	*e*Pn	**Pb**	**18 13 44.3**	**-0.9**
PHWY	**Pilot Hill**	**2.49**	**182**	*e*Pn	**Pb**	**18 14 00.3**	**-2.9**
RWWY	**Rawlins**	**2.52**	**214**	*e*Pn	**Pb**	**18 14 02.2**	**-1.4**
LAO	**LASA Array**	**2.96**	**348**	*e*Pn	**Pn**	**18 14 07.0**	**+1.2**
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn	**Pn**	**18 14 09.8**	**+1.8**
BW06	**Boulder Array**	**3.25**	**253**	*e*Pn	**Pn**	**18 14 10.8**	**+0.9**
PDAR	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**18 14 11.6**	**+1.7**
	4.9nm,0.3s,baz=78,slow=13,SNR=47						
PDAR				Lg	Lg	18 14 57.2	
	18nm,0.3s,baz=81,slow=34,SNR=12						
LKWY	**Lake**	**3.72**	**284**	Pn	**Pb**	**18 14 21.1**	**-3.2**
OGNE	**Ogallala**	**3.75**	**138**	*e*Pn	**Pn**	**18 14 17.5**	**+0.8**
H17A	**Grant Village**	**3.82**	**281**	*e*Pn	**Pn**	**18 14 21.1**	**+3.3**
LOHW	**Long Hollow**	**3.83**	**269**	*e*Pn	**Pn**	**18 14 21.4**	**+3.6**
MOOW	**Moose Ponds**	**3.92**	**271**	*e*Pn	**Pn**	**18 14 21.5**	**+2.4**
SNOW	**Snow King Moun**	**3.95**	**267**	*e*Pn	**Pb**	**18 14 25.7**	**-2.3**
ISCO	**Idaho Springs**	**4.00**	**183**	*e*Pn	**Pn**	**18 14 21.7**	**+1.4**
REDW	**Red Top Meadow**	**4.03**	**266**	*e*Pn	**Pn**	**18 14 24.1**	**+3.5**
IMW	**Indian Meadow**	**4.05**	**273**	*e*Pn	**Pn**	**18 14 22.3**	**+1.3**
TPAW	**Teton Pass**	**4.09**	**268**	*e*Pn	**Pn**	**18 14 24.1**	**+2.6**
O20A	**White River Ci**	**4.25**	**212**	*e*Pn	**Pn**	**18 14 25.4**	**+1.8**
DGMT	**Dagmar**	**4.74**	**9**	*e*Pn	**Pn**	**18 14 33.1**	**+2.8**
SMCO	**Snowmass**	**4.77**	**195**	*e*Pn	**Pn**	**18 14 33.4**	**+2.4**
BOZ	**Bozeman (W)**	**4.84**	**294**	*e*Pn	**Pn**	**18 14 32.7**	**+1.1**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*Pn	**Pn**	**18 14 36.6**	**+1.6**
	15nm,0.9s						
EGMT	**Eagleton**	**5.24**	**325**	*e*Pn	**Pn**	**18 14 38.0**	**+0.9**
	16nm,0.7s						
PV01	**Paradox Valley**	**6.16**	**204**	*e*Pn	**Pn**	**18 14 52.3**	**+2.4**
	129nm,0.4s						
I10CA	**LAC DU BONNET**	**9.03**	**41**	*i*		19 10 10.0	
	baz=223,slow=321,SNR=1.6						
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**18 15 29.6**	**-0.8**
	0.8nm,0.3s,baz=227,slow=12,SNR=6.8						
ULM				Lg	Lg	18 18 01.4	
	0.5nm,0.3s,baz=312,slow=17,SNR=4.6						

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*MOS **28** 18:19:47.9±0.9,54°.35N×165°.67W,h99km,mb4.8/76, Error ellipse: s-maj=7.9km s-min=4.1km az=86.1*
*ISCJB **28** 18:19:49.2±0.2,54°.37N±0°.02×165°.64W±0°.03, h109km±1km,mb4.7/238,Error ellipse: s-maj=3.9km s-min=2.3km az=164.1*
*NEIC **28** 18:19:50.2±0.1,54°.39N×165°.65W,h106km±1km, mb4.6/135,Error ellipse: s-maj=3.1km s-min=1.9km az=158.0*
NEIC Felt at Akutan.
*IDC **28** 18:19:51.9±0.6,54°.39N×165°.70W,h119km±3km,mb4.2/38, mb1 4.3/39,mb1mx4.2/72,mbtmp4.6/39,MS3.3/5, Ms1 3.3/5,ms1mx2.9/59,Error ellipse: s-maj=12.7km s-min=8.3km az=174.0*
ISC 28 18:19:50.7±0.4,54°.30N±0°.05×165°.60W±0°.04, h113km±2km,h112km:pP-P,n535,σ1§23/601,mb4.7/238, 23C-14D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.17**	**200**	*e*Pn	**Pn**	**18 20 04.8**	**-1.5**
AKUT	**Akutan**	**0.19**	**212**	*e*Pn	**Pn**	**18 20 04.9**	**-1.4**
AKUT				*e*Sn	**Sn**	**18 20 15.5**	**-2.5**
AKLV	**Akutan Long Va**	**0.25**	**238**	*e*Pn	**Pn**	**18 20 05.2**	**-1.4**
AKLV				*e*Sn	**Sn**	**18 20 17.0**	**-1.5**
AKGG	**Akutan Green G**	**0.25**	**247**	P	**Pn**	**18 20 05.4**	**-1.2**
AKGG				S	**Sn**	**18 20 17.2**	**-1.3**
AKMO	**Akutan Morgan**	**0.32**	**230**	*e*Sn	**Sn**	**18 20 17.1**	**-1.8**
WESP	**Westdahl Peak**	**0.55**	**69**	*e*Pn	**Pn**	**18 20 07.2**	**-1.0**
WESE	**West Dahl East**	**0.62**	**73**	*e*Pn	**Pn**	**18 20 07.3**	**-1.3**
UNV	**Unalaska Valle**	**0.70**	**230**	*e*Pn	**Pn**	**18 20 07.7**	**-1.5**
UNV				*e*Sn	**Sn**	**18 20 20.5**	**-2.6**
MTBL	**Makushin Table**	**0.71**	**243**	*e*Pn	**Pn**	**18 20 08.6**	**-0.9**
MSW	**Makushin Switc**	**0.79**	**242**	*e*Sn	**Sn**	**18 20 23.8**	**-0.9**
SSLW	**Shishaldin Wes**	**0.98**	**60**	P	**Pn**	**18 20 10.9**	**-1.0**
SSLN	**Shishaldin Nor**	**1.07**	**60**	*e*Pn	**Pn**	**18 20 12.3**	**-0.5**
FALS	**False Pass**	**1.39**	**65**	*e*Pn	**Pn**	**18 20 15.8**	**-0.5**
FALS				*e*Sn	**Sn**	**18 20 35.7**	**0.0**
OKFG	**Magazine Ridge**	**1.63**	**238**	*e*Pn	**Pn**	**18 20 18.3**	**-0.8**
OKFG				*e*Sn	**Sn**	**18 20 39.5**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.71**	**239**	*e*Pn	**Pn**	**18 20 19.5**	**-0.7**
OKNC	**Okmok New Cone**	**1.71**	**242**	P	**Pn**	**18 20 19.4**	**-0.8**
OKCE	**Okmok Cone E**	**1.75**	**241**	*e*Pn	**Pn**	**18 20 20.1**	**-0.5**
OKSO	**Okmok South**	**1.79**	**239**	*e*Sn	**Sn**	**18 20 43.3**	**-0.9**
DT1	**Dutton Round H**	**2.09**	**66**	*e*Pn	**Pn**	**18 20 24.3**	**-0.5**
DTNA	**Dutton South F**	**2.12**	**65**	*e*Pn	**Pn**	**18 20 24.9**	**-0.3**
DOL	**Dolgoi Island**	**2.33**	**67**	P	**Pn**	**18 20 27.4**	**-0.5**
NIKH	**Nikolski High**	**2.35**	**237**	*e*Pn	**Pn**	**18 20 27.7**	**-0.5**
NIKH				*e*Sn	**Sn**	**18 20 51.1**	**-5.7**
PS4A	**Pavlof South-4**	**2.41**	**63**	P	**Pn**	**18 20 29.1**	**+0.2**
PVV	**Pavlof Volcano**	**2.45**	**62**	P	**Pn**	**18 20 28.8**	**-0.7**
SDPT	**Sand Point**	**3.15**	**68**	*e*Pn	**Pn**	**18 20 38.0**	**-0.5**
SDPT				*e*Sn	Sn	18 21 04.5	-11
SPIA	**Saint Paul Isl**	**3.90**	**320**	*e*Pn	**Pn**	**18 20 50.6**	**+2.0**
VNNF	**Veniaminof 3**	**4.11**	**58**	P	**Pn**	**18 20 51.4**	**-0.1**
VNHG	**Veniaminof 1**	**4.16**	**60**	P	**Pn**	**18 20 51.9**	**-0.3**
CHGN	**Chignik**	**4.57**	**61**	*e*Pn	**Pn**	**18 20 57.5**	**-0.1**
ANPB	**Aniakchak Plen**	**4.86**	**56**	P	**Pn**	**18 21 01.2**	**-0.3**
ANPK	**Aniakchak Peak**	**4.95**	**56**	P	**Pn**	**18 21 02.9**	**+0.1**
KOWE	**Korovin West**	**5.53**	**253**	*e*Pn	**Pn**	**18 21 10.6**	**-0.1**
ATKA	**Atka Island**	**5.57**	**251**	*e*Pn	**Pn**	**18 21 11.5**	**+0.4**
PLK1	**Peulik 1**	**6.14**	**51**	P	**Pn**	**18 21 18.9**	**+0.1**
KELA	**Mount Kelaz**	**6.87**	**49**	P	**Pn**	**18 21 29.7**	**+1.0**
KVTA	**Katmai Vly 10**	**7.04**	**50**	P	**Pn**	**18 21 30.7**	**-0.3**
KABR	**Katmai Barrier**	**7.06**	**53**	P	**Pn**	**18 21 30.9**	**-0.5**
ADK	**Adak**	**7.10**	**255**	*e*P	**Pn**	**18 21 32.6**	**+0.8**
ADK	**Adak**	**7.10**	**255**	*e*Pn	**Pn**	**18 21 32.6**	**+0.8**
KAKN	**Katmai Knife C**	**7.10**	**51**	P	**Pn**	**18 21 31.8**	**-0.1**
KAWH	**Katmai**	**7.26**	**51**	P	**Pn**	**18 21 34.0**	**0.0**
KAHC	**Katmai Hardscr**	**7.31**	**49**	P	**Pn**	**18 21 34.8**	**+0.1**
OHAK	**Old Harbor**	**7.54**	**62**	*e*Pn	**Pn**	**18 21 35.4**	**-2.3**
FONW	**Fourpeaked Sta**	**7.89**	**50**	P	**Pn**	**18 21 41.5**	**-1.0**
FOPK	**Fourpeaked Vol**	**8.05**	**51**	P	**Pn**	**18 21 44.1**	**-0.6**
CDD	**Cape Douglas**	**8.06**	**50**	P	**Pn**	**18 21 44.9**	**+0.1**
KDAK	**Kodiak Island**	**8.08**	**59**	P	**Pn**	**18 21 42.7**	**-2.3**
	13nm,0.3s,baz=245,slow=6.7,SNR=77						
KDAK				S	**Sn**	**18 23 06.1**	**-8.4**
	5.6nm,0.3s,baz=128,slow=23,SNR=6.5						
KDAK	**Kodiak Island**	**8.08**	**59**	*c*eP	**Pn**	**18 21 42.9**	**-2.1**
SVW2	**Sparrevohn**	**8.67**	**34**	*e*Pn	**Pn**	**18 21 54.4**	**+1.4**
RED	**Redoubt Volcan**	**9.25**	**43**	P	**Pn**	**18 22 00.8**	**-0.1**
RSO	**Redoubt South**	**9.28**	**43**	*e*Pn	**Pn**	**18 22 03.1**	**+1.7**
CNPM	**China Poot**	**9.43**	**50**	*e*Pn	**Pn**	**18 22 01.9**	**-1.5**
BRLK	**Bradley Lake**	**9.70**	**50**	*e*Pn	**Pn**	**18 22 05.0**	**-2.0**
TT01	**Tatalina**	**9.96**	**26**	*e*Pn	**Pn**	**18 22 11.1**	**+0.6**
TTA	**Tatalina**	**9.98**	**26**	*e*P	**Pn**	**18 22 11.8**	**+0.9**
TTA	**Tatalina**	**9.98**	**26**	*e*Pn	**Pn**	**18 22 11.8**	**+0.9**
SPU	**Mount Spurr**	**9.99**	**41**	*e*Pn	**Pn**	**18 22 11.7**	**+0.8**
GAMB	**Gambell**	**10.01**	**344**	*e*Pn	**Pn**	**18 22 13.2**	**+2.2**
SEW	**Seward**	**10.50**	**50**	*e*Pn	**Pn**	**18 22 15.8**	**-2.0**
RC01	**Rabbit Creek A**	**10.86**	**45**	*e*Pn	**Pn**	**18 22 21.0**	**-1.6**
PMR	**Palmer**	**11.38**	**43**	*e*P	**Pn**	**18 22 28.5**	**-1.0**
PMR	**Palmer**	**11.38**	**43**	*e*Pn	**Pn**	**18 22 28.4**	**-1.0**
MID	**Middleton Isla**	**11.71**	**56**	*e*P	**Pn**	**18 22 31.8**	**-2.1**
MID	**Middleton Isla**	**11.71**	**56**	*e*Pn	**Pn**	**18 22 31.8**	**-2.1**
SML	**Sawmill**	**11.81**	**44**	*e*P	**Pn**	**18 22 33.7**	**-1.6**
SML	**Sawmill**	**11.81**	**44**	*e*Pn	**Pn**	**18 22 33.7**	**-1.6**
GLI	**Glacier Island**	**11.89**	**49**	*e*Pn	**Pn**	**18 22 33.4**	**-3.0**
FID	**Port Fidalgo**	**12.11**	**50**	*e*Pn	**Pn**	**18 22 35.7**	**-3.6**
SCM	**Sheep Creek Mo**	**12.24**	**45**	*e*P	**Pn**	**18 22 38.1**	**-2.9**
SCM	**Sheep Creek Mo**	**12.24**	**45**	*e*Pn	**Pn**	**18 22 38.1**	**-2.9**
BPAW	**Bear Paw Mtn.**	**12.32**	**31**	*e*Pn	**Pn**	**18 22 43.1**	**+1.1**
EYAK	**Cordova Ski Ar**	**12.37**	**52**	*e*Pn	**Pn**	**18 22 39.3**	**-3.3**
RND	**Reindeer**	**12.55**	**37**	*e*P	**Pn**	**18 22 43.9**	**-1.1**
RND	**Reindeer**	**12.55**	**37**	*e*Pn	**Pn**	**18 22 43.9**	**-1.1**
DIV	**Divide**	**12.58**	**49**	*e*Pn	**Pn**	**18 22 42.9**	**-2.5**
KLU	**Klutina**	**12.67**	**47**	*e*Pn	**Pn**	**18 22 43.9**	**-2.7**
MCK	**McKinley**	**12.73**	**35**	*e*P	**Pn**	**18 22 46.3**	**-1.0**
MCK	**McKinley**	**12.73**	**35**	*e*Pn	**Pn**	**18 22 46.3**	**-1.0**
DHY	**Denali Highway**	**12.88**	**40**	*e*Pn	**Pn**	**18 22 47.0**	**-2.5**
BMRM	**Bremner River**	**13.04**	**51**	*e*Pn	**Pn**	**18 22 49.7**	**-1.8**
MLY	**Manley**	**13.08**	**29**	*e*Pn	**Pn**	**18 22 52.4**	**+0.5**
HARP	**HAARP**	**13.41**	**45**	*e*Pn	**Pn**	**18 22 54.2**	**-2.0**
WRH	**Wood River Hil**	**13.49**	**34**	*e*Pn	**Pn**	**18 22 55.1**	**-2.1**
PAX	**Paxson**	**13.56**	**42**	*e*P	**Pn**	**18 22 55.7**	**-2.5**
PAX	**Paxson**	**13.56**	**42**	*e*Pn	**Pn**	**18 22 55.7**	**-2.5**
CCB	**Clear Creek Bu**	**13.70**	**34**	*e*Pn	**Pn**	**18 22 57.3**	**-2.6**
MDM	**Murphy Dome**	**13.77**	**32**	*e*Pn	**Pn**	**18 22 59.5**	**-1.4**
TGL	**Tana Glacier**	**13.79**	**53**	*e*Pn	**Pn**	**18 22 59.8**	**-1.4**
HDA	**Harding Lake**	**13.83**	**36**	*e*Pn	**Pn**	**18 23 00.5**	**-1.2**
COLA	**College**	**13.84**	**33**	*i* P	**Pn**	**18 22 59.7**	**-1.9**
ILAR	**Eielson Array**	**14.08**	**34**	P	**Pn**	**18 23 02.4**	**-2.4**
	0.8nm,0.3s,baz=223,slow=12,SNR=15						
ILAR				LR	LR	18 28 11.0	
	comp=Z,126nm,18.4s,baz=230,slow=36						
ILAR				PcP	**PcP**	**18 28 17.8**	**+2.1**
	0.1nm,0.3s,baz=252,slow=2.6,SNR=4.0						
ILAR				ScP	**ScP**	**18 31 39.4**	**+0.8**
	0.1nm,0.3s,baz=295,slow=3.0,SNR=13						
ILB	**Eielson Array**	**14.08**	**34**	*e*Pn	**Pn**	**18 23 02.2**	**-2.7**
BALM	**Baldy**	**14.10**	**52**	*e*P	**Pn**	**18 23 03.6**	**-1.6**
BALM	**Baldy**	**14.10**	**52**	*e*Pn	**Pn**	**18 23 03.6**	**-1.6**
MENT	**Mentasta**	**14.24**	**44**	*e*Pn	**Pn**	**18 23 04.7**	**-2.2**
DOT	**Dot Lake**	**14.45**	**41**	*e*Pn	**Pn**	**18 23 08.0**	**-1.6**
COLD	**Coldfoot**	**14.92**	**24**	*e*Pn	**Pn**	**18 23 16.6**	**+1.1**
	29nm,1.1s						
YKU2	**Yakutat**	**15.04**	**59**	*e*Pn	**Pn**	**18 23 14.9**	**-2.0**
	1μm,1.1s						
FYU	**Fort Yukon**	**15.77**	**31**	*e*Pn	**Pn**	**18 23 23.2**	**-2.9**
	99nm,1.9s						
EGAK	**Eagle**	**16.12**	**40**	*e*Pn	**Pn**	**18 23 27.9**	**-2.5**
	13nm,0.9s						
TOLK	**Toolik Lake Re**	**16.21**	**21**	*e*Pn	**Pn**	**18 23 29.2**	**-2.3**
	31nm,1.1s						
HYT	**Haines Junctio**	**16.34**	**55**	*e*Pn	**Pn**	**18 23 32.2**	**-1.0**
	44nm,0.8s						
DAWY	**Dawson**	**16.48**	**43**	*e*Pn	**Pn**	**18 23 33.2**	**-1.7**
	45nm,1.4s						
SKAG	**Skagway**	**17.23**	**60**	*e*P	**Pn**	**18 23 44.8**	**+0.8**
	57nm,0.8s						
BESE	**Bessie Mountai**	**17.44**	**63**	*e*P	**Pn**	**18 23 48.5**	**+1.9**
	52nm,1.3s						
WHY	**Whitehorse**	**17.58**	**56**	*e*P	**Pn**	**18 23 49.7**	**+1.3**
	30nm,1.0s						
BILL	**Bilibino**	**19.07**	**327**	*e*P	**P**	**18 24 04.6**	**+0.7**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
DLBC	**Dease Lake**	**19.98**	**64**	P	**Pn**	**18 24 16.7**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=268,slow=6.9,SNR=16						
INK	**Inuvik**	**20.48**	**34**	P	**P**	**18 24 17.4**	**-1.7**
	comp=Z,8.7nm,0.4s,baz=232,slow=11,SNR=34						
INK				pP	**pP**	**18 24 41.8**	**+1.7**
	comp=Z,23nm,1.1s,baz=239,slow=12,SNR=4.8						
INK				PcP	**PcP**	**18 28 24.8**	**-1.0**
	comp=Z,2.9nm,0.5s,baz=320,slow=2.4,SNR=6.3						
PEA0B	**Petropavlovsk-**	**21.61**	**282**	*e*P	**P**	**18 24 31.3**	**0.0**
	comp=Z,66nm,0.9s						
PETK	**Petropavlovsk-**	**21.61**	**282**	P	**P**	**18 24 31.2**	**-0.1**
	comp=Z,22nm,0.7s,baz=85,slow=14,SNR=91						
PETK				pP	**pP**	**18 24 55.8**	**+3.4**
	comp=Z,36nm,0.7s,baz=83,slow=14,SNR=12						
SEY	**Seymchan**	**23.12**	**309**	P	**P**	**18 24 45.2**	**-1.3**
	comp=Z,5.8nm,0.9s,baz=197,slow=19,SNR=4.1						
SEY				pP	**pP**	**18 25 11.9**	**+3.2**
	comp=Z,9.7nm,1.0s,baz=92,slow=9.8,SNR=4.2						
YKW3	**Yellowknife Ar**	**27.26**	**52**	*e*P	**P**	**18 25 23.8**	**0.0**
	comp=Z,12nm,0.9s						
YKA	**Yellowknife Ar**	**27.27**	**52**	P	**P**	**18 25 24.5**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=275,slow=8.5,SNR=18						
YKA				PcP	**PcP**	**18 28 41.7**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=282,slow=2.8,SNR=5.6						
SWFL	**Southwest Flan**	**28.52**	**88**	*e*pP	pP	18 25 59.6	-0.6
LTY	**Liberty**	**28.86**	**85**	*e*P	**P**	**18 25 38.5**	**+0.2**
	comp=Z,40nm,2.0s						
B08A	**Colville Reser**	**29.08**	**83**	*e*P	**P**	**18 25 40.9**	**+0.6**
	comp=Z,4.4nm,0.9s						
NEW	**Newport**	**30.41**	**81**	ScP	**ScP**	**18 32 22.3**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=153,slow=2.3,SNR=3.7						
NEW	**Newport**	**30.41**	**81**	*e*P	**P**	**18 25 51.0**	**-1.0**
NEW				pmax	pmax		
	comp=Z,13nm,1.2s						
NEW	**Newport**	**30.41**	**81**	*e*P	**P**	**18 25 51.0**	**-1.0**
	comp=Z,13nm,1.2s						
NEW				ScP	**ScP**	**18 32 22.3**	**+1.8**
JCC	**Jacoby Creek,**	**30.64**	**99**	*e*P	**P**	**18 25 52.4**	**-1.6**
	comp=Z,83nm,1.6s						
E09A	**Wood Farm, Sta**	**30.72**	**85**	*e*P	**P**	**18 25 55.5**	**+0.8**
	comp=Z,16nm,1.5s						
YBH	**Yreka Blue Hor**	**30.83**	**96**	*e*P	**P**	**18 25 56.6**	**+0.8**
YBH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
YBH	**Yreka Blue Hor**	**30.83**	**96**	*e*P	**P**	**18 25 56.6**	**+0.8**
	comp=Z,7.4nm,1.3s						
KMRM	**Mail Ridge**	**31.21**	**99**	*e*P	**P**	**18 26 02.2**	**+3.0**
	comp=Z,23nm,1.4s						
BSMT	**Bassoo Peak**	**31.97**	**80**	*e*P	**P**	**18 26 07.1**	**+1.2**
MOD	**Modoc Plateau**	**32.12**	**94**	*e*pP	pP	18 26 32.8	+0.7
BLMT	**Blacktail Moun**	**32.13**	**80**	*e*P	**P**	**18 26 08.5**	**+1.2**
TIXI	**Tiksi**	**32.29**	**327**	P	**P**	**18 26 07.9**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=95,slow=8.7,SNR=7.9						
TIXI				pP	**pP**	**18 26 32.6**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=93,slow=13,SNR=2.5						
TIXI				PcP	**PcP**	**18 28 52.9**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=44,slow=2.0,SNR=10						
TIXI	**Tiksi**	**32.29**	**327**	*c*eP	**P**	**18 26 08.4**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,12nm,2.5s						
TIXI	**Tiksi**	**32.29**	**327**	*e*P	**P**	**18 26 08.0**	**-0.2**
	comp=Z,7.8nm,1.3s						
TIXI				PcP

HABR MLR MLR
comp=Z,25nm,19.0s
HVU Hansel Valley 36.61 88 *eP* **P 18 26 46.3 +0.3**
HVU pmax pmax
comp=Z,6.0nm,1.1s
HVU Hansel Valley 36.61 88 *eP* **P 18 26 46.3 +0.3**
comp=Z,6.2nm,1.1s
TPAW Teton Pass 36.63 84 *eP* **P 18 26 47.1 +0.9**
comp=Z,8.2nm,1.5s
RLMT Red Lodge 36.66 81 *eP* **P 18 26 47.1 +0.8**
comp=Z,15nm,1.2s
LOHW Long Hollow 36.76 84 *eP* **P 18 26 47.7 +0.4**
comp=Z,9.8nm,1.5s
R11A Troy Canyon, C 37.18 94 *eP* **P 18 26 51.5 +0.8**
comp=Z,8.1nm,1.1s
DAC Darwin (Calif) 37.42 99 *eP* **P 18 26 53.8 +0.9**
DAC pmax pmax
comp=Z,5.0nm,0.7s
DAC Darwin (Calif) 37.42 99 *eP* **P 18 26 53.8 +0.9**
comp=Z,4.7nm,0.7s
HWUT Hardware Ranch 37.43 87 *eP* **P 18 26 53.4 +0.6**
comp=Z,14nm,1.8s
DUG Dugway, Tooele 37.59 90 *eP* **P 18 26 54.6 +0.4**
DUG pmax pmax
comp=Z,7.0nm,1.2s
DUG Dugway, Tooele 37.59 90 *eP* **P 18 26 54.6 +0.4**
comp=Z,7.0nm,1.2s
TPNV Topopah Spring 37.74 97 *eP* **P 18 26 56.7 +1.2**
TPNV pmax pmax
comp=Z,15nm,1.3s
TPNV Topopah Spring 37.74 97 *eP* **P 18 26 56.7 +1.2**
comp=Z,15nm,1.3s
TCUT Toone Canyon 37.83 88 *eP* **P 18 26 56.8 +0.5**
comp=Z,26nm,1.7s
BW06 Boulder Array 37.88 84 *eP* **P 18 26 55.1 -1.7**
comp=Z,23nm,0.3s
PD31 Pinedale Array 37.88 84 *eP* **P 18 26 57.2 +0.5**
PDAR Pinedale Array 37.88 84 P **P 18 26 57.0 +0.2**
comp=Z,1.3nm,0.5s,baz=305,slow=5.2,SNR=13
PDAR ScP **ScP 18 32 48.0 +0.5**
comp=Z,1.5nm,0.9s,baz=253,slow=1.5,SNR=8.1
KLR Kul'dur 37.97 289 P **P 18 26 55.8 -1.3**
comp=Z,0.5nm,0.6s,baz=62,slow=9.4,SNR=14
KLR pP **pP 18 27 22.6 +0.2**
comp=Z,0.6nm,0.7s,baz=52,slow=7.6,SNR=7.9
JLU Jordanelle 38.13 88 *eP* **P 18 26 58.7 -0.2**
comp=Z,7.3nm,1.3s
NLU North Lily Min 38.18 90 *eP* **P 18 26 59.2 0.0**
comp=Z,14nm,1.9s
MPU Maple Canyon 38.40 89 *eP* **P 18 27 00.3 -0.8**
comp=Z,7.6nm,1.3s
GSC Goldstone, Bar 38.56 99 *eP* **P 18 27 03.9 +1.6**
GSC pmax pmax
comp=Z,14nm,1.3s
GSC Goldstone, Bar 38.56 99 *eP* **P 18 27 03.9 +1.6**
comp=Z,14nm,1.3s
TMUT Trail Mountain 39.12 90 *eP* **P 18 27 07.9 +0.7**
comp=Z,6.0nm,0.9s
SZCU Shurtz Canyon 39.14 93 *eP* **P 18 27 07.3 0.0**
comp=Z,12nm,1.6s
P17A Butcher Ranch, 39.27 89 *eP* **P 18 27 08.8 +0.5**
comp=Z,22nm,1.8s
Q16A Castle Valley 39.38 90 *eP* **P 18 27 10.1 +0.8**
comp=Z,6.2nm,1.0s
LCMT Little Creek M 39.45 94 *eP* **P 18 27 10.2 +0.4**
comp=Z,18nm,1.8s
P18A Preston Nutter 39.46 88 *eP* **P 18 27 10.2 +0.2**
comp=Z,8.1nm,1.1s
SRU San Rafael Swe 39.64 89 *eP* **P 18 27 12.1 +0.7**
SRU pmax pmax
comp=Z,11nm,1.2s
SRU San Rafael Swe 39.64 89 *eP* **P 18 27 12.1 +0.7**
comp=Z,11nm,1.2s
K22A Casper 39.72 82 *eP* **P 18 27 12.7 +0.7**
comp=Z,12nm,1.1s
RWWY Rawlins 39.92 84 *eP* **P 18 27 13.8 +0.1**
comp=Z,20nm,1.0s
PFO Pinyon Flats O 39.97 101 LR LR 18 40 58.6
comp=Z,32nm,21.5s,baz=298,slow=32
PFO Pinyon Flats O 39.97 101 *eP* **P 18 27 14.4 +0.3**
PFO pmax pmax
comp=Z,8.0nm,1.4s
PFO Pinyon Flats O 39.97 101 *eP* **P 18 27 14.4 +0.3**
comp=Z,8.2nm,1.4s
XPFO Piæon Flat 39.97 101 *eP* **P 18 27 14.0 -0.1**
comp=Z,9.3nm,1.4s
RSSD Black Hills 40.26 79 *eP* **P 18 27 16.7 +0.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 40.26 79 *eP* **P 18 27 16.7 +0.2**
comp=Z,4.3nm,0.8s
O20A White River Ci 40.31 86 *eP* **P 18 27 16.2 -0.7**
comp=Z,27nm,1.1s
W13A Hualapai Mount 40.40 97 *eP* **P 18 27 18.7 +1.0**
comp=Z,4.9nm,1.0s
U15A North Rim 40.41 94 *eP* **P 18 27 18.9 +1.0**
comp=Z,9.9nm,1.4s
BAR Barrett 40.52 102 *eP* **P 18 27 19.6 +1.1**
comp=Z,11nm,1.4s
USRK Ussuriysk Ar. 40.70 282 P **P 18 27 17.7 -2.1**
comp=Z,1.6nm,0.7s,baz=52,slow=9.3,SNR=3.9
USRK PcP **PcP 18 29 20.4 +1.3**
comp=Z,1.5nm,0.7s,baz=20,slow=4.6,SNR=4.2
WAKE Wake Island 40.89 222 *eP* **P 18 27 21.6 +0.1**
comp=Z,664nm,1.6s
Y12C Blythe 40.98 99 *eP* **P 18 27 23.3 +1.0**
comp=Z,9.3nm,1.1s
PV10 Paradox Valley 40.99 89 *eP* **P 18 27 23.6 +1.0**
PV05 Paradox Valley 41.16 89 *eP* **P 18 27 23.9 0.0**
N23A Red Feather La 41.16 84 *eP* **P 18 27 24.0 0.0**
comp=Z,26nm,1.8s
ULM Lac du Bonnet 41.27 66 P **P 18 27 24.4 0.0**
comp=Z,5.8nm,0.8s,baz=310,slow=10,SNR=6.2
ULM PcP **PcP 18 29 23.9 +3.0**
comp=Z,3.0nm,0.5s,baz=321,slow=5.2,SNR=4.5
ULM Lac du Bonnet 41.27 66 *eP* **P 18 27 25.2 +0.8**
ULM 18 29 23.9
ULM pmax pmax
comp=Z,12nm,1.1s
ULM Lac du Bonnet 41.27 66 *eP* **P 18 27 25.2 +0.8**
comp=Z,12nm,1.1s
ULM PcP **PcP 18 29 23.9 +3.0**
GLA Glamis 41.31 100 *eP* **P 18 27 26.0 +0.9**
GLA pmax pmax
comp=Z,7.0nm,1.1s
GLA Glamis 41.31 100 *eP* **P 18 27 26.0 +0.9**
comp=Z,7.2nm,1.1s
VLA Vladivostok 41.42 281 ⇑*iP* **P 18 27 24.6 -1.1**
VLA *i* *SP **sP 18 28 02.6 -1.5**
VLA *e* 18 29 02.0
VLA pmax pmax
comp=Z,13nm,1.3s
PV01 Paradox Valley 41.43 89 *eP* **P 18 27 26.1 0.0**
WUAZ Wupatki 41.57 94 *eP* **P 18 27 28.4 +1.1**
comp=Z,4.4nm,1.0s
MJAR Matsushiro Arr 42.02 269 ScP **ScP 18 33 03.6 +0.2**
comp=Z,1.7nm,0.7s,baz=44,slow=3.2,SNR=5.9
MJB9 Matsu-Tunnel 42.02 269 *eP* **P 18 27 30.2 -0.5**
comp=Z,1.9nm,0.7s
MAJO Matsushiro 42.02 269 *i* P **P 18 27 30.5 -0.2**
MAJO pmax pmax
comp=Z,39nm,0.8s
MAJO Matsushiro 42.02 269 *eP* **P 18 27 30.2 -0.5**
comp=Z,7.5nm,0.8s
MAT Matsushiro 42.02 269 P **P 18 27 30.2 -0.5**
MVCO Mesa Verde 42.09 90 *eP* **P 18 27 31.6 0.0**
comp=Z,10nm,1.5s
113A Mohawk Valley, 42.13 99 *eP* **P 18 27 32.6 +1.0**
comp=Z,7.6nm,0.4s
MSHR Mys Shultsa 42.17 281 *ceP* **P 18 27 32.2 +0.3**
X16A Lo Mia Camp, P 42.30 95 *eP* **P 18 27 32.9 -0.4**
comp=Z,11nm,1.6s
AGMN Agassiz Nation 42.38 68 *eP* **P 18 27 33.8 +0.3**
comp=Z,21nm,1.4s
X18A Snowflake 43.10 94 *eP* **P 18 27 40.7 +1.1**
comp=Z,4.9nm,0.8s
SDCO Great Sand Dun 43.49 87 *eP* **P 18 27 43.3 +0.4**
comp=Z,5.9nm,1.2s
TUC Tucson 44.19 97 *eP* **P 18 27 49.3 +1.0**
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 44.19 97 *eP* **P 18 27 49.3 +1.0**
comp=Z,5.4nm,1.2s
KSCO Kaye Shedlock' 44.32 83 *eP* **P 18 27 49.1 -0.2**
comp=Z,33nm,0.4s
MHTCO State Highway 44.38 87 *eP* **P 18 27 50.4 +0.5**
comp=Z,14nm,1.3s
HGTCO Madrid Canyon 44.40 87 *eP* **P 18 27 50.9 +0.8**
comp=Z,40nm,1.0s
T25A Trinidad 44.54 87 *eP* **P 18 27 51.5 +0.4**
comp=Z,8.4nm,0.9s
CN2 Changchun 44.66 286 *eP* **P 18 27 50.5 -1.3**
CN2 *es*P pP 18 28 19.3 +1.5
CN2 pmax pmax
comp=Z,20nm,0.7s
ANMO Albuquerque 44.85 91 LR LR 18 46 11.1
comp=Z,36nm,18.8s,baz=145,slow=35
ANMO Albuquerque 44.85 91 *i* P **P 18 27 52.7 -1.0**
EYMN Ely 44.95 66 *eP* **P 18 27 53.8 -0.3**
comp=Z,17nm,1.1s
BNM Barren Site 45.31 92 *eP* **P 18 27 57.5 +0.2**
NRIK Noril'sk 45.80 332 P **P 18 27 58.7 -1.8**
comp=Z,6.3nm,0.7s,baz=67,slow=5.7,SNR=9.0
NRIK pP **pP 18 28 28.4 +1.9**
comp=Z,14nm,1.0s,baz=59,slow=6.4,SNR=6.2
NRIK ScP **ScP 18 33 19.5 +1.3**
comp=Z,1.6nm,0.6s,baz=45,slow=4.3,SNR=3.5
NRIK LR LR 18 47 33.5
comp=Z,47nm,20.8s,baz=56,slow=36
CBKS Cedar Bluff 46.13 81 *eP* **P 18 28 03.2 -0.3**
CBKS pmax pmax
comp=Z,12nm,0.7s
CBKS Cedar Bluff 46.13 81 *eP* **P 18 28 03.2 -0.3**
comp=Z,12nm,0.7s
HSIG 46.52 100 *eP* **P 18 28 06.8 +0.1**
comp=Z,5.4nm,0.7s
KBS Kingsbay 47.03 1 P **P 18 28 09.4 -0.5**
KBS pmax pmax
comp=Z,36nm,2.1s
KSRS Korea Array 47.41 278 P **P 18 28 13.6 +0.2**
comp=Z,4.0nm,0.8s,baz=52,slow=7.5,SNR=17
KSRS PcP **PcP 18 29 43.6 +1.5**
comp=Z,2.7nm,1.0s,baz=57,slow=3.8,SNR=6.7
KSRS ScP **ScP 18 33 25.9 +0.4**
comp=Z,1.1nm,0.7s,baz=48,slow=5.2,SNR=5.4
KS15 Wonju Array Si 47.44 278 *eP* **P 18 28 12.9 -0.7**
KSAR Wonju Array Be 47.44 278 P **P 18 28 13.6 0.0**
KSAR 18 29 43.6
KSAR Wonju Array Be 47.44 278 P **P 18 28 13.6 0.0**
KSAR PcP **PcP 18 29 43.6 +1.4**
KSAR ScP **ScP 18 33 25.9 +0.3**
DAG Danmarks Havn 47.53 10 *i* P **P 18 28 13.6 -0.2**
comp=Z,21nm,0.8s
DAG Danmarks Havn 47.53 10 *i* P **P 18 28 13.6 -0.2**
DAG pmax pmax
comp=Z,15nm,0.8s
MSTX Muleshoe 47.70 89 *eP* **P 18 28 15.4 -0.5**
comp=Z,20nm,1.8s
SPB5 Spitsbergen Ar 47.78 359 *eP* **P 18 28 15.6 -0.2**
SPA1 Spitsbergen Ar 47.78 359 *eP* **P 18 28 15.6 -0.2**
SPB1 Spitsbergen Ar 47.78 359 *eP* **P 18 28 16.1 +0.3**
SPB4 Spitsbergen Ar 47.78 359 *eP* **P 18 28 15.4 -0.3**
SPA0 Spitsbergen Ar 47.78 359 *eP* **P 18 28 15.5 -0.3**
SPA3 Spitsbergen Ar 47.78 359 *eP* **P 18 28 15.3 -0.5**
MNTX Cornudas Mount 47.79 93 *eP* **P 18 28 17.4 +0.9**
comp=Z,4.3nm,1.1s
SUMG Summit 48.25 19 *i* P **P 18 28 20.5 +0.6**
comp=Z,29nm,0.9s
SUMG Summit 48.25 19 *i* P **P 18 28 20.5 +0.6**
SUMG pmax pmax
comp=Z,29nm,0.9s
WMOK Wichita Mounta 49.49 85 *eP* **P 18 28 29.1 -0.3**
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK Wichita Mounta 49.49 85 *eP* **P 18 28 29.1 -0.3**
comp=Z,8.8nm,1.1s
KWAJ Kwajalein Atol 50.18 215 P **P 18 28 35.4 +0.6**
TX31 Lajitas Ar. Si 50.53 94 *eP* **P 18 28 37.2 -0.2**
TXAR Lajitas Array 50.53 94 P **P 18 28 37.8 +0.3**
comp=Z,2.0nm,0.5s,baz=302,slow=5.4,SNR=31
TXAR ScP **ScP 18 33 40.5 +1.4**
comp=Z,1.1nm,0.8s,baz=270,slow=2.5,SNR=6.2
ULN Ulaanbaatar 51.88 301 *ceP* **P 18 28 47.3 -0.1**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 51.88 301 *eP* **P 18 28 46.8 -0.6**
comp=Z,16nm,0.8s
JCT Junction City 51.95 89 *eP* **P 18 28 47.9 0.0**
JCT pmax pmax
comp=Z,8.0nm,0.6s
JCT Junction City 51.95 89 *eP* **P 18 28 47.9 0.0**
comp=Z,8.2nm,0.6s
VLDQ Val d'Or 52.12 58 *eP* **P 18 28 47.1 -1.8**
comp=Z,14nm,0.9s
SONM Songino Array 52.23 302 P **P 18 28 50.3 +0.3**
comp=Z,4.2nm,0.8s,baz=50,slow=7.7,SNR=18
SONM pP **pP 18 29 19.1 +2.5**
comp=Z,9.8nm,0.8s,baz=48,slow=6.2,SNR=16
SONM PcP **PcP 18 30 00.3 +0.5**
comp=Z,10nm,1.0s,baz=48,slow=2.1,SNR=12
SONM ScP **ScP 18 33 46.6 +0.4**
comp=Z,1.4nm,0.8s,baz=38,slow=5.6,SNR=5.9
SCHQ Schefferville 52.47 46 P **P 18 28 51.7 +0.3**
comp=Z,16nm,0.9s,baz=295,slow=9.8,SNR=5.0
HHC Hu-ho-hao-te 54.31 292 *eP* **P 18 29 05.5 +0.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.9s
ARCES ARCESS Array B 56.21 355 P **P 18 29 17.5 -0.8**
comp=Z,8.7nm,0.8s,baz=4.8,slow=7.3,SNR=14
ARCES PcP **PcP 18 30 14.4 -0.2**
comp=Z,2.7nm,0.8s,baz=19,slow=5.7,SNR=4.1
NJ2 Nanjing 56.49 280 *eP* **P 18 29 21.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,1.4s
LVZ Lovozero 57.19 351 *ceP* **P 18 29 25.7 +0.4**
LVZ pmax pmax
comp=Z,66nm,2.5s
LVZ Lovozero 57.19 351 *eP* **P 18 29 24.6 -0.7**
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 57.50 319 P **P 18 29 27.1 -0.4**
comp=Z,0.7nm,0.5s,baz=36,slow=4.8,SNR=4.5
ZALV pP **pP 18 29 56.4 +1.8**
comp=Z,4.2nm,0.8s,baz=31,slow=6.2,SNR=10
ZALV PcP **PcP 18 30 19.6 -0.3**
comp=Z,5.2nm,0.8s,baz=33,slow=4.7,SNR=10
ZALV ScP **ScP 18 34 09.3 +0.3**
comp=Z,2.0nm,0.9s,baz=40,slow=4.8,SNR=5.9
SGF Sodankyl 58.24 355 P **P 18 29 32.9 +0.4**
SGF pmax pmax
comp=Z,32nm,1.2s
MSF Maaselka 59.60 353 P **P 18 29 42.6 +0.6**
MSF pmax pmax
comp=Z,29nm,0.9s
OUL Oulu 60.62 354 P **P 18 29 47.9 -1.0**
OUL pmax pmax
comp=Z,26nm,0.8s
XAN Xi'an 60.67 288 P **P 18 29 49.0 -0.8**
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,24nm,5.1s
GTA Gaotai 61.58 299 ⇓P **P 18 29 55.0 -1.0**
GTA pP pP 18 30 24.8 +1.5
GTA sP sP 18 30 36.0 +0.3
GTA S **S 18 38 04.5 -4.4**
GTA sS pS 18 38 46.5 +6.7
GTA Gaotai 61.58 299 SS SS 18 42 06.0 -5.2
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,85nm,5.0s
GTA LR LR
comp=N,64nm,16.6s
GTA LR LR
comp=E,53nm,17.3s
GTA LR LR
comp=Z,89nm,15.9s
LZH Lanzhou 61.93 293 *eP* **P 18 29 58.0 -0.4**
LZH pP pP 18 30 21.8 -4.0
LZH sP PcP 18 30 31.5 -6.6
LZH pmax pmax
comp=Z,19nm,1.0s
JOF Joensuu 62.38 351 P **P 18 30 01.2 +0.5**
JOF pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 62.40 320 *ceP* **P 18 30 01.4 +0.3**
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 62.40 320 *eP* **P 18 30 00.5 -0.6**
comp=Z,33nm,1.2s
KURBB Kurchatov Arra 62.51 320 P **P 18 30 01.3 -0.5**
comp=Z,2.9nm,0.9s,baz=37,slow=6.7,SNR=7.3
KURBB pP **pP 18 30 31.0 +1.8**
comp=Z,15nm,1.0s,baz=36,slow=6.7,SNR=12
VAF Ylistaro 62.82 356 P **P 18 30 03.2 -0.5**
VAF pmax pmax
comp=Z,28nm,0.7s
ENH Enshi 63.17 285 *eP* **P 18 30 05.5 -1.0**
comp=Z,16nm,1.1s
BVA0 Borovoye Array 63.41 326 *i* P **P 18 30 07.5 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 63.41 326 P **P 18 30 07.6 -0.2**
comp=Z,3.9nm,0.8s,baz=43,slow=6.7,SNR=26
BVAR pP **pP 18 30 36.9 +1.6**
comp=Z,19nm,0.8s,baz=43,slow=6.5,SNR=34
BVAR ScP 18 34 36.5
comp=Z,1.1nm,0.7s,baz=85,slow=3.1,SNR=4.8
BRVK Borovoye 63.42 326 *ceP* **P 18 30 08.0 +0.2**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 63.42 326 *eP* **P 18 30 07.7 -0.1**
comp=Z,24nm,0.9s
KLMR Klimovskoe 63.47 347 *eP* **P 18 30 06.7 -1.3**
KLMR *e* 18 30 42.1
KLMR *e*S **S 18 38 31.0 -0.7**
KLMR pmax pmax
comp=Z,15nm,1.2s
ARU Arti 63.89 334 P **P 18 30 10.7 -0.1**
comp=Z,2.9nm,0.5s,baz=295,slow=0.6,SNR=11
ARU pP **pP 18 30 38.7 +0.2**
comp=Z,12nm,0.8s,baz=340,slow=3.0,SNR=8.6
ARU Arti 63.89 334 *d iP* **P 18 30 10.3 -0.6**
ARU *PP **pP 18 30 38.6 +0.2**
ARU 18 32 31.8
ARU S **S 18 38 38.7 +1.6**
ARU 18 39 52.0
ARU SS **SS 18 42 45.2 -1.0**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 63.89 334 *eP* **P 18 30 10.1 -0.7**
comp=Z,17nm,0.9s
MK31 Makanchi Array 64.08 315 *i* P **P 18 30 10.8 -1.5**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 64.08 315 P **P 18 30 11.2 -1.1**
comp=Z,1.6nm,0.8s,baz=51,slow=6.6,SNR=11
MKAR pP **pP 18 30 41.0 +1.2**
comp=Z,8.4nm,0.8s,baz=46,slow=6.9,SNR=29
WMQ Urumqi 64.08 310 P **P 18 30 12.5 +0.1**
WMQ pP pP 18 30 41.8 +1.8
WMQ pmax pmax
comp=Z,12nm,0.5s
WMQ pmax pmax
comp=Z,110nm,5.3s
WMQ LR LR
comp=N,54nm,27.7s
WMQ LR LR
comp=E,79nm,35.1s
WMQ LR LR
comp=Z,29nm,25.1s
FIA1 FINESS Array S 64.23 354 *eP* **P 18 30 12.5 -0.4**
comp=Z,28nm,0.8s
FINES FINESS Array B 64.23 354 P **P 18 30 12.6 -0.4**
comp=Z,18nm,0.7s,baz=16,slow=8.2,SNR=51
NC204 NORSAR Array S 64.74 2 *eP* **P 18 30 15.6 -0.8**
NC303 NORSAR Array S 64.80 2 *eP* **P 18 30 16.0 -0.7**
NC405 NORSAR Array S 64.92 1 *eP* **P 18 30 17.3 -0.2**
NB2 NORSAR Subarra 64.98 2 P **P 18 30 17.7 -0.2**
comp=Z,18nm,0.9s,baz=359,slow=6.5
NB2 NORSAR Subarra 64.98 2 P **P 18 30 17.7 -0.2**
baz=359,slow=6.5
NB2 NORSAR Subarra 64.98 2 P **P 18 30 17.6 -0.3**
NB2 pmax pmax
comp=Z,15nm,1.0s
NOA NORSAR Array B 64.98 2 P **P 18 30 18.0 +0.1**
comp=Z,9.4nm,0.8s,baz=0.4,slow=6.5,SNR=22
CMIG Matias Romero 65.05 95 P **P 18 30 18.0 -1.0**
comp=Z,3.1nm,0.9s,baz=328,slow=4.3,SNR=4.7
CD2 Chengdu 65.89 290 *eP* **P 18 30 24.0 -0.3**
KONO Kongsberg 66.34 3 *ceP* **P 18 30 27.6 +1.0**
KONO pmax pmax
comp=Z,101nm,0.9s
VSU Vasula 67.16 353 *ceP* **P 18 30 32.0 +0.2**
VSU pmax pmax
comp=Z,71nm,0.7s
GYA Guiyang 67.68 284 ⇑*iP* **P 18 30 35.8 0.0**
GYA pP PcP 18 31 02.0 +0.1
GYA sP sP 18 31 14.3 -1.5
GYA PP **PP 18 33 08.0 +2.0**
GYA S **S 18 39 23.0 -1.2**
GYA sS sS 18 40 07.8 -4.2
GYA pmax pmax
comp=Z,20nm,0.8s
PDGK Podgornoye 68.05 314 P **P 18 30 35.5 -2.4**
PDGK pmax pmax
comp=Z,11nm,1.3s
AKTO Aktyubinsk 69.42 332 P **P 18 30 46.1 0.0**
comp=Z,18nm,0.8s,baz=38,slow=6.2,SNR=78
AKTO pP **pP 18 31 15.5 +1.5**
comp=Z,22nm,0.8s,baz=33,slow=5.6,SNR=13
AKTO Aktyubinsk 69.42 332 P **P 18 30 45.7 -0.4**
AKTO pmax pmax
comp=Z,22nm,0.8s
OBN Obninsk 69.44 347 *eP* **P 18 30 44.7 -1.3**
OBN *e* 18 33 19.3
OBN pmax pmax
comp=Z,13nm,0.9s
MUD Monsted U'grnd 69.53 3 P **P 18 30 46.8 +0.3**
MUD pmax pmax
comp=Z,26nm,0.9s
AB31 Akbulak array 69.94 330 P **P 18 30 47.7 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 69.94 330 *eP* **P 18 30 49.1 -0.1**
comp=Z,83nm,0.8s
AAK Ala-Archa 70.66 317 P **P 18 30 54.5 +0.5**
comp=Z,4.1nm,0.8s,baz=92,slow=2.6,SNR=10
AAK pP **pP 18 31 24.1 +2.1**
comp=Z,12nm,0.8s,baz=130,slow=2.8,SNR=14
AAK Ala-Archa 70.66 317 *i* P **P 18 30 52.7 -1.3**
AAK pmax pmax
comp=Z,9.0nm,0.9s
KMI Kunming 70.93 287 P **P 18 30 55.8 -0.1**
KMI pmax pmax
comp=Z,5.0nm,1.1s
LPSR Galich'ya Gora 71.53 345 *eP* **P 18 30 57.0 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MNAS Manas 71.57 319 P **P 18 31 00.1 +0.6**
MNAS pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 71.81 320 *i* P **P 18 30 59.5 -1.2**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 71.81 320 *eP* **P 18 31 00.2 -0.5**
KKAR pmax pmax
comp=Z,85nm,0.8s
KKAR Karatay Array 71.81 320 *eP* **P 18 31 00.2 -0.5**
comp=Z,85nm,0.8s
SUW Suwalki 71.81 355 *eP* **P 18 31 00.1 -0.4**
SUW Suwalki 71.81 355 *eP* **P 18 31 00.0 -0.4**
KSH Kashi 72.69 315 *eP* **P 18 31 08.5 +2.4**
KSH PcP **PcP 18 31 26.0 +3.1**
KSH pP pP 18 31 33.0 -1.3
KSH sP sP 18 31 44.5 -1.9
KSH PP **PP 18 33 54.5 +5.9**
KSH S **S 18 40 20.8 -1.4**
KSH SKS **SKSac 18 40 55.5 -5.2**
KSH ScS **SKKSac 18 40 59.5 -1.4**
KSH Kashi 72.69 315 SS SS 18 45 05.5 +2.8
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,170nm,5.1s
KSH LR LR
comp=N,65nm,7.6s
KSH LR LR
comp=E,94nm,5.6s
KSH LR LR
comp=Z,120nm,6.9s
SFK Sufi-Kurgan 73.28 317 P **P 18 31 09.4 -0.4**
SFK pmax pmax
comp=Z,6.0nm,1.2s
LSA Lhasa 73.59 298 *eP* **P 18 31 12.0 0.0**
LSA pmax pmax

comp=Z,11nm,0.8s
LSA Lhasa 73.59 298 *e*P **P 18 31 12.0 0.0**
comp=Z,11nm,0.8s
AKASG Malin Array Be 74.64 350 P **P 18 31 16.2 -0.9**
comp=Z,15nm,0.7s,baz=12,slow=5.8,SNR=16
AKBB Malin Array Si 74.64 350 *e*P **P 18 31 15.9 -1.2**
AKBB pmax pmax
comp=Z,22nm,0.8s
AKBB Malin Array Si 74.64 350 *e*P **P 18 31 15.9 -1.2**
comp=Z,22nm,0.8s
KIEV Kiev 74.65 350 *d i*P **P 18 31 15.9 -1.3**
KIEV pmax pmax
comp=Z,21nm,0.9s
KIEV Kiev 74.65 350 *e*P **P 18 31 16.0 -1.1**
comp=Z,21nm,0.7s
CLL Collm 74.76 1 ⇓ *i*P **P 18 31 17.8 0.0**
CLL *e**PP **pP 18 31 47.0 +0.9**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 74.76 1 ⇓ *i*P **P 18 31 17.8 0.0**
comp=Z,13nm,0.9s
CLL *e*pP **pP 18 31 47.0 +0.9**
CLL Collm 74.76 1 *e*P **P 18 31 16.8 -1.0**
comp=Z,12nm,0.9s
PMG Port Moresby 74.86 229 P **P 18 31 19.7 +0.9**
comp=Z,13nm,0.7s,baz=355,slow=9.8,SNR=4.1
BRG Berggiesshubel 75.20 0 *i* P **P 18 31 20.4 0.0**
comp=Z,7.7nm,0.9s
BRG Berggiesshubel 75.20 0 *i* P **P 18 31 20.4 0.0**
BRG pmax pmax
comp=Z,8.0nm,0.9s
KSP Ksiaz 75.22 359 *e*P **P 18 31 20.5 0.0**
KSP Ksiaz 75.22 359 *e*P **P 18 31 20.5 0.0**
SNF Seneffe 75.22 7 P **P 18 31 20.4 -0.1**
MEM Membach 75.23 6 P **P 18 31 20.9 +0.4**
comp=Z,13nm,1.1s
BCLA Clavier 75.38 6 P **P 18 31 21.5 +0.1**
comp=Z,12nm,1.4s
MOX Moxa 75.41 2 P **P 18 31 21.8 +0.2**
MOX pmax pmax
comp=Z,18nm,1.1s
PVCC Panska Ves 75.55 360 *e*P **P 18 31 22.8 +0.4**
PVCC Panska Ves 75.55 360 *e*P **P 18 31 22.8 +0.4**
UPC Upice 75.56 359 *e*P **P 18 31 22.7 +0.2**
UPC Upice 75.56 359 *e*P **P 18 31 22.7 +0.2**
DOU Dourbes 75.65 6 P **P 18 31 23.5 +0.5**
comp=Z,5.8nm,1.0s
GIVF Givet 75.66 6 *e*P **P 18 31 22.7 -0.3**
GIVF pmax pmax
comp=Z,13nm,0.9s
BAIF Baives 75.67 7 *e*P **P 18 31 22.9 -0.1**
BAIF pmax pmax
comp=Z,13nm,0.9s
DPC Dobruska-Polom 75.71 359 *e*P **P 18 31 23.9 +0.5**
DPC Dobruska-Polom 75.71 359 *e*P **P 18 31 23.9 +0.5**
OJC Ojcow 75.76 356 *e*P **P 18 31 23.8 +0.2**
OJC Ojcow 75.76 356 *e*P **P 18 31 23.8 +0.2**
OJC Ojcow 75.76 356 *e*P **P 18 31 22.8 -0.8**
comp=Z,9.7nm,0.8s
NKC Novy Kostel 75.83 1 *e*P **P 18 31 24.5 +0.5**
NKC Novy Kostel 75.83 1 *e*P **P 18 31 24.5 +0.5**
LVV L'vov 75.94 354 *e*P **P 18 31 26.5 +1.9**
KRLC Kraliky 75.98 358 *e*P **P 18 31 25.3 +0.4**
KRLC Kraliky 75.98 358 *e*P **P 18 31 25.3 +0.4**
PRA Prague 76.01 360 *e*P **P 18 31 25.3 +0.3**
PRA Prague 76.01 360 *e*P **P 18 31 25.3 +0.3**
PRU Pruhonice 76.09 360 *e*P **P 18 31 25.9 +0.5**
PRU Pruhonice 76.09 360 *e*P **P 18 31 25.9 +0.5**
GOPC GO Pecny, Ondr 76.16 360 *e*P **P 18 31 26.6 +0.7**
GOPC GO Pecny, Ondr 76.16 360 *e*P **P 18 31 26.6 +0.7**
WLF Walferdange 76.18 6 P **P 18 31 26.8 +0.8**
comp=Z,15nm,1.4s
WLF Walferdange 76.18 6 *e*P **P 18 31 26.0 0.0**
WLF pmax pmax
comp=Z,21nm,1.0s
WLF Walferdange 76.18 6 *e*P **P 18 31 26.0 0.0**
comp=Z,21nm,1.0s
OKC Ostrava-Krasne 76.19 358 *e*P **P 18 31 26.4 +0.4**
OKC Ostrava-Krasne 76.19 358 *e*P **P 18 31 26.4 +0.4**
MORC Moravsky Berou 76.27 358 ⇑ *i*P **P 18 31 27.2 +0.7**
MORC Moravsky Berou 76.27 358 *e*P **P 18 31 26.3 -0.2**
MORC pmax pmax
comp=Z,32nm,0.9s
MORC Moravsky Berou 76.27 358 *e*P **P 18 31 26.3 -0.2**
comp=Z,32nm,0.9s
GRF Grafenberg Arr 76.35 2 P **P 18 31 28.1 +1.1**
GRF pmax pmax
comp=Z,20nm,1.2s
GRFO Grafenberg 76.35 2 *e*P **P 18 31 27.1 +0.1**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 76.35 2 *e*P **P 18 31 27.1 +0.1**
comp=Z,9.7nm,0.8s
STHS Stebnicka Huta 76.50 355 *e*P **P 18 31 29.1 +1.3**
STHS pmax pmax
comp=Z,27nm,0.8s
STHS Stebnicka Huta 76.50 355 *e*P **P 18 31 29.1 +1.3**
NIE Niedzica 76.54 356 *e*P **P 18 31 28.7 +0.7**
NIE Niedzica 76.54 356 *e*P **P 18 31 28.7 +0.7**
VRAC Vranov 76.75 359 ⇓ *i*P **P 18 31 30.1 +0.9**
TREC Trest 76.78 359 *e*P **P 18 31 29.5 +0.1**
TREC Trest 76.78 359 *e*P **P 18 31 29.5 +0.1**
LANS Liptovska Anna 76.84 357 *e*P **P 18 31 31.2 +1.4**
LANS Liptovska Anna 76.84 357 *e*P **P 18 31 31.2 +1.4**
GRR Gorron 76.88 10 *e*P **P 18 31 29.4 -0.5**
GRR pmax pmax
comp=Z,29nm,1.4s
KHC Kasperske Hory 76.94 1 *e*P **P 18 31 30.9 +0.5**
KHC *e*PCP **PcP 18 31 39.5 -1.5**
KHC Kasperske Hory 76.94 1 *e*P **P 18 31 30.9 +0.5**
KHC *e* 18 31 39.5
KHC Kasperske Hory 76.94 1 *e*P **P 18 31 30.8 +0.5**
comp=Z,4.9nm,1.0s
CRVS Cervenica-Dubn 77.00 355 *e*P **P 18 31 31.1 +0.5**
CRVS Cervenica-Dubn 77.00 355 *e*P **P 18 31 31.1 +0.5**
UZH Uzhgorod 77.23 355 *e*P P 18 31 26.0 -5.9
UZH *i* 18 31 36.0
GEC2 GERESS Array S 77.23 0 *e*P **P 18 31 31.9 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 77.23 0 *e*P **P 18 31 31.9 -0.1**
comp=Z,6.5nm,0.8s
GERES GERESS Array B 77.23 0 P **P 18 31 32.5 +0.5**
comp=Z,4.2nm,0.8s,baz=5.4,slow=4.3,SNR=23
TAPN Taplejung 77.26 299 *e*P **P 18 31 32.2 -0.6**
KECS Kecovo 77.47 356 *e*P **P 18 31 34.0 +0.8**
KECS pmax pmax
comp=Z,11nm,0.8s
KECS Kecovo 77.47 356 *e*P **P 18 31 34.0 +0.8**
CDF Champ du Feu 77.49 5 *e*P **P 18 31 33.1 -0.4**
CDF pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 77.52 357 *e*P **P 18 31 34.3 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 77.52 357 *e*P **P 18 31 34.3 +0.8**
MYLDM Lahad Datu 77.59 262 *e*P **P 18 31 36.1 +1.7**
comp=Z,14nm,0.9s
BFO Black Forest 77.62 4 *c*eP **P 18 31 35.0 +0.9**
ECH Echery 77.68 5 *e*P **P 18 31 34.0 -0.5**
ECH pmax pmax
comp=Z,13nm,0.9s
ECH Echery 77.68 5 *e*P **P 18 31 34.0 -0.5**
comp=Z,13nm,0.9s
GUN Gumba 77.73 301 *e*P **P 18 31 35.0 -0.5**
comp=Z,27nm,0.7s
JIRN Jiri 77.78 300 *e*P **P 18 31 35.5 -0.3**
comp=Z,262nm,0.6s
ODAN Odare 77.83 299 *e*P **P 18 31 35.0 -0.9**
BUR08 Bucovina Ar. S 78.02 353 *e*P **P 18 31 36.1 -0.3**
BURAR Bucovina Array 78.05 353 ⇑ *i*P **P 18 31 37.1 +0.5**
PSZ Piszkesteto 78.05 356 ⇑ *i*P **P 18 31 37.8 +1.2**
PSZ Piszkesteto 78.05 356 *e*P **P 18 31 37.8 +1.2**
PSZ pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 78.05 356 *e*P **P 18 31 37.8 +1.2**
comp=Z,16nm,1.0s
GOF Gofitskoye 78.06 340 ⇓ *i*P **P 18 31 37.2 +0.6**
GOF pmax pmax
comp=Z,67nm,0.8s
CHTO Chiang Mai 78.06 285 *e*P **P 18 31 36.2 -0.8**
CHTO pmax pmax
comp=Z,22nm,1.7s
CHTO Chiang Mai 78.06 285 *e*P **P 18 31 36.2 -0.8**
comp=Z,22nm,1.7s
HINF Hinteralfeld 78.06 5 *e*P **P 18 31 36.1 -0.5**
HINF pmax pmax
comp=Z,10.0nm,0.9s
KKN Kakani 78.13 301 *e*P **P 18 31 36.9 -0.6**
CONA Conrad Observa 78.14 359 *i* P **P 18 31 38.1 +1.0**
comp=Z,10nm,0.8s,SNR=8.4
RAMN Ramite 78.16 300 *e*P **P 18 31 37.0 -0.7**
comp=Z,38nm,0.8s
MOA Molln 78.23 0 *i* P **P 18 31 37.1 -0.4**
comp=Z,7.5nm,1.4s
PKI Pulchoki 78.25 301 *e*P **P 18 31 37.6 -0.7**
PKIN Phulchoki 78.25 301 *e*P **P 18 31 38.0 -0.2**
comp=Z,16nm,0.9s
GKN Gorkha 78.28 302 *e*P **P 18 31 37.6 -0.7**
comp=Z,38nm,1.0s
CM31 Chiang Mai Arr 78.34 285 *e*P **P 18 31 38.1 -0.5**
CMAR Chiang Mai Arr 78.34 285 P **P 18 31 38.1 -0.4**
comp=Z,6.7nm,1.0s,baz=17,slow=5.3,SNR=36
DMN Daman 78.37 301 *e*P **P 18 31 38.4 -0.5**
comp=Z,35nm,1.1s
DANN Dangsing 78.43 303 *e*P **P 18 31 39.2 -0.1**
comp=Z,4.5nm,0.8s
RETA Reutte 78.54 3 *i* P **P 18 31 39.8 +0.5**
comp=Z,5.5nm,0.9s
ARCR ARCALIA 78.64 353 ⇑ *i*P **P 18 31 40.8 +1.1**
MOTA Moosalm 78.69 2 *i* P **P 18 31 40.4 +0.1**
comp=Z,6.3nm,0.7s
WATA Walderalm 78.71 2 *i* P **P 18 31 41.0 +0.7**
comp=Z,11nm,1.0s
DAVA Damuels 78.72 3 *i* P **P 18 31 41.0 +0.6**
comp=Z,4.0nm,0.8s
WTTA Wattenberg 78.79 2 *i* P **P 18 31 40.5 -0.3**
comp=Z,8.9nm,0.9s
ARSA Arzberg 78.82 359 *i* P **P 18 31 42.1 +1.3**
comp=Z,12nm,1.0s,SNR=5.1
AVF Avril sur Loir 78.85 8 *e*P **P 18 31 40.5 -0.4**
AVF pmax pmax
comp=Z,18nm,0.8s
KOLN Koldanda 78.99 302 *e*P **P 18 31 41.7 -0.5**
comp=Z,26nm,0.9s
KBA Koelnbreinsper 79.00 1 P **P 18 31 43.2 +1.3**
KBA pmax pmax
comp=Z,32nm,0.9s
KBA Koelnbreinsper 79.00 1 *i* P **P 18 31 43.1 +1.1**
comp=Z,26nm,0.8s,SNR=12
FETA Feichten 79.01 3 *i* P **P 18 31 42.7 +0.8**
comp=Z,16nm,0.9s,SNR=6.6
PYUN Piuthan 79.01 303 *e*P **P 18 31 41.9 -0.5**
DRGR 79.04 354 ⇓ *i*P **P 18 31 42.3 +0.3**
BGF Bois d'Agland 79.04 8 *e*P **P 18 31 41.6 -0.4**
BGF pmax pmax
comp=Z,14nm,0.9s
KVAR Kislovodsk Arr 79.19 340 P **P 18 31 43.5 +0.6**
comp=Z,8.8nm,0.7s,baz=184,slow=0.9,SNR=6.9
KIV Kislovodsk 79.19 340 *i* P **P 18 31 43.2 +0.3**
KIV *i* *PP **sP 18 32 18.6 -4.9**
KIV pmax pmax
comp=Z,14nm,0.8s
KIV Kislovodsk 79.19 340 *e*P **P 18 31 42.9 0.0**
comp=Z,17nm,0.8s
ABTA Abfaltersbach 79.32 1 *i* P **P 18 31 44.3 +0.8**
comp=Z,15nm,1.1s,SNR=7.0
KBZ Khabaz 79.36 339 P **P 18 31 45.0 +1.3**
comp=Z,9.9nm,0.9s,baz=335,slow=2.8,SNR=23
KBZ pP **pP 18 32 15.4 +3.2**
comp=Z,8.1nm,0.9s,baz=20,slow=3.1,SNR=5.0
KBZ Khabaz 79.36 339 P **P 18 31 45.0 +1.3**
FUORN Ofenpass-Fuorn 79.40 3 *e*P **P 18 31 45.5 +1.3**
comp=Z,17nm,1.1s
SOKA Soboth 79.40 360 *i* P **P 18 31 44.6 +0.6**
comp=Z,23nm,1.1s,SNR=16
MYKA Terra Mystica 79.45 1 *i* P **P 18 31 45.3 +1.1**
comp=Z,5.5nm,0.8s
TUE Stuetta 79.52 4 *e*P **P 18 31 44.9 +0.1**
comp=Z,7.7nm,1.0s
SENIN Lac Senin/Sane 79.53 5 *e*P **P 18 31 46.6 +1.7**
comp=Z,22nm,1.8s
OBKA Obir 79.57 360 *i* P **P 18 31 45.7 +0.8**
comp=Z,31nm,0.8s,SNR=16
SIRR Siria 79.62 355 ⇓ *i*P **P 18 31 45.4 +0.3**
VRI Vrincioaia 79.66 351 ⇓ *i*P **P 18 31 45.2 -0.1**
DOPR Dopca 79.67 352 ⇓ *i*P **P 18 31 46.3 +0.9**
PLOR Plostina 79.69 351 ⇑ *i*P **P 18 31 45.7 +0.2**
ZEI Tsey 80.05 338 *e*P **P 18 31 47.2 -0.5**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
TLCR 80.14 350 ⇑ *i*P **P 18 31 47.9 +0.1**
CFR Carcaliu 80.21 350 ⇓ *i*P **P 18 31 47.8 -0.4**
VOIR 80.23 352 ⇓ *i*P **P 18 31 49.1 +0.6**
VOIR 80.23 352 P **P 18 31 48.6 +0.1**
VOIR pmax pmax
comp=Z,5.0nm,1.0s
BZS Buzias 80.27 355 ⇑ *i*P **P 18 31 48.9 +0.3**
LPL La Plagne 80.35 5 *e*P **P 18 31 50.7 +1.4**
LPL pmax pmax
comp=Z,10.0nm,1.2s
LPG La Plagne 80.37 5 *e*P **P 18 31 52.4 +2.9**
LPG pmax pmax
comp=Z,10.0nm,1.0s
CAF Calviac 80.59 9 *e*P **P 18 31 50.2 -0.2**
CAF pmax pmax
comp=Z,16nm,1.0s
TLB Topalu 80.81 350 ⇑ *i*P **P 18 31 51.2 -0.2**
VIVF Saint-Julien-l 80.88 7 *e*P **P 18 31 52.0 +0.1**
VIVF pmax pmax
comp=Z,26nm,1.4s
ORIF Oris-en-Rattie 80.89 6 *e*P **P 18 31 52.3 +0.2**
ORIF pmax pmax
comp=Z,14nm,1.1s
TIRR Tirgusor 80.90 350 ⇑ *i*P **P 18 31 52.2 +0.3**
ZIMR 81.97 352 ⇓ *i*P **P 18 31 57.3 -0.3**
SBF Sospel 82.03 5 *e*P **P 18 31 59.6 +1.6**
SBF pmax pmax
comp=Z,29nm,1.0s
VTS Vitosha 83.19 353 ⇑ *i*P **P 18 32 03.7 -0.5**
PDG Podgorica 83.56 356 ⇑ *i*P **P 18 32 05.9 +0.1**
TOKA Tokat 83.86 343 *e*P **P 18 32 08.8 +1.3**
comp=Z,13nm,0.8s
SKO Skopje 83.92 355 P **P 18 32 08.1 +0.4**
SKO pmax pmax
comp=Z,2.0nm,1.1s
CTA Charters Tower 84.78 225 P **P 18 32 11.9 -0.3**
comp=Z,4.1nm,0.8s,baz=348,slow=10.0,SNR=3.5
GRG Griva 84.87 354 P **P 18 32 13.2 +0.6**
GRG pmax pmax
comp=Z,45nm,1.0s
ANTO Ankara 84.88 346 *e*P **P 18 32 13.9 +1.2**
ANTO pmax pmax
comp=Z,24nm,0.9s
ANTO Ankara 84.88 346 *e*P **P 18 32 13.9 +1.2**
comp=Z,24nm,0.9s
BR131 Keskin Array S 84.90 345 *e*P **P 18 32 12.7 -0.2**
BRTR Keskin Array B 84.90 345 P **P 18 32 13.2 +0.4**
comp=Z,10nm,0.8s,baz=47,slow=2.4,SNR=46
BRTR pP **pP 18 32 42.9 +1.1**
comp=Z,2.1nm,0.8s,baz=52,slow=2.0,SNR=3.2
ESDC Sonseca Array 85.08 14 P **P 18 32 12.8 -0.8**
comp=Z,3.6nm,0.8s,baz=344,slow=5.1,SNR=15
FNA Florina 85.10 355 P **P 18 32 13.2 -0.6**
FNA pmax pmax
comp=Z,14nm,1.1s
KSM Kuching 85.35 266 *e*P **P 18 32 14.5 -0.8**
comp=Z,21nm,0.9s
CUC Castrocucco 86.08 359 *e*P **P 18 32 17.3 -1.3**
comp=Z,14nm,1.2s
WRA Wamunga Arr 89.97 235 P **P 18 32 36.9 -0.3**
comp=Z,1.9nm,1.1s,baz=34,slow=6.0,SNR=4.6
HYB Hyderabad 90.17 301 *i* P **P 18 32 38.0 -0.3**
FITZ Fitzroy Crossi 92.77 243 P **P 18 32 50.1 0.0**
comp=Z,4.0nm,0.9s,baz=20,slow=4.7,SNR=6.1
FITZ Fitzroy Crossi 92.77 243 *e*P **P 18 32 50.6 +0.5**
ASAR Alice Springs 93.36 233 P **P 18 32 52.9 0.0**
comp=Z,0.9nm,0.8s,baz=23,slow=4.5,SNR=12
RAYN Ar Rayn 98.00 331 *e*P **P 18 33 13.2 -1.0**
comp=Z,3.3nm,0.8s
TORD Torodi Ar. Bea 111.96 13 PKKPbc PKKPbc 18 49 02.4 0.0
comp=Z,0.8nm,0.8s,baz=159,slow=2.1,SNR=4.9
KMBO Kilima Mbogo 123.77 332 PKP **PKPdf 18 38 37.0 +1.4**
comp=Z,0.5nm,0.3s,baz=34,slow=7.3,SNR=4.4
KMBO Kilima Mbogo 123.77 332 PKIKP **PKPdf 18 38 37.0 +1.4**
BOSA Boshof 153.14 338 PKPbc **PKPbc 18 39 35.1 +0.3**
comp=Z,1.9nm,0.4s,baz=77,slow=3.9,SNR=10
BOSA PKPab **PKPab 18 39 47.0 +0.1**
comp=Z,8.9nm,0.9s,baz=354,slow=2.9,SNR=8.4
MAW Mawson 153.80 221 PKPbc **PKPbc 18 39 35.6 +0.8**
comp=Z,1.5nm,0.7s,baz=179,slow=5.1,SNR=4.3
MAW PKPab **PKPab 18 39 49.6 +1.2**
comp=Z,3.8nm,0.9s,baz=91,slow=5.9,SNR=6.2
VNA3 Neumayer Olymp 160.01 157 PKP **PKPab 18 40 14.9 -0.3**
VNA2 Neumayer--Watz 160.75 158 PKP **PKPab 18 40 18.5 +0.1**
baz=266,slow=2.8
SNAA Sanae 161.03 163 PKP **PKPab 18 40 18.6 -1.1**

ISK ***28*** *18:21:26.5, 38.°78N×43.°50E, h5km, ML3.2*
CSEM ***28*** *18:21:27.7±0.3, 38.°76N×43.°53E, h2km, ML3.2, Error ellipse: s-maj=6.8km s-min=4.6km az=96.0*
DDA ***28*** *18:21:27.2, 38.°75N×43.°48E, h5km, Ml3.5*
ISCJB ***28*** *18:21:28.2±0.5, 38.°77N±0.°02×43.°53E±0.°05, h6km±4km, Error ellipse: s-maj=6.3km s-min=3.4km az=15.7*
ISC 28 18:21:28.6±0.8, 38.°78N±0.°02×43.°49E±0.°03, h16km±6km, n57, σ1§38/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**204**	*e*PG	**Pg**	**18 21 33.4**	**0.0**
VANB	**Van**	**0.20**	**204**	*e*Pg	**Pg**	**18 21 33.4**	**0.0**
VMUR	**Van-Muradiye**	**0.22**	**16**	*i* P	**Pg**	**18 21 32.2**	**-1.6**
VMUR				*i* S	**Sg**	**18 21 37.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.22**	**16**	P	**Pg**	**18 21 32.2**	**-1.6**
VMUR				S	**Sg**	**18 21 37.6**	**+0.3**
TVAN	**Van**	**0.26**	**195**	*i* P	**Pg**	**18 21 33.4**	**-1.0**
TVAN				*i* S	**Sg**	**18 21 39.2**	**+0.8**
TVAN	**Van**	**0.26**	**195**	P	**Pg**	**18 21 33.4**	**-1.0**
TVAN				S	**Sg**	**18 21 39.2**	**+0.8**
ERCV	**ERCIS-VAN**	**0.27**	**333**	*e*PG	**Pg**	**18 21 33.1**	**-1.5**
ERCV	**ERCIS-VAN**	**0.27**	**333**	*e*Pg	**Pg**	**18 21 33.1**	**-1.5**
CLDR	**Caldiran**	**0.49**	**42**	*e*PG	**Pg**	**18 21 36.9**	**-1.6**
CLDR				*e*SG	**Sb**	**18 21 45.4**	**-0.6**
CLDR	**Caldiran**	**0.49**	**42**	*i* P	**Pg**	**18 21 36.9**	**-1.6**
CLDR				*i* S	**Sb**	**18 21 45.5**	**-0.6**
CLDR	**Caldiran**	**0.49**	**42**	*e*Pg	**Pg**	**18 21 36.9**	**-1.6**
CLDR				*e*Sg	**Sb**	**18 21 45.4**	**-0.6**
GEVA	**Gevas**	**0.58**	**216**	*i* P	**Pg**	**18 21 38.3**	**-1.7**
GEVA				*i* S	**Sb**	**18 21 49.9**	**+1.6**
GEVA	**Gevas**	**0.58**	**216**	P	**Pg**	**18 21 38.3**	**-1.7**
GEVA				S	**Sb**	**18 21 49.9**	**+1.6**
DYDN	**Diyadin**	**0.78**	**11**	*i* P	**Pg**	**18 21 42.3**	**-1.5**
DYDN				*i* S	**Sb**	**18 21 55.6**	**+1.3**
DYDN	**Diyadin**	**0.78**	**11**	P	**Pg**	**18 21 42.3**	**-1.5**
DYDN				S	**Sb**	**18 21 55.6**	**+1.3**
TUTA	**Tutak**	**0.82**	**320**	*i* P	**Pg**	**18 21 42.6**	**-1.9**
TUTA				*i* S	**Sb**	**18 21 55.5**	**+0.1**
TUTA	**Tutak**	**0.82**	**320**	P	**Pg**	**18 21 42.6**	**-1.9**
TUTA				S	**Sb**	**18 21 55.5**	**+0.1**
BASK	**Baskale_VAN**	**0.83**	**151**	*i* P	**Pg**	**18 21 43.1**	**-1.6**
BASK	**Baskale_VAN**	**0.83**	**151**	P	**Pg**	**18 21 43.1**	**-1.6**
AGRB	**Hanur-Agry**	**0.89**	**334**	*e*PG	**Pg**	**18 21 44.6**	**-1.2**
AGRB				*e*SG	**Sb**	**18 21 57.7**	**+0.4**
AGRB	**Hanur-Agry**	**0.89**	**334**	*e*Pg	**Pg**	**18 21 44.6**	**-1.2**
AGRB				*e*Sg	**Sb**	**18 21 57.7**	**+0.4**
TATV	**Tatvan**	**1.00**	**255**	*i* P	**Pg**	**18 21 45.8**	**-2.1**
TATV				*i* S	**Sb**	**18 22 00.3**	**-0.2**
TATV	**Tatvan**	**1.00**	**255**	P	**Pg**	**18 21 45.8**	**-2.1**
TATV				S	**Sb**	**18 22 00.3**	**-0.2**
EKAR	**Karacoban**	**1.21**	**294**	*i* P	**Pn**	**18 21 52.4**	**+1.4**
EKAR	**Karacoban**	**1.21**	**294**	P	**Pn**	**18 21 52.4**	**+1.4**
HAKT	**HAKKARI**	**1.23**	**172**	*i* P	**Pg**	**18 21 49.7**	**-2.6**
HAKT	**HAKKARI**	**1.23**	**172**	P	**Pg**	**18 21 49.7**	**-2.6**
EATA	**Eleskirt**	**1.33**	**325**	*i* P	**Pn**	**18 21 52.6**	**-0.2**
EATA				*i* S	**Sn**	**18 22 12.9**	**+2.6**
EATA	**Eleskirt**	**1.33**	**325**	P	**Pn**	**18 21 52.6**	**-0.2**
EATA				S	**Sn**	**18 22 12.9**	**+2.6**
CUKT	**Cukurca**	**1.53**	**177**	*e*PN	**Pb**	**18 21 55.5**	**-1.1**
CUKT	**Cukurca**	**1.53**	**177**	*i* P	**Pb**	**18 21 55.5**	**-1.1**
CUKT	**Cukurca**	**1.53**	**177**	P	**Pb**	**18 21 55.5**	**-1.1**
VRTB	**Varto-Mus**	**1.63**	**284**	*e*PN	**Pn**	**18 21 57.4**	**+0.7**
VRTB	**Varto-Mus**	**1.63**	**284**	*i* P	**Pb**	**18 21 58.2**	**-0.2**
VRTB	**Varto-Mus**	**1.63**	**284**	*e*Pn	**Pn**	**18 21 57.4**	**+0.7**
VRTB	**Varto-Mus**	**1.63**	**284**	P	**Pb**	**18 21 58.2**	**-0.2**
DIGO	**Kars**	**1.64**	**357**	*i* P	**Pb**	**18 21 58.3**	**-0.2**
DIGO	**Kars**	**1.64**	**357**	P	**Pb**	**18 21 58.3**	**-0.2**
HOMI	**Horasan**	**1.77**	**316**	*i* P	**Pb**	**18 22 00.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*PN	**Pb**	**18 22 01.6**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*Pn	**Pb**	**18 22 01.6**	**-1.4**
EAK	**Akyaka**	**1.91**	**3**	*i* P	**Pg**	**18 22 04.1**	**-1.1**
EAK	**Akyaka**	**1.91**	**3**	P	**Pg**	**18 22 04.1**	**-1.1**
BTMN	**Batman**	**1.96**	**244**	*i* P	**Pb**	**18 22 03.9**	**0.0**
BTMN				*i* S	**Sg**	**18 22 30.2**	**-1.4**
BTMN	**Batman**	**1.96**	**244**	P	**Pb**	**18 22 03.9**	**0.0**
BTMN				S	**Sg**	**18 22 30.2**	**-1.4**
SENK	**Senkaya-Erzuru**	**1.99**	**334**	*e*PN	**Pb**	**18 22 03.5**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.99**	**334**	*e*Pn	**Pb**	**18 22 03.5**	**-1.0**
ERZM	**Erzurum**	**2.00**	**305**	*i* P	**Pb**	**18 22 04.9**	**+0.3**
ERZM	**Erzurum**	**2.00**	**305**	P	**Pb**	**18 22 04.9**	**+0.3**
BNGB	**Bing¶ll**	**2.21**	**276**	*e*PN	**Pn**	**18 22 06.2**	**+1.6**
BINT	**Bingol**	**2.35**	**273**	*e*Pn	**Pn**	**18 22 06.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.39**	**287**	*e*PN	**Pb**	**18 22 09.3**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.39**	**287**	*e*Pn	**Pb**	**18 22 09.3**	**-1.9**
DAGI	**Agilar**	**2.60**	**333**	*i* P	**Pg**	**18 22 16.1**	**-2.3**
MAZI	**Mazidag**	**2.74**	**242**	*e*PN	**Pn**	**18 22 14.1**	**+2.2**
MAZI	**Mazidag**	**2.74**	**242**	*e*Pn	**Pn**	**18 22 14.1**	**+2.2**
DGRG	**David-gareji**	**3.03**	**28**	P	**Pb**	**18 22 22.8**	**+0.6**

CSEM ***28*** *18:30:01.8±0.2, 47.°68N×14.°39E, h2km, ML1.9/9, Error ellipse: s-maj=4.2km s-min=3.3km az=103.0*
PRU ***28*** *18:30:03.5, 47.°76N×14.°52E, h0km*
VIE 28 18:30:01.6±0.2, 47.°64N×14.°39E, h7km±3km, mb1.2/3, ML1.4/9, Error ellipse: s-maj=1.9km s-min=1.8km az=133.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.22**	**339**	Pg	Pg	18 30 06.0	-0.1
	5.2nm,0.1s						
MOA				Sg	Sg	18 30 09.5	+0.4
	13nm,0.1s						
ARSA	**Arzberg**	**0.87**	**117**	Pg	Pb	18 30 18.6	-0.3
	0.7nm,0.2s						
ARSA				Sg	Sb	18 30 30.8	+0.1
	0.9nm,0.2s						
KBA	**Koelnbreinsper**	**0.91**	**232**	Pg	Pb	18 30 19.7	0.0
	1.1nm,0.2s						
KBA				Sg	Sg	18 30 30.4	-0.4
	3.3nm,0.3s						
CONA	**Conrad Observa**	**1.03**	**73**	Pg	Pg	18 30 21.3	-0.2
	0.1nm,0.0s						
CONA				Sg	Sb	18 30 35.6	-0.1
	2.0nm,0.2s						
SOKA	**Soboth**	**1.06**	**155**	Pg	Pn	18 30 22.9	0.0
	0.5nm,0.2s						
SOKA				Sg	Sn	18 30 37.3	-0.6
	1.2nm,0.4s						
MYKA	**Terra Mystica**	**1.13**	**207**	Pg	Pg	18 30 23.1	-0.2
	0.9nm,0.2s						
MYKA				Sg	Sn	18 30 39.2	-0.5
	1.0nm,0.3s						
OBKA	**Obir**	**1.14**	**174**	Pg	Pn	18 30 25.7	+1.7
	0.4nm,0.1s						
OBKA				Sg	Sg	18 30 38.2	0.0
	0.8nm,0.2s						
ABTA	**Abfaltersbach**	**1.56**	**236**	Pg	Pg	18 30 33.4	+1.9
	0.8nm,0.3s						
ABTA				Sg	Sg	18 30 53.6	+1.9
	3.2nm,0.5s						
KHC	**Kasperske Hory**	**1.58**	**340**	*e*PG	Pb	18 30 31.2	0.0
KHC				*e*SG	Sb	18 30 51.9	+0.5
	comp=Z,4.5nm,0.4s						
KHC	**Kasperske Hory**	**1.58**	**340**	Pg	Pb	18 30 31.2	0.0
KHC				Sg	Sb	18 30 51.9	+0.5
	4.5nm,0.4s						
WET	**Wettzell**	**1.81**	**327**	*e*PG	Pg	18 30 36.1	-0.1
WET				*e*SG	Sg	18 31 00.3	+0.6
VRAC	**Vranov**	**2.22**	**41**	*e*Pn	Pn	18 30 39.6	+0.8
VRAC				*e*Sn	Sn	18 31 08.1	+1.6
VRAC				*e*Sg	Sb	18 31 10.3	+0.6
PRU	**Pruhonice**	**2.35**	**2**	*e*SG	Sb	18 31 13.8	+0.4
PRU	**Pruhonice**	**2.35**	**2**	Sg	Sb	18 31 13.8	+0.4
UPC	**Upice**	**3.06**	**20**	*e*SG	Sb	18 31 36.0	+2.2
	comp=Z,3.9nm,0.5s						
UPC	**Upice**	**3.06**	**20**	Sg	Sb	18 31 36.0	+2.2
	3

ISCJB ***28*** *18:30:24.1±0.5, 32°.53N±0°.04×58°.51E±0°.04, h10km, mb3.5/11, Error ellipse: s-maj=5.4km s-min=4.1km az=160.3*

CSEM ***28*** *18:30:24.1±0.4, 32°.48N×58°.53E, h2km, ML3.5, Error ellipse: s-maj=10.6km s-min=6.7km az=154.0*

IDC ***28*** *18:30:24.2±1.0, 32°.51N×58°.21E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.6/51, mbtmp3.7/14, ML3.2/4, Error ellipse: s-maj=21.0km s-min=18.3km az=49.0*

TEH ***28*** *18:30:25.3, 32°.54N×58°.52E, h5km, ML3.5*

ISC 28 18:30:25.1±0.6, 32°.50N±0°.05×58°.51E±0°.04, h10km, n41, σ1§44/48, mb3.7/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ITEG	**Tejag**	**0.45**	**26**	*e*Pg		**Pg**	**18 30 32.8**	**-1.1**
ITEG				*e*Sg		**Sg**	**18 30 37.0**	**-2.8**
ITEG				*e*AMB		AMB	18 30 42.4	
	comp=Z,43μm,0.1s							
ITEG	**Tejag**	**0.45**	**26**	*e*Pg		**Pg**	**18 30 32.8**	**-1.1**
ITEG				*e*Sg		**Sg**	**18 30 37.0**	**-2.8**
IDAH	**Dahanechah**	**1.17**	**78**	*e*Pg		**Pb**	**18 30 45.5**	**-2.0**
IDAH				*e*AMB		AMB	18 30 49.2	
	comp=Z,57μm,0.1s							
IDAH				*e*Sg		**Sg**	**18 31 01.8**	**-1.0**
IDAH	**Dahanechah**	**1.17**	**78**	*e*Pg		**Pb**	**18 30 45.5**	**-2.0**
IDAH				*e*Sg		**Sg**	**18 31 01.8**	**-1.0**
TABS	**Tabas**	**1.64**	**315**	*e*Pg		**Pn**	**18 30 54.5**	**+0.4**
TABS				*e*Sg		**Sb**	**18 31 16.6**	**+0.3**
TABS				AML		AML	18 31 20.1	
	comp=N,1μm,0.2s							
TABS				AML		AML	18 31 23.2	
	comp=E,586nm,0.6s							
TABS	**Tabas**	**1.64**	**315**	*e*Pg		**Pn**	**18 30 54.5**	**+0.4**
TABS				*e*Sg		**Sb**	**18 31 16.6**	**+0.3**
SHRT	**Shahrakht**	**1.88**	**52**	*e*Pg		**Pn**	**18 30 57.5**	**+0.2**
SHRT				AML		AML	18 31 28.8	
	comp=N,574nm,0.3s							
SHRT				AML		AML	18 31 28.9	
	comp=E,650nm,0.4s							
SHRT	**Shahrakht**	**1.88**	**52**	*e*Pn		**Pn**	**18 30 57.6**	**+0.2**
SHRT				*e*Sg		**Sg**	**18 31 23.9**	**-1.7**
IBAF	**Bafgh**	**2.66**	**251**	*e*AMB		AMB	18 31 51.3	
	comp=Z,7μm,0.1s							
KRBR	**Kerman**	**2.92**	**211**	*e*Pn		**Pn**	**18 31 11.7**	**-0.2**
KRBR				AML		AML	18 32 03.2	
	comp=E,462nm,0.4s							
KRBR				AML		AML	18 32 07.7	
	comp=N,446nm,0.8s							
KRBR	**Kerman**	**2.92**	**211**	*e*Pn		**Pn**	**18 31 11.7**	**-0.2**
IMEH	**Mehriz**	**3.49**	**253**	*e*Pn		**Pn**	**18 31 20.4**	**+0.7**
IMEH				*e*AMB		AMB	18 32 19.9	
	comp=Z,3μm,0.3s							
IMEH	**Mehriz**	**3.49**	**253**	*e*Pn		**Pn**	**18 31 20.4**	**+0.7**
IMOG	**Moghan**	**3.67**	**11**	*e*Pn		**Pn**	**18 31 23.0**	**+0.9**
IMOG				*e*AMB		AMB	18 32 47.5	
	comp=Z,732nm,0.3s							
IMOG	**Moghan**	**3.67**	**11**	*e*Pn		**Pn**	**18 31 23.0**	**+0.9**
IPAY	**Payeh**	**3.96**	**6**	*e*Pn		**Pn**	**18 31 27.5**	**+1.3**
IPAY				*e*AMB		AMB	18 32 41.4	
	comp=Z,1μm,0.3s							
IPAY	**Payeh**	**3.96**	**6**	*e*Pn		**Pn**	**18 31 27.5**	**+1.3**
SHRO	**Shahrood**	**4.05**	**330**	*e*Pn		**Pn**	**18 31 28.0**	**+0.7**
SHRO				AML		AML	18 32 41.7	
	comp=N,54nm,0.4s							
SHRO				AML		AML	18 32 54.2	
	comp=E,37nm,0.5s							
SHRO	**Shahrood**	**4.05**	**330**	*e*Pn		**Pn**	**18 31 28.0**	**+0.7**
ISAD	**Sadrabad**	**4.13**	**263**	*e*Pn		**Pn**	**18 31 28.5**	**-0.1**
ISAD				*e*AMB		AMB	18 32 40.2	
	comp=Z,3μm,0.2s							
ISAD	**Sadrabad**	**4.13**	**263**	*e*Pn		**Pn**	**18 31 28.5**	**-0.1**
IKRD	**Kardeh**	**4.27**	**0**	*e*Pn		**Pn**	**18 31 33.2**	**+2.8**
IKRD				*e*AMB		AMB	18 32 26.4	
	comp=Z,636nm,0.2s							
IKRD	**Kardeh**	**4.27**	**0**	*e*Pn		**Pn**	**18 31 33.2**	**+2.8**
NASN	**Na'in**	**4.82**	**275**	*e*Pn		**Pn**	**18 31 38.2**	**+0.1**
NASN				AML		AML	18 33 03.2	
	comp=N,84nm,0.4s							
NASN				AML		AML	18 33 10.5	
	comp=E,48nm,0.5s							
NASN	**Na'in**	**4.82**	**275**	*e*Pn		**Pn**	**18 31 38.2**	**+0.1**
GEYT	**Alibeck**	**5.43**	**357**	Pn		**Pn**	**18 31 47.0**	**+0.9**
	comp=E,2.8nm,0.3s,baz=185,slow=16,SNR=44							
GEYT				Sn		**Sn**	**18 32 50.5**	**+1.8**
	comp=E,0.3nm,0.3s,baz=171,slow=20,SNR=2.4							
WSAR	**Wadi Sarin**	**9.22**	**179**	Pn		**Pn**	**18 32 39.7**	**+1.4**
	comp=E,0.1nm,0.3s,baz=338,slow=11,SNR=2.7							
AAK	**Ala-Archa**	**16.19**	**47**	Pn		**P**	**18 34 17.3**	**+1.3**
	comp=E,0.1nm,0.3s,baz=214,slow=14,SNR=3.5							
KBZ	**Khabaz**	**16.60**	**317**	Pn		**Pn**	**18 34 18.1**	**+0.3**
	comp=E,0.0nm,0.3s,baz=101,slow=15,SNR=1.8							
AKTO	**Aktyubinsk**	**17.93**	**359**	P		**P**	**18 34 35.5**	**+0.5**
	comp=E,0.2nm,0.3s,baz=187,slow=5.8,SNR=2.8							
BRTR	**Keskin Array B**	**21.31**	**297**	P		**P**	**18 35 13.4**	**+1.2**
	comp=E,3.5nm,0.9s,baz=112,slow=14,SNR=13							
BVAR	**Borovoye Array**	**22.23**	**19**	P		**P**	**18 35 22.5**	**+0.7**
	comp=E,1.2nm,0.5s,baz=195,slow=11,SNR=11							
MKAR	**Makanchi Array**	**23.10**	**45**	P		**P**	**18 35 32.8**	**+1.7**
	comp=E,1.3nm,1.0s,baz=235,slow=11,SNR=3.9							
KURBB	**Kurchatov Arra**	**23.37**	**33**	P		**P**	**18 35 36.4**	**+2.6**
	comp=E,0.6nm,0.2s,baz=230,slow=9.6,SNR=2.6							
AKASG	**Malin Array Be**	**28.20**	**319**	P		**P**	**18 36 15.5**	**-2.2**
	comp=E,0.3nm,0.4s,baz=122,slow=8.6,SNR=3.3							
GERES	**GERESS Array B**	**37.11**	**310**	P		**P**	**18 37 35.3**	**-0.5**
	comp=E,0.2nm,0.5s,baz=97,slow=5.4,SNR=4.6							
CMAR	**Chiang Mai Arr**	**38.85**	**101**	P		**P**	**18 37 52.8**	**+2.1**
	comp=E,0.4nm,0.7s,baz=299,slow=10,SNR=4.8							
ARCES	**ARCESS Array B**	**41.43**	**343**	P		**P**	**18 38 11.2**	**-0.3**
	comp=E,1.2nm,0.8s,baz=127,slow=6.9,SNR=3.5							
NOA	**NORSAR Array B**	**41.75**	**328**	P		**P**	**18 38 13.6**	**-0.7**
	comp=E,1.5nm,0.9s,baz=114,slow=8.0,SNR=2.8							
TORD	**Torodi Ar. Bea**	**55.15**	**263**	P		**P**	**18 39 56.5**	**-1.6**
	comp=E,1.0nm,0.8s,baz=58,slow=8.1,SNR=3.6							
WRA	**Warramunga Arr**	**89.23**	**114**	P		**P**	**18 43 23.9**	**+2.3**
	comp=E,0.6nm,0.9s,baz=322,slow=4.2,SNR=4.8							

ISCJB ***28*** *18:31:40.6±0.4, 6°.27S±0°.05×149°.26E±0°.08, h49km, mb4.2/20, MS3.3/3, Error ellipse: s-maj=11.6km s-min=6.2km az=21.8*

NEIC ***28*** *18:31:41.8±1.1, 6°.26S×149°.27E, h46km±10km, mb4.6/9, Error ellipse: s-maj=11.7km s-min=7.9km az=118.0*

IDC ***28*** *18:31:42.3±1.8, 6°.25S×149°.28E, h48km±16km, mb3.9/15, mb1 4.1/18, mb1mx3.9/40, mbtmp4.2/18, ML4.2/2, MS3.3/4, Ms1 3.3/4, ms1mx3.2/34, Error ellipse: s-maj=19.4km s-min=10.0km az=108.0*

ISC 28 18:31:42.3±0.5, 6°.29S±0°.07×149°.31E±0°.09, h49km, n41, σ1§23/47, mb4.2/20, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	**Rabaul**	**3.52**	**54**	*e*Pn		**Pn**	**18 32 34.9**	**+0.3**
PMG	**Port Moresby**	**3.76**	**214**	P		**Pn**	**18 32 38.6**	**+0.7**
	56nm,0.3s,baz=37,slow=6.0,SNR=135							
PMG				S		**Sn**	**18 33 21.0**	**+0.2**
	56nm,0.3s,baz=5.4,slow=22,SNR=7.6							
PMG	**Port Moresby**	**3.76**	**214**	*e*Pn		**Pn**	**18 32 38.5**	**+0.7**
PMG				*e*Sn		**Sn**	**18 33 18.9**	**-1.9**
HNR	**Honiara**	**10.99**	**107**	LR		LR	18 38 01.3	
	comp=Z,104nm,19.6s,baz=354,slow=34							
CTA	**Charters Tower**	**14.03**	**192**	P		**Pn**	**18 34 59.0**	**+0.5**
	0.2nm,0.3s,baz=9.6,slow=14,SNR=3.0							
CTAO	**Charters Tower**	**14.03**	**192**	Pn		**Pn**	**18 34 56.2**	**-2.3**
EIDS	**Eidsvold**	**19.05**	**175**	*e*P		**P**	**18 36 01.5**	**+0.9**
MTN	**Manton Dam**	**19.06**	**249**	*e*P		**P**	**18 35 57.8**	**-3.0**
	58nm,1.8s							
WRAB	**Tennant Creek**	**19.88**	**226**	*e*P		**P**	**18 36 09.1**	**-0.6**
WB2	**Warramunga Arr**	**19.88**	**226**	*e*P		**P**	**18 36 09.2**	**-0.5**
WB2				*e*Pn		**Pn**	**18 36 09.4**	**-2.3**
WRA	**Warramunga Arr**	**19.89**	**226**	P		**P**	**18 36 09.7**	**-0.2**
	2.0nm,0.3s,baz=50,slow=11,SNR=80							
WRA				PcP		**PcP**	**18 40 25.2**	**-0.5**
	0.1nm,0.3s,baz=33,slow=2.1,SNR=8.6							
AS31	**Alice Springs**	**22.76**	**219**	*e*P		**P**	**18 36 40.5**	**-0.2**
	5.5nm,0.6s							
ASAR	**Alice Springs**	**22.76**	**219**	P		**P**	**18 36 40.7**	**0.0**
	3.3nm,0.5s,baz=58,slow=9.4,SNR=199							
ASAR				PcP		**PcP**	**18 40 31.8**	**+0.5**
	0.6nm,0.5s,baz=8.1,slow=1.9,SNR=5.2							
ASAR				S		**S**	**18 40 47.0**	**+0.8**
	0.9nm,0.8s,baz=38,slow=26,SNR=5.5							
ASAR				LR		LR	18 45 49.8	
	comp=Z,103nm,19.1s,baz=60,slow=37							
DZM	**Mont Dzumac**	**22.81**	**135**	P		**P**	**18 36 41.4**	**+0.1**
	8.6nm,0.7s,baz=293,slow=17,SNR=8.9							
DZM	**Mont Dzumac**	**22.81**	**135**	*e*P		**P**	**18 36 40.1**	**-1.2**
	12nm,0.8s							
ARMA	**Armidale**	**24.10**	**175**	*e*P		**P**	**18 36 53.5**	**-0.1**
	40nm,1.7s							
FITZ	**Fitzroy Crossi**	**25.90**	**241**	P		**P**	**18 37 10.2**	**+0.2**
	12nm,0.6s,baz=73,slow=7.7,SNR=45							
FITZ				LR		LR	18 47 53.3	
	comp=Z,57nm,21.5s,baz=60,slow=38							
FITZ	**Fitzroy Crossi**	**25.90**	**241**	*e*P		**P**	**18 37 10.2**	**+0.2**
	20nm,0.7s							
STKA	**Stephens Creek**	**26.46**	**195**	P		**P**	**18 37 16.3**	**+1.5**
	4.3nm,0.7s,baz=11,slow=9.3,SNR=10.0							
STKA				LR		LR	18 47 51.8	
	comp=Z,115nm,19.7s,baz=29,slow=37							
STKA	**Stephens Creek**	**26.46**	**195**	*e*P		**P**	**18 37 16.0**	**+1.1**
	2.4nm,1.2s							
MMRI	**Maumere**	**26.94**	**263**	*e*P		**P**	**18 37 22.4**	**+3.0**
	27nm,0.5s							
MBWA	**Marble Bar**	**32.22**	**240**	*e*P		**P**	**18 38 05.5**	**-0.7**
	25nm,1.3s							
MYLDM	**Lahad Datu**	**32.80**	**290**	*e*P		**P**	**18 38 11.8**	**+0.5**
	36nm,1.9s							
MJAR	**Matsushiro Arr**	**43.86**	**347**	P		**P**	**18 39 42.7**	**-1.2**
	1.3nm,0.7s,baz=176,slow=6.1,SNR=2.9							
KSRS	**Korea Array**	**47.88**	**337**	P		**P**	**18 40 17.0**	**+1.5**
	1.4nm,0.8s,baz=143,slow=7.7,SNR=6.3							
KSAR	**Wonju Array Be**	**47.88**	**337**	P		**P**	**18 40 17.0**	**+1.4**
USRK	**Ussuriysk Ar.**	**52.63**	**344**	P		**P**	**18 40 51.8**	**+0.5**
	1.2nm,0.5s,baz=138,slow=6.7,SNR=3.6							
PETK	**Petropavlovsk-**	**59.60**	**6**	P		**P**	**18 41 41.2**	**+0.2**
	4.9nm,0.5s,baz=158,slow=6.2,SNR=20							
SONM	**Songino Array**	**65.79**	**330**	P		**P**	**18 42 23.8**	**+1.3**
	0.6nm,0.6s,baz=151,slow=6.3,SNR=3.0							
VNDA	**Vanda**	**71.50**	**177**	P		**P**	**18 42 58.5**	**+1.1**
	1.1nm,0.7s,baz=334,slow=7.7,SNR=7.4							
MKAR	**Makanchi Array**	**79.19**	**320**	P		**P**	**18 43 41.1**	**-1.1**
	0.5nm,0.8s,baz=112,slow=7.0,SNR=3.2							
ZALV	**Zalesovo Beam**	**80.49**	**327**	P		**P**	**18 43 47.6**	**-1.4**
	0.5nm,0.5s,baz=120,slow=5.8,SNR=3.2							
MAW	**Mawson**	**82.87**	**203**	P		**P**	**18 44 01.7**	**+0.4**
	0.6nm,0.3s,baz=305,slow=16,SNR=3.7							
QSPA	**South Pole Qui**	**83.68**	**180**	*e*P		**P**	**18 44 06.3**	**+0.6**
ILAR	**Eielson Array**	**84.85**	**23**	P		**P**	**18 44 09.4**	**-2.1**
	1.9nm,0.7s,baz=252,slow=5.4,SNR=15							
INK	**Inuvik**	**91.09**	**21**	P		**P**	**18 44 39.8**	**-1.4**
	1.3nm,0.8s,baz=256,slow=4.2,SNR=3.0							
PLCA	**Paso Flores**	**120.61**	**146**	PKP		**PKPdf**	**18 50 29.4**	**+0.2**
	0.7nm,0.6s,baz=153,slow=4.5,SNR=3.7							
GERES	**GERESS Array B**	**123.43**	**326**	PKP		**PKPdf**	**18 50 32.8**	**-1.6**
	0.3nm,0.5s,baz=64,slow=3.1,SNR=4.0							
LPAZ	**La Paz**	**136.69**	**122**	PKP		**PKPdf**	**18 51 01.9**	**+0.9**
	1.2nm,0.6s,baz=317,slow=1.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**147.39**	**285**	PKPbc		**PKPbc**	**18 51 20.7**	**-1.1**
	1.6nm,0.5s,baz=46,slow=2.8,SNR=24							
BDFB	**Brasília**	**152.26**	**142**	PKP		**PKPdf**	**18 51 28.2**	**+1.0**
	3.7nm,0.7s,baz=327,slow=3.9,SNR=3.2							
BDFB				PKPbc		**PKPbc**	**18 51 33.8**	**-0.1**
	9.4nm,0.5s,baz=12,slow=2.1,SNR=11							

ISN ***28*** *18:42:03.9±0.3, 37°.32N×44°.21E, h0km, ML3.6*

DDA ***28*** *18:42:06.5, 37°.44N×44°.37E, h6km, Ml3.4*

ISK ***28*** *18:42:07.3, 37°.36N×44°.36E, h4km, ML3.6*

CSEM ***28*** *18:42:09.9±1.0, 37°.46N×44°.24E, h2km, ML3.4, Error ellipse: s-maj=21.2km s-min=7.9km az=127.0*

ISC 28 18:42:09.2±1.8, 37°.47N±0°.06×44°.31E±0°.08, h6km, n46, σ1§33/54, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.49**	**281**	*i* P		**Pg**	**18 42 16.7**	**-1.9**
HAKT				*i* S		**Sg**	**18 42 25.4**	**+0.4**
HAKT	**HAKKARI**	**0.49**	**281**	P		**Pg**	**18 42 16.7**	**-1.9**
HAKT				S		**Sg**	**18 42 25.4**	**+0.4**
CUKT	**Cukurca**	**0.60**	**248**	*e*PG		**Pg**	**18 42 19.1**	**-1.6**
CUKT				*e*SG		**Sg**	**18 42 29.0**	**+0.4**
CUKT	**Cukurca**	**0.60**	**248**	*i* P		**Pg**	**18 42 19.1**	**-1.6**
CUKT				*i* S		**Sg**	**18 42 28.3**	**-0.3**
CUKT	**Cukurca**	**0.60**	**248**	P		**Pg**	**18 42 19.1**	**-1.6**
CUKT				S		**Sg**	**18 42 28.3**	**-0.3**
CUKT				*e*Sg		**Sg**	**18 42 29.0**	**+0.4**
BASK	**Baskale_VAN**	**0.63**	**338**	*i* P		**Pg**	**18 42 19.8**	**-1.5**
GEVA	**Gevas**	**1.30**	**311**	*i* P		**Pg**	**18 42 32.3**	**-1.8**
GEVA	**Gevas**	**1.30**	**311**	P		**Pg**	**18 42 32.3**	**-1.8**
VANB	**Van**	**1.34**	**327**	*e*PN		**Pn**	**18 42 33.6**	**-0.9**
VANB				*e*SN		**Sn**	**18 42 53.4**	**+0.7**
VANB	**Van**	**1.34**	**327**	*e*Pn		**Pn**	**18 42 33.6**	**-0.9**
VANB				*e*Sn		**Sn**	**18 42 53.4**	**+0.7**
SIRN	**S¨–rnak**	**1.51**	**272**	*i* P		**Sg**	**18 43 00.1**	**+2.5**
CLDR	**Caldiran**	**1.70**	**350**	*e*PN		**Pn**	**18 42 40.1**	**+0.5**
CLDR	**Caldiran**	**1.70**	**350**	*i* P		**Pb**	**18 42 40.4**	**-0.6**
CLDR	**Caldiran**	**1.70**	**350**	*e*Pn		**Pn**	**18 42 40.1**	**+0.5**
CLDR	**Caldiran**	**1.70**	**350**	P		**Pb**	**18 42 40.4**	**-0.6**
DYDN	**Diyadin**	**2.13**	**347**	*i* P		**Pb**	**18 42 47.3**	**-0.9**
DYDN	**Diyadin**	**2.13**	**347**	P		**Pb**	**18 42 47.3**	**-0.9**
AGRB	**Hanur-Agry**	**2.34**	**334**	*e*PN		**Pn**	**18 42 49.8**	**+1.4**
AGRB	**Hanur-Agry**	**2.34**	**334**	*e*Pn		**Pn**	**18 42 49.8**	**+1.4**
BTMN	**Batman**	**2.45**	**281**	*i* P		**Pn**	**18 42 50.2**	**+0.5**
BTMN	**Batman**	**2.45**	**281**	P		**Pn**	**18 42 50.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.56**	**286**	*e*PN		**Pn**	**18 42 51.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.56**	**286**	*i* P		**Pb**	**18 42 53.4**	**-2.0**
SVAN	**Silvan-Diyarba**	**2.56**	**286**	*e*Pn		**Pn**	**18 42 51.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.56**	**286**	P		**Pb**	**18 42 53.4**	**-2.0**
EATA	**Eleskirt**	**2.78**	**330**	*i* P		**Pb**	**18 42 58.9**	**-0.5**
VRTB	**Varto-Mus**	**2.81**	**308**	*e*PN		**Pn**	**18 42 55.6**	**+0.9**
VRTB	**Varto-Mus**	**2.81**	**308**	*e*Pn		**Pn**	**18 42 55.6**	**+0.9**
MARD	**Mardin**	**2.81**	**268**	*i* P		**Pn**	**18 42 56.2**	**+1.4**
MAZI	**Mazidag**	**3.07**	**271**	*e*PN		**Pn**	**18 42 59.4**	**+1.1**
MAZI	**Mazidag**	**3.07**	**271**	*e*Pn		**Pn**	**18 42 59.4**	**+1.1**
BNGB	**Bing¨¶l**	**3.24**	**299**	*e*PN		**Pn**	**18 43 01.9**	**+1.2**
EAK	**Akyaka**	**3.26**	**351**	*i* P		**Pg**	**18 43 11.4**	**-0.2**
BINT	**Bingol**	**3.32**	**296**	*e*Pn		**Pn**	**18 43 01.9**	**+0.1**
DIYA	**Diyarbakir**	**3.35**	**279**	*i* P		**Pb**	**18 43 11.0**	**+1.9**
SENK	**Senkaya-Erzuru**	**3.44**	**334**	*e*PN		**Pn**	**18 43 05.2**	**+1.7**
SENK	**Senkaya-Erzuru**	**3.44**	**334**	*e*Pn		**Pn**	**18 43 05.3**	**+1.7**
YEDI	**Yedisu-Bingol**	**3.55**	**305**	*e*PN		**Pn**	**18 43 06.5**	**+1.5**
YEDI	**Yedisu-Bingol**	**3.55**	**305**	*e*Pn		**Pn**	**18 43 06.5**	**+1.5**
DDEM	**Demirkent**	**3.95**	**331**	*i* P		**Pg**	**18 43 23.9**	**-1.0**
SVRC	**Sivrice-ELAZID**	**4.06**	**284**	*e*PN		**Pn**	**18 43 13.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**4.06**	**284**	*e*Pn		**Pn**	**18 43 13.5**	**+1.5**
PTK	**Pertek**	**4.12**	**292**	*e*PN		**Pn**	**18 43 14.7**	**+1.8**
PTK	**Pertek**	**4.12**	**292**	*e*Pn		**Pn**	**18 43 14.7**	**+1.8**
URFA	**Urfa**	**4.37**	**271**	*e*PN		**Pn**	**18 43 17.9**	**+1.8**
URFA	**Urfa**	**4.37**	**271**	*e*Pn		**Pn**	**18 43 17.9**	**+1.8**

SCB ***28*** *18:54:28.9±0.7, 14°.06S×76°.11W, h35km, Ml4.5/1, Error ellipse: s-maj=84.7km s-min=15.9km az=18.0*

GUC ***28*** *18:54:29.2±0.7, 14°.67S×76°.40W, h26km±6km, mb6.7*

IDC ***28*** *18:54:29.6±0.3, 14°.47S×75°.93W, h0km, mb5.6/33, mb1 5.6/36, mb1mx5.6/37, mbtmp5.5/36, ML4.6/3, MS7.0/33, Ms1 7.0/33, ms1mx6.8/39, Error ellipse: s-maj=9.5km s-min=6.0km az=70.0*

ISCJB ***28*** *18:54:32.6±0.1, 14°.38S±0°.02×76°.18W±0°.02, h29km, mb6.3/443, MS6.9/495, Error ellipse: s-maj=3.5km s-min=2.2km az=43.6*

NEIC ***28*** *18:54:33.8±0.0, 14°.17S×75°.81W, h21km, Moment Tensor Solution. s52 Moment tensor: Scale 10^{19}Nm; M_{rr}1.56; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-1.25; $M_{r\theta}$0.91; $M_{\theta\phi}$0.56; $M_{\phi r}$-2.00; Best double couple: $M_0$2.70000×10^{19} NP1:ϕ_s155.00000°, δ72.00000°, λ90.00000°. NP2:ϕ_s334.00000°, δ17.00000°, λ89.00000°. Principal axes: T 2.7100, Plg62.0000°, Azm65.0000°; N -0.0500, Plg0.0000°, Azm335.0000°; P -2.6500, Plg27.0000°, Azm245.0000°;*

NEIC ***28*** *18:54:34.0±0.1, 14°.44S×75°.97W, h24km, mb6.5/299, ME6.7, MS6.9/298, MW6.8, MW6.9, MW6.9, ML6.7(ARE) Error ellipse: s-maj=4.6km s-min=2.7km az=61.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^{19}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-0.68; $M_{r\theta}$0.45; $M_{\theta\phi}$0.72; $M_{\phi r}$-1.49; Best double couple: $M_0$1.90000×10^{19} NP1: ϕ_s160.00000°, δ73.00000°, λ103.00000°. NP2: ϕ_s301.00000°, δ22.00000°, λ53.00000°. Principal axes: T 1.9000, Plg60.0000°, Azm89.0000°; N 0.0900, Plg13.0000°, Azm335.0000°; P -1.9900, Plg27.0000°, Azm239.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s350.00000°, δ15.00000°, λ90.00000°. NP2: ϕ_s170.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm80.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm260.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a large event about 2 seconds later. Depth from synthetics of broadband displacement seismograms based on large event. Energy computed from BB mechanism.*

NEIC One person killed at San Vicente de Canete and 103 people injured and 134 buildings destroyed [VI] at Ica. Felt [V] at Acari, Palpa and Nazca; [IV] at Huancavelica and Santa Maria; [III] at Arequipa, Barranca, Chosica, Cusco, Pucallpa, San Luis and San Vicente de Canete. Felt widely in western and central Peru.

BJI ***28*** *18:54:34.2, 14°.50S×76°.10W, h30km, mB6.9/49, Ms7.2/85, Ms7 7.2/81*

GCMT ***28*** *18:54:34.0±0.1, 14°.52S×76°.12W, h25km, MW7.0/150, Moment Tensor Solution. s150, c375; s145, c660; Duration: 7s3 Moment tensor: Scale 10^{19}Nm; M_{rr}1.55±.01; $M_{\theta\theta}$-0.18±.01; $M_{\phi\phi}$-1.37±.01; $M_{r\theta}$0.52±.02; $M_{\theta\phi}$0.61±.01; $M_{\phi r}$-2.87±.03; Best double couple: $M_0$3.32200×10^{19} NP1:ϕ_s168.00000°, δ76.00000°, λ96.00000°. NP2:ϕ_s326.00000°, δ15.00000°, λ68.00000°. Principal axes: T 3.3150, Plg59.0000°, Azm86.0000°; N 0.0100, Plg6.0000°, Azm347.0000°; P -3.3290, Plg31.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***28*** *18:54:34.7±1.0, 14°.27S×76°.19W, h33km, mb6.3/114, MS6.9/108 Error ellipse: s-maj=8.1km s-min=4.8km az=95.8*

NEIC ***28*** *18:54:41.5±0.0, 14°.45S×76°.27W, h32km, Moment Tensor Solution. s20 Moment tensor: Scale 10^{19}Nm; M_{rr}1.71; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-1.27; $M_{r\theta}$0.39; $M_{\theta\phi}$0.77; $M_{\phi r}$-2.27; Best double couple: $M_0$2.90000×10^{19} NP1:ϕ_s165.00000°, δ72.00000°, λ100.00000°. NP2:ϕ_s315.00000°, δ21.00000°, λ61.00000°. Principal axes: T 2.9400, Plg62.0000°, Azm91.0000°; N -0.1300, Plg10.0000°, Azm342.0000°; P -2.8100, Plg26.0000°, Azm247.0000°;*

ISC 28 18:54:34.8±0.2, 14°.56S±0°.03×76°.12W±0°.03, h29km, n1916, σ2§24/2045, mb6.4/453, MS6.9/521, 83C-24D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NNA	**Nana**	**2.65**	**345**	Pn		**Pn**	**18 55 12.4**	**-3.2**
	54nm,0.3s,baz=193,slow=12,SNR=45							
NNA				Lg		Lg	18 55 55.2	
	9μm,0.3s,baz=218,slow=12,SNR=10							
NNA	**Nana**	**2.65**	**345**	⇓*i*P		**Pn**	**18 55 12.2**	**-3.5**
NNA				*e*S		**Sn**	**18 55 45.4**	**-1.5**
NNA	**Nana**	**2.65**	**345**	*e*Pn		**Pn**	**18 55 13.3**	**-2.3**
NNA				*e*Sn		**Sn**	**18 55 45.9**	**-1.0**
NNA				Lg		Lg	18 55 55.2	
ARCH	**Arica**	**6.82**	**126**	*e*P		**Pn**	**18 56 10.9**	**-1.9**
PB12	**IPOC Station P**	**6.86**	**127**	*e*P		**Pn**	**18 56 10.4**	**-3.2**
PB13	**IPOC Station P**	**7.38**	**122**	*e*P		**Pn**	**18 56 19.7**	**-1.4**
PB13				*e*P		**Pn**	**18 56 20.8**	**-0.3**
PB13				*e*S		**Sn**	**18 57 44.6**	**+0.3**
BBOD	**La Paz, Gloria**	**7.54**	**107**	*e*Pn		**Pn**	**18 56 26.1**	**+2.8**
BBOD				*e*Sn		**Sn

ROSC S **Sn** **19 02 39.3 +3.0**
comp=Z,0.9nm,0.3s,baz=16,slow=20,SNR=2.0
ROSC El Rosal 19.35 5 *eP* **P** **18 58 58.5 -0.1**
ROSC El Rosal 19.35 5 *eP* **Pn** **18 59 01.4 +1.7**
comp=Z,7µm,1.9s
ROSC S **Sn** **19 02 39.3 +3.0**
CLCH Cerro Calan 19.43 166 *eP* **Pn** **18 59 01.5 +1.2**
CLCH IAmb IAmb 18 59 28.6
comp=Z,18µm,3.0s
PAYG Puerto Ayora 19.66 313 *eP* **Pn** **18 59 04.0 +1.0**
comp=Z,1µm,1.0s
GUYC Guyana, Colomb 19.67 2 *eP* **Pn** **18 59 03.4 -0.1**
NORC Norcasia 20.03 4 *eP* **P** **18 59 04.6 -1.0**
YOPC Yopal, Colombi 20.12 11 *eP* **P** **18 59 07.4 +0.8**
RUSC La Rusia 20.54 9 *eP* **P** **18 59 11.6 0.0**
RUSC La Rusia 20.54 9 *eP* Pn 18 59 12.7 -1.2
comp=Z,6µm,1.6s
RUSC LR LR
comp=Z,53µm,19.0s
HELC Santa Helena 20.62 2 *eP* **P** **18 59 10.8 -1.6**
HELC Santa Helena 20.62 2 *eP* **P** **18 59 13.0 +0.7**
comp=Z,2µm,1.1s
HELC LR LR
comp=Z,1435µm,22.0s
SOLC Bahia Solano 20.69 356 *eP* Pn 18 59 13.9 -1.2
GO05 HualaæØ 20.71 170 *eP* **P** **18 59 13.0 +0.1**
comp=Z,4µm,1.7s
GO05 LR LR
comp=Z,362µm,20.0s
PTGA Pitinga 21.07 51 P **P** **18 59 13.7 -3.1**
comp=Z,165nm,1.0s,baz=228,slow=12,SNR=97
PTGA S **S** **19 03 05.3 -4.7**
comp=Z,209nm,1.0s,baz=330,slow=20,SNR=1.7
PTGA Lg Lg 19 05 27.9
comp=Z,490nm,1.0s,baz=322,slow=20,SNR=3.8
PTGA LR LR 19 08 16.0
comp=Z,528µm,18.8s,baz=231,slow=40
PTGA Pitinga 21.07 51 *eP* **P** **18 59 15.3 -1.5**
comp=Z,13µm,1.8s
PTGA S **S** **19 03 05.3 -4.7**
PTGA Lg Lg 19 05 27.9
CPUP Villa Florida 21.12 127 P **P** **18 59 16.2 -1.0**
comp=Z,195nm,0.8s,baz=309,slow=11,SNR=61
CPUP S **S** **19 03 11.4 +0.6**
comp=Z,79nm,1.2s,baz=311,slow=19,SNR=1.5
CPUP LR LR 19 09 08.6
comp=Z,417µm,19.7s,baz=304,slow=42
BARC Barichara 21.21 8 *eP* **P** **18 59 17.4 -1.2**
DBBC Dabeiba 21.43 360 *eP* **P** **18 59 24.1 +3.3**
BRRC Barranca, Sant 21.66 6 *eP* **P** **18 59 20.2 -2.8**
ZARC Zaragoza, Cauc 21.94 3 *eP* **P** **18 59 23.9 -2.2**
PAMC Pamplona, Colo 22.02 9 *eP* **P** **18 59 25.6 -1.9**
OCAC Ocana 22.82 7 *eP* **P** **18 59 32.9 -2.8**
CAPC Capurgana 23.07 357 *eP* **P** **18 59 37.1 -1.1**
MOTC Monteria, Cord 23.19 1 *eP* **P** **18 59 37.5 -1.8**
BCIP Isla Barro Col 23.86 351 *eP* **P** **18 59 45.3 -0.4**
BCIP Isla Barro Col 23.86 351 *eP* **P** **18 59 45.4 -0.4**
comp=Z,1µm,1.0s
BCIP LR LR
comp=Z,187µm,19.0s
SDV Santo Domingo 23.92 13 P **P** **18 59 44.7 -1.9**
comp=Z,429nm,0.8s,baz=189,slow=9.7,SNR=115
SDV S **S** **19 04 04.9 +3.4**
comp=Z,70nm,0.9s,baz=302,slow=19,SNR=1.8
SDV LR LR 19 10 17.0
comp=Z,653µm,18.6s,baz=188,slow=40
SJCC San Jacinto, C 24.31 2 *eP* **P** **18 59 49.0 -1.1**
HDC Heredia 25.66 342 *eP* **P** **19 00 03.5 +1.2**
comp=Z,2µm,1.4s
HDC LR LR
comp=Z,292µm,18.0s
JTS JuntasAbangare 26.19 340 P P 19 01 05.2 +58
comp=Z,146nm,1.0s,baz=221,slow=3.4,SNR=23
JTS S S 19 05 35.3 +58
comp=Z,49nm,1.1s,baz=338,slow=19,SNR=1.6
JTS LR LR 19 08 25.6
comp=Z,32µm,19.3s,baz=228,slow=32
URIC Uribia, Colomb 26.41 9 *eP* **P** **19 00 03.8 -5.2**
PLCA Paso Flores 26.53 170 P **P** **19 00 09.3 -0.7**
comp=Z,31nm,0.9s,baz=8.5,slow=10,SNR=22
PLCA S **S** **19 04 45.8 +3.2**
comp=Z,15nm,1.0s,baz=90,slow=20,SNR=1.2
PLCA LR LR 19 08 35.0
comp=Z,172µm,20.9s,baz=2.5,slow=32
PLCA Paso Flores 26.53 170 *eP* **P** **19 00 09.3 -0.7**
comp=Z,492nm,1.1s
PLCA S **S** **19 04 45.8 +3.2**
TRQA Tornquist 26.55 154 *eP* **P** **19 00 08.5 -1.7**
comp=Z,903nm,1.4s
TRQA LR LR
comp=Z,216µm,19.0s
PCRV Puerto La Cruz 27.08 26 P **P** **19 00 12.9 -2.2**
comp=Z,156nm,0.6s,baz=195,slow=5.7,SNR=36
PCRV S **S** **19 04 52.7 +1.0**
comp=Z,39nm,0.9s,baz=104,slow=19,SNR=1.7
PCRV Lg Lg 19 08 44.3
comp=Z,644nm,1.2s,baz=342,slow=23,SNR=3.9
PCRV LR LR 19 11 49.2
comp=Z,656µm,20.8s,baz=203,slow=39
BDFB Brasilia 27.15 96 P **P** **19 00 13.7 -2.3**
comp=Z,104nm,0.9s,baz=58,slow=12,SNR=39
BDFB S **S** **19 05 02.7 +10**
comp=Z,48nm,1.0s,baz=331,slow=6.2,SNR=1.7
BDFB Lg Lg 19 08 38.0
comp=Z,67nm,1.0s,baz=307,slow=20,SNR=2.2
BDFB LR LR 19 11 47.6
BDFB Brasilia 27.15 96 *eP* **P** **19 00 14.0 -2.0**
comp=Z,684nm,1.0s
BDFB S **S** **19 05 02.7 +10**
BDFB Lg Lg 19 08 38.0
SPB Sao Paulo 28.52 113 *eP* **P** **19 00 27.1 -0.9**
comp=Z,903nm,1.1s
SPB LR LR
comp=Z,188µm,18.0s
COPN Copaltepe 28.52 338 *eP* **P** **19 00 27.3 -0.6**
TPP Pointe-a-Pierr 28.68 31 *eP* **P** **19 00 29.5 +0.2**
TRN Trinidad (W) 28.98 31 *eP* **P** **19 00 31.5 -0.6**
TBH Brigand Hill 29.01 32 *eP* **P** **19 00 32.6 +0.2**
ESTN Estel 29.30 339 *eP* **P** **19 00 32.7 -2.3**
BOT Bacolet 29.77 32 *eP* **P** **19 00 39.1 0.0**
TOSP Speyside 29.98 32 *eP* **P** **19 00 38.6 -2.2**
CNCH Conchagua 29.99 337 *eP* **P** **19 00 38.5 -2.7**
PACA Pacayal 30.35 336 *eP* **P** **19 00 45.4 +1.0**
TGUH Tegucigalpa,Un 30.50 338 *eP* **P** **19 00 45.5 0.0**
comp=Z,2µm,1.6s
TGUH LR LR
comp=Z,166µm,21.0s
TGUH Tegucigalpa,Un 30.50 338 *eP* **P** **19 00 45.5 0.0**
SNET Serv Nac Est T 30.92 335 PFAKE 19 01 00.0 +11
SNET LR LR
comp=Z,216µm,20.0s
SNET Serv Nac Est T 30.92 335 *eP* **P** **19 00 49.2 -0.1**
SNET *eS* S 19 06 00.9 +8.9
SVB Belmont 31.32 29 *eP* **P** **19 00 50.4 -2.5**
SVB Belmont 31.32 29 *eP* **P** **19 00 50.1 -2.7**
comp=Z,1µm,1.2s
SVB LR LR
comp=Z,240µm,21.0s
SSV Crater Summit 31.40 29 *eP* **P** **19 00 52.4 -1.2**
MCLT Moule a Chique 31.85 29 *eP* P 19 00 52.0 -5.5
BBGH Gun Hill 32.04 32 *eP* **P** **19 01 00.3 +1.2**
BBGH Gun Hill 32.04 32 *eP* **P** **19 01 01.1 +2.1**
BBGH Gun Hill 32.04 32 PFAKE 19 01 10.0 +11
BBGH LR LR
comp=Z,95µm,20.0s
BBSP Saint Philip 32.06 32 *eP* P 19 01 04.3 +5.1
BIM Bigot 32.50 28 *eP* **P** **19 00 59.5 -3.6**
H05S1 Guadeloupe/Mar 32.52 28 P **P** **19 01 00.1 -3.3**
MTDJ Mount Denham 32.61 358 *eP* **P** **19 01 03.7 -0.4**
comp=Z,1µm,1.1s
MTDJ LR LR
comp=Z,110µm,19.0s
FDF Fort de France 32.65 28 *eP* P 19 00 59.1 -5.4
FDF Fort de France 32.65 28 *eP* **P** **19 01 00.6 -3.9**
FDF Fort de France 32.65 28 *eP* **P** **19 01 01.1 -3.4**
FDF pmax pmax
comp=Z,2µm,1.3s
FDF MLR MLR
comp=Z,254µm,21.0s
FDF Fort de France 32.65 28 *eP* **P** **19 01 01.1 -3.4**
comp=Z,2µm,1.3s
FDF LR LR
comp=Z,254µm,21.0s
PCM Pelee Case Pet 32.70 27 *eP* **P** **19 01 01.2 -3.7**

CXM Morne La Croix 32.71 28 *eP* **P** **19 01 01.5 -3.6**
CHRN Cochrane 32.73 176 *eP* **P** **19 01 04.0 -0.8**
comp=Z,140nm,1.0s
CHRN LR LR
comp=Z,600nm,18.0s
BAMF Morne Balai 32.73 28 *eP* **P** **19 01 01.6 -3.6**
DLPL La Plaine 33.14 27 *eP* **P** **19 01 05.9 -2.8**
BBL Barber's Block 33.22 26 *eP* **P** **19 01 06.4 -3.0**
RPN Rapa Nui 33.35 243 P **P** **19 01 14.8 +4.2**
comp=Z,227nm,0.9s,baz=84,slow=5.9,SNR=5.7
RPN S **S** **19 06 37.2 +7.4**
comp=Z,78nm,0.9s,baz=114,slow=20,SNR=1.9
RPN LR LR 19 11 33.8
comp=Z,227µm,19.8s,baz=91,slow=30
RPN Rapa Nui 33.35 243 P **P** **19 01 14.8 +4.2**
RPN S **S** **19 06 37.2 +7.4**
RPN pmax pmax
comp=Z,270nm,1.0s
RPN smax smax
comp=N,78nm,0.9s
RPN MLR MLR
comp=Z,227µm,19.8s
RPN Rapa Nui 33.35 243 *eP* **P** **19 01 11.0 +0.5**
comp=Z,3µm,1.8s
RPN S **S** **19 06 37.2 +7.4**
SDD Santo Domingo 33.37 11 *eP* **P** **19 01 10.5 -0.2**
comp=Z,2µm,1.2s
SDD LR LR
comp=Z,206µm,22.0s
TBG Guadaloupe-3 33.43 26 *eP* **P** **19 01 07.6 -3.6**
SDDR Presa de Saban 33.67 8 *eP* **P** **19 01 11.5 -1.8**
comp=Z,1µm,1.8s
SDDR LR LR
comp=Z,271µm,21.0s
MPR Mayaguez 33.74 15 *eP* **P** **19 01 11.4 -2.5**
comp=Z,553nm,1.0s
MPR LR LR
comp=Z,193µm,20.0s
GDHS Morne Mazeau, 33.76 25 *eP* **P** **19 01 10.1 -4.1**
comp=Z,1µm,1.5s
GDHS LR LR
comp=Z,454µm,20.0s
CELP Cerrillos 33.76 16 *eP* **P** **19 01 13.2 -0.9**
IDE Isla Desecheo 33.83 15 *eP* **P** **19 01 13.4 -1.2**
SJG San Juan 33.92 17 *eP* **P** **19 01 13.0 -2.4**
SJG pmax pmax
comp=Z,841nm,1.4s
SJG MLR MLR
comp=Z,223µm,19.0s
SJG San Juan 33.92 17 *eP* **P** **19 01 13.6 -1.9**
SJG San Juan 33.92 17 *eP* **P** **19 01 13.0 -2.4**
comp=Z,841nm,1.4s
SJG LR LR
comp=Z,223µm,19.0s
AGP Aguadilla 33.93 15 *eP* **P** **19 01 13.0 -2.6**
comp=Z,978nm,1.3s
AGP LR LR
comp=Z,262µm,20.0s
MLYT Lee's Yard 33.99 24 *eP* **P** **19 01 11.9 -4.2**
CDVI St. Croix 34.00 20 *eP* **P** **19 01 13.3 -2.8**
comp=Z,465nm,0.8s
HUMP Col San Antoni 34.03 18 *eP* **P** **19 01 13.8 -2.7**
comp=Z,767nm,1.5s
HUMP LR LR
comp=Z,259µm,20.0s
MTP Monte Pirata 34.08 18 *eP* **P** **19 01 15.1 -1.7**
comp=Z,395nm,0.9s
MTP LR LR
comp=Z,291µm,20.0s
CBYP Canovanas 34.15 18 *eP* **P** **19 01 15.9 -1.6**
comp=Z,794nm,1.0s
CBYP LR LR
comp=Z,393µm,20.0s
GTBY Guantanamo Bay 34.28 2 *eP* **P** **19 01 17.8 -0.8**
comp=Z,1µm,1.7s
GTBY LR LR
comp=Z,146µm,21.0s
SKI Saint Kitts 34.33 23 *eP* **P** **19 01 16.1 -2.9**
SKI Saint Kitts 34.33 23 *eP* **P** **19 01 17.1 -2.0**
SKI pmax pmax
comp=Z,2µm,1.1s
SKI MLR MLR
comp=Z,931µm,19.0s
SKI Saint Kitts 34.33 23 *eP* **P** **19 01 17.1 -2.0**
comp=Z,2µm,1.1s
SKI LR LR
comp=Z,931µm,19.0s
SEUS St. Eustatius 34.38 23 *eP* **P** **19 01 15.4 -4.1**
SEUS St. Eustatius 34.38 23 PFAKE 19 01 30.0 +10
SEUS LR LR
comp=Z,386µm,18.0s
SABA Saba 34.41 22 *eP* **P** **19 01 17.5 -2.2**
SABA Saba 34.41 22 *eP* **P** **19 01 18.6 -1.1**
comp=Z,568nm,1.1s
SABA LR LR
comp=Z,496µm,20.0s
BPA Boggy Peak 34.41 25 *eP* **P** **19 01 15.7 -4.1**
CCIG Comitan 34.49 332 *eP* **P** **19 01 22.9 +2.3**
comp=Z,518nm,1.4s
CCIG LR LR
comp=Z,308µm,20.0s
STVI Saint Thomas 34.50 19 *eP* **P** **19 01 20.3 -0.2**
comp=Z,894nm,1.7s
STVI LR LR
comp=Z,265µm,19.0s
SMRT St. Maarten 34.86 22 *eP* **P** **19 01 19.0 -4.7**
SMRT St. Maarten 34.86 22 *eP* **P** **19 01 21.5 -2.2**
comp=Z,566nm,0.9s
SMRT LR LR
comp=Z,397µm,20.0s
ANWB Willy Bob 35.01 24 *eP* **P** **19 01 21.6 -3.3**
ANWB Willy Bob 35.01 24 *e* **P** **19 01 22.7 -2.2**
ANWB Willy Bob 35.01 24 PFAKE 19 01 40.0 +15
ANWB LR LR
comp=Z,243µm,19.0s
ABVI Anegada Island 35.06 20 *eP* **P** **19 01 23.6 -1.7**
comp=Z,2µm,1.6s
ABVI LR LR
comp=Z,354µm,19.0s
GRTK Grand Turk 36.18 8 *eP* **P** **19 01 33.8 -1.1**
comp=Z,1µm,1.2s
GRTK LR LR
comp=Z,204µm,20.0s
SCIG Sabancuy 36.47 336 PFAKE 19 01 50.0 +13
SCIG LR LR
comp=Z,167µm,20.0s
CMIG Matias Romero 36.49 329 P **P** **19 01 37.1 -0.6**
comp=Z,16nm,0.7s,baz=129,slow=5.7,SNR=36
CMIG S **S** **19 07 23.6 +5.4**
comp=Z,4.4nm,0.8s,baz=266,slow=19,SNR=2.2
CMIG LR LR 19 12 20.1
comp=Z,16µm,21.6s,baz=146,slow=29
TEIG Tepich 36.57 341 *eP* **P** **19 01 37.6 -0.7**
comp=Z,793nm,1.8s
TEIG LR LR
comp=Z,175µm,18.0s
GO09 Cerro Castillo 36.75 176 PFAKE 19 01 50.0 +11
GO09 LR LR
comp=Z,154µm,20.0s
TUIG Tuzandepetl 37.07 330 PFAKE 19 01 50.0 +7.4
TUIG LR LR
comp=Z,336µm,19.0s
TLIG Tlapa 38.84 324 *eP* **P** **19 01 59.1 +1.4**
comp=Z,1µm,1.9s
TLIG LR LR
comp=Z,307µm,20.0s
LVIG Laguna Verde 39.49 329 PFAKE 19 02 10.0 +7.1
LVIG LR LR
comp=Z,127µm,20.0s
EFI East Falkland 39.76 162 *c iP* **P** **19 02 06.7 +1.8**
EFI pmax pmax
comp=Z,294nm,1.6s
EFI MLR MLR
comp=Z,209µm,18.0s
EFI East Falkland 39.76 162 *eP* **P** **19 02 04.5 -0.3**
comp=Z,158nm,0.8s
EFI LR LR
comp=Z,217µm,21.0s
RCBR Riachuelo 40.47 82 P **P** **19 02 09.0 -2.3**
comp=Z,130nm,1.0s,baz=245,slow=8.5,SNR=32
RCBR S **S** **19 08 16.1 -2.4**
comp=Z,27nm,1.0s,baz=216,slow=19,SNR=2.0
RCBR Riachuelo 40.47 82 *eP* **P** **19 02 10.4 -0.8**
comp=Z,2µm,1.9s
RCBR S **S** **19 08 16.1 -2.4**
RCBR LR LR
comp=Z,559µm,18.0s

UNM Universidad Na 40.61 325 PFAKE 19 02 20.0 +7.4
UNM LR LR
comp=Z,221µm,20.0s
USHA Ushuaia 40.63 173 P **P** **19 02 11.7 -0.3**
comp=Z,117nm,0.8s,baz=304,slow=3.7,SNR=7.6
USHA S **S** **19 08 22.9 +3.1**
comp=Z,78nm,1.0s,baz=49,slow=12,SNR=2.7
USHA LR LR 19 16 48.3
comp=Z,936µm,19.6s,baz=325,slow=33
MOIG Morelia 42.02 323 PFAKE 19 02 40.0 +16
MOIG LR LR
comp=Z,234µm,20.0s
DWPF Disney Wildern 42.73 353 *eP* **P** **19 02 29.3 -0.1**
comp=Z,829nm,1.5s
DWPF LR LR
comp=Z,83µm,19.0s
ZAIG Zacatecas 45.24 325 *eP* **P** **19 02 51.2 +1.1**
comp=Z,363nm,1.2s
ZAIG *eS* **S** **19 09 28.0 -0.9**
ZAIG LR LR
comp=Z,174µm,19.0s
LNIG Linares 45.35 330 *eP* **P** **19 02 49.5 -1.0**
comp=Z,329nm,1.1s
646A Port Sulphur 45.83 343 P **P** **19 02 54.3 0.0**
baz=161
646A S **S** **19 09 42.2 +5.6**
baz=161
645A Chauvin 45.94 342 P **P** **19 02 56.2 +1.1**
baz=160
035Z Hargill 46.02 332 P **P** **19 02 56.2 +0.4**
baz=150
TIGA Tifton 46.29 351 P **P** **19 02 56.2 -1.7**
baz=170
TIGA Tifton 46.29 351 *eP* **P** **19 02 56.0 -1.8**
comp=Z,2µm,2.0s
546A Slidell 46.42 344 P **P** **19 02 59.1 +0.3**
baz=162
035A Encino 46.45 333 P **P** **19 02 59.1 0.0**
baz=150,SNR=6.2
545A Edgard 46.45 343 P **P** **19 02 59.4 +0.3**
baz=160
936A North Padre Is 46.52 334 P **P** **19 02 59.3 -0.4**
baz=151
448A Bay Minette 46.61 346 P **P** **19 02 59.5 -0.9**
baz=164
BRAL Brewton 46.66 347 *eP* **P** **19 03 01.1 +0.4**
comp=Z,1µm,1.3s
447A Lucedale 46.67 345 P **P** **19 02 59.6 -1.3**
baz=163,SNR=15
544A White Castle 46.71 342 P **P** **19 03 01.1 -0.1**
baz=160
034A Hebbronville 46.82 332 P **P** **19 03 01.1 -1.0**
baz=149,SNR=27
446A Poplarville 46.85 344 P **P** **19 03 01.5 -0.8**
baz=162,SNR=9.6
KVTX Kingsville 46.88 333 *eP* **P** **19 03 02.0 -0.6**
comp=Z,3µm,1.5s
543A St. Martinvill 46.90 341 P **P** **19 03 03.0 +0.3**
baz=159
445A Amite 47.06 343 P **P** **19 03 03.7 -0.2**
baz=161
348A Jackson 47.09 346 P **P** **19 03 02.8 -1.3**
baz=164,SNR=12
738A Farr-Stevens R 47.09 336 P **P** **19 03 04.4 +0.2**
baz=154
444A Pine Grove 47.16 343 P **P** **19 03 05.0 +0.3**
baz=160
542A Morse 47.16 340 P **P** **19 03 04.6 -0.1**
baz=158
934A Benavides 47.20 333 P **P** **19 03 04.8 -0.3**
baz=150,SNR=16
347A Saraland 47.23 345 P **P** **19 03 03.8 -1.4**
baz=163,SNR=25
541A Lake Charles 47.31 340 P **P** **19 03 06.6 +0.8**
baz=157
737A Port Lavaca 47.34 336 P **P** **19 03 06.7 +0.6**
baz=153
CSU Charleston Sou 47.42 355 *eP* **P** **19 03 06.7 0.0**
346A Big Creek Wild 47.45 344 P **P** **19 03 05.5 -1.3**
baz=162,SNR=11
835A Beeville 47.50 334 P **P** **19 03 08.0 +0.6**
baz=151
835A Beeville 47.50 334 *eP* **P** **19 03 08.8 +1.4**
comp=Z,2µm,1.6s
443A Delano Plantat 47.51 342 P **P** **19 03 07.7 +0.3**
baz=159
345A Thompson Farm, 47.52 344 P **P** **19 03 06.9 -0.6**
baz=161
638A Rosharon 47.54 337 P **P** **19 03 07.8 +0.2**
baz=154
NHSC New Hope 47.55 355 *eP* **P** **19 03 07.7 0.0**
comp=Z,904nm,1.1s
933A Laredo 47.56 332 P **P** **19 03 06.9 -1.0**
baz=149,SNR=27
442A Mamou 47.67 341 P **P** **19 03 08.5 -0.1**
baz=158
H06S1 SOCORRO T 47.67 313 P **P** **19 03 12.5 +3.7**
H06E1 SOCORRO T-PHAS 47.67 313 P **P** **19 03 12.1 +3.1**
248A Dixon Mills 47.70 347 P **P** **19 03 07.6 -1.3**
baz=165,SNR=24
540A Vidor 47.72 339 P **P** **19 03 08.3 -0.7**
baz=156
736A Circle Diamond 47.76 335 P **P** **19 03 09.6 +0.2**
baz=152,SNR=17
736A Circle Diamond 47.76 335 *eP* **P** **19 03 10.1 +0.7**
comp=Z,2µm,1.8s
344A Westbrook Farm 47.85 343 P **P** **19 03 09.4 -0.7**
baz=161,SNR=17
247A Quitman 47.87 346 P **P** **19 03 08.4 -1.8**
baz=163,SNR=14
539A Cross D Ranch, 47.89 338 P **P** **19 03 10.1 -0.3**
baz=155
637A Eagle Lake 47.90 336 P **P** **19 03 10.8 +0.4**
baz=153
BBSR BB Station 47.93 13 *eP* **P** **19 03 09.7 -0.9**
comp=Z,299nm,1.1s
BBSR LR LR
comp=Z,123µm,20.0s
441A DeRidder 47.95 340 P **P** **19 03 10.5 -0.3**
baz=157
343A Vidalia 47.95 342 P **P** **19 03 10.7 -0.1**
baz=160
735A Kenedy 47.98 334 P **P** **19 03 10.7 -0.4**
baz=151
735A Kenedy 47.98 334 *eP* **P** **19 03 12.2 +1.1**
comp=Z,375nm,1.0s
HKT Hockley 48.16 337 *eP* **P** **19 03 12.5 +0.1**
HKT pmax pmax
comp=Z,2µm,1.8s
HKT MLR MLR
comp=Z,40µm,19.0s
HKT Hockley 48.16 337 *eP* **P** **19 03 12.5 +0.1**
comp=Z,2µm,1.8s
HKT LR LR
comp=Z,40µm,19.0s
245A Little AP, Sta 48.17 344 P **P** **19 03 10.8 -1.7**
baz=162,SNR=15
440A Kirbyville 48.20 339 P **P** **19 03 12.3 -0.5**
baz=156
GOGA Godfrey 48.21 352 *eP* **P** **19 03 11.4 -1.4**
GOGA pmax pmax
comp=Z,673nm,1.4s
GOGA Godfrey 48.21 352 *eP* **P** **19 03 11.4 -1.4**
comp=Z,673nm,1.4s
833A Chaparral WMA, 48.22 332 P **P** **19 03 11.5 -1.4**
baz=149,SNR=16
636A Smothers Creek 48.22 335 P **P** **19 03 12.1 -0.9**
baz=152,SNR=21
636A Smothers Creek 48.22 335 *eP* **P** **19 03 14.5 +1.6**
comp=Z,3µm,1.8s
342A Flagon Creek P 48.25 341 P **P** **19 03 12.4 -0.7**
baz=159,SNR=21
538A Harpers Horsep 48.27 337 P **P** **19 03 12.4 -0.9**
baz=154
147A Livingston 48.38 346 P **P** **19 03 12.0 -2.1**
baz=164,SNR=13
244A Avery, Jackson 48.39 343 P **P** **19 03 12.3 -1.9**
baz=161,SNR=15
LRAL Lakeview Retre 48.45 348 *eP* **P** **19 03 13.0 -1.7**
comp=Z,475nm,1.0s
537A Green Hill Far 48.46 336 P **P** **19 03 13.6 -1.1**
baz=153,SNR=19
243A Waterproof 48.47 342 P **P** **19 03 13.6 -1.2**
baz=160,SNR=13
341A Kurthwood 48.48 340 P **P** **19 03 13.8 -1.1**
baz=158,SNR=18
VBMS Vicksburg 48.51 344 P **P** **19 03 13.5 -1.6**
baz=161

VBMS	Vicksburg	48.51	344	eP	P	19 03 15.4 +0.3
	comp=Z,2µm,1.8s					
439A	Center Grove,	48.53	338	P	P	19 03 15.0 -0.3
	baz=156					
146A	Union	48.53	345	P	P	19 03 13.6 -1.7
	baz=163,SNR=11					
145A	Houston Renfro	48.72	344	P	P	19 03 15.3 -1.5
	baz=162					
438A	Sam Houston St	48.74	338	P	P	19 03 16.4 -0.6
	baz=155,SNR=17					
536A	Bastrop	48.75	336	P	P	19 03 16.3 -0.7
	baz=152,SNR=14					
536A	Bastrop	48.75	336	eP	P	19 03 18.5 +1.4
	comp=Z,2µm,1.7s					
536A				LR	LR	
	comp=Z,30µm,21.0s					
340A	Bronson	48.79	340	P	P	19 03 16.2 -1.1
	baz=157,SNR=13					
JSC	Jenkinsville	48.81	354	eP	P	19 03 16.1 -1.3
JSC				pmax	pmax	
	comp=Z,767nm,1.7s					
JSC	Jenkinsville	48.81	354	eP	P	19 03 16.1 -1.3
	comp=Z,767nm,1.7s					
242A	Grayson	48.83	342	P	P	19 03 16.4 -1.2
	baz=159					
Z47A	Carrollton	48.84	347	P	P	19 03 15.1 -2.6
	baz=164,SNR=34					
HODGE	Hodges	48.87	353	eP	P	19 03 16.5 -1.3
	comp=Z,1µm,1.9s					
144A	Alexander Plac	48.88	344	P	P	19 03 16.7 -1.2
	baz=161					
Z48A	Northport	48.90	347	P	P	19 03 15.4 -2.7
	baz=165,SNR=73					
339A	Huntington	48.94	339	P	P	19 03 18.0 -0.5
	baz=156					
241A	Mo Tay, Goldon	49.03	341	P	P	19 03 18.5 -0.6
	baz=158,SNR=8.3					
Z46A	Louisville	49.03	346	P	P	19 03 17.2 -1.9
	baz=163,SNR=24					
437A	Phantom Ranch,	49.06	337	P	P	19 03 18.7 -0.7
	baz=154					
143A	Socs Landing,	49.22	343	P	P	19 03 18.9 -1.6
	baz=160					
142A	Monroe	49.23	342	P	P	19 03 19.5 -1.1
	baz=159,SNR=12					
338A	Crockett	49.23	338	P	P	19 03 20.4 -0.3
	baz=155,SNR=16					
436A	Wall Ranch, Ga	49.26	336	P	P	19 03 20.5 -0.5
	baz=153					
240A	Hunter Patters	49.32	340	P	P	19 03 20.8 -0.5
	baz=157					
NATX	Nacogdoches	49.37	339	P	P	19 03 21.1 -0.7
	baz=156,SNR=11					
NATX	Nacogdoches	49.37	339	eP	P	19 03 22.1 +0.3
	comp=Z,3µm,1.8s					
NATX				LR	LR	
	comp=Z,60µm,22.0s					
Z45A	Winona	49.39	345	P	P	19 03 20.1 -1.8
	baz=162,SNR=19					
337A	Centerville	49.40	338	P	P	19 03 20.9 -1.1
	baz=154,SNR=14					
Y47A	UCPARC, Winfie	49.47	347	P	P	19 03 19.9 -2.6
	baz=165,SNR=73					
Z44A	Pea Ridge, Bel	49.49	344	P	P	19 03 21.0 -1.6
	baz=162,SNR=17					
239A	Gary	49.54	339	P	P	19 03 22.4 -0.6
	baz=156,SNR=18					
CNNC	Cliffs of the	49.55	358	PFAKE		19 03 30.0 +7.0
CNNC				LR	LR	
	comp=Z,65µm,19.0s					
141A	Papa Simpson,	49.57	341	P	P	19 03 21.9 -1.3
	baz=158,SNR=24					
435B	Jarrell	49.58	336	P	P	19 03 21.9 -1.5
	baz=152					
Z43A	Armstrong Fami	49.65	343	P	P	19 03 22.2 -1.6
	baz=160					
KMSC	Kings Mountain	49.67	354	P	P	19 03 22.3 -1.7
	baz=173,SNR=43					
KMSC	Kings Mountain	49.67	354	eP	P	19 03 22.7 -1.3
	comp=Z,468nm,1.0s					
Y46A	Houston	49.67	346	P	P	19 03 21.5 -2.6
	baz=164,SNR=24					
BG3	Lake Jocassee	49.70	353	eP	P	19 03 22.9 -1.3
	comp=Z,711nm,1.5s					
238A	Jacksonville	49.75	339	P	P	19 03 24.1 -0.6
	baz=156,SNR=14					
140A	Cam and Jess,	49.81	341	P	P	19 03 24.2 -0.9
	baz=158					
Y45A	Yeager Farm, C	49.82	345	P	P	19 03 23.2 -1.9
	baz=163,SNR=31					
336A	Riesel	49.83	337	P	P	19 03 23.9 -1.4
	baz=153,SNR=18					
Z42A	Norrel Spur, H	49.91	343	P	P	19 03 24.5 -1.3
	baz=160,SNR=14					
237A	Washetta, Mont	49.99	338	P	P	19 03 25.4 -1.1
	baz=155					
Y44A	Strider, Charl	50.08	345	P	P	19 03 25.2 -1.9
	baz=162					
139A	Bunkhouse Ranc	50.12	340	P	P	19 03 26.8 -0.6
	baz=157,SNR=12					
Z41A	Richland Creek	50.14	342	P	P	19 03 26.4 -1.2
	baz=159					
Y43A	Makayla and Ka	50.22	344	P	P	19 03 26.5 -1.6
	baz=161					
HOPE	Hope Point	50.24	151	eP	P	19 03 28.4 +0.3
	comp=Z,699nm,1.4s					
HOPE				LR	LR	
	comp=Z,165µm,22.0s					
HPIG		50.24	325	eP	P	19 03 28.7 -0.1
	comp=Z,978nm,1.4s					
HPIG				LR	LR	
	comp=Z,140µm,21.0s					
JCT	Junction City	50.25	333	P	P	19 03 27.3 -1.2
	baz=150,SNR=35					
JCT	Junction City	50.25	333	eP	P	19 03 27.6 -0.9
JCT				pmax	pmax	
	comp=Z,429nm,1.5s					
JCT				MLR	MLR	
	comp=Z,44µm,19.0s					
JCT	Junction City	50.25	333	eP	P	19 03 27.6 -0.9
	comp=Z,429nm,1.5s					
JCT				LR	LR	
	comp=Z,44µm,19.0s					
236A	Katherine and	50.26	337	P	P	19 03 27.1 -1.4
	baz=154,SNR=24					
Z40A	Long Farm, Mag	50.33	341	P	P	19 03 28.3 -0.7
	baz=158,SNR=18					
138A	Matatall Enter	50.34	339	P	P	19 03 28.4 -0.7
	baz=156,SNR=24					
CPCT	Cooper Cave	50.37	351	eP	P	19 03 27.6 -1.7
	comp=Z,1µm,1.9s					
SWET	Sewanee	50.37	350	eP	P	19 03 26.8 -2.6
	comp=Z,2µm,2.0s					
SLBS	Sierra La Lagu	50.38	319	eP	P	19 03 29.2 -0.5
	comp=Z,986nm,1.8s					
SLBS				LR	LR	
	comp=Z,44µm,20.0s					
Y42A	Garnett, Star	50.39	343	P	P	19 03 28.5 -1.0
	baz=160					
OXF	Oxford	50.41	346	eP	P	19 03 28.4 -1.2
OXF				pmax	pmax	
	comp=Z,741nm,1.1s					
OXF	Oxford	50.41	346	eP	P	19 03 28.4 -1.2
	comp=Z,741nm,1.1s					
CCAR	Cane Creek	50.46	343	eP	P	19 03 30.1 +0.2
	comp=Z,4µm,1.8s					
TKL	Tuckaleechee C	50.46	352	eP	P	19 03 28.1 -1.9
TKL				pmax	pmax	
	comp=Z,919nm,1.4s					
TKL				MLR	MLR	
	comp=Z,101µm,21.0s					
TKL	Tuckaleechee C	50.46	352	eP	P	19 03 28.1 -1.9
	comp=Z,919nm,1.4s					
TKL				LR	LR	
	comp=Z,101µm,21.0s					
137A	Heron Place, G	50.51	338	P	P	19 03 29.9 -0.5
	baz=155,SNR=31					
PLAL	Pickwick Lake	50.56	347	eP	P	19 03 29.2 -1.5
	comp=Z,475nm,1.3s					
Z39A	Irene McRaven,	50.56	340	P	P	19 03 30.1 -0.7
	baz=157					
X44A	Crenshaw	50.58	345	P	P	19 03 28.3 -2.5
	baz=162,SNR=12					
WHTX	Lake Whitney,	50.60	336	P	P	19 03 29.6 -1.5
	baz=153,SNR=32					
WHTX	Lake Whitney,	50.60	336	eP	P	19 03 30.8 -0.3
	comp=Z,2µm,1.6s					
WHTX				LR	LR	
	comp=Z,31µm,21.0s					
WLAR	White Oak Lake	50.64	342	eP	P	19 03 31.6 +0.2
	comp=Z,6µm,1.6s					
WLAR				LR	LR	
	comp=Z,68µm,22.0s					
Y41A	Eaglette Beard	50.67	342	P	P	19 03 30.4 -1.2
	baz=159					
136A	Ennis	50.68	338	P	P	19 03 30.2 -1.5
	baz=154,SNR=24					
X43A	Marvell	50.78	344	P	P	19 03 31.0 -1.4
	baz=161					
Z38A	Mt. Pleasant	50.84	340	P	P	19 03 31.6 -1.2
	baz=156,SNR=13					
PMSA	Palmer Station	50.84	173	P	P	19 03 32.7 +0.2
	comp=Z,67nm,0.8s,baz=360,slow=5.9,SNR=8.7					
PMSA				S	S	19 10 51.8 +5.3
	comp=Z,6.0nm,0.4s,baz=358,slow=16,SNR=6.5					
PMSA	Palmer Station	50.84	173	eP	P	19 03 33.0 +0.5
	comp=Z,335nm,1.1s					
PMSA				S	S	19 10 51.8 +5.3
PMSA				LR	LR	
	comp=Z,58µm,18.0s					
LPIG	La Paz	50.91	319	P	P	19 03 32.4 -1.1
	comp=Z,59nm,0.3s,baz=150,slow=3.8,SNR=3.5					
W45A	Hickory Valley	50.97	346	P	P	19 03 31.0 -2.8
	baz=164,SNR=22					
Y40A	Okolona	50.99	342	P	P	19 03 32.7 -1.2
	baz=158,SNR=22					
Z37A	Pogue Cattle C	51.01	339	P	P	19 03 33.2 -0.9
	baz=155					
X42A	Stuttgart	51.02	344	P	P	19 03 32.1 -2.0
	baz=160					
TXAR	Lajitas Array	51.10	329	P	P	19 03 34.2 -0.8
	comp=Z,24nm,0.8s,baz=149,slow=8.2,SNR=115					
TXAR				S	S	19 10 54.5 +3.2
	comp=Z,3.3nm,1.0s,baz=95,slow=25,SNR=1.8					
TXAR				LR	LR	19 23 57.9
				PKPPKP	P'P'df	19 34 13.2 -1.5
	comp=Z,1.8nm,1.1s,baz=234,slow=3.1,SNR=6.2					
TX31	Lajitas Ar. Si	51.10	329	eP	P	19 03 34.3 -0.8
W44A	Shelby Farms P	51.10	346	P	P	19 03 32.5 -2.3
	baz=163					
Y39A	Lockesburg	51.17	341	P	P	19 03 34.1 -1.3
	baz=157,SNR=6.2					
X41A	Kaden, Bauxite	51.21	343	P	P	19 03 33.8 -1.8
	baz=159					
W43A	Forest City	51.28	345	P	P	19 03 34.3 -1.8
	baz=162					
X40A	Basin Creek Fa	51.30	342	P	P	19 03 34.1 -2.1
	baz=159,SNR=26					
Z36A	Blue Ridge	51.36	338	P	P	19 03 35.5 -1.3
	baz=154,SNR=33					
Y38A	Idabel	51.37	340	P	P	19 03 35.1 -1.8
	baz=157					
UALR	University of	51.42	343	eP	P	19 03 36.5 -0.7
	comp=Z,1000nm,1.4s					
UALR				LR	LR	
	comp=Z,44µm,20.0s					
V45A	Humboldt	51.48	347	P	P	19 03 34.4 -3.2
	baz=164,SNR=11					
PTCN	Pitcairn Islan	51.56	249	PFAKE		19 03 50.0 +11
PTCN				LR	LR	
	comp=Z,192µm,21.0s					
MIAR	Mount Ida	51.58	342	P	P	19 03 36.6 -1.8
	baz=158,SNR=50					
MIAR	Mount Ida	51.58	342	eP	P	19 03 37.0 -1.4
MIAR				pmax	pmax	
	comp=Z,1µm,1.5s					
MIAR				MLR	MLR	
	comp=Z,48µm,22.0s					
MIAR	Mount Ida	51.58	342	eP	P	19 03 37.0 -1.4
	comp=Z,1µm,1.5s					
MIAR				LR	LR	
	comp=Z,48µm,22.0s					
WVT	Waverly	51.61	348	eP	P	19 03 36.7 -1.9
WVT				pmax	pmax	
	comp=Z,914nm,1.6s					
WVT	Waverly	51.61	348	eP	P	19 03 36.7 -1.9
	comp=Z,914nm,1.6s					
BLA	Blacksburg	51.65	356	eP	P	19 03 37.5 -1.4
BLA				pmax	pmax	
	comp=Z,284nm,0.9s					
BLA	Blacksburg	51.65	356	eP	P	19 03 37.5 -1.4
	comp=Z,284nm,0.9s					
VWCC	Virginia Weste	51.65	356	eP	P	19 03 37.0 -1.9
W42A	Bald Knob	51.66	344	P	P	19 03 37.0 -2.0
	baz=161					
HBAR	Harrisburg	51.71	345	eP	P	19 03 39.2 -0.1
	comp=Z,1µm,1.5s					
X39A	Fountain Ranch	51.71	341	P	P	19 03 38.5 -0.9
	baz=158,SNR=42					
Y37A	Hugo	51.72	339	P	P	19 03 38.7 -0.7
	baz=156,SNR=58					
HALT	Halls	51.73	346	eP	P	19 03 38.6 -0.8
	comp=Z,1µm,1.4s					
W41B	Gary Mavity, V	51.77	343	P	P	19 03 37.9 -1.9
	baz=160,SNR=49					
V44A	Blytheville	51.78	346	P	P	19 03 37.8 -2.1
	baz=163					
URVA	University of	51.87	359	eP	P	19 03 38.9 -1.6
X301	Greenbrier Sit	51.88	343	eP	P	19 03 39.9 -0.7
	comp=Z,2µm,1.7s					
X301				LR	LR	
	comp=Z,38µm,20.0s					
Y36A	Durant	51.88	339	P	P	19 03 39.8 -0.9
	baz=155,SNR=28					
WHAR	Wooly Hollow	51.89	343	eP	P	19 03 39.8 -0.9
	comp=Z,1µm,1.6s					
V43A	Jonesboro	51.90	345	P	P	19 03 39.1 -1.6
	baz=162					
JSRW	J. Sargeant Re	52.00	358	eP	P	19 03 39.9 -1.6
U45A	Rockin P Farm,	52.02	347	P	P	19 03 39.0 -2.7
	baz=164,SNR=14					
W40A	Ferguson Farm,	52.02	342	P	P	19 03 40.8 -0.8
	baz=159,SNR=42					
ABTX	Abilene, Hawle	52.03	335	P	P	19 03 40.7 -1.2
	baz=150,SNR=74					
ABTX	Abilene, Hawle	52.03	335	eP	P	19 03 40.9 -1.0
	comp=Z,1µm,1.4s					
ABTX				LR	LR	
	comp=Z,37µm,22.0s					
UTMT	University of	52.04	347	eP	P	19 03 40.6 -1.2
	comp=Z,1µm,1.3s					
GLAT	Glass	52.06	347	eP	P	19 03 41.0 -0.9
	comp=Z,1µm,1.4s					
X38A	Whitesboro	52.08	340	P	P	19 03 40.8 -1.4
	baz=157,SNR=57					
IP05	Hopewell Churc	52.13	358	eP	P	19 03 41.9 -0.6
	comp=Z,406nm,1.1s					
V42A	Cord	52.13	344	P	P	19 03 40.4 -2.1
	baz=161,SNR=32					
U44B	Burton Farm, H	52.14	346	P	P	19 03 40.0 -2.5
	baz=164					
Y35A	Marietta	52.15	338	P	P	19 03 41.2 -1.5
	baz=154,SNR=90					
X37A	Clayton	52.19	340	P	P	19 03 41.5 -1.5
	baz=156,SNR=78					
IP07	Quail	52.23	358	eP	P	19 03 41.8 -1.4
	comp=Z,575nm,1.0s					
IP07				LR	LR	
	comp=Z,74µm,22.0s					
IP06	Yanceyville	52.24	358	eP	P	19 03 41.9 -1.4
	comp=Z,649nm,1.0s					
IP06				LR	LR	
	comp=Z,74µm,22.0s					
W39A	Magazine	52.24	342	P	P	19 03 42.3 -1.0
	baz=158,SNR=46					
IP01	Cuckoo	52.26	358	eP	P	19 03 42.1 -1.3
	comp=Z,611nm,1.0s					
IP01				LR	LR	
	comp=Z,74µm,18.0s					
V41A	Mountainview	52.32	344	P	P	19 03 42.0 -1.9
	baz=160,SNR=52					
IP03	Louisa	52.33	358	eP	P	19 03 42.6 -1.3
	comp=Z,609nm,1.0s					
IP03				LR	LR	
	comp=Z,79µm,22.0s					
W38A	Poteau	52.35	341	P	P	19 03 43.1 -1.0
	baz=157,SNR=22					
CVRD	Centerville Ro	52.37	358	eP	P	19 03 42.9 -1.3
	comp=Z,464nm,0.9s					
CVRD				LR	LR	
	comp=Z,84µm,19.0s					
U44A	Portageville	52.38	346	P	P	19 03 41.9 -2.4
	baz=163					
IP04	Greensprings	52.40	358	eP	P	19 03 43.2 -1.2
	comp=Z,971nm,1.4s					
PTRD	Partlow Road	52.42	359	PFAKE		19 04 00.0 +15
PTRD				LR	LR	
	comp=Z,84µm,19.0s					
U43A	Rector	52.42	345	P	P	19 03 42.8 -1.8
	baz=162					
SPFD	Spotsylvania F	52.43	359	PFAKE		19 04 00.0 +15
SPFD				LR	LR	
	comp=Z,84µm,19.0s					
CBN	Corbin Frederi	52.49	359	eP	P	19 03 44.4 -0.7
	comp=Z,500nm,1.3s					
CBN				LR	LR	
	comp=Z,85µm,18.0s					
X36A	Centrahoma	52.51	339	P	P	19 03 43.5 -1.8
	baz=155,SNR=23					
V40A	Witts Springs	52.52	343	P	P	19 03 43.7 -1.8
	baz=159,SNR=58					
PARMO	Parma	52.54	346	eP	P	19 03 45.0 -0.6
	comp=Z,1µm,1.1s					
PARMO				LR	LR	
	comp=Z,69µm,21.0s					
X35A	Drake	52.57	338	P	P	19 03 44.4 -1.4
	baz=154,SNR=56					
U42A	Revenden	52.61	345	P	P	19 03 43.4 -2.6
	baz=161,SNR=71					
W37B	Quinton	52.71	340	P	P	19 03 45.0 -1.9
	baz=156,SNR=86					
U41A	Viola	52.78	344	P	P	19 03 45.0 -2.3
	baz=160,SNR=50					
V39A	Pettigrew	52.80	342	P	P	19 03 45.5 -2.0
	baz=158,SNR=36					
PBMO	Poplar Bluff	52.81	346	eP	P	19 03 46.0 -1.5
	comp=Z,1µm,1.6s					
T44A	Benton	52.91	346	P	P	19 03 45.8 -2.4
	baz=163,SNR=15					
W36A	Wetumka	52.98	339	P	P	19 03 46.6 -2.2
	baz=155,SNR=47					
U40A	Yellville	53.05	343	P	P	19 03 47.4 -1.9
	baz=159,SNR=77					
V38A	Canehill	53.05	341	P	P	19 03 47.4 -2.0
	baz=158,SNR=55					
T43A	Greenville	53.07	346	P	P	19 03 47.0 -2.4
	baz=163,SNR=74					
W35A	Tecumseh	53.22	339	P	P	19 03 48.4 -2.2
	baz=154,SNR=51					
U39A	Green Forest	53.25	343	P	P	19 03 48.8 -2.0
	baz=159,SNR=35					
S45A	Carrier Mills	53.26	348	P	P	19 03 48.3 -2.5
	baz=165,SNR=24					
HHAR	Hobbs	53.29	342	eP	P	19 03 49.7 -1.4
	comp=Z,2µm,1.8s					
HHAR				LR	LR	
	comp=Z,53µm,21.0s					
V37A	Hulbert	53.30	341	P	P	19 03 49.1 -2.0
	baz=157,SNR=58					
USIN	University of	53.36	349	eP	P	19 03 49.9 -1.6
	comp=Z,2µm,1.4s					
USIN				LR	LR	
	comp=Z,74µm,19.0s					
WCI	Wyandotte Cave	53.37	350	eP	P	19 03 49.1 -2.6
WCI				pmax	pmax	
	comp=Z,847nm,1.1s					
WCI				MLR	MLR	
	comp=Z,72µm,20.0s					
WCI	Wyandotte Cave	53.37	350	eP	P	19 03 49.0 -2.6
	comp=Z,847nm,1.1s					
WCI				LR	LR	
	comp=Z,72µm,20.0s					
T41A	Mountain View	53.40	344	P	P	19 03 49.4 -2.5
	baz=161,SNR=60					
S44A	Carbondale	53.42	347	P	P	19 03 49.2 -2.7
	baz=164,SNR=31					
V36A	Jenks	53.47	340	P	P	19 03 50.4 -2.0
	baz=156,SNR=55					
S43A	Fulton Ridge,	53.49	346	P	P	19 03 49.9 -2.6
	baz=163,SNR=38					
TUL1	Leonard	53.53	340	P	P	19 03 51.0 -1.9
	baz=156,SNR=47					
TUL1	Leonard	53.53	340	eP	P	19 03 51.2 -1.6
	comp=Z,1µm,1.3s					
TUL1				LR	LR	
	comp=Z,59µm,22.0s					
WMOK	Wichita Mounta	53.54	337	P	P	19 03 51.1 -2.0
	baz=152,SNR=65					
WMOK	Wichita Mounta	53.54	337	eP	P	19 03 51.0 -2.0
WMOK				pmax	pmax	
	comp=Z,876nm,2.0s					
WMOK				MLR	MLR	
	comp=Z,45µm,21.0s					
WMOK	Wichita Mounta	53.54	337	eP	P	19 03 51.0 -2.0
	comp=Z,876nm,2.0s					
WMOK				LR	LR	
	comp=Z,45µm,21.0s					
U38A	Gravette	53.58	342	P	P	19 03 51.5 -1.7
	baz=158,SNR=34					
SDMD	Soldier's Deli	53.69	359	eP	P	19 03 52.5 -1.4
	comp=Z,160nm,1.0s					
SDMD				LR	LR	
	comp=Z,31µm,18.0s					
T40A	Mansfield	53.70	344	P	P	19 03 51.5 -2.6
	baz=160,SNR=42					
V35A	Meyer Ranch, C	53.75	339	P	P	19 03 51.9 -2.5
	baz=155,SNR=21					
U37A	Salina	53.77	341	P	P	19 03 52.0 -2.6
	baz=157,SNR=50					
T39A	Clever	53.82	343	P	P	19 03 52.6 -2.4
	baz=159,SNR=28					
S42A	Caledonia	53.84	346	P	P	19 03 52.1 -3.0
	baz=162,SNR=32					
MNTX	Cornudas Mount	53.88	329	P	P	19 03 53.4 -2.1
	baz=144,SNR=85					
MNTX	Cornudas Mount	53.88	329	eP	P	19 03 54.0 -1.6
	comp=Z,777nm,1.7s					
MNTX				LR	LR	
	comp=Z,98µm,20.0s					
S41A	Jillco Farms,	53.91	345	P	P	19 03 52.9 -2.6
	baz=161,SNR=79					
R44A	Waltonville	53.91	347	P	P	19 03 53.0 -2.5
	baz=164,SNR=19					
U36A	Oologah	53.95	340	P	P	19 03 53.3 -2.7
	baz=156,SNR=20					
FVM	French Village	53.96	346	eP	P	19 03 54.4 -1.6
FVM				pmax	pmax	
	comp=Z,1µm,1.6s					
FVM				MLR	MLR	
	comp=Z,61µm,21.0s					
FVM	French Village	53.96	346	eP	P	19 03 54.4 -1.6
	comp=Z,1µm,1.6s					
FVM				LR	LR	
	comp=Z,61µm,21.0s					
MCWV	Mont Chateau	54.05	356	eP	P	19 03 55.5 -1.0
	comp=Z,96nm,0.9s					
MCWV				LR	LR	
	comp=Z,52µm,20.0s					
T38A	Diamond	54.10	342	P	P	19 03 55.2 -1.8
	baz=158,SNR=48					
S40A	Lebanon	54.12	344	P	P	19 03 54.9 -2.2
	baz=160,SNR=40					
R43A	Red Bud	54.13	347	P	P	19 03 54.6 -2.5
	baz=163,SNR=28					
OLIL	Olney	54.18	348	eP	P	19 03 54.9 -2.6
	comp=Z,2µm,1.7s					
PSUB	Penn St. - Bra	54.21	1	eP	P	19 03 56.9 -0.8
	comp=Z,478nm,1.3s					
PSUB				LR	LR	
	comp=Z,60µm,22.0s					
CCM	Cathedral Cave	54.23	345	eP	P	19 03 56.1 -1.8
CCM				pmax	pmax	
	comp=Z,675nm,1.4s					
CCM				MLR	MLR	
	comp=Z,42µm,21.0s					
CCM	Cathedral Cave	54.23	345	eP	P	19 03 56.1 -1.8
	comp=Z,675nm,1.4s					
CCM				LR	LR	
	comp=Z,42µm,21.0s					
U35A	Pawnee	54.27	340	P	P	19 03 56.2 -2.0
	baz=155,SNR=27					
MVL	Millersville	54.27	360	eP	P	19 03 57.2 -0.9
	comp=Z,309nm,1.0s					
MVL				LR	LR	
	comp=Z,62µm,20.0s					
R42A	Luebbering	54.33	346	P	P	19 03 55.9 -2.7
	baz=162,SNR=26					
T37A	Cheneyville 18	54.37	342	P	P	19 03 57.2 -1.7
	baz=157,SNR=58					
SRIG	Santa Rosalia	54.42	320	PFAKE		19 04 10.0 +11
SRIG				LR	LR	
	comp=Z,38µm,21.0s					
S39A	Bolivar	54.43	343	P	P	19 03 56.6 -2.8

	baz=159,SNR=67						
R41A	Rosebud	54.49	345	P	P	19 03 57.2	-2.6
	baz=162,SNR=52						
MSTX	Muleshoe	54.53	333	P	P	19 03 58.1	-2.2
	baz=148,SNR=24						
MSTX	Muleshoe	54.53	333	eP	P	19 03 59.1	-1.2
	comp=Z,2μm,1.9s						
MSTX				LR	LR		
	comp=Z,32μm,20.0s						
Q44A	Meyer Farm, Va	54.53	348	P	P	19 03 57.3	-2.8
	baz=164,SNR=38						
S38A	Stockton	54.54	343	P	P	19 03 58.0	-2.2
	baz=159,SNR=38						
SLM	Saint Louis	54.54	346	eP	P	19 03 59.1	-1.0
SLM				pmax	pmax		
	comp=Z,1μm,1.6s						
SLM				MLR	MLR		
	comp=Z,66μm,22.0s						
SLM	Saint Louis	54.54	346	eP	P	19 03 59.1	-1.0
	comp=Z,1μm,1.6s						
SLM				LR	LR		
	comp=Z,66μm,22.0s						
O56A	Blue Knob Stat	54.59	358	P	P	19 03 58.1	-2.5
	baz=177,SNR=30						
P47A	Martinsville	54.59	350	P	P	19 03 57.8	-2.7
	baz=168,SNR=27						
T36A	Boggs Farm, Ca	54.61	341	P	P	19 03 58.9	-1.8
	baz=156,SNR=36						
T35A	Sooner Cattle	54.69	340	P	P	19 03 59.7	-1.6
	baz=155,SNR=64						
R40A	Maddies Statio	54.71	344	P	P	19 03 59.0	-2.3
	baz=161,SNR=66						
Q43A	New Douglas	54.71	347	P	P	19 03 58.8	-2.6
	baz=164,SNR=26						
AMTX	Amarillo	54.83	334	P	P	19 04 00.5	-2.0
	baz=149						
AMTX	Amarillo	54.83	334	eP	P	19 04 01.3	-1.2
	comp=Z,601nm,1.7s						
AMTX				LR	LR		
	comp=Z,36μm,19.0s						
HSIG		54.86	322	eP	P	19 04 02.0	-0.6
	comp=Z,441nm,1.3s						
HSIG				LR	LR		
	comp=Z,111μm,19.0s						
Q42A	Golden Eagle	54.87	346	P	P	19 04 00.4	-2.1
	baz=163,SNR=23						
P46A	Rosedale	54.88	350	P	P	19 03 59.1	-3.4
	baz=167						
ACSO	Alum Creek Sta	54.88	354	eP	P	19 04 00.4	-2.2
	comp=Z,488nm,1.0s						
ACSO				LR	LR		
	comp=Z,89μm,20.0s						
S37A	Fort Scott	54.93	342	P	P	19 04 00.9	-2.1
	baz=158,SNR=43						
R39A	Chumby, Stover	54.93	344	P	P	19 04 00.9	-2.1
	baz=160,SNR=37						
SSPA	Standing Stone	54.93	358	eP	P	19 04 01.3	-1.7
	comp=Z,416nm,1.0s						
SSPA				LR	LR		
	comp=Z,78μm,20.0s						
BRNJ	Basking Ridge	54.98	1	eP	P	19 04 03.6	+0.3
	comp=Z,215nm,0.9s						
BRNJ				LR	LR		
	comp=Z,91μm,19.0s						
P44A	Sand Creek, Wi	54.99	348	P	P	19 04 00.4	-3.0
	baz=165,SNR=18						
T34A	McClaskey Farm	55.01	339	P	P	19 04 01.8	-1.8
	baz=155,SNR=47						
R38A	Fenwick Farm,	55.05	343	P	P	19 04 01.9	-2.0
	baz=159,SNR=40						
Q41A	Truxton	55.08	346	P	P	19 04 01.8	-2.2
	baz=162,SNR=28						
U32A	Winter Ranch,	55.08	338	P	P	19 04 01.7	-2.4
	baz=152						
CPNY	Central Park	55.10	2	eP	P	19 04 04.3	+0.2
	comp=Z,180nm,1.0s						
CPNY				LR	LR		
	comp=Z,88μm,20.0s						
S36A	Lake Cedric, C	55.13	341	P	P	19 04 02.6	-1.9
	baz=157,SNR=31						
N59A	State Game Lan	55.19	0	P	P	19 04 03.4	-1.5
	baz=180,SNR=28						
O47A	Sheridan	55.31	351	P	P	19 04 02.2	-3.5
	baz=168,SNR=18						
PAL	Palisades	55.32	2	eP	P	19 04 05.5	-0.2
PAL				pmax	pmax		
	comp=Z,264nm,1.0s						
PAL				MLR	MLR		
	comp=Z,87μm,19.0s						
PAL	Palisades	55.32	2	eP	P	19 04 05.5	-0.2
	comp=Z,264nm,1.0s						
PAL				LR	LR		
	comp=Z,87μm,19.0s						
Q40A	Laux Farm, Aux	55.32	345	P	P	19 04 03.4	-2.4
	baz=161,SNR=25						
S35A	Otter Creek Ra	55.32	341	P	P	19 04 03.5	-2.3
	baz=156,SNR=40						
P43A	Skaggs, Pawnee	55.35	347	P	P	19 04 03.4	-2.5
	baz=164,SNR=19						
N54A	Moraine State	55.35	356	P	P	19 04 04.2	-1.8
	baz=175,SNR=15						
ODNJ	Ogdensburg	55.37	1	eP	P	19 04 06.1	-0.1
	comp=Z,94nm,0.9s						
ODNJ				LR	LR		
	comp=Z,68μm,19.0s						
R37A	Teagarden Farm	55.44	342	P	P	19 04 04.4	-2.3
	baz=158,SNR=36						
P42A	Winchester	55.47	347	P	P	19 04 04.0	-2.9
	baz=163,SNR=26						
O45A	Potomac	55.58	349	P	P	19 04 04.3	-3.3
	baz=166,SNR=13						
SFIN	Lafayette	55.60	350	P	P	19 04 04.3	-3.4
	baz=167,SNR=28						
SFIN	Lafayette	55.60	350	eP	P	19 04 04.4	-3.4
	comp=Z,286nm,0.9s						
SFIN				LR	LR		
	comp=Z,62μm,20.0s						
S34A	Willow Spring	55.60	340	P	P	19 04 06.1	-1.7
	baz=155,SNR=23						
Q39A	Willow Grove F	55.60	344	P	P	19 04 05.7	-2.1
	baz=160,SNR=54						
O44A	Mansfield	55.63	349	P	P	19 04 04.6	-3.4
	baz=165						
R36A	Gordon, Harris	55.65	342	P	P	19 04 06.6	-1.7
	baz=157,SNR=21						
YLE	Yale	55.67	3	eP	P	19 04 08.6	+0.4
	comp=Z,1μm,1.3s						
YLE				LR	LR		
	comp=Z,186μm,22.0s						
319A	Douglas	55.67	325	eP	P	19 04 08.6	0.0
	comp=Z,517nm,1.1s						
319A				LR	LR		
	comp=Z,157μm,22.0s						
Q38A	Cooks Store, C	55.70	344	P	P	19 04 06.2	-2.3
	baz=159,SNR=69						
P41A	Barry, Barry	55.72	346	P	P	19 04 06.5	-2.2
	baz=162,SNR=24						
121A	Cookes Peak, D	55.77	328	P	P	19 04 08.6	-0.8
	baz=142,SNR=48						
P40A	Paris	55.82	345	P	P	19 04 07.2	-2.2
	baz=161,SNR=37						
KSPA	Keystone Colle	55.83	0	PFAKE		19 04 20.0	+11
KSPA				LR	LR		
	comp=Z,51μm,20.0s						
Q37A	Longview Farm,	55.85	343	P	P	19 04 07.4	-2.2
	baz=158						
R35A	Emporia Munici	55.87	341	P	P	19 04 08.1	-1.7
	baz=156,SNR=23						
M54A	Oil Creek Stat	55.88	357	P	P	19 04 07.2	-2.6
	baz=176,SNR=21						
O43A	Sugar Creek Fa	55.92	348	P	P	19 04 07.1	-3.0
	baz=164						
P39B	Salisbury	55.96	344	P	P	19 04 08.0	-2.4
	baz=160,SNR=60						
O42A	Bath	56.00	347	P	P	19 04 08.0	-2.6
	baz=164,SNR=12						
RKT	Rikitea	56.04	252	eP	P	19 04 08.8	-2.6
	comp=Z,323nm,1.3s						
RKT				eS	S	19 11 54.9	-3.5
	comp=Z,265μm,26.5s						
RKT				eLR	LR	19 20 31.4	
	comp=Z,247μm,26.8s,baz=85						
RKT	Rikitea	56.04	252	eT	T	20 04 31.9	
	comp=Z,133nm,0.2s						
N46A	Monticello	56.04	350	P	P	19 04 07.7	-3.2
	baz=167,SNR=15						
ALLY	Alegheny Colle	56.05	356	eP	P	19 04 09.2	-1.8
	comp=Z,260nm,0.9s						
ALLY				LR	LR		
	comp=Z,93μm,21.0s						
O41A	Passleys Farm,	56.10	346	P	P	19 04 08.4	-2.9
	baz=163,SNR=18						
N45A	Kentland	56.13	350	P	P	19 04 08.1	-3.5
	baz=166,SNR=17						
HDIL	Hopedale	56.18	348	P	P	19 04 08.8	-3.1
	baz=164,SNR=13						
HDIL	Hopedale	56.18	348	eP	P	19 04 10.3	-1.6
	comp=Z,359nm,1.1s						
HDIL				LR	LR		
	comp=Z,63μm,20.0s						
N44A	Piper City	56.19	349	P	P	19 04 09.0	-3.0
	baz=166,SNR=12						
R34A	Isabella, Hill	56.19	340	P	P	19 04 09.8	-2.3
	baz=155,SNR=48						
Q36A	Arnold C. Orve	56.23	342	P	P	19 04 10.3	-2.0
	baz=157,SNR=10.0						
P38A	Dawn	56.29	344	P	P	19 04 10.8	-2.0
	baz=160,SNR=54						
Q35A	Mercer Eighty,	56.31	341	P	P	19 04 11.1	-1.8
	baz=156,SNR=20						
O40A	La Belle	56.34	346	P	P	19 04 10.5	-2.5
	baz=161,SNR=41						
BRYW	Bryant College	56.35	4	eP	P	19 04 13.4	+0.3
	comp=Z,566nm,1.1s						
BRYW				LR	LR		
	comp=Z,144μm,22.0s						
BNM	Barren Site	56.48	330	eP	P	19 04 14.2	-0.2
P37A	Lathrop	56.48	343	P	P	19 04 11.7	-2.4
	baz=159,SNR=15						
ERPA	Erie	56.50	357	eP	P	19 04 12.4	-1.8
	comp=Z,455nm,1.1s						
ERPA				LR	LR		
	comp=Z,73μm,21.0s						
Y22D	IRIS PASSCAL I	56.56	329	P	P	19 04 13.7	-1.2
	baz=143						
Y22D	IRIS PASSCAL I	56.56	329	PFAKE		19 04 30.0	+15
Y22D				LR	LR		
	comp=Z,80μm,20.0s						
N42A	Yates City	56.59	347	P	P	19 04 11.7	-3.2
	baz=164,SNR=18						
LPM	Los Pinos Moun	56.61	330	eP	P	19 04 15.3	0.0
O39A	Kirksville	56.63	345	P	P	19 04 13.1	-2.1
	baz=161,SNR=20						
Q34A	Chapman	56.65	341	P	P	19 04 13.2	-2.2
	baz=156,SNR=24						
N41A	Harden Midland	56.66	347	P	P	19 04 12.4	-2.9
	baz=163,SNR=26						
QUA2	Belchertown	56.66	3	eP	P	19 04 15.4	+0.2
	comp=Z,209nm,1.2s						
QUA2				LR	LR		
	comp=Z,122μm,22.0s						
KSU1	Kansas State U	56.71	341	P	P	19 04 13.1	-2.6
	baz=156						
KSU1	Kansas State U	56.71	341	eP	P	19 04 15.4	-0.4
	comp=Z,270nm,1.1s						
KSU1				LR	LR		
	comp=Z,40μm,21.0s						
O38A	Galt	56.74	344	P	P	19 04 13.7	-2.3
	baz=160,SNR=9.4						
M44A	Midewin, Midew	56.74	349	P	P	19 04 13.0	-2.9
	baz=166,SNR=13						
P36A	Good Intent, A	56.76	342	P	P	19 04 13.8	-2.3
	baz=158,SNR=22						
BCX	Boston College	56.79	4	eP	P	19 04 16.6	+0.4
	comp=Z,564nm,1.4s						
BCX				LR	LR		
	comp=Z,236μm,21.0s						
WES	Weston	56.83	4	eP	P	19 04 14.7	-1.8
WES				pmax	pmax		
	comp=Z,201nm,0.9s						
WES				MLR	MLR		
	comp=Z,124μm,20.0s						
WES	Weston	56.83	4	eP	P	19 04 14.7	-1.8
	comp=Z,201nm,0.9s						
WES				LR	LR		
	comp=Z,124μm,20.0s						
P35A	Duane Minner,	56.92	342	P	P	19 04 15.0	-2.2
	baz=157,SNR=28						
LAZ	Ladron	56.93	329	eP	P	19 04 17.5	-0.2
HRV	Adam Dziewonsk	56.93	4	eP	P	19 04 16.8	-0.4
HRV				pmax	pmax		
	comp=Z,567nm,1.5s						
HRV				MLR	MLR		
	comp=Z,77μm,19.0s						
HRV	Adam Dziewonsk	56.93	4	eP	P	19 04 16.8	-0.4
	comp=Z,567nm,1.5s						
HRV				LR	LR		
	comp=Z,77μm,19.0s						
O37A	Wolven Farm, M	56.97	344	P	P	19 04 14.9	-2.6
	baz=159,SNR=42						
N40A	Mertquake, Sal	56.99	346	P	P	19 04 15.0	-2.7
	baz=162,SNR=16						
AAM	Ann Arbor	57.00	353	eP	P	19 04 14.5	-3.2
AAM				pmax	pmax		
	comp=Z,266nm,1.0s						
AAM				MLR	MLR		
	comp=Z,120μm,20.0s						
AAM	Ann Arbor	57.00	353	eP	P	19 04 14.5	-3.2
	comp=Z,266nm,1.0s						
AAM				LR	LR		
	comp=Z,120μm,20.0s						
MMNY	Mt. Morris Dam	57.03	358	eP	P	19 04 16.9	-1.0
ANMO	Albuquerque	57.04	330	PKPPKP	P'P'df	19 34 11.4	+5.2
	comp=Z,2.5nm,1.0s,baz=142,slow=4.5,SNR=5.1						
ANMO	Albuquerque	57.04	330	P	P	19 04 16.7	-1.7
	baz=144						
ANMO	Albuquerque	57.04	330	ceP	P	19 04 19.4	+1.0
ANMO				pmax	pmax		
	comp=Z,123nm,1.2s						
ANMO	Albuquerque	57.04	330	PFAKE		19 04 30.0	+12
ANMO				P'P'		19 34 11.4	
ANMO				LR	LR		
	comp=Z,74μm,19.0s						
TRY	Troy	57.05	2	eP	P	19 04 18.6	+0.6
	comp=Z,555nm,0.8s						
TRY				LR	LR		
	comp=Z,210μm,22.0s						
M42A	Sheffield	57.14	348	P	P	19 04 15.6	-3.1
	baz=164						
O36A	Bolckow	57.16	343	P	P	19 04 16.1	-2.9
	baz=158						
P34A	Walnut Farm, R	57.19	341	P	P	19 04 16.8	-2.4
	baz=156,SNR=26						
N39A	Derby Farms, D	57.21	345	P	P	19 04 16.8	-2.4
	baz=161,SNR=18						
TUC	Tucson	57.21	325	P	P	19 04 18.0	-1.6
	baz=139						
TUC	Tucson	57.21	325	eP	P	19 04 18.8	-0.8
TUC				pmax	pmax		
	comp=Z,485nm,1.5s						
TUC				MLR	MLR		
	comp=Z,132μm,21.0s						
TUC	Tucson	57.21	325	eP	P	19 04 18.8	-0.8
	comp=Z,484nm,1.5s						
TUC				LR	LR		
	comp=Z,132μm,21.0s						
M41A	Milan	57.23	347	P	P	19 04 16.6	-2.7
	baz=163						
BUF	Buffalo	57.25	358	eP	P	19 04 18.4	-1.1
N38A	Joes South For	57.31	345	P	P	19 04 18.0	-2.0
	baz=160,SNR=19						
M40A	Post Highland	57.47	346	P	P	19 04 18.2	-2.9
	baz=162						
L44A	Lake County Fo	57.49	350	P	P	19 04 18.0	-3.2
	baz=166						
CBKS	Cedar Bluff	57.51	338	P	P	19 04 19.8	-1.7
	baz=152,SNR=27						
CBKS	Cedar Bluff	57.51	338	PFAKE		19 04 30.0	+8.5
CBKS				LR	LR		
	comp=Z,38μm,21.0s						
N37A	Lee Faris, Mou	57.54	344	P	P	19 04 18.3	-3.3
	baz=159,SNR=25						
O35A	Humboldt	57.56	342	P	P	19 04 18.1	-3.7
	baz=157						
L43A	Garden Prairie	57.64	349	P	P	19 04 18.9	-3.4
	baz=165,SNR=25						
M39A	Webster	57.70	346	P	P	19 04 20.0	-2.7
	baz=161						
ACCN	Adirondack Com	57.70	2	eP	P	19 04 23.0	+0.3
	comp=Z,2μm,1.8s						
ACCN				LR	LR		
	comp=Z,113μm,22.0s						
O34A	Beatrice	57.72	341	P	P	19 04 20.1	-2.8
	baz=156,SNR=21						
N36A	Muff Farm, Cla	57.80	343	P	P	19 04 20.7	-2.7
	baz=158,SNR=29						
FFD	Franklin Falls	57.89	4	eP	P	19 04 23.4	-0.6
	comp=Z,343nm,1.2s						
FFD				LR	LR		
	comp=Z,158μm,22.0s						
L41A	Preston	57.89	347	P	P	19 04 20.5	-3.5
	baz=163,SNR=16						
M38A	Pleasantville	57.89	345	P	P	19 04 21.1	-2.9
	baz=160,SNR=24						
O33A	Hebron	57.91	341	P	P	19 04 21.8	-2.4
	baz=155,SNR=29						
T25A	Trinidad	57.91	333	P	P	19 04 23.2	-1.4
	baz=147,SNR=24						
T25A	Trinidad	57.91	333	eP	P	19 04 23.3	-1.2
	comp=Z,1μm,2.0s						
T25A				LR	LR		
	comp=Z,36μm,20.0s						
HGTCO	Madrid Canyon	58.00	333	PFAKE		19 04 40.0	+15
HGTCO				LR	LR		
	comp=Z,44μm,21.0s						
MHTCO	State Highway	58.02	333	eP	P	19 04 24.6	-0.8
	comp=Z,449nm,1.5s						
MHTCO				LR	LR		
	comp=Z,46μm,22.0s						
L40A	Anamosa	58.03	347	P	P	19 04 21.9	-3.1
	baz=163,SNR=26						
N35A	Tabor	58.03	343	P	P	19 04 22.4	-2.6
	baz=157						
K43A	Burlington	58.07	349	P	P	19 04 22.0	-3.3
	baz=166,SNR=21						
HNH	Hanover	58.08	3	eP	P	19 04 24.7	-0.6
	comp=Z,2μm,2.0s						
HNH				LR	LR		
	comp=Z,157μm,22.0s						
214A	Organ Pipe Nat	58.10	323	P	P	19 04 23.9	-1.9
	baz=137,SNR=51						
M37A	Trindle Farm,	58.10	344	P	P	19 04 23.1	-2.4
	baz=159,SNR=29						
N34A	Lincoln	58.27	342	P	P	19 04 24.1	-2.6
	baz=156,SNR=15						
L39A	Vinton	58.27	346	P	P	19 04 24.0	-2.7
	baz=162,SNR=14						
NCB	Newcomb	58.27	2	eP	P	19 04 26.2	-0.4
	comp=Z,5.7nm,1.5s						
NCB				LR	LR		
	comp=Z,1μm,22.0s						
K42A	Prairie Point,	58.33	349	P	P	19 04 25.1	-2.0
	baz=165,SNR=11						
MDV	Middlebury	58.33	2	eP	P	19 04 27.0	-0.1
M36A	Felix, Anita	58.35	344	P	P	19 04 24.8	-2.4
	baz=158,SNR=14						
SCIA	State Center	58.35	345	eP	P	19 04 26.1	-1.2
	comp=Z,426nm,1.3s						
SCIA				LR	LR		
	comp=Z,51μm,22.0s						
K41A	Shullsburg	58.36	348	P	P	19 04 25.5	-1.7
	baz=164,SNR=15						
X18A	Snowflake	58.45	327	eP	P	19 04 28.8	+0.4
	comp=Z,772nm,1.8s						
X18A				LR	LR		
	comp=Z,181μm,19.0s						
N33A	J Bar K, Exete	58.47	341	P	P	19 04 26.1	-2.0
	baz=156						
L38A	Oak Wood Farm,	58.51	345	P	P	19 04 26.4	-2.0
	baz=161,SNR=16						
M35A	Neola	58.61	343	P	P	19 04 26.8	-2.2
	baz=158,SNR=9.0						
K40A	Colesburg	58.62	347	P	P	19 04 26.6	-2.5
	baz=163,SNR=28						
LBNH	Lisbon	58.64	4	eP	P	19 04 29.8	+0.6
LBNH				pmax	pmax		
	comp=Z,837nm,1.8s						
LBNH				MLR	MLR		
	comp=Z,76μm,21.0s						
LBNH	Lisbon	58.64	4	eP	P	19 04 29.8	+0.6
	comp=Z,837nm,1.8s						
LBNH				LR	LR		
	comp=Z,76μm,21.0s						
JFWS	Jewell Farm	58.64	348	eP	P	19 04 28.1	-1.2
JFWS				pmax	pmax		
	comp=Z,166nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,62μm,21.0s						
JFWS	Jewell Farm	58.64	348	eP	P	19 04 28.1	-1.2
	comp=Z,166nm,0.9s						
JFWS				LR	LR		
	comp=Z,62μm,21.0s						
L37A	Phoenix Point,	58.70	345	P	P	19 04 27.2	-2.4
	baz=160						
J43A	Natural Harves	58.74	350	P	P	19 04 26.9	-3.1
	baz=166,SNR=27						
KSCO	Kaye Shedlock'	58.77	336	P	P	19 04 28.7	-1.7
	baz=150						
KSCO	Kaye Shedlock'	58.77	336	eP	P	19 04 30.2	-0.2
	comp=Z,1μm,1.9s						
KSCO				LR	LR		
	comp=Z,56μm,22.0s						
K39A	Oelwein	58.79	346	P	P	19 04 27.3	-3.1
	baz=162,SNR=16						
W18A	Petrified Fore	58.80	328	P	P	19 04 29.5	-1.2
	baz=141,SNR=70						
W18A	Petrified Fore	58.80	328	eP	P	19 04 30.0	-0.7
	comp=Z,2μm,1.9s						
W18A				LR	LR		
	comp=Z,128μm,18.0s						
J42A	Columbus	58.81	349	P	P	19 04 27.6	-2.8
	baz=165,SNR=15						
SDCO	Great Sand Dun	58.90	333	P	P	19 04 30.0	-1.5
	baz=146,SNR=78						
SDCO	Great Sand Dun	58.90	333	eP	P	19 04 30.6	-0.9
	comp=Z,1μm,1.9s						
SDCO				LR	LR		
	comp=Z,59μm,20.0s						
M34A	Aspy Farms, Fr	58.90	342	P	P	19 04 28.9	-2.2
	baz=157						
LONY	Lake Ozonia	58.91	1	PFAKE		19 04 40.0	+8.9
LONY				LR	LR		
	comp=Z,117μm,21.0s						
L36A	Harm Buss Farm	58.91	344	P	P	19 04 28.9	-2.3
	baz=159,SNR=16						
K38A	Parkersburg	58.95	346	P	P	19 04 28.9	-2.5
	baz=161						
J41A	Loganville	59.03	348	P	P	19 04 29.4	-2.5
	baz=164,SNR=21						
SADO	Sadowa	59.10	357	PKP2bc	P'P'bc	19 34 10.9	-1.1
	comp=Z,4.9nm,0.7s,baz=354,slow=10,SNR=1.9						
SADO	Sadowa	59.10	357	eP	P	19 04 29.4	-3.0
	comp=Z,275nm,1.1s						
SADO				⇑e		19 34 10.9	
SADO				LR	LR		
	comp=Z,83μm,22.0s						
WVL	Waterville	59.13	5	eP	P	19 04 33.2	+0.7
	comp=Z,703nm,1.6s						
WVL				LR	LR		
	comp=Z,188μm,21.0s						
M33A	Taylor Creek F	59.15	342	P	P	19 04 30.8	-2.0
	baz=156						
FRNY	Flat Rock	59.15	2	eP	P	19 04 31.5	-1.2
	comp=Z,872nm,1.4s						
FRNY				LR	LR		
	comp=Z,82μm,20.0s						
X16A	Lo Mia Camp, P	59.16	326	eP	P	19 04 33.0	-0.2
	comp=Z,713nm,1.6s						
X16A				LR	LR		
	comp=Z,167μm,21.0s						
L35A	Bielow Farm, R	59.16	343	P	P	19 04 30.7	-2.2
	baz=158						
J40A	Soldiers Grove	59.20	348	P	P	19 04 30.3	-2.8
	baz=163,SNR=20						
113A	Mohawk Valley,	59.24	323	eP	P	19 04 33.4	-0.3
	comp=Z,431nm,1.6s						
113A				LR	LR		
	comp=Z,82μm,20.0s						
L34A	Svendsen Farm,	59.27	343	P	P	19 04 30.5	-3.1
	baz=157,SNR=21						
K37A	Belmond	59.27	345	P	P	19 04 30.2	-3.4
	baz=160,SNR=12						
BGNE	Belgrade	59.30	341	P	P	19 04 31.0	-2.9
	baz=155,SNR=18						
BGNE	Belgrade	59.30	341	eP	P	19 04 33.8	-0.1
	comp=Z,888nm,1.0s						
BGNE				LR	LR		
	comp=Z,47μm,20.0s						
PLVO	Plevna	59.32	359	eP	P	19 04 32.2	-1.7
	comp=Z,210nm,1.0s						
PLVO				LR	LR		
	comp=Z,70μm,18.0s						
I42A	Draeger Farm,	59.33	349	P	P	19 04 31.2	-2.8
	baz=165,SNR=24						

J39A	Decorah	59.35	347	P	P	19 04 31.2	-3.0
	baz=162,SNR=20						
K36A	Gilmore City	59.36	344	P	P	19 04 31.9	-2.3
	baz=159,SNR=7.1						
S22A	4UR Ranch, Cre	59.49	332	P	P	19 04 34.0	-1.6
	baz=145,SNR=30						
S22A	4UR Ranch, Cre	59.49	332	eP	P	19 04 34.7	-0.9
	comp=Z,300nm,1.4s						
S22A				LR	LR		
	comp=Z,55μm,20.0s						
EMMW	East Machias	59.51	7	eP	P	19 04 38.6	+3.5
	comp=Z,381nm,1.2s						
EMMW				LR	LR		
	comp=Z,89μm,22.0s						
J38A	Wedel Dairy, R	59.51	346	P	P	19 04 32.0	-3.3
	baz=161,SNR=12						
GLMI	Grayling	59.60	353	eP	P	19 04 33.3	-2.6
	comp=Z,487nm,1.1s						
GLMI				eP	P	19 04 38.6	+2.7
GLMI				LR	LR		
	comp=Z,135μm,18.0s						
SACV	Santiago Islan	59.64	63	eP	P	19 04 35.8	-0.9
	comp=Z,219nm,1.1s						
K35A	Storm Lake	59.64	344	P	P	19 04 33.8	-2.4
	baz=158,SNR=13						
I40A	Norwalk	59.66	348	P	P	19 04 33.3	-3.0
	baz=164,SNR=12						
I41A	Arkdale	59.67	349	P	P	19 04 33.8	-2.5
	baz=164,SNR=13						
H43A	Windswept, Lux	59.69	350	P	P	19 04 33.7	-2.8
	baz=167,SNR=14						
L33A	Hoskins	59.71	342	P	P	19 04 33.5	-3.3
	baz=156,SNR=11						
Q24A	Divide	59.76	334	P	P	19 04 35.0	-2.5
	baz=147,SNR=41						
Q24A	Divide	59.76	334	eP	P	19 04 37.2	-0.3
	comp=Z,705nm,1.7s						
Q24A				LR	LR		
	comp=Z,58μm,21.0s						
J37A	Redenius Farm,	59.76	345	P	P	19 04 34.6	-2.4
	baz=160,SNR=20						
L32A	Elgin	59.79	341	P	P	19 04 34.6	-2.6
	baz=155						
I39A	Houston	59.81	347	P	P	19 04 34.3	-3.0
	baz=163,SNR=29						
MVCO	Mesa Verde	59.84	330	P	P	19 04 36.0	-2.0
	baz=143,SNR=42						
MVCO	Mesa Verde	59.84	330	eP	P	19 04 37.6	-0.3
	comp=Z,908nm,1.8s						
MVCO				LR	LR		
	comp=Z,58μm,19.0s						
K34A	Le Mars	59.85	343	P	P	19 04 35.2	-2.4
	baz=157						
PKME	Peaks-Kenny Pk	59.86	6	eP	P	19 04 37.8	+0.2
	comp=Z,1μm,1.9s						
PKME				LR	LR		
	comp=Z,102μm,22.0s						
H42A	Shiocton	59.86	350	P	P	19 04 35.2	-2.5
	baz=166,SNR=14						
WUAZ	Wupatki	59.96	327	P	P	19 04 37.4	-1.3
	baz=140,SNR=96						
WUAZ	Wupatki	59.96	327	eP	P	19 04 38.7	0.0
	comp=Z,493nm,1.2s						
WUAZ				LR	LR		
	comp=Z,141μm,19.0s						
J36A	Seneca 1, Swea	59.97	345	P	P	19 04 36.0	-2.4
	baz=159						
GGN	Saint George	59.98	8	eP	P	19 04 38.7	+0.3
	comp=Z,556nm,1.4s						
GGN				LR	LR		
	comp=Z,74μm,20.0s						
K33A	Hardington	60.03	342	P	P	19 04 36.3	-2.6
	baz=156						
GLA	Glamis	60.06	323	P	P	19 04 37.3	-2.0
	baz=136,SNR=17						
GLA	Glamis	60.06	323	eP	P	19 04 40.9	+1.5
GLA				pmax	pmax		
	comp=Z,260nm,1.4s						
GLA				MLR	MLR		
	comp=Z,46μm,20.0s						
GLA	Glamis	60.06	323	eP	P	19 04 40.9	+1.5
	comp=Z,260nm,1.4s						
GLA				LR	LR		
	comp=Z,46μm,20.0s						
I38A	Scanlan Farm,	60.16	347	P	P	19 04 36.9	-2.9
	baz=162,SNR=36						
H41A	Junction City	60.16	349	P	P	19 04 36.5	-3.2
	baz=165,SNR=21						
OGNE	Ogallala	60.22	338	P	P	19 04 38.4	-1.9
	baz=151,SNR=20						
OGNE	Ogallala	60.22	338	eP	P	19 04 39.6	-0.7
	comp=Z,704nm,1.4s						
OGNE				LR	LR		
	comp=Z,31μm,19.0s						
J35A	Milford	60.23	344	P	P	19 04 38.0	-2.2
	baz=158						
H10S3	ASCENSION HYDR	60.28	92	P	P	19 04 40.3	-0.6
	baz=270,slow=9.3,SNR=11						
H10S2	ASCENSION HYDR	60.30	92	P	P	19 04 40.8	-0.2
	baz=270,slow=9.3,SNR=9.8						
H10S1	ASCENSION HYDR	60.30	92	P	P	19 04 40.7	-0.3
	baz=270,slow=9.3,SNR=20						
H40A	Chili	60.31	348	P	P	19 04 37.8	-3.0
	baz=164,SNR=39						
J34A	George	60.36	343	P	P	19 04 38.6	-2.5
	baz=158,SNR=12						
K32A	Verdigre	60.38	342	P	P	19 04 38.5	-2.8
	baz=155,SNR=11						
I37A	Lemond, Waseca	60.39	346	P	P	19 04 38.6	-2.7
	baz=160,SNR=11						
Y12C	Blythe	60.39	323	P	P	19 04 40.5	-1.0
	baz=136,SNR=24						
Y12C	Blythe	60.39	323	eP	P	19 04 41.5	0.0
	comp=Z,286nm,1.2s						
Y12C				LR	LR		
	comp=Z,124μm,19.0s						
G43A	Wallace	60.45	351	P	P	19 04 38.8	-2.9
	baz=167,SNR=17						
TRQ	Mont Tremblant	60.51	1	eP	P	19 04 41.2	-0.9
H09W1	TRISTAN DA CUN	60.53	125	P	P	19 04 43.6	+1.1
I36A	Fitzsimmons Fa	60.54	345	P	P	19 04 39.7	-2.7
	baz=160						
H09N1	TRISTAN DA CUN	60.54	124	P	P	19 04 44.2	+1.6
TRIS	Tristan da Cun	60.54	124	eP	P	19 04 44.1	+1.5
	comp=Z,479nm,1.1s						
TRIS				LR	LR		
	comp=Z,53μm,20.0s						
IKP	In-Ko-Pah, Jac	60.54	321	P	P	19 04 41.8	-0.9
	baz=134,SNR=16						
H39A	Augusta	60.55	348	P	P	19 04 40.2	-2.1
	baz=163,SNR=26						
F46A	Macinaw City C	60.55	353	P	P	19 04 38.9	-3.5
	baz=170						
G42A	Mountain	60.55	350	P	P	19 04 40.1	-2.3
	baz=166,SNR=18						
F45A	CMU Biological	60.56	352	P	P	19 04 38.7	-3.6
	baz=169						
SWSC	Sam W. Stewart	60.56	322	P	P	19 04 42.0	-0.8
	baz=135,SNR=5.3						
PDMCI	Parker Dam,Lak	60.57	324	P	P	19 04 41.7	-1.1
	baz=137,SNR=22						
K31A	O'Neill	60.59	341	P	P	19 04 41.2	-1.5
	baz=155,SNR=46						
PV01	Paradox Valley	60.61	331	eP	P	19 04 42.6	-0.6
I35A	Creekview Farm	60.63	344	P	P	19 04 41.0	-2.0
	baz=159						
G41A	Antigo	60.65	349	P	P	19 04 40.8	-2.3
	baz=165						
ISCO	Idaho Springs	60.66	334	P	P	19 04 42.1	-1.5
	baz=147,SNR=60						
ISCO	Idaho Springs	60.66	334	eP	P	19 04 43.3	-0.3
ISCO				pmax	pmax		
	comp=Z,523nm,1.8s						
ISCO				MLR	MLR		
	comp=Z,67μm,21.0s						
ISCO	Idaho Springs	60.66	334	eP	P	19 04 43.2	-0.3
	comp=Z,523nm,1.8s						
ISCO				LR	LR		
	comp=Z,67μm,21.0s						
H10N3	ASCENSION HYDR	60.67	91	P	P	19 04 43.4	-0.1
	baz=248,slow=6.7,SNR=8.1						
H10N2	ASCENSION HYDR	60.68	91	P	P	19 04 44.0	+0.4
	baz=248,slow=6.7,SNR=10						
H10N1	ASCENSION HYDR	60.69	91	P	P	19 04 43.1	-0.5
	baz=248,slow=6.7,SNR=9.6						
SMCO	Snowmass	60.73	333	eP	P	19 04 43.5	-0.7
	comp=Z,541nm,1.7s						
SMCO				LR	LR		
	comp=Z,84μm,19.0s						
H38A	Maiden Rock	60.76	347	P	P	19 04 41.0	-2.8
	baz=162,SNR=18						
ASCN	Ascension	60.79	91	eP	P	19 04 44.8	+0.1
	comp=Z,802nm,1.1s						
ASCN				LR	LR		
	comp=Z,336μm,22.0s						
H37A	Dierke Farm, C	60.81	346	P	P	19 04 41.7	-2.5
	baz=161,SNR=15						
BC3	Big Chuckawall	60.86	323	P	P	19 04 42.3	-2.6
	baz=135,SNR=71						
G40A	Rib Lake	60.90	349	P	P	19 04 41.9	-2.9
	baz=164,SNR=14						
MONP2	Monument Peak	60.90	321	P	P	19 04 43.9	-1.4
	baz=134,SNR=24						
BAR	Barrett	60.91	321	eP	P	19 04 45.3	+0.2
	comp=Z,339nm,1.5s						
BAR				LR	LR		
	comp=Z,43μm,18.0s						
F43A	Flat Rock, Esc	60.93	351	P	P	19 04 41.8	-3.1
	baz=168,SNR=16						
ECSD	EROS Data Cent	60.96	343	P	P	19 04 43.0	-2.2
	baz=157,SNR=82						
ECSD	EROS Data Cent	60.96	343	eP	P	19 04 44.0	-1.2
	comp=Z,428nm,1.1s						
ECSD				LR	LR		
	comp=Z,48μm,22.0s						
F44A	Big Bay de Noc	60.96	352	P	P	19 04 41.9	-3.2
	baz=168						
J32A	Parkston	60.99	342	P	P	19 04 43.0	-2.4
	baz=156						
LMN	Caledonia Moun	60.99	9	eP	P	19 04 45.3	0.0
LMN				LR	LR		
	comp=Z,90μm,22.0s						
F42A	Maple Grove Fa	61.01	350	P	P	19 04 42.7	-2.8
	baz=166						
W13A	Hualapai Mount	61.01	325	eP	P	19 04 46.1	+0.1
	comp=Z,634nm,1.6s						
W13A				LR	LR		
	comp=Z,65μm,18.0s						
I34A	Hadley	61.03	344	P	P	19 04 43.1	-2.7
	baz=158						
IRM	Iron Mountain	61.04	323	P	P	19 04 45.2	-0.8
	baz=136,SNR=129						
H36A	Jessenland, He	61.04	346	P	P	19 04 43.3	-2.5
	baz=160,SNR=17						
G39A	Holcombe	61.10	348	P	P	19 04 43.7	-2.4
	baz=163,SNR=36						
G38A	Ridgeland	61.13	347	P	P	19 04 43.6	-2.8
	baz=162,SNR=54						
U15A	North Rim	61.13	327	eP	P	19 04 47.0	+0.1
	comp=Z,815nm,1.8s						
U15A				LR	LR		
	comp=Z,169μm,20.0s						
F41A	Three Lakes	61.15	350	P	P	19 04 43.8	-2.7
	baz=166,SNR=12						
E45A	Wooded Hills,	61.18	353	P	P	19 04 43.6	-3.0
	baz=170						
NEE2	Needles Airpor	61.18	324	P	P	19 04 46.0	-0.8
	baz=136						
J31A	Geddes	61.19	341	P	P	19 04 44.1	-2.6
	baz=155						
I33A	Coleman	61.30	343	P	P	19 04 45.2	-2.3
	baz=157,SNR=19						
109C	Camp Elliot, M	61.31	321	P	P	19 04 47.0	-0.8
	baz=134						
PQI	Presque Isle	61.38	6	eP	P	19 04 47.7	-0.2
	comp=Z,1μm,1.9s						
PQI				LR	LR		
	comp=Z,133μm,20.0s						
H35A	Sunnyside Ranc	61.38	345	P	P	19 04 45.5	-2.5
	baz=159,SNR=16						
SPMN	Marine on St.	61.39	347	P	P	19 04 45.2	-2.9
	baz=161,SNR=32						
SPMN	Marine on St.	61.39	347	eP	P	19 04 47.5	-0.6
	comp=Z,551nm,0.9s						
SPMN				LR	LR		
	comp=Z,36μm,20.0s						
XPFO	Piæon Flat	61.42	322	eP	P	19 04 48.8	+0.1
	comp=Z,586nm,1.4s						
XPFO				LR	LR		
	comp=Z,85μm,22.0s						
BELC	Belle Mtn. Jos	61.42	323	P	P	19 04 47.8	-1.0
	baz=135,SNR=73						
PFO	Pinyon Flats O	61.42	322	P	P	19 04 48.7	0.0
	baz=134,SNR=54						
PFO	Pinyon Flats O	61.42	322	eP	P	19 04 48.8	0.0
PFO				pmax	pmax		
	comp=Z,503nm,1.4s						
PFO				MLR	MLR		
	comp=Z,82μm,22.0s						
PFO	Pinyon Flats O	61.42	322	eP	P	19 04 48.8	0.0
	comp=Z,502nm,1.4s						
PFO				LR	LR		
	comp=Z,82μm,22.0s						
E43A	Lone Tree Farm	61.44	351	P	P	19 04 45.6	-2.8
	baz=168,SNR=14						
I32A	Karley and Nic	61.47	343	P	P	19 04 46.9	-1.8
	baz=156						
F40A	Park Falls	61.51	349	P	P	19 04 46.0	-2.9
	baz=164,SNR=30						
E44A	Grand Marais A	61.53	352	P	P	19 04 46.4	-2.6
	baz=169						
H34A	Spellman Lake,	61.60	344	P	P	19 04 46.7	-2.8
	baz=158,SNR=16						
G36A	St. Michael	61.62	346	P	P	19 04 47.5	-2.1
	baz=160,SNR=12						
E42A	Champion	61.63	351	P	P	19 04 46.8	-2.9
	baz=167,SNR=12						
F39A	Loretta	61.66	348	P	P	19 04 47.0	-2.8
	baz=164,SNR=21						
LDFC	Landfair	61.68	324	eP	P	19 04 51.2	+0.8
	comp=Z,595nm,1.6s						
LDFC				LR	LR		
	comp=Z,66μm,19.0s						
N23A	Red Feather La	61.71	335	P	P	19 04 49.1	-1.6
	baz=147						
N23A	Red Feather La	61.71	335	eP	P	19 04 50.1	-0.6
	comp=Z,512nm,1.9s						
N23A				LR	LR		
	comp=Z,37μm,20.0s						
EKU	East Kanab	61.73	327	eP	P	19 04 51.5	+0.7
G35A	Watkins	61.78	345	P	P	19 04 48.7	-2.0
	baz=160						
GMRC	Granite Mounta	61.78	324	P	P	19 04 50.2	-0.9
	baz=136,SNR=48						
I31A	Royce, Wessing	61.79	342	P	P	19 04 48.4	-2.4
	baz=155						
F37A	Hichs Farm,	61.83	347	P	P	19 04 48.2	-2.8
	baz=162,SNR=20						
E41A	Kenton	61.83	350	P	P	19 04 47.8	-3.2
	baz=166,SNR=18						
PHWY	Pilot Hill	61.85	335	eP	P	19 04 52.0	+0.4
	comp=Z,732nm,1.8s						
PHWY				LR	LR		
	comp=Z,26μm,18.0s						
MURC	Murrieta	61.86	322	P	P	19 04 50.7	-0.8
	baz=134,SNR=28						
KNB	Kanab	61.86	327	eP	P	19 04 51.9	+0.2
KNB				pmax	pmax		
	comp=Z,651nm,1.3s						
KNB				MLR	MLR		
	comp=Z,135μm,20.0s						
KNB	Kanab	61.86	327	eP	P	19 04 51.9	+0.2
	comp=Z,651nm,1.3s						
KNB				LR	LR		
	comp=Z,135μm,20.0s						
H33A	Prehn Over Nor	61.87	343	P	P	19 04 48.9	-2.5
	baz=157,SNR=19						
F38A	Pierce - Schro	61.89	348	P	P	19 04 49.3	-2.2
	baz=162,SNR=27						
H32A	Carlson Farm,	61.90	343	P	P	19 04 49.1	-2.5
	baz=156,SNR=14						
PKCU	Pink Cliffs	61.91	328	eP	P	19 04 53.0	+0.8
	comp=Z,769nm,1.7s						
PKCU				LR	LR		
	comp=Z,96μm,19.0s						
E40A	Wakefield	61.97	349	P	P	19 04 49.1	-2.9
	baz=165,SNR=51						
E39A	Mellen	62.03	349	P	P	19 04 49.9	-2.5
	baz=164,SNR=31						
O20A	White River Ci	62.07	333	P	P	19 04 51.4	-1.6
	baz=144,SNR=15						
O20A	White River Ci	62.07	333	eP	P	19 04 52.4	-0.7
	comp=Z,446nm,1.4s						
O20A				LR	LR		
	comp=Z,106μm,19.0s						
LCMT	Little Creek M	62.08	327	eP	P	19 04 52.9	-0.2
	comp=Z,422nm,1.5s						
LCMT				LR	LR		
	comp=Z,146μm,20.0s						
G34A	Benson	62.09	345	P	P	19 04 50.2	-2.6
	baz=158						
BBRC	Big Bear Solar	62.15	322	P	P	19 04 53.9	+0.2
	baz=134						
F36A	Milaca	62.16	346	P	P	19 04 50.5	-2.8
	baz=161,SNR=106						
H31A	Wolsey	62.18	342	P	P	19 04 51.5	-2.0
	baz=155						
HEC	Hector,Ludlow	62.21	323	P	P	19 04 52.7	-1.2
	baz=135,SNR=25						
G33A	Ortonville	62.26	344	P	P	19 04 51.5	-2.4
	baz=158,SNR=18						
SCI2	San Clemente I	62.26	320	P	P	19 04 53.7	-0.5
	baz=132,SNR=16						
SUSD	Miller	62.29	342	P	P	19 04 51.8	-2.4
	baz=155,SNR=19						
MTPU	Mount Pierson	62.31	328	eP	P	19 04 54.4	-0.4
	comp=Z,660nm,1.9s						
MTPU				LR	LR		
	comp=Z,148μm,18.0s						
SRU	San Rafael Swe	62.31	330	eP	P	19 04 53.3	-1.3
SRU				pmax	pmax		
	comp=Z,654nm,1.6s						
SRU				MLR	MLR		
	comp=Z,119μm,19.0s						
SRU	San Rafael Swe	62.31	330	eP	P	19 04 53.3	-1.3
	comp=Z,654nm,1.6s						
SRU				LR	LR		
	comp=Z,119μm,19.0s						
D41A	Chassel	62.34	350	P	P	19 04 51.3	-3.2
	baz=166,SNR=12						
VLDQ	Val d'Or	62.40	359	eP	P	19 04 52.8	-1.9
	comp=Z,538nm,1.4s						
VLDQ				LR	LR		
	comp=Z,58μm,19.0s						
TUQ	Turquoise Moun	62.40	324	P	P	19 04 55.0	-0.3
	baz=136,SNR=16						
F35A	Swanville	62.40	346	P	P	19 04 53.4	-1.5
	baz=160,SNR=22						
SZCU	Shurtz Canyon	62.43	327	eP	P	19 04 55.5	0.0
	comp=Z,835nm,1.9s						
SZCU				LR	LR		
	comp=Z,132μm,19.0s						
E38A	The Farm, Brul	62.45	348	P	P	19 04 52.6	-2.5
	baz=163,SNR=19						
CIS	Catalina Islan	62.46	321	P	P	19 04 55.1	-0.5
	baz=133,SNR=26						
Q16A	Castle Valley	62.48	330	eP	P	19 04 55.3	-0.5
	comp=Z,1μm,1.9s						
Q16A				LR	LR		
	comp=Z,74μm,18.0s						
F34A	Alexandria	62.51	345	P	P	19 04 54.0	-1.6
	baz=159						
CCUT	Cedar City	62.54	327	eP	P	19 04 56.7	+0.4
	comp=Z,358nm,1.3s						
CCUT				LR	LR		
	comp=Z,151μm,20.0s						
BFSC	Mount Baldy Ra	62.58	322	P	P	19 04 55.2	-1.3
	baz=134,SNR=52						
E37A	Wrenshall	62.58	347	P	P	19 04 54.2	-1.8
	baz=162						
P18A	Preston Nutter	62.59	331	eP	P	19 04 56.1	-0.5
	comp=Z,637nm,1.6s						
P18A				LR	LR		
	comp=Z,152μm,19.0s						
FMP	Fort Macarthur	62.60	321	P	P	19 04 56.0	-0.4
	baz=133						
G32A	Webster	62.61	343	P	P	19 04 53.4	-2.9
	baz=156						
RRX	Edison Barstow	62.62	323	P	P	19 04 56.0	-0.7
	baz=134						
MSU	Marysvale	62.66	329	eP	P	19 04 56.6	-0.5
MSU	Marysvale	62.66	329	eP	P	19 04 56.6	-0.5
P17A	Butcher Ranch,	62.70	330	eP	P	19 04 56.6	-0.6
	comp=Z,314nm,1.1s						
P17A				LR	LR		
	comp=Z,87μm,20.0s						
E36A	McGregor	62.72	347	P	P	19 04 54.5	-2.5
	baz=161,SNR=63						
SHPR	Sheep Range	62.74	325	eP	P	19 04 57.5	0.0
	comp=Z,683nm,1.7s						
SHPR				LR	LR		
	comp=Z,42μm,19.0s						
G31A	Conde	62.78	343	P	P	19 04 55.3	-2.2
	baz=156						
TAOE	Nuku Hiva Isla	62.79	267	eP	P	19 04 55.5	-2.8
	comp=Z,512nm,1.5s						
TAOE				eS	S	19 13 23.4	-2.7
	comp=Z,286μm,26.5s						
TAOE				eLQ	LQ	19 21 00.4	
	comp=Z,107μm,28.2s						
TAOE				eLR	LR	19 23 36.6	
	comp=Z,437μm,24.7s,baz=103						
TAOE	Nuku Hiva Isla	62.79	267	eT	T	20 12 52.8	
	comp=Z,269nm,0.2s						
TAOE	Nuku Hiva Isla	62.79	267	PFAKE		19 05 10.0	+12
TAOE				LR	LR		
	comp=Z,240μm,20.0s						
TMUT	Trail Mountain	62.79	330	eP	P	19 04 57.4	-0.6
	comp=Z,678nm,1.9s						
MWC	Mount Wilson	62.81	321	eP	P	19 04 58.5	+0.5
MWC				pmax	pmax		
	comp=Z,1μm,1.7s						
MWC				MLR	MLR		
	comp=Z,38μm,20.0s						
MWC	Mount Wilson	62.81	321	eP	P	19 04 58.5	+0.5
	comp=Z,1μm,1.7s						
MWC				LR	LR		
	comp=Z,38μm,20.0s						
GSC	Goldstone, Bar	62.81	323	P	P	19 04 57.4	-0.6
	baz=135,SNR=48						
GSC	Goldstone, Bar	62.81	323	eP	P	19 04 57.7	-0.2
GSC				pmax	pmax		
	comp=Z,547nm,1.6s						
GSC				MLR	MLR		
	comp=Z,84μm,19.0s						
GSC	Goldstone, Bar	62.81	323	eP	P	19 04 57.7	-0.2
	comp=Z,547nm,1.6s						
GSC				LR	LR		
	comp=Z,84μm,19.0s						
F33A	5 Mile Ranch,	62.82	344	P	P	19 04 55.9	-1.8
	baz=158,SNR=44						
PASC	Pasadena Art C	62.85	321	eP	P	19 05 00.4	+2.3
	comp=Z,940nm,1.6s						
PASC				LR	LR		
	comp=Z,40μm,21.0s						
TCRU	Three Creeks R	62.87	329	PFAKE		19 05 10.0	+12
TCRU				LR	LR		
	comp=Z,166μm,18.0s						
RWWY	Rawlins	62.90	334	eP	P	19 04 58.8	+0.2
	comp=Z,2μm,2.0s						
RWWY				LR	LR		
	comp=Z,96μm,22.0s						
SHOC	Shoshone, Teco	62.93	324	P	P	19 04 58.5	-0.2
	baz=135,SNR=15						
SNO	Snow College	62.96	330	eP	P	19 04 59.1	0.0
WCU	Willow Creek	62.97	329	eP	P	19 04 58.8	-0.4
DECC	Green Verdugo	62.99	321	P	P	19 04 59.3	+0.2
	baz=133						
E35A	Pequot Lakes	63.02	346	P	P	19 04 57.5	-1.5
	baz=160,SNR=37						
SNCC	San Nicolas Is	63.05	320	P	P	19 04 58.8	-0.7
	baz=132						
SNCC	San Nicolas Is	63.05	320	eP	P	19 04 59.7	+0.2
	comp=Z,471nm,1.4s						
SNCC				LR	LR		
	comp=Z,44μm,20.0s						
F32A	Veblen	63.07	344	P	P	19 04 57.4	-2.0
	baz=157						
D37A	Cotton	63.15	348	P	P	19 04 57.7	-2.2
	baz=162,SNR=50						
E34A	Wadena	63.16	345	P	P	19 04 58.4	-1.5
	baz=159,SNR=20						
EDW2	Edwards Air Fo	63.22	322	P	P	19 04 59.8	-0.9
	baz=134,SNR=134						
D36A	Goodland	63.32	347	P	P	19 04 58.8	-2.2
	baz=161,SNR=15						
BLG	Laguna Peak, P	63.34	321	P	P	19 05 01.2	-0.2
	baz=132						
C39A	Grand Marais	63.34	349	P	P	19 04 58.5	-2.5
	baz=165,SNR=20						
E33A	Westby DABS, E	63.36	345	P	P	19 04 59.4	-1.8
	baz=158,SNR=13						
F31A	Hecla	63.38	343	P	P	19 04 58.9	-2.4
	baz=156,SNR=19						

K22A	**Casper**	**63.41 335**	P	**P**	**19 05 00.3**	**-1.6**	
	baz=147,SNR=27						
K22A	**Casper**	**63.41 335**	*e*P	**P**	**19 05 00.7**	**-1.2**	
	comp=Z,735nm,1.8s						
K22A			LR	LR			
	comp=Z,42µm,19.0s						
D35A	**Remer**	**63.43 346**	P	**P**	**19 04 59.5**	**-2.2**	
	baz=160,SNR=12						
LRMC	**Laurel Mtn Rad**	**63.45 323**	P	**P**	**19 05 02.2**	**0.0**	
	baz=134,SNR=32						
C38A	**Sawbill Land.**	**63.45 349**	P	**P**	**19 04 59.0**	**-2.8**	
	baz=163,SNR=24						
OSI	**Osito Audit: C**	**63.47 321**	P	**P**	**19 05 01.8**	**-0.5**	
	baz=133						
OSI	**Osito Audit: C**	**63.47 321**	*e*P	**P**	**19 05 02.7**	**+0.4**	
	comp=Z,334nm,1.3s						
OSI			LR	LR			
	comp=Z,46µm,20.0s						
PSUT	**Pine Spring**	**63.54 328**	*e*P	**P**	**19 05 02.2**	**-0.7**	
	comp=Z,126nm,1.0s						
PSUT			LR	LR			
	comp=Z,97µm,19.0s						
SCZ2	**Santa Cruz Isl**	**63.61 320**	P	**P**	**19 05 02.5**	**-0.7**	
	baz=132						
C37A	**Embarrass**	**63.65 348**	P	**P**	**19 05 01.2**	**-1.9**	
	baz=162,SNR=56						
TPNV	**Topopah Spring**	**63.66 325**	P	**P**	**19 05 03.3**	**-0.3**	
	baz=136,SNR=74						
TPNV	**Topopah Spring**	**63.66 325**	*e*P	**P**	**19 05 03.5**	**-0.2**	
TPNV			pmax	pmax			
	comp=Z,787nm,1.7s						
TPNV			MLR	MLR			
	comp=Z,68µm,19.0s						
TPNV	**Topopah Spring**	**63.66 325**	*e*P	**P**	**19 05 03.5**	**-0.2**	
	comp=Z,787nm,1.7s						
TPNV			LR	LR			
	comp=Z,68µm,19.0s						
FURC	**Furnace Creek,**	**63.67 324**	P	**P**	**19 05 03.0**	**-0.4**	
	baz=135,SNR=40						
D34A	**Park Rapids**	**63.70 346**	P	**P**	**19 05 01.7**	**-1.8**	
	baz=159,SNR=20						
RSSD	**Black Hills**	**63.71 338**	P	**P**	**19 05 02.3**	**-1.5**	
	baz=150						
RSSD	**Black Hills**	**63.71 338**	*e*P	**P**	**19 05 02.8**	**-1.1**	
RSSD			pmax	pmax			
	comp=Z,689nm,1.6s						
RSSD			MLR	MLR			
	comp=Z,49µm,22.0s						
RSSD	**Black Hills**	**63.71 338**	*e*P	**P**	**19 05 02.8**	**-1.1**	
	comp=Z,689nm,1.6s						
RSSD			LR	LR			
	comp=Z,49µm,22.0s						
EYMN	**Ely**	**63.72 349**	P	**P**	**19 05 01.1**	**-2.5**	
	baz=163,SNR=24						
EYMN	**Ely**	**63.72 349**	*e*P	**P**	**19 05 01.8**	**-1.7**	
	comp=Z,478nm,1.4s						
EYMN			LR	LR			
	comp=Z,57µm,20.0s						
E32A	**Braaten, Kindr**	**63.72 344**	P	**P**	**19 05 01.4**	**-2.2**	
	baz=157						
NLU	**North Lily Min**	**63.72 330**	*e*P	**P**	**19 05 03.6**	**-0.4**	
	comp=Z,776nm,1.8s						
NLU			LR	LR			
	comp=Z,108µm,18.0s						
MPMC	**Manual Prospec**	**63.74 323**	P	**P**	**19 05 03.8**	**-0.4**	
	baz=134,SNR=80						
C36A	**Pine Crest Far**	**63.81 348**	P	**P**	**19 05 02.0**	**-2.2**	
	baz=162,SNR=60						
ARVC	**Arvin**	**63.89 322**	P	**P**	**19 05 04.3**	**-0.6**	
	baz=133						
E31A	**Nome**	**63.91 343**	P	**P**	**19 05 02.5**	**-2.4**	
	baz=156						
D33A	**AnnSam, Waubun**	**63.91 345**	P	**P**	**19 05 03.1**	**-1.8**	
	baz=158,SNR=9.9						
JLU	**Jordanelle**	**63.92 331**	*e*P	**P**	**19 05 05.0**	**-0.4**	
	comp=Z,1µm,1.6s						
JLU			LR	LR			
	comp=Z,81µm,20.0s						
DAC	**Darwin (Calif)**	**63.95 323**	PFAKE		19 05 20.0	+14	
DAC			LR	LR			
	comp=Z,74µm,19.0s						
SBC	**Santa Barbara**	**63.96 321**	P	**P**	**19 05 04.2**	**-1.3**	
	baz=132						
RCJ	**Ross Creek**	**63.96 331**	*e*P	**P**	**19 05 06.2**	**+0.6**	
C35A	**Jirik Farms, M**	**64.00 347**	P	**P**	**19 05 03.3**	**-2.2**	
	baz=161,SNR=21						
ISA	**Isabella, Lake**	**64.04 322**	P	**P**	**19 05 05.2**	**-0.9**	
	baz=133,SNR=12						
ISA	**Isabella, Lake**	**64.04 322**	*e*P	**P**	**19 05 06.6**	**+0.5**	
ISA			pmax	pmax			
	comp=Z,445nm,1.7s						
ISA			MLR	MLR			
	comp=Z,44µm,20.0s						
ISA	**Isabella, Lake**	**64.04 322**	*e*P	**P**	**19 05 06.6**	**+0.5**	
	comp=Z,445nm,1.7s						
ISA			LR	LR			
	comp=Z,44µm,20.0s						
CTU	**Camp Tracy**	**64.14 331**	*e*P	**P**	**19 05 06.2**	**-0.6**	
	comp=Z,161nm,1.0s						
CTU			LR	LR			
	comp=Z,68µm,22.0s						
C34A	**RKJ Ranch, Bem**	**64.17 346**	P	**P**	**19 05 04.4**	**-2.2**	
	baz=160,SNR=20						
FSU	**Fish Springs**	**64.19 329**	*e*P	**P**	**19 05 07.0**	**-0.1**	
D32A	**Dogwood Acres,**	**64.21 344**	P	**P**	**19 05 05.3**	**-1.5**	
	baz=157						
DUG	**Dugway, Tooele**	**64.27 329**	P	**P**	**19 05 06.6**	**-0.9**	
	baz=140,SNR=126						
DUG	**Dugway, Tooele**	**64.27 329**	*e*P	**P**	**19 05 07.2**	**-0.3**	
DUG			MLR	MLR			
	comp=Z,92µm,19.0s						
DUG	**Dugway, Tooele**	**64.27 329**	*e*P	**P**	**19 05 07.2**	**-0.3**	
DUG			LR	LR			
	comp=Z,92µm,19.0s						
TCUT	**Toone Canyon**	**64.31 331**	PFAKE		19 05 20.0	+12	
TCUT			LR	LR			
	comp=Z,151µm,20.0s						
R11A	**Troy Canyon, C**	**64.31 326**	P	**P**	**19 05 07.6**	**-0.4**	
	baz=137,SNR=78						
R11A	**Troy Canyon, C**	**64.31 326**	PFAKE		19 05 20.0	+12	
R11A			LR	LR			
	comp=Z,67µm,18.0s						
D31A	**Mcclaflin, Tow**	**64.32 344**	P	**P**	**19 05 05.8**	**-1.8**	
	baz=157						
PKM	**Mcpherson Peak**	**64.32 321**	P	**P**	**19 05 08.0**	**-0.1**	
	baz=132,SNR=38						
GRAC	**Grapevine Rang**	**64.33 324**	P	**P**	**19 05 07.4**	**-0.5**	
	baz=135,SNR=30						
CWC	**Cottonwood Cre**	**64.35 323**	P	**P**	**19 05 08.0**	**-0.2**	
	baz=134						
C33A	**Trail**	**64.47 345**	P	**P**	**19 05 05.8**	**-2.8**	
	baz=159,SNR=14						
VES	**Vestal, Richgr**	**64.52 322**	P	**P**	**19 05 08.7**	**-0.4**	
	baz=133,SNR=16						
B35A	**Bob, Littlefor**	**64.57 347**	P	**P**	**19 05 07.5**	**-1.6**	
	baz=161						
MCU	**Monte Cristo P**	**64.62 331**	*e*P	**P**	**19 05 08.9**	**-1.2**	
SMMC	**Simmler**	**64.72 321**	P	**P**	**19 05 09.9**	**-0.5**	
	baz=132,SNR=23						
C32A	**Crookston**	**64.72 345**	P	**P**	**19 05 08.6**	**-1.5**	
	baz=158						
HWUT	**Hardware Ranch**	**64.76 331**	PFAKE		19 05 20.0	+9.2	
HWUT			LR	LR			
	comp=Z,125µm,19.0s						
BW06	**Boulder Array**	**64.78 333**	P	**P**	**19 05 09.0**	**-2.0**	
	baz=144,SNR=42						
BW06	**Boulder Array**	**64.78 333**	*e*P	**P**	**19 05 10.0**	**-0.9**	
	comp=Z,254nm,1.4s						
BW06			LR	LR			
	comp=Z,50µm,19.0s						
PDAR	**Pinedale Array**	**64.78 333**	P	**P**	**19 05 08.7**	**-2.3**	
	comp=Z,22nm,1.0s,baz=125,slow=8.5,SNR=32						
PDAR			S	**S**	**19 13 48.8**	**-1.2**	
	comp=Z,4.0nm,1.1s,baz=102,slow=18,SNR=2.0						
PDAR			LR	LR	19 33 18.5		
	comp=Z,71µm,21.9s,baz=152,slow=36						
PDAR			PKPPKP	**P'P'df**	**19 33 58.1**	**+4.3**	
	comp=Z,2.4nm,1.0s,baz=270,slow=1.5,SNR=5.1						
TIN	**Tinemaha, Big**	**64.86 324**	P	**P**	**19 05 11.1**	**-0.3**	
	baz=134						
B34A	**Aery, Baudette**	**64.89 346**	P	**P**	**19 05 09.1**	**-2.1**	
	baz=160,SNR=59						
B33A	**Robert and Kas**	**64.91 346**	P	**P**	**19 05 09.5**	**-1.8**	
	baz=159,SNR=19						
BGU	**Big Grassy Mou**	**64.93 330**	*e*P	**P**	**19 05 11.1**	**-0.8**	
	comp=Z,354nm,1.5s						
BGU			LR	LR			
	comp=Z,79µm,18.0s						
RCTC	**Rector, Farmer**	**64.94 322**	P	**P**	**19 05 10.9**	**-0.8**	
	baz=133						
SPUT	**South Promonto**	**64.95 330**	*e*P	**P**	**19 05 11.9**	**-0.1**	
	comp=Z,446nm,1.4s						
SPUT			LR	LR			
	comp=Z,66µm,21.0s						
AGMN	**Agassiz Nation**	**65.00 346**	P	**P**	**19 05 10.1**	**-1.8**	
	baz=159,SNR=76						
AGMN	**Agassiz Nation**	**65.00 346**	*e*P	**P**	**19 05 09.9**	**-2.0**	
	comp=Z,518nm,0.9s						
C31A	**Landman Farms,**	**65.00 344**	P	**P**	**19 05 10.2**	**-1.8**	
	baz=157						
PAGB	**Antelope Grade**	**65.15 321**	*e*P	**P**	**19 05 14.0**	**+0.8**	
	comp=Z,1µm,1.9s						
PAGB			LR	LR			
	comp=Z,48µm,22.0s						
B32A	**Ashes, Strandq**	**65.25 345**	P	**P**	**19 05 11.5**	**-2.1**	
	baz=158,SNR=27						
HVU	**Hansel Valley**	**65.47 331**	*e*P	**P**	**19 05 14.3**	**-1.0**	
HVU			pmax	pmax			
	comp=Z,1µm,1.8s						
HVU			MLR	MLR			
	comp=Z,75µm,20.0s						
HVU	**Hansel Valley**	**65.47 331**	*e*P	**P**	**19 05 14.3**	**-1.0**	
	comp=Z,1µm,1.8s						
HVU			LR	LR			
	comp=Z,75µm,20.0s						
A33A	**Warroad**	**65.48 346**	P	**P**	**19 05 13.3**	**-1.8**	
	baz=159,SNR=67						
B31A	**Greenbush Farm**	**65.56 344**	P	**P**	**19 05 13.8**	**-1.8**	
	baz=157						
MDND	**Maddock**	**65.57 343**	P	**P**	**19 05 14.2**	**-1.5**	
	baz=155,SNR=31						
MDND	**Maddock**	**65.57 343**	*e*P	**P**	**19 05 15.4**	**-0.3**	
	comp=Z,3µm,1.4s						
MDND			LR	LR			
	comp=Z,47µm,19.0s						
MLAC	**Mammoth, Mammo**	**65.61 324**	P	**P**	**19 05 16.3**	**-0.1**	
	baz=134,SNR=18						
BBTS	**Babate**	**65.69 66**	LR	LR	19 33 09.0		
	comp=Z,134µm,18.6s,slow=35						
A32A	**Rocking H Ranc**	**65.73 345**	P	**P**	**19 05 14.8**	**-1.8**	
	baz=158,SNR=15						
PMPB	**Monarch Peak**	**65.80 321**	*e*P	**P**	**19 05 18.3**	**+0.8**	
	comp=Z,2µm,1.9s						
PMPB			LR	LR			
	comp=Z,48µm,21.0s						
REDW	**Red Top Meadow**	**65.83 333**	*e*P	**P**	**19 05 17.4**	**-0.3**	
	comp=Z,1µm,1.6s						
REDW			LR	LR			
	comp=Z,98µm,22.0s						
SNOW	**Snow King Moun**	**65.86 333**	*e*P	**P**	**19 05 17.1**	**-0.8**	
	comp=Z,1µm,1.9s						
SNOW			LR	LR			
	comp=Z,102µm,21.0s						
ELK	**Elko**	**65.90 328**	PKPPKP	**P'P'bc**	**19 33 55.2**	**-1.3**	
	comp=Z,0.8nm,0.9s,baz=27,slow=3.7,SNR=2.9						
A31A	**Linda, St. Vin**	**65.91 345**	P	**P**	**19 05 17.2**	**-0.7**	
	baz=157						
LOHW	**Long Hollow**	**65.92 333**	*e*P	**P**	**19 05 17.3**	**-1.0**	
	comp=Z,196nm,1.2s						
LOHW			LR	LR			
	comp=Z,117µm,21.0s						
TPAW	**Teton Pass**	**65.97 333**	PFAKE		19 05 30.0	+11	
TPAW			LR	LR			
	comp=Z,75µm,20.0s						
MOOW	**Moose Ponds**	**66.09 333**	*e*P	**P**	**19 05 18.2**	**-1.2**	
	comp=Z,488nm,1.8s						
MOOW			LR	LR			
	comp=Z,101µm,20.0s						
FXWY	**Fox Creek**	**66.12 333**	PFAKE		19 05 30.0	+10	
FXWY			LR	LR			
	comp=Z,73µm,21.0s						
IMW	**Indian Meadow**	**66.29 333**	PFAKE		19 05 30.0	+9.2	
IMW			LR	LR			
	comp=Z,88µm,21.0s						
YPP	**Pitchstone Pla**	**66.53 334**	*e*P	**P**	**19 05 22.6**	**+0.3**	
	comp=Z,628nm,1.7s						
YPP			LR	LR			
	comp=Z,76µm,20.0s						
H17A	**Grant Village**	**66.53 334**	P	**P**	**19 05 21.8**	**-0.5**	
	baz=143,SNR=25						
H17A	**Grant Village**	**66.53 334**	PFAKE		19 05 30.0	+7.7	
H17A			LR	LR			
	comp=Z,134µm,20.0s						
WAKR	**Walker**	**66.55 324**	*e*P	**P**	**19 05 22.8**	**+0.4**	
	comp=Z,514nm,1.5s						
WAKR			LR	LR			
	comp=Z,72µm,19.0s						
SAO	**San Andreas Ge**	**66.56 322**	PFAKE		19 05 30.0	+7.7	
SAO			LR	LR			
	comp=Z,34µm,21.0s						
RLMT	**Red Lodge**	**66.57 335**	P	**P**	**19 05 20.1**	**-2.3**	
	baz=145,SNR=66						
RLMT	**Red Lodge**	**66.57 335**	*e*P	**P**	**19 05 21.0**	**-1.4**	
	comp=Z,1µm,2.0s						
RLMT			LR	LR			
	comp=Z,70µm,21.0s						
LKWY	**Lake**	**66.59 334**	*e*P	**P**	**19 05 24.6**	**+2.0**	
LKWY			pmax	pmax			
	comp=Z,398nm,1.2s						
LKWY			MLR	MLR			
	comp=Z,102µm,19.0s						
LKWY	**Lake**	**66.59 334**	*e*P	**P**	**19 05 24.6**	**+2.0**	
	comp=Z,398nm,1.2s						
LKWY			LR	LR			
	comp=Z,102µm,19.0s						
MCID	**Moose Creek**	**66.63 333**	*e*P	**P**	**19 05 22.5**	**-0.4**	
YFT	**Old Faithful**	**66.69 334**	*e*P	**P**	**19 05 24.5**	**+1.2**	
	comp=Z,479nm,1.5s						
YFT			LR	LR			
	comp=Z,133µm,22.0s						
BMN	**Battle Mountai**	**66.69 327**	*e*P	**P**	**19 05 22.8**	**-0.5**	
BMN			pmax	pmax			
	comp=Z,471nm,1.8s						
BMN			MLR	MLR			
	comp=Z,73µm,20.0s						
BMN	**Battle Mountai**	**66.69 327**	*e*P	**P**	**19 05 22.8**	**-0.5**	
	comp=Z,471nm,1.8s						
BMN			LR	LR			
	comp=Z,73µm,20.0s						
LAO	**LASA Array**	**66.70 338**	P	**P**	**19 05 21.5**	**-1.5**	
	baz=148,SNR=58						
LAO	**LASA Array**	**66.70 338**	*e*P	**P**	**19 05 21.8**	**-1.3**	
	comp=Z,596nm,1.4s						
LAO			LR	LR			
	comp=Z,54µm,22.0s						
YERR	**Yerington**	**66.77 325**	*e*P	**P**	**19 05 24.0**	**+0.1**	
	comp=Z,806nm,1.6s						
YERR			LR	LR			
	comp=Z,46µm,19.0s						
CMB	**Columbia Colle**	**66.78 323**	*e*P	**P**	**19 05 22.8**	**-0.9**	
CMB			pmax	pmax			
	comp=Z,445nm,1.8s						
CMB			MLR	MLR			
	comp=Z,48µm,19.0s						
CMB	**Columbia Colle**	**66.78 323**	*e*P	**P**	**19 05 22.8**	**-0.9**	
	comp=Z,444nm,1.8s						
CMB			LR	LR			
	comp=Z,48µm,19.0s						
ULM	**Lac du Bonnet**	**66.83 346**	P	**P**	**19 05 20.9**	**-2.7**	
	comp=Z,103nm,1.0s,baz=160,slow=6.2,SNR=52						
ULM			S	**S**	**19 14 13.0**	**-1.2**	
	comp=Z,4.2nm,0.8s,baz=72,slow=20,SNR=2.4						
ULM			PKP2ab		19 33 55.1		
	comp=Z,10nm,0.9s,baz=334,slow=6.1,SNR=6.4						
ULM			LR	LR	19 36 44.7		
	comp=Z,24µm,18.6s,baz=144,slow=38						
ULM	**Lac du Bonnet**	**66.83 346**	*e*P	**P**	**19 05 21.2**	**-2.5**	
ULM			S	**S**	**19 14 13.0**	**-1.2**	
ULM			pmax	pmax			
	comp=Z,537nm,1.0s						
ULM	**Lac du Bonnet**	**66.83 346**	*e*P	**P**	**19 05 21.2**	**-2.5**	
	comp=Z,537nm,1.0s						
ULM			S	**S**	**19 14 13.0**	**-1.2**	
ULM			P'P'ab	**P'P'ab**	**19 33 55.1**	**+0.6**	
YNR	**Norris Junctio**	**66.83 334**	*e*P	**P**	**19 05 24.4**	**+0.3**	
	comp=Z,331nm,1.5s						
YNR			LR	LR			
	comp=Z,75µm,22.0s						
YMR	**Madison River**	**66.92 334**	*e*P	**P**	**19 05 24.7**	**0.0**	
	comp=Z,439nm,1.2s						
YMR			LR	LR			
	comp=Z,61µm,22.0s						
YHH	**Holmes Hill**	**66.96 334**	*e*P	**P**	**19 05 24.8**	**-0.2**	
	comp=Z,1µm,1.9s						
YHH			LR	LR			
	comp=Z,56µm,20.0s						
PNTR	**Pine Nut**	**67.05 324**	*e*P	**P**	**19 05 26.0**	**+0.4**	
	comp=Z,297nm,1.1s						
PNTR			LR	LR			
	comp=Z,54µm,22.0s						
YHB	**Horse Butte**	**67.08 334**	*e*P	**P**	**19 05 25.9**	**+0.2**	
	comp=Z,283nm,0.9s						
YHB			LR	LR			
	comp=Z,68µm,22.0s						
QLMT	**Earthquake Lak**	**67.25 334**	*e*P	**P**	**19 05 26.8**	**0.0**	
GCMT	**Greycliff**	**67.28 335**	*e*P	**P**	**19 05 25.9**	**-1.0**	
PAHR	**Pah Rah Range**	**67.36 325**	*e*P	**P**	**19 05 27.7**	**+0.3**	
	comp=Z,1µm,1.5s						
PAHR			LR	LR			
	comp=Z,52µm,22.0s						
DGMT	**Dagmar**	**67.53 340**	P	**P**	**19 05 27.4**	**-0.8**	
	baz=150,SNR=40						
DGMT	**Dagmar**	**67.53 340**	PFAKE		19 05 40.0	+12	
DGMT			LR	LR			
	comp=Z,47µm,22.0s						
SHEL	**Horse Pasture**	**67.60 101**	*i* P	**P**	**19 05 25.2**	**-4.2**	
SHEL	**Horse Pasture**	**67.60 101**	PFAKE		19 05 40.0	+11	
SHEL			LR	LR			
	comp=Z,154µm,20.0s						
HLID	**Hailey**	**67.61 331**	P	**P**	**19 05 28.3**	**-0.6**	
	baz=139,SNR=64						
HLID	**Hailey**	**67.61 331**	*e*P	**P**	**19 05 28.4**	**-0.6**	
	comp=Z,892nm,1.9s						
HLID			LR	LR			
	comp=Z,56µm,22.0s						
AFDM	**Forest Hills D**	**67.73 324**	*e*P	**P**	**19 05 29.3**	**-0.4**	
	comp=Z,438nm,1.5s						
AFDM			LR	LR			
	comp=Z,38µm,21.0s						
BGMT	**Barton Gulch**	**67.83 333**	*e*P	**P**	**19 05 29.5**	**-1.0**	
MCMT	**McKenzie Canyo**	**67.87 333**	P	**P**	**19 05 30.3**	**-0.4**	
BOZ	**Bozeman (W)**	**67.94 334**	P	**P**	**19 05 29.7**	**-1.4**	
	baz=142,SNR=87						
BOZ	**Bozeman (W)**	**67.94 334**	*e*P	**P**	**19 05 30.2**	**-0.8**	
BOZ			pmax	pmax			
	comp=Z,1µm,1.9s						
BOZ			MLR	MLR			
	comp=Z,72µm,20.0s						
BOZ	**Bozeman (W)**	**67.94 334**	*e*P	**P**	**19 05 30.2**	**-0.8**	
	comp=Z,1µm,1.9s						
BOZ			LR	LR			
	comp=Z,72µm,20.0s						
BEKR	**Beckworth**	**68.01 325**	*e*P	**P**	**19 05 31.6**	**0.0**	
	comp=Z,740nm,1.7s						
BEKR			LR	LR			
	comp=Z,57µm,19.0s						
DLMT	**Dillon**	**68.17 333**	*e*P	**P**	**19 05 31.9**	**-0.7**	
	comp=Z,213nm,1.1s						
DLMT			LR	LR			
	comp=Z,70µm,20.0s						
MFID	**Camas Ranch**	**68.17 330**	*e*P	**P**	**19 05 31.5**	**-1.0**	
	comp=Z,2µm,1.9s						
MFID			LR	LR			
	comp=Z,72µm,18.0s						
H07N1	**FLORES T-PHASE**	**68.32 36**	*e*P	**P**	**19 05 37.4**	**+4.0**	
MCCM	**Marconi Confer**	**68.32 322**	*e*P	**P**	**19 05 37.5**	**+4.2**	
	comp=Z,404nm,1.3s						
MCCM			LR	LR			
	comp=Z,37µm,18.0s						
ORV	**Oroville**	**68.44 324**	*e*P	**P**	**19 05 34.0**	**-0.1**	
ORV			pmax	pmax			
	comp=Z,1µm,1.5s						
ORV	**Oroville**	**68.44 324**	*e*P	**P**	**19 05 34.0**	**-0.1**	
	comp=Z,1µm,1.5s						
LRM	**Limekiln Ridge**	**68.47 334**	*e*P	**P**	**19 05 34.2**	**-0.3**	
GDXM	**Geysers**	**68.70 322**	PFAKE		19 05 50.0	+14	
GDXM			LR	LR			
	comp=Z,60µm,20.0s						
VAH	**Vaihoa**	**68.79 259**	*e*P	**P**	**19 05 33.5**	**-3.3**	
	comp=Z,224nm,1.0s						
VAH	**Vaihoa**	**68.79 259**	*e*T	T	20 20 26.1		
	comp=Z,13nm,0.2s						
VNA3	**Neumayer Olymp**	**68.81 161**	P	**P**	**19 05 35.9**	**-0.1**	
WVOR	**Wild Horse Val**	**68.87 328**	*e*P	**P**	**19 05 36.0**	**-0.9**	
WVOR			pmax	pmax			
	comp=Z,519nm,1.7s						
WVOR			MLR	MLR			
	comp=Z,74µm,22.0s						
WVOR	**Wild Horse Val**	**68.87 328**	*e*P	**P**	**19 05 36.0**	**-0.9**	
	comp=Z,519nm,1.7s						
WVOR			LR	LR			
	comp=Z,74µm,22.0s						
HRY	**Holter Researc**	**68.91 335**	*e*P	**P**	**19 05 37.0**	**-0.1**	
HOPS	**Hopland Field**	**68.99 322**	*e*P	**P**	**19 05 39.4**	**+1.8**	
	comp=Z,448nm,1.4s						
HOPS			LR	LR			
	comp=Z,45µm,20.0s						
CALA	**Caldeira**	**69.00 38**	*e*P	P	19 05 43.9	+6.2	
HOR	**Horta**	**69.01 38**	*e*P	**P**	**19 05 38.9**	**+1.3**	
	comp=Z,82nm,0.6s						
PCED	**Cedros**	**69.03 38**	*e*P	**P**	**19 05 35.3**	**-2.5**	
	comp=Z,236nm,0.6s						
PCAN	**Candelaria**	**69.05 38**	*e*P	**P**	**19 05 35.0**	**-3.0**	
	comp=Z,306nm,0.6s						
VNA1	**Neumayer--Stat**	**69.08 161**	P	**P**	**19 05 37.6**	**0.0**	
O03D	**Paynes Creek**	**69.11 324**	P	**P**	**19 05 36.5**	**-1.9**	
	baz=132,SNR=38						
PICO	**Pico**	**69.11 38**	*e*P	**P**	**19 05 35.7**	**-2.7**	
	comp=Z,627nm,1.5s						
EGMT	**Eagleton**	**69.14 337**	P	**P**	**19 05 35.9**	**-2.5**	
	baz=145,SNR=39						
EGMT	**Eagleton**	**69.14 337**	*e*P	**P**	**19 05 37.0**	**-1.4**	
	comp=Z,384nm,1.1s						
EGMT			LR	LR			
	comp=Z,58µm,19.0s						
PPNO	**Prainha do Nor**	**69.19 39**	*e*P	**P**	**19 05 36.2**	**-2.7**	
	comp=Z,397nm,1.4s						
TBI	**Tubuai**	**69.29 250**	*e*P	**P**	**19 05 37.1**	**-2.7**	
	comp=Z,385nm,1.2s						
TBI			*e*S	**S**	**19 14 41.8**	**-3.0**	
	comp=Z,42µm,27.5s						
TBI	**Tubuai**	**69.29 250**	*e*LR	LR	19 26 39.6		
	comp=Z,234µm,26.0s,baz=91						
TBI	**Tubuai**	**69.29 250**	*e*T	T	20 21 10.8		
	comp=Z,140nm,0.3s						
ROSA	**Rosais**	**69.36 38**	*e*P	**P**	**19 05 38.3**	**-1.6**	
	comp=Z,649nm,1.1s						
ROSA			*e*S	**S**	**19 14 46.7**	**+1.7**	
ROSA	**Rosais**	**69.36 38**	PFAKE		19 05 50.0	+10	
ROSA			LR	LR			
	comp=Z,91µm,22.0s						
MOD	**Modoc Plateau**	**69.38 326**	PFAKE		19 05 50.0	+10	
MOD			LR	LR			
	comp=Z,78µm,18.0s						
PMAN	**Manadas**	**69.40 38**	*e*P	**P**	**19 05 36.8**	**-3.3**	
	comp=Z,317nm,0.9s						
VNA2	**Neumayer--Watz**	**69.43 161**	P	**P**	**19 05 39.9**	**+0.1**	
	baz=295,slow=6.9						
J08A	**Circle Bar Ran**	**69.45 328**	*e*P	**P**	**19 05 39.8**	**-0.7**	
	comp=Z,314nm,1.8s						
J08A			LR	LR			
	comp=Z,119µm,20.0s						
SCHQ	**Schefferville**	**69.56 6**	P	**P**	**19 05 39.1**	**-1.7**	
	comp=Z,22nm,0.8s,baz=188,slow=5.1,SNR=14						
SCHQ			S	**S**	**19 14 46.2**	**-0.5**	
	comp=Z,12nm,1.1s,baz=264,slow=18,SNR=2.2						
SCHQ			LR	LR	19 36 12.3		
	comp=Z,42µm,21.8s,baz=198,slow=36						
SCHQ	**Schefferville**	**69.56 6**	*e*P	**P**	**19 05 39.4**	**-1.4**	
	comp=Z,846nm,1.8s						
SCHQ			S	**S**	**19 14 46.2**	**-0.5**	
CHMT	**Chamberlain Mo**	**69.67 334**	*e*P	**P**	**19 05 41.1**	**-0.7**	
PGRA	**Graciosa**	**69.72 38**	*e*P	**P**	**19 05 40.5**	**-1.5**	
	comp=Z,391nm,0.5s						
PGRA			*e*S	**S**	**19 14 41.4**	**-7.7**	
WDC	**Whiskeytown Da**	**69.72 324**	*e*P	**P**	**19 05 40.1**	**-2.0**	

comp=Z,55µm,20.0s
TVO Taravao 69.91 256 *e*P **P 19 05 41.0 -2.8**
comp=Z,97nm,1.3s
TVO Taravao 69.91 256 *e*T T 20 21 53.2
comp=Z,5.1nm,0.2s
ADH Angra Heroismo 69.93 39 *e*P **P 19 05 44.3 +1.0**
comp=Z,171nm,0.7s
BMO Blue Mountains 69.95 330 *e*P **P 19 05 41.7 -1.8**
BMO pmax pmax
comp=Z,284nm,1.5s
BMO MLR MLR
comp=Z,76µm,20.0s
BMO Blue Mountains 69.95 330 *e*P **P 19 05 41.7 -1.8**
comp=Z,284nm,1.5s
BMO LR LR
comp=Z,76µm,20.0s
SLMT Seeley Lake 70.03 334 *e*P **P 19 05 43.5 -0.5**
TIAR Tiarei 70.03 256 *e*P **P 19 05 41.7 -2.8**
comp=Z,40nm,1.1s
TIAR Tiarei 70.03 256 *e*T T 20 22 02.3
comp=Z,22nm,0.2s
N02D Trinity Center 70.08 324 P **P 19 05 42.8 -1.6**
baz=132,SNR=26
M04C Macdoel 70.13 325 P **P 19 05 43.4 -1.3**
baz=132,SNR=42
KMRM Mail Ridge 70.16 323 *e*P **P 19 05 45.4 +0.6**
comp=Z,541nm,1.4s
KMRM LR LR
comp=Z,66µm,20.0s
PSMA Santa Maria 70.23 41 *e*P **P 19 05 42.3 -2.9**
comp=Z,276nm,0.7s
PAE Paea 70.23 256 *e*P **P 19 05 42.9 -2.8**
comp=Z,48nm,1.2s
PPT2 Papeete2 70.24 256 *e*P **P 19 05 42.9 -3.0**
comp=Z,174nm,1.4s
PPT2 *e*S **S 19 14 53.2 -3.1**
comp=Z,254µm,27.8s
PPT2 Papeete2 70.24 256 *e*LR LR 19 27 05.0
comp=Z,141µm,26.8s,baz=100
PPT Papeete 70.25 256 P **P 19 05 48.0 +2.2**
comp=Z,32nm,0.6s,baz=252,slow=20,SNR=2.8
PPT LR LR 19 30 43.6
comp=Z,30µm,18.6s,baz=110,slow=31
PPT Papeete 70.25 256 P **P 19 05 48.0 +2.2**
PSMN Pico do Norte, 70.27 41 *e*P **P 19 05 42.9 -2.6**
comp=Z,446nm,1.2s
PSMN *e*S **S 19 14 57.5 +1.8**
PDA Ponta Delgada 70.34 40 *e*P **P 19 05 43.0 -2.9**
comp=Z,197nm,0.7s
PSET Sete Cidades 70.35 40 *e*P **P 19 05 47.1 +1.1**
comp=Z,978nm,1.5s
PSET *e*S S 19 14 47.3 -9.4
M02C Callahan 70.44 324 P **P 19 05 45.3 -1.3**
baz=132,SNR=27
CMLA Cha da Macela 70.44 41 *i* P **P 19 05 49.8 +3.3**
CMLA Cha da Macela 70.44 41 *e*P **P 19 05 46.4 -0.1**
comp=Z,919nm,2.0s
CMLA *e*S **S 19 14 56.3 -1.4**
CMLA Cha da Macela 70.44 41 PFAKE 19 06 00.0 +13
CMLA LR LR
comp=Z,76µm,19.0s
SWMT Swartz Lake 70.46 334 *e*P **P 19 05 47.0 +0.5**
PCALD Caldeiras da R 70.48 41 *e*P **P 19 05 43.9 -2.9**
comp=Z,608nm,1.6s
YBH Yreka Blue Hor 70.58 325 *e*P **P 19 05 45.6 -1.8**
YBH pmax pmax
comp=Z,107nm,1.0s
YBH MLR MLR
comp=Z,38µm,20.0s
YBH Yreka Blue Hor 70.58 325 *e*P **P 19 05 45.6 -1.8**
comp=Z,107nm,1.0s
YBH LR LR
comp=Z,38µm,20.0s
KHMM Horse Mountain 70.60 324 *e*P **P 19 05 47.7 +0.1**
comp=Z,546nm,1.5s
KHMM LR LR
comp=Z,49µm,21.0s
K04D Chiloquin, OR 70.66 326 P **P 19 05 46.8 -1.0**
baz=133
JCC Jacoby Creek, 70.73 323 *e*P **P 19 05 50.2 +2.0**
comp=Z,728nm,1.5s
JCC LR LR
comp=Z,59µm,20.0s
YBMT Yellow Bay 70.74 334 *e*P **P 19 05 47.9 -0.4**
JTMT Jette 70.76 334 *e*P **P 19 05 48.1 -0.3**
J05D Fort Rock, OR 70.83 327 P **P 19 05 48.9 -0.1**
baz=133,SNR=38
BLMT Blacktail Moun 71.00 334 *e*P **P 19 05 49.8 -0.2**
SNAA Sanae 71.03 161 P **P 19 05 49.8 +0.1**
SNAA Sanae 71.03 161 LR LR 19 33 16.5
comp=Z,83µm,21.4s,baz=287,slow=33
SNAA PKPPKP 19 33 40.6
comp=Z,1.6nm,1.1s,baz=59,slow=2.7,SNR=2.1
SNAA Sanae 71.03 161 *c i* P **P 19 05 49.2 -0.5**
SNAA Sanae 71.03 161 *e*P **P 19 05 48.1 -1.5**
comp=Z,856nm,1.6s
SNAA P'P' 19 33 40.6
BSMT Bassoo Peak 71.06 334 P **P 19 05 50.8 +0.5**
KTRM Thompson Ridge 71.07 325 P **P 19 05 49.8 -0.6**
KRMB Red Mountain 71.12 324 *e*P **P 19 05 51.1 +0.4**
comp=Z,595nm,1.6s
KRMB LR LR
comp=Z,34µm,20.0s
J04D Umpqua Nationa 71.27 326 P **P 19 05 50.6 -1.1**
baz=133,SNR=32
HUMO Hull Mountain 71.30 325 *e*P **P 19 05 50.2 -1.5**
comp=Z,65nm,1.1s
HUMO LR LR
comp=Z,40µm,20.0s
L02D Cave Junction, 71.36 325 P **P 19 05 51.2 -0.9**
baz=131,SNR=38
E09A Wood Farm, Sta 71.57 331 *e*P **P 19 05 52.2 -1.0**
comp=Z,211nm,1.1s
I05D Terrebonne, OR 71.61 328 P **P 19 05 53.6 +0.1**
baz=134,SNR=17
WALA Waterton Lakes 71.63 335 *e*P **P 19 05 52.9 -0.7**
comp=Z,203nm,1.0s
WALA LR LR
comp=Z,73µm,20.0s
JBO Jordan Butte 71.63 329 P **P 19 05 53.7 +0.1**
KBO Bosley Butte 71.75 324 *e*P **P 19 05 56.5 +2.0**
comp=Z,1µm,1.9s
VTHM Trough 71.80 329 P **P 19 05 55.3 +0.7**
I04A Tendick Farm, 71.80 327 P **P 19 05 53.2 -1.5**
baz=132,SNR=26
G06A Carlson Farm, 71.87 329 *e*P **P 19 05 55.3 +0.2**
comp=Z,647nm,1.8s
G06A LR LR
comp=Z,107µm,20.0s
HAWA Hanford 72.15 330 *e*P **P 19 05 56.8 +0.2**
comp=Z,594nm,1.6s
HAWA LR LR
comp=Z,99µm,20.0s
G05D Wamic, OR 72.22 328 P **P 19 05 56.6 -0.6**
baz=134,SNR=23
KEBM Edson Butte 72.24 325 *e*P **P 19 05 59.0 +1.7**
comp=Z,796nm,1.5s
I03D Drain, OR 72.24 326 P **P 19 05 56.7 -0.5**
baz=132,SNR=11
D08A Wollman Farm, 72.33 331 *e*P **P 19 05 58.3 +0.6**
comp=Z,268nm,1.3s
D08A LR LR
comp=Z,86µm,21.0s
VFP Flag Point 72.35 328 P **P 19 05 58.8 +0.7**
NEW Newport 72.39 333 LR LR 19 37 38.6
comp=Z,55µm,20.8s,baz=140,slow=36
NEW Newport 72.39 333 P **P 19 05 56.9 -1.2**
baz=138,SNR=45
NEW Newport 72.39 333 *e*P **P 19 05 57.3 -0.8**
NEW pmax pmax
comp=Z,274nm,1.3s
NEW Newport 72.39 333 *e*P **P 19 05 57.3 -0.8**
comp=Z,274nm,1.3s
E07A Sunnyside 72.42 330 *e*P **P 19 05 58.5 +0.2**
comp=Z,494nm,1.4s
E07A LR LR
comp=Z,114µm,19.0s
FFC Flin Flon 72.42 345 *e*P **P 19 05 56.5 -1.6**
FFC pmax pmax
comp=Z,684nm,1.9s
FFC MLR MLR
comp=Z,34µm,20.0s
FFC Flin Flon 72.42 345 *e*P **P 19 05 56.5 -1.6**
comp=Z,684nm,1.9s
FFC LR LR
comp=Z,34µm,20.0s
C09A Chrisman Ranch 72.57 332 *e*P **P 19 05 59.5 +0.4**
comp=Z,624nm,1.6s
COR Corvallis 72.81 327 *e*P **P 19 06 01.5 +0.9**
COR pmax pmax
comp=Z,878nm,1.5s
COR MLR MLR
comp=Z,53µm,19.0s
COR Corvallis 72.81 327 *e*P **P 19 06 01.5 +0.9**
comp=Z,878nm,1.5s
COR LR LR
comp=Z,53µm,19.0s
EBG Ellensburg 73.02 330 P **P 19 06 02.1 +0.3**
SAW Saint Andrews 73.02 331 P **P 19 06 01.6 -0.3**
G03D McMinnville, O 73.21 327 P **P 19 06 02.5 -0.5**
baz=132
F04A Amboy 73.26 328 *e*P **P 19 06 02.9 -0.3**
comp=Z,406nm,1.1s
F04A LR LR
comp=Z,94µm,20.0s
LTY Liberty 73.31 330 *e*P **P 19 06 04.3 +0.6**
comp=Z,1µm,2.0s
LTY LR LR
comp=Z,94µm,19.0s
PMOZ Porto Moniz, M 73.38 49 *e*P **P 19 06 05.3 +0.9**
PMOZ Porto Moniz, M 73.38 49 *e*LR LR 19 29 00.1
comp=Z,55µm,22.0s
LIC Lamto 73.44 79 *e*P **P 19 06 02.9 -2.1**
comp=Z,635nm,1.2s
B08A Colville Reser 73.47 332 *e*P **P 19 06 03.5 -1.0**
comp=Z,240nm,1.3s
B08A LR LR
comp=Z,58µm,21.0s
FUL Funchal 73.51 49 *e*P **P 19 06 05.7 +0.7**
comp=Z,419nm,1.8s
LON Longmire 73.52 329 *e*P **P 19 06 04.6 -0.2**
LON pmax pmax
comp=Z,149nm,1.1s
LON MLR MLR
comp=Z,98µm,19.0s
LON Longmire 73.52 329 *e*P **P 19 06 04.6 -0.2**
comp=Z,148nm,1.1s
LON LR LR
comp=Z,98µm,19.0s
PMAR Madeira 73.53 49⇑ *e*P **P 19 06 06.2 +0.8**
comp=Z,714nm,1.8s
TIC Toumodi 73.57 78 *e*P **P 19 06 04.9 -0.9**
KMOR Kings Mountain 73.61 327 P **P 19 06 05.3 -0.2**
F04D Rainier, OR 73.67 328 P **P 19 06 05.2 -0.5**
baz=132
DBIC Dimbokro 73.73 78 P **P 19 06 05.0 -1.8**
comp=Z,123nm,0.8s,baz=226,slow=5.9,SNR=74
DBIC S **SKiKP 19 15 33.1 -1.7**
comp=Z,4.9nm,1.0s,baz=107,slow=19,SNR=2.3
DBIC LR LR 19 36 43.7
comp=Z,318µm,20.4s,baz=222,slow=34
DBIC Dimbokro 73.73 78 *e*P **P 19 06 04.2 -2.5**
comp=Z,223nm,0.9s
DBIC S **SKiKP 19 15 33.1 -1.7**
NLW Nelson Butte 73.73 331 P **P 19 06 06.4 +0.2**
KIC Kosan Boka 73.75 79 *e*P **P 19 06 05.0 -1.9**
comp=Z,824nm,1.1s
F03A Seaside 73.84 328 *e*P **P 19 06 11.0 +4.3**
comp=Z,545nm,1.4s
F03A LR LR
comp=Z,70µm,20.0s
C06D Leavenworth 73.89 330 P **P 19 06 05.8 -1.2**
baz=135
D05A Enumclaw 73.91 329 *e*P **P 19 06 06.6 -0.4**
comp=Z,259nm,1.0s
D05A LR LR
comp=Z,106µm,20.0s
PMPS Porto Santo 74.12 49 *e*P **P 19 06 10.4 +1.8**
comp=Z,1µm,1.9s
E03A Lebam 74.26 328 *e*P **P 19 06 10.6 +1.5**
comp=Z,545nm,1.4s
E03A LR LR
comp=Z,86µm,20.0s
B06A Marblemount 74.59 331 *e*P **P 19 06 09.6 -1.3**
comp=Z,340nm,1.1s
B06A LR LR
comp=Z,101µm,21.0s
B05A Bryant 74.70 330 P **P 19 06 10.7 -0.9**
baz=134,SNR=17
NLWA Neilton Lookou 74.98 329 PFAKE 19 06 30.0 +17
NLWA LR LR
comp=Z,94µm,21.0s
A04D Lummi Island 75.31 330 P **P 19 06 14.9 -0.2**
baz=133
QSPA South Pole Qui 75.59 180 *e*P **P 19 06 17.4 +0.6**
PGC Sidney 75.62 330 *e*P **P 19 06 18.0 +1.1**
comp=Z,721nm,1.5s
PGC LR LR
comp=Z,89µm,19.0s
NVL N'lazarevskaya 75.69 160 *e*P **P 19 06 16.6 -0.5**
NVL *e* 19 09 06.5
NVL *e*PPP PPP 19 10 59.8
NVL *e*S **S 19 15 56.9 +0.5**
NVL *e*SS **SS 19 20 57.4 +10**
LLLB Lilloet 76.24 332 *e*P **P 19 06 20.9 +0.5**
comp=Z,670nm,1.6s
LLLB LR LR
comp=Z,50µm,20.0s
FRB Frobisher Bay 78.28 3 P **P 19 06 29.9 -1.6**
comp=Z,63nm,1.2s,baz=187,slow=5.6,SNR=16
FRB S **S 19 16 21.8 -2.6**
comp=Z,8.9nm,0.9s,baz=90,slow=20,SNR=3.1
RAR Rarotonga 79.06 251 PFAKE 19 06 50.0 +13
RAR LR LR
comp=Z,97µm,20.0s
NRS Narsarsuaq 79.33 15 *i* P **P 19 06 36.7 -0.6**
comp=Z,379nm,1.5s
comp=Z,60µm,21.0s
NRS Narsarsuaq 79.33 15 *i* P **P 19 06 36.7 -0.6**
NRS pmax pmax
comp=Z,380nm,1.5s
NRS MLR MLR
comp=Z,60µm,21.0s
SBA Scott Base 81.34 191 *e*P **P 19 06 48.6 +0.5**
SBA pmax pmax
comp=Z,372nm,1.4s
SBA MLR MLR
comp=Z,62µm,20.0s
SBA Scott Base 81.34 191 *e*P **P 19 06 48.6 +0.5**
comp=Z,372nm,1.4s
SBA LR LR
comp=Z,62µm,20.0s
PFVI Vila Bisbo 81.45 48⇑ *e*P **P 19 06 49.5 +0.1**
comp=Z,800nm,2.1s
PFVI Vila Bisbo 81.45 48 *e*S **S 19 16 59.5 +0.4**
PFVI Vila Bisbo 81.45 48 *e*LR LR 19 32 34.4
comp=Z,62µm,18.0s
PFVI Vila Bisbo 81.45 48 *e*P **P 19 06 51.6 +2.2**
comp=Z,2µm,2.0s
PFVI LR LR
comp=Z,66µm,19.0s
RTC Rabat Centre 81.61 52 PFAKE 19 07 00.0 +10
RTC LR LR
comp=Z,484µm,21.0s
MORF Marmelete 81.66 48 *e*P **P 19 06 49.8 -0.8**
MORF *e*SKSac **SKSac 19 17 06.6 -2.0**
MORF AMS AMS 19 45 59.6
comp=Z,69µm,18.6s
MORF Marmelete 81.66 48 *e*P **P 19 06 50.4 -0.1**
comp=Z,1µm,2.0s
MORF Marmelete 81.66 48 *e*S **S 19 17 05.7 +4.4**
MORF Marmelete 81.66 48 *e*LR LR 19 33 08.9
comp=Z,69µm,16.0s
MORF Marmelete 81.66 48 *e*P **P 19 06 49.7 -0.8**
MORF *e* 19 17 06.6
TOC5 Torodi Ar. Sit 81.78 74 PFAKE 19 07 00.0 +8.5
TOC5 LR LR
comp=Z,153µm,22.0s
TOB4 Torodi Ar. Sit 81.79 74 PFAKE 19 07 00.0 +8.4
TOB4 LR LR
comp=Z,117µm,20.0s
TOB5 Torodi Ar. Sit 81.79 74 PFAKE 19 07 00.0 +8.4
TOB5 LR LR
comp=Z,124µm,20.0s
TOC7 Torodi Ar. Sit 81.79 74 PFAKE 19 07 00.0 +8.4
TOC7 LR LR
comp=Z,118µm,20.0s
TOA3 Torodi Ar. Sit 81.80 74 PFAKE 19 07 00.0 +8.4
TOA3 LR LR
comp=Z,600nm,19.0s
TOC4 Torodi Ar. Sit 81.80 74 PFAKE 19 07 00.0 +8.4
TOC4 LR LR
comp=Z,138µm,22.0s
TOA1 Torodi Ar. Sit 81.80 74 PFAKE 19 07 00.0 +8.3
TOA1 LR LR
comp=Z,116µm,20.0s
TOA0 Torodi Ar. Sit 81.80 74 *e*P **P 19 06 49.9 -1.8**
comp=Z,800nm,1.0s
TOA0 LR LR
comp=Z,117µm,20.0s
TORD Torodi Ar. Bea 81.80 74 P **P 19 06 49.9 -1.8**
comp=Z,360nm,0.8s,baz=273,slow=5.6,SNR=331
TORD S **S 19 17 01.6 -2.0**
comp=Z,2.5nm,1.1s,baz=258,slow=7.1,SNR=2.2
TORD PKPPKP **P'P'df 19 33 33.0 +4.7**
comp=Z,0.9nm,1.0s,baz=47,slow=1.8,SNR=4.7
TORD LR LR 19 40 45.8
comp=Z,136µm,21.9s,baz=255,slow=34
TOA2 Torodi Ar. Sit 81.81 74 PFAKE 19 07 00.0 +8.3
TOA2 LR LR
comp=Z,600nm,19.0s
TOB3 Torodi Ar. Sit 81.81 74 PFAKE 19 07 00.0 +8.3
TOB3 LR LR
comp=Z,118µm,20.0s
PMST Lisbon--Monsan 81.89 47⇑ *e*P **P 19 06 51.8 +0.2**
comp=Z,757nm,1.9s
LIS Lisbon 81.91 47 *e*P **P 19 06 51.0 -0.7**
LIS *e*SKSac **SKSac 19 17 08.2 -1.9**
LIS AMS AMS 19 39 32.2
comp=Z,190µm,20.6s
LIS Lisbon 81.91 47 *e*P **P 19 06 53.0 +1.3**
comp=Z,903nm,1.9s
LIS Lisbon 81.91 47 *e*P **P 19 06 51.0 -0.7**
LIS *e* 19 17 08.1
PMAFR Mafra 81.92 46⇑ *e*P **P 19 06 51.2 -0.6**
comp=Z,623nm,1.9s
PMAFR Mafra 81.92 46 *e*S **S 19 17 05.7 +1.8**
PMAFR Mafra 81.92 46 *e*LR LR 19 33 17.6
comp=Z,203µm,20.0s
PNCL Nicolau / Gran 82.09 47⇑ *e*P **P 19 06 52.5 -0.2**
comp=Z,581nm,2.1s
PNCL Nicolau / Gran 82.09 47 *e*LR LR 19 32 54.4
comp=Z,110µm,18.0s
XMAS Kiritimati 82.12 274 PFAKE 19 07 10.0 +17
XMAS LR LR
comp=Z,148µm,20.0s
PBDV Barranco-do-Ve 82.15 48⇑ *e*P **P 19 06 53.1 0.0**
comp=Z,586nm,2.0s
PBDV Barranco-do-Ve 82.15 48 *e*S **S 19 17 00.1 -6.2**
PBDV Barranco-do-Ve 82.15 48 *e*LR LR 19 32 56.2
comp=Z,69µm,20.0s
PCVE Castro Verde 82.23 48⇑ *e*P **P 19 06 53.5 0.0**
comp=Z,683nm,1.7s
PCVE Castro Verde 82.23 48 *e*S **S 19 17 09.5 +2.4**
PCVE Castro Verde 82.23 48 *e*LR LR 19 32 54.3
comp=Z,63µm,24.0s
PVAQ Vaqueiros 82.37 48⇑ *e*P **P 19 06 54.3 +0.1**
comp=Z,733nm,2.0s
PVAQ Vaqueiros 82.37 48 *e*S **S 19 17 12.9 +4.4**
PVAQ Vaqueiros 82.37 48 *e*LR LR 19 32 58.0
comp=Z,68µm,18.0s
VNDA Vanda 82.41 191 P **P 19 06 54.4 +0.6**
comp=Z,22nm,1.0s,baz=127,slow=5.4,SNR=42
VNDA S S 19 17 16.5 +8.8
comp=Z,1.0nm,0.9s,baz=246,slow=20,SNR=4.4
VNDA LR LR 19 36 12.6
comp=Z,80µm,21.1s,baz=122,slow=30
VNDA Vanda 82.41 191 *e*P **P 19 06 54.3 +0.5**
comp=Z,176nm,1.2s
VNDA S S 19 17 16.5 +8.8
YKA Yellowknife Ar 82.49 343 P **P 19 06 52.9 -1.3**
comp=Z,34nm,1.1s,baz=137,slow=5.1,SNR=26
YKA S **S 19 17 09.3 +0.7**
comp=Z,0.9nm,0.6s,baz=210,slow=9.8,SNR=2.5
YKA LR LR 19 45 14.7
comp=Z,5µm,19.2s,baz=180,slow=37
PBEJ Beja 82.53 48⇑ *e*P **P 19 06 54.6 -0.4**
comp=Z,715nm,1.7s
YKW3 Yellowknife Ar 82.55 343 *e*P **P 19 06 52.8 -1.6**
comp=Z,537nm,1.4s
EVO Evora 82.63 47⇑ *e*P **P 19 06 55.2 -0.3**
comp=Z,596nm,1.8s
PMTG Montargil 82.71 47⇑ *e*P **P 19 06 55.4 -0.5**
comp=Z,927nm,1.7s
PMTG Montargil 82.71 47 *e*S **S 19 17 14.2 +2.3**
PMTG Montargil 82.71 47 *e*LR LR 19 33 11.9
comp=Z,165µm,20.0s
PTOM Tomar 82.82 46 *e*P **P 19 06 57.2 +0.7**
MDT Midelt 82.88 54 P **P 19 06 56.4 -0.7**
comp=Z,21nm,0.9s,baz=262,slow=5.4,SNR=40
MDT S **S 19 17 17.5 +3.3**
comp=Z,2.5nm,0.9s,baz=221,slow=14,SNR=2.1
DIB Dawson Inlet, 82.92 330 PFAKE 19 07 10.0 +13
DIB LR LR
comp=Z,68µm,20.0s
PCAS Casmilo, Conde 82.94 46⇑ *e*P **P 19 06 56.6 -0.5**
comp=Z,794nm,1.9s
PCAS Casmilo, Conde 82.94 46 *e*S **S 19 17 17.1 +2.8**
PCAS Casmilo, Conde 82.94 46 *e*LR LR 19 33 45.2
comp=Z,144µm,22.0s
PESTR Estremoz 83.08 47⇑ *e*P **P 19 06 57.5 -0.3**
comp=Z,750nm,2.1s
PESTR Estremoz 83.08 47 *e*S **S 19 17 19.9 +4.2**
PESTR Estremoz 83.08 47 *e*LR LR 19 33 23.6
comp=Z,135µm,22.0s
PBAR Barrancos 83.18 48⇑ *e*P **P 19 06 58.0 -0.4**
comp=Z,954nm,2.3s
PBAR Barrancos 83.18 48 *e*S **S 19 17 20.3 +3.6**
PBAR Barrancos 83.18 48 *e*LR LR 19 33 12.0
comp=Z,176µm,18.0s
PTO Porto 83.34 45 *e*P **P 19 07 00.0 +0.9**
PMRV Marv??o 83.45 47⇑ *e*P **P 19 06 58.8 -1.0**
comp=Z,395nm,1.7s
PMRV Marv??o 83.45 47 *e*S **S 19 17 20.0 +0.5**
PMRV Marv??o 83.45 47 *e*LR LR 19 33 30.2
comp=Z,158µm,20.0s
SFJD Kangerlussuaq 83.46 10 P **P 19 06 59.4 +0.2**
comp=Z,37nm,1.1s,baz=222,slow=6.4,SNR=12
SFJD S **S 19 17 15.4 -2.9**
comp=Z,8.4nm,0.9s,baz=24,slow=10.0,SNR=2.1
SFJD LR LR 19 46 04.6
comp=Z,36µm,19.2s,baz=206,slow=37
SFJD Kangerlussuaq 83.46 10 *i* P **P 19 06 58.6 -0.5**
comp=Z,164nm,1.4s
comp=Z,46µm,20.0s
SFJD Kangerlussuaq 83.46 10 *i* P **P 19 06 58.6 -0.5**
SFJD pmax pmax
comp=Z,160nm,1.4s
SFJD MLR MLR
comp=Z,46µm,20.0s
PCBR Castelo Branco 83.56 46 *e*P **P 19 07 00.6 +0.3**
comp=Z,473nm,2.4s
MTE Manteigas 83.75 46⇑ *e*P **P 19 06 59.8 -1.6**
comp=Z,587nm,1.6s
MTE Manteigas 83.75 46 *e*S **S 19 17 20.6 -2.0**
MTE Manteigas 83.75 46 *e*LR LR 19 33 38.7
comp=Z,184µm,20.0s
MTE Manteigas 83.75 46 *e*P **P 19 07 01.8 +0.5**
comp=Z,332nm,1.2s
MTE LR LR
comp=Z,174µm,20.0s
PGAV Gavieira, Arco 83.92 44⇑ *e*P **P 19 07 01.7 -0.5**
comp=Z,764nm,1.8s
PGAV Gavieira, Arco 83.92 44 *e*S **S 19 17 24.4 +0.1**
PGAV Gavieira, Arco 83.92 44 *e*LR LR 19 33 41.5
comp=Z,126µm,20.0s
POLO Lamas de Olo 83.99 45⇑ *e*P **P 19 07 01.5 -1.1**
comp=Z,260nm,1.7s
POLO Lamas de Olo 83.99 45 *e*S **S 19 17 24.7 -0.3**
POLO Lamas de Olo 83.99 45 *e*LR LR 19 33 42.3
comp=Z,70µm,22.0s
PVRL Vila Real 84.00 45 *e*P **P 19 07 02.8 +0.2**
MVO Moncorvo 84.43 45⇑ *e*P **P 19 07 03.8 -1.0**
comp=Z,644nm,1.5s
MVO Moncorvo 84.43 45 *e*S **S 19 17 27.9 -1.4**
MVO Moncorvo 84.43 45 *e*LR LR 19 34 12.4
comp=Z,126µm,20.0s
CRAG Craig 84.55 331 PFAKE 19 07 20.0 +15
CRAG LR LR
comp=Z,58µm,22.0s
JCUZ Jacuzzi 84.70 291 PFAKE 19 07 20.0 +13
JCUZ LR LR
comp=Z,55µm,20.0s
NPOC North of Pu'u 84.71 291 PFAKE 19 07 20.0 +13
NPOC LR LR
comp=Z,57µm,20.0s
WRAK Wrangell Islan 84.75 332 PFAKE 19 07 20.0 +14
WRAK LR LR
comp=Z,53µm,19.0s
PUH Pauahi 84.80 291 PFAKE 19 07 20.0 +13
PUH LR LR

comp=Z,55µm,19.0s
BYL Byron's Ledge 84.85 291 PFAKE 19 07 20.0 +13
BYL LR LR
comp=Z,49µm,19.0s
RIM Rim 84.86 291 PFAKE 19 07 20.0 +12
RIM LR LR
comp=Z,48µm,19.0s
SBLHI Steaming Bluff 84.87 291 PFAKE 19 07 20.0 +12
SBLHI LR LR
comp=Z,48µm,19.0s
NPH North Pit 84.87 291 PFAKE 19 07 20.0 +12
NPH LR LR
comp=Z,47µm,19.0s
OBL Observatory Le 84.88 291 PFAKE 19 07 20.0 +12
OBL LR LR
comp=Z,49µm,19.0s
SDHHI Sand Hill 84.88 291 PFAKE 19 07 20.0 +12
SDHHI LR LR
comp=Z,50µm,19.0s
UWE Uwekahuna 84.89 291 PFAKE 19 07 20.0 +12
UWE LR LR
comp=Z,50µm,19.0s
PBRG Braganca 84.89 45⇑ *e*P **P 19 07 06.4 -0.7**
comp=Z,500nm,2.0s
PBRG Braganca 84.89 45 *e*S **S 19 17 35.7 +1.8**
PBRG Braganca 84.89 45 *e*LR LR 19 34 05.7
comp=Z,125µm,22.0s
MLH Mauna Loa 84.99 292 PFAKE 19 07 20.0 +12
MLH LR LR
comp=Z,51µm,20.0s
AIN Ainahou 85.02 291 PFAKE 19 07 20.0 +12
AIN LR LR
comp=Z,49µm,19.0s
MLOA Mauna Loa Obse 85.18 291 PFAKE 19 07 20.0 +11
MLOA LR LR
comp=Z,57µm,20.0s
MWH Moku'aweowe 85.18 291 PFAKE 19 07 20.0 +10
MWH LR LR
comp=Z,53µm,19.0s
POHA Pohakuloa 85.20 292 PFAKE 19 07 20.0 +11
POHA LR LR
comp=Z,59µm,20.0s
SYO Syowa Base 85.32 161⇓ *e*P **P 19 07 06.4 -2.3**
SYO Syowa Base 85.32 161⇓ *i*PcP **P 19 07 08.6 -0.1**
ILULI Ilulissat 85.42 9⇑ *i*P **P 19 07 10.0 +1.0**
comp=Z,297nm,1.4s
ILULI Ilulissat 85.42 9⇑ *i*P **P 19 07 10.0 +1.0**
ILULI pmax pmax
comp=Z,300nm,1.4s
HPAH Hawaii Prepara 85.43 292 PFAKE 19 07 20.0 +10
HPAH LR LR
comp=Z,62µm,19.0s
PAB San Pablo 85.65 47 *e*P **P 19 07 11.4 +0.4**
PAB pmax pmax
comp=Z,311nm,1.4s
PAB MLR MLR
comp=Z,121µm,20.0s
PAB San Pablo 85.65 47 *e*P **P 19 07 11.4 +0.4**
comp=Z,311nm,1.4s
PAB LR LR
comp=Z,121µm,20.0s
ESDC Sonseca Array 85.98 47 P **P 19 07 12.3 -0.2**
comp=Z,19nm,1.0s,baz=255,slow=5.2,SNR=53
ESDC S **SKSac 19 17 35.4 -1.2**
comp=Z,0.1nm,0.3s,baz=221,slow=4.3,SNR=3.4
ESDC LR LR 19 42 51.7
comp=Z,107µm,19.7s,baz=250,slow=34
ESLA Sonseca Array 85.98 47 *e*P **P 19 07 13.0 +0.4**
comp=Z,224nm,1.4s
ESLA LR LR
comp=Z,130µm,20.0s
HLK Haleakala 86.14 292 PFAKE 19 07 30.0 +16
HLK LR LR
comp=Z,50µm,20.0s
USTO Oran 87.07 52 P P 19 07 26.0 +8.1
BESE Bessie Mountai 87.10 333 *e*P **P 19 07 18.3 +0.7**
comp=Z,609nm,1.4s
BESE LR LR
comp=Z,84µm,20.0s
VAL Valentia 87.20 34 *e*P **P 19 07 19.1 +1.0**
VAL Valentia 87.20 34⇓ *i*S **S 19 17 55.3 -0.5**
VAL *e*SS **SS 19 23 39.9 -0.6**
VAL *e*LQ LQ 19 30 35.1
ODJA Bouhanifia 87.24 53 P **P 19 07 23.0 +4.2**
SKAG Skagway 87.80 334 *e*P **P 19 07 21.8 +1.0**
comp=Z,396nm,1.4s
SKAG LR LR
comp=Z,60µm,20.0s
HON Honolulu 87.87 293 PFAKE 19 07 30.0 +7.9
HON LR LR
comp=Z,65µm,20.0s
KIP Kipapa 87.91 293 PFAKE 19 07 30.0 +7.7
KIP LR LR
comp=Z,60µm,20.0s
OPA Opana 87.98 293 PFAKE 19 07 30.0 +7.4
OPA LR LR
comp=Z,60µm,20.0s
OJGS Djebel Guires 87.99 53 P **P 19 07 27.0 +4.5**
SUR Sutherland 88.04 123 *e*P **P 19 07 24.1 +1.1**
comp=Z,218nm,1.8s
SUR LR LR
comp=Z,113µm,20.0s
TAM Tamanrasset 88.07 66 *e*P **P 19 07 22.5 -0.7**
TAM pmax pmax
comp=Z,395nm,1.3s
TAM MLR MLR
comp=Z,218µm,20.0s
TAM Tamanrasset 88.07 66 *e*P **P 19 07 22.5 -0.7**
comp=Z,395nm,1.3s
TAM LR LR
comp=Z,218µm,20.0s
WHY Whitehorse 88.28 335 *e*P **P 19 07 23.5 +0.2**
comp=Z,931nm,1.9s
WHY LR LR
comp=Z,45µm,20.0s
EANR 'Ain N'Sour 88.41 52 P **P 19 07 25.0 +0.6**
ECHA Ech Chlef 88.68 52 P **P 19 07 26.0 +0.4**
EBNR Beni Rached 88.85 52 P **P 19 07 29.5 +3.0**
OSSF Osses 89.18 45 *e*P **P 19 07 27.4 -0.4**
BORG Borgarnes 89.21 21 *e*P **P 19 07 28.9 +1.5**
BORG pmax pmax
comp=Z,841nm,1.5s
BORG MLR MLR
comp=Z,43µm,20.0s
BORG Borgarnes 89.21 21 *e*P **P 19 07 28.9 +1.5**
comp=Z,841nm,1.5s
BORG LR LR
comp=Z,43µm,20.0s
CCA1 Carnmenellis 89.29 37 *e*P **P 19 07 28.6 +0.5**
CCA1 IAmb IAmb 19 07 36.0
comp=Z,130nm,1.2s
CCA1 IAMs_20 IAMs_20 19 44 46.8
comp=Z,84µm,19.0s
LARF Larrau 89.30 45 *e*P **P 19 07 28.6 +0.2**
IWEX Carrickbyrne, 89.31 35 *e*P **P 19 07 28.2 +0.1**
HYT Haines Junctio 89.45 335 *e*P **P 19 07 29.4 +0.6**
comp=Z,452nm,1.6s
KEKH Kekaha 89.58 293 PFAKE 19 07 40.0 +10
KEKH LR LR
comp=Z,74µm,20.0s
QUIF Quistinic 89.65 40 *e*P **P 19 07 28.8 -1.0**
QUIF pmax pmax
comp=Z,340nm,1.9s
YKU2 Yakutat 89.71 333 PFAKE 19 07 40.0 +10
YKU2 LR LR
comp=Z,53µm,21.0s
REYF Montagne du Re 89.72 45 *e*P **P 19 07 30.6 +0.2**
ROSF Rostrenen 89.74 40 *e*P **P 19 07 29.3 -1.0**
ROSF pmax pmax
comp=Z,454nm,2.1s
KULLO Kullorsuaq 89.75 5⇑ *i*P **P 19 07 31.5 +1.8**
comp=Z,509nm,1.4s
KULLO Kullorsuaq 89.75 5⇑ *i*P **P 19 07 31.5 +1.8**
KULLO pmax pmax
comp=Z,510nm,1.4s
RES Resolute Bay 89.84 355 P **P 19 07 29.5 -0.6**
comp=Z,34nm,1.1s,baz=179,slow=5.7,SNR=18
DSB Dublin 89.89 34 *e*P **P 19 07 31.1 +0.2**
comp=Z,116nm,1.2s
DSB LR LR
comp=Z,50µm,20.0s
EMHD Djebel Mahouad 89.91 53 P **P 19 07 32.5 +0.9**
VIEF Viey 89.94 46 *e*P **P 19 07 31.8 +0.3**
LABF Labassere 90.03 45 *e*P **P 19 07 32.2 +0.3**
HTL Hartland 90.05 37 *e*P **P 19 07 32.4 +0.8**
HTL IAmb IAmb 19 07 39.5
comp=Z,113nm,1.6s
HTL IAMs_20 IAMs_20 19 42 24.2
comp=Z,43µm,23.2s
IDGL Inch Island, C 90.07 32 *e*P **P 19 07 30.8 -0.8**
RESF Ens 90.13 46 *e*P **P 19 07 32.7 +0.3**
DYA Yadsworthy 90.15 38 *e*P **P 19 07 32.6 +0.4**
DYA IAmb IAmb 19 07 33.9
comp=Z,170nm,1.1s
DYA IAMs_20 IAMs_20 19 45 22.2
comp=Z,104µm,19.0s
DYA Yadsworthy 90.15 38 PFAKE 19 07 40.0 +7.8
DYA LR LR
comp=Z,104µm,20.0s
ABA Alger-Bouzarea 90.16 52 P P 19 07 37.5 +5.0
SUMG Summit 90.42 11⇓ *i*P **P 19 07 34.0 +0.6**
comp=Z,756nm,1.4s
SUMG Summit 90.42 11 *i* S **SKSac 19 18 06.2 +3.6**
comp=Z,63µm,21.0s
SUMG Summit 90.42 11⇓ *i*P **P 19 07 34.0 +0.6**
SUMG *i* S **SKSac 19 18 06.2 +3.6**
SUMG pmax pmax
comp=Z,760nm,1.4s
SUMG MLR MLR
comp=Z,63µm,21.0s
SUMG Summit 90.42 11 *e*P **P 19 07 32.5 -0.9**
comp=Z,960nm,1.5s
SUMG LR LR
comp=Z,61µm,20.0s
MELF Melles 90.44 46 *e*P **P 19 07 33.8 0.0**
LPW Lampeter 90.72 36 *e*P **P 19 07 34.9 +0.2**
LPW IAMs_20 IAMs_20 19 43 18.1
comp=Z,83µm,23.5s
JSA Saint Aubin 90.74 39 *e*P **P 19 07 35.3 +0.4**
JSA IAMs_20 IAMs_20 19 43 45.8
comp=Z,66µm,22.1s
WPS Cemaes, Angles 90.99 35 *e*P **P 19 07 36.5 +0.5**
WPS IAmb IAmb 19 07 40.3
comp=Z,392nm,1.8s
WPS IAMs_20 IAMs_20 19 44 44.1
comp=Z,84µm,20.6s
WLF1 Llynfaes 91.00 35⇑ *e*P **P 19 07 36.4 +0.4**
WLF1 IAmb IAmb 19 07 43.0
comp=Z,414nm,1.5s
WLF1 IAMs_20 IAMs_20 19 44 45.0
comp=Z,174µm,20.2s
LFF La Frestale 91.12 44 *e*P **P 19 07 35.9 -0.9**
LFF pmax pmax
comp=Z,156nm,1.2s
VALF Valcebollere 91.17 46 *e*P **P 19 07 37.4 +0.1**
GRR Gorron 91.26 40 *e*P **P 19 07 36.1 -1.3**
HGH Gray Hill 91.27 37 *e*P **P 19 07 36.4 -0.9**
MCH1 Michaelchurch 91.29 36 *e*P **P 19 07 37.9 +0.5**
MCH1 IAmb IAmb 19 07 42.0
comp=Z,125nm,1.3s
MCH1 IAMs_20 IAMs_20 19 43 24.0
comp=Z,88µm,23.3s
CARF Carcanieres 91.33 46 *e*P **P 19 07 37.9 -0.1**
MONM Monmouth 91.34 36 *e*P **P 19 07 37.6 0.0**
MONM IAMs_20 IAMs_20 19 43 25.9
comp=Z,84µm,22.9s
OLDB Oldbury-Upon-S 91.42 37 *e*P **P 19 07 38.0 0.0**
OLDB IAmb IAmb 19 07 40.1
comp=Z,883nm,2.7s
OLDB IAMs_20 IAMs_20 19 43 17.6
comp=Z,93µm,22.9s
FOEL Foel Wylfa 91.51 35 *e*P **P 19 07 38.7 +0.3**
FOEL IAmb IAmb 19 07 42.1
comp=Z,212nm,1.4s
FOEL IAMs_20 IAMs_20 19 41 40.1
comp=Z,89µm,27.4s
HLM1 Long Mynd 91.55 36 *e*P **P 19 07 38.8 +0.2**
HLM1 IAmb IAmb 19 07 45.5
comp=Z,134nm,1.2s
HLM1 IAMs_20 IAMs_20 19 45 08.8
comp=Z,82µm,21.4s
FILF Fillols 91.60 46 *e*P **P 19 07 38.8 -0.4**
BALM Baldy 91.61 334 *e*P **P 19 07 38.9 0.0**
BALM pmax pmax
comp=Z,416nm,1.6s
BALM MLR MLR
comp=Z,57µm,22.0s
BALM Baldy 91.61 334 *e*P **P 19 07 38.9 0.0**
comp=Z,416nm,1.6s
BALM LR LR
comp=Z,57µm,22.0s
STRD Stroud 91.69 37 *e*P **P 19 07 38.0 -1.3**
STRD IAMs_20 IAMs_20 19 43 37.3
comp=Z,98µm,23.0s
RJF Les Rejaudoux 91.76 44 *e*P **P 19 07 38.7 -1.1**
RJF pmax pmax
comp=Z,462nm,2.1s
SET Setif 91.80 53 P **P 19 07 40.0 -0.3**
SWN1 Swindon 91.80 37 *e*P **P 19 07 38.9 -0.9**
SWN1 IAMs_20 IAMs_20 19 43 17.3
comp=Z,93µm,23.0s
CRQM Cirque 91.83 333 *e*P **P 19 07 39.7 -0.3**
comp=Z,188nm,1.1s
CRQM LR LR
comp=Z,44µm,21.0s
CKHR Kef el Ahmar 91.83 53 P **P 19 07 40.6 +0.1**
DAWY Dawson 91.88 337 *e*P **P 19 07 38.7 -1.2**
comp=Z,164nm,1.0s
DAWY LR LR
comp=Z,72µm,19.0s
AFI Afiamalu 91.89 255 LR LR 19 39 39.7
comp=Z,43µm,20.8s,baz=108,slow=29
PGBU Glenifferbraes 91.95 32 *e*P **P 19 07 41.4 +1.1**
PGBU IAmb IAmb 19 07 43.2
comp=Z,1µm,2.6s
PGBU IAMs_20 IAMs_20 19 42 41.9
comp=Z,70µm,23.3s
KPL Plockton 91.97 31 *e*P **P 19 07 40.9 +0.6**
KPL IAmb IAmb 19 07 44.5
comp=Z,636nm,1.8s
KPL IAMs_20 IAMs_20 19 43 43.9
comp=Z,49µm,23.2s
CAF Calviac 92.00 44 *e*P **P 19 07 40.0 -1.0**
CAF pmax pmax
comp=Z,442nm,2.2s
WOL Wolverton 92.07 37 *e*P **P 19 07 41.0 0.0**
WOL IAMs_20 IAMs_20 19 46 41.9
comp=Z,98µm,18.5s
INK Inuvik 92.17 342 P **P 19 07 40.4 -0.8**
comp=Z,29nm,1.0s,baz=98,slow=3.8,SNR=25
INK S **SKSac 19 18 11.3 -0.6**
comp=Z,2.6nm,0.8s,baz=324,slow=19,SNR=2.8
INK PKKPbc **PKKPdf 19 24 56.1 -1.4**
comp=Z,3.0nm,1.0s,baz=266,slow=2.4,SNR=2.5
INK LR LR 19 50 27.4
comp=Z,45µm,21.7s,baz=112,slow=36
DFRA Djebel Bou Aff 92.27 53 P **P 19 07 42.9 +0.4**
RAGM Ragged Mountai 92.35 332 PFAKE 19 07 50.0 +7.8
RAGM LR LR
comp=Z,51µm,19.0s
ESK Eskdalemuir 92.43 33 *e*P **P 19 07 43.4 +0.8**
ESK IAmb IAmb 19 07 50.4
comp=Z,759nm,2.6s
ESK IAMs_20 IAMs_20 19 46 54.9
comp=Z,54µm,19.4s
ESK Eskdalemuir 92.43 33 *e*P **P 19 07 42.6 0.0**
ESK pmax pmax
comp=Z,116nm,1.4s
ESK MLR MLR
comp=Z,56µm,20.0s
ESK Eskdalemuir 92.43 33 *e*P **P 19 07 42.6 0.0**
comp=Z,116nm,1.4s
ESK LR LR
comp=Z,56µm,20.0s
EKA Eskdalemuir Ar 92.46 33 P **P 19 07 41.8 -0.9**
comp=Z,27nm,1.1s,baz=238,slow=4.7,SNR=12
FRNF Fournols 92.48 44 *e*P **P 19 07 42.8 -0.4**
LHO Holmfirth 92.51 35 *e*P **P 19 07 42.7 -0.4**
CTEI Djebel Teioual 92.54 54 P **P 19 07 43.7 -0.1**
VERF Verneugheol 92.54 43 *e*P **P 19 07 43.1 -0.4**
SCO Scoresbysund 92.56 16 *i* P **P 19 07 43.7 +0.8**
SCO Scoresbysund 92.56 16 *i* P **P 19 07 43.7 +0.8**
BMRM Bremner River 92.57 333 *e*P **P 19 07 44.2 +1.0**
comp=Z,246nm,1.6s
BMRM LR LR
comp=Z,53µm,22.0s
MDO Dochfour 92.65 31 *e*P **P 19 07 42.5 -1.1**
CASM Ain Smara 92.66 53 P **P 19 07 45.5 +1.3**
EDI Edinburgh 92.67 33 *e*P **P 19 07 44.2 +0.6**
EDI IAMs_20 IAMs_20 19 43 37.6
comp=Z,62µm,22.8s
MID Middleton Isla 92.70 331 PFAKE 19 07 50.0 +6.3
MID LR LR
comp=Z,21µm,20.0s
HPK Haverah Park 92.78 35 *e*P **P 19 07 44.9 +0.6**
HPK IAmb IAmb 19 07 48.2
comp=Z,781nm,2.1s
HPK IAMs_20 IAMs_20 19 45 37.3
comp=Z,94µm,20.3s
BOSA Boshof 92.81 120 P **P 19 07 44.5 -0.8**
comp=Z,39nm,0.9s,baz=255,slow=3.6,SNR=28
BOSA PKKPbc **PKKPbc 19 24 59.2 +2.8**
comp=Z,2.5nm,0.8s,baz=101,slow=5.2,SNR=3.5
BOSA LR LR 19 46 09.2
comp=Z,102µm,21.8s,baz=260,slow=33
BOSA Boshof 92.81 120 *e*P **P 19 07 45.4 +0.1**
BOSA 19 24 59.2
BOSA pmax pmax
comp=Z,129nm,1.4s
BOSA Boshof 92.81 120 *e*P **P 19 07 45.4 +0.1**
comp=Z,129nm,1.4s
BOSA PKKPbc **PKKPbc 19 24 59.2 +2.8**
MAW Mawson 92.83 165 P **P 19 07 43.8 -0.5**
comp=Z,80nm,0.9s,baz=221,slow=6.3,SNR=64
MAW S **SKSac 19 18 26.2 +10**
comp=Z,1.7nm,0.5s,baz=78,slow=16,SNR=6.7
MAW LR LR 19 46 52.9
comp=Z,123µm,21.2s,baz=232,slow=34
MAW Mawson 92.83 165 P **P 19 07 43.8 -0.5**
MAW pmax pmax
comp=Z,80nm,0.9s
MAW MLR MLR
comp=Z,123µm,21.2s
MAW Mawson 92.83 165 *e*P **P 19 07 43.3 -1.0**
comp=Z,44nm,1.1s
MAW S **SKSac 19 18 26.2 +10**
HMNX Herstmonceux 92.84 38 *e*P **P 19 07 45.5 +1.0**
HMNX IAmb IAmb 19 07 47.5
comp=Z,2µm,2.7s
HMNX IAMs_20 IAMs_20 19 43 08.1
comp=Z,87µm,25.2s
CKFL Kef-Lekhel 92.88 53 P **P 19 07 45.0 -0.3**
PYM Petit Puy Mans 92.89 44 *e*P **P 19 07 45.4 +0.3**
LBL Lubilhac 92.89 44 *e*P **P 19 07 45.4 +0.3**
EYAK Cordova Ski Ar 92.90 332 PFAKE 19 08 00.0 +15
EYAK LR LR
comp=Z,69µm,22.0s
EGAK Eagle 92.90 337 *e*P **P 19 07 43.5 -1.1**
comp=Z,212nm,1.3s
EGAK LR LR
comp=Z,67µm,20.0s
EDMD Edmundbyers 92.91 34 *e*P **P 19 07 45.2 +0.3**
EDMD IAmb IAmb 19 07 52.8
comp=Z,1µm,2.6s
EDMD IAMs_20 IAMs_20 19 44 02.8
comp=Z,55µm,23.9s
RAO Raoul Island 92.96 239 LR LR 19 39 50.1
comp=Z,65µm,21.9s,baz=88,slow=29
EDU Dundee 92.99 32 *e*P **P 19 07 45.6 +0.5**
MENT Mentasta 93.06 335 *e*P **P 19 07 45.0 -0.4**
comp=Z,209nm,1.7s
MENT LR LR
comp=Z,40µm,21.0s
AGO Saint Agoulin 93.07 43 *e*P **P 19 07 45.8 0.0**
MXZ Matakaoa Point 93.15 230 PFAKE 19 08 00.0 +14
MXZ LR LR
comp=Z,81µm,20.0s
DIV Divide 93.15 333 *e*P **P 19 07 46.0 +0.1**
comp=Z,71nm,0.9s
DIV LR LR
comp=Z,62µm,22.0s
BIGH Upper Bighouse 93.28 30 *e*P **P 19 07 47.3 +0.9**
BIGH IAmb IAmb 19 07 48.6
comp=Z,760nm,1.9s
BIGH IAMs_20 IAMs_20 19 44 47.0
comp=Z,167µm,21.3s
COLF Collangettes 93.28 44 *e*P **P 19 07 46.9 0.0**
FID Port Fidalgo 93.31 332 *e*P **P 19 07 50.5 +3.9**
comp=Z,67nm,1.0s
FID LR LR
comp=Z,68µm,22.0s
LMK Market Rasen 93.33 36 *e*P **P 19 07 47.3 +0.5**
LMK IAmb IAmb 19 07 51.7
comp=Z,1µm,2.1s
LMK IAMs_20 IAMs_20 19 42 59.9
comp=Z,76µm,25.7s
KLU Klutina 93.37 333 *e*P **P 19 07 46.2 -0.7**
comp=Z,175nm,1.1s
KLU LR LR
comp=Z,47µm,22.0s
PLDF La Plantade 93.37 43 *e*P **P 19 07 47.3 0.0**
DRUM Mains of Drumt 93.39 32 *e*P **P 19 07 48.2 +1.2**
DRUM IAmb IAmb 19 07 49.0
comp=Z,293nm,1.7s
DRUM IAMs_20 IAMs_20 19 44 55.0
comp=Z,51µm,21.4s
ELSH Elham, Standar 93.41 38 *e*P **P 19 07 47.9 +0.7**
ELSH IAmb IAmb 19 07 50.9
comp=Z,338nm,1.6s
ELSH IAMs_20 IAMs_20 19 47 13.9
comp=Z,87µm,20.1s
HARP HAARP 93.42 334 *e*P **P 19 07 47.4 +0.3**
comp=Z,186nm,1.3s
HARP LR LR
comp=Z,30µm,20.0s
ABSA Djebel Ababsia 93.43 54 P **P 19 07 48.0 +0.1**
AVF Avril sur Loir 93.44 43 *e*P **P 19 07 46.1 -1.4**
AVF pmax pmax
comp=Z,352nm,2.2s
CMAH Djebel Manchou 93.48 53 P **P 19 07 47.3 -0.7**
BFZ Birch Farm 93.49 227 PFAKE 19 08 00.0 +12
BFZ LR LR
comp=Z,223µm,18.0s
DOT Dot Lake 93.51 336 *e*P **P 19 07 46.6 -0.8**
comp=Z,336nm,1.2s
DOT LR LR
comp=Z,172µm,19.0s
WACR West Acre 93.63 36⇑ *e*P **P 19 07 48.3 +0.1**
WACR IAmb IAmb 19 07 57.9
comp=Z,176nm,1.1s
WACR IAMs_20 IAMs_20 19 44 57.4
comp=Z,115µm,22.8s
GLI Glacier Island 93.64 332 *e*P **P 19 07 51.8 +3.7**
comp=Z,89nm,1.1s
GLI LR LR
comp=Z,48µm,22.0s
VIVF Saint-Julien-I 93.75 45 *e*P **P 19 07 48.6 -0.4**
VIVF pmax pmax
comp=Z,116nm,1.4s
URZ Urewera 93.78 229 PFAKE 19 08 00.0 +11
URZ LR LR
comp=Z,103µm,20.0s
SSB Saint Sauveur 93.78 44 *e*P **P 19 07 49.2 0.0**
SSB Saint Sauveur 93.78 44 *e*P **P 19 07 49.5 +0.3**
SSB pmax pmax
comp=Z,342nm,2.0s
SSB MLR MLR
comp=Z,66µm,21.0s
SSB Saint Sauveur 93.78 44 *e*P **P 19 07 49.5 +0.3**
comp=Z,342nm,2.0s
SSB LR LR
comp=Z,66µm,21.0s
PAX Paxson 93.79 335 *e*P **P 19 07 47.7 -1.2**
PAX pmax pmax
comp=Z,215nm,1.3s
PAX Paxson 93.79 335 *e*P **P 19 07 47.7 -1.2**
comp=Z,216nm,1.3s
MENF Mencas 93.83 39 *e*P **P 19 07 46.5 -2.7**
BKZ Black Stump Fm 93.89 228 PFAKE 19 08 00.0 +10
BKZ LR LR
comp=Z,113µm,20.0s
SCM Sheep Creek Mo 94.12 333 *e*P **P 19 07 50.8 +0.4**
SCM pmax pmax
comp=Z,120nm,1.1s
SCM MLR MLR
comp=Z,42µm,22.0s
SCM Sheep Creek Mo 94.12 333 *e*P **P 19 07 50.8 +0.4**
comp=Z,120nm,1.1s
SCM LR LR
comp=Z,42µm,22.0s
LBTB Lobatse 94.21 117 *e*P **P 19 07 52.6 +0.8**
LBTB pmax pmax
comp=Z,321nm,1.9s
LBTB Lobatse 94.21 117 *e*P **P 19 07 52.5 +0.8**
comp=Z,321nm,1.9s
SNZO South Karori 94.32 226 PFAKE 19 08 00.0 +8.2
SNZO LR LR
comp=Z,162µm,20.0s

SEW	**Seward**	**94.42**	**331**	*eP*	**P**	**19 07 55.4**	**+3.8**
	comp=Z,61nm,1.0s						
SEW				LR	LR		
	comp=Z,38µm,22.0s						
SML	**Sawmill**	**94.55**	**333**	*eP*	**P**	**19 07 52.2**	**-0.1**
SML				pmax	pmax		
	comp=Z,122nm,1.1s						
SML				MLR	MLR		
	comp=Z,45µm,22.0s						
SML	**Sawmill**	**94.55**	**333**	*eP*	**P**	**19 07 52.2**	**-0.1**
	comp=Z,122nm,1.1s						
SML				LR	LR		
	comp=Z,45µm,22.0s						
GRN	**Grenoble**	**94.59**	**45**	*eP*	**P**	**19 07 51.2**	**-1.7**
ORIF	**Oris-en-Rattie**	**94.59**	**45**	*eP*	**P**	**19 07 52.8**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,325nm,1.9s						
DHY	**Denali Highway**	**94.63**	**334**	*eP*	**P**	**19 07 52.7**	**-0.1**
	comp=Z,61nm,1.0s						
DHY				LR	LR		
	comp=Z,31µm,22.0s						
KHZ	**Kahutara**	**94.67**	**224**	PFAKE		19 08 10.0	+17
KHZ				LR	LR		
	comp=Z,48µm,22.0s						
MQZ	**McQueen's Vall**	**94.72**	**223**	PFAKE		19 08 10.0	+16
MQZ				LR	LR		
	comp=Z,64µm,20.0s						
KEST	**Kesra**	**94.76**	**54**	P	**P**	**19 07 52.2**	**-1.8**
	comp=Z,15nm,1.0s,baz=172,slow=1.8,SNR=7.0						
KEST				LR	LR	19 50 48.3	
	comp=Z,65µm,19.8s,baz=217,slow=36						
KEST	**Kesra**	**94.76**	**54**	*eP*	**P**	**19 07 53.8**	**-0.2**
	comp=Z,140nm,1.6s						
CRLZ	**Canterbury Las**	**94.79**	**223**	PFAKE		19 08 10.0	+16
CRLZ				LR	LR		
	comp=Z,60µm,20.0s						
PMR	**Palmer**	**94.82**	**333**	*eP*	**P**	**19 07 53.5**	**+0.1**
PMR				pmax	pmax		
	comp=Z,33nm,1.0s						
PMR				MLR	MLR		
	comp=Z,41µm,21.0s						
PMR	**Palmer**	**94.82**	**333**	*eP*	**P**	**19 07 53.5**	**+0.1**
	comp=Z,33nm,1.0s						
PMR				LR	LR		
	comp=Z,41µm,21.0s						
GDM	**Grand'Maison**	**94.83**	**45**	*eP*	**P**	**19 07 53.6**	**-0.5**
RC01	**Rabbit Creek A**	**94.91**	**332**	*eP*	**P**	**19 07 58.1**	**+4.2**
	comp=Z,112nm,1.2s						
RC01				LR	LR		
	comp=Z,44µm,22.0s						
BAIF	**Baives**	**94.94**	**40**	*eP*	**P**	**19 07 53.1**	**-1.2**
BAIF				pmax	pmax		
	comp=Z,411nm,2.4s						
BRLK	**Bradley Lake**	**94.97**	**331**	*eP*	**P**	**19 07 57.9**	**+3.6**
	comp=Z,187nm,1.6s						
BRLK				LR	LR		
	comp=Z,30µm,22.0s						
HDA	**Harding Lake**	**94.98**	**336**	PFAKE		19 08 10.0	+16
HDA				LR	LR		
	comp=Z,37µm,19.0s						
CNPM	**China Poot**	**95.06**	**330**	PFAKE		19 08 10.0	+15
CNPM				LR	LR		
	comp=Z,22µm,20.0s						
ILAR	**Eielson Array**	**95.10**	**336**	P	**P**	**19 07 52.6**	**-2.1**
	comp=Z,5.5nm,0.8s,baz=147,slow=3.3,SNR=39						
ILAR				PP	**PP**	**19 11 42.4**	**-2.3**
	comp=Z,8.2nm,1.0s,baz=114,slow=6.0,SNR=4.5						
ILAR				LR	LR	19 52 53.5	
	comp=Z,31µm,20.8s,baz=110,slow=37						
ILB	**Eielson Array**	**95.10**	**336**	*eP*	**P**	**19 07 52.5**	**-2.3**
SNF	**Seneffe**	**95.11**	**39**	P	**P**	**19 07 55.4**	**+0.3**
KDAK	**Kodiak Island**	**95.13**	**328**	P	**P**	**19 07 54.6**	**-0.3**
	comp=Z,27nm,1.2s,baz=104,slow=4.2,SNR=2.8						
KDAK	**Kodiak Island**	**95.13**	**328**	P	**P**	**19 07 54.6**	**-0.3**
KDAK				MLR	MLR		
	comp=Z,23µm,21.0s						
KDAK	**Kodiak Island**	**95.13**	**328**	P	**P**	**19 07 54.6**	**-0.3**
KDAK				LR	LR		
	comp=Z,23µm,21.0s						
BNI	**Bardonecchia**	**95.17**	**45**	*eP*	**P**	**19 07 56.2**	**+0.5**
BNI				pmax	pmax		
	comp=Z,183nm,1.7s						
BNI				MLR	MLR		
	comp=Z,104µm,20.0s						
BNI	**Bardonecchia**	**95.17**	**45**	*eP*	**P**	**19 07 56.2**	**+0.5**
	comp=Z,183nm,1.7s						
BNI				LR	LR		
	comp=Z,104µm,20.0s						
CABF	**La Chapelle**	**95.19**	**43**	*eP*	**P**	**19 07 54.7**	**-1.0**
CABF				pmax	pmax		
	comp=Z,516nm,2.2s						
DOU	**Dourbes**	**95.19**	**40**	P	**P**	**19 07 55.3**	**-0.2**
	comp=Z,105nm,2.4s						
MVIF	**Mont Vial**	**95.20**	**46**	*eP*	**P**	**19 07 56.6**	**+0.8**
FYU	**Fort Yukon**	**95.21**	**338**	*eP*	**P**	**19 07 55.3**	**+0.2**
	comp=Z,368nm,1.4s						
FYU				LR	LR		
	comp=Z,80µm,20.0s						
UCC	**Uccle**	**95.24**	**39**	P	**P**	**19 07 55.2**	**-0.5**
OXZ	**Oxford**	**95.29**	**223**	PFAKE		19 08 10.0	+14
OXZ				LR	LR		
	comp=Z,59µm,21.0s						
HOM	**Homer**	**95.30**	**330**	PFAKE		19 08 10.0	+14
HOM				LR	LR		
	comp=Z,23µm,20.0s						
OG22	**Abries**	**95.30**	**45**	*eP*	**P**	**19 07 56.5**	**+0.2**
RSL	**Roselend**	**95.30**	**44**	*eP*	**P**	**19 07 56.0**	**-0.3**
REVF	**Revere**	**95.31**	**46**	*eP*	**P**	**19 07 56.9**	**+0.7**
OHAK	**Old Harbor**	**95.31**	**328**	*eP*	**P**	**19 07 58.6**	**+2.8**
	comp=Z,131nm,1.4s						
OHAK				LR	LR		
	comp=Z,21µm,19.0s						
HIZ	**Hauiti**	**95.32**	**228**	PFAKE		19 08 10.0	+14
HIZ				LR	LR		
	comp=Z,76µm,21.0s						
LPL	**La Plagne**	**95.33**	**44**	*eP*	**P**	**19 07 56.4**	**-0.1**
LPL				pmax	pmax		
	comp=Z,156nm,1.5s						
LUCF	**Luceram**	**95.33**	**46**	*eP*	**P**	**19 07 56.3**	**-0.1**
LPG	**La Plagne**	**95.34**	**45**	*eP*	**P**	**19 07 56.6**	**0.0**
LPG				pmax	pmax		
	comp=Z,91nm,1.1s						
LTZ	**Lake Taylor**	**95.36**	**223**	PFAKE		19 08 10.0	+13
LTZ				LR	LR		
	comp=Z,58µm,19.0s						
THZ	**Tophouse**	**95.37**	**225**	PFAKE		19 08 10.0	+13
THZ				LR	LR		
	comp=Z,72µm,19.0s						
RND	**Reindeer**	**95.38**	**334**	*eP*	**P**	**19 07 55.5**	**-0.6**
RND				pmax	pmax		
	comp=Z,167nm,1.1s						
RND				MLR	MLR		
	comp=Z,36µm,20.0s						
RND	**Reindeer**	**95.38**	**334**	*eP*	**P**	**19 07 55.5**	**-0.6**
	comp=Z,166nm,1.1s						
RND				LR	LR		
	comp=Z,36µm,20.0s						
CCB	**Clear Creek Bu**	**95.42**	**336**	*eP*	**P**	**19 07 54.7**	**-1.4**
	comp=Z,46nm,1.0s						
ODZ	**Otahua Downs**	**95.43**	**221**	PFAKE		19 08 10.0	+13
ODZ				LR	LR		
	comp=Z,54µm,20.0s						
WRH	**Wood River Hil**	**95.46**	**336**	*eP*	**P**	**19 07 54.1**	**-2.2**
	comp=Z,53nm,1.0s						
WRH				LR	LR		
	comp=Z,29µm,20.0s						
SUA	**Susitna One**	**95.50**	**332**	*eP*	**P**	**19 08 00.3**	**+3.5**
	comp=Z,310nm,1.9s						
OG01	**Vacheresse**	**95.51**	**44**	*eP*	**P**	**19 07 56.0**	**-1.1**
COLA	**College**	**95.52**	**336**	PFAKE		19 08 10.0	+13
COLA				LR	LR		
	comp=Z,50µm,19.0s						
MCK	**McKinley**	**95.53**	**335**	*eP*	**P**	**19 07 56.1**	**-0.7**
MCK				pmax	pmax		
	comp=Z,133nm,1.4s						
MCK				MLR	MLR		
	comp=Z,36µm,20.0s						
MCK	**McKinley**	**95.53**	**335**	*eP*	**P**	**19 07 56.0**	**-0.7**
	comp=Z,133nm,1.4s						
MCK				LR	LR		
	comp=Z,36µm,20.0s						
THEF	**They Montfort**	**95.56**	**42**	*eP*	**P**	**19 07 54.9**	**-2.3**
MDM	**Murphy Dome**	**95.70**	**336**	*eP*	**P**	**19 07 55.9**	**-1.6**
	comp=Z,198nm,1.1s						
MDM				LR	LR		
	comp=Z,44µm,20.0s						
VSL	**Villasalto**	**95.71**	**51**	PFAKE		19 08 10.0	+12
VSL				LR	LR		
	comp=Z,41µm,20.0s						
BCLA	**Clavier**	**95.72**	**39**	P	**P**	**19 07 57.5**	**-0.3**
	comp=Z,104nm,2.4s						
RPZ	**Rata Peaks**	**95.76**	**222**	PFAKE		19 08 10.0	+12
RPZ				LR	LR		
	comp=Z,80µm,18.0s						
LOMF	**Lomont**	**95.87**	**43**	*eP*	**P**	**19 07 57.0**	**-1.7**
SENIN	**Lac Senin/Sane**	**95.93**	**44**	*eP*	**P**	**19 07 59.4**	**+0.2**
	comp=Z,105nm,1.6s						
SENIN				LR	LR		
	comp=Z,86µm,20.0s						
SPU	**Mount Spurr**	**96.00**	**332**	*eP*	**P**	**19 07 58.8**	**-0.2**
HINF	**Hinteralfeld**	**96.01**	**42**	*eP*	**P**	**19 07 58.0**	**-1.3**
HINF				pmax	pmax		
	comp=Z,403nm,2.2s						
LBZ	**Lake Benmore**	**96.02**	**221**	PFAKE		19 08 10.0	+10
LBZ				LR	LR		
	comp=Z,68µm,22.0s						
WLF	**Walferdange**	**96.04**	**40**	P	**P**	**19 07 59.5**	**+0.2**
	comp=Z,150nm,2.3s						
WLF	**Walferdange**	**96.04**	**40**	*eP*	**P**	**19 07 59.6**	**+0.2**
WLF				pmax	pmax		
	comp=Z,473nm,2.0s						
WLF				MLR	MLR		
	comp=Z,52µm,18.0s						
WLF	**Walferdange**	**96.04**	**40**	*eP*	**P**	**19 07 59.6**	**+0.2**
	comp=Z,473nm,2.0s						
WLF				LR	LR		
	comp=Z,52µm,18.0s						
BEBN	**Eben Emael**	**96.05**	**39**	P	**P**	**19 07 59.1**	**-0.2**
	comp=Z,50nm,2.6s						
RSO	**Redoubt South**	**96.09**	**331**	*eP*	**P**	**19 07 59.4**	**-0.2**
MEM	**Membach**	**96.20**	**39**	P	**P**	**19 07 59.8**	**-0.2**
	comp=Z,66nm,2.5s						
MOF	**Molkenrain**	**96.20**	**42**	*eP*	**P**	**19 07 59.3**	**-0.9**
ECH	**Echery**	**96.31**	**42**	*eP*	**P**	**19 08 00.3**	**-0.4**
ECH	**Echery**	**96.31**	**42**	*eP*	**P**	**19 08 00.2**	**-0.4**
ECH				pmax	pmax		
	comp=Z,142nm,1.3s						
ECH				MLR	MLR		
	comp=Z,25µm,20.0s						
ECH	**Echery**	**96.31**	**42**	*eP*	**P**	**19 08 00.2**	**-0.4**
	comp=Z,142nm,1.3s						
ECH				LR	LR		
	comp=Z,25µm,20.0s						
BPAW	**Bear Paw Mtn.**	**96.51**	**335**	*eP*	**P**	**19 07 59.2**	**-2.0**
	comp=Z,88nm,1.0s						
BPAW				LR	LR		
	comp=Z,28µm,19.0s						
WKZ	**Wanaka**	**96.56**	**221**	PFAKE		19 08 10.0	+8.0
WKZ				LR	LR		
	comp=Z,74µm,18.0s						
JMIC	**Jan Mayen**	**96.61**	**18**	*eP*	**P**	**19 08 04.2**	**+2.7**
JMIC				*ePP*	**PP**	**19 11 54.4**	**-1.8**
FOZ	**Fox Glacier**	**96.65**	**222**	PFAKE		19 08 10.0	+7.7
FOZ				LR	LR		
	comp=Z,78µm,18.0s						
MLY	**Manley**	**96.73**	**336**	*eP*	**P**	**19 08 01.2**	**-1.0**
	comp=Z,72nm,1.2s						
MLY				LR	LR		
	comp=Z,40µm,21.0s						
MLZ	**Mavora Lakes**	**96.86**	**220**	PFAKE		19 08 20.0	+17
MLZ				LR	LR		
	comp=Z,127µm,18.0s						
LANF	**Langenberg**	**96.92**	**41**	*eP*	**P**	**19 08 02.9**	**-0.5**
MCQ	**Macquarie Isla**	**96.92**	**209**	PFAKE		19 08 20.0	+17
MCQ				LR	LR		
	comp=Z,46µm,22.0s						
DAG	**Danmarks Havn**	**97.07**	**11⇑**	*iP*		Pdif	19 08 03.9	+0.4
	comp=Z,43nm,1.3s						
DAG				*i*			19 11 58.2	
DAG				*eS*		**SKSac**	**19 18 36.8**	**-1.2**
	comp=Z,56µm,21.0s						
DAG	**Danmarks Havn**	**97.07**	**11⇑**	*iP*		Pdif	19 08 03.9	+0.4
DAG				*i*			19 11 58.2	
DAG				*eS*		**SKSac**	**19 18 36.8**	**-1.2**
DAG				pmax	pmax			
	comp=Z,82nm,1.3s							
DAG				MLR	MLR			
	comp=Z,60µm,21.0s							
BFO	**Black Forest**	**97.10**	**42**	*ceP*		**P**	**19 08 04.1**	**-0.1**
BFO	**Black Forest**	**97.10**	**42**	*eP*		**P**	**19 08 03.7**	**-0.5**
	comp=Z,94nm,1.6s							
JOHN	**Johnston Islan**	**97.28**	**285**	PFAKE			19 08 20.0	+14
JOHN				LR	LR			
	comp=Z,72µm,21.0s							
COLD	**Coldfoot**	**97.28**	**338**	*eP*		Pdif	19 08 04.5	-0.2
	comp=Z,67nm,1.2s							
COLD				LR	LR			
	comp=Z,73µm,21.0s							
TUE	**Stuetta**	**97.33**	**44**	*eP*		**P**	**19 08 05.4**	**-0.1**
	comp=Z,156nm,1.4s							
TUE				LR	LR			
	comp=Z,123µm,20.0s							
PYZ	**Puysegur Point**	**97.35**	**219**	PFAKE			19 08 20.0	+14
PYZ				LR	LR			
	comp=Z,61µm,20.0s							
DCZ	**Deep Cove**	**97.41**	**219**	PFAKE			19 08 20.0	+14
DCZ				LR	LR			
	comp=Z,98µm,20.0s							
VLC	**Villacollemand**	**97.52**	**46**	*eP*		**P**	**19 08 05.8**	**-0.4**
	comp=Z,146nm,1.4s							
VLC				LR	LR			
	comp=Z,89µm,22.0s							
TOLK	**Toolik Lake Re**	**97.55**	**339**	P		**P**	**19 08 01.4**	**-4.4**
	baz=110							
TOLK	**Toolik Lake Re**	**97.55**	**339**	*eP*		Pdif	19 08 05.7	-0.2
	comp=Z,67nm,1.3s							
OUZ	**Omahuta**	**97.55**	**231**	PFAKE			19 08 20.0	+13
OUZ				LR	LR			
	comp=Z,38µm,21.0s							
SVW2	**Sparrevohn**	**97.60**	**331**	*eP*		Pdif	19 08 08.2	+2.0
	comp=Z,39nm,1.1s							
SVW2				LR	LR			
	comp=Z,38µm,20.0s							
CHGN	**Chignik**	**97.76**	**326**	PFAKE			19 08 20.0	+13
CHGN				LR	LR			
	comp=Z,21µm,19.0s							
STU	**Stuttgart**	**97.76**	**42**	*eP*		Pdif	19 08 07.5	+0.3
STU				pmax	pmax			
	comp=Z,92nm,1.1s							
STU				MLR	MLR			
	comp=Z,38µm,19.0s							
STU	**Stuttgart**	**97.76**	**42**	*eP*		Pdif	19 08 07.5	+0.3
	comp=Z,92nm,1.1s							
STU				LR	LR			
	comp=Z,38µm,19.0s							
DAVOX	**Davos/Dischmat**	**97.76**	**44**	P		**P**	**19 08 06.6**	**-0.9**
	comp=Z,47nm,0.8s,baz=237,slow=2.8,SNR=49							
DAVOX				PP		**PP**	**19 12 06.2**	**+0.3**
	comp=Z,5.8nm,0.9s,baz=291,slow=6.4,SNR=3.9							
DAVA	**Damuels**	**97.87**	**43**	*i* PcP		Pdif	19 08 08.4	+0.5
	comp=Z,127nm,1.3s,SNR=18							
DAVA				*i* P'P'df		**P'P'df**	**19 32 53.3**	**-2.6**
	comp=Z,20nm,1.5s							
FUORN	**Ofenpass-Fuorn**	**97.98**	**44**	*eP*		Pdif	19 08 08.8	+0.2
	comp=Z,253nm,1.6s							
FUORN				LR	LR			
	comp=Z,99µm,19.0s							
STAV	**Stavanger**	**98.17**	**31**	*eP*		Pdif	19 08 10.5	+1.8
STAV				*ePP*		**PP**	**19 12 07.0**	**-1.4**
STAV				*e*SKSac		**SKSac**	**19 18 45.9**	**+1.7**
STAV				*e*ScS		**S**	**19 19 33.3**	**-0.6**
STAV				*e*SS		**SS**	**19 26 12.7**	**-4.7**
STAV				IVMs_BB		IVMs_BB	19 48 16.9	
	comp=Z,17µm,23.2s							
CLTB	**Caltabellotta**	**98.21**	**53**	PFAKE			19 08 20.0	+10
CLTB				LR	LR			
	comp=Z,80µm,18.0s							
SUE	**Sulen**	**98.25**	**29**	*eP*		Pdif	19 08 11.2	+2.2
SUE				*e*SKSac		**SKSac**	**19 18 44.2**	**-0.3**
SUE				*e*ScS		**S**	**19 19 34.1**	**-0.5**
SUE				IVMs_BB		IVMs_BB	19 48 44.3	
	comp=Z,35µm,23.0s							
TT01	**Tatalina**	**98.30**	**333**	*eP*		Pdif	19 08 11.6	+2.4
TTA	**Tatalina**	**98.30**	**333**	*eP*		Pdif	19 08 12.8	+3.4
TTA	**Tatalina**	**98.30**	**333**	*eP*		Pdif	19 08 12.8	+3.5
ASK	**Askoy**	**98.31**	**30**	*eP*		Pdif	19 08 12.4	+3.1
ASK				*e*SKSac		**SKSac**	**19 18 48.1**	**+3.2**
ASK				*e*ScS		**ScS**	**19 19 35.5**	**+0.4**
ASK				*e*PS		**PS**	**19 21 02.0**	**-1.4**
BER	**Bergen**	**98.36**	**30**	*eP*		Pdif	19 08 11.1	+1.6
BER				*ePP*		**PP**	**19 12 06.2**	**-3.6**
BER				*e*SKSac		**SKSac**	**19 18 48.8**	**+3.7**
BER				*e*SS		**SS**	**19 26 19.3**	**-0.6**
BER				IVMs_BB		IVMs_BB	19 47 22.0	
	comp=Z,25µm,21.3s							
FETA	**Feichten**	**98.38**	**44**	*i* PcP		Pdif	19 08 10.6	+0.4
	comp=Z,94nm,1.2s,SNR=24							
FETA				*i* P'P'df		**P'P'df**	**19 32 57.9**	**+2.9**
	comp=Z,15nm,1.4s							
RETA	**Reutte**	**98.50**	**43**	*i* Pdiff		Pdif	19 08 10.7	+0.1
	comp=Z,114nm,1.1s,SNR=29							
RETA				*i* P'P'df		**P'P'df**	**19 32 52.3**	**-2.4**
	comp=Z,14nm,2.3s							
FOO	**Floro**	**98.53**	**29**	*eP*		Pdif	19 08 11.6	+1.4
FOO				*e*SKSac		**SKSac**	**19 18 52.2**	**+6.4**
FOO				IVMs_BB		IVMs_BB	19 48 51.8	
	comp=Z,35µm,20.8s							
BLS5	**Blasjo**	**98.67**	**31**	*eP*		Pdif	19 08 12.3	+1.3
BLS5				*e*SKSac		**SKSac**	**19 18 50.7**	**+3.9**
BLS5				IVMs_BB		IVMs_BB	19 51 23.9	
	comp=Z,20µm,18.1s							
MOTA	**Moosalm**	**98.70**	**43**	*i* Pdiff		Pdif	19 08 11.6	-0.1
	comp=Z,128nm,1.0s,SNR=49							
MOTA				*i* P'P'df		**P'P'df**	**19 32 52.0**	**-2.3**
	comp=Z,1.5nm,0.6s							
MIR	**Mirnyy**	**98.72**	**176⇓**	*iP*		Pdif	19 08 13.0	+1.8
MIR				*i* S		S	19 19 49.0	+10
MIR				*i* SS		**SS**	**19 26 29.0**	**+5.7**
MIR				pmax		pmax		
	comp=Z,8µm,15.0s							
MIR				smax		smax		
	comp=N,4µm,13.0s							
MIR				MLR		MLR		
	comp=N,32µm,16.0s							
MIR				MLR		MLR		
	comp=Z,60µm,16.0s							
SNART	**Snartemo**	**98.79**	**32**	*e*Pdif		**P**	**19 08 10.6**	**-0.9**
ODD1	**Odda**	**98.87**	**30**	*e*Pdif		**P**	**19 08 11.1**	**-0.8**
ODD1				*e*SKSac		**SKSac**	**19 18 49.1**	**+1.3**
ODD1				*e*ScS		**ScS**	**19 19 40.1**	**+0.1**
ODD1				IVMs_BB		IVMs_BB	19 47 47.7	
	comp=Z,23µm,23.8s							
HYA	**Hoyanger**	**98.95**	**29**	*eP*		Pdif	19 08 18.0	+5.9
HYA				*e*PP		**PP**	**19 12 12.8**	**-1.6**
WATA	**Walderalm**	**99.01**	**43**	*i* Pdiff		**Pdif**	**19 08 13.0**	**0.0**
	comp=Z,112nm,1.0s,SNR=22							
WATA				*i* P'P'df		**P'P'df**	**19 32 56.8**	**+3.0**
	comp=Z,3.3nm,0.5s							
WTTA	**Wattenberg**	**99.04**	**44**	*i* Pdiff		**Pdif**	**19 08 13.7**	**+0.6**
	comp=Z,140nm,1.2s,SNR=26							
WTTA				*i* P'P'df		**P'P'df**	**19 32 53.0**	**-0.8**
	comp=Z,17nm,1.3s							
GRFO	**Grafenberg**	**99.25**	**41**	*eP*		**Pdif**	**19 08 14.6**	**+0.8**
GRFO				pmax		pmax		
	comp=Z,98nm,1.4s							
GRFO	**Grafenberg**	**99.25**	**41**	*eP*		**Pdif**	**19 08 14.6**	**+0.8**
	comp=Z,98nm,1.4s							
AQU	**L'Aquila**	**99.30**	**49**	*eP*		**Pdif**	**19 08 14.1**	**-0.2**
AQU				pmax		pmax		
	comp=Z,68nm,1.0s							
AQU	**L'Aquila**	**99.30**	**49**	*eP*		**Pdif**	**19 08 14.1**	**-0.2**
	comp=Z,68nm,1.0s							
MUD	**Monsted U'grnd**	**99.42**	**34⇑**	*iP*		**Pdif**	**19 08 16.4**	**+2.1**
	comp=Z,58µm,20.0s							
MUD	**Monsted U'grnd**	**99.42**	**34⇑**	*iP*		**Pdif**	**19 08 16.4**	**+2.1**
MUD				MLR		MLR		
	comp=Z,58µm,20.0s							
HOMB	**Homborsund**	**99.45**	**32**	*eP*		**Pdif**	**19 08 15.7**	**+1.3**
HOMB				*e*PP		**PP**	**19 12 11.8**	**-6.4**
HOMB				*e*SKSac		**SKSac**	**19 18 55.3**	**+4.7**
HOMB				IVMs_BB		IVMs_BB	19 50 19.4	
	comp=Z,20µm,22.4s							
ABTA	**Abfaltersbach**	**99.52**	**44**	*i* Pdiff		**Pdif**	**19 08 15.6**	**+0.4**
	comp=Z,112nm,1.1s,SNR=30							
ABTA				*i* P'P'df		**P'P'df**	**19 32 54.5**	**+1.6**
	comp=Z,11nm,1.4s							
LSZ	**Lusaka**	**99.53**	**109**	*eP*		**Pdif**	**19 08 18.4**	**+2.4**
LSZ				pmax		pmax		
	comp=Z,90nm,1.9s							
LSZ	**Lusaka**	**99.53**	**109**	*eP*		**Pdif**	**19 08 18.4**	**+2.4**
	comp=Z,90nm,1.9s							
AKN	**Aaknes**	**99.56**	**28**	*eP*		**Pdif**	**19 08 17.4**	**+2.5**
MOL	**Molde**	**99.90**	**28**	*e*Pdif		**Pdif**	**19 08 15.5**	**-0.9**
MOL				*e*PP		**PP**	**19 12 14.9**	**-6.6**
MOL				*e*SS		SS	19 26 40.6	-0.8
MOL				IVMs_BB		IVMs_BB	19 49 59.6	
	comp=Z,24µm,20.0s							
NKC	**Novy Kostel**	**100.13**	**41**	*e*PDIFF		**Pdif**	**19 08 18.7**	**+0.9**
NKC				*e*PP		**PP**	**19 12 22.3**	**-1.4**
NKC				*e*SKS			19 19 02.0	
NKC				*e*SDIF		**Sdif**	**19 19 57.8**	**+6.8**
NKC				*e*SP		**SP**	**19 21 27.9**	**+8.6**
NKC				AMS		AMS	19 53 10.0	
	comp=Z,47µm,18.6s							
NKC	**Novy Kostel**	**100.13**	**41**	*eP*		**Pdif**	**19 08 18.7**	**+0.9**
NKC				*e*			19 12 22.3	
NKC				*e*S		**Sdif**	**19 19 57.8**	**+6.8**
NKC				*e*SP		**SP**	**19 21 27.9**	**+8.6**
NKC				MLR		MLR		
	comp=Z,47µm,18.6s							
KBA	**Koelnbreinsper**	**100.15**	**44**	*i* Pdiff		**Pdif**	**19 08 18.5**	**+0.5**
	comp=Z,96nm,1.4s							
TRI	**Trieste**	**100.19**	**45**	*eP*		**Pdif**	**19 08 18.1**	**0.0**
TRI	**Trieste**	**100.19**	**45**	*e*Pdif		**Pdif**	**19 08 18.1**	**0.0**
MYKA	**Terra Mystica**	**100.27**	**44**	*i* Pdiff		**Pdif**	**19 08 18.9**	**+0.4**
	comp=Z,117nm,1.6s,SNR=20							
KONO	**Kongsberg**	**100.28**	**31**	*eP*		**Pdif**	**19 08 20.2**	**+2.0**
KONO				*e*SKSac		**SKSac**	**19 18 54.6**	**-0.1**
KONO				IVMs_BB		IVMs_BB	19 49 50.5	
	comp=Z,21µm,21.0s							
KONO	**Kongsberg**	**100.28**	**31**	*eP*		**Pdif**	**19 08 17.5**	**-0.6**
KONO				pmax		pmax		
	comp=Z,63nm,1.1s							
KONO				MLR		MLR		
	comp=Z,149µm,20.0s							
DOMB	**Dombas**	**100.49**	**29⇑**	*iP*		**Pdif**	**19 08 20.2**	**+1.1**
DOMB				*e*SKSac		**SKSac**	**19 18 56.4**	**+0.6**
DOMB				*e*SS		**SS**	**19 26 49.4**	**-0.4**
DOMB				IVMs_BB		IVMs_BB	19 49 42.2	
	comp=Z,30µm,21.4s							
KHC	**Kasperske Hory**	**100.66**	**42**	*e*PDIFF		**Pdif**	**19 08 20.3**	**+0.1**
KHC				*ex*		x	19 08 33.5	
KHC				*e*PP		**PP**	**19 12 22.9**	**-4.9**
KHC				*e*SKS			19 19 00.9	
KHC				*e*SDIF		**Sdif**	**19 20 00.3**	**+4.8**
KHC				*e*PS		**PS**	**19 21 31.9**	**+2.6**
KHC				*ex*		x	19 27 05.5	
KHC				*e*PKPPKP		P'P'df	19 32 59.2	+8.8
KHC				AMS		AMS	19 54

comp=Z,58µm,21.8s
CLL LmH 19 52 00.0
comp=N,22µm,20.0s
CLL LmH 19 52 00.0
comp=E,48µm,20.0s
GEC2 GERESS Array S 100.69 42 *e*P **Pdif 19 08 20.6 +0.2**
GEC2 GERESS Array S 100.69 42 *e*Pdif **Pdif 19 08 20.6 +0.2**
GERES GERESS Array B 100.69 42 P **Pdif 19 08 19.5 -0.9**
comp=E,12nm,0.9s,baz=245,slow=2.8,SNR=68
GERES PP **PP 19 12 31.1 +3.0**
comp=E,2.4nm,1.0s,baz=201,slow=4.8,SNR=3.7
GERES PKKPbc PKKPbc 19 24 22.5 -13
comp=E,0.5nm,0.8s,baz=116,slow=2.3,SNR=6.3
GERES PKPPKP **P'P'df 19 32 53.8 +3.3**
comp=E,0.3nm,0.7s,baz=108,slow=3.2,SNR=3.6
LJU Ljubljana 100.77 45 *e*P **Pdif 19 08 21.0 +0.3**
LJU *e*PP **PP 19 12 27.0 -1.7**
OBKA Obir 100.86 45 *i* Pdiff **Pdif 19 08 21.9 +0.7**
comp=E,92nm,2.0s,SNR=34
OBKA *i* P'P'df **P'P'df 19 32 52.0 +1.7**
comp=E,11nm,1.8s
LLD Lille Linde 100.89 36 *i* P **Pdif 19 08 23.4 +2.5**
LLD Lille Linde 100.89 36 *i* P **Pdif 19 08 23.4 +2.5**
OSL Oslo 100.89 31 *e*P **Pdif 19 08 22.0 +1.2**
OSL *e*SKSac **SKSac 19 18 56.6 -1.1**
MOA Molln 100.89 43 *i* Pdiff **Pdif 19 08 21.7 +0.5**
comp=E,109nm,1.3s,SNR=28
MOA *i* P'P'df **P'P'df 19 32 48.1 -2.0**
comp=E,6.7nm,1.6s
VISS Visnje 100.94 45 *e*P **Pdif 19 08 20.2 -1.2**
VISS *e* 19 08 36.7
VISS *e*S **SKSac 19 19 02.1 +3.5**
VISS *e* 19 21 36.0
COP Copenhagen 101.07 35⇑ *i*P **Pdif 19 08 23.4 +1.7**
COP *i* 19 12 27.1
COP *i* S **SKSac 19 19 00.7 +2.0**
comp=Z,23µm,18.0s
COP Copenhagen 101.07 35⇑ *i*P **Pdif 19 08 23.4 +1.7**
COP *i* 19 12 27.1
COP *i* S **SKSac 19 19 00.7 +2.0**
COP MLR MLR
comp=Z,23µm,18.0s
BOJS Bojanci 101.18 46 *e*P **Pdif 19 08 21.7 -0.8**
BOJS *e* 19 08 38.0
BOJS *e*S **SKSac 19 19 03.9 +4.2**
BRG Berggiesshubel 101.18 40 *i* P **Pdif 19 08 22.9 +0.5**
BRG *e* 19 12 29.5
BRG SS SS 19 27 06.0 +6.0
BRG pmax pmax
comp=Z,211nm,2.1s
BRG MLR MLR
comp=N,236µm,19.9s
BRG MLR MLR
comp=E,279µm,18.5s
BRG Berggiesshubel 101.18 40 *i* PDIFF **Pdif 19 08 22.9 +0.5**
comp=E,211nm,2.1s
BRG *e*PP **PP 19 12 29.5 -2.1**
BRG *e* 19 12 42.1
comp=E,149nm,1.8s
BRG SKS 19 19 06.0
BRG SDIFF **Sdif 19 20 10.0 +10**
BRG *e*PKKP **PKKPdf 19 24 47.5 +6.8**
comp=E,48nm,2.1s
BRG SS **SS 19 27 06.0 +6.0**
BRG *e*PKPPKP P'P'df 19 32 57.7 +8.4
comp=E,63nm,2.2s
comp=N,236µm,19.9s
comp=E,279µm,18.5s
comp=Z,541µm,18.7s
SOKA Soboth 101.22 45 *i* Pdiff **Pdif 19 08 22.8 0.0**
comp=Z,39nm,2.8s,SNR=13
SOKA *i* P'P'df **P'P'df 19 32 50.7 +1.1**
comp=Z,1.4nm,0.9s
TBLU Trondheim 101.25 27 *e*P **Pdif 19 08 26.3 +4.0**
TBLU *e*SKSac **SKSac 19 19 00.7 +1.4**
TBLU *e* 19 20 02.6
TBLU IVMs_BB IVMs_BB 19 51 06.7
comp=Z,17µm,23.1s
PERS Pernice 101.27 45 *e*P **Pdif 19 08 21.2 -1.7**
PERS *e* 19 08 37.7
PERS *e*S **SKSac 19 19 03.0 +2.7**
PERS *e* 19 21 40.1
NB2 NORSAR Subarra101.32 30 P **Pdif 19 08 23.2 +0.4**
comp=Z,385nm,2.5s,baz=262,slow=4.3
NB2 NORSAR Subarra101.32 30 P **Pdif 19 08 23.2 +0.4**
baz=262,slow=4.3
NOA NORSAR Array B 101.32 30 P **Pdif 19 08 21.6 -1.2**
comp=Z,5.2nm,1.0s,baz=260,slow=4.2,SNR=6.2
PRA Prague 101.36 41 *e*PDIFF **Pdif 19 08 23.7 +0.5**
PRA *e*x x 19 19 11.3
PRA *e*PS **PS 19 21 39.3 +2.7**
PRA AMS AMS 19 54 40.0
comp=Z,43µm,18.2s
PRA Prague 101.36 41 *e*P **Pdif 19 08 23.7 +0.5**
PRA *e*SP SP 19 21 39.3 +6.8
PRA MLR MLR
comp=Z,43µm,18.2s
PRU Pruhonice 101.42 41 *e*PDIFF **Pdif 19 08 24.0 +0.6**
PRU *e*x x 19 08 36.9
PRU *e*PP **PP 19 12 28.4 -5.0**
PRU *e*SKS 19 19 09.1
PRU *e*SDIF **Sdif 19 20 04.2 +2.5**
PRU *e*SP **SP 19 21 42.5 +9.4**
PRU *e*SS **SS 19 27 06.4 +3.1**
PRU *e*PKPPKP P'P'df 19 32 57.0 +8.1
PRU AMS AMS 19 52 40.0
comp=Z,49µm,20.0s
PRU Pruhonice 101.42 41 *e*P **Pdif 19 08 24.0 +0.6**
PRU *e* 19 12 28.4
PRU *e*S **Sdif 19 20 04.2 +2.5**
PRU *e*SP **SP 19 21 42.5 +9.4**
PRU *e*SS **SS 19 27 06.4 +3.1**
PRU MLR MLR
comp=Z,49µm,20.0s
NC602 NORSAR Array S 101.43 30 *e*P **Pdif 19 08 25.5 +2.3**
NC602 *e*PP **PP 19 12 30.8 -2.4**
NC602 *e*SKSac **SKSac 19 19 00.7 +0.4**
NC602 *e* 19 20 05.1
NC602 *e*SP **SP 19 21 32.1 -0.5**
NC602 IVMs_BB IVMs_BB 19 49 37.5
comp=Z,20µm,22.5s
PVCC Panska Ves 101.52 41 *e*PDIFF **Pdif 19 08 24.8 +0.9**
PVCC *e*x x 19 08 37.6
PVCC *e*PP **PP 19 12 32.5 -1.7**
PVCC *e*SKS 19 19 08.1
PVCC *e*SDIF **Sdif 19 20 07.9 +5.4**
PVCC *e*PS **PS 19 21 40.3 +2.0**
PVCC AMS AMS 19 51 50.0
comp=Z,52µm,20.7s
PVCC Panska Ves 101.52 41 *e*P **Pdif 19 08 24.8 +0.9**
PVCC *e* 19 12 32.5
PVCC *e*SP SP 19 21 40.3 +6.2
PVCC MLR MLR
comp=Z,52µm,20.7s
GOPC GO Pecny, Ondr 101.56 41 *e*PDIFF **Pdif 19 08 25.4 +1.3**
GOPC *e*x x 19 08 38.2
GOPC *e*PP **PP 19 12 32.3 -2.3**
GOPC *e*SKS 19 19 08.7
GOPC *e*SDIF **Sdif 19 20 06.6 +3.6**
GOPC *e*PS **PS 19 21 42.2 +3.4**
GOPC *e*SS **SS 19 27 09.2 +3.8**
GOPC AMS AMS 19 55 40.0
comp=Z,54µm,17.8s
GOPC GO Pecny, Ondr 101.56 41 *e*P **Pdif 19 08 25.4 +1.3**
GOPC *e* 19 12 32.3
GOPC *e*S **Sdif 19 20 06.6 +3.6**
GOPC *e*SP **PS 19 21 42.2 +3.4**
GOPC *e*SS **SS 19 27 09.2 +3.8**
GOPC MLR MLR
comp=Z,54µm,17.8s
ARSA Arzberg 101.64 44 *i* Pdiff **Pdif 19 08 25.3 +0.7**
comp=Z,93nm,2.7s,SNR=14
ARSA *i* P'P'df **P'P'df 19 32 50.5 +1.8**
comp=Z,4.9nm,1.2s
TREC Trest 101.92 42 *e*PDIFF **Pdif 19 08 26.5 +0.8**
TREC *e*SKS 19 19 08.2
TREC *e*SDIF **Sdif 19 20 08.6 +2.6**
TREC AMS AMS 19 53 20.0
comp=Z,86µm,19.6s
TREC Trest 101.92 42 *e*P **Pdif 19 08 26.5 +0.8**
TREC *e*S **Sdif 19 20 08.6 +2.6**
TREC MLR MLR
comp=Z,86µm,19.6s
CONA Conrad Observa 101.97 43 *i* Pdiff **Pdif 19 08 26.9 +0.8**
comp=Z,69nm,1.4s,SNR=34
NSS Namsos 102.19 26 *e*P **Pdif 19 08 33.9 +7.4**
NSS *e*PP **PP 19 12 37.5 -1.3**
NSS *e*SKSac **SKSac 19 19 02.3 -1.5**
NSS IVMs_BB IVMs_BB 19 53 31.3
comp=Z,17µm,17.1s
BSD Bornholm Skovb 102.39 36 *i* P **Pdif 19 08 27.9 +0.3**
comp=Z,65µm,18.0s
BSD Bornholm Skovb 102.39 36 *i* P **Pdif 19 08 27.9 +0.3**
BSD MLR MLR
comp=Z,65µm,18.0s
BLY Banja Luka 102.42 47 *e*PDIF **Pdif 19 08 29.0 +1.0**
UPC Upice 102.43 41 *e*PDIFF **Pdif 19 08 28.6 +0.7**
UPC *e*x x 19 08 41.8
UPC *e*PP **PP 19 12 39.8 -1.2**
UPC *e*SKS 19 19 09.1
UPC *e*SDIF **Sdif 19 20 13.9 +3.8**
UPC *e*PS **PS 19 21 46.2 -1.8**
UPC AMS AMS 19 55 30.0
comp=Z,51µm,17.6s
UPC Upice 102.43 41 *e*P **Pdif 19 08 28.6 +0.7**
UPC *e* 19 12 39.8
UPC *e* 19 19 09.1
UPC *e*S **Sdif 19 20 13.9 +3.8**
UPC *e*SP **PS 19 21 46.2 -1.8**
UPC MLR MLR
comp=Z,51µm,17.6s
DPC Dobruska-Polom 102.61 41 *e*PDIFF **Pdif 19 08 29.7 +0.9**
DPC *e*PP **PP 19 12 41.3 -1.1**
DPC *e*SKS 19 19 10.6
DPC *e*SDIF **Sdif 19 20 16.3 +4.6**
DPC *e*PS **PS 19 21 48.3 -1.6**
DPC *e*x x 19 27 31.8
DPC *e*PKPPKP P'P'df 19 32 54.9 +8.2
DPC AMS AMS 19 53 50.0
comp=Z,62µm,19.2s
DPC Dobruska-Polom 102.61 41 *e*P **Pdif 19 08 29.7 +0.9**
DPC *e* 19 12 41.3
DPC *e* 19 19 10.6
DPC *e*S **Sdif 19 20 16.3 +4.6**
DPC *e*SP **PS 19 21 48.3 -1.6**
DPC *e*SS SS 19 27 31.8 +12
DPC MLR MLR
comp=Z,62µm,19.2s
VRAC Vranov 102.64 42⇑ *i*P **Pdif 19 08 30.1 +1.2**
VRAC Vranov 102.64 42 ⇑P **Pdif 19 08 30.1 +1.2**
KSP Ksiaz 102.65 40 *e*Pdiff **Pdif 19 08 28.2 -0.7**
KSP *e*PP **PP 19 12 41.2 -1.4**
KSP *e*SKSac **SKSac 19 19 10.0 +3.4**
KSP *e*PS **PS 19 22 02.0 +12**
KSP *e*SS SS 19 27 41.5 +21
KSP LMZ LR 19 52 54.3
comp=Z,70µm,21.3s
KSP Ksiaz 102.65 40 *e*P **Pdif 19 08 28.2 -0.7**
KSP *e* 19 12 41.2
KSP *e* 19 19 10.0
KSP MLR MLR
comp=Z,70µm,21.3s
KRLC Kraliky 102.86 41 *e*PDIFF **Pdif 19 08 31.5 +1.6**
KRLC *e*PP **PP 19 12 42.3 -2.0**
KRLC *e*PKPPKP **P'P'df 19 32 47.4 +1.2**
KRLC Kraliky 102.86 41 *e*P **Pdif 19 08 31.5 +1.6**
KRLC *e* 19 12 42.3
STOK Stokkvaagen 102.86 24 *e*P **Pdif 19 08 35.2 +5.7**
STOK *e*SKSac **SKSac 19 19 07.7 +0.9**
STOK *e* 19 20 17.8
HCY Herceg Novi 103.04 49⇑ *i*P **Pdif 19 08 31.9 +1.1**
SMOL Smolenice 103.09 43 *e*P **Pdif 19 08 31.9 +1.0**
SMOL Smolenice 103.09 43 *e*PDIFF **Pdif 19 08 31.9 +1.0**
BRY Bratogost 103.13 49 *e*P **Pdif 19 08 32.2 +0.8**
LOF Lofoten 103.26 23 *e*P **Pdif 19 08 31.5 +0.3**
LOF *e*PP **PP 19 12 45.4 -1.3**
LOF *e*SKSac **SKSac 19 19 10.6 +2.0**
LOF *e*PS **PS 19 21 54.2 -1.8**
BUM Brajici-Budva 103.31 49⇑ *i*P **Pdif 19 08 33.2 +1.0**
MORC Moravsky Berou 103.31 42⇑ *i*P **Pdif 19 08 33.5 +1.6**
MORC Moravsky Berou 103.31 42 *e*P **Pdif 19 08 31.8 -0.2**
MORC Moravsky Berou 103.31 42 *e*Pdif **Pdif 19 08 31.8 -0.2**
CEME Cevo 103.36 49⇑ *i*P **Pdif 19 08 33.8 +1.4**
NKME Niksic 103.42 49 *e*P **Pdif 19 08 33.6 +1.0**
MOR8 Moi Rana 103.42 25 *e*P **Pdif 19 08 34.7 +2.7**
MOR8 *e*PP **PP 19 12 47.2 -0.8**
MOR8 *e*SKSac **SKSac 19 19 10.6 +1.1**
MOR8 *e*PS **PS 19 21 57.9 +0.1**
MOR8 IVMs_BB IVMs_BB 19 50 10.2
comp=Z,11µm,26.1s
UPM Unac-Piva 103.44 48⇑ *i*P **Pdif 19 08 33.6 +0.8**
NKY Niksic 103.45 49 *e*P **Pdif 19 08 33.8 +1.0**
DRME Dracevica, Mon 103.51 50⇑ *i*P **Pdif 19 08 34.8 +1.8**
GKP Gorka Klasztor 103.52 38 *e*Pdiff **Pdif 19 08 33.6 +0.9**
GKP *e*PP **PP 19 12 48.2 -0.9**
GKP *e*SKSac **SKSac 19 19 13.9 +3.5**
GKP *e*PS **PS 19 22 11.4 +12**
GKP LMZ LR 19 48 48.4
comp=Z,93µm,26.9s
GKP Gorka Klasztor 103.52 38 *e*P **Pdif 19 08 33.6 +0.9**
GKP *e* 19 12 48.2
GKP *e* 19 19 13.9
GKP MLR MLR
comp=Z,93µm,26.9s
ULC Ulcinj 103.53 50 *e*P **Pdif 19 08 34.3 +1.2**
PDG Podgorica 103.60 49⇓ *i*P **Pdif 19 08 34.1 +0.8**
TTG Podgorica 103.60 49⇑ *i*P **Pdif 19 08 34.3 +1.0**
OKC Ostrava-Krasne 103.71 42 *e*PDIFF **Pdif 19 08 34.5 +0.9**
OKC *e*PP **PP 19 12 48.1 -2.5**
OKC *e*SKS 19 19 18.1
OKC *e*XS SKKSac 19 20 32.6 +39
OKC *e*PS **PS 19 22 05.6 +4.2**
OKC AMS AMS 19 54 50.0
comp=Z,46µm,19.1s
OKC Ostrava-Krasne 103.71 42 *e*P **Pdif 19 08 34.5 +0.9**
OKC *e* 19 12 48.1
OKC *e*SP SP 19 22 05.6 +8.3
OKC MLR MLR
comp=Z,46µm,19.1s
RAC Raciborz 103.77 41 *e*P **Pdif 19 08 34.4 +0.5**
RAC *e* 19 19 12.6
RAC MLR MLR
comp=E,55µm,23.6s
RAC MLR MLR
comp=E,60µm,21.8s
RAC MLR MLR
comp=N,108µm,19.1s
PLE Pljevlja 103.81 48⇑ *i*P **Pdif 19 08 35.4 +1.0**
KBS Kingsbay 103.81 11 *e*P **Pdif 19 08 34.3 +0.8**
KBS *e*PP **PP 19 12 49.8 -0.8**
KBS *e*PS **PS 19 22 00.6 -1.0**
KBS *e*SS SS 19 27 35.7 +0.8
KBS IVMs_BB IVMs_BB 19 52 02.2
comp=Z,12µm,25.1s
KOME Kolasin 103.84 49⇑ *i*P **Pdif 19 08 35.1 +0.6**
VYHS Vyhne 104.01 43⇑ *e*P **Pdif 19 08 35.8 +0.8**
VYHS *e* 19 12 50.1
VYHS *e* 19 19 17.4
VYHS *e* 19 22 00.0
VYHS MLR MLR
comp=Z,51µm,20.2s
VYHS Vyhne 104.01 43 *e*PDIFF **Pdif 19 08 35.8 +0.8**
VYHS *e*PP **PKiKP 19 12 50.1 -2.3**
IVA Berane 104.12 49 *e*P **Pdif 19 08 36.7 +1.0**
PVY Plav 104.13 49 *e*P **Pdif 19 08 37.3 +1.4**
HSPB Hornsund (broa 104.45 14 *e*P **Pdif 19 08 37.7 +1.4**
HSPB *e*PP **PKiKP 19 12 51.2 -1.1**
HSPB *e*SP SP 19 22 04.7 +0.9
HSPB *e*SS **SS 19 27 44.8 +1.0**
HSPB IVMs_BB IVMs_BB 19 50 53.7
comp=Z,11µm,21.9s
LANS Liptovska Anna 104.50 42 *e*P **Pdif 19 08 39.5 +2.3**
LANS *e* 19 12 52.2
LANS Liptovska Anna 104.50 42 *e*PDIFF **Pdif 19 08 39.5 +2.3**
LANS *e*PP **PKiKP 19 12 52.2 -1.1**
OHR Ohrid 104.58 51 *i* P **Pdif 19 08 37.9 0.0**
PSZ Piszkesteto 104.66 44⇓ *i*P **Pdif 19 08 42.6 +4.6**
PSZ Piszkesteto 104.66 44 ⇓P **Pdif 19 08 42.6 +4.6**
SPA0 Spitsbergen Ar 104.66 12 *e*P **Pdif 19 08 38.3 +1.0**
SPA0 *e*PP **PKiKP 19 12 46.3 -6.5**
OJC Ojcow 104.81 41 *e*Pdiff **Pdif 19 08 39.6 +1.1**
OJC *e*PP **PP 19 12 56.3 -2.4**
OJC *e*SKSac **SKSac 19 19 20.7 +4.1**
OJC *e*PS **PS 19 22 26.7 +14**
OJC *e*SS **SKKPbc 19 28 01.0 -4.5**
OJC LMZ LR 19 51 44.8
comp=Z,53µm,25.9s
OJC Ojcow 104.81 41 *e*P **Pdif 19 08 39.6 +1.1**
OJC *e* 19 12 56.3
OJC *e* 19 19 20.7
OJC *e*SS SS 19 28 01.0 +11
OJC MLR MLR
comp=Z,53µm,25.9s
KRUS Krusevo 104.95 51⇑ *i*P **Pdif 19 08 41.0 +1.5**
BIA Bitola 104.97 51 *e*P **Pdif 19 08 36.6 -2.9**
NIE Niedzica 105.06 42 *e*Pdiff **Pdif 19 08 39.7 0.0**
NIE *e*PP **PP 19 12 58.8 -2.0**
NIE *e*SKSac **SKSac 19 19 19.6 +1.8**
NIE *e*PS PS 19 22 30.9 +15
NIE *e*SS **SKKPbc 19 28 06.7 +1.9**
NIE LMZ LR 19 54 09.0
comp=Z,83µm,21.4s
NIE Niedzica 105.06 42 *e*P **Pdif 19 08 39.7 0.0**
NIE *e* 19 12 58.7
NIE *e* 19 19 19.6
NIE *e*SS SS 19 28 06.6 +13
NIE MLR MLR
comp=Z,83µm,21.4s
KECS Kecovo 105.11 43 *e*PDIFF **Pdif 19 08 41.1 +1.2**
KECS *e*PP **PP 19 12 58.2 -2.8**
SKO Skopje 105.15 50⇑ *i*P **Pdif 19 08 41.5 +1.2**
TRO Tromso 105.30 21 *e*P **Pdif 19 08 45.7 +5.5**
TRO *e*PP **PKiKP 19 12 57.5 +3.5**
TRO IVMs_BB IVMs_BB 19 55 21.6
comp=Z,7µm,20.6s
BJO Bjornoya 105.35 16 *e*P **Pdif 19 08 41.6 +1.3**
BJO *e*PP **PKiKP 19 12 56.4 +2.3**
BJO *e* 19 20 37.4
BJO *e*PS **PS 19 22 15.3 -2.4**
BEL Belsk 105.55 40 *e*Pdiff **Pdif 19 08 41.5 -0.3**
BEL *e*PP **PP 19 13 03.6 -0.6**
BEL *e*SKSac **SKSac 19 19 23.1 +3.3**
BEL *e*PS **PS 19 22 25.1 +4.5**
BEL *e*SS **SKKPbc 19 28 10.4 +6.9**
BEL LMZ LR 19 55 34.4
comp=Z,80µm,19.6s
BEL Belsk 105.55 40 *e*P **Pdif 19 08 41.5 -0.3**
BEL *e* 19 13 03.6
BEL *e* 19 19 23.1
BEL *e*PS **PS 19 22 25.1 +4.5**
BEL *e*SS SS 19 28 10.4 +10
BEL MLR MLR
comp=Z,80µm,19.6s
BZS Buzias 105.63 46⇑ *i*P **Pdif 19 08 43.5 +1.2**
BZS Buzias 105.63 46 ⇑P **Pdif 19 08 43.5 +1.2**
STHS Stebnicka Huta 105.68 42 *e*P **Pdif 19 08 43.5 +1.1**
STHS Stebnicka Huta 105.68 42 *e*PDIFF **Pdif 19 08 43.5 +1.1**
SIRR Siria 105.71 46⇓ *i*P **Pdif 19 08 43.9 +1.2**
CRVS Cervenica-Dubn 105.78 43⇑ *e*P **Pdif 19 08 45.1 +2.2**
CRVS *e* 19 13 01.9
CRVS *e* 19 22 23.2
CRVS Cervenica-Dubn 105.78 43 *e*PDIFF **Pdif 19 08 45.1 +2.2**
CRVS *e*PP **PP 19 13 01.9 -4.1**
UZH Uzhgorod 106.31 43⇑ *i*P **Pdif 19 08 48.4 +3.2**
UZH *e*SS SS 19 28 08.4 -2.2
KKB Krupnik 106.36 50 *e*P **Pdif 19 08 47.0 +1.3**
DRGR 106.48 45⇑ *i*P **Pdif 19 08 49.1 +3.0**
DRGR 106.48 45 ⇑P **Pdif 19 08 49.1 +3.0**
VTS Vitosha 106.52 49 *e*P **Pdif 19 08 48.3 +1.8**
KWP Kalwaria Pacla 106.64 42 *e*Pdiff **Pdif 19 08 49.4 +2.7**
KWP *e*PP **PP 19 13 09.8 -2.5**
KWP *e*SKSac **SKSac 19 19 30.2 +5.4**
KWP *e*PS **PS 19 22 35.5 +3.5**
KWP LMZ LR 19 53 52.0
comp=Z,74µm,23.2s
KWP Kalwaria Pacla 106.64 42 *e*P **Pdif 19 08 49.4 +2.7**
KWP *e* 19 13 09.8
KWP *e*PS **PS 19 22 35.5 +3.5**
KWP MLR MLR
comp=Z,74µm,23.2s
HOPEN Hopen 106.66 14 *e*P **Pdif 19 08 47.8 +1.6**
HOPEN *e*PP **PP 19 13 10.0 -1.6**
HOPEN *e*PS **PS 19 22 30.0 -1.2**
HOPEN *e*SS SS 19 28 16.2 +2.3
HOPEN IVMs_BB IVMs_BB 19 51 14.4
comp=Z,9µm,29.0s
MMB Musomiste 106.82 51 *e*P **Pdif 19 08 49.6 +1.9**
KTK1 Kautokeino 106.84 22 *e*P **Pdif 19 08 52.1 +4.9**
KTK1 *e*PP **PP 19 13 08.8 -4.4**
KTK1 *e*PS **PS 19 22 31.6 -1.7**
KTK1 IVMs_BB IVMs_BB 19 54 10.5
comp=Z,9µm,21.0s
HAMF Hammerfest 106.89 20 *e*P **Pdif 19 08 48.6 +1.3**
HAMF *e*PP **PP 19 13 12.5 -0.9**
HAMF *e*SP SP 19 22 30.8 +1.6
HAMF *e*SS **SS 19 28 20.7 +3.5**
HAMF IVMs_BB IVMs_BB 19 55 21.0
comp=Z,8µm,20.1s
SUW Suwalki 107.10 38 *e*Pdiff **Pdif 19 08 50.5 +1.9**
SUW *e*PP **PP 19 13 10.2 -5.3**
SUW *e*SKSac **SKSac 19 19 28.6 +2.1**
SUW *e*PS **PS 19 22 46.5 +10**
SUW *e*SS **SS 19 28 20.7 -0.2**
SUW LMZ LR 19 51 39.1
comp=Z,59µm,25.5s
SUW Suwalki 107.10 38 *e*P **Pdif 19 08 50.5 +1.9**
SUW *e* 19 19 28.6
SUW *e*SS SS 19 28 20.7 -0.2
SUW MLR MLR
comp=Z,59µm,25.5s
LVV L'vov 107.51 42 *i* P **Pdif 19 08 50.3 -0.2**
LVV *e* 19 19 29.5
LVV *i* SS SS 19 28 29.6 +2.8
LVV MLR MLR
comp=Z,58µm,22.0s
ARCES ARCESS Array B 107.60 21 PP PP 19 13 21.1 +2.3
comp=Z,6.3nm,1.0s,baz=284,slow=7.3,SNR=3.3
ARCES PKKPbc **PKKPbc 19 24 14.8 -0.8**
comp=Z,4.1nm,1.0s,baz=81,slow=5.8,SNR=5.2
ARE0 ARCESS Array S 107.60 21 *e*P **Pdif 19 08 50.7 +0.2**
ARE0 *e*PP PKiKP 19 13 08.0 +10
ARE0 *e*SP SP 19 22 37.9 +1.3
ARE0 IVMs_BB IVMs_BB 19 56 33.6
comp=Z,6µm,23.3s
ARR Arges 107.73 47⇓ *i*P **Pdif 19 08 51.8 +0.1**
VOIR 108.03 47⇓ *i*P **Pdif 19 08 48.2 -4.9**
VOIR 108.03 47 ⇓P **Pdif 19 08 48.2 -4.9**
KDZ Kurdzhali 108.09 51 *e*P **Pdif 19 08 54.3 +1.0**
BURAR Bucovina Array 108.22 44⇑ *i*P **Pdif 19 08 55.8 +1.9**
FINES FINESS Array B 108.50 30 PKiKP **PKiKP 19 13 01.0 +0.8**
comp=Z,5.0nm,1.0s,baz=135,slow=0.6,SNR=6.1
FINES PKKPbc **PKKPbc 19 24 13.2 +0.8**
comp=Z,5.6nm,0.9s,baz=74,slow=4.5,SNR=11
NACGM Naroch 109.19 37 *e*P **Pdif 19 09 01.0 +3.1**
NACGM *e*PKP PKiKP 19 12 46.0 -16
NACGM *e*PKP PKiKP 19 12 46.0 -16
NACGM *e*PP **PP 19 13 26.0 -4.8**
NACGM *e*PPP PPP 19 15 38.0
NACGM *e*SKS **SKSac 19 19 36.0 +0.5**
NACGM *e*S **Sdif 19 21 08.0 +1.7**
NACGM *e*PS **PS 19 22 52.0 -5.8**
NACGM *e*SS SS 19 29 06.0 +17
NACGM *e*SSS SSS 19 32 14.0
NACGM *e*LQ LQ 19 47 36.0
NACGM *e*LR LR 19 49 32.0
NACGM LRM MLR 19 54 04.0
comp=Z,87nm,23.0s
MICGM Minsk 109.85 37 *e*P **Pdif 19 09 04.0 +3.2**
MICGM ⇓*e*P **Pdif 19 09 04.0 +3.2**
MICGM ⇓*e*P **Pdif 19 09 04.0 +3.2**
MICGM PM 19 09 12.0
comp=Z,3.3nm,12.0s
MICGM PM 19 09 16.0
comp=Z,2.2nm,12.0s
MICGM *e*PsP 19 12 34.0
MICGM *e*PP **PP 19 13 32.0 -3.5**
MICGM PPM 19 13 40.0
comp=Z,13nm,12.0s
MICGM PPM 19 13 46.0
comp=Z,18nm,12.0s
MICGM *e*PPP PPP 19 16 12.0
MICGM *e*SKS **SKSac 19 19 40.0 +1.7**
MICGM *e*SKKS SKSdf 19 20 24.0 +11
MICGM *e*SKKKS 19 21 16.0
MICGM *e*PS **PS 19 23 00.0 -4.5**
MICGM *e*SS SS 19 29 10.0 +12
MICGM *e*SSS SSS 19 33 00.0

MICGM eLQ LQ 19 41 40.0
MICGM LQM 19 43 50.0
comp=N,73nm,36.0s
MICGM eLR LR 19 52 08.0
MICGM LRM MLR 19 58 28.0
comp=Z,80nm,18.0s
MICGM LRM MLR 19 58 28.0
comp=Z,159nm,18.0s
MICGM LRM MLR 19 59 00.0
comp=N,43nm,18.0s
MICGM LRM MLR 19 59 02.0
comp=N,43nm,18.0s
MICGM LRM MLR 19 59 04.0
comp=E,80nm,18.0s
MICGM LRM MLR 19 59 04.0
comp=E,108nm,18.0s
MNK Minsk 109.85 37 *de*P **Pdif 19 09 04.0 +3.2**
MNK *e* 19 13 32.0
MNK *e* 19 19 40.0
MNK *e*PS **PS 19 23 00.0 -4.5**
MNK *e*SS SS 19 29 00.0 +2.0
MNK *e*SSS SSS 19 33 00.0
MNK pmax pmax
comp=Z,3μm,12.0s
MNK pmax pmax
comp=Z,2μm,12.0s
MNK pmax pmax
comp=Z,13μm,12.0s
MNK pmax pmax
comp=Z,12μm,12.0s
MNK MLR MLR
comp=Z,159μm,18.0s
MNK MLR MLR
comp=Z,80μm,18.0s
MNK MLR MLR
comp=N,43μm,18.0s
MNK MLR MLR
comp=N,43μm,18.0s
KIS Kishinev 110.67 45 *e*P **Pdif 19 09 05.0 +0.4**
comp=N,3μm,18.0s
KIS Kishinev 110.67 45 *e*PKP **PKiKP 19 13 08.0 +3.3**
KIS Kishinev 110.67 45 *e*PPP PPP 19 16 00.0
KIS *i* SKS SKSdf 19 19 44.0 -31
KIS *i* SKKS **SKKSac 19 20 44.0 +1.6**
KIS Kishinev 110.67 45 *e*PS PS 19 23 04.0 -8.5
KIS *e*SS SS 19 28 52.0 -17
KIS *e*SSS SSS 19 31 52.0
KIS *e*LR LR 19 52 06.0
comp=N,30μm,20.0s
KIEV Kiev 110.83 41 *i*PKIKP **PKiKP 19 13 04.2 -0.7**
KIEV MLR MLR
comp=Z,57μm,20.0s
AKASG Malin Array Be 110.84 41 Pdiff **Pdif 19 09 01.4 -3.9**
comp=Z,0.4nm,0.3s,baz=266,slow=2.8,SNR=4.7
AKASG PKiKP **PKiKP 19 13 04.6 -0.3**
comp=Z,0.9nm,0.4s,baz=261,slow=3.0,SNR=5.0
AKASG PKKPbc **PKKPbc 19 24 07.9 +3.3**
comp=Z,0.3nm,0.2s,baz=69,slow=3.8,SNR=5.1
KMBO Kilima Mbogo 112.28 97 PP PP 19 13 54.2 -0.2
comp=Z,2.4nm,0.9s,baz=243,slow=7.3,SNR=5.0
BILL Bilibino 113.59 339 *i*PKIKP PKiKP 19 12 58.3 -11
BILL *i*PS **PS 19 23 41.0 +2.5**
BILL *i*SS SS 19 29 43.6 -3.4
BILL pmax pmax
comp=Z,10.0nm,1.7s
BRTR Keskin Array B 114.30 53 PKP PKPdf 19 13 10.5 -1.6
comp=Z,3.0nm,0.9s,baz=141,slow=1.8,SNR=7.2
BRTR PKKPbc **PKKPab 19 23 55.1 -2.6**
comp=Z,1.3nm,0.9s,baz=158,slow=4.2,SNR=3.6
SIM Simferopol' 114.44 47 *ce*P **Pdif 19 09 23.1 +1.6**
SIM *e* 19 14 06.0
SIM *e* 19 20 15.0
SIM *e*PS **PS 19 23 43.0 -4.2**
OBN Obninsk 114.77 36 *i*PKIKP PKPdf 19 13 11.1 -1.2
OBN *i* 19 14 07.4
OBN *i* 19 20 15.9
OBN *i*PS **PKKPbc 19 23 52.3 +0.8**
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,37μm,17.0s
KLMR Klimovskoe 115.02 29 *e*PKIKP **PKPdf 19 13 11.9 -0.7**
KLMR *e* 19 14 13.8
KLMR pmax pmax
comp=Z,41nm,1.4s
MOS Moscow 115.25 35 *e*P **Pdif 19 09 17.1 -7.7**
MOS *e*PPP PPP 19 16 38.0
MOS *e* 19 23 44.6
MOS *e*SS SS 19 30 08.2 -1.2
MOS MLR MLR
comp=E,40μm,18.0s
MOS MLR MLR
comp=Z,49μm,18.0s
LPSR Galich'ya Gora 116.61 38 *e*PKIKP **PKPdf 19 13 15.3 -0.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
ANN Anapa 116.80 47 *e*P **Pdif 19 09 29.2 -2.7**
ANN *i* 19 13 14.2
ANN *i*PPP PPP 19 16 50.7
ANN *i* 19 19 57.8
ANN *i*SP SP 19 24 01.6 -2.9
ANN *e*SS **SS 19 30 26.9 -3.6**
ANN *e*SSS SSS 19 34 46.6
ANN pmax pmax
comp=E,53nm,1.8s
ANN pmax pmax
comp=N,29nm,0.9s
ANN pmax pmax
comp=Z,100nm,1.8s
VORR Voronezh 116.96 39 *e*PKIKP **PKPdf 19 13 15.0 -1.6**
VORR pmax pmax
comp=Z,350nm,2.0s
SOC Sochi 118.57 48 *e*P **Pdif 19 09 40.4 +0.5**
SOC *i* 19 13 20.9
SOC *e* 19 14 36.2
SOC *e*PPP PPP 19 17 10.0
SOC *e* 19 20 13.6
SOC *e*PS **PS 19 24 28.7 +3.9**
SOC *e*SS SS 19 30 53.1 -0.5
SOC *e*SSS SSS 19 35 17.4
SOC pmax pmax
comp=Z,35nm,0.5s
SOC MLR MLR
comp=Z,18μm,20.0s
H11N3 WAKE ISLAND Hyl 19.83 285 T T 21 24 24.3
baz=96,slow=74,SNR=5207
H11N2 WAKE ISLAND Hyl 19.85 285 T T 21 24 23.1
baz=96,slow=74,SNR=5553
H11N1 WAKE ISLAND Hyl 19.85 285 T T 21 24 25.6
baz=96,slow=74,SNR=3374
H11S2 WAKE ISLAND Hyl 19.89 283 T T 21 24 29.8
baz=97,slow=75,SNR=951
H11S1 WAKE ISLAND Hyl 19.90 283 T T 21 24 29.6
baz=97,slow=75,SNR=740
H11S3 WAKE ISLAND Hyl 19.91 283 T T 21 24 33.8
baz=97,slow=75,SNR=942
MARD Mardin 120.00 55 *e*PKPdf **PKPdf 19 13 23.9 +0.8**
ARTV Artvin 120.50 51 *e*PKPdf **PKPdf 19 13 25.2 +1.1**
KIV Kislovodsk 120.65 47 *i*PKIKP **PKPdf 19 13 23.4 -0.7**
KIV *i* 19 20 29.2
KIV *i*PS **PS 19 24 39.8 -3.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
GOF Gofitskoye 120.71 46⇑ *e*PKIKP **PKPdf 19 13 24.3 +0.2**
GOF pmax pmax
comp=Z,31nm,1.0s
NEY Neytrino 120.79 48 *i*PKIKP **PKPdf 19 13 25.0 +0.5**
NEY MLR MLR
comp=Z,16μm,19.0s
KBZ Khabaz 120.83 48 PKP **PKPdf 19 13 24.1 -0.2**
comp=Z,15nm,0.9s,baz=267,slow=0.9,SNR=21
TIXI Tiksi 120.99 351 PKP **PKPdf 19 13 23.1 -0.8**
comp=Z,4.0nm,0.9s,baz=357,slow=1.2,SNR=5.9
TIXI PP **PP 19 14 48.3 -4.7**
comp=Z,3.3nm,0.8s,baz=35,slow=1.9,SNR=3.7
TIXI Tiksi 120.99 351 *e*PKIKP **PKPdf 19 13 23.2 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,34μm,22.0s
TIXI Tiksi 120.99 351 *e*PKPdf **PKPdf 19 13 22.6 -1.2**
TIXI PP **PP 19 14 48.3 -4.7**
SEY Seymchan 121.04 336 PKP **PKPdf 19 13 23.4 -0.8**
comp=Z,8.4nm,0.6s,baz=27,slow=7.3,SNR=12
SEY PP **PP 19 14 55.1 +1.4**
comp=Z,21nm,1.1s,baz=40,slow=7.0,SNR=4.5
SEY PKKPbc **PKKPbc 19 23 29.1 0.0**
comp=Z,11nm,1.0s,baz=56,slow=8.4,SNR=4.8
SEY Seymchan 121.04 336 *e*PKIKP **PKPdf 19 13 24.1 0.0**
STKA Stephens Creek 121.36 218 PKP **PKPdf 19 13 26.2 +0.4**
comp=Z,9.6nm,0.8s,baz=144,slow=3.2,SNR=9.9
STKA PKKPab **PKKPbc 19 23 26.1 -1.2**
comp=Z,2.7nm,0.8s,baz=346,slow=8.1,SNR=4.1
STKA Stephens Creek 121.36 218 *e*PKIKP **PKPdf 19 13 26.1 +0.3**
ONI Oni 121.42 49 P **PP 19 14 55.2 -2.0**
AKH Akhalkalaki 121.63 50 P **PP 19 14 56.1 -2.8**
ZEI Tsey 121.72 49 *i*PKIKP **PKPdf 19 13 26.2 -0.2**
ZEI pmax pmax
comp=Z,61nm,2.3s
PET Petropavlovsk 122.44 324 *d*P **Pdif 19 10 07.6 +11**
PET *e* 19 15 02.6
PET *e*PPP PPP 19 17 39.9
PET *e* 19 20 23.0
PET *e*PS **PS 19 24 52.0 -6.9**
PET *e*PPS PPS 19 26 15.7
PET *e*SS SS 19 31 35.3 -7.0
PET *e*SSS SSS 19 36 09.1
PET pmax pmax
comp=Z,6μm,8.0s
PET pmax pmax
comp=Z,6μm,23.8s
TBLG Delisi 122.51 50 P **PP 19 15 02.5 -2.1**
GNI Garni 122.76 51 P **PKPdf 19 13 29.1 +0.6**
GNI Garni 122.76 51 *i*PKIKP **PKPdf 19 13 29.0 +0.6**
GNI MLR MLR
comp=Z,51μm,19.0s
PETK Petropavlovsk- 122.95 325 PKP **PKPdf 19 13 27.6 -0.5**
comp=Z,8.8nm,0.7s,baz=59,slow=3.5,SNR=15
GROC Groznyy 123.00 48 *i*PKIKP **PKPdf 19 13 28.7 +0.2**
GROC *e* 19 15 05.3
GROC pmax pmax
comp=Z,29nm,0.6s
DGRG David-gareji 123.02 50 P **PP 19 15 05.9 -2.2**
SOKR Solikamsk 123.39 26 *d*PKIKP **PKPdf 19 13 27.7 -1.0**
SOKR 19 15 09.0
SOKR 19 20 29.8
SOKR PS **PS 19 25 02.0 -5.0**
SOKR SS SS 19 31 47.0 -6.8
SOKR pmax pmax
comp=Z,48nm,1.4s
MAK Makhachkala 124.28 48 *i*P **Pdif 19 10 02.8 -2.4**
MAK *i* 19 13 30.3
MAK *e* 19 15 21.0
MAK *e*PPP PPP 19 18 01.3
MAK *e* 19 20 33.1
MAK *e*SS SS 19 32 07.0 +0.6
MAK pmax pmax
comp=Z,114nm,1.2s
NRIK Noril'sk 124.28 7 PKP **PKPdf 19 13 29.6 -0.7**
comp=Z,6.7nm,0.9s,baz=342,slow=2.9,SNR=11
NRIK PP **PP 19 15 19.3 +4.0**
comp=Z,7.1nm,0.8s,baz=330,slow=5.1,SNR=3.7
RAYN Ar Rayn 124.41 71 *e*PKPdf **PKPdf 19 13 32.5 +0.6**
SKR Severo-Kuril's 124.75 322 *i*P **Pdif 19 10 08.8 +1.7**
SKR *e* 19 13 34.2
SKR *e* 19 15 18.5
SKR *e*PS **PS 19 25 13.0 -6.4**
SKR *e*PPS PPS 19 26 42.7
SKR *e*SS SS 19 32 22.7 +11
SKR MLR MLR
comp=Z,12μm,21.0s
ARU Arti 125.87 29 P **Pdif 19 10 13.9 +1.9**
ARU *i* 19 13 33.7
ARU 19 15 23.4
ARU PPP PPP 19 18 07.9
ARU 19 20 38.2
ARU SP SP 19 25 18.7 -5.6
ARU PS **PS 19 25 30.7 +1.7**
ARU Arti 125.87 29 *e*PKPdf **PKPdf 19 13 33.9 +0.3**
CTA Charters Tower 125.95 231 PKP **PKPdf 19 13 35.5 +0.6**
comp=Z,18nm,1.0s,baz=96,slow=3.9
CTAO Charters Tower 125.95 231 *e*PKIKP **PKPdf 19 13 35.4 +0.5**
CTAO Charters Tower 125.95 231 *e*PKPdf **PKPdf 19 13 35.4 +0.5**
SVE Sverdlovsk 126.61 28 *c*PKIKP **PKPdf 19 13 35.4 +0.4**
SVE *e* 19 15 29.2
SVE *e* 19 25 35.8
SVE *e* 19 26 55.4
SVE pmax pmax
comp=Z,52nm,2.0s
SVE MLR MLR
comp=N,28μm,21.0s
SVE MLR MLR
comp=E,58μm,21.0s
SVE MLR MLR
comp=Z,53μm,21.0s
AKTO Aktyubinsk 128.55 36 PKP **PKPdf 19 13 38.6 -0.4**
comp=Z,20nm,0.9s,baz=303,slow=2.3,SNR=46
AKTO Aktyubinsk 128.55 36 PKIKP **PKPdf 19 13 38.9 -0.1**
AKTO pmax pmax
comp=Z,30nm,0.8s
RABL Rabaul 128.65 252 *e*PKPdf **PKPdf 19 13 41.5 +1.3**
YAK Yakutsk 129.14 345 PKhKP PKPpre 19 13 29.1
comp=Z,4.3nm,0.4s,baz=131,slow=7.6,SNR=4.0
YAK PKP **PKPdf 19 13 39.3 -0.4**
comp=Z,66nm,0.9s,baz=174,slow=0.4,SNR=18
YAK Yakutsk 129.14 345 *e*PKIKP **PKPdf 19 13 39.0 -0.7**
YAK *e* 19 15 45.3
YAK *e*PPP PPP 19 18 31.8
YAK *e*SSS SSS 19 37 51.1
YAK pmax pmax
comp=Z,110nm,1.0s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,803nm,2.8s
YAK pmax pmax
comp=N,485nm,2.8s
YAK pmax pmax
comp=E,220nm,2.4s
YAK Yakutsk 129.14 345 *e*PKPpre PKPpre 19 13 32.5
YAK PKP **PKPdf 19 13 39.3 -0.4**
AB31 Akbulak array 130.21 37 PKIKP **PKPdf 19 13 42.0 -0.1**
AB31 pmax pmax
comp=Z,28nm,0.8s
ABKAR Akbulak array 130.21 37 *e*PKPdf **PKPdf 19 13 41.7 -0.5**
PMG Port Moresby 130.92 244 PKP **PKPdf 19 13 45.4 +0.9**
comp=Z,26nm,1.0s,baz=225,slow=4.3,SNR=1.5
PMG Port Moresby 130.92 244 *e*PKPdf **PKPdf 19 13 47.2 +2.7**
NKL Nikolayevsk 131.79 331 *e*PKIKP **PKPdf 19 13 47.0 +2.1**
NKL pmax pmax
comp=Z,4μm,13.0s
COEN Coen 131.89 236 *e*PKPdf **PKPdf 19 13 48.0 +1.7**
ASAR Alice Springs 131.99 218 PKhKP PKPpre 19 13 35.4
comp=Z,2.2nm,1.0s,baz=140,slow=2.4,SNR=5.8
ASAR PKP **PKiKP 19 13 47.1 -0.3**
comp=Z,50nm,1.1s,baz=126,slow=2.5,SNR=26
KUR Kuril'sk 131.99 319 *i*PKIKP **PKPdf 19 13 52.6 +7.0**
KUR *e* 19 16 14.9
KUR *e*PPP PPP 19 18 55.1
KUR *e*SSS SSS 19 38 37.0
KUR MLR MLR
comp=Z,14μm,20.0s
KUR MLR MLR
comp=E,6μm,18.0s
KUR MLR MLR
comp=N,3μm,17.0s
TYV Tymovskoe 132.19 328 *e*PKIKP **PKPdf 19 13 47.0 +1.2**
TYV *e* 19 16 03.9
TYV pmax pmax
comp=Z,34nm,1.1s
BRVK Borovoye 133.31 27 *c*PKIKP **PKPdf 19 13 47.4 -0.5**
BRVK MLR MLR
comp=Z,144μm,19.0s
BRVK Borovoye 133.31 27 *e*PKPdf **PKPdf 19 13 49.3 +1.4**
BRVK Borovoye 133.31 27 PKIKP **PKiKP 19 13 48.6 -0.5**
SNR=33
BVA0 Borovoye Array 133.38 27 *i*PKIKP **PKPdf 19 13 48.3 +0.3**
BVA0 pmax pmax
comp=Z,38nm,1.5s
BVAR Borovoye Array 133.38 27 PKP **PKPdf 19 13 49.1 +1.1**
comp=Z,23nm,1.1s,baz=270,slow=1.5,SNR=33
GEYT Alibeck 133.40 51 PKhKP PKPpre 19 13 40.0
comp=Z,1.0nm,0.8s,baz=279,slow=2.9,SNR=4.6
GEYT PKP **PKPdf 19 13 48.6 0.0**
comp=Z,8.0nm,0.8s,baz=241,slow=1.5,SNR=19
FAQ Al Faqa, Dubai 133.62 70 *i*P **PKPdf 19 13 49.4 +0.1**
SNR=13
NAZ Nazwa, Dubai 133.66 69 *i*P **PKPdf 19 13 49.4 0.0**
SNR=21
ASHO Ashiyiah 134.04 70 *i*P **PKPdf 19 13 49.9 -0.2**
SNR=24
ASHO Ashiyiah 134.04 70 PKiKP **PKPdf 19 13 50.2 0.0**
SNR=23
HATD Hatta, Dubai 134.10 69 *i*P **PKPdf 19 13 49.9 -0.4**
SNR=22
UOSS Minazif 134.16 69 *e*PKPdf **PKPdf 19 13 52.6 +2.3**
BANOM Banah 134.17 68 *i*P **PKPdf 19 13 50.5 +0.1**
SNR=16
BANOM Banah 134.17 68 PKiKP **PKPdf 19 13 49.2 -1.2**
SNR=12
YSS Yuzh-Sakhalins 134.30 323⇑ *i*PKIKP **PKPdf 19 13 51.8 +1.9**
YSS *e* 19 16 27.7
YSS *e*PPS PPS 19 28 20.5
YSS pmax pmax
comp=Z,3μm,7.0s
YSS Yuzh-Sakhalins 134.30 323 *e*PKPdf **PKPdf 19 13 51.7 +1.8**
WRA Warramunga Arr 134.47 222 PKhKP PKPpre 19 13 41.1
comp=Z,1.7nm,0.8s,baz=141,slow=2.7,SNR=7.2
WRA PKP **PKPdf 19 13 50.3 -0.8**
comp=Z,13nm,0.7s,baz=142,slow=1.6,SNR=33
WRAB Tennant Creek 134.47 222 *i*PKIKP **PKPdf 19 13 49.0 -2.1**
CLNS Chul'man 134.87 344 *e*PKIKP **PKPdf 19 13 51.1 +0.4**
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,17nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.2s
CLNS MLR MLR
comp=Z,36μm,27.0s
CLNS MLR MLR
comp=N,19μm,27.0s
ASAJ Asahikawa 135.84 320 PKP **PKPdf 19 13 53.0 +0.1**
comp=N,14nm,0.9s,baz=265,slow=10,SNR=8.4
ASAJ Asahikawa 135.84 320 PKIKP **PKPdf 19 13 53.0 +0.1**
ASAJ pmax pmax
comp=Z,14nm,0.9s
ASAJ Asahikawa 135.84 320 *e*PKPdf **PKPdf 19 13 54.6 +1.7**
BIDO Bidbid 136.00 71 PKiKP **PKPdf 19 13 52.9 -0.9**
SNR=28
BOD Bodaibo 136.15 352 *e*PKHKP PKPpre 19 13 39.1
BOD pmax pmax
comp=Z,63nm,2.0s
WSAR Wadi Sarin 136.47 72 PKhKP PKPpre 19 13 48.6
comp=Z,5.7nm,1.1s,baz=319,slow=4.2,SNR=3.9
WSAR PKP **PKPdf 19 13 55.0 +0.2**
comp=Z,32nm,1.0s,baz=249,slow=1.5,SNR=16
BRZS Berezniki 136.50 29 *e*PKP **PKPdf 19 13 52.4 -1.6**
BRZS *i* PP **PP 19 16 33.5 -1.6**
BRZS *i* SS SS 19 34 33.8 -1.5
BRZS LRM MLR 20 13 03.1
comp=Z,564nm,20.0s
NVS Novosibirsk 136.71 17 *e*PKIKP **PKPdf 19 13 53.8 -0.3**
NVS *e* 19 16 32.9
NVS pmax pmax
comp=Z,320nm,2.2s
NVS pmax pmax
comp=E,75nm,2.1s
HABR Khabarovsk 137.54 329 *de*PKIKP **PKPdf 19 13 54.4 -1.5**
HABR *e* 19 14 05.1
HABR *e* 19 14 07.4
HABR *e* 19 16 40.8
HABR *e* 19 21 02.3
HABR *e* 19 27 04.8
HABR *e*SS SS 19 34 47.7 +0.1
HABR *e*SSS SSS 19 39 54.9
HABR pmax pmax
comp=Z,38nm,1.6s
ZAA0 Zalesovo Array 137.94 17 *e*PKPpre PKPpre 19 13 45.4
ZALV Zalesovo Beam 137.94 17 PKhKP PKPpre 19 13 45.2
comp=Z,2.8nm,0.6s,baz=330,slow=3.7,SNR=11
ZALV PKP **PKPdf 19 13 56.9 +0.5**
comp=Z,69nm,0.9s,baz=293,slow=2.3,SNR=60
KURK Kurchatov 138.55 24 *c*PKIKP **PKPdf 19 13 55.4 -2.3**
KURK Kurchatov 138.55 24 PP PP 19 16 43.3 -4.3
KURK Kurchatov 138.55 24 PKPdf PKPpre 19 13 47.6
SNR=43
KLR Kul'dur 138.57 332 PKhKP PKPpre 19 13 51.1
comp=Z,0.4nm,0.6s,baz=37,slow=2.3,SNR=6.7
KLR PKP **PKPdf 19 13 58.0 +0.2**
comp=Z,1.7nm,1.0s,baz=11,slow=3.9,SNR=17
KURBB Kurchatov Arra 138.59 24 PP PP 19 16 43.3 -4.5
comp=Z,5.1nm,1.0s,baz=319,slow=5.3,SNR=4.6
BRLS Borolday 139.30 39 *e*PKP **PKPdf 19 13 57.6 -1.8**
SEM Semipalatinsk 139.43 23 *i*PKP **PKPdf 19 13 57.6 -2.0**
SEM *i* PP **PP 19 16 51.5 -1.9**
SEM LRM MLR 20 14 46.5
comp=Z,14μm,22.7s
CHM Chimkent 139.55 40 *e*PKP **PKPdf 19 13 58.0 -1.8**
CHM LRM MLR 20 15 16.5
comp=Z,7μm,22.7s
KK31 Karatay Array 139.67 38 *i*PKIKP **PKPdf 19 13 56.0 -4.0**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
IUG Iuzhnay 139.91 40 *e*PKP **PKPdf 19 13 58.8 -1.8**
IUG *i* PP **PP 19 16 54.8 -1.9**
IUG *i* SKP 19 17 30.5
IUG LRM MLR 20 15 34.1
comp=Z,8μm,21.8s
BTLS Baital 140.50 34 LRM MLR 20 16 16.2
comp=Z,6μm,19.9s
FITZ Fitzroy Crossi 141.10 214 PKhKP PKPpre 19 13 57.4
comp=Z,4.3nm,0.7s,baz=187,slow=5.5,SNR=13
FITZ PKP **PKPdf 19 14 03.0 -0.3**
comp=Z,30nm,0.9s,baz=173,slow=4.2,SNR=28
FITZ Fitzroy Crossi 141.10 214 *e*PKPpre PKPpre 19 13 57.9
FITZ PKP **PKPdf 19 14 03.0 -0.3**
MNAS Manas 141.22 38 PKHKP PKPpre 19 13 56.7
MNAS pmax pmax
comp=Z,32nm,0.9s
CIT Chita 141.83 350 *e*PKHKP PKPpre 19 13 56.6
CIT *e* 19 17 06.6
CIT pmax pmax
comp=Z,111nm,2.1s
USRK Ussuriysk Ar. 141.98 327 PKhKP PKPpre 19 13 58.8
comp=Z,3.8nm,0.6s,baz=90,slow=4.3,SNR=7.4
USRK PKP **PKPdf 19 14 03.3 -0.8**
comp=Z,16nm,0.9s,baz=55,slow=2.6,SNR=15
FRU Bishkek 142.24 36 *i*PKIKP PKPpre 19 14 01.0
FRU *e* 19 17 06.0
FRU pmax pmax
comp=Z,1μm,3.0s
AAK Ala-Archa 142.29 36 PKhKP PKPpre 19 14 01.2
baz=305,slow=4.1
AAK Ala-Archa 142.29 36 *c*PKIKP PKPpre 19 14 00.7
AAK Ala-Archa 142.29 36 *e*PKPpre PKPpre 19 14 00.5
MJAR Matsushiro Arr 142.38 312 PKhKP PKPpre 19 13 59.7
comp=Z,13nm,1.0s,baz=135,slow=1.8,SNR=8.5
MJAR PKP **PKPdf 19 14 03.1 -2.0**
comp=Z,23nm,0.8s,baz=110,slow=2.2,SNR=17
MAJO Matsushiro 142.38 312 *e*PKHKP PKPpre 19 13 59.7
MAJO Matsushiro 142.38 312 *e*PKPpre PKPpre 19 13 59.7
MAT Matsushiro 142.38 312 PKP PKPpre 19 13 59.5
MJB9 Matsu-Tunnel 142.38 312 *e*PKPpre PKPpre 19 13 59.8
IRK Irkutsk 142.41 360 *e*PKIKP PKPpre 19 14 00.2
IRK *e* 19 17 10.0
IRK pmax pmax
comp=Z,358nm,4.5s
KUU Kurty 142.49 33 LRM MLR 20 17 06.2
comp=Z,7μm,21.4s
VLA Vladivostok 142.76 325 *c*PKIKP PKPpre 19 14 01.1
TDK Taldyqorghan 142.77 30 *e*PKP **PKPdf 19 14 03.8 -1.8**
TDK *i* PP **PP 19 17 12.1 -1.6**
TDK *e*SS SS 19 35 47.3 -1.6
TDK LRM MLR 20 16 48.5
comp=Z,5μm,21.7s
KBL Kabul 142.85 51 *e*PKIKP **PKPdf 19 14 05.5 -0.8**
KBL Kabul 142.85 51 *e*PKPdf **PKPdf 19 14 05.5 -0.8**
MOY Mondy 142.91 3 *e*PKIKP **PKPdf 19 14 03.2 -2.5**
MOY pmax pmax
comp=Z,415nm,2.7s
MDJ Mudanjiang 142.93 329 PKP **PKPdf 19 14 05.3 -0.5**
MDJ sPKP 19 14 14.5
MDJ SS SS 19 35 47.5 -3.2
MDJ AMB AMB
comp=Z,8μm,12.5s
MDJ LR LR
comp=Z,10μm,31.2s
MDJ LR LR
comp=Z,29μm,31.2s
MDJ LR LR
comp=Z,29μm,22.6s

MDJ	**Mudanjiang**	142.93	329	*e*PKPdf	**PKPdf**	**19 14 04.3**	**-1.5**
TLY	**Talaya**	142.97	0	PKP	**PKPdf**	**19 14 02.8**	**-2.9**
	comp=Z,8.5nm,0.6s,baz=285,slow=2.2,SNR=7.8						
TLY	**Talaya**	142.97	0	*c i*PKHKP	PKPpre	19 13 57.8	
TLY				pmax	pmax		
	comp=Z,139nm,2.4s						
MAKZ	**Makanchi**	143.00	25	PKHKP	PKPpre	19 14 00.6	
MAKZ				pmax	pmax		
	comp=Z,27nm,0.9s						
MAKZ	**Makanchi**	143.00	25	*e*PKPpre	PKPpre	19 14 02.2	
HIA	**Hailar**	143.02	343	*e*PKIKP	**PKPdf**	**19 14 07.3**	**+1.5**
HIA	**Hailar**	143.02	343	*e*PKPdf	**PKPdf**	**19 14 07.3**	**+1.5**
MK31	**Makanchi Array**	143.14	25	*e*PKIKP	PKPbc	19 14 02.4	-0.6
MK31	**Makanchi Array**	143.14	25	*e*PKPpre	PKPab	19 14 02.4	+0.7
MKAR	**Makanchi Array**	143.14	25	PKhKP	PKPpre	19 14 02.0	
	comp=Z,11nm,0.8s,baz=345,slow=2.9,SNR=20						
MKAR				PKP	**PKPdf**	**19 14 05.1**	**-1.1**
	comp=Z,17nm,0.8s,baz=336,slow=3.2,SNR=38						
AAA	**Alma-Ata**	143.26	34	*i* PKIKP	PKPbc	19 14 04.8	+1.2
AAA				*e*		19 17 21.3	
AAA				pmax	pmax		
	comp=Z,10μm,5.0s						
AAA				MLR	MLR		
	comp=Z,29μm,18.0s						
AAA	**Alma-Ata**	143.26	34	*e*PKP	PKPbc	19 14 04.7	+1.1
AAA				LRM	MLR	20 17 03.6	
	comp=Z,8μm,20.8s						
MDOK	**Medeo**	143.37	34	*i* PKP	PKPbc	19 14 04.9	+0.9
MDOK				*i* PKiKP	**PKiKP**	**19 14 08.7**	**-1.5**
MDOK				*i* PP	**PP**	**19 17 15.8**	**-1.8**
MDOK				*i* SS	SS	19 35 54.4	-2.0
MDOK				*i* SSS	SSS	19 41 16.2	
MDOK				LRM	MLR	20 18 14.8	
	comp=Z,12μm,19.0s						
ZSN	**Zaisan**	143.59	22	*i* PKP	PKPbc	19 14 04.4	+0.2
ZSN				LRM	MLR	20 17 26.1	
	comp=Z,7μm,21.6s						
ZHN	**Zhinishke**	144.10	32	*i* PKP	**PKPab**	**19 14 05.1**	**-0.5**
ZHN				*i* PP	**PP**	**19 17 19.9**	**-2.0**
ZHN				LRM	MLR	20 18 41.6	
	comp=Z,8μm,20.8s						
SATY	**Saty**	144.16	33	*i* PKP	PKPbc	19 14 06.2	-0.1
SATY				LRM	MLR	20 17 57.3	
	comp=Z,11μm,20.8s						
ZAK	**Zakamensk**	144.27	1	*e*PKIKP	PKPbc	19 14 06.4	+0.1
ZAK				pmax	pmax		
	comp=Z,210nm,1.4s						
PDGK	**Podgornoye**	144.52	31	PKIKP	**PKPab**	**19 14 06.1**	**-1.1**
PDGK				pmax	pmax		
	comp=Z,125nm,1.0s						
SHLS	**Shalkode**	144.63	32	*i* PKP	**PKPab**	**19 14 07.3**	**-0.3**
KSH	**Kashi**	145.11	39	*i* PKPbc	**PKPbc**	**19 14 08.5**	**-0.9**
KSH				pPKP	pPKPab	19 14 18.5	-0.3
KSH				sPKP		19 14 22.0	
KSH				PP	**PP**	**19 17 31.0**	**+2.8**
KSH				PKS	**PKSdf**	**19 17 42.3**	**-3.3**
KSH				SKS	**SKSdf**	**19 21 12.0**	**-5.5**
KSH				SKKS	**SKKSac**	**19 24 15.8**	**-3.4**
KSH				SS	**SS**	**19 36 14.5**	**-2.1**
KSH				AMB	AMB		
	comp=Z,6μm,10.2s						
KSH				LR	LR		
	comp=Z,17μm,21.9s						
KSH				LR	LR		
	comp=Z,20μm,20.5s						
KSH				LR	LR		
	comp=Z,38μm,23.1s						
CN2	**Changchun**	145.52	332	*e*PKPbc	**PKPdf**	**19 14 07.0**	**-3.3**
CN2				PP	**PP**	**19 17 31.0**	**+1.0**
CN2				SS	SS	19 36 16.5	-3.7
CN2				AMB	AMB		
	comp=Z,19μm,10.0s						
CN2				LR	LR		
	comp=Z,20μm,16.0s						
CN2				LR	LR		
	comp=Z,20μm,16.0s						
CN2				LR	LR		
	comp=Z,16μm,19.0s						
BHJ	**Bhuj**	146.55	70	*e*P	**PKPdf**	**19 14 10.8**	**-1.9**
BHJ				AMS	AMS	19 32 14.0	
	comp=Z,8μm,20.9s						
ULN	**Ulaanbaatar**	146.69	356	*c i*PKIKP	**PKPdf**	**19 14 10.1**	**-2.3**
ULN	**Ulaanbaatar**	146.69	356	*e*PKPdf	**PKPbc**	**19 14 13.1**	**-1.0**
ULN	**Ulaanbaatar**	146.69	356	PKPab	**PKPbc**	**19 14 13.4**	**-0.6**
	SNR=329						
SONM	**Songino Array**	146.75	357	PKPbc	**PKPdf**	**19 14 13.0**	**+0.5**
	comp=Z,95nm,0.6s,baz=323,slow=1.6,SNR=138						
FAKI	**Fak Fak**	146.96	241	*e*PKPdf	**PKPbc**	**19 14 14.7**	**-1.0**
WMQ	**Urumqi**	147.72	22	PKPbc	**PKPdf**	**19 14 13.0**	**-1.1**
WMQ				PP	**PP**	**19 17 46.5**	**+3.6**
WMQ				SKS	**SKSdf**	**19 21 12.5**	**-8.4**
WMQ				SKKS	**SKKSac**	**19 24 36.3**	**+2.8**
WMQ				SS	**SS**	**19 36 48.8**	**+3.8**
WMQ				AMB	AMB		
	comp=Z,10μm,11.8s						
WMQ				LR	LR		
	comp=Z,28μm,23.5s						
WMQ				LR	LR		
	comp=Z,24μm,21.7s						
WMQ				LR	LR		
	comp=Z,33μm,23.5s						
SNY	**Shenyang**	147.92	332	⇑PKPbc	**PKPdf**	**19 14 13.5**	**-0.9**
SNY				PP	**PP**	**19 17 49.5**	**+5.3**
SNY				SKKS		19 24 36.5	
SNY				SS	**SS**	**19 36 47.5**	**+0.1**
SNY				AMB	AMB		
	comp=Z,14μm,11.3s						
SNY				LR	LR		
	comp=Z,12μm,25.3s						
SNY				LR	LR		
	comp=Z,22μm,20.6s						
SNY				LR	LR		
	comp=Z,40μm,21.4s						
SOEI	**Soe**	148.50	221	*e*PKPdf	**PKPdf**	**19 14 17.7**	**+1.4**
KSRS	**Korea Array**	148.76	321	PKPbc	**PKPdf**	**19 14 16.6**	**+0.7**
	comp=Z,47nm,1.0s,baz=19,slow=1.1,SNR=40						
KS15	**Wonju Array Ia**	148.79	321	*e*PKPdf	**PKPdf**	**19 14 17.4**	**+1.4**
KSAR	**Wonju Array Be**	148.79	321	PKIKP	**PKPdf**	**19 14 16.7**	**+0.7**
KSAR	**Wonju Array Be**	148.79	321	PKPbc	**PKPdf**	**19 14 16.6**	**+0.7**
MNCY	**Minicoy**	149.15	98	*e*P	**PKPdf**	**19 14 15.1**	**-2.1**
MNCY				*ex*	x	19 14 59.0	
JNU	**Nakatsue**	149.30	312	PKPbc	**PKPdf**	**19 14 18.3**	**+1.3**
	comp=Z,9.3nm,1.0s,baz=64,slow=3.8,SNR=4.6						
JNU	**Nakatsue**	149.30	312	*e*PKPbc	**PKPbc**	**19 14 20.6**	**-0.7**
DHRM	**DHARAMSHALA**	149.31	50	*e*P	**PKPdf**	**19 14 17.0**	**-0.3**
DHRM				AMS	AMS	19 31 46.8	
	comp=Z,6μm,13.3s						
INCN	**Inchon**	149.51	323	*e*PKPbc	**PKPbc**	**19 14 21.6**	**-0.1**
BOM	**Bombay**	149.96	77	*ex*	**PKPdf**	**19 14 13.4**	**-5.0**
BOM				AMB	AMB	19 14 19.4	
	comp=Z,442nm,1.3s						
SMLA	**Simla**	150.49	51	*e*P	**PKPdf**	**19 14 19.7**	**+0.9**
SMLA				AMS	AMS	19 31 52.9	
	comp=Z,6μm,20.0s						
GOA	**Goa**	150.97	84	*e*P	**PKPdf**	**19 14 19.9**	**0.0**
GOA				AMS	AMS	19 31 38.0	
	comp=Z,6μm,15.5s						
DL2	**Dalian**	151.14	330	PKPbc	**PKPdf**	**19 14 19.5**	**-0.1**
DL2				pPKP	**pPKPdf**	**19 14 29.5**	**+0.2**
DL2				PP	**PP**	**19 18 05.5**	**+2.6**
DL2				SS	SS	19 37 27.0	+3.6
DL2				AMB	AMB		
	comp=Z,16μm,11.6s						
DL2				LR	LR		
	comp=Z,16μm,23.3s						
DL2				LR	LR		
	comp=Z,16μm,20.6s						
DL2				LR	LR		
	comp=Z,26μm,19.4s						
DDI	**Dehra Dun**	151.54	52	*e*P	**PKPdf**	**19 14 21.7**	**+1.1**
DDI				AMS	AMS	19 34 06.0	
	comp=Z,6μm,23.0s						
MNGI	**Mangalore**	151.74	90	*ex*	**PKPbc**	**19 14 28.4**	**+0.8**
BJI	**Beijing**	152.42	339	PKPbc	**PKPdf**	**19 14 21.8**	**+0.3**
BJI				PP	**PP**	**19 18 10.8**	**+0.9**
BJI				SS	SS	19 37 35.5	-1.6
BJI				AMB	AMB		
	comp=Z,9μm,13.6s						
BJI				LR	LR		
	comp=Z,34μm,25.4s						
BJI				LR	LR		
	comp=Z,26μm,20.5s						
HHC	**Hu-ho-hao-te**	152.96	347	*e*PKPbc	**PKPdf**	**19 14 22.5**	**0.0**
HHC				sPKP		19 14 37.0	
HHC				PP	**PP**	**19 18 13.0**	**0.0**
HHC				SKKS		19 25 05.0	
HHC				SS	**SS**	**19 37 46.0**	**+3.0**
HHC				AMB	AMB		
	comp=Z,7μm,11.0s						
HHC				LR	LR		
	comp=Z,23μm,20.0s						
HHC				LR	LR		
	comp=Z,17μm,20.0s						
HHC				LR	LR		
	comp=Z,37μm,20.6s						
BTO	**Baotou**	153.50	349	*e*PKPbc	**PKPdf**	**19 14 22.8**	**-0.5**
BHPL	**Bhopal**	153.56	67	*e*P	**PKPdf**	**19 14 23.9**	**+0.2**
BHPL				AMS	AMS	19 33 17.2	
	comp=Z,8μm,11.2s						
KLRI	**Killari**	153.60	79	*e*PKPdf	**PKPdf**	**19 14 22.6**	**-1.4**
KLRI				IVMs_BB	IVMs_BB	20 22 10.6	
	comp=Z,25μm,20.5s						
JAGI	**Jajag, Banyuwa**	154.96	205	*e*PKPdf	**PKPdf**	**19 14 25.9**	**0.0**
GTA	**Gaotai**	154.99	7	⇑PKPbc	**PKPdf**	**19 14 24.5**	**-0.9**
GTA				pPKP	pPKPdf	19 14 35.0	-0.1
GTA				sPKP		19 14 38.8	
GTA				PKPab	**PKPab**	**19 14 52.3**	**+2.8**
GTA				PP	**PP**	**19 18 29.0**	**+4.7**
GTA				SKS	**SKSdf**	**19 21 25.5**	**-4.8**
GTA				SKKS	**SKKSac**	**19 25 13.0**	**-0.5**
GTA				SS	**SS**	**19 38 09.0**	**+4.1**
GTA				AMB	AMB		
	comp=Z,11μm,13.5s						
GTA				LR	LR		
	comp=Z,35μm,20.9s						
GTA				LR	LR		
	comp=Z,27μm,22.3s						
GTA				LR	LR		
	comp=Z,52μm,20.4s						
SRSP	**Sriramsagar**	155.17	76	*e*PKPdf	**PKPdf**	**19 14 25.4**	**-0.6**
SRSP				*e*PKPab	**PKPab**	**19 14 49.6**	**-1.4**
SRSP				IVMs_BB	IVMs_BB	20 17 12.3	
	comp=Z,12μm,27.3s						
HYBB	**Hyderabad (bro**	155.49	80	*e*PKPdf	**PKPdf**	**19 14 26.0**	**-0.6**
HYBB				*e*PKPab	**PKPab**	**19 14 51.1**	**-1.2**
HYBB				IVMs_BB	IVMs_BB	20 24 06.7	
	comp=Z,20μm,20.1s						
NGP	**Nagpur**	155.49	71	AMB	AMB	19 14 07.3	
	comp=Z,8.6nm,1.6s						
HYB	**Hyderabad**	155.49	80	*i* PKP	**PKPdf**	**19 14 25.0**	**-1.6**
HYB				*e*		19 14 53.0	
HYB				*e*PP	**PP**	**19 18 24.0**	**-5.3**
HYB				*e*		19 25 22.0	
HYB				LR	LR		
	comp=Z,84nm,20.0s						
HYB	**Hyderabad**	155.49	80	*e*P	**PKPdf**	**19 14 24.9**	**-1.6**
HYB				AMS	AMS	19 32 15.7	
	comp=Z,12μm,18.4s						
LUWI	**Luwuk**	155.71	232	*e*PKPdf	**PKPdf**	**19 14 27.8**	**+0.8**
TIY	**Taiyuan**	155.72	343	*e*PKP	**PKPdf**	**19 14 26.0**	**-0.4**
TIY				PKPab	**PKPab**	**19 14 54.5**	**+1.9**
TIY				PP	**PP**	**19 18 29.0**	**+0.5**
TIY				SKKS		19 25 16.5	
TIY				SS	**SS**	**19 38 10.8**	**-2.2**
TIY				AMB	AMB		
	comp=Z,4μm,7.9s						
TIY				LR	LR		
	comp=Z,27μm,19.1s						
TIY				LR	LR		
	comp=Z,3μm,14.3s						
TIY				LR	LR		
	comp=Z,32μm,18.6s						
SRLM	**Srisailam**	155.86	83	*e*PKPdf	**PKPdf**	**19 14 26.9**	**-0.2**
SRLM				*e*PKPab	**PKPab**	**19 14 54.1**	**+0.1**
SRLM				IVMs_BB	IVMs_BB	20 21 45.7	
	comp=Z,16μm,22.0s						
RPR	**Rampur**	156.08	76	*e*PKPdf	**PKPdf**	**19 14 25.7**	**-1.6**
RPR				*e*PKPab	**PKPab**	**19 14 52.0**	**-2.7**
RPR				IVMs_BB	IVMs_BB	20 26 38.6	
	comp=Z,23μm,19.4s						
NJS	**Nagarjunasagar**	156.25	82	*e*PKPdf	**PKPdf**	**19 14 27.1**	**-0.4**
NJS				*e*PKPab	**PKPab**	**19 14 56.1**	**+0.5**
NJS				IVMs_BB	IVMs_BB	20 26 45.5	
	comp=Z,21μm,19.5s						
PYUN	**Piuthan**	156.38	52	*e*P	**PKPdf**	**19 14 28.0**	**+0.3**
SKHT	**Srikalahasti**	156.55	89	*e*PKPdf	**PKPdf**	**19 14 27.8**	**-0.2**
SKHT				*e*PKPab	**PKPab**	**19 14 56.8**	**-0.1**
SKHT				IVMs_BB	IVMs_BB	20 25 14.2	
	comp=Z,20μm,19.4s						
DANN	**Dangsing**	156.83	50	*e*P	**PKPdf**	**19 14 29.1**	**+0.7**
ADKI	**Addanki**	156.89	84	*e*PKPdf	**PKPdf**	**19 14 28.4**	**0.0**
ADKI				*e*PKPab	**PKPab**	**19 14 58.3**	**0.0**
ADKI				IVMs_BB	IVMs_BB	20 22 14.1	
	comp=Z,16μm,22.2s						
MDRS	**Chennai**	157.00	91	*e*P	**PKPdf**	**19 14 25.4**	**-3.1**
MDRS				*ex*	x	19 31 29.8	
MDRS				AMS	AMS	19 32 28.7	
	comp=Z,10μm,28.4s						
KOLN	**Koldanda**	157.01	52	*e*P	**PKPdf**	**19 14 28.7**	**+0.2**
SSE	**Sheshan**	157.13	319	PKP	**PKPdf**	**19 14 28.0**	**-0.3**
SSE				PP	**PP**	**19 18 42.5**	**+5.5**
SSE				SS	SS	19 38 27.0	-2.5
SSE				AMB	AMB		
	comp=Z,4μm,7.0s						
SSE				LR	LR		
	comp=Z,14μm,21.2s						
SSE				LR	LR		
	comp=Z,15μm,21.3s						
SSE				LR	LR		
	comp=Z,25μm,20.1s						
DAV	**Davao City (W)**	157.44	253	⇑*e*P	**PKPdf**	**19 14 31.0**	**+1.8**
GKN	**Gorkha**	157.67	50	*e*P	**PKPdf**	**19 14 29.4**	**+0.1**
CISI	**Cisompet, Garu**	157.69	190	*e*PKPdf	**PKPdf**	**19 14 30.5**	**+0.9**
NJ2	**Nanjing**	157.86	324	*e*PKP	**PKPdf**	**19 14 30.0**	**+0.8**
NJ2				pPKP	**pPKPdf**	**19 14 35.0**	**-3.8**
NJ2				sPKP		19 14 39.8	
NJ2				PKPab	**PKPab**	**19 15 05.8**	**+3.9**
NJ2				PP	**PP**	**19 18 45.5**	**+4.7**
NJ2				SKKS		19 25 31.5	
NJ2				AMB	AMB		
	comp=Z,10μm,9.8s						
NJ2				LR	LR		
	comp=Z,16μm,20.6s						
NJ2				LR	LR		
	comp=Z,28μm,19.5s						
NJ2				LR	LR		
	comp=Z,39μm,20.6s						
DMN	**Daman**	158.23	50	*e*P	**PKPdf**	**19 14 30.2**	**+0.1**
KKN	**Kakani**	158.26	50	*e*P	**PKPdf**	**19 14 30.2**	**+0.1**
PVM	**Polavaram**	158.43	80	*e*PKPdf	**PKPdf**	**19 14 30.3**	**0.0**
PVM				*e*PKPab	**PKPab**	**19 15 05.6**	**+0.7**
PVM				IVMs_BB	IVMs_BB	20 19 18.8	
	comp=Z,15μm,26.5s						
PKIN	**Phulchoki**	158.47	50	*e*P	**PKPdf**	**19 14 30.5**	**+0.1**
PKI	**Pulchoki**	158.48	50	*e*P	**PKPdf**	**19 14 30.3**	**-0.2**
LZH	**Lanzhou**	158.56	0	PKP	**PKPdf**	**19 14 30.5**	**+0.3**
LZH				pPKP	sPKPdf	19 14 41.5	-1.6
LZH				sPKP		19 14 44.8	
LZH				PP	**PP**	**19 18 47.0**	**+2.9**
LZH				AMB	AMB		
	comp=Z,16μm,9.1s						
LZH				LR	LR		
	comp=Z,31μm,19.5s						
LZH				LR	LR		
	comp=Z,24μm,17.6s						
LZH				LR	LR		
	comp=Z,56μm,20.4s						
GUN	**Gumba**	158.64	49	*e*P	**PKPdf**	**19 14 31.0**	**+0.3**
JIRN	**Jiri**	159.00	49	*e*P	**PKPdf**	**19 14 31.2**	**0.0**
RAMN	**Ramite**	159.71	50	*e*P	**PKPdf**	**19 14 32.3**	**+0.4**
VIS	**Vishakhapatnam**	160.01	78	*i* P	**PKPdf**	**19 14 30.4**	**-1.7**
VIS				AMS	AMS	19 32 37.3	
	comp=Z,5μm,11.2s						
XAN	**Xi'an**	160.07	348	PKP	**PKPdf**	**19 14 31.0**	**-0.8**
XAN				sPKP		19 14 44.0	
XAN				PKPab	**PKPab**	**19 15 11.5**	**0.0**
XAN				PKS	**PKSdf**	**19 18 03.0**	**-2.3**
XAN				PP	**PP**	**19 18 53.8**	**+1.6**
XAN				SKS	**SKSdf**	**19 21 31.3**	**-4.1**
XAN				SKKS	**SKKSac**	**19 25 36.8**	**-3.5**
XAN				SS	**SS**	**19 38 55.0**	**-4.2**
XAN				AMB	AMB		
	comp=Z,10μm,13.1s						
XAN				LR	LR		
	comp=Z,20μm,21.8s						
XAN				LR	LR		
	comp=Z,22μm,18.6s						
XAN				LR	LR		
	comp=Z,47μm,20.2s						
TAPN	**Taplejung**	160.28	47	*e*P	**PKPdf**	**19 14 33.0**	**+0.4**
ODAN	**Odare**	160.34	49	*e*P	**PKPdf**	**19 14 32.8**	**+0.2**
CHLP	**Challavanipeta**	160.60	76	*e*PKPdf	**PKPdf**	**19 14 32.4**	**-0.3**
CHLP				*e*PKPab	**PKPab**	**19 15 14.4**	**+0.1**
CHLP				IVMs_BB	IVMs_BB	20 27 43.4	
	comp=Z,20μm,19.9s						
BOK	**Bokaro**	160.70	59	*e*P	**PKPdf**	**19 14 31.4**	**-1.3**
BOK				AMS	AMS	19 34 38.7	
	comp=Z,11μm,26.5s						
LSA	**Lhasa**	160.89	36	PKP	**PKPdf**	**19 14 32.5**	**-0.9**
LSA				PP	**PP**	**19 18 58.0**	**+0.1**
LSA				LR	LR		
	comp=Z,8μm,24.6s						
LSA				LR	LR		
	comp=Z,9μm,24.6s						
LSA				LR	LR		
	comp=Z,38μm,24.6s						
LSA	**Lhasa**	160.89	36	*e*PKIKP	**PKPdf**	**19 14 33.6**	**+0.2**
LSA	**Lhasa**	160.89	36	*e*PKPdf	**PKPdf**	**19 14 33.6**	**+0.2**
WHN	**Wuhan**	161.40	331	PKP	**PKPdf**	**19 14 32.5**	**-0.8**
WHN				PP	**PP**	**19 19 00.5**	**+0.7**
WHN				LR	LR		
	comp=Z,56μm,23.1s						
WHN				LR	LR		
	comp=Z,61μm,20.2s						
WHN				LR	LR		
	comp=Z,133μm,23.2s						
SSLB	**Suanglung**	161.46	302	*e*PKPdf	**PKPdf**	**19 14 35.1**	**+1.5**
BWNR	**Bhubaneshwar**	161.84	69	*e*P	**PKPdf**	**19 14 32.1**	**-1.9**
BWNR				AMB	AMB	19 14 38.3	
	comp=Z,103nm,0.0s						
QZH	**Quanzhou**	162.74	309	*i* PKP	**PKPdf**	**19 14 37.0**	**+2.2**
QZH				pPKP	**pPKPdf**	**19 14 45.3**	**+0.9**
QZH				PP	**PP**	**19 19 08.3**	**+0.5**
QZH				SS	SS	19 39 22.0	-7.4
QZH				AMB	AMB		
	comp=Z,17μm,8.6s						
QZH				LR	LR		
	comp=Z,18μm,17.8s						
QZH				LR	LR		
	comp=Z,37μm,20.9s						
QZH				LR	LR		
	comp=Z,64μm,25.0s						
TSM	**Tawau**	162.85	235	⇑P	**PKPdf**	**19 14 37.0**	**+1.8**
MYLDM	**Lahad Datu**	162.86	239	*e*PKPdf	**PKPdf**	**19 14 37.3**	**+2.1**
MYLDM	**Lahad Datu**	162.86	239	⇓P	**PKPdf**	**19 14 37.9**	**+2.7**
ENH	**Enshi**	163.53	343	*e*PKPdf	**PKPdf**	**19 14 36.1**	**+0.6**
CD2	**Chengdu**	163.72	0	⇑PKP	**PKPdf**	**19 14 35.3**	**-0.4**
CD2				pPKP	pPKPdf	19 14 46.5	+1.2
CD2				PP	**PP**	**19 19 12.8**	**+1.2**
CD2				SKS	**SKSdf**	**19 21 37.0**	**-1.5**
CD2				SKKS	**SKKSac**	**19 25 57.5**	**-1.6**
CD2				SS	**SS**	**19 39 38.5**	**+1.4**
CD2				AMB	AMB		
	comp=Z,15μm,10.9s						
CD2				LR	LR		
	comp=Z,25μm,20.9s						
CD2				LR	LR		
	comp=Z,38μm,22.3s						
CD2				LR	LR		
	comp=Z,35μm,22.8s						
SHL	**Shillong**	164.30	44	*e*P	**PKPdf**	**19 14 35.4**	**-1.1**
SHL				AMS	AMS	19 30 28.1	
	comp=Z,4μm,21.0s						
KSM	**Kuching**	165.53	207	*e*PKPdf	**PKPdf**	**19 14 38.1**	**+0.5**
MYKOM	**Kota Tinggi**	167.31	180	*e*PKPdf	**PKPdf**	**19 14 40.2**	**+1.1**
PSI	**Prapat**	167.34	157	*e*PKIKP	**PKPdf**	**19 14 39.4**	**+0.2**
PSI	**Prapat**	167.34	157	*e*PKPdf	**PKPdf**	**19 14 39.4**	**+0.2**
HKC	**Hong Kong Obse**	167.56	310	⇑P	**PKPdf**	**19 14 43.0**	**+4.1**
GYA	**Guiyang**	167.88	348	*i* PKP	**PKPdf**	**19 14 40.0**	**+0.8**
GYA				PKPab	**PKPab**	**19 15 46.5**	**+0.5**
GYA				PKS	**PKSdf**	**19 18 09.0**	**-3.1**
GYA				PP	**PP**	**19 19 35.5**	**+2.2**
GYA				SKKS		19 26 19.8	
GYA				SS	**SS**	**19 40 20.0**	**+0.4**
GYA				LR	LR		
	comp=Z,16μm,19.6s						
GYA				LR	LR		
	comp=Z,15μm,19.6s						
GYA				LR	LR		
	comp=Z,34μm,18.9s						
PBA	**Port Blair**	168.78	104	*e*P	PKPdf	19 14 38.3	-1.6
PBA				AMS	AMS	19 32 14.3	
	comp=Z,9μm,20.5s						
DGPR	**DIGLIPUR**	169.28	96	*e*P	**PKPdf**	**19 14 39.5**	**-0.8**
DGPR				AMS	AMS	19 33 16.1	
	comp=Z,3μm,14.4s						
KMI	**Kunming**	169.43	6	PKP	**PKPdf**	**19 14 40.0**	**-0.4**
KMI				pPKP	sPKPdf	19 14 52.3	-1.1
IPM	**Ipoh**	169.60	164	*e*PKPdf	**PKPdf**	**19 14 41.3**	**+0.7**
IPM	**Ipoh**	169.60	164	⇓P	**PKPdf**	**19 14 37.2**	**-3.3**
KULM	**Kulim**	170.26	161	*e*PKPdf	**PKPdf**	**19 14 41.2**	**+0.3**
QIZ	**Qiongzhong**	172.76	309	PKP	**PKPdf**	**19 14 46.0**	**+4.0**
QIZ				PP	**PP**	**19 20 01.3**	**+2.2**
QIZ				SS	SS	19 41 10.3	-0.1
QIZ				AMB	AMB		
	comp=Z,10μm,13.6s						
QIZ				LR	LR		
	comp=Z,21μm,20.2s						
QIZ				LR	LR		
	comp=Z,36μm,19.9s						
CMAI	**Chiengmai2**	172.94	40	P	**PKPdf**	**19 14 42.6**	**+0.3**
	comp=Z,881nm,2.8s,comp=Z,73μm						
CHTO	**Chiang Mai**	173.65	47	P	**PKPdf**	**19 14 42.3**	**-0.1**
	comp=Z,792nm,1.2s,comp=Z,27μm						
CHTO	**Chiang Mai**	173.65	47	*e*PKIKP	**PKPdf**	**19 14 41.4**	**-1.0**
CHTO	**Chiang Mai**	173.65	47	*e*PKPdf	**PKPdf**	**19 14 41.4**	**-1.0**
CM31	**Chiang Mai Arr**	173.88	50	*e*PKPdf	**PKPdf**	**19 14 43.5**	**+1.1**
CMAR	**Chiang Mai Arr**	173.88	50	PKP	**PKPdf**	**19 14 41.2**	**-1.2**
	comp=Z,9.9nm,1.0s,baz=286,slow=1.7,SNR=60						
CMAR				PKPab	**PKPab**	**19 16 12.7**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=337,slow=2.1,SNR=3.7						
CMAR				PP	**PP**	**19 19 59.5**	**-5.0**
	comp=Z,3.3nm,1.0s,baz=330,slow=3.1,SNR=2.8						
LAMP	**Lampang**	174.33	45	P	**PKPdf**	**19 14 43.2**	**+0.6**
	comp=Z,18nm,1.0s,comp=Z,147nm						
UTTA	**Uttaradit**	175.50	45	P	**PKPdf**	**19 14 43.3**	**+0.4**
	comp=Z,8.9nm,1.6s,comp=Z,158nm						
PBKT	**Sadao Pong**	176.56	54	P	**PKPdf**	**19 14 43.4**	**+0.2**
	comp=Z,143nm,1.1s,comp=Z,6μm						
CHAI	**Chaiyaphum**	177.74	54	P	**PKPdf**	**19 14 44.2**	**+0.8**
	comp=Z,9.8nm,1.3s,comp=Z,178nm						

*CSEM **28** 18:56:38.8±0.3, 38°.77N×43°.48E, h15km, ML2.5, Error ellipse: s-maj=10

*CSEM **28** 18:59:45.8±0.3,38°.73N×43°.56E,h2km,ML2.9,Error ellipse: s-maj=8.7km s-min=5.4km az=84.0*
*DDA **28** 18:59:45.5,38°.74N×43°.53E,h4km,Ml3.3*
*ISK **28** 18:59:45.1,38°.75N×43°.50E,h5km,ML2.9*
*ISCJB **28** 18:59:46.3±0.5,38°.73N±0°.03×43°.59E±0°.06,h13km,Error ellipse: s-maj=6.6km s-min=4.1km az=23.8*
ISC 28 18:59:45.1±0.9,38°.75N±0°.02×43°.58E±0°.03,h13km,n48,σ0°68/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**225**	*e*PG	**Pb**	**18 59 51.1**	**+0.2**
VANB				*e*SG	**Sb**	**18 59 56.0**	**+1.3**
VANB	**Van**	**0.21**	**225**	*e*Pg	**Pb**	**18 59 51.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.24**	**359**	*i* P	**Pb**	**18 59 51.3**	**-0.2**
VMUR	**Van-Muradiye**	**0.24**	**359**	P	**Pb**	**18 59 51.3**	**-0.2**
TVAN	**Van**	**0.26**	**212**	*i* P	**Pg**	**18 59 51.1**	**+0.4**
TVAN	**Van**	**0.26**	**212**	P	**Pg**	**18 59 51.1**	**+0.4**
ERCV	**ERCIS-VAN**	**0.33**	**326**	*e*PG	**Pg**	**18 59 52.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.33**	**326**	*e*Pg	**Pg**	**18 59 52.3**	**+0.3**
CLDR	**Caldiran**	**0.48**	**34**	*e*PG	**Pb**	**18 59 55.8**	**+0.2**
CLDR				*e*SG	**Sn**	**19 00 04.8**	**-1.4**
CLDR	**Caldiran**	**0.48**	**34**	*i* P	**Pb**	**18 59 55.7**	**+0.2**
CLDR	**Caldiran**	**0.48**	**34**	P	**Pb**	**18 59 55.7**	**+0.2**
GEVA	**Gevas**	**0.59**	**223**	*i* P	**Pg**	**18 59 56.6**	**-0.2**
GEVA	**Gevas**	**0.59**	**223**	P	**Pg**	**18 59 56.6**	**-0.2**
BASK	**Baskale_VAN**	**0.77**	**154**	*i* P	**Pg**	**19 00 00.3**	**+0.2**
BASK	**Baskale_VAN**	**0.77**	**154**	P	**Pg**	**19 00 00.3**	**+0.2**
DYDN	**Diyadin**	**0.80**	**6**	*i* P	**Pb**	**19 00 01.4**	**+0.3**
DYDN	**Diyadin**	**0.80**	**6**	P	**Pb**	**19 00 01.4**	**+0.3**
TUTA	**Tutak**	**0.89**	**318**	*i* P	**Pg**	**19 00 02.0**	**-0.3**
TUTA	**Tutak**	**0.89**	**318**	P	**Pg**	**19 00 02.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.94**	**331**	*e*PG	**Pg**	**19 00 02.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.94**	**331**	*e*Pg	**Pg**	**19 00 02.9**	**-0.5**
TATV	**Tatvan**	**1.05**	**257**	*i* P	**Pb**	**19 00 04.5**	**-0.9**
TATV	**Tatvan**	**1.05**	**257**	P	**Pb**	**19 00 04.5**	**-0.9**
HAKT	**HAKKARI**	**1.19**	**175**	*i* P	**Pn**	**19 00 07.5**	**-0.2**
HAKT	**HAKKARI**	**1.19**	**175**	P	**Pn**	**19 00 07.5**	**-0.2**
EKAR	**Karacoban**	**1.28**	**294**	*i* P	**Pg**	**19 00 11.2**	**+1.3**
EKAR	**Karacoban**	**1.28**	**294**	P	**Pg**	**19 00 11.2**	**+1.3**
EATA	**Eleskirt**	**1.40**	**323**	*i* P	**Pb**	**19 00 11.7**	**+0.4**
EATA	**Eleskirt**	**1.40**	**323**	P	**Pb**	**19 00 11.7**	**+0.4**
CUKT	**Cukurca**	**1.50**	**179**	*e*PN	**Pg**	**19 00 14.1**	**+0.2**
CUKT	**Cukurca**	**1.50**	**179**	*i* P	**Pg**	**19 00 14.4**	**+0.5**
CUKT	**Cukurca**	**1.50**	**179**	*e*Pn	**Pg**	**19 00 14.1**	**+0.2**
CUKT	**Cukurca**	**1.50**	**179**	P	**Pg**	**19 00 14.4**	**+0.5**
VRTB	**Varto-Mus**	**1.71**	**285**	*e*PN	**Pb**	**19 00 16.6**	**+0.2**
VRTB	**Varto-Mus**	**1.71**	**285**	*e*Pn	**Pb**	**19 00 16.6**	**+0.2**
HOMI	**Horasan**	**1.83**	**316**	*i* P	**Pb**	**19 00 19.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*PN	**Pb**	**19 00 20.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.96**	**253**	*e*Pn	**Pb**	**19 00 20.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.05**	**333**	*e*PN	**Pb**	**19 00 21.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.05**	**333**	*e*Pn	**Pb**	**19 00 21.9**	**-0.4**
ERZM	**Erzurum**	**2.07**	**305**	*i* P	**Pb**	**19 00 23.8**	**+1.1**
ERZM	**Erzurum**	**2.07**	**305**	P	**Pb**	**19 00 23.8**	**+1.1**
BNGB	**Bing¶ll**	**2.28**	**277**	*e*PN	**Pb**	**19 00 24.8**	**-1.3**
BINT	**Bingol**	**2.42**	**274**	*e*Pn	**Pn**	**19 00 24.8**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*PN	**Pb**	**19 00 27.7**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.46**	**287**	*e*Pn	**Pb**	**19 00 27.7**	**-1.6**
DDEM	**Demirkent**	**2.56**	**327**	*i* P	**Pb**	**19 00 31.1**	**0.0**
DDEM	**Demirkent**	**2.56**	**327**	P	**Pb**	**19 00 31.1**	**0.0**

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*IDC **28** 19:00:58.7±0.5,14°.38S×76°.15W,h0km,mb5.2/22, mb1 5.3/24,mb1mx5.1/36,mbtmp5.2/24,ML6.2/1,Error ellipse: s-maj=20.5km s-min=11.3km az=67.0*
*MOS **28** 19:01:00.3±0.8,14°.26S×75°.93W,h22km,mb5.7/43,Error ellipse: s-maj=22.4km s-min=6.9km az=111.0*
*ISCJB **28** 19:01:01.5±0.2,14°.34S±0°.04×76°.06W±0°.05,h29km, mb5.5/228,Error ellipse: s-maj=7.7km s-min=3.8km az=140.0*
*NEIC **28** 19:01:02.3±1.4,14°.38S×76°.00W,h22km±10km,mb5.6/189, Error ellipse: s-maj=6.3km s-min=3.2km az=56.0*
ISC 28 19:01:03.0±0.4,14°.50S±0°.06×76°.04W±0°.09,h29km,n452, σ1°26/444,mb5.6/227,2C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.62**	**343**	Pn	**Pn**	**19 01 40.9**	**-2.5**
	baz=152,slow=11,SNR=1.5						
NNA				Lg	Lg	19 02 18.6	
	1μm,0.3s,baz=108,slow=16,SNR=5.1						
NNA	**Nana**	**2.62**	**343**	*e*P	**Pn**	**19 01 44.5**	**+1.1**
NNA				*e*		19 02 06.8	
NNA	**Nana**	**2.62**	**343**	*e*Pn	**Pn**	**19 01 44.5**	**+1.1**
NNA				*e*Sn	**Sn**	**19 02 06.8**	**-7.4**
NNA				Lg	Lg	19 02 18.6	
ATAH	**Atahualpa**	**7.68**	**342**	Pn	**Pn**	**19 02 53.5**	**+0.2**
	baz=108,slow=19,SNR=2.2						
ATAH				Sn	**Sn**	**19 04 17.6**	**-1.9**
	21nm,0.3s,baz=142,slow=19,SNR=2.3						
MNMC	**Minye Minye**	**7.70**	**128**	*e*Pn	**Pn**	**19 02 53.9**	**+0.4**
MNMC				*e*Sn	**Sn**	**19 04 14.7**	**-5.2**
LPAZ	**La Paz**	**7.83**	**104**	Pn	Pn	19 03 01.0	+5.4
	28nm,0.3s,baz=313,slow=11,SNR=12						
LPAZ	**La Paz**	**7.83**	**104**	P	Pn	19 03 01.0	+5.4
LPAZ				pmax	pmax		
	comp=Z,28nm,0.3s						
LPAZ	**La Paz**	**7.83**	**104**	*e*Pn	Pn	19 03 01.5	+5.9
PB11	**IPOC Station P**	**8.04**	**131**	*e*Pn	**Pn**	**19 02 58.1**	**0.0**
PB01	**IPOC Station P**	**9.02**	**137**	*e*Pn	**Pn**	**19 03 11.8**	**+0.4**
PB01				*e*Sn	**Sn**	**19 04 45.7**	**-6.4**
PB04	**IPOC Station P**	**9.59**	**145**	*e*Pn	**Pn**	**19 03 18.9**	**-0.3**
PB10	**IPOC Station P**	**10.36**	**151**	*e*Pn	**Pn**	**19 03 28.2**	**-1.5**
LVC	**Limon Verde**	**10.52**	**141**	Pn	**Pn**	**19 03 33.8**	**+1.5**
	comp=Z,166nm,0.3s,baz=306,slow=12,SNR=13						
LVC				Sn	**Sn**	**19 05 27.3**	**-2.1**
	comp=Z,133nm,0.3s,baz=94,slow=15,SNR=5.3						
LVC				Lg	Lg	19 06 25.1	
	comp=Z,290nm,0.3s,baz=127,slow=16,SNR=4.2						
PRAC	**Prado**	**18.13**	**4**	*e*Sn	**S**	**19 08 48.3**	**+8.9**
ROSC	**El Rosal**	**19.29**	**5**	*e*Sn	**S**	**19 09 08.1**	**+4.9**
CPUP	**Villa Florida**	**21.09**	**127**	P	**P**	**19 05 46.4**	**+1.2**
	comp=Z,88nm,1.1s,baz=317,slow=16,SNR=4.2						
PLCA	**Paso Flores**	**26.57**	**171**	P	**P**	**19 06 39.7**	**+1.1**
	comp=Z,9.8nm,1.0s,baz=7.0,slow=11,SNR=3.8						
PCRV	**Puerto La Cruz**	**27.00**	**25**	P	**P**	**19 06 43.3**	**+0.6**
	comp=Z,57nm,0.8s,baz=204,slow=20,SNR=5.0						
BDFB	**Brasilia**	**27.08**	**96**	P	**P**	**19 06 44.0**	**+0.5**
	comp=Z,83nm,1.1s,baz=340,slow=15,SNR=2.7						
BDFB	**Brasilia**	**27.08**	**96**	P	**P**	**19 06 44.0**	**+0.5**
MPR	**Mayaguez**	**33.67**	**15**	*e*P	**P**	**19 07 41.1**	**-0.4**
	comp=Z,126nm,0.9s						
CELP	**Cerrillos**	**33.69**	**16**	*e*P	**P**	**19 07 41.3**	**-0.4**
ANWB	**Willy Bob**	**34.92**	**24**	*e*P	**P**	**19 07 50.0**	**-2.3**
	comp=Z,297nm,1.0s						
CMIG	**Matias Romero**	**36.49**	**329**	P	**P**	**19 08 07.5**	**+1.6**
	comp=Z,6.8nm,0.7s,baz=145,slow=6.1,SNR=4.6						
TEIG	**Tepich**	**36.55**	**340**	*e*P	**P**	**19 08 06.5**	**+0.1**
	comp=Z,32nm,0.8s						
RCBR	**Riachuelo**	**40.38**	**82**	P	**P**	**19 08 39.0**	**+0.2**
	comp=Z,62nm,1.0s,baz=224,slow=7.0,SNR=5.1						
NHSC	**New Hope**	**47.50**	**355**	*e*P	**P**	**19 09 35.2**	**-0.4**
	comp=Z,366nm,1.7s						
933A	**Laredo**	**47.54**	**332**	P	**P**	**19 09 36.6**	**+0.6**
	baz=149						
248A	**Dixon Mills**	**47.67**	**347**	P	**P**	**19 09 37.3**	**+0.4**
	baz=165						
HKT	**Hockley**	**48.14**	**337**	*e*P	**P**	**19 09 39.5**	**-1.0**
HKT				pmax	pmax		
	comp=Z,95nm,1.6s						
HKT	**Hockley**	**48.14**	**337**	*e*P	**P**	**19 09 39.5**	**-1.0**
	comp=Z,95nm,1.6s						
GOGA	**Godfrey**	**48.17**	**352**	*e*P	**P**	**19 09 38.9**	**-1.8**
GOGA				pmax	pmax		
	comp=Z,98nm,1.4s						
GOGA	**Godfrey**	**48.17**	**352**	*e*P	**P**	**19 09 38.9**	**-1.8**
	comp=Z,98nm,1.4s						
440A	**Kirbyville**	**48.17**	**339**	P	**P**	**19 09 43.3**	**+2.5**
	baz=156						
636A	**Smothers Creek**	**48.20**	**335**	P	**P**	**19 09 43.3**	**+2.2**
	baz=152						
833A	**Chaparral WMA,**	**48.20**	**332**	P	**P**	**19 09 42.7**	**+1.6**
	baz=149						
342A	**Flagon Creek P**	**48.22**	**341**	P	**P**	**19 09 41.3**	**+0.2**
	baz=159						
LRAL	**Lakeview Retre**	**48.41**	**348**	*e*P	**P**	**19 09 41.4**	**-1.2**
	comp=Z,84nm,1.3s						
537A	**Green Hill Far**	**48.44**	**336**	P	**P**	**19 09 43.8**	**+1.0**
	baz=153						
341A	**Kurthwood**	**48.45**	**340**	P	**P**	**19 09 43.4**	**+0.5**
	baz=158						
VBMS	**Vicksburg**	**48.48**	**344**	*e*P	**P**	**19 09 43.2**	**0.0**
	comp=Z,305nm,2.0s						
JSC	**Jenkinsville**	**48.76**	**354**	*e*P	**P**	**19 09 43.5**	**-1.8**
JSC				pmax	pmax		
	comp=Z,129nm,1.7s						
JSC	**Jenkinsville**	**48.76**	**354**	*e*P	**P**	**19 09 43.5**	**-1.8**
	comp=Z,129nm,1.7s						
Z47A	**Carrollton**	**48.80**	**347**	P	**P**	**19 09 44.5**	**-1.1**
	baz=164						
HODGE	**Hodges**	**48.82**	**353**	*e*P	**P**	**19 09 44.2**	**-1.5**
	comp=Z,64nm,1.4s						
Z48A	**Northport**	**48.86**	**347**	P	**P**	**19 09 45.1**	**-1.0**
	baz=165						
338A	**Crockett**	**49.21**	**338**	P	**P**	**19 09 49.4**	**+0.7**
	baz=155						
Y47A	**UCPARC, Winfie**	**49.43**	**347**	P	**P**	**19 09 50.5**	**+0.1**
	baz=165						
Z44A	**Pea Ridge, Bel**	**49.46**	**344**	P	**P**	**19 09 51.0**	**+0.4**
	baz=162						
CNNC	**Cliffs of the**	**49.50**	**358**	*e*P	**P**	**19 09 50.0**	**-0.8**
	comp=Z,145nm,1.2s						
239A	**Gary**	**49.51**	**339**	P	**P**	**19 09 51.7**	**+0.6**
	baz=156						
141A	**Papa Simpson,**	**49.54**	**341**	P	**P**	**19 09 51.6**	**+0.4**
	baz=158						
KMSC	**Kings Mountain**	**49.62**	**354**	P	**P**	**19 09 50.3**	**-1.6**
	baz=173						
KMSC	**Kings Mountain**	**49.62**	**354**	*e*P	**P**	**19 09 50.6**	**-1.3**
	comp=Z,308nm,1.9s						
Y46A	**Houston**	**49.64**	**346**	P	**P**	**19 09 50.7**	**-1.3**
	baz=164						
BG3	**Lake Jocassee**	**49.65**	**353**	*e*P	**P**	**19 09 51.3**	**-0.8**
	comp=Z,86nm,1.3s						
237A	**Washetta, Mont**	**49.97**	**338**	P	**P**	**19 09 54.2**	**-0.4**
	baz=155						
JCT	**Junction City**	**50.23**	**333**	*e*P	**P**	**19 09 56.7**	**0.0**
JCT				pmax	pmax		
	comp=Z,40nm,1.1s						
JCT	**Junction City**	**50.23**	**333**	*e*P	**P**	**19 09 56.7**	**0.0**
	comp=Z,40nm,1.1s						
236A	**Katherine and**	**50.23**	**337**	P	**P**	**19 09 56.7**	**+0.1**
	baz=154						
HPIG		**50.24**	**325**	*e*P	**P**	**19 09 56.5**	**-0.5**
	comp=Z,70nm,1.4s						
HOPE	**Hope Point**	**50.25**	**151**	*e*P	**P**	**19 09 56.8**	**+0.4**
	comp=Z,92nm,1.2s						
138A	**Matatall Enter**	**50.31**	**339**	P	**P**	**19 09 57.6**	**+0.5**
	baz=156						
SWET	**Sewanee**	**50.33**	**349**	*e*P	**P**	**19 09 56.1**	**-1.1**
	comp=Z,62nm,1.0s						
OXF	**Oxford**	**50.37**	**346**	*e*P	**P**	**19 09 55.7**	**-1.8**
OXF				pmax	pmax		
	comp=Z,150nm,1.4s						
OXF	**Oxford**	**50.37**	**346**	*e*P	**P**	**19 09 55.7**	**-1.8**
	comp=Z,150nm,1.4s						
SLBS	**Sierra La Lagu**	**50.39**	**318**	*e*P	**P**	**19 09 56.8**	**-1.2**
	comp=Z,62nm,1.5s						
TKL	**Tuckaleechee C**	**50.42**	**352**	*e*P	**P**	**19 09 56.2**	**-1.7**
TKL				pmax	pmax		
	comp=Z,295nm,1.8s						
TKL	**Tuckaleechee C**	**50.42**	**352**	*e*P	**P**	**19 09 56.2**	**-1.7**
	comp=Z,295nm,1.8s						
CCAR	**Cane Creek**	**50.43**	**343**	*e*P	**P**	**19 09 58.2**	**+0.2**
	comp=Z,89nm,0.5s						
137A	**Heron Place, G**	**50.49**	**338**	P	**P**	**19 09 58.6**	**+0.2**
	baz=155						
PLAL	**Pickwick Lake**	**50.52**	**347**	*e*P	**P**	**19 09 57.4**	**-1.3**
	comp=Z,35nm,1.0s						
WHTX	**Lake Whitney,**	**50.58**	**336**	P	**P**	**19 09 58.8**	**-0.4**
	baz=153						
WHTX	**Lake Whitney,**	**50.58**	**336**	*e*P	**P**	**19 09 58.7**	**-0.4**
	comp=Z,75nm,1.3s						
WLAR	**White Oak Lake**	**50.61**	**342**	*e*P	**P**	**19 09 59.8**	**+0.5**
	comp=Z,150nm,0.9s						
PMSA	**Palmer Station**	**50.89**	**173**	P	**P**	**19 10 02.6**	**+1.6**
	comp=Z,26nm,1.1s,baz=341,slow=12,SNR=3.8						
PMSA	**Palmer Station**	**50.89**	**173**	*e*P	**P**	**19 10 02.7**	**+1.6**
	comp=Z,164nm,1.8s						
MET	**Memphis--Engin**	**51.08**	**345**	*e*P	**P**	**19 10 02.2**	**-0.7**
	comp=Z,202nm,0.6s						
TXAR	**Lajitas Array**	**51.09**	**329**	P	**P**	**19 10 02.6**	**-0.7**
	comp=Z,10.0nm,0.9s,baz=150,slow=8.6,SNR=9.3						
TX31	**Lajitas Ar. Si**	**51.10**	**329**	*e*P	**P**	**19 10 02.7**	**-0.5**
UALR	**University of**	**51.39**	**343**	*e*P	**P**	**19 10 06.0**	**+0.8**
	comp=Z,177nm,1.6s						
MIAR	**Mount Ida**	**51.55**	**341**	*e*P	**P**	**19 10 04.7**	**-1.7**
MIAR				pmax	pmax		
	comp=Z,37nm,0.8s						
MIAR	**Mount Ida**	**51.55**	**341**	*e*P	**P**	**19 10 04.7**	**-1.7**
	comp=Z,37nm,0.8s						
WVT	**Waverly**	**51.57**	**348**	*e*P	**P**	**19 10 04.6**	**-1.9**
WVT				pmax	pmax		
	comp=Z,117nm,1.8s						
WVT	**Waverly**	**51.57**	**348**	*e*P	**P**	**19 10 04.6**	**-1.9**
	comp=Z,117nm,1.8s						
BLA	**Blacksburg**	**51.60**	**356**	*e*P	**P**	**19 10 06.8**	**0.0**
BLA				pmax	pmax		
	comp=Z,326nm,2.0s						
BLA	**Blacksburg**	**51.60**	**356**	*e*P	**P**	**19 10 06.8**	**0.0**
	comp=Z,326nm,2.0s						
VWCC	**Virginia Weste**	**51.60**	**356**	*e*P	**P**	**19 10 05.8**	**-1.0**
HALT	**Halls**	**51.69**	**346**	*e*P	**P**	**19 10 05.8**	**-1.6**
	comp=Z,141nm,1.2s						
Y37A	**Hugo**	**51.69**	**339**	P	**P**	**19 10 07.9**	**+0.4**
	baz=156						
URVA	**University of**	**51.81**	**358**	*e*P	**P**	**19 10 06.7**	**-1.6**
X301	**Greenbrier Sit**	**51.84**	**343**	*e*P	**P**	**19 10 09.4**	**+0.8**
	comp=Z,152nm,1.5s						
WHAR	**Wooly Hollow**	**51.86**	**343**	*e*P	**P**	**19 10 08.7**	**0.0**
	comp=Z,213nm,1.8s						
JSRW	**J. Sargeant Re**	**51.94**	**358**	*e*P	**P**	**19 10 08.4**	**-0.8**
W40A	**Ferguson Farm,**	**51.99**	**342**	*e*P	**P**	**19 10 09.6**	**-0.1**
	comp=Z,359nm,1.9s						
ABTX	**Abilene, Hawle**	**52.02**	**335**	P	**P**	**19 10 09.9**	**-0.1**
	baz=150						
ABTX	**Abilene, Hawle**	**52.02**	**335**	*e*P	**P**	**19 10 09.8**	**-0.2**
	comp=Z,82nm,1.1s						
IP05	**Hopewell Churc**	**52.08**	**358**	*e*P	**P**	**19 10 09.6**	**-0.7**
	comp=Z,74nm,1.1s						
Y35A	**Marietta**	**52.13**	**338**	P	**P**	**19 10 10.9**	**+0.2**
	baz=154						
X37A	**Clayton**	**52.16**	**340**	P	**P**	**19 10 10.7**	**-0.3**
	baz=156						
IP07	**Quail**	**52.17**	**358**	*e*P	**P**	**19 10 10.7**	**-0.3**
	comp=Z,87nm,1.0s						
IP06	**Yanceyville**	**52.19**	**358**	*e*P	**P**	**19 10 10.5**	**-0.6**
	comp=Z,84nm,0.9s						
IP01	**Cuckoo**	**52.21**	**358**	*e*P	**P**	**19 10 11.0**	**-0.3**
	comp=Z,80nm,1.0s						
PVMO	**Portageville**	**52.26**	**346**	*e*P	**P**	**19 10 10.8**	**-0.8**
	comp=Z,219nm,0.6s						
IP03	**Louisa**	**52.27**	**358**	*e*P	**P**	**19 10 11.1**	**-0.6**
	comp=Z,108nm,1.1s						
V41A	**Mountainview**	**52.29**	**343**	P	**P**	**19 10 12.2**	**+0.2**
	baz=160						
CVRD	**Centerville Ro**	**52.31**	**358**	*e*P	**P**	**19 10 11.6**	**-0.4**
	comp=Z,72nm,0.9s						
IP04	**Greensprings**	**52.35**	**358**	*e*P	**P**	**19 10 11.7**	**-0.6**
	comp=Z,131nm,1.3s						
PTRD	**Partlow Road**	**52.36**	**358**	*e*P	**P**	**19 10 11.8**	**-0.6**
	comp=Z,69nm,0.9s						
SPFD	**Spotsylvania F**	**52.37**	**359**	*e*P	**P**	**19 10 12.1**	**-0.4**
	comp=Z,55nm,1.0s						
CBN	**Corbin Frederi**	**52.44**	**359**	*e*P	**P**	**19 10 12.2**	**-0.7**
	comp=Z,105nm,1.1s						
V40A	**Witts Springs**	**52.49**	**343**	P	**P**	**19 10 12.7**	**-0.8**
	baz=159						
X35A	**Drake**	**52.55**	**338**	P	**P**	**19 10 12.9**	**-1.0**
	baz=154						
U42A	**Revenden**	**52.58**	**345**	P	**P**	**19 10 12.4**	**-1.6**
	baz=161						
W37B	**Quinton**	**52.68**	**340**	P	**P**	**19 10 14.4**	**-0.5**
	baz=156						
U41A	**Viola**	**52.75**	**344**	P	**P**	**19 10 14.0**	**-1.3**
	baz=160						
W36A	**Wetumka**	**52.95**	**339**	P	**P**	**19 10 16.6**	**-0.3**
	baz=155						
U40A	**Yellville**	**53.02**	**343**	P	**P**	**19 10 16.7**	**-0.6**
	baz=160						
V38A	**Canehill**	**53.02**	**341**	P	**P**	**19 10 17.4**	**+0.1**
	baz=158						
T43A	**Greenville**	**53.03**	**346**	P	**P**	**19 10 16.3**	**-1.1**
	baz=163						
W35A	**Tecumseh**	**53.19**	**339**	P	**P**	**19 10 19.2**	**+0.5**
	baz=154						
HHAR	**Hobbs**	**53.26**	**342**	*e*P	**P**	**19 10 17.9**	**-1.2**
	comp=Z,182nm,1.8s						
V37A	**Hulbert**	**53.27**	**341**	P	**P**	**19 10 19.2**	**+0.1**
	baz=157						
USIN	**University of**	**53.32**	**349**	*e*P	**P**	**19 10 18.2**	**-1.2**
	comp=Z,118nm,1.1s						
WCI	**Wyandotte Cave**	**53.32**	**350**	*e*P	**P**	**19 10 17.9**	**-1.6**
WCI				pmax	pmax		
	comp=Z,155nm,1.3s						
WCI	**Wyandotte Cave**	**53.32**	**350**	*e*P	**P**	**19 10 17.9**	**-1.6**
	comp=Z,155nm,1.3s						
S44A	**Carbondale**	**53.38**	**347**	P	**P**	**19 10 19.9**	**0.0**
	baz=164						
V36A	**Jenks**	**53.44**	**340**	P	**P**	**19 10 20.0**	**-0.4**
	baz=156						
TUL1	**Leonard**	**53.51**	**340**	P	**P**	**19 10 22.0**	**+1.1**
	baz=156						
WMOK	**Wichita Mounta**	**53.52**	**337**	P	**P**	**19 10 21.1**	**0.0**
	baz=152						
WMOK	**Wichita Mounta**	**53.52**	**337**	*e*P	**P**	**19 10 20.9**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,123nm,1.9s						
WMOK	**Wichita Mounta**	**53.52**	**337**	*e*P	**P**	**19 10 20.9**	**-0.2**
	comp=Z,123nm,1.9s						
U38A	**Gravette**	**53.55**	**342**	P	**P**	**19 10 21.1**	**-0.1**
	baz=158						
SDMD	**Soldier's Deli**	**53.63**	**359**	*e*P	**P**	**19 10 21.0**	**-0.7**
	comp=Z,20nm,0.9s						
T40A	**Mansfield**	**53.67**	**344**	P	**P**	**19 10 22.7**	**+0.6**
	baz=160						
V35A	**Meyer Ranch, C**	**53.73**	**339**	P	**P**	**19 10 23.4**	**+0.9**
	baz=155						
U37A	**Salina**	**53.74**	**341**	P	**P**	**19 10 22.4**	**-0.3**
	baz=157						
MNTX	**Cornudas Mount**	**53.87**	**329**	P	**P**	**19 10 24.6**	**+0.9**
	baz=144						
MNTX	**Cornudas Mount**	**53.87**	**329**	*e*P	**P**	**19 10 23.6**	**-0.1**
	comp=Z,157nm,2.0s						
S41A	**Jillco Farms,**	**53.87**	**345**	P	**P**	**19 10 23.7**	**+0.1**
	baz=161						
FVM	**French Village**	**53.92**	**346**	*e*P	**P**	**19 10 23.4**	**-0.5**
FVM				pmax	pmax		
	comp=Z,175nm,1.9s						
FVM	**French Village**	**53.92**	**346**	*e*P	**P**	**19 10 23.4**	**-0.5**
	comp=Z,175nm,1.9s						
MCWV	**Mont Chateau**	**53.99**	**356**	*e*P	**P**	**19 10 23.6**	**-0.8**
	comp=Z,101nm,2.0s						
T38A	**Diamond**	**54.07**	**342**	P	**P**	**19 10 24.2**	**-0.8**
	baz=158						
S40A	**Lebanon**	**54.08**	**344**	P	**P**	**19 10 24.9**	**-0.2**
	baz=160						
R43A	**Red Bud**	**54.09**	**347**	P	**P**	**19 10 25.6**	**+0.5**
	baz=163						
OLIL	**Olney**	**54.14**	**348**	*e*P	**P**	**19 10 23.9**	**-1.6**
	comp=Z,89nm,1.1s						
PSUB	**Penn St. - Bra**	**54.15**	**1**	*e*P	**P**	**19 10 24.8**	**-0.7**
	comp=Z,44nm,1.0s						
CCM	**Cathedral Cave**	**54.19**	**345**	*e*P	**P**	**19 10 25.1**	**-0.8**
CCM				pmax	pmax		
	comp=Z,165nm,1.9s						
CCM	**Cathedral Cave**	**54.19**	**345**	*e*P	**P**	**19 10 25.1**	**-0.8**
	comp=Z,165nm,1.9s						
MVL	**Millersville**	**54.22**	**360**	*e*P	**P**	**19 10 25.6**	**-0.4**
	comp=Z,144nm,1.5s						
U35A	**Pawnee**	**54.24**	**339**	P	**P**	**19 10 26.5**	**+0.2**
	baz=155						
R42A	**Luebbering**	**54.29**	**346**	P	**P**	**19 10 26.1**	**-0.5**
	baz=162						
T37A	**Cheneyville 18**	**54.34**	**341**	P	**P**	**19 10 26.6**	**-0.4**
	baz=157						
R41A	**Rosebud**	**54.45**	**345**	P	**P**	**19 10 26.4**	**-1.4**
	baz=162						
Q44A	**Meyer Farm, Va**	**54.49**	**348**	P	**P**	**19 10 26.2**	**-1.9**
	baz=164						
SLM	**Saint Louis**	**54.50**	**346**	*e*P	**P**	**19 10 27.1**	**-1.0**
SLM				pmax	pmax		
	comp=Z,42nm,0.8s						
SLM	**Saint Louis**	**54.50**	**346**	*e*P	**P**	**19 10 27.1**	**-1.0**
	comp=Z,42nm,0.8s						
S38A	**Stockton**	**54.51**	**343**	P	**P**	**19 10 28.1**	**-0.1**
	baz=159						
O56A	**Blue Knob Stat**	**54.54**	**358**	P	**P**	**19 10 28.0**	**-0.4**
	baz=177						
T36A	**Boggs Farm, Ca**	**54.59**	**341**	P	**P**	**19 10 28.7**	**-0.1**
	baz=156						
AMTX	**Amarillo**	**54.82**	**334**	*e*P	**P**	**19 10 29.9**	**-0.8**
	comp=Z,196nm,1.

comp=Z,38nm,0.4s
AAM Ann Arbor 56.95 353 *eP* **P 19 10 43.5 -2.1**
comp=Z,38nm,0.4s
MMNY Mt. Morris Dam 56.97 358 *eP* **P 19 10 44.1 -1.7**
TRY Troy 56.99 2 *eP* **P 19 10 45.7 -0.2**
comp=Z,75nm,0.9s
ANMO Albuquerque 57.02 330 *eP* **P 19 10 46.7 +0.1**
ANMO pmax pmax
comp=Z,44nm,1.5s
ANMO Albuquerque 57.02 330 *eP* **P 19 10 46.7 +0.1**
comp=Z,44nm,1.5s
BUF Buffalo 57.20 358 *eP* **P 19 10 46.5 -0.9**
TUC Tucson 57.21 325 P **P 19 10 47.0 -0.8**
baz=139
TUC Tucson 57.21 325 *eP* **P 19 10 46.8 -1.0**
TUC pmax pmax
comp=Z,30nm,1.3s
TUC Tucson 57.21 325 *eP* **P 19 10 46.8 -1.0**
comp=Z,30nm,1.3s
CBKS Cedar Bluff 57.48 338 *eP* **P 19 10 47.5 -2.0**
CBKS pmax pmax
comp=Z,129nm,1.4s
CBKS Cedar Bluff 57.48 338 *eP* **P 19 10 47.5 -2.0**
comp=Z,129nm,1.4s
ACCN Adirondack Com 57.64 2 *eP* **P 19 10 50.6 +0.1**
comp=Z,124nm,1.3s
214A Organ Pipe Nat 58.10 323 P **P 19 10 53.0 -1.0**
baz=137
NCB Newcomb 58.21 2 *eP* **P 19 10 53.3 -1.2**
comp=Z,143nm,1.8s
MDV Middlebury 58.27 2 *eP* **P 19 10 54.1 -0.7**
SCIA State Center 58.32 345 *eP* **P 19 10 53.5 -1.8**
X18A Snowflake 58.45 327 *eP* **P 19 10 57.1 +0.6**
comp=Z,55nm,1.5s
LBNH Lisbon 58.58 3 *eP* **P 19 10 57.2 +0.2**
LBNH pmax pmax
comp=Z,199nm,1.8s
LBNH Lisbon 58.58 3 *eP* **P 19 10 57.2 +0.2**
comp=Z,199nm,1.8s
J43A Natural Harves 58.70 349 P **P 19 10 56.5 -1.5**
baz=166
W18A Petrified Fore 58.79 328 P **P 19 10 57.6 -1.4**
baz=141
W18A Petrified Fore 58.79 328 *eP* **P 19 10 57.2 -1.7**
comp=Z,122nm,1.5s
LONY Lake Ozonia 58.85 1 *eP* **P 19 10 57.0 -1.9**
comp=Z,180nm,1.7s
L36A Harm Buss Farm 58.88 344 P **P 19 10 58.5 -0.7**
baz=159
SDCO Great Sand Dun 58.88 333 P **P 19 10 59.8 +0.2**
baz=146
SDCO Great Sand Dun 58.88 333 *eP* **P 19 10 59.5 -0.1**
comp=Z,28nm,0.7s
SADO Sadowa 59.05 357 *eP* **P 19 10 58.1 -2.2**
comp=Z,85nm,1.4s
FRNY Flat Rock 59.09 2 *eP* **P 19 11 00.2 -0.4**
comp=Z,81nm,1.0s
I43A Langenfeld Bro 59.14 350 P **P 19 10 59.2 -1.8**
baz=166
X16A Lo Mia Camp, P 59.16 326 *eP* **P 19 11 02.2 +0.7**
comp=Z,56nm,1.6s
J40A Soldiers Grove 59.17 348 P **P 19 10 59.3 -1.8**
baz=163
113A Mohawk Valley, 59.24 323 *eP* **P 19 11 02.6 +0.7**
comp=Z,67nm,1.9s
PLVO Plevna 59.26 359 *eP* **P 19 11 00.9 -0.9**
comp=Z,208nm,1.9s
BGNE Belgrade 59.27 341 *eP* **P 19 11 00.3 -1.7**
comp=Z,104nm,1.0s
EMMW East Machias 59.44 7 *eP* **P 19 11 02.8 -0.2**
comp=Z,261nm,2.0s
S22A 4UR Ranch, Cre 59.48 332 P **P 19 11 04.3 +0.5**
baz=145
S22A 4UR Ranch, Cre 59.48 332 *eP* **P 19 11 02.6 -1.2**
comp=Z,78nm,1.8s
SACV Santiago Islan 59.54 63 *eP* **P 19 11 03.0 -1.3**
comp=Z,60nm,1.0s
I40A Norwalk 59.62 348 P **P 19 11 01.7 -2.5**
baz=164
I41A Arkdale 59.63 348 P **P 19 11 02.7 -1.6**
baz=164
Y14A Wickenburg 59.66 325 *eP* **P 19 11 06.5 +1.7**
comp=Z,422nm,1.8s
Q24A Divide 59.74 334 *eP* **P 19 11 04.6 -1.0**
comp=Z,27nm,1.1s
PKME Peaks-Kenny Pk 59.79 6 *eP* **P 19 11 05.2 -0.1**
comp=Z,212nm,1.9s
MVCO Mesa Verde 59.83 330 *eP* **P 19 11 05.8 -0.4**
comp=Z,148nm,1.9s
GGN Saint George 59.92 8 *eP* **P 19 11 06.5 +0.3**
comp=Z,49nm,1.3s
WUAZ Wupatki 59.95 327 *eP* **P 19 11 07.2 +0.3**
comp=Z,65nm,1.3s
OGNE Ogallala 60.20 338 *eP* **P 19 11 07.5 -0.9**
Y12C Blythe 60.39 323 *eP* **P 19 11 09.9 +0.1**
comp=Z,36nm,1.1s
TRQ Mont Tremblant 60.45 1 *eP* **P 19 11 09.2 -0.8**
TRIS Tristan da Cun 60.51 125 *eP* **P 19 11 11.4 +0.7**
comp=Z,192nm,1.4s
PV01 Paradox Valley 60.60 331 *eP* **P 19 11 10.6 -0.8**
PV05 Paradox Valley 60.80 330 *eP* **P 19 11 12.4 -0.3**
BC3 Big Chuckawall 60.86 323 P **P 19 11 13.1 0.0**
baz=135
ECSD EROS Data Cent 60.93 343 P **P 19 11 12.1 -1.2**
baz=157
ECSD EROS Data Cent 60.93 343 *eP* **P 19 11 12.2 -1.1**
comp=Z,125nm,1.6s
I34A Hadley 61.00 344 P **P 19 11 13.4 -0.3**
baz=158
W13A Hualapai Mount 61.01 325 *eP* **P 19 11 14.7 +0.5**
comp=Z,33nm,1.2s
PQI Presque Isle 61.31 6 *eP* **P 19 11 15.9 +0.2**
comp=Z,211nm,2.0s
SPMN Marine on St. 61.36 347 *eP* **P 19 11 14.5 -1.6**
comp=Z,95nm,1.3s
XPFO Pæon Flat 61.42 322 *eP* **P 19 11 18.0 +1.1**
comp=Z,58nm,1.5s
PFO Pinyon Flats O 61.43 322 *eP* **P 19 11 17.8 +0.8**
PFO pmax pmax
comp=Z,50nm,1.4s
PFO Pinyon Flats O 61.43 322 *eP* **P 19 11 17.8 +0.8**
comp=Z,50nm,1.4s
PHWY Pilot Hill 61.83 335 *eP* **P 19 11 19.8 0.0**
comp=Z,49nm,1.6s
KNB Kanab 61.85 327 *eP* **P 19 11 20.8 +1.0**
KNB pmax pmax
comp=Z,69nm,1.4s
KNB Kanab 61.85 327 *eP* **P 19 11 20.8 +1.0**
comp=Z,68nm,1.4s
VLDQ Val d'Or 62.34 359 *eP* **P 19 11 21.6 -1.0**
comp=Z,111nm,1.8s
SZCU Shurtz Canyon 62.43 327 *eP* **P 19 11 23.5 -0.3**
comp=Z,67nm,1.8s
Q16A Castle Valley 62.47 330 *eP* **P 19 11 24.0 0.0**
CCUT Cedar City 62.54 327 *eP* **P 19 11 23.9 -0.6**
comp=Z,45nm,1.5s
P18A Preston Nutter 62.58 331 *eP* **P 19 11 25.1 +0.3**
comp=Z,72nm,1.5s
MSU Marysvale 62.65 329 *eP* **P 19 11 24.6 -0.7**
MSU Marysvale 62.65 329 *eP* **P 19 11 24.6 -0.7**
P17A Butcher Ranch, 62.69 330 *eP* **P 19 11 25.0 -0.4**
comp=Z,59nm,1.4s
SHPR Sheep Range 62.74 325 *eP* **P 19 11 26.8 +1.0**
comp=Z,22nm,1.1s
MWC Mount Wilson 62.81 321 *eP* **P 19 11 27.5 +1.2**
MWC pmax pmax
comp=Z,50nm,1.3s
MWC Mount Wilson 62.81 321 *eP* **P 19 11 27.5 +1.2**
comp=Z,50nm,1.3s
GSC Goldstone, Bar 62.81 323 *eP* **P 19 11 26.9 +0.7**
GSC pmax pmax
comp=Z,42nm,1.5s
GSC Goldstone, Bar 62.81 323 *eP* **P 19 11 26.9 +0.7**
comp=Z,42nm,1.5s
PASC Pasadena Art C 62.85 321 *eP* **P 19 11 26.8 +0.4**
comp=Z,81nm,1.5s
TCRU Three Creeks R 62.87 328 *eP* **P 19 11 27.9 +1.2**
comp=Z,29nm,0.9s
RWWY Rawlins 62.88 334 *eP* **P 19 11 26.4 -0.4**
comp=Z,169nm,1.6s
OSI Osito Audit: C 63.48 321 *eP* **P 19 11 30.7 +0.1**
comp=Z,74nm,1.4s
MPU Maple Canyon 63.54 330 *eP* **P 19 11 30.7 -0.4**
comp=Z,84nm,1.9s
TPNV Topopah Spring 63.66 325 *eP* **P 19 11 32.7 +0.8**
TPNV pmax pmax
comp=Z,125nm,1.9s
TPNV Topopah Spring 63.66 325 *eP* **P 19 11 32.7 +0.8**
comp=Z,125nm,1.9s
EYMN Ely 63.68 348 *eP* **P 19 11 29.7 -1.8**
comp=Z,44nm,1.1s
RSSD Black Hills 63.69 338 *eP* **P 19 11 30.5 -1.5**
RSSD pmax pmax
comp=Z,69nm,1.6s
RSSD Black Hills 63.69 338 *eP* **P 19 11 30.4 -1.5**
comp=Z,69nm,1.6s
JLU Jordanelle 63.91 331 *eP* **P 19 11 33.9 +0.3**
comp=Z,178nm,1.9s
DAC Darwin (Calif) 63.95 323 *eP* **P 19 11 33.1 -0.8**
DAC pmax pmax
comp=Z,14nm,1.1s
DAC Darwin (Calif) 63.95 323 *eP* **P 19 11 33.1 -0.8**
comp=Z,14nm,1.1s
ISA Isabella, Lake 64.04 322 *eP* **P 19 11 34.4 +0.1**
ISA pmax pmax
comp=Z,94nm,2.0s
ISA Isabella, Lake 64.04 322 *eP* **P 19 11 34.4 +0.1**
comp=Z,94nm,2.0s
CTU Camp Tracy 64.13 330 *eP* **P 19 11 34.5 -0.3**
comp=Z,59nm,1.8s
DUG Dugway, Tooele 64.26 329 *eP* **P 19 11 35.0 -0.7**
DUG pmax pmax
comp=Z,141nm,1.9s
DUG Dugway, Tooele 64.26 329 *eP* **P 19 11 35.0 -0.7**
comp=Z,141nm,1.9s
TCUT Tooele Canyon 64.30 331 *eP* **P 19 11 36.2 +0.1**
comp=Z,91nm,1.3s
R11A Troy Canyon, C 64.31 326 *eP* **P 19 11 33.8 -2.4**
comp=Z,86nm,1.9s
HWUT Hardware Ranch 64.75 331 *eP* **P 19 11 38.0 -1.0**
comp=Z,38nm,1.1s
BW06 Boulder Array 64.77 333 *eP* **P 19 11 38.2 -1.0**
PD31 Pinedale Array 64.77 333 *eP* **P 19 11 38.0 -1.1**
PDAR Pinedale Array 64.77 333 P **P 19 11 38.8 -0.3**
comp=Z,4.6nm,0.9s,baz=182,slow=9.0,SNR=6.0
BGU Big Grassy Mou 64.92 330 *eP* **P 19 11 37.9 -2.2**
comp=Z,70nm,1.7s
SPUT South Promonto 64.94 330 *eP* **P 19 11 39.5 -0.7**
comp=Z,36nm,1.2s
AGMN Agassiz Nation 64.96 346 *eP* **P 19 11 38.8 -1.1**
comp=Z,34nm,0.8s
HVU Hansel Valley 65.46 331 *eP* **P 19 11 42.8 -0.7**
HVU pmax pmax
comp=Z,29nm,1.2s
HVU Hansel Valley 65.46 331 *eP* **P 19 11 42.8 -0.7**
comp=Z,29nm,1.2s
MDND Maddock 65.54 343 *eP* **P 19 11 43.2 -0.5**
comp=Z,235nm,1.3s
MDPB Devils Postpil 65.75 324 *eP* **P 19 11 46.5 +0.8**
comp=Z,16nm,1.0s
MINS Minaret Summit 65.75 324 *eP* **P 19 11 41.7 -4.1**
SNOW Snow King Moun 65.85 333 *eP* **P 19 11 46.3 +0.1**
comp=Z,135nm,1.8s
LOHW Long Hollow 65.90 333 *eP* **P 19 11 45.7 -0.8**
comp=Z,30nm,1.2s
MOOW Moose Ponds 66.07 333 *eP* **P 19 11 46.6 -0.9**
comp=Z,87nm,1.8s
FXWY Fox Creek 66.11 333 *eP* **P 19 11 47.4 -0.4**
comp=Z,29nm,1.3s
IMW Indian Meadow 66.28 333 *eP* **P 19 11 48.6 -0.3**
comp=Z,56nm,1.4s
YERR Yerington 66.77 325 *eP* **P 19 11 52.2 +0.1**
comp=Z,56nm,1.4s
CMB Columbia Colle 66.78 323 *eP* **P 19 11 52.2 +0.2**
CMB pmax pmax
comp=Z,31nm,1.4s
CMB Columbia Colle 66.78 323 *eP* **P 19 11 52.2 +0.2**
comp=Z,31nm,1.4s
ULM Lac du Bonnet 66.79 346 P **P 19 11 49.2 -2.4**
comp=Z,21nm,0.9s,baz=166,slow=8.3,SNR=6.8
ULM Lac du Bonnet 66.79 346 *eP* **P 19 11 49.8 -1.8**
ULM pmax pmax
comp=Z,122nm,1.4s
ULM Lac du Bonnet 66.79 346 *eP* **P 19 11 49.8 -1.8**
comp=Z,122nm,1.4s
YNR Norris Junctio 66.82 334 *eP* **P 19 11 53.0 +0.7**
comp=Z,71nm,1.6s
YMR Madison River 66.90 334 *eP* **P 19 11 53.4 +0.6**
comp=Z,50nm,1.3s
PNTR Pine Nut 67.05 324 *eP* **P 19 11 54.2 +0.4**
comp=Z,30nm,1.0s
YHB Horse Butte 67.07 334 *eP* **P 19 11 54.1 +0.2**
comp=Z,21nm,0.8s
QLMT Earthquake Lak 67.23 333 *eP* **P 19 11 55.1 +0.2**
PAHR Pah Rah Range 67.35 325 *eP* **P 19 11 56.5 +0.8**
comp=Z,41nm,1.1s
DGMT Dagmar 67.51 340 *eP* **P 19 11 55.1 -1.2**
comp=Z,190nm,1.4s
HLID Hailey 67.60 331 *eP* **P 19 11 56.2 -0.9**
comp=Z,88nm,2.0s
AFDM Forest Hills D 67.73 323 *eP* **P 19 11 58.9 +0.9**
comp=Z,27nm,1.3s
MCMT McKenzie Canyo 67.85 333 *eP* **P 19 11 58.8 -0.1**
BOZ Bozeman (W) 67.92 334 *eP* **P 19 11 58.4 -0.8**
BOZ pmax pmax
comp=Z,28nm,1.1s
BOZ Bozeman (W) 67.92 334 *eP* **P 19 11 58.4 -0.8**
comp=Z,28nm,1.1s
BEKR Beckworth 68.01 325 *eP* **P 19 12 00.9 +1.0**
comp=Z,43nm,1.3s
MFID Camas Ranch 68.17 330 *eP* **P 19 12 00.8 +0.1**
comp=Z,36nm,1.0s
MCCM Marconi Confer 68.33 322 *eP* **P 19 12 02.2 +0.6**
comp=Z,138nm,1.6s
ORV Oroville 68.44 324 *eP* **P 19 12 02.8 +0.4**
ORV pmax pmax
comp=Z,152nm,1.7s
ORV Oroville 68.44 324 *eP* **P 19 12 02.8 +0.4**
comp=Z,152nm,1.7s
LRM Limekiln Ridge 68.46 333 *eP* **P 19 12 01.8 -0.9**
GDXM Geysers 68.71 322 *eP* **P 19 12 04.0 -0.1**
comp=Z,55nm,1.9s
MOD Modoc Plateau 69.38 326 *eP* **P 19 12 08.8 +0.5**
comp=Z,77nm,1.5s
SCHQ Schefferville 69.50 6 P **P 19 12 06.5 -2.1**
comp=Z,21nm,0.8s,baz=276,slow=7.4,SNR=4.9
SCHQ Schefferville 69.50 6 *eP* **P 19 12 08.1 -0.5**
comp=Z,165nm,1.9s
KCPM Cahto Peak 69.74 323 *eP* **P 19 12 11.2 +0.7**
comp=Z,43nm,1.2s
MSO Missoula 69.89 333 *eP* **P 19 12 11.9 +0.6**
comp=Z,54nm,1.3s
KMRM Mail Ridge 70.16 323 *eP* **P 19 12 12.7 -0.4**
comp=Z,32nm,1.0s
SWMT Swartz Lake 70.44 334 *eP* **P 19 12 15.0 +0.3**
YBH Yreka Blue Hor 70.58 325 *eP* **P 19 12 14.5 -1.2**
YBH pmax pmax
comp=Z,15nm,1.2s
YBH Yreka Blue Hor 70.58 325 *eP* **P 19 12 14.5 -1.2**
comp=Z,15nm,1.2s
KHMM Horse Mountain 70.60 324 *eP* **P 19 12 14.9 -1.0**
comp=Z,58nm,1.5s
YBMT Yellow Bay 70.72 334 *eP* **P 19 12 17.0 +0.6**
BLMT Blacktail Moun 70.98 334 *eP* **P 19 12 18.3 +0.2**
BSMT Bassoo Peak 71.04 334 *eP* **P 19 12 19.2 +0.8**
E09A Wood Farm, Sta 71.56 331 *eP* **P 19 12 21.6 +0.2**
comp=Z,43nm,1.2s
HAWA Hanford 72.14 330 *eP* **P 19 12 24.4 -0.5**
comp=Z,134nm,1.9s
NEW Newport 72.38 333 *eP* **P 19 12 26.1 -0.2**
NEW pmax pmax
comp=Z,29nm,1.3s
NEW Newport 72.38 333 *eP* **P 19 12 26.1 -0.2**
comp=Z,29nm,1.3s
FFC Flin Flon 72.39 345 *eP* **P 19 12 24.2 -1.9**
FFC pmax pmax
comp=Z,78nm,1.6s
FFC Flin Flon 72.39 345 *eP* **P 19 12 24.2 -1.9**
comp=Z,78nm,1.6s
F04A Amboy 73.25 328 *eP* **P 19 12 31.3 -0.1**
comp=Z,40nm,1.0s
LTY Liberty 73.30 330 *eP* **P 19 12 32.2 +0.4**
comp=Z,80nm,1.5s
LIC Lamto 73.35 79 *eP* **P 19 12 32.7 0.0**
comp=Z,135nm,1.1s
TIC Toumodi 73.48 78 *eP* **P 19 12 33.4 -0.1**
DBIC Dimbokro 73.64 78 P **P 19 12 35.1 +0.6**
comp=Z,36nm,0.9s,baz=243,slow=6.5,SNR=6.4
DBIC Dimbokro 73.64 78 *eP* **P 19 12 34.3 -0.2**
DBIC pmax pmax
comp=Z,59nm,1.0s
DBIC Dimbokro 73.64 78 *eP* **P 19 12 34.3 -0.2**
comp=Z,59nm,1.0s
KIC Kosan Boka 73.66 79 *eP* **P 19 12 34.8 +0.2**
comp=Z,130nm,1.0s
PFVI Vila Bisbo 81.36 48 *eP* **P 19 13 19.4 +2.3**
MORF Marmelete 81.56 48 *eP* **P 19 13 20.5 +2.3**
comp=Z,226nm,1.7s
TOA0 Torodi Ar. Sit 81.71 74 *eP* **P 19 13 20.0 +0.6**
comp=Z,144nm,0.9s
TORD Torodi Ar. Bea 81.71 74 P **P 19 13 20.0 +0.6**
comp=Z,110nm,0.9s,baz=239,slow=5.0,SNR=37
PMAFR Mafra 81.82 46 *eP* **P 19 13 20.9 +1.4**
comp=Z,182nm,1.4s
PNCL Nicolau / Gran 81.99 47 *eP* **P 19 13 22.4 +2.0**
comp=Z,116nm,1.7s
PBDV Barranco-do-Ve 82.05 48 *eP* **P 19 13 23.1 +2.3**
comp=Z,139nm,1.4s
PCVE Castro Verde 82.14 48 *eP* **P 19 13 23.4 +2.2**
comp=Z,152nm,1.3s
PVAQ Vaqueiros 82.28 48 *eP* **P 19 13 23.8 +1.9**
comp=Z,97nm,1.8s
PBEJ Beja 82.43 48 *eP* **P 19 13 24.9 +2.2**
comp=Z,138nm,1.6s
YKA Yellowknife Ar 82.46 343 P **P 19 13 21.6 -0.7**
comp=Z,7.3nm,0.7s,baz=144,slow=6.0,SNR=5.9
VNDA Vanda 82.48 191 P **P 19 13 24.1 +1.7**
comp=Z,4.4nm,1.0s,baz=129,slow=9.5,SNR=3.6
VNDA Vanda 82.48 191 *eP* **P 19 13 23.8 +1.4**
VNDA pmax pmax
comp=Z,36nm,1.4s
VNDA Vanda 82.48 191 *eP* **P 19 13 23.8 +1.4**
comp=Z,36nm,1.4s
YKW3 Yellowknife Ar 82.52 343 *eP* **P 19 13 21.1 -1.4**
comp=Z,36nm,1.0s
EVO Evora 82.54 47 *eP* **P 19 13 25.0 +1.7**
comp=Z,109nm,2.0s
PMTG Montargil 82.62 47 *eP* **P 19 13 25.4 +1.7**
comp=Z,216nm,1.8s
PTOM Tomar 82.72 46⇑ *eP* **P 19 13 25.4 +1.2**
comp=Z,186nm,1.2s
MDT Midelt 82.79 54 P **P 19 13 26.7 +1.8**
comp=Z,19nm,1.1s,baz=237,slow=4.2,SNR=5.6
PCAS Casmilo, Conde 82.85 46 *eP* **P 19 13 26.5 +1.6**
comp=Z,182nm,1.7s
PESTR Estremoz 82.98 47 *eP* **P 19 13 27.2 +1.6**
comp=Z,141nm,1.8s
PBAR Barrancos 83.08 48 *eP* **P 19 13 27.9 +1.8**
comp=Z,216nm,1.5s
PTO Porto 83.25 45 *eP* **P 19 13 28.3 +1.4**
PMRV Marv??o 83.35 47 *eP* **P 19 13 27.9 +0.4**
comp=Z,60nm,1.6s
PCBR Castelo Branco 83.47 46 *eP* **P 19 13 29.4 +1.4**
comp=Z,102nm,1.4s
MTE Manteigas 83.66 46 *eP* **P 19 13 30.1 +1.0**
comp=Z,109nm,1.5s
MTE Manteigas 83.66 46 *eP* **P 19 13 29.5 +0.4**
comp=Z,47nm,0.9s
POLO Lamas de Olo 83.90 45 *eP* **P 19 13 31.4 +1.0**
comp=Z,44nm,2.1s
PVRL Vila Real 83.91 45 *eP* **P 19 13 31.4 +1.1**
comp=Z,102nm,1.5s
MVO Moncorvo 84.33 45 *eP* **P 19 13 33.5 +1.0**
comp=Z,107nm,1.8s
PBRG Braganca 84.79 45 *eP* **P 19 13 35.9 +1.1**
comp=Z,101nm,1.7s
SYO Syowa Base 85.35 161⇑ *iP* **P 19 13 36.6 -0.5**
PAB San Pablo 85.56 47 *eP* **P 19 13 39.6 +0.8**
PAB pmax pmax
comp=Z,93nm,1.8s
PAB San Pablo 85.56 47 *eP* **P 19 13 39.6 +0.8**
comp=Z,93nm,1.8s
ESDC Sonseca Array 85.88 47 P **P 19 13 41.5 +1.1**
comp=Z,10.0nm,0.8s,baz=258,slow=5.1,SNR=14
ESLA Sonseca Array 85.88 47 *eP* **P 19 13 41.0 +0.7**
comp=Z,176nm,2.0s
TAM Tamanrasset 87.98 66 *eP* **P 19 13 51.8 +0.8**
TAM pmax pmax
comp=Z,70nm,1.4s
TAM Tamanrasset 87.98 66 *eP* **P 19 13 51.8 +0.8**
comp=Z,70nm,1.4s
TSUM Tsumeb 88.65 109 *eP* **P 19 13 55.2 +0.9**
comp=Z,32nm,1.1s
BORG Borgarnes 89.13 20 *eP* **P 19 13 55.8 +0.6**
BORG pmax pmax
comp=Z,217nm,1.6s
BORG Borgarnes 89.13 20 *eP* **P 19 13 55.8 +0.6**
comp=Z,217nm,1.6s
RES Resolute Bay 89.79 355 P **P 19 13 58.1 0.0**
comp=Z,10nm,0.9s,baz=308,slow=8.7,SNR=3.7
SUMG Summit 90.34 11 *eP* **P 19 14 01.5 +0.2**
SUMG pmax pmax
comp=Z,77nm,1.3s
SUMG Summit 90.34 11 *eP* **P 19 14 01.5 +0.2**
comp=Z,77nm,1.3s
INK Inuvik 92.14 342 P **P 19 14 08.0 -1.2**
comp=Z,12nm,1.0s,baz=115,slow=7.7,SNR=3.4
EKA Eskdalemuir Ar 92.37 33 P **P 19 14 10.4 -0.1**
comp=Z,8.9nm,1.0s,baz=261,slow=3.5,SNR=4.9
BOSA Boshof 92.77 120 P **P 19 14 13.5 +0.2**
comp=Z,3.6nm,1.0s,baz=235,slow=4.5,SNR=3.6
MAW Mawson 92.86 165 P **P 19 14 13.6 +0.9**
comp=Z,11nm,0.9s,baz=229,slow=7.4,SNR=4.0
DAVOX Davos/Dischmat 97.67 44 P Pdif 19 14 35.5 +0.1
comp=Z,24nm,0.8s,baz=237,slow=4.4,SNR=14
GERES GERESS Array B 100.60 42 P **Pdif 19 14 49.0 +0.8**
comp=Z,5.7nm,0.8s,baz=242,slow=2.9,SNR=7.0
GERES GERESS Array B 100.60 42 P **Pdif 19 14 49.0 +0.8**
H11N3 WAKE ISLAND Hyl 19.89 285 T T 21 30 45.5
baz=96,slow=74,SNR=39
H11N2 WAKE ISLAND Hyl 19.91 285 T T 21 30 45.9
baz=96,slow=74,SNR=59
H11N1 WAKE ISLAND Hyl 19.91 285 T T 21 30 46.1
baz=96,slow=74,SNR=30
H11S2 WAKE ISLAND Hyl 19.96 283 T T 21 30 47.7
baz=97,slow=75,SNR=18
H11S1 WAKE ISLAND Hyl 19.97 283 T T 21 30 45.9
baz=97,slow=75,SNR=12
H11S3 WAKE ISLAND Hyl 19.97 283 T T 21 30 49.1
baz=97,slow=75,SNR=16
KBZ Khabaz 120.74 48 PKP **PKPdf 19 19 53.5 +1.1**
comp=Z,4.5nm,0.8s,baz=255,slow=3.1,SNR=5.1
ARU Arti 125.78 29 PKP **PKPdf 19 20 02.6 +0.9**
comp=Z,5.2nm,0.6s,baz=301,slow=21,SNR=7.1
AKTO Aktyubinsk 128.46 36 PKP **PKPdf 19 20 08.1 +1.1**
comp=Z,6.9nm,0.9s,baz=350,slow=0.6,SNR=8.1
ABKAR Akbulak array 130.12 37 *e*PKPpre PKPpre 19 19 58.1
ABKAR *e*PKPdf **PKPdf 19 20 10.1 -0.1**
ASAR Alice Springs 132.08 218 PKP **PKPdf 19 20 14.7 -0.2**
comp=Z,4.3nm,1.0s,baz=124,slow=1.2,SNR=5.0
GEYT Alibeck 133.30 51 PKP **PKPdf 19 20 17.3 +0.6**
comp=Z,4.7nm,1.0s,baz=289,slow=4.4,SNR=3.6
WRA Warramunga Arr 134.56 222 PKP **PKPdf 19 20 19.2 -0.3**
comp=Z,2.2nm,0.5s,baz=130,slow=2.0,SNR=9.8
ZALV Zalesovo Beam 137.86 17 PKP **PKPdf 19 20 25.2 +0.7**
comp=Z,15nm,0.8s,baz=283,slow=2.8,SNR=7.2
KURK Kurchatov 138.47 24 PKIKP **PKPdf 19 20 26.0 +0.2**
KURK Kurchatov 138.47 24 PKP **PKPdf 19 20 26.0 +0.2**
KURBB Kurchatov Arra 138.50 24 PKP **PKPdf 19 20 26.0 +0.2**
comp=Z,13nm,1.0s,baz=307,slow=2.6,SNR=9.3
AAK Ala-Archa 142.20 36 PKhKP PKPpre 19 20 29.3
comp=Z,6.5nm,0.9s,baz=207,slow=4.5,SNR=4.2
MJAR Matsushiro Arr 142.40 312 PKhKP PKPpre 19 20 29.2
comp=Z,4.6nm,0.9s,baz=81,slow=1.7,SNR=4.7
MKAR Makanchi Array 143.06 25 PKhKP PKPpre 19 20 29.7
comp=Z,4.1nm,0.8s,baz=16,slow=3.1,SNR=7.6
ZAK Zakamensk 144.21 1 *e*PKIKP **PKPab 19 20 33.4 -0.6**
ZAK pmax pmax
comp=Z,26nm,1.6s
ULN Ulaanbaatar 146.63 356 *e*PKP2 **PKPbc 19 20 41.7 -0.4**
ULN Ulaanbaatar 146.63 356 *e*PKPdf **PKPbc 19 20 41.7 -0.4**
SONM Songino Array 146.70 357 PKPbc **PKPbc 19 20 42.2 -0.1**
comp=Z,21nm,0.7s,baz=333,slow=2.1,SNR=28
KSRS Korea Array 148.76 321 PKPbc **PKPbc 19 20 47.2 -0.8**
comp=Z,7.7nm,0.9s,baz=51,slow=2.2,SNR=5.2
KS15 Wonju Array Si 148.79 321 *e*PKPdf **PKPbc 19 20 46.2 -1.9**
KSAR Wonju Array Be 148.79 321 PKP2 **PKPbc 19 20 47.2 -0.9**
KSAR Wonju Array Be 148.79 321 PKPbc **PKPbc 19 20 47.2 -0.9**
JNU Nakatsue 149.32 312 PKPbc **PKPbc 19 20 48.2 -1.4**
comp=Z,7.0nm,1.0s,baz=333,slow=2.3,SNR=2.8
CMAR Chiang Mai Arr 173.78 50 PKP **PKPdf 19 21 11.0 +0.3**
comp=Z,3.2nm,0.8s,baz=260,slow=2.3,SNR=3.1
CMAR Chiang Mai Arr 173.78 50 PKIKP **PKPdf 19 21 11.0 +0.3**

TAP ***28*** *19:01:26.7,24°.17N×122°.26E,h44km±1km,ML3.1,D*
JMA ***28*** *19:01:26.0±0.1,24°.18N×122°.20E,h55km±3km,M2.2*
ISC 28 19:01:24.9±2.0,24°.17N±0°.03×122°.26E±0°.02,h15km±15km,
n37,σ0.9 67/66,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.54**	**298**	P	**Pn**	**19 01 38.4**	**+0.5**
	baz=298						
ENA				*i* S	**Sn**	**19 01 46.6**	**0.0**
	baz=298						
TWC	**Suao**	**0.57**	**319**	⇓*i* P	**Pn**	**19 01 38.4**	**0.0**
	baz=319						
TWC				*e*S	**Sn**	**19 01 46.2**	**-1.3**
	baz=319						
TWD	**Chiawan**	**0.61**	**261**	*i* P	**Pn**	**19 01 39.1**	**+0.1**
	baz=261						
TWD				*i* S	**Sn**	**19 01 48.1**	**-0.5**
	baz=261						
JYNG	**Yonagunijimaku**	**0.68**	**66**	P	**Pn**	**19 01 40.7**	**+0.7**
JYNG				*e*S	**Sn**	**19 01 50.3**	**0.0**
YOJ	**Yonaguni jima**	**0.74**	**67**	P	**Pn**	**19 01 41.5**	**+0.7**
YOJ				*e*S	**Sn**	**19 01 52.0**	**+0.2**
TWE	**Neicheng**	**0.77**	**315**	*i* P	**Pn**	**19 01 41.5**	**+0.3**
	baz=316						
TWE				*i* S	**Sn**	**19 01 51.8**	**-0.6**
	baz=316						
ENTT	**Nioudou**	**0.78**	**306**	*i* P	**Pn**	**19 01 41.6**	**+0.2**
	baz=306						
ENTT				*i* S	**Sn**	**19 01 52.0**	**-0.8**
	baz=306						
ESL	**Shilin**	**0.84**	**245**	P	**Pn**	**19 01 42.2**	**+0.1**
	baz=244						
ESL				S	**Sn**	**19 01 53.5**	**-0.6**
	baz=244						
NNS	**Nan Shan**	**0.85**	**288**	*i* P	**Pn**	**19 01 42.3**	**-0.1**
	baz=288						
NNS				*i* S	**Sn**	**19 01 54.0**	**-0.6**
	baz=288						
WHF	**Hehuan Shan**	**0.91**	**268**	⇑P	**Pn**	**19 01 43.4**	**-0.1**
	baz=268						
WHF				S	**Sb**	**19 01 55.4**	**+0.8**
	baz=268						
NSK	**Sanguang**	**0.96**	**302**	⇑*i* P	**Pn**	**19 01 43.9**	**+0.1**
	baz=301						
NSK				*e*S	**Sb**	**19 01 55.9**	**+0.1**
	baz=301						
TWT	**Tachien**	**0.99**	**275**	*e*P	**Pn**	**19 01 45.2**	**+0.8**
	baz=274						
TWT				*e*S	**Sn**	**19 01 57.9**	**-0.3**
	baz=274						
EHY	**Hungye**	**1.08**	**232**	P	**Pb**	**19 01 45.6**	**+0.2**
	baz=232						
EHY				*e*S	**Sb**	**19 01 59.3**	**0.0**
	baz=232						
TWF1	**Yuli**	**1.20**	**227**	*i* P	**Pn**	**19 01 47.3**	**+0.1**
	baz=227						
TWF1				*e*S	**Sb**	**19 02 02.0**	**-0.7**
	baz=227						
NSTT	**Nanjuang**	**1.23**	**292**	*e*P	**Pb**	**19 01 48.0**	**+0.2**
	baz=291						
NSTT				*e*S	**Sb**	**19 02 03.5**	**-0.1**
	baz=291						
SMLT	**Sun Moon Lake**	**1.28**	**257**	*e*P	**Pb**	**19 01 48.8**	**+0.2**
	baz=256						
TYC	**Yuchr**	**1.31**	**258**	*e*P	**Pn**	**19 01 49.0**	**+0.4**
	baz=258						
TYC				*e*S	**Sn**	**19 02 05.2**	**-0.5**
	baz=258						
CHKT	**Chengkung**	**1.35**	**218**	*e*S	**Sn**	**19 02 04.5**	**-2.2**
	baz=217						
IRIF	**Iriomote-Funau**	**1.35**	**83**	P	**Pb**	**19 01 49.7**	**-0.2**
IRIF				*e*S	**Sb**	**19 02 06.8**	**-0.2**
TWQ1	**Liyutan**	**1.37**	**278**	*e*P	**Pb**	**19 01 50.5**	**+0.4**
	baz=277						
YUS	**Yu-Shan**	**1.38**	**241**	*e*S	**Sn**	**19 02 07.0**	**-1.2**
	baz=240						
WNT	**Mingjian**	**1.47**	**259**	*e*P	**Pb**	**19 01 52.6**	**+0.7**
	baz=258						
WNT				*e*S	**Sg**	**19 02 11.7**	**-0.7**
	baz=258						
ALS	**Alishan**	**1.49**	**244**	*e*P	**Pb**	**19 01 52.2**	**-0.1**
	baz=243						
ALS				*e*S	**Sn**	**19 02 09.6**	**-0.9**
	baz=243						
ELDTW	**Lidau**	**1.50**	**229**	*e*P	**Pn**	**19 01 51.7**	**+0.4**
	baz=229						
ELDTW				*e*S	**Sn**	**19 02 09.6**	**-1.1**
	baz=229						
CHN5	**Tsauling**	**1.56**	**249**	*e*P	**Pn**	**19 01 52.7**	**+0.6**
	baz=248						
CHN5				*e*S	**Sn**	**19 02 12.5**	**+0.4**
	baz=248						
JKRS	**Kuro-shima**	**1.60**	**87**	P	**Pb**	**19 01 53.8**	**-0.3**
JKRS				*e*S	**Sb**	**19 02 13.8**	**-0.3**
WGK	**Gukeng**	**1.63**	**253**	*e*P	**Pb**	**19 01 54.7**	**+0.1**
	baz=252						
WGK				*e*S	**Sb**	**19 02 15.3**	**+0.5**
	baz=252						
STYT	**Tauyuan**	**1.71**	**234**	*e*P	**Pn**	**19 01 54.6**	**+0.5**
	baz=233						
STYT				*e*S	**Sn**	**19 02 15.3**	**-0.4**
	baz=233						
JIJ	**Ishigaki jima**	**1.73**	**83**	P	**Pn**	**19 01 54.7**	**+0.3**
JIJ				*e*S	**Sn**	**19 02 15.6**	**-0.6**
CHN4	**Tsaushan**	**1.73**	**242**	*e*P	**Pb**	**19 01 55.9**	**-0.4**
	baz=241						
CHN4				*e*S	**Sn**	**19 02 17.2**	**+1.0**
	baz=241						
WTP	**Ta-pu**	**1.77**	**239**	*e*P	**Pn**	**19 01 56.0**	**+1.0**
	baz=238						
WTP				*e*S	**Sn**	**19 02 18.0**	**+0.8**
	baz=238						
TWK	**Hsinying**	**1.86**	**241**	*e*P	**Pn**	**19 01 57.3**	**+1.1**
	baz=240						
TWK				*e*S	**Sb**	**19 02 22.1**	**+0.6**
	baz=240						
CHN1	**Nanshi**	**1.87**	**239**	*e*P	**Pn**	**19 01 57.3**	**+1.0**
	baz=238						
CHN1				*e*S	**Sn**	**19 02 19.0**	**-0.6**
	baz=238						
SGST	**Jiashian**	**1.88**	**235**	*e*P	**Pn**	**19 01 57.4**	**+0.9**
	baz=234						
JISG	**Ishigakijimahi**	**1.92**	**77**	P	**Pn**	**19 01 57.2**	**+0.3**
ECL	**Taimali**	**1.98**	**218**	*e*P	**Pn**	**19 01 58.5**	**+0.8**
	baz=217						
JTJ	**Tarama**	**2.27**	**78**	P	**Pn**	**19 02 02.8**	**+0.9**

NIED ***28*** *19:02:00.46°N×153°.00E, h35km, Mw4.1 Best double couple: M0=1.77000×10¹⁵ NP1:φ=323.00000°, δ10.00000°, λ-19.00000°. NP2:φ=72.00000°, δ87.00000°, λ-100.00000°.*
MOS ***28*** *19:02:25.6±1.4, 46°.11N×153°.23E, h37km, mb4.2/3, Error ellipse: s-maj=16.2km s-min=12.9km az=141.9*
IDC ***28*** *19:02:25.3±4.5, 46°.46N×152°.87E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/47, mbtmp3.7/7, ML3.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/64, Error ellipse: s-maj=105.1km s-min=27.2km az=133.0*
SKHL ***28*** *19:02:27.3±0.7, 46°.06N×153°.18E, h51km±8km, mb4.5/4*

ISC 28 19:02:25.4±1.5, 46°.0N±0°.1×153°.3E±0°.1, h27km, n25, σ1$75/25, mb3.8/4, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**261**	*d* PN	**Pn**	**19 03 25.0**	**+1.6**
KUR				*e*S	**Sn**	**19 04 08.3**	**+0.1**
KUR				pmax	pmax		
	comp=Z,120nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.3s						
KUR				pmax	pmax		
	comp=E,13nm,0.3s						
KUR				smax	smax		
	comp=N,95nm,0.3s						
KUR				smax	smax		
	comp=E,50nm,0.5s						
KUR	**Kuril'sk**	**3.90**	**261**	*e*P	**Pn**	**19 03 24.3**	**+0.9**
KUR				AMB	AMB	19 03 25.4	
	comp=E,89nm,0.4s						
KUR				*e*S	**Sn**	**19 04 06.5**	**-1.7**
KUR				A	A	19 04 09.5	
	comp=E,32nm,0.2s						
KUR				A	A	19 04 09.5	
	comp=E,95nm,0.2s						
SHO	**Shikotan**	**5.06**	**248**	*e*PN	**Pn**	**19 03 38.3**	**-1.1**
SHO				pmax	pmax		
	comp=Z,20nm,0.5s						
SHO	**Shikotan**	**5.06**	**248**	*e*P	**Pn**	**19 03 38.3**	**-1.1**
SHO				AMB	AMB	19 03 45.3	
	comp=Z,24nm,0.5s						
SHO				*e*S	**Sn**	**19 04 32.2**	**-4.8**
SHO				A	A	19 04 35.7	
	comp=Z,66nm,0.6s						
SHO				A	A	19 04 35.7	
	comp=Z,89nm,0.6s						
SKR	**Severo-Kuril's**	**5.08**	**21**	*e*PN	**Pn**	**19 03 40.7**	**+1.0**
SKR				pmax	pmax		
	comp=Z,70nm,1.0s						
SKR	**Severo-Kuril's**	**5.08**	**21**	*e*P	**Pn**	**19 03 40.7**	**+1.0**
SKR				AMB	AMB	19 03 42.6	
	comp=Z,70nm,1.0s						
SKR				*e*S	**Sn**	**19 04 35.4**	**-2.0**
SKR				A	A	19 04 39.3	
	comp=Z,89nm,0.8s						
SKR				A	A	19 04 39.3	
	comp=Z,73nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**253**	*e*PN	**Pn**	**19 03 49.4**	**+2.2**
YUK				pmax	pmax		
	comp=Z,38nm,0.5s						
YUK				pmax	pmax		
	comp=N,28nm,0.3s						
YUK				pmax	pmax		
	comp=Z,33nm,0.3s						
YUK				MLR	MLR		
	comp=N,7μm,16.0s						
YUK				MLR	MLR		
	comp=E,18μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**253**	*e*P	**Pn**	**19 03 48.2**	**+1.0**
YUK				AMB	AMB	19 03 52.1	
	comp=E,28nm,0.5s						
YUK				*e*S	**Sn**	**19 04 49.0**	**-1.9**
YUK				A	A	19 04 54.2	
	comp=E,76nm,0.4s						
YUK				A	A	19 04 54.2	
	comp=E,51nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.36**	**282**	*e*PN	**Pn**	**19 04 11.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.36**	**282**	*e*P	**Pn**	**19 04 11.9**	**+0.9**
PETK	**Petropavlovsk-**	**7.70**	**20**	Pn	**Pn**	**19 04 15.2**	**-0.5**
	comp=E,0.3nm,0.3s,baz=170,slow=13,SNR=11						
ASAJ	**Asahikawa**	**7.82**	**260**	Pn	**Pn**	**19 04 19.0**	**+1.7**
	comp=E,0.4nm,0.3s,baz=8.1,slow=14,SNR=2.7						
ASAJ	**Asahikawa**	**7.82**	**260**	PN	**Pn**	**19 04 19.0**	**+1.7**
TYV	**Tymovskoe**	**8.62**	**309**	*e*PN	**Pn**	**19 04 29.2**	**+0.9**
TYV	**Tymovskoe**	**8.62**	**309**	*e*P	**Pn**	**19 04 29.4**	**+1.1**
KSRS	**Korea Array**	**20.71**	**255**	P	Pn	19 07 06.5	+0.6
	comp=E,0.6nm,0.5s,baz=56,slow=10.0,SNR=4.0						
JNU	**Nakatsue**	**21.45**	**241**	LR	LR	19 15 58.5	
	comp=E,16nm,18.6s,baz=358,slow=38						
H11S1	**WAKE ISLAND Hy**	**29.54**	**154**	T	T	19 41 39.0	
	baz=341,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**29.55**	**154**	T	T	19 41 33.9	
	baz=341,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**29.55**	**154**	T	T	19 41 35.7	
	baz=341,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**47.43**	**298**	P	**P**	**19 10 56.6**	**-0.8**
	comp=E,1.0nm,0.8s,baz=63,slow=8.3,SNR=5.2						
BVAR	**Borovoye Array**	**51.47**	**310**	P	**P**	**19 11 27.5**	**-0.6**
	comp=E,0.5nm,0.4s,baz=56,slow=14,SNR=3.6						
CMAR	**Chiang Mai Arr**	**52.33**	**257**	P	**P**	**19 11 37.0**	**+2.1**
	comp=E,0.2nm,0.3s,baz=39,slow=7.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**52.33**	**257**	P	**P**	**19 11 37.0**	**+2.1**
NOA	**NORSAR Array B**	**69.02**	**341**	P	**P**	**19 13 28.8**	**+0.8**
	comp=E,0.6nm,0.7s,baz=28,slow=6.5,SNR=4.6						

DJA 28 19:08:22.1±2.4, 2°N±4°×12°7E±°, h30km±35km, M3.6/5, MLv3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.38**	**326**	P	Pn	19 08 59.6	+0.5
SGSI				S	Sn	19 09 27.7	+0.3
LBMI	**Labuha**	**2.41**	**165**	P	Pn	19 09 00.2	+0.6
SANI	**Sanana**	**3.84**	**193**	P	Pn	19 09 19.1	-0.1
NLAI	**Namlea**	**4.92**	**177**	P	Pn	19 09 33.6	-0.5

IDC ***28*** *19:10:31.9±0.6, 14°.48S×76°.17W, h0km, mb4.4/16, mb1 4.6/20, mb1mx4.5/30, mbtmp4.5/20, ML3.8/3, Error ellipse: s-maj=23.9km s-min=12.0km az=68.0*
NEIC ***28*** *19:10:33.4±2.3, 14°.48S×76°.11W, h8km±14km, mb5.0/19, Error ellipse: s-maj=10.3km s-min=4.4km az=64.0*
ISCJB ***28*** *19:10:34.3±0.3, 14°.52S±0°.05×76°.02W±0°.07, h29km, mb4.7/34, Error ellipse: s-maj=11.1km s-min=4.0km az=147.9*

ISC 28 19:10:36.1±0.4, 14°.51S±0°.06×76°.04W±0°.09, h29km, n72, σ1$42/70, mb4.8/34, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.62**	**343**	Pn	**Pn**	**19 11 15.9**	**-0.7**
	22nm,0.3s,baz=155,slow=14,SNR=7.2						
NNA				Lg	Lg	19 11 51.7	
	538nm,0.3s,baz=39,slow=22,SNR=10.0						
NNA	**Nana**	**2.62**	**343**	*e*Pn	**Pn**	**19 11 15.9**	**-0.7**
NNA				*e*Sn	**Sn**	**19 11 47.7**	**+0.1**
ATAH	**Atahualpa**	**7.68**	**342**	Pn	**Pn**	**19 12 26.4**	**-0.1**
	0.8nm,0.3s,baz=156,slow=20,SNR=2.6						
MNMC	**Minye Minye**	**7.70**	**128**	*e*Pn	**Pn**	**19 12 26.5**	**0.0**
MNMC				*e*Sn	**Sn**	**19 13 48.8**	**-4.1**
LPAZ	**La Paz**	**7.83**	**104**	Pn	Pn	19 12 33.7	+4.9
	14nm,0.3s,baz=286,slow=8.0,SNR=62						
LPAZ	**La Paz**	**7.83**	**104**	*e*Pn	Pn	19 12 33.9	+5.2
PB11	**IPOC Station P**	**8.03**	**131**	*e*Pn	**Pn**	**19 12 30.9**	**-0.2**
PB11				*e*Sn	**Sn**	**19 13 59.9**	**-1.2**
PB01	**IPOC Station P**	**9.01**	**137**	*e*Pn	**Pn**	**19 12 45.3**	**+0.8**
PB01				*e*Sn	**Sn**	**19 14 18.9**	**-6.2**
PB04	**IPOC Station P**	**9.58**	**145**	*e*Pn	**Pn**	**19 12 52.1**	**-0.2**
PB04				*e*Sn	**Sn**	**19 14 35.1**	**-4.0**
PB10	**IPOC Station P**	**10.35**	**151**	*e*Pn	**Pn**	**19 13 01.0**	**-1.7**
PB10				*e*Sn	Sn	19 14 48.0	-10
LVC	**Limon Verde**	**10.52**	**141**	Pn	**Pn**	**19 13 06.5**	**+1.2**
	203nm,0.3s,baz=303,slow=14,SNR=12						
LVC				Sn	**Sn**	**19 15 02.1**	**-0.2**
	111nm,0.3s,baz=90,slow=20,SNR=3.0						
LVC				Lg	Lg	19 15 59.8	
	27nm,0.3s,baz=83,slow=22,SNR=4.2						
SAML	**Samuel**	**13.75**	**68**	*e*Pn	**Pn**	**19 13 49.6**	**+0.4**
SIV	**San Ignacio**	**14.52**	**98**	Pn	**Pn**	**19 14 01.2**	**+1.4**
	0.8nm,0.3s,baz=282,slow=19,SNR=2.6						
OTAV	**Otavalo**	**14.85**	**351**	*e*Pn	**Pn**	**19 14 02.9**	**-1.7**
	39nm,1.1s						
RUSC	**La Rusia**	**20.48**	**8**	*e*P	Pn	19 15 16.0	+1.5
	187nm,1.8s						
PTGA	**Pitinga**	**20.98**	**51**	P	**P**	**19 15 18.5**	**+1.3**
	24nm,0.7s,baz=234,slow=19,SNR=4.0						
CPUP	**Villa Florida**	**21.08**	**127**	P	**P**	**19 15 19.9**	**+1.6**
	16nm,0.9s,baz=316,slow=9.8,SNR=4.7						
SDV	**Santo Domingo**	**23.86**	**13**	P	**P**	**19 15 48.3**	**+1.0**
	68nm,0.9s,baz=243,slow=6.8,SNR=4.5						
SDV	**Santo Domingo**	**23.86**	**13**	*e*P	**P**	**19 15 46.9**	**-0.5**
	166nm,1.1s						
TRQA	**Tornquist**	**26.56**	**155**	*e*P	**P**	**19 16 11.9**	**+0.3**
	78nm,1.0s						
PLCA	**Paso Flores**	**26.56**	**171**	P	**P**	**19 16 10.6**	**-1.1**
	1.9nm,0.6s,baz=359,slow=12,SNR=4.8						
PLCA	**Paso Flores**	**26.56**	**171**	*e*P	**P**	**19 16 11.7**	**0.0**
	11nm,1.0s						
SMRT	**St. Maarten**	**34.79**	**22**	*e*P	**P**	**19 17 24.8**	**+0.4**
	151nm,0.4s						
TEIG	**Tepich**	**36.55**	**340**	*e*P	**P**	**19 17 38.7**	**-0.8**
	18nm,1.5s						
LNIG	**Linares**	**45.35**	**330**	*e*P	**P**	**19 18 51.5**	**-0.4**
	25nm,1.5s						
JSC	**Jenkinsville**	**48.77**	**354**	*e*P	**P**	**19 19 17.1**	**-1.3**
	24nm,1.1s						
TXAR	**Lajitas Array**	**51.10**	**329**	P	**P**	**19 19 36.5**	**+0.1**
	0.9nm,0.5s,baz=150,slow=8.7,SNR=9.6						
MIAR	**Mount Ida**	**51.55**	**341**	*e*P	**P**	**19 19 36.0**	**-3.6**
	4.7nm,0.7s						
ACSO	**Alum Creek Sta**	**54.84**	**354**	P	**P**	**19 20 02.1**	**-1.6**
	7.0nm,0.5s						
319A	**Douglas**	**55.68**	**325**	*e*P	**P**	**19 20 11.2**	**+1.2**
	14nm,0.8s						
SDCO	**Great Sand Dun**	**58.89**	**333**	*e*P	**P**	**19 20 32.3**	**-0.5**
	33nm,2.0s						
DUG	**Dugway, Tooele**	**64.27**	**329**	*e*P	**P**	**19 21 09.8**	**+0.9**
	8.1nm,0.7s						
HWUT	**Hardware Ranch**	**64.76**	**331**	*e*P	**P**	**19 21 12.6**	**+0.5**
	34nm,1.8s						
PDAR	**Pinedale Array**	**64.77**	**333**	P	**P**	**19 21 11.9**	**-0.3**
	0.7nm,0.8s,baz=59,slow=39,SNR=2.9						
HVU	**Hansel Valley**	**65.46**	**331**	*e*P	**P**	**19 21 16.6**	**0.0**
	48nm,1.9s						
ULM	**Lac du Bonnet**	**66.80**	**346**	P	**P**	**19 21 23.5**	**-1.3**
	3.0nm,0.6s,baz=143,slow=5.6,SNR=3.6						
HLID	**Hailey**	**67.60**	**331**	*e*P	**P**	**19 21 31.2**	**+0.9**
	27nm,1.9s						
MFID	**Camas Ranch**	**68.17**	**330**	*e*P	**P**	**19 21 34.8**	**+1.0**
	7.1nm,0.8s						
ORV	**Oroville**	**68.45**	**324**	*e*P	**P**	**19 21 36.8**	**+1.3**
	7.7nm,0.8s						
SNAA	**Sanae**	**71.05**	**161**	*e*P	**P**	**19 21 52.2**	**+1.1**
	6.4nm,0.8s						
LIC	**Lamto**	**73.36**	**79**	*e*P	**P**	**19 22 06.0**	**+0.1**
	57nm,1.8s						
TIC	**Toumodi**	**73.49**	**78**	*e*P	**P**	**19 22 06.7**	**0.0**
DBIC	**Dimbokro**	**73.65**	**78**	P	**P**	**19 22 07.8**	**+0.2**
	4.8nm,0.8s,baz=238,slow=5.9,SNR=5.1						
KIC	**Kosan Boka**	**73.67**	**79**	*e*P	**P**	**19 22 08.0**	**+0.3**
	29nm,1.1s						
QSPA	**South Pole Qui**	**75.64**	**180**	*e*P	**P**	**19 22 20.0**	**+1.6**
TOA0	**Torodi Ar. Sit**	**81.71**	**74**	*e*P	**P**	**19 22 53.5**	**+0.9**
	14nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.71**	**74**	P	**P**	**19 22 53.4**	**+0.8**
	14nm,0.7s,baz=262,slow=5.5,SNR=54						
YKA	**Yellowknife Ar**	**82.47**	**343**	P	**P**	**19 22 55.0**	**-0.4**
	1.2nm,0.5s,baz=141,slow=6.0,SNR=4.8						
VNDA	**Vanda**	**82.47**	**191**	P	**P**	**19 22 57.0**	**+1.6**
	1.0nm,0.9s,baz=115,slow=5.7,SNR=5.0						
SYO	**Syowa Base**	**85.34**	**161**	⇑*e*P	**P**	**19 23 09.7**	**-0.5**
ESDC	**Sonseca Array**	**85.89**	**47**	P	**P**	**19 23 14.2**	**+0.7**
	1.2nm,0.7s,baz=248,slow=5.9,SNR=6.5						
INK	**Inuvik**	**92.15**	**342**	P	**P**	**19 23 42.4**	**+0.1**
	1.9nm,1.0s,baz=143,slow=10,SNR=3.0						
BOSA	**Boshof**	**92.76**	**120**	P	**P**	**19 23 46.8**	**+0.4**
	3.6nm,0.9s,baz=224,slow=16,SNR=3.0						
MAW	**Mawson**	**92.85**	**165**	P	**P**	**19 23 46.8**	**+1.0**
	1.9nm,0.9s,baz=196,slow=8.1,SNR=7.4						
ILAR	**Eielson Array**	**95.09**	**336**	P	**P**	**19 23 55.2**	**-0.8**
	0.4nm,0.8s,baz=134,slow=3.9,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**19.89**	**285**	T	T	21 40 26.5	
	baz=96,slow=74,SNR=54						
H11N2	**WAKE ISLAND Hy**	**19.91**	**285**	T	T	21 40 24.6	
	baz=96,slow=74,SNR=41						
H11N1	**WAKE ISLAND Hy**	**19.91**	**285**	T	T	21 40 20.4	
	baz=96,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**	**19.96**	**283**	T	T	21 40 38.2	
	baz=100,slow=74,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**19.98**	**283**	T	T	21 40 28.3	
	baz=109,slow=74,SNR=6.0						
CTAO	**Charters Tower**	**126.04**	**231**	*e*Pdif	**Pdif**	**19 26 13.8**	**-1.3**
ABKAR	**Akbulak array**	**130.12**	**37**	*e*PKPdf	**PKPdf**	**19 29 44.7**	**+1.3**
ASAR	**Alice Springs**	**132.07**	**218**	PKP	**PKPdf**	**19 29 47.6**	**-0.3**
	0.5nm,0.5s,baz=122,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**134.56**	**222**	PKP	**PKPdf**	**19 29 52.9**	**+0.3**
	1.2nm,0.7s,baz=133,slow=1.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**137.87**	**17**	PKP	**PKPdf**	**19 29 58.2**	**+0.5**
	5.1nm,0.9s,baz=269,slow=1.7,SNR=7.7						
KURK	**Kurchatov**	**138.47**	**24**	PKP	**PKPdf**	**19 30 00.2**	**+1.3**
KURBB	**Kurchatov Arra**	**138.51**	**24**	PKP	**PKPdf**	**19 30 00.2**	**+1.2**
	1.8nm,0.8s,baz=313,slow=2.7,SNR=12						
MKAR	**Makanchi Array**	**143.06**	**25**	PKhKP	PKPpre	19 30 00.7	
	0.6nm,0.9s,baz=222,slow=1.9,SNR=5.0						
MKAR				PKP	**PKPdf**	**19 30 08.3**	**+0.9**
	1.2nm,0.8s,baz=280,slow=3.5,SNR=4.8						
ULN	**Ulaanbaatar**	**146.64**	**356**	*e*PKPdf	**PKPab**	**19 30 16.3**	**-0.1**
SONM	**Songino Array**	**146.71**	**357**	PKPbc	**PKPbc**	**19 30 15.9**	**+0.5**
	5.6nm,0.6s,baz=335,slow=2.2,SNR=34						
KSRS	**Korea Array**	**148.77**	**321**	PKPbc	**PKPbc**	**19 30 21.4**	**+0.2**
	1.8nm,0.8s,baz=20,slow=2.1,SNR=7.1						
KSAR	**Wonju Array Be**	**148.80**	**321**	PKPbc	**PKPbc**	**19 30 21.4**	**+0.1**

IDC ***28*** *19:32:17.4±1.9, 38°.29N×142°.72E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/36, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=57.1km s-min=32.7km az=96.0*
ISCJB ***28*** *19:32:19.1±1.3, 38°.41N±0°.05×142°.31E±0°.07, h25km±8km, mb3.6/2, Error ellipse: s-maj=10.1km s-min=7.4km az=20.1*
JMA ***28*** *19:32:20.2±0.1, 38°.46N×142°.27E, h28km±2km, M3.9*
JMA Felt I J1.

ISC 28 19:32:18.4±3.4, 38°.36N±0°.04×142°.23E±0°.08, h11km±23km, n14, σ1$70/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**278**	P	**Pb**	**19 32 34.0**	**+1.4**
JIO				S	**Sb**	**19 32 43.3**	**+1.1**
OFUJ	**Ofunato**	**0.84**	**329**	P	**Pb**	**19 32 34.8**	**-0.3**
OFUJ				*e*S	**Sb**	**19 32 45.0**	**-1.4**
JMK	**Ichinoseki**	**0.98**	**307**	P	**Pb**	**19 32 37.6**	**+0.1**
JMK				*e*S	**Sb**	**19 32 50.3**	**-0.2**
JOU	**Okura**	**1.23**	**271**	P	**Pn**	**19 32 42.3**	**+0.7**
JOU				*e*S	**Sn**	**19 32 58.6**	**+0.4**
JMM	**Marumori**	**1.23**	**247**	P	**Pn**	**19 32 41.9**	**+0.2**
JMM				*e*S	**Sn**	**19 32 58.2**	**-0.1**
JOM	**Ohasama**	**1.33**	**327**	P	**Pn**	**19 32 42.5**	**-0.5**
JOM				*e*S	**Sn**	**19 32 58.9**	**-1.7**
JFK	**Kawauchi**	**1.46**	**227**	P	**Pn**	**19 32 44.8**	**0.0**
JFK				*e*S	**Sn**	**19 33 03.3**	**-0.7**
JYK	**Kaneyama**	**1.56**	**291**	P	**Pn**	**19 32 46.9**	**+0.7**
JYK				*e*S	**Sn**	**19 33 06.1**	**-0.4**
JRG	**Rokugo**	**1.61**	**310**	P	**Pn**	**19 32 47.5**	**+0.6**
MJAR	**Matsushiro Arr**	**3.68**	**242**	Pn	**Pn**	**19 33 19.5**	**+4.2**
	1.0nm,0.3s,baz=64,slow=10,SNR=14						
MAT	**Matsushiro**	**3.68**	**242**	P	**Pb**	**19 33 21.5**	**-2.0**
MAT				S	**Sb**	**19 34 03.6**	**-4.5**
ASAJ	**Asahikawa**	**5.75**	**3**	Pn	**Pn**	**19 33 44.8**	**+1.0**
	1.0nm,0.3s,baz=219,slow=18,SNR=8.8						
**WR

SENK	Senkaya-Erzuru	2.02	332	ePN		Pn	19 33 18.2 +0.7
SENK	Senkaya-Erzuru	2.02	332	ePn		Pn	19 33 18.2 +0.7
BNGB	Bing^¶l	2.30	276	ePN		Pn	19 33 22.4 +1.2
BINT	Bingol	2.44	273	ePn		Pn	19 33 22.4 -0.8
YEDI	Yedisu-Bingol	2.48	286	ePN		Pn	19 33 24.7 +1.1
YEDI	Yedisu-Bingol	2.48	286	ePn		Pn	19 33 24.7 +1.1
GDB	GEDABAY	2.54	40	⇑P		Pb	19 33 28.6 -0.3
GDB				⇑S		Sb	19 34 02.2 +2.1
GDB	GEDABAY	2.54	40	P		Pb	19 33 28.6 -0.3
DAGI	Agillar	2.64	331	iP		Pb	19 33 31.3 +0.8
QZX	Qazax, Azerbai	2.64	30	⇓P		Pb	19 33 31.0 +0.5
QZX				⇓S		Sg	19 34 06.7 -1.4
QZX	Qazax, Azerbai	2.64	30	P		Pb	19 33 31.0 +0.5
GANJ	Ganja	2.79	47	⇑P		Pn	19 33 30.8 +2.9
GANJ				⇑S		Sb	19 34 06.0 -1.3
GANJ	Ganja	2.79	47	P		Pn	19 33 30.8 +2.9
GANJ				S		Sb	19 34 06.0 -1.3
MAZI	Mazidag	2.83	243	ePN		Pn	19 33 29.8 +1.3
MAZI	Mazidag	2.83	243	ePn		Pn	19 33 29.8 +1.3
BRDA	Brd	3.12	61	⇑P		Pn	19 33 32.8 +0.5
BRDA				⇑S		Sn	19 34 09.4 -0.1
BRDA	Brd	3.12	61	P		Pn	19 33 32.8 +0.5
BRDA				S		Sn	19 34 09.4 -0.1
PTK	Pertek	3.30	273	ePN		Pn	19 33 36.4 +1.4
PTK	Pertek	3.30	273	ePn		Pn	19 33 36.4 +1.4
MNGR	Mingechevir, A	3.33	52	⇓S		Sn	19 34 17.3 +2.7
MNGR	Mingechevir, A	3.33	52	S		Sn	19 34 17.3 +2.7
SVRC	Sivrice-ELAZID	3.40	264	ePN		Pn	19 33 38.0 +1.6
SVRC	Sivrice-ELAZID	3.40	264	ePn		Pn	19 33 38.0 +1.6
KELT	Kelkit	3.64	293	iP		Pb	19 33 48.3 +0.6
ZKTA	Zakatala	3.66	38	⇑P		Pn	19 33 43.9 +4.1
SEKA	Sheki	3.66	48	⇓P		Pn	19 33 43.0 +3.2
SEKA				⇓S		Sn	19 34 27.9 +5.0
SEKA	Sheki	3.66	48	P		Pn	19 33 43.0 +3.2
LRK	Lerik	3.70	91	⇓P		Pn	19 33 35.5 -4.9
SAAT	Saatly	3.88	72	⇑S		Sn	19 34 23.6 -4.5
QBL	Gabala	3.90	55	⇑P		Pn	19 33 44.3 +1.2
QBL	Gabala	3.90	55	P		Pn	19 33 44.3 +1.2
ASTR	Astara	4.06	92	⇓S		Sn	19 34 23.1 -9.5
XNQ	Khinaliq	4.21	54	⇑P		Pn	19 33 48.5 +1.0
XNQ	Khinaliq	4.21	54	P		Pn	19 33 48.5 +1.0
PQL	Pirkuli	4.32	61	⇓P		Pn	19 33 48.7 -0.3
PQL	Pirkuli	4.32	61	P		Pn	19 33 48.7 -0.3
GBS	Qobustan	4.46	65	⇓P		Pn	19 33 50.1 -0.8
GBS	Qobustan	4.46	65	P		Pn	19 33 50.1 -0.8
QSAR	Qusar	4.48	51	⇑P		Pn	19 33 52.6 +1.5
QSAR	Qusar	4.48	51	P		Pn	19 33 52.6 +1.5
QUBA	Quba, Azerbaij	4.54	54	⇑P		Pn	19 33 53.0 +1.2
QUBA	Quba, Azerbaij	4.54	54	P		Pn	19 33 53.0 +1.2
ATGJ	Altiaghaj	4.59	62	⇑P		Pn	19 33 52.3 -0.3
ATGJ	Altiaghaj	4.59	62	P		Pn	19 33 52.3 -0.3

*NEIC **28** 19:35:45.4±3.0, 35°.19N×141°.52E, h3km±18km, mb4.7/15, Error ellipse: s-maj=8.9km s-min=6.0km az=93.0*
*IDC **28** 19:35:45.2±0.8, 35°.17N×141°.36E, h0km, mb4.0/11, mb1 4.1/16, mb1mx4.0/41, mbtmp4.0/16, ML3.9/4, MS4.0/1, Ms1 4.0/1, ms1mx2.8/38, Error ellipse: s-maj=20.6km s-min=15.0km az=95.0*
*ISCJB **28** 19:35:47.2±0.4, 35°.16N±0°.03×141°.46E±0°.05, h27km, mb4.4/27, Error ellipse: s-maj=5.4km s-min=4.5km az=173.7*
*JMA **28** 19:35:48.8±0.2, 35°.20N×141°.40E, h35km±3km, M3.6*
ISC 28 19:35:48.5±0.5, 35°.21N±0°.04×141°.44E±0°.06, h27km, n68, σ1§54/74, mb4.5/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.67	215	P	Pn	19 36 01.2	-0.6
CHOJ	Chosi	0.69	316	P	Pn	19 36 01.6	-0.9
CHOJ				S	Sn	19 36 10.8	-1.4
BSO3	Boso 3	0.87	242	P	Pn	19 36 04.2	-0.5
KTR	Katsuura	0.93	267	P	Pb	19 36 04.9	-1.0
KTR				S	Sn	19 36 16.8	-1.3
BSO4	Boso 4	0.93	257	P	Pb	19 36 05.4	-0.6
BSO4				eX		19 36 16.2	
JCN	Nagara	1.04	282	P	Pb	19 36 07.7	-0.1
TATJ	Tateyama 2	1.28	263	P	Pb	19 36 10.7	-1.3
JHJ2	Mitsune	2.49	213	ePn	Pn	19 36 26.9	-0.3
JHJ2				eSn	Sn	19 36 54.6	-2.0
JHJ	Hachijo jima 2	2.50	214	Pn	Pn	19 36 27.0	-0.4
	78nm,0.3s,baz=80,slow=22,SNR=17						
JHJ				Sn	Sn	19 36 57.0	+0.1
	128nm,0.3s,baz=300,slow=21,SNR=6.8						
MJAR	Matsushiro Arr	2.94	298	Pn	Pn	19 36 32.8	-0.7
	10nm,0.3s,baz=322,slow=12,SNR=41						
MAJO	Matsushiro	2.95	298	ePn	Pn	19 36 34.9	+1.3
MAJO				eSn	Sn	19 37 06.6	-1.5
MAT	Matsushiro	2.95	298	P	Pn	19 36 35.0	+1.4
MAT				S	Sb	19 37 13.9	-2.0
MJB9	Matsu-Tunnel	2.95	298	ePn	Pn	19 36 35.5	+1.9
INU	Inuyama	3.62	273	ePn	Pn	19 36 43.2	+0.4
CBIJ	Chichi jima	8.11	175	ePn	Pn	19 37 44.4	-0.1
CBIJ				eSn	Sn	19 39 10.9	-4.5
ASAJ	Asahikawa	8.94	5	Pn	Pn	19 37 54.7	-1.1
	3.0nm,0.3s,baz=222,slow=8.2,SNR=24						
ASAJ				Sn	Sn	19 39 30.5	-5.1
	0.7nm,0.3s,baz=90,slow=20,SNR=2.2						
ASAJ	Asahikawa	8.94	5	ePn	Pn	19 37 54.1	-1.8
ASAJ				Sn	Sn	19 39 30.5	-5.1
JNU	Nakatsue	9.00	260	Pn	Pn	19 37 58.5	+1.8
	0.3nm,0.3s,baz=90,slow=8.1,SNR=3.6						
KSRS	Korea Array	11.13	286	Pn	Pn	19 38 27.5	+1.6
	0.1nm,0.3s,baz=96,slow=15,SNR=6.9						
KSAR	Wonju Array Be	11.16	285	Pn	Pn	19 38 27.5	+1.2
USRK	Ussuriysk Ar.	11.55	324	Pn	Pn	19 38 32.2	+0.6
	0.3nm,0.3s,baz=135,slow=12,SNR=9.4						
USRK				LR	LR	19 42 10.2	
	comp=Z,787nm,20.6s,baz=190,slow=33						
YSS	Yuzh-Sakhalins	11.78	4	eP	Pn	19 38 33.0	-1.6
NACB	Ninganchiao	20.41	243	eP	P	19 40 22.1	-1.5
	21nm,0.9s						
ENH	Enshi	27.26	269	eP	P	19 41 27.2	-3.3
	3.9nm,0.6s						
H11S1	WAKE ISLAND Hy	27.89	120	T	T	20 11 00.9	
	baz=312,slow=75,SNR=41						
H11S3	WAKE ISLAND Hy	27.89	120	T	T	20 11 02.5	
	baz=312,slow=75,SNR=35						
H11S2	WAKE ISLAND Hy	27.90	120	T	T	20 11 04.5	
	baz=312,slow=75,SNR=22						
ULN	Ulaanbaatar	28.43	307	eP	P	19 41 43.1	+2.1
	1.4nm,0.6s						
SONM	Songino Array	28.86	307	P	P	19 41 45.1	+0.3
	0.7nm,0.5s,baz=109,slow=8.7,SNR=4.4						
TIXI	Tiksi	37.10	353	eP	P	19 42 57.3	+1.1
	20nm,2.0s						
FAKI	Fak Fak	38.90	195	eP	P	19 43 12.5	+0.6
	43nm,1.4s						
CMAR	Chiang Mai Arr	41.09	257	P	P	19 43 29.4	-0.7
	0.8nm,0.7s,baz=50,slow=7.0,SNR=9.4						
ZALV	Zalesovo Beam	43.18	314	P	P	19 43 47.7	+0.9
	1.1nm,0.5s,baz=98,slow=6.5,SNR=5.8						
MK31	Makanchi Array	45.13	304	eP	P	19 44 03.4	+0.8
MKAR	Makanchi Array	45.13	304	P	P	19 44 03.1	+0.6
	1.3nm,0.7s,baz=82,slow=9.5,SNR=11						
MKAR	Makanchi Array	45.13	304	eP	P	19 44 03.4	+0.8
	12nm,0.9s						
MAKZ	Makanchi	45.34	304	eP	P	19 44 04.6	+0.4
	7.8nm,1.4s						
TAPN	Taplejung	46.12	276	eP	P	19 44 10.9	0.0
	5.2nm,0.5s						
ODAN	Odare	46.58	275	eP	P	19 44 14.4	-0.1
	10nm,0.6s						
KURK	Kurchatov	47.09	309	eP	P	19 44 18.4	+0.5
	4.0nm,0.6s						
RAMN	Ramite	47.19	276	eP	P	19 44 19.4	+0.2
	36nm,0.7s						
JIRN	Jiri	47.23	277	eP	P	19 44 20.5	+0.8
	30nm,0.6s						
GUN	Gumba	47.39	277	eP	P	19 44 21.8	+0.9
SOEI	Soe	47.58	203	eP	P	19 44 22.1	0.0
	24nm,0.8s						
PKI	Pulchoki	47.90	277	eP	P	19 44 24.8	-0.1
	5.2nm,0.5s						
PKIN	Phulchoki	47.91	277	eP	P	19 44 25.0	+0.1
	8.8nm,0.7s						
KKN	Kakani	47.92	277	eP	P	19 44 24.7	-0.2
	6.1nm,0.7s						
DMN	Daman	48.13	277	eP	P	19 44 27.0	+0.4
GKN	Gorkha	48.36	278	eP	P	19 44 28.6	+0.4
	9.3nm,0.6s						
MTN	Manton Dam	48.78	193	eP	P	19 44 31.4	+0.2
	22nm,1.4s						
DANN	Dangsing	48.93	279	eP	P	19 44 33.9	+1.1
	2.0nm,0.9s						
PYUN	Piuthan	49.65	279	eP	P	19 44 38.9	+0.7
MDM	Murphy Dome	50.45	31	eP	P	19 44 44.2	+0.7
	22nm,1.9s						
HDA	Harding Lake	51.01	32	eP	P	19 44 46.7	-1.0
	22nm,1.0s						
ILAR	Eielson Array	51.03	32	P	P	19 44 50.1	+2.3
	0.8nm,0.6s,baz=269,slow=5.9,SNR=9.5						
AAK	Ala-Archa	51.39	300	eP	P	19 44 53.9	+2.8
	3.0nm,0.7s						
EYAK	Cordova Ski Ar	51.79	37	eP	P	19 44 55.5	+2.0
	51nm,1.4s						
KKAR	Karatay Array	54.08	301	eP	P	19 45 12.2	+1.5
	18nm,1.0s						
WRAB	Tennant Creek	55.25	188	eP	P	19 45 20.0	+0.7
	19nm,1.4s						
WB2	Warramunga Arr	55.26	188	eP	P	19 45 20.1	+0.7
	14nm,1.3s						
WRA	Warramunga Arr	55.26	188	P	P	19 45 19.7	+0.3
	3.4nm,0.5s,baz=2.2,slow=7.5,SNR=17						
WC3	Warramunga Arr	55.27	188	eP	P	19 45 20.1	+0.6
	5.7nm,0.8s						
ASAR	Alice Springs	58.99	188	P	P	19 45 46.5	+0.7
	2.6nm,0.7s,baz=13,slow=6.5,SNR=43						
FINES	FINESS Array B	70.44	333	P	P	19 47 01.1	+1.1
	3.7nm,0.9s,baz=72,slow=8.9,SNR=3.4						
AKASG	Malin Array Be	75.76	323	P	P	19 47 32.0	+0.4
	0.4nm,0.4s,baz=37,slow=7.3,SNR=3.7						
PDAR	Pinedale Array	78.93	45	P	P	19 47 51.4	+1.5
	0.7nm,0.6s,baz=278,slow=3.5,SNR=7.9						
CLL	Collm	82.69	330	eP	P	19 48 11.0	+1.5
GERES	GERESS Array B	84.27	328	P	P	19 48 17.9	0.0
	0.3nm,0.7s,baz=55,slow=8.5,SNR=3.5						

*IDC **28** 19:51:50.7±2.0, 28°.35N×143°.59E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.7/63, mbtmp3.8/13, ML3.7/2, MS4.3/1, Ms1 4.3/1, ms1mx2.9/32, Error ellipse: s-maj=68.2km s-min=16.6km az=76.0*
*ISCJB **28** 19:51:53.8±0.6, 28°.34N±0°.04×143°.34E±0°.10, h34km, mb4.3/16, MS4.2/1, Error ellipse: s-maj=12.6km s-min=6.5km az=1.0*
*JMA **28** 19:51:54.7±0.1, 28°.33N×143°.00E, h46km, M4.0*
*NEIC **28** 19:51:55.8±0.6, 28°.29N×143°.45E, h35km, mb4.8/5, Error ellipse: s-maj=13.9km s-min=8.6km az=82.0*
ISC 28 19:51:55.0±0.7, 28°.28N±0°.05×143°.1E±0°.1, h34km, n36, σ2§53/33, mb4.2/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.45	216	P	Pb	19 52 18.8	-2.7
CBIJ				S	Sb	19 52 36.8	-2.9
CBIJ	Chichi jima	1.45	216	ePn	Pb	19 52 19.1	-2.4
CBIJ				eSn	Sb	19 52 37.6	-2.1
JOD2	Odawara 2	7.77	335	P	Pn	19 53 46.5	+0.8
JHU	Hanno	8.23	338	P	Pn	19 53 52.5	+0.5
JHU				eS	Sn	19 55 19.1	-4.6
JRY	Ryogami san	8.51	336	P	Pn	19 53 56.9	+1.1
JRY				eS	Sn	19 55 28.5	-2.2
JHO	Hitachi	8.59	346	eS	Sn	19 55 26.8	-5.7
JAG	Ashikaga	8.70	340	P	Pn	19 53 58.9	+0.5
MJAR	Matsushiro Arr	9.23	334	Pn	Pn	19 54 06.6	+0.8
	0.8nm,0.3s,baz=159,slow=11,SNR=5.6						
MAJO	Matsushiro	9.23	334	ePn	Pn	19 54 07.3	+1.6
MJB9	Matsu-Tunnel	9.24	334	ePn	Pn	19 54 08.0	+2.2
JMK	Ichinoseki	10.76	352	eS	Sn	19 56 20.5	-5.4
KSRS	Korea Array	15.71	309	Pn	P	19 55 38.8	+1.5
	0.2nm,0.3s,baz=120,slow=10.0,SNR=9.0						
KSAR	Wonju Array Be	15.73	309	Pn	P	19 55 38.8	+1.2
SSLB	Suanglung	20.43	262	eP	Pn	19 56 32.3	+0.6
	90nm,1.8s						
KLR	Kul'dur	22.68	340	LR	LR	20 07 03.8	
	comp=Z,869nm,21.4s,baz=26,slow=40						
SONM	Songino Array	34.47	315	P	P	19 58 41.6	+1.9
	0.9nm,0.6s,baz=113,slow=7.7,SNR=5.4						
CMAR	Chiang Mai Arr	41.54	266	P	P	19 59 43.4	+3.9
	0.2nm,0.3s,baz=76,slow=3.8,SNR=3.3						
MTN	Manton Dam	42.50	197	eP	P	19 59 49.0	+1.8
	25nm,1.4s						
WRAB	Tennant Creek	48.68	191	eP	P	20 00 37.7	+1.7
	6.1nm,0.7s						
WRA	Warramunga Arr	48.69	191	P	P	20 00 38.1	+2.0
	4.8nm,0.6s,baz=12,slow=8.3,SNR=41						
FITZ	Fitzroy Crossi	49.12	202	P	P	20 00 41.2	+1.7
	1.2nm,0.8s,baz=354,slow=10,SNR=4.6						
ZALV	Zalesovo Beam	49.16	318	P	P	20 00 42.5	+3.1
	0.6nm,0.5s,baz=106,slow=9.2,SNR=3.3						
MK31	Makanchi Array	50.39	309	eP	P	20 00 51.0	+2.1
MKAR	Makanchi Array	50.39	309	P	P	20 00 51.4	+2.5
	0.5nm,0.5s,baz=86,slow=10,SNR=7.9						
MKAR	Makanchi Array	50.39	309	eP	P	20 00 51.0	+2.1
	13nm,1.1s						
ASAR	Alice Springs	52.41	191	P	P	20 01 06.2	+2.1
	0.3nm,0.5s,baz=6.5,slow=6.0,SNR=6.4						
KURK	Kurchatov	52.77	314	eP	P	20 01 08.7	+2.1
	6.3nm,0.9s						
KURBB	Kurchatov Arra	52.83	314	P	P	20 01 09.1	+2.1
	1.4nm,0.7s,baz=93,slow=7.4,SNR=12						
RSO	Redoubt South	53.11	34	eP	P	20 01 10.1	+0.8
HPO	Honuapo	56.38	85	eP	P	20 01 31.4	-1.9
BVAR	Borovoye Array	57.75	317	P	P	20 01 44.9	+2.4
	1.1nm,0.5s,baz=89,slow=7.7,SNR=9.9						
ARU	Arti	64.01	322	P	P	20 02 27.3	+2.3
	1.3nm,0.4s,baz=252,slow=3.2,SNR=4.6						
ABKAR	Akbulak array	64.88	314	eP	P	20 02 33.5	+2.7
	52nm,1.7s						
AKTO	Aktyubinsk	65.78	316	P	P	20 02 38.5	+2.0
	0.6nm,0.6s,baz=0.0,slow=6.1,SNR=3.0						
KEV	Kevo	72.14	341	eP	P	20 03 16.2	+0.5
P18A	Preston Nutter	83.99	48	eP	P	20 04 19.1	-3.3
	16nm,0.3s						

*DDA **28** 19:52:02.7, 38°.63N×43°.17E, h6km, Ml2.9*
*ISK **28** 19:52:02.0, 38°.60N×43°.17E, h5km, ML2.9*
*CSEM **28** 19:52:03.3±0.2, 38°.61N×43°.17E, h2km, ML2.9, Error ellipse: s-maj=5.9km s-min=4.5km az=132.0*
ISC 28 19:52:03.6±1.1, 38°.61N±0°.03×43°.17E±0°.03, h11km±11km, n46, σ1§07/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	95	ePG	Pg	19 52 06.9	-0.6
VANB	Van	0.17	95	ePg	Pg	19 52 06.9	-0.6
ERCV	ERCIS-VAN	0.43	18	ePG	Pg	19 52 11.3	-0.8
ERCV				eSG	Sb	19 52 19.0	-0.9
ERCV	ERCIS-VAN	0.43	18	ePg	Pg	19 52 11.3	-0.8
ERCV				eSg	Sb	19 52 19.0	-0.9
CLDR	Caldiran	0.79	47	ePG	Pb	19 52 18.8	-0.7
CLDR				eSG	Sb	19 52 31.0	+0.7
CLDR	Caldiran	0.79	47	ePg	Pb	19 52 18.8	-0.7
CLDR				eSg	Sb	19 52 31.0	+0.7
AGRB	Hanur-Agry	0.97	352	ePG	Pg	19 52 21.6	-0.8
AGRB	Hanur-Agry	0.97	352	ePg	Pg	19 52 21.6	-0.8
EKAR	Karacoban	1.08	307	iP	Pn	19 52 26.0	+1.1
EKAR	Karacoban	1.08	307	P	Pn	19 52 26.0	+1.1
SIRN	S¨–rnak	1.26	209	iP	Pn	19 52 27.2	-0.1
SIRN	S¨–rnak	1.26	209	P	Pn	19 52 27.2	-0.1
EATA	Eleskirt	1.36	337	iP	Pn	19 52 28.2	-0.6
EATA	Eleskirt	1.36	337	P	Pn	19 52 28.2	-0.6
CUKT	Cukurca	1.40	166	ePN	Pb	19 52 29.4	-0.5
CUKT	Cukurca	1.40	166	iP	Pb	19 52 29.4	-0.5
CUKT	Cukurca	1.40	166	P	Pb	19 52 29.4	-0.5
VRTB	Varto-Mus	1.45	293	ePN	Pb	19 52 30.2	-0.5
VRTB	Varto-Mus	1.45	293	iP	Pb	19 52 30.1	-0.5
VRTB	Varto-Mus	1.45	293	P	Pb	19 52 30.1	-0.5
BNGL	BINGOL	1.62	283	iP	Pb	19 52 32.9	-0.7
BNGL				iS	Sg	19 52 57.8	+2.1
SVAN	Silvan-Diyarba	1.62	254	ePN	Pb	19 52 32.6	-0.9
SVAN	Silvan-Diyarba	1.62	254	iP	Pb	19 52 33.1	-0.4
SVAN	Silvan-Diyarba	1.62	254	ePn	Pb	19 52 32.6	-0.9
SVAN	Silvan-Diyarba	1.62	254	P	Pb	19 52 33.1	-0.4
BTMN	Batman	1.66	245	iP	Pb	19 52 34.0	-0.2
BTMN	Batman	1.66	245	P	Pb	19 52 34.0	-0.2
BNGB	Bing^¶l	1.98	282	ePN	Pn	19 52 38.2	+0.9
SENK	Senkaya-Erzuru	2.05	342	ePN	Pn	19 52 39.2	+1.0
SENK	Senkaya-Erzuru	2.05	342	ePn	Pn	19 52 39.2	+1.0
EAK	Akyaka	2.10	9	iP	Pg	19 52 44.3	+0.4
BINT	Bingol	2.12	278	ePn	Pn	19 52 38.2	-0.8
YEDI	Yedisu-Bingol	2.21	293	ePN	Pn	19 52 41.4	+1.0
YEDI	Yedisu-Bingol	2.21	293	ePn	Pn	19 52 41.4	+1.0
MAZI	Mazidag	2.44	243	ePN	Pn	19 52 44.5	+1.0
MAZI	Mazidag	2.44	243	ePn	Pn	19 52 44.5	+1.0
KOPT	Kop Dagi	2.51	305	iP	Pg	19 52 50.7	-1.0
DAGI	Agillar	2.65	339	iP	Pg	19 52 52.8	-1.5
TNCL	Tunceli-Merkez	2.88	281	iP	Pg	19 52 56.5	-2.2
DBOC	Borcka	2.97	338	iP	Pg	19 52 59.0	-1.5
PTK	Pertek	2.97	277	ePN	Pn	19 52 52.2	+1.4
PTK	Pertek	2.97	277	ePn	Pn	19 52 52.2	+1.4
SVRC	Sivrice-ELAZID	3.04	267	ePN	Pn	19 52 53.5	+1.7
SVRC	Sivrice-ELAZID	3.04	267	ePn	Pn	19 52 53.6	+1.7
KELT	Kelkit	3.40	298	iP	Pg	19 53 06.9	-1.9
KEMA	Kemaliye	3.71	282	iP	Pb	19 53 11.0	+1.8

IDC 28 19:53:42.8±32.0, 11°.46S×170°.12E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.7/37, mbtmp4.2/4, Error ellipse: s-maj=565.8km s-min=101.0km az=68.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	33.22	228	P	P	20 00 21.8	+0.1
	0.9nm,0.4s,baz=60,slow=10,SNR=9.2						
WRA	Warramunga Arr	35.40	252	P	P	20 00 40.8	0.0
	1.8nm,0.3s,baz=84,slow=8.5,SNR=27						
ASAR	Alice Springs	36.49	246	P	P	20 00 50.0	-0.2
	3.4nm,0.5s,baz=73,slow=9.6,SNR=112						
FITZ	Fitzroy Crossi	43.43	256	P	P	20 01 47.5	-0.3
	0.8nm,0.6s,baz=73,slow=8.0,SNR=3.7						

IDC 28 19:56:24.9±16.0, 12°.45S×168°.85E, h570km±171km, mb2.7/3, mb1 3.0/3, mb1mx2.5/35, mbtmp3.7/3, Error ellipse: s-maj=217.8km s-min=62.4km az=130.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.92	253	P	P	20 02 21.6	-0.2
	0.4nm,0.3s,baz=84,slow=8.5,SNR=4.9						
ASAR	Alice Springs	34.96	246	P	P	20 02 30.4	0.0
	0.5nm,0.4s,baz=75,slow=9.8,SNR=8.6						
ILAR	Eielson Array	83.89	18	P	P	20 07 55.2	+0.4
	0.4nm,0.5s,baz=232,slow=4.9,SNR=5.8						
ARCES	ARCESS Array B	118.43	346	PKP	PKPdf	20 14 06.8	-0.8
	4.3nm,1.1s,baz=68,slow=3.3,SNR=3.5						

*ISK **28** 19:58:19.7, 38°.89N×43°.59E, h5km, MD2.9*
*CSEM **28** 19:58:20.9±0.2, 38°.90N×43°.57E, h5km, ML3.5, Error ellipse: s-maj=5.3km s-min=4.1km az=94.0*
*DDA **28** 19:58:20.7, 38°.89N×43°.54E, h7km, Ml3.5*
*ISCJB **28** 19:58:21.1±0.5, 38°.89N±0°.03×43°.58E±0°.05, h10km±4km, Error ellipse: s-maj=6.5km s-min=5.4km az=179.0*
ISC 28 19:58:21.1±0.9, 38°.89N±0°.03×43°.57E±0°.03, h10km±6km, n41, σ0§82/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.10	360	iP	Pg	19 58 23.2	-0.7
VMUR				iS	Sg	19 58 26.2	+0.3
VMUR	Van-Muradiye	0.10	360	P	Pg	19 58 23.2	-0.7
VMUR				S	Sg	19 58 26.2	+0.3
ERCV	ERCIS-VAN	0.22	305	ePG	Pg	19 58 25.6	-0.3
ERCV				eSG	Sg	19 58 29.9	+0.8
ERCV	ERCIS-VAN	0.22	305	ePg	Pg	19 58 25.6	-0.3
ERCV				eSg	Sg	19 58 29.9	+0.8
VANB	Van	0.33	206	ePG	Pb	19 58 28.9	-0.2
VANB	Van	0.33	206	ePg	Pb	19 58 28.9	-0.2
CLDR	Caldiran	0.37	47	ePG	Pg	19 58 27.7	-0.8
CLDR				eSG	Sg	19 58 33.8	+0.4
CLDR	Caldiran	0.37	47	iP	Pg	19 58 27.6	-0.9
CLDR				iS	Sg	19 58 34.2	+0.8
CLDR	Caldiran	0.37	47	P	Pg	19 58 27.6	-0.9
CLDR				eSg	Sg	19 58 33.8	+0.4
CLDR				S	Sg	19 58 34.2	+0.8
TVAN	Van	0.38	200	iP	Pg	19 58 29.0	+0.2
TVAN	Van	0.38	200	P	Pg	19 58 29.0	+0.2
DYDN	Diyadin	0.66	8	iP	Pg	19 58 33.0	-0.9
DYDN	Diyadin	0.66	8	P	Pg	19 58 33.0	-0.9
GEVA	Gevas	0.70	215	iP	Pg	19 58 33.5	-1.2
GEVA	Gevas	0.70	215	P	Pg	19 58 33.5	-1.2
TUTA	Tutak	0.78	311	iP	Pg	19 58 35.3	-0.9
TUTA				iS	Sb	19 58 47.0	-0.6
TUTA	Tutak	0.78	311	P	Pg	19 58 35.3	-0.9
TUTA				S	Sb	19 58 47.0	-0.6
AGRB	Hanur-

TATV				*i* S		**Sg**	**20 00 12.8**	**-0.7**
TATV	**Tatvan**	**0.71**	**263**	P		**Pg**	**20 00 03.0**	**-1.2**
TATV				S		**Sg**	**20 00 12.8**	**-0.7**
CLDR	**Caldiran**	**0.79**	**47**	*e*PG		**Pg**	**20 00 04.3**	**-1.4**
CLDR				*e*SG		**Sg**	**20 00 16.3**	**+0.2**
CLDR	**Caldiran**	**0.79**	**47**	⇓*i*P		**Pg**	**20 00 04.0**	**-1.7**
CLDR	**Caldiran**	**0.79**	**47**	*e*Pg		**Pg**	**20 00 04.3**	**-1.4**
CLDR				*e*Sg		**Sg**	**20 00 16.3**	**+0.2**
CLDR	**Caldiran**	**0.79**	**47**	*i* P		**Pg**	**20 00 04.1**	**-1.6**
TUTA	**Tutak**	**0.84**	**341**	⇓*i*P		**Pg**	**20 00 04.8**	**-1.9**
TUTA				*i* S		**Sg**	**20 00 16.6**	**-1.1**
TUTA	**Tutak**	**0.84**	**341**	P		**Pg**	**20 00 04.8**	**-1.9**
TUTA				S		**Sg**	**20 00 16.6**	**-1.1**
BASK	**Baskale_VAN**	**0.86**	**130**	*i* P		**Pg**	**20 00 05.8**	**-1.1**
BASK				*i* S		**Sb**	**20 00 18.8**	**-0.3**
BASK	**Baskale_VAN**	**0.86**	**130**	P		**Pg**	**20 00 05.8**	**-1.1**
BASK				S		**Sb**	**20 00 18.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.98**	**352**	*e*PG		**Pg**	**20 00 07.2**	**-2.0**
AGRB	**Hanur-Agry**	**0.98**	**352**	*e*Pg		**Pg**	**20 00 07.2**	**-2.0**
DYDN	**Diyadin**	**1.02**	**23**	*i* P		**Pg**	**20 00 07.7**	**-2.3**
DYDN				*i* S		**Sg**	**20 00 22.9**	**-0.4**
DYDN	**Diyadin**	**1.02**	**23**	P		**Pg**	**20 00 07.7**	**-2.3**
DYDN				S		**Sg**	**20 00 22.9**	**-0.4**
EKAR	**Karacoban**	**1.08**	**307**	*i* P		**Pg**	**20 00 10.1**	**-1.0**
EKAR				*i* S		**Sn**	**20 00 30.1**	**+3.2**
EKAR	**Karacoban**	**1.08**	**307**	P		**Pg**	**20 00 10.1**	**-1.0**
EKAR				S		**Sn**	**20 00 30.1**	**+3.2**
HAKT	**HAKKARI**	**1.13**	**158**	*i* P		**Pg**	**20 00 10.5**	**-1.5**
HAKT				*i* S		**Sn**	**20 00 29.1**	**+1.1**
HAKT	**HAKKARI**	**1.13**	**158**	P		**Pg**	**20 00 10.5**	**-1.5**
HAKT				S		**Sn**	**20 00 29.1**	**+1.1**
SIRN	**S¨–rnak**	**1.26**	**209**	*i* P		**Pg**	**20 00 14.7**	**+0.2**
SIRN				*i* S		**Sn**	**20 00 34.1**	**+3.1**
SIRN	**S¨–rnak**	**1.26**	**209**	P		**Pg**	**20 00 14.7**	**+0.2**
SIRN				S		**Sn**	**20 00 34.1**	**+3.1**
EATA	**Eleskirt**	**1.36**	**338**	⇓*i*P		**Pn**	**20 00 14.2**	**-1.5**
EATA				*i* S		**Sb**	**20 00 33.2**	**-0.5**
EATA	**Eleskirt**	**1.36**	**338**	P		**Pn**	**20 00 14.2**	**-1.5**
EATA				S		**Sb**	**20 00 33.2**	**-0.5**
CUKT	**Cukurca**	**1.40**	**165**	*e*PN		**Pn**	**20 00 16.3**	**+0.3**
CUKT	**Cukurca**	**1.40**	**165**	*i* P		**Pn**	**20 00 15.9**	**-0.1**
CUKT	**Cukurca**	**1.40**	**165**	P		**Pn**	**20 00 15.9**	**-0.1**
CUKT	**Cukurca**	**1.40**	**165**	*e*Pn		**Pn**	**20 00 16.3**	**+0.3**
VRTB	**Varto-Mus**	**1.45**	**293**	*e*PN		**Pn**	**20 00 16.4**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**293**	*i* P		**Pn**	**20 00 16.4**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**293**	P		**Pn**	**20 00 16.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*e*PN		**Pn**	**20 00 19.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*i* P		**Pb**	**20 00 20.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*e*Pn		**Pn**	**20 00 19.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	P		**Pb**	**20 00 20.1**	**-0.1**
BTMN	**Batman**	**1.66**	**245**	*i* P		**Pn**	**20 00 20.3**	**+0.8**
BTMN				*i* S		**Sg**	**20 00 44.4**	**+0.8**
BTMN	**Batman**	**1.66**	**245**	P		**Pn**	**20 00 20.3**	**+0.8**
BTMN				S		**Sg**	**20 00 44.4**	**+0.8**
HOMI	**Horasan**	**1.74**	**326**	*i* P		**Pn**	**20 00 21.5**	**+0.7**
DIGO	**Kars**	**1.82**	**5**	*i* P		**Pn**	**20 00 22.5**	**+0.6**
DIGO	**Kars**	**1.82**	**5**	P		**Pn**	**20 00 22.5**	**+0.6**
NAX	**Nakhchivan**	**1.90**	**72**	⇑P		**Pn**	**20 00 21.9**	**-0.9**
NAX				⇓S		**Sg**	**20 00 53.5**	**+2.0**
NAX	**Nakhchivan**	**1.90**	**72**	P		**Pn**	**20 00 22.0**	**-0.9**
GNI	**Garni**	**1.97**	**38**	Pn		**Pn**	**20 00 24.6**	**+0.6**
	17nm,0.3s,baz=286,slow=2.8,SNR=17							
GNI				Lg		Lg	20 00 55.7	
	101nm,0.3s,baz=330,slow=23,SNR=8.1							
GNI	**Garni**	**1.97**	**38**	*ce*P		**Pn**	**20 00 24.5**	**+0.6**
GNI				pmax		pmax		
	comp=Z,1μm,1.0s							
GNI	**Garni**	**1.97**	**38**	*e*P		**Pn**	**20 00 24.5**	**+0.6**
	comp=Z,1μm,1.0s							
GNI				Lg		Lg	20 00 55.7	
ECAT	**Cat-ERZURUM**	**1.98**	**301**	*i* P		**Pb**	**20 00 25.6**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.98**	**301**	P		**Pb**	**20 00 25.5**	**-1.1**
BNGB	**Bing¶ll**	**1.98**	**282**	*e*PN		**Pn**	**20 00 25.2**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.06**	**342**	*e*PN		**Pn**	**20 00 25.6**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.06**	**342**	*e*Pn		**Pn**	**20 00 25.6**	**+0.5**
EAK	**Akyaka**	**2.11**	**9**	*i* P		**Pb**	**20 00 29.4**	**+0.7**
EAK	**Akyaka**	**2.11**	**9**	P		**Pb**	**20 00 29.4**	**+0.7**
BINT	**Bingol**	**2.11**	**278**	*e*Pn		**Pn**	**20 00 25.2**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	*e*PN		**Pn**	**20 00 28.3**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.21**	**293**	*e*Pn		**Pn**	**20 00 28.3**	**+1.1**
MARD	**Mardin**	**2.29**	**236**	*i* P		**Pn**	**20 00 29.7**	**+1.4**
MAZI	**Mazidag**	**2.43**	**243**	*e*PN		**Pn**	**20 00 31.8**	**+1.5**
MAZI	**Mazidag**	**2.43**	**243**	*e*Pn		**Pn**	**20 00 31.8**	**+1.5**
KOPT	**Kop Dagi**	**2.51**	**305**	*i* P		**Pb**	**20 00 36.1**	**+0.4**
KOPT	**Kop Dagi**	**2.51**	**305**	P		**Pb**	**20 00 36.1**	**+0.4**
DDEM	**Demirkent**	**2.53**	**335**	*i* P		**Pb**	**20 00 36.0**	**0.0**
DDEM	**Demirkent**	**2.53**	**335**	P		**Pb**	**20 00 36.0**	**0.0**
KBSD	**Kabsdagh**	**2.62**	**233**	*e*P		**Pn**	**20 00 33.9**	**+1.1**
KBSD				*e*S		**Sn**	**20 00 58.0**	**-6.7**
KBSD				AML		AML	20 01 26.0	
	comp=Z,596nm,0.5s							
DAGI	**Agillar**	**2.65**	**339**	*i* P		**Pb**	**20 00 37.8**	**-0.2**
ARTV	**Artvin**	**2.75**	**340**	*i* P		**Pb**	**20 00 39.6**	**-0.1**
ARTV	**Artvin**	**2.75**	**340**	P		**Pb**	**20 00 39.6**	**-0.1**
AKH	**Akhalkalaki**	**2.81**	**5**	*e*PN		**Pn**	**20 00 36.5**	**+0.9**
AKH	**Akhalkalaki**	**2.81**	**5**	*e*Pn		**Pn**	**20 00 36.5**	**+0.9**
ERZN	**Erzincan**	**2.86**	**291**	*e*PN		**Pn**	**20 00 37.4**	**+1.3**
GDB	**GEDABAY**	**2.91**	**43**	⇑P		**Pn**	**20 00 37.8**	**+1.0**
GDB				⇑S		**Sg**	**20 01 21.9**	**-1.8**
GDB	**GEDABAY**	**2.91**	**43**	P		**Pn**	**20 00 37.8**	**+1.0**
PTK	**Pertek**	**2.97**	**277**	*e*PN		**Pn**	**20 00 39.2**	**+1.5**
PTK	**Pertek**	**2.97**	**277**	*e*Pn		**Pn**	**20 00 39.2**	**+1.5**
DBOC	**Borcka**	**2.97**	**338**	*i* P		**Pb**	**20 00 43.0**	**-0.4**
DBOC	**Borcka**	**2.97**	**338**	P		**Pb**	**20 00 43.0**	**-0.4**
QZX	**Qazax, Azerbai**	**2.98**	**34**	⇓P		**Pn**	**20 00 38.7**	**+1.0**
QZX				⇑S		**Sg**	**20 01 23.3**	**-2.8**
QZX	**Qazax, Azerbai**	**2.98**	**34**	P		**Pn**	**20 00 38.7**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.04**	**267**	*e*PN		**Pn**	**20 00 40.0**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.04**	**267**	*e*Pn		**Pn**	**20 00 40.0**	**+1.3**
GANJ	**Ganja**	**3.18**	**49**	⇑P		**Pn**	**20 00 41.4**	**+1.0**
GANJ				⇓S		**Sb**	**20 01 28.5**	**+2.8**
GANJ	**Ganja**	**3.18**	**49**	P		**Pn**	**20 00 41.4**	**+1.0**
SFNV	**Sufian**	**3.27**	**229**	*e*P		**Pn**	**20 00 43.5**	**+1.8**
SFNV				AML		AML	20 01 43.4	
	comp=Z,613nm,0.7s							
TBLG	**Delisi**	**3.35**	**21**	*e*PN		**Pn**	**20 00 44.0**	**+1.3**
TBLG	**Delisi**	**3.35**	**21**	*e*Pn		**Pn**	**20 00 44.0**	**+1.3**
BRDA	**Brd**	**3.52**	**61**	⇑P		**Pn**	**20 00 45.1**	**+0.1**
BRDA				⇑S		**Sb**	**20 01 35.2**	**-0.2**
BRDA	**Brd**	**3.52**	**61**	P		**Pn**	**20 00 45.1**	**+0.1**
MNGR	**Mingechevir, A**	**3.72**	**53**	⇑P		**Pn**	**20 00 48.5**	**+0.7**
MNGR				⇓S		**Sb**	**20 01 40.9**	**-0.3**
MNGR	**Mingechevir, A**	**3.72**	**53**	P		**Pn**	**20 00 48.5**	**+0.7**
ZRD	**Zardab**	**3.88**	**63**	⇓P		**Pn**	**20 00 50.0**	**+0.1**
ZRD				⇑S		**Sb**	**20 01 43.8**	**-1.9**
ZRD	**Zardab**	**3.88**	**63**	P		**Pn**	**20 00 50.0**	**+0.1**
ZKTA	**Zakatala**	**4.02**	**40**	⇑P		**Pn**	**20 00 53.3**	**+1.2**
ZKTA				⇑S		**Sb**	**20 01 49.5**	**-0.5**
SEKA	**Sheki**	**4.05**	**49**	⇑P		**Pn**	**20 00 53.8**	**+1.4**
SEKA				⇑S		**Sb**	**20 01 50.9**	**+0.2**
SEKA	**Sheki**	**4.05**	**49**	P		**Pn**	**20 00 53.8**	**+1.4**
LRK	**Lerik**	**4.05**	**88**	⇑P		**Pn**	**20 00 49.4**	**-3.2**
LRK				⇑S		**Sn**	**20 01 42.9**	**+2.8**
LRK	**Lerik**	**4.05**	**88**	P		**Pn**	**20 00 49.4**	**-3.2**
LRK				S		**Sn**	**20 01 42.9**	**+2.8**
GLBA	**Clilabad**	**4.12**	**79**	⇓P		**Pn**	**20 00 51.7**	**-1.7**
GLBA				⇑S		**Sn**	**20 01 46.2**	**+4.5**
GLBA	**Clilabad**	**4.12**	**79**	P		**Pn**	**20 00 51.7**	**-1.7**
GLBA				S		**Sn**	**20 01 46.2**	**+4.5**
ZEI	**Tsey**	**4.22**	**7**	*e*P		**Pn**	**20 00 56.4**	**+1.5**
ZEI				pmax		pmax		
	comp=Z,28nm,1.0s							
KDMR	**Kurdemir**	**4.26**	**64**	⇓S		**Sb**	**20 01 53.1**	**-3.8**
SAAT	**Saatly**	**4.27**	**71**	⇑P		**Pn**	**20 00 54.2**	**-1.1**
SAAT	**Saatly**	**4.27**	**71**	P		**Pn**	**20 00 54.2**	**-1.1**
QBL	**Gabala**	**4.29**	**55**	⇑P		**Pn**	**20 00 55.8**	**+0.1**
QBL				⇓S		**Sb**	**20 01 55.5**	**-2.2**
QBL	**Gabala**	**4.29**	**55**	P		**Pn**	**20 00 55.8**	**+0.1**
KSRV	**Kasrt alli**	**4.30**	**232**	*e*P		**Pn**	**20 00 59.2**	**+3.4**
KSRV				*e*S		**Sn**	**20 01 43.7**	**-2.4**
KSRV				AML		AML	20 02 19.7	
	comp=Z,173nm,0.6s							
LKRN	**Lenkeran, Azer**	**4.39**	**87**	⇑P		**Pn**	**20 00 53.9**	**-3.1**
LKRN				⇑S		**Sn**	**20 01 51.5**	**+3.2**
LKRN	**Lenkeran, Azer**	**4.39**	**87**	P		**Pn**	**20 00 53.9**	**-3.1**
LKRN				S		**Sn**	**20 01 51.5**	**+3.2**
ASTR	**Astara**	**4.41**	**89**	⇑P		**Pn**	**20 00 54.0**	**-3.2**
ASTR				⇑S		**Sn**	**20 01 51.2**	**+2.6**
ASTR	**Astara**	**4.41**	**89**	P		**Pn**	**20 00 54.0**	**-3.2**
ASTR				S		**Sn**	**20 01 51.2**	**+2.6**
IML	**Ismayilli**	**4.44**	**59**	⇑P		**Pn**	**20 00 57.6**	**-0.2**
IML	**Ismayilli**	**4.44**	**59**	P		**Pn**	**20 00 57.6**	**-0.2**
XNQ	**Khinaliq**	**4.60**	**55**	⇓P		**Pn**	**20 00 60.0**	**-0.2**
XNQ	**Khinaliq**	**4.60**	**55**	P		**Pn**	**20 01 00.0**	**-0.2**
NEY	**Neytrino**	**4.65**	**356**	*i* P		**Pn**	**20 01 05.4**	**+4.6**
NEY	**Neytrino**	**4.65**	**356**	*i* P		**Pn**	**20 01 05.4**	**+4.6**
PQL	**Pirkuli**	**4.72**	**61**	⇑P		**Pn**	**20 01 01.5**	**-0.2**
PQL	**Pirkuli**	**4.72**	**61**	P		**Pn**	**20 01 01.5**	**-0.2**
GBS	**Qobustan**	**4.86**	**65**	⇓P		**Pn**	**20 01 02.9**	**-0.7**
GBS	**Qobustan**	**4.86**	**65**	P		**Pn**	**20 01 02.9**	**-0.7**
QSAR	**Qusar**	**4.87**	**52**	⇓P		**Pn**	**20 01 04.2**	**+0.5**
QSAR	**Qusar**	**4.87**	**52**	P		**Pn**	**20 01 04.2**	**+0.5**
QUBA	**Quba, Azerbaij**	**4.93**	**54**	⇑P		**Pn**	**20 01 04.6**	**+0.1**
QUBA	**Quba, Azerbaij**	**4.93**	**54**	P		**Pn**	**20 01 04.6**	**+0.1**
ATGJ	**Altiaghaj**	**4.99**	**61**	⇓P		**Pn**	**20 01 05.1**	**-0.2**
ATGJ	**Altiaghaj**	**4.99**	**61**	P		**Pn**	**20 01 05.1**	**-0.2**
GROC	**Groznyy**	**5.01**	**23**	P		**Pb**	**20 01 18.1**	**+0.1**
GROC				pmax		pmax		
	comp=Z,41nm,1.0s							
SIZA	**Siyzn**	**5.05**	**59**	⇑P		**Pn**	**20 01 06.0**	**-0.2**
SIZA	**Siyzn**	**5.05**	**59**	P		**Pn**	**20 01 06.0**	**-0.2**
KBZ	**Khabaz**	**5.12**	**358**	Pn		Pn	20 01 12.7	+5.6
	comp=Z,0.1nm,0.3s,baz=146,slow=3.6,SNR=2.8							
KIV	**Kislovodsk**	**5.36**	**356**	*i* P		Pn	20 01 16.4	+6.0
KIV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KIV	**Kislovodsk**	**5.36**	**356**	Pn		**Pn**	**20 01 10.9**	**+0.5**
	comp=Z,23nm,0.9s							
KIV	**Kislovodsk**	**5.36**	**356**	Pn		**Pn**	**20 01 10.9**	**+0.5**
	comp=Z,23nm,0.9s							
DRWC	**Darouich**	**5.53**	**251**	*e*P		Pn	20 01 18.7	+5.9
DRWC				*e*S		**Sn**	**20 02 11.7**	**-4.7**
DRWC				AML		AML	20 03 04.1	
	comp=N,72nm,0.7s							
DRWC				AML		AML	20 03 13.2	
	comp=E,108nm,0.8s							
BTCH	**Batrach**	**5.93**	**246**	*e*P		**Pn**	**20 01 22.3**	**+4.0**
BTCH				*e*S		**Sn**	**20 02 20.6**	**-5.7**
BTCH				AML		AML	20 03 15.8	
	comp=N,166nm,0.7s							
BTCH				AML		AML	20 03 17.1	
	comp=E,80nm,0.6s							
KFRA	**Kufra**	**6.12**	**238**	*e*P		**Pn**	**20 01 22.3**	**+1.4**
KFRA				*e*S		Sn	20 02 20.8	-10
KFRA				AML		AML	20 03 22.4	
	comp=N,276nm,0.6s							
KFRA				AML		AML	20 03 44.5	
	comp=E,112nm,0.7s							
RABH	**Abou Rabah**	**6.35**	**231**	*e*P		**Pn**	**20 01 26.4**	**+2.4**
RABH				*e*S		Sn	20 02 23.8	-13
RABH				AML		AML	20 03 25.2	
	comp=E,63nm,0.7s							
RABH				AML		AML	20 03 40.7	
	comp=N,30nm,0.7s							
ARNB	**Al Arnab**	**6.36**	**247**	*e*P		**Pn**	**20 01 26.9**	**+2.7**
ARNB				*e*S		**Sn**	**20 02 29.1**	**-7.8**
ARNB				AML		AML	20 03 30.2	
	comp=E,78nm,0.7s							
ARNB				AML		AML	20 03 34.0	
	comp=N,67nm,0.6s							
GOF	**Gofitskoye**	**6.45**	**359**	⇑*e*P		Pn	20 01 13.7	-12
GOF				pmax		pmax		
	comp=Z,12nm,1.5s							
ROOS	**tl_alroos**	**6.49**	**229**	*e*P		**Pn**	**20 01 26.4**	**+0.4**
ROOS				*e*S		Sn	20 02 24.9	-15
ROOS				AML		AML	20 03 31.5	
	comp=E,43nm,0.6s							
ROOS				AML		AML	20 03 47.9	
	comp=N,63nm,0.7s							
BIDA	**Albida**	**6.56**	**239**	*e*P		**Pn**	**20 01 29.7**	**+2.8**
BIDA				*e*S		Sn	20 02 30.7	-11
BIDA				AML		AML	20 03 32.5	
	comp=E,128nm,0.6s							
BIDA				AML		AML	20 03 39.8	
	comp=N,113nm,0.6s							
HAWK	**Haweek**	**6.80**	**235**	*e*P		**Pn**	**20 01 31.6**	**+1.4**
HAWK				*e*S		Sn	20 02 34.0	-14
HAWK				AML		AML	20 03 32.5	
	comp=E,35nm,0.7s							
HAWK				AML		AML	20 03 34.6	
	comp=N,29nm,0.7s							
MARH	**Ras Al Marh**	**7.07**	**232**	AML		AML	20 03 54.7	
	comp=E,24nm,0.7s							
MARH				AML		AML	20 03 59.9	
	comp=N,42nm,0.6s							
BRTR	**Keskin Array B**	**7.49**	**282**	Pn		**Pn**	**20 01 40.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=117,slow=15,SNR=3.5							
BRTR	**Keskin Array B**	**7.49**	**282**	*i* P		Pn	20 01 46.0	+6.3
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TOTH	**TOTAH**	**7.56**	**228**	*e*P		**Pn**	**20 01 41.3**	**+0.6**
TOTH				*e*S		Sn	20 02 51.4	-15
TOTH				AML		AML	20 04 09.3	
	comp=N,19nm,0.7s							
TOTH				AML		AML	20 04 27.9	
	comp=E,18nm,0.7s							
BRBR	**Barbar**	**7.81**	**231**	*e*P		**Pn**	**20 01 44.1**	**-0.1**
BRBR				*e*S		Sn	20 02 57.2	-16
BRBR				AML		AML	20 04 21.4	
	comp=E,27nm,0.7s							
BRBR				AML		AML	20 04 27.8	
	comp=N,17nm,0.7s							
SALA	**Sala**	**7.87**	**224**	*e*P		**Pn**	**20 01 44.4**	**-0.7**
SALA				*e*S		Sn	20 02 56.8	-17
SALA				AML		AML	20 04 14.8	
	comp=N,29nm,0.6s							
SALA				AML		AML	20 04 17.3	
	comp=E,2.9nm,0.6s							
GEYT	**Alibeck**	**11.77**	**89**	Pn		**Pn**	**20 02 39.9**	**+1.5**
	comp=E,0.1nm,0.3s,baz=266,slow=12,SNR=3.7							
VRI	**Vrincioaia**	**14.16**	**306**	⇑*i*P		P	20 03 28.6	+10
VRI	**Vrincioaia**	**14.16**	**306**	⇑P		P	20 03 28.6	+10
MLR	**Muntele Rosu**	**14.52**	**304**	⇓*i*P		P	20 03 29.9	+7.3
MLR	**Muntele Rosu**	**14.52**	**304**	⇓P		P	20 03 29.9	+7.3
DOPR	**Dopca**	**15.06**	**305**	⇑*i*P		**P**	**20 03 31.2**	**+2.7**
DOPR	**Dopca**	**15.06**	**305**	⇑P		**P**	**20 03 31.2**	**+2.7**
VOIR		**15.08**	**303**	⇑*i*P		**P**	**20 03 32.0**	**+3.3**
VOIR		**15.08**	**303**	⇑P		**P**	**20 03 32.1**	**+3.3**
VOIR		**15.08**	**303**	P		**P**	**20 03 32.1**	**+3.3**
RAYN	**Ar Rayn**	**15.16**	**172**	*e*Pn		**Pn**	**20 03 21.2**	**-3.5**
	comp=E,2.9nm,0.6s							
ARR	**Arges**	**15.33**	**302**	⇑*i*P		**P**	**20 03 37.7**	**+6.1**
AKASG	**Malin Array Be**	**15.61**	**325**	Pn		**Pn**	**20 03 31.6**	**+1.4**
	comp=E,0.7nm,0.3s,baz=135,slow=11,SNR=5.4							
AKASG	**Malin Array Be**	**15.61**	**325**	*i* P		**P**	**20 03 34.0**	**-0.5**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**15.61**	**325**	*i* P		**P**	**20 03 34.0**	**-0.5**
	comp=Z,3.0nm,0.6s							
KIEV	**Kiev**	**15.61**	**325**	*i* P		**P**	**20 03 34.4**	**-0.1**
KIEV	**Kiev**	**15.61**	**325**	Pn		**Pn**	**20 03 30.5**	**+0.2**
	comp=Z,15nm,1.3s							
KIEV	**Kiev**	**15.61**	**325**	*i* P		**P**	**20 03 34.4**	**-0.1**
KIEV	**Kiev**	**15.61**	**325**	Pn		**Pn**	**20 03 30.5**	**+0.2**
	comp=Z,15nm,1.3s							
AKTO	**Aktyubinsk**	**15.84**	**37**	Pn		**Pn**	**20 03 33.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=228,slow=13,SNR=6.5							
BURAR	**Bucovina Array**	**15.88**	**310**	⇑*i*P		**P**	**20 03 41.2**	**+3.6**
BURAR	**Bucovina Array**	**15.88**	**310**	⇑P		**P**	**20 03 41.2**	**+3.6**
DRGR		**17.09**	**305**	⇓*i*P		**P**	**20 03 52.0**	**+1.0**
DRGR		**17.09**	**305**	⇓P		**P**	**20 03 52.0**	**+1.0**
DRGR		**17.09**	**305**	P		**P**	**20 03 52.0**	**+1.0**
OBN	**Obninsk**	**17.11**	**347**	*i* P		**P**	**20 03 52.5**	**+1.4**
OBN				pmax		pmax		
	comp=Z,8.0nm,1.0s							
OBN	**Obninsk**	**17.11**	**347**	*i* P		**P**	**20 03 52.5**	**+1.4**
	comp=Z,8.0nm,1.0s							
OBN	**Obninsk**	**17.11**	**347**	Pn		**Pn**	**20 03 47.1**	**-2.3**
STHS	**Stebnicka Huta**	**19.05**	**312**	*e*P		**Pn**	**20 04 20.0**	**+6.7**
STHS	**Stebnicka Huta**	**19.05**	**312**	*e*		**Pn**	**20 04 20.0**	**+6.7**
VYHS	**Vyhne**	**20.14**	**307**	*e*P		Pn	20 04 26.3	0.0
VYHS				pmax		pmax		
	comp=Z,3.0nm,0.9s							
VYHS	**Vyhne**	**20.14**	**307**	*e*P		Pn	20 04 26.3	0.0
	comp=Z,3.0nm,0.9s							
VYHS	**Vyhne**	**20.14**	**307**	*e*P		Pn	20 04 26.2	-0.1
WSAR	**Wadi Sarin**	**20.22**	**135**	P		**P**	**20 04 22.2**	**-3.2**
	comp=Z,4.2nm,1.1s,baz=253,slow=11,SNR=1.8							
ARU	**Arti**	**20.56**	**25**	P		**P**	**20 04 29.4**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=258,slow=18,SNR=9.8							
ARU	**Arti**	**20.56**	**25**	*c i*P		**P**	**20 04 29.6**	**+0.7**
ARU				S		**S**	**20 08 20.5**	**+1.9**
ARU				SS		**SnSn**	**20 08 37.1**	**-0.2**
ARU				pmax		pmax		
	comp=Z,15nm,1.7s							
ARU	**Arti**	**20.56**	**25**	*e*P		**P**	**20 04 29.4**	**+0.5**
	comp=Z,40nm,1.7s							
ARU				S		**S**	**20 08 20.5**	**+1.9**
ARU	**Arti**	**20.56**	**25**	*e*P		**P**	**20 04 29.4**	**+0.5**
	comp=Z,40nm,1.7s							
KKAR	**Karatay Array**	**21.12**	**69**	*e*P		**P**	**20 04 36.0**	**+0.8**
KKAR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KKAR	**Karatay Array**	**21.12**	**69**	*e*P		**P**	**20 04 36.0**	**+0.8**
	comp=Z,10nm,0.8s							
KKAR	**Karatay Array**	**21.12**	**69**	*e*P		**P**	**20 04 36.0**	**+0.8**
	comp=Z,10nm,0.8s							
MORC	**Moravsky Berou**	**21.39**	**310**	*e*P		**P**	**20 04 38.7**	**+0.6**
MORC				pmax		pmax		
	comp=Z,16nm,1.1s							
MORC	**Moravsky Berou**	**21.39**	**310**	*e*P		**P**	**20 04 38.7**	**+0.6**
	comp=Z,16nm,1.1s							
MORC	**Moravsky Berou**	**21.39**	**310**	*e*P		**P**	**20 04 38.7**	**+0.6**
	comp=Z,16nm,1.1s							
VRAC	**Vranov**	**21.81**	**308**	P		**P**	**20 04 45.4**	**+2.9**
	comp=Z,1.7nm,0.7s,baz=90,slow=7.9,SNR=3.8							
KLMR	**Klimovskoe**	**22.39**	**355**	*e*P		**P**	**20 04 50.7**	**+2.1**
KLMR				pmax		pmax		
	comp=Z,21nm,1.4s							
KLMR	**Klimovskoe**	**22.39**	**355**	*e*P		**P**	**20 04 50.7**	**+2.1**
	comp=Z,21nm,1.4s							
AQU	**L'Aquila**	**22.89**	**289**	P		**P**	**20 04 53.5**	**-0.7**
AQU	**L'Aquila**	**22.89**	**289**	P		**P**	**20 04 53.5**	**-0.7**
AQU	**L'Aquila**	**22.89**	**289**	P		**P**	**20 04 53.5**	**-0.7**
GERES	**GERESS Array B**	**23.49**	**305**	P		**P**	**20 04 59.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=108,slow=9.4,SNR=6.9							
BRVK	**Borovoye**	**23.60**	**43**	*ce*P		**P**	**20 05 03.1**	**+2.0**
BRVK				pmax		pmax		
	comp=Z,11nm,1.7s							
BRVK	**Borovoye**	**23.60**	**43**	*e*P		**P**	**20 05 01.9**	**+0.7**
	comp=Z,4.7nm,0.7s							
BRVK	**Borovoye**	**23.60**	**43**	*e*P		**P**	**20 05 01.9**	**

MAT	**Matsushiro**	**2.40**	**288**	P	Pn	20 03 11.7 +0.2
MAT				S	Sn	20 03 38.7 -1.9

*ISN **28** 20:15:12.8±11.0, 37°.26N×44°.30E, h0km±74km, ML3.5*
*ISK **28** 20:15:17.0, 37°.31N×44°.35E, h5km, ML3.5*
*ISCJB **28** 20:15:17.7±0.7, 37°.24N±0°.06×44°.42E±0°.04, h10km, Error ellipse: s-maj=8.4km s-min=3.8km az=160.4*
*CSEM **28** 20:15:17.9±0.3, 37°.26N×44°.42E, h2km, ML2.7, Error ellipse: s-maj=9.0km s-min=4.6km az=167.0*
*DDA **28** 20:15:28.2, 38°.05N×44°.10E, h2km, Ml2.7*
*AZER **28** 20:15:29.3±0.9, 37°.58N×45°.32E, h8km, Error ellipse: s-maj=9.9km s-min=3.4km az=35.0*

ISC 28 20:15:15.4±0.9, **37°.22N**±0°.05×**44°.45E**±0°.03, **h10**km, **n63**, σ2§**69**/73, **11C-9D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.67**	**272**	*e*PG	**Pb**	**20 15 29.3**	**+0.1**
CUKT				*e*SG	**Sb**	**20 15 39.0**	**+0.4**
CUKT	**Cukurca**	**0.67**	**272**	*i* P	Pg	20 15 20.6	-7.7
CUKT				*i* S	**Sb**	**20 15 39.3**	**+0.6**
CUKT	**Cukurca**	**0.67**	**272**	*e*Pg	**Pb**	**20 15 29.3**	**+0.1**
CUKT				*e*Sg	**Sb**	**20 15 39.0**	**+0.4**
HAKT	**HAKKARI**	**0.68**	**300**	*i* P	Pg	20 15 18.7	-10
HAKT				*i* S	**Sg**	**20 15 35.6**	**-1.9**
BASK	**Baskale_VAN**	**0.90**	**337**	*i* P	**Pg**	**20 15 30.0**	**-2.7**
TVAN	**Van**	**1.54**	**328**	*i* P	**Pn**	**20 15 42.0**	**-1.1**
GEVA	**Gevas**	**1.55**	**315**	*i* P	**Pg**	**20 15 45.7**	**+0.6**
GEVA	**Gevas**	**1.55**	**315**	P	**Pg**	**20 15 45.7**	**+0.6**
SIRN	**S¨–rnak**	**1.64**	**280**	*i* P	Pn	20 15 37.7	-6.7
VMUR	**Van-Muradiye**	**1.89**	**339**	*i* P	**Pb**	**20 15 50.5**	**+0.3**
VMUR	**Van-Muradiye**	**1.89**	**339**	P	**Pb**	**20 15 50.5**	**+0.3**
CLDR	**Caldiran**	**1.96**	**348**	*e*PN	**Pb**	**20 15 51.1**	**-0.3**
CLDR				*e*SN	**Sg**	**20 16 15.9**	**-2.6**
CLDR	**Caldiran**	**1.96**	**348**	*i* P	**Pn**	**20 15 49.6**	**+0.7**
CLDR	**Caldiran**	**1.96**	**348**	P	**Pn**	**20 15 49.6**	**+0.7**
CLDR	**Caldiran**	**1.96**	**348**	*e*Pn	**Pb**	**20 15 51.1**	**-0.3**
CLDR				*e*Sn	**Sg**	**20 16 15.9**	**-2.6**
NAX	**Nakhchivan**	**2.12**	**23**	‖P	**Pg**	**20 15 58.0**	**+2.0**
NAX				‖S	**Sb**	**20 16 21.6**	**+1.3**
NAX	**Nakhchivan**	**2.12**	**23**	P	**Pg**	**20 15 58.0**	**+2.0**
NAX				S	**Sb**	**20 16 21.6**	**+1.3**
BTMN	**Batman**	**2.61**	**286**	*i* P	**Pb**	**20 16 03.4**	**+1.1**
AGRB	**Hanur-Agry**	**2.61**	**335**	*e*PN	**Pb**	**20 16 00.1**	**-2.3**
AGRB	**Hanur-Agry**	**2.61**	**335**	*e*Pn	**Pb**	**20 16 00.1**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.74**	**291**	*e*PN	**Pb**	**20 16 02.2**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.74**	**291**	*e*Pn	**Pb**	**20 16 02.2**	**-2.3**
MARD	**Mardin**	**2.93**	**273**	*i* P	**Pg**	**20 16 10.4**	**-1.0**
EATA	**Eleskirt**	**3.05**	**330**	*i* P	**Pb**	**20 16 09.5**	**-0.5**
EATA	**Eleskirt**	**3.05**	**330**	P	**Pb**	**20 16 09.5**	**-0.5**
VRTB	**Varto-Mus**	**3.05**	**310**	*e*PN	**Pn**	**20 16 06.7**	**+2.9**
VRTB	**Varto-Mus**	**3.05**	**310**	*e*Pn	**Pn**	**20 16 06.7**	**+2.9**
MAZI	**Mazidag**	**3.19**	**275**	*e*PN	**Pn**	**20 16 09.3**	**+3.5**
MAZI	**Mazidag**	**3.19**	**275**	*e*Pn	**Pn**	**20 16 09.3**	**+3.5**
LRK	**Lerik**	**3.39**	**64**	‖P	**Pn**	**20 16 11.7**	**+3.2**
LRK				‖S	**Sn**	**20 16 43.7**	**-5.2**
LRK	**Lerik**	**3.39**	**64**	P	**Pn**	**20 16 11.7**	**+3.2**
BNGB	**Bing¶‖**	**3.46**	**302**	*e*PN	**Pn**	**20 16 12.7**	**+3.3**
DIYA	**Diyarbakir**	**3.51**	**283**	*i* P	**Pg**	**20 16 21.6**	**-0.9**
BINT	**Bingol**	**3.53**	**299**	*e*Pn	**Pn**	**20 16 12.7**	**+2.3**
GDB	**GEDABAY**	**3.64**	**16**	‖P	**Pb**	**20 16 19.3**	**-0.6**
GDB				‖S	**Sn**	**20 16 56.9**	**+1.9**
GDB	**GEDABAY**	**3.64**	**16**	P	**Pb**	**20 16 19.3**	**-0.6**
GDB				S	**Sn**	**20 16 56.9**	**+1.9**
ASTR	**Astara**	**3.69**	**67**	‖P	**Pn**	**20 16 16.0**	**+3.5**
ASTR				‖S	**Sn**	**20 16 51.3**	**-4.7**
ASTR	**Astara**	**3.69**	**67**	P	**Pn**	**20 16 16.0**	**+3.5**
GLBA	**Cilalabad**	**3.71**	**56**	‖P	**Pn**	**20 16 16.0**	**+3.3**
GLBA				‖S	**Sn**	**20 16 51.1**	**-5.3**
GLBA	**Cilalabad**	**3.71**	**56**	P	**Pn**	**20 16 16.0**	**+3.3**
BRDA	**Brd**	**3.71**	**34**	‖P	Pn	20 16 17.9	+5.1
BRDA	**Brd**	**3.71**	**34**	P	Pn	20 16 17.9	+5.1
SENK	**Senkaya-Erzuru**	**3.71**	**335**	*e*PN	**Pn**	**20 16 16.1**	**+3.1**
SENK	**Senkaya-Erzuru**	**3.71**	**335**	*e*Pn	**Pn**	**20 16 16.1**	**+3.1**
GANJ	**Ganja**	**3.72**	**23**	‖P	**Pb**	**20 16 19.2**	**-2.0**
GANJ				‖S	**Sn**	**20 16 57.0**	**+0.2**
GANJ	**Ganja**	**3.72**	**23**	P	**Pb**	**20 16 19.2**	**-2.0**
GANJ				S	**Sn**	**20 16 57.0**	**+0.2**
LKRN	**Lenkeran, Azer**	**3.73**	**65**	‖P	**Pn**	**20 16 16.5**	**+3.4**
LKRN				‖S	**Sn**	**20 16 51.8**	**-5.2**
LKRN	**Lenkeran, Azer**	**3.73**	**65**	P	**Pn**	**20 16 16.5**	**+3.4**
YEDI	**Yedisu-Bingol**	**3.78**	**307**	*e*PN	**Pn**	**20 16 17.2**	**+3.3**
YEDI	**Yedisu-Bingol**	**3.78**	**307**	*e*Pn	**Pn**	**20 16 17.2**	**+3.3**
QZX	**Qazax, Azerbai**	**3.90**	**10**	‖P	**Pb**	**20 16 23.4**	**-0.8**
QZX				‖S	**Sn**	**20 17 04.6**	**+3.4**
SVRC	**Sivrice-ELAZID**	**4.23**	**287**	*e*PN	**Pn**	**20 16 23.2**	**+3.1**
SVRC	**Sivrice-ELAZID**	**4.23**	**287**	*e*Pn	**Pn**	**20 16 23.2**	**+3.1**
PTK	**Pertek**	**4.32**	**294**	*e*PN	**Pn**	**20 16 25.0**	**+3.7**
PTK	**Pertek**	**4.32**	**294**	*e*Pn	**Pn**	**20 16 25.0**	**+3.7**
URFA	**Urfa**	**4.49**	**274**	*e*PN	**Pn**	**20 16 27.7**	**+4.2**
URFA	**Urfa**	**4.49**	**274**	*e*Pn	**Pn**	**20 16 27.7**	**+4.2**
SEKA	**Sheki**	**4.52**	**27**	‖P	Pn	20 16 30.1	+6.2
SEKA	**Sheki**	**4.52**	**27**	P	Pn	20 16 30.1	+6.2
ATGJ	**Altiaghaj**	**5.04**	**43**	‖P	**Pn**	**20 16 34.4**	**+3.2**
ATGJ	**Altiaghaj**	**5.04**	**43**	P	**Pn**	**20 16 34.4**	**+3.2**
NDR	**Nardaran**	**5.47**	**50**	‖P	**Pn**	**20 16 40.1**	**+3.2**
NDR	**Nardaran**	**5.47**	**50**	P	**Pn**	**20 16 40.1**	**+3.2**

*DDA **28** 20:23:25.9, 38°.75N×43°.71E, h7km, Ml2.6*
*ISK **28** 20:23:25.2, 38°.77N×43°.59E, h5km, ML2.6*
*ISCJB **28** 20:23:27.0±0.7, 38°.78N±0°.03×43°.58E±0°.07, h13km±5km, Error ellipse: s-maj=9.9km s-min=5.3km az=15.0*
*CSEM **28** 20:23:26.4±0.3, 38°.78N×43°.59E, h10km, ML2.6, Error ellipse: s-maj=8.2km s-min=5.2km az=108.0*

ISC 28 20:23:24.4±1.4, **38°.78N**±0°.03×**43.75E**±0°.06, **h13**km±10km, **n22**, σ0§**77**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.25**	**327**	*i* P	**Pb**	**20 23 30.5**	**-0.4**
VMUR				*i* S	**Sb**	**20 23 36.1**	**+0.8**
VMUR	**Van-Muradiye**	**0.25**	**327**	P	**Pb**	**20 23 30.5**	**-0.4**
VMUR				S	**Sb**	**20 23 36.1**	**+0.8**
VANB	**Van**	**0.34**	**236**	*e*PG	**Pb**	**20 23 32.4**	**+0.1**
VANB	**Van**	**0.34**	**236**	*e*Pg	**Pb**	**20 23 32.4**	**+0.1**
TVAN	**Van**	**0.37**	**227**	*i* P	**Pb**	**20 23 31.8**	**-1.1**
TVAN				*i* S	**Sb**	**20 23 38.8**	**+0.1**
TVAN	**Van**	**0.37**	**227**	P	**Pb**	**20 23 31.8**	**-1.1**
TVAN				S	**Sb**	**20 23 38.8**	**+0.1**
CLDR	**Caldiran**	**0.38**	**20**	*e*PG	Pn	20 23 35.4	-0.5
CLDR				*e*SG	**Sn**	**20 23 42.5**	**-0.8**
CLDR	**Caldiran**	**0.38**	**20**	*i* P	Pn	20 23 35.2	-0.7
CLDR				*i* S	**Sn**	**20 23 44.6**	**+1.3**
CLDR	**Caldiran**	**0.38**	**20**	P	Pn	20 23 35.2	-0.7
CLDR	**Caldiran**	**0.38**	**20**	*e*Pg	Pn	20 23 35.4	-0.5
CLDR				*e*Sg	**Sn**	**20 23 42.5**	**-0.8**
CLDR				S	**Sn**	**20 23 44.6**	**+1.3**
ERCV	**ERCIS-VAN**	**0.40**	**307**	*e*PG	**Pg**	**20 23 32.1**	**-0.3**
ERCV				*e*SG	**Sg**	**20 23 38.3**	**+0.4**
ERCV	**ERCIS-VAN**	**0.40**	**307**	*e*Pg	**Pg**	**20 23 32.1**	**-0.3**
ERCV				*e*Sg	**Sg**	**20 23 38.3**	**+0.4**
AGRB	**Hanur-Agry**	**0.99**	**324**	*e*PG	**Pn**	**20 23 44.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.99**	**324**	*e*Pg	**Pn**	**20 23 44.2**	**+0.1**
EATA	**Eleskirt**	**1.45**	**318**	*i* P	**Pg**	**20 23 52.8**	**+0.4**
EATA	**Eleskirt**	**1.45**	**318**	P	**Pg**	**20 23 52.8**	**+0.4**
CUKT	**Cukurca**	**1.54**	**184**	*e*PN	**Pg**	**20 23 54.5**	**+0.7**
CUKT	**Cukurca**	**1.54**	**184**	*e*Pn	**Pg**	**20 23 54.6**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.08**	**329**	*e*PN	**Pb**	**20 24 01.6**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.08**	**329**	*e*Pn	**Pb**	**20 24 01.6**	**-0.5**
BNGB	**Bing¶‖**	**2.40**	**276**	*e*PN	**Pb**	**20 24 05.7**	**-1.9**
BINT	**Bingol**	**2.55**	**273**	*e*Pn	**Pn**	**20 24 05.7**	**+0.2**

*ISK **28** 20:25:55.3, 38°.81N×43°.40E, h26km, MD2.6*
*CSEM **28** 20:25:56.8±0.3, 38°.84N×43°.41E, h10km, MD2.6, Error ellipse: s-maj=10.4km s-min=6.7km az=101.0*
*DDA **28** 20:25:57.1, 38°.83N×43°.41E, h7km, Ml2.4*

ISC 28 20:25:56.8±1.2, **38°.83N**±0°.03×**43°.41E**±0°.05, **h16**km±10km, **n14**, σ0§**60**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.19**	**343**	*e*PG	**Pg**	**20 26 01.5**	**-0.1**
ERCV				*e*SG	**Sb**	**20 26 06.4**	**+0.8**
ERCV	**ERCIS-VAN**	**0.19**	**343**	*e*Pg	**Pg**	**20 26 01.5**	**-0.1**
ERCV				*e*Sg	**Sb**	**20 26 06.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.20**	**39**	*i* P	**Pg**	**20 26 01.3**	**-0.4**
VMUR	**Van-Muradiye**	**0.20**	**39**	P	**Pg**	**20 26 01.3**	**-0.4**
VANB	**Van**	**0.24**	**184**	*e*PG	**Pb**	**20 26 02.9**	**+0.1**
VANB	**Van**	**0.24**	**184**	*e*Pg	**Pb**	**20 26 02.9**	**+0.1**
TVAN	**Van**	**0.30**	**181**	*i* P	**Pg**	**20 26 03.2**	**-0.1**
TVAN				*i* S	**Sb**	**20 26 08.8**	**0.0**
TVAN	**Van**	**0.30**	**181**	P	**Pg**	**20 26 03.2**	**-0.1**
TVAN				S	**Sb**	**20 26 08.8**	**0.0**
CLDR	**Caldiran**	**0.50**	**52**	*e*PG	**Pg**	**20 26 06.4**	**-0.4**
CLDR				*e*SG	**Sb**	**20 26 15.0**	**+0.5**
CLDR	**Caldiran**	**0.50**	**52**	*i* P	**Pg**	**20 26 06.1**	**-0.7**
CLDR				*i* S	**Sb**	**20 26 15.5**	**+1.0**
CLDR	**Caldiran**	**0.50**	**52**	P	**Pg**	**20 26 06.1**	**-0.7**
CLDR	**Caldiran**	**0.50**	**52**	*e*Pg	**Pg**	**20 26 06.4**	**-0.4**
CLDR				*e*Sg	**Sb**	**20 26 15.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.81**	**336**	*e*PG	**Pg**	**20 26 11.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.81**	**336**	*e*Pg	**Pg**	**20 26 11.7**	**-0.9**

*SCB **28** 20:26:33.4±0.6, 13°.78S×76°.91W, h20km, Ml4.3/1, Error ellipse: s-maj=23.8km s-min=11.0km az=3.0*
*IDC **28** 20:26:45.9±0.6, 14°.42S×76°.18W, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/28, mbtmp4.4/18, ML3.7/3, Error ellipse: s-maj=21.6km s-min=12.5km az=63.0*
*ISCJB **28** 20:26:48.5±0.3, 14°.47S±0°.05×76°.19W±0°.06, h29km, mb4.6/40, Error ellipse: s-maj=9.4km s-min=4.4km az=145.0*
*NEIC **28** 20:26:48.4±2.2, 14°.43S×76°.10W, h15km±13km, mb4.8/30, ML4.9(ARE), Error ellipse: s-maj=9.5km s-min=4.1km az=63.0*
NEIC Felt [III] at Ica.

ISC 28 20:26:50.0±0.4, **14°.53S**±0°.06×**76°.23W**±0°.09, **h29**km, **n103**, σ1§**61**/99, **mb4.7**/40, **1C-1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.59**	**347**	Pn	**Pn**	**20 27 28.5**	**-1.6**
NNA	28nm,0.3s,baz=150,slow=14,SNR=32			Lg	Lg	20 28 03.6	
NNA	**Nana**	**2.59**	**347**	*e*Pn	**Pn**	**20 27 28.0**	**-2.1**
NNA	164nm,0.3s,baz=192,slow=12,SNR=9.4			Lg	Lg	20 28 03.6	
BBOD	**La Paz, Gloria**	**7.64**	**107**	*e*Pn	**Pn**	**20 28 43.3**	**+3.3**
ATAH	**Atahualpa**	**7.65**	**344**	Pn	**Pn**	**20 28 40.1**	**+0.1**
MNMC	**Minye Minye**	**7.83**	**127**	*e*Pn	**Pn**	**20 28 40.9**	**-1.4**
BBOB	**La Paz, Bander**	**7.97**	**103**	*e*Pn	**Pn**	**20 28 47.8**	**+3.3**
BBOB				*e*Sn	Sn	20 30 25.4	+11
LPAZ	**La Paz**	**8.00**	**104**	Pn	**Pn**	**20 28 48.4**	**+3.4**
LPAZ	**La Paz**	**8.00**	**104**	*e*Pn	**Pn**	**20 28 48.3**	**+3.4**
LPAZ				*e*Sn	Sn	20 30 26.2	+11
LPAZ	**La Paz**	**8.00**	**104**	*e*Pn	**Pn**	**20 28 48.0**	**+3.0**
BBOJ	**La Paz, Jacaqu**	**8.11**	**109**	*e*Pn	**Pn**	**20 28 49.8**	**+3.4**
PB11	**IPOC Station P**	**8.16**	**131**	*e*Pn	**Pn**	**20 28 44.9**	**-1.8**
BBOE	**La Paz, Chanca**	**8.26**	**107**	*e*Pn	**Pn**	**20 28 51.9**	**+3.4**
PB01	**IPOC Station P**	**9.12**	**136**	*e*Pn	**Pn**	**20 28 59.6**	**-0.2**
PB04	**IPOC Station P**	**9.67**	**144**	*e*Pn	**Pn**	**20 29 06.2**	**-1.3**
PB10	**IPOC Station P**	**10.42**	**150**	*e*Pn	**Pn**	**20 29 16.5**	**-1.1**
LVC	**Limon Verde**	**10.62**	**140**	Pn	**Pn**	**20 29 21.5**	**+0.9**
LVC	76nm,0.3s,baz=309,slow=10,SNR=11			Sn	**Sn**	**20 31 14.1**	**-4.7**
LVC	32nm,0.3s,baz=22,slow=6.1,SNR=2.7			Lg	Lg	20 32 13.7	
MOCB	**Mochara**	**12.09**	**125**	*e*P	**Pn**	**20 29 41.4**	**+0.5**
SAML	**Samuel**	**13.92**	**68**	*e*Pn	**Pn**	**20 30 03.2**	**-2.2**
SIV	**San Ignacio**	**14.70**	**98**	Pn	**Pn**	**20 30 14.2**	**-1.9**
LVC	0.5nm,0.3s,baz=279,slow=16,SNR=11						
OTAV	**Otavalo**	**14.83**	**351**	*e*Pn	**Pn**	**20 30 16.6**	**-1.7**
GUYC	**Guyana, Colomb**	**19.64**	**2**	*e*P	**Pn**	**20 31 21.6**	**+3.1**
RUSC	**La Rusia**	**20.52**	**9**	*e*P	Pn	20 31 28.7	-0.3
RUSC	**La Rusia**	**20.52**	**9**	*e*P	Pn	20 31 27.9	-1.1
PTGA	**Pitinga**	**21.13**	**51**	P	**P**	**20 31 31.5**	**-1.2**
PTGA	**Pitinga**	**21.13**	**51**	*e*P	**P**	**20 31 31.4**	**-1.4**
CPUP	**Villa Florida**	**21.22**	**127**	P	**P**	**20 31 33.7**	**+0.1**
CPUP	**Villa Florida**	**21.22**	**127**	*e*P	**P**	**20 31 33.6**	**0.0**
ZARC	**Zaragoza, Cauc**	**21.92**	**4**	*e*P	**P**	**20 31 36.5**	**-4.7**
PAMC	**Pamplona, Colo**	**22.00**	**9**	*e*P	**P**	**20 31 43.8**	**+1.2**
MOTC	**Monteria, Cord**	**23.16**	**1**	*e*P	**P**	**20 31 56.0**	**+1.7**
BCIP	**Isla Barro Col**	**23.81**	**351**	*e*P	**P**	**20 31 58.7**	**-2.0**
SDV	**Santo Domingo**	**23.91**	**14**	P	**P**	**20 32 01.5**	**-0.3**
SDV	**Santo Domingo**	**23.91**	**14**	*e*P	**P**	**20 32 01.2**	**-0.6**
SJCC	**San Jacinto, C**	**24.29**	**3**	*e*P	**P**	**20 32 06.2**	**+1.1**
PLCA	**Paso Flores**	**26.58**	**170**	*e*P	**P**	**20 32 27.5**	**+1.8**
TRQA	**Tornquist**	**26.62**	**154**	*e*P	**P**	**20 32 27.2**	**+1.1**
PCRV	**Puerto La Cruz**	**27.10**	**26**	P	**P**	**20 32 30.8**	**+0.2**
BDFB	**Brasilia**	**27.26**	**96**	P	**P**	**20 32 31.7**	**-0.5**
BDFB	**Brasilia**	**27.26**	**96**	*e*P	**P**	**20 32 32.1**	**0.0**
CELP	**Cerrillos**	**33.76**	**17**	*e*P	**P**	**20 33 26.9**	**-2.4**
TEIG	**Tepich**	**36.51**	**341**	*e*P	**P**	**20 33 53.4**	**+0.3**
LNIG	**Linares**	**45.27**	**330**	*e*P	**P**	**20 35 06.0**	**+0.8**
HODGE	**Hodges**	**48.82**	**353**	*e*P	**P**	**20 35 31.7**	**-1.1**
TX31	**Lajitas Ar. Si**	**51.02**	**329**	*e*P	**P**	**20 35 50.2**	**+0.5**
TXAR	**Lajitas Array**	**51.02**	**329**	P	**P**	**20 35 50.3**	**+0.6**
TXAR	1.6nm,0.7s,baz=149,slow=9.4,SNR=16			PcP	**PcP**	**20 37 05.5**	**-0.1**
MIAR	**Mount Ida**	**51.51**	**342**	*e*P	**P**	**20 35 52.5**	**-0.7**
ABTX	**Abilene, Hawle**	**51.96**	**335**	*e*P	**P**	**20 35 57.2**	**+0.6**
IP01	**Cuckoo**	**52.23**	**358**	*e*P	**P**	**20 36 00.3**	**+1.9**
CVRD	**Centerville Ro**	**52.34**	**358**	*e*P	**P**	**20 35 58.5**	**-0.7**
PTRD	**Partlow Road**	**52.38**	**359**	*e*P	**P**	**20 35 58.9**	**-0.6**
WCI	**Wyandotte Cave**	**53.32**	**350**	*e*P	**P**	**20 36 04.3**	**-2.2**
ACSO	**Alum Creek Sta**	**54.84**	**354**	*e*P	P	20 36 12.5	-5.1
319A	**Douglas**	**55.59**	**326**	*e*P	**P**	**20 36 24.4**	**+1.1**
SDCO	**Great Sand Dun**	**58.82**	**333**	*e*P	**P**	**20 36 46.5**	**+0.3**
TPNV	**Topopah Spring**	**63.58**	**325**	*e*P	**P**	**20 37 19.8**	**+1.4**
DUG	**Dugway, Tooele**	**64.19**	**330**	*e*P	**P**	**20 37 23.0**	**+0.7**
R11A	**Troy Canyon, C**	**64.23**	**326**	*e*P	**P**	**20 37 23.6**	**+0.9**
HWUT	**Hardware Ranch**	**64.69**	**331**	*e*P	**P**	**20 37 25.7**	**+0.1**
PDAR	**Pinedale Array**	**64.71**	**333**	P	**P**	**20 37 25.0**	**-0.8**
PDAR	0.5nm,0.6s,baz=142,slow=7.4,SNR=5.0			PcP	**PcP**	**20 37 58.7**	**-0.6**
HVU	**Hansel Valley**	**65.39**	**331**	*e*P	**P**	**20 37 30.4**	**+0.3**
FXWY	**Fox Creek**	**66.05**	**333**	*e*P	**P**	**20 37 34.6**	**+0.2**
SBT	**San Benito**	**66.08**	**322**	*e*P	**P**	**20 37 35.1**	**+0.7**
RLMT	**Red Lodge**	**66.50**	**335**	*e*P	**P**	**20 37 37.0**	**-0.2**
ULM	**Lac du Bonnet**	**66.77**	**346**	P	**P**	**20 37 37.2**	**-1.3**
YHH	**Holmes Hill**	**66.89**	**334**	*e*P	**P**	**20 37 40.6**	**+0.8**
HLID	**Hailey**	**67.53**	**331**	*e*P	**P**	**20 37 44.4**	**+0.5**
MFID	**Camas Ranch**	**68.10**	**330**	*e*P	**P**	**20 37 48.2**	**+0.9**
VNA3	**Neumayer Olymp**	**68.87**	**161**	P	**P**	**20 37 52.6**	**+0.9**
VNA1	**Neumayer--Stat**	**69.14**	**161**	P	**P**	**20 37 55.5**	**+2.3**
VNA2	**Neumayer--Watz**	**69.49**	**161**	P	**P**	**20 37 56.4**	**+1.0**
SNAA	**Sanae**	**71.09**	**161**	P	**P**	**20 38 06.4**	**+1.1**
DBIC	**Dimbokro**	**73.83**	**79**	P	**P**	**20 38 21.6**	**-1.0**
QSPA	**South Pole Qui**	**75.62**	**180**	*e*P	**P**	**20 38 34.0**	**+1.8**
TOA0	**Torodi Ar. Sit**	**81.89**	**74**	*e*P	**P**	**20 39 07.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**20 39 07.2**	**-0.2**
VNDA	**Vanda**	**82.42**	**191**	P	**P**	**20 39 09.4**	**+0.3**
SYO	**Syowa Base**	**85.38**	**161**	‖*e*P	**P**	**20 39 24.0**	**-0.3**
SYO	**Syowa Base**	**85.38**	**161**	‖*e*pP	**P**	**20 39 28.9**	**+4.6**
ESDC	**Sonseca Array**	**86.03**	**47**	P	**P**	**20 39 28.5**	**+0.4**
MAW	**Mawson**	**92.88**	**165**	P	**P**	**20 40 00.7**	**+0.8**
ILAR	**Eielson Array**	**95.03**	**336**	P	**P**	**20 40 08.8**	**-0.8**
GERES	**GERESS Array B**	**100.74**	**42**	P	**Pdif**	**20 40 36.0**	**+0.1**
H11N3	**WAKE ISLAND Hyl**	**19.73**	**285**	T	T	22 56 43.5	
H11N2	**WAKE ISLAND Hyl**	**19.74**	**285**	T	T	22 56 44.9	
H11N1	**WAKE ISLAND Hyl**	**19.74**	**285**	T	T	22 56 44.7	
H11S2	**WAKE ISLAND Hyl**	**19.79**	**283**	T	T	22 56 25.2	
H11S1	**WAKE ISLAND Hyl**	**19.80**	**283**	T	T	22 56 41.5	
H11S3	**WAKE ISLAND Hyl**	**19.81**	**283**	T	T	22 56 36.3	
ASAR	**Alice Springs**	**131.95**	**218**	PKP	**PKPdf**	**20 46 02.1**	**+0.5**
WRA	**Warramunga Arr**	**134.43**	**222**	PKP	**PKPdf**	**20 46 06.9**	**+0.6**
ZAA0	**Zalesovo Array**	**137.94**	**17**	*e*PKPdf	**PKPdf**	**20 46 10.6**	**-1.2**
ZALV	**Zalesovo Beam**	**137.94**	**17**	PKP	**PKPdf**	**20 46 12.2**	**+0.4**
KURK	**Kurchatov**	**138.56**	**24**	PKP	**PKPdf**	**20 46 13.8**	**+0.8**
KURBB	**Kurchatov Arra**	**138.60**	**24**	PKP	**PKPdf**	**20 46 13.8**	**+0.8**
MKAR	**Makanchi Array**	**143.15**	**25**	PKP	**PKPdf**	**20 46 20.3**	**-1.2**
ULN	**Ulaanbaatar**	**146.65**	**356**	*e*PKPdf	**PKPbc**	**20 46 29.1**	**-0.1**
SONM	**Songino Array**	**146.72**	**357**	PKPbc	**PKPbc**	**20 46 29.7**	**+0.3**
KSRS	**Korea Array**	**148.67**	**321**	PKP	**PKPdf**	**20 46 32.5**	**+1.5**
KSRS				PKPbc	**PKiKP**	**20 46 36.0**	**-0.3**
KSAR	**Wonju Array Be**	**148.70**	**321**	PKP	**PKPdf**	**20 46 32.5**	**+1.4**
KSAR				PKPbc	**PKiKP**	**20 46 36.0**	**-0.3**
GTA	**Gaotai**	**154.97**	**7**	*e*PKP	**PKPdf**	**20 46 41.8**	**+1.1**
GTA				sPKP		20 46 49.0	
LZH	**Lanzhou**	**158.53**	**360**	PKP	**PKPdf**	**20 46 45.0**	**-0.4**
LZH				pPKP	pPKPdf	20 46 54.3	-0.8
LZH				sPKP		20 46 58.0	
CD2	**Chengdu**	**163.69**	**0**	PKP	**PKPdf**	**20 46 50.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**173.94**	**49**	PKP	**PKPdf**	**20 46 58.4**	**+0.6**

*IDC **28** 20:33:30.0±0.9, 19°.86N×121°.42E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/38, mbtmp4.0/13, ML3.7/1, Error ellipse: s-maj=36.8km s-min=16.5km az=67.0*
*ISCJB **28** 20:33:33.8±0.4, 19°.94N±0°.03×121°.43E±0°.05, h40km, mb3.9/16, Error ellipse: s-maj=7.6km s-min=4.1km az=20.0*
*JMA **28** 20:33:34.9±0.7, 20°.19N×121°.57E, h0km, M4.3*
*NEIC **28** 20:33:34.5±0.5, 19°.89N×121°.43E, h35km, mb4.1/4, Error ellipse: s-maj=11.0km s-min=7.1km az=93.0*

ISC 28 20:33:35.5±0.8, **19°.90N**±0°.07×**121°.35E**±0°.07, **h40**km, **n37**, σ1§**46**/49, **mb4.0**/16, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.92**	**355**	*e*Pn	**Pn**	**20 34 17.6**	**-1.9**
TWG				*e*Sn	**Sn**	**20 34 52.9**	**-0.5**
TPUB	**Ta-pu**	**3.45**	**349**	*e*Pn	**Pn**	**20 34 25.4**	**-1.4**
TPUB				*e*Sn	**Sn**	**20 35 03.1**	**-3.4**
YULB	**Yu-li**	**3.48**	**359**	*e*Pn	**Pn**	**20 34 25.5**	**-1.6**
YULB				*e*Sn	**Sn**	**20 35 06.2**	**-1.0**
SSLB	**Suanglung**	**3.89**	**355**	*e*Pn	**Pn**	**20 34 32.5**	**-0.3**
SSLB				*e*Sn	**Sn**	**20 35 14.7**	**-2.6**
NACB	**Ninganchiao**	**4.26**	**3**	*e*Pn	**Pn**	**20 34 37.5**	**-0.4**
NACB				*e*Sn	**Sn**	**20 35 25.2**	**-1.2**
HATJ	**Hateruma jima**	**4.72**	**28**	P	**Pn**	**20 34 44.9**	**+0.6**
HATJ				*e*S	**Sn**	**20 35 36.1**	**-1.7**
YHNB	**Yeheng**	**4

GEVA	**Gevas**	**0.46**	**215**	*e*Pg	**Pg**	**20 41 46.7**	**-0.7**
CLDR	**Caldiran**	**0.61**	**42**	*e*PG	**Pg**	**20 41 48.9**	**-1.1**
CLDR				*e*SG	**Sg**	**20 41 58.2**	**+0.1**
CLDR	**Caldiran**	**0.61**	**42**	*i* P	**Pg**	**20 41 49.6**	**-0.4**
CLDR				*i* S	**Sb**	**20 42 00.6**	**+1.2**
CLDR	**Caldiran**	**0.61**	**42**	*e*Pg	**Pg**	**20 41 48.9**	**-1.1**
CLDR	**Caldiran**	**0.61**	**42**	P	**Pg**	**20 41 49.6**	**-0.4**
CLDR				*e*Sg	**Sg**	**20 41 58.2**	**+0.1**
CLDR				S	**Sb**	**20 42 00.6**	**+1.2**
TUTA	**Tutak**	**0.84**	**328**	*i* P	**Pg**	**20 41 53.6**	**-0.8**
TUTA	**Tutak**	**0.84**	**328**	P	**Pg**	**20 41 53.6**	**-0.8**
TATV	**Tatvan**	**0.90**	**258**	*i* P	**Pg**	**20 41 54.7**	**-0.9**
TATV	**Tatvan**	**0.90**	**258**	P	**Pg**	**20 41 54.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.93**	**341**	*e*PG	**Pg**	**20 41 55.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.93**	**341**	*e*Pg	**Pg**	**20 41 55.6**	**-0.6**
HAKT	**HAKKARI**	**1.16**	**168**	*i* P	**Pb**	**20 41 59.0**	**-1.3**
HAKT	**HAKKARI**	**1.16**	**168**	P	**Pb**	**20 41 59.0**	**-1.3**
EATA	**Eleskirt**	**1.36**	**329**	*i* P	**Pn**	**20 42 03.1**	**-0.1**
EATA	**Eleskirt**	**1.36**	**329**	P	**Pn**	**20 42 03.1**	**-0.1**
SIRN	**S¨–rnak**	**1.43**	**213**	*i* P	**Pg**	**20 42 05.6**	**+0.1**
SIRN	**S¨–rnak**	**1.43**	**213**	P	**Pg**	**20 42 05.6**	**+0.1**
CUKT	**Cukurca**	**1.45**	**173**	*e*PN	**Pn**	**20 42 04.5**	**+0.1**
CUKT	**Cukurca**	**1.45**	**173**	*i* P	**Pn**	**20 42 04.7**	**+0.4**
CUKT	**Cukurca**	**1.45**	**173**	P	**Pn**	**20 42 04.7**	**+0.4**
VRTB	**Varto-Mus**	**1.58**	**288**	*e*PN	**Pb**	**20 42 07.8**	**+0.4**
VRTB	**Varto-Mus**	**1.58**	**288**	*e*Pn	**Pb**	**20 42 07.8**	**+0.4**
DIGO	**Kars**	**1.72**	**360**	*i* P	**Pg**	**20 42 11.1**	**-0.1**
DIGO	**Kars**	**1.72**	**360**	P	**Pg**	**20 42 11.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.81**	**253**	*e*PN	**Pb**	**20 42 11.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.81**	**253**	*e*Pn	**Pb**	**20 42 11.2**	**0.0**
ERZM	**Erzurum**	**1.98**	**308**	*i* P	**Pg**	**20 42 16.1**	**-0.1**
ERZM	**Erzurum**	**1.98**	**308**	P	**Pg**	**20 42 16.1**	**-0.1**
EAK	**Akyaka**	**2.00**	**5**	*i* P	**Pg**	**20 42 17.4**	**+0.9**
EAK	**Akyaka**	**2.00**	**5**	P	**Pg**	**20 42 17.4**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.03**	**337**	*e*PN	**Pb**	**20 42 14.0**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.03**	**337**	*e*Pn	**Pb**	**20 42 14.0**	**-1.1**
BNGB	**Bing¨¶ll**	**2.14**	**279**	*e*PN	**Pb**	**20 42 16.1**	**-0.8**
BINT	**Bingol**	**2.28**	**275**	*e*Pn	**Pn**	**20 42 16.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.34**	**289**	*e*PN	**Pb**	**20 42 18.5**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.34**	**289**	*e*Pn	**Pb**	**20 42 18.5**	**-1.8**
DDEM	**Demirkent**	**2.53**	**331**	*i* P	**Pb**	**20 42 24.4**	**+0.8**
DDEM	**Demirkent**	**2.53**	**331**	P	**Pb**	**20 42 24.4**	**+0.8**
MAZI	**Mazidag**	**2.63**	**243**	*e*PN	**Pn**	**20 42 22.2**	**+1.7**
MAZI	**Mazidag**	**2.63**	**243**	*e*Pn	**Pn**	**20 42 22.2**	**+1.7**
DAGI	**Agillar**	**2.64**	**335**	*i* P	**Pg**	**20 42 27.8**	**-1.0**

*CSEM **28** 20:42:57.6±0.3, 38°.77N×43°.51E, h15km, ML2.7, Error ellipse: s-maj=13.7km s-min=7.4km az=104.0*

ISK 28 20:42:57.0, 38°.71N×43°.52E, h8km, ML2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**222**	*e*PG	Pg	20 43 02.3	+1.9
VANB	**Van**	**0.16**	**222**	*e*Pg	Pg	20 43 02.3	+1.9
TVAN	**Van**	**0.20**	**206**	*i* P	Pg	20 43 04.2	+2.9
TVAN	**Van**	**0.20**	**206**	P	Pg	20 43 04.2	+3.0
ERCV	**ERCIS-VAN**	**0.34**	**335**	*e*PG	Pg	20 43 03.4	-0.4
ERCV				*e*SG	Sb	20 43 09.7	-1.3
ERCV	**ERCIS-VAN**	**0.34**	**335**	*e*Pg	Pg	20 43 03.4	-0.3
ERCV				*e*Sg	Sb	20 43 09.7	-1.4
CLDR	**Caldiran**	**0.53**	**36**	*e*PG	Pg	20 43 07.0	-0.3
CLDR				*e*SG	Sb	20 43 16.1	-0.5
CLDR	**Caldiran**	**0.53**	**36**	*e*Pg	Pg	20 43 07.0	-0.3
CLDR				*e*Sg	Sb	20 43 16.1	-0.5
CUKT	**Cukurca**	**1.47**	**177**	*e*PN	Pb	20 43 24.5	-0.1
CUKT	**Cukurca**	**1.47**	**177**	*e*Pn	Pb	20 43 24.5	-0.1

*CSEM **28** 20:47:35.9±0.2, 38°.66N×43°.39E, h22km±2km, MD2.7, Error ellipse: s-maj=8.4km s-min=4.6km az=118.0*
*ISK **28** 20:47:35.2, 38°.67N×43°.43E, h24km, MD2.7*
*ISCJB **28** 20:47:36.5±0.4, 38°.72N±0°.03×43°.27E±0°.04, h13km, Error ellipse: s-maj=4.6km s-min=3.9km az=27.8*
*DDA **28** 20:47:36.9, 38°.70N×43°.31E, h7km, Ml2.7*

ISC 28 20:47:36.2±0.8, 38°.70N±0°.02×43°.38E±0°.04, h13km, n36, σ1§28/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**177**	*e*PG	**Pg**	**20 47 40.9**	**+1.6**
VANB				*e*SG	**Sg**	**20 47 44.4**	**+2.9**
VANB	**Van**	**0.10**	**177**	*e*Pg	**Pg**	**20 47 40.9**	**+1.6**
VANB				*e*Sg	**Sg**	**20 47 44.4**	**+2.9**
TVAN	**Van**	**0.17**	**174**	*i* P	**Pb**	**20 47 40.7**	**-0.6**
TVAN				*i* S	**Sb**	**20 47 44.5**	**-0.2**
TVAN	**Van**	**0.17**	**174**	P	**Pb**	**20 47 40.7**	**-0.6**
TVAN				S	**Sb**	**20 47 44.5**	**-0.2**
ERCV	**ERCIS-VAN**	**0.33**	**354**	*e*PG	**Pb**	**20 47 43.6**	**-0.4**
ERCV	**ERCIS-VAN**	**0.33**	**354**	*e*Pg	**Pb**	**20 47 43.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.33**	**27**	*i* P	**Pb**	**20 47 43.8**	**-0.2**
VMUR				*i* S	**Sb**	**20 47 50.3**	**+1.0**
VMUR	**Van-Muradiye**	**0.33**	**27**	P	**Pb**	**20 47 43.8**	**-0.2**
VMUR				S	**Sb**	**20 47 50.3**	**+1.0**
GEVA	**Gevas**	**0.46**	**214**	*i* P	**Pb**	**20 47 45.6**	**-0.7**
GEVA	**Gevas**	**0.46**	**214**	P	**Pb**	**20 47 45.6**	**-0.7**
CLDR	**Caldiran**	**0.61**	**43**	*e*PG	**Pb**	**20 47 48.0**	**-0.9**
CLDR				*e*SG	**Sb**	**20 47 57.1**	**-0.4**
CLDR	**Caldiran**	**0.61**	**43**	*i* P	**Pb**	**20 47 48.8**	**-0.1**
CLDR				*i* S	**Sn**	**20 47 59.4**	**-1.3**
CLDR	**Caldiran**	**0.61**	**43**	*e*Pg	**Pb**	**20 47 48.0**	**-0.9**
CLDR	**Caldiran**	**0.61**	**43**	P	**Pb**	**20 47 48.8**	**-0.1**
CLDR				*e*Sg	**Sb**	**20 47 57.1**	**-0.4**
CLDR				S	**Sn**	**20 47 59.3**	**-1.3**
TUTA	**Tutak**	**0.83**	**328**	*i* P	**Pb**	**20 47 52.4**	**-0.3**
TUTA	**Tutak**	**0.83**	**328**	P	**Pb**	**20 47 52.4**	**-0.3**
TATV	**Tatvan**	**0.89**	**258**	*i* P	**Pn**	**20 47 53.0**	**-1.6**
TATV	**Tatvan**	**0.89**	**258**	P	**Pn**	**20 47 53.0**	**-1.6**
AGRB	**Hanur-Agry**	**0.93**	**341**	*e*PG	**Pb**	**20 47 53.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.93**	**341**	*e*Pg	**Pb**	**20 47 53.7**	**-0.6**
EATA	**Eleskirt**	**1.35**	**330**	*i* P	**Pg**	**20 48 02.0**	**-0.3**
EATA				*i* S	**Sg**	**20 48 23.2**	**+3.2**
EATA	**Eleskirt**	**1.35**	**330**	P	**Pg**	**20 48 02.0**	**-0.3**
SIRN	**S¨–rnak**	**1.42**	**213**	*i* P	**Pg**	**20 48 04.3**	**+0.8**
SIRN	**S¨–rnak**	**1.42**	**213**	P	**Pg**	**20 48 04.3**	**+0.8**
CUKT	**Cukurca**	**1.46**	**173**	*e*PN	**Pn**	**20 48 00.3**	**-2.0**
CUKT	**Cukurca**	**1.46**	**173**	*e*Pn	**Pn**	**20 48 00.3**	**-2.0**
VRTB	**Varto-Mus**	**1.57**	**288**	*e*PN	**Pn**	**20 48 02.7**	**-1.2**
VRTB	**Varto-Mus**	**1.57**	**288**	*e*Pn	**Pn**	**20 48 02.7**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	*e*PN	**Pn**	**20 48 06.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	*e*Pn	**Pn**	**20 48 06.2**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.03**	**337**	*e*PN	**Pn**	**20 48 09.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.03**	**337**	*e*Pn	**Pn**	**20 48 09.6**	**-0.6**
BNGB	**Bing¨¶ll**	**2.13**	**279**	*e*PN	**Pn**	**20 48 10.7**	**-0.9**
BINT	**Bingol**	**2.27**	**275**	*e*Pn	**Pn**	**20 48 10.7**	**-2.8**
YEDI	**Yedisu-Bingol**	**2.33**	**289**	*e*PN	**Pn**	**20 48 13.6**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.33**	**289**	*e*Pn	**Pn**	**20 48 13.6**	**-0.8**

*ISK **28** 20:59:03.5, 38°.70N×43°.45E, h21km, MD2.5*
*ISCJB **28** 20:59:04.5±0.7, 38°.71N±0°.04×43°.45E±0°.07, h13km±5km, Error ellipse: s-maj=10.2km s-min=5.7km az=26.8*
*DDA **28** 20:59:04.4, 38°.71N×43°.44E, h7km, Ml2.5*
*CSEM **28** 20:59:04.4±0.3, 38°.72N×43°.44E, h10km, MD2.5, Error ellipse: s-maj=7.9km s-min=4.8km az=111.0*

ISC 28 20:59:04.5±1.0, 38°.72N±0°.03×43°.44E±0°.04, h15km±9km, n20, σ0§46/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**199**	*e*PG	**Pb**	**20 59 09.0**	**+0.1**
VANB	**Van**	**0.13**	**199**	*e*Pg	**Pb**	**20 59 09.0**	**+0.1**
TVAN	**Van**	**0.19**	**189**	*i* P	**Pg**	**20 59 08.9**	**-0.3**
TVAN	**Van**	**0.19**	**189**	P	**Pg**	**20 59 08.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.29**	**20**	*i* P	**Pg**	**20 59 10.0**	**-0.8**
VMUR				*i* S	**Sg**	**20 59 15.7**	**+0.7**
VMUR	**Van-Muradiye**	**0.29**	**20**	P	**Pg**	**20 59 10.0**	**-0.8**
VMUR				S	**Sg**	**20 59 15.7**	**+0.7**
ERCV	**ERCIS-VAN**	**0.31**	**345**	*e*PG	**Pg**	**20 59 10.8**	**-0.4**
ERCV				*e*SG	**Sb**	**20 59 16.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.31**	**345**	*e*Pg	**Pg**	**20 59 10.8**	**-0.4**
ERCV				*e*Sg	**Sb**	**20 59 16.8**	**-0.1**
GEVA	**Gevas**	**0.51**	**217**	*i* P	**Pg**	**20 59 14.2**	**-0.4**
GEVA	**Gevas**	**0.51**	**217**	P	**Pg**	**20 59 14.2**	**-0.4**
CLDR	**Caldiran**	**0.56**	**41**	*e*PG	**Pg**	**20 59 15.6**	**-0.1**
CLDR				*e*SG	**Sb**	**20 59 24.1**	**-0.1**
CLDR	**Caldiran**	**0.56**	**41**	*i* P	**Pg**	**20 59 15.1**	**-0.6**
CLDR				*i* S	**Sb**	**20 59 24.5**	**+0.3**
CLDR	**Caldiran**	**0.56**	**41**	P	**Pg**	**20 59 15.1**	**-0.6**
CLDR	**Caldiran**	**0.56**	**41**	*e*Pg	**Pg**	**20 59 15.6**	**-0.1**
CLDR				*e*Sg	**Sb**	**20 59 24.1**	**-0.1**
TUTA	**Tutak**	**0.84**	**324**	*i* P	**Pg**	**20 59 20.4**	**-0.5**
TUTA	**Tutak**	**0.84**	**324**	P	**Pg**	**20 59 20.4**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**338**	*e*PG	**Pg**	**20 59 22.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.93**	**338**	*e*Pg	**Pg**	**20 59 22.1**	**-0.4**
EATA	**Eleskirt**	**1.36**	**327**	*i* P	**Pg**	**20 59 30.7**	**-0.1**
EATA	**Eleskirt**	**1.36**	**327**	P	**Pg**	**20 59 30.7**	**-0.1**

*ISCJB **28** 21:00:53.9±0.5, 38°.72N±0°.03×43°.66E±0°.06, h13km, Error ellipse: s-maj=6.5km s-min=4.2km az=11.6*
*CSEM **28** 21:00:53.6±0.3, 38°.71N×43°.65E, h5km, ML2.8, Error ellipse: s-maj=7.3km s-min=4.5km az=95.0*
*DDA **28** 21:00:53.3, 38°.73N×43°.64E, h5km, Ml3.3*
*ISK **28** 21:00:53.1, 38°.69N×43°.66E, h8km, ML2.8*

ISC 28 21:00:53.7±0.9, 38°.71N±0°.02×43°.67E±0°.03, h13km, n47, σ0§65/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**242**	*e*PG	**Pg**	**21 00 59.2**	**+0.1**
VANB	**Van**	**0.25**	**242**	*e*Pg	**Pg**	**21 00 59.2**	**+0.1**
TVAN	**Van**	**0.28**	**228**	*i* P	**Pg**	**21 00 59.7**	**0.0**
TVAN	**Van**	**0.28**	**228**	P	**Pg**	**21 00 59.7**	**0.0**
VMUR	**Van-Muradiye**	**0.29**	**344**	*i* P	**Pg**	**21 00 59.4**	**-0.4**
VMUR	**Van-Muradiye**	**0.29**	**344**	P	**Pg**	**21 00 59.4**	**-0.4**
ERCV	**ERCIS-VAN**	**0.40**	**320**	*e*PG	**Pg**	**21 01 01.9**	**+0.1**
ERCV				*e*SG	**Sg**	**21 01 08.0**	**+0.7**
ERCV	**ERCIS-VAN**	**0.40**	**320**	*e*Pg	**Pg**	**21 01 01.9**	**+0.1**
ERCV				*e*Sg	**Sg**	**21 01 08.0**	**+0.7**
CLDR	**Caldiran**	**0.47**	**24**	*e*PG	**Pg**	**21 01 02.9**	**-0.2**
CLDR				*e*SG	**Sb**	**21 01 10.9**	**0.0**
CLDR	**Caldiran**	**0.47**	**24**	*i* P	**Pg**	**21 01 03.1**	**0.0**
CLDR				*i* S	**Sb**	**21 01 10.5**	**-0.5**
CLDR	**Caldiran**	**0.47**	**24**	P	**Pg**	**21 01 03.1**	**0.0**
CLDR				S	**Sb**	**21 01 10.5**	**-0.5**
CLDR				*e*Sg	**Sb**	**21 01 11.0**	**0.0**
GEVA	**Gevas**	**0.63**	**230**	*i* P	**Pg**	**21 01 05.6**	**-0.4**
GEVA	**Gevas**	**0.63**	**230**	P	**Pg**	**21 01 05.6**	**-0.4**
BASK	**Baskale_VAN**	**0.71**	**158**	*i* P	**Pg**	**21 01 08.0**	**+0.4**
BASK	**Baskale_VAN**	**0.71**	**158**	P	**Pg**	**21 01 08.0**	**+0.4**
DYDN	**Diyadin**	**0.83**	**1**	*i* P	**Pg**	**21 01 09.5**	**-0.3**
DYDN	**Diyadin**	**0.83**	**1**	P	**Pg**	**21 01 09.5**	**-0.3**
TUTA	**Tutak**	**0.96**	**316**	*i* P	**Pg**	**21 01 11.3**	**-1.0**
TUTA	**Tutak**	**0.96**	**316**	P	**Pg**	**21 01 11.3**	**-1.0**
AGRB	**Hanur-Agry**	**1.01**	**329**	*e*PG	**Pb**	**21 01 12.2**	**-1.0**
AGRB	**Hanur-Agry**	**1.01**	**329**	*e*Pg	**Pb**	**21 01 12.2**	**-1.0**
TATV	**Tatvan**	**1.12**	**260**	*i* P	**Pb**	**21 01 14.3**	**-0.8**
TATV	**Tatvan**	**1.12**	**260**	P	**Pb**	**21 01 14.3**	**-0.8**
HAKT	**HAKKARI**	**1.16**	**179**	*i* P	**Pb**	**21 01 15.1**	**-0.6**
HAKT	**HAKKARI**	**1.16**	**179**	P	**Pb**	**21 01 15.1**	**-0.6**
CUKT	**Cukurca**	**1.47**	**182**	*e*PN	**Pn**	**21 01 19.9**	**-0.1**
CUKT	**Cukurca**	**1.47**	**182**	*e*Pn	**Pn**	**21 01 19.9**	**-0.1**
EATA	**Eleskirt**	**1.47**	**322**	*i* P	**Pb**	**21 01 21.1**	**0.0**
EATA	**Eleskirt**	**1.47**	**322**	P	**Pb**	**21 01 21.1**	**0.0**
SIRN	**S¨–rnak**	**1.57**	**220**	*i* P	**Pg**	**21 01 24.1**	**+0.2**
SIRN	**S¨–rnak**	**1.57**	**220**	P	**Pg**	**21 01 24.1**	**+0.2**
VRTB	**Varto-Mus**	**1.79**	**285**	*e*PN	**Pn**	**21 01 25.1**	**+0.8**
VRTB	**Varto-Mus**	**1.79**	**285**	*i* P	**Pb**	**21 01 27.2**	**+0.8**
VRTB	**Varto-Mus**	**1.79**	**285**	*e*Pn	**Pn**	**21 01 25.2**	**+0.8**
VRTB	**Varto-Mus**	**1.79**	**285**	P	**Pb**	**21 01 27.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.02**	**255**	*e*PN	**Pn**	**21 01 27.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.02**	**255**	*i* P	**Sg**	**21 01 57.9**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.02**	**255**	*e*Pn	**Pn**	**21 01 27.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.11**	**331**	*e*PN	**Pn**	**21 01 29.9**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.11**	**331**	*e*Pn	**Pn**	**21 01 29.9**	**+1.0**
ERZM	**Erzurum**	**2.15**	**304**	*i* P	**Pb**	**21 01 33.7**	**+1.0**
ERZM	**Erzurum**	**2.15**	**304**	P	**Pb**	**21 01 33.7**	**+1.0**
BNGB	**Bing¨¶ll**	**2.35**	**278**	*e*PN	**Pn**	**21 01 33.1**	**+1.0**
BINT	**Bingol**	**2.49**	**275**	*e*Pn	**Pn**	**21 01 33.2**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.54**	**288**	*e*PN	**Pn**	**21 01 35.9**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.54**	**288**	*e*Pn	**Pn**	**21 01 35.9**	**+1.1**
DDEM	**Demirkent**	**2.63**	**326**	*i* P	**Pg**	**21 01 43.0**	**-1.2**

MEX 28 21:06:05.2±0.3, 16°.17N×90°.81W, h10km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.28**	**275**	*e*P	Pn	21 06 25.6	-3.8
CCIG				*e*S	Sb	21 06 41.6	-4.6
TGIG		**2.30**	**285**	*e*P	Pn	21 06 40.3	-3.0
TGIG				*i* S	Sn	21 07 07.7	-4.1
PCIG		**2.37**	**259**	*e*P	Pn	21 06 41.0	-3.1
PCIG				*i* S	Sn	21 07 09.0	-4.3

*SCB **28** 21:08:11.2±0.5, 13°.24S×76°.82W, h10km, Ml3.8/1, Error ellipse: s-maj=23.5km s-min=10.2km az=8.0*
*IDC **28** 21:08:25.3±1.7, 14°.45S×76°.30W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/27, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=45.7km s-min=17.4km az=62.0*

ISC 28 21:08:28.7±1.4, 14°.6S±0°.2×76°.8W±0°.1, h35km, n14, σ2§10/14, mb3.6/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.57**	**358**	Pn	**Pn**	**21 09 07.0**	**-0.9**
NNA	19nm,0.3s,baz=156,slow=16,SNR=23			Lg	Lg	21 09 44.1	
ATAH	**Atahualpa**	**7.56**	**347**	Pn	Pn	21 10 22.6	+5.6
BBOB	**La Paz, Bander**	**8.45**	**102**	*e*Pn	**Pn**	**21 10 27.7**	**-1.5**
BBOB	18nm,0.9s			*e*Sn	**Sn**	**21 12 07.0**	**+3.3**
LPAZ	**La Paz**	**8.48**	**103**	Pn	**Pn**	**21 10 28.4**	**-1.3**
LPAZ	**La Paz**	**8.48**	**103**	*e*Pn	**Pn**	**21 10 28.1**	**-1.6**
LPAZ				*e*Sn	**Sn**	**21 12 07.7**	**+3.2**
BBOJ	**La Paz, Jacaqu**	**8.57**	**107**	*e*Pn	**Pn**	**21 10 30.1**	**-0.8**
BBOE	**La Paz, Chanca**	**8.73**	**106**	*e*Pn	**Pn**	**21 10 32.3**	**-0.7**
LVC	**Limon Verde**	**10.91**	**138**	Lg	Lg	21 13 55.7	
MOCB	**Mochara**	**12.48**	**124**	*e*P	**Pn**	**21 11 23.5**	**-0.9**
PTGA	**Pitinga**	**21.55**	**52**	P	**P**	**21 13 13.5**	**-1.7**
CPUP	**Villa Florida**	**21.60**	**126**	P	**P**	**21 13 13.7**	**-1.9**
TXAR	**Lajitas Array**	**50.80**	**329**	P	**P**	**21 17 29.3**	**+3.4**
TORD	**Torodi Ar. Bea**	**82.39**	**74**	P	**P**	**21 20 47.0**	**-0.9**
SONM	**Songino Array**	**146.73**	**356**	PKPbc	**PKPab**	**21 28 08.5**	**+0.2**

*CSEM **28** 21:27:54.9±0.4, 38°.64N×43°.13E, h8km, ML2.7, Error ellipse: s-maj=10.9km s-min=6.5km az=107.0*
*ISK **28** 21:27:54.0, 38°.64N×43°.18E, h5km, MD2.7*
*ISCJB **28** 21:27:55.1±0.9, 38°.66N±0°.04×43°.13E±0°.08, h11km±11km, Error ellipse: s-maj=11.1km s-min=5.7km az=21.3*
*DDA **28** 21:27:55.1, 38°.59N×43°.31E, h20km, Ml2.7*

ISC 28 21:27:55.5±1.2, 38°.63N±0°.04×43°.17E±0°.06, h13km±9km, n14, σ0§68/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**101**	*e*PG	**Pg**	**21 27 59.2**	**-0.4**
VANB				*e*SG	**Sg**	**21 28 03.2**	**+0.8**
VANB	**Van**	**0.17**	**101**	*e*Pg	**Pg**	**21 27 59.3**	**-0.4**
VANB				*e*Sg	**Sg**	**21 28 03.3**	**+0.8**
TVAN	**Van**	**0.21**	**118**	*i* P	**Pg**	**21 27 59.1**	**-1.1**
TVAN				*i* S	**Sg**	**21 28 03.8**	**+0.3**
TVAN	**Van**	**0.21**	**118**	P	**Pg**	**21 27 59.1**	**-1.1**
TVAN				S	**Sg**	**21 28 03.8**	**+0.3**
GEVA	**Gevas**	**0.33**	**196**	*i* P	**Pg**	**21 28 01.7**	**-0.6**
GEVA				*i* S	**Sb**	**21 28 09.0**	**+0.4**
GEVA	**Gevas**	**0.33**	**196**	P	**Pg**	**21 28 01.7**	**-0.6**
GEVA				S	**Sb**	**21 28 09.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.48**	**40**	*i* P	**Pg**	**21 28 04.6**	**-0.4**
VMUR				*i* S	**Sb**	**21 28 13.7**	**+0.8**
VMUR	**Van-Muradiye**	**0.48**	**40**	P	**Pg**	**21 28 04.6**	**-0.4**
VMUR				S	**Sb**	**21 28 13.7**	**+0.8**
CLDR	**Caldiran**	**0.78**	**48**	*e*PG	**Pg**	**21 28 09.8**	**-0.8**
CLDR				*e*SG	**Sb**	**21 28 21.4**	**-0.2**
CLDR	**Caldiran**	**0.78**	**48**	*e*Pg	**Pg**	**21 28 09.8**	**-0.8**
CLDR				*e*Sg	**Sb**	**21 28 21.4**	**-0.2**
AGRB	**Hanur-Agry**	**0.96**	**352**	*e*PG	**Pg**	**21 28 13.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.96**	**352**	*e*Pg	**Pg**	**21 28 13.4**	**-0.7**
CUKT	**Cukurca**	**1.42**	**166**	*e*PN	**Pb**	**21 28 22.0**	**+0.1**
CUKT	**Cukurca**	**1.42**	**166**	*e*Pn	**Pb**	**21 28 22.0**	**+0.1**

IDC 28 21:28:03.0±2.6, 31°.83N×85°.46E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.3/37, mbtmp3.5/6, ML2.7/1, Error ellipse: s-maj=82.6km s-min=23.1km az=76.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.14**	**352**	Pn	Pn	21 31 38.0	-0.2
	0.0nm,0.3s,baz=173,slow=14,SNR=2.4						
CMAR	**Chiang Mai Arr**	**18.04**	**134**	P	Pn	21 32 14.8	-0.5
	baz=323,slow=11,SNR=5.9						
ZALV	**Zalesovo Beam**	**22.11**	**359**	P	P	21 32 59.2	-0.6
	0.4nm,0.4s,baz=186,slow=10.0,SNR=2.2						
SONM	**Songino Array**	**22.56**	**39**	P	P	21 33 05.0	+0.2
	0.5nm,0.9s,baz=215,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**69.59**	**131**	P	P	21 39 14.2	0.0
	1.5nm,0.6s,baz=326,slow=6.2,SNR=5.7						
ASAR	**Alice Springs**	**72.05**	**134**	P	P	21 39 29.3	+0.2
	0.3nm,0.6s,baz=311,slow=5.5,SNR=6.6						

*SCB **28** 21:51:41.7±0.6, 14°.69S×77°.23W, h25km, Ml4.8/1, Error ellipse: s-maj=22.4km s-min=12.2km az=174.0*
*IDC **28** 21:51:55.1±0.6, 14°.49S×76°.15W, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/36, mbtmp4.3/20, ML3.7/3, MS4.6/2, Ms1 4.6/2, ms1mx4.1/34, Error ellipse: s-maj=20.6km s-min=13.1km az=60.0*
*ISCJB **28** 21:51:57.3±0.2, 14°.55S±0°.03×76°.10W±0°.05, h29km, mb4.8/92, MS4.8/4, Error ellipse: s-maj=7.6km s-min=3.5km az=148.1*
*NEIC **28** 21:51:58.0±1.9, 14°.53S×76°.11W, h17km±12km, mb4.9/75, ML4.7(ARE), Error ellipse: s-maj=6.7km s-min=3.3km az=67.0*
NEIC Felt [III] at Ica.
*BJI **28** 21:51:57.4, 14°.50S×76°.10W, h13km, mB5.3/6, Ms5.3/6, Ms7 5.2/6*

ISC 28 21:51:59.1±0.4, 14°.64S±0°.05×76°.19W±0°.08, h29km, n175, σ1§56/181, mb4.8/92, MS4.8/4, 3C-4D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.71**	**346**	Pn	**Pn**	**21 52 38.1**	**-2.8**
	11nm,0.3s,baz=157,slow=13,SNR=23						
NNA				Lg	Lg	21 53 11.6	
	159nm,0.3s,baz=195,slow=16,SNR=6.3						
NNA	**Nana**	**2.71**	**346**	‖*i*P	**Pn**	**21 52 37.2**	**-3.7**
NNA	**Nana**	**2.71**	**346**	*e*Pn	**Pn**	**21 52 37.5**	**-3.3**
PB12	**IPOC Station P**	**6.87**	**126**	‖*i*P	**Pn**	**21 53 36.9**	**-1.1**
BBOD	**La Paz, Gloria**	**7.58**	**106**	*e*Pn	**Pn**	**21 53 52.4**	**+4.2**
MNMC	**Minye Minye**	**7.73**	**126**	*e*P	**Pn**

24nm,0.6s
CNNC Cliffs of the 49.63 358 *e*P P 22 00 48.7 +0.7
112nm,1.7s
HPIG 50.28 325 *e*P P 22 00 53.4 0.0
8.2nm,1.0s
JCT Junction City 50.29 333 *e*P P 22 00 54.2 +1.0
7.4nm,1.2s
SWET Sewanee 50.44 350 *e*P P 22 00 54.1 -0.2
5.5nm,0.8s
OXF Oxford 50.47 346 *e*P P 22 00 53.6 -0.8
14nm,0.8s
TXAR Lajitas Array 51.14 329 P P 22 00 59.4 -0.3
1.5nm,0.7s,baz=149,slow=8.6,SNR=17
TX31 Lajitas Ar. Si 51.14 329 *e*P P 22 00 59.8 +0.1
PTCN Pitcairn Islan 51.47 250 *e*P P 22 01 04.3 +2.1
264nm,0.8s
UALR University of 51.49 343 *e*P P 22 01 01.5 -0.5
61nm,1.9s
MIAR Mount Ida 51.63 342 *e*P P 22 01 03.4 +0.3
29nm,1.8s
ABTX Abilene, Hawle 52.08 335 *e*P P 22 01 06.6 0.0
16nm,1.1s
IP05 Hopewell Churc 52.21 358 *e*P P 22 01 07.3 -0.1
14nm,0.4s
IP06 Yanceyville 52.32 358 *e*P P 22 01 06.7 -1.5
43nm,1.6s
IP01 Cuckoo 52.34 358 *e*P P 22 01 08.1 -0.2
67nm,1.9s
CVRD Centerville Ro 52.45 358 *e*P P 22 01 09.2 +0.1
48nm,1.7s
PTRD Partlow Road 52.50 359 *e*P P 22 01 09.1 -0.4
62nm,0.2s
SPFD Spotsylvania F 52.51 359 *e*P P 22 01 08.1 -1.5
18nm,0.6s
PBMO Poplar Bluff 52.88 346 *e*P P 22 01 11.8 -0.6
5.8nm,0.8s
HHAR Hobbs 53.35 342 *e*P P 22 01 15.2 -0.7
32nm,2.0s
USIN University of 53.43 349 *e*P P 22 01 17.1 +0.8
14nm,0.6s
WCI Wyandotte Cave 53.44 350 *e*P P 22 01 17.1 +0.5
11nm,0.9s
TUL1 Leonard 53.59 340 *e*P P 22 01 17.2 -0.5
13nm,0.8s
WMOK Wichita Mounta 53.59 337 *e*P P 22 01 17.8 0.0
2.9nm,0.8s
SDMD Soldier's Deli 53.77 359 *e*P P 22 01 18.0 -0.9
6.3nm,0.9s
MNTX Cornudas Mount 53.92 329 *e*P P 22 01 20.2 0.0
3.5nm,1.1s
FVM French Village 54.03 346 *e*P P 22 01 20.7 -0.1
13nm,1.2s
MSTX Muleshoe 54.57 333 *e*P P 22 01 25.0 0.0
6.9nm,0.4s
AMTX Amarillo 54.88 334 *e*P P 22 01 28.3 +1.1
40nm,2.0s
SSPA Standing Stone 55.02 358 *e*P P 22 01 27.6 -0.4
80nm,1.9s
ERPA Erie 56.58 357 *e*P P 22 01 37.1 -2.0
81nm,1.9s
LPM Los Pinos Moun 56.65 330 *e*P P 22 01 40.0 0.0
LENM Lemitar 56.70 329 *e*P P 22 01 40.5 +0.2
KSU1 Kansas State U 56.77 341 *e*P P 22 01 40.9 +0.3
7.3nm,0.8s
LAZ Ladron 56.97 330 *e*P P 22 01 41.7 -0.6
ANMO Albuquerque 57.08 330 P P 22 01 42.2 -0.8
1.5nm,0.8s,baz=334,slow=7.2,SNR=5.4
ANMO Albuquerque 57.08 330 *e*P P 22 01 42.9 -0.2
14nm,1.8s
TUC Tucson 57.24 325 *e*P P 22 01 44.2 +0.1
4.0nm,1.0s
BUF Buffalo 57.33 358 *e*P P 22 01 43.8 -0.6
CBKS Cedar Bluff 57.56 338 *e*P P 22 01 47.4 +1.2
35nm,1.5s
FFD Franklin Falls 57.98 4 *e*P P 22 01 47.7 -1.2
161nm,1.7s
JFWS Jewell Farm 58.71 348 *e*P P 22 01 54.8 +0.7
25nm,1.5s
W18A Petrified Fore 58.84 328 *e*P P 22 01 55.8 +0.4
17nm,1.4s
SDCO Great Sand Dun 58.94 333 *e*P P 22 01 55.9 -0.3
3.6nm,0.8s
X16A Lo Mia Camp, P 59.20 326 *e*P P 22 01 58.4 +0.5
4.3nm,0.9s
113A Mohawk Valley, 59.27 323 *e*P P 22 01 58.9 +0.8
7.2nm,1.4s
S22A 4UR Ranch, Cre 59.53 332 *e*P P 22 02 00.4 +0.1
3.2nm,1.1s
GLMI Grayling 59.67 353 *e*P P 22 01 59.6 -1.1
61nm,1.4s
Q24A Divide 59.81 334 *e*P P 22 02 01.6 -0.6
18nm,1.6s
MVCO Mesa Verde 59.88 330 *e*P P 22 02 02.0 -0.6
19nm,1.9s
KNB Kanab 61.89 327 *e*P P 22 02 17.1 +0.8
34nm,2.0s
SRU San Rafael Swe 62.35 330 *e*P P 22 02 19.6 +0.3
4.4nm,0.8s
MSU Marysvale 62.70 329 *e*P P 22 02 22.5 +0.8
P17A Butcher Ranch, 62.74 330 *e*P P 22 02 22.2 +0.4
6.2nm,0.6s
DUG Dugway, Tooele 64.31 330 *e*P P 22 02 32.6 +0.5
5.9nm,0.8s
R11A Troy Canyon, C 64.35 326 *e*P P 22 02 33.2 +0.7
17nm,1.9s
HWUT Hardware Ranch 64.81 331 *e*P P 22 02 35.1 -0.4
7.0nm,1.0s
PDAR Pinedale Array 64.83 333 P P 22 02 34.5 -1.1
1.2nm,0.9s,baz=134,slow=6.4,SNR=5.1
AGMN Agassiz Nation 65.06 346 *e*P P 22 02 36.5 -0.2
20nm,1.4s
HVU Hansel Valley 65.51 331 *e*P P 22 02 39.9 -0.1
6.2nm,1.1s
FXWY Fox Creek 66.17 333 *e*P P 22 02 44.3 0.0
3.3nm,0.9s
ULM Lac du Bonnet 66.89 346 P P 22 02 46.5 -1.9
2.0nm,0.6s,baz=198,slow=7.4,SNR=4.5
YHH Holmes Hill 67.01 334 *e*P P 22 02 50.5 +0.8
14nm,1.7s
PAHR Pah Rah Range 67.39 325 *e*P P 22 02 53.3 +1.3
4.9nm,0.9s
HLID Hailey 67.65 331 *e*P P 22 02 54.4 +0.7
20nm,2.0s
BEKR Beckworth 68.04 325 *e*P P 22 02 56.1 0.0
8.9nm,0.4s
MFID Camas Ranch 68.22 330 *e*P P 22 02 57.6 +0.5
10.0nm,1.1s
ORV Oroville 68.47 324 *e*P P 22 02 59.5 +0.9
5.9nm,0.9s
SNAA Sanae 70.97 161 *e*P P 22 03 14.8 +1.2
5.0nm,0.7s
LIC Lamto 73.52 79 *e*P P 22 03 28.7 -1.1
29nm,1.2s
TIC Toumodi 73.65 78 *e*P P 22 03 28.7 -1.9
DBIC Dimbokro 73.81 78 P P 22 03 31.5 0.0
4.8nm,0.8s,baz=216,slow=5.8,SNR=7.3
KIC Kosan Boka 73.83 79 *e*P P 22 03 30.9 -0.8
15nm,0.8s
QSPA South Pole Qui 75.51 180 *e*P P 22 03 42.9 +2.3
TOA0 Torodi Ar. Sit 81.89 74 *e*P P 22 04 16.5 0.0
TORD Torodi Ar. Bea 81.89 74 P P 22 04 16.6 +0.1
21nm,0.8s,baz=258,slow=4.8,SNR=68
VNDA Vanda 82.31 191 P P 22 04 19.4 +1.8
0.5nm,0.8s,baz=323,slow=5.1,SNR=2.6
PCVE Castro Verde 82.34 48 *e*P P 22 04 20.5 +2.1
PMTG Montargil 82.82 47 *e*P P 22 04 22.1 +1.3
PTOM Tomar 82.92 46 *e*P P 22 04 22.9 +1.5
PBAR Barrancos 83.29 48 *e*P P 22 04 24.4 +1.1
SYO Syowa Base 85.26 161‖*e*P P 22 04 32.0 -0.8
SYO Syowa Base 85.26 161‖*es*P sP 22 04 41.5 -3.9
ESDC Sonseca Array 86.08 47 P P 22 04 37.9 +0.5
1.2nm,0.7s,baz=254,slow=5.5,SNR=7.9
TAM Tamanrasset 88.17 66 *e*P P 22 04 49.5 +1.5
10nm,1.8s
INK Inuvik 92.23 342 P P 22 05 07.0 +1.3
2.1nm,0.9s,baz=149,slow=5.4,SNR=5.2
MAW Mawson 92.76 165 P P 22 05 08.9 +0.6
0.9nm,0.6s,baz=180,slow=15,SNR=3.0
ILAR Eielson Array 95.15 336 P P 22 05 24.8 +5.4
0.4nm,0.8s,baz=147,slow=8.5,SNR=3.8
GERES GERESS Array B 100.80 42 P Pdif 22 05 44.9 -0.3
0.8nm,0.8s,baz=255,slow=2.6,SNR=6.4
AKTO Aktyubinsk 128.66 36 PKP PKPdf 22 11 03.9 +0.3
1.3nm,0.8s,baz=305,slow=4.8,SNR=3.3
ASAR Alice Springs 131.88 218 PKP PKPdf 22 11 10.3 -0.2
0.6nm,1.0s,baz=127,slow=2.4,SNR=3.4
WRA Warramunga Arr 134.36 222 PKP PKPdf 22 11 15.5 +0.2
0.6nm,0.7s,baz=177,slow=1.6,SNR=5.0
ZALV Zalesovo Beam 138.04 17 PKP PKPdf 22 11 21.9 +0.9
1.4nm,0.7s,baz=282,slow=1.4,SNR=5.7
KURK Kurchatov 138.65 24 PKP PKPdf 22 11 23.0 +0.8
KURBB Kurchatov Arra 138.69 24 PKP PKPdf 22 11 23.0 +0.7
0.6nm,0.7s,baz=314,slow=2.7,SNR=6.1
KSH Kashi 145.21 39 PKPbc PKPdf 22 11 34.8 +0.3
KSH PP **PP** 22 14 57.0 +3.8
KSH PKS **PKSdf** 22 15 10.0 -0.1
KSH SKS **SKSdf** 22 18 39.5 -2.5
KSH SKKS **SKKSac** 22 21 42.8 -1.4
KSH SS **SS** 22 33 43.8 +1.6
KSH AMB AMB
comp=Z,160nm,9.0s
KSH LR LR
comp=N,88nm,6.7s
KSH LR LR
comp=E,110nm,6.5s
KSH LR LR
comp=Z,160nm,10.3s
SONM Songino Array 146.84 357 PKPbc **PKPbc** 22 11 38.8 0.0
1.9nm,0.7s,baz=328,slow=1.5,SNR=17
WMQ Urumqi 147.82 22 PKPbc PKPdf 22 11 38.0 -0.7
WMQ LR LR
comp=N,240nm,24.5s
WMQ LR LR
comp=E,140nm,22.3s
WMQ LR LR
comp=Z,260nm,22.3s
KSRS Korea Array 148.78 321 PKPbc **PKPbc** 22 11 45.1 +0.9
0.5nm,0.3s,baz=90,slow=1.3,SNR=3.8
KSAR Wonju Array Be 148.81 321 PKPbc **PKPbc** 22 11 45.1 +0.8
BJI Beijing 152.48 339 PKPbc **PKPdf** 22 11 46.0 0.0
HHC Hu-ho-hao-te 153.03 347 *e*PKPbc **PKPdf** 22 11 44.0 -2.9
NJ2 Nanjing 157.89 324 *e*PKP **PKPdf** 22 11 53.0 -0.6
LZH Lanzhou 158.64 360 PKP **PKPdf** 22 11 51.8 -2.8
LZH pPKP pPKPdf 22 12 03.0 -1.3
GYA Guiyang 167.94 348 *e*PKP **PKPdf** 22 12 03.0 -0.6
GYA PKPab **PKPab** 22 13 12.0 +1.3
GYA PKS **PKSdf** 22 15 34.3 -2.2
GYA PP **PP** 22 17 01.8 +3.8
GYA AMB AMB
comp=Z,120nm,7.9s

IDC 28 21:57:42.7±2.2, 7°.98S×129°.71E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/26, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=130.1km s-min=33.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.71**	**160**	Pn	Pn	22 00 43.3	-1.5
	0.4nm,0.3s,baz=338,slow=13,SNR=5.1						
WRA				Sn	Sn	22 02 57.1	-10
	0.4nm,0.3s,baz=330,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**16.11**	**166**	Pn	P	22 01 32.5	-1.7
	0.1nm,0.3s,baz=341,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**68.88**	**327**	P	P	22 08 49.3	0.0
	0.2nm,0.5s,baz=119,slow=7.1,SNR=4.2						

*SCB **28** 21:59:44.0±0.6, 14°.70S×77°.42W, h27km, Ml4.7/1, Error ellipse: s-maj=20.5km s-min=11.2km az=175.0*
*IDC **28** 22:00:00.6±0.6, 14°.60S×76°.11W, h0km, mb4.4/16, mb1 4.6/18, mb1mx4.4/34, mbtmp4.4/18, ML4.1/2, MS4.0/1, Ms1 4.0/1, ms1mx3.6/26, Error ellipse: s-maj=20.9km s-min=11.5km az=63.0*
*BJI **28** 22:00:03.3, 14°.70S×76°.00W, h14km, mB5.3/10, Ms5.4/9, Ms7 5.1/9*
*ISCJB **28** 22:00:03.8±0.2, 14°.63S±0°.04×76°.11W±0°.05, h29km, mb5.0/122, MS5.0/2, Error ellipse: s-maj=7.9km s-min=3.8km az=140.8*
*NEIC **28** 22:00:05.0±1.4, 14°.67S×76°.01W, h26km±9km, mb5.0/101, ML5.1(ARE), Error ellipse: s-maj=6.7km s-min=3.3km az=62.0*
NEIC Felt [III] at Ica. Also felt at Huancavelica and Palpa.
*MOS **28** 22:00:05.1±1.2, 14°.55S×76°.05W, h33km, mb5.0/30, Error ellipse: s-maj=14.5km s-min=6.9km az=108.0*

ISC 28 22:00:05.3±0.3, 14°.75S±0°.06×76°.15W±0°.08, h29km, n247, σ1°35/249, mb5.0/119, MS5.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.83**	**346**	Pn	**Pn**	**22 00 46.0**	**-2.6**
	31nm,0.3s,baz=147,slow=13,SNR=24						
NNA				Lg	Lg	22 01 27.7	
	322nm,0.3s,baz=190,slow=14,SNR=12						
NNA				LR	LR	22 01 51.8	
	comp=Z,2μm,18.3s,baz=193,slow=41						
NNA	**Nana**	**2.83**	**346**	*e*P	**Pn**	**22 00 47.3**	**-1.3**
NNA	**Nana**	**2.83**	**346**	*e*Pn	**Pn**	**22 00 47.3**	**-1.3**
BBOD	**La Paz, Gloria**	**7.51**	**105**	*e*Pn	**Pn**	**22 01 56.3**	**+2.8**
BBOB	**La Paz, Bander**	**7.85**	**101**	*e*Pn	**Pn**	**22 02 00.8**	**+2.7**
BBOB				*e*Sn	Sb	22 03 40.5	-14
	164nm,1.1s						
ATAH	**Atahualpa**	**7.88**	**344**	Pn	**Pn**	**22 01 59.1**	**+0.7**
	1.6nm,0.3s,baz=29,slow=16,SNR=4.7						
LPAZ	**La Paz**	**7.88**	**102**	Pn	**Pn**	**22 02 01.7**	**+3.1**
	29nm,0.3s,baz=286,slow=9.1,SNR=339						
LPAZ	**La Paz**	**7.88**	**102**	*e*Pn	**Pn**	**22 02 01.6**	**+3.0**
LPAZ				*e*Sn	Sb	22 03 41.6	-14
LPAZ	**La Paz**	**7.88**	**102**	*e*Pn	**Pn**	**22 02 01.2**	**+2.7**
PB11	**IPOC Station P**	**7.96**	**130**	*e*Pn	**Pn**	**22 01 58.3**	**-1.0**
BBOJ	**La Paz, Jacaqu**	**7.97**	**107**	*e*Pn	**Pn**	**22 02 02.1**	**+2.3**
BBOE	**La Paz, Chanca**	**8.12**	**106**	*e*Pn	**Pn**	**22 02 04.3**	**+2.4**
PB01	**IPOC Station P**	**8.91**	**136**	*e*Pn	**Pn**	**22 02 11.6**	**-0.7**
PB04	**IPOC Station P**	**9.45**	**144**	*e*Pn	**Pn**	**22 02 18.1**	**-1.7**
PB10	**IPOC Station P**	**10.20**	**150**	*e*Pn	**Pn**	**22 02 27.7**	**-2.1**
PB10				*e*Sn	Sn	22 04 11.8	-11
LVC	**Limon Verde**	**10.40**	**140**	Pn	**Pn**	**22 02 33.2**	**+0.2**
	492nm,0.3s,baz=314,slow=10,SNR=76						
LVC				Sn	**Sn**	**22 04 25.6**	**-3.2**
	970nm,0.3s,baz=108,slow=20,SNR=18						
LVC				Lg	Lg	22 05 32.2	
	51nm,0.3s,baz=103,slow=22,SNR=8.5						
MOCB	**Mochara**	**11.90**	**124**	*e*Pn	**Pn**	**22 02 54.9**	**+1.3**
SAML	**Samuel**	**13.93**	**67**	*e*Pn	**Pn**	**22 03 18.9**	**-2.1**
SIV	**San Ignacio**	**14.59**	**97**	Pn	**Pn**	**22 03 26.2**	**-3.8**
	1.5nm,0.3s,baz=281,slow=12,SNR=8.3						
TUMC	**Tumaco**	**16.66**	**351**	*e*Pn	**Pn**	**22 03 57.0**	**+0.1**
	540nm,1.3s						
RUSC	**La Rusia**	**20.73**	**9**	*e*P	**P**	**22 04 45.0**	**+0.8**
	56nm,1.2s						
HELC	**Santa Helena**	**20.81**	**2**	*e*P	**P**	**22 04 45.7**	**+0.7**
	45nm,0.9s						
CPUP	**Villa Florida**	**21.02**	**126**	P	**P**	**22 04 47.0**	**+0.1**
	22nm,1.1s,baz=306,slow=10,SNR=17						
CPUP	**Villa Florida**	**21.02**	**126**	*e*P	**P**	**22 04 47.5**	**+0.6**
CPUP	**Villa Florida**	**21.02**	**126**	*e*P	**P**	**22 04 47.5**	**+0.6**
PTGA	**Pitinga**	**21.21**	**50**	P	**P**	**22 04 46.6**	**-2.3**
	14nm,0.7s,baz=236,slow=11,SNR=9.0						
PTGA	**Pitinga**	**21.21**	**50**	*e*P	**P**	**22 04 49.8**	**+0.9**
	61nm,1.0s						
BCIP	**Isla Barro Col**	**24.04**	**351**	*e*P	**P**	**22 05 18.2**	**+0.1**
	37nm,1.1s						
SDV	**Santo Domingo**	**24.11**	**13**	P	**P**	**22 05 18.1**	**-0.9**
	22nm,0.6s,baz=194,slow=8.9,SNR=12						
PLCA	**Paso Flores**	**26.35**	**170**	P	**P**	**22 05 39.5**	**+0.5**
	4.0nm,0.7s,baz=13,slow=10,SNR=8.6						
PLCA	**Paso Flores**	**26.35**	**170**	*e*P	**P**	**22 05 39.6**	**+0.6**
	24nm,1.4s						
JTS	**JuntasAbangare**	**26.36**	**340**	*i*P	**P**	**22 05 40.3**	**+1.1**
TRQA	**Tornquist**	**26.39**	**154**	*e*P	**P**	**22 05 39.3**	**-0.1**
	73nm,2.0s						
BDFB	**Brasilia**	**27.16**	**96**	P	**P**	**22 05 45.6**	**-1.0**
	8.9nm,0.9s,baz=48,slow=10,SNR=7.8						
BDFB	**Brasilia**	**27.16**	**96**	*e*P	**P**	**22 05 46.0**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,101nm,1.7s						
BDFB	**Brasilia**	**27.16**	**96**	*e*P	**P**	**22 05 46.0**	**-0.6**
	comp=Z,101nm,1.7s						
SPB	**Sao Paulo**	**28.47**	**112**	*e*P	**P**	**22 05 57.8**	**-0.3**
	comp=Z,105nm,1.9s						
SJG	**San Juan**	**34.11**	**17**	*e*P	**P**	**22 06 47.1**	**-0.6**
SJG				pmax	pmax		
	comp=Z,42nm,1.3s						
SJG	**San Juan**	**34.11**	**17**	*e*P	**P**	**22 06 47.1**	**-0.6**
	comp=Z,42nm,1.3s						
HUMP	**Col San Antoni**	**34.22**	**18**	*e*P	**P**	**22 06 47.8**	**-0.9**
	comp=Z,24nm,0.9s						
MTP	**Monte Pirata**	**34.27**	**18**	*e*P	**P**	**22 06 47.5**	**-1.5**
	comp=Z,123nm,1.9s						
CBYP	**Canovanas**	**34.34**	**18**	*e*P	**P**	**22 06 49.8**	**0.0**
	comp=Z,46nm,1.2s						
PUCM	**Santiago**	**34.40**	**9**	*e*P	**P**	**22 06 47.8**	**-2.3**
	comp=Z,129nm,0.4s						
SKI	**Saint Kitts**	**34.51**	**23**	*e*P	**P**	**22 06 49.8**	**-1.5**
SKI				pmax	pmax		
	comp=Z,191nm,0.9s						
SKI	**Saint Kitts**	**34.51**	**23**	*e*P	**P**	**22 06 49.8**	**-1.5**
	comp=Z,191nm,0.9s						
SEUS	**St. Eustatius**	**34.57**	**23**	*e*P	**P**	**22 06 51.2**	**-0.5**
	comp=Z,144nm,0.9s						
SABA	**Saba**	**34.59**	**22**	*e*P	**P**	**22 06 51.1**	**-0.8**
	comp=Z,59nm,0.8s						
CCIG	**Comitan**	**34.64**	**332**	*e*P	**P**	**22 06 51.9**	**-0.7**
	comp=Z,6.9nm,1.0s						
SMRT	**St. Maarten**	**35.05**	**22**	*e*P	**P**	**22 06 53.4**	**-2.4**
	comp=Z,38nm,0.8s						
ANWB	**Willy Bob**	**35.19**	**24**	*e*P	**P**	**22 06 54.8**	**-2.2**
	comp=Z,74nm,0.8s						
TUIG	**Tuzandepetl**	**37.22**	**330**	*e*P	**P**	**22 07 15.1**	**+0.7**
	comp=Z,93nm,0.6s						
TLIG	**Tlapa**	**38.98**	**325**	*e*P	**P**	**22 07 29.9**	**+0.5**
	comp=Z,16nm,1.5s						
EFI	**East Falkland**	**39.59**	**162**	*i*P	**P**	**22 07 35.3**	**+1.3**
EFI				pmax	pmax		
	comp=Z,20nm,1.1s						
DWPF	**Disney Wildern**	**42.91**	**353**	*e*P	**P**	**22 08 00.7**	**-0.8**
	comp=Z,191nm,1.6s						
ZAIG	**Zacatecas**	**45.38**	**325**	*e*P	**P**	**22 08 22.1**	**+0.4**
	comp=Z,16nm,1.7s						
LNIG	**Linares**	**45.50**	**330**	*e*P	**P**	**22 08 22.4**	**+0.1**
	comp=Z,7.6nm,1.0s						
BRAL	**Brewton**	**46.84**	**347**	*e*P	**P**	**22 08 32.2**	**-0.6**
	comp=Z,48nm,0.3s						
KVTX	**Kingsville**	**47.03**	**333**	*e*P	**P**	**22 08 34.6**	**+0.2**
	comp=Z,393nm,1.9s						
835A	**Beeville**	**47.65**	**334**	*e*P	**P**	**22 08 39.7**	**+0.5**
	comp=Z,50nm,1.2s						
BBSR	**BB Station**	**48.12**	**13**	*e*P	**P**	**22 08 41.3**	**-1.3**
	comp=Z,157nm,1.6s						
735A	**Kenedy**	**48.14**	**334**	*e*P	**P**	**22 08 43.1**	**+0.2**
	comp=Z,173nm,1.9s						
HKT	**Hockley**	**48.32**	**337**	*i*P	**P**	**22 08 45.0**	**+0.8**
HKT				pmax	pmax		
	comp=Z,17nm,1.3s						
636A	**Smothers Creek**	**48.38**	**335**	*e*P	**P**	**22 08 45.1**	**+0.3**
	comp=Z,64nm,1.6s						
LRAL	**Lakeview Retre**	**48.63**	**348**	*e*P	**P**	**22 08 45.5**	**-1.2**
	comp=Z,25nm,1.5s						
JSC	**Jenkinsville**	**49.00**	**354**	*e*P	**P**	**22 08 48.9**	**-0.5**
JSC				pmax	pmax		
	comp=Z,42nm,1.6s						
JSC	**Jenkinsville**	**49.00**	**354**	*e*P	**P**	**22 08 48.9**	**-0.5**
	comp=Z,42nm,1.6s						
OXF	**Oxford**	**50.58**	**346**	*e*P	**P**	**22 09 01.3**	**-0.2**
OXF				pmax	pmax		
	comp=Z,20nm,1.0s						
OXF	**Oxford**	**50.58**	**346**	*e*P	**P**	**22 09 01.3**	**-0.2**
	comp=Z,20nm,1.0s						
TKL	**Tuckaleechee C**	**50.65**	**352**	*e*P	**P**	**22 09 01.0**	**-1.0**
TKL				pmax	pmax		
	comp=Z,32nm,1.5s						
TKL	**Tuckaleechee C**	**50.65**	**352**	*e*P	**P**	**22 09 01.0**	**-1.0**
	comp=Z,32nm,1.5s						
WHTX	**Lake Whitney,**	**50.76**	**337**	*e*P	**P**	**22 09 02.8**	**-0.1**
	comp=Z,9.5nm,0.7s						
WLAR	**White Oak Lake**	**50.81**	**342**	*e*P	**P**	**22 09 04.0**	**+0.8**
	comp=Z,38nm,0.8s						
TX31	**Lajitas Ar. Si**	**51.25**	**329**	*e*P	**P**	**22 09 05.7**	**-1.1**
UALR	**University of**	**51.60**	**343**	*e*P	**P**	**22 09 08.4**	**-0.7**
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**51.74**	**342**	*e*P	**P**	**22 09 10.2**	**0.0**
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MIAR	**Mount Ida**	**51.74**	**342**	*e*P	**P**	**22 09 10.2**	**0.0**
	comp=Z,5.4nm,0.8s						
WVT	**Waverly**	**51.79**	**348**	*e*P	**P**	**22 09 09.7**	**-0.8**
WVT				pmax	pmax		
	comp=Z,41nm,2.0s						
WVT	**Waverly**	**51.79**	**348**	*e*P	**P**	**22 09 09.7**	**-0.8**
	comp=Z,41nm,2.0s						
BLA	**Blacksburg**	**51.84**	**356**	*e*P	**P**	**22 09 10.8**	**-0.1**
BLA				pmax	pmax		
	comp=Z,14nm,0.6s						
BLA	**Blacksburg**	**51.84**	**356**	*e*P	**P**	**22 09 10.8**	**-0.1**
	comp=Z,14nm,0.6s						
VWCC	**Virginia Weste**	**51.84**	**356**	*e*P	**P**	**22 09 10.0**	**-0.9**
X301	**Greenbrier Sit**	**52.05**	**343**	*e*P	**P**	**22 09 11.6**	**-0.8**
	comp=Z,38nm,2.0s						
URVA	**University of**	**52.05**	**359**	*e*P	**P**	**22 09 11.6**	**-0.8**
WHAR	**Wooly Hollow**	**52.06**	**343**	*e*P	**P**	**22 09 11.6**	**-1.0**
	comp=Z,39nm,1.9s						
ABTX	**Abilene, Hawle**	**52.19**	**335**	*e*P	**P**	**22 09 13.2**	**-0.5**
	comp=Z,7.7nm,0.6s						
IP05	**Hopewell Churc**	**52.32**	**358**	*e*P	**P**	**22 09 14.0**	**-0.4**
	comp=Z,29nm,1.5s						
IP07	**Quail**	**52.41**	**358**	*e*P	**P**	**22 09 14.8**	**-0.4**
	comp=Z,49nm,1.7s						
IP06	**Yanceyville**	**52.43**	**358**	*e*P	**P**	**22 09 14.8**	**-0.5**
	comp=Z,18nm,1.2s						
IP01	**Cuckoo**	**52.45**	**358**	*e*P	**P**	**22 09 14.9**	**-0.5**
	comp=Z,64nm,2.0s						
IP03	**Louisa**	**52.52**	**358**	*e*P	**P**	**22 09 15.5**	**-0.4**
	comp=Z,20nm,1.3s						
CVRD	**Centerville Ro**	**52.56**	**358**	*e*P	**P**	**22 09 15.5**	**-0.7**
	comp=Z,64nm,1.8s						
IP04	**Greensprings**	**52.59**	**358**	*e*P	**P**	**22 09 16.2**	**-0.2**
	comp=Z,44nm,1.7s						
SPFD	**Spotsylvania F**	**52.62**	**359**	*e*P	**P**	**22 09 16.7**	**+0.1**
	comp=Z,60nm,1.2s						
PBMO	**Poplar Bluff**	**52.99**	**346**	*e*P	**P**	**22 09 19.2**	**-0.2**
	comp=Z,11nm,1.2s						
HHAR	**Hobbs**	**53.47**	**342**	*e*P	**P**	**22 09 22.3**	**-0.7**
	comp=Z,29nm,0.9s						
USIN	**University of**	**53.54**	**349**	*e*P	**P**	**22 09 21.8**	**-1.6**
	comp=Z,49nm,1.6s						
WCI	**Wyandotte Cave**	**53.55**	**350**	*e*P	**P**	**22 09 21.9**	**-1.7**
WCI				pmax	pmax		
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**53.55**	**350**	*e*P	**P**	**22 09 21.9**	**-1.7**
	comp=Z,13nm,0.8s						
TUL1	**Leonard**	**53.70**	**340**	*e*P	**P**	**22 09 24.2**	**-0.5**
	comp=Z,16nm,0.8s						
WMOK	**Wichita Mounta**	**53.71**	**337**	*e*P	**P**	**22 09 23.0**	**-1.8**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMOK	**Wichita Mounta**	**53.71**	**337**	*e*P	**P**	**22 09 23.0**	**-1.8**
	comp=Z,5.2nm,1.1s						
CLNB	**Carlsbad**	**53.76**	**331**	*e*P	**P**	**22 09 25.1**	**-0.2**
MNTX	**Cornudas Mount**	**54.03**	**329**	*e*P	**P**	**22 09 26.8**	**-0.4**
	comp=Z,11nm,1.5s						
FVM	**French Village**	**54.14**	**346**	*e*P	**P**	**22 09 27.3**	**-0.5**
FVM				pmax	pmax		
	comp=Z,30nm,1.8s						
FVM	**French Village**	**54.14**	**346**	*e*P	**P**	**22 09 27.3**	**-0.5**
	comp=Z,30nm,1.8s						
OLIL	**Olney**	**54.36**	**349**	*e*P	**P**	**22 09 28.1**	**-1.3**
	comp=Z,19nm,1.0s						
PSUB	**Penn St. - Bra**	**54.39**	**1**	*e*P	**P**	**22 09 29.4**	**-0.2**
	comp=Z,74nm,1.9s						
CCM	**Cathedral Cave**	**54.40**	**345**	*e*P	**P**	**22 09 29.6**	**-0.2**
CCM				pmax	pmax		
	comp=Z,32nm,1.8s						
CCM	**Cathedral Cave**	**54.40**	**345**	*e*P	**P**	**22 09 29.6**	**-0.2**
	comp=Z,32nm,1.8s						
MVL	**Millersville**	**54.46**	**360**	*e*P	**P**	**22 09 29.3**	**-0.8**
	comp=Z,20nm,1.3s						
MSTX	**Muleshoe**	**54.68**	**333**	*e*P	**P**	**22 09 31.5**	**-0.6**
	comp=Z,5.0nm,0.8s						
SSPA	**Standing Stone**	**55.12**	**358**	*e*P	**P**	**22 09 34.0**	**-1.0**
	comp=Z,58nm,1.8s						
BNM	**Barren Site**	**56.62**	**330**	*e*P	**P**	**22 09 46.2**	**+0.1**
ERPA	**Erie**	**56.69**	**357**	*e*

T25A	Trinidad	58.07	334	eP	P	Pdif	22 09 55.7	-0.5
	comp=Z,23nm,1.8s							
JFWS	Jewell Farm	58.82	348	eP	P	P	22 10 00.8	-0.3
JFWS				pmax	pmax			
	comp=Z,19nm,1.4s							
JFWS	Jewell Farm	58.82	348	eP	P	P	22 10 00.8	-0.3
	comp=Z,19nm,1.4s							
LBNH	Lisbon	58.83	4	eP	P	P	22 10 01.1	0.0
LBNH				pmax	pmax			
	comp=Z,90nm,1.8s							
LBNH	Lisbon	58.83	4	eP	P	P	22 10 01.1	0.0
	comp=Z,90nm,1.8s							
SDCO	Great Sand Dun	59.05	333	eP	P	P	22 10 03.2	0.0
	comp=Z,4.6nm,0.9s							
SDCO	Great Sand Dun	59.05	333	eS	P	P	22 10 03.2	0.0
SADO	Sadowa	59.29	358	eP	P	P	22 10 04.1	-0.2
	comp=Z,11nm,1.0s							
WVL	Waterville	59.32	5	eP	P	P	22 10 04.2	-0.3
	comp=Z,117nm,1.6s							
S22A	4UR Ranch, Cre	59.64	332	eP	P	P	22 10 07.5	+0.2
	comp=Z,16nm,1.9s							
GLMI	Grayling	59.78	353	eP	P	P	22 10 08.0	+0.3
	comp=Z,58nm,1.4s							
Q24A	Divide	59.92	334	eP	P	P	22 10 08.4	-0.8
	comp=Z,7.1nm,1.0s							
WUAZ	Wupatki	60.10	327	eP	P	P	22 10 11.8	+1.4
	comp=Z,15nm,1.4s							
ECSD	EROS Data Cent	61.13	343	eP	P	P	22 10 15.8	-1.1
	comp=Z,24nm,1.6s							
PFO	Pinyon Flats O	61.56	322	P	P	P	22 10 17.4	-2.8
	comp=Z,1.6nm,0.7s,baz=131,slow=9.3,SNR=4.4							
PFO	Pinyon Flats O	61.56	322	eP	P	P	22 10 22.4	+2.2
PFO	Pinyon Flats O	61.56	322	eP	P	P	22 10 22.4	+2.2
P17A	Butcher Ranch,	62.85	330	eP	P	P	22 10 29.2	+0.4
	comp=Z,9.3nm,1.2s							
TPNV	Topopah Spring	63.80	325	eP	P	P	22 10 34.8	-0.4
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TPNV	Topopah Spring	63.80	325	eP	P	P	22 10 34.8	-0.4
	comp=Z,3.2nm,0.8s							
DAC	Darwin (Calif)	64.09	324	eP	P	P	22 10 36.9	-0.2
DAC				pmax	pmax			
	comp=Z,9.0nm,1.8s							
DAC	Darwin (Calif)	64.09	324	eP	P	P	22 10 36.9	-0.2
	comp=Z,9.1nm,1.8s							
DUG	Dugway, Tooele	64.42	330	eP	P	P	22 10 40.0	+0.9
DUG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
DUG	Dugway, Tooele	64.42	330	eP	P	P	22 10 40.0	+0.9
	comp=Z,5.4nm,0.6s							
R11A	Troy Canyon, C	64.46	326	eP	P	P	22 10 40.4	+1.0
	comp=Z,4.2nm,1.3s							
HWUT	Hardware Ranch	64.92	331	eP	P	P	22 10 42.4	0.0
	comp=Z,4.3nm,0.8s							
PDAR	Pinedale Array	64.94	333	P	P	P	22 10 41.3	-1.3
	comp=Z,1.0nm,0.8s,baz=127,slow=9.5,SNR=5.9							
AGMN	Agassiz Nation	65.17	346	eP	P	P	22 10 43.0	-0.7
	comp=Z,62nm,2.0s							
HVU	Hansel Valley	65.62	331	eP	P	P	22 10 46.9	0.0
HVU				pmax	pmax			
	comp=Z,4.0nm,1.0s							
HVU	Hansel Valley	65.62	331	eP	P	P	22 10 46.9	0.0
	comp=Z,4.4nm,1.0s							
MOOW	Moose Ponds	66.24	333	eP	P	P	22 10 51.4	+0.4
	comp=Z,5.2nm,1.3s							
FXWY	Fox Creek	66.28	333	eP	P	P	22 10 51.1	-0.1
	comp=Z,7.1nm,1.4s							
IMW	Indian Meadow	66.45	333	eP	P	P	22 10 52.9	+0.6
	comp=Z,10nm,1.4s							
ULM	Lac du Bonnet	67.00	346	P	P	P	22 10 53.9	-1.5
	comp=Z,5.8nm,0.9s,baz=169,slow=9.6,SNR=5.1							
ULM	Lac du Bonnet	67.00	346	eP	P	P	22 10 59.7	+4.3
ULM				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ULM	Lac du Bonnet	67.00	346	eP	P	P	22 10 54.1	-1.3
	comp=Z,64nm,2.0s							
YHH	Holmes Hill	67.12	334	eP	P	P	22 10 57.4	+0.8
	comp=Z,3.8nm,0.9s							
HLID	Hailey	67.76	331	eP	P	P	22 11 01.2	+0.6
	comp=Z,16nm,1.8s							
MFID	Camas Ranch	68.32	330	eP	P	P	22 11 05.0	+0.9
	comp=Z,6.9nm,0.8s							
ORV	Oroville	68.58	324	eP	P	P	22 11 06.8	+1.2
ORV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ORV	Oroville	68.58	324	eP	P	P	22 11 06.8	+1.2
	comp=Z,5.9nm,0.9s							
VNA3	Neumayer Olymp	68.64	161	P	P	P	22 11 06.7	+1.1
VNA1	Neumayr--Stat	68.91	161	P	P	P	22 11 08.3	+1.2
VNA2	Neumayer--Watz	69.26	161	P	P	P	22 11 10.2	+0.9
	baz=300,slow=7.8							
SNAA	Sanae	70.86	161	P	P	P	22 11 20.2	+1.0
SNAA	Sanae	70.86	161	i P	P	P	22 11 20.7	+1.4
SNAA	Sanae	70.86	161	eP	P	P	22 11 20.2	+1.0
	comp=Z,14nm,1.0s							
LIC	Lamto	73.50	79	eP	P	P	22 11 35.1	-0.9
	comp=Z,36nm,1.4s							
TIC	Toumodi	73.63	78	eP	P	P	22 11 35.7	-1.1
DBIC	Dimbokro	73.80	78	P	P	P	22 11 36.9	-0.8
	comp=Z,8.1nm,0.7s,baz=230,slow=7.0,SNR=11							
KIC	Kosan Boka	73.81	79	eP	P	P	22 11 37.2	-0.6
	comp=Z,41nm,1.1s							
QSPA	South Pole Qui	75.40	180	eP	P	P	22 11 47.6	+1.3
	comp=Z,27nm,0.9s							
TOA0	Torodi Ar. Sit	81.88	74	eP	P	P	22 12 22.6	-0.1
TORD	Torodi Ar. Bea	81.88	74	P	P	P	22 12 22.4	-0.2
	comp=Z,19nm,0.9s,baz=262,slow=4.9,SNR=88							
VNDA	Vanda	82.22	191	P	P	P	22 12 25.2	+1.9
	comp=Z,2.0nm,0.9s,baz=133,slow=3.9,SNR=9.5							
VNDA	Vanda	82.22	191	eP	P	P	22 12 25.7	+2.4
VNDA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VNDA	Vanda	82.22	191	eP	P	P	22 12 25.7	+2.4
	comp=Z,3.6nm,1.0s							
PCVE	Castro Verde	82.38	48	eP	P	P	22 12 26.2	+1.4
YKA	Yellowknife Ar	82.66	343	P	P	P	22 12 25.0	-0.7
	comp=Z,3.0nm,0.8s,baz=149,slow=5.8,SNR=3.9							
EVO	Evora	82.78	47	eP	P	P	22 12 27.8	+0.9
	comp=Z,20nm,1.3s							
PMTG	Montargil	82.86	47	eP	P	P	22 12 28.2	+0.9
	comp=Z,43nm,1.3s							
PTOM	Tomar	82.97	46	eP	P	P	22 12 28.8	+1.0
PESTR	Estremoz	83.22	47	eP	P	P	22 12 28.2	-1.0
PBAR	Barrancos	83.33	48	eP	P	P	22 12 30.6	+0.9
PCBR	Castelo Branco	83.71	46	eP	P	P	22 12 32.5	+0.9
ESDC	Sonseca Array	86.12	47	P	P	P	22 12 43.8	-0.1
	comp=Z,1.5nm,0.7s,baz=258,slow=5.4,SNR=8.6							
TAM	Tamanrasset	88.17	66	eP	P	P	22 12 55.3	+1.0
TAM				pmax	pmax			
	comp=Z,14nm,1.4s							
TAM	Tamanrasset	88.17	66	eP	P	P	22 12 55.2	+1.0
	comp=Z,14nm,1.4s							
SUMG	Summit	90.61	11	i P	P	P	22 13 04.7	-0.2
	comp=Z,13nm,1.0s							
SUMG	Summit	90.61	11	i P	P	P	22 13 04.7	-0.2
SUMG				pmax	pmax			
	comp=Z,13nm,1.0s							
SUMG	Summit	90.61	11	eP	P	P	22 13 04.8	-0.1
	comp=Z,13nm,0.9s							
MAW	Mawson	92.65	165	P	P	P	22 13 15.5	+1.4
	comp=Z,4.0nm,1.0s,baz=201,slow=7.3,SNR=7.5							
MAW	Mawson	92.65	165	eP	P	P	22 13 15.1	+1.0
MAW				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MAW	Mawson	92.65	165	eP	P	P	22 13 15.1	+1.0
	comp=Z,1.5nm,1.0s							
ILAR	Eielson Array	95.27	336	P	P	P	22 13 25.1	-0.9
	comp=Z,0.3nm,0.8s,baz=142,slow=3.1,SNR=2.9							
DAG	Danmarks Havn	97.26	11	eP	Pdif	Pdif	22 13 35.8	+0.9
DAG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
DAVA	Damuels	98.03	43	i PcP	Pdif	Pdif	22 13 39.4	+0.2
	comp=Z,6.5nm,1.0s							
FETA	Feichten	98.53	44	i Pdiff	P	P	22 13 40.3	-1.2
	comp=Z,2.8nm,1.0s							
RETA	Reutte	98.66	43	i Pdiff	P	P	22 13 41.8	-0.1
	comp=Z,6.5nm,1.3s							
MOTA	Moosalm	98.85	43	i Pdiff	P	P	22 13 42.7	-0.1
	comp=Z,4.1nm,0.8s							
WATA	Walderalm	99.17	44	i Pdiff	Pdif	Pdif	22 13 44.5	+0.3
	comp=Z,2.4nm,0.7s							
WTTA	Wattenberg	99.19	44	i Pdiff	Pdif	Pdif	22 13 44.7	+0.3
	comp=Z,3.6nm,0.8s							
ABTA	Abfaltersbach	99.68	44	i Pdiff	Pdif	Pdif	22 13 46.6	+0.1
	comp=Z,8.5nm,1.1s							
KBA	Koelnbreinsper	100.30	44	i Pdiff	Pdif	Pdif	22 13 49.6	+0.3
	comp=Z,4.8nm,1.2s							
GERES	GERESS Array B	100.85	42	P	Pdif	Pdif	22 13 50.8	-0.9
	comp=Z,1.5nm,0.9s,baz=256,slow=4.0,SNR=7.9							
OBKA	Obir	101.01	45	i Pdiff	Pdif	Pdif	22 13 52.8	+0.3
	comp=Z,4.0nm,1.0s							
MOA	Molln	101.05	43	i Pdiff	Pdif	Pdif	22 13 52.4	-0.1
	comp=Z,4.7nm,1.2s							
SOKA	Soboth	101.37	45	i Pdiff	Pdif	Pdif	22 13 54.1	0.0
	comp=Z,2.2nm,1.1s							
ARSA	Arzberg	101.79	44	ePdiff	Pdif	Pdif	22 13 54.2	-1.6
	comp=Z,2.8nm,1.2s							
CONA	Conrad Observa	102.12	43	i Pdiff	Pdif	Pdif	22 13 56.7	-0.6
	comp=Z,2.2nm,1.0s							
OBN	Obninsk	114.94	36	i PKIKP	PKPdf	PKPdf	22 18 44.0	+0.8
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KLMR	Klimovskoe	115.19	29	ePKIKP	PKPdf	PKPdf	22 18 40.3	-3.2
KLMR				pmax	pmax			
	comp=Z,12nm,1.5s							
H11N3	WAKE ISLAND Hyl	19.86	284	T	T	T	00 29 51.6	
	baz=96,slow=74,SNR=242							
H11N2	WAKE ISLAND Hyl	19.87	284	T	T	T	00 29 54.8	
	baz=96,slow=74,SNR=270							
H11N1	WAKE ISLAND Hyl	19.87	284	T	T	T	00 29 55.0	
	baz=96,slow=74,SNR=169							
H11S2	WAKE ISLAND Hyl	19.91	283	T	T	T	00 29 55.6	
	baz=96,slow=75,SNR=21							
H11S1	WAKE ISLAND Hyl	19.92	283	T	T	T	00 30 00.7	
	baz=96,slow=75,SNR=30							
H11S3	WAKE ISLAND Hyl	19.93	283	T	T	T	00 29 56.2	
	baz=96,slow=75,SNR=38							
KIV	Kislovodsk	120.79	47	i PKIKP	PKPdf	PKPdf	22 18 55.2	+0.2
TIXI	Tiksi	121.17	351	i PKIKP	PKPdf	PKPdf	22 18 58.1	+3.3
AKTO	Aktyubinsk	128.72	36	PKP	PKPdf	PKPdf	22 19 08.2	-1.7
	comp=Z,1.0nm,0.6s,baz=357,slow=7.1,SNR=4.8							
ASAR	Alice Springs	131.82	218	PKP	PKPdf	PKPdf	22 19 15.8	-0.9
	comp=Z,1.1nm,0.9s,baz=173,slow=2.9,SNR=6.9							
ASAR	Alice Springs	131.82	218	ePKIKP	PKPdf	PKPdf	22 19 16.4	-0.3
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BVAR	Borovoye Array	133.56	27	PKP	PKPdf	PKPdf	22 19 17.5	-1.5
	comp=Z,0.7nm,0.8s,baz=251,slow=4.4,SNR=4.6							
WRA	Warramunga Arr	134.31	222	PKP	PKPdf	PKPdf	22 19 21.2	-0.2
	comp=Z,1.2nm,0.8s,baz=126,slow=1.9,SNR=7.1							
WRA	Warramunga Arr	134.31	222	ePKIKP	PKPdf	PKPdf	22 19 23.6	+2.2
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZALV	Zalesovo Beam	138.13	17	PKP	PKPdf	PKPdf	22 19 27.4	0.0
	comp=Z,3.2nm,0.7s,baz=300,slow=2.9,SNR=16							
KURK	Kurchatov	138.73	24	PKIKP	PKPdf	PKPdf	22 19 29.2	+0.6
KURK	Kurchatov	138.73	24	PKP	PKPdf	PKPdf	22 19 29.2	+0.6
KURBB	Kurchatov Arra	138.77	24	PKP	PKPdf	PKPdf	22 19 29.2	+0.5
	comp=Z,1.8nm,0.8s,baz=309,slow=2.6,SNR=14							
TLY	Talaya	143.16	0	ePKIKP	PKPbc	PKPbc	22 19 34.0	+0.5
TLY				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MKAR	Makanchi Array	143.32	25	PKP	PKPdf	PKPdf	22 19 37.0	0.0
	comp=Z,1.6nm,0.9s,baz=336,slow=2.7,SNR=8.3							
MKAR	Makanchi Array	143.32	25	ePKIKP	PKPdf	PKPdf	22 19 37.1	0.0
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZAK	Zakamensk	144.46	1	ePKHKP	PKPpre	PKPpre	22 19 30.4	
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.3s							
KSH	Kashi	145.27	39	PKPbc	PKPdf	PKPdf	22 19 41.0	+0.2
KSH				PP	PP	PP	22 23 04.0	+4.3
KSH				PKS	PKSdf	PKSdf	22 23 15.0	-1.4
KSH				SKS	SKSdf	SKSdf	22 26 49.3	+1.0
KSH				SKKS	SKKSac	SKKSac	22 29 52.0	+1.3
KSH				SS	SS	SS	22 41 52.0	+2.9
KSH				AMB	AMB			
	comp=Z,160nm,7.3s							
KSH				LR	LR			
	comp=Z,130nm,8.3s							
KSH				LR	LR			
	comp=Z,140nm,12.5s							
KSH				LR	LR			
	comp=Z,150nm,8.2s							
SONM	Songino Array	146.94	357	PKPbc	PKPbc	PKPbc	22 19 44.4	-0.9
	comp=Z,6.4nm,0.8s,baz=332,slow=1.3,SNR=44							
WMQ	Urumqi	147.90	22	PKPbc	PKPdf	PKPdf	22 19 42.8	-2.2
WMQ				LR	LR			
	comp=Z,260nm,20.7s							
WMQ				LR	LR			
	comp=Z,210nm,23.1s							
WMQ				LR	LR			
	comp=Z,230nm,27.7s							
KSRS	Korea Array	148.89	321	PKPbc	PKPbc	PKPbc	22 19 51.0	+0.3
	comp=Z,1.4nm,0.8s,baz=70,slow=1.4,SNR=5.8							
KSAR	Wonju Array Be	148.92	321	PKP2	PKPbc	PKPbc	22 19 51.0	+0.2
KSAR	Wonju Array Be	148.92	321	PKPbc	PKPbc	PKPbc	22 19 51.0	+0.2
HHC	Hu-ho-hao-te	153.14	347	ePKPbc	PKPdf	PKPdf	22 19 53.0	-0.3
HHC				PP	PP	PP	22 23 45.0	+0.4
HHC				SKS	SKSdf	SKSdf	22 26 59.8	+1.2
HHC				SKKS	SKKSac	SKKSac	22 30 31.0	-3.0
HHC				SS	SS	SS	22 43 21.5	+6.0
HHC				AMB	AMB			
	comp=Z,240nm,9.9s							
HHC				LR	LR			
	comp=Z,170nm,20.6s							
HHC				LR	LR			
	comp=Z,230nm,19.6s							
HHC				LR	LR			
	comp=Z,310nm,22.9s							
NJ2	Nanjing	157.99	324	ePKP	PKPdf	PKPdf	22 19 57.5	-2.4
LZH	Lanzhou	158.75	0	ePKP	PKPdf	PKPdf	22 19 56.0	-5.0
LZH				sPKP			22 20 01.8	
CD2	Chengdu	163.91	0	PKP	PKPdf	PKPdf	22 20 06.0	-0.4
GYA	Guiyang	168.05	348	ePKP	PKPdf	PKPdf	22 20 09.8	-0.1
GYA				PKPab	PKPab	PKPab	22 21 18.5	+1.1
GYA				PKS	PKSdf	PKSdf	22 23 40.0	-2.8
GYA				PP	PP	PP	22 25 07.5	+2.7
GYA				AMB	AMB			
	comp=Z,120nm,7.9s							
CMAR	Chiang Mai Arr	174.02	51	PKP	PKPdf	PKPdf	22 20 12.9	-0.1
	comp=Z,0.9nm,0.4s,baz=243,slow=2.5,SNR=5.6							
CMAR	Chiang Mai Arr	174.02	51	PKIKP	PKPdf	PKPdf	22 20 13.0	-0.1

*MOS **28** 22:06:15.9±2.3, 48°.13N×156°.00E, h16km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=10.6km az=79.5*

KRSC 28 22:06:15.9±1.5, 48°.13N×156°.00E, h16km±34km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.56	2	eP	Pn	Pb	22 07 00.5	-0.8
SKR				eS	Sn	Sn	22 07 29.5	+2.1
SKR				smax	smax			
	comp=N,157nm,0.6s							
SKR				smax	smax			
	comp=E,140nm,1.0s							
SKR				MLR	MLR			
	comp=Z,500nm,16.0s							
SKR	Severo-Kuril's	2.56	2	eP	Pn		22 06 58.3	+1.7
SKR				eS	Sb		22 07 30.5	-2.0
ASAK	Asacha	4.43	15	PN	Pn		22 07 27.0	+4.6
ASAK	Asacha	4.43	15	eP	Pn		22 07 27.0	+4.6
RUS	Russkaya	4.60	20	PN	Pn		22 07 28.1	+3.4
RUS				S	Sn		22 08 22.4	+4.7
RUS	Russkaya	4.60	20	eP	Pn		22 07 28.1	+3.4
RUS				eS	Sn		22 08 22.4	+4.7
KRMR	Karymshinskiy	4.90	15	PN	Pn		22 07 33.2	+4.4
KRMR	Karymshinskiy	4.90	15	eP	Pn		22 07 33.2	+4.4
AVH	Avacha	5.43	18	PN	Pn		22 07 41.1	+5.0
AVH	Avacha	5.43	18	eP	Pn		22 07 41.1	+5.0
AVH				eP	Pn		22 07 41.9	+5.8
SDLR	Sedlovina	5.47	18	PN	Pn		22 07 40.8	+4.0
SDLR	Sedlovina	5.47	18	eP	Pn		22 07 40.8	+4.0
SPN	Mys Shipunski	5.59	26	PN	Pn		22 07 43.0	+4.7
SPN	Mys Shipunski	5.59	26	eP	Pn		22 07 43.0	+4.7
GNL	Ganaly	5.71	12	PN	Pn		22 07 43.9	+3.9
GNL	Ganaly	5.71	12	eP	Pn		22 07 43.9	+3.9

*CSEM **28** 22:18:51.0, 38°.86N×43°.58E, h5km, MD2.8*

ISK 28 22:18:51.0, 38°.86N×43°.58E, h5km, MD2.8, ML2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.24	309	ePG	Pg		22 18 57.0	+1.2
ERCV	ERCIS-VAN	0.24	309	ePg	Pg		22 18 57.0	+1.2
VANB	Van	0.31	209	ePG	Pb		22 18 59.6	+0.5
VANB	Van	0.31	209	ePg	Pb		22 18 59.6	+0.5
CLDR	Caldiran	0.38	43	ePG	Pb		22 18 59.5	-0.9
CLDR				eSG	Sb		22 19 06.3	-0.4
CLDR	Caldiran	0.38	43	ePg	Pb		22 18 59.5	-0.9
CLDR				eSg	Sb		22 19 06.3	-0.5
AGRB	Hanur-Agry	0.84	327	ePG	Pb		22 19 08.0	-0.3
AGRB				eSG	Sb		22 19 21.3	+1.2
AGRB	Hanur-Agry	0.84	327	ePg	Pb		22 19 08.0	-0.3
AGRB				eSg	Sb		22 19 21.3	+1.3
CUKT	Cukurca	1.61	179	ePN	Pg		22 19 21.9	-0.1
CUKT	Cukurca	1.61	179	ePn	Pg		22 19 21.9	0.0
VRTB	Varto-Mus	1.68	281	ePN	Pg		22 19 23.2	0.0
VRTB	Varto-Mus	1.68	281	ePn	Pg		22 19 23.2	0.0
SENK	Senkaya-Erzuru	1.94	331	ePN	Pb		22 19 26.7	-0.3
SENK	Senkaya-Erzuru	1.94	331	ePn	Pb		22 19 26.7	-0.3

*ISK **28** 22:33:14.4, 38°.88N×43°.49E, h5km, ML2.8*
*CSEM **28** 22:33:15.5±0.2, 38°.87N×43°.44E, h2km, ML2.8, Error ellipse: s-maj=6.1km s-min=4.2km az=95.0*
*DDA **28** 22:33:15.4, 38°.84N×43°.44E, h7km, Ml3.1*

ISC 28 22:33:15.2±1.1, 38°.87N±0°.02×43°.44E±0°.03, h10km±9km, n46, σ0°.90/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.16	39	i P	Pg		22 33 18.9	+0.1
VMUR	Van-Muradiye	0.16	39	P	Pg		22 33 19.0	+0.1
ERCV	ERCIS-VAN	0.17	332	ePG	Pg		22 33 19.1	0.0
ERCV	ERCIS-VAN	0.17	332	ePg	Pg		22 33 19.1	0.0
VANB	Van	0.28	189	ePG	Pb		22 33 22.1	-0.3
VANB				eSG	Sb		22 33 29.2	+2.1
VANB	Van	0.28	189	ePg	Pb		22 33 22.1	-0.3
TVAN	Van	0.34	185	i P	Pg		22 33 22.0	-0.1
TVAN	Van	0.34	185	P	Pg		22 33 22.0	-0.1
CLDR	Caldiran	0.46	53	ePG	Pg		22 33 23.9	-0.4
CLDR	Caldiran	0.46	53	i P	Pg		22 33 24.4	+0.1
CLDR				i S	Sb		22 33 33.1	+0.5
CLDR	Caldiran	0.46	53	ePg	Pg		22 33 23.9	-0.4
CLDR	Caldiran	0.46	53	P	Pg		22 33 24.4	+0.1
CLDR				S	Sb		22 33 33.1	+0.5
GEVA	Gevas	0.63	209	i P	Pg		22 33 27.0	-0.5
GEVA	Gevas	0.63	209	P	Pg		22 33 27.0	-0.5
DYDN	Diyadin	0.70	16	i P	Pg		22 33 28.8	-0.1
DYDN				i S	Sb		22 33 40.1	+0.6
DYDN	Diyadin	0.70	16	P	Pg		22 33 28.8	-0.1
DYDN				S	Sb		22 33 40.1	+0.6
TUTA	Tutak	0.72	318	i P	Pg		22 33 29.1	-0.2
TUTA	Tutak	0.72	318	P	Pg		22 33 29.1	-0.2
AGRB	Hanur-Agry	0.79	334	ePG	Pg		22 33 30.1	-0.3
AGRB				eSG	Sb		22 33 42.4	+0.4
AGRB	Hanur-Agry	0.79	334	ePg	Pg		22 33 30.2	-0.3
AGRB				eSg	Sb		22 33 42.4	+0.4
EKAR	Karacoban	1.14	290	i P	Pn		22 33 38.1	+0.6
EKAR	Karacoban	1.14	290	P	Pn		22 33 38.1	+0.6
EATA	Eleskirt	1.24	324	i P	Pg		22 33 39.3	+0.2
EATA	Eleskirt	1.24	324	P	Pg		22 33 39.3	+0.2
HAKT	HAKKARI	1.32	171	i P	Pn		22 33 39.0	-1.0
HAKT	HAKKARI	1.32	171	P	Pn		22 33 39.0	-1.0
DIGO	Kars	1.55	358	i P	Pg		22 33 45.0	+0.1
DIGO	Kars	1.55	358	P	Pg		22 33 45.0	+0.1
VRTB	Varto-Mus	1.57	281	ePN	Pg		22 33 45.4	-0.1
VRTB	Varto-Mus	1.57	281	ePn	Pg		22 33 45.4	-0.1
SIRN	S¨–rnak	1.59	211	i P	Pg		22 33 46.0	+0.2
SIRN	S¨–rnak	1.59	211	P	Pg		22 33 46.0	+0.2
CUKT	Cukurca	1.62	175	ePN	Pb		22 33 45.5	+0.2
CUKT	Cukurca	1.62	175	i P	Pb		22 33 46.0	+0.7
CUKT	Cukurca	1.62	175	ePn	Pb		22 33 45.5	+0.2
CUKT	Cukurca	1.62	175	P	Pb		22 33 46.0	+0.7
EAK	Akyaka	1.82	4	i P	Pg		22 33 51.1	+0.9
EAK	Akyaka	1.82	4	P	Pg		22 33 51.1	+0.9
SVAN	Silvan-Diyarba	1.90	249	ePN	Pb		22 33 50.0	-0.1
SVAN	Silvan-Diyarba	1.90	249	ePn	Pb		22 33 50.0	-0.1
ERZM	Erzurum	1.91	303	i P	Pn		22 33 44.7	-3.5
ERZM	Erzurum	1.91	303	P	Pn		22 33 44.7	-3.5
BNGB	Bing¨¶l	2.16	274	ePN	Pn		22 33 52.9	+1.5
BINT	Bingol	2.31	271	ePn	Pn		22 33 52.9	-0.5
DDEM	Demirkent	2.41	328	i P	Pb		22 33 59.2	+0.5
DDEM	Demirkent	2.41	328	P	Pb		22 33 59.2	+0.5

*IDC **28** 22:34:10.3±2.5, 38°.17N×144°.97E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/48, mbtmp3.6/5, ML3.4/1, Error ellipse: s-

THR **28** *22:48:00.4±0.5, 32°.46N×49°.02E, h25km±3km, ML4.7*
CSEM **28** *22:48:00.1±0.1, 32°.41N×48°.94E, h20km, mb4.8/40, Error ellipse: s-maj=4.9km s-min=3.0km az=34.0*
NEIC **28** *22:48:00.4±0.0, 32°.46N×49°.02E, h25km, mb4.7/68, ML4.7(THR), MN4.6(TEH), After THR.*
MOS **28** *22:48:00.6±1.0, 32°.54N×48°.92E, h33km, mb4.9/73, Error ellipse: s-maj=6.7km s-min=3.2km az=125.2*
TEH **28** *22:48:01.5, 32°.49N×48°.97E, h12km, ML4.6*
IDC **28** *22:48:02.6±1.6, 32°.53N×48°.89E, h35km±11km, mb4.2/33, mb1 4.3/39, mb1mx4.2/50, mbtmp4.4/39, ML3.8/4, MS4.0/5, Ms1 4.0/5, ms1mx3.4/53, Error ellipse: s-maj=13.8km s-min=9.5km az=164.0*
OMAN **28** *22:48:05.2±0.4, 31°.92N×48°.95E, h40km, Error ellipse: s-maj=18.9km s-min=2.7km az=43.0*
ISC 28 22:48:00.5±0.3, 32°.50N±0°.03×48°.93E±0°.03, h23km, n633, σ1§73/654, mb4.7/151, MS3.9/5, 48C-16D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.40**	**195**	*e*Pg	**Pb**	**22 48 08.7**	**-0.2**
SHGR				*e*Sg	**Sb**	**22 48 15.2**	**+0.5**
SHGR				AML	AML	22 48 21.0	
	comp=E,50μm,0.3s						
SHGR				AML	AML	22 48 22.5	
	comp=N,80μm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.40**	**195**	*e*Pg	**Pb**	**22 48 08.7**	**-0.2**
SHGR				*e*Sg	**Sb**	**22 48 15.2**	**+0.5**
AHWZ	**Ahwaz**	**1.19**	**192**	*e*Pg	**Pb**	**22 48 24.0**	**+1.7**
AHWZ	**Ahwaz**	**1.19**	**192**	*e*Pg	**Pb**	**22 48 24.0**	**+1.7**
IKFM	**Kafar-mosalman**	**1.37**	**319**	*e*Pg	**Pb**	**22 48 25.7**	**+0.3**
IKFM	**Kafar-mosalman**	**1.37**	**319**	*e*Pg	**Pb**	**22 48 25.7**	**+0.3**
KHMZ	**Khomeyn**	**1.51**	**35**	*e*Pg	**Pb**	**22 48 27.5**	**-0.4**
KHMZ				AML	AML	22 48 51.7	
	comp=E,8μm,0.6s						
KHMZ	**Khomeyn**	**1.51**	**35**	*e*Pg	**Pb**	**22 48 27.5**	**-0.4**
IKOM	**Komasi**	**2.05**	**325**	*e*Pn	**Pb**	**22 48 36.5**	**-0.6**
IKOM				*e*AMB	AMB	22 49 17.7	
	comp=Z,34μm,0.2s						
IKOM	**Komasi**	**2.05**	**325**	*e*Pn	**Pb**	**22 48 36.5**	**-0.6**
QAM	**Ghamsar**	**2.46**	**58**	*e*Pn	**Pb**	**22 48 41.9**	**-2.1**
QAM				*e*Sg	**Sb**	**22 49 17.4**	**+3.4**
QAM				*e*AMB	AMB	22 49 20.4	
	comp=Z,53μm,0.2s						
IVIS	**Veis**	**2.67**	**320**	*e*Pn	**Pn**	**22 48 44.1**	**+2.0**
IVIS				*e*AMB	AMB	22 49 29.8	
	comp=Z,14μm,0.2s						
IVIS	**Veis**	**2.67**	**320**	*e*Pn	**Pn**	**22 48 44.1**	**+2.0**
IGHG	**Ghaleghazi**	**2.69**	**313**	*e*Pn	**Pb**	**22 48 45.7**	**-2.3**
IGHG				*e*AMB	AMB	22 49 35.8	
	comp=Z,17μm,0.3s						
IGHG	**Ghaleghazi**	**2.69**	**313**	*e*Pn	**Pb**	**22 48 45.7**	**-2.3**
NSR	**Nassriya**	**2.80**	**239**	*e*Pn	**Pn**	**22 48 44.0**	**+0.2**
	SNR=3.0						
NSR				*i* Sn	**Sn**	**22 49 15.5**	**-1.3**
	SNR=3.0						
ILIN	**Lien**	**2.92**	**326**	*e*Pn	**Pn**	**22 48 48.2**	**+2.5**
ILIN				*e*AMB	AMB	22 49 37.3	
	comp=Z,16μm,0.2s						
ILIN	**Lien**	**2.92**	**326**	*e*Pn	**Pn**	**22 48 48.2**	**+2.5**
ISAD	**Sadrabad**	**4.08**	**97**	*e*Pn	**Pn**	**22 49 02.7**	**+1.1**
ISAD				*e*AMB	AMB	22 50 28.6	
	comp=Z,5μm,0.5s						
ISAD	**Sadrabad**	**4.08**	**97**	*e*Pn	**Pn**	**22 49 02.7**	**+1.1**
AHBU	**AHRAM**	**4.16**	**150**	*e*Pn	**Pn**	**22 49 03.2**	**+0.7**
ZNJK	**Zanjan**	**4.17**	**357**	*e*Pn	**Pn**	**22 49 05.4**	**+2.5**
ZNJK	**Zanjan**	**4.17**	**357**	*e*Pn	**Pn**	**22 49 05.4**	**+2.5**
IPAR	**Pars**	**4.41**	**126**	*e*Pn	**Pn**	**22 49 06.8**	**+0.5**
IPAR				*e*AMB	AMB	22 50 14.7	
	comp=Z,5μm,0.4s						
IPAR	**Pars**	**4.41**	**126**	*e*Pn	**Pn**	**22 49 06.8**	**+0.5**
ICHK	**Chekchek**	**4.64**	**92**	*e*Pn	**Pn**	**22 49 10.8**	**+1.4**
ICHK				*e*AMB	AMB	22 50 46.6	
	comp=Z,5μm,0.3s						
ICHK	**Chekchek**	**4.64**	**92**	*e*Pn	**Pn**	**22 49 10.8**	**+1.4**
ISRV	**Sarvestan**	**4.75**	**130**	*e*Pn	**Pn**	**22 49 11.0**	**0.0**
ISRV				*e*AMB	AMB	22 51 12.5	
	comp=Z,8μm,0.5s						
ISRV	**Sarvestan**	**4.75**	**130**	*e*Pn	**Pn**	**22 49 11.0**	**0.0**
IKRK	**Kirkuk**	**4.79**	**308**	*e*Pn	**Pn**	**22 49 13.0**	**+1.8**
	SNR=3.0						
IKRK				*i* Sn	**Sn**	**22 50 05.0**	**-0.9**
	SNR=3.0						
IMEH	**Mehriz**	**4.96**	**101**	*e*Pn	**Pn**	**22 49 14.6**	**+0.9**
IMEH				*e*AMB	AMB	22 50 22.6	
	comp=Z,2μm,0.2s						
IMEH	**Mehriz**	**4.96**	**101**	*e*Pn	**Pn**	**22 49 14.6**	**+0.9**
IBAF	**Bafgh**	**5.71**	**97**	*e*Pn	**Pn**	**22 49 25.5**	**+1.5**
IBAF				*e*AMB	AMB	22 51 15.0	
	comp=Z,2μm,0.5s						
IBAF	**Bafgh**	**5.71**	**97**	*e*Pn	**Pn**	**22 49 25.5**	**+1.5**
GRMI	**Germi**	**6.35**	**353**	*e*Pn	**Pn**	**22 49 35.3**	**+2.5**
GRMI	**Germi**	**6.35**	**353**	*e*Pn	**Pn**	**22 49 35.3**	**+2.5**
CUKT	**Cukurca**	**6.45**	**319**	*i* P	**Pn**	**22 49 35.1**	**+1.0**
CUKT	**Cukurca**	**6.45**	**319**	*i* P	**Pn**	**22 49 35.5**	**+1.4**
CUKT	**Cukurca**	**6.45**	**319**	P	**Pn**	**22 49 35.1**	**+1.0**
HAKT	**HAKKARI**	**6.62**	**321**	*i* P	**Pn**	**22 49 38.0**	**+1.5**
HAKT	**HAKKARI**	**6.62**	**321**	*i* P	**Pn**	**22 49 37.7**	**+1.1**
HAKT	**HAKKARI**	**6.62**	**321**	P	**Pn**	**22 49 37.7**	**+1.1**
SHRO	**Shahrood**	**6.82**	**57**	*e*Pn	**Pn**	**22 49 41.1**	**+1.9**
SHRO	**Shahrood**	**6.82**	**57**	*e*Pn	**Pn**	**22 49 41.1**	**+1.9**
TABS	**Tabas**	**6.97**	**78**	*e*Pn	**Pn**	**22 49 42.5**	**+1.2**
TABS	**Tabas**	**6.97**	**78**	*e*Pn	**Pn**	**22 49 42.5**	**+1.2**
RTB	**Rutbah**	**7.28**	**276**	*e*Pn	**Pn**	**22 49 47.5**	**+2.0**
	SNR=3.0						
RTB				*i* Sn	**Sn**	**22 51 04.5**	**-2.9**
	SNR=3.0						
SIRN	**S¨–rnak**	**7.31**	**315**	*i* P	**Pn**	**22 49 46.2**	**+0.3**
SIRN	**S¨–rnak**	**7.31**	**315**	*i* P	**Pn**	**22 49 46.2**	**+0.3**
SIRN	**S¨–rnak**	**7.31**	**315**	P	**Pn**	**22 49 46.2**	**+0.3**
TVAN	**Van**	**7.51**	**325**	*i* P	**Pn**	**22 49 52.2**	**+3.4**
TVAN	**Van**	**7.51**	**325**	P	**Pn**	**22 49 52.2**	**+3.4**
GEVA	**Gevas**	**7.52**	**322**	*i* P	**Pn**	**22 49 50.8**	**+1.9**
GEVA	**Gevas**	**7.52**	**322**	*i* P	**Pn**	**22 49 50.8**	**+1.9**
GEVA	**Gevas**	**7.52**	**322**	P	**Pn**	**22 49 50.8**	**+1.9**
KBSD	**Kabsdagh**	**8.23**	**305**	*e*P	**Pn**	**22 49 58.1**	**-0.4**
KBSD				*e*S	**Sn**	**22 51 23.3**	**-7.5**
KBSD				AML	AML	22 51 52.5	
	comp=Z,109nm,0.6s						
MARD	**Mardin**	**8.24**	**308**	*i* P	**Pn**	**22 49 58.6**	**-0.1**
MARD	**Mardin**	**8.24**	**308**	*i* P	**Pn**	**22 49 58.6**	**-0.1**
MARD	**Mardin**	**8.24**	**308**	*e*Pn	**Pn**	**22 49 58.3**	**-0.4**
MARD	**Mardin**	**8.24**	**308**	*e*Pn	**Pn**	**22 49 58.3**	**-0.4**
BTMN	**Batman**	**8.26**	**313**	*i* P	**Pn**	**22 49 59.2**	**+0.3**
BTMN	**Batman**	**8.26**	**313**	*i* P	**Pn**	**22 49 59.1**	**+0.3**
BTMN	**Batman**	**8.26**	**313**	P	**Pn**	**22 49 59.2**	**+0.3**
SFNV	**Sufian**	**8.26**	**301**	*e*P	**Pn**	**22 49 59.2**	**+0.3**
SFNV				*e*S	**Sn**	**22 51 23.6**	**-8.0**
SFNV				AML	AML	22 51 38.5	
	comp=Z,196nm,0.6s						
GNI	**Garni**	**8.35**	**337**	Pn	**Pn**	**22 50 04.0**	**+3.8**
	comp=Z,0.5nm,0.3s,baz=3.4,slow=19,SNR=2.4						
GNI	**Garni**	**8.35**	**337**	*i* P	**Pn**	**22 50 02.5**	**+2.3**
GNI	**Garni**	**8.35**	**337**	*i* P	**Pn**	**22 50 02.5**	**+2.3**
SVAN	**Silvan-Diyarba**	**8.47**	**314**	*i* P	**Pn**	**22 50 01.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**8.47**	**314**	*i* P	**Pn**	**22 50 01.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**8.47**	**314**	P	**Pn**	**22 50 01.4**	**-0.3**
KSRV	**Kasrt alli**	**8.88**	**295**	*e*P	**Pn**	**22 50 06.3**	**-1.1**
KSRV				*e*S	Sn	22 51 33.2	-13
KSRV				AML	AML	22 52 15.1	
	comp=Z,40nm,0.7s						
SHME	**Shamm**	**8.99**	**134**	P	**Pn**	**22 50 07.4**	**-1.6**
	SNR=16						
DIGO	**Kars**	**9.08**	**332**	*i* P	Pn	22 50 15.4	+5.1
DIGO	**Kars**	**9.08**	**332**	*i* P	Pn	22 50 15.4	+5.1
DIGO	**Kars**	**9.08**	**332**	P	Pn	22 50 15.4	+5.1
BANOM	**Banah**	**9.18**	**134**	*i* P	**Pn**	**22 50 09.3**	**-2.3**
	SNR=85						
BANOM	**Banah**	**9.18**	**134**	P	**Pn**	**22 50 09.4**	**-2.2**
	SNR=84						
BANOM	**Banah**	**9.18**	**134**	Pn	**Pn**	**22 50 09.4**	**-2.2**
	SNR=84						
BANOM				Sn	**Sn**	**22 51 46.4**	**-7.9**
BANOM	**Banah**	**9.18**	**134**	P	**Pn**	**22 50 09.4**	**-2.2**
	SNR=84						
BANOM				S	**Sn**	**22 51 46.4**	**-7.9**
EAK	**Akyaka**	**9.22**	**334**	*i* P	Pn	22 50 18.5	+6.3
EAK	**Akyaka**	**9.22**	**334**	*i* P	Pn	22 50 18.4	+6.3
EAK	**Akyaka**	**9.22**	**334**	P	Pn	22 50 18.4	+6.2
GEYT	**Alibeck**	**9.27**	**52**	Pn	**Pn**	**22 50 14.7**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=248,slow=10,SNR=20						
GEYT				LR	LR	22 54 19.7	
	comp=Z,945nm,20.1s,baz=245,slow=41						
DGRG	**David-gareji**	**9.38**	**343**	P	Pn	22 50 19.8	+5.7
DGRG	**David-gareji**	**9.38**	**343**	P	Pn	22 50 19.8	+5.6
RAYN	**Ar Rayn**	**9.44**	**200**	*e*Pn	**Pn**	**22 50 13.6**	**-1.5**
RAYN	**Ar Rayn**	**9.44**	**200**	*e*Pn	**Pn**	**22 50 13.6**	**-1.5**
MSFE	**Esma-Masafi**	**9.52**	**136**	P	**Pn**	**22 50 14.7**	**-1.5**
	SNR=42						
NAZ	**Nazwa, Dubai**	**9.53**	**140**	*i* P	**Pn**	**22 50 15.1**	**-1.2**
	SNR=73						
ASUD	**Al Ashush, Dub**	**9.65**	**143**	P	**Pn**	**22 50 17.4**	**-0.6**
FAQ	**Al Faqa, Dubai**	**9.69**	**141**	*i* P	**Pn**	**22 50 17.4**	**-1.1**
	SNR=34						
SLMH	**Al Salmeh**	**9.82**	**295**	*e*P	**Pn**	**22 50 19.1**	**-1.1**
SLMH				*e*S	Sn	22 52 00.4	-9.4
SLMH				AML	AML	22 52 39.4	
	comp=E,62nm,0.7s						
SLMH				AML	AML	22 52 56.9	
	comp=N,66nm,0.6s						
UOSS	**Minazif**	**9.87**	**138**	P	**Pn**	**22 50 18.8**	**-2.1**
	SNR=26						
UOSS	**Minazif**	**9.87**	**138**	*e*Pn	**Pn**	**22 50 19.8**	**-1.1**
UOSS	**Minazif**	**9.87**	**138**	Pn	**Pn**	**22 50 18.8**	**-2.1**
	SNR=26						
UOSS				Sn	**Sn**	**22 52 04.4**	**-6.6**
UOSS	**Minazif**	**9.87**	**138**	P	**Pn**	**22 50 18.8**	**-2.1**
	SNR=26						
UOSS				S	**Sn**	**22 52 04.4**	**-6.6**
ROOS	**tl_alroos**	**9.88**	**283**	*e*P	**Pn**	**22 50 20.1**	**-1.0**
ROOS				*e*S	**Sn**	**22 52 02.4**	**-9.0**
ROOS				AML	AML	22 53 07.3	
	comp=E,44nm,0.6s						
ROOS				AML	AML	22 53 56.0	
	comp=N,56nm,0.6s						
HATD	**Hatta, Dubai**	**9.92**	**139**	*i* P	**Pn**	**22 50 20.6**	**-1.0**
	SNR=47						
RABH	**Abou Rabah**	**9.98**	**284**	*e*P	**Pn**	**22 50 21.9**	**-0.6**
RABH				*e*S	**Sn**	**22 52 05.2**	**-8.6**
RABH				AML	AML	22 52 44.5	
	comp=E,21nm,0.6s						
RABH				AML	AML	22 54 06.2	
	comp=N,17nm,0.7s						
ASHO	**Ashiyiah**	**9.99**	**139**	*i* P	**Pn**	**22 50 20.6**	**-2.1**
	SNR=65						
ASHO	**Ashiyiah**	**9.99**	**139**	P	**Pn**	**22 50 20.8**	**-1.8**
	SNR=57						
ASHO	**Ashiyiah**	**9.99**	**139**	Pn	**Pn**	**22 50 20.8**	**-1.8**
	SNR=57						
ASHO				Sn	**Sn**	**22 52 07.6**	**-6.5**
ASHO	**Ashiyiah**	**9.99**	**139**	P	**Pn**	**22 50 20.8**	**-1.8**
	SNR=57						
ASHO				S	**Sn**	**22 52 07.6**	**-6.5**
KOPT	**Kop Dagi**	**10.13**	**320**	*e*Pn	**Pn**	**22 50 25.1**	**+0.4**
KOPT	**Kop Dagi**	**10.13**	**320**	*e*Pn	**Pn**	**22 50 25.1**	**+0.4**
ASF	**Jabal al Asfar**	**10.18**	**271**	Pn	**Pn**	**22 50 24.0**	**-1.3**
	comp=N,12nm,0.3s,baz=34,slow=6.1,SNR=82						
ASF				Sn	**Sn**	**22 52 13.9**	**-4.9**
	comp=N,4.1nm,0.3s,baz=245,slow=14,SNR=3.8						
ASF				Lg	Lg	22 53 38.6	
	baz=240,slow=20,SNR=2.4						
DAGI	**Agillar**	**10.24**	**329**	*i* P	Pn	22 50 33.5	+7.4
SALA	**Sala**	**10.29**	**274**	*e*P	**Pn**	**22 50 24.6**	**-2.2**
SALA				*e*S	Sn	22 52 11.6	-10
SALA				AML	AML	22 53 00.8	
	comp=N,71nm,0.5s						
SALA				AML	AML	22 54 12.6	
	comp=E,6.1nm,0.7s						
ARTV	**Artvin**	**10.32**	**329**	*i* P	**Pn**	**22 50 25.3**	**-2.0**
ARTV	**Artvin**	**10.32**	**329**	*e*Pn	**Pn**	**22 50 27.1**	**-0.2**
ARTV	**Artvin**	**10.32**	**329**	*e*Pn	**Pn**	**22 50 27.1**	**-0.2**
KFRA	**Kufra**	**10.44**	**288**	AML	AML	22 53 22.8	
	comp=N,101nm,0.7s						
MARH	**Ras Al Marh**	**10.53**	**282**	*e*P	**Pn**	**22 50 29.7**	**-0.6**
MARH				*e*S	Sn	22 52 18.6	-9.1
MARH				AML	AML	22 53 54.8	
	comp=N,31nm,0.7s						
MARH				AML	AML	22 54 50.4	
	comp=E,20nm,0.7s						
TOTH	**TOTAH**	**10.54**	**278**	*e*P	**Pn**	**22 50 29.1**	**-1.1**
TOTH				*e*S	**Sn**	**22 52 18.7**	**-8.9**
TOTH				AML	AML	22 54 02.3	
	comp=E,37nm,0.7s						
TOTH				AML	AML	22 54 47.0	
	comp=N,30nm,0.7s						
HAWK	**Haweek**	**10.65**	**284**	*e*P	**Pn**	**22 50 30.4**	**-1.3**
HAWK				*e*S	Sn	22 52 19.9	-10
HAWK				AML	AML	22 54 28.6	
	comp=E,18nm,0.7s						
HAWK				AML	AML	22 54 40.6	
	comp=N,21nm,0.7s						
BIDA	**Albida**	**10.79**	**287**	*e*P	**Pn**	**22 50 32.7**	**-0.9**
BIDA				*e*S	Sn	22 52 23.4	-10
BIDA				AML	AML	22 53 22.0	
	comp=N,36nm,0.5s						
BIDA				AML	AML	22 53 25.2	
	comp=E,54nm,0.6s						
BTCH	**Batrach**	**10.90**	**292**	*e*P	**Pn**	**22 50 34.3**	**-0.8**
BTCH				*e*S	**Sn**	**22 52 28.2**	**-8.2**
BTCH				AML	AML	22 53 16.5	
	comp=E,25nm,0.5s						
BTCH				AML	AML	22 53 28.2	
	comp=N,51nm,0.7s						
DRWC	**Darouich**	**10.91**	**296**	*e*P	**Pn**	**22 50 33.7**	**-1.6**
DRWC				*e*S	Sn	22 52 27.4	-9.3
DRWC				AML	AML	22 53 16.0	
	comp=E,28nm,0.5s						
DRWC				AML	AML	22 53 27.8	
	comp=N,25nm,0.5s						
BRBR	**Barbar**	**10.94**	**278**	*e*P	**Pn**	**22 50 35.2**	**-0.6**
BRBR				*e*S	**Sn**	**22 52 29.4**	**-8.1**
BRBR				AML	AML	22 53 19.6	
	comp=N,23nm,0.6s						
BRBR				AML	AML	22 54 31.7	
	comp=E,37nm,0.9s						
GROC	**Groznyy**	**10.97**	**348**	*e*P	**Pn**	**22 50 35.2**	**-0.7**
GROC				pmax	pmax		
	comp=Z,14nm,0.6s						
GROC	**Groznyy**	**10.97**	**348**	*e*P	**Pn**	**22 50 35.2**	**-0.7**
	comp=Z,14nm,0.6s						
ONI	**Oni**	**10.97**	**338**	P	Pn	22 50 42.2	+6.2
ONI	**Oni**	**10.97**	**338**	P	Pn	22 50 42.2	+6.2
ZEI	**Tsey**	**11.02**	**340**	*e*P	Pn	22 50 42.4	+5.6
ZEI				pmax	pmax		
	comp=Z,13nm,1.3s						
ARNB	**Al Arnab**	**11.24**	**291**	*e*P	**Pn**	**22 50 38.4**	**-1.4**
ARNB				*e*S	Sn	22 52 34.0	-11
ARNB				AML	AML	22 53 27.2	
	comp=N,25nm,0.9s						
ARNB				AML	AML	22 53 40.7	
	comp=E,25nm,0.6s						
NEY	**Neytrino**	**11.79**	**337**	*i* P	**Pn**	**22 50 49.3**	**+1.9**
NEY	**Neytrino**	**11.79**	**337**	*i* P	**Pn**	**22 50 49.3**	**+1.9**
BIDO	**Bidbid**	**12.08**	**135**	P	**Pn**	**22 50 48.9**	**-2.3**
	SNR=6.8						
BIDO	**Bidbid**	**12.08**	**135**	Pn	**Pn**	**22 50 48.9**	**-2.3**
	SNR=6.8						
BIDO	**Bidbid**	**12.08**	**135**	P	**Pn**	**22 50 48.9**	**-2.3**
	SNR=6.8						
KBZ	**Khabaz**	**12.17**	**339**	Pn	**Pn**	**22 50 51.4**	**-1.0**
	comp=E,0.8nm,0.3s,baz=72,slow=9.6,SNR=7.9						
EIL	**Elat**	**12.31**	**260**	Pn	**Pn**	**22 50 53.4**	**-0.9**
	comp=E,2.1nm,0.3s,baz=87,slow=4.7,SNR=19						
SMDO	**Samad**	**12.39**	**137**	P	**Pn**	**22 50 54.0**	**-1.5**
	SNR=29						
SMDO	**Samad**	**12.39**	**137**	Pn	**Pn**	**22 50 54.0**	**-1.5**
	SNR=29						
SMDO	**Samad**	**12.39**	**137**	P	**Pn**	**22 50 54.0**	**-1.5**
	SNR=29						
KIV	**Kislovodsk**	**12.44**	**339**	*i* P	**Pn**	**22 50 51.9**	**-4.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,429nm,17.0s						
KIV	**Kislovodsk**	**12.44**	**339**	*e*Pn	**Pn**	**22 50 52.7**	**-3.5**
WSAR	**Wadi Sarin**	**12.59**	**135**	Pn	**Pn**	**22 50 55.5**	**-2.7**
	comp=Z,6.9nm,0.3s,baz=325,slow=13,SNR=96						
WSAR				Sn	Sn	22 53 06.5	-11
	comp=Z,1.7nm,0.3s,baz=174,slow=19,SNR=4.0						
WSAR				LR	LR	22 56 29.1	
	comp=Z,448nm,18.2s,baz=334,slow=40						
TOKA	**Tokat**	**12.70**	**311**	*e*Pn	**Pn**	**22 51 00.1**	**+0.4**
TOKA	**Tokat**	**12.70**	**311**	*e*Pn	**Pn**	**22 51 00.1**	**+0.4**
CSS	**Mathiatis**	**13.21**	**285**	*e*Pn	**Pn**	**22 51 08.0**	**+1.3**
CSS	**Mathiatis**	**13.21**	**285**	*e*Pn	**Pn**	**22 51 08.0**	**+1.3**
GOF	**Gofitskoye**	**13.35**	**342⇑**	*e*P	**Pn**	**22 51 12.0**	**+3.5**
GOF				pmax	pmax		
	comp=Z,38nm,1.5s						
GOF	**Gofitskoye**	**13.35**	**342**	*e*P	**Pn**	**22 51 12.0**	**+3.5**
	comp=Z,38nm,1.5s						
BR131	**Keskin Array S**	**14.30**	**305**	*e*Pn	**Pn**	**22 51 23.7**	**+2.1**
BR131	**Keskin Array S**	**14.30**	**305**	*e*Pn	**Pn**	**22 51 23.7**	**+2.1**
BRTR	**Keskin Array B**	**14.30**	**305**	Pn	**Pn**	**22 51 24.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=23						
BRTR				ScP	**ScP**	**23 00 09.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=135,slow=5.6,SNR=7.1						
BRTR	**Keskin Array B**	**14.30**	**305**	*i* P	**Pn**	**22 51 23.6**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILGA	**Ilgaz**	**14.87**	**309**	*e*Pn	**P**	**22 51 32.2**	**-2.8**
ILGA	**Ilgaz**	**14.87**	**309**	*e*Pn	**P**	**22 51 32.1**	**-2.8**
ANTO	**Ankara**	**14.95**	**304**	*e*P	**Pn**	**22 51 32.0**	**+1.6**
ANTO	**Ankara**	**14.95**	**304**	*e*Pn	**Pn**	**22 51 32.0**	**+1.6**
ANTO	**Ankara**	**14.95**	**304**	P	**P**	**22 51 38.1**	**+2.4**
	SNR=8.9						
ANTO	**Ankara**	**14.95**	**304**	*e*Pn	**Pn**	**22 51 31.9**	**+1.6**
ANTO	**Ankara**	**14.95**	**304**	pPn	**P**	**22 51 38.1**	**+2.4**
	SNR=8.9						
ANTO	**Ankara**	**14.95**	**304**	P	**P**	**22 51 38.1**	**+2.4**
	SNR=8.9						
BR231	**Keskin MP Arra**	**14.95**	**304**	*e*Pn	**Pn**	**22 51 30.9**	**+0.5**
BR231	**Keskin MP Arra**	**14.95**	**304**	*e*Pn	**Pn**	**22 51 30.9**	**+0.5**
BOLV	**Bolvadin**	**15.88**	**298**	*e*Pn	**P**	**22 51 44.3**	**-1.8**
	comp=Z,66nm,1.1s						
BOLV	**Bolvadin**	**15.88**	**298**	*e*Pn	**P**	**22 51 44.3**	**-1.8**
	comp=Z,66nm,1.1s						
AKAS	**Kas**	**16.38**	**288**	*e*Pn	**P**	**22 51 50.8**	**-0.9**
	comp=Z,20nm,0.8s						
AKAS	**Kas**	**16.38**	**288**	*e*Pn	**P**	**22 51 50.8**	**-0.9**
	comp=Z,20nm,0.8s						
KBL	**Kabul**	**16.90**	**78**	*e*P	**Pn**	**22 51 54.2**	**-1.5**
KBL				pmax	pmax		
	comp=Z,71nm,0.6s						
KBL	**Kabul**	**16.90**	**78**	*e*Pn	**Pn**	**22 51 54.2**	**-1.5**
	comp=Z,71nm,0.6s						
KBL	**Kabul**	**16.90**	**78**	*e*Pn	**Pn**	**22 51 54.2**	**-1.5**
	comp=Z,71nm,0.6s						
KARP	**Karpathos**	**18.29**	**286**	*e*P	**P**	**22 52 13.6**	**+0.8**
	comp=Z,30nm,1.0s						
KARP	**Karpathos**	**18.29**	**286**	*e*P	**P**	**22 52 13.6**	**+0.8**
	comp=Z,30nm,1.0s						
ABKAR	**Akbulak array**	**18.66**	**23**	*e*P	**Pn**	**22 52 17.6**	**+0.5**
	comp=Z,52nm,0.7s						
ABKAR	**Akbulak array**	**18.66**	**23**	*e*P	**Pn**	**22 52 17.6**	**+0.5**
	comp=Z,52nm,0.7s						
AKTK	**Aktyubinsk**	**19.15**	**18**	P	**Pn**	**22 52 22.7**	**-0.2**
AKTO	**Aktyubinsk**	**19.15**	**18**	P	**Pn**	**22 52 22.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=209,slow=10,SNR=20						
SANT	**Santorini**	**19.73**	**288**	*e*P	**Pn**	**22 52 30.1**	**+0.1**
	comp=Z,77nm,0.6s						
SANT	**Santorini**	**19.73**	**288**	*e*P	**Pn**	**22 52 30.1**	**+0.1**
	comp=Z,77nm,0.6s						
TIRR	**Tirgusor**	**19.95**	**313⇑**	*i*P	**P**	**22 52 31.3**	**+0.5**
TIRR	**Tirgusor**	**19.95**	**313**	*e*P	**P**	**22 52 31.0**	**+0.2**
TIRR				pmax	pmax		
	comp=Z,23nm,1.0s						
TIRR	**Tirgusor**	**19.95**	**313**	*e*P	**P**	**22 52 31.0**	**+0.2**
	comp=Z,23nm,1.0s						
TIRR	**Tirgusor**	**19.95**	**313**	*e*P	**P**	**22 52 31.0**	**+0.2**
	comp=Z,23nm,1.0s						
TLCR		**20.08**	**315⇑**	*i*P	**P**	**22 52 33.0**	**+0.8**
IDI	**Anoyia**	**20.14**	**285**	P	Pn	22 52 34.3	-0.7
	comp=Z,65nm,0.8s,baz=76,slow=14,SNR=35						
IDI	**Anoyia**	**20.14**	**285**	*e*P	Pn	22 52 35.0	+0.1
	comp=Z,60nm,0.7s						
IDI	**Anoyia**	**20.14**	**285**	*e*P	Pn	22 52 35.0	0.0
	comp=Z,60nm,0.7s						
HARR	**Harsova**	**20.37**	**313⇑**	*i*P	**P**	**22 52 36.0**	**+0.7**
CFR	**Carcaliu**	**20.49**	**314⇑**	*i*P	**P**	**22 52 37.0**	**

GRG	**Griva**	22.81	299	P	**P**	22 53 01.1	-0.6
GRG				pmax	pmax		
	comp=Z,81nm,0.9s						
GRG	**Griva**	22.81	299	P	**P**	22 53 01.1	-0.6
	comp=Z,81nm,0.9s						
KSH	**Kashi**	22.92	65 *eP*		**P**	22 52 57.3	-5.6
KSH				pP	pP	22 53 08.8	-0.6
KSH				sP	sP	22 53 14.5	+2.2
KSH				PP	**PnPn**	22 53 25.3	-2.4
KSH				PcP	**PcP**	22 56 52.5	-0.4
KSH				S	S	22 56 53.0	-.19
KSH				SS	**SnSn**	22 57 36.5	-7.2
KSH				PcS	**PcS**	23 00 28.5	-3.5
KSH				pmax	pmax		
	comp=Z,21nm,0.8s						
KSH				pmax	pmax		
	comp=Z,110nm,4.3s						
KSH				LR	LR		
	comp=N,280nm,9.2s						
KSH				LR	LR		
	comp=E,210nm,7.3s						
KSH				LR	LR		
	comp=Z,140nm,8.8s						
AKASG	**Malin Array Be**	23.28	327	P	**P**	22 53 05.7	-0.6
	comp=Z,7.7nm,0.7s,baz=130,slow=9.5,SNR=24						
AKASG				PcP	**PcP**	22 56 54.0	+0.8
	comp=Z,0.3nm,0.2s,baz=78,slow=2.2,SNR=2.8						
AKASG				ScP	**ScP**	23 00 28.2	-1.6
	comp=Z,0.7nm,0.5s,baz=105,slow=2.0,SNR=5.4						
AKASG	**Malin Array Be**	23.28	327 *ceP*		**P**	22 53 06.4	+0.1
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKASG	**Malin Array Be**	23.28	327 *eP*		**P**	22 53 06.4	+0.1
	comp=Z,8.0nm,0.7s						
AKBB	**Malin Array Si**	23.28	327 *eP*		**P**	22 53 07.0	+0.7
AKBB				pmax	pmax		
	comp=Z,22nm,1.0s						
AKBB	**Malin Array Si**	23.28	327 *eP*		**P**	22 53 07.0	+0.7
	comp=Z,22nm,1.0s						
AKBB	**Malin Array Si**	23.28	327 *eP*		**P**	22 53 07.0	+0.7
	comp=Z,22nm,1.0s						
KIEV	**Kiev**	23.29	327 *i* P		**P**	22 53 05.5	-0.8
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIEV	**Kiev**	23.29	327 *eP*		**P**	22 53 06.9	+0.6
	comp=Z,21nm,1.0s						
KIEV	**Kiev**	23.29	327 *eP*		**P**	22 53 06.9	+0.6
	comp=Z,21nm,1.0s						
SRE	**Strehaia**	23.39	309⇧ *iP*		**P**	22 53 07.3	-0.1
BURAR	**Bucovina Array**	23.48	317⇧ *iP*		**P**	22 53 08.7	+0.3
BURAR	**Bucovina Array**	23.48	317	P	**P**	22 53 08.7	+0.3
BUR08	**Bucovina Ar. S**	23.50	317 *eP*		**P**	22 53 08.9	+0.2
BUR08	**Bucovina Ar. S**	23.50	317 *eP*		**P**	22 53 08.9	+0.2
FNA	**Florina**	23.53	298	P	**P**	22 53 09.9	+0.9
FNA				pmax	pmax		
	comp=Z,29nm,0.9s						
FNA	**Florina**	23.53	298	P	**P**	22 53 09.9	+0.9
	comp=Z,29nm,0.9s						
ARCR	**ARCALIA**	23.72	315⇧ *iP*		**P**	22 53 12.9	+2.2
ARCR	**ARCALIA**	23.72	315⇧ *iP*		**P**	22 53 12.9	+2.2
KRUS	**Krusevo**	23.75	300⇧ *iP*		**P**	22 53 12.3	+1.2
KRUS	**Krusevo**	23.75	300⇧ *iP*		**P**	22 53 12.3	+1.2
SKO	**Skopje**	23.76	301 *i* P		**P**	22 53 12.3	+1.2
SKO	**Skopje**	23.76	301	P	**P**	22 53 13.1	+2.0
SKO	**Skopje**	23.76	301	P	**P**	22 53 13.1	+2.0
CJR	**Cluj-Napoca**	24.00	314⇧ *iP*		**P**	22 53 15.2	+1.8
CJR	**Cluj-Napoca**	24.00	314⇧ *iP*		**P**	22 53 15.2	+1.8
OHR	**Ohrid**	24.03	299⇧ *iP*		**P**	22 53 14.6	+0.9
OHR	**Ohrid**	24.03	299⇧ *iP*		**P**	22 53 14.6	+0.9
BOVS	**Bovan**	24.04	305⇧ *iP*		**P**	22 53 14.6	+0.9
OBN	**Obninsk**	24.23	343	P	**P**	22 53 15.4	+0.1
	comp=Z,16nm,0.6s,baz=180,slow=12,SNR=5.6						
OBN	**Obninsk**	24.23	343 *i* P		**P**	22 53 13.9	-1.4
OBN			*i*			22 53 19.3	
OBN			*i*			22 53 48.1	
OBN			*i*			22 56 51.4	
OBN				pmax	pmax		
	comp=Z,15nm,0.9s						
OBN	**Obninsk**	24.23	343 *eP*		**P**	22 53 15.6	+0.3
	comp=Z,18nm,0.7s						
OBN	**Obninsk**	24.23	343 *eP*		**P**	22 53 15.6	+0.3
	comp=Z,18nm,0.7s						
KUBS	**Kucevo**	24.32	307 *eP*		**P**	22 53 15.7	-0.6
SELS	**Selova**	24.32	304⇧ *iP*		**P**	22 53 16.3	-0.1
MDVR	**Moldovita**	24.42	308⇩ *iP*		**P**	22 53 18.0	+0.7
MDVR	**Moldovita**	24.42	308⇩ *iP*		**P**	22 53 18.0	+0.7
MOS	**Moscow**	24.55	345 *eP*		**P**	22 53 19.2	+1.0
MOS			*e*			22 53 25.9	
MOS			*e*			22 53 49.0	
MOS				pmax	pmax		
	comp=Z,40nm,0.9s						
MOS	**Moscow**	24.55	345 *eP*		**P**	22 53 19.2	+1.0
	comp=Z,40nm,0.9s						
DRGR		24.58	313⇩ *iP*		**P**	22 53 19.8	+1.1
DRGR		24.58	313⇩ *iP*		**P**	22 53 19.8	+1.1
TIR	**Tirane**	24.77	299⇧ *iP*		**P**	22 53 21.1	+0.7
TIR	**Tirane**	24.77	299 *eP*		**P**	22 53 20.9	+0.5
TIR				pmax	pmax		
	comp=Z,111nm,1.1s						
TIR	**Tirane**	24.77	299⇧ *iP*		**P**	22 53 21.1	+0.7
TIR	**Tirane**	24.77	299 *eP*		**P**	22 53 20.9	+0.5
	comp=Z,112nm,1.1s						
BZS	**Buzias**	24.79	310⇩ *iP*		**P**	22 53 21.4	+0.9
BZS	**Buzias**	24.79	310⇩ *iP*		**P**	22 53 21.4	+0.9
GRUS	**Gruza**	24.80	305⇧ *iP*		**P**	22 53 21.2	+0.6
ARU	**Arti**	24.85	13	P	**P**	22 53 22.2	+1.3
	comp=Z,7.9nm,0.7s,baz=183,slow=5.0,SNR=10						
ARU				ScP	**ScP**	23 00 31.6	-2.4
	comp=Z,3.5nm,0.6s,baz=248,slow=3.7,SNR=8.2						
ARU	**Arti**	24.85	13 *c iP*		**P**	22 53 22.5	+1.6
ARU				*PP	**sP**	22 53 35.3	+4.6
ARU						22 53 52.9	
ARU				S	**S**	22 57 42.3	0.0
ARU				SS	**SnSn**	22 58 30.9	+0.5
ARU				pmax	pmax		
	comp=Z,17nm,1.0s						
ARU	**Arti**	24.85	13 *eP*		**P**	22 53 21.6	+0.7
	comp=Z,24nm,1.0s						
ARU				ScP	**ScP**	23 00 31.6	-2.4
BANR	**Banloc**	25.02	309⇧ *iP*		**P**	22 53 24.4	+1.8
BANR	**Banloc**	25.02	309⇧ *iP*		**P**	22 53 24.4	+1.8
SIRR	**Siria**	25.02	311⇧ *iP*		**P**	22 53 24.4	+1.8
SIRR	**Siria**	25.02	311⇧ *iP*		**P**	22 53 24.4	+1.8
TRUS	**Trudelj**	25.11	306⇧ *iP*		**P**	22 53 24.1	+0.6
BEO	**Beograd**	25.26	307 *eP*		**P**	22 53 25.5	+0.7
BEO	**Beograd**	25.26	307 *eP*		**P**	22 53 25.4	+0.7
TRPA	**Tarpa**	25.30	316⇧ *eP*		**P**	22 53 25.9	+0.8
LVV	**L'vov**	25.33	320 *eP*		**P**	22 53 28.7	+3.3
FURI	**Furi**	25.33	204 *eP*		**P**	22 53 29.7	+3.7
	comp=Z,12nm,0.9s						
DIVS	**Divibare**	25.36	306 *eP*		**P**	22 53 25.2	-0.6
DRME	**Dracevica, Mon**	25.44	301 *eP*		**P**	22 53 25.4	-1.1
PDG	**Podgorica**	25.44	301⇧ *iP*		**P**	22 53 26.7	+0.3
PDG	**Podgorica**	25.44	301 *eP*		**P**	22 53 26.7	+0.3
SVE	**Sverdlovsk**	25.64	15 *eP*		**P**	22 53 31.4	+3.3
SVE				pmax	pmax		
	comp=Z,18nm,1.0s						
BRVK	**Borovoye**	25.66	30 *ceP*		**P**	22 53 29.2	+0.8
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s						
BRVK	**Borovoye**	25.66	30 *eP*		**P**	22 53 29.1	+0.7
	comp=Z,10nm,1.0s						
UZH	**Uzhgorod**	25.68	317⇧ *iP*		**P**	22 53 29.4	+0.8
UZH			*i*			22 53 38.4	
UZH			*e*			22 53 45.2	
BVAR	**Borovoye Array**	25.69	31	P	**P**	22 53 29.2	+0.6
	comp=Z,4.6nm,0.5s,baz=223,slow=8.1,SNR=25						
BVAR				ScP	**ScP**	23 00 34.4	-2.1
	comp=Z,1.5nm,0.6s,baz=250,slow=3.0,SNR=8.9						
BBLS	**Lazići**	25.70	305 *eP*		**P**	22 53 29.0	+0.1
NKY	**Niksic**	25.72	302	P	**P**	22 53 29.6	+0.5
TEKS	**Tekeris**	25.81	306 *eP*		**P**	22 53 30.2	+0.3
FGSL	**Fruska Gora**	25.82	308⇧ *iP*		**P**	22 53 30.5	+0.6
FRGS	**Fruska Gora**	25.82	308 *eP*		**P**	22 53 30.6	+0.7
KWP	**Kalwaria Pacla**	25.95	319 *eP*		**P**	22 53 31.8	+0.8
KWP	**Kalwaria Pacla**	25.95	319 *eP*		**P**	22 53 31.8	+0.8
KWP	**Kalwaria Pacla**	25.95	319 *eP*		**P**	22 53 31.8	+0.8
HCY	**Herceg Novi**	26.00	301	P	**P**	22 53 31.8	+0.3
HCY	**Herceg Novi**	26.00	301 *eP*		**P**	22 53 31.3	-0.2
BRY	**Bratogost**	26.06	302	P	**P**	22 53 32.4	+0.1
BRY	**Bratogost**	26.06	302 *eP*		**P**	22 53 31.9	-0.4
HAPS	**Han Pljesak,BI**	26.08	305 *eP*		**P**	22 53 32.0	-0.4
TREB	**Trebinje**	26.16	302 *eP*		**P**	22 53 33.1	+0.1
CRVS	**Cervenica-Dubn**	26.30	317 *eP*		**P**	22 53 35.1	+0.9
CRVS	**Cervenica-Dubn**	26.30	317 *eP*		**P**	22 53 35.1	+0.9
POO	**Poona**	26.36	116 *eP*		**P**	22 53 34.0	-1.0
MICGM	**Minsk**	26.58	332⇩ *eP*		**P**	22 53 37.0	+0.4
MICGM				PM		22 53 38.0	
	comp=Z,0.1nm,1.0s						
MNK	**Minsk**	26.58	332⇩ *eP*		**P**	22 53 37.0	+0.4
MNK				pmax	pmax		
	comp=Z,80nm,1.0s						
STHS	**Stebnicka Huta**	26.67	317 *eP*		**P**	22 53 38.5	+1.0
STHS	**Stebnicka Huta**	26.67	317 *eP*		**P**	22 53 38.5	+1.0
KECS	**Kecovo**	26.68	315 *eP*		**P**	22 53 38.7	+1.1
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KECS	**Kecovo**	26.68	315 *eP*		**P**	22 53 38.7	+1.1
PSZ	**Piszkesteto**	26.79	314⇧ *iP*		**P**	22 53 39.7	+1.0
PSZ	**Piszkesteto**	26.79	314 *eP*		**P**	22 53 39.3	+0.6
PSZ				pmax	pmax		
	comp=Z,13nm,1.1s						
PSZ	**Piszkesteto**	26.79	314⇧ *eP*		**P**	22 53 39.4	+0.7
PSZ	**Piszkesteto**	26.79	314⇧ *eP*		**P**	22 53 39.4	+0.7
PSZ	**Piszkesteto**	26.79	314 *eP*		**P**	22 53 39.3	+0.6
	comp=Z,13nm,1.1s						
BUD	**Budapest**	27.16	312⇩ *eP*		**P**	22 53 43.1	+1.2
NIE	**Niedzica**	27.21	317 *eP*		**P**	22 53 43.8	+1.3
NIE	**Niedzica**	27.21	317 *eP*		**P**	22 53 43.8	+1.3
NACGM	**Naroch**	27.31	332 *e*		**P**	22 53 43.0	-0.2
CEL	**Celeste**	27.45	291 *eP*		**P**	22 53 45.0	+0.3
	comp=Z,35nm,1.1s						
CEL	**Celeste**	27.45	291 *eP*		**P**	22 53 45.0	+0.3
	comp=Z,35nm,1.1s						
BLY	**Banja Luka**	27.47	306 *eP*		**P**	22 53 44.9	+0.1
	comp=Z,9.9nm,1.1s						
BLY	**Banja Luka**	27.47	306 *eP*		**P**	22 53 44.9	+0.1
	comp=Z,9.9nm,1.1s						
LANS	**Liptovska Anna**	27.58	316 *eP*		**P**	22 53 47.0	+1.3
LANS	**Liptovska Anna**	27.58	316 *eP*		**P**	22 53 47.0	+1.3
CSKK	**Cs´tkako**	27.59	312 *eP*		**P**	22 53 47.1	+1.3
CUC	**Castrocucco**	27.62	295 *eP*		**P**	22 53 47.4	+1.2
	comp=Z,9.6nm,0.8s						
VYHS	**Vyhne**	27.68	314 *eP*		**P**	22 53 47.4	+0.8
VYHS				pmax	pmax		
	comp=Z,29nm,2.7s						
VYHS	**Vyhne**	27.68	314 *eP*		**P**	22 53 47.4	+0.8
OJC	**Ojcow**	27.88	318 *eP*		**P**	22 53 48.4	0.0
OJC	**Ojcow**	27.88	318 *eP*		**P**	22 53 48.9	+0.5
OJC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
OJC	**Ojcow**	27.88	318 *eP*		**P**	22 53 48.4	0.0
OJC	**Ojcow**	27.88	318 *eP*		**P**	22 53 48.9	+0.5
	comp=Z,8.2nm,0.7s						
SUW	**Suwalki**	28.25	327 *eP*		**P**	22 53 52.1	+0.5
SUW	**Suwalki**	28.25	327 *eP*		**P**	22 53 52.1	+0.5
SUW	**Suwalki**	28.25	327 *eP*		**P**	22 53 52.1	+0.5
KURBB	**Kurchatov Arra**	28.33	42	P	**P**	22 53 53.5	+1.1
	comp=Z,4.7nm,0.7s,baz=245,slow=9.5,SNR=32						
KURK	**Kurchatov**	28.43	41 *ceP*		**P**	22 53 53.9	+0.7
KURK				pmax	pmax		
	comp=Z,25nm,0.8s						
KURK	**Kurchatov**	28.43	41 *eP*		**P**	22 53 54.5	+1.3
	comp=Z,7.7nm,0.8s						
OKC	**Ostrava-Krasne**	28.65	316 *eP*		**P**	22 53 55.6	+0.4
OKC				*ex*	x	22 53 59.4	
OKC	**Ostrava-Krasne**	28.65	316 *eP*		**P**	22 53 55.6	+0.4
OKC	**Ostrava-Krasne**	28.65	316	P	**P**	22 53 55.6	+0.4
MORC	**Moravsky Berou**	28.98	316⇩ *iP*		**P**	22 53 58.5	+0.3
MORC	**Moravsky Berou**	28.98	316 *eP*		**P**	22 53 58.6	+0.3
MORC				pmax	pmax		
	comp=Z,29nm,1.0s						
MORC	**Moravsky Berou**	28.98	316⇩ *iP*		**P**	22 53 58.5	+0.3
MORC	**Moravsky Berou**	28.98	316 *eP*		**P**	22 53 58.6	+0.3
	comp=Z,29nm,1.0s						
BOJS	**Bojanci**	28.99	306 *i* P		**P**	22 53 59.2	+0.9
BOJS	**Bojanci**	28.99	306 *i* P		**P**	22 53 59.2	+0.9
KLMR	**Klimovskoe**	29.03	351 *eP*		**P**	22 53 56.6	-1.9
KLMR			*e*			22 54 48.8	
KLMR				pmax	pmax		
	comp=Z,18nm,0.8s						
MK31	**Makanchi Array**	29.14	51 *eP*		**P**	22 54 00.7	+1.0
MK31	**Makanchi Array**	29.14	51 *eP*		**P**	22 54 00.7	+1.0
MKAR	**Makanchi Array**	29.14	51	P	**P**	22 54 00.6	+0.9
	comp=Z,1.4nm,0.7s,baz=249,slow=12,SNR=11						
MKAR	**Makanchi Array**	29.14	51 *eP*		**P**	22 54 00.6	+0.9
MKAR				pmax	pmax		
	comp=Z,18nm,0.6s						
MKAR	**Makanchi Array**	29.14	51 *eP*		**P**	22 54 00.6	+0.9
	comp=Z,18nm,0.6s						
ARSA	**Arzberg**	29.31	310 *i* P		**P**	22 54 01.5	+0.3
	comp=Z,2.2nm,0.5s						
ARSA	**Arzberg**	29.31	310	P	**P**	22 54 01.5	+0.3
	comp=Z,2.2nm,0.5s						
CONA	**Conrad Observa**	29.31	311 *i* P		**P**	22 54 01.8	+0.5
	comp=Z,7.0nm,1.0s						
CONA	**Conrad Observa**	29.31	311	P	**P**	22 54 01.8	+0.5
	comp=Z,7.0nm,1.0s						
VISS	**Visnje**	29.35	307 *i* P		**P**	22 54 02.7	+1.2
VISS	**Visnje**	29.35	307 *i* P		**P**	22 54 02.7	+1.2
VRAC	**Vranov**	29.36	314	P	**P**	22 54 02.2	+0.6
	comp=Z,4.4nm,0.9s,baz=117,slow=7.8,SNR=7.3						
VRAC	**Vranov**	29.36	314⇧ *iP*		**P**	22 54 02.4	+0.9
VRAC	**Vranov**	29.36	314 *eP*		**P**	22 54 02.3	+0.8
SOKA	**Soboth**	29.46	309 *i* P		**P**	22 54 03.2	+0.7
	comp=Z,3.9nm,1.2s						
SOKA	**Soboth**	29.46	309	P	**P**	22 54 03.2	+0.7
	comp=Z,3.9nm,1.2s						
KRLC	**Kraliky**	29.55	316 *eP*		**P**	22 54 03.6	+0.3
KRLC	**Kraliky**	29.55	316 *eP*		**P**	22 54 03.6	+0.3
KRLC	**Kraliky**	29.55	316	P	**P**	22 54 03.6	+0.3
CLTB	**Caltabellotta**	29.56	290 *eP*		**P**	22 54 04.6	+1.1
	comp=Z,101nm,2.0s						
AQU	**L'Aquila**	29.69	300 *eP*		**P**	22 54 06.0	+1.4
AQU				pmax	pmax		
	comp=Z,16nm,1.1s						
AQU	**L'Aquila**	29.69	300 *eP*		**P**	22 54 06.0	+1.4
	comp=Z,16nm,1.1s						
OBKA	**Obir**	29.73	308 *i* P		**P**	22 54 06.6	+1.6
	comp=Z,6.2nm,1.3s						
OBKA	**Obir**	29.73	308	P	**P**	22 54 06.6	+1.6
	comp=Z,6.2nm,1.3s						
DPC	**Dobruska-Polom**	29.93	316 *eP*		**P**	22 54 07.1	+0.4
DPC	**Dobruska-Polom**	29.93	316 *eP*		**P**	22 54 07.1	+0.4
DPC	**Dobruska-Polom**	29.93	316	P	**P**	22 54 07.1	+0.4
TREC	**Trest**	30.02	314 *eP*		**P**	22 54 08.3	+0.8
TREC	**Trest**	30.02	314 *eP*		**P**	22 54 08.3	+0.8
TREC	**Trest**	30.02	314	P	**P**	22 54 08.3	+0.8
TRI	**Trieste**	30.05	306 *eP*		**P**	22 54 07.8	+0.1
TRI				pmax	pmax		
	comp=Z,24nm,1.8s						
TRI	**Trieste**	30.05	306 *eP*		**P**	22 54 07.8	+0.1
	comp=Z,24nm,1.8s						
KSP	**Ksiaz**	30.16	317 *eP*		**P**	22 54 09.0	+0.4
KSP	**Ksiaz**	30.16	317 *eP*		**P**	22 54 09.0	+0.4
KSP	**Ksiaz**	30.16	317 *eP*		**P**	22 54 09.0	+0.4
UPC	**Upice**	30.18	316 *eP*		**P**	22 54 09.4	+0.6
UPC	**Upice**	30.18	316 *eP*		**P**	22 54 09.4	+0.6
UPC	**Upice**	30.18	316	P	**P**	22 54 09.4	+0.6
MOA	**Molln**	30.30	311 *i* P		**P**	22 54 10.7	+0.8
	comp=Z,11nm,0.9s						
MOA	**Molln**	30.30	311	P	**P**	22 54 10.7	+0.8
	comp=Z,11nm,0.9s						
HYB	**Hyderabad**	30.64	112 *i* P		**P**	22 54 14.0	+0.8
GOPC	**GO Pecny, Ondr**	30.67	315 *eP*		**P**	22 54 14.0	+0.8
GOPC	**GO Pecny, Ondr**	30.67	315 *eP*		**P**	22 54 14.0	+0.8
GOPC	**GO Pecny, Ondr**	30.67	315	P	**P**	22 54 14.0	+0.8
KBA	**Koelnbreinsper**	30.68	309	P	**P**	22 54 14.3	+0.7
KBA	**Koelnbreinsper**	30.68	309 *i* P		**P**	22 54 14.2	+0.7
	comp=Z,6.6nm,0.6s,SNR=9.5						
KBA	**Koelnbreinsper**	30.68	309	P	**P**	22 54 14.2	+0.7
	comp=Z,6.6nm,0.6s,SNR=9.5						
PRU	**Pruhonice**	30.85	315 *eP*		**P**	22 54 15.3	+0.6
PRU			*ex*		x	22 54 18.2	
PRU	**Pruhonice**	30.85	315 *eP*		**P**	22 54 15.3	+0.6
PRU	**Pruhonice**	30.85	315	P	**P**	22 54 15.3	+0.6
GEC2	**GERESS Array S**	30.97	312 *eP*		**P**	22 54 16.3	+0.4
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GEC2	**GERESS Array S**	30.97	312 *eP*		**P**	22 54 16.3	+0.4
	comp=Z,4.2nm,0.9s						
GERES	**GERESS Array B**	30.97	312	P	**P**	22 54 15.8	-0.1
	comp=Z,2.6nm,0.7s,baz=110,slow=9.5,SNR=18						
GERES				PcP	**PcP**	22 57 17.0	+5.3
	comp=Z,0.7nm,0.6s,baz=132,slow=2.0,SNR=5.6						
GERES				ScP	**ScP**	23 00 52.2	-0.9
	comp=Z,0.4nm,0.7s,baz=149,slow=2.8,SNR=3.7						
PVCC	**Panska Ves**	31.03	316 *eP*		**P**	22 54 16.7	+0.4
PVCC	**Panska Ves**	31.03	316 *eP*		**P**	22 54 16.7	+0.4
PVCC	**Panska Ves**	31.03	316	P	**P**	22 54 16.7	+0.4
KHC	**Kasperske Hory**	31.14	313 *eP*		**P**	22 54 17.9	+0.6
KHC			*ex*		x	22 54 20.8	
KHC	**Kasperske Hory**	31.14	313 *eP*		**P**	22 54 17.8	+0.4
KHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KHC	**Kasperske Hory**	31.14	313	P	**P**	22 54 17.9	+0.6
KHC	**Kasperske Hory**	31.14	313 *eP*		**P**	22 54 17.8	+0.4
	comp=Z,3.7nm,1.1s						
ABTA	**Abfaltersbach**	31.15	308 *i* P		**P**	22 54 17.8	+0.3
	comp=Z,10nm,1.0s						
ABTA	**Abfaltersbach**	31.15	308	P	**P**	22 54 17.8	+0.3
	comp=Z,10nm,1.0s						
BRG	**Berggiesshubel**	31.53	316 *eP*		**P**	22 54 20.4	-0.3
	comp=Z,2.8nm,0.9s						
BRG	**Berggiesshubel**	31.53	316 *eP*		**P**	22 54 20.4	-0.3
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WET	**Wettzell**	31.58	312	P	**P**	22 54 21.2	0.0
WET				pmax	pmax		
	comp=Z,14nm,0.8s						
WTTA	**Wattenberg**	31.86	309 *i* P		**P**	22 54 24.0	+0.2
	comp=Z,15nm,0.7s,SNR=8.8						
WTTA	**Wattenberg**	31.86	309	P	**P**	22 54 24.0	+0.2
	comp=Z,15nm,0.7s,SNR=8.8						
WATA	**Walderalm**	31.91	309 *i* P		**P**	22 54 24.4	+0.1
	comp=Z,37nm,1.1s,SNR=14						
WATA	**Walderalm**	31.91	309	P	**P**	22 54 24.4	+0.1
	comp=Z,37nm,1.1s,SNR=14						
VLC	**Villacollemand**	32.12	302 *eP*		**P**	22 54 26.5	+0.5
	comp=Z,21nm,0.9s						
NKC	**Novy Kostel**	32.20	314 *eP*		**P**	22 54 26.8	+0.2
NKC	**Novy Kostel**	32.20	314 *eP*		**P**	22 54 26.8	+0.2
NKC	**Novy Kostel**	32.20	314	P	**P**	22 54 26.8	+0.2
MOTA	**Moosalm**	32.23	309 *i* P		**P**	22 54 26.7	-0.4
	comp=Z,27nm,0.9s,SNR=29						
MOTA	**Moosalm**	32.23	309	P	**P**	22 54 26.7	-0.4
	comp=Z,27nm,0.9s,SNR=29						
WMQ	**Urumqi**	32.24	58	P	**P**	22 54 28.0	+0.9
WMQ				pP	sP	22 54 40.3	+3.4
WMQ				PcP	**PcP**	22 57 17.5	+2.3
WMQ				S	**S**	22 59 35.5	-3.6
WMQ	**Urumqi**	32.24	58	ScS	ScS	23 04 58.0	+1.6
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,3.6s						
WMQ				LR	LR		
	comp=N,250nm,24.3s						
WMQ				LR	LR		
	comp=E,130nm,23.1s						
WMQ				LR	LR		
	comp=Z,140nm,19.9s						
CLL	**Collm**	32.24	316 *eP*		**P**	22 54 27.0	0.0
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	**Collm**	32.24	316 *eP*		**P**	22 54 27.0	0.0
	comp=Z,8.0nm,1.0s						
CLL			*i*			22 54 31.3	
CLL	**Collm**	32.24	316 *eP*		**P**	22 54 26.6	-0.4
	comp=Z,9.3nm,1.0s						
FETA	**Feichten**	32.40	308 *i* P		**P**	22 54 28.9	+0.3
	comp=Z,24nm,0.9s,SNR=11						
FETA	**

ECH	Echery	35.01	309	eP	P	22 54 50.6	-0.6
	comp=Z,8.0nm,0.9s						
LOMF	Lomont	35.08	308	eP	P	22 54 51.5	-0.3
LOMF	Lomont	35.08	308	eP	P	22 54 51.5	-0.3
HINF	Hinteralfeld	35.14	308	eP	P	22 54 51.6	-0.7
HINF				pmax	pmax		
	comp=Z,12nm,1.0s						
KMBO	Kilima Mbogo	35.22	201	eP	P	22 54 55.3	+1.9
KMBO				pmax	pmax		
	comp=Z,12nm,1.8s						
KMBO	Kilima Mbogo	35.22	201	eP	P	22 54 55.3	+1.9
	comp=Z,12nm,1.8s						
RUP	Ruppelstein	35.39	312	eP	P	22 54 53.6	-0.8
CABF	La Chapelle	35.46	306	eP	P	22 54 55.1	0.0
CABF				pmax	pmax		
	comp=Z,38nm,0.8s						
HAU	Haudompre	35.51	309	eP	P	22 54 54.4	-1.0
HAU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MSF	Maaselka	35.54	346	eP	P	22 54 55.2	-0.2
MSF				pmax	pmax		
	comp=Z,15nm,0.7s						
THEF	They Montfort	35.78	309	eP	P	22 54 57.9	+0.1
THEF	They Montfort	35.78	309	eP	P	22 54 57.9	+0.1
WLF	Walferdange	35.95	311	P	P	22 54 59.0	-0.2
WLF	Walferdange	35.95	311	eP	P	22 54 59.0	-0.2
WLF				pmax	pmax		
	comp=Z,17nm,1.0s						
WLF	Walferdange	35.95	311	P	P	22 54 58.9	-0.2
WLF	Walferdange	35.95	311	eP	P	22 54 59.0	-0.2
	comp=Z,17nm,1.0s						
HFS	Hagfors	36.06	331	P	P	22 55 00.3	+0.4
	comp=Z,16nm,0.4s,baz=141,slow=9.6,SNR=97						
HFS				LR	LR	23 12 10.8	
	comp=Z,500nm,20.8s,baz=237,slow=40						
MEM	Membach	36.26	313	P	P	22 55 02.2	+0.5
	comp=Z,6.1nm,1.3s						
MEM	Membach	36.26	313	P	P	22 55 02.2	+0.5
	comp=Z,6.1nm,1.3s						
VIVF	Saint-Julien-l	36.26	303	eP	P	22 55 03.0	+1.1
VIVF				pmax	pmax		
	comp=Z,23nm,1.6s						
MUD	Monsted U'grnd	36.35	323	i P	P	22 55 03.5	+1.1
	comp=Z,18nm,0.7s						
MUD	Monsted U'grnd	36.35	323	i P	P	22 55 03.5	+1.1
MUD				pmax	pmax		
	comp=Z,18nm,0.7s						
MUD	Monsted U'grnd	36.35	323	i P	P	22 55 03.5	+1.1
	comp=Z,18nm,0.7s						
LVZ	Lovozero	36.41	351	i P	P	22 55 03.9	+1.1
LVZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LVZ	Lovozero	36.41	351	eP	P	22 55 02.7	-0.1
	comp=Z,14nm,0.9s						
BCLA	Clavier	36.65	312	P	P	22 55 05.3	+0.2
	comp=Z,18nm,3.0s						
BCLA	Clavier	36.65	312	P	P	22 55 05.3	+0.2
	comp=Z,18nm,3.0s						
GIVF	Givet	36.89	312	eP	P	22 55 07.2	+0.1
GIVF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DOU	Dourbes	37.03	312	P	P	22 55 08.7	+0.4
DOU	Dourbes	37.03	312	P	P	22 55 08.7	+0.4
LOR	Lormes	37.06	307	eP	P	22 55 07.8	-0.9
LOR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PLDF	La Plantade	37.09	305	eP	P	22 55 09.0	0.0
PLDF	La Plantade	37.09	305	eP	P	22 55 09.0	0.0
NC602	NORSAR Array S	37.29	330	eP	P	22 55 11.0	+0.6
AVF	Avril sur Loir	37.35	306	eP	P	22 55 10.3	-0.8
AVF				pmax	pmax		
	comp=Z,13nm,1.0s						
NC405	NORSAR Array S	37.42	331	eP	P	22 55 11.7	+0.2
AGO	Saint Agoulin	37.44	305	eP	P	22 55 11.9	0.0
AGO	Saint Agoulin	37.44	305	eP	P	22 55 11.9	0.0
NB201	NORSAR Array S	37.56	331	eP	P	22 55 12.7	-0.1
KONO	Kongsberg	37.58	328	ceP	P	22 55 12.6	-0.2
KONO				pmax	pmax		
	comp=Z,136nm,0.9s						
KONO	Kongsberg	37.58	328	eP	P	22 55 12.9	+0.1
	comp=Z,25nm,0.8s						
NB2	NORSAR Subarra	37.59	331	P	P	22 55 12.5	-0.5
	comp=Z,11nm,0.7s,baz=124,slow=8.6						
NB2	NORSAR Subarra	37.59	331	P	P	22 55 12.4	-0.5
NB2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NB2	NORSAR Subarra	37.59	331	P	P	22 55 12.5	-0.5
	comp=Z,11nm,0.7s,SNR=5.2						
NOA	NORSAR Array B	37.59	331	P	P	22 55 12.8	-0.2
	comp=Z,9.4nm,0.7s,baz=123,slow=8.2,SNR=29						
NOA				LR	LR	23 12 49.6	
	comp=Z,172nm,21.1s,baz=255,slow=40						
NAO01	NORSAR Array S	37.62	330	eP	P	22 55 13.1	-0.1
NC303	NORSAR Array S	37.62	331	eP	P	22 55 13.2	0.0
BGF	Bois d'Agland	37.68	306	eP	P	22 55 15.0	+1.1
BGF				pmax	pmax		
	comp=Z,11nm,0.9s						
NBO00	NORSAR Array S	37.76	331	eP	P	22 55 14.5	+0.1
NC204	NORSAR Array S	37.90	331	eP	P	22 55 15.8	+0.2
TCF	Toulx Ste Croi	38.09	305	eP	P	22 55 18.1	+0.7
TCF				pmax	pmax		
	comp=Z,11nm,1.0s						
RJF	Les Rejaudoux	38.52	303	eP	P	22 55 20.7	-0.3
RJF				pmax	pmax		
	comp=Z,50nm,1.8s						
LFF	La Frestale	39.05	303	eP	P	22 55 25.3	-0.2
LFF				pmax	pmax		
	comp=Z,13nm,1.0s						
KEV	Kevo	39.27	348	eP	P	22 55 26.5	-0.4
KEV				pmax	pmax		
	comp=Z,37nm,1.4s						
KEV	Kevo	39.27	348	eP	P	22 55 26.5	-0.4
	comp=Z,37nm,1.4s						
ARCES	ARCESS Array B	39.35	347	P	P	22 55 27.6	-0.1
	comp=Z,2.8nm,0.8s,baz=146,slow=8.8,SNR=10						
ARCES				ScP	ScP	23 01 21.4	-1.4
	comp=Z,2.1nm,0.8s,baz=160,slow=3.9,SNR=5.0						
TAM	Tamanrasset	39.42	267	eP	P	22 55 30.1	+1.1
TAM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TAM	Tamanrasset	39.42	267	eP	P	22 55 30.1	+1.1
	comp=Z,4.6nm,1.0s						
GRR	Gorron	40.34	308	eP	P	22 55 35.2	-0.9
GRR				pmax	pmax		
	comp=Z,20nm,1.0s						
SJPF	Ste Jean	40.48	300	eP	P	22 55 36.4	-1.0
SJPF				pmax	pmax		
	comp=Z,35nm,1.4s						
SGMF	Saint Gilles	41.46	308	eP	P	22 55 44.6	-0.7
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
QUIF	Quistinic	41.85	307	eP	P	22 55 47.5	-1.0
QUIF				pmax	pmax		
	comp=Z,27nm,1.2s						
EKA	Eskdalemuir Ar	42.65	318	P	P	22 55 54.3	-0.6
	comp=Z,7.5nm,0.8s,baz=107,slow=8.3,SNR=10						
NRIK	Noril'sk	42.76	19	P	P	22 55 55.9	+0.2
	comp=Z,2.3nm,0.5s,baz=333,slow=2.3,SNR=2.8						
ESDC	Sonseca Array	42.82	295	P	P	22 55 57.1	+0.5
	comp=Z,1.1nm,0.5s,baz=69,slow=8.5,SNR=14						
TLY	Talaya	43.75	47	P	P	22 56 06.2	+2.2
	comp=Z,2.6nm,0.5s,baz=194,slow=4.2,SNR=2.6						
MDT	Midelt	44.66	286	P	P	22 56 12.0	+0.3
	comp=Z,1.6nm,0.7s,baz=64,slow=8.6,SNR=3.6						
LZH	Lanzhou	45.01	70	eP	P	22 56 15.5	+1.1
LZH				pP	sP	22 56 26.5	+2.2
LZH				sP	pP	22 56 32.0	+10
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
PBAR	Barrancos	45.42	294	eP	P	22 56 18.1	+0.6
	comp=Z,51nm,1.1s						
PBAR	Barrancos	45.42	294	eP	P	22 56 18.1	+0.6
	comp=Z,51nm,1.1s						
SONM	Songino Array	45.47	53	P	P	22 56 18.3	+0.4
	comp=Z,1.0nm,0.6s,baz=275,slow=8.4,SNR=5.9						
PMRV	Marv??o	45.48	295	eP	P	22 56 18.9	+1.0
PMRV	Marv??o	45.48	295	eP	P	22 56 18.9	+1.0
DGAR	Diego Garcia	45.58	146	eP	P	22 56 20.4	+1.6
DGAR	Diego Garcia	45.58	146	eP	P	22 56 20.4	+1.6
	comp=Z,245nm,1.4s						
PESTR	Estremoz	45.73	295	eP	P	22 56 20.5	+0.6
PESTR	Estremoz	45.73	295	eP	P	22 56 20.5	+0.6
ULN	Ulaanbaatar	45.91	53	ceP	P	22 56 22.9	+1.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	45.91	53	eP	P	22 56 21.7	+0.3
	comp=Z,3.7nm,0.8s						
PBEJ	Beja	46.09	293	eP	P	22 56 23.5	+0.7
PBEJ	Beja	46.09	293	eP	P	22 56 23.5	+0.7
PMTG	Montargil	46.18	295	eP	P	22 56 24.3	+0.9
PMTG	Montargil	46.18	295	eP	P	22 56 24.3	+0.9
CHTO	Chiang Mai	46.71	94	eP	P	22 56 28.0	+0.2
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	Chiang Mai	46.71	94	eP	P	22 56 28.0	+0.2
	comp=Z,5.9nm,1.0s						
CMAR	Chiang Mai Arr	46.87	95	P	P	22 56 28.9	-0.2
	comp=Z,2.2nm,0.7s,baz=295,slow=8.6,SNR=13						
CMAR	Chiang Mai Arr	46.87	95	ceP	P	22 56 29.2	+0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TOA0	Torodi Ar. Sit	47.17	257	eP	P	22 56 32.1	+0.6
	comp=Z,8.8nm,0.9s						
TORD	Torodi Ar. Bea	47.17	257	P	P	22 56 31.7	+0.3
	comp=Z,3.0nm,0.8s,baz=48,slow=8.3,SNR=19						
TORD				ScP	ScP	23 01 55.1	-0.3
	comp=Z,0.6nm,0.9s,baz=75,slow=3.7,SNR=3.6						
SPITS	Spitsbergen Ar	47.93	351	P	P	22 56 36.9	+0.4
	comp=Z,7.0nm,0.7s,baz=141,slow=11,SNR=9.4						
HHC	Hu-ho-hao-te	49.98	62	eP	P	22 56 52.3	-0.6
HHC				pP	sP	22 57 04.5	+1.6
HHC				S	S	23 04 00.0	-2.4
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,7.7s						
HHC				LR	LR		
	comp=N,200nm,16.3s						
HHC				LR	LR		
	comp=E,240nm,15.3s						
HHC				LR	LR		
	comp=Z,290nm,17.1s						
ABPO	Ambohimpanom	51.25	182	eP	P	22 57 04.4	+1.8
ABPO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ABPO	Ambohimpanom	51.25	182	eP	P	22 57 04.4	+1.8
	comp=Z,6.2nm,0.8s						
LSZ	Lusaka	51.48	206	eP	P	22 57 06.0	+1.6
LSZ				pmax	pmax		
	comp=Z,21nm,1.9s						
LSZ	Lusaka	51.48	206	eP	P	22 57 06.0	+1.6
	comp=Z,21nm,1.9s						
LHMI	Lhok Sumawe	52.31	111	eP	P	22 57 11.9	+1.3
	comp=Z,114nm,0.9s						
RER	Riviere de l'E	53.75	172	eP	P	22 57 23.0	+1.9
	comp=Z,125nm,1.2s						
HIA	Hailar	54.13	50	i P	P	22 57 23.6	0.0
HIA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GSI	Gunungsitoli	55.23	114	eP	P	22 57 32.6	+0.6
	comp=Z,33nm,0.6s						
PSI	Prapat	55.35	112	eP	P	22 57 34.1	+1.1
PSI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PSI	Prapat	55.35	112	eP	P	22 57 34.0	+1.1
	comp=Z,8.2nm,1.1s						
IPM	Ipoh	56.01	108	eP	P	22 57 37.6	0.0
	comp=Z,22nm,1.3s						
DBIC	Dimbokro	56.11	255	P	P	22 57 38.5	+0.2
	comp=Z,2.4nm,0.6s,baz=44,slow=8.3,SNR=5.9						
DBIC	Dimbokro	56.11	255	eP	P	22 57 39.7	+1.4
DBIC				pmax	pmax		
	comp=Z,13nm,1.4s						
DBIC	Dimbokro	56.11	255	eP	P	22 57 39.7	+1.4
	comp=Z,13nm,1.4s						
KIC	Kosan Boka	56.19	255	eP	P	22 57 38.6	-0.3
	comp=Z,12nm,0.7s						
TIC	Toumodi	56.26	255	eP	P	22 57 39.4	0.0
TIXI	Tiksi	56.36	22	i P	P	22 57 42.3	+3.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	Tiksi	56.36	22	eP	P	22 57 40.2	+0.9
	comp=Z,10nm,1.4s						
LIC	Lamto	56.50	255	eP	P	22 57 41.2	+0.1
	comp=Z,46nm,1.3s						
SUMG	Summit	58.57	339	i P	P	22 57 55.1	-0.2
	comp=Z,26nm,0.8s						
SUMG	Summit	58.57	339	eP	P	22 57 55.9	+0.6
SUMG				pmax	pmax		
	comp=Z,29nm,0.9s						
SUMG	Summit	58.57	339	i P	P	22 57 55.1	-0.2
	comp=Z,26nm,0.8s						
SUMG	Summit	58.57	339	eP	P	22 57 55.9	+0.6
	comp=Z,29nm,0.9s						
CMLA	Cha da Macela	59.63	298	eP	P	22 58 02.2	-0.5
CMLA	Cha da Macela	59.63	298	eP	P	22 58 02.2	-0.5
KSAR	Wonju Array Be	63.09	61	P	P	22 58 26.0	-0.2
KSAR	Wonju Array Be	63.09	61	P	P	22 58 25.9	-0.2
KSRS	Korea Array	63.12	61	P	P	22 58 25.9	-0.3
	comp=Z,3.2nm,0.5s,baz=283,slow=6.8,SNR=8.9						
KSRS	Korea Array	63.12	61	P	P	22 58 26.0	-0.3
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
USRK	Ussuriysk Ar.	63.58	53	P	P	22 58 29.9	+0.6
	comp=Z,2.7nm,0.7s,baz=271,slow=7.0,SNR=5.5						
BOSA	Boshof	64.80	203	P	P	22 58 38.4	+0.9
	comp=Z,1.7nm,0.6s,baz=327,slow=8.8,SNR=3.4						
MJB9	Mau-Tunnel	71.00	58	eP	P	22 59 15.4	-1.0
	comp=Z,3.8nm,1.4s						
MAJO	Matsushiro	71.00	58	eP	P	22 59 15.2	-1.3
MAJO				pmax	pmax		
	comp=Z,14nm,1.4s						
MAJO	Matsushiro	71.00	58	eP	P	22 59 15.2	-1.3
	comp=Z,14nm,1.4s						
TOLK	Toolik Lake Re	78.23	7	eP	P	22 59 59.1	+1.2
	comp=Z,12nm,0.7s						
COLD	Coldfoot	79.53	7	eP	P	23 00 07.2	+2.2
	comp=Z,34nm,2.0s						
MDM	Murphy Dome	81.94	7	eP	P	23 00 19.2	+1.3
	comp=Z,8.9nm,1.1s						
ILAR	Eielson Array	82.26	7	P	P	23 00 19.1	-0.4
	comp=Z,1.7nm,0.9s,baz=318,slow=3.6,SNR=8.4						
ILB	Eielson Array	82.26	7	eP	P	23 00 24.1	+4.5
BPAW	Bear Paw Mtn.	82.45	9	eP	P	23 00 21.1	+0.5
	comp=Z,6.6nm,0.8s						
ULM	Lac du Bonnet	91.91	338	P	P	23 01 06.2	-0.7
	comp=Z,3.1nm,0.8s,baz=30,slow=8.1,SNR=2.0						
JSRW	J. Sargeant Re	94.36	320	eP	P	23 01 15.0	-3.4
JSRW				epP	sP	23 01 30.0	+1.3
MANU	Manus Island	98.21	87	eP	Pdif	23 01 40.0	+3.7
B08A	Colville Reser	98.83	352	epP	pP	23 01 49.2	+3.1

*IDC **28** 22:50:47.5±6.3, 36°.96N×72°.46E, h157km±44km, mb3.1/2, mb1 3.3/8, mb1mx3.0/54, mbtmp3.8/8, Error ellipse: s-maj=83.2km s-min=23.7km az=152.0*
*ISCJB **28** 22:50:49.0±0.6, 37°.32N±0°.04×72°.14E±0°.08, h130km, mb4.1/4, Error ellipse: s-maj=9.7km s-min=5.0km az=159.3*
*NNC **28** 22:50:57.1±3.5, 37°.80N×71°.99E, h125km±324km, mb2.8, mpv3.5, Error ellipse: s-maj=58.8km s-min=26.3km az=175.0*

ISC 28 22:50:48.8±0.8, 37°.34N±0°.07×72°.13E±0°.08, h130km, n26, σ1§83/30, mb4.1/4, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	Manas	5.15	3	⇑P	Pn	22 52 06.8	+2.9
	5.4nm,0.4s						
MNAS				⇓S	Sn	22 53 00.6	-2.0
	26nm,0.5s						
AAK	Ala-Archa	5.60	18	P	Pn	22 52 12.7	+2.8
	1.1nm,0.3s,baz=166,slow=6.0,SNR=18						
AAK				S	Sn	22 53 13.0	-0.2
	2.1nm,0.3s,baz=308,slow=22,SNR=16						
AAK	Ala-Archa	5.60	18	⇑P	Pn	22 52 13.0	+3.0
	2.7nm,0.5s						
AAK				⇓S	Sn	22 53 11.3	-2.0
	30nm,0.9s						
KK31	Karatay Array	5.89	348	⇑P	Pn	22 52 16.0	+2.2
	2.9nm,0.3s,baz=160,slow=10,SNR=136						
KK31				⇓S	Sn	22 53 17.0	-3.1
	15nm,0.3s,baz=162,slow=17,SNR=22						
TKM2	Tokmak 2	6.18	24	⇑P	Pn	22 52 19.4	+1.6
	3.2nm,0.7s						
TKM2				⇑S	Sn	22 53 28.7	+1.4
	13nm,1.0s						
GEYT	Alibeck	11.13	277	P	Pn	22 53 25.6	+1.5
	1.0nm,0.3s,baz=140,slow=9.2,SNR=21						
MKAR	Makanchi Array	12.09	35	P	Pn	22 53 37.7	+1.0
	0.1nm,0.3s,baz=220,slow=11,SNR=3.1						
PYUN	Piuthan	12.97	132	eP	Pn	22 53 48.4	-0.1
	23nm,0.4s						
PYUN				eS	Sn	22 56 03.6	-8.1
DANN	Dangsing	13.26	129	eP	Pn	22 53 52.9	+0.6
KOLN	Koldanda	13.58	131	eP	Pn	22 53 56.2	-0.1
	8.6nm,0.3s						
GKN	Gorkha	14.05	128	eP	Pn	22 54 02.6	+0.3
	62nm,0.6s						
KURBB	Kurchatov Arra	14.05	17	P	Pn	22 54 04.3	+2.4
	0.1nm,0.3s,baz=204,slow=11,SNR=7.4						
KKN	Kakani	14.60	127	eP	Pn	22 54 09.9	+0.5
	23nm,0.6s						
DMN	Daman	14.62	128	eP	Pn	22 54 10.1	+0.5
	12nm,0.3s						
PKIN	Phulchoki	14.82	127	eP	Pn	22 54 13.4	+1.2
	16nm,0.4s						
PKI	Pulchoki	14.84	127	eP	Pn	22 54 13.3	+0.9
	10nm,0.3s						
GUN	Gumba	14.91	125	eP	Pn	22 54 14.1	+0.8
	29nm,0.4s						
JIRN	Jiri	15.28	125	eP	Pn	22 54 19.0	+1.0
	101nm,0.4s						
RAMN	Ramite	16.03	126	eP	Pn	22 54 28.3	+1.2
	32nm,0.4s						
TAPN	Taplejung	16.49	123	eP	P	22 54 34.1	+0.9
	21nm,0.6s						
AKTO	Aktyubinsk	16.54	327	P	P	22 54 34.7	+1.5
	1.0nm,0.3s,baz=127,slow=8.9,SNR=4.6						
ZALV	Zalesovo Beam	18.78	24	P	P	22 54 55.9	-1.8
	1.1nm,0.3s,baz=214,slow=9.4,SNR=5.4						
BRTR	Keskin Array B	30.05	287	P	P	22 56 46.0	+0.3
	0.5nm,0.5s,baz=104,slow=5.7,SNR=4.7						
BJI	Beijing	34.23	72	P	P	22 57 18.8	-3.2
BJI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJI				pmax	pmax		
	comp=Z,140nm,5.4s						
NJ2	Nanjing	38.48	84	eP	P	22 57 49.0	-9.1
NJ2				pmax	pmax		
	comp=Z,26nm,0.9s						
TORD	Torodi Ar. Bea	66.64	269	P	P	23 01 23.0	-2.6
	comp=Z,0.2nm,0.3s,baz=50,slow=6.2,SNR=3.0						

*CSEM **28** 23:01:40.9, 45°.76N×14°.16E, h0km, ML0.2*
LJU 28 23:01:40.9, 45°.76N×14°.17E, h13km, ML0.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	Cerknica	0.18	96	i Pg	Pg	23 01 45.1	0.0
CEY				i Sg	Sg	23 01 48.3	+0.2
	comp=Z,1.0nm,0.0s						
CEY	Cerknica	0.18	96	i Pg	Pg	23 01 45.1	0.0
CEY				i Sg	Sg	23 01 48.3	+0.3
SKDS	Skadanscina	0.24	207	i Pg	Pg	23 01 45.9	0.0
SKDS				i Sg	Sg	23 01 49.8	+0.4
	comp=Z,2.0nm,0.0s						
SKDS	Skadanscina	0.24	207	i Pg	Pg	23 01 45.9	-0.1
SKDS				i Sg	Sg	23 01 49.8	+0.4
	comp=Z,2.0nm,0.0s						
GBAS	Gorenja Brezov	0.26	48	i Sg	Sg	23 01 50.6	+0.4
	comp=Z,1.0nm,0.1s						
GBAS	Gorenja Brezov	0.26	48	i Sg	Sg	23 01 50.6	+0.4
KNDS	Knezji Dol	0.28	147	i Pg	Pg	23 01 46.8	+0.1
KNDS				i Sg	Sg	23 01 51.3	+0.7
	comp=Z,1.0nm,0.1s						
KNDS	Knezji Dol	0.28	147	i Pg	Pg	23 01 46.8	+0.1
KNDS				i Sg	Sg	23 01 51.3	+0.7
	comp=Z,1.0nm,0.1s						
VOJS	Vojsko	0.34	324	i Pg	Pg	23 01 47.8	0.0
VOJS				i Sg	Sg	23 01 53.2	+0.7
	comp=Z,0.0nm,0.0s						
VOJS	Vojsko	0.34	324	i Pg	Pg	23 01 47.8	0.0
VOJS				i Sg	Sg	23 01 53.2	+0.7
VNDS	Vrh nad Dolski	0.51	47	i Pg	Pb	23 01 51.4	-0.3
VNDS				i Sg	Sg	23 01 58.4	+0.7
	comp=Z,0.0nm,0.1s						
VNDS	Vrh nad Dolski	0.51	47	i Pg	Pb	23 01 51.4	-0.3
VNDS				i Sg	Sb	23 01 58.4	-0.6

*DDA **28** 23:16:04.4, 39°.09N×26°.87E, h31km, Ml3.6*
*ISK **28** 23:16:04.9, 39°.09N×26°.91E, h12km, ML3.1*
*IASPEI **28** 23:16:05.3±0.8, 39°.08N±0°.02×26°.89E±0°.02, h14km±5km, Error ellipse: s-maj=3.4km s-min=2.9km az=91.2, GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **28** 23:16:05.4±0.1, 39°.08N×26°.90E, h10km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.4km az=116.0*
*ISCJB **28** 23:16:05.1±0.3, 39°.08N±0°.02×26°.90E±0°.03, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=167.7*
*THE **28** 23:16:06.1, 39°.06N×26°.81E, h3km±1km, ML3.0/5, Error ellipse: s-maj=1.3km s-min=0.6km az=230.0*
*ATH **28** 23:16:25.2, 40°.18N×25°.17E, h24km±6km, ML1.7/2, Error ellipse: s-maj=8.1km s-min=1.0km az=120.0*

ISC 28 23:16:05.4±0.8, 39°.09N±0°.02×26°.87E±0°.02, h12km±5km, n141, σ0§82/163, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	Dikili	0.03	125	ePG	Pg	23 16 07.5	-0.1
DKL				eSG	Sg	23 16 09.2	+0.1
DKL	Dikili	0.03	125	ePg	Pg	23 16 07.5	-0.1
DKL				eSg	Sg	23 16 09.2	+0.1
AYVA	Ayvalik	0.26	327	i P	Pg	23 16 11.4	+0.5
AYVA				i S	Sb	23 16 15.7	-0.8
AYVA	Ayvalik	0.26	327	P	Pg	23 16 11.4	+0.5
AYVA				S	Sb	23 16 15.7	-0.8
FOCM	Fo˜§a	0.39	197	ePG	Pg	23 16 13.2	0.0
FOCM	Fo˜§a	0.39	197	ePg	Pg	23 16 13.2	0.0
PRK	Paraskevi	0.49	289	P	Pb	23 16 15.5	-0.5
PRK				S	Sg	23 16 22.1	+0.4
PRK	Paraskevi	0.49	289	P	Pb	23 16 15.5	-0.5
PRK				S	Sg	23 16 22.1	+0.4
KRBN	Karaburun	0.55	207	ePG	Pg	23 16 16.3	+0.1
KRBN	Karaburun	0.55	207	ePg	Pg	23 16 16.3	+0.1
BAYC	CANAKKALE_Bayr	0.70	339	i P	Pg	23 16 18.6	-0.4
BAYC				i S	Sb	23 16 28.6	-0.5
BAYC	CANAKKALE_Bayr	0.70	339	P	Pg	23 16 18.6	-0.4
BAYC				S	Sb	23 16 28.6	-0.5
STEP	BALIKESIR_Sava	0.72	66	i P	Pg	23 16 18.8	-0.5
STEP	BALIKESIR_Sava	0.72	66	P	Pg	23 16 18.8	-0.5
URLA	Izmir	0.76	197	ePG	Pb	23 16 20.4	-0.1
URLA

DGB				*i* S	**Sn**	23 16 41.2	+1.2
GONE	**Gonen-Balikesi**	1.14	33	*e*PN	**Pb**	23 16 26.9	-0.1
GONE	**Gonen-Balikesi**	1.14	33	*e*Pn	**Pb**	23 16 27.0	-0.1
KNL	**Bal¨–kesir**	1.28	23	*i* P	**Pn**	23 16 28.8	-0.4
LPK	**Lapseki**	1.29	356	*e*PN	**Pb**	23 16 29.0	-0.1
LPK	**Lapseki**	1.29	356	*e*Pn	**Pn**	23 16 29.0	-0.1
GADA	**Gvkgeada**	1.33	326	*e*PN	**Pb**	23 16 30.5	+0.2
GADA	**Gvkgeada**	1.33	326	P	**Pb**	23 16 30.3	0.0
GADA	**Gvkgeada**	1.33	326	P	**Pb**	23 16 30.3	0.0
KRBG	**Karabiga-Canak**	1.34	14	*e*PN	**Pn**	23 16 30.1	+0.2
KRBG	**Karabiga-Canak**	1.34	14	*e*Pn	**Pn**	23 16 30.1	+0.2
DEMI	**Demirci**	1.44	91	*i* P	**Pn**	23 16 30.6	-0.7
DEMI	**Demirci**	1.44	91	P	**Pn**	23 16 30.6	-0.7
DST	**Dursunbey**	1.45	69	*e*PN	**Pn**	23 16 30.4	-1.0
DST	**Dursunbey**	1.45	69	*e*Pn	**Pn**	23 16 30.4	-1.0
EDC	**Edincik**	1.47	31	*e*PN	**Pn**	23 16 31.0	-0.7
EDC	**Edincik**	1.47	31	*e*Pn	**Pn**	23 16 31.0	-0.7
KULA	**Kula-Manisa**	1.51	112	*e*PN	**Pn**	23 16 32.4	+0.1
KULA	**Kula-Manisa**	1.51	112	*e*Pn	**Pn**	23 16 32.4	+0.1
LIA	**Limnos Island**	1.54	302	P	**Pn**	23 16 32.4	-0.2
LIA				S	**Sb**	23 16 53.7	+0.5
LIA	**Limnos Island**	1.54	302	P	**Pn**	23 16 32.7	+0.1
LIA				S	**Pg**	23 16 36.3	+1.4
LIA				AML	AML	23 16 57.2	
	comp=N,289μm,0.4s						
LIA				AML	AML	23 16 58.7	
	comp=E,399μm,0.4s						
LIA	**Limnos Island**	1.54	302	P	**Pn**	23 16 32.7	+0.1
LIA				S	**Sb**	23 16 53.7	+0.5
ERIK	**Erikli-Kesan**	1.60	350	*e*PN	**Pn**	23 16 34.1	+0.6
ERIK	**Erikli-Kesan**	1.60	350	*e*Pn	**Pn**	23 16 34.1	+0.6
AYDN	**Tasoluk**	1.63	151	*i* P	**Pn**	23 16 33.6	-0.3
AYDN	**Tasoluk**	1.63	151	P	**Pn**	23 16 33.6	-0.3
KCTX	**Karacabey (Bur**	1.64	44	*e*PN	**Pn**	23 16 33.6	-0.4
KCTX	**Karacabey (Bur**	1.64	44	*e*Pn	**Pn**	23 16 33.6	-0.4
SIMA	**Simav-Kutahya**	1.64	90	*e*PN	**Pn**	23 16 33.5	-0.6
SIMA	**Simav-Kutahya**	1.64	90	*e*Pn	**Pn**	23 16 33.5	-0.6
SMTH	**Samothraki Isl**	1.73	324	P	**Pn**	23 16 35.7	+0.5
SMTH				S	**Sb**	23 16 58.8	+0.1
SMTH	**Samothraki Isl**	1.73	324	P	**Pn**	23 16 34.3	-1.0
SMTH				S	**Pg**	23 16 40.3	+1.8
SMTH				AML	AML	23 17 02.1	
	comp=N,280μm,0.4s						
SMTH				AML	AML	23 17 02.8	
	comp=E,187μm,0.2s						
SMTH	**Samothraki Isl**	1.73	324	P	**Pn**	23 16 35.7	+0.5
SMTH				S	**Sb**	23 16 58.8	+0.1
ENEZ	**Enez**	1.74	342	*e*PN	**Pb**	23 16 36.6	-0.6
ENEZ	**Enez**	1.74	342	P	**Pb**	23 16 36.6	-0.6
ENEZ				S	**Sb**	23 16 59.4	+0.5
ENEZ	**Enez**	1.74	342	P	**Pb**	23 16 36.6	-0.6
ENEZ				S	**Sb**	23 16 59.4	+0.5
KESN	**Edirne-Kesan**	1.74	355	*i* P	**Pb**	23 16 37.5	0.0
KESN	**Edirne-Kesan**	1.74	355	P	**Pb**	23 16 37.5	0.0
ORLT	**Orhaneli**	1.83	58	*e*PN	**Pn**	23 16 37.1	+0.4
ORLT	**Orhaneli**	1.83	58	*e*Pn	**Pn**	23 16 37.1	+0.4
TKR	**Tekirdag**	1.97	15	*e*PN	**Pn**	23 16 39.1	+0.6
TKR	**Tekirdag**	1.97	15	*e*Pn	**Pn**	23 16 39.1	+0.6
SBT3	**Marmara-Eregli**	1.98	25	*e*PN	**Pn**	23 16 39.0	+0.5
SBT3	**Marmara-Eregli**	1.98	25	*e*Pn	**Pn**	23 16 39.1	+0.5
MDNY	**Mudanya-Bursa**	2.01	50	*e*PN	**Pn**	23 16 39.5	+0.4
MDNY	**Mudanya-Bursa**	2.01	50	*e*Pn	**Pn**	23 16 39.5	+0.4
GDZ	**Gediz**	2.03	89	*i* P	**Pb**	23 16 42.2	-0.1
GDZ	**Gediz**	2.03	89	P	**Pb**	23 16 42.2	-0.1
TVSB	**Tavsanli**	2.04	79	*e*PN	**Pn**	23 16 39.1	-0.6
TVSB	**Tavsanli**	2.04	79	*e*Pn	**Pn**	23 16 39.1	-0.6
BODT	**Bodrum**	2.05	170	*e*PN	**Pn**	23 16 40.1	+0.5
BODT	**Bodrum**	2.05	170	*e*Pn	**Pn**	23 16 40.2	+0.5
ARMT	**Armutlu**	2.13	45	*e*PN	**Pn**	23 16 41.0	+0.3
ARMT	**Armutlu**	2.13	45	*e*Pn	**Pn**	23 16 41.0	+0.3
CRLT	**Corlu**	2.14	18	*e*PN	**Pn**	23 16 41.0	+0.1
CRLT	**Corlu**	2.14	18	*e*Pn	**Pn**	23 16 41.0	+0.1
IGD	**Bursa**	2.15	56	*i* P	**Pn**	23 16 40.4	-0.6
KHAL	**Karahalli**	2.17	108	*i* P	**Pn**	23 16 41.6	+0.2
KHAL	**Karahalli**	2.17	108	P	**Pn**	23 16 41.6	+0.2
SBT5	**Esenkoy-Cinarc**	2.18	44	*e*PN	**Pn**	23 16 41.6	+0.2
SBT5	**Esenkoy-Cinarc**	2.18	44	*e*Pn	**Pn**	23 16 41.6	+0.2
SBT2	**Guzelce-Avcila**	2.19	35	*e*PN	**Pn**	23 16 41.8	+0.4
SBT2	**Guzelce-Avcila**	2.19	35	*e*Pn	**Pn**	23 16 41.8	+0.4
GEMT	**Gemlik**	2.23	52	*e*PN	**Pn**	23 16 42.9	+0.7
GEMT	**Gemlik**	2.23	52	*e*Pn	**Pn**	23 16 42.9	+0.7
APE	**Apeiranthos**	2.28	208	*e*PN	**Pn**	23 16 43.6	+0.8
APE	**Apeiranthos**	2.28	208	*e*Pn	**Pn**	23 16 43.7	+0.8
RDO	**Rodhopi**	2.30	334	P	**Pn**	23 16 43.7	+0.7
RDO	**Rodhopi**	2.30	334	P	**Pn**	23 16 43.5	+0.5
RDO	**Rodhopi**	2.30	334	P	**Pn**	23 16 43.5	+0.5
SLVT	**Silivri**	2.37	25	*e*PN	**Pn**	23 16 44.6	+0.5
SLVT	**Silivri**	2.37	25	*e*Pn	**Pn**	23 16 44.6	+0.5
DAT	**Datca**	2.42	166	*e*PN	**Pn**	23 16 45.7	+0.8
DAT	**Datca**	2.42	166	*e*Pn	**Pn**	23 16 45.7	+0.8
YLV	**Yalova**	2.42	52	*e*PN	**Pn**	23 16 45.4	+0.5
YLV	**Yalova**	2.42	52	*e*Pn	**Pn**	23 16 45.4	+0.5
BUY	**Buyukada**	2.46	44	*e*PN	**Pn**	23 16 45.9	+0.6
BUY	**Buyukada**	2.46	44	*e*Pn	**Pn**	23 16 45.9	+0.6
CTKS	**Kestanelik-??a**	2.48	30	*e*PN	**Pn**	23 16 45.8	+0.2
CTKS	**Kestanelik-??a**	2.48	30	*e*Pn	**Pn**	23 16 45.8	+0.2
CAVI	**Cavuskoy**	2.55	63	*e*PN	**Pn**	23 16 47.0	+0.5
CAVI	**Cavuskoy**	2.55	63	*e*Pn	**Pn**	23 16 47.0	+0.5
OUR	**Ouranopolis**	2.55	300	P	**Pn**	23 16 43.7	-2.9
OUR	**Ouranopolis**	2.55	300	P	**Pn**	23 16 43.7	-2.9
ADVT	**Abdulvahap**	2.58	58	*e*PN	**Pn**	23 16 47.5	+0.5
ADVT	**Abdulvahap**	2.58	58	*e*Pn	**Pn**	23 16 47.5	+0.5
PHSR	**Pinarhisar**	2.59	11	*e*PN	**Pn**	23 16 47.3	+0.3
PHSR	**Pinarhisar**	2.59	11	*e*Pn	**Pn**	23 16 47.3	+0.3
KAVV	**Kandilli-Istan**	2.59	40	*e*PN	**Pn**	23 16 47.6	+0.5
KAVV	**Kandilli-Istan**	2.59	40	*e*Pn	**Pn**	23 16 47.6	+0.5
ISK	**Istanbul-Kandi**	2.59	40	*e*PN	**Pn**	23 16 48.1	+1.0
ISK	**Istanbul-Kandi**	2.59	40	*e*Pn	**Pn**	23 16 48.1	+1.0
CTYL	**Yalikoy Yolu**	2.62	24	*e*PN	**Pn**	23 16 48.1	+0.7
CTYL	**Yalikoy Yolu**	2.62	24	*e*Pn	**Pn**	23 16 48.1	+0.7
KAVA	**Kavala**	2.63	317	P	**Pn**	23 16 43.5	-4.1
KAVA	**Kavala**	2.63	317	P	**Pn**	23 16 43.5	-4.1
DALY	**Dalyan (Mu¨la**	2.67	148	*e*PN	**Pn**	23 16 48.7	+0.6
DALY	**Dalyan (Mu¨la**	2.67	148	*e*Pn	**Pn**	23 16 48.7	+0.6
SRS	**Serrai**	3.23	310	P	**Pn**	23 16 53.3	-2.6
SRS	**Serrai**	3.23	310	P	**Pn**	23 16 53.3	-2.6

ISCJB ***28*** *23:18:27.1±0.6, 36.°80N±0.°03×140.°64E±0.°06, h13km±4km, mb3.6/6, Error ellipse: s-maj=8.3km s-min=4.7km az=14.2*
IDC ***28*** *23:18:27.3±1.0, 36.°77N×140.°54E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/46, mbtmp3.6/6, Error ellipse: s-maj=21.6km s-min=16.2km az=176.0*
JMA ***28*** *23:18:27.4, 36.°82N×140.°57E, h4km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕ_s=273.00000°, δ60.00000°, λ-107.00000°. NP2: ϕ_s=124.00000°, δ34.00000°, λ-63.00000°. Principal axes: T Plg13.0000°, Azm15.0000°; N Plg15.0000°, Azm282.0000°; P Plg70.0000°, Azm145.0000°;*
JMA Felt I J1.
ISC 28 23:18:27.7±1.2, 36.°81N±0.°03×140.°59E±0.°04, h2km±9km, n21, σ0.9°72/22, mb3.6/6, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**184**	⇑P	**Pg**	**23 18 31.6**	**0.0**
JHO				*e*S	**Sg**	23 18 34.5	+0.3
ONAJ	**Iwakimizuishiy**	**0.33**	**31**	⇑P	**Pg**	23 18 34.1	0.0
ONAJ				*e*S	**Sg**	23 18 39.1	+0.6
JSB	**Shiboa**	**0.56**	**286**	⇑P	**Pg**	23 18 38.8	+0.5
JSB				*e*S	**Sg**	23 18 46.5	+1.0
JFK	**Kawauchi**	**0.60**	**23**	⇑P	**Pg**	23 18 38.7	-0.4
JYT	**Yasato**	**0.67**	**208**	⇑P	**Pg**	23 18 40.0	-0.4
JYT				*e*S	**Sg**	23 18 48.7	-0.3
JFT	**Otama**	**0.73**	**344**	⇑P	**Pg**	23 18 41.4	-0.3
JFT				S	**Sg**	23 18 51.2	0.0
JFY	**Yanaizu**	**0.92**	**310**	⇑P	**Pg**	23 18 44.7	-0.6
JFY				S	**Sg**	23 18 56.7	-0.5
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pn	**Pn**	23 19 01.3	-0.3
	19nm,0.3s,baz=87,slow=15,SNR=96						
MJAR				Lg	Lg	23 19 26.6	
	46nm,0.3s,baz=64,slow=16,SNR=48						
MAT	**Matsushiro**	**1.93**	**263**	P	**Pn**	23 19 01.6	0.0
MAT				S	**Sn**	23 19 26.9	+0.5
H11N2	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	23 54 08.7	
	baz=312,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	23 54 09.2	
	baz=312,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	23 54 10.0	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	23 55 01.1	
	baz=314,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	23 55 00.7	
	baz=314,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**29.32**	**121**	T	T	23 55 04.3	
	baz=314,slow=76,SNR=62						
ZALV	**Zalesovo Beam**	**41.57**	**313**	P	**P**	**23 26 15.8**	**-0.8**
	0.5nm,0.5s,baz=106,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**43.67**	**302**	P	**P**	**23 26 33.2**	**-0.6**
	0.6nm,0.9s,baz=88,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**50.03**	**32**	P	**P**	**23 27 24.2**	**+1.0**
	0.2nm,0.6s,baz=252,slow=6.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**56.41**	**197**	P	**P**	**23 28 11.3**	**+0.6**
	0.7nm,0.6s,baz=20,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**56.76**	**187**	P	**P**	**23 28 11.2**	**-1.9**
	0.7nm,0.4s,baz=2.8,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**60.48**	**187**	P	**P**	**23 28 38.6**	**-0.4**
	0.2nm,0.3s,baz=10,slow=5.7,SNR=3.2						

ISK ***28*** *23:28:11.7, 38.°83N×43.°66E, h5km, MD2.6*
ISCJB ***28*** *23:28:13.6±0.9, 38.°87N±0.°05×43.°61E±0.°08, h21km±10km, Error ellipse: s-maj=11.5km s-min=6.9km az=26.9*
CSEM ***28*** *23:28:13.2±0.2, 38.°87N×43.°60E, h15km, ML2.7, Error ellipse: s-maj=7.5km s-min=4.7km az=115.0*
DDA ***28*** *23:28:13.7, 38.°91N×43.°48E, h7km, Ml2.7*
ISC 28 23:28:13.7±0.9, 38.°87N±0.°03×43.°62E±0.°04, h16km±6km, n16, σ0.9°67/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**344**	*i* P	**Pg**	**23 28 16.7**	**-0.8**
VMUR				*i* S	**Sg**	23 28 21.2	+1.1
VMUR	**Van-Muradiye**	**0.13**	**344**	P	**Pg**	23 28 16.7	-0.8
VMUR				S	**Sg**	23 28 21.2	+1.1
ERCV	**ERCIS-VAN**	**0.27**	**305**	*e*PG	**Pg**	23 28 19.0	-0.5
ERCV				*e*SG	**Sb**	23 28 24.5	-0.1
ERCV	**ERCIS-VAN**	**0.27**	**305**	*e*Pg	**Pg**	23 28 19.0	-0.5
ERCV				*e*Sg	**Sb**	23 28 24.5	-0.1
VANB	**Van**	**0.33**	**213**	*e*PG	**Pg**	23 28 20.1	-0.4
VANB	**Van**	**0.33**	**213**	*e*Pg	**Pg**	23 28 20.1	-0.4
CLDR	**Caldiran**	**0.36**	**40**	*e*PG	**Pg**	23 28 20.4	-0.8
CLDR				*e*SG	**Sg**	23 28 26.3	-0.1
CLDR	**Caldiran**	**0.36**	**40**	*i* P	**Pb**	23 28 21.7	-0.2
CLDR				*i* S	**Sb**	23 28 28.6	+1.1
CLDR	**Caldiran**	**0.36**	**40**	*e*Pg	**Pg**	23 28 20.4	-0.8
CLDR	**Caldiran**	**0.36**	**40**	P	**Pb**	23 28 21.7	-0.2
CLDR				*e*Sg	**Sg**	23 28 26.3	-0.1
CLDR				S	**Sb**	23 28 28.5	+1.1
TVAN	**Van**	**0.38**	**206**	*i* P	**Pg**	23 28 20.9	-0.6
TVAN				*i* S	**Sb**	23 28 28.0	+0.1
TVAN	**Van**	**0.38**	**206**	P	**Pg**	23 28 20.9	-0.6
TVAN				S	**Sb**	23 28 28.0	+0.1
AGRB	**Hanur-Agry**	**0.86**	**326**	*e*PG	**Pg**	23 28 29.8	-0.5
AGRB	**Hanur-Agry**	**0.86**	**326**	*e*Pg	**Pg**	23 28 29.8	-0.5
CUKT	**Cukurca**	**1.62**	**180**	*e*PN	**Pn**	23 28 41.8	+0.1
CUKT	**Cukurca**	**1.62**	**180**	*e*Pn	**Pn**	23 28 41.8	+0.1

CSEM ***28*** *23:43:59.9, 37.°34N×22.°02E, h12km, ML0.8/3*
ATH 28 23:43:59.9, 37.°34N×22.°02E, h12km±4km, ML0.8/3, Error ellipse: s-maj=4.3km s-min=1.0km az=206.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.18**	**206**	P	Pg	23 44 03.9	+0.1
ITM				S	Sg	23 44 06.8	+0.1
ITM				AML	AML	23 44 06.8	
	comp=N,41μm,0.2s						
ITM				AML	AML	23 44 06.9	
	comp=E,49μm,0.2s						
ITM	**Ithomi**	**0.18**	**206**	P	Pg	23 44 03.9	0.0
ITM				S	Sg	23 44 06.8	+0.2
VLX	**Vlachokerasia**	**0.28**	**84**	P	Pg	23 44 06.3	+0.5
VLX	**Vlachokerasia**	**0.28**	**84**	P	Pg	23 44 06.3	+0.5
AMT	**Artemida-Makis**	**0.32**	**307**	P	Pg	23 44 05.8	-0.5
AMT				S	Sg	23 44 11.2	+0.6
AMT				AML	AML	23 44 12.0	
	comp=N,44μm,0.2s						
AMT				AML	AML	23 44 12.1	
	comp=E,40μm,0.3s						
AMT	**Artemida-Makis**	**0.32**	**307**	P	Pg	23 44 05.8	-0.5
AMT				S	Sg	23 44 11.2	+0.6
PYL	**PYLOS**	**0.50**	**207**	P	Pg	23 44 09.6	0.0
PYL	**PYLOS**	**0.50**	**207**	P	Pg	23 44 09.6	-0.1
KLV	**Kalavryta, Ach**	**0.71**	**8**	P	Pg	23 44 12.9	-0.8
KLV	**Kalavryta, Ach**	**0.71**	**8**	P	Pg	23 44 12.9	-0.8

ISCJB ***28*** *23:45:52.9±0.4, 42.°96N±0.°05×138.°59E±0.°05, h300km, mb3.5/8, Error ellipse: s-maj=7.1km s-min=5.4km az=4.3*
JMA ***28*** *23:45:53.4±0.3, 43.°07N×138.°16E, h257km±3km, M3.2*
IDC ***28*** *23:45:53.1±1.0, 43.°14N×138.°01E, h245km±13km, mb3.4/8, mb1 3.4/11, mb1mx3.2/52, mbtmp3.9/11, Error ellipse: s-maj=28.0km s-min=11.7km az=164.0*
ISC 28 23:45:53.3±0.9, 42.°94N±0.°06×138.°57E±0.°07, h300km, n31, σ1.9°61/38, mb3.5/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.08**	**142**	P	**Pn**	**23 46 31.7**	**-2.4**
JOSM				*e*S	**S**	23 47 01.8	-4.8
JSH	**Shimam**	**1.12**	**105**	P	**Pn**	23 46 32.2	-2.0
JSK	**Shakotan**	**1.45**	**73**	P	**Pn**	23 46 34.1	-2.0
JKB	**Kayabe**	**2.10**	**119**	P	**Pn**	23 46 40.6	-0.3
JEW	**Eniwo**	**2.12**	**92**	P	**Pn**	23 46 40.9	-0.1
JOT	**Ohata**	**2.41**	**129**	P	**Pn**	23 46 43.2	-0.3
JHR	**Hokuryu**	**2.44**	**70**	P	**Pn**	23 46 43.7	+0.1
JFR	**Furan**	**2.96**	**84**	P	**Pn**	23 46 49.1	+0.5
ASAJ	**Asahikawa**	**3.15**	**67**	P	**Pn**	23 46 51.1	+0.6
	7.6nm,0.3s,baz=246,slow=9.2,SNR=16						
ASAJ				S	**S**	23 47 35.4	-0.8
	1.5nm,0.3s,baz=87,slow=28,SNR=9.1						
JNBK	**Urakawa-nobuka**	**3.15**	**101**	P	**Pn**	23 46 50.9	+0.4
JNBK				*e*S	**S**	23 47 37.4	+1.1
JKK2	**Kamakawa 2**	**3.18**	**72**	P	**Pn**	23 46 51.5	+0.7
JKK2				*e*S	**S**	23 47 36.4	-0.4
JWK2	**Keihoku**	**3.37**	**44**	P	**Pn**	23 46 53.2	+0.5
JANG	**Nango**	**3.38**	**138**	P	**Pn**	23 46 54.0	+1.1
JANG				*e*S	**S**	23 47 38.7	-1.9
JCH	**Churui**	**3.54**	**94**	P	**Pn**	23 46 54.4	-0.1
JCH				*e*S	**S**	23 47 40.6	-2.9
JAR	**Ashorobuto**	**3.82**	**83**	P	**Pn**	23 46 58.3	+0.8
JAR				*e*S	**S**	23 47 48.2	-0.7
JTKR	**Abashiri--Toko**	**4.02**	**73**	P	**Pn**	23 47 00.8	+1.2
JOM	**Ohasama**	**4.02**	**148**	P	**Pn**	23 47 01.2	+1.4
JYK	**Kaneyama**	**4.24**	**161**	P	**Pn**	23 47 03.8	+1.6
JMK	**Ichinoseki**	**4.46**	**152**	P	**Pn**	23 47 05.4	+0.8
JMK				*e*S	**S**	23 47 59.9	-2.0
JAK	**Akkeshi**	**4.50**	**87**	P	**Pn**	23 47 05.4	+0.5
JAK				*e*S	**S**	23 48 00.4	-2.0
USRK	**Ussuriysk Ar.**	**4.95**	**287**	P	Pn	23 47 04.3	-5.7
	2.4nm,0.3s,baz=96,slow=13,SNR=28						
NEM2	**Nemuro 2**	**5.26**	**83**	P	**Pn**	23 47 14.1	+0.3
NEM2				*e*S	**S**	23 48 15.4	-3.1
MJAR	**Matsushiro Arr**	**6.39**	**183**	P	**Pn**	23 47 29.1	+1.7
	1.7nm,0.3s,baz=359,slow=11,SNR=14						
SONM	**Songino Array**	**23.02**	**293**	P	**P**	23 50 31.6	-0.9
	0.9nm,0.5s,baz=80,slow=8.6,SNR=7.2						
ZALV	**Zalesovo Beam**	**36.47**	**307**	P	**P**	23 52 30.3	+0.3
	1.3nm,0.5s,baz=92,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**39.35**	**296**	P	**P**	23 52 53.6	-0.5
	0.6nm,0.6s,baz=84,slow=9.6,SNR=7.8						
KURBB	**Kurchatov Arra**	**40.81**	**302**	P	**P**	23 53 06.9	+1.0
	1.6nm,0.5s,baz=78,slow=8.8,SNR=7.2						
BVAR	**Borovoye Array**	**45.11**	**308**	P	**P**	23 53 41.9	+1.8
	0.9nm,0.3s,baz=66,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**45.80**	**35**	P	P	23 53 50.8	+5.5
	0.6nm,0.6s,baz=272,slow=5.0,SNR=10						
AAK	**Ala-Archa**	**45.98**	**293**	P	**P**	23 53 48.8	+1.7
	1.0nm,0.3s,baz=42,slow=1.0,SNR=4.1						
INK	**Inuvik**	**50.20**	**29**	P	P	23 54 24.1	+5.5
	2.0nm,0.4s,baz=303,slow=7.4,SNR=26						

IDC ***28*** *23:46:00.0±0.5, 14.°52S×75.°93W, h0km, mb5.0/25, mb1 5.1/27, mb1mx5.0/33, mbtmp5.0/27, ML4.4/2, MS5.0/25, Ms1 5.0/25, ms1mx4.9/31, Error ellipse: s-maj=18.2km s-min=10.1km az=67.0*
NEIC ***28*** *23:46:01.7±0.1, 14.°51S×75.°84W, h10km, mb5.5/263, MS5.0/133, ML5.8(ARE), Error ellipse: s-maj=4.3km s-min=2.5km az=61.0*
NEIC Felt [IV] at Ica. Also felt at Ayacucho, Lima and San Luis.
GCMT ***28*** *23:46:01.7±0.3, 14.°53S×76.°09W, h22km±1km, MW5.6/93, Moment Tensor Solution. s50,c64; s93,c131; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.88±.10; $M_{\theta\theta}$-0.09±.05; $M_{\phi\phi}$-1.79±.07; $M_{r\theta}$-0.04±.09; $M_{\theta\phi}$0.49±.03; $M_{r\phi}$-1.99±.14; Best double couple: M_o2.75200×10^{17} NP1:ϕ_s176.00000°, δ68.00000°, λ99.00000°. NP2: ϕ_s334.00000°, δ23.00000°, λ69.00000°. Principal axes: T 2.7710, Plg66.0000°, Azm101.0000°; N -0.0380, Plg8.0000°, Azm353.0000°; P -2.7340, Plg23.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***28*** *23:46:02.4±0.1, 14.°43S±0.°03×75.°91W±0.°03, h29km, mb5.4/324, MS5.0/170 Error ellipse: s-maj=4.7km s-min=2.9km az=144.9*
MOS ***28*** *23:46:03.1±0.7, 14.°43S×75.°78W, h33km, mb5.7/74, MS5.0/24, Error ellipse: s-maj=17.3km s-min=5.9km az=111.2*
BJI ***28*** *23:46:04.8, 14.°50S×75.°80W, h40km, mB5.4/25, Ms5.4/28, Ms7 5.4/27*
ISC 28 23:46:04.4±0.3, 14.°61S±0.°04×75.°93W±0.°06, h29km, n1141, σ1.9°36/1062, mb5.5/318, MS5.0/169, 15C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.75**	**341**	Pn	**Pn**	**23 46 45.4**	**-1.3**
	59nm,0.3s,baz=170,slow=13,SNR=48						
NNA				Sn	**Sn**	23 47 19.5	+0.4
	958nm,0.3s,baz=146,slow=11,SNR=9.0						
NNA				Lg	Lg	23 47 25.4	
	4μm,0.3s,baz=29,slow=23,SNR=14						
NNA	**Nana**	**2.75**	**341**	*ce*P	**Pn**	**23 46 46.4**	**-0.3**
NNA				pmax	pmax		
	comp=Z,2μm,0.7s						
NNA	**Nana**	**2.75**	**341**	*e*Pn	**Pn**	**23 46 48.2**	**+1.5**
LPAZ	**La Paz**	**7.71**	**104**	Pn	**Pn**	**23 47 58.5**	**+3.2**
	comp=Z,57nm,0.3s,baz=286,slow=10,SNR=1168						
LPAZ				LR	LR	23 51 18.1	
	comp=Z,14μm,20.0s,baz=288,slow=41						
LPAZ	**La Paz**	**7.71**	**104**	*e*P	**Pn**	**23 47 59.1**	**+3.8**
LPAZ	**La Paz**	**7.71**	**104**	*e*Pn	**Pn**	**23 47 59.1**	**+3.8**
ATAH	**Atahualpa**	**7.81**	**342**	Pn	**Pn**	**23 47 58.5**	**+1.9**
	comp=Z,4.1nm,0.3s,baz=159,slow=14,SNR=13						
ATAH				Sn	**Sn**	23 49 28.1	+3.7
	comp=Z,19nm,0.3s,baz=315,slow=11,SNR=1.7						
ATAH				LR	LR	23 50 59.5	
	comp=Z,8μm,18.1s,baz=188,slow=39						
PB11	**IPOC Station P**	**7.89**	**131**

PLCA	Paso Flores	26.45	171	eP	P	23 51 39.3	+0.3	
	comp=Z,79nm,1.4s							
BDFB	Brasilia	26.96	96	P	P	23 51 43.3	-0.7	
	comp=Z,22nm,0.8s,baz=54,slow=11,SNR=25							
BDFB				Lg	Lg	00 00 27.2		
	comp=Z,7.1nm,1.0s,baz=267,slow=18,SNR=1.9							
BDFB	Brasilia	26.96	96	eP	P	23 51 43.9	0.0	
BDFB				pmax	pmax			
	comp=Z,60nm,0.8s							
BDFB	Brasilia	26.96	96	eP	P	23 51 43.9	0.0	
	comp=Z,60nm,0.8s							
PCRV	Puerto La Cruz	27.05	25	P	P	23 51 44.4	-0.2	
	comp=Z,22nm,0.8s,baz=243,slow=2.5,SNR=8.1							
PCRV				LR	LR	00 03 15.1		
	comp=Z,6μm,19.8s,baz=200,slow=38							
SPB	Sao Paulo	28.33	113	eP	P	23 51 55.7	-0.3	
	comp=Z,192nm,1.3s							
MGAN	Managua	28.48	338	eP	P	23 51 58.2	+0.9	
	comp=Z,0.2nm,0.7s							
TGUH	Tegucigalpa,Un	30.61	338	eP	P	23 52 17.4	+1.2	
	comp=Z,125nm,1.4s							
SVB	Belmont	31.28	28	eP	P	23 52 20.9	-1.2	
	comp=Z,136nm,1.2s							
BBGH	Gun Hill	31.99	31	eP	P	23 52 26.1	-2.2	
	comp=Z,601nm,1.4s							
BBGH				LR	LR			
	comp=Z,4μm,20.0s							
FDF	Fort de France	32.62	27	eP	P	23 52 31.1	-2.8	
FDF				pmax	pmax			
	comp=Z,141nm,1.2s							
FDF				MLR	MLR			
	comp=Z,2μm,21.0s							
FDF	Fort de France	32.62	27	eP	P	23 52 31.1	-2.8	
	comp=Z,141nm,1.2s							
FDF				LR	LR			
	comp=Z,2μm,21.0s							
CHRN	Cochrane	32.66	176	eP	P	23 52 33.4	-0.5	
	comp=Z,19nm,1.0s							
MTDJ	Mount Denham	32.67	357	eP	P	23 52 34.5	+0.2	
	comp=Z,159nm,1.4s							
MTDJ				LR	LR			
	comp=Z,2μm,19.0s							
SDD	Santo Domingo	33.39	10	eP	P	23 52 40.0	-0.5	
	comp=Z,422nm,1.2s							
SDDR	Presa de Saban	33.69	8	eP	P	23 52 42.4	-0.9	
	comp=Z,34nm,1.1s							
SDDR				LR	LR			
	comp=Z,3μm,21.0s							
MPR	Mayaguez	33.75	15	eP	P	23 52 42.0	-1.6	
	comp=Z,138nm,1.3s							
CELP	Cerrillos	33.76	16	eP	P	23 52 42.5	-1.3	
IDE	Isla Desecheo	33.83	15	eP	P	23 52 43.1	-1.3	
SJG	San Juan	33.91	17	eP	P	23 52 43.9	-1.2	
SJG				pmax	pmax			
	comp=Z,70nm,1.3s							
SJG				MLR	MLR			
	comp=Z,2μm,19.0s							
SJG	San Juan	33.91	17	eP	P	23 52 43.9	-1.2	
	comp=Z,70nm,1.3s							
SJG				LR	LR			
	comp=Z,2μm,19.0s							
CDVI	St. Croix	33.99	19	eP	P	23 52 44.6	-1.1	
	comp=Z,69nm,0.9s							
HUMP	Col San Antoni	34.03	17	eP	P	23 52 45.5	-0.6	
	comp=Z,26nm,0.8s							
MTP	Monte Pirata	34.07	18	eP	P	23 52 45.2	-1.2	
	comp=Z,76nm,1.3s							
CBYP	Canovanas	34.15	17	eP	P	23 52 45.1	-2.1	
	comp=Z,49nm,1.0s							
SKI	Saint Kitts	34.31	23	eP	P	23 52 47.3	-1.3	
SKI				pmax	pmax			
	comp=Z,252nm,0.9s							
SKI	Saint Kitts	34.31	23	eP	P	23 52 47.3	-1.3	
	comp=Z,252nm,0.9s							
GTBY	Guantanamo Bay	34.33	1	eP	P	23 52 48.4	-0.3	
	comp=Z,90nm,1.4s							
GTBY				LR	LR			
	comp=Z,1μm,19.0s							
SEUS	St. Eustatius	34.36	22	eP	P	23 52 46.7	-2.3	
	comp=Z,140nm,0.8s							
SABA	Saba	34.39	22	eP	P	23 52 48.3	-0.9	
	comp=Z,91nm,0.8s							
STVI	Saint Thomas	34.49	19	eP	P	23 52 45.3	-4.9	
	comp=Z,34nm,0.9s							
CCIG	Comitan	34.62	332	eP	P	23 52 50.7	-0.8	
	comp=Z,43nm,1.4s							
TBVI	Tortola	34.66	19	eP	P	23 52 51.0	-0.6	
SMRT	St. Maarten	34.84	22	eP	P	23 52 51.4	-1.7	
	comp=Z,183nm,1.4s							
ANWB	Willy Bob	34.98	24	eP	P	23 52 52.6	-1.7	
	comp=Z,691nm,1.6s							
ANWB				LR	LR			
	comp=Z,3μm,19.0s							
ABVI	Anegada Island	35.05	19	eP	P	23 52 53.8	-1.0	
GRTK	Grand Turk	36.20	8	PFAKE		23 53 20.0	+15	
GRTK				LR	LR			
	comp=Z,3μm,20.0s							
GO09	Cerro Castillo	36.68	176	eP	P	23 53 07.8	-0.8	
	comp=Z,202nm,1.8s							
TEIG	Tepich	36.69	340	eP	P	23 53 09.1	+0.1	
	comp=Z,53nm,1.3s							
TUIG	Tuzandepetl	37.21	330	eP	P	23 53 12.6	-0.8	
	comp=Z,173nm,1.3s							
TLIG	Tlapa	38.99	324	eP	P	23 53 30.0	+1.4	
	comp=Z,39nm,1.4s							
EFI	East Falkland	39.66	163	ceP	P	23 53 35.1	+1.4	
EFI				pmax	pmax			
	comp=Z,103nm,2.5s							
EFI	East Falkland	39.66	163	eP	P	23 53 34.5	+0.9	
	comp=Z,124nm,1.4s							
EFI				LR	LR			
	comp=Z,3μm,19.0s							
RCBR	Riachuelo	40.29	82	eP	P	23 53 39.6	+0.1	
	comp=Z,145nm,1.4s							
RCBR				LR	LR			
	comp=Z,4μm,21.0s							
USHA	Ushuaia	40.56	173	P	P	23 53 42.8	+1.7	
	comp=Z,43nm,0.8s,baz=328,slow=15,SNR=2.3							
ZAIG	Zacatecas	45.39	324	eP	P	23 54 23.1	+2.2	
	comp=Z,66nm,1.6s							
LNIG	Linares	45.49	329	eP	P	23 54 20.0	-1.3	
	comp=Z,38nm,1.3s							
035Z	Hargill	46.15	332	P	P	23 54 27.1	+0.6	
	baz=150							
035A	Encino	46.58	332	P	P	23 54 30.0	+0.2	
	baz=150							
936A	North Padre Is	46.65	334	P	P	23 54 30.8	+0.4	
	baz=151							
BRAL	Brewton	46.75	347	eP	P	23 54 30.5	-0.6	
	comp=Z,100nm,0.4s							
BRAL				LR	LR			
	comp=Z,808nm,21.0s							
034A	Hebbronville	46.95	332	P	P	23 54 33.4	+0.6	
	baz=149							
KVTX	Kingsville	47.01	333	eP	P	23 54 32.9	-0.3	
	comp=Z,151nm,1.0s							
KVTX				LR	LR			
	comp=Z,1μm,20.0s							
347A	Saraland	47.32	345	P	P	23 54 34.6	-1.0	
	baz=163							
934A	Benavides	47.34	332	P	P	23 54 35.8	0.0	
	baz=150							
RGRS	Roger Stewart	47.42	355	eP	P	23 54 35.0	-1.4	
	comp=Z,384nm,0.9s							
737A	Port Lavaca	47.46	335	P	P	23 54 35.9	-0.9	
	baz=153							
346A	Big Creek Wild	47.55	344	P	P	23 54 36.9	-0.5	
	baz=162							
443A	Delano Plantat	47.62	341	P	P	23 54 38.6	+0.7	
	baz=159							
345A	Thompson Farm,	47.62	344	P	P	23 54 37.7	-0.3	
	baz=161							
NHSC	New Hope	47.62	355	eP	P	23 54 37.8	-0.1	
	comp=Z,422nm,1.7s							
NHSC				LR	LR			
	comp=Z,995nm,19.0s							
835A	Beeville	47.62	334	P	P	23 54 37.4	-0.6	
	baz=151							
835A	Beeville	47.62	334	eP	P	23 54 37.0	-1.1	
	comp=Z,140nm,1.4s							
933A	Laredo	47.69	332	P	P	23 54 38.7	+0.1	
	baz=149,SNR=6.6							
248A	Dixon Mills	47.80	346	P	P	23 54 39.3	0.0	
	baz=164							
736A	Circle Diamond	47.89	335	P	P	23 54 41.2	+1.1	
	baz=152							
736A	Circle Diamond	47.89	335	eP	P	23 54 40.1	0.0	
	comp=Z,238nm,1.6s							
BBSR	BB Station	47.94	13	eP	P	23 54 38.9	-1.5	
	comp=Z,68nm,1.3s							
BBSR				LR	LR			
	comp=Z,1μm,20.0s							
344A	Westbrook Farm	47.95	343	P	P	23 54 40.2	-0.3	
	baz=160							
247A	Quitman	47.96	345	P	P	23 54 39.6	-1.0	
	baz=163							
637A	Eagle Lake	48.02	336	P	P	23 54 40.8	-0.2	
	baz=153							
441A	DeRidder	48.06	340	P	P	23 54 41.7	+0.4	
	baz=157							
735A	Kenedy	48.11	334	P	P	23 54 42.4	+0.7	
	baz=151							
735A	Kenedy	48.11	334	eP	P	23 54 42.5	+0.7	
	comp=Z,187nm,1.8s							
245A	Little AP, Sta	48.27	344	P	P	23 54 42.3	-0.7	
	baz=162							
HKT	Hockley	48.28	337	eP	P	23 54 43.6	+0.6	
HKT				pmax	pmax			
	comp=Z,107nm,1.6s							
HKT	Hockley	48.28	337	eP	P	23 54 43.6	+0.6	
	comp=Z,107nm,1.6s							
GOGA	Godfrey	48.29	352	eP	P	23 54 41.8	-1.3	
GOGA				pmax	pmax			
	comp=Z,87nm,1.5s							
GOGA				MLR	MLR			
	comp=Z,1μm,20.0s							
GOGA	Godfrey	48.29	352	eP	P	23 54 41.8	-1.3	
	comp=Z,87nm,1.5s							
GOGA				LR	LR			
	comp=Z,1μm,20.0s							
440A	Kirbyville	48.31	339	P	P	23 54 41.1	-2.3	
	baz=156							
636A	Smothers Creek	48.35	335	P	P	23 54 43.8	+0.2	
	baz=152,SNR=5.8							
636A	Smothers Creek	48.35	335	eP	P	23 54 44.5	+0.9	
	comp=Z,382nm,1.9s							
833A	Chaparral WMA,	48.35	332	P	P	23 54 43.4	-0.3	
	baz=149,SNR=6.0							
342A	Flagon Creek P	48.36	341	P	P	23 54 43.5	-0.1	
	baz=158							
538A	Harpers Horsep	48.39	337	P	P	23 54 44.0	0.0	
	baz=154							
147A	Livingston	48.48	346	P	P	23 54 43.3	-1.2	
	baz=164							
244A	Avery, Jackson	48.49	343	P	P	23 54 44.2	-0.5	
	baz=161							
LRAL	Lakeview Retre	48.54	348	eP	P	23 54 43.8	-1.3	
	comp=Z,94nm,1.4s							
243A	Waterproof	48.57	342	P	P	23 54 44.9	-0.4	
	baz=160							
537A	Green Hill Far	48.58	336	P	P	23 54 45.6	+0.2	
	baz=153							
341A	Kurthwood	48.59	340	P	P	23 54 45.1	-0.3	
	baz=158							
VBMS	Vicksburg	48.61	343	P	P	23 54 45.3	-0.2	
	baz=161							
VBMS	Vicksburg	48.61	343	eP	P	23 54 44.8	-0.8	
	comp=Z,241nm,1.9s							
146A	Union	48.63	345	P	P	23 54 44.9	-0.9	
	baz=163							
439A	Center Grove,	48.64	338	P	P	23 54 45.4	-0.5	
	baz=155							
145A	Houston Renfro	48.82	344	P	P	23 54 46.7	-0.4	
	baz=162							
438A	Sam Houston St	48.86	338	P	P	23 54 47.8	+0.2	
	baz=154							
536A	Bastrop	48.87	335	P	P	23 54 47.6	0.0	
	baz=152							
536A	Bastrop	48.87	335	eP	P	23 54 48.6	+0.9	
	comp=Z,231nm,1.6s							
JSC	Jenkinsville	48.88	354	eP	P	23 54 46.8	-0.9	
JSC				pmax	pmax			
	comp=Z,65nm,1.4s							
JSC	Jenkinsville	48.88	354	eP	P	23 54 46.8	-0.9	
	comp=Z,65nm,1.4s							
340A	Bronson	48.91	340	P	P	23 54 47.7	-0.1	
	baz=157							
Z47A	Carrollton	48.93	346	P	P	23 54 46.8	-1.2	
	baz=164							
242A	Grayson	48.94	342	P	P	23 54 47.7	-0.4	
	baz=159							
HODGE	Hodges	48.94	353	eP	P	23 54 47.7	-0.4	
	comp=Z,106nm,1.9s							
144A	Alexander Plac	48.98	344	P	P	23 54 47.8	-0.6	
	baz=161							
Z48A	Northport	48.99	347	P	P	23 54 47.0	-1.5	
	baz=165,SNR=7.8							
339A	Huntington	49.06	339	P	P	23 54 48.7	-0.3	
	baz=156							
Z46A	Louisville	49.13	346	P	P	23 54 48.9	-0.6	
	baz=163							
241A	Mo Tay, Goldon	49.14	341	P	P	23 54 49.8	+0.1	
	baz=158							
437A	Phantom Ranch,	49.18	337	P	P	23 54 49.6	-0.4	
	baz=154							
143A	Socs Landing,	49.32	343	P	P	23 54 50.4	-0.6	
	baz=160							
142A	Monroe	49.33	342	P	P	23 54 50.5	-0.6	
	baz=159							
338A	Crockett	49.35	338	P	P	23 54 51.2	-0.1	
	baz=155							
436A	Wall Ranch, Ga	49.38	336	P	P	23 54 51.4	-0.1	
	baz=153							
240A	Hunter Patters	49.43	340	P	P	23 54 51.8	-0.1	
	baz=157							
NATX	Nacogdoches	49.48	339	P	P	23 54 52.1	-0.1	
	baz=156							
NATX	Nacogdoches	49.48	339	eP	P	23 54 53.5	+1.2	
	comp=Z,67nm,1.1s							
NATX				LR	LR			
	comp=Z,1μm,20.0s							
Z45A	Winona	49.49	345	P	P	23 54 51.4	-0.8	
	baz=162							
337A	Centerville	49.52	337	P	P	23 54 52.2	-0.4	
	baz=154							
Y47A	UCPARC, Winfie	49.56	347	P	P	23 54 51.2	-1.6	
	baz=165,SNR=8.8							
Z44A	Pea Ridge, Bel	49.59	344	P	P	23 54 52.4	-0.6	
	baz=161							
CNNC	Cliffs of the	49.61	358	PFAKE		23 55 00.0	+6.8	
CNNC				LR	LR			
	comp=Z,870nm,20.0s							
239A	Gary	49.65	339	P	P	23 54 53.5	0.0	
	baz=156							
141A	Papa Simpson,	49.68	341	P	P	23 54 53.8	0.0	
	baz=158							
435B	Jarrell	49.71	335	P	P	23 54 53.6	-0.4	
	baz=152							
KMSC	Kings Mountain	49.74	354	P	P	23 54 53.3	-0.9	
	baz=173							
KMSC	Kings Mountain	49.74	354	eP	P	23 54 52.8	-1.4	
	comp=Z,127nm,1.6s							
Z43A	Armstrong Fami	49.75	343	P	P	23 54 53.0	-1.3	
	baz=160							
Y46A	Houston	49.77	346	P	P	23 54 53.0	-1.4	
	baz=164							
BG3	Lake Jocassee	49.77	352	eP	P	23 54 53.6	-0.8	
	comp=Z,51nm,1.4s							
238A	Jacksonville	49.87	339	P	P	23 54 53.8	-1.4	
	baz=155							
Y45A	Yeager Farm, C	49.92	345	P	P	23 54 54.6	-0.9	
	baz=163							
140A	Cam and Jess,	49.92	340	P	P	23 54 54.4	-1.2	
	baz=157							
336A	Riesel	49.95	336	P	P	23 54 55.0	-0.8	
	baz=153							
Z42A	Norrel Spur, H	50.01	342	P	P	23 54 55.7	-0.5	
	baz=160							
HOPE	Hope Point	50.10	151	eP	P	23 54 58.8	+2.1	
	comp=Z,96nm,1.0s							
HOPE				LR	LR			
	comp=Z,2μm,22.0s							
237A	Washetta, Mont	50.11	338	P	P	23 54 56.6	-0.5	
	baz=155							
Y44A	Strider, Charl	50.18	345	P	P	23 54 56.5	-1.0	
	baz=162							
139A	Bunkhouse Ranc	50.23	340	P	P	23 54 57.3	-0.6	
	baz=156							
Z41A	Richland Creek	50.25	342	P	P	23 54 57.8	-0.3	
	baz=158							
Y43A	Makayla and Ka	50.32	344	P	P	23 54 58.0	-0.6	
	baz=161							
236A	Katherine and	50.38	337	P	P	23 54 58.5	-0.6	
	baz=154							
JCT	Junction City	50.38	333	P	P	23 54 58.3	-0.9	
	baz=149							
JCT	Junction City	50.38	333	eP	P	23 54 59.6	+0.4	
JCT				pmax	pmax			
	comp=Z,27nm,1.2s							
JCT				MLR	MLR			
	comp=Z,491nm,20.0s							
JCT	Junction City	50.38	333	eP	P	23 54 59.6	+0.4	
	comp=Z,27nm,1.2s							
JCT				LR	LR			
	comp=Z,491nm,20.0s							
HPIG		50.39	325	eP	P	23 54 58.5	-1.1	
	comp=Z,104nm,1.5s							
Z40A	Long Farm, Mag	50.44	341	P	P	23 54 59.5	0.0	
	baz=158,SNR=5.1							
CPCT	Cooper Cave	50.45	351	eP	P	23 54 58.1	-1.4	
	comp=Z,93nm,1.8s							
138A	Matatall Enter	50.45	339	P	P	23 54 59.4	-0.2	
	baz=156							
SWET	Sewanee	50.45	349	eP	P	23 54 57.9	-1.7	
	comp=Z,71nm,1.4s							
Y42A	Garnett, Star	50.49	343	P	P	23 54 59.2	-0.7	
	baz=160							
OXF	Oxford	50.50	346	eP	P	23 54 58.7	-1.3	
OXF				pmax	pmax			
	comp=Z,148nm,1.6s							
OXF	Oxford	50.50	346	eP	P	23 54 58.7	-1.3	
	comp=Z,148nm,1.6s							
SLBS	Sierra La Lagu	50.54	318	eP	P	23 55 00.5	-0.1	
	comp=Z,113nm,1.8s							
TKL	Tuckaleechee C	50.54	352	LR	LR	00 17 12.4		
	comp=Z,951nm,18.9s,baz=170,slow=37							
TKL	Tuckaleechee C	50.54	352	eP	P	23 54 58.7	-1.6	
TKL				pmax	pmax			
	comp=Z,105nm,1.5s							
TKL	Tuckaleechee C	50.54	352	eP	P	23 54 58.7	-1.6	
	comp=Z,105nm,1.5s							
CCAR	Cane Creek	50.56	343	eP	P	23 54 59.7	-0.7	
	comp=Z,258nm,1.7s							
137A	Heron Place, G	50.63	338	P	P	23 55 00.7	-0.2	
	baz=155							
PLAL	Pickwick Lake	50.65	347	eP	P	23 54 59.0	-2.1	
	comp=Z,37nm,1.2s							
X44A	Crenshaw	50.67	345	P	P	23 54 59.8	-1.4	
	baz=162							
Z39A	Irene McRaven,	50.67	340	P	P	23 55 00.6	-0.7	
	baz=157							
WHTX	Lake Whitney,	50.72	336	P	P	23 55 01.0	-0.7	
	baz=153,SNR=6.0							
WHTX	Lake Whitney,	50.72	336	eP	P	23 55 01.5	-0.2	
	comp=Z,184nm,1.6s							
WLAR	White Oak Lake	50.74	341	eP	P	23 55 02.2	+0.4	
	comp=Z,158nm,0.9s							
PMSA	Palmer Station	50.77	173	eP	P	23 55 02.6	+1.0	
	comp=Z,51nm,1.1s							
Y41A	Eaglette Beard	50.77	342	P	P	23 55 01.3	-0.8	
	baz=159							
136A	Ennis	50.80	337	P	P	23 55 01.3	-1.0	
	baz=154							
X43A	Marvell	50.88	344	P	P	23 55 02.2	-0.6	
	baz=161							
Z38A	Mt. Pleasant	50.95	339	P	P	23 55 02.6	-0.7	
	baz=156							
W45A	Hickory Valley	51.07	346	P	P	23 55 02.4	-1.8	
	baz=163							
LPIG	La Paz	51.07	318	LR	LR	00 12 20.7		
	comp=Z,446nm,18.7s,baz=116,slow=31							
Y40A	Okolona	51.10	341	P	P	23 55 03.6	-0.9	
	baz=158							
X42A	Stuttgart	51.12	343	P	P	23 55 03.8	-0.8	
	baz=160							
Z37A	Pogue Cattle C	51.12	339	P	P	23 55 03.6	-1.1	
	baz=155							
W44A	Shelby Farms P	51.20	345	P	P	23 55 04.3	-0.9	
	baz=163							
MET	Memphis--Engin	51.21	345	eP	P	23 55 04.3	-1.0	
	comp=Z,132nm,0.6s							
TX31	Lajitas Ar. Si	51.24	329	eP	P	23 55 05.0	-0.9	
TXAR	Lajitas Array	51.24	329	P	P	23 55 05.6	-0.2	
	comp=Z,3.8nm,0.6s,baz=150,slow=8.6,SNR=55							
TXAR				LR	LR	00 15 25.7		
	comp=Z,1μm,18.3s,baz=0.0,slow=34							
Y39A	Lockesburg	51.29	341	P	P	23 55 04.8	-1.1	
	baz=157							
X41A	Kaden, Bauxite	51.32	342	P	P	23 55 05.2	-0.9	
	baz=159							
W43A	Forest City	51.38	344	P	P	23 55 05.2	-1.3	
	baz=162							
X40A	Basin Creek Fa	51.40	342	P	P	23 55 05.7	-1.1	
	baz=159							
Z36A	Blue Ridge	51.48	338	P	P	23 55 06.7	-0.6	
	baz=154							
Y38A	Idabel	51.48	340	P	P	23 55 06.8	-0.6	
	baz=156							
UALR	University of	51.53	343	eP	P	23 55 06.9	-0.7	
	comp=Z,32nm,0.9s							
V45A	Humboldt	51.57	346	P	P	23 55 05.8	-2.2	
	baz=164							
MIAR	Mount Ida	51.68	341	P	P	23 55 08.0	-0.8	
	baz=158,SNR=8.4							
MIAR	Mount Ida	51.68	341	eP	P	23 55 08.1	-0.8	
MIAR				pmax	pmax			
	comp=Z,148nm,1.8s							
MIAR				MLR	MLR			
	comp=Z,966nm,20.0s							
MIAR	Mount Ida	51.68	341	eP	P	23 55 08.1	-0.8	
	comp=Z,148nm,1.8s							
MIAR				LR	LR			
	comp=Z,966nm,20.0s							
WVT	Waverly	51.70	348	eP	P	23 55 06.6	-2.4	
WVT				pmax	pmax			
	comp=Z,77nm,1.5s							
WVT	Waverly	51.70	348	eP	P	23 55 06.6	-2.4	
	comp=Z,77nm,1.5s							
PTCN	Pitcairn Islan	51.71	250	eP	P	23 55 08.2	-1.1	
	comp=Z,890nm,1.5s							
BLA	Blacksburg	51.72	355	eP	P	23 55 08.1	-1.0	
BLA				pmax	pmax			
	comp=Z,174nm,2.0s							
BLA				MLR	MLR			
	comp=Z,1μm,22.0s							
BLA	Blacksburg	51.72	355	eP	P	23 55 08.1	-1.0	
	comp=Z,174nm,2.0s							
BLA				LR	LR			
	comp=Z,1μm,22.0s							
VWCC	Virginia Weste	51.72	356	eP	P	23 55 08.1	-1.0	
W42A	Bald Knob	51.77	344	P	P	23 55 08.2	-1.2	
	baz=161							
HBAR	Harrisburg	51.81	345	eP	P	23 55 08.1	-1.6	
	comp=Z,320nm,2.0s							
X39A	Fountain Ranch	51.82	341	P	P	23 55 09.5	-0.4	
	baz=157							
W41B	Gary Mavity, V	51.88	343	P	P	23 55 09.4	-0.9	
	baz=160,SNR=5.8							
V44A	Blytheville	51.88	346	P	P	23 55 09.1	-1.2	
	baz=163							
X301	Greenbrier Sit	51.98	343	eP	P	23 55 10.4	-0.7	
	comp=Z,186nm,2.0s							
Y36A	Durant	51.99	338	P	P	23 55 10.6	-0.6	
	baz=155							
WHAR	Wooly Hollow	51.99	343	eP	P	23 55 09.6	-1.6	
	comp=Z,210nm,2.0s							
V43A	Jonesboro	52.00	345	P	P	23 55 09.8	-1.4	
	baz=162							
U45A	Rockin P Farm,	52.11	347	P	P	23 55 10.1	-1.9	
	baz=164							
W40A	Ferguson Farm,	52.13	342	P	P	23 55 11.3	-0.8	
	baz=159							
GLAT	Glass	52.15	346	eP	P	23 55 11.1	-1.2	
	comp=Z,246nm,1.9s							
ABTX	Abilene, Hawle	52.16	335	P	P	23 55 11.9	-0.7	
	baz=150,SNR=17							
ABTX	Abilene, Hawle	52.16	335	eP	P	23 55 11.8	-0.7	
	comp=Z,130nm,1.3s							
IP05	Hopewell Churc	52.19	358	eP	P	23 55 12.2	-0.4	
	comp=Z,58nm,1.4s							
X38A	Whitesboro	52.20	340	P	P	23 55 13.0	+0.3	
	baz=157,SNR=7.2							
V42A	Cord	52.23	344	P	P	23 55 11.2	-1.7	
	baz=161							
U44B	Burton Farm, H	52.24	346	P	P	23 55 11.0	-1.9	
	baz=163							
Y35A	Marietta	52.27	338	P	P	23 55 13.1	-0.2	
	baz=154,SNR=11							
IP07	Quail	52.29	358	eP	P	23 55 12.9	-0.4	
	comp=Z,198nm,1.8s							
IP06	Yanceyville	52.30	358	eP	P	23

IP01	Cuckoo	52.32	358	eP	P	23 55 13.2	-0.3
	comp=Z,121nm,1.6s						
W39A	Magazine	52.35	342	P	P	23 55 13.5	-0.3
	baz=158,SNR=7.8						
IP03	Louisa	52.39	358	eP	P	23 55 12.4	-1.6
	comp=Z,164nm,1.7s						
V41A	Mountainview	52.42	343	P	P	23 55 12.9	-1.4
	baz=160,SNR=6.2						
CVRD	Centerville Ro	52.43	358	eP	P	23 55 13.7	-0.6
	comp=Z,124nm,1.6s						
IP04	Greensprings	52.46	358	eP	P	23 55 13.8	-0.8
	comp=Z,64nm,1.4s						
W38A	Poteau	52.46	341	P	P	23 55 13.5	-1.2
	baz=157						
U44A	Portageville	52.47	346	P	P	23 55 13.2	-1.5
	baz=163						
U43A	Rector	52.52	345	P	P	23 55 13.5	-1.5
	baz=162						
CBN	Corbin Frederi	52.55	359	eP	P	23 55 14.6	-0.7
	comp=Z,37nm,1.1s						
CBN				LR	LR		
	comp=Z,872nm,19.0s						
X36A	Centrahoma	52.62	339	P	P	23 55 14.3	-1.5
	baz=155						
V40A	Witts Springs	52.63	343	P	P	23 55 14.5	-1.5
	baz=159,SNR=9.0						
PARMO	Parma	52.64	346	eP	P	23 55 15.2	-0.7
	comp=Z,53nm,0.8s						
X35A	Drake	52.69	338	P	P	23 55 14.8	-1.5
	baz=154,SNR=7.9						
U42A	Revenden	52.71	344	P	P	23 55 14.5	-1.9
	baz=161,SNR=7.5						
W37B	Quinton	52.82	340	P	P	23 55 15.5	-1.8
	baz=156,SNR=11						
U41A	Viola	52.88	344	P	P	23 55 15.8	-1.9
	baz=160						
V39A	Pettigrew	52.90	342	P	P	23 55 16.7	-1.3
	baz=158,SNR=8.2						
PBMO	Poplar Bluff	52.91	345	eP	P	23 55 16.4	-1.5
	comp=Z,35nm,1.2s						
T44A	Benton	53.01	346	P	P	23 55 16.6	-2.0
	baz=163						
W36A	Wetumka	53.09	339	P	P	23 55 17.7	-1.6
	baz=155,SNR=5.3						
U40A	Yellville	53.15	343	P	P	23 55 18.4	-1.3
	baz=159,SNR=13						
V38A	Canehill	53.16	341	P	P	23 55 18.2	-1.6
	baz=157,SNR=8.9						
T43A	Greenville	53.17	346	P	P	23 55 17.7	-2.1
	baz=162,SNR=9.9						
W35A	Tecumseh	53.33	339	P	P	23 55 19.6	-1.5
	baz=154,SNR=6.7						
S45A	Carrier Mills	53.35	347	P	P	23 55 19.1	-2.1
	baz=165						
U39A	Green Forest	53.36	342	P	P	23 55 19.9	-1.3
	baz=159,SNR=8.4						
HHAR	Hobbs	53.40	342	eP	P	23 55 20.8	-0.8
	comp=Z,32nm,1.1s						
V37A	Hulbert	53.41	341	P	P	23 55 20.5	-1.2
	baz=157						
USIN	University of	53.45	348	eP	P	23 55 20.1	-1.7
	comp=Z,154nm,1.5s						
WCI	Wyandotte Cave	53.45	350	eP	P	23 55 19.8	-2.1
WCI				pmax	pmax		
	comp=Z,68nm,1.1s						
WCI	Wyandotte Cave	53.45	350	eP	P	23 55 19.8	-2.1
	comp=Z,68nm,1.1s						
T41A	Mountain View	53.50	344	P	P	23 55 20.6	-1.7
	baz=161,SNR=7.7						
S44A	Carbondale	53.51	347	P	P	23 55 20.4	-2.0
	baz=164						
S43A	Fulton Ridge,	53.58	346	P	P	23 55 20.9	-2.0
	baz=163						
V36A	Jenks	53.58	340	P	P	23 55 21.4	-1.5
	baz=156						
TUL1	Leonard	53.65	340	P	P	23 55 22.3	-1.0
	baz=156,SNR=7.0						
TUL1	Leonard	53.65	340	eP	P	23 55 22.4	-1.0
	comp=Z,54nm,0.9s						
WMOK	Wichita Mounta	53.66	337	P	P	23 55 22.0	-1.6
	baz=152,SNR=8.1						
WMOK	Wichita Mounta	53.66	337	eP	P	23 55 22.3	-1.3
WMOK				pmax	pmax		
	comp=Z,52nm,1.6s						
WMOK				MLR	MLR		
	comp=Z,739nm,20.0s						
WMOK	Wichita Mounta	53.66	337	eP	P	23 55 22.3	-1.3
	comp=Z,52nm,1.6s						
WMOK				LR	LR		
	comp=Z,739nm,20.0s						
U38A	Gravette	53.68	342	P	P	23 55 22.0	-1.7
	baz=158						
SDMD	Soldier's Deli	53.74	359	eP	P	23 55 22.3	-1.8
	comp=Z,20nm,1.4s						
T40A	Mansfield	53.80	344	P	P	23 55 23.1	-1.4
	baz=160						
V35A	Meyer Ranch, C	53.87	339	P	P	23 55 23.4	-1.6
	baz=155						
U37A	Salina	53.88	341	P	P	23 55 24.1	-1.0
	baz=157,SNR=6.3						
T39A	Clever	53.92	343	P	P	23 55 23.8	-1.6
	baz=159,SNR=6.3						
S42A	Caledonia	53.94	345	P	P	23 55 24.1	-1.4
	baz=162						
R44A	Waltonville	54.01	347	P	P	23 55 24.1	-1.8
	baz=164						
S41A	Jillco Farms,	54.01	344	P	P	23 55 24.2	-1.8
	baz=161,SNR=13						
MNTX	Cornudas Mount	54.02	329	P	P	23 55 24.8	-1.5
	baz=144,SNR=22						
MNTX	Cornudas Mount	54.02	329	eP	P	23 55 25.0	-1.2
	comp=Z,59nm,1.5s						
MNTX				LR	LR		
	comp=Z,1μm,19.0s						
FVM	French Village	54.06	346	eP	P	23 55 25.0	-1.3
FVM				pmax	pmax		
	comp=Z,60nm,1.4s						
FVM	French Village	54.06	346	eP	P	23 55 25.0	-1.3
	comp=Z,60nm,1.4s						
U36A	Oologah	54.07	340	P	P	23 55 25.4	-1.0
	baz=156						
MCWV	Mont Chateau	54.11	356	eP	P	23 55 25.0	-1.7
	comp=Z,38nm,1.7s						
T38A	Diamond	54.20	342	P	P	23 55 26.2	-1.2
	baz=158,SNR=8.6						
S40A	Lebanon	54.22	344	P	P	23 55 25.8	-1.7
	baz=160,SNR=8.0						
R43A	Red Bud	54.22	346	P	P	23 55 26.1	-1.4
	baz=163						
PSUB	Penn St. - Bra	54.26	0	eP	P	23 55 28.1	+0.4
	comp=Z,28nm,1.3s						
OLIL	Olney	54.27	348	eP	P	23 55 26.2	-1.7
	comp=Z,178nm,1.6s						
CCM	Cathedral Cave	54.32	345	eP	P	23 55 26.8	-1.5
CCM				pmax	pmax		
	comp=Z,20nm,1.0s						
CCM	Cathedral Cave	54.32	345	eP	P	23 55 26.8	-1.5
	comp=Z,20nm,1.0s						
MVL	Millersville	54.33	360	eP	P	23 55 27.0	-1.3
	comp=Z,60nm,1.6s						
U35A	Pawnee	54.38	339	P	P	23 55 27.6	-1.1
	baz=155						
R42A	Luebbering	54.43	346	P	P	23 55 27.1	-1.9
	baz=162						
T37A	Cheneyville 18	54.48	341	P	P	23 55 28.1	-1.3
	baz=157,SNR=14						
S39A	Bolivar	54.53	343	P	P	23 55 28.3	-1.5
	baz=159,SNR=10						
R41A	Rosebud	54.59	345	P	P	23 55 28.2	-2.0
	baz=162,SNR=8.2						
Q44A	Meyer Farm, Va	54.62	347	P	P	23 55 28.4	-2.0
	baz=164,SNR=11						
SLM	Saint Louis	54.63	346	eP	P	23 55 29.1	-1.4
SLM				pmax	pmax		
	comp=Z,144nm,1.8s						
SLM	Saint Louis	54.63	346	eP	P	23 55 29.1	-1.4
	comp=Z,144nm,1.8s						
S38A	Stockton	54.64	343	P	P	23 55 29.0	-1.6
	baz=158						
O56A	Blue Knob Stat	54.65	358	P	P	23 55 29.3	-1.4
	baz=177						
MSTX	Muleshoe	54.66	333	P	P	23 55 29.3	-1.7
	baz=148,SNR=5.8						
MSTX	Muleshoe	54.66	333	eP	P	23 55 30.1	-0.8
	comp=Z,102nm,1.8s						
P47A	Martinsville	54.67	350	P	P	23 55 28.5	-2.3
	baz=168,SNR=8.6						
T36A	Boggs Farm, Ca	54.72	340	P	P	23 55 29.7	-1.5
	baz=156						
T35A	Sooner Cattle	54.80	340	P	P	23 55 30.8	-0.9
	baz=155,SNR=10						
Q43A	New Douglas	54.80	347	P	P	23 55 30.0	-1.7
	baz=164						
R40A	Maddies Statio	54.81	344	P	P	23 55 30.0	-1.8
	baz=160,SNR=10						
ACSO	Alum Creek Sta	54.95	353	eP	P	23 55 30.8	-2.0
	comp=Z,23nm,0.8s						
ACSO				LR	LR		
	comp=Z,995nm,19.0s						
AMTX	Amarillo	54.96	334	P	P	23 55 31.4	-1.7
	baz=149						
AMTX	Amarillo	54.96	334	eP	P	23 55 31.9	-1.2
	comp=Z,20nm,1.0s						
P46A	Rosedale	54.96	349	P	P	23 55 30.6	-2.2
	baz=167						
Q42A	Golden Eagle	54.97	346	P	P	23 55 31.3	-1.6
	baz=163,SNR=9.3						
SSPA	Standing Stone	54.99	358	eP	P	23 55 32.4	-0.6
	comp=Z,108nm,1.8s						
HSIG		55.01	322	eP	P	23 55 33.1	-0.4
	comp=Z,54nm,1.6s						
BRNJ	Basking Ridge	55.02	1	eP	P	23 55 32.8	-0.5
	comp=Z,42nm,1.3s						
R39A	Chumby, Stover	55.03	344	P	P	23 55 31.8	-1.6
	baz=160						
S37A	Fort Scott	55.04	342	P	P	23 55 32.3	-1.2
	baz=158,SNR=9.6						
P44A	Sand Creek, Wi	55.09	348	P	P	23 55 31.7	-2.0
	baz=165						
T34A	McClaskey Farm	55.12	339	P	P	23 55 33.1	-1.0
	baz=155,SNR=7.3						
CPNY	Central Park	55.15	2	eP	P	23 55 32.9	-1.3
	comp=Z,25nm,1.0s						
R38A	Fenwick Farm,	55.16	343	P	P	23 55 32.7	-1.6
	baz=159,SNR=8.8						
Q41A	Truxton	55.17	345	P	P	23 55 32.7	-1.7
	baz=162						
U32A	Winter Ranch,	55.20	337	P	P	23 55 33.6	-1.1
	baz=152						
S36A	Lake Cedric, C	55.24	341	P	P	23 55 33.6	-1.3
	baz=157,SNR=9.4						
N59A	State Game Lan	55.24	0	P	P	23 55 33.0	-1.9
	baz=180						
PAL	Palisades	55.36	2	eP	P	23 55 35.1	-0.6
PAL				pmax	pmax		
	comp=Z,99nm,1.8s						
PAL	Palisades	55.36	2	eP	P	23 55 35.1	-0.6
	comp=Z,99nm,1.8s						
O47A	Sheridan	55.39	350	P	P	23 55 34.2	-1.8
	baz=168						
N54A	Moraine State	55.42	356	P	P	23 55 34.7	-1.5
	baz=175						
Q40A	Laux Farm, Aux	55.42	345	P	P	23 55 34.5	-1.7
	baz=161						
ODNJ	Ogdensburg	55.42	1	eP	P	23 55 36.1	0.0
	comp=Z,59nm,1.9s						
S35A	Otter Creek Ra	55.43	340	P	P	23 55 35.1	-1.2
	baz=156,SNR=8.2						
P43A	Skaggs, Pawnee	55.44	347	P	P	23 55 34.3	-2.0
	baz=164						
R37A	Teagarden Farm	55.55	342	P	P	23 55 35.7	-1.4
	baz=158,SNR=6.9						
P42A	Winchester	55.56	347	P	P	23 55 35.2	-2.0
	baz=163						
O45A	Potomac	55.67	349	P	P	23 55 35.3	-2.6
	baz=166						
SFIN	Lafayette	55.68	350	P	P	23 55 35.5	-2.5
	baz=167						
SFIN	Lafayette	55.68	350	eP	P	23 55 35.5	-2.5
	comp=Z,40nm,1.2s						
Q39A	Willow Grove F	55.70	344	P	P	23 55 36.9	-1.3
	baz=160,SNR=8.7						
YLE	Yale	55.71	3	eP	P	23 55 37.7	-0.4
	comp=Z,232nm,1.8s						
S34A	Willow Spring	55.71	340	P	P	23 55 36.9	-1.5
	baz=155						
O44A	Mansfield	55.72	348	P	P	23 55 36.4	-1.9
	baz=165						
R36A	Gordon, Harris	55.76	341	P	P	23 55 37.0	-1.6
	baz=157						
Q38A	Cooks Store, C	55.80	343	P	P	23 55 37.4	-1.6
	baz=159,SNR=18						
P41A	Barry, Barry	55.82	346	P	P	23 55 37.0	-2.0
	baz=162						
319A	Douglas	55.82	325	eP	P	23 55 39.6	+0.2
121A	Cookes Peak, D	55.91	327	P	P	23 55 38.5	-1.6
	baz=142,SNR=15						
121A	Cookes Peak, D	55.91	327	eP	P	23 55 40.0	-0.1
	comp=Z,65nm,1.4s						
P40A	Paris	55.92	345	P	P	23 55 37.9	-1.8
	baz=161,SNR=5.6						
M54A	Oil Creek Stat	55.94	357	P	P	23 55 38.2	-1.7
	baz=176						
Q37A	Longview Farm,	55.96	343	P	P	23 55 38.5	-1.6
	baz=158						
R35A	Emporia Munici	55.98	341	P	P	23 55 38.7	-1.5
	baz=156						
O43A	Sugar Creek Fa	56.01	348	P	P	23 55 38.0	-2.4
	baz=164						
P39B	Salisbury	56.06	344	P	P	23 55 39.0	-1.7
	baz=160,SNR=12						
O42A	Bath	56.09	347	P	P	23 55 38.6	-2.3
	baz=163						
ALLY	Alegheny Colle	56.11	356	eP	P	23 55 39.8	-1.3
	comp=Z,38nm,1.0s						
N46A	Monticello	56.12	350	P	P	23 55 38.4	-2.8
	baz=167						
O41A	Passleys Farm,	56.19	346	P	P	23 55 39.4	-2.3
	baz=162,SNR=5.4						
RKT	Rikitea	56.20	252	eS	S	00 03 40.3	+10
RKT				eLR	LR	00 12 16.6	
	comp=Z,2μm,27.5s						
RKT	Rikitea	56.20	252	eT	T	00 56 03.8	
	comp=Z,2μm,25.8s						
N45A	Kentland	56.21	349	P	P	23 55 39.1	-2.7
	baz=166						
HDIL	Hopedale	56.27	348	P	P	23 55 39.9	-2.3
	baz=164						
HDIL	Hopedale	56.27	348	PFAKE		23 55 50.0	+7.8
HDIL				LR	LR		
	comp=Z,1μm,22.0s						
N44A	Piper City	56.27	349	P	P	23 55 39.8	-2.5
	baz=166						
R34A	Isabella, Hill	56.30	340	P	P	23 55 41.2	-1.3
	baz=155,SNR=9.2						
Q36A	Arnold C. Orve	56.33	342	P	P	23 55 40.9	-1.8
	baz=157						
BRYW	Bryant College	56.39	4	eP	P	23 55 43.2	+0.1
	comp=Z,350nm,1.9s						
P38A	Dawn	56.40	344	P	P	23 55 41.7	-1.4
	baz=159,SNR=5.7						
Q35A	Mercer Eighty,	56.42	341	P	P	23 55 41.8	-1.5
	baz=156						
O40A	La Belle	56.44	345	P	P	23 55 41.9	-1.5
	baz=161,SNR=6.4						
ERPA	Erie	56.57	356	eP	P	23 55 43.5	-0.8
	comp=Z,29nm,0.9s						
P37A	Lathrop	56.59	343	P	P	23 55 42.8	-1.8
	baz=158						
BNM	Barren Site	56.61	330	eP	P	23 55 45.3	+0.1
N42A	Yates City	56.69	347	P	P	23 55 43.1	-2.1
	baz=164						
O39A	Kirksville	56.73	345	P	P	23 55 44.1	-1.4
	baz=161						
LPM	Los Pinos Moun	56.74	330	eP	P	23 55 44.5	-1.5
N41A	Harden Midland	56.75	346	P	P	23 55 43.4	-2.2
	baz=163						
Q34A	Chapman	56.76	340	P	P	23 55 44.0	-1.9
	baz=155						
KSU1	Kansas State U	56.82	341	P	P	23 55 44.6	-1.6
	baz=156						
KSU1	Kansas State U	56.82	341	eP	P	23 55 45.0	-1.2
	comp=Z,81nm,1.8s						
KSU1				LR	LR		
	comp=Z,805nm,21.0s						
O38A	Galt	56.84	344	P	P	23 55 44.8	-1.6
	baz=160						
P36A	Good Intent, A	56.87	342	P	P	23 55 44.5	-2.1
	baz=158						
P35A	Duane Minner,	57.02	342	P	P	23 55 45.9	-1.7
	baz=157						
LAZ	Ladron	57.07	329	eP	P	23 55 48.3	0.0
O37A	Wolven Farm, M	57.07	343	P	P	23 55 46.2	-1.8
	baz=159						
AAM	Ann Arbor	57.07	353	PFAKE		23 56 00.0	+12
AAM				LR	LR		
	comp=Z,2μm,20.0s						
MMNY	Mt. Morris Dam	57.09	358	eP	P	23 55 46.0	-2.0
N40A	Mertquake, Sal	57.09	346	P	P	23 55 45.8	-2.2
	baz=162						
TRY	Troy	57.09	2	eP	P	23 55 47.8	-0.3
	comp=Z,270nm,1.8s						
ANMO	Albuquerque	57.17	330	P	P	23 55 47.8	-1.2
	baz=144						
ANMO	Albuquerque	57.17	330	ceP	P	23 55 48.6	-0.4
ANMO				pmax	pmax		
	comp=Z,28nm,1.5s						
ANMO	Albuquerque	57.17	330	eP	P	23 55 48.7	-0.4
	comp=Z,68nm,1.6s						
ANMO				LR	LR		
	comp=Z,862nm,20.0s						
O36A	Bolckow	57.27	343	P	P	23 55 47.4	-2.0
	baz=158						
P34A	Walnut Farm, R	57.29	341	P	P	23 55 48.2	-1.3
	baz=156						
N39A	Derby Farms, D	57.30	345	P	P	23 55 47.8	-1.8
	baz=161						
BUF	Buffalo	57.31	357	eP	P	23 55 48.4	-1.2
M41A	Milan	57.32	347	P	P	23 55 47.3	-2.4
	baz=163						
TUC	Tucson	57.36	325	P	P	23 55 49.3	-0.9
	baz=139						
TUC	Tucson	57.36	325	eP	P	23 55 50.1	-0.2
TUC				pmax	pmax		
	comp=Z,50nm,1.4s						
TUC				MLR	MLR		
	comp=Z,2μm,22.0s						
TUC	Tucson	57.36	325	eP	P	23 55 50.1	-0.2
	comp=Z,50nm,1.4s						
TUC				LR	LR		
	comp=Z,2μm,22.0s						
N38A	Joes South For	57.41	344	P	P	23 55 48.8	-1.5
	baz=160						
M40A	Post Highland	57.57	346	P	P	23 55 49.3	-2.1
	baz=162						
L44A	Lake County Fo	57.57	349	P	P	23 55 49.5	-2.0
	baz=166						
CBKS	Cedar Bluff	57.62	338	P	P	23 55 50.8	-1.1
	baz=152						
CBKS	Cedar Bluff	57.62	338	eP	P	23 55 51.3	-0.7
CBKS				pmax	pmax		
	comp=Z,59nm,1.2s						
CBKS	Cedar Bluff	57.62	338	eP	P	23 55 51.3	-0.7
	comp=Z,59nm,1.2s						
N37A	Lee Faris, Mou	57.64	344	P	P	23 55 49.9	-2.1
	baz=159						
O35A	Humboldt	57.67	342	P	P	23 55 50.0	-2.2
	baz=157						
L43A	Garden Prairie	57.73	349	P	P	23 55 50.2	-2.4
	baz=165						
ACCN	Adirondack Com	57.75	2	eP	P	23 55 53.4	+0.8
	comp=Z,101nm,1.4s						
M39A	Webster	57.79	346	P	P	23 55 50.9	-2.1
	baz=161						
O34A	Beatrice	57.83	341	P	P	23 55 51.6	-1.7
	baz=156						
N36A	Muff Farm, Cla	57.90	343	P	P	23 55 51.9	-1.9
	baz=158						
FFD	Franklin Falls	57.93	4	eP	P	23 55 53.8	-0.1
	comp=Z,224nm,1.8s						
L41A	Preston	57.98	347	P	P	23 55 52.1	-2.2
	baz=163						
M38A	Pleasantville	57.99	345	P	P	23 55 52.5	-1.9
	baz=160						
O33A	Hebron	58.02	341	P	P	23 55 53.1	-1.5
	baz=155						
T25A	Trinidad	58.04	333	P	P	23 55 54.6	-0.6
	baz=147,SNR=7.1						
T25A	Trinidad	58.04	333	eP	P	23 55 54.5	-0.6
	comp=Z,110nm,1.9s						
L40A	Anamosa	58.13	347	P	P	23 55 52.7	-2.6
	baz=162						
N35A	Tabor	58.14	342	P	P	23 55 53.9	-1.6
	baz=157						
MHTCO	State Highway	58.16	333	eP	P	23 55 55.5	-0.5
	comp=Z,37nm,1.3s						
K43A	Burlington	58.16	349	P	P	23 55 53.3	-2.3
	baz=166						
M37A	Trindle Farm,	58.20	344	P	P	23 55 54.6	-1.3
	baz=159,SNR=7.4						
214A	Organ Pipe Nat	58.25	323	P	P	23 55 56.5	+0.1
	baz=137,SNR=11						
214A	Organ Pipe Nat	58.25	323	eP	P	23 55 56.4	-0.1
	comp=Z,268nm,1.4s						
NCB	Newcomb	58.32	1	eP	P	23 55 56.9	+0.2
	comp=Z,0.9nm,1.4s						
L39A	Vinton	58.36	346	P	P	23 55 55.7	-1.3
	baz=162						
N34A	Lincoln	58.37	342	P	P	23 55 55.3	-1.8
	baz=156						
MDV	Middlebury	58.38	2	eP	P	23 55 56.8	-0.3
K42A	Prairie Point,	58.42	348	P	P	23 55 54.9	-2.5
	baz=165						
M36A	Felix, Anita	58.45	343	P	P	23 55 55.9	-1.8
	baz=158						
K41A	Shullsburg	58.45	348	P	P	23 55 55.7	-1.9
	baz=164						
SCIA	State Center	58.45	345	eP	P	23 55 57.2	-0.4
	comp=Z,107nm,1.8s						
SCIA				LR	LR		
	comp=Z,735nm,19.0s						
N33A	J Bar K, Exete	58.58	341	P	P	23 55 56.7	-1.8
	baz=155						
X18A	Snowflake	58.60	327	eP	P	23 55 59.5	+0.4
	comp=Z,41nm,1.5s						
L38A	Oak Wood Farm,	58.61	345	P	P	23 55 56.7	-2.0
	baz=161						
M35A	Neola	58.71	343	P	P	23 55 57.6	-1.9
	baz=157						
K40A	Colesburg	58.72	347	P	P	23 55 57.0	-2.4
	baz=163						
JFWS	Jewell Farm	58.73	348	eP	P	23 55 59.6	0.0
JFWS				pmax	pmax		
	comp=Z,37nm,1.3s						
JFWS				MLR	MLR		
	comp=Z,754nm,20.0s						
JFWS	Jewell Farm	58.73	348	eP	P	23 55 59.6	0.0
	comp=Z,37nm,1.3s						
JFWS				LR	LR		
	comp=Z,754nm,20.0s						
L37A	Phoenix Point,	58.80	345	P	P	23 55 58.0	-2.0
	baz=160						
J43A	Natural Harves	58.83	349	P	P	23 55 58.2	-2.1
	baz=166						
K39A	Oelwein	58.89	346	P	P	23 55 59.2	-1.5
	baz=162						
KSCO	Kaye Shedlock'	58.89	336	P	P	23 55 59.7	-1.3
	baz=149						
KSCO	Kaye Shedlock'	58.89	336	eP	P	23 56 00.0	-0.9
	comp=Z,204nm,1.9s						
J42A	Columbus	58.90	349	P	P	23 55 60.0	-0.7
	baz=165						
W18A	Petrified Fore	58.94	328	P	P	23 56 01.4	-0.1
	baz=141,SNR=5.9						
W18A	Petrified Fore	58.94	328	eP	P	23 56 01.9	+0.4
	comp=Z,100nm,1.4s						
LONY	Lake Ozonia	58.96	1	eP	P	23 56 00.6	-0.5
	comp=Z,86nm,1.7s						
LONY				LR	LR		
	comp=Z,1μm,21.0s						
M34A	Aspy Farms, Fr	59.01	342	P	P	23 55 59.9	-1.6
	baz=156						
L36A	Harm Buss Farm	59.01	344	P	P	23 55 59.7	-1.9
	baz=159						
SDCO	Great Sand Dun	59.02	333	P	P	23 56 01.6	-0.5
	baz=146,SNR=26						
SDCO	Great Sand Dun	59.02	333	eP	P	23 56 01.4	-0.6
	comp=Z,38nm,1.1s						
SDCO				LR	LR		
	comp=Z,650nm,19.0s						
J41A	Loganville	59.12	348	P	P	23 56 00.6	-1.7
	baz=164						
SADO	Sadowa	59.17	357	LR	LR	00 25 13.5	
	comp=Z,568nm,18.3s,baz=189,slow=40						
SADO	Sadowa	59.17	357	eP	P	23 56 00.7	-1.8
	comp=Z,30nm,1.4s						
WVL	Waterville	59.17	5	eP	P	23 56 02.4	-0.1
	comp=Z,121nm,1.5s						
FRNY	Flat Rock	59.20	2	eP	P	23 56 02.6	-0.2
	comp=Z,85nm,1.4s						
M33A	Taylor Creek F	59.26	342	P	P	23 56 01.3	-1.9
	baz=156						
L35A	Bielow Farm, R	59.27	343	P	P	23 56 01.3	-2.0

	baz=158					
J40A	Soldiers Grove	59.30	347	P	P	23 56 01.1 -2.4
	baz=163					
X16A	Lo Mia Camp, P	59.31	326	eP	P	23 56 04.2 +0.2
	comp=Z,66nm,1.5s					
K37A	Belmond	59.37	345	P	P	23 56 02.1 -1.9
	baz=160					
L34A	Svendsen Farm,	59.37	342	P	P	23 56 01.9 -2.1
	baz=157					
PLVO	Plevna	59.37	359	eP	P	23 56 03.9 -0.1
	comp=Z,82nm,1.7s					
113A	Mohawk Valley,	59.39	323	eP	P	23 56 04.5 +0.2
BGNE	Belgrade	59.41	341	P	P	23 56 02.6 -1.7
	baz=155					
BGNE	Belgrade	59.41	341	eP	P	23 56 03.4 -0.9
	comp=Z,129nm,1.2s					
I42A	Draeger Farm,	59.41	349	P	P	23 56 02.5 -1.8
	baz=165					
J39A	Decorah	59.45	347	P	P	23 56 03.1 -1.4
	baz=162					
K36A	Gilmore City	59.46	344	P	P	23 56 02.9 -1.7
	baz=159					
SACV	Santiago Islan	59.50	63	eP	P	23 56 05.1 -0.4
	comp=Z,69nm,1.2s					
SACV				LR	LR	
	comp=Z,296nm,20.0s					
S22A	4UR Ranch, Cre	59.62	332	P	P	23 56 05.6 -0.6
	baz=145,SNR=12					
S22A	4UR Ranch, Cre	59.62	332	eP	P	23 56 05.6 -0.6
	comp=Z,15nm,1.0s					
GLMI	Grayling	59.67	353	eP	P	23 56 05.0 -1.0
	comp=Z,40nm,1.0s					
GLMI				LR	LR	
	comp=Z,1µm,20.0s					
K35A	Storm Lake	59.74	344	P	P	23 56 04.9 -1.7
	baz=158					
I40A	Norwalk	59.74	348	P	P	23 56 04.3 -2.3
	baz=163					
I41A	Arkdale	59.76	348	P	P	23 56 03.5 -3.1
	baz=164					
H43A	Windswept, Lux	59.78	350	P	P	23 56 04.7 -2.0
	baz=167					
L33A	Hoskins	59.82	342	P	P	23 56 05.0 -2.1
	baz=156					
J37A	Redenius Farm,	59.86	345	P	P	23 56 05.3 -2.0
	baz=160					
Q24A	Divide	59.89	334	P	P	23 56 07.1 -1.0
	baz=147,SNR=6.6					
Q24A	Divide	59.89	334	eP	P	23 56 07.8 -0.3
	comp=Z,38nm,1.3s					
PKME	Peaks-Kenny Pk	59.89	5	eP	P	23 56 07.3 -0.2
	comp=Z,112nm,1.7s					
PKME				LR	LR	
	comp=Z,2µm,19.0s					
L32A	Elgin	59.90	341	P	P	23 56 06.2 -1.5
	baz=155					
I39A	Houston	59.90	347	P	P	23 56 06.0 -1.7
	baz=162					
H42A	Shiocton	59.94	350	P	P	23 56 06.0 -1.9
	baz=166					
K34A	Le Mars	59.95	343	P	P	23 56 06.2 -1.9
	baz=157					
MVCO	Mesa Verde	59.97	330	P	P	23 56 07.9 -0.7
	baz=143,SNR=6.5					
MVCO	Mesa Verde	59.97	330	eP	P	23 56 08.2 -0.4
	comp=Z,46nm,1.4s					
MVCO				LR	LR	
	comp=Z,703nm,20.0s					
GGN	Saint George	60.01	7	eP	P	23 56 08.1 -0.2
	comp=Z,154nm,1.9s					
J36A	Seneca 1, Swea	60.07	345	P	P	23 56 07.0 -1.8
	baz=159					
WUAZ	Wupatki	60.10	327	P	P	23 56 09.6 +0.2
	baz=140,SNR=16					
WUAZ	Wupatki	60.10	327	eP	P	23 56 09.8 +0.3
	comp=Z,97nm,1.6s					
WUAZ				LR	LR	
	comp=Z,2µm,19.0s					
GLA	Glamis	60.22	323	P	P	23 56 08.0 -2.1
	baz=136					
H41A	Junction City	60.25	349	P	P	23 56 07.9 -2.2
	baz=165					
I38A	Scanlan Farm,	60.26	346	P	P	23 56 08.1 -2.0
	baz=162					
J35A	Milford	60.34	344	P	P	23 56 08.7 -1.9
	baz=158					
OGNE	Ogallala	60.34	337	P	P	23 56 09.5 -1.3
	baz=151					
OGNE	Ogallala	60.34	337	PFAKE		23 56 20.0 +9.2
OGNE				LR	LR	
	comp=Z,810nm,20.0s					
H40A	Chili	60.40	348	P	P	23 56 09.3 -1.8
	baz=164					
J34A	George	60.47	343	P	P	23 56 10.0 -1.5
	baz=158					
I37A	Lemond, Waseca	60.48	346	P	P	23 56 09.8 -1.8
	baz=160					
K32A	Verdigre	60.48	341	P	P	23 56 09.8 -1.9
	baz=155					
G43A	Wallace	60.53	350	P	P	23 56 10.4 -1.5
	baz=167					
Y12C	Blythe	60.54	323	P	P	23 56 12.2 -0.1
	baz=136,SNR=6.5					
Y12C	Blythe	60.54	323	eP	P	23 56 13.0 +0.8
	comp=Z,29nm,1.1s					
TRQ	Mont Tremblant	60.56	1	eP	P	23 56 11.3 -0.9
ASCN	Ascension	60.60	91	PFAKE		23 56 20.0 +6.9
ASCN				LR	LR	
	comp=Z,3µm,21.0s					
F46A	Macinaw City C	60.63	353	P	P	23 56 10.4 -2.1
	baz=170					
F45A	CMU Biological	60.63	352	P	P	23 56 11.9 -0.7
	baz=169					
G42A	Mountain	60.64	350	P	P	23 56 10.9 -1.7
	baz=166					
H39A	Augusta	60.64	347	P	P	23 56 11.1 -1.6
	baz=163					
I36A	Fitzsimmons Fa	60.64	345	P	P	23 56 10.8 -1.9
	baz=160					
K31A	O'Neill	60.70	341	P	P	23 56 12.1 -1.1
	baz=154,SNR=5.9					
IKP	In-Ko-Pah, Jac	60.70	321	P	P	23 56 11.1 -2.3
	baz=134					
SWSC	Sam W. Stewart	60.72	322	P	P	23 56 12.7 -0.8
	baz=135					
PDMCI	Parker Dam,Lak	60.72	324	P	P	23 56 12.6 -0.8
	baz=137					
I35A	Creekview Farm	60.73	344	P	P	23 56 12.1 -1.2
	baz=159					
G41A	Antigo	60.74	349	P	P	23 56 11.5 -1.9
	baz=165					
PV01	Paradox Valley	60.74	331	eP	P	23 56 13.6 -0.3
ISCO	Idaho Springs	60.78	334	P	P	23 56 13.3 -0.8
	baz=147,SNR=13					
ISCO	Idaho Springs	60.78	334	eP	P	23 56 13.4 -0.8
ISCO				pmax	pmax	
	comp=Z,56nm,1.8s					
ISCO				MLR	MLR	
	comp=Z,804nm,20.0s					
ISCO	Idaho Springs	60.78	334	eP	P	23 56 13.4 -0.8
	comp=Z,56nm,1.8s					
ISCO				LR	LR	
	comp=Z,804nm,20.0s					
J33A	Davis	60.78	343	P	P	23 56 11.8 -1.9
	baz=156					
H38A	Maiden Rock	60.85	347	P	P	23 56 12.4 -1.7
	baz=162					
SMCO	Snowmass	60.86	333	eP	P	23 56 14.7 0.0
	comp=Z,62nm,1.6s					
H37A	Dierke Farm, C	60.90	346	P	P	23 56 13.0 -1.5
	baz=161					
PV05	Paradox Valley	60.95	330	eP	P	23 56 14.9 -0.3
G40A	Rib Lake	60.98	349	P	P	23 56 13.8 -1.2
	baz=164					
F43A	Flat Rock, Esc	61.01	351	P	P	23 56 13.8 -1.4
	baz=168					
BC3	Big Chuckawall	61.01	323	P	P	23 56 15.7 +0.1
	baz=135,SNR=11					
F44A	Big Bay de Noc	61.04	352	P	P	23 56 14.7 -0.7
	baz=168					
MONP2	Monument Peak	61.06	321	P	P	23 56 15.5 -0.5
	baz=134					
BAR	Barrett	61.06	321	eP	P	23 56 16.5 +0.6
	comp=Z,59nm,1.7s					
ECSD	EROS Data Cent	61.06	343	P	P	23 56 13.9 -1.7
	baz=157,SNR=12					
ECSD	EROS Data Cent	61.06	343	eP	P	23 56 13.9 -1.7
	comp=Z,58nm,1.3s					
ECSD				LR	LR	
	comp=Z,778nm,19.0s					
F42A	Maple Grove Fa	61.09	350	P	P	23 56 13.4 -2.3
	baz=166					
J32A	Parkston	61.09	342	P	P	23 56 13.5 -2.3
	baz=156					
I34A	Hadley	61.14	344	P	P	23 56 14.7 -1.4
	baz=158					
H36A	Jessenland, He	61.14	345	P	P	23 56 14.4 -1.7
	baz=160					
W13A	Hualapai Mount	61.16	325	eP	P	23 56 17.4 +0.7
	comp=Z,47nm,1.5s					
IRM	Iron Mountain	61.19	323	P	P	23 56 16.8 +0.1
	baz=136,SNR=37					
G39A	Holcombe	61.19	348	P	P	23 56 15.0 -1.4
	baz=163					
G38A	Ridgeland	61.23	347	P	P	23 56 14.7 -2.0
	baz=162,SNR=9.8					
F41A	Three Lakes	61.24	350	P	P	23 56 14.8 -2.0
	baz=165					
E45A	Wooded Hills,	61.25	353	P	P	23 56 15.4 -1.4
	baz=170					
U15A	North Rim	61.28	327	eP	P	23 56 17.9 +0.4
J31A	Geddes	61.29	341	P	P	23 56 15.4 -1.8
	baz=155					
PV09	Paradox Valley	61.30	331	eP	P	23 56 18.5 +0.8
NEE2	Needles Airpor	61.33	324	P	P	23 56 15.6 -1.9
	baz=136					
I33A	Coleman	61.41	343	P	P	23 56 16.4 -1.5
	baz=157					
PQI	Presque Isle	61.41	6	eP	P	23 56 18.2 +0.4
	comp=Z,140nm,1.6s					
109C	Camp Elliot, M	61.47	321	P	P	23 56 16.6 -1.9
	baz=134					
H35A	Sunnyside Ranc	61.48	345	P	P	23 56 16.6 -1.8
	baz=159					
SPMN	Marine on St.	61.49	347	P	P	23 56 16.7 -1.7
	baz=161,SNR=6.9					
SPMN	Marine on St.	61.49	347	eP	P	23 56 16.7 -1.7
	comp=Z,41nm,0.9s					
E43A	Lone Tree Farm	61.52	351	P	P	23 56 17.2 -1.4
	baz=168					
XPFO	Piæon Flat	61.58	322	eP	P	23 56 20.2 +0.8
	comp=Z,40nm,1.2s					
I32A	Karley and Nic	61.58	342	P	P	23 56 17.2 -1.9
	baz=156					
BELC	Belle Mtn. Jos	61.58	323	P	P	23 56 19.3 -0.2
	baz=135,SNR=13					
PFO	Pinyon Flats O	61.58	322	P	P	23 56 19.6 +0.2
	baz=134,SNR=13					
PFO	Pinyon Flats O	61.58	322	eP	P	23 56 20.2 +0.8
PFO				pmax	pmax	
	comp=Z,34nm,1.1s					
PFO				MLR	MLR	
	comp=Z,1µm,20.0s					
PFO	Pinyon Flats O	61.58	322	eP	P	23 56 20.2 +0.8
	comp=Z,34nm,1.1s					
PFO				LR	LR	
	comp=Z,1µm,20.0s					
F40A	Park Falls	61.59	349	P	P	23 56 17.4 -1.8
	baz=164					
E44A	Grand Marais A	61.60	352	P	P	23 56 18.0 -1.2
	baz=169					
H34A	Spellman Lake,	61.70	344	P	P	23 56 18.5 -1.4
	baz=158,SNR=5.5					
E42A	Champion	61.71	351	P	P	23 56 18.1 -1.8
	baz=167					
G36A	St. Michael	61.72	346	P	P	23 56 18.7 -1.3
	baz=160					
F39A	Loretta	61.75	348	P	P	23 56 18.5 -1.7
	baz=163					
LDFC	Landfair	61.83	324	eP	P	23 56 22.2 +1.1
	comp=Z,52nm,1.5s					
N23A	Red Feather La	61.84	335	P	P	23 56 19.6 -1.6
	baz=147					
N23A	Red Feather La	61.84	335	eP	P	23 56 20.4 -0.8
	comp=Z,23nm,1.4s					
G35A	Watkins	61.88	345	P	P	23 56 19.6 -1.5
	baz=160					
I31A	Royce, Wessing	61.90	342	P	P	23 56 19.7 -1.6
	baz=155					
E41A	Kenton	61.91	350	P	P	23 56 19.9 -1.4
	baz=166					
F37A	Hinrichs Farm,	61.92	347	P	P	23 56 20.3 -1.0
	baz=162					
GMRC	Granite Mounta	61.94	323	P	P	23 56 21.9 +0.1
	baz=136,SNR=8.2					
H33A	Prehn Over Nor	61.97	343	P	P	23 56 20.4 -1.3
	baz=157					
PHWY	Pilot Hill	61.98	335	eP	P	23 56 21.9 -0.2
	comp=Z,64nm,1.6s					
F38A	Pierce - Schro	61.98	347	P	P	23 56 20.2 -1.5
	baz=162,SNR=6.3					
KNB	Kanab	62.00	327	eP	P	23 56 22.8 +0.5
KNB				pmax	pmax	
	comp=Z,50nm,1.3s					
KNB	Kanab	62.00	327	eP	P	23 56 22.8 +0.5
	comp=Z,50nm,1.3s					
H32A	Carlson Farm,	62.01	343	P	P	23 56 20.7 -1.2
	baz=156					
MURC	Murrieta	62.01	321	P	P	23 56 20.6 -1.7
	baz=134					
PKCU	Pink Cliffs	62.06	328	eP	P	23 56 23.6 +0.8
	comp=Z,48nm,1.5s					
E40A	Wakefield	62.06	349	P	P	23 56 20.5 -1.7
	baz=165,SNR=8.4					
MMU	Miners Mountai	62.12	329	eP	P	23 56 22.0 -1.1
E39A	Mellen	62.12	349	P	P	23 56 21.3 -1.3
	baz=164					
G34A	Benson	62.19	344	P	P	23 56 21.6 -1.6
	baz=158					
O20A	White River Ci	62.20	332	P	P	23 56 23.1 -0.5
	baz=144,SNR=7.3					
O20A	White River Ci	62.20	332	eP	P	23 56 23.6 0.0
	comp=Z,92nm,1.5s					
LCMT	Little Creek M	62.22	327	eP	P	23 56 24.0 +0.3
	comp=Z,37nm,1.4s					
F36A	Milaca	62.26	346	P	P	23 56 21.8 -1.7
	baz=161,SNR=15					
BBRC	Big Bear Solar	62.31	322	P	P	23 56 25.1 +0.7
	baz=134					
HEC	Hector,Ludlow	62.36	323	P	P	23 56 24.8 +0.2
	baz=135,SNR=5.7					
G33A	Ortonville	62.36	344	P	P	23 56 22.7 -1.6
	baz=157					
SUSD	Miller	62.40	342	P	P	23 56 22.7 -1.9
	baz=155					
SCI2	San Clemente I	62.42	320	P	P	23 56 22.4 -2.6
	baz=132					
D41A	Chassel	62.43	350	P	P	23 56 23.0 -1.7
	baz=166					
SRU	San Rafael Swe	62.45	330	eP	P	23 56 24.9 -0.4
SRU				pmax	pmax	
	comp=Z,56nm,1.5s					
SRU	San Rafael Swe	62.45	330	eP	P	23 56 24.9 -0.4
	comp=Z,56nm,1.5s					
VLDQ	Val d'Or	62.45	359	eP	P	23 56 23.9 -0.8
	comp=Z,40nm,1.4s					
F35A	Swanville	62.50	345	P	P	23 56 23.5 -1.7
	baz=160					
E38A	The Farm, Brul	62.53	348	P	P	23 56 24.0 -1.4
	baz=163					
TUQ	Turquoise Moun	62.55	324	P	P	23 56 25.9 -0.1
	baz=136,SNR=7.3					
SZCU	Shurtz Canyon	62.58	327	eP	P	23 56 26.8 +0.6
	comp=Z,53nm,1.6s					
F34A	Alexandria	62.61	345	P	P	23 56 24.3 -1.7
	baz=159					
Q16A	Castle Valley	62.61	330	eP	P	23 56 26.3 -0.1
	comp=Z,115nm,1.8s					
CIS	Catalina Islan	62.62	320	P	P	23 56 24.8 -1.5
	baz=133					
E37A	Wrenshall	62.67	347	P	P	23 56 26.5 +0.1
	baz=162					
CCUT	Cedar City	62.69	327	eP	P	23 56 27.8 +0.8
	comp=Z,60nm,1.6s					
G32A	Webster	62.71	343	P	P	23 56 24.5 -2.2
	baz=156					
P18A	Preston Nutter	62.72	331	eP	P	23 56 27.4 +0.1
	comp=Z,92nm,1.8s					
BFSC	Mount Baldy Ra	62.73	322	P	P	23 56 27.1 -0.1
	baz=134,SNR=7.3					
MSU	Marysvale	62.80	329	eP	P	23 56 27.8 +0.1
MSU	Marysvale	62.80	329	eP	P	23 56 27.8 +0.1
E36A	McGregor	62.81	347	P	P	23 56 26.0 -1.3
	baz=161,SNR=12					
P17A	Butcher Ranch,	62.84	330	eP	P	23 56 27.7 -0.2
	comp=Z,30nm,1.0s					
G31A	Conde	62.89	342	P	P	23 56 26.2 -1.6
	baz=156					
SHPR	Sheep Range	62.89	325	eP	P	23 56 28.5 +0.3
	comp=Z,54nm,1.5s					
F33A	5 Mile Ranch,	62.92	344	P	P	23 56 26.3 -1.7
	baz=158					
TMUT	Trail Mountain	62.93	330	eP	P	23 56 28.7 +0.1
	comp=Z,46nm,1.7s					
MWC	Mount Wilson	62.96	321	eP	P	23 56 29.5 +0.7
MWC				pmax	pmax	
	comp=Z,79nm,1.5s					
MWC	Mount Wilson	62.96	321	eP	P	23 56 29.5 +0.7
	comp=Z,79nm,1.5s					
GSC	Goldstone, Bar	62.97	323	P	P	23 56 27.3 -1.3
	baz=135,SNR=7.2					
GSC	Goldstone, Bar	62.97	323	eP	P	23 56 29.1 +0.4
GSC				pmax	pmax	
	comp=Z,68nm,1.8s					
GSC	Goldstone, Bar	62.97	323	eP	P	23 56 29.1 +0.4
	comp=Z,68nm,1.8s					
TAOE	Nuku Hiva Isla	62.97	267	eS	S	00 05 12.2 +14
	comp=Z,681nm,28.6s					
TAOE	Nuku Hiva Isla	62.97	267	eLR	LR	00 15 22.0
	comp=Z,4µm,24.4s					
TAOE	Nuku Hiva Isla	62.97	267	eT	T	01 04 26.9
	comp=Z,23nm,0.2s					
RWWY	Rawlins	63.02	334	eP	P	23 56 29.2 0.0
	comp=Z,152nm,1.7s					
SHOC	Shoshone, Teco	63.08	324	P	P	23 56 28.9 -0.4
	baz=135					
E35A	Pequot Lakes	63.12	346	P	P	23 56 27.9 -1.4
	baz=160,SNR=6.3					
DECC	Green Verdugo	63.15	321	P	P	23 56 28.8 -1.0
	baz=133					
F32A	Veblen	63.17	344	P	P	23 56 27.9 -1.8
	baz=157					
D37A	Cotton	63.24	347	P	P	23 56 28.8 -1.3
	baz=162,SNR=5.4					
E34A	Wadena	63.26	345	P	P	23 56 29.0 -1.2
	baz=159,SNR=8.2					
EDW2	Edwards Air Fo	63.37	322	P	P	23 56 30.9 -0.5
	baz=134,SNR=9.2					
D36A	Goodland	63.42	347	P	P	23 56 29.8 -1.4
	baz=161					
C39A	Grand Marais	63.43	349	P	P	23 56 29.5 -1.8
	baz=164					
E33A	Westby DABS, E	63.46	345	P	P	23 56 30.0 -1.6
	baz=158					
F31A	Hecla	63.48	343	P	P	23 56 30.1 -1.6
	baz=156					
BLG	Laguna Peak, P	63.50	321	P	P	23 56 29.8 -2.4
	baz=132					
D35A	Remer	63.53	346	P	P	23 56 30.6 -1.5
	baz=160					
K22A	Casper	63.54	335	P	P	23 56 31.7 -0.7
	baz=147,SNR=7.5					
K22A	Casper	63.54	335	eP	P	23 56 31.8 -0.6
	comp=Z,143nm,1.8s					
C38A	Sawbill Land.	63.54	348	P	P	23 56 30.1 -2.0
	baz=163					
LRMC	Laurel Mtn Rad	63.60	323	P	P	23 56 32.7 -0.2
	baz=134,SNR=5.8					
MPU	Maple Canyon	63.69	330	eP	P	23 56 33.7 +0.2
	comp=Z,51nm,1.5s					
C37A	Embarrass	63.73	348	P	P	23 56 33.0 -0.4
	baz=162,SNR=6.6					
SCZ2	Santa Cruz Isl	63.77	320	P	P	23 56 33.1 -0.8
	baz=132					
D34A	Park Rapids	63.80	345	P	P	23 56 32.8 -1.1
	baz=159					
EYMN	Ely	63.81	348	P	P	23 56 33.4 -0.4
	baz=163					
EYMN	Ely	63.81	348	eP	P	23 56 32.2 -1.6
	comp=Z,50nm,1.4s					
EYMN				LR	LR	
	comp=Z,930nm,21.0s					
TPNV	Topopah Spring	63.81	325	P	P	23 56 34.6 +0.2
	baz=136,SNR=14					
TPNV	Topopah Spring	63.81	325	eP	P	23 56 34.7 +0.4
TPNV				pmax	pmax	
	comp=Z,58nm,1.5s					
TPNV	Topopah Spring	63.81	325	eP	P	23 56 34.7 +0.4
	comp=Z,58nm,1.5s					
FURC	Furnace Creek,	63.82	324	P	P	23 56 34.5 +0.4
	baz=135,SNR=6.5					
E32A	Braaten, Kindr	63.82	344	P	P	23 56 32.8 -1.2
	baz=157					
RSSD	Black Hills	63.83	338	P	P	23 56 33.7 -0.7
	baz=149					
RSSD	Black Hills	63.83	338	eP	P	23 56 33.6 -0.7
RSSD				pmax	pmax	
	comp=Z,74nm,1.7s					
RSSD	Black Hills	63.83	338	eP	P	23 56 33.6 -0.7
	comp=Z,74nm,1.7s					
NLU	North Lily Min	63.86	330	eP	P	23 56 35.0 +0.4
	comp=Z,48nm,1.8s					
MPMC	Manual Prospec	63.89	323	P	P	23 56 34.7 -0.2
	baz=134,SNR=9.5					
C36A	Pine Crest Far	63.90	347	P	P	23 56 33.1 -1.3
	baz=162					
D33A	AnnSam, Waubun	64.01	345	P	P	23 56 35.0 -0.2
	baz=158					
E31A	Nome	64.01	343	P	P	23 56 34.9 -0.4
	baz=156					
ARVC	Arvin	64.04	322	P	P	23 56 35.2 -0.4
	baz=133					
JLU	Jordanelle	64.06	331	eP	P	23 56 35.8 -0.2
	comp=Z,81nm,1.5s					
C35A	Jirik Farms, M	64.09	347	P	P	23 56 34.8 -0.9
	baz=160					
DAC	Darwin (Calif)	64.10	323	eP	P	23 56 35.9 -0.4
DAC				pmax	pmax	
	comp=Z,20nm,1.3s					
DAC	Darwin (Calif)	64.10	323	eP	P	23 56 35.9 -0.4
	comp=Z,20nm,1.3s					
SBC	Santa Barbara	64.12	321	P	P	23 56 35.1 -1.1
	baz=132					
ISA	Isabella, Lake	64.19	322	P	P	23 56 36.3 -0.4
	baz=133					
C34A	RKJ Ranch, Bem	64.26	346	P	P	23 56 35.4 -1.5
	baz=160					
CTU	Camp Tracy	64.27	330	eP	P	23 56 37.4 +0.1
	comp=Z,19nm,1.2s					
D32A	Dogwood Acres,	64.31	344	P	P	23 56 35.9 -1.2
	baz=157					
DUG	Dugway, Tooele	64.41	329	P	P	23 56 38.0 -0.1
	baz=140,SNR=38					
DUG	Dugway, Tooele	64.41	329	eP	P	23 56 38.3 +0.2
DUG				pmax	pmax	
	comp=Z,39nm,0.9s					
DUG				MLR	MLR	
	comp=Z,1µm,20.0s					
DUG	Dugway, Tooele	64.41	329	eP	P	23 56 38.3 +0.2
	comp=Z,39nm,0.9s					
DUG				LR	LR	
	comp=Z,1µm,20.0s					
TCUT	Toone Canyon	64.44	331	eP	P	23 56 38.7 +0.2
	comp=Z,214nm,1.8s					
R11A	Troy Canyon, C	64.46	326	P	P	23 56 38.9 +0.4
	baz=137,SNR=20					
R11A	Troy Canyon, C	64.46	326	eP	P	23 56 39.0 +0.4
	comp=Z,64nm,1.6s					
GRAC	Grapevine Rang	64.48	324	P	P	23 56 38.6 +0.1
	baz=135					
PKM	Mcpherson Peak	64.48	321	P	P	23 56 38.7 0.0
	baz=132,SNR=9.5					
CWC	Cottonwood Cre	64.50	323	P	P	23 56 38.6 -0.3
	baz=134					
C33A	Trail	64.57	345	P	P	23 56 37.5 -1.3
	baz=159					
B35A	Bob, Littlefor	64.66	347	P	P	23 56 38.0 -1.4
	baz=161					
VES	Vestal, Richgr	64.68	322	P	P	23 56 39.5 -0.3
	baz=133					
MCU	Monte Cristo P	64.76	331	eP	P	23 56 40.1 -0.5
C32A	Crookston	64.82	345	P	P	23 56 39.3 -1.1
	baz=158					
SMMC	Simmler	64.87	321	P	P	23 56 40.8 -0.3
	baz=132					
HWUT	Hardware Ranch	64.90	331	eP	P	23 56 40.8 -0.6
	comp=Z,66nm,1.5s					
HWUT				LR	LR	
	comp=Z,1µm,19.0s					
BW06	Boulder Array	64.91	333	P	P	23 56 40.2 -1.3
	baz=144,SNR=10					
BW06	Boulder Array	64.91	333	eP	P	23 56 40.5 -0.9
	comp=Z,51nm,1.7s					
BW06				LR	LR	

comp=Z,867nm,19.0s
PD31 Pinedale Array 64.91 333 *e*P **P 23 56 40.5 -1.0**
PDAR Pinedale Array 64.91 333 P **P 23 56 40.6 -0.9**
comp=Z,4.6nm,1.0s,baz=142,slow=7.4,SNR=20
PDAR LR LR 00 24 46.6
comp=Z,756nm,21.7s,baz=148,slow=36
B34A Aery, Baudette 64.98 346 P **P 23 56 40.2 -1.3**
baz=160,SNR=5.8
B33A Robert and Kas 65.00 346 P **P 23 56 40.3 -1.3**
baz=159
TIN Tinemaha, Big 65.01 324 P **P 23 56 41.5 -0.6**
baz=134
BGU Big Grassy Mou 65.07 330 *e*P **P 23 56 42.1 -0.4**
comp=Z,49nm,1.5s
SPUT South Promonto 65.08 330 *e*P **P 23 56 42.5 0.0**
comp=Z,82nm,1.7s
RCTC Rector, Farmer 65.09 322 P **P 23 56 41.8 -0.7**
baz=133
AGMN Agassiz Nation 65.09 345 P **P 23 56 40.7 -1.5**
baz=159,SNR=9.3
AGMN Agassiz Nation 65.09 345 *e*P **P 23 56 41.0 -1.2**
comp=Z,39nm,1.1s
AGMN LR LR
comp=Z,602nm,20.0s
C31A Landman Farms, 65.11 344 P **P 23 56 41.0 -1.4**
baz=157
PAGB Antelope Grade 65.30 321 *e*P **P 23 56 44.9 +0.9**
comp=Z,54nm,1.4s
B32A Ashes, Strandq 65.35 345 P **P 23 56 42.7 -1.2**
baz=158,SNR=5.1
BBTS Babate 65.55 66 LR LR 00 24 15.3
comp=Z,1μm,18.5s,baz=250,slow=35
A33A Warroad 65.58 346 P **P 23 56 43.9 -1.4**
baz=159
HVU Hansel Valley 65.60 330 *e*P **P 23 56 45.4 -0.5**
HVU pmax pmax
comp=Z,31nm,1.2s
HVU Hansel Valley 65.60 330 *e*P **P 23 56 45.4 -0.5**
comp=Z,31nm,1.2s
B31A Greenbush Farm 65.66 344 P **P 23 56 44.6 -1.3**
baz=157
MDND Maddock 65.67 343 P **P 23 56 45.0 -1.0**
baz=155
MDND Maddock 65.67 343 *e*P **P 23 56 43.2 -2.8**
comp=Z,103nm,1.0s
MLAC Mammoth, Mammo 65.76 324 P **P 23 56 44.7 -2.4**
baz=134
A32A Rocking H Ranc 65.83 345 P **P 23 56 45.2 -1.7**
baz=158
REDW Red Top Meadow 65.96 333 *e*P **P 23 56 48.0 -0.2**
comp=Z,84nm,1.7s
PMPB Monarch Peak 65.96 321 *e*P **P 23 56 49.4 +1.2**
comp=Z,31nm,1.1s
SNOW Snow King Moun 65.99 333 *e*P **P 23 56 48.4 -0.1**
comp=Z,61nm,1.8s
A31A Linda, St. Vin 66.01 345 P **P 23 56 47.0 -1.1**
baz=157
LOHW Long Hollow 66.05 333 *e*P **P 23 56 48.2 -0.6**
comp=Z,56nm,1.8s
TPAW Teton Pass 66.10 333 *e*P **P 23 56 49.0 -0.2**
comp=Z,66nm,1.8s
MOOW Moose Ponds 66.22 333 *e*P **P 23 56 48.9 -1.0**
comp=Z,26nm,1.5s
FXWY Fox Creek 66.25 333 *e*P **P 23 56 49.4 -0.8**
comp=Z,38nm,1.5s
IMW Indian Meadow 66.42 333 *e*P **P 23 56 50.8 -0.5**
comp=Z,73nm,1.7s
H17A Grant Village 66.66 334 P **P 23 56 51.8 -1.0**
baz=143
H17A Grant Village 66.66 334 *e*P **P 23 56 54.0 +1.2**
comp=Z,71nm,1.8s
YPP Pitchstone Pla 66.66 333 *e*P **P 23 56 53.2 +0.4**
comp=Z,77nm,2.0s
RLMT Red Lodge 66.70 335 P **P 23 56 52.2 -0.8**
baz=145,SNR=7.2
RLMT Red Lodge 66.70 335 *e*P **P 23 56 52.7 -0.2**
comp=Z,85nm,1.8s
RLMT LR LR
comp=Z,1μm,21.0s
WAKR Walker 66.70 324 *e*P **P 23 56 54.2 +1.1**
comp=Z,59nm,1.6s
LKWY Lake 66.72 334 PFAKE 23 57 10.0 +17
LKWY LR LR
comp=Z,998nm,21.0s
YFT Old Faithful 66.82 334 *e*P **P 23 56 55.8 +2.1**
comp=Z,26nm,1.2s
LAO LASA Array 66.82 338 P **P 23 56 52.7 -0.9**
baz=148,SNR=8.3
LAO LASA Array 66.82 338 *e*P **P 23 56 52.6 -0.9**
comp=Z,71nm,1.6s
LAO LR LR
comp=Z,918nm,20.0s
BMN Battle Mountai 66.84 327 *e*P **P 23 56 54.3 +0.4**
BMN pmax pmax
comp=Z,29nm,1.5s
BMN Battle Mountai 66.84 327 *e*P **P 23 56 54.3 +0.4**
comp=Z,29nm,1.5s
ULM Lac du Bonnet 66.92 346 P **P 23 56 52.2 -1.7**
comp=Z,15nm,1.0s,baz=156,slow=6.1,SNR=12
ULM LR LR 00 29 21.5
comp=Z,254nm,18.4s,baz=144,slow=39
ULM Lac du Bonnet 66.92 346 *e*P **P 23 56 52.4 -1.6**
ULM pmax pmax
comp=Z,78nm,1.4s
ULM Lac du Bonnet 66.92 346 *e*P **P 23 56 52.4 -1.6**
comp=Z,78nm,1.4s
YERR Yerington 66.92 324 *e*P **P 23 56 55.3 +0.8**
comp=Z,33nm,1.2s
CMB Columbia Colle 66.93 323 *e*P **P 23 56 54.6 +0.3**
CMB pmax pmax
comp=Z,15nm,1.1s
CMB Columbia Colle 66.93 323 *e*P **P 23 56 54.6 +0.3**
comp=Z,14nm,1.1s
YNR Norris Junctio 66.96 334 *e*P **P 23 56 55.3 +0.7**
comp=Z,12nm,1.0s
YMR Madison River 67.05 334 *e*P **P 23 56 55.9 +0.8**
comp=Z,34nm,1.2s
YHH Holmes Hill 67.09 334 *e*P **P 23 56 56.1 +0.6**
comp=Z,76nm,1.7s
PNTR Pine Nut 67.20 324 *e*P **P 23 56 57.2 +1.0**
comp=Z,26nm,1.1s
YHB Horse Butte 67.21 334 *e*P **P 23 56 56.9 +0.7**
comp=Z,34nm,1.1s
QLMT Earthquake Lak 67.38 333 *e*P **P 23 56 58.1 +0.8**
GCMT Greycliff 67.41 335 *e*P **P 23 56 57.2 -0.1**
SHEL Horse Pasture 67.41 101 PFAKE 23 57 10.0 +12
SHEL LR LR
comp=Z,970nm,20.0s
PAHR Pah Rah Range 67.50 325 *e*P **P 23 56 58.7 +0.6**
comp=Z,93nm,1.5s
DGMT Dagmar 67.64 340 P **P 23 56 58.2 -0.4**
baz=150,SNR=6.9
DGMT Dagmar 67.64 340 *e*P **P 23 56 58.7 +0.1**
comp=Z,36nm,0.9s
DGMT LR LR
comp=Z,818nm,22.0s
HLID Hailey 67.74 331 P **P 23 56 59.3 -0.2**
baz=139,SNR=14
HLID Hailey 67.74 331 *e*P **P 23 56 59.7 +0.1**
comp=Z,70nm,1.7s
HLID LR LR
comp=Z,651nm,22.0s
AFDM Forest Hills D 67.88 323 *e*P **P 23 57 00.6 +0.3**
comp=Z,36nm,1.4s
MCMT McKenzie Canyo 68.00 333 *e*P **P 23 57 01.3 +0.1**
BOZ Bozeman (W) 68.07 334 P **P 23 57 01.1 -0.5**
baz=142,SNR=11
BOZ Bozeman (W) 68.07 334 *e*P **P 23 57 01.0 -0.5**
BOZ pmax pmax
comp=Z,81nm,1.8s
BOZ MLR MLR
comp=Z,839nm,21.0s
BOZ Bozeman (W) 68.07 334 *e*P **P 23 57 01.0 -0.5**
comp=Z,81nm,1.8s
BOZ LR LR
comp=Z,839nm,21.0s
BEKR Beckworth 68.16 325 *e*P **P 23 57 02.9 +0.7**
comp=Z,44nm,1.4s
DLMT Dillon 68.30 333 *e*P **P 23 57 02.8 -0.2**
comp=Z,70nm,1.8s
MFID Camas Ranch 68.31 330 *e*P **P 23 57 03.2 +0.2**
comp=Z,72nm,1.3s
ORV Oroville 68.59 324 *e*P **P 23 57 05.3 +0.6**
ORV pmax pmax
comp=Z,85nm,1.3s
ORV Oroville 68.59 324 *e*P **P 23 57 05.3 +0.6**
comp=Z,85nm,1.3s
LRM Limekiln Ridge 68.60 333 *e*P **P 23 57 05.1 +0.1**

VNA3 Neumayer Olymp 68.70 161 P **P 23 57 05.5 +0.6**
VNA1 Neumayer--Stat 68.97 161 P **P 23 57 07.6 +1.0**
WVOR Wild Horse Val 69.01 327 *e*P **P 23 57 07.4 -0.1**
WVOR pmax pmax
comp=Z,47nm,1.6s
WVOR MLR MLR
comp=Z,779nm,22.0s
WVOR Wild Horse Val 69.01 327 *e*P **P 23 57 07.4 -0.1**
comp=Z,46nm,1.6s
WVOR LR LR
comp=Z,779nm,22.0s
HRY Holter Researc 69.04 334 *e*P **P 23 57 07.7 +0.1**
EGMT Eagleton 69.26 336 P **P 23 57 07.9 -0.9**
baz=145,SNR=7.0
EGMT Eagleton 69.26 336 *e*P **P 23 57 08.4 -0.4**
comp=Z,37nm,1.3s
EGMT LR LR
comp=Z,789nm,20.0s
O03D Paynes Creek 69.26 324 P **P 23 57 08.0 -1.0**
baz=132,SNR=5.2
VNA2 Neumayer--Watz 69.32 161 P **P 23 57 09.4 +0.6**
baz=289,slow=6.8
TBI Tubuai 69.45 250 *e*T T 01 12 41.3
comp=Z,18nm,0.3s
MOD Modoc Plateau 69.53 326 *e*P **P 23 57 10.8 +0.1**
comp=Z,54nm,1.3s
J08A Circle Bar Ran 69.59 328 *e*P **P 23 57 11.0 0.0**
comp=Z,9.3nm,1.0s
SCHQ Schefferville 69.60 6 P **P 23 57 10.3 -0.4**
comp=Z,6.3nm,0.8s,baz=225,slow=14,SNR=3.0
SCHQ LR LR 00 27 38.5
comp=Z,461nm,21.7s,baz=208,slow=36
CHMT Chamberlain Mo 69.80 334 *e*P **P 23 57 12.1 -0.2**
WDC Whiskeytown Da 69.87 324 *e*P **P 23 57 11.3 -1.3**
WDC pmax pmax
comp=Z,32nm,1.6s
WDC Whiskeytown Da 69.87 324 *e*P **P 23 57 11.3 -1.3**
comp=Z,32nm,1.6s
KCPM Cahto Peak 69.89 323 *e*P **P 23 57 12.3 -0.6**
comp=Z,95nm,1.5s
MSO Missoula 70.03 333 P **P 23 57 13.6 -0.1**
baz=141,SNR=13
MSO Missoula 70.03 333 *e*P **P 23 57 13.7 +0.1**
comp=Z,76nm,1.5s
BMO Blue Mountains 70.09 330 *e*P **P 23 57 13.3 -0.7**
BMO pmax pmax
comp=Z,38nm,1.6s
BMO MLR MLR
comp=Z,843nm,19.0s
BMO Blue Mountains 70.09 330 *e*P **P 23 57 13.3 -0.7**
comp=Z,38nm,1.6s
BMO LR LR
comp=Z,843nm,19.0s
SLMT Seeley Lake 70.16 334 *e*P **P 23 57 14.7 +0.2**
N02D Trinity Center 70.23 324 P **P 23 57 14.0 -0.9**
baz=131
M04C Macdoel 70.28 325 P **P 23 57 14.9 -0.4**
baz=132,SNR=8.0
KMRM Mail Ridge 70.31 323 *e*P **P 23 57 15.9 +0.4**
comp=Z,53nm,1.4s
PPT2 Papeete2 70.41 256 *e*S S 00 06 39.1 +11
comp=Z,528nm,23.2s
PPT2 Papeete2 70.41 256 *e*LR LR 00 18 43.0
comp=Z,838nm,26.2s
SWMT Swartz Lake 70.58 334 *e*P **P 23 57 17.4 +0.5**
M02C Callahan 70.59 324 P **P 23 57 16.5 -0.6**
baz=131
YBH Yreka Blue Hor 70.73 325 *e*P **P 23 57 16.8 -1.2**
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH Yreka Blue Hor 70.73 325 *e*P **P 23 57 16.8 -1.2**
comp=Z,8.0nm,0.9s
KHMM Horse Mountain 70.75 323 *e*P **P 23 57 19.0 +0.8**
comp=Z,22nm,1.0s
K04D Chiloquin, OR 70.80 326 P **P 23 57 17.9 -0.5**
baz=133
YBMT Yellow Bay 70.86 334 *e*P **P 23 57 19.2 +0.5**
JTMT Jette 70.89 334 *e*P **P 23 57 19.4 +0.5**
SNAA Sanae 70.92 161 P **P 23 57 19.3 +0.6**
SNAA Sanae 70.92 161 *e*P **P 23 57 19.1 +0.4**
SNAA pmax pmax
comp=Z,72nm,1.0s
SNAA Sanae 70.92 161 *e*P **P 23 57 19.1 +0.4**
comp=Z,72nm,1.0s
J05D Fort Rock, OR 70.97 327 P **P 23 57 19.0 -0.5**
baz=133
BSMT Bassoo Peak 71.19 333 *e*P **P 23 57 21.4 +0.6**
KRMB Red Mountain 71.27 324 *e*P **P 23 57 22.1 +0.7**
comp=Z,57nm,1.5s
J04D Umpqua Nationa 71.41 326 P **P 23 57 21.7 -0.5**
baz=132
L02D Cave Junction, 71.51 325 P **P 23 57 22.4 -0.2**
baz=131
WALA Waterton Lakes 71.75 335 *e*P **P 23 57 24.2 +0.2**
I05D Terrebonne, OR 71.75 327 P **P 23 57 23.2 -0.9**
baz=133
I04A Tendick Farm, 71.95 326 P **P 23 57 24.6 -0.6**
baz=132
HAWA Hanford 72.28 330 *e*P **P 23 57 27.8 +0.6**
comp=Z,45nm,1.4s
HAWA LR LR
comp=Z,2μm,19.0s
G05D Wamic, OR 72.36 328 P **P 23 57 27.3 -0.4**
baz=134
FFC Flin Flon 72.52 345 *e*P **P 23 57 27.5 -0.9**
FFC pmax pmax
comp=Z,62nm,1.9s
FFC MLR MLR
comp=Z,528nm,22.0s
FFC Flin Flon 72.52 345 *e*P **P 23 57 27.5 -0.9**
comp=Z,62nm,1.9s
FFC LR LR
comp=Z,528nm,22.0s
NEW Newport 72.53 333 P **P 23 57 28.2 -0.4**
comp=Z,8.5nm,1.1s,baz=94,slow=5.8,SNR=8.2
NEW Newport 72.53 333 P **P 23 57 28.5 0.0**
baz=138,SNR=6.4
NEW Newport 72.53 333 *e*P **P 23 57 28.6 0.0**
NEW pmax pmax
comp=Z,22nm,1.3s
NEW MLR MLR
comp=Z,850nm,20.0s
NEW Newport 72.53 333 *e*P **P 23 57 28.6 0.0**
comp=Z,22nm,1.3s
NEW LR LR
comp=Z,850nm,20.0s
E07A Sunnyside 72.56 330 *e*P **P 23 57 29.8 +1.0**
comp=Z,54nm,1.4s
C09A Chrisman Ranch 72.71 332 *e*P **P 23 57 30.4 +0.7**
comp=Z,76nm,1.6s
LIC Lamto 73.27 79 *e*P **P 23 57 31.9 -1.8**
comp=Z,113nm,1.2s
G03D McMinnville, O 73.35 327 P **P 23 57 33.2 -0.3**
baz=132
TIC Toumodi 73.40 78 *e*P **P 23 57 32.5 -2.0**
DBIC Dimbokro 73.56 78 P **P 23 57 34.9 -0.5**
comp=Z,31nm,1.0s,baz=233,slow=5.7,SNR=30
DBIC LR LR 00 28 18.2
comp=Z,3μm,19.9s,baz=224,slow=34
DBIC Dimbokro 73.56 78 *e*P **P 23 57 35.0 -0.5**
DBIC pmax pmax
comp=Z,66nm,1.1s
DBIC Dimbokro 73.56 78 *e*P **P 23 57 35.0 -0.5**
comp=Z,66nm,1.1s
KIC Kosan Boka 73.58 79 *e*P **P 23 57 33.7 -1.9**
comp=Z,121nm,1.0s
B08A Colville Reser 73.60 331 *e*P **P 23 57 34.8 -0.2**
comp=Z,58nm,1.6s
B05A Bryant 74.84 330 P **P 23 57 42.2 +0.1**
baz=134
NLWA Neilton Lookou 75.12 329 PFAKE 23 58 00.0 +16
NLWA LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 75.54 180 *e*P **P 23 57 47.2 +1.1**
QSPA LR LR
comp=Z,669nm,20.0s
NVL N'lazarevskaya 75.58 160 *e*P **P 23 57 46.3 +0.2**
NVL *e* 23 58 00.8
NVL *e*S **S 00 07 25.6 +0.8**
NVL *e* 00 07 42.4
LLLB Lillooet 76.37 332 *e*P **P 23 57 51.3 +0.4**
RAR Rarotonga 79.22 251 LR LR 00 24 41.6
comp=Z,847nm,19.3s,baz=93,slow=29
SBA Scott Base 81.32 191 *e*P **P 23 58 19.3 +1.6**
SBA MLR MLR
comp=Z,776nm,20.0s
SBA Scott Base 81.32 191 *e*P **P 23 58 19.2 +1.6**

SBA LR LR
comp=Z,776nm,20.0s
RTC Rabat Centre 81.50 52 PFAKE 23 58 30.0 +11
RTC LR LR
comp=Z,4μm,21.0s
MORF Marmelete 81.56 48 *e*P **P 23 58 20.4 +0.7**
MORF AMb AMB 23 58 25.1
comp=Z,136nm,1.5s
MORF Marmelete 81.56 48 *e*P **P 23 58 20.4 +0.7**
comp=Z,140nm,1.6s
MORF Marmelete 81.56 48 *e*P **P 23 58 20.3 +0.7**
MORF pmax pmax
comp=Z,136nm,1.5s
TORD Torodi Ar. Bea 81.64 74 P **P 23 58 20.4 -0.1**
comp=Z,89nm,0.9s,baz=259,slow=5.1,SNR=230
TORD LR LR 00 32 11.0
comp=Z,1μm,21.9s,baz=240,slow=34
PNCL Nicolau / Gran 81.99 47 *e*P **P 23 58 23.1 +1.3**
comp=Z,88nm,1.9s
PCVE Castro Verde 82.14 48 *e*P **P 23 58 24.1 +1.5**
comp=Z,124nm,1.6s
PVAQ Vaqueiros 82.27 48 *e*P **P 23 58 24.7 +1.4**
comp=Z,71nm,1.9s
XMAS Kiritimati 82.31 274 PFAKE 23 58 40.0 +16
XMAS LR LR
comp=Z,2.0nm,20.0s
VNDA Vanda 82.39 191 P **P 23 58 24.7 +1.4**
comp=Z,9.9nm,1.1s,baz=131,slow=4.6,SNR=26
VNDA LR LR 00 27 36.9
comp=Z,665nm,20.9s,baz=124,slow=30
VNDA Vanda 82.39 191 *e*P **P 23 58 24.9 +1.5**
VNDA Vanda 82.39 191 *e*P **P 23 58 24.9 +1.5**
PBEJ Beja 82.43 48 *e*P **P 23 58 25.9 +1.8**
comp=Z,96nm,1.6s
EVO Evora 82.54 47 *e*P **P 23 58 25.3 +0.6**
comp=Z,72nm,1.8s
YKA Yellowknife Ar 82.59 343 P **P 23 58 24.9 +0.5**
comp=Z,1.3nm,0.4s,baz=134,slow=5.3,SNR=4.8
YKA LR LR 00 36 52.2
comp=Z,50nm,19.4s,baz=180,slow=37
PMTG Montargil 82.61 47 *e*P **P 23 58 25.7 +0.6**
comp=Z,153nm,1.7s
PTOM Tomar 82.72 46 *e*P **P 23 58 26.4 +0.8**
comp=Z,134nm,1.6s
PCAS Casmilo, Conde 82.85 46 *e*P **P 23 58 27.3 +1.0**
comp=Z,107nm,1.6s
PESTR Estremoz 82.98 47 *e*P **P 23 58 28.3 +1.3**
comp=Z,105nm,1.8s
PBAR Barrancos 83.08 48 *e*P **P 23 58 28.3 +0.8**
comp=Z,158nm,1.7s
PMRV Marv??o 83.35 47 *e*P **P 23 58 29.0 +0.1**
comp=Z,36nm,1.9s
PCBR Castelo Branco 83.47 46 *e*P **P 23 58 30.2 +0.7**
comp=Z,59nm,1.6s
PGAV Gavieira, Arco 83.83 44 *e*P **P 23 58 31.7 +0.2**
POLO Lamas de Olo 83.90 45 *e*P **P 23 58 32.0 +0.2**
comp=Z,28nm,1.9s
PVRL Vila Real 83.91 45 *e*P **P 23 58 32.8 +1.0**
comp=Z,62nm,1.7s
MVO Moncorvo 84.33 45 *e*P **P 23 58 34.3 +0.3**
comp=Z,59nm,1.8s
DLBC Dease Lake 85.10 335 P **P 23 58 37.9 +0.5**
comp=Z,12nm,1.1s,baz=108,slow=2.4,SNR=6.5
SYO Syowa Base 85.21 161⇓ *e*P **P 23 58 36.7 -1.1**
SYO Syowa Base 85.21 161⇓ *e*PcP **P 23 58 39.0 +1.2**
PAB San Pablo 85.55 47 *e*P **P 23 58 40.8 +0.6**
PAB MLR MLR
comp=Z,1μm,20.0s
PAB San Pablo 85.55 47 *e*P **P 23 58 40.8 +0.6**
PAB LR LR
comp=Z,1μm,20.0s
ESDC Sonseca Array 85.88 47 P **P 23 58 41.9 +0.2**
comp=Z,5.7nm,1.0s,baz=256,slow=5.1,SNR=22
ESDC LR LR 00 34 27.2
comp=Z,1μm,19.5s,baz=260,slow=34
ESLA Sonseca Array 85.88 47 *e*P **P 23 58 42.4 +0.6**
TAM Tamanrasset 87.93 66 *e*P **P 23 58 53.3 +1.1**
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 87.93 66 *e*P **P 23 58 53.3 +1.1**
TAM LR LR
comp=Z,2μm,20.0s
SKAG Skagway 87.93 334 *e*P **P 23 58 51.1 0.0**
WHY Whitehorse 88.41 335 *e*P **P 23 58 53.6 0.0**
TSUM Tsumeb 88.52 109 *e*P **P 23 58 54.1 -1.0**
comp=Z,32nm,1.3s
SJPF Ste Jean 89.07 45 *e*P **P 23 58 56.6 -0.4**
SJPF pmax pmax
comp=Z,54nm,1.5s
BORG Borgarnes 89.19 20 *i*P **P 23 59 00.2 +3.2**
ETSF Etsaut 89.45 45 *e*P **P 23 58 59.2 +0.4**
ETSF pmax pmax
comp=Z,43nm,1.6s
HYT Haines Junctio 89.58 334 *e*P **P 23 59 00.5 +1.4**
RES Resolute Bay 89.91 355 P **P 23 58 59.5 -0.6**
comp=Z,13nm,1.1s,baz=0.0,slow=4.0
EPF Esparros 90.11 45 *e*P **P 23 59 04.0 +2.1**
EPF pmax pmax
comp=Z,33nm,1.5s
SUMG Summit 90.43 11⇑ *i*P **P 23 59 03.1 -0.1**
comp=Z,88nm,1.2s
SUMG Summit 90.43 11⇑ *i*P **P 23 59 03.1 -0.1**
SUMG pmax pmax
comp=Z,88nm,1.2s
LFF La Frestale 91.03 44 *e*P **P 23 59 05.1 -1.0**
LFF pmax pmax
comp=Z,46nm,1.2s
RJF Les Rejaudoux 91.67 44 *e*P **P 23 59 07.8 -1.2**
RJF pmax pmax
comp=Z,30nm,1.2s
LDF La Druitiere 91.71 40 *e*P **P 23 59 07.8 -1.3**
LDF pmax pmax
comp=Z,31nm,1.2s
CAF Calviac 91.91 44 *e*P **P 23 59 09.1 -1.1**
CAF pmax pmax
comp=Z,28nm,1.3s
DAWY Dawson 92.00 337 *e*P **P 23 59 09.8 -0.4**
INK Inuvik 92.28 342 P **P 23 59 10.3 -0.9**
comp=Z,8.2nm,1.1s,baz=150,slow=5.0,SNR=8.8
TCF Toulx Ste Croi 92.44 43 *e*P **P 23 59 11.2 -1.4**
TCF pmax pmax
comp=Z,25nm,1.4s
BOSA Boshof 92.62 120 P **P 23 59 14.2 +0.1**
comp=Z,7.9nm,1.0s,baz=257,slow=4.7,SNR=7.7
BOSA LR LR 00 37 32.0
comp=Z,923nm,21.6s,baz=226,slow=33
MAW Mawson 92.73 165 P **P 23 59 13.9 +0.3**
comp=Z,26nm,1.1s,baz=211,slow=5.5,SNR=40
MAW LR LR 00 38 06.3
comp=Z,1μm,21.4s,baz=228,slow=34
BGF Bois d'Agland 92.95 43 *e*P **P 23 59 13.7 -1.2**
BGF pmax pmax
comp=Z,37nm,1.3s
EGAK Eagle 93.02 337 *e*P **P 23 59 13.4 -1.4**
comp=Z,13nm,1.2s
EGAK LR LR
comp=Z,901nm,20.0s
RAO Raoul Island 93.09 239 PFAKE 23 59 30.0 +14
RAO LR LR
comp=Z,3μm,19.0s
AVF Avril sur Loir 93.35 43 *e*P **P 23 59 15.2 -1.5**
AVF pmax pmax
comp=Z,26nm,1.4s
KLU Klutina 93.50 333 *e*P **P 23 59 17.8 +0.6**
SMF Signal de Mont 93.63 43 *e*P **P 23 59 16.7 -1.4**
SMF pmax pmax
comp=Z,21nm,1.4s
DOT Dot Lake 93.63 335 *e*P **P 23 59 17.0 -0.7**
VIVF Saint-Julien-l 93.66 45 *e*P **P 23 59 17.6 -0.7**
VIVF pmax pmax
comp=Z,20nm,1.3s
SSB Saint Sauveur 93.69 44 PFAKE 23 59 30.0 +12
SSB LR LR
comp=Z,557nm,20.0s
PAX Paxson 93.92 335 *e*P **P 23 59 18.8 -0.3**
PAX Paxson 93.92 335 *e*P **P 23 59 18.8 -0.3**
ORIF Oris-en-Rattie 94.50 45 *e*P **P 23 59 21.8 -0.4**
ORIF pmax pmax
comp=Z,28nm,1.2s
KEST Kesra 94.64 54 P **P 23 59 24.4 +1.3**
comp=Z,6.4nm,1.0s,baz=254,slow=7.6,SNR=4.1
BNI Bardonecchia 95.08 45 PFAKE 23 59 40.0 +15
BNI LR LR
comp=Z,1μm,20.0s
DOU Dourbes 95.11 40 P **P 23 59 23.9 -0.8**
comp=Z,12nm,1.9s

ILAR	**Eielson Array**	**95.23**	**336**	P		**P**	**23 59 23.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=141,slow=2.7,SNR=8.1							
ILAR				PP		**PP**	**00 03 18.3**	**+3.0**
	comp=Z,1.4nm,0.9s,baz=108,slow=8.7,SNR=4.4							
ILAR				LR		LR	00 44 32.0	
	comp=Z,409nm,20.9s,baz=154,slow=37							
LPL	**La Plagne**	**95.24**	**44**	*e*P		**P**	**23 59 25.5**	**-0.3**
LPL				pmax		pmax		
	comp=Z,21nm,1.3s							
LPG	**La Plagne**	**95.25**	**44**	*e*P		**P**	**23 59 25.7**	**-0.2**
LPG				pmax		pmax		
	comp=Z,39nm,1.5s							
GIVF	**Givet**	**95.26**	**40**	*e*P		**P**	**23 59 24.4**	**-1.0**
GIVF				pmax		pmax		
	comp=Z,62nm,1.6s							
FYU	**Fort Yukon**	**95.33**	**338**	*e*P		**P**	**23 59 24.9**	**-0.5**
RND	**Reindeer**	**95.50**	**334**	*e*P		**P**	**23 59 26.0**	**-0.4**
RND	**Reindeer**	**95.50**	**334**	*e*P		**P**	**23 59 26.0**	**-0.4**
WRH	**Wood River Hil**	**95.59**	**336**	*e*P		**P**	**23 59 26.9**	**+0.3**
VSL	**Villasalto**	**95.60**	**51**	PFAKE			23 59 40.0	+13
VSL				LR		LR		
	comp=Z,501nm,19.0s							
HAU	**Haudompre**	**95.65**	**42**	P		**P**	**23 59 26.1**	**-1.2**
MDM	**Murphy Dome**	**95.83**	**336**	*e*P		**P**	**23 59 27.0**	**-0.8**
HINF	**Hinteralfeld**	**95.92**	**42**	*e*P		**P**	**23 59 27.3**	**-1.3**
HINF				pmax		pmax		
	comp=Z,39nm,1.8s							
WLF	**Walferdange**	**95.96**	**40**	P		**P**	**23 59 28.9**	**+0.2**
	comp=Z,16nm,1.6s							
WLF	**Walferdange**	**95.96**	**40**	*e*P		**P**	**23 59 29.6**	**+0.9**
WLF				MLR		MLR		
	comp=Z,661nm,21.0s							
WLF	**Walferdange**	**95.96**	**40**	*e*P		**P**	**23 59 29.6**	**+0.9**
WLF				LR		LR		
	comp=Z,661nm,21.0s							
MEM	**Membach**	**96.12**	**39**	P		**P**	**23 59 29.4**	**+0.1**
	comp=Z,8.4nm,2.3s							
ECH	**Echery**	**96.23**	**42**	*e*P		**P**	**23 59 29.7**	**-0.2**
ECH				MLR		MLR		
	comp=Z,465nm,22.0s							
ECH	**Echery**	**96.23**	**42**	*e*P		**P**	**23 59 29.7**	**-0.2**
ECH				LR		LR		
	comp=Z,465nm,22.0s							
CDF	**Champ du Feu**	**96.35**	**42**	*e*P		**P**	**23 59 29.3**	**-1.3**
CDF				pmax		pmax		
	comp=Z,22nm,1.3s							
BPAW	**Bear Paw Mtn.**	**96.64**	**335**	*e*P		**P**	**23 59 31.0**	**-0.4**
SLE	**Schleitheim**	**96.98**	**43**	*e*P		**P**	**23 59 33.4**	**0.0**
SLE				pmax		pmax		
	comp=Z,21nm,1.5s							
BFO	**Black Forest**	**97.01**	**42**	*i* P		**P**	**23 59 33.6**	**+0.1**
BFO	**Black Forest**	**97.01**	**42**	PFAKE			23 59 40.0	+6.4
BFO				LR		LR		
	comp=Z,386nm,19.0s							
TUE	**Stuetta**	**97.24**	**44**	*e*P		**P**	**23 59 34.7**	**-0.2**
TUE				LR		LR		
	comp=Z,1μm,19.0s							
VLC	**Villacollemand**	**97.43**	**46**	PFAKE			23 59 50.0	+14
VLC				LR		LR		
	comp=Z,762nm,22.0s							
TOLK	**Toolik Lake Re**	**97.66**	**339**	P		**P**	**23 59 32.1**	**-3.9**
	baz=110							
DAVOX	**Davos/Dischmat**	**97.67**	**44**	P		**P**	**23 59 36.7**	**-0.1**
	comp=Z,11nm,1.0s,baz=321,slow=7.9,SNR=8.0							
STU	**Stuttgart**	**97.68**	**42**	P		**P**	**23 59 36.1**	**-0.4**
STU				pmax		pmax		
	comp=Z,18nm,1.1s							
DAVA	**Damuels**	**97.79**	**43**	*i* P		**P**	**23 59 36.8**	**-0.4**
	comp=Z,23nm,1.1s,SNR=9.4							
FUORN	**Ofenpass-Fuorn**	**97.89**	**44**	*e*P		Pdif	23 59 38.0	+0.1
CLTB	**Caltabellotta**	**98.09**	**53**	PFAKE			23 59 50.0	+11
CLTB				LR		LR		
	comp=Z,315nm,19.0s							
FETA	**Feichten**	**98.29**	**44**	*i* PcP		Pdif	23 59 39.6	+0.1
	comp=Z,22nm,1.4s,SNR=9.2							
RETA	**Reutte**	**98.42**	**43**	*i* Pdiff		Pdif	23 59 40.0	+0.1
	comp=Z,17nm,1.1s,SNR=6.6							
MOTA	**Moosalm**	**98.61**	**43**	*i* Pdiff		**P**	**23 59 41.0**	**+0.1**
	comp=Z,22nm,1.0s,SNR=18							
WDD	**Wied Dalam**	**98.76**	**55**	PFAKE			23 59 50.0	+8.4
WDD				LR		LR		
	comp=Z,1μm,20.0s							
FUR	**Furstenfeldbru**	**98.90**	**43**	P		**P**	**23 59 41.2**	**-0.8**
FUR				pmax		pmax		
	comp=Z,49nm,1.1s							
WATA	**Walderalm**	**98.92**	**43**	*i* Pdiff		Pdif	23 59 42.5	+0.2
	comp=Z,19nm,1.1s							
WTTA	**Wattenberg**	**98.95**	**44**	*i* Pdiff		Pdif	23 59 43.0	+0.5
	comp=Z,24nm,1.1s,SNR=8.1							
AQU	**L'Aquila**	**99.20**	**49**	PFAKE			23 59 50.0	+6.5
AQU				LR		LR		
	comp=Z,614nm,20.0s							
LSZ	**Lusaka**	**99.34**	**108**	PFAKE			00 00 00.0	+15
LSZ				LR		LR		
	comp=Z,2μm,21.0s							
ABTA	**Abfaltersbach**	**99.43**	**44**	*i* Pdiff		**Pdif**	**23 59 44.9**	**+0.4**
	comp=Z,26nm,1.2s,SNR=10.0							
NKC	**Novy Kostel**	**100.05**	**41**	*e*PDIFF		**Pdif**	**23 59 47.6**	**+0.5**
NKC				AMS		AMS	00 44 20.0	
	comp=Z,500nm,17.2s							
KBA	**Koelnbreinsper**	**100.06**	**44**	P		**Pdif**	**23 59 48.2**	**+0.8**
KBA				pmax		pmax		
	comp=Z,6.0nm,1.6s							
KBA	**Koelnbreinsper**	**100.06**	**44**	*i* Pdiff		**Pdif**	**23 59 47.2**	**-0.2**
	comp=Z,9.9nm,1.3s							
WET	**Wettzell**	**100.13**	**42**	P		**Pdif**	**23 59 48.0**	**+0.5**
WET				pmax		pmax		
	comp=Z,16nm,1.4s							
MYKA	**Terra Mystica**	**100.18**	**44**	*i* Pdiff		**Pdif**	**23 59 48.1**	**+0.4**
	comp=Z,15nm,1.4s							
MSVF	**Nonsavu**	**100.30**	**249**	PFAKE			00 00 00.0	+11
MSVF				LR		LR		
	comp=Z,955nm,19.0s							
CEL	**Celeste**	**100.30**	**53**	PFAKE			00 00 00.0	+11
CEL				LR		LR		
	comp=Z,449nm,21.0s							
CUC	**Castrocucco**	**100.55**	**51**	PFAKE			00 00 00.0	+10
CUC				LR		LR		
	comp=Z,384nm,19.0s							
KHC	**Kasperske Hory**	**100.58**	**42**	*e*PDIFF		**Pdif**	**23 59 49.3**	**-0.2**
KHC				*ex*		x	00 00 30.1	
KHC				AMS		AMS	00 45 50.0	
	comp=Z,700nm,19.0s							
KHC	**Kasperske Hory**	**100.58**	**42**	*e*P		**Pdif**	**23 59 49.4**	**-0.1**
KHC	**Kasperske Hory**	**100.58**	**42**	*e*Pdif		**Pdif**	**23 59 49.4**	**-0.1**
CLL	**Collm**	**100.59**	**40⇓**	*i* P		**Pdif**	**23 59 49.8**	**+0.4**
CLL				*e*S		**Sdif**	**00 11 19.0**	**-5.4**
CLL				pmax		pmax		
	comp=Z,30nm,2.0s							
CLL	**Collm**	**100.59**	**40⇓**	*i* Pdif		**Pdif**	**23 59 49.8**	**+0.4**
	comp=Z,30nm,2.0s							
CLL				*e*(PP)			00 03 45.0	
CLL				*e*Sdif		Sdif	00 11 24.0	-0.4
CLL				*e*PS		**PS**	**00 12 54.0**	**-4.0**
CLL				*e*PPS		PPS	00 13 46.0	
CLL				*e*SS		**SS**	**00 18 24.0**	**+2.6**
CLL				*e*SSS		SSS	00 22 24.0	
CLL				LmH			00 44 00.0	
	comp=N,200nm,19.4s							
CLL				LmH			00 44 00.0	
	comp=E,500nm,20.0s							
GERES	**GERESS Array B**	**100.61**	**42**	P		**Pdif**	**23 59 49.7**	**0.0**
	comp=E,3.3nm,0.9s,baz=242,slow=2.9,SNR=23							
OBKA	**Obir**	**100.77**	**45**	*i* Pdiff		**Pdif**	**23 59 50.8**	**+0.4**
	comp=E,5.6nm,1.0s							
MOA	**Molln**	**100.81**	**43**	*i* Pdiff		**Pdif**	**23 59 50.8**	**+0.3**
	comp=E,26nm,1.8s,SNR=9.4							
BRG	**Berggiesshubel**	**101.10**	**40**	*e*PDIFF		**Pdif**	**23 59 51.6**	**-0.1**
	comp=E,26nm,1.8s							
BRG	**Berggiesshubel**	**101.10**	**40**	*e*(P)		**PP**	**00 04 03.7**	**+3.0**
	comp=E,50nm,2.7s							
BRG	**Berggiesshubel**	**101.10**	**40**	*e*P		**Pdif**	**23 59 51.6**	**-0.1**
BRG				pmax		pmax		
	comp=Z,26nm,1.8s							
SOKA	**Soboth**	**101.13**	**45**	*i* Pdiff		**Pdif**	**23 59 50.5**	**-1.6**
	comp=Z,5.9nm,1.6s							
PRU	**Pruhonice**	**101.34**	**41**	*e*PDIFF		**Pdif**	**23 59 53.0**	**+0.2**
PRU				AMS		AMS	00 43 50.0	
	comp=Z,500nm,19.5s							
PVCC	**Panska Ves**	**101.44**	**41**	AMS		AMS	00 43 10.0	
	comp=Z,500nm,17.4s							
GOPC	**GO Pecny, Ondr**	**101.48**	**41**	*e*PDIFF		**Pdif**	**23 59 54.2**	**+0.7**
GOPC	**GO Pecny, Ondr**	**101.48**	**41**	*e*P		**Pdif**	**23 59 54.2**	**+0.7**
ARSA	**Arzberg**	**101.55**	**44**	*i* Pdiff		**Pdif**	**23 59 53.3**	**-0.5**
	comp=Z,9.0nm,1.4s,SNR=5.3							
TREC	**Trest**	**101.84**	**42**	*e*PDIFF		**Pdif**	**23 59 55.3**	**+0.2**
TREC				AMS		AMS	00 44 40.0	
	comp=Z,900nm,17.9s							
TREC	**Trest**	**101.84**	**42**	P		**Pdif**	**23 59 56.0**	**+0.9**
TREC				pmax		pmax		
	comp=Z,11nm,1.5s							
CONA	**Conrad Observa**	**101.88**	**43**	*i* Pdiff		**Pdif**	**23 59 56.0**	**+0.6**
	comp=Z,14nm,1.5s,SNR=10							
FUNA	**Funafuti**	**102.05**	**258**	PFAKE			00 00 10.0	+13
FUNA				LR		LR		
	comp=Z,2μm,19.0s							
UPC	**Upice**	**102.35**	**41**	*e*PDIFF		**Pdif**	**23 59 58.1**	**+0.8**
UPC				AMS		AMS	00 46 40.0	
	comp=Z,600nm,19.6s							
DPC	**Dobruska-Polom**	**102.53**	**41**	*e*PDIFF		**Pdif**	**23 59 58.5**	**+0.4**
DPC				*ex*		x	00 00 09.7	
DPC				*ex*		x	00 00 40.5	
DPC				AMS		AMS	00 46 40.0	
	comp=Z,700nm,20.0s							
VRAC	**Vranov**	**102.56**	**42**	Pdiff		**Pdif**	**23 59 58.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=298,slow=8.7,SNR=6.1							
MORC	**Moravsky Berou**	**103.23**	**42**	P		**Pdif**	**00 00 02.0**	**+0.7**
MORC				pmax		pmax		
	comp=Z,33nm,2.0s							
OKC	**Ostrava-Krasne**	**103.63**	**42**	*e*PDIFF		**Pdif**	**00 00 02.7**	**-0.2**
OKC				AMS		AMS	00 46 40.0	
	comp=Z,500nm,14.7s							
OKC	**Ostrava-Krasne**	**103.63**	**42**	*e*P		**Pdif**	**00 00 02.7**	**-0.2**
OKC				MLR		MLR		
	comp=Z,500nm,14.7s							
TIR	**Tirane**	**103.80**	**50**	PFAKE			00 00 20.0	+16
TIR				LR		LR		
	comp=Z,554nm,22.0s							
KBS	**Kingsbay**	**103.83**	**11**	PFAKE			00 00 10.0	+6.8
KBS				LR		LR		
	comp=Z,701nm,21.0s							
PSZ	**Piszkesteto**	**104.57**	**44**	PFAKE			00 00 20.0	+13
PSZ				LR		LR		
	comp=Z,693nm,22.0s							
SANT	**Santorini**	**107.60**	**56**	PFAKE			00 04 40.0	
SANT				LR		LR		
	comp=Z,493nm,21.0s							
KEV	**Kevo**	**108.09**	**21**	PFAKE			00 04 40.0	
KEV				LR		LR		
	comp=Z,410nm,19.0s							
KIEV	**Kiev**	**110.75**	**41**	PFAKE			00 04 50.0	
KIEV				LR		LR		
	comp=Z,519nm,20.0s							
TARA	**Tarawa**	**110.79**	**266**	PFAKE			00 04 50.0	
TARA				LR		LR		
	comp=Z,72nm,21.0s							
LVZ	**Lovozero**	**111.15**	**22**	PFAKE			00 04 50.0	
LVZ				LR		LR		
	comp=Z,561nm,20.0s							
KMBO	**Kilima Mbogo**	**112.09**	**97**	PFAKE			00 04 50.0	
KMBO				LR		LR		
	comp=Z,891nm,19.0s							
ANTO	**Ankara**	**113.53**	**53**	PFAKE			00 04 50.0	
ANTO				LR		LR		
	comp=Z,395nm,19.0s							
CSS	**Mathiatis**	**113.91**	**58**	PFAKE			00 04 50.0	
CSS				LR		LR		
	comp=Z,102nm,20.0s							
CAN	**Canberra**	**114.59**	**219**	PFAKE			00 04 50.0	+7.5
CAN				LR		LR		
	comp=Z,651nm,19.0s							
OBN	**Obninsk**	**114.71**	**36⇑**	*e*PKIKP		PKPdf	00 04 40.8	-1.0
OBN				*e*			00 05 41.8	
OBN				*e*			00 11 49.3	
OBN				*e*PS		**PS**	**00 15 10.4**	**-8.5**
OBN				*i* SS		SS	00 21 43.6	+12
OBN				pmax		pmax		
	comp=Z,27nm,1.5s							
OBN				MLR		MLR		
	comp=Z,374nm,17.0s							
OBN	**Obninsk**	**114.71**	**36**	PFAKE			00 04 50.0	+8.2
OBN				LR		LR		
	comp=Z,632nm,21.0s							
ABPO	**Ambohimpanom**	**114.82**	**119**	PFAKE			00 05 00.0	+17
ABPO				LR		LR		
	comp=Z,480nm,20.0s							
KLMR	**Klimovskoe**	**114.97**	**29**	*e*PKIKP		**PKPdf**	**00 04 38.1**	**-4.1**
KLMR				*e*			00 05 37.6	
KLMR				pmax		pmax		
	comp=Z,23nm,1.5s							
HNR	**Honiara**	**119.67**	**250**	PFAKE			00 05 00.0	+7.3
HNR				LR		LR		
	comp=Z,330nm,20.0s							
H11N3	**WAKE ISLAND Hyl**	**20.02**	**285**	T		T	02 16 04.4	
	baz=96,slow=74,SNR=202							
H11N2	**WAKE ISLAND Hyl**	**20.04**	**285**	T		T	02 16 06.2	
	baz=96,slow=74,SNR=225							
H11N1	**WAKE ISLAND Hyl**	**20.04**	**284**	T		T	02 16 05.6	
	baz=96,slow=74,SNR=161							
H11S2	**WAKE ISLAND Hyl**	**20.08**	**283**	T		T	02 16 01.1	
	baz=94,slow=74,SNR=45							
H11S1	**WAKE ISLAND Hyl**	**20.09**	**283**	T		T	02 16 06.6	
	baz=94,slow=74,SNR=22							
H11S3	**WAKE ISLAND Hyl**	**20.10**	**283**	T		T	02 15 56.3	
	baz=94,slow=74,SNR=20							
WAKE	**Wake Island**	**120.22**	**284**	PFAKE			00 05 10.0	+16
WAKE				LR		LR		
	comp=Z,905nm,19.0s							
KIV	**Kislovodsk**	**120.55**	**47**	*i* PKIKP		**PKPdf**	**00 04 52.7**	**-0.9**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KIV	**Kislovodsk**	**120.55**	**47**	PFAKE			00 05 10.0	+16
KIV				LR		LR		
	comp=Z,285nm,19.0s							
TIXI	**Tiksi**	**121.07**	**351**	PFAKE			00 05 10.0	+16
TIXI				LR		LR		
	comp=Z,468nm,22.0s							
GNI	**Garni**	**122.65**	**52**	PFAKE			00 05 10.0	+12
GNI				LR		LR		
	comp=Z,356nm,20.0s							
MAK	**Makhachkala**	**124.18**	**48**	*i* P		**Pdif**	**00 01 32.6**	**-1.9**
MAK				*i*			00 05 01.5	
MAK				*e*			00 06 40.2	
MAK				*e*			00 11 57.8	
MAK				*e*SP		SP	00 16 37.9	-2.3
MAK				*e*SSS		SSS	00 28 09.4	
MAK				pmax		pmax		
	comp=Z,156nm,1.3s							
RAYN	**Ar Rayn**	**124.26**	**71**	PFAKE			00 05 10.0	+8.7
RAYN				LR		LR		
	comp=Z,876nm,20.0s							
ARU	**Arti**	**125.83**	**29**	PFAKE			00 05 10.0	+6.8
ARU				LR		LR		
	comp=Z,690nm,20.0s							
CTAO	**Charters Tower**	**126.06**	**231**	PFAKE			00 05 20.0	+15
CTAO				LR		LR		
	comp=Z,704nm,19.0s							
MSEY	**Mahe Island**	**128.17**	**108**	PFAKE			00 05 20.0	+11
MSEY				LR		LR		
	comp=Z,935nm,20.0s							
AKTO	**Aktyubinsk**	**128.49**	**36**	PKP		**PKPdf**	**00 05 08.7**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=129,slow=6.5,SNR=3.5							
YAK	**Yakutsk**	**129.24**	**345⇑**	*e*PKIKP		**PKPdf**	**00 05 10.4**	**+0.9**
YAK				pmax		pmax		
	comp=Z,15nm,0.6s							
YAK	**Yakutsk**	**129.24**	**345**	PFAKE			00 05 20.0	+10
YAK				LR		LR		
	comp=Z,482nm,20.0s							
PMG	**Port Moresby**	**131.06**	**243**	PFAKE			00 05 30.0	+16
PMG				LR		LR		
	comp=Z,579nm,19.0s							
NWAO	**Narrogin (SRO)**	**131.08**	**195**	PFAKE			00 05 30.0	+16
NWAO				LR		LR		
	comp=Z,363nm,21.0s							
ASAR	**Alice Springs**	**132.06**	**218**	PKP		**PKPdf**	**00 05 15.6**	**-0.7**
	comp=Z,12nm,1.1s,baz=136,slow=1.8,SNR=9.3							
BRVK	**Borovoye**	**133.27**	**27**	*c i* PKIKP		**PKPdf**	**00 05 18.4**	**+0.9**
BRVK				pmax		pmax		
	comp=Z,21nm,1.7s							
BRVK	**Borovoye**	**133.27**	**27**	PFAKE			00 05 30.0	+13
BRVK				LR		LR		
	comp=Z,415nm,21.0s							
BVAR	**Borovoye Array**	**133.34**	**27**	PKP		**PKPdf**	**00 05 18.1**	**+0.5**
	comp=Z,9.1nm,1.2s,baz=29,slow=3.3,SNR=3.7							
YSS	**Yuzh-Sakhalins**	**134.45**	**323**	PFAKE			00 05 30.0	+10
YSS				LR		LR		
	comp=Z,192nm,19.0s							
WRAB	**Tennant Creek**	**134.55**	**222**	PFAKE			00 05 30.0	+9.1
WRAB				LR		LR		
	comp=Z,505nm,20.0s							
WRA	**Warramunga Arr**	**134.55**	**222**	PKP		**PKPdf**	**00 05 20.6**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=128,slow=1.9,SNR=12							
ERM	**Erimo**	**136.64**	**317**	PFAKE			00 05 40.0	+16
ERM				LR		LR		
	comp=Z,488nm,20.0s							
ZALV	**Zalesovo Beam**	**137.94**	**17**	PKP		**PKPdf**	**00 05 24.9**	**-1.2**
	comp=Z,12nm,1.0s,baz=298,slow=3.2,SNR=10							
ZALV	**Zalesovo Beam**	**137.94**	**17**	PKIKP		**PKPdf**	**00 05 25.0**	**-1.2**
KURK	**Kurchatov**	**138.52**	**24**	*c i* PKIKP		**PKPdf**	**00 05 27.3**	**0.0**
KURK				pmax		pmax		
	comp=Z,97nm,1.2s							
KURK	**Kurchatov**	**138.52**	**24**	PFAKE			00 05 40.0	+13
KURK				LR		LR		
	comp=Z,861nm,21.0s							
MBWA	**Marble Bar**	**141.27**	**204**	PFAKE			00 05 50.0	+17
MBWA				LR		LR		
	comp=Z,428nm,19.0s							
DGAR	**Diego Garcia**	**141.76**	**123**	PFAKE			00 05 50.0	+16
DGAR				LR		LR		
	comp=Z,940nm,20.0s							
USRK	**Ussuriysk Ar.**	**142.13**	**327**	PKhKP		PKPpre	00 05 29.8	
	comp=Z,3.2nm,0.9s,baz=318,slow=2.6,SNR=4.7							
AAK	**Ala-Archa**	**142.23**	**36**	*c i* PKIKP		**PKPdf**	**00 05 34.7**	**+0.2**
AAK				pmax		pmax		
	comp=Z,62nm,2.5s							
AAK	**Ala-Archa**	**142.23**	**36**	PFAKE			00 05 50.0	+15
AAK				LR		LR		
	comp=Z,390nm,20.0s							
MAJO	**Matsushiro**	**142.55**	**312**	PFAKE			00 05 50.0	+15
MAJO				LR		LR		
	comp=Z,621nm,20.0s							
MOY	**Mondy**	**142.96**	**3**	*e*PKIKP		**PKPdf**	**00 05 35.9**	**+0.4**
TLY	**Talaya**	**143.02**	**0**	PKhKP		PKPpre	00 05 29.3	
	comp=Z,1.4nm,0.3s,baz=73,slow=20,SNR=3.7							
TLY	**Talaya**	**143.02**	**0**	*e*PKHKP		PKPpre	00 05 28.7	
TLY				pmax		pmax		
	comp=Z,18nm,1.5s							
MDJ	**Mudanjiang**	**143.07**	**329**	PFAKE			00 05 50.0	+14
MDJ				LR		LR		
	comp=Z,456nm,21.0s							
MKAR	**Makanchi Array**	**143.11**	**25**	PKhKP		PKPpre	00 05 30.1	
	comp=Z,1.8nm,0.8s,baz=350,slow=4.9,SNR=4.1							
MKAR				PKP		**PKPdf**	**00 05 35.4**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=308,slow=3.5,SNR=5.0							
HIA	**Hailar**	**143.13**	**343**	PFAKE			00 05 50.0	+14
HIA				LR		LR		
	comp=Z,439nm,22.0s							
ZAK	**Zakamensk**	**144.32**	**1**	*e*PKIKP		**PKPab**	**00 05 34.1**	**-1.7**
ZAK				pmax		pmax		
	comp=Z,42nm,1.4s							
KSH	**Kashi**	**145.03**	**39**	PKP		**PKPdf**	**00 05 39.5**	**0.0**
KSH				pPKP		sPKPab	00 05 50.8	-0.7
KSH				sPKP			00 05 55.0	
KSH				PP		**PP**	**00 09 01.5**	**+4.1**
KSH				PKS		**PKSdf**	**00 09 13.3**	**-1.8**
KSH				SKS		**SKSdf**	**00 12 43.0**	**-4.0**
KSH				SKKS		**SKKSac**	**00 15 46.0**	**-2.5**
KSH				AMB		AMB		
	comp=Z,200nm,6.6s							
KSH				LR		LR		
	comp=Z,100nm,4.9s							
KSH				LR		LR		
	comp=Z,87nm,7.5s							
KSH				LR		LR		
	comp=Z,180nm,11.4s							
CN2	**Changchun**	**145.65**	**332**	*e*PKPbc		**PKPdf**	**00 05 38.0**	**-2.2**
ULN	**Ulaanbaatar**	**146.75**	**356**	*c i* PKP2		**PKPdf**	**00 05 42.8**	**+0.6**
ULN				pmax		pmax		
	comp=Z,90nm,1.2s							
ULN	**Ulaanbaatar**	**146.75**	**356**	PFAKE			00 05 50.0	+4.9
ULN				LR		LR		
	comp=Z,413nm,20.0s							
SONM	**Songino Array**	**146.82**	**357**	PKPbc		**PKPdf**	**00 05 42.9**	**+0.7**
	comp=Z,98nm,1.3s,baz=316,slow=0.8,SNR=54							
WMQ	**Urumqi**	**147.70**	**22**	PKPbc		**PKPdf**	**00 05 44.3**	**+0.5**
WMQ				SKS		**SKSdf**	**00 12 44.5**	**-6.0**
WMQ				AMB		AMB		
	comp=Z,240nm,6.5s							
WMQ				LR		LR		
	comp=Z,220nm,22.1s							
WMQ				LR		LR		
	comp=Z,290nm,25.9s							
WMQ				LR		LR		
	comp=Z,280nm,24.1s							
KSRS	**Korea Array**	**148.91**	**321**	PKP		**PKPdf**	**00 05 45.6**	**-0.2**
	comp=Z,18nm,1.1s,baz=71,slow=0.4,SNR=13							
KSRS				PKPbc		**PKPbc**	**00 05 49.3**	**-0.5**
	comp=Z,16nm,1.1s,baz=73,slow=2.7,SNR=34							
KSAR	**Wonju Array Be**	**148.94**	**321**	PKIKP		**PKPdf**	**00 05 45.6**	**-0.3**
KSAR							00 05 49.3	
KSAR	**Wonju Array Be**	**148.94**	**321**	PKP		**PKPdf**	**00 05 45.6**	**-0.3**
KSAR				PKPbc		**PKPbc**	**00 05 49.3**	**-0.6**
INCN	**Inchon**	**149.66**	**323**	PFAKE			00 06 00.0	+3.1
INCN				LR		LR		
	comp=Z,328nm,20.0s							
DL2	**Dalian**	**151.27**	**331**	PKPbc		**PKPbc**	**00 05 55.0**	**-0.5**
DL2				PP		PP	00 09 43.3	+10
BJT	**Baijiatuau**	**152.56**	**340**	PFAKE			00 06 00.0	+1.6
BJT				LR		LR		
	comp=Z,648nm,22.0s							
HHC	**Hu-ho-hao-te**	**153.05**	**347**	*e*PKPbc		**PKPdf**	**00 05 49.5**	**-2.8**
HHC				PP		**PP**	**00 09 42.8**	**-0.4**
HHC				AMB		AMB		
	comp=Z,170nm,7.3s							
HHC				LR		LR		
	comp=Z,260nm,19.6s							
HHC				LR		LR		
	comp=Z,200nm,18.2s							
GTA	**Gaotai**	**155.01**	**8**	⇑PKPbc		**PKPdf**	**00 05 55.8**	**+0.7**
GTA				pPKP		pPKPdf	00 06 06.0	+1.2
GTA				sPKP			00 06 10.3	
GTA				PKPab		**PKPab**	**00 06 22.3**	**+3.0**
GTA				PP		**PP**	**00 09 58.0**	**+3.9**
GTA				SS		SS	00 29 35.0	+0.1
GTA				AMB		AMB		
	comp=

comp=Z,290nm,20.4s
CD2 LR LR
comp=Z,360nm,17.4s
CD2 LR LR
comp=Z,340nm,22.4s
KKM Kota Kinabalu 165.34 236 PFAKE 00 06 20.0 +13
KKM LR LR
comp=Z,314nm,20.0s
KSM Kuching 165.56 206 PFAKE 00 06 20.0 +13
KSM LR LR
comp=Z,442nm,19.0s
GYA Guiyang 167.96 349 PKP **PKPdf 00 06 07.3 -1.7**
GYA PKPab **PKPab 00 07 16.0 -0.1**
GYA PKS **PKSdf 00 09 39.0 -2.8**
GYA PP **PP 00 11 06.0 +2.6**
GYA SKKS 00 17 50.0
GYA SS **SS 00 31 50.5 +0.3**
GYA AMB AMB
comp=Z,160nm,8.4s
GYA LR LR
comp=Z,160nm,20.0s
GYA LR LR
comp=Z,140nm,20.2s
GYA LR LR
comp=Z,180nm,19.6s
KMI Kunming 169.47 7 PKP **PKPdf 00 06 08.8 -1.3**
KULM Kulim 170.15 160 PFAKE 00 06 20.0 +9.5
KULM LR LR
comp=Z,712nm,21.0s
QIZ Qiongzhong 172.94 309 PKP **PKPdf 00 06 11.3 -0.4**
QIZ PP **PP 00 11 29.5 -0.1**
QIZ LR LR
comp=Z,430nm,17.5s
QIZ LR LR
comp=Z,560nm,18.9s
QIZ Qiongzhong 172.94 309 PFAKE 00 06 20.0 +8.3
QIZ LR LR
comp=Z,580nm,20.0s
CHTO Chiang Mai 173.55 49 PFAKE 00 06 20.0 +8.0
CHTO LR LR
comp=Z,367nm,20.0s
CMAR Chiang Mai Arr 173.77 51 PKP **PKPdf 00 06 12.5 +0.4**
comp=Z,3.2nm,0.8s,baz=286,slow=1.8,SNR=12
CMAR PKPab **PKPab 00 07 41.8 -0.3**
comp=Z,1.0nm,0.3s,baz=292,slow=6.5,SNR=4.8
CMAR PP **PP 00 11 36.2 +2.5**
comp=Z,1.1nm,0.4s,baz=294,slow=5.7,SNR=9.9

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*ISK **28** 23:47:28.6, 38.°92N×43.°61E, h5km, MD2.9*
*DDA **28** 23:47:29.2, 38.°87N×43.°58E, h7km, Ml2.7*
*ISCJB **28** 23:47:30.5±0.7, 38.°97N±0.°04×43.°61E±0.°07, h13km, Error ellipse: s-maj=7.6km s-min=5.6km az=9.9*
*CSEM **28** 23:47:30.0±0.4, 38.°94N×43.°58E, h2km, MD2.9, Error ellipse: s-maj=8.6km s-min=6.8km az=94.0*
ISC 28 23:47:29.4±1.0,**38.°85N**±0.°03×**43.°56E**±0.°04,**h13km**,**n35**, σ0§**91**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.24**	**315**	*e*PG	**Pg**	**23 47 34.3**	**-0.3**
ERCV				*e*SG	**Sg**	**23 47 38.7**	**+0.5**
ERCV	**ERCIS-VAN**	**0.24**	**315**	*e*Pg	**Pg**	**23 47 34.3**	**-0.3**
ERCV				*e*Sg	**Sg**	**23 47 38.7**	**+0.5**
VANB	**Van**	**0.29**	**207**	*e*PG	**Pn**	**23 47 38.4**	**-1.0**
VANB				*e*SG	**Sn**	**23 47 45.6**	**-0.1**
VANB	**Van**	**0.29**	**207**	*e*Pg	**Pn**	**23 47 38.4**	**-1.0**
TVAN	**Van**	**0.34**	**200**	*i* P	**Pg**	**23 47 35.4**	**-1.0**
TVAN	**Van**	**0.34**	**200**	P	**Pg**	**23 47 35.4**	**-1.0**
CLDR	**Caldiran**	**0.41**	**44**	*e*PG	**Pg**	**23 47 36.4**	**-1.1**
CLDR	**Caldiran**	**0.41**	**44**	*i* P	**Pg**	**23 47 36.5**	**-1.1**
CLDR	**Caldiran**	**0.41**	**44**	P	**Pg**	**23 47 36.5**	**-1.1**
DYDN	**Diyadin**	**0.70**	**8**	*i* P	**Pg**	**23 47 42.0**	**-1.0**
DYDN	**Diyadin**	**0.70**	**8**	P	**Pg**	**23 47 42.0**	**-1.0**
TUTA	**Tutak**	**0.80**	**314**	*i* P	**Pg**	**23 47 43.6**	**-1.3**
TUTA	**Tutak**	**0.80**	**314**	P	**Pg**	**23 47 43.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*PG	**Pg**	**23 47 44.8**	**-1.0**
AGRB	**Hanur-Agry**	**0.85**	**329**	*e*Pg	**Pg**	**23 47 44.8**	**-1.0**
HAKT	**HAKKARI**	**1.30**	**175**	*i* P	**Pg**	**23 47 55.4**	**+1.0**
HAKT	**HAKKARI**	**1.30**	**175**	P	**Pg**	**23 47 55.4**	**+1.0**
EATA	**Eleskirt**	**1.30**	**321**	*i* P	**Pn**	**23 47 53.7**	**+0.1**
EATA	**Eleskirt**	**1.30**	**321**	P	**Pn**	**23 47 53.7**	**+0.1**
DIGO	**Kars**	**1.57**	**355**	*i* P	**Pg**	**23 47 59.5**	**0.0**
DIGO	**Kars**	**1.57**	**355**	P	**Pg**	**23 47 59.5**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*PN	**Pb**	**23 48 00.8**	**+0.9**
VRTB	**Varto-Mus**	**1.67**	**281**	*i* P	**Pg**	**23 48 01.2**	**-0.2**
VRTB	**Varto-Mus**	**1.67**	**281**	*e*Pn	**Pb**	**23 48 00.9**	**+0.9**
VRTB	**Varto-Mus**	**1.67**	**281**	P	**Pg**	**23 48 01.2**	**-0.2**
EAK	**Akyaka**	**1.83**	**1**	*i* P	**Pg**	**23 48 05.5**	**+0.9**
EAK	**Akyaka**	**1.83**	**1**	P	**Pg**	**23 48 05.5**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*PN	**Pn**	**23 48 03.5**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.94**	**332**	*e*Pn	**Pn**	**23 48 03.5**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	*e*PN	**Pb**	**23 48 05.5**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.98**	**250**	*e*Pn	**Pb**	**23 48 05.5**	**+0.3**
BNGB	**Bing¶||**	**2.25**	**274**	*e*PN	**Pb**	**23 48 08.9**	**-1.0**
BINT	**Bingol**	**2.40**	**272**	*e*Pn	**Pn**	**23 48 09.0**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*PN	**Pb**	**23 48 11.5**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.41**	**285**	*e*Pn	**Pb**	**23 48 11.5**	**-1.3**

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*ISCJB **28** 23:47:51.0±0.6, 36.°99N±0.°03×140.°64E±0.°05, h16km±6km, mb3.5/4, Error ellipse: s-maj=7.3km s-min=4.4km az=20.2*
*JMA **28** 23:47:51.2, 37.°00N×140.°56E, h8km±1km, M3.7*
Broadband fault plane solution: P waves. NP1: ϕ_s=104.00000°, δ54.00000°, λ-77.00000°. NP2: ϕ_s=263.00000°, δ38.00000°, λ-107.00000°. Principal axes: T Plg8.0000°, Azm185.0000°; N Plg11.0000°, Azm276.0000°; P Plg77.0000°, Azm60.0000°;
JMA Felt II J1.
*IDC **28** 23:47:52.6±6.8, 36.°53N×140.°84E, h53km±38km, mb3.4/4, mb1 3.5/7, mb1mx3.3/65, mbtmp3.7/7, ML2.8/3 Error ellipse: s-maj=88.6km s-min=33.5km az=160.0*
ISC 28 23:47:51.1±1.0,**36.°98N**±0.°03×**140.°60E**±0.°04,**h12**km±9km, **n16**,σ1§**11**/24,**mb3.5**/4,**8C**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.20**	**52**	⇑P	**Pg**	**23 47 55.8**	**+0.3**
JHO	**Hitachi**	**0.37**	**184**	⇑P	**Pb**	**23 47 58.6**	**-0.9**
JHO				S	**Sb**	**23 48 04.2**	**-1.0**
JFK	**Kawauchi**	**0.45**	**29**	⇑P	**Pg**	**23 47 59.9**	**0.0**
JFK				S	**Sg**	**23 48 05.9**	**+0.1**
JSB	**Shiboa**	**0.55**	**269**	⇑P	**Pb**	**23 48 01.9**	**-0.6**
JSB				S	**Sg**	**23 48 09.3**	**+0.3**
JFT	**Otama**	**0.58**	**339**	⇑P	**Pb**	**23 48 02.1**	**-1.0**
JFT				S	**Sb**	**23 48 09.8**	**-1.5**
JYT	**Yasato**	**0.82**	**204**	⇑P	**Pg**	**23 48 06.5**	**-0.4**
JYT				S	**Sg**	**23 48 17.5**	**-0.1**
JFY	**Yanaizu**	**0.83**	**301**	⇑P	**Pb**	**23 48 06.6**	**-0.9**
JFY				S	**Sb**	**23 48 17.0**	**-1.6**
JMM	**Marumori**	**0.90**	**10**	⇑P	**Pb**	**23 48 07.6**	**-1.0**
JMM				S	**Sb**	**23 48 19.7**	**-0.8**
MJAR	**Matsushiro Arr**	**1.97**	**258**	P	**Pn**	**23 48 25.2**	**+0.9**
20nm,0.3s,baz=80,slow=17,SNR=51							
MJAR				S	**Sb**	**23 48 50.7**	**-0.6**
45nm,0.3s,baz=96,slow=23,SNR=19							
MAT	**Matsushiro**	**1.97**	**258**	P	**Pb**	**23 48 25.5**	**-1.4**
MAT				S	**Sb**	**23 48 51.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**9.74**	**320**	P	Pn	23 50 16.2	+5.4
0.1nm,0.3s,baz=134,slow=11,SNR=5.6							
KSRS	**Korea Array**	**10.12**	**277**	P	**Pn**	**23 50 19.4**	**+3.2**
0.1nm,0.3s,baz=92,slow=15,SNR=6.4							
SONM	**Songino Array**	**27.28**	**304**	P	**P**	**23 53 35.4**	**+0.1**
0.8nm,0.7s,baz=105,slow=9.0,SNR=4.8							
ZALV	**Zalesovo Beam**	**41.47**	**312**	P	**P**	**23 55 38.0**	**+0.5**
0.5nm,0.5s,baz=98,slow=9.1,SNR=3.9							
MKAR	**Makanchi Array**	**43.60**	**302**	P	**P**	**23 55 54.6**	**-0.4**
0.5nm,0.8s,baz=82,slow=11,SNR=3.0							
KURBB	**Kurchatov Arra**	**45.52**	**308**	P	**P**	**23 56 09.8**	**-0.5**
0.5nm,0.3s,baz=83,slow=8.0,SNR=5.1							

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*BJI **28** 23:50:51.2, 3.°56S×130.°01E, h34km, mb5.2/63, mB5.3/46, Ms4.7/57, Ms7 4.4/53*
*IDC **28** 23:50:52.8±0.4, 3.°06S×129.°61E, h0km, mb5.2/32, mb1 5.2/36, mb1mx5.2/41, mbtmp5.2/36, ML5.2/2, MS4.6/13, Ms1 4.6/13, ms1mx4.3/38, Error ellipse: s-maj=17.3km s-min=9.8km az=75.0*
*ISCJB **28** 23:50:55.9±0.4, 3.°08S±0.°02×129.°68E±0.°02, h33km±3km, mb5.4/158, MS4.8/131, Error ellipse: s-maj=3.4km s-min=2.8km az=25.1*
*NEIC **28** 23:50:56.0±1.1, 3.°08S×129.°65E, h20km±8km, mb5.4/79, MS5.0/107, Error ellipse: s-maj=3.9km s-min=2.8km az=49.0*
*MOS **28** 23:50:56.8±1.0, 3.°03S×129.°67E, h40km, mb5.5/41, MS4.6/14, Error ellipse: s-maj=7.7km s-min=5.0km az=114.1*
*GCMT **28** 23:50:56.0±0.3, 2.°81S×129.°64E, h31km±1km, MW5.3/68, Moment Tensor Solution. s35,c44; s68,c87; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56±.08; $M_{\theta\theta}$-0.78±.04; $M_{\phi\phi}$0.22±.04; $M_{r\theta}$-0.33±.06; $M_{\theta\phi}$0.35±.03; $M_{\phi r}$1.03±.09; Best double couple: $M_0$1.31600×10^{17} NP1:ϕ_s326.00000°, δ76.00000°, λ120.00000°. NP2: ϕ_s79.00000°, δ32.00000°, λ26.00000°. Principal axes: T 1.4340, Plg50.0000°, Azm269.0000°; N -0.2360, Plg29.0000°, Azm139.0000°; P -1.1980, Plg26.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KLM **28** 23:50:58.3, 2.°95S×129.°75E, h52km, mb5.6*
*DJA **28** 23:50:59.1±0.2, 3.°S±2.°×13.°0E±.°, h44km±2km, M5.5/68, mb5.6/68, mB5.9/55, MLv5.6/15, Mw(mB)5.5/55*
ISC 28 23:50:57.8±0.4,**3.°09S**±0.°03×**129.°64E**±0.°03,**h34**km±1km, **h34**km:**pP-P**,**n558**,σ1§**62**/541,**mb5.4**/157,**MS4.9**/131, **25C-7D**,**Seram**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.76**	**250**	P	**Pb**	**23 51 13.8**	**+1.2**
BNDI	**Bandanaira**	**1.45**	**170**	P	**Pb**	**23 51 24.2**	**0.0**
AAI	**Ambon**	**1.56**	**248**	P	**Pb**	**23 51 26.0**	**-0.1**
AAI	**Ambon**	**1.56**	**248**	P	**Pb**	**23 51 25.6**	**-0.5**
NLAI	**Namlea**	**2.54**	**267**	P	**Pn**	**23 51 38.9**	**+2.2**
FAKI	**Fak Fak**	**2.61**	**86**	P	**Pn**	**23 51 37.6**	**0.0**
FAKI				S	**Sn**	**23 52 07.6**	**-0.5**
FAKI	**Fak Fak**	**2.61**	**86**	*e*Pn	**Pn**	**23 51 37.6**	**0.0**
LBMI	**Labuha**	**3.24**	**319**	P	**Pn**	**23 51 45.8**	**-0.5**
SANI	**Sanana**	**3.79**	**286**	P	**Pn**	**23 51 52.5**	**-1.4**
SANI				S	**Sn**	**23 52 36.1**	**-1.3**
KMPI	**Kaimana, Papua**	**4.09**	**98**	P	**Pn**	**23 51 58.7**	**+0.7**
RKPI	**Ransiki, Papua**	**4.79**	**71**	P	**Pn**	**23 52 07.2**	**-0.5**
RKPI				S	**Sn**	**23 53 00.7**	**-1.4**
SAUI	**Saumlaki**	**5.13**	**161**	P	**Pn**	**23 52 15.2**	**+2.9**
2μm,1.2s,18μm8.1nm							
SAUI	**Saumlaki**	**5.13**	**161**	*e*Pn	**Pn**	**23 52 12.7**	**+0.3**
KMSI	**Cibinong**	**6.73**	**303**	P	**Pn**	**23 52 33.4**	**-0.9**
1μm,0.5s,14μm5.4nm							
BAKI	**Biak**	**6.73**	**74**	P	**Pn**	**23 52 33.6**	**-0.7**
1μm,0.9s,14μm5.0nm							
KDI	**Kendari**	**7.06**	**263**	P	**Pn**	**23 52 41.3**	**+2.5**
502nm,1.4s,5μm1.4nm							
LUWI	**Luwuk**	**7.16**	**286**	*e*Pn	**Pn**	**23 52 39.9**	**-0.3**
BBSI	**Bau Bau**	**7.44**	**251**	P	Pn	23 52 49.2	+5.1
146nm,1.2s,2μm0.5nm							
SGSI	**Sangihe**	**7.89**	**329**	P	**Pn**	**23 52 50.6**	**+0.4**
262nm,0.8s,2.2nm							
APSI	**Ampana**	**8.28**	**285**	P	**Pn**	**23 52 56.3**	**+0.8**
1μm,0.9s,12μm							
APSI				S	**Sn**	**23 54 27.3**	**-0.6**
1μm,0.9s,12μm							
MRSI	**Marisa**	**8.47**	**295**	P	**Pn**	**23 52 57.2**	**-1.0**
456nm,0.5s,6μm							
SOEI	**Soe**	**8.51**	**219**	P	Pn	23 53 04.7	+5.9
763nm,1.3s,11μm							
SOEI	**Soe**	**8.51**	**219**	*e*Pn	**Pn**	**23 53 00.5**	**+1.7**
SMPI	**Sarmi**	**9.12**	**83**	P	**Pn**	**23 53 06.9**	**-0.3**
226nm,1.1s,5μm							
MMRI	**Maumere**	**9.20**	**233**	P	Pn	23 53 14.3	+6.1
309nm,1.5s,6μm							
MMRI	**Maumere**	**9.20**	**233**	Pn	**Pn**	**23 53 07.8**	**-0.4**
BNSI	**Bone**	**9.60**	**262**	P	**Pn**	**23 53 17.2**	**+3.5**
151nm,0.7s,3μm							
BSSI	**Bau Bau, Buton**	**9.61**	**251**	P	**Pn**	**23 53 17.6**	**+3.7**
452nm,0.9s,4μm							
EDFI	**Ende, Flores**	**9.70**	**234**	P	Pn	23 53 20.5	+5.3
221nm,0.9s,4μm							
MTN	**Manton Dam**	**9.80**	**171**	P	**Pn**	**23 53 17.3**	**+0.8**
baz=9.8,SNR=16							
MTN	**Manton Dam**	**9.80**	**171**	*e*Pn	**Pn**	**23 53 17.1**	**+0.6**
TTSI	**Tana Toraja**	**9.81**	**270**	P	**Pn**	**23 53 19.8**	**+3.2**
167nm,0.8s,2μm							
SPSI	**Sidrap Palu**	**9.89**	**265**	P	**Pn**	**23 53 21.1**	**+3.4**
180nm,1.5s,4μm							
KDU	**Kakadu**	**9.94**	**164**	P	**Pn**	**23 53 17.3**	**-1.0**
baz=10.0,SNR=36							
PCI	**Palu**	**10.04**	**282**	P	**Pn**	**23 53 22.0**	**+2.3**
446nm,1.1s,4μm							
PCI	**Palu**	**10.04**	**282**	P	**Pn**	**23 53 22.6**	**+2.9**
PCI				pmax	pmax		
comp=Z,446nm,1.1s							
KAPI	**Kappang**	**10.05**	**259**	*e*Pn	**Pn**	**23 53 20.6**	**+0.8**
comp=Z,188nm,0.6s							
KAPI	**Kappang**	**10.05**	**259**	P	**Pn**	**23 53 23.8**	**+3.9**
SNR=18							
KAPI	**Kappang**	**10.05**	**259**	pPn	**Pn**	**23 53 23.8**	**+3.9**
SNR=18							
MPSI	**Mapaga**	**10.32**	**289**	P	**Pn**	**23 53 22.8**	**-0.7**
comp=Z,122nm,0.9s,comp=Z,1μm							
GENI	**Genyem**	**10.52**	**88**	P	**Pn**	**23 53 26.9**	**+0.5**
comp=Z,577nm,1.1s,comp=Z,9μm							
JAY	**Jayapura**	**11.06**	**87**	P	**Pn**	**23 53 32.8**	**-1.0**
comp=Z,1μm,1.0s,comp=Z,14μm							
JAY	**Jayapura**	**11.06**	**87**	P	**Pn**	**23 53 33.2**	**-0.6**
JAY				pmax	pmax		
comp=Z,1μm,1.0s							
PALU	**Palau**	**11.43**	**25**	P	**Pn**	**23 53 40.1**	**+1.3**
baz=12,SNR=11							
BASI	**Baing, Sumba**	**11.45**	**231**	P	**Pn**	**23 53 43.8**	**+4.8**
comp=Z,516nm,1.0s,comp=Z,7μm							
KNRA	**Kununurra**	**12.54**	**184**	P	**Pn**	**23 53 53.5**	**-0.4**
baz=13,SNR=27							
PLAI	**Plampang**	**13.10**	**244**	P	**Pn**	**23 54 04.8**	**+3.2**
comp=Z,214nm,0.9s,comp=Z,4μm							
MYLDM	**Lahad Datu**	**13.83**	**306**	*e*Pn	**Pn**	**23 54 11.4**	**-0.3**
MYLDM	**Lahad Datu**	**13.83**	**306**	⇓P	**Pn**	**23 54 13.8**	**+2.2**
TWSI	**Taliwang, Sumb**	**13.87**	**246**	P	**Pn**	**23 54 15.7**	**+3.5**
comp=Z,116nm,0.7s,comp=Z,3μm							
MTKI	**Muara Teweh, K**	**14.89**	**278**	P	**P**	**23 54 33.7**	**+2.4**
SDKM	**Sandakan**	**15.16**	**305**	⇓P	**Pn**	**23 54 30.0**	**+0.4**
SRBI	**Singaraja**	**15.19**	**250**	P	**P**	**23 54 32.8**	**-1.8**
comp=Z,188nm,1.1s,comp=Z,2μm							
DNP	**Denpasar**	**15.39**	**248**	P	**P**	**23 54 35.7**	**-1.1**
comp=Z,244nm,0.4s							
DNP	**Denpasar**	**15.39**	**248**	P	**P**	**23 54 36.7**	**-0.1**
DNP				pmax	pmax		
comp=Z,229nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.43**	**194**	Pn	**Pn**	**23 54 31.1**	**-1.9**
comp=Z,3.8nm,0.3s,baz=26,slow=11,SNR=78							
FITZ				Sn	**Sn**	**23 57 20.6**	**-2.4**
comp=Z,1.0nm,0.3s,baz=86,slow=19,SNR=3.6							
FITZ				LR	LR	00 00 49.6	
comp=Z,2μm,20.9s,baz=19,slow=39							
FITZ	**Fitzroy Crossi**	**15.43**	**194**	P	**Pn**	**23 54 31.2**	**-1.9**
baz=16,SNR=58							
IGBI	**Denpasar**	**15.49**	**248**	P	**P**	**23 54 36.7**	**-1.3**
comp=Z,198nm,0.8s,comp=Z,13μm							
KMMI	**Kalianget**	**16.10**	**255**	P	**P**	**23 54 44.8**	**+0.1**
comp=Z,276nm,0.9s,comp=Z,5μm							
KKM	**Kota Kinabalu**	**16.19**	**304**	*e*Pn	**Pn**	**23 54 42.4**	**-0.6**
comp=Z,93nm,1.0s							
KKM	**Kota Kinabalu**	**16.19**	**304**	⇓P	**Pn**	**23 54 42.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**16.31**	**250**	P	**Pn**	**23 54 45.6**	**+1.2**
comp=Z,313nm,1.1s,comp=Z,3μm							
JAGI	**Jajag, Banyuwa**	**16.31**	**250**	*e*Pn	**Pn**	**23 54 44.4**	**0.0**
comp=Z,332nm,1.1s							
COEN	**Coen**	**17.18**	**130**	P	**Pn**	**23 54 53.7**	**-1.7**
baz=17,SNR=9.6							
COEN	**Coen**	**17.18**	**130**	*e*Pn	**Pn**	**23 54 55.1**	**-0.3**
comp=Z,126nm,0.8s							
WRAB	**Tennant Creek**	**17.36**	**165**	*c i*P	**Pn**	**23 54 57.7**	**+0.1**
WRAB	**Tennant Creek**	**17.36**	**165**	*e*Pn	**Pn**	**23 54 55.7**	**-1.9**
comp=Z,163nm,0.9s							
WRA	**Warramunga Arr**	**17.37**	**165**	P	**Pn**	**23 54 55.4**	**-2.3**
comp=Z,12nm,0.3s,baz=343,slow=13,SNR=40							
WRA				S	**Sn**	**23 58 02.1**	**-8.0**
comp=Z,4.6nm,0.3s,baz=335,slow=24,SNR=4.4							
WB2	**Warramunga Arr**	**17.37**	**165**	*e*Pn	**Pn**	**23 54 56.4**	**-1.3**
comp=Z,169nm,0.8s							
MANU	**Manus Island**	**17.74**	**87**	*e*Pn	**Pn**	**23 55 02.4**	**+0.1**
comp=Z,123nm,1.0s							
PBKI	**Pangkalan Bun**	**17.95**	**271**	P	**P**	**23 55 07.2**	**+1.9**
comp=Z,669nm,1.1s,comp=Z,7μm							
SBUM	**Sibu**	**18.26**	**287**	*e*P	**Pn**	**23 55 09.4**	**+0.6**
comp=Z,226nm,1.3s							
STKI	**Sintang**	**18.43**	**279**	P	**Pn**	**23 55 12.2**	**+1.5**
comp=Z,175nm,1.0s,comp=Z,20μm							
PMG	**Port Moresby**	**18.50**	**111**	P	**P**	**23 55 11.2**	**-0.1**
comp=Z,3.6nm,0.3s,baz=346,slow=17,SNR=5.2							
PMG				LR	LR	00 03 56.2	
comp=Z,2μm,18.6s,baz=310,slow=42							
PMG	**Port Moresby**	**18.50**	**111**	*c e*P	**Pn**	**23 55 14.8**	**+3.2**
PMG				pmax	pmax		
comp=Z,389nm,1.0s							
PMG	**Port Moresby**	**18.50**	**111**	*e*P	**Pn**	**23 55 12.2**	**+0.5**
comp=Z,179nm,1.1s							
UWJI	**Ujung Watu**	**18.92**	**259**	P	**Pn**	**23 55 17.3**	**+0.6**
comp=Z,276nm,0.9s,comp=Z,4μm							
TGY	**Tagaytay City**	**19.14**	**333**	P	**Pn**	**23 55 19.2**	**-0.1**
comp=Z,36nm,0.3s,baz=198,slow=20,SNR=2.9							
TGY				LR	LR	00 04 47.5	
comp=Z,422nm,18.5s,baz=176,slow=44							
SMRI	**Semarang**	**19.52**	**258**	P	**Pn**	**23 55 23.5**	**-0.5**
comp=Z,301nm,1.1s,comp=Z,6μm							
SMRI	**Semarang**	**19.52**	**258**	*e*P	**P**	**23 55 22.8**	**+0.2**
comp=Z,271nm,0.9s							
UGM	**Wanagama**	**19.62**	**255**	P	**P**	**23 55 22.2**	**-1.4**
comp=Z,580nm,1.2s,comp=Z,5μm							
UGM	**Wanagama**	**19.62**	**255**	*e*P	**P**	**23 55 23.8**	**+0.2**
comp=Z,617nm,1.1s							
KSM	**Kuching**	**19.85**	**283**	*e*P	**Pn**	**23 55 27.6**	**-0.3**
comp=Z,279nm,0.9s							
QIS	**Mount Isa**	**19.89**	**152**	P	**P**	**23 55 26.9**	**+0.3**
baz=20,SNR=204							
MBWA	**Marble Bar**	**20.39**	**207**	*e*P	**P**	**23 55 30.9**	**-1.0**
MBWA				LR	LR		
comp=Z,2μm,22.0s							
MBWA	**Marble Bar**	**20.39**	**207**	P	**P**	**23 55 30.9**	**-1.0**
SNR=18							
MBWA	**Marble Bar**	**20.39**	**207**	P	**P**	**23 55 30.9**	**-1.0**
SNR=18							
MTSU	**Mount Surprise**	**20.74**	**137**	P	**P**	**23 55 36.6**	**+0.8**
baz=21,SNR=83							
AS31	**Alice Springs**	**20.87**	**169**	*e*P	**P**	**23 55 36.6**	**-0.5**
comp=Z,208nm,0.8s							
ASAR	**Alice Springs**	**20.87**	**169**	P	**P**	**23 55 37.1**	**+0.1**
comp=Z,599nm,0.8s,baz=348,slow=11,SNR=1979							
ASAR				S	**S**	**23 59 25.0**	**-3.1**
comp=Z,31nm,0.6s,baz=350,slow=23,SNR=11							
ASAR				LR	LR	00 04 52.5	
comp=Z,3μm,18.6s,baz=350,slow=40							
WRKA	**Warakurna**	**21.86**	**183**	P	**P**	**23 55 47.2**	**-0.5**
baz=22,SNR=426							
CISI	**Cisompet, Garu**	**22.18**	**258**	P	**P**	**23 55 48.9**	**-2.4**
CISI	**Cisompet, Garu**	**22.18**	**258**	*e*P	**P**	**23 55 48.5**	**-2.8**
comp=Z,324nm,1.1s							
GUMO	**Guam**	**22.43**	**42**	P	**P**	**23 55 58.9**	**+5.0**
comp=Z,172nm,1.0s,baz=234,slow=6.5,SNR=4.6							
GUMO	**Guam**	**22.43**	**42**	P	**P**	**23 55 58.9**	**+5.0**
GUMO				MLR	MLR		
comp=Z,1μm,20.0s							
GUMO	**Guam**	**22.43**	**42**	P	**P**	**23 55 58.9**	**+5.0**
GUMO				LR	LR		
comp=Z,1μm,20.0s							
CNJI	**Cibinong**	**22.80**	**259**	P	**P**	**23 55 54.4**	**-3.5**
DBJI	**Dramaga**	**23.07**	**261**	P	**P**	**23 55 59.4**	**-1.2**
comp=Z,94nm,1.2s							
SKJI	**Sukabumi**	**23.32**	**260**	P	**P**	**23 56 01.6**	**-1.6**
comp=Z,146nm,0.4s							
CTA	**Charters Tower**	**23.41**	**137**	P	**P**	**23 56 04.5**	**+0.4**
comp=Z,70nm,0.9s,baz=317,slow=12,SNR=53							
CTA				LR	LR	00 06 15.1	
comp=Z,2μm,21.5s,baz=325,slow=39							
CTAO	**Charters Tower**	**23.41**	**137**	*e*P	**P**	**23 56 03.7**	**-0.3**
CTAO				pmax	pmax		
comp=Z,128nm,1.0s							
CTAO				MLR	MLR		
comp=Z,3μm,22.0s							
CTAO	**Charters Tower**	**23.41**	**137**	*e*P	**P**	**23 56 03.7**	**-0.3**
comp=Z,128nm,1.0s							
CTAO				LR	LR		
comp=Z,3μm,22.0s							
CGJI	**Cibinong**	**24.11**	**261**	P	**P**	**23 56 07.1**	**-3.6**
GIRL	**Giralia**	**24.52**	**216**	P	**P**	**23 56 15.6**	**+1.3**
baz=25,SNR=4.1							
PMBI	**Palembang**	**24.84**	**270**	P	**P**	**23 56 20.7**	**+3.4**
comp=Z,766nm,1.0s,comp=Z,9μm							
KLSI	**Cibinong**	**24.91**	**266**	P	**P**	**23 56 18.0**	**+0.1**
comp=Z,79nm,1.4s,comp=Z,1μm							
XMIS	**Christmas Isla**	**24.91**	**252**	*e*P	**P**	**23 56 15.2**	**-2.8**
comp=Z,93nm,0.9s							
KASI	**Kota Agung**	**25.19**	**264**	P	**P**	**23 56 18.1**	**-2.4**
MDSI	**Maura Dua**	**25.45**	**266**	P	**P**	**23 56 22.2**	**-0.6**
comp=Z,108nm,1.2s,comp=Z,1μm							
LWLI	**Liwa**	**25.59**	**265**	P	**P**	**23 56 27.6**	**+3.3**
comp=Z,116nm,0.7s,comp=Z,6μm							
JMBI	**JAMBI**	**26.02**	**273**	P	**P**	**23 56 32.3**	**+4.3**
LHSI	**Lahat**	**26.08**	**268**	P	**P**	**23 56 29.3**	**+0.7**
comp=Z,699nm,1.0s,comp=Z,7μm							
MYKOM	**Kota Tinggi**	**26.23**	**280**	*e*P	**P**	**23 56 30.9**	**+0.9**

	comp=Z,813nm,21.0s					
BBOO	**Buckleboo**	30.17 169	P	P	23 57 04.6	-0.3
	baz=30,SNR=14					
BBOO	**Buckleboo**	30.17 169	*e*P	P	23 57 04.4	-0.5
	comp=Z,78nm,1.1s					
EIDS	**Eidsvold**	30.27 139	P	P	23 57 05.8	-0.1
	baz=30,SNR=5.5					
EIDS	**Eidsvold**	30.27 139	*e*P	P	23 57 06.0	+0.1
	comp=Z,25nm,1.0s					
KLBR	**Kellerberrin**	30.48 200	P	P	23 57 06.0	-1.7
	baz=31,SNR=19					
SISI	**Saibi**	30.58 273	P	P	23 57 08.6	-0.2
	comp=Z,394nm,1.1s,comp=Z,4μm					
HNR	**Honiara**	30.76 103	LR	LR	00 11 36.0	
	comp=Z,883nm,19.1s,baz=249,slow=40					
HNR	**Honiara**	30.76 103	*e*P	P	23 57 10.1	-0.2
HNR			pmax	pmax		
	comp=Z,169nm,1.1s					
HNR	**Honiara**	30.76 103	*e*P	P	23 57 10.1	-0.2
	comp=Z,169nm,1.1s					
STKA	**Stephens Creek**	30.77 160	P	P	23 57 10.2	0.0
	comp=Z,42nm,0.9s,baz=337,slow=8.7,SNR=44					
STKA			LR	LR	00 10 52.8	
	comp=Z,1μm,20.0s,baz=330,slow=39					
STKA	**Stephens Creek**	30.77 160	P	P	23 57 10.4	+0.2
	baz=31,SNR=33					
STKA	**Stephens Creek**	30.77 160	*e*P	P	23 57 10.3	+0.2
STKA			pmax	pmax		
	comp=Z,13nm,1.0s					
STKA	**Stephens Creek**	30.77 160	*e*P	P	23 57 10.3	+0.2
	comp=Z,13nm,1.0s					
PSI	**Prapat**	31.26 280	*e*P	P	23 57 13.9	-1.0
PSI			pmax	pmax		
	comp=Z,199nm,1.2s					
PSI	**Prapat**	31.26 280	*e*P	P	23 57 13.9	-1.0
	comp=Z,199nm,1.2s					
HTT	**Hallett**	31.41 165	P	P	23 57 16.5	+0.6
	baz=32,SNR=5.8					
PBSI	**Pulau Batu**	31.49 275	P	P	23 57 18.3	+1.5
	comp=Z,153nm,0.9s					
TRTT	**Trang**	31.79 290	P	P	23 57 20.5	+1.1
	comp=Z,92nm,1.1s,comp=Z,1μm					
PANO	**Nakornpanom**	31.86 310	P	P	23 57 21.0	+1.1
	comp=Z,62nm,1.1s					
NWAO	**Narrogin (SRO)**	31.88 200	LR	LR	00 11 19.7	
	comp=Z,2μm,19.7s,slow=38					
NWAO	**Narrogin (SRO)**	31.88 200	P	P	23 57 19.3	-0.7
	baz=32,SNR=10.0					
NWAO			P	P	23 57 19.3	-0.7
	baz=32,SNR=10.0					
CMSA	**Cobar Meteorol**	32.08 154	P	P	23 57 22.1	+0.3
	baz=32,SNR=37					
SRAK	**Srakaew**	32.22 302	P	P	23 57 19.4	-3.7
KRAB	**Krabi**	32.38 291	P	P	23 57 25.7	+1.1
	comp=Z,63nm,1.1s,comp=Z,544nm					
KCSI	**Kotacane, Aceh**	32.52 281	P	P	23 57 25.4	-0.5
	comp=Z,70nm,1.4s,comp=Z,796nm					
KHON	**Khomkaen**	32.79 307	P	P	23 57 28.9	+0.8
	comp=Z,130nm,0.8s,comp=Z,1μm					
NAYO	**Nakonayok**	32.97 302	P	P	23 57 30.7	+0.9
	comp=Z,188nm,0.7s,comp=Z,8μm					
SURT	**Suratani**	33.00 292	P	P	23 57 31.2	+1.2
	comp=Z,36nm,1.1s,comp=Z,406nm					
TPTI		33.05 281	P	P	23 57 31.4	+0.9
	comp=Z,105nm,1.2s,comp=Z,937nm					
CHAI	**Chaiyaphum**	33.23 305	P	P	23 57 32.4	+0.4
	comp=Z,38nm,0.9s,comp=Z,294nm					
RKGY	**Rocky Gully**	33.50 199	P	P	23 57 34.1	-0.1
	baz=34,SNR=11					
LHMI	**Lhok Sumawe**	33.69 284	*e*P	P	23 57 35.4	-0.6
	comp=Z,179nm,1.1s					
COCO	**West Island**	33.71 253	PFAKE		23 57 50.0	+14
COCO			LR	LR		
	comp=Z,1μm,22.0s					
MLSI	**Meulaboh, Aceh**	34.01 282	P	P	23 57 38.6	-0.2
	comp=Z,406nm,1.4s,comp=Z,4μm					
ARMA	**Armidale**	34.23 145	P	P	23 57 41.8	+1.1
	baz=34,SNR=24					
ARMA	**Armidale**	34.23 145	*e*P	P	23 57 41.8	+1.1
	comp=Z,46nm,1.2s					
PBKT	**Sadao Pong**	34.41 305	P	P	23 57 42.8	+0.6
	comp=Z,30nm,1.2s,comp=Z,2μm					
SRDT	**SRDT**	34.86 301	P	P	23 57 47.6	+1.4
	comp=Z,198nm,1.1s,comp=Z,3μm					
UTHA	**Uthaitani**	35.16 303	P	P	23 57 49.5	+0.8
	comp=Z,18nm,1.0s,comp=Z,157nm					
ARPS	**Mount Arapiles**	35.35 163	P	P	23 57 51.1	+1.0
	baz=36,SNR=17					
UTTA	**Uttaradit**	35.37 307	P	P	23 57 51.3	+0.8
	comp=Z,28nm,1.0s,comp=Z,229nm					
NANT	**Nan**	35.84 308	P	P	23 57 56.1	+1.5
	comp=Z,60nm,0.8s,comp=Z,525nm					
JNU	**Nakatsue**	36.03 2	*e*P	P	23 57 57.2	+1.1
	comp=Z,43nm,0.9s					
WHN	**Wuhan**	36.49 338	⇑P	P	23 58 01.5	+1.5
WHN			LR	LR		
	comp=Z,1μm,26.8s					
WHN			LR	LR		
	comp=Z,3μm,27.1s					
WHN			LR	LR		
	comp=Z,2μm,31.1s					
LAMP	**Lampang**	36.53 307	P	P	23 58 01.6	+1.1
	comp=Z,32nm,1.0s,comp=Z,254nm					
CAN	**Canberra**	36.75 153	P	P	23 58 03.4	+1.2
	baz=37					
CAN	**Canberra**	36.75 153	*e*P	P	23 58 03.5	+1.2
CAN			pmax	pmax		
	comp=Z,85nm,1.4s					
CAN			MLR	MLR		
	comp=Z,1μm,19.0s					
CAN	**Canberra**	36.75 153	*e*P	P	23 58 03.5	+1.2
	comp=Z,85nm,1.4s					
CAN			LR	LR		
	comp=Z,1μm,19.0s					
GYA	**Guiyang**	36.83 324	⇑*i*P	P	23 58 03.3	+0.2
GYA			pP	sP	23 58 15.5	-1.5
GYA			PP	**PnPn**	23 59 32.0	+4.4
GYA			S	**S**	00 03 48.5	+3.0
GYA			sS	sS	00 04 04.0	+2.3
GYA			SS	**SnSn**	00 06 17.0	-2.0
GYA			pmax	pmax		
	comp=Z,30nm,0.8s					
GYA			pmax	pmax		
	comp=Z,140nm,5.0s					
GYA			LR	LR		
	comp=Z,620nm,17.8s					
GYA			LR	LR		
	comp=Z,560nm,18.0s					
GYA			LR	LR		
	comp=Z,590nm,18.2s					
CNB	**Canberra Magne**	36.91 153	P	P	23 58 04.9	+1.3
	baz=37,SNR=4.2					
CM31	**Chiang Mai Arr**	37.05 306	*e*P	P	23 58 06.6	+1.7
CMAR	**Chiang Mai Arr**	37.05 306	P	P	23 58 06.0	+1.1
	comp=Z,38nm,1.0s,baz=132,slow=6.9,SNR=154					
CMAR			PcP	**PcP**	00 00 27.2	+1.8
	comp=Z,10nm,0.9s,baz=175,slow=2.0,SNR=7.8					
CMAR			ScP	**ScP**	00 04 12.7	+2.6
	comp=Z,1.2nm,0.3s,baz=160,slow=2.5,SNR=9.6					
CMAR	**Chiang Mai Arr**	37.05 306	*ce*P	P	23 58 06.1	+1.2
CMAR			pmax	pmax		
	comp=Z,36nm,0.9s					
CHTO	**Chiang Mai**	37.23 307	P	P	23 58 07.1	+0.6
	comp=Z,696nm,1.2s,comp=Z,6μm					
CHTO	**Chiang Mai**	37.23 307	*e*P	P	23 58 07.4	+0.9
CHTO			pmax	pmax		
	comp=Z,148nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,527nm,22.0s					
CHTO	**Chiang Mai**	37.23 307	*e*P	P	23 58 07.4	+0.9
	comp=Z,148nm,1.0s					
CHTO			LR	LR		
	comp=Z,527nm,22.0s					
CHTO	**Chiang Mai**	37.23 307	P	P	23 58 07.8	+1.3
	SNR=46					
CHTO			P	P	23 58 07.8	+1.3
	SNR=46					
CHTO	**Chiang Mai**	37.23 307	P	P	23 58 07.8	+1.3
	SNR=46					
TOO	**Toolangi**	37.27 159	P	P	23 58 08.4	+1.8
	baz=37,SNR=11					
CMAI	**Chiengmai2**	37.77 309	P	P	23 58 11.7	+0.5
	comp=Z,833nm,1.1s					
KMI	**Kunming**	38.31 319	P	P	23 58 17.3	+1.5
KMI			pP	pP	23 58 26.5	+0.9
KMI			sP	sP	23 58 32.3	+2.6
KMI			PP	**PnPn**	23 59 53.5	+7.8
KMI			S	**S**	00 04 10.0	+1.7
KMI			sS	sS	00 04 27.5	+3.0
KMI			SS	**SnSn**	00 06 55.5	+0.5
KMI			pmax	pmax		
	comp=Z,73nm,1.3s					
KMI			pmax	pmax		
	comp=Z,210nm,3.1s					
KMI			LR	LR		
	comp=Z,450nm,24.3s					
KMI			LR	LR		
	comp=Z,410nm,18.4s					
KMI			LR	LR		
	comp=Z,460nm,24.9s					
ENH	**Enshi**	38.36 331	*e*P	P	23 58 16.6	+0.7
	comp=Z,6.5nm,0.2s					
INU	**Inuyama**	38.86 10	*e*P	P	23 58 18.9	-1.0
	comp=Z,112nm,1.6s					
MAJO	**Matsushiro**	40.23 11	*e*P	P	23 58 29.8	-1.6
MAJO			*e*S	S	00 04 35.6	-0.7
MAJO			pmax	pmax		
	comp=Z,31nm,0.6s					
MAJO			MLR	MLR		
	comp=Z,692nm,19.0s					
MAJO	**Matsushiro**	40.23 11	*e*P	P	23 58 29.8	-1.6
	comp=Z,31nm,0.6s					
MAJO			*e*S	S	00 04 35.6	-0.7
MAJO			LR	LR		
	comp=Z,692nm,19.0s					
MAT	**Matsushiro**	40.23 11	P	P	23 58 29.4	-2.0
MAT			S	S	00 04 22.6	-14
MJAR	**Matsushiro Arr**	40.23 11	P	P	23 58 29.6	-1.8
	comp=Z,17nm,0.7s,baz=185,slow=9.1,SNR=30					
MJAR			LR	LR	00 13 25.7	
	comp=Z,505nm,20.7s,baz=215,slow=34					
MJB9	**Matsu-Tunnel**	40.23 11	*e*P	P	23 58 29.8	-1.6
	comp=Z,7.9nm,0.7s					
MJB9			*e*S	S	00 04 36.4	0.0
KS15	**Wonju Array Si**	40.36 358	*e*P	P	23 58 31.9	-0.5
KSAR	**Wonju Array Be**	40.36 358	P	P	23 58 32.3	-0.1
KSAR	**Wonju Array Be**	40.36 358	P	P	23 58 32.2	-0.1
KSAR			ScP	**ScP**	00 04 24.7	+2.4
KSRS	**Korea Array**	40.37 358	P	P	23 58 32.2	-0.2
	comp=Z,4.3nm,0.8s,baz=172,slow=10,SNR=13					
KSRS			ScP	**ScP**	00 04 24.7	+2.4
	comp=Z,3.3nm,1.0s,baz=179,slow=3.2,SNR=7.6					
KSRS			LR	LR	00 14 26.7	
	comp=Z,621nm,20.6s,baz=188,slow=35					
DZM	**Mont Dzumac**	40.39 121	*e*P	P	23 58 32.8	-0.2
	comp=Z,39nm,1.1s					
INCN	**Inchon**	40.46 356	*e*P	P	23 58 33.0	-0.3
	comp=Z,20nm,0.4s					
INCN			LR	LR		
	comp=Z,1μm,21.0s					
XAN	**Xi'an**	41.78 334	P	P	23 58 43.0	-1.2
XAN			pP	pP	23 58 52.8	-1.3
XAN			sP	sP	23 58 57.0	-1.2
XAN			pmax	pmax		
	comp=Z,27nm,1.3s					
XAN			pmax	pmax		
	comp=Z,250nm,9.4s					
XAN			LR	LR		
	comp=Z,290nm,24.0s					
XAN			LR	LR		
	comp=Z,430nm,26.3s					
XAN			LR	LR		
	comp=Z,660nm,20.5s					
CD2	**Chengdu**	41.86 326	P	P	23 58 45.8	+0.9
CD2			S	S	00 05 04.0	+3.2
CD2			SS	SS	00 08 12.8	+4.7
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
CD2			pmax	pmax		
	comp=Z,320nm,6.2s					
CD2			LR	LR		
	comp=Z,290nm,20.4s					
CD2			LR	LR		
	comp=Z,360nm,17.4s					
CD2			LR	LR		
	comp=Z,340nm,22.4s					
DL2	**Dalian**	42.44 351	P	P	23 58 57.0	+7.6
DL2			pmax	pmax		
	comp=Z,27nm,1.0s					
DL2			LR	LR		
	comp=E,840nm,23.7s					
DL2			LR	LR		
	comp=Z,530nm,20.7s					
WAKE	**Wake Island**	42.64 57	*e*P	P	23 58 51.1	-0.3
	comp=Z,256nm,1.2s					
TARA	**Tarawa**	43.49 85	PFAKE		23 59 10.0	+12
TARA			LR	LR		
	comp=Z,110nm,20.0s					
BJT	**Baijiatuau**	44.65 345	*e*P	P	23 59 06.8	-0.4
BJT			pmax	pmax		
	comp=Z,41nm,1.1s					
BJT			MLR	MLR		
	comp=Z,527nm,20.0s					
BJT	**Baijiatuau**	44.65 345	*e*P	P	23 59 06.8	-0.4
	comp=Z,41nm,1.1s					
BJT			LR	LR		
	comp=Z,527nm,20.0s					
BJI	**Beijing**	44.67 345	P	P	23 59 07.0	-0.3
BJI			ScP	**ScP**	00 04 40.5	+1.0
BJI			S	**S**	00 05 40.5	-1.0
BJI			sS	**sS**	00 05 57.3	-0.7
BJI			SS	**ScS**	00 08 52.8	-10
BJI			pmax	pmax		
	comp=Z,38nm,0.8s					
BJI			LR	LR		
	comp=Z,290nm,14.7s					
BJI			LR	LR		
	comp=Z,440nm,18.7s					
BJI			LR	LR		
	comp=Z,340nm,19.8s					
SNY	**Shenyang**	45.05 354	⇓P	P	23 59 10.0	-0.3
SNY			S	S	00 05 44.3	-2.6
SNY			SS	**ScS**	00 09 04.8	-0.2
SNY			pmax	pmax		
	comp=Z,22nm,0.6s					
SNY			pmax	pmax		
	comp=Z,140nm,4.2s					
SNY			LR	LR		
	comp=Z,570nm,19.6s					
SNY			LR	LR		
	comp=Z,320nm,17.1s					
SNY			LR	LR		
	comp=Z,900nm,20.3s					
MSHR	**Mys Shultsa**	45.48 2	*ce*P	P	23 59 14.9	+1.2
LZH	**Lanzhou**	45.83 331	*e*P	P	23 59 17.5	+0.6
LZH			pP	pP	23 59 24.0	-2.9
LZH			sP	sP	23 59 27.0	-3.9
LZH			pmax	pmax		
	comp=Z,140nm,1.5s					
LZH			pmax	pmax		
	comp=Z,290nm,4.0s					
LZH			LR	LR		
	comp=Z,1μm,15.6s					
LZH			LR	LR		
	comp=Z,1μm,15.4s					
LZH			LR	LR		
	comp=Z,660nm,16.2s					
VLA	**Vladivostok**	46.04 2	⇑*i*P	P	23 59 17.3	-0.9
VLA			*i* *PP	**pP**	23 59 26.4	-1.8
VLA			*e**SP	**sP**	23 59 31.5	-0.7
VLA			*e*S	**S**	00 06 01.5	+0.2
VLA			pmax	pmax		
	comp=Z,37nm,1.4s					
ERM	**Erimo**	46.54 14	PFAKE		23 59 30.0	+7.9
ERM			LR	LR		
	comp=Z,769nm,20.0s					
HHC	**Hu-ho-hao-te**	46.75 341	*e*P	P	23 59 23.8	-0.1
HHC			pP	pP	23 59 31.5	-2.5
HHC			PP	**PP**	00 01 14.8	+0.4
HHC			S	**S**	00 06 11.5	-0.3
HHC			sS	sS	00 06 31.5	+3.2
HHC			SS	**SS**	00 09 33.0	-5.6
HHC			pmax	pmax		
	comp=Z,24nm,0.9s					
HHC			pmax	pmax		
	comp=Z,200nm,6.4s					
HHC			LR	LR		
	comp=Z,2μm,16.5s					
HHC			LR	LR		
	comp=Z,2μm,16.7s					
HHC			LR	LR		
	comp=Z,2μm,19.0s					
CN2	**Changchun**	46.83 356	*e*P	P	23 59 23.3	-1.1
CN2			*ep*P	sP	23 59 37.0	-1.4
CN2			*e*S	**S**	00 06 11.5	-1.1
CN2			SS	**SS**	00 09 31.5	-8.2
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=Z,800nm,22.0s					
CN2			LR	LR		
	comp=Z,200nm,22.0s					
CN2			LR	LR		
	comp=Z,600nm,21.0s					
USRK	**Ussuriysk Ar.**	47.12 2	P	P	23 59 26.7	0.0
	comp=Z,23nm,0.7s,baz=185,slow=7.0,SNR=38					
USRK			LR	LR	00 20 09.5	
	comp=Z,469nm,19.2s,baz=171,slow=37					
MDJ	**Mudanjiang**	47.49 360	P	P	23 59 29.8	+0.3
MDJ			pP	pP	23 59 38.8	-0.8
MDJ			sP	sP	23 59 42.5	-1.1
MDJ			S	**S**	00 06 25.8	+3.8
MDJ			pmax	pmax		
	comp=Z,19nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,79nm,5.7s					
MDJ			LR	LR		
	comp=Z,360nm,20.0s					
MDJ			LR	LR		
	comp=Z,380nm,23.0s					
MDJ			LR	LR		
	comp=Z,490nm,24.0s					
MDJ	**Mudanjiang**	47.49 360	PFAKE		23 59 40.0	+10
MDJ			LR	LR		
	comp=Z,558nm,22.0s					
ASAJ	**Asahikawa**	48.41 12	*e*P	P	23 59 36.6	-0.1
	comp=Z,21nm,1.0s					
LSA	**Lhasa**	49.19 314	PFAKE		00 00 00.0	+17
LSA			LR	LR		
	comp=Z,394nm,21.0s					
FUNA	**Funafuti**	49.56 99	PFAKE		00 00 00.0	+14
FUNA			LR	LR		
	comp=Z,3μm,19.0s					
PALK	**Pallekele**	49.91 282	*i* P	P	23 59 48.4	-0.4
	SNR=6.4					
PALK	**Pallekele**	49.91 282	*e*P	P	23 59 48.9	+0.2
PALK			pmax	pmax		
	comp=Z,101nm,1.5s					
PALK	**Pallekele**	49.91 282	*e*P	P	23 59 48.9	+0.2
	comp=Z,101nm,1.5s					
GTA	**Gaotai**	50.41 330	⇑P	P	23 59 52.0	-0.2
GTA			pP	pP	00 00 01.8	-0.5
GTA			sP	sP	00 00 06.0	-0.3
GTA			PP	**PP**	00 01 48.5	+0.4
GTA			S	**S**	00 07 03.0	-0.6
GTA			sS	sS	00 07 20.0	-0.2
GTA			SS	**SS**	00 10 34.8	-3.1
GTA			pmax	pmax		
	comp=Z,60nm,0.9s					
GTA			pmax	pmax		
	comp=Z,330nm,6.2s					
GTA			LR	LR		
	comp=Z,240nm,21.4s					
GTA			LR	LR		
	comp=Z,240nm,20.9s					
GTA			LR	LR		
	comp=Z,450nm,22.3s					
TAPN	**Taplejung**	50.48 310	*e*P	P	23 59 53.2	0.0
	comp=Z,36nm,0.5s					
ODAN	**Odare**	50.49 309	*e*P	P	23 59 52.9	-0.2
RAMN	**Ramite**	51.15 309	*e*P	P	23 59 58.3	+0.2
	comp=Z,188nm,0.8s					
YSS	**Yuzh-Sakhalins**	51.16 12	⇑*e*P	P	23 59 58.2	+0.7
YSS			pmax	pmax		
	comp=Z,32nm,0.7s					
YSS	**Yuzh-Sakhalins**	51.16 12	*e*P	P	23 59 57.9	+0.4
	comp=Z,34nm,0.8s					
YSS			LR	LR		
	comp=Z,228nm,19.0s					
HABR	**Khabarovsk**	51.57 5	*e*P	P	23 59 59.1	-1.4
HABR			*e**PP	**pP**	00 00 09.1	-1.5
HABR			*e**SP	**sP**	00 00 13.2	-1.4
HABR			*e*PPP	PPP	00 02 57.3	
HABR			*e*S	**S**	00 07 18.1	-0.8
HABR			*e**SS	**sS**	00 07 35.4	-0.2
HABR			*e*		00 09 46.9	
HABR			*e*SS	**SS**	00 10 55.8	+0.2
HABR			*e*SSS	SSS	00 12 35.3	
HABR			pmax	pmax		
	comp=N,14nm,1.5s					
HABR			pmax	pmax		
	comp=E,23nm,1.5s					
HABR			pmax	pmax		
	comp=Z,27nm,1.5s					
HABR			MLR	MLR		
	comp=Z,352nm,16.0s					
OUZ	**Omahuta**	51.73 134	*e*P	P	00 00 04.7	+2.6
OUZ			*ep*P	**pP**	00 00 12.7	+0.6
JIRN	**Jiri**	51.81 309	*e*P	P	00 00 03.0	-0.2
	comp=Z,98nm,1.0s					
KLR	**Kul'dur**	52.14 2	P	P	00 00 04.8	0.0
	comp=Z,1.1nm,0.8s,baz=198,slow=4.3,SNR=29					
KLR			LR	LR	00 19 54.9	
	comp=Z,39nm,21.6s,slow=33					
GUN	**Gumba**	52.17 309	*e*P	P	00 00 05.7	-0.2
	comp=Z,94nm,0.8s					
PKI	**Pulchoki**	52.38 309	*e*P	P	00 00 06.9	-0.5
	comp=Z,27nm,0.8s					
PKIN	**Phulchoki**	52.39 309	*e*P	P	00 00 07.5	+0.1
	comp=Z,39nm,0.7s					
KKN	**Kakani**	52.58 309	*e*P	P	00 00 08.5	-0.3
	comp=Z,55nm,0.8s					
DMN	**Daman**	52.63 308	*e*P	P	00 00 09.0	-0.2
	comp=Z,90nm,0.9s					
HIA	**Hailar**	52.85 352	PFAKE		00 00 20.0	+10
HIA			LR	LR		
	comp=Z,937nm,21.0s					
GKN	**Gorkha**	53.18 309	*e*P	P	00 00 12.9	-0.2
	comp=Z,107nm,0.9s					
KOLN	**Koldanda**	53.89 308	*e*P	P	00 00 18.3	-0.1
	comp=Z,220nm,0.9s					
DANN	**Dangsing**	54.03 309	*e*P	P	00 00 19.5	0.0
	comp=Z,10nm,0.8s					
LBZ	**Lake Benmore**	54.45 145	*e*P	P	00 00 21.9	0.0
	comp=Z,40nm,0.8s					
ULN	**Ulaanbaatar**	54.46 341	*ce*P	P	00 00 22.6	+0.5
ULN			pmax	pmax		
	comp=Z,64nm,1.2s					
ULN	**Ulaanbaatar**	54.46 341	*e*P	P	00 00 22.2	+0.1
	comp=Z,47nm,1.0s					
ULN			LR	LR		
	comp=Z,379nm,20.0s					
ULN	**Ulaanbaatar**	54.46 341	P	P	00 00 22.7	+0.5
	SNR=19					
ULN			P	P	00 00 22.7	+0.5
	SNR=19					
ULN	**Ulaanbaatar**	54.46 341	P	P	00 00 22.7	+0.5
	SNR=19					
PYUN	**Piuthan**	54.52 308	*e*P	P	00 00 23.1	+0.1
	comp=Z,259nm,1.0s					
RPZ	**Rata Peaks**	54.56 144	*e*P	P	00 00 22.8	+0.1
	comp=Z,35nm,1.0s					
THZ	**Tophouse**	54.58 141	*e*P	P	00 00 23.6	+0.6
	comp=Z,17nm,0.7s					
SONM	**Songino Array**	54.65 341	P	P	00 00 23.4	0.0
	comp=Z,19nm,0.9s,baz=150,slow=8.2,SNR=73					
SONM			LR	LR	00 24 33.7	
	comp=Z,318nm,20.3s,baz=152,slow=37					
LTZ	**Lake Taylor**	54.75 142	*e*P	P	00 00 24.8	+0.6
	comp=Z,64nm,1.6s					
OXZ	**Oxford**	54.92 143	*e*P	P	00 00 25.6	+0.3
	comp=Z,47nm,1.5s					
KHZ	**Kahutara**	55.33 141	*e*P	P	00 00 28.8	+0.5
	comp=Z,19nm,0.8s					
SNZO	**South Karori**	55.49 140	PFAKE		00 00 40.0	+11
SNZO			LR	LR		
	comp=Z,2μm,20.0s					
MQZ	**McQueen's Vall**	55.50 143	*e*P	P	00 00 28.7	-0.8
	comp=Z,121nm,1.9s					
BKZ	**Black Stump Fm**	55.63 137	*e*P	P	00 00 31.5	+0.9
	comp=Z,35nm,0.8s					
URZ	**Urewera**	55.64 135	*e*P	P	00 00 31.2	+0.6
	comp=Z,30nm,1.0s					
RAO	**Raoul Island**	56.08 123	*e*P	P	00 00 33.8	-0.2
RAO			pmax	pmax		
	comp=Z,285nm,0.6s					
RAO	**Raoul Island**	56.08 123	*e*P	P	00 00 33.8	-0.2

comp=Z,285nm,0.6s
MCQ Macquarie Isla 56.54 160 *e*P **P 00 00 36.5 -0.2**
MCQ pmax pmax
comp=Z,947nm,1.8s
MCQ Macquarie Isla 56.54 160 *e*P **P 00 00 36.5 -0.2**
comp=Z,947nm,1.8s
NKL Nikolayevsk 56.80 8 *e*P **P 00 00 38.8 +0.3**
NKL pmax pmax
comp=Z,50nm,1.0s
DGAR Diego Garcia 57.08 263 *e*P **P 00 00 41.6 +0.3**
DGAR pmax pmax
comp=Z,203nm,0.8s
DGAR MLR MLR
comp=Z,2μm,22.0s
DGAR Diego Garcia 57.08 263 *e*P **P 00 00 41.6 +0.3**
comp=Z,203nm,0.8s
DGAR LR LR
comp=Z,2μm,22.0s
ZAK Zakamensk 57.88 340 *e*P **P 00 00 45.5 -0.9**
ZAK pmax pmax
comp=Z,14nm,1.2s
AFI Afiamalu 58.78 104 *e*P **P 00 00 53.3 0.0**
AFI pmax pmax
comp=Z,84nm,1.3s
AFI Afiamalu 58.78 104 *e*P **P 00 00 53.3 0.0**
comp=Z,84nm,1.3s
TLY Talaya 58.88 341 P **P 00 00 53.9 +0.7**
comp=Z,7.4nm,0.7s,baz=184,slow=9.0,SNR=7.0
POO Poona 58.95 294⇓ *i*P P 00 00 47.0 -7.4
comp=Z,60nm,1.0s
MIDW Midway 59.65 55 *e*P **P 00 00 59.0 0.0**
comp=Z,66nm,0.7s
MOY Mondy 59.74 340 *e*P **P 00 01 00.1 +0.7**
MOY pmax pmax
comp=Z,67nm,2.3s
CLNS Chul'man 59.85 357 *e*P **P 00 00 58.8 -1.1**
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
WMQ Urumqi 59.96 326 P **P 00 01 00.3 -0.6**
WMQ pP pP 00 01 10.5 -0.7
WMQ sP sP 00 01 18.5 +3.3
WMQ PcP **PcP 00 01 44.8 -2.1**
WMQ ScP **ScP 00 05 46.8 +1.1**
WMQ S **S 00 09 10.0 -1.1**
WMQ ScS **ScS 00 10 46.3 -2.8**
WMQ pmax pmax
comp=E,41nm,1.5s
WMQ pmax pmax
comp=E,180nm,4.3s
WMQ LR LR
comp=E,760nm,31.1s
WMQ LR LR
comp=E,240nm,31.1s
WMQ LR LR
comp=E,310nm,24.9s
PEA0B Petropavlovsk- 60.76 19 *e*P **P 00 01 06.0 -0.1**
comp=E,52nm,1.0s
PETK Petropavlovsk- 60.76 19 P **P 00 01 06.9 +0.8**
comp=E,36nm,0.8s,baz=194,slow=4.7,SNR=27
PET Petropavlovsk 61.00 20 *e*P **P 00 01 08.8 +1.1**
PET *e*S **S 00 09 23.8 0.0**
PET pmax pmax
comp=Z,56nm,1.1s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 61.00 20 PFAKE
PET LR LR
comp=Z,463nm,19.0s
BOD Bodaibo 62.01 351 *e*P **P 00 01 14.2 -0.2**
BOD pmax pmax
comp=Z,30nm,1.5s
MA2 Magadan 64.66 12 P **P 00 01 32.2 +0.2**
comp=Z,32nm,0.8s,baz=162,slow=2.6,SNR=9.2
MA2 Magadan 64.66 12 *ce*P **P 00 01 34.1 +2.1**
MA2 Magadan 64.66 12 *ce*P **P 00 01 34.1 +2.1**
MK31 Makanchi Array 64.79 326 *e*P **P 00 01 33.1 -0.1**
MK31 Makanchi Array 64.79 326 *e*P **P 00 01 33.1 -0.1**
MKAR Makanchi Array 64.79 326 P **P 00 01 32.9 -0.3**
comp=Z,17nm,0.7s,baz=123,slow=7.4,SNR=86
MKAR Makanchi Array 64.79 326 *ce*P **P 00 01 32.9 -0.3**
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR Makanchi Array 64.79 326 *e*P **P 00 01 33.1 -0.1**
comp=Z,102nm,0.8s
KSH Kashi 64.93 317 P **P 00 01 35.0 +0.6**
KSH pP pP 00 01 45.8 +1.1
KSH sP sP 00 01 49.0 +0.3
KSH PcP **PcP 00 02 08.0 +0.7**
KSH PP **PP 00 04 01.3 +3.7**
KSH PcS 00 06 07.0
KSH S **S 00 10 10.8 -3.2**
KSH ScS **SKSac 00 11 22.0 -5.0**
KSH SS **SS 00 14 26.3 0.0**
KSH pmax pmax
comp=Z,19nm,1.1s
KSH pmax pmax
comp=Z,160nm,4.1s
KSH LR LR
comp=Z,93nm,6.7s
KSH LR LR
comp=Z,100nm,6.7s
KSH LR LR
comp=Z,140nm,8.1s
YAK Yakutsk 64.94 0 P **P 00 01 33.8 0.0**
comp=Z,179nm,0.7s,baz=167,slow=0.5,SNR=56
YAK Yakutsk 64.94 0 *e*P **P 00 01 33.7 0.0**
YAK *e**PP **pP 00 01 42.0 -2.1**
YAK *e* 00 02 03.3
YAK *e* 00 04 02.8
YAK *e*S **S 00 10 10.7 -2.2**
YAK pmax pmax
comp=Z,218nm,0.9s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=E,115nm,2.0s
YAK smax smax
comp=N,132nm,2.2s
YAK Yakutsk 64.94 0 P **P 00 01 33.8 0.0**
YAK LR LR
comp=Z,451nm,22.0s
MAKZ Makanchi 64.97 326 *e*P **P 00 01 34.1 -0.2**
MAKZ pmax pmax
comp=Z,28nm,1.0s
MAKZ Makanchi 64.97 326 *e*P **P 00 01 34.1 -0.2**
comp=Z,28nm,1.0s
AAK Ala-Archa 67.36 319 P **P 00 01 50.3 +0.4**
comp=Z,10.0nm,1.0s,baz=110,slow=3.7,SNR=18
AAK Ala-Archa 67.36 319 *c i*P **P 00 01 49.6 -0.3**
AAK pmax pmax
comp=Z,25nm,1.0s
AAK Ala-Archa 67.36 319 *e*P **P 00 01 50.5 +0.6**
comp=Z,17nm,1.0s
AAK LR LR
comp=Z,335nm,22.0s
AAK Ala-Archa 67.36 319 P **P 00 01 50.5 +0.6**
SNR=5.5
AAK P **P 00 01 50.5 +0.6**
SNR=5.5
AAK Ala-Archa 67.36 319 P **P 00 01 50.5 +0.6**
SNR=5.5
FRU Bishkek 67.37 319 *e*P **P 00 01 49.0 -0.8**
ZAA0 Zalesovo Array 67.95 333 *e*P **P 00 01 52.4 -0.8**
ZALV Zalesovo Beam 67.95 333 P **P 00 01 52.5 -0.7**
comp=Z,29nm,0.8s,baz=107,slow=5.0,SNR=117
ZALV PKP2ab 00 30 13.1
comp=Z,0.5nm,0.3s,baz=294,slow=4.6,SNR=3.0
KBL Kabul 68.01 309 *e*P **P 00 01 53.6 -0.6**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 68.01 309 *e*P **P 00 01 53.6 -0.6**
comp=Z,15nm,0.9s
SEY Seymchan 68.06 11 P **P 00 01 54.7 +1.0**
comp=Z,39nm,0.8s,baz=206,slow=4.5,SNR=34
SEY Seymchan 68.06 11 *ce*P **P 00 01 55.3 +1.6**
KURK Kurchatov 69.02 328 *ce*P **P 00 01 59.7 -0.3**
KURK Kurchatov 69.02 328 *e*P **P 00 01 59.8 -0.1**
comp=Z,110nm,0.9s
KURK LR LR
comp=Z,512nm,19.0s
KURK Kurchatov 69.02 328 P **P 00 02 00.1 +0.1**
SNR=40
KURK P **P 00 02 00.1 +0.1**
SNR=40
KURK Kurchatov 69.02 328 P **P 00 02 00.1 +0.1**
SNR=40
NVS Novosibirsk 69.23 333 *e*P **P 00 02 00.6 -0.5**
NVS *e*S **S 00 11 04.7 -0.2**
NVS pmax pmax
comp=Z,55nm,1.3s
NVS pmax pmax
comp=N,11nm,0.6s
NVS pmax pmax
comp=E,42nm,1.4s
NVS smax smax
comp=E,24nm,1.6s
KKAR Karatay Array 70.20 318 *e*P **P 00 02 07.3 -0.1**
KKAR pmax pmax
comp=Z,112nm,0.4s
KKAR Karatay Array 70.20 318 *e*P **P 00 02 07.3 -0.1**
comp=Z,112nm,0.4s
MRIV Mauritius Mete 72.19 250 *e*P **P 00 02 19.9 -0.1**
XMAS Kiritimati 73.06 87 PFAKE 00 02 40.0 +15
XMAS LR LR
comp=Z,2.0nm,20.0s
RER Riviere de l'E 73.87 249 *e*P **P 00 02 31.7 +1.8**
comp=Z,127nm,1.0s
MSEY Mahe Island 73.98 266 P **P 00 02 31.7 +0.9**
MSEY Mahe Island 73.98 266 PFAKE 00 02 40.0 +9.3
MSEY LR LR
comp=Z,883nm,22.0s
BIDO Bidbid 74.37 295 P **P 00 02 33.0 +0.3**
SNR=19
BIDO Bidbid 74.37 295 P **P 00 02 33.0 +0.3**
SNR=19
BVAR Borovoye Array 74.59 327 P **P 00 02 33.2 -0.2**
comp=Z,42nm,0.9s,baz=126,slow=6.3,SNR=163
TIXI Tiksi 74.61 360 P **P 00 02 32.6 -0.5**
comp=Z,17nm,0.8s,baz=159,slow=4.1,SNR=68
TIXI Tiksi 74.61 360 *ce*P **P 00 02 32.2 -0.8**
TIXI pmax pmax
comp=Z,33nm,1.2s
TIXI Tiksi 74.61 360 *e*P **P 00 02 32.2 -0.8**
comp=Z,21nm,0.9s
TIXI LR LR
comp=Z,525nm,21.0s
BRVK Borovoye 74.66 327 *e*P **P 00 02 33.7 -0.1**
BRVK pmax pmax
comp=Z,52nm,0.9s
BRVK MLR MLR
comp=Z,135nm,22.0s
BRVK Borovoye 74.66 327 *e*P **P 00 02 33.7 -0.1**
comp=Z,52nm,0.9s
BRVK LR LR
comp=Z,135nm,22.0s
BRVK Borovoye 74.66 327 P **P 00 02 34.0 +0.2**
SNR=20
BRVK P **P 00 02 34.0 +0.2**
SNR=20
BRVK Borovoye 74.66 327 P **P 00 02 34.0 +0.2**
SNR=20
VNDA Vanda 76.35 173 P **P 00 02 43.0 0.0**
comp=Z,10nm,0.6s,baz=317,slow=6.4,SNR=38
VNDA Vanda 76.35 173 *e*P **P 00 02 42.9 -0.1**
comp=Z,25nm,1.2s
UOSS Minazif 76.35 296 *e*P **P 00 02 43.6 -0.5**
comp=Z,38nm,1.3s
HATD Hatta, Dubai 76.40 296 *i*P **P 00 02 44.5 +0.1**
SNR=10
ASHO Ashiyiah 76.44 296 *i*P **P 00 02 44.7 0.0**
SNR=14
ASHO Ashiyiah 76.44 296 P **P 00 02 44.9 +0.2**
SNR=12
ASHO Ashiyiah 76.44 296 P **P 00 02 44.9 +0.2**
SNR=12
BANOM Banah 76.44 297 *i*P **P 00 02 45.0 +0.4**
SNR=9.9
BANOM Banah 76.44 297 P **P 00 02 45.0 +0.4**
SNR=7.7
BANOM Banah 76.44 297 P **P 00 02 45.0 +0.4**
SNR=7.7
NAZ Nazwa, Dubai 76.84 296 *i*P **P 00 02 46.8 -0.1**
SNR=7.4
FAQ Al Faqa, Dubai 76.87 296 *i*P **P 00 02 46.9 -0.1**
SNR=17
SBA Scott Base 77.23 172 *e*P **P 00 02 49.1 +1.1**
SBA pmax pmax
comp=Z,26nm,1.2s
SBA MLR MLR
comp=Z,776nm,20.0s
SBA Scott Base 77.23 172 *e*P **P 00 02 49.1 +1.1**
comp=Z,26nm,1.2s
SBA LR LR
comp=Z,776nm,20.0s
GEYT Alibeck 77.44 310 P **P 00 02 50.4 +0.3**
comp=Z,7.6nm,0.8s,baz=144,slow=3.3,SNR=27
NRIK Noril'sk 77.70 346 P **P 00 02 51.1 +0.3**
comp=Z,42nm,0.9s,baz=122,slow=6.0,SNR=72
MAW Mawson 78.44 201 P **P 00 02 55.2 +0.3**
comp=Z,17nm,0.7s,baz=68,slow=6.1,SNR=31
MAW Mawson 78.44 201 P **P 00 02 55.1 +0.3**
baz=78,SNR=27
MAW Mawson 78.44 201 *e*P **P 00 02 55.2 +0.3**
MAW pmax pmax
comp=Z,15nm,1.3s
MAW Mawson 78.44 201 *e*P **P 00 02 55.2 +0.3**
comp=Z,15nm,1.3s
ABKAR Akbulak array 79.25 321 *e*P **P 00 02 59.4 -0.3**
AKTO Aktyubinsk 80.79 322 P **P 00 03 07.9 -0.1**
comp=Z,33nm,1.0s,baz=107,slow=6.7,SNR=90
SVE Sverdlovsk 81.26 329 *d i*P **P 00 03 10.4 +0.1**
SVE pmax pmax
comp=Z,65nm,1.2s
ABPO Ambohimpanom 81.83 251 *e*P **P 00 03 14.1 -0.3**
ABPO pmax pmax
comp=Z,120nm,1.8s
ABPO MLR MLR
comp=Z,480nm,20.0s
ABPO Ambohimpanom 81.83 251 *e*P **P 00 03 14.1 -0.3**
comp=Z,120nm,1.8s
ABPO LR LR
comp=Z,480nm,20.0s
ARU Arti 82.22 328 P **P 00 03 15.0 -0.4**
comp=Z,28nm,0.9s,baz=101,slow=2.0,SNR=51
ARU Arti 82.22 328⇑ *e*P **P 00 03 15.2 -0.2**
ARU pmax pmax
comp=Z,65nm,1.3s
ARU Arti 82.22 328 *e*P **P 00 03 14.8 -0.6**
ARU LR LR
comp=Z,257nm,21.0s
SOKR Solikamsk 84.05 331 *c i*P **P 00 03 22.5 -2.2**
SOKR pmax pmax
comp=Z,55nm,1.0s
SVW2 Sparrevohn 85.38 28 *e*P **P 00 03 32.8 +1.3**
comp=Z,43nm,1.2s
TT01 Tatalina 85.65 26 *e*P **P 00 03 33.9 +1.1**
TTA Tatalina 85.66 26 *e*P **P 00 03 33.2 +0.3**
TTA Tatalina 85.66 26 *e*P **P 00 03 33.2 +0.3**
RAYN Ar Rayn 85.85 294 *e*P **P 00 03 35.2 +0.5**
comp=Z,99nm,1.0s
RAYN LR LR
comp=Z,457nm,22.0s
KDAK Kodiak Island 86.10 32 P **P 00 03 33.9 -1.1**
comp=Z,28nm,1.0s,baz=300,slow=0.2,SNR=6.2
KDAK Kodiak Island 86.10 32 *ce*P **P 00 03 35.7 +0.6**
KDAK Kodiak Island 86.10 32 *e*P **P 00 03 36.3 +1.2**
comp=Z,246nm,2.0s
KDAK LR LR
comp=Z,457nm,19.0s
DAMY Dhamar 86.18 285 *e*P **P 00 03 36.7 -0.1**
MAK Makhachkala 86.33 313 *e*P **P 00 03 34.7 -1.9**
MAK pmax pmax
comp=Z,138nm,0.9s
SEKA Sheki 86.33 311 P **P 00 03 35.3 -1.5**
MNGR Mingechevir, A 86.36 311 P **P 00 03 36.0 -0.8**
RSO Redoubt South 86.58 29 *e*P **P 00 03 38.2 +0.5**
ZKTA Zakatala 86.82 312 P **P 00 03 38.2 -0.9**
QSPA South Pole Qui 86.86 180 *e*P **P 00 03 38.4 -0.5**
QSPA LR LR
comp=Z,669nm,20.0s
GANJ Ganja 86.92 311 P **P 00 03 38.7 -0.9**
SPU Mount Spurr 87.06 28 *e*P **P 00 03 40.2 +0.4**
CNPM China Poot 87.14 30 *e*P **P 00 03 40.8 +0.6**
SYO Syowa Base 87.16 201⇓ *e*X **P 00 03 38.4 -1.7**
SYO Syowa Base 87.16 201⇑ *e*PcP **PcP 00 03 41.4 -0.8**
SYO Syowa Base 87.16 201⇑ *e*pP pP 00 03 47.0 -3.8
SYO Syowa Base 87.16 201 *e*SH **SKKSac 00 14 15.0 +1.4**
BRLK Bradley Lake 87.36 30 *e*P **P 00 03 41.7 +0.4**
comp=Z,48nm,1.0s
NAX Nakhchivan 87.39 309 P **P 00 03 41.0 -1.0**
GROC Groznyy 87.61 313 *e*P **P 00 03 43.8 +1.0**
GROC *e*S S 00 14 10.7 -12
GROC pmax pmax
comp=Z,63nm,1.1s
GNI Garni 88.07 310 PFAKE 00 04 00.0 +15
GNI LR LR
comp=Z,331nm,21.0s
SEW Seward 88.13 30 *e*P **P 00 03 45.4 +0.5**
RC01 Rabbit Creek A 88.15 29 *e*P **P 00 03 45.7 +0.7**
MLY Manley 88.40 25 *e*P **P 00 03 46.3 +0.1**
PMR Palmer 88.52 28 *e*P **P 00 03 46.6 -0.1**
PMR Palmer 88.52 28 *e*P **P 00 03 46.5 -0.1**
SML Sawmill 88.93 28 *e*P **P 00 03 48.6 -0.1**
SML Sawmill 88.93 28 *e*P **P 00 03 48.6 -0.1**
RND Reindeer 88.94 26 *e*P **P 00 03 47.7 -1.1**
RND Reindeer 88.94 26 *e*P **P 00 03 47.7 -1.1**
ZEI Tsey 88.95 313 *e*P **P 00 03 49.4 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 88.95 26 *e*P **P 00 03 48.3 -0.5**
MCK McKinley 88.95 26 *e*P **P 00 03 48.3 -0.5**
COLD Coldfoot 89.02 23 *e*P **P 00 03 49.7 +0.7**
SCM Sheep Creek Mo 89.41 28 *e*P **P 00 03 51.7 +0.7**
SCM Sheep Creek Mo 89.41 28 *e*P **P 00 03 51.7 +0.7**
WRH Wood River Hil 89.43 25 *e*P **P 00 03 50.6 -0.4**
MDM Murphy Dome 89.44 25 *e*P **P 00 03 51.0 0.0**
TOLK Toolik Lake Re 89.50 21 *e*P **P 00 03 51.9 +0.6**
DHY Denali Highway 89.55 27 *e*P **P 00 03 52.2 +0.4**
CCB Clear Creek Bu 89.58 25 *e*P **P 00 03 50.5 -1.1**
COLA College 89.59 25 *i*P **P 00 03 50.8 -0.8**
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA College 89.59 25 PFAKE 00 04 00.0 +8.4
COLA LR LR
comp=Z,559nm,19.0s
KBZ Khabaz 89.76 314 P **P 00 03 52.9 0.0**
comp=Z,6.3nm,1.0s,baz=112,slow=7.3,SNR=7.2
NEY Neytrino 89.85 313 *i*P **P 00 03 55.0 +1.4**
NEY pmax pmax
comp=Z,3.0nm,1.0s
KVAR Kislovodsk Arr 89.92 314 P **P 00 03 53.9 0.0**
comp=Z,8.3nm,1.0s,baz=163,slow=12,SNR=3.7
KIV Kislovodsk 89.93 314 *i*P **P 00 03 54.2 +0.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 89.93 314 PFAKE 00 04 10.0 +16
KIV LR LR
comp=Z,310nm,22.0s
ILAR Eielson Array 89.98 25 P **P 00 03 51.9 -1.6**
comp=Z,4.3nm,0.9s,baz=271,slow=4.2,SNR=28
ILAR PKKP **PKKPbc 00 21 25.5 -2.2**
comp=Z,1.4nm,0.8s,baz=21,slow=1.5,SNR=14
ILB Eielson Array 89.98 25 *e*P **P 00 03 52.1 -1.4**
DIV Divide 90.06 29 *e*P **P 00 03 54.7 +0.6**
PAX Paxson 90.40 27 *e*P **P 00 03 55.8 +0.2**
PAX Paxson 90.40 27 *e*P **P 00 03 55.8 +0.2**
BMRM Bremner River 90.61 29 *e*P **P 00 03 57.0 +0.4**
FYU Fort Yukon 90.87 23 *e*P **P 00 03 58.0 +0.5**
DOT Dot Lake 91.10 26 *e*P **P 00 03 58.7 -0.1**
CRQM Cirque 91.31 29 *e*P **P 00 04 01.0 +1.0**
BALM Baldy 91.72 29 *e*P **P 00 04 02.9 +1.1**
BALM Baldy 91.72 29 *e*P **P 00 04 02.9 +1.1**
KMBO Kilima Mbogo 92.33 269 P **P 00 04 05.7 -0.2**
comp=Z,15nm,1.0s,baz=71,slow=5.8,SNR=38
KMBO LR LR 00 41 37.6
comp=Z,774nm,21.9s,baz=144,slow=33
KMBO Kilima Mbogo 92.33 269 *e*P **P 00 04 07.0 +1.1**
KMBO Kilima Mbogo 92.33 269 P **P 00 04 07.0 +1.1**
SNR=8.7
KMBO P **P 00 04 07.0 +1.1**
SNR=8.7
KMBO Kilima Mbogo 92.33 269 PcP **P 00 04 07.0 +1.1**
SNR=8.7
EGAK Eagle 92.43 25 *e*P **P 00 04 05.1 +0.2**
EGAK LR LR
comp=Z,901nm,20.0s
KLMR Klimovskoe 92.74 331 *e*P **P 00 04 03.4 -3.0**
KLMR pmax pmax
comp=Z,17nm,1.5s
LPSR Galich'ya Gora 92.87 322 *e*P **P 00 04 05.7 -1.4**
LPSR pmax pmax
comp=Z,7.0nm,1.0s
DAWY Dawson 93.18 26 *e*P **P 00 04 09.2 +0.7**
TMCR Tamitsa 93.46 334 *e*P **P 00 04 08.3 -1.3**
TMCR pmax pmax
comp=Z,13nm,0.8s
HYT Haines Junctio 94.07 29 *e*P **P 00 04 13.8 +1.1**
OBN Obninsk 94.28 325 *ce*P **P 00 04 11.0 -2.6**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN Obninsk 94.28 325 PFAKE 00 04 30.0 +16
OBN LR LR
comp=Z,632nm,21.0s
LVZ Lovozero 94.73 338 PFAKE 00 04 30.0 +15
LVZ LR LR
comp=Z,561nm,20.0s
INK Inuvik 95.39 22 P **P 00 04 17.9 -0.5**
comp=Z,8.2nm,0.9s,baz=256,slow=5.8,SNR=14
BRTR Keskin Array B 96.58 309 P **P 00 04 23.1 -1.6**
comp=Z,1.4nm,0.8s,baz=151,slow=5.6,SNR=7.3
BRTR PP **PP 00 08 11.8 -7.5**
comp=Z,1.3nm,0.9s,baz=148,slow=9.6,SNR=4.0
BRTR Keskin Array B 96.58 309 *ce*P **P 00 04 23.5 -1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CSS Mathiatis 96.93 305 PFAKE 00 04 40.0 +14
CSS LR LR
comp=Z,102nm,20.0s
ANTO Ankara 97.23 310 PFAKE 00 04 40.0 +12
ANTO LR LR
comp=Z,395nm,19.0s
ARCES ARCESS Array B 97.81 340 P **P 00 04 28.5 -0.9**
comp=Z,10nm,1.0s,baz=34,slow=7.3,SNR=9.0
PTCN Pitcairn Islan 97.98 116 PFAKE 00 04 40.0 +8.8
PTCN LR LR
comp=Z,2μm,20.0s
KBS Kingsbay 98.18 350 PFAKE 00 04 40.0 +9.1
KBS LR LR
comp=Z,701nm,21.0s
FINES FINESS Array B 99.18 332 P **Pdif 00 04 35.4 -0.3**
comp=Z,3.8nm,1.0s,baz=15,slow=5.8,SNR=3.6
SNAA Sanae 99.36 194 *i*P **Pdif 00 04 36.3 -0.1**
LSZ Lusaka 100.22 254 PFAKE 00 04 50.0 +8.5
LSZ LR LR
comp=Z,2μm,21.0s
BOSA Boshof 101.11 240 P **Pdif 00 04 45.4 +0.2**
comp=Z,14nm,0.9s,baz=103,slow=3.2,SNR=15
SANT Santorini 103.24 306 PFAKE 00 05 10.0 +16
SANT LR LR
comp=Z,493nm,21.0s
PSZ Piszkesteto 105.46 319 PFAKE 00 09 30.0
PSZ LR LR
comp=Z,693nm,22.0s
NOA NORSAR Array B 106.15 334 Pdiff **Pdif 00 05 05.4 -1.4**
comp=Z,1.3nm,0.8s,baz=65,slow=8.3,SNR=4.1
TIR Tirane 106.84 312 PFAKE 00 09 30.0
TIR LR LR
comp=Z,554nm,22.0s
WVOR Wild Horse Val 108.03 46 PFAKE 00 09 30.0
WVOR LR LR
comp=Z,365nm,19.0s
BMO Blue Mountains 108.41 44 PFAKE 00 09 40.0
BMO LR LR
comp=Z,446nm,19.0s
BRG Berggiesshubel 108.41 323 *e*P **PP 00 09 55.0 +7.7**
comp=Z,17nm,1.8s
comp=N,344nm,23.9s
comp=E,379nm,19.2s
comp=Z,649nm,23.3s
SOKA Soboth 108.97 319 *i*PKiKP **PKiKP 00 09 20.9 -3.2**
comp=Z,3.5nm,1.1s
MOA Molln 109.14 320 *i*PKiKP **PKiKP 00 09 22.7 -1.7**
comp=Z,5.2nm,1.4s
GERES GERESS Array B 109.19 321 PKiKP **PKiKP 00 09 24.5 0.0**
comp=Z,0.5nm,0.4s,baz=72,slow=1.7,SNR=11
CUC Castrocucco 110.13 312 PFAKE 00 09 40.0
CUC LR LR
comp=Z,384nm,19.0s

CEL	**Celeste**	**110.46**	**310**	PFAKE		00 09 40.0	
CEL				LR	LR		
comp=Z,449nm,21.0s							
ABTA	**Abfaltersbach**	**110.61**	**319**	*i* PKiKP	**PKiKP**	**00 09 24.8**	**-2.5**
comp=Z,6.2nm,1.2s							
HLID	**Hailey**	**110.75**	**44**	PFAKE		00 09 40.0	
HLID				LR	LR		
comp=Z,130nm,19.0s							
WTTA	**Wattenberg**	**111.01**	**320**	*i* PKiKP	**PKiKP**	**00 09 27.5**	**-0.6**
comp=Z,2.5nm,0.4s							
WATA	**Walderalm**	**111.03**	**320**	*i* PKiKP	**PKiKP**	**00 09 28.1**	**0.0**
comp=Z,1.7nm,0.4s							
AQU	**L'Aquila**	**111.30**	**314**	PFAKE		00 09 40.0	
AQU				LR	LR		
comp=Z,614nm,20.0s							
MOTA	**Moosalm**	**111.33**	**320**	*i* PKiKP	**PKiKP**	**00 09 28.6**	**-0.1**
comp=Z,6.3nm,1.2s							
RETA	**Reutte**	**111.50**	**320**	*i* PKiKP	**PKiKP**	**00 09 27.8**	**-1.1**
comp=Z,4.3nm,1.6s							
PFO	**Pinyon Flats O**	**111.54**	**55**	PFAKE		00 09 40.0	
PFO				LR	LR		
comp=Z,475nm,20.0s							
FETA	**Feichten**	**111.68**	**320**	*i* PKiKP	**PKiKP**	**00 09 28.5**	**-0.8**
comp=Z,3.3nm,1.1s							
BOZ	**Bozeman (W)**	**112.03**	**42**	PFAKE		00 09 40.0	
BOZ				LR	LR		
comp=Z,323nm,22.0s							
WDD	**Wied Dalam**	**112.06**	**307**	PFAKE		00 09 40.0	
WDD				LR	LR		
comp=Z,1μm,20.0s							
DAVA	**Damuels**	**112.13**	**320**	*i* PKiKP	**PKiKP**	**00 09 30.4**	**+0.2**
comp=Z,1.1nm,0.3s							
DAVOX	**Davos/Dischmat**	**112.31**	**320**	PKiKP	**PKiKP**	**00 09 30.7**	**+0.1**
comp=Z,0.9nm,0.3s,baz=225,slow=1.4,SNR=7.1							
EGMT	**Eagleton**	**112.39**	**39**	PFAKE		00 09 40.0	
EGMT				LR	LR		
comp=Z,351nm,21.0s							
CLTB	**Caltabellotta**	**112.68**	**310**	PFAKE		00 09 40.0	
CLTB				LR	LR		
comp=Z,315nm,19.0s							
BFO	**Black Forest**	**112.72**	**322**	PFAKE		00 09 40.0	
BFO				LR	LR		
comp=Z,291nm,19.0s							
TUE	**Stuetta**	**112.76**	**320**	PFAKE		00 09 40.0	
TUE				LR	LR		
comp=Z,1μm,19.0s							
DUG	**Dugway, Tooele**	**112.84**	**47**	PFAKE		00 09 40.0	
DUG				LR	LR		
comp=Z,335nm,21.0s							
VLC	**Villacollemand**	**112.86**	**317**	PFAKE		00 09 40.0	
VLC				LR	LR		
comp=Z,497nm,19.0s							
LKWY	**Lake**	**113.20**	**42**	PFAKE		00 09 40.0	
LKWY				LR	LR		
comp=Z,565nm,20.0s							
HWUT	**Hardware Ranch**	**113.33**	**46**	PFAKE		00 09 40.0	
HWUT				LR	LR		
comp=Z,277nm,21.0s							
ECH	**Echery**	**113.48**	**322**	PFAKE		00 09 40.0	
ECH				LR	LR		
comp=Z,271nm,20.0s							
WLF	**Walferdange**	**113.50**	**324**	PFAKE		00 09 40.0	
WLF				LR	LR		
comp=Z,534nm,19.0s							
BW06	**Boulder Array**	**114.38**	**44**	PFAKE		00 09 50.0	+15
BW06				LR	LR		
comp=Z,360nm,20.0s							
PDAR	**Pinedale Array**	**114.38**	**44**	PKP	PKPdf	00 09 36.1	+1.3
comp=Z,0.8nm,0.3s,baz=193,slow=3.6,SNR=4.1							
PDAR				PKKPbc	**PKKPbc**	**00 20 13.8**	**-1.6**
comp=Z,1.4nm,0.6s,baz=124,slow=4.5,SNR=7.0							
BNI	**Bardonecchia**	**115.02**	**319**	PFAKE		00 09 50.0	+14
BNI				LR	LR		
comp=Z,467nm,19.0s							
VSL	**Villasalto**	**115.05**	**312**	PFAKE		00 09 50.0	+14
VSL				LR	LR		
comp=Z,434nm,20.0s							
WUAZ	**Wupatki**	**115.19**	**52**	PFAKE		00 09 50.0	+14
WUAZ				LR	LR		
comp=Z,283nm,20.0s							
DGMT	**Dagmar**	**115.60**	**37**	PFAKE		00 09 50.0	+13
DGMT				LR	LR		
comp=Z,327nm,19.0s							
SSB	**Saint Sauveur**	**116.32**	**320**	PFAKE		00 09 50.0	+12
SSB				LR	LR		
comp=Z,370nm,19.0s							
TUC	**Tucson**	**116.47**	**55**	PFAKE		00 09 50.0	+11
TUC				LR	LR		
comp=Z,490nm,19.0s							
PV01	**Paradox Valley**	**116.60**	**49**	*e*PKPdf	**PKPdf**	**00 09 40.3**	**+1.1**
MVCO	**Mesa Verde**	**116.94**	**50**	PFAKE		00 09 50.0	+10
MVCO				LR	LR		
comp=Z,359nm,20.0s							
ISCO	**Idaho Springs**	**118.20**	**46**	PFAKE		00 09 50.0	+7.7
ISCO				LR	LR		
comp=Z,413nm,19.0s							
SDCO	**Great Sand Dun**	**119.02**	**48**	PFAKE		00 10 00.0	+16
SDCO				LR	LR		
comp=Z,560nm,20.0s							
ANMO	**Albuquerque**	**119.21**	**51**	PKP	**PKPdf**	**00 09 45.2**	**+1.0**
comp=Z,2.9nm,0.9s,baz=14,slow=5.0,SNR=6.1							
ANMO	**Albuquerque**	**119.21**	**51**	*e*PKPdf	**PKPdf**	**00 09 45.0**	**+0.7**
ANMO				LR	LR		
comp=Z,254nm,19.0s							
ULM	**Lac du Bonnet**	**119.36**	**32**	PKKPbc	PKKPbc	00 19 56.2	-1.6
comp=Z,3.6nm,0.9s,baz=315,slow=1.4,SNR=4.6							
OGNE	**Ogallala**	**120.27**	**43**	PFAKE		00 10 00.0	+14
OGNE				LR	LR		
comp=Z,460nm,20.0s							
AGMN	**Agassiz Nation**	**120.48**	**34**	PFAKE		00 10 00.0	+14
AGMN				LR	LR		
comp=Z,481nm,19.0s							
MNTX	**Cornudas Mount**	**121.06**	**55**	*e*PKPdf	**PKPdf**	**00 09 48.4**	**+0.8**
MNTX				LR	LR		
comp=Z,385nm,20.0s							
TAM	**Tamanrasset**	**122.52**	**295**	PKIKP	**PKPdf**	**00 09 53.0**	**+2.2**
TAM	**Tamanrasset**	**122.52**	**295**	PFAKE		00 10 00.0	+9.2
TAM				LR	LR		
comp=Z,252nm,19.0s							
TXAR	**Lajitas Array**	**123.17**	**57**	PKP	**PKPdf**	**00 09 52.5**	**+0.7**
comp=Z,2.2nm,0.8s,baz=237,slow=1.1,SNR=20							
TXAR				PKKPab	**PKKPbc**	**00 19 43.0**	**+0.1**
comp=Z,1.4nm,0.7s,baz=122,slow=5.9,SNR=12							
ESDC	**Sonseca Array**	**124.44**	**317**	PKP	**PKPdf**	**00 09 54.3**	**+0.4**
comp=Z,0.7nm,0.7s,baz=30,slow=2.6,SNR=5.6							
PAB	**San Pablo**	**124.77**	**317**	PFAKE		00 10 10.0	+15
PAB				LR	LR		
comp=Z,296nm,19.0s							
KSU1	**Kansas State U**	**124.81**	**43**	*e*PKPdf	**PKPdf**	**00 09 54.9**	**+0.3**
KSU1				LR	LR		
comp=Z,305nm,20.0s							
JCT	**Junction City**	**125.98**	**54**	*e*PKIKP	**PKPdf**	**00 09 57.7**	**+0.5**
JCT				MLR	MLR		
comp=Z,395nm,20.0s							
JCT	**Junction City**	**125.98**	**54**	*e*PKPdf	**PKPdf**	**00 09 57.7**	**+0.5**
JCT				LR	LR		
comp=Z,395nm,20.0s							
JFWS	**Jewell Farm**	**126.81**	**36**	PFAKE		00 10 10.0	+12
JFWS				LR	LR		
comp=Z,428nm,19.0s							
TORD	**Torodi Ar. Bea**	**127.61**	**284**	PKP	**PKPdf**	**00 10 00.5**	**-0.1**
comp=Z,8.0nm,1.0s,baz=59,slow=1.9,SNR=31							
TORD				SKPbc	SKPbc	00 13 18.2	
comp=Z,2.1nm,1.1s,baz=57,slow=3.2,SNR=4.2							
CCM	**Cathedral Cave**	**128.96**	**42**	*e*PKIKP	**PKPdf**	**00 10 02.8**	**+0.2**
CCM	**Cathedral Cave**	**128.96**	**42**	*e*PKPdf	**PKPdf**	**00 10 02.8**	**+0.2**
MIAR	**Mount Ida**	**129.12**	**47**	PFAKE		00 10 10.0	+7.0
MIAR				LR	LR		
comp=Z,324nm,21.0s							
RTC	**Rabat Centre**	**129.17**	**312**	PFAKE		00 10 10.0	+7.0
RTC				LR	LR		
comp=Z,1μm,20.0s							
NATX	**Nacogdoches**	**129.55**	**51**	PFAKE		00 10 20.0	+16
NATX				LR	LR		
comp=Z,433nm,22.0s							
SADO	**Sadowa**	**131.38**	**27**	PKP	**PKPdf**	**00 10 07.5**	**+0.6**
comp=Z,1.9nm,0.5s,baz=326,slow=6.8,SNR=2.7							
PLCA	**Paso Flores**	**132.64**	**159**	PKP	**PKPdf**	**00 10 11.2**	**+1.6**
comp=Z,6.7nm,0.8s,baz=229,slow=5.1,SNR=11							
PLCA				SKPbc	**SKPab**	**00 13 36.5**	**+0.7**
comp=Z,13nm,1.2s,baz=224,slow=2.6,SNR=3.6							
ACSO	**Alum Creek Sta**	**132.71**	**34**	PFAKE		00 10 20.0	+10
ACSO				LR	LR		
comp=Z,207nm,20.0s							
KIC	**Kosan Boka**	**134.44**	**276**	*e*PKIKP	PKPpre	00 10 04.5	
comp=Z,30nm,1.0s							
DBIC	**Dimbokro**	**134.54**	**276**	PKhKP	PKPpre	00 10 04.8	
comp=Z,2.6nm,0.6s,baz=99,slow=5.3,SNR=7.2							
DBIC				PKP	**PKPdf**	**00 10 14.4**	**+0.7**
comp=Z,11nm,0.9s,baz=90,slow=0.9,SNR=5.7							
LRAL	**Lakeview Retre**	**134.60**	**45**	*e*PKPdf	**PKPdf**	**00 10 13.2**	**-0.1**
TIC	**Toumodi**	**134.70**	**276**	*e*PKIKP	PKPpre	00 10 05.2	
LIC	**Lamto**	**134.72**	**276**	*e*PKIKP	PKPpre	00 10 04.9	
comp=Z,30nm,1.0s							
PKME	**Peaks-Kenny Pk**	**134.83**	**19**	PFAKE		00 10 30.0	+17
PKME				LR	LR		
comp=Z,389nm,19.0s							
TKL	**Tuckaleechee C**	**135.22**	**40**	PKP	**PKPdf**	**00 10 16.6**	**+2.1**
comp=Z,9.0nm,0.7s,baz=146,slow=5.6,SNR=12							
BRAL	**Brewton**	**135.56**	**47**	PFAKE		00 10 30.0	+15
BRAL				LR	LR		
comp=Z,471nm,20.0s							
BLA	**Blacksburg**	**136.24**	**35**	PFAKE		00 10 30.0	+14
BLA				LR	LR		
comp=Z,293nm,19.0s							
GOGA	**Godfrey**	**136.80**	**42**	PFAKE		00 10 30.0	+13
GOGA				LR	LR		
comp=Z,325nm,21.0s							
CBN	**Corbin Frederi**	**137.21**	**32**	PFAKE		00 10 30.0	+12
CBN				LR	LR		
comp=Z,412nm,21.0s							
CNNC	**Cliffs of the**	**139.08**	**35**	PFAKE		00 10 30.0	+8.4
CNNC				LR	LR		
comp=Z,2μm,19.0s							
PAYG	**Puerto Ayora**	**139.91**	**95**	PFAKE		00 10 40.0	+16
PAYG				LR	LR		
comp=Z,630nm,19.0s							
ASCN	**Ascension**	**142.46**	**253**	PFAKE		00 10 40.0	+12
ASCN				LR	LR		
comp=Z,981nm,22.0s							
LVC	**Limon Verde**	**148.68**	**146**	*e*PKPbc	**PKPbc**	**00 10 44.1**	**+1.2**
LVC				LR	LR		
comp=Z,1μm,19.0s							
NNA	**Nana**	**149.71**	**120***c*	*i* PKHKP	**PKPdf**	**00 10 42.6**	**+2.0**
NNA	**Nana**	**149.71**	**120**	*e*PKPdf	**PKPdf**	**00 10 41.1**	**+0.6**
NNA				*e*PKPbc	**PKiKP**	**00 10 46.5**	**+0.2**
NNA				LR	LR		
comp=Z,285nm,21.0s							
CPUP	**Villa Florida**	**149.99**	**167**	PKP	**PKPdf**	**00 10 42.4**	**+1.7**
comp=Z,43nm,0.8s,baz=336,slow=1.3,SNR=10							
CPUP				PKPbc	**PKiKP**	**00 10 46.7**	**+0.2**
comp=Z,43nm,0.8s,baz=203,slow=3.2,SNR=70							
BCIP	**Isla Barro Col**	**150.09**	**77**	PFAKE		00 10 50.0	-2.1
BCIP				LR	LR		
comp=Z,268nm,19.0s							
OTAV	**Otavalo**	**151.78**	**95**	PFAKE		00 11 00.0	+0.3
OTAV				LR	LR		
comp=Z,706nm,20.0s							
LPAZ	**La Paz**	**153.94**	**138**	PKP	**PKPdf**	**00 10 49.6**	**+2.0**
comp=Z,4.0nm,1.1s,baz=326,slow=3.6,SNR=5.0							
LPAZ				PKPbc	**PKiKP**	**00 10 56.8**	**+1.1**
comp=Z,5.1nm,0.9s,baz=184,slow=2.2,SNR=8.5							
SDDR	**Presa de Saban**	**154.14**	**51**	PFAKE		00 11 00.0	+4.7
SDDR				LR	LR		
comp=Z,249nm,22.0s							
SJG	**San Juan**	**158.50**	**45**	PKPab	**PKPab**	**00 11 28.0**	**+0.5**
comp=Z,9.5nm,0.7s,baz=51,slow=6.5,SNR=3.6							
SJG	**San Juan**	**158.50**	**45**	PKP2	**PKPab**	**00 11 28.0**	**+0.5**
SJG				pmax	pmax		
comp=Z,10.0nm,0.7s							
SDV	**Santo Domingo**	**159.04**	**73**	PKPab	**PKPab**	**00 11 31.5**	**+1.1**
baz=306,slow=4.9							
SAML	**Samuel**	**162.49**	**133**	PFAKE		00 11 10.0	+13
SAML				LR	LR		
comp=Z,1μm,19.0s							
RCBR	**Riachuelo**	**163.06**	**238**	PFAKE		00 11 10.0	+12
RCBR				LR	LR		
comp=Z,306nm,21.0s							
FDF	**Fort de France**	**164.28**	**42**	PFAKE		00 11 10.0	+11
FDF				LR	LR		
comp=Z,342nm,22.0s							
PTGA	**Pitinga**	**169.67**	**111**	PFAKE		00 11 10.0	+7.0
PTGA				LR	LR		
comp=Z,38μm,19.0s							

*DDA **28** 23:53:17.1,38.°85N×43.°88E,h7km,Ml2.6*
*ISK **28** 23:53:17.7,38.°94N×43.°59E,h5km,MD2.8*
*CSEM **28** 23:53:18.6±0.3,38.°96N×43.°58E,h2km,MD2.8,Error ellipse: s-maj=7.4km s-min=5.9km az=117.0*
*ISCJB **28** 23:53:19.4±0.6,38.°99N±0.°04×43.°58E±0.°06,h13km,Error ellipse: s-maj=7.2km s-min=5.0km az=30.3*
ISC 28 23:53:18.1±0.9,38.°95N±0.°03×43.°61E±0.°04,h13km,n24, σ0s59/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.22**	**288**	*e*PG	**Pg**	**23 53 23.1**	**0.0**
ERCV	**ERCIS-VAN**	**0.22**	**288**	*e*Pg	**Pg**	**23 53 23.1**	**0.0**
CLDR	**Caldiran**	**0.31**	**51**	*e*PG	**Pg**	**23 53 24.8**	**+0.2**
CLDR				*e*SG	**Sb**	**23 53 31.4**	**+0.7**
CLDR	**Caldiran**	**0.31**	**51**	*i* P	**Pg**	**23 53 23.8**	**-0.7**
CLDR	**Caldiran**	**0.31**	**51**	P	**Pg**	**23 53 23.8**	**-0.7**
CLDR	**Caldiran**	**0.31**	**51**	*e*Pg	**Pg**	**23 53 24.8**	**+0.2**
CLDR				*e*Sg	**Sb**	**23 53 31.4**	**+0.7**
VANB	**Van**	**0.40**	**206**	*e*PG	**Pb**	**23 53 27.3**	**+0.2**
VANB				*e*SG	**Sn**	**23 53 35.4**	**-1.7**
VANB	**Van**	**0.40**	**206**	*e*Pg	**Pb**	**23 53 27.3**	**+0.2**
TVAN	**Van**	**0.45**	**201**	*i* P	**Pg**	**23 53 27.0**	**-0.1**
TVAN	**Van**	**0.45**	**201**	P	**Pg**	**23 53 27.0**	**-0.1**
DYDN	**Diyadin**	**0.59**	**6**	*i* P	**Pb**	**23 53 30.6**	**+0.1**
DYDN	**Diyadin**	**0.59**	**6**	P	**Pb**	**23 53 30.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.79**	**323**	*e*PG	**Pg**	**23 53 33.6**	**+0.2**
AGRB	**Hanur-Agry**	**0.79**	**323**	*e*Pg	**Pg**	**23 53 33.6**	**+0.2**
EATA	**Eleskirt**	**1.26**	**317**	*i* P	**Pn**	**23 53 41.7**	**0.0**
EATA	**Eleskirt**	**1.26**	**317**	P	**Pn**	**23 53 41.7**	**0.0**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*PN	**Pb**	**23 53 49.9**	**+0.7**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*Pn	**Pb**	**23 53 49.9**	**+0.7**
CUKT	**Cukurca**	**1.70**	**180**	*e*PN	**Pb**	**23 53 49.9**	**+0.5**
CUKT	**Cukurca**	**1.70**	**180**	*e*Pn	**Pb**	**23 53 49.9**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.88**	**329**	*e*PN	**Pb**	**23 53 52.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.88**	**329**	*e*Pn	**Pb**	**23 53 52.3**	**-0.1**
BNGB	**Bing¨¶l**	**2.29**	**272**	*e*PN	**Pb**	**23 53 58.1**	**-1.2**
BINT	**Bingol**	**2.44**	**269**	*e*Pn	**Pn**	**23 53 58.1**	**+0.4**

*NIED **28** 23:56:00,29.°40N×131.°40E,h5km,Mw4.4 Best double couple: M0=4.52000×10^15 NP1:φs=161.00000°,δ45.00000°, λ-86.00000°. NP2:φs=335.00000°,δ45.00000°, λ-94.00000°.*
JMA 28 23:56:35.5±0.1,29.°38N×131.°43E,h60km±5km,M3.9, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.17**	**317**	P	Pn	23 56 56.1	+0.3
JYAK				*e*S	Sn	23 57 11.5	+0.6
JTN	**Tanegashima 3**	**1.33**	**343**	P	Pn	23 56 58.2	+0.3
JTN				*e*S	Sn	23 57 14.8	+0.1
JNN	**Nakanoshima**	**1.43**	**289**	P	Pn	23 57 00.0	+0.7
JNN				*e*S	Sn	23 57 17.9	+0.8
JKC	**Kuchinoerabu**	**1.52**	**315**	P	Pn	23 57 01.3	+0.9
JKC				*e*S	Sn	23 57 20.4	+1.2
JZK	**Kikaishima**	**1.66**	**231**	P	Pn	23 57 02.5	+0.1
JZK				*e*S	Sn	23 57 23.2	+0.5
JTSR	**Tashiro 2**	**1.83**	**346**	P	Pn	23 57 05.7	+1.0
JTSR				*e*S	Sn	23 57 27.3	+0.4
JAM	**Amami Oshima**	**1.87**	**239**	P	Pn	23 57 05.7	+0.5
JAM				*e*S	Sn	23 57 27.4	-0.3
JTAJ	**Takarajima**	**1.96**	**264**	P	Pn	23 57 07.5	+1.1
JTAJ				*e*S	Sn	23 57 31.1	+1.2
JNAR	**Kushima--Naru**	**2.14**	**356**	P	Pn	23 57 10.2	+1.3
JNAR				*e*S	Sn	23 57 35.7	+1.3
JAMN	**Amaminishikomi**	**2.28**	**241**	P	Pn	23 57 11.7	+0.9
JAMN				*e*S	Sn	23 57 39.0	+1.3
JSU	**Suzuyama**	**2.28**	**339**	P	Pn	23 57 11.7	+0.9
JSU				*e*S	Sn	23 57 37.4	-0.4
JTZ	**Takazaki**	**2.53**	**353**	P	Pn	23 57 15.4	+1.2
JTZ				*e*S	Sn	23 57 45.4	+1.5
JTK	**Tokunoshima**	**2.70**	**235**	P	Pn	23 57 17.3	+0.8
JTK				*e*S	Sn	23 57 48.9	+0.9
JSJ	**Shimokoshiki**	**2.73**	**328**	P	Pn	23 57 17.0	+0.1
JSJ				*e*S	Sn	23 57 48.0	-0.7
JIU2	**Izumi 2**	**3.20**	**351**	P	Pn	23 57 24.3	+1.0
JTO	**Tosashimizu**	**3.66**	**18**	P	Pn	23 57 28.9	-0.8

*NEIC **29** 00:01:46.7±3.9,3.°01S×129.°75E,h4km±25km,mb4.5/8,*
Error ellipse: s-maj=8.6km s-min=6.1km az=57.0
*IDC **29** 00:01:46.4±0.6,3.°01S×129.°68E,h0km,mb4.2/14, mb1 4.3/16,mb1mx4.1/43,mbtmp4.2/16,ML4.3/2,Error ellipse: s-maj=32.5km s-min=12.6km az=73.0*
*ISCJB **29** 00:01:48.8±0.3,3.°05±0.°05×129.°60E±0.°03,h28km, mb4.4/18,Error ellipse: s-maj=7.1km s-min=3.9km az=16.2*
*DJA **29** 00:01:52.6±0.2,3.°S±3.°×13.°0E±.°,h54km±14km,M4.6/10, mB5.4/1,mb4.9/5,MLv4.4/10,Mw(mB)4.8/1*
ISC 29 00:01:50.8±0.5,3.°01S±0.°05×129.°65E±0.°04,h28km,n38, σ1s41/47,mb4.3/18,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.80**	**245**	P	**Pn**	**00 02 07.7**	**+1.5**
BNDI	**Bandanaira**	**1.52**	**171**	P	**Pb**	**00 02 19.5**	**+1.1**
AAI	**Ambon**	**1.60**	**245**	P	**Pb**	**00 02 20.0**	**+0.2**
NLAI	**Namlea**	**2.56**	**265**	P	**Pn**	**00 02 32.5**	**+2.1**
FAKI	**Fak Fak**	**2.59**	**88**	P	**Pn**	**00 02 32.1**	**+1.2**
FAKI				S	**Sn**	**00 03 01.3**	**-0.2**
LBMI	**Labuha**	**3.19**	**318**	P	**Pn**	**00 02 39.7**	**+0.5**
LBMI				S	**Sn**	**00 03 19.2**	**+2.9**
SANI	**Sanana**	**3.79**	**285**	P	**Pn**	**00 02 46.6**	**-0.7**
SANI				S	**Sn**	**00 03 28.7**	**-2.2**
KMPI	**Kaimana, Papua**	**4.09**	**99**	P	**Pn**	**00 02 53.4**	**+1.8**
KMPI				S	**Sn**	**00 03 40.4**	**+1.8**
BAKI	**Biak**	**6.70**	**74**	P	**Pn**	**00 03 28.6**	**+1.2**
78nm,0.8s							
KDI	**Kendari**	**7.08**	**262**	P	**Pn**	**00 03 34.4**	**+1.7**
APSI	**Ampana**	**8.27**	**284**	P	**Pn**	**00 03 50.7**	**+1.8**
169nm,0.5s,2μm							
APSI				S	**Sn**	**00 05 21.8**	**+0.3**
169nm,0.5s,2μm							
MRSI	**Marisa**	**8.45**	**294**	P	**Pn**	**00 03 51.1**	**-0.4**
56nm,0.6s							
MRSI				S	**Sn**	**00 05 25.8**	**-0.2**
56nm,0.6s							
FITZ	**Fitzroy Crossi**	**15.51**	**194**	Pn	**Pn**	**00 05 26.8**	**-0.8**
0.9nm,0.3s,baz=22,slow=10.0,SNR=12							
KKM	**Kota Kinabalu**	**16.16**	**304**	Pn	**Pn**	**00 05 35.9**	**-0.3**
0.2nm,0.2s							
WRAB	**Tennant Creek**	**17.43**	**165**	*e*Pn	**Pn**	**00 05 50.4**	**-1.7**
5.4nm,0.8s							
WRA	**Warramunga Arr**	**17.44**	**165**	P	**Pn**	**00 05 49.4**	**-2.8**
1.3nm,0.3s,baz=344,slow=13,SNR=19							
WRA				S	**Sn**	**00 09 08.2**	**+2.5**
0.2nm,0.3s,baz=343,slow=22,SNR=4.0							
MBWA	**Marble Bar**	**20.46**	**207**	*e*P	**P**	**00 06 26.2**	**-0.1**
35nm,0.8s							
ASAR	**Alice Springs**	**20.94**	**169**	P	**P**	**00 06 31.1**	**-0.5**
21nm,0.6s,baz=349,slow=11,SNR=46							
ASAR				S	**S**	**00 10 19.0**	**-4.7**
1.3nm,0.8s,baz=353,slow=22,SNR=4.1							
ASAR				PcP	**PcP**	**00 10 38.8**	**-0.2**
1.0nm,0.5s,baz=18,slow=1.7,SNR=6.1							
GUMO	**Guam**	**22.36**	**42**	*e*P	**P**	**00 06 45.4**	**-1.4**
9.3nm,0.4s							
CTA	**Charters Tower**	**23.46**	**138**	P	**P**	**00 06 57.6**	**-0.6**
3.8nm,0.9s,baz=321,slow=14,SNR=1.8							
CTAO	**Charters Tower**	**23.46**	**138**	*e*P	**P**	**00 06 57.6**	**-0.6**
75nm,1.4s							
COCO	**West Island**	**33.75**	**253**	*e*P	**P**	**00 08 31.1**	**+0.9**
315nm,1.0s							
CMAR	**Chiang Mai Arr**	**37.01**	**306**	P	**P**	**00 08 59.1**	**+0.8**
0.8nm,0.2s,baz=129,slow=7.3,SNR=8.6							
CHTO	**Chiang Mai**	**37.20**	**307**	*e*P	**P**	**00 09 00.2**	**+0.3**
5.7nm,1.1s							
MJAR	**Matsushiro Arr**	**40.15**	**11**	P	**P**	**00 09 23.7**	**-0.8**
1.1nm,0.4s,baz=184,slow=8.1,SNR=4.1							
USRK	**Ussuriysk Ar.**	**47.05**	**2**	P	**P**	**00 10 20.0**	**+0.2**
1.8nm,0.5s,baz=190,slow=7.3,SNR=4.0							
ULN	**Ulaanbaatar**	**54.39**	**341**	*e*P	**P**	**00 11 15.3**	**-0.1**
5.0nm,1.3s							
SONM	**Songino Array**	**54.58**	**341**	P	**P**	**00 11 17.3**	**+0.6**
0.9nm,0.6s,baz=158,slow=7.6,SNR=4.2							
DGAR	**Diego Garcia**	**57.10**	**263**	*e*P	**P**	**00 11 35.4**	**+0.1**
30nm,0.8s							
PETK	**Petropavlovsk-**	**60.68**	**19**	P	**P**	**00 11 59.6**	**+0.2**
4.0nm,0.9s,baz=225,slow=5.3,SNR=2.8							
MKAR	**Makanchi Array**	**64.73**	**326**	P	**P**	**00 12 27.0**	**+0.4**
1.5nm,0.7s,baz=118,slow=8.5,SNR=8.9							
ZALV	**Zalesovo Beam**	**67.88**	**333**	P	**P**	**00 12 45.8**	**-0.8**
1.2nm,0.7s,baz=106,slow=5.4,SNR=4.7							
TIXI	**Tiksi**	**74.53**	**360**	P	**P**	**00 13 26.5**	**0.0**
2.5nm,0.2s,baz=188,slow=7.1,SNR=4.6							
BVAR	**Borovoye Array**	**74.53**	**327**	P	**P**	**00 13 27.1**	**+0.2**
1.5nm,0.8s,baz=141,slow=7.3,SNR=7.0							
NRIK	**Noril'sk**	**77.63**	**346**	P	**P**	**00 13 44.7**	**+0.5**
2.3nm,0.6s,baz=117,slow=5.0,SNR=5.2							
AKTO	**Aktyubinsk**	**80.73**	**322**	P	**P**	**00 14 01.1**	**-0.5**
1.0nm,0.7s,baz=144,slow=8.5,SNR=4.0							
ARU	**Arti**	**82.16**	**328**	P	**P**	**00 14 07.4**	**-1.6**
0.9nm,0.4s,baz=104,slow=6.5,SNR=3.3							
CPUP	**Villa Florida**	**150.06**	**167**	PKPbc	**PKPbc**	**00 21 40.0**	**+0.3**
1.3nm,0.6s,baz=90,slow=5.1,SNR=4.1				

VANB eSG Sb 00 13 39.6 +0.4
VANB Van 0.28 203 ePg Pg 00 13 33.4 -0.1
VANB eSg Sb 00 13 39.6 +0.4
CLDR Caldiran 0.42 46 ePG Pg 00 13 33.7 -2.4
CLDR Caldiran 0.42 46 ePg Pg 00 13 33.7 -2.4
AGRB Hanur-Agry 0.83 330 ePG Pg 00 13 41.9 -1.9
AGRB eSG Sb 00 13 56.1 +0.9
AGRB Hanur-Agry 0.83 330 ePg Pg 00 13 41.9 -1.9
AGRB eSg Sb 00 13 56.2 +0.9
DIGO Kars 1.56 356 i P Pn 00 13 56.1 +0.7
DIGO Kars 1.56 356 P Pn 00 13 56.1 +0.7
CUKT Cukurca 1.60 178 ePN Pn 00 13 55.7 -0.1
CUKT Cukurca 1.60 178 ePn Pn 00 13 55.7 -0.1
SIRN S¨¨rnak 1.61 213 i P Pn 00 13 56.7 +0.8
SIRN S¨¨rnak 1.61 213 P Pn 00 13 56.7 +0.8
VRTB Varto-Mus 1.64 281 ePN Pn 00 13 57.0 +0.7
VRTB Varto-Mus 1.64 281 i P Pn 00 13 57.5 +1.2
VRTB Varto-Mus 1.64 281 ePn Pn 00 13 57.0 +0.7
VRTB Varto-Mus 1.64 281 P Pn 00 13 57.5 +1.2
HOMI Horasan 1.73 314 i P Pb 00 13 59.7 +0.3
BNGL BINGOL 1.86 274 i P Pb 00 14 02.2 +0.6
SENK Senkaya-Erzuru 1.93 332 ePN Pn 00 14 01.0 +0.6
SENK Senkaya-Erzuru 1.93 332 ePn Pn 00 14 01.0 +0.6
SVAN Silvan-Diyarba 1.96 250 ePN Pn 00 14 01.9 +1.4
SVAN Silvan-Diyarba 1.96 250 i P Pn 00 14 02.5 +2.0
SVAN Silvan-Diyarba 1.96 250 ePn Pn 00 14 01.9 +1.4
SVAN Silvan-Diyarba 1.96 250 P Pn 00 14 02.5 +2.0
ERZM Erzurum 1.98 303 i P Pb 00 14 04.1 +0.5
ERZM Erzurum 1.98 303 P Pb 00 14 04.1 +0.5
BTMN Batman 2.02 242 i P Pb 00 14 03.6 -0.6
BTMN Batman 2.02 242 P Pb 00 14 03.6 -0.6
ECAT Cat-ERZURUM 2.12 292 i P Pb 00 14 05.3 -0.7
ECAT Cat-ERZURUM 2.12 292 P Pb 00 14 05.3 -0.7
BNGB Bing¶ll 2.22 274 ePN Pn 00 14 06.0 +1.6
BINT Bingol 2.37 272 ePn Pn 00 14 06.0 -0.3
DDEM Demirkent 2.45 327 i P Pb 00 14 12.6 +0.9
DDEM Demirkent 2.45 327 i P Pb 00 14 12.5 +0.8
DDEM Demirkent 2.45 327 P Pb 00 14 12.5 +0.8
DDEM Demirkent 2.45 327 P Pb 00 14 12.6 +0.9
DAGI Agillar 2.54 331 i P Pb 00 14 13.8 +0.6
DAGI Agillar 2.54 331 i P Pb 00 14 13.8 +0.5
AKH Akhalkalaki 2.56 359 P Pg 00 14 16.4 -0.2
KOPT Kop Dagi 2.62 297 i P Sg 00 14 46.8 -5.0
KOPT Kop Dagi 2.62 297 P Sg 00 14 46.8 -5.0
ARTV Artvin 2.63 333 i P Pb 00 14 16.0 +1.2
ARTV Artvin 2.63 333 P Pb 00 14 16.0 +1.2
EPOS Posof 2.72 347 i P Pb 00 14 17.7 +1.5
EPOS Posof 2.72 347 P Pb 00 14 17.7 +1.5
DIYA Diyarbakir 2.83 252 i P Pb 00 14 17.7 -0.4
DIYA Diyarbakir 2.83 252 i P Pb 00 14 17.6 -0.5
DIYA Diyarbakir 2.83 252 P Pb 00 14 17.7 -0.4
DGRG David-gareji 2.96 28 P Pb 00 14 21.4 +1.2
TBLG Delisi 3.02 18 P Pg 00 14 28.8 +3.2
TNCL Tunceli-Merkez 3.12 276 i P Pn 00 14 19.9 +3.3
TNCL Tunceli-Merkez 3.12 276 P Pn 00 14 19.9 +3.3
KELT Kelkit 3.55 293 i P Pb 00 14 31.1 +0.7
KELT Kelkit 3.55 293 i P Pb 00 14 31.5 +1.1
KELT Kelkit 3.55 293 P Pb 00 14 31.5 +1.1
KELT Kelkit 3.55 293 P Pb 00 14 31.1 +0.7
KEMA Kemaliye 3.94 278 i P Pb 00 14 40.3 +3.3
KEMA Kemaliye 3.94 278 i P Pb 00 14 40.4 +3.4
KEMA Kemaliye 3.94 278 P Pb 00 14 40.4 +3.4
KEMA Kemaliye 3.94 278 P Pb 00 14 40.3 +3.3
SUSE Susehri 4.33 290 i P Pb 00 14 47.8 +4.1
SUSE Susehri 4.33 290 P Pb 00 14 47.8 +4.1

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*ISCJB **29** 00:41:04.1±1.2,51°.48N×0°.05×16°.04E±0°.05, h0km, Error ellipse: s-maj=7.4km s-min=3.5km az=22.6*
*WAR **29** 00:41:05.7,51°.51N×16°.06E, h1km*
*CSEM **29** 00:41:05.3±0.4,51°.49N×16°.08E, h1km, ML2.7/6, Error ellipse: s-maj=6.0km s-min=3.4km az=6.0*
*PRU **29** 00:41:06.1,51°.47N×16°.05E, h0km*
ISC 29 00:41:04.8±1.6,51°.52N±0°.07×16°.07E±0°.04,h0km,n26, σ0s56/40,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**168**	ePg	**Pg**	**00 41 18.5**	**+0.4**
KSP				eSg	**Sg**	**00 41 27.5**	**+0.5**
KSP	**Ksiaz**	**0.69**	**168**	ePg	**Pg**	**00 41 18.5**	**+0.4**
KSP				eSg	**Sg**	**00 41 27.5**	**+0.5**
KSP	**Ksiaz**	**0.69**	**168**	ePg	**Pg**	**00 41 18.5**	**+0.4**
KSP				eSg	**Sg**	**00 41 27.5**	**+0.5**
UPC	**Upice**	**1.02**	**182**	ePG	**Pg**	**00 41 24.3**	**+0.1**
UPC				eSG	**Sg**	**00 41 37.6**	**+0.2**
	comp=Z,13nm,0.2s						
UPC	**Upice**	**1.02**	**182**	Pg	**Pg**	**00 41 24.3**	**+0.1**
UPC				Sg	**Sg**	**00 41 37.6**	**+0.2**
	13nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**172**	ePG	**Pg**	**00 41 27.3**	**-0.1**
DPC				eSG	**Sg**	**00 41 42.3**	**-0.5**
	comp=Z,5.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**172**	Pg	**Pg**	**00 41 27.3**	**-0.1**
DPC				Sg	**Sg**	**00 41 42.3**	**-0.5**
	5.2nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**224**	ePG	**Pb**	**00 41 31.5**	**+0.1**
PVCC				eSG	**Sb**	**00 41 49.5**	**0.0**
	comp=Z,18nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**224**	Pg	**Pb**	**00 41 31.5**	**+0.1**
PVCC				Sg	**Sb**	**00 41 49.5**	**0.0**
	18nm,0.3s						
BRG	**Berggiesshubel**	**1.49**	**245**	PG	**Pg**	**00 41 33.3**	**0.0**
BRG				SG	**Sn**	**00 41 53.2**	**+0.2**
	15nm,0.4s						
KRLC	**Kraliky**	**1.52**	**163**	ePG	**Pg**	**00 41 34.1**	**+0.3**
KRLC				eSG	**Sg**	**00 41 52.0**	**-1.5**
KRLC	**Kraliky**	**1.52**	**163**	Pg	**Pg**	**00 41 34.1**	**+0.3**
KRLC				Sg	**Sg**	**00 41 52.0**	**-1.5**
PRA	**Prague**	**1.79**	**216**	eSG	**Sg**	**00 42 02.1**	**-0.1**
PRA	**Prague**	**1.79**	**216**	Sg	**Sg**	**00 42 02.1**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.81**	**207**	eSG	**Sg**	**00 42 02.5**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.81**	**207**	Sg	**Sg**	**00 42 02.5**	**-0.3**
PRU	**Pruhonice**	**1.82**	**213**	eSG	**Sb**	**00 42 01.9**	**-0.3**
	comp=Z,2.0nm,0.2s						
PRU	**Pruhonice**	**1.82**	**213**	Sg	**Sb**	**00 42 01.9**	**-0.3**
	2.0nm,0.2s						
CLL	**Collm**	**1.94**	**265**	ePg	**Pb**	**00 41 41.0**	**+0.1**
CLL				eSg	**Sg**	**00 42 07.0**	**+0.1**
MORC	**Moravsky Berou**	**1.98**	**151**	ePn	**Pn**	**00 41 39.2**	**-0.4**
MORC				eSg	**Sb**	**00 42 07.3**	**+0.3**
OKC	**Ostrava-Krasne**	**2.14**	**141**	eSG	**Sg**	**00 42 13.4**	**-0.1**
	comp=Z,3.5nm,0.5s						
OKC	**Ostrava-Krasne**	**2.14**	**141**	Sg	**Sg**	**00 42 13.4**	**-0.1**
	3.5nm,0.5s						
VRAC	**Vranov**	**2.24**	**171**	eSg	**Sg**	**00 42 15.8**	**-0.9**
NKC	**Novy Kostel**	**2.63**	**242**	eSG	**Sg**	**00 42 28.6**	**-0.8**
	comp=Z,6.3nm,0.4s						
NKC	**Novy Kostel**	**2.63**	**242**	Sg	**Sg**	**00 42 28.6**	**-0.8**
	6.3nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**215**	eSG	**Sb**	**00 42 34.3**	**+1.5**

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*NDI **29** 00:43:39.2±2.1,27°.42N×88°.38E, h24km±4km, ML3.5*
*IDC **29** 00:43:40.8±2.0,27°.59N×88°.82E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.1/46, mbtmp3.2/5, ML3.1/1, Error ellipse: s-maj=77.6km s-min=22.4km az=68.0*
*ISCJB **29** 00:43:41.1±0.7,27°.42N±0°.06×88°.39E±0°.04, h22km, mb3.2/4, Error ellipse: s-maj=8.1km s-min=5.3km az=0.5*
ISC 29 00:43:41.7±0.8,27°.43N±0°.07×88°.53E±0°.05,h22km,n15, σ3s45/20,mb3.4/4,Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.12**	**149**	eP	**Pb**	**00 43 45.2**	**-2.0**
GTK				eS	**Sb**	**00 43 49.1**	**-1.9**
GTK				AML	AML	00 44 06.1	
	comp=N,3μm,0.2s						
GTK				AML	AML	00 44 06.2	
	comp=E,3μm,0.1s						
DHUB	**DHUBRI**	**1.92**	**137**	eP	**Pb**	**00 44 17.0**	**+1.0**
DHUB				eS	**Sb**	**00 44 43.0**	**+3.6**
DHUB				AML	AML	00 45 02.7	
	comp=E,364nm,0.1s						
DHUB				AML	AML	00 45 03.2	
	comp=N,589nm,0.2s						
GUWA	**GUWAHATI**	**3.08**	**113**	eP	**Pb**	**00 44 32.1**	**-3.7**
GUWA				eS	**Sb**	**00 45 10.0**	**-2.9**
GUWA				AML	AML	00 45 35.3	
	comp=E,163nm,0.5s						
GUWA				AML	AML	00 45 35.3	
	comp=E,163nm,0.5s						
SHL	**Shillong**	**3.53**	**121**	eP	**Pb**	**00 44 38.8**	**-4.8**
SHL				eS	**Sb**	**00 45 20.4**	**-5.6**
SHL				AML	AML	00 45 53.2	
	comp=N,148nm,0.3s						
SHL				AML	AML	00 45 54.0	
	comp=E,132nm,0.4s						
TEZP	**TEZPUR**	**3.89**	**101**	eP	Pb	00 44 44.1	-5.5
TEZP				eS	**Sb**	**00 45 30.5**	**-5.8**
TEZP				AML	AML	00 46 02.9	
	comp=N,217nm,0.2s						
TEZP				AML	AML	00 46 03.1	
	comp=E,140nm,0.2s						
BOK	**Bokaro**	**4.33**	**214**	eP	**Pn**	**00 44 46.2**	**-0.1**
BOK				eS	**Sn**	**00 45 35.2**	**-0.9**
BOK				AML	AML	00 46 16.6	
	comp=N,65nm,0.6s						
BOK				AML	AML	00 46 17.3	
	comp=E,75nm,0.4s						
ITAN	**ITANAGAR**	**4.63**	**92**	eS	**Sn**	**00 45 47.4**	**+4.0**
ITAN				AML	AML	00 46 26.6	
	comp=N,276nm,0.6s						
ITAN				AML	AML	00 46 27.5	
	comp=E,285nm,0.4s						
ZIRO	**ZIRO**	**4.73**	**88**	eP	Pb	00 44 57.1	-6.9
ZIRO				eS	**Sn**	**00 45 50.2**	**+4.2**
KOHI	**KOHIMA**	**5.27**	**108**	eS	**Sn**	**00 46 02.6**	**+3.0**
KOHI				AML	AML	00 46 24.6	
	comp=N,89nm,0.3s						
KOHI				AML	AML	00 46 25.1	
	comp=E,114nm,0.4s						
MOKO	**MOKOCHONG**	**5.46**	**100**	eP	Pn	00 45 05.9	+4.0
MOKO				eS	**Sn**	**00 46 08.1**	**+4.1**
MOKO				AML	AML	00 47 00.0	
	comp=E,110nm,0.4s						
MOKO				AML	AML	00 47 00.3	
	comp=N,134nm,0.6s						
MKAR	**Makanchi Array**	**19.95**	**347**	P	**Pn**	**00 48 13.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=156,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**24.39**	**344**	P	**P**	**00 48 59.6**	**+1.3**
	comp=N,0.2nm,0.6s,baz=159,slow=8.9,SNR=3.3						
SONM	**Songino Array**	**24.69**	**30**	P	**P**	**00 49 01.3**	**+0.1**
	comp=N,0.2nm,0.4s,baz=218,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**64.69**	**132**	P	**P**	**00 54 20.3**	**+2.1**
	comp=N,0.3nm,0.6s,baz=324,slow=6.6,SNR=4.5						
ASAR	**Alice Springs**	**67.07**	**135**	P	**P**	**00 54 35.8**	**+2.2**
	comp=N,0.4nm,0.6s,baz=327,slow=6.0,SNR=5.0						

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*IDC **29** 00:43:54.8±1.1,27°.58N×88°.53E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.6/46, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=45.4km s-min=17.4km az=60.0*
*NEIC **29** 00:43:55.1±1.7,27°.45N×88°.68E, h10km, ML3.5(NDI), Error ellipse: s-maj=31.2km s-min=8.8km az=141.0*
NEIC One person killed by falling from a bridge and another died from a heart attack in the Chungtan-Mangan area. Felt strongly in northern Sikkim.
*DMN **29** 00:43:57.7±0.7,27°.29N×88°.82E, h30km, Ml4.7/8, Error ellipse: s-maj=17.7km s-min=12.0km az=10.0*
ISC 29 00:43:54.9±1.7,27°.70N±0°.06×88°.40E±0°.05,h4km±11km, n30,σ1s51/45,mb3.8/9,Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**1.23**	**227**	ePg	**Pn**	**00 44 19.5**	**+0.4**
ODAN				eSg	**Sb**	**00 44 35.5**	**+0.4**
	607nm,0.3s						
ODAN	**Odare**	**1.23**	**227**	ePg	**Pn**	**00 44 19.5**	**+0.4**
ODAN				eSg	**Sb**	**00 44 35.5**	**+0.4**
RAMN	**Ramite**	**1.77**	**245**	ePn	**Pb**	**00 44 28.0**	**0.0**
RAMN				eSn	**Sg**	**00 44 51.7**	**0.0**
	3μm,0.5s						
RAMN	**Ramite**	**1.77**	**245**	ePn	**Pb**	**00 44 28.0**	**0.0**
JIRN	**Jiri**	**1.96**	**269**	ePn	**Pg**	**00 44 32.6**	**+0.1**
JIRN				eSn	**Sg**	**00 44 59.3**	**+1.3**
JIRN	**Jiri**	**1.96**	**269**	ePn	**Pg**	**00 44 32.6**	**+0.1**
JIRN				eSn	**Sg**	**00 44 59.3**	**+1.3**
GUN	**Gumba**	**2.24**	**276**	ePn	**Pg**	**00 44 37.6**	**-0.3**
GUN				eSn	**Sg**	**00 45 08.3**	**+1.3**
	3μm,0.6s						
GUN	**Gumba**	**2.24**	**276**	ePn	**Pg**	**00 44 37.6**	**-0.3**
PKI	**Pulchoki**	**2.66**	**268**	ePn	**Pb**	**00 44 43.6**	**+0.3**
PKI				eSn	**Sb**	**00 45 16.2**	**-0.1**
	1μm,0.7s						
PKI	**Pulchoki**	**2.66**	**268**	ePn	**Pb**	**00 44 43.6**	**+0.3**
PKIN	**Phulchoki**	**2.67**	**268**	ePn	**Pb**	**00 44 43.6**	**+0.2**
PKIN				eSn	**Sb**	**00 45 16.3**	**-0.3**
	2μm,0.5s						
KKN	**Kakani**	**2.77**	**273**	ePn	**Pb**	**00 44 45.1**	**0.0**
KKN				eSn	**Sb**	**00 45 19.2**	**-0.2**
	694nm,0.4s						
KKN	**Kakani**	**2.77**	**273**	ePn	**Pb**	**00 44 45.1**	**0.0**
KKN				eSn	**Sb**	**00 45 19.2**	**-0.2**
DMN	**Daman**	**2.92**	**269**	ePn	**Pb**	**00 44 47.3**	**-0.5**
DMN				eSn	**Sb**	**00 45 22.6**	**-1.3**
	606nm,0.5s						
DMN	**Daman**	**2.92**	**269**	ePn	**Pb**	**00 44 47.3**	**-0.5**
DMN				eSn	**Sb**	**00 45 22.6**	**-1.3**
LSA	**Lhasa**	**3.13**	**50**	ePg	**Pb**	**00 44 51.0**	**-0.5**
LSA				eSn	**Sn**	**00 45 19.7**	**-3.9**
GKN	**Gorkha**	**3.34**	**276**	ePn	**Pb**	**00 44 51.7**	**-3.2**
GKN				eSn	**Sb**	**00 45 32.6**	**-3.4**
	232nm,0.3s						
GKN	**Gorkha**	**3.34**	**276**	ePn	**Pb**	**00 44 51.7**	**-3.2**
HYB	**Hyderabad**	**13.68**	**224**	i P	**Pn**	**00 47 06.5**	**-3.3**
HYB				eS	**Sn**	**00 49 42.0**	**-0.4**
MKAR	**Makanchi Array**	**19.66**	**347**	P	**Pn**	**00 48 26.9**	**+0.8**
	0.2nm,0.3s,baz=167,slow=9.3,SNR=5.0						
KURBB	**Kurchatov Arra**	**24.09**	**344**	P	**P**	**00 49 12.5**	**+1.1**
	0.6nm,0.6s,baz=161,slow=8.7,SNR=5.5						
KURK	**Kurchatov**	**24.16**	**345**	P	**P**	**00 49 12.5**	**+0.5**
SONM	**Songino Array**	**24.52**	**30**	P	**P**	**00 49 16.4**	**+0.9**
	1.1nm,0.5s,baz=217,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**26.36**	**355**	P	**P**	**00 49 33.8**	**+1.9**
	0.8nm,0.5s,baz=180,slow=5.9,SNR=3.5						
FINES	**FINESS Array B**	**52.89**	**328**	P	**P**	**00 53 14.2**	**+2.6**
	3.0nm,0.9s,baz=59,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	**54.91**	**338**	P	**P**	**00 53 29.6**	**+3.2**
	3.5nm,0.9s,baz=102,slow=8.4,SNR=3.5						
GERES	**GERESS Array B**	**59.89**	**313**	P	**P**	**00 54 02.0**	**+0.1**
	0.3nm,0.6s,baz=84,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**64.96**	**132**	P	**P**	**00 54 35.6**	**-0.5**
	1.6nm,0.7s,baz=323,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**67.34**	**135**	P	**P**	**00 54 51.0**	**-0.3**
	1.6nm,0.7s,baz=321,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**78.38**	**21**	P	**P**	**00 55 56.4**	**+0.1**
	0.3nm,0.8s,baz=309,slow=5.7,SNR=4.1						

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*SCB **29** 00:48:42.4±0.5,13°.57S×76°.77W, h35km, Ml4.2/1, Error ellipse: s-maj=19.5km s-min=8.7km az=5.0*
*IDC **29** 00:48:52.2±0.6,14°.42S×76°.16W, h0km, mb4.5/18, mb1 4.6/22, mb1mx4.5/32, mbtmp4.5/22, ML3.8/3, MS4.2/6, Ms1 4.2/6, ms1mx3.8/26, Error ellipse: s-maj=20.4km s-min=11.4km az=65.0*
*ISCJB **29** 00:48:55.1±0.2,14°.37S±0°.03×76°.01W±0°.04, h29km, mb4.9/153, MS4.1/4, Error ellipse: s-maj=6.0km s-min=3.3km az=149.9*
*NEIC **29** 00:48:58.4±0.4,14°.38S×75°.97W, h38km±4km, mb4.8/131, Error ellipse: s-maj=4.5km s-min=2.5km az=68.0*
NEIC Felt [II] at Ica.
*BJI **29** 00:48:58.5,14°.40S×76°.00W, h37km, mB5.1/8, Ms5.3/8, Ms7 5.0/8*
ISC 29 00:48:57.0±0.3,14°.46S±0°.05×76°.12W±0°.07,h29km,n458, σ1s07/455,mb4.8/150,MS4.2/4,1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.56**	**344**	Pn	**Pn**	**00 49 34.4**	**-2.1**
	39nm,0.3s,baz=129,slow=10,SNR=28						
NNA				LR	LR	00 49 55.7	
	comp=Z,149nm,20.2s,baz=109,slow=25						
NNA				Lg	Lg	00 50 11.8	
	295nm,0.3s,baz=150,slow=20,SNR=13						
NNA	**Nana**	**2.56**	**344**	ePn	**Pn**	**00 49 36.6**	**0.0**
BBOD	**La Paz, Gloria**	**7.56**	**108**	ePn	**Pn**	**00 50 49.9**	**+4.0**
ATAH	**Atahualpa**	**7.62**	**343**	Pn	**Pn**	**00 50 46.0**	**-0.5**
	0.5nm,0.3s,baz=168,slow=8.1,SNR=3.3						
ATAH				Lg	Lg	00 52 34.2	
	6.8nm,0.3s,baz=15,slow=18,SNR=6.0						
BBOB	**La Paz, Bander**	**7.88**	**103**	ePn	**Pn**	**00 50 54.1**	**+3.9**
BBOB				eSn	Sn	00 52 29.4	+11
	30nm,0.6s						
LPAZ	**La Paz**	**7.92**	**104**	Pn	**Pn**	**00 50 53.8**	**+3.0**
	7.1nm,0.3s,baz=296,slow=7.6,SNR=99						
LPAZ				LR	LR	00 54 37.0	
	comp=Z,569nm,18.8s,baz=292,slow=43						
LPAZ	**La Paz**	**7.92**	**104**	ePn	**Pn**	**00 50 54.8**	**+4.0**
LPAZ				eSn	Sn	00 52 31.2	+11
LPAZ	**La Paz**	**7.92**	**104**	ePn	**Pn**	**00 50 50.7**	**-0.1**
BBOJ	**La Paz, Jacaqu**	**8.03**	**109**	ePn	Pn	00 50 57.0	+4.7
PB11	**IPOC Station P**	**8.12**	**131**	ePn	**Pn**	**00 50 52.5**	**-0.7**
BBOE	**La Paz, Chanca**	**8.18**	**108**	ePn	**Pn**	**00 50 58.6**	**+4.3**
PB01	**IPOC Station P**	**9.10**	**137**	ePn	**Pn**	**00 51 06.7**	**+0.2**
PB10	**IPOC Station P**	**10.43**	**151**	ePn	**Pn**	**00 51 26.3**	**+1.6**
LVC	**Limon Verde**	**10.60**	**141**	Pn	**Pn**	**00 51 27.3**	**0.0**
	158nm,0.3s,baz=311,slow=9.6,SNR=38						
LVC				Lg	Lg	00 54 21.2	
	baz=131,slow=16,SNR=5.1						
LVC				LR	LR	00 55 20.6	
	comp=Z,1μm,20.2s,baz=285,slow=36						
LVC	**Limon Verde**	**10.60**	**141**	ePn	**Pn**	**00 51 28.3**	**+0.9**
MOCB	**Mochara**	**12.04**	**126**	eP	**Pn**	**00 51 48.9**	**+1.7**
SAML	**Samuel**	**13.80**	**68**	ePn	**Pn**	**00 52 09.3**	**-1.4**
SIV	**San Ignacio**	**14.60**	**98**	Pn	**Pn**	**00 52 21.6**	**-0.1**
	0.7nm,0.3s,baz=280,slow=14,SNR=24						
SIV				LR	LR	00 58 44.8	
	comp=Z,1μm,18.1s,baz=304,slow=40						
OTAV	**Otavalo**	**14.79**	**351**	eP	**P**	**00 52 30.4**	**+0.1**
OTAV	**Otavalo**	**14.79**	**351**	ePn	**Pn**	**00 52 25.5**	**+0.8**
LCO	**Las Campanas**	**15.32**	**162**	Pn	**Pn**	**00 52 31.8**	**+0.2**
	7.0nm,1.1s						
CMBC	**Cumbal**	**15.40**	**354**	eP	**P**	**00 52 36.1**	**-1.0**
CRUC	**La Cruz**	**15.95**	**357**	eP	**P**	**00 52 46.8**	**+3.7**
TUMC	**Tumaco**	**16.39**	**351**	ePn	**Pn**	**00 52 44.8**	**-0.2**
	255nm,0.9s						
GUVC	**San Jose del G**	**17.25**	**12**	eP	**P**	**00 52 57.6**	**+0.4**
PRAC	**Prado**	**18.10**	**4**	ePn	**Pn**	**00 53 06.2**	**-0.3**
	87nm,1.6s						
VILC	**Villavicencio,**	**18.61**	**8**	eP	**Pn**	**00 53 19.1**	**+6.3**
ROC1	**El Roble**	**19.01**	**167**	eP	**Pn**	**00 53 18.3**	**+0.7**
	16nm,0.9s						
GUYC	**Guyana, Colomb**	**19.57**	**2**	eP	**P**	**00 53 23.6**	**+0.4**
YOPC	**Yopal, Colombi**	**20.02**	**11**	eP	**Pn**	**00 53 29.9**	**+0.1**
RUSC	**La Rusia**	**20.44**	**9**	eP	Pn	00 53 33.8	-1.2
RUSC	**La Rusia**	**20.44**	**9**	eP	**P**	**00 53 33.0**	**+0.2**
	20nm,1.0s						
HELC	**Santa Helena**	**20.53**	**2**	eP	Pn	00 53 39.5	+3.6
HELC	**Santa Helena**	**20.53**	**2**	eP	**P**	**00 53 33.7**	**+0.2**
	20nm,0.6s						
GO05	**HualaæØ**	**20.81**	**170**	eP	**P**	**00 53 35.6**	**-0.5**
	21nm,1.0s						
PTGA	**Pitinga**	**21.00**	**51**	P	**P**	**00 53 37.9**	**-0.5**
	16nm,0.8s,baz=231,slow=14,SNR=22						
PTGA				LR	LR	01 02 22.9	
	comp=Z,757nm,18.3s,baz=245,slow=39						
PTGA	**Pitinga**	**21.00**	**51**	eP	**P**	**00 53 38.0**	**-0.4**
	20nm,0.8s						
BARC	**Barichara**	**21.12**	**8**	eP	**P**	**00 53 46.2**	**+6.4**
CPUP	**Villa Florida**	**21.17**	**127**	P	**P**	**00 53 40.3**	**+0.2**
	14nm,1.0s,baz=301,slow=14,SNR=20						
CPUP				LR	LR	01 03 28.9	
	comp=Z,367nm,18.5s,baz=262,slow=41						
CPUP	**Villa Florida**	**21.17**	**127**	eP	**P**	**00 53 40.4**	**+0.4**
ZARC	**Zaragoza, Cauc**	**21.85**	**3**	eP	**P**	**00 53 46.2**	**-1.1**
PAMC	**Pamplona, Colo**	**21.92**	**9**	eP	**P**	**00 53 50.8**	**+2.1**
OCAC	**Ocana**	**22.72**	**7**	eP	**P**	**00 53 55.3**	**-1.6**
MOTC	**Monteria, Cord**	**23.09**	**1**	eP	**P**	**00 54 00.4**	**-0.2**
BCIP	**Isla Barro Col**	**23.76**	**351**	eP	**P**	**00 54 07.8**	**+0.6**
	106nm,1.8s						
SDV	**Santo Domingo**	**23.82**	**14**	P	**P**	**00 54 07.7**	**-0.3**
	25nm,0.7s,baz=211,slow=12,SNR=26						
SJCC	**San Jacinto, C**	**24.22**	**2**	eP	**P**	**00 54 12.3**	**+0.8**
PLCA	**Paso Flores**	**26.62**	**171**	P	**P**	**00 54 32.3**	**-0.8**
	3.0nm,0.9s,baz=347,slow=14,SNR=3.1						
PCRV	**Puerto La Cruz**	**27.00**	**26**	P	**P**	**00 54 36.2**	**-0.4**
	11nm,0.7s,baz=201,slow=4.8,SNR=4.6						
BDFB	**Brasilia**	**27.16**	**96**	P	**P**	**00 54 37.5**	**-0.7**
	6.2nm,0.8s,baz=47,slow=8.5,SNR=27.1						
BDFB	**Brasilia**	**27.16**	**96**	eP	**P**	**00 54 37.0**	**-1.3**
	36nm,1.5s						
SPB	**Sao Paulo**	**28.55**	**113**	eP	**P**	**00 54 49.2**	**-1.3**
	89nm,1.9s						
TGUH	**Tegucigalpa,Un**	**30.41**	**338**	eP	**P**	**00 55 06.4**	**-0.5**
	12nm,0.7s						
SVB	**Belmont**	**31.24**	**29**	eP	**P**	**00 55 12.8**	**-1.6**
	97nm,1.2s						
MTDJ	**Mount Denham**	**32.51**	**357**	eP	**P**	**00 55 24.5**	**-1.0**
	111nm,1.4s						
CHRN	**Cochrane**	**32.82**	**176**	eP	**P**	**00 55 27.5**	**-0.4**
	7.7nm,1.1s						
RPN	**Rapa Nui**	**33.40**	**242**	eP	**P**	**00 55 34.8**	**+1.6**
	821nm,1.9s						
SDDR	**Presa de Saban**	**33.57**	**8**	eP	**P**	**00 55 33.6**	**-1.2**
	54nm,1.7s						
CELP	**Cerrillos**	**33.67**	**17**	eP	**P**	**00 55 34.7**	**-0.8**
IDE	**Isla Desecheo**	**33.73**	**15**	eP	**P**	**00 55 35.7**	**-0.4**
SJG	**San Juan**	**33.83**	**17**	eP	**P**	**00 55 36.0**	**-0.9**
	71nm,1.5s						
CBYP	**Canovanas**	**34.06**	**18**	eP	**P**	**00 55 37.7**	**-1.3**
	29nm,1.1s	

Y47A	UCPARC, Winfie baz=165	49.38 347	P	P	00 57 43.1	-0.9
239A	Gary baz=156	49.45 339	P	P	00 57 44.6	0.0
141A	Papa Simpson, baz=158	49.48 341	P	P	00 57 45.7	+0.9
KMSC	Kings Mountain baz=173	49.58 354	P	P	00 57 44.7	-0.8
Y46A	Houston baz=164	49.58 346	P	P	00 57 44.9	-0.6
BG3	Lake Jocassee 31nm,1.5s	49.60 353	eP	P	00 57 45.4	-0.4
238A	Jacksonville baz=155	49.66 339	P	P	00 57 46.0	-0.2
140A	Cam and Jess, baz=158	49.72 341	P	P	00 57 47.9	+1.2
Y45A	Yeager Farm, C baz=163	49.73 345	P	P	00 57 47.6	+0.9
Z42A	Norrel Spur, H baz=160	49.81 343	P	P	00 57 48.3	+1.0
HPIG	6.3nm,0.9s	50.17 325	eP	P	00 57 49.6	-0.8
236A	Katherine and baz=154	50.17 337	P	P	00 57 50.9	+0.8
Z40A	Long Farm, Mag baz=158	50.24 341	P	P	00 57 51.5	+1.0
138A	Matatall Enter baz=156	50.25 339	P	P	00 57 51.6	+1.0
SWET	Sewanee 12nm,1.1s	50.27 350	eP	P	00 57 50.5	-0.3
Y42A	Garnett, Star baz=160	50.30 343	P	P	00 57 51.9	+0.9
OXF	Oxford 33nm,1.4s	50.31 346	eP	P	00 57 49.7	-1.4
CCAR	Cane Creek 18nm,0.8s	50.37 343	eP	P	00 57 51.9	+0.4
137A	Heron Place, G baz=155	50.42 338	P	P	00 57 53.1	+1.1
X44A	Crenshaw baz=162	50.48 345	P	P	00 57 53.3	+0.9
WHTX	Lake Whitney, 13nm,1.1s	50.51 336	eP	P	00 57 52.5	-0.1
WLAR	White Oak Lake 27nm,0.8s	50.55 342	eP	P	00 57 53.4	+0.6
Y41A	Eaglette Beard baz=159	50.58 342	P	P	00 57 53.9	+0.8
136A	Ennis baz=154	50.59 338	P	P	00 57 54.4	+1.2
W45A	Hickory Valley baz=164	50.88 346	P	P	00 57 56.5	+1.1
Z37A	Pogue Cattle C baz=155	50.92 339	P	P	00 57 56.4	+0.6
X42A	Stuttgart baz=160	50.92 343	P	P	00 57 56.6	+0.9
TX31	Lajitas Ar. Si	51.02 329	eP	P	00 57 57.1	+0.4
TXAR	Lajitas Array 2.4nm,0.7s,baz=150,slow=8.7,SNR=24	51.02 329	P	P	00 57 56.3	-0.4
Y39A	Lockesburg baz=157	51.09 341	P	P	00 57 56.6	-0.4
X41A	Kaden, Bauxite baz=159	51.12 343	P	P	00 57 57.4	+0.2
UALR	University of 54nm,1.9s	51.33 343	eP	P	00 57 58.2	-0.6
MIAR	Mount Ida baz=158	51.48 342	P	P	00 58 00.2	+0.3
MIAR	Mount Ida 18nm,1.5s	51.48 342	eP	P	00 57 59.7	-0.2
VWCC	Virginia Weste	51.56 356	eP	P	00 57 59.4	-1.0
PTCN	Pitcairn Islan 677nm,1.3s	51.59 249	eP	P	00 58 03.0	+2.0
X39A	Fountain Ranch baz=157	51.62 341	P	P	00 58 01.4	+0.4
Y37A	Hugo baz=156	51.63 339	P	P	00 58 01.3	+0.3
HALT	Halls 26nm,0.7s	51.64 346	eP	P	00 58 01.0	0.0
W41B	Gary Mavity, V baz=160	51.68 343	P	P	00 58 01.4	+0.1
WHAR	Wooly Hollow 42nm,2.0s	51.80 343	eP	P	00 58 02.0	-0.3
JSRW	J. Sargeant Re	51.90 358	eP	P	00 58 02.6	-0.4
U45A	Rockin P Farm, baz=164	51.93 347	P	P	00 58 03.7	+0.6
W40A	Ferguson Farm, baz=159	51.93 342	P	P	00 58 03.8	+0.5
ABTX	Abilene, Hawle baz=150	51.95 335	P	P	00 58 03.9	+0.4
ABTX	Abilene, Hawle 8.1nm,0.8s	51.95 335	eP	P	00 58 03.5	0.0
GLAT	Glass 39nm,0.9s	51.97 346	eP	P	00 58 02.9	-0.6
X38A	Whitesboro baz=157	51.99 340	P	P	00 58 04.0	+0.2
Y35A	Marietta baz=154	52.06 338	P	P	00 58 05.3	+1.0
X37A	Clayton baz=156	52.10 340	P	P	00 58 04.7	+0.2
IP07	Quail 19nm,0.9s	52.13 358	eP	P	00 58 05.2	+0.5
IP06	Yanceyville 16nm,0.8s	52.14 358	eP	P	00 58 05.0	+0.3
IP01	Cuckoo 83nm,2.0s	52.17 358	eP	P	00 58 04.2	-0.7
V41A	Mountainview baz=160	52.23 343	P	P	00 58 05.0	-0.4
IP03	Louisa 14nm,0.9s	52.23 358	eP	P	00 58 05.7	+0.3
CVRD	Centerville Ro 12nm,0.8s	52.27 358	eP	P	00 58 05.5	-0.2
IP04	Greensprings 49nm,1.8s	52.31 358	eP	P	00 58 05.6	-0.4
PTRD	Partlow Road 90nm,0.1s	52.32 359	eP	P	00 58 06.5	+0.4
SPFD	Spotsylvania F 13nm,0.8s	52.33 359	eP	P	00 58 04.8	-1.3
CBN	Corbin Frederi 59nm,0.3s	52.40 359	eP	P	00 58 06.1	-0.6
V40A	Witts Springs baz=159	52.43 343	P	P	00 58 06.8	-0.3
PARMO	Parma 24nm,1.1s	52.45 346	eP	P	00 58 06.6	-0.5
X35A	Drake baz=154	52.48 338	P	P	00 58 07.6	+0.2
U42A	Revenden baz=161	52.52 345	P	P	00 58 06.7	-0.9
W37B	Quinton baz=156	52.62 340	P	P	00 58 08.5	+0.1
U41A	Viola baz=160	52.69 344	P	P	00 58 08.6	-0.3
V39A	Pettigrew baz=158	52.70 342	P	P	00 58 09.2	+0.1
PBMO	Poplar Bluff 14nm,1.5s	52.72 346	eP	P	00 58 08.6	-0.5
W36A	Wetumka baz=155	52.89 339	P	P	00 58 10.5	+0.2
U40A	Yellville baz=159,SNR=6.5	52.96 343	P	P	00 58 10.4	-0.5
V38A	Canehill baz=158	52.96 341	P	P	00 58 10.4	-0.5
T43A	Greenville baz=163	52.98 346	P	P	00 58 10.2	-0.8
W35A	Tecumseh baz=154	53.13 339	P	P	00 58 11.6	-0.5
U39A	Green Forest baz=159	53.16 342	P	P	00 58 11.6	-0.8
V37A	Hulbert baz=157	53.21 341	P	P	00 58 12.0	-0.7
USIN	University of 21nm,0.4s	53.26 349	eP	P	00 58 12.8	-0.2
WCI	Wyandotte Cave 12nm,0.9s	53.27 350	eP	P	00 58 12.6	-0.6
T41A	Mountain View baz=161	53.31 344	P	P	00 58 12.6	-0.9
S44A	Carbondale baz=164	53.33 347	P	P	00 58 12.6	-1.0
V36A	Jenks baz=156	53.38 340	P	P	00 58 13.9	0.0
S43A	Fulton Ridge, baz=163	53.39 346	P	P	00 58 13.3	-0.8
TUL1	Leonard baz=156	53.45 340	P	P	00 58 14.0	-0.5
TUL1	Leonard 10nm,0.9s	53.45 340	eP	P	00 58 14.0	-0.5
WMOK	Wichita Mounta baz=152	53.46 337	P	P	00 58 13.9	-0.7
U38A	Gravette baz=158	53.48 342	P	P	00 58 14.1	-0.7
SDMD	Soldier's Deli	53.59 359	eP	P	00 58 14.8	-0.7
	5.1nm,0.8s					
T40A	Mansfield baz=160	53.61 344	P	P	00 58 15.2	-0.4
V35A	Meyer Ranch, C baz=155	53.66 339	P	P	00 58 15.7	-0.4
U37A	Salina baz=157	53.68 341	P	P	00 58 15.9	-0.3
T39A	Clever baz=159	53.73 343	P	P	00 58 16.2	-0.4
S42A	Caledonia baz=162	53.75 346	P	P	00 58 16.1	-0.6
MNTX	Cornudas Mount baz=144	53.80 329	P	P	00 58 16.6	-0.6
S41A	Jillco Farms, baz=161,SNR=5.2	53.82 345	P	P	00 58 16.3	-0.9
R44A	Waltonville baz=164	53.82 347	P	P	00 58 17.4	+0.2
T38A	Diamond baz=158	54.01 342	P	P	00 58 18.2	-0.4
S40A	Lebanon baz=160	54.02 344	P	P	00 58 17.8	-0.9
R43A	Red Bud baz=163	54.03 347	P	P	00 58 18.9	+0.2
PSUB	Penn St. - Bra 44nm,1.9s	54.11 1	eP	P	00 58 18.7	-0.6
CCM	Cathedral Cave 6.0nm,0.8s	54.13 345	eP	P	00 58 19.4	0.0
MVL	Millersville 10nm,1.0s	54.18 360	eP	P	00 58 18.9	-0.8
T37A	Cheneyville 18 baz=157	54.28 342	P	P	00 58 20.1	-0.4
S39A	Bolivar baz=159	54.34 343	P	P	00 58 20.3	-0.7
R41A	Rosebud baz=162	54.40 345	P	P	00 58 20.1	-1.3
Q44A	Meyer Farm, Va baz=164	54.44 348	P	P	00 58 20.5	-1.1
MSTX	Muleshoe baz=148	54.44 333	P	P	00 58 21.5	-0.5
MSTX	Muleshoe 12nm,1.5s	54.44 333	eP	P	00 58 21.8	-0.1
S38A	Stockton baz=159	54.45 343	P	P	00 58 21.2	-0.6
O56A	Blue Knob Stat baz=177	54.49 358	P	P	00 58 21.6	-0.5
P47A	Martinsville baz=168	54.50 350	P	P	00 58 20.9	-1.2
T36A	Boggs Farm, Ca baz=156	54.52 341	P	P	00 58 22.0	-0.3
T35A	Sooner Cattle baz=155	54.60 340	P	P	00 58 21.2	-1.7
R40A	Maddies Statio baz=161	54.62 344	P	P	00 58 22.1	-0.9
Q43A	New Douglas baz=164	54.62 347	P	P	00 58 23.4	+0.4
Q42A	Golden Eagle baz=163	54.78 346	P	P	00 58 23.6	-0.6
P46A	Rosedale baz=167	54.78 350	P	P	00 58 23.3	-0.8
ACSO	Alum Creek Sta 16nm,0.9s	54.78 354	eP	P	00 58 23.1	-1.0
S37A	Fort Scott baz=158,SNR=6.1	54.84 342	P	P	00 58 24.1	-0.5
SSPA	Standing Stone 12nm,0.9s	54.84 358	eP	P	00 58 24.1	-0.4
R39A	Chumby, Stover baz=160	54.84 344	P	P	00 58 23.9	-0.7
BRNJ	Basking Ridge 37nm,1.3s	54.88 1	eP	P	00 58 23.6	-1.2
P44A	Sand Creek, Wi baz=165	54.90 348	P	P	00 58 24.2	-0.8
T34A	McClaskey Farm baz=155	54.92 339	P	P	00 58 24.5	-0.7
R38A	Fenwick Farm, baz=159	54.96 343	P	P	00 58 24.7	-0.8
Q41A	Truxton baz=162	54.98 346	P	P	00 58 25.5	-0.1
U32A	Winter Ranch, baz=152	54.99 337	P	P	00 58 25.7	0.0
S36A	Lake Cedric, C baz=157	55.04 341	P	P	00 58 25.8	-0.2
N59A	State Game Lan baz=180	55.09 0	P	P	00 58 26.7	+0.3
PAL	Palisades 68nm,1.7s	55.22 2	eP	P	00 58 26.9	-0.4
Q40A	Laux Farm, Aux baz=161	55.23 345	P	P	00 58 28.0	+0.6
S35A	Otter Creek Ra baz=156	55.23 341	P	P	00 58 27.4	0.0
P43A	Skaggs, Pawnee baz=164	55.25 347	P	P	00 58 29.1	+1.6
N54A	Moraine State baz=175	55.26 356	P	P	00 58 28.2	+0.7
R37A	Teagarden Farm baz=158	55.35 342	P	P	00 58 27.6	-0.7
P42A	Winchester baz=163	55.38 347	P	P	00 58 28.2	-0.2
S34A	Willow Spring baz=155	55.51 340	P	P	00 58 29.4	-0.1
319A	Douglas 11nm,0.6s	55.59 325	eP	P	00 58 31.5	+1.1
Q38A	Cooks Store, C baz=159,SNR=5.9	55.60 343	P	P	00 58 29.6	-0.4
121A	Cookes Peak, D baz=142	55.69 328	P	P	00 58 31.9	+0.8
P40A	Paris baz=161	55.73 345	P	P	00 58 30.7	-0.2
R35A	Emporia Munici baz=156	55.78 341	P	P	00 58 31.3	-0.1
M54A	Oil Creek Stat baz=176	55.78 357	P	P	00 58 30.7	-0.7
P39B	Salisbury baz=160	55.87 344	P	P	00 58 31.3	-0.7
ALLY	Alegheny Colle 22nm,1.0s	55.95 356	eP	P	00 58 33.1	+0.6
O41A	Passleys Farm, baz=163	56.01 346	P	P	00 58 31.7	-1.3
R34A	Isabella, Hill baz=155	56.10 340	P	P	00 58 33.5	-0.1
Q36A	Arnold C. Orve baz=157	56.14 342	P	P	00 58 33.5	-0.4
P38A	Dawn baz=160	56.20 344	P	P	00 58 35.0	+0.7
Q35A	Mercer Eighty, baz=156	56.22 341	P	P	00 58 35.3	+0.8
O40A	La Belle baz=161	56.24 345	P	P	00 58 33.9	-0.8
BNM	Barn Site	56.39 330	eP	P	00 58 35.8	-0.3
P36A	Good Intent, A baz=158	56.67 342	P	P	00 58 37.7	+0.1
P35A	Duane Minner, baz=157	56.83 342	P	P	00 58 39.1	+0.2
LAZ	Ladron	56.85 329	eP	P	00 58 40.2	+0.9
O37A	Wolven Farm, M baz=159	56.88 344	P	P	00 58 38.4	-0.8
ANMO	Albuquerque baz=144	56.95 330	P	P	00 58 40.3	+0.2
ANMO	Albuquerque 3.0nm,1.0s	56.95 330	eP	P	00 58 40.3	+0.2
N39A	Derby Farms, D baz=161	57.12 345	P	P	00 58 40.9	+0.1
TUC	Tucson baz=139	57.13 325	P	P	00 58 41.5	+0.3
TUC	Tucson 2.8nm,0.7s	57.13 325	eP	P	00 58 41.7	+0.5
N36A	Muff Farm, Cla baz=158	57.71 343	P	P	00 58 44.4	-0.6
T25A	Trinidad baz=147	57.83 333	P	P	00 58 46.9	+0.7
T25A	Trinidad 4.6nm,0.9s	57.83 333	eP	P	00 58 46.8	+0.7
214A	Organ Pipe Nat baz=137	58.02 323	P	P	00 58 48.4	+1.0
K41A	Shullsburg baz=164	58.27 348	P	P	00 58 48.6	-0.3
X18A	Snowflake 15nm,1.8s	58.38 327	eP	P	00 58 49.5	-0.5
J43A	Natural Harves baz=166	58.65 350	P	P	00 58 50.4	-1.1
KSCO	Kaye Shedlock' 15nm,0.4s	58.68 336	eP	P	00 58 52.7	+0.7
W18A	Petrified Fore 18nm,0.7s	58.72 328	eP	P	00 58 52.2	-0.2
SDCO	Great Sand Dun baz=146,SNR=8.0	58.81 333	P	P	00 58 53.5	+0.4
SDCO	Great Sand Dun 5.2nm,0.9s	58.81 333	eP	P	00 58 53.1	0.0
X16A	Lo Mia Camp, P	59.08 326	eP	P	00 58 56.0	+1.0
	3.3nm,0.8s					
113A	Mohawk Valley, 3.0nm,0.6s	59.17 323	eP	P	00 58 54.5	-0.9
BGNE	Belgrade 15nm,0.8s	59.20 341	eP	P	00 58 54.7	-0.8
PLVO	Plevna 7.9nm,0.8s	59.22 359	eP	P	00 58 55.2	-0.2
S22A	4UR Ranch, Cre baz=145	59.41 332	P	P	00 58 57.6	+0.4
S22A	4UR Ranch, Cre 3.7nm,0.9s	59.41 332	eP	P	00 58 56.9	-0.4
Q24A	Divide baz=147	59.67 334	P	P	00 58 59.6	+0.5
Q24A	Divide 5.5nm,1.0s	59.67 334	eP	P	00 58 58.4	-0.7
MVCO	Mesa Verde baz=143	59.75 330	P	P	00 58 59.9	+0.4
MVCO	Mesa Verde 21nm,1.8s	59.75 330	eP	P	00 59 00.0	+0.4
WUAZ	Wupatki baz=140	59.88 327	P	P	00 59 01.3	+0.9
WUAZ	Wupatki 7.8nm,1.1s	59.88 327	eP	P	00 59 01.6	+1.2
Y12C	Blythe baz=136	60.31 323	P	P	00 59 04.2	+0.9
Y12C	Blythe 3.7nm,0.8s	60.31 323	eP	P	00 59 04.5	+1.3
PV01	Paradox Valley 226nm,1.2s	60.53 331	eP	P	00 59 05.3	+0.4
I35A	Creekview Farm baz=159	60.54 344	P	P	00 59 05.7	+1.1
ISCO	Idaho Springs baz=147	60.57 334	P	P	00 59 05.4	+0.1
SMCO	Snowmass 3.7nm,0.8s	60.64 333	eP	P	00 59 06.4	+0.5
BC3	Big Chuckawall baz=135	60.79 323	P	P	00 59 07.4	+0.8
MONP2	Monument Peak baz=134	60.83 321	P	P	00 59 06.9	-0.2
ECSD	EROS Data Cent baz=157	60.87 343	P	P	00 59 06.8	0.0
ECSD	EROS Data Cent 32nm,2.0s	60.87 343	eP	P	00 59 07.0	+0.1
IRM	Iron Mountain baz=136,SNR=9.2	60.96 323	P	P	00 59 08.9	+1.1
G39A	Holcombe baz=163	61.01 348	P	P	00 59 07.0	-0.8
G38A	Ridgeland baz=162	61.04 347	P	P	00 59 07.2	-0.8
SPMN	Marine on St. baz=161	61.30 347	P	P	00 59 08.9	-0.8
TPFO	Pinon Flats baz=134	61.34 322	P	P	00 59 11.3	+0.9
XPFO	Piæon Flat 5.5nm,1.0s	61.35 322	eP	P	00 59 11.2	+0.7
BELC	Belle Mtn. Jos baz=135	61.35 323	P	P	00 59 11.0	+0.5
PFO	Pinyon Flats O baz=134	61.35 322	P	P	00 59 11.4	+0.9
PFO	Pinyon Flats O 4.7nm,0.9s	61.35 322	eP	P	00 59 10.5	+0.1
H34A	Spellman Lake, baz=158	61.50 344	P	P	00 59 12.0	+0.9
F39A	Loretta baz=164	61.56 348	P	P	00 59 10.7	-0.8
N23A	Red Feather La baz=147	61.62 335	P	P	00 59 12.3	0.0
GMRC	Granite Mounta baz=136	61.71 323	P	P	00 59 13.5	+0.7
F37A	Hinrichs Farm, baz=162	61.74 347	P	P	00 59 12.2	-0.4
H33A	Prehn Over Nor baz=157	61.78 343	P	P	00 59 13.4	+0.4
KNB	Kanab 7.3nm,1.0s	61.78 327	eP	P	00 59 13.7	+0.3
F38A	Pierce - Schro baz=162	61.80 348	P	P	00 59 12.3	-0.7
H32A	Carlson Farm, baz=156	61.81 343	P	P	00 59 12.7	-0.5
E40A	Wakefield baz=165	61.88 349	P	P	00 59 12.7	-0.9
E39A	Mellen baz=164	61.94 349	P	P	00 59 14.4	+0.4
O20A	White River Ci baz=144	61.99 332	P	P	00 59 14.2	-0.5
O20A	White River Ci 6.9nm,0.9s	61.99 332	eP	P	00 59 15.3	+0.5
LCMT	Little Creek M 3.7nm,1.0s	62.00 327	eP	P	00 59 15.0	+0.2
F36A	Milaca baz=161	62.07 346	P	P	00 59 13.9	-1.0
HEC	Hector,Ludlow baz=135	62.13 323	P	P	00 59 16.4	+0.8
SRU	San Rafael Swe 6.0nm,0.9s	62.23 330	eP	P	00 59 16.8	+0.5
VLDQ	Val d'Or 9.7nm,0.8s	62.30 359	eP	P	00 59 15.9	-0.4
TUQ	Turquoise Moun baz=136	62.32 324	P	P	00 59 17.6	+0.6
Q16A	Castle Valley 18nm,1.6s	62.39 330	eP	P	00 59 18.7	+1.2
CCUT	Cedar City 4.9nm,1.0s	62.46 327	eP	P	00 59 19.2	+1.2
BFSC	Mount Baldy Ra baz=134	62.50 322	P	P	00 59 19.1	+0.9
MSU	Marysvale	62.58 329	eP	P	00 59 19.7	+0.9
P17A	Butcher Ranch, 11nm,0.9s	62.62 330	eP	P	00 59 18.9	0.0
E36A	McGregor baz=161	62.63 347	P	P	00 59 18.4	-0.2
SHPR	Sheep Range 2.3nm,0.7s	62.66 325	eP	P	00 59 20.4	+1.1
GSC	Goldstone, Bar baz=135	62.74 323	P	P	00 59 20.6	+0.9
E35A	Pequot Lakes baz=160	62.93 346	P	P	00 59 20.4	-0.2
D37A	Cotton baz=162	63.06 348	P	P	00 59 20.9	-0.6
E34A	Wadena baz=159	63.07 345	P	P	00 59 21.8	+0.2
EDW2	Edwards Air Fo baz=134	63.14 322	P	P	00 59 23.1	+0.7
C39A	Grand Marais baz=165	63.25 349	P	P	00 59 22.0	-0.7
E33A	Westby DABS, E baz=158	63.27 345	P	P	00 59 22.2	-0.7
F31A	Hecla baz=156	63.28 343	P	P	00 59 23.5	+0.5
K22A	Casper baz=147	63.33 335	P	P	00 59 23.4	-0.2
K22A	Casper 7.8nm,1.0s	63.33 335	eP	P	00 59 23.8	+0.2
D35A	Remer baz=160	63.34 346	P	P	00 59 23.6	+0.2
C37A	Embarrass baz=162	63.55 348	P	P	00 59 24.3	-0.4
TPNV	Topopah Spring baz=136,SNR=5.4	63.59 325	P	P	00 59 26.2	+0.8
TPNV	Topopah Spring 6.8nm,1.1s	63.59 325	eP	P	00 59 26.8	+1.4
D34A	Park Rapids baz=159	63.61 346	P	P	00 59 24.6	-0.5
RSSD	Black Hills baz=150	63.62 338	P	P	00 59 25.7	+0.1
MPMC	Manual Prospec baz=134	63.66 323	P	P	00 59 26.3	+0.4
C36A	Pine Crest Far baz=162	63.71 347	P	P	00 59 25.2	-0.6
JLU	Jordanelle 6.8nm,0.9s	63.84 331	eP	P	00 59 28.0	+0.9
DAC	Darwin (Calif) 4.7nm,1.1s	63.88 323	eP	P	00 59 28.1	+0.8
C35A	Jirik Farms, M baz=161	63.91 347	P	P	00 59 26.5	-0.6
WASM	Alta Sierra Ca	64.07 322	eP	P	00 59 29.8	+1.2
DUG	Dugway, Tooele baz=140,SNR=16	64.19 329	P	P	00 59 30.3	+1.1
DUG	Dugway, Tooele 9.9nm,0.8s	64.19 329	eP	P	00 59 30.4	+1.1
R11A	Troy Canyon, C baz=137,SNR=5.7	64.23 326	P	P	00 59 30.6	+0.9
R11A	Troy Canyon, C 1.6nm,0.9s	64.23 326	eP	P	00 59 30.6	+0.9
PKM	Mcpherson Peak baz=132	64.25 321	P	P	00 59 30.5	+0.6
GRAC	Grapevine Rang baz=135	64.25 324	P	P	00 59 30.5	+0.9
CWC	Cottonwood Cre	64.27 323	P	P	00 59 30.5	+0.6

baz=134
B35A Bob, Littlefor 64.47 347 P P 00 59 30.1 -0.6
baz=161
HWUT Hardware Ranch 64.68 331 *e*P **P 00 59 32.7 +0.2**
7.8nm,0.8s
BW06 Boulder Array 64.70 333 P P 00 59 32.1 -0.6
baz=144
PD31 Pinedale Array 64.70 333 *e*P **P 00 59 32.3 -0.4**
PDAR Pinedale Array 64.70 333 P P 00 59 31.7 -1.0
1.5nm,0.9s,baz=142,slow=7.4,SNR=7.1
PDAR PcP **PcP 01 00 05.3 -0.9**
0.5nm,0.4s,baz=112,slow=5.9,SNR=4.1
B34A Aery, Baudette 64.80 346 P P 00 59 32.3 -0.6
baz=160
B33A Robert and Kas 64.82 346 P P 00 59 32.8 -0.2
baz=159
BGU Big Grassy Mou 64.85 330 *e*P **P 00 59 34.0 +0.4**
3.7nm,0.8s
SPUT South Promonto 64.87 330 *e*P **P 00 59 34.5 +0.8**
5.2nm,1.0s
AGMN Agassiz Nation 64.91 346 P P 00 59 33.0 -0.6
baz=159
AGMN Agassiz Nation 64.91 346 *e*P **P 00 59 33.1 -0.6**
10nm,0.8s
C31A Landman Farms, 64.91 344 P P 00 59 33.9 +0.2
baz=157
B32A Ashes, Strandq 65.16 345 P P 00 59 34.9 -0.3
baz=158
HVU Hansel Valley 65.38 331 *e*P **P 00 59 37.2 +0.2**
6.0nm,0.8s
A32A Rocking H Ranc 65.64 345 P P 00 59 38.0 -0.3
baz=158
MOOW Moose Ponds 66.00 333 *e*P **P 00 59 40.8 -0.3**
8.0nm,1.5s
FXWY Fox Creek 66.04 333 *e*P **P 00 59 41.5 +0.2**
3.0nm,0.9s
IMW Indian Meadow 66.21 333 *e*P **P 00 59 42.8 +0.3**
3.8nm,1.0s
WAKR Walker 66.48 324 *e*P **P 00 59 45.7 +1.5**
18nm,1.9s
RLMT Red Lodge 66.49 335 P P 00 59 44.4 +0.2
baz=145
RLMT Red Lodge 66.49 335 *e*P **P 00 59 44.3 +0.2**
13nm,1.4s
LAO LASA Array 66.61 338 P P 00 59 44.5 -0.2
baz=148
YERR Yerington 66.70 325 *e*P **P 00 59 46.9 +1.3**
3.7nm,0.8s
CMB Columbia Colle 66.70 323 *e*P **P 00 59 46.1 +0.7**
5.5nm,1.2s
ULM Lac du Bonnet 66.73 346 P P 00 59 44.2 -1.1
4.5nm,0.5s,baz=160,slow=6.9,SNR=13
ULM Lac du Bonnet 66.73 346 *e*P **P 00 59 44.2 -1.1**
22nm,1.4s
YMR Madison River 66.83 334 *e*P **P 00 59 48.0 +1.6**
6.7nm,0.9s
YHH Holmes Hill 66.88 334 *e*P **P 00 59 47.8 +1.0**
4.9nm,0.9s
PAHR Pah Rah Range 67.28 325 *e*P **P 00 59 50.7 +1.4**
10nm,1.0s
DGMT Dagmar 67.44 340 P P 00 59 50.4 +0.5
baz=150
DGMT Dagmar 67.44 340 *e*P **P 00 59 51.0 +1.1**
16nm,1.2s
HLID Hailey 67.53 331 P P 00 59 51.4 +0.7
baz=139,SNR=7.4
HLID Hailey 67.53 331 *e*P **P 00 59 51.3 +0.5**
3.3nm,0.7s
MCMT McKenzie Canyo 67.78 333 *e*P **P 00 59 53.3 +0.9**
BOZ Bozeman (W) 67.86 334 P P 00 59 53.0 +0.3
baz=142
BOZ Bozeman (W) 67.86 334 *e*P **P 00 59 53.2 +0.5**
5.1nm,0.9s
BEKR Beckworth 67.93 325 *e*P **P 00 59 54.5 +1.1**
5.2nm,1.2s
DLMT Dillon 68.09 333 *e*P **P 00 59 55.0 +0.7**
5.3nm,0.9s
MFID Camas Ranch 68.09 330 *e*P **P 00 59 55.3 +1.1**
10nm,0.8s
ORV Oroville 68.37 324 *e*P **P 00 59 57.3 +1.4**
10nm,0.9s
VNA3 Neumayer Olymp 68.90 161 P P 00 59 59.7 +0.9
EGMT Eagleton 69.05 337 P P 01 00 00.4 +0.3
baz=145
VNA1 Neumayer--Stat 69.17 161 P P 00 59 59.0 -1.4
MOD Modoc Plateau 69.30 326 *e*P **P 01 00 02.2 +0.3**
4.0nm,1.0s
VNA2 Neumayer--Watz 69.52 161 P P 01 00 04.0 +1.4
baz=299,slow=6.0
MSO Missoula 69.82 333 P P 01 00 05.3 +0.4
baz=141
MSO Missoula 69.82 333 *e*P **P 01 00 05.8 +0.9**
8.8nm,1.0s
BMO Blue Mountains 69.87 330 *e*P **P 01 00 05.5 +0.2**
20nm,0.1s
M04C Macdoel 70.06 325 P P 01 00 07.1 +0.6
baz=132
M02C Callahan 70.36 324 P P 01 00 08.3 0.0
baz=131
J05D Fort Rock, OR 70.75 327 P P 01 00 11.1 +0.4
baz=133
SNAA Sanae 71.12 161 P P 01 00 13.3 +0.8
SNAA Sanae 71.12 161 *e*P **P 01 00 13.2 +0.7**
7.8nm,0.7s
L02D Cave Junction, 71.29 325 P P 01 00 14.0 +0.1
baz=131
E09A Wood Farm, Sta 71.49 331 *e*P **P 01 00 15.4 +0.5**
35nm,1.9s
I05D Terrebonne, OR 71.53 328 P P 01 00 16.2 +0.9
baz=134
LIC Lamto 73.42 79 *e*P **P 01 00 27.5 +0.4**
39nm,1.6s
TIC Toumodi 73.55 78 *e*P **P 01 00 26.6 -1.3**
DBIC Dimbokro 73.71 79 P P 01 00 28.2 -0.6
4.9nm,0.9s,baz=247,slow=6.4,SNR=6.3
KIC Kosan Boka 73.73 79 *e*P **P 01 00 28.7 -0.3**
22nm,0.9s
QSPA South Pole Qui 75.69 180 *e*P **P 01 00 40.8 +1.2**
9.3nm,1.0s
TOA0 Torodi Ar. Sit 81.77 74 *e*P **P 01 01 14.1 +0.4**
TORD Torodi Ar. Bea 81.77 74 P P 01 01 14.1 +0.3
20nm,0.8s,baz=262,slow=5.1,SNR=101
YKA Yellowknife Ar 82.40 343 P P 01 01 14.7 -1.2
2.2nm,0.7s,baz=151,slow=5.6,SNR=3.1
VNDA Vanda 82.50 191 P P 01 01 17.7 +1.3
0.9nm,0.7s,baz=132,slow=3.8,SNR=6.8
VNDA Vanda 82.50 191 *e*P **P 01 01 18.5 +2.0**
4.3nm,1.0s
SYO Syowa Base 85.41 161↓↓*e*P **P 01 01 30.4 -1.0**
ESDC Sonseca Array 85.91 47 P P 01 01 34.7 +0.2
1.4nm,0.7s,baz=256,slow=5.0,SNR=10
TAM Tamanrasset 88.03 66 *e*P **P 01 01 46.3 +1.0**
2.9nm,0.8s
INK Inuvik 92.08 342 P P 01 02 02.0 -0.9
2.3nm,0.9s,baz=108,slow=6.2,SNR=6.3
BOSA Boshof 92.85 120 P P 01 02 07.3 -0.4
2.2nm,0.8s,baz=248,slow=3.9,SNR=4.0
MAW Mawson 92.92 165 P P 01 02 07.1 +0.1
2.9nm,0.6s,baz=225,slow=8.5,SNR=8.4
MAW Mawson 92.92 165 *e*P **P 01 02 07.9 +0.9**
1.4nm,1.0s
ILAR Eielson Array 95.02 336 P P 01 02 15.0 -1.6
0.7nm,0.7s,baz=134,slow=3.9,SNR=11
MDM Murphy Dome 95.62 336 *e*P **P 01 02 18.9 -0.5**
5.8nm,0.7s
RPZ Rata Peaks 95.83 222 LR LR 01 34 33.9
comp=Z,178nm,20.0s,baz=296,slow=29
DAVA Damuels 97.80 43 *i* PcP Pdif 01 02 30.6 +0.7
FETA Feichten 98.31 44 *i* PcP Pdif 01 02 33.9 +1.7
0.5nm,0.0s
RETA Reutte 98.43 43 *i* Pdiff Pdif 01 02 32.9 +0.3
2.1nm,0.7s
MOTA Moosalm 98.63 43 *i* Pdiff Pdif 01 02 34.0 +0.4
3.6nm,0.7s
WTTA Wattenberg 98.97 44 *i* Pdiff Pdif 01 02 35.9 +0.8
1.2nm,0.3s
ABTA Abfaltersbach 99.45 44 *i* Pdiff **Pdif 01 02 38.4 +1.2**
2.5nm,0.7s
GERES GERESS Array B 100.62 42 P Pdif 01 02 42.2 -0.1
0.8nm,0.7s,baz=248,slow=1.6,SNR=8.4
H11N3 WAKE ISLAND Hyl 19.81 285 T T 03 18 38.1
baz=96,slow=74,SNR=47
H11N2 WAKE ISLAND Hyl 19.83 285 T T 03 18 42.9
baz=96,slow=74,SNR=59
H11N1 WAKE ISLAND Hyl 19.83 285 T T 03 18 40.6
baz=96,slow=74,SNR=49
ABKAR Akbulak array 130.13 36 *e*PKPdf **PKPdf 01 08 05.2 +1.0**
ASAR Alice Springs 132.07 218 PKP **PKPdf 01 08 08.9 +0.2**
0.9nm,0.6s,baz=119,slow=1.9,SNR=8.2
WRA Warramunga Arr 134.54 222 PKP **PKPdf 01 08 13.9 +0.4**
2.3nm,0.8s,baz=139,slow=1.6,SNR=16
ZALV Zalesovo Beam 137.85 17 PKP **PKPdf 01 08 18.3 -0.2**
3.9nm,0.8s,baz=290,slow=1.9,SNR=13
KURK Kurchatov 138.46 24 *e*PKPdf **PKPdf 01 08 20.1 +0.3**
FITZ Fitzroy Crossi 141.18 214 PKP **PKPdf 01 08 24.2 -1.5**
2.2nm,1.0s,baz=180,slow=1.0,SNR=3.4
MKAR Makanchi Array 143.05 25 PKP **PKPdf 01 08 27.1 -1.2**
1.3nm,0.8s,baz=329,slow=2.1,SNR=7.6
KSH Kashi 145.03 39 PKP **PKPdf 01 08 32.5 +0.4**
KSH pPKP sPKPdf 01 08 43.8 -1.2
KSH sPKP 01 08 48.0
KSH PP **PP 01 11 54.5 +4.5**
KSH PKS **PKSdf 01 12 07.5 -0.2**
KSH SKS **SKSdf 01 15 36.8 -2.8**
KSH SKKS **SKKSac 01 18 38.8 -2.2**
KSH AMB AMB
comp=Z,110nm,7.2s
KSH LR LR
comp=N,110nm,5.8s
KSH LR LR
comp=E,100nm,6.8s
KSH LR LR
comp=Z,49nm,9.4s
CN2 Changchun 145.43 332 *e*PKPbc **PKPbc 01 08 30.5 -1.9**
ULN Ulaanbaatar 146.59 356 *e*PKPab **PKPab 01 08 36.9 -0.2**
SONM Songino Array 146.66 357 PKPbc **PKPbc 01 08 36.5 +0.4**
9.1nm,0.8s,baz=321,slow=1.4,SNR=35
WMQ Urumqi 147.63 22 PKPbc **PKPdf 01 08 36.0 -0.2**
WMQ LR LR
comp=N,50nm,22.5s
WMQ LR LR
comp=E,38nm,17.1s
WMQ LR LR
comp=Z,24nm,18.1s
KSRS Korea Array 148.68 321 PKPbc **PKPbc 01 08 41.4 -0.4**
2.8nm,0.8s,baz=360,slow=1.8,SNR=9.7
KSAR Wonju Array Be 148.71 321 PKPbc **PKPbc 01 08 41.4 -0.5**
HHC Hu-ho-hao-te 152.87 347 *e*PKPbc **PKPdf 01 08 42.0 -2.6**
GTA Gaotai 154.89 7 *e*PKPbc **PKPdf 01 08 49.0 +1.5**
GTA pPKP sPKPdf 01 08 59.8 -0.7
GTA sPKP 01 09 03.5
NJ2 Nanjing 157.78 325 *e*PKP **PKPdf 01 08 49.5 -1.8**
LZH Lanzhou 158.46 0 PKP **PKPdf 01 08 48.3 -4.0**
LZH pPKP pPKPdf 01 08 58.3 -3.6
LZH sPKP 01 09 00.8
GYA Guiyang 167.78 348 *e*PKP **PKPdf 01 09 00.3 -1.1**
GYA PKPab **PKPab 01 10 08.5 +0.7**
GYA PKS **PKSdf 01 12 31.3 -3.0**
GYA PP **PP 01 13 58.0 +2.9**
GYA AMB AMB
comp=Z,120nm,7.9s
CMAR Chiang Mai Arr 173.82 49 PKP **PKPdf 01 09 02.5 -2.2**
5.3nm,0.2s,baz=215,slow=1.1,SNR=4.4

IDC 29 00:56:01.1±4.0, 5°.53S×155°.04E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/31, mbtmp3.5/2, Error ellipse: s-maj=199.6km s-min=52.0km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.71**	**233**	P	P	01 01 24.9	+0.6
	0.5nm,0.4s,baz=58,slow=9.4,SNR=8.7						
ASAR	**Alice Springs**	**27.20**	**226**	P	P	01 01 46.2	-0.6
	0.4nm,0.5s,baz=58,slow=9.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**152.66**	**288**	PKPbc	PKPbc	01 16 00.8	-0.1
	0.3nm,0.9s,baz=64,slow=1.7,SNR=3.0						

*IDC **29** 00:57:13.5±0.9, 10°.84S×165°.13E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/31, mbtmp4.2/15, ML4.3/2, MS3.9/7, Ms1 3.9/7, ms1mx3.5/37, Error ellipse: s-maj=22.8km s-min=18.5km az=116.0*
*ISCJB **29** 00:57:18.3±0.2, 10°.67S±0°.04×165°.00E±0°.04, h46km, mb5.0/60, MS4.2/10, Error ellipse: s-maj=5.9km s-min=5.5km az=146.9*
*NEIC **29** 00:57:20.4±0.9, 10°.65S×165°.00E, h50km±9km, mb5.0/43, Error ellipse: s-maj=4.5km s-min=4.3km az=116.0*
*BJI **29** 00:57:20.8, 11°.03S×164°.64E, h61km, mb4.8/28, mB5.0/20, Ms4.8/14, Ms7 4.5/15*

ISC 29 00:57:20.0±0.4, 10°.72S±0°.06×165°.08E±0°.05, h46km, n90, σ1°55/92, mb5.1/60, MS4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**284**	Pn	**Pn**	**00 58 35.7**	**+0.2**
	16nm,0.3s,baz=156,slow=18,SNR=13						
HNR				Sn	**Sn**	**00 59 37.6**	**+3.3**
	13nm,0.3s,baz=252,slow=20,SNR=2.1						
HNR				LR	LR	01 00 46.4	
	comp=Z,1μm,18.1s,baz=100,slow=40						
HNR	**Honiara**	**5.21**	**284**	*e*P	**Pn**	**00 58 35.0**	**-0.4**
HNR				*e*S	**Sn**	**00 59 35.0**	**+0.6**
HNR	**Honiara**	**5.21**	**284**	*e*Pn	**Pn**	**00 58 35.1**	**-0.4**
HNR				Sn	**Sn**	**00 59 37.6**	**+3.3**
DZM	**Mont Dzumac**	**11.37**	**174**	Pn	**Pn**	**00 59 55.5**	**-4.4**
	1.1nm,0.3s,baz=357,slow=17,SNR=36						
DZM	**Mont Dzumac**	**11.37**	**174**	*e*Pn	**Pn**	**01 00 02.1**	**+2.2**
TARA	**Tarawa**	**14.31**	**34**	*e*Pn	**Pn**	**01 00 39.5**	**-0.4**
PMG	**Port Moresby**	**17.69**	**273**	LR	LR	01 08 02.8	
	comp=Z,596nm,18.4s,baz=110,slow=37						
PMG	**Port Moresby**	**17.69**	**273**	*e*Pn	**Pn**	**01 01 22.0**	**-1.2**
	26nm,1.3s						
KWAJ	**Kwajalein Atol**	**19.55**	**7**	*e*P	**P**	**01 01 43.8**	**-0.2**
	143nm,1.0s						
MANU	**Manus Island**	**19.59**	**295**	*e*P	**P**	**01 01 44.4**	**0.0**
	61nm,1.0s						
EIDS	**Eidsvold**	**19.71**	**220**	*e*P	**P**	**01 01 46.3**	**+0.6**
	13nm,0.9s						
CTA	**Charters Tower**	**20.38**	**241**	P	**P**	**01 01 53.2**	**+0.1**
	49nm,0.8s,baz=73,slow=12,SNR=30						
CTAO	**Charters Tower**	**20.38**	**241**	*e*P	**P**	**01 01 53.3**	**+0.2**
	61nm,0.8s						
AFI	**Afiamalu**	**22.83**	**100**	*e*P	**P**	**01 02 20.2**	**+0.7**
	50nm,1.4s						
ARMA	**Armidale**	**23.26**	**211**	*e*P	**P**	**01 02 23.7**	**+0.1**
	14nm,1.0s						
RAO	**Raoul Island**	**24.34**	**142**	*e*P	**P**	**01 02 33.6**	**0.0**
	508nm,1.0s						
OUZ	**Omahuta**	**25.60**	**164**	*e*P	**P**	**01 02 45.6**	**+0.7**
	44nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**29.07**	**3**	T	T	01 33 52.0	
	baz=184,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**29.07**	**3**	T	T	01 33 47.3	
	baz=184,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.08**	**3**	T	T	01 33 56.8	
	baz=184,slow=76,SNR=26						
MXZ	**Matakaoa Point**	**29.26**	**158**	*e*P	**P**	**01 03 19.6**	**+1.8**
	69nm,1.2s						
URZ	**Urewera**	**29.47**	**161**	*e*P	**P**	**01 03 20.3**	**+0.7**
	29nm,1.5s						
BKZ	**Black Stump Fm**	**30.11**	**162**	*e*P	**P**	**01 03 26.9**	**+1.5**
	39nm,1.8s						
STKA	**Stephens Creek**	**30.24**	**222**	P	**P**	**01 03 25.8**	**-0.7**
	4.9nm,0.8s,baz=34,slow=7.2,SNR=7.2						
STKA				LR	LR	01 15 13.8	
	comp=Z,187nm,18.6s,baz=46,slow=36						
STKA	**Stephens Creek**	**30.24**	**222**	*e*P	**P**	**01 03 27.3**	**+0.8**
	1.3nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.29**	**3**	T	T	01 35 22.7	
	baz=182,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.30**	**3**	T	T	01 35 28.7	
	baz=182,slow=76,SNR=32						
H11N2	**WAKE ISLAND Hy**	**30.31**	**3**	T	T	01 35 28.3	
	baz=182,slow=76,SNR=20						
WRAB	**Tennant Creek**	**30.97**	**249**	*e*P	**P**	**01 03 32.3**	**-0.9**
	7.6nm,1.1s						
WB2	**Warramunga Arr**	**30.98**	**249**	*e*P	**P**	**01 03 33.5**	**+0.3**
	8.1nm,1.1s						
WRA	**Warramunga Arr**	**30.99**	**249**	P	**P**	**01 03 31.4**	**-1.9**
	2.9nm,0.9s,baz=77,slow=9.2,SNR=13						
WRA				LR	LR	01 14 46.0	
	comp=Z,194nm,19.4s,baz=175,slow=34						
GUMO	**Guam**	**31.39**	**320**	*e*P	**P**	**01 03 35.6**	**-1.2**
	541nm,1.9s						
THZ	**Tophouse**	**31.68**	**169**	*e*P	**P**	**01 03 39.8**	**+0.7**
	39nm,1.6s						
ASAR	**Alice Springs**	**32.36**	**242**	P	**P**	**01 03 43.7**	**-1.7**
	2.5nm,0.7s,baz=71,slow=9.7,SNR=26						
LTZ	**Lake Taylor**	**32.55**	**170**	*e*P	**P**	**01 03 48.1**	**+1.3**
	59nm,1.8s						
OXZ	**Oxford**	**33.05**	**171**	*e*P	**P**	**01 03 50.5**	**-0.5**
	69nm,1.7s						
MQZ	**McQueen's Vall**	**33.52**	**170**	*e*P	**P**	**01 03 57.0**	**+1.9**
	34nm,1.3s						
LBZ	**Lake Benmore**	**33.84**	**173**	*e*P	**P**	**01 03 59.2**	**+1.3**
	36nm,1.5s						
JOHN	**Johnston Islan**	**37.07**	**43**	*e*P	**P**	**01 04 25.8**	**-0.1**
	194nm,1.1s						
FITZ	**Fitzroy Crossi**	**38.84**	**254**	P	**P**	**01 04 39.3**	**-1.7**
	1.4nm,0.8s,baz=67,slow=8.8,SNR=5.1						
XMAS	**Kiritimati**	**39.38**	**73**	*e*P	**P**	**01 04 45.8**	**+0.3**
	67nm,1.0s						
FORT	**Forrest**	**39.70**	**234**	*e*P	**P**	**01 04 48.0**	**0.0**
	308nm,0.9s						
SOEI	**Soe**	**40.16**	**268**	*e*P	**P**	**01 04 51.7**	**-0.5**
	9.1nm,0.8s						
MIDW	**Midway**	**42.27**	**23**	*e*P	**P**	**01 05 09.7**	**+0.7**
	156nm,1.4s						
HPAH	**Hawaii Prepara**	**49.23**	**52**	*e*P	**P**	**01 06 04.7**	**+0.4**
	301nm,1.7s						
NPOC	**North of Pu'u**	**49.33**	**53**	*e*P	**P**	**01 06 04.9**	**-0.2**
	637nm,1.8s						
JCUZ	**Jacuzzi**	**49.33**	**53**	*e*P	**P**	**01 06 05.3**	**+0.2**
	126nm,0.8s						
JAGI	**Jajag, Banyuwa**	**50.22**	**268**	*e*P	**P**	**01 06 11.1**	**-0.8**
	38nm,1.3s						
KKM	**Kota Kinabalu**	**51.42**	**287**	*e*P	**P**	**01 06 19.8**	**-1.2**
	24nm,1.1s						
INU	**Inuyama**	**52.95**	**331**	*e*P	**P**	**01 06 31.4**	**-0.5**
	37nm,1.6s						
MAJO	**Matsushiro**	**53.38**	**333**	*e*P	**P**	**01 06 34.8**	**-0.3**
	13nm,1.4s						
MJB9	**Matsu-Tunnel**	**53.39**	**333**	*e*P	**P**	**01 06 34.3**	**-0.8**
	2.9nm,1.4s						
YOJ	**Yonaguni jima**	**53.93**	**311**	*e*P	**P**	**01 06 39.0**	**-0.2**
	115nm,1.1s						
TAOE	**Nuku Hiva Isla**	**53.95**	**93**	*e*P	**P**	**01 06 40.2**	**+0.4**
	94nm,1.0s						
SBUM	**Sibu**	**54.20**	**281**	*e*P	**P**	**01 06 41.0**	**-0.4**
	11nm,1.2s						
JNU	**Nakatsue**	**54.43**	**325**	*e*P	**P**	**01 06 42.6**	**-0.3**
	11nm,1.0s						
TWG	**Pinlang**	**54.48**	**308**	*e*P	**P**	**01 06 42.5**	**-0.8**
	257nm,1.6s						
NACB	**Ninganchiao**	**54.83**	**310**	*e*P	**P**	**01 06 45.3**	**-0.5**
	28nm,1.0s						
TATO	**Taipei**	**55.36**	**310**	*e*P	**P**	**01 06 48.5**	**-1.2**
	460nm,1.8s						
KSM	**Kuching**	**55.81**	**279**	*e*P	**P**	**01 06 51.6**	**-1.5**
	43nm,1.7s						
CISI	**Cisompet, Garu**	**56.56**	**268**	*e*P	**P**	**01 06 57.1**	**-1.5**
	33nm,1.2s						
NJ2	**Nanjing**	**61.33**	**316**	*e*P	**P**	**01 07 30.3**	**-0.9**
QIZ	**Qiongzhong**	**61.95**	**298**	P	**P**	**01 07 34.8**	**-0.8**
QIZ				S	**S**	**01 15 57.3**	**+0.4**
QIZ				LR	LR		
	comp=Z,380nm,19.9s						
USRK	**Ussuriysk Ar.**	**62.36**	**334**	P	**P**	**01 07 39.8**	**+1.9**
	1.7nm,0.8s,baz=146,slow=6.2,SNR=3.2						
CN2	**Changchun**	**65.13**	**329**	*e*P	**P**	**01 07 58.3**	**+2.2**
VNDA	**Vanda**	**66.81**	**181**	P	**P**	**01 08 07.2**	**+0.8**
	4.0nm,1.1s,baz=350,slow=8.3,SNR=7.4						
VNDA				LR	LR	01 33 29.7	
	comp=Z,82nm,18.8s,baz=172,slow=33						
VNDA	**Vanda**	**66.81**	**181**	*e*P	**P**	**01 08 07.8**	**+1.3**
	7.8nm,1.1s						
SBA	**Scott Base**	**67.13**	**180**	*e*P	**P**	**01 08 08.3**	**-0.2**
	11nm,1.3s						
GYA	**Guiyang**	**67.69**	**304**	P	**P**	**01 08 14.0**	**+0.9**
GYA				pP	sP	01 08 30.5	-1.0
GYA				PP	**PP**	**01 10 45.5**	**+2.6**
GYA				sS	sS	01 17 33.0	+3.3
GYA				SKS	**SKiKP**	**01 18 02.8**	**-4.2**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.0s						
BJI	**Beijing**	**67.82**	**321**	P	**P**	**01 08 14.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJI				LR	LR		
	comp=N,220nm,22.2s						
BJI				LR	LR		
	comp=E,140nm,14.2s						
BJI				LR	LR		
	comp=Z,310nm,20.4s						
KMI	**Kunming**	**70.39**	**302**	P	**P**	**01 08 30.3**	**+0.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC	**Hu-ho-hao-te**	**71.16**	**320**	*e*P	**P**	**01 08 35.5**	**+1.3**
HHC				S	**S**	**01 17 46.5**	**-1.4**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,8.5s						
HHC				LR	LR		
	comp=N,290nm,18.5s						
HHC				LR	LR		
	comp=E,240nm,17.3s						
HHC				LR	LR		
	comp=Z,240nm,22.4s						
CMAR	**Chiang Mai Arr**	**71.38**	**294**	P	**P**	**01 08 38.5**	**+2.7**
	0.7nm,0.3s,baz=116,slow=4.7,SNR=5.8						
CD2	**Chengdu**	**71.89**	**307**	*e*P	**P**	**01 08 38.3**	**-0.4**
LZH	**Lanzhou**	**74.05**	**312**	*e*P	**P**	**01 08 52.8**	**+1.2**
LZH				sP	sP	01 09 15.5	+5.4
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,4.6s						
LZH				LR	LR		
	comp=N,160nm,15.2s						
LZH				LR	LR		
	comp=E,260nm,15.1s						
LZH				LR	LR		
	comp=Z,340nm,16.2s						
QSPA	**South Pole Qui**	**79.29**	**180**	*e*P	**P**	**01 09 21.1**	**+0.6**
	29nm,1.2s						
TTA	**Tatalina**	**79.30**	**17**	*e*P	**P**	**01 09 19.3**	**-1.2**
HDA	**Harding Lake**	**83.14**	**19**	*e*P	**P**	**01 09 42.7**	**+2.0**
	24nm,1.0s						
ILAR	**Eielson Array**	**83.41**	**19**	P	**P**	**01 09 42.4**	**+0.2**
	0.8nm,0.9s,baz=218,slow=7.0,SNR=6.0						
BBB	**Bella Bella**	**84.68**	**35**	LR	LR	01 45 47.6	
	comp=Z,51nm,18.1s,baz=107,slow=34						
MAW	**Mawson**	**84.78**	**202**	P	**P**	**01 09 49.3**	**+0.2**
	2.3nm,0.8s,baz=115,slow=5.8,SNR=6.7						
MAW	**Mawson**	**84.78**	**202**	*e*P	**P**	**01 09 51.0**	**+1.9**
	1.4nm,1.2s						
DLBC	**Dease Lake**	**86.43**	**29**	LR	LR	01 44 10.2	
	comp=Z,94nm,19.4s,baz=272,slow=33						
WMQ	**Urumqi**	**88.40**	**315**	P	**P**	**01 10 06.0**	**-1.3**
WMQ				pP	sP	01 10 24.0	-2.2
WMQ				sP	pP	01 10 30.5	+9.5
WMQ				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,160nm,3.8s						
WMQ				LR	LR		
	comp=N,60nm,19.5s						
WMQ				LR	LR		
	comp=E,88nm,19.5s						
WMQ				LR	LR		
	comp=Z,83nm,18.3s						
MKAR	**Makanchi Array**	**92.84**	**317**	P	**P**	**01 10 28.3**	**+0.4**
	0.6nm,0.8s,baz=87,slow=6.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**92.91**	**324**	P	**P**	**01 10 27.8**	**-0.2**
	0.6nm,0.8s,baz=134,slow=4.2,SNR=2.3						
YNR	**Norris Junctio**	**93.39**	**45**	*e*P	**P**	**01 10 29.4**	**-1.4**
	14nm,1.6s						
PDAR	**Pinedale Array**	**93.81**	**47**	P	**P**	**01 10 32.1**	**-0.6**
	0.4nm,0.8s,baz=251,slow=2.8,SNR=3.1						
RLMT	**Red Lodge**	**94.46**	**45**	*e*P	**P**	**01 10 35.0**	**-0.7**
KSH	**Kashi**	**96.04**	**309**	*e*P	**P**	**01 10 44.0**	**+1.1**
KSH				pP	sP	01 11 01.8	+0.1
KSH				sP	pP	01 11 08.3	+12
KSH				PP	**PP**	**01 14 40.3**	**+4.2**
KSH				SKS	**SKSac**	**01 21 12.3**	**-3.6**
KSH				S	**S**	**01 21 53.0**	**-5.5**
KSH				SS	**SS**	**01 28 30.8**	**+0.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,110nm,5.9s						
KSH				LR	LR		
	comp=N,78nm,6.4s						
KSH				LR	LR		
	comp=E,91nm,5.0s						

KSH LR LR
comp=Z,97nm,6.3s

*ISCJB **29** 01:14:02.0±0.6, 14°.51S±0°.05×167°.22E±0°.09, h100km, mb4.1/20, Error ellipse: s-maj=12.4km s-min=6.7km az=165.2*
*NEIC **29** 01:14:06.0±1.2, 14°.56S×167°.22E, h122km±10km, mb4.4/4, Error ellipse: s-maj=11.1km s-min=7.3km az=80.0*
*IDC **29** 01:14:05.4±0.8, 14°.55S×167°.17E, h114km±5km, mb3.9/17, mb1 4.0/19, mb1mx3.9/38, mbtmp4.3/19, Error ellipse: s-maj=16.9km s-min=10.9km az=92.0*
ISC 29 01:14:03.9±0.6, **14°.53S**±0°.07×**167°.27E**±0°.10, **h100**km, **n38**, σ1§**42**/**48**, **mb4.2**/**20**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.54**	**186**	P	**Pn**	**01 15 52.3**	**+1.1**
	15nm,0.3s,baz=346,slow=12,SNR=134						
DZM				S	**Sn**	**01 17 15.8**	**+0.6**
	5.5nm,0.3s,baz=143,slow=20,SNR=3.3						
HNR	**Honiara**	**8.77**	**304**	P	**Pn**	**01 16 08.5**	**+0.6**
	18nm,0.3s,baz=166,slow=12,SNR=3.7						
HNR				S	**Sn**	**01 17 43.8**	**-1.3**
	35nm,0.3s,baz=9.7,slow=23,SNR=4.4						
HNR	**Honiara**	**8.77**	**304**	*e*Pn	**Pn**	**01 16 09.9**	**+1.9**
	102nm,0.6s						
HNR				S	**Sn**	**01 17 43.8**	**-1.3**
EIDS	**Eidsvold**	**18.63**	**232**	*e*P	**P**	**01 18 14.8**	**+1.1**
	26nm,0.9s						
CTA	**Charters Tower**	**20.80**	**252**	P	**P**	**01 18 37.8**	**+0.4**
	4.8nm,0.5s,baz=79,slow=13,SNR=8.9						
CTAO	**Charters Tower**	**20.80**	**252**	*e*P	**P**	**01 18 37.6**	**+0.2**
	31nm,0.6s						
STKA	**Stephens Creek**	**29.12**	**229**	P	**P**	**01 19 55.7**	**+0.2**
	5.9nm,0.5s,baz=48,slow=8.6,SNR=16						
RPZ	**Rata Peaks**	**29.27**	**174**	P	**P**	**01 19 56.4**	**-0.2**
	5.5nm,0.6s,baz=73,slow=5.4,SNR=3.2						
WRAB	**Tennant Creek**	**31.86**	**256**	*e*P	**P**	**01 20 17.9**	**-1.9**
	7.2nm,1.3s						
WRA	**Warramunga Arr**	**31.87**	**256**	P	**P**	**01 20 17.9**	**-2.0**
	0.4nm,0.4s,baz=86,slow=9.2,SNR=6.7						
WRA				pP	**pP**	**01 20 43.9**	**+1.5**
	1.2nm,0.8s,baz=85,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**32.74**	**249**	P	**P**	**01 20 25.8**	**-1.7**
	1.2nm,0.7s,baz=76,slow=9.2,SNR=15						
ASAR				pP	**pP**	**01 20 53.2**	**+3.2**
	0.9nm,0.6s,baz=75,slow=8.9,SNR=2.9						
ASAR				PcP	**PcP**	**01 23 08.7**	**-2.1**
	0.5nm,0.7s,baz=73,slow=3.2,SNR=3.6						
BBOO	**Buckleboo**	**33.70**	**232**	*e*P	**P**	**01 20 35.6**	**-0.1**
	6.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.05**	**259**	P	**P**	**01 21 29.0**	**-0.7**
	1.4nm,0.8s,baz=59,slow=5.9,SNR=3.6						
MJAR	**Matsushiro Arr**	**57.73**	**332**	P	**P**	**01 23 43.3**	**-1.1**
	1.0nm,0.4s,baz=168,slow=8.7,SNR=5.4						
ASAJ	**Asahikawa**	**62.56**	**340**	P	**P**	**01 24 17.2**	**0.0**
	2.7nm,0.3s,baz=208,slow=12,SNR=3.7						
VNDA	**Vanda**	**63.06**	**181**	P	**P**	**01 24 20.1**	**0.0**
	1.6nm,0.6s,baz=352,slow=8.3,SNR=7.8						
USRK	**Ussuriysk Ar.**	**66.71**	**333**	P	**P**	**01 24 43.4**	**-0.7**
	3.4nm,0.9s,baz=127,slow=5.0,SNR=5.4						
USRK				pP	**pP**	**01 25 11.2**	**+1.9**
	1.3nm,0.7s,baz=163,slow=9.3,SNR=2.7						
KLR	**Kul'dur**	**70.83**	**336**	P	**P**	**01 25 10.5**	**+0.8**
	0.1nm,0.5s,baz=124,slow=4.1,SNR=5.3						
ENH	**Enshi**	**71.24**	**309**	*e*P	**P**	**01 25 11.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**74.87**	**294**	P	**P**	**01 25 34.6**	**+0.4**
	0.9nm,0.3s,baz=122,slow=4.2,SNR=5.7						
CMAR				pP	**pP**	**01 26 03.1**	**+3.3**
	1.2nm,0.4s,baz=116,slow=4.5,SNR=2.1						
QSPA	**South Pole Qui**	**75.50**	**180**	*e*P	**P**	**01 25 36.4**	**-0.8**
ULN	**Ulaanbaatar**	**81.97**	**324**	*e*P	**P**	**01 26 12.3**	**-0.6**
	1.6nm,0.6s						
MAW	**Mawson**	**82.07**	**202**	P	**P**	**01 26 12.6**	**-0.3**
	0.9nm,0.7s,baz=84,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**82.34**	**324**	P	**P**	**01 26 14.0**	**-0.8**
	0.5nm,0.3s,baz=139,slow=5.1,SNR=6.2						
SONM				pP	**pP**	**01 26 42.7**	**+1.9**
	0.7nm,0.7s,baz=131,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**86.34**	**18**	P	**P**	**01 26 34.1**	**-0.3**
	1.0nm,0.7s,baz=236,slow=5.3,SNR=13						
ILAR				pP	**pP**	**01 27 04.7**	**+4.0**
	0.8nm,0.7s,baz=242,slow=5.1,SNR=4.1						
SNAA	**Sanae**	**93.75**	**183**	P	**P**	**01 27 07.8**	**-1.4**
	1.9nm,0.7s,baz=198,slow=5.4,SNR=21						
SNAA	**Sanae**	**93.75**	**183**	*e*P	**P**	**01 27 07.6**	**-1.7**
MKAR	**Makanchi Array**	**97.06**	**316**	P	**P**	**01 27 23.9**	**-0.9**
	1.1nm,0.6s,baz=91,slow=5.6,SNR=8.5						
ZALV	**Zalesovo Beam**	**97.23**	**324**	P	**P**	**01 27 24.1**	**-1.2**
	1.1nm,0.6s,baz=118,slow=4.6,SNR=5.5						
ARCES	**ARCESS Array B**	**120.06**	**345**	PKP	**PKPdf**	**01 32 41.8**	**-0.6**
	2.3nm,0.6s,baz=81,slow=2.4,SNR=16						
FINES	**FINESS Array B**	**125.54**	**338**	PKP	**PKPdf**	**01 32 52.8**	**-0.3**
	5.3nm,1.1s,baz=11,slow=2.8,SNR=5.3						
GERES	**GERESS Array B**	**139.47**	**333**	PKP	**PKPdf**	**01 33 18.1**	**-1.7**
	0.8nm,0.8s,baz=90,slow=1.9,SNR=5.8						
STU	**Stuttgart**	**141.38**	**337**	*e*PKPdf	**PKPdf**	**01 33 22.1**	**-1.1**
AQU	**L'Aquila**	**144.27**	**326**	*e*PKPdf	**PKPab**	**01 33 27.5**	**+0.9**
BNI	**Bardonecchia**	**145.42**	**335**	*e*PKPbc	**PKPdf**	**01 33 30.7**	**+0.2**
KEST	**Kesra**	**151.06**	**321**	PKPbc	**PKPbc**	**01 33 46.1**	**+0.3**
	4.7nm,0.6s,baz=120,slow=3.7,SNR=17						
ESDC	**Sonseca Array**	**153.79**	**345**	PKPbc	**PKPbc**	**01 33 51.5**	**-0.2**
	0.5nm,0.7s,baz=20,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.92**	**266**	PKPab	**PKPab**	**01 34 57.5**	**-1.0**
	1.4nm,1.0s,baz=101,slow=4.9,SNR=7.7						

*CSEM **29** 01:17:18.6, 41°.31N×22°.74E, h8km, ML1.7/5*
THE 29 01:17:18.6, 41°.31N×22°.74E, h8km±2km, **ML1.7**/**5**, **Error ellipse: s-maj=3.0km s-min=0.5km az=296.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.13**	**277**	P	Pg	01 17 21.1	-0.3
VAY				S	Sg	01 17 23.6	+0.2
VAY	**Valandovo**	**0.13**	**277**	P	Pg	01 17 21.1	-0.3
VAY				S	Sg	01 17 23.6	+0.2
KNT	**Kendrikon**	**0.18**	**141**	P	Pg	01 17 22.8	+0.4
KNT				S	Sg	01 17 25.5	+0.5
KNT	**Kendrikon**	**0.18**	**141**	P	Pg	01 17 22.8	+0.4
KNT				S	Sg	01 17 25.5	+0.5
GRG	**Griva**	**0.43**	**217**	P	Pg	01 17 26.9	-0.1
GRG				S	Sg	01 17 33.0	+0.3
GRG	**Griva**	**0.43**	**217**	P	Pg	01 17 26.9	-0.1
GRG				S	Sg	01 17 33.0	+0.3
SRS	**Serrai**	**0.67**	**106**	P	Pg	01 17 31.4	-0.1
SRS				S	Sg	01 17 40.8	+0.6
SRS	**Serrai**	**0.67**	**106**	P	Pg	01 17 31.4	-0.1
SRS				S	Sg	01 17 40.8	+0.6
SOH	**Sokhos**	**0.67**	**136**	P	Pg	01 17 31.4	-0.1
SOH				S	Sg	01 17 40.8	+0.6
SOH	**Sokhos**	**0.67**	**136**	P	Pg	01 17 31.4	-0.1
SOH				S	Sg	01 17 40.8	+0.6
HORT	**Hortiatis**	**0.76**	**159**	P	Pg	01 17 33.1	-0.1
HORT				S	Sg	01 17 43.7	+0.7
HORT	**Hortiatis**	**0.76**	**159**	P	Pg	01 17 33.1	-0.1
HORT				S	Sg	01 17 43.7	+0.7
NVR	**Nevrokopi**	**0.84**	**87**	P	Pg	01 17 34.9	+0.1
NVR				S	Sg	01 17 46.4	+0.6
NVR	**Nevrokopi**	**0.84**	**87**	P	Pg	01 17 34.9	+0.1
NVR				S	Sg	01 17 46.4	+0.6

*SCB **29** 01:19:07.0±0.3, 20°.61S×67°.00W, h200km, Ml4.2/1, Error ellipse: s-maj=10.3km s-min=4.8km az=42.0*
*IDC **29** 01:19:07.6±0.8, 20°.94S×67°.33W, h186km±9km, mb3.4/6, mb1 3.5/11, mb1mx3.4/30, mbtmp3.9/11, MS3.8/1, Ms1 3.8/1, ms1mx3.1/19, Error ellipse: s-maj=17.4km s-min=12.4km az=120.0*
*SJA **29** 01:20:15.6±0.6, 26°.51S×67°.42W, h200km±16km, ML2.8, MW3.1*
ISC 29 01:19:07.3±0.6, **20°.92S**±0°.06×**67°.29W**±0°.07, **h183**km, **n30**, σ2§**12**/**34**, **mb3.7**/**6**, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.58**	**102**	*e*Pn	**Pn**	**01 19 44.6**	**+3.8**
MOCB				*e*Sn	**Sn**	**01 20 11.0**	**+4.3**
	727nm,0.4s						
LVC	**Limon Verde**	**2.26**	**221**	P	**Pn**	**01 19 48.7**	**+0.9**
	326nm,0.3s,baz=27,slow=9.3,SNR=50						
LVC				S	**Sn**	**01 20 19.1**	**-0.3**
	1μm,0.3s,baz=221,slow=20,SNR=33						
BBOJ	**La Paz, Jacaqu**	**4.01**	**348**	*e*Pn	**Pn**	**01 20 12.4**	**+3.1**
BBOE	**La Paz, Chanca**	**4.13**	**351**	*e*Pn	**Pn**	**01 20 13.8**	**+2.9**
BBOD	**La Paz, Gloria**	**4.43**	**344**	*e*Pn	**Pn**	**01 20 17.4**	**+2.7**
LPAZ	**La Paz**	**4.67**	**350**	P	**Pn**	**01 20 19.6**	**+1.8**
	15nm,0.3s,baz=169,slow=9.6,SNR=197						
LPAZ	**La Paz**	**4.67**	**350**	*e*Pn	**Pn**	**01 20 20.3**	**+2.5**
LPAZ				*e*Sn	**Sn**	**01 21 12.5**	**-0.5**
BBOB	**La Paz, Bander**	**4.82**	**350**	*e*Pn	**Pn**	**01 20 21.8**	**+2.2**
SIV	**San Ignacio**	**7.67**	**51**	P	**Pn**	**01 20 57.1**	**+0.6**
	6.0nm,0.3s,baz=246,slow=12,SNR=50						
SIV				S	**Sn**	**01 22 19.8**	**-3.0**
	0.3nm,0.3s,baz=277,slow=22,SNR=6.9						
SIV	**San Ignacio**	**7.67**	**51**	*e*Pn	**Pn**	**01 20 57.0**	**+0.6**
SIV				*e*Sn	**Sn**	**01 22 18.5**	**-4.3**
VCA	**Vinchina**	**7.83**	**186**	*i* P	**Pn**	**01 20 58.1**	**-0.4**
VCA				IAML		01 21 01.9	
	comp=Z,32nm,0.2s						
ACLC	**CERRO LA CRUZ**	**8.48**	**178**	*i* P	**Pn**	**01 21 05.2**	**-1.8**
AGUA	**GUANDACOL**	**8.60**	**187**	*i* P	**Pn**	**01 21 07.7**	**-0.9**
APLL	**PUNTA DE LOS L**	**9.46**	**176**	*i* P	**Pn**	**01 21 17.8**	**-2.1**
AVFE	**Valle Fertil**	**9.70**	**181**	*i* P	**Pn**	**01 21 19.9**	**-3.1**
AMOG	**MOGNA**	**10.04**	**186**	*i* P	**Pn**	**01 21 24.4**	**-3.0**
CPUP	**Villa Florida**	**10.60**	**122**	P	**Pn**	**01 21 36.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=277,slow=10,SNR=3.5						
BDFB	**Brasilia**	**19.04**	**77**	P	**P**	**01 23 15.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=262,slow=18,SNR=3.1						
PTGA	**Pitinga**	**21.30**	**21**	P	**P**	**01 23 41.3**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=211,slow=15,SNR=2.3						
ROSC	**El Rosal**	**26.51**	**344**	LR	LR	01 35 29.1	
	comp=Z,212nm,20.0s,baz=141,slow=37						
SNAA	**Sanae**	**62.34**	**161**	P	**P**	**01 29 10.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=256,slow=8.3,SNR=4.5						
DBIC	**Dimbokro**	**67.12**	**73**	P	**P**	**01 29 40.7**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=233,slow=6.1,SNR=3.2						
PDAR	**Pinedale Array**	**74.38**	**329**	P	**P**	**01 30 25.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=113,slow=6.9,SNR=3.2						
ULM	**Lac du Bonnet**	**75.23**	**341**	P	**P**	**01 30 28.4**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=180,slow=9.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**75.74**	**70**	P	**P**	**01 30 33.5**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=252,slow=5.3,SNR=31						
ASAR	**Alice Springs**	**131.11**	**206**	PKP	**PKPdf**	**01 37 58.6**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=134,slow=1.7,SNR=6.4						
WRA	**Warramunga Arr**	**134.20**	**209**	PKP	**PKPdf**	**01 38 04.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=154,slow=1.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**140.78**	**26**	PKP	**PKPdf**	**01 38 16.3**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=259,slow=1.5,SNR=3.3						
MKAR	**Makanchi Array**	**144.28**	**37**	PKP	**PKPdf**	**01 38 21.7**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=328,slow=4.2,SNR=10						
SONM	**Songino Array**	**152.67**	**9**	PKPbc	**PKPbc**	**01 38 42.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=318,slow=1.9,SNR=2.5						

*ISCJB **29** 01:19:21.4±1.1, 15°.4N±0°.2×147°.0E±0°.2, h33km, mb3.8/6, Error ellipse: s-maj=34.3km s-min=10.9km az=37.0*
*IDC **29** 01:19:28.0±4.4, 15°.26N×146°.75E, h74km±36km, mb3.5/6, mb1 3.7/7, mb1mx3.3/42, mbtmp3.8/7, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/25, Error ellipse: s-maj=44.8km s-min=23.1km az=98.0*
ISC 29 01:19:23.5±1.3, **15°.4N**±0°.2×**146°.9E**±0°.2, **h33**km, **n7**, σ1§**48**/**8**, **mb3.8**/**6**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.67**	**229**	P	**Pn**	**01 20 05.2**	**+1.0**
	9.3nm,0.3s,baz=77,slow=14,SNR=4.1						
GUMO				S	**Sn**	**01 20 35.9**	**+0.5**
	19nm,0.3s,baz=355,slow=21,SNR=6.8						
GUMO				LR	LR	01 21 02.7	
	comp=Z,194nm,21.5s,baz=102,slow=38						
WRA	**Warramunga Arr**	**37.21**	**200**	P	**P**	**01 26 31.8**	**-0.2**
	0.6nm,0.8s,baz=22,slow=9.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**39.33**	**213**	P	**P**	**01 26 47.6**	**-2.2**
	1.5nm,0.9s,baz=51,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**61.62**	**315**	P	**P**	**01 29 38.7**	**+0.7**
	0.6nm,0.4s,baz=94,slow=7.9,SNR=7.6						
ILAR	**Eielson Array**	**66.11**	**25**	P	**P**	**01 30 08.8**	**+1.6**
	0.2nm,0.5s,baz=257,slow=5.6,SNR=4.6						
BVAR	**Borovoye Array**	**69.78**	**321**	P	**P**	**01 30 29.4**	**-1.0**
	0.4nm,0.4s,baz=94,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**90.38**	**336**	P	**P**	**01 32 20.3**	**-0.9**
	2.9nm,0.9s,baz=44,slow=4.2,SNR=3.5						

*ISK **29** 01:19:55.8, 38°.65N×43°.16E, h5km, ML2.7*
*DDA **29** 01:19:56.4, 38°.67N×43°.24E, h7km, Ml3.0*
*CSEM **29** 01:19:56.7±0.2, 38°.64N×43°.14E, h2km, ML2.7, Error ellipse: s-maj=6.5km s-min=5.3km az=68.0*
*ISCJB **29** 01:19:57.8±0.6, 38°.68N±0°.04×43°.21E±0°.07, h14km±8km, Error ellipse: s-maj=9.6km s-min=6.2km az=170.4*
ISC 29 01:19:57.6±0.9, **38°.64N**±0°.02×**43°.16E**±0°.03, **h17**km±7km, **n37**, σ1§**17**/**41**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**105**	*e*PG	**Pg**	**01 20 01.7**	**-0.6**
VANB				*e*SG	**Sg**	**01 20 06.0**	**+0.5**
VANB	**Van**	**0.18**	**105**	*e*Pg	**Pg**	**01 20 01.7**	**-0.6**
VANB				*e*Sg	**Sg**	**01 20 06.0**	**+0.5**
ERCV	**ERCIS-VAN**	**0.40**	**20**	*e*PG	**Pg**	**01 20 04.9**	**-1.0**
ERCV	**ERCIS-VAN**	**0.40**	**20**	*e*Pg	**Pg**	**01 20 04.9**	**-1.0**
CLDR	**Caldiran**	**0.77**	**49**	*e*PG	**Pg**	**01 20 11.5**	**-1.2**
CLDR				*e*SG	**Sb**	**01 20 23.1**	**+0.2**
CLDR	**Caldiran**	**0.77**	**49**	*e*Pg	**Pg**	**01 20 11.5**	**-1.2**
CLDR				*e*Sg	**Sb**	**01 20 23.1**	**+0.2**
BASK	**Baskale_VAN**	**0.89**	**131**	*i* P	**Pg**	**01 20 13.0**	**-1.9**
BASK	**Baskale_VAN**	**0.89**	**131**	P	**Pg**	**01 20 13.0**	**-1.9**
AGRB	**Hanur-Agry**	**0.94**	**352**	*e*PG	**Pg**	**01 20 14.4**	**-1.5**
AGRB	**Hanur-Agry**	**0.94**	**352**	*e*Pg	**Pg**	**01 20 14.4**	**-1.5**
HAKT	**HAKKARI**	**1.17**	**158**	*i* P	**Pg**	**01 20 18.2**	**-1.9**
HAKT	**HAKKARI**	**1.17**	**158**	P	**Pg**	**01 20 18.2**	**-1.9**
SIRN	**S¨¨-rnak**	**1.29**	**208**	*i* P	**Pb**	**01 20 23.0**	**+1.6**
SIRN	**S¨¨-rnak**	**1.29**	**208**	P	**Pb**	**01 20 23.0**	**+1.6**
EATA	**Eleskirt**	**1.32**	**337**	*i* P	**Pg**	**01 20 21.4**	**-1.8**
EATA	**Eleskirt**	**1.32**	**337**	P	**Pg**	**01 20 21.4**	**-1.8**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*PN	**Pb**	**01 20 23.4**	**-0.4**
VRTB	**Varto-Mus**	**1.43**	**292**	*i* P	**Pg**	**01 20 24.0**	**-1.1**
VRTB	**Varto-Mus**	**1.43**	**292**	*e*Pn	**Pb**	**01 20 23.4**	**-0.4**
CUKT	**Cukurca**	**1.44**	**166**	*e*PN	**Pn**	**01 20 23.4**	**+0.5**
CUKT	**Cukurca**	**1.44**	**166**	*i* P	**Pb**	**01 20 23.9**	**0.0**
CUKT	**Cukurca**	**1.44**	**166**	*e*Pn	**Pn**	**01 20 23.4**	**+0.5**
CUKT	**Cukurca**	**1.44**	**166**	P	**Pb**	**01 20 23.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e*PN	**Pb**	**01 20 26.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*i* P	**Pg**	**01 20 27.8**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.62**	**253**	*e*Pn	**Pb**	**01 20 26.6**	**-0.4**
BTMN	**Batman**	**1.67**	**244**	*i* P	**Pg**	**01 20 29.3**	**-0.4**
DIGO	**Kars**	**1.78**	**5**	*i* P	**Pb**	**01 20 29.9**	**+0.1**
DIGO	**Kars**	**1.78**	**5**	P	**Pb**	**01 20 29.9**	**+0.1**
BNGB	**Bing¨¶l**	**1.97**	**281**	*e*PN	**Pb**	**01 20 32.0**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*PN	**Pn**	**01 20 32.1**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*Pn	**Pn**	**01 20 32.1**	**+1.1**
EAK	**Akyaka**	**2.07**	**9**	*i* P	**Pg**	**01 20 37.2**	**-0.1**
BINT	**Bingol**	**2.10**	**277**	*e*Pn	**Pn**	**01 20 32.0**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*PN	**Pn**	**01 20 35.0**	**+1.7**
YEDI	**Yedisu-Bingol**	**2.19**	**292**	*e*Pn	**Pn**	**01 20 35.0**	**+1.7**
MARD	**Mardin**	**2.30**	**236**	*i* P	**Pg**	**01 20 40.8**	**-0.9**

IDC 29 01:33:56.9±11.0, **0°.36N×17°.52W, h0**km, **mb3.7**/**3**, **mb1 3.9**/**4**, **mb1mx3.5**/**48**, **mbtmp3.8**/**4**, **ML3.8**/**1**, **MS3.6**/**2**, **Ms1 3.6**/**2**, **ms1mx3.1**/**31**, **Error ellipse: s-maj=270.9km s-min=73.0km az=1.0**, **North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.68**	**160**	T	T	01 44 57.9	
	baz=338,slow=74,SNR=96						
H10N3	**ASCENSION HYDR**	**8.68**	**160**	T	T	01 45 05.9	
	baz=338,slow=74,SNR=334						
H10N1	**ASCENSION HYDR**	**8.70**	**160**	T	T	01 45 03.0	
	baz=338,slow=74,SNR=354						
H10S1	**ASCENSION HYDR**	**9.67**	**163**	T	T	01 46 12.4	
	baz=342,slow=74,SNR=39						
H10S3	**ASCENSION HYDR**	**9.68**	**163**	T	T	01 46 24.0	
	baz=342,slow=74,SNR=61						
H10S2	**ASCENSION HYDR**	**9.69**	**163**	T	T	01 46 13.7	
	baz=342,slow=74,SNR=57						
DBIC	**Dimbokro**	**14.10**	**63**	Pn	Pn	01 37 18.3	+0.2
	0.5nm,0.3s,baz=241,slow=14,SNR=9.2						
DBIC				Sn	Sn	01 39 44.1	-11
	0.2nm,0.3s,baz=142,slow=19,SNR=3.2						
TORD	**Torodi Ar. Bea**	**22.89**	**56**	P	P	01 39 02.2	-0.2
	3.7nm,0.9s,baz=243,slow=9.1,SNR=17						
ESDC	**Sonseca Array**	**41.04**	**16**	LR	LR	01 57 57.7	
	comp=Z,69nm,18.8s,baz=245,slow=35						
KEST	**Kesra**	**43.16**	**33**	LR	LR	01 59 44.0	
	comp=Z,75nm,21.7s,baz=304,slow=36						
GERES	**GERESS Array B**	**55.27**	**25**	P	P	01 43 32.0	-0.1
	0.3nm,0.6s,baz=232,slow=5.9,SNR=4.6						
BRTR	**Keskin Array B**	**60.81**	**43**	P	P	01 44 11.3	+0.1
	0.8nm,0.8s,baz=224,slow=8.0,SNR=4.6						

*ISCJB **29** 01:35:02.3±1.2, 52°.02N±0°.05×159°.65E±0°.06, h4km±7km, mb3.6/5, Error ellipse: s-maj=8.0km s-min=5.3km az=155.4*
*KRSC **29** 01:35:02.2±1.9, 51°.98N×159°.69E, h17km±23km, ML4.1*
*IDC **29** 01:35:03.6±1.0, 52°.88N×160°.12E, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.5/52, mbtmp3.7/5, Error ellipse: s-maj=33.4km s-min=17.7km az=162.0*
*MOS **29** 01:35:08.0±0.7, 52°.31N×159°.30E, h15km, mb4.3/3, Error ellipse: s-maj=12.4km s-min=4.5km az=96.0*
ISC 29 01:35:00.4±1.7, **52°.07N**±0°.05×**159°.89E**±0°.04, **h5**km±10km, **n62**, σ1§**54**/**78**, **mb3.7**/**5**, **1D**, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.92**	**294**	PN	**Pg**	**01 35 18.6**	**+0.5**
RUS				S	**Sg**	**01 35 30.0**	**0.0**
RUS	**Russkaya**	**0.92**	**294**	*e*P	**Pg**	**01 35 18.6**	**+0.5**
RUS				*e*S	**Sg**	**01 35 30.0**	**0.0**
SPN	**Mys Shipunski**	**1.04**	**4**	PN	**Pn**	**01 35 23.4**	**+1.9**
SPN				S	**Sn**	**01 35 39.0**	**+2.6**
SPN	**Mys Shipunski**	**1.04**	**4**	*e*P	**Pn**	**01 35 23.4**	**+1.9**
SPN				*e*S	**Sn**	**01 35 39.0**	**+2.6**
MTVR	**Mutnovka**	**1.13**	**292**	*e*S	**Sg**	**01 35 36.6**	**-0.1**
NLC	**Nalytchevo**	**1.16**	**344**	PN	**Pn**	**01 35 23.0**	**-0.1**
NLC				S	**Sb**	**01 35 38.0**	**-0.1**
NLC	**Nalytchevo**	**1.16**	**344**	*e*P	**Pn**	**01 35 23.0**	**-0.1**
NLC				*e*S	**Sb**	**01 35 38.0**	**-0.1**
DALK	**Dalny**	**1.19**	**325**	PN	**Pn**	**01 35 23.8**	**+0.2**
DALK				S	**Sg**	**01 35 39.0**	**+0.4**
DALK	**Dalny**	**1.19**	**325**	*e*P	**Pn**	**01 35 23.8**	**+0.2**
DALK				*e*S	**Sg**	**01 35 39.0**	**+0.4**
GRL	**Gorelyy**	**1.22**	**294**	PN	**Pb**	**01 35 23.9**	**0.0**
GRL				S	**Sb**	**01 35 40.3**	**+0.3**
GRL	**Gorelyy**	**1.22**	**294**	*e*P	**Pb**	**01 35 23.9**	**0.0**
GRL				*e*S	**Sb**	**01 35 40.3**	**+0.3**
PET	**Petropavlovsk**	**1.22**	**322**	‖ *i* PN	**Pg**	**01 35 23.9**	**+0.1**
PET				*e*S	**Sn**	**01 35 40.4**	**-0.5**
PET				pmax	pmax		
	comp=Z,235nm,0.3s						
PET				smax	smax		
	comp=N,2μm,0.4s						
PET				smax	smax		
	comp=E,889nm,0.5s						
PET	**Petropavlovsk**	**1.22**	**322**	*e*P	**Pg**	**01 35 24.1**	**+0.3**
PET				*e*S	**Sg**	**01 35 40.1**	**+0.5**
ASAK	**Asacha**	**1.26**	**285**	PN	**Pn**	**01 35 24.6**	**-0.1**
ASAK				S	**Sb**	**01 35 41.0**	**-0.3**
ASAK	**Asacha**	**1.26**	**285**	*e*P	**Pn**	**01 35 24.6**	**-0.1**
ASAK				*e*S	**Sb**	**01 35 41.0**	**-0.3**
UGLR	**Uglovaya**	**1.32**	**331**	PN	**

PB11	IPOC Station P	7.78	131	ePn	Pn	01 39 39.9 +0.4
PB11				eSn	Sn	01 41 00.8 -6.0
BBOE	La Paz, Chanca	7.90	106	ePn	Pn	01 39 46.4 +5.0
ATAH	Atahualpa	7.94	342	Pn	Pn	01 39 42.2 +0.4
	0.7nm,0.3s,baz=177,slow=17,SNR=3.7					
ATAH				Lg	Lg	01 41 33.8
	3.2nm,0.3s,baz=71,slow=21,SNR=3.5					
ATAH				LR	LR	01 42 27.8
	comp=Z,510nm,18.1s,baz=193,slow=36					
PB01	IPOC Station P	8.76	137	ePn	Pn	01 39 53.7 +0.9
PB01				eSn	Sn	01 41 26.3 -4.2
PB04	IPOC Station P	9.32	145	ePn	Pn	01 40 00.5 -0.1
PB10	IPOC Station P	10.09	151	ePn	Pn	01 40 10.8 -0.2
LVC	Limon Verde	10.26	141	Pn	Pn	01 40 14.9 +1.2
	119nm,0.3s,baz=323,slow=10,SNR=24					
LVC				Sn	Sn	01 42 06.8 -1.1
	140nm,0.3s,baz=55,slow=22,SNR=11					
LVC				Lg	Lg	01 43 14.3
	baz=139,slow=18,SNR=6.2					
LVC				LR	LR	01 43 43.2
	comp=Z,2μm,21.4s,baz=308,slow=35					
LVC	Limon Verde	10.26	141	ePn	Pn	01 40 15.6 +2.0
LVC				eSn	Sn	01 42 07.5 -0.4
LVC				Lg	Lg	01 43 14.3
MOCB	Mochara	11.72	125	ePn	Pn	01 40 35.8 +2.1
SAML	Samuel	13.71	67	ePn	Pn	01 41 00.8 +0.3
SIV	San Ignacio	14.36	97	Pn	Pn	01 41 08.9 -0.5
	0.6nm,0.3s,baz=280,slow=11,SNR=7.7					
SIV				LR	LR	01 47 34.5
	comp=Z,2μm,18.5s,baz=286,slow=41					
LCO	Las Campanas	15.00	162	ePn	Pn	01 41 18.4 +0.1
OTAV	Otavalo	15.09	350	eP	P	01 41 26.7 +2.0
OTAV	Otavalo	15.09	350	ePn	Pn	01 41 21.3 +1.7
	17nm,1.4s					
OTAV				eSn	Sn	01 44 04.8 -1.3
VILC	Villavicencio,	18.85	7	eP	P	01 42 05.8 -0.2
GUYC	Guyana, Colomb	19.83	1	eP	P	01 42 17.9 +0.8
NORC	Norcasia	20.19	3	eP	P	01 42 16.5 -4.1
YOPC	Yopal, Colombi	20.25	10	eP	P	01 42 22.1 +0.8
RUSC	La Rusia	20.68	8	eP	P	01 42 27.2 +0.9
RUSC	La Rusia	20.68	8	eP	P	01 42 27.0 +0.7
	35nm,1.6s					
HELC	Santa Helena	20.79	1	eP	Pn	01 42 28.9 -0.9
	46nm,1.5s					
CPUP	Villa Florida	20.84	127	P	Pn	01 42 29.0 -1.1
	11nm,1.2s,baz=317,slow=11,SNR=6.3					
CPUP				LR	LR	01 52 24.2
	comp=Z,320nm,18.5s,baz=300,slow=42					
CPUP	Villa Florida	20.84	127	eP	P	01 42 28.4 +0.9
PTGA	Pitinga	21.01	50	P	P	01 42 29.2 -0.2
	3.9nm,0.9s,baz=236,slow=13,SNR=9.3					
PTGA	Pitinga	21.01	50	eP	P	01 42 30.1 +0.7
	108nm,1.8s					
BARC	Barichara	21.36	7	eP	P	01 42 33.7 +0.3
ZARC	Zaragoza, Cauc	22.10	3	eP	P	01 42 40.2 -0.9
PAMC	Pamplona, Colo	22.16	8	eP	P	01 42 43.0 +0.8
SDV	Santo Domingo	24.04	13	P	P	01 42 59.6 -1.4
	4.9nm,0.6s,baz=185,slow=12,SNR=7.8					
SJCC	San Jacinto, C	24.48	2	eP	P	01 43 06.2 +1.4
PLCA	Paso Flores	26.32	171	P	P	01 43 21.9 +0.6
	1.6nm,0.8s,baz=357,slow=11,SNR=3.4					
BDFB	Brasilia	26.92	96	P	P	01 43 27.1 0.0
	2.5nm,0.7s,baz=258,slow=8.9,SNR=3.3					
BDFB				LR	LR	01 55 16.3
	comp=Z,1μm,18.9s,baz=44,slow=39					
PCRV	Puerto La Cruz	27.15	25	LR	LR	01 55 14.2
	comp=Z,556nm,21.2s,baz=197,slow=39					
RPN	Rapa Nui	33.46	243	LR	LR	01 53 54.8
	comp=Z,306nm,21.7s,baz=56,slow=29					
CMIG	Matias Romero	36.75	329	LR	LR	01 57 52.2
	comp=Z,264nm,19.0s,baz=98,slow=33					
WLAR	White Oak Lake	50.87	341	eP	P	01 46 46.9 +0.6
	49nm,1.4s					
TXAR	Lajitas Array	51.36	329	P	P	01 46 49.4 -0.9
	0.3nm,0.6s,baz=158,slow=9.7,SNR=4.2					
ABTX	Abilene, Hawle	52.28	335	eP	P	01 46 59.2 +2.3
	24nm,1.7s					
ANMO	Albuquerque	57.29	330	eP	P	01 47 35.0 +1.6
	3.9nm,1.1s					
SDCO	Great Sand Dun	59.15	333	eP	P	01 47 46.6 +0.2
	5.5nm,1.2s					
KNB	Kanab	62.12	327	eP	P	01 48 09.2 +2.6
	8.2nm,1.4s					
DUG	Dugway, Tooele	64.53	329	eP	P	01 48 22.1 -0.4
	11nm,1.4s					
HWUT	Hardware Ranch	65.02	331	eP	P	01 48 26.3 +0.6
	9.1nm,1.3s					
BW06	Boulder Array	65.03	333	eP	P	01 48 27.8 +1.9
PDAR	Pinedale Array	65.03	333	P	P	01 48 23.9 -1.9
	0.3nm,0.5s,baz=121,slow=7.7,SNR=4.1					
LOHW	Long Hollow	66.17	333	eP	P	01 48 34.2 +1.1
	2.1nm,0.9s					
TPAW	Teton Pass	66.22	333	eP	P	01 48 34.5 +1.0
	5.7nm,1.2s					
MOOW	Moose Ponds	66.34	333	eP	P	01 48 35.3 +1.1
	2.4nm,1.0s					
ULM	Lac du Bonnet	67.04	346	P	P	01 48 35.4 -2.9
	2.0nm,0.7s,baz=150,slow=8.1,SNR=4.0					
HLID	Hailey	67.86	331	eP	P	01 48 44.0 +0.2
	1.1nm,0.7s					
BOZ	Bozeman (W)	68.19	334	eP	P	01 48 47.4 +1.5
	1.8nm,0.6s					
MFID	Camas Ranch	68.43	330	eP	P	01 48 49.5 +2.2
	5.2nm,1.0s					
VNA3	Neumayer Olymp	68.58	161	P	P	01 48 48.6 +0.9
ORV	Oroville	68.71	324	eP	P	01 48 50.4 +1.4
	4.9nm,1.1s					
VNA1	Neumayer--Stat	68.84	161	P	P	01 48 51.6 +2.2
SNAA	Sanae	70.80	161	P	P	01 49 02.0 +0.5
SNAA	Sanae	70.80	161	eP	P	01 49 01.5 0.0
	7.0nm,1.1s					
DBIC	Dimbokro	73.56	78	LR	LR	02 20 25.0
	comp=Z,384nm,19.1s,baz=226,slow=35					
TORD	Torodi Ar. Bea	81.64	74	P	P	01 50 04.8 +0.7
	6.6nm,1.1s,baz=267,slow=7.0,SNR=23					
TORD				LR	LR	02 23 58.2
	comp=Z,193nm,21.3s,baz=225,slow=34					
VNDA	Vanda	82.28	191	P	P	01 50 07.2 +1.0
	1.1nm,0.9s,baz=136,slow=5.8,SNR=4.1					
ESDC	Sonseca Array	85.94	47	P	P	01 50 23.6 -2.0
	0.7nm,0.8s,baz=253,slow=5.6,SNR=3.7					
TAM	Tamanrasset	87.95	66	eP	P	01 50 36.7 +0.8
	3.9nm,1.3s					
BOSA	Boshof	92.53	120	LR	LR	02 31 29.9
	comp=Z,71nm,18.3s,baz=254,slow=35					
MAW	Mawson	92.60	165	eP	P	01 50 57.3 +0.8
ILAR	Eielson Array	95.35	336	P	P	01 51 08.1 -0.9
	0.3nm,0.9s,baz=113,slow=3.4,SNR=3.4					
H11N3	WAKE ISLAND Hyl	20.08	284	T	T	04 07 42.4
	baz=96,slow=74,SNR=302					
H11N2	WAKE ISLAND Hyl	20.10	284	T	T	04 07 43.4
	baz=96,slow=74,SNR=456					
H11N1	WAKE ISLAND Hyl	20.10	284	T	T	04 07 43.6
	baz=96,slow=74,SNR=241					
H11S2	WAKE ISLAND Hyl	20.14	283	T	T	04 07 47.0
	baz=84,slow=79,SNR=28					
H11S1	WAKE ISLAND Hyl	20.15	283	T	T	04 07 46.8
	baz=84,slow=79,SNR=24					
H11S3	WAKE ISLAND Hyl	20.16	283	T	T	04 07 48.2
	baz=84,slow=79,SNR=32					
ABKAR	Akbulak array	130.22	37	ePKPdf	PKPdf	01 56 55.6 +0.2
ASAR	Alice Springs	131.98	218	PKP	PKPdf	01 56 59.7 +0.2
	0.2nm,0.3s,baz=129,slow=2.5,SNR=2.9					
WRA	Warramunga Arr	134.48	222	PKP	PKPdf	01 57 03.7 -0.6
	0.8nm,1.0s,baz=130,slow=1.8,SNR=3.5					
ZALV	Zalesovo Beam	138.04	17	PKP	PKPdf	01 57 09.7 -0.1
	1.6nm,0.8s,baz=240,slow=2.9,SNR=5.5					
KURK	Kurchatov	138.62	24	PKP	PKPdf	01 57 11.3 +0.3
KURBB	Kurchatov Arra	138.66	25	PKP	PKPdf	01 57 11.3 +0.3
	0.8nm,0.9s,baz=313,slow=2.5,SNR=4.9					
MKAR	Makanchi Array	143.21	25	PKP	PKPdf	01 57 19.9 +0.4
	0.4nm,0.8s,baz=90,slow=2.9,SNR=2.2					
KSH	Kashi	145.10	40	PKPbc	PKPdf	01 57 23.8 +0.7
KSH				pPKP	pPKPbc	01 57 32.3 0.0
KSH				sPKP		01 57 37.0
KSH				PP	PP	02 00 45.0 +3.6
KSH				PKS	PKSdf	02 00 57.0 -1.8
KSH				SKS	SKSdf	02 04 28.0 -2.6
ULN	Ulaanbaatar	146.87	356	ePKPbc	PKPbc	01 57 27.6 -0.2
SONM	Songino Array	146.94	357	PKPbc	PKPbc	01 57 27.6 -0.3
	2.2nm,0.7s,baz=304,slow=1.5,SNR=12					
SOEI	Soe	148.51	221	ePKPbc	PKPbc	01 57 34.1 +0.9
LZH	Lanzhou	158.73	1	ePKP	PKPdf	01 57 41.5 -2.1
LZH				pPKP	pPKPdf	01 57 51.5 -1.7
LZH				sPKP		01 57 55.5

MEX 29 01:39:01.4±0.5, 16°.44N×98°.44W, h3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	100	iP	Pg	Pg	01 39 06.9	-0.3
PNIG				eS	Sg	Sg	01 39 11.2	0.0
TLIG	Tlapa	1.12	354	eP	Pg	Pg	01 39 19.9	-3.0
TLIG				eS	Sg	Sg	01 39 33.8	-3.6
ACX	Acapulco	1.43	287	eP	Pg	Pg	01 39 35.0	+6.2
ACX				eS	Sn	Sn	01 39 48.8	+1.2
VHO	Vista Hermosa	1.75	69	eP	Pn	Pn	01 39 29.9	-2.9

*IDC **29** 01:45:24.9±1.6, 14°.75S×76°.16W, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.9/35, mbtmp4.2/9, ML4.0/2, Error ellipse: s-maj=42.7km s-min=14.7km az=61.0*
*ISCJB **29** 01:45:27.5±0.7, 14°.74S±0°.07×76°.06W±0°.1, h29km, mb4.1/7, Error ellipse: s-maj=16.5km s-min=7.1km az=151.2*
*NEIC **29** 01:45:30.5±0.6, 14°.66S×76°.04W, h35km, mb4.1/2, Error ellipse: s-maj=14.1km s-min=7.7km az=61.0*
ISC 29 01:45:29.3±0.8, 14°.70S±0°.09×76°.1W±0°.1, h29km, n26, σ1$69/23, mb4.1/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.79	345	Pn	Pn	Pn	01 46 12.0	-0.1
	60nm,0.3s,baz=172,slow=14,SNR=43							
NNA				Pg	Pb	Pb	01 46 17.0	-1.6
	60nm,0.3s,baz=138,slow=9.5,SNR=63							
NNA				Lg	Lg	Lg	01 46 55.8	
	103nm,0.3s,baz=53,slow=23,SNR=12							
LPAZ	La Paz	7.83	103	Pn	Pn	Pn	01 47 26.0	+4.1
	6.8nm,0.3s,baz=279,slow=11,SNR=116							
ATAH	Atahualpa	7.85	343	Pn	Pn	Pn	01 47 25.6	+3.6
	0.8nm,0.3s,baz=113,slow=7.7,SNR=4.0							
ATAH				Lg	Lg	Lg	01 49 14.4	
	3.4nm,0.3s,baz=307,slow=23,SNR=6.0							
LVC	Limon Verde	10.39	140	Pn	Pn	Pn	01 47 57.7	+0.8
	107nm,0.3s,baz=309,slow=11,SNR=24							
LVC				Sn	Sn	Sn	01 49 50.2	-2.4
	83nm,0.3s,baz=84,slow=19,SNR=6.6							
LVC				Lg	Lg	Lg	01 50 52.6	
	28nm,0.3s,baz=284,slow=24,SNR=6.3							
LVC	Limon Verde	10.39	140	ePn	Pn	Pn	01 47 57.3	+0.5
LVC				Sn	Sn	Sn	01 49 50.2	-2.4
LVC				Lg	Lg	Lg	01 50 52.6	
SAML	Samuel	13.86	67	ePn	Pn	Pn	01 48 43.1	-0.8
SIV	San Ignacio	14.54	97	Pn	Pn	Pn	01 48 52.5	-0.7
	0.5nm,0.3s,baz=280,slow=15,SNR=3.3							
OTAV	Otavalo	15.03	351	ePn	Pn	Pn	01 48 58.5	-1.7
LCO	Las Campanas	15.09	162	ePn	Pn	Pn	01 48 59.6	-1.2
CPUP	Villa Florida	21.00	126	P	P	P	01 50 11.0	+0.4
	1.7nm,0.8s,baz=329,slow=9.9,SNR=3.8							
PTGA	Pitinga	21.13	50	P	P	P	01 50 12.2	+0.1
	5.4nm,0.7s,baz=227,slow=13,SNR=4.8							
SDV	Santo Domingo	24.05	13	P	P	P	01 50 42.6	+0.2
	3.5nm,0.5s,baz=180,slow=9.1,SNR=3.3							
SDCO	Great Sand Dun	59.04	333	eP	P	P	01 55 27.1	+0.1
	0.9nm,0.8s							
DUG	Dugway, Tooele	64.41	329	eP	P	P	01 56 03.3	+0.2
	1.5nm,0.6s							
ULM	Lac du Bonnet	66.97	346	P	P	P	01 56 18.4	-0.7
	1.2nm,0.5s,baz=154,slow=5.3,SNR=2.5							
SNAA	Sanae	70.89	161	eP	P	P	01 56 44.3	+1.0
DBIC	Dimbokro	73.73	78	P	P	P	01 57 01.4	+0.1
	0.8nm,0.5s,baz=254,slow=7.4,SNR=3.1							
TORD	Torodi Ar. Bea	81.80	74	P	P	P	01 57 47.2	+0.9
	3.2nm,0.9s,baz=263,slow=5.0,SNR=17							
H11N3	WAKE ISLAND Hyl	19.90	284	T	T	T	04 15 33.4	
	baz=96,slow=74,SNR=58							
H11N2	WAKE ISLAND Hyl	19.92	284	T	T	T	04 15 35.9	
	baz=96,slow=74,SNR=77							
H11N1	WAKE ISLAND Hyl	19.92	284	T	T	T	04 15 36.2	
	baz=96,slow=74,SNR=36							
H11S2	WAKE ISLAND Hyl	19.96	283	T	T	T	04 15 38.3	
	baz=104,slow=74,SNR=11							
H11S1	WAKE ISLAND Hyl	19.97	283	T	T	T	04 15 34.5	
	baz=104,slow=74,SNR=14							
H11S3	WAKE ISLAND Hyl	19.98	283	T	T	T	04 15 35.7	
	baz=104,slow=74,SNR=14							
KURK	Kurchatov	138.66	24	ePKPdf	PKPdf	PKPdf	02 04 54.2	+1.8
SONM	Songino Array	146.90	357	PKPbc	PKPab	PKPab	02 05 09.8	-0.7
	1.1nm,0.7s,baz=342,slow=1.9,SNR=6.7							

*ISCJB **29** 01:49:06.0±1.3, 27°.4N±0°.2×88°.3E±0°.1, h10km, mb3.3/4, Error ellipse: s-maj=29.0km s-min=8.6km az=37.2*
*IDC **29** 01:49:06.8±2.1, 27°.49N×88°.43E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/38, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=86.3km s-min=22.4km az=68.0*
ISC 29 01:49:07.9±2.1, 27°.5N±0°.3×88°.5E±0°.4, h10km, n6, σ0$68/8, mb3.5/4, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	0.22	141	eP	Pg	Pg	01 49 11.8	-0.8
GTK				eS	Sg	Sg	01 49 15.8	+0.2
GTK				eS	Sg	Sg	01 49 15.9	+0.2
GTK				AML	AML	AML	01 49 17.7	
	comp=N,2μm,0.2s							
GTK				AML	AML	AML	01 49 17.9	
	comp=E,2μm,0.2s							
MKAR	Makanchi Array	19.87	347	P	Pn	Pn	01 53 40.2	-0.5
	comp=E,0.1nm,0.3s,baz=178,slow=9.9,SNR=2.7							
KURBB	Kurchatov Arra	24.30	345	P	P	P	01 54 25.3	-0.1
	comp=E,0.2nm,0.7s,baz=166,slow=8.9,SNR=2.9							
SONM	Songino Array	24.67	30	P	P	P	01 54 29.3	+0.3
	comp=E,0.3nm,0.4s,baz=226,slow=9.5,SNR=3.5							
WRA	Warramunga Arr	64.79	132	P	P	P	01 59 47.1	+0.1
	comp=E,0.6nm,0.8s,baz=321,slow=6.9,SNR=6.7							
ASAR	Alice Springs	67.17	135	P	P	P	02 00 03.4	+1.1
	comp=E,0.4nm,0.9s,baz=317,slow=6.6,SNR=3.8							

*IDC **29** 01:50:39.8±4.0, 20°.64N×105°.46W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.6/34, mbtmp3.6/5, ML4.1/2, Error ellipse: s-maj=70.1km s-min=53.2km az=11.0*
*ISCJB **29** 01:50:47.1±1.0, 21°.37N±0°.08×106°.3W±0°.1, h10km, mb3.5/3, Error ellipse: s-maj=21.2km s-min=4.9km az=150.0*
*MEX **29** 01:50:51.3±0.8, 21°.39N×106°.36W, h16km±31km, MD4.3*
ISC 29 01:50:46.9±1.0, 21°.32N±0°.08×106°.5W±0°.1, h10km, n15, σ1$99/17, mb3.5/3, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUVA	Puert Vallarta	1.34	121	eP	Pn	Pn	01 51 10.8	-0.9
PUVA				i S	Sb	Sb	01 51 26.6	-2.6
MAIG	Mazatlaan	1.86	1	eP	Pn	Pn	01 51 18.1	-0.8
MAIG				i S	Sn	Sn	01 51 38.9	-3.6
CJM	Chamela	2.24	144	eP	Pn	Pn	01 51 24.1	+0.1
CJM				eS	Sn	Sn	01 51 50.5	-1.3
R15V		3.15	132	eP	Pn	Pn	01 51 38.3	+1.6
R15V				eS	Sn	Sn	01 52 13.4	-1.0
EZ5V		3.23	124	eP	Pn	Pn	01 51 39.7	+1.7
EZ5V				i S	Sn	Sn	01 52 15.2	-1.6
MMIG	Aquila	4.20	135	eP	Pn	Pn	01 51 51.6	+0.6
MMIG				eS	Sn	Sn	01 52 39.1	-1.0
LPIG	La Paz	4.52	309	Pn	Pb	Pb	01 52 04.7	-1.7
	24nm,0.3s,baz=143,slow=3.0,SNR=4.2							
H06E1	SOCORRO T-PHAS	4.91	240	T	T	T	01 57 09.6	
	SNR=322							
H06N1	SOCORRO T-PHAS	4.92	241	T	T	T	01 57 11.5	
	SNR=26							
H06S1	SOCORRO T	4.96	240	T	T	T	01 57 12.3	
	SNR=34							
ARIG	Puente Sto Nin	6.49	117	eP	Pn	Pn	01 52 24.9	+2.4
TXAR	Lajitas Array	8.37	17	Pn	Pn	Pn	01 52 50.5	+2.1
	0.2nm,0.3s,baz=191,slow=14,SNR=9.7							
TXAR				Lg	Lg	Lg	01 55 04.0	
	0.2nm,0.3s,baz=194,slow=26,SNR=5.1							
PDAR	Pinedale Array	21.55	354	P	P	P	01 55 38.5	+1.9
	0.5nm,0.7s,baz=175,slow=11,SNR=4.8							
ILAR	Eielson Array	50.90	339	P	P	P	01 59 50.4	+2.4
	0.5nm,0.8s,baz=137,slow=8.1,SNR=4.7							
NOA	NORSAR Array B	83.97	26	P	P	P	02 03 12.4	-4.9
	1.4nm,0.8s,baz=294,slow=5.8,SNR=3.2							

*CSEM **29** 01:55:58.3±0.7, 39°.14N×43°.00E, h10km, ML2.6, Error ellipse: s-maj=35.9km s-min=11.0km az=8.0*

DDA 29 01:56:04.6, 38°.90N×43°.45E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.13	48	iP	Pg	Pg	01 56 07.8	+0.3
VMUR				i S	Sg	Sg	01 56 12.1	+2.6
VMUR	Van-Muradiye	0.13	48	P	Pg	Pg	01 56 07.8	+0.3
VMUR				S	Sg	Sg	01 56 12.1	+2.6
TVAN	Van	0.37	185	iP	Pg	Pg	01 56 11.9	0.0
TVAN	Van	0.37	185	P	Pg	Pg	01 56 11.9	0.0
CLDR	Caldiran	0.44	57	iP	Pg	Pg	01 56 12.8	-0.4
CLDR				i S	Sb	Sb	01 56 20.4	-1.3
CLDR	Caldiran	0.44	57	iP	Pg	Pg	01 56 12.9	-0.3
CLDR	Caldiran	0.44	57	P	Pg	Pg	01 56 12.8	-0.4
CLDR				S	Sb	Sb	01 56 20.4	-1.3
GEVA	Gevas	0.66	207	iP	Pg	Pg	01 56 17.9	+0.6

*CSEM **29** 01:56:14.5±0.3, 39°.36N×42°.02E, h2km, ML2.9, Error ellipse: s-maj=8.2km s-min=6.0km az=104.0*
*DDA **29** 01:56:14.8, 39°.36N×41°.93E, h8km, Ml2.9*
*ISK **29** 01:56:15.4, 39°.51N×41°.78E, h11km, ML2.6*
ISC 29 01:56:14.1±0.9, 39°.33N±0°.03×41°.96E±0°.03, h15km±7km, n35, σ0$94/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKAR	Karacoban	0.11	133	iP	Pg	Pg	01 56 17.4	-0.5
EKAR				i S	Sg	Sg	01 56 21.6	+1.3
EKAR	Karacoban	0.11	133	P	Pg	Pg	01 56 17.4	-0.5
VRTB	Varto-Mus	0.43	246	ePG	Pb	Pb	01 56 24.2	+0.8
VRTB				eSG	Sb	Sb	01 56 31.1	+1.4
VRTB	Varto-Mus	0.43	246	iP	Pb	Pb	01 56 23.9	+0.5
VRTB	Varto-Mus	0.43	246	P	Pb	Pb	01 56 24.0	+0.5
VRTB				eSg	Sb	Sb	01 56 31.1	+1.4
VRTB	Varto-Mus	0.43	246	ePg	Pb	Pb	01 56 24.2	+0.8
EATA	Eleskirt	0.67	38	iP	Pg	Pg	01 56 27.0	-0.4
EATA				i S	Sb	Sb	01 56 38.4	+1.5
EATA	Eleskirt	0.67	38	P	Pg	Pg	01 56 27.0	-0.4
HOMI	Horasan	0.71	357	iP	Pg	Pg	01 56 28.2	+0.1
ECAT	Cat-ERZURUM	0.81	290	iP	Pg	Pg	01 56 29.5	-0.4
ECAT	Cat-ERZURUM	0.81	290	P	Pg	Pg	01 56 29.5	-0.4
TATV	Tatvan	0.86	164	iP	Pg	Pg	01 56 30.9	+0.1
TATV	Tatvan	0.86	164	iP	Pg	Pg	01 56 30.6	-0.2
TATV	Tatvan	0.86	164	P	Pg	Pg	01 56 30.6	-0.2
TATV	Tatvan	0.86	164	P	Pg	Pg	01 56 30.9	+0.1
BNGB	Bing¶ll	1.05	251	ePG	Pb	Pb	01 56 34.7	+0.6
YEDI	Yedisu-Bingol	1.10	276	ePG	Pb	Pb	01 56 34.1	-0.8
YEDI				eSG	Sg	Sg	01 56 47.9	-1.9
YEDI	Yedisu-Bingol	1.10	276	ePg	Pb	Pb	01 56 34.1	-0.8
BINT	Bingol	1.23	249	ePg	Pn	Pn	01 56 34.7	-2.2
SENK	Senkaya-Erzuru	1.26	14	ePN	Pn	Pn	01 56 37.7	+0.3
SENK	Senkaya-Erzuru	1.26	14	ePn	Pn	Pn	01 56 37.7	+0.3
KOPT	Kop Dagi	1.32	302	iP	Pg	Pg	01 56 41.0	+1.4
KOPT	Kop Dagi	1.32	302	P	Pg	Pg	01 56 41.0	+1.4
DIGO	Kars	1.53	45	iP	Pn	Pn	01 56 39.2	-2.0
BTMN	Batman	1.54	201	iP	Pb	Pb	01 56 43.3	+1.0
BTMN	Batman	1.54	201	P	Pb	Pb	01 56 43.3	+1.0
DDEM	Demirkent	1.56	354	iP	Pg	Pg	01 56 43.7	-0.5
DDEM	Demirkent	1.56	354	P	Pg	Pg	01 56 43.7	-0.5
DAGI	Agillar	1.74	359	iP	Pb	Pb	01 56 46.5	+0.6
ARTV	Artvin	1.85	359	iP	Pb	Pb	01 56 48.0	+0.2
ARTV	Artvin	1.85	359	P	Pb	Pb	01 56 48.0	+0.2
SIRN	S¨–rnak	1.87	169	iP	Pb	Pb	01 56 48.0	0.0
SIRN	S¨–rnak	1.87	169	P	Pb	Pb	01 56 48.0	0.0
MAZI	Mazidag	2.22	213	ePN	Pb	Pb	01 56 54.2	+0.3
MAZI	Mazidag	2.22	213	ePn	Pb	Pb	01 56 54.2	+0.3

*CSEM **29** 01:56:19.9, 38°.75N×42°.92E, h7km, ML3.0*
DDA 29 01:56:19.9, 38°.75N×42°.92E, h7km, Ml3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.44	120	iP	Pg	Pg	01 56 26.3	-2.2
TVAN	Van	0.44	120	P	Pg	Pg	01 56 26.3	-2.2
GEVA	Gevas	0.45	166	iP	Pg	Pg	01 56 28.8	+0.1
GEVA				i S	Sg	Sg	01 56 35.9	+1.2
GEVA	Gevas	0.45	166	P	Pg	Pg	01 56 28.8	+0.1
GEVA				S	Sg	Sg	01 56 35.9	+1.2
VMUR	Van-Muradiye	0.56	65	iP	Pg	Pg	01 56 30.9	+0.2
VMUR				i S	Sb	Sb	01 56 40.0	-0.4
VMUR	Van-Muradiye	0.56	65	P	Pg	Pg	01 56 30.9	+0.2
VMUR				S	Sb	Sb	01 56 40.0	-0.4
CLDR	Caldiran	0.87	63	iP	Pg	Pg	01 56 36.7	+0.1
CLDR				i S	Sb	Sb	01 56 49.0	-0.3
CLDR	Caldiran	0.87	63	P	Pg	Pg	01 56 36.7	+0.1
CL

CLDR	**Caldiran**	**0.67**	**48**	*e*Pg	**Pg**	**02 08 53.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**346**	*e*PG	**Pg**	**02 08 58.2**	**-0.5**
AGRB				*e*SG	**Sb**	**02 09 11.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**346**	*e*Pg	**Pg**	**02 08 58.2**	**-0.5**
AGRB				*e*Sg	**Sb**	**02 09 11.2**	**+0.4**
CUKT	**Cukurca**	**1.47**	**170**	*e*PN	**Pb**	**02 09 08.6**	**+0.3**
CUKT	**Cukurca**	**1.47**	**170**	*e*Pn	**Pb**	**02 09 08.6**	**+0.3**

ISK ***29*** *02:14:34.6, 38°.85N×43°.57E, h8km, ML2.0*
ISCJB ***29*** *02:14:35.4±0.8, 38°.89N±0°.05×43°.55E±0°.10, h20km±9km, Error ellipse: s-maj=13.8km s-min=6.5km az=28.2*
CSEM ***29*** *02:14:35.1±0.2, 38°.88N×43°.54E, h15km, ML2.0, Error ellipse: s-maj=6.9km s-min=3.8km az=114.0*
DDA ***29*** *02:14:35.5, 38°.87N×43°.44E, h7km, Ml2.6*
ISC 29 02:14:35.4±0.9, 38°.87N±0°.04×43°.57E±0°.05, h16km±7km, n18, σ0°54/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**2**	*i* P	**Pg**	**02 14 38.6**	**-0.7**
VMUR				*i* S	**Sg**	**02 14 42.6**	**+0.7**
VMUR	**Van-Muradiye**	**0.12**	**2**	P	**Pg**	**02 14 38.6**	**-0.7**
VMUR				S	**Sg**	**02 14 42.6**	**+0.7**
ERCV	**ERCIS-VAN**	**0.23**	**311**	*e*PG	**Pg**	**02 14 40.5**	**-0.3**
ERCV	**ERCIS-VAN**	**0.23**	**311**	*e*Pg	**Pg**	**02 14 40.5**	**-0.3**
VANB	**Van**	**0.30**	**207**	*e*PG	**Pb**	**02 14 42.0**	**-0.5**
VANB				*e*SG	**Sb**	**02 14 47.8**	**+0.4**
VANB	**Van**	**0.30**	**207**	*e*Pg	**Pb**	**02 14 42.0**	**-0.5**
VANB				*e*Sg	**Sb**	**02 14 47.8**	**+0.4**
TVAN	**Van**	**0.36**	**200**	*i* P	**Pg**	**02 14 42.6**	**-0.3**
TVAN	**Van**	**0.36**	**200**	P	**Pg**	**02 14 42.6**	**-0.3**
CLDR	**Caldiran**	**0.39**	**45**	*e*PG	**Pg**	**02 14 42.9**	**-0.6**
CLDR				*e*SG	**Sg**	**02 14 49.0**	**0.0**
CLDR	**Caldiran**	**0.39**	**45**	*i* P	**Pb**	**02 14 44.1**	**0.0**
CLDR	**Caldiran**	**0.39**	**45**	*e*Pg	**Pg**	**02 14 42.9**	**-0.6**
CLDR	**Caldiran**	**0.39**	**45**	P	**Pb**	**02 14 44.1**	**0.0**
CLDR				*e*Sg	**Sg**	**02 14 49.0**	**0.0**
GEVA	**Gevas**	**0.68**	**216**	*i* P	**Pg**	**02 14 48.2**	**-0.6**
GEVA	**Gevas**	**0.68**	**216**	P	**Pg**	**02 14 48.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**328**	*e*PG	**Pg**	**02 14 51.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.84**	**328**	*e*Pg	**Pg**	**02 14 51.1**	**-0.6**
CUKT	**Cukurca**	**1.62**	**179**	*e*PN	**Pn**	**02 15 03.8**	**+0.4**
CUKT	**Cukurca**	**1.62**	**179**	*e*Pn	**Pn**	**02 15 03.8**	**+0.4**

IDC 29 02:24:27.9±6.8, 20°.49S×179°.27W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/22, mbtmp3.6/2, Error ellipse: s-maj=442.5km s-min=72.5km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.36**	**257**	P	P	02 32 32.6	+0.3
	0.5nm,0.5s,baz=91,slow=7.8,SNR=6.6						
WRA	**Warramunga Arr**	**43.42**	**262**	P	P	02 32 32.3	-0.5
	0.3nm,0.3s,baz=98,slow=5.2,SNR=6.9						
FINES	**FINESS Array B**	**135.42**	**343**	PKP	PKPdf	02 43 49.0	-0.4
	0.9nm,0.6s,baz=17,slow=1.5,SNR=5.5						

DDA ***29*** *02:28:32.9, 38°.63N×43°.49E, h7km, Ml2.5*
ISK ***29*** *02:28:32.4, 38°.71N×43°.43E, h5km, MD2.6*
ISCJB ***29*** *02:28:33.1±0.7, 38°.71N±0°.03×43°.4E±0°.1, h6km±11km, Error ellipse: s-maj=13.8km s-min=5.6km az=177.2*
CSEM ***29*** *02:28:33.0±0.2, 38°.71N×43°.39E, h2km, MD2.6, Error ellipse: s-maj=9.1km s-min=4.6km az=101.0*
ISC 29 02:28:33.3±1.0, 38°.70N±0°.03×43°.42E±0°.05, h13km±8km, n20, σ0°82/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**192**	*e*PG	**Pg**	**02 28 36.9**	**+0.3**
VANB	**Van**	**0.11**	**192**	*e*Pg	**Pg**	**02 28 36.9**	**+0.3**
TVAN	**Van**	**0.17**	**183**	*i* P	**Pg**	**02 28 36.4**	**-1.1**
TVAN	**Van**	**0.17**	**183**	P	**Pg**	**02 28 36.4**	**-1.1**
VMUR	**Van-Muradiye**	**0.31**	**23**	*i* P	**Pg**	**02 28 39.5**	**-0.3**
VMUR	**Van-Muradiye**	**0.31**	**23**	P	**Pg**	**02 28 39.5**	**-0.3**
ERCV	**ERCIS-VAN**	**0.32**	**349**	*e*PG	**Pg**	**02 28 39.2**	**-0.8**
ERCV				*e*SG	**Sg**	**02 28 44.1**	**-0.4**
ERCV	**ERCIS-VAN**	**0.32**	**349**	*e*Pg	**Pg**	**02 28 39.2**	**-0.8**
ERCV				*e*Sg	**Sg**	**02 28 44.1**	**-0.4**
GEVA	**Gevas**	**0.48**	**216**	*i* P	**Pg**	**02 28 41.6**	**-1.2**
GEVA	**Gevas**	**0.48**	**216**	P	**Pg**	**02 28 41.7**	**-1.2**
CLDR	**Caldiran**	**0.59**	**41**	*e*PG	**Pg**	**02 28 44.1**	**-0.8**
CLDR	**Caldiran**	**0.59**	**41**	*i* P	**Pb**	**02 28 45.6**	**0.0**
CLDR	**Caldiran**	**0.59**	**41**	*e*Pg	**Pg**	**02 28 44.1**	**-0.8**
CLDR	**Caldiran**	**0.59**	**41**	P	**Pb**	**02 28 45.6**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**339**	*e*PG	**Pg**	**02 28 50.6**	**-0.8**
AGRB				*e*SG	**Sb**	**02 29 03.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.93**	**339**	*e*Pg	**Pg**	**02 28 50.6**	**-0.8**
AGRB				*e*Sg	**Sb**	**02 29 03.9**	**+0.1**
CUKT	**Cukurca**	**1.46**	**174**	*e*PN	**Pn**	**02 29 00.1**	**+0.6**
CUKT	**Cukurca**	**1.46**	**174**	*e*Pn	**Pn**	**02 29 00.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.83**	**253**	*e*PN	**Pn**	**02 29 05.7**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.83**	**253**	*e*Pn	**Pn**	**02 29 05.7**	**+1.3**

DDA ***29*** *02:37:04.5, 38°.73N×43°.51E, h7km, Ml2.6*
ISK ***29*** *02:37:04.5, 38°.73N×43°.48E, h7km, ML2.5*
CSEM ***29*** *02:37:04.9±0.2, 38°.75N×43°.48E, h5km, ML2.5, Error ellipse: s-maj=8.1km s-min=4.5km az=99.0*
ISCJB ***29*** *02:37:05.0±0.7, 38°.74N±0°.04×43°.47E±0°.08, h6km±10km, Error ellipse: s-maj=10.1km s-min=5.8km az=11.4*
ISC 29 02:37:05.1±1.2, 38°.74N±0°.03×43°.51E±0°.04, h15km±9km, n21, σ0°84/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**214**	*e*PG	**Pg**	**02 37 09.7**	**+0.3**
VANB	**Van**	**0.17**	**214**	*e*Pg	**Pg**	**02 37 09.7**	**+0.3**
TVAN	**Van**	**0.23**	**202**	*i* P	**Pg**	**02 37 09.5**	**-0.8**
TVAN	**Van**	**0.23**	**202**	P	**Pg**	**02 37 09.5**	**-0.8**
VMUR	**Van-Muradiye**	**0.25**	**10**	*i* P	**Pg**	**02 37 10.0**	**-0.7**
VMUR	**Van-Muradiye**	**0.25**	**10**	P	**Pg**	**02 37 10.0**	**-0.7**
ERCV	**ERCIS-VAN**	**0.31**	**334**	*e*PG	**Pg**	**02 37 10.6**	**-1.1**
ERCV	**ERCIS-VAN**	**0.31**	**334**	*e*Pg	**Pg**	**02 37 10.6**	**-1.1**
CLDR	**Caldiran**	**0.51**	**38**	*e*PG	**Pg**	**02 37 14.8**	**-0.5**
CLDR				*e*SG	**Sb**	**02 37 23.5**	**+0.2**
CLDR	**Caldiran**	**0.51**	**38**	*i* P	**Pg**	**02 37 14.8**	**-0.5**
CLDR	**Caldiran**	**0.51**	**38**	*e*Pg	**Pg**	**02 37 14.8**	**-0.5**
CLDR				*e*Sg	**Sb**	**02 37 23.5**	**+0.2**
GEVA	**Gevas**	**0.56**	**220**	*i* P	**Pg**	**02 37 15.0**	**-1.1**
GEVA	**Gevas**	**0.56**	**220**	P	**Pg**	**02 37 15.0**	**-1.1**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*PG	**Pg**	**02 37 22.3**	**-0.8**
AGRB				*e*SG	**Sb**	**02 37 36.3**	**+1.1**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*Pg	**Pg**	**02 37 22.3**	**-0.8**
AGRB				*e*Sg	**Sb**	**02 37 36.3**	**+1.1**
EATA	**Eleskirt**	**1.37**	**325**	*i* P	**Pg**	**02 37 30.7**	**-0.8**
EATA	**Eleskirt**	**1.37**	**325**	P	**Pg**	**02 37 30.7**	**-0.8**
CUKT	**Cukurca**	**1.49**	**177**	*e*PN	**Pg**	**02 37 32.9**	**-0.9**
CUKT	**Cukurca**	**1.49**	**177**	*e*Pn	**Pg**	**02 37 32.9**	**-0.9**
VRTB	**Varto-Mus**	**1.66**	**285**	*e*PN	**Pn**	**02 37 34.2**	**+0.4**
VRTB	**Varto-Mus**	**1.66**	**285**	*e*Pn	**Pn**	**02 37 34.2**	**+0.4**

ISK ***29*** *02:39:05.6, 38°.72N×43°.56E, h5km, MD2.8*
CSEM ***29*** *02:39:06.9±0.3, 38°.74N×43°.56E, h10km, MD2.8, Error ellipse: s-maj=7.8km s-min=4.9km az=113.0*
DDA ***29*** *02:39:06.7, 38°.72N×43°.45E, h7km, Ml3.0*
ISCJB ***29*** *02:39:07.2±0.7, 38°.72N±0°.04×43°.54E±0°.07, h12km±6km, Error ellipse: s-maj=10.1km s-min=5.9km az=16.7*
ISC 29 02:39:06.6±1.2, 38°.73N±0°.03×43°.53E±0°.04, h12km±10km, n28, σ0°41/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**219**	*e*PG	**Pb**	**02 39 11.7**	**-0.2**
VANB	**Van**	**0.17**	**219**	*e*Pg	**Pb**	**02 39 11.7**	**-0.2**
TVAN	**Van**	**0.22**	**206**	*i* P	**Pg**	**02 39 11.5**	**0.0**
TVAN	**Van**	**0.22**	**206**	P	**Pg**	**02 39 11.5**	**0.0**
VMUR	**Van-Muradiye**	**0.26**	**7**	*i* P	**Pg**	**02 39 12.3**	**+0.1**
VMUR				*i* S	**Sb**	**02 39 18.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.26**	**7**	P	**Pg**	**02 39 12.4**	**+0.1**
VMUR				S	**Sb**	**02 39 18.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.33**	**333**	*e*PG	**Pg**	**02 39 13.8**	**+0.4**
ERCV	**ERCIS-VAN**	**0.33**	**333**	*e*Pg	**Pg**	**02 39 13.8**	**+0.4**
CLDR	**Caldiran**	**0.51**	**36**	*e*PG	**Pg**	**02 39 16.6**	**-0.2**
CLDR				*e*SG	**Sb**	**02 39 24.9**	**-0.3**
CLDR	**Caldiran**	**0.51**	**36**	*i* P	**Pg**	**02 39 17.1**	**+0.3**
CLDR				*i* S	**Sb**	**02 39 26.3**	**+1.0**
CLDR	**Caldiran**	**0.51**	**36**	*e*Pg	**Pg**	**02 39 16.6**	**-0.2**
CLDR	**Caldiran**	**0.51**	**36**	P	**Pg**	**02 39 17.1**	**+0.3**
CLDR				*e*Sg	**Sb**	**02 39 25.0**	**-0.3**
CLDR				S	**Sb**	**02 39 26.3**	**+1.0**
DYDN	**Diyadin**	**0.82**	**9**	*i* P	**Pg**	**02 39 22.7**	**+0.1**
DYDN	**Diyadin**	**0.82**	**9**	P	**Pg**	**02 39 22.7**	**+0.1**
TUTA	**Tutak**	**0.87**	**321**	*i* P	**Pg**	**02 39 23.6**	**+0.1**
TUTA	**Tutak**	**0.87**	**321**	P	**Pg**	**02 39 23.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*PG	**Pb**	**02 39 24.6**	**-0.5**
AGRB				*e*SG	**Sn**	**02 39 39.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**334**	*e*Pg	**Pb**	**02 39 24.6**	**-0.5**
AGRB				*e*Sg	**Sn**	**02 39 39.6**	**+0.1**
EATA	**Eleskirt**	**1.39**	**325**	*i* P	**Pn**	**02 39 31.9**	**-0.3**
EATA	**Eleskirt**	**1.39**	**325**	P	**Pn**	**02 39 31.9**	**-0.3**
CUKT	**Cukurca**	**1.48**	**178**	*e*PN	**Pb**	**02 39 33.9**	**-0.3**
CUKT	**Cukurca**	**1.48**	**178**	*e*Pn	**Pb**	**02 39 33.9**	**-0.3**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*PN	**Pb**	**02 39 37.4**	**-0.1**
VRTB	**Varto-Mus**	**1.67**	**286**	*e*Pn	**Pb**	**02 39 37.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*PN	**Pb**	**02 39 41.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*Pn	**Pb**	**02 39 41.5**	**-0.1**
BNGB	**Bing¶ll**	**2.24**	**278**	*e*PN	**Pb**	**02 39 45.9**	**-1.2**
BINT	**Bingol**	**2.38**	**274**	*e*Pn	**Pn**	**02 39 45.9**	**+0.3**

ISK ***29*** *02:48:07.6, 38°.87N×43°.52E, h5km, ML3.6*
CSEM ***29*** *02:48:08.8±0.2, 38°.87N×43°.52E, h2km, ML3.6, Error ellipse: s-maj=4.6km s-min=3.7km az=94.0*
DDA ***29*** *02:48:08.4, 38°.85N×43°.52E, h8km, Ml3.6*
AZER ***29*** *02:48:09.1±1.5, 38°.25N×43°.67E, h15km, Error ellipse: s-maj=17.0km s-min=11.5km az=70.0*
NSSC ***29*** *02:48:11.7±2.8, 38°.44N×42°.79E, h245km±29km, ML2.8*
ISC 29 02:48:08.8±0.9, 38°.85N±0°.02×43°.50E±0°.02, h9km±7km, n80, σ1°08/108, 5C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**21**	*i* P	**Pg**	**02 48 11.4**	**-0.8**
VMUR				*i* S	**Sg**	**02 48 14.8**	**+0.2**
VMUR	**Van-Muradiye**	**0.15**	**21**	P	**Pg**	**02 48 11.4**	**-0.8**
VMUR				S	**Sg**	**02 48 14.8**	**+0.2**
ERCV	**ERCIS-VAN**	**0.21**	**323**	*e*PG	**Pg**	**02 48 12.7**	**-0.6**
ERCV	**ERCIS-VAN**	**0.21**	**323**	*e*Pg	**Pg**	**02 48 12.7**	**-0.6**
VANB	**Van**	**0.27**	**199**	*e*PG	**Pb**	**02 48 15.7**	**-0.2**
VANB	**Van**	**0.27**	**199**	*e*Pg	**Pb**	**02 48 15.7**	**-0.2**
TVAN	**Van**	**0.33**	**193**	*i* P	**Pg**	**02 48 15.6**	**+0.2**
TVAN				*i* S	**Sb**	**02 48 22.8**	**+0.3**
TVAN	**Van**	**0.33**	**193**	P	**Pg**	**02 48 15.6**	**+0.2**
TVAN				S	**Sb**	**02 48 22.8**	**+0.3**
CLDR	**Caldiran**	**0.44**	**47**	*e*PG	**Pg**	**02 48 16.6**	**-0.8**
CLDR				*e*SG	**Sg**	**02 48 23.9**	**+0.7**
CLDR	**Caldiran**	**0.44**	**47**	*i* P	**Pg**	**02 48 16.6**	**-0.8**
CLDR				*i* S	**Sg**	**02 48 24.1**	**+0.9**
CLDR	**Caldiran**	**0.44**	**47**	P	**Pg**	**02 48 16.6**	**-0.8**
CLDR				*e*Sg	**Sg**	**02 48 23.9**	**+0.7**
GEVA	**Gevas**	**0.64**	**213**	*i* P	**Pg**	**02 48 20.5**	**-0.7**
GEVA				*i* S	**Sb**	**02 48 31.5**	**+0.1**
GEVA	**Gevas**	**0.64**	**213**	P	**Pg**	**02 48 20.5**	**-0.7**
GEVA				S	**Sb**	**02 48 31.5**	**+0.1**
DYDN	**Diyadin**	**0.71**	**12**	*i* P	**Pg**	**02 48 21.8**	**-0.7**
DYDN				*i* S	**Sb**	**02 48 33.3**	**-0.2**
DYDN	**Diyadin**	**0.71**	**12**	P	**Pg**	**02 48 21.8**	**-0.7**
DYDN				S	**Sb**	**02 48 33.3**	**-0.2**
TUTA	**Tutak**	**0.77**	**316**	*i* P	**Pg**	**02 48 22.4**	**-1.3**
TUTA	**Tutak**	**0.77**	**316**	P	**Pg**	**02 48 22.4**	**-1.3**
AGRB	**Hanur-Agry**	**0.83**	**332**	*e*PG	**Pg**	**02 48 23.6**	**-1.2**
AGRB				*e*SG	**Sg**	**02 48 36.4**	**+0.8**
AGRB	**Hanur-Agry**	**0.83**	**332**	*e*Pg	**Pg**	**02 48 23.6**	**-1.2**
AGRB				*e*Sg	**Sg**	**02 48 36.4**	**+0.8**
BASK	**Baskale_VAN**	**0.89**	**154**	*i* P	**Pg**	**02 48 25.9**	**0.0**
BASK				*i* S	**Sn**	**02 48 41.8**	**+0.9**
BASK	**Baskale_VAN**	**0.89**	**154**	P	**Pg**	**02 48 25.9**	**0.0**
TATV	**Tatvan**	**1.02**	**251**	*i* P	**Pg**	**02 48 27.5**	**-1.0**
TATV				*i* S	**Sg**	**02 48 42.2**	**+0.3**
TATV	**Tatvan**	**1.02**	**251**	P	**Pg**	**02 48 27.5**	**-1.0**
TATV				S	**Sg**	**02 48 42.2**	**+0.3**
EKAR	**Karacoban**	**1.19**	**290**	*i* P	**Pg**	**02 48 31.8**	**+0.1**
EKAR				*i* S	**Sn**	**02 48 49.5**	**+1.1**
EKAR	**Karacoban**	**1.19**	**290**	P	**Pg**	**02 48 31.8**	**+0.1**
EKAR				S	**Sn**	**02 48 49.5**	**+1.1**
EATA	**Eleskirt**	**1.28**	**323**	*i* P	**Pn**	**02 48 32.5**	**-0.8**
EATA	**Eleskirt**	**1.28**	**323**	P	**Pn**	**02 48 32.5**	**-0.8**
HAKT	**HAKKARI**	**1.30**	**173**	*i* P	**Pn**	**02 48 32.3**	**-1.1**
HAKT	**HAKKARI**	**1.30**	**173**	P	**Pn**	**02 48 32.3**	**-1.1**
NAX	**Nakhchivan**	**1.59**	**78**	⇓P	**Pb**	**02 48 38.3**	**-0.1**
NAX				⇓S	**Sg**	**02 48 59.3**	**-0.5**
NAX	**Nakhchivan**	**1.59**	**78**	P	**Pb**	**02 48 38.3**	**-0.1**
NAX				S	**Sg**	**02 48 59.3**	**-0.5**
CUKT	**Cukurca**	**1.60**	**177**	*e*PN	**Pb**	**02 48 38.8**	**+0.1**
CUKT	**Cukurca**	**1.60**	**177**	*i* P	**Pn**	**02 48 38.0**	**+0.5**
CUKT	**Cukurca**	**1.60**	**177**	P	**Pn**	**02 48 38.0**	**+0.5**
CUKT	**Cukurca**	**1.60**	**177**	*e*Pn	**Pb**	**02 48 38.8**	**+0.1**
SIRN	**S¨–rnak**	**1.60**	**213**	*i* P	**Pb**	**02 48 39.0**	**+0.3**
SIRN				*i* S	**Sg**	**02 49 00.4**	**+0.1**
SIRN	**S¨–rnak**	**1.60**	**213**	P	**Pb**	**02 48 39.0**	**+0.3**
SIRN				S	**Sg**	**02 49 00.4**	**+0.1**
VRTB	**Varto-Mus**	**1.62**	**282**	*e*PN	**Pb**	**02 48 38.9**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**282**	*i* P	**Pn**	**02 48 38.5**	**+0.6**
VRTB	**Varto-Mus**	**1.62**	**282**	P	**Pn**	**02 48 38.5**	**+0.6**
VRTB	**Varto-Mus**	**1.62**	**282**	*e*Pn	**Pb**	**02 48 38.9**	**-0.2**
HOMI	**Horasan**	**1.72**	**315**	*i* P	**Pb**	**02 48 40.4**	**-0.4**
EAK	**Akyaka**	**1.84**	**2**	*i* P	**Pg**	**02 48 43.8**	**-0.3**
BNGL	**BINGOL**	**1.84**	**274**	*i* P	**Pb**	**02 48 43.1**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.93**	**333**	*e*PN	**Pn**	**02 48 43.0**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.93**	**333**	*e*Pn	**Pn**	**02 48 43.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	*e*PN	**Pb**	**02 48 43.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	*i* P	**Pb**	**02 48 44.5**	**+0.1**
SVAN				*i* S	**Sg**	**02 49 10.6**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	*e*PN	**Pb**	**02 48 43.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.94**	**250**	P	**Pb**	**02 48 44.5**	**+0.1**
SVAN				S	**Sg**	**02 49 10.6**	**-0.5**
ERZM	**Erzurum**	**1.96**	**303**	*i* P	**Pb**	**02 48 44.4**	**-0.6**
ERZM	**Erzurum**	**1.96**	**303**	P	**Pb**	**02 48 44.4**	**-0.6**
BTMN	**Batman**	**2.00**	**242**	*i* P	**Pb**	**02 48 45.3**	**-0.1**
BTMN				*i* S	**Sg**	**02 49 13.1**	**+0.1**
BTMN	**Batman**	**2.00**	**242**	P	**Pb**	**02 48 45.3**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.10**	**292**	*i* P	**Pb**	**02 48 46.8**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.10**	**292**	P	**Pb**	**02 48 46.8**	**-0.5**
BNGB	**Bing¶ll**	**2.21**	**275**	*e*PN	**Pn**	**02 48 47.2**	**+1.4**
BINT	**Bingol**	**2.35**	**272**	*e*Pn	**Pn**	**02 48 47.2**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.38**	**285**	*e*PN	**Pn**	**02 48 49.3**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.38**	**285**	*e*Pn	**Pn**	**02 48 49.3**	**+1.1**
DDEM	**Demirkent**	**2.45**	**327**	*i* P	**Pb**	**02 48 52.6**	**-0.5**
GDB	**GEDABAY**	**2.55**	**42**	⇑P	**Pb**	**02 48 55.6**	**+0.7**
GDB				⇑S	**Sg**	**02 49 32.2**	**+1.4**
AKH	**Akhalkalaki**	**2.56**	**360**	P	**Pg**	**02 48 58.1**	**+0.3**
KOPT	**Kop Dagi**	**2.60**	**298**	*i* P	**Pb**	**02 48 56.0**	**+0.2**
QZX	**Qazax, Azerbai**	**2.63**	**32**	⇑P	**Pb**	**02 48 56.9**	**+0.7**
QZX				⇑S	**Sg**	**02 49 34.2**	**+0.7**
MARD	**Mardin**	**2.64**	**235**	*i* P	**Pn**	**02 48 52.6**	**+0.9**
MAZI	**Mazidag**	**2.78**	**241**	*e*PN	**Pn**	**02 48 55.5**	**+1.8**
MAZI	**Mazidag**	**2.78**	**241**	*e*Pn	**Pn**	**02 48 55.5**	**+1.8**
DIYA	**Diyarbakir**	**2.81**	**252**	*i* P	**Pn**	**02 48 56.1**	**+2.0**
DIYA	**Diyarbakir**	**2.81**	**252**	P	**Pn**	**02 48 56.1**	**+2.0**
GANJ	**Ganja**	**2.82**	**50**	⇑P	**Pb**	**02 48 58.6**	**-0.8**
GANJ				⇓S	**Sg**	**02 49 37.0**	**-2.4**
GANJ	**Ganja**	**2.82**	**50**	P	**Pb**	**02 48 58.6**	**-0.8**
DGRG	**David-gareji**	**2.97**	**28**	P	**Pg**	**02 49 05.2**	**-0.5**
KBSD	**Kabsdagh**	**2.98**	**233**	*e*P	**Pn**	**02 48 57.7**	**+1.3**
KBSD				*e*S	**Sn**	**02 49 31.1**	**-1.2**
KBSD				AML	AML	02 49 53.0	
	comp=Z,130nm,0.8s						
TBLG	**Delisi**	**3.03**	**18**	P	**Pb**	**02 49 04.1**	**+1.1**
SFNV	**Sufian**	**3.62**	**229**	*e*P	**Pn**	**02 49 06.8**	**+1.6**
SFNV				*e*S	**Sn**	**02 49 41.8**	**-6.4**
SFNV				AML	AML	02 50 13.8	
	comp=Z,70nm,0.7s						
ONI	**Oni**	**3.74**	**359**	P	**Pg**	**02 49 22.4**	**+1.9**
KSRV	**Kasrt alli**	**4.66**	**232**	*e*P	**Pn**	**02 49 21.8**	**+2.4**
KSRV				AML	AML	02 51 00.8	
	comp=Z,24nm,0.7s						
HAWK	**Haweek**	**7.15**	**235**	*e*P	Pn	02 49 47.8	-5.9
HAWK				*e*S	Sn	02 50 59.7	-15
HAWK				AML	AML	02 52 07.9	
	comp=E,9.4nm,0.6s						
HAWK				AML	AML	02 52 19.0	
	comp=N,9.1nm,0.7s						
MARH	**Ras Al Marh**	**7.43**	**232**	*e*S	Sn	02 51 07.6	-15

NIED ***29*** *02:56:00, 35°.30N×140°.40E, h17km, Mw3.8 Best double couple: M0=5.79000×10^14 NP1:φ0=235.00000°, δ15.00000°, λ87.00000°. NP2:φ0=58.00000°, δ75.00000°, λ91.00000°.*
IDC ***29*** *02:56:48.2±0.9, 35°.29N×140°.32E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/56, mbtmp3.8/9, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.1/54, Error ellipse: s-maj=25.3km s-min=16.7km az=71.0*
ISCJB ***29*** *02:56:51.0±0.5, 35°.27N±0°.04×140°.40E±0°.07, h35km±4km, mb4.0/10, Error ellipse: s-maj=10.5km s-min=5.4km az=164.7*
JMA ***29*** *02:56:52.0±0.1, 35°.34N×140°.33E, h24km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φ0=57.00000°, δ62.00000°, λ75.00000°. NP2:φ0=267.00000°, δ31.00000°, λ116.00000°. Principal axes: T Plg69.0000°, Azm296.0000°; N Plg13.0000°, Azm64.0000°; P Plg16.0000°, Azm158.0000°;*
JMA Felt II J1.
NEIC ***29*** *02:56:53.3±1.2, 35°.26N×140°.22E, h36km±11km, mb4.0/2 Error ellipse: s-maj=19.0km s-min=8.2km az=64.0*
ISC 29 02:56:52.0±0.8, 35°.29N±0°.04×140°.31E±0°.06, h28km±5km, n29, σ0°98/28, mb3.9/10, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.14**	**178**	⇑P	**Pb**	**02 56 57.1**	**-0.3**
KTR				S	**Sb**	**02 57 00.9**	**-0.1**
JCN	**Nagara**	**0.15**	**325**	⇓P	**Pb**	**02 56 57.0**	**-0.5**
JCN				S	**Sb**	**02 57 01.8**	**+0.5**
BSO4	**Boso 4**	**0.30**	**175**	⇑P	**Pn**	**02 56 59.8**	**-0.6**
BSO3	**Boso 3**	**0.52**	**161**	⇓P	**Pn**	**02 57 03.0**	**-0.2**
CHOJ	**Chosi**	**0.61**	**47**	P	**Pb**	**02 57 03.1**	**-1.0**
JIM2	**Oshima 3**	**0.92**	**232**	P	**Pb**	**02 57 08.1**	**-1.2**
JYT	**Yasato**	**0.94**	**354**	⇓P	**Pb**	**02 57 07.8**	**-1.9**
JYT				S	**Sb**	**02 57 20.6**	**-1.2**
MJAR	**Matsushiro Arr**	**2.11**	**307**	Pn	**Pn**	**02 57 25.7**	**+0.2**
	8.1nm,0.3s,baz=106,slow=14,SNR=42						
MJAR				Sn	**Sb**	**02 57 53.9**	**-1.5**
	13nm,0.3s,baz=150,slow=15,SNR=9.1						
MAJO	**Matsushiro**	**2.12**	**307**	*e*Pn	**Pn**	**02 57 26.0**	**+0.5**
MAT	**Matsushiro**	**2.12**	**307**	P	**Pn**	**02 57 26.0**	**+0.5**
MAT				*e*S	**Sn**	**02 57 53.3**	**+2.5**
JHJ	**Hachijo jima 2**	**2.21**	**192**	Pn	**Pn**	**02

AKH				S	Sg	03 23 48.5	+3.4
AKH	**Akhalkalaki**	2.50	1	*e*Pn	Pn	03 23 06.0	+1.2
KOPT	**Kop Dagi**	2.53	297	*i* P	Pb	03 23 10.9	+1.2
KOPT	**Kop Dagi**	2.53	297	P	Pb	03 23 10.9	+1.2
GDB	**GEDABAY**	2.55	44	⇑P	Pn	03 23 06.7	+1.3
GDB				⇓S	Sn	03 23 34.7	-1.4
GDB	**GEDABAY**	2.55	44	P	Pn	03 23 06.7	+1.3
GDB				S	Sn	03 23 34.7	-1.4
ARTV	**Artvin**	2.55	334	*i* P	Pn	03 23 07.5	+2.0
ARTV				*i* S	Sn	03 23 17.5	-19
ARTV	**Artvin**	2.55	334	P	Pn	03 23 07.5	+2.0
ARTV				S	Sn	03 23 17.5	-19
QZX	**Qazax, Azerbai**	2.62	34	⇓P	Pn	03 23 07.5	+1.3
QZX				⇓S	Sn	03 23 35.3	-2.3
QZX	**Qazax, Azerbai**	2.62	34	P	Pn	03 23 07.5	+1.3
QZX				S	Sn	03 23 35.3	-2.3
EPOS	**Posof**	2.65	349	*i* P	Pb	03 23 12.8	+1.0
EPOS				*i* S	Sn	03 23 22.0	-17
EPOS	**Posof**	2.65	349	P	Pb	03 23 12.8	+1.0
EPOS				S	Sn	03 23 22.0	-17
MAZI	**Mazidag**	2.76	239	*e*PN	Pn	03 23 10.0	+1.8
MAZI	**Mazidag**	2.76	239	*e*Pn	Pn	03 23 10.0	+1.8
DBOC	**Borcka**	2.79	332	*i* P	Pb	03 23 15.9	+1.9
DBOC	**Borcka**	2.79	332	P	Pb	03 23 15.9	+1.9
GANJ	**Ganja**	2.83	51	⇑P	Pn	03 23 10.1	+1.0
GANJ				⇑S	Sn	03 23 41.2	-1.6
GANJ	**Ganja**	2.83	51	P	Pn	03 23 10.1	+1.0
GANJ				S	Sn	03 23 41.2	-1.6
DGRG	**David-gareji**	2.95	30	P	Pb	03 23 17.9	+1.2
DGRG				S	Sg	03 23 58.9	-0.5
DGRG	**David-gareji**	2.95	30	P	Pb	03 23 15.6	-1.2
ERZN	**Erzincan**	2.96	284	*e*PN	Pn	03 23 14.1	+3.1
TBLG	**Delisi**	3.00	19	*e*PN	Pn	03 23 13.0	+1.6
TBLG	**Delisi**	3.00	19	P	Pb	03 23 18.3	+0.8
TBLG				S	Sg	03 24 00.9	0.0
TBLG	**Delisi**	3.00	19	P	Pb	03 23 18.9	+1.3
TBLG	**Delisi**	3.00	19	*e*Pn	Pn	03 23 13.0	+1.6
TNCL	**Tunceli-Merkez**	3.04	275	*i* P	Pb	03 23 19.4	+1.1
TNCL	**Tunceli-Merkez**	3.04	275	P	Pb	03 23 19.4	+1.1
PTK	**Pertek**	3.15	271	*e*PN	Pn	03 23 16.3	+2.6
PTK	**Pertek**	3.15	271	*e*Pn	Pn	03 23 16.3	+2.6
SVRC	**Sivrice-ELAZID**	3.27	262	*e*PN	Pn	03 23 18.5	+3.2
SVRC	**Sivrice-ELAZID**	3.27	262	*e*Pn	Pn	03 23 18.5	+3.2
EZC	**Erzincan**	3.27	286	*e*Pn	Pn	03 23 14.1	-1.2
MNGR	**Mingechevir, A**	3.38	55	⇓S	Sn	03 23 54.4	-1.9
MNGR	**Mingechevir, A**	3.38	55	S	Sn	03 23 54.4	-1.9
KELT	**Kelkit**	3.46	292	*i* P	Pb	03 23 26.7	+1.2
KELT	**Kelkit**	3.46	292	P	Pb	03 23 26.7	+1.2
ZRD	**Zardab**	3.56	66	⇑S	Sn	03 23 59.5	-1.4
ZRD	**Zardab**	3.56	66	S	Sn	03 23 59.5	-1.4
REFA	**Refahiye_ERZ¯**	3.66	279	*i* P	Pb	03 23 32.1	+3.1
REFA	**Refahiye_ERZ¯**	3.66	279	P	Pb	03 23 32.1	+3.1
ZKTA	**Zakatala**	3.66	41	⇓P	Pn	03 23 21.7	+1.1
ONI	**Oni**	3.68	0	P	Pb	03 23 31.3	+2.0
ONI				S	Sg	03 24 25.8	+2.9
SEKA	**Sheki**	3.70	50	⇑P	Pn	03 23 22.3	+1.2
SEKA	**Sheki**	3.70	50	P	Pn	03 23 22.3	+1.2
LRK	**Lerik**	3.85	92	⇑P	Pn	03 23 24.8	+1.6
LRK	**Lerik**	3.85	92	P	Pn	03 23 24.8	+1.6
GLBA	**Cilalabad**	3.88	83	⇓P	Pn	03 23 25.1	+1.6
GLBA	**Cilalabad**	3.88	83	P	Pn	03 23 25.1	+1.6
IML	**Ismayilli**	4.12	61	⇑P	Pn	03 23 27.5	+0.7
IML	**Ismayilli**	4.12	61	P	Pn	03 23 27.5	+0.7
ASTR	**Astara**	4.21	93	⇑P	Pn	03 23 30.0	+2.0
ASTR	**Astara**	4.21	93	P	Pn	03 23 30.0	+2.0
XNQ	**Khinaliq**	4.27	56	⇓P	Pn	03 23 29.3	+0.3
XNQ	**Khinaliq**	4.27	56	P	Pn	03 23 29.3	+0.3
PQL	**Pirkuli**	4.40	63	⇓P	Pn	03 23 31.1	+0.3
PQL	**Pirkuli**	4.40	63	P	Pn	03 23 31.1	+0.3
QUBA	**Quba, Azerbaij**	4.59	56	⇑P	Pn	03 23 34.2	+0.9
QUBA	**Quba, Azerbaij**	4.59	56	P	Pn	03 23 34.2	+0.9

*IDC **29** 03:27:51.9±3.4, 6°.57N×70°.31W, h0km, mb4.1/1, mb1 4.0/2, mb1mx3.4/33, mbtmp4.1/2, ML2.5/1, Error ellipse: s-maj=631.0km s-min=26.2km az=160.0*
*RSNC **29** 03:28:03.1±0.8, 8°.15N×73°.43W, h4km±4km, ML3.5*
ISC 29 03:28:02.0±1.5, **8°.13N**±0°.03×**73°.49W**±0°.05, **h1**km±12km, **n19**, σ0**s81/27, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.20**	**57**	*i* P	**Pg**	**03 28 06.4**	**+0.6**
OCAC				*e*S	**Sg**	**03 28 09.0**	**+0.7**
OCAC				*i*		03 28 11.0	
	comp=Z,20μm,0.5s						
GUEC	**Guerrero, Nort**	**0.63**	**118**	*e*P	**Pg**	**03 28 13.6**	**-0.5**
CBRI	**Barrientos, No**	**0.80**	**121**	*e*P	**Pg**	**03 28 16.8**	**-0.4**
BRRC	**Barranca, Sant**	**1.04**	**192**	⇓*i*P	**Pg**	**03 28 21.6**	**-0.4**
BRRC				*e*S	**Sg**	**03 28 36.0**	**+0.5**
BRRC				*i*		03 28 43.6	
	comp=Z,1μm,0.2s						
GIRC	**Giron, Santand**	**1.08**	**165**	*e*P	**Pg**	**03 28 22.4**	**-0.4**
PAMC	**Pamplona, Colo**	**1.11**	**135**	*i* P	**Pg**	**03 28 22.6**	**-0.7**
PAMC				*e*S	**Sg**	**03 28 37.3**	**-0.3**
BTLC	**Betulia, Santa**	**1.23**	**170**	*e*P	**Pg**	**03 28 25.0**	**-0.5**
BARC	**Barichara**	**1.56**	**169**	*e*P	**Pn**	**03 28 30.6**	**-0.6**
BARC				*e*S	**Sb**	**03 28 52.3**	**+0.1**
BARC				*i*		03 28 54.7	
	comp=Z,623nm,0.2s						
MOTC	**Monteria, Cord**	**2.25**	**287**	⇓*i*P	**Pn**	**03 28 40.5**	**0.0**
MOTC				*e*S	**Sn**	**03 29 08.2**	**-0.7**
RUSC	**La Rusia**	**2.26**	**170**	*e*P	**Pn**	**03 28 40.3**	**-0.7**
RUSC				*i*		03 29 14.2	
	comp=Z,434nm,0.3s						
SJCC	**San Jacinto, C**	**2.42**	**316**	*e*P	**Pn**	**03 28 42.6**	**-0.3**
SJCC				*e*S	**Sn**	**03 29 13.3**	**0.0**
SJCC				*i*		03 29 25.3	
	comp=Z,75nm,0.5s						
HELC	**Santa Helena**	**2.80**	**227**	*e*P	**Pn**	**03 28 48.9**	**+0.6**
HELC				*e*S	**Sn**	**03 29 24.6**	**+1.7**
HELC				*i*		03 29 30.7	
	comp=Z,146nm,0.3s						
NORC	**Norcasia**	**2.90**	**208**	*e*P	**Pn**	**03 28 48.2**	**-1.2**
ROSC	**El Rosal**	**3.37**	**194**	Pn	**Pn**	**03 28 57.5**	**+1.2**
	comp=Z,5.8nm,0.3s,baz=346,slow=2.9,SNR=15						
ROSC				Sn	**Sg**	**03 29 51.7**	**+1.2**
	comp=Z,8.9nm,0.3s,baz=53,slow=23,SNR=4.5						
GUYC	**Guyana, Colomb**	**3.45**	**213**	*e*P	**Pn**	**03 28 57.9**	**+0.5**
GUYC				*i*		03 29 54.8	
	comp=Z,122nm,0.6s						
CAPC	**Capurgana**	**3.86**	**278**	*e*P	**Pn**	**03 29 00.8**	**-1.8**
PRAC	**Prado**	**4.61**	**198**	*e*P	**Pn**	**03 29 12.9**	**+0.1**
ASAR	**Alice Springs**	**149.56**	**236**	PKPbc	**PKPdf**	**03 47 49.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**150.62**	**244**	PKPbc	**PKPdf**	**03 47 51.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=106,slow=2.7,SNR=10						

*ISK **29** 03:30:19.8, 38°.67N×43°.54E, h30km, ML2.6*
*CSEM **29** 03:30:20.4±0.4, 38°.60N×43°.38E, h35km±4km, ML2.6, Error ellipse: s-maj=15.4km s-min=8.4km az=104.0*
*ISCJB **29** 03:30:21.9±0.7, 38°.68N±0°.03×43°.14E±0°.05, h13km, Error ellipse: s-maj=5.7km s-min=4.3km az=160.7*
*DDA **29** 03:30:22.0, 38°.70N×43°.21E, h7km, Ml3.0*
ISC 29 03:30:20.7±0.8, **38°.71N**±0°.02×**43°.33E**±0°.04, **h13**km, **n23**, σ**1s50/35, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**156**	*e*PG	**Pb**	**03 30 26.6**	**+1.6**
VANB				*e*SG	**Sb**	**03 30 31.1**	**+3.2**
VANB	**Van**	**0.13**	**156**	*e*Pg	**Pb**	**03 30 26.6**	**+1.6**
VANB				*e*Sg	**Sb**	**03 30 31.1**	**+3.2**
TVAN	**Van**	**0.19**	**161**	*i* P	**Pb**	**03 30 26.8**	**+0.6**
TVAN				*i* S	**Sb**	**03 30 31.4**	**+1.5**
TVAN	**Van**	**0.19**	**161**	P	**Pb**	**03 30 26.8**	**+0.6**
TVAN				S	**Sb**	**03 30 31.4**	**+1.5**
ERCV	**ERCIS-VAN**	**0.31**	**2**	*e*PG	**Pb**	**03 30 29.1**	**+0.8**
ERCV				*e*SG	**Sn**	**03 30 35.8**	**-1.9**
ERCV	**ERCIS-VAN**	**0.31**	**2**	*e*Pg	**Pb**	**03 30 29.1**	**+0.8**
ERCV				*e*Sg	**Sn**	**03 30 35.8**	**-1.9**
VMUR	**Van-Muradiye**	**0.34**	**35**	*i* P	**Pn**	**03 30 30.6**	**-0.9**
VMUR				*i* S	**Sn**	**03 30 39.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.34**	**35**	P	**Pn**	**03 30 30.6**	**-0.9**
VMUR				S	**Sn**	**03 30 39.3**	**+0.9**
GEVA	**Gevas**	**0.45**	**208**	*i* P	**Pg**	**03 30 29.5**	**-0.1**
GEVA	**Gevas**	**0.45**	**208**	P	**Pg**	**03 30 29.5**	**-0.1**
CLDR	**Caldiran**	**0.63**	**47**	*e*PG	**Pg**	**03 30 31.7**	**-1.4**
CLDR	**Caldiran**	**0.63**	**47**	*i* P	**Pg**	**03 30 32.0**	**-1.1**
CLDR				*i* S	**Sn**	**03 30 45.1**	**-0.5**
CLDR	**Caldiran**	**0.63**	**47**	P	**Pg**	**03 30 32.0**	**-1.1**
CLDR				S	**Sn**	**03 30 45.2**	**-0.5**
TUTA	**Tutak**	**0.80**	**330**	*i* P	**Pn**	**03 30 38.0**	**+0.1**
TUTA	**Tutak**	**0.80**	**330**	P	**Pn**	**03 30 38.0**	**+0.1**
TATV	**Tatvan**	**0.85**	**257**	*i* P	**Pg**	**03 30 36.0**	**-1.3**
TATV	**Tatvan**	**0.85**	**257**	P	**Pg**	**03 30 36.0**	**-1.3**
AGRB	**Hanur-Agry**	**0.90**	**343**	*e*PG	**Pn**	**03 30 38.3**	**-1.0**
AGRB				*e*SG	**Sn**	**03 30 51.4**	**-0.9**
AGRB	**Hanur-Agry**	**0.90**	**343**	*e*Pg	**Pn**	**03 30 38.3**	**-1.0**
AGRB				*e*Sg	**Sn**	**03 30 51.4**	**-0.9**
EATA	**Eleskirt**	**1.32**	**331**	*i* P	**Pg**	**03 30 46.5**	**+0.4**
EATA	**Eleskirt**	**1.32**	**331**	P	**Pg**	**03 30 46.5**	**+0.4**
CUKT	**Cukurca**	**1.48**	**171**	*e*PN	**Pn**	**03 30 44.2**	**-2.9**
CUKT	**Cukurca**	**1.48**	**171**	*e*Pn	**Pn**	**03 30 44.2**	**-2.9**

*IDC **29** 03:37:39.7±1.4, 38°.46N×43°.56E, h0km, mb3.7/6, mb1 3.6/9, mb1mx3.4/51, mbtmp3.6/9, ML2.7/2, Error ellipse: s-maj=28.8km s-min=18.6km az=159.0*
*ISK **29** 03:37:40.0, 38°.70N×43°.72E, h5km, ML3.7*
*DDA **29** 03:37:41.0, 38°.68N×43°.62E, h5km, Ml3.8*
*ISCJB **29** 03:37:41.7±0.6, 38°.68N±0°.03×43°.67E±0°.03, h5km±5km, mb3.5/6, Error ellipse: s-maj=4.8km s-min=3.6km az=144.0*
*CSEM **29** 03:37:42.2±0.1, 38°.72N×43°.60E, h2km, ML3.8, Error ellipse: s-maj=4.1km s-min=3.0km az=146.0*
*AZER **29** 03:37:49.8±1.0, 38°.97N×44°.05E, h15km, Error ellipse: s-maj=11.1km s-min=3.6km az=61.0*
ISC 29 03:37:40.2±1.3, **38°.71N**±0°.02×**43°.70E**±0°.02, **h1**km±10km, **n108**, σ1**s79**/120, **mb3.5**/6, **8C-9D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**244**	*e*PG	**Pb**	**03 37 47.3**	**-0.6**
VANB	**Van**	**0.27**	**244**	*e*Pg	**Pb**	**03 37 47.3**	**-0.6**
VMUR	**Van-Muradiye**	**0.29**	**340**	*i* P	**Pb**	**03 37 47.2**	**-1.2**
VMUR				*i* S	**Sb**	**03 37 53.6**	**-0.2**
VMUR	**Van-Muradiye**	**0.29**	**340**	P	**Pb**	**03 37 47.2**	**-1.2**
VMUR				S	**Sb**	**03 37 53.6**	**-0.2**
TVAN	**Van**	**0.29**	**231**	*i* P	**Pb**	**03 37 47.1**	**-1.3**
TVAN				*i* S	**Sb**	**03 37 55.6**	**+1.7**
TVAN	**Van**	**0.29**	**231**	P	**Pb**	**03 37 47.1**	**-1.3**
ERCV	**ERCIS-VAN**	**0.42**	**317**	*e*PG	**Pb**	**03 37 49.6**	**-0.9**
ERCV				*e*SG	**Sb**	**03 37 56.6**	**-0.7**
ERCV	**ERCIS-VAN**	**0.42**	**317**	*e*Pg	**Pb**	**03 37 49.6**	**-0.9**
ERCV				*e*Sg	**Sb**	**03 37 56.6**	**-0.7**
CLDR	**Caldiran**	**0.46**	**22**	*e*PG	**Pb**	**03 37 50.3**	**-0.9**
CLDR				*e*SG	**Sb**	**03 37 58.0**	**-0.7**
CLDR	**Caldiran**	**0.46**	**22**	*i* P	**Pb**	**03 37 51.0**	**-0.3**
CLDR				*i* S	**Sb**	**03 38 00.2**	**+1.5**
CLDR	**Caldiran**	**0.46**	**22**	*e*Pg	**Pb**	**03 37 50.3**	**-0.9**
CLDR	**Caldiran**	**0.46**	**22**	P	**Pb**	**03 37 51.0**	**-0.3**
CLDR				*e*Sg	**Sb**	**03 37 58.0**	**-0.7**
CLDR				S	**Sb**	**03 38 00.2**	**+1.5**
GEVA	**Gevas**	**0.64**	**232**	*i* P	**Pg**	**03 37 52.9**	**+0.4**
GEVA	**Gevas**	**0.64**	**232**	P	**Pg**	**03 37 52.9**	**+0.4**
BASK	**Baskale_VAN**	**0.70**	**160**	*i* P	**Pb**	**03 37 55.4**	**0.0**
BASK	**Baskale_VAN**	**0.70**	**160**	P	**Pb**	**03 37 55.3**	**0.0**
DYDN	**Diyadin**	**0.83**	**359**	*i* P	**Pb**	**03 37 57.1**	**-0.4**
DYDN	**Diyadin**	**0.83**	**359**	P	**Pb**	**03 37 57.1**	**-0.4**
TUTA	**Tutak**	**0.97**	**315**	*i* P	**Pg**	**03 37 59.1**	**+0.3**
TUTA	**Tutak**	**0.97**	**315**	P	**Pg**	**03 37 59.1**	**+0.3**
AGRB	**Hanur-Agry**	**1.02**	**328**	*e*PG	**Pb**	**03 38 00.6**	**-0.2**
AGRB	**Hanur-Agry**	**1.02**	**328**	*e*Pg	**Pb**	**03 38 00.6**	**-0.2**
TATV	**Tatvan**	**1.14**	**260**	*i* P	**Pg**	**03 38 01.4**	**-0.6**
TATV	**Tatvan**	**1.14**	**260**	P	**Pg**	**03 38 01.4**	**-0.6**
HAKT	**HAKKARI**	**1.15**	**180**	*i* P	**Pb**	**03 38 02.6**	**-0.5**
EKAR	**Karacoban**	**1.38**	**294**	*i* P	**Pg**	**03 38 07.8**	**+1.1**
EKAR	**Karacoban**	**1.38**	**294**	P	**Pg**	**03 38 07.8**	**+1.1**
CUKT	**Cukurca**	**1.47**	**183**	*e*PN	**Pg**	**03 38 08.2**	**0.0**
CUKT	**Cukurca**	**1.47**	**183**	*i* P	**Pg**	**03 38 08.3**	**+0.1**
CUKT	**Cukurca**	**1.47**	**183**	P	**Pg**	**03 38 08.4**	**+0.1**
NAX	**Nakhchivan**	**1.47**	**71**	⇑P	**Pg**	**03 38 11.0**	**+2.6**
NAX				⇑S	**Sg**	**03 38 27.0**	**-0.5**
NAX	**Nakhchivan**	**1.47**	**71**	P	**Pg**	**03 38 11.0**	**+2.6**
NAX				S	**Sg**	**03 38 27.0**	**-0.5**
EATA	**Eleskirt**	**1.48**	**321**	*i* P	**Pb**	**03 38 08.3**	**-0.4**
EATA	**Eleskirt**	**1.48**	**321**	P	**Pb**	**03 38 08.3**	**-0.4**
SIRN	**S¨¨rnak**	**1.58**	**220**	*i* P	**Pg**	**03 38 11.1**	**+0.6**
SIRN	**S¨¨rnak**	**1.58**	**220**	P	**Pg**	**03 38 11.1**	**+0.6**
DIGO	**Kars**	**1.72**	**352**	*i* P	**Pg**	**03 38 13.5**	**+0.4**
DIGO	**Kars**	**1.72**	**352**	P	**Pg**	**03 38 13.5**	**+0.4**
VRTB	**Varto-Mus**	**1.81**	**285**	*e*PN	**Pb**	**03 38 13.7**	**-0.5**
VRTB	**Varto-Mus**	**1.81**	**285**	*i* P	**Pb**	**03 38 13.8**	**-0.3**
VRTB	**Varto-Mus**	**1.81**	**285**	*e*Pn	**Pb**	**03 38 13.7**	**-0.5**
HOMI	**Horasan**	**1.92**	**314**	*i* P	**Pb**	**03 38 16.2**	**0.0**
EAK	**Akyaka**	**1.97**	**358**	*i* P	**Pg**	**03 38 19.6**	**+1.7**
BNGL	**BINGOL**	**2.00**	**278**	*i* P	**Pb**	**03 38 18.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.04**	**255**	*e*PN	**Pb**	**03 38 16.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.04**	**255**	*i* P	**Pb**	**03 38 17.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.04**	**255**	*e*Pn	**Pb**	**03 38 16.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.04**	**255**	P	**Pb**	**03 38 17.3**	**-0.8**
BTMN	**Batman**	**2.08**	**247**	*i* P	**Pb**	**03 38 17.6**	**-1.2**
BTMN	**Batman**	**2.08**	**247**	P	**Pb**	**03 38 17.6**	**-1.2**
SENK	**Senkaya-Erzuru**	**2.12**	**331**	*e*PN	**Pb**	**03 38 18.5**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.12**	**331**	*e*Pn	**Pb**	**03 38 18.5**	**-1.0**
ERZM	**Erzurum**	**2.17**	**304**	*i* P	**Pb**	**03 38 20.2**	**-0.1**
ERZM	**Erzurum**	**2.17**	**304**	P	**Pb**	**03 38 20.2**	**-0.1**
BNGB	**Bing¶ll**	**2.37**	**278**	*e*PN	**Pb**	**03 38 21.9**	**-1.9**
BINT	**Bingol**	**2.51**	**275**	*e*Pn	**Pn**	**03 38 21.9**	**-0.4**
GDB	**GEDABAY**	**2.56**	**38**	⇑P	**Pb**	**03 38 26.1**	**-0.8**
GDB				⇑S	**Sn**	**03 38 52.7**	**-2.0**
GDB	**GEDABAY**	**2.56**	**38**	P	**Pb**	**03 38 26.1**	**-0.8**
GDB				S	**Sn**	**03 38 52.7**	**-2.0**
YEDI	**Yedisu-Bingol**	**2.56**	**287**	*e*PN	**Pb**	**03 38 24.7**	**-2.3**
YEDI	**Yedisu-Bingol**	**2.56**	**287**	*e*Pn	**Pb**	**03 38 24.7**	**-2.3**
DDEM	**Demirkent**	**2.64**	**326**	*i* P	**Pb**	**03 38 29.3**	**+0.9**
QZX	**Qazax, Azerbai**	**2.67**	**28**	⇓P	**Pb**	**03 38 27.4**	**-1.4**
QZX	**Qazax, Azerbai**	**2.67**	**28**	P	**Pb**	**03 38 27.4**	**-1.4**
AKH	**Akhalkalaki**	**2.70**	**357**	*e*PN	**Pn**	**03 38 26.0**	**+1.1**
AKH	**Akhalkalaki**	**2.70**	**357**	P	**Pg**	**03 38 31.9**	**0.0**
AKH	**Akhalkalaki**	**2.70**	**357**	*e*Pn	**Pn**	**03 38 26.0**	**+1.1**
MARD	**Mardin**	**2.70**	**240**	*i* P	**Pn**	**03 38 25.7**	**+0.9**
DAGI	**Agilar**	**2.73**	**330**	*i* P	**Pg**	**03 38 31.3**	**-1.2**
GANJ	**Ganja**	**2.80**	**46**	⇓P	**Pb**	**03 38 29.3**	**-1.7**
GANJ	**Ganja**	**2.80**	**46**	P	**Pb**	**03 38 29.3**	**-1.7**
KOPT	**Kop Dagi**	**2.80**	**299**	*i* P	**Pb**	**03 38 31.8**	**+0.6**
ARTV	**Artvin**	**2.82**	**332**	*i* P	**Pg**	**03 38 33.2**	**-1.0**
MAZI	**Mazidag**	**2.86**	**245**	*e*PN	**Pn**	**03 38 28.5**	**+1.5**
MAZI	**Mazidag**	**2.86**	**245**	*e*Pn	**Pn**	**03 38 28.5**	**+1.5**
BRDA	**Brd**	**3.10**	**59**	⇓P	**Pb**	**03 38 33.1**	**-3.1**
BRDA	**Brd**	**3.10**	**59**	P	**Pb**	**03 38 33.1**	**-3.1**
TBLG	**Delisi**	**3.12**	**14**	P	**Pg**	**03 38 38.4**	**-1.5**
MNGR	**Mingechevir, A**	**3.32**	**51**	⇓P	**Pb**	**03 38 36.1**	**-3.8**
MNGR	**Mingechevir, A**	**3.32**	**51**	P	**Pb**	**03 38 36.1**	**-3.8**
PTK	**Pertek**	**3.37**	**274**	*e*PN	**Pn**	**03 38 36.2**	**+2.0**
PTK	**Pertek**	**3.37**	**274**	*e*Pn	**Pn**	**03 38 36.2**	**+2.0**
ZRD	**Zardab**	**3.46**	**62**	⇑P	**Pb**	**03 38 38.2**	**-4.0**
ZRD	**Zardab**	**3.46**	**62**	P	**Pb**	**03 38 38.2**	**-4.0**
LRK	**Lerik**	**3.63**	**90**	⇓P	**Pb**	**03 38 41.7**	**-3.6**
LRK	**Lerik**	**3.63**	**90**	P	**Pb**	**03 38 41.7**	**-3.6**
SEKA	**Sheki**	**3.67**	**46**	⇓P	**Pb**	**03 38 41.6**	**-4.2**
SEKA	**Sheki**	**3.67**	**46**	P	**Pb**	**03 38 41.6**	**-4.2**
ZKTA	**Zakatala**	**3.68**	**37**	⇑P	**Pn**	**03 38 41.0**	**+2.8**
GLBA	**Cilalabad**	**3.70**	**80**	⇓P	**Pb**	**03 38 42.3**	**-4.0**
GLBA	**Cilalabad**	**3.70**	**80**	P	**Pb**	**03 38 42.3**	**-4.0**
SAAT	**Saatly**	**3.84**	**71**	⇓P	**Pn**	**03 38 43.1**	**+2.7**
SAAT	**Saatly**	**3.84**	**71**	P	**Pn**	**03 38 43.1**	**+2.7**
KDMR	**Kurdemir**	**3.84**	**63**	⇓P	**Pn**	**03 38 43.4**	**+3.0**
KDMR	**Kurdemir**	**3.84**	**63**	P	**Pn**	**03 38 43.4**	**+3.0**
ONI	**Oni**	**3.88**	**357**	P	**Pg**	**03 38 55.7**	**+1.3**
QBL	**Gabala**	**3.89**	**54**	⇑P	**Pn**	**03 38 43.9**	**+2.8**
QBL	**Gabala**	**3.89**	**54**	P	**Pn**	**03 38 43.9**	**+2.8**
IML	**Ismayilli**	**4.03**	**58**	⇑P	**Pn**	**03 38 46.0**	**+2.9**
IML	**Ismayilli**	**4.03**	**58**	P	**Pn**	**03 38 46.0**	**+2.9**
KBZ	**Khabaz**	**5.05**	**353**	Pn	Pb	03 39 03.1	-6.1
	0.1nm,0.3s,baz=218,slow=12,SNR=2.3						
AKTO	**Aktyubinsk**	**15.50**	**36**	Pn	**Pn**	**03 41 20.2**	**+0.3**
	0.1nm,0.3s,baz=263,slow=14,SNR=4.2						
AKASG	**Malin Array Be**	**15.76**	**324**	Pn	**Pn**	**03 41 23.3**	**+0.1**
	baz=131,slow=11,SNR=2.8						
BVAR	**Borovoye Array**	**23.28**	**43**	P	**P**	**03 42 51.2**	**+2.1**
	0.7nm,0.5s,baz=224,slow=10,SNR=4.9						
KURBB	**Kurchatov Arra**	**27.23**	**53**	P	**P**	**03 43 27.5**	**+2.1**
	1.8nm,0.6s,baz=261,slow=9.0,SNR=9.6						
MKAR	**Makanchi Array**	**29.23**	**61**	P	**P**	**03 43 45.6**	**+2.2**
	0.7nm,0.8s,baz=266,slow=8.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**31.70**	**48**	P	**P**	**03 44 06.3**	**+1.2**
	0.6nm,0.5s,baz=265,slow=11,SNR=3.5						
ESDC	**Sonseca Array**	**36.61**	**287**	P	**P**	**03 44 46.7**	**-1.3**
	0.3nm,0.5s,baz=66,slow=8.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**45.00**	**247**	P	**P**	**03 45 55.6**	**-1.7**
	0.7nm,1.0s,baz=41,slow=9.1,SNR=5.3						

*AZER **29** 03:44:39.5±0.8, 38°.50N×43°.32E, h2km, Error ellipse: s-maj=8.1km s-min=6.2km az=52.0*
*DDA **29** 03:44:43.5, 38°.87N×43°.48E, h7km, Ml3.8*
*ISK **29** 03:44:43.3, 38°.87N×43°.53E, h5km, ML3.7*
*CSEM **29** 03:44:43.9±0.2, 38°.85N×43°.58E, h2km, ML3.8, Error ellipse: s-maj=5.6km s-min=4.1km az=155.0*
ISC 29 03:44:43.9±1.1, **38°.86N**±0°.02×**43°.54E**±0°.02, **h8**km±9km, **n78**, σ1**s35/94, 16C-11D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.14**	**12**	*i* P	**Pg**	**03 44 47.0**	**0.0**
VMUR	**Van-Muradiye**	**0.14**	**12**	P	**Pg**	**03 44 47.0**	**0.0**
ERCV	**ERCIS-VAN**	**0.22**	**316**	*e*PG	**Pg**	**03 44 48.2**	**-0.3**
ERCV	**ERCIS-VAN**	**0.22**	**316**	*e*Pg	**Pg**	**03 44 48.2**	**-0.3**
VANB	**Van**	**0.29**	**204**	*e*PG	**Pb**	**03 44 51.3**	**-0.1**
VANB	**Van**	**0.29**	**204**	*e*Pg	**Pb**	**03 44 51.3**	**-0.1**
TVAN	**Van**	**0.34**	**197**	*i* P	**Pg**	**03 44 51.1**	**+0.4**
TVAN	**Van**	**0.34**	**197**	P	**Pg**	**03 44 51.1**	**+0.4**
CLDR	**Caldiran**	**0.41**	**46**	*e*PG	**Pg**	**03 44 52.1**	**+0.1**
CLD

VMUR				*i* S	Sg	03 53 03.0	+0.3
VMUR	**Van-Muradiye**	0.53	36	P	Pg	03 52 54.1	-1.5
VMUR				S	Sg	03 53 03.0	+0.3
TATV	**Tatvan**	0.71	266	⇑*i*P	Pg	03 52 57.1	-1.7
TATV				*i* S	Sg	03 53 07.6	-0.5
TATV	**Tatvan**	0.71	266	P	Pg	03 52 57.1	-1.7
TATV				S	Sg	03 53 07.6	-0.5
CLDR	**Caldiran**	0.83	45	PG	Pg	03 52 59.6	-1.5
CLDR				*e*SG	Sg	03 53 11.5	-0.5
CLDR	**Caldiran**	0.83	45	*i*P	Pg	03 52 59.0	-2.1
CLDR				*i* S	Sg	03 53 12.1	+0.1
CLDR	**Caldiran**	0.83	45	P	Pg	03 52 59.0	-2.1
CLDR	**Caldiran**	0.83	45	*i* Pg	Pg	03 52 59.6	-1.5
CLDR				*e*Sg	Sg	03 53 11.5	-0.5
CLDR				S	Sg	03 53 12.1	+0.1
CLDR	**Caldiran**	0.83	45	Pg	Pg	03 52 59.6	-1.5
BASK	**Baskale_VAN**	0.83	127	*i* P	Pg	03 52 59.9	-1.3
BASK	**Baskale_VAN**	0.83	127	P	Pg	03 52 59.9	-1.3
TUTA	**Tutak**	0.89	342	⇓*i*P	Pg	03 53 00.0	-2.2
TUTA	**Tutak**	0.89	342	P	Pg	03 53 00.0	-2.2
AGRB	**Hanur-Agry**	1.02	352	PG	Pg	03 53 02.4	-2.4
AGRB	**Hanur-Agry**	1.02	352	*i* Pg	Pg	03 53 02.4	-2.4
AGRB	**Hanur-Agry**	1.02	352	Pg	Pg	03 53 02.4	-2.4
DYDN	**Diyadin**	1.06	22	⇓*i*P	Pg	03 53 02.8	-2.9
DYDN				*i* S	Sn	03 53 21.5	+0.4
DYDN	**Diyadin**	1.06	22	P	Pg	03 53 02.8	-2.9
DYDN				S	Sn	03 53 21.5	+0.4
HAKT	**HAKKARI**	1.09	157	*i* P	Pg	03 53 03.4	-2.6
HAKT	**HAKKARI**	1.09	157	P	Pg	03 53 03.4	-2.6
EKAR	**Karacoban**	1.11	309	⇓*i*P	Pg	03 53 04.9	-1.6
EKAR				*i* S	Sn	03 53 23.1	+0.9
EKAR	**Karacoban**	1.11	309	P	Pg	03 53 04.9	-1.6
EKAR				S	Sn	03 53 23.1	+0.9
SIRN	**S¨–rnak**	1.22	210	⇓*i*P	Pn	03 53 06.7	-1.5
SIRN				*i* S	Sn	03 53 26.3	+1.7
SIRN	**S¨–rnak**	1.22	210	P	Pn	03 53 06.7	-1.5
SIRN				S	Sn	03 53 26.3	+1.7
CUKT	**Cukurca**	1.35	165	*e*PN	Pn	03 53 10.3	+0.2
CUKT	**Cukurca**	1.35	165	⇓*i*P	Pn	03 53 09.6	-0.5
CUKT				*i* S	Sg	03 53 34.1	+5.4
CUKT	**Cukurca**	1.35	165	P	Pn	03 53 09.6	-0.5
CUKT	**Cukurca**	1.35	165	*e*Pn	Pn	03 53 10.3	+0.2
CUKT	**Cukurca**	1.35	165	Pn	Pn	03 53 10.3	+0.2
EATA	**Eleskirt**	1.40	338	⇓*i*P	Pn	03 53 09.4	-1.5
EATA	**Eleskirt**	1.40	338	P	Pn	03 53 09.4	-1.5
VRTB	**Varto-Mus**	1.47	295	*e*PN	Pn	03 53 11.1	-0.5
VRTB	**Varto-Mus**	1.47	295	*i* P	Pn	03 53 10.7	-0.9
VRTB	**Varto-Mus**	1.47	295	*e*Pn	Pn	03 53 11.1	-0.5
VRTB	**Varto-Mus**	1.47	295	Pn	Pn	03 53 11.1	-0.5
SVAN	**Silvan-Diyarba**	1.60	256	*e*PN	Pb	03 53 14.1	-0.6
SVAN	**Silvan-Diyarba**	1.60	256	⇑*i*P	Pn	03 53 13.7	+0.3
SVAN				*i* S	Sg	03 53 36.9	+0.3
SVAN	**Silvan-Diyarba**	1.60	256	*e*Pn	Pb	03 53 14.1	-0.6
SVAN				S	Sg	03 53 36.9	+0.3
SVAN	**Silvan-Diyarba**	1.60	256	Pn	Pb	03 53 14.1	-0.6
BNGL	**BINGOL**	1.62	285	*i* P	Pn	03 53 14.1	+0.2
BNGL				*i* S	Sb	03 53 36.7	+0.8
BTMN	**Batman**	1.64	247	⇑*i*P	Pn	03 53 14.4	+0.5
BTMN				*i* S	Sb	03 53 36.8	+0.8
HOMI	**Horasan**	1.78	327	⇓*i*P	Pn	03 53 16.2	+0.1
HOMI				*i* S	Sn	03 53 38.8	0.0
DIGO	**Kars**	1.86	5	⇓*i*P	Pn	03 53 17.3	+0.1
NAX	**Nakhchivan**	1.92	71	⇓P	Pn	03 53 16.5	-1.3
NAX				⇓S	Sn	03 53 41.3	-0.7
NAX	**Nakhchivan**	1.92	71	P	Pn	03 53 16.5	-1.3
NAX				S	Sn	03 53 41.3	-0.7
ERZM	**Erzurum**	1.94	314	*i* P	Pn	03 53 19.0	+0.7
ERZM	**Erzurum**	1.94	314	P	Pn	03 53 19.0	+0.7
ISHB	**Shabestar**	1.94	97	*e*Pn	Pn	03 53 19.0	+0.7
ISHB				*e*AMB	AMB	03 53 24.0	
	comp=Z,13µm,0.2s						
ISHB				*e*Sg	Sg	03 53 48.4	+0.8
ISHB	**Shabestar**	1.94	97	Pn	Pn	03 53 19.0	+0.7
ISHB				Sg	Sg	03 53 48.3	+0.7
ISHB	**Shabestar**	1.94	97	Pn	Pn	03 53 19.0	+0.7
ISHB				Sg	Sg	03 53 48.3	+0.7
BNGB	**Bing¨¶l**	1.99	283	*e*PN	Pn	03 53 19.6	+0.8
BNGB	**Bing¨¶l**	1.99	283	Pn	Pn	03 53 19.6	+0.8
BNGB	**Bing¨¶l**	1.99	283	Pn	Pn	03 53 19.6	+0.8
ECAT	**Cat-ERZURUM**	2.00	302	*i* P	Pn	03 53 19.1	+0.1
ECAT				*i* S	Sb	03 53 47.0	+0.3
ECAT	**Cat-ERZURUM**	2.00	302	P	Pn	03 53 19.1	+0.1
ECAT				S	Sb	03 53 47.0	+0.3
GNI	**Garni**	2.00	37	Pn	Pn	03 53 19.9	+0.9
	comp=Z,24nm,0.3s,baz=179,slow=2.1,SNR=34						
GNI				Lg	Lg	03 53 50.3	
	comp=Z,46nm,0.3s,baz=239,slow=21,SNR=5.6						
GNI				LR	LR	03 54 16.8	
	comp=Z,495nm,20.8s,baz=216,slow=45						
GNI	**Garni**	2.00	37	*ce*P	Pn	03 53 19.3	+0.2
GNI				pmax	pmax		
	comp=Z,1µm,1.2s						
GNI	**Garni**	2.00	37	*e*P	Pn	03 53 19.3	+0.2
	comp=Z,1µm,1.2s						
SENK	**Senkaya-Erzuru**	2.10	343	*e*PN	Pn	03 53 21.0	+0.6
SENK	**Senkaya-Erzuru**	2.10	343	*e*Pn	Pn	03 53 21.0	+0.6
BINT	**Bingol**	2.12	279	P	Pn	03 53 19.6	-1.0
BINT	**Bingol**	2.12	279	*e*Pn	Pn	03 53 19.7	-0.9
EAK	**Akyaka**	2.15	9	*i* P	Pb	03 53 23.6	-0.6
EAK				*i* S	Sg	03 53 58.5	+4.2
EAK	**Akyaka**	2.15	9	P	Pb	03 53 23.6	-0.6
YEDI	**Yedisu-Bingol**	2.22	294	*e*PN	Pn	03 53 23.4	+1.3
YEDI	**Yedisu-Bingol**	2.22	294	*e*Pn	Pn	03 53 23.4	+1.3
YEDI	**Yedisu-Bingol**	2.22	294	Pn	Pn	03 53 23.4	+1.3
MARD	**Mardin**	2.26	237	*i* P	Pn	03 53 23.1	+0.5
MARD	**Mardin**	2.26	237	*e*Pn	Pn	03 53 23.0	+0.5
MARD	**Mardin**	2.26	237	*e*Pn	Pn	03 53 23.1	+0.5
ITBZ	**Tabriz**	2.36	97	*e*Pn	Pn	03 53 25.3	+1.2
ITBZ	**Tabriz**	2.36	97	Pn	Pn	03 53 25.2	+1.2
ITBZ	**Tabriz**	2.36	97	Pn	Pn	03 53 25.2	+1.2
MAZI	**Mazidag**	2.41	244	*e*PN	Pn	03 53 26.2	+1.6
MAZI	**Mazidag**	2.41	244	Pn	Pn	03 53 24.6	0.0
MAZI	**Mazidag**	2.41	244	Pn	Pn	03 53 24.6	0.0
DIYA	**Diyarbakir**	2.48	256	*i* P	Pn	03 53 26.4	+0.9
DIYA	**Diyarbakir**	2.48	256	P	Pn	03 53 26.4	+0.9
KOPT	**Kop Dagi**	2.53	306	*i* P	Pb	03 53 29.9	-0.9
KOPT				*i* S	Sg	03 54 06.6	0.0
KOPT	**Kop Dagi**	2.53	306	*e*Pn	Pb	03 53 29.0	-1.8
KOPT	**Kop Dagi**	2.53	306	P	Pb	03 53 29.9	-0.9
KOPT	**Kop Dagi**	2.53	306	*e*Pn	Pb	03 53 29.0	-1.8
DDEM	**Demirkent**	2.57	335	*i* P	Pn	03 53 26.8	-0.1
DDEM	**Demirkent**	2.57	335	P	Pn	03 53 26.8	-0.1
KBSD	**Kabsdagh**	2.60	234	*e*P	Pn	03 53 27.9	+0.9
KBSD				*e*S	Sn	03 53 54.0	-4.6
KBSD				AML	AML	03 54 14.6	
	comp=Z,1µm,0.6s						
DAGI	**Agillar**	2.69	339	*i* P	Pn	03 53 28.9	+0.4
DAGI				*i* S	Sg	03 54 13.4	+1.7
ARTV	**Artvin**	2.79	340	*i* P	Pn	03 53 29.0	-0.9
ARTV	**Artvin**	2.79	340	P	Pn	03 53 29.0	-0.9
ARTV	**Artvin**	2.79	340	*e*Pn	Pn	03 53 30.3	+0.4
ARTV	**Artvin**	2.79	340	*e*Pn	Pn	03 53 30.3	+0.4
AKH	**Akhalkalaki**	2.86	5	P	Pb	03 53 36.1	-0.1
AKH	**Akhalkalaki**	2.86	5	P	Pb	03 53 36.1	-0.1
ERZN	**Erzincan**	2.87	292	*e*PN	Pn	03 53 32.1	+1.2
ERZN	**Erzincan**	2.87	292	Pn	Pn	03 53 32.1	+1.2
ERZN	**Erzincan**	2.87	292	Pn	Pn	03 53 32.1	+1.2
TNCL	**Tunceli-Merkez**	2.88	282	*i* P	Pb	03 53 36.6	-0.1
TNCL				*i* S	Sg	03 54 18.6	+0.8
GDB	**GEDABAY**	2.94	42	⇑P	Pn	03 53 31.4	-0.5
GDB				⇑S	Sn	03 54 08.1	+0.7
EPOS	**Posof**	2.96	354	*i* P	Pb	03 53 35.3	-2.7
EPOS	**Posof**	2.96	354	P	Pb	03 53 35.3	-2.7
PTK	**Pertek**	2.97	278	*e*PN	Pn	03 53 33.9	+1.5
PTK	**Pertek**	2.97	278	*e*Pn	Pn	03 53 33.9	+1.5
PTK	**Pertek**	2.97	278	Pn	Pn	03 53 33.9	+1.5
DBOC	**Borcka**	3.01	338	*i* P	Pn	03 53 34.1	+1.3
DBOC	**Borcka**	3.01	338	P	Pn	03 53 34.1	+1.3
QZX	**Qazax, Azerbai**	3.02	34	⇑P	Pn	03 53 32.4	-0.5
QZX				⇓S	Sn	03 54 09.9	+0.8
QZX	**Qazax, Azerbai**	3.02	34	P	Pn	03 53 32.4	-0.5
SVRC	**Sivrice-ELAZID**	3.04	268	*e*PN	Pn	03 53 35.1	+1.9
SVRC	**Sivrice-ELAZID**	3.04	268	*e*Pn	Pn	03 53 35.2	+1.9
SVRC	**Sivrice-ELAZID**	3.04	268	Pn	Pn	03 53 35.1	+1.9
IBST	**Bostanabad**	3.06	105	*e*Pn	Pn	03 53 35.0	+1.4
IBST				*e*AMB	AMB	03 53 47.2	
	comp=Z,2µm,0.3s						
IBST	**Bostanabad**	3.06	105	*e*Pn	Pn	03 53 35.0	+1.4
IBST	**Bostanabad**	3.06	105	Pn	Pn	03 53 35.0	+1.4
GANJ	**Ganja**	3.21	48	⇓P	Pn	03 53 34.8	-0.6
GANJ				⇓S	Sn	03 54 14.0	+0.3
SFNV	**Sufian**	3.24	230	*e*P	Pn	03 53 37.1	+1.2
SFNV				*e*S	Sn	03 54 06.5	-7.9
SFNV				AML	AML	03 54 42.2	
	comp=Z,765nm,0.7s						
ELZG	**Elazig**	3.28	270	*i* P	Pn	03 53 35.6	-1.0
ELZG	**Elazig**	3.28	270	P	Pn	03 53 35.6	-1.0
DGRG	**David-gareji**	3.35	30	P	Pg	03 53 47.1	-2.2
DGRG	**David-gareji**	3.35	30	P	Pg	03 53 47.0	-2.2
DGRG	**David-gareji**	3.35	30	P	Pn	03 53 38.4	+1.0
TBLG	**Delisi**	3.39	20	P	Pb	03 53 44.2	-1.0
TBLG	**Delisi**	3.39	20	P	Pb	03 53 44.2	-1.0
TBLG	**Delisi**	3.39	20	P	Pn	03 53 40.4	+2.4
KELT	**Kelkit**	3.42	299	*i* P	Pb	03 53 47.1	+1.3
KELT				*i* S	Sg	03 54 34.9	-0.1
BRDA	**Brd**	3.54	60	⇓P	Pn	03 53 39.0	-1.0
BRDA				⇓S	Sn	03 54 21.5	-0.4
URFA	**Urfa**	3.61	253	*e*PN	Pn	03 53 43.5	+2.5
URFA	**Urfa**	3.61	253	*e*Pn	Pn	03 53 43.5	+2.5
ISRB	**Sarab**	3.62	100	*e*Pn	Pn	03 53 43.3	+1.9
ISRB				*e*AMB	AMB	03 53 58.0	
	comp=Z,3µm,0.4s						
ISRB	**Sarab**	3.62	100	Pn	Pn	03 53 43.2	+1.9
ISRB	**Sarab**	3.62	100	Pn	Pn	03 53 43.2	+1.9
KEMA	**Kemaliye**	3.71	282	*i* P	Pn	03 53 45.1	+2.6
KEMA				*i* S	Sg	03 54 45.1	+0.7
KEMA	**Kemaliye**	3.71	282	P	Pn	03 53 45.1	+2.6
MNGR	**Mingechevir, A**	3.75	53	⇑P	Pn	03 53 42.0	-0.8
MNGR				⇑S	Sn	03 54 27.0	+0.1
MNGR	**Mingechevir, A**	3.75	53	P	Pn	03 53 42.0	-0.8
MNGR				S	Sn	03 54 27.0	+0.1
ZRD	**Zardab**	3.90	62	⇓P	Pn	03 53 43.8	-1.1
ZRD				⇑S	Sn	03 54 30.4	-0.3
SURC	**SANLIURFA_SURC**	3.98	246	*i* P	Pn	03 53 47.7	+1.6
SURC	**SANLIURFA_SURC**	3.98	246	P	Pn	03 53 47.7	+1.6
ONI	**Oni**	4.03	3	P	Pb	03 53 57.2	+1.0
ONI	**Oni**	4.03	3	P	Pb	03 53 57.2	+1.0
LRK	**Lerik**	4.05	87	⇑P	Pn	03 53 45.5	-1.8
LRK				⇓S	Sn	03 54 33.4	-1.4
LRK	**Lerik**	4.05	87	P	Pn	03 53 45.5	-1.8
LRK				S	Sn	03 54 33.4	-1.4
ZKTA	**Zakatala**	4.06	40	⇑P	Pn	03 53 46.8	-0.4
ZKTA				⇑S	Sn	03 54 35.8	+1.1
SEKA	**Sheki**	4.08	48	⇑P	Pn	03 53 47.5	0.0
SEKA				⇑S	Sn	03 54 36.8	+1.6
SEKA	**Sheki**	4.08	48	P	Pn	03 53 47.5	0.0
GLBA	**Clilabad**	4.13	79	⇓P	Pn	03 53 46.7	-1.4
GLBA				⇑S	Sn	03 54 35.4	-1.1
GLBA	**Clilabad**	4.13	79	P	Pn	03 53 46.7	-1.4
GLBA				S	Sn	03 54 35.4	-1.1
SUSE	**Susehri**	4.18	295	*i* P	Pb	03 54 00.3	+1.4
SUSE				*i* S	Sg	03 54 55.7	-3.8
ZEI	**Tsey**	4.26	7	*e*P	Pn	03 53 51.1	+1.0
ZEI				pmax	pmax		
	comp=Z,72nm,1.5s						
KSRV	**Kasrt alli**	4.28	232	*e*P	Pn	03 53 52.5	+2.4
KSRV				*e*S	Sn	03 54 41.2	+1.2
KSRV				AML	AML	03 55 16.8	
	comp=Z,302nm,1.1s						
SAAT	**Saatly**	4.29	71	⇑P	Pn	03 53 48.7	-1.6
SAAT				⇓S	Sn	03 54 38.9	-1.3
KDMR	**Kurdemir**	4.29	63	⇓P	Pn	03 53 49.2	-1.1
KDMR				⇓S	Sn	03 54 40.1	-0.1
QBL	**Gabala**	4.32	55	⇑P	Pn	03 53 49.8	-1.0
QBL				⇓S	Sn	03 54 41.2	+0.1
QBL	**Gabala**	4.32	55	P	Pn	03 53 49.8	-1.0
QBL				S	Sn	03 54 41.2	+0.1
CUZAR	**Zara_SIVAS**	4.40	289	*i* P	Pb	03 53 58.3	-4.2
LKRN	**Lenkeran, Azer**	4.40	86	⇓P	Pn	03 53 50.2	-1.6
LKRN				⇑S	Sn	03 54 42.0	-1.0
LKRN	**Lenkeran, Azer**	4.40	86	P	Pn	03 53 50.2	-1.6
LKRN				S	Sn	03 54 42.0	-1.0
ASTR	**Astara**	4.41	88	⇓P	Pn	03 53 50.3	-1.6
ASTR				⇑S	Sn	03 54 42.3	-0.9
ASTR	**Astara**	4.41	88	P	Pn	03 53 50.3	-1.6
ASTR				S	Sn	03 54 42.3	-0.9
IML	**Ismayilli**	4.47	58	⇑P	Pn	03 53 51.7	-1.1
IML				⇓S	Sn	03 54 44.8	0.0
IML	**Ismayilli**	4.47	58	P	Pn	03 53 51.7	-1.1
IML				S	Sn	03 54 44.8	0.0
CUKAN	**kangal_SIVAS**	4.51	281	*i* P	Pb	03 54 02.7	-1.6
CUKAN				*i* S	Sg	03 55 16.4	+6.6
GZT	**Gaziantep**	4.59	257	*i* P	Pb	03 54 04.0	-1.8
XNQ	**Khinaliq**	4.63	54	⇓P	Pn	03 53 54.2	-1.0
XNQ				⇓S	Sn	03 54 49.1	0.0
XNQ	**Khinaliq**	4.63	54	P	Pn	03 53 54.2	-1.0
IDHR	**Dehrash**	4.64	145	*e*Pn	Pn	03 53 57.2	+1.9
IDHR				*e*AMB	AMB	03 55 38.6	
	comp=Z,2µm,0.4s						
IDHR	**Dehrash**	4.64	145	Pn	Pn	03 53 57.1	+1.8
IDHR	**Dehrash**	4.64	145	Pn	Pn	03 53 57.1	+1.8
NEY	**Neytrino**	4.70	356	*e*P	Pn	03 53 58.5	+2.4
NEY	**Neytrino**	4.70	356	*e*P	Pn	03 53 58.5	+2.4
ILIN	**Lien**	4.74	139	*e*Pn	Pn	03 53 57.8	+1.1
ILIN	**Lien**	4.74	139	Pn	Pn	03 53 57.8	+1.0
ILIN	**Lien**	4.74	139	Pn	Pn	03 53 57.8	+1.0
PQL	**Pirkuli**	4.74	60	⇓P	Pn	03 53 55.5	-1.2
PQL				⇑S	Sn	03 54 51.4	-0.3
PQL	**Pirkuli**	4.74	60	P	Pn	03 53 55.5	-1.2
PQL				S	Sn	03 54 51.4	-0.3
ALIB	**Äli-Bayra**	4.74	71	⇑P	Pn	03 53 55.2	-1.3
ALIB				⇓S	Sn	03 54 50.9	-0.6
SCER	**sogukcermik**	4.87	287	*i* P	Pb	03 54 05.5	-4.9
GBS	**Qobustan**	4.88	64	⇓P	Pn	03 53 57.3	-1.2
GBS				⇑S	Sn	03 54 54.6	-0.4
GBS	**Qobustan**	4.88	64	P	Pn	03 53 57.3	-1.2
GBS				S	Sn	03 54 54.6	-0.4
QSAR	**Qusar**	4.90	51	⇓P	Pn	03 53 57.9	-0.9
QSAR				⇓S	Sn	03 54 55.7	+0.2
QSAR	**Qusar**	4.90	51	P	Pn	03 53 57.9	-0.9
QSAR				S	Sn	03 54 55.7	+0.2
QUBA	**Quba, Azerbaij**	4.95	54	⇓P	Pn	03 53 58.6	-0.9
QUBA				⇑S	Sn	03 54 57.1	+0.3
QUBA	**Quba, Azerbaij**	4.95	54	P	Pn	03 53 58.6	-0.9
QUBA				S	Sn	03 54 57.1	+0.3
ATGJ	**Altiaghaj**	5.01	61	⇑P	Pn	03 53 59.1	-1.2
ATGJ				⇑S	Sn	03 54 58.1	-0.2
ATGJ	**Altiaghaj**	5.01	61	P	Pn	03 53 59.1	-1.2
IGHG	**Ghaleghazi**	5.03	146	*e*Pn	Pn	03 54 02.4	+1.6
IGHG				*e*AMB	AMB	03 55 59.0	
	comp=Z,8µm,1.0s						
IGHG	**Ghaleghazi**	5.03	146	*e*Pn	Pn	03 54 02.4	+1.6
IGHG	**Ghaleghazi**	5.03	146	Pn	Pn	03 54 02.4	+1.6
CUALT	**Altinyayla-SIV**	5.05	280	*i* P	Pn	03 53 54.5	-6.4
SIZA	**Siyzn**	5.08	59	⇓P	Pn	03 54 00.1	-1.1
SIZA				⇑S	Sn	03 54 59.9	0.0
SIZA	**Siyzn**	5.08	59	P	Pn	03 54 00.1	-1.1
KUZU	**Kuzuini**	5.15	252	*i* P	Pb	03 54 13.5	-1.8
KBZ	**Khabaz**	5.17	358	Pn	Pn	03 54 06.4	+4.0
	comp=Z,0.2nm,0.3s,baz=178,slow=6.3,SNR=4.6						
KBZ				LR	LR	03 56 24.8	
	comp=Z,2µm,18.5s,baz=126,slow=42						
GOBA	**Gobu**	5.40	68	⇑P	Pn	03 54 04.3	-1.3
GOBA				⇑P	Pn	03 54 04.3	-1.3
GOBA				⇑S	Sn	03 55 07.2	-0.6
GOBA				⇑S	Sn	03 55 07.2	-0.6
GOBA	**Gobu**	5.40	68	P	Pn	03 54 04.3	-1.3
GOBA				S	Sn	03 55 07.2	-0.6
KIV	**Kislovodsk**	5.40	356	*e*P	Pn	03 54 06.4	+0.7
KIV	**Kislovodsk**	5.40	356	*e*P	Pn	03 54 06.4	+0.7
KIV	**Kislovodsk**	5.40	356	*e*Pn	Pn	03 54 06.4	+0.7
KIV				*e*Pg	Pg	03 54 25.2	-3.3
KVAR	**Kislovodsk Arr**	5.40	356	Pn	Pn	03 54 09.1	+3.4
	baz=134,slow=4.1,SNR=2.5						
KVAR				LR	LR	03 56 42.5	
	comp=Z,1µm,21.0s,baz=138,slow=44						
TOKA	**Tokat**	5.47	291	*e*Pn	Pn	03 54 08.2	+1.6
TOKA	**Tokat**	5.47	291	*e*Pn	Pn	03 54 08.2	+1.6
MAK	**Makhachkala**	5.49	35	*e*P	Pn	03 54 06.9	+0.1
MAK				*e*S	Sn	03 55 08.8	-1.2
MAK				pmax	pmax		
	comp=Z,57nm,1.0s						
MAK				MLR	MLR		
	comp=Z,939nm,9.0s						
MAK	**Makhachkala**	5.49	35	*e*P	Pn	03 54 06.9	+0.1
	comp=Z,57nm,1.0s						
MAK				*e*S	Sn	03 55 08.8	-1.2
	comp=Z,939nm,9.0s						
DRWC	**Darouich**	5.51	251	*e*P	Pn	03 54 08.7	+1.5
DRWC				*e*S	Sn	03 55 07.0	-3.6
NDR	**Nardaran**	5.64	67	⇑P	Pn	03 54 07.7	-1.2
NDR				⇑S	Sn	03 55 13.2	-0.4
NDR	**Nardaran**	5.64	67	P	Pn	03 54 07.7	-1.2
GALA	**Gala**	5.71	69	⇑P	Pn	03 54 08.6	-1.2
GALA				⇑S	Sn	03 55 14.9	-0.5
GALA	**Gala**	5.71	69	P	Pn	03 54 08.6	-1.2
BTCH	**Batrach**	5.91	247	*e*P	Pn	03 54 14.1	+1.4
BTCH				*e*S	Sn	03 55 14.2	-6.2
BTCH				AML	AML	03 56 09.9	
	comp=N,343nm,0.6s						
BTCH				AML	AML	03 56 14.8	
	comp=E,170nm,0.7s						
RABH	**Abou Rabah**	6.32	231	*e*P	Pn	03 54 20.1	+1.8
RABH				*e*S	Sn	03 55 20.2	-10
RABH				AML	AML	03 56 18.4	
	comp=E,112nm,0.7s						
RABH				AML	AML	03 56 35.5	
	comp=N,68nm,0.7s						
ARNB	**Al Arnab**	6.34	247	*e*P	Pn	03 54 19.2	+0.6
ARNB				*e*S	Sn	03 55 26.5	-4.6
ARNB				AML	AML	03 56 21.1	
	comp=E,170nm,0.7s						
ARNB				AML	AML	03 56 26.2	
	comp=N,179nm,0.6s						
ROOS	**tl_alroos**	6.45	229	*e*P	Pn	03 54 21.1	+0.9
ROOS				*e*S	Sn	03 55 24.4	-9.5
ROOS				AML	AML	03 56 29.8	
	comp=E,98nm,0.7s						
ROOS				AML	AML	03 56 38.8	
	comp=N,157nm,0.7s						
GOF	**Gofitskoye**	6.50	359	⇑*e*P	Pb	03 54 34.3	-3.8
GOF				pmax	pmax		
	comp=Z,26nm,0.8s						
BIDA	**Albida**	6.53	239	*e*P	Pn	03 54 22.4	+1.2
BIDA				*e*S	Sn	03 55 28.4	-7.3
BIDA				AML	AML	03 56 31.6	
	comp=E,300nm,0.6s						
BIDA				AML	AML	03 56 33.7	
	comp=N,244nm,0.7s						
MARH	**Ras Al Marh**	7.04	232	*e*P	Pn	03 54 30.8	+2.4
MARH				*e*S	Sn	03 55 39.5	-9.1
BR131	**Keskin Array S**	7.50	282	*e*Pn	Pn	03 54 36.5	+2.0
BR131	**Keskin Array S**	7.50	282	*e*Pn	Pn	03 54 36.5	+2.0
BRTR	**Keskin Array B**	7.50	282	Pn	Pn	03 54 36.4	+1.9

NIE Niedzica 19.63 311 *eP* **Pn 03 57 16.6 +1.6**
VYHS Vyhne 20.17 307 *eP* Pn 03 57 21.2 -0.1
VYHS pmax pmax
comp=Z,29nm,1.8s
VYHS Vyhne 20.17 307 *eP* Pn 03 57 21.2 -0.1
comp=Z,29nm,1.8s
VYHS Vyhne 20.17 307 *eP* Pn 03 57 21.2 -0.1
WSAR Wadi Sarin 20.18 135 P **P 03 57 18.4 -1.4**
comp=Z,4.3nm,1.0s,baz=319,slow=3.7,SNR=1.8
ARU Arti 20.60 25 P **P 03 57 23.9 -0.1**
comp=Z,6.5nm,0.6s,baz=234,slow=5.4,SNR=10
ARU Arti 20.60 25*d iP* **P 03 57 24.4 +0.4**
ARU 03 57 44.5
ARU S **S 04 01 15.3 +1.3**
ARU SS **SnSn 04 01 31.9 -1.1**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 20.60 25 *eP* **P 03 57 24.2 +0.2**
comp=Z,12nm,0.8s
ARU Arti 20.60 25 *eP* **P 03 57 24.2 +0.2**
comp=Z,12nm,0.8s
OKC Ostrava-Krasne 21.08 310 *eP* **P 03 57 35.9 +6.6**
OKC Ostrava-Krasne 21.08 310 *eP* **P 03 57 35.9 +6.6**
KKAR Karatay Array 21.14 69 *eP* **P 03 57 30.8 +0.8**
KKAR Karatay Array 21.14 69 *eP* **P 03 57 30.8 +0.8**
comp=Z,343nm,0.9s
KKAR Karatay Array 21.14 69 *eP* **P 03 57 30.8 +0.8**
comp=Z,343nm,0.9s
KBL Kabul 21.15 93 P **P 03 57 34.6 +4.3**
KBL pmax pmax
comp=Z,8.0nm,1.1s
CUC Castrocucco 21.20 283 *eP* **P 03 57 33.1 +2.4**
comp=Z,7.3nm,1.0s
CUC Castrocucco 21.20 283 *eP* **P 03 57 33.1 +2.4**
comp=Z,7.3nm,1.0s
MORC Moravsky Berou 21.42 310⇑ *iP* **P 03 57 34.3 +1.3**
MORC Moravsky Berou 21.42 310 *eP* **P 03 57 33.8 +0.8**
MORC pmax pmax
comp=Z,47nm,1.6s
MORC Moravsky Berou 21.42 310 *eP* **P 03 57 33.8 +0.8**
comp=Z,47nm,1.6s
MORC Moravsky Berou 21.42 310 *eP* **P 03 57 33.8 +0.8**
comp=Z,47nm,1.6s
SVE Sverdlovsk 21.62 27 *eP* **P 03 57 36.7 +1.7**
SVE pmax pmax
comp=Z,19nm,1.3s
SVE Sverdlovsk 21.62 27 *eP* **P 03 57 36.7 +1.7**
comp=Z,19nm,1.3s
VRAC Vranov 21.84 308 *eP* **P 03 57 37.7 +0.3**
CONA Conrad Observa 21.89 304 *i P* **P 03 57 40.1 +2.0**
comp=Z,3.8nm,0.7s
CONA Conrad Observa 21.89 304 P **P 03 57 40.1 +2.0**
comp=Z,3.8nm,0.7s
ARSA Arzberg 21.94 302 *epP* **P 03 57 41.2 +2.6**
comp=Z,2.8nm,0.8s
ARSA Arzberg 21.94 302 P **P 03 57 41.2 +2.6**
comp=Z,2.8nm,0.8s
SOKA Soboth 22.15 301 *i P* **P 03 57 39.2 -1.7**
comp=Z,0.3nm,0.2s
SOKA Soboth 22.15 301 P **P 03 57 39.2 -1.7**
comp=Z,0.3nm,0.2s
DPC Dobruska-Polom 22.36 311 *eP* **P 03 57 50.1 +7.0**
DPC Dobruska-Polom 22.36 311 *eP* **P 03 57 50.1 +7.0**
KLMR Klimovskoe 22.44 355 *eP* **P 03 57 43.6 -0.1**
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 22.44 355 *eP* **P 03 57 43.6 -0.1**
comp=Z,29nm,1.5s
TREC Trest 22.52 307 *eP* **P 03 57 48.8 +4.1**
TREC Trest 22.52 307 *eP* **P 03 57 48.8 +4.1**
VSU Vasula 22.58 337*ceP* **P 03 57 47.5 +2.3**
VSU pmax pmax
comp=Z,117nm,1.7s
VSU Vasula 22.58 337 *eP* **P 03 57 47.5 +2.3**
comp=Z,117nm,1.7s
MNAS Manas 22.59 71 P **P 03 57 47.2 +1.5**
MNAS pmax pmax
comp=Z,6.0nm,1.0s
MNAS Manas 22.59 71 P **P 03 57 47.2 +1.5**
comp=Z,6.0nm,1.0s
UPC Upice 22.61 311 *eP* **P 03 57 48.1 +2.4**
UPC Upice 22.61 311 *eP* **P 03 57 48.1 +2.4**
UPC Upice 22.61 311 *eP* **P 03 57 48.1 +2.4**
VAE Valguarnera 22.64 276 P **P 03 57 46.0 -0.2**
comp=Z,7.4nm,0.5s,baz=106,slow=7.9,SNR=3.0
AQU L'Aquila 22.91 289 *eP* **P 03 57 49.3 +0.4**
AQU pmax pmax
comp=Z,14nm,1.0s
AQU L'Aquila 22.91 289 *eP* **P 03 57 49.3 +0.4**
comp=Z,14nm,1.0s
AQU L'Aquila 22.91 289 *eP* **P 03 57 49.3 +0.4**
comp=Z,14nm,1.0s
MOA Molln 22.91 303 *i pP* **P 03 57 50.1 +1.2**
comp=Z,1.3nm,0.5s
MOA Molln 22.91 303 P **P 03 57 50.1 +1.2**
comp=Z,1.3nm,0.5s
SFK Sufi-Kurgan 23.48 77 P **P 03 57 56.6 +1.6**
SFK pmax pmax
comp=Z,11nm,1.0s
SFK Sufi-Kurgan 23.48 77 P **P 03 57 56.6 +1.6**
comp=Z,11nm,1.0s
GERES GERESS Array B 23.52 305 P **P 03 57 55.0 -0.1**
comp=Z,0.9nm,0.8s,baz=106,slow=9.8,SNR=9.0
GERES GERESS Array B 23.52 305 P **P 03 57 55.0 -0.1**
GERES GERESS Array B 23.52 305 P **P 03 57 55.0 -0.1**
BRVK Borovoye 23.63 43*ceP* **P 03 57 57.1 +1.0**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 23.63 43 *eP* **P 03 57 55.9 -0.2**
comp=Z,8.7nm,1.0s
BRVK Borovoye 23.63 43 *eP* **P 03 57 55.9 -0.2**
comp=Z,8.7nm,1.0s
KHC Kasperske Hory 23.67 306 *eP* **P 03 57 57.1 +0.6**
KHC Kasperske Hory 23.67 306 *eP* **P 03 57 57.1 +0.6**
KHC pmax pmax
comp=Z,11nm,2.0s
KHC Kasperske Hory 23.67 306 *eP* **P 03 57 57.1 +0.6**
comp=Z,11nm,2.0s
KHC Kasperske Hory 23.67 306 *eP* **P 03 57 57.1 +0.6**
comp=Z,11nm,2.0s
BVAR Borovoye Array 23.68 43 P **P 03 57 57.0 +0.5**
comp=Z,4.2nm,1.0s,baz=232,slow=7.3,SNR=15
BVAR Borovoye Array 23.68 43 P **P 03 57 57.0 +0.5**
BVAR Borovoye Array 23.68 43 P **P 03 57 57.0 +0.5**
ABTA Abfaltersbach 23.87 300 *i P* **P 03 57 58.0 -0.6**
comp=Z,1.3nm,0.6s
ABTA Abfaltersbach 23.87 300 P **P 03 57 58.0 -0.6**
comp=Z,1.3nm,0.6s
AAK Ala-Archa 24.06 70 P **P 03 58 01.0 +0.5**
comp=Z,9.5nm,1.2s,baz=252,slow=12,SNR=9.4
AAK Ala-Archa 24.06 70 *i P* **P 03 58 01.5 +1.0**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 24.06 70 *eP* **P 03 58 00.9 +0.4**
comp=Z,7.7nm,1.1s
AAK Ala-Archa 24.06 70 *eP* **P 03 58 00.9 +0.4**
comp=Z,7.7nm,1.1s
WTTA Wattenberg 24.54 301 *i pP* **P 03 58 06.0 +1.1**
WTTA Wattenberg 24.54 301 P **P 03 58 06.0 +1.1**
WATA Walderalm 24.59 301 *i pP* **P 03 58 07.1 +1.8**
comp=Z,2.1nm,0.4s
WATA Walderalm 24.59 301 P **P 03 58 07.1 +1.8**
comp=Z,2.1nm,0.4s
CLL Collm 24.67 311 *eP* **P 03 58 06.0 +0.2**
CLL *e* 03 58 13.0
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 24.67 311 *eP* **P 03 58 06.0 +0.2**
comp=Z,3.0nm,0.8s
CLL Collm 24.67 311 *eP* **P 03 58 06.0 +0.2**
comp=Z,3.0nm,0.8s
CLL *e* 03 58 13.0
CLL *e* 03 58 18.0
NKC Novy Kostel 24.68 308 *eP* **P 03 58 03.6 -2.3**
NKC Novy Kostel 24.68 308 *eP* **P 03 58 03.6 -2.3**
MOTA Moosalm 24.91 301 *i pP* **P 03 58 08.8 +0.6**
comp=Z,4.3nm,0.7s
MOTA Moosalm 24.91 301 P **P 03 58 08.8 +0.6**
comp=Z,4.3nm,0.7s
FETA Feichten 25.12 300 *i pP* **P 03 58 12.2 +2.1**
comp=Z,2.0nm,0.6s
FETA Feichten 25.12 300 P **P 03 58 12.2 +2.1**
comp=Z,2.0nm,0.6s
FINES FINESS Array B 25.25 341 P **P 03 58 11.1 +0.2**
comp=Z,3.9nm,0.7s,baz=142,slow=12,SNR=16
FINES LR LR 04 09 10.7
comp=Z,180nm,19.8s,baz=112,slow=39
FINES FINESS Array B 25.25 341 *i P* **P 03 58 10.8 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
GRFO Grafenberg 25.30 306 *eP* **P 03 58 12.4 +0.9**
GRFO pmax pmax
comp=Z,63nm,1.8s
GRFO Grafenberg 25.30 306 *eP* **P 03 58 12.4 +0.9**
comp=Z,63nm,1.8s
GRFO Grafenberg 25.30 306 *eP* **P 03 58 12.4 +0.9**
comp=Z,63nm,1.8s
KSH Kashi 25.43 77 P **P 03 58 12.5 -0.4**
KSH PP **PnPn 03 58 48.8 +0.9**
KSH PcP **PcP 04 01 48.5 +3.6**
KSH S **S 04 02 35.5 -4.2**
KSH SS **SnSn 04 03 33.0 +1.4**
KSH PcS **PcS 04 05 28.5 +3.1**
KSH Kashi 25.43 77 ScS ScS 04 09 15.5 +2.5
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,120nm,6.5s
KSH LR LR
comp=N,110nm,8.0s
KSH LR LR
comp=E,100nm,6.7s
KSH LR LR
comp=Z,170nm,7.7s
DAVA Damuels 25.73 301 *i pP* **P 03 58 16.3 +0.7**
comp=Z,2.0nm,0.7s
DAVA Damuels 25.73 301 P **P 03 58 16.3 +0.7**
comp=Z,2.0nm,0.7s
TMCR Tamitsa 25.82 355 *eP* **P 03 58 16.0 0.0**
TMCR pmax pmax
comp=Z,18nm,0.9s
KURBB Kurchatov Arra 27.65 53 P **P 03 58 33.7 +1.0**
comp=Z,5.4nm,0.8s,baz=263,slow=9.2,SNR=28
KURBB PcP **PcP 04 01 49.1 -0.5**
comp=Z,0.7nm,0.7s,baz=270,slow=3.3,SNR=6.2
KURK Kurchatov 27.73 52*ceP* **P 03 58 34.5 +1.1**
KURK pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 27.73 52 PcP **PcP 04 01 49.2 -0.7**
KURK Kurchatov 27.73 52 *eP* **P 03 58 33.6 +0.3**
comp=Z,6.5nm,0.8s
KURK PcP **PcP 04 01 49.1 -0.7**
HFS Hagfors 28.48 329 P **P 03 58 39.7 -0.2**
comp=Z,2.8nm,0.8s,baz=142,slow=7.3,SNR=5.1
WLF Walferdange 28.52 305 *eP* **P 03 58 42.3 +1.8**
WLF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 28.52 305 *eP* **P 03 58 42.3 +1.8**
comp=Z,5.5nm,0.8s
WLF Walferdange 28.52 305 *eP* **P 03 58 42.3 +1.8**
comp=Z,5.5nm,0.8s
MK31 Makanchi Array 29.67 61 *eP* **P 03 58 52.2 +1.5**
MK31 Makanchi Array 29.67 61 *eP* **P 03 58 52.2 +1.5**
MK31 Makanchi Array 29.67 61 *eP* **P 03 58 52.2 +1.5**
MKAR Makanchi Array 29.67 61 P **P 03 58 50.0 -0.7**
comp=Z,3.4nm,0.8s,baz=275,slow=6.5,SNR=11
MKAR Makanchi Array 29.67 61*ceP* **P 03 58 52.0 +1.3**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 30.00 329 P **P 03 58 52.8 -0.7**
comp=Z,1.2nm,0.8s,baz=126,slow=8.9,SNR=2.9
NOA LR LR 04 11 55.9
comp=Z,90nm,19.8s,baz=125,slow=38
ZALV Zalesovo Beam 32.12 48 P **P 03 59 12.0 -0.2**
comp=Z,0.8nm,0.5s,baz=266,slow=12,SNR=4.0
ZALV LR LR 04 13 52.7
comp=Z,86nm,18.6s,baz=252,slow=40
ZALV Zalesovo Beam 32.12 48 P **P 03 59 12.0 -0.2**
ZALV Zalesovo Beam 32.12 48 P **P 03 59 12.0 -0.2**
ARCES ARCESS Array B 32.45 349 P **P 03 59 14.8 -0.1**
comp=Z,0.6nm,0.4s,baz=155,slow=9.4,SNR=8.1
ARCES LR LR 04 13 07.1
comp=Z,252nm,19.1s,baz=153,slow=38
WMQ Urumqi 33.60 67 P **P 03 59 27.5 +2.1**
WMQ pP sP 03 59 32.5 +2.3
WMQ PcP **PcP 04 02 00.8 -4.7**
WMQ pmax pmax
comp=Z,73nm,5.7s
WMQ LR LR
comp=N,130nm,23.5s
WMQ LR LR
comp=E,82nm,18.9s
WMQ LR LR
comp=Z,59nm,21.7s
EKA Eskdalemuir Ar 35.04 314 P **P 03 59 37.4 -0.2**
comp=Z,1.5nm,0.4s,baz=107,slow=8.3,SNR=8.2
TAM Tamanrasset 35.71 255 *eP* **P 03 59 45.1 +1.1**
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM Tamanrasset 35.71 255 *eP* **P 03 59 45.0 +1.1**
comp=Z,4.1nm,1.3s
TAM Tamanrasset 35.71 255 *eP* **P 03 59 45.0 +1.1**
comp=Z,4.1nm,1.3s
ESDC Sonseca Array 36.26 287 P **P 03 59 47.8 -0.6**
comp=Z,0.2nm,0.4s,baz=70,slow=8.6,SNR=4.7
NRIK Noril'sk 38.81 23 LR LR 04 20 13.7
comp=Z,213nm,19.1s,baz=258,slow=42
JMIC Jan Mayen 41.77 337 LR LR 04 18 34.4
comp=Z,94nm,18.5s,baz=72,slow=37
GTA Gaotai 43.41 70 *eP* **P 04 00 49.5 +1.6**
GTA pP sP 04 00 54.3 +1.6
GTA sP pP 04 00 56.5 +5.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
TORD Torodi Ar. Bea 44.56 247 P **P 04 00 55.8 -1.4**
comp=Z,1.3nm,0.9s,baz=52,slow=9.0,SNR=9.8
TORD PcP **PcP 04 02 39.3 -1.0**
comp=Z,0.6nm,0.8s,baz=58,slow=2.2,SNR=3.8
ULN Ulaanbaatar 46.27 57*ceP* **P 04 01 12.1 +1.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 46.27 57 *eP* **P 04 01 11.8 +1.2**
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 46.27 57 *eP* **P 04 01 11.8 +1.2**
comp=Z,4.0nm,0.8s
LZH Lanzhou 47.54 73 *eP* **P 04 01 20.0 -0.8**
LZH pP pP 04 01 24.3 +0.1
LZH sP sP 04 01 27.8 +2.2
LZH S **S 04 08 12.0 -3.8**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=N,2μm,14.0s
LZH LR LR
comp=E,1μm,14.0s
LZH LR LR
comp=Z,2μm,14.4s
BOD Bodaibo 48.54 42 *eP* **P 04 01 27.6 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
BOD Bodaibo 48.54 42 *eP* **P 04 01 27.6 -0.3**
comp=Z,7.0nm,1.1s
HHC Hu-ho-hao-te 51.43 64 *eP* **P 04 01 52.0 +1.7**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,80nm,8.6s
KMI Kunming 51.54 87 P **P 04 01 52.3 +0.9**
KMI pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 51.93 96 *eP* **P 04 01 53.3 -0.8**
CHTO Chiang Mai 51.93 96 *eP* **P 04 01 53.3 -0.8**
CHTO Chiang Mai 51.93 96 *eP* **P 04 01 53.3 -0.8**
CMAR Chiang Mai Arr 52.13 96 P **P 04 01 55.6 0.0**
comp=Z,0.7nm,0.4s,baz=298,slow=8.6,SNR=6.8
CMAR Chiang Mai Arr 52.13 96*ceP* **P 04 01 57.0 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 52.60 23 *eP* **P 04 01 57.9 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 52.60 23 *eP* **P 04 01 57.9 -0.4**
comp=Z,1.0nm,1.0s
DBIC Dimbokro 53.67 246 P **P 04 02 07.2 +0.2**
comp=Z,1.0nm,0.5s,baz=69,slow=5.8,SNR=3.8
HIA Hailar 53.97 52 *i P* **P 04 02 09.2 +0.4**
HIA pmax pmax
comp=Z,5.0nm,0.9s
HIA Hailar 53.97 52 *i P* **P 04 02 09.2 +0.4**
comp=Z,5.0nm,0.9s
BJI Beijing 54.99 64 P **P 04 02 16.3 -0.1**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI LR LR
comp=N,160nm,14.3s
BJI LR LR
comp=E,92nm,14.7s
BJI LR LR
comp=Z,51nm,22.9s
KLR Kul'dur 61.22 48 P **P 04 02 59.9 +0.1**
comp=Z,0.3nm,0.8s,baz=287,slow=7.7,SNR=10.0
KSAR Wonju Array Be 64.33 62 P **P 04 03 20.2 -0.5**
KSAR Wonju Array Be 64.33 62 P **P 04 03 20.2 -0.5**
KSAR Wonju Array Be 64.33 62 P **P 04 03 20.2 -0.5**
KSRS Korea Array 64.35 62 P **P 04 03 20.2 -0.6**
comp=Z,5.8nm,0.8s,baz=287,slow=6.4,SNR=17
BILL Bilibino 65.54 20 *eP* **P 04 03 29.7 +1.6**
BILL pmax pmax
comp=Z,13nm,1.4s
BILL Bilibino 65.54 20 *eP* **P 04 03 29.7 +1.6**
comp=Z,13nm,1.4s
MA2 Magadan 65.56 32 LR LR 04 35 22.1
comp=Z,67nm,18.8s,baz=304,slow=39
BOSA Boshof 68.89 197 LR LR 04 35 51.5
comp=Z,77nm,18.9s,baz=38,slow=38
MJAR Matsushiro Arr 71.79 58 P **P 04 04 07.8 +0.1**
comp=Z,0.5nm,0.4s,baz=316,slow=4.7,SNR=4.6
MJAR LR LR 04 38 19.8
comp=Z,48nm,20.1s,baz=350,slow=38
COLA College 76.54 5 *eP* **P 04 04 35.3 +0.5**
COLA pmax pmax
comp=Z,3.0nm,0.5s
COLA College 76.54 5 *eP* **P 04 04 35.3 +0.5**
comp=Z,2.6nm,0.5s
COLA College 76.54 5 *eP* **P 04 04 35.3 +0.5**
comp=Z,2.6nm,0.5s
ILAR Eielson Array 76.70 4 P **P 04 04 36.0 +0.2**
comp=Z,0.4nm,0.9s,baz=329,slow=3.3,SNR=5.5
ILAR LR LR 04 43 47.3
comp=Z,33nm,18.5s,baz=37,slow=40
YKA Yellowknife Ar 77.71 350 LR LR 04 39 12.8
comp=Z,6.8nm,19.5s,baz=0.0,slow=36
SEW Seward 81.14 6 *eP* **P 04 05 01.4 +1.2**
comp=Z,11nm,0.7s
SEW Seward 81.14 6 *eP* **P 04 05 01.4 +1.2**
comp=Z,11nm,0.7s

ISCJB ***29*** *03:55:58.2±1.6, 14°.4S±0°.2×75°.6W±0°.3, h53km, mb3.9/3, Error ellipse: s-maj=49.7km s-min=8.9km az=145.8*
IDC ***29*** *03:56:00.2±3.6, 14°.34S×75°.52W, h56km±29km, mb3.6/4, mb1 3.8/6, mb1mx3.5/25, mbtmp3.9/6, ML3.4/2, MS3.1/1, Ms1 3.2/1, ms1mx2.9/18, Error ellipse: s-maj=65.2km s-min=21.6km az=52.0*

ISC 29 03:55:59.8±1.7, 14°.4S±0°.2×75°.6W±0°.3, h53km, n14, σ0 90/9, mb4.2/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	**2.72**	**333**	P		**Pn**	**03 56 40.0**	**-1.1**
	18nm,0.3s,baz=153,slow=14,SNR=12							
NNA				S		**Sn**	**03 57 12.6**	**-0.2**
	48nm,0.3s,baz=216,slow=18,SNR=6.9							
LPAZ	**La Paz**	**7.42**	**105**	LR		LR	04 01 11.8	
	comp=Z,143nm,21.8s,baz=286,slow=42							
ATAH	**Atahualpa**	**7.75**	**339**	P		**Pn**	**03 57 51.5**	**+1.0**
	0.3nm,0.3s,baz=117,slow=4.5,SNR=2.0							
ATAH				S		**Sn**	**03 59 18.1**	**+0.9**
	0.2nm,0.3s,baz=246,slow=23,SNR=1.6							
CPUP	**Villa Florida**	**20.78**	**128**	P		**P**	**04 00 37.3**	**+0.7**
	3.2nm,1.0s,baz=322,slow=12,SNR=3.4							
SDV	**Santo Domingo**	**23.67**	**12**	P		**P**	**04 01 06.1**	**-0.9**
	5.3nm,0.6s,baz=248,slow=10,SNR=4.6							
TXAR	**Lajitas Array**	**51.27**	**328**	P		**P**	**04 04 59.1**	**+0.4**
	0.4nm,0.7s,baz=149,slow=7.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**81.26**	**74**	P		**P**	**04 08 10.5**	**-0.4**
	2.2nm,0.8s,baz=257,slow=5.1,SNR=11							
H11N3	**WAKE ISLAND Hyl**	**20.31**	**285**	T		T	06 25 48.9	
	baz=96							
H11N2	**WAKE ISLAND Hyl**	**20.32**	**285**	T		T	06 25 51.5	
	baz=96							
H11N1	**WAKE ISLAND Hyl**	**20.33**	**285**	T		T	06 25 50.3	
	baz=96							
H11S2	**WAKE ISLAND Hyl**	**20.38**	**283**	T		T	06 25 53.0	
	baz=97							
H11S1	**WAKE ISLAND Hyl**	**20.38**	**283**	T		T	06 25 53.1	
	baz=97							
H11S3	**WAKE ISLAND Hyl**	**20.39**	**283**	T		T	06 25 53.6	
	baz=97							
SONM	**Songino Array**	**146.65**	**358**	PKPbc		**PKPdf**	**04 15 34.2**	**-0.1**
	1.1nm,0.7s,baz=6.6,slow=3.0,SNR=5.2							

IDC ***29*** *03:57:43.6±8.9, 1°.53N×124°.47E, h228km±86km, mb3.4/4, mb1 3.5/5, mb1mx3.0/42, mbtmp3.9/5, Error ellipse: s-maj=93.6km s-min=19.8km az=58.0*
ISCJB ***29*** *03:57:48.7±1.2, 1°.2N±0°.1×124°.30E±0°.05, h235km, mb3.7/4, Error ellipse: s-maj=15.4km s-min=5.7km az=12.9*
DJA ***29*** *03:57:49.2±0.7, 1°N±4°×12°4E±°, h227km±8km, M4.0/7, MLv4.0/7*

ISC 29 03:57:46.0±1.0, 1°.35N±0°.10×124°.34E±0°.05, h235km, n13, σ2S 47/22, mb3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.85**	**205**	P		**Pn**	**03 58 22.4**	**+3.8**
KMSI				S		**S**	**03 58 51.0**	**+6.8**
MRSI	**Marisa**	**2.55**	**250**	P		**Pn**	**03 58 35.8**	**+3.1**
MRSI				S		**S**	**03 59 10.6**	**+1.3**
LUWI	**Luwuk**	**2.85**	**213**	P		**Pn**	**03 58 37.9**	**+2.0**
LUWI				S		**S**	**03 59 15.4**	**+0.2**
APSI	**Ampana**	**3.50**	**230**	P		**Pn**	**03 58 44.8**	**+1.5**
APSI				S		**S**	**03 59 29.5**	**+1.0**
LBMI	**Labuha**	**3.73**	**122**	P		**Pn**	**03 58 48.7**	**+2.7**
LBMI				S		**S**	**03 59 35.9**	**+2.6**
SANI	**Sanana**	**3.76**	**154**	P		**Pn**	**03 58 47.1**	**+0.8**
SANI				S		**S**	**03 59 31.9**	**-2.1**
MPSI	**Mapaga**	**4.55**	**257**	P		**Pn**	**03 58 57.5**	**+1.7**
MPSI				S		**S**	**03 59 50.8**	**-0.3**
NLAI	**Namlea**	**5.33**	**149**	P		**Pn**	**03 59 07.1**	**+1.6**
NLAI				S		**S**	**04 00 09.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.38**	**176**	P		**P**	**04 01 54.1**	**-0.3**
	0.1nm,0.3s,baz=336,slow=13,SNR=4.5							
WRA	**Warramunga Arr**	**23.33**	**156**	P		**P**	**04 02 32.7**	**-0.8**
	1.9nm,0.4s,baz=336,slow=9.9,SNR=27							
ASAR	**Alice Springs**	**26.55**	**160**	P		**P**	**04 03 01.9**	**-0.6**
	0.5nm,0.5s,baz=336,slow=7.1,SNR=9.1							
ASAR				PcP		**PcP**	**04 06 19.0**	**-1.7**
	0.3nm,0.6s,baz=350,slow=1.9,SNR=4.3							
MKAR	**Makanchi Array**	**58.19**	**327**	P		**P**	**04 07 13.4**	**-2.2**
	0.6nm,0.3s,baz=124,slow=8.3,SNR=12							
GEYT	**Alibeck**	**70.54**	**310**	P		**P**	**04 08 34.1**	**-1.7**
	0.9nm,0.4s,baz=90,slow=6.1,SNR=3.0							

IDC 29 04:01:31.5±33.0, 19°.99S×177°.55W, h400km±291km, mb3.3/4, mb1 3.5/4, mb1mx3.1/24, mbtmp4.1/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=172.7km s-min=109.8km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**25.51**	**199**	LR		LR	04 15 59.8	
	comp=Z,87nm,18.6s,baz=210,slow=34							
STKA	**Stephens Creek**	**38.39**	**244**	P		P	04 08 16.9	+0.4
	0.6nm,0.4s,baz=86,slow=14,SNR=2.8							
ASAR	**Alice Springs**	**45.05**	**256**	P		P	04 09 09.8	-0.1
	4.3nm,0.5s,baz=96,slow=7.6,SNR=95							
ASAR				PcP		PcP	04 10 42.0	-0.8
	0.4nm,0.7s,baz=95,slow=4.6,SNR=4.2							
WRA	**Warramunga Arr**	**45.09**	**261**	P		P	04 09 09.7	-0.4
	1.8nm,0.4s,baz=97,slow=7.6,SNR=37							
FITZ	**Fitzroy Crossi**	**53.52**	**262**	P		P	04 10 12.9	-0.1
	0.7nm,0.5s,baz=84,slow=5.4,SNR=7.6							
AKASG	**Malin Array Be**	**142.77**	**332**	PKP		PKPdf	04 20 15.7	-2.1
	1.4nm,0.6s,baz=43,slow=4.3,SNR=6.9							
BRTR	**Keskin Array B**	**146.80**	**313**	PKPbc		PKPbc	04 20 27.9	+0.2
	0.7nm,0.8s,baz=90,slow=4.7,SNR=2.9							

DDA ***29*** *04:09:52.7, 38°.86N×43°.84E, h7km, Ml2.8*
ISK ***29*** *04:09:52.1, 38°.87N×43°.72E, h2km, MD2.6*
ISCJB ***29*** *04:09:53.4±0.8, 38°.88N±0°.04×43°.76E±0°.07, h10km±7km,*

Error ellipse: s-maj=9.5km s-min=5.5km az=19.6
CSEM ***29*** *04:09:53.3±0.3, 38°.89N×43°.73E, h5km, ML2.8, Error ellipse: s-maj=8.6km s-min=4.8km az=112.0*
ISC 29 04:09:53.2±1.0, 38°.87N±0°.04×43.75E±0°.04, h14km±8km, n17, σ0°73/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.18**	**311**	*i* P	**Pg**	**04 09 57.3**	**-0.3**
VMUR				*i* S	**Sg**	**04 10 01.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.18**	**311**	P	**Pg**	**04 09 57.3**	**-0.3**
VMUR				S	**Sg**	**04 10 01.5**	**+0.8**
CLDR	**Caldiran**	**0.30**	**26**	*e*PG	**Pg**	**04 09 59.3**	**-0.3**
CLDR				*e*SG	**Sg**	**04 10 04.5**	**+0.5**
CLDR	**Caldiran**	**0.30**	**26**	*i* P	**Pg**	**04 09 59.1**	**-0.5**
CLDR				*i* S	**Sg**	**04 10 03.5**	**-0.6**
CLDR	**Caldiran**	**0.30**	**26**	*e*Pg	**Pg**	**04 09 59.3**	**-0.3**
CLDR				S	**Sg**	**04 10 03.5**	**-0.6**
CLDR				*e*Sg	**Sg**	**04 10 04.6**	**+0.5**
ERCV	**ERCIS-VAN**	**0.35**	**295**	*e*PG	**Pg**	**04 09 59.7**	**-0.8**
ERCV				*e*SG	**Sg**	**04 10 05.3**	**-0.1**
ERCV	**ERCIS-VAN**	**0.35**	**295**	*e*Pg	**Pg**	**04 09 59.7**	**-0.8**
ERCV				*e*Sg	**Sg**	**04 10 05.3**	**-0.1**
VANB	**Van**	**0.39**	**226**	*e*PG	**Pb**	**04 10 01.6**	**-0.4**
VANB	**Van**	**0.39**	**226**	*e*Pg	**Pb**	**04 10 01.6**	**-0.4**
TVAN	**Van**	**0.43**	**218**	*i* P	**Pg**	**04 10 01.1**	**-0.8**
TVAN				*i* S	**Sb**	**04 10 10.6**	**+1.5**
TVAN	**Van**	**0.43**	**218**	P	**Pg**	**04 10 01.1**	**-0.8**
TVAN				S	**Sb**	**04 10 10.6**	**+1.5**
DYDN	**Diyadin**	**0.68**	**356**	*i* P	**Pg**	**04 10 05.9**	**-0.5**
DYDN				*i* S	**Sb**	**04 10 16.9**	**+0.8**
DYDN	**Diyadin**	**0.68**	**356**	P	**Pg**	**04 10 05.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.92**	**320**	*e*PG	**Pg**	**04 10 10.2**	**-0.8**
AGRB	**Hanur-Agry**	**0.92**	**320**	*e*Pg	**Pg**	**04 10 10.2**	**-0.8**
CUKT	**Cukurca**	**1.62**	**184**	*e*PN	**Pb**	**04 10 22.7**	**-0.2**
CUKT	**Cukurca**	**1.62**	**184**	*e*Pn	**Pb**	**04 10 22.7**	**-0.2**

STR ***29*** *04:13:31.2±0.4, 45°.52N×11°.17E, h5km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
MOS ***29*** *04:13:32.4±0.9, 45°.73N×10°.91E, h13km, mb4.4/21, Error ellipse: s-maj=3.8km s-min=3.0km az=68.3*
IDC ***29*** *04:13:33.9±1.8, 45°.67N×10°.86E, h15km±11km, mb4.1/18, mb1 4.2/28, mb1mx4.0/62, mbtmp4.1/28, ML4.0/10, MS3.2/3, Ms1 3.2/3, ms1mx2.6/53, Error ellipse: s-maj=10.7km s-min=8.5km az=156.0*
CSEM ***29*** *04:13:33.4±0.1, 45°.71N×10°.93E, h7km, mb4.4/36, ML4.9/31, Mw3.9, Error ellipse: s-maj=1.5km s-min=1.3km az=171.0*
IASPEI ***29*** *04:13:33.8±0.8, 45°.72N±0°.02×10°.90E±0°.02, h14km±4km, mb4.4/49, MS3.5/4, Error ellipse: s-maj=2.3km s-min=2.2km az=162.9, GT5 selection from ISC bulletin GT5 identified by Bond˙ˇr and McLaughlin (2009) selection criteria Bond˙ˇr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ZUR ***29*** *04:13:34.8, 45°.73N×10°.79E, h16km, ML4.2/32*
ISCJB ***29*** *04:13:34.1±0.2, 45°.699N±0°.009×10°.93E±0°.01, h24km±1km, mb4.3/49, MS3.4/3, Error ellipse: s-maj=1.6km s-min=1.4km az=0.6*
VIE ***29*** *04:13:34.0±0.3, 45°.74N×10°.95E, h9km±2km, mb4.0/16, ML4.8/19, Error ellipse: s-maj=2.2km s-min=2.1km az=168.0*
PDG ***29*** *04:13:34.2±0.6, 45°.70N×10°.96E, h18km±1km, ML4.5/11, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
ROM ***29*** *04:13:34.3±0.2, 45°.71N×10°.91E, h10km±2km, ML4.3/69, Error ellipse: s-maj=1.7km s-min=1.3km az=97.0*
NEIC ***29*** *04:13:34.0±0.0, 45°.71N×10°.92E, h9km, mb4.5/18, MW3.9, ML4.2(ZUR), ML4.2(ROM), ML4.4(LDG), Moment Tensor Solution. s32 Moment tensor: Scale 10^{14}Nm; M_{rr}8.23; $M_{\theta\theta}$-8.27; $M_{\phi\phi}$0.04; $M_{r\theta}$2.19; $M_{r\phi}$-2.52; $M_{\theta\phi}$1.19; Best double couple: $M_0$9.00000×10^{14} NP1:$\phi_1$259.00000°, δ37.00000°, λ96.00000°. NP2:$\phi_2$70.00000°, δ53.00000°, λ85.00000°. Principal axes: T 8.6100, Plg81.0000°, Azm317.0000°; N 0.7000, Plg4.0000°, Azm73.0000°; P -9.3100, Plg8.0000°, Azm164.0000°; After ROM.*
NEIC Felt [V] at Erbezzo and [IV] in the Thiene-Trento-Verona area. Felt in much of Emilia-Romagna, Lombardy, Trentino-Alto Adige and Veneto.
LDG ***29*** *04:13:35.8±0.2, 45°.61N×10°.91E, h10km, Ml4.4/31 Error ellipse: s-maj=3.2km s-min=2.6km az=79.0*
PRU ***29*** *04:13:35.5, 45°.68N×10°.83E, h24km, M4.5*
GEN ***29*** *04:13:36.3, 45°.71N×10°.92E, h9km, ML4.4*
BNS ***29*** *04:13:36.8±0.2, 45°.75N×11°.09E, h10km, ML4.0*
BGR ***29*** *04:13:37.6±0.8, 45°.88N×10°.95E, h10km, ML4.5/13, Error ellipse: s-maj=11.1km s-min=6.7km az=169.0*
BGR Peoples awoke, felt in Innsbruck mainly in upper floors.
ISC 29 04:13:34.1±0.6, 45°.72N±0°.01×10°.87E±0°.01, h16km±3km, n858, σ1°49/1065, mb4.4/49, MS3.5/4, 81C-44D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALD	**Monte Baldo**	**0.05**	**227**	⇑*i*Pg	**Pg**	**04 13 37.1**	**-0.2**
BALD				*e*Sg	**Sg**	**04 13 39.1**	**-0.3**
BALD	**Monte Baldo**	**0.05**	**227**	*i* Pg	**Pg**	**04 13 37.1**	**-0.2**
BALD				*e*Sg	**Sg**	**04 13 39.1**	**-0.3**
MAGA	**Magasa**	**0.18**	**288**	Pg	**Pb**	**04 13 39.1**	**0.0**
MAGA				Sg	**Sb**	**04 13 42.8**	**+0.3**
114μm,0.5s							
MAGA	**Magasa**	**0.18**	**288**	Pg	**Pb**	**04 13 39.1**	**0.0**
MAGA				S	**Sb**	**04 13 43.0**	**+0.5**
MAGA	**Magasa**	**0.18**	**288**	P	**Pb**	**04 13 39.1**	**0.0**
MAGA				S	**Sb**	**04 13 43.0**	**+0.5**
MARN	**Marana (Italy)**	**0.25**	**109**	⇑*e*Pg	**Pg**	**04 13 38.5**	**-1.1**
MARN				*e*Sg	**Sg**	**04 13 41.4**	**-2.0**
MARN	**Marana (Italy)**	**0.25**	**109**	*e*Pg	**Pg**	**04 13 38.5**	**-1.1**
MARN				*e*Sg	**Sg**	**04 13 41.4**	**-2.0**
SALO	**Salr**	**0.27**	**248**	Pg	**Pb**	**04 13 40.5**	**0.0**
SALO				Sg	**Sg**	**04 13 44.4**	**+0.6**
26μm,0.6s							
SALO	**Salr**	**0.27**	**248**	⇑*i*Pg	**Pb**	**04 13 40.5**	**0.0**
25μm,0.9s							
SALO	**Salr**	**0.27**	**248**	⇑*i*Pg	**Pb**	**04 13 40.5**	**0.0**
25μm,0.9s							
DDS	**Dosso del Somm**	**0.27**	**54**	⇓*i*Pg	**Pg**	**04 13 39.6**	**-0.5**
DDS				*e*Sg	**Sg**	**04 13 43.1**	**-1.1**
DDS	**Dosso del Somm**	**0.27**	**54**	*i* Pg	**Pg**	**04 13 39.6**	**-0.5**
DDS				*e*Sg	**Sg**	**04 13 43.1**	**-1.1**
RNI	**Roncone**	**0.31**	**326**	⇓*e*Pg	**Pb**	**04 13 41.4**	**-0.1**
RNI				*e*Sg	**Sb**	**04 13 46.7**	**+0.3**
RNI	**Roncone**	**0.31**	**326**	*e*Pg	**Pb**	**04 13 41.4**	**-0.1**
RNI				*e*Sg	**Sb**	**04 13 46.7**	**+0.3**
MABI	**Malga Bissina**	**0.42**	**323**	Pg	**Pb**	**04 13 43.0**	**-0.2**
MABI				Sg	**Sb**	**04 13 49.5**	**0.0**
4μm,0.3s							
MABI	**Malga Bissina**	**0.42**	**323**	⇓*i*Pg	**Pb**	**04 13 43.0**	**-0.2**
18μm,0.2s							
MABI	**Malga Bissina**	**0.42**	**323**	P	**Pb**	**04 13 43.0**	**-0.2**
MABI				Sg	**Sb**	**04 13 49.5**	**0.0**
4μm,0.3s							
MABI	**Malga Bissina**	**0.42**	**323**	P	**Pb**	**04 13 43.0**	**-0.2**
MABI				S	**Sb**	**04 13 49.5**	**0.0**
PANI	**Panarotta**	**0.46**	**44**	⇓*e*Pg	**Pg**	**04 13 43.1**	**-0.2**
PANI				*e*Sg	**Sg**	**04 13 48.8**	**-0.9**
GAZZ	**Gazzo Veronese**	**0.63**	**166**	⇓*e*Pg	**Pb**	**04 13 46.4**	**-0.3**
GAZZ	**Gazzo Veronese**	**0.63**	**166**	*e*Pg	**Pb**	**04 13 46.3**	**-0.3**
TEOL	**Teolo**	**0.67**	**122**	Pg	**Pg**	**04 13 46.1**	**-1.1**
31μm,0.3s							
TEOL	**Teolo**	**0.67**	**122**	⇓*e*Pg	**Pg**	**04 13 46.0**	**-1.1**
TEOL	**Teolo**	**0.67**	**122**	P	**Pg**	**04 13 46.0**	**-1.1**
TEOL				S	**Sg**	**04 13 54.6**	**-1.3**
TEOL	**Teolo**	**0.67**	**122**	P	**Pg**	**04 13 46.0**	**-1.1**
TEOL				S	**Sg**	**04 13 54.6**	**-1.3**
CGRP	**Cima Grappa**	**0.67**	**76**	Pg	**Pg**	**04 13 46.3**	**-0.9**
CGRP				Sg	**Sg**	**04 13 54.9**	**-1.2**
12μm,0.5s							
CGRP	**Cima Grappa**	**0.67**	**76**	⇑*e*Pg	**Pg**	**04 13 46.1**	**-1.0**
CGRP				*e*Sg	**Sg**	**04 13 54.9**	**-1.2**
CGRP	**Cima Grappa**	**0.67**	**76**	P	**Pg**	**04 13 46.2**	**-1.0**
CGRP				S	**Sg**	**04 13 54.6**	**-1.5**
CGRP				Sg	**Sg**	**04 13 54.9**	**-1.2**
12μm,0.5s							
CGRP	**Cima Grappa**	**0.67**	**76**	P	**Pg**	**04 13 46.2**	**-1.0**
CGRP				S	**Sg**	**04 13 54.6**	**-1.5**
SBPO	**S.Benedetto Po**	**0.67**	**177**	Pg	**Pb**	**04 13 47.3**	**-0.1**
14μm,0.6s							
SBPO	**S.Benedetto Po**	**0.67**	**177**	Pg	**Pb**	**04 13 47.3**	**-0.1**
14μm,0.6s							
OZOL	**Ozolo**	**0.70**	**10**	⇑*e*Pg	**Pb**	**04 13 47.7**	**-0.2**
OZOL	**Ozolo**	**0.70**	**10**	*e*Pg	**Pb**	**04 13 47.7**	**-0.2**
CARE	**Lago del Cares**	**0.72**	**350**	⇑*e*Pg	**Pb**	**04 13 48.5**	**+0.1**
CARE	**Lago del Cares**	**0.72**	**350**	*e*Pg	**Pb**	**04 13 48.5**	**+0.1**
APPI	**Appiano**	**0.80**	**18**	Pg	**Pb**	**04 13 49.6**	**0.0**
APPI				Sg	**Sb**	**04 14 00.4**	**+0.1**
26μm,0.3s							
APPI	**Appiano**	**0.80**	**18**	Pg	**Pb**	**04 13 49.6**	**0.0**
APPI				Sg	**Sb**	**04 14 00.4**	**+0.1**
26μm,0.3s							
KOSI	**Kohlern**	**0.82**	**25**	Pg	**Pb**	**04 13 49.9**	**-0.2**
KOSI				Sg	**Sb**	**04 14 01.3**	**+0.3**
10μm,0.3s							
KOSI	**Kohlern**	**0.82**	**25**	Pg	**Pb**	**04 13 49.9**	**-0.2**
KOSI				Sg	**Sb**	**04 14 01.3**	**+0.3**
10μm,0.3s							
KOSI				S	**Sb**	**04 14 01.6**	**+0.6**
KOSI	**Kohlern**	**0.82**	**25**	P	**Pb**	**04 13 50.0**	**-0.2**
KOSI				S	**Sb**	**04 14 01.6**	**+0.6**
BRMO	**Bormio**	**0.83**	**335**	Pg	**Pb**	**04 13 50.6**	**+0.4**
BRMO				Sg	**Sb**	**04 14 02.3**	**+1.0**
BRMO	**Bormio**	**0.83**	**335**	Pg	**Pb**	**04 13 50.6**	**+0.4**
BRMO				Sg	**Sb**	**04 14 02.3**	**+1.0**
BRMO	**Bormio**	**0.83**	**335**	P	**Pb**	**04 13 50.6**	**+0.4**
BRMO				S	**Sb**	**04 14 02.3**	**+1.0**
BOSI	**Bolzano**	**0.83**	**22**	Pg	**Pg**	**04 13 50.4**	**+0.1**
BOSI				Sg	**Sn**	**04 14 02.4**	**-0.8**
23μm,0.3s							
BOSI	**Bolzano**	**0.83**	**22**	Pg	**Pg**	**04 13 50.4**	**+0.1**
BOSI				Sg	**Sn**	**04 14 02.4**	**-0.8**
23μm,0.3s							
MTLO	**Montello**	**0.86**	**83**	⇑*e*Pg	**Pg**	**04 13 50.4**	**-0.5**
MTLO	**Montello**	**0.86**	**83**	*e*Pg	**Pg**	**04 13 50.3**	**-0.5**
VARN	**Col Varnada, M**	**0.90**	**72**	⇑*e*Pg	**Pb**	**04 13 50.2**	**-1.2**
VARN	**Col Varnada, M**	**0.90**	**72**	*e*Pg	**Pb**	**04 13 50.2**	**-1.2**
BERNI	**Berninapass**	**0.91**	**320**	Pg	**Pg**	**04 13 52.1**	**+0.3**
BERNI				Sg	**Sn**	**04 14 05.5**	**0.0**
2μm,0.5s							
BERNI	**Berninapass**	**0.91**	**320**	⇓*i*Pn	Pb	04 13 46.2	-5.5
8μm,0.3s							
BERNI	**Berninapass**	**0.91**	**320**	Pg	**Pg**	**04 13 52.1**	**+0.3**
BERNI				Sg	**Sn**	**04 14 05.5**	**0.0**
2μm,0.5s							
BERNI				S	**Sn**	**04 14 06.1**	**+0.6**
BERNI	**Berninapass**	**0.91**	**320**	P	**Pg**	**04 13 52.1**	**+0.3**
BERNI				S	**Sn**	**04 14 06.0**	**+0.6**
MOSI	**Grossmontoni**	**0.93**	**346**	Pg	**Pg**	**04 13 52.1**	**+0.1**
13μm,0.5s							
MOSI	**Grossmontoni**	**0.93**	**346**	*i* Pn	**Pb**	**04 13 49.9**	**-2.0**
48μm,0.5s							
MOSI	**Grossmontoni**	**0.93**	**346**	*i* P	**Pb**	**04 13 49.9**	**-2.0**
48μm,0.5s							
MOSI	**Grossmontoni**	**0.93**	**346**	Pg	**Pg**	**04 13 52.1**	**+0.1**
13μm,0.5s							
NOVE	**Novellara**	**0.93**	**187**	Pg	**Pn**	**04 13 52.4**	**0.0**
NOVE				Sg	**Sn**	**04 14 06.5**	**+1.1**
52μm,0.9s							
NOVE	**Novellara**	**0.93**	**187**	Pg	**Pn**	**04 13 52.4**	**0.0**
NOVE				S	**Sn**	**04 14 05.0**	**-0.4**
NOVE	**Novellara**	**0.93**	**187**	P	**Pn**	**04 13 52.5**	**0.0**
NOVE				S	**Sn**	**04 14 05.0**	**-0.4**
RAVA	**Ravarino**	**0.98**	**170**	Pg	**Pn**	**04 13 53.0**	**-0.1**
113μm,0.5s							
RAVA	**Ravarino**	**0.98**	**170**	Pg	**Pn**	**04 13 53.0**	**-0.1**
113μm,0.5s							
RAVA	**Ravarino**	**0.98**	**170**	P	**Pn**	**04 13 53.1**	**-0.1**
AGOR	**Agordo**	**0.99**	**55**	Pg	**Pb**	**04 13 52.3**	**-0.6**
AGOR				Sg	**Sb**	**04 14 05.4**	**-0.4**
11μm,0.3s							
AGOR	**Agordo**	**0.99**	**55**	⇑*e*Pg	**Pb**	**04 13 52.1**	**-0.8**
FUORN	**Ofenpass-Fuorn**	**0.99**	**335**	Pg	**Pg**	**04 13 53.5**	**+0.1**
FUORN				Sg	**Sg**	**04 14 07.0**	**+0.5**
5μm,0.6s							
FUORN	**Ofenpass-Fuorn**	**0.99**	**335**	⇓*i*Pn	**Pb**	**04 13 50.4**	**-2.7**
13μm,0.6s							
FUORN	**Ofenpass-Fuorn**	**0.99**	**335**	⇓*i*P	**Pb**	**04 13 50.4**	**-2.7**
13μm,0.6s							
FUORN	**Ofenpass-Fuorn**	**0.99**	**335**	Pg	**Pg**	**04 13 53.5**	**+0.1**
FUORN				Sg	**Sg**	**04 14 07.0**	**+0.5**
5μm,0.6s							
FUORN	**Ofenpass-Fuorn**	**0.99**	**335**	*e*Pg	**Pg**	**04 13 53.5**	**+0.1**
PRMA	**PARMA**	**1.03**	**203**	Pg	**Pg**	**04 13 54.8**	**+0.7**
12μm,0.5s							
PRMA	**PARMA**	**1.03**	**203**	Pg	**Pg**	**04 13 54.8**	**+0.7**
12μm,0.5s							
ABSI	**Aberstueckl**	**1.05**	**17**	Pg	**Pn**	**04 13 54.3**	**-0.1**
ABSI				Sg	**Sn**	**04 14 08.8**	**-0.1**
16μm,0.3s							
ABSI	**Aberstueckl**	**1.05**	**17**	Pg	**Pn**	**04 13 54.3**	**-0.1**
ABSI				Sg	**Sn**	**04 14 08.8**	**-0.1**
16μm,0.3s							
CAE	**Caneva**	**1.13**	**75**	⇑*e*Pg	**Pg**	**04 13 55.4**	**-0.5**
CAE	**Caneva**	**1.13**	**75**	*e*Pg	**Pg**	**04 13 55.4**	**-0.5**
POLC	**Polcenigo**	**1.18**	**74**	⇑*e*Pg	**Pg**	**04 13 56.1**	**-0.6**
POLC	**Polcenigo**	**1.18**	**74**	*e*Pg	**Pg**	**04 13 56.1**	**-0.6**
IESO	**Jesolo**	**1.19**	**99**	⇑*e*Pg	**Pb**	**04 13 56.1**	**-0.1**
IESO	**Jesolo**	**1.19**	**99**	*e*Pg	**Pb**	**04 13 56.2**	**-0.1**
AFL	**Alpe Faloria**	**1.22**	**48**	*e*Pg	**Pb**	**04 13 56.8**	**-0.1**
AFL	**Alpe Faloria**	**1.22**	**48**	*e*Pg	**Pb**	**04 13 56.8**	**-0.1**
CIMO	**Cimolais**	**1.24**	**61**	⇓*e*Pg	**Pb**	**04 13 57.0**	**-0.2**
CIMO	**Cimolais**	**1.24**	**61**	*e*Pg	**Pb**	**04 13 57.0**	**-0.2**
VDL	**Val di Lei**	**1.25**	**308**	⇓*i*Pn	Pn	04 13 51.9	-5.2
7μm,0.4s							
ROSI	**Rosskopf**	**1.27**	**17**	Pg	**Pg**	**04 13 58.1**	**-0.4**
ROSI				Sg	**Sg**	**04 14 15.4**	**+0.4**
17μm,0.3s							
ROSI	**Rosskopf**	**1.27**	**17**	Pg	**Pg**	**04 13 58.1**	**-0.4**
ROSI				Sg	**Sg**	**04 14 15.4**	**+0.4**
17μm,0.3s							
DAVOX	**Davos/Dischmat**	**1.27**	**327**	Pg	**Pg**	**04 13 58.3**	**-0.2**
372nm,0.3s,baz=128,slow=17,SNR=1316							
DAVOX				Lg	Lg	04 14 16.4	
642nm,0.3s,baz=280,slow=18,SNR=14							
DAVOX	**Davos/Dischmat**	**1.27**	**327**	Pg	**Pg**	**04 13 58.5**	**0.0**
3μm,0.5s							
DAVOX	**Davos/Dischmat**	**1.27**	**327**	⇓*i*Pn	Pn	04 13 52.1	-5.2
11μm,0.6s							
MLNI	**Malnisio**	**1.29**	**70**	⇑*e*Pn	**Pb**	**04 13 57.7**	**-0.2**
MLNI	**Malnisio**	**1.29**	**70**	*e*Pg	**Pb**	**04 13 57.7**	**-0.2**
MUGIO	**Muggio**	**1.30**	**280**	Pg	**Pb**	**04 13 58.3**	**+0.2**
4μm,0.4s							
MUGIO	**Muggio**	**1.30**	**280**	⇑*i*Pn	Pn	04 13 52.2	-5.4
13μm,0.4s							
MUGIO	**Muggio**	**1.30**	**280**	Pg	**Pb**	**04 13 58.3**	**+0.2**
4μm,0.4s							
TUE	**Stuetta**	**1.30**	**306**	Pg	**Pg**	**04 13 58.9**	**-0.3**
5μm,0.5s							
TUE	**Stuetta**	**1.30**	**306**	⇓*i*Pn	**Pn**	**04 13 53.5**	**-4.3**
13μm,0.5s							
TUE	**Stuetta**	**1.30**	**306**	⇓*i*P	**Pn**	**04 13 53.5**	**-4.3**
13μm,0.5s							
TUE	**Stuetta**	**1.30**	**306**	Pg	**Pg**	**04 13 58.9**	**-0.3**
5μm,0.5s							
TUE				*e*Sn	**Sg**	**04 14 16.4**	**+0.2**
TUE	**Stuetta**	**1.30**	**306**	*e*Pn	**Pg**	**04 13 58.9**	**-0.3**
TUE				*e*Sn	**Sg**	**04 14 16.4**	**+0.2**
FETA	**Feichten**	**1.30**	**356**	Pg	**Pg**	**04 13 59.1**	**-0.1**
1μm,0.3s,SNR=1000							
FETA				Sg	**Sg**	**04 14 17.2**	**+0.9**
384nm,0.3s							
GRAM	**Graiana**	**1.35**	**205**	P	**Pb**	**04 13 59.4**	**+0.3**
ZCCA	**Zocca**	**1.37**	**177**	Pg	**Pg**	**04 14 00.4**	**-0.1**
5μm,0.6s							
ZCCA	**Zocca**	**1.37**	**177**	Pg	**Pg**	**04 14 00.4**	**-0.1**
5μm,0.6s							
BOB	**Bobbio (Coli)**	**1.39**	**227**	Pg	**Pb**	**04 14 00.0**	**+0.3**
3μm,0.7s							
BOB	**Bobbio (Coli)**	**1.39**	**227**	Pg	**Pb**	**04 14 00.0**	**+0.3**
3μm,0.7s							
STAL	**STALIGIAL**	**1.39**	**66**	Pg	**Pb**	**04 13 59.1**	**-0.6**
STAL				Sg	**Sg**	**04 14 18.8**	**-0.1**
17μm,0.2s							
STAL	**STALIGIAL**	**1.39**	**66**	Pg	**Pb**	**04 13 59.1**	**-0.6**
STAL				Sg	**Sg**	**04 14 18.8**	**-0.1**
17μm,0.2s							
MTRZ	**Monterenzio**	**1.41**	**162**	Pg	**Pg**	**04 14 03.1**	**+1.9**
10μm,0.6s							
CSMI	**Casera Mimoias**	**1.47**	**57**	⇑*e*Pg	**Pg**	**04 14 01.4**	**-0.9**
CSMI	**Casera Mimoias**	**1.47**	**57**	*e*Pg	**Pg**	**04 14 01.4**	**-0.9**
RISI	**Rein**	**1.48**	**34**	Pg	**Pg**	**04 14 01.9**	**-0.8**
RISI				Sg	**Sg**	**04 14 21.3**	**-0.7**
41μm,0.4s							
RISI	**Rein**	**1.48**	**34**	Pg	**Pg**	**04 14 01.9**	**-0.8**
RISI				Sg	**Sg**	**04 14 21.3**	**-0.7**
41μm,0.4s							
IMOL	**Imola, Italy**	**1.49**	**155**	Pg	**Pg**	**04 14 02.9**	**+0.1**
2μm,0.7s							
IMOL	**Imola, Italy**	**1.49**	**155**	Pg	**Pg**	**04 14 02.9**	**+0.1**
2μm,0.7s							
CODM	**Codolo**	**1.51**	**209**	P	**Pb**	**04 14 01.9**	**+0.1**
CODM				S	**Sb**	**04 14 21.6**	**+0.8**
SQTA	**Sankt Quirin**	**1.52**	**9**	Pg	**Pg**	**04 14 02.6**	**-0.7**
SQTA				Sg	**Sg**	**04 14 22.9**	**-0.2**
ABTA	**Abfaltersbach**	**1.53**	**47**	Pg	**Pb**	**04 14 02.4**	**+0.2**
1μm,0.3s,SNR=1000							
ABTA				Sg	**Sg**	**04 14 23.7**	**+0.2**
1μm,0.2s							
FNVD	**Fontana Vidola**	**1.56**	**173**	Pg	**Pb**	**04 14 02.9**	**+0.3**
3μm,0.5s							
FNVD	**Fontana Vidola**	**1.56**	**173**	Pg	**Pb**	**04 14 02.9**	**+0.3**
3μm,0.5s							
MPRI	**Monte Prat**	**1.56**	**70**	⇑*e*Pg	**Pb**	**04 14 01.8**	**-0.9**
MPRI	**Monte Prat**	**1.56**	**70**	*e*Pg	**Pb**	**04 14 01.8**	**-0.9**
SARO	**Sassorosso**	**1.57**	**192**	P	**Pb**	**04 14 03.3**	**+0.5**
SARO				S	**Sb**	**04 14 22.2**	**-0.3**
TLI	**Talmassons**	**1.57**	**82**	*e*Pg	**Pn**	**04 14 01.5**	**+0.2**
TLI	**Talmassons**	**1.57**	**82**	*e*Pg	**Pn**	**04 14 01.5**	**+0.2**
FVI	**Forni Avoltri**	**1.59**	**56**	Pg	**Pb**	**04 14 03.1**	**0.0**
6μm,0.5s							
FVI	**Forni Avoltri**	**1.59**	**56**	P	**Pb**	**04 14 02.7**	**-0.4**
FVI	**Forni Avoltri**	**1.59**	**56**	P	**Pb**	**04 14 02.7**	**-0.4**
FVI	**Forni Avoltri**	**1.59**	**56**	Pg	**Pb**	**04 14 03.1**	**0.0**
6μm,0.5s							
VLC	**Villacollemand**	**1.60**	**193**	Pg	**Pg**	**04 14 04.2**	**-0.6**
3μm,0.8s							
VLC	**Villacollemand**	**1.60**	**193**	*e*Pn	**Pb**	**04 14 03.2**	**0.0**
VLC	**Villacollemand**	**1.60**	**193**	Pg	**Pg**	**04 14 04.2**	**-0.6**
3μm,0.8s							
VLC				*e*Sn	**Sn**	**04 14 22.4**	**+0.4**
VLC	**Villacollemand**	**1.60**	**193**	*e*Pn	**Pb**	**04 14 03.2**	**0.0**
VLC				*e*Sn	**Sn**	**04 14 22.4**	**+0.4**
SC2M	**Scurtabo**	**1.62**	**216**	Pg	**Pb**	**04 14 03.4**	**-0.2**
3μm,0.5s							
SC2M	**Scurtabo**	**1.62**	**216**	P	**Pb**	**04 14 03.3**	**-0.3**
SC2M				S	**Sg**	**04 14 25.1**	**-1.2**
WTTA	**Wattenberg**	**1.63**	**19**	Pg	**Pb**	**04 14 04.2**	**+0.3**
87nm,3.2s							
WTTA	**Wattenberg**	**1.63**	**19**	Pg	**Pb**	**04 14 04.3**	**+0.3**
230nm,0.2s,SNR=298							
WTTA				Sg	**Sg**	**04 14 25.7**	**-1.0**
2μm,0.2s							
MOTA	**Moosalm**	**1.63**	**5**	Pg	**Pg**	**04 14 04.7**	**-0.8**
279nm,0.2s,SNR=1000							
MOTA				Sg	**Sg**	**04 14 27.0**	**+0.3**
519nm,0.3s							
FUSE	**Fusea**	**1.64**	**64**	⇑*e*Pg	**Pn**	**04 14 02.7**	**+0.5**
FUSE	**Fusea**	**1.64**	**64**	*e*Pg	**Pn**	**04 14 02.7**	**+0.5**
BUA	**Buia**	**1.65**	**72**	⇑*e*Pg	**Pb**	**04 14 02.9**	**-1.1**
BUA	**Buia**	**1.65**	**72**	*e*Pg	**Pb**	**04 14 02.9**	**-1.1**
PANIX	**Pigniu (Panix)**	**1.65**	**313**	⇓*i*Pn	Pn	04 13 54.3	-8.2
4μm,0.5s							
BOO	**Bordano**	**1.66**	**68**	*e*Pg	**Pn**	**04 14 02.8**	**+0.2**
BOO	**Bordano**	**1.66**	**68**	*e*Pg	**Pn**	**04 14 02.8**	**+0.2**
BDI	**Bagni Di Lucca**	**1.67**	**187**	Pg	**Pb**	**04 14 05.0**	**+0.5**
4μm,0.6s							
BDI	**Bagni Di Lucca**	**1.67**	**187**	P	**Pb**	**04 14 03.4**	**-1.1**
BDI	**Bagni Di Lucca**	**1.67**	**187**	P	**Pb**	**04 14 03.4**	**-1.1**
BDI	**Bagni Di Lucca**	**1.67**	**187**	Pg	**Pb**	**04 14 05.0**	**+0.5**
4μm,0.6s							

PCP	Piancastagn	2.03	235	Pg	Pn	04 14 09.0	+1.4
	865nm,0.5s						
ASQU	Asqua	2.03	161	Pg	Pn	04 14 08.8	+1.1
	3µm,0.7s						
BNALP	Bannalp	2.05	305	Pg	Pb	04 14 11.3	+0.3
	2µm,0.8s						
BNALP	Bannalp	2.05	305	Pg	Pb	04 14 11.3	+0.3
	2µm,0.8s						
FIESA	Fiescheralp	2.05	291⇑	iPn	Pn	04 14 01.8	-6.4
	4µm,1.0s						
MMK	Mattmark	2.06	280	Pg	Pn	04 14 08.5	+0.3
	1µm,0.5s						
CADS	Cadrg	2.06	75	iPn	Pn	04 14 08.0	-0.1
CADS				iSn	Sn	04 14 34.5	+1.0
CADS	Cadrg	2.06	75	iPn	Pn	04 14 08.0	-0.1
CADS				iSn	Sn	04 14 34.5	+1.0
SATI	Passo dei Sala	2.11	275	Pg	Pn	04 14 08.1	-0.9
	2µm,0.6s						
VOJS	Vojsko	2.12	80	iPn	Pn	04 14 08.8	-0.2
VOJS				iSn	Sb	04 14 38.3	-0.1
VOJS	Vojsko	2.12	80	iPn	Pn	04 14 08.8	-0.2
VOJS				iSn	Sb	04 14 38.3	-0.1
MYKA	Terra Mystica	2.13	64	Pn	Pn	04 14 09.8	+0.8
	8.2nm,0.2s,SNR=203						
MYKA				Sn	Sn	04 14 34.8	-0.4
	539nm,0.2s						
WILA	Wila	2.17	322⇑	ePn	Pn	04 14 04.8	-4.8
	10µm,0.5s						
CPGN	Carpegna, Ital	2.18	151	Pg	Pn	04 14 10.4	+0.6
	1929µm,24.0s						
EMBD	Embd, Matterta	2.18	284⇑	iPn	Pn	04 14 03.9	-5.9
	2µm,0.8s						
KBA	Koelnbreinsper	2.18	51	P	Pb	04 14 11.4	-1.9
KBA	Koelnbreinsper	2.18	51	Pn	Pn	04 14 11.1	+1.2
	150nm,0.3s,SNR=211						
KBA	Koelnbreinsper	2.18	51	P	Pb	04 14 11.4	-1.9
KBA				Sn	Sn	04 14 37.5	+0.8
	361nm,0.2s						
KBA				Sg	Sg	04 14 42.9	-1.4
TRAV	Traversella	2.20	266	Pg	Pn	04 14 09.0	-1.1
	585nm,0.5s						
TRAV	Traversella	2.20	266⇑	iPn	Pn	04 14 05.1	-5.0
	14µm,0.3s						
CSNT	Castellina Chi	2.27	172	Pg	Pn	04 14 11.2	+0.3
	897nm,0.7s						
LAUCH	Lauchernalp	2.27	289⇑	iPn	Pn	04 14 05.9	-5.2
	5µm,0.8s						
QLNO	Quiliano	2.27	233	Pg	Pn	04 14 11.8	+0.8
	959nm,0.8s						
PARC	Parchiule	2.29	154	Pg	Pn	04 14 11.8	+0.6
CIRO	Champorcher	2.32	268	Pg	Pn	04 14 10.5	-1.4
	983nm,0.7s						
CIRO	Champorcher	2.32	268⇑	iPn	Pn	04 14 06.3	-5.6
	8µm,0.5s						
LKBD2	Leukerbad 2	2.34	287⇑	iPn	Pn	04 14 06.6	-5.5
LKBD	Leukerbad	2.36	288⇑	ePn	Pn	04 14 08.7	-3.6
	2µm,0.6s						
LKBD	Leukerbad	2.36	288⇑	ePn	Pn	04 14 08.7	-3.6
	2µm,0.6s						
FINB	Finale Ligure	2.38	230	Pg	Pn	04 14 12.6	+0.2
	2µm,0.4s						
GROG	Isola di Gorgo	2.40	197	Pg	Pn	04 14 13.2	+0.5
	948nm,0.6s						
BADI	Badiali	2.42	156	Pg	Pn	04 14 13.9	+0.9
	1µm,0.8s						
FSSB	Fossombrone	2.44	146	Pg	Pn	04 14 13.0	-0.3
	2µm,0.4s						
DIX	Grande Dixence	2.45	280	Pg	Pn	04 14 14.3	+0.7
	716nm,0.5s						
WIMIS	Wimmis	2.45	294⇑	iPn	Pn	04 14 09.0	-4.4
	3µm,0.6s						
WIMIS	Wimmis	2.45	294⇑	iPn	Pn	04 14 09.0	-4.4
	3µm,0.6s						
ATMC	Monte Cedrone	2.46	157	Pg	Pn	04 14 14.0	+0.4
	1µm,0.5s						
FUR	Furstenfeldbru	2.46	6	ePn	Pn	04 14 15.5	+1.9
FUR	Furstenfeldbru	2.46	6	Pn	Pn	04 14 15.5	+1.9
MPAG	Monte Paganucc	2.49	147	Pg	Pn	04 14 13.8	-0.2
	1µm,0.6s						
CEY	Cerknica	2.49	88⇑	iPn	Pn	04 14 13.5	-0.4
CAFI	Castiglion Fio	2.52	162	Pg	Pn	04 14 14.7	+0.4
	718nm,0.6s						
RORO	Rocca Rossa	2.56	232	Pg	Pn	04 14 15.0	+0.1
	510nm,0.8s						
LJU	Ljubljana	2.57	81	ePn	Pn	04 14 15.1	0.0
LJU				e		04 14 20.0	
LJU				eSn	Sb	04 14 52.0	+0.8
LJU	Ljubljana	2.57	81⇑	iPn	Pn	04 14 15.0	0.0
SENIN	Lac Senin/Sane	2.57	286⇑	iPn	Pn	04 14 09.4	-5.9
	1µm,0.8s						
SENIN	Lac Senin/Sane	2.57	286	ePn	Pn	04 14 16.9	+1.6
SENIN	Lac Senin/Sane	2.57	286	ePn	Pn	04 14 16.9	+1.6
ACHB	Acheberg	2.60	317⇑	ePn	Pn	04 14 10.1	-5.3
	3µm,0.7s						
RSP	Reno Superiore	2.60	259	Pg	Pn	04 14 13.9	-1.7
TRIF	Trifonti	2.60	180	Pg	Pn	04 14 16.1	+0.5
	688nm,0.8s						
SLE	Schleitheim	2.62	322	P	Pn	04 14 18.1	+2.3
SLE	Schleitheim	2.62	322⇑	iPn	Pn	04 14 10.5	-5.3
	7µm,0.5s						
SLE	Schleitheim	2.62	322	P	Pn	04 14 18.1	+2.3
LSD	Lago del Serru	2.64	266	Pg	Pn	04 14 15.1	-1.1
	516nm,0.4s						
SSFR	Montelago di S	2.66	148	Pg	Pn	04 14 16.4	+0.1
	2µm,0.3s						
ARVD	Arcevia	2.67	146	Pg	Pn	04 14 16.4	0.0
	596nm,0.7s						
OBKA	Obir	2.67	72	Pn	Pn	04 14 17.0	+0.4
	10nm,0.1s,SNR=37						
OBKA				Sg	Sg	04 14 59.9	-0.1
	995nm,0.3s						
GRYON	Gryon	2.68	283	ePn	Pn	04 14 10.8	-5.8
	406nm,0.8s						
BHB	Bricherasio	2.70	252	Pg	Pn	04 14 15.8	-1.0
	517nm,0.8s						
MURB	Monte Urbino	2.73	154	Pg	Pn	04 14 17.9	+0.7
	2µm,0.3s						
SPAK	Spaichingen-Ko	2.78	330	P	Pn	04 14 20.1	+2.1
IMI	Imperia	2.79	231	Pg	Pn	04 14 18.2	+0.1
	598nm,0.6s						
AIGLE	Aigle	2.80	284⇑	iPn	Pn	04 14 12.5	-5.8
	2µm,10.0s						
DOI	San Damiano	2.84	246	P	Pn	04 14 18.9	0.0
DOI	San Damiano	2.84	246	P	Pn	04 14 18.9	0.0
LPG	La Plagne	2.90	267	ePn	Pn	04 14 19.7	-0.2
	SNR=1.0						
LPG	La Plagne	2.90	267	eP	Pb	04 14 23.8	-1.8
LPG				eSg	Sg	04 15 06.4	-0.9
LPG	La Plagne	2.90	267	eP	Pn	04 14 19.7	-0.2
LPG	La Plagne	2.90	267	ePn	Pn	04 14 19.7	-0.2
	SNR=1.0						
LPG	La Plagne	2.90	267	eP	Pb	04 14 23.8	-1.8
LPG				eSg	Sg	04 15 06.4	-0.9
LPG	La Plagne	2.90	267	ePn	Pn	04 14 19.7	-0.2
LPL	La Plagne	2.91	267	ePn	Pn	04 14 20.1	+0.1
	SNR=1.0						
LPL	La Plagne	2.91	267	eP	Pn	04 14 20.1	+0.1
LPL	La Plagne	2.91	267	ePn	Pn	04 14 20.1	+0.1
	SNR=1.0						
LPL	La Plagne	2.91	267	ePn	Pn	04 14 20.1	+0.1
TORNY	Torny/Romont	2.91	293⇑	iPn	Pn	04 14 12.6	-7.2
	973nm,0.4s						
FELD	Feldberg im Sc	2.92	319	P	Pn	04 14 21.7	+1.7
RSL	Roselend	2.98	271	P	Pn	04 14 22.5	+1.7
RSL	Roselend	2.98	271	P	Pn	04 14 22.5	+1.7
OG01	Vacheresse	2.98	283	P	Pn	04 14 22.9	+2.1
OG01				S	Sb	04 15 04.8	+1.7
OG01	Vacheresse	2.98	283	P	Pn	04 14 22.9	+2.1
BNI	Bardonecchia	3.03	259	eP	Pn	04 14 21.5	0.0
BNI				e		04 15 00.4	
BNI	Bardonecchia	3.03	259	eP	Pn	04 14 21.5	0.0
BNI				eS	Sn	04 15 00.4	+2.8
BNI	Bardonecchia	3.03	259	ePn	Pn	04 14 21.5	0.0
BNI				eSn	Sn	04 15 00.4	+2.8
SOKA	Soboth	3.04	70	Pn	Pn	04 14 22.0	+0.4
	14nm,0.3s,SNR=25						
SOKA				Sg	Sg	04 15 11.5	-0.3
	313nm,0.3s						
NVLJ	Novalja	3.06	111	iPn	Pn	04 14 21.4	-0.3
NVLJ				Sn	Sn	04 14 55.4	-2.5
NVLJ	Novalja	3.06	111	iPn	Pn	04 14 21.4	-0.3
NVLJ				Sn	Sn	04 14 55.4	-2.5
MBDF	Montbardon	3.06	253	ePn	Pn	04 14 21.5	-0.5
	SNR=1.0						
MBDF	Montbardon	3.06	253	eP	Pn	04 14 21.5	-0.5
MBDF	Montbardon	3.06	253	ePn	Pn	04 14 21.5	-0.5
	SNR=1.0						
SBF	Sospel	3.07	234	ePn	Pn	04 14 22.7	+0.7
	SNR=1.0						
SBF	Sospel	3.07	234	ePg	Pg	04 14 31.7	-1.2
SBF				eSn	Sn	04 14 55.0	-3.5
	1µm,0.5s,SNR=1.0						
SBF	Sospel	3.07	234	eP	Pn	04 14 22.7	+0.7
SBF	Sospel	3.07	234	ePn	Pn	04 14 22.7	+0.7
	SNR=1.0						
SBF	Sospel	3.07	234	ePg	Pg	04 14 31.7	-1.2
SBF				eSn	Sn	04 14 55.0	-3.5
	522nm,0.5s,SNR=1.0						
SBF	Sospel	3.07	234	ePn	Pn	04 14 22.7	+0.7
BFO	Black Forest	3.14	327	iP	Pn	04 14 25.1	+2.2
BFO	Black Forest	3.14	327	ePn	Pn	04 14 25.2	+2.4
BFO	Black Forest	3.14	327	ePn	Pn	04 14 24.9	+2.0
BFO	Black Forest	3.14	327	ePn	Pn	04 14 24.9	+2.0
MOA	Molln	3.16	46	Pn	Pn	04 14 24.8	+1.7
	10nm,0.2s,SNR=68						
MOA				Sn	Sn	04 15 02.0	+1.5
	87nm,0.2s						
REVF	Revere	3.19	233	P	Pn	04 14 22.7	-0.9
REVF				S	Sn	04 15 04.0	+2.7
REVF	Revere	3.19	233	P	Pn	04 14 22.7	-0.9
REVF				S	Sn	04 15 04.0	+2.7
CRES	Cresnjev	3.21	86⇑	iPn	Pn	04 14 23.2	-0.6
OZLJ	Ozalj	3.22	90	ePn	Pn	04 14 25.1	+1.2
OZLJ	Ozalj	3.22	90	ePn	Pn	04 14 25.1	+1.2
LOMF	Lomont	3.23	302	P	Pn	04 14 25.9	+1.6
LOMF	Lomont	3.23	302	P	Pn	04 14 25.9	+1.6
STU	Stuttgart	3.26	340	eP	Pn	04 14 25.6	+1.1
STU	Stuttgart	3.26	340	ePn	Pn	04 14 26.5	+2.0
STU	Stuttgart	3.26	340	eP	Pn	04 14 25.6	+1.1
STU	Stuttgart	3.26	340	ePg	Pg	04 14 36.3	-0.2
STU	Stuttgart	3.26	340	ePn	Pn	04 14 25.6	+1.1
STU				ePg	Pg	04 14 36.3	-0.2
BRANT	Les Verrieres	3.28	293⇑	iPn	Pn	04 14 13.6	-11
	733nm,0.6s						
GIMEL	St. Georges /	3.31	286⇑	iPn	Pn	04 14 13.8	-11
	558nm,0.4s						
MOF	Molkenrain	3.34	311	P	Pn	04 14 27.5	+1.8
MOF	Molkenrain	3.34	311	P	Pn	04 14 27.5	+1.8
GDM	Grand'Maison	3.39	263	P	Pn	04 14 28.2	+1.8
GDM				S	Sb	04 15 13.2	-1.6
GDM	Grand'Maison	3.39	263	P	Pn	04 14 28.2	+1.8
CABF	La Chapelle	3.44	287	ePn	Pn	04 14 28.7	+1.6
	SNR=1.0						
CABF				eSn	Sn	04 15 08.4	+0.8
	1µm,1.0s						
CABF				eSg	Sg	04 15 23.6	-1.0
CABF	La Chapelle	3.44	287	eP	Pn	04 14 28.7	+1.6
CABF	La Chapelle	3.44	287	ePn	Pn	04 14 28.7	+1.6
	SNR=1.0						
CABF				eSn	Sn	04 15 08.4	+0.8
	559nm,1.0s						
CABF				eSg	Sg	04 15 23.6	-1.0
CABF	La Chapelle	3.44	287	ePn	Pn	04 14 28.7	+1.6
CABF				eSg	Sg	04 15 23.6	-1.0
PGF	Pioggiola	3.45	204	ePn	Pn	04 14 27.1	-0.1
	SNR=1.0						
PGF				eSn	Sn	04 15 04.7	-3.0
	398nm,0.5s						
PGF	Pioggiola	3.45	204	eP	Pn	04 14 27.1	-0.1
PGF	Pioggiola	3.45	204	ePn	Pn	04 14 27.1	-0.1
	SNR=1.0						
PGF				eSn	Sn	04 15 04.7	-3.0
	199nm,0.5s						
PGF	Pioggiola	3.45	204	ePn	Pn	04 14 27.1	-0.1
HINF	Hinterlalfeld	3.47	309	ePn	Pn	04 14 29.0	+1.6
	SNR=1.0						
HINF	Hinterlalfeld	3.47	309	eP	Pb	04 14 32.0	-3.1
HINF				eSn	Sn	04 15 08.1	-0.1
	832nm,0.7s,SNR=1.0						
HINF	Hinterlalfeld	3.47	309	eP	Pn	04 14 29.0	+1.6
HINF	Hinterlalfeld	3.47	309	ePn	Pn	04 14 29.0	+1.6
	SNR=1.0						
HINF	Hinterlalfeld	3.47	309	eP	Pb	04 14 32.0	-3.1
HINF				eSn	Sn	04 15 08.1	-0.1
	416nm,0.7s,SNR=1.0						
HINF	Hinterlalfeld	3.47	309	ePn	Pn	04 14 29.0	+1.6
ARSA	Arzberg	3.56	63	ePn	Pn	04 14 29.0	+0.4
ARSA	Arzberg	3.56	63	Pn	Pn	04 14 29.0	+0.4
ARSA				Sn	Sn	04 15 10.3	-0.1
	58nm,0.5s						
ECH	Echery	3.56	316	P	Pn	04 14 30.7	+2.0
ECH	Echery	3.56	316	eP	Pn	04 14 30.6	+1.9
ECH				e		04 15 11.4	
ECH	Echery	3.56	316	eP	Pn	04 14 30.6	+1.9
ECH				eS	Sn	04 15 11.4	+0.9
ECH	Echery	3.56	316	ePn	Pn	04 14 30.6	+1.9
ECH				eSn	Sn	04 15 11.4	+0.9
ZAG	Zagreb	3.58	86	ePn	Pn	04 14 30.6	+1.7
ORIF	Oris-en-Rattie	3.61	259	ePn	Pn	04 14 31.5	+2.0
	SNR=1.0						
ORIF	Oris-en-Rattie	3.61	259	eP	Pn	04 14 33.0	+3.5
ORIF	Oris-en-Rattie	3.61	259	ePg	Pg	04 14 41.6	-1.7
ORIF				eSn	Sn	04 15 08.6	-3.2
	444nm,0.6s,SNR=1.0						
ORIF	Oris-en-Rattie	3.61	259	eP	Pn	04 14 31.5	+2.0
ORIF	Oris-en-Rattie	3.61	259	ePn	Pn	04 14 31.5	+2.0
	SNR=1.0						
ORIF	Oris-en-Rattie	3.61	259	eP	Pn	04 14 33.0	+3.5
ORIF	Oris-en-Rattie	3.61	259	ePg	Pg	04 14 41.6	-1.7
ORIF				eSn	Sn	04 15 08.6	-3.2
	222nm,0.6s,SNR=1.0						
ORIF	Oris-en-Rattie	3.61	259	ePn	Pn	04 14 31.5	+2.0
GRN	Grenoble	3.64	264	P	Pn	04 14 31.4	+1.6
GRN	Grenoble	3.64	264	P	Pn	04 14 31.4	+1.6
CDF	Champ du Feu	3.65	319	ePn	Pn	04 14 31.8	+1.9
	SNR=1.0						
CDF	Champ du Feu	3.65	319	eP	Pb	04 14 34.6	-3.6
CDF				eSn	Sn	04 15 12.8	+0.1
	634nm,0.6s,SNR=1.0						
CDF	Champ du Feu	3.65	319	eP	Pn	04 14 31.8	+1.9
CDF				e		04 15 12.8	
CDF	Champ du Feu	3.65	319	ePn	Pn	04 14 31.8	+1.9
	SNR=1.0						
CDF	Champ du Feu	3.65	319	eP	Pb	04 14 34.6	-3.6
CDF				eSn	Sn	04 15 12.8	+0.1
	317nm,0.6s,SNR=1.0						
CDF	Champ du Feu	3.65	319	ePn	Pn	04 14 31.8	+1.9
CDF				eSn	Sn	04 15 12.8	+0.1
UDBI	Udbina	3.66	107	iPn	Pn	04 14 31.1	+1.0
UDBI				Sn	Sn	04 15 12.4	-0.5
GEC2	GERESS Array S	3.67	31	eP	Pn	04 14 31.1	+0.8
GEC2	GERESS Array S	3.67	31	ePn	Pn	04 14 31.1	+0.8
GEC2	GERESS Array S	3.67	31	Pn	Pn	04 14 31.1	+0.8
GEC2	GERESS Array S	3.67	31	ePn	Pn	04 14 31.1	+0.8
GERES	GERESS Array B	3.67	31	Pn	Pn	04 14 31.2	+0.8
	13nm,0.3s,baz=203,slow=14,SNR=326						
GERES				Sn	Sn	04 15 13.0	-0.3
	89nm,0.3s,baz=204,slow=25,SNR=7.3						
GERES				Lg	Lg	04 15 28.1	
	189nm,0.3s,baz=208,slow=33,SNR=12						
WET	Wettzell	3.69	21	P	Pn	04 14 31.2	+0.8
WET	Wettzell	3.69	21	ePn	Pn	04 14 31.3	+0.8
WET				eSg	Sg	04 15 29.3	-3.0
WET	Wettzell	3.69	21	P	Pn	04 14 31.2	+0.8
WET				Sg	Sg	04 15 29.3	-3.0
FRF	La Foret Royal	3.71	236	ePn	Pn	04 14 31.0	+0.3
	SNR=1.0						
FRF	La Foret Royal	3.71	236	ePg	Pg	04 14 42.7	-2.4
FRF	La Foret Royal	3.71	236	eP	Pn	04 14 31.0	+0.3
FRF	La Foret Royal	3.71	236	ePn	Pn	04 14 31.0	+0.3
	SNR=1.0						
FRF	La Foret Royal	3.71	236	ePg	Pg	04 14 42.7	-2.4
FRF	La Foret Royal	3.71	236	ePn	Pn	04 14 31.0	+0.3
AQU	L'Aquila	3.83	151	eP	Pn	04 14 32.7	+0.3
AQU	L'Aquila	3.83	151	eP	Pn	04 14 32.7	+0.3
AQU	L'Aquila	3.83	151	ePn	Pn	04 14 32.7	+0.3
HAU	Haudompre	3.86	308	ePn	Pn	04 14 34.5	+1.8
	SNR=1.0						
HAU	Haudompre	3.86	308	eP	Pb	04 14 37.9	-3.8
HAU				eSn	Sn	04 15 18.6	+0.9
	590nm,0.5s,SNR=1.0						
HAU				eSg	Sg	04 15 38.7	+0.9
HAU	Haudompre	3.86	308	eP	Pn	04 14 34.5	+1.8
HAU				e		04 15 18.6	
HAU	Haudompre	3.86	308	ePn	Pn	04 14 34.5	+1.8
	SNR=1.0						
HAU	Haudompre	3.86	308	eP	Pb	04 14 37.9	-3.8
HAU				eSn	Sn	04 15 18.6	+0.9
	295nm,0.5s,SNR=1.0						
HAU				eSg	Sg	04 15 38.7	+0.9
HAU	Haudompre	3.86	308	ePn	Pn	04 14 34.5	+1.8
HAU				eSn	Sn	04 15 18.6	+0.9
SISC	Sisak	3.87	92	ePn	Pn	04 14 32.8	0.0
SISC				Sn	Sn	04 15 19.6	+1.6
SISC	Sisak	3.87	92	ePn	Pn	04 14 32.8	0.0
SISC				Sn	Sn	04 15 19.5	+1.6
LANF	Langenberg	3.87	329	P	Pn	04 14 35.0	+2.1
LANF	Langenberg	3.87	329	P	Pn	04 14 35.0	+2.1
KHC	Kasperske Hory	3.88	27	ePN	Pn	04 14 34.0	+1.0
KHC				ePG	Pg	04 14 46.7	-1.6
KHC				eSN	Sn	04 15 19.7	+0.8
KHC				eSG	Sg	04 15 35.4	-3.0
	comp=Z,389nm,0.3s						
KHC				AMS	AMS	04 16 00.0	
	comp=Z,1µm,7.9s						
KHC	Kasperske Hory	3.88	27	eP	Pn	04 14 34.0	+1.0
KHC				e		04 15 18.9	
KHC	Kasperske Hory	3.88	27	Pn	Pn	04 14 34.0	+1.0
KHC	Kasperske Hory	3.88	27	ePn	Pn	04 14 34.0	+1.0
KHC				ePg	Pg	04 14 46.0	-2.2
KHC				eSn	Sn	04 15 18.9	+0.7
KHC				eSg	Sg	04 15 35.5	-2.9
LMR	La Mourre	3.93	234	ePn	Pn	04 14 33.8	+0.1
	SNR=1.0						
LMR	La Mourre	3.93	234	eP	Pn	04 14 33.8	+0.1
LMR	La Mourre	3.93	234	ePn	Pn	04 14 33.8	+0.1
	SNR=1.0						
LMR	La Mourre	3.93	234	ePn	Pn	04 14 33.8	+0.1
GRFO	Grafenberg	3.98	3	eP	Pn	04 14 34.2	-0.2
GRFO				e		04 15 22.1	
GRFO	Grafenberg	3.98	3	eP	Pn	04 14 34.2	-0.2
GRFO	Grafenberg	3.98	3	ePg	Pg	04 14 48.9	-1.4
GRFO				eS	Sn	04 15 22.1	+1.4
GRFO	Grafenberg	3.98	3	ePn	Pn	04 14 34.2	-0.2
GRFO				ePg	Pg	04 14 48.9	-1.4
GRFO				eSn	Sn	04 15 22.1	+1.4
GRA1	Grafenberg Arr	3.98	3	Pn	Pn	04 14 34.5	+0.1
GRA1	Grafenberg Arr	3.98	3	P	Pn	04 14 35.1	+0.7
GRF	Grafenberg Arr	3.98	3	P	Pn	04 14 35.1	+0.7
GRF	Grafenberg Arr	3.98	3	ePn	Pn	04 14 34.5	+0.1
KTD	Kalmit	4.07	333	P	Pn	04 14 37.7	+2.0
CONA	Conrad Observa	4.07	55	Sn	Sn	04 15 26.6	+3.4
	206nm,0.7s						
TOD	Tromm	4.13	341	P	Pn	04 14 38.1	+1.6
TOD	Tromm	4.13	341	P	Pn	04 14 37.9	+1.4
ROTZ	Rotzenmuhle	4.15	12	ePn	Pn	04 14 36.9	+0.2
ROTZ	Rotzenmuhle	4.15	12	Pn	Pn	04 14 36.9	+0.2
SMRF	Simiane la Rot	4.15	247	ePn	Pn	04 14 37.3	+0.5
	SNR=1.0						
SMRF	Simiane la Rot	4.15	247	eP	Pn	04 14 39.9	+3.1
SMRF	Simiane la Rot	4.15	247	ePn	Pn	04 14 37.3	+0.5
	SNR=1.0						
SMRF	Simiane la Rot	4.15	247	eP	Pn	04 14 39.9	+3.1
SMRF	Simiane la Rot	4.15	247	ePn	Pn	04 14 37.3	+0.5
BEHE	Becsehely	4.17	78	ePn	Pn	04 14 36.3	-0.8
BEHE	Becsehely	4.17	78⇑	ePn	Pn	04 14 36.4	-0.7
BEHE				ex	x	04 15 48.0	
THEF	They Montfort	4.18	309	P	Pn	04 14 38.6	+1.4
THEF	They Montfort	4.18	309	P	Pn	04 14 38.6	+1.4
LEPF	PUYLOUBIER	4.30	241	P	Pn	04 14 38.8	0.0
LEPF	PUYLOUBIER	4.30	241	P	Pn	04 14 38.8	0.0
MANZ	Manzenberg	4.35	11	ePn	Pn	04 14 39.4	-0.1
MANZ	Manzenberg	4.35	11	Pn	Pn	04 14 39.4	-0.1
VIVF	Saint-Julien-I	4.46	261	ePn	Pn	04 14 41.7	+0.6
	SNR=1.0						
VIVF				eSn	Sn	04 15 30.2	-2.5
	53nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-I	4.46	261	eP	Pn	04 14 41.7	+0.6
VIVF	Saint-Julien-I	4.46	261	ePn	Pn	04 14 41.7	+0.6
	SNR=1.0						
VIVF				eSn	Sn	04 15 30.2	-2.5
	26nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-I	4.46	261	ePn	Pn	04 14 41.7	+0.6
SSB	Saint Sauveur	4.47	267	P	Pn	04 14 42.0	+0.7
SSB	Saint Sauveur	4.47	267	eP	Pn	04 14 41.7	+0.5
SSB	Saint Sauveur	4.47	267	eP	Pn	04 14 41.7	+0.5
SSB				eSg	Sg	04 15 54.7	-3.0
SSB	Saint Sauveur	4.47	267	ePn	Pn	04 14 41.7	+0.5
SSB				eSg	Sg	04 15 54.7	-3.0
PAGF	Fort de Pagny	4.51	311	ePn	Pn	04 14 43.9	+2.1
	baz=122						
PAGF	Fort de Pagny	4.51	311	ePn	Pn	04 14 43.9	+2.1
PAGF	Fort de Pagny	4.51	311	ePn	Pn	04 14 43.9	+2.1
BLY	Banja Luka	4.56	100	ePn	Pn	04 14 41.7	-0.7
BLY	Banja Luka	4.56	100	ePn	Pn	04 14 41.7	-0.7
NKC	Novy Kostel	4.64	13	ePN	Pn	04 14 44.1	+0.6
NKC				ePG	Pg	04 15 01.4	-1.4
NKC				eSN	Sn	04 15 36.9	-0.1
NKC				AMS	AMS	04 16 30.0	
	comp=Z,900nm,8.1s						
NKC	Novy Kostel	4.64	13	eP	Pn	04 14 44.1	+0.6
NKC				e		04 15 36.9	
NKC				MLR

comp=N,315nm,0.6s
SMF Signal de Mont 4.97 283 *e*Pn **Pn 04 14 49.1 +1.0**
SNR=1.0
SMF Signal de Mont 4.97 283 *e*P Pn 04 14 53.0 +4.9
SMF *e*Sn **Sn 04 15 43.6 -1.6**
comp=N,238nm,0.4s,SNR=1.0
SMF Signal de Mont 4.97 283 *e*P **Pn 04 14 49.1 +1.0**
SMF *e* 04 15 43.6
SMF Signal de Mont 4.97 283 *e*Pn **Pn 04 14 49.1 +1.0**
SNR=1.0
SMF Signal de Mont 4.97 283 *e*P Pn 04 14 53.0 +4.9
SMF *e*Sn **Sn 04 15 43.6 -1.6**
comp=N,119nm,0.4s,SNR=1.0
SMF Signal de Mont 4.97 283 *e*Pn **Pn 04 14 49.1 +1.0**
SMF *e*Sn **Sn 04 15 43.6 -1.6**
WLF Walferdange 5.07 323 P **Pn 04 14 53.8 +4.4**
WLF Walferdange 5.07 323 *e*P **Pn 04 14 51.6 +2.2**
WLF Walferdange 5.07 323 *e*P **Pn 04 14 51.6 +2.2**
WLF Walferdange 5.07 323 *e*Pn **Pn 04 14 51.6 +2.2**
PLDF La Plantade 5.07 275 P **Pn 04 14 50.1 +0.6**
PLDF La Plantade 5.07 275 P **Pn 04 14 50.1 +0.6**
BGG Burgeitz 5.08 333 *e*Pn **Pn 04 14 52.2 +2.7**
BGG *e*Sn **Sn 04 15 49.6 +1.9**
comp=N,86nm,0.6s
BGG Burgeitz 5.08 333 Pn **Pn 04 14 52.2 +2.7**
BGG Sn **Sn 04 15 49.6 +1.9**
comp=N,86nm,0.6s
LOR Lormes 5.09 290 *e*Pn **Pn 04 14 50.7 +1.1**
baz=115,SNR=1.0
LOR *e*Sn **Sn 04 15 46.6 -1.4**
comp=N,128nm,0.3s,baz=117,SNR=1.0
LOR Lormes 5.09 290 *e*P **Pn 04 14 50.7 +1.1**
LOR *e* 04 15 46.6
LOR Lormes 5.09 290 *e*Pn **Pn 04 14 50.7 +1.1**
SNR=1.0
LOR *e*Sn **Sn 04 15 46.6 -1.4**
comp=N,64nm,0.3s,baz=117,SNR=1.0
LOR Lormes 5.09 290 *e*Pn **Pn 04 14 50.7 +1.1**
LOR *e*Sn **Sn 04 15 46.6 -1.4**
LASF Ste Croix 5.25 254 *e*Pn **Pn 04 14 51.5 -0.4**
SNR=1.0
LASF *e*Sn **Sn 04 15 48.7 -3.4**
comp=N,68nm,0.4s,SNR=1.0
LASF Ste Croix 5.25 254 *e*Pn **Pn 04 14 51.5 -0.4**
SNR=1.0
LASF *e*Sn **Sn 04 15 48.7 -3.4**
comp=N,34nm,0.4s,SNR=1.0
LASF Ste Croix 5.25 254 *e*Pn **Pn 04 14 51.5 -0.4**
SSF Saint Saulge 5.27 287 *e*Pn **Pn 04 14 53.2 +1.0**
SNR=1.0
SSF *e*Sn **Sn 04 15 51.7 -0.9**
SSF Saint Saulge 5.27 287 *e*P **Pn 04 14 53.2 +1.0**
SSF *e* 04 15 51.7
SSF Saint Saulge 5.27 287 *e*Pn **Pn 04 14 53.2 +1.0**
SNR=1.0
SSF *e*Sn **Sn 04 15 51.7 -0.9**
SSF Saint Saulge 5.27 287 *e*Pn **Pn 04 14 53.2 +1.0**
SSF *e*Sn **Sn 04 15 51.7 -0.9**
SMOL Smolenice 5.28 56 *e*P **Pn 04 14 53.0 +0.8**
SMOL Smolenice 5.28 56 *e*P **Pn 04 14 53.0 +0.8**
SMOL *e*Sg **Sg 04 16 23.8 +0.5**
SMOL Smolenice 5.28 56 *e*PN **Pn 04 14 53.0 +0.8**
SMOL *e*SG **Sg 04 16 23.8 +0.5**
VRAC Vranov 5.28 45 Pn **Pn 04 14 52.7 +0.5**
comp=N,1.9nm,0.3s,baz=241,slow=13,SNR=8.7
VRAC Pg **Pb 04 15 09.9 +3.9**
comp=N,8.8nm,0.3s,baz=223,slow=16,SNR=14
VRAC Sn **Sn 04 15 54.1 +1.2**
comp=N,8.9nm,0.3s,baz=248,slow=11,SNR=5.6
VRAC Lg Lg 04 16 19.0
comp=N,41nm,0.3s,baz=139,slow=22,SNR=15
VRAC LR LR 04 17 25.6
comp=N,122nm,20.3s,baz=227,slow=44
VRAC Vranov 5.28 45⇑*i*P **Pn 04 14 52.8 +0.5**
AVF Avril sur Loir 5.33 284 *e*Pn **Pn 04 14 54.0 +1.1**
SNR=1.0
AVF *e*Sn **Sn 04 15 52.7 -1.2**
comp=N,70nm,0.6s
AVF Avril sur Loir 5.33 284 *e*P **Pn 04 14 54.0 +1.1**
AVF *e* 04 15 52.7
AVF Avril sur Loir 5.33 284 *e*Pn **Pn 04 14 54.0 +1.1**
SNR=1.0
AVF *e*Sn **Sn 04 15 52.7 -1.2**
comp=N,35nm,0.6s
AVF Avril sur Loir 5.33 284 *e*Pn **Pn 04 14 54.0 +1.1**
AVF *e*Sn **Sn 04 15 52.7 -1.2**
CSKK Cs^‡kako 5.35 69 *e*Pn **Pn 04 14 53.7 +0.4**
CSKK Cs^‡kako 5.35 69 *e*Pn **Pn 04 14 53.7 +0.4**
LBL Lubilhac 5.39 268 P **Pn 04 14 54.2 +0.4**
LBL Lubilhac 5.39 268 P **Pn 04 14 54.2 +0.4**
PVCC Panska Ves 5.41 26 *e*PN **Pn 04 14 54.8 +0.8**
PVCC Panska Ves 5.41 26 *e*P **Pn 04 14 54.8 +0.8**
PVCC Panska Ves 5.41 26 Pn **Pn 04 14 54.8 +0.8**
AGO Saint Agoulin 5.42 276 P **Pn 04 14 54.9 +0.7**
AGO Saint Agoulin 5.42 276 P **Pn 04 14 54.9 +0.7**
PYM Petit Puy Mans 5.51 273 P **Pn 04 14 56.0 +0.5**
PYM Petit Puy Mans 5.51 273 P **Pn 04 14 56.0 +0.5**
BRG Berggiesshubel 5.55 21 PN **Pn 04 14 56.8 +0.9**
BRG *i* 04 15 10.4
BRG Berggiesshubel 5.55 21 PG **Pg 04 15 17.5 -2.7**
BRG SN **Sn 04 15 58.4 -1.0**
BRG SG **Sg 04 16 28.3 -3.7**
comp=N,125nm,0.6s
comp=N,676nm,6.2s
comp=E,501nm,7.6s
comp=Z,932nm,8.0s
BRG Berggiesshubel 5.55 21 P **Pn 04 14 56.8 +0.9**
BRG 04 15 58.4
BRG smax smax
comp=N,125nm,0.6s
BRG MLR MLR
comp=N,676nm,6.2s
BRG MLR MLR
comp=E,501nm,7.6s
BRG MLR MLR
comp=Z,932nm,8.0s
BRG Berggiesshubel 5.55 21 P **Pn 04 14 56.8 +0.9**
STB Steinbach 5.57 333 *e*Pn **Pn 04 14 59.0 +2.7**
STB Steinbach 5.57 333 Pn **Pn 04 14 59.0 +2.7**
BGF Bois d'Agland 5.64 281 *e*Pn **Pn 04 14 58.0 +0.7**
SNR=1.0
BGF *e*Sn **Sn 04 15 59.4 -2.3**
comp=Z,212nm,0.4s,SNR=1.0
BGF Bois d'Agland 5.64 281 *e*P **Pn 04 14 58.0 +0.7**
BGF *e* 04 15 59.4
BGF Bois d'Agland 5.64 281 *e*Pn **Pn 04 14 58.0 +0.7**
SNR=1.0
BGF Bois d'Agland 5.64 281 *e*Pn **Pn 04 14 58.0 +0.7**
BGF *e*Sn **Sn 04 15 59.4 -2.3**
CLL Collm 5.77 13 *e*P **Pn 04 14 59.3 +0.3**
CLL Collm 5.77 13 *e*Pn **Pn 04 14 59.0 +0.1**
CLL *e*Pg **Pg 04 15 23.0 -1.4**
CLL *e* 04 16 06.0
CLL *e*Sg **Sg 04 16 35.0 -4.0**
comp=Z,218nm,0.7s
CLL Collm 5.77 13 *e*Pn **Pn 04 14 59.2 +0.3**
HOBG Hohbusch 5.77 337 *e*Pn **Pn 04 15 01.9 +2.9**
HOBG Hohbusch 5.77 337 Pn **Pn 04 15 01.9 +2.9**
BNS Bensberg 5.80 336 *e*Pn **Pn 04 15 02.3 +3.0**
BNS Bensberg 5.80 336 Pn **Pn 04 15 02.3 +3.0**
KLL Kalltalsperre 5.80 330 *e*Pn **Pn 04 15 02.2 +2.8**
KLL Kalltalsperre 5.80 330 Pn **Pn 04 15 02.2 +2.8**
DREG Dreilaegerbach 5.84 330 *e*Pn **Pn 04 15 03.0 +3.1**
DREG Dreilaegerbach 5.84 330 Pn **Pn 04 15 03.0 +3.1**
MEM Membach 5.88 328 P **Pn 04 15 03.6 +3.2**
HYF Humbligny 5.89 288 *e*Pn **Pn 04 15 02.0 +1.3**
HYF Humbligny 5.89 288 *e*P Pn 04 15 07.0 +6.3
HYF *e*Sn **Sn 04 16 05.9 -2.0**
HYF Humbligny 5.89 288 *e*Pn **Pn 04 15 02.0 +1.3**
HYF Humbligny 5.89 288 *e*Pn **Pn 04 15 02.0 +1.3**
HYF *e*Sn **Sn 04 16 05.9 -2.0**
KRLC Kraliky 5.89 40 *e*PN **Pn 04 15 01.2 +0.4**
KRLC *e*SN **Sn 04 16 06.9 -1.1**
KRLC Kraliky 5.89 40 *e*P **Pn 04 15 01.2 +0.4**
KRLC *e* 04 16 06.9
KRLC Kraliky 5.89 40 Pn **Pn 04 15 01.2 +0.4**
UPC Upice 5.90 34 *e*PN **Pn 04 15 00.8 +0.1**
UPC *ex* x 04 16 37.4
comp=Z,423nm,0.7s
UPC AMS AMS 04 17 20.0
comp=Z,900nm,7.6s
UPC Upice 5.90 34 *e*P **Pn 04 15 00.8 +0.1**
UPC MLR MLR
comp=Z,900nm,7.6s
UPC Upice 5.90 34 Pn **Pn 04 15 00.8 +0.1**
DPC Dobruska-Polom 5.90 36 *e*PN **Pn 04 15 00.7 -0.1**
DPC *e*PG **Pg 04 15 22.6 -4.3**
DPC *e*SN **Sn 04 16 07.4 -0.7**
DPC *ex* x 04 16 36.9
comp=Z,222nm,0.5s
DPC AMS AMS 04 17 10.0
comp=Z,700nm,8.6s
DPC Dobruska-Polom 5.90 36 *e*P **Pn 04 15 00.7 -0.1**
DPC *e* 04 16 07.4
DPC smax smax
comp=N,222nm,0.5s
DPC MLR MLR
comp=Z,700nm,8.6s
DPC Dobruska-Polom 5.90 36 Pn **Pn 04 15 00.7 -0.1**
DPC Sn **Sn 04 16 07.4 -0.7**
GIVF Givet 5.98 319 *e*Pn **Pn 04 15 05.3 +3.4**
SNR=1.0
GIVF *e*Sn **Sn 04 16 07.3 -2.7**
comp=Z,162nm,0.7s,SNR=1.0
GIVF Givet 5.98 319 *e*P **Pn 04 15 05.3 +3.4**
GIVF Givet 5.98 319 *e*Pn **Pn 04 15 05.3 +3.4**
BCLA Clavier 6.00 324 P **Pn 04 15 05.8 +3.7**
HGN Heimansgroeve 6.03 329 *e*Pn **Pn 04 15 05.7 +3.2**
HGN *e*Sn **Sb 04 16 29.3 -1.3**
MORC Moravsky Berou 6.06 46⇓*i*P **Pn 04 15 03.8 +0.8**
MORC Moravsky Berou 6.06 46 ⇓P **Pn 04 15 03.8 +0.8**
MORC Moravsky Berou 6.06 46 *e*Pn **Pn 04 15 03.2 +0.2**
MORC Moravsky Berou 6.06 46 P **Pn 04 15 03.8 +0.8**
MORC *e*Sn **Sn 04 16 12.2 +0.2**
MORC Moravsky Berou 6.06 46 *e*Pn **Pn 04 15 03.2 +0.2**
MORC *e*Pg **Pb 04 15 23.1 +3.9**
MORC *e*Sg **Sg 04 16 41.6 -6.7**
TCF Toulx Ste Croi 6.06 278 *e*Pn **Pn 04 15 03.7 +0.6**
SNR=1.0
TCF *e*Sn **Sn 04 16 09.8 -2.3**
comp=Z,65nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 6.06 278 *e*P **Pn 04 15 03.7 +0.6**
TCF *e* 04 16 09.8
TCF Toulx Ste Croi 6.06 278 *e*Pn **Pn 04 15 03.7 +0.6**
SNR=1.0
TCF Toulx Ste Croi 6.06 278 *e*Pn **Pn 04 15 03.7 +0.6**
TCF *e*Sn **Sn 04 16 09.8 -2.3**
DOU Dourbes 6.08 318 P **Pn 04 15 06.8 +3.5**
VYHS Vyhne 6.10 60 *e*P **Pn 04 15 02.4 -1.2**
VYHS Vyhne 6.10 60 *e*P **Pn 04 15 02.4 -1.2**
VYHS Vyhne 6.10 60 *e*PN **Pn 04 15 02.4 -1.2**
BEBN Eben Emael 6.15 328 P **Pn 04 15 07.9 +3.8**
BRY Bratogost 6.18 114⇑*i*Pn **Pn 04 15 05.7 +0.9**
BRY *e*Sn **Sn 04 16 13.8 -1.3**
BRY Bratogost 6.18 114⇑*i*Pn **Pn 04 15 05.7 +0.9**
BRY *e*Sn **Sn 04 16 13.8 -1.3**
BAIF Baives 6.24 316 *e*Pn **Pn 04 15 07.4 +2.0**
SNR=1.0
BAIF *e*Sn **Sn 04 16 14.3 -2.1**
comp=Z,90nm,0.6s,SNR=1.0
BAIF Baives 6.24 316 *e*P **Pn 04 15 07.4 +2.0**
BAIF *e* 04 16 14.3
BAIF Baives 6.24 316 *e*Pn **Pn 04 15 07.4 +2.0**
SNR=1.0
BAIF Baives 6.24 316 *e*Pn **Pn 04 15 07.4 +2.0**
BAIF *e*Sn **Sn 04 16 14.3 -2.1**
CAF Calviac 6.26 266 *e*Pn **Pn 04 15 06.3 +0.5**
SNR=1.0
CAF Calviac 6.26 266 *e*P **Pn 04 15 06.3 +0.5**
CAF Calviac 6.26 266 *e*Pn **Pn 04 15 06.3 +0.5**
SNR=1.0
CAF Calviac 6.26 266 *e*Pn **Pn 04 15 06.3 +0.5**
KSP Ksiaz 6.27 33 *e*P **Pn 04 15 06.4 +0.5**
KSP *e* 04 15 31.6
KSP *e*S **Sg 04 16 49.0 -6.2**
KSP Ksiaz 6.27 33 *e*P **Pn 04 15 06.4 +0.5**
KSP Ksiaz 6.27 33 *e*P **Pn 04 15 06.4 +0.5**
UPM Unac-Piva 6.27 111⇑*i*Pn **Pn 04 15 06.5 +0.4**
UPM *e*Sn **Sn 04 16 16.0 -1.5**
UPM Unac-Piva 6.27 111⇑*i*Pn **Pn 04 15 06.5 +0.4**
FRGS Fruska Gora 6.31 92 *e*Pn **Pn 04 15 05.0 -1.5**
FGSL Fruska Gora 6.31 92 *e*Pn **Pn 04 15 06.5 0.0**
HCY Herceg Novi 6.39 118⇓*i*Pn **Pn 04 15 08.5 +1.0**
HCY *e*Sn **Sn 04 16 19.2 -0.9**
HCY Herceg Novi 6.39 118⇓*i*Pn **Pn 04 15 08.5 +1.0**
HCY *e*Sn **Sn 04 16 19.2 -0.9**
OKC Ostrava-Krasne 6.40 47 *e*PN **Pn 04 15 08.2 +0.6**
OKC AMS AMS 04 18 00.0
comp=Z,400nm,7.7s
OKC Ostrava-Krasne 6.40 47 *e*P **Pn 04 15 08.2 +0.6**
OKC MLR MLR
comp=Z,400nm,7.7s
OKC Ostrava-Krasne 6.40 47 Pn **Pn 04 15 08.2 +0.6**
NKME Niksic 6.51 114⇓*i*Pn **Pn 04 15 09.8 +0.6**
NKME *e*Sn **Sn 04 16 21.9 -1.3**
NKME Niksic 6.51 114⇓*i*Pn **Pn 04 15 09.8 +0.6**
NKME *e*Sn **Sn 04 16 21.9 -1.3**
SNF Seneffe 6.51 320 P **Pn 04 15 13.1 +4.0**
NKY Niksic 6.51 114⇓*i*Pn **Pn 04 15 09.9 +0.6**
NKY *e*Sn **Sn 04 16 21.2 -2.1**
NKY Niksic 6.51 114⇓*i*Pn **Pn 04 15 09.9 +0.6**
PLE Pljevlja 6.54 108⇓*i*Pn **Pn 04 15 10.4 +0.7**
PLE *e*Sn **Sn 04 16 22.7 -1.3**
PLE Pljevlja 6.54 108⇓*i*Pn **Pn 04 15 10.4 +0.7**
PLE *e*Sn **Sn 04 16 22.7 -1.3**
PSZ Piszkesteto 6.57 67⇓*i*P **Pn 04 15 10.6 +0.6**
PSZ Piszkesteto 6.57 67 *e*P **Pn 04 15 10.8 +0.7**
PSZ Piszkesteto 6.57 67⇑*e*Pn **Pn 04 15 10.7 +0.7**
PSZ Piszkesteto 6.57 67⇑*e*Pn **Pn 04 15 10.7 +0.7**
PSZ *e*Sn **Sn 04 16 23.4 -1.2**
PSZ Piszkesteto 6.57 67 *e*Pn **Pn 04 15 10.8 +0.7**
RJF Les Rejaudoux 6.59 270 *e*Pn **Pn 04 15 11.5 +1.2**
SNR=1.0
RJF Les Rejaudoux 6.59 270 *e*P **Pn 04 15 11.5 +1.2**
RJF Les Rejaudoux 6.59 270 *e*Pn **Pn 04 15 11.5 +1.2**
SNR=1.0
RJF Les Rejaudoux 6.59 270 *e*Pn **Pn 04 15 11.5 +1.2**
CEME Cevo 6.60 116⇓*i*Pn **Pn 04 15 11.5 +1.0**
CEME *e*Sn **Sn 04 16 23.8 -1.6**
CEME Cevo 6.60 116⇓*i*Pn **Pn 04 15 11.5 +1.0**
CEME *e*Sn **Sn 04 16 23.8 -1.6**
MTLF Montolieu 6.63 252 *e*Pn **Pn 04 15 10.4 -0.4**
SNR=1.0
MTLF *e*Sn **Sn 04 16 23.6 -2.4**
comp=Z,22nm,0.6s
MTLF Montolieu 6.63 252 *e*P **Pn 04 15 10.4 -0.4**
MTLF *e* 04 16 23.6
MTLF Montolieu 6.63 252 *e*Pn **Pn 04 15 10.4 -0.4**
MTLF *e*Sn **Sn 04 16 23.6 -2.4**
BUM Brajici-Budva 6.72 118⇑*i*Pn **Pn 04 15 13.0 +0.9**
BUM *e*Sn **Sn 04 16 27.1 -1.2**
BUM Brajici-Budva 6.72 118⇑*i*Pn **Pn 04 15 13.0 +0.9**
BUM *e*Sn **Sn 04 16 27.1 -1.2**
LANS Liptovska Anna 6.76 56 *e*P **Pn 04 15 13.5 +0.8**
LANS Liptovska Anna 6.76 56 *e*P **Pn 04 15 13.5 +0.8**
LANS Liptovska Anna 6.76 56 *e*PN **Pn 04 15 13.5 +0.8**
LANS Liptovska Anna 6.76 56 *e*SG **Sg 04 17 19.0 +8.1**
CUC Castrocucco 6.78 146 *e*Pn **Pn 04 15 13.8 +0.9**
CUC Castrocucco 6.78 146 *e*Pn **Pn 04 15 13.8 +0.9**
WTSB Winterswijk 6.80 338 *e*Pn **Pn 04 15 17.4 +4.3**
WTSB *e*Sn **Sb 04 16 45.4 -7.4**
KOME Kolasin 6.83 112⇓*i*Pn **Pn 04 15 14.4 +0.7**
KOME *e*Sn **Sn 04 16 29.8 -1.4**
KOME Kolasin 6.83 112⇓*i*Pn **Pn 04 15 14.4 +0.7**
KOME *e*Sn **Sn 04 16 29.8 -1.4**
PDG Podgorica 6.87 116⇑*i*P **Pn 04 15 13.6 -0.5**
PDG Podgorica 6.87 116⇑*i*Pn **Pn 04 15 15.1 +1.0**
TTG Podgorica 6.87 116⇑*i*Pn **Pn 04 15 15.1 +1.0**
TTG *e*Sn **Sn 04 16 30.1 -1.9**
DRME Dracevica, Mon 6.96 118⇓*i*Pn **Pn 04 15 16.5 +1.2**
DRME *e*Sn **Sn 04 16 32.4 -1.7**
DRME Dracevica, Mon 6.96 118⇓*i*Pn **Pn 04 15 16.5 +1.2**
ORI Oriolo Calabro 6.98 142 P **Pn 04 15 19.4 +3.8**
ORI Oriolo Calabro 6.98 142 P **Pn 04 15 19.4 +3.8**
BEY Berane 7.07 111⇓*i*Pn **Pn 04 15 17.7 +0.8**
IVA Berane 7.07 111⇓*i*Pn **Pn 04 15 17.7 +0.8**
IVA *e*Sn **Sn 04 16 35.2 -1.8**
KECS Kecovo 7.12 64 *e*P **Pn 04 15 17.1 -0.4**
KECS Kecovo 7.12 64 *e*P **Pn 04 15 17.1 -0.4**
KECS Kecovo 7.12 64 *e*PN **Pn 04 15 17.1 -0.4**
ULC Ulcinj 7.12 119⇑*i*Pn **Pn 04 15 18.6 +1.0**
ULC *e*Sn **Sn 04 16 36.5 -1.7**
ULC Ulcinj 7.12 119⇑*i*Pn **Pn 04 15 18.6 +1.0**
LFF La Frestale 7.19 267 *e*Pn **Pn 04 15 20.0 +1.6**
SNR=1.0
LFF La Frestale 7.19 267 *e*Pn **Pn 04 15 20.0 +1.6**
SNR=1.0
LFF La Frestale 7.19 267 *e*Pn **Pn 04 15 20.0 +1.6**
PVY Plav 7.24 112⇑*i*Pn **Pn 04 15 20.2 +0.9**
PVY *e*Sn **Sn 04 16 39.6 -1.7**
PVY Plav 7.24 112⇑*i*Pn **Pn 04 15 20.2 +0.9**
NIE Niedzica 7.37 56 *e*P **Pn 04 15 23.1 +2.0**
NIE *e*S Sg 04 17 49.4 +19
NIE Niedzica 7.37 56 *e*P **Pn 04 15 23.0 +2.0**
BZS Buzias 7.53 87⇓*i*P **Pn 04 15 23.8 +0.7**
BZS Buzias 7.53 87 ⇓P **Pn 04 15 23.8 +0.7**
BZS Buzias 7.53 87 *e*Pn **Pn 04 15 22.2 -0.9**
BZS Buzias 7.53 87 P **Pn 04 15 23.8 +0.7**
BZS Buzias 7.53 87 *e*Pn **Pn 04 15 22.2 -0.9**
BZS Buzias 7.53 87⇓*i*P **Pn 04 15 23.8 +0.7**
SIRR Siria 7.53 82⇑*i*P **Pn 04 15 23.8 +0.6**
SIRR Siria 7.53 82⇑*i*P **Pn 04 15 23.8 +0.6**
MFF Saint Martin d 7.70 281 *e*Pn **Pn 04 15 25.6 +0.1**
SNR=1.0
MFF *e*Sn **Sn 04 16 49.1 -3.3**
comp=Z,42nm,0.7s
MFF Saint Martin d 7.70 281 *e*P **Pn 04 15 25.6 +0.1**
MFF Saint Martin d 7.70 281 *e*Pn **Pn 04 15 25.6 +0.1**
SNR=1.0
MFF Saint Martin d 7.70 281 *e*Pn **Pn 04 15 25.6 +0.1**
MDVR Moldovita 7.71 93⇑*i*P **Pn 04 15 25.7 +0.1**
TIR Tirane 7.86 121⇑*i*P **Pn 04 15 27.4 -0.3**
TIR Tirane 7.86 121 *e*P **Pn 04 15 27.1 -0.6**
TIR *e* 04 16 53.0
TIR Tirane 7.86 121 *e*P **Pn 04 15 27.1 -0.6**
TIR Tirane 7.86 121 *e*Pn **Pn 04 15 27.1 -0.6**
TIR *e*Sn **Sn 04 16 53.0 -3.3**
CRVS Cervenica-Dubn 7.87 62 *e*P **Pn 04 15 28.8 +1.0**
CRVS Cervenica-Dubn 7.87 62 *e*P **Pn 04 15 28.8 +1.0**
CRVS Cervenica-Dubn 7.87 62 *e*PN **Pn 04 15 28.8 +1.0**
STHS Stebnicka Huta 7.93 58 *e*P **Pn 04 15 30.0 +1.4**
STHS Stebnicka Huta 7.93 58 *e*P **Pn 04 15 30.0 +1.4**
STHS Stebnicka Huta 7.93 58 *e*PN **Pn 04 15 30.0 +1.4**
EPF Esparros 8.01 254 *e*Pn **Pn 04 15 32.2 +2.4**
SNR=1.0
EPF Esparros 8.01 254 *e*P **Pn 04 15 32.2 +2.4**
EPF Esparros 8.01 254 *e*Pn **Pn 04 15 32.2 +2.4**
SNR=1.0
EPF Esparros 8.01 254 *e*Pn **Pn 04 15 32.2 +2.4**
LDF La Druitiere 8.03 295 *e*Pn **Pn 04 15 30.7 +0.7**
SNR=1.0
LDF *e*Sg 04 17 51.9
LDF La Druitiere 8.03 295 *e*P **Pn 04 15 30.7 +0.7**
LDF La Druitiere 8.03 295 *e*Pn **Pn 04 15 30.7 +0.7**
SNR=1.0
LDF *e*Sg 04 17 51.9
LDF La Druitiere 8.03 295 *e*Pn **Pn 04 15 30.7 +0.7**
LDF *e*Sg 04 17 51.9
DRGR 8.28 78⇓*i*P **Pn 04 15 35.4 +2.0**
DRGR 8.28 78 ⇓P **Pn 04 15 35.4 +2.0**
DRGR 8.28 78 P **Pn 04 15 35.4 +2.0**
FLN La Foliniere 8.30 296 *e*Pn **Pn 04 15 34.4 +0.6**
baz=116,SNR=1.0
FLN La Foliniere 8.30 296 *e*P **Pn 04 15 34.4 +0.6**
FLN La Foliniere 8.30 296 *e*Pn **Pn 04 15 34.4 +0.6**
SNR=1.0
FLN La Foliniere 8.30 296 *e*Pn **Pn 04 15 34.4 +0.6**
ZAGS Zajecar 8.30 99 *e*Pn **Pn 04 15 32.9 -0.9**
UZH Uzhgorod 8.31 65 *e*P Pn 04 15 39.1 +5.3
UZH *e*S **Sn 04 17 15.5 +8.3**
CLTB Caltabellotta 8.32 167 *e*Pn **Pn 04 15 34.5 +0.4**
CLTB Caltabellotta 8.32 167 *e*Pn **Pn 04 15 34.5 +0.4**
GRR Gorron 8.44 293 *e*Pn **Pn 04 15 36.0 +0.3**
SNR=1.0
GRR Gorron 8.44 293 *e*P Pn 04 15 41.3 +5.6
GRR *e*Sn **Sn 04 17 07.7 -2.9**
comp=Z,14nm,0.3s
GRR Gorron 8.44 293 *e*P **Pn 04 15 36.0 +0.3**
GRR Gorron 8.44 293 *e*Pn **Pn 04 15 36.0 +0.3**
SNR=1.0
GRR Gorron 8.44 293 *e*Pn **Pn 04 15 36.0 +0.3**
SKO Skopje 8.50 112 *i* Pn **Pn 04 15 36.0 -0.5**
OHR Ohrid 8.56 119 *e*Pn **Pn 04 15 37.2 -0.2**
ETSF Etsaut 8.67 255 *e*Pn **Pn 04 15 39.6 +0.7**
ETSF Etsaut 8.67 255 *e*P **Pn 04 15 39.6 +0.7**
ETSF Etsaut 8.67 255 *e*Pn **Pn 04 15 39.6 +0.7**
ETSF Etsaut 8.67 255 *e*Pn **Pn 04 15 39.6 +0.7**
SJPF Ste Jean 9.04 258 *e*Pn **Pn 04 15 42.2 -1.7**
SNR=1.0
SJPF Ste Jean 9.04 258 *e*P **Pn 04 15 42.2 -1.7**
SJPF Ste Jean 9.04 258 *e*Pn **Pn 04 15 42.2 -1.7**
SNR=1.0
SJPF Ste Jean 9.04 258 *e*Pn **Pn 04 15 42.2 -1.7**
FNA Florina 9.11 119 P **Pn 04 15 45.4 +0.5**
FNA Florina 9.11 119 P **Pn 04 15 45.4 +0.5**
VTS Vitosha 9.40 105 *e*P **Pn 04 15 46.9 -2.1**
VTS Vitosha 9.40 105 *e*P **Pn 04 15 46.9 -2.1**
VTS Vitosha 9.40 105 *e*Pn **Pn 04 15 46.9 -2.1**
SGMF Saint Gilles 9.52 290 *e*Pn **Pn 04 15 50.9 +0.4**
SNR=1.0
SGMF *e*Sn **Sn 04 17 33.3 -3.8**
comp=Z,18nm,0.4s
SGMF Saint Gilles 9.52 290 *e*P **Pn 04 15 50.9 +0.4**
SGMF *e* 04 17 33.3
SGMF Saint Gilles 9.52 290 *e*Pn **Pn 04 15 50.9 +0.4**
SNR=1.0
SGMF Saint Gilles 9.52 290 *e*Pn **Pn 04 15 50.9 +0.4**
SGMF *e*Sn **Sn 04 17 33.3 -3.8**
GRG Griva 9.65 115 P **Pn 04 15 56.1 +3.8**
GRG pmax pmax
comp=Z,48nm,1.0s
ARR Arges 9.66 87⇑*i*P **Pn 04 15 53.9 +1.4**
BSD Bornholm Skovb 9.75 14 *i* P **Pn 04 15 55.4 +1.9**
BSD *i* S **Sn 04 17 39.7 -2.9**
BSD Bornholm Skovb 9.75 14 *e*P **Pn 04 15 55.4 +1.9**
BSD *i* S **Sn 04 17 39.7 -2.9**
BSD Bornholm Skovb 9.75 14 *e*P **Pn 04 15 55.4 +1.9**
QUIF Quistinic 9.87 288 *e*Pn **Pn 04 15 54.4 -0.8**
SNR=1.0
QUIF *e*Sn **Sn 04 17 41.7 -4.0**
comp=Z,32nm,0.6s
QUIF Quistinic 9.87 288 *e*P **Pn 04 15 54.4 -0.8**
QUIF *e* 04 17 41.7
QUIF Quistinic 9.87 288 *e*Pn **Pn 04 15 54.4 -0.8**
SNR=1.0
QUIF Quistinic 9.87 288 *e*Pn **Pn 04 15 54.4 -0.8**
QUIF *e*Sn **Sn 04 17 41.7 -4.0**
VOIR 9.95 87⇑*i*P **Pn 04 15 56.8 +0.4**
VOIR 9.95 87 ⇑P **Pn 04 15 56.9 +0.5**
VOIR 9.95 87 P **Pn 04 15 56.9 +0.5**
ROSF Rostrenen 10.01 290 *e*Pn **Pn 04 15 57.2 +0.1**
SNR=1.0
ROSF *e*Sn **Sn 04 17 45.0 -4.0**
comp=Z,22nm,0.6s
ROSF Rostrenen 10.01 290 *e*P **Pn 04 15 57.2 +0.1**
ROSF *e* 04 17 45.0
ROSF Rostrenen 10.01 290 *e*Pn **Pn 04 15 57.2 +0.1**
SNR=1.0
ROSF Rostrenen 10.01 290 *e*Pn **Pn 04 15 57.2 +0.1**
ROSF *e*Sn **Sn 04 17 45.0 -4.0**
BURAR Bucovina Array 10.04 74⇑*i*P **Pn 04 15 58.6 +0.9**
BURAR Bucovina Array 10.04 74 ⇑P **Pn 04 15 58.6 +0.9**
MLR Muntele Rosu 10.57 86 Pn **Pn 04 16 06.9 +2.0**
comp=Z,0.1nm,0.3s,baz=276,slow=10,SNR=2.4
AGG Agios Georgios 10.79 124 *e*P **Pn 04 16 06.6 -1.3**
AGG Agios Georgios 10.79 124 *e*P **Pn 04 16 06.6 -1.3**
AGG Agios Georgios 10.79 124 *e*Pn **Pn 04 16 06.6 -1.3**
VRI Vrincioaia 11.07 84⇑*i*P **Pn 04 16 13.3 +1.6**
VRI Vrincioaia 11.07 84 ⇑P **Pn 04 16 13.3 +1.6**
VRI Vrincioaia 11.07 84 P **Pn 04 16 13.3 +1.6**
ESDC Sonseca Array 12.47 246 Pn **Pn 04 16 30.4 -0.4**
comp=Z,0.5nm,0.3s,baz=54,slow=14,SNR=9.1
EKA Eskdalemuir Ar 13.10 322 Pn **Pn 04 16 40.2 +0.8**
baz=139,slow=14,SNR=11
ESK Eskdalemuir 13.11 322 *e*P **Pn 04 16 40.2 +0.7**
ESK Eskdalemuir 13.11 322 *e*Pn **Pn 04 16 40.2 +0.7**
ESK Eskdalemuir 13.11 322 *e*Pn **Pn 04 16 40.1 +0.7**
KIEV Kiev 13.19 61 *i* P **Pn 04 16 40.6 0.0**
KIEV Kiev 13.19 61 *e*Pn **Pn 04 16 40.0 -0.6**
KIEV Kiev 13.19 61 *i* P **Pn 04 16 40.6 0.0**
KIEV Kiev 13.19 61 *e*Pn **Pn 04 16 40.0 -0.6**
AKASG Malin Array Be 13.20 61 Pn **Pn 04 16 40.9 +0.1**
comp=Z,0.5nm,0.3s,baz=251,slow=12,SNR=3.5
HFS Hagfors 14.54 6 Pn **Pn 04 16 59.5 +0.6**
comp=Z,0.4nm,0.3s,baz=187,slow=11,SNR=12
IDI Anoyia 14.88 130 Pn **Pn 04 17 03.1 -0.8**
comp=Z,0.4nm,0.3s,baz=333,slow=11,SNR=3.0

NB2	**NORSAR Subarra**	15.35	1	P		**P**	04 17 16.0	+1.5
	comp=Z,4.7nm,0.7s,baz=181,slow=11							
NB2	**NORSAR Subarra**	15.35	1	P		**P**	04 17 16.0	+1.5
	comp=Z,4.7nm,0.7s,SNR=0.5							
NOA	**NORSAR Array B**	15.35	1	Pn		**Pn**	04 17 10.4	+0.5
	comp=Z,0.2nm,0.3s,baz=186,slow=12,SNR=3.8							
VSU	**Vasula**	16.00	31	*i* P		**Pn**	04 17 18.5	+0.3
VSU				pmax	pmax			
	comp=Z,80nm,0.9s							
MDT	**Midelt**	17.56	228	P		**Pn**	04 17 37.7	-0.6
	comp=Z,0.1nm,0.3s,baz=52,slow=11,SNR=2.5							
FINES	**FINESS Array B**	18.07	24	P		**Pn**	04 17 43.5	-0.7
	comp=Z,0.5nm,0.3s,baz=216,slow=12,SNR=15							
OBN	**Obninsk**	18.78	51	P		**P**	04 17 51.3	-1.1
	comp=Z,3.9nm,0.3s,baz=288,slow=12,SNR=3.2							
OBN	**Obninsk**	18.78	51	*e*P		**P**	04 17 51.7	-0.7
OBN				pmax	pmax			
	comp=Z,24nm,1.7s							
OBN				MLR	MLR			
	comp=Z,41nm,14.0s							
OBN	**Obninsk**	18.78	51	*e*P		**P**	04 17 51.7	-0.7
	comp=Z,41nm,14.0s							
LPSR	**Galich'ya Gora**	19.51	59	*e*P		**P**	04 17 59.5	-0.9
LPSR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
LPSR	**Galich'ya Gora**	19.51	59	*e*P		**P**	04 17 59.5	-0.9
	comp=Z,9.0nm,0.8s							
KIV	**Kislovodsk**	22.55	83	*e*P		**P**	04 18 32.1	-1.4
KIV				pmax	pmax			
	comp=Z,14nm,1.4s							
KIV	**Kislovodsk**	22.55	83	*e*P		**P**	04 18 33.0	-0.4
	comp=Z,14nm,0.9s							
KIV	**Kislovodsk**	22.55	83	*e*P		**P**	04 18 33.0	-0.4
	comp=Z,14nm,0.9s							
KLMR	**Klimovskoe**	22.60	38	*e*P		**P**	04 18 31.5	-2.2
KLMR				pmax	pmax			
	comp=Z,13nm,1.0s							
KBZ	**Khabaz**	22.76	83	P		**P**	04 18 35.6	+0.1
	comp=Z,7.3nm,0.8s,baz=292,slow=6.2,SNR=9.0							
KBZ				LR	LR	04 30 07.1		
	comp=Z,50nm,18.9s,baz=228,slow=44							
KBZ	**Khabaz**	22.76	83	P		**P**	04 18 35.6	+0.1
KBZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KBZ				MLR	MLR			
	comp=Z,50nm,18.9s							
NEY	**Neytrino**	22.78	85	*e*P		**P**	04 18 36.6	+0.7
NEY				pmax	pmax			
	comp=Z,2.0nm,1.0s							
NEY	**Neytrino**	22.78	85	*e*P		**P**	04 18 36.6	+0.7
	comp=Z,2.0nm,1.0s							
TAM	**Tamanrasset**	23.29	193	*e*P		**P**	04 18 41.2	0.0
TAM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TAM	**Tamanrasset**	23.29	193	*e*P		**P**	04 18 41.2	0.0
	comp=Z,3.0nm,0.8s							
TAM	**Tamanrasset**	23.29	193	*e*P		**P**	04 18 41.2	0.0
	comp=Z,3.0nm,0.8s							
ZEI	**Tsey**	23.74	85	*e*P		**P**	04 18 45.8	+0.1
ZEI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ZEI	**Tsey**	23.74	85	*e*P		**P**	04 18 45.8	+0.1
	comp=Z,3.0nm,1.0s							
EIL	**Elat**	24.75	122	P		**P**	04 18 56.1	+1.2
	comp=Z,6.0nm,0.8s,baz=331,slow=10,SNR=5.7							
ARCES	**ARCESS Array B**	24.99	12	P		**P**	04 18 55.7	-0.9
	comp=Z,1.6nm,0.6s,baz=193,slow=9.9,SNR=16							
ARCES				PcP		**PcP**	04 22 30.7	-0.5
	comp=Z,1.2nm,0.6s,baz=189,slow=2.0,SNR=6.4							
ARU	**Arti**	31.20	52	*d i* P		**P**	04 19 52.1	-0.2
ARU							04 20 51.2	
ARU				S		**S**	04 24 59.1	+1.5
ARU				SS		**SnSn**	04 26 38.8	-1.0
ARU				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ARU	**Arti**	31.20	52	*i* P		**P**	04 19 52.1	-0.2
	comp=Z,5.0nm,0.6s							
ARU				S		**S**	04 24 59.1	+1.5
ARU	**Arti**	31.20	52	*e*P		**P**	04 19 51.8	-0.5
	comp=Z,6.6nm,0.8s							
AKTK	**Aktyubinsk**	31.42	64	P		**P**	04 19 53.8	-0.5
	comp=Z,3.0nm,1.0s							
AKTO	**Aktyubinsk**	31.42	64	P		**P**	04 19 53.8	-0.5
	comp=Z,3.1nm,1.0s,baz=289,slow=9.2,SNR=8.3							
SVE	**Sverdlovsk**	32.34	52	*e*P		**P**	04 20 02.3	0.0
SVE				pmax	pmax			
	comp=Z,14nm,1.0s							
SVE	**Sverdlovsk**	32.34	52	*e*P		**P**	04 20 02.3	0.0
	comp=Z,14nm,1.0s							
ABKAR	**Akbulak array**	32.88	66	*e*P		**P**	04 20 06.0	-1.1
	comp=Z,16nm,0.9s							
ABKAR	**Akbulak array**	32.88	66	*e*P		**P**	04 20 06.0	-1.1
	comp=Z,16nm,0.9s							
TORD	**Torodi Ar. Bea**	33.39	196	P		**P**	04 20 09.6	-2.1
	comp=Z,0.5nm,0.5s,baz=7.4,slow=8.8,SNR=17							
TORD				PcP		**PcP**	04 22 52.7	-0.5
	comp=Z,0.5nm,0.7s,baz=354,slow=2.3,SNR=4.8							
GEYT	**Alibeck**	35.62	85	P		**P**	04 20 31.1	0.0
	comp=Z,2.0nm,0.5s,baz=296,slow=11,SNR=4.8							
BRVK	**Borovoye**	38.36	57	*ce*P		**P**	04 20 55.1	+1.0
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	38.36	57	*e*P		**P**	04 20 55.1	+1.0
	comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	38.36	57	*e*P		**P**	04 20 54.8	+0.7
	comp=Z,20nm,1.4s							
BVAR	**Borovoye Array**	38.43	57	P		**P**	04 20 55.0	+0.3
	comp=Z,3.1nm,0.5s,baz=280,slow=8.5,SNR=29							
DBIC	**Dimbokro**	41.22	204	LR		LR	04 40 30.0	
	comp=Z,65nm,18.3s,baz=258,slow=39							
UOSS	**Minazif**	41.72	104	*e*P		**P**	04 21 24.8	+2.5
	comp=Z,5.2nm,0.6s							
UOSS	**Minazif**	41.72	104	*e*P		**P**	04 21 24.8	+2.5
	comp=Z,5.2nm,0.6s							
KKAR	**Karatay Array**	41.82	71	*e*P		**P**	04 21 23.3	+0.4
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	41.82	71	*e*P		**P**	04 21 23.3	+0.4
	comp=Z,3.5nm,0.8s							
KKAR	**Karatay Array**	41.82	71	*e*P		**P**	04 21 23.3	+0.4
	comp=Z,3.6nm,0.8s							
KURBB	**Kurchatov Arra**	43.97	58	P		**P**	04 21 39.9	-0.3
	comp=Z,2.4nm,0.5s,baz=291,slow=9.5,SNR=6.2							
KURK	**Kurchatov**	43.99	58	*ce*P		**P**	04 21 40.4	+0.1
KURK				pmax	pmax			
	comp=Z,22nm,1.7s							
KURK	**Kurchatov**	43.99	58	*e*P		**P**	04 21 40.4	+0.1
	comp=Z,22nm,1.7s							
KURK	**Kurchatov**	43.99	58	*e*P		**P**	04 21 40.2	-0.1
	comp=Z,4.4nm,0.6s							
AAK	**Ala-Archa**	44.66	70	*i* P		**P**	04 21 45.2	-0.9
AAK				pmax	pmax			
	comp=Z,13nm,1.0s							
AAK	**Ala-Archa**	44.66	70	*e*P		**P**	04 21 46.5	+0.5
	comp=Z,4.3nm,0.9s							
AAK	**Ala-Archa**	44.66	70	*e*P		**P**	04 21 46.5	+0.5
	comp=Z,4.3nm,0.9s							
ZALV	**Zalesovo Beam**	46.36	52	P		**P**	04 21 58.7	-0.4
	comp=Z,1.0nm,0.3s,baz=295,slow=8.1,SNR=6.1							
ZALV				PP		**PP**	04 23 45.6	-2.2
	comp=Z,0.5nm,0.3s,baz=290,slow=9.1,SNR=3.8							
KSH	**Kashi**	47.12	73	P		**P**	04 22 06.0	+0.5
KSH				pP	pP		04 22 10.0	-0.5
KSH				sP	sP		04 22 12.8	+0.4
KSH				PcP		**PcP**	04 23 38.8	+1.7
KSH				PP		**PP**	04 23 56.5	+0.4
KSH				PcS		**PcS**	04 27 34.3	+2.0
KSH				S		**S**	04 28 56.0	-1.2
KSH				sS	pS		04 29 03.3	+0.3
KSH				ScS		**ScS**	04 31 58.8	-0.4
KSH	**Kashi**	47.12	73	SS	SS		04 32 15.0	-9.0
KSH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,140nm,7.3s							
KSH				LR	LR			
	comp=N,94nm,7.1s							
KSH				LR	LR			
	comp=E,67nm,12.2s							
KSH				LR	LR			
	comp=Z,66nm,8.7s							
KSH				pmax	pmax			
	comp=Z,19nm,1.3s							
MKAR	**Makanchi Array**	47.79	62	P		**P**	04 22 10.1	-0.3
	comp=Z,1.8nm,0.5s,baz=299,slow=6.5,SNR=23							
MKAR	**Makanchi Array**	47.79	62	*ce*P		**P**	04 22 10.3	-0.1
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	47.79	62	*e*P		**P**	04 22 10.3	-0.1
	comp=Z,2.0nm,0.5s							
WMQ	**Urumqi**	52.56	63	P		**P**	04 22 48.3	+1.6
WMQ				pP	sP		04 22 52.8	-0.8
WMQ				pmax	pmax			
	comp=Z,13nm,0.5s							
WMQ				pmax	pmax			
	comp=Z,140nm,3.7s							
WMQ				LR	LR			
	comp=N,40nm,22.1s							
WMQ				LR	LR			
	comp=E,43nm,17.7s							
WMQ				LR	LR			
	comp=Z,43nm,24.3s							
PKME	**Peaks-Kenny Pk**	53.86	301	*e*P		**P**	04 22 57.0	+0.8
PKME	**Peaks-Kenny Pk**	53.86	301	*e*P		**P**	04 22 57.0	+0.8
TIXI	**Tiksi**	55.06	20	*i* P		**P**	04 23 05.6	+1.1
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TIXI	**Tiksi**	55.06	20	*i* P		**P**	04 23 05.6	+1.1
	comp=Z,1.0nm,1.1s							
SONM	**Songino Array**	61.19	50	P		**P**	04 23 48.4	+0.4
	comp=Z,1.2nm,1.0s,baz=282,slow=7.2,SNR=5.1							
ULN	**Ulaanbaatar**	61.52	50	*i* P		**P**	04 23 49.9	-0.3
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ULN	**Ulaanbaatar**	61.52	50	*i* P		**P**	04 23 49.9	-0.3
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	63.69	335	P		**P**	04 24 04.7	+0.5
	comp=Z,1.9nm,0.6s,baz=41,slow=6.5,SNR=3.8							
ULM	**Lac du Bonnet**	65.32	317	P		**P**	04 24 14.8	-0.2
	comp=Z,4.0nm,0.8s,baz=52,slow=6.2,SNR=6.7							
HIA	**Hailar**	67.00	42	*i* P		**P**	04 24 26.7	+0.8
HIA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
HIA	**Hailar**	67.00	42	*i* P		**P**	04 24 26.7	+0.8
	comp=Z,2.0nm,0.9s							
LZH	**Lanzhou**	67.10	61	*e*P		**P**	04 24 27.3	+0.3
LZH				pP	pP		04 24 31.0	-1.1
LZH				sP	sP		04 24 34.8	+0.8
LZH				pmax	pmax			
	comp=Z,16nm,1.1s							
ILAR	**Eielson Array**	68.48	350	P		**P**	04 24 35.5	+0.5
	comp=Z,1.0nm,0.6s,baz=8.9,slow=6.2,SNR=17							
HHC	**Hu-ho-hao-te**	68.51	53	*e*P		**P**	04 24 35.0	-0.7
HHC				pmax	pmax			
	comp=Z,19nm,1.0s							
HHC				pmax	pmax			
	comp=Z,40nm,7.4s							
DHY	**Denali Highway**	70.17	350	*e*P		**P**	04 24 47.0	+1.3
	comp=Z,12nm,0.6s							
DHY	**Denali Highway**	70.17	350	*e*P		**P**	04 24 47.0	+1.3
	comp=Z,12nm,0.6s							
ECSD	**EROS Data Cent**	70.19	313	*e*P		**P**	04 24 46.3	+0.4
	comp=Z,5.3nm,0.6s							
ECSD	**EROS Data Cent**	70.19	313	*e*P		**P**	04 24 46.3	+0.4
	comp=Z,5.3nm,0.6s							
KSU1	**Kansas State U**	73.47	309	*e*P		**P**	04 25 05.5	-0.2
	comp=Z,9.8nm,0.7s							
KSU1	**Kansas State U**	73.47	309	*e*P		**P**	04 25 05.5	-0.2
	comp=Z,9.8nm,0.7s							
KMI	**Kunming**	73.70	71	P		**P**	04 25 09.0	+1.5
KMI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
CMAR	**Chiang Mai Arr**	75.70	78	P		**P**	04 25 19.4	+0.5
	comp=Z,1.3nm,0.3s,baz=303,slow=6.9,SNR=7.6							
CMAR	**Chiang Mai Arr**	75.70	78	*ce*P		**P**	04 25 19.6	+0.7
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	75.70	78	*e*P		**P**	04 25 19.6	+0.7
	comp=Z,2.0nm,0.4s							
PDAR	**Pinedale Array**	77.20	319	P		**P**	04 25 27.1	-0.3
	comp=Z,0.6nm,0.7s,baz=58,slow=5.6,SNR=5.9							
SDV	**Santo Domingo**	77.78	270	P		**P**	04 25 29.0	-1.9
	comp=Z,3.4nm,0.6s,baz=39,slow=8.1,SNR=3.2							
WMOK	**Wichita Mounta**	77.84	307	*e*P		**P**	04 25 31.4	+0.6
WMOK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
WMOK	**Wichita Mounta**	77.84	307	*e*P		**P**	04 25 31.4	+0.6
	comp=Z,2.4nm,0.6s							
WMOK	**Wichita Mounta**	77.84	307	*e*P		**P**	04 25 31.4	+0.6
	comp=Z,2.4nm,0.6s							
BMO	**Blue Mountains**	78.84	325	*e*P		**P**	04 25 37.0	+0.8
BMO				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BMO	**Blue Mountains**	78.84	325	*e*P		**P**	04 25 37.0	+0.8
	comp=Z,5.5nm,0.7s							
BMO	**Blue Mountains**	78.84	325	*e*P		**P**	04 25 37.0	+0.8
	comp=Z,5.5nm,0.7s							
HWUT	**Hardware Ranch**	79.03	320	*e*P		**P**	04 25 38.5	+1.0
	comp=Z,2.6nm,0.7s							
HWUT	**Hardware Ranch**	79.03	320	*e*P		**P**	04 25 38.5	+1.0
	comp=Z,2.6nm,0.7s							
SDCO	**Great Sand Dun**	79.15	314	*e*P		**P**	04 25 39.3	+1.0
	comp=Z,2.1nm,0.9s							
SDCO	**Great Sand Dun**	79.15	314	*e*P		**P**	04 25 39.3	+1.0
	comp=Z,2.1nm,0.9s							
DUG	**Dugway, Tooele**	80.73	320	*e*P		**P**	04 25 47.5	+0.9
DUG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
DUG	**Dugway, Tooele**	80.73	320	*e*P		**P**	04 25 47.5	+0.9
	comp=Z,3.5nm,1.0s							
DUG	**Dugway, Tooele**	80.73	320	*e*P		**P**	04 25 47.5	+0.9
	comp=Z,3.5nm,1.0s							
ANMO	**Albuquerque**	81.80	312	*e*P		**P**	04 25 53.6	+1.1
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ANMO	**Albuquerque**	81.80	312	*e*P		**P**	04 25 53.6	+1.1
	comp=Z,2.0nm,1.0s							
ANMO	**Albuquerque**	81.80	312	*e*P		**P**	04 25 53.6	+1.1
	comp=Z,2.0nm,1.0s							
TXAR	**Lajitas Array**	84.62	307	P		**P**	04 26 08.3	+1.3
	comp=Z,1.8nm,0.6s,baz=70,slow=3.2,SNR=16							
ASAR	**Alice Springs**	129.42	84	PKP		**PKPdf**	04 32 42.1	+0.1
	comp=Z,0.1nm,0.3s,baz=321,slow=1.4,SNR=3.0							
VNDA	**Vanda**	146.07	169	PKPbc		**PKPab**	04 33 12.0	-0.3
	comp=Z,0.8nm,0.7s,baz=277,slow=3.7,SNR=7.5							

BEO ***29*** *04:14:27.1±0.6, 43°.41N×17°.82E, h0km, M2.8/6*
CSEM ***29*** *04:14:28.7±0.3, 43°.33N×17°.86E, h20km, ML2.6, Error ellipse: s-maj=6.3km s-min=5.2km az=119.0*
PDG ***29*** *04:14:28.2±0.1, 43°.33N×17°.95E, h11km, ML2.6/11, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
ISC 29 04:14:23.0±1.4,**43°.40N**±0°.02×**17°.63E**±0°.04,**h0**km±10km,
n67,σ0°94/105,**10C-11D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.83**	**127**	*i*Pg	**Pg**	04 14 39.4	+0.6
BRY				*e*Sg	**Sg**	04 14 49.5	-0.1
BRY	**Bratogost**	**0.83**	**127**	⇑*i*Pg	**Pg**	04 14 39.4	+0.6
BRY				*e*Sg	**Sg**	04 14 49.8	+0.2
TREB	**Trebinje**	**0.86**	**142**	*e*Pg	**Pb**	04 14 40.7	-0.1
TREB				*e*Sg	**Sb**	04 14 52.4	-0.5
TREB	**Trebinje**	**0.86**	**142**	*e*Pg	**Pb**	04 14 40.7	-0.1
TREB				*e*Sg	**Sb**	04 14 52.4	-0.5
UPM	**Unac-Piva**	**0.95**	**101**	⇑*i*Pg	**Pg**	04 14 41.4	+0.2
UPM				*e*Sg	**Sg**	04 14 52.9	-0.6
UPM	**Unac-Piva**	**0.95**	**101**	⇑*i*Pg	**Pg**	04 14 40.8	-0.4
UPM				*e*Sg	**Sg**	04 14 52.9	-0.6
HCY	**Herceg Novi**	**1.14**	**146**	⇑*i*Pg	**Pn**	04 14 46.1	-0.1
HCY				*e*Sg	**Sn**	04 15 01.6	-1.0
HCY	**Herceg Novi**	**1.14**	**146**	⇑*i*Pg	**Pn**	04 14 46.1	-0.1
HCY				*e*Sg	**Sb**	04 15 01.1	+0.1
NKME	**Niksic**	**1.16**	**123**	⇓*i*Pg	**Pg**	04 14 45.2	+0.1
NKME				*e*Sg	**Sg**	04 15 00.1	0.0
NKME	**Niksic**	**1.16**	**123**	⇓*i*Pg	**Pg**	04 14 45.2	+0.1
NKME				*e*Sg	**Sg**	04 15 00.1	0.0
NKY	**Niksic**	**1.16**	**120**	⇑*i*Pg	**Pg**	04 14 45.4	+0.3
NKY				*e*Sg	**Sg**	04 15 00.2	+0.1
NKY	**Niksic**	**1.16**	**120**	⇑*i*Pg	**Pg**	04 14 45.4	+0.3
NKY				*e*Sg	**Sg**	04 15 00.2	+0.1
HAPS	**Han Pijesak,Bl**	**1.18**	**54**	*e*Pg	**Pb**	04 14 46.1	-0.1
HAPS				*e*Sg	**Sg**	04 14 59.8	-1.0
HAPS	**Han Pijesak,Bl**	**1.18**	**54**	*e*Pg	**Pg**	04 14 45.3	-0.2
HAPS				*e*Sg	**Sg**	04 14 59.7	-1.0
CEME	**Cevo**	**1.27**	**132**	⇓*i*Pg	**Pb**	04 14 47.6	-0.2
CEME				*e*Sg	**Sb**	04 15 04.6	-0.1
CEME	**Cevo**	**1.27**	**132**	⇓*i*Pg	**Pb**	04 14 47.6	-0.2
CEME				*e*Sg	**Sb**	04 15 04.6	-0.1
PLE	**Pljevlja**	**1.28**	**92**	⇓*i*Pg	**Pn**	04 14 47.9	-0.4
PLE				*e*Sg	**Sb**	04 15 04.4	-0.7
PLE	**Pljevlja**	**1.28**	**92**	⇓*i*Pg	**Pn**	04 14 47.9	-0.4
PLE				*e*Sg	**Sb**	04 15 04.4	-0.7
BBLS	**Lazići**	**1.37**	**69**	*e*Pg	**Pb**	04 14 49.5	0.0
BBLS				*e*Sg	**Sn**	04 15 07.1	-1.2
BBLS	**Lazići**	**1.37**	**69**	*e*Pg	**Pb**	04 14 49.5	0.0
BBLS				*e*Sg	**Sn**	04 15 07.1	-1.2
DOB	**Doboj**	**1.38**	**14**	*e*Pg	**Pb**	04 14 49.4	-0.1
DOB				*e*Sg	**Sn**	04 15 08.0	-0.3
BUM	**Brajici-Budva**	**1.44**	**139**	⇓*i*Pg	**Pg**	04 14 51.5	+1.0
BUM				*e*Sg	**Sn**	04 15 10.8	+0.9
BUM	**Brajici-Budva**	**1.44**	**139**	⇓*i*Pg	**Pg**	04 14 51.5	+1.0
BUM				*e*Sg	**Sn**	04 15 10.8	+0.9
KOME	**Kolasin**	**1.48**	**111**	*e*Pg	**Pg**	04 14 51.4	0.0
KOME				*e*Sg	**Sg**	04 15 10.9	+0.3
KOME	**Kolasin**	**1.48**	**111**	*e*Pg	**Pg**	04 14 51.4	0.0
KOME				*e*Sg	**Sg**	04 15 10.9	+0.3
PDG	**Podgorica**	**1.54**	**129**	⇓*i*Pg	**Pg**	04 14 52.7	+0.3
PDG				*e*Sg	**Sn**	04 15 11.6	-0.6
TTG	**Podgorica**	**1.54**	**129**	⇓*i*Pg	**Pg**	04 14 52.7	+0.3
TTG				*e*Sg	**Sg**	04 15 13.1	+0.8
DRME	**Dracevica, Mon**	**1.67**	**136**	*e*Pg	**Pg**	04 14 55.6	+0.7
DRME				*e*Sg	**Sg**	04 15 17.8	+1.3
DRME	**Dracevica, Mon**	**1.67**	**136**	*e*Pn	**Pg**	04 14 55.0	+0.1
DRME	**Dracevica, Mon**	**1.67**	**136**	*e*Pg	**Pg**	04 14 55.6	+0.7
DRME				*e*Sn	**Sb**	04 15 15.8	-0.2
SJES	**Sjenica**	**1.71**	**94**	*e*Pg	**Pg**	04 14 56.2	+0.4
SJES				*e*Sg	**Sg**	04 15 17.6	-0.4
BEY	**Berane**	**1.74**	**107**	⇑*i*Pg	**Pb**	04 14 55.6	-0.2
BEY				*e*Sg	**Sg**	04 15 18.4	-0.4
IVA	**Berane**	**1.74**	**107**	⇑*i*Pg	**Pb**	04 14 55.6	-0.2
IVA				*e*Sg	**Sg**	04 15 18.4	-0.4
TEKS	**Tekeris**	**1.79**	**49**	*e*Pn	**Pg**	04 14 57.7	+0.5
TEKS	**Tekeris**	**1.79**	**49**	*e*Pn	**Pg**	04 14 57.7	+0.5
IVAS	**Ivanjica**	**1.84**	**84**	*e*Pn	**Pg**	04 14 57.5	-0.1
IVAS				*e*Sg	**Sb**	04 15 20.5	-0.7
DIVS	**Divibare**	**1.85**	**67**	*e*Pg	**Pg**	04 14 58.2	-0.2
DIVS				*e*Sg	**Sg**	04 15 22.6	+0.3
DIVS	**Divibare**	**1.85**	**67**	⇑*i*Pn	**Pb**	04 14 57.3	-0.4
DIVS	**Divibare**	**1.85**	**67**	*e*Pg	**Pg**	04 14 58.2	-0.2
DIVS				*e*Sn	**Sn**	04 15 19.3	-0.8
DIVS				*e*Sg	**Sg**	04 15 22.6	+0.3
ULC	**Ulcinj**	**1.86**	**140**	*e*Pn	**Pg**	04 14 58.5	-0.2
ULC				*e*Sn	**Sg**	04 15 22.8	0.0
ULC	**Ulcinj**	**1.86**	**140**	*e*Pn	**Pg**	04 14 58.5	-0.2
PVY	**Plav**	**1.89**	**114**	*e*Pn	**Pb**	04 14 58.3	-0.1
PVY				*e*Sn	**Sb**	04 15 21.9	-0.6
TRUS	**Trudelj**	**2.17**	**67**	*e*Pg	**Pb**	04 15 02.7	-0.4
TRUS	**Trudelj**	**2.17**	**67**	*e*Pn	**Pb**	04 15 02.3	-0.8
TRUS	**Trudelj**	**2.17**	**67**	*e*Pg	**Pb**	04 15 02.7	-0.4
GRUS	**Gruza**	**2.29**	**77**	*e*Pg	**Pb**	04 15 04.4	-0.8
GRUS	**Gruza**	**2.29**	**77**	*e*Pg	**Pb**	04 15 04.4	-0.8
FGSL	**Fruska Gora**	**2.35**	**41**	*e*Pn	**Pb**	04 15 05.5	-0.7
FRGS	**Fruska Gora**	**2.35**	**41**	*e*Pn	**Pb**	04 15 06.5	+0.3
BAI	**Bari**	**2.36**	**194**	*e*Pn	**Pb**	04 15 05.0	-1.3
SELS	**Selova**	**2.55**	**93**	*e*Pn	**Pb**	04 15 07.3	-2.3
SELS	**Selova**	**2.55**	**93**	*e*Pn	**Pb**	04 15 07.3	-2.3
FASA	**Fasano**	**2.59**	**185**	*e*Pn	**Pb**	04 15 11.1	+0.9
SG1	**Sgolgore (BA)**	**2.65**	**196**	*e*Pn	**Pn**	04 15 06.4	-0.6
CGL1	**Ceglie Messapi**	**2.75**	**182**	*e*Pn	**Pb**	04 15 13.8	+0.9
MASS	**Massafra**	**2.79**	**188**	*e*Pn	**Pb**	04 15 11.9	-1.7
TAR1	**Taranto**	**2.88**	**185**	*e*Pn	**Pb**	04 15 14.0	-1.2
BARS	**Barje**	**3.12**	**99**	*e*Pn	**Pn**	04 15 15.8	+2.4
BARS	**Barje**	**3.12**	**99**	*e*Pn	**Pn**	04 15 15.9	+2.5
BARS	**Barje**	**3.12**	**99**	*e*Pn	**Pn**	04 15 15.8	+2.4
KRUS	**Krusevo**	**3.36**	**126**	*i* Pn	**P

n15,σ0§69/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**330**	*i* P	**Pg**	**04 21 24.8**	**-0.4**
VMUR				*i* S	**Sg**	**04 21 27.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.05**	**330**	P	**Pg**	**04 21 24.8**	**-0.4**
VMUR				S	**Sg**	**04 21 27.0**	**+0.4**
ERCV	**ERCIS-VAN**	**0.22**	**289**	*e*PG	**Pg**	**04 21 28.6**	**+0.9**
ERCV	**ERCIS-VAN**	**0.22**	**289**	*e*Pg	**Pg**	**04 21 28.6**	**+0.9**
CLDR	**Caldiran**	**0.31**	**51**	*e*PG	**Pg**	**04 21 30.3**	**+0.8**
CLDR				*e*SG	**Sb**	**04 21 36.8**	**+0.2**
CLDR	**Caldiran**	**0.31**	**51**	*i* P	**Pg**	**04 21 28.9**	**-0.6**
CLDR				*i* S	**Sb**	**04 21 36.9**	**+0.3**
CLDR	**Caldiran**	**0.31**	**51**	P	**Pg**	**04 21 28.9**	**-0.6**
CLDR	**Caldiran**	**0.31**	**51**	*e*Pg	**Pg**	**04 21 30.3**	**+0.8**
CLDR				S	**Sb**	**04 21 36.9**	**+0.3**
VANB	**Van**	**0.39**	**205**	*e*PG	**Pg**	**04 21 31.6**	**+0.7**
VANB	**Van**	**0.39**	**205**	*e*Pg	**Pg**	**04 21 31.6**	**+0.7**
TVAN	**Van**	**0.45**	**200**	*i* P	**Pg**	**04 21 31.8**	**-0.2**
TVAN				*i* S	**Sb**	**04 21 39.3**	**-1.1**
TVAN	**Van**	**0.45**	**200**	P	**Pg**	**04 21 31.8**	**-0.2**
TVAN				S	**Sb**	**04 21 39.3**	**-1.1**
TUTA	**Tutak**	**0.76**	**307**	*i* P	Pn	04 21 46.7	+6.2
TUTA				*i* S	**Sb**	**04 21 50.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.79**	**323**	*e*PG	**Pg**	**04 21 37.9**	**-0.5**
AGRB				*e*SG	**Sb**	**04 21 49.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.79**	**323**	*e*Pg	**Pg**	**04 21 37.9**	**-0.5**
AGRB				*e*Sg	**Sb**	**04 21 49.5**	**-0.7**

SCB ***29*** *04:23:17.4±0.7, 13°.86S×77°.01W, h10km, Ml4.7/1, Error ellipse: s-maj=23.7km s-min=13.9km az=6.0*
IDC ***29*** *04:23:33.5±0.8, 14°.64S×76°.03W, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.2/30, mbtmp4.3/13, ML4.2/2, MS4.2/23, Ms1 4.2/23, ms1mx4.0/34, Error ellipse: s-maj=24.1km s-min=14.9km az=55.0*
BJI ***29*** *04:23:35.7, 14°.70S×76°.00W, h11km, mB5.2/6, Ms5.1/4, Ms7 4.8/5*
ISCJB ***29*** *04:23:36.0±0.3, 14°.82S±0°.04×76°.24W±0°.06, h29km, mb4.6/33, MS4.1/21, Error ellipse: s-maj=10.2km s-min=4.3km az=149.1*
NEIC ***29*** *04:23:37.9±1.9, 14°.69S×75°.95W, h26km±14km, mb4.7/26, ML4.6(ARE), Error ellipse: s-maj=11.5km s-min=5.3km az=64.0*
NEIC Felt [II] at Ica.

ISC 29 04:23:38.0±0.4, 14°.75S±0°.05×76°.05W±0°.08, h29km, n119, σ1§94/107, mb4.7/32, MS4.1/21, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.85**	**344**	Pn	**Pn**	**04 24 19.2**	**-2.4**
	94nm,0.3s,baz=163,slow=13,SNR=28						
NNA				Sn	**Sn**	**04 24 58.7**	**+3.6**
	228nm,0.3s,baz=82,slow=19,SNR=8.8						
NNA				LR	LR	04 25 26.1	
	comp=Z,1μm,19.7s,baz=85,slow=41						
NNA	**Nana**	**2.85**	**344**	*e*Pn	**Pn**	**04 24 19.9**	**-1.7**
NNA				*e*Sn	**Sn**	**04 24 53.0**	**-2.1**
NNA				Sn	**Sn**	**04 24 58.7**	**+3.6**
BBOD	**La Paz, Gloria**	**7.42**	**106**	*e*Pn	**Pn**	**04 25 29.4**	**+4.6**
BBOB	**La Paz, Bander**	**7.76**	**101**	*e*Pn	**Pn**	**04 25 33.2**	**+3.7**
BBOB				*e*Sn	Sb	04 27 12.1	-12
	153nm,1.1s						
LPAZ	**La Paz**	**7.78**	**102**	Pn	**Pn**	**04 25 33.9**	**+4.0**
	15nm,0.3s,baz=284,slow=8.8,SNR=346						
LPAZ				LR	LR	04 28 53.6	
	comp=Z,2μm,19.7s,baz=286,slow=41						
LPAZ	**La Paz**	**7.78**	**102**	*e*Pn	**Pn**	**04 25 33.9**	**+4.0**
LPAZ				*e*Sn	Sb	04 27 14.0	-11
LPAZ	**La Paz**	**7.78**	**102**	*e*Pn	**Pn**	**04 25 33.7**	**+3.7**
BBOJ	**La Paz, Jacaqu**	**7.88**	**107**	*e*Pn	**Pn**	**04 25 35.6**	**+4.5**
ATAH	**Atahualpa**	**7.91**	**343**	Pn	**Pn**	**04 25 33.7**	**+2.2**
	1.1nm,0.3s,baz=166,slow=8.1,SNR=6.0						
ATAH				Sn	Sn	04 27 13.8	+13
	1.7nm,0.3s,baz=139,slow=11,SNR=3.8						
BBOE	**La Paz, Chanca**	**8.03**	**106**	*e*Pn	**Pn**	**04 25 37.7**	**+4.4**
PB01	**IPOC Station P**	**8.84**	**136**	*e*Pn	**Pn**	**04 25 43.4**	**-0.6**
PB04	**IPOC Station P**	**9.39**	**144**	*e*Pn	**Pn**	**04 25 50.2**	**-1.3**
PB10	**IPOC Station P**	**10.14**	**150**	*e*Pn	**Pn**	**04 26 00.5**	**-1.3**
PB10				*e*Sn	Sn	04 27 44.6	-10
LVC	**Limon Verde**	**10.33**	**140**	Pn	**Pn**	**04 26 05.2**	**+0.5**
	248nm,0.3s,baz=317,slow=9.8,SNR=56						
LVC				Sn	**Sn**	**04 27 56.7**	**-3.1**
	202nm,0.3s,baz=92,slow=19,SNR=9.9						
LVC				Lg	Lg	04 29 01.8	
	9.7nm,0.3s,baz=275,slow=22,SNR=8.3						
LVC				LR	LR	04 29 32.5	
	comp=Z,3μm,21.5s,baz=314,slow=34						
LVC	**Limon Verde**	**10.33**	**140**	*e*Pn	**Pn**	**04 26 05.5**	**+0.8**
LVC				Sn	**Sn**	**04 27 56.7**	**-3.1**
LVC				Lg	Lg	04 29 01.8	
MOCB	**Mochara**	**11.82**	**125**	*e*P	**Pn**	**04 26 26.9**	**+1.7**
SAML	**Samuel**	**13.85**	**67**	*e*Pn	**Pn**	**04 26 49.7**	**-2.7**
	11nm,0.8s						
SIV	**San Ignacio**	**14.50**	**97**	Pn	**Pn**	**04 26 59.9**	**-1.4**
	0.7nm,0.3s,baz=286,slow=14,SNR=9.8						
SIV				LR	LR	04 33 24.0	
	comp=Z,3μm,19.6s,baz=286,slow=41						
SIV	**San Ignacio**	**14.50**	**97**	*e*P	**Pn**	**04 26 58.8**	**-2.6**
LCO	**Las Campanas**	**15.03**	**162**	*e*Pn	**Pn**	**04 27 10.2**	**+1.6**
OTAV	**Otavalo**	**15.08**	**351**	*e*Pn	**Pn**	**04 27 08.8**	**-0.8**
	15nm,1.0s						
OTAV				*e*S	**S**	**04 30 06.2**	**-6.7**
VILC	**Villavicencio,**	**18.89**	**7**	*e*P	**P**	**04 27 56.7**	**+0.3**
ROSC	**El Rosal**	**19.54**	**5**	P	**Pn**	**04 28 07.9**	**+2.7**
	0.2nm,0.3s,baz=238,slow=19,SNR=2.7						
GUYC	**Guyana, Colomb**	**19.86**	**2**	*e*P	**Pn**	**04 28 09.6**	**+0.5**
NORC	**Norcasia**	**20.22**	**3**	*e*P	**P**	**04 28 11.2**	**+0.3**
YOPC	**Yopal, Colombi**	**20.30**	**10**	*e*P	**P**	**04 28 12.8**	**+1.0**
RUSC	**La Rusia**	**20.72**	**8**	*e*P	Pn	04 28 18.1	-1.1
RUSC	**La Rusia**	**20.72**	**8**	*e*P	**P**	**04 28 17.9**	**+1.1**
	24nm,1.2s						
HELC	**Santa Helena**	**20.81**	**1**	*e*P	Pn	04 28 21.4	+1.2
HELC	**Santa Helena**	**20.81**	**1**	*e*P	Pn	04 28 21.3	+1.1
	25nm,0.9s						
CPUP	**Villa Florida**	**20.95**	**126**	P	**P**	**04 28 18.9**	**+0.3**
	17nm,1.2s,baz=303,slow=10,SNR=9.2						
CPUP				LR	LR	04 37 55.2	
	comp=Z,467nm,19.0s,baz=294,slow=41						
CPUP	**Villa Florida**	**20.95**	**126**	*e*P	**P**	**04 28 19.6**	**+1.0**
PTGA	**Pitinga**	**21.14**	**50**	P	**P**	**04 28 19.3**	**-1.5**
	8.7nm,0.5s,baz=229,slow=11,SNR=12						
PTGA				Lg	Lg	04 34 41.5	
	12nm,0.9s,baz=321,slow=22,SNR=7.0						
PTGA				LR	LR	04 36 27.3	
	comp=Z,612nm,19.5s,baz=242,slow=37						
ZARC	**Zaragoza, Cauc**	**22.13**	**3**	*e*P	**P**	**04 28 29.9**	**-1.5**
PAMC	**Pamplona, Colo**	**22.20**	**9**	*e*P	**P**	**04 28 34.8**	**+2.1**
MOTC	**Monteria, Cord**	**23.38**	**1**	*e*P	**P**	**04 28 44.4**	**0.0**
BCIP	**Isla Barro Col**	**24.06**	**351**	*e*P	**P**	**04 28 51.4**	**+0.5**
	18nm,0.9s						
SDV	**Santo Domingo**	**24.09**	**13**	P	**P**	**04 28 50.4**	**-1.0**
	7.8nm,0.5s,baz=180,slow=9.6,SNR=9.6						
SJCC	**San Jacinto, C**	**24.50**	**2**	*e*P	**P**	**04 28 55.1**	**+0.1**
PLCA	**Paso Flores**	**26.33**	**171**	P	**P**	**04 29 12.0**	**+0.6**
	4.3nm,1.1s,baz=355,slow=12,SNR=5.1						
PLCA				LR	LR	04 37 04.6	
	comp=Z,325nm,19.8s,baz=358,slow=31						
TRQA	**Tornquist**	**26.34**	**154**	*e*P	**P**	**04 29 11.1**	**-0.5**
	4.1nm,0.8s						
JTS	**JuntasAbangare**	**26.40**	**340**	LR	LR	04 39 51.0	
	comp=Z,374nm,18.2s,baz=210,slow=37						
BDFB	**Brasilia**	**27.06**	**96**	P	**P**	**04 29 18.0**	**-0.3**
	5.5nm,0.8s,baz=45,slow=8.8,SNR=6.2						
BDFB				LR	LR	04 41 14.5	
	comp=Z,1μm,18.6s,baz=54,slow=39						
BDFB	**Brasilia**	**27.06**	**96**	*e*P	**P**	**04 29 18.4**	**0.0**
	44nm,1.4s						
PCRV	**Puerto La Cruz**	**27.23**	**25**	LR	LR	04 41 03.4	
	comp=Z,920nm,19.7s,baz=196,slow=39						
CBYP	**Canovanas**	**34.32**	**17**	*e*P	**P**	**04 30 20.9**	**-1.4**
	160nm,1.4s						
WLAR	**White Oak Lake**	**50.84**	**342**	*e*P	**P**	**04 32 36.9**	**+0.8**
	36nm,1.4s						
TXAR	**Lajitas Array**	**51.30**	**329**	P	**P**	**04 32 39.3**	**-0.5**
	0.7nm,0.9s,baz=133,slow=5.3,SNR=4.8						
TXAR				LR	LR	04 53 08.1	
	comp=Z,196nm,18.1s,baz=0.0,slow=35						
ABTX	**Abilene, Hawle**	**52.24**	**335**	*e*P	**P**	**04 32 46.3**	**-0.3**
	53nm,1.9s						
IP06	**Yanceyville**	**52.44**	**358**	*e*P	**P**	**04 32 50.1**	**+2.1**
	76nm,1.8s						
WCI	**Wyandotte Cave**	**53.57**	**350**	*e*P	**P**	**04 32 56.6**	**+0.2**
	31nm,0.8s						
TUL1	**Leonard**	**53.74**	**340**	*e*P	**P**	**04 32 55.0**	**-2.6**
	7.3nm,0.8s						
MNTX	**Cornudas Mount**	**54.08**	**329**	*e*P	**P**	**04 32 58.7**	**-1.5**
	2.7nm,1.3s						
RKT	**Rikitea**	**56.05**	**252**	*e*T	T	05 33 39.2	
	13nm,0.2s						
CBKS	**Cedar Bluff**	**57.71**	**338**	*e*P	**P**	**04 33 25.5**	**-0.6**
SDCO	**Great Sand Dun**	**59.10**	**333**	*e*P	**P**	**04 33 36.1**	**0.0**
	5.9nm,1.3s						
WUAZ	**Wupatki**	**60.16**	**327**	*e*P	**P**	**04 33 44.3**	**+0.9**
	16nm,1.6s						
ECSD	**EROS Data Cent**	**61.16**	**343**	*e*P	**P**	**04 33 48.7**	**-1.1**
	15nm,1.4s						
CCUT	**Cedar City**	**62.74**	**327**	*e*P	**P**	**04 34 02.7**	**+1.9**
	2.5nm,1.1s						
TAOE	**Nuku Hiva Isla**	**62.85**	**268**	*e*LR	LR	04 52 45.9	
	497nm,24.8s						
TAOE	**Nuku Hiva Isla**	**62.85**	**268**	*e*T	T	05 42 07.2	
	109nm,0.3s						
DUG	**Dugway, Tooele**	**64.47**	**329**	*e*P	**P**	**04 34 12.3**	**+0.2**
	4.0nm,0.8s						
PDAR	**Pinedale Array**	**64.99**	**333**	P	**P**	**04 34 14.3**	**-1.2**
	0.6nm,0.9s,baz=128,slow=6.6,SNR=4.2						
PDAR				LR	LR	05 02 19.2	
	comp=Z,120nm,20.6s,baz=120,slow=36						
MDND	**Maddock**	**65.77**	**343**	*e*P	**P**	**04 34 20.2**	**-0.1**
	28nm,1.3s						
TPAW	**Teton Pass**	**66.17**	**333**	*e*P	**P**	**04 34 23.2**	**-0.1**
	10nm,1.4s						
MOOW	**Moose Ponds**	**66.29**	**333**	*e*P	**P**	**04 34 23.6**	**-0.3**
	3.9nm,1.3s						
IMW	**Indian Meadow**	**66.49**	**333**	*e*P	**P**	**04 34 26.0**	**+0.7**
	4.0nm,1.1s						
ULM	**Lac du Bonnet**	**67.03**	**346**	P	**P**	**04 34 26.8**	**-1.4**
	3.3nm,0.6s,baz=158,slow=5.6,SNR=6.7						
ULM				LR	LR	05 05 47.0	
	comp=Z,63nm,18.1s,baz=174,slow=38						
ULM	**Lac du Bonnet**	**67.03**	**346**	*e*P	**P**	**04 34 27.4**	**-0.8**
	30nm,1.6s						
PAHR	**Pah Rah Range**	**67.55**	**325**	*e*P	**P**	**04 34 33.6**	**+1.7**
	6.0nm,1.1s						
VNA3	**Neumayer Olymp**	**68.60**	**161**	P	**P**	**04 34 38.9**	**+1.0**
ORV	**Oroville**	**68.64**	**324**	*e*P	**P**	**04 34 40.3**	**+1.7**
	16nm,1.7s						
VNA1	**Neumayer--Stat**	**68.87**	**161**	P	**P**	**04 34 41.7**	**+2.1**
VNA2	**Neumayer--Watz**	**69.22**	**161**	P	**P**	**04 34 42.2**	**+0.4**
	baz=286,slow=5.8						
TBI	**Tubuai**	**69.30**	**250**	*e*S	**S**	**04 43 49.8**	**+1.7**
	67nm,26.2s						
TBI	**Tubuai**	**69.30**	**250**	*e*LR	LR	04 55 48.3	
	218nm,26.2s						
TBI	**Tubuai**	**69.30**	**250**	*e*T	T	05 50 17.3	
	19nm,0.2s						
SCHQ	**Schefferville**	**69.75**	**6**	LR	LR	05 06 48.2	
	comp=Z,54nm,18.9s,baz=290,slow=37						
TVO	**Taravao**	**69.93**	**256**	*e*T	T	05 51 02.5	
	0.9nm,0.2s						
TIAR	**Tiarei**	**70.05**	**256**	*e*T	T	05 51 11.4	
	7.6nm,0.2s						
PPT2	**Papeete2**	**70.27**	**256**	*e*S	**S**	**04 43 59.9**	**+0.1**
	96nm,23.0s						
PPT2	**Papeete2**	**70.27**	**256**	*e*LR	LR	04 56 10.9	
	160nm,25.8s						
PPT	**Papeete**	**70.27**	**256**	LR	LR	04 56 41.4	
	comp=Z,63nm,19.1s,baz=106,slow=28						
SNAA	**Sanae**	**70.83**	**161**	P	**P**	**04 34 52.3**	**+0.7**
SNAA	**Sanae**	**70.83**	**161**	*e*P	**P**	**04 34 52.5**	**+0.8**
	14nm,1.4s						
DBIC	**Dimbokro**	**73.70**	**78**	P	**P**	**04 35 09.6**	**-0.2**
	20nm,1.4s,baz=255,slow=5.5,SNR=4.8						
DBIC				LR	LR	05 05 55.0	
	comp=Z,494nm,19.8s,baz=228,slow=34						
TORD	**Torodi Ar. Bea**	**81.79**	**74**	P	**P**	**04 35 54.9**	**+0.1**
	9.8nm,1.1s,baz=258,slow=3.7,SNR=34						
TORD				LR	LR	05 10 19.9	
	comp=Z,252nm,19.6s,baz=245,slow=34						
VNDA	**Vanda**	**82.23**	**191**	LR	LR	05 07 08.0	
	comp=Z,109nm,18.7s,baz=138,slow=32						
YKA	**Yellowknife Ar**	**82.69**	**343**	LR	LR	05 14 06.6	
	comp=Z,9.7nm,19.1s,baz=180,slow=37						
ESDC	**Sonseca Array**	**86.06**	**47**	P	**P**	**04 36 16.1**	**-0.1**
	0.9nm,0.9s,baz=289,slow=4.8,SNR=4.6						
ESDC				LR	LR	05 11 55.7	
	comp=Z,158nm,19.6s,baz=270,slow=34						
TAM	**Tamanrasset**	**88.09**	**66**	*e*P	**P**	**04 36 27.8**	**+1.3**
	7.9nm,1.3s						
MAW	**Mawson**	**92.62**	**165**	LR	LR	05 17 54.8	
	comp=Z,62nm,18.1s,baz=241,slow=35						
BOSA	**Boshof**	**92.65**	**120**	LR	LR	05 16 22.2	
	comp=Z,166nm,18.9s,baz=248,slow=34						
KEST	**Kesra**	**94.81**	**54**	LR	LR	05 19 12.3	
	comp=Z,108nm,19.4s,baz=258,slow=35						
ILAR	**Eielson Array**	**95.31**	**336**	LR	LR	05 22 15.3	
	comp=Z,62nm,19.8s,baz=122,slow=37						
H11N3	**WAKE ISLAND Hyl**	**19.95**	**284**	T	T	06 53 38.9	
	baz=96,slow=74,SNR=141						
H11N2	**WAKE ISLAND Hyl**	**19.96**	**284**	T	T	06 53 30.5	
	baz=96,slow=74,SNR=134						
H11N1	**WAKE ISLAND Hyl**	**19.97**	**284**	T	T	06 53 33.7	
	baz=96,slow=74,SNR=71						
H11S2	**WAKE ISLAND Hyl**	**20.01**	**283**	T	T	06 53 32.5	
	baz=97,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hyl**	**20.01**	**283**	T	T	06 53 33.0	
	baz=97,slow=75,SNR=72						
H11S3	**WAKE ISLAND Hyl**	**20.02**	**283**	T	T	06 53 33.8	
	baz=97,slow=75,SNR=117						
ABKAR	**Akbulak array**	**130.32**	**37**	*e*PKPdf	**PKPdf**	**04 42 45.0**	**-0.6**
ASAR	**Alice Springs**	**131.88**	**218**	PKP	**PKPdf**	**04 42 49.4**	**0.0**
	0.3nm,0.4s,baz=119,slow=1.8,SNR=3.4						
WRAB	**Tennant Creek**	**134.37**	**222**	*e*PKPdf	**PKPdf**	**04 42 54.3**	**+0.1**
WRA	**Warramunga Arr**	**134.37**	**222**	PKP	**PKPdf**	**04 42 54.0**	**-0.2**
	0.3nm,0.5s,baz=134,slow=1.9,SNR=4.6						
WRA	**Warramunga Arr**	**134.37**	**222**	PKP	**PKPdf**	**04 42 54.0**	**-0.2**
ZALV	**Zalesovo Beam**	**138.10**	**17**	PKP	**PKPdf**	**04 42 59.6**	**-0.4**
	1.2nm,0.6s,baz=316,slow=4.0,SNR=4.6						
KSH	**Kashi**	**145.21**	**39**	PKPbc	**PKPdf**	**04 43 14.0**	**+0.6**
KSH				PP	**PP**	**04 46 36.0**	**+3.9**
KSH				PKS	**PKSdf**	**04 46 50.0**	**+1.0**
KSH				SKS	**SKSdf**	**04 50 18.5**	**-2.3**
KSH				SKKS	**SKKSac**	**04 53 21.5**	**-1.5**
KSH				SS	**SS**	**05 05 19.8**	**-1.3**
KSH				AMB	AMB		
	comp=Z,150nm,6.1s						
KSH				LR	LR		
	comp=N,61nm,7.3s						
KSH				LR	LR		
	comp=E,66nm,8.1s						
KSH				LR	LR		
	comp=Z,71nm,9.0s						
ULN	**Ulaanbaatar**	**146.88**	**356**	*e*PKPbc	**PKPbc**	**04 43 18.4**	**+0.5**
SONM	**Songino Array**	**146.95**	**357**	PKPbc	**PKPbc**	**04 43 17.9**	**-0.1**
	2.2nm,0.5s,baz=331,slow=2.7,SNR=16						
WMQ	**Urumqi**	**147.87**	**22**	*e*PKPbc	**PKPdf**	**04 43 17.0**	**-0.6**
WMQ				LR	LR		
	comp=N,50nm,30.3s						
WMQ				LR	LR		
	comp=E,43nm,30.3s						
WMQ				LR	LR		
	comp=Z,52nm,22.7s						
KSRS	**Korea Array**	**148.95**	**321**	PKPbc	**PKPbc**	**04 43 23.3**	**-0.2**
	1.4nm,0.8s,baz=24,slow=3.4,SNR=4.8						
KSAR	**Wonju Array Be**	**148.98**	**321**	PKPbc	**PKPbc**	**04 43 23.3**	**-0.3**
HHC	**Hu-ho-hao-te**	**153.16**	**347**	*e*PKPbc	**PKPdf**	**04 43 22.5**	**-3.5**
NJ2	**Nanjing**	**158.05**	**324**	*e*PKP	**PKPdf**	**04 43 33.5**	**+0.9**
LZH	**Lanzhou**	**158.75**	**0**	*e*PKP	**PKPdf**	**04 43 31.3**	**-2.3**
LZH				pPKP	pPKPdf	04 43 40.5	-2.8
GYA	**Guiyang**	**168.08**	**348**	*e*PKP	**PKPdf**	**04 43 41.0**	**-1.6**
GYA				PKPab	**PKPab**	**04 44 51.8**	**+1.7**
GYA				PKS	**PKSdf**	**04 47 12.5**	**-2.9**
GYA				PP	**PP**	**04 48 40.3**	**+2.7**
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
QIZ	**Qiongzhong**	**172.94**	**308**	PKP	**PKPdf**	**04 43 45.5**	**+0.2**
QIZ				PP	**PP**	**04 49 02.8**	**-0.4**
QIZ				SS	SS	05 10 15.0	-0.4
QIZ				LR	LR		
	comp=Z,40nm,23.0s						
CMAR	**Chiang Mai Arr**	**173.95**	**52**	PKP	**PKPdf**	**04 43 46.8**	**+1.2**
	1.0nm,0.3s,baz=289,slow=2.8,SNR=4.4						
PB12	**IPOC Station P**	**1.43**	**123**	*i* P	Pn	04 26 29.0	+1.1
PB12				*i* S	Sb	04 26 48.1	-0.3
PB12				IAML		04 27 03.6	
	comp=N,5μm,1.3s						
PB13	**IPOC Station P**	**2.05**	**105**	*i* P	Pb	04 26 39.5	-1.7
PB13				*i* S	Sb	04 27 06.5	-0.1
PB13				IAML		04 27 13.1	
	comp=N,4μm,0.9s						
PSGC	**Pisagua**	**2.25**	**142**	*i* P	Pn	04 26 41.5	+2.4
PSGC				*i* S	Sb	04 27 09.3	-2.3
MNMC	**Minye Minye**	**2.30**	**125**	*i* P	Pn	04 26 41.9	+1.9
MNMC				*i* S	Sb	04 27 10.8	-2.5
MNMC				IAML		04 27 34.9	
	comp=N,740nm,1.0s						
PB08	**IPOC Station P**	**3.26**	**135**	*i* P	Pn	04 26 56.0	+2.7
PB08				*i* S	Sn	04 27 35.2	+4.1
PB08				IAML		04 28 01.6	
	comp=N,261nm,1.1s						

ISCJB ***29*** *04:29:24.0±0.6, 38°.73N±0°.03×43°.46E±0°.07, h13km±5km, Error ellipse: s-maj=10.0km s-min=4.3km az=22.1*
CSEM ***29*** *04:29:23.6±0.3, 38°.73N×43°.47E, h10km, MD2.6, Error ellipse: s-maj=11.8km s-min=5.1km az=114.0*
ISK ***29*** *04:29:23.1, 38°.73N×43°.47E, h4km, MD2.6*
DDA ***29*** *04:29:24.1, 38°.71N×43°.44E, h7km, Ml3.0*

ISC 29 04:29:23.8±1.0, 38°.72N±0°.03×43°.50E±0°.05, h16km±8km, n16,σ0§84/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**216**	*e*PG	**Pg**	**04 29 28.3**	**+0.3**
VANB	**Van**	**0.15**	**216**	*e*Pg	**Pg**	**04 29 28.3**	**+0.3**
TVAN	**Van**	**0.20**	**201**	*i* P	**Pg**	**04 29 28.1**	**-0.7**
TVAN				*i* S	**Sg**	**04 29 31.7**	**-0.4**
TVAN	**Van**	**0.20**	**201**	P	**Pg**	**04 29 28.1**	**-0.7**
TVAN				S	**Sg**	**04 29 31.7**	**-0.4**
VMUR	**Van-Muradiye**	**0.28**	**12**	*i* P	**Pg**	**04 29 29.4**	**-0.6**
VMUR				*i* S	**Sb**	**04 29 35.8**	**+0.7**
VMUR	**Van-Muradiye**	**0.28**	**12**	P	**Pg**	**04 29 29.4**	**-0.6**
VMUR				S	**Sb**	**04 29 35.8**	**+0.7**
GEVA	**Gevas**	**0.53**	**221**	*i* P	**Pg**	**04 29 32.7**	**-1.7**
GEVA				*i* S	**Sb**	**04 29 43.5**	**+1.2**
GEVA	**Gevas**	**0.53**	**221**	P	**Pg**	**04 29 32.7**	**-1.7**
GEVA				S	**Sb**	**04 29 43.5**	**+1.2**
CLDR	**Caldiran**	**0.54**	**37**	*e*PG	**Pg**	**04 29 34.3**	**-0.3**
CLDR				*e*SG	**Sb**	**04 29 42.6**	**0.0**
CLDR	**Caldiran**	**0.54**	**37**	*i* P	**Pg**	**04 29 33.9**	**-0.7**
CLDR				*i* S	**Sb**	**04 29 42.9**	**+0.4**
CLDR	**Caldiran**	**0.54**	**37**	P	**Pg**	**04 29 33.9**	**-0.7**
CLDR	**Caldiran**	**0.54**	**37**	*e*Pg	**Pg**	**04 29 34.3**	**-0.3**
CLDR				*e*Sg	**Sb**	**04 29 42.6**	**0.0**
AGRB	**Hanur-Agry**	**0.94**	**336**	*e*PG	**Pg**	**04 29 41.5**	**-0.7**
AGRB				*e*SG	**Sb**	**04 29 55.0**	**+0.8**
AGRB	**Hanur-Agry**	**0.94**	**336**	*e*Pg	**Pg**	**04 29 41.5**	**-0.7**
AGRB				*e*Sg	**Sb**	**04 29 55.0**	**+0.8**
CUKT	**Cukurca**	**1.47**	**177**	*e*PN	**Pb**	**04 29 51.2**	**+0.5**
CUKT	**Cukurca**	**1.47**	**177**	*e*Pn	**Pb**	**04 29 51.2**	**+0.5**

SOME ***29*** *04:31:07.9, 45°.95N×79°.68E, h10km*
NNC ***29*** *04:31:07.7±1.2, 45°.88N×79°.95E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=12.4km s-min=5.9km az=120.0*

ISC 29 04:31:06.1±2.0, 45°.93N±0°.08×79°.86E±0°.07, h0km±18km, n15,σ1§06/24, 7C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.74**	**209**	*e*P	**Pg**	**04 31 20.2**	**0.0**
	12nm,0.1s						
KAPS				*e*S	**Sg**	**04 31 28.4**	**-1.4**
	53nm,0.1s						
TDK	**Taldyqorghan**	**1.38**	**228**	*e*P	**Pn**	**04 31 32.0**	**-0.7**
	16nm,0.2s						
TDK				*e*S	**Sb**	**04 31 48.8**	**-2.2**
	41nm,0.3s						
DJR	**Jarkent**	**1.60**	**182**	*e*P	**Pg**	**04 31 37.3**	**+0.5**
	7.3nm,0.1s						
DJR				*e*S	**Sg**	**04 31 57.2**	**-0.3**
	17nm,0.2s						
MAKZ	**Makanchi**	**1.71**	**58**	⇑P	**Pb**	**04 31 38.6**	**+0.2**
	5.1nm,0.9s						
MAKZ				⇑S	**Sb**	**04 32 01.0**	**+0.6**
	4.1nm,0.3s						
MK31	**Makanchi Array**	**1.89**	**62**

BERE	Bereket-Mersin	1.11	68	*e*Pn	Pn	04 36 42.4 +0.5
BERE				*e*Sn	Sn	04 36 58.9 +2.0
LEF	Lefka	1.12	136	*e*PN	Pn	04 36 41.7 -0.2
LEF	Lefka	1.12	136	*e*Pn	Pn	04 36 41.7 -0.2
OREN	Orenkoy-Mersin	1.25	77	*e*PN	Pn	04 36 44.5 +0.9
OREN	Orenkoy-Mersin	1.25	77	*e*Pn	Pn	04 36 44.5 +0.9
MAMC	Mammari	1.29	126	P	Pn	04 36 44.7 +0.7
MAMC	Mammari	1.29	126	P	Pn	04 36 44.7 +0.7
baz=308						
AKK1	Akkuyu-Mersin	1.31	80	*e*Pn	Pn	04 36 45.7 +1.4
AKK1	Akkuyu-Mersin	1.31	80	*e*Pn	Pn	04 36 45.7 +1.4
TEVE	Tevekalti-Mers	1.31	67	*e*PN	Pn	04 36 45.5 +1.1
TEVE	Tevekalti-Mers	1.31	67	*e*Pn	Pn	04 36 45.5 +1.1
AKK2	Akkuyu-Mersin	1.31	81	*e*PN	Pn	04 36 45.2 +0.9
AKK2	Akkuyu-Mersin	1.31	81	*e*Pn	Pn	04 36 45.2 +0.9
AKKU	Akkuyu-Mersin	1.32	80	*e*PN	Pn	04 36 45.5 +1.1
AKKU	Akkuyu-Mersin	1.32	80	*e*Pn	Pn	04 36 45.5 +1.1
TEPE	Tepekoy-Mersin	1.34	77	*e*PN	Pn	04 36 46.0 +1.3
TEPE	Tepekoy-Mersin	1.34	77	*e*Pn	Pn	04 36 46.0 +1.3
YESI	Yesilovacik-Me	1.40	79	*e*PN	Pn	04 36 47.2 +1.7
YESI	Yesilovacik-Me	1.40	79	*e*Pn	Pn	04 36 47.2 +1.7
SZAC	Souni	1.40	147	P	Pn	04 36 48.4 +2.8
SZAC	Souni	1.40	147	P	Pn	04 36 48.4 +2.8
baz=329						
SZAC				S	Sn	04 37 07.6 +4.2
ANTB	Antalya	1.42	313	*e*PN	Pn	04 36 45.2 -0.5
ANTB	Antalya	1.42	313	*e*Pn	Pn	04 36 45.2 -0.5
IKL	Isikli	1.44	77	*e*PN	Pn	04 36 47.1 +1.1
IKL	Isikli	1.44	77	*e*Pn	Pn	04 36 47.1 +1.1
LFK	Lefkose	1.45	116	*e*PN	Pn	04 36 47.3 +1.1
LFK	Lefkose	1.45	116	*e*Pn	Pn	04 36 47.3 +1.1
CSS	Mathiatis	1.49	130	P	Pn	04 36 46.1 -0.6
CSS	Mathiatis	1.49	130	P	Pn	04 36 46.1 -0.6
baz=313						
KEBE	Keben-Mersin	1.52	70	*e*PN	Pn	04 36 48.9 +1.8
KEBE	Keben-Mersin	1.52	70	*e*Pn	Pn	04 36 48.9 +1.8
SILI	Silifke-Mersin	1.66	74	*e*PN	Pn	04 36 50.6 +1.7
SILI	Silifke-Mersin	1.66	74	*e*Pn	Pn	04 36 50.6 +1.7
KORT	Korkueli	1.67	310	*e*PN	Pn	04 36 48.5 -0.7
KORT	Korkueli	1.67	310	*i* P	Pn	04 36 47.9 -1.3
KORT				*i* S	Sn	04 37 11.0 +1.2
KORT	Korkueli	1.67	310	P	Pn	04 36 47.9 -1.3
KORT	Korkueli	1.67	310	*e*Pn	Pn	04 36 48.5 -0.7
KORT				S	Sn	04 37 11.0 +1.2
SUTC	Sutluce-Ispart	1.72	334	*e*PN	Pn	04 36 50.1 +0.3
SUTC	Sutluce-Ispart	1.72	334	*e*PN	Pn	04 36 50.1 +0.3
ELL	Elmali	1.83	297	*e*PN	Pn	04 36 51.5 +0.1
ELL	Elmali	1.83	297	*e*Pn	Pn	04 36 51.5 +0.1
KIZK	Mersin	1.86	72	*e*PN	Pn	04 36 53.3 +1.7
KMER	Konya-Meram	1.86	10	*i* P	Pn	04 36 52.6 +0.8
KMER				*i* S	Sn	04 37 15.9 +1.5
KMER	Konya-Meram	1.86	10	P	Pn	04 36 52.6 +0.8
KMER				S	Sn	04 37 15.9 +1.5
BCK	Bucak	1.87	325	*e*PN	Pn	04 36 52.4 +0.5
BCK	Bucak	1.87	325	*e*Pn	Pn	04 36 52.4 +0.5
AKAS	Kas	1.92	280	*e*PN	Pn	04 36 52.2 -0.3
AKAS	Kas	1.92	280	*e*Pn	Pn	04 36 52.2 -0.3
PHNC	Paralimni	1.94	118	P	Pn	04 36 53.3 +0.6
PHNC	Paralimni	1.94	118	P	Pn	04 36 53.3 +0.6
baz=300						
PHNC				S	Sn	04 37 20.5 +4.4
KONT	Konya--Tatoy	2.03	9	*e*PN	Pn	04 36 55.2 +1.2
KONT	Konya--Tatoy	2.03	9	*i* P	Pn	04 36 55.0 +1.0
KONT				*i* S	Sn	04 37 18.4 -0.1
KONT	Konya--Tatoy	2.03	9	*e*Pn	Pn	04 36 55.2 +1.2
BAGO	Egridir - ISPA	2.25	336	*i* P	Pn	04 36 58.0 +1.0
BAGO				*i* S	Sn	04 37 23.2 -0.6
LADK	Ladik-KONYA	2.29	8	*e*PN	Pn	04 36 58.4 +0.9
LADK	Ladik-KONYA	2.29	8	*e*Pn	Pn	04 36 58.4 +0.9
GLHS	Gihisar (BURDU	2.32	302	*e*PN	Pn	04 36 58.2 +0.3
GLHS	Gihisar (BURDU	2.32	302	*e*Pn	Pn	04 36 58.2 +0.3
GOLH	Golhisar	2.32	305	*i* P	Pn	04 36 59.5 +1.6
GOLH				*i* S	Sn	04 37 27.9 +2.5
GOLH	Golhisar	2.32	305	P	Pn	04 36 59.5 +1.6
GOLH				S	Sn	04 37 28.0 +2.5
FETY	Fethiye	2.42	288	*e*PN	Pn	04 36 59.7 +0.5
FETY	Fethiye	2.42	288	*e*Pn	Pn	04 36 59.7 +0.5
KDHN	Kadinhani	2.58	3	*i* P	Pn	04 37 01.9 +0.3
KDHN				*i* S	Sn	04 37 31.6 -0.3
DALY	Dalyan (Mu¨la	2.80	289	*e*PN	Pn	04 37 04.9 +0.6
DALY	Dalyan (Mu¨la	2.80	289	*e*Pn	Pn	04 37 04.9 +0.6
SHUT	Suhut-Afyon	2.84	337	*e*PN	Pn	04 37 06.2 +1.2
SHUT	Suhut-Afyon	2.84	337	*e*Pn	Pn	04 37 06.2 +1.2
TAVA	DENIZLI_Tavas	2.88	303	*i* S	Pn	04 37 05.9 +0.5
TAVA				*i* S	Sn	04 37 47.7 +8.7
DNZL	Cakiroluk	2.91	308	*i* P	Pn	04 37 09.4 +3.4
DNZL				*i* S	Sn	04 37 43.5 +3.5
DNZL	Cakiroluk	2.91	308	P	Pn	04 37 09.4 +3.4
DNZL				S	Sn	04 37 43.5 +3.5
KHAL	Karahalli	3.12	322	*i* P	Pn	04 37 08.8 0.0
KHAL				*i* S	Sn	04 37 44.2 -0.8
KHAL	Karahalli	3.12	322	P	Pn	04 37 08.8 0.0
KHAL				S	Sn	04 37 44.2 -0.8
SVRH	Sivrihisar-ESK	3.52	355	*e*PN	Pn	04 37 16.0 +1.7
SVRH	Sivrihisar-ESK	3.52	355	*e*Pn	Pn	04 37 16.0 +1.7
DAT	Datca	3.62	284	*e*PN	Pn	04 37 16.5 +1.0
DAT	Datca	3.62	284	*e*Pn	Pn	04 37 16.5 +1.0
ESKT	Eskisehir	3.68	347	*i* P	Pn	04 37 16.9 +0.4
GDZ	Gediz	3.71	329	*i* S	Sn	04 37 57.5 -1.9
GDZ	Gediz	3.71	329	S	Sn	04 37 57.5 -1.9
HNTI	Hanita	3.90	136	Pn	Pn	04 37 20.3 +1.0
HNTI				Sn	Sn	04 38 03.2 -0.7
HNTI	Hanita	3.90	136	Pn	Pn	04 37 20.3 +1.0
HNTI				Sn	Sn	04 38 03.2 -0.7
BODT	Bodrum	3.90	288	*e*PN	Pn	04 37 20.6 +1.3
BODT	Bodrum	3.90	288	*e*Pn	Pn	04 37 20.6 +1.3
KARP	Karpathos	3.91	266	*e*PN	Pn	04 37 20.7 +1.2
KARP	Karpathos	3.91	266	*e*Pn	Pn	04 37 20.7 +1.2
BRTR	Keskin Array B	4.01	19	P	Pn	04 37 21.1 0.0
0.7nm,0.3s,baz=194,slow=16,SNR=17						
BRTR				S	Sn	04 38 03.2 -3.7
0.4nm,0.3s,baz=205,slow=20,SNR=4.3						
TVSB	Tavsanli	4.02	331	*e*PN	Pn	04 37 22.4 +1.3
TVSB	Tavsanli	4.02	331	*e*Pn	Pn	04 37 22.4 +1.3
KSDI	Kefar Szold	4.11	131	Pn	Pn	04 37 23.5 +1.3
KSDI	Kefar Szold	4.11	131	Pn	Pn	04 37 23.5 +1.3
OFRI	'Ofer	4.15	142	Pn	Pn	04 37 23.0 +0.1
BLGI	Bet Lehem HaGe	4.17	139	Pn	Pn	04 37 23.8 +0.7
BLGI	Bet Lehem HaGe	4.17	139	Pn	Pn	04 37 23.8 +0.7
KSHT	Keshet	4.34	132	Pn	Pn	04 37 27.3 +1.8
KSHT	Keshet	4.34	132	Pn	Pn	04 37 27.3 +1.8
SLTI	Sal'it	4.49	144	Pn	Pn	04 37 27.8 +0.4
HMDT	Nahal Hemdat	4.72	140	Pn	Pn	04 37 31.9 +1.3
HMDT				Sn	Sn	04 38 24.4 +0.3
HMDT	Nahal Hemdat	4.72	140	Pn	Pn	04 37 31.9 +1.3
HMDT				Sn	Sn	04 38 24.4 +0.3
AMAZ	Amatzia	5.04	150	Pn	Pn	04 37 35.7 +0.7
AMAZ				Sn	Sn	04 38 30.4 -1.5
DSI	Dead Sea	5.21	146	Pn	Pn	04 37 38.1 +0.9
DSI				Sn	Sn	04 38 36.4 +0.4
DSI	Dead Sea	5.21	146	Pn	Pn	04 37 38.1 +0.9
DSI				Sn	Sn	04 38 36.4 +0.4
YTIR	Yattir	5.27	149	Pn	Pn	04 37 39.4 +1.2
KZIT	Kziot	5.42	157	Pn	Pn	04 37 40.6 +0.5
KZIT	Kziot	5.42	157	Pn	Pn	04 37 40.6 +0.5
MZDA	Masada	5.42	147	Pn	Pn	04 37 41.5 +1.4
MZDA				Sn	Sn	04 38 39.7 -1.4
MZDA	Masada	5.42	147	Pn	Pn	04 37 41.5 +1.4
MZDA				Sn	Sn	04 38 39.7 -1.4
ASF	Jabal al Asfar	5.56	131	P	Pn	04 37 44.2 +2.0
0.3nm,0.3s,baz=242,slow=6.0,SNR=3.2						
ASF				S	Sn	04 38 48.8 +4.0
0.9nm,0.3s,baz=24,slow=14,SNR=3.2						
IDI	Anoyia	5.78	266	P	Pn	04 37 45.7 +0.5
0.4nm,0.3s,baz=82,slow=14,SNR=8.5						
IDI				S	Sn	04 38 45.6 -4.6
1.3nm,0.3s,baz=37,slow=20,SNR=3.8						
PRNI	Paran	6.13	154	Pn	Pn	04 37 50.0 +0.1
PRNI				Sn	Sn	04 38 56.5 -2.1
HRFI	Mount Harif	6.43	155	Pn	Pn	04 37 54.4 +0.4
MBRI	Mt Berech	6.61	157	Pn	Pn	04 37 57.0 +0.5
EIL	Elat	6.74	157	P	Pn	04 37 58.8 +0.6
1.7nm,0.3s,baz=300,slow=8.1,SNR=19						
EIL				S	Sn	04 39 11.0 -2.5
2.3nm,0.3s,baz=50,slow=18,SNR=8.5						
EIL	Elat	6.74	157	Pn	Pn	04 37 58.0 -0.2
GERES	GERESS Array B	18.59	320	P	P	04 40 33.1 -0.3
0.1nm,0.3s,baz=126,slow=9.9,SNR=5.0						
GEYT	Alibeck	21.00	77	P	P	04 40 57.9 -1.6
0.8nm,0.6s,baz=255,slow=10,SNR=2.4						
FINES	FINESS Array B	25.80	354	P	P	04 41 44.8 -1.3
2.4nm,0.6s,baz=160,slow=12,SNR=13						
ARCES	ARCESS Array B	33.84	356	P	P	04 42 56.1 -1.1
1.4nm,0.8s,baz=179,slow=9.2,SNR=5.7						
TORD	Torodi Ar. Bea	35.42	238	P	P	04 43 11.6 +0.3
0.2nm,0.4s,baz=47,slow=7.1,SNR=8.4						

IDC 29 04:39:26.5±15.0, 52°.74N×175°.68W, h207km±123km, mb3.0/2, mb1 3.3/4, mb1mx2.8/48, mbtmp3.6/4, Error ellipse: s-maj=107.6km s-min=86.8km az=43.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	14.07	60	P	Pn	04 42 36.8	+0.1
0.9nm,0.3s,baz=289,slow=11,SNR=17							
KDAK				S	S	04 45 14.0	+1.5
0.3nm,0.3s,baz=217,slow=20,SNR=3.1							
ILAR	Eielson Array	18.97	39	P	P	04 43 31.8	-0.2
baz=237,slow=10,SNR=2.4							
H11N2	WAKE ISLAND Hy	35.62	209	T	T	05 22 43.4	
baz=18							
H11N3	WAKE ISLAND Hy	35.62	209	T	T	05 22 44.6	
baz=18							
H11N1	WAKE ISLAND Hy	35.63	209	T	T	05 22 42.8	
baz=18							
H11S1	WAKE ISLAND Hy	36.83	209	T	T	05 24 11.8	
baz=19							
H11S2	WAKE ISLAND Hy	36.85	209	T	T	05 24 14.1	
baz=19							
H11S3	WAKE ISLAND Hy	36.85	209	T	T	05 24 38.5	
baz=19							
PDAR	Pinedale Array	44.08	75	P	P	04 47 14.0	0.0
0.4nm,0.5s,baz=316,slow=3.8,SNR=4.5							
TXAR	Lajitas Array	56.57	84	P	P	04 48 47.5	-0.1
0.5nm,0.5s,baz=317,slow=6.3,SNR=6.1							

*ISK **29** 04:49:14.9, 39°.54N×40°.58E, h5km, MD3.0*
*ISCJB **29** 04:49:15.4±0.5, 39°.54N±0°.03×40°.57E±0°.03, h3km±6km, Error ellipse: s-maj=4.7km s-min=4.0km az=43.3*
*CSEM **29** 04:49:15.4±0.2, 39°.54N×40°.58E, h5km, MD3.0, Error ellipse: s-maj=4.8km s-min=3.9km az=144.0*
*DDA **29** 04:49:15.2, 39°.54N×40°.58E, h7km, Ml3.3*

ISC 29 04:49:15.5±1.0, 39°.55N±0°.02×40°.58E±0°.02, h5km±8km, n36, σ0°65/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	Yedisu-Bingol	0.12	194	*e*PG	Pg	04 49 17.9	0.0
YEDI				*e*SG	Sg	04 49 20.3	+0.7
YEDI	Yedisu-Bingol	0.12	194	*e*Pg	Pg	04 49 17.9	0.0
YEDI				*e*Sg	Sg	04 49 20.3	+0.7
ECAT	Cat-ERZURUM	0.31	80	*i* P	Pg	04 49 20.9	-0.6
ECAT				*i* S	Sg	04 49 25.5	-0.2
ECAT	Cat-ERZURUM	0.31	80	P	Pg	04 49 20.9	-0.6
ECAT				S	Sg	04 49 25.5	-0.2
KOPT	Kop Dagi	0.47	352	*i* P	Pg	04 49 24.9	+0.3
KOPT				*i* S	Sb	04 49 33.0	-0.8
KOPT	Kop Dagi	0.47	352	P	Pg	04 49 24.9	+0.3
KOPT				S	Sb	04 49 33.0	-0.8
BNGB	Bing¨¶l	0.56	172	*e*PG	Pg	04 49 25.6	-0.7
BNGB				*e*SG	Sg	04 49 34.1	+0.5
ERZN	Erzincan	0.67	273	*e*PG	Pg	04 49 28.3	+0.1
ERZM	Erzurum	0.70	59	*i* P	Pg	04 49 28.7	-0.3
ERZM	Erzurum	0.70	59	P	Pg	04 49 28.7	-0.3
BNGL	BINGOL	0.74	143	*i* P	Pg	04 49 29.7	0.0
BNGL				*i* S	Sb	04 49 41.0	-0.6
VRTB	Varto-Mus	0.78	120	*e*PG	Pg	04 49 30.4	-0.1
VRTB	Varto-Mus	0.78	120	*e*Pg	Pg	04 49 30.4	-0.1
TNCL	Tunceli-Merkez	0.92	242	*i* P	Pg	04 49 32.1	-0.9
TNCL				*i* S	Sb	04 49 45.9	-0.5
TNCL	Tunceli-Merkez	0.92	242	P	Pg	04 49 32.1	-0.9
TNCL				S	Sb	04 49 45.9	-0.5
HOMI	Horasan	1.13	64	*i* P	Pg	04 49 36.9	-0.4
HOMI				*i* S	Sn	04 49 53.8	-0.5
PTK	Pertek	1.13	235	*e*PN	Pg	04 49 36.6	-0.6
PTK	Pertek	1.13	235	*e*Pn	Pg	04 49 36.6	-0.6
EKAR	Karacoban	1.19	104	*i* P	Pn	04 49 39.4	+0.5
EKAR				*i* S	Sn	04 49 58.1	+2.6
EKAR	Karacoban	1.19	104	P	Pn	04 49 39.4	+0.5
SVAN	Silvan-Diyarba	1.48	161	*e*PN	Pb	04 49 42.9	-0.6
SVAN	Silvan-Diyarba	1.48	161	*e*Pn	Pb	04 49 42.9	-0.6
SVRC	Sivrice-ELAZID	1.54	221	*e*PN	Pn	04 49 43.6	-0.1
SVRC	Sivrice-ELAZID	1.54	221	*e*Pn	Pn	04 49 43.6	-0.1
KTUT	Trabzon	1.56	337	*e*PN	Pn	04 49 44.1	+0.2
KTUT	Trabzon	1.56	337	*e*Pn	Pn	04 49 44.1	+0.2
AGRB	Hanur-Agry	1.86	88	*e*PN	Pn	04 49 48.6	+0.4
AGRB	Hanur-Agry	1.86	88	*e*Pn	Pn	04 49 48.6	+0.4
ESPY	Espiye-Giresun	1.97	314	*e*PN	Pn	04 49 50.1	+0.6
ESPY	Espiye-Giresun	1.97	314	*e*Pn	Pn	04 49 50.1	+0.6
MAZI	Mazidag	2.09	183	*e*PN	Pn	04 49 51.6	+0.3
MAZI	Mazidag	2.09	183	*e*Pn	Pn	04 49 51.6	+0.3
URFA	Urfa	2.52	214	*e*PN	Pn	04 49 57.6	+0.5
URFA	Urfa	2.52	214	*e*Pn	Pn	04 49 57.6	+0.5
DARE	Darende-Malaty	2.60	249	*e*PN	Pn	04 49 59.1	+0.8
DARE	Darende-Malaty	2.60	249	*e*Pn	Pn	04 49 59.1	+0.8

*IDC **29** 05:12:16.7±1.0, 0°.76S×126°.12E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/31, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=117.4km s-min=17.2km az=69.0*
*NEIC **29** 05:12:18.7±4.5, 0°.90S×125°.72E, h12km±28km, mb4.3/7, Error ellipse: s-maj=15.4km s-min=9.1km az=53.0*
*ISCJB **29** 05:12:20.3±0.4, 0°.81S±0°.04×126°.06E±0°.05, h33km, mb4.3/11, Error ellipse: s-maj=7.1km s-min=5.3km az=146.9*
*DJA **29** 05:12:23.4±0.4, 1°.S±3°.×12°.6E±°, h46km±32km, M4.3/7, mb4.8/1, MLv4.0/7*

ISC 29 05:12:22.4±0.6, 0°.91S±0°.05×126°.05E±0°.04, h35km, n35, σ1§43/40, mb4.2/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.13	183	P	Pn	05 12 41.5	-0.3
SANI				S	Sn	05 12 57.0	+0.9
LBMI	Labuha	1.48	79	P	Pn	05 12 47.2	+0.7
LBMI				S	Sn	05 13 06.6	+2.0
NLAI	Namlea	2.54	156	P	Pn	05 13 02.1	+1.0
NLAI				S	Sn	05 13 31.6	+0.8
KMSI	Cibinong	2.54	306	P	Pn	05 13 02.7	+1.5
KMSI				S	Sn	05 13 32.8	+1.8
LUWI	Luwuk	3.28	268	P	Pn	05 13 12.0	+0.7
LUWI				S	Sn	05 13 52.4	+3.2
LUWI	Luwuk	3.28	268	*e*Pn	Pn	05 13 04.0	-7.3
APSI	Ampana	4.40	270	P	Pn	05 13 27.6	+0.8
FAKI	Fak Fak	6.51	108	*e*Pn	Pn	05 13 59.1	+3.3
TTSI	Tana Toraja	6.58	251	P	Pn	05 13 58.7	+2.0
SPSI	Sidrap Palu	6.97	244	P	Pn	05 14 03.5	+1.4
SPSI				S	Sn	05 15 20.4	+0.2
SOEI	Soe	8.96	191	*e*Pn	Pn	05 14 27.5	-2.1
MTN	Manton Dam	12.88	157	*e*Pn	Pn	05 15 23.9	+0.8
FITZ	Fitzroy Crossi	17.09	181	P	P	05 16 20.1	0.0
0.1nm,0.3s,baz=356,slow=13,SNR=3.4							
WR1	Warramunga Arr	20.58	157	*e*P	P	05 16 57.9	-0.5
9.8nm,1.4s							
WRA	Warramunga Arr	20.58	157	P	P	05 16 57.9	-0.5
1.0nm,0.6s,baz=336,slow=11,SNR=3.5							
AS31	Alice Springs	23.86	162	*e*P	P	05 17 32.9	+0.1
1.9nm,1.4s							
ASAR	Alice Springs	23.87	162	P	P	05 17 32.9	+0.1
1.8nm,0.8s,baz=344,slow=9.7,SNR=18							
STKA	Stephens Creek	34.12	156	P	P	05 19 05.1	+1.1
1.8nm,0.8s,baz=342,slow=12,SNR=3.2							
STKA	Stephens Creek	34.12	156	*e*P	P	05 19 05.1	+1.1
6.1nm,1.8s							
SONA0	Songino Array	51.49	343	*e*P	P	05 21 23.4	-1.2
2.0nm,0.8s							
SONM	Songino Array	51.49	343	P	P	05 21 23.4	-1.2
1.7nm,0.7s,baz=155,slow=9.1,SNR=10							
MK32	Makanchi Array	61.01	327	*e*P	P	05 22 31.3	-1.2
MKAR	Makanchi Array	61.01	327	P	P	05 22 31.3	-1.2
1.1nm,0.6s,baz=121,slow=8.6,SNR=5.9							
ZALV	Zalesovo Beam	64.42	334	P	P	05 22 53.8	-1.2
1.7nm,0.7s,baz=123,slow=5.3,SNR=7.6							
ZAA1	Zalesovo Array	64.43	334	*e*P	P	05 22 53.8	-1.3
KURK	Kurchatov	65.31	329	*e*P	P	05 23 00.3	-0.5
3.7nm,0.9s							
ABKAR	Akbulak array	75.32	322	*e*P	P	05 24 01.9	-0.3
131nm,1.3s							
ARU	Arti	78.49	328	*e*P	P	05 24 18.4	-1.4
24nm,2.0s							
RND	Reindeer	88.61	27	*e*P	P	05 25 10.6	-1.1
30nm,1.8s							
QSPA	South Pole Qui	89.02	180	*e*P	P	05 25 14.7	+1.1
TORD	Torodi Ar. Bea	123.59	285	PKP	PKPdf	05 31 16.9	-0.5
0.3nm,0.7s,baz=69,slow=4.2,SNR=2.6							
TOA1	Torodi Ar. Sit	123.59	285	*e*PKPdf	PKPdf	05 31 16.9	-0.5
PFVI	Vila Bisbo	124.98	316	*e*PKPdf	PKPdf	05 31 16.9	-2.5
SFIN	Lafayette	130.52	33	*e*PKPdf	PKPdf	05 31 28.3	-1.6
HNH	Hanover	134.37	19	*e*PKPdf	PKPdf	05 31 38.9	+1.8

*SCB **29** 05:25:43.7±0.3, 14°.11S×77°.32W, h20km, Ml4.3/1, Error ellipse: s-maj=13.0km s-min=6.8km az=1.0*
*IDC **29** 05:25:58.9±1.6, 14°.52S×76°.14W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.0/35, mbtmp4.1/11, ML3.5/3, MS3.9/2, Ms1 3.9/2, ms1mx3.2/25, Error ellipse: s-maj=43.0km s-min=18.3km az=50.0*
*ISCJB **29** 05:26:02.7±0.6, 14°.57S±0°.07×76°.33W±0°.08, h33km, mb4.5/16, Error ellipse: s-maj=13.8km s-min=5.5km az=141.7*
*NEIC **29** 05:26:03.5±2.3, 14°.53S×76°.07W, h27km±15km, mb4.8/12, Error ellipse: s-maj=13.3km s-min=5.1km az=55.0*

ISC 29 05:26:03.9±0.6, 14°.48S±0°.08×76°.0W±0°.1, h29km, n54, σ1§32/45, mb4.7/15, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.60	342	Pn	Pn	05 26 42.6	-1.4
17nm,0.3s,baz=172,slow=16,SNR=27							
NNA				LR	LR	05 27 10.4	
comp=Z,104nm,21.4s,baz=49,slow=27							
NNA				Sn	Sn	05 27 15.6	+1.0
207nm,0.3s,baz=249,slow=16,SNR=11							
NNA	Nana	2.60	342	*e*Pn	Pn	05 26 43.4	-0.6
NNA				*e*Sn	Sn	05 27 15.6	+1.0
BBOD	La Paz, Gloria	7.48	108	*e*Pn	Pn	05 27 57.4	+5.8
ATAH	Atahualpa	7.66	342	Pn	Pn	05 27 54.2	+0.4
0.6nm,0.3s,baz=151,slow=13,SNR=3.1							
ATAH				Sn	Sb	05 29 37.8	-9.4
1.1nm,0.3s,baz=65,slow=17,SNR=2.8							
MNMC	Minye Minye	7.71	128	*e*Pn	Pn	05 27 54.4	0.0
BBOB	La Paz, Bander	7.80	103	*e*Pn	Pn	05 28 01.6	+5.7
BBOB				*e*Sn	Sb	05 29 42.1	-9.2
58nm,1.0s							
LPAZ	La Paz	7.83	104	Pn	Pn	05 28 01.8	+5.3
3.8nm,0.3s,baz=291,slow=6.7,SNR=158							
LPAZ	La Paz	7.83	104	*e*Pn	Pn	05 28 02.1	+5.6
LPAZ				*e*Sn	Sb	05 29 43.1	-9.3
LPAZ	La Paz	7.83	104	*e*Pn	Pn	05 28 02.0	+5.6
BBOJ	La Paz, Jacaqu	7.95	109	*e*Pn	Pn	05 28 03.8	+5.8
PB11	IPOC Station P	8.05	132	*e*Pn	Pn	05 27 59.2	+0.2
BBOE	La Paz, Chanca	8.09	108	*e*Pn	Pn	05 28 06.0	+6.0
LVC	Limon Verde	10.54	141	Sn	Sn	05 30 28.4	-2.2
28nm,0.3s,baz=83,slow=23,SNR=4.0							
LVC				Lg	Lg	05 31 28.9	
3.2nm,0.3s,baz=112,slow=20,SNR=6.3							
MOCB	Mochara	11.97	126	*e*Pn	Pn	05 28 58.4	+5.4
SAML	Samuel	13.72	68	*e*Pn	Pn	05 29 16.1	-0.6
SIV	San Ignacio	14.51	98	Pn	Pn	05 29 26.5	-0.9
0.3nm,0.3s,baz=280,slow=16,SNR=7.7							
OTAV	Otavalo	14.81	350	*e*Pn	Pn	05 29 33.1	+1.1
GUYC	Guyana, Colomb	19.58	2	*e*P	Pn	05 30 33.5	+1.8
RUSC	La Rusia	20.45	8	*e*P	Pn	05 30 43.3	+1.3
RUSC	La Rusia	20.45	8	*e*P	Pn	05 30 41.4	-0.5
5.5nm,0.8s							
PTGA	Pitinga	20.95	51	P	P	05 30 45.0	+0.4
5.1nm,0.6s,baz=204,slow=13,SNR=14							
PTGA	Pitinga	20.95	51	*e*P	P	05 30 46.5	+1.9
9.7nm,1

AGRB	Hanur-Agry	0.91	346	ePg	Pb	05 32 33.5 -0.6
AGRB				eSg	Sg	05 32 46.6 +0.3
EKAR	Karacoban	1.10	301	iP	Pg	05 32 38.9 +1.1
EKAR				iS	Sn	05 32 56.6 +4.2
EKAR	Karacoban	1.10	301	P	Pg	05 32 38.9 +1.1
HAKT	HAKKARI	1.18	163	iP	Pn	05 32 36.8 -1.8
HAKT				iS	Sg	05 32 58.0 +3.2
HAKT	HAKKARI	1.18	163	P	Pn	05 32 36.8 -1.8
HAKT				S	Sg	05 32 58.0 +3.2
EATA	Eleskirt	1.32	333	iP	Pn	05 32 40.7 +0.1
EATA				iS	Sg	05 33 00.3 +1.1
EATA	Eleskirt	1.32	333	P	Pn	05 32 40.7 +0.1
EATA				S	Sg	05 33 00.3 +1.1
CUKT	Cukurca	1.47	170	ePN	Pb	05 32 43.3 -0.2
CUKT	Cukurca	1.47	170	ePn	Pb	05 32 43.3 -0.2
BNGL	BINGOL	1.68	280	iP	Pn	05 32 45.8 +0.4
BNGL				iS	Sg	05 33 08.8 -1.9
SVAN	Silvan-Diyarba	1.72	252	ePN	Pb	05 32 47.8 +0.1
SVAN	Silvan-Diyarba	1.72	252	ePn	Pb	05 32 47.8 +0.1
BTMN	Batman	1.77	244	iP	Pn	05 32 46.2 -0.3
BTMN				iS	Sb	05 33 10.9 +0.3
BTMN	Batman	1.77	244	P	Pn	05 32 46.2 -0.3
BTMN				S	Sb	05 33 10.9 +0.3
BNGB	Bing¶ll	2.05	279	ePN	Pb	05 32 52.4 -1.0
BINT	Bingol	2.18	276	ePn	Pn	05 32 52.4 +0.1
MAZI	Mazidag	2.55	242	ePN	Pb	05 33 00.4 -1.5

*IDC **29** 05:33:41.1±0.7, 14°.52S×76°.29W, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/40, mbtmp4.2/17, ML3.6/3, MS3.6/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=24.6km s-min=14.2km az=58.0*
*ISCJB **29** 05:33:44.3±0.3, 14°.53S±0°.04×76°.14W±0°.07, h29km, mb4.6/47, MS3.8/4, Error ellipse: s-maj=10.2km s-min=4.6km az=152.3*
*NEIC **29** 05:33:45.9±2.2, 14°.52S×76°.18W, h26km±15km, mb4.8/39, ML4.7(ARE), Error ellipse: s-maj=11.1km s-min=4.5km az=56.0*
*BJI **29** 05:33:45.7, 14°.50S×76°.10W, h23km, mB5.3/6, Ms5.4/6, Ms7 5.1/6*

ISC 29 05:33:46.1±0.4, 14°.51S±0°.06×76°.11W±0°.08, h29km, n103, σ1°21/99, mb4.7/47, MS3.7/4, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.61	344	Pn	Pn	05 34 23.9	-2.5
	22nm,0.3s,baz=162,slow=15,SNR=27						
NNA				Sn	Sn	05 34 58.2	+1.0
	293nm,0.3s,baz=239,slow=18,SNR=8.1						
NNA	Nana	2.61	344	ePn	Pn	05 34 23.9	-2.5
NNA				Sn	Sn	05 34 58.2	+1.0
NNA				eSn	Sb	05 35 02.4	-1.5
ATAH	Atahualpa	7.67	343	Pn	Pn	05 35 35.6	-0.7
	0.8nm,0.3s,baz=157,slow=11,SNR=4.0						
ATAH				Sn	Sn	05 37 03.6	+1.2
	baz=131,slow=23,SNR=1.8						
LPAZ	La Paz	7.90	104	Pn	Pn	05 35 44.7	+5.0
	3.7nm,0.3s,baz=297,slow=6.3,SNR=74						
LPAZ				LR	LR	05 39 26.8	
	comp=Z,283nm,19.7s,baz=303,slow=43						
LPAZ	La Paz	7.90	104	ePn	Pn	05 35 44.9	+5.3
PB04	IPOC Station P	9.62	145	ePn	Pn	05 35 57.6	-5.3
PB10	IPOC Station P	10.38	150	ePn	Pn	05 36 12.7	-0.5
LVC	Limon Verde	10.56	141	Sn	Sn	05 38 12.4	-1.0
	45nm,0.3s,baz=109,slow=21,SNR=4.8						
LVC				Lg	Lg	05 39 16.1	
	baz=123,slow=19,SNR=11						
SAML	Samuel	13.81	68	ePn	Pn	05 36 59.6	-0.5
SIV	San Ignacio	14.59	98	Pn	Pn	05 37 11.8	+1.1
	0.2nm,0.3s,baz=258,slow=17,SNR=2.6						
OTAV	Otavalo	14.84	351	ePn	Pn	05 37 15.5	+1.0
ROSC	El Rosal	19.31	5	eP	Pn	05 38 10.3	-0.3
	14nm,1.1s						
RUSC	La Rusia	20.49	9	eP	Pn	05 38 24.3	-0.4
	5.8nm,0.8s						
HELC	Santa Helena	20.58	2	eP	Pn	05 38 26.1	+0.5
	14nm,0.8s						
PTGA	Pitinga	21.03	51	P	P	05 38 28.1	+0.3
	8.4nm,0.9s,baz=237,slow=13,SNR=3.6						
PTGA	Pitinga	21.03	51	eP	P	05 38 29.1	+1.3
	19nm,1.1s						
CPUP	Villa Florida	21.14	127	P	P	05 38 29.6	+0.7
	5.1nm,1.0s,baz=308,slow=10,SNR=6.8						
CPUP	Villa Florida	21.14	127	eP	P	05 38 28.7	-0.1
BCIP	Isla Barro Col	23.81	351	eP	P	05 38 58.1	+1.3
	95nm,1.9s						
SDV	Santo Domingo	23.87	13	P	P	05 38 57.5	-0.1
	10nm,0.6s,baz=207,slow=11,SNR=9.6						
JTS	JuntasAbangare	26.16	340	LR	LR	05 49 60.0	
	comp=Z,107nm,18.2s,baz=187,slow=38						
PLCA	Paso Flores	26.57	171	P	P	05 39 21.3	-0.5
	2.5nm,0.8s,baz=360,slow=9.6,SNR=4.5						
PLCA	Paso Flores	26.57	171	eP	P	05 39 21.7	-0.1
	20nm,1.9s						
PCRV	Puerto La Cruz	27.04	26	LR	LR	05 50 56.3	
	comp=Z,288nm,20.4s,baz=194,slow=38						
BDFB	Brasilia	27.14	96	P	P	05 39 27.6	+0.3
	2.8nm,0.8s,baz=43,slow=8.7,SNR=7.7						
BDFB	Brasilia	27.14	96	eP	P	05 39 28.0	+0.7
	58nm,1.9s						
MTDJ	Mount Denham	32.56	357	eP	P	05 40 16.1	+0.9
	247nm,1.9s						
CELP	Cerrillos	33.72	16	eP	P	05 40 24.8	-0.3
CMIG	Matias Romero	36.46	329	LR	LR	05 53 46.8	
	comp=Z,88nm,18.7s,baz=138,slow=33						
TEIG	Tepich	36.53	341	eP	P	05 40 49.6	+0.2
	16nm,1.5s						
LNIG	Linares	45.31	330	eP	P	05 42 01.5	-0.2
	8.2nm,1.1s						
HPIG		50.21	325	eP	P	05 42 40.4	+0.5
	3.7nm,0.8s						
WLAR	White Oak Lake	50.60	342	eP	P	05 42 42.9	+0.5
	30nm,1.4s						
TX31	Lajitas Ar. Si	51.07	329	eP	P	05 42 46.1	-0.1
TXAR	Lajitas Array	51.07	329	P	P	05 42 45.0	-1.2
	1.3nm,0.7s,baz=150,slow=9.2,SNR=9.0						
MIAR	Mount Ida	51.53	342	eP	P	05 42 49.2	-0.3
	61nm,2.0s						
BLA	Blacksburg	51.60	356	eP	P	05 42 49.9	-0.1
	67nm,1.8s						
ABTX	Abilene, Hawle	52.00	335	eP	P	05 42 53.1	+0.1
	24nm,1.6s						
SSPA	Standing Stone	54.89	358	eP	P	05 43 13.4	-0.7
	60nm,2.0s						
ODNJ	Ogdensburg	55.33	1	eP	P	05 43 17.0	-0.2
	18nm,1.4s						
319A	Douglas	55.64	325	eP	P	05 43 20.5	+0.7
	7.7nm,0.7s						
ANMO	Albuquerque	57.00	330	P	P	05 43 28.6	-0.9
	1.0nm,0.7s,baz=329,slow=7.3,SNR=6.4						
SDCO	Great Sand Dun	58.86	333	eP	P	05 43 42.5	-0.1
	14nm,1.8s						
LONY	Lake Ozonia	58.86	1	eP	P	05 43 42.3	+0.1
	23nm,1.5s						
FRNY	Flat Rock	59.10	2	eP	P	05 43 43.7	-0.2
	49nm,1.9s						
X16A	Lo Mia Camp, P	59.13	326	eP	P	05 43 45.1	+0.6
	2.6nm,0.8s						
KNB	Kanab	61.83	327	eP	P	05 44 03.5	+0.7
	13nm,1.7s						
CCUT	Cedar City	62.51	327	eP	P	05 44 08.5	+1.0
	13nm,2.0s						
MSU	Marysvale	62.63	329	eP	P	05 44 08.8	+0.6
DUG	Dugway, Tooele	64.23	329	eP	P	05 44 19.3	+0.6
	5.3nm,0.7s						
R11A	Troy Canyon, C	64.28	326	eP	P	05 44 19.9	+0.8
	8.2nm,1.9s						
HWUT	Hardware Ranch	64.73	331	eP	P	05 44 21.7	-0.2
	6.8nm,1.3s						
PDAR	Pinedale Array	64.75	333	P	P	05 44 20.6	-1.5
	0.2nm,0.5s,baz=120,slow=8.8,SNR=3.7						
HVU	Hansel Valley	65.43	331	eP	P	05 44 26.2	-0.3
	9.8nm,1.4s						
REDW	Red Top Meadow	65.79	333	eP	P	05 44 29.0	+0.1
	13nm,1.6s						
TPAW	Teton Pass	65.94	333	eP	P	05 44 29.7	-0.2
	16nm,1.8s						
ULM	Lac du Bonnet	66.78	346	P	P	05 44 33.5	-1.3
	1.9nm,0.7s,baz=164,slow=7.4,SNR=3.9						
GCMT	Greycliff	67.24	335	eP	P	05 44 38.8	+0.8
HLID	Hailey	67.57	331	eP	P	05 44 40.7	+0.5
	1.5nm,0.7s						
MFID	Camas Ranch	68.14	330	eP	P	05 44 44.2	+0.6
	3.9nm,0.8s						
ORV	Oroville	68.41	324	eP	P	05 44 46.8	+1.5
	4.4nm,0.9s						
VNA3	Neumayer Olymp	68.85	161	P	P	05 44 48.5	+0.9
VNA1	Neumayer--Stat	69.12	161	P	P	05 44 48.5	-0.7
VNA2	Neumayer--Watz	69.47	161	P	P	05 44 52.1	+0.6
	baz=297,slow=7.4						
SNAA	Sanae	71.07	161	P	P	05 45 01.0	-0.3
SNAA	Sanae	71.07	161	eP	P	05 45 02.2	+0.9
	5.1nm,0.8s						
DBIC	Dimbokro	73.71	79	P	P	05 45 18.4	+0.4
	3.5nm,0.8s,baz=233,slow=5.1,SNR=4.8						
QSPA	South Pole Qui	75.64	180	eP	P	05 45 29.9	+1.5
TOA0	Torodi Ar. Sit	81.78	74	eP	P	05 46 03.6	+0.6
	12nm,0.7s						
TORD	Torodi Ar. Bea	81.78	74	P	P	05 46 03.6	+0.6
	11nm,0.7s,baz=273,slow=5.2,SNR=48						
SYO	Syowa Base	85.36	161	eP	P	05 46 19.6	-0.7
SYO	Syowa Base	85.36	161	epP	pP	05 46 26.7	-2.9
PAB	San Pablo	85.61	47	eP	P	05 46 23.1	+0.9
	18nm,1.5s						
ESDC	Sonseca Array	85.94	47	P	P	05 46 24.3	+0.5
	1.2nm,0.6s,baz=250,slow=5.4,SNR=8.4						
DAWY	Dawson	91.84	337	eP	P	05 46 51.0	-0.2
	23nm,1.8s						
BOSA	Boshof	92.82	120	eP	P	05 46 56.8	+0.1
	49nm,1.9s						
MAW	Mawson	92.87	165	P	P	05 46 55.9	0.0
	1.7nm,0.8s,baz=199,slow=5.5,SNR=3.9						
MAW	Mawson	92.87	165	eP	P	05 46 56.7	+0.8
	0.6nm,1.0s						
ILAR	Eielson Array	95.07	336	P	P	05 47 05.0	-1.0
	0.3nm,0.8s,baz=113,slow=1.4,SNR=5.0						
RND	Reindeer	95.34	334	eP	P	05 47 09.2	+1.9
	22nm,1.8s						
H11N3	WAKE ISLAND Hyl	19.83	285	T	T	08 03 19.3	
	baz=96,slow=74,SNR=50						
H11N2	WAKE ISLAND Hyl	19.84	285	T	T	08 03 27.7	
	baz=96,slow=74,SNR=69						
H11N1	WAKE ISLAND Hyl	19.85	285	T	T	08 03 20.0	
	baz=96,slow=74,SNR=28						
H11S2	WAKE ISLAND Hyl	19.89	283	T	T	08 03 32.2	
	baz=97,slow=75,SNR=22						
H11S1	WAKE ISLAND Hyl	19.90	283	T	T	08 03 28.6	
	baz=97,slow=75,SNR=27						
H11S3	WAKE ISLAND Hyl	19.91	283	T	T	08 03 33.5	
	baz=97,slow=75,SNR=24						
ASAR	Alice Springs	132.03	218	PKP	PKPdf	05 52 57.5	-0.4
	0.4nm,0.9s,baz=107,slow=1.7,SNR=4.4						
WB2	Warramunga Arr	134.50	222	ePKPdf	PKPdf	05 53 03.6	+1.0
WRA	Warramunga Arr	134.51	222	PKP	PKPdf	05 53 02.3	-0.3
	1.1nm,0.8s,baz=149,slow=1.6,SNR=7.8						
ZALV	Zalesovo Beam	137.89	17	PKP	PKPdf	05 53 08.0	+0.3
	2.4nm,0.9s,baz=291,slow=1.9,SNR=6.2						
KURK	Kurchatov	138.50	24	PKP	PKPdf	05 53 09.3	+0.3
KURBB	Kurchatov Arra	138.54	24	PKP	PKPdf	05 53 09.3	+0.3
	0.5nm,0.3s,baz=314,slow=2.6,SNR=8.1						
KSH	Kashi	145.06	39	PKPbc	PKPdf	05 53 22.0	+0.7
KSH				pPKP	sPKPab	05 53 32.0	-1.4
KSH				sPKP		05 53 35.8	
KSH				PP	PP	05 56 44.5	+5.2
KSH				PKS	PKSdf	05 56 56.0	-0.9
KSH				SKS	SKSdf	06 00 26.8	-2.0
KSH				SS	SS	06 15 28.8	+1.3
KSH				AMB	AMB		
	comp=Z,110nm,6.8s						
KSH				LR	LR		
	comp=N,190nm,9.1s						
KSH				LR	LR		
	comp=E,120nm,8.1s						
KSH				LR	LR		
	comp=Z,170nm,8.3s						
ULN	Ulaanbaatar	146.64	356	ePKPdf	PKPab	05 53 25.7	-0.7
SONM	Songino Array	146.71	357	PKPbc	PKPbc	05 53 23.8	-1.6
	3.2nm,0.6s,baz=338,slow=1.7,SNR=18						
WMQ	Urumqi	147.67	22	ePKPbc	PKPdf	05 53 25.0	-0.5
WMQ				LR	LR		
	comp=N,49nm,15.1s						
WMQ				LR	LR		
	comp=E,41nm,15.0s						
WMQ				LR	LR		
	comp=Z,52nm,12.0s						
KSRS	Korea Array	148.73	321	PKPbc	PKPbc	05 53 29.2	-1.8
	0.7nm,0.7s,baz=96,slow=2.4,SNR=3.5						
KSAR	Wonju Array Be	148.76	321	PKPbc	PKPbc	05 53 29.2	-1.9
HHC	Hu-ho-hao-te	152.92	347	ePKPbc	PKPdf	05 53 31.3	-2.5
NJ2	Nanjing	157.82	324	ePKP	PKPdf	05 53 39.5	-1.0
LZH	Lanzhou	158.51	0	ePKP	PKPdf	05 53 39.0	-2.5
LZH				pPKP	pPKPdf	05 53 49.0	-2.2
LZH				sPKP		05 53 53.5	
GSI	Gunungsitoli	165.47	154	ePKPdf	PKPdf	05 53 49.5	+0.4
GYA	Guiyang	167.83	348	ePKP	PKPdf	05 53 50.0	-0.6
GYA				PKPab	PKPab	05 54 59.0	+1.8
GYA				PKS	PKSdf	05 57 21.3	-2.1
GYA				PP	PP	05 58 48.5	+4.0
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						

DJA 29 05:36:10.6±0.8, 11°S±21°×11°8E±°, h142km±36km, M3.8/7, MLv3.8/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.96	3	P	Pn	05 36 45.3	+0.5
PLAI				S	Sn	05 37 11.4	+0.3
TWSI	Taliwang, Sumb	2.19	339	P	Pn	05 36 48.2	+0.6
TWSI				S	Sn	05 37 16.0	-0.1
IGBI	Denpasar	3.18	308	P	Pn	05 36 59.7	-0.3
SRBI	Singaraja	3.63	318	P	Pn	05 37 08.2	+2.3
JAGI	Jajag, Banyuwa	4.18	303	P	Pn	05 37 12.2	-0.8
JAGI				S	Sn	05 38 00.3	-1.2
EDFI	Ende, Flores	4.45	63	P	Pn	05 37 14.9	-1.8
EDFI				S	Sn	05 38 03.6	-4.4
UGM	Wanagama	7.62	292	P	Pn	05 37 59.5	+0.4
UGM				S	Sn	05 39 17.9	-6.2

ISK 29 05:47:49.7, 38°.52N×43°.27E, h27km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.12	51	ePG	Pb	05 47 55.0	0.0
VANB				eSG	Sb	05 47 58.8	+0.3
CLDR	Caldiran	0.80	39	ePG	Pb	05 48 05.3	+0.1
CLDR				eSG	Sn	05 48 17.2	+0.6
AGRB	Hanur-Agry	1.08	348	ePG	Pb	05 48 09.9	+0.1
AGRB				eSG	Sb	05 48 23.8	+0.2

*DDA **29** 05:49:44.9, 38°.63N×43°.15E, h4km, Ml3.7*
*ISK **29** 05:49:44.0, 38°.62N×43°.10E, h10km, ML3.2*
*ISCJB **29** 05:49:45.4±0.4, 38°.65N±0°.02×43°.14E±0°.03, h7km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=3.8*
*CSEM **29** 05:49:45.0±0.2, 38°.63N×43°.15E, h10km, ML3.7, Error ellipse: s-maj=4.0km s-min=3.6km az=89.0*

ISC 29 05:49:45.3±0.8, 38°.63N±0°.02×43°.15E±0°.02, h13km±7km, n43, σ1°13/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	101	ePG	Pg	05 49 49.8	+0.1
VANB				eSG	Sg	05 49 54.1	+1.4
VANB	Van	0.19	101	ePg	Pg	05 49 49.8	+0.1
VANB				eSg	Sg	05 49 54.1	+1.4
TVAN	Van	0.22	117	iP	Pg	05 49 49.8	-0.5
TVAN				iS	Sg	05 49 53.6	-0.1
TVAN	Van	0.22	117	P	Pg	05 49 49.8	-0.5
TVAN				S	Sg	05 49 53.6	-0.1
GEVA	Gevas	0.33	193	iP	Pg	05 49 51.9	-0.2
GEVA				iS	Sb	05 49 58.3	-0.1
GEVA	Gevas	0.33	193	P	Pg	05 49 51.9	-0.2
GEVA				S	Sb	05 49 58.3	-0.1
ERCV	ERCIS-VAN	0.41	20	ePG	Pg	05 49 52.5	-1.2
ERCV				eSG	Sb	05 50 00.2	-0.8
ERCV	ERCIS-VAN	0.41	20	ePg	Pg	05 49 52.5	-1.2
ERCV				eSg	Sb	05 50 00.2	-0.8
VMUR	Van-Muradiye	0.48	42	iP	Pg	05 49 55.1	+0.1
VMUR				iS	Sb	05 50 03.1	0.0
VMUR	Van-Muradiye	0.48	42	P	Pg	05 49 55.1	+0.1
VMUR				S	Sb	05 50 03.1	0.0
TATV	Tatvan	0.70	260	iP	Pg	05 49 58.5	-0.6
TATV				iS	Sb	05 50 08.7	-0.6
TATV	Tatvan	0.70	260	P	Pg	05 49 58.5	-0.6
TATV				S	Sb	05 50 08.7	-0.6
CLDR	Caldiran	0.79	49	ePG	Pg	05 50 00.2	-0.4
CLDR				eSG	Sb	05 50 12.0	+0.3
CLDR	Caldiran	0.79	49	iP	Pg	05 50 00.1	-0.5
CLDR				iS	Sb	05 50 12.2	+0.5
CLDR	Caldiran	0.79	49	ePg	Pg	05 50 00.2	-0.4
CLDR				eSg	Sb	05 50 12.0	+0.3
TUTA	Tutak	0.81	341	iP	Pg	05 50 00.7	-0.4
TUTA				iS	Sg	05 50 09.4	-2.5
TUTA	Tutak	0.81	341	P	Pg	05 50 00.7	-0.4
TUTA				S	Sg	05 50 09.4	-2.5
BASK	Baskale_VAN	0.89	131	iP	Pg	05 50 01.8	-0.7
BASK				iS	Sb	05 50 14.7	+0.2
BASK	Baskale_VAN	0.89	131	P	Pg	05 50 01.8	-0.7
BASK				S	Sb	05 50 14.7	+0.2
AGRB	Hanur-Agry	0.95	353	ePG	Pg	05 50 03.1	-0.6
AGRB				eSG	Sb	05 50 16.5	0.0
AGRB	Hanur-Agry	0.95	353	ePg	Pg	05 50 03.1	-0.6
AGRB				eSg	Sb	05 50 16.5	0.0
EKAR	Karacoban	1.05	307	iP	Pn	05 50 06.0	-0.1
EKAR				iS	Sn	05 50 26.4	+5.6
EKAR	Karacoban	1.05	307	P	Pn	05 50 06.0	-0.1
HAKT	HAKKARI	1.16	158	iP	Pb	05 50 06.1	-1.3
HAKT				iS	Sn	05 50 23.9	+0.6
HAKT	HAKKARI	1.16	158	P	Pb	05 50 06.1	-1.3
HAKT				S	Sn	05 50 23.9	+0.6
SIRN	S¨–rnak	1.27	207	iP	Pg	05 50 10.1	+0.2
SIRN	S¨–rnak	1.27	207	P	Pg	05 50 10.1	+0.2
EATA	Eleskirt	1.33	338	iP	Pb	05 50 10.2	-0.2
EATA				iS	Sg	05 50 29.7	+1.3
EATA	Eleskirt	1.33	338	P	Pb	05 50 10.2	-0.2
EATA				S	Sg	05 50 29.7	+1.3
CUKT	Cukurca	1.43	165	ePN	Pn	05 50 10.9	-0.2
CUKT	Cukurca	1.43	165	ePn	Pn	05 50 10.9	-0.2
BNGL	BINGOL	1.60	282	iP	Pb	05 50 15.1	+0.2
BNGL				iS	Sg	05 50 37.6	+0.8
SVAN	Silvan-Diyarba	1.61	253	ePN	Pn	05 50 12.0	-1.5
SVAN	Silvan-Diyarba	1.61	253	ePn	Pn	05 50 12.0	-1.5
BTMN	Batman	1.66	244	iP	Pb	05 50 16.1	+0.3
BTMN				iS	Sg	05 50 39.6	+1.0
BTMN	Batman	1.66	244	P	Pb	05 50 16.1	+0.3
BNGB	Bing¶ll	1.96	281	ePN	Pn	05 50 17.2	-1.3
BINT	Bingol	2.10	278	ePn	Pn	05 50 17.2	-3.1
YEDI	Yedisu-Bingol	2.19	292	ePN	Pn	05 50 21.7	+0.1
YEDI	Yedisu-Bingol	2.19	292	ePn	Pn	05 50 21.7	+0.1
MARD	Mardin	2.29	236	iP	Pb	05 50 26.8	+0.2
MARD				iS	Sg	05 50 57.0	-1.9
MAZI	Mazidag	2.44	242	ePN	Pn	05 50 24.8	-0.2
MAZI	Mazidag	2.44	242	ePn	Pn	05 50 24.8	-0.2

DJA 29 05:58:06.2±0.6, 10°S±7°×11°4E±°, h44km±45km, M3.8/9, MLv3.8/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	Denpasar	1.24	43	P	Pn	05 58 26.8	-0.3
IGBI				S	Sn	05 58 42.6	0.0
JAGI	Jajag, Banyuwa	1.26	354	P	Pn	05 58 26.6	-0.8
JAGI				S	Sn	05 58 42.9	-0.2
DNP	Denpasar	1.39	41	P	Pn	05 58 29.0	-0.1
DNP				S	Sn	05 58 48.1	+1.9
SRBI	Singaraja	1.87	29	P	Pn	05 58 36.2	+0.4
SRBI				S	Sn	05 58 59.8	+1.6
KMMI	Kalianget	2.68	353	P	Pn	05 58 48.2	+1.3
TWSI	Taliwang, Sumb	2.74	69	P	Pn	05 58 47.6	-0.1
TWSI				S	Sn	05 59 18.9	-0.8
PLAI	Plampang	3.56	76	P	Pn	05 58 59.4	+0.5
PLAI				S	Sn	05 59 38.4	-1.3
UGM	Wanagama	4.14	296	P	Pn	05 59 08.1	+1.2
UGM				S	Sn	05 59 53.8	-0.3

*ISK **29** 06:19:29.6, 38°.74N×43°.48E, h3km, ML3.0*
*CSEM **29** 06:19:30.5±0.2, 38°.76N×43°.50E, h2km, ML3.0, Error ellipse: s-maj=5.8km s-min=3.8km az=100.0*
*DDA **29** 06:19:30.7, 38°.77N×43°.44E, h7km, Ml3.6*
*ISCJB **29** 06:19:31.1±0.4, 38°.76N±0°.02×43°.48E±0°.04, h9km±3km, Error ellipse: s-maj=5.4km s-min=3.0km az=9.1*

ISC 29 06:19:31.3±0.8, 38°.75N±0°.02×43°.49E±0°.03, h13km±6km, n44, σ1°16/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	207	ePG	Pg	06 19 35.4	-0.2
VANB				eSG	Sg	06 19 39.2	+0.7
VANB	Van	0.18	207	ePg	Pg	06 19 35.4	-0.2
VANB				eSg	Sg	06 19 39.2	+0.7
TVAN	Van	0.24	197	iP	Pg	06 19 35.2	-1.4
TVAN				iS	Sg	06 19 40.4	+0.3
TVAN	Van	0.24	197	P	Pg	06 19 35.2	-1.4
TVAN				S	Sg	06 19 40.4	+0.3
VMUR	Van-Muradiye	0.24	14	iP	Pg	06 19 35.5	-1.2
VMUR				iS	Sg	06 19 41.1	+0.8
VMUR	Van-Muradiye	0.24	14	P	Pg	06 19 35.5	-1.2
VMUR				S	Sg	06 19 41.1	+0.8
ERCV	ERCIS-VAN	0.29	335	ePG	Pg	06 19 36.5	-1.0
ERCV				eSG	Sg	06 19 41.3	-0.4
ERCV	ERCIS-VAN	0.29	335	ePg	Pg	06 19 36.5	-1.0
ERCV				eSg	Sg	06 19 41.3	-0.4
CLDR	Caldiran	0.51	40	ePG	Pg	06 19 39.9	-1.6
CLDR				eSG	Sb	06 19 49.1	-0.5
CLDR	Caldiran	0.51	40	iP	Pg	06 19 40.2	-1.3
CLDR				iS	Sb	06 19 49.2	-0.5
CLDR	Caldiran	0.51	40	ePg	Pg	06 19 39.9	-1.6
CLDR	Caldiran	0.51	40	P	Pg	06 19 40.2	-1.3
CLDR				eSg	Sb	06 19 49.1	-0.5
GEVA	Gevas	0.56	218	iP	Pg	06 19 40.6	-1.7
GEVA				iS	Sb	06 19 50.4	-0.6
GEVA	Gevas	0.56	218	P	Pg	06 19 40.7	-1.7
GEVA				S	Sb	06 19 50.4	-0.6
DYDN	Diyadin	0.80

mb3.6/4, Error ellipse: s-maj=7.4km s-min=5.5km az=1.1
GUC ***29*** *06:23:24.3±0.6, 28°.76S×70°.83W, h70km±3km, ML4.0*
IDC ***29*** *06:23:24.4±0.9, 28°.96S×71°.25W, h52km±5km, mb3.5/4, mb1 3.7/6, mb1mx3.5/32, mbtmp3.7/6, Error ellipse: s-maj=38.5km s-min=27.2km az=38.0*

ISC 29 06:23:22.8±0.7, 28°.67S±0°.04×71°.35W±0°.07, h29km, n40, σ2§08/46, mb3.7/4, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.53**	**80**	⇓*i*P	**Pn**	**06 23 35.5**	**+1.1**
VACH				*i* S	**Sn**	**06 23 43.5**	**+1.0**
LCO	**Las Campanas**	**0.66**	**121**	⇑*i*P	**Pn**	**06 23 37.0**	**+0.5**
LCO				*i* S	**Sn**	**06 23 45.9**	**-0.2**
LCO				IAML		06 23 47.3	
	comp=N,15μm,0.4s						
TLL	**Tololo Astrono**	**1.56**	**162**	⇑*i*P	**Pn**	**06 23 49.8**	**+1.0**
TLL				*i* S	**Sn**	**06 24 09.1**	**+0.8**
TLL				IAML		06 24 17.7	
	comp=E,4μm,0.6s						
CPCH	**Copiapo**	**1.58**	**34**	⇑*i*P	**Pn**	**06 23 49.7**	**+0.9**
AGUA	**GUANDACOL**	**2.63**	**109**	*e*P	**Pb**	**06 24 07.5**	**-1.8**
VCA	**Vinchina**	**2.77**	**92**	*i* P	**Pb**	**06 24 09.4**	**-2.2**
VCA				*i* S	Sb	06 25 00.1	+15
VCA				IAML		06 25 02.6	
	comp=Z,373nm,0.6s						
AMOG	**MOGNA**	**3.36**	**133**	*e*P	**Pn**	**06 24 16.6**	**+3.2**
RTLS	**Leoncito**	**3.59**	**151**	*i* P	**Pn**	**06 24 20.8**	**+4.1**
RTLL	**Cerro Villicun**	**3.64**	**137**	*i* P	**Pn**	**06 24 21.0**	**+3.8**
AUSP	**Uspallata**	**3.92**	**155**	*e*P	**Pn**	**06 24 25.5**	**+4.1**
ACLC	**CERRO LA CRUZ**	**3.92**	**102**	*e*P	**Pn**	**06 24 23.4**	**+2.1**
AVFE	**Valle Fertil**	**3.93**	**121**	*i* P	**Pn**	**06 24 23.4**	**+2.2**
RTCV	**Cerro Valdivia**	**4.00**	**143**	*i* P	**Pn**	**06 24 25.0**	**+2.8**
ROC1	**El Roble**	**4.30**	**176**	*e*P	**Pn**	**06 24 26.8**	**+0.3**
ASAL	**Salagasta**	**4.47**	**152**	*e*P	**Pn**	**06 24 32.0**	**+3.4**
PEL	**Peldehue**	**4.49**	**173**	⇑*i*P	**Pn**	**06 24 29.9**	**+0.9**
PEL				*i* S	**Sn**	**06 25 19.2**	**-1.1**
APLL	**PUNTA DE LOS L**	**4.54**	**113**	*e*P	**Pn**	**06 24 31.2**	**+1.6**
ARCO	**CERRO ARCO**	**4.65**	**154**	*e*P	**Pn**	**06 24 34.9**	**+3.7**
CLCH	**Cerro Calan**	**4.76**	**172**	*e*P	**Pn**	**06 24 32.9**	**+0.2**
CLCH				*i* S	**Sn**	**06 25 24.4**	**-2.4**
ACHE	**Chepes**	**4.77**	**122**	*e*P	**Pn**	**06 24 34.5**	**+1.7**
CYA	**Choya**	**4.89**	**89**	*e*P	**Pn**	**06 24 36.0**	**+1.6**
AAGR	**Agrelo**	**4.90**	**154**	*e*P	**Pn**	**06 24 38.0**	**+3.3**
ACAN	**Cantantal**	**5.08**	**136**	*e*P	**Pn**	**06 24 38.8**	**+1.8**
FSA	**Cafayete**	**5.42**	**63**	*e*P	Pn	06 24 47.9	+6.1
LVC	**Limon Verde**	**6.43**	**21**	P	**Pn**	**06 24 56.4**	**+0.6**
	comp=Z,15nm,0.3s,baz=133,slow=7.0,SNR=8.4						
LVC				S	**Sn**	**06 26 07.2**	**-1.2**
	comp=Z,92nm,0.3s,baz=139,slow=20,SNR=2.5						
TCA	**Tanti**	**6.43**	**116**	*e*P	**Pn**	**06 24 55.7**	**+0.1**
SUCO	**SUCO**	**7.25**	**132**	*e*P	**Pn**	**06 25 06.9**	**+0.1**
HJA	**Humahuaca**	**7.63**	**46**	*e*P	Pn	06 25 20.0	+7.6
CPUP	**Villa Florida**	**12.66**	**83**	P	**Pn**	**06 26 20.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=238,slow=15,SNR=2.2						
LPAZ	**La Paz**	**12.68**	**14**	P	**Pn**	**06 26 26.1**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=2.8						
TXAR	**Lajitas Array**	**65.43**	**329**	P	**P**	**06 34 03.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=139,slow=11,SNR=3.1						
PDAR	**Pinedale Array**	**79.31**	**332**	P	**P**	**06 35 26.3**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=125,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**81.85**	**70**	P	**P**	**06 35 37.9**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=266,slow=5.0,SNR=9.7						
TORD				pP	**sP**	**06 35 53.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=271,slow=4.7,SNR=4.4						
BOSA	**Boshof**	**82.04**	**118**	P	**P**	**06 35 39.4**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=218,slow=3.8,SNR=2.8						
BOSA				pP	**sP**	**06 35 53.5**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=258,slow=4.6,SNR=2.4						
WRA	**Warramunga Arr**	**125.67**	**210**	PKP	**PKPdf**	**06 42 19.0**	**-3.2**
	comp=Z,0.8nm,0.6s,baz=167,slow=1.8,SNR=6.9						
WRA				pPKP	**sPKPdf**	**06 42 35.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=156,slow=1.7,SNR=1.8						
H11S2	**WAKE ISLAND Hy**	**126.28**	**273**	T	T	09 01 25.0	
	baz=115,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**126.29**	**273**	T	T	09 01 31.8	
	baz=115,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**126.29**	**273**	T	T	09 01 30.5	
	baz=115,slow=75,SNR=7.8						
ZALV	**Zalesovo Beam**	**149.33**	**28**	PKPbc	**PKPbc**	**06 43 07.8**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=297,slow=3.8,SNR=7.2						
ZALV				pPKPbc	**pPKPab**	**06 43 23.1**	**+0.6**
	comp=Z,4.1nm,0.6s,baz=295,slow=3.4,SNR=6.2						
MKAR	**Makanchi Array**	**152.60**	**42**	PKPbc	**PKPbc**	**06 43 15.3**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=328,slow=1.1,SNR=6.7						
MKAR				pPKPbc	**sPKPbc**	**06 43 30.5**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=336,slow=1.5,SNR=8.4						

NIED ***29*** *06:24:00, 38°.20N×142°.00E, h53km, Mw4.8 Best double couple: M0=1.80000×10^16 NP1:φs=56.00000°, δ=31.00000°, λ=143.00000°. NP2:φs=179.00000°, δ=72.00000°, λ=64.00000°.*
BJI ***29*** *06:24:40.5, 38°.08N×142°.27E, h52km, mb4.9/64, mB4.8/43, Ms4.2/52, Ms7 4.1/52*
MOS ***29*** *06:24:41.9±1.0, 38°.31N×141°.96E, h46km, mb5.1/90, Error ellipse: s-maj=7.4km s-min=4.7km az=97.9*
JMA ***29*** *06:24:43.2±0.1, 38°.21N×142°.03E, h51km±1km, M4.9*
JMA Felt III J1.
ISCJB ***29*** *06:24:44.0±0.3, 38°.24N±0°.02×141°.91E±0°.02, h59km±2km, mb4.9/307, MS3.9/38, Error ellipse: s-maj=3.7km s-min=2.6km az=158.8*
IDC ***29*** *06:24:44.1±0.4, 38°.25N×141°.88E, h50km±3km, mb4.4/33, mb1 4.6/35, mb1mx4.5/50, mbtmp4.7/35, MS3.8/29, Ms1 3.8/29, ms1mx3.7/44, Error ellipse: s-maj=11.3km s-min=9.3km az=77.0*
NEIC ***29*** *06:24:45.4±0.3, 38°.24N×141°.86E, h58km±3km, mb4.9/235, Error ellipse: s-maj=2.9km s-min=2.0km az=139.0*
NEIC Felt at Akita, Misawa and Mobara. Recorded [3 JMA] in Iwate and Miyagi.

ISC 29 06:24:43.6±0.3, 38°.25N±0°.03×142°.03E±0°.03, h46km±2km, h46km: pP-P, n990, σ1§18/1065, mb4.9/311, MS3.9/41, 19C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.57**	**291**	P	**Pn**	**06 24 55.6**	**+0.1**
JIO				S	**Sn**	**06 25 04.5**	**+0.4**
OFUJ	**Ofunato**	**0.88**	**341**	P	**Pn**	**06 24 59.9**	**+0.3**
OFUJ				*e*S	**Sn**	**06 25 12.0**	**+0.8**
JMK	**Ichinoseki**	**0.94**	**318**	P	**Pn**	**06 25 01.0**	**+0.5**
JMK				*e*S	**Sn**	**06 25 14.1**	**+1.2**
JMM	**Marumori**	**1.05**	**249**	P	**Pn**	**06 25 01.3**	**-0.6**
JMM				*e*S	**Sn**	**06 25 14.5**	**-0.9**
JOU	**Okura**	**1.08**	**276**	P	**Pn**	**06 25 02.5**	**+0.1**
JOU				*e*S	**Sn**	**06 25 16.9**	**+0.6**
JFK	**Kawauchi**	**1.27**	**226**	P	**Pn**	**06 25 04.3**	**-0.7**
JFK				*e*S	**Sn**	**06 25 19.6**	**-1.3**
JOM	**Ohasama**	**1.35**	**335**	P	**Pn**	**06 25 06.8**	**+0.8**
JOM				*e*S	**Sn**	**06 25 24.5**	**+1.7**
JYK	**Kaneyama**	**1.47**	**297**	P	**Pn**	**06 25 08.0**	**+0.3**
JFT	**Otama**	**1.53**	**242**	P	**Pn**	**06 25 08.6**	**+0.1**
JFT				*e*S	**Sn**	**06 25 27.4**	**+0.2**
JYS	**Shirataka**	**1.55**	**269**	P	**Pn**	**06 25 09.2**	**+0.5**
JYS				*e*S	**Sn**	**06 25 28.6**	**+0.9**
JRG	**Rokugo**	**1.58**	**317**	P	**Pn**	**06 25 09.9**	**+0.7**
JYA	**Atsumi**	**1.85**	**281**	P	**Pn**	**06 25 13.4**	**+0.5**
JFY	**Yanaizu**	**2.03**	**246**	P	**Pn**	**06 25 15.8**	**+0.5**
JFY				*e*S	**Sn**	**06 25 39.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.49**	**242**	P	**Pn**	**06 25 37.0**	**+1.6**
	23nm,0.3s,baz=54,slow=12,SNR=116						
MJAR				S	**Sn**	**06 26 19.7**	**+4.2**
	37nm,0.3s,baz=137,slow=18,SNR=6.9						
MJAR				LR	LR	06 27 14.1	
	comp=Z,3μm,21.2s,baz=60,slow=45						
MAJO	**Matsushiro**	**3.49**	**242**	*d*iP	**Pn**	**06 25 37.1**	**+1.6**
MAJO	**Matsushiro**	**3.49**	**242**	*e*Pn	**Pn**	**06 25 37.0**	**+1.6**
MAT	**Matsushiro**	**3.49**	**242**	P	**Pn**	**06 25 36.9**	**+1.5**
MAT				S	**Sn**	**06 26 19.5**	**+4.0**
MJB9	**Matsu-Tunnel**	**3.49**	**242**	*e*Pn	**Pn**	**06 25 37.1**	**+1.7**
INU	**Inuyama**	**4.96**	**236**	*e*Pn	**Pn**	**06 25 57.3**	**+1.7**
JHJ2	**Mitsune**	**5.44**	**200**	*e*Pn	**Pn**	**06 26 01.8**	**-0.3**
JHJ	**Hachijo jima 2**	**5.44**	**200**	P	**Pn**	**06 26 01.8**	**-0.4**
	112nm,0.3s,baz=313,slow=22,SNR=10						
JHJ				S	**Sn**	**06 26 57.9**	**-5.5**
	104nm,0.3s,baz=81,slow=22,SNR=6.8						
ASAJ	**Asahikawa**	**5.88**	**4**	P	**Pn**	**06 26 08.3**	**+0.2**
	14nm,0.3s,baz=234,slow=11,SNR=29						
ASAJ				S	**Sn**	**06 27 12.2**	**-1.9**
	16nm,0.3s,baz=275,slow=27,SNR=5.9						
YUK	**Yuzh-Kuril'sk**	**6.46**	**25**	*e*P	**Pn**	**06 26 14.6**	**-1.5**
YUK				*e*S	**Sn**	**06 27 22.8**	**-5.6**
YUK				pmax	pmax		
	comp=N,106nm,0.2s						
YUK				pmax	pmax		
	comp=Z,491nm,0.2s						
YUK				pmax	pmax		
	comp=E,260nm,0.6s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.2s						
SHO	**Shikotan**	**6.68**	**31**	*i* P	**Pn**	**06 26 17.3**	**-1.8**
SHO				*i* S	**Sn**	**06 27 26.8**	**-7.0**
SHO				pmax	pmax		
	comp=Z,160nm,0.8s						
SHO				pmax	pmax		
	comp=E,109nm,0.5s						
SHO				pmax	pmax		
	comp=N,82nm,0.9s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
KUR	**Kuril'sk**	**8.22**	**30**	⇓*e*P	**Pn**	**06 26 40.0**	**-0.2**
KUR				*i* S	**Sn**	**06 28 05.9**	**-5.9**
KUR				pmax	pmax		
	comp=E,53nm,0.4s						
KUR				pmax	pmax		
	comp=Z,88nm,0.4s						
KUR				pmax	pmax		
	comp=N,32nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,1.2s						
KUR				smax	smax		
	comp=E,812nm,1.1s						
KUR				smax	smax		
	comp=N,482nm,0.2s						
KUR				smax	smax		
	comp=E,170nm,0.2s						
YSS	**Yuzh-Sakhalins**	**8.71**	**3**	⇓*e*P	**Pn**	**06 26 47.9**	**+1.0**
YSS				*e*S	**Sn**	**06 28 19.0**	**-4.7**
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.71**	**3**	*e*Pn	**Pn**	**06 26 47.0**	**+0.1**
VLA	**Vladivostok**	**9.11**	**305**	*ce*P	**Pn**	**06 26 54.2**	**+1.8**
MSHR	**Mys Shultsa**	**9.35**	**301**	⇑*e*P	**Pn**	**06 26 56.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.62**	**311**	P	**Pn**	**06 27 01.1**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=123,slow=14,SNR=58						
USRK				LR	LR	06 30 36.1	
	comp=Z,774nm,18.8s,baz=119,slow=37						
JNU	**Nakatsue**	**10.41**	**244**	*e*Pn	**Pn**	**06 27 09.8**	**-0.6**
CBIJ	**Chichi jima**	**11.13**	**179**	*e*Pn	**Pn**	**06 27 17.8**	**-2.3**
KSRS	**Korea Array**	**11.19**	**270**	P	**Pn**	**06 27 24.4**	**+3.6**
	comp=Z,1.0nm,0.3s,baz=82,slow=14,SNR=24						
KSRS				LR	LR	06 31 33.9	
	comp=Z,609nm,18.9s,baz=69,slow=37						
KS15	**Wonju Array Si**	**11.22**	**270**	*e*Pn	**Pn**	**06 27 24.9**	**+3.6**
KSAR	**Wonju Array Be**	**11.22**	**270**	P	**Pn**	**06 27 24.5**	**+3.2**
KSAR	**Wonju Array Be**	**11.22**	**270**	P	**Pn**	**06 27 24.4**	**+3.2**
MDJ	**Mudanjiang**	**11.29**	**308**	P	**Pn**	**06 27 26.5**	**+4.3**
MDJ				S	**Sn**	**06 29 27.0**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,78nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.5s						
MDJ				LR	LR		
	comp=Z,470nm,19.8s						
MDJ				LR	LR		
	comp=Z,370nm,26.4s						
MDJ				LR	LR		
	comp=Z,690nm,23.6s						
MDJ	**Mudanjiang**	**11.29**	**308**	*e*Pn	**Pn**	**06 27 23.9**	**+1.6**
HABR	**Khabarovsk**	**11.40**	**336**	*e*P	**Pn**	**06 27 22.4**	**-1.3**
HABR				*e*S	**Sn**	**06 29 28.2**	**-1.4**
HABR				pmax	pmax		
	comp=Z,56nm,1.6s						
HABR				pmax	pmax		
	comp=E,9.0nm,1.1s						
HABR				pmax	pmax		
	comp=N,27nm,1.6s						
HABR				MLR	MLR		
	comp=Z,237nm,13.0s						
INCN	**Inchon**	**12.20**	**271**	*e*Pn	**Pn**	**06 27 34.4**	**-0.3**
TYV	**Tymovskoe**	**12.62**	**2**	*e*P	Pn	06 27 32.3	-8.0
TYV				pmax	pmax		
	comp=Z,11nm,1.0s						
KLR	**Kul'dur**	**13.24**	**329**	P	**Pn**	**06 27 48.0**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=121,slow=14,SNR=5.8						
KLR				LR	LR	06 32 55.6	
	comp=Z,57nm,19.0s,baz=142,slow=37						
CN2	**Changchun**	**13.69**	**299**	*e*P	**Pn**	**06 27 56.0**	**+1.1**
CN2				*e*sP	P	06 28 11.0	+8.5
CN2				*e*S	**Sn**	**06 30 26.5**	**+1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
DL2	**Dalian**	**15.97**	**279**	P	**P**	**06 28 26.5**	**-1.5**
DL2				S	**Sn**	**06 31 20.8**	**-0.2**
DL2				pmax	pmax		
	comp=Z,90nm,1.3s						
DL2				LR	LR		
	comp=Z,300nm,12.4s						
DL2				LR	LR		
	comp=Z,380nm,17.8s						
DL2				LR	LR		
	comp=Z,610nm,20.4s						
PEA0B	**Petropavlovsk-**	**18.39**	**31**	*e*P	**Pn**	**06 28 55.4**	**+0.4**
	comp=Z,56nm,1.1s						
PETK	**Petropavlovsk-**	**18.39**	**31**	P	**P**	**06 28 52.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=219,slow=6.7,SNR=11						
PETK				LR	LR	06 35 55.7	
	comp=Z,126nm,21.1s,baz=216,slow=36						
PET	**Petropavlovsk**	**18.73**	**33**	*e*P	**Pn**	**06 28 59.7**	**+0.7**
PET				*e*S	**Sn**	**06 32 25.3**	**-2.1**
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
HIA	**Hailar**	**19.43**	**312**	⇑*e*P	**P**	**06 29 06.6**	**+0.6**
NJ2	**Nanjing**	**19.91**	**259**	*e*P	**P**	**06 29 11.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,40nm,1.1s						
BJI	**Beijing**	**20.12**	**283**	P	**P**	**06 29 11.0**	**-2.5**
BJI				sP	**sP**	**06 29 31.3**	**+1.2**
BJI				S	**S**	**06 32 55.3**	**-1.6**
BJI				sS	**sS**	**06 33 15.5**	**+1.2**
BJI				pmax	pmax		
	comp=Z,21nm,1.0s						
BJI				pmax	pmax		
	comp=Z,300nm,5.4s						
BJI				LR	LR		
	comp=Z,260nm,13.9s						
BJI				LR	LR		
	comp=Z,290nm,21.2s						
BJI				LR	LR		
	comp=Z,410nm,28.5s						
BJT	**Baijiatuau**	**20.12**	**283**	*e*P	**P**	**06 29 10.0**	**-3.6**
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
BJT	**Baijiatuau**	**20.12**	**283**	*e*P	**P**	**06 29 10.0**	**-3.6**
	comp=Z,20nm,0.7s						
CLNS	**Chul'man**	**21.79**	**334**	*e*P	**P**	**06 29 29.4**	**-2.0**
CLNS				*e*		06 29 49.6	
CLNS				*e*S	**S**	**06 33 24.8**	**-4.9**
CLNS				*e*		06 33 28.7	
CLNS				*e*SS	**SnSn**	**06 34 06.3**	**+10**
CLNS				*e*		06 40 53.1	
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				smax	smax		
	comp=E,211nm,12.3s						
CLNS				smax	smax		
	comp=N,154nm,10.7s						
CLNS				MLR	MLR		
	comp=E,181nm,11.0s						
CLNS				MLR	MLR		
	comp=Z,318nm,17.0s						
CLNS				MLR	MLR		
	comp=N,179nm,16.0s						
MA2	**Magadan**	**22.06**	**12**	P	**P**	**06 29 34.5**	**+0.2**
	comp=N,55nm,0.8s,baz=200,slow=8.3,SNR=18						
MA2				LR	LR	06 38 20.4	
	comp=N,129nm,18.7s,baz=190,slow=37						
MA2	**Magadan**	**22.06**	**12**	⇓*e*P	**P**	**06 29 34.4**	**+0.1**
YHNB	**Yeheng**	**22.16**	**238**	*e*P	**P**	**06 29 33.4**	**-2.3**
	comp=N,30nm,1.1s						
NACB	**Ninganchiao**	**22.35**	**237**	*e*P	**P**	**06 29 35.7**	**-1.9**
	comp=N,15nm,0.7s						
SSLB	**Suanglung**	**23.04**	**237**	*e*P	**P**	**06 29 44.2**	**-0.8**
	comp=N,19nm,0.9s						
YULB	**Yu-li**	**23.09**	**236**	*e*P	**P**	**06 29 43.8**	**-1.6**
	comp=N,17nm,0.9s						
TIY	**Taiyuan**	**23.30**	**278**	*e*P	**P**	**06 29 49.0**	**+1.6**
TIY				S	**S**	**06 33 59.0**	**+2.4**
TIY				pmax	pmax		
	comp=N,120nm,6.2s						
TIY				LR	LR		
	comp=N,180nm,12.5s						
TIY				LR	LR		
	comp=N,150nm,11.1s						
TIY				LR	LR		
	comp=N,450nm,26.5s						
HHC	**Hu-ho-hao-te**	**23.58**	**286**	*e*P	**P**	**06 29 49.0**	**-1.2**
HHC				S	**S**	**06 33 55.0**	**-6.2**
HHC				pmax	pmax		
	comp=N,27nm,1.1s						
HHC				pmax	pmax		
	comp=N,130nm,8.6s						
HHC				LR	LR		
	comp=N,1μm,16.9s						
HHC				LR	LR		
	comp=N,1μm,18.2s						
HHC				LR	LR		
	comp=N,1μm,22.2s						
TPUB	**Ta-pu**	**23.59**	**237**	*e*P	**P**	**06 29 51.5**	**+1.2**
	comp=N,55nm,1.1s						
WHN	**Wuhan**	**24.04**	**260**	⇓P	**P**	**06 29 53.8**	**-0.6**
WHN				S	**S**	**06 33 58.8**	**-10**
WHN				LR	LR		
	comp=N,440nm,8.7s						
WHN				LR	LR		
	comp=N,680nm,12.2s						
WHN				LR	LR		
	comp=N,1μm,18.5s						
CIT	**Chita**	**24.16**	**314**	*e*P	**P**	**06 29 55.0**	**-0.4**
CIT				pmax	pmax		
	comp=Z,183nm,1.8s						
YAK	**Yakutsk**	**25.00**	**346**	P	**P**	**06 30 02.7**	**-0.1**
	comp=Z,9.8nm,0.3s,baz=193,slow=5.8,SNR=8.6						
YAK	**Yakutsk**	**25.00**	**346**	*e*P	**P**	**06 30 03.0**	**+0.2**
	comp=Z,65nm,1.0s						
SEY	**Seymchan**	**25.50**	**11**	P	**P**	**06 30 09.0**	**+1.6**
	comp=Z,32nm,0.8s,baz=198,slow=6.9,SNR=40						
SEY	**Seymchan**	**25.50**	**11**	⇓*e*P	**P**	**06 30 09.1**	**+1.8**
SMY	**Shemya**	**26.47**	**46**	*e*P	**P**	**06 30 19.6**	**+3.4**
SMY				pmax	pmax		
	comp=Z,132nm,1.1s						
SMY	**Shemya**	**26.47**	**46**	*e*P	**P**	**06 30 19.6**	**+3.4**
	comp=Z,132nm,1.1s						
BOD	**Bodaibo**	**26.78**	**326**	*e*P	**P**	**06 30 18.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,23nm,1.3s						
XAN	**Xi'an**	**26.98**	**271**	P	**P**	**06 30 20.0**	**-1.1**
XAN				pP	pP	06 30 32.0	-1.1
XAN				sP	sP	06 30 38.0	-0.6
XAN				S	**S**	**06 34 50.3**	**-5.0**
XAN				pmax	pmax		
	comp=Z,22nm,0.7s						
XAN				pmax	pmax		
	comp=Z,44nm,3.2s						
XAN				LR	LR		
	comp=Z,170nm,17.7s						
XAN				LR	LR		
	comp=Z,190nm,14.5s						
XAN				LR	LR		
	comp=Z,280nm,15.3s						
ULN	**Ulaanbaatar**	**27.10**	**302**	*ce*P	**P**	**06 30 22.4**	**+0.2**
ULN				pmax	pmax		
	comp=Z,19nm,1.7s						
ULN	**Ulaanbaatar**	**27.10**	**302**	*e*P	**P**	**06 30 22.3**	**+0.1**
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**27.54**	**302**	P	**P**	**06 30 25.3**	**-0.8**
	comp=Z,5.4nm,1.0s,baz=122,slow=8.1,SNR=16						
SONM				PcP	**PcP**	**06 33 41.8**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=132,slow=1.4,SNR=4.0						
SONM				ScP	**ScP**	**06 37 18.2**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.4,SNR=5.3						
SONM				LR	LR	06 41 52.0	
	comp=Z,181nm,19.9s,baz=94,slow=38						
ENH	**Enshi**	**27.94**	**263**	*e*P	**P**	**06 30 28.8**	**-0.9**
	comp=Z,92nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.38**	**124**	T	T	07 01 05.6	
	baz=317,slow=75,SNR=1933						
H11N1	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	07 01 07.0	
	baz=317,slow=75,SNR=2797						
H11N3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	07 01 14.9	
	baz=317,slow=75,SNR=2028						
H11S1	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	07 01 50.3	
	baz=318,slow=76,SNR=820						
H11S3	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	07 01 49.8	
	baz=318,slow=76,SNR=1104						
H11S2	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	07 01 52.9	
	baz=318,slow=76,SNR=638						
ZAK	**Zakamensk**	**29.92**	**307**	*e*P	**P**	**06 30 46.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s						
TLY	**Talaya**	**29.92**	**309**	P	**P**	**06 30 46.5**	**-0.5**
	comp=Z,8.9nm,0.8s,baz=258,slow=2.8,SNR=11						
TLY				PcP	**PcP**	**06 33 48.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=180,slow=6.1,SNR=3.1						
TLY				LR	LR	06 43 11.1	
	comp=Z,311nm,20.1s,baz=102,slow=37						
TLY	**Talaya**	**29.92**	**309**	*e*P	**P**	**06 30 47.5**	**+0.4**
TLY				*e*		06 32 01.9	
TLY				*e*S	**S**	**06 35 39.7**	**-1.5**
TLY			

CD2	**Chengdu**	**32.18**	**269**	P	**P**	**06 31 06.0**	**-1.2**
CD2				sP	sP	06 31 27.3	+2.5
CD2				PP	**PP**	**06 32 19.0**	**-1.4**
CD2				S	**S**	**06 36 14.3**	**-2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=Z,270nm,13.9s						
CD2				LR	LR		
	comp=Z,390nm,15.9s						
CD2				LR	LR		
	comp=Z,280nm,14.4s						
GTA	**Gaotai**	**32.69**	**285**	⇑P	**P**	**06 31 12.0**	**+0.3**
GTA				PcP	**PcP**	**06 33 57.3**	**+0.7**
GTA				S	**S**	**06 36 25.3**	**+0.3**
GTA				SS	**SnSn**	**06 38 23.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,98nm,6.2s						
GTA				LR	LR		
	comp=Z,220nm,20.4s						
GTA				LR	LR		
	comp=Z,350nm,21.4s						
GTA				LR	LR		
	comp=Z,450nm,22.3s						
BILL	**Bilibino**	**32.72**	**17**	⇑*e*P	**P**	**06 31 11.8**	**+0.4**
BILL				*e*		06 32 22.9	
BILL				pmax	pmax		
	comp=Z,32nm,1.3s						
BILL				MLR	MLR		
	comp=Z,190nm,22.0s						
QIZ	**Qiongzhong**	**33.88**	**245**	P	**P**	**06 31 22.0**	**-0.1**
QIZ				S	**S**	**06 36 40.5**	**-3.0**
QIZ				LR	LR		
	comp=Z,320nm,21.9s						
TIXI	**Tiksi**	**34.14**	**353**	P	**P**	**06 31 23.3**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=138,slow=7.1,SNR=9.7						
TIXI				LR	LR	06 48 00.8	
	comp=Z,85nm,18.2s,baz=182,slow=41						
TIXI	**Tiksi**	**34.14**	**353**	⇓*e*P	**P**	**06 31 23.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TIXI	**Tiksi**	**34.14**	**353**	*e*P	**P**	**06 31 23.5**	**-0.2**
	comp=Z,5.8nm,1.0s						
GAMB	**Gambell**	**37.42**	**32**	*e*P	**P**	**06 31 52.3**	**+0.4**
	comp=Z,43nm,1.2s						
AKUT	**Akutan**	**38.51**	**48**	*e*P	**P**	**06 32 02.3**	**+1.1**
	comp=Z,92nm,1.2s						
WMQ	**Urumqi**	**40.74**	**296**	P	**P**	**06 32 20.8**	**+0.8**
WMQ				pP	sP	06 32 37.8	0.0
WMQ				S	**S**	**06 38 26.0**	**-1.3**
WMQ				SS	**SS**	**06 41 22.8**	**-6.2**
WMQ				ScS	**ScS**	**06 42 18.8**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,59nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,240nm,3.7s						
WMQ				LR	LR		
	comp=Z,150nm,19.5s						
WMQ				LR	LR		
	comp=Z,150nm,28.7s						
WMQ				LR	LR		
	comp=Z,220nm,27.7s						
ZAA0	**Zalesovo Array**	**41.47**	**311**	*e*P	**P**	**06 32 25.6**	**-0.2**
ZAA0				*e*PcP	**PcP**	**06 34 22.6**	**-0.1**
ZALV	**Zalesovo Beam**	**41.47**	**311**	P	**P**	**06 32 25.5**	**-0.3**
	comp=Z,8.1nm,0.6s,baz=86,slow=7.3,SNR=29						
ZALV				PcP	**PcP**	**06 34 22.3**	**-0.4**
	comp=Z,3.6nm,0.5s,baz=87,slow=3.5,SNR=6.0						
ZALV				ScP	**ScP**	**06 38 07.1**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=102,slow=3.6,SNR=3.7						
ZALV				LR	LR	06 50 26.6	
	comp=Z,225nm,18.1s,baz=56,slow=37						
CHTO	**Chiang Mai**	**42.08**	**255**	*e*P	**P**	**06 32 30.7**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**42.08**	**255**	*e*P	**P**	**06 32 30.7**	**-0.4**
	comp=Z,4.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.29**	**255**	P	**P**	**06 32 32.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=48,slow=5.3,SNR=5.8						
CMAR				PcP	**PcP**	**06 34 26.5**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=359,slow=2.0,SNR=4.2						
CMAR				LR	LR	06 53 03.7	
	comp=Z,72nm,19.1s,baz=58,slow=40						
CMAR	**Chiang Mai Arr**	**42.29**	**255**	*ce*P	**P**	**06 32 35.5**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**42.37**	**313**	*e*P	**P**	**06 32 32.6**	**-0.4**
NVS				*e*S	**S**	**06 38 49.9**	**-1.0**
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				smax	smax		
	comp=E,13nm,1.2s						
NRIK	**Noril'sk**	**42.37**	**335**	LR	LR	06 51 01.1	
	comp=E,244nm,19.4s,baz=110,slow=37						
LSA	**Lhasa**	**42.60**	**274**	*e*P	**P**	**06 32 35.6**	**-0.2**
LSA	**Lhasa**	**42.60**	**274**	*e*P	**P**	**06 32 35.6**	**-0.2**
MK31	**Makanchi Array**	**43.90**	**301**	*i* P	**P**	**06 32 45.0**	**-0.6**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**43.90**	**301**	*e*P	**P**	**06 32 45.4**	**-0.3**
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**06 32 45.0**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=85,slow=8.3,SNR=36						
MKAR				LR	LR	06 51 40.8	
	comp=Z,103nm,20.6s,baz=62,slow=37						
MKAR	**Makanchi Array**	**43.90**	**301**	*i* P	**P**	**06 32 45.2**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**43.90**	**301**	*e*P	**P**	**06 32 45.4**	**-0.3**
	comp=Z,57nm,0.8s						
MAKZ	**Makanchi**	**44.11**	**301**	*e*P	**P**	**06 32 47.5**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.0s						
MAKZ	**Makanchi**	**44.11**	**301**	*e*P	**P**	**06 32 47.5**	**+0.2**
	comp=Z,14nm,1.0s						
TT01	**Tatalina**	**44.14**	**35**	*e*P	**P**	**06 32 48.8**	**+1.5**
SVW2	**Sparrevohn**	**44.26**	**38**	*e*P	**P**	**06 32 50.4**	**+2.2**
	comp=Z,32nm,1.1s						
OHAK	**Old Harbor**	**45.53**	**44**	*e*P	**P**	**06 32 58.4**	**0.0**
	comp=Z,73nm,1.2s						
KURK	**Kurchatov**	**45.58**	**307**	*d i*P	**P**	**06 32 57.9**	**-1.0**
KURK				pmax	pmax		
	comp=Z,100nm,1.0s						
KURK	**Kurchatov**	**45.58**	**307**	*e*P	**P**	**06 32 58.2**	**-0.6**
	comp=Z,27nm,0.8s						
RSO	**Redoubt South**	**45.65**	**39**	*e*P	**P**	**06 33 00.8**	**+1.3**
KURBB	**Kurchatov Arra**	**45.65**	**307**	P	**P**	**06 32 59.0**	**-0.4**
	comp=Z,17nm,0.8s,baz=82,slow=8.4,SNR=66						
KDAK	**Kodiak Island**	**45.87**	**43**	*i* P	**P**	**06 33 01.4**	**+0.4**
KDAK	**Kodiak Island**	**45.87**	**43**	*e*P	**P**	**06 33 01.8**	**+0.7**
	comp=Z,35nm,0.8s						
SPU	**Mount Spurr**	**45.97**	**38**	*e*P	**P**	**06 33 03.1**	**+1.2**
TAPN	**Taplejung**	**46.35**	**273**	*e*P	**P**	**06 33 05.2**	**-0.5**
	comp=Z,22nm,0.7s						
MLY	**Manley**	**46.56**	**33**	*e*P	**P**	**06 33 08.3**	**+1.8**
	comp=Z,13nm,0.8s						
MLY				*e*PcP	**PcP**	**06 34 41.3**	**+1.4**
BRLK	**Bradley Lake**	**46.61**	**40**	*e*P	**P**	**06 33 07.9**	**+1.0**
	comp=Z,23nm,1.1s						
PDGK	**Podgornoye**	**46.65**	**297**	P	**P**	**06 33 05.5**	**-2.1**
PDGK				pmax	pmax		
	comp=Z,19nm,1.4s						
ODAN	**Odare**	**46.84**	**273**	*e*P	**P**	**06 33 08.9**	**-0.5**
	comp=Z,52nm,0.9s						
COLD	**Coldfoot**	**46.85**	**30**	*e*P	**P**	**06 33 10.2**	**+1.5**
	comp=Z,7.5nm,1.1s						
RC01	**Rabbit Creek A**	**47.10**	**38**	*e*P	**P**	**06 33 11.3**	**+0.6**
	comp=Z,28nm,0.9s						
TOLK	**Toolik Lake Re**	**47.16**	**28**	P	**P**	**06 33 12.0**	**+0.9**
	baz=267						
TOLK	**Toolik Lake Re**	**47.16**	**28**	*e*P	**P**	**06 33 12.8**	**+1.7**
	comp=Z,17nm,1.0s						
TOLK				*e*PcP	**PcP**	**06 34 43.8**	**+1.7**
SEW	**Seward**	**47.31**	**39**	*e*P	**P**	**06 33 12.7**	**+0.5**
	comp=Z,30nm,1.2s						
MCK	**McKinley**	**47.35**	**34**	*e*P	**P**	**06 33 13.6**	**+1.0**
MCK				pmax	pmax		
	comp=Z,15nm,0.8s						
MCK	**McKinley**	**47.35**	**34**	*e*P	**P**	**06 33 13.6**	**+1.0**
	comp=Z,15nm,0.8s						
PMR	**Palmer**	**47.36**	**37**	*e*P	**P**	**06 33 13.2**	**+0.6**
PMR				pmax	pmax		
	comp=Z,16nm,1.0s						
PMR	**Palmer**	**47.36**	**37**	*e*P	**P**	**06 33 13.2**	**+0.6**
	comp=Z,16nm,1.0s						
RND	**Reindeer**	**47.40**	**35**	*e*P	**P**	**06 33 13.4**	**+0.3**
RND				pmax	pmax		
	comp=Z,20nm,0.8s						
RND	**Reindeer**	**47.40**	**35**	*e*P	**P**	**06 33 13.4**	**+0.3**
	comp=Z,20nm,0.8s						
JIRN	**Jiri**	**47.41**	**274**	*e*P	**P**	**06 33 13.8**	**-0.2**
RAMN	**Ramite**	**47.41**	**273**	*e*P	**P**	**06 33 13.3**	**-0.6**
	comp=Z,111nm,0.9s						
GUN	**Gumba**	**47.53**	**275**	*e*P	**P**	**06 33 14.6**	**-0.3**
MDM	**Murphy Dome**	**47.63**	**33**	*e*P	**P**	**06 33 16.4**	**+1.6**
	comp=Z,37nm,1.1s						
WRH	**Wood River Hil**	**47.70**	**33**	*e*P	**P**	**06 33 16.3**	**+1.0**
	comp=Z,8.9nm,0.8s						
WRH				*e*PcP	**PcP**	**06 34 44.1**	**+0.2**
SML	**Sawmill**	**47.72**	**37**	*e*P	**P**	**06 33 16.6**	**+1.1**
SML				pmax	pmax		
	comp=Z,19nm,0.8s						
SML	**Sawmill**	**47.72**	**37**	*e*P	**P**	**06 33 16.6**	**+1.1**
	comp=Z,19nm,0.8s						
COLA	**College**	**47.79**	**33**	*e*P	**P**	**06 33 17.3**	**+1.4**
COLA				pmax	pmax		
	comp=Z,18nm,1.1s						
COLA	**College**	**47.79**	**33**	*e*P	**P**	**06 33 17.3**	**+1.4**
	comp=Z,18nm,1.1s						
CCB	**Clear Creek Bu**	**47.82**	**33**	*e*P	**P**	**06 33 17.0**	**+0.9**
	comp=Z,4.7nm,1.0s						
KKN	**Kakani**	**48.06**	**275**	*e*P	**P**	**06 33 18.4**	**-0.4**
PKI	**Pulchoki**	**48.06**	**275**	*e*P	**P**	**06 33 18.2**	**-0.8**
	comp=Z,31nm,0.8s						
DHY	**Denali Highway**	**48.08**	**35**	*e*P	**P**	**06 33 19.8**	**+1.3**
	comp=Z,11nm,0.9s						
HDA	**Harding Lake**	**48.20**	**33**	*e*P	**P**	**06 33 20.4**	**+1.2**
	comp=Z,30nm,1.1s						
SCM	**Sheep Creek Mo**	**48.20**	**37**	*e*P	**P**	**06 33 20.5**	**+1.2**
SCM				pmax	pmax		
	comp=Z,28nm,0.9s						
SCM	**Sheep Creek Mo**	**48.20**	**37**	*e*P	**P**	**06 33 20.5**	**+1.2**
	comp=Z,28nm,0.9s						
ILAR	**Eielson Array**	**48.20**	**33**	P	**P**	**06 33 19.7**	**+0.5**
	comp=Z,14nm,0.8s,baz=268,slow=6.4,SNR=140						
ILAR				pP	**sP**	**06 33 34.3**	**-2.9**
	comp=Z,2.3nm,0.6s,baz=259,slow=5.6,SNR=4.4						
ILAR				LR	LR	06 54 59.0	
	comp=Z,54nm,19.5s,baz=282,slow=38						
ILB	**Eielson Array**	**48.20**	**33**	*e*P	**P**	**06 33 20.1**	**+0.9**
GKN	**Gorkha**	**48.46**	**276**	*e*P	**P**	**06 33 21.5**	**-0.4**
	comp=Z,52nm,0.7s						
FID	**Port Fidalgo**	**48.71**	**38**	*e*P	**P**	**06 33 23.9**	**+0.7**
	comp=Z,28nm,1.2s						
FYU	**Fort Yukon**	**48.81**	**30**	*e*P	**P**	**06 33 26.1**	**+2.4**
	comp=Z,34nm,1.2s						
KLU	**Klutina**	**48.90**	**37**	*e*P	**P**	**06 33 26.1**	**+1.4**
	comp=Z,28nm,1.1s						
DANN	**Dangsing**	**48.99**	**277**	*e*P	**P**	**06 33 26.4**	**+0.3**
DIV	**Divide**	**49.01**	**38**	*e*P	**P**	**06 33 27.0**	**+1.5**
	comp=Z,36nm,1.1s						
EYAK	**Cordova Ski Ar**	**49.09**	**39**	*e*P	**P**	**06 33 27.3**	**+1.3**
	comp=Z,14nm,1.0s						
KOLN	**Koldanda**	**49.38**	**276**	*e*P	**P**	**06 33 28.7**	**-0.3**
	comp=Z,67nm,1.1s						
DOT	**Dot Lake**	**49.52**	**34**	*e*P	**P**	**06 33 30.0**	**+0.6**
	comp=Z,17nm,0.7s						
BMRM	**Bremner River**	**49.60**	**38**	*e*P	**P**	**06 33 31.2**	**+1.3**
	comp=Z,11nm,0.7s						
PYUN	**Piuthan**	**49.71**	**277**	*e*P	**P**	**06 33 31.3**	**-0.2**
	comp=Z,215nm,1.0s						
MENT	**Mentasta**	**49.76**	**35**	*e*P	**P**	**06 33 32.5**	**+1.4**
	comp=Z,24nm,1.1s						
BVAR	**Borovoye Array**	**50.12**	**312**	P	**P**	**06 33 33.4**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=74,slow=7.9,SNR=13						
BVAR				PcP	**PcP**	**06 34 53.1**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=105,slow=3.6,SNR=11						
BRVK	**Borovoye**	**50.18**	**312**	*de*P	**P**	**06 33 33.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**50.18**	**312**	*e*P	**P**	**06 33 34.1**	**-0.3**
	comp=Z,7.1nm,1.1s						
CRQM	**Cirque**	**50.34**	**38**	*e*P	**P**	**06 33 37.4**	**+1.7**
	comp=Z,30nm,1.0s						
AAK	**Ala-Archa**	**50.35**	**298**	P	**P**	**06 33 35.9**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=160,slow=3.1,SNR=8.3						
AAK	**Ala-Archa**	**50.35**	**298**	*de*P	**P**	**06 33 35.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**50.35**	**298**	*e*P	**P**	**06 33 36.2**	**+0.1**
	comp=Z,5.4nm,0.8s						
KSH	**Kashi**	**50.37**	**293**	P	**P**	**06 33 40.3**	**+4.1**
KSH				pP	sP	06 33 53.0	-1.2
KSH				sP	pP	06 33 58.5	+10
KSH				PcP	**PcP**	**06 34 57.8**	**+3.5**
KSH				PP	**PP**	**06 35 37.0**	**+5.2**
KSH				PcS	**PcS**	**06 38 52.8**	**+1.2**
KSH				S	**S**	**06 40 48.5**	**+2.4**
KSH				ScS	**ScS**	**06 43 23.5**	**0.0**
KSH				SS	**SS**	**06 44 21.0**	**+1.1**
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH				pmax	pmax		
	comp=Z,230nm,5.7s						
KSH				LR	LR		
	comp=Z,170nm,7.6s						
KSH				LR	LR		
	comp=Z,210nm,8.6s						
KSH				LR	LR		
	comp=Z,150nm,8.7s						
EGAK	**Eagle**	**50.65**	**33**	*e*P	**P**	**06 33 38.5**	**+0.7**
	comp=Z,4.4nm,0.9s						
BALM	**Baldy**	**50.67**	**38**	*e*P	**P**	**06 33 39.5**	**+1.3**
BALM				pmax	pmax		
	comp=Z,17nm,1.0s						
BALM	**Baldy**	**50.67**	**38**	*e*P	**P**	**06 33 39.5**	**+1.3**
	comp=Z,17nm,1.0s						
DAWY	**Dawson**	**51.52**	**33**	*e*P	**P**	**06 33 45.6**	**+1.2**
	comp=Z,1.6nm,0.8s						
MNAS	**Manas**	**51.79**	**298**	P	**P**	**06 33 45.5**	**-1.4**
MNAS				pmax	pmax		
	comp=Z,12nm,1.0s						
MTN	**Manton Dam**	**51.84**	**194**	*e*P	**P**	**06 33 47.0**	**-0.3**
MTN				*ep*P	**pP**	**06 34 00.9**	**+0.9**
COEN	**Coen**	**51.94**	**179**	*e*P	**P**	**06 33 48.6**	**+0.6**
	comp=Z,22nm,1.1s						
SFK	**Sufi-Kurgan**	**51.96**	**295**	P	**P**	**06 33 48.1**	**-0.2**
SFK				pmax	pmax		
	comp=Z,12nm,1.2s						
KK31	**Karatay Array**	**52.95**	**299**	*i* P	**P**	**06 33 54.6**	**-0.7**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**52.95**	**299**	*e*P	**P**	**06 33 55.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,36nm,0.8s						
KKAR	**Karatay Array**	**52.95**	**299**	*e*P	**P**	**06 33 55.0**	**-0.3**
	comp=Z,36nm,0.8s						
HYT	**Haines Junctio**	**53.03**	**37**	*e*P	**P**	**06 33 58.2**	**+2.4**
	comp=Z,31nm,1.0s						
WHY	**Whitehorse**	**54.32**	**37**	*e*P	**P**	**06 34 07.2**	**+2.0**
	comp=Z,11nm,0.9s						
SVE	**Sverdlovsk**	**54.56**	**318**	⇓*e*P	**P**	**06 34 07.2**	**+0.3**
SVE				pmax	pmax		
	comp=Z,28nm,0.9s						
ARU	**Arti**	**55.78**	**318**	P	**P**	**06 34 15.1**	**-0.4**
	comp=Z,12nm,0.5s,baz=82,slow=4.4,SNR=22						
ARU	**Arti**	**55.78**	**318**	*d i*P	**P**	**06 34 15.2**	**-0.4**
ARU				*PP	**sP**	**06 34 33.3**	**-0.4**
ARU						06 36 16.1	
ARU				S	**S**	**06 41 58.8**	**-0.2**
ARU				SS	**SS**	**06 45 43.8**	**-0.5**
ARU				pmax	pmax		
	comp=Z,27nm,1.2s						
ARU	**Arti**	**55.78**	**318**	*e*P	**P**	**06 34 15.6**	**0.0**
	comp=Z,15nm,0.7s						
AB31	**Akbulak array**	**57.54**	**310**	*i* P	**P**	**06 34 27.2**	**-1.0**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ABKAR	**Akbulak array**	**57.54**	**310**	*e*P	**P**	**06 34 27.7**	**-0.5**
	comp=Z,98nm,0.6s						
FITZ	**Fitzroy Crossi**	**58.13**	**198**	*e*P	**P**	**06 34 33.0**	**+0.4**
	comp=Z,15nm,1.0s						
AKTO	**Aktyubinsk**	**58.23**	**312**	P	**P**	**06 34 31.8**	**-1.3**
	comp=Z,8.4nm,0.7s,baz=71,slow=11,SNR=19						
AKTO				PcP	**PcP**	**06 35 23.8**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=87,slow=3.3,SNR=3.5						
WRAB	**Tennant Creek**	**58.32**	**188**	*d i*P	**P**	**06 34 33.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,31nm,0.9s						
WRAB	**Tennant Creek**	**58.32**	**188**	*e*P	**P**	**06 34 32.5**	**-1.5**
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**58.33**	**188**	*e*P	**P**	**06 34 33.1**	**-0.9**
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**58.33**	**189**	P	**P**	**06 34 33.1**	**-0.9**
	comp=Z,14nm,0.9s,baz=6.8,slow=7.2,SNR=79						
WRA				pP	**pP**	**06 34 48.1**	**+1.2**
	comp=Z,5.3nm,0.7s,baz=358,slow=7.5,SNR=8.1						
WRA				LR	LR	06 57 36.0	
	comp=Z,43nm,21.2s,baz=130,slow=34						
HYB	**Hyderabad**	**58.73**	**268**	*i* P	P	06 34 45.0	+8.0
KBS	**Kingsbay**	**59.54**	**350**	*e*P	**P**	**06 34 42.6**	**+0.9**
KBS				pmax	pmax		
	comp=Z,25nm,0.9s						
KBS	**Kingsbay**	**59.54**	**350**	*e*P	**P**	**06 34 42.6**	**+0.9**
	comp=Z,25nm,0.9s						
LVZ	**Lovozero**	**61.20**	**336**	*e*P	**P**	**06 34 53.4**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LVZ	**Lovozero**	**61.20**	**336**	*e*P	**P**	**06 34 53.4**	**+0.1**
	comp=Z,15nm,0.9s						
APA	**Apatity**	**61.78**	**336**	⇓*i* P	**P**	**06 34 56.5**	**-0.6**
APA				pmax	pmax		
	comp=Z,16nm,0.6s						
APA				MLR	MLR		
	comp=Z,300nm,14.0s						
TMCR	**Tamitsa**	**61.91**	**331**	*e*P	**P**	**06 34 56.5**	**-1.5**
TMCR				pmax	pmax		
	comp=Z,24nm,0.9s						
AS31	**Alice Springs**	**62.06**	**188**	*e*P	**P**	**06 34 59.2**	**-0.2**
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**62.06**	**188**	P	**P**	**06 34 59.0**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=10,slow=6.7,SNR=76						
ASAR				pP	**pP**	**06 35 14.2**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=12,slow=5.8,SNR=5.5						
ASAR				LR	LR	06 59 29.1	
	comp=Z,49nm,21.4s,baz=18,slow=34						
YKA	**Yellowknife Ar**	**62.51**	**31**	P	**P**	**06 35 02.4**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=307,slow=6.7,SNR=3.9						
YKA				LR	LR	07 07 06.8	
	comp=Z,6.1nm,18.3s,baz=0.0,slow=41						
YKA	**Yellowknife Ar**	**62.51**	**31**	*ce*P	**P**	**06 35 03.5**	**+1.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MBWA	**Marble Bar**	**62.70**	**203**	*e*P	**P**	**06 35 03.1**	**-0.6**
	comp=Z,13nm,1.0s						
KLMR	**Klimovskoe**	**62.99**	**328**	*e*P	**P**	**06 35 04.1**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,11nm,1.2s						
ARCES	**ARCESS Array B**	**63.03**	**339**	P	**P**	**06 35 05.3**	**-0.2**
	comp=Z,12nm,0.9s,baz=54,slow=7.5,SNR=31						
ARCES				pP	**pP**	**06 35 19.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=53,slow=8.1,SNR=1.3						
ARCES				LR	LR	07 07 25.3	
	comp=Z,82nm,19.7s,baz=30,slow=41						
ARE0	**ARCESS Array S**	**63.03**	**339**	*e*P	**P**	**06 35 05.7**	**+0.2**
	comp=Z,20nm,1.1s						
GEYT	**Alibeck**	**63.68**	**299**	P	**P**	**06 35 10.2**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=9.9,slow=3.5,SNR=7.5						
GEYT				LR	LR	07 04 48.4	
	comp=Z,117nm,18.4s,baz=40,slow=38						
EIDS	**Eidsvold**	**63.85**	**171**	*e*P	**P**	**06 35 11.8**	**+0.5**
	comp=Z,7.4nm,0.8s						
SGF	**Sodankyl**	**64.02**	**337**	P	**P**	**06 35 12.2**	**+0.2**
SGF				pmax	pmax		
	comp=Z,37nm,0.9s						
MSF	**Maaselka**	**64.15**	**335**	P	**P**	**06 35 13.5**	**+0.6**
MSF				pmax	pmax		
	comp=Z,26nm,1.0s						
DZM	**Mont Dzumac**	**64.23**	**155**	P	**P**	**06 35 14.7**	**+0.7**
	comp=Z,16nm,1.1s,baz=75,slow=14,SNR=4.6						
DZM	**Mont Dzumac**	**64.23**	**155**	*e*P	**P**	**06 35 15.1**	**+1.1**
	comp=Z,17nm,1.0s						
DAG	**Danmarks Havn**	**64.60**	**355**	*i* P	**P**	**06 35 15.4**	**-0.3**
	comp=Z,16nm,0.9s						
DAG	**Danmarks Havn**	**64.60**	**355**	*i* P	**P**	**06 35 15.4**	**-0.3**
DAG				pmax	pmax		
	comp=Z,13nm,0.9s						
LLLB	**Lillooet**	**65.04**	**44**	*e*P	**P**	**06 35 20.3**	**+1.3**
	comp=Z,22nm,1.0s						
NLWA	**Neilton Lookou**	**65.53**	**48**	*e*P	**P**	**06 35 24.4**	**+2.1**
	comp=Z,38nm,1.0s						
B05A	**Bryant**	**66.11**	**47**	P	**P**	**06 35 26.7**	**+0.8**
	baz=301						
B06A	**Marblemount**	**66.33**	**46**	*e*P	**P**	**06 35 28.6**	**+1.3**
	comp=Z,27nm,1.0s						
C06D	**Leavenworth**	**66.98**	**46**	P	**P**	**06 35 32.9**	**+1.4**
	baz=302						
OBN	**Obninsk**	**67.42**	**323**	⇓*e*P	**P**	**06 35 34.0**	**0.0**
OBN				*e*		06 38 07.1	
OBN				*e*S	**S**	**06 44 29.0**	**+2.8**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,52nm,15.0s						
LTY	**Liberty**	**67.46**	**47**	*e*P	**P**	**06 35 35.7**	**+1.1**
	comp=Z,5.4nm,0.9s						
ETW	**Entiat**	**67.47**	**47**	P	**P**	**06 35 35.9**	**+1.1**
KEBM	**Edson Butte**	**67.59**	**53**	*e*P	**P**	**06 35 37.1**	**+1.7**
	comp=Z,48nm,1.0s						
B08A	**Colville Reser**	**67.63**	**45**	*e*P	**P**	**06 35 36.5**	**+0.9**
WTV	**Waterville**	**67.64**	**46**	P	**P**	**06 35 36.6**	**+0.9**
NAC	**Naches**	**67.65**	**48**	P	**P**	**06 35 37.3**	**+1.5**
I03D	**Drain, OR**	**67.76**	**51**	P	**P**	**06 35 38.0**	**+1.6**
	baz=302						
SAW	**Saint Andrews**	**67.95**	**46**	P	**P**	**06 35 38.5**	**+0.9**
FINES	**FINESS Array B**	**67.97**	**332**	P	**P**	**06 35 37.4**	**0.0**
	comp=Z,15nm,0.7s,baz=43,slow=9.0,SNR=38						
FINES				pP	**pP**	**06 35 51.4**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=38,slow=7.2,SNR=3

SUMG	Summit	69.47	0	*i* P		P	06 35 47.7 +0.6
	comp=Z,20nm,0.9s						
SUMG	Summit	69.47	0	*i* P		P	06 35 47.7 +0.6
SUMG					pmax	pmax	
	comp=Z,20nm,0.9s						
SUMG	Summit	69.47	0	*e*P		P	06 35 48.0 +0.9
	comp=Z,22nm,0.9s						
N02D	Trinity Center	69.63	54	P		P	06 35 49.6 +1.4
	baz=303,SNR=6.2						
GOF	Gofitskoye	69.65	312⇑	*e*P		P	06 35 48.7 +0.5
VSU	Vasula	69.66	330⇑	*e*P		P	06 35 47.9 0.0
VSU					pmax	pmax	
	comp=Z,28nm,0.8s						
M04C	Macdoel	69.73	52	P		P	06 35 50.2 +1.3
	baz=304,SNR=11						
STKA	Stephens Creek	69.77	180	P		P	06 35 48.2 -0.6
	comp=Z,3.4nm,0.7s,baz=0.4,slow=7.7,SNR=5.6						
STKA	Stephens Creek	69.77	180	*e*P		P	06 35 49.3 +0.4
STKA					pmax	pmax	
	comp=Z,1.0nm,0.8s						
STKA	Stephens Creek	69.77	180	*e*P		P	06 35 49.2 +0.4
	comp=Z,0.7nm,0.8s						
KCPM	Cahto Peak	69.78	55	*e*P		P	06 35 51.0 +1.8
	comp=Z,18nm,0.9s						
FORT	Forrest	69.90	193	*e*P		P	06 35 49.7 0.0
	comp=Z,253nm,0.7s						
WDC	Whiskeytown Da	69.95	54	*e*P		P	06 35 50.5 +0.4
WDC					pmax	pmax	
	comp=Z,6.0nm,0.9s						
WDC	Whiskeytown Da	69.95	54	*e*P		P	06 35 50.5 +0.4
	comp=Z,5.5nm,0.9s						
WALA	Waterton Lakes	70.21	43	*e*P		P	06 35 52.1 +0.4
	comp=Z,15nm,0.9s						
KIV	Kislovodsk	70.48	311⇑	*e*P		P	06 35 53.3 -0.1
KIV					pmax	pmax	
	comp=Z,17nm,0.8s						
KIV	Kislovodsk	70.48	311	*e*P		P	06 35 54.2 +0.8
	comp=Z,18nm,0.9s						
KBZ	Khabaz	70.48	311	P		P	06 35 52.4 -0.8
	comp=Z,5.8nm,0.8s,baz=70,slow=6.9,SNR=10						
KBZ					LR	LR	07 09 46.0
	comp=Z,65nm,18.4s,baz=39,slow=38						
HOPS	Hopland Field	70.49	55	*e*P		P	06 35 53.6 +0.1
	comp=Z,14nm,1.1s						
O03D	Paynes Creek	70.58	54	P		P	06 35 54.7 +0.6
	baz=304,SNR=11						
MOD	Modoc Plateau	70.62	52	*e*P		P	06 35 55.7 +1.3
	comp=Z,8.2nm,0.8s						
BMO	Blue Mountains	70.75	48	*e*P		P	06 35 56.0 +0.9
BMO					pmax	pmax	
	comp=Z,11nm,1.1s						
BMO	Blue Mountains	70.75	48	*e*P		P	06 35 56.0 +0.9
	comp=Z,11nm,1.1s						
JTMT	Jette	70.78	44	*e*P		P	06 35 56.6 +1.4
J08A	Circle Bar Ran	70.91	50	*e*P		P	06 35 57.8 +1.7
	comp=Z,18nm,1.1s						
BBOO	Buckleboo	70.92	185	*e*P		P	06 35 56.0 +0.1
	comp=Z,18nm,0.9s						
SWMT	Swartz Lake	71.07	44	*e*P		P	06 35 58.2 +1.2
SWMT				*e*pP		sP	06 36 14.1 -1.3
ORV	Oroville	71.19	54	*e*P		P	06 35 58.4 +0.7
ORV					pmax	pmax	
	comp=Z,10.0nm,1.0s						
ORV	Oroville	71.19	54	*e*P		P	06 35 58.4 +0.7
	comp=Z,9.7nm,1.0s						
WVOR	Wild Horse Val	71.34	50	*e*P		P	06 35 59.6 +0.9
WVOR					pmax	pmax	
	comp=Z,7.0nm,0.8s						
WVOR	Wild Horse Val	71.34	50	*e*P		P	06 35 59.6 +0.9
	comp=Z,6.9nm,0.8s						
MSO	Missoula	71.50	45	P		P	06 36 00.1 +0.5
	baz=306,SNR=5.5						
MSO	Missoula	71.50	45	*e*P		P	06 36 00.4 +0.8
	comp=Z,12nm,1.1s						
SLMT	Seeley Lake	71.51	44	*e*P		P	06 36 00.5 +0.8
BEKR	Beckworth	71.73	53	*e*P		P	06 36 02.3 +1.1
	comp=Z,15nm,0.9s						
AFDM	Forest Hills D	71.87	55	*e*P		P	06 36 03.0 +1.2
	comp=Z,2.0nm,0.9s						
UOSS	Minazif	71.91	288	*e*P		P	06 36 01.9 -0.3
	comp=Z,8.1nm,0.9s						
FFC	Flin Flon	72.42	33	*e*P		P	06 36 05.1 +0.3
FFC					pmax	pmax	
	comp=Z,21nm,0.9s						
FFC	Flin Flon	72.42	33	*e*P		P	06 36 05.1 +0.3
	comp=Z,20nm,0.9s						
PAHR	Pah Rah Range	72.44	53	*e*P		P	06 36 06.6 +1.2
	comp=Z,16nm,1.0s						
MFID	Camas Ranch	72.45	48	*e*P		P	06 36 06.5 +1.1
	comp=Z,11nm,0.9s						
PNTR	Pine Nut	72.66	54	*e*P		P	06 36 08.3 +1.4
	comp=Z,9.3nm,1.0s						
HRY	Holter Researc	72.73	44	*e*P		P	06 36 08.0 +1.0
CMB	Columbia Colle	72.77	55	*e*P		P	06 36 08.5 +1.3
CMB					pmax	pmax	
	comp=Z,14nm,1.1s						
CMB	Columbia Colle	72.77	55	*e*P		P	06 36 08.5 +1.3
	comp=Z,14nm,1.1s						
LRM	Limekiln Ridge	72.94	45	*e*P		P	06 36 09.5 +1.2
YERR	Yerington	72.95	54	*e*P		P	06 36 09.6 +1.1
	comp=Z,21nm,1.1s						
EGMT	Eagleton	73.03	42	P		P	06 36 09.5 +0.8
	baz=309,SNR=14						
EGMT	Eagleton	73.03	42	*e*P		P	06 36 09.7 +1.0
	comp=Z,28nm,0.9s						
NC405	NORSAR Array S	73.04	337	*e*P		P	06 36 08.8 +0.4
NC303	NORSAR Array S	73.06	337	*e*P		P	06 36 09.2 +0.7
WAKR	Walker	73.10	54	*e*P		P	06 36 11.0 +1.6
	comp=Z,9.2nm,1.1s						
DLMT	Dillon	73.13	45	*e*P		P	06 36 10.7 +1.3
	comp=Z,15nm,0.9s						
HLID	Hailey	73.19	48	P		P	06 36 10.8 +1.0
	baz=307,SNR=12						
HLID	Hailey	73.19	48	*e*P		P	06 36 10.9 +1.1
	comp=Z,9.4nm,1.0s						
NC204	NORSAR Array S	73.20	338	*e*P		P	06 36 10.0 +0.6
NB201	NORSAR Array S	73.22	337	*e*P		P	06 36 09.8 +0.3
NB2	NORSAR Subarra	73.25	337	P		P	06 36 09.4 -0.2
	comp=Z,14nm,0.8s,baz=40,slow=6.2						
NB2	NORSAR Subarra	73.25	337	P		P	06 36 09.4 -0.2
	baz=40,slow=6.2						
NB2	NORSAR Subarra	73.25	337	P		P	06 36 09.5 -0.2
NB2					pmax	pmax	
	comp=Z,12nm,0.9s						
NOA	NORSAR Array B	73.25	337	P		P	06 36 09.5 -0.2
	comp=Z,9.4nm,0.8s,baz=39,slow=5.8,SNR=23						
NOA				pP		pP	06 36 22.8 -0.2
	comp=Z,2.8nm,0.8s,baz=43,slow=5.4,SNR=3.7						
NOA				LR		LR	07 11 02.2
	comp=Z,126nm,21.4s,baz=40,slow=38						
BMN	Battle Mountai	73.37	52	*e*P		P	06 36 12.5 +1.6
BMN					pmax	pmax	
	comp=Z,13nm,0.9s						
BMN	Battle Mountai	73.37	52	*e*P		P	06 36 12.5 +1.6
	comp=Z,13nm,0.9s						
NBO00	NORSAR Array S	73.39	338	*e*P		P	06 36 11.0 +0.5
NAO01	NORSAR Array S	73.51	337	*e*P		P	06 36 11.4 +0.3
BOZ	Bozeman (W)	73.53	45	P		P	06 36 12.4 +0.7
	baz=308,SNR=11						
BOZ	Bozeman (W)	73.53	45	*e*P		P	06 36 13.0 +1.3
BOZ					pmax	pmax	
	comp=Z,10.0nm,0.8s						
BOZ	Bozeman (W)	73.53	45	*e*P		P	06 36 13.0 +1.3
	comp=Z,10.0nm,0.8s						
PMPB	Monarch Peak	73.55	57	*e*P		P	06 36 12.0 +0.1
	comp=Z,13nm,1.1s						
AKASG	Malin Array Be	73.64	322	P		P	06 36 11.5 -0.5
	comp=Z,7.0nm,0.7s,baz=46,slow=6.1,SNR=28						
AKASG				pP		pP	06 36 24.1 -1.2
	comp=Z,1.5nm,0.4s,baz=45,slow=6.2,SNR=4.4						
AKASG				sP		sP	06 36 31.0 +0.5
	comp=Z,1.7nm,0.4s,baz=45,slow=6.3,SNR=5.7						
AKASG				LR		LR	07 09 59.1
	comp=Z,66nm,21.7s,baz=325,slow=37						
AKBB	Malin Array Si	73.64	322	*e*P		P	06 36 11.3 -0.7
AKBB					pmax	pmax	
	comp=Z,9.0nm,0.8s						
AKBB	Malin Array Si	73.64	322	*e*P		P	06 36 11.3 -0.7
	comp=Z,9.2nm,0.8s						
KIEV	Kiev	73.65	322	*e*P		P	06 36 11.8 -0.3
KIEV					pmax	pmax	
	comp=Z,9.0nm,0.7s						
KIEV	Kiev	73.65	322	*e*P		P	06 36 11.8 -0.3
	comp=Z,8.9nm,0.7s						
QLMT	Earthquake Lak	74.11	45	*e*P		P	06 36 16.6 +1.4
PAGB	Antelope Grade	74.19	57	*e*P		P	06 36 17.2 +1.6
	comp=Z,25nm,0.9s						
YHH	Holmes Hill	74.46	45	*e*P		P	06 36 18.7 +1.3
	comp=Z,13nm,1.2s						
YMR	Madison River	74.47	45	*e*P		P	06 36 19.0 +1.7
	comp=Z,12nm,1.0s						
GCMT	Greycliff	74.48	44	*e*P		P	06 36 18.7 +1.5
YNR	Norris Junctio	74.60	45	*e*P		P	06 36 19.2 +1.1
	comp=Z,8.1nm,1.0s						
YFT	Old Faithful	74.68	45	*e*P		P	06 36 20.1 +1.5
	comp=Z,18nm,1.1s						
H17A	Grant Village	74.86	45	P		P	06 36 21.4 +1.7
	baz=309,SNR=8.4						
H17A	Grant Village	74.86	45	*e*P		P	06 36 22.1 +2.4
	comp=Z,26nm,0.9s						
VES	Vestal, Richgr	74.89	56	P		P	06 36 20.1 +0.5
	baz=306,SNR=12						
IMW	Indian Meadow	74.97	46	*e*P		P	06 36 22.0 +1.7
	comp=Z,16nm,0.8s						
PKM	Mcpherson Peak	74.97	57	P		P	06 36 21.7 +1.3
	baz=306						
FXWY	Fox Creek	75.08	46	*e*P		P	06 36 22.8 +1.9
	comp=Z,14nm,0.9s						
RLMT	Red Lodge	75.12	44	P		P	06 36 21.3 +0.2
	baz=310						
MOOW	Moose Ponds	75.17	46	*e*P		P	06 36 22.9 +1.5
	comp=Z,14nm,1.0s						
CWC	Cottonwood Cre	75.19	55	P		P	06 36 22.3 +0.8
	baz=307						
TPAW	Teton Pass	75.22	46	*e*P		P	06 36 23.3 +1.5
	comp=Z,11nm,0.8s						
HVU	Hansel Valley	75.23	48	*e*P		P	06 36 23.1 +1.4
HVU					pmax	pmax	
	comp=Z,13nm,0.9s						
HVU	Hansel Valley	75.23	48	*e*P		P	06 36 23.1 +1.4
	comp=Z,13nm,0.9s						
SBC	Santa Barbara	75.30	58	P		P	06 36 23.1 +1.1
	baz=306						
GRAC	Grapevine Rang	75.32	54	P		P	06 36 23.1 +1.0
	baz=307,SNR=11						
LOHW	Long Hollow	75.34	46	*e*P		P	06 36 23.9 +1.6
	comp=Z,6.2nm,0.9s						
SNOW	Snow King Moun	75.35	46	*e*P		P	06 36 24.3 +1.8
	comp=Z,12nm,0.8s						
REDW	Red Top Meadow	75.36	46	*e*P		P	06 36 24.1 +1.6
	comp=Z,15nm,1.0s						
ISA	Isabella, Lake	75.40	56	P		P	06 36 23.0 +0.3
	baz=307						
MLI	Malad Range	75.46	48	*e*P		P	06 36 21.8 -1.2
ARVC	Arvin	75.48	57	P		P	06 36 23.6 +0.5
	baz=307						
DGMT	Dagmar	75.58	39	P		P	06 36 23.9 +0.4
	baz=312,SNR=6.8						
DGMT	Dagmar	75.58	39	*e*P		P	06 36 24.2 +0.8
	comp=Z,32nm,1.0s						
DAC	Darwin (Calif)	75.60	55	*e*P		P	06 36 24.8 +0.8
DAC					pmax	pmax	
	comp=Z,10.0nm,1.0s						
DAC	Darwin (Calif)	75.60	55	*e*P		P	06 36 24.8 +0.8
	comp=Z,9.7nm,1.0s						
BGU	Big Grassy Mou	75.61	49	*e*P		P	06 36 25.4 +1.5
	comp=Z,6.5nm,1.0s						
SCZ2	Santa Cruz Isl	75.62	58	P		P	06 36 24.2 +0.3
	baz=307						
R11A	Troy Canyon, C	75.63	52	P		P	06 36 25.3 +1.2
	baz=308,SNR=22						
R11A	Troy Canyon, C	75.63	52	*e*P		P	06 36 24.7 +0.7
	comp=Z,8.0nm,0.8s						
SPUT	South Promonto	75.71	49	*e*P		P	06 36 25.6 +1.2
	comp=Z,8.8nm,1.0s						
LAO	LASA Array	75.73	41	P		P	06 36 25.0 +0.6
	baz=311,SNR=9.7						
LAO	LASA Array	75.73	41	*e*P		P	06 36 25.8 +1.4
	comp=Z,32nm,0.9s						
MPMC	Manual Prospec	75.80	55	P		P	06 36 25.8 +0.7
	baz=307,SNR=16						
BLG	Laguna Peak, P	75.93	58	P		P	06 36 25.6 -0.1
	baz=307						
FURC	Furnace Creek,	75.96	55	P		P	06 36 26.8 +1.1
	baz=307,SNR=18						
LRMC	Laurel Mtn Rad	76.02	56	P		P	06 36 26.9 +0.6
	baz=307,SNR=8.4						
HWUT	Hardware Ranch	76.05	48	*e*P		P	06 36 27.6 +1.2
	comp=Z,12nm,1.0s						
TPNV	Topopah Spring	76.06	54	P		P	06 36 27.5 +0.9
	baz=308,SNR=18						
TPNV	Topopah Spring	76.06	54	*e*P		P	06 36 27.7 +1.2
TPNV					pmax	pmax	
	comp=Z,14nm,0.9s						
TPNV	Topopah Spring	76.06	54	*e*P		P	06 36 27.7 +1.2
	comp=Z,14nm,0.9s						
EDW2	Edwards Air Fo	76.18	56	P		P	06 36 28.2 +1.1
	baz=307,SNR=13						
DUG	Dugway, Tooele	76.19	50	P		P	06 36 28.5 +1.3
	baz=309,SNR=18						
DUG	Dugway, Tooele	76.19	50	*e*P		P	06 36 28.6 +1.4
DUG					pmax	pmax	
	comp=Z,18nm,1.0s						
DUG	Dugway, Tooele	76.19	50	*e*P		P	06 36 28.6 +1.4
	comp=Z,18nm,1.0s						
TCUT	Toone Canyon	76.45	48	*e*P		P	06 36 29.5 +0.7
	comp=Z,25nm,0.9s						
BW06	Boulder Array	76.47	46	P		P	06 36 29.3 +0.5
	baz=310,SNR=17						
BW06	Boulder Array	76.47	46	*e*P		P	06 36 29.3 +0.5
	comp=Z,11nm,0.7s						
PD31	Pinedale Array	76.47	46	*e*P		P	06 36 29.6 +0.8
PDAR	Pinedale Array	76.47	46	P		P	06 36 29.4 +0.5
	comp=Z,8.9nm,0.6s,baz=262,slow=2.1,SNR=98						
PDAR				pP		sP	06 36 45.0 -2.4
	comp=Z,3.2nm,0.8s,baz=318,slow=2.0,SNR=5.6						
CTU	Camp Tracy	76.51	49	*e*P		P	06 36 30.4 +1.4
	comp=Z,12nm,1.1s						
MWC	Mount Wilson	76.53	57	*e*P		P	06 36 30.1 +0.8
MWC					pmax	pmax	
	comp=Z,14nm,1.1s						
MWC	Mount Wilson	76.53	57	*e*P		P	06 36 30.1 +0.8
	comp=Z,14nm,1.1s						
BSD	Bornholm Skovb	76.60	332	*i* P		P	06 36 28.7 -0.3
	comp=Z,15nm,0.9s						
BSD	Bornholm Skovb	76.60	332	*i* P		P	06 36 28.7 -0.3
BSD					pmax	pmax	
	comp=Z,15nm,0.9s						
SHOC	Shoshone, Teco	76.68	55	P		P	06 36 30.7 +0.8
	baz=308,SNR=5.0						
GSC	Goldstone, Bar	76.70	56	P		P	06 36 30.9 +0.8
	baz=308,SNR=8.7						
GSC	Goldstone, Bar	76.70	56	*e*P		P	06 36 31.1 +1.0
GSC					pmax	pmax	
	comp=Z,11nm,1.1s						
GSC	Goldstone, Bar	76.70	56	*e*P		P	06 36 31.1 +1.0
	comp=Z,11nm,1.1s						
JLU	Jordanelle	76.75	49	*e*P		P	06 36 31.8 +1.4
	comp=Z,9.9nm,1.1s						
NLU	North Lily Min	76.78	49	*e*P		P	06 36 32.1 +1.4
	comp=Z,12nm,1.0s						
BFSC	Mount Baldy Ra	76.79	57	P		P	06 36 31.2 +0.5
	baz=308,SNR=5.7						
CIS	Catalina Islan	76.79	58	P		P	06 36 31.0 +0.4
	baz=307						
RRX	Edison Barstow	76.83	56	P		P	06 36 31.3 +0.6
	baz=308						
SCI2	San Clemente I	76.95	58	P		P	06 36 31.2 -0.2
	baz=307						
MPU	Maple Canyon	77.01	49	*e*P		P	06 36 33.3 +1.4
	comp=Z,17nm,0.9s						
SHPR	Sheep Range	77.02	54	*e*P		P	06 36 33.5 +1.5
	comp=Z,12nm,0.9s						
COP	Copenhagen	77.06	333	*i* P		P	06 36 31.8 +0.2
	comp=Z,16nm,1.0s						
COP	Copenhagen	77.06	333	*e*P		P	06 36 31.8 +0.2
COP					pmax	pmax	
	comp=Z,16nm,1.0s						
TUQ	Turquoise Moun	77.19	55	P		P	06 36 33.6 +0.7
	baz=308,SNR=18						
BBRC	Big Bear Solar	77.26	56	P		P	06 36 34.0 +0.5
	baz=308						
HEC	Hector,Ludlow	77.29	56	P		P	06 36 34.1 +0.7
	baz=308,SNR=14						
TCRU	Three Creeks R	77.40	51	*e*P		P	06 36 35.9 +1.7
	comp=Z,8.7nm,0.8s						
KWP	Kalwaria Pacla	77.43	324	*e*P		P	06 36 34.4 +0.6
KWP	Kalwaria Pacla	77.43	324	*e*P		P	06 36 34.4 +0.6
MURC	Murrieta	77.48	57	P		P	06 36 34.9 +0.5
	baz=308						
CCUT	Cedar City	77.50	52	*e*P		P	06 36 36.1 +1.4
	comp=Z,11nm,1.0s						
ILGA	Ilgaz	77.51	313	*e*P		P	06 36 35.7 +1.0
	comp=Z,8.3nm,0.8s						
MSU	Marysvale	77.63	51	*e*P		P	06 36 36.9 +1.5
MSU	Marysvale	77.63	51	*e*P		P	06 36 36.9 +1.5
SZCU	Shurtz Canyon	77.64	52	*e*P		P	06 36 36.8 +1.3
	comp=Z,6.7nm,0.9s						
BUR08	Bucovina Ar. S	77.65	322	*e*P		P	06 36 35.9 +0.7
BURAR	Bucovina Array	77.66	322⇓	*i* P		P	06 36 35.5 +0.2
BURAR	Bucovina Array	77.66	322⇓	P		P	06 36 35.5 +0.2
GMRC	Granite Mounta	77.76	55	P		P	06 36 36.7 +0.6
	baz=308,SNR=9.5						
P17A	Butcher Ranch,	77.88	49	*e*P		P	06 36 38.1 +1.4
	comp=Z,24nm,0.9s						
LCMT	Little Creek M	77.91	52	*e*P		P	06 36 38.3 +1.3
	comp=Z,14nm,1.0s						
MTPU	Mount Pierson	77.92	51	*e*P		P	06 36 38.8 +1.5
	comp=Z,13nm,0.8s						
LDFC	Landfair	77.93	55	*e*P		P	06 36 38.1 +1.0
	comp=Z,17nm,0.9s						
PFO	Pinyon Flats O	77.96	57	P		P	06 36 37.8 +0.6
	baz=308,SNR=7.7						
PFO	Pinyon Flats O	77.96	57	*e*P		P	06 36 38.1 +0.9
PFO					pmax	pmax	
	comp=Z,12nm,1.1s						
PFO	Pinyon Flats O	77.96	57	*e*P		P	06 36 38.1 +0.9
	comp=Z,12nm,1.1s						
XPFO	Piæon Flat	77.96	57	*e*P		P	06 36 37.9 +0.6
	comp=Z,12nm,1.1s						
TPFO	Pinon Flats	77.97	57	P		P	06 36 38.0 +0.8
	baz=308,SNR=8.0						
Q16A	Castle Valley	77.98	50	*e*P		P	06 36 38.9 +1.6
	comp=Z,7.6nm,0.9s						
BELC	Belle Mtn. Jos	78.02	56	P		P	06 36 37.9 +0.3
	baz=308,SNR=7.6						
P18A	Preston Nutter	78.08	49	*e*P		P	06 36 39.4 +1.4
	comp=Z,9.1nm,0.8s						
VRI	Vrincioaia	78.12	320⇓	*i* P		P	06 36 39.2 +1.5
VRI	Vrincioaia	78.12	320⇓	P		P	06 36 39.2 +1.5
KNB	Kanab	78.17	52	*e*P		P	06 36 40.2 +1.8
KNB					pmax	pmax	
	comp=Z,10.0nm,1.0s						
KNB	Kanab	78.17	52	*e*P		P	06 36 40.2 +1.8
	comp=Z,10nm,1.0s						
TIRR	Tirgusor	78.20	318⇑	*i* P		P	06 36 37.2 -1.0
TIRR	Tirgusor	78.20	318⇑	P		P	06 36 37.2 -1.0
ULM	Lac du Bonnet	78.22	34	P		P	06 36 37.1 -1.1
	comp=Z,9.2nm,0.8s,baz=319,slow=6.4,SNR=14						
ULM				pP		pP	06 36 52.4 +0.9
	comp=Z,4.2nm,0.8s,baz=313,slow=3.3,SNR=4.0						
ULM				LR		LR	07 11 43.2
	comp=Z,47nm,21.2s,baz=320,slow=36						
ULM	Lac du Bonnet	78.22	34	*e*P		P	06 36 38.1 -0.1
ULM				*PP		pP	06 36 52.4 +0.9
ULM					pmax	pmax	
	comp=Z,16nm,0.9s						
ULM	Lac du Bonnet	78.22	34	*e*P		P	06 36 38.1 -0.1
	comp=Z,16nm,0.9s						
ULM				pP		pP	06 36 52.4 +0.9
K22A	Casper	78.24	45	P		P	06 36 39.0 +0.4
	baz=312,SNR=6.4						
K22A	Casper	78.24	45	*e*P		P	06 36 39.3 +0.7
	comp=Z,15nm,1.0s						
MDND	Maddock	78.24	37	P		P	06 36 38.9 +0.5
	baz=315						
SRU	San Rafael Swe	78.24	49	*e*P		P	06 36 39.9 +1.1
SRU					pmax	pmax	
	comp=Z,20nm,0.8s						
SRU	San Rafael Swe	78.24	49	*e*P		P	06 36 39.9 +1.1
	comp=Z,20nm,0.8s						
STHS	Stebnicka Huta	78.25	325	*e*P		P	06 36 39.4 +1.0
STHS					pmax	pmax	
	comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	78.25	325	*e*P		P	06 36 39.4 +1.0
OJC	Ojcow	78.30	326	*e*P		P	06 36 38.7 +0.1
OJC	Ojcow	78.30	326	*e*P		P	06 36 38.7 +0.1
OJC					pmax	pmax	
	comp=Z,14nm,1.1s						
OJC	Ojcow	78.30	326	*e*P		P	06 36 38.7 +0.1
	comp=Z,14nm,1.1s						
BAR	Barrett	78.39	58	*e*P		P	06 36 40.2 +0.8
	comp=Z,8.6nm,1.0s						
BRTR	Keskin Array B	78.41	312	P		P	06 36 38.5 -1.1
	comp=Z,1.0nm,0.4s,baz=119,slow=3.4,SNR=5.1						
BRTR				pP		pP	06 36 53.1 0.0
	comp=Z,1.0nm,0.5s,baz=99,slow=4.1,SNR=3.3						
BRTR				LR		LR	07 14 10.3
	comp=Z,44nm,20.6s,baz=19,slow=38						
BRTR	Keskin Array B	78.41	312	*ce*P		P	06 36 39.7 +0.1
BRTR					pmax	pmax	
	comp=Z,1.0nm,0.4s						
MONP2	Monument Peak	78.42	57	P		P	06 36 40.2 +0.3
	baz=308						
IRM	Iron Mountain	78.48	56	P		P	06 36 40.7 +0.8
	baz=309,SNR=12						
CRVS	Cervenica-Dubn	78.52	325	*e*P		P	06 36 39.6 -0.3
CRVS	Cervenica-Dubn	78.52	325	*e*P		P	06 36 39.6 -0.3
BC3	Big Chuckawall	78.59	56	P		P	06 36 41.5 +0.8
	baz=309,SNR=7.8						
RSSD	Black Hills	78.60	42	P		P	06 36 41.0 +0.4
	baz=313						
RSSD	Black Hills	78.60	42	*e*P		P	06 36 41.2 +0.5
RSSD					pmax	pmax	
	comp=Z,10.0nm,0.9s						
RSSD	Black Hills	78.60	42	*e*P		P	06 36 41.2 +0.5
	comp=Z,10.0nm,0.9s						
NIE	Niedzica	78.67	325	*e*P		P	06 36 41.4 +0.7
NIE	Niedzica	78.67	325	*e*P		P	06 36 41.4 +0.7
W13A	Hualapai Mount	78.71	54	*e*P		P	06 36 41.9 +0.5
	comp=Z,6.6nm,0.9s						
B31A	Greenbush Farm	78.75	36	P		P	06 36 41.4 +0.3
	baz=316						
IKP	In-Ko-Pah, Jac	78.78	57	P		P	06 36 42.2 +0.5
	baz=308,SNR=5.3						
SWSC	Sam W. Stewart	78.80	57	P		P	06 36 42.6 +0.9
	baz=308						
U15A	North Rim	78.88	52	*e*P		P	06 36 43.5 +1.1
	comp=Z,14nm,1.0s						
A32A	Rocking H Ranc	78.92	35	P		P	06 36 42.2 +0.1
	baz=317,SNR=6.5						
O20A	White River Ci	78.92	47	P		P	06 36 43.2 +0.6
	baz=311,SNR=7.3						
O20A	White River Ci	78.92	47	*e*P		P	06 36 43.4 +0.8
	comp=Z,17nm,1.0

D31A	Mcclaflin, Tow	79.71	37	P	P	06 36 46.7 +0.3
	baz=316,SNR=5.6					
PHWY	Pilot Hill	79.73	45	eP	P	06 36 47.5 +0.5
	comp=Z,5.5nm,0.8s					
N23A	Red Feather La	79.73	46	P	P	06 36 48.0 +1.0
	baz=312,SNR=9.7					
N23A	Red Feather La	79.73	46	eP	P	06 36 48.5 +1.5
	comp=Z,24nm,1.1s					
PV05	Paradox Valley	79.76	49	eP	P	06 36 48.6 +1.5
B33A	Robert and Kas	79.80	35	P	P	06 36 46.5 -0.4
	baz=318					
PSZ	Piszkesteto	79.95	325	eP	P	06 36 47.4 -0.4
PSZ				pmax	pmax	
	comp=Z,8.0nm,0.9s					
PSZ	Piszkesteto	79.95	325	eP	P	06 36 47.4 -0.4
	comp=Z,7.7nm,0.9s					
E31A	Nome	79.98	37	P	P	06 36 48.1 +0.1
	baz=316					
VYHS	Vyhne	80.00	326	eP	P	06 36 48.3 +0.3
VYHS				pmax	pmax	
	comp=Z,5.0nm,1.3s					
VYHS	Vyhne	80.00	326	eP	P	06 36 48.2 +0.3
WUAZ	Wupatki	80.03	53	P	P	06 36 49.6 +1.0
	baz=310,SNR=15					
WUAZ	Wupatki	80.03	53	eP	P	06 36 50.1 +1.5
	comp=Z,20nm,1.0s					
PV01	Paradox Valley	80.04	49	eP	P	06 36 49.9 +1.2
B34A	Aery, Baudette	80.06	34	P	P	06 36 48.0 -0.3
	baz=318					
C33A	Trail	80.09	35	P	P	06 36 48.3 -0.2
	baz=318,SNR=6.0					
BRG	Berggiesshubel	80.25	330	ePKP	P	06 36 49.3 0.0
	comp=Z,6.3nm,0.9s					
BRG				e		06 37 04.0
	comp=Z,5.0nm,1.1s					
BRG	Berggiesshubel	80.25	330	eP	P	06 36 49.3 0.0
BRG				e		06 37 04.0
BRG				pmax	pmax	
	comp=Z,6.0nm,0.9s					
BRG				pmax	pmax	
	comp=Z,5.0nm,1.1s					
PVCC	Panska Ves	80.27	329	eP	P	06 36 50.1 +0.7
PVCC				epP	pP	06 37 04.3 +1.5
PVCC	Panska Ves	80.27	329	eP	P	06 36 50.1 +0.7
PVCC				e		06 37 04.3
CLL	Collm	80.28	330	i P	P	06 36 49.4 0.0
CLL				e		06 37 03.0
CLL				pmax	pmax	
	comp=Z,14nm,0.9s					
CLL	Collm	80.28	330	i P	P	06 36 49.4 0.0
	comp=Z,14nm,0.9s					
CLL				epP	pP	06 37 04.0 +1.2
CLL				LmH		07 09 00.0
	comp=N,100nm,18.5s					
CLL				LmH		07 09 00.0
	comp=E,100nm,19.2s					
CLL				LmV		07 16 00.0
	comp=Z,100nm,20.5s					
CLL	Collm	80.28	330	eP	P	06 36 49.5 +0.1
	comp=Z,14nm,0.9s					
SMCO	Snowmass	80.29	47	eP	P	06 36 51.4 +1.1
	comp=Z,8.6nm,1.0s					
F31A	Hecla	80.31	38	P	P	06 36 49.8 +0.1
	baz=316,SNR=7.4					
VRAC	Vranov	80.37	327	‖ iP	P	06 36 50.8 +0.9
VRAC	Vranov	80.37	327	‖ P	P	06 36 50.8 +0.9
D33A	AnnSam, Waubun	80.52	36	P	P	06 36 50.3 -0.5
	baz=318					
B35A	Bob, Littlefor	80.56	34	P	P	06 36 51.0 0.0
	baz=319					
C34A	RKJ Ranch, Bem	80.57	35	P	P	06 36 50.5 -0.5
	baz=318					
RAYN	Ar Rayn	80.65	292	eP	P	06 36 51.6 -0.3
	comp=Z,6.1nm,1.1s					
ISCO	Idaho Springs	80.65	46	P	P	06 36 52.8 +0.8
	baz=313,SNR=8.2					
ISCO	Idaho Springs	80.65	46	eP	P	06 36 53.0 +1.0
ISCO				pmax	pmax	
	comp=Z,7.0nm,1.0s					
ISCO	Idaho Springs	80.65	46	eP	P	06 36 53.0 +1.0
	comp=Z,6.6nm,1.0s					
GOPC	GO Pecny, Ondr	80.66	329	eP	P	06 36 51.7 +0.2
GOPC	GO Pecny, Ondr	80.66	329	eP	P	06 36 51.7 +0.2
MVCO	Mesa Verde	80.69	50	P	P	06 36 52.4 +0.2
	baz=311,SNR=11					
MVCO	Mesa Verde	80.69	50	eP	P	06 36 52.2 +0.1
	comp=Z,8.6nm,0.9s					
X16A	Lo Mia Camp, P	80.69	53	eP	P	06 36 53.4 +1.2
	comp=Z,16nm,0.9s					
PRU	Pruhonice	80.70	329	eP	P	06 36 52.0 +0.3
PRU				epP	sP	06 37 07.3 -3.0
PRU	Pruhonice	80.70	329	eP	P	06 36 52.0 +0.3
PRU				e		06 37 07.3
G31A	Conde	80.79	38	P	P	06 36 52.4 +0.1
	baz=316					
TREC	Trest	80.84	328	eP	P	06 36 52.7 +0.2
TREC	Trest	80.84	328	eP	P	06 36 52.7 +0.2
F32A	Veblen	80.85	37	P	P	06 36 52.1 -0.5
	baz=317,SNR=5.6					
D34A	Park Rapids	80.86	36	P	P	06 36 52.5 -0.1
	baz=318,SNR=8.1					
E33A	Westby DABS, E	80.91	36	P	P	06 36 53.0 +0.1
	baz=318,SNR=9.1					
C35A	Jirik Farms, M	80.95	35	P	P	06 36 52.8 -0.3
	baz=319					
SUSD	Miller	80.98	39	P	P	06 36 53.4 0.0
	baz=316,SNR=5.2					
G32A	Webster	81.11	38	P	P	06 36 54.2 +0.2
	baz=317,SNR=13					
H31A	Wolsey	81.19	39	P	P	06 36 54.2 -0.2
	baz=316					
F33A	5 Mile Ranch,	81.27	37	P	P	06 36 54.7 -0.1
	baz=318,SNR=7.8					
E34A	Wadena	81.29	36	P	P	06 36 54.5 -0.4
	baz=318					
S22A	4UR Ranch, Cre	81.33	48	P	P	06 36 56.4 +0.8
	baz=312,SNR=11					
S22A	4UR Ranch, Cre	81.33	48	eP	P	06 36 57.0 +1.3
	comp=Z,14nm,1.1s					
NKC	Novy Kostel	81.35	330	eP	P	06 36 55.5 +0.3
NKC	Novy Kostel	81.35	330	eP	P	06 36 55.5 +0.3
D35A	Remer	81.38	35	P	P	06 36 54.9 -0.4
	baz=319					
214A	Organ Pipe Nat	81.39	56	P	P	06 36 56.5 +0.8
	baz=310					
C36A	Pine Crest Far	81.41	34	P	P	06 36 55.2 -0.4
	baz=320					
Q24A	Divide	81.48	47	P	P	06 36 56.6 +0.2
	baz=313					
Q24A	Divide	81.48	47	eP	P	06 36 57.5 +1.0
	comp=Z,7.1nm,0.9s					
I31A	Royce, Wessing	81.49	39	P	P	06 36 56.0 -0.1
	baz=316					
X18A	Snowflake	81.56	53	eP	P	06 36 58.1 +1.4
	comp=Z,12nm,1.0s					
E35A	Pequot Lakes	81.61	36	P	P	06 36 56.2 -0.4
	baz=319					
G33A	Ortonville	81.67	38	P	P	06 36 57.1 +0.1
	baz=318,SNR=9.4					
H32A	Carlson Farm,	81.69	39	P	P	06 36 57.1 0.0
	baz=317					
D36A	Goodland	81.71	34	P	P	06 36 56.6 -0.5
	baz=319					
C37A	Embarrass	81.72	34	P	P	06 36 57.3 +0.1
	baz=320,SNR=5.2					
CONA	Conrad Observa	81.73	327	i P	P	06 36 58.0 +0.7
	comp=Z,6.5nm,0.9s					
KHC	Kasperske Hory	81.76	329	eP	P	06 36 57.4 +0.1
KHC				epP	pP	06 37 11.8 +0.9
KHC	Kasperske Hory	81.76	329	eP	P	06 36 57.5 +0.1
KHC				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KHC	Kasperske Hory	81.76	329	eP	P	06 36 57.5 +0.1
	comp=Z,3.7nm,0.9s					
F34A	Alexandria	81.79	36	P	P	06 36 57.2 -0.3
	baz=318					
EYMN	Ely	81.85	33	P	P	06 36 57.2 -0.6
	baz=320					
EYMN	Ely	81.85	33	eP	P	06 36 58.1 +0.2
	comp=Z,11nm,0.8s					
OGNE	Ogallala	81.86	43	P	P	06 36 58.0 -0.1
	baz=314					
H33A	Prehn Over Nor	81.90	38	P	P	06 36 58.6 +0.4
	baz=317,SNR=12					
J31A	Geddes	81.92	40	P	P	06 36 58.3 0.0
	baz=316					
GEC2	GERESS Array S	81.94	328	eP	P	06 36 58.5 +0.1
GEC2				pmax	pmax	
	comp=Z,5.0nm,0.9s					
GEC2	GERESS Array S	81.94	328	eP	P	06 36 58.5 +0.1
	comp=Z,5.0nm,0.9s					
GERES	GERESS Array B	81.94	328	P	P	06 36 58.0 -0.4
	comp=Z,2.8nm,0.8s,baz=39,slow=5.1,SNR=16					
GERES				pP	pP	06 37 12.6 +0.7
	comp=Z,0.7nm,0.4s,baz=30,slow=3.2,SNR=4.5					
GERES				LR	LR	07 15 24.0
	comp=Z,143nm,20.0s,baz=341,slow=37					
G34A	Benson	82.02	37	P	P	06 36 59.0 +0.3
	baz=318,SNR=8.6					
I32A	Karley and Nic	82.03	39	P	P	06 36 58.4 -0.4
	baz=317					
WET	Wettzell	82.04	329	P	P	06 36 59.9 +1.1
WET				pmax	pmax	
	comp=Z,12nm,1.1s					
F35A	Swanville	82.06	36	P	P	06 36 58.8 -0.1
	baz=319					
SDCO	Great Sand Dun	82.11	48	P	P	06 37 00.2 +0.5
	baz=313,SNR=9.1					
SDCO	Great Sand Dun	82.11	48	eP	P	06 37 01.0 +1.3
	comp=Z,7.1nm,1.1s					
C38A	Sawbill Land.	82.12	33	P	P	06 36 58.8 -0.4
	baz=321,SNR=6.4					
E36A	McGregor	82.16	35	P	P	06 36 59.7 +0.1
	baz=319,SNR=5.9					
VTS	Vitosha	82.22	319	‖ iP	P	06 37 00.9 +0.9
VTS	Vitosha	82.22	319	eP	P	06 37 00.8 +0.8
VTS				pmax	pmax	
	comp=Z,7.0nm,0.9s					
VTS	Vitosha	82.22	319	eP	P	06 37 00.8 +0.8
	comp=Z,6.6nm,0.9s					
GRF	Grafenberg Arr	82.26	330	P	P	06 37 01.3 +1.3
GRF				pmax	pmax	
	comp=Z,20nm,0.9s					
GRFO	Grafenberg	82.26	330	eP	P	06 37 00.8 +0.8
GRFO				pmax	pmax	
	comp=Z,12nm,0.9s					
GRFO	Grafenberg	82.26	330	eP	P	06 37 00.8 +0.8
	comp=Z,12nm,0.9s					
J32A	Parkston	82.31	40	P	P	06 37 00.1 -0.2
	baz=317					
I33A	Coleman	82.34	39	P	P	06 37 00.4 -0.1
	baz=317,SNR=6.0					
H34A	Spellman Lake,	82.38	38	P	P	06 37 00.7 +0.1
	baz=318					
K31A	O'Neill	82.39	41	P	P	06 37 00.8 0.0
	baz=316,SNR=7.4					
ARSA	Arzberg	82.40	326	i P	P	06 37 01.1 +0.3
	comp=Z,4.9nm,1.1s					
TUC	Tucson	82.47	55	P	P	06 37 02.1 +0.7
	baz=311					
TUC	Tucson	82.47	55	eP	P	06 37 02.3 +0.8
TUC				pmax	pmax	
	comp=Z,4.0nm,0.8s					
TUC	Tucson	82.47	55	eP	P	06 37 02.3 +0.8
	comp=Z,4.0nm,0.8s					
MOA	Molln	82.48	328	i PcP	P	06 37 02.2 +1.1
	comp=Z,5.0nm,1.0s					
E37A	Wrenshall	82.51	34	P	P	06 37 01.6 +0.2
	baz=320					
F36A	Milaca	82.54	36	P	P	06 37 01.1 -0.3
	baz=319					
G35A	Watkins	82.58	36	P	P	06 37 01.8 +0.2
	baz=319					
ECSD	EROS Data Cent	82.66	39	P	P	06 37 02.2 0.0
	baz=318,SNR=12					
ECSD	EROS Data Cent	82.66	39	eP	P	06 37 02.2 0.0
	comp=Z,13nm,0.9s					
K32A	Verdigre	82.77	40	P	P	06 37 02.8 +0.1
	baz=317					
J33A	Davis	82.79	39	P	P	06 37 02.5 -0.3
	baz=317					
I34A	Hadley	82.80	38	P	P	06 37 02.9 0.0
	baz=318					
H35A	Sunnyside Ranc	82.80	37	P	P	06 37 03.0 +0.2
	baz=319,SNR=17					
E38A	The Farm, Brul	82.86	34	P	P	06 37 03.0 -0.1
	baz=320					
KSCO	Kaye Shedlock'	82.88	45	P	P	06 37 03.4 -0.1
	baz=314					
G36A	St. Michael	82.91	36	P	P	06 37 03.8 +0.5
	baz=319					
MHTCO	State Highway	83.00	48	eP	P	06 37 05.9 +1.6
	comp=Z,6.5nm,0.8s					
GROS	Grobnik	83.02	326	eP	P	06 37 03.6 -0.5
F37A	Hinrichs Farm,	83.05	35	P	P	06 37 04.0 -0.2
	baz=320					
PERS	Pernice	83.05	326	eP	P	06 37 04.0 -0.2
SOKA	Soboth	83.06	326	i P	P	06 37 04.2 -0.1
	SNR=7.9					
SOKA				i P	P	06 37 04.5 +0.2
	comp=Z,18nm,2.0s					
T25A	Trinidad	83.15	48	P	P	06 37 05.5 +0.4
	baz=314,SNR=9.3					
T25A	Trinidad	83.15	48	eP	P	06 37 06.2 +1.1
	comp=Z,14nm,0.8s					
F38A	Pierce - Schro	83.21	35	P	P	06 37 05.2 +0.2
	baz=320,SNR=12					
L32A	Elgin	83.22	41	P	P	06 37 05.3 +0.1
	baz=317					
K33A	Hardington	83.30	40	P	P	06 37 05.7 +0.2
	baz=317					
J34A	George	83.31	39	P	P	06 37 05.3 -0.2
	baz=318					
H36A	Jessenland, He	83.32	37	P	P	06 37 05.9 +0.4
	baz=319,SNR=6.6					
SPMN	Marine on St.	83.35	36	P	P	06 37 05.8 +0.1
	baz=320					
SPMN	Marine on St.	83.35	36	eP	P	06 37 05.9 +0.1
	comp=Z,15nm,1.1s					
I35A	Creekview Farm	83.36	38	P	P	06 37 05.7 -0.1
	baz=318					
LAZ	Ladron	83.38	51	eP	P	06 37 07.5 +1.2
OBKA	Obir	83.40	327	i P	P	06 37 05.8 -0.2
	comp=Z,4.3nm,0.8s					
ANMO	Albuquerque	83.43	50	P	P	06 37 07.4 +0.9
	baz=313					
ANMO	Albuquerque	83.43	50c	i P	P	06 37 07.4 +0.9
ANMO				pmax	pmax	
	comp=Z,20nm,1.2s					
ANMO	Albuquerque	83.43	50	eP	P	06 37 08.0 +1.4
	comp=Z,15nm,1.0s					
E39A	Mellen	83.47	34	P	P	06 37 06.2 0.0
	baz=321					
KBA	Koelnbreinsper	83.47	328	P	P	06 37 07.3 +0.8
KBA				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KBA	Koelnbreinsper	83.47	328	i P	P	06 37 06.6 +0.1
	comp=Z,6.4nm,0.7s					
BGNE	Belgrade	83.58	41	P	P	06 37 07.0 0.0
	baz=317					
BGNE	Belgrade	83.58	41	eP	P	06 37 07.3 +0.3
	comp=Z,41nm,0.9s					
J35A	Milford	83.62	38	P	P	06 37 07.1 -0.1
	baz=318					
F39A	Loretta	83.67	34	P	P	06 37 07.1 -0.2
	baz=321					
K34A	Le Mars	83.69	39	P	P	06 37 07.5 0.0
	baz=318					
MYKA	Terra Mystica	83.69	327	i P	P	06 37 07.0 -0.5
	comp=Z,4.1nm,0.5s					
I36A	Fitzsimmons Fa	83.70	37	P	P	06 37 07.5 0.0
	baz=319					
E40A	Wakefield	83.70	33	P	P	06 37 07.6 +0.1
	baz=322,SNR=6.3					
LPM	Los Pinos Moun	83.75	51	eP	P	06 37 08.9 +0.7
H37A	Dierke Farm, C	83.79	36	P	P	06 37 08.4 +0.4
	baz=320					
G38A	Ridgeland	83.83	35	P	P	06 37 07.9 -0.2
	baz=320					
BNM	Barren Site	83.86	51	eP	P	06 37 09.8 +1.0
M33A	Taylor Creek F	83.95	40	P	P	06 37 08.5 -0.4
	baz=317					
I37A	Lemond, Waseca	83.99	37	P	P	06 37 09.4 +0.4
	baz=320,SNR=14					
WATA	Walderalm	84.00	329	i PcP	P	06 37 09.9 +0.8
	comp=Z,2.0nm,0.4s					
H38A	Maiden Rock	84.01	36	P	P	06 37 09.0 -0.1
	baz=320					
F40A	Park Falls	84.02	34	P	P	06 37 09.1 0.0
	baz=322					
SCHQ	Schefferville	84.03	16	P	P	06 37 09.2 +0.2
	comp=Z,7.0nm,0.8s,baz=327,slow=8.7,SNR=4.3					
SCHQ	Schefferville	84.03	16	eP	P	06 37 09.5 +0.5
	comp=Z,7.6nm,0.9s					
WTTA	Wattenberg	84.03	329	i P	P	06 37 09.3 -0.1
	comp=Z,3.4nm,0.6s					
G39A	Holcombe	84.04	35	P	P	06 37 08.5 -0.7
	baz=321					
319A	Douglas	84.05	55	eP	P	06 37 10.9 +1.3
	comp=Z,26nm,0.9s					
J36A	Seneca 1, Swea	84.06	38	P	P	06 37 09.4 0.0
	baz=319					
L34A	Svendsen Farm,	84.08	40	P	P	06 37 09.5 0.0
	baz=318					
ABTA	Abfaltersbach	84.08	328	i P	P	06 37 08.5 -1.0
	comp=Z,5.9nm,1.0s					
K35A	Storm Lake	84.09	39	P	P	06 37 09.4 -0.1
	baz=318					
E41A	Kenton	84.09	33	P	P	06 37 09.5 +0.1
	baz=322					
MOTA	Moosalm	84.19	329	i P	P	06 37 09.8 -0.3
	comp=Z,4.6nm,0.8s					
RETA	Reutte	84.21	329	i P	P	06 37 10.2 0.0
	comp=Z,11nm,0.8s					
121A	Cookes Peak, D	84.23	53	P	P	06 37 11.2 +0.6
	baz=312,SNR=10					
121A	Cookes Peak, D	84.23	53	eP	P	06 37 11.3 +0.6
	comp=Z,20nm,1.0s					
PDG	Podgorica	84.32	321 ⇑ iP	P	06 37 10.5 -0.2
L35A	Bielow Farm, R	84.39	39	P	P	06 37 11.1 0.0
	baz=318					
N33A	J Bar K, Exete	84.43	41	P	P	06 37 11.2 -0.1
	baz=317					
J37A	Redenius Farm,	84.46	37	P	P	06 37 11.5 +0.1
	baz=320					
H39A	Augusta	84.46	35	P	P	06 37 11.2 -0.2
	baz=321					
I38A	Scanlan Farm,	84.47	36	P	P	06 37 11.5 0.0
	baz=320					
BFO	Black Forest	84.48	331	i P	P	06 37 11.6 +0.2
BFO	Black Forest	84.48	331	eP	P	06 37 11.9 +0.4
	comp=Z,10.0nm,0.8s					
G40A	Rib Lake	84.49	34	P	P	06 37 11.5 0.0
	baz=322					
K36A	Gilmore City	84.53	38	P	P	06 37 11.8 0.0
	baz=319,SNR=6.0					
E42A	Champion	84.56	32	P	P	06 37 11.8 0.0
	baz=323					
F41A	Three Lakes	84.60	33	P	P	06 37 12.2 +0.1
	baz=322,SNR=5.2					
FETA	Feichten	84.60	329	i P	P	06 37 12.2 0.0
	comp=Z,2.6nm,0.7s					
CBKS	Cedar Bluff	84.61	44	P	P	06 37 12.1 -0.2
	baz=316					
DAVA	Damuels	84.73	330	i PcP	P	06 37 13.0 +0.2
	comp=Z,16nm,0.9s					
PPT	Papeete	84.74	117	LR	LR	07 07 16.0
	comp=Z,47nm,21.2s,baz=300,slow=30					
PPT2	Papeete2	84.76	117	eLR	LR	07 03 55.0
	comp=Z,234nm,25.0s					
PPT2	Papeete2	84.76	117	eT	T	08 10 57.0
	comp=Z,6.8nm,0.3s					
M35A	Neola	84.79	40	P	P	06 37 13.5 +0.4
	baz=318,SNR=7.2					
PAE	Paea	84.80	117	eT	T	08 10 59.3
	comp=Z,1.5nm,0.2s					
K37A	Belmond	84.83	38	P	P	06 37 13.2 -0.1
	baz=319,SNR=9.6					
L36A	Harm Buss Farm	84.83	39	P	P	06 37 13.4 +0.1
	baz=319					
O33A	Hebron	84.85	42	P	P	06 37 13.3 -0.1
	baz=317					
N34A	Lincoln	84.85	41	P	P	06 37 13.0 -0.4
	baz=318					
TIAR	Tiarei	84.90	117	eT	T	08 11 07.7
	comp=Z,4.6nm,0.2s					
H40A	Chili	84.91	35	P	P	06 37 13.8 +0.2
	baz=321					
J38A	Wedel Dairy, R	84.96	37	P	P	06 37 14.0 +0.1
	baz=320					
G41A	Antigo	84.98	34	P	P	06 37 14.2 +0.2
	baz=322					
E43A	Lone Tree Farm	84.98	32	P	P	06 37 13.9 0.0
	baz=324					
I39A	Houston	84.99	36	P	P	06 37 13.6 -0.4
	baz=321					
ECH	Echery	85.02	332	eP	P	06 37 14.0 -0.1
ECH				pmax	pmax	
	comp=Z,6.0nm,0.8s					
ECH	Echery	85.02	332	eP	P	06 37 14.0 -0.1
	comp=Z,6.0nm,0.8s					
FUORN	Ofenpass-Fuorn	85.11	329	eP	P	06 37 15.3 +0.4
	comp=Z,18nm,0.8s					
LTZ	Lake Taylor	85.21	158	eP	P	06 37 15.2 +0.4
	comp=Z,8.2nm,0.6s					
O34A	Beatrice	85.23	41	P	P	06 37 15.3 -0.1
	baz=318					
H41A	Junction City	85.24	34	P	P	06 37 15.3 0.0
	baz=322					
M36A	Felix, Anita	85.25	39	P	P	06 37 15.5 +0.1
	baz=319,SNR=6.0					
L37A	Phoenix Point,	85.26	38	P	P	06 37 15.6 +0.2
	baz=319					
N35A	Tabor	85.27	40	P	P	06 37 15.8 +0.3
	baz=318,SNR=7.8					
G42A	Mountain	85.28	33	P	P	06 37 15.4 0.0
	baz=323					
J39A	Decorah	85.31	36	P	P	06 37 15.3 -0.4
	baz=321,SNR=5.3					
K38A	Parkersburg	85.33	37	P	P	06 37 15.8 0.0
	baz=320					
F43A	Flat Rock, Esc	85.35	32	P	P	06 37 16.0 +0.2
	baz=324					
I40A	Norwalk	85.38	35	P	P	06 37 16.0 0.0
	baz=321					
F44A	Big Bay de Noc	85.54	32	P	P	06 37 16.8 +0.1
	baz=324					
O35A	Humboldt	85.57	41	P	P	06 37 17.0 0.0
	baz=318					
G43A	Wallace	85.59	33	P	P	06 37 17.0 +0.1
	baz=323					
P34A	Walnut Farm, R	85.63	42	P	P	06 37 17.0 -0.3
	baz=318,SNR=5.1					
N36A	Muff Farm, Cla	85.65	40	P	P	06 37 17.6 +0.3
	baz=319					
SCIA	State Center	85.68	38	eP	P	06 37 18.4 +0.9
	comp=Z,27nm,0.8s					
J40A	Soldiers Grove	85.70	36	P	P	06 37 17.4 -0.2
	baz=321					
K39A	Oelwein	85.71	37	P	P	06 37 17.5 -0.1
	baz=321,SNR=5.3					
E45A	Wooded Hills,	85.74	31	P	P	06 37 17.7 -0.1
	baz=325					
TAOE	Nuku Hiva Isla	85.99	104	eLR	LR	07 04 35.2
	comp=Z,259nm,24.3s					
Q34A	Chapman	86.03	42	P	P	06 37 19.5 +0.1
	baz=318,SNR=6.3					
J41A	Loganville	86.06	35	P	P	06 37 19.5 +0.1
	baz=322					
K40A	Colesburg	86.06	36	P	P	06 37 19.4 +0.1
	baz=321,SNR=8.4					
N37A	Lee Faris, Mou	86.06	39	P	P	06 37 19.7 +0.2
	baz=319,SNR=7.6					
M38A	Pleasantville	86.06	38	P	P	06 37 19.9 +0.4
	baz=320					
KSU1	Kansas State U	86.07	42	P	P	06 37 19.6 +0.1
	baz=318,SNR=7.4					
KSU1	Kansas State U	86.07	42	eP	P	06 37 19.6 +0.1
	comp=Z,22nm,0.9s					
L39A	Vinton	86.10	37	P	P	06 37 20.0 +0.4
	baz=320,SNR=6.2					
LBZ	Lake Benmore	86.11	160	eP	P	06 37 20.0 +0.8
	comp=Z,30nm,0.9s					
I42A	Draeger Farm,	86.14	34	P	P	06 37 19.8 0.0
	baz=322					
O36A	Bolckow	86.16	40	P	P	06 37 20.2 +0.3
	baz=319,SNR=5.8					
H43A	Windswept, Lux	86.18	33	P	P	06 37 19.9 -0.1
	baz=323					
MNTX	Cornudas Mount	86.29	52	P	P	06 37 21.2 +0.4
	baz=314,SNR=9.5					
MNTX	Cornudas Mount	86.29	52	eP	P	06 37 21.5 +0.7
AMTX	Amarillo	86.31	48	P	P	06 37 21.7 +0.8
	baz=315					
AMTX	Amarillo	86.31	48	eP	P	06 37 22.0 +1.1
	comp=Z,28nm,0.9s					
MSTX	Muleshoe	86.31	49	P	P	06 37 21.4 +0.4
	baz=315,SNR=5.1					
MSTX	Muleshoe	86.31	49	eP	P	06 37 21.4 +0.4
	comp=Z,10nm,1.0s					
F46A	Macinaw City C	86.38	31	P	P	06 37 21.1 +0.2
	baz=325					
P36A	Good Intent, A	86.42	41	P	P	06 37 21.2 0.0

baz=319,SNR=6.5
J42A Columbus 86.50 35 P P 06 37 21.6 +0.1
baz=322
SENIN Lac Senin/Sane 86.50 330 eP P 06 37 22.0 +0.3
comp=Z,4.2nm,1.0s
M39A Webster 86.51 38 P P 06 37 21.8 +0.2
baz=320,SNR=5.1
L40A Anamosa 86.52 37 P P 06 37 21.6 -0.1
baz=321
IDI Anoyia 86.52 313 eP P 06 37 21.5 -0.3
comp=Z,25nm,1.1s
K41A Shullsburg 86.52 36 P P 06 37 21.7 +0.1
baz=322
N38A Joes South For 86.52 39 P P 06 37 22.1 +0.4
baz=320,SNR=5.1
O37A Wolven Farm, M 86.54 40 P P 06 37 21.9 +0.1
baz=319
Q35A Mercer Eighty, 86.55 42 P P 06 37 21.9 0.0
baz=318,SNR=12
J43A Natural Harves 86.76 34 P P 06 37 22.9 +0.1
baz=323
U32A Winter Ranch, 86.77 45 P P 06 37 23.1 +0.1
baz=317
Q36A Arnold C. Orve 86.78 41 P P 06 37 22.9 -0.1
baz=318
N39A Derby Farms, D 86.81 38 P P 06 37 23.3 +0.2
baz=320,SNR=7.9
K42A Prairie Point, 86.82 35 P P 06 37 23.2 +0.1
baz=322
S34A Willow Spring 86.84 43 P P 06 37 23.6 +0.3
baz=318
L41A Preston 86.84 36 P P 06 37 23.1 -0.1
baz=322
R35A Emporia Munici 86.86 42 P P 06 37 24.1 +0.7
baz=318,SNR=6.3
P37A Lathrop 86.88 40 P P 06 37 23.5 0.0
baz=319,SNR=7.7
M40A Post Highland 86.89 37 P P 06 37 23.6 +0.2
baz=321,SNR=5.8
O38A Galt 86.91 39 P P 06 37 24.0 +0.4
baz=320
VLDQ Val d'Or 87.11 25 eP P 06 37 23.6 -0.8
comp=Z,22nm,1.0s
R36A Gordon, Harris 87.23 42 P P 06 37 25.3 +0.1
baz=318,SNR=7.8
N40A Mertquake, Sal 87.25 38 P P 06 37 25.4 +0.1
baz=321
P38A Dawn 87.26 40 P P 06 37 25.5 +0.2
baz=320,SNR=13
O39A Kirksville 87.27 39 P P 06 37 25.9 +0.6
baz=320
S35A Otter Creek Ra 87.28 43 P P 06 37 25.8 +0.3
baz=318,SNR=16
T34A McClaskey Farm 87.30 44 P P 06 37 26.1 +0.6
baz=318
Q37A Longview Farm, 87.36 41 P P 06 37 25.7 -0.1
baz=319
M41A Milan 87.37 37 P P 06 37 25.9 +0.1
baz=322
R37A Teagarden Farm 87.59 41 P P 06 37 27.0 +0.1
baz=319,SNR=6.9
S36A Lake Cedric, C 87.63 42 P P 06 37 27.3 +0.2
baz=318
M42A Sheffield 87.67 36 P P 06 37 27.2 0.0
baz=322
O40A La Belle 87.70 38 P P 06 37 27.8 +0.4
baz=321,SNR=7.1
Q38A Cooks Store, C 87.72 40 P P 06 37 27.7 +0.2
baz=320,SNR=7.6
T35A Sooner Cattle 87.74 43 P P 06 37 28.1 +0.4
baz=318
N41A Harden Midland 87.74 37 P P 06 37 28.1 +0.5
baz=321,SNR=6.0
P39B Salisbury 87.75 39 P P 06 37 28.0 +0.4
baz=320,SNR=5.5
L44A Lake County Fo 87.95 35 P P 06 37 28.7 +0.2
baz=323
T36A Boggs Farm, Ca 87.97 43 P P 06 37 29.1 +0.3
baz=318,SNR=7.6
Q39A Willow Grove F 87.98 40 P P 06 37 29.0 +0.2
baz=320,SNR=17
S37A Fort Scott 88.00 42 P P 06 37 29.4 +0.5
baz=319
U35A Pawnee 88.02 44 P P 06 37 29.9 +0.9
baz=318
N42A Yates City 88.03 37 P P 06 37 29.4 +0.4
baz=322
P40A Paris 88.07 39 P P 06 37 29.4 +0.2
baz=321,SNR=12
WMOK Wichita Mounta 88.08 46 P P 06 37 29.7 +0.4
baz=317,SNR=11
WMOK Wichita Mounta 88.08 46 eP P 06 37 29.8 +0.4
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 88.08 46 eP P 06 37 29.8 +0.4
comp=Z,11nm,1.0s
R38A Fenwick Farm, 88.16 41 P P 06 37 29.6 0.0
baz=320
O41A Passleys Farm, 88.19 38 P P 06 37 29.9 +0.2
baz=321,SNR=6.5
V35A Meyer Ranch, C 88.41 44 P P 06 37 31.8 +0.9
baz=318
T37A Cheneyville 18 88.43 42 P P 06 37 31.4 +0.4
baz=319,SNR=5.9
P41A Barry, Barry 88.44 38 P P 06 37 31.4 +0.5
baz=321,SNR=11
Q40A Laux Farm, Aux 88.47 39 P P 06 37 31.7 +0.6
baz=321,SNR=7.5
R39A Chumby, Stover 88.51 40 P P 06 37 31.3 0.0
baz=320,SNR=7.9
M44A Midewin, Midew 88.52 35 P P 06 37 31.6 +0.3
baz=323
U36A Oologah 88.55 43 P P 06 37 32.3 +0.8
baz=318
S38A Stockton 88.58 41 P P 06 37 31.2 -0.4
baz=320
HDIL Hopedale 88.60 37 P P 06 37 31.7 0.0
baz=322
HDIL Hopedale 88.60 37 eP P 06 37 32.2 +0.6
comp=Z,37nm,0.9s
TBI Tubuai 88.73 121 eT T 08 15 37.8
comp=Z,49nm,0.3s
O43A Sugar Creek Fa 88.80 37 P P 06 37 32.7 0.0
baz=322
T38A Diamond 88.83 42 P P 06 37 33.1 +0.3
baz=319,SNR=12
S39A Bolivar 88.84 41 P P 06 37 32.6 -0.3
baz=320,SNR=10.0
W35A Tecumseh 88.84 45 P P 06 37 33.0 +0.1
baz=318
P42A Winchester 88.86 38 P P 06 37 33.0 +0.1
baz=322,SNR=8.1
U37A Salina 88.87 43 P P 06 37 33.4 +0.4
baz=319,SNR=5.6
TUL1 Leonard 88.87 43 P P 06 37 33.4 +0.3
baz=318
TUL1 Leonard 88.87 43 eP P 06 37 33.6 +0.6
comp=Z,13nm,0.9s
V36A Jenks 88.88 44 P P 06 37 33.1 0.0
baz=318
R40A Maddies Statio 88.91 40 P P 06 37 33.2 0.0
baz=320,SNR=7.9
Q41A Truxton 88.92 39 P P 06 37 33.5 +0.3
baz=321,SNR=7.7
N44A Piper City 88.95 36 P P 06 37 33.4 +0.1
baz=323
TX31 Lajitas Ar. Si 88.99 53 eP P 06 37 34.6 +0.8
TXAR Lajitas Array 88.99 53 P P 06 37 34.5 +0.7
comp=Z,6.7nm,0.6s,baz=297,slow=3.3,SNR=77
TXAR pP pP 06 37 48.7 +1.2
comp=Z,1.2nm,0.8s,baz=280,slow=3.4,SNR=3.4
TXAR LR LR 07 13 04.2
comp=Z,30nm,20.8s,baz=0.0,slow=33
ABTX Abilene, Hawle 89.11 48 P P 06 37 34.6 +0.3
baz=316,SNR=11
ABTX Abilene, Hawle 89.11 48 eP P 06 37 35.0 +0.7
comp=Z,17nm,1.0s
N45A Kentland 89.19 35 P P 06 37 34.6 +0.2
baz=323
W36A Wetumka 89.21 44 P P 06 37 34.9 +0.2
baz=318
P43A Skaggs, Pawnee 89.21 37 P P 06 37 34.5 0.0
baz=322
U38A Gravette 89.23 42 P P 06 37 34.9 +0.2
baz=319,SNR=7.0
V37A Hulbert 89.24 43 P P 06 37 35.0 +0.2
baz=319,SNR=9.3
Q42A Golden Eagle 89.29 38 P P 06 37 35.2 +0.3
baz=322
O44A Mansfield 89.30 36 P P 06 37 35.1 +0.1
baz=323
T39A Clever 89.31 41 P P 06 37 35.0 -0.1
baz=320
S40A Lebanon 89.33 40 P P 06 37 35.0 -0.2
baz=320,SNR=6.4
X35A Drake 89.34 45 P P 06 37 35.3 0.0
baz=318,SNR=5.3
R41A Rosebud 89.35 39 P P 06 37 35.4 +0.2
baz=321,SNR=8.8
HPIG 89.37 56 eP P 06 37 35.9 +0.1
comp=Z,6.5nm,0.8s
N46A Monticello 89.50 35 P P 06 37 35.8 -0.1
baz=324
X36A Centrahoma 89.56 45 P P 06 37 36.6 +0.4
baz=318,SNR=7.8
O45A Potomac 89.57 36 P P 06 37 36.6 +0.3
baz=323,SNR=7.7
HHAR Hobbs 89.58 42 eP P 06 37 36.5 +0.1
comp=Z,6.6nm,0.8s
CCM Cathedral Cave 89.61 39 eP P 06 37 36.7 +0.3
CCM pmax pmax
comp=Z,24nm,1.0s
CCM Cathedral Cave 89.61 39 eP P 06 37 36.7 +0.3
comp=Z,24nm,1.0s
W37B Quinton 89.64 44 P P 06 37 37.1 +0.4
baz=319
V38A Canehill 89.65 43 P P 06 37 36.9 +0.1
baz=319,SNR=13
R42A Luebbering 89.66 39 P P 06 37 37.0 +0.3
baz=321
T40A Mansfield 89.66 41 P P 06 37 36.4 -0.4
baz=320,SNR=11
Y35A Marietta 89.67 46 P P 06 37 36.9 +0.1
baz=318
Q43A New Douglas 89.67 38 P P 06 37 36.8 +0.1
baz=322
S41A Jillco Farms, 89.72 40 P P 06 37 37.0 0.0
baz=321
TRQ Mont Tremblant 89.72 24 eP P 06 37 37.0 0.0
U39A Green Forest 89.75 42 P P 06 37 37.2 +0.1
baz=320,SNR=10.0
SFIN Lafayette 89.75 35 P P 06 37 37.2 +0.1
baz=324
SFIN Lafayette 89.75 35 eP P 06 37 37.7 +0.6
comp=Z,16nm,0.8s
P44A Sand Creek, Wi 89.77 37 P P 06 37 37.7 +0.6
baz=323,SNR=6.2
PLVO Plevna 89.91 27 eP P 06 37 37.5 -0.2
comp=Z,10nm,0.9s
Q44A Meyer Farm, Va 90.03 37 P P 06 37 38.7 +0.3
baz=322
S42A Caledonia 90.05 39 P P 06 37 38.7 +0.1
baz=321,SNR=11
FVM French Village 90.07 39 eP P 06 37 39.2 +0.6
FVM pmax pmax
comp=Z,18nm,1.1s
FVM French Village 90.07 39 eP P 06 37 39.2 +0.6
comp=Z,18nm,1.1s
V39A Pettigrew 90.08 42 P P 06 37 38.4 -0.4
baz=320,SNR=9.3
R43A Red Bud 90.08 38 P P 06 37 38.7 0.0
baz=322
X37A Clayton 90.09 44 P P 06 37 38.8 +0.1
baz=319
Y36A Durant 90.09 45 P P 06 37 39.2 +0.4
baz=318,SNR=9.4
U40A Yellville 90.10 41 P P 06 37 39.0 +0.2
baz=320,SNR=14
T41A Mountain View 90.13 40 P P 06 37 39.2 +0.3
baz=321,SNR=8.5
W38A Poteau 90.19 43 P P 06 37 39.5 +0.3
baz=319
O47A Sheridan 90.28 35 P P 06 37 39.6 +0.1
baz=324
P46A Rosedale 90.31 36 P P 06 37 39.9 +0.2
baz=324
X38A Whitesboro 90.32 44 P P 06 37 40.2 +0.4
baz=319,SNR=5.2
Y37A Hugo 90.40 45 P P 06 37 40.7 +0.5
baz=318
Z36A Blue Ridge 90.48 46 P P 06 37 40.8 +0.2
baz=318,SNR=5.4
W39A Magazine 90.49 43 P P 06 37 40.9 +0.3
baz=320
R44A Waltonville 90.52 38 P P 06 37 40.9 +0.2
baz=322
V40A Witts Springs 90.53 42 P P 06 37 40.9 0.0
baz=320
JCT Junction City 90.55 50 P P 06 37 41.1 +0.1
baz=316,SNR=8.6
JCT Junction City 90.55 50 eP P 06 37 41.5 +0.4
JCT pmax pmax
comp=Z,12nm,0.7s
JCT Junction City 90.55 50 eP P 06 37 41.5 +0.4
comp=Z,12nm,0.7s
S43A Fulton Ridge, 90.56 39 P P 06 37 41.1 +0.2
baz=322
U41A Viola 90.59 41 P P 06 37 41.2 +0.1
baz=321
OLIL Olney 90.60 37 eP P 06 37 42.2 +1.1
comp=Z,28nm,1.0s
X39A Fountain Ranch 90.83 43 P P 06 37 42.8 +0.5
baz=319,SNR=5.3
WHTX Lake Whitney, 90.84 47 P P 06 37 42.5 +0.2
baz=318,SNR=12
WHTX Lake Whitney, 90.84 47 eP P 06 37 43.1 +0.8
comp=Z,26nm,0.8s
T43A Greenville 90.84 39 P P 06 37 42.5 +0.3
baz=322
P47A Martinsville 90.85 35 P P 06 37 42.0 -0.2
baz=324
W40A Ferguson Farm, 90.87 42 P P 06 37 42.6 +0.2
baz=320
S44A Carbondale 90.87 38 P P 06 37 42.9 +0.6
baz=322
V41A Mountainview 90.90 41 P P 06 37 42.5 0.0
baz=320,SNR=7.8
U42A Revenden 90.93 40 P P 06 37 42.6 0.0
baz=321
Y38A Idabel 90.93 44 P P 06 37 42.8 +0.1
baz=319
Z37A Pogue Cattle C 90.98 45 P P 06 37 43.2 +0.2
baz=318
PBMO Poplar Bluff 91.01 40 eP P 06 37 43.5 +0.6
comp=Z,22nm,1.1s
136A Ennis 91.01 46 P P 06 37 43.1 +0.1
baz=318
MIAR Mount Ida 91.09 43 P P 06 37 43.6 +0.2
baz=320,SNR=9.7
MIAR Mount Ida 91.09 43 eP P 06 37 44.1 +0.7
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR Mount Ida 91.09 43 eP P 06 37 44.1 +0.7
comp=Z,18nm,0.9s
H06N1 SOCORRO T-PHAS 91.12 65 T T 08 19 25.9
SNR=4.6
T44A Benton 91.19 39 P P 06 37 44.1 +0.3
baz=322
X301 Greenbrier Sit 91.19 42 eP P 06 37 44.4 +0.5
comp=Z,11nm,1.0s
WHAR Wooly Hollow 91.21 42 eP P 06 37 44.5 +0.5
comp=Z,19nm,0.8s
S45A Carrier Mills 91.21 38 P P 06 37 44.0 +0.1
baz=323
H06E1 SOCORRO T-PHAS 91.22 65 T T 08 19 40.9
SNR=20
Y39A Lockesburg 91.27 44 P P 06 37 44.6 +0.4
baz=319,SNR=14
V42A Cord 91.28 41 P P 06 37 44.2 0.0
baz=321
W41B Gary Mavity, V 91.32 42 P P 06 37 44.6 +0.2
baz=320
U43A Rector 91.34 40 P P 06 37 44.8 +0.3
baz=322
236A Katherine and 91.36 46 P P 06 37 45.5 +0.8
baz=318
X40A Basin Creek Fa 91.53 43 P P 06 37 46.2 +0.7
baz=320
336A Riesel 91.63 47 P P 06 37 46.6 +0.7
baz=318
435B Jarrell 91.65 48 P P 06 37 46.7 +0.6
baz=317
Y40A Okolona 91.66 43 P P 06 37 46.5 +0.4
baz=320
ACSO Alum Creek Sta 91.69 33 eP P 06 37 46.4 +0.3
comp=Z,9.4nm,0.7s
X41A Kaden, Bauxite 91.70 42 P P 06 37 46.8 +0.6
baz=320
Z39A Irene McRaven, 91.75 44 P P 06 37 47.0 +0.5
baz=319
NCB Newcomb 91.82 25 eP P 06 37 46.8 +0.1
comp=Z,0.1nm,0.8s
WCI Wyandotte Cave 91.85 36 P P 06 37 48.1 +1.2
WCI pmax pmax
comp=Z,22nm,2.6s
U44B Burton Farm, H 91.89 39 P P 06 37 47.5 +0.4
baz=322
M54A Oil Creek Stat 91.97 30 P P 06 37 47.9 +0.5
baz=329
WLAR White Oak Lake 91.99 43 eP P 06 37 48.7 +1.1
comp=Z,27nm,1.1s
V44A Blytheville 92.02 40 P P 06 37 47.9 +0.2
baz=322
436A Wall Ranch, Ga 92.11 47 P P 06 37 49.0 +0.8
baz=318
Y41A Eaglette Beard 92.11 43 P P 06 37 48.7 +0.5
baz=320
Z40A Long Farm, Mag 92.16 44 P P 06 37 49.4 +1.0
baz=320
U45A Rockin P Farm, 92.17 39 P P 06 37 48.8 +0.4
baz=323
PKME Peaks-Kenny Pk 92.20 22 eP P 06 37 49.0 +0.7
comp=Z,14nm,1.0s
N54A Moraine State 92.31 30 P P 06 37 49.1 +0.1
baz=328
833A Chaparral WMA, 92.35 51 P P 06 37 49.4 +0.1
baz=316
536A Bastrop 92.47 48 P P 06 37 50.5 +0.7
baz=318
X43A Marvell 92.53 41 P P 06 37 49.7 -0.4
baz=321
V45A Humboldt 92.56 39 P P 06 37 50.1 0.0
baz=322
Y42A Garnett, Star 92.59 42 P P 06 37 51.2 +0.9
baz=321
W44A Shelby Farms P 92.60 40 P P 06 37 50.7 +0.3
baz=322
LMN Caledonia Moun 92.87 18 eP P 06 37 51.7 +0.3
comp=Z,23nm,1.1s
438A Sam Houston St 92.89 47 P P 06 37 52.2 +0.4
baz=319
W45A Hickory Valley 92.90 40 P P 06 37 52.3 +0.5
baz=322
636A Smothers Creek 92.91 49 P P 06 37 53.0 +1.1
baz=318
636A Smothers Creek 92.91 49 eP P 06 37 52.9 +1.0
comp=Z,22nm,1.0s
141A Papa Simpson, 92.93 44 P P 06 37 52.8 +0.9
baz=320
933A Laredo 92.93 51 P P 06 37 52.4 +0.3
baz=316,SNR=5.5
Z42A Norrel Spur, H 92.93 43 P P 06 37 52.2 +0.3
baz=321
736A Circle Diamond 93.29 49 P P 06 37 54.8 +1.1
baz=318
Y44A Strider, Charl 93.32 41 P P 06 37 54.3 +0.7
baz=322
241A Mo Tay, Goldon 93.36 44 P P 06 37 54.9 +0.9
baz=320
637A Eagle Lake 93.37 48 P P 06 37 54.9 +1.0
baz=318
X45A UM Field Stati 93.37 40 P P 06 37 54.4 +0.4
baz=322
O56A Blue Knob Stat 93.47 30 P P 06 37 54.6 +0.3
baz=329
034A Hebbronville 93.69 51 P P 06 37 57.0 +1.4
baz=317
Z44A Pea Ridge, Bel 93.73 42 P P 06 37 56.2 +0.6
baz=322
Y45A Yeager Farm, C 93.74 41 P P 06 37 56.4 +0.8
baz=322
341A Kurthwood 93.75 45 P P 06 37 56.6 +0.8
baz=320
Y46A Houston 94.07 40 P P 06 37 57.9 +0.7
baz=322
ZAIG Zacatecas 94.27 57 eP P 06 37 59.8 +1.2
comp=Z,11nm,1.1s
KEST Kesra 94.35 323 LR LR 07 24 51.9
comp=Z,79nm,18.1s,baz=264,slow=38
035Z Hargill 94.50 51 P P 06 37 59.4 +0.1
baz=317
ESDC Sonseca Array 96.41 334 P P 06 38 08.0 +0.2
comp=Z,0.2nm,0.5s,baz=45,slow=3.8,SNR=2.6
ESDC LR LR 07 25 05.6
comp=Z,78nm,18.6s,baz=325,slow=38
TORD Torodi Ar. Bea 116.81 316 PKP PKPdf 06 43 21.9 -1.6
comp=Z,0.7nm,0.8s,baz=50,slow=0.9,SNR=6.2
SBA Scott Base 116.81 174 ePKIKP PKPdf 06 43 21.9 +0.3
SBA Scott Base 116.81 174 ePKPdf PKPdf 06 43 21.9 +0.3
ROSC El Rosal 125.46 46 PKP PKPdf 06 43 41.4 +0.7
comp=Z,2.3nm,0.5s,baz=96,slow=19,SNR=3.0
DBIC Dimbokro 125.73 318 PKP PKPdf 06 43 40.2 -0.5
comp=Z,1.5nm,0.6s,baz=29,slow=3.6,SNR=3.6
DBIC Dimbokro 125.73 318 ePKPdf PKPdf 06 43 40.5 -0.2
QSPA South Pole Qui 127.99 180 ePKPdf PKPdf 06 43 42.8 -0.7
PTGA Pitinga 137.54 34 PKP PKPdf 06 44 03.5 +0.5
comp=Z,1.3nm,0.6s,baz=310,slow=7.9,SNR=5.6
PTGA Pitinga 137.54 34 ePKPdf PKPdf 06 44 03.4 +0.4
SNAA Sanae 142.06 197 PKP PKPpre 06 44 03.7
SNAA Sanae 142.06 197 ePKHKP PKPpre 06 44 03.6
SNAA Sanae 142.06 197 ePKPpre PKPpre 06 44 03.6
SAML Samuel 143.04 44 ePKPpre PKPpre 06 44 09.0
VNA2 Neumayer--Watz 143.62 196 PKP PKPab 06 44 09.0 +0.1
baz=100,slow=2.4
VNA3 Neumayer Olymp 143.87 195 PKP PKPab 06 44 09.5 -0.4
VNA1 Neumayer--Stat 144.02 196 PKP PKPab 06 44 10.0 -0.4
LPAZ La Paz 145.65 59 PKPbc PKPdf 06 44 18.2 +0.1
comp=Z,28nm,0.8s,baz=344,slow=3.6,SNR=93
LPAZ La Paz 145.65 59 ePKPdf PKPbc 06 44 18.4 0.0
PB01 IPOC Station P 147.89 67 ePKPdf PKPdf 06 44 21.9 +0.8
PB01 ePKPbc PKPbc 06 44 24.6 +0.5
PB04 IPOC Station P 148.20 69 ePKPbc PKPbc 06 44 25.4 +0.4
LVC Limon Verde 149.28 68 PKPbc PKPbc 06 44 27.4 -0.6
comp=Z,32nm,0.7s,baz=249,slow=3.2,SNR=6.2
LVC Limon Verde 149.28 68 ePKPbc PKPbc 06 44 29.0 +0.9
SIV San Ignacio 149.92 49 PKP PKPdf 06 44 24.8 +0.4
comp=Z,9.8nm,0.7s,baz=87,slow=0.5,SNR=3.6
SIV PKPbc PKPbc 06 44 29.2 -0.1
comp=Z,9.8nm,0.7s,baz=301,slow=2.0,SNR=16
LCO Las Campanas 151.35 81 ePKPbc PKPbc 06 44 33.1 +0.4
PLCA Paso Flores 154.81 106 PKPab PKPab 06 44 55.5 +0.5
comp=Z,1.9nm,0.9s,baz=260,slow=6.2,SNR=3.0
BDFB Brasília 155.80 24 PKPab PKPab 06 45 00.1 +0.4
comp=Z,2.0nm,0.5s,baz=90,slow=2.0,SNR=5.0
CPUP Villa Florida 159.82 60 PKPab PKPab 06 45 16.6 -0.3
comp=Z,5.1nm,1.1s,baz=326,slow=4.9,SNR=5.4

AZER ***29*** *06:28:31.0±1.3, 38°.39N×43°.68E, h8km±13km, Error ellipse: s-maj=14.6km s-min=2.9km az=62.0*
DDA ***29*** *06:28:32.4, 38°.91N×43°.54E, h6km, Ml3.3*
ISK ***29*** *06:28:32.2, 38°.94N×43°.57E, h5km, ML3.3*
CSEM ***29*** *06:28:33.3±0.2, 38°.90N×43°.59E, h2km, ML3.3, Error ellipse: s-maj=5.4km s-min=4.5km az=139.0*

ISC 29 06:28:32.8±0.9, 38°.89N±0°.02×43°.61E±0°.02, h7km±7km, n82, σ1°36/115, 10C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.10	342	*i* P	Pg	06 28 35.1	-0.2
VMUR				*i* S	Sg	06 28 37.7	+0.7
VMUR	Van-Muradiye	0.10	342	P	Pg	06 28 35.1	-0.2
VMUR				S	Sg	06 28 37.7	+0.7
ERCV	ERCIS-VAN	0.25	301	PG	Pg	06 28 37.1	-0.8
ERCV				*e*SG	Sg	06 28 41.4	+0.2
ERCV	ERCIS-VAN	0.25	301	*i* Pg	Pg	06 28 37.1	-0.8
ERCV				*e*Sg	Sg	06 28 41.4	+0.2
VANB	Van	0.34	211	*e*PG	Pb	06 28 41.2	-0.2
VANB				*e*SG	Sb	06 28 49.4	+2.3
VANB	Van	0.34	211	*e*Pg	Pb	06 28 41.2	-0.2
VANB				*e*Sg	Sb	06 28 49.4	+2.3
CLDR	Caldiran	0.34	43	PG	Pg	06 28 39.9	+0.2
CLDR				*e*SG	Sb	06 28 46.1	-1.2
CLDR	Caldiran	0.34	43	*i* P	Pg	06 28 39.8	+0.2
CLDR				*i* S	Sb	06 28 46.1	-1.2
CLDR	Caldiran	0.34	43	*i* Pg	Pg	06 28 39.9	+0.2
CLDR				S	Sb	06 28 46.1	-1.2
TVAN	Van	0.40	204	*i* P	Pg	06 28 41.1	+0.5
TVAN				*i* S	Sb	06 28 47.6	-1.1
TVAN	Van	0.40	204	P	Pg	06 28 41.1	+0.5
TVAN				S	Sb	06 28 47.6	-1.1

DYDN	**Diyadin**	**0.65**	**5**	*i* P	**Pg**	**06 28 44.8**	**-0.7**
DYDN				*i* S	**Sg**	**06 28 54.5**	**+0.4**
DYDN	**Diyadin**	**0.65**	**5**	P	**Pg**	**06 28 44.8**	**-0.7**
DYDN				S	**Sg**	**06 28 54.5**	**+0.4**
GEVA	**Gevas**	**0.72**	**217**	*i* P	**Pg**	**06 28 46.2**	**-0.6**
GEVA				*i* S	**Sg**	**06 28 55.9**	**-0.4**
GEVA	**Gevas**	**0.72**	**217**	P	**Pg**	**06 28 46.2**	**-0.6**
GEVA				S	**Sg**	**06 28 55.8**	**-0.4**
TUTA	**Tutak**	**0.80**	**310**	*i* P	**Pg**	**06 28 46.6**	**-1.7**
TUTA	**Tutak**	**0.80**	**310**	P	**Pg**	**06 28 46.6**	**-1.7**
AGRB	**Hanur-Agry**	**0.84**	**325**	*e*PG	**Pg**	**06 28 47.6**	**-1.3**
AGRB				*e*SG	**Sg**	**06 28 59.9**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**325**	*e*Pg	**Pg**	**06 28 47.6**	**-1.3**
AGRB				*e*Sg	**Sg**	**06 28 59.9**	**+0.1**
BASK	**Baskale_VAN**	**0.89**	**160**	*i* P	**Pg**	**06 28 50.2**	**+0.2**
BASK				*i* S	**Sn**	**06 29 05.7**	**+0.4**
BASK	**Baskale_VAN**	**0.89**	**160**	P	**Pg**	**06 28 50.2**	**+0.2**
TATV	**Tatvan**	**1.12**	**250**	*i* P	**Pg**	**06 28 52.2**	**-2.1**
TATV				*i* S	**Sg**	**06 29 05.0**	**-3.9**
EKAR	**Karacoban**	**1.26**	**287**	*i* P	**Pg**	**06 28 57.9**	**+0.9**
EKAR				*i* S	**Sn**	**06 29 16.1**	**+1.7**
EKAR	**Karacoban**	**1.26**	**287**	P	**Pg**	**06 28 57.9**	**+0.9**
EKAR				S	**Sn**	**06 29 16.1**	**+1.7**
EATA	**Eleskirt**	**1.30**	**318**	*i* P	**Pn**	**06 28 55.7**	**-2.0**
EATA				*i* S	**Sb**	**06 29 14.0**	**-0.9**
HAKT	**HAKKARI**	**1.33**	**177**	*i* P	**Pn**	**06 28 57.4**	**-0.7**
HAKT				*i* S	**Sn**	**06 29 18.2**	**+2.0**
HAKT	**HAKKARI**	**1.33**	**177**	P	**Pn**	**06 28 57.4**	**-0.7**
HAKT				S	**Sn**	**06 29 18.2**	**+2.0**
NAX	**Nakhchivan**	**1.49**	**79**	⇓P	**Pn**	**06 28 59.6**	**-0.5**
NAX				⇓S	**Sg**	**06 29 21.5**	**+0.7**
NAX	**Nakhchivan**	**1.49**	**79**	P	**Pn**	**06 28 59.6**	**-0.5**
NAX				S	**Sg**	**06 29 21.5**	**+0.7**
CUKT	**Cukurca**	**1.64**	**180**	*e*PN	**Pn**	**06 29 03.8**	**+0.3**
CUKT	**Cukurca**	**1.64**	**180**	*e*Pn	**Pb**	**06 29 03.8**	**+0.3**
HOMI	**Horasan**	**1.75**	**312**	*i* P	**Pb**	**06 29 04.4**	**-1.1**
HOMI				*i* S	**Sg**	**06 29 28.3**	**-0.9**
BNGL	**BINGOL**	**1.92**	**273**	*i* P	**Pb**	**06 29 07.9**	**-0.4**
BNGL				*i* S	**Sg**	**06 29 34.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*PN	**Pn**	**06 29 06.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.93**	**330**	*e*Pn	**Pn**	**06 29 06.9**	**+0.6**
ERZM	**Erzurum**	**2.01**	**301**	*i* P	**Pb**	**06 29 09.8**	**-0.2**
ERZM	**Erzurum**	**2.01**	**301**	P	**Pb**	**06 29 09.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**2.03**	**249**	*e*PN	**Pn**	**06 29 08.6**	**+1.1**
SVAN	**Silvan-Diyarba**	**2.03**	**249**	*i* P	**Pn**	**06 29 08.7**	**+1.1**
SVAN				*i* S	**Sg**	**06 29 37.2**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.03**	**249**	P	**Pn**	**06 29 08.6**	**+1.1**
SVAN				S	**Sg**	**06 29 37.2**	**-0.9**
BTMN	**Batman**	**2.09**	**242**	*i* P	**Pb**	**06 29 10.5**	**-0.7**
BTMN				*i* S	**Sg**	**06 29 39.4**	**-0.7**
BTMN	**Batman**	**2.09**	**242**	P	**Pb**	**06 29 10.5**	**-0.7**
BNGB	**Bing¨ll**	**2.29**	**273**	*e*PN	**Pn**	**06 29 12.2**	**+1.0**
BINT	**Bingol**	**2.44**	**271**	*e*Pn	**Pn**	**06 29 12.2**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.45**	**284**	*e*PN	**Pn**	**06 29 14.4**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.45**	**284**	*e*Pn	**Pn**	**06 29 14.4**	**+1.0**
GDB	**GEDABAY**	**2.46**	**41**	⇓P	**Pb**	**06 29 17.3**	**-0.2**
GDB				⇑S	**Sg**	**06 29 53.0**	**+1.0**
GDB	**GEDABAY**	**2.46**	**41**	P	**Pb**	**06 29 17.3**	**-0.2**
AKH	**Akhalkalaki**	**2.52**	**358**	*e*PN	**Pn**	**06 29 15.6**	**+1.3**
AKH	**Akhalkalaki**	**2.52**	**358**	*e*Pn	**Pn**	**06 29 15.6**	**+1.3**
QZX	**Qazax, Azerbai**	**2.55**	**31**	⇑P	**Pb**	**06 29 18.5**	**-0.5**
QZX				⇑S	**Sg**	**06 29 54.8**	**0.0**
QZX	**Qazax, Azerbai**	**2.55**	**31**	P	**Pb**	**06 29 18.5**	**-0.5**
GANJ	**Ganja**	**2.73**	**49**	⇑P	**Pb**	**06 29 19.7**	**-2.2**
GANJ	**Ganja**	**2.73**	**49**	P	**Pb**	**06 29 19.7**	**-2.2**
MARD	**Mardin**	**2.73**	**236**	*i* P	**Pg**	**06 29 24.1**	**-1.1**
MAZI	**Mazidag**	**2.88**	**241**	*e*PN	**Pn**	**06 29 20.7**	**+1.5**
MAZI	**Mazidag**	**2.88**	**241**	*e*Pn	**Pn**	**06 29 20.7**	**+1.5**
BRDA	**Brd**	**3.08**	**62**	⇓P	**Pn**	**06 29 22.9**	**+1.1**
BRDA	**Brd**	**3.08**	**62**	P	**Pn**	**06 29 22.9**	**+1.1**
MNGR	**Mingechevir, A**	**3.27**	**54**	⇑P	**Pn**	**06 29 26.3**	**+1.8**
MNGR	**Mingechevir, A**	**3.27**	**54**	P	**Pn**	**06 29 26.3**	**+1.8**
PTK	**Pertek**	**3.29**	**271**	*e*PN	**Pn**	**06 29 26.7**	**+1.7**
PTK	**Pertek**	**3.29**	**271**	*e*Pn	**Pn**	**06 29 26.7**	**+1.7**
ZRD	**Zardab**	**3.44**	**65**	⇓P	**Pn**	**06 29 27.7**	**+0.9**
ZRD	**Zardab**	**3.44**	**65**	P	**Pn**	**06 29 27.7**	**+0.9**
ZKTA	**Zakatala**	**3.58**	**39**	⇑P	**Pn**	**06 29 32.1**	**+3.3**
SEKA	**Sheki**	**3.59**	**49**	⇑P	**Pn**	**06 29 32.1**	**+3.1**
SEKA	**Sheki**	**3.59**	**49**	P	**Pn**	**06 29 32.1**	**+3.1**
LRK	**Lerik**	**3.70**	**92**	⇓P	**Pn**	**06 29 27.9**	**-2.7**
LRK	**Lerik**	**3.70**	**92**	P	**Pn**	**06 29 27.9**	**-2.7**
GLBA	**Clilabad**	**3.74**	**83**	⇓P	**Pn**	**06 29 29.6**	**-1.3**
GLBA	**Clilabad**	**3.74**	**83**	P	**Pn**	**06 29 29.6**	**-1.3**
KDMR	**Kurdemir**	**3.83**	**66**	⇑P	**Pn**	**06 29 32.6**	**+0.5**
KDMR	**Kurdemir**	**3.83**	**66**	P	**Pn**	**06 29 32.6**	**+0.5**
QBL	**Gabala**	**3.84**	**56**	⇓P	**Pn**	**06 29 33.9**	**+1.5**
QBL	**Gabala**	**3.84**	**56**	P	**Pn**	**06 29 33.9**	**+1.5**
SAAT	**Saatly**	**3.85**	**74**	⇑P	**Pn**	**06 29 31.7**	**-0.8**
SAAT	**Saatly**	**3.85**	**74**	P	**Pn**	**06 29 31.7**	**-0.8**
LKRN	**Lenkeran, Azer**	**4.04**	**91**	⇓P	**Pn**	**06 29 32.6**	**-2.5**
LKRN	**Lenkeran, Azer**	**4.04**	**91**	P	**Pn**	**06 29 32.6**	**-2.5**
ASTR	**Astara**	**4.06**	**93**	⇑P	**Pn**	**06 29 32.8**	**-2.6**
ASTR	**Astara**	**4.06**	**93**	P	**Pn**	**06 29 32.8**	**-2.6**

*ISCJB **29** 06:30:26.8±0.9, 19.°7S±0.°2×178.°0W±0.°2, h500km, mb3.6/3, Error ellipse: s-maj=33.9km s-min=10.9km az=138.8*
*IDC **29** 06:30:26.9±2.4, 19.°85S×177.°98W, h479km±29km, mb3.2/3, mb1 3.5/5, mb1mx3.0/34, mbtmp4.2/5, Error ellipse: s-maj=37.0km s-min=18.6km az=148.0*
ISC 29 06:30:27.5±0.9, **19.°6S**±0.°2×**178.°0W**±0.°2, **h500**km, **n9, σ1°61/10, mb3.7/3, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.22**	**47**	P	**P**	**06 32 26.6**	**+0.2**
	2.0nm,0.3s,baz=349,slow=19,SNR=3.4						
AFI				S	**S**	**06 34 01.8**	**-1.9**
	7.4nm,0.3s,baz=109,slow=22,SNR=8.3						
URZ	**Urewera**	**19.06**	**192**	P	**P**	**06 34 16.0**	**-1.4**
	0.7nm,0.3s,baz=72,slow=3.2,SNR=5.2						
ASAR	**Alice Springs**	**44.74**	**256**	P	**P**	**06 37 56.5**	**+0.5**
	4.2nm,0.6s,baz=99,slow=7.5,SNR=42						
ASAR				PcP	**pP**	**06 39 27.9**	**-1.0**
	1.0nm,0.5s,baz=101,slow=4.0,SNR=7.8						
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**06 37 56.5**	**+0.5**
	1.4nm,0.6s,baz=99,slow=8.4,SNR=13						
TXAR	**Lajitas Array**	**86.57**	**57**	P	**P**	**06 42 19.9**	**+2.3**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=3.0						
AKASG	**Malin Array Be**	**142.25**	**332**	PKhKP	PKPpre	06 49 00.3	
	1.3nm,0.3s,baz=40,slow=4.3,SNR=9.0						
BRTR	**Keskin Array B**	**146.25**	**313**	PKPbc	**PKPab**	**06 49 13.3**	**-0.8**
	1.1nm,0.5s,baz=126,slow=3.1,SNR=4.6						
BRG	**Berggiesshubel**	**147.41**	**346**	*e*P	**PKPab**	**06 49 16.6**	**-1.6**
	2.1nm,0.7s						
GERES	**GERESS Array B**	**149.35**	**345**	PKPbc	**PKPbc**	**06 49 21.2**	**+1.6**
	0.3nm,0.3s,baz=36,slow=2.5,SNR=4.5						

*ISK **29** 06:41:21.3, 38.°71N×43.°10E, h6km, ML2.3*
*ISCJB **29** 06:41:23.7±0.6, 38.°70N±0.°03×43.°22E±0.°05, h22km±8km, Error ellipse: s-maj=6.5km s-min=4.8km az=8.5*
*CSEM **29** 06:41:23.0±0.3, 38.°73N×43.°16E, h5km, ML2.3, Error ellipse: s-maj=6.7km s-min=4.3km az=76.0*
*DDA **29** 06:41:23.3, 38.°72N×43.°18E, h7km, Ml3.1*
ISC 29 06:41:23.2±0.9, **38.°73N**±0.°03×**43.°22E**±0.°03, **h17**km±7km, **n20, σ0°91/40, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**135**	*e*PG	**Pg**	**06 41 28.2**	**+0.2**
VANB				*e*SG	**Sb**	**06 41 32.7**	**+0.8**
VANB	**Van**	**0.19**	**135**	*e*Pg	**Pg**	**06 41 28.2**	**+0.2**
VANB				*e*Sg	**Sb**	**06 41 32.7**	**+0.8**
TVAN	**Van**	**0.25**	**144**	*i* P	**Pg**	**06 41 28.4**	**-0.6**
TVAN				*i* S	**Sg**	**06 41 33.2**	**+0.2**
TVAN	**Van**	**0.25**	**144**	P	**Pg**	**06 41 28.4**	**-0.6**
TVAN				S	**Sg**	**06 41 33.2**	**+0.2**
VMUR	**Van-Muradiye**	**0.38**	**47**	*i* P	**Pb**	**06 41 31.6**	**-0.1**
VMUR				*i* S	**Sb**	**06 41 38.8**	**+1.4**
VMUR	**Van-Muradiye**	**0.38**	**47**	P	**Pb**	**06 41 31.6**	**-0.1**
VMUR				S	**Sb**	**06 41 38.8**	**+1.4**
GEVA	**Gevas**	**0.44**	**196**	*i* P	**Pg**	**06 41 31.5**	**-0.7**
GEVA				*i* S	**Sg**	**06 41 38.3**	**+0.1**
GEVA	**Gevas**	**0.44**	**196**	P	**Pg**	**06 41 31.5**	**-0.7**
GEVA				S	**Sg**	**06 41 38.3**	**+0.1**
CLDR	**Caldiran**	**0.68**	**53**	*e*PG	**Pg**	**06 41 36.1**	**-0.7**
CLDR				*e*SG	**Sn**	**06 41 47.9**	**-0.9**
CLDR	**Caldiran**	**0.68**	**53**	*e*Pg	**Pg**	**06 41 36.1**	**-0.7**
CLDR				*e*Sg	**Sn**	**06 41 47.9**	**-0.9**
TUTA	**Tutak**	**0.74**	**335**	*i* P	**Pg**	**06 41 37.3**	**-0.5**
TUTA				*i* S	**Sb**	**06 41 47.6**	**-0.2**
TUTA	**Tutak**	**0.74**	**335**	P	**Pg**	**06 41 37.3**	**-0.5**
TUTA				S	**Sb**	**06 41 47.6**	**-0.2**
TATV	**Tatvan**	**0.78**	**254**	*i* P	**Pn**	**06 41 41.5**	**+1.9**
TATV				*i* S	**Sg**	**06 41 48.8**	**+0.1**
TATV	**Tatvan**	**0.78**	**254**	P	**Pn**	**06 41 41.5**	**+1.9**
TATV				S	**Sg**	**06 41 48.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**348**	*e*PG	**Pb**	**06 41 39.0**	**-0.8**
AGRB				*e*SG	**Sb**	**06 41 50.7**	**-0.5**
AGRB	**Hanur-Agry**	**0.86**	**348**	*e*Pg	**Pb**	**06 41 39.1**	**-0.8**
AGRB				*e*Sg	**Sb**	**06 41 50.7**	**-0.5**
HAKT	**HAKKARI**	**1.23**	**162**	*i* P	**Pn**	**06 41 45.1**	**-0.9**
HAKT				*i* S	**Sg**	**06 42 04.6**	**+1.3**
HAKT	**HAKKARI**	**1.23**	**162**	P	**Pn**	**06 41 45.1**	**-0.9**
HAKT				S	**Sg**	**06 42 04.6**	**+1.3**
EATA	**Eleskirt**	**1.26**	**334**	*i* P	**Pg**	**06 41 47.1**	**-0.5**
EATA				*i* S	**Sg**	**06 42 05.7**	**+1.6**
EATA	**Eleskirt**	**1.26**	**334**	P	**Pg**	**06 41 47.2**	**-0.5**
EATA				S	**Sg**	**06 42 05.7**	**+1.6**

*ISK **29** 06:45:24.8, 38.°66N×43.°18E, h15km, ML2.4*
*CSEM **29** 06:45:25.7±0.3, 38.°70N×43.°18E, h10km, ML2.4, Error ellipse: s-maj=6.4km s-min=5.0km az=125.0*
*DDA **29** 06:45:26.0, 38.°66N×43.°19E, h7km, Ml3.0*
ISC 29 06:45:25.8±1.0, **38.°69N**±0.°03×**43.°18E**±0.°04, **h15**km±10km, **n14, σ0°67/28, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**119**	PG	**Pg**	**06 45 30.6**	**+0.2**
VANB				*e*SG	**Sg**	**06 45 34.1**	**+0.6**
VANB	**Van**	**0.19**	**119**	*i* Pg	**Pg**	**06 45 30.6**	**+0.2**
VANB				*e*Sg	**Sg**	**06 45 34.1**	**+0.6**
TVAN	**Van**	**0.24**	**131**	*i* P	**Pg**	**06 45 30.3**	**-1.0**
TVAN				*i* S	**Sg**	**06 45 34.1**	**-0.8**
TVAN	**Van**	**0.24**	**131**	P	**Pg**	**06 45 30.3**	**-1.0**
TVAN				S	**Sg**	**06 45 34.1**	**-0.8**
GEVA	**Gevas**	**0.38**	**194**	*i* P	**Pg**	**06 45 33.6**	**-0.1**
GEVA				*i* S	**Sb**	**06 45 40.5**	**+0.3**
GEVA	**Gevas**	**0.38**	**194**	P	**Pg**	**06 45 33.6**	**-0.1**
GEVA				S	**Sb**	**06 45 40.5**	**+0.3**
VMUR	**Van-Muradiye**	**0.43**	**45**	*i* P	**Pg**	**06 45 34.3**	**-0.3**
VMUR				*i* S	**Sb**	**06 45 42.1**	**+0.4**
VMUR	**Van-Muradiye**	**0.43**	**45**	P	**Pg**	**06 45 34.3**	**-0.3**
VMUR				S	**Sb**	**06 45 42.1**	**+0.4**
TATV	**Tatvan**	**0.73**	**256**	*i* P	**Pb**	**06 45 40.7**	**+0.3**
TATV				*i* S	**Sb**	**06 45 50.4**	**0.0**
TATV	**Tatvan**	**0.73**	**256**	P	**Pb**	**06 45 40.7**	**+0.3**
TATV				S	**Sb**	**06 45 50.4**	**0.0**
CLDR	**Caldiran**	**0.74**	**51**	*e*PG	**Pg**	**06 45 39.4**	**-0.8**
CLDR				*e*SG	**Sb**	**06 45 50.8**	**+0.3**
CLDR	**Caldiran**	**0.74**	**51**	*e*Pg	**Pg**	**06 45 39.4**	**-0.8**
CLDR				*e*Sg	**Sb**	**06 45 50.8**	**+0.3**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*PG	**Pg**	**06 45 42.4**	**-0.9**
AGRB				*e*SG	**Sb**	**06 45 56.4**	**+1.2**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*Pg	**Pg**	**06 45 42.4**	**-0.9**
AGRB				*e*Sg	**Sb**	**06 45 56.4**	**+1.2**

*ISK **29** 06:51:26.8, 38.°57N×43.°72E, h29km, ML2.5*
*ISCJB **29** 06:51:29.5±0.8, 38.°73N±0.°04×43.°53E±0.°08, h22km±9km, Error ellipse: s-maj=11.0km s-min=5.1km az=23.5*
*CSEM **29** 06:51:29.1±0.3, 38.°76N×43.°46E, h12km, ML2.7, Error ellipse: s-maj=9.3km s-min=5.3km az=116.0*
*DDA **29** 06:51:29.4, 38.°77N×43.°45E, h7km, Ml2.7*
ISC 29 06:51:29.4±1.1, **38.°76N**±0.°03×**43.°48E**±0.°04, **h16**km±9km, **n18, σ0°80/32, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**204**	*e*PG	**Pg**	**06 51 34.2**	**+0.2**
VANB				*e*SG	**Sb**	**06 51 39.1**	**+1.4**
VANB	**Van**	**0.18**	**204**	*e*Pg	**Pg**	**06 51 34.2**	**+0.2**
VANB				*e*Sg	**Sb**	**06 51 39.1**	**+1.4**
TVAN	**Van**	**0.23**	**195**	*i* P	**Pg**	**06 51 34.0**	**-0.9**
TVAN				*i* S	**Sb**	**06 51 39.2**	**-0.3**
TVAN	**Van**	**0.23**	**195**	P	**Pg**	**06 51 34.0**	**-0.9**
TVAN				S	**Sb**	**06 51 39.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.24**	**17**	*i* P	**Pg**	**06 51 34.2**	**-0.8**
VMUR				*i* S	**Sb**	**06 51 40.1**	**+0.4**
VMUR	**Van-Muradiye**	**0.24**	**17**	P	**Pg**	**06 51 34.2**	**-0.8**
VMUR				S	**Sb**	**06 51 40.1**	**+0.4**
CLDR	**Caldiran**	**0.51**	**41**	*e*PG	**Pg**	**06 51 39.3**	**-0.5**
CLDR				*e*SG	**Sb**	**06 51 48.7**	**+1.2**
CLDR	**Caldiran**	**0.51**	**41**	*i* P	**Pg**	**06 51 39.1**	**-0.7**
CLDR				*i* S	**Sb**	**06 51 48.2**	**+0.7**
CLDR	**Caldiran**	**0.51**	**41**	P	**Pg**	**06 51 39.1**	**-0.7**
CLDR	**Caldiran**	**0.51**	**41**	*e*Pg	**Pg**	**06 51 39.3**	**-0.5**
CLDR				S	**Sb**	**06 51 48.2**	**+0.7**
GEVA	**Gevas**	**0.55**	**217**	*i* P	**Pg**	**06 51 39.6**	**-0.9**
GEVA				*i* S	**Sb**	**06 51 49.1**	**+0.5**
GEVA	**Gevas**	**0.55**	**217**	P	**Pg**	**06 51 39.6**	**-0.9**
GEVA				S	**Sb**	**06 51 49.1**	**+0.5**
TUTA	**Tutak**	**0.83**	**321**	*i* P	**Pb**	**06 51 44.6**	**-0.9**
TUTA				*i* S	**Sb**	**06 51 56.2**	**-0.4**
TUTA	**Tutak**	**0.83**	**321**	P	**Pb**	**06 51 44.6**	**-0.9**
TUTA				S	**Sb**	**06 51 56.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**335**	*e*PN	**Pb**	**06 51 46.8**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**335**	*e*Pn	**Pb**	**06 51 46.8**	**0.0**
EATA	**Eleskirt**	**1.34**	**325**	*i* P	**Pg**	**06 51 55.3**	**-0.1**
EATA				*i* S	**Sg**	**06 52 14.6**	**+1.6**
EATA	**Eleskirt**	**1.34**	**325**	P	**Pg**	**06 51 55.3**	**-0.1**

*IDC **29** 06:59:29.2±1.3, 23.°26S×171.°88E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/23, mbtmp4.2/9, ML3.9/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/35, Error ellipse: s-maj=33.0km s-min=26.0km az=22.0*
*ISCJB **29** 06:59:38.0±0.5, 23.°67S±0.°06×171.°26E±0.°07, h33km, mb4.7/19, MS3.7/9, Error ellipse: s-maj=9.8km s-min=7.1km az=138.0*
*NEIC **29** 06:59:41.9±1.2, 23.°57S×171.°24E, h59km±13km, mb4.7/19, Error ellipse: s-maj=12.4km s-min=8.8km az=51.0*
ISC 29 06:59:39.5±0.5, **23.°71S**±0.°08×**171.°34E**±0.°07, **h35**km, **n54, σ2°01/45, mb4.6/19, MS3.8/9, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.80**	**289**	Pn	**Pn**	**07 00 49.0**	**-0.4**
	3.9nm,0.3s,baz=99,slow=22,SNR=26						
DZM				Sn	**Sn**	**07 01 49.4**	**+5.4**
	4.5nm,0.3s,baz=104,slow=19,SNR=2.9						
DZM	**Mont Dzumac**	**4.80**	**289**	*e*Pn	**Pn**	**07 00 49.5**	**0.0**
DZM				*e*Sn	**Sn**	**07 01 42.9**	**-1.0**
DZM				Sn	Sn	07 01 49.4	+5.4
MSVF	**Nonsavu**	**8.65**	**48**	*e*Pn	**Pn**	**07 01 43.8**	**+1.5**
OUZ	**Omahuta**	**11.63**	**171**	*e*Pn	**Pn**	**07 02 25.0**	**+2.0**
HIZ	**Hauiti**	**15.06**	**169**	*e*Pn	**P**	**07 03 14.8**	**+0.3**
	104nm,1.4s						
URZ	**Urewera**	**15.31**	**163**	Pn	**P**	**07 03 18.1**	**+0.6**
	0.8nm,0.3s,baz=339,slow=6.2,SNR=8.6						
URZ				LR	LR	07 07 54.3	
	comp=Z,273nm,21.5s,baz=14,slow=32						
URZ	**Urewera**	**15.31**	**163**	*e*Pn	**P**	**07 03 18.4**	**+1.0**
	156nm,2.0s						
BKZ	**Black Stump Fm**	**16.02**	**165**	*e*Pn	**P**	**07 03 26.1**	**+0.8**
	55nm,1.5s						
BFZ	**Birch Farm**	**17.42**	**167**	*e*Pn	**P**	**07 03 40.3**	**-0.4**
	44nm,1.2s						
SNZO	**South Karori**	**17.77**	**172**	*e*Pn	**P**	**07 03 48.4**	**+3.8**
	60nm,1.1s						
HNR	**Honiara**	**17.90**	**321**	LR	LR	07 10 01.4	
	comp=Z,134nm,19.3s,baz=188,slow=35						
THZ	**Tophouse**	**18.05**	**176**	*e*P	**P**	**07 03 49.9**	**+2.1**
	64nm,1.8s						
EIDS	**Eidsvold**	**18.51**	**261**	*e*P	**Pn**	**07 03 54.8**	**+1.6**
	35nm,1.5s						
AFI	**Afiamalu**	**18.70**	**62**	LR	LR	07 08 59.5	
	comp=Z,147nm,18.3s,baz=238,slow=32						
LTZ	**Lake Taylor**	**19.03**	**178**	*e*P	**Pn**	**07 04 00.4**	**+0.9**
	87nm,1.7s						
FOZ	**Fox Glacier**	**19.81**	**183**	*e*P	**Pn**	**07 04 09.8**	**+1.2**
	117nm,1.6s						
RPZ	**Rata Peaks**	**19.95**	**181**	P	**P**	**07 04 09.0**	**+0.5**
	29nm,1.2s,baz=47,slow=9.0,SNR=3.5						
RPZ				LR	LR	07 10 31.9	
	comp=Z,225nm,20.5s,baz=306,slow=32						
RPZ	**Rata Peaks**	**19.95**	**181**	*e*P	**Pn**	**07 04 10.9**	**+0.5**
	89nm,1.6s						
CTA	**Charters Tower**	**23.54**	**274**	P	**P**	**07 04 46.8**	**-0.1**
	1.8nm,0.4s,baz=96,slow=10,SNR=4.3						
CTAO	**Charters Tower**	**23.54**	**274**	*e*P	**P**	**07 04 49.5**	**+2.6**
STKA	**Stephens Creek**	**27.48**	**246**	P	**P**	**07 05 23.9**	**+1.4**
	1.0nm,0.6s,baz=70,slow=10,SNR=5.2						
STKA				LR	LR	07 17 13.0	
	comp=Z,71nm,18.3s,baz=36,slow=38						
STKA	**Stephens Creek**	**27.48**	**246**	*e*P	**P**	**07 05 24.1**	**+1.5**
	3.4nm,1.4s						
COEN	**Coen**	**28.32**	**285**	*e*P	**P**	**07 05 30.9**	**+0.7**
	47nm,1.8s						
AS31	**Alice Springs**	**34.22**	**262**	*e*P	**P**	**07 06 21.6**	**-0.5**
	2.6nm,1.0s						
ASAR	**Alice Springs**	**34.22**	**262**	P	**P**	**07 06 21.3**	**-0.8**
	2.0nm,0.5s,baz=89,slow=8.4,SNR=32						
ASAR				LR	LR	07 19 49.0	
	comp=Z,47nm,18.3s,baz=100,slow=35						
WB2	**Warramunga Arr**	**34.48**	**269**	*e*P	**P**	**07 06 22.1**	**-2.2**
	19nm,1.7s						
WRA	**Warramunga Arr**	**34.49**	**269**	P	**P**	**07 06 22.2**	**-2.3**
	1.9nm,0.4s,baz=96,slow=8.5,SNR=21						
PPT	**Papeete**	**37.00**	**88**	LR	LR	07 19 44.0	
	comp=Z,74nm,19.4s,baz=105,slow=33						
PPT	**Papeete**	**37.00**	**88**	*e*P	**P**	**07 06 46.8**	**+0.8**
GUMO	**Guam**	**45.22**	**322**	LR	LR	07 26 31.5	
	comp=Z,72nm,20.1s,baz=112,slow=36						
MBWA	**Marble Bar**	**47.56**	**262**	*e*P	**P**	**07 08 11.0**	**-1.0**
	20nm,1.2s						
VNDA	**Vanda**	**54.06**	**183**	LR	LR	07 29 20.1	
	comp=Z,78nm,20.2s,baz=18,slow=33						
VNDA	**Vanda**	**54.06**	**183**	*e*P	**P**	**07 09 00.7**	**+0.6**
	9.9nm,1.6s						
SBA	**Scott Base**	**54.24**	**181**	*e*P	**P**	**07 09 01.6**	**+0.2**
	25nm,1.5s						
QSPA	**South Pole Qui**	**66.36**	**180**	*e*P	**P**	**07 10 22.5**	**-2.2**
NJ2	**Nanjing**	**74.77**	**316**	*e*P	**P**	**07 11 16.0**	**-0.1**
MAW	**Mawson**	**75.04**	**202**	P	**P**	**07 11 15.6**	**-1.6**
	0.5nm,0.5s,baz=165,slow=6.1,SNR=4.1						
MAW	**Mawson**	**75.04**	**202**	*e*P	**P**	**07 11 16.4**	**-0.8**
	2.0nm,1.5s						
SPIA	**Saint Paul Isl**	**82.06**	**10**	*e*P	**P**	**07 11 56.6**	**+0.9**
	2μm,2.0s						
CMAR	**Chiang Mai Arr**	**82.11**	**294**	P	**P**	**07 11 53.7**	**-3.3**
	0.9nm,0.3s,baz=98,slow=2.9,SNR=4.6						
KMI	**Kunming**	**82.28**	**302**	P	**P**	**07 12 00.3**	**+2.3**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SNAA	**Sanae**	**84.79**	**182**	P	P	07 12 05.0	-5.0
SNAA	**Sanae**	**84.79**	**182**	LR	LR	07 49 25.3	
	comp=Z,99nm,18.1s,baz=178,slow=35						
SNAA	**Sanae**	**84.79**	**182**	*e*P	P	07 12 05.1	-4.9
	comp=Z,5.6nm,1.3s						
HHC	**Hu-ho-hao-te**	**84.87**	**319**	*e*P	**P**	**07 12 12.0**	**+1.2**
**

LPAZ LR LR 07 30 49.9
comp=Z,133nm,20.3s,baz=256,slow=40
PB08 IPOC Station P 8.57 129 *e*P **Pn 07 27 45.6 +0.6**
LVC Limon Verde 10.39 139 Pn **Pn 07 28 12.3 +2.4**
46nm,0.3s,baz=315,slow=9.5,SNR=12
LVC Sn **Sn 07 30 05.2 -0.4**
44nm,0.3s,baz=94,slow=20,SNR=5.6
LVC Lg Lg 07 31 07.8
13nm,0.3s,baz=235,slow=21,SNR=6.6
SIV San Ignacio 14.65 97 Pn **Pn 07 29 04.7 -3.2**
0.2nm,0.3s,baz=285,slow=4.4,SNR=4.0
SIV LR LR 07 35 21.2
comp=Z,349nm,21.1s,baz=307,slow=40
CPUP Villa Florida 21.04 126 P **P 07 30 23.6 -0.5**
2.4nm,0.9s,baz=318,slow=7.7,SNR=3.6
PTGA Pitinga 21.30 50 P **P 07 30 26.4 -0.6**
2.7nm,0.6s,baz=245,slow=14,SNR=6.4
JTS JuntasAbangare 26.40 340 LR LR 07 40 13.9
comp=Z,52nm,18.4s,baz=185,slow=33
TXAR Lajitas Array 51.27 329 P **P 07 34 44.7 +0.7**
0.2nm,0.7s,baz=143,slow=7.7,SNR=2.2
TORD Torodi Ar. Bea 81.96 74 P **P 07 38 00.7 +0.5**
1.5nm,0.8s,baz=265,slow=4.8,SNR=7.8
BOSA Boshof 92.76 120 LR LR 08 17 51.6
comp=Z,34nm,19.5s,baz=210,slow=34
H11N3 WAKE ISLAND Hyl 19.80 284 T T 09 55 41.2
baz=105
H11N2 WAKE ISLAND Hyl 19.82 284 T T 09 55 45.6
baz=105
H11N1 WAKE ISLAND Hyl 19.82 284 T T 09 55 51.7
baz=105
H11S2 WAKE ISLAND Hyl 19.86 283 T T 09 55 48.8
baz=89
H11S1 WAKE ISLAND Hyl 19.86 283 T T 09 55 49.5
baz=89
H11S3 WAKE ISLAND Hyl 19.88 283 T T 09 55 51.8
baz=89

IDC 29 07:27:49.6±3.1, 42°22′N×129°44′E, h0km, mb1 2.5/2, mb1mx2.5/55, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=46.5km s-min=20.8km az=121.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**2.72**	**42**	*i*		07 44 30.0	
	baz=222,slow=317,SNR=8.8						
USRK	**Ussuriysk Ar.**	**2.72**	**42**	Pn	Pn	07 28 34.5	0.0
	0.3nm,0.3s,baz=238,slow=9.6,SNR=2.7						
USRK				Pg	Pb	07 28 39.6	+0.4
	1.5nm,0.3s,baz=227,slow=13,SNR=13						
USRK				Lg	Lg	07 29 15.8	
	1.7nm,0.3s,baz=225,slow=27,SNR=6.4						
KSRS	**Korea Array**	**4.90**	**194**	Pn	Pn	07 29 04.6	+0.2
	0.3nm,0.3s,baz=8.4,slow=14,SNR=2.9						

*ISCJB **29** 07:30:52.6±0.2, 12°48′N±0°04′×142°36′E±0°05′, h150km, mb4.5/87, Error ellipse: s-maj=6.4km s-min=5.2km az=156.4*
*IDC **29** 07:30:52.6±1.9, 12°51′N×142°59′E, h142km±18km, mb3.9/22, mb1 4.1/23, mb1mx3.9/53, mbtmp4.3/23, Error ellipse: s-maj=16.7km s-min=10.0km az=88.0*
*NEIC **29** 07:30:52.1±0.8, 12°54′N×142°38′E, h132km±7km, mb4.7/64, Error ellipse: s-maj=5.5km s-min=4.5km az=89.0*
ISC 29 07:30:53.7±0.4, 12°54′N±0°06′×142°57′E±0°06, h150km, n113, σ1°31′/121, mb4.6/87, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.47**	**65**	P	**Pn**	**07 31 33.0**	**-1.4**
	71nm,0.3s,baz=285,slow=7.5,SNR=89						
GUMO				S	**Sn**	**07 32 04.2**	**-1.7**
	154nm,0.3s,baz=138,slow=21,SNR=13						
GUMO	**Guam**	**2.47**	**65**	*e*Pn	**Pn**	**07 31 32.9**	**-1.5**
GUMO				*e*Sn	**Sn**	**07 32 03.5**	**-2.4**
MANU	**Manus Island**	**15.26**	**161**	*e*P	**P**	**07 34 22.3**	**-0.5**
	26nm,1.1s						
PATS	**Pohnpei**	**16.52**	**109**	*e*Pn	**Pn**	**07 34 40.4**	**+3.5**
	153nm,1.5s						
RABL	**Rabaul**	**19.17**	**150**	*e*P	**Pn**	**07 35 07.7**	**-0.6**
	147nm,0.7s						
JOW	**Kunigami**	**19.55**	**319**	*e*P	**Pn**	**07 35 11.8**	**-0.9**
	33nm,0.9s						
YULB	**Yu-li**	**22.90**	**301**	*e*P	**P**	**07 35 44.6**	**0.0**
	65nm,1.6s						
JNU	**Nakatsue**	**23.11**	**334**	*e*P	**P**	**07 35 45.9**	**-0.5**
	19nm,1.3s						
SSLB	**Suanglung**	**23.35**	**302**	*e*P	**P**	**07 35 49.3**	**+0.5**
	34nm,0.6s						
YHNB	**Yeheng**	**23.39**	**304**	*e*P	**P**	**07 35 48.6**	**-0.6**
	201nm,2.0s						
LUWI	**Luwuk**	**23.84**	**237**	*e*P	**P**	**07 35 52.3**	**-0.9**
	65nm,0.9s						
MJAR	**Matsushiro Arr**	**24.21**	**351**	P	**P**	**07 35 55.0**	**-1.4**
	1.1nm,0.5s,baz=163,slow=10,SNR=5.1						
MYLDM	**Lahad Datu**	**24.86**	**255**	*e*P	**P**	**07 36 00.3**	**-2.3**
	18nm,1.0s						
COEN	**Coen**	**26.34**	**179**	*e*P	**P**	**07 36 15.4**	**-0.4**
	14nm,1.1s						
KSRS	**Korea Array**	**28.06**	**335**	P	**P**	**07 36 28.7**	**-2.2**
	0.5nm,0.3s,baz=102,slow=18,SNR=3.1						
KSAR	**Wonju Array Be**	**28.06**	**335**	P	**P**	**07 36 28.7**	**-2.3**
NJ2	**Nanjing**	**29.18**	**316**	*e*P	**P**	**07 36 40.0**	**-1.0**
CTA	**Charters Tower**	**32.63**	**174**	P	**P**	**07 37 11.5**	**+0.1**
	6.4nm,0.7s,baz=338,slow=11,SNR=8.7						
CTAO	**Charters Tower**	**32.63**	**174**	*e*P	**P**	**07 37 11.8**	**+0.4**
	7.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**32.83**	**346**	P	**P**	**07 37 13.5**	**+0.6**
	4.7nm,0.6s,baz=177,slow=9.9,SNR=13						
WB2	**Warramunga Arr**	**33.28**	**194**	*e*P	**P**	**07 37 16.5**	**-0.6**
	6.1nm,0.6s						
WRA	**Warramunga Arr**	**33.28**	**194**	P	**P**	**07 37 16.1**	**-0.9**
	5.6nm,0.8s,baz=18,slow=9.7,SNR=34						
ENH	**Enshi**	**35.31**	**305**	*e*P	**P**	**07 37 32.6**	**-2.0**
	22nm,1.0s						
BJI	**Beijing**	**35.93**	**324**	P	**P**	**07 37 40.0**	**+0.4**
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
BJI				pmax	pmax		
	comp=Z,97nm,4.7s						
BJI				LR	LR		
	comp=Z,62nm,21.0s						
AS31	**Alice Springs**	**36.97**	**193**	*e*P	**P**	**07 37 48.1**	**-0.6**
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**36.97**	**193**	P	**P**	**07 37 47.7**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=22,slow=12,SNR=48						
KLR	**Kul'dur**	**37.66**	**348**	P	**P**	**07 37 54.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=144,slow=6.8,SNR=8.6						
EIDS	**Eidsvold**	**38.59**	**168**	*e*P	**P**	**07 38 01.5**	**-0.7**
	comp=Z,18nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.15**	**322**	*e*P	**P**	**07 38 07.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,9.9s						
KMI	**Kunming**	**39.57**	**294**	P	**P**	**07 38 09.3**	**-1.4**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
CD2	**Chengdu**	**40.16**	**303**	*e*P	**P**	**07 38 14.0**	**-1.3**
LZH	**Lanzhou**	**41.96**	**311**	*e*P	**P**	**07 38 31.8**	**+1.7**
LZH				pP	pP	07 39 01.0	-2.2
LZH				sP	sP	07 39 19.8	-0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.37**	**284**	P	**P**	**07 38 34.0**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=85,slow=6.2,SNR=15						
CMAR				PcP	**PcP**	**07 40 25.5**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=127,slow=2.4,SNR=8.6						
ARMA	**Armidale**	**43.59**	**169**	*e*P	**P**	**07 38 43.0**	**-0.2**
	comp=Z,30nm,1.2s						
STKA	**Stephens Creek**	**44.18**	**181**	P	**P**	**07 38 46.5**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=3.8,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**44.18**	**181**	*e*P	**P**	**07 38 46.4**	**-1.2**
	comp=Z,5.8nm,1.8s						
FORT	**Forrest**	**45.27**	**198**	*e*P	**P**	**07 38 56.6**	**+0.2**
	comp=Z,152nm,0.8s						
BBOO	**Buckleboo**	**45.52**	**188**	*e*P	**P**	**07 38 57.5**	**-0.9**
	comp=Z,96nm,1.8s						
MSVF	**Nonsavu**	**46.17**	**130**	*e*P	**P**	**07 39 05.3**	**+1.6**
	comp=Z,38nm,1.5s						
GTA	**Gaotai**	**46.22**	**313**	*e*P	**P**	**07 39 04.8**	**+0.9**
GTA				pP	pP	07 39 34.5	-3.1
GTA				sP	sP	07 39 48.5	-6.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONM	**Songino Array**	**46.33**	**327**	P	**P**	**07 39 05.1**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=142,slow=8.1,SNR=6.1						
SONM				pP	**pP**	**07 39 39.8**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=157,slow=8.6,SNR=3.4						
SONM				PcP	**PcP**	**07 40 37.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=138,slow=5.0,SNR=3.1						
CAN	**Canberra**	**47.99**	**173**	*e*P	**P**	**07 39 17.7**	**+0.2**
	comp=Z,88nm,2.0s						
WMQ	**Urumqi**	**56.25**	**315**	P	**P**	**07 40 18.5**	**0.0**
WMQ				pP	pP	07 40 51.3	-2.2
WMQ				sP	sP	07 41 06.5	-3.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,84nm,5.3s						
WMQ				LR	LR		
	comp=N,110nm,21.3s						
WMQ				LR	LR		
	comp=E,56nm,21.3s						
WMQ				LR	LR		
	comp=Z,29nm,26.3s						
MK31	**Makanchi Array**	**60.70**	**317**	*e*P	**P**	**07 40 48.5**	**-0.7**
MKAR	**Makanchi Array**	**60.70**	**317**	P	**P**	**07 40 49.7**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=92,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**60.70**	**317**	*e*P	**P**	**07 40 48.4**	**-0.8**
	comp=Z,20nm,1.0s						
MAKZ	**Makanchi**	**60.91**	**317**	*e*P	**P**	**07 40 51.5**	**+0.9**
	comp=Z,9.2nm,1.3s						
ZALV	**Zalesovo Beam**	**61.18**	**325**	P	**P**	**07 40 52.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=130,slow=8.5,SNR=3.7						
HYB	**Hyderabad**	**61.79**	**283**	*i* P	**P**	**07 40 57.0**	**-0.1**
KURK	**Kurchatov**	**63.95**	**321**	*e*P	**P**	**07 41 10.8**	**+0.1**
	comp=Z,8.7nm,0.9s						
KURBB	**Kurchatov Arra**	**63.98**	**320**	P	**P**	**07 41 10.9**	**0.0**
	comp=Z,5.3nm,0.7s,baz=105,slow=6.4,SNR=24						
KSH	**Kashi**	**64.10**	**308**	P	**P**	**07 41 14.8**	**+2.7**
KSH				pP	PcP	07 41 45.0	-1.0
KSH				PcP	**pP**	**07 41 48.3**	**+0.4**
KSH				sP	sP	07 41 58.8	-5.4
KSH				PP	**PP**	**07 43 39.3**	**+4.4**
KSH				PcS		07 45 48.5	
KSH				S	**S**	**07 49 37.3**	**+0.1**
KSH				sS	sS	07 50 30.0	-9.1
KSH				ScS	**SKSac**	**07 50 49.0**	**-2.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,96nm,4.5s						
KSH				LR	LR		
	comp=N,140nm,10.1s						
KSH				LR	LR		
	comp=E,180nm,8.3s						
KSH				LR	LR		
	comp=Z,110nm,7.5s						
TT01	**Tatalina**	**66.06**	**26**	*e*P	**P**	**07 41 25.0**	**+0.8**
TTA	**Tatalina**	**66.07**	**26**	*e*P	**P**	**07 41 24.8**	**+0.5**
KDAK	**Kodiak Island**	**66.14**	**32**	P	**P**	**07 41 25.0**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=99,slow=9.3,SNR=4.6						
NRIK	**Noril'sk**	**66.39**	**341**	P	**P**	**07 41 26.0**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=115,slow=8.7,SNR=3.3						
RND	**Reindeer**	**69.32**	**27**	*e*P	**P**	**07 41 44.4**	**-0.3**
	comp=Z,38nm,1.9s						
BVAR	**Borovoye Array**	**69.36**	**322**	P	**P**	**07 41 44.3**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=98,slow=8.1,SNR=23						
BRVK	**Borovoye**	**69.43**	**322**	*e*P	**P**	**07 41 45.6**	**+0.1**
	comp=Z,5.8nm,0.8s						
COLD	**Coldfoot**	**69.77**	**22**	*e*P	**P**	**07 41 48.8**	**+1.5**
	comp=Z,4.9nm,1.1s						
FID	**Port Fidalgo**	**69.85**	**30**	*e*P	**P**	**07 41 48.2**	**+0.3**
	comp=Z,130nm,1.7s						
WRH	**Wood River Hil**	**69.89**	**26**	*e*P	**P**	**07 41 47.8**	**-0.2**
	comp=Z,41nm,2.0s						
DHY	**Denali Highway**	**69.90**	**27**	*e*P	**P**	**07 41 49.7**	**+1.4**
	comp=Z,24nm,1.7s						
MDM	**Murphy Dome**	**69.95**	**25**	*e*P	**P**	**07 41 50.0**	**+1.5**
	comp=Z,30nm,2.0s						
KLU	**Klutina**	**70.25**	**29**	*e*P	**P**	**07 41 51.5**	**+1.1**
	comp=Z,26nm,1.6s						
TOLK	**Toolik Lake Re**	**70.39**	**21**	*e*P	**P**	**07 41 52.5**	**+1.4**
	comp=Z,21nm,1.6s						
ILAR	**Eielson Array**	**70.47**	**25**	P	**P**	**07 41 50.9**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=247,slow=6.0,SNR=50						
ILB	**Eielson Array**	**70.47**	**25**	*e*P	**P**	**07 41 50.9**	**-0.7**
PAX	**Paxson**	**70.73**	**27**	*e*P	**P**	**07 41 53.8**	**+0.5**
	comp=Z,23nm,1.8s						
EGAK	**Eagle**	**72.89**	**26**	*e*P	**P**	**07 42 06.6**	**+0.6**
	comp=Z,22nm,1.9s						
DAWY	**Dawson**	**73.57**	**27**	*e*P	**P**	**07 42 11.2**	**+1.1**
	comp=Z,12nm,1.4s						
ABKAR	**Akbulak array**	**75.81**	**318**	*e*P	**P**	**07 42 23.1**	**-0.1**
	comp=Z,30nm,0.6s						
AKTO	**Aktyubinsk**	**76.98**	**319**	P	**P**	**07 42 29.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=79,slow=7.3,SNR=4.1						
GEYT	**Alibeck**	**78.07**	**306**	P	**P**	**07 42 35.9**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=70,slow=1.7,SNR=5.1						
WSAR	**Wadi Sarin**	**79.66**	**292**	P	**P**	**07 42 45.0**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=89,slow=5.5,SNR=5.1						
UOSS	**Minazif**	**81.56**	**294**	*e*P	**P**	**07 42 54.8**	**-0.4**
	comp=Z,4.9nm,0.6s						
NLWA	**Neilton Lookou**	**83.28**	**43**	*e*P	**P**	**07 43 05.5**	**+1.9**
	comp=Z,74nm,1.5s						
KRMB	**Red Mountain**	**84.41**	**49**	*e*P	**P**	**07 43 11.5**	**+1.8**
	comp=Z,23nm,1.7s						
JCC	**Jacoby Creek,**	**84.46**	**50**	*e*P	**P**	**07 43 11.6**	**+1.8**
	comp=Z,34nm,1.5s						
D05A	**Enumclaw**	**84.57**	**43**	*e*P	**P**	**07 43 12.1**	**+1.9**
	comp=Z,79nm,1.8s						
KHMM	**Horse Mountain**	**84.67**	**49**	*e*P	**P**	**07 43 12.9**	**+1.9**
	comp=Z,34nm,2.0s						
KMRM	**Mail Ridge**	**84.82**	**50**	*e*P	**P**	**07 43 13.8**	**+2.1**
	comp=Z,27nm,1.4s						
HUMO	**Hull Mountain**	**84.88**	**48**	*e*P	**P**	**07 43 14.1**	**+2.2**
	comp=Z,27nm,1.6s						
KCPM	**Cahto Peak**	**85.03**	**51**	*e*P	**P**	**07 43 14.8**	**+2.0**
	comp=Z,25nm,1.2s						
YBH	**Yreka Blue Hor**	**85.24**	**48**	*e*P	**P**	**07 43 15.6**	**+1.8**
	comp=Z,14nm,1.8s						
LTY	**Liberty**	**85.43**	**43**	*e*P	**P**	**07 43 15.7**	**+1.1**
	comp=Z,36nm,1.9s						
B08A	**Colville Reser**	**86.04**	**41**	*e*P	**P**	**07 43 18.7**	**+1.1**
	comp=Z,4.3nm,0.6s						
HAWA	**Hanford**	**86.40**	**43**	*e*P	**P**	**07 43 20.6**	**+1.4**
	comp=Z,26nm,1.8s						
ARCES	**ARCESS Array B**	**87.38**	**342**	P	**P**	**07 43 23.1**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=82,slow=8.8,SNR=7.5						
BEKR	**Beckworth**	**87.41**	**50**	*e*P	**P**	**07 43 25.8**	**+1.2**
	comp=Z,3.4nm,0.7s						
NEW	**Newport**	**87.49**	**41**	P	**P**	**07 43 25.8**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=270,slow=9.1,SNR=3.8						
NEW	**Newport**	**87.49**	**41**	*e*P	**P**	**07 43 25.9**	**+1.4**
	comp=Z,14nm,1.6s						
J08A	**Circle Bar Ran**	**87.90**	**46**	*e*P	**P**	**07 43 28.2**	**+1.5**
	comp=Z,4.9nm,0.8s						
WVOR	**Wild Horse Val**	**88.02**	**47**	*e*P	**P**	**07 43 28.8**	**+1.4**
	comp=Z,4.4nm,0.7s						
PNTR	**Pine Nut**	**88.17**	**50**	*e*P	**P**	**07 43 29.8**	**+1.6**
	comp=Z,4.7nm,0.8s						
BMO	**Blue Mountains**	**88.31**	**44**	*e*P	**P**	**07 43 29.9**	**+1.3**
	comp=Z,13nm,1.4s						
WAKR	**Walker**	**88.44**	**51**	*e*P	**P**	**07 43 31.0**	**+1.5**
	comp=Z,10nm,1.6s						
YERR	**Yerington**	**88.47**	**51**	*e*P	**P**	**07 43 31.2**	**+1.6**
	comp=Z,5.5nm,1.2s						
MFID	**Camas Ranch**	**89.73**	**46**	*e*P	**P**	**07 43 36.6**	**+1.3**
	comp=Z,3.7nm,0.5s						
HLID	**Hailey**	**90.67**	**45**	*e*P	**P**	**07 43 40.8**	**+1.0**
	comp=Z,9.1nm,1.8s						
FINES	**FINESS Array B**	**91.15**	**335**	P	**P**	**07 43 39.9**	**-1.3**
	comp=Z,3.8nm,1.0s,baz=61,slow=4.4,SNR=8.1						
TPNV	**Topopah Spring**	**91.29**	**52**	*e*P	**P**	**07 43 44.8**	**+2.0**
	comp=Z,2.3nm,0.8s						
DUG	**Dugway, Tooele**	**92.87**	**48**	*e*P	**P**	**07 43 50.6**	**+0.6**
	comp=Z,6.7nm,1.6s						
FXWY	**Fox Creek**	**92.97**	**44**	*e*P	**P**	**07 43 51.9**	**+1.4**
	comp=Z,7.1nm,1.8s						
PDAR	**Pinedale Array**	**94.28**	**45**	P	**P**	**07 43 56.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=258,slow=2.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**133.56**	**302**	PKP	**PKPdf**	**07 49 53.4**	**0.0**
	comp=Z,0.8nm,0.5s,baz=38,slow=2.3,SNR=10						
DBIC	**Dimbokro**	**142.41**	**299**	PKhKP	PKPpre	07 50 05.0	
	comp=Z,0.9nm,0.4s,baz=6.5,slow=5.2,SNR=5.6						
FDF	**Fort de France**	**144.14**	**42**	*e*PKPdf	**PKPdf**	**07 50 12.3**	**-0.3**
LCO	**Las Campanas**	**145.01**	**123**	*e*PKPbc	**PKPdf**	**07 50 15.7**	**+1.6**
SVB	**Belmont**	**145.13**	**43**	*e*PKPdf	**PKPdf**	**07 50 13.8**	**-0.6**
TRQA	**Tornquist**	**146.47**	**144**	*e*PKPdf	**PKPab**	**07 50 18.1**	**-0.8**
LPAZ	**La Paz**	**150.05**	**101**	PKPbc	**PKPbc**	**07 50 28.4**	**0.0**
	comp=Z,2.0nm,0.8s,baz=279,slow=2.3,SNR=5.9						
PTGA	**Pitinga**	**154.76**	**64**	*e*PKPbc	**PKPbc**	**07 50 35.7**	**-2.5**

MAN 29 07:32:48, 13°72′N×120°54′E, h85km, mb4.3, ML3.2, MS3.0, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**273**	*e*P	Pn	07 33 03.5	+2.8
LUBP				*e*S	Sn	07 33 14.1	+3.9
PGP	**Puerto Galera**	**0.46**	**118**	*e*P	Pn	07 33 04.3	+2.4
PGP				*e*S	Sn	07 33 15.3	+3.0
TGY	**Tagaytay City**	**0.54**	**46**	*i* P	Pn	07 33 05.9	+3.2
TGY				*i* S	Sn	07 33 18.5	+4.9
SJMP	**San Jose**	**1.37**	**156**	*e*P	Pn	07 33 14.1	+2.1
SJMP				*e*S	Sn	07 33 32.9	+2.9
BUSP	**Coron**	**1.74**	**191**	*e*P	Pn	07 33 17.8	+1.1
BUSP				*e*S	Sn	07 33 39.8	+1.4
OTRP	**Odiongan**	**1.98**	**133**	*e*P	Pn	07 33 20.7	+0.9
OTRP				*e*S	Sn	07 33 46.3	+2.3
ENPP	**El Nido**	**2.72**	**204**	*e*P	Pn	07 33 31.1	+1.3
ENPP				*e*S	Sn	07 34 03.2	+1.4

*IDC **29** 07:34:50.7±0.6, 14°60S×167°23E, h115km±4km, mb4.4/27, mb1 4.5/29, mb1mx4.4/41, mbtmp4.8/29, MS3.5/6, Ms1 3.5/6, ms1mx3.0/27, Error ellipse: s-maj=12.9km s-min=8.9km az=86.0*
*ISCJB **29** 07:34:52.1±1.0, 14°63S±0°03×167°16E±0°04, h141km±9km, mb4.7/105, Error ellipse: s-maj=6.6km s-min=5.5km az=154.0*
*BJI **29** 07:34:52.1, 14°09S×167°38E, h128km, mb4.7/36, mB4.8/24*
*NEIC **29** 07:34:53.2±0.7, 14°58S×167°21E, h137km±6km, mb4.9/80, Error ellipse: s-maj=4.7km s-min=4.3km az=103.0*
ISC 29 07:34:51.2±0.5, 14°59S±0°05×167°24E±0°05, h118km±4km, h118km:pP-P, n205, σ1°35/232, mb4.8/104, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.48**	**186**	P	**Pn**	**07 36 38.5**	**+0.7**
	25nm,0.3s,baz=297,slow=5.7,SNR=95						
DZM				S	**Sn**	**07 37 59.8**	**-1.2**
	24nm,0.3s,baz=316,slow=22,SNR=3.4						
DZM	**Mont Dzumac**	**7.48**	**186**	*e*Pn	**Pn**	**07 36 38.6**	**+0.9**
DZM				S	**Sn**	**07 37 59.8**	**-1.2**
DZM				*e*Sn	Sn	07 38 07.8	+6.7
HNR	**Honiara**	**8.79**	**305**	P	**Pn**	**07 36 56.2**	**+0.8**
	64nm,0.3s,baz=180,slow=3.9,SNR=13						
HNR				S	**Sn**	**07 38 31.8**	**-0.9**
	51nm,0.3s,baz=218,slow=17,SNR=4.2						
HNR				LR	LR	07 40 18.5	
	comp=Z,159nm,19.6s,baz=119,slow=37						
HNR	**Honiara**	**8.79**	**305**	*e*P	**Pn**	**07 36 55.0**	**-0.4**
HNR				*e*S	**Sn**	**07 38 30.0**	**-2.7**
HNR	**Honiara**	**8.79**	**305**	*e*Pn	**Pn**	**07 36 57.5**	**+2.1**
HNR				*e*Sn	**Sn**	**07 38 33.6**	**+0.9**
MSVF	**Nonsavu**	**10.84**	**108**	*e*Pn	**Pn**	**07 37 26.2**	**+2.9**
FUNA	**Funafuti**	**13.17**	**64**	*e*Pn	**P**	**07 37 56.7**	**-2.8**
EIDS	**Eidsvold**	**18.57**	**232**	*e*P	**Pn**	**07 39 01.5**	**+0.8**
	18nm,0.6s						
PMG	**Port Moresby**	**20.30**	**282**	P	**P**	**07 39 18.5**	**+0.5**
	16nm,0.8s,baz=117,slow=13,SNR=5.0						
PMG				LR	LR	07 46 03.2	
	comp=Z,80nm,18.5s,baz=36,slow=33						
AFI	**Afiamalu**	**20.35**	**91**	P	**P**	**07 39 20.0**	**+1.4**
	53nm,1.0s,baz=273,slow=19,SNR=2.2						
AFI	**Afiamalu**	**20.35**	**91**	P	**P**	**07 39 20.0**	**+1.4**
CTA	**Charters Tower**	**20.76**	**252**	P	**P**	**07 39 22.9**	**+0.1**
	3.9nm,0.6s,baz=76,slow=11,SNR=7.2						
CTAO	**Charters Tower**	**20.76**	**252**	*e*P	**P**	**07 39 24.1**	**+1.3**
	18nm,1.0s						
ARMA	**Armidale**	**21.32**	**220**	*e*P	**P**	**07 39 30.4**	**+1.6**
	30nm,1.2s						
OUZ	**Omahuta**	**21.32**	**166**	*e*P	**P**	**07 39 30.4**	**+1.7**
	50nm,1.2s						
PATS	**Pohnpei**	**23.06**	**337**	*e*P	**P**	**07 39 46.4**	**-0.2**
	294nm,1.3s						
MANU	**Manus Island**	**23.25**	**301**	*e*P	**P**	**07 39 48.3**	**-0.1**
	20nm,0.5s						
COEN	**Coen**	**23.33**	**269**	*e*P	**P**	**07 39 49.4**	**+0.2**
	13nm,1.0s						
HIZ	**Hauiti**	**24.76**	**166**	*e*P	**P**	**07 40 05.8**	**+3.9**
	43nm,1.2s						
URZ	**Urewera**	**25.14**	**161**	P	**P**	**07 40 06.6**	**+1.3**
	8.6nm,0.6s,baz=262,slow=2.2,SNR=6.4						
URZ				LR	LR	07 47 48.6	
	comp=Z,171nm,20.2s,baz=26,slow=31						
URZ	**Urewera**	**25.14**	**161**	*e*P	**P**	**07 40 05.7**	**+0.4**
	18nm,0.9s						
BKZ	**Black Stump Fm**	**25.80**	**163**	*e*P	**P**	**07 40 11.1**	**-0.2**
	10nm,0.7s						
CAN	**Canberra**	**26.36**	**215**	*e*P	**P**	**07 40 15.5**	**-0.9**
	88nm,2.0s						
BFZ	**Birch Farm**	**27.16**	**165**	*e*P	**P**	**07 40 22.3**	**-1.2**
	126nm,1.7s						
THZ	**Tophouse**	**27.52**	**171**	*e*P	**P**	**07 40 27.1**	**+0.4**
	41nm,1.6s						
KHZ	**Kahutara**	**28.25**	**170**	*e*P	**P**	**07 40 33.7**	**+0.5**
	54nm,1.4s						
LTZ	**Lake Taylor**	**28.42**	**172**	*e*P	**P**	**07

VNDA	Vanda	63.00	181	*e*P	P	07 45 04.8	-0.3
	48nm,2.0s						
SBA	Scott Base	63.27	180	*e*P	P	07 45 07.6	+0.7
	28nm,0.9s						
KSRS	Korea Array	63.61	326	P	P	07 45 09.1	-0.5
	4.8nm,0.8s,baz=137,slow=7.1,SNR=18						
KSRS				pP	pP	07 45 38.0	-0.5
	1.2nm,0.7s,baz=78,slow=7.0,SNR=1.7						
KSAR	Wonju Array Be	63.62	326	P	P	07 45 09.1	-0.6
KSAR				pP	pP	07 45 38.0	-0.6
YSS	Yuzh-Sakhalins	65.09	342	*e*P	P	07 45 19.9	+0.8
	71nm,0.9s						
NJ2	Nanjing	65.56	316	*e*P	P	07 45 22.5	+0.1
QIZ	Qiongzhong	65.65	299	P	P	07 45 25.0	+1.7
USRK	Ussuriysk Ar.	66.75	333	P	P	07 45 30.4	+0.7
	16nm,1.1s,baz=151,slow=5.5,SNR=26						
USRK				pP	pP	07 45 58.5	-0.4
	2.4nm,0.6s,baz=134,slow=5.5,SNR=2.6						
BKNI	Bangkinang	67.09	277	*e*P	P	07 45 32.9	+0.3
	49nm,0.6s						
PET	Petropavlovsk	67.74	354	*e*P	P	07 45 36.1	+0.3
	80nm,1.4s						
PEA0B	Petropavlovsk-	67.92	354	*e*P	P	07 45 37.5	+0.5
	51nm,0.9s						
PETK	Petropavlovsk-	67.92	354	P	P	07 45 37.1	+0.1
	43nm,0.9s,baz=143,slow=7.4,SNR=30						
PETK				LR	LR	08 09 44.0	
	comp=Z,20nm,21.8s,baz=121,slow=31						
MDJ	Mudanjiang	68.15	332	P	P	07 45 39.0	+0.4
MDJ				pmax	pmax		
	comp=Z,24nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,41nm,6.2s						
MDJ	Mudanjiang	68.15	332	*e*P	P	07 45 38.5	0.0
	22nm,0.9s						
CN2	Changchun	69.51	329	*e*P	P	07 45 46.3	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PSI	Prapat	69.81	279	*e*P	P	07 45 49.1	-0.6
	8.0nm,1.0s						
GYA	Guiyang	71.61	305	*e*P	P	07 46 02.0	+1.6
GYA				pP	pP	07 46 34.5	+4.7
GYA				PP	PP	07 48 45.0	+4.0
GYA				S	S	07 55 09.8	-0.9
GYA				SKS	SKSac	07 55 49.0	-4.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	Beijing	72.14	321	P	P	07 46 05.5	+2.5
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN	Xi'an	73.58	313	P	P	07 46 11.8	+0.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,37nm,4.5s						
KMI	Kunming	74.21	302	P	P	07 46 17.3	+1.5
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
CMAR	Chiang Mai Arr	74.87	294	P	P	07 46 20.4	+0.9
	7.1nm,0.8s,baz=128,slow=4.6,SNR=14						
MA2	Magadan	75.11	351	P	P	07 46 19.3	-0.6
	20nm,0.8s,baz=117,slow=3.3,SNR=6.5						
QSPA	South Pole Qui	75.44	180	*e*P	P	07 46 21.5	-0.6
	21nm,0.9s						
HHC	Hu-ho-hao-te	75.46	320	*e*P	P	07 46 24.0	+1.4
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,82nm,9.6s						
CD2	Chengdu	75.90	308	*e*P	P	07 46 25.0	-0.2
SEY	Seymchan	78.14	353	P	P	07 46 36.5	-0.5
	27nm,0.9s,baz=152,slow=5.6,SNR=26						
YAK	Yakutsk	81.89	343	P	P	07 46 57.0	-0.1
	baz=349,slow=1.0						
YAK	Yakutsk	81.89	343	*e*P	P	07 46 57.6	+0.5
	83nm,1.0s						
MAW	Mawson	82.00	202	P	P	07 46 57.4	-0.4
	3.5nm,1.0s,baz=106,slow=6.6,SNR=15						
MAW	Mawson	82.00	202	*e*P	P	07 46 57.6	-0.1
	3.6nm,1.7s						
ULN	Ulaanbaatar	82.01	324	*e*P	P	07 46 57.5	-0.8
	26nm,1.5s						
SONM	Songino Array	82.37	324	P	P	07 46 59.3	-0.8
	2.3nm,0.5s,baz=143,slow=6.1,SNR=14						
SONM				pP	pP	07 47 29.6	-0.7
	0.6nm,0.4s,baz=134,slow=6.2,SNR=2.0						
GTA	Gaotai	82.55	314	*e*P	P	07 47 01.5	+0.2
GTA				pP	pP	07 47 33.3	+1.8
GTA				sP	sP	07 47 46.8	+2.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
JCHM	Cahill Ridge	83.88	49	*e*P	P	07 47 12.6	+4.5
KMRM	Mail Ridge	84.03	46	*e*P	P	07 47 09.2	+0.4
	22nm,1.3s						
JCC	Jacoby Creek,	84.06	45	*e*P	P	07 47 07.7	-1.1
	31nm,1.5s						
SCM	Sheep Creek Mo	84.14	20	*e*P	P	07 47 08.4	-0.4
	24nm,1.2s						
DIV	Divide	84.17	21	*e*P	P	07 47 08.3	-0.7
	31nm,1.6s						
KHMM	Horse Mountain	84.28	45	*e*P	P	07 47 10.7	+0.5
	12nm,1.3s						
KRMB	Red Mountain	84.44	45	*e*P	P	07 47 10.4	-0.4
	20nm,1.6s						
RND	Reindeer	84.81	18	*e*P	P	07 47 11.6	-0.6
	13nm,1.0s						
DHY	Denali Highway	85.03	19	*e*P	P	07 47 12.7	-0.7
	14nm,1.4s						
MCK	McKinley	85.03	18	*e*P	P	07 47 13.0	-0.3
	14nm,1.0s						
BALM	Baldy	85.32	22	*e*P	P	07 47 14.8	0.0
	45nm,1.9s						
YBH	Yreka Blue Hor	85.34	45	*e*P	P	07 47 15.7	+0.3
	14nm,1.8s						
AFDM	Forest Hills D	85.46	48	*e*P	P	07 47 15.4	-0.5
	3.8nm,1.0s						
CMB	Columbia Colle	85.53	49	*e*P	P	07 47 15.6	-0.7
	3.3nm,0.8s						
HUMO	Hull Mountain	85.53	44	*e*P	P	07 47 16.2	0.0
	27nm,1.8s						
TLY	Talaya	85.86	326	P	P	07 47 16.2	-1.5
	6.1nm,0.8s,baz=160,slow=1.8,SNR=5.3						
CCB	Clear Creek Bu	86.04	18	*e*P	P	07 47 16.5	-1.7
	16nm,1.7s						
HDA	Harding Lake	86.12	18	*e*P	P	07 47 18.1	-0.5
	69nm,0.9s						
HDA				*e*S	S	07 57 44.1	+1.1
MDM	Murphy Dome	86.15	17	*e*P	P	07 47 16.4	-2.4
	23nm,1.6s						
COLA	College	86.19	18	*e*P	P	07 47 16.1	-2.8
	5.1nm,0.8s						
ILAR	Eielson Array	86.40	18	P	P	07 47 18.0	-1.9
	6.5nm,0.8s,baz=234,slow=5.5,SNR=54						
ILAR				LR	LR	08 18 46.2	
	comp=Z,54nm,20.0s,baz=174,slow=30						
ILB	Eielson Array	86.40	18	*e*P	P	07 47 18.6	-1.4
DOT	Dot Lake	86.49	20	*e*P	P	07 47 18.7	-1.8
	27nm,1.2s						
PFO	Pinyon Flats O	86.94	54	P	P	07 47 22.1	-1.3
	1.8nm,0.8s,baz=311,slow=4.6,SNR=4.1						
COLD	Coldfoot	87.31	15	*e*P	P	07 47 25.1	+0.8
	5.8nm,1.0s						
EGAK	Eagle	88.20	20	*e*P	P	07 47 27.0	-1.6
	26nm,2.0s						
LDFC	Landfair	88.47	53	*e*P	P	07 47 30.9	+0.2
	7.1nm,0.8s						
TOLK	Toolik Lake Re	88.53	15	*e*P	P	07 47 30.4	+0.3
	35nm,1.8s						
SYO	Syowa Base	88.83	197‖	*e*P	P	07 47 29.0	-2.6
SYO	Syowa Base	88.83	197‖	*e*PcP	P	07 47 30.5	-1.1
J08A	Circle Bar Ran	88.85	45	*e*P	P	07 47 32.4	+0.1
	5.0nm,1.1s						
LTY	Liberty	88.88	40	*e*P	P	07 47 32.0	-0.3
	46nm,1.9s						
SHPR	Sheep Range	88.90	52	*e*P	P	07 47 32.4	-0.4
	2.7nm,1.0s						
W13A	Hualapai Mount	89.43	54	*e*P	P	07 47 35.4	+0.1
	15nm,2.0s						
TIXI	Tiksi	89.83	349	*e*P	P	07 47 35.0	-1.0
	10nm,1.1s						
BMO	Blue Mountains	90.17	44	*e*P	P	07 47 37.9	-0.6
	3.0nm,0.9s						
LCMT	Little Creek M	90.52	52	*e*P	P	07 47 40.5	+0.2
	3.3nm,0.9s						
CCUT	Cedar City	90.59	51	*e*P	P	07 47 41.4	+0.7
	2.3nm,1.0s						
MFID	Camas Ranch	90.68	45	*e*P	P	07 47 40.9	+0.1
	2.0nm,0.8s						
U15A	North Rim	91.07	53	*e*P	P	07 47 43.3	+0.3
	19nm,1.9s						
NEW	Newport	91.48	40	P	P	07 47 41.6	-2.8
	1.7nm,0.8s,baz=252,slow=0.8,SNR=4.2						
MTPU	Mount Pierson	91.63	51	*e*P	P	07 47 46.8	+1.1
	2.7nm,1.0s						
WMQ	Urumqi	92.61	315	P	P	07 47 49.3	-0.4
WMQ				pP	pP	07 48 26.3	+6.0
WMQ				sP	sP	07 48 41.8	+9.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,93nm,5.3s						
WMQ				LR	LR		
	comp=N,26nm,19.5s						
WMQ				LR	LR		
	comp=E,25nm,16.9s						
WMQ				LR	LR		
	comp=Z,29nm,20.7s						
SNAA	Sanae	93.68	183	P	P	07 47 52.9	-1.3
	4.3nm,0.9s,baz=177,slow=3.7,SNR=18						
SNAA				pP	pP	07 48 23.7	-1.1
	2.5nm,1.0s,baz=171,slow=5.4,SNR=2.9						
SNAA	Sanae	93.68	183	*e*P	P	07 47 52.4	-1.8
	6.7nm,1.0s						
SNAA				pP	pP	07 48 23.7	-1.1
HRY	Holter Researc	94.39	43	*e*P	P	07 47 57.4	-0.6
PDAR	Pinedale Array	94.87	47	LR	LR	08 30 22.2	
	comp=Z,19nm,18.4s,baz=38,slow=35						
TXAR	Lajitas Array	96.24	61	P	P	07 48 06.4	-0.3
	0.5nm,0.9s,baz=243,slow=6.0,SNR=3.2						
MK31	Makanchi Array	97.08	316	*e*P	P	07 48 10.1	0.0
MKAR	Makanchi Array	97.08	316	P	P	07 48 09.2	-0.8
	2.8nm,0.7s,baz=96,slow=6.3,SNR=26						
MKAR	Makanchi Array	97.08	316	*e*P	P	07 48 10.1	0.0
	16nm,0.8s						
ZALV	Zalesovo Beam	97.27	324	P	P	07 48 08.8	-1.8
	3.3nm,0.7s,baz=111,slow=4.7,SNR=7.4						
NRIK	Noril'sk	99.93	339	P	Pdif	07 48 21.8	-0.4
	3.7nm,0.7s,baz=96,slow=2.4,SNR=5.5						
KSH	Kashi	100.09	308	P	Pdif	07 48 26.8	+3.0
KSH				PP	PP	07 52 37.5	+6.6
KSH				SKS		07 58 51.5	
KSH				S	Sdif	07 59 45.8	-3.2
KSH				sS	sS	08 00 44.0	+1.6
KSH				SS	SS	08 06 47.5	+1.9
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,89nm,5.8s						
KSH				LR	LR		
	comp=N,170nm,6.9s						
KSH				LR	LR		
	comp=E,180nm,7.7s						
KSH				LR	LR		
	comp=Z,64nm,9.5s						
LVZ	Lovozero	118.66	341	*e*PKPdf	PKPdf	07 53 25.4	+0.5
ARCES	ARCESS Array B	120.11	345	PKP	PKPdf	07 53 26.6	-1.0
	3.2nm,0.4s,baz=82,slow=1.6,SNR=77						
ARE0	ARCESS Array S	120.11	345	*e*PKPdf	PKPdf	07 53 26.9	-0.7
FINES	FINESS Array B	125.58	338	PKP	PKPdf	07 53 37.5	-0.7
	4.8nm,0.8s,baz=83,slow=1.6,SNR=11						
NB2	NORSAR Subarra	130.48	345	PKPdf	PKPdf	07 53 47.3	-0.4
	comp=Z,1.0nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.48	345	PKP	PKPdf	07 53 47.7	0.0
	comp=Z,1.6nm,0.7s,baz=31,slow=2.0,SNR=4.9						
NOA				SKPbc	SKPbc	07 57 01.0	+0.4
	comp=Z,12nm,0.8s,baz=33,slow=3.0,SNR=30						
AKASG	Malin Array Be	130.61	326	PKP	PKPdf	07 53 47.8	-0.3
	comp=Z,0.2nm,0.2s,baz=47,slow=1.5,SNR=5.7						
AKASG				SKPbc	SKPbc	07 57 01.2	0.0
	comp=Z,10nm,1.1s,baz=45,slow=4.7,SNR=11						
BRTR	Keskin Array B	132.40	311	SKPbc	SKPbc	07 57 08.2	0.0
	comp=Z,2.1nm,0.8s,baz=134,slow=4.2,SNR=7.2						
DPC	Dobruska-Polom	137.25	333	*e*PKPdf	PKPdf	07 54 03.1	+2.4
BRG	Berggiesshubel	137.87	335	*e*PKP	PKPdf	07 54 04.3	+2.5
	comp=Z,4.4nm,0.9s						
CLL	Collm	137.92	336	*e*PKPpre	PKPpre	07 53 54.0	
CLL				*e*PKPdf	PKPdf	07 54 00.0	-1.8
CLL				*i* PKiKP	PKiKP	07 54 03.8	0.0
GOPC	GO Pecny, Ondr	138.24	333	*e*PKPdf	PKPdf	07 54 05.0	+2.5
PRU	Pruhonice	138.29	334	*e*PKPdf	PKPdf	07 54 04.6	+2.0
CONA	Conrad Observa	139.19	330	*i* PKiKP	PKiKP	07 54 06.5	-0.2
	comp=Z,1.9nm,0.6s						
KHC	Kasperske Hory	139.35	333	*e*PKPdf	PKPdf	07 54 06.3	+1.7
GERES	GERESS Array B	139.51	333	PKP	PKPdf	07 54 05.9	+0.9
	comp=Z,1.8nm,0.8s,baz=50,slow=2.1,SNR=10						
GERES				SKPbc	SKPbc	07 57 29.2	-0.5
	comp=Z,0.3nm,0.4s,baz=8,9,slow=7.0,SNR=3.2						
ARSA	Arzberg	139.83	330	*i* PKiKP	PKiKP	07 54 08.4	+0.4
	comp=Z,3.7nm,1.3s						
MOA	Molln	139.99	332	*i* PKPdf	PKPdf	07 54 05.7	-0.1
	comp=Z,3.0nm,1.0s						
KBA	Koelnbreinsper	140.98	331	*i* PKiKP	PKPdf	07 54 08.3	+0.5
	comp=Z,5.5nm,1.2s						
MYKA	Terra Mystica	141.17	331	*i* PKPdf	PKPdf	07 54 06.9	-1.1
	comp=Z,3.8nm,1.0s						
WATA	Walderalm	141.58	333	*i* PKiKP	PKPdf	07 54 10.2	+1.4
	comp=Z,2.8nm,0.6s						
ABTA	Abfaltersbach	141.61	332	*i* PKPdf	PKPdf	07 54 05.0	-3.8
	comp=Z,6.2nm,1.3s						
WTTA	Wattenberg	141.61	333	*i* PKPdf	PKPdf	07 54 04.5	-4.4
	comp=Z,6.2nm,1.5s						
MOTA	Moosalm	141.78	334	*i* PKPdf	PKPdf	07 54 06.0	-3.2
	comp=Z,2.4nm,0.8s						
RETA	Reutte	141.82	334	*i* PKiKP	PKPdf	07 54 10.6	+1.5
	comp=Z,1.6nm,0.5s						
FETA	Feichten	142.19	334	*i* PKPdf	PKPdf	07 54 07.2	-2.8
	comp=Z,3.9nm,0.9s						
DAVA	Damuels	142.34	335	*i* PKPdf	PKPdf	07 54 06.8	-3.5
	comp=Z,3.4nm,0.8s						
SENIN	Lac Senin/Sane	144.13	336	*e*PKPdf	PKPbc	07 54 11.9	+0.1
OG01	Vacheresse	144.40	337	PKP	PKPdf	07 54 13.3	-0.5
CUC	Castrocucco	144.43	321	*e*PKPdf	PKPab	07 54 11.6	-0.9
RSL	Roselend	144.96	336	PKP	PKPab	07 54 14.6	+0.3
BNI	Bardonecchia	145.46	335	*e*PKPdf	PKPab	07 54 16.4	+0.2
GDM	Grand'Maison	145.56	336	PKP	PKPab	07 54 16.5	-0.1
GRN	Grenoble	145.67	337	PKP	PKPab	07 54 17.0	+0.1
PLDF	La Plantade	145.82	340	PKP	PKPab	07 54 17.2	-0.2
AGO	Saint Agoulin	145.91	340	PKP	PKPab	07 54 17.9	+0.2
SSB	Saint Sauveur	146.09	338	PKP	PKPbc	07 54 17.7	0.0
SSB	Saint Sauveur	146.09	338	*e*PKPdf	PKPbc	07 54 17.8	+0.1
LUCF	Luceram	146.12	334	PKP	PKPbc	07 54 18.0	+0.1
MVIF	Mont Vial	146.20	334	PKP	PKPab	07 54 18.3	+0.1
PYM	Petit Puy Mans	146.21	340	PKP	PKPab	07 54 18.8	-0.2
REVF	Revere	146.24	333	PKP	PKPdf	07 54 17.5	+0.6
LBL	Lubilhac	146.59	339	PKP	PKPab	07 54 20.5	+0.1
VSL	Villasalto	148.48	326	*e*PKPbc	PKPbc	07 54 24.5	+0.1
KEST	Kesra	151.09	321	PKPbc	PKPbc	07 54 31.3	+0.3
	comp=Z,8.8nm,0.7s,baz=104,slow=7.9,SNR=12						
KEST	Kesra	151.09	321	*e*PKPbc	PKPbc	07 54 30.8	-0.2
PBRG	Braganca	152.39	350	*e*PKPbc	PKPbc	07 54 33.4	-0.3
PBRG	Braganca	152.39	350	*e*PKPab	PKPab	07 54 43.9	-0.2
POLO	Lamas de Olo	152.97	352	*e*PKPbc	PKPbc	07 54 35.2	+0.1
POLO	Lamas de Olo	152.97	352	*e*PKPab	PKPab	07 54 46.9	+0.3
PVRL	Vila Real	153.05	352	*e*PKPbc	PKPbc	07 54 35.7	+0.5
PVRL	Vila Real	153.05	352	*e*PKPab	PKPab	07 54 46.2	-0.7
MVO	Moncorvo	153.06	350	*e*PKPbc	PKPbc	07 54 34.4	-0.9
MVO	Moncorvo	153.06	350	*e*PKPab	PKPab	07 54 46.7	-0.3
ESDC	Sonseca Array	153.85	344	PKPbc	PKPbc	07 54 37.4	+0.4
	comp=Z,0.3nm,0.4s,baz=26,slow=2.8,SNR=6.9						
ESDC				PKPab	PKPab	07 54 50.1	-0.2
	comp=Z,4.0nm,0.8s,baz=8.4,slow=4.2,SNR=15						
PCAS	Casmilo, Conde	154.36	352	*e*PKPab	PKPab	07 54 52.6	+0.2
PCBR	Castelo Branco	154.42	351	*e*PKPbc	PKPbc	07 54 38.6	+0.5
PCBR	Castelo Branco	154.42	351	*e*PKPab	PKPab	07 54 53.3	+0.6
PBAR	Barrancos	155.97	349	*e*PKPab	PKPab	07 54 59.6	+0.3
PBEJ	Beja	156.26	350	*e*PKPab	PKPab	07 55 00.0	-0.6
PBEJ	Beja	156.26	350	*e*PKPab	PKPab	07 55 01.1	+0.5
PCVE	Castro Verde	156.67	351	*e*PKPab	PKPab	07 55 03.2	+0.8
TORD	Torodi Ar. Bea	165.89	266	PKP	PKPdf	07 54 43.1	0.0
	comp=Z,0.5nm,0.9s,baz=198,slow=2.9,SNR=2.5						
TORD				pPKP	pPKPdf	07 55 14.4	-0.9
	comp=Z,0.3nm,0.7s,baz=66,slow=1.7,SNR=2.5						
TORD				PKPab	PKPab	07 55 43.1	-0.5
	comp=Z,0.4nm,0.6s,baz=88,slow=5.1,SNR=2.7						

*ISCJB **29** 07:39:06.3±1.4, 10°.98S±0°.10×165°.8E±0°.2, h61km, mb3.7/3, Error ellipse: s-maj=24.7km s-min=11.2km az=159.3*
*IDC **29** 07:39:08.4±4.0, 10°.77S×165°.81E, h66km±36km, mb3.5/3, mb1 3.9/5, mb1mx3.5/44, mbtmp4.0/5, ML4.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/17, Error ellipse: s-maj=38.6km s-min=33.3km az=138.0*

ISC 29 07:39:07.8±1.3, 10°.9S±0°.1×165°.9E±0°.2, h61km, n13, σ1§56/7, mb3.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.98	283		P	Pn	07 40 33.5	-0.2
	20nm,0.3s,baz=346,slow=12,SNR=5.5							
DZM	Mont Dzumac	11.15	177		P	Pn	07 41 46.4	+1.9
	1.3nm,0.3s,baz=333,slow=18,SNR=8.3							
DZM					S	Sn	07 43 45.5	-2.3
	0.2nm,0.3s,baz=288,slow=20,SNR=2.5							
DZM					LR	LR	07 45 12.5	
	comp=Z,62nm,18.9s,baz=18,slow=32							
H11S2	WAKE ISLAND Hy	29.19	2	T	T	T	08 15 28.9	
	baz=181,slow=76,SNR=30							
H11S3	WAKE ISLAND Hy	29.19	2	T	T	T	08 15 28.8	
	baz=181,slow=76,SNR=23							
H11S1	WAKE ISLAND Hy	29.21	2	T	T	T	08 15 29.9	
	baz=181,slow=76,SNR=57							
H11N1	WAKE ISLAND Hy	30.41	2	T	T	T	08 16 59.9	
	baz=182,slow=76,SNR=25							
H11N3	WAKE ISLAND Hy	30.42	2	T	T	T	08 17 00.0	
	baz=182,slow=76,SNR=29							
H11N2	WAKE ISLAND Hy	30.43	2	T	T	T	08 17 01.4	
	baz=182,slow=76,SNR=26							
WRA	Warramunga Arr	31.64	250		P	P	07 45 25.8	+0.4
	0.9nm,0.7s,baz=79,slow=9.1,SNR=4.8							
ASAR	Alice Springs	32.96	243	P	P	P	07 45 37.1	+0.1
	0.7nm,1.0s,baz=62,slow=8.7,SNR=3.0							
TGY	Tagaytay City	50.98	298	LR	LR	LR	08 07 50.3	
	comp=Z,63nm,19.3s,baz=184,slow=34							
ILAR	Eielson Array	83.32	18	P	P	P	07 51 27.5	-0.2
	0.5nm,0.5s,baz=236,slow=5.1,SNR=14							
ARCES	ARCESS Array B	116.19	346	PKP	PKPdf	07 57 42.7	-0.9	
	1.3nm,0.8s,baz=37,slow=2.4,SNR=7.2							

*IDC **29** 07:51:31.8±1.0, 24°.17N×93°.47E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/44, mbtmp3.8/11, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=48.9km s-min=16.7km az=58.0*
*ISCJB **29** 07:51:37.2±0.5, 24°.14N±0°.08×93°.4E±0°.1, h57km, mb4.3/24, MS3.3/1, Error ellipse: s-maj=19.1km s-min=8.6km az=151.3*
*NEIC **29** 07:51:37.1±0.4, 24°.19N×93°.52E, h35km, mb4.7/13, Error ellipse: s-maj=13.5km s-min=6.7km az=60.0*

ISC 29 07:51:39.4±0.8, 24°.2N±0°.1×93°.6E±0°.2, h57km, n33, σ0§94/32, mb4.3/24, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	24.31	341	*e*P	P	P	07 56 50.3	-1.2
MK32	Makanchi Array	24.31	341	*e*P	P	P	07 56 49.6	-1.9
MKAR	Makanchi Array	24.31	341	P	P	P	07 56 49.6	-1.9
	0.9nm,0.5s,baz=134,slow=11,SNR=11							
MKAR	Makanchi Array	24.31	341	*e*P	P	P	07 56 50.4	-1.1
	11nm,0.9s							
MAKZ	Makanchi	24.42	341	*e*P	P	P	07 56 51.4	-1.1
	1.6nm,0.6s							
BJT	Baijiatuau	24.73	45	*e*P	P	P	07 56 53.1	-2.2
	14nm,0.5s							
SONA0	Songino Array	25.73	20	*e*P	P	P	07 57 05.2	+0.7
	5.9nm,1.6s							
SONM	Songino Array	25.73	20	P	P	P	07 57 05.2	+0.7
	0.5nm,0.4s,baz=215,slow=7.0,SNR=2.3							
KURBB	Kurchatov Arra	28.86	340	P	P	P	07 57 32.2	-0.1
	0.2nm,0.4s,baz=157,slow=8.1,SNR=2.0							
KURK	Kurchatov	28.91	340	*e*P	P	P	07 57 32.2	-0.6
ZALV	Zalesovo Beam	30.45	350	P	P	P	07 57 45.8	-0.6
	1.1nm,0.6s,baz=180,slow=9.7,SNR=4.4							
ZAA1	Zalesovo Array	30.45	350	*e*P	P	P	07 57 45.8	-0.6
BVAR	Borovoye Array	33.72	335	P	P	P	07 58 14.7	-0.3
	0.5nm,0.5s,baz=138,slow=8.9,SNR=2.5							
ABKAR	Akbulak array	36.29	322	*e*P	P	P	07 58 37.8	+0.5
	9.8nm,0.6s							
XMIS	Christmas Isla	36.42	160	*e*P	P	P	07 58 38.1	-0.6
	199nm,1.6s							
USRK	Ussuriysk Ar.	37.11	48	LR	LR	LR	08 15 13.7	
	comp=Z,47nm,18.4s,baz=173,slow=38							
YAK	Yakutsk	45.02	23	*e*P	P	P	07 59 48.9	0.0
	27nm,0.5s							
TIXI	Tiksi	51.52	14	*e*P	P	P	08 00 40.6	+1.7
	11nm,1.8s							
AKASG	Malin Array Be	55.53	316	P	P	P	08 01 08.2	-0.4
	0.4nm,0.4s,baz=81,slow=6.9,SNR=3.4							
AKBB	Malin Array Si	55.53	316	*e*P	P	P	08 01 07.9	-0.7
	4.9nm,1.1s							
FIA0	FINESS Array S	58.31	329	*e*P	P	P	08 01 27.8	-0.3
FINES	FINESS Array B	58.31	329	P	P	P	08 01 27.8	-0.3
	2.8nm,1.0s,baz=113,slow=12,SNR=4.3							
WR1	Warramunga Arr	59.17	134	*e*P	P	P	08 01 34.9	+0.2
	16nm,1.6s							
WRA	Warramunga Arr	59.17	134	P	P	P	08 01 34.9	+0.2
	1.6nm,0.7

TUTA	**Tutak**	**0.82**	**339**	P	**Pb**	**08 07 35.8 0.0**
TUTA				S	**Sg**	**08 07 46.5 +0.4**
AGRB	**Hanur-Agry**	**0.95**	**351**	*e*PG	**Pg**	**08 07 36.9 -0.9**
AGRB				*e*SG	**Sb**	**08 07 51.2 +0.5**
AGRB	**Hanur-Agry**	**0.95**	**351**	*e*Pg	**Pg**	**08 07 36.9 -0.9**
AGRB				*e*Sg	**Sb**	**08 07 51.2 +0.5**
HAKT	**HAKKARI**	**1.15**	**159**	*i* P	**Pn**	**08 07 41.7 +0.2**
HAKT	**HAKKARI**	**1.15**	**159**	P	**Pn**	**08 07 41.7 +0.2**
EATA	**Eleskirt**	**1.34**	**336**	*i* P	**Pb**	**08 07 44.5 -0.2**
EATA				*i* S	**Sg**	**08 08 03.2 +0.5**
EATA	**Eleskirt**	**1.34**	**336**	P	**Pb**	**08 07 44.5 -0.2**
EATA				S	**Sg**	**08 08 03.2 +0.5**

*DDA **29** 08:18:25.9, 38°.68N×43°.61E, h7km, Md2.7*
*CSEM **29** 08:18:26.5±0.3, 38°.63N×43°.47E, h10km, ML2.8, Error ellipse: s-maj=8.6km s-min=5.2km az=91.0*
*ISK **29** 08:18:26.1, 38°.67N×43°.41E, h19km, ML2.8*
*ISCJB **29** 08:18:27.1±0.6, 38°.63N±0°.03×43°.58E±0°.05, h13km±4km, Error ellipse: s-maj=7.3km s-min=4.3km az=14.1*
ISC 29 08:18:26.5±1.0,**38°.64N**±0°.02×**43°.52E**±0°.04,**h19**km±2km,
n26,σ0°**86**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**247**	*e*PG	**Pg**	**08 18 30.4**	**0.0**
VANB				*e*SG	**Sg**	**08 18 34.5**	**+1.4**
VANB	**Van**	**0.11**	**247**	*e*Pg	**Pg**	**08 18 30.4**	**0.0**
VANB				*e*Sg	**Sg**	**08 18 34.5**	**+1.4**
TVAN	**Van**	**0.14**	**219**	*i* P	**Pg**	**08 18 30.8**	**-0.1**
TVAN				*i* S	**Sg**	**08 18 34.6**	**+0.8**
TVAN	**Van**	**0.14**	**219**	P	**Pg**	**08 18 30.8**	**-0.1**
TVAN				S	**Sg**	**08 18 34.6**	**+0.8**
VMUR	**Van-Muradiye**	**0.35**	**7**	*i* P	**Pg**	**08 18 33.8**	**-0.3**
VMUR				*i* S	**Sb**	**08 18 41.3**	**+1.6**
VMUR	**Van-Muradiye**	**0.35**	**7**	P	**Pg**	**08 18 33.8**	**-0.3**
VMUR				S	**Sb**	**08 18 41.3**	**+1.6**
GEVA	**Gevas**	**0.48**	**228**	*i* P	**Pb**	**08 18 36.9**	**+0.3**
GEVA				*i* S	**Sn**	**08 18 46.1**	**-0.5**
GEVA	**Gevas**	**0.48**	**228**	P	**Pb**	**08 18 36.8**	**+0.3**
GEVA				S	**Sn**	**08 18 46.1**	**-0.5**
CLDR	**Caldiran**	**0.59**	**32**	*e*PG	**Pg**	**08 18 38.3**	**-0.1**
CLDR				*e*SG	**Sn**	**08 18 48.1**	**-1.4**
CLDR	**Caldiran**	**0.59**	**32**	*e*Pg	**Pg**	**08 18 38.3**	**-0.1**
CLDR				*e*Sg	**Sn**	**08 18 48.1**	**-1.4**
BASK	**Baskale_VAN**	**0.70**	**146**	*i* P	**Pg**	**08 18 40.3**	**0.0**
BASK	**Baskale_VAN**	**0.70**	**146**	P	**Pg**	**08 18 40.3**	**0.0**
TUTA	**Tutak**	**0.94**	**325**	*i* P	**Pb**	**08 18 44.4**	**+0.1**
TUTA				*i* S	**Sg**	**08 18 57.9**	**+0.6**
TUTA	**Tutak**	**0.94**	**325**	P	**Pb**	**08 18 44.4**	**+0.1**
TUTA				S	**Sg**	**08 18 57.9**	**+0.6**
AGRB	**Hanur-Agry**	**1.02**	**337**	*e*PG	**Pb**	**08 18 45.3**	**-0.4**
AGRB				*e*SG	**Sb**	**08 18 59.5**	**+0.6**
AGRB	**Hanur-Agry**	**1.02**	**337**	*e*Pg	**Pb**	**08 18 45.3**	**-0.4**
AGRB				*e*Sg	**Sb**	**08 18 59.5**	**+0.6**
HAKT	**HAKKARI**	**1.09**	**172**	*i* P	**Pn**	**08 18 46.7**	**-0.2**
HAKT	**HAKKARI**	**1.09**	**172**	P	**Pn**	**08 18 46.7**	**-0.2**
CUKT	**Cukurca**	**1.39**	**177**	*e*PN	**Pg**	**08 18 52.6**	**-0.7**
CUKT	**Cukurca**	**1.39**	**177**	*e*Pn	**Pg**	**08 18 52.6**	**-0.7**
EATA	**Eleskirt**	**1.46**	**327**	*i* P	**Pb**	**08 18 53.6**	**+0.3**
EATA				*i* S	**Sg**	**08 19 15.2**	**+1.4**
EATA	**Eleskirt**	**1.46**	**327**	P	**Pb**	**08 18 53.6**	**+0.3**
EATA				S	**Sg**	**08 19 15.2**	**+1.4**
HOMI	**Horasan**	**1.88**	**319**	*i* P	**Pb**	**08 19 00.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.88**	**256**	*e*PN	**Pn**	**08 18 56.3**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.88**	**256**	*e*Pn	**Pn**	**08 18 56.3**	**-1.4**
BNGB	**Bing ¶‖**	**2.24**	**280**	*e*PN	**Pn**	**08 19 01.4**	**-1.3**

*SCB **29** 08:30:54.5±0.5, 14°.56S×76°.67W, h25km, Ml4.4/1, Error ellipse: s-maj=58.5km s-min=9.7km az=9.0*
*IDC **29** 08:31:02.6±0.8, 14°.73S×76°.12W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/33, mbtmp4.4/14, ML3.5/1, MS4.0/18, Ms1 4.0/18, ms1mx3.9/33, Error ellipse: s-maj=26.6km s-min=12.5km az=69.0*
*ISCJB **29** 08:31:05.5±0.3, 14°.83S±0°.04×76°.20W±0°.06, h33km, mb4.7/48, MS4.1/17, Error ellipse: s-maj=9.1km s-min=4.3km az=148.0*
*NEIC **29** 08:31:05.6±2.8, 14°.72S×75°.95W, h18km±17km, mb4.8/40, ML5.2(ARE), Error ellipse: s-maj=10.3km s-min=5.0km az=62.0*
NEIC Felt [II] at Ica.
*BJI **29** 08:31:07.8, 14°.70S×75°.90W, h32km, mB5.3/4, Ms5.1/5, Ms7 5.0/5*
ISC 29 08:31:06.8±0.5,**14°.75S**±0°.06×**75°.99W**±0°.09,**h29**km,**n138**,
σ1°**36**/111,**mb4.9**/47,**MS4.1**/17,**2C-2D**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.87**	**343**	Pn	**Pn**	**08 31 49.3**	**-1.4**
	12nm,0.3s,baz=162,slow=10,SNR=20						
NNA				Pg	**Pb**	**08 31 55.2**	**-2.1**
	92nm,0.3s,baz=116,slow=11,SNR=44						
NNA				LR	LR	08 32 27.9	
	comp=Z,351nm,20.0s,baz=65,slow=30						
NNA				Lg	Lg	08 32 31.8	
	241nm,0.3s,baz=194,slow=11,SNR=7.8						
BBOD	**La Paz, Gloria**	**7.36**	**106**	*e*Pn	Pn	08 32 58.0	+5.1
BBOB	**La Paz, Bander**	**7.70**	**101**	*e*Pn	Pn	08 33 02.2	+4.7
BBOB				*e*Sn	Sn	08 34 35.2	+11
	64nm,0.7s						
LPAZ	**La Paz**	**7.73**	**102**	Pn	Pn	08 33 02.9	+4.9
	17nm,0.3s,baz=282,slow=8.3,SNR=173						
LPAZ				LR	LR	08 36 33.1	
	comp=Z,1μm,20.8s,baz=280,slow=42						
LPAZ	**La Paz**	**7.73**	**102**	*e*Pn	Pn	08 33 02.9	+4.9
LPAZ				*e*Sn	Sn	08 34 36.2	+11
LPAZ	**La Paz**	**7.73**	**102**	*e*Pn	Pn	08 33 02.6	+4.6
BBOJ	**La Paz, Jacaqu**	**7.82**	**107**	*e*Pn	Pn	08 33 03.9	+4.7
ATAH	**Atahualpa**	**7.93**	**342**	Pn	Pn	08 33 05.2	+4.6
	2.3nm,0.3s,baz=175,slow=3.8,SNR=11						
ATAH				LR	LR	08 35 48.7	
	comp=Z,414nm,20.1s,baz=188,slow=36						
BBOE	**La Paz, Chanca**	**7.98**	**106**	*e*Pn	Pn	08 33 06.2	+4.8
PB01	**IPOC Station P**	**8.80**	**136**	*e*Pn	**Pn**	**08 33 12.4**	**+0.1**
PB04	**IPOC Station P**	**9.36**	**145**	*e*Pn	**Pn**	**08 33 19.5**	**-0.5**
PB10	**IPOC Station P**	**10.12**	**150**	*e*Pn	**Pn**	**08 33 28.9**	**-1.3**
LVC	**Limon Verde**	**10.30**	**140**	Pn	**Pn**	**08 33 34.5**	**+1.5**
	174nm,0.3s,baz=308,slow=10,SNR=36						
LVC				Sn	**Sn**	**08 35 27.0**	**-0.8**
	125nm,0.3s,baz=76,slow=16,SNR=3.8						
LVC				Lg	Lg	08 36 29.7	
	80nm,0.3s,baz=286,slow=21,SNR=10						
LVC	**Limon Verde**	**10.30**	**140**	*e*Pn	**Pn**	**08 33 33.9**	**+0.9**
LVC				Sn	**Sn**	**08 35 27.0**	**-0.8**
LVC				Lg	Lg	08 36 29.7	
SAML	**Samuel**	**13.79**	**67**	*e*Pn	**Pn**	**08 34 19.6**	**-0.9**
SIV	**San Ignacio**	**14.44**	**97**	Pn	**Pn**	**08 34 26.6**	**-2.8**
	0.7nm,0.3s,baz=281,slow=14,SNR=12						
SIV				LR	LR	08 40 36.0	
	comp=Z,2μm,18.3s,baz=287,slow=39						
OTAV	**Otavalo**	**15.09**	**351**	*e*Pn	**Pn**	**08 34 39.7**	**+1.1**
	14nm,0.9s						
CMBC	**Cumbal**	**15.70**	**353**	*e*P	**P**	**08 34 51.8**	**+1.5**
CRUC	**La Cruz**	**16.24**	**357**	*e*P	**P**	**08 34 57.4**	**+1.1**
BETC	**Betania**	**17.33**	**2**	*e*P	**P**	**08 35 11.4**	**+3.4**
GUVC	**San Jose del G**	**17.50**	**11**	*e*P	**P**	**08 35 13.3**	**+3.4**
VILC	**Villavicencio,**	**18.88**	**7**	*e*P	**Pn**	**08 35 28.7**	**+2.8**
ROSC	**El Rosal**	**19.53**	**5**	P	**Pn**	**08 35 36.1**	**+2.1**
	baz=233,slow=20,SNR=2.2						
GUYC	**Guyana, Colomb**	**19.85**	**2**	*e*P	**Pn**	**08 35 37.1**	**-0.7**
NORC	**Norcasia**	**20.21**	**3**	*e*P	Pn	08 35 40.4	-1.3
YOPC	**Yopal, Colombi**	**20.29**	**10**	*e*P	Pn	08 35 41.8	-0.8
GO05	**HualaæØ**	**20.50**	**170**	*e*P	Pn	08 35 46.1	+1.2
	33nm,1.2s						
RUSC	**La Rusia**	**20.71**	**8**	*e*P	Pn	08 35 46.5	-1.5
RUSC	**La Rusia**	**20.71**	**8**	*e*P	Pn	08 35 47.4	-0.5
	21nm,1.0s						
HELC	**Santa Helena**	**20.81**	**1**	*e*P	Pn	08 35 49.3	+0.3
HELC	**Santa Helena**	**20.81**	**1**	*e*P	Pn	08 35 48.5	-0.5
	24nm,0.8s						
CPUP	**Villa Florida**	**20.90**	**126**	P	**P**	**08 35 47.9**	**+0.9**
	18nm,1.0s,baz=306,slow=8.7,SNR=15						
CPUP				LR	LR	08 45 15.3	
	comp=Z,291nm,21.2s,baz=292,slow=41						
PTGA	**Pitinga**	**21.09**	**50**	P	**P**	**08 35 49.2**	**+0.1**
	26nm,0.9s,baz=219,slow=12,SNR=33						
PTGA				S	Sn	08 39 52.7	+2.9
	4.1nm,0.8s,baz=314,slow=15,SNR=2.7						
PTGA				Lg	Lg	08 42 08.5	
	5.7nm,0.7s,baz=158,slow=22,SNR=4.3						
PTGA				LR	LR	08 43 57.2	
	comp=Z,463nm,18.1s,baz=233,slow=37						
PTGA	**Pitinga**	**21.09**	**50**	*e*P	**P**	**08 35 49.1**	**-0.1**
	124nm,1.6s						
PTGA				S	Sn	08 39 52.7	+2.9
PTGA				Lg	Lg	08 42 08.5	
BARC	**Barichara**	**21.39**	**8‖**	*e*P	**P**	**08 35 54.4**	**+1.9**
BRRC	**Barranca, Sant**	**21.83**	**6‖**	*e*P	**P**	**08 35 57.2**	**+0.2**
ZARC	**Zaragoza, Cauc**	**22.13**	**3**	*e*P	**P**	**08 35 59.5**	**-0.7**
PAMC	**Pamplona, Colo**	**22.19**	**9**	*e*P	**P**	**08 36 03.3**	**+1.9**
OCAC	**Ocana**	**22.99**	**7**	*e*P	**P**	**08 36 08.0**	**-1.6**
MOTC	**Monteria, Cord**	**23.38**	**1**	*e*P	**P**	**08 36 13.1**	**-0.2**
BCIP	**Isla Barro Col**	**24.07**	**351**	*e*P	**P**	**08 36 20.7**	**+0.9**
	62nm,1.5s						
SDV	**Santo Domingo**	**24.08**	**13**	P	**P**	**08 36 20.4**	**+0.3**
	20nm,0.7s,baz=190,slow=8.9,SNR=18						
SJCC	**San Jacinto, C**	**24.50**	**2**	*e*P	**P**	**08 36 24.3**	**+0.5**
PLCA	**Paso Flores**	**26.32**	**171**	P	**P**	**08 36 40.5**	**+0.3**
	1.4nm,0.6s,baz=12,slow=11,SNR=4.5						
PLCA	**Paso Flores**	**26.32**	**171**	*e*P	**P**	**08 36 40.7**	**+0.5**
	43nm,1.8s						
TRQA	**Tornquist**	**26.32**	**154**	*e*P	**P**	**08 36 40.0**	**-0.2**
	38nm,1.8s						
BDFB	**Brasilia**	**27.01**	**96**	P	**P**	**08 36 45.4**	**-1.3**
	8.3nm,1.0s,baz=58,slow=8.5,SNR=7.8						
BDFB				LR	LR	08 48 44.0	
	comp=Z,872nm,18.1s,baz=64,slow=39						
BDFB	**Brasilia**	**27.01**	**96**	*e*P	**P**	**08 36 46.4**	**-0.3**
	17nm,1.0s						
PCRV	**Puerto La Cruz**	**27.20**	**25**	P	**P**	**08 36 49.8**	**+1.5**
	7.6nm,0.8s,baz=170,slow=18,SNR=2.6						
PCRV				LR	LR	08 48 42.5	
	comp=Z,449nm,19.0s,baz=192,slow=39						
RPN	**Rapa Nui**	**33.38**	**243**	LR	LR	08 47 23.5	
	comp=Z,330nm,19.4s,baz=60,slow=30						
SABA	**Saba**	**34.53**	**22**	*e*P	**P**	**08 37 51.2**	**-1.7**
	194nm,1.3s						
SMRT	**St. Maarten**	**34.99**	**22**	*e*P	**P**	**08 37 55.2**	**-1.6**
RCBR	**Riachuelo**	**40.37**	**82**	*e*P	**P**	**08 38 41.9**	**-0.6**
	33nm,1.1s						
835A	**Beeville**	**47.72**	**334**	*e*P	**P**	**08 39 40.5**	**-0.7**
	91nm,1.8s						
WHTX	**Lake Whitney,**	**50.83**	**336**	*e*P	**P**	**08 40 04.5**	**-0.4**
	15nm,1.4s						
WLAR	**White Oak Lake**	**50.86**	**342**	*e*P	**P**	**08 40 05.1**	**0.0**
	37nm,1.0s						
TX31	**Lajitas Ar. Si**	**51.33**	**329**	*e*P	**P**	**08 40 09.2**	**+0.3**
TXAR	**Lajitas Array**	**51.33**	**329**	P	**P**	**08 40 08.5**	**-0.3**
	1.0nm,0.8s,baz=156,slow=9.7,SNR=11						
MIAR	**Mount Ida**	**51.80**	**341**	*e*P	**P**	**08 40 12.1**	**+0.1**
	35nm,1.9s						
X301	**Greenbrier Sit**	**52.09**	**343**	*e*P	**P**	**08 40 13.7**	**-0.6**
	40nm,2.0s						
WHAR	**Wooly Hollow**	**52.11**	**343**	*e*P	**P**	**08 40 13.8**	**-0.6**
	35nm,1.7s						
ABTX	**Abilene, Hawle**	**52.26**	**335**	*e*P	**P**	**08 40 15.2**	**-0.5**
	21nm,1.4s						
IP06	**Yanceyville**	**52.44**	**358**	*e*P	**P**	**08 40 16.9**	**+0.1**
	32nm,1.4s						
SPFD	**Spotsylvania F**	**52.62**	**358**	*e*P	**P**	**08 40 18.6**	**+0.4**
	55nm,1.8s						
WCI	**Wyandotte Cave**	**53.58**	**350**	*e*P	**P**	**08 40 24.3**	**-1.0**
	10nm,0.8s						
TUL1	**Leonard**	**53.76**	**340**	*e*P	**P**	**08 40 26.5**	**-0.1**
	12nm,0.8s						
RKT	**Rikitea**	**56.10**	**252**	*e*T	T	09 40 59.3	
	10nm,0.2s						
ANMO	**Albuquerque**	**57.27**	**330**	*e*P	**P**	**08 40 52.6**	**+0.5**
	2.9nm,1.0s						
W18A	**Petrified Fore**	**59.03**	**328**	*e*P	**P**	**08 41 04.7**	**+0.2**
	27nm,0.8s						
SDCO	**Great Sand Dun**	**59.12**	**333**	*e*P	**P**	**08 41 05.2**	**0.0**
	18nm,1.9s						
FRNY	**Flat Rock**	**59.34**	**2**	*e*P	**P**	**08 41 06.0**	**-0.1**
	28nm,1.5s						
X16A	**Lo Mia Camp, P**	**59.39**	**326**	*e*P	**P**	**08 41 08.2**	**+1.3**
	2.8nm,1.1s						
PFO	**Pinyon Flats O**	**61.65**	**322**	LR	LR	09 06 07.3	
	comp=Z,66nm,18.6s,baz=130,slow=34						
KNB	**Kanab**	**62.09**	**327**	*e*P	**P**	**08 41 26.7**	**+1.5**
	3.8nm,0.9s						
SRU	**San Rafael Swe**	**62.54**	**330**	*e*P	**P**	**08 41 28.9**	**+0.7**
	5.0nm,1.1s						
SRU				*e*S	**S**	**08 49 54.8**	**+0.5**
CCUT	**Cedar City**	**62.77**	**327**	*e*P	**P**	**08 41 29.9**	**0.0**
	3.0nm,1.1s						
TAOE	**Nuku Hiva Isla**	**62.91**	**267**	*e*LR	LR	09 00 15.4	
	316nm,25.8s						
TAOE	**Nuku Hiva Isla**	**62.91**	**267**	*e*T	T	09 49 27.6	
	18nm,0.2s						
K22A	**Casper**	**63.64**	**335**	*e*P	**P**	**08 41 36.2**	**+0.8**
	7.7nm,1.1s						
DUG	**Dugway, Tooele**	**64.50**	**329**	*e*P	**P**	**08 41 41.8**	**+0.7**
	4.9nm,0.8s						
PDAR	**Pinedale Array**	**65.01**	**333**	P	**P**	**08 41 43.8**	**-0.8**
	0.7nm,0.9s,baz=131,slow=6.7,SNR=4.6						
PDAR				LR	LR	09 09 59.9	
	comp=Z,50nm,19.8s,baz=126,slow=36						
AGMN	**Agassiz Nation**	**65.22**	**346**	*e*P	**P**	**08 41 44.9**	**-0.6**
	38nm,1.9s						
HVU	**Hansel Valley**	**65.70**	**331**	*e*P	**P**	**08 41 49.3**	**+0.4**
	4.0nm,0.8s						
FXWY	**Fox Creek**	**66.35**	**333**	*e*P	**P**	**08 41 53.6**	**+0.4**
	3.8nm,1.0s						
ULM	**Lac du Bonnet**	**67.04**	**346**	P	**P**	**08 41 56.0**	**-1.1**
	5.9nm,0.9s,baz=158,slow=8.7,SNR=8.4						
ULM	**Lac du Bonnet**	**67.04**	**346**	*e*P	**P**	**08 41 56.0**	**-1.1**
	24nm,1.7s						
MFID	**Camas Ranch**	**68.40**	**330**	*e*P	**P**	**08 42 06.4**	**+0.4**
	20nm,1.8s						
VNA3	**Neumayer Olymp**	**68.59**	**161**	P	**P**	**08 42 07.7**	**+1.0**
VNA1	**Neumayer--Stat**	**68.85**	**161**	P	**P**	**08 42 09.8**	**+1.5**
WVOR	**Wild Horse Val**	**69.10**	**328**	*e*P	**P**	**08 42 10.2**	**-0.2**
	13nm,1.8s						
VNA2	**Neumayer--Watz**	**69.21**	**161**	P	**P**	**08 42 10.8**	**+0.3**
	baz=296,slow=5.0						
TBI	**Tubuai**	**69.35**	**250**	*e*LR	LR	09 03 15.0	
	165nm,27.2s						
TBI	**Tubuai**	**69.35**	**250**	*e*T	T	09 57 39.4	
	17nm,0.2s						
TIAR	**Tiarei**	**70.11**	**256**	*e*T	T	09 58 35.8	
	4.4nm,0.2s						
PPT2	**Papeete2**	**70.32**	**256**	*e*LR	LR	09 03 47.7	
	106nm,24.5s						
PPT	**Papeete**	**70.33**	**256**	LR	LR	09 05 29.4	
	comp=Z,90nm,18.6s,baz=96,slow=29						
SNAA	**Sanae**	**70.81**	**161**	P	**P**	**08 42 21.2**	**+0.8**
SNAA	**Sanae**	**70.81**	**161**	*e*P	**P**	**08 42 21.6**	**+1.2**
	8.8nm,1.0s						
LIC	**Lamto**	**73.35**	**79**	*e*PKP1	**P**	**08 42 38.4**	**+1.8**
	66nm,2.0s						
TIC	**Toumodi**	**73.48**	**78**	*e*PKP1	**P**	**08 42 39.5**	**+2.1**
DBIC	**Dimbokro**	**73.65**	**78**	P	**P**	**08 42 38.8**	**+0.5**
	4.6nm,0.9s,baz=211,slow=5.2,SNR=5.1						
DBIC				LR	LR	09 13 44.7	
	comp=Z,283nm,19.3s,baz=236,slow=35						
KIC	**Kosan Boka**	**73.66**	**79**	*e*PKP1	**P**	**08 42 38.8**	**+0.4**
	26nm,1.0s						
TOA0	**Torodi Ar. Sit**	**81.73**	**74**	*e*P	**P**	**08 43 24.3**	**+1.0**
	18nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.73**	**74**	P	**P**	**08 43 24.3**	**+0.9**
	14nm,0.8s,baz=260,slow=4.2,SNR=51						
TORD				LR	LR	09 17 18.8	
	comp=Z,209nm,21.3s,baz=250,slow=34						
VNDA	**Vanda**	**82.25**	**191**	LR	LR	09 14 50.5	
	comp=Z,62nm,18.0s,baz=136,slow=32						
SYO	**Syowa Base**	**85.10**	**161‖**	*e*P	**P**	**08 43 38.6**	**-1.0**
SYO	**Syowa Base**	**85.10**	**161‖**	*e*pP	pP	08 43 44.6	-4.4
ESDC	**Sonseca Array**	**86.01**	**47**	P	**P**	**08 43 46.2**	**+1.4**
	0.1nm,0.3s,baz=240,slow=5.0,SNR=4.4						
AFI	**Afiamalu**	**91.97**	**255**	LR	LR	09 16 10.6	
	comp=Z,70nm,21.2s,baz=272,slow=30						
EKA	**Eskdalemuir Ar**	**92.55**	**33**	P	**P**	**08 44 14.8**	**-0.4**
	1.5nm,0.7s,baz=235,slow=2.1,SNR=3.0						
BOSA	**Boshof**	**92.60**	**120**	LR	LR	09 24 48.3	
	comp=Z,87nm,18.5s,baz=212,slow=35						
MAW	**Mawson**	**92.61**	**165**	P	**P**	**08 44 16.5**	**+1.1**
	1.4nm,0.7s,baz=219,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	**95.33**	**336**	LR	LR	09 28 55.8	
	comp=Z,30nm,20.0s,baz=106,slow=36						
CLL	**Collm**	**100.73**	**40**	*e*P	**Pdif**	**08 44 53.0**	**+0.6**
GERES	**GERESS Array B**	**100.75**	**42**	P	**Pdif**	**08 44 53.5**	**+0.8**
	0.2nm,0.3s,baz=273,slow=3.8,SNR=3.7						
H11N3	**WAKE ISLAND Hyl**	**20.00**	**284**	T	T	11 01 03.7	
	baz=96,slow=74,SNR=508						
H11N2	**WAKE ISLAND Hyl**	**20.02**	**284**	T	T	11 01 04.6	
	baz=96,slow=74,SNR=787						
H11N1	**WAKE ISLAND Hyl**	**20.04**	**284**	T	T	11 01 03.3	
	baz=96,slow=74,SNR=329						
H11S2	**WAKE ISLAND Hyl**	**20.06**	**283**	T	T	11 01 07.3	
	baz=97,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hyl**	**20.07**	**283**	T	T	11 01 04.5	
	baz=97,slow=75,SNR=59						
H11S3	**WAKE ISLAND Hyl**	**20.08**	**283**	T	T	11 01 05.7	
	baz=97,slow=75,SNR=76						
ABKAR	**Akbulak array**	**130.28**	**37**	*e*PKPdf	**PKPdf**	**08 50 13.9**	**-0.4**
ASAR	**Alice Springs**	**131.92**	**218**	PKP	**PKPdf**	**08 50 18.9**	**+0.6**
	0.6nm,0.9s,baz=128,slow=1.5,SNR=4.0						
WB2	**Warramunga Arr**	**134.40**	**222**	*e*PKPdf	**PKPdf**	**08 50 26.3**	**+3.2**
WRA	**Warramunga Arr**	**134.41**	**222**	PKP	**PKPdf**	**08 50 23.0**	**0.0**
	0.6nm,0.7s,baz=162,slow=1.7,SNR=4.7						
ZAA0	**Zalesovo Array**	**138.09**	**17**	*e*PKPdf	**PKPdf**	**08 50 30.1**	**+1.3**
ZALV	**Zalesovo Beam**	**138.09**	**17**	PKP	**PKPdf**	**08 50 29.6**	**+0.8**
	3.2nm,0.9s,baz=270,slow=1.5,SNR=9.0						
MKAR	**Makanchi Array**	**143.26**	**25**	PKhKP	PKPpre	08 50 36.0	
	0.9nm,1.0s,baz=5.7,slow=1.4,SNR=3.3						
MKAR				PKP	**PKPdf**	**08 50 39.0**	**+0.6**
	0.4nm,0.6s,baz=216,slow=1.2,SNR=3.5						
KSH	**Kashi**	**145.17**	**40**	*e*PKPbc	**PKPdf**	**08 50 43.0**	**+0.9**
KSH				pPKP	sPKPab	08 50 53.0	-1.5
KSH				sPKP		08 50 57.0	
KSH				PP	**PP**	**08 54 05.3**	**+4.6**
KSH				PKS	**PKSdf**	**08 54 17.0**	**-0.7**
KSH				SKS	**SKSdf**	**08 57 47.5**	**-2.1**
KSH				SKKS	**SKKSac**	**09 00 50.0**	**-1.7**
KSH				SS	**SS**	**09 12 49.5**	**0.0**
KSH				AMB	AMB		
	comp=Z,99nm,7.6s						
KSH				LR	LR		
	comp=N,79nm,10.0s						
KSH				LR	LR		
	comp=E,64nm,12.0s						
KSH				LR	LR		
	comp=Z,100nm,7.9s						
ULN	**Ulaanbaatar**	**146.88**	**356**	*e*PKPdf	**PKPbc**	**08 50 46.0**	**-0.6**
SONM	**Songino Array**	**146.95**	**357**	PKPbc	**PKPbc**	**08 50 46.7**	**-0.1**
	3.3nm,0.7s,baz=336,slow=2.6,SNR=16						
WMQ	**Urumqi**	**147.85**	**22**	PKPbc	**PKPdf**	**08 50 45.8**	**-0.6**
WMQ				LR	LR		
	comp=N,68nm,21.9s						
WMQ				LR	LR		
	comp=E,37nm,25.1s						
WMQ				LR	LR		
	comp=Z,36nm,18.9s						
BJI	**Beijing**	**152.65**	**339**	PKPbc	**PKPdf**	**08 50 54.8**	**+0.9**
BJI				LR	LR		
	comp=Z,39nm,25.6s						
HHC	**Hu-ho-hao-te**	**153.18**	**347**	*e*PKPbc	**PKPdf**	**08 50 53.5**	**-1.4**
GTA	**Gaotai**	**155.16**	**8**	*e*PKPdf	**PKPdf**	**08 50 52.5**	**-5.2**
GTA				pPKP	pPKPdf	08 51 02.8	-4.6
GTA				sPKP		08 51 06.8	
NJ2	**Nanjing**	**158.09**	**324**	*e*PKP	**PKPdf**	**08 51 01.5**	**0.0**
LZH	**Lanzhou**	**158.75**	**0**	PKP	**PKPdf**	**08 50 59.8**	**-2.7**
LZH				pPKP	pPKPdf	08 51 10.0	-2.1
LZH				sPKP		08 51 15.5	
CD2	**Chengdu**	**163.91**	**1**	PKP	**PKPdf**	**08 51 07.0**	**-0.9**

*CSEM **29** 08:33:27.6±0.1, 38°.74N×43°.23E, h20km, ML3.0, Error ellipse: s-maj=3.9km s-min=3.1km az=101.0*
*DDA **29** 08:33:27.6, 38°.75N×43°.20E, h7km, Ml3.5*
*ISK **29** 08:33:27.2, 38°.74N×43°.19E, h19km, ML3.0*
*ISCJB **29** 08:33:28.5±0.4, 38°.73N±0°.02×43°.21E±0°.04, h18km±9km, Error ellipse: s-maj=5.6km s-min=4.1km az=10.0*
ISC 29 08:33:28.2±1.0,**38°.73N**±0°.02×**43°.23E**±0°.03,**h24**km±7km,
n37,σ0°**78**/52,**Turkey**

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

EATA	**Eleskirt**	**1.30 338**	*i* P	**Pn**	**08 35 50.4**	**+0.5**
EATA			*i* S	**Sg**	**08 36 08.2**	**-0.5**
EATA	**Eleskirt**	**1.30 338**	P	**Pn**	**08 35 50.4**	**+0.5**
EATA			S	**Sg**	**08 36 08.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.59 252**	*e*PN	**Pn**	**08 35 53.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.59 252**	*e*Pn	**Pn**	**08 35 53.5**	**-0.2**

IDC 29 08:45:04.0±2.1, 46°.03N×27°.64W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.3/40, mbtmp3.5/3, ML4.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/42, Error ellipse: s-maj=131.6km s-min=30.4km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.45**	**102**	P	Pn	08 49 21.0	-0.1
	0.3nm,0.3s,baz=298,slow=13,SNR=6.0						
MDT	**Midelt**	**22.05**	**119**	LR	LR	08 56 41.0	
	comp=Z,68nm,18.4s,baz=346,slow=32						
SFJD	**Kangerlussuaq**	**24.25**	**338**	LR	LR	08 57 32.0	
	comp=Z,57nm,21.9s,baz=106,slow=31						
GERES	**GERESS Array B**	**27.86**	**69**	LR	LR	09 00 51.3	
	comp=Z,80nm,19.7s,baz=282,slow=34						
TORD	**Torodi Ar. Bea**	**41.09**	**133**	P	P	08 52 49.3	-0.1
	0.6nm,0.7s,baz=328,slow=6.6,SNR=5.0						
H10S1	**ASCENSION HYDR**	**55.95**	**164**	T	T	09 55 06.4	
	baz=353						
H10S3	**ASCENSION HYDR**	**55.96**	**164**	T	T	09 55 08.3	
	baz=353						
H10S2	**ASCENSION HYDR**	**55.97**	**164**	T	T	09 55 10.4	
	baz=353						
TXAR	**Lajitas Array**	**60.23**	**283**	P	P	08 55 13.9	-0.1
	0.6nm,1.1s,baz=50,slow=6.0,SNR=3.4						
KDAK	**Kodiak Island**	**66.92**	**331**	LR	LR	09 25 31.0	
	comp=Z,46nm,18.9s,baz=147,slow=36						
LPIG	**La Paz**	**68.12**	**282**	LR	LR	09 25 44.3	
	comp=Z,42nm,19.1s,baz=48,slow=36						
MJAR	**Matsushiro Arr**	**96.82**	**11**	LR	LR	09 42 55.9	
	comp=Z,36nm,18.2s,baz=75,slow=36						

IDC 29 08:50:59.4±2.5, 55°.41N×82°.97E, h0km, mb1 2.8/2, mb1mx2.8/42, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.2km s-min=11.8km az=24.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**143**	*i*		09 02 42.4	
	baz=326,slow=334,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.82**	**143**	Pg	Pb	08 51 32.8	-0.6
	0.6nm,0.3s,baz=325,slow=17,SNR=11						
ZALV				Lg	Lg	08 51 57.2	
	1.8nm,0.3s,baz=322,slow=25,SNR=19						
ZALV				Rg	Rg	08 52 07.2	
	3.9nm,0.5s,baz=333,slow=22,SNR=5.8						
ZALV				*i*		09 02 44.2	
	3.0nm,0.3s,baz=283,slow=8.7,SNR=26						
BVAR	**Borovoye Array**	**7.75**	**257**	Pn	Pn	08 52 52.9	-0.5
	0.1nm,0.3s,baz=59,slow=14,SNR=4.0						
BVAR				Sn	Sn	08 54 18.4	-3.4
	0.3nm,0.3s,baz=58,slow=27,SNR=3.8						
MKAR	**Makanchi Array**	**8.64**	**183**	Pn	Pn	08 53 04.9	-0.7
	0.0nm,0.3s,baz=12,slow=15,SNR=1.7						
MKAR				Lg	Lg	08 55 33.5	
	0.1nm,0.3s,baz=9.7,slow=28,SNR=3.6						

*CSEM **29** 08:58:50.5±0.4, 38°.65N×43°.57E, h30km, ML2.3, Error ellipse: s-maj=14.7km s-min=7.2km az=114.0*
*ISK **29** 08:58:50.6, 38°.63N×43°.56E, h29km, ML2.3*
*ISCJB **29** 08:58:51.7±1.0, 38°.68N±0°.05×43°.5E±0°.1, h26km±6km, Error ellipse: s-maj=14.1km s-min=6.0km az=23.4*
*DDA **29** 08:58:52.1, 38°.72N×43°.43E, h7km, Ml3.0*
ISC 29 08:58:51.0±1.1, 38°.69N±0°.04×43°.55E±0°.06, h26km±7km, n15, σ0s72/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**234**	PG	**Pn**	**08 58 56.9**	**-0.9**
VANB				*e*SG	**Sb**	**08 59 01.4**	**+1.3**
VANB	**Van**	**0.15**	**234**	*i* Pg	**Pn**	**08 58 56.9**	**-0.9**
VANB				*e*Sg	**Sb**	**08 59 01.4**	**+1.3**
TVAN	**Van**	**0.19**	**215**	*i* P	**Pb**	**08 58 56.8**	**-0.1**
TVAN				*i* S	**Sb**	**08 59 01.2**	**+0.3**
TVAN	**Van**	**0.19**	**215**	P	**Pb**	**08 58 56.8**	**-0.1**
TVAN				S	**Sb**	**08 59 01.2**	**+0.3**
VMUR	**Van-Muradiye**	**0.30**	**4**	*i* P	**Pb**	**08 58 57.7**	**-0.6**
VMUR				*i* S	**Sb**	**08 59 02.6**	**-0.8**
VMUR	**Van-Muradiye**	**0.30**	**4**	P	**Pb**	**08 58 57.7**	**-0.6**
VMUR				S	**Sb**	**08 59 02.6**	**-0.8**
GEVA	**Gevas**	**0.54**	**226**	*i* P	**Pb**	**08 59 01.7**	**-0.2**
GEVA	**Gevas**	**0.54**	**226**	P	**Pb**	**08 59 01.7**	**-0.2**
CLDR	**Caldiran**	**0.54**	**32**	*e*PG	**Pn**	**08 59 02.8**	**-0.4**
CLDR				*e*SG	**Sn**	**08 59 12.3**	**+0.7**
CLDR	**Caldiran**	**0.54**	**32**	*i* P	**Pn**	**08 59 03.0**	**-0.2**
CLDR				*i* S	**Sn**	**08 59 12.4**	**+0.8**
CLDR	**Caldiran**	**0.54**	**32**	*e*Pg	**Pn**	**08 59 02.8**	**-0.4**
CLDR				S	**Sn**	**08 59 12.4**	**+0.8**
TUTA	**Tutak**	**0.92**	**322**	*i* P	**Pn**	**08 59 07.9**	**-0.5**
TUTA				*i* S	**Sn**	**08 59 20.7**	**-0.1**
TUTA	**Tutak**	**0.92**	**322**	P	**Pn**	**08 59 07.9**	**-0.5**
TUTA				S	**Sn**	**08 59 20.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.99**	**334**	*e*PG	**Pb**	**08 59 09.7**	**+0.1**
AGRB				*e*SG	**Sb**	**08 59 23.4**	**+1.1**
AGRB	**Hanur-Agry**	**0.99**	**334**	*e*Pg	**Pb**	**08 59 09.7**	**+0.1**
AGRB				*e*Sg	**Sb**	**08 59 23.4**	**+1.1**

*AZER **29** 09:08:38.9±1.0, 38°.30N×42°.93E, h10km, Error ellipse: s-maj=11.1km s-min=4.4km az=62.0*
*DDA **29** 09:08:45.8, 38°.74N×43°.60E, h15km, Ml4.0*
*TEH **29** 09:08:45.8, 39°.17N×43°.43E, h18km, ML3.8*
*ISK **29** 09:08:45.3, 38°.74N×43°.69E, h11km, ML3.6*
*CSEM **29** 09:08:46.3±0.2, 38°.72N×43°.58E, h2km, ML4.0, Error ellipse: s-maj=4.3km s-min=3.4km az=162.0*
ISC 29 09:08:46.9±0.8, 38°.72N±0°.02×43°.61E±0°.02, h15km±6km, n108, σ1s62/143, 11C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**233**	PG	**Pg**	**09 08 52.0**	**+0.1**
VANB				*e*SG	**Sg**	**09 08 57.8**	**+2.6**
VANB	**Van**	**0.21**	**233**	*i* Pg	**Pg**	**09 08 52.0**	**+0.1**
TVAN	**Van**	**0.25**	**219**	⇓*i*P	**Pg**	**09 08 51.9**	**-0.6**
TVAN				*i* S	**Sb**	**09 08 56.6**	**-0.8**
TVAN	**Van**	**0.25**	**219**	P	**Pg**	**09 08 51.9**	**-0.6**
TVAN				S	**Sb**	**09 08 56.6**	**-0.8**
VMUR	**Van-Muradiye**	**0.27**	**354**	⇓*i*P	**Pg**	**09 08 51.2**	**-1.6**
VMUR				*i* S	**Sg**	**09 08 56.1**	**-0.7**
VMUR	**Van-Muradiye**	**0.27**	**354**	P	**Pg**	**09 08 51.2**	**-1.6**
VMUR				S	**Sg**	**09 08 56.1**	**-0.7**
ERCV	**ERCIS-VAN**	**0.36**	**325**	PG	**Pg**	**09 08 53.0**	**-1.4**
ERCV				*e*SG	**Sg**	**09 09 00.2**	**+0.6**
ERCV	**ERCIS-VAN**	**0.36**	**325**	*i* Pg	**Pg**	**09 08 53.0**	**-1.4**
ERCV				*e*Sg	**Sg**	**09 09 00.2**	**+0.6**
CLDR	**Caldiran**	**0.48**	**30**	PG	**Pg**	**09 08 55.1**	**-1.5**
CLDR	**Caldiran**	**0.48**	**30**	⇑*i*P	**Pg**	**09 08 55.1**	**-1.5**
CLDR				*i* S	**Sg**	**09 09 03.0**	**-0.2**
CLDR	**Caldiran**	**0.48**	**30**	P	**Pg**	**09 08 55.1**	**-1.5**
CLDR				S	**Sg**	**09 09 03.0**	**-0.2**
GEVA	**Gevas**	**0.59**	**227**	⇓*i*P	**Pg**	**09 08 57.4**	**-1.2**
GEVA				*i* S	**Sg**	**09 09 06.5**	**-0.1**
GEVA	**Gevas**	**0.59**	**227**	P	**Pg**	**09 08 57.4**	**-1.2**
GEVA				S	**Sg**	**09 09 06.5**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.69**	**277**	*i* P	**Pg**	**09 08 59.2**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.69**	**277**	P	**Pg**	**09 08 59.2**	**-1.3**
DYDN	**Diyadin**	**0.82**	**4**	*i* P	**Pg**	**09 09 01.2**	**-1.7**
DYDN				*i* S	**Sg**	**09 09 12.8**	**-1.0**
DYDN	**Diyadin**	**0.82**	**4**	P	**Pg**	**09 09 01.2**	**-1.7**
DYDN				S	**Sg**	**09 09 12.8**	**-1.0**
TUTA	**Tutak**	**0.92**	**318**	⇓*i*P	**Pg**	**09 09 02.3**	**-2.4**
TUTA				*i* S	**Sg**	**09 09 16.3**	**-0.5**
TUTA	**Tutak**	**0.92**	**318**	P	**Pg**	**09 09 02.3**	**-2.4**
TUTA				S	**Sg**	**09 09 16.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.98**	**331**	*e*PG	**Pg**	**09 09 04.0**	**-1.8**
AGRB	**Hanur-Agry**	**0.98**	**331**	*e*Pg	**Pg**	**09 09 04.0**	**-1.8**
TATV	**Tatvan**	**1.07**	**259**	*i* P	**Pg**	**09 09 05.3**	**-2.3**
TATV				*i* S	**Sg**	**09 09 20.9**	**-0.8**
TATV	**Tatvan**	**1.07**	**259**	P	**Pg**	**09 09 05.3**	**-2.3**
TATV				S	**Sg**	**09 09 20.9**	**-0.8**
HAKT	**HAKKARI**	**1.17**	**176**	⇓*i*P	**Pg**	**09 09 07.4**	**-2.0**
HAKT				*i* S	**Sn**	**09 09 27.7**	**+3.1**
HAKT	**HAKKARI**	**1.17**	**176**	P	**Pg**	**09 09 07.4**	**-2.0**
EKAR	**Karacoban**	**1.31**	**294**	*i* P	**Pg**	**09 09 12.2**	**0.0**
EKAR				*i* S	**Sn**	**09 09 30.4**	**+2.2**
EKAR	**Karacoban**	**1.31**	**294**	P	**Pg**	**09 09 12.2**	**0.0**
EATA	**Eleskirt**	**1.43**	**323**	⇓*i*P	**Pn**	**09 09 11.7**	**-0.8**
EATA				*i* S	**Sg**	**09 09 34.8**	**+1.7**
EATA	**Eleskirt**	**1.43**	**323**	P	**Pn**	**09 09 11.7**	**-0.8**
CUKT	**Cukurca**	**1.47**	**180**	*e*PN	**Pn**	**09 09 12.4**	**-0.5**
CUKT	**Cukurca**	**1.47**	**180**	*i* P	**Pb**	**09 09 13.6**	**-0.4**
CUKT				*i* S	**Sg**	**09 09 37.2**	**+2.9**
CUKT	**Cukurca**	**1.47**	**180**	*e*Pn	**Pn**	**09 09 12.4**	**-0.5**
CUKT	**Cukurca**	**1.47**	**180**	P	**Pb**	**09 09 13.6**	**-0.4**
NAX	**Nakhchivan**	**1.54**	**72**	⇑P	**Pg**	**09 09 15.3**	**-1.2**
NAX				⇓S	**Sg**	**09 09 42.8**	**+6.2**
NAX	**Nakhchivan**	**1.54**	**72**	P	**Pg**	**09 09 15.3**	**-1.2**
ISHB	**Shabestar**	**1.64**	**105**	*e*Pn	**Pg**	**09 09 16.6**	**-1.7**
ISHB				*e*AMB	AMB	09 09 24.6	
	comp=Z,7μm,0.2s						
IMRD	**Marand**	**1.64**	**90**	*e*Pn	**Pb**	**09 09 16.3**	**-0.6**
IMRD				*e*AMB	AMB	09 09 19.1	
	comp=Z,19μm,0.2s						
IMRD				*e*Sg	**Sg**	**09 09 43.1**	**+3.4**
IMRD	**Marand**	**1.64**	**90**	*e*Pn	**Pb**	**09 09 16.3**	**-0.6**
IMRD				*e*Sg	**Sg**	**09 09 43.1**	**+3.4**
DIGO	**Kars**	**1.70**	**354**	*i* P	**Pb**	**09 09 17.9**	**-0.1**
DIGO	**Kars**	**1.70**	**354**	P	**Pb**	**09 09 17.9**	**-0.1**
VRTB	**Varto-Mus**	**1.73**	**285**	*e*PN	**Pn**	**09 09 17.3**	**+0.8**
VRTB	**Varto-Mus**	**1.73**	**285**	*i* P	**Pb**	**09 09 18.4**	**0.0**
VRTB				*i* S	**Sg**	**09 09 46.0**	**+3.2**
VRTB	**Varto-Mus**	**1.73**	**285**	*e*Pn	**Pn**	**09 09 17.3**	**+0.8**
VRTB	**Varto-Mus**	**1.73**	**285**	P	**Pb**	**09 09 18.4**	**0.0**
HOMI	**Horasan**	**1.87**	**316**	*i* P	**Pb**	**09 09 20.5**	**-0.3**
HOMI				*i* S	**Sg**	**09 09 47.8**	**+0.8**
BNGL	**BINGOL**	**1.93**	**278**	*i* P	**Pb**	**09 09 22.3**	**+0.5**
EAK	**Akyaka**	**1.96**	**360**	*i* P	**Pb**	**09 09 23.3**	**+1.0**
EAK				*i* S	**Sb**	**09 09 47.1**	**+0.4**
EAK	**Akyaka**	**1.96**	**360**	P	**Pb**	**09 09 23.3**	**+1.0**
EAK				S	**Sb**	**09 09 47.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*PN	**Pn**	**09 09 19.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*i* P	**Pn**	**09 09 21.1**	**+1.4**
SVAN				*i* S	**Sg**	**09 09 49.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*Pn	**Pn**	**09 09 19.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	P	**Pn**	**09 09 21.1**	**+1.4**
BTMN	**Batman**	**2.02**	**246**	*i* P	**Pb**	**09 09 22.8**	**-0.4**
BTMN	**Batman**	**2.02**	**246**	P	**Pb**	**09 09 22.8**	**-0.4**
ITBZ	**Tabriz**	**2.05**	**103**	*e*Pn	**Pb**	**09 09 23.1**	**-0.8**
ITBZ				*e*AMB	AMB	09 09 27.9	
	comp=Z,3μm,0.4s						
ITBZ	**Tabriz**	**2.05**	**103**	*e*Pn	**Pb**	**09 09 23.1**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.08**	**333**	*e*PN	**Pn**	**09 09 21.3**	**0.0**
SENK	**Senkaya-Erzuru**	**2.08**	**333**	*e*Pn	**Pn**	**09 09 21.3**	**0.0**
ERZM	**Erzurum**	**2.10**	**305**	*i* P	**Pn**	**09 09 23.7**	**+2.0**
ERZM	**Erzurum**	**2.10**	**305**	P	**Pn**	**09 09 23.7**	**+2.0**
BNGB	**Bing¨¶l**	**2.30**	**278**	*e*PN	**Pn**	**09 09 25.6**	**+1.3**
BINT	**Bingol**	**2.44**	**275**	*e*Pn	**Pn**	**09 09 25.6**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.49**	**288**	*e*PN	**Pn**	**09 09 27.8**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.49**	**288**	*e*Pn	**Pn**	**09 09 27.8**	**+0.9**
GDB	**GEDABAY**	**2.59**	**39**	⇑P	**Pn**	**09 09 30.0**	**+1.6**
GDB				⇓S	**Sg**	**09 10 10.7**	**+0.4**
GDB	**GEDABAY**	**2.59**	**39**	P	**Pn**	**09 09 30.0**	**+1.6**
DDEM	**Demirkent**	**2.60**	**327**	*i* P	**Pb**	**09 09 33.8**	**+0.6**
MARD	**Mardin**	**2.64**	**239**	*i* P	**Pb**	**09 09 31.9**	**-2.0**
AKH	**Akhalkalaki**	**2.69**	**358**	P	**Pg**	**09 09 37.1**	**-1.3**
DAGI	**Agillar**	**2.69**	**332**	*i* P	**Pb**	**09 09 34.1**	**-0.6**
QZX	**Qazax, Azerbai**	**2.70**	**30**	⇓P	**Pn**	**09 09 30.8**	**+1.1**
QZX				⇑S	**Sg**	**09 10 12.5**	**-1.1**
QZX	**Qazax, Azerbai**	**2.70**	**30**	P	**Pn**	**09 09 30.8**	**+1.1**
IHRS	**Heris**	**2.72**	**97**	*e*Pn	**Pn**	**09 09 32.2**	**+2.0**
IHRS				*e*AMB	AMB	09 09 37.0	
	comp=Z,2μm,0.2s						
IHRS	**Heris**	**2.72**	**97**	*e*Pn	**Pn**	**09 09 32.2**	**+2.0**
ARTV	**Artvin**	**2.78**	**333**	*i* P	**Pb**	**09 09 35.2**	**-1.1**
IBST	**Bostanabad**	**2.78**	**111**	*e*Pn	**Pb**	**09 09 34.9**	**-1.5**
IBST	**Bostanabad**	**2.78**	**111**	*e*Pn	**Pb**	**09 09 34.9**	**-1.5**
MAZI	**Mazidag**	**2.79**	**244**	*e*PN	**Pn**	**09 09 31.6**	**+0.5**
MAZI	**Mazidag**	**2.79**	**244**	*e*Pn	**Pn**	**09 09 31.6**	**+0.5**
GANJ	**Ganja**	**2.84**	**47**	⇑P	**Pn**	**09 09 33.9**	**+2.2**
GANJ				⇓S	**Sg**	**09 10 16.4**	**-1.8**
GANJ	**Ganja**	**2.84**	**47**	P	**Pn**	**09 09 33.9**	**+2.2**
DGRG	**David-gareji**	**3.04**	**26**	P	**Pn**	**09 09 37.2**	**+2.8**
BRDA	**Brd**	**3.16**	**60**	⇓P	**Pn**	**09 09 38.3**	**+2.3**
BRDA	**Brd**	**3.16**	**60**	P	**Pn**	**09 09 38.3**	**+2.3**
PTK	**Pertek**	**3.30**	**274**	*e*PN	**Pn**	**09 09 39.7**	**+1.6**
PTK	**Pertek**	**3.30**	**274**	*e*Pn	**Pn**	**09 09 39.7**	**+1.6**
ZRD	**Zardab**	**3.52**	**62**	⇑P	**Pn**	**09 09 42.5**	**+1.6**
ZRD	**Zardab**	**3.52**	**62**	P	**Pn**	**09 09 42.5**	**+1.6**
LRK	**Lerik**	**3.71**	**90**	⇑P	**Pn**	**09 09 43.7**	**+0.1**
LRK	**Lerik**	**3.71**	**90**	P	**Pn**	**09 09 43.7**	**+0.1**
SEKA	**Sheki**	**3.71**	**47**	⇓P	**Pn**	**09 09 46.4**	**+2.7**
SEKA	**Sheki**	**3.71**	**47**	P	**Pn**	**09 09 46.4**	**+2.7**
ZKTA	**Zakatala**	**3.72**	**37**	⇓P	**Pn**	**09 09 45.3**	**+1.6**
GLBA	**Clilabad**	**3.77**	**81**	⇓P	**Pn**	**09 09 45.2**	**+0.9**
GLBA				⇑S	**Sb**	**09 10 36.4**	**-2.0**
GLBA	**Clilabad**	**3.77**	**81**	P	**Pn**	**09 09 45.2**	**+0.9**
ONI	**Oni**	**3.87**	**358**	P	**Pb**	**09 09 57.2**	**+2.4**
KDMR	**Kurdemir**	**3.91**	**64**	⇑P	**Pn**	**09 09 47.9**	**+1.7**
KDMR	**Kurdemir**	**3.91**	**64**	P	**Pn**	**09 09 47.9**	**+1.7**
SAAT	**Saatly**	**3.91**	**72**	⇓P	**Pn**	**09 09 47.2**	**+1.0**
SAAT	**Saatly**	**3.91**	**72**	P	**Pn**	**09 09 47.2**	**+1.0**
LKRN	**Lenkeran, Azer**	**4.05**	**89**	⇓P	**Pn**	**09 09 48.0**	**-0.2**
LKRN	**Lenkeran, Azer**	**4.05**	**89**	P	**Pn**	**09 09 48.0**	**-0.2**
ASTR	**Astara**	**4.06**	**91**	⇓P	**Pn**	**09 09 48.2**	**-0.2**
ASTR				⇓S	**Sb**	**09 10 42.7**	**-4.2**
ASTR	**Astara**	**4.06**	**91**	P	**Pn**	**09 09 48.2**	**-0.2**
ASTR				S	**Sb**	**09 10 42.7**	**-4.2**
XNQ	**Khinaliq**	**4.26**	**53**	⇑P	**Pn**	**09 09 52.5**	**+1.2**
XNQ	**Khinaliq**	**4.26**	**53**	P	**Pn**	**09 09 52.5**	**+1.2**
PQL	**Pirkuli**	**4.36**	**60**	⇑P	**Pn**	**09 09 54.9**	**+2.3**
PQL	**Pirkuli**	**4.36**	**60**	P	**Pn**	**09 09 54.9**	**+2.3**

JMA 29 09:09:53.3±0.1, 36°.94N×141°.20E, h49km±1km, M3.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**297**	P	Pn	09 10 02.8	-0.2
ONAJ				S	Sn	09 10 09.4	-0.5
JFK	**Kawauchi**	**0.50**	**329**	P	Pn	09 10 04.2	-0.3
JFK				S	Sn	09 10 11.8	-0.8
JHO	**Hitachi**	**0.60**	**237**	P	Pn	09 10 05.5	-0.3
JHO				S	Sn	09 10 14.2	-0.6
JFT	**Otama**	**0.90**	**310**	P	Pn	09 10 10.6	+0.9
JFT				S	Sn	09 10 22.7	+1.1
JMM	**Marumori**	**0.98**	**341**	P	Pn	09 10 10.5	-0.2
JMM				S	Sn	09 10 23.2	-0.3
JFY	**Yanaizu**	**1.28**	**292**	P	Pn	09 10 15.4	+0.6
MAT	**Matsushiro**	**2.44**	**262**	P	Pn	09 10 32.5	+1.9
MAT				S	Sn	09 11 02.6	+3.4

*NIED **29** 09:29:00, 37°.90N×142°.50E, h20km, Mw3.4 Best double couple: M0=1.39000×10^14 NP1:φs=127.00000°, δ30.00000°, λ-173.00000°. NP2:φs=31.00000°, δ86.00000°, λ-61.00000°.*

JMA 29 09:29:29.2±0.2, 37°.91N×142°.46E, h35km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.03**	**302**	P	Pn	09 29 47.7	+0.6
JIO				*e*S	Sn	09 30 00.4	+0.1
JMM	**Marumori**	**1.32**	**269**	P	Pn	09 29 51.7	+0.6
OFUJ	**Ofunato**	**1.32**	**332**	P	Pn	09 29 51.7	+0.5
JFK	**Kawauchi**	**1.37**	**247**	P	Pn	09 29 52.4	+0.5
JFK				*e*S	Sn	09 30 08.9	+0.1
JMK	**Ichinoseki**	**1.43**	**317**	P	Pn	09 29 53.7	+1.1
JOU	**Okura**	**1.49**	**288**	P	Pn	09 29 54.9	+1.4
JFT	**Otama**	**1.73**	**258**	P	Pn	09 29 58.4	+1.6
JFT				*e*S	Sn	09 30 19.6	+2.0
JOM	**Ohasama**	**1.81**	**330**	P	Pn	09 29 59.2	+1.3
JOM				*e*S	Sn	09 30 21.0	+1.4
JYK	**Kaneyama**	**1.93**	**302**	P	Pn	09 30 01.3	+1.7
JRG	**Rokugo**	**2.06**	**317**	P	Pn	09 30 03.6	+2.3
JANG	**Nango**	**2.57**	**344**	P	Pn	09 30 09.8	+1.5
MAT	**Matsushiro**	**3.66**	**249**	P	Pn	09 30 27.8	+4.5
MAT				*e*S	Sn	09 31 07.9	+2.7

*CSEM **29** 09:37:47.5±0.3, 38°.71N×43°.64E, h15km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.4km az=103.0*
*DDA **29** 09:37:47.7, 38°.73N×43°.63E, h6km, Ml3.5*
*ISK **29** 09:37:47.0, 38°.73N×43°.59E, h26km, ML2.8*
*ISCJB **29** 09:37:48.1±0.6, 38°.72N±0°.03×43°.67E±0°.05, h18km±8km, Error ellipse: s-maj=6.9km s-min=3.9km az=16.8*
ISC 29 09:37:47.6±1.0, 38°.73N±0°.02×43°.63E±0°.03, h19km±2km, n37, σ1s31/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**235**	PG	**Pg**	**09 37 54.0**	**+0.7**
VANB				*e*SG	**Sg**	**09 37 59.4**	**+2.3**
VANB	**Van**	**0.23**	**235**	*i* Pg	**Pg**	**09 37 54.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.26**	**350**	*i* P	**Pg**	**09 37 53.2**	**-0.6**
VMUR				*i* S	**Sb**	**09 37 58.6**	**+0.8**
VMUR	**Van-Muradiye**	**0.26**	**350**	P	**Pg**	**09 37 53.2**	**-0.6**
VMUR				S	**Sb**	**09 37 58.6**	**+0.8**
TVAN	**Van**	**0.27**	**221**	*i* P	**Pg**	**09 37 53.9**	**0.0**
TVAN				*i* S	**Sb**	**09 37 59.2**	**+1.2**
TVAN	**Van**	**0.27**	**221**	P	**Pg**	**09 37 53.9**	**0.0**
TVAN				S	**Sb**	**09 37 59.2**	**+1.2**
ERCV	**ERCIS-VAN**	**0.37**	**322**	*e*PG	**Pg**	**09 37 55.0**	**-0.6**
ERCV				*e*SG	**Sg**	**09 38 01.4**	**+0.5**
ERCV	**ERCIS-VAN**	**0.37**	**322**	*e*Pg	**Pg**	**09 37 55.0**	**-0.6**
ERCV				*e*Sg	**Sg**	**09 38 01.4**	**+0.5**
CLDR	**Caldiran**	**0.47**	**28**	*e*PG	**Pb**	**09 37 57.4**	**-0.1**
CLDR				*e*SG	**Sb**	**09 38 05.6**	**+1.5**
CLDR	**Caldiran**	**0.47**	**28**	*i* P	**Pg**	**09 37 57.1**	**-0.2**
CLDR				*i* S	**Sb**	**09 38 05.3**	**+1.2**
CLDR	**Caldiran**	**0.47**	**28**	P	**Pg**	**09 37 57.1**	**-0.2**
CLDR	**Caldiran**	**0.47**	**28**	*e*Pg	**Pb**	**09 37 57.4**	**-0.1**
CLDR				S	**Sb**	**09 38 05.3**	**+1.2**
GEVA	**Gevas**	**0.61**	**227**	*i* P	**Pb**	**09 37 59.4**	**-0.3**
GEVA				*i* S	**Sg**	**09 38 08.9**	**+0.7**
GEVA	**Gevas**	**0.61**	**227**	P	**Pb**	**09 37 59.4**	**-0.3**
GEVA				S	**Sg**	**09 38 08.9**	**+0.7**
BASK	**Baskale_VAN**	**0.74**	**157**	*i* P	**Pg**	**09 38 02.4**	**+0.2**
BASK	**Baskale_VAN**	**0.74**	**157**	P	**Pg**	**09 38 02.4**	**+0.2**
DYDN	**Diyadin**	**0.81**	**3**	*i* P	**Pb**	**09 38 03.3**	**+0.1**
DYDN				*i* S	**Sn**	**09 38 15.7**	**-0.3**
TUTA	**Tutak**	**0.93**	**317**	*i* P	**Pb**	**09 38 04.3**	**-0.9**
TUTA				*i* S	**Sg**	**09 38 18.4**	**+0.4**
AGRB	**Hanur-Agry**	**0.98**	**330**	*e*PG	**Pb**	**09 38 05.2**	**-0.9**
AGRB	**Hanur-Agry**	**0.98**	**330**	*e*Pg	**Pb**	**09 38 05.2**	**-0.9**
TATV	**Tatvan**	**1.09**	**259**	*i* P	**Pb**	**09 38 07.6**	**-0.4**
TATV				*i* S	**Sb**	**09 38 22.2**	**+0.2**
TATV	**Tatvan**	**1.09**	**259**	P	**Pb**	**09 38 07.6**	**-0.4**
TATV				S	**Sb**	**09 38 22.2**	**+0.2**
HAKT	**HAKKARI**	**1.17**	**177**	*i* P	**Pb**	**09 38 09.4**	**0.0**
HAKT	**HAKKARI**	**1.17**	**177**	P	**Pb**	**09 38 09.4**	**0.0**
EKAR	**Karacoban**	**1.33**	**294**	*i* P	**Pg**	**09 38 13.9**	**+0.5**
EKAR				*i* S	**Sg**	**09 38 34.8**	**+4.0**
EKAR	**Karacoban**	**1.33**	**294**	P	**

*DDA **29** 09:46:23.8, 38.79N×43.62E, h13km, MI3.5*
*ISK **29** 09:46:23.6, 38.84N×43.57E, h5km, ML3.1*
*ISCJB **29** 09:46:24.6±0.6, 38.81N±0.03×43.63E±0.06, h10km±4km, Error ellipse: s-maj=7.4km s-min=4.1km az=15.2*
*CSEM **29** 09:46:24.1±0.4, 38.81N×43.67E, h10km, ML3.5, Error ellipse: s-maj=11.0km s-min=6.4km az=96.0*
ISC 29 09:46:24.2±0.9, 38.81N±0.02×43.62E±0.03, h13km±7km, n44, σ0.90/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.19**	**347**	*i* P	**Pg**	**09 46 27.9**	**-0.6**
VMUR				*i* S	**Sg**	**09 46 32.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.19**	**347**	P	**Pg**	**09 46 27.9**	**-0.6**
VMUR				S	**Sg**	**09 46 32.4**	**+0.8**
VANB	**Van**	**0.28**	**221**	PG	**Pb**	**09 46 31.0**	**-0.2**
VANB				*e*SG	**Sb**	**09 46 38.2**	**+2.3**
VANB	**Van**	**0.28**	**221**	*i* Pg	**Pb**	**09 46 31.0**	**-0.2**
VANB				*e*Sg	**Sb**	**09 46 38.2**	**+2.3**
ERCV	**ERCIS-VAN**	**0.31**	**314**	*e*PG	**Pg**	**09 46 29.9**	**-0.7**
ERCV	**ERCIS-VAN**	**0.31**	**314**	*e*Pg	**Pg**	**09 46 29.9**	**-0.7**
TVAN	**Van**	**0.33**	**211**	*i* P	**Pb**	**09 46 31.1**	**-0.9**
TVAN				*i* S	**Sb**	**09 46 37.6**	**+0.3**
TVAN	**Van**	**0.33**	**211**	P	**Pb**	**09 46 31.1**	**-0.9**
TVAN				S	**Sb**	**09 46 37.6**	**+0.3**
CLDR	**Caldiran**	**0.41**	**34**	*e*PG	**Pg**	**09 46 31.9**	**-0.5**
CLDR				*e*SG	**Sb**	**09 46 40.1**	**+0.5**
CLDR	**Caldiran**	**0.41**	**34**	*i* P	**Pg**	**09 46 32.1**	**-0.3**
CLDR				*i* S	**Sb**	**09 46 40.9**	**+1.3**
CLDR	**Caldiran**	**0.41**	**34**	P	**Pg**	**09 46 32.1**	**-0.3**
CLDR				*e*Sg	**Sb**	**09 46 40.1**	**+0.5**
GEVA	**Gevas**	**0.66**	**222**	*i* P	**Pg**	**09 46 36.4**	**-0.8**
GEVA	**Gevas**	**0.66**	**222**	P	**Pg**	**09 46 36.4**	**-0.8**
DYDN	**Diyadin**	**0.74**	**4**	*i* P	**Pg**	**09 46 37.9**	**-0.6**
DYDN				*i* S	**Sb**	**09 46 49.7**	**+0.6**
DYDN	**Diyadin**	**0.74**	**4**	P	**Pg**	**09 46 37.9**	**-0.6**
DYDN				S	**Sb**	**09 46 49.7**	**+0.6**
BASK	**Baskale_VAN**	**0.81**	**158**	*i* P	**Pg**	**09 46 39.4**	**-0.5**
BASK	**Baskale_VAN**	**0.81**	**158**	P	**Pg**	**09 46 39.4**	**-0.5**
TUTA	**Tutak**	**0.86**	**314**	*i* P	**Pg**	**09 46 39.7**	**-1.3**
TUTA	**Tutak**	**0.86**	**314**	P	**Pg**	**09 46 39.7**	**-1.3**
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*PG	**Pg**	**09 46 40.8**	**-1.0**
AGRB				*e*SG	**Sb**	**09 46 54.3**	**+0.2**
AGRB	**Hanur-Agry**	**0.91**	**328**	*e*Pg	**Pg**	**09 46 40.8**	**-1.0**
AGRB				*e*Sg	**Sb**	**09 46 54.3**	**+0.2**
TATV	**Tatvan**	**1.10**	**255**	*i* P	**Pg**	**09 46 43.9**	**-1.6**
TATV				*i* S	**Sb**	**09 46 59.7**	**+0.1**
TATV	**Tatvan**	**1.10**	**255**	P	**Pg**	**09 46 43.9**	**-1.6**
TATV				S	**Sb**	**09 46 59.7**	**+0.1**
HAKT	**HAKKARI**	**1.25**	**177**	*i* P	**Pg**	**09 46 46.5**	**-1.1**
HAKT	**HAKKARI**	**1.25**	**177**	P	**Pg**	**09 46 46.5**	**-1.1**
EKAR	**Karacoban**	**1.29**	**291**	*i* P	**Pg**	**09 46 48.9**	**-0.2**
EKAR	**Karacoban**	**1.29**	**291**	P	**Pg**	**09 46 48.9**	**-0.2**
EATA	**Eleskirt**	**1.37**	**321**	*i* P	**Pn**	**09 46 48.9**	**-0.5**
EATA	**Eleskirt**	**1.37**	**321**	P	**Pn**	**09 46 48.9**	**-0.5**
DIGO	**Kars**	**1.62**	**353**	*i* P	**Pg**	**09 46 55.0**	**-0.3**
DIGO	**Kars**	**1.62**	**353**	P	**Pg**	**09 46 55.0**	**-0.3**
VRTB	**Varto-Mus**	**1.73**	**282**	*e*PN	**Pb**	**09 46 55.4**	**-0.4**
VRTB	**Varto-Mus**	**1.73**	**282**	*e*Pn	**Pb**	**09 46 55.4**	**-0.4**
BNGL	**BINGOL**	**1.94**	**275**	*i* P	**Pb**	**09 46 59.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.01**	**331**	*e*PN	**Pb**	**09 46 59.9**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.01**	**331**	*e*Pn	**Pb**	**09 46 59.9**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*PN	**Pb**	**09 47 00.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.01**	**252**	*e*Pn	**Pb**	**09 47 00.1**	**-0.6**
BTMN	**Batman**	**2.06**	**244**	*i* P	**Pb**	**09 47 01.8**	**+0.2**
BTMN	**Batman**	**2.06**	**244**	P	**Pb**	**09 47 01.8**	**+0.2**
ERZM	**Erzurum**	**2.06**	**303**	*i* P	**Pb**	**09 47 01.8**	**+0.1**
ERZM	**Erzurum**	**2.06**	**303**	P	**Pb**	**09 47 01.8**	**+0.1**
MAZI	**Mazidag**	**2.84**	**243**	*e*PN	**Pn**	**09 47 11.3**	**+1.9**
MAZI	**Mazidag**	**2.84**	**243**	*e*Pn	**Pn**	**09 47 11.3**	**+1.9**

*JMA **29** 09:51:44.8±0.2, 24.65N×122.84E, h115km±2km, M2.8*
*ISCJB **29** 09:51:45.4±0.7, 24.66N±0.05×122.86E±0.02, h105km±6km, Error ellipse: s-maj=8.8km s-min=3.2km az=175.1*
*TAP **29** 09:51:45.1, 24.69N×122.79E, h119km±1km, ML3.5, C*
ISC 29 09:51:45.5±1.6, 24.65N±0.07×122.86E±0.03, h108km±10km, n34, σ0.92/59, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**159**	P	**Pn**	**09 52 01.0**	**+0.3**
JYNG				*e*S	**Sn**	**09 52 13.0**	**+1.0**
YOJ	**Yonaguni jima**	**0.23**	**144**	P	**Pn**	**09 52 01.1**	**+0.3**
YOJ				*e*S	**Sn**	**09 52 13.0**	**+0.8**
IRIF	**Iriomote-Funau**	**0.85**	**112**	P	**Pn**	**09 52 05.1**	**+0.1**
IRIF				S	**Sn**	**09 52 20.1**	**+0.4**
TWB1	**Santiao Chiao** baz=290	**0.87**	**294**	*e*P	**Pn**	**09 52 04.6**	**-0.5**
TWC	**Suao** baz=261	**0.92**	**268**	*i* P	**Pn**	**09 52 05.5**	**-0.1**
TWC				*e*S	**Sn**	**09 52 20.1**	**-0.9**
ENA	**Nanau** baz=251	**1.04**	**258**	*e*P	**Pn**	**09 52 06.9**	**0.0**
ENA				*e*S	**Sn**	**09 52 23.2**	**0.0**
HATJ	**Hateruma jima**	**1.04**	**124**	P	**Pn**	**09 52 07.8**	**+0.8**
HATJ				S	**Sn**	**09 52 23.6**	**+0.4**
NWF	**Wu-fen Shan** baz=287	**1.07**	**293**	*e*P	**Pn**	**09 52 07.3**	**0.0**
NWF				*e*S	**Sn**	**09 52 22.9**	**-0.9**
JKRS	**Kuro-shima**	**1.12**	**111**	P	**Pn**	**09 52 08.4**	**+0.6**
JKRS				S	**Sn**	**09 52 25.1**	**+0.4**
ENTT	**Nioudou** baz=263	**1.18**	**270**	P	**Pn**	**09 52 08.9**	**+0.5**
JIJ	**Ishigaki jima**	**1.20**	**104**	P	**Pn**	**09 52 08.7**	**0.0**
JIJ				S	**Sn**	**09 52 25.6**	**-0.7**
TWD	**Chiawan** baz=236	**1.29**	**244**	P	**Pn**	**09 52 08.9**	**-0.7**
TWD				S	**Sn**	**09 52 27.2**	**-0.8**
JISG	**Ishigakijimahi**	**1.32**	**92**	P	**Pn**	**09 52 09.8**	**-0.2**
JISG				*e*S	**Sn**	**09 52 27.6**	**-1.0**
HWA	**Hwalien** baz=236	**1.33**	**240**	*e*P	**Pn**	**09 52 09.7**	**-0.4**
HWA				*e*S	**Sn**	**09 52 28.3**	**-0.5**
NSK	**Sanguang** baz=273	**1.37**	**271**	*e*P	**Pn**	**09 52 10.8**	**+0.1**
NSK				S	**Sn**	**09 52 29.2**	**-0.6**
NNS	**Nan Shan** baz=253	**1.37**	**262**	*e*P	**Pn**	**09 52 10.9**	**+0.1**
TWS1	**Kuangyinshan** baz=281	**1.39**	**289**	*e*P	**Pn**	**09 52 11.4**	**+0.6**
WHF	**Hehuan Shan** baz=248	**1.54**	**251**	P	**Pn**	**09 52 12.9**	**-0.2**
WHF				*e*S	**Sn**	**09 52 32.8**	**-1.2**
ESL	**Shilin** baz=234	**1.55**	**238**	*e*P	**Pn**	**09 52 12.1**	**-0.7**
ESL				*e*S	**Sn**	**09 52 32.1**	**-1.3**
TWT	**Tachien** baz=253	**1.59**	**256**	*e*P	**Pn**	**09 52 14.1**	**+0.7**
TWT				*e*S	**Sn**	**09 52 34.4**	**-0.2**
JTJ	**Tarama**	**1.68**	**90**	P	**Pn**	**09 52 14.5**	**+0.2**
JTJ				S	**Sn**	**09 52 35.5**	**-0.7**
NSTT	**Nanjuang** baz=268	**1.69**	**270**	*e*P	**Pn**	**09 52 14.5**	**0.0**
NSTT				*e*S	**Sn**	**09 52 36.0**	**-0.6**
TWF1	**Yuli** baz=231	**1.93**	**228**	P	**Pn**	**09 52 17.0**	**-0.5**
TWF1				*e*S	**Sn**	**09 52 40.2**	**-1.7**
SMLT	**Sun Moon Lake** baz=240	**1.95**	**247**	*e*P	**Pn**	**09 52 18.9**	**+1.1**
SMLT				*e*S	**Sn**	**09 52 44.2**	**+1.7**
TYC	**Yuchr** baz=241	**1.97**	**248**	*e*P	**Pn**	**09 52 18.7**	**+0.6**
TYC				S	**Sn**	**09 52 43.5**	**+0.6**
CHKT	**Chengkung** baz=212	**2.06**	**222**	*e*P	**Pn**	**09 52 18.6**	**-0.6**
CHKT				*e*S	**Sn**	**09 52 42.9**	**-2.1**
YUS	**Yu-Shan** baz=231	**2.09**	**237**	*e*P	**Pn**	**09 52 20.2**	**+0.2**
YUS				*e*S	**Sn**	**09 52 46.1**	**-0.3**
JIRB	**Irabujima**	**2.11**	**85**	*e*S	**Sn**	**09 52 45.1**	**-0.9**
CHN5	**Tsauling** baz=233	**2.25**	**243**	P	**Pn**	**09 52 22.8**	**+1.0**
CHN5				S	**Sn**	**09 52 50.7**	**+1.2**
STYT	**Tauyuan** baz=226	**2.43**	**233**	*e*P	**Pn**	**09 52 24.9**	**+0.9**
CHN4	**Tsaushan** baz=236	**2.44**	**239**	*e*P	**Pn**	**09 52 25.3**	**+1.1**
CHN4				*e*S	**Sn**	**09 52 55.6**	**+1.8**
TWG	**Pinlang** baz=224	**2.45**	**222**	*e*P	**Pn**	**09 52 22.3**	**-1.9**
TWK	**Hsinying** baz=235	**2.57**	**238**	*e*P	**Pn**	**09 52 27.6**	**+1.7**
CHN1	**Nanshi** baz=234	**2.59**	**236**	*e*P	**Pn**	**09 52 27.9**	**+1.9**

*ISCJB **29** 10:29:09.9±1.5, 9.08N±0.04×77.73W±0.04, h14km±10km, mb3.9/6, MS3.1/3, Error ellipse: s-maj=7.8km s-min=5.1km az=29.8*
*RSNC **29** 10:29:11.7±0.5, 8.95N×77.76W, h2km±3km, ML3.7*
*IDC **29** 10:29:14.7±2.8, 8.96N×77.64W, h54km±27km, mb3.7/6, mb1 4.0/9, mb1mx3.7/36, mbtmp4.1/9, ML3.1/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/35, Error ellipse: s-maj=27.1km s-min=17.4km az=49.0*
ISC 29 10:29:10.0±1.7, 9.02N±0.05×77.74W±0.04, h13km±11km, n28, σ1.64/39, mb4.0/6, MS3.0/3, 4D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.54**	**135**	⇓*i* P	**Pg**	**10 29 20.6**	**0.0**
CAPC				*e*S	**Sb**	**10 29 28.8**	**-0.4**
CAPC				*i*		10 29 29.6	
	comp=Z,6μm,0.5s						
MOTC	**Monteria, Cord**	**2.07**	**96**	⇓*i* P	**Pb**	**10 29 46.5**	**-0.9**
MOTC				*i*		10 29 57.6	
	comp=Z,303nm,0.5s						
MOTC				*e*S	**Sb**	**10 30 12.8**	**-0.2**
BCIP	**Isla Barro Col**	**2.08**	**274**	*e*P	**Pn**	**10 29 45.6**	**+1.1**
BCIP				*e*S	**Sb**	**10 30 13.3**	**0.0**
BCIP				*i*		10 30 21.8	
	comp=Z,2μm,0.6s						
DBBC	**Dabeiba**	**2.50**	**143**	*e*P	**Pn**	**10 29 51.4**	**+0.8**
DBBC				*e*S	**Sn**	**10 30 22.6**	**+1.6**
SJCC	**San Jacinto, C**	**2.67**	**71**	*e*P	**Pn**	**10 29 55.1**	**+2.2**
SJCC				*e*S	**Sb**	**10 30 29.0**	**-1.6**
SJCC				*i*		10 30 32.5	
	comp=Z,110nm,0.7s						
ZARC	**Zaragoza, Cauc**	**3.23**	**118**	⇓*i* P	**Pn**	**10 30 01.8**	**+1.3**
ZARC				*e*S	**Sn**	**10 30 40.2**	**+1.3**
HELC	**Santa Helena**	**3.56**	**142**	*e*P	**Pn**	**10 30 06.5**	**+1.1**
HELC				*i*		10 30 10.3	
	comp=Z,83nm,0.4s						
HELC				*e*S	**Sn**	**10 30 49.6**	**+1.9**
BRRC	**Barranca, Sant**	**4.42**	**115**	⇓*i* P	**Pn**	**10 30 18.6**	**+1.7**
BRRC				*i*		10 30 21.1	
	comp=Z,208nm,0.3s						
BRRC				*e*S	**Sn**	**10 31 09.6**	**+1.3**
GUYC	**Guyana, Colomb**	**4.43**	**148**	*e*P	**Pn**	**10 30 18.6**	**+1.1**
GUYC				*i*		10 30 29.7	
	comp=Z,88nm,0.5s						
OCAC	**Ocana**	**4.44**	**100**	*e*P	**Pn**	**10 30 19.2**	**+1.9**
OCAC				*e*S	**Sn**	**10 31 11.2**	**+2.2**
NORC	**Norcasia**	**4.46**	**140**	*e*P	**Pn**	**10 30 19.1**	**+1.6**
BARC	**Barichara**	**5.12**	**118**	*e*P	**Pn**	**10 30 28.0**	**+1.3**
BARC				*i*		10 30 34.9	
	comp=Z,106nm,0.5s						
ROSC	**El Rosal**	**5.37**	**140**	P	**Pn**	**10 30 32.5**	**+2.2**
	comp=Z,5.2nm,0.3s,baz=102,slow=2.9,SNR=6.1						
ROSC				S	**Sn**	**10 31 30.1**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=120,slow=20,SNR=2.0						
ROSC				LR	LR	10 32 40.8	
	comp=Z,185nm,19.2s,baz=232,slow=39						
URIC	**Uribia, Colomb**	**6.25**	**64**	*e*P	**Pn**	**10 30 44.4**	**+2.3**
URIC				*e*S	**Sn**	**10 31 56.0**	**+2.5**
URIC				*i*		10 32 00.0	
	comp=Z,23nm,0.7s						
SDV	**Santo Domingo**	**7.02**	**91**	P	**Pn**	**10 30 54.1**	**+1.3**
	comp=Z,2.5nm,0.3s,baz=276,slow=9.9,SNR=12						
SDV				S	**Sn**	**10 32 09.5**	**-3.3**
	comp=Z,6.3nm,0.3s,baz=48,slow=17,SNR=8.3						
SDV				LR	LR	10 34 23.5	
	comp=Z,157nm,21.5s,baz=260,slow=45						
JTS	**JuntasAbangare**	**7.22**	**281**	P	Pg	10 31 54.8	+26
	comp=Z,2.0nm,0.3s,baz=306,slow=4.6,SNR=14						
JTS				S	Sg	10 33 13.4	+11
	baz=12,slow=20,SNR=2.0						
JTS				LR	LR	10 35 01.4	
	comp=Z,150nm,19.1s,baz=184,slow=47						
PCRV	**Puerto La Cruz**	**12.97**	**84**	P	**Pn**	**10 32 14.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=237,slow=6.6,SNR=3.1						
PCRV				S	**Sn**	**10 34 39.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=18,slow=20,SNR=2.5						
PTGA	**Pitinga**	**20.18**	**118**	P	**P**	**10 33 44.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=306,slow=10,SNR=8.4						
PTGA				LR	LR	10 42 06.0	
	comp=Z,148nm,18.1s,baz=257,slow=38						
NNA	**Nana**	**20.89**	**178**	LR	LR	10 43 37.1	
	comp=Z,62nm,18.4s,baz=348,slow=41						
TXAR	**Lajitas Array**	**31.61**	**313**	P	**P**	**10 35 32.5**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=134,slow=10,SNR=7.0						
TXAR				LR	LR	10 50 45.3	
	comp=Z,23nm,18.9s,baz=0.0,slow=41						
ANMO	**Albuquerque**	**36.82**	**319**	P	**P**	**10 36 19.0**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=159,slow=17,SNR=6.9						
YKA	**Yellowknife Ar**	**59.68**	**341**	P	**P**	**10 39 13.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=143,slow=6.6,SNR=4.0						
ILAR	**Eielson Array**	**73.06**	**335**	P	**P**	**10 40 39.9**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=111,slow=4.7,SNR=12						
TORD	**Torodi Ar. Bea**	**77.78**	**78**	P	**P**	**10 41 05.4**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=286,slow=5.1,SNR=2.4						
ARCES	**ARCESS Array B**	**86.20**	**20**	P	**P**	**10 41 51.9**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=289,slow=4.8,SNR=5.0						
ASAR	**Alice Springs**	**146.43**	**240**	PKPbc	**PKPdf**	**10 48 50.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=117,slow=3.7,SNR=22						
WRA	**Warramunga Arr**	**147.16**	**247**	PKPbc	**PKPdf**	**10 48 52.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=98,slow=3.6,SNR=10.0						
CMAR	**Chiang Mai Arr**	**152.50**	**7**	PKPab	**PKPab**	**10 49 13.7**	**-3.6**
	comp=Z,0.7nm,0.4s,baz=331,slow=3.5,SNR=4.4						

*CSEM **29** 10:38:23.8±0.5, 38.55N×43.31E, h22km±5km, ML3.1, Error ellipse: s-maj=20.6km s-min=6.4km az=129.0*
*ISK **29** 10:38:23.5, 38.64N×43.23E, h2km, MD2.7*
*ISCJB **29** 10:38:24.6±1.3, 38.57N±0.07×43.3E±0.1, h25km±12km, Error ellipse: s-maj=16.9km s-min=7.2km az=34.3*
*DDA **29** 10:38:25.0, 38.57N×43.34E, h17km, MI3.1*
ISC 29 10:38:23.8±1.5, 38.58N±0.04×43.26E±0.08, h18km±4km, n12, σ0.87/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**81**	*e*PG	**Pg**	**10 38 27.9**	**+0.2**
VANB	**Van**	**0.11**	**81**	*e*Pg	**Pg**	**10 38 27.9**	**+0.2**
TVAN	**Van**	**0.13**	**113**	*i* P	**Pg**	**10 38 28.4**	**+0.3**
TVAN	**Van**	**0.13**	**113**	P	**Pg**	**10 38 28.4**	**+0.3**
GEVA	**Gevas**	**0.31**	**210**	*i* P	**Pb**	**10 38 31.2**	**+0.3**
GEVA				*i* S	**Sn**	**10 38 38.4**	**-1.3**
GEVA	**Gevas**	**0.31**	**210**	P	**Pb**	**10 38 31.2**	**+0.3**
GEVA				S	**Sn**	**10 38 38.4**	**-1.3**
VMUR	**Van-Muradiye**	**0.48**	**31**	*i* P	**Pb**	**10 38 33.8**	**0.0**
VMUR				*i* S	**Sb**	**10 38 42.1**	**+1.4**
VMUR	**Van-Muradiye**	**0.48**	**31**	P	**Pb**	**10 38 33.8**	**0.0**
VMUR				S	**Sb**	**10 38 42.1**	**+1.4**
CLDR	**Caldiran**	**0.77**	**42**	*e*PG	**Pg**	**10 38 38.6**	**-0.2**
CLDR				*e*SG	**Sn**	**10 38 49.8**	**-1.3**
CLDR	**Caldiran**	**0.77**	**42**	*e*Pg	**Pg**	**10 38 38.7**	**-0.2**
CLDR				*e*Sg	**Sn**	**10 38 49.8**	**-1.3**
AGRB	**Hanur-Agry**	**1.02**	**348**	*e*PG	**Pb**	**10 38 43.6**	**+0.6**
AGRB				*e*SG	**Sb**	**10 38 56.3**	**+0.2**
AGRB	**Hanur-Agry**	**1.02**	**348**	*e*Pg	**Pb**	**10 38 43.6**	**+0.6**
AGRB				*e*Sg	**Sb**	**10 38 56.3**	**+0.2**

*ISK **29** 10:46:20.2, 40.12N×41.11E, h5km, MD2.8*
*CSEM **29** 10:46:22.6±0.2, 40.04N×41.12E, h15km, ML2.7, Error ellipse: s-maj=6.5km s-min=5.2km az=146.0*
*ISCJB **29** 10:46:23.0±0.6, 40.07N±0.03×41.08E±0.03, h13km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=156.2*
*DDA **29** 10:46:23.0, 40.11N×41.10E, h12km, MI2.7*
ISC 29 10:46:22.5±0.9, 40.08N±0.02×41.09E±0.02, h17km±7km, n34, σ1.10/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.27**	**129**	*i* P	**Pg**	**10 46 28.9**	**+0.3**
ERZM				*i* S	**Sg**	**10 46 32.7**	**-0.1**
ERZM	**Erzurum**	**0.27**	**129**	P	**Pg**	**10 46 28.9**	**+0.3**
ERZM				S	**Sg**	**10 46 32.7**	**-0.1**
KOPT	**Kop Dagi**	**0.46**	**263**	*i* P	**Pg**	**10 46 31.9**	**0.0**
KOPT				*i* S	**Sb**	**10 46 40.6**	**+1.6**
KOPT	**Kop Dagi**	**0.46**	**263**	P	**Pg**	**10 46 31.9**	**0.0**
KOPT				S	**Sb**	**10 46 40.6**	**+1.6**
HOMI	**Horasan**	**0.62**	**92**	*i* P	**Pg**	**10 46 34.9**	**0.0**
HOMI				*i* S	**Sn**	**10 46 45.6**	**-0.9**
YEDI	**Yedisu-Bingol**	**0.77**	**214**	*e*PG	**Pg**	**10 46 36.8**	**-0.7**
YEDI				*e*SG	**Sb**	**10 46 49.0**	**+1.4**
YEDI	**Yedisu-Bingol**	**0.77**	**214**	*e*Pg	**Pg**	**10 46 36.8**	**-0.7**
YEDI				*e*Sg	**Sb**	**10 46 49.0**	**+1.4**
DDEM	**Demirkent**	**0.96**	**31**	*i* P	**Pn**	**10 46 41.3**	**+0.1**
DDEM				*i* S	**Sn**	**10 46 55.0**	**+0.4**
DDEM	**Demirkent**	**0.96**	**31**	P	**Pn**	**10 46 41.3**	**+0.1**
DDEM				S	**Sn**	**10 46 55.0**	**+0.4**
EATA	**Eleskirt**	**1.09**	**101**	*i* P	**Pg**	**10 46 43.9**	**+0.1**
EATA	**Eleskirt**	**1.09**	**101**	P	**Pg**	**10 46 43.9**	**+0.1**
BNGB	**Bing˜¶l**	**1.13**	**197**	*e*PN	**Pg**	**10 46 44.3**	**0.0**
BNGB				*e*SN	**Sn**	**10 47 01.4**	**+2.7**
ERZN	**Erzincan**	**1.16**	**246**	*e*PN	**Pn**	**10 46 43.2**	**-0.9**
DAGI	**Agillar**	**1.18**	**32**	*i* P	**Pg**	**10 46 45.0**	**-0.4**
DAGI				*i* S	**Sb**	**10 46 56.6**	**-3.0**
ARTV	**Artvin**	**1.28**	**30**	*i* P	**Pn**	**10 46 45.6**	**-0.1**
ARTV				*i* S	**Sg**	**10 47 03.7**	**-0.2**
ARTV	**Artvin**	**1.28**	**30**	P	**Pn**	**10 46 45.7**	**-0.1**
ARTV				S	**Sg**	**10 47 03.7**	**-0.2**
BINT	**Bingol**	**1.29**	**202**	*e*Pn	**Pn**	**10 46 44.3**	**-1.5**
BINT				*e*Sn	**Sb**	**10 47 01.5**	**-1.1**
MACK	**Trabzon**	**1.33**	**311**	*i* P	**Pg**	**10 46 49.0**	**+0.8**
MACK				*i* S	**Sn**	**10 47 02.5**	**-1.2**
MACK	**Trabzon**	**1.33**	**311**	P	**Pg**	**10 46 49.0**	**+0.8**
MACK				S	**Sn**	**10 47 02.5**	**-1.2**
DBOC	**Borcka**	**1.34**	**19**	*i* P	**Pn**	**10 46 46.4**	**-0.1**
DBOC	**Borcka**	**1.34**	**19**	P	**Pn**	**10 46 46.4**	**-0.1**
KTUT	**Trabzon**	**1.36**	**312**	*e*PN	**Pn**	**10 46 46.7**	**0.0**
KTUT	**Trabzon**	**1.36**	**312**	*e*Pn	**Pn**	**10 46 46.7**	**0.0**
EZC	**Erzincan**	**1.38**	**257**	*e*Pn	**Pn**	**10 46 43.2**	**-3.9**
KELT	**Kelkit**	**1.41**	**274**	*i* P	**Pb**	**10 46 48.6**	**+0.1**
KELT				*i* S	**Sn**	**10 47 06.1**	**+0.2**
KELT	**Kelkit**	**1.41**	**274**	P	**Pb**	**10 46 48.6**	**+0.1**
KELT				S	**Sn**	**10 47 06.1**	**+0.2**
AGRB	**Hanur-Agry**	**1.54**	**108**	*e*PN	**Pn**	**10 46 49.7**	**+0.3**
AGRB	**Hanur-Agry**	**1.54**	**108**	*e*Pn	**Pn**	**10 46 49.7**	**+0.3**
PTK	**Pertek**	**1.77**	**229**	*e*PN	**Pb**	**10 46 54.6**	**0.0**
PTK	**Pertek**	**1.77**	**229**	*e*Pn	**Pb**	**10 46 54.6**	**0.0**
ESPY	**Espiye-Giresun**	**1.99**	**296**	*e*PN	**Pn**	**10 46 56.5**	**+1.2**
ESPY	**Espiye-Giresun**	**1.99**	**296**	*e*Pn	**Pn**	**10 46 56.6**	**+1.2**
KEMA	**Kemaliye**	**2.16**	**249**	*i* P	**Pb**	**10 47 02.6**	**+1.3**
SUSE	**Susehri**	**2.22**	**274**	*i* P	**Pb**	**10 47 02.9**	**+0.6**
SUSE				*i* S	**Sg**	**10 47 32.2**	**-1.7**

*NEIC **29** 10:48:12.4±0.5, 28.22S×176.04W, h35km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=11.5km az=153.0*
*IDC **29** 10:48:14.5±4.2, 28.16S×176.11W, h48km±34km, mb3.8/7, mb1 4.0/8, mb1mx3.7/29, mbtmp4.1/8, ML3.2/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=35.7km s-min=29.1km az=97.0*
ISC 29 10:48:10.5±0.8, 28.4S±0.1×175.9W±0.1, h28km, n25, σ2.11/28, mb4.0/10, MS3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.99**	**243**	P	**Pb**	**10 48 45.0**	**-1.0**
	380nm,0.3s,baz=250,slow=24,SNR=9.2						
RAO				S	**Sb**	**10 49 11.6**	**+1.3**
	795nm,0.3s,baz=87,slow=23,SNR=13						
RAO	**Raoul Island**	**1.99**	**243**	*e*Pn	**Pb**	**10 48 42.6**	**-3.3**
RAO				S	**Sb**	**10 49 11.6**	**+1.3**
RAO				*e*Sn	**Sn**	**10 49 12.3**	**+6.1**
URZ	**Urewera**	**11.47**	**209**	P	Pn	10 50 47.4	-5.0
	0.4nm,0.3s,baz=274,slow=4.6,SNR=4.3						
URZ				S	**Sn**	**10 52 55.2**	**-4.5**
	2.8nm,0.3s,baz=168,slow=19,SNR=11						
DZM	**Mont Dzumac**	**17.15**	**287**	P	**P**	**10 52 08.6**	**-1.2**
	0.1nm,0.3s,baz=85,slow=17,SNR=2.2						
DZM				LR	LR	10 57 03.6	
	comp=Z,98nm,19.4s,baz=224,slow=31						
EIDS	**Eidsvold**	**29.56**	**268**	*e*P	**P**	**10 54 12.7**	**-0.3**
	2.4nm,0.9s						
CTAO	**Charters Tower**	**35.37**	**275**	*e*P	**P**	**10 55 03.4**	**-0.5**

TUTA	**Tutak**	**0.70 340**	*i* P		**Pn**	**10 50 30.4**	**+1.3**
TUTA	**Tutak**	**0.70 340**	P		**Pn**	**10 50 30.4**	**+1.3**
TATV	**Tatvan**	**0.71 251**	*i* P		**Pn**	**10 50 28.2**	**-1.1**
TATV			*i* S		**Sn**	**10 50 39.3**	**-1.6**
TATV	**Tatvan**	**0.71 251**	P		**Pn**	**10 50 28.2**	**-1.1**
TATV			S		**Sn**	**10 50 39.3**	**-1.6**
CLDR	**Caldiran**	**0.73 57**	*e*PG		**Pg**	**10 50 24.8**	**-1.2**
CLDR			*e*SG		**Sg**	**10 50 34.5**	**-0.9**
CLDR	**Caldiran**	**0.73 57**	*i* P		**Pn**	**10 50 29.0**	**-0.5**
CLDR			*i* S		**Sn**	**10 50 39.8**	**-1.6**
CLDR	**Caldiran**	**0.73 57**	*e*Pg		**Pg**	**10 50 24.8**	**-1.2**
CLDR	**Caldiran**	**0.73 57**	P		**Pn**	**10 50 29.0**	**-0.5**
CLDR			*e*Sg		**Sg**	**10 50 34.5**	**-0.9**
CLDR			S		**Sn**	**10 50 39.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.83 353**	*e*PG		**Pg**	**10 50 27.8**	**-0.1**
AGRB			*e*SG		**Sg**	**10 50 39.2**	**+0.5**
AGRB	**Hanur-Agry**	**0.83 353**	*e*Pg		**Pg**	**10 50 27.8**	**-0.1**

JMA 29 11:03:18.5±0.3, 38°.66N×143°.15E, h6km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.23 290**		P	Pg	11 03 41.7	-0.4
MIYJ	**Miyakonagasawa**	**1.38 312**		P	Pn	11 03 43.7	-0.6
JIO	**Ouri**	**1.43 262**		P	Pn	11 03 44.6	-0.3
JIO				*e*S	Sb	11 04 03.5	-0.4
JMK	**Ichinoseki**	**1.54 282**		P	Pn	11 03 46.2	-0.2
JOU	**Okura**	**1.97 262**		P	Pn	11 03 53.3	+0.8
JMM	**Marumori**	**2.02 248**		P	Pb	11 03 54.6	-1.0
JMM				*e*S	Sn	11 04 18.1	-0.5
JANG	**Nango**	**2.13 324**		P	Pb	11 03 56.6	-0.9
JAH	**Hinai**	**2.47 309**		P	Pb	11 04 01.5	-1.9

*IDC **29** 11:03:36.2±2.0, 38°.72N×143°.17E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.3/39, mbtmp3.4/4, ML3.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/44, Error ellipse: s-maj=60.7km s-min=33.3km az=95.0*
*ISCJB **29** 11:03:37.1±1.7, 38°.72N±0°.05×143°.11E±0°.08, h18km±10km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=10.7km s-min=8.0km az=11.1*
*JMA **29** 11:03:38.9±0.2, 38°.71N×142°.98E, h18km±3km, M3.5*
ISC 29 11:03:38.0±3.0, 38°.74N±0°.05×143°.00E±0°.08, h11km±17km, n19, σ1s76/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.09 289**		P	**Pb**	**11 03 58.9**	**0.0**
OFUJ				*e*S	**Sg**	**11 04 13.6**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.24 313**		P	**Pn**	**11 04 01.0**	**-0.3**
MIYJ				*e*S	**Sb**	**11 04 17.3**	**-0.2**
JIO	**Ouri**	**1.33 258**		P	**Pn**	**11 04 01.8**	**-0.6**
JIO				*e*S	**Sb**	**11 04 18.9**	**-0.9**
JMK	**Ichinoseki**	**1.41 279**		P	**Pn**	**11 04 03.6**	**+0.1**
JMK				*e*S	**Sn**	**11 04 22.1**	**+0.1**
JOM	**Ohasama**	**1.52 299**		P	**Pn**	**11 04 05.9**	**+0.9**
JOM				*e*S	**Sn**	**11 04 24.7**	**-0.1**
JANG	**Nango**	**2.00 325**		P	**Pn**	**11 04 12.3**	**+0.7**
JANG				*e*S	**Sn**	**11 04 39.1**	**+2.5**
JYK	**Kaneyama**	**2.07 276**		P	**Pn**	**11 04 13.9**	**+1.3**
MJAR	**Matsushiro Arr**	**4.39 242**		Pn	**Pn**	**11 04 45.5**	**+1.0**
	0.8nm,0.3s,baz=48,slow=12,SNR=7.6						
MJAR				Sn	**Sb**	**11 05 43.0**	**-5.1**
	baz=70,slow=11,SNR=2.8						
MAT	**Matsushiro**	**4.39 242**		P	**Pn**	**11 04 47.8**	**+3.2**
MAT				*e*S	**Sn**	**11 05 37.2**	**+1.5**
ASAJ	**Asahikawa**	**5.38 357**		Pn	**Pn**	**11 04 58.2**	**+0.1**
	0.5nm,0.3s,baz=195,slow=5.5,SNR=7.3						
ASAJ				Sn	**Sn**	**11 05 58.5**	**-1.5**
	0.2nm,0.3s,baz=60,slow=8.1,SNR=2.7						
H11N2	**WAKE ISLAND Hy 28.03 126**			T	T	11 38 46.1	
	baz=318,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy 28.04 126**			T	T	11 38 45.0	
	baz=318,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy 28.05 126**			T	T	11 38 46.6	
	baz=318,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy 28.82 128**			T	T	11 39 43.5	
	baz=320,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy 28.82 128**			T	T	11 39 43.5	
	baz=320,slow=76,SNR=3.1						
H11S2	**WAKE ISLAND Hy 28.83 128**			T	T	11 39 42.3	
	baz=320,slow=76,SNR=4.6						
KDAK	**Kodiak Island**	**45.00 43**		LR	LR	11 29 21.5	
	comp=Z,41nm,21.2s,baz=232,slow=34						
WRA	**Warramunga Arr**	**58.93 190**		P	**P**	**11 13 36.7**	**-0.4**
	0.5nm,0.6s,baz=7.2,slow=6.9,SNR=6.5						
ASAR	**Alice Springs**	**62.66 189**		P	**P**	**11 14 03.1**	**+0.5**
	0.2nm,0.7s,baz=15,slow=13,SNR=4.4						

*ISCJB **29** 11:19:14.9±0.7, 38°.68N±0°.03×43°.64E±0°.05, h17km±8km, Error ellipse: s-maj=7.2km s-min=5.4km az=18.8*
*CSEM **29** 11:19:14.4±0.3, 38°.68N×43°.60E, h12km, ML3.0, Error ellipse: s-maj=6.8km s-min=5.1km az=101.0*
*DDA **29** 11:19:14.4, 38°.69N×43°.60E, h7km, Ml3.0*
*ISK **29** 11:19:14.3, 38°.78N×43°.41E, h5km, ML2.5*
ISC 29 11:19:14.6±1.1, 38°.71N±0°.02×43°.60E±0°.03, h13km±11km, n25, σ0s92/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20 237**		*e*PG	**Pb**	**11 19 20.0**	**-0.2**
VANB				*e*SG	**Sb**	**11 19 26.4**	**+2.5**
VANB	**Van**	**0.20 237**		*e*Pg	**Pb**	**11 19 20.0**	**-0.2**
VANB				*e*Sg	**Sb**	**11 19 26.4**	**+2.5**
TVAN	**Van**	**0.23 221**		*i* P	**Pg**	**11 19 19.9**	**+0.2**
TVAN				*i* S	**Sb**	**11 19 24.6**	**-0.4**
TVAN	**Van**	**0.23 221**		P	**Pg**	**11 19 19.9**	**+0.2**
TVAN				S	**Sb**	**11 19 24.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.28 355**		*i* P	**Pg**	**11 19 20.2**	**-0.4**
VMUR				*i* S	**Sb**	**11 19 26.2**	**-0.2**
VMUR	**Van-Muradiye**	**0.28 355**		P	**Pg**	**11 19 20.2**	**-0.4**
VMUR				S	**Sb**	**11 19 26.2**	**-0.2**
CLDR	**Caldiran**	**0.50 29**		*e*PG	**Pb**	**11 19 25.6**	**+0.2**
CLDR				*e*SG	**Sb**	**11 19 34.9**	**+2.2**
CLDR	**Caldiran**	**0.50 29**		*i* P	**Pb**	**11 19 25.7**	**+0.2**
CLDR				*i* S	**Sb**	**11 19 33.0**	**+0.3**
CLDR	**Caldiran**	**0.50 29**		*e*Pg	**Pb**	**11 19 25.6**	**+0.2**
CLDR				S	**Sb**	**11 19 33.0**	**+0.3**
CLDR				*e*Sg	**Sb**	**11 19 34.9**	**+2.2**
GEVA	**Gevas**	**0.58 227**		*i* P	**Pg**	**11 19 25.5**	**-0.5**
GEVA	**Gevas**	**0.58 227**		P	**Pg**	**11 19 25.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.69 279**		*i* P	**Pg**	**11 19 28.2**	**+0.1**
ADCV				*i* S	**Sb**	**11 19 38.3**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.69 279**		P	**Pg**	**11 19 28.2**	**+0.1**
ADCV				S	**Sb**	**11 19 38.3**	**+0.1**
BASK	**Baskale_VAN**	**0.72 154**		*i* P	**Pg**	**11 19 28.0**	**-0.7**
BASK	**Baskale_VAN**	**0.72 154**		P	**Pg**	**11 19 28.0**	**-0.7**
TUTA	**Tutak**	**0.93 319**		*i* P	**Pg**	**11 19 31.8**	**-0.7**
TUTA				*i* S	**Sb**	**11 19 45.3**	**+0.3**
TUTA	**Tutak**	**0.93 319**		P	**Pg**	**11 19 31.8**	**-0.7**
TUTA				S	**Sb**	**11 19 45.3**	**+0.3**
AGRB	**Hanur-Agry**	**0.99 332**		*e*PG	**Pb**	**11 19 32.1**	**-1.6**
AGRB	**Hanur-Agry**	**0.99 332**		*e*Pg	**Pb**	**11 19 32.1**	**-1.6**
TATV	**Tatvan**	**1.06 260**		*i* P	**Pb**	**11 19 34.5**	**-0.4**
TATV				*i* S	**Sg**	**11 19 49.1**	**+0.1**
TATV	**Tatvan**	**1.06 260**		P	**Pb**	**11 19 34.5**	**-0.4**
TATV				S	**Sg**	**11 19 49.1**	**+0.1**
HAKT	**HAKKARI**	**1.15 176**		*i* P	**Pb**	**11 19 35.7**	**-0.7**
HAKT	**HAKKARI**	**1.15 176**		P	**Pb**	**11 19 35.7**	**-0.7**
EATA	**Eleskirt**	**1.44 324**		*i* P	**Pb**	**11 19 41.8**	**+0.3**
EATA				*i* S	**Sg**	**11 20 01.5**	**+0.4**
EATA	**Eleskirt**	**1.44 324**		P	**Pb**	**11 19 41.8**	**+0.3**
EATA				S	**Sg**	**11 20 01.5**	**+0.4**

*NIED **29** 11:24:00, 38°.40N×142°.10E, h41km, Mw3.7 Best double couple: M=4.09000×10^14 NP1:φs=110.00000°, δ=11.00000°, λ=-163.00000°. NP2:φs=3.00000°, δ=87.00000°, λ=-79.00000°.*
*ISCJB **29** 11:24:09.9±0.9, 38°.42N±0°.04×142°.17E±0°.09, h52km±9km, mb3.6/7, MS3.4/2, Error ellipse: s-maj=12.0km s-min=5.8km az=18.2*
*JMA **29** 11:24:10.7±0.1, 38°.44N×142°.12E, h47km±1km, M4.0*
JMA Felt II J1.
*IDC **29** 11:24:15.1±3.4, 38°.40N×141°.97E, h88km±32km, mb3.2/7, mb1 3.5/10, mb1mx3.3/52, mbtmp3.6/10, MS2.8/4, Ms1 2.8/4, ms1mx2.7/23, Error ellipse: s-maj=30.0km s-min=18.5km az=100.0*
ISC 29 11:24:10.7±1.8, 38°.43N±0°.05×142°.21E±0°.10, h43km±17km, n28, σ1s36/35, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.67 272**		P	**Pn**	**11 24 23.1**	**-0.7**
JIO				*e*S	**Sn**	**11 24 31.7**	**-1.6**
OFUJ	**Ofunato**	**0.77 327**		P	**Pn**	**11 24 25.0**	**-0.2**
OFUJ				*e*S	**Sn**	**11 24 35.0**	**-0.7**
JMK	**Ichinoseki**	**0.93 304**		P	**Pn**	**11 24 26.8**	**-0.5**
JMK				*e*S	**Sn**	**11 24 38.7**	**-0.8**
JOU	**Okura**	**1.21 267**		P	**Pn**	**11 24 30.7**	**-0.5**
JOU				S	**Sn**	**11 24 45.4**	**-1.1**
JMM	**Marumori**	**1.25 244**		P	**Pn**	**11 24 30.7**	**-0.9**
JMM				*e*S	**Sn**	**11 24 45.5**	**-1.8**
JOM	**Ohasama**	**1.26 326**		P	**Pn**	**11 24 32.0**	**+0.1**
JOM				*e*S	**Sn**	**11 24 47.3**	**-0.3**
JFK	**Kawauchi**	**1.50 225**		P	**Pn**	**11 24 34.4**	**-0.7**
JFK				*e*S	**Sn**	**11 24 51.5**	**-1.9**
JYK	**Kaneyama**	**1.53 289**		P	**Pn**	**11 24 35.3**	**-0.2**
JYK				*e*S	**Sn**	**11 24 53.6**	**-0.5**
JRG	**Rokugo**	**1.56 309**		P	**Pn**	**11 24 35.8**	**-0.1**
JRG				*e*S	**Sn**	**11 24 54.4**	**-0.6**
JYS	**Shiratake**	**1.70 264**		P	**Pn**	**11 24 37.8**	**0.0**
JYS				*e*S	**Sn**	**11 24 57.5**	**-0.8**
JFT	**Otama**	**1.73 239**		P	**Pn**	**11 24 38.2**	**-0.2**
JFT				*e*S	**Sn**	**11 24 58.5**	**-0.8**
MJAR	**Matsushiro Arr**	**3.70 241**		P	**Pn**	**11 25 06.8**	**+1.6**
	3.8nm,0.3s,baz=33,slow=14,SNR=52						
MJAR				S	**Sn**	**11 25 51.0**	**+3.5**
	2.2nm,0.3s,baz=68,slow=14,SNR=5.2						
MJAR				LR	LR	11 26 44.9	
	comp=Z,93nm,21.9s,baz=60,slow=43						
ASAJ	**Asahikawa**	**5.69 3**		P	**Pn**	**11 25 33.1**	**+0.5**
	1.0nm,0.3s,baz=205,slow=12,SNR=9.4						
ASAJ				S	**Sn**	**11 26 34.7**	**-1.9**
	0.4nm,0.3s,baz=288,slow=20,SNR=2.4						
USRK	**Ussuriysk Ar.**	**9.60 310**		P	**Pn**	**11 26 29.1**	**+2.9**
	0.3nm,0.3s,baz=125,slow=12,SNR=11						
KSRS	**Korea Array**	**11.32 269**		P	**Pn**	**11 26 52.6**	**+2.8**
	0.2nm,0.3s,baz=78,slow=14,SNR=5.0						
KLR	**Kul'dur**	**13.16 328**		LR	LR	11 32 15.7	
	comp=Z,4.3nm,19.2s,baz=88,slow=37						
H11S1	**WAKE ISLAND Hy 29.13 126**			T	T	12 01 23.5	
	baz=318,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy 29.13 126**			T	T	12 01 19.8	
	baz=318,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy 29.15 126**			T	T	12 01 19.5	
	baz=318,slow=76,SNR=38						
ZALV	**Zalesovo Beam**	**41.45 311**		P	**P**	**11 31 52.3**	**-0.7**
	1.1nm,0.4s,baz=99,slow=7.2,SNR=5.1						
NRIK	**Noril'sk**	**42.27 335**		LR	LR	11 49 45.1	
	comp=Z,66nm,20.0s,baz=306,slow=36						
MKAR	**Makanchi Array**	**43.92 301**		P	**P**	**11 32 11.1**	**-2.1**
	0.4nm,0.6s,baz=91,slow=8.5,SNR=4.2						
ILAR	**Eielson Array**	**47.98 33**		P	**P**	**11 32 45.1**	**+0.4**
	0.7nm,1.2s,baz=278,slow=10.0,SNR=2.8						
ARU	**Arti**	**55.74 318**		LR	LR	11 57 59.6	
	comp=Z,26nm,19.4s,baz=330,slow=36						
WRA	**Warramunga Arr**	**58.53 189**		P	**P**	**11 34 01.3**	**-1.4**
	0.4nm,0.6s,baz=8.0,slow=7.0,SNR=4.0						
ASAR	**Alice Springs**	**62.26 189**		P	**P**	**11 34 28.0**	**-0.2**
	0.3nm,0.7s,baz=8.7,slow=6.7,SNR=3.2						
PDAR	**Pinedale Array**	**76.24 46**		P	**P**	**11 35 55.2**	**+0.3**
	0.3nm,0.5s,baz=352,slow=2.7,SNR=3.0						
TXAR	**Lajitas Array**	**88.78 53**		P	**P**	**11 37 00.8**	**+0.6**
	0.2nm,0.6s,baz=349,slow=1.8,SNR=3.6						

WEL 29 11:32:37.2±0.4, 36°.87S×176°.73E, h186km±4km, ML3.7/14, 5C-6D, Error ellipse: s-maj=5.4km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.22 137**		⇓PN	Pn	11 33 07.4	+0.2
HAZ				SN	Sn	11 33 30.2	-0.2
RUGZ	**Raukumara Rang**	**1.32 146**		PN	Pn	11 33 08.0	-0.2
URZ	**Urewera**	**1.42 168**		⇑PN	Pn	11 33 09.1	+0.3
URZ				SN	Sn	11 33 33.9	+0.3
MXZ	**Matakaoa Point**	**1.43 119**		PN	Pn	11 33 10.7	+1.8
MWZ	**Matawai**	**1.59 157**		PN	Pn	11 33 10.3	-0.2
MWZ				SN	Sn	11 33 36.2	-0.3
MWZ				AML	AML	11 33 38.0	
MUGZ	**Murupara**	**1.60 179**		⇑PN	Pn	11 33 11.0	+0.4
TWGZ	**Tauwhareparae**	**1.64 143**		PN	Pn	11 33 11.6	+0.6
TWGZ				AML	AML	11 33 39.5	
TWGZ				AML	AML	11 33 40.5	
WMGZ	**Waiomatatini S**	**1.64 126**		PN	Pn	11 33 11.0	+0.1
WMGZ				AML	AML	11 33 39.2	
WMGZ				AML	AML	11 33 39.8	
PUZ	**Puketiti**	**1.70 135**		⇓PN	Pn	11 33 11.3	-0.3
RTZ	**Ruatahuna**	**1.75 174**		PN	Pn	11 33 12.1	-0.1
TKGZ	**Te Karaka**	**1.80 151**		PN	Pn	11 33 12.7	+0.1
TKGZ				AML	AML	11 33 41.8	
TKGZ				AML	AML	11 33 41.9	
SNGZ	**Shannon Statio**	**1.97 166**		PN	Pn	11 33 14.1	-0.2
SNGZ				AML	AML	11 33 44.8	
SNGZ				AML	AML	11 33 46.2	
MRHZ	**Matea Rd**	**1.98 187**		PN	Pn	11 33 14.5	0.0
MRHZ				AML	AML	11 33 44.7	
MRHZ				AML	AML	11 33 48.8	
CNGZ	**Carnagh Statio**	**1.99 144**		PN	Pn	11 33 13.6	-0.9
RIGZ	**Rimuhau**	**2.00 156**		PN	Pn	11 33 14.7	0.0
RIGZ				AML	AML	11 33 46.1	
RIGZ				AML	AML	11 33 46.3	
NMHZ	**Naumai**	**2.22 179**		PN	Pn	11 33 17.1	0.0
NMHZ				AML	AML	11 33 51.3	
NMHZ				AML	AML	11 33 55.0	
WHHZ	**Waihua**	**2.24 170**		PN	Pn	11 33 17.1	-0.1
WHHZ				AML	AML	11 33 50.2	
WHHZ				AML	AML	11 33 50.6	
PRGZ	**Paritu Road**	**2.24 156**		PN	Pn	11 33 17.2	-0.1
KNZ	**Kokohu**	**2.27 161**		PN	Pn	11 33 16.7	-0.9
BKZ	**Black Stump Fm**	**2.30 185**		⇑PN	Pn	11 33 17.1	-0.8
ARHZ	**Aropaoanui**	**2.40 175**		PN	Pn	11 33 18.6	-0.4
ARHZ				AML	AML	11 33 55.0	
ARHZ				AML	AML	11 33 55.5	
OTVZ	**Oturere**	**2.44 200**		⇓PN	Pn	11 33 20.2	+0.5
MHGZ	**Mahia Peninsul**	**2.46 158**		PN	Pn	11 33 19.4	-0.3
KWHZ	**Kaweka Forest**	**2.56 185**		PN	Pn	11 33 20.3	-0.7
KWHZ				AML	AML	11 33 56.1	
KWHZ				AML	AML	11 33 56.9	
MCHZ	**McNeill Hill**	**2.57 181**		PN	Pn	11 33 20.4	-0.6
TRVZ	**Turoa**	**2.60 201**		PN	Pn	11 33 21.6	0.0
WNVZ	**Wahianoa**	**2.61 200**		⇑PN	Pn	11 33 21.4	-0.2
BHHZ	**Black Hill Sta**	**2.67 191**		⇑PN	Pn	11 33 21.1	-1.1
KRHZ	**Kereru**	**2.78 186**		PN	Pn	11 33 22.3	-1.2
KAHZ	**Kahuranaki**	**2.92 178**		PN	Pn	11 33 23.8	-1.4
PNHZ	**Pukenui**	**3.07 188**		⇓PN	Pn	11 33 25.1	-1.8
PXZ	**Pawanui**	**3.16 178**		PN	Pn	11 33 25.8	-2.2
WAZ	**Wanganui**	**3.19 205**		⇓PN	Pn	11 33 27.8	-0.6
WPHZ	**Waipukurau**	**3.20 184**		PN	Pn	11 33 26.4	-2.0
TSZ	**Takapari Road**	**3.24 191**		PN	Pn	11 33 27.1	-1.9
PRHZ	**Porangahau**	**3.39 181**		PN	Pn	11 33 28.4	-2.4
PRHZ				AML	AML	11 34 12.4	
DVHZ	**Dannevirke**	**3.45 187**		PN	Pn	11 33 28.8	-2.8
ANWZ	**Angora Road**	**3.59 183**		PN	Pn	11 33 30.9	-2.4
ANWZ				AML	AML	11 34 16.1	
ANWZ				AML	AML	11 34 16.5	
POWZ	**Post Office Ro**	**3.59 192**		PN	Pn	11 33 30.9	-2.5
PRWZ	**Pori Road**	**3.73 189**		PN	Pn	11 33 32.6	-2.4
BFZ	**Birch Farm**	**3.82 186**		PN	Pn	11 33 33.6	-2.6
MRZ	**Mangatainoka R**	**3.89 193**		⇓PN	Pn	11 33 33.9	-3.2
TIWZ	**Tintock**	**3.95 189**		PN	Pn	11 33 34.8	-3.1
OGWZ	**Otaki Gorge**	**4.12 197**		PN	Pn	11 33 36.9	-3.1
OGWZ				AML	AML	11 34 27.8	
HOWZ	**Holdsworth Sta**	**4.13 193**		PN	Pn	11 33 36.5	-3.6
KIW	**Kapiti Island**	**4.23 199**		PN	Pn	11 33 38.1	-3.2
TMWZ	**Te Maipa**	**4.28 189**		PN	Pn	11 33 38.9	-3.1
MTW	**Mount Morrison**	**4.39 192**		PN	Pn	11 33 39.5	-3.9
CAW	**Cannon Point**	**4.42 197**		PN	Pn	11 33 40.0	-3.9
DUWZ	**D'Urville Isla**	**4.50 208**		PN	Pn	11 33 41.7	-3.1
MSWZ	**Moikau Station**	**4.68 194**		PN	Pn	11 33 43.0	-4.1
TCW	**Tory Channel**	**4.74 203**		PN	Pn	11 33 44.4	-3.4
PLWZ	**Palliser**	**4.83 193**		PN	Pn	11 33 44.8	-4.3
TUWZ	**Tuamarina**	**5.04 205**		PN	Pn	11 33 48.1	-3.7
NNZ	**Nelson**	**5.06 210**		PN	Pn	11 33 48.3	-3.7
THZ	**Tophouse**	**5.71 210**		PN	Pn	11 33 57.1	-3.5
KHZ	**Kahutara**	**6.06 203**		PN	Pn	11 34 00.4	-4.6

IDC 29 11:36:52.0±7.7, 7°.03S×150°.26E, h60km±57km, mb3.3/3, mb1 3.7/4, mb1mx3.2/35, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=88.6km s-min=49.6km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87 232**		P	Pn	11 37 48.8	-0.3
	4.8nm,0.3s,baz=88,slow=3.2,SNR=14						
PMG				S	Sn	11 38 34.5	+1.1
	13nm,0.3s,baz=176,slow=20,SNR=14						
WRA	**Warramunga Arr**	**20.09 229**		P	P	11 41 20.8	0.0
	2.7nm,0.7s,baz=55,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.82 222**		P	P	11 41 49.8	-0.3
	0.3nm,0.5s,baz=52,slow=9.7,SNR=12						
FITZ	**Fitzroy Crossi**	**26.39 243**		P	P	11 42 23.0	0.0
	1.3nm,0.6s,baz=54,slow=7.5,SNR=6.9						
TORD	**Torodi Ar. Bea**	**148.48 284**		PKPbc	PKPbc	11 56 32.5	-0.5
	0.5nm,0.8s,baz=85,slow=0.9,SNR=2.6						

IDC 29 11:38:42.3±1.7, 14°.23S×75°.98W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/36, mbtmp3.7/5, ML3.0/1, MS3.5/6, Ms1 3.6/6, ms1mx3.2/25, Error ellipse: s-maj=47.7km s-min=17.1km az=55.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.38 339**		Pn	Pn	11 39 23.8	+1.1
	5.2nm,0.3s,baz=154,slow=16,SNR=9.0						
NNA				LR	LR	11 39 50.4	
	comp=Z,34nm,18.6s,baz=124,slow=29						
NNA				Lg	Lg	11 39 57.6	
	67nm,0.3s,baz=150,slow=7.7,SNR=11						
ATAH	**Atahualpa**	**7.44 341**		Pn	Pn	11 40 36.1	+3.5
	0.2nm,0.3s,baz=112,slow=19,SNR=1.8						
ATAH				Sn	Sn	11 42 01.2	+3.3
	0.4nm,0.3s,baz=160,slow=15,SNR=1.9						
LPAZ	**La Paz**	**7.85 106**		Pn	Pn	11 40 44.3	+5.9
	1.0nm,0.3s,baz=306,slow=7.3,SNR=30						
LPAZ				Sn	Sn	11 42 13.1	+4.8
	baz=192,slow=14,SNR=1.4						
LPAZ				LR	LR	11 44 06.8	
	comp=Z,164nm,18.1s,baz=34,slow=41						
LVC	**Limon Verde**	**10.70 142**		Pn	Pn	11 41 20.4	+3.2
	22nm,0.3s,baz=323,slow=8.2,SNR=4.0						
LVC				Sn	Sn	11 43 11.7	-6.3
	7.7nm,0.3s,baz=112,slow=19,SNR=1.9						
LVC				Lg	Lg	11 44 09.7	
	8.7nm,0.3s,baz=227,slow=19,SNR=2.6						
LVC				LR	LR	11 45 18.3	
	comp=Z,299nm,20.4s,baz=244,slow=37						
SIV	**San Ignacio**	**14.50 99**		LR	LR	11 48 28.1	
	comp=Z,305nm,19.4s,baz=236,slow=40						
PTGA	**Pitinga**	**20.75 51**		P	P	11 43 25.0	+0.1
	1.7nm,0.7s,baz=228,slow=13,SNR=2.3						
PTGA				LR	LR	11 51 14.2	
	comp=Z,52nm,18.2s,baz=230,slow=36						
CPUP	**Villa Florida**	**21.20 127**		P	P	11 43 29.7	0.0
	3.7nm,1.0s,baz=287,slow=11,SNR=3.9						
RCBR	**Riachuelo**	**40.28 82**		LR	LR	12 04 48.6	
	comp=Z,98nm,20.4s,baz=270,slow=39						
TXAR	**Lajitas Array**	**50.90 328**		P	P	11 47 45.1	-0.4
	0.1nm,0.5s,baz=146,slow=8.7,SNR=2.5						
RAR	**Rarotonga**	**79.30 251**		LR	LR	12 18 02.0	
	comp=Z,76nm,20.2s,baz=96,slow=30						
TORD	**Torodi Ar. Bea**	**81.58 74**		P	P	11 51 02.7	0.0
	1.5nm,0.7s,baz=266,slow=4.5,SNR=7.6						
SONM	**Songino Array**	**146.44 357**		PKPbc	PKPdf	11 58 24.7	+0.4
	0.6nm,0.6s,baz=346,slow=1.8,SNR=3.2						

*CSEM **29** 11:40:24.9±0.2, 38°.71N×43°.49E, h10km, ML2.8, Error ellipse: s-maj=6.9km s-min=4.8km az=88.0*
*ISK **29** 11:40:24.6, 38°.76N×43°.36E, h12km, ML2.8*
*ISCJB **29** 11:40:25.6±0.6, 38°.69N±0°.03×43°.51E±0°.06, h21km±7km, Error ellipse: s-maj=8.0km s-min=4.9km az=7.5*
*DDA **29** 11:40:25.1, 38°.69N×43°.47E, h7km, Ml3.0*
ISC 29 11:40:25.4±1.0, 38°.71N±0°.02×43°.50E±0°.03, h19km±2km, n26, σ0s90/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15 217**

TUTA			S	Sb	11 50 34.0	+1.0
AGRB	Hanur-Agry	0.96 336	*e*PG	Pb	11 50 22.1	-0.6
AGRB	Hanur-Agry	0.96 336	*e*Pg	Pb	11 50 22.1	-0.6
TATV	Tatvan	0.99 259	*i* P	Pb	11 50 22.7	-0.5
TATV			*i* S	Sg	11 50 36.8	0.0
TATV	Tatvan	0.99 259	P	Pb	11 50 22.7	-0.5
TATV			S	Sg	11 50 36.8	0.0
HAKT	HAKKARI	1.15 172	*i* P	Pn	11 50 25.0	-0.8
HAKT	HAKKARI	1.15 172	P	Pn	11 50 25.0	-0.8
CUKT	Cukurca	1.45 177	*e*PN	Pn	11 50 30.2	+0.3
CUKT	Cukurca	1.45 177	*e*Pn	Pn	11 50 30.2	+0.3

*CSEM **29** 12:02:24.6±0.2, 38°.65N×43°.51E, h10km, ML3.1, Error ellipse: s-maj=4.9km s-min=3.5km az=102.0*
*DDA **29** 12:02:24.0, 38°.63N×43°.51E, h23km, Ml3.6*
*ISK **29** 12:02:24.5, 38°.69N×43°.39E, h12km, ML3.1*
*ISCJB **29** 12:02:25.4±0.4, 38°.65N±0°.02×43°.51E±0°.04, h17km±5km, Error ellipse: s-maj=5.3km s-min=3.8km az=11.7*
ISC 29 12:02:24.9±0.9, 38°.66N±0°.02×43°.50E±0°.03, h16km±6km, n39, σ0°75/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	235	*e*PG	Pg	12 02 28.5	0.0
VANB				*e*SG	Sb	12 02 32.4	+1.3
VANB	Van	0.10	235	*e*Pg	Pg	12 02 28.5	0.0
TVAN	Van	0.14	210	*i* P	Pg	12 02 28.5	-0.6
TVAN				*i* S	Sb	12 02 32.3	0.0
TVAN	Van	0.14	210	P	Pg	12 02 28.5	-0.6
TVAN				S	Sb	12 02 32.3	0.0
VMUR	Van-Muradiye	0.34	10	*i* P	Pg	12 02 31.6	-0.5
VMUR				*i* S	Sb	12 02 38.3	+0.4
VMUR	Van-Muradiye	0.34	10	P	Pg	12 02 31.5	-0.5
VMUR				S	Sb	12 02 38.3	+0.4
ERCV	ERCIS-VAN	0.39	341	*e*PG	Pg	12 02 31.4	-1.4
ERCV	ERCIS-VAN	0.39	341	*e*Pg	Pg	12 02 31.4	-1.4
GEVA	Gevas	0.49	225	*i* P	Pg	12 02 34.5	-0.2
GEVA				*i* S	Sb	12 02 43.1	+1.0
GEVA	Gevas	0.49	225	P	Pg	12 02 34.5	-0.2
GEVA				S	Sb	12 02 43.1	+1.0
CLDR	Caldiran	0.59	34	*e*PG	Pb	12 02 37.0	0.0
CLDR				*e*SG	Sb	12 02 45.8	+0.7
CLDR	Caldiran	0.59	34	*i* P	Pg	12 02 36.3	-0.3
CLDR				*i* S	Sb	12 02 45.5	+0.4
CLDR	Caldiran	0.59	34	P	Pg	12 02 36.3	-0.3
CLDR	Caldiran	0.59	34	*e*Pg	Pb	12 02 37.0	0.0
CLDR				S	Sb	12 02 45.5	+0.4
ADCV	BITLIS_Adilcev	0.62	284	*i* P	Pg	12 02 36.9	-0.3
ADCV				*i* S	Sb	12 02 46.8	+0.7
ADCV	BITLIS_Adilcev	0.62	284	P	Pg	12 02 36.9	-0.3
ADCV				S	Sb	12 02 46.8	+0.7
BASK	Baskale_VAN	0.72	146	*i* P	Pg	12 02 38.0	-1.0
BASK				*i* S	Sb	12 02 49.7	+0.8
BASK	Baskale_VAN	0.72	146	P	Pg	12 02 38.0	-1.0
BASK				S	Sb	12 02 49.7	+0.8
DYDN	Diyadin	0.90	9	*i* P	Pb	12 02 41.9	-0.4
DYDN				*i* S	Sn	12 02 55.4	-0.5
DYDN	Diyadin	0.90	9	P	Pb	12 02 41.9	-0.4
DYDN				S	Sn	12 02 55.4	-0.5
TUTA	Tutak	0.92	325	*i* P	Pb	12 02 42.0	-0.6
TUTA				*i* S	Sg	12 02 55.5	+0.7
TUTA	Tutak	0.92	325	P	Pb	12 02 42.0	-0.6
TUTA				S	Sg	12 02 55.5	+0.7
TATV	Tatvan	0.98	262	*i* P	Pb	12 02 42.7	-0.8
TATV				*i* S	Sg	12 02 56.6	0.0
TATV	Tatvan	0.98	262	P	Pb	12 02 42.7	-0.8
TATV				S	Sg	12 02 56.6	0.0
AGRB	Hanur-Agry	1.00	337	*e*PG	Pb	12 02 43.1	-0.9
AGRB	Hanur-Agry	1.00	337	*e*Pg	Pb	12 02 43.1	-0.9
HAKT	HAKKARI	1.11	171	*i* P	Pb	12 02 44.3	-1.5
HAKT				*i* S	Sn	12 03 02.1	+1.1
HAKT	HAKKARI	1.11	171	P	Pb	12 02 44.3	-1.5
HAKT				S	Sn	12 03 02.1	+1.1
CUKT	Cukurca	1.41	176	*e*PN	Pb	12 02 51.0	+0.1
CUKT	Cukurca	1.41	176	*e*Pn	Pb	12 02 51.0	+0.1
EATA	Eleskirt	1.44	327	*i* P	Pb	12 02 51.1	-0.4
EATA				*i* S	Sg	12 03 12.7	+1.3
EATA	Eleskirt	1.44	327	P	Pb	12 02 51.1	-0.4
EATA				S	Sg	12 03 12.7	+1.3
SVAN	Silvan-Diyarba	1.88	255	*e*PN	Pn	12 02 56.2	-0.2
SVAN	Silvan-Diyarba	1.88	255	*e*Pn	Pn	12 02 56.2	-0.2
BTMN	Batman	1.91	247	*i* P	Pb	12 02 58.8	-0.6
BTMN				*i* S	Sg	12 03 25.6	-0.8
BTMN	Batman	1.91	247	P	Pb	12 02 58.8	-0.6
BTMN				S	Sg	12 03 25.6	-0.8
BNGB	Bing¯¶l	2.23	280	*e*PN	Pn	12 03 01.1	-0.2
MAZI	Mazidag	2.69	245	*e*PN	Pn	12 03 08.4	+0.8
MAZI	Mazidag	2.69	245	*e*Pn	Pn	12 03 08.4	+0.8

*ISCJB **29** 12:17:51.7±0.7, 1°.69S±0°.06×99°.49E±0°.06, h30km, mb3.3/3, MS3.2/1, Error ellipse: s-maj=10.4km s-min=5.6km az=39.9*
*DJA **29** 12:17:51.4±0.4, 2°.5±3°.×10°.0E±°, h14km±4km, M3.4/7, MLv3.4/7*
*IDC **29** 12:17:51.8±3.5, 1°.35S×100°.31E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=154.2km s-min=23.5km az=57.0*
ISC 29 12:17:52.9±0.8, 1°.65±0°.05×99°.52E±0°.06, h30km, n15, σ1°31/15, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.53	307	P	Pb	12 18 01.6	-2.3
SISI				S	Sb	12 18 10.7	-0.7
PDSI	Padang	1.19	52	P	Pn	12 18 12.6	-1.0
PDSI				S	Sb	12 18 30.1	0.0
PPSI	Pulau Pagai	1.21	156	P	Pn	12 18 13.2	-0.7
PPSI				S	Sb	12 18 31.5	+0.8
PBSI	Pulau Batu	2.01	322	P	Pn	12 18 25.1	+0.3
PBSI				S	Sn	12 18 49.6	+0.7
MASI	Maura Aman, Be	3.10	119	P	Pn	12 18 40.1	+0.2
GSI	Gunungsitoli	3.52	326	P	Pn	12 18 45.8	+0.2
CMAR	Chiang Mai Arr	19.98	358	P	P	12 22 23.4	+0.3
	0.3nm,0.3s,baz=195,slow=9.8,SNR=2.5						
H08S2	Diego Garcia H	27.57	257	T	T	12 52 10.9	
	baz=81,slow=75						
H08S3	Diego Garcia H	27.58	257	T	T	12 52 11.9	
	baz=81,slow=75						
H08S1	Diego Carcia H	27.59	257	T	T	12 52 11.9	
	baz=81,slow=75						
NWAO	Narrogin (SRO)	35.29	154	LR	LR	12 37 13.1	
	comp=Z,38nm,19.0s,slow=33						
WRA	Warramunga Arr	38.59	121	P	P	12 25 12.3	-1.3
	0.4nm,0.6s,baz=303,slow=8.9,SNR=4.9						
ASAR	Alice Springs	39.85	126	P	P	12 25 23.8	-0.4
	0.3nm,0.5s,baz=295,slow=7.9,SNR=8.7						
MKAR	Makanchi Array	50.56	345	P	P	12 26 51.9	+3.2
	0.2nm,0.6s,baz=169,slow=8.2,SNR=3.0						
TXAR	Lajitas Array	144.71	37	PKP	PKPdf	12 37 27.6	-0.1
	0.2nm,0.5s,baz=241,slow=1.1,SNR=4.9						

*AZER **29** 12:18:03.7±7.5, 37°.91N×42°.97E, h82km±676km, Error ellipse: s-maj=254.8km s-min=67.9km az=97.0*
*ISK **29** 12:18:08.9, 38°.75N×43°.29E, h12km, ML3.8*
*CSEM **29** 12:18:09.9±0.2, 38°.72N×43°.30E, h10km, ML3.8, Error ellipse: s-maj=5.5km s-min=4.5km az=110.0*
*DDA **29** 12:18:09.2, 38°.75N×43°.29E, h5km, Ml4.1*
ISC 29 12:18:09.5±0.8, 38°.75N±0°.02×43°.31E±0°.02, h16km±7km, n77, σ0°96/108, 4C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.17	159	PG	Pb	12 18 14.7	+0.4
VANB				*e*SG	Sb	12 18 19.1	+1.6
VANB	Van	0.17	159	*i* Pg	Pb	12 18 14.7	+0.4
TVAN	Van	0.23	162	||*i* P	Pg	12 18 14.5	-0.4
TVAN				*i* S	Sg	12 18 18.4	-0.1
TVAN	Van	0.23	162	P	Pg	12 18 14.5	-0.4
TVAN				S	Sg	12 18 18.4	-0.1
ERCV	ERCIS-VAN	0.27	4	PG	Pg	12 18 15.2	-0.2
ERCV				*e*SG	Sb	12 18 20.0	-0.5
ERCV	ERCIS-VAN	0.27	4	*i* Pg	Pg	12 18 15.2	-0.2
ERCV				*e*Sg	Sb	12 18 20.0	-0.5
VMUR	Van-Muradiye	0.31	40	||*i* P	Pg	12 18 16.2	+0.1
VMUR				*i* S	Sb	12 18 21.7	-0.1
VMUR	Van-Muradiye	0.31	40	P	Pg	12 18 16.2	+0.1
VMUR				S	Sb	12 18 21.7	-0.1
ADCV	BITLIS_Adilcev	0.46	277	*i* P	Pb	12 18 18.9	-0.5
ADCV	BITLIS_Adilcev	0.46	277	P	Pb	12 18 18.9	-0.5
GEVA	Gevas	0.48	204	||*i* P	Pg	12 18 18.4	-0.7
GEVA				*i* S	Sb	12 18 26.6	0.0
GEVA	Gevas	0.48	204	P	Pg	12 18 18.5	-0.7
GEVA				S	Sb	12 18 26.6	0.0
CLDR	Caldiran	0.61	50	*e*PG	Pg	12 18 21.3	-0.3
CLDR				*e*SG	Sb	12 18 30.7	+0.2
CLDR	Caldiran	0.61	50	*i* P	Pg	12 18 21.2	-0.3
CLDR				*i* S	Sg	12 18 30.1	+0.3
CLDR	Caldiran	0.61	50	*e*Pg	Pg	12 18 21.3	-0.3
CLDR				S	Sg	12 18 30.1	+0.3
TUTA	Tutak	0.76	329	||*i* P	Pg	12 18 23.8	-0.5
TUTA				*i* S	Sb	12 18 34.6	0.0
TUTA	Tutak	0.76	329	P	Pg	12 18 23.8	-0.5
TUTA				S	Sb	12 18 34.6	0.0
DYDN	Diyadin	0.84	20	*i* P	Pg	12 18 25.6	-0.3
DYDN	Diyadin	0.84	20	P	Pg	12 18 25.6	-0.3
TATV	Tatvan	0.85	254	*i* P	Pg	12 18 25.3	-0.8
TATV				*i* S	Sg	12 18 37.0	-0.4
TATV	Tatvan	0.85	254	P	Pg	12 18 25.3	-0.8
TATV				S	Sg	12 18 37.0	-0.4
AGRB	Hanur-Agry	0.86	343	*e*PG	Pg	12 18 25.7	-0.5
AGRB				*e*SG	Sb	12 18 37.5	0.0
AGRB	Hanur-Agry	0.86	343	*e*Pg	Pg	12 18 25.7	-0.5
AGRB				*e*Sg	Sb	12 18 37.5	0.0
BASK	Baskale_VAN	0.89	142	*i* P	Pg	12 18 25.7	-1.0
BASK	Baskale_VAN	0.89	142	P	Pg	12 18 25.7	-1.0
EKAR	Karacoban	1.09	298	||*i* P	Pn	12 18 30.5	+0.1
EKAR	Karacoban	1.09	298	P	Pn	12 18 30.5	+0.1
HAKT	HAKKARI	1.23	165	||*i* P	Pn	12 18 31.4	-0.9
HAKT	HAKKARI	1.23	165	P	Pn	12 18 31.4	-0.9
EATA	Eleskirt	1.28	330	*i* P	Pb	12 18 33.6	+0.2
EATA				*i* S	Sg	12 18 51.6	+0.7
EATA	Eleskirt	1.28	330	P	Pb	12 18 33.6	+0.2
EATA				S	Sg	12 18 51.6	+0.7
SIRN	S¯–rnak	1.44	210	*i* P	Pn	12 18 35.3	+0.3
SIRN				*i* S	Sg	12 18 56.0	0.0
SIRN	S¯–rnak	1.44	210	P	Pn	12 18 35.3	+0.3
SIRN				S	Sg	12 18 56.0	0.0
VRTB	Varto-Mus	1.50	286	*e*PN	Pn	12 18 35.2	-0.8
VRTB	Varto-Mus	1.50	286	*i* P	Pn	12 18 31.8	-4.2
VRTB				*i* S	Sg	12 18 58.4	+0.4
VRTB	Varto-Mus	1.50	286	*e*Pn	Pn	12 18 35.2	-0.8
VRTB				S	Sg	12 18 58.4	+0.4
CUKT	Cukurca	1.52	171	*e*PN	Pn	12 18 36.3	+0.1
CUKT	Cukurca	1.52	171	*i* P	Pn	12 18 36.7	+0.5
CUKT	Cukurca	1.52	171	*e*Pn	Pn	12 18 36.3	+0.1
CUKT	Cukurca	1.52	171	P	Pn	12 18 36.7	+0.5
DIGO	Kars	1.66	2	*i* P	Pb	12 18 40.6	+0.7
DIGO	Kars	1.66	2	P	Pb	12 18 40.6	+0.7
HOMI	Horasan	1.69	320	*i* P	Pb	12 18 40.9	+0.5
BNGL	BINGOL	1.70	277	*i* P	Pb	12 18 40.9	+0.4
NAX	Nakhchivan	1.75	75	||P	Pb	12 18 41.7	+0.4
NAX				||S	Sg	12 19 07.8	+1.9
NAX	Nakhchivan	1.75	75	P	Pb	12 18 41.7	+0.4
NAX				S	Sg	12 19 07.8	+1.9
SVAN	Silvan-Diyarba	1.76	251	*e*PN	Pn	12 18 40.0	+0.5
SVAN	Silvan-Diyarba	1.76	251	*i* P	Pb	12 18 42.0	+0.5
SVAN				*i* S	Sb	12 19 04.6	+1.1
SVAN	Silvan-Diyarba	1.76	251	*e*Pn	Pn	12 18 40.0	+0.5
SVAN	Silvan-Diyarba	1.76	251	P	Pb	12 18 42.0	+0.5
BTMN	Batman	1.82	242	*i* P	Pb	12 18 42.3	-0.2
BTMN				*i* S	Sg	12 19 07.4	-0.7
BTMN	Batman	1.82	242	P	Pb	12 18 42.3	-0.2
ERZM	Erzurum	1.90	308	*i* P	Pg	12 18 44.9	-1.1
ERZM	Erzurum	1.90	308	P	Pg	12 18 44.9	-1.1
EAK	Akyaka	1.94	7	*i* P	Pb	12 18 45.4	+0.7
EAK				*i* S	Sg	12 19 11.9	-0.2
EAK	Akyaka	1.94	7	P	Pb	12 18 45.4	+0.7
EAK				S	Sg	12 19 11.9	-0.2
BNGB	Bing¯¶l	2.07	277	*e*PN	Pn	12 18 44.5	+0.8
DDEM	Demirkent	2.45	331	*i* P	Pb	12 18 53.4	+0.1
DDEM	Demirkent	2.45	331	P	Pb	12 18 53.4	+0.1
MARD	Mardin	2.46	235	*i* P	Pn	12 18 51.1	+2.0
KOPT	Kop Dagi	2.52	301	*i* P	Pb	12 18 55.1	+0.6
KOPT	Kop Dagi	2.52	301	P	Pb	12 18 55.1	+0.6
DAGI	Agillar	2.56	336	*i* P	Pb	12 18 56.6	+1.5
MAZI	Mazidag	2.60	241	*e*PN	Pn	12 18 52.2	+1.2
MAZI	Mazidag	2.60	241	*e*Pn	Pn	12 18 52.2	+1.2
ARTV	Artvin	2.65	337	*i* P	Pg	12 18 59.2	-1.2
GDB	GEDABAY	2.72	43	||P	Pb	12 18 55.8	-2.1
GDB	GEDABAY	2.72	43	P	Pb	12 18 55.8	-2.1
EPOS	Posof	2.78	351	*i* P	Pb	12 19 00.5	+1.5
QZX	Qazax, Azerbai	2.80	34	||P	Pb	12 18 57.7	-1.4
QZX				||S	Sg	12 19 41.0	+1.7
QZX	Qazax, Azerbai	2.80	34	P	Pb	12 18 57.7	-1.4
GANJ	Ganja	3.00	50	||P	Pb	12 18 60.0	-2.5
GANJ	Ganja	3.00	50	P	Pb	12 19 00.0	-2.5
PTK	Pertek	3.06	274	*e*PN	Pn	12 18 58.6	+1.1
PTK	Pertek	3.06	274	*e*Pn	Pn	12 18 58.6	+1.1
SVRC	Sivrice-ELAZID	3.16	264	*e*PN	Pn	12 19 00.0	+1.2
SVRC	Sivrice-ELAZID	3.16	264	*e*Pn	Pn	12 19 00.0	+1.2

IDC 29 12:18:45.2±5.0, 33°.30S×179°.97W, h283km±52km, mb3.4/3, mb1 3.6/5, mb1mx3.2/29, mbtmp4.1/5, Error ellipse: s-maj=57.8km s-min=30.4km az=1.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.49	205	P	Pn	12 20 08.5	+0.8
	3.2nm,0.3s,baz=58,slow=15,SNR=48						
URZ				S	S	12 21 14.3	+0.3
	8.2nm,0.3s,baz=18,slow=9.6,SNR=18						
RPZ	Rata Peaks	12.54	211	P	Pn	12 21 33.3	-1.2
	0.7nm,0.3s,baz=22,slow=4.5,SNR=4.6						
RPZ				S	S	12 23 50.6	-3.2
	1.2nm,0.3s,baz=84,slow=11,SNR=6.6						
ASAR	Alice Springs	41.38	271	P	P	12 26 04.3	-0.1
	1.0nm,0.5s,baz=109,slow=7.6,SNR=21						
WRA	Warramunga Arr	42.64	276	P	P	12 26 13.7	-0.8
	2.2nm,0.3s,baz=114,slow=8.1,SNR=20						
FITZ	Fitzroy Crossi	50.76	273	P	P	12 27 18.1	+1.0
	1.5nm,0.9s,baz=135,slow=8.6,SNR=3.8						
FINES	FINESS Array B	147.23	337	PKPbc	PKPbc	12 37 53.7	-0.7
	1.3nm,0.5s,baz=49,slow=4.2,SNR=11						
NB2	NORSAR Subarra	151.31	349	PKP	PKPbc	12 38 04.5	-0.1
	comp=Z,0.2nm,0.4s,baz=30,slow=3.3						
NOA	NORSAR Array B	151.31	349	PKPbc	PKPbc	12 38 04.1	-0.5
	comp=Z,0.6nm,0.5s,baz=18,slow=4.2,SNR=3.2						

*ISCJB **29** 12:19:07.9±0.4, 39°.11N±0°.03×29°.08E±0°.03, h7km±4km, Error ellipse: s-maj=5.2km s-min=3.8km az=161.4*
*DDA **29** 12:19:07.5, 39°.11N×29°.07E, h7km, Ml2.9*
*ISK **29** 12:19:07.1, 39°.09N×29°.13E, h7km, ML2.4*
*CSEM **29** 12:19:08.0±0.1, 39°.10N×29°.08E, h10km, ML2.4, Error ellipse: s-maj=3.5km s-min=3.1km az=156.0*
ISC 29 12:19:07.8±0.8, 39°.11N±0°.03×29°.08E±0°.02, h11km±6km, n39, σ0°39/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.08	254	PG	Pg	12 19 10.4	-0.1
SIMA				*e*SG	Sg	12 19 12.1	-0.3
SIMA	Simav-Kutahya	0.08	254	*i* Pg	Pg	12 19 10.4	-0.1
SIMA				*e*Sg	Sg	12 19 12.1	-0.3
DEMI	Demirci	0.29	258	*i* P	Pg	12 19 13.7	-0.1
DEMI				*i* S	Sg	12 19 17.6	-0.1
DEMI	Demirci	0.29	258	P	Pg	12 19 13.7	-0.1
DEMI				S	Sg	12 19 17.6	-0.1
GDZ	Gediz	0.31	93	*i* P	Pg	12 19 14.3	+0.1
GDZ				*i* S	Sg	12 19 19.1	+0.6
GDZ	Gediz	0.31	93	P	Pg	12 19 14.3	+0.1
GDZ				S	Sg	12 19 19.1	+0.6
TVSB	Tavsanli	0.45	41	*e*PG	Pg	12 19 16.6	-0.2
TVSB				*e*SG	Sg	12 19 22.4	-0.5
TVSB	Tavsanli	0.45	41	*e*Pg	Pg	12 19 16.6	-0.2
TVSB				*e*Sg	Sg	12 19 22.4	-0.5
DST	Dursunbey	0.61	325	*e*PG	Pb	12 19 20.7	+0.1
DST	Dursunbey	0.61	325	*e*Pg	Pb	12 19 20.7	+0.1
KULA	Kula-Manisa	0.68	209	*e*PG	Pg	12 19 20.3	-0.6
KULA	Kula-Manisa	0.68	209	*e*Pg	Pg	12 19 20.3	-0.6
KHAL	Karahalli	0.80	156	*i* P	Pn	12 19 25.5	+0.3
KHAL				*i* S	Sb	12 19 34.4	-0.3
KHAL	Karahalli	0.80	156	P	Pn	12 19 25.5	+0.3
KHAL				S	Sb	12 19 34.4	-0.3
AKHS	Akhisar	1.01	257	*i* P	Pb	12 19 27.4	+0.1
AKHS				*i* S	Sb	12 19 40.4	-0.2
AKHS	Akhisar	1.01	257	P	Pb	12 19 27.4	+0.1
AKHS				S	Sb	12 19 40.4	-0.2
BALB	Balikesir	1.07	300	*e*PN	Pb	12 19 28.4	+0.1
BALB	Balikesir	1.07	300	*e*Pn	Pb	12 19 28.4	+0.1
STEP	BALIKESIR_Sava	1.09	285	*i* P	Pb	12 19 28.8	+0.1
STEP				*i* S	Sb	12 19 43.6	+0.7
STEP	BALIKESIR_Sava	1.09	285	P	Pb	12 19 28.8	+0.1
STEP				S	Sb	12 19 43.6	+0.7
IGD	Bursa	1.16	5	*i* P	Pg	12 19 29.0	-1.2
IGD				*i* S	Sn	12 19 46.0	+0.2
CAVI	Cavuskoy	1.24	28	*e*PN	Pb	12 19 31.2	-0.1
CAVI	Cavuskoy	1.24	28	*e*Pn	Pb	12 19 31.2	-0.1
SHUT	Suhut-Afyon	1.27	115	*e*PN	Pn	12 19 31.6	0.0
SHUT	Suhut-Afyon	1.27	115	*e*Pn	Pn	12 19 31.6	0.0
KCTX	Karacabey (Bur	1.29	335	*e*PN	Pg	12 19 32.3	-0.3
KCTX	Karacabey (Bur	1.29	335	*e*Pn	Pg	12 19 32.3	-0.3
ADVT	Abdulvahap	1.42	21	*e*PN	Pn	12 19 33.7	+0.2
ADVT	Abdulvahap	1.42	21	*e*Pn	Pn	12 19 33.7	+0.2
ARMT	Armutlu	1.47	354	*e*PN	Pb	12 19 35.0	-0.2
ARMT	Armutlu	1.47	354	*e*Pn	Pb	12 19 35.0	-0.2
YLV	Yalova	1.48	9	*e*PN	Pn	12 19 34.9	+0.5
YLV	Yalova	1.48	9	*e*Pn	Pn	12 19 34.9	+0.5
SBT5	Esenkoy-Cinarc	1.53	354	*e*PN	Pb	12 19 35.8	-0.4
SBT5	Esenkoy-Cinarc	1.53	354	*e*Pn	Pb	12 19 35.8	-0.4
EDC	Edincik	1.55	323	*e*PN	Pb	12 19 36.6	0.0
EDC	Edincik	1.55	323	*e*Pn	Pb	12 19 36.6	0.0
GULT	Gulveren	1.73	39	*e*PN	Pn	12 19 38.6	+0.8
GULT	Gulveren	1.73	39	*e*Pn	Pn	12 19 38.6	+0.8

*CSEM **29** 12:31:39.4, 38°.40N×43°.00E, h14km, ML3.8*
DDA 29 12:31:39.4, 38°.40N×43°.00E, h14km, Ml3.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.09	152	*i* P	Pg	12 31 42.2	-0.4
GEVA				*i* S	Sg	12 31 45.2	+0.4
GEVA	Gevas	0.09	152	P	Pg	12 31 42.2	-0.5
GEVA				S	Sg	12 31 45.2	+0.3
TVAN	Van	0.34	67	*i* P	Pg	12 31 46.8	+0.2
TVAN	Van	0.34	67	P	Pg	12 31 46.8	+0.3
ADCV	BITLIS_Adilcev	0.47	332	*i* P	Pg	12 31 48.6	-0.1
ADCV				*i* S	Sb	12 31 56.0	-0.4
ADCV	BITLIS_Adilcev	0.47	332	P	Pg	12 31 48.6	-0.1
ADCV				S	Sb	12 31 56.0	-0.3
TATV	Tatvan	0.59	281	*i* P	Pg	12 31 50.3	-0.7
TATV				*i* S	Sg	12 31 58.0	-0.8
TATV	Tatvan	0.59	281	P	Pg	12 31 50.3	-0.7
TATV				S	Sg	12 31 58.0	-0.8
VMUR	Van-Muradiye	0.74	37	*i* P	Pg	12 31 53.5	-0.4
VMUR				*i* S	Sn	12 32 06.0	-0.8
VMUR	Van-Muradiye	0.74	37	P	Pg	12 31 53.5	-0.4
VMUR				S	Sn	12 32 06.0	-0.8
BASK	Baskale_VAN	0.86	113	*i* P	Pg	12 31 55.9	-0.2
BASK				*i* S	Sn	12 32 10.1	+0.4
BASK	Baskale_VAN	0.86	113	P	Pg	12 31 55.9	-0.2
BASK				S	Sn	12 32 10.1	+0.4
SIRN	S¯–rnak	1.01	208	*i* P	Pb	12 31 58.6	-0.1
SIRN	S¯–rnak	1.01	208	P	Pb	12 31 58.6	-0.1
TUTA	Tutak	1.02	352	*i* P	Pb	12 31 58.5	-0.4
TUTA				*i* S	Sb	12 32 10.1	-2.1
TUTA	Tutak	1.02	352	P	Pb	12 31 58.5	-0.4
TUTA				S	Sb	12 32 10.1	-2.1
SVAN	Silvan-Diyarba	1.44	261	*i* P	Pg	12 32 06.8	-0.3
SVAN				*i* S	Sg	12 32 26.3	+0.5
SVAN	Silvan-Diyarba	1.44	261	P	Pg	12 32 06.8	-0.3
SVAN				S	Sg	12 32 26.3	+0.5
BTMN	Batman	1.46	250	*i* P	Pg	12 32 07.3	0.0
BTMN				*i* S	Sg	12 32 27.5	+1.2
BTMN	Batman	1.46	250	P	Pg	12 32 07.3	-0.1
BTMN				S	Sg	12 32 27.5	+1.2
EATA	Eleskirt	1.52	345	*i* P	Pb	12 32 08.0	+0.5
EATA				*i* S	Sg	12 32 29.8	+1.4
EATA	Eleskirt	1.52	345	P	Pb	12 32 08.0	+0.5
EATA				S	Sg	12 32 29.8	+1.4
BNGL	BINGOL	1.55	292

*CSEM **29** 12:37:15.8±0.3, 38°.57N×43°.26E, h19km, ML2.9, Error ellipse: s-maj=9.3km s-min=5.5km az=154.0*
*ISK **29** 12:37:15.8, 38°.59N×43°.29E, h20km, ML2.2*
*ISCJB **29** 12:37:16.5±1.2, 38°.55N±0°.05×43°.26E±0°.06, h22km±11km, Error ellipse: s-maj=10.4km s-min=5.5km az=143.5*
*DDA **29** 12:37:16.5, 38°.57N×43°.23E, h7km, Ml2.9*
ISC 29 12:37:15.8±1.0, 38°.57N±0°.03×43°.24E±0°.03, h18km±3km, n19, σ0s66/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**78**	PG	**Pg**	**12 37 20.0**	**+0.1**
VANB				*e*SG	**Sg**	**12 37 23.6**	**+1.0**
VANB	**Van**	**0.12**	**78**	*i* Pg	**Pg**	**12 37 20.0**	**+0.1**
VANB				*e*Sg	**Sg**	**12 37 23.6**	**+1.0**
TVAN	**Van**	**0.13**	**108**	*i* P	**Pg**	**12 37 19.8**	**-0.4**
TVAN	**Van**	**0.13**	**108**	P	**Pg**	**12 37 19.8**	**-0.4**
GEVA	**Gevas**	**0.30**	**209**	*i* P	**Pb**	**12 37 23.1**	**+0.5**
GEVA				*i* S	**Sn**	**12 37 30.2**	**-1.3**
GEVA	**Gevas**	**0.30**	**209**	P	**Pb**	**12 37 23.1**	**+0.5**
GEVA				S	**Sn**	**12 37 30.2**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.47**	**300**	*i* P	**Pg**	**12 37 25.5**	**0.0**
ADCV				*i* S	**Sb**	**12 37 33.3**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.47**	**300**	P	**Pg**	**12 37 25.5**	**0.0**
ADCV				S	**Sb**	**12 37 33.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.49**	**31**	*i* P	**Pg**	**12 37 25.8**	**0.0**
VMUR				*i* S	**Sn**	**12 37 34.6**	**-1.7**
VMUR	**Van-Muradiye**	**0.49**	**31**	P	**Pg**	**12 37 25.8**	**0.0**
TATV	**Tatvan**	**0.77**	**266**	*i* P	**Pn**	**12 37 31.6**	**-0.4**
TATV				*i* S	**Sg**	**12 37 41.5**	**+0.3**
TATV	**Tatvan**	**0.77**	**266**	P	**Pn**	**12 37 31.6**	**-0.4**
TATV				S	**Sg**	**12 37 41.5**	**+0.3**
CLDR	**Caldiran**	**0.78**	**42**	*e*PG	**Pb**	**12 37 30.6**	**-0.3**
CLDR	**Caldiran**	**0.78**	**42**	*i* P	**Pb**	**12 37 30.8**	**-0.2**
CLDR				*i* S	**Sn**	**12 37 43.6**	**+0.2**
CLDR	**Caldiran**	**0.78**	**42**	P	**Pb**	**12 37 30.8**	**-0.2**
CLDR				S	**Sn**	**12 37 43.6**	**+0.2**
TUTA	**Tutak**	**0.89**	**338**	*i* P	**Pb**	**12 37 32.4**	**-0.6**
TUTA	**Tutak**	**0.89**	**338**	P	**Pb**	**12 37 32.4**	**-0.6**
AGRB	**Hanur-Agry**	**1.02**	**349**	*e*PG	**Pg**	**12 37 35.6**	**-0.1**
AGRB				*e*SG	**Sn**	**12 37 49.8**	**+0.3**
AGRB	**Hanur-Agry**	**1.02**	**349**	*e*Pg	**Pg**	**12 37 35.6**	**-0.1**
AGRB				*e*Sg	**Sn**	**12 37 49.8**	**+0.3**

MEX 29 12:42:15.7±0.9, 17°.45N×97°.46W, h60km±25km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.79**	**118**	*e*P	Pn	12 42 30.4	-0.9
VHO				*e*S	Sn	12 42 40.9	-1.7
TLIG	**Tlapa**	**1.06**	**277**	*e*P	Pn	12 42 33.4	-1.2
TLIG				*e*S	Sn	12 42 47.4	-1.3
HMTT	**Tlapaneco**	**1.10**	**289**	*e*P	Pn	12 42 34.3	-0.9
HMTT				*e*S	Sn	12 42 48.6	-1.0
PNIG	**Pinotepa**	**1.23**	**211**	*e*P	Pn	12 42 34.7	-2.0
PNIG				*e*S	Sn	12 42 50.5	-1.9
HUIG	**Huatulco**	**2.11**	**142**	*e*P	Pn	12 43 05.2	+16
HUIG				*e*S	Sn	12 43 11.6	-2.3

IDC 29 13:26:58.3±3.6, 6°.29S×146°.81E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=115.1km s-min=51.1km az=123.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**221**	P	Pn	13 31 11.1	-1.5
	0.1nm,0.3s,baz=44,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**21.28**	**214**	P	P	13 31 47.5	+1.0
	0.4nm,0.4s,baz=54,slow=8.4,SNR=15						
FITZ	**Fitzroy Crossi**	**23.76**	**239**	P	P	13 32 12.3	-0.4
	0.5nm,0.5s,baz=54,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**144.98**	**284**	PKP	PKPdf	13 46 38.4	-0.3
	0.7nm,0.6s,baz=85,slow=4.3,SNR=5.6						

*IDC **29** 13:38:12.5±1.0, 13°.39N×120°.58E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/35, mbtmp3.8/5, Error ellipse: s-maj=22.8km s-min=10.1km az=110.0*
*ISCJB **29** 13:38:13.5±0.7, 13°.54N±0°.04×120°.49E±0°.03, h12km±5km, mb3.8/5, Error ellipse: s-maj=5.9km s-min=4.9km az=13.1*
*MAN **29** 13:38:13, 13°.57N×120°.46E, h13km, mb4.2, ML3.1, MS2.8*
MAN INTENSITY II - STO. NINO PUERTO GALERA.
ISC 29 13:38:13.4±1.2, 13°.53N±0°.03×120°.53E±0°.03, h9km±9km, n20, σ1s38/31, mb3.7/5, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**307**	*e*P	**Pg**	**13 38 20.4**	**+0.2**
LUBP				*e*S	**Sg**	**13 38 25.0**	**+0.2**
PGP	**Puerto Galera**	**0.41**	**93**	*e*P	**Pg**	**13 38 21.6**	**+0.2**
PGP				*i* S	**Sb**	**13 38 28.2**	**-1.1**
TGY	**Tagaytay City**	**0.69**	**35**	Pg	**Pb**	**13 38 28.3**	**+0.5**
	394nm,0.3s,baz=196,slow=7.4,SNR=14						
TGY				Lg	Lg	13 38 38.6	
	686nm,0.3s,baz=166,slow=17,SNR=14						
LQP	**Lukban**	**1.14**	**59**	*e*P	**Pg**	**13 38 33.6**	**-1.7**
SJMP	**San Jose**	**1.21**	**152**	*e*P	**Pn**	**13 38 37.1**	**+0.6**
SJMP				*e*S	**Sn**	**13 38 55.3**	**+2.3**
BOAC	**Boac**	**1.28**	**93**	*e*P	**Pn**	**13 38 36.6**	**-0.9**
BOAC				*e*S	**Sn**	**13 38 55.3**	**+0.5**
BUSP	**Coron**	**1.55**	**192**	*e*P	**Pn**	**13 38 41.0**	**-0.3**
BUSP				*e*S	**Sb**	**13 39 01.6**	**-0.5**
OTRP	**Odiongan**	**1.86**	**128**	*e*P	**Pb**	**13 38 47.0**	**-0.6**
OTRP				*e*S	**Sb**	**13 39 10.9**	**-0.1**
GQP	**Guinayangan**	**1.90**	**78**	*e*P	**Pb**	**13 38 47.2**	**-1.1**
GQP				*e*S	**Sb**	**13 39 12.1**	**0.0**
AUQP	**San Andres**	**2.10**	**95**	*e*P	**Pg**	**13 38 55.6**	**+2.0**
AUQP				*e*S	**Sg**	**13 39 22.3**	**+1.5**
SCZP	**Santa Cruz**	**2.31**	**345**	*e*P	**Pn**	**13 38 52.0**	**+0.2**
SCZP				*e*S	**Sb**	**13 39 24.8**	**+0.7**
BALP	**Baler**	**2.42**	**25**	*e*P	**Pn**	**13 38 54.1**	**+0.9**
BALP				*e*S	**Sn**	**13 39 20.9**	**-2.1**
ENPP	**El Nido**	**2.55**	**205**	*e*P	**Pn**	**13 38 54.3**	**-0.7**
ENPP				*e*S	**Sn**	**13 39 23.9**	**-2.2**
RCP	**Roxas**	**2.92**	**132**	*e*P	**Pb**	**13 39 03.5**	**-2.2**
CAUP	**Cauayan**	**3.62**	**20**	*e*P	**Pg**	**13 39 20.8**	**-2.0**
CMAR	**Chiang Mai Arr**	**21.32**	**286**	P	**P**	**13 43 03.9**	**+3.0**
	1.8nm,0.8s,baz=99,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**35.93**	**158**	P	**P**	**13 45 13.3**	**-1.2**
	2.0nm,0.3s,baz=335,slow=9.4,SNR=13						
SONM	**Songino Array**	**36.18**	**344**	P	**P**	**13 45 16.5**	**+0.1**
	0.7nm,0.5s,baz=147,slow=8.6,SNR=3.0						
ASAR	**Alice Springs**	**39.21**	**160**	P	**P**	**13 45 41.6**	**-0.7**
	1.1nm,0.4s,baz=337,slow=6.5,SNR=24						
MKAR	**Makanchi Array**	**46.07**	**324**	P	**P**	**13 46 38.8**	**+1.0**
	0.3nm,0.6s,baz=126,slow=9.1,SNR=3.5						

JSN 29 13:47:23.9±1.1, 17°.82N×77°.27W, h15km±35km, MD3.6, 3C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**0.41**	**285**	*i* P	Pg	13 47 30.9	-1.4
MCJ				*i* S	Sg	13 47 38.2	+0.3
STH	**Stony Hill**	**0.51**	**60**	*i* P	Pg	13 47 33.2	-0.7
HOJ	**Hope**	**0.53**	**70**	*i* P	Pg	13 47 33.6	-0.7
BBJ	**Bamboo Saint A**	**0.56**	**0**	*i* P	Pg	13 47 34.2	-0.8
GWJ	**Greenwich**	**0.57**	**64**	*i* P	Pg	13 47 34.5	-0.7
MBJ	**Montego Bay**	**0.81**	**316**	*i* S	Sg	13 47 48.8	-1.5
CMJ	**Castle Mountai**	**0.91**	**70**	*i* P	Pb	13 47 40.2	-1.2

*IDC **29** 13:50:48.0±1.0, 0°.10N×77°.91W, h0km, mb3.5/5, mb1 3.9/8, mb1mx3.7/31, mbtmp3.7/8, ML3.8/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/23, Error ellipse: s-maj=31.6km s-min=17.8km az=71.0*
*ISCJB **29** 13:50:49.3±0.3, 0°.16S±0°.02×78°.41W±0°.04, h9km±3km, mb3.4/5, Error ellipse: s-maj=6.5km s-min=2.9km az=8.6*
*NEIC **29** 13:50:49.0±0.0, 0°.13S×78°.37W, h3km, mb4.0/3, ML4.0(IGQ), After IGQ.*
NEIC Some houses damaged slightly at Pomasqui and landslides occurred in the Llano Chico area. Felt [IV] at Quito and [III] at Cuenca and Sangolqui. Also felt at La Mana.

*IASPEI **29** 13:50:49.3±0.9, 0°.14S±0°.02×78°.39W±0°.04, h11km±7km, mb3.5/5, Error ellipse: s-maj=5.5km s-min=3.1km az=91.3*
*IGQ **29** 13:50:49.1±0.2, 0°.S±1°.7×78°.8W±°, h6km±2km, M4.0/24*
ISC 29 13:50:49.4±0.8, 0°.14S±0°.02×78°.40W±0°.03, h12km±6km, n106, σ1s54/110, mb3.5/5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	**Yana**	**0.17**	**276**	P	**Pg**	**13 50 53.5**	**-0.2**
YANA	**Yana**	**0.17**	**276**	P	**Pg**	**13 50 53.5**	**-0.2**
PULU	**Pululahua**	**0.19**	**327**	P	**Pg**	**13 50 53.5**	**-0.4**
PULU				S	**Sg**	**13 50 57.0**	**0.0**
PULU	**Pululahua**	**0.19**	**327**	P	**Pg**	**13 50 53.5**	**-0.4**
PULU				S	**Sg**	**13 50 57.0**	**0.0**
TERV	**Terraza Guagua**	**0.21**	**259**	P	**Pg**	**13 50 54.2**	**-0.1**
TERV	**Terraza Guagua**	**0.21**	**259**	P	**Pg**	**13 50 54.3**	**-0.1**
JUA2	**San Juan 2**	**0.22**	**249**	P	**Pg**	**13 50 54.0**	**-0.4**
JUA2	**San Juan 2**	**0.22**	**249**	P	**Pg**	**13 50 54.0**	**-0.4**
OTAV	**Otavalo**	**0.37**	**352**	*e*P	**Pg**	**13 50 56.4**	**-0.7**
OTAV	**Otavalo**	**0.37**	**352**	P	**Pg**	**13 50 56.3**	**-0.8**
OTAV	**Otavalo**	**0.37**	**352**	*e*Pg	**Pg**	**13 50 56.4**	**-0.7**
OTAV	**Otavalo**	**0.37**	**352**	*e*P	**Pg**	**13 50 56.4**	**-0.7**
OTAV	**Otavalo**	**0.37**	**352**	P	**Pg**	**13 50 56.4**	**-0.7**
ANTI	**Antisana**	**0.39**	**143**	P	**Pg**	**13 50 56.6**	**-0.8**
ANTI	**Antisana**	**0.39**	**143**	P	**Pg**	**13 50 56.7**	**-0.8**
PITA	**Cotopaxi Volc**	**0.42**	**184**	P	**Pg**	**13 50 57.7**	**-0.2**
PITA	**Cotopaxi Volc**	**0.42**	**184**	P	**Pg**	**13 50 57.7**	**-0.2**
IMBA	**Imbabura, San**	**0.46**	**26**	P	**Pg**	**13 50 58.9**	**+0.4**
IMBA	**Imbabura, San**	**0.46**	**26**	P	**Pg**	**13 50 59.0**	**+0.4**
COTA	**Cotacachi**	**0.47**	**8**	P	**Pg**	**13 50 58.5**	**-0.4**
COTA	**Cotacachi**	**0.47**	**8**	P	**Pg**	**13 50 58.5**	**-0.4**
VC1	**Cotopaxi 1**	**0.50**	**180**	P	**Pg**	**13 50 59.0**	**-0.5**
VC1	**Cotopaxi 1**	**0.50**	**180**	P	**Pg**	**13 50 59.0**	**-0.5**
BVC2	**Cotopaxi Volca**	**0.52**	**181**	P	**Pg**	**13 50 59.4**	**-0.4**
BVC2	**Cotopaxi Volca**	**0.52**	**181**	P	**Pg**	**13 50 59.4**	**-0.4**
BREF	**Cotopaxi Volca**	**0.53**	**184**	P	**Pg**	**13 50 59.7**	**-0.3**
BREF	**Cotopaxi Volca**	**0.53**	**184**	P	**Pg**	**13 50 59.8**	**-0.3**
BTAM	**Cotopaxi Volca**	**0.54**	**180**	P	**Pg**	**13 50 59.7**	**-0.4**
BTAM	**Cotopaxi Volca**	**0.54**	**180**	P	**Pg**	**13 50 59.7**	**-0.4**
BNAS	**Cotopaxi Volca**	**0.54**	**189**	P	**Pg**	**13 51 00.3**	**+0.2**
BNAS	**Cotopaxi Volca**	**0.54**	**189**	P	**Pg**	**13 51 00.3**	**+0.2**
URCU	**Urcuqui**	**0.59**	**14**	P	**Pg**	**13 51 00.5**	**-0.5**
URCU	**Urcuqui**	**0.59**	**14**	P	**Pg**	**13 51 00.5**	**-0.5**
BMOR	**Cotopaxi Volca**	**0.59**	**186**	P	**Pg**	**13 51 00.5**	**-0.7**
BMOR	**Cotopaxi Volca**	**0.59**	**186**	P	**Pg**	**13 51 00.6**	**-0.7**
YAHU	**Yahuarcocha**	**0.60**	**33**	P	**Pg**	**13 51 00.6**	**-0.6**
YAHU	**Yahuarcocha**	**0.60**	**33**	P	**Pg**	**13 51 00.6**	**-0.6**
PISA	**Pisayambo**	**0.92**	**179**	P	**Pg**	**13 51 06.3**	**-0.9**
PISA	**Pisayambo**	**0.92**	**179**	P	**Pg**	**13 51 06.3**	**-0.9**
LITE1	**Lita**	**0.92**	**2**	P	**Pg**	**13 51 05.8**	**-1.5**
LITE1	**Lita**	**0.92**	**2**	P	**Pg**	**13 51 05.8**	**-1.5**
ATUL	**Tulc¯ịn**	**1.13**	**37**	P	**Pb**	**13 51 11.0**	**0.0**
ATUL				S	**Sb**	**13 51 26.0**	**+0.3**
ATUL	**Tulc¯ịn**	**1.13**	**37**	P	**Pb**	**13 51 11.0**	**0.0**
ATUL				S	**Sb**	**13 51 26.0**	**+0.3**
CMBC	**Cumbal**	**1.21**	**28**	*e*P	**Pg**	**13 51 13.1**	**+0.3**
CMBC	**Cumbal**	**1.21**	**28**	*e*P	**Pg**	**13 51 13.1**	**+0.3**
POND	**Pondoa**	**1.28**	**182**	P	**Pn**	**13 51 12.5**	**-0.9**
POND				S	**Sb**	**13 51 30.0**	**-0.1**
POND	**Pondoa**	**1.28**	**182**	P	**Pn**	**13 51 12.6**	**-0.9**
POND				S	**Sb**	**13 51 30.1**	**-0.1**
JUI6	**Juive**	**1.28**	**183**	P	**Pn**	**13 51 12.8**	**-0.6**
JUI6	**Juive**	**1.28**	**183**	P	**Pn**	**13 51 12.8**	**-0.6**
BULB	**Ulba Tungurahu**	**1.29**	**180**	P	**Pn**	**13 51 12.6**	**-1.0**
BULB	**Ulba Tungurahu**	**1.29**	**180**	P	**Pn**	**13 51 12.7**	**-1.0**
RETU	**Refugio**	**1.31**	**182**	P	**Pn**	**13 51 13.6**	**-0.3**
RETU	**Refugio**	**1.31**	**182**	P	**Pn**	**13 51 13.7**	**-0.3**
BBIL	**Ulba Tungurahu**	**1.31**	**184**	P	**Pb**	**13 51 14.2**	**+0.1**
BBIL	**Ulba Tungurahu**	**1.31**	**184**	P	**Pb**	**13 51 14.2**	**+0.1**
BIL2	**Estacion Bilba**	**1.32**	**184**	P	**Pn**	**13 51 13.8**	**0.0**
BIL2	**Estacion Bilba**	**1.32**	**184**	P	**Pn**	**13 51 13.9**	**0.0**
BPAT	**Tungurahua Vol**	**1.36**	**181**	P	**Pn**	**13 51 14.5**	**-0.1**
BPAT				S	**Sb**	**13 51 32.5**	**-0.1**
BPAT	**Tungurahua Vol**	**1.36**	**181**	P	**Pn**	**13 51 14.6**	**-0.1**
BPAT				S	**Sb**	**13 51 32.6**	**-0.1**
BMAS	**Trigal station**	**1.36**	**183**	P	**Pn**	**13 51 14.0**	**-0.5**
BMAS	**Trigal station**	**1.36**	**183**	P	**Pn**	**13 51 14.1**	**-0.5**
MAG1	**Magdalena**	**1.38**	**273**	P	**Pn**	**13 51 14.6**	**+0.2**
MAG1	**Magdalena**	**1.38**	**273**	P	**Pn**	**13 51 14.7**	**+0.2**
CPAS2	**Pasto**	**1.77**	**40**	*e*P	**Pb**	**13 51 22.4**	**+0.4**
JAMA	**Jama**	**1.81**	**266**	P	**Pn**	**13 51 19.5**	**-0.9**
JAMA	**Jama**	**1.81**	**266**	P	**Pn**	**13 51 19.6**	**-0.9**
TUMC	**Tumaco**	**1.97**	**350**	*e*P	**Pb**	**13 51 24.5**	**-0.7**
TUMC	**Tumaco**	**1.97**	**350**	*e*Pn	**Pb**	**13 51 24.4**	**-0.9**
TUMC	**Tumaco**	**1.97**	**350**	*e*P	**Pb**	**13 51 24.5**	**-0.7**
CRUC	**La Cruz**	**2.23**	**41**	*e*P	**Pb**	**13 51 29.3**	**-0.6**
CRUC	**La Cruz**	**2.23**	**41**	*e*P	**Pb**	**13 51 29.3**	**-0.6**
GRGC	**Isla de Gorgon**	**3.12**	**4**	*e*P	**Pn**	**13 51 41.2**	**+2.7**
GRGC	**Isla de Gorgon**	**3.12**	**4**	*e*P	**Pn**	**13 51 41.2**	**+2.7**
PCON	**Cinco Dias**	**3.16**	**39**	*e*P	**Pb**	**13 51 43.9**	**-2.0**
POPC	**Popayan, Colom**	**3.17**	**33**	*e*P	**Pn**	**13 51 39.3**	**0.0**
POPC	**Popayan, Colom**	**3.17**	**33**	*e*P	**Pn**	**13 51 39.3**	**0.0**
HORQ	**Saladito**	**4.01**	**26**	*e*P	**Pn**	**13 51 53.8**	**+2.9**
PRAC	**Prado**	**5.19**	**43**	*e*Pn	**Pn**	**13 52 08.3**	**+1.4**
RREF	**El Recreo**	**5.86**	**31**	*e*P	**Pn**	**13 52 21.2**	**+4.5**
GUYC	**Guyana, Colomb**	**6.11**	**29**	*e*P	**Pn**	**13 52 23.9**	**+3.9**
GUYC	**Guyana, Colomb**	**6.11**	**29**	*e*P	**Pn**	**13 52 23.9**	**+3.9**
VILC	**Villavicencio,**	**6.32**	**48**	*e*P	**Pn**	**13 52 27.0**	**+4.5**
VILC	**Villavicencio,**	**6.32**	**48**	*e*P	**Pn**	**13 52 27.0**	**+4.5**
ROSC	**El Rosal**	**6.41**	**39**	Pn	**Pn**	**13 52 27.6**	**+3.6**
	1.2nm,0.3s,baz=152,slow=8.5,SNR=5.9						
ROSC				Lg	Lg	13 54 09.3	
	1.3nm,0.3s,baz=122,slow=17,SNR=3.0						
ROSC	**El Rosal**	**6.41**	**39**	*e*Pn	**Pn**	**13 52 26.3**	**+2.3**
ATAH	**Atahualpa**	**6.95**	**180**	Pn	**Pn**	**13 52 35.2**	**+3.7**
	2.4nm,0.3s,baz=3.5,slow=6.5,SNR=11						
ATAH				Lg	Lg	13 54 36.5	
	0.1nm,0.3s,baz=17,slow=19,SNR=1.7						
ATAH				LR	LR	13 54 54.3	
	comp=Z,47nm,21.2s,baz=317,slow=34						
RUSC	**La Rusia**	**8.00**	**41**	*e*Pn	**Pn**	**13 52 49.9**	**+3.9**
ZARC	**Zaragoza, Cauc**	**8.36**	**25**	*e*P	**Pn**	**13 52 50.3**	**-0.1**
ZARC	**Zaragoza, Cauc**	**8.36**	**25**	*e*P	**Pn**	**13 52 50.3**	**-0.1**
SDV	**Santo Domingo**	**11.84**	**41**	LR	LR	13 58 31.0	
	comp=Z,134nm,21.3s,baz=251,slow=41						
NNA	**Nana**	**11.88**	**173**	LR	LR	13 58 19.9	
	comp=Z,108nm,19.3s,baz=354,slow=38						
SAML	**Samuel**	**17.50**	**120**	*e*Pn	**P**	**13 54 54.4**	**-0.2**
	8.4nm,1.1s						
PTGA	**Pitinga**	**18.44**	**92**	P	**P**	**13 54 58.5**	**-6.5**
	0.1nm,0.3s,baz=311,slow=19,SNR=2.6						
PTGA				Lg	Lg	14 00 24.4	
	0.2nm,0.3s,baz=104,slow=8.3,SNR=3.3						
PTGA				LR	LR	14 02 54.8	
	comp=Z,42nm,20.9s,baz=79,slow=40						
LPAZ	**La Paz**	**18.98**	**148**	P	**P**	**13 55 11.2**	**-0.3**
	0.2nm,0.3s,baz=335,slow=14,SNR=8.4						
LPAZ	**La Paz**	**18.98**	**148**	*e*P	**Pn**	**13 55 13.4**	**+1.2**
	17nm,1.8s						
MNMC	**Minye Minye**	**20.76**	**156**	*e*P	**P**	**13 55 30.9**	**+0.4**
	25nm,1.0s						
SIV	**San Ignacio**	**23.25**	**133**	P	**P**	**13 55 56.4**	**-0.5**
	3.8nm,1.0s,baz=337,slow=13,SNR=6.1						
LVC	**Limon Verde**	**24.18**	**158**	P	**P**	**13 56 06.8**	**+0.6**
LCO	**Las Campanas**	**29.64**	**166**	P	**P**	**13 56 56.0**	**+0.9**
TXAR	**Lajitas Array**	**37.95**	**323**	P	**P**	**13 58 09.6**	**+2.4**
	0.1nm,0.3s,baz=122,slow=10,SNR=2.5						
PLCA	**Paso Flores**	**41.03**	**171**	P	**P**	**13 58 33.9**	**+1.2**
	1.6nm,0.8s,baz=350,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**80.38**	**77**	P	**P**	**14 02 59.5**	**-2.0**
	0.2nm,0.5s,baz=264,slow=2.9,SNR=3.2						
ILAR	**Eielson Array**	**81.08**	**336**	P	**P**	**14 03 03.4**	**-0.8**
	0.5nm,0.9s,baz=94,slow=3.6,SNR=4.4						
ASAR	**Alice Springs**	**140.72**	**231**	PKhKP	PKPpre	14 10 13.8	
	0.2nm,0.5s,baz=121,slow=3.5,SNR=3.5						
WRA	**Warramunga Arr**	**142.23**	**236**	PKhKP	PKPpre	14 10 17.7	
	0.5nm,0.8s,baz=112,slow=2.5,SNR=3.7						
LZH	**Lanzhou**	**144.17**	**357**	PKP	**PKPdf**	**14 10 26.0**	**0.0**
LZH				pPKP	sPKPdf	14 10 36.0	+4.3
LZH				sPKP		14 10 42.5	

*ISK **29** 14:00:21.3, 38°.74N×43°.24E, h29km, ML2.3*
*CSEM **29** 14:00:22.2±0.2, 38°.78N×43°.19E, h10km, ML2.9, Error ellipse: s-maj=5.0km s-min=3.7km az=73.0*
*DDA **29** 14:00:22.2, 38°.77N×43°.18E, h7km, Ml2.9*
ISC 29 14:00:22.7±0.9, 38°.77N±0°.03×43°.16E±0°.03, h15km±9km, n18, σ0s98/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**135**	PG	**Pg**	**14 00 28.6**	**+0.3**
VANB				*e*SG	**Sg**	**14 00 33.9**	**+1.8**
VANB	**Van**	**0.25**	**135**	*i* Pg	**Pg**	**14 00 28.6**	**+0.3**
VANB				*e*Sg	**Sg**	**14 00 33.9**	**+1.8**
TVAN	**Van**	**0.31**	**142**	*i* P	**Pg**	**14 00 28.2**	**-1.1**
TVAN				*i* S	**Sg**	**14 00 33.2**	**-0.7**
TVAN	**Van**	**0.31**	**142**	P	**Pg**	**14 00 28.2**	**-1.1**
TVAN				S	**Sg**	**14 00 33.2**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.34**	**276**	*i* P	**Pg**	**14 00 29.6**	**-0.3**
ADCV				*i* S	**Sb**	**14 00 36.4**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.34**	**276**	P	**Pg**	**14 00 29.6**	**-0.3**
ADCV				S	**Sb**	**14 00 36.4**	**+0.5**
GEVA	**Gevas**	**0.47**	**190**	*i* P	**Pg**	**14 00 31.1**	**-1.0**
GEVA				*i* S	**Sb**	**14 00 38.9**	**-0.6**
GEVA	**Gevas**	**0.47**	**190**	P	**Pg**	**14 00 31.1**	**-1.0**
GEVA				S	**Sb**	**14 00 38.9**	**-0.6**
TUTA	**Tutak**	**0.68**	**337**	*i* P	**Pg**	**14 00 35.9**	**-0.2**
TUTA				*i* S	**Sg**	**14 00 43.6**	**-1.6**
TUTA	**Tutak**	**0.68**	**337**	P	**Pg**	**14 00 35.9**	**-0.2**
TUTA				S	**Sg**	**14 00 43.6**	**-1.6**
CLDR	**Caldiran**	**0.69**	**58**	*e*PG	**Pg**	**14 00 35.1**	**-1.2**
CLDR	**Caldiran**	**0.69**	**58**	*e*Pg	**Pg**	**14 00 35.1**	**-1.2**
TATV	**Tatvan**	**0.75**	**250**	*i* P	**Pg**	**14 00 36.8**	**-0.6**
TATV				*i* S	**Sg**	**14 00 47.0**	**-0.3**
TATV	**Tatvan**	**0.75**	**250**	P	**Pg**	**14 00 36.8**	**-0.6**
TATV				S	**Sg**	**14 00 47.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.81**	**351**	*e*PG	**Pg**	**14 00 38.3**	**-0.2**
AGRB				*e*SG	**Sb**	**14 00 49.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.81**	**351**	*e*Pg	**Pg**	**14 00 38.3**	**-0.2**
AGRB				*e*Sg	**Sb**	**14 00 49.5**	**+0.1**
EATA	**Eleskirt**	**1.21**	**335**	*i* P	**Pb**	**14 00 45.3**	**-0.1**
EATA				*i* S	**Sn**	**14 01 03.2**	**+1.7**
EATA	**Eleskirt**	**1.21**	**335**	P	**Pb**	**14 00 45.3**	**-0.1**
EATA				S	**Sn**	**14 01 03.2**	**+1.7**

*CSEM **29** 14:05:32.9±0.2, 38°.70N×43°.53E, h20km, ML2.8, Error ellipse: s-maj=7.2km s-min=4.3km az=125.0*
*ISK **29** 14:05:32.7, 38°.71N×43°.47E, h19km, ML2.8*
*ISCJB **29** 14:05:33.1±0.7, 38°.69N±0°.04×43°.55E±0°.06, h29km±4km, Error ellipse: s-maj=8.9km s-min=5.3km az=28.5*
*DDA **29** 14:05:33.8, 38°.77N×43°.41E, h7km, Ml3.1*
ISC 29 14:05:32.4±1.0, 38°.70N±0°.03×43°.57E±0°.04, h27km±6km, n24, σ0s62/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**233**	PG	**Pb**	**14 05 38.1**	**-0.1**
VANB				*e*SG	**Sb**	**14 05 42.4**	**+0.3**
VANB	**Van**	**0.18**	**233**	*i* Pg	**Pb**	**14 05 38.1**	**-0.1**
VANB				*e*Sg	**Sb**	**14 05 42.4**	**+0.3**
TVAN	**Van**	**0.22**	**217**	*i* P	**Pb**	**14 05 38.0**	**-0.7**
TVAN				*i* S	**Sb**	**14 05 43.9**	**+0.9**
TVAN	**Van**	**0.22**	**217**	P	**Pb**	**14 05 38.0**	**-0.7**
TVAN				S	**Sb**	**14 05 43.9**	**+0.9**
VMUR	**Van-Muradiye**	**0.29**	**0**	*i* P

baz=209,SNR=7.1
MSTX Muleshoe 14.96 4 P **P 14 13 43.5 +1.6**
baz=185
237A Washetta, Mont 14.97 29 P P 14 13 45.8 +4.0
baz=212
136A Ennis 15.06 26 P **P 14 13 47.0 +4.1**
baz=209,SNR=6.6
238A Jacksonville 15.29 30 P **P 14 13 49.2 +3.9**
baz=214
340A Bronson 15.45 35 P **P 14 13 49.5 +2.3**
baz=219
137A Heron Place, G 15.50 27 P **P 14 13 48.4 +0.7**
baz=211,SNR=5.3
Z36A Blue Ridge 15.80 24 P **P 14 13 54.8 +3.8**
baz=208,SNR=6.8
138A Matatall Enter 15.85 29 P **P 14 13 55.8 +4.2**
baz=213
AMTX Amarillo 15.97 7 P **P 14 13 54.2 +1.1**
baz=188
AMTX Amarillo 15.97 7 Pn **Pn 14 13 49.5 +0.1**
41nm,1.3s
ANMO Albuquerque 16.01 353 Pn **P 14 13 52.5 -1.1**
0.1nm,0.3s,baz=177,slow=17,SNR=4.1
ANMO LR LR 14 20 40.5
comp=Z,216nm,21.2s,baz=350,slow=39
ANMO Albuquerque 16.01 353 P **P 14 13 53.6 0.0**
baz=172
Z37A Pogue Cattle C 16.07 27 P **P 14 13 57.7 +3.7**
baz=210
Y35A Marietta 16.14 22 P **P 14 13 57.1 +2.2**
baz=205
WMOK Wichita Mounta 16.38 16 P **P 14 13 59.2 +1.6**
baz=198,SNR=11
WMOK Wichita Mounta 16.38 16 *e*Pn **Pn 14 13 54.1 -0.6**
31nm,1.1s
Y36A Durant 16.41 24 P **P 14 14 01.4 +3.6**
baz=207
X35A Drake 16.61 21 P **P 14 14 02.8 +2.7**
baz=204
Y37A Hugo 16.75 25 P **P 14 14 04.7 +3.2**
baz=209
242A Grayson 16.90 37 P **P 14 14 08.1 +4.8**
baz=222
X36A Centrahoma 16.99 23 P **P 14 14 07.7 +3.5**
baz=206
Y38A Idabel 17.08 28 P **P 14 14 09.0 +3.8**
baz=212
W35A Tecumseh 17.33 20 P **P 14 14 11.1 +3.1**
baz=204
X37A Clayton 17.38 25 P **P 14 14 12.2 +3.7**
baz=209,SNR=6.9
W36A Wetumka 17.54 22 P **P 14 14 12.6 +2.2**
baz=205
WUAZ Wupatki 17.65 340 P P 14 14 19.2 +7.5
baz=157
WUAZ Wupatki 17.65 340 Pn **Pn 14 14 10.1 -0.6**
17nm,1.2s
X38A Whitesboro 17.67 26 P **P 14 14 15.7 +4.0**
baz=210
244A Avery, Jackson 17.76 40 P P 14 14 19.7 +6.9
baz=226
W37B Quinton 17.84 24 P **P 14 14 17.1 +3.5**
baz=208,SNR=8.2
X39A Fountain Ranch 17.84 28 P **P 14 14 15.4 +1.7**
baz=212
U32A Winter Ranch, 17.90 14 P **P 14 14 17.8 +3.5**
baz=196
V35A Meyer Ranch, C 17.90 20 P **P 14 14 17.9 +3.6**
baz=203
IRM Iron Mountain 17.99 329 P **P 14 14 19.1 +3.7**
baz=144
Y41A Eaglette Beard 18.04 33 P **P 14 14 19.7 +3.9**
baz=217
MIAR Mount Ida 18.11 29 P **P 14 14 19.9 +3.2**
baz=214
W38A Poteau 18.14 26 P **P 14 14 21.6 +4.7**
baz=210
V36A Jenks 18.23 22 P **P 14 14 21.6 +3.7**
baz=205
TPFO Pinon Flats 18.23 325 P **P 14 14 22.2 +4.1**
baz=140
PFO Pinyon Flats O 18.23 325 LR LR 14 20 59.0
comp=Z,85nm,20.6s,baz=167,slow=36
PFO Pinyon Flats O 18.23 325 P **P 14 14 22.5 +4.4**
baz=140
TUL1 Leonard 18.39 22 P **P 14 14 23.2 +3.5**
baz=206,SNR=5.5
TUL1 Leonard 18.39 22 P **Pn 14 14 16.7 -3.0**
36nm,1.0s
U35A Pawnee 18.50 19 P **Pn 14 14 25.3 +4.4**
baz=202
MVCO Mesa Verde 18.54 349 P **Pn 14 14 24.7 +2.9**
baz=167
W39A Magazine 18.56 28 P **Pn 14 14 25.6 +3.8**
baz=212
V37A Hulbert 18.60 23 P **Pn 14 14 25.3 +3.1**
baz=207,SNR=7.9
SDCO Great Sand Dun 18.71 357 P **Pn 14 14 26.9 +3.0**
baz=176
S22A 4UR Ranch, Cre 18.82 353 P **Pn 14 14 30.5 +5.2**
baz=172
U36A Oologah 18.84 21 P **Pn 14 14 29.1 +3.9**
baz=205
V38A Canehill 18.87 25 P **Pn 14 14 28.6 +3.1**
baz=209
W40A Ferguson Farm, 18.88 29 P **Pn 14 14 30.0 +4.3**
baz=214
T34A McClaskey Farm 18.96 17 P **Pn 14 14 29.0 +2.3**
baz=200
T35A Sooner Cattle 19.07 19 P **Pn 14 14 31.4 +3.5**
baz=202
U37A Salina 19.08 23 P **Pn 14 14 30.7 +2.7**
baz=207
HEC Hector,Ludlow 19.12 328 P **Pn 14 14 32.7 +4.1**
baz=142
V39A Pettigrew 19.17 27 P **Pn 14 14 33.7 +4.5**
baz=211
U38A Gravette 19.38 24 P **Pn 14 14 33.9 +2.2**
baz=209
T36A Boggs Farm, Ca 19.40 20 P **Pn 14 14 33.9 +2.0**
baz=204
V40A Witts Springs 19.50 29 P **Pn 14 14 36.8 +3.6**
baz=214,SNR=6.0
S34A Willow Spring 19.62 17 P **Pn 14 14 37.5 +3.0**
baz=200
U39A Green Forest 19.70 26 P **Pn 14 14 37.3 +1.8**
baz=211
T37A Cheneyville 18 19.79 22 P **Pn 14 14 38.2 +1.7**
baz=206,SNR=7.2
V41A Mountainview 19.79 30 P **Pn 14 14 38.9 +2.3**
baz=215
S35A Otter Creek Ra 19.83 19 P **Pn 14 14 38.8 +1.8**
baz=202,SNR=6.3
T38A Diamond 19.94 24 P **Pn 14 14 39.8 +1.5**
baz=208
U40A Yellville 19.95 28 P **Pn 14 14 39.9 +1.5**
baz=213
S36A Lake Cedric, C 20.10 20 P Pn 14 14 41.1 +0.9
baz=204
CBKS Cedar Bluff 20.11 10 P Pn 14 14 40.8 +0.4
baz=192
CBKS Cedar Bluff 20.11 10 *e*P **P 14 14 37.1 -1.5**
58nm,1.3s
Y46A Houston 20.14 40 P Pn 14 14 43.5 +2.8
baz=226
R34A Isabella, Hill 20.15 16 P Pn 14 14 41.5 +0.7
baz=199,SNR=12
V42A Cord 20.18 31 P Pn 14 14 42.5 +1.3
baz=217
X45A UM Field Stati 20.20 38 P Pn 14 14 43.4 +1.9
baz=224
T39A Clever 20.29 26 P Pn 14 14 43.8 +1.3
baz=210,SNR=5.5
U41A Viola 20.36 29 P Pn 14 14 47.5 +4.2
baz=215,SNR=7.4
S37A Fort Scott 20.39 22 P Pn 14 14 44.3 +0.7
baz=206,SNR=6.8
S38A Stockton 20.61 24 P Pn 14 14 46.4 +0.2
baz=208,SNR=10
MPMC Manual Prospec 20.66 328 P Pn 14 14 48.6 +1.6
baz=142
R36A Gordon, Harris 20.67 20 P Pn 14 14 47.7 +0.8
baz=204
U42A Revenden 20.69 31 P Pn 14 14 48.6 +1.4
baz=216,SNR=12
T40A Mansfield 20.76 27 P Pn 14 14 48.7 +0.7
baz=212
TPNV Topopah Spring 20.79 332 P Pn 14 14 48.1 -0.5
baz=146

Q34A Chapman 20.81 16 P **P 14 14 49.1 +3.0**
baz=199,SNR=7.5
R37A Teagarden Farm 20.89 21 P Pn 14 14 49.8 +0.4
baz=205,SNR=5.2
S39A Bolivar 20.89 25 P **P 14 14 50.5 +3.6**
baz=210,SNR=6.1
T41A Mountain View 21.00 29 P **P 14 14 52.0 +3.7**
baz=214
Q35A Mercer Eighty, 21.00 18 P **P 14 14 51.4 +3.2**
baz=202
KSU1 Kansas State U 21.07 17 P **P 14 14 52.0 +3.0**
baz=200
R38A Fenwick Farm, 21.10 23 P **P 14 14 52.6 +3.4**
baz=208,SNR=8.0
U43A Rector 21.11 32 P **P 14 14 53.1 +3.7**
baz=218
S40A Lebanon 21.14 26 P **P 14 14 53.2 +3.4**
baz=212
Q36A Arnold C. Orve 21.27 19 P **P 14 14 54.1 +3.0**
baz=203
P34A Walnut Farm, R 21.43 16 P **P 14 14 57.6 +4.8**
baz=199
S41A Jillco Farms, 21.46 28 P **P 14 14 56.6 +3.5**
baz=214,SNR=6.2
R39A Chumby, Stover 21.54 24 P **P 14 14 57.1 +3.2**
baz=210
R11A Troy Canyon, C 21.70 335 P **P 14 15 00.2 +4.4**
baz=150
T43A Greenville 21.73 31 P **P 14 15 01.7 +5.6**
baz=218
O33A Hebron 21.75 14 P **P 14 15 00.4 +4.2**
baz=197
R40A Maddies Statio 21.83 26 P **P 14 14 59.7 +2.6**
baz=211
Q38A Cooks Store, C 21.89 22 P **P 14 15 00.2 +2.5**
baz=207
P36A Good Intent, A 21.95 19 P **P 14 15 02.5 +4.1**
baz=203
S42A Caledonia 22.04 29 P **P 14 15 02.7 +3.4**
baz=215,SNR=6.4
O34A Beatrice 22.07 15 P **P 14 15 03.8 +4.2**
baz=199
T44A Benton 22.08 32 P **P 14 15 05.0 +5.2**
baz=219
Q39A Willow Grove F 22.20 24 P **P 14 15 03.5 +2.4**
baz=209
R41A Rosebud 22.21 27 P **P 14 15 02.6 +1.4**
baz=213
S43A Fulton Ridge, 22.22 31 P **P 14 15 06.3 +5.0**
baz=217
DUG Dugway, Tooele 22.40 342 P **P 14 15 06.8 +3.5**
baz=158
R42A Luebbering 22.46 28 P **P 14 15 08.4 +4.6**
baz=215
P38A Dawn 22.51 22 P **P 14 15 07.2 +2.9**
baz=207
Q40A Laux Farm, Aux 22.51 25 P **P 14 15 06.8 +2.5**
baz=211
P39B Salisbury 22.67 23 P **P 14 15 08.1 +2.0**
baz=209
O37A Wolven Farm, M 22.79 20 P **P 14 15 09.5 +2.3**
baz=205
Q41A Truxton 22.82 27 P **P 14 15 10.6 +2.9**
baz=213
O38A Galt 22.97 21 P **P 14 15 11.1 +1.9**
baz=206
P40A Paris 22.98 25 P **P 14 15 11.2 +1.9**
baz=210
O40A La Belle 23.55 24 P **P 14 15 17.4 +2.3**
baz=210
O41A Passleys Farm, 23.95 26 P **P 14 15 21.7 +2.8**
baz=212
N39A Derby Farms, D 23.98 22 P **P 14 15 21.5 +2.2**
baz=208
PDAR Pinedale Array 24.13 350 P **P 14 15 21.7 +0.8**
0.5nm,0.8s,baz=138,slow=9.6,SNR=2.7
PDAR LR LR 14 24 43.2
comp=Z,97nm,20.3s,baz=188,slow=36
M38A Pleasantville 24.22 20 P **P 14 15 24.1 +2.6**
baz=206
N40A Mertquake, Sal 24.32 24 P **P 14 15 25.1 +2.7**
baz=210
N41A Harden Midland 24.46 25 P **P 14 15 26.5 +2.9**
baz=212
M39A Webster 24.63 22 P **P 14 15 27.8 +2.7**
baz=208
M40A Post Highland 24.80 23 P **P 14 15 29.5 +2.7**
baz=209
M41A Milan 25.15 25 P **P 14 15 33.2 +3.4**
baz=211
L39A Vinton 25.26 22 P **P 14 15 33.8 +2.9**
baz=208,SNR=5.3
K37A Belmond 25.31 18 P **P 14 15 33.8 +2.5**
baz=204
ECSD EROS Data Cent 25.46 13 P **P 14 15 35.0 +2.3**
baz=197
L40A Anamosa 25.48 23 P **P 14 15 36.1 +3.2**
baz=209
C36A Pine Crest Far 30.13 15 P **P 14 16 16.8 +2.4**
baz=202
ULM Lac du Bonnet 31.87 10 LR LR 14 30 48.7
comp=Z,111nm,18.5s,baz=158,slow=39
YKA Yellowknife Ar 44.06 353 LR LR 14 37 44.9
comp=Z,22nm,19.0s,baz=180,slow=38
SCHQ Schefferville 45.63 29 LR LR 14 39 02.6
comp=Z,117nm,18.8s,baz=258,slow=38
ILAR Eielson Array 53.82 339 P **P 14 19 25.2 -2.1**
0.3nm,0.9s,baz=140,slow=7.1,SNR=3.0
ILAR LR LR 14 43 01.7
comp=Z,69nm,19.6s,baz=113,slow=37
PPT Papeete 57.56 234 LR LR 14 38 10.6
comp=Z,36nm,21.8s,baz=234,slow=30
PPT2 Papeete2 57.57 234 *e*LR LR 14 37 14.2
150nm,26.5s
ARCES ARCESS Array B 84.80 16 P **P 14 22 40.7 +1.8**
3.9nm,0.9s,baz=311,slow=4.7,SNR=5.0
WRA Warramunga Arr 125.09 259 PKP **PKPdf 14 29 03.6 -2.5**
0.4nm,0.8s,baz=82,slow=2.2,SNR=5.3
ASAR Alice Springs 126.03 254 PKP **PKPdf 14 29 05.7 -2.1**
0.7nm,0.9s,baz=90,slow=1.9,SNR=4.6

*IDC **29** 14:13:54.7±0.5,2.88S×100.30E,h0km,mb4.7/28,*
mb1 4.7/28,mb1mx4.7/35,mbtmp4.7/28,MS3.9/13,
Ms1 4.0/13,ms1mx3.7/38,Error ellipse: s-maj=16.6km
s-min=9.4km az=53.0
*KLM **29** 14:13:54.8,3.16S×99.72E,h25km,mb4.9*
*BJI **29** 14:13:58.5,2.90S×100.00E,h35km,mb5.0/57,mB4.9/40,*
Ms4.6/42,Ms7 4.3/37
*ISCJB **29** 14:13:58.4±0.4,2.87S±0.03×100.09E±0.03,h37km±3km,*
mb4.8/82,MS4.1/25,Error ellipse: s-maj=6.5km
s-min=3.4km az=43.6
*MOS **29** 14:13:58.6±1.0,2.73S×100.17E,h33km,mb5.1/33,Error*
ellipse: s-maj=10.2km s-min=5.6km az=102.9
*DJA **29** 14:13:58.0±0.5,3.3S±3.3×10.0E±.1,h21km±3km,M4.7/26,*
mb4.9/26,mB5.1/16,MLv5.1/22,Mw(mB)4.5/16
*NEIC **29** 14:13:59.9±0.3,2.86S×100.07E,h35km,mb4.8/20,Error*
ellipse: s-maj=7.7km s-min=5.3km az=61.0
ISC 29 14:13:59.7±0.5,2.82S±0.04×100.07E±0.05,h32km±2km,
h33km:pP-P,n345,σ1ş76/340,mb4.8/82,MS4.1/25,
21C-12D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.09**	**313**	P	**Pb**	**14 14 04.0**	**-1.3**
PPSI				S	**Sb**	**14 14 08.0**	**-1.1**
SISI	**Saibi**	**1.78**	**326**	P	**Pn**	**14 14 28.0**	**-0.2**
PDSI	**Padang**	**1.94**	**12**	P	**Pn**	**14 14 30.4**	**0.0**
MASI	**Maura Aman, Be**	**2.19**	**98**	P	**Pn**	**14 14 33.9**	**0.0**
MNAI	**Manna**	**3.26**	**118**	P	**Pn**	**14 14 48.8**	**+0.2**
MNAI	**Manna**	**3.26**	**118**	*e*Pn	**Pn**	**14 14 49.7**	**+1.1**
MNAI				*e*Sn	**Sn**	**14 15 24.7**	**-1.6**
BKNI	**Bangkinang**	**3.27**	**17**	*e*Pn	**Pn**	**14 14 49.9**	**+1.1**
BKNI				*e*Sn	**Sn**	**14 15 22.0**	**-4.6**
PBSI	**Pulau Batu**	**3.28**	**327**	P	**Pn**	**14 14 48.6**	**-0.3**
RGRI	**Rengat**	**3.34**	**43**	P	**Pn**	**14 14 51.8**	**+2.1**
LHSI	**Lahat**	**3.59**	**106**	P	**Pn**	**14 14 54.1**	**+1.0**
JMBI	**JAMBI**	**3.76**	**72**	P	**Pn**	**14 14 56.3**	**+0.9**
MDSI	**Maura Dua**	**4.42**	**112**	P	**Pn**	**14 15 05.1**	**+0.6**
LWLI	**Liwa**	**4.54**	**119**	P	**Pn**	**14 15 05.9**	**-0.3**
GSI	**Gunungsitoli**	**4.80**	**329**	P	**Pn**	**14 15 11.3**	**+1.5**
KLSI		**5.00**	**112**	P	**Pn**	**14 15 13.6**	**+1.0**
DSRI	**Dabo**	**5.07**	**63**	P	**Pn**	**14 15 14.3**	**+0.8**
KASI	**Kota Agung**	**5.16**	**121**	P	**Pn**	**14 15 14.6**	**-0.2**
PSI	**Prapat**	**5.70**	**348**	*e*P	**Pn**	**14 15 20.0**	**-2.3**
PSI	**Prapat**	**5.70**	**348**	*e*Pn	**Pn**	**14 15 20.0**	**-2.3**
BLSI	**Bandar Lampung**	**5.75**	**116**	P	Pb	14 15 33.2	-6.0
KGM	**Kluang**	**5.80**	**34**	⇓P	**Pn**	**14 15 25.6**	**+2.1**
TPRI	**Tanjung Pinang**	**5.80**	**50**	P	**Pn**	**14 15 25.1**	**+1.6**
MYKOM	**Kota Tinggi**	**5.94**	**40**	*e*Pn	**Pn**	**14 15 26.7**	**+1.3**
MYKOM	**Kota Tinggi**	**5.94**	**40**	⇓P	**Pn**	**14 15 27.2**	**+1.8**
FRIM	**Kepong**	**6.21**	**14**	⇑P	**Pn**	**14 15 31.1**	**+1.9**
TPTI		**6.70**	**334**	P	**Pn**	**14 15 36.3**	**+0.4**
KCSI	**Kotacane, Aceh**	**6.71**	**340**	P	**Pn**	**14 15 35.5**	**-0.5**
CGJI	**Cibinong**	**6.75**	**124**	P	**Pn**	**14 15 35.1**	**-1.5**
SBJI	**Serang**	**6.87**	**119**	P	**Pn**	**14 15 38.9**	**+0.7**
IPM	**Ipoh**	**7.32**	**7**	*e*Pn	**Pn**	**14 15 45.3**	**+1.0**
IPM				*e*Sn	**Sn**	**14 17 09.1**	**+2.8**
IPM	**Ipoh**	**7.32**	**7**	⇑P	**Pn**	**14 15 45.4**	**+1.0**
DBJI	**Dramaga**	**7.62**	**119**	P	Pn	14 15 55.7	+7.2
MLSI	**Meulaboh, Aceh**	**7.94**	**332**	P	**Pn**	**14 15 53.5**	**+0.6**
KULM	**Kulim**	**8.08**	**4**	*e*Pn	**Pn**	**14 15 54.7**	**-0.1**
KULM				*e*Sn	**Sn**	**14 17 21.4**	**-3.7**
KULM	**Kulim**	**8.08**	**4**	⇓P	**Pn**	**14 15 55.5**	**+0.6**
CNJI	**Cibinong**	**8.32**	**123**	P	**Pn**	**14 15 56.4**	**-1.8**
KTGM	**Kuala Trenggan**	**8.65**	**21**	⇑P	**Pn**	**14 16 05.0**	**+2.3**
CISI	**Cisompet, Garu**	**9.03**	**122**	P	**Pn**	**14 16 05.7**	**-2.3**
CISI	**Cisompet, Garu**	**9.03**	**122**	*e*Pn	**Pn**	**14 16 05.5**	**-2.4**
COCO	**West Island**	**9.85**	**199**	*i* P	**Pn**	**14 16 22.4**	**+3.3**
COCO	**West Island**	**9.85**	**199**	*e*Pn	**Pn**	**14 16 16.1**	**-3.0**
TRTT	**Trang**	**10.59**	**358**	P	**Pn**	**14 16 32.2**	**+2.9**
29nm,1.1s
KSM Kuching 11.09 67 *e*Pn **Pn 14 16 37.1 +1.1**
KSM Kuching 11.09 67 ⇓P **Pn 14 16 37.4 +1.3**
STKI Sintang 11.76 76 P Pn 14 16 52.7 +7.4
SBUM Sibu 13.22 67 *e*Pn **Pn 14 17 08.0 +2.6**
SBUM Sibu 13.22 67 ⇑P **Pn 14 17 06.8 +1.4**
MTKI Muara Teweh, K 14.93 83 P **Pn 14 17 29.2 +0.6**
JAGI Jajag, Banyuwa 15.09 112 P **P 14 17 36.4 +0.8**
SRAK Srakaew 16.84 7 P P 14 18 04.8 +10
TWSI Taliwang, Sumb 17.72 110 P **Pn 14 18 04.0 -0.1**
UTHA Uthaitani 18.27 358 P **Pn 14 18 12.1 +1.2**
4.7nm,0.8s
KKM Kota Kinabalu 18.37 61 *e*P **P 14 18 11.3 -0.7**
43nm,0.9s
KKM Kota Kinabalu 18.37 61 ⇓P **Pn 14 18 13.0 +0.8**
PLAI Plampang 18.59 109 P **P 14 18 12.3 -2.0**
CHAI Chaiyaphum 18.70 6 P **Pn 14 18 21.6 +5.5**
SDKM Sandakan 19.06 64 ⇓P **Pn 14 18 20.4 -0.1**
TSM Tawau 19.14 68 ⇑P **Pn 14 18 21.5 +0.1**
PBKT Sadao Pong 19.29 3 P **Pn 14 18 25.0 +1.9**
12nm,0.7s
KDM Kudat 19.32 60 ⇑P **Pn 14 18 23.3 -0.3**
SPSI Sidrap Palu 19.69 94 P **P 14 18 26.3 -0.2**
TTSI Tana Toraja 19.72 91 P **Pn 14 18 28.7 +0.3**
KAPI Kappang 19.75 97 *e*P **P 14 18 26.2 -0.9**
49nm,0.9s
PCI Palu 19.84 85 P **P 14 18 28.9 +0.8**
PCI Palu 19.84 85 P **Pn 14 18 29.7 -0.2**
PCI pmax pmax
comp=Z,55nm,0.8s
MYLDM Lahad Datu 20.05 67 *e*P **P 14 18 30.6 +0.2**
comp=Z,69nm,0.9s
MYLDM Lahad Datu 20.05 67 ⇓P Pn 14 18 31.5 -0.8
BNSI Bone 20.05 95 P **P 14 18 31.2 +0.8**
MPSI Mapaga 20.07 81 P **P 14 18 31.4 +0.9**
PANO Nakornpanom 20.34 13 P Pn 14 18 37.7 +2.1
comp=Z,101nm,1.0s,comp=Z,8μm
UTTA Uttaradit 20.44 1 P **P 14 18 35.4 +0.9**
comp=Z,6.0nm,0.8s
NONG Nongkai 20.97 8 P Pn 14 18 49.4 +6.4
CM31 Chiang Mai Arr 21.17 357 *e*P **P 14 18 41.6 -0.8**
CMAR Chiang Mai Arr 21.17 357 P **P 14 18 41.4 -1.1**
comp=Z,12nm,0.8s,baz=187,slow=9.7,SNR=42
CMAR PcP **PcP 14 22 47.4 -0.2**
comp=Z,1.3nm,0.7s,baz=214,slow=3.4,SNR=5.1
CMAR LR LR 14 27 06.9
comp=Z,411nm,19.2s,baz=186,slow=37
LAMP Lampang 21.21 359 P **P 14 18 43.1 +0.2**
comp=Z,8.1nm,0.9s
CHTO Chiang Mai 21.53 357 P **P 14 18 46.1 -0.2**
comp=Z,64nm,1.2s
CHTO Chiang Mai 21.53 357 *e*P **P 14 18 44.8 -1.4**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 21.53 357 *e*P **P 14 18 44.8 -1.4**
comp=Z,12nm,0.9s
APSI Ampana 21.65 85 P **P 14 18 48.1 +0.5**
EDFI Ende, Flores 22.29 106 P **P 14 18 55.4 +0.8**
CMAI Chiengmai2 22.64 357 P **P 14 18 57.3 -1.0**
comp=Z,112nm,0.8s,comp=Z,22μm
QIZ Qiongzhong 23.75 23 P **P 14 19 12.0 +2.7**
QIZ sP **pP 14 19 20.3 +1.9**
QIZ S **S 14 23 29.5 +6.8**
QIZ sS **sS 14 23 39.8 +1.8**
QIZ pmax pmax
comp=Z,16nm,1.3s
QIZ LR LR
comp=Z,470nm,15.5s
QIZ LR LR
comp=Z,540nm,14.7s
SOEI Soe 25.00 107 *e*P **P 14 19 22.7 +1.7**
comp=Z,31nm,1.0s
MDRS Chennai 25.23 309 *ex* **P 14 19 26.8 +3.9**
MDRS *ex* x 14 23 58.8
MDRS *ex* x 14 26 18.8
SANI Sanana 25.90 89 P **P 14 19 27.3 -1.8**
LBMI Labuha 27.50 86 P **P 14 19 42.7 -0.8**
H08S2 Diego Garcia H 27.87 259 T T 14 48 41.3
baz=81,slow=76,SNR=4814
H08S3 Diego Garcia H 27.88 259 T T 14 48 44.3
baz=81,slow=76
H08S1 Diego Carcia H 27.89 259 T T 14 48 45.2
baz=81,slow=76
KMI Kunming 27.90 5 P **P 14 19 51.5 +4.4**
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI LR LR
comp=Z,540nm,13.8s
KMI LR LR
comp=Z,230nm,12.5s
KMI LR LR
comp=Z,520nm,14.2s
FITZ Fitzroy Crossi 29.30 123 P **P 14 19 58.0 -1.5**
comp=Z,2.4nm,0.6s,baz=360,slow=3.3,SNR=12
FITZ Fitzroy Crossi 29.30 123 *e*P **P 14 19 58.8 -0.6**
comp=Z,8.8nm,0.9s
GYA Guiyang 29.80 12 *e*P **P 14 20 05.0 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ODAN Odare 31.95 338 *e*P **P 14 20 24.8 +1.8**
comp=Z,58nm,0.7s
TAPN Taplejung 32.28 339 *e*P **P 14 20 28.0 +2.0**
comp=Z,72nm,0.8s
RAMN Ramite 32.33 337 *e*P **P 14 20 28.4 +2.0**
comp=Z,45nm,0.7s
JIRN Jiri 33.13 337 *e*P **P 14 20 35.2 +1.7**
comp=Z,494nm,0.7s
PKI Pulchoki 33.36 336 *e*P **P 14 20 36.6 +1.2**
comp=Z,16nm,0.7s
PKIN Phulchoki 33.37 336 *e*P **P 14 20 37.9 +2.4**
comp=Z,28nm,0.7s
LSA Lhasa 33.45 346 P **P 14 20 38.0 +1.6**
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 33.45 346 *e*P **P 14 20 36.1 -0.3**
LSA pmax pmax
comp=Z,25nm,0.6s
LSA Lhasa 33.45 346 *e*P **P 14 20 36.1 -0.3**
comp=Z,25nm,0.6s
GUN Gumba 33.47 337 *e*P **P 14 20 38.2 +1.7**
comp=Z,87nm,0.8s
DMN Daman 33.52 335 *e*P **P 14 20 37.9 +1.2**
comp=Z,30nm,0.8s
KKN Kakani 33.60 336 *e*P **P 14 20 38.9 +1.4**
comp=Z,55nm,0.8s
CD2 Chengdu 33.73 6 *e*P **P 14 20 40.0 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NWAO Narrogin (SRO) 34.00 154 LR LR 14 33 31.1
comp=Z,273nm,21.2s,baz=128,slow=35
GKN Gorkha 34.06 335 *e*P **P 14 20 42.8 +1.5**
comp=Z,17nm,0.3s
ENH Enshi 34.12 15 *e*P P 14 20 36.9 -4.7
comp=Z,16nm,0.8s
KOLN Koldanda 34.30 334 *e*P **P 14 20 45.2 +1.7**
comp=Z,58nm,0.9s
DANN Dangsing 34.73 334 *e*P **P 14 20 49.1 +1.7**

PYUN Piuthan 34.86 333 *e*P **P 14 20 49.8 +1.4**
comp=Z,44nm,0.9s
WRA Warramunga Arr 37.52 120 P **P 14 21 10.5 -0.6**
comp=Z,2.7nm,0.4s,baz=277,slow=7.6,SNR=40
WRA PcP **PcP 14 23 28.2 -0.8**
comp=Z,2.4nm,0.7s,baz=304,slow=2.9,SNR=5.5
WRA S **S 14 26 54.6 -3.7**
comp=Z,1.4nm,0.8s,baz=292,slow=16,SNR=6.1
WRA LR LR 14 38 30.7
comp=Z,190nm,20.6s,baz=275,slow=40
WRAB Tennant Creek 37.53 120 *de*P **P 14 21 10.7 -0.4**
WRAB pmax pmax
comp=Z,26nm,1.2s
WRAB Tennant Creek 37.53 120 *e*P **P 14 21 10.3 -0.8**
comp=Z,7.6nm,0.6s
WB2 Warramunga Arr 37.53 120 *e*P **P 14 21 10.5 -0.6**
comp=Z,19nm,1.3s
XAN Xi'an 37.60 12 P **P 14 21 10.8 -0.7**
XAN pP pP 14 21 18.0 -3.0
XAN PP **PnPn 14 22 38.8 0.0**
XAN S **S 14 26 57.0 -2.1**
XAN SS **SnSn 14 29 29.8 -10**
XAN pmax pmax
comp=Z,31nm,0.7s
XAN pmax pmax
comp=Z,38nm,5.1s
XAN LR LR
comp=Z,320nm,14.8s
XAN LR LR
comp=Z,310nm,13.6s
XAN LR LR
comp=Z,830nm,14.5s
AS31 Alice Springs 38.72 125 *e*P **P 14 21 21.1 -0.1**
comp=Z,3.2nm,0.7s
ASAR Alice Springs 38.72 125 P **P 14 21 20.9 -0.2**
comp=Z,9.1nm,0.7s,baz=300,slow=7.8,SNR=74
ASAR PcP **PcP 14 23 32.8 +0.1**
comp=Z,2.0nm,0.8s,baz=288,slow=2.5,SNR=4.5
ASAR S **S 14 27 14.2 -2.1**
comp=Z,0.7nm,0.6s,baz=295,slow=17,SNR=6.3
ASAR LR LR 14 38 59.0
comp=Z,325nm,20.8s,baz=297,slow=39
LZH Lanzhou 38.87 5 *e*P **P 14 21 25.5 +3.2**
LZH pP pP 14 21 32.5 +0.7
LZH sP sP 14 21 36.0 +0.3
LZH *e*S **S 14 27 22.0 +3.6**
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,60nm,4.4s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,380nm,14.1s
LZH LR LR
comp=Z,450nm,14.5s
NJ2 Nanjing 39.00 26 *e*P **P 14 21 25.3 +2.1**
GTA Gaotai 42.02 360 ⇑P **P 14 21 49.0 +0.7**
GTA pP pP 14 21 54.5 -3.4
GTA S **S 14 28 09.5 +4.1**
GTA sS sS 14 28 19.0 -2.2
GTA SS **SS 14 31 12.3 -1.1**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,82nm,5.2s
GTA LR LR
comp=Z,240nm,13.8s
GTA LR LR
comp=Z,340nm,14.3s
GTA LR LR
comp=Z,300nm,14.7s
HHC Hu-ho-hao-te 44.71 12 *e*P **P 14 22 13.3 +3.3**
HHC S **S 14 28 50.0 +5.3**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,62nm,9.9s
HHC LR LR
comp=Z,140nm,18.5s
HHC LR LR
comp=Z,230nm,16.0s
HHC LR LR
comp=Z,83nm,19.7s
BJI Beijing 45.14 17 P **P 14 22 13.5 +0.3**
BJI S **S 14 28 57.3 +6.7**
BJI pmax pmax
comp=Z,33nm,0.8s
BJI pmax pmax
comp=Z,95nm,3.3s
BJI LR LR
comp=Z,560nm,13.8s
BJI LR LR
comp=Z,320nm,15.2s
JNU Nakatsue 46.11 37 *e*P **P 14 22 20.7 -0.4**
comp=Z,22nm,0.9s
PMG Port Moresby 47.23 100⇑*e*P **P 14 22 30.7 +0.5**
PMG pmax pmax
comp=Z,38nm,0.8s
KSH Kashi 47.60 335 P **P 14 22 32.3 -0.5**
KSH pP pP 14 22 41.5 -0.9
KSH sP sP 14 22 44.8 -1.5
KSH PcP **PcP 14 24 02.5 +0.3**
KSH PP **PP 14 24 24.5 -0.1**
KSH PcS **PcS 14 27 52.8 -4.9**
KSH S **S 14 29 22.5 -3.8**
KSH ScS **ScS 14 32 16.5 -7.8**
KSH SS **SS 14 32 44.5 -10**
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,60nm,9.1s
KSH LR LR
comp=Z,71nm,6.9s
KSH LR LR
comp=Z,62nm,8.7s
KS15 Wonju Array Si 47.66 30 *e*P **P 14 22 33.7 +0.7**
KSAR Wonju Array Be 47.66 30 P **P 14 22 33.6 +0.6**
KSAR Wonju Array Be 47.66 30 P **P 14 22 33.6 +0.6**
KSRS Korea Array 47.69 30 P **P 14 22 33.6 +0.3**
comp=Z,8.9nm,0.9s,baz=227,slow=7.7,SNR=22
KSRS LR LR 14 44 30.7
comp=Z,133nm,18.1s,baz=247,slow=39
WMQ Urumqi 47.75 348 P **P 14 22 36.0 +2.3**
WMQ sP pP 14 22 45.0 +1.6
WMQ S **S 14 29 25.5 -2.5**
WMQ SS **SS 14 32 52.0 -4.9**
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ pmax pmax
comp=Z,83nm,3.7s
WMQ LR LR
comp=Z,130nm,24.7s
WMQ LR LR
comp=Z,140nm,26.3s
WMQ LR LR
comp=Z,110nm,24.7s
CTAO Charters Tower 48.19 115 *e*P **P 14 22 37.6 +0.1**
CTAO pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 48.19 115 *e*P **P 14 22 37.6 +0.1**
comp=Z,18nm,0.9s
STKA Stephens Creek 48.55 131 P **P 14 22 39.8 -0.3**
comp=Z,9.4nm,0.7s,baz=292,slow=8.0,SNR=15
STKA LR LR 14 44 37.4
comp=Z,276nm,20.8s,baz=296,slow=38
STKA Stephens Creek 48.55 131 *e*P **P 14 22 40.7 +0.6**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 48.55 131 *e*P **P 14 22 40.7 +0.6**
comp=Z,3.0nm,0.8s
PDGK Podgornoye 49.54 340 P **P 14 22 49.1 +1.5**
PDGK pmax pmax
comp=Z,48nm,1.0s
DZET Dzherino 50.45 328 P **P 14 22 54.1 -0.5**
DZET pmax pmax
comp=Z,8.0nm,0.7s
TKM2 Tokmak 2 50.61 337 P **P 14 22 56.9 +1.1**
TKM2 pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 50.75 5 P **P 14 22 58.0 +1.3**
comp=Z,34nm,0.8s,baz=188,slow=8.9,SNR=146
AAK Ala-Archa 50.82 336 *c i*P **P 14 22 58.9 +1.6**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 50.82 336 *e*P **P 14 22 59.1 +1.8**
comp=Z,9.4nm,0.8s
ULN Ulaanbaatar 50.85 6 *c i*P **P 14 22 58.5 +1.1**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 50.85 6 *e*P **P 14 22 58.7 +1.3**
comp=Z,29nm,0.8s
MNAS Manas 51.54 334 P **P 14 23 03.7 +1.0**
MNAS pmax pmax
comp=Z,24nm,0.9s
CN2 Changchun 51.71 23 *e*P **P 14 23 03.5 -0.3**
CN2 *ep*P pP 14 23 11.0 -2.5
CN2 *e*S **S 14 30 24.0 +0.8**
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
MK31 Makanchi Array 51.84 345 *i*P **P 14 23 05.4 +0.7**
MK31 pmax pmax
comp=Z,24nm,0.6s
MK31 Makanchi Array 51.84 345 *e*P **P 14 23 05.7 +0.9**
MKAR Makanchi Array 51.84 345 P **P 14 23 05.8 +1.1**
comp=Z,42nm,0.7s,baz=148,slow=8.2,SNR=349
MKAR Makanchi Array 51.84 345 *e*P **P 14 23 05.7 +0.9**
MKAR Makanchi Array 51.84 345 *e*P **P 14 23 05.7 +0.9**
MAKZ Makanchi 51.93 344 *e*P **P 14 23 06.5 +1.0**
MAKZ pmax pmax
comp=Z,19nm,0.8s
MAKZ Makanchi 51.93 344 *e*P **P 14 23 06.5 +1.0**
comp=Z,19nm,0.8s
MAJO Matsushiro 52.87 39 *d i*P **P 14 23 11.7 -0.8**
MAJO pmax pmax
comp=Z,71nm,1.0s
MAJO Matsushiro 52.87 39 *e*P **P 14 23 11.8 -0.8**
comp=Z,18nm,1.1s
MAT Matsushiro 52.87 39 P **P 14 23 11.2 -1.4**
MJB9 Matsu-Tunnel 52.87 39 *e*P **P 14 23 11.8 -0.8**
MJAR Matsushiro Arr 52.87 39 P **P 14 23 11.4 -1.2**
comp=Z,9.7nm,0.9s,baz=215,slow=7.3,SNR=23
KK31 Karatay Array 52.91 333 P **P 14 23 12.9 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 52.91 333 *e*P **P 14 23 11.3 -1.5**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 52.91 333 *e*P **P 14 23 11.3 -1.5**
comp=Z,4.6nm,0.7s
MSHR Mys Shultsa 53.22 28‖*e*P **P 14 23 15.3 +0.3**
EIDS Eidsvold 53.89 119 *e*P **P 14 23 18.6 -1.7**
MDJ Mudanjiang 54.09 26 P **P 14 23 21.8 +0.4**
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,41nm,6.4s
MDJ Mudanjiang 54.09 26 P **P 14 23 18.1 -3.3**
comp=Z,20nm,1.2s
MOY Mondy 54.29 1 *e*P **P 14 23 23.9 +1.1**
TLY Talaya 54.38 3 *e*P **P 14 23 25.5 +2.1**
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,337nm,17.0s
USRK Ussuriysk Ar. 54.84 28 P **P 14 23 27.2 +0.4**
comp=Z,42nm,0.8s,baz=219,slow=6.1,SNR=69
USRK LR LR 14 49 27.9
comp=Z,149nm,18.4s,baz=217,slow=39
GEYT Alibeck 56.12 320 P **P 14 23 36.8 +0.6**
comp=Z,6.2nm,0.8s,baz=138,slow=9.0,SNR=16
GEYT LR LR 14 50 13.1
comp=Z,54nm,20.8s,baz=220,slow=39
KURK Kurchatov 56.41 344 *c i*P **P 14 23 38.7 +0.7**
KURK Kurchatov 56.41 344 *e*P **P 14 23 38.8 +0.9**
ZALV Zalesovo Beam 57.98 349 P **P 14 23 49.6 +0.6**
comp=Z,20nm,0.7s,baz=177,slow=5.6,SNR=87
ZALV LR LR 14 52 13.1
comp=Z,67nm,18.1s,baz=248,slow=40
NVS Novosibirsk 59.13 349 *e*P **P 14 23 57.2 +0.2**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,14nm,1.0s
HABR Khabarovsk 59.46 26 *e*P **P 14 23 57.4 -2.0**
HABR *e**PP **pP 14 24 07.4 -1.9**
HABR *e**SP **sP 14 24 11.4 -1.7**
HABR *e* 14 24 44.4
HABR *e* 14 26 08.8
HABR *e*S **S 14 32 05.2 -1.3**
HABR *e**SS **sS 14 32 22.2 -0.7**
HABR *e* 14 33 45.0
HABR *e*SS **SS 14 36 00.9 -1.3**
HABR MLR MLR
comp=Z,203nm,18.0s
ASAJ Asahikawa 60.25 34 P **P 14 24 05.3 +0.4**
comp=Z,4.8nm,0.6s,baz=261,slow=8.1,SNR=3.9
BVA0 Borovoye Array 60.98 340 P **P 14 24 09.4 -0.3**
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 61.04 340 *c i*P **P 14 24 10.0 -0.1**
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 61.04 340 *e*P **P 14 24 10.2 +0.1**
BOD Bodaibo 61.48 8 *e*P **P 14 24 13.3 +0.3**
BOD pmax pmax
comp=Z,28nm,0.9s
YSS Yuzh-Sakhalins 62.14 32⇑*i*P **P 14 24 18.0 +0.4**
YSS *e* 14 24 25.9
YSS *e* 14 25 02.9
YSS pmax pmax
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 62.14 32 *e*P **P 14 24 18.3 +0.6**
AB31 Akbulak array 62.39 332 P **P 14 24 19.2 -0.1**
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 62.39 332 *e*P **P 14 24 18.0 -1.3**
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 62.80 270 LR LR 14 47 37.3
comp=Z,67nm,19.0s,baz=6.5,slow=32
MAK Makhachkala 65.64 320 *e*P **P 14 24 38.7 -2.1**
MAK pmax pmax
comp=Z,100nm,1.2s
SVE Sverdlovsk 67.47 338⇑*i*P **P 14 24 53.2 +1.0**
SVE pmax pmax
comp=Z,20nm,1.2s
ZEI Tsey 67.90 319 *e*P **P 14 24 55.9 +0.4**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 67.98 337 *c i*P **P 14 24 55.4 -0.1**
ARU 14 27 24.8
ARU S **S 14 33 54.5 +2.2**
ARU SS **SS 14 38 11.4 -3.5**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 67.98 337 *e*P **P 14 24 54.4 -1.1**
comp=Z,8.8nm,0.9s
YAK Yakutsk 68.51 14 P **P 14 24 58.3 -0.4**
comp=Z,20nm,0.6s,baz=159,slow=2.1,SNR=8.7
YAK Yakutsk 68.51 14 *i*P **P 14 24 57.9 -0.7**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK Yakutsk 68.51 14 *e*P **P 14 24 57.5 -1.2**
comp=Z,49nm,0.9s
NEY Neytrino 68.88 319‖*e*P **P 14 25 02.8 +1.2**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 68.97 319 P **P 14 25 03.0 +1.1**
comp=Z,7.5nm,0.8s,baz=113,slow=5.0,SNR=15
KBZ Khabaz 68.97 319 P **P 14 25 03.0 +1.1**
KIV Kislovodsk 69.21 319⇑*e*P **P 14 25 03.2 -0.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 69.51 194 P **P 14 25 05.4 +0.6**
comp=Z,0.6nm,0.6s,baz=60,slow=18,SNR=2.5
MAW LR LR 14 48 36.7
comp=Z,105nm,20.9s,baz=59,slow=30
NRIK Noril'sk 72.52 355 P **P 14 25 22.8 -0.2**
comp=Z,7.8nm,0.9s,baz=162,slow=4.8,SNR=11
NRIK LR LR 15 01 19.9
comp=Z,107nm,19.7s,baz=126,slow=39
ANN Anapa 73.00 319 *e*P **P 14 25 26.7 +0.4**
ANN pmax pmax
comp=Z,106nm,1.5s
PETK Petropavlovsk- 73.54 32 P **P 14 25 28.2 -1.1**
comp=Z,6.9nm,0.9s,baz=34,slow=1.1,SNR=5.4
MA2 Magadan 73.75 24 P **P 14 25 30.7 +0.3**
comp=Z,21nm,1.1s,baz=21,slow=8.3,SNR=4.2
MA2 Magadan 73.75 24⇑*e*P **P 14 25 31.3 +0.9**
BRTR Keskin Array B 73.93 313 P **P 14 25 32.2 +0.1**
comp=Z,5.0nm,0.8s,baz=132,slow=7.2,SNR=22
LPSR Galich'ya Gora 75.21 326 *e*P **P 14 25 38.9 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BOSA Boshof 75.33 241 P **P 14 25 42.6 +2.2**
comp=Z,3.3nm,1.1s,baz=79,slow=4.8,SNR=4.8
SEY Seymchan 76.36 22 P **P 14 25 46.2 +0.9**
comp=Z,6.0nm,0.8s,baz=222,slow=5.7,SNR=11
SEY Seymchan 76.36 22⇑*e*P **P 14 25 45.5 +0.1**
TIXI Tiksi 76.65 9 P **P 14 25 46.3 -0.6**
comp=Z,4.5nm,0.4s,baz=244,slow=2.2,SNR=3.5
TIXI Tiksi 76.65 9 *c i*P **P 14 25 46.1 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 77.53 328‖*e*P **P 14 25 52.9 +0.8**
OBN *e* 14 26 00.7
OBN *e* 14 28 47.6
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,51nm,11.0s
KLMR Klimovskoe 78.60 334 *e*P **P 14 25 56.4 -1.5**
KLMR pmax pmax
comp=Z,13nm,1.3s
AKASG Malin Array Be 80.17 322 P **P 14 26 06.7 -0.1**
comp=Z,1.4nm,0.6s,baz=90,slow=5.1,SNR=5.5
AKASG Malin Array Be 80.17 322 *ce*P **P 14 26 06.6 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 81.35 169 P **P 14 26 11.8 -0.8**
comp=Z,0.5nm,0.3s,baz=333,slow=2.3,SNR=8.2
VNDA LR LR 14 57 59.6
comp=Z,47nm,18.8s,baz=291,slow=33
FINES FINESS Array B 84.87 332 P **P 14 26 31.1 +0.1**
comp=Z,2.4nm,0.5s,baz=96,slow=5.5,SNR=24
FINES FINESS Array B 84.87 332 *i*P **P 14 26 32.0 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.5s
STHS Stebnicka Huta 84.87 320 *e*P **P 14 26 33.2 +1.8**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 84.87 320 *e*P **P 14 26 33.2 +1.8**
ARCES ARCESS Array B 87.27 340 P **P 14 26 43.8 +1.1**
comp=Z,6.9nm,0.7s,baz=111,slow=4.8,SNR=17
DPC Dobruska-Polom 88.16 320 *e*P **P 14 26 48.9 +1.4**
DPC Dobruska-Polom 88.16 320 *e*P **P 14 26 48.9 +1.4**
GERES GERESS Array B 89.71 319 P **P 14 26 55.2 +0.3**
comp=Z,2.0nm,0.9s,baz=72,slow=4.3,SNR=12
KHC Kasperske Hory 89.81 319 *e*P **P 14 26 56.5 +1.2**
KHC Kasperske Hory 89.81 319 *e*P **P 14 26 56.5 +1.2**
CLL Collm 90.34 321 *e*P **P 14 26 56.0 -1.6**
CLL Collm 90.34 321 *e*P **P 14 26 56.0 -1.6**
SNAA Sanae 91.39 198 P **P** 14 27 12.3 +10
VNA2 Neumayer--Watz 93.00 198 P **P** 14 27 19.4 +10
baz=92,slow=4.5
VNA1 Neumayer--Stat 93.36 198 P **P** 14 27 22.0 +11
ILAR Eielson Array 102.22 24 PP **PP** 14 32 03.9 +0.6
comp=Z,0.5nm,0.8s,baz=286,slow=9.2,SNR=5.3
H09N1 TRISTAN DA CUN 105.96 230 T **T** 16 26 25.0
SNR=39
H09W1 TRISTAN DA CUN 105.97 230 T **T** 16 27 48.9
SNR=17
J04D Umpqua Nationa 125.05 37 P **PKPdf 14 32 58.0 +0.7**
baz=305
MSO Missoula 127.16 29 P **PKPdf 14 33 01.1 -0.1**
baz=316
BOZ Bozeman (W) 129.16 28 P **PKPdf 14 33 05.5 +0.5**
baz=318
LAO LASA Array 130.69 24 P **PKPdf 14 33 10.0 +2.2**
baz=324
ULM Lac du Bonnet 130.85 13 PKP **PKPdf 14 33 07.4 -0.5**
comp=Z,3.9nm,0.7s,baz=282,slow=4.3,SNR=6.9
R11A Troy Canyon, C 131.94 38 P **PKPdf 14 33 11.1 +0.5**
baz=309
PDAR Pinedale Array 132.25 29 PKP **PKPdf 14 33 11.4 +0.3**
comp=Z,0.4nm,0.6s,baz=191,slow=3.0,SNR=3.7
DUG Dugway, Tooele 132.37 34 P **PKPdf 14 33 12.6 +1.3**
baz=313
GMRC Granite Mounta 134.04 42 P **PKPdf 14 33 17.1 +2.5**
baz=306
E36A McGregor 134.95 13 P **PKPdf 14 33 16.3 +0.5**
baz=341
F36A Milaca 135.51 14 P **PKPdf 14 33 18.3 +1.5**
baz=340
ANMO Albuquerque 139.64 35 *c i*PKIKP **PKPdf 14 33 26.5 +1.5**
ANMO pmax pmax
comp=Z,2.0nm,1.7s
MNTX Cornudas Mount 142.59 37 P **PKPdf 14 33 27.6 -2.5**
baz=315
T35A Sooner Cattle 142.79 22 P **PKPdf 14 33 27.6 -2.8**
baz=332
R40A Maddies Statio 142.94 16 P **PKPdf 14 33 29.1 -1.5**
baz=339
R41A Rosebud 143.17 15 P PKPbc 14 33 27.5 -0.4
baz=341
T37A Cheneyville 18 143.18 20 P PKPbc 14 33 27.9 -0.1
baz=335
S39A Bolivar 143.18 18 P PKPbc 14 33 27.4 -0.5
baz=337
R42A Luebbering 143.34 14 P PKPbc 14 33 27.9 -0.4
baz=342
S40A Lebanon 143.51 17 P PKPab 14 33 28.4 +0.4
baz=339
R43A Red Bud 143.54 13 P PKPab 14 33 28.6 +0.5
baz=343
V35A Meyer Ranch, C 143.67 24 P PKPbc 14 33 29.6 +0.2
baz=331
CPUP Villa Florida 143.70 216 PKP **PKPdf 14 33 34.1 +1.8**
comp=Z,3.6nm,0.9s,baz=98,slow=4.4,SNR=7.3
WMOK Wichita Mounta 143.72 27 P PKPbc 14 33 29.8 +0.2
baz=327,SNR=8.9
S41A Jillco Farms, 143.74 16 P PKPbc 14 33 30.1 +0.5
baz=340
U37A Salina 143.76 21 P PKPbc 14 33 29.7 +0.1
baz=334
S42A Caledonia 143.82 15 P PKPab 14 33 29.3 +0.2
baz=342
T40A Mansfield 143.93 17 P PKPbc 14 33 30.1 0.0
baz=338
TUL1 Leonard 143.95 22 P PKPbc 14 33 30.0 -0.2
baz=332
U38A Gravette 143.98 20 P PKPab 14 33 29.8 0.0
baz=335
V36A Jenks 144.00 22 P PKPbc 14 33 30.9 +0.6
baz=332,SNR=7.0
W35A Tecumseh 144.19 24 P PKPbc 14 33 31.2 +0.2
baz=330
V37A Hulbert 144.22 21 P PKPbc 14 33 31.3 +0.3
baz=334,SNR=8.5
T41A Mountain View 144.24 16 P PKPbc 14 33 31.2 +0.1
baz=340
S44A Carbondale 144.25 13 P **PKPab 14 33 31.0 +0.2**
baz=344
U39A Green Forest 144.34 19 P **PKPab 14 33 31.2 +0.1**
baz=336,SNR=6.8
S45A Carrier Mills 144.41 12 P PKPbc 14 33 31.7 +0.1
baz=345
W36A Wetumka 144.46 23 P PKPbc 14 33 31.9 +0.1
baz=331,SNR=6.3
V38A Canehill 144.50 20 P **PKPab 14 33 31.9 +0.2**
baz=335,SNR=12
U40A Yellville 144.56 18 P **PKPab 14 33 32.0 +0.1**
baz=337,SNR=6.6
T43A Greenville 144.59 14 P **PKPab 14 33 32.0 0.0**
baz=342
W37B Quinton 144.77 22 P PKPbc 14 33 33.1 +0.3
baz=332,SNR=15
V39A Pettigrew 144.78 20 P **PKPab 14 33 32.6 -0.2**
baz=336
X35A Drake 144.80 25 P **PKPab 14 33 32.8 0.0**
baz=330,SNR=19
U41A Viola 144.85 17 P PKPbc 14 33 33.2 +0.1
baz=339,SNR=8.2
X36A Centrahoma 144.91 24 P PKPbc 14 33 33.6 +0.3
baz=331,SNR=14
U42A Revenden 145.04 16 P **PKPbc 14 33 33.6 0.0**

baz=340,SNR=20
ABTX Abilene, Hawle 145.05 30 P PKPab 14 33 34.0 +0.1
baz=324
V40A Witts Springs 145.07 18 P PKPbc 14 33 33.6 -0.2
baz=337,SNR=16
W38A Poteau 145.17 21 P PKPab 14 33 34.4 +0.2
baz=334,SNR=5.4
Y35A Marietta 145.19 25 P PKPbc 14 33 34.2 -0.1
baz=329
U43A Rector 145.24 15 P PKPbc 14 33 34.3 +0.1
baz=342,SNR=5.1
X37A Clayton 145.28 23 P PKPbc 14 33 34.6 +0.1
baz=332,SNR=7.2
V41A Mountainview 145.30 18 P PKPbc 14 33 34.3 -0.2
baz=338,SNR=32
TXAR Lajitas Array 145.30 38 PKPbc PKPdf 14 33 36.0 +0.9
comp=Z,20nm,0.8s,baz=285,slow=0.9,SNR=161
W39A Magazine 145.31 20 P PKPbc 14 33 34.6 +0.1
baz=335
X38A Whitesboro 145.41 22 P PKPab 14 33 35.4 +0.3
baz=333,SNR=14
V42A Cord 145.50 17 P PKPdf 14 33 35.2 +0.1
baz=340,SNR=13
Y36A Durant 145.51 24 P PKPdf 14 33 35.1 -0.1
baz=330,SNR=7.4
U44B Burton Farm, H 145.53 14 P PKPab 14 33 35.5 +0.1
baz=343,SNR=5.8
W40A Ferguson Farm, 145.56 19 P PKPbc 14 33 35.5 +0.2
baz=336,SNR=8.1
U45A Rockin P Farm, 145.65 13 P PKPbc 14 33 35.7 +0.1
baz=344
Y37A Hugo 145.72 24 P PKPdf 14 33 35.6 +0.1
baz=331
X39A Fountain Ranch 145.81 21 P PKPdf 14 33 36.0 +0.2
baz=334,SNR=7.7
W41B Gary Mavity, V 145.84 18 P PKPab 14 33 36.6 0.0
baz=338
MIAR Mount Ida 145.97 20 P PKPab 14 33 37.2 0.0
baz=335,SNR=11
Z36A Blue Ridge 146.00 25 P PKPdf 14 33 36.5 +0.4
baz=330
Y38A Idabel 146.11 22 P PKPbc 14 33 37.3 +0.3
baz=333
V45A Humboldt 146.19 13 P PKPbc 14 33 37.6 +0.4
baz=344
X40A Basin Creek Fa 146.28 19 P PKPab 14 33 38.1 -0.2
baz=336,SNR=5.9
Y39A Lockesburg 146.34 22 P PKPab 14 33 38.3 -0.2
baz=334,SNR=5.3
JCT Junction City 146.68 32 P PKPab 14 33 39.7 -0.3
baz=322
W45A Hickory Valley 146.70 14 P PKPbc 14 33 39.0 +0.2
baz=343
137A Heron Place, G 146.86 25 P PKPab 14 33 40.4 -0.3
baz=330
Y41A Eaglette Beard 146.91 20 P PKPbc 14 33 39.7 +0.3
baz=336
Z39A Irene McRaven, 146.92 22 P PKPab 14 33 40.4 -0.5
baz=333
236A Katherine and 147.04 27 P PKPab 14 33 41.0 -0.4
baz=328
138A Matatall Enter 147.08 24 P PKPbc 14 33 40.7 +0.8
baz=331
Y43A Makayla and Ka 147.41 17 P PKPbc 14 33 41.7 +0.9
baz=339
Z41A Richland Creek 147.41 20 P PKPbc 14 33 41.6 +0.7
baz=336
336A Riesel 147.41 28 P PKPbc 14 33 41.4 +0.5
baz=327
435B Jarrell 147.56 29 P PKPbc 14 33 42.3 +0.9
baz=326
Y44A Strider, Charl 147.56 16 P PKPbc 14 33 42.2 +1.0
baz=341
Z42A Norrel Spur, H 147.68 19 P PKPbc 14 33 41.6 0.0
baz=337
KMSC Kings Mountain 147.81 2 P PKPbc 14 33 42.1 +0.2
baz=357
Y45A Yeager Farm, C 147.84 15 P PKPbc 14 33 42.2 +0.2
baz=342
337A Centerville 147.91 26 P PKPbc 14 33 42.8 +0.5
baz=329
436A Wall Ranch, Ga 147.95 28 P PKPbc 14 33 42.7 +0.3
baz=327
Y46A Houston 147.99 14 P PKPbc 14 33 42.9 +0.5
baz=343
NATX Nacogdoches 148.04 24 P PKPbc 14 33 43.2 +0.5
baz=331
338A Crockett 148.12 25 P PKPbc 14 33 43.4 +0.6
baz=330
Z44A Pea Ridge, Bel 148.15 17 P PKPbc 14 33 43.6 +0.8
baz=340
Y47A UCPARC, Winfie 148.21 13 P PKPbc 14 33 42.3 -0.7
baz=345
536A Bastrop 148.40 29 P PKPbc 14 33 44.3 +0.7
baz=326
438A Sam Houston St 148.57 26 P PKPbc 14 33 44.4 +0.4
baz=329
833A Chaparral WMA, 148.57 34 P PKPbc 14 33 44.6 +0.5
baz=320
Z46A Louisville 148.63 15 P PKPbc 14 33 44.1 0.0
baz=343
340A Bronson 148.66 23 P PKPbc 14 33 44.9 +0.7
baz=332
Z48A Northport 148.78 12 P PKPbc 14 33 44.3 -0.2
baz=345
Z47A Carrollton 148.83 13 P PKPbc 14 33 44.8 +0.2
baz=344
439A Center Grove, 148.84 25 P PKPbc 14 33 45.7 +0.9
baz=330
636A Smothers Creek 148.89 30 P PKPbc 14 33 46.7 +1.8
baz=325
341A Kurthwood 149.01 22 P PKPbc 14 33 46.1 +0.9
baz=334
146A Union 149.13 15 P PKPbc 14 33 46.3 +0.9
baz=342
933A Laredo 149.18 35 P PKPbc 14 33 47.6 +1.9
baz=320
244A Avery, Jackson 149.22 18 P PKPbc 14 33 46.2 +0.6
baz=339
147A Livingston 149.29 14 P PKPbc 14 33 45.9 +0.2
baz=344
245A Little AP, Sta 149.47 17 P PKPbc 14 33 47.1 +0.8
baz=340
934A Benavides 149.62 34 P PKPbc 14 33 46.9 +0.1
baz=321
034A Hebbronville 149.94 35 P PKPbc 14 33 48.8 +1.2
baz=320
347A Saraland 150.43 15 P PKPbc 14 33 50.0 +1.3
baz=342
TIGA Tifton 151.33 7 P PKPbc 14 33 51.1 +0.3
baz=352

*ISK **29** 14:41:01.6,38.°65N×43.°22E,h5km,ML2.4*
*ISCJB **29** 14:41:02.2±1.2,38.°61N±0.°04×43.°29E±0.°06,h24km±10km,*
Error ellipse: s-maj=9.1km s-min=5.7km az=41.3
*CSEM **29** 14:41:02.7±0.2,38.°66N×43.°22E,h5km,ML3.1,Error*
ellipse: s-maj=4.6km s-min=4.5km az=6.0
*DDA **29** 14:41:02.4,38.°66N×43.°24E,h7km,Ml3.1*
ISC 29 14:41:02.4±1.0,**38.°64N**±0.°03×**43.°23E**±0.°03,**h15**km±9km,
n18,σ0s**49**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**110**	PG	**Pg**	**14 41 06.3**	**0.0**
VANB				*e*SG	**Sg**	**14 41 09.4**	**+0.6**
VANB	**Van**	**0.14**	**110**	*i* Pg	**Pg**	**14 41 06.3**	**0.0**
VANB				*e*Sg	**Sg**	**14 41 09.4**	**+0.6**
TVAN	**Van**	**0.18**	**128**	*i* P	**Pg**	**14 41 06.1**	**-0.8**
TVAN				*i* S	**Sg**	**14 41 09.8**	**-0.2**
TVAN	**Van**	**0.18**	**128**	P	**Pg**	**14 41 06.1**	**-0.8**
TVAN				S	**Sg**	**14 41 09.8**	**-0.2**
GEVA	**Gevas**	**0.35**	**202**	*i* P	**Pg**	**14 41 09.6**	**-0.1**
GEVA				*i* S	**Sb**	**14 41 16.3**	**+0.3**
GEVA	**Gevas**	**0.35**	**202**	P	**Pg**	**14 41 09.6**	**-0.1**
GEVA				S	**Sb**	**14 41 16.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.42**	**293**	*i* P	**Pb**	**14 41 11.5**	**-0.3**
ADCV				*i* S	**Sb**	**14 41 19.2**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.42**	**293**	P	**Pb**	**14 41 11.5**	**-0.3**
ADCV				S	**Sb**	**14 41 19.2**	**+1.1**
VMUR	**Van-Muradiye**	**0.44**	**38**	*i* P	**Pg**	**14 41 11.3**	**0.0**
VMUR				*i* S	**Sb**	**14 41 19.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.44**	**38**	P	**Pg**	**14 41 11.3**	**0.0**
VMUR				S	**Sb**	**14 41 19.0**	**+0.4**
CLDR	**Caldiran**	**0.74**	**47**	*e*PG	**Pg**	**14 41 16.7**	**-0.2**
CLDR	**Caldiran**	**0.74**	**47**	*e*Pg	**Pg**	**14 41 16.7**	**-0.2**
TATV	**Tatvan**	**0.76**	**260**	*i* P	**Pg**	**14 41 17.1**	**-0.2**
TATV				*i* S	**Sb**	**14 41 28.2**	**+0.4**
TATV	**Tatvan**	**0.76**	**260**	P	**Pg**	**14 41 17.1**	**-0.2**
TATV				S	**Sb**	**14 41 28.2**	**+0.4**
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pg**	**14 41 17.9**	**-0.6**
TUTA				*i* S	**Sg**	**14 41 29.4**	**0.0**
TUTA	**Tutak**	**0.82**	**337**	P	**Pg**	**14 41 17.9**	**-0.6**
TUTA				S	**Sg**	**14 41 29.4**	**0.0**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*PG	**Pg**	**14 41 20.4**	**-0.5**
AGRB				*e*SG	**Sb**	**14 41 33.6**	**+0.3**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*Pg	**Pg**	**14 41 20.4**	**-0.5**
AGRB				*e*Sg	**Sb**	**14 41 33.6**	**+0.3**

*GRAL **29** 15:09:17.6±0.3,33.°85N×36.°92E,h14km±34km,MD3.1*
NSSC 29 15:09:16.2±1.0,**33.°78N**×**36.°87E,h0**km±4km,**ML1.8,**
Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.40**	**307**	*e*P	Pg	15 09 24.1	+0.1
MARH				*e*S	Sb	15 09 31.3	-2.0
MARH				AML	AML	15 09 38.1	
	comp=N,96nm,0.4s						
ROOS	**tl_alroos**	**0.52**	**42**	*e*P	Pg	15 09 27.0	+0.8
FKH	**Fakeheh**	**0.60**	**320**	*e*P	Pg	15 09 28.0	+0.4
FKH				*e*S	Sg	15 09 35.8	+0.4
HAWK	**Haweek**	**0.83**	**333**	*e*P	Pg	15 09 32.4	+0.3
HAWK				*e*S	Sb	15 09 44.2	-1.1
HAWK				AML	AML	15 09 47.3	
	comp=N,29nm,0.4s						
BRBR	**Barbar**	**0.85**	**244**	*e*P	Pg	15 09 33.0	+0.5
BRBR				*e*S	Sb	15 09 45.2	-0.9
BRBR				AML	AML	15 09 55.7	
	comp=N,15nm,0.2s						
HWQ	**Hawqa**	**0.91**	**303**	*e*P	Pg	15 09 33.6	-0.1
BHL	**Bhannes**	**1.02**	**277**	*e*P	Pg	15 09 35.9	+0.2
BHL				*e*S	Sg	15 09 49.4	+0.4
SALA	**Sala**	**1.08**	**186**	*e*P	Pg	15 09 37.0	+0.1
DQRL	**Deir Qamar**	**1.08**	**266**	*e*P	Pg	15 09 37.2	+0.2
DQRL				*e*S	Sg	15 09 51.6	+0.5
BIDA	**Albida**	**1.31**	**340**	*e*P	Pg	15 09 40.8	-0.4
BIDA				*e*S	Sb	15 09 59.1	0.0
BIDA				AML	AML	15 10 01.8	
	comp=N,62nm,0.5s						
BTCH	**Batrach**	**2.27**	**352**	*e*P	Pn	15 09 55.9	+0.8
BTCH				*e*S	Sn	15 10 23.8	-0.1
BTCH				AML	AML	15 10 59.1	
	comp=N,18nm,0.6s						

*IDC **29** 15:15:31.2±3.8,3.°03S×99.°90E,h0km,mb3.2/4,mb1 3.5/4,*
mb1mx3.2/44,mbtmp3.3/4,MS3.1/1,Ms1 3.1/1,
ms1mx2.6/21,Error ellipse: s-maj=150.8km s-min=22.9km
az=57.0
*ISCJB **29** 15:15:34.8±1.0,2.°88S±0.°08×100.°00E±0.°08,h33km±7km,*
mb3.1/4,MS3.1/1,Error ellipse: s-maj=17.0km
s-min=7.2km az=44.5
*DJA **29** 15:15:35.8±0.5,3.°S±4.°×10.°0E±.°,h26km±3km,M3.5/7,*
MLv3.5/7
ISC 29 15:15:36.0±1.1,**2.°82S**±0.°10×**100.°02E**±0.°09,**h28**km±6km,
n15,σ0s**84**/15,**mb3.0**/4,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.06**	**349**	P	**Pb**	**15 15 40.5**	**-0.3**
PPSI				S	**Sb**	**15 15 44.7**	**+0.6**
SISI	**Saibi**	**1.75**	**328**	P	**Pn**	**15 16 03.7**	**-0.9**
SISI				S	**Sn**	**15 16 27.5**	**+1.5**
PDSI	**Padang**	**1.95**	**13**	P	**Pn**	**15 16 06.6**	**-0.7**
PDSI				S	**Sn**	**15 16 30.8**	**-0.1**
MASI	**Maura Aman, Be**	**2.24**	**98**	P	**Pn**	**15 16 11.1**	**-0.2**
MASI				S	**Sn**	**15 16 37.7**	**-0.3**
PBSI	**Pulau Batu**	**3.26**	**328**	P	**Pn**	**15 16 24.3**	**-0.9**
MNAI	**Manna**	**3.30**	**118**	P	**Pn**	**15 16 25.9**	**0.0**
LHSI	**Lahat**	**3.63**	**106**	P	**Pn**	**15 16 30.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.17**	**357**	P	**P**	**15 20 20.3**	**+1.0**
	0.3nm,0.7s,baz=184,slow=9.9,SNR=3.1						
H08S2	**Diego Garcia H**	**27.82**	**259**	T	T	15 50 17.9	
	baz=82,slow=76,SNR=212						
H08S3	**Diego Garcia H**	**27.83**	**259**	T	T	15 50 18.4	
	baz=82,slow=76,SNR=209						
H08S1	**Diego Carcia H**	**27.84**	**259**	T	T	15 50 19.3	
	baz=82,slow=76,SNR=226						
WRA	**Warramunga Arr**	**37.56**	**120**	P	**P**	**15 22 47.8**	**-0.5**
	0.5nm,1.0s,baz=293,slow=8.1,SNR=2.8						
ASAR	**Alice Springs**	**38.76**	**125**	P	**P**	**15 22 57.3**	**-1.0**
	0.1nm,0.6s,baz=297,slow=7.5,SNR=5.1						
WSAR	**Wadi Sarin**	**47.93**	**305**	LR	LR	15 42 11.7	
	comp=Z,22nm,19.9s,slow=33						
MKAR	**Makanchi Array**	**51.82**	**345**	P	**P**	**15 24 42.4**	**+0.8**
	0.8nm,0.6s,baz=152,slow=8.6,SNR=8.5						

*DDA **29** 15:37:40.0,37.°67N×38.°73E,h7km,Ml3.3*
*ISCJB **29** 15:37:40.7±0.6,37.°66N±0.°03×38.°77E±0.°03,h7km±5km,*
Error ellipse: s-maj=5.0km s-min=3.3km az=140.6
*CSEM **29** 15:37:40.8±0.2,37.°66N×38.°77E,h5km,MD2.9,Error*
ellipse: s-maj=5.5km s-min=4.0km az=125.0
*ISK **29** 15:37:40.8,37.°64N×38.°82E,h12km,MD2.9*
ISC 29 15:37:40.8±1.0,**37.°67N**±0.°02×**38.°78E**±0.°02,**h9**km±9km,
n33,σ0s**83**/54,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.23**	**171**	*e*PG	**Pg**	**15 37 45.6**	**+0.1**
URFA				*e*SG	**Sg**	**15 37 49.1**	**+0.4**
URFA	**Urfa**	**0.23**	**171**	*e*Pg	**Pg**	**15 37 45.6**	**+0.1**
URFA				*e*Sg	**Sg**	**15 37 49.1**	**+0.4**
ATAB	**Bozova**	**0.43**	**243**	*i* P	**Pg**	**15 37 48.4**	**-0.9**
ATAB				*i* S	**Sg**	**15 37 53.9**	**-1.1**
ATAB	**Bozova**	**0.43**	**243**	P	**Pg**	**15 37 48.3**	**-0.9**
ATAB				S	**Sg**	**15 37 53.9**	**-1.1**
SURC	**SANLIURFA_SURC**	**0.80**	**190**	*i* P	**Pg**	**15 37 55.8**	**-0.4**
SURC				*i* S	**Sg**	**15 38 06.7**	**+0.1**
SURC	**SANLIURFA_SURC**	**0.80**	**190**	P	**Pg**	**15 37 55.8**	**-0.4**
SURC				S	**Sg**	**15 38 06.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.82**	**30**	*e*PG	**Pg**	**15 37 57.1**	**+0.4**
SVRC				*e*SG	**Sb**	**15 38 09.5**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.82**	**30**	*e*Pg	**Pg**	**15 37 57.1**	**+0.4**
SVRC				*e*Sg	**Sb**	**15 38 09.5**	**+0.9**
ELZG	**Elazig**	**0.84**	**11**	*i* P	**Pg**	**15 37 56.6**	**-0.5**
ELZG				*i* S	**Sg**	**15 38 08.3**	**+0.2**
ELZG	**Elazig**	**0.84**	**11**	P	**Pg**	**15 37 56.6**	**-0.5**
ELZG				S	**Sg**	**15 38 08.3**	**+0.2**
GZT	**Gaziantep**	**1.01**	**252**	*i* P	**Pg**	**15 37 59.9**	**-0.4**
GZT				*i* S	**Sg**	**15 38 12.8**	**-0.8**
DIYA	**Diyarbakir**	**1.09**	**76**	*i* P	**Pg**	**15 38 01.9**	**+0.2**
DIYA				*i* S	**Sb**	**15 38 16.6**	**+0.3**
DIYA	**Diyarbakir**	**1.09**	**76**	P	**Pg**	**15 38 02.0**	**+0.2**
DIYA				S	**Sb**	**15 38 16.6**	**+0.3**
PTK	**Pertek**	**1.31**	**21**	*e*PN	**Pb**	**15 38 06.0**	**+0.2**
PTK	**Pertek**	**1.31**	**21**	*e*Pn	**Pb**	**15 38 06.0**	**+0.2**
MAZI	**Mazidag**	**1.34**	**98**	*e*PN	**Pn**	**15 38 05.4**	**-0.4**
MAZI				*e*SN	**Sb**	**15 38 23.5**	**-0.1**
MAZI	**Mazidag**	**1.34**	**98**	*e*Pn	**Pn**	**15 38 05.4**	**-0.4**
MAZI				*e*Sn	**Sb**	**15 38 23.5**	**-0.1**
DARE	**Darende-Malaty**	**1.36**	**312**	*e*PN	**Pg**	**15 38 06.9**	**-0.1**
DARE	**Darende-Malaty**	**1.36**	**312**	*e*Pn	**Pg**	**15 38 06.9**	**-0.1**
KMRS	**Kahramanmaras**	**1.50**	**264**	*e*PN	**Pb**	**15 38 08.7**	**-0.2**
KMRS	**Kahramanmaras**	**1.50**	**264**	*e*Pn	**Pb**	**15 38 08.7**	**-0.2**
HCB	**Kahramanmar¯**	**1.52**	**258**	*i* P	**Pn**	**15 38 08.0**	**-0.3**
HCB				*i* S	**Sn**	**15 38 27.9**	**-0.3**
KEMA	**Kemaliye**	**1.61**	**352**	*i* P	**Pn**	**15 38 10.2**	**+0.7**
KEMA				*i* S	**Sn**	**15 38 29.0**	**-1.5**
KEMA	**Kemaliye**	**1.61**	**352**	P	**Pn**	**15 38 10.2**	**+0.7**
KEMA				S	**Sn**	**15 38 29.0**	**-1.5**
KUZU	**Kuzuini**	**1.63**	**237**	*i* P	**Pg**	**15 38 14.9**	**+2.9**
KUZU				*i* S	**Sb**	**15 38 31.4**	**-0.3**
KUZU	**Kuzuini**	**1.63**	**237**	P	**Pg**	**15 38 14.9**	**+2.9**
KUZU				S	**Sb**	**15 38 31.4**	**-0.3**
KAMA	**Osmaniye**	**1.75**	**255**	*i* P	**Pn**	**15 38 11.8**	**+0.4**
KAMA				*i* S	**Sb**	**15 38 35.6**	**+0.4**
BINT	**Bingol**	**1.81**	**48**	*e*Pn	**Pg**	**15 38 15.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.97**	**75**	*e*PN	**Pn**	**15 38 14.1**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.97**	**75**	*e*Pn	**Pn**	**15 38 14.1**	**-0.4**
BNGB	**Bing¶**	**1.99**	**48**	*e*PN	**Pn**	**15 38 15.5**	**+0.7**
KOZT	**Kozan**	**2.35**	**266**	*e*PN	**Pn**	**15 38 20.8**	**+1.2**
KOZT	**Kozan**	**2.35**	**266**	*e*Pn	**Pn**	**15 38 20.8**	**+1.2**

*CSEM **29** 15:40:58.8,40.°61N×29.°27E,h5km,MD2.0*
ISK 29 15:40:58.8,40.°61N×29.°27E,h5km,MD2.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.09**	**120**	*e*PG	Pg	15 41 01.3	+0.5
YLV				*e*SG	Sg	15 41 03.2	+1.0
YLV	**Yalova**	**0.09**	**120**	*e*Pg	Pg	15 41 01.3	+0.5
YLV				*e*Sg	Sg	15 41 03.2	+1.0
GEMT	**Gemlik**	**0.19**	**199**	*e*PG	Pg	15 41 02.6	+0.1
GEMT	**Gemlik**	**0.19**	**199**	*e*Pg	Pg	15 41 02.6	+0.1
BUY	**Buyukada**	**0.27**	**335**	*e*PG	Pg	15 41 04.6	+0.6
BUY	**Buyukada**	**0.27**	**335**	*e*Pg	Pg	15 41 04.6	+0.6
SBT5	**Esenkoy-Cinarc**	**0.30**	**274**	*e*PG	Pg	15 41 05.2	+0.6
SBT5	**Esenkoy-Cinarc**	**0.30**	**274**	*e*Pg	Pg	15 41 05.2	+0.7
ARMT	**Armutlu**	**0.31**	**261**	*e*PG	Pg	15 41 05.9	+1.0
ARMT				*e*SG	Sg	15 41 10.2	+1.1
ARMT	**Armutlu**	**0.31**	**261**	*e*Pg	Pb	15 41 05.9	-1.0
ARMT				*e*Sg	Sg	15 41 10.2	+1.2
HRT	**Hereke**	**0.37**	**55**	*e*PG	Pg	15 41 06.2	+0.2
HRT	**Hereke**	**0.37**	**55**	*e*Pg	Pg	15 41 06.2	+0.2
CAVI	**Cavuskoy**	**0.60**	**133**	*e*PG	Pb	15 41 11.3	-0.5
CAVI	**Cavuskoy**	**0.60**	**133**	*e*Pg	Pb	15 41 11.3	-0.5
GULT	**Gulveren**	**0.97**	**100**	*e*PG	Pg	15 41 17.6	+0.3
GULT	**Gulveren**	**0.97**	**100**	*e*Pg	Pg	15 41 17.6	+0.2
TVSB	**Tavsanli**	**1.17**	**173**	*e*PN	Pn	15 41 22.1	+0.2
TVSB	**Tavsanli**	**1.17**	**173**	*e*Pn	Pn	15 41 22.2	+0.3
MDUB	**Mudurnu**	**1.48**	**95**	*e*PN	Pb	15 41 26.9	+0.1
MDUB	**Mudurnu**	**1.48**	**95**	*e*Pn	Pb	15 41 26.9	+0.1

IDC 29 15:48:21.2±2.1,**6.°66S**×**128.°81E,h0**km,**mb3.9**/1,
mb1 3.5/3,**mb1mx3.3**/27,**mbtmp3.4**/3,**ML3.2**/2,**Error**
ellipse: s-maj=156.9km s-min=31.0km az=67.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**158**	Pn	Pn	15 51 44.3	-0.2
	0.1nm,0.3s,baz=341,slow=13,SNR=5.2						
WRA				Sn	Sn	15 54 08.3	-15
	0.2nm,0.3s,baz=333,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**17.61**	**164**	P	Pn	15 52 28.3	+0.1
	0.1nm,0.3s,baz=339,slow=9.0,SNR=5.6						
MKAR	**Makanchi Array**	**67.30**	**327**	P	P	15 59 17.9	0.0
	0.5nm,0.4s,baz=112,slow=7.4,SNR=11						

*DDA **29** 16:07:15.7,38.°85N×43.°60E,h7km,Md2.2*
*ISK **29** 16:07:16.0,38.°91N×43.°63E,h5km,MD2.5*
*ISCJB **29** 16:07:17.2±1.2,38.°90N±0.°06×43.°62E±0.°07,h10km±6km,*
Error ellipse: s-maj=10.2km s-min=8.9km az=40.8
*CSEM **29** 16:07:18.3±0.5,38.°91N×43.°74E,h2km,MD2.2,Error*
ellipse: s-maj=14.7km s-min=6.5km az=126.0
ISC 29 16:07:17.6±1.4,**38.°95N**±0.°04×**43.°65E**±0.°04,**h7**km±9km,
n11,σ0s**60**/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**303**	*i* P	**Pg**	**16 07 19.2**	**-0.5**
VMUR				*i* S	**Sg**	**16 07 21.6**	**+0.4**
CLDR	**Caldiran**	**0.28**	**47**	*e*PG	**Pg**	**16 07 23.6**	**+0.3**
CLDR				*e*SG	**Sb**	**16 07 29.5**	**-0.7**
CLDR	**Caldiran**	**0.28**	**47**	*i* P	**Pg**	**16 07 23.3**	**0.0**
CLDR				*i* S	**Sb**	**16 07 29.7**	**-0.6**
CLDR	**Caldiran**	**0.28**	**47**	P	**Pg**	**16 07 23.3**	**0.0**
CLDR	**Caldiran**	**0.28**	**47**	*e*Pg	**Pg**	**16 07 23.6**	**+0.3**
CLDR				*e*Sg	**Sb**	**16 07 29.5**	**-0.7**
VANB	**Van**	**0.41**	**210**	*e*PG	**Pg**	**16 07 25.6**	**0.0**
VANB	**Van**	**0.41**	**210**	*e*Pg	**Pg**	**16 07 25.6**	**0.0**
DYDN	**Diyadin**	**0.59**	**3**	*i* P	**Pg**	**16 07 29.3**	**+0.2**
DYDN				*i* S	**Sb**	**16 07 39.2**	**+0.1**
DYDN	**Diyadin**	**0.59**	**3**	P	**Pg**	**16 07 29.3**	**+0.2**
DYDN				S	**Sb**	**16 07 39.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.81**	**321**	*e*PG	**Pg**	**16 07 32.2**	**-0.9**
AGRB				*e*SG	**Sb**	**16 07 46.2**	**+1.0**
AGRB	**Hanur-Agry**	**0.81**	**321**	*e*Pg	**Pg**	**16 07 32.3**	**-0.9**
AGRB				*e*Sg	**Sb**	**16 07 46.2**	**+1.0**

*ATH **29** 16:11:06.6,38.°73N×22.°84E,h14km±3km,ML1.9/12,Error*
ellipse: s-maj=3.1km s-min=0.7km az=72.0
*CSEM **29** 16:11:06.5±0.2,38.°74N×22.°83E,h10km,ML1.9,Error*
ellipse: s-maj=3.8km s-min=2.6km az=125.0
THE 29 16:11:07.0,38.°76N×22.°83E,h0km±2km,**ML2.0**/8,**Error**
ellipse: s-maj=2.1km s-min=0.5km az=157.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.13**	**273**	P	Pg	16 11 09.4	-0.2
AXAR				S	Sg	16 11 12.4	+1.1
AXAR				AML	AML	16 11 14.0	
	comp=N,2414μm,0.1s						
AXAR				AML	AML	16 11 15.9	
	comp=E,3005μm,0.4s						
AXAR	**Agios Charalam**	**0.13**	**273**	P	Pg	16 11 09.4	-0.1
AXAR				S	Sg	16 11 12.4	+1.1
LKR	**Lokris**	**0.17**	**129**	P	Pg	16 11 10.2	-0.1
LKR				S	Sg	16 11 13.3	+0.8
LKR	**Lokris**	**0.17**	**129**	P	Pg	16 11 10.6	+0.3
LKR				S	Sg	16 11 13.7	+1.2
LKR				AML	AML	16 11 14.0	
	comp=E,1015μm,0.2s						
LKR				AML	AML	16 11 15.2	
	comp=N,1140μm,0.1s						
LKR	**Lokris**	**0.17**	**129**	P	Pg	16 11 10.6	+0.3
LKR				S	Sg	16 11 13.7	+1.2
LKR	**Lokris**	**0.17**	**129**	P	Pg	16 11 10.2	-0.1
SMIA	**Simia**	**0.32**	**68**	P	Pg	16 11 12.7	-0.4
SMIA				S	Sg	16 11 18.5	+1.2
SMIA	**Simia**	**0.32**	**68**	P	Pg	16 11 13.6	+0.4
SMIA				S	Sg	16 11 17.5	+0.2
SMIA				AML	AML	16 11 20.0	
	comp=N,1336μm,0.3s						
SMIA				AML	AML	16 11 21.3	
	comp=E,588μm,0.4s						
SMIA	**Simia**	**0.32**	**68**	P	Pg	16 11 13.6	+0.5
SMIA				S	Sg	16 11 18.5	+1.2
DSF	**Desfina**	**0.42**	**214**	P	Pg	16 11 14.7	-0.3
DSF				S	Sg	16 11 21.3	+0.8
DSF	**Desfina**	**0.42**	**214**	P	Pg	16 11 14.9	-0.1
DSF				S	Sg	16 11 21.5	+1.0
DSF				AML	AML	16 11 23.2	
	comp=E,547μm,0.2s						
DSF				AML	AML	16 11 23.5	
	comp=N,569μm,0.1s						
DSF	**Desfina**	**0.42**	**214**	P	Pg	16 11 14.9	-0.1
DSF				S	Sg	16 11 21.3	+0.8
DSF	**Desfina**	**0.42**	**214**	P	Pg	16 11 14.7	-0.3
AGG	**Agios Georgios**	**0.47**	**304**	P	Pg	16 11 16.0	0.0
AGG				S	Sg	16 11 23.2	+1.1
AGG	**Agios Georgios**	**0.47**	**304**	P	Pg	16 11 15.9	-0.1
AGG				S	Sb	16 11 24.2	-1.5
AGG				AML	AML	16 11 25.3	
	comp=E,496μm,0.2s						
AGG				AML	AML	16 11 25.7	
	comp=N,258μm,0.3s						
**A

comp=E,138μm,0.3s
VIL2 AML AML 16 11 41.6
comp=N,120μm,0.7s
FYTO Fytoko, Volos 0.65 8 P Pg 16 11 20.0 +0.5
FYTO S Sg 16 11 28.9 +0.9
FYTO Fytoko, Volos 0.65 8 P Pb 16 11 20.7 -0.6
FYTO S Sg 16 11 28.4 +0.4
FYTO Fytoko, Volos 0.65 8 P Pg 16 11 20.0 +0.5
FYTO S Sg 16 11 28.4 +0.4
KALE Kalithea 0.65 236 P Pg 16 11 18.8 -0.7
KALE S Sb 16 11 29.8 -1.2
KALE Kalithea 0.65 236 P Pg 16 11 19.0 -0.2
KALE S Sg 16 11 26.8 -1.2
KALE AML AML 16 11 32.0
comp=E,185μm,0.4s
KALE AML AML 16 11 32.1
comp=N,233μm,0.3s
KALE Kalithea 0.65 236 P Pg 16 11 19.3 -0.2
KALE S Sg 16 11 26.8 -1.2
KALE Kalithea 0.65 236 P Pg 16 11 18.8 -0.7
XOR Xorichti 0.67 25 P Pg 16 11 19.9 +0.1
XOR S Sg 16 11 29.4 +0.9
XOR Xorichti 0.67 25 P Pg 16 11 19.7 -0.1
XOR S Sg 16 11 28.1 -0.4
XOR AML AML 16 11 33.0
comp=E,261μm,0.2s
XOR AML AML 16 11 33.5
comp=N,326μm,0.2s
XOR Xorichti 0.67 25 P Pg 16 11 19.9 +0.1
XOR S Sg 16 11 29.4 +0.9
VILL Villia 0.71 147 P Pg 16 11 17.9 -2.6
VILL S Sg 16 11 29.7 0.0
TRIZ Trizonia 0.71 237 P Pg 16 11 20.0 -0.6
TRIZ S Sg 16 11 29.7 -0.1
TRIZ Trizonia 0.71 237 P Pg 16 11 20.0 -0.6
TRIZ S Sg 16 11 29.7 -0.1
ANX Ano Chora 0.73 257 P Pg 16 11 20.4 -0.6
ANX S Sg 16 11 31.7 +1.3
ANX Ano Chora 0.73 257 P Pg 16 11 20.4 -0.6
LTK Loutraki 0.74 172 P Pg 16 11 21.3 +0.1
LTK S Sb 16 11 32.6 -0.9
LTK Loutraki 0.74 172 P Pg 16 11 21.3 +0.1
LTK S Sb 16 11 32.6 -0.9
EFP Efpalio 0.80 246 P Pg 16 11 22.3 +0.1
EFP S Sg 16 11 33.2 +0.6
EFP AML AML 16 11 36.8
comp=N,106μm,0.5s
EFP AML AML 16 11 39.3
comp=E,92μm,0.2s
EFP Efpalio 0.80 246 P Pg 16 11 22.3 +0.1
EFP S Sg 16 11 33.2 +0.6
LAKA Lakka 0.84 232 P Pg 16 11 22.5 -0.7
LAKA S Sg 16 11 34.5 +0.3
LAKA Lakka 0.84 232 P Pg 16 11 22.5 -0.7
LAKA S Sg 16 11 34.5 +0.4
KLV Kalavryta, Ach 0.89 217 P Pg 16 11 22.6 -1.4
KLV S Sg 16 11 35.7 0.0
KLV Kalavryta, Ach 0.89 217 P Pg 16 11 22.6 -1.5
KLV S Sg 16 11 35.7 +0.1
GUR Goura 0.91 205 P Pg 16 11 22.4 -2.0
GUR S Sg 16 11 34.0 -2.1
GUR AML AML 16 11 43.1
comp=N,220μm,0.4s
GUR AML AML 16 11 43.8
comp=E,189μm,0.3s
GUR Goura 0.91 205 P Pg 16 11 22.4 -2.0
GUR S Sg 16 11 34.0 -2.1

IDC 29 16:38:07.8±8.3, 5°88S×150°19E, h60km±63km, mb3.4/3, mb1 3.8/4, mb1mx3.2/34, mbtmp3.9/4, ML2.3/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/20, Error ellipse: s-maj=99.4km s-min=53.6km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.61**	**220**	P	Pn	16 39 15.0	+0.1
	11nm,0.3s,baz=38,slow=12,SNR=44						
PMG				S	Sn	16 40 08.1	+0.9
	6.3nm,0.3s,baz=194,slow=19,SNR=6.1						
PMG				LR	LR	16 41 02.4	
	comp=Z,44nm,18.4s,baz=130,slow=38						
WRA	**Warramunga Arr**	**20.80**	**226**	P	P	16 42 44.1	-0.2
	1.8nm,0.4s,baz=52,slow=10,SNR=22						
ASAR	**Alice Springs**	**23.62**	**220**	P	P	16 43 13.2	-0.5
	0.7nm,0.5s,baz=53,slow=8.8,SNR=26						
FITZ	**Fitzroy Crossi**	**26.96**	**241**	P	P	16 43 43.5	+0.4
	1.3nm,0.8s,baz=53,slow=9.1,SNR=8.9						
TORD	**Torodi Ar. Bea**	**148.12**	**285**	PKPbc	PKPbc	16 57 47.4	-0.5
	1.1nm,0.4s,baz=97,slow=2.8,SNR=17						

*ISK **29** 16:38:28.4, 38°83N×4°45E, h7km, ML2.5*
*ISCJB **29** 16:38:29.1±1.0, 38°85N±0°06×43°45E±0°07, h12km±9km, Error ellipse: s-maj=9.9km s-min=9.3km az=26.1*
*CSEM **29** 16:38:29.3±0.3, 38°87N×43°44E, h5km, ML2.5, Error ellipse: s-maj=6.1km s-min=5.7km az=61.0*
*DDA **29** 16:38:30.5, 39°00N×43°42E, h7km, Md2.5*
ISC 29 16:38:28.1±1.1, 38°88N±0°05×43°57E±0°05, h23km±6km, n15, σ0°44/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**3**	*i* P	**Pb**	**16 38 32.6**	**-0.2**
VMUR				*i* S	**Sb**	**16 38 36.5**	**+0.6**
VMUR	**Van-Muradiye**	**0.11**	**3**	P	**Pb**	**16 38 32.6**	**-0.2**
VMUR				S	**Sb**	**16 38 36.5**	**+0.6**
ERCV	**ERCIS-VAN**	**0.22**	**308**	*e*PG	**Pb**	**16 38 33.4**	**-0.7**
ERCV	**ERCIS-VAN**	**0.22**	**308**	*e*Pg	**Pb**	**16 38 33.4**	**-0.7**
VANB	**Van**	**0.32**	**206**	*e*PG	**Pb**	**16 38 35.3**	**-0.1**
VANB	**Van**	**0.32**	**206**	*e*Pg	**Pb**	**16 38 35.3**	**-0.1**
CLDR	**Caldiran**	**0.38**	**47**	*e*PG	**Pn**	**16 38 38.0**	**-0.4**
CLDR				*e*SG	**Sn**	**16 38 45.6**	**+0.5**
CLDR	**Caldiran**	**0.38**	**47**	*i* P	**Pn**	**16 38 38.0**	**-0.4**
CLDR				*i* S	**Sn**	**16 38 45.2**	**+0.1**
CLDR	**Caldiran**	**0.38**	**47**	P	**Pn**	**16 38 38.0**	**-0.4**
CLDR				S	**Sn**	**16 38 45.2**	**+0.1**
TUTA	**Tutak**	**0.78**	**312**	*i* P	**Pb**	**16 38 43.0**	**-0.1**
TUTA	**Tutak**	**0.78**	**312**	P	**Pb**	**16 38 43.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.82**	**327**	*e*PG	**Pn**	**16 38 44.1**	**-0.4**
AGRB				*e*SG	**Sn**	**16 38 56.7**	**+0.6**
AGRB	**Hanur-Agry**	**0.82**	**327**	*e*Pg	**Pn**	**16 38 44.1**	**-0.4**
AGRB				*e*Sg	**Sn**	**16 38 56.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.92**	**331**	*e*PN	**Pb**	**16 39 02.5**	**0.0**
SENK	**Senkaya-Erzuru**	**1.92**	**331**	*e*Pn	**Pb**	**16 39 02.6**	**0.0**

*CSEM **29** 16:43:42.6±0.2, 38°57N×43°59E, h12km, MD2.5, Error ellipse: s-maj=8.1km s-min=3.7km az=84.0*
*DDA **29** 16:43:43.8, 38°66N×43°54E, h7km, Md2.5*
*ISK **29** 16:43:43.7, 38°63N×43°62E, h21km, ML2.4*
ISC 29 16:43:42.9±1.0, 38°59N±0°03×43°71E±0°05, h25km±10km, n18, σ1°42/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.24**	**256**	*i* P	**Pb**	**16 43 47.7**	**-1.7**
TVAN				*i* S	**Sb**	**16 43 58.8**	**+5.0**
TVAN	**Van**	**0.24**	**256**	P	**Pb**	**16 43 47.7**	**-1.7**
VANB	**Van**	**0.25**	**272**	*e*PG	**Pn**	**16 43 49.8**	**-1.3**
VANB	**Van**	**0.25**	**272**	*e*Pg	**Pn**	**16 43 49.8**	**-1.3**
VMUR	**Van-Muradiye**	**0.42**	**345**	*i* P	**Pb**	**16 43 50.7**	**-1.3**
VMUR				*i* S	**Sn**	**16 44 01.4**	**+0.9**
VMUR	**Van-Muradiye**	**0.42**	**345**	P	**Pb**	**16 43 50.7**	**-1.3**
CLDR	**Caldiran**	**0.58**	**16**	*e*PG	**Pn**	**16 43 55.1**	**-0.6**
CLDR				*e*SG	**Sn**	**16 44 04.4**	**-0.3**
CLDR	**Caldiran**	**0.58**	**16**	*i* P	**Pn**	**16 43 54.7**	**-1.1**
CLDR				*i* S	**Sn**	**16 44 05.2**	**+0.6**
CLDR	**Caldiran**	**0.58**	**16**	P	**Pn**	**16 43 54.7**	**-1.1**
CLDR	**Caldiran**	**0.58**	**16**	*e*Pg	**Pn**	**16 43 55.2**	**-0.6**
CLDR				*e*Sg	**Sn**	**16 44 04.4**	**-0.3**
CLDR				S	**Sn**	**16 44 05.2**	**+0.6**
BASK	**Baskale_VAN**	**0.58**	**156**	*i* P	**Pb**	**16 43 54.3**	**-0.4**
BASK				*i* S	**Sb**	**16 44 02.7**	**0.0**
BASK	**Baskale_VAN**	**0.58**	**156**	P	**Pb**	**16 43 54.3**	**-0.4**
BASK				S	**Sb**	**16 44 02.7**	**0.0**
DYDN	**Diyadin**	**0.96**	**359**	*i* P	**Pb**	**16 44 01.2**	**+0.2**
DYDN				*i* S	**Sn**	**16 44 16.5**	**+2.6**
DYDN	**Diyadin**	**0.96**	**359**	P	**Pb**	**16 44 01.2**	**+0.2**
AGRB	**Hanur-Agry**	**1.13**	**331**	*e*PG	**Pb**	**16 44 03.6**	**-0.4**
AGRB				*e*SG	**Sb**	**16 44 18.8**	**+0.4**
AGRB	**Hanur-Agry**	**1.13**	**331**	*e*Pg	**Pb**	**16 44 03.6**	**-0.4**
AGRB				*e*Sg	**Sb**	**16 44 18.8**	**+0.4**
CUKT	**Cukurca**	**1.34**	**183**	*e*PN	**Pb**	**16 44 07.7**	**+0.2**
CUKT	**Cukurca**	**1.34**	**183**	*e*Pn	**Pb**	**16 44 07.7**	**+0.2**

*NIED **29** 16:50:00.34°60N×137°20E, h360km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs355.00000°, δ34.00000°, λ54.00000°. NP2:φs216.00000°, δ64.00000°, λ111.00000°.*
*ISCJB **29** 16:50:41.0±0.3, 34°57N±0°05×137°24E±0°04, h327km±2km, mb3.7/11, Error ellipse: s-maj=8.1km s-min=4.7km az=160.8*
*JMA **29** 16:50:41.3±0.1, 34°57N×137°21E, h329km±1km, M3.8*
*IDC **29** 16:50:41.9±0.6, 34°56N×137°22E, h322km±7km, mb3.5/10, mb1 3.6/15, mb1mx3.3/44, mbtmp4.2/15, Error ellipse: s-maj=17.4km s-min=8.2km az=64.0*
ISC 29 16:50:42.0±0.7, 34°60N±0°06×137°22E±0°04, h323km±5km, n49, σ0°99/74, mb3.8/11, 17C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.07**	**299**	⇑P	**Pn**	**16 51 23.3**	**+0.7**
JAA				S	**S**	**16 51 55.4**	**+0.3**
JIE	**Ise**	**0.47**	**244**	⇑P	**Pn**	**16 51 23.3**	**+0.1**
JIE				S	**S**	**16 51 55.4**	**-0.7**
HMMJ	**Hamamatsu 2**	**0.49**	**58**	⇑P	**Pn**	**16 51 23.5**	**+0.3**
HMMJ				*e*S	**S**	**16 51 55.9**	**-0.1**
JHMK	**Hamakita**	**0.49**	**64**	P	**Pn**	**16 51 23.3**	**+0.3**
JAO	**Obara**	**0.67**	**3**	⇑P	**Pn**	**16 51 23.9**	**+0.2**
JAO				*e*S	**S**	**16 51 57.4**	**+0.4**
TK02	**Tokai 2**	**0.79**	**145**	⇑P	**Pn**	**16 51 24.1**	**+0.3**
JKN2	**Miekihoku**	**0.86**	**246**	⇑P	**Pn**	**16 51 24.5**	**+0.2**
JKN2				*e*S	**S**	**16 51 57.5**	**-0.6**
JEG	**Eigenji**	**0.87**	**308**	⇑P	**Pn**	**16 51 24.7**	**+0.4**
JNY	**Yasuok**	**0.92**	**34**	⇑P	**Pn**	**16 51 24.8**	**+0.2**
JNY				*e*S	**S**	**16 51 58.7**	**+0.1**
TTO1	**TONANKAI O.B.S**	**1.04**	**201**	P	**Pn**	**16 51 25.4**	**+0.6**
JWY	**Kouya**	**1.40**	**255**	⇑P	**Pn**	**16 51 27.0**	**0.0**
JWY				S	**S**	**16 52 01.4**	**-1.5**
JYN	**Shimob**	**1.41**	**50**	⇑P	**Pn**	**16 51 27.3**	**+0.3**
JWZ	**Kozaga**	**1.64**	**230**	⇑P	**Pn**	**16 51 28.0**	**-0.4**
JWZ				S	**S**	**16 52 04.0**	**-1.5**
JWT	**Wachi**	**1.64**	**295**	⇑P	**Pn**	**16 51 28.4**	**+0.1**
JWT				*e*S	**S**	**16 52 03.6**	**-1.7**
JOD2	**Odawara 2**	**1.67**	**66**	P	**Pn**	**16 51 29.3**	**+0.8**
JOD2				*e*S	**S**	**16 52 06.1**	**+0.4**
JKG	**Kaga**	**1.83**	**337**	⇑P	**Pn**	**16 51 29.5**	**0.0**
JRY	**Ryogami san**	**1.97**	**44**	⇑P	**Pn**	**16 51 31.3**	**+0.7**
JRY				*e*S	**S**	**16 52 09.5**	**0.0**
JHU	**Hanno**	**2.10**	**53**	P	**Pn**	**16 51 31.8**	**+0.3**
JHU				S	**S**	**16 52 10.3**	**-0.9**
MJAR	**Matsushiro Arr**	**2.10**	**22**	P	**Pn**	**16 51 31.9**	**+0.4**
	21nm,0.3s,baz=205,slow=8.6,SNR=410						
MJAR				S	**S**	**16 52 10.6**	**-0.7**
	1.5nm,0.3s,baz=184,slow=16,SNR=5.2						
MAT	**Matsushiro**	**2.10**	**22**	P	**Pn**	**16 51 32.0**	**+0.4**
MAT				S	**S**	**16 52 10.8**	**-0.4**
MAT	**Matsushiro**	**2.10**	**22**	P	**Pn**	**16 51 31.9**	**+0.4**
MAT				*e*S	**S**	**16 52 11.0**	**-0.2**
JAI	**Aioi**	**2.43**	**252**	⇑P	**Pn**	**16 51 33.9**	**-0.4**
JAI				*e*S	**S**	**16 52 14.3**	**-1.9**
JAG	**Ashikaga**	**2.58**	**44**	⇑P	**Pn**	**16 51 34.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.59**	**124**	P	**Pn**	**16 51 35.0**	**-0.7**
	27nm,0.3s,baz=51,slow=23,SNR=4.9						
JHJ				S	**S**	**16 52 20.5**	**+1.8**
	16nm,0.3s,baz=90,slow=20,SNR=2.9						
BSO4	**Boso 4**	**2.59**	**80**	P	**Pn**	**16 51 35.0**	**-0.5**
BSO4				*e*S	**S**	**16 52 17.6**	**-0.8**
BSO3	**Boso 3**	**2.72**	**85**	P	**Pn**	**16 51 37.0**	**+0.6**
BSO3				S	**S**	**16 52 19.1**	**-1.0**
JSZ	**Suzu**	**2.85**	**2**	P	**Pn**	**16 51 38.2**	**+0.4**
JMN	**Monobe**	**2.90**	**254**	⇑P	**Pn**	**16 51 38.3**	**-0.2**
JMN				*e*S	**S**	**16 52 22.5**	**-1.3**
JYT	**Yasato**	**2.92**	**55**	P	**Pn**	**16 51 37.8**	**-0.8**
JYT				S	**S**	**16 52 22.2**	**-1.7**
BSO1	**Boso 1**	**3.10**	**88**	P	**Pn**	**16 51 39.1**	**-0.6**
BSO1				S	**S**	**16 52 24.5**	**-1.5**
JHO	**Hitachi**	**3.39**	**53**	P	**Pn**	**16 51 42.5**	**-0.6**
JHO				S	**S**	**16 52 29.6**	**-2.5**
JHS	**Saijyo**	**3.40**	**278**	P	**Pn**	**16 51 43.5**	**+0.2**
JHS				S	**S**	**16 52 31.9**	**-0.6**
JFK	**Kawauchi**	**4.05**	**46**	P	**Pn**	**16 51 49.3**	**-0.7**
JFK				S	**S**	**16 52 40.1**	**-4.5**
KSRS	**Korea Array**	**8.05**	**293**	P	**Pn**	**16 52 37.0**	**+0.7**
	1.0nm,0.3s,baz=108,slow=13,SNR=37						
ASAJ	**Asahikawa**	**10.38**	**22**	P	**Pn**	**16 53 04.8**	**+0.4**
	1.3nm,0.3s,baz=239,slow=8.4,SNR=16						
ASAJ				S	S	16 54 51.2	-10
	0.3nm,0.3s,baz=186,slow=17,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.41**	**339**	P	**Pn**	**16 53 05.5**	**+0.8**
	0.3nm,0.3s,baz=147,slow=9.7,SNR=5.7						
KLR	**Kul'dur**	**15.17**	**346**	P	**P**	**16 53 59.1**	**-0.4**
	0.0nm,0.3s,baz=142,slow=9.5,SNR=7.4						
SONM	**Songino Array**	**26.50**	**309**	P	**P**	**16 55 52.1**	**+1.5**
	3.1nm,0.5s,baz=120,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**41.11**	**315**	P	**P**	**16 57 55.0**	**0.0**
	1.6nm,0.4s,baz=106,slow=7.2,SNR=9.9						
MKAR	**Makanchi Array**	**42.58**	**304**	P	**P**	**16 58 07.3**	**+0.4**
	2.2nm,0.6s,baz=85,slow=10,SNR=24						
KURBB	**Kurchatov Arra**	**44.87**	**310**	P	**P**	**16 58 24.7**	**-0.1**
	2.3nm,0.7s,baz=90,slow=8.3,SNR=20						
BVAR	**Borovoye Array**	**49.72**	**313**	P	**P**	**16 59 02.4**	**+0.4**
	0.4nm,0.3s,baz=108,slow=8.7,SNR=5.9						
WRA	**Warramunga Arr**	**54.31**	**183**	P	**P**	**16 59 34.6**	**-1.2**
	6.5nm,0.3s,baz=359,slow=7.6,SNR=121						
ASAR	**Alice Springs**	**58.03**	**184**	P	**P**	**17 00 01.1**	**-0.9**
	1.7nm,0.3s,baz=356,slow=5.4,SNR=187						
STKA	**Stephens Creek**	**66.25**	**176**	P	**P**	**17 00 55.8**	**-0.1**
	1.3nm,0.5s,baz=340,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**69.35**	**331**	P	**P**	**17 01 15.2**	**+0.5**
	2.3nm,1.0s,baz=46,slow=9.9,SNR=3.9						
PDAR	**Pinedale Array**	**81.79**	**43**	P	**P**	**17 02 25.7**	**+0.1**
	1.0nm,0.7s,baz=276,slow=2.8,SNR=9.4						
TXAR	**Lajitas Array**	**94.30**	**50**	P	**P**	**17 03 27.1**	**+1.6**
	0.4nm,0.6s,baz=269,slow=4.1,SNR=1.9						
LPAZ	**La Paz**	**150.87**	**58**	PKPbc	**PKPbc**	**17 09 57.0**	**-0.8**
	1.5nm,0.8s,baz=31,slow=5.8,SNR=6.0						

*NSSC **29** 16:56:44.3±1.6, 40°99N×4°14E, h37km±999km, ML2.7*
*AZER **29** 16:56:58.9±1.1, 38°37N×43°37E, h2km±12km, Error ellipse: s-maj=12.6km s-min=2.9km az=63.0*
*ISK **29** 16:57:01.3, 38°78N×43°58E, h5km, ML3.4*
*CSEM **29** 16:57:02.8±0.2, 38°74N×43°56E, h2km, ML3.4, Error ellipse: s-maj=4.7km s-min=3.5km az=153.0*
*DDA **29** 16:57:02.1, 38°75N×43°59E, h9km, Ml3.5*
ISC 29 16:57:03.9±0.8, 38°78N±0°02×43°58E±0°02, h12km±6km, n135, σ1°66/166, 7C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**359**	*i* P	**Pg**	**16 57 06.5**	**-2.2**
VMUR				*i* S	**Sg**	**16 57 11.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.21**	**359**	P	**Pg**	**16 57 06.4**	**-2.2**
VMUR				S	**Sg**	**16 57 11.8**	**-0.1**
VANB	**Van**	**0.24**	**219**	PG	**Pg**	**16 57 08.3**	**-0.7**
VANB				*e*SG	**Sb**	**16 57 14.4**	**+1.9**
VANB	**Van**	**0.24**	**219**	*i* Pg	**Pg**	**16 57 08.3**	**-0.7**
TVAN	**Van**	**0.28**	**208**	*i* P	**Pg**	**16 57 08.3**	**-1.6**
TVAN				*i* S	**Sb**	**16 57 14.6**	**-1.3**
TVAN	**Van**	**0.28**	**208**	P	**Pg**	**16 57 08.3**	**-1.6**
TVAN				S	**Sb**	**16 57 14.6**	**-1.3**
ERCV	**ERCIS-VAN**	**0.30**	**322**	*e*PG	**Pg**	**16 57 08.1**	**-2.2**
ERCV	**ERCIS-VAN**	**0.30**	**322**	*e*Pg	**Pg**	**16 57 08.1**	**-2.2**
CLDR	**Caldiran**	**0.45**	**36**	*e*PG	**Pg**	**16 57 10.8**	**-2.1**
CLDR				*e*SG	**Sg**	**16 57 19.5**	**+0.5**
CLDR	**Caldiran**	**0.45**	**36**	*i* P	**Pg**	**16 57 10.8**	**-2.1**
CLDR				*i* S	**Sg**	**16 57 19.8**	**+0.9**
CLDR	**Caldiran**	**0.45**	**36**	P	**Pg**	**16 57 10.8**	**-2.1**
CLDR				*e*Sg	**Sg**	**16 57 19.5**	**+0.5**
GEVA	**Gevas**	**0.62**	**221**	*i* P	**Pg**	**16 57 13.7**	**-2.4**
GEVA	**Gevas**	**0.62**	**221**	P	**Pg**	**16 57 13.7**	**-2.4**
ADCV	**BITLIS_Adilcev**	**0.67**	**273**	*i* P	**Pg**	**16 57 14.8**	**-2.2**
ADCV				*i* S	**Sb**	**16 57 26.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.67**	**273**	P	**Pg**	**16 57 14.8**	**-2.2**
ADCV				S	**Sb**	**16 57 26.5**	**-0.4**
DYDN	**Diyadin**	**0.77**	**6**	*i* P	**Pg**	**16 57 16.2**	**-2.7**
DYDN				*i* S	**Sb**	**16 57 29.9**	**0.0**
DYDN	**Diyadin**	**0.77**	**6**	P	**Pg**	**16 57 16.2**	**-2.7**
DYDN				S	**Sb**	**16 57 29.9**	**0.0**
BASK	**Baskale_VAN**	**0.80**	**155**	*i* P	**Pg**	**16 57 17.5**	**-2.0**
BASK				*i* S	**Sb**	**16 57 30.6**	**-0.1**
BASK	**Baskale_VAN**	**0.80**	**155**	P	**Pg**	**16 57 17.5**	**-2.0**
BASK				S	**Sb**	**16 57 30.6**	**-0.1**
TUTA	**Tutak**	**0.86**	**317**	*i* P	**Pg**	**16 57 17.5**	**-3.1**
TUTA	**Tutak**	**0.86**	**317**	P	**Pg**	**16 57 17.5**	**-3.1**
AGRB	**Hanur-Agry**	**0.92**	**330**	*e*PG	**Pg**	**16 57 19.5**	**-2.2**
TATV	**Tatvan**	**1.06**	**256**	*i* P	**Pb**	**16 57 21.2**	**-3.1**
TATV	**Tatvan**	**1.06**	**256**	P	**Pb**	**16 57 21.2**	**-3.1**
HAKT	**HAKKARI**	**1.22**	**175**	*i* P	**Pn**	**16 57 24.5**	**-2.6**
HAKT				*i* S	**Sn**	**16 57 47.2**	**+3.6**
HAKT	**HAKKARI**	**1.22**	**175**	P	**Pn**	**16 57 24.5**	**-2.6**
EKAR	**Karacoban**	**1.27**	**292**	*i* P	**Pb**	**16 57 27.5**	**-0.5**
EKAR				*i* S	Sg	16 57 59.4	+14
EKAR	**Karacoban**	**1.27**	**292**	P	**Pb**	**16 57 27.5**	**-0.5**
EATA	**Eleskirt**	**1.37**	**322**	*i* P	**Pn**	**16 57 27.5**	**-1.7**
EATA				*i* S	**Sg**	**16 57 48.9**	**+0.7**
EATA	**Eleskirt**	**1.37**	**322**	P	**Pn**	**16 57 27.5**	**-1.7**
EATA				S	**Sg**	**16 57 48.9**	**+0.7**
SRTM	**Siirt_Merkez**	**1.52**	**239**	*i* P	**Pn**	**16 57 30.6**	**-0.4**
SRTM	**Siirt_Merkez**	**1.52**	**239**	P	**Pn**	**16 57 30.6**	**-0.4**
CUKT	**Cukurca**	**1.53**	**179**	*e*PN	**Pn**	**16 57 30.3**	**-0.9**
CUKT	**Cukurca**	**1.53**	**179**	*i* P	**Pn**	**16 57 30.1**	**-1.0**
CUKT				*i* S	**Sg**	**16 57 59.2**	**+6.0**
CUKT	**Cukurca**	**1.53**	**179**	*e*Pn	**Pn**	**16 57 30.3**	**-0.9**
NAX	**Nakhchivan**	**1.55**	**75**	⇓P	**Pb**	**16 57 31.7**	**-0.8**
NAX				⇓S	**Sg**	**16 57 56.6**	**+2.9**
NAX	**Nakhchivan**	**1.55**	**75**	P	**Pb**	**16 57 31.7**	**-0.8**
NAX				S	**Sg**	**16 57 56.6**	**+2.9**
SIRN	**S¨–rnak**	**1.58**	**216**	*i* P	**Pb**	**16 57 32.2**	**-0.8**
SIRN	**S¨–rnak**	**1.58**	**216**	P	**Pb**	**16 57 32.2**	**-0.8**
DIGO	**Kars**	**1.64**	**355**	*i* P	**Pb**	**16 57 33.7**	**-0.6**
DIGO				*i* S	**Sg**	**16 58 02.5**	**+5.7**
DIGO	**Kars**	**1.64**	**355**	P	**Pb**	**16 57 33.7**	**-0.6**
VRTB	**Varto-Mus**	**1.70**	**284**	*e*PN	**Pn**	**16 57 33.6**	**+0.2**
VRTB	**Varto-Mus**	**1.70**	**284**	*i* P	**Pb**	**16 57 34.7**	**-0.4**
VRTB				*i* S	**Sg**	**16 58 01.3**	**+2.7**
VRTB	**Varto-Mus**	**1.70**	**284**	*e*Pn	**Pn**	**16 57 33.7**	**+0.2**
VRTB	**Varto-Mus**	**1.70**	**284**	P	**Pb**	**16 57 34.7**	**-0.4**
BNGL	**BINGOL**	**1.90**	**276**	*i* P	**Pb**	**16 57 38.2**	**-0.5**
BNGL				*i* S	**Sg**	**16 58 12.8**	**+7.6**
EAK	**Akyaka**	**1.91**	**1**	*i* P	**Pb**	**16 57 38.6**	**0.0**
EAK				*i* S	**Sg**	**16 58 06.0**	**+0.7**
EAK	**Akyaka**	**1.91**	**1**	P	**Pb**	**16 57 38.7**	**0.0**
EAK				S	**Sg**	**16 58 05.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.97**	**252**	*e*PN	**Pn**	**16 57 37.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.97**	**252**	*i* P	**Pn**	**16 57 37.5**	**+0.4**
SVAN				*i* S	**Sg**	**16 58 07.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.97**	**252**	*e*Pn	**Pn**	**16 57 37.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**332**	*e*PN	**Pn**	**16 57 38.1**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**332**	*e*Pn	**Pn**	**16 57 38.1**	**+0.2**
BTMN	**Batman**	**2.02**	**245**	*i* P	**Pn**	**16 57 37.7**	**-0.2**
BTMN				*i* S	**Sb**	**16 58 05.5**	**-0.2**
BTMN	**Batman**	**2.02**	**245**	P	**Pn**	**16 57 37.7**	**-0.2**
BTMN				S	**Sb**	**16 58 05.5**	**-0.2**
ERZM	**Erzurum**	**2.05**	**304**	*i* P	**Pb**	**16 57 41.2**	**0.0**
ERZM	**Erzurum**	**2.05**	**304**	P	**Pb**	**16 57 41.2**	**0.0**
ECAT	**Cat-ERZURUM**	**2.19**	**293**	*i* P	**Pb**	**16 57 42.3**	**-1.2**
ECAT				*i* S	**Sg**	**16 58 13.5**	**-0.7**
ECAT	**Cat-ERZURUM**	**2.19**	**293**	P	**Pb**	**16 57 42.3**	**-1.2**
BNGB	**Bing¨¶l**	**2.27**	**276**	*e*PN	**Pn**	**16 57 41.5**	**+0.2**
BINT	**Bingol**	**2.41**	**273**	*e*Pn	**Pn**	**16 57 41.5**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.45**	**287**	*e*PN	**Pn**	**16 57 44.4**	**+0.6**
YEDI	**Yedisu-Bingol**	**2.45**	**287**	*e*Pn	**Pn**	**16 57 44.4**	**+0.6**
DDEM	**Demirkent**	**2.54**	**327**	*i* P	**Pb**	**16 57 49.0**	**-0.4**
DDEM	**Demirkent**	**2.54**	**327**	P	**Pb**	**16 57 49.0**	**-0.4**
GDB	**GEDABAY**	**2.56**	**40**	⇓P	**Pn**	**16 57 46.8**	**+1.4**
GDB	**GEDABAY**	**2.56**	**40**	P	**Pn**	**16 57 46.8**	**+1.4**
AKH	**Akhalkalaki**	**2.63**	**359**	*e*PN	**Pn**	**16 57 46.6**	**+0.3**
AKH	**Akhalkalaki**	**2.63**	**359**	P	**Pb**	**16 57 51.7**	**+0.7**
AKH	**Akhalkalaki**	**2.63**	**359**	*e*Pn	**Pn**	**16 57 46.6**	**+0.3**
DAGI	**Agillar**	**2.63**	**331**	*i* P	**Pb**	**16 57 51.1**	**+0.1**
DAGI				*i* S	Sn	16 58 05.3	-13
MARD	**Mardin**	**2.65**	**237**	*i* P	**Pn**	**16 57 46.0**	**-0.6**
MARD				*

MARH	Ras Al Marh	7.43	232	eP	Pn	16 58 50.8	-1.7

*ISCJB **29** 17:10:18.9±0.9, 35°.6N×0°.1×34°.7W±0°.2, h17km, mb4.2/29, MS3.6/9, Error ellipse: s-maj=20.3km s-min=17.8km az=172.1*
*VIE **29** 17:10:19.7, 35°.78N×34°.75W, h0km, mb3.9/8*
*IDC **29** 17:10:19.3±0.8, 35°.72N×34°.55W, h0km, mb4.0/15, mb1 4.1/15, mb1mx3.9/58, mbtmp4.0/15, MS3.6/9, Ms1 3.6/9, ms1mx3.3/42, Error ellipse: s-maj=26.7km s-min=19.4km az=136.0*
*CSEM **29** 17:10:20.7±0.4, 35°.70N×34°.59W, h10km, mb4.3/14, Error ellipse: s-maj=21.1km s-min=15.2km az=141.0*
*NEIC **29** 17:10:20.6±0.7, 35°.68N×34°.54W, h10km, mb4.7/4, Error ellipse: s-maj=18.5km s-min=14.2km az=138.0*

ISC 29 17:10:21.7±0.9, 35°.7N±0°.2×34°.5W±0°.1, h17km, n61, σ1§24/49, mb4.3/29, MS3.6/9, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	24.47	71	P	P	17 15 39.5	-0.3
	1.7nm,0.9s,baz=269,slow=8.6,SNR=7.4						
MDT	Midelt	24.86	88	LR	LR	17 23 44.0	
	comp=Z,64nm,18.8s,baz=296,slow=32						
SCHQ	Schefferville	29.33	321	LR	LR	17 26 29.1	
	comp=Z,126nm,21.8s,baz=250,slow=33						
WLF	Walferdange	32.59	52	eP	P	17 16 52.8	+0.7
	15nm,1.1s						
WLF	Walferdange	32.59	52	eP	P	17 16 52.8	+0.7
	15nm,1.1s						
BFO	Black Forest	33.83	55	eP	P	17 17 02.1	-0.9
	8.7nm,1.0s						
BFO	Black Forest	33.83	55	eP	P	17 17 02.1	-0.9
	8.7nm,1.0s						
DAVA	Damuels	34.79	57	epP	P	17 17 13.7	+2.2
	6.8nm,1.2s						
DAVA	Damuels	34.79	57	P	P	17 17 13.7	+2.2
	6.8nm,1.2s						
FETA	Feichten	35.36	57	pP	P	17 17 18.2	+1.8
	3.0nm,1.0s						
FETA	Feichten	35.36	57	P	P	17 17 18.2	+1.8
	3.0nm,1.0s						
RETA	Reutte	35.40	56	epP	P	17 17 18.7	+2.0
	6.5nm,1.2s						
RETA	Reutte	35.40	56	P	P	17 17 18.7	+2.0
	6.5nm,1.2s						
MOTA	Moosalm	35.63	57	epP	P	17 17 20.7	+2.0
	3.3nm,0.9s						
MOTA	Moosalm	35.63	57	P	P	17 17 20.7	+2.0
	3.3nm,0.9s						
WATA	Walderalm	35.95	57	eP	P	17 17 24.4	+2.9
	8.7nm,1.0s						
WTTA	Wattenberg	35.99	57	eP	P	17 17 21.9	+0.1
	5.4nm,1.0s						
WTTA	Wattenberg	35.99	57	P	P	17 17 21.9	+0.1
	5.4nm,1.0s						
ABTA	Abfaltersbach	36.58	58	iP	P	17 17 25.6	-1.2
	5.5nm,1.1s						
ABTA	Abfaltersbach	36.58	58	P	P	17 17 25.6	-1.2
	5.5nm,1.1s						
KBA	Koelnbreinsper	37.15	57	iP	P	17 17 32.1	+0.4
	5.8nm,1.0s						
KBA	Koelnbreinsper	37.15	57	P	P	17 17 32.1	+0.4
	5.8nm,1.0s						
GERES	GERESS Array B	37.43	54	P	P	17 17 34.9	+0.9
	1.0nm,0.9s,baz=262,slow=7.9,SNR=5.9						
OBKA	Obir	37.98	58	iP	P	17 17 39.5	+0.8
	7.6nm,0.8s						
OBKA	Obir	37.98	58	P	P	17 17 39.5	+0.8
	7.6nm,0.8s						
NB2	NORSAR Subarra	38.39	34	P	P	17 17 42.5	+0.6
	comp=Z,0.9nm,0.7s,baz=250,slow=8.6						
NB2	NORSAR Subarra	38.39	34	P	P	17 17 42.5	+0.6
	comp=Z,0.9nm,0.7s,baz=250,slow=8.6,SNR=4.2						
NOA	NORSAR Array B	38.39	34	P	P	17 17 42.4	+0.5
	comp=Z,1.3nm,0.8s,baz=250,slow=8.4,SNR=3.9						
ARSA	Arzberg	38.63	57	eP	P	17 17 44.2	+0.1
	comp=Z,5.4nm,1.2s						
ARSA	Arzberg	38.63	57	P	P	17 17 44.2	+0.1
	comp=Z,5.4nm,1.2s						
TORD	Torodi Ar. Bea	39.57	115	P	P	17 17 52.2	+0.1
	comp=Z,1.1nm,1.0s,baz=324,slow=2.4,SNR=3.8						
TORD				LR	LR	17 33 41.7	
	comp=Z,157nm,18.1s,baz=335,slow=35						
TKL	Tuckaleechee C	39.65	285	LR	LR	17 32 18.9	
	comp=Z,81nm,19.7s,baz=34,slow=33						
DBIC	Dimbokro	39.69	130	P	P	17 17 51.6	-1.5
	comp=Z,1.8nm,0.5s,baz=319,slow=7.4,SNR=4.4						
DBIC				LR	LR	17 32 28.8	
	comp=Z,90nm,20.4s,baz=332,slow=34						
FINES	FINESS Array B	45.48	36	P	P	17 18 39.5	-0.1
	comp=Z,1.4nm,0.7s,baz=251,slow=13,SNR=3.2						
ULM	Lac du Bonnet	45.90	308	LR	LR	17 36 30.9	
	comp=Z,191nm,21.8s,baz=90,slow=34						
AKASG	Malin Array Be	47.39	51	P	P	17 18 54.4	-0.4
	comp=Z,4.0nm,0.8s,baz=275,slow=7.3,SNR=12						
H10S1	ASCENSION HYDR	48.19	153	T	T	18 10 19.3	
	baz=335,slow=75,SNR=3.9						
H10S3	ASCENSION HYDR	48.20	153	T	T	18 10 17.7	
	baz=335,slow=75,SNR=3.7						
H10S2	ASCENSION HYDR	48.21	153	T	T	18 10 20.4	
	baz=335,slow=75,SNR=4.1						
OBN	Obninsk	51.19	44	P	P	17 19 24.5	+0.7
OBN	Obninsk	51.19	44	P	P	17 19 24.4	+0.7
YKA	Yellowknife Ar	54.58	326	LR	LR	17 42 17.1	
	comp=Z,8.3nm,18.2s,baz=0.0,slow=35						
PDAR	Pinedale Array	56.78	302	LR	LR	17 43 27.5	
	comp=Z,105nm,20.0s,baz=54,slow=35						
TXAR	Lajitas Array	57.56	285	P	P	17 20 09.2	-1.6
	comp=Z,0.4nm,0.8s,baz=90,slow=7.8,SNR=4.0						
KIV	Kislovodsk	57.88	56	eP	P	17 20 10.9	-1.9
	comp=Z,6.4nm,0.8s						
KIV	Kislovodsk	57.88	56	eP	P	17 20 10.8	-1.9
	comp=Z,6.4nm,0.8s						
KBZ	Khabaz	58.10	56	P	P	17 20 15.3	+1.1
	comp=Z,4.0nm,0.9s,baz=274,slow=5.6,SNR=6.7						
NEW	Newport	59.85	310	LR	LR	17 45 28.4	
	comp=Z,84nm,21.0s,baz=94,slow=35						
LPAZ	La Paz	60.70	218	P	P	17 20 35.1	+2.1
	comp=Z,4.6nm,1.1s,baz=52,slow=12,SNR=2.8						
ARU	Arti	62.72	39	P	P	17 20 45.6	+0.1
	comp=Z,2.7nm,0.8s						
ARU	Arti	62.72	39	P	P	17 20 45.6	+0.1
	comp=Z,2.7nm,0.8s						
AKTO	Aktyubinsk	64.96	45	P	P	17 21 01.3	+0.9
	comp=Z,5.8nm,0.9s,baz=314,slow=5.3,SNR=17						
BVAR	Borovoye Array	70.36	38	P	P	17 21 34.7	+0.3
	comp=Z,0.5nm,0.5s,baz=330,slow=7.5,SNR=4.5						
H09N1	TRISTAN DA CUN	75.27	162	T	T	18 44 20.0	
	SNR=18						
H09W1	TRISTAN DA CUN	75.30	162	T	T	18 44 06.3	
KURK	Kurchatov	75.83	37	P	P	17 22 06.9	+0.1
KURK	Kurchatov	75.83	37	P	P	17 22 06.9	+0.1
KURBB	Kurchatov Arra	75.85	37	P	P	17 22 06.9	0.0
	comp=Z,1.7nm,0.8s,baz=311,slow=5.8,SNR=9.2						
ZALV	Zalesovo Beam	76.56	32	P	P	17 22 10.6	-0.2
	comp=Z,0.6nm,0.6s,baz=305,slow=10,SNR=3.5						
MKAR	Makanchi Array	80.24	38	P	P	17 22 31.6	+0.2
	comp=Z,1.1nm,0.9s,baz=319,slow=5.7,SNR=3.3						
WRA	Warramunga Arr	161.51	35	PKPab	PKPab	17 31 05.5	-1.0
	comp=Z,1.2nm,1.1s,baz=326,slow=4.6,SNR=4.9						

*SOME **29** 17:11:50.0, 40°.82N×72°.92E, h10km*
*KRNET **29** 17:11:50.2±0.1, 40°.86N×72°.86E, h22km, mb2.8*
*NNC **29** 17:11:54.2±3.2, 40°.99N×72°.90E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=22.5km s-min=15.6km az=15.0*

ISC 29 17:11:51.7±1.4, 40°.84N±0°.04×72°.90E±0°.03, h22km±6km, n33, σ2§32/63, 23C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.49	8	⇓iP	Pb	17 11 59.8	-2.0
	baz=10.0						
ARSB				iS	Sb	17 12 06.9	-1.7
	baz=10.0						
SFK	Sufi-Kurgan	0.94	150	⇓iP	Pn	17 12 08.8	-1.1
	baz=149						
SFK				⇓iS	Sn	17 12 22.2	-0.7
	baz=149						
TOKL	Toktogul	1.10	359	⇑eP	Pb	17 12 10.6	-1.6
	baz=0.0						
TOKL				⇑iS	Sn	17 12 25.3	-1.3
	baz=0.0						
ARK	Arkit	1.19	324	⇓iP	Pb	17 12 12.3	-1.4
	baz=325						
ARK				⇓iS	Sn	17 12 27.7	-1.1
	baz=325						
AML	Almayashu	1.43	25	⇑iP	Pb	17 12 16.7	-1.2
	baz=26						
AML				⇑iS	Sb	17 12 36.0	+0.3
	baz=26						
MNAS	Manas	1.68	350	⇑iP	Pb	17 12 20.2	-1.8
	baz=351						
MNAS				⇑iS	Sb	17 12 41.8	-0.9
	baz=351						
MNAS	Manas	1.68	350	⇓P	Pb	17 12 20.8	-1.1
	4.9nm,0.5s						
MNAS				⇑S	Sb	17 12 43.2	+0.5
	39nm,0.3s						
BTK	Batken	1.77	245	⇑eP	Pb	17 12 22.3	-1.2
	baz=244						
BTK				⇑iS	Sb	17 12 45.5	+0.3
	baz=244						
UCH	Uchtor	1.84	41	⇑iP	Pb	17 12 24.2	-0.8
	baz=42						
UCH				⇑iS	Sb	17 12 48.1	+0.2
	baz=42						
MRKS	Merke	1.92	7	eP	Pb	17 12 25.4	-0.7
	32nm,0.3s						
MRKS				eS	Sb	17 12 50.8	+1.1
	163nm,0.3s						
EKS2	Erkin-Say	1.94	20	⇓iP	Pb	17 12 25.2	-1.2
	baz=21						
EKS2				⇓iS	Sb	17 12 50.7	+0.5
	baz=21						
AAK	Ala-Archa	2.16	33	⇓iP	Pb	17 12 28.7	-1.5
	baz=34						
AAK				⇓iS	Sb	17 12 57.0	+0.4
	baz=34						
AAK	Ala-Archa	2.16	33	⇑Pn	Pb	17 12 29.2	-1.0
	13nm,0.3s						
AAK				⇑Sn	Sb	17 12 58.0	+1.4
	86nm,0.7s						
FRU1	Bishkek	2.36	33	⇑iP	Pb	17 12 29.9	-3.7
	baz=34						
FRU1				⇑iS	Sb	17 12 59.9	-2.4
	baz=34						
DZA	Taraz	2.36	331	eP	Pb	17 12 34.1	+0.5
	50nm,0.3s						
DZA				eS	Sb	17 13 05.7	+3.4
	146nm,0.4s						
KBK	Karagaybulak	2.38	40	⇓iP	Pb	17 12 32.0	-2.0
	baz=40						
KBK				⇓iS	Sb	17 13 02.6	-0.4
	baz=40						
IUG	Iuzhnay	2.52	302	eP	Pb	17 12 36.4	+0.1
	56nm,0.2s						
IUG				eS	Sb	17 13 09.5	+2.6
	114nm,0.4s						
CHMS	Chumysh	2.57	32	⇑iP	Pb	17 12 34.2	-2.9
	baz=33						
CHMS				⇑iS	Sb	17 13 06.5	-1.7
	baz=33						
USP	Ospenovka	2.71	26	⇓iP	Pb	17 12 35.8	-3.7
	baz=26						
USP				⇓iS	Sb	17 13 09.5	-2.7
	baz=26						
BOOM	Boomskoye usch	2.82	53	⇑eP	Pn	17 12 36.7	+1.1
	baz=54						
BOOM				⇑iS	Sb	17 13 11.2	-4.3
	baz=54						
KK31	Karatay Array	2.88	323	⇓Pn	Pb	17 12 42.2	-0.2
	4.4nm,0.3s,baz=125,slow=13,SNR=75						
KK31				⇑Pg	Pn	17 12 47.1	+11
	2.9nm,0.3s,baz=141,slow=16,SNR=4.9						
KK31				Lg	Lg	17 13 19.9	
	11nm,0.5s,baz=141,slow=28,SNR=6.7						
TKM2	Tokmak 2	2.90	43	⇑iP	Pb	17 12 38.7	-4.1
	baz=44						
TKM2				⇑iS	Sb	17 13 14.8	-3.1
	baz=44						
TKM2	Tokmak 2	2.90	43	⇑Pn	Pb	17 12 39.2	-3.6
	5.5nm,0.3s						
TKM2				⇓Lg	Lg	17 13 20.0	
	13nm,0.5s						
BRLS	Borolday	3.16	315	eP	Pb	17 12 46.3	-0.9
	1.2nm,0.6s						
BRLS				eS	Sb	17 13 26.6	+1.2
	698nm,0.3s						
KST	Kastek	3.18	45	eP	Pb	17 12 46.3	-1.2
	1.7nm,0.6s						
KST				eS	Sb	17 13 26.6	+0.8
	18nm,0.6s						
DGS	Degeres	3.22	41	eP	Pb	17 12 48.4	+0.1
	4.0nm,0.3s						
DGS				eS	Sb	17 13 30.3	+3.2
	29nm,0.3s						
IZV	Izvestkoviy	3.54	50	eP	Pb	17 12 54.0	+0.3
	3.9nm,0.2s						
IZV				eS	Sb	17 13 39.5	+3.2
	10.0nm,0.4s						
TNSS	Tian-Shan	3.74	53	eP	Pb	17 12 58.5	+1.2
	2.8nm,0.4s						
TNSS				eS	Sb	17 13 47.1	+4.9
	6.3nm,0.6s						
MDOK	Medeo	3.87	52	eP	Pb	17 12 59.5	+0.1
	1.8nm,0.8s						
MDOK				eS	Sb	17 13 49.0	+3.1
	7.8nm,1.1s						
KOTS	Kotyrbulak	3.95	51	eP	Pb	17 13 02.6	+1.9
	12nm,0.4s						
KOTS				eS	Sb	17 13 54.8	+6.7
	17nm,0.4s						
KUU	Kurty	3.98	39	eP	Pb	17 13 01.5	+0.4
	4.1nm,0.4s						
KUU				eS	Sb	17 13 52.5	+3.7
	9.1nm,0.5s						
BTLS	Baital	4.29	11	eP	Pb	17 13 07.1	+0.7
	3.1nm,0.7s						
BTLS				eS	Sb	17 14 01.8	+4.2
	8.6nm,0.5s						
ARXS	Arharly	4.96	46	eP	Pb	17 13 20.8	+2.8
	3.2nm,0.3s						
ARXS				eS	Sb	17 14 26.2	+9.0
	8.0nm,0.3s						

*NEIC **29** 17:11:53.6±0.0, 51°.63N×177°.68W, h49km, mb4.4/26, ML4.2(AEIC), After AEIC.*
*IDC **29** 17:11:58.5±7.4, 51°.53N×177°.43W, h99km±68km, mb3.1/4, mb1 3.5/6, mb1mx3.1/47, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=66.5km s-min=23.7km az=164.0*

ISC 29 17:11:52.6±0.9, 51°.4N±0°.1×177°.66W±0°.08, h45km, n55, σ1§34/52, mb4.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.80	49	ePn	Pn	17 12 07.1	-0.4
ADK				eSn	Sn	17 12 17.6	-0.7
ATKA	Atka Island	2.31	67	ePn	Pn	17 12 28.6	+0.5
ATKA				eSn	Sn	17 12 55.3	+0.1
KOKL	Mount Kliuchef	2.35	65	ePn	Pn	17 12 29.5	+0.8
KOKL				eSn	Sn	17 12 57.5	+1.1
KOKV	Korovin Volcan	2.39	64	P	Pn	17 12 30.3	+1.1
KOKV				S	Sn	17 12 58.1	+0.8
KOFP	Korovin Flat P	2.39	66	ePn	Pn	17 12 30.3	+1.0
KOSE	Korovin Southe	2.45	65	ePn	Pn	17 12 31.2	+1.2
SMY	Shemya	5.26	288	ePn	Pn	17 13 09.7	+1.1
NIKH	Nikolski High	5.66	70	ePn	Pn	17 13 14.0	0.0
NIKH				eSn	Sn	17 14 34.5	+17
MSOM	Makushin Julie	6.97	65	ePn	Pn	17 13 34.6	+2.6
UNV	Unalaska Valle	7.24	66	ePn	Pn	17 13 38.0	+2.4
SPIA	Saint Paul Isl	7.26	34	ePn	Pn	17 13 37.6	+1.7
PETK	Petropavlovsk-	15.18	286	P	P	17 15 29.1	+1.1
	0.1nm,0.3s,baz=90,slow=18,SNR=3.3						
OHAK	Old Harbor	15.34	58	ePn	Pn	17 15 23.7	-2.1
	285nm,2.0s						
KDAK	Kodiak Island	15.84	56	P	Pn	17 15 31.0	-1.1
	0.7nm,0.3s,baz=226,slow=1.8,SNR=15						
KDAK	Kodiak Island	15.84	56	ePn	Pn	17 15 30.9	-1.2
	216nm,1.9s						
RSO	Redoubt South	16.57	47	ePn	Pn	17 15 42.5	+0.9
CNPM	China Poot	16.98	51	ePn	Pn	17 15 46.0	-0.5
	115nm,1.5s						
BRLK	Bradley Lake	17.22	50	ePn	Pn	17 15 48.4	-1.1
	86nm,1.7s						
SUA	Susitna One	17.86	45	ePn	Pn	17 15 56.3	-1.2
	36nm,0.9s						
PPLA	Purkeypile	17.87	40	ePn	Pn	17 15 57.1	-0.4
	86nm,2.0s						
SEW	Seward	18.01	50	ePn	Pn	17 15 57.1	-2.1
	96nm,1.5s						
CAST	Castle Rocks	18.16	39	ePn	Pn	17 16 01.4	+0.3
	24nm,1.9s						
KTH	Kantishna Hill	18.68	39	eP	P	17 16 05.1	-1.6
	18nm,1.4s						
BPAW	Bear Paw Mtn.	18.93	37	eP	P	17 16 07.9	-1.4
	17nm,1.4s						
RND	Reindeer	19.45	41	eP	P	17 16 13.2	-1.9
	16nm,1.4s						
SCM	Sheep Creek Mo	19.52	46	eP	P	17 16 16.6	+0.7
	55nm,1.5s						
MCK	McKinley	19.55	40	eP	P	17 16 13.2	-3.0
	33nm,2.0s						
FID	Port Fidalgo	19.60	49	eP	P	17 16 16.6	0.0
	117nm,1.8s						
EYAK	Cordova Ski Ar	19.90	50	eP	P	17 16 19.4	-0.5
	120nm,1.6s						
DHY	Denali Highway	19.93	42	eP	P	17 16 18.6	-1.8
	17nm,1.3s						
DIV	Divide	20.03	48	eP	P	17 16 19.6	-1.8
	66nm,1.7s						
WRH	Wood River Hil	20.21	38	eP	P	17 16 22.9	-0.4
	41nm,2.0s						
MDM	Murphy Dome	20.39	37	eP	P	17 16 24.9	-0.3
	12nm,1.4s						
CCB	Clear Creek Bu	20.40	38	eP	P	17 16 25.0	-0.3
	12nm,1.6s						
BMRM	Bremner River	20.55	49	eP	P	17 16 27.3	+0.4
	46nm,1.3s						
HARP	HAARP	20.67	45	eP	P	17 16 29.1	+0.8
	80nm,1.6s						
PAX	Paxson	20.71	44	eP	P	17 16 28.0	-0.8
	11nm,1.4s						
ILAR	Eielson Array	20.81	38	P	P	17 16 29.8	0.0
	0.3nm,0.6s,baz=243,slow=7.9,SNR=4.2						
COLD	Coldfoot	20.91	30	eP	P	17 16 31.0	+0.3
	24nm,2.0s						
TOLK	Toolik Lake Re	21.95	27	eP	P	17 16 43.1	+1.1
	23nm,1.8s						
EGAK	Eagle	23.09	41	eP	P	17 16 51.5	-2.5
	36nm,1.8s						
CRAG	Craig	26.51	63	eP	P	17 17 27.0	+1.6
	297nm,1.6s						
H11N2	WAKE ISLAND Hy	33.83	207	T	T	17 55 02.3	
	baz=18,slow=76,SNR=388						
H11N3	WAKE ISLAND Hy	33.84	207	T	T	17 55 03.7	
	baz=18,slow=76,SNR=387						
H11N1	WAKE ISLAND Hy	33.84	207	T	T	17 55 04.4	
	baz=18,slow=76,SNR=338						
H11S1	WAKE ISLAND Hy	35.04	206	T	T	17 56 35.0	
	baz=17,slow=76,SNR=307						
H11S2	WAKE ISLAND Hy	35.06	206	T	T	17 56 37.0	
	baz=17,slow=76,SNR=274						
H11S3	WAKE ISLAND Hy	35.06	206	T	T	17 56 36.7	
	baz=17,slow=76,SNR=207						
MCU	Monte Cristo P	45.22	76	eP	P	17 20 11.1	+5.7
PD31	Pinedale Array	45.63	73	eP	P	17 20 07.4	-1.2
PDAR	Pinedale Array	45.63	73	P	P	17 20 08.0	-0.6
	1.4nm,0.6s,baz=298,slow=4.3,SNR=12						
PDAR				pP	sP	17 20 28.7	+2.5
	0.5nm,0.6s,baz=325,slow=4.4,SNR=4.0						
TXAR	Lajitas Array	57.95	82	P	P	17 21 39.1	-1.2
	0.3nm,0.7s,baz=256,slow=3.4,SNR=3.9						
CLL	Collm	77.31	353	epP	pP	17 23 54.0	-1.0
ASAR	Alice Springs	85.96	223	P	P	17 24 28.6	+0.9
	0.2nm,0.4s,baz=24,slow=5.6,SNR=9.2						
BOSA	Boshof	151.51	314	PKPbc	PKPbc	17 31 40.1	-1.3
	1.5nm,0.7s,baz=49,slow=2.2,SNR=3.7						

*ISCJB **29** 17:14:28.2±0.6, 14°.68S±0°.06×76°.44W±0°.07, h23km, mb4.2/9, MS3.4/3, Error ellipse: s-maj=12.4km s-min=5.1km az=142.7*
*IDC **29** 17:14:28.3±1.6, 14°.47S×76°.31W, h0km, mb3.9/5, mb1 4.1/10, mb1mx3.9/29, mbtmp4.0/10, ML3.7/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/29, Error ellipse: s-maj=42.1km s-min=18.6km az=50.0*
*NEIC **29** 17:14:29.3±0.5, 14°.55S×76°.38W, h10km, mb4.5/8, ML4.5(ARE), Error ellipse: s-maj=15.2km s-min=6.7km az=55.0*

ISC 29 17:14:30.4±0.7, 14°.65S±0°.07×76°.39W±0°.09, h23km, n42, σ2§48/43, mb4.5/9, MS3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.68	351	Pn	Pn	17 15 10.9	-1.4
	24nm,0.3s,baz=110,slow=13,SNR=18						
NNA				Sn	Sn	17 15 45.4	+1.2
	107nm,0.3s,baz=246,slow=15,SNR=9.7						
NNA				LR	LR	17 16 13.6	
	comp=Z,220nm,19.6s,baz=94,slow=42						
NNA	Nana	2.68	351	ePn	Pn	17 15 10.9	-1.4
NNA				eSn	Sn	17 15 37.4	-6.7
ATAH	Atahualpa	7.72	345	Pn	Pn	17 16 20.6	-1.4
	0.4nm,0.3s,baz=155,slow=14,SNR=2.1						
ATAH				Lg	Lg	17 18 08.6	
	2.1nm,0.3s,baz=348,slow=15,SNR=4.7						
MNMC	Minye Minye	7.88	125	ePn	Pn	17 16 23.7	-0.2
MNMC				eSn	Sn	17 17 47.2	-5.4
LPAZ	La Paz	8.13	103	Pn	Pn	17 16 29.8	+2.2
	1.1nm,0.3s,baz=286,slow=7.9,SNR=23						
LPAZ	La Paz	8.13	103	ePn	Pn	17 16 31.1	+3.5
LPAZ				eSn	Sn	17 18 02.1	+3.0
PB11	IPOC Station P	8.20	129	ePn	Pn	17 16 28.2	0.0
PB01	IPOC Station P	9.14	135	ePn	Pn	17 16 42.3	+1.3
PB01				eSn	Sn	17 18 17.6	-5.8
PB04	IPOC Station P	9.66	143	ePn	Pn	17 16 48.9	+0.6
PB10	IPOC Station P	10.40	149	ePn	Pn	17 16 59.9	+1.7
PB10				eSn	Sn	17 18 48.8	-5.3
LVC	Limon Verde	10.62	139	Pn	Pn	17 17 01.9	+0.3
	26nm,0.3s,baz=85,slow=22,SNR=7.9						
LVC				Sn	Sn	17 18 58.5	-1.6
	17nm,0.3s,baz=108,slow=20,SNR=3.4						
LVC				Lg	Lg	17 19 56.5	
	11nm,0.3s,baz=135,slow=15,SNR=3.5						
LVC	Limon Verde	10.62	139	ePn	Pn	17 17 01.8	+0.2
LVC				eSn	Sn	17 18 55.4	-4.7
LVC				eLg	Lg	17 19 56.5	
SAML	Samuel	14.11	68	ePn	Pn	17 17 47.7	-1.4
SIV	San Ignacio	14.84	97	Pn	Pn	17 17 58.5	-0.5
	0.3nm,0.3s,baz=276,slow=12,SNR=5.6						
SIV				LR	LR	17 24 03.8	
	comp=Z,363nm,18.3s,baz=290,slow=39						
OTAV	Otavalo	14.93	352	ePn	Pn	17 18 01.2	+0.6
PAYG	Puerto Ayora	19.53	314	eP	Pn	17 18 57.5	-0.4
	53nm,1.0s						
RUSC	La Rusia	20.67	9	eP	P	17 19 09.1	-0.3
	4.7nm,0.9s						
CPUP	Villa Florida	21.27	126	P	P	17 19 16.7	+1.4
	2.4nm,1.0s,baz=311,slow=9.3,SNR=3.0						
CPUP				LR	LR	17 28 50.4	
	comp=Z,105nm,19.2s,baz=266,slow=40						
PTGA	Pitinga	21.33	51	P	P	17 19 15.2	-0.8
	4.6nm,0.8s,baz=218,slow=11,SNR=7.4						

H11S1 WAKE ISLAND Hyl 19.67 283 T T 19 44 27.5
baz=115,slow=74,SNR=9.7
H11S3 WAKE ISLAND Hyl 19.68 283 T T 19 44 19.9
baz=115,slow=74,SNR=12
ZAA1 Zalesovo Array 138.10 17 *e*PKPdf **PKPdf 17 33 55.2 +1.9**
ZALV Zalesovo Beam 138.10 17 PKP **PKPdf 17 33 55.2 +1.9**
0.4nm,0.4s,baz=64,slow=3.4,SNR=3.2
SONA0 Songino Array 146.83 357 *e*PKPbc **PKPab 17 34 12.2 0.0**
SONM Songino Array 146.83 357 PKPbc **PKPab 17 34 12.2 0.0**
1.0nm,0.6s,baz=328,slow=1.8,SNR=6.6

MEX 29 17:37:07.4±0.3, 24°60'N×98°52'W, h20km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.91**	**289**	*i* P	Pb	17 37 21.8	-2.8
	baz=109,slow=12						
LNIG				*e*S	Sb	17 37 33.0	-3.3

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*ISCJB **29** 17:50:36.0±0.8, 6°8S±0°2×125°6E±0°3, h500km, mb3.3/4, Error ellipse: s-maj=43.3km s-min=10.4km az=151.2*
*IDC **29** 17:50:38.5±5.4, 6°85S×125°77E, h520km±84km, mb2.9/4, mb1 2.7/7, mb1mx2.6/33, mbtmp3.6/7, Error ellipse: s-maj=92.5km s-min=26.3km az=50.0*
ISC 29 17:50:37.0±1.1, 6°8S±0°2×125°8E±0°3, h500km, n15, σ0°95/15, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.29**	**181**	P	**P**	**17 53 08.0**	**0.0**
	0.3nm,0.3s,baz=14,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**15.51**	**149**	P	**P**	**17 53 52.0**	**-0.6**
	0.2nm,0.3s,baz=334,slow=8.5,SNR=6.6						
ASAR	**Alice Springs**	**18.53**	**156**	P	**P**	**17 54 22.8**	**+0.4**
	0.1nm,0.3s,baz=332,slow=9.7,SNR=9.5						
CMAR	**Chiang Mai Arr**	**36.47**	**314**	P	**P**	**17 56 60.0**	**+0.6**
	0.5nm,0.8s,baz=141,slow=7.1,SNR=7.3						
ODAN	**Odare**	**50.01**	**314**	*e*P	**P**	**17 58 45.5**	**+0.1**
TAPN	**Taplejung**	**50.08**	**314**	*e*P	**P**	**17 58 45.4**	**-0.6**
	4.6nm,0.6s						
RAMN	**Ramite**	**50.64**	**313**	*e*P	**P**	**17 58 50.0**	**0.0**
	10nm,0.6s						
GUN	**Gumba**	**51.71**	**314**	*e*P	**P**	**17 58 55.8**	**-2.2**
PKI	**Pulchoki**	**51.86**	**313**	*e*P	**P**	**17 58 58.3**	**-0.7**
PKIN	**Phulchoki**	**51.87**	**313**	*e*P	**P**	**17 58 58.6**	**-0.4**
GKN	**Gorkha**	**52.66**	**313**	*e*P	**P**	**17 59 03.0**	**-1.6**
	4.1nm,0.6s						
KOLN	**Koldanda**	**53.30**	**312**	*e*P	**P**	**17 59 08.4**	**-0.8**
SONM	**Songino Array**	**56.99**	**345**	P	**P**	**17 59 35.4**	**+0.8**
	0.4nm,0.6s,baz=157,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**65.80**	**329**	P	**P**	**18 00 32.5**	**+0.2**
	0.7nm,0.5s,baz=120,slow=6.6,SNR=9.0						
ZALV	**Zalesovo Beam**	**69.58**	**336**	P	**P**	**18 00 54.6**	**-0.5**
	1.5nm,0.5s,baz=136,slow=5.4,SNR=7.7						

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*ISCJB **29** 17:51:53.7±0.3, 8°61S±0°04×118°38E±0°03, h152km, mb3.9/11, Error ellipse: s-maj=6.4km s-min=3.7km az=10.1*
*DJA **29** 17:51:55.5±0.3, 9°S±3°×11°8E±°, h114km±4km, M4.4/16, mB4.4/1, mb4.3/2, MLv4.4/16, Mw(mB)3.6/1*
*IDC **29** 17:51:55.4±2.1, 8°45S×118°65E, h140km±18km, mb3.7/11, mb1 3.8/13, mb1mx3.6/34, mbtmp4.1/13, MS2.9/3, Ms1 2.9/3, ms1mx2.7/34, Error ellipse: s-maj=22.5km s-min=8.5km az=57.0*
ISC 29 17:51:55.6±0.5, 8°68S±0°05×118°39E±0°04, h152km, n31, σ2°34/46, mb4.0/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.63**	**256**	P	**Pn**	**17 52 14.9**	**-3.0**
PLAI				S	**Sn**	**17 52 29.3**	**-5.5**
TWSI	**Taliwang, Sumb**	**1.49**	**268**	P	**Pn**	**17 52 22.9**	**-2.4**
TWSI				S	**Sn**	**17 52 43.2**	**-4.7**
WSI	**Waingapu**	**2.12**	**118**	P	**Pn**	**17 52 31.2**	**-1.1**
WSI				S	**Sn**	**17 52 59.2**	**-1.4**
BASI	**Baing, Sumba**	**2.65**	**126**	P	**Pn**	**17 52 37.2**	**-1.5**
BASI				S	**Sn**	**17 53 09.7**	**-2.2**
DNP	**Denpasar**	**3.15**	**270**	P	**Pn**	**17 52 44.1**	**-0.8**
DNP				S	**Sn**	**17 53 23.2**	**+0.1**
SRBI	**Singaraja**	**3.20**	**280**	P	**Pn**	**17 52 43.5**	**-2.1**
SRBI				S	**Sn**	**17 53 20.8**	**-3.5**
IGBI	**Denpasar**	**3.21**	**267**	P	**Pn**	**17 52 44.3**	**-1.5**
IGBI				S	**Sn**	**17 53 22.5**	**-2.1**
EDFI	**Ende, Flores**	**3.26**	**92**	P	**Pn**	**17 52 45.8**	**-0.7**
EDFI				S	**Sn**	**17 53 24.7**	**-1.2**
BSSI	**Bau Bau, Buton**	**3.27**	**40**	P	**Pn**	**17 52 44.0**	**-2.5**
BSSI				S	**Sn**	**17 53 22.1**	**-3.8**
MMRI	**Maumere**	**3.80**	**90**	P	**Pn**	**17 52 52.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.20**	**272**	P	**Pn**	**17 52 56.0**	**-2.5**
BNSI	**Bone**	**4.58**	**22**	P	**Pn**	**17 53 02.5**	**-1.0**
KMMI	**Kalianget**	**4.67**	**290**	P	**Pn**	**17 53 05.8**	**+1.0**
SPSI	**Sidrap Palu**	**4.88**	**16**	P	**Pn**	**17 53 05.4**	**-2.1**
TTSI	**Tana Toraja**	**5.77**	**14**	P	**Pn**	**17 53 20.2**	**+0.8**
UGM	**Wanagama**	**7.82**	**275**	P	**Pn**	**17 53 46.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.72**	**144**	P	**Pn**	**17 54 37.1**	**-1.2**
	0.8nm,0.3s,baz=330,slow=7.1,SNR=40						
FITZ				S	**Sn**	**17 56 42.0**	**-6.0**
	1.4nm,0.3s,baz=182,slow=23,SNR=9.9						
FITZ				LR	LR	17 59 18.4	
	comp=Z,50nm,19.8s,baz=319,slow=38						
WRA	**Warramunga Arr**	**19.06**	**128**	P	**Pn**	**17 56 07.3**	**-1.6**
	0.8nm,0.3s,baz=300,slow=13,SNR=25						
WRA				S	**S**	**17 59 32.6**	**-2.3**
	0.2nm,0.3s,baz=302,slow=26,SNR=4.8						
WRA				ScP	**ScP**	**18 03 48.7**	**+2.0**
	0.1nm,0.3s,baz=324,slow=2.4,SNR=5.7						
ASAR	**Alice Springs**	**21.04**	**137**	P	**P**	**17 56 29.3**	**+1.6**
	3.6nm,0.5s,baz=309,slow=9.0,SNR=119						
ASAR				S	**S**	**18 00 16.1**	**+2.6**
	1.5nm,0.9s,baz=320,slow=21,SNR=6.3						
ASAR				ScP	**ScP**	**18 03 54.1**	**+2.8**
	1.5nm,0.7s,baz=326,slow=2.0,SNR=8.0						
ASAR				LR	LR	18 04 37.1	
	comp=Z,32nm,19.8s,baz=30,slow=36						
STKA	**Stephens Creek**	**31.58**	**140**	P	**P**	**17 58 05.8**	**+1.8**
	3.8nm,0.7s,baz=318,slow=8.7,SNR=7.3						
STKA				PcP	**PcP**	**18 00 54.2**	**+1.3**
	2.1nm,0.6s,baz=315,slow=1.4,SNR=4.3						
STKA				LR	LR	18 13 30.4	
	comp=Z,34nm,19.2s,baz=25,slow=41						
CMAR	**Chiang Mai Arr**	**33.09**	**325**	P	**P**	**17 58 18.1**	**+0.8**
	0.9nm,0.7s,baz=156,slow=6.9,SNR=11						
KSRS	**Korea Array**	**46.75**	**10**	P	**P**	**18 00 09.4**	**-0.1**
	2.3nm,0.9s,baz=188,slow=7.3,SNR=6.0						
USRK	**Ussuriysk Ar.**	**54.05**	**12**	P	**P**	**18 01 03.7**	**-0.6**
	2.6nm,0.6s,baz=192,slow=6.0,SNR=5.9						
SONM	**Songino Array**	**57.26**	**350**	P	**P**	**18 01 26.9**	**-0.4**
	1.3nm,0.6s,baz=168,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**63.90**	**333**	P	**P**	**18 02 11.2**	**-1.0**
	0.8nm,0.7s,baz=151,slow=6.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	**18 02 39.9**	**-1.6**
	1.8nm,0.6s,baz=135,slow=4.4,SNR=8.3						
MAW	**Mawson**	**69.34**	**200**	P	**P**	**18 02 49.0**	**+2.7**
	1.0nm,0.6s,baz=107,slow=9.6,SNR=7.5						
PETK	**Petropavlovsk-**	**70.02**	**24**	P	**P**	**18 02 51.3**	**+0.6**
	7.6nm,0.9s,baz=263,slow=2.6,SNR=5.8						
VNDA	**Vanda**	**72.40**	**171**	P	**P**	**18 03 07.8**	**+3.2**
	0.4nm,0.5s,baz=308,slow=7.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**117.81**	**280**	PKP	**PKPdf**	**18 10 25.4**	**+0.5**
	1.7nm,0.7s,baz=65,slow=2.3,SNR=14						
CPUP	**Villa Florida**	**144.96**	**187**	PKPbc	**PKPdf**	**18 11 17.2**	**+1.7**
	3.7nm,0.7s,baz=151,slow=1.9,SNR=7.9						

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*AZER **29** 18:05:05.8±0.9, 38°22N×42°99E, h15km, Error ellipse: s-maj=10.2km s-min=3.0km az=63.0*
*DDA **29** 18:05:10.9, 38°73N×43°52E, h5km, Ml3.5*
*ISK **29** 18:05:11.0, 38°73N×43°50E, h5km, ML3.3*
*CSEM **29** 18:05:12.4±0.2, 38°70N×43°52E, h5km, ML3.3, Error ellipse: s-maj=5.7km s-min=4.2km az=150.0*
ISC 29 18:05:12.6±1.1, 38°74N±0°02×43°52E±0°02, h19km±3km, n94, σ1°75/101, 11C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**215**	PG	**Pg**	**18 05 17.0**	**-0.5**
VANB	**Van**	**0.18**	**215**	*i* Pg	**Pg**	**18 05 17.0**	**-0.5**
TVAN	**Van**	**0.23**	**203**	*i* P	**Pg**	**18 05 16.9**	**-1.4**
TVAN	**Van**	**0.23**	**203**	P	**Pg**	**18 05 16.9**	**-1.4**
VMUR	**Van-Muradiye**	**0.25**	**9**	*i* P	**Pg**	**18 05 17.2**	**-1.4**
VMUR	**Van-Muradiye**	**0.25**	**9**	P	**Pg**	**18 05 17.2**	**-1.4**
ERCV	**ERCIS-VAN**	**0.31**	**333**	*e*PG	**Pb**	**18 05 18.3**	**-1.4**
ERCV	**ERCIS-VAN**	**0.31**	**333**	*e*Pg	**Pb**	**18 05 18.3**	**-1.4**
CLDR	**Caldiran**	**0.51**	**37**	*e*PG	**Pb**	**18 05 22.0**	**-1.1**
CLDR				*e*SG	**Sb**	**18 05 31.7**	**+1.5**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pb**	**18 05 21.9**	**-1.1**
CLDR	**Caldiran**	**0.51**	**37**	*e*Pg	**Pb**	**18 05 22.0**	**-1.1**
CLDR				*e*Sg	**Sb**	**18 05 31.7**	**+1.5**
GEVA	**Gevas**	**0.56**	**220**	*i* P	**Pg**	**18 05 22.4**	**-1.6**
GEVA	**Gevas**	**0.56**	**220**	P	**Pg**	**18 05 22.4**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.63**	**276**	*i* P	**Pg**	**18 05 23.8**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.63**	**276**	P	**Pg**	**18 05 23.8**	**-1.4**
BASK	**Baskale_VAN**	**0.79**	**151**	*i* P	**Pg**	**18 05 26.5**	**-1.6**
BASK	**Baskale_VAN**	**0.79**	**151**	P	**Pg**	**18 05 26.5**	**-1.6**
DYDN	**Diyadin**	**0.81**	**9**	*i* P	**Pb**	**18 05 27.4**	**-0.9**
DYDN	**Diyadin**	**0.81**	**9**	P	**Pb**	**18 05 27.4**	**-0.9**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pg**	**18 05 27.6**	**-1.9**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*PG	**Pg**	**18 05 29.2**	**-1.6**
AGRB				*e*SG	**Sn**	**18 05 44.4**	**+0.6**
TATV	**Tatvan**	**1.01**	**257**	*i* P	**Pg**	**18 05 30.0**	**-2.3**
TATV	**Tatvan**	**1.01**	**257**	P	**Pg**	**18 05 30.0**	**-2.3**
HAKT	**HAKKARI**	**1.19**	**173**	*i* P	**Pg**	**18 05 33.2**	**-2.6**
EKAR	**Karacoban**	**1.25**	**295**	*i* P	**Pb**	**18 05 35.5**	**-0.2**
EKAR	**Karacoban**	**1.25**	**295**	P	**Pb**	**18 05 35.5**	**-0.2**
EATA	**Eleskirt**	**1.38**	**325**	*i* P	**Pg**	**18 05 37.4**	**-1.9**
EATA	**Eleskirt**	**1.38**	**325**	P	**Pg**	**18 05 37.4**	**-1.9**
SRTM	**Siirt_Merkez**	**1.46**	**240**	*i* P	**Pb**	**18 05 39.6**	**+0.3**
SRTM	**Siirt_Merkez**	**1.46**	**240**	P	**Pb**	**18 05 39.7**	**+0.3**
CUKT	**Cukurca**	**1.49**	**177**	*e*PN	**Pn**	**18 05 39.1**	**+0.5**
CUKT	**Cukurca**	**1.49**	**177**	*i* P	**Pn**	**18 05 39.0**	**+0.4**
CUKT	**Cukurca**	**1.49**	**177**	P	**Pn**	**18 05 39.0**	**+0.4**
SIRN	**S¨¨rnak**	**1.52**	**215**	*i* P	**Pn**	**18 05 40.4**	**+1.5**
SIRN	**S¨¨rnak**	**1.52**	**215**	P	**Pn**	**18 05 40.4**	**+1.5**
NAX	**Nakhchivan**	**1.60**	**74**	⇓P	**Pg**	**18 05 42.5**	**-0.9**
NAX				⇑S	**Sg**	**18 06 08.6**	**+4.4**
NAX	**Nakhchivan**	**1.60**	**74**	P	**Pg**	**18 05 42.5**	**-0.9**
VRTB	**Varto-Mus**	**1.66**	**285**	*e*PN	**Pn**	**18 05 41.5**	**+0.5**
VRTB	**Varto-Mus**	**1.66**	**285**	*e*Pn	**Pn**	**18 05 41.5**	**+0.5**
DIGO	**Kars**	**1.67**	**356**	*i* P	**Pg**	**18 05 43.7**	**-1.2**
DIGO	**Kars**	**1.67**	**356**	P	**Pg**	**18 05 43.7**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*PN	**Pb**	**18 05 46.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*i* P	**Pb**	**18 05 46.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*Pn	**Pb**	**18 05 46.7**	**-0.4**
BTMN	**Batman**	**1.96**	**245**	*i* P	**Pn**	**18 05 46.8**	**+1.7**
BTMN	**Batman**	**1.96**	**245**	P	**Pn**	**18 05 46.8**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.03**	**334**	*e*PN	**Pb**	**18 05 48.1**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.03**	**334**	*e*Pn	**Pb**	**18 05 48.1**	**-1.0**
ERZM	**Erzurum**	**2.04**	**305**	*i* P	**Pg**	**18 05 49.7**	**-2.1**
ERZM	**Erzurum**	**2.04**	**305**	P	**Pg**	**18 05 49.7**	**-2.1**
ECAT	**Cat-ERZURUM**	**2.16**	**294**	*i* P	**Pb**	**18 05 50.6**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.16**	**294**	P	**Pb**	**18 05 50.7**	**-0.6**
BNGB	**Bing¨¶l**	**2.23**	**277**	*e*PN	**Pb**	**18 05 51.2**	**-1.3**
BINT	**Bingol**	**2.37**	**274**	*e*Pn	**Pn**	**18 05 51.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*PN	**Pn**	**18 05 53.7**	**+2.3**
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*Pn	**Pn**	**18 05 53.7**	**+2.3**
DDEM	**Demirkent**	**2.54**	**328**	*i* P	**Pg**	**18 05 58.9**	**-2.6**
DDEM	**Demirkent**	**2.54**	**328**	P	**Pg**	**18 05 58.9**	**-2.6**
GDB	**GEDABAY**	**2.62**	**40**	⇓P	**Pb**	**18 05 57.4**	**-1.7**
GDB				⇓S	**Sg**	**18 06 37.5**	**+0.5**
GDB	**GEDABAY**	**2.62**	**40**	P	**Pb**	**18 05 57.4**	**-1.7**
KOPT	**Kop Dagi**	**2.67**	**299**	*i* P	**Pg**	**18 06 01.4**	**-2.5**
KOPT	**Kop Dagi**	**2.67**	**299**	P	**Pg**	**18 06 01.4**	**-2.5**
QZX	**Qazax, Azerbai**	**2.72**	**31**	⇑P	**Pb**	**18 05 58.5**	**-2.2**
QZX				⇓S	**Sg**	**18 06 38.2**	**-1.7**
QZX	**Qazax, Azerbai**	**2.72**	**31**	P	**Pb**	**18 05 58.5**	**-2.2**
MAZI	**Mazidag**	**2.74**	**243**	*e*PN	**Pn**	**18 05 56.8**	**+1.0**
MAZI	**Mazidag**	**2.74**	**243**	*e*Pn	**Pn**	**18 05 56.8**	**+1.0**
GANJ	**Ganja**	**2.88**	**48**	⇑P	**Pb**	**18 06 00.4**	**-3.0**
GANJ				⇓S	**Sg**	**18 06 45.9**	**+0.7**
DGRG	**David-gareji**	**3.06**	**27**	P	**Pb**	**18 06 04.1**	**-2.4**
BRDA	**Brd**	**3.21**	**61**	⇓P	**Pn**	**18 06 04.4**	**+2.3**
PTK	**Pertek**	**3.23**	**274**	*e*PN	**Pn**	**18 06 04.8**	**+2.2**
PTK	**Pertek**	**3.23**	**274**	*e*Pn	**Pn**	**18 06 04.8**	**+2.2**
MNGR	**Mingechevir, A**	**3.41**	**52**	⇑P	**Pn**	**18 06 07.5**	**+2.6**
MNGR	**Mingechevir, A**	**3.41**	**52**	P	**Pn**	**18 06 07.5**	**+2.6**
ZRD	**Zardab**	**3.57**	**63**	⇓P	**Pn**	**18 06 09.0**	**+2.1**
ZKTA	**Zakatala**	**3.74**	**38**	⇓P	**Pn**	**18 06 12.5**	**+3.0**
SEKA	**Sheki**	**3.75**	**48**	⇑P	**Pn**	**18 06 12.9**	**+3.4**
SEKA	**Sheki**	**3.75**	**48**	P	**Pn**	**18 06 12.9**	**+3.4**
LRK	**Lerik**	**3.77**	**90**	⇑P	**Pn**	**18 06 09.6**	**-0.4**
LRK	**Lerik**	**3.77**	**90**	P	**Pn**	**18 06 09.6**	**-0.4**
GLBA	**Cilalabad**	**3.83**	**81**	⇑P	**Pn**	**18 06 11.4**	**+0.8**
GLBA	**Cilalabad**	**3.83**	**81**	P	**Pn**	**18 06 11.4**	**+0.8**
KDMR	**Kurdemir**	**3.96**	**64**	⇓P	**Pn**	**18 06 14.2**	**+1.9**
SAAT	**Saatly**	**3.96**	**72**	⇑P	**Pn**	**18 06 13.4**	**+1.0**
QBL	**Gabala**	**3.98**	**55**	⇑P	**Pn**	**18 06 15.3**	**+2.5**
QBL	**Gabala**	**3.98**	**55**	P	**Pn**	**18 06 15.3**	**+2.5**
LKRN	**Lenkeran, Azer**	**4.11**	**89**	⇓P	**Pn**	**18 06 14.3**	**-0.2**
LKRN	**Lenkeran, Azer**	**4.11**	**89**	P	**Pn**	**18 06 14.3**	**-0.2**
ASTR	**Astara**	**4.13**	**91**	⇑P	**Pn**	**18 06 14.5**	**-0.2**
ASTR	**Astara**	**4.13**	**91**	P	**Pn**	**18 06 14.5**	**-0.2**
IML	**Ismayilli**	**4.13**	**59**	⇓P	**Pn**	**18 06 17.1**	**+2.3**
IML	**Ismayilli**	**4.13**	**59**	P	**Pn**	**18 06 17.1**	**+2.3**
XNQ	**Khinaliq**	**4.30**	**54**	⇓P	**Pn**	**18 06 19.8**	**+2.5**
XNQ	**Khinaliq**	**4.30**	**54**	P	**Pn**	**18 06 19.8**	**+2.5**
ALIB	**Äli-Bayra**	**4.42**	**72**	⇑P	**Pn**	**18 06 20.1**	**+1.4**

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*ISCJB **29** 18:09:42.9±0.7, 37°32N±0°05×72°10E±0°09, h142km, Error ellipse: s-maj=11.2km s-min=5.8km az=150.2*
*NNC **29** 18:09:49.0±2.0, 37°85N×71°86E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=17.3km s-min=6.3km az=154.0*
ISC 29 18:09:43.6±1.2, 37°29N±0°08×72°04E±0°08, h142km, n10, σ1°80/14, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.96**	**302**	⇑Pn	**Pn**	**18 10 31.7**	**+1.6**
	5.2nm,0.4s						
DZET				⇑Sn	**Sn**	**18 11 05.1**	**-0.9**
	49nm,0.4s						
MNAS	**Manas**	**5.20**	**4**	⇓Pn	**Pn**	**18 11 01.7**	**+2.1**
	3.4nm,0.4s						
MNAS				⇑Sn	**Sn**	**18 11 57.8**	**-1.1**
	36nm,0.7s						
AAK	**Ala-Archa**	**5.66**	**19**	⇓Pn	**Pn**	**18 11 08.1**	**+2.3**
	2.7nm,0.5s						
AAK				⇑Sn	**Sn**	**18 12 08.5**	**-1.4**
	7.2nm,0.7s						
KK31	**Karatay Array**	**5.92**	**349**	⇓Pn	**Pn**	**18 11 10.6**	**+1.5**
	5.1nm,0.6s,baz=164,slow=11,SNR=49						
KK31				⇑Sn	**Sn**	**18 12 12.9**	**-3.1**
	7.5nm,0.4s,baz=171,slow=22,SNR=26						
KOLN	**Koldanda**	**13.60**	**131**	*e*P	**Pn**	**18 12 49.3**	**-1.6**
	3.4nm,0.5s						
GKN	**Gorkha**	**14.07**	**128**	*e*P	**Pn**	**18 12 56.8**	**0.0**
	2.8nm,0.3s						
DMN	**Daman**	**14.64**	**127**	*e*P	**Pn**	**18 13 04.2**	**+0.1**
PKI	**Pulchoki**	**14.86**	**127**	*e*P	**Pn**	**18 13 06.4**	**-0.5**
	2.9nm,0.5s						
JIRN	**Jiri**	**15.30**	**125**	*e*P	**Pn**	**18 13 13.1**	**+0.6**
	60nm,0.5s						
ODAN	**Odare**	**16.63**	**124**	*e*P	**Pn**	**18 13 26.5**	**-2.1**

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*ISCJB **29** 18:16:16.0±0.4, 51°47N±0°02×6°45E±0°03, h0km, Error ellipse: s-maj=3.5km s-min=2.3km az=136.7*
*CSEM **29** 18:16:17.2±0.2, 51°50N×6°51E, h1km, ML3.1/13, Error ellipse: s-maj=4.4km s-min=3.3km az=141.0*
*BUG **29** 18:16:17.0, 51°50N×6°55E, h1km, ML2.7*
*LDG **29** 18:16:18.3±0.1, 51°51N×6°62E, h1km, Md3.1/4, Ml3.0/19, Error ellipse: s-maj=2.5km s-min=2.0km az=10.0, Suspected Mining induced.*
*BNS **29** 18:16:18.1±0.9, 51°51N×6°59E, h1km, ML2.3*
*BGR **29** 18:16:19.8±0.6, 51°50N×6°66E, h1km, ML2.5/5, Error ellipse: s-maj=12.2km s-min=6.7km az=110.0*
*PRU **29** 18:16:24.0, 51°56N×7°01E, h0km*
ISC 29 18:16:16.0±0.7, 51°49N±0°02×6°60E±0°02, h0km, n97, σ1°40/169, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.26**	**122**	*e*Pg	**Pb**	**18 16 23.3**	**-0.3**
LAUG	**Laupendahl**	**0.26**	**122**	Pg	**Pb**	**18 16 23.3**	**-0.3**
HES	**Velbert-Hesper**	**0.31**	**114**	*e*Pg	**Pb**	**18 16 23.5**	**-0.8**
HES	**Velbert-Hesper**	**0.31**	**114**	Pg	**Pb**	**18 16 23.5**	**-0.8**
BUG	**Bochum--Univer**	**0.42**	**96**	*e*Pg	**Pb**	**18 16 26.6**	**+0.2**
BUG				Sg	**Sb**	**18 16 32.9**	**-0.4**
WTSB	**Winterswijk**	**0.49**	**15**	*e*Pg	**Pb**	**18 16 27.9**	**+0.3**
WTSB				*e*Sg	**Sb**	**18 16 34.6**	**-0.7**
WTSB	**Winterswijk**	**0.49**	**15**	*e*Pg	**Pb**	**18 16 27.9**	**+0.3**
WTSB				*e*Sg	**Sb**	**18 16 34.6**	**-0.7**
PLH	**Pulheim**	**0.51**	**164**	*e*Pg	**Pb**	**18 16 28.0**	**+0.2**
PLH				*e*Sg	**Sb**	**18 16 35.1**	**-0.6**
	218nm,0.3s						
PLH	**Pulheim**	**0.51**	**164**	Pg	**Pb**	**18 16 28.0**	**+0.2**
PLH				Sg	**Sb**	**18 16 35.1**	**-0.6**
	218nm,0.3s						
ENTS	**Ennepetalsperr**	**0.57**	**116**	*e*Pg	**Pb**	**18 16 28.9**	**+0.1**
ENTS				*e*Sg	**Sb**	**18 16 37.0**	**-0.5**
ENTS	**Ennepetalsperr**	**0.57**	**116**	Pg	**Pb**	**18 16 28.9**	**+0.1**
ENTS				Sg	**Sb**	**18 16 37.0**	**-0.5**
HOBG	**Hohbusch**	**0.69**	**137**	*e*Pg	**Pb**	**18 16 31.8**	**+0.9**
HOBG	**Hohbusch**	**0.69**	**137**	Pg	**Pb**	**18 16 31.8**	**+0.9**
GSH	**Grosshau**	**0.77**	**190**	*e*Pg	**Pb**	**18 16 33.0**	**+0.7**
GSH				*e*Sg	**Sb**	**18 16 43.8**	**+0.6**
	66nm,0.1s						
GSH	**Grosshau**	**0.77**	**190**	Pg	**Pb**	**18 16 33.0**	**+0.7**
GSH				Sg	**Sb**	**18 16 43.8**	**+0.6**
	66nm,0.1s						
WBS	**Wahnbachtalspe**	**0.81**	**147**	*e*Pg	**Pb**	**18 16 33.5**	**+0.5**
WBS				*e*Sg	**Sb**	**18 16 44.3**	**-0.1**
	39nm,0.2s						
WBS	**Wahnbachtalspe**	**0.81**	**147**	Pg	**Pb**	**18 16 33.5**	**+0.5**
WBS				Sg	**Sb**	**18 16 44.3**	**-0.1**
	39nm,0.2s						
HGN	**Heimansgroeve**	**0.84**	**210**	*e*Pn	**Pb**	**18 16 33.8**	**+0.4**
HGN				*e*Pg	**Pn**	**18 16 35.5**	**+0.5**
HGN				*e*Sn	**Sb**	**18 16 45.0**	**-0.2**
HGN				*e*Sg	**Sn**	**18 16 48.0**	**0.0**
HGN	**Heimansgroeve**	**0.84**	**210**	*e*Pn	**Pb**	**18 16 33.8**	**+0.4**
DREG	**Dreilaegerbach**	**0.86**	**196**	*e*Pg	**Pb**	**18 16 34.4**	**+0.6**
DREG	**Dreilaegerbach**	**0.86**	**196**	Pg	**Pb**	**18 16 34.4**	**+0.6**
KLL	**Kalltalsperre**	**0.86**	**192**	*e*Pg	**Pb**	**18 16 35.0**	**+1.1**
KLL	**Kalltalsperre**	**0.86**	**192**	Pg	**Pb**	**18 16 35.0**	**+1.1**
STB	**Steinbach**	**0.91**	**170**	*e*Pg	**Pn**	**18 16 36.1**	**0.0**
STB				*e*Sg	**Sb**	**18 16 48.7**	**+1.4**
	103nm,0.5s						
STB	**Steinbach**	**0.91**	**170**	Pg	**Pn**	**18 16 36.1**	**0.0**
STB				Sg	**Sb**	**18 16 48.7**	**+1.4**
	103nm,0.5s						
TDN	**Todenfeld**	**0.94**	**166**	*e*Sg	**Sb**	**18 16 49.0**	**+0.8**
	80nm,0.1s						
TDN	**Todenfeld**	**0.94**	**166**	Sg	**Sb**	**18 16 49.0**	**+0.8**
	80nm,0.1s						
AHRW	**Bad Neuenahr-A**	**1.00**	**162**	*e*Pg	**Pn**	**18 16 38.5**	**+1.3**
AHRW				*e*Sg	**Sn**	**18 16 52.1**	**+0.1**
AHRW	**Bad Neuenahr-A**	**1.00**	**162**	Pg	**Pn**	**18 16 38.5**	**+1.3**
AHRW				Sg	**Sn**	**18 16 52.1**	**+0.1**
OLFT	**Oleftalsperre**	**1.00**	**186**	*e*Pg	**Pn**	**18 16 37.6**

SMF	**Signal de Mont**	**5.18 202**	*e*Pn	**Pn**	**18 17 35.2**	**+0.5**
SMF	**Signal de Mont**	**5.18 202**	*e*Pg	**Pg**	**18 17 54.7**	**-0.5**
SMF			*e*Sn	**Sn**	**18 18 32.1**	**-3.0**
SMF			*e*Sg	**Sg**	**18 19 01.4**	**-0.8**
	comp=Z,9.0nm,0.5s					
SMF	**Signal de Mont**	**5.18 202**	*e*Pn	**Pn**	**18 17 35.2**	**+0.5**
SMF	**Signal de Mont**	**5.18 202**	*e*Pg	**Pg**	**18 17 54.7**	**-0.5**
SMF			*e*Sn	**Sn**	**18 18 32.1**	**-3.0**
SMF			*e*Sg	**Sg**	**18 19 01.4**	**-0.8**
	comp=Z,4.5nm,0.5s					
LDF	**La Druitiere**	**5.21 239**	*e*Sn	**Sn**	**18 18 32.8**	**-3.1**
	comp=Z,1.3nm,0.3s					
LDF	**La Druitiere**	**5.21 239**	*e*Sn	**Sn**	**18 18 32.8**	**-3.1**
	comp=Z,0.6nm,0.3s					
PRU	**Pruhonice**	**5.26 103**	*e*PG	**Pg**	**18 17 55.2**	**-1.7**
PRU			*e*SG	**Sg**	**18 19 04.1**	**-0.9**
PRU	**Pruhonice**	**5.26 103**	Pg	**Pg**	**18 17 55.2**	**-1.7**
PRU			Sg	**Sg**	**18 19 04.1**	**-0.9**
FLN	**La Foliniere**	**5.31 242**	*e*Pn	**Pn**	**18 17 37.2**	**+0.7**
FLN			*e*Sn	**Sn**	**18 18 35.5**	**-2.8**
FLN	**La Foliniere**	**5.31 242**	*e*Pn	**Pn**	**18 17 37.2**	**+0.7**
FLN			*e*Sn	**Sn**	**18 18 35.5**	**-2.8**
BGF	**Bois d'Agland**	**5.52 208**	*e*Pn	**Pn**	**18 17 39.5**	**+0.1**
BGF			*e*Sn	**Sn**	**18 18 39.3**	**-4.2**
	comp=Z,12nm,0.4s					
BGF			*e*Sg	**Sg**	**18 19 11.7**	**-1.5**
	comp=Z,15nm,0.5s					
BGF	**Bois d'Agland**	**5.52 208**	*e*Pn	**Pn**	**18 17 39.5**	**+0.1**
GRR	**Gorron**	**5.73 240**	*e*Pn	**Pn**	**18 17 42.6**	**+0.4**
GRR			*e*Sn	**Sn**	**18 18 43.6**	**-5.0**
	comp=Z,5.9nm,0.3s					
GRR	**Gorron**	**5.73 240**	*e*Pn	**Pn**	**18 17 42.6**	**+0.4**
TCF	**Toulx Ste Croi**	**5.95 211**	*e*Pn	**Pn**	**18 17 45.5**	**+0.1**
TCF	**Toulx Ste Croi**	**5.95 211**	*e*Pn	**Pn**	**18 17 45.5**	**+0.1**
MFF	**Saint Martin d**	**6.60 225**	*e*Pn	**Pn**	**18 17 54.3**	**+0.1**
MFF			*e*Sn	**Sn**	**18 19 06.0**	**-4.1**
	comp=Z,4.1nm,0.5s					
MFF	**Saint Martin d**	**6.60 225**	*e*Pn	**Pn**	**18 17 54.3**	**+0.1**
SGMF	**Saint Gilles**	**6.74 245**	*e*Pn	**Pn**	**18 17 56.1**	**-0.1**
SGMF	**Saint Gilles**	**6.74 245**	*e*Pn	**Pn**	**18 17 56.1**	**-0.1**
RJF	**Les Rejaudoux**	**7.05 211**	*e*Pn	**Pn**	**18 18 00.5**	**+0.1**
RJF	**Les Rejaudoux**	**7.05 211**	*e*Pn	**Pn**	**18 18 00.5**	**+0.1**

SJA ***29*** *18:22:07.3±0.6,24.˚04S×70.˚96W,h50km, ML4.7, MW4.4*
ISCJB ***29*** *18:22:22.8±0.8,25.˚43S±0.˚02×71.˚23W±0.˚10,h33km, Error ellipse: s-maj=12.7km s-min=3.5km az=3.2*
GUC ***29*** *18:22:23.7±0.6,25.˚46S×70.˚55W,h72km±7km, ML4.4*
ISC 29 18:22:22.8±1.6,25.˚39S±0.˚04×71.˚4W±0.˚1,h35km,n24,
σ1º84/34,6C-4D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.19**	**51**	⇑*i*P	**Pn**	**18 22 41.7**	**-1.7**
PB14				*i* S	**Sn**	**18 22 54.7**	**-3.9**
CDCH	**Caldera**	**1.75**	**162**	⇓*i*P	**Pn**	**18 22 50.3**	**-0.5**
CDCH				*e*S	**Sn**	**18 23 11.0**	**-0.8**
ANCH	**Antofagasta**	**1.93**	**29**	⇓*i*P	**Pn**	**18 22 55.3**	**+2.1**
ANCH				*i* S	**Sn**	**18 23 16.9**	**+0.6**
PB10	**IPOC Station P**	**2.03**	**23**	⇑*i*P	**Pn**	**18 22 55.1**	**+0.6**
GO03	**Copiap**	**2.44**	**154**	⇑*i*P	**Pn**	**18 22 59.7**	**-0.5**
GO03				*e*S	**Sn**	**18 23 25.5**	**-3.4**
GO03				IAML		18 23 30.7	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**3.16**	**33**	*e*P	**Pn**	**18 23 10.1**	**-0.2**
VACH	**Vallenar**	**3.23**	**170**	⇑*i*P	**Pn**	**18 23 11.1**	**+0.1**
VACH				*i* S	**Sn**	**18 23 46.8**	**+1.5**
PB04	**IPOC Station P**	**3.26**	**21**	⇑*i*P	**Pn**	**18 23 11.7**	**+0.1**
PB04				*i* S	**Sn**	**18 23 48.0**	**-1.3**
PB04				IAML		18 24 11.2	
	comp=E,962nm,0.5s						
LVC	**Limon Verde**	**3.59**	**40**	⇓*e*P	**Pn**	**18 23 19.3**	**+2.9**
LVC				*e*S	Sn	18 24 09.6	+12
LCO	**Las Campanas**	**3.66**	**170**	⇑*i*P	**Pn**	**18 23 16.7**	**-0.5**
LCO				*i* S	**Sn**	**18 23 57.6**	**-1.8**
LCO				IAML		18 24 22.4	
	comp=E,781nm,0.7s						
LCO	**Las Campanas**	**3.66**	**170**	*e*P	**Pn**	**18 23 17.2**	**-0.1**
LCO				*e*S	Sn	18 24 12.2	+13
VCA	**Vinchina**	**4.39**	**140**	*e*P	**Pn**	**18 23 28.1**	**+0.8**
TLL	**Tololo Astrono**	**4.79**	**174**	⇓*e*P	**Pn**	**18 23 33.1**	**+0.3**
AGUA	**GUANDACOL**	**4.84**	**148**	*e*P	**Pn**	**18 23 34.7**	**+1.5**
ACLC	**CERRO LA CRUZ**	**5.65**	**136**	*e*P	**Pn**	**18 23 44.1**	**-0.3**
ACLC				*e*S	**Sn**	**18 24 52.3**	**+4.0**
AMOG	**MOGNA**	**6.10**	**156**	*e*P	**Pn**	**18 23 51.6**	**+1.0**
AMOG				*e*S	Sn	18 25 10.7	+11
AVFE	**Valle Fertil**	**6.31**	**147**	*e*P	**Pn**	**18 23 53.4**	**-0.1**
AVFE				*e*S	**Sn**	**18 25 02.9**	**-1.4**
RTLL	**Cerro Villicun**	**6.46**	**157**	*e*P	**Pn**	**18 23 57.7**	**+2.2**
APLL	**PUNTA DE LOS L**	**6.60**	**140**	*i* P	**Pn**	**18 23 55.7**	**-1.8**
APLL				*e*S	**Sn**	**18 25 12.3**	**+0.8**
RTLS	**Leoncito**	**6.65**	**164**	*i* P	**Pn**	**18 24 02.1**	**+3.8**
RTLS				*i* S	Sn	18 25 27.5	+14
RTLS				IAML		18 25 36.3	
	comp=Z,76nm,0.5s						
RTCV	**Cerro Valdivia**	**6.93**	**159**	*i* P	**Pn**	**18 24 03.8**	**+1.9**
RTCV				*i* S	Sn	18 25 30.1	+11
AUSP	**Uspallata**	**7.04**	**166**	*e*P	**Pn**	**18 24 04.7**	**+1.1**
ACHE	**Chepes**	**7.11**	**145**	*e*P	**Pn**	**18 24 06.3**	**+1.8**
ACHE				*e*S	**Sn**	**18 25 25.6**	**+1.3**
AAGR	**Agrelo**	**7.99**	**164**	*e*P	Pn	18 24 25.8	+9.2
AAGR				*e*S	Sn	18 26 03.7	+18

CSEM ***29*** *18:23:30.6±0.3,38.˚73N×43.˚53E,h20km, ML2.5, Error ellipse: s-maj=9.3km s-min=5.4km az=114.0*
ISK ***29*** *18:23:30.4,38.˚73N×43.˚51E,h22km, ML2.5*
ISCJB ***29*** *18:23:31.3±0.7,38.˚74N±0.˚04×43.˚52E±0.˚08,h13km, Error ellipse: s-maj=9.1km s-min=5.5km az=24.2*
DDA ***29*** *18:23:31.1,38.˚76N×43.˚50E,h7km, Ml2.6*
ISC 29 18:23:29.0±1.3,38.˚71N±0.˚05×43.˚66E±0.˚08,h13km,n18,
σ0º87/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**242**	*e*PG	**Pb**	**18 23 36.7**	**+1.4**
VANB	**Van**	**0.24**	**242**	*e*Pg	**Pb**	**18 23 36.7**	**+1.4**
TVAN	**Van**	**0.27**	**228**	*i* P	**Pb**	**18 23 36.5**	**+0.7**
TVAN	**Van**	**0.27**	**228**	P	**Pb**	**18 23 36.5**	**+0.7**
VMUR	**Van-Muradiye**	**0.29**	**345**	*i* P	**Pb**	**18 23 36.5**	**+0.4**
VMUR	**Van-Muradiye**	**0.29**	**345**	P	**Pb**	**18 23 36.5**	**+0.4**
ERCV	**ERCIS-VAN**	**0.40**	**321**	*e*PG	**Pb**	**18 23 37.8**	**-0.2**
ERCV				*e*SG	**Sg**	**18 23 43.6**	**+1.1**
ERCV	**ERCIS-VAN**	**0.40**	**321**	*e*Pg	**Pb**	**18 23 37.8**	**-0.2**
ERCV				*e*Sg	**Sg**	**18 23 43.6**	**+1.1**
CLDR	**Caldiran**	**0.47**	**25**	*e*PG	**Pn**	**18 23 41.5**	**-0.2**
CLDR				*e*SG	**Sn**	**18 23 49.7**	**-0.4**
CLDR	**Caldiran**	**0.47**	**25**	*i* P	**Pn**	**18 23 41.0**	**-0.7**
CLDR	**Caldiran**	**0.47**	**25**	P	**Pn**	**18 23 41.0**	**-0.7**
CLDR	**Caldiran**	**0.47**	**25**	*e*Pg	**Pn**	**18 23 41.5**	**-0.2**
CLDR				*e*Sg	**Sn**	**18 23 49.7**	**-0.4**
GEVA	**Gevas**	**0.62**	**230**	*i* P	**Pn**	**18 23 42.0**	**-1.6**
GEVA	**Gevas**	**0.62**	**230**	P	**Pn**	**18 23 42.0**	**-1.6**
TUTA	**Tutak**	**0.96**	**316**	*i* P	**Pg**	**18 23 47.2**	**-0.3**
TUTA	**Tutak**	**0.96**	**316**	P	**Pg**	**18 23 47.2**	**-0.3**
AGRB	**Hanur-Agry**	**1.01**	**329**	*e*PG	**Pg**	**18 23 48.6**	**+0.2**
AGRB	**Hanur-Agry**	**1.01**	**329**	*e*Pg	**Pg**	**18 23 48.7**	**+0.2**

ISCJB ***29*** *18:24:40.6±0.2,0.˚22N±0.˚02×77.˚18W±0.˚02,h24km, mb4.4/38,MS3.8/6, Error ellipse: s-maj=3.4km s-min=2.6km az=36.0*
IGQ ***29*** *18:24:40.8±1.2,0.˚N±3.˚×7.˚7W±.˚,h3km±7km, M4.7/31, MLv4.7/31*
NEIC ***29*** *18:24:41.1±0.5,0.˚17N×77.˚33W,h24km±3km,mb4.5/36, ML4.5(IGQ), Error ellipse: s-maj=7.6km s-min=5.3km az=76.0*
NEIC Felt [III] at Quito, Ecuador. Also felt at Cuenca, Sangolqui and Tena.
IDC ***29*** *18:24:42.0±0.6,0.˚33N×77.˚18W,h23km±3km, mb3.8/8, mb1 4.1/11,mb1mx3.9/37,mbtmp4.1/11,ML4.1/3,MS3.7/10, Ms1 3.8/10,ms1mx3.4/27, Error ellipse: s-maj=23.4km s-min=12.9km az=75.0*
RSNC ***29*** *18:24:43.3±0.6,0.˚19N×77.˚39W,h4km±6km, ML4.0, Mw4.8*
ISC 29 18:24:40.8±0.4,0.˚16N±0.˚02×77.˚30W±0.˚03,h19km±1km,
h19km:pP-P,n152,σ1º30/174,mb4.5/41,MS3.7/6,1C-2D,
Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYA	**Cayambe**	**0.69**	**263**	P	**Pb**	**18 24 54.4**	**-0.2**
ATUL	**Tulc¨jn**	**0.74**	**325**	P	**Pb**	**18 24 55.4**	**+0.2**
YAHU	**Yahuarcocha**	**0.80**	**285**	P	**Pb**	**18 24 56.1**	**-0.2**
IMBA	**Imbabura, San**	**0.91**	**277**	P	**Pg**	**18 24 58.8**	**+0.2**
IMBA				S	**Sn**	**18 25 11.7**	**+0.1**
CMBC	**Cumbal**	**0.94**	**326**	*i* P	**Pg**	**18 24 59.3**	**+0.2**
CMBC				*e*S	**Sb**	**18 25 11.5**	**+0.6**
CMBC	**Cumbal**	**0.94**	**326**	*i* P	**Pg**	**18 24 59.3**	**+0.2**
CMBC				*e*S	**Sb**	**18 25 11.5**	**+0.6**
URCU	**Urcuqui**	**0.99**	**286**	P	**Pn**	**18 25 00.0**	**-0.1**
COTA	**Cotacachi**	**1.05**	**279**	P	**Pn**	**18 25 01.2**	**+0.2**
ANTI	**Antisana**	**1.05**	**235**	P	**Pb**	**18 25 00.7**	**0.0**
CPAS2	**Pasto**	**1.05**	**3**	*e*P	**Pg**	**18 25 01.5**	**+0.1**
CPAS2				*e*S	**Sg**	**18 25 15.5**	**+0.2**
GCUF	**Volcan Galeras**	**1.06**	**358**	⇑*i*P	**Pg**	**18 25 01.7**	**+0.2**
GCUF				*e*S	**Sg**	**18 25 15.9**	**+0.4**
GCUF				*i*		18 25 19.3	
	comp=Z,10μm,0.2s						
CUIC	**Cuicocha-Domo**	**1.07**	**278**	P	**Pn**	**18 25 01.2**	**0.0**
CUIC				S	**Sg**	**18 25 17.6**	**+1.7**
OTAV	**Otavalo**	**1.15**	**274**	⇓*i*P	**Pn**	**18 25 02.1**	**-0.2**
OTAV				*e*S	**Sb**	**18 25 17.0**	**-0.2**
OTAV				*i*		18 25 29.2	
	comp=Z,3μm,0.7s						
OTAV	**Otavalo**	**1.15**	**274**	*e*Pn	**Pn**	**18 25 02.0**	**-0.3**
OTAV				*e*Sn	**Sb**	**18 25 14.6**	**-2.6**
OTAV	**Otavalo**	**1.15**	**274**	⇓*i*P	**Pn**	**18 25 02.1**	**-0.2**
OTAV				*e*S	**Sb**	**18 25 17.0**	**-0.2**
OTAV				*i*		18 25 29.2	
	comp=Z,3μm,0.7s						
OTAV	**Otavalo**	**1.15**	**274**	P	**Pn**	**18 25 01.9**	**-0.4**
OTAV				S	**Sb**	**18 25 17.4**	**+0.3**
PULU	**Pululahua**	**1.21**	**263**	P	**Pb**	**18 25 03.3**	**0.0**
LITE1	**Lita**	**1.23**	**301**	P	**Pn**	**18 25 03.3**	**+0.1**
YANA	**Yana**	**1.30**	**258**	P	**Pb**	**18 25 05.0**	**+0.1**
PITA	**Cotopaxi Volc**	**1.34**	**238**	P	**Pg**	**18 25 06.4**	**-0.4**
TERV	**Terraza Guagua**	**1.34**	**256**	P	**Pb**	**18 25 06.1**	**+0.4**
JUA2	**San Juan 2**	**1.36**	**254**	P	**Pb**	**18 25 06.0**	**+0.1**
VC1	**Cotopaxi 1**	**1.36**	**234**	P	**Pb**	**18 25 06.4**	**+0.4**
BTAM	**Cotopaxi Volca**	**1.38**	**233**	P	**Pb**	**18 25 06.6**	**+0.4**
BVC2	**Cotopaxi Volca**	**1.38**	**234**	P	**Pg**	**18 25 06.9**	**-0.6**
BVC2				S	**Sg**	**18 25 26.3**	**+0.7**
BREF	**Cotopaxi Volca**	**1.41**	**234**	P	**Pg**	**18 25 07.5**	**-0.6**
BREF				S	**Sg**	**18 25 27.7**	**+1.1**
BNAS	**Cotopaxi Volca**	**1.44**	**235**	P	**Pg**	**18 25 08.3**	**-0.4**
CRUC	**La Cruz**	**1.44**	**14**	*i* P	**Pg**	**18 25 08.6**	**-0.1**
CRUC	**La Cruz**	**1.44**	**14**	*i* P	**Pg**	**18 25 08.6**	**-0.1**
BMOR	**Cotopaxi Volca**	**1.46**	**233**	P	**Pb**	**18 25 07.8**	**+0.2**
PISA	**Pisayambo**	**1.62**	**222**	P	**Pb**	**18 25 10.5**	**0.0**
RUN5	**Runtun**	**1.93**	**216**	P	**Pb**	**18 25 15.2**	**-0.4**
BULB	**Ulba Tungurahu**	**1.94**	**215**	P	**Pb**	**18 25 15.2**	**-0.5**
BULB				S	**Sb**	**18 25 41.1**	**+1.5**
JUI6	**Juive**	**1.96**	**217**	P	**Pb**	**18 25 15.5**	**-0.6**
RETU	**Refugio**	**1.97**	**216**	P	**Pb**	**18 25 15.9**	**-0.5**
BBIL	**Ulba Tungurahu**	**1.99**	**217**	P	**Pb**	**18 25 16.0**	**-0.7**
BBIL				S	**Sb**	**18 25 42.4**	**+1.2**
BPAT	**Tungurahua Vol**	**2.00**	**214**	P	**Pb**	**18 25 16.5**	**-0.5**
BPAT				S	**Sb**	**18 25 43.0**	**+1.3**
BIL2	**Estacion Bilba**	**2.00**	**217**	P	**Pb**	**18 25 16.6**	**-0.3**
BMAS	**Trigal station**	**2.03**	**215**	P	**Pb**	**18 25 16.6**	**-0.7**
BMAS				S	**Sb**	**18 25 42.9**	**+0.5**
TUMC	**Tumaco**	**2.18**	**319**	*e*P	**Pn**	**18 25 17.8**	**+1.8**
TUMC				*i*		18 26 11.6	
	comp=Z,736nm,0.7s						
TUMC	**Tumaco**	**2.18**	**319**	*e*Pn	**Pb**	**18 25 18.6**	**-1.1**
TUMC	**Tumaco**	**2.18**	**319**	*e*P	**Pn**	**18 25 17.8**	**+1.8**
TUMC				*i*		18 26 11.6	
	comp=Z,736nm,0.7s						
PCON	**Cinco Dias**	**2.33**	**23**	*e*P	**Pb**	**18 25 22.1**	**-0.5**
PCON				*e*S	**Sb**	**18 25 51.4**	**+0.1**
PCON				*i*		18 26 06.5	
	comp=Z,724nm,0.5s						
POPC	**Popayan, Colom**	**2.44**	**15**	*e*P	**Pb**	**18 25 23.1**	**-1.2**
POPC				*i*		18 26 01.5	
	comp=Z,824nm,0.7s						
POPC	**Popayan, Colom**	**2.44**	**15**	*e*P	**Pb**	**18 25 23.1**	**-1.2**
POPC				*i*		18 26 01.5	
	comp=Z,824nm,0.7s						
MAG1	**Magdalena**	**2.48**	**265**	P	**Pb**	**18 25 23.2**	**-1.7**
JAMA	**Jama**	**2.94**	**262**	P	**Pn**	**18 25 29.6**	**+3.0**
GRGC	**Isla de Gorgon**	**2.95**	**343**	*e*P	**Pn**	**18 25 29.0**	**+2.3**
GRGC	**Isla de Gorgon**	**2.95**	**343**	*e*P	**Pn**	**18 25 29.0**	**+2.3**
MARP	**Paez Belalcaza**	**2.98**	**27**	*e*P	**Pb**	**18 25 30.6**	**-3.0**
HORQ	**Saladito**	**3.37**	**12**	*e*P	**Pn**	**18 25 36.1**	**+3.4**
HORQ				*i*		18 26 41.0	
	comp=Z,136nm,0.7s						
PRAC	**Prado**	**4.28**	**34**	*e*Pn	**Pn**	**18 25 46.0**	**+1.1**
PRAC				*e*Sn	**Sn**	**18 26 36.1**	**+1.7**
PRAC				*e*Lg	Lg	18 26 55.0	
ROSC	**El Rosal**	**5.52**	**33**	Pg	**Pb**	**18 26 18.2**	**+1.4**
	comp=Z,3.5nm,0.3s,baz=171,slow=7.0,SNR=5.6						
ROSC				Lg	Lg	18 27 41.8	
	comp=Z,25nm,0.3s,baz=297,slow=22,SNR=12						
ROSC	**El Rosal**	**5.52**	**33**	*e*Pn	**Pn**	**18 26 03.0**	**+0.6**
ROSC				*e*Pg	**Pb**	**18 26 18.9**	**+2.0**
ROSC				*e*Lg	Lg	18 27 28.7	
ROSC				Lg	Lg	18 27 41.8	
HELC	**Santa Helena**	**6.25**	**16**	*e*Pn	**Pn**	**18 26 14.1**	**+1.8**
RUSC	**La Rusia**	**7.08**	**36**	*e*Pn	**Pn**	**18 26 23.5**	**-0.5**
ATAH	**Atahualpa**	**7.33**	**189**	Pn	**Pn**	**18 26 29.2**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=27,slow=5.7,SNR=27						
ATAH				LR	LR	18 29 42.5	
	comp=Z,741nm,22.0s,baz=18,slow=40						
SDV	**Santo Domingo**	**10.92**	**37**	Pn	**Pn**	**18 27 17.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=240,slow=9.8,SNR=1.9						
SDV				LR	LR	18 31 59.0	
	comp=Z,637nm,18.7s,baz=234,slow=41						
SDV	**Santo Domingo**	**10.92**	**37**	*e*Pn	**Pn**	**18 27 17.7**	**+1.4**
NNA	**Nana**	**12.08**	**178**	Pn	**Pn**	**18 27 33.0**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=352,slow=14,SNR=4.8						
NNA				Sn	**Sn**	**18 29 44.7**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=295,slow=19,SNR=3.3						
NNA				LR	LR	18 33 29.6	
	comp=Z,298nm,20.0s,baz=347,slow=43						
NNA	**Nana**	**12.08**	**178**	*e*Pn	**Pn**	**18 27 31.1**	**-1.0**
NNA				*e*Sn	**Sn**	**18 29 44.7**	**-1.6**
SAML	**Samuel**	**16.72**	**123**	*e*Pn	**Pn**	**18 28 32.9**	**-1.3**
	comp=Z,4.7nm,0.8s						
PTGA	**Pitinga**	**17.36**	**93**	Lg	Lg	18 33 44.6	
	comp=Z,2.2nm,0.3s,baz=224,slow=1.8,SNR=5.8						
PTGA				LR	LR	18 36 33.0	
	comp=Z,60nm,18.2s,baz=278,slow=41						
PTGA	**Pitinga**	**17.36**	**93**	*e*Pn	**Pn**	**18 28 42.4**	**+0.2**
	comp=Z,8.7nm,1.4s						
PTGA				Lg	Lg	18 33 44.6	
LPAZ	**La Paz**	**18.68**	**151**	P	**Pn**	**18 29 01.1**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=343,slow=14,SNR=3.8						
LPAZ	**La Paz**	**18.68**	**151**	*e*P	**P**	**18 28 58.4**	**-0.3**
	comp=Z,7.2nm,1.1s						
SVB	**Belmont**	**20.56**	**50**	*e*P	**P**	**18 29 18.1**	**-0.5**
	comp=Z,37nm,0.8s						
MNMC	**Minye Minye**	**20.61**	**159**	*e*P	Pn	18 29 20.8	-0.9
	comp=Z,32nm,0.9s						
CELP	**Cerrillos**	**20.69**	**30**	*e*P	**P**	**18 29 18.6**	**-1.4**
SJG	**San Juan**	**20.94**	**31**	pP	**pP**	**18 29 27.0**	**-1.1**
	comp=Z,4.0nm,0.3s,baz=180,slow=12,SNR=2.2						
SJG				LR	LR	18 38 31.8	
	comp=Z,185nm,20.3s,baz=246,slow=40						
SJG	**San Juan**	**20.94**	**31**	*e*P	Pn	18 29 24.5	-0.7
	comp=Z,17nm,0.8s						
PB11	**IPOC Station P**	**21.17**	**160**	*e*P	**P**	**18 29 25.0**	**-0.3**
	comp=Z,34nm,0.9s						
CBYP	**Canovanas**	**21.22**	**31**	*e*P	**P**	**18 29 25.3**	**-0.4**
	comp=Z,115nm,1.6s						
FDF	**Fort de France**	**21.56**	**47**	*e*P	**P**	**18 29 28.2**	**-1.1**
	comp=Z,75nm,1.3s						
STVI	**Saint Thomas**	**21.77**	**33**	*e*P	**P**	**18 29 30.6**	**-0.9**
	comp=Z,41nm,1.3s						
PB01	**IPOC Station P**	**22.41**	**161**	*e*P	**P**	**18 29 39.9**	**+1.3**
	comp=Z,23nm,1.1s						
SIV	**San Ignacio**	**22.68**	**136**	P	**P**	**18 29 42.7**	**+1.3**
	comp=Z,4.7nm,0.9s,baz=323,slow=13,SNR=4.2						
SIV				pP	**sP**	**18 29 48.9**	**-0.4**
	comp=Z,22nm,0.9s,baz=327,slow=14,SNR=20						
SIV				Lg	Lg	18 36 40.0	
	comp=Z,37nm,1.0s,baz=74,slow=24,SNR=5.6						
SIV				LR	LR	18 39 06.7	
	comp=Z,223nm,20.4s,baz=297,slow=38						
PB04	**IPOC Station P**	**23.42**	**163**	*e*P	**P**	**18 29 48.4**	**-0.7**
	comp=Z,27nm,1.1s						
LVC	**Limon Verde**	**24.06**	**161**	P	**P**	**18 29 57.0**	**+1.5**
	comp=Z,20nm,0.8s,baz=306,slow=2.9,SNR=3.5						
LVC	**Limon Verde**	**24.06**	**161**	*e*P	**P**	**18 29 54.6**	**-0.9**
	comp=Z,10nm,1.0s						
CPUP	**Villa Florida**	**32.62**	**145**	LR	LR	18 45 58.1	
	comp=Z,208nm,20.5s,baz=322,slow=39						
CPUP	**Villa Florida**	**32.62**	**145**	*e*P	**P**	**18 31 10.0**	**-1.6**
ROC1	**El Roble**	**33.49**	**170**	*e*P	**P**	**18 31 21.2**	**+1.9**
	comp=Z,29nm,0.9s						
KVTX	**Kingsville**	**33.65**	**326**	*e*P	**P**	**18 31 19.3**	**-1.1**
	comp=Z,60nm,0.6s						
GO05	**HualaaeØ**	**35.35**	**172**	*e*P	**P**	**18 31 33.9**	**-1.2**
	comp=Z,23nm,1.1s						
BLA	**Blacksburg**	**36.98**	**356**	*e*P	**P**	**18 31 46.4**	**-2.7**
	comp=Z,94nm,1.9s						
VWCC	**Virginia Weste**	**36.98**	**356**	*e*P	**P**	**18 31 47.9**	**-1.2**
PTRD	**Partlow Road**	**37.77**	**360**	*e*P	**P**	**18 32 00.0**	**+4.3**
	comp=Z,43nm,1.0s						
TXAR	**Lajitas Array**	**38.40**	**321**	P	**P**	**18 32 00.5**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=115,slow=4.1,SNR=3.7						
TXAR				pP	**sP**	**18 32 09.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=119,slow=7.5,SNR=4.5						
TXAR				PcP	**PcP**	**18 34 15.7**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=140,slow=4.7,SNR=8.8						
LTX	**Lajitas**	**38.40**	**321**	*e*P	**P**	**18 32 00.5**	**-0.8**
LTX				*e*PcP	**PcP**	**18 34 15.7**	**+0.9**
CCM	**Cathedral Cave**	**39.84**	**343**	*e*P	**P**	**18 32 16.8**	**+3.7**
	comp=Z,16nm,1.4s						
MNTX	**Cornudas Mount**	**41.10**	**322**	*e*P	**P**	**18 32 24.1**	**+0.4**
	comp=Z,2.3nm,0.9s						
PLCA	**Paso Flores**	**41.16**	**172**	P	**P**	**18 32 25.8**	**+1.7**
	comp=Z,9.1nm,0.9s,baz=6.4,slow=9.4,SNR=11						
PLCA				pP	**sP**	**18 32 34.2**	**+1.8**
	comp=Z,7.4nm,0.8s,baz=9.4,slow=8.6,SNR=8.0						
PLCA	**Paso Flores**	**41.16**	**172**	*e*P	**P**	**18 32 25.7**	**+1.6**
	comp=Z,12nm,0.9s						
MSTX	**Muleshoe**	**41.25**	**327**	*e*P	**P**	**18 32 24.7**	**-0.3**
	comp=Z,12nm,1.1s						
ANMO	**Albuquerque**	**44.03**	**325**	*e*P	**P**	**18 32 45.4**	**-2.3**
	comp=Z,3.3nm,1.0s						
TUC	**Tucson**	**44.95**	**319**	*e*P	**P**	**18 32 53.4**	**-1.5**
	comp=Z,13nm,1.7s						
SDCO	**Great Sand Dun**	**45.55**	**328**	*e*P	**P**	**18 33 00.8**	**+0.9**
	comp=Z,6.3nm,1.4s						
W18A	**Petrified Fore**	**46.09**	**322**	*e*P	**P**	**18 33 02.2**	**-1.9**
	comp=Z,6.9nm,0.9s						
X16A	**Lo Mia Camp, P**	**46.70**	**320**	*e*P	**P**	**18 33 08.4**	**-0.4**
	comp=Z,1.5nm,0.9s						
ISCO	**Idaho Springs**	**47.16**	**330**	*e*P	**P**	**18 33 11.8**	**-0.7**
	comp=Z,4.7nm,1.1s						
WUAZ	**Wupatki**	**47.36**	**322**	*e*P	**P**	**18 33 12.5**	**-1.5**
	comp=Z,8.7nm,1.1s						
LCMT	**Little Creek M**	**49.48**	**322**	*e*P	**P**	**18 33 27.9**	**-2.3**
	comp=Z,2.2nm,1.1s						
XPFO	**Piæon Flat**	**49.56**	**316**	*e*P	**P**	**18 33 30.1**	**-0.8**
	comp=Z,9.9nm,1.3s						
PDAR	**Pinedale Array**	**51.35**	**330**	LR	LR	18 57 21.4	
	comp=Z,49nm,19.7s,baz=82,slow=38						
R11A	**Troy Canyon, C**

CMAR	**Chiang Mai Arr**	**161.13**	**11**	PKP	**PKPdf**	**18 44 40.7**	**-0.4**
	comp=E,0.4nm,0.9s,baz=302,slow=2.0,SNR=3.0						
CMAR				PKPab	**PKPab**	**18 45 23.3**	**-0.7**
	comp=E,1.1nm,1.0s,baz=332,slow=4.5,SNR=5.2						

JMA 29 18:26:30.2±0.5, 46°.19N×146°.53E, h359km, M3.5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.88**	**192**	P	Pn	18 27 28.9	-0.3
NEM2				*e*S	S	18 28 15.5	-1.2
JTKR	**Abashiri--Toko**	**2.89**	**221**	P	Pn	18 27 30.3	+1.0
JSE	**Soyaes**	**3.03**	**247**	P	Pn	18 27 30.3	-0.2
JAK	**Akkeshi**	**3.45**	**203**	P	Pn	18 27 34.6	+0.2
JAK				*e*S	S	18 28 25.1	-1.0
JCH	**Churui**	**4.23**	**214**	P	Pn	18 27 42.3	+0.1
JCH				*e*S	S	18 28 38.1	-2.2
JNBK	**Urakawa-nobuka**	**4.76**	**216**	P	Pn	18 27 47.7	+0.1
JNBK				*e*S	S	18 28 47.9	-2.4
JKB	**Kayabe**	**5.85**	**225**	P	Pn	18 28 00.0	+0.4
JKB				*e*S	S	18 29 09.0	-3.1
JOT	**Ohata**	**6.23**	**221**	P	Pn	18 28 04.1	+0.1
JOT				*e*S	S	18 29 16.1	-4.0
JANG	**Nango**	**6.87**	**214**	*e*S	S	18 29 30.3	-3.2
JOM	**Ohasama**	**7.74**	**212**	*e*S	S	18 29 51.1	-1.0

*AZER **29** 18:35:04.2±1.6, 38°.13N×43°.46E, h11km±17km, Error ellipse: s-maj=19.3km s-min=4.2km az=60.0*
*ISK **29** 18:35:05.2, 38°.78N×43°.44E, h5km, MD2.3*
*CSEM **29** 18:35:07.9±0.4, 38°.72N×43°.42E, h10km, MD2.3, Error ellipse: s-maj=12.9km s-min=8.2km az=156.0*
ISC 29 18:35:06.3±1.1, 38°.74N±0°.03×43°.43E±0°.02, h18km±4km, n68, σ1§96/74, 10C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**191**	*e*PG	**Pg**	**18 35 11.5**	**+0.8**
VANB	**Van**	**0.15**	**191**	*e*Pg	**Pg**	**18 35 11.5**	**+0.8**
ERCV	**ERCIS-VAN**	**0.28**	**346**	*e*PG	**Pg**	**18 35 10.8**	**-2.0**
ERCV	**ERCIS-VAN**	**0.28**	**346**	*e*Pg	**Pg**	**18 35 10.8**	**-2.0**
CLDR	**Caldiran**	**0.55**	**44**	*e*PG	**Pg**	**18 35 16.4**	**-1.1**
CLDR				*e*SG	**Sb**	**18 35 25.1**	**-0.1**
CLDR	**Caldiran**	**0.55**	**44**	*e*Pg	**Pg**	**18 35 16.4**	**-1.1**
CLDR				*e*Sg	**Sb**	**18 35 25.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**338**	*e*PG	**Pg**	**18 35 22.7**	**-1.2**
AGRB				*e*SG	**Sb**	**18 35 36.2**	**+1.0**
AGRB	**Hanur-Agry**	**0.90**	**338**	*e*Pg	**Pg**	**18 35 22.7**	**-1.2**
AGRB				*e*Sg	**Sb**	**18 35 36.2**	**+1.0**
GURO	**Guroymak-BITLI**	**1.11**	**260**	*e*PN	**Pn**	**18 35 27.5**	**+0.4**
CUKT	**Cukurca**	**1.50**	**174**	*e*PN	**Pg**	**18 35 34.6**	**-0.6**
CUKT	**Cukurca**	**1.50**	**174**	*e*Pn	**Pg**	**18 35 34.6**	**-0.6**
VRTB	**Varto-Mus**	**1.59**	**286**	*e*PN	**Pg**	**18 35 36.4**	**-0.6**
VRTB	**Varto-Mus**	**1.59**	**286**	*e*Pn	**Pg**	**18 35 36.4**	**-0.6**
NAX	**Nakhchivan**	**1.67**	**74**	⇑P	**Pb**	**18 35 36.5**	**-0.1**
NAX				⇓S	**Sg**	**18 36 02.2**	**+2.0**
NAX	**Nakhchivan**	**1.67**	**74**	P	**Pb**	**18 35 36.5**	**-0.1**
NAX				S	**Sg**	**18 36 02.2**	**+2.0**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*PN	**Pg**	**18 35 40.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*e*Pn	**Pg**	**18 35 40.4**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.85**	**252**	*i* P	Pg	18 35 48.1	+6.3
BTMN	**Batman**	**1.90**	**244**	*i* P	Pg	18 35 48.0	+5.2
EAK	**Akyaka**	**1.95**	**4**	*i* P	**Pg**	**18 35 44.6**	**+0.8**
EAK	**Akyaka**	**1.95**	**4**	P	**Pg**	**18 35 44.6**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**336**	*e*PN	**Pb**	**18 35 41.4**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**336**	*e*Pn	**Pb**	**18 35 41.4**	**-0.8**
BNGB	**Bing¶ll**	**2.16**	**277**	*e*PN	**Pb**	**18 35 44.3**	**-0.6**
BINT	**Bingol**	**2.30**	**274**	*e*Pn	**Pn**	**18 35 44.3**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*PN	**Pb**	**18 35 47.2**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.35**	**288**	*e*Pn	**Pb**	**18 35 47.2**	**-1.0**
DDMM	**Demirkent**	**2.50**	**336**	*i* P	**Pg**	**18 35 53.8**	**-0.6**
GDB	**GEDABAY**	**2.67**	**42**	⇓P	**Pb**	**18 35 54.2**	**+0.5**
GDB				⇑S	**Sg**	**18 36 31.7**	**-0.5**
GDB	**GEDABAY**	**2.67**	**42**	P	**Pb**	**18 35 54.2**	**+0.5**
QZX	**Qazax, Azerbai**	**2.75**	**32**	⇑P	**Pb**	**18 35 55.6**	**+0.5**
QZX				⇓S	**Sg**	**18 36 33.9**	**-0.9**
QZX	**Qazax, Azerbai**	**2.75**	**32**	P	**Pb**	**18 35 55.6**	**+0.5**
GANJ	**Ganja**	**2.93**	**49**	⇓P	**Pb**	**18 35 58.1**	**0.0**
GANJ				⇓S	**Sg**	**18 36 38.5**	**-2.1**
GANJ	**Ganja**	**2.93**	**49**	P	**Pb**	**18 35 58.1**	**0.0**
BRDA	**Brd**	**3.28**	**61**	⇓P	**Pn**	**18 35 59.6**	**+2.9**
BRDA	**Brd**	**3.28**	**61**	P	**Pn**	**18 35 59.6**	**+2.9**
MNGR	**Mingechevir, A**	**3.47**	**53**	⇓P	**Pb**	**18 36 03.7**	**-3.5**
MNGR	**Mingechevir, A**	**3.47**	**53**	P	**Pb**	**18 36 03.7**	**-3.5**
ZRD	**Zardab**	**3.63**	**64**	⇓P	**Pn**	**18 36 04.3**	**+2.7**
ZRD	**Zardab**	**3.63**	**64**	P	**Pn**	**18 36 04.3**	**+2.7**
ZKTA	**Zakatala**	**3.79**	**39**	⇓P	**Pb**	**18 36 09.3**	**-3.4**
SEKA	**Sheki**	**3.80**	**48**	⇑P	**Pb**	**18 36 09.0**	**-3.9**
SEKA	**Sheki**	**3.80**	**48**	P	**Pb**	**18 36 09.0**	**-3.9**
LRK	**Lerik**	**3.85**	**90**	⇑P	**Pn**	**18 36 03.4**	**-1.3**
LRK	**Lerik**	**3.85**	**90**	P	**Pn**	**18 36 03.4**	**-1.3**
GLBA	**Clilabad**	**3.90**	**81**	⇑P	**Pn**	**18 36 05.9**	**+0.6**
GLBA	**Clilabad**	**3.90**	**81**	P	**Pn**	**18 36 05.9**	**+0.6**
KDMR	**Kurdemir**	**4.02**	**65**	⇓P	**Pn**	**18 36 09.3**	**+2.3**
KDMR	**Kurdemir**	**4.02**	**65**	P	**Pn**	**18 36 09.3**	**+2.3**
SAAT	**Saatly**	**4.03**	**72**	⇓P	**Pn**	**18 36 08.2**	**+1.1**
SAAT	**Saatly**	**4.03**	**72**	P	**Pn**	**18 36 08.2**	**+1.1**
QBL	**Gabala**	**4.05**	**56**	⇑P	**Pn**	**18 36 11.1**	**+3.8**
QBL	**Gabala**	**4.05**	**56**	P	**Pn**	**18 36 11.1**	**+3.8**
LKRN	**Lenkeran, Azer**	**4.19**	**89**	⇑P	**Pn**	**18 36 08.3**	**-0.9**
LKRN	**Lenkeran, Azer**	**4.19**	**89**	P	**Pn**	**18 36 08.3**	**-0.9**
IML	**Ismayilli**	**4.20**	**59**	⇓P	**Pn**	**18 36 12.3**	**+2.8**
IML	**Ismayilli**	**4.20**	**59**	P	**Pn**	**18 36 12.3**	**+2.8**
ASTR	**Astara**	**4.20**	**91**	⇑P	**Pn**	**18 36 08.4**	**-1.1**
ASTR	**Astara**	**4.20**	**91**	P	**Pn**	**18 36 08.4**	**-1.1**
XNQ	**Khinaliq**	**4.30**	**55**	⇓P	**Pn**	**18 36 15.6**	**+3.8**
XNQ	**Khinaliq**	**4.36**	**55**	P	**Pn**	**18 36 15.6**	**+3.8**
PQL	**Pirkuli**	**4.47**	**61**	⇓P	**Pn**	**18 36 16.8**	**+3.5**
PQL	**Pirkuli**	**4.47**	**61**	P	**Pn**	**18 36 16.8**	**+3.5**
ALIB	**Äli-Bayra**	**4.49**	**73**	⇑P	**Pn**	**18 36 14.7**	**+1.3**
ALIB	**Äli-Bayra**	**4.49**	**73**	P	**Pn**	**18 36 14.7**	**+1.3**
KAMA	**Osmaniye**	**5.56**	**256**	*i* P	**Pg**	**18 36 50.8**	**-2.0**
CUSAR	**Sarkisla-SIVAS**	**5.63**	**279**	*i* P	**Pb**	**18 36 46.0**	**+1.9**
YURE	**YUREGIR**	**6.46**	**255**	*i* P	Pn	18 36 29.4	-11

*IDC **29** 18:35:37.1±2.0, 38°.16N×43°.12E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.5/39, mbtmp3.7/9, ML3.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/34, Error ellipse: s-maj=34.2km s-min=20.0km az=33.0*
*ISK **29** 18:35:39.2, 38°.66N×43°.20E, h5km, ML3.6*
*DDA **29** 18:35:39.9, 38°.66N×43°.15E, h5km, Ml3.7*
*CSEM **29** 18:35:40.4±0.2, 38°.64N×43°.19E, h2km, ML3.6, Error ellipse: s-maj=4.5km s-min=3.8km az=149.0*
ISC 29 18:35:40.6±1.0, 38°.65N±0°.01×43°.15E±0°.01, h5km±7km, n104, σ1§48/142, mb3.8/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**107**	*e*PG	**Pg**	**18 35 44.5**	**0.0**
VANB				*e*SG	**Sg**	**18 35 48.6**	**+1.4**
VANB	**Van**	**0.20**	**107**	*e*Pg	**Pg**	**18 35 44.5**	**0.0**
VANB				*e*Sg	**Sg**	**18 35 48.6**	**+1.4**
TVAN	**Van**	**0.24**	**121**	*i* S	**Sg**	**18 35 48.9**	**+0.4**
TVAN				*i* P	Pg	18 35 55.0	+10
TVAN	**Van**	**0.24**	**121**	S	**Sg**	**18 35 48.9**	**+0.4**
GEVA	**Gevas**	**0.35**	**191**	*i* P	**Pg**	**18 35 46.1**	**-1.3**
GEVA				*i* S	**Sb**	**18 35 53.9**	**-1.3**
GEVA	**Gevas**	**0.35**	**191**	P	**Pg**	**18 35 46.1**	**-1.3**
GEVA				S	**Sb**	**18 35 53.9**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.36**	**295**	*i* P	**Pg**	**18 35 47.7**	**0.0**
ADCV				*i* S	**Sb**	**18 35 54.5**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.36**	**295**	P	**Pg**	**18 35 47.7**	**0.0**
ADCV				S	**Sb**	**18 35 54.5**	**-1.2**
ERCV	**ERCIS-VAN**	**0.40**	**22**	*e*PG	**Pg**	**18 35 47.8**	**-0.5**
ERCV				*e*SG	**Sg**	**18 35 54.2**	**+0.7**
ERCV	**ERCIS-VAN**	**0.40**	**22**	*e*Pg	**Pg**	**18 35 47.8**	**-0.5**
ERCV				*e*Sg	**Sg**	**18 35 54.2**	**+0.7**
VMUR	**Van-Muradiye**	**0.47**	**45**	*i* P	**Pg**	**18 35 49.5**	**-0.2**
VMUR				*i* S	**Sb**	**18 35 57.6**	**-1.2**
VMUR	**Van-Muradiye**	**0.47**	**45**	P	**Pg**	**18 35 49.5**	**-0.2**
VMUR				S	**Sb**	**18 35 57.6**	**-1.2**
TATV	**Tatvan**	**0.70**	**258**	*i* P	**Pg**	**18 35 53.7**	**-0.4**
TATV				*i* S	**Sg**	**18 36 02.9**	**-0.5**
TATV	**Tatvan**	**0.70**	**258**	P	**Pg**	**18 35 53.7**	**-0.4**
TATV				S	**Sg**	**18 36 02.8**	**-0.5**
CLDR	**Caldiran**	**0.78**	**51**	*e*PG	**Pg**	**18 35 54.5**	**-1.0**
CLDR				*e*SG	**Sg**	**18 36 05.9**	**+0.3**
CLDR	**Caldiran**	**0.78**	**51**	*i* P	**Pg**	**18 35 54.7**	**-0.8**
CLDR				*i* S	**Sb**	**18 36 07.2**	**-0.4**
CLDR	**Caldiran**	**0.78**	**51**	*e*Pg	**Pg**	**18 35 54.5**	**-1.0**
CLDR	**Caldiran**	**0.78**	**51**	P	**Pg**	**18 35 54.7**	**-0.8**
CLDR				*e*Sg	**Sg**	**18 36 05.9**	**+0.3**
CLDR				S	**Sb**	**18 36 07.2**	**-0.4**
TUTA	**Tutak**	**0.79**	**341**	*i* P	**Pn**	**18 36 00.1**	**+1.5**
TUTA				*i* S	**Sg**	**18 36 03.2**	**-2.9**
TUTA	**Tutak**	**0.79**	**341**	P	**Pn**	**18 36 00.1**	**+1.5**
TUTA				S	**Sg**	**18 36 03.2**	**-2.9**
GURO	**Guroymak-BITLI**	**0.88**	**264**	*e*PG	**Pb**	**18 35 58.0**	**-0.4**
GURO	**Guroymak-BITLI**	**0.88**	**264**	*e*Pg	**Pb**	**18 35 58.0**	**-0.4**
BASK	**Baskale_VAN**	**0.90**	**131**	*i* P	**Pg**	**18 35 56.5**	**-1.4**
BASK				*i* S	**Sn**	**18 36 13.9**	**+0.3**
BASK	**Baskale_VAN**	**0.90**	**131**	P	**Pg**	**18 35 56.5**	**-1.4**
BASK				S	**Sn**	**18 36 13.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*PG	**Pg**	**18 35 57.6**	**-0.8**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*Pg	**Pg**	**18 35 57.6**	**-0.8**
DYDN	**Diyadin**	**0.98**	**25**	*i* P	Pn	18 36 07.1	+5.9
DYDN				*i* S	**Sn**	**18 36 18.5**	**+2.9**
EKAR	**Karacoban**	**1.04**	**306**	*i* P	**Pn**	**18 36 02.0**	**0.0**
EKAR				*i* S	**Sn**	**18 36 21.7**	**+4.8**
EKAR	**Karacoban**	**1.04**	**306**	P	**Pn**	**18 36 02.0**	**0.0**
SRTM	**Siirt_Merkez**	**1.17**	**236**	*i* P	**Pg**	**18 36 00.6**	**-2.4**
SRTM				*i* S	**Sn**	**18 36 20.6**	**+0.6**
SRTM	**Siirt_Merkez**	**1.17**	**236**	P	**Pg**	**18 36 00.6**	**-2.4**
SRTM				S	**Sn**	**18 36 20.6**	**+0.6**
HAKT	**HAKKARI**	**1.18**	**158**	*i* P	**Pg**	**18 36 01.6**	**-1.6**
HAKT				*i* S	**Sn**	**18 36 22.0**	**+1.5**
HAKT	**HAKKARI**	**1.18**	**158**	P	**Pg**	**18 36 01.6**	**-1.6**
HAKT				S	**Sn**	**18 36 22.0**	**+1.5**
SIRN	**S¨–rnak**	**1.29**	**207**	*i* P	**Pg**	**18 36 05.8**	**+0.4**
SIRN	**S¨–rnak**	**1.29**	**207**	P	**Pg**	**18 36 05.8**	**+0.4**
EATA	**Eleskirt**	**1.31**	**337**	*i* P	**Pn**	**18 36 04.6**	**-1.2**
EATA				*i* S	**Sn**	**18 36 24.2**	**+0.4**
EATA	**Eleskirt**	**1.31**	**337**	P	**Pn**	**18 36 04.6**	**-1.2**
EATA				S	**Sn**	**18 36 24.2**	**+0.4**
VRTB	**Varto-Mus**	**1.41**	**292**	*e*PN	**Pg**	**18 36 07.6**	**-0.1**
VRTB	**Varto-Mus**	**1.41**	**292**	*i* P	**Pb**	**18 36 07.1**	**-0.4**
VRTB				*i* S	**Sg**	**18 36 29.1**	**+3.1**
VRTB	**Varto-Mus**	**1.41**	**292**	P	**Pb**	**18 36 07.1**	**-0.4**
VRTB	**Varto-Mus**	**1.41**	**292**	*e*Pn	**Pg**	**18 36 07.6**	**-0.1**
VRTB				S	**Sg**	**18 36 29.1**	**+3.1**
CUKT	**Cukurca**	**1.45**	**165**	*e*PN	**Pb**	**18 36 07.6**	**-0.5**
CUKT	**Cukurca**	**1.45**	**165**	*i* P	**Pg**	**18 36 10.5**	**+2.1**
CUKT				*i* S	**Sg**	**18 36 30.1**	**+2.9**
CUKT	**Cukurca**	**1.45**	**165**	*e*Pn	**Pb**	**18 36 07.6**	**-0.5**
CUKT	**Cukurca**	**1.45**	**165**	P	**Pg**	**18 36 10.5**	**+2.1**
CUKT				S	**Sg**	**18 36 30.1**	**+2.9**
BNGL	**BINGOL**	**1.59**	**281**	*i* P	**Pb**	**18 36 10.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*PN	**Pb**	**18 36 10.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*i* S	**Sg**	**18 36 33.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*Pn	**Pb**	**18 36 10.1**	**-0.7**
SVAN				S	**Sg**	**18 36 33.2**	**+0.9**
BTMN	**Batman**	**1.66**	**243**	*i* S	**Sg**	**18 36 34.6**	**+0.6**
HOMI	**Horasan**	**1.69**	**326**	*i* P	**Pg**	**18 36 12.7**	**-0.3**
HOMI				*i* S	**Sg**	**18 36 35.7**	**+0.7**
DIGO	**Kars**	**1.77**	**6**	*i* P	**Pb**	**18 36 13.2**	**-0.4**
DIGO				*i* S	**Sg**	**18 36 41.3**	**+3.9**
DIGO	**Kars**	**1.77**	**6**	P	**Pb**	**18 36 13.2**	**-0.4**
ERZM	**Erzurum**	**1.86**	**313**	*i* P	**Pb**	**18 36 15.1**	**-0.1**
ERZM	**Erzurum**	**1.86**	**313**	P	**Pb**	**18 36 15.1**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.94**	**300**	*i* P	**Pb**	**18 36 16.2**	**-0.3**
ECAT				*i* S	**Sn**	**18 36 39.7**	**+0.5**
ECAT	**Cat-ERZURUM**	**1.94**	**300**	P	**Pb**	**18 36 16.2**	**-0.3**
ECAT				S	**Sn**	**18 36 39.7**	**+0.5**
BNGB	**Bing¶ll**	**1.96**	**281**	*e*PN	**Pn**	**18 36 14.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**342**	*e*PN	**Pn**	**18 36 15.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**342**	*e*Pn	**Pn**	**18 36 15.6**	**+0.4**
BINT	**Bingol**	**2.09**	**277**	*e*Pn	**Pn**	**18 36 14.9**	**-1.4**
YEDI	**Yedisu-Bingol**	**2.17**	**292**	*e*PN	**Pb**	**18 36 18.8**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.17**	**292**	*e*Pn	**Pb**	**18 36 18.8**	**-1.6**
MARD	**Mardin**	**2.30**	**235**	*i* P	**Pg**	**18 36 24.0**	**-0.7**
MARD				*i* S	**Sg**	**18 36 53.1**	**-1.3**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**18 36 22.4**	**+1.3**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**18 36 22.4**	**+1.3**
KOPT	**Kop Dagi**	**2.46**	**304**	*i* P	**Pb**	**18 36 26.1**	**+0.6**
KOPT	**Kop Dagi**	**2.46**	**304**	P	**Pb**	**18 36 26.1**	**+0.6**
DIYA	**Diyarbakir**	**2.49**	**254**	*i* P	**Pb**	**18 36 25.1**	**-0.7**
DIYA				*i* S	**Sb**	**18 36 57.9**	**+1.2**
DIYA	**Diyarbakir**	**2.49**	**254**	P	**Pb**	**18 36 25.1**	**-0.7**
DIYA				S	**Sb**	**18 36 57.9**	**+1.2**
DAGI	**Agillar**	**2.60**	**339**	*i* P	**Pb**	**18 36 28.0**	**+0.3**
ARTV	**Artvin**	**2.70**	**340**	*i* P	**Pb**	**18 36 29.2**	**-0.2**
ARTV	**Artvin**	**2.70**	**340**	P	**Pb**	**18 36 29.2**	**-0.2**
AKH	**Akhalkalaki**	**2.77**	**5**	*e*PN	**Pn**	**18 36 26.5**	**+0.8**
AKH	**Akhalkalaki**	**2.77**	**5**	P	**Pb**	**18 36 30.7**	**+0.2**
AKH	**Akhalkalaki**	**2.77**	**5**	*e*Pn	**Pn**	**18 36 26.5**	**+0.8**
ERZN	**Erzincan**	**2.82**	**290**	*e*PN	**Pn**	**18 36 27.9**	**+1.5**
TNCL	**Tunceli-Merkez**	**2.85**	**280**	*i* P	**Pb**	**18 36 32.7**	**+0.7**
TNCL				*i* S	**Sg**	**18 37 18.6**	**+6.5**
EPOS	**Posof**	**2.86**	**354**	*i* P	**Pb**	**18 36 33.7**	**+1.4**
DBOC	**Borcka**	**2.92**	**338**	*i* P	**Pb**	**18 36 33.8**	**+0.7**
PTK	**Pertek**	**2.94**	**276**	*e*PN	**Pn**	**18 36 29.7**	**+1.6**
PTK	**Pertek**	**2.94**	**276**	*e*Pn	**Pn**	**18 36 29.7**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.02**	**266**	*e*PN	**Pn**	**18 36 30.6**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.02**	**266**	*e*Pn	**Pn**	**18 36 30.7**	**+1.4**
DGRG	**David-gareji**	**3.27**	**31**	P	**Pb**	**18 36 40.6**	**+1.4**
TBLG	**Delisi**	**3.31**	**21**	P	**Pb**	**18 36 39.3**	**-0.4**
KELT	**Kelkit**	**3.36**	**298**	*i* P	**Pg**	**18 36 43.1**	**-1.9**
KEMA	**Kemaliye**	**3.68**	**281**	*i* P	**Pg**	**18 36 49.3**	**-1.8**
ONI	**Oni**	**3.94**	**3**	P	**Pb**	**18 36 52.1**	**+1.6**
SUSE	**Susehri**	**4.13**	**294**	*i* P	Pg	18 37 10.1	+10
CUZAR	**Zara_SIVAS**	**4.35**	**288**	*i* P	**Pg**	**18 37 04.2**	**+0.3**
GZT	**Gaziantep**	**4.59**	**255**	*i* P	**Pg**	**18 37 06.8**	**-1.8**
KBZ	**Khabaz**	**5.07**	**358**	Pn	**Pb**	**18 37 05.0**	**-4.7**
	0.1nm,0.3s,baz=185,slow=11,SNR=2.7						
KBZ				LR	LR	18 39 19.0	
	comp=Z,177nm,20.0s,baz=100,slow=40						
HCB	**Kahramanmara¨**	**5.10**	**257**	*i* P	**Pg**	**18 37 15.0**	**-3.2**
SAMS	**Samsun-Alacam**	**5.99**	**299**	*i* P	**Pg**	**18 37 35.6**	**+0.4**
GEYT	**Alibeck**	**11.79**	**89**	LR	LR	18 43 34.4	
	comp=Z,48nm,20.9s,baz=280,slow=40						
AKASG	**Malin Array Be**	**15.56**	**325**	Pn	**Pn**	**18 39 21.2**	**+0.8**
	0.6nm,0.3s,baz=136,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**15.81**	**37**	Pn	**Pn**	**18 39 22.8**	**-0.9**
	0.1nm,0.3s,baz=229,slow=11,SNR=5.2						
ARU	**Arti**	**20.52**	**25**	P	**P**	**18 40 19.7**	**+0.3**
	1.2nm,0.4s,baz=264,slow=17,SNR=3.3						
BVAR	**Borovoye Array**	**23.62**	**44**	P	**P**	**18 40 52.7**	**+0.4**
	0.8nm,0.8s,baz=260,slow=4.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**27.61**	**53**	P	**P**	**18 41 28.9**	**+0.3**
	0.7nm,0.2s,baz=265,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**29.64**	**61**	P	**P**	**18 41 47.0**	**+0.2**
	0.4nm,0.7s,baz=266,slow=8.7,SNR=2.4						
EKA	**Eskdalemuir Ar**	**34.96**	**314**	P	**P**	**18 42 32.7**	**-0.5**
	3.0nm,0.8s,baz=99,slow=8.7,SNR=6.6						
CMAR	**Chiang Mai Arr**	**52.16**	**96**	P	**P**	**18 44 49.9**	**-2.3**
	0.8nm,0.7s,baz=300,slow=8.4,SNR=7.2						

IDC 29 18:39:34.1±1.1, 31°.95N×84°.89E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.2/49, mbtmp3.5/5, ML3.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=60.6km s-min=25.0km az=43.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.48**	**133**	P	P	18 43 50.6	-1.1
	0.0nm,0.3s,baz=314,slow=11,SNR=8.7						
KURBB	**Kurchatov Arra**	**19.24**	**348**	P	P	18 43 59.9	+0.1
	0.1nm,0.3s,baz=168,slow=11,SNR=7.3						
TLY	**Talaya**	**24.04**	**29**	LR	LR	18 54 00.0	
	comp=Z,42nm,20.3s,baz=358,slow=36						
WRA	**Warramunga Arr**	**70.04**	**130**	P	P	18 50 48.0	-0.1
	0.3nm,0.6s,baz=326,slow=6.4,SNR=2.8						
ASAR	**Alice Springs**	**72.49**	**133**	P	P	18 51 03.5	+0.6
	0.4nm,0.9s,baz=322,slow=5.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**77.45**	**278**	P	P	18 51 31.8	0.0
	0.2nm,0.6s,baz=49,slow=5.1,SNR=2.5						

*IDC **29** 18:45:48.9±0.6, 38°.58N×43°.14E, h0km, mb4.1/25, mb1 4.2/34, mb1mx4.1/46, mbtmp4.1/34, ML3.6/7, MS3.6/21, Ms1 3.6/21, ms1mx3.5/36, Error ellipse: s-maj=11.2km s-min=8.8km az=163.0*
*NEIC **29** 18:45:48.9±0.0, 38°.62N×43°.18E, h5km, mb4.7/54, ML4.5(ISK), ML4.7(DDA), After ISK.*
*DDA **29** 18:45:49.4, 38°.62N×43°.15E, h14km, Ml4.6*
*MOS **29** 18:45:49.3±1.3, 38°.51N×43°.21E, h13km, mb4.7/32, Error ellipse: s-maj=5.8km s-min=3.8km az=104.9*
*ISK **29** 18:45:49.0, 38°.63N×43°.18E, h5km, ML4.3*
*ISCJB **29** 18:45:50.1±0.3, 38°.59N±0°.01×43°.25E±0°.01, h17km±2km, mb4.5/89, MS3.6/20, Error ellipse: s-maj=2.4km s-min=1.6km az=162.2*
*CSEM **29** 18:45:51.1±0.1, 38°.58N×43°.23E, h15km, mb4.7/52, Error ellipse: s-maj=3.0km s-min=2.2km az=174.0*
*AZER **29** 18:45:51.2±1.6, 38°.51N×43°.19E, h29km±56km, Error ellipse: s-maj=41.9km s-min=11.0km az=61.0*
*DSN **29** 18:45:53.4±0.7, 38°.56N×43°.55E, h15km, Error ellipse: s-maj=18.8km s-min=6.4km az=64.0*
*NSSC **29** 18:45:55.0±1.4, 38°.54N×42°.67E, h0km±108km, MD2.7, ML3.7*
*TEH **29** 18:45:56.5, 38°.60N×43°.38E, h30km, ML3.9*
ISC 29 18:45:50.6±0.7, 38°.60N±0°.01×43°.17E±0°.01, h10km±4km, n638, σ1§52/748, mb4.6/96, MS3.5/21, 67C-72D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**92**	PG	**Pg**	**18 45 54.5**	**+0.1**
VANB	**Van**	**0.17**	**92**	*i* Pg	**Pg**	**18 45 54.5**	**+0.1**
VANB	**Van**	**0.17**	**92**	Pg	**Pg**	**18 45 54.5**	**+0.1**
TVAN	**Van**	**0.20**	**111**	⇓*i*P	**Pg**	**18 45 54.4**	**-0.5**
TVAN				*i* S	**Sg**	**18 45 58.6**	**+0.7**
TVAN	**Van**	**0.20**	**111**	P	**Pg**	**18 45 54.4**	**-0.5**
TVAN				S	**Sg**	**18 45 58.6**	**+0.7**
GEVA	**Gevas**	**0.30**	**197**	⇓*i*P	**Pg**	**18 45 56.5**	**-0.2**
GEVA				*i* S	**Sb**	**18 46 03.5**	**+0.3**
GEVA	**Gevas**	**0.30**	**197**	P	**Pg**	**18 45 56.5**	**-0.2**
GEVA				S	**Sb**	**18 46 03.5**	**+0.3**
GEVA	**Gevas**	**0.30**	**197**	*i* P	**Pg**	**18 45 56.5**	**-0.2**
GEV

DIYA Diyarbakir 2.50 255 *i* P **Pn 18 46 31.7 +0.4**
DIYA *i* S **Sb 18 47 07.9 +1.6**
DIYA Diyarbakir 2.50 255 P **Pn 18 46 31.7 +0.4**
KOPT Kop Dagi 2.51 305⇓*i* P **Pn 18 46 32.2 +0.5**
KOPT *i* S **Sg 18 47 14.3 +3.0**
KOPT Kop Dagi 2.51 305 P **Pn 18 46 32.2 +0.5**
KOPT Kop Dagi 2.51 305 *e*Pn **Pn 18 46 32.6 +0.9**
KOPT Kop Dagi 2.51 305 *e*Pn **Pn 18 46 32.6 +0.9**
DDEM Demirkent 2.54 335⇓*i* P **Pn 18 46 32.3 +0.4**
DDEM Demirkent 2.54 335 P **Pn 18 46 32.3 +0.4**
KBSD Kabsdagh 2.62 233 *e*P **Pn 18 46 33.7 +0.7**
KBSD *e*S **Sn 18 47 03.4 -1.5**
KBSD AML AML 18 47 26.6
comp=Z,893nm,0.6s
DAGI Agillar 2.66 339 *i* P **Pn 18 46 33.2 -0.3**
DAGI *i* S **Sg 18 47 14.9 -1.1**
ARTV Artvin 2.75 340⇓*i* P **Pn 18 46 35.2 +0.3**
ARTV Artvin 2.75 340 *e*Pn **Pn 18 46 34.8 -0.1**
ARTV Artvin 2.75 340 P **Pn 18 46 35.2 +0.3**
ARTV Artvin 2.75 340 *e*Pn **Pn 18 46 34.8 -0.1**
AKH Akhalkalaki 2.82 5 *e*PN **Pn 18 46 36.0 +0.2**
AKH Akhalkalaki 2.82 5 P **Pb 18 46 39.9 -1.2**
AKH S **Sg 18 47 25.7 +4.6**
AKH Akhalkalaki 2.82 5⇑*i* P **Pb 18 46 41.1 0.0**
AKH Akhalkalaki 2.82 5 P **Pb 18 46 39.8 -1.2**
AKH Akhalkalaki 2.82 5 *e*Pn **Pn 18 46 36.0 +0.2**
AKH Akhalkalaki 2.82 5 P **Pb 18 46 39.8 -1.2**
ERZN Erzincan 2.86 291 *e*PN **Pn 18 46 37.2 +0.9**
TNCL Tunceli-Merkez 2.88 281 *i* P **Pn 18 46 37.7 +1.1**
TNCL Tunceli-Merkez 2.88 281 P **Pn 18 46 37.7 +1.1**
GDB GEDABAY 2.91 42⇓P **Pn 18 46 36.6 -0.4**
GDB ⇑S **Sn 18 47 12.0 -0.1**
GDB GEDABAY 2.91 42 P **Pn 18 46 36.6 -0.4**
GDB S **Sn 18 47 12.0 -0.1**
EPOS Posof 2.92 353⇓*i* P **Pn 18 46 38.0 +0.8**
EPOS Posof 2.92 353 P **Pn 18 46 38.0 +0.8**
PTK Pertek 2.97 277 *e*PN **Pn 18 46 39.1 +1.2**
PTK Pertek 2.97 277 *e*Pn **Pn 18 46 39.1 +1.2**
DBOC Borcka 2.98 338 *i* P **Pn 18 46 38.8 +1.0**
DBOC Borcka 2.98 338 P **Pn 18 46 38.8 +1.0**
QZX Qazax, Azerbai 2.98 34⇑P **Pn 18 46 37.6 -0.3**
QZX ⇓S **Sn 18 47 13.8 +0.1**
QZX Qazax, Azerbai 2.98 34 P **Pn 18 46 37.6 -0.3**
QZX S **Sn 18 47 13.8 +0.1**
IBST Bostanabad 3.07 106 *e*Pn **Pn 18 46 40.9 +1.6**
IBST *e*AMB AMB 18 46 59.7
comp=Z,2µm,0.3s
IBST Bostanabad 3.07 106 *e*Pn **Pn 18 46 40.9 +1.6**
GANJ Ganja 3.18 49⇑P **Pn 18 46 40.0 -0.6**
GANJ ⇓S **Sn 18 47 18.2 -0.3**
GANJ Ganja 3.18 49 P **Pn 18 46 40.0 -0.6**
GANJ S **Sn 18 47 18.2 -0.3**
EZC Erzincan 3.18 292 P **Pn 18 46 37.2 -3.6**
SFNV Sufian 3.27 229 *e*P **Pn 18 46 43.3 +1.4**
SFNV *e*S **Sn 18 47 17.9 -2.8**
SFNV AML AML 18 47 41.5
comp=Z,840nm,0.5s
DGRG David-gareji 3.31 30 P **Pn 18 46 44.5 +2.0**
DGRG S **Sg 18 47 39.5 +2.6**
DGRG David-gareji 3.31 30 P **Pn 18 46 44.4 +2.0**
DGRG David-gareji 3.31 30 P **Pn 18 46 43.0 +0.5**
TBLG Delisi 3.35 21 *e*PN **Pn 18 46 44.3 +1.3**
TBLG Delisi 3.35 21 P **Pb 18 46 47.8 -2.2**
TBLG S **Sg 18 47 35.9 -2.2**
TBLG Delisi 3.35 21 P **Pb 18 46 47.8 -2.2**
TBLG Delisi 3.35 21 *e*Pn **Pn 18 46 44.3 +1.3**
TBLG Delisi 3.35 21 P **Pn 18 46 45.8 +2.8**
KELT Kelkit 3.41 298 *i* P **Pb 18 46 50.1 -1.1**
KELT *i* S **Sg 18 47 41.1 +1.1**
MZRK Al-Mazaregh 3.42 217 *e*P **Pn 18 46 47.0 +3.1**
MZRK AML AML 18 47 54.8
comp=Z,671nm,0.6s
MACK Trabzon 3.51 313 *i* P **Pb 18 46 50.1 -2.8**
MACK Trabzon 3.51 313 P **Pb 18 46 50.1 -2.8**
BRDA Brd 3.52 61⇓P **Pn 18 46 44.3 -1.0**
BRDA ⇑S **Sn 18 47 25.8 -1.1**
BRDA Brd 3.52 61 P **Pn 18 46 44.3 -1.0**
BRDA S **Sn 18 47 25.8 -1.1**
REFA Refahiye_ERZ¨ 3.52 284 *i* P **Pg 18 46 58.1 0.0**
KTUT Trabzon 3.54 313 *e*PN **Pn 18 46 46.8 +1.2**
KTUT Trabzon 3.54 313 *e*Pn **Pn 18 46 46.8 +1.2**
ISRB Sarab 3.62 101⇑*e*Pn **Pn 18 46 48.9 +2.0**
ISRB Sarab 3.62 101⇑*e*Pn **Pn 18 46 48.9 +2.0**
URFA Urfa 3.62 253 *e*PN **Pn 18 46 48.3 +1.5**
URFA Urfa 3.62 253 *e*Pn **Pn 18 46 48.3 +1.5**
KEMA Kemaliye 3.71 282 *i* P **Pn 18 46 48.5 +0.5**
KEMA *i* S **Sg 18 47 48.4 -1.3**
KEMA Kemaliye 3.71 282 P **Pn 18 46 48.5 +0.5**
MNGR Mingechevir, A 3.72 53⇓P **Pn 18 46 47.2 -0.8**
MNGR ⇑S **Sn 18 47 31.0 -0.8**
MNGR Mingechevir, A 3.72 53 P **Pn 18 46 47.2 -0.8**
MNGR S **Sn 18 47 31.0 -0.8**
ZRD Zardab 3.88 63⇑P **Pn 18 46 49.1 -1.0**
ZRD ⇑S **Sn 18 47 34.9 -0.7**
ZRD Zardab 3.88 63 P **Pn 18 46 49.1 -1.0**
ZRD S **Sn 18 47 34.9 -0.7**
ONI Oni 3.99 3 P **Pb 18 46 58.9 -2.2**
ONI S **Sg 18 48 02.6 +3.8**
ONI Oni 3.99 3 P **Pb 18 46 58.8 -2.2**
SURC SANLIURFA_SURC 4.00 246 *i* P **Pn 18 46 50.1 -1.8**
SURC *i* S **Sg 18 47 56.0 -3.1**
SURC SANLIURFA_SURC 4.00 246 P **Pn 18 46 50.2 -1.8**
ZKTA Zakatala 4.03 40⇓P **Pn 18 46 51.9 -0.3**
ZKTA ⇓S **Sn 18 47 39.6 +0.2**
SEKA Sheki 4.05 49⇑P **Pn 18 46 52.7 +0.1**
SEKA ⇑S **Sn 18 47 41.2 +1.2**
SEKA Sheki 4.05 49 P **Pn 18 46 52.7 +0.1**
SEKA S **Sn 18 47 41.2 +1.2**
LRK Lerik 4.05 88⇓P **Pn 18 46 50.9 -1.8**
LRK ⇓S **Sn 18 47 38.0 -2.2**
LRK Lerik 4.05 88 P **Pn 18 46 50.9 -1.8**
LRK S **Sn 18 47 38.0 -2.2**
GLBA Clilabad 4.12 79⇓P **Pn 18 46 52.1 -1.5**
GLBA ⇑S **Sn 18 47 40.0 -1.8**
GLBA Clilabad 4.12 79 P **Pn 18 46 52.1 -1.5**
GLBA S **Sn 18 47 40.0 -1.8**
ESPY Espiye-Giresun 4.13 305 *e*PN **Pn 18 46 55.5 +1.8**
ESPY Espiye-Giresun 4.13 305 *e*Pn **Pn 18 46 55.5 +1.8**
SUSE Susehri 4.17 294 *i* P **Pb 18 47 06.5 +2.4**
SUSE *i* S **Sg 18 48 01.6 -2.9**
ZEI Tsey 4.22 7 *e*P **Pn 18 46 56.4 +1.3**
ZEI pmax pmax
comp=Z,63nm,0.8s
KDMR Kurdemir 4.26 64⇑P **Pn 18 46 54.4 -1.1**
KDMR ⇓S **Sn 18 47 44.2 -1.0**
KDMR Kurdemir 4.26 64 P **Pn 18 46 54.4 -1.1**
KDMR S **Sn 18 47 44.2 -1.0**
SAAT Saatly 4.27 71⇑P **Pn 18 46 53.9 -1.6**
SAAT ⇑S **Sn 18 47 43.6 -1.8**
SAAT Saatly 4.27 71 P **Pn 18 46 53.9 -1.6**
SAAT S **Sn 18 47 43.6 -1.8**
QBL Gabala 4.29 55⇓P **Pn 18 46 55.0 -0.9**
QBL ⇓S **Sn 18 47 45.3 -0.7**
QBL Gabala 4.29 55 P **Pn 18 46 55.0 -0.9**
QBL S **Sn 18 47 45.3 -0.7**
CUZAR Zara_SIVAS 4.39 289 *i* P **Pb 18 47 03.1 -4.6**
LKRN Lenkeran, Azer 4.39 87⇑P **Pn 18 46 55.6 -1.6**
LKRN ⇑S **Sn 18 47 46.1 -2.3**
LKRN Lenkeran, Azer 4.39 87 P **Pn 18 46 55.6 -1.6**
LKRN S **Sn 18 47 46.1 -2.3**
ASTR Astara 4.40 89⇓P **Pn 18 46 55.8 -1.6**
ASTR ⇓S **Sn 18 47 46.8 -1.9**
ASTR Astara 4.40 89 P **Pn 18 46 55.8 -1.6**
ASTR S **Sn 18 47 46.8 -1.9**
IML Ismayilli 4.44 59⇓P **Pn 18 46 57.0 -1.0**
IML ⇑S **Sn 18 47 48.7 -1.0**
IML Ismayilli 4.44 59 P **Pn 18 46 57.0 -1.0**
IML S **Sn 18 47 48.7 -1.0**
XNQ Khinaliq 4.60 55⇑P **Pn 18 46 59.4 -1.0**
XNQ ⇑S **Sn 18 47 53.0 -1.0**
XNQ Khinaliq 4.60 55 P **Pn 18 46 59.4 -1.0**
XNQ S **Sn 18 47 53.0 -1.0**
NEY Neytrino 4.66 356⇓*e*P **Pn 18 47 02.1 +1.0**
NEY Neytrino 4.66 356 *e*P **Pn 18 47 02.1 +1.0**
PQL Pirkuli 4.72 61⇓P **Pn 18 47 00.7 -1.2**
PQL ⇑S **Sn 18 47 55.5 -1.2**
PQL Pirkuli 4.72 61 P **Pn 18 47 00.7 -1.2**
PQL S **Sn 18 47 55.5 -1.2**
ALIB Äli-Bayra 4.73 72⇑P **Pn 18 47 00.5 -1.3**
ALIB ⇓S **Sn 18 47 54.9 -1.7**
ALIB Äli-Bayra 4.73 72 P **Pn 18 47 00.5 -1.3**
ALIB S **Sn 18 47 54.9 -1.7**
SLMH Al Salmeh 4.81 242 *e*P **Pn 18 47 04.2 +1.2**
SLMH *e*S **Sn 18 47 53.3 -5.5**
SLMH AML AML 18 48 35.5
comp=Z,663nm,0.6s
GBS Qobustan 4.86 65⇑P **Pn 18 47 02.6 -1.2**
GBS ⇑S **Sn 18 47 58.8 -1.3**
GBS Qobustan 4.86 65 P **Pn 18 47 02.6 -1.2**
GBS S **Sn 18 47 58.8 -1.3**
QSAR Qusar 4.87 52⇓P **Pn 18 47 03.1 -0.8**
QSAR ⇑S **Sn 18 47 59.8 -0.5**
QSAR Qusar 4.87 52 P **Pn 18 47 03.1 -0.8**
QSAR S **Sn 18 47 59.8 -0.5**
NCK Nalchik 4.90 4⇑*e*P **Pn 18 47 03.4 -0.9**
NCK Nalchik 4.90 4 *e*P **Pn 18 47 03.4 -0.9**
QUBA Quba, Azerbaij 4.93 54⇓P **Pn 18 47 03.8 -0.9**
QUBA ⇑S **Sn 18 48 01.1 -0.6**
QUBA Quba, Azerbaij 4.93 54 P **Pn 18 47 03.8 -0.9**
QUBA S **Sn 18 48 01.1 -0.6**
ATGJ Altiaghaj 4.99 61⇓P **Pn 18 47 04.4 -1.1**
ATGJ ⇓S **Sn 18 48 02.2 -1.1**
ATGJ Altiaghaj 4.99 61 P **Pn 18 47 04.4 -1.1**
ATGJ S **Sn 18 48 02.2 -1.1**
GROC Groznyy 5.01 23 *e*P **Pb 18 47 14.9 -3.4**
GROC pmax pmax
comp=Z,98nm,0.9s
IVIS Veis 5.03 143 *e*Pn **Pn 18 47 08.0 +1.9**
IVIS *e*AMB AMB 18 48 51.5
comp=Z,3µm,0.7s
IVIS Veis 5.03 143 *e*Pn **Pn 18 47 08.0 +1.9**
SIZA Siyzn 5.05 59⇑P **Pn 18 47 05.4 -1.1**
SIZA ⇑S **Sn 18 48 03.8 -1.1**
SIZA Siyzn 5.05 59 P **Pn 18 47 05.4 -1.1**
SIZA S **Sn 18 48 03.8 -1.1**
IGHG Ghaleghazi 5.07 146 *e*AMB AMB 18 47 34.7
comp=Z,3µm,0.4s
IGHG *e*Pn **Pn 18 47 08.6 +1.8**
KBZ Khabaz 5.13 358 Pn **Pn 18 47 09.0 +1.7**
comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=3.7
KBZ LR LR 18 49 29.2
comp=Z,1µm,18.2s,baz=134,slow=43
KBZ Khabaz 5.13 358 *e*P **Pn 18 47 09.0 +1.7**
KBZ Khabaz 5.13 358 *e*P **Pn 18 47 09.0 +1.7**
KVAR Kislovodsk Arr 5.36 356 Pn **Pn 18 47 13.8 +3.1**
baz=90,slow=2.0,SNR=3.3
KVAR LR LR 18 49 36.7
comp=Z,1µm,18.4s,baz=113,slow=42
KIV Kislovodsk 5.36 356 *e*P **Pn 18 47 13.7 +3.0**
KIV Kislovodsk 5.36 356 *e*Pn **Pn 18 47 13.7 +3.0**
KIV Kislovodsk 5.36 356 *e*Pn **Pn 18 47 13.7 +3.0**
KIV *e*Pg **Pb 18 47 28.7 +4.3**
GOBA Gobu 5.38 68⇓P **Pn 18 47 09.6 -1.3**
GOBA ⇑S **Sn 18 48 11.4 -1.5**
GOBA Gobu 5.38 68 P **Pn 18 47 09.6 -1.3**
GOBA S **Sn 18 48 11.4 -1.5**
MAK Makhachkala 5.46 36 *e*P **Pn 18 47 11.1 -0.8**
MAK *e*S **Sn 18 48 14.7 0.0**
MAK pmax pmax
comp=Z,73nm,1.0s
MAK MLR MLR
comp=Z,638nm,8.0s
MAK Makhachkala 5.46 36 *e*P **Pn 18 47 11.1 -0.8**
comp=Z,73nm,1.0s
MAK *e*S **Sn 18 48 14.7 0.0**
comp=Z,638nm,8.0s
TOKA Tokat 5.46 290 *e*Pn **Pn 18 47 10.7 -1.3**
TOKA Tokat 5.46 290 *e*Pn **Pn 18 47 10.7 -1.3**
DRWC Darouich 5.53 251 *e*P **Pn 18 47 14.2 +1.2**
DRWC AML AML 18 48 55.5
comp=E,214nm,0.6s
DRWC AML AML 18 49 01.0
comp=N,232nm,0.7s
NDR Nardaran 5.62 67⇑P **Pn 18 47 13.0 -1.2**
NDR ⇑S **Sn 18 48 17.4 -1.4**
NDR Nardaran 5.62 67 P **Pn 18 47 13.0 -1.2**
NDR S **Sn 18 48 17.4 -1.4**
GALA Gala 5.70 69⇓P **Pn 18 47 13.9 -1.2**
GALA ⇓S **Sn 18 48 19.4 -1.1**
GALA Gala 5.70 69 P **Pn 18 47 13.9 -1.2**
GALA S **Sn 18 48 19.4 -1.1**
BTCH Batrach 5.93 247 *e*P **Pn 18 47 19.3 +0.8**
BTCH AML AML 18 49 13.5
comp=E,535nm,0.6s
BTCH AML AML 18 49 25.1
comp=N,263nm,0.6s
IGZV Ghazvin 6.02 109 *e*Pn **Pn 18 47 21.1 +1.2**
IGZV *e*AMB AMB 18 47 56.2
comp=Z,476nm,0.4s
KFRA Kufra 6.12 238 *e*P **Pn 18 47 22.4 +1.2**
KFRA AML AML 18 49 24.2
comp=E,606nm,0.7s
KFRA AML AML 18 49 29.3
comp=N,636nm,0.6s
RABH Abou Rabah 6.35 231 *e*P **Pn 18 47 26.4 +2.2**
RABH AML AML 18 49 25.6
comp=N,93nm,0.6s
RABH AML AML 18 49 26.4
comp=E,93nm,0.7s
ARNB Al Arnab 6.36 247 *e*P **Pn 18 47 26.0 +1.6**
ARNB AML AML 18 49 38.9
comp=E,135nm,0.6s
ARNB AML AML 18 49 40.8
comp=N,173nm,0.7s
GOF Gofitskoye 6.45 359⇑*e*P Pn 18 47 33.3 +7.7
GOF pmax pmax
comp=Z,15nm,0.7s
ROOS tl_alroos 6.49 229 *e*P **Pn 18 47 27.9 +1.8**
ROOS AML AML 18 49 36.8
comp=N,140nm,0.7s
ROOS AML AML 18 49 54.7
comp=E,180nm,0.7s
BIDA Albida 6.56 239 *e*P **Pn 18 47 29.1 +2.0**
BIDA AML AML 18 49 40.6
comp=N,258nm,0.7s
BIDA AML AML 18 49 40.8
comp=E,2µm,0.6s
HAWK Haweek 6.80 235 *e*P **Pn 18 47 31.8 +1.4**
HAWK *e*S **Sn 18 48 42.5 -5.4**
HAWK AML AML 18 49 50.7
comp=E,46nm,0.6s
HAWK AML AML 18 49 58.7
comp=N,88nm,0.7s
MARH Ras Al Marh 7.07 232 *e*P **Pn 18 47 36.2 +1.9**
MARH AML AML 18 49 53.2
comp=E,122nm,0.7s
MARH AML AML 18 50 09.6
comp=N,60nm,0.8s
BR101 Keskin Array S 7.49 282 *e*Pn **Pn 18 47 42.0 +2.0**
BR101 Keskin Array S 7.49 282 *e*Pn **Pn 18 47 42.0 +2.0**
BR131 Keskin Array S 7.49 282 *e*Pn **Pn 18 47 41.8 +1.8**
BR131 Keskin Array S 7.49 282 *e*Pn **Pn 18 47 41.8 +1.8**
BRTR Keskin Array B 7.49 282 Pn **Pn 18 47 42.0 +2.0**
comp=N,0.2nm,0.3s,baz=113,slow=15,SNR=7.4
BRTR Keskin Array B 7.49 282 *i* P **Pn 18 47 43.0 +3.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 7.49 282 Pn **Pn 18 47 42.0 +2.0**
BRTR Keskin Array B 7.49 282 *i* P **Pn 18 47 43.0 +3.0**
comp=Z,1.0nm,0.6s
ILGA Ilgaz 7.68 292 *e*Pn **Pn 18 47 42.8 +0.2**
ILGA Ilgaz 7.68 292 *e*Pn **Pn 18 47 42.8 +0.2**
IDMV Damavand 7.70 110 *e*Pn **Pn 18 47 45.7 +2.8**
IDMV *e*AMB AMB 18 50 26.6
comp=Z,227nm,0.6s
BRBR Barbar 7.81 231 *e*P **Pn 18 47 46.2 +1.8**
BRBR AML AML 18 50 27.6
comp=E,71nm,0.7s
BRBR AML AML 18 50 28.0
comp=N,44nm,0.8s
SALA Sala 7.87 224 *e*P **Pn 18 47 46.8 +1.6**
SALA AML AML 18 50 24.5
comp=N,68nm,0.7s
IALA Alasht 8.08 105 *e*AMB AMB 18 47 54.8
comp=Z,329nm,0.3s
ANTO Ankara 8.15 282 *e*P **Pn 18 47 49.5 +0.5**
ANTO Ankara 8.15 282 *e*P **Pn 18 47 49.5 +0.5**
ANTO Ankara 8.15 282 *e*Pn **Pn 18 47 49.5 +0.5**
ASF Jabal al Asfar 8.21 220 Pn **Pn 18 47 50.3 +0.5**
comp=Z,0.5nm,0.3s,baz=352,slow=11,SNR=7.4
TCHB Talchebab 8.33 227 *e*P **Pn 18 47 53.8 +2.4**
TCHB AML AML 18 50 44.9
comp=E,45nm,0.7s
TCHB AML AML 18 50 51.9
comp=N,55nm,0.7s
GEYT Alibeck 11.77 89 Pn **Pn 18 48 40.0 +1.5**
comp=N,0.3nm,0.3s,baz=263,slow=10,SNR=8.8
CFR Carcaliu 12.98 305⇓*i* P **P 18 49 04.7 -0.8**
CFR Carcaliu 12.98 305⇓P **P 18 49 04.7 -0.8**
KARP Karpathos 13.14 262 *e*Pn **Pn 18 48 55.1 -2.2**
KARP Karpathos 13.14 262 *e*Pn **Pn 18 48 55.1 -2.2**
ISR Istrita 13.99 303⇑*i* P **P 18 49 17.1 +0.3**
ISR Istrita 13.99 303⇑P **P 18 49 17.1 +0.3**
ISR Istrita 13.99 303 P **P 18 49 17.1 +0.3**
VRI Vrincioaia 14.17 306⇑*i* P **P 18 49 21.1 +2.3**
VRI Vrincioaia 14.17 306⇑P **P 18 49 21.2 +2.4**
VRI Vrincioaia 14.17 306 P **P 18 49 21.2 +2.4**
PLOR Plostina 14.21 306⇓*i* P **P 18 49 20.2 +0.9**
PLOR Plostina 14.21 306⇓P **P 18 49 20.2 +0.9**
PLOR Plostina 14.21 306 P **P 18 49 20.2 +0.9**
LPSR Galich'ya Gora 14.31 349 *e*P **Pn 18 49 12.4 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
TESR Tescani 14.50 308⇑*i* P **P 18 49 25.1 +2.7**
MLR Muntele Rosu 14.52 304⇑*i* P **P 18 49 23.2 +0.4**
MLR Muntele Rosu 14.52 304 *e*P **Pn 18 49 16.5 +0.4**
MLR Muntele Rosu 14.52 304 *e*Pn **Pn 18 49 16.5 +0.4**
MLR Muntele Rosu 14.52 304⇑*i* P **P 18 49 23.2 +0.4**
MLR Muntele Rosu 14.52 304 *e*Pn **Pn 18 49 16.5 +0.4**
IDI Anoyia 14.99 263 *e*Pn **Pn 18 49 23.1 +0.6**
comp=Z,53nm,1.1s
IDI Anoyia 14.99 263 *e*Pn **Pn 18 49 23.1 +0.6**
comp=Z,53nm,1.1s
DOPR Dopca 15.06 305⇑*i* P **P 18 49 31.7 +3.0**
VOIR 15.09 303⇓*i* P **P 18 49 32.4 +3.4**
VOIR 15.09 303 P **P 18 49 29.7 +0.7**
VOIR pmax pmax
comp=Z,60nm,1.1s
VOIR 15.09 303 P **P 18 49 29.7 +0.7**
comp=Z,60nm,1.1s
PRAR RASCA 15.16 311⇓*i* P **P 18 49 31.9 +2.2**
RAYN Ar Rayn 15.16 172 *e*Pn **Pn 18 49 21.3 -3.5**
comp=Z,20nm,0.8s
RAYN Ar Rayn 15.16 172 *e*Pn **Pn 18 49 21.3 -3.5**
comp=Z,20nm,0.8s
ARR Arges 15.34 302⇓*i* P **P 18 49 34.6 +2.8**
AKASG Malin Array Be 15.61 325 Pn **Pn 18 49 30.1 -0.4**
comp=Z,0.9nm,0.3s,baz=134,slow=11,SNR=16
AKASG LR LR 18 56 23.4
comp=Z,101nm,21.4s,baz=300,slow=41
AKASG Malin Array Be 15.61 325 *e*P **Pn 18 49 31.7 +1.2**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 15.61 325 *e*P **Pn 18 49 31.4 +0.8**
AKBB pmax pmax
comp=Z,78nm,1.7s
AKBB Malin Array Si 15.61 325 *e*Pn **Pn 18 49 31.4 +0.8**
comp=Z,78nm,1.7s
AKBB Malin Array Si 15.61 325 *e*Pn **Pn 18 49 31.4 +0.8**
comp=Z,78nm,1.7s
KIEV Kiev 15.62 325⇓*e*P **Pn 18 49 31.7 +1.1**
KIEV pmax pmax
comp=Z,12nm,0.7s
KIEV Kiev 15.62 325 *e*Pn **Pn 18 49 31.3 +0.8**
comp=Z,77nm,1.7s
KIEV Kiev 15.62 325 *e*Pn **Pn 18 49 31.3 +0.8**
comp=Z,77nm,1.7s
VTS Vitosha 15.68 291⇑*i* P **P 18 49 35.4 -0.3**
VTS Vitosha 15.68 291⇑P **P 18 49 35.4 -0.3**
VTS Vitosha 15.68 291 *e*Pn **Pn 18 49 28.8 -2.8**
comp=Z,15nm,1.2s
VTS Vitosha 15.68 291 P **P 18 49 35.4 -0.3**
VTS Vitosha 15.68 291 *e*Pn **Pn 18 49 28.8 -2.8**
comp=Z,15nm,1.2s
AKTO Aktyubinsk 15.84 37 Pn **Pn 18 49 32.1 -1.3**
comp=Z,0.4nm,0.3s,baz=228,slow=11,SNR=18
AKTO LR LR 18 57 10.9
comp=Z,242nm,19.6s,baz=224,slow=43
BURAR Bucovina Array 15.88 310⇑*i* P **P 18 49 41.5 +3.7**
BURAR Bucovina Array 15.88 310⇑P **P 18 49 41.5 +3.7**
BUR08 Bucovina Ar. S 15.90 310 *e*Pn **Pn 18 49 35.0 +0.6**
BUR08 Bucovina Ar. S 15.90 310 *e*Pn **Pn 18 49 35.0 +0.6**
LOT Lotru 15.94 302⇑*i* P **P 18 49 40.2 +1.7**
ABKAR Akbulak array 16.07 43 *e*Pn **Pn 18 49 35.8 -0.6**
comp=Z,37nm,0.9s
ABKAR Akbulak array 16.07 43 *e*Pn **Pn 18 49 35.8 -0.6**
comp=Z,37nm,0.9s
ARCR ARCALIA 16.17 308⇑*i* P **P 18 49 43.9 +2.9**
BANOM Banah 16.80 135 *i* P **Pn 18 49 44.8 -1.1**
SNR=8.3
BANOM Banah 16.80 135 Pn **Pn 18 49 45.7 -0.3**
SNR=5.0
BANOM Banah 16.80 135 Pn **Pn 18 49 45.7 -0.3**
SNR=5.0
BANOM Banah 16.80 135 P **Pn 18 49 45.7 -0.3**
SNR=5.0
DRGR 17.09 305⇑*i* P **P 18 49 53.6 +2.4**
DRGR 17.09 305⇑P **P 18 49 53.6 +2.4**
DRGR 17.09 305 P **P 18 49 53.6 +2.4**
OBN Obninsk 17.11 347 P **Pn 18 49 48.4 -1.2**
comp=Z,1.5nm,0.3s,baz=345,slow=20,SNR=3.2
OBN LR LR 18 57 24.5
comp=Z,109nm,20.9s,baz=162,slow=41
OBN Obninsk 17.11 347⇑*e*P **Pn 18 49 48.4 -1.2**
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,196nm,14.0s
OBN Obninsk 17.11 347 *e*Pn **Pn 18 49 47.2 -2.4**
comp=Z,135nm,2.0s
OBN Obninsk 17.11 347 *e*Pn **Pn 18 49 47.2 -2.4**
comp=Z,135nm,2.0s
MDVR Moldovita 17.15 298⇑*i* P **P 18 49 55.2 +3.3**
MSFE Esma-Masafi 17.17 136 Pn **Pn 18 49 49.0 -1.6**
SNR=6.5
BZS Buzias 17.43 301⇓*i* P **P 18 49 56.3 +1.3**
BZS Buzias 17.43 301⇓P **P 18 49 56.3 +1.3**
BZS Buzias 17.43 301 P **P 18 49 56.3 +1.3**
UOSS Minazif 17.53 137 *e*Pn **Pn 18 49 52.6 -2.4**
comp=Z,20nm,0.9s
UOSS Minazif 17.53 137 *e*Pn **Pn 18 49 52.6 -2.4**
comp=Z,20nm,0.9s
MOS Moscow 17.55 350 *e*P **P 18 49 55.8 -0.3**
MOS pmax pmax
comp=Z,37nm,0.9s
MOS Moscow 17.55 350 *e*P **P 18 49 55.8 -0.3**
comp=Z,37nm,0.9s
HATD Hatta, Dubai 17.59 138 P **Pn 18 49 55.9 +0.2**
HATD Hatta, Dubai 17.59 138 P **Pn 18 49 54.2 -1.5**
SNR=8.4
HATD Hatta, Dubai 17.59 138 Pn **Pn 18 49 54.2 -1.5**
SNR=8.4
HATD Hatta, Dubai 17.59 138 P **Pn 18 49 54.2 -1.5**
SNR=8.4
SIRR Siria 17.60 303⇓*i* P **P 18 49 59.6 +2.8**
ASHO Ashiyiah 17.66 138 *i* P **Pn 18 49 55.5 -1.2**
SNR=16
ASHO Ashiyiah 17.66 138 P **Pn 18 49 55.0 -1.7**
SNR=9.1
ASHO Ashiyiah 17.66 138 Pn **Pn 18 49 55.0 -1.7**
SNR=9.1
ASHO Ashiyiah 17.66 138 P **Pn 18 49 55.0 -1.7**
SNR=9.1
UZH Uzhgorod 18.09 310 *e*P **Pn 18 50 00.6 -1.1**
UZH Uzhgorod 18.09 310 *e*P **Pn 18 50 00.6 -1.1**
KWP Kalwaria Pacla 18.31 314 *e*P **P 18 50 04.8 +0.2**
KWP Kalwaria Pacla 18.31 314 *e*P **P 18 50 04.8 +0.2**
KWP Kalwaria Pacla 18.31 314 *e*P **P 18 50 04.8 +0.2**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn 18 50 10.3 +1.0**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn 18 50 10.3 +1.0**
CRVS Cervenica-Dubn 18.70 310 *e*P **Pn 18 50 10.3 +1.0**
STHS Stebnicka Huta 19.05 312 *e*P **Pn 18 50 16.5 +3.0**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 19.05 312 *e*P **Pn 18 50 16.5 +3.0**
PSZ Piszkesteto 19.28 306⇑*i* P **Pn 18 50 18.2 +1.8**
PSZ Piszkesteto 19.28 306 *e*P **Pn 18 50 16.5 +0.1**
PSZ pmax pmax
comp=Z,28nm,1.2s
PSZ Piszkesteto 19.28 306 *e*P **Pn 18 50 16.5 +0.1**
comp=Z,28nm,1.2s
PSZ Piszkesteto 19.28 306 *e*P **Pn 18 50 19.0 +2.6**
PSZ Piszkesteto 19.28 306 *e*P **Pn 18 50 16.5 +0.1**
comp=Z,28nm,1.2s
NIE Niedzica 19.61 311 *e*P **Pn 18 50 21.7 +1.5**
NIE Niedzica 19.61 311 *e*P **Pn 18 50 21.7 +1.5**
NIE Niedzica 19.61 311 *e*P **Pn 18 50 21.7 +1.5**
BUD Budapest 19.69 305 P **Pn 18 50 24.0 +2.8**
BUD pmax pmax

comp=Z,29nm,1.2s
NACGM **Naroch** 19.72 331 *e* P 18 50 20.0 0.0
VYHS **Vyhne** 20.14 307 *e*P Pn 18 50 26.6 0.0
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS **Vyhne** 20.14 307 *e*P Pn 18 50 26.6 0.0
comp=Z,12nm,1.1s
VYHS **Vyhne** 20.14 307 *e*P Pn 18 50 26.6 0.0
CSKK **Cs˙‡kako** 20.15 304⇓*e*P Pn 18 50 27.0 +0.3
CSKK **Cs˙‡kako** 20.15 304⇓*e*P Pn 18 50 27.0 +0.3
WSAR **Wadi Sarin** 20.21 135 P P 18 50 26.3 +0.7
comp=Z,8.9nm,0.7s,baz=319,slow=8.2,SNR=10
WSAR LR LR 19 00 02.8
comp=Z,114nm,18.2s,baz=332,slow=42
OJC **Ojcow** 20.25 313 *e*P P 18 50 24.8 -1.0
OJC **Ojcow** 20.25 313 *e*P P 18 50 26.2 +0.4
OJC pmax pmax
comp=Z,19nm,1.6s
OJC **Ojcow** 20.25 313 *e*P P 18 50 26.2 +0.4
comp=Z,19nm,1.6s
OJC **Ojcow** 20.25 313 *e*P P 18 50 26.2 +0.4
comp=Z,19nm,1.6s
BLY **Banja Luka** 20.31 296 *e*P P 18 50 24.8 -1.8
comp=Z,12nm,1.0s
BLY **Banja Luka** 20.31 296 *e*P P 18 50 24.8 -1.8
comp=Z,12nm,1.0s
ARU **Arti** 20.56 25 P P 18 50 29.8 +0.6
comp=Z,6.8nm,0.5s,baz=210,slow=4.9,SNR=16
ARU LR LR 18 59 45.7
comp=Z,173nm,18.3s,baz=233,slow=41
ARU **Arti** 20.56 25*d i*P P 18 50 29.7 +0.6
ARU 18 50 47.0
ARU S Sn 18 54 21.1 -1.8
ARU SS **SnSn** 18 54 39.5 +1.9
ARU pmax pmax
comp=Z,27nm,1.2s
ARU **Arti** 20.56 25 *e*P P 18 50 29.4 +0.3
comp=Z,36nm,1.0s
ARU **Arti** 20.56 25 *e*P P 18 50 29.4 +0.3
comp=Z,36nm,1.0s
SUW **Suwalki** 20.58 325 P P 18 50 27.9 -1.5
SUW pmax pmax
comp=Z,44nm,1.0s
SUW **Suwalki** 20.58 325 P P 18 50 27.9 -1.5
comp=Z,44nm,1.0s
BEHE **Becsehely** 20.91 301⇓*e*P Pn 18 50 36.7 +1.1
KKAR **Karatay Array** 21.12 69 *e*P P 18 50 36.0 +0.6
KKAR **Karatay Array** 21.12 69 *e*P P 18 50 36.0 +0.6
comp=Z,361nm,0.8s
KKAR **Karatay Array** 21.12 69 *e*P P 18 50 36.0 +0.6
comp=Z,361nm,0.8s
CUC **Castrocucco** 21.19 282 *e*P P 18 50 39.1 +3.0
comp=Z,10nm,0.9s
CUC **Castrocucco** 21.19 282 *e*P P 18 50 39.1 +3.0
comp=Z,10nm,0.9s
MORC **Moravsky Berou** 21.40 310⇑*i*P P 18 50 41.3 +3.0
MORC **Moravsky Berou** 21.40 310 *e*P P 18 50 38.1 -0.2
MORC pmax pmax
comp=Z,32nm,1.2s
MORC **Moravsky Berou** 21.40 310 *e*P P 18 50 38.1 -0.2
comp=Z,32nm,1.2s
MORC **Moravsky Berou** 21.40 310 *e*P P 18 50 38.1 -0.2
comp=Z,32nm,1.2s
SVE **Sverdlovsk** 21.58 27 *e*P P 18 50 41.6 +1.5
SVE pmax pmax
comp=Z,27nm,0.9s
SVE **Sverdlovsk** 21.58 27 *e*P P 18 50 41.6 +1.5
comp=Z,27nm,0.9s
VRAC **Vranov** 21.81 308 P P 18 50 44.1 +1.3
comp=Z,5.4nm,0.7s,baz=113,slow=9.8,SNR=9.7
VRAC **Vranov** 21.81 308⇑*i*P P 18 50 45.2 +2.5
CONA **Conrad Observa** 21.87 304 *i*P P 18 50 45.2 +1.8
comp=Z,5.5nm,0.5s
CONA **Conrad Observa** 21.87 304 P P 18 50 45.2 +1.8
comp=Z,5.5nm,0.5s
ARSA **Arzberg** 21.92 302 *i*pP P 18 50 46.5 +2.6
comp=Z,2.7nm,0.8s
SOKA **Soboth** 22.13 300 *i*pP P 18 50 48.6 +2.3
comp=Z,1.2nm,0.6s
DPC **Dobruska-Polom** 22.34 310 *e*P P 18 50 50.5 +2.1
DPC *ex* x 18 50 57.4
DPC **Dobruska-Polom** 22.34 310 *e*P P 18 50 50.5 +2.1
DPC *e* 18 50 57.4
DPC **Dobruska-Polom** 22.34 310 *e*P P 18 50 50.5 +2.1
KLMR **Klimovskoe** 22.39 355 *e*P P 18 50 47.6 -1.2
KLMR *e*S S 18 54 52.1 -2.4
KLMR pmax pmax
comp=Z,35nm,1.0s
KLMR **Klimovskoe** 22.39 355 *e*P P 18 50 47.6 -1.2
comp=Z,35nm,1.0s
OBKA **Obir** 22.43 300 *i*pP P 18 50 50.0 +0.6
comp=Z,1.0nm,0.5s
TREC **Trest** 22.50 307 *e*P P 18 50 52.9 +2.9
TREC **Trest** 22.50 307 *e*P P 18 50 52.9 +2.9
TREC **Trest** 22.50 307 *e*P P 18 50 52.9 +2.9
KSP **Ksiaz** 22.54 312 *e*P P 18 50 51.1 +0.6
KSP **Ksiaz** 22.54 312 *e*P P 18 50 51.1 +0.6
KSP **Ksiaz** 22.54 312 *e*P P 18 50 51.1 +0.6
VSU **Vasula** 22.54 337⇓*e*P P 18 50 51.8 +1.4
VSU pmax pmax
comp=Z,73nm,0.7s
VSU **Vasula** 22.54 337 *e*P P 18 50 51.8 +1.4
comp=Z,73nm,0.7s
UPC **Upice** 22.58 311 *e*P P 18 50 53.4 +2.4
UPC **Upice** 22.58 311 *e*P P 18 50 53.4 +2.4
UPC **Upice** 22.58 311 *e*P P 18 50 53.4 +2.4
WHFO **Wadi Hawf** 22.59 153 P P 18 50 51.4 +0.2
SNR=7.1
WHFO **Wadi Hawf** 22.59 153 P P 18 50 51.4 +0.2
SNR=7.1
WHFO **Wadi Hawf** 22.59 153 P P 18 50 51.4 +0.2
SNR=7.1
PUL **Pulkovo** 22.71 343⇓*e*P P 18 50 53.6 +1.5
PUL pmax pmax
comp=Z,28nm,0.6s
PUL **Pulkovo** 22.71 343 *e*P P 18 50 53.6 +1.5
comp=Z,28nm,0.6s
SOKR **Solikamsk** 22.74 18⇑*i*P P 18 50 53.8 +1.4
SOKR pmax pmax
comp=Z,17nm,1.0s
SOKR MLR MLR
comp=Z,341nm,19.0s
MOA **Molln** 22.89 303 *i*pP P 18 50 54.7 +0.5
comp=Z,5.4nm,0.7s
AQU **L'Aquila** 22.90 289 *e*P P 18 50 53.0 -1.4
AQU pmax pmax
comp=Z,16nm,0.9s
AQU **L'Aquila** 22.90 289 *e*P P 18 50 53.0 -1.4
comp=Z,16nm,0.9s
AQU **L'Aquila** 22.90 289 *e*P P 18 50 53.0 -1.4
comp=Z,16nm,0.9s
MYKA **Terra Mystica** 23.07 300 *i*pP P 18 50 57.4 +1.3
comp=Z,1.1nm,0.4s
GOPC **GO Pecny, Ondr** 23.12 308 *e*P P 18 50 59.3 +2.7
GOPC **GO Pecny, Ondr** 23.12 308 *e*P P 18 50 59.3 +2.7
GOPC **GO Pecny, Ondr** 23.12 308 P P 18 50 59.3 +2.7
PRU **Pruhonice** 23.30 309 *e*P P 18 50 59.7 +1.4
PRU **Pruhonice** 23.30 309 *e*P P 18 50 59.7 +1.4
PRU **Pruhonice** 23.30 309 P P 18 50 59.7 +1.4
GEC2 **GERESS Array S** 23.50 305 *e*P P 18 51 00.3 -0.2
GEC2 pmax pmax
comp=Z,5.0nm,1.0s
GEC2 **GERESS Array S** 23.50 305 *e*P P 18 51 00.3 -0.2
comp=Z,5.0nm,1.0s
GEC2 **GERESS Array S** 23.50 305 *e*P P 18 51 00.3 -0.2
comp=Z,5.0nm,1.0s
GERES **GERESS Array B** 23.50 305 P P 18 51 00.1 -0.3
comp=Z,1.6nm,0.7s,baz=105,slow=8.4,SNR=20
GERES LR LR 19 01 21.1
comp=Z,155nm,18.7s,baz=319,slow=40
BRVK **Borovoye** 23.60 43⇑*e*P P 18 51 01.6 +0.3
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK **Borovoye** 23.60 43 *e*P P 18 51 01.4 +0.1
comp=Z,7.7nm,0.9s
BRVK **Borovoye** 23.60 43 *e*P P 18 51 01.4 +0.1
comp=Z,7.7nm,0.9s
BVAR **Borovoye Array** 23.64 44 P P 18 51 02.1 +0.3
comp=Z,4.0nm,0.9s,baz=247,slow=7.6,SNR=18
KHC **Kasperske Hory** 23.65 306 *e*P P 18 51 01.0 -0.9
KHC *e*pP pP 18 51 03.7 -1.3
KHC **Kasperske Hory** 23.65 306 *e*P P 18 51 01.8 -0.1
KHC pmax pmax
comp=Z,13nm,1.7s
KHC **Kasperske Hory** 23.65 306 *e*P P 18 51 01.8 -0.1
comp=Z,13nm,1.7s
KHC **Kasperske Hory** 23.65 306 *e*P P 18 51 01.8 -0.1
comp=Z,13nm,1.7s
ABTA **Abfaltersbach** 23.85 300 *i*P P 18 51 01.7 -2.3
comp=Z,2.5nm,0.8s
BRG **Berggiesshubel** 23.94 310 *e*P P 18 51 06.8 +2.1
comp=Z,6.5nm,1.2s
BRG **Berggiesshubel** 23.94 310 *e*P P 18 51 06.8 +2.1
BRG pmax pmax
comp=Z,7.0nm,1.2s
DAMY **Dhamar** 23.96 177 *e*P P 18 51 06.3 +0.9
comp=Z,18nm,1.0s
DAMY **Dhamar** 23.96 177 *e*P P 18 51 06.3 +0.9
comp=Z,18nm,1.0s
AAK **Ala-Archa** 24.04 70 P P 18 51 06.7 +0.8
comp=Z,2.0nm,0.7s,baz=223,slow=8.5,SNR=3.7
AAK LR LR 19 01 45.9
comp=Z,81nm,18.1s,baz=279,slow=40
AAK **Ala-Archa** 24.04 70⇑*e*P P 18 51 04.8 -1.1
AAK pmax pmax
comp=Z,36nm,1.5s
WTTA **Wattenberg** 24.52 301 *i*pP P 18 51 12.3 +2.0
comp=Z,3.4nm,0.5s
WATA **Walderalm** 24.57 301 *i*pP P 18 51 11.5 +0.8
comp=Z,4.7nm,0.6s
CLL **Collm** 24.65 311 *e*P P 18 51 11.3 +0.2
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL **Collm** 24.65 311 *e*P P 18 51 11.3 +0.2
comp=Z,4.6nm,0.9s
CLL **Collm** 24.65 311 *e*P P 18 51 11.0 -0.1
CLL *es*P pP 18 51 14.0 -0.3
comp=Z,4.0nm,0.8s
CLL *e* 18 51 28.0
CLL *e*PPP PPP 18 51 52.0
CLL **Collm** 24.65 311 *e*P P 18 51 11.3 +0.2
comp=Z,4.6nm,0.9s
NKC **Novy Kostel** 24.66 308 *e*P P 18 51 11.7 +0.5
NKC **Novy Kostel** 24.66 308 *e*P P 18 51 11.7 +0.5
NKC **Novy Kostel** 24.66 308 P P 18 51 11.7 +0.5
MOTA **Moosalm** 24.89 301 *i*P P 18 51 14.1 +0.5
comp=Z,15nm,0.7s
MOTA **Moosalm** 24.89 301 P P 18 51 14.1 +0.5
comp=Z,15nm,0.7s
FETA **Feichten** 25.10 300 *i*P P 18 51 15.5 +0.1
comp=Z,1.0nm,0.4s
FETA **Feichten** 25.10 300 P P 18 51 15.5 +0.1
comp=Z,1.0nm,0.4s
RETA **Reutte** 25.14 301 *i*P P 18 51 15.9 +0.2
comp=Z,2.9nm,0.6s
RETA **Reutte** 25.14 301 P P 18 51 15.9 +0.2
comp=Z,2.9nm,0.6s
FIA0 **FINESS Array S** 25.21 341 *e*P P 18 51 15.4 -0.7
FIA0 **FINESS Array S** 25.21 341 *e*P P 18 51 15.4 -0.7
FIA0 **FINESS Array S** 25.21 341 *e*P P 18 51 15.3 -0.7
FINES **FINESS Array B** 25.21 341 P P 18 51 15.3 -0.7
comp=Z,4.3nm,0.8s,baz=139,slow=11,SNR=12
FINES **FINESS Array B** 25.21 341 *i*P P 18 51 15.3 -0.7
FINES pmax pmax
comp=Z,5.0nm,0.8s
FIA1 **FINESS Array S** 25.21 341 *e*P P 18 51 17.2 +1.1
comp=Z,29nm,1.3s
FIA1 **FINESS Array S** 25.21 341 *e*P P 18 51 17.2 +1.1
comp=Z,29nm,1.3s
GRFO **Grafenberg** 25.28 306 *e*P P 18 51 18.5 +1.6
GRFO pmax pmax
comp=Z,41nm,1.0s
GRFO **Grafenberg** 25.28 306 *e*P P 18 51 18.5 +1.6
comp=Z,41nm,1.0s
GRFO **Grafenberg** 25.28 306 *e*P P 18 51 18.5 +1.6
comp=Z,41nm,1.0s
MOX **Moxa** 25.28 309 P P 18 51 19.9 +3.0
MOX pmax pmax
comp=Z,3.0nm,1.8s
FUORN **Ofenpass-Fuorn** 25.37 299 *e*P P 18 51 19.8 +1.8
comp=Z,8.8nm,0.9s
FUORN **Ofenpass-Fuorn** 25.37 299 *e*P P 18 51 19.8 +1.8
comp=Z,8.8nm,0.9s
KSH **Kashi** 25.41 78 P P 18 51 18.0 -0.3
KSH pP pP 18 51 22.0 +0.5
KSH sP sP 18 51 25.0 +2.2
KSH PP **PnPn** 18 51 55.5 +2.3
KSH PcP **PcP** 18 54 54.0 +3.6
KSH S **S** 18 55 40.3 -4.8
KSH SS **SnSn** 18 56 38.3 +1.4
KSH PcS **PcS** 18 58 35.8 +4.8
KSH **Kashi** 25.41 78 ScS ScS 19 02 20.0 +1.5
KSH pmax pmax
comp=Z,120nm,7.6s
KSH LR LR
comp=N,100nm,10.7s
KSH LR LR
comp=E,190nm,5.9s
KSH LR LR
comp=Z,130nm,13.5s
DAVOX **Davos/Dischmat** 25.65 299 P P 18 51 20.2 -0.3
comp=Z,4.0nm,0.6s,baz=309,slow=18,SNR=5.5
DAVA **Damuels** 25.71 301 *i*P P 18 51 20.5 -0.5
comp=Z,1.5nm,0.5s
DAVA **Damuels** 25.71 301 P P 18 51 20.5 -0.5
comp=Z,1.5nm,0.5s
TMCR **Tamitsa** 25.78 355 *e*P P 18 51 27.8 +6.6
TMCR pmax pmax
comp=Z,38nm,1.3s
TUE **Stuetta** 25.98 299 *e*P P 18 51 24.0 +0.5
comp=Z,36nm,2.0s
TUE **Stuetta** 25.98 299 *e*P P 18 51 24.0 +0.5
comp=Z,36nm,2.0s
VSL **Villasalto** 26.18 283 *e*P P 18 51 26.0 +0.9
comp=Z,124nm,1.7s
VSL **Villasalto** 26.18 283 *e*P P 18 51 26.0 +0.9
comp=Z,124nm,1.7s
ATD **Arta Tunnel** 26.96 181 LR LR 19 02 51.5
comp=Z,84nm,18.9s,baz=65,slow=38
SENIN **Lac Senin/Sane** 27.39 298 *e*P P 18 51 35.2 -1.0
comp=Z,39nm,1.9s
SENIN **Lac Senin/Sane** 27.39 298 *e*P P 18 51 35.2 -1.0
comp=Z,39nm,1.9s
KURBB **Kurchatov Arra** 27.62 53 P P 18 51 38.6 +0.7
comp=Z,4.0nm,0.7s,baz=263,slow=8.9,SNR=19
KURK **Kurchatov** 27.70 52⇑*e*P P 18 51 38.6 -0.1
KURK pmax pmax
comp=Z,50nm,2.5s
KURK **Kurchatov** 27.70 52 *e*P P 18 51 38.9 +0.3
comp=Z,5.1nm,0.9s
KURK **Kurchatov** 27.70 52 *e*P P 18 51 38.9 +0.3
comp=Z,5.1nm,0.9s
HFS **Hagfors** 28.44 329 P P 18 51 45.1 -0.1
comp=Z,7.1nm,0.9s,baz=153,slow=9.7,SNR=6.5
HFS LR LR 19 03 10.8
comp=Z,122nm,19.0s,baz=142,slow=37
MK31 **Makanchi Array** 29.64 61 *e*P P 18 51 56.7 +0.6
MK31 **Makanchi Array** 29.64 61 *e*P P 18 51 56.7 +0.6
MK31 **Makanchi Array** 29.64 61 *e*P P 18 51 56.7 +0.6
MK32 **Makanchi Array** 29.64 61 *e*P P 18 51 55.8 -0.3
MK32 **Makanchi Array** 29.64 61 *e*P P 18 51 55.8 -0.3
MKAR **Makanchi Array** 29.64 61 P P 18 51 55.8 -0.2
comp=Z,2.7nm,0.9s,baz=271,slow=5.8,SNR=7.4
MKAR **Makanchi Array** 29.64 61 *i*P P 18 51 57.2 +1.1
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR **Makanchi Array** 29.64 61 *e*P P 18 51 56.6 +0.5
comp=Z,14nm,0.8s
MKAR **Makanchi Array** 29.64 61 *e*P P 18 51 56.6 +0.5
comp=Z,14nm,0.8s
NB200 **NORSAR Array S** 29.96 329 *e*P P 18 51 57.8 -1.0
NB200 **NORSAR Array S** 29.96 329 *e*P P 18 51 57.8 -1.0
NOA **NORSAR Array B** 29.96 329 P P 18 51 57.8 -1.0
comp=Z,2.4nm,1.0s,baz=125,slow=9.0,SNR=3.0
NOA LR LR 19 05 15.7
comp=Z,33nm,21.8s,baz=130,slow=39
NBO00 **NORSAR Array S** 30.14 329 *e*P P 18 51 59.7 -0.6
NBO00 **NORSAR Array S** 30.14 329 *e*P P 18 51 59.7 -0.6
ZAA0 **Zalesovo Array** 32.09 48 *e*P P 18 52 17.1 -0.4
comp=Z,2.0nm,0.6s
ZAA0 **Zalesovo Array** 32.09 48 *e*P P 18 52 17.1 -0.4
comp=Z,2.0nm,0.6s
ZALV **Zalesovo Beam** 32.09 48 P P 18 52 18.2 +0.8
comp=Z,1.9nm,0.6s,baz=254,slow=9.5,SNR=8.0
ZALV LR LR 19 07 43.1
comp=Z,77nm,18.0s,baz=246,slow=41
ZAA1 **Zalesovo Array** 32.09 48 *e*P P 18 52 18.2 +0.7
ZAA1 **Zalesovo Array** 32.09 48 *e*P P 18 52 18.2 +0.7
ARA0 **ARCESS Array S** 32.41 349 *e*P P 18 52 20.2 0.0
ARA0 **ARCESS Array S** 32.41 349 *e*P P 18 52 20.2 0.0
ARCES **ARCESS Array B** 32.41 349 P P 18 52 20.2 0.0
comp=Z,3.0nm,0.8s,baz=145,slow=8.6,SNR=9.9
ARCES LR LR 19 06 02.7
comp=Z,174nm,21.7s,baz=184,slow=37
WMQ **Urumqi** 33.59 67 P P 18 52 31.8 +1.0
WMQ sP sP 18 52 39.5 +4.2
WMQ PP **PnPn** 18 53 44.0 +1.8
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,95nm,6.1s
WMQ LR LR
comp=N,110nm,18.1s
WMQ LR LR
comp=E,200nm,28.5s
WMQ LR LR
comp=Z,48nm,27.1s
PYUN **Piuthan** 34.63 95 *e*P P 18 52 41.6 +1.4
ESK **Eskdalemuir** 35.03 314 *e*P P 18 52 42.5 -0.6
ESK pmax pmax
comp=Z,62nm,1.5s
ESK **Eskdalemuir** 35.03 314 *e*P P 18 52 42.5 -0.6
comp=Z,62nm,1.5s
ESK **Eskdalemuir** 35.03 314 *e*P P 18 52 42.5 -0.6
comp=Z,62nm,1.5s
DANN **Dangsing** 35.12 95 *e*P P 18 52 46.5 +2.0
comp=Z,3.8nm,1.1s
KOLN **Koldanda** 35.27 96 *e*P P 18 52 46.9 +1.2
comp=Z,44nm,1.5s
TAM **Tamanrasset** 35.72 255 *e*P P 18 52 49.9 +0.3
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM **Tamanrasset** 35.72 255 *e*P P 18 52 49.9 +0.3
comp=Z,5.8nm,1.2s
TAM **Tamanrasset** 35.72 255 *e*P P 18 52 49.9 +0.3
comp=Z,5.8nm,1.2s
GKN **Gorkha** 35.97 94 *e*P P 18 52 52.7 +1.1
comp=Z,30nm,1.2s
ESDC **Sonseca Array** 36.25 287 P P 18 52 53.5 -0.4
comp=Z,1.3nm,0.6s,baz=69,slow=8.8,SNR=10
DMN **Daman** 36.52 95 *e*P P 18 52 57.5 +1.0
comp=Z,28nm,1.1s
KKN **Kakani** 36.57 94 *e*P P 18 52 57.3 +0.4
PKIN **Phulchoki** 36.76 95 *e*P P 18 52 59.2 +0.7
PKI **Pulchoki** 36.77 95 *e*P P 18 52 58.9 +0.2
comp=Z,44nm,1.4s
GUN **Gumba** 36.98 94 *e*P P 18 53 01.1 +0.6
comp=Z,53nm,1.1s
JIRN **Jiri** 37.34 94 *e*P P 18 53 04.0 +0.4
comp=Z,183nm,1.1s
RAMN **Ramite** 38.00 95 *e*P P 18 53 08.9 -0.1
comp=Z,25nm,0.9s
ODAN **Odare** 38.66 94 *e*P P 18 53 14.8 +0.2
comp=Z,59nm,1.3s
TAPN **Taplejung** 38.67 93 *e*P P 18 53 14.8 0.0
comp=Z,10nm,0.8s
NRIK **Noril'sk** 38.77 23 P P 18 53 15.8 +1.0
comp=Z,2.1nm,0.3s,baz=268,slow=6.5,SNR=3.9
NRIK LR LR 19 13 17.9
comp=Z,168nm,18.8s,baz=208,slow=42
KMBO **Kilima Mbogo** 39.91 189 LR LR 19 08 47.7
comp=Z,174nm,19.9s,baz=286,slow=35
KMBO **Kilima Mbogo** 39.91 189 *i*P P 18 53 29.5 +4.5
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO **Kilima Mbogo** 39.91 189 *e*P P 18 53 25.3 +0.3
comp=Z,10nm,1.7s
KMBO **Kilima Mbogo** 39.91 189 *e*P P 18 53 25.3 +0.3
comp=Z,10nm,1.7s
LSA **Lhasa** 40.30 88 *e*P P 18 53 28.9 +0.4
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA **Lhasa** 40.30 88 *e*P P 18 53 28.9 +0.4
comp=Z,8.4nm,0.8s
LSA **Lhasa** 40.30 88 *e*P P 18 53 28.9 +0.4
comp=Z,8.4nm,0.8s
SPA0 **Spitsbergen Ar** 41.22 352 *e*P P 18 53 36.4 +1.4
SPA0 **Spitsbergen Ar** 41.22 352 *e*P P 18 53 36.4 +1.4
SPITS **Spitsbergen Ar** 41.22 352 P P 18 53 35.5 +0.5
comp=Z,3.6nm,0.7s,baz=106,slow=8.7,SNR=4.3
GTA **Gaotai** 43.39 70 ⇑P P 18 53 54.5 +1.2
GTA pP sP 18 54 01.8 +3.9
GTA sP pP 18 54 05.3 +8.7
GTA PcP **PcP** 18 55 41.8 +0.1
GTA S **S** 19 00 23.8 +2.4
GTA sS sS 19 00 36.0 +9.3
GTA SS **SS** 19 03 32.0 -3.0
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,69nm,4.3s
GTA LR LR
comp=N,100nm,17.1s
GTA LR LR
comp=E,99nm,17.6s
GTA LR LR
comp=Z,77nm,17.1s
TOA1 **Torodi Ar. Sit** 44.58 247 *e*P P 18 54 01.6 -1.3
comp=Z,25nm,2.0s
TOA1 **Torodi Ar. Sit** 44.58 247 *e*P P 18 54 01.6 -1.3
comp=Z,25nm,2.0s
TOA1 *e*PcP **PcP** 18 55 44.3 -1.6
TOA0 **Torodi Ar. Sit** 44.58 247 *e*P P 18 54 01.7 -1.2
comp=Z,16nm,1.8s
TOA0 **Torodi Ar. Sit** 44.58 247 *e*P P 18 54 01.7 -1.2
comp=Z,16nm,1.8s
TORD **Torodi Ar. Bea** 44.58 247 P P 18 54 01.6 -1.3
comp=Z,0.8nm,0.5s,baz=45,slow=9.6,SNR=15
TORD PcP **PcP** 18 55 44.3 -1.6
comp=Z,1.0nm,0.8s,baz=24,slow=2.4,SNR=4.8
SONA0 **Songino Array** 45.82 57 *e*P P 18 54 13.6 +1.0
SONA0 **Songino Array** 45.82 57 *e*P P 18 54 13.6 +1.0
SONM **Songino Array** 45.82 57 P P 18 54 13.6 +1.1
comp=Z,0.3nm,0.6s,baz=275,slow=7.5,SNR=2.3
SONM LR LR 19 16 07.8
comp=Z,119nm,18.4s,baz=307,slow=40
ULN **Ulaanbaatar** 46.24 57⇓*e*P P 18 54 17.2 +1.2
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN **Ulaanbaatar** 46.24 57 *e*P P 18 54 16.9 +0.9
comp=Z,5.8nm,1.3s
ULN **Ulaanbaatar** 46.24 57 *e*P P 18 54 16.9 +0.9
comp=Z,5.8nm,1.3s
LZH **Lanzhou** 47.53 73 *e*P P 18 54 26.0 -0.2
LZH pP pP 18 54 29.8 +0.3
LZH sP sP 18 54 31.5 +0.7
LZH pmax pmax
comp=Z,15nm,1.1s
BOD **Bodaibo** 48.51 42 *e*P P 18 54 31.5 -1.7
BOD pmax pmax
comp=Z,7.0nm,1.1s
HHC **Hu-ho-hao-te** 51.41 64 *e*P P 18 54 56.0 +0.3
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,81nm,8.6s
KMI **Kunming** 51.53 87 P P 18 54 55.5 -1.4
KMI pmax pmax
comp=Z,5.0nm,0.5s
CHTO **Chiang Mai** 51.93 96 *e*P P 18 54 59.3 -0.4
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO **Chiang Mai** 51.93 96 *e*P P 18 54 59.3 -0.4
comp=Z,7.4nm,0.7s
CHTO **Chiang Mai** 51.93 96 *e*P P 18 54 59.3 -0.4
comp=Z,7.4nm,0.7s
CM31 **Chiang Mai Arr** 52.13 96 *e*P P 18 55 01.5 +0.3
CM31 **Chiang Mai Arr** 52.13 96 *e*P P 18 55 01.5 +0.3
CMAR **Chiang Mai Arr** 52.13 96 P P 18 55 01.2 +0.1
comp=Z,6.0nm,0.9s,baz=297,slow=8.4,SNR=45
CMAR LR LR 19 19 56.1
comp=Z,29nm,20.6s,baz=326,slow=39
XAN **Xi'an** 52.16 73 P P 18 55 02.0 +0.7
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,51nm,4.2s
TIXI **Tiksi** 52.56 23⇑*e*P P 18 55 04.5 +0.9
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI MLR MLR
comp=Z,38nm,18.0s
TIXI **Tiksi** 52.56 23 *e*P P 18 55 04.2 +0.6
comp=Z,16nm,2.0s
TIXI **Tiksi** 52.56 23 *e*P P 18 55 04.2 +0.6
comp=Z,16nm,2.0s
DBIC **Dimbokro** 53.69 246 P P 18 55 11.0 -1.7
comp=Z,3.2nm,0.8s,baz=30,slow=8.5,SNR=3.9

DBIC	Dimbokro	53.69	246	eP	P	18 55 11.2	-1.5
DBIC				pmax	pmax		
	comp=Z,20nm,1.5s						
DBIC	Dimbokro	53.69	246	eP	P	18 55 11.2	-1.5
	comp=Z,20nm,1.5s						
DBIC	Dimbokro	53.69	246	eP	P	18 55 11.2	-1.5
	comp=Z,20nm,1.5s						
KIC	Kosan Boka	53.82	246	eP	P	18 55 12.1	-1.6
	comp=Z,28nm,1.2s						
TIC	Toumodi	53.82	247	eP	P	18 55 15.2	+1.5
LIC	Lamto	54.12	246	eP	P	18 55 13.4	-2.4
	comp=Z,54nm,1.8s						
ENH	Enshi	54.27	77	eP	P	18 55 17.9	+1.0
	comp=Z,6.8nm,1.0s						
ENH	Enshi	54.27	77	eP	P	18 55 17.9	+1.0
	comp=Z,6.8nm,1.0s						
YAK	Yakutsk	55.22	35⇓	eP	P	18 55 23.7	+0.5
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	Yakutsk	55.22	35	eP	P	18 55 23.5	+0.3
	comp=Z,10nm,0.5s						
YAK	Yakutsk	55.22	35	eP	P	18 55 23.4	+0.3
	comp=Z,10nm,0.5s						
LSZ	Lusaka	55.40	198	eP	P	18 55 24.3	-0.9
LSZ				pmax	pmax		
	comp=Z,21nm,1.8s						
LSZ	Lusaka	55.40	198	eP	P	18 55 24.3	-0.9
	comp=Z,21nm,1.8s						
LSZ	Lusaka	55.40	198	eP	P	18 55 24.3	-0.9
	comp=Z,21nm,1.8s						
ABPO	Ambohimpanom	57.44	175	i P	P	18 55 44.6	+4.9
SEY	Seymchan	64.24	29⇑	eP	P	18 56 25.8	+0.5
KS15	Wonju Array Si	64.30	62	eP	P	18 56 25.9	-0.2
KS15	Wonju Array Si	64.30	62	eP	P	18 56 25.9	-0.2
KSAR	Wonju Array Be	64.30	62	P	P	18 56 26.1	-0.1
KSAR	Wonju Array Be	64.30	62	P	P	18 56 26.0	-0.1
KSAR	Wonju Array Be	64.30	62	P	P	18 56 26.1	-0.1
KSRS	Korea Array	64.32	62	P	P	18 56 26.1	-0.2
	comp=Z,5.2nm,0.8s,baz=288,slow=6.5,SNR=17						
BKNI	Bangkinang	65.15	111	eP	P	18 56 31.1	-0.8
	comp=Z,54nm,0.5s						
BKNI	Bangkinang	65.15	111	eP	P	18 56 31.1	-0.8
	comp=Z,54nm,0.5s						
BOSA	Boshof	68.93	197	P	P	18 56 56.2	+0.5
	comp=Z,2.3nm,0.7s,baz=14,slow=5.7,SNR=5.4						
COCO	West Island	71.12	124	eP	P	18 57 09.0	-0.3
COCO				pmax	pmax		
	comp=Z,346nm,1.8s						
COCO	West Island	71.12	124	eP	P	18 57 09.0	-0.3
	comp=Z,346nm,1.8s						
COCO	West Island	71.12	124	eP	P	18 57 09.0	-0.3
	comp=Z,346nm,1.8s						
KSM	Kuching	71.33	104	eP	P	18 57 10.2	-0.5
	comp=Z,16nm,1.3s						
KSM	Kuching	71.33	104	eP	P	18 57 10.2	-0.5
	comp=Z,16nm,1.3s						
INU	Inuyama	71.64	59	eP	P	18 57 10.9	-1.5
	comp=Z,36nm,1.8s						
INU	Inuyama	71.64	59	eP	P	18 57 10.9	-1.5
	comp=Z,36nm,1.8s						
MJAR	Matsushiro Arr	71.76	58	P	P	18 57 12.6	-0.6
	comp=Z,2.0nm,0.9s,baz=326,slow=3.9,SNR=5.8						
SBUM	Sibu	72.16	101	eP	P	18 57 15.7	-0.1
	comp=Z,12nm,1.2s						
SBUM	Sibu	72.16	101	eP	P	18 57 15.7	-0.1
	comp=Z,12nm,1.2s						
PETK	Petropavlovsk-	72.57	35	LR	LR	19 35 34.4	
	comp=Z,28nm,20.6s,baz=353,slow=41						
COLD	Coldfoot	74.00	5	eP	P	18 57 27.5	+1.7
	comp=Z,26nm,2.0s						
COLD	Coldfoot	74.00	5	eP	P	18 57 27.5	+1.7
	comp=Z,26nm,2.0s						
CISI	Cisompet, Garu	75.43	112	eP	P	18 57 32.4	-2.5
	comp=Z,78nm,1.6s						
CISI	Cisompet, Garu	75.43	112	eP	P	18 57 32.4	-2.5
	comp=Z,78nm,1.6s						
ILAR	Eielson Array	76.66	4	P	P	18 57 41.8	+0.7
	comp=Z,0.7nm,0.9s,baz=352,slow=3.5,SNR=7.0						
ILAR				LR	LR	19 35 33.0	
	comp=Z,39nm,18.5s,baz=3.0,slow=39						
ILB	Eielson Array	76.66	4	eP	P	18 57 41.5	+0.4
ILB	Eielson Array	76.66	4	eP	P	18 57 41.5	+0.4
CCB	Clear Creek Bu	76.73	5	eP	P	18 57 41.6	+0.1
	comp=Z,23nm,1.9s						
CCB	Clear Creek Bu	76.73	5	eP	P	18 57 41.6	+0.1
	comp=Z,23nm,1.9s						
KTH	Kantishna Hill	77.57	6	eP	P	18 57 47.3	+0.9
	comp=Z,42nm,1.7s						
KTH	Kantishna Hill	77.57	6	eP	P	18 57 47.3	+0.9
	comp=Z,42nm,1.7s						
CAST	Castle Rocks	77.59	7	eP	P	18 57 47.0	+0.6
	comp=Z,64nm,2.0s						
CAST	Castle Rocks	77.59	7	eP	P	18 57 47.0	+0.6
	comp=Z,64nm,2.0s						
RND	Reindeer	77.88	6	eP	P	18 57 47.9	-0.2
RND				pmax	pmax		
	comp=Z,57nm,1.9s						
RND	Reindeer	77.88	6	eP	P	18 57 47.8	-0.3
	comp=Z,57nm,1.9s						
RND	Reindeer	77.88	6	eP	P	18 57 47.9	-0.3
	comp=Z,57nm,1.9s						
PPLA	Purkeypile	78.10	7	eP	P	18 57 50.0	+0.6
	comp=Z,93nm,1.9s						
PPLA	Purkeypile	78.10	7	eP	P	18 57 50.0	+0.6
	comp=Z,93nm,1.9s						
DHY	Denali Highway	78.31	5	eP	P	18 57 52.1	+1.5
	comp=Z,40nm,1.8s						
DHY	Denali Highway	78.31	5	eP	P	18 57 52.1	+1.5
	comp=Z,40nm,1.8s						
SCM	Sheep Creek Mo	79.55	5	eP	P	18 57 58.0	+0.7
SCM				pmax	pmax		
	comp=Z,120nm,1.9s						
SCM	Sheep Creek Mo	79.55	5	eP	P	18 57 58.0	+0.7
	comp=Z,120nm,1.9s						
SCM	Sheep Creek Mo	79.55	5	eP	P	18 57 58.0	+0.7
	comp=Z,120nm,1.9s						
SUA	Susitna One	79.64	7	eP	P	18 57 53.4	-4.5
	comp=Z,70nm,1.3s						
PDAR	Pinedale Array	95.31	340	LR	LR	19 44 55.4	
	comp=Z,37nm,20.6s,baz=45,slow=37						
PLCA	Paso Flores	130.05	245	PKP	PKPdf	19 05 00.3	0.0
	comp=Z,1.6nm,0.8s,baz=308,slow=3.8,SNR=3.0						
PLCA	Paso Flores	130.05	245	ePKIKP	PKPdf	19 05 00.0	-0.4
PLCA	Paso Flores	130.05	245	ePKPdf	PKPdf	19 05 00.0	-0.4

*ISCJB **29** 19:07:02.7±0.6, 38°.87N±0°.03×43°.57E±0°.06, h10km±4km, Error ellipse: s-maj=7.9km s-min=4.4km az=25.9*
*CSEM **29** 19:07:02.5±0.3, 38°.90N×43°.57E, h10km, MD2.7, Error ellipse: s-maj=6.8km s-min=4.6km az=126.0*
*DDA **29** 19:07:02.2, 38°.84N×43°.59E, h7km, Md2.7*
*ISK **29** 19:07:02.1, 38°.88N×43°.52E, h5km, ML2.6*

ISC 29 19:07:02.6±0.9, 38°.87N±0°.03×43°.60E±0°.03, h9km±6km, n38, σ1s00/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	350	i P	Pg	19 07 05.2	-0.4
VMUR				i S	Sg	19 07 08.4	+0.7
VMUR	Van-Muradiye	0.12	350	P	Pg	19 07 05.2	-0.4
VMUR				S	Sg	19 07 08.4	+0.7
ERCV	ERCIS-VAN	0.25	307	ePG	Pg	19 07 07.3	-0.5
ERCV	ERCIS-VAN	0.25	307	ePg	Pg	19 07 07.3	-0.5
VANB	Van	0.32	211	ePG	Pb	19 07 10.3	-0.2
VANB	Van	0.32	211	ePg	Pb	19 07 10.3	-0.2
TVAN	Van	0.37	204	i P	Pg	19 07 10.1	+0.1
TVAN				i S	Sb	19 07 18.0	+0.6
TVAN	Van	0.37	204	P	Pg	19 07 10.1	+0.1
TVAN				S	Sb	19 07 18.0	+0.6
CLDR	Caldiran	0.37	42	ePG	Pg	19 07 09.8	-0.2
CLDR				eSG	Sb	19 07 16.9	-0.5
CLDR	Caldiran	0.37	42	i P	Pg	19 07 08.0	-2.1
CLDR				i S	Sb	19 07 16.2	-1.2
CLDR	Caldiran	0.37	42	P	Pg	19 07 07.9	-2.1
CLDR	Caldiran	0.37	42	ePg	Pg	19 07 09.8	-0.2
CLDR				S	Sb	19 07 16.2	-1.2
DYDN	Diyadin	0.68	6	i P	Pg	19 07 15.1	-0.6
DYDN				i S	Sb	19 07 26.2	-0.1
DYDN	Diyadin	0.68	6	P	Pg	19 07 15.1	-0.6
DYDN				S	Sb	19 07 26.2	-0.1
ADCV	BITLIS_Adilcev	0.69	265	i P	Pg	19 07 15.3	-0.5
ADCV				i S	Sb	19 07 26.2	-0.2
ADCV	BITLIS_Adilcev	0.69	265	P	Pg	19 07 15.3	-0.5
ADCV				S	Sb	19 07 26.2	-0.2
TUTA	Tutak	0.81	311	i P	Pg	19 07 17.1	-1.1
TUTA				i S	Sb	19 07 29.7	-0.4
TUTA	Tutak	0.81	311	P	Pg	19 07 17.1	-1.1
TUTA				S	Sb	19 07 29.7	-0.4
AGRB	Hanur-Agry	0.85	327	ePG	Pg	19 07 18.1	-0.9
AGRB	Hanur-Agry	0.85	327	ePg	Pg	19 07 18.1	-0.9
TATV	Tatvan	1.10	251	i P	Pg	19 07 22.5	-1.2
TATV				i S	Sg	19 07 37.0	-1.1
TATV	Tatvan	1.10	251	P	Pg	19 07 22.5	-1.2
TATV				S	Sg	19 07 37.0	-1.1
EKAR	Karacoban	1.25	288	i P	Pn	19 07 27.0	+0.5
EKAR				i S	Sn	19 07 46.2	+2.6
EKAR	Karacoban	1.25	288	P	Pn	19 07 27.0	+0.5
GURO	Guroymak-BITLI	1.27	256	ePN	Pg	19 07 25.0	-1.9
GURO				eSN	Sb	19 07 42.5	-0.5
GURO	Guroymak-BITLI	1.27	256	ePn	Pg	19 07 25.0	-1.9
GURO				eSn	Sb	19 07 42.6	-0.5
EATA	Eleskirt	1.31	320	i P	Pn	19 07 26.6	-0.7
EATA				i S	Sn	19 07 46.7	+1.6
EATA	Eleskirt	1.31	320	P	Pn	19 07 26.6	-0.7
DIGO	Kars	1.56	354	i P	Pg	19 07 32.0	-0.4
DIGO				i S	Sg	19 07 55.0	+2.4
DIGO	Kars	1.56	354	P	Pg	19 07 32.0	-0.4
CUKT	Cukurca	1.62	180	ePN	Pb	19 07 32.6	0.0
CUKT	Cukurca	1.62	180	ePn	Pb	19 07 32.6	0.0
SENK	Senkaya-Erzuru	1.95	331	ePN	Pn	19 07 36.1	+0.1
SENK	Senkaya-Erzuru	1.95	331	ePn	Pn	19 07 36.1	+0.1
SVAN	Silvan-Diyarba	2.01	250	ePN	Pn	19 07 37.2	+0.5
SVAN	Silvan-Diyarba	2.01	250	ePn	Pn	19 07 37.2	+0.5
BNGB	Bing¶ll	2.28	274	ePN	Pn	19 07 40.6	+0.1
BINT	Bingol	2.43	271	ePn	Pn	19 07 40.6	-1.9

*DDA **29** 19:18:15.0, 37°.29N×43°.91E, h7km, Ml3.6*
*ISK **29** 19:18:15.6, 37°.30N×43°.89E, h7km, ML3.2*
*ISCJB **29** 19:18:16.8±1.5, 37°.32N±0°.06×43°.9E±0°.1, h19km, Error ellipse: s-maj=16.1km s-min=5.7km az=27.8*
*CSEM **29** 19:18:16.5±0.9, 37°.39N×43°.88E, h2km, ML3.2, Error ellipse: s-maj=20.5km s-min=7.7km az=125.0*
*NSSC **29** 19:18:25.2±0.9, 37°.62N×42°.87E, h0km±106km, ML2.9*

ISC 29 19:18:15.9±1.6, 37°.33N±0°.05×43°.87E±0°.06, h19km, n45, σ1s96/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	Cukurca	0.23	248	ePG	Pb	19 18 20.3	-0.8
CUKT				eSG	Sb	19 18 24.4	-0.1
CUKT	Cukurca	0.23	248	i P	Pb	19 18 20.4	-0.8
CUKT	Cukurca	0.23	248	P	Pb	19 18 20.4	-0.8
CUKT				eSg	Sb	19 18 24.4	-0.1
HAKT	HAKKARI	0.26	330	i P	Pb	19 18 21.6	-0.5
HAKT				i S	Sb	19 18 26.2	+0.2
HAKT	HAKKARI	0.26	330	P	Pb	19 18 21.5	-0.5
HAKT				S	Sb	19 18 26.2	+0.2
BASK	Baskale_VAN	0.72	8	i P	Pb	19 18 29.7	-0.3
BASK	Baskale_VAN	0.72	8	P	Pb	19 18 29.7	-0.3
GEVA	Gevas	1.17	327	i P	Pn	19 18 37.8	+0.4
GEVA	Gevas	1.17	327	P	Pn	19 18 37.8	+0.4
SIRN	S¨¨rnak	1.17	278	i P	Pn	19 18 37.9	+0.5
SIRN	S¨¨rnak	1.17	278	P	Pn	19 18 37.9	+0.5
TVAN	Van	1.25	343	i P	Pn	19 18 37.7	-0.8
TVAN	Van	1.25	343	P	Pn	19 18 37.7	-0.8
VANB	Van	1.31	343	ePN	Pn	19 18 40.2	+0.8
VANB				eSN	Sg	19 18 58.0	-0.6
VANB	Van	1.31	343	ePn	Pn	19 18 40.2	+0.8
VANB				eSn	Sg	19 18 58.0	-0.6
SRTM	Siirt_Merkez	1.68	294	i P	Pb	19 18 47.3	+1.0
SRTM	Siirt_Merkez	1.68	294	P	Pb	19 18 47.3	+1.0
CLDR	Caldiran	1.81	1	ePN	Pb	19 18 48.5	0.0
CLDR	Caldiran	1.81	1	ePn	Pb	19 18 48.5	0.0
BTMN	Batman	2.14	286	i P	Pb	19 18 54.2	+0.1
BTMN	Batman	2.14	286	P	Pb	19 18 54.2	+0.1
SVAN	Silvan-Diyarba	2.27	292	ePN	Pn	19 18 54.7	+2.3
SVAN	Silvan-Diyarba	2.27	292	i P	Pb	19 18 56.9	+0.6
SVAN	Silvan-Diyarba	2.27	292	ePn	Pn	19 18 54.7	+2.3
SVAN	Silvan-Diyarba	2.27	292	P	Pb	19 18 56.9	+0.6
AGRB	Hanur-Agry	2.34	343	ePN	Pn	19 18 56.1	+2.5
AGRB	Hanur-Agry	2.34	343	ePn	Pn	19 18 56.1	+2.5
MARD	Mardin	2.46	270	i P	Pb	19 19 01.4	+1.7
VRTB	Varto-Mus	2.63	315	ePN	Pn	19 19 00.4	+2.9
VRTB	Varto-Mus	2.63	315	ePn	Pn	19 19 00.4	+2.9
KBSD	Kabsdagh	2.68	264	eP	Pn	19 19 00.2	+2.2
KBSD				eS	Sn	19 19 24.7	-5.3
KBSD				AML	AML	19 19 47.4	
	comp=Z,136nm,0.3s						
MAZI	Mazidag	2.73	274	ePN	Pn	19 19 01.3	+2.5
MAZI	Mazidag	2.73	274	ePn	Pn	19 19 01.3	+2.5
MZRK	Al-Mazaregh	3.00	241	eP	Pn	19 19 07.7	+5.3
MZRK				AML	AML	19 20 09.1	
	comp=Z,139nm,0.6s						
BNGB	Bing¶ll	3.01	304	ePN	Pn	19 19 05.9	+3.2
BINT	Bingol	3.08	301	ePn	Pn	19 19 05.9	+2.3
SFNV	Sufian	3.15	254	eP	Pn	19 19 07.5	+3.0
SFNV				eS	Sn	19 19 38.5	-3.1
SFNV				AML	AML	19 20 04.8	
	comp=Z,196nm,0.8s						
YEDI	Yedisu-Bingol	3.35	310	ePN	Pn	19 19 10.6	+3.2
YEDI	Yedisu-Bingol	3.35	310	ePn	Pn	19 19 10.6	+3.2
SVRC	Sivrice-ELAZID	3.76	287	ePN	Pn	19 19 15.3	+2.3
SVRC	Sivrice-ELAZID	3.76	287	ePn	Pn	19 19 15.3	+2.3
PTK	Pertek	3.86	295	ePN	Pn	19 19 17.5	+3.1
PTK	Pertek	3.86	295	ePn	Pn	19 19 17.5	+3.1
SLMH	Al Salmeh	4.90	259	eP	Pn	19 19 30.6	+2.0
DRWC	Darouich	5.81	265	eP	Pn	19 19 43.1	+1.9

*CSEM **29** 19:36:12.9±0.2, 38°.64N×43°.16E, h10km, MD2.7, Error ellipse: s-maj=5.3km s-min=4.1km az=158.0*
*ISK **29** 19:36:12.2, 38°.64N×43°.16E, h5km, MD2.7*
*ISCJB **29** 19:36:13.2±0.5, 38°.65N±0°.03×43°.17E±0°.04, h12km±6km, Error ellipse: s-maj=5.6km s-min=4.9km az=140.7*
*DDA **29** 19:36:13.2, 38°.59N×43°.16E, h7km, Md2.1*

ISC 29 19:36:13.3±0.9, 38°.63N±0°.03×43°.17E±0°.03, h14km±8km, n24, σ0s74/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	100	ePG	Pg	19 36 17.3	-0.3
VANB				eSG	Sg	19 36 21.5	+1.0
VANB	Van	0.18	100	ePg	Pg	19 36 17.3	-0.3
VANB				eSg	Sg	19 36 21.5	+1.0
TVAN	Van	0.21	118	i P	Pg	19 36 17.1	-1.1
TVAN				i S	Sg	19 36 21.3	-0.2
TVAN	Van	0.21	118	P	Pg	19 36 17.1	-1.1
TVAN				S	Sg	19 36 21.3	-0.2
GEVA	Gevas	0.33	195	i P	Pg	19 36 19.2	-0.9
GEVA				i S	Sb	19 36 26.4	+0.2
GEVA	Gevas	0.33	195	P	Pg	19 36 19.2	-0.9
GEVA				S	Sb	19 36 26.4	+0.2
ADCV	BITLIS_Adilcev	0.39	298	i P	Pg	19 36 21.1	-0.1
ADCV				i S	Sb	19 36 27.6	-0.4
ADCV	BITLIS_Adilcev	0.39	298	P	Pg	19 36 21.1	-0.1
ADCV				S	Sb	19 36 27.6	-0.4
ERCV	ERCIS-VAN	0.41	19	ePG	Pg	19 36 20.9	-0.8
ERCV	ERCIS-VAN	0.41	19	ePg	Pg	19 36 20.9	-0.8
VMUR	Van-Muradiye	0.48	41	i P	Pg	19 36 22.6	-0.3
VMUR				i S	Sb	19 36 31.3	+0.7
VMUR	Van-Muradiye	0.48	41	P	Pg	19 36 22.6	-0.3
VMUR				S	Sb	19 36 31.3	+0.7
TATV	Tatvan	0.71	261	i P	Pg	19 36 26.8	-0.5
TATV				i S	Sb	19 36 38.3	+0.9
TATV	Tatvan	0.71	261	P	Pg	19 36 26.8	-0.5
TATV				S	Sb	19 36 38.3	+0.9
CLDR	Caldiran	0.78	48	ePG	Pg	19 36 27.6	-0.9
CLDR				eSG	Sg	19 36 38.7	-0.1
CLDR	Caldiran	0.78	48	ePg	Pg	19 36 27.6	-0.9
CLDR				eSg	Sg	19 36 38.7	-0.1
GURO	Guroymak-BITLI	0.89	265	ePG	Pg	19 36 29.6	-1.0
GURO	Guroymak-BITLI	0.89	265	ePg	Pg	19 36 29.6	-1.0
AGRB	Hanur-Agry	0.96	352	ePG	Pg	19 36 30.6	-1.3
AGRB	Hanur-Agry	0.96	352	ePg	Pg	19 36 30.6	-1.3
CUKT	Cukurca	1.42	166	ePN	Pb	19 36 39.7	+0.1
CUKT	Cukurca	1.42	166	ePn	Pb	19 36 39.7	+0.1
VRTB	Varto-Mus	1.44	292	ePN	Pn	19 36 39.5	+0.4
VRTB	Varto-Mus	1.44	292	ePn	Pn	19 36 39.5	+0.4

NNC 29 19:39:35.2±5.6, 37°.50N×72°.12E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=45.8km s-min=21.1km az=152.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.91	298	⇑Pn	Pn	19 40 22.4	-0.5
	5.4nm,0.3s						
DZET				⇓Sn	Sn	19 41 00.1	+1.5
	14nm,0.5s						
MNAS	Manas	4.99	3	⇑Pn	Pn	19 40 52.5	+0.9
	1.8nm,0.4s						
MNAS				⇓Sn	Sn	19 41 52.8	+2.7
	3.1nm,0.5s						
KK31	Karatay Array	5.73	348	⇑Pn	Pn	19 41 00.4	-1.2
	0.3nm,0.4s,baz=172,slow=13						
KK31				⇑Sn	Sn	19 42 06.9	-1.2
	0.4nm,0.3s,baz=175,slow=21,SNR=6.5						

IDC 29 19:47:37.3±6.3, 17°.19S×167°.97E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/30, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=109.6km s-min=55.2km az=73.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.06	196	Pn	Pn	19 48 56.0	+1.4
	0.3nm,0.3s,baz=113,slow=22,SNR=7.1						
WRA	Warramunga Arr	31.96	260	P	P	19 54 05.9	+0.7
	0.1nm,0.4s,baz=94,slow=9.5,SNR=5.2						
ASAR	Alice Springs	32.51	253	P	P	19 54 09.2	-0.8
	1.0nm,0.5s,baz=83,slow=9.2,SNR=27						
GERES	GERESS Array B	142.12	332	PKP	PKPdf	20 07 10.2	-1.4
	0.2nm,0.6s,baz=45,slow=1.5,SNR=3.7						

*ISCJB **29** 19:51:23.8±1.1, 0°.74S±0°.02×122°.35E±0°.03, h11km±7km, mb4.5/38, MS3.3/7, Error ellipse: s-maj=4.5km s-min=3.7km az=159.9*
*IDC **29** 19:51:23.6±0.7, 0°.35S×123°.23E, h0km, mb4.1/11, mb1 4.2/12, mb1mx3.9/47, mbtmp4.1/12, ML3.7/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/26, Error ellipse: s-maj=46.6km s-min=12.9km az=64.0*
*DJA **29** 19:51:25.0±0.2, 1°.S±2°.×12°.2E±°, h10km, M4.6/19, mb4.9/13, mB5.1/6, MLv4.6/19, Mw(mB)4.5/6*
*NEIC **29** 19:51:27.7±1.2, 0°.77S×122°.47E, h25km±10km, mb4.6/25, Error ellipse: s-maj=9.2km s-min=5.0km az=62.0*

ISC 29 19:51:25.4±1.4, 0°.75S±0°.04×122°.34E±0°.03, h7km±9km, n87, σ1s73/96, mb4.6/38, MS3.2/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.53	124	P	Pb	19 51 36.8	-0.2
LUWI				S	Sn	19 51 47.3	-1.3
LUWI	Luwuk	0.53	124	ePb	Pg	19 51 36.1	+0.5
LUWI				eSb	Sb	19 51 45.6	+0.7
APSI	Ampana	0.70	257	P	Pg	19 51 37.5	-1.5
APSI				S	Sb	19 51 48.1	-1.9
MRSI	Marisa	1.28	342	P	Pn	19 51 45.2	-4.6
MRSI				S	Sb	19 52 01.6	-4.9
KMSI	Cibinong	2.10	51	P	Pn	19 52 02.1	+1.0
PCI	Palu	2.50	266	P	Pn	19 52 05.3	-1.3
PCI				S	Sn	19 52 37.5	0.0
MPSI	Mapaga	2.66	294	P	Pn	19 52 06.9	-1.9
KDI	Kendari	3.20	175	P	Pn	19 52 15.4	-0.9
KDI				S	Sn	19 52 54.5	-0.2
TTSI	Tana Toraja	3.40	228	P	Pn	19 52 19.1	+0.2
SANI	Sanana	3.88	110	P	Pn	19 52 23.6	-1.9
SPSI	Sidrap Palu	4.10	219	P	Pn	19 52 28.3	-0.3
SPSI				S	Sn	19 53 16.3	-0.5
BNSI	Bone	4.26	211	P	Pn	19 52 30.1	-0.7
BBSI	Bau Bau	4.72	177	P	Pn	19 52 37.8	+0.7
BBSI				S	Sn	19 53 32.8	+0.7
KAPI	Kappang	4.96	211	ePn	Pn	19 52 42.2	+1.8
BKSI	Bulukumba	5.05	206	P	Pn	19 52 41.6	-0.1
LBMI	Labuha	5.17	89	P	Pn	19 52 43.6	+0.3
NLAI	Namlea	5.37	118	P	Pn	19 52 46.6	+0.6
SGSI	Sangihe	5.44	36	P	Pn	19 52 46.3	-0.7
BSSI	Bau Bau, Buton	5.67	199	P	Pn	19 52 50.3	+0.1
AAI	Ambon	6.54	117	P	Pn	19 53 02.4	+0.2
MYLDM	Lahad Datu	7.02	327	ePn	Pn	19 53 10.7	+1.8
MSAI	Masohi	7.08	111	P	Pn	19 53 10.0	+0.4
MTKI	Muara Teweh, K	7.44	268	P	Pn	19 53 12.9	-1.7
MMRI	Maumere	7.84	181	P	Pn	19 53 20.5	+0.5
MMRI	Maumere	7.84	181	ePn	Pn	19 53 17.9	-2.1
EDFI	Ende, Flores	7.98	185	P	Pn	19 53 22.1	+0.1
BNDI	Bandanaira	8.44	117	P	Pn	19 53 28.3	0.0
WSI	Waingapu	9.09	193	P	Pn	19 53 36.7	-0.5
KKM	Kota Kinabalu	9.10	318	ePn	Pn	19 53 39.9	+2.4
SOEI	Soe	9.15	168	P	Pn	19 53 38.2	0.0
SOEI	Soe	9.15	168	ePn	Pn	19 53 39.2	+1.1
PLAI	Plampang	9.22	209	P	Pn	19 53 38.4	-0.6
FAKI	Fak Fak	10.14	102	ePn	Pn	19 53 49.8	-1.9
SBUM	Sibu	10.60	287	ePn	Pn	19 53 59.2	+1.3
JAGI	Jajag, Banyuwa	11.19	226	ePn	Pn	19 54 06.4	+0.3
MTN	Manton Dam	14.85	144	ePn	Pn	19 54 55.3	-0.8
FITZ	Fitzroy Crossi	17.55	170	P	P	19 55 31.0	-0.9
	0.2nm,0.3s,baz=354,slow=7.4,SNR=6.3						
MBWA	Marble Bar	20.45	187	eP	P	19 56 03.6	-0.1
	36nm,1.6s						
WRAB	Tennant Creek	22.

GTA	Gaotai	44.98 335	*eP*	P	19 59 39.3	-2.4
GTA			pP	pP	19 59 44.0	+0.2
GTA			sP	sP	19 59 46.5	+1.9
GTA			pmax	pmax		
	comp=Z,2.0nm,1.3s					
DZM	Mont Dzumac	47.87 119	*eP*	P	20 00 03.6	-1.0
	comp=Z,48nm,2.0s					
ASAJ	Asahikawa	48.19 20	*eP*	P	20 00 04.1	-2.5
	comp=Z,4.7nm,1.3s					
ULN	Ulaanbaatar	50.21 347	*eP*	P	20 00 21.9	-0.3
	comp=Z,2.2nm,0.6s					
SONA0	Songino Array	50.34 346	*eP*	P	20 00 21.8	-1.4
SONM	Songino Array	50.34 346	P	P	20 00 21.8	-1.4
	comp=Z,1.2nm,0.7s,baz=160,slow=8.0,SNR=6.4					
WMQ	Urumqi	54.09 329	P	P	20 00 53.8	+2.7
WMQ			pP	sP	20 01 01.3	+7.2
WMQ			sP	pP	20 01 04.5	+11
WMQ			pmax	pmax		
	comp=Z,13nm,0.6s					
WMQ			pmax	pmax		
	comp=Z,220nm,8.1s					
WMQ			LR	LR		
	comp=N,68nm,24.5s					
WMQ			LR	LR		
	comp=E,120nm,23.3s					
WMQ			LR	LR		
	comp=Z,44nm,13.7s					
KSH	Kashi	58.29 319	P	P	20 01 24.8	+3.5
KSH			pP	sP	20 01 32.5	+8.2
KSH			sP	pP	20 01 40.5	+17
KSH			PcP	PcP	20 02 14.5	+2.0
KSH			PP	PP	20 03 37.5	+7.1
KSH			PcS	PcS	20 06 13.0	-1.0
KSH			S	S	20 09 24.0	-0.2
KSH			ScS	ScS	20 11 09.5	-2.4
KSH	Kashi	58.29 319	SS	SS	20 13 19.5	+3.2
KSH			pmax	pmax		
	comp=Z,8.0nm,1.6s					
KSH			pmax	pmax		
	comp=Z,160nm,5.5s					
KSH			LR	LR		
	comp=N,120nm,6.7s					
KSH			LR	LR		
	comp=E,150nm,11.4s					
KSH			LR	LR		
	comp=Z,160nm,7.8s					
MK31	Makanchi Array	58.90 329	*eP*	P	20 01 24.3	-0.9
MK32	Makanchi Array	58.90 329	*eP*	P	20 01 24.4	-0.9
MKAR	Makanchi Array	58.90 329	P	P	20 01 24.4	-0.9
	comp=Z,0.4nm,0.4s,baz=125,slow=8.2,SNR=10					
MKAR	Makanchi Array	58.90 329	*eP*	P	20 01 24.6	-0.7
	comp=Z,58nm,1.4s					
MAKZ	Makanchi	59.07 329	*eP*	P	20 01 27.0	+0.5
	comp=Z,9.2nm,1.1s					
RPZ	Rata Peaks	60.84 141	P	P	20 01 36.1	-2.5
	comp=Z,14nm,0.8s,baz=171,slow=3.0,SNR=5.4					
SNZO	South Karori	62.07 138	*eP*	P	20 01 46.9	-0.1
	comp=Z,58nm,1.1s					
BKZ	Black Stump Fm	62.40 135	*eP*	P	20 01 48.4	-0.9
	comp=Z,46nm,1.9s					
ZALV	Zalesovo Beam	62.72 336	P	P	20 01 49.2	-1.9
	comp=Z,1.2nm,0.6s,baz=112,slow=6.7,SNR=2.9					
ZAA1	Zalesovo Array	62.72 336	*eP*	P	20 01 49.2	-1.9
KURBB	Kurchatov Arra	63.28 330	P	P	20 01 55.5	+0.6
	comp=Z,1.3nm,0.8s,baz=132,slow=5.5,SNR=12					
KURK	Kurchatov	63.29 331	*eP*	P	20 01 55.1	+0.2
	comp=Z,5.3nm,1.0s					
BVAR	Borovoye Array	68.78 329	P	P	20 02 31.2	+0.9
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=3.8					
QSPA	South Pole Qui	89.19 180	*eP*	P	20 04 20.8	-1.2

ISCJB ***29*** *20:05:57.0±0.9, 13°.41S±0°.07×167°.0E±0°.2, h200km, mb3.8/9, Error ellipse: s-maj=24.4km s-min=9.4km az=0.6*
IDC ***29*** *20:05:59.1±3.4, 13°.54S×167°.09E, h210km±32km, mb3.6/10, mb1 3.7/11, mb1mx3.5/35, mbtmp4.1/11, Error ellipse: s-maj=26.0km s-min=19.4km az=127.0*

ISC 29 20:05:58.0±0.9, 13°.47S±0°.09×167°.1E±0°.2, h200km, n15, σ0=89/17, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.58	184	P	Pn	20 07 59.9	+1.0
	0.6nm,0.3s,baz=278,slow=23,SNR=15						
DZM				S	Sn	20 09 34.7	-0.7
	0.2nm,0.3s,baz=147,slow=23,SNR=2.6						
CTA	Charters Tower	21.01	249	P	P	20 10 26.7	+0.4
	3.3nm,1.2s,baz=85,slow=14,SNR=5.1						
STKA	Stephens Creek	29.70	228	P	P	20 11 45.7	+0.3
	4.3nm,0.3s,baz=52,slow=9.9,SNR=35						
STKA				PcP	PcP	20 14 44.2	-0.3
	0.7nm,0.3s,baz=58,slow=3.8,SNR=3.7						
WRA	Warramunga Arr	32.00	254	P	P	20 12 04.7	-1.1
	1.8nm,0.6s,baz=85,slow=9.0,SNR=16						
ASAR	Alice Springs	32.99	247	P	P	20 12 13.2	-1.2
	3.3nm,0.5s,baz=73,slow=10,SNR=106						
ASAR				PcP	PcP	20 14 53.2	-0.4
	0.6nm,0.5s,baz=73,slow=2.1,SNR=11						
MJAR	Matsushiro Arr	56.72	332	P	P	20 15 20.6	-0.3
	0.8nm,0.9s,baz=173,slow=7.9,SNR=4.7						
PETK	Petropavlovsk-	66.80	354	P	P	20 16 28.8	+1.0
	2.9nm,0.9s,baz=132,slow=6.0,SNR=3.5						
CMAR	Chiang Mai Arr	74.30	294	P	P	20 17 15.2	+1.4
	1.8nm,0.7s,baz=129,slow=4.8,SNR=16						
SONM	Songino Array	81.39	324	P	P	20 17 51.9	-0.6
	0.3nm,0.4s,baz=120,slow=6.0,SNR=4.2						
H02N1	VAN INLET T-PH	84.02	32	T	T	21 51 13.2	
	SNR=5.3						
ILAR	Eielson Array	85.38	18	P	P	20 18 11.6	-0.8
	0.4nm,0.6s,baz=235,slow=5.5,SNR=5.4						
MKAR	Makanchi Array	96.18	317	P	P	20 19 03.8	+0.5
	0.8nm,0.5s,baz=85,slow=6.0,SNR=13						
ARCES	ARCESS Array B	119.00	346	PKP	PKPdf	20 24 21.4	-0.8
	2.3nm,0.9s,baz=64,slow=2.0,SNR=11						
FINES	FINESS Array B	124.50	338	PKP	PKPdf	20 24 31.8	-1.1
	3.0nm,1.0s,baz=151,slow=28,SNR=3.6						
KEST	Kesra	150.13	322	PKPbc	PKPbc	20 25 26.1	+0.5
	5.0nm,0.9s,baz=297,slow=2.3,SNR=3.7						

ISK ***29*** *20:06:54.4, 38°.64N×43°.16E, h13km, MD2.4*
ISCJB ***29*** *20:06:55.4±0.6, 38°.67N±0°.04×43°.15E±0°.06, h9km±10km, Error ellipse: s-maj=7.4km s-min=7.0km az=33.6*
DDA ***29*** *20:06:55.5, 38°.66N×43°.23E, h7km, Ml2.7*
CSEM ***29*** *20:06:55.2±0.2, 38°.66N×43°.18E, h12km, ML2.7, Error ellipse: s-maj=5.6km s-min=5.3km az=162.0*

ISC 29 20:06:55.6±1.0, 38°.66N±0°.03×43°.16E±0°.04, h14km±9km, n22, σ0=64/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	110	*e*PG	Pg	20 06 59.8	-0.3
VANB				*e*SG	Sg	20 07 03.9	+0.7
VANB	Van	0.19	110	*e*Pg	Pg	20 06 59.8	-0.3
VANB				*e*Sg	Sg	20 07 03.9	+0.7
TVAN	Van	0.24	125	*i* P	Pg	20 06 59.6	-1.3
TVAN	Van	0.24	125	P	Pg	20 06 59.6	-1.3
GEVA	Gevas	0.36	193	*i* P	Pg	20 07 02.7	-0.3
GEVA	Gevas	0.36	193	P	Pg	20 07 02.7	-0.3
ADCV	BITLIS_Adilcev	0.37	293	*i* P	Pb	20 07 04.3	+0.3
ADCV	BITLIS_Adilcev	0.37	293	P	Pb	20 07 04.3	+0.3
ERCV	ERCIS-VAN	0.38	21	*e*PG	Pg	20 07 03.0	-0.4
ERCV	ERCIS-VAN	0.38	21	*e*Pg	Pg	20 07 03.0	-0.4
TATV	Tatvan	0.72	258	*i* P	Pb	20 07 10.2	+0.3
TATV	Tatvan	0.72	258	P	Pb	20 07 10.2	+0.3
CLDR	Caldiran	0.76	51	*e*PG	Pg	20 07 09.9	-0.5
CLDR				*e*SG	Sb	20 07 21.3	+0.3
CLDR	Caldiran	0.76	51	*e*Pg	Pg	20 07 09.9	-0.5
CLDR				*e*Sg	Sb	20 07 21.3	+0.3
TUTA	Tutak	0.79	340	*i* P	Pb	20 07 11.1	-0.1
TUTA	Tutak	0.79	340	P	Pb	20 07 11.1	-0.1
GURO	Guroymak-BITLI	0.89	263	*e*PG	Pg	20 07 12.0	-0.8
GURO	Guroymak-BITLI	0.89	263	*e*Pg	Pg	20 07 12.0	-0.8
AGRB	Hanur-Agry	0.92	352	*e*PG	Pg	20 07 12.8	-0.6
AGRB	Hanur-Agry	0.92	352	*e*Pg	Pg	20 07 12.8	-0.6
HAKT	HAKKARI	1.19	158	*i* P	Pg	20 07 17.8	-0.6
HAKT	HAKKARI	1.19	158	P	Pg	20 07 17.8	-0.6

DDA ***29*** *20:13:35.2, 38°.83N×43°.59E, h10km, Ml3.4*
ISK ***29*** *20:13:35.6, 38°.85N×43°.58E, h6km, ML3.2*
AZER ***29*** *20:13:36.3±0.9, 38°.23N×43°.64E, h28km±16km, Error ellipse: s-maj=13.4km s-min=2.9km az=61.0*
CSEM ***29*** *20:13:36.8±0.2, 38°.84N×43°.51E, h10km, ML3.4, Error ellipse: s-maj=6.5km s-min=4.9km az=150.0*

ISC 29 20:13:35.6±1.1, 38°.84N±0°.02×43°.58E±0°.02, h5km±12km, n99, σ0=44/107, 13C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.15	358	*i* P	Pg	20 13 38.6	0.0
VMUR	Van-Muradiye	0.15	358	P	Pg	20 13 38.6	0.0
VANB	Van	0.29	211	*e*PG	Pb	20 13 43.0	-0.3
VANB				*e*SG	Sb	20 13 49.1	+0.7
VANB	Van	0.29	211	*e*Pg	Pb	20 13 43.0	-0.3
VANB				*e*Sg	Sb	20 13 49.1	+0.7
TVAN	Van	0.34	203	*i* P	Pg	20 13 42.8	+0.5
TVAN	Van	0.34	203	P	Pg	20 13 42.8	+0.5
CLDR	Caldiran	0.40	41	*e*PG	Pg	20 13 43.8	+0.4
CLDR	Caldiran	0.40	41	*i* P	Pg	20 13 43.7	+0.4
CLDR	Caldiran	0.40	41	*e*Pg	Pg	20 13 43.8	+0.4
ADCV	BITLIS_Adilcev	0.67	267	*i* P	Pg	20 13 48.6	+0.2
ADCV	BITLIS_Adilcev	0.67	267	P	Pg	20 13 48.6	+0.2
GEVA	Gevas	0.67	218	*i* P	Pg	20 13 47.9	-0.5
GEVA	Gevas	0.67	218	P	Pg	20 13 47.9	-0.5
DYDN	Diyadin	0.70	7	*i* P	Pg	20 13 49.1	0.0
DYDN	Diyadin	0.70	7	P	Pg	20 13 49.2	0.0
TUTA	Tutak	0.81	313	*i* P	Pg	20 13 50.0	-1.2
TUTA	Tutak	0.81	313	P	Pg	20 13 50.0	-1.2
BASK	Baskale_VAN	0.86	157	*i* P	Pb	20 13 53.2	+0.2
BASK	Baskale_VAN	0.86	157	P	Pb	20 13 53.2	+0.2
AGRB	Hanur-Agry	0.86	328	*e*PG	Pg	20 13 52.2	+0.1
AGRB				*e*SG	Sb	20 14 05.1	+0.1
AGRB	Hanur-Agry	0.86	328	*e*Pg	Pg	20 13 52.2	+0.1
AGRB				*e*Sg	Sb	20 14 05.1	+0.1
TATV	Tatvan	1.08	252	*i* P	Pg	20 13 55.5	-0.8
TATV	Tatvan	1.08	252	P	Pg	20 13 55.5	-0.8
GURO	Guroymak-BITLI	1.25	257	*e*PN	Pn	20 13 58.8	-0.9
GURO	Guroymak-BITLI	1.25	257	*e*Pn	Pn	20 13 58.8	-0.9
EKAR	Karacoban	1.25	290	*i* P	Pn	20 13 59.0	-0.9
EKAR	Karacoban	1.25	290	P	Pn	20 13 59.0	-0.9
HAKT	HAKKARI	1.29	175	*i* P	Pn	20 13 59.2	-1.2
HAKT	HAKKARI	1.29	175	P	Pn	20 13 59.2	-1.2
EATA	Eleskirt	1.32	321	*i* P	Pn	20 14 00.4	-0.5
EATA	Eleskirt	1.32	321	P	Pn	20 14 00.4	-0.5
NAX	Nakhchivan	1.53	77	⇑P	Pg	20 14 05.4	+0.5
NAX				⇓S	Sg	20 14 25.5	+0.8
NAX	Nakhchivan	1.53	77	P	Pg	20 14 05.4	+0.5
NAX				S	Sg	20 14 25.5	+0.8
SRTM	Siirt_Merkez	1.56	237	*i* P	Pb	20 14 04.8	-0.1
SRTM	Siirt_Merkez	1.56	237	P	Pb	20 14 04.8	-0.1
CUKT	Cukurca	1.59	179	*e*PN	Pn	20 14 05.1	+0.6
CUKT	Cukurca	1.59	179	*i* P	Pn	20 14 04.7	+0.2
CUKT	Cukurca	1.59	179	P	Pn	20 14 04.7	+0.2
CUKT	Cukurca	1.59	179	*e*Pn	Pn	20 14 05.1	+0.6
VRTB	Varto-Mus	1.68	281	*e*PN	Pn	20 14 06.2	+0.5
VRTB	Varto-Mus	1.68	281	*e*Pn	Pn	20 14 06.3	+0.5
SENK	Senkaya-Erzuru	1.96	331	*e*PN	Pn	20 14 10.2	+0.6
SENK	Senkaya-Erzuru	1.96	331	*e*Pn	Pn	20 14 10.2	+0.6
SVAN	Silvan-Diyarba	1.99	250	*e*PN	Pn	20 14 10.8	+0.9
SVAN	Silvan-Diyarba	1.99	250	*i* P	Pb	20 14 12.4	+0.1
SVAN	Silvan-Diyarba	1.99	250	*e*Pn	Pn	20 14 10.8	+0.9
SVAN	Silvan-Diyarba	1.99	250	P	Pb	20 14 12.4	+0.1
BTMN	Batman	2.05	243	*i* P	Pn	20 14 12.2	+1.5
BTMN	Batman	2.05	243	P	Pn	20 14 12.2	+1.5
BNGB	Bing˜¶l	2.27	275	*e*PN	Pn	20 14 14.6	+0.9
BINT	Bingol	2.41	272	*e*Pn	Pn	20 14 14.6	-1.2
YEDI	Yedisu-Bingol	2.43	285	*e*PN	Pn	20 14 16.9	+0.8
YEDI	Yedisu-Bingol	2.43	285	*e*Pn	Pn	20 14 16.9	+0.8
GDB	GEDABAY	2.52	41	⇓P	Pb	20 14 21.3	0.0
GDB				⇓S	Sg	20 14 57.4	+1.1
GDB	GEDABAY	2.52	41	P	Pb	20 14 21.3	0.0
AKH	Akhalkalaki	2.56	359	*e*PN	Pn	20 14 18.8	+0.9
AKH	Akhalkalaki	2.56	359	P	Pg	20 14 26.5	+1.8
AKH	Akhalkalaki	2.56	359	*e*Pn	Pn	20 14 18.8	+0.9
QZX	Qazax, Azerbai	2.61	31	⇓P	Pb	20 14 23.8	+1.0
QZX	Qazax, Azerbai	2.61	31	P	Pb	20 14 23.8	+1.0
GANJ	Ganja	2.78	49	⇓P	Pb	20 14 23.4	-2.2
GANJ				⇑S	Sg	20 15 02.9	-1.8
GANJ	Ganja	2.78	49	P	Pb	20 14 23.4	-2.2
MAZI	Mazidag	2.83	242	*e*PN	Pn	20 14 22.6	+1.1
MAZI	Mazidag	2.83	242	*e*Pn	Pn	20 14 22.6	+1.1
DGRG	David-gareji	2.94	27	P	Pg	20 14 31.2	-0.8
BRDA	Brd	3.12	62	⇑P	Pn	20 14 27.7	+2.3
BRDA	Brd	3.12	62	P	Pn	20 14 27.7	+2.3
PTK	Pertek	3.27	272	*e*PN	Pn	20 14 28.8	+1.2
PTK	Pertek	3.27	272	*e*Pn	Pn	20 14 28.8	+1.2
MNGR	Mingechevir, A	3.32	53	⇑P	Pn	20 14 31.2	+3.2
MNGR	Mingechevir, A	3.32	53	P	Pn	20 14 31.2	+3.2
SVRC	Sivrice-ELAZID	3.38	263	*e*PN	Pn	20 14 30.2	+1.1
SVRC	Sivrice-ELAZID	3.38	263	*e*Pn	Pn	20 14 30.2	+1.1
ZRD	Zardab	3.48	64	⇓P	Pn	20 14 32.2	+1.9
ZRD	Zardab	3.48	64	P	Pn	20 14 32.2	+1.9
ZKTA	Zakatala	3.63	39	⇑P	Pb	20 14 37.3	-3.0
SEKA	Sheki	3.65	48	⇑P	Pb	20 14 37.1	-3.4
SEKA	Sheki	3.65	48	P	Pb	20 14 37.1	-3.4
LRK	Lerik	3.73	92	⇑P	Pn	20 14 31.6	-2.3
LRK	Lerik	3.73	92	P	Pn	20 14 31.6	-2.3
ONI	Oni	3.74	359	P	Pb	20 14 39.5	-2.6
GLBA	Clilabad	3.77	82	⇑P	Pn	20 14 33.3	-1.0
GLBA	Clilabad	3.77	82	P	Pn	20 14 33.3	-1.0
KDMR	Kurdemir	3.87	65	⇓P	Pn	20 14 37.5	+1.8
KDMR	Kurdemir	3.87	65	P	Pn	20 14 37.5	+1.8
QBL	Gabala	3.89	56	⇑P	Pn	20 14 38.8	+2.8
QBL	Gabala	3.89	56	P	Pn	20 14 38.8	+2.8
SAAT	Saatly	3.89	73	⇑P	Pn	20 14 36.1	+0.2
SAAT	Saatly	3.89	73	P	Pn	20 14 36.2	+0.2
IML	Ismayilli	4.04	60	⇓P	Pn	20 14 40.4	+2.3
IML	Ismayilli	4.04	60	P	Pn	20 14 40.4	+2.3
LKRN	Lenkeran, Azer	4.07	90	⇑P	Pn	20 14 36.5	-1.9
LKRN	Lenkeran, Azer	4.07	90	P	Pn	20 14 36.5	-1.9
ASTR	Astara	4.09	92	⇑P	Pn	20 14 36.5	-2.1
ASTR	Astara	4.09	92	P	Pn	20 14 36.5	-2.1
XNQ	Khinaliq	4.20	55	⇑P	Pn	20 14 43.4	+2.9
XNQ	Khinaliq	4.20	55	P	Pn	20 14 43.4	+2.9
ALIB	Äli-Bayra	4.35	73	⇓P	Pn	20 14 42.8	+0.5
ALIB	Äli-Bayra	4.35	73	P	Pn	20 14 42.8	+0.5

IASPEI ***29*** *20:24:21.9±1.1, 38°.96N±0°.03×43°.53E±0°.03, h6km±7km, Error ellipse: s-maj=4.5km s-min=3.8km az=71.7, GT5 selection from ISC bulletin GT5 identified by Bond˜¡r and McLaughlin (2009) selection criteria Bond˜¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***29*** *20:24:21.9±0.4, 38°.95N±0°.02×43°.52E±0°.03, h6km±3km, Error ellipse: s-maj=4.6km s-min=2.9km az=149.0*
ISK ***29*** *20:24:21.6, 38°.98N×43°.51E, h7km, ML3.7*
DDA ***29*** *20:24:21.3, 38°.96N×43°.54E, h10km, Ml3.8*
CSEM ***29*** *20:24:22.6±0.1, 38°.95N×43°.48E, h10km, ML3.8, Error ellipse: s-maj=4.6km s-min=3.3km az=150.0*
AZER ***29*** *20:24:23.9±1.8, 38°.89N×43°.63E, h9km±17km, Error ellipse: s-maj=16.6km s-min=3.5km az=69.0*
NSSC ***29*** *20:24:23.2±1.4, 38°.92N×43°.54E, h0km±131km, ML2.9*

ISC 29 20:24:22.2±0.9, 38°.96N±0°.02×43°.52E±0°.02, h4km±7km, n122, σ0=94/134, 10C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.05	53	*i* P	Pg	20 24 22.8	-0.7
VMUR				*i* S	Sg	20 24 25.3	+0.9
VMUR	Van-Muradiye	0.05	53	P	Pg	20 24 22.8	-0.7
VMUR				S	Sg	20 24 25.3	+0.9
ERCV	ERCIS-VAN	0.15	294	*e*PG	Pg	20 24 25.4	+0.2
ERCV	ERCIS-VAN	0.15	294	*e*Pg	Pg	20 24 25.4	+0.2
CLDR	Caldiran	0.36	59	*e*PG	Pg	20 24 28.9	-0.3
CLDR	Caldiran	0.36	59	*i* P	Pg	20 24 28.4	-0.7
CLDR	Caldiran	0.36	59	P	Pg	20 24 28.5	-0.7
CLDR	Caldiran	0.36	59	*e*Pg	Pg	20 24 28.9	-0.3
VANB	Van	0.38	196	*e*PG	Pb	20 24 31.0	-0.5
VANB				*e*SG	Sb	20 24 39.1	+1.3
VANB	Van	0.38	196	*e*Pg	Pb	20 24 31.0	-0.5
TVAN	Van	0.44	192	*i* P	Pg	20 24 30.5	-0.1
TVAN	Van	0.44	192	P	Pg	20 24 30.5	-0.1
DYDN	Diyadin	0.60	13	*i* P	Pg	20 24 32.9	-0.8
DYDN	Diyadin	0.60	13	P	Pg	20 24 32.9	-0.8
ADCV	BITLIS_Adilcev	0.64	257	*i* P	Pg	20 24 34.4	0.0
ADCV	BITLIS_Adilcev	0.64	257	P	Pg	20 24 34.4	0.0
TUTA	Tutak	0.70	309	*i* P	Pg	20 24 35.1	-0.6
TUTA	Tutak	0.70	309	P	Pg	20 24 35.1	-0.6
GEVA	Gevas	0.74	209	*i* P	Pg	20 24 35.8	-0.5
GEVA	Gevas	0.74	209	P	Pg	20 24 35.8	-0.5
AGRB	Hanur-Agry	0.74	327	*e*PG	Pg	20 24 36.2	-0.2
AGRB				*e*SG	Sg	20 24 46.2	+0.2
AGRB	Hanur-Agry	0.74	327	*e*Pg	Pg	20 24 36.2	-0.2
AGRB				*e*Sg	Sg	20 24 46.2	+0.2
BASK	Baskale_VAN	0.98	157	*i* P	Pg	20 24 40.5	-0.5
BASK	Baskale_VAN	0.98	157	P	Pg	20 24 40.5	-0.5
TATV	Tatvan	1.08	246	*i* P	Pg	20 24 40.8	-2.0
TATV	Tatvan	1.08	246	P	Pg	20 24 40.8	-2.0
EKAR	Karacoban	1.17	285	*i* P	Pg	20 24 45.0	+0.4
EKAR	Karacoban	1.17	285	P	Pg	20 24 45.0	+0.4
EATA	Eleskirt	1.20	319	*i* P	Pb	20 24 44.5	-1.3
EATA	Eleskirt	1.20	319	P	Pb	20 24 44.5	-1.3
GURO	Guroymak-BITLI	1.23	251	*e*PN	Pn	20 24 44.7	-1.7
GURO	Guroymak-BITLI	1.23	251	*e*Pn	Pn	20 24 44.7	-1.7
HAKT	HAKKARI	1.41	174	*i* P	Pn	20 24 46.9	-1.9
HAKT	HAKKARI	1.41	174	P	Pn	20 24 46.9	-1.9
DIGO	Kars	1.46	356	*i* P	Pb	20 24 50.1	0.0
DIGO	Kars	1.46	356	P	Pb	20 24 50.1	0.0
NAX	Nakhchivan	1.55	81	⇓P	Pb	20 24 51.2	-0.4
NAX				⇓S	Sg	20 25 12.9	+0.8
NAX	Nakhchivan	1.55	81	P	Pb	20 24 51.2	-0.4
NAX				S	Sg	20 25 12.9	+0.8
SRTM	Siirt_Merkez	1.58	233	*i* P	Pn	20 24 51.4	+0.3
SRTM	Siirt_Merkez	1.58	233	P	Pn	20 24 51.4	+0.3
VRTB	Varto-Mus	1.62	278	*e*PN	Pn	20 24 50.5	-1.2
VRTB	Varto-Mus	1.62	278	*e*Pn	Pn	20 24 50.5	-1.2
SIRN	S¨–rnak	1.70	211	*i* P	Pn	20 24 53.1	+0.4
SIRN	S¨–rnak	1.70	211	P	Pn	20 24 53.1	+0.4
CUKT	Cukurca	1.71	178	*e*PN	Pn	20 24 52.7	-0.2
CUKT	Cukurca	1.71	178	*i* P	Pn	20 24 52.9	0.0
CUKT	Cukurca	1.71	178	*e*Pn	Pn	20 24 52.7	-0.2
CUKT	Cukurca	1.71	178	P	Pn	20 24 52.9	0.0
SENK	Senkaya-Erzuru	1.84	331	*e*PN	Pn	20 24 54.2	-0.6
SENK	Senkaya-Erzuru	1.84	331	*e*Pn	Pn	20 24 54.2	-0.6
BNGL	BINGÖL	1.85	271	*i* P	Pb	20 24 56.4	-0.3
SVAN	Silvan-Diyarba	1.99	247	*e*PN	Pn	20 24 56.7	0.0
SVAN	Silvan-Diyarba	1.99	247	*i* P	Pb	20 24 58.0	-1.0
SVAN	Silvan-Diyarba	1.99	247	*e*Pn	Pn	20 24 56.7	0.0
SVAN	Silvan-Diyarba	1.99	247	P	Pb	20 24 58.0	-1.0
BTMN	Batman	2.06	240	*i* P	Pb	20 24 59.1	-1.1
BTMN	Batman	2.06	240	P	Pb	20 24 59.2	-1.1
BNGB	Bing˜¶l	2.21	272	*e*PN	Pn	20 24 59.9	+0.1
YEDI	Yedisu-Bingol	2.36	283	*e*PN	Pn	20 25 01.3	-0.6
YEDI	Yedisu-Bingol	2.36	283	*e*Pn	Pn	20 25 01.3	-0.6
BINT	Bingol	2.37	269	*e*Pn	Pn	20 24 59.9	-2.0
AKH	Akhalkalaki	2.45	360	*e*PN	Pn	20 25 02.6	-0.5
AKH	Akhalkalaki	2.45	360	P	Pg	20 25 08.3	-0.8
AKH	Akhalkalaki	2.45	360	*e*Pn	Pn	20 25 02.6	-0.5
GDB	GEDABAY	2.46	44	⇑P	Pn	20 25 04.5	+1.2
GDB	GEDABAY	2.46	44	P	Pn	20 25 04.5	+1.2
QZX	Qazax, Azerbai	2.54	34	⇓P	Pb	20 25 06.3	-2.0
QZX				⇑S	Sn	20 25 36.0	+0.5
QZX	Qazax, Azerbai	2.54	34	P	Pb	20 25 06.3	-2.0
QZX				S	Sn	20 25 36.0	+0.5
GANJ	Ganja	2.74	51	⇑P	Pn	20 25 08.1	+1.1
GANJ	Ganja	2.74	51	P	Pn	20 25 08.1	+1.1
MAZI	Mazidag	2.84	239	*e*PN	Pn	20 25 08.8	+0.3
MAZI	Mazidag	2.84	239	*e*Pn	Pn	20 25 08.8	+0.3
DGRG	David-gareji	2.87	29	P	Pb	20 25 14.0	+0.1
TBLG	Delisi	2.92	18	*e*PN	Pn	20 25 10.0	+0.5
TBLG	Delisi	2.92	18	P	Pb	20 25 15.7	+0.8
TBLG	Delisi	2.92	18	*e*Pn	Pn	20 25 10.0	+0.5
KBSD	Kabsdagh	3.06	231	*e*P	Pn	20 25 11.9	+0.5
KBSD				AML	A

CTBH	Cotabato--PC H	2.21 304	⇑*iP*	Pn	20 34 18.4	-1.6
SGSI	Sangihe	2.36 194	P	Pn	20 34 23.4	+1.5
SGSI			S	Sn	20 34 52.6	+1.6
PAGZ	Pagadian	3.27 305	*eP*	Pn	20 34 32.6	-1.2
MSLP	Maasin	4.30 343	*eP*	Pn	20 34 48.4	+0.9
MSLP			*eS*	Sn	20 35 39.1	+2.4
KMSI	Cibinong	5.78 202	P	Pn	20 35 08.7	+1.2
LBMI	Labuha	6.73 168	P	Pn	20 35 16.9	-3.5
MRSI	Marisa	6.87 217	P	Pn	20 35 23.6	+1.4
LUWI	Luwuk	7.74 206	P	Pn	20 35 34.9	+1.0
SANI	Sanana	7.99 181	P	Pn	20 35 35.0	-2.4
APSI	Ampana	8.17 213	P	Pn	20 35 42.8	+3.0
MPSI	Mapaga	8.36 228	P	Pn	20 35 45.9	+3.5
NLAI	Namlea	9.22 174	P	Pn	20 35 50.6	-3.5
PCI	Palu	9.27 223	P	Pn	20 35 58.1	+3.3
KDI	Kendari	10.47 199	P	Pn	20 36 11.7	+0.7
TTSI	Tana Toraja	10.95 215	P	Pn	20 36 20.8	+3.4
BNDI	Bandanaira	11.11 160	P	Pn	20 36 15.5	-4.1
SPSI	Sidrap Palu	11.74 213	P	Pn	20 36 30.0	+2.1
BAKI	Biak	12.28 125	P	Pn	20 36 28.2	-6.8
FITZ	Fitzroy Crossi	23.94 181	P	P	20 38 48.4	+0.9
	3.1nm,0.4s,baz=5.4,slow=9.5,SNR=29					
WRA	Warramunga Arr	27.02 163	P	P	20 39 16.1	+0.8
	1.1nm,0.4s,baz=343,slow=10.0,SNR=14					
WRA			PcP	PcP	20 42 34.8	+0.8
	0.6nm,0.6s,baz=341,slow=2.5,SNR=4.7					
ASAR	Alice Springs	30.45 166	P	P	20 39 46.8	+1.1
	1.7nm,0.4s,baz=342,slow=7.2,SNR=57					
ASAR			PcP	PcP	20 42 43.2	+0.7
	0.8nm,0.4s,baz=346,slow=2.5,SNR=10					
STKA	Stephens Creek	40.45 159	P	P	20 41 13.1	+1.9
	3.7nm,0.6s,baz=340,slow=9.2,SNR=12					
SONM	Songino Array	44.97 341	PcP	PcP	20 43 26.7	-0.1
	0.7nm,0.6s,baz=161,slow=3.9,SNR=6.5					
MKAR	Makanchi Array	55.36 325	P	P	20 43 05.2	-0.7
	0.3nm,0.3s,baz=115,slow=7.8,SNR=11					
MKAR			PcP	PcP	20 44 03.6	-1.3
	0.6nm,0.6s,baz=167,slow=3.8,SNR=4.4					
KURBB	Kurchatov Arra	59.51 327	P	P	20 43 34.5	-0.3
	0.4nm,0.3s,baz=123,slow=7.0,SNR=4.5					
AKTO	Aktyubinsk	71.51 321	P	P	20 44 51.1	-1.0
	0.6nm,0.5s,baz=87,slow=7.1,SNR=4.7					
ILAR	Eielson Array	83.35 26	P	P	20 45 58.0	+0.3
	0.5nm,0.8s,baz=229,slow=5.2,SNR=4.9					
ARCES	ARCESS Array B	88.12 340	P	P	20 46 19.6	-1.6
	1.1nm,0.7s,baz=58,slow=4.6,SNR=8.0					
FINES	FINESS Array B	89.56 332	P	P	20 46 26.6	-1.4
	0.6nm,0.5s,baz=64,slow=4.4,SNR=5.2					
TORD	Torodi Ar. Bea	121.60 289	PKP	PKPdf	20 52 23.9	-1.0
	0.5nm,0.4s,baz=82,slow=2.1,SNR=8.3					

NIED ***29*** *20:36:00,27.°00N×143.°90E,h8km,Mw3.6 Best double couple: M₀2.72000×10¹⁴ NP1:φ₀319.00000°,δ42.00000°, λ-103.00000°. NP2:φ₀157.00000°,δ49.00000°, λ-78.00000°.*

IDC 29 20:36:39.3±7.7,26.°83N×143.°99E,h0km,mb3.9/4, mb1 3.9/5,mb1mx3.5/39,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=302.3km s-min=23.7km az=74.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	10.86	334	Pn	Pn	20 39 15.0	-1.1
	0.4nm,0.3s,baz=160,slow=12,SNR=8.2						
WRA	Warramunga Arr	47.43	192	P	P	20 45 15.7	-0.1
	1.6nm,0.7s,baz=10,slow=8.2,SNR=8.2						
ASAR	Alice Springs	51.14	192	P	P	20 45 43.9	-0.3
	0.3nm,0.6s,baz=18,slow=6.5,SNR=6.8						
MKAR	Makanchi Array	51.88	310	P	P	20 45 49.7	+0.1
	0.5nm,0.6s,baz=90,slow=7.9,SNR=4.1						
KURBB	Kurchatov Arra	54.38	315	P	P	20 46 07.9	+0.1
	0.9nm,0.8s,baz=88,slow=7.3,SNR=4.3						

ISCJB ***29*** *20:44:58.7±0.3,2.°49S±0.°02×79.°40W±0.°04,h10km, mb4.5/25,MS3.3/3,Error ellipse: s-maj=6.3km s-min=3.6km az=3.8*

IDC ***29*** *20:44:58.6±0.9,2.°20S×79.°31W,h0km,mb4.1/8, mb1 4.3/12,mb1mx4.1/30,mbtmp4.2/12,ML4.3/4,MS3.4/6, Ms1 3.4/6,ms1mx3.2/33,Error ellipse: s-maj=38.3km s-min=14.8km az=58.0*

IGQ ***29*** *20:45:01.5±0.7,2.°S±5.°×7.°9W±.°,h12km,M4.8/30, MLv4.8/30*

NEIC ***29*** *20:45:03.2±0.4,2.°40S×79.°24W,h35km,mb4.6/24, ML4.6(IGQ),Error ellipse: s-maj=9.9km s-min=6.5km az=71.0*

NEIC Felt at Ambato, Catamayo, Cuenca, Duran, Guayaquil and Riobamba.

ISC 29 20:44:58.7±1.7,2.°37S±0.°04×79.°27W±0.°06,h2km±10km, n103,σ1°63/99,mb4.7/25,MS3.3/3,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	Trigal station	1.17	43	P	Pg	20 45 20.7	-0.4
BMAS				S	Sb	20 45 36.3	-1.3
BIL2	Estacion Bilba	1.19	40	P	Pb	20 45 21.4	-0.7
BPAT	Tungurahua Vol	1.20	44	P	Pg	20 45 21.4	-0.3
BPAT				S	Sg	20 45 36.5	-0.7
BBIL	Ulba Tungurahu	1.20	41	P	Pg	20 45 21.3	-0.4
RETU	Refugio	1.23	42	P	Pg	20 45 21.9	-0.3
JUI6	Juive	1.23	41	P	Pg	20 45 21.7	-0.6
BULB	Ulba Tungurahu	1.26	43	P	Pg	20 45 22.4	-0.5
BULB				S	Sb	20 45 38.7	-1.6
AQUE	Quevedo	1.33	350	P	Pn	20 45 23.9	-0.3
AQUE				S	Sn	20 45 42.7	+0.2
PISA	Pisayambo	1.57	34	P	Pb	20 45 28.3	-0.5
BMOR	Cotopaxi Volca	1.82	27	P	Pg	20 45 33.0	-0.6
BMOR				S	Sg	20 45 59.0	+1.9
BNAS	Cotopaxi Volca	1.86	25	P	Pg	20 45 33.9	-0.5
BREF	Cotopaxi Volca	1.88	26	P	Pg	20 45 34.4	-0.3
BTAM	Cotopaxi Volca	1.89	27	P	Pg	20 45 34.5	-0.5
BVC2	Cotopaxi Volca	1.90	27	P	Pg	20 45 34.6	-0.6
VC1	Cotopaxi 1	1.92	27	P	Pg	20 45 35.0	-0.6
PITA	Cotopaxi Volc	1.98	25	P	Pg	20 45 36.2	-0.5
ANTI	Antisana	2.20	30	P	Pb	20 45 39.0	-0.6
JUA2	San Juan 2	2.24	17	P	Pb	20 45 39.9	-0.2
TERV	Terraza Guagua	2.28	17	P	Pb	20 45 41.1	+0.3
JAMA	Jama	2.29	336	P	Pn	20 45 36.1	-1.5
MAG1	Magdalena	2.33	348	P	Pn	20 45 38.0	-0.1
YAKA	Yana	2.34	17	P	Pb	20 45 41.6	+0.2
PULU	Pululahua	2.49	18	P	Pb	20 45 44.0	-0.4
OTAV	Otavalo	2.71	18	*eP*	Pb	20 45 46.6	-1.6
OTAV	Otavalo	2.71	18	*ePn*	Pb	20 45 46.6	-1.6
OTAV				*eSn*	Sb	20 46 21.4	-0.8
OTAV	Otavalo	2.71	18	*eP*	Pb	20 45 46.6	-1.6
OTAV	Otavalo	2.71	18	P	Pb	20 45 47.1	-1.1
CAYA	Cayambe	2.74	28	P	Pb	20 45 48.3	-0.5
CUIC	Cuicocha-Domo	2.80	19	P	Pb	20 45 49.4	-0.3
IMBA	Imbabura, San	2.83	22	P	Pb	20 45 49.1	-1.2
COTA	Cotacachi	2.84	19	P	Pb	20 45 49.6	-0.8
URCU	Urcuqui	2.96	20	P	Pb	20 45 50.7	-1.8
LITE1	Lita	3.27	16	P	Pb	20 45 55.3	-2.2
CMBC	Cumbal	3.59	24	*eP*	Pb	20 45 59.8	-3.4
CMBC	Cumbal	3.59	24	*eP*	Pb	20 45 59.8	-3.4
GCUF	Volcan Galeras	4.05	28	*eP*	Pb	20 46 06.7	-4.5
CPAS2	Pasto	4.10	30	*eP*	Pb	20 46 11.7	0.0
TUMC	Tumaco	4.20	7	*ePn*	Pn	20 46 07.7	+3.9
CRUC	La Cruz	4.54	31	*eP*	Pb	20 46 22.1	+2.7
CRUC	La Cruz	4.54	31	*eP*	Pb	20 46 22.1	+2.7
ATAH	Atahualpa	4.82	170	Pn	Pn	20 46 15.5	+2.9
	8.2nm,0.3s,baz=0.6,slow=12,SNR=18						
ATAH				Sn	Sb	20 47 18.8	-3.9
	14nm,0.3s,baz=299,slow=8.0,SNR=3.7						
GRGC	Isla de Gorgon	5.45	12	*eP*	Pn	20 46 24.1	+3.2
GRGC	Isla de Gorgon	5.45	12	*eP*	Pn	20 46 24.1	+3.2
POPC	Popayan, Colom	5.52	28	*eP*	Pn	20 46 23.8	+1.6
POPC	Popayan, Colom	5.52	28	*eP*	Pn	20 46 23.8	+1.6
HORQ	Saladito	6.38	24	*eP*	Pn	20 46 37.2	+3.1
PRAC	Prado	7.46	36	*ePn*	Pn	20 46 53.4	+4.7
ANIL	Santa Ana	7.83	30	*eP*	Pb	20 47 08.3	-7.2
RREF	El Recreo	8.21	28	*eP*	Pn	20 47 08.9	+9.3
GUYC	Guyana, Colomb	8.48	27	*eP*	Pn	20 47 10.5	+7.5
GUYC	Guyana, Colomb	8.48	27	*eP*	Pn	20 47 10.5	+7.5
VILC	Villavicencio,	8.51	41	*eP*	Pn	20 47 11.0	+7.8
VILC	Villavicencio,	8.51	41	*eP*	Pn	20 47 11.0	+7.8
ROSC	El Rosal	8.70	35	Pn	Pn	20 47 14.5	+8.5
	0.9nm,0.3s,baz=186,slow=19,SNR=2.5						
ROSC				Lg	Lg	20 49 36.1	
	2.2nm,0.3s,baz=91,slow=23,SNR=2.7						
ROSC				LR	LR	20 50 44.5	
	comp=Z,614nm,20.6s,baz=208,slow=40						
ROSC	El Rosal	8.70	35	*ePn*	Pn	20 47 05.9	-0.1
ROSC				Lg	Lg	20 49 36.1	
HELC	Santa Helena	9.29	24	*ePn*	Pn	20 47 14.0	0.0
NNA	Nana	9.86	166	Pn	Pn	20 47 23.3	+1.8
	7.1nm,0.3s,baz=344,slow=11,SNR=13						
NNA				Sn	Sn	20 49 14.2	+1.3
	2.2nm,0.3s,baz=38,slow=18,SNR=6.3						
NNA				Lg	Lg	20 50 04.0	
	2.5nm,0.3s,baz=252,slow=20,SNR=5.7						
NNA				LR	LR	20 51 53.1	
	comp=Z,64nm,18.6s,baz=348,slow=41						
NNA	Nana	9.86	166	*ePn*	Pn	20 47 22.7	+1.2
NNA				*eSn*	Sn	20 49 14.2	+1.3
RUSC	La Rusia	10.27	37	*ePn*	Pn	20 47 33.6	+5.9
PAYG	Puerto Ayora	11.14	279	*ePn*	Pn	20 47 40.9	+1.8
SDV	Santo Domingo	14.11	37	Pn	P	20 48 26.6	-1.3
	0.2nm,0.3s,baz=139,slow=8.7,SNR=2.3						
SDV				Lg	Lg	20 52 41.2	
	0.7nm,0.3s,baz=349,slow=16,SNR=3.8						
SDV				LR	LR	20 54 51.8	
	comp=Z,223nm,18.8s,baz=240,slow=42						
SDV	Santo Domingo	14.11	37	*ePn*	Pn	20 48 20.3	+0.4
SDV				Lg	Lg	20 52 41.2	
SAML	Samuel	17.28	113	*ePn*	Pn	20 48 58.2	-3.2
LPAZ	La Paz	17.65	142	P	P	20 49 09.0	+1.4
	0.3nm,0.3s,baz=329,slow=11,SNR=15						
LPAZ	La Paz	17.65	142	*ePn*	Pn	20 49 05.8	-0.7
	11nm,0.9s						
MNMC	Minye Minye	19.16	151	*eP*	Pn	20 49 24.7	0.0
	14nm,0.8s						
PTGA	Pitinga	19.36	85	P	Pn	20 49 28.4	+1.5
	0.9nm,0.3s,baz=262,slow=14,SNR=12						
PTGA	Pitinga	19.36	85	*eP*	Pn	20 49 27.7	+0.8
	8.5nm,0.7s						
PB11	IPOC Station P	19.68	152	*eP*	Pn	20 49 30.2	-0.5
	11nm,0.8s						
PB01	IPOC Station P	20.87	154	*eP*	Pn	20 49 45.4	+0.7
	13nm,0.9s						
SIV	San Ignacio	22.46	128	P	P	20 50 02.2	+2.9
	8.8nm,0.8s,baz=309,slow=12,SNR=16						
LVC	Limon Verde	22.50	154	P	P	20 50 02.0	+2.0
	41nm,1.0s,baz=268,slow=4.3,SNR=5.9						
LVC				LR	LR	20 58 31.2	
	comp=Z,262nm,20.7s,baz=20,slow=36						
LVC	Limon Verde	22.50	154	*eP*	P	20 49 58.8	-1.3
	10nm,1.0s						
LVC				*e*		20 58 31.2	
SJG	San Juan	24.11	32	LR	LR	21 00 46.7	
	comp=Z,118nm,20.9s,baz=248,slow=40						
TEIG	Tepich	24.13	339	*eP*	P	20 50 16.7	+0.6
	34nm,1.6s						
HUMP	Col San Antoni	24.29	32	*eP*	P	20 50 17.7	0.0
	69nm,1.7s						
CBYP	Canovanas	24.39	32	*eP*	P	20 50 19.7	+1.0
	35nm,1.2s						
MTP	Monte Pirata	24.42	33	*eP*	P	20 50 18.0	-0.8
	44nm,1.4s						
CMIG	Matias Romero	24.72	322	LR	LR	20 58 07.2	
	comp=Z,39nm,22.0s,baz=341,slow=32						
BDFB	Brasilia	33.50	115	*eP*	P	20 51 39.1	-0.9
	11nm,1.1s						
WHTX	Lake Whitney,	38.28	335	*eP*	P	20 52 18.8	-1.8
	13nm,1.3s						
PLCA	Paso Flores	39.00	169	*eP*	P	20 52 26.1	-0.5
	46nm,2.0s						
MSTX	Muleshoe	42.38	331	*eP*	P	20 52 53.5	-1.3
	42nm,1.9s						
RCBR	Riachuelo	43.38	96	*eP*	P	20 53 02.2	-1.0
	15nm,1.1s						
ANMO	Albuquerque	45.03	328	P	P	20 53 16.8	+0.6
	2.4nm,0.7s,baz=331,slow=10.0,SNR=11						
ANMO	Albuquerque	45.03	328	*eP*	P	20 53 16.7	+0.5
	4.0nm,0.9s						
CBKS	Cedar Bluff	45.12	337	*eP*	P	20 53 19.4	+2.8
	14nm,0.8s						
KSCO	Kaye Shedlock'	46.46	335	*eP*	P	20 53 28.5	+1.2
	9.9nm,0.7s						
SDCO	Great Sand Dun	46.73	331	*eP*	P	20 53 30.1	+0.5
	13nm,1.6s						
BGNE	Belgrade	46.83	341	*eP*	P	20 53 29.8	-0.4
	28nm,0.6s						
X16A	Lo Mia Camp, P	47.46	323	*eP*	P	20 53 34.5	-0.8
	2.7nm,0.8s						
Q24A	Divide	47.54	333	*eP*	P	20 53 37.7	+1.7
	5.2nm,0.9s						
WUAZ	Wupatki	48.19	324	*eP*	P	20 53 41.5	+0.6
	6.1nm,1.0s						
PDAR	Pinedale Array	52.59	332	P	P	20 54 13.1	-1.1
	0.3nm,0.4s,baz=161,slow=6.3,SNR=4.2						
ULM	Lac du Bonnet	54.32	347	P	P	20 54 24.9	-1.5
	1.9nm,0.5s,baz=196,slow=1.6,SNR=4.4						
JSTM	Santa Teresa H	55.72	319	*eP*	P	20 54 39.9	+3.0
YKA	Yellowknife Ar	70.00	343	P	P	20 56 10.8	-0.7
	1.1nm,0.7s,baz=142,slow=5.5,SNR=3.4						
YKB5	Yellowknife Ar	70.00	343	*eP*	P	20 56 10.8	-0.7
TOA1	Torodi Ar. Sit	81.74	76	*eP*	P	20 57 18.2	-1.5
	8.5nm,1.5s						
TORD	Torodi Ar. Bea	81.75	76	P	P	20 57 18.2	-1.5
	0.3nm,0.5s,baz=277,slow=4.5,SNR=7.2						
ILAR	Eielson Array	82.76	336	P	P	20 57 22.8	-1.2
	0.9nm,0.8s,baz=129,slow=4.0,SNR=8.9						
QSPA	South Pole Qui	87.70	180	*eP*	P	20 57 49.0	+0.2
ASAR	Alice Springs	138.63	229	PKhKP	PKPpre	21 04 23.9	
	0.3nm,0.7s,baz=130,slow=1.6,SNR=4.2						

WEL 29 20:45:50.3±0.5,36.°36S×177.°21E,h157km±12km,ML3.5/7, 3C-2D,Error ellipse: s-maj=10.3km s-min=8.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.47	162	PN	Pn	20 46 20.4	+0.4
HAZ				SN	Sn	20 46 43.2	+0.3
HAZ				AML	AML	20 46 43.8	
MXZ	Matakaoa Point	1.49	144	PN	Pn	20 46 20.5	+0.2
RUGZ	Raukumara Rang	1.65	167	PN	Pn	20 46 21.6	-0.5
PKGZ	Pakihiroa	1.68	156	PN	Pn	20 46 22.4	+0.1
PKGZ				SN	Sn	20 46 45.7	-1.3
PKGZ				AML	AML	20 46 48.9	
WMGZ	Waiomatatini S	1.75	147	⇑PN	Pn	20 46 22.8	-0.2
WMGZ				AML	AML	20 46 49.3	
WMGZ				AML	AML	20 46 49.9	
URZ	Urewera	1.90	182	⇑PN	Pn	20 46 25.0	+0.4
TWGZ	Tauwhareparae	1.92	161	⇑PN	Pn	20 46 25.1	+0.1
TWGZ				SN	Sn	20 46 50.7	-1.0
TWGZ				AML	AML	20 46 53.7	
MWZ	Matawai	1.99	173	PN	Pn	20 46 25.7	0.0
RAGZ	Rawiri	2.14	176	⇓PN	Pn	20 46 27.6	0.0
RAGZ				AML	AML	20 46 57.9	
RAGZ				AML	AML	20 46 59.7	
MUGZ	Murupara	2.14	189	⇓PN	Pn	20 46 27.8	+0.3
RTZ	Ruatahuna	2.26	184	PN	Pn	20 46 28.2	-0.8
CNGZ	Carnagh Statio	2.27	160	PN	Pn	20 46 28.0	-0.9
RIGZ	Rimuhau	2.38	169	PN	Pn	20 46 29.2	-1.1
RIGZ				AML	AML	20 47 01.1	
RIGZ				AML	AML	20 47 03.4	
SNGZ	Shannon Statio	2.42	178	PN	Pn	20 46 29.8	-1.1
SNGZ				AML	AML	20 47 03.1	
SNGZ				AML	AML	20 47 04.9	
KNZ	Kokohu	2.68	172	PN	Pn	20 46 32.0	-2.0
NMHZ	Naumai	2.75	187	PN	Pn	20 46 34.3	-0.6
KWHZ	Kaweka Forest	3.12	191	PN	Pn	20 46 37.8	-1.7

ISK ***29*** *20:50:57.7,38.°90N×43.°44E,h7km,MD2.6*

ISCJB ***29*** *20:50:58.6±0.6,38.°91N±0.°03×43.°46E±0.°06,h10km±8km, Error ellipse: s-maj=7.8km s-min=5.4km az=11.5*

CSEM ***29*** *20:50:58.2±0.2,38.°90N×43.°44E,h10km,MD2.6,Error ellipse: s-maj=6.1km s-min=4.8km az=112.0*

DDA ***29*** *20:50:58.3,38.°85N×43.°52E,h7km,Md2.8*

ISC 29 20:50:58.5±0.9,38.°90N±0.°02×43.°45E±0.°03,h10km±8km, n21,σ0°68/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.14	46	*iP*	Pg	20 51 02.0	+0.3
VMUR	Van-Muradiye	0.14	46	P	Pg	20 51 02.0	+0.3
ERCV	ERCIS-VAN	0.15	326	*ePG*	Pg	20 51 00.8	-1.2
ERCV	ERCIS-VAN	0.15	326	*ePg*	Pg	20 51 00.8	-1.2
VANB	Van	0.30	189	*ePG*	Pb	20 51 05.5	-0.6
VANB				*e*SG	Sb	20 51 12.2	+1.1
VANB	Van	0.30	189	*ePg*	Pb	20 51 05.5	-0.6
VANB				*e*Sg	Sb	20 51 12.2	+1.1
TVAN	Van	0.37	185	*i*P	Pg	20 51 04.9	-0.9
TVAN				*i*S	Sg	20 51 11.3	+0.5
TVAN	Van	0.37	185	P	Pg	20 51 04.9	-0.9
TVAN				S	Sg	20 51 11.3	+0.5
CLDR	Caldiran	0.44	56	*e*PG	Pg	20 51 06.5	-0.6
CLDR				*e*SG	Sg	20 51 13.8	+0.7
CLDR	Caldiran	0.44	56	*i*P	Pg	20 51 06.6	-0.6
CLDR				*i*S	Sb	20 51 15.2	-0.1
CLDR	Caldiran	0.44	56	P	Pg	20 51 06.6	-0.6
CLDR				*e*Sg	Sg	20 51 13.8	+0.7
CLDR				S	Sb	20 51 15.1	-0.1
TUTA	Tutak	0.70	316	*i*P	Pb	20 51 12.9	-0.1
TUTA				*i*S	Sn	20 51 25.2	-0.6
TUTA	Tutak	0.70	316	P	Pb	20 51 12.9	-0.1
TUTA				S	Sn	20 51 25.2	-0.6
AGRB	Hanur-Agry	0.77	333	*e*PG	Pg	20 51 13.1	-0.2
AGRB	Hanur-Agry	0.77	333	*e*Pg	Pg	20 51 13.1	-0.2
TATV	Tatvan	1.00	248	*i*P	Pg	20 51 17.6	-0.1
TATV				*i*S	Sb	20 51 32.2	+0.9
TATV	Tatvan	1.00	248	P	Pg	20 51 17.6	-0.1
TATV				S	Sb	20 51 32.2	+0.9
GURO	Guroymak-BITLI	1.16	253	*e*PN	Pg	20 51 20.4	-0.3
GURO	Guroymak-BITLI	1.16	253	*e*Pn	Pg	20 51 20.4	-0.3
CUKT	Cukurca	1.65	176	*e*PN	Pn	20 51 27.7	+0.1
CUKT	Cukurca	1.65	176	*e*Pn	Pn	20 51 27.7	+0.1

ISK ***29*** *20:51:56.6,38.°77N×43.°22E,h8km,MD2.6*

ISCJB ***29*** *20:51:57.5±0.5,38.°76N±0.°03×43.°18E±0.°06,h13km±9km, Error ellipse: s-maj=8.5km s-min=4.6km az=155.7*

CSEM ***29*** *20:51:57.2±0.2,38.°76N×43.°20E,h15km,MD2.6,Error ellipse: s-maj=5.3km s-min=4.4km az=63.0*

DDA ***29*** *20:51:57.8,38.°73N×43.°18E,h7km,Md2.8*

ISC 29 20:51:57.7±0.9,38.°77N±0.°03×43.°19E±0.°03,h16km±10km, n20,σ0°82/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	137	*e*PG	Pg	20 52 03.2	+0.1
VANB				*e*SG	Sg	20 52 07.5	+0.9
VANB	Van	0.23	137	*e*Pg	Pg	20 52 03.2	+0.1
VANB				*e*Sg	Sg	20 52 07.6	+0.9
TVAN	Van	0.29	144	*i*P	Pg	20 52 03.3	-0.8
TVAN				*i*S	Sg	20 52 07.9	-0.5
TVAN	Van	0.29	144	P	Pg	20 52 03.3	-0.8
TVAN				S	Sg	20 52 07.9	-0.5
ADCV	BITLIS_Adilcev	0.36	277	*i*P	Pb	20 52 05.5	-0.4
ADCV	BITLIS_Adilcev	0.36	277	P	Pb	20 52 05.5	-0.4
GEVA	Gevas	0.46	193	*i*P	Pg	20 52 06.1	-1.0
GEVA	Gevas	0.46	193	P	Pg	20 52 06.1	-1.0
CLDR	Caldiran	0.68	56	*e*PG	Pg	20 52 09.5	-1.7
CLDR	Caldiran	0.68	56	*e*Pg	Pg	20 52 09.5	-1.7
TUTA	Tutak	0.70	336	*i*P	Pb	20 52 11.7	+0.1
TUTA				*i*S	Sb	20 52 22.6	+1.5
TUTA	Tutak	0.70	336	P	Pb	20 52 11.7	+0.1
TUTA				S	Sb	20 52 22.6	+1.5
TATV	Tatvan	0.77	251	*i*P	Pg	20 52 12.2	-0.5
TATV				*i*S	Sg	20 52 22.2	-0.6
TATV	Tatvan	0.77	251	P	Pg	20 52 12.2	-0.5
TATV				S	Sg	20 52 22.2	-0.6
AGRB	Hanur-Agry	0.82	349	*e*PG	Pb	20 52 13.8	0.0
AGRB				*e*SG	Sg	20 52 24.8	+0.2
AGRB	Hanur-Agry	0.82	349	*e*Pg	Pb	20 52 13.8	0.0
AGRB				*e*Sg	Sg	20 52 24.8	+0.2
GURO	Guroymak-BITLI	0.93	257	*e*PG	Pg	20 52 15.2	-0.6
GURO	Guroymak-BITLI	0.93	257	*e*Pg	Pg	20 52 15.2	-0.6
CUKT	Cukurca	1.55	168	*e*PN	Pn	20 52 25.1	+0.3
CUKT	Cukurca	1.55	168	*e*Pn	Pn	20 52 25.1	+0.3

GUC 29 20:55:04.9±0.4,38.°51S×74.°95W,h23km±3km,ML3.8, 1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	Puerto Saavedr	1.26	104	⇓*iP*	Pn	20 55 26.4	-0.7
PSCH				*e*S	Sn	20 55 42.0	-1.2
VLCH	Valdivia	1.85	135	⇑*iP*	Pn	20 55 35.4	+0.1
VLCH				*i*S	Sn	20 55 58.6	+0.7

MEX 29 20:55:56.6±0.5,19.°11N×104.°14W,h9km±4km,MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		0.17	67	*eP*	Pg	20 55 59.5	-0.7
R15V				*e*S	Sg	20 56 02.6	0.0
EZ5V		0.63	54	*eP*	Pg	20 56 07.7	-1.2
EZ5V				*i*S	Sg	20 56 16.4	-0.8
CJM	Chamela	0.94	295	*i*P	Pg	20 56 12.1	-2.5
CJM				*e*S	Sg	20 56 24.0	-2.8
MMIG	Aquila	1.11	137	*eP*

7.5nm,1.0s,baz=123,slow=7.2,SNR=23
SNAA Sanae 49.54 204 *e*P **P 21 10 41.8 -0.3**
VNA2 Neumayer--Watz 51.19 204 P **P 21 10 53.8 -0.6**
baz=32,slow=32
VNA1 Neumayer--Stat 51.58 204 P **P 21 10 57.6 +0.3**
VNA3 Neumayer Olymp 51.61 203 P **P 21 10 57.0 -0.6**
BOSA Boshof 59.64 260 LR LR 21 32 26.6
comp=Z,700nm,19.6s,baz=135,slow=31
CMAR Chiang Mai Arr 65.65 359 P **P 21 12 34.8 -1.1**
2.1nm,0.9s,baz=200,slow=5.4,SNR=12
CMAR LR LR 21 38 07.5
comp=Z,701nm,19.6s,baz=196,slow=33
KMBO Kilima Mbogo 71.15 290 LR LR 21 37 43.5
comp=Z,271nm,20.8s,baz=118,slow=30
WSAR Wadi Sarin 79.71 322 LR LR 21 42 45.4
comp=Z,458nm,18.7s,slow=31
TBI Tubuai 85.84 120 *e*LR LR 21 41 37.7
377nm,30.8s
KSRS Korea Array 88.14 22 LR LR 21 57 46.1
comp=Z,49nm,18.1s,baz=80,slow=38
PPT2 Papeete2 90.19 117 *e*LR LR 21 43 38.8
445nm,23.2s
PPT Papeete 90.20 117 LR LR 21 46 32.8
comp=Z,147nm,21.7s,baz=186,slow=30
PLCA Paso Flores 91.77 187 LR LR 21 54 39.6
comp=Z,803nm,20.4s,baz=178,slow=35
GEYT Alibeck 92.96 328 LR LR 21 53 43.4
comp=Z,154nm,18.1s,baz=280,slow=34
SONM Songino Array 95.10 4 LR LR 21 59 39.8
comp=Z,288nm,18.6s,baz=182,slow=36
MKAR Makanchi Array 95.19 348 LR LR 21 54 55.7
comp=Z,219nm,21.4s,baz=182,slow=34
KURK Kurchatov 99.57 346 *e*P **Pdif 21 15 34.3 +0.1**
0.7nm,0.5s
TAOE Nuku Hiva Isla 102.68 118 *e*LR LR 21 49 26.2
268nm,26.6s
GERES GERESS Array B 121.60 309 PKP **PKPdf 21 20 46.0 +1.2**
0.1nm,0.3s,baz=186,slow=1.9,SNR=3.2
TXAR Lajitas Array 154.14 126 PKPbc **PKPbc 21 21 50.7 -0.9**
0.3nm,0.8s,baz=238,slow=5.2,SNR=2.6

*DDA **29** 21:05:57.4,38.°82N×43.°58E, h5km, Ml3.6*
*ISK **29** 21:05:57.9,38.°86N×43.°56E, h2km, ML3.3*
*CSEM **29** 21:05:58.3±0.3,38.°83N×43.°60E, h2km, ML3.3, Error ellipse: s-maj=5.6km s-min=4.1km az=98.0*
ISC 29 21:05:58.3±1.0, 38.°83N±0.°02×43.°61E±0.°02, h8km±9km, n67, σ0§91/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.28**	**312**	*e*PG	**Pg**	**21 06 03.7**	**-0.2**
ERCV	**ERCIS-VAN**	**0.28**	**312**	*e*Pg	**Pg**	**21 06 03.7**	**-0.2**
VANB	**Van**	**0.29**	**216**	*e*PG	**Pb**	**21 06 06.2**	**+0.5**
TVAN	**Van**	**0.34**	**207**	*i* P	**Pg**	**21 06 05.5**	**+0.4**
TVAN				*i* S	**Sb**	**21 06 11.8**	**-0.5**
TVAN	**Van**	**0.34**	**207**	P	**Pg**	**21 06 05.5**	**+0.4**
TVAN				S	**Sb**	**21 06 11.8**	**-0.5**
CLDR	**Caldiran**	**0.39**	**38**	*e*PG	**Pg**	**21 06 06.4**	**+0.3**
CLDR				*e*SG	**Sb**	**21 06 13.2**	**-0.7**
CLDR	**Caldiran**	**0.39**	**38**	*i* P	**Pg**	**21 06 06.3**	**+0.2**
CLDR				*i* S	**Sb**	**21 06 14.1**	**+0.2**
CLDR	**Caldiran**	**0.39**	**38**	*e*Pg	**Pg**	**21 06 06.4**	**+0.3**
CLDR				*e*Sg	**Sb**	**21 06 13.2**	**-0.7**
CLDR				S	**Sb**	**21 06 14.1**	**+0.2**
GEVA	**Gevas**	**0.67**	**220**	*i* P	**Pg**	**21 06 10.8**	**-0.5**
GEVA	**Gevas**	**0.67**	**220**	P	**Pg**	**21 06 10.8**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.69**	**268**	*i* P	**Pg**	**21 06 11.3**	**-0.3**
ADCV				*i* S	**Sg**	**21 06 20.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.69**	**268**	P	**Pg**	**21 06 11.3**	**-0.3**
ADCV				S	**Sg**	**21 06 20.9**	**+0.3**
DYDN	**Diyadin**	**0.71**	**5**	*i* P	**Pg**	**21 06 12.1**	**0.0**
DYDN				*i* S	**Sb**	**21 06 22.7**	**-0.4**
DYDN	**Diyadin**	**0.71**	**5**	P	**Pg**	**21 06 12.1**	**0.0**
DYDN				S	**Sb**	**21 06 22.7**	**-0.4**
BASK	**Baskale_VAN**	**0.84**	**158**	*i* P	**Pg**	**21 06 14.0**	**-0.4**
BASK				*i* S	**Sn**	**21 06 29.8**	**+0.7**
BASK	**Baskale_VAN**	**0.84**	**158**	P	**Pg**	**21 06 14.0**	**-0.4**
TUTA	**Tutak**	**0.84**	**313**	*i* P	**Pg**	**21 06 13.5**	**-0.9**
TUTA				*i* S	**Sg**	**21 06 25.6**	**+0.1**
TUTA	**Tutak**	**0.84**	**313**	P	**Pg**	**21 06 13.5**	**-0.9**
TUTA				S	**Sg**	**21 06 25.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**327**	*e*PG	**Pg**	**21 06 14.8**	**-0.5**
AGRB				*e*SG	**Sg**	**21 06 27.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.88**	**327**	*e*Pg	**Pg**	**21 06 14.8**	**-0.5**
AGRB				*e*Sg	**Sg**	**21 06 27.0**	**+0.2**
TATV	**Tatvan**	**1.10**	**253**	*i* P	**Pg**	**21 06 18.0**	**-1.3**
TATV				*i* S	**Sg**	**21 06 32.9**	**-0.7**
TATV	**Tatvan**	**1.10**	**253**	P	**Pg**	**21 06 18.0**	**-1.3**
TATV				S	**Sg**	**21 06 32.9**	**-0.7**
GURO	**Guroymak-BITLI**	**1.26**	**258**	*e*PN	**Sg**	**21 06 21.9**	**-0.6**
GURO	**Guroymak-BITLI**	**1.26**	**258**	*e*Pn	**Pg**	**21 06 21.9**	**-0.6**
EKAR	**Karacoban**	**1.27**	**290**	*i* P	**Pb**	**21 06 22.6**	**0.0**
EKAR				*i* S	**Sn**	**21 06 40.9**	**+1.0**
EKAR	**Karacoban**	**1.27**	**290**	P	**Pb**	**21 06 22.6**	**0.0**
EKAR				S	**Sn**	**21 06 40.9**	**+1.0**
HAKT	**HAKKARI**	**1.27**	**176**	*i* P	**Pg**	**21 06 20.6**	**-2.1**
HAKT				*i* S	**Sb**	**21 06 39.1**	**-0.1**
HAKT	**HAKKARI**	**1.27**	**176**	P	**Pg**	**21 06 20.6**	**-2.1**
HAKT				S	**Sb**	**21 06 39.1**	**-0.1**
EATA	**Eleskirt**	**1.34**	**320**	*i* P	**Pn**	**21 06 22.5**	**-1.1**
EATA				*i* S	**Sn**	**21 06 42.0**	**+0.2**
EATA	**Eleskirt**	**1.34**	**320**	P	**Pn**	**21 06 22.5**	**-1.1**
EATA				S	**Sn**	**21 06 42.0**	**+0.2**
SRTM	**Siirt_Merkez**	**1.57**	**238**	*i* P	**Pb**	**21 06 27.6**	**+0.1**
SRTM				*i* S	**Sg**	**21 06 49.6**	**+1.0**
SRTM	**Siirt_Merkez**	**1.57**	**238**	P	**Pb**	**21 06 27.6**	**+0.1**
SRTM				S	**Sg**	**21 06 49.6**	**+1.0**
CUKT	**Cukurca**	**1.58**	**180**	*e*PN	**Pb**	**21 06 27.4**	**-0.4**
CUKT	**Cukurca**	**1.58**	**180**	*i* P	**Pb**	**21 06 27.4**	**-0.4**
CUKT	**Cukurca**	**1.58**	**180**	P	**Pb**	**21 06 27.4**	**-0.4**
DIGO	**Kars**	**1.59**	**354**	*i* P	**Pg**	**21 06 28.7**	**-0.1**
DIGO	**Kars**	**1.59**	**354**	P	**Pg**	**21 06 28.7**	**-0.1**
VRTB	**Varto-Mus**	**1.71**	**282**	*e*PN	**Pn**	**21 06 28.6**	**+0.2**
VRTB	**Varto-Mus**	**1.71**	**282**	*i* P	**Pb**	**21 06 29.2**	**-0.7**
VRTB	**Varto-Mus**	**1.71**	**282**	*e*Pn	**Pn**	**21 06 28.6**	**+0.2**
VRTB	**Varto-Mus**	**1.71**	**282**	P	**Pb**	**21 06 29.2**	**-0.7**
BNGL	**BINGOL**	**1.92**	**274**	*i* P	**Pb**	**21 06 33.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.98**	**331**	*e*PN	**Pn**	**21 06 33.1**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.98**	**331**	*e*Pn	**Pn**	**21 06 33.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.01**	**251**	*e*PN	**Pb**	**21 06 34.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.01**	**251**	*i* P	**Pb**	**21 06 35.1**	**+0.1**
SVAN				*i* S	**Sn**	**21 06 58.3**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.01**	**251**	*e*Pn	**Pb**	**21 06 34.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.01**	**251**	P	**Pb**	**21 06 35.1**	**+0.1**
SVAN				S	**Sn**	**21 06 58.3**	**+0.5**
BTMN	**Batman**	**2.06**	**244**	*i* P	**Pb**	**21 06 35.5**	**-0.5**
BTMN				*i* S	**Sb**	**21 07 00.8**	**-1.0**
BTMN	**Batman**	**2.06**	**244**	P	**Pb**	**21 06 35.5**	**-0.5**
BTMN				S	**Sb**	**21 07 00.8**	**-1.0**
ECAT	**Cat-ERZURUM**	**2.19**	**292**	*i* P	**Pb**	**21 06 37.5**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.19**	**292**	P	**Pb**	**21 06 37.5**	**-0.6**
BNGB	**Bing¶ll**	**2.29**	**275**	*e*PN	**Pn**	**21 06 37.4**	**+1.0**
BINT	**Bingol**	**2.43**	**272**	*e*Pn	**Pn**	**21 06 37.4**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.46**	**285**	*e*PN	**Pn**	**21 06 39.1**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.46**	**285**	*e*Pn	**Pn**	**21 06 39.1**	**+0.4**
DDEM	**Demirkent**	**2.50**	**326**	*i* P	**Pb**	**21 06 43.3**	**-0.2**
DDEM	**Demirkent**	**2.50**	**326**	P	**Pb**	**21 06 43.3**	**-0.2**
DAGI	**Agillar**	**2.59**	**330**	*i* P	**Pb**	**21 06 45.2**	**+0.2**
MARD	**Mardin**	**2.70**	**237**	*i* P	**Pb**	**21 06 44.6**	**-2.2**
MARD				*i* S	**Sb**	**21 07 19.5**	**-0.6**
MAZI	**Mazidag**	**2.84**	**242**	*e*PN	**Pn**	**21 06 45.9**	**+1.9**
MAZI	**Mazidag**	**2.84**	**242**	*e*Pn	**Pn**	**21 06 45.9**	**+1.9**
DGRG	**David-gareji**	**2.95**	**27**	P	**Pb**	**21 06 48.9**	**-2.1**
PTK	**Pertek**	**3.29**	**272**	*e*PN	**Pn**	**21 06 52.5**	**+2.3**
PTK	**Pertek**	**3.29**	**272**	*e*Pn	**Pn**	**21 06 52.5**	**+2.3**
SVRC	**Sivrice-ELAZID**	**3.40**	**264**	*e*PN	**Pn**	**21 06 54.1**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.40**	**264**	*e*Pn	**Pn**	**21 06 54.1**	**+2.4**

*SJA **29** 21:12:27.2±0.5,28.°37S×70.°83W, h40km, ML3.9, MW4.0*
*GUC **29** 21:12:29.7±0.7,28.°51S×70.°58W, h67km±3km, ML3.8*
*ISCJB **29** 21:12:30.2±0.8,28.°46S±0.°03×70.°75W±0.°08, h75km±7km, Error ellipse: s-maj=11.1km s-min=5.2km az=4.0*
ISC 29 21:12:31.4±1.5, 28.°45S±0.°03×70.°72W±0.°07, h64km±11km, n21, σ1§35/33, 3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.13**	**195**	⇑*i*P	**Pn**	**21 12 40.9**	**-0.1**
VACH				*i* S	**Sn**	**21 12 48.3**	**+0.3**
LCO	**Las Campanas**	**0.56**	**178**	⇑*i*P	**Pn**	**21 12 43.9**	**-0.7**
LCO				*i* S	**Sn**	**21 12 54.2**	**0.0**
LCO				IAML		21 12 54.8	
comp=E,4μm,0.7s							
LCO	**Las Campanas**	**0.56**	**178**	*i* P	**Pn**	**21 12 44.0**	**-0.6**
LCO				*i* S	**Sn**	**21 12 54.6**	**+0.4**
GO03	**Copiap**	**0.96**	**27**	⇑*i*P	**Pn**	**21 12 48.6**	**-0.5**
GO03				*i* S	**Sn**	**21 13 02.7**	**+0.5**
GO03				IAML		21 13 05.9	
comp=N,3μm,0.1s							
CPCH	**Copiapo**	**1.14**	**17**	*i* P	**Pn**	**21 12 50.1**	**-1.3**
CPCH				*i* S	**Sn**	**21 13 06.7**	**+0.4**
CDCH	**Caldera**	**1.38**	**356**	*e*P	**Pn**	**21 12 54.9**	**+0.3**
CDCH				*e*S	**Sn**	**21 13 13.8**	**+1.8**
TLL	**Tololo Astrono**	**1.71**	**182**	*e*P	**Pn**	**21 12 58.6**	**-0.7**
TLL				*i* S	**Sn**	**21 13 19.9**	**-0.4**
TLL				IAML		21 13 26.6	
comp=N,2μm,0.3s							
AGUA	**GUANDACOL**	**2.21**	**118**	*e*P	**Pn**	**21 13 07.0**	**+1.1**
AGUA				*e*S	**Sn**	**21 13 33.2**	**+1.0**
VCA	**Vinchina**	**2.23**	**98**	*i* P	**Pn**	**21 13 07.4**	**+1.2**
VCA				*i* S	**Sn**	**21 13 34.0**	**+1.2**
VCA				IAML		21 13 42.3	
comp=N,2μm,0.4s							
VCA	**Vinchina**	**2.23**	**98**	*i* P	**Pn**	**21 13 07.0**	**+0.8**
VCA				*i* S	**Sn**	**21 13 36.2**	**+3.4**
VCA				IAML		21 13 40.9	
comp=Z,634nm,0.2s							
AMOG	**MOGNA**	**3.15**	**142**	*i* P	**Pn**	**21 13 18.5**	**-0.1**
ACLC	**CERRO LA CRUZ**	**3.44**	**107**	*e*P	**Pn**	**21 13 22.0**	**-0.8**
RTLL	**Cerro Villicun**	**3.47**	**146**	*i* P	**Pn**	**21 13 22.9**	**-0.1**
RTLS	**Leoncito**	**3.56**	**160**	*e*P	**Pn**	**21 13 25.2**	**+0.8**
RTCV	**Cerro Valdivia**	**3.89**	**151**	*e*P	**Pn**	**21 13 28.6**	**-0.2**
RTCV				*i* P	**Pn**	**21 13 28.6**	**-0.2**
AUSP	**Uspallata**	**3.93**	**163**	*e*P	**Pn**	**21 13 30.3**	**+0.7**
CYA	**Choya**	**4.33**	**91**	*e*P	**Pn**	**21 13 33.6**	**-1.2**
CYA				*e*S	**Sn**	**21 14 19.3**	**-4.8**
ASAL	**Salagasta**	**4.43**	**159**	*e*P	**Pn**	**21 13 36.5**	**+0.2**
ACHE	**Chepes**	**4.44**	**128**	*e*P	**Pn**	**21 13 35.4**	**-1.0**
ARCO	**CERRO ARCO**	**4.64**	**161**	*e*P	**Pn**	**21 13 39.7**	**+0.5**
FSA	**Cafayete**	**4.82**	**62**	*i* P	**Pn**	**21 13 41.5**	**-0.2**

DJA 29 21:31:40.0±0.7, 9.°S±3.°×11.°1E±.°, h28km±6km, M4.0/18, mB4.9/2, mb4.1/5, MLv4.0/18, Mw(mB)4.2/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.84**	**343**	P	Pb	21 31 56.4	+0.4
UGM				S	Sn	21 32 08.0	+0.6
SMRI	**Semarang**	**1.69**	**349**	P	Pn	21 32 07.6	-0.1
SMRI				S	Sn	21 32 29.0	+0.5
UWJI	**Ujung Watu**	**2.29**	**4**	P	Pn	21 32 16.0	0.0
CISI	**Cisompet, Garu**	**3.15**	**291**	P	Pn	21 32 27.7	-0.1
CISI				S	Sn	21 33 04.3	-0.2
JAGI	**Jajag, Banyuwa**	**3.35**	**86**	P	Pn	21 32 30.5	-0.1
JAGI				S	Sn	21 33 10.4	+0.9
BWJI	**Bawean**	**3.41**	**33**	P	Pn	21 32 31.4	0.0
KMMI	**Kalianget**	**3.58**	**63**	P	Pn	21 32 33.3	-0.3
CNJI	**Cibinong**	**3.87**	**291**	P	Pn	21 32 37.3	-0.4
IGBI	**Denpasar**	**4.33**	**92**	P	Pn	21 32 43.4	-0.6
DNP	**Denpasar**	**4.39**	**90**	P	Pn	21 32 45.4	+0.6
SRBI	**Singaraja**	**4.44**	**82**	P	Pn	21 32 44.8	-0.7
SKJI	**Sukabumi**	**4.51**	**292**	P	Pn	21 32 46.3	-0.2
DBJI	**Dramaga**	**4.53**	**298**	P	Pn	21 32 46.9	+0.1
CGJI	**Cibinong**	**5.45**	**292**	P	Pn	21 32 59.4	0.0
TWSI	**Taliwang, Sumb**	**6.04**	**91**	P	Pn	21 33 07.6	0.0
PBKI	**Pangkalan Bun**	**6.04**	**9**	P	Pn	21 33 07.9	+0.3
PLAI	**Plampang**	**6.93**	**91**	P	Pn	21 33 19.9	+0.2
KASI	**Kota Agung**	**6.99**	**297**	P	Pn	21 33 20.6	0.0

*ISK **29** 21:34:19.7,38.°71N×43.°24E, h4km, MD2.8*
*DDA **29** 21:34:20.7,38.°71N×43.°26E, h7km, Ml3.6*
*CSEM **29** 21:34:20.8±0.2,38.°72N×43.°26E, h8km, MD2.8, Error ellipse: s-maj=3.9km s-min=3.2km az=139.0*
*ISCJB **29** 21:34:21.1±0.4,38.°72N±0.°02×43.°26E±0.°04, h7km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=17.4*
ISC 29 21:34:21.1±0.8, 38.°72N±0.°02×43.°26E±0.°02, h14km±6km, n40, σ0§90/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**139**	*e*PG	**Pg**	**21 34 25.3**	**+0.1**
VANB				*e*SG	**Sg**	**21 34 29.1**	**+1.2**
VANB	**Van**	**0.16**	**139**	*e*Pg	**Pg**	**21 34 25.3**	**+0.1**
VANB				*e*Sg	**Sg**	**21 34 29.1**	**+1.2**
TVAN	**Van**	**0.22**	**148**	*i* P	**Pg**	**21 34 25.2**	**-1.0**
TVAN				*i* S	**Sg**	**21 34 28.9**	**-0.8**
TVAN	**Van**	**0.22**	**148**	P	**Pg**	**21 34 25.2**	**-1.0**
TVAN				S	**Sg**	**21 34 28.9**	**-0.8**
ERCV	**ERCIS-VAN**	**0.31**	**12**	*e*PG	**Pg**	**21 34 26.9**	**-0.8**
ERCV				*e*SG	**Sg**	**21 34 32.0**	**-0.2**
ERCV	**ERCIS-VAN**	**0.31**	**12**	*e*Pg	**Pg**	**21 34 26.9**	**-0.8**
ERCV				*e*Sg	**Sg**	**21 34 32.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.37**	**42**	*i* P	**Pg**	**21 34 28.4**	**-0.3**
VMUR				*i* S	**Sb**	**21 34 34.6**	**-0.6**
VMUR	**Van-Muradiye**	**0.37**	**42**	P	**Pg**	**21 34 28.4**	**-0.3**
VMUR				S	**Sb**	**21 34 34.6**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.42**	**283**	*i* P	**Pg**	**21 34 29.6**	**-0.1**
ADCV				*i* S	**Sb**	**21 34 36.2**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.42**	**283**	P	**Pg**	**21 34 29.6**	**-0.1**
ADCV				S	**Sb**	**21 34 36.2**	**-0.7**
GEVA	**Gevas**	**0.43**	**201**	*i* P	**Pg**	**21 34 29.0**	**-0.8**
GEVA				*i* S	**Sb**	**21 34 36.1**	**-0.9**
GEVA	**Gevas**	**0.43**	**201**	P	**Pg**	**21 34 29.0**	**-0.8**
GEVA				S	**Sb**	**21 34 36.1**	**-0.9**
CLDR	**Caldiran**	**0.67**	**50**	*e*PG	**Pg**	**21 34 32.8**	**-1.5**
CLDR				*e*SG	**Sb**	**21 34 43.7**	**-0.2**
CLDR	**Caldiran**	**0.67**	**50**	*i* P	**Pg**	**21 34 33.5**	**-0.8**
CLDR				*i* S	**Sg**	**21 34 43.5**	**+0.3**
CLDR	**Caldiran**	**0.67**	**50**	*e*Pg	**Pg**	**21 34 32.8**	**-1.5**
CLDR	**Caldiran**	**0.67**	**50**	P	**Pg**	**21 34 33.5**	**-0.8**
CLDR				S	**Sg**	**21 34 43.5**	**+0.3**
TUTA	**Tutak**	**0.77**	**333**	*i* P	**Pg**	**21 34 35.3**	**-0.8**
TUTA	**Tutak**	**0.77**	**333**	P	**Pg**	**21 34 35.3**	**-0.8**
TATV	**Tatvan**	**0.80**	**255**	*i* P	**Pg**	**21 34 35.6**	**-1.2**
TATV				*i* S	**Sg**	**21 34 46.9**	**-0.4**
TATV	**Tatvan**	**0.80**	**255**	P	**Pg**	**21 34 35.6**	**-1.2**
TATV				S	**Sg**	**21 34 46.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.88**	**347**	*e*PG	**Pg**	**21 34 37.4**	**-0.9**
AGRB	**Hanur-Agry**	**0.88**	**347**	*e*Pg	**Pg**	**21 34 37.4**	**-0.9**
GURO	**Guroymak-BITLI**	**0.97**	**261**	*e*PG	**Pg**	**21 34 38.1**	**-1.8**
GURO	**Guroymak-BITLI**	**0.97**	**261**	*e*Pg	**Pg**	**21 34 38.1**	**-1.8**
EKAR	**Karacoban**	**1.07**	**300**	*i* P	**Pn**	**21 34 43.0**	**+1.1**
EKAR				*i* S	**Sn**	**21 34 58.0**	**+1.2**
EKAR	**Karacoban**	**1.07**	**300**	P	**Pn**	**21 34 43.0**	**+1.1**
EKAR				S	**Sn**	**21 34 58.0**	**+1.2**
SRTM	**Siirt_Merkez**	**1.27**	**236**	*i* P	**Pg**	**21 34 45.4**	**-0.3**
SRTM				*i* S	**Sn**	**21 35 03.4**	**+1.9**
SRTM	**Siirt_Merkez**	**1.27**	**236**	P	**Pg**	**21 34 45.4**	**-0.3**
SRTM				S	**Sn**	**21 35 03.4**	**+1.9**
EATA	**Eleskirt**	**1.29**	**333**	*i* P	**Pn**	**21 34 44.7**	**-0.3**
EATA	**Eleskirt**	**1.29**	**333**	P	**Pn**	**21 34 44.7**	**-0.3**
VRTB	**Varto-Mus**	**1.47**	**288**	*e*PN	**Pn**	**21 34 47.7**	**+0.4**
VRTB	**Varto-Mus**	**1.47**	**288**	*i* P	**Pn**	**21 34 48.0**	**+0.7**
VRTB				*i* S	**Sg**	**21 35 09.1**	**+0.5**
VRTB	**Varto-Mus**	**1.47**	**288**	*e*Pn	**Pn**	**21 34 47.7**	**+0.4**
VRTB	**Varto-Mus**	**1.47**	**288**	P	**Pn**	**21 34 48.0**	**+0.7**
VRTB				S	**Sg**	**21 35 09.1**	**+0.5**
CUKT	**Cukurca**	**1.49**	**169**	*i* P	**Pb**	**21 34 48.3**	**-0.4**
CUKT	**Cukurca**	**1.49**	**169**	P	**Pb**	**21 34 48.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	*e*PN	**Pn**	**21 34 50.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.71**	**251**	*e*Pn	**Pn**	**21 34 50.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.97**	**340**	*e*PN	**Pn**	**21 34 55.1**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.97**	**340**	*e*Pn	**Pn**	**21 34 55.1**	**+0.9**

*ISCJB **29** 21:36:20.9±0.6,55.°63S±0.°09×27.°4W±0.°2, h10km, mb4.1/11, MS4.5/4, Error ellipse: s-maj=15.2km s-min=10.4km az=141.7*
*IDC **29** 21:36:20.9±0.9,55.°60S×27.°48W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, MS4.5/4, Ms1 4.5/4, ms1mx3.6/28, Error ellipse: s-maj=31.4km s-min=24.2km az=74.0*
*NEIC **29** 21:36:26.1±0.4,55.°65S×27.°44W, h35km, mb4.4/2, Error ellipse: s-maj=12.9km s-min=9.7km az=221.0*
ISC 29 21:36:22.6±0.7, 55.°6S±0.°1×27.°4W±0.°1, h10km, n29, σ1§10/19, mb4.0/10, MS4.5/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.41**	**280**	*e*Pn	**Pn**	**21 37 43.4**	**+0.2**
480nm,1.4s							
VNA1	**Neumayer--Stat**	**17.26**	**158**	P	**P**	**21 40 27.7**	**+2.9**
VNA3	**Neumayer Olymp**	**17.46**	**161**	P	**Pn**	**21 40 25.1**	**-0.8**
VNA2	**Neumayer--Watz**	**17.66**	**158**	P	**Pn**	**21 40 29.1**	**+0.9**
baz=315,slow=13							
SNAA	**Sanae**	**19.20**	**156**	P	**P**	**21 40 45.0**	**-1.2**
SNAA	**Sanae**	**19.20**	**156**	*e*P	**P**	**21 40 45.8**	**-0.5**
221nm,0.6s							
USHA	**Ushuaia**	**23.20**	**255**	LR	LR	21 47 47.3	
comp=Z,μm,20.2s,baz=194,slow=30							
QSPA	**South Pole Qui**	**34.66**	**180**	*e*P	**P**	**21 43 10.8**	**-1.1**
28nm,1.1s							
MAW	**Mawson**	**40.58**	**144**	P	**P**	**21 44 02.7**	**+1.0**
0.4nm,0.4s,baz=247,slow=7.7,SNR=2.6							
LVC	**Limon Verde**	**44.98**	**300**	*e*P	**P**	**21 44 38.8**	**+0.6**
1.0nm,0.8s							
BOSA	**Boshof**	**45.97**	**76**	P	**P**	**21 44 45.9**	**+0.1**
1.8nm,0.6s,baz=236,slow=6.0,SNR=6.5							
SBA	**Scott Base**	**46.53**	**184**	*e*P	**P**	**21 44 49.2**	**-0.3**
0.2nm,0.5s							
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**21 44 52.8**	**-0.5**
1.6nm,0.6s,baz=183,slow=6.1,SNR=18							
H10S2	**ASCENSION HYDR**	**47.59**	**17**	T	T	22 37 00.6	
baz=190,slow=74,SNR=8.0							
H10S3	**ASCENSION HYDR**	**47.60**	**17**	T	T	22 37 01.3	
baz=190,slow=74,SNR=13							
H10S1	**ASCENSION HYDR**	**47.61**	**17**	T	T	22 37 02.3	
baz=190,slow=74,SNR=10.0							
H10N1	**ASCENSION HYDR**	**48.71**	**17**	T	T	22 38 25.1	
baz=189,slow=75,SNR=7.1							
H10N3	**ASCENSION HYDR**	**48.71**	**17**	T	T	22 38 25.1	
baz=189,slow=75,SNR=9.9							
H10N2	**ASCENSION HYDR**	**48.73**	**17**	T	T	22 38 26.2	
baz=189,slow=75,SNR=10							
TSUM	**Tsumeb**	**49.56**	**61**	P	**P**	**21 45 13.1**	**-0.6**
0.2nm,0.5s							
LPAZ	**La Paz**	**50.02**	**305**	P	**P**	**21 45 17.9**	**+0.1**
1.2nm,0.6s,baz=235,slow=9.4,SNR=5.5							
PCRV	**Puerto La Cruz**	**72.53**	**321**	LR	LR	22 24 35.0	
comp=Z,142nm,18.1s,slow=40							
TORD	**Torodi Ar. Bea**	**72.71**	**30**	P	**P**	**21 47 50.6**	**+0.1**
0.7nm,0.5s,baz=201,slow=6.5,SNR=12							
SDV	**Santo Domingo**	**73.61**	**315**	LR	LR	22 23 06.3	
comp=Z,216nm,18.0s,baz=180,slow=38							
RAO	**Raoul Island**	**91.81**	**205**	LR	LR	22 25 47.8	
comp=Z,225nm,18.7s,baz=148,slow=32							
COCO	**West Island**	**98.01**	**125**	P	**P**	**21 49 59.1**	**+0.1**
78nm,0.8s							
ASAR	**Alice Springs**	**99.46**	**163**	P	**Pdif**	**21 50 03.8**	**-1.8**
0.2nm,0.8s,baz=178,slow=5.2,SNR=4.1							
ILAR	**Eielson Array**	**149.73**	**312**	PKPbc	**PKPbc**	**21 56 10.2**	**-0.8**
1.3nm,0.9s,baz=140,slow=2.2,SNR=10							
INCN	**Inchon**	**154.79**	**125**	*e*PKPdf	**PKPdf**	**21 56 15.6**	**+0.9**

*AZER **29** 21:36:20.2±0.6,37.°65N×44.°34E, h2km, Error ellipse: s-maj=6.6km s-min=3.5km az=96.0*
*ISCJB **29** 21:36:25.9±0.5,38.°67N±0.°02×43.°60E±0.°02, h4km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=33.5*
*DDA **29** 21:36:25.8,38.°67N×43.°55E, h19km, Ml3.8*
*ISK **29**

BTMN	**Batman**	**2.00**	**248**	*i* P	**Pn**	**21 37 01.1**	**+1.1**
BTMN				*i* S	**Sb**	**21 37 27.2**	**-0.3**
BTMN	**Batman**	**2.00**	**248**	P	**Pn**	**21 37 01.1**	**+1.1**
BTMN				S	**Sb**	**21 37 27.2**	**-0.3**
EAK	**Akyaka**	**2.02**	**360**	*i* P	**Pg**	**21 37 04.0**	**-1.0**
EAK	**Akyaka**	**2.02**	**360**	P	**Pg**	**21 37 04.0**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.13**	**333**	*e*PN	**Pn**	**21 37 01.7**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.13**	**333**	*e*Pn	**Pn**	**21 37 01.7**	**-0.2**
ERZM	**Erzurum**	**2.13**	**306**	*i* P	**Pb**	**21 37 04.9**	**-0.2**
ERZM	**Erzurum**	**2.13**	**306**	P	**Pb**	**21 37 04.9**	**-0.2**
ECAT	**Cat-ERZURUM**	**2.25**	**295**	*i* P	**Pb**	**21 37 07.0**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.25**	**295**	P	**Pb**	**21 37 07.0**	**-0.1**
BNGB	**Bing¶l**	**2.31**	**279**	*e*PN	**Pn**	**21 37 05.1**	**+0.8**
BINT	**Bingol**	**2.45**	**276**	*e*Pn	**Pn**	**21 37 05.1**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.51**	**289**	*e*PN	**Pn**	**21 37 07.9**	**+0.8**
YEDI	**Yedisu-Bingol**	**2.51**	**289**	*e*Pn	**Pn**	**21 37 07.9**	**+0.8**
MARD	**Mardin**	**2.61**	**240**	*i* P	**Pn**	**21 37 08.9**	**+0.4**
GDB	**GEDABAY**	**2.64**	**38**	⇑P	**Pb**	**21 37 12.4**	**-1.2**
GDB				⇑S	**Sg**	**21 37 52.4**	**+1.4**
GDB	**GEDABAY**	**2.64**	**38**	P	**Pb**	**21 37 12.4**	**-1.2**
DDEM	**Demirkent**	**2.64**	**328**	*i* P	**Pb**	**21 37 14.6**	**+0.9**
DAGI	**Agillar**	**2.74**	**332**	*i* P	**Pb**	**21 37 15.7**	**+0.4**
AKH	**Akhalkalaki**	**2.74**	**358**	*e*PN	**Pn**	**21 37 11.8**	**+1.5**
AKH	**Akhalkalaki**	**2.74**	**358**	P	**Pg**	**21 37 18.2**	**-0.6**
AKH	**Akhalkalaki**	**2.74**	**358**	*e*Pn	**Pn**	**21 37 11.8**	**+1.5**
QZX	**Qazax, Azerbai**	**2.75**	**29**	⇓P	**Pb**	**21 37 16.0**	**+0.5**
QZX				⇑S	**Sg**	**21 37 58.1**	**+3.6**
KOPT	**Kop Dagi**	**2.76**	**300**	*i* P	**Pb**	**21 37 16.7**	**+0.8**
MAZI	**Mazidag**	**2.77**	**245**	*e*PN	**Pn**	**21 37 11.0**	**+0.3**
MAZI	**Mazidag**	**2.77**	**245**	*e*Pn	**Pn**	**21 37 11.0**	**+0.3**
ARTV	**Artvin**	**2.83**	**333**	*i* P	**Pb**	**21 37 16.7**	**-0.2**
GANJ	**Ganja**	**2.88**	**46**	⇓P	**Pn**	**21 37 14.0**	**+1.9**
GANJ				⇓S	**Sb**	**21 37 55.3**	**+2.4**
GANJ	**Ganja**	**2.88**	**46**	P	**Pn**	**21 37 14.0**	**+1.9**
DGRG	**David-gareji**	**3.09**	**25**	P	**Pb**	**21 37 22.7**	**+1.4**
ERZN	**Erzincan**	**3.16**	**288**	*e*PN	**Pn**	**21 37 17.2**	**+1.2**
TBLG	**Delisi**	**3.18**	**15**	*e*PN	**Pn**	**21 37 17.4**	**+1.2**
TBLG	**Delisi**	**3.18**	**15**	P	**Pb**	**21 37 22.9**	**+0.1**
TBLG	**Delisi**	**3.18**	**15**	*e*Pn	**Pn**	**21 37 17.4**	**+1.2**
PTK	**Pertek**	**3.30**	**275**	*e*PN	**Pn**	**21 37 18.9**	**+0.8**
PTK	**Pertek**	**3.30**	**275**	*e*Pn	**Pn**	**21 37 18.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**3.39**	**266**	*e*PN	**Pn**	**21 37 19.7**	**+0.5**
SVRC	**Sivrice-ELAZID**	**3.39**	**266**	*e*Pn	**Pn**	**21 37 19.7**	**+0.5**
ZRD	**Zardab**	**3.54**	**62**	⇓P	**Pn**	**21 37 18.4**	**-2.8**
ZRD				⇑S	**Sn**	**21 38 03.9**	**+0.9**
ZRD	**Zardab**	**3.54**	**62**	P	**Pn**	**21 37 18.4**	**-2.8**
ZRD				S	**Sn**	**21 38 03.9**	**+0.9**
LRK	**Lerik**	**3.71**	**89**	⇓P	Pn	21 37 12.8	-11
SEKA	**Sheki**	**3.75**	**46**	⇑P	**Pn**	**21 37 25.5**	**+1.4**
SEKA				⇑S	**Sb**	**21 38 16.0**	**-2.0**
SEKA	**Sheki**	**3.75**	**46**	P	**Pn**	**21 37 25.5**	**+1.4**
ZKTA	**Zakatala**	**3.76**	**37**	⇑P	**Pn**	**21 37 27.3**	**+3.0**
GLBA	**Clilabad**	**3.77**	**80**	⇑P	Pn	21 37 16.4	-8.0
GLBA				⇓S	Sn	21 37 59.8	-9.0
ONI	**Oni**	**3.92**	**358**	P	**Pb**	**21 37 38.0**	**+2.6**
QBL	**Gabala**	**3.97**	**54**	⇓P	**Pn**	**21 37 26.1**	**-1.1**
QBL	**Gabala**	**3.97**	**54**	P	**Pn**	**21 37 26.1**	**-1.1**
LKRN	**Lenkeran, Azer**	**4.05**	**88**	⇑P	Pn	21 37 17.9	-10
ASTR	**Astara**	**4.06**	**90**	⇓P	Pn	21 37 17.5	-11
ASTR				⇓S	Sn	21 38 01.8	-14
XNQ	**Khinaliq**	**4.29**	**53**	⇑P	**Pn**	**21 37 30.5**	**-1.2**
XNQ	**Khinaliq**	**4.29**	**53**	P	**Pn**	**21 37 30.5**	**-1.2**
PQL	**Pirkuli**	**4.39**	**60**	⇑P	**Pn**	**21 37 30.2**	**-2.8**
PQL	**Pirkuli**	**4.39**	**60**	P	**Pn**	**21 37 30.2**	**-2.8**

SJA 29 21:39:10.0±0.6, 31°.13S×68°.46W, h99km±4km, ML3.1, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.19**	**351**	*i* P	Pn	21 39 24.9	+0.8
RTCV	**Cerro Valdivia**	**0.74**	**186**	*i* P	Pn	21 39 28.5	+0.7
RTCV				*i* S	Sn	21 39 42.2	+1.2
AVFE	**Valle Fertil**	**0.98**	**62**	*i* P	Pn	21 39 31.5	+1.3
AVFE				*i* S	Sn	21 39 46.5	+1.1
AVFE				IAML		21 39 47.1	
	comp=Z,380nm,0.3s						
RTLS	**Leoncito**	**0.98**	**227**	*i* P	Pn	21 39 31.5	+1.0
RTLS				*i* S	Sn	21 39 47.7	+1.9
RTLS				IAML		21 39 50.7	
	comp=Z,224nm,0.3s						
AUSP	**Uspallata**	**1.35**	**216**	*i* P	Pn	21 39 36.0	+1.3
AUSP				*i* S	Sn	21 39 55.3	+2.0
ASAL	**Salagasta**	**1.50**	**192**	*i* P	Pn	21 39 37.4	+1.1
ASAL				*i* S	Sn	21 39 57.9	+1.8
ACHE	**Chepes**	**1.54**	**92**	*i* P	Pn	21 39 38.1	+1.3
ACHE				*i* S	Sn	21 39 58.6	+1.4
AAGR	**Agrelo**	**1.98**	**189**	*i* P	Pn	21 39 43.7	+1.3

NNC 29 21:43:52.6±2.1, 36°.88N×71°.05E, h0km, mb3.8, mpv3.4, 5C-3D, Error ellipse: s-maj=16.3km s-min=8.4km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.61**	**318**	⇓Pn	Pn	21 44 35.7	-0.4
	5.5nm,0.4s						
DZET				⇑Sn	Sn	21 45 09.7	+1.2
	23nm,0.4s						
MNAS	**Manas**	**5.71**	**11**	⇓Pn	Pn	21 45 19.3	+0.4
	4.5nm,1.5s						
MNAS				⇓Sn	Sn	21 46 26.4	+1.2
	2.9nm,0.7s						
KK31	**Karatay Array**	**6.23**	**356**	⇑Pn	Pn	21 45 25.7	-0.1
	1.4nm,0.3s,baz=182,slow=12,SNR=30						
KK31				⇑Sn	Sn	21 46 39.2	+1.4
	1.9nm,0.5s,baz=189,slow=22,SNR=7.5						
AAK	**Ala-Archa**	**6.34**	**24**	⇑Pn	Pn	21 45 28.5	+1.1
	7.4nm,1.4s						
AAK				⇑Sn	Sn	21 46 41.0	+0.4
	8.4nm,1.0s						

*CSEM **29** 21:45:11.3±1.0, 32°.46N×48°.76E, h10km, ML2.6, Error ellipse: s-maj=26.9km s-min=18.8km az=91.0*

TEH 29 21:45:17.4, 32°.35N×49°.17E, h10km, ML2.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.40**	**232**	*e*Pg	Pg	21 45 18.0	-7.2
IPIR	**Pirpir**	**1.49**	**77**	*e*Pn	Pb	21 45 45.1	-0.3
IPIR				*e*AMB	AMB	21 46 15.4	
	comp=Z,1μm,0.3s						
IPIR	**Pirpir**	**1.49**	**77**	*e*Pn	Pb	21 45 45.1	-0.3
KHMZ	**Khomeyn**	**1.54**	**25**	*e*Pg	Pn	21 45 41.7	-3.4
IKLH	**Kolahrood**	**2.25**	**64**	*e*Pn	Pn	21 45 54.6	-0.3
IKLH				*e*AMB	AMB	21 46 41.1	
	comp=Z,301nm,0.4s						
IKLH	**Kolahrood**	**2.25**	**64**	*e*Pn	Pn	21 45 54.6	-0.3
QAM	**Ghamsar**	**2.37**	**53**	*e*Pn	Pn	21 45 56.1	-0.4
QAM				*e*Sg	Sb	21 46 31.3	+1.6
QAM				*e*AMB	AMB	21 46 39.6	
	comp=Z,668nm,0.2s						
IGAR	**Gharneh**	**2.43**	**88**	*e*Pn	Pn	21 45 57.4	0.0
IGAR				*e*AMB	AMB	21 46 42.1	
	comp=Z,288nm,0.1s						
IZEF	**Zefreh**	**2.72**	**78**	*e*AMB	AMB	21 46 02.9	
	comp=Z,318nm,0.1s						
IRAM	**Ramesheh**	**2.78**	**100**	*e*AMB	AMB	21 46 04.7	
	comp=Z,70nm,0.2s						
IRAM				*e*Pn	Pn	21 46 01.4	-0.8
NASN	**Na'in**	**3.10**	**81**	*e*Pn	Pn	21 46 04.5	-2.3
SNGE	**Sanandaj**	**3.13**	**331**	*e*Pn	Pn	21 45 58.1	-8.9

*DDA **29** 21:50:48.9, 38°.70N×43°.55E, h11km, Ml2.9*
*ISK **29** 21:50:48.7, 38°.67N×43°.56E, h7km, MD2.9*
*ISCJB **29** 21:50:49.6±0.5, 38°.70N±0°.02×43°.56E±0°.04, h11km±4km, Error ellipse: s-maj=5.5km s-min=3.6km az=170.5*
*CSEM **29** 21:50:49.2±0.2, 38°.69N×43°.55E, h8km, MD2.9, Error ellipse: s-maj=5.9km s-min=3.8km az=78.0*

ISC 29 21:50:49.4±0.9, 38°.69N±0°.02×43°.56E±0°.03, h15km±6km, n38, σ0°92/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**234**	*e*PG	**Pg**	**21 50 53.7**	**+0.1**
VANB	**Van**	**0.17**	**234**	*e*Pg	**Pg**	**21 50 53.7**	**+0.1**
TVAN	**Van**	**0.20**	**216**	*i* P	**Pg**	**21 50 53.8**	**-0.5**
TVAN				*i* S	**Sg**	**21 50 57.8**	**+0.3**
TVAN	**Van**	**0.20**	**216**	P	**Pg**	**21 50 53.8**	**-0.5**
TVAN				S	**Sg**	**21 50 57.8**	**+0.3**
VMUR	**Van-Muradiye**	**0.29**	**2**	*i* P	**Pg**	**21 50 55.2**	**-0.5**
VMUR				*i* S	**Sb**	**21 51 01.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.29**	**2**	P	**Pg**	**21 50 55.2**	**-0.5**
VMUR				S	**Sb**	**21 51 01.2**	**-0.1**
ERCV	**ERCIS-VAN**	**0.37**	**332**	*e*PG	**Pg**	**21 50 56.7**	**-0.3**
ERCV				*e*SG	**Sg**	**21 51 02.6**	**+0.4**
ERCV	**ERCIS-VAN**	**0.37**	**332**	*e*Pg	**Pg**	**21 50 56.7**	**-0.3**
ERCV				*e*Sg	**Sg**	**21 51 02.6**	**+0.4**
CLDR	**Caldiran**	**0.53**	**32**	*e*PG	**Pg**	**21 50 59.3**	**-0.6**
CLDR				*e*SG	**Sb**	**21 51 08.0**	**0.0**
CLDR	**Caldiran**	**0.53**	**32**	*e*Pg	**Pg**	**21 50 59.3**	**-0.6**
CLDR				*e*Sg	**Sb**	**21 51 08.0**	**0.0**
BASK	**Baskale_VAN**	**0.73**	**151**	*i* P	**Pg**	**21 51 02.9**	**-0.7**
BASK				*i* S	**Sg**	**21 51 13.2**	**-0.2**
BASK	**Baskale_VAN**	**0.73**	**151**	P	**Pg**	**21 51 02.9**	**-0.7**
BASK				S	**Sg**	**21 51 13.1**	**-0.2**
TUTA	**Tutak**	**0.92**	**321**	*i* P	**Pg**	**21 51 06.7**	**-0.5**
TUTA				*i* S	**Sg**	**21 51 18.4**	**-0.8**
TUTA	**Tutak**	**0.92**	**321**	P	**Pg**	**21 51 06.7**	**-0.5**
TUTA				S	**Sg**	**21 51 18.4**	**-0.8**
AGRB	**Hanur-Agry**	**0.98**	**334**	*e*PG	**Pb**	**21 51 08.3**	**0.0**
AGRB				*e*SG	**Sn**	**21 51 22.7**	**0.0**
AGRB	**Hanur-Agry**	**0.98**	**334**	*e*Pg	**Pb**	**21 51 08.3**	**0.0**
AGRB				*e*Sg	**Sn**	**21 51 22.7**	**0.0**
TATV	**Tatvan**	**1.03**	**260**	*i* P	**Pg**	**21 51 07.8**	**-1.5**
TATV				*i* S	**Sg**	**21 51 21.5**	**-1.3**
TATV	**Tatvan**	**1.03**	**260**	P	**Pg**	**21 51 07.8**	**-1.5**
TATV				S	**Sg**	**21 51 21.5**	**-1.3**
HAKT	**HAKKARI**	**1.14**	**174**	*i* P	**Pg**	**21 51 09.4**	**-2.0**
HAKT				*i* S	**Sn**	**21 51 27.7**	**+1.2**
HAKT	**HAKKARI**	**1.14**	**174**	P	**Pg**	**21 51 09.4**	**-2.0**
HAKT				S	**Sn**	**21 51 27.7**	**+1.2**
GURO	**Guroymak-BITLI**	**1.21**	**264**	*e*PN	**Pg**	**21 51 11.1**	**-1.5**
GURO	**Guroymak-BITLI**	**1.21**	**264**	*e*Pn	**Pg**	**21 51 11.1**	**-1.5**
EKAR	**Karacoban**	**1.29**	**296**	*i* P	**Pg**	**21 51 14.9**	**+0.6**
EKAR				*i* S	**Sn**	**21 51 32.5**	**+2.2**
EKAR	**Karacoban**	**1.29**	**296**	P	**Pg**	**21 51 14.9**	**+0.6**
EKAR				S	**Sn**	**21 51 32.5**	**+2.2**
CUKT	**Cukurca**	**1.45**	**178**	*e*PN	**Pb**	**21 51 15.7**	**-0.4**
CUKT	**Cukurca**	**1.45**	**178**	*i* P	**Pg**	**21 51 17.3**	**+0.1**
CUKT				*i* S	**Sg**	**21 51 36.5**	**+0.5**
CUKT	**Cukurca**	**1.45**	**178**	*e*Pn	**Pb**	**21 51 15.7**	**-0.4**
CUKT	**Cukurca**	**1.45**	**178**	P	**Pg**	**21 51 17.3**	**+0.1**
CUKT				S	**Sg**	**21 51 36.5**	**+0.5**
SRTM	**Siirt_Merkez**	**1.47**	**242**	*i* P	**Pg**	**21 51 16.7**	**-0.9**
SRTM				*i* S	**Sb**	**21 51 35.2**	**+0.3**
SRTM	**Siirt_Merkez**	**1.47**	**242**	P	**Pg**	**21 51 16.7**	**-0.9**
SRTM				S	**Sb**	**21 51 35.2**	**+0.3**
VRTB	**Varto-Mus**	**1.71**	**286**	*e*PN	**Pn**	**21 51 19.4**	**+0.6**
VRTB	**Varto-Mus**	**1.71**	**286**	*e*Pn	**Pn**	**21 51 19.4**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*PN	**Pn**	**21 51 22.7**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.93**	**254**	*e*Pn	**Pn**	**21 51 22.7**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.09**	**334**	*e*PN	**Pb**	**21 51 25.8**	**-1.2**
SENK	**Senkaya-Erzuru**	**2.09**	**334**	*e*Pn	**Pb**	**21 51 25.8**	**-1.2**
BNGB	**Bing¶l**	**2.27**	**278**	*e*PN	**Pn**	**21 51 27.3**	**+0.9**
BINT	**Bingol**	**2.41**	**275**	*e*Pn	**Pn**	**21 51 27.3**	**-1.1**

*ISCJB **29** 21:59:14.9±0.8, 47°.4S±0°.1×100°.0E±0°.2, h11km, mb4.3/10, MS4.3/10, Error ellipse: s-maj=27.2km s-min=11.1km az=38.3*
*IDC **29** 21:59:15.5±0.8, 47°.47S×100°.23E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/31, mbtmp4.2/8, MS4.3/11, Ms1 4.3/11, ms1mx4.0/26, Error ellipse: s-maj=31.7km s-min=17.1km az=124.0*
*NEIC **29** 21:59:16.7±0.8, 47°.37S×100°.08E, h10km, mb4.5/2, Error ellipse: s-maj=27.9km s-min=12.7km az=122.0*
*GCMT **29** 21:59:16.7±0.3, 47°.35S×99°.82E, h14km±1km, MW4.9/83, Moment Tensor Solution. s29,c34; s83,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.40±.11; Mθθ3.22±.13; Mϕϕ-2.82±.11; Mrθ0.31±.23; Mϕθ0.89±.09; Mϕr-0.17±.22; Best double couple: Mo3.16800×10^16 NP1:φs307.00000°, δ90.00000°, λ-6.00000°. NP2: φs37.00000°, δ84.00000°, λ-180.00000°. Principal axes: T 3.3700, Plg4.0000°, Azm352.0000°; N -0.4020, Plg84.0000°, Azm124.0000°; P -2.9660, Plg5.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 21:59:17.2±0.9, 47°.4S±0°.2×100°.2E±0°.2, h11km, n27, σ1°03/19, mb4.3/10, MS4.3/10, 1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**19.42**	**48**	LR	LR	22 09 20.8	
	comp=Z,530nm,21.6s,baz=106,slow=31						
MAW	**Mawson**	**27.74**	**210**	P	**P**	**22 05 04.4**	**-0.9**
	2.3nm,0.8s,baz=73,slow=11,SNR=8.6						
MAW				LR	LR	22 13 02.4	
	comp=Z,477nm,21.3s,baz=60,slow=30						
STKA	**Stephens Creek**	**35.00**	**79**	P	**P**	**22 06 08.9**	**-0.7**
	2.8nm,0.8s,baz=276,slow=11,SNR=3.4						
STKA				LR	LR	22 17 53.0	
	comp=Z,468nm,20.5s,baz=211,slow=32						
ASAR	**Alice Springs**	**35.82**	**60**	P	**P**	**22 06 15.9**	**-0.8**
	7.9nm,1.2s,baz=231,slow=6.5,SNR=14						
ASAR				PcP	**PcP**	**22 08 43.6**	**-0.6**
	0.5nm,0.9s,baz=215,slow=1.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**35.92**	**44**	LR	LR	22 20 22.0	
	comp=Z,285nm,18.0s,baz=233,slow=35						
SYO	**Syowa Base**	**36.39**	**212**	⇓*e*P	**P**	**22 06 20.8**	**-0.2**
VNDA	**Vanda**	**38.11**	**162**	P	**P**	**22 06 36.2**	**+0.6**
	4.5nm,0.9s,baz=283,slow=10,SNR=21						
VNDA				LR	LR	22 21 06.4	
	comp=Z,902nm,18.3s,baz=290,slow=34						
WRA	**Warramunga Arr**	**38.96**	**57**	P	**P**	**22 06 43.5**	**+0.2**
	5.2nm,1.1s,baz=220,slow=8.0,SNR=9.7						
WRA				LR	LR	22 20 54.9	
	comp=Z,543nm,21.6s,baz=215,slow=33						
SBA	**Scott Base**	**39.21**	**162**	*e*P	**P**	**22 06 46.9**	**+2.1**
	12nm,1.3s						
QSPA	**South Pole Qui**	**42.70**	**180**	*e*P	**P**	**22 07 13.6**	**-0.3**
	13nm,1.0s						
CTA	**Charters Tower**	**46.09**	**70**	P	**P**	**22 07 42.1**	**+0.7**
	2.7nm,0.6s,baz=314,slow=7.5,SNR=4.2						
H08S2	**Diego Garcia H**	**46.15**	**320**	T	T	22 56 48.5	
	baz=154,slow=76,SNR=22						
H08S1	**Diego Garcia H**	**46.16**	**320**	T	T	22 56 47.6	
	baz=154,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**46.17**	**320**	T	T	22 56 43.7	
	baz=154,slow=76,SNR=18						
SNAA	**Sanae**	**49.60**	**204**	P	**P**	**22 08 07.9**	**-0.1**
SNAA	**Sanae**	**49.60**	**204**	P	**P**	**22 08 07.6**	**-0.4**
	6.3nm,0.9s,baz=126,slow=7.9,SNR=22						
SNAA	**Sanae**	**49.60**	**204**	*e*P	**P**	**22 08 08.1**	**+0.1**
VNA2	**Neumayer--Watz**	**51.25**	**204**	P	**P**	**22 08 19.2**	**-1.1**
	baz=116,slow=7.4						
VNA1	**Neumayer--Stat**	**51.64**	**204**	P	**P**	**22 08 23.5**	**+0.3**
VNA3	**Neumayer Olymp**	**51.67**	**203**	P	**P**	**22 08 23.1**	**-0.4**
PMG	**Port Moresby**	**54.80**	**62**	LR	LR	22 31 24.9	
	comp=Z,210nm,18.3s,baz=228,slow=35						
DZM	**Mont Dzumac**	**58.13**	**89**	LR	LR	22 29 04.3	
	comp=Z,143nm,21.4s,baz=224,slow=31						
BOSA	**Boshof**	**59.68**	**260**	LR	LR	22 29 51.7	
	comp=Z,288nm,19.4s,baz=158,slow=31						
CMAR	**Chiang Mai Arr**	**65.60**	**359**	P	**P**	**22 10 01.2**	**+0.3**
	1.6nm,0.8s,baz=193,slow=6.0,SNR=12						
CMAR				LR	LR	22 35 49.8	
	comp=Z,268nm,19.3s,baz=265,slow=33						
PLCA	**Paso Flores**	**91.83**	**187**	LR	LR	22 51 54.1	
	comp=Z,225nm,21.2s,baz=166,slow=34						
GERES	**GERESS Array B**	**121.59**	**309**	PKP	**PKPdf**	**22 18 12.2**	**+2.0**
	0.8nm,0.9s,baz=17,slow=1.4,SNR=4.7						
TXAR	**Lajitas Array**	**154.15**	**126**	PKPbc	**PKPbc**	**22 19 15.3**	**-1.9**
	0.6nm,1.0s,baz=180,slow=5.3,SNR=2.4						

*IDC **29** 21:58:52.1±35.0, 2°.91S×103°.77E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.3/45, mbtmp3.8/3, MS4.7/1, Ms1 4.7/1, ms1mx3.0/45, Error ellipse: s-maj=625.9km s-min=207.2km az=136.0*
*ISCJB **29** 21:59:21.8±0.6, 6°.25S±0°.09×105°.33E±0°.07, h26km, mb3.7/3, MS4.7/1, Error ellipse: s-maj=16.0km s-min=4.6km az=38.6*
*DJA **29** 21:59:21.5±0.4, 6°.5S±6°×10°.5E±°, h10km, M4.7/15, mB5.9/1, mb4.6/2, MLv4.7/15, Mw(mB)5.5/1*

ISC 29 21:59:22.5±1.0, 6°.17S±0°.07×105°.34E±0°.06, h26km, n21, σ1°26/22, mb3.7/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.56**	**141**	P	**Pb**	**21 59 31.9**	**-1.9**
SBJI	**Serang**	**0.79**	**86**	P	**Pb**	**21 59 34.8**	**-2.8**
BLSI	**Bandar Lampung**	**0.81**	**353**	P	**Pb**	**21 59 35.7**	**-2.3**
KASI	**Kota Agung**	**1.06**	**308**	P	**Pn**	**21 59 40.9**	**-0.8**
TNG	**Tangerang**	**1.30**	**90**	P	**Pb**	**21 59 46.6**	**+0.3**
DBJI	**Dramaga**	**1.45**	**105**	P	**Pn**	**21 59 46.6**	**-0.5**
DBJI				S	**Sb**	**22 00 08.3**	**+1.3**
SKJI	**Sukabumi**	**1.46**	**124**	P	**Pn**	**21 59 47.1**	**-0.2**
KLSI		**1.59**	**338**	P	**Pn**	**21 59 50.1**	**+1.0**
LWLI	**Liwa**	**1.72**	**312**	P	**Pn**	**21 59 51.9**	**+1.1**
MDSI	**Maura Dua**	**2.04**	**325**	P	**Pn**	**21 59 56.0**	**+0.8**
MDSI				S	**Sb**	**22 00 23.7**	**-0.1**
CNJI	**Cibinong**	**2.10**	**122**	P	**Pn**	**21 59 56.2**	**+0.1**
CISI	**Cisompet, Garu**	**2.81**	**119**	P	**Pn**	**22 00 06.0**	**+0.1**
LHSI	**Lahat**	**2.95**	**322**	P	**Pn**	**22 00 08.2**	**+0.5**
MNAI	**Manna**	**2.98**	**307**	P	**Pn**	**22 00 08.8**	**+0.6**
MASI	**Maura Aman, Be**	**4.32**	**314**	P	**Pn**	**22 00 28.3**	**+1.7**
UGM	**Wanagama**	**5.43**	**109**	P	**Pn**	**22 00 43.0**	**+1.2**
UWJI	**Ujung Watu**	**5.58**	**93**	P	**Pn**	**22 00 45.3**	**+1.4**
WRA	**Warramunga Arr**	**31.31**	**119**	P	**P**	**22 05 40.6**	**-0.4**
	0.5nm,0.4s,baz=298,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**32.51**	**125**	P	**P**	**22 05 52.1**	**+0.7**
	0.4nm,0.5s,baz=301,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**42.42**	**132**	P	**P**	**22 07 16.0**	**+0.8**
	1.8nm,0.7s,baz=317,slow=11,SNR=3.2						
GEYT	**Alibeck**	**62.06**	**319**	LR	LR	22 35 44.1	
	comp=Z,532nm,18.6s,baz=265,slow=38						

*IDC **29** 21:59:54.5±4.1, 5°.88S×105°.52E, h32km±29km, mb4.1/20, mb1 4.3/20, mb1mx4.0/43, mbtmp4.3/20, MS3.5/1, Ms1 3.7/1, ms1mx3.0/41, Error ellipse: s-maj=19.7km s-min=11.2km az=52.0*
*ISCJB **29** 21:59:55.7±0.3, 6°.48S±0°.05×105°.32E±0°.04, h53km, mb4.6/50, MS4.2/7, Error ellipse: s-maj=7.6km s-min=4.9km az=43.1*
*NEIC **29** 21:59:55.8±0.7, 6°.51S×105°.28E, h39km±7km, mb4.7/23, Error ellipse: s-maj=9.4km s-min=6.0km az=218.0*

ISC 29 21:59:57.9±0.3, 6°.46S±0°.05×105°.35E±0°.05, h53km, n88, σ2°36/82, mb4.5/50, MS4.2/7, 1D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**2.68**	**114**	*e*Pn	**Pn**	**22 00 36.5**	**-2.1**
MNAI	**Manna**	**3.17**	**311**	*e*Pn	**Pn**	**22 00 44.0**	**-1.3**
XMIS	**Christmas Isla**	**4.00**	**176**	*e*Pn	**Pn**	**22 00 52.8**	**-4.0**
SMRI	**Semarang**	**5.09**	**97**	*e*Pn	**Pn**	**22 01 09.5**	**-2.2**
UGM	**Wanagama**	**5.33**	**106**	*e*Pn	**Pn**	**22 01 13.0**	**-2.0**
MYKOM	**Kota Tinggi**	**8.33**	**350**	*e*Pn	**Pn**	**22 01 55.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**8.96**	**103**	*e*Pn	**Pn**	**22 02 01.9**	**-2.7**
KSM	**Kuching**	**9.31**	**32**	*e*Pn	**Pn**	**22 02 08.6**	**-0.9**
COCO	**West Island**	**10.14**	**235**	*e*Pn	**Pn**	**22 02 18.7**	**-2.2**
GSI	**Gunungsitoli**	**10.94**	**315**	*e*Pn	**Pn**	**22 02 30.0**	**-1.9**
SBUM	**Sibu**	**11.20**	**38**	*e*Pn	**Pn**	**22 02 34.3**	**-1.1**
PSI	**Prapat**	**11.22**	**325**	*e*Pn	**Pn**	**22 02 34.0**	**-1.7**
KAPI	**Kappang**	**14.40**	**85**	*e*Pn	**Pn**	**22 03 17.4**	**-1.5**
MMRI	**Maumere**	**16.88**	**98**	*e*Pn	**Pn**	**22 03 49.6**	**-1.1**
	45nm,1.1s						
MYLDM	**Lahad Datu**	**17.50**	**49**	*e*Pn	**P**

GTA	**Gaotai**	**45.93**	**354**	*e*P	P	22 08 21.0	+5.4
GTA				pP	pP	22 08 30.3	+0.6
GTA				sP	sP	22 08 35.0	-0.8
GTA				S	S	22 15 08.5	+12
GTA				sS	sS	22 15 24.5	+4.3
GTA	**Gaotai**	**45.93**	**354**	SS	SS	22 18 27.5	+5.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,5.5s						
GTA				LR	LR		
	comp=N,150nm,16.6s						
GTA				LR	LR		
	comp=E,260nm,15.2s						
GTA				LR	LR		
	comp=Z,190nm,16.4s						
HHC	**Hu-ho-hao-te**	**47.42**	**6**	*e*P	P	22 08 31.0	+3.8
HHC				S	S	22 15 25.5	+7.6
HHC				pmax	pmax		
	comp=Z,20nm,1.4s						
HHC				pmax	pmax		
	comp=Z,66nm,9.9s						
HHC				LR	LR		
	comp=N,120nm,14.8s						
HHC				LR	LR		
	comp=E,480nm,12.8s						
HHC				LR	LR		
	comp=Z,180nm,18.5s						
EIDS	**Eidsvold**	**47.53**	**119**	*e*P	**P**	**22 08 28.9**	**+0.6**
	comp=Z,14nm,1.2s						
JHJ2	**Mitsune**	**51.19**	**38**	*e*P	**P**	**22 08 57.2**	**+1.3**
	comp=Z,369nm,1.0s						
WMQ	**Urumqi**	**52.54**	**344**	P	**P**	**22 09 09.3**	**+3.4**
WMQ				pP	pP	22 09 13.8	-6.4
WMQ				sP	sP	22 09 16.3	-10
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.9s						
WMQ				LR	LR		
	comp=N,65nm,19.1s						
WMQ				LR	LR		
	comp=E,120nm,21.9s						
WMQ				LR	LR		
	comp=Z,67nm,19.1s						
MJAR	**Matsushiro Arr**	**52.70**	**33**	P	**P**	**22 09 03.7**	**-3.6**
	comp=Z,1.1nm,0.9s,baz=198,slow=7.6,SNR=4.5						
KSH	**Kashi**	**53.20**	**332**	P	P	22 09 17.0	+6.0
KSH				pP	pP	22 09 22.5	-2.8
KSH				sP	sP	22 09 24.5	-6.9
KSH				PcP	**PcP**	**22 10 23.8**	**+5.4**
KSH				PP	PP	22 11 19.0	+7.4
KSH				PcS	**PcS**	**22 14 23.5**	**+6.1**
KSH				S	S	22 16 48.8	+10
KSH				sS	pS	22 16 56.3	+1.5
KSH				ScS	ScS	22 19 05.8	+10
KSH	**Kashi**	**53.20**	**332**	SS	**SKiKP**	**22 20 28.8**	**+4.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,120nm,5.2s						
KSH				LR	LR		
	comp=N,260nm,6.4s						
KSH				LR	LR		
	comp=E,120nm,6.9s						
KSH				LR	LR		
	comp=Z,200nm,7.2s						
SONM	**Songino Array**	**54.07**	**1**	P	**P**	**22 09 12.6**	**-4.6**
	comp=Z,1.3nm,0.9s,baz=167,slow=6.8,SNR=7.0						
HNR	**Honiara**	**54.11**	**97**	*e*P	**P**	**22 09 18.2**	**+0.2**
	comp=Z,54nm,0.5s						
ULN	**Ulaanbaatar**	**54.11**	**1**	*e*P	**P**	**22 09 18.8**	**+1.3**
	comp=Z,1.9nm,0.9s						
WSAR	**Wadi Sarin**	**54.35**	**305**	P	**P**	**22 09 17.1**	**-2.4**
	comp=Z,22nm,1.4s,baz=143,slow=5.4,SNR=4.4						
USRK	**Ussuriysk Ar.**	**55.86**	**23**	P	**P**	**22 09 25.5**	**-4.5**
	comp=Z,2.8nm,0.8s,baz=208,slow=4.6,SNR=5.7						
MKAR	**Makanchi Array**	**56.84**	**341**	P	P	22 09 31.0	-6.0
	comp=Z,1.7nm,1.0s,baz=135,slow=6.2,SNR=4.5						
MKAR	**Makanchi Array**	**56.84**	**341**	*e*P	**P**	**22 09 37.9**	**+0.9**
MAKZ	**Makanchi**	**56.95**	**341**	*e*P	**P**	**22 09 38.2**	**+0.5**
	comp=Z,13nm,1.4s						
GEYT	**Alibeck**	**62.28**	**319**	P	**P**	**22 10 11.6**	**-3.1**
	comp=Z,6.4nm,0.8s,baz=142,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**62.62**	**346**	P	P	22 10 11.4	-5.1
	comp=Z,2.2nm,0.8s,baz=153,slow=4.6,SNR=9.1						
RAYN	**Ar Rayn**	**65.56**	**299**	*e*P	**P**	**22 10 35.6**	**-0.9**
	comp=Z,5.4nm,1.0s						
MAW	**Mawson**	**67.41**	**196**	P	**P**	**22 10 50.0**	**+2.6**
	comp=Z,3.1nm,1.0s,baz=41,slow=7.1,SNR=8.1						
MAW	**Mawson**	**67.41**	**196**	*e*P	**P**	**22 10 50.0**	**+2.6**
	comp=Z,1.2nm,1.1s						
ABKAR	**Akbulak array**	**68.12**	**330**	*e*P	**P**	**22 10 47.7**	**-4.5**
	comp=Z,4.3nm,0.8s						
KBZ	**Khabaz**	**75.16**	**318**	P	**P**	**22 11 32.1**	**-2.6**
	comp=Z,6.2nm,1.0s,baz=146,slow=4.0,SNR=7.2						
SYO	**Syowa Base**	**75.44**	**200⇓**	*e*P	**P**	**22 11 37.6**	**+1.8**
VNDA	**Vanda**	**76.80**	**169**	P	**P**	**22 11 45.4**	**+2.0**
	comp=Z,2.3nm,0.9s,baz=294,slow=6.4,SNR=8.0						
VNDA	**Vanda**	**76.80**	**169**	*e*P	**P**	**22 11 46.0**	**+2.6**
BOSA	**Boshof**	**78.25**	**242**	P	**P**	**22 11 54.9**	**+2.2**
	comp=Z,5.7nm,1.1s,baz=59,slow=3.4,SNR=4.7						
BR131	**Keskin Array S**	**80.25**	**312**	*e*P	**P**	**22 12 02.6**	**-0.7**
BRTR	**Keskin Array B**	**80.25**	**312**	P	**P**	**22 12 00.1**	**-3.2**
	comp=Z,4.0nm,1.0s,baz=134,slow=7.1,SNR=11						
QSPA	**South Pole Qui**	**83.53**	**180**	*e*P	**P**	**22 12 21.8**	**+1.8**
AKASG	**Malin Array Be**	**86.26**	**322**	P	**P**	**22 12 30.3**	**-3.5**
	comp=Z,1.6nm,0.8s,baz=86,slow=4.9,SNR=8.5						
BUR08	**Bucovina Ar. S**	**88.13**	**318**	*e*P	**P**	**22 12 42.0**	**-1.2**
SNAA	**Sanae**	**89.55**	**197**	P	**P**	**22 12 51.5**	**+2.3**
	comp=Z,5.3nm,1.1s,baz=102,slow=4.8,SNR=10						
SNAA	**Sanae**	**89.55**	**197**	*e*P	**P**	**22 12 51.7**	**+2.4**
FINES	**FINESS Array B**	**90.53**	**332**	P	**P**	**22 12 50.3**	**-3.6**
	comp=Z,4.0nm,0.9s,baz=135,slow=16,SNR=4.6						
TXAR	**Lajitas Array**	**144.42**	**47**	PKP	**PKPab**	**22 19 26.6**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=245,slow=2.6,SNR=5.9						
BDFB	**Brasilia**	**145.67**	**230**	PKPbc	**PKPab**	**22 19 33.0**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=229,slow=3.4,SNR=6.1						

CASC 29 22:05:15.6±2.1, 11°.32N×85°.98W, h163km±12km, MD3.7, 2C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZ1	**La Cruz**	**0.42**	**126⇑**	*e*P	Pn	22 05 38.5	+0.3
CRZ1				*e*S	Sn	22 05 55.7	+0.4
CONN	**Concepcion**	**0.42**	**56**	*e*P	Pn	22 05 38.1	0.0
MGAN	**Managua**	**0.86**	**342**	*e*P	Pn	22 05 40.0	-0.6
MGAN				*e*S	Sn	22 06 00.0	+0.2
APYN	**Apoyeque**	**0.97**	**338**	*e*P	Pn	22 05 42.0	+0.6
COPN	**Copaltepe**	**1.04**	**325**	*e*P	Pn	22 05 42.3	+0.3
COPN				*e*S	Sn	22 06 01.7	-0.6
BOAB	**BOACO BROADBAN**	**1.16**	**15**	*e*P	Pn	22 05 42.3	-0.7
MOMN	**Momotombo**	**1.21**	**333**	*e*P	Pn	22 05 43.4	-0.1
MOMN				*e*S	Sn	22 06 06.7	+1.7
VCR	**Vista de Mar**	**1.24**	**164⇑**	*e*P	Pn	22 05 45.0	+1.1
VCR				*e*S	Sn	22 06 05.8	+0.3
BRAN	**Las Pilas**	**1.43**	**346**	*e*P	Pn	22 05 38.3	-7.2
BRAN				*e*S	Sn	22 06 02.8	-5.9
CGA2	**Cerro Gallo 2**	**1.98**	**131**	*e*P	Pn	22 05 52.1	+0.7
CGA2				*e*S	Sn	22 06 17.9	-1.2
URSC	**Urasca**	**2.62**	**124**	*e*P	Pn	22 06 00.7	+1.6

*SCB **29** 22:07:20.1±0.8, 13°.64S×77°.78W, h65km, Ml4.1/1, Error ellipse: s-maj=116.8km s-min=16.3km az=14.0*
*ISCJB **29** 22:07:43.0±0.9, 14°.77S±0°.07×76°.4W±0°.1, h33km, mb4.0/8, Error ellipse: s-maj=16.7km s-min=5.9km az=145.3*
*NEIC **29** 22:07:45.5±0.8, 14°.68S×76°.26W, h35km, mb4.1/5, Error ellipse: s-maj=19.1km s-min=9.7km az=45.0*
*IDC **29** 22:07:47.5±2.9, 14°.56S×76°.07W, h48km±20km, mb3.9/3, mb1 4.2/7, mb1mx3.8/31, mbtmp4.3/7, ML4.0/3, Error ellipse: s-maj=52.3km s-min=15.8km az=57.0*
ISC 29 22:07:44.5±1.0, 14°.83S±0°.09×76°.3W±0°.1, h35km, n24, σ2°.41/26, mb4.1/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.87**	**350**	P	**Pn**	**22 08 26.7**	**-1.1**
	24nm,0.3s,baz=147,slow=9.2,SNR=4.2						
NNA				S	**Sn**	**22 08 59.9**	**-1.4**
	46nm,0.3s,baz=269,slow=16,SNR=5.5						
NNA	**Nana**	**2.87**	**350**	*e*Pn	**Pn**	**22 08 27.7**	**-0.1**
NNA				*e*Sn	**Sn**	**22 08 59.6**	**-1.7**
ATAH	**Atahualpa**	**7.92**	**345**	P	**Pn**	**22 09 39.2**	**+1.7**
	0.8nm,0.3s,baz=108,slow=9.6,SNR=2.0						
ATAH				S	**Sn**	**22 11 13.6**	**+7.5**
	1.1nm,0.3s,baz=300,slow=5.5,SNR=2.2						
BBOB	**La Paz, Bander**	**8.01**	**100**	*e*Pn	**Pn**	**22 09 41.6**	**+2.8**
BBOB				*e*Sn	Sn	22 11 23.8	+15
	23nm,0.9s						
LPAZ	**La Paz**	**8.03**	**101**	P	**Pn**	**22 09 41.3**	**+2.1**
	2.7nm,0.3s,baz=284,slow=7.9,SNR=44						
LPAZ	**La Paz**	**8.03**	**101**	*e*Pn	**Pn**	**22 09 41.9**	**+2.6**
LPAZ				*e*Sn	Sn	22 11 25.9	+17
BBOJ	**La Paz, Jacaqu**	**8.11**	**106**	*e*Pn	**Pn**	**22 09 43.7**	**+3.4**
BBOE	**La Paz, Chanca**	**8.27**	**105**	*e*Pn	**Pn**	**22 09 46.1**	**+3.6**
LVC	**Limon Verde**	**10.45**	**139**	P	**Pn**	**22 10 14.0**	**+1.9**
	29nm,0.3s,baz=318,slow=13,SNR=4.1						
LVC				S	**Sn**	**22 12 07.3**	**-0.9**
	43nm,0.3s,baz=62,slow=22,SNR=2.7						
LVC				Lg	Lg	22 13 06.9	
	baz=72,slow=22,SNR=2.1						
LVC	**Limon Verde**	**10.45**	**139**	*e*Pn	**Pn**	**22 10 14.4**	**+2.3**
LVC				S	**Sn**	**22 12 07.3**	**-0.9**
SAML	**Samuel**	**14.13**	**67**	*e*Pn	**Pn**	**22 11 01.9**	**-0.3**
PTGA	**Pitinga**	**21.40**	**51**	P	**P**	**22 12 27.5**	**-1.8**
	2.6nm,0.6s,baz=225,slow=13,SNR=4.5						
SDV	**Santo Domingo**	**24.23**	**14**	P	**P**	**22 12 56.3**	**-2.1**
	4.3nm,0.6s,baz=274,slow=10.0,SNR=2.4						
SDV	**Santo Domingo**	**24.23**	**14**	*e*P	**P**	**22 12 57.0**	**-1.4**
SJG	**San Juan**	**34.24**	**17**	P	**P**	**22 14 25.5**	**-1.7**
	13nm,1.8s						
WMOK	**Wichita Mounta**	**53.72**	**337**	*e*P	**P**	**22 17 03.0**	**-0.2**
	1.0nm,0.6s						
ANMO	**Albuquerque**	**57.18**	**331**	P	**P**	**22 17 28.3**	**+0.1**
	0.2nm,0.5s						
HWUT	**Hardware Ranch**	**64.91**	**331**	P	**P**	**22 18 20.7**	**+0.1**
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**82.07**	**74**	P	**P**	**22 20 01.8**	**-0.1**
	2.4nm,0.6s,baz=271,slow=3.6,SNR=13						
COLA	**College**	**95.69**	**336**	P	**P**	**22 21 06.4**	**+0.2**
	1.7nm,0.6s						
H11N3	**WAKE ISLAND Hyl**	**19.71**	**284**	T	T	00 37 27.9	
	baz=96,slow=74,SNR=110						
H11N2	**WAKE ISLAND Hyl**	**19.72**	**284**	T	T	00 37 28.1	
	baz=96,slow=74,SNR=189						
H11N1	**WAKE ISLAND Hyl**	**19.73**	**284**	T	T	00 37 25.3	
	baz=96,slow=74,SNR=104						
SONM	**Songino Array**	**147.02**	**357**	PKPbc	**PKPab**	**22 27 24.1**	**-1.1**
	0.4nm,0.6s,baz=336,slow=3.2,SNR=2.8						

*DJA **29** 22:08:49.9±0.4, 7°.5S×12°.6E±°, h473km±10km, M4.3/19, mb4.2/19, mB4.7/6, MLv4.6/11, Mw(mB)4.0/6*
*IDC **29** 22:09:40.5±1.2, 4°.11S×123°.08E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/51, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=223.7km s-min=21.8km az=61.0*
*ISCJB **29** 22:09:43.4±0.7, 4°.27S±0°.06×122°.86E±0°.09, h33km, mb3.6/4, Error ellipse: s-maj=13.4km s-min=8.5km az=162.2*
ISC 29 22:09:45.2±0.9, 4°.32S±0°.06×122°.8E±0°.1, h35km, n17, σ0°.83/13, mb3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.40**	**332**	P	Pn	22 09 49.4	-5.1
BBSI	**Bau Bau**	**1.19**	**192**	P	**Pn**	**22 10 05.3**	**-0.1**
BNSI	**Bone**	**2.70**	**268**	P	**Pn**	**22 10 26.6**	**+0.5**
BKSI	**Bulukumba**	**2.86**	**249**	P	Pn	22 10 24.2	-4.1
SPSI	**Sidrap Palu**	**3.05**	**276**	P	**Pn**	**22 10 31.9**	**+0.9**
TTSI	**Tana Toraja**	**3.24**	**293**	P	**Pn**	**22 10 32.0**	**-1.6**
LUWI	**Luwuk**	**3.25**	**359**	P	**Pn**	**22 10 33.7**	**-0.1**
APSI	**Ampana**	**3.58**	**341**	P	**Pn**	**22 10 38.6**	**+0.4**
PCI	**Palu**	**4.50**	**319**	P	Pn	22 10 54.5	+3.5
MRSI	**Marisa**	**4.84**	**350**	P	**Pn**	**22 10 55.6**	**0.0**
KMSI	**Cibinong**	**5.00**	**14**	P	Pn	22 10 47.8	-10
MPSI	**Mapaga**	**5.46**	**328**	P	**Pn**	**22 11 04.2**	**0.0**
WRA	**Warramunga Arr**	**19.17**	**145**	P	**Pn**	**22 14 05.8**	**-1.2**
	0.1nm,0.3s,baz=317,slow=13,SNR=6.7						
ASAR	**Alice Springs**	**22.02**	**152**	P	**P**	**22 14 37.6**	**+0.9**
	2.4nm,0.9s,baz=335,slow=12,SNR=24						
MKAR	**Makanchi Array**	**62.19**	**330**	P	**P**	**22 20 03.5**	**+0.3**
	0.2nm,0.6s,baz=126,slow=9.1,SNR=1.6						
ZALV	**Zalesovo Beam**	**66.16**	**337**	P	**P**	**22 20 28.5**	**-0.6**
	0.7nm,0.5s,baz=152,slow=6.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**66.60**	**331**	P	**P**	**22 20 32.7**	**+0.8**
	0.2nm,0.3s,baz=115,slow=7.0,SNR=6.1						

*ISCJB **29** 22:10:41.7±0.4, 37°.76S±0°.03×176°.62E±0°.03, h12km±3km, mb3.6/2, Error ellipse: s-maj=4.7km s-min=3.7km az=16.0*
*IDC **29** 22:10:41.9±1.7, 37°.95S×176°.46E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/28, mbtmp3.9/3, ML4.3/1, Error ellipse: s-maj=57.6km s-min=9.4km az=25.0*
*NEIC **29** 22:10:42.5±0.0, 37°.82S×176°.65E, h5km, ML4.0(WEL), After WEL*
*WEL **29** 22:10:42.4±0.1, 37°.81S×176°.65E, h5km, ML3.9/58, Mw3.7, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 5.
ISC 29 22:10:41.7±0.9, 37°.77S±0°.03×176°.63E±0°.02, h10km±6km, n120, σ0°.58/118, 20C-8D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.09**	**218**	Pg	**Pg**	**22 10 44.2**	**0.0**
OPRZ	**Ohinepanea**	**0.09**	**218**	⇓PG	**Pg**	**22 10 44.2**	**0.0**
OPRZ				SG	**Sg**	**22 10 46.0**	**-0.1**
OPRZ				AML	AML	22 10 46.0	
MARZ	**Manawahe**	**0.22**	**170**	Pg	**Pg**	**22 10 46.2**	**0.0**
MARZ	**Manawahe**	**0.22**	**170**	⇑PG	**Pg**	**22 10 46.2**	**0.0**
MARZ				AML	AML	22 10 50.2	
MARZ				AML	AML	22 10 53.1	
WHRZ	**Whale Island**	**0.29**	**107**	⇑PG	**Pg**	**22 10 48.1**	**+0.6**
TGRZ	**Tauranga**	**0.29**	**278**	Pg	**Pb**	**22 10 48.9**	**-0.1**
TGRZ	**Tauranga**	**0.29**	**278**	⇑PG	**Pb**	**22 10 48.9**	**-0.1**
TGRZ				AML	AML	22 10 53.6	
TGRZ				AML	AML	22 10 55.4	
LIRZ	**Lichensteins R**	**0.30**	**220**	Pg	**Pg**	**22 10 48.5**	**+0.7**
LIRZ	**Lichensteins R**	**0.30**	**220**	PG	**Pg**	**22 10 48.5**	**+0.7**
LIRZ				AML	AML	22 10 56.4	
LIRZ				AML	AML	22 10 57.3	
EDRZ	**Edgecumbe**	**0.35**	**165**	Pg	**Pg**	**22 10 48.6**	**0.0**
EDRZ	**Edgecumbe**	**0.35**	**165**	⇑PG	**Pg**	**22 10 48.6**	**0.0**
EDRZ				AML	AML	22 10 55.0	
EDRZ				AML	AML	22 10 55.1	
MKRZ	**Makatiti**	**0.39**	**199**	Pg	**Pb**	**22 10 50.2**	**-0.5**
MKRZ	**Makatiti**	**0.39**	**199**	⇑PG	**Pb**	**22 10 50.2**	**-0.5**
MKRZ				AML	AML	22 10 56.5	
MKRZ				AML	AML	22 10 56.5	
OMRZ	**Omania**	**0.39**	**211**	Pg	**Pg**	**22 10 49.9**	**+0.5**
OMRZ	**Omania**	**0.39**	**211**	PG	**Pg**	**22 10 49.9**	**+0.5**
OMRZ				AML	AML	22 11 01.5	
OMRZ				AML	AML	22 11 09.1	
KARZ	**Kaharoa**	**0.39**	**231**	Pg	**Pg**	**22 10 50.2**	**+0.8**
KARZ	**Kaharoa**	**0.39**	**231**	⇓PG	**Pg**	**22 10 50.2**	**+0.8**
KARZ				AML	AML	22 11 01.7	
KARZ				AML	AML	22 11 02.1	
TARZ	**Mount Tarawera**	**0.47**	**192**	Pg	**Pb**	**22 10 51.7**	**-0.5**
TARZ	**Mount Tarawera**	**0.47**	**192**	⇑PG	**Pb**	**22 10 51.7**	**-0.5**
TARZ				AML	AML	22 11 00.5	
TARZ				AML	AML	22 11 01.3	
NGRZ	**Ngongotaha**	**0.48**	**226**	⇓PG	**Pb**	**22 10 52.0**	**-0.2**
WIZ	**White Island**	**0.51**	**61**	Pg	**Pb**	**22 10 52.7**	**+0.1**
WIZ	**White Island**	**0.51**	**61**	⇑PG	**Pb**	**22 10 52.7**	**+0.1**
WIZ				AML	AML	22 11 05.0	
WIZ				AML	AML	22 11 07.8	
HLRZ	**Highlands Stat**	**0.53**	**204**	PG	**Pb**	**22 10 52.8**	**-0.2**
HLRZ				AML	AML	22 11 08.5	
HLRZ				AML	AML	22 11 13.6	
UTU	**Utuhina**	**0.53**	**220**	Pg	**Pb**	**22 10 53.0**	**-0.1**
UTU	**Utuhina**	**0.53**	**220**	PG	**Pb**	**22 10 53.0**	**-0.1**
UTU				AML	AML	22 11 05.5	
UTU				AML	AML	22 11 10.0	
KMRZ	**Kaimai**	**0.55**	**262**	PG	**Pb**	**22 10 53.5**	**+0.1**
RRRZ	**Republican Roa**	**0.57**	**189**	Pg	**Pg**	**22 10 52.9**	**0.0**
RRRZ	**Republican Roa**	**0.57**	**189**	⇑PG	**Pg**	**22 10 52.9**	**0.0**
RRRZ				AML	AML	22 11 04.7	
RRRZ				AML	AML	22 11 07.3	
HSRZ	**Hossack Road**	**0.62**	**209**	PG	**Pb**	**22 10 54.3**	**-0.3**
HSRZ				AML	AML	22 11 13.0	
HSRZ				AML	AML	22 11 18.8	
URZ	**Urewera**	**0.62**	**142**	Pg	**Pg**	**22 10 53.5**	**-0.2**
	961nm,0.3s,baz=268,slow=6.1,SNR=4405						
URZ				Lg	Lg	22 11 02.1	
	276nm,0.3s,baz=155,slow=21,SNR=5.6						
URZ				LR	LR	22 11 15.3	
	comp=Z,540nm,19.8s,baz=68,slow=56						
URZ	**Urewera**	**0.62**	**142**	⇓*i*PG	**Pg**	**22 10 53.5**	**-0.2**
URZ				AML	AML	22 10 57.7	
URZ				AML	AML	22 11 02.9	
HRRZ	**Handcock Road**	**0.67**	**204**	P*	**Pg**	**22 10 55.1**	**+0.4**
HRRZ	**Handcock Road**	**0.67**	**204**	P*	**Pg**	**22 10 55.1**	**+0.4**
HRRZ				AML	AML	22 11 11.9	
HRRZ				AML	AML	22 11 14.2	
GRRZ	**Galatos Road**	**0.71**	**215**	P*	**Pb**	**22 10 56.3**	**+0.2**
GRRZ				AML	AML	22 11 08.3	
GRRZ				AML	AML	22 11 14.7	
MUGZ	**Murupara**	**0.71**	**171**	⇑P*	**Pg**	**22 10 55.1**	**-0.4**
PRRZ	**Plateau Road**	**0.75**	**194**	P*	**Pg**	**22 10 56.4**	**+0.2**
PRRZ	**Plateau Road**	**0.75**	**194**	⇓P*	**Pg**	**22 10 56.4**	**+0.2**
PRRZ				AML	AML	22 11 08.9	
PRRZ				AML	AML	22 11 16.4	
ALRZ	**Allen Road**	**0.82**	**196**	P*	**Pb**	**22 10 57.9**	**-0.2**
ALRZ	**Allen Road**	**0.82**	**196**	⇓P*	**Pb**	**22 10 57.9**	**-0.2**
ALRZ				AML	AML	22 11 11.6	
ALRZ				AML	AML	22 11 16.7	
WPRZ	**Whakapapatarin**	**0.83**	**206**	P*	**Pb**	**22 10 58.3**	**0.0**
WPRZ	**Whakapapatarin**	**0.83**	**206**	P*	**Pb**	**22 10 58.3**	**0.0**
WPRZ				AML	AML	22 11 04.8	
WPRZ				AML	AML	22 11 22.8	
RUGZ	**Raukumara Rang**	**0.85**	**103**	⇑P*	**Pg**	**22 10 58.1**	**0.0**
RTZ	**Ruatahuna**	**0.89**	**162**	P*	**Pg**	**22 10 58.2**	**-0.6**
TOZ	**Tahuroa Road**	**0.89**	**272**	P*	**Pg**	**22 10 58.8**	**-0.1**
TOZ	**Tahuroa Road**	**0.89**	**272**	⇑P*	**Pg**	**22 10 58.8**	**-0.1**
TOZ				AML	AML	22 11 12.7	
TOZ				AML	AML	22 11 12.8	
TOZ				AML	AML	22 11 12.9	
TOZ				AML	AML	22 11 13.0	
MWZ	**Matawai**	**0.91**	**129**	⇑P*	**Pg**	**22 10 58.9**	**-0.3**
MWZ	**Matawai**	**0.91**	**129**	⇑P*	**Pg**	**22 10 58.9**	**-0.3**
MWZ				AML	AML	22 11 11.9	
MWZ				AML	AML	22 11 14.7	
HAZ	**Te Kaha**	**0.92**	**89**	⇑P*	**Pg**	**22 10 59.4**	**+0.1**
HAZ				AML	AML	22 11 06.7	
HAZ				AML	AML	22 11 13.7	
RAGZ	**Rawiri**	**0.95**	**140**	P*	**Pg**	**22 10 60.0**	**-0.1**
RAGZ	**Rawiri**	**0.95**	**140**	⇑P*	**Pg**	**22 10 59.9**	**-0.1**
RAGZ				AML	AML	22 11 13.8	
RAGZ				AML	AML	22 11 15.3	
KUTZ	**Kaahu Road**	**0.96**	**221**	P*	**Pg**	**22 11 00.1**	**-0.1**
KUTZ	**Kaahu Road**	**0.96**	**221**	⇓P*	**Pg**	**22 11 00.1**	**-0.1**
KUTZ				AML	AML	22 11 06.5	
KUTZ				AML	AML	22 11 19.3	
TLZ	**Tolley Road**	**1.02**	**237**	P*	**Pg**	**22 11 00.6**	**-0.8**
TLZ	**Tolley Road**	**1.02**	**237**	P*	**Pg**	**22 11 00.6**	**-0.8**
TLZ				AML	AML	22 11 16.9	
TLZ				AML	AML	22 11 20.1	
MRHZ	**Matea Rd**	**1.07**	**189**	P*	**Pg**	**22 11 01.6**	**-0.8**
MRHZ				AML	AML	22 11 19.8	
MRHZ				AML	AML	22 11 20.0	
TWGZ	**Tauwhareparae**	**1.14**	**111**	P*	**Pg**	**22 11 03.6**	**-0.1**
TWGZ	**Tauwhareparae**	**1.14**	**111**	⇑P*	**Pg**	**22 11 03.6**	**-0.1**
TWGZ				AML	AML	22 11 07.8	
TWGZ				AML	AML	22 11 21.7	
PKGZ	**Pakihiroa**	**1.15**	**96**	P*	**Pb**	**22 11 02.9**	**-0.8**
PKGZ				AML	AML	22 11 08.7	
PKGZ				AML	AML	22 11 21.8	
SNGZ	**Shannon Statio**	**1.15**	**151**	P*	**Pb**	**22 11 03.2**	**-0.5**
SNGZ	**Shannon Statio**	**1.15**	**151**	⇑P*	**Pb**	**22 11 03.2**	**-0.5**
SNGZ				AML	AML	22 11 24.2	
SNGZ				AML	AML	22 11 24.9	
TKGZ	**Te Karaka**	**1.17**	**125**	P*	**Pn**	**22 11 04.3**	**+0.2**
TKGZ	**Te Karaka**	**1.17**	**125**	P*	**Pn**	**22 11 04.3**	**+0.2**
TKGZ				AML	AML	22 11 25.3	
TKGZ				AML	AML	22 11 30.2	
KUZ	**Kuaotunu**	**1.25**	**325**	*e*P*	**Pn**	**22 11 03.9**	**-1.3**
KUZ	**Kuaotunu**	**1.25**	**325**	*e*P*	**Pn**	**22 11 03.9**	**-1.3**
KUZ				AML	AML	22 11 25.1	
KUZ				AML	AML	22 11 32.0	
RIGZ	**Rimuhau**	**1.29**	**137**	⇑P*	**Pg**	**22 11 06.5**	**0.0**
RIGZ				AML	AML	22 11 09.4	
RIGZ				AML	AML	22 11 27.5	
PUZ	**Puketiti**	**1.32**	**104**	P*	**Pn**	**22 11 06.3**	**+0.1**
PUZ	**Puketiti**	**1.32**	**104**	⇑P*	**Pn**	**22 11 06.4**	**+0.1**
PUZ				AML	AML	22 11 28.9	
PUZ				AML	AML	22 11 34.7	
NMHZ	**Naumai**	**1.33**	**174**	P*	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ				AML	AML	22 11 51.6	
PNHZ	**Pukenui**	**2.16**	**189**	Pn	**Pn**	**22 11 19.1**	**+1.3**
PNHZ	**Pukenui**	**2.16**	**189**	PN	**Pn**	**22 11 19.1**	**+1.3**
PNHZ				AML	AML	22 11 37.4	
PNHZ				AML	AML	22 12 01.6	
PXZ	**Pawanui**	**2.26**	**175**	Pn	**Pn**	**22 11 18.9**	**-0.2**
PXZ	**Pawanui**	**2.26**	**175**	PN	**Pn**	**22 11 18.9**	**-0.2**
PXZ				AML	AML	22 11 51.0	
PXZ				AML	AML	22 12 05.0	
PRHZ	**Porangahau**	**2.49**	**180**	Pn	**Pn**	**22 11 22.6**	**+0.3**
PRHZ	**Porangahau**	**2.49**	**180**	PN	**Pn**	**22 11 22.6**	**+0.3**
PRHZ				AML	AML	22 11 56.2	
PRHZ				AML	AML	22 12 14.2	
WCZ	**Waipu Caves**	**2.59**	**314**	Pn	**Pn**	**22 11 23.4**	**-0.2**
WCZ	**Waipu Caves**	**2.59**	**314**	PN	**Pn**	**22 11 23.4**	**-0.2**
WCZ				AML	AML	22 11 35.1	
WCZ				AML	AML	22 11 36.9	
BFZ	**Birch Farm**	**2.92**	**186**	Pn	**Pn**	**22 11 27.9**	**-0.2**
BFZ	**Birch Farm**	**2.92**	**186**	PN	**Pn**	**22 11 27.9**	**-0.2**
RPZ	**Rata Peaks**	**7.29**	**214**	Pn	**Pn**	**22 12 27.2**	**-1.0**
	5.2nm,0.3s,baz=50,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**38.99**	**279**	P	**P**	**22 18 09.8**	**+1.5**
	0.9nm,0.7s,baz=122,slow=8.4,SNR=7.5						
WRA	**Warramunga Arr**	**40.69**	**284**	P	**P**	**22 18 23.6**	**+1.2**
	1.1nm,0.9s,baz=124,slow=7.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**155.06**	**192**	PKPab	**PKPab**	**22 30 58.4**	**-1.3**
	0.6nm,0.7s,baz=150,slow=2.7,SNR=3.1						

NIED ***29*** *22:15:00,36.°50N×142.°60E,h8km,Mw4.6 Best double couple: M0 8.47000×10^15 NP1:φ=207.00000°,δ38.00000°, λ97.00000°. NP2:φ=18.00000°,δ53.00000°,λ85.00000°.*
IDC ***29*** *22:15:55.6±0.7,36.°38N×142.°60E,h0km,mb4.3/16, mb1 4.3/21,mb1mx4.1/64,mbtmp4.3/21,ML3.0/5,MS3.8/8, Ms1 3.8/8,ms1mx3.3/44,Error ellipse: s-maj=17.1km s-min=15.2km az=101.0*
JMA ***29*** *22:15:57.6±0.2,36.°47N×142.°63E,h39km,M4.1*
ISCJB ***29*** *22:15:58.3±0.9,36.°51N±0.°03×142.°50E±0.°03,h22km±6km, mb4.7/61,MS4.2/18,Error ellipse: s-maj=4.7km s-min=4.2km az=32.3*
BJI ***29*** *22:16:00.5,36.°43N×142.°16E,h24km,mb4.6/52,mB5.0/40, Ms4.5/51,Ms7 4.4/50*
MOS ***29*** *22:16:01.3±1.2,36.°43N×142.°39E,h48km,mb4.9/23,Error ellipse: s-maj=8.7km s-min=6.0km az=114.2*
NEIC ***29*** *22:16:02.2±0.9,36.°57N×142.°50E,h37km±8km,mb4.9/23, Error ellipse: s-maj=8.7km s-min=6.6km az=108.0*
NEIC Felt at Yachimata.
ISC 29 22:16:01.9±0.4,36.°48N±0.°04×142.°53E±0.°05,h39km±2km, h39km:pP-P,n165,σ1s96/190,mb4.7/61,MS4.3/18,10C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.52**	**295**	P	**Pn**	**22 16 24.2**	**-2.5**
CHOJ	**Chosi**	**1.56**	**241**	P	**Pn**	**22 16 24.7**	**-2.4**
JHO	**Hitachi**	**1.58**	**275**	P	**Pn**	**22 16 25.1**	**-2.4**
JHO				*e*S	**Sn**	**22 16 44.7**	**-2.0**
JFK	**Kawauchi**	**1.59**	**304**	P	**Pn**	**22 16 25.1**	**-2.5**
JFK				S	**Sn**	**22 16 46.4**	**-0.6**
JMM	**Marumori**	**1.96**	**315**	P	**Pn**	**22 16 30.2**	**-2.4**
JMM				*e*S	**Sn**	**22 16 55.0**	**-0.9**
JFT	**Otama**	**2.04**	**301**	P	**Pn**	**22 16 32.5**	**-1.2**
BSO1	**Boso 1**	**2.22**	**215**	P	**Pn**	**22 16 33.4**	**-2.3**
BSO1				S	**Sn**	**22 17 01.3**	**-0.3**
JAG	**Ashikaga**	**2.48**	**270**	P	**Pn**	**22 16 37.8**	**-2.0**
JMK	**Ichinoseki**	**2.68**	**338**	P	**Pn**	**22 16 40.2**	**-2.3**
JMK				*e*S	**Sn**	**22 17 12.0**	**-1.6**
JRY	**Ryogami san**	**2.97**	**262**	P	**Pn**	**22 16 44.4**	**-2.1**
JYK	**Kaneyama**	**2.98**	**325**	P	**Pn**	**22 16 45.0**	**-1.7**
JOD2	**Odawara 2**	**3.05**	**248**	P	**Pn**	**22 16 45.9**	**-1.7**
JOM	**Ohasama**	**3.14**	**342**	P	**Pn**	**22 16 46.8**	**-2.1**
JOM				S	**Sn**	**22 17 23.7**	**-1.5**
JYN	**Shimob**	**3.38**	**254**	P	**Pn**	**22 16 51.0**	**-1.2**
MJAR	**Matsushiro Arr**	**3.48**	**272**	Pn	**Pn**	**22 16 52.5**	**-1.0**
	10nm,0.3s,baz=97,slow=9.5,SNR=172						
MJAR				Sn	**Sn**	**22 17 34.3**	**+0.8**
	4.7nm,0.3s,baz=80,slow=16,SNR=5.0						
MJAR				LR	LR	22 18 33.5	
	comp=Z,955nm,19.8s,baz=105,slow=45						
MAJO	**Matsushiro**	**3.48**	**272**	*e*P	**Pn**	**22 16 53.1**	**-0.5**
MAJO	**Matsushiro**	**3.48**	**272**	*e*Pn	**Pn**	**22 16 53.1**	**-0.5**
MAT	**Matsushiro**	**3.48**	**272**	P	**Pn**	**22 16 52.8**	**-0.8**
MAT				*e*S	**Sn**	**22 17 37.0**	**+3.4**
MAT	**Matsushiro**	**3.48**	**272**	P	**Pn**	**22 16 52.8**	**-0.8**
MJB9	**Matsu-Tunnel**	**3.49**	**272**	*e*Pn	**Pn**	**22 16 53.1**	**-0.5**
JSD	**Sado**	**3.74**	**296**	P	**Pn**	**22 16 56.5**	**-0.6**
JANG	**Nango**	**3.97**	**349**	P	**Pn**	**22 16 58.3**	**-1.9**
JHJ2	**Mitsune**	**4.03**	**214**	*e*Pn	**Pn**	**22 17 03.4**	**+2.3**
JHJ	**Hachijo jima 2**	**4.04**	**215**	Pn	**Pn**	**22 17 00.9**	**-0.4**
	40nm,0.3s,baz=245,slow=21,SNR=5.4						
JHJ				Sn	**Sn**	**22 17 40.8**	**-6.6**
	29nm,0.3s,baz=63,slow=24,SNR=1.7						
INU	**Inuyama**	**4.62**	**257**	*e*Pn	**Pn**	**22 17 08.5**	**-0.6**
ASAJ	**Asahikawa**	**7.63**	**0**	Pn	**Pn**	**22 17 48.2**	**-2.2**
	6.3nm,0.3s,baz=239,slow=6.2,SNR=22						
ASAJ	**Asahikawa**	**7.63**	**0**	*e*Pn	**Pn**	**22 17 47.1**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**7.96**	**18**	P	Pn	22 17 59.2	+4.2
YUK				pmax	pmax		
	comp=Z,68nm,0.5s						
YUK				MLR	MLR		
	comp=N,894nm,12.0s						
YUK				MLR	MLR		
	comp=Z,986nm,12.0s						
YUK				MLR	MLR		
	comp=E,812nm,11.0s						
SHO	**Shikotan**	**8.08**	**23**	*e*P	**Pn**	**22 17 59.7**	**+3.1**
SHO				pmax	pmax		
	comp=Z,57nm,0.8s						
SHO				pmax	pmax		
	comp=N,30nm,0.4s						
SHO				pmax	pmax		
	comp=E,17nm,0.4s						
CBIJ	**Chichi jima**	**9.36**	**182**	*e*Pn	**Pn**	**22 18 17.6**	**+3.4**
KUR	**Kuril'sk**	**9.63**	**23**	P	Pn	22 18 21.8	+3.9
KUR				pmax	pmax		
	comp=Z,20nm,0.7s						
KUR				MLR	MLR		
	comp=E,933nm,11.0s						
KUR				MLR	MLR		
	comp=Z,674nm,11.0s						
KUR				MLR	MLR		
	comp=N,536nm,9.0s						
YSS	**Yuzh-Sakhalins**	**10.47**	**1⇑**	*e*P	**Pn**	**22 18 26.9**	**-2.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS				MLR	MLR		
	comp=N,800nm,13.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**10.47**	**1**	*e*Pn	**Pn**	**22 18 27.0**	**-2.3**
VLA	**Vladivostok**	**10.53**	**312⇑**	*i*P	**Pn**	**22 18 32.5**	**+2.3**
VLA				*e*S	**Sn**	**22 20 33.0**	**+6.2**
VLA				pmax	pmax		
	comp=Z,14nm,0.6s						
MSHR	**Mys Shultsa**	**10.69**	**308⇑**	*e*P	**Pn**	**22 18 31.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**11.14**	**317**	Pn	**Pn**	**22 18 38.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=122,slow=14,SNR=7.0						
KSRS	**Korea Array**	**11.73**	**279**	Pn	**Pn**	**22 18 47.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=92,slow=12,SNR=14						
KSRS				LR	LR	22 23 32.9	
	comp=Z,176nm,18.6s,baz=88,slow=39						
KS15	**Wonju Array Si**	**11.76**	**279**	*e*Pn	**Pn**	**22 18 46.4**	**-0.7**
KSAR	**Wonju Array Be**	**11.76**	**279**	P	**Pn**	**22 18 47.3**	**+0.3**
KSAR	**Wonju Array Be**	**11.76**	**279**	Pn	**Pn**	**22 18 47.3**	**+0.3**
INCN	**Inchon**	**12.75**	**279**	*e*Pn	**Pn**	**22 19 00.2**	**-0.5**
CN2	**Changchun**	**14.96**	**305**	*e*P	**Pn**	**22 19 30.5**	**0.0**
CN2				*es*P	P	22 19 42.8	+7.3
CN2				*e*S	**Sn**	**22 22 14.3**	**-0.6**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,15.0s						
KLR	**Kul'dur**	**14.97**	**332**	Pn	**Pn**	**22 19 32.1**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=190,slow=11,SNR=3.7						
PETK	**Petropavlovsk-**	**19.74**	**28**	P	**P**	**22 20 27.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=174,slow=4.5,SNR=3.8						
PETK	**Petropavlovsk-**	**19.74**	**28**	P	**P**	**22 20 28.0**	**-0.2**
NJ2	**Nanjing**	**20.05**	**264**	*e*P	**P**	**22 20 30.3**	**-1.3**
ANA2	**Anatahan**	**20.26**	**171**	*e*P	Pn	22 20 37.2	+1.0
BJI	**Beijing**	**20.97**	**288**	P	**P**	**22 20 38.3**	**-3.3**
BJI				pP	**pP**	**22 20 49.0**	**-2.5**
BJI				sP	**sP**	**22 20 53.0**	**-3.4**
BJI				S	**S**	**22 24 32.3**	**-0.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BJI				pmax	pmax		
	comp=Z,75nm,4.2s						
BJI				LR	LR		
	comp=Z,280nm,13.8s						
BJI				LR	LR		
	comp=Z,220nm,15.2s						
CLNS	**Chul'man**	**23.55**	**335**	*e*P	**P**	**22 21 05.9**	**-2.7**
CLNS				pmax	pmax		
	comp=E,9.0nm,1.4s						
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,13nm,1.2s						
MA2	**Magadan**	**23.72**	**10**	P	**P**	**22 21 10.5**	**+0.4**
	comp=Z,8.0nm,0.7s,baz=194,slow=18,SNR=4.6						
MA2				LR	LR	22 31 18.5	
	comp=Z,340nm,18.5s,baz=203,slow=39						
WHN	**Wuhan**	**24.18**	**264**	⇓P	**P**	**22 21 13.8**	**-0.8**
WHN				pmax	pmax		
	comp=Z,66nm,1.2s						
WHN				LR	LR		
	comp=Z,2μm,13.6s						
HHC	**Hu-ho-hao-te**	**24.50**	**290**	*e*P	**P**	**22 21 17.5**	**-0.1**
HHC				pP	pP	22 21 25.3	-3.1
HHC				sP	sP	22 21 28.8	-4.3
HHC				S	**S**	**22 25 35.5**	**0.0**
HHC				sS	sS	22 25 41.5	-12
HHC				pmax	pmax		
	comp=Z,21nm,1.3s						
HHC				pmax	pmax		
	comp=Z,160nm,9.9s						
HHC				LR	LR		
	comp=Z,450nm,12.7s						
HHC				LR	LR		
	comp=Z,450nm,14.5s						
HHC				LR	LR		
	comp=Z,380nm,13.5s						
CIT	**Chita**	**25.70**	**316**	*e*P	P	22 21 38.7	+10
CIT				*e*		22 21 48.5	
CIT				*e*		22 22 01.1	
CIT				*e*		22 22 26.4	
CIT				pmax	pmax		
	comp=Z,215nm,2.0s						
YAK	**Yakutsk**	**26.81**	**347**	P	**P**	**22 21 36.8**	**-1.3**
	comp=Z,6.4nm,0.4s,baz=322,slow=1.0,SNR=7.1						
YAK				LR	LR	22 32 31.1	
	comp=Z,350nm,19.4s,baz=106,slow=37						
YAK	**Yakutsk**	**26.81**	**347**	*e*P	**P**	**22 21 37.9**	**-0.2**
YAK				*e**PP	**pP**	**22 21 48.0**	**-0.9**
YAK				*e*PPP	PPP	22 22 28.8	
YAK				*e*		22 24 59.4	
YAK				*e*S	**S**	**22 26 10.7**	**-0.7**
YAK				*e**SS	**sS**	**22 26 29.7**	**+0.4**
YAK				*e*		22 32 24.7	
YAK				pmax	pmax		
	comp=Z,22nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				smax	smax		
	comp=N,22nm,1.8s						
YAK				smax	smax		
	comp=E,27nm,2.3s						
YAK	**Yakutsk**	**26.81**	**347**	*e*P	**P**	**22 21 37.5**	**-0.6**
	comp=E,26nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.09**	**121**	T	T	22 49 50.8	
	baz=314,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**27.10**	**121**	T	T	22 49 56.6	
	baz=314,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.11**	**121**	T	T	22 49 57.4	
	baz=314,slow=75,SNR=11						
SEY	**Seymchan**	**27.17**	**10**	P	**P**	**22 21 42.4**	**+1.0**
	comp=E,4.0nm,0.8s,baz=200,slow=15,SNR=4.0						
SEY	**Seymchan**	**27.17**	**10⇑**	*e*P	**P**	**22 21 42.1**	**+0.7**
XAN	**Xi'an**	**27.47**	**275**	P	**P**	**22 21 44.0**	**-0.5**
XAN				pP	pP	22 21 53.3	-1.9
XAN				sP	sP	22 21 57.5	-2.4
XAN				PP	**PnPn**	**22 22 28.3**	**-1.8**
XAN				S	**S**	**22 26 14.5**	**-8.1**
XAN				sS	sS	22 26 30.0	-11
XAN				pmax	pmax		
	comp=E,22nm,1.2s						
XAN				pmax	pmax		
	comp=E,56nm,5.8s						
XAN				LR	LR		
	comp=E,360nm,13.3s						
XAN				LR	LR		
	comp=E,380nm,13.3s						
XAN				LR	LR		
	comp=E,690nm,13.3s						
H11S1	**WAKE ISLAND Hy**	**27.81**	**124**	T	T	22 50 57.3	
	baz=315,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**27.81**	**124**	T	T	22 50 56.2	
	baz=315,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**27.82**	**124**	T	T	22 50 53.8	
	baz=315,slow=76,SNR=5.2						
ULN	**Ulaanbaatar**	**28.41**	**305**	*e*P	**P**	**22 21 53.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,35nm,1.3s						
ULN	**Ulaanbaatar**	**28.41**	**305**	*e*P	**P**	**22 21 53.4**	**+0.6**
	comp=Z,35nm,1.3s						
BOD	**Bodaibo**	**28.48**	**328**	*e*P	**P**	**22 21 56.1**	**+3.0**
BOD				pmax	pmax		
	comp=Z,40nm,1.3s						
SONM	**Songino Array**	**28.84**	**305**	P	**P**	**22 21 57.5**	**+0.9**
	comp=Z,5.1nm,0.8s,baz=99,slow=9.2,SNR=19						
LZH	**Lanzhou**	**31.05**	**281**	*e*P	**P**	**22 22 16.8**	**+0.5**
LZH				pP	pP	22 22 27.5	+0.4
LZH				sP	sP	22 22 32.3	+0.5
LZH				PP	**PnPn**	**22 23 20.5**	**+2.2**
LZH				S	**S**	**22 27 18.5**	**-0.4**
LZH				sS	sS	22 27 32.0	-4.9
LZH				pmax	pmax		
	comp=Z,62nm,1.6s						
LZH				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=Z,530nm,14.8s						
LZH				LR	LR		
	comp=Z,780nm,15.6s						
LZH				LR	LR		
	comp=Z,830nm,13.4s						
ZAK	**Zakamensk**	**31.32**	**309**	*e*P	**P**	**22 22 18.1**	**-0.3**
GYA	**Guiyang**	**32.02**	**262**	*e*P	**P**	**22 22 23.5**	**-1.4**
GYA				pP	pP	22 22 35.5	-0.2
GYA				PP	**PnPn**	**22 23 33.0**	**+2.0**
GYA				S	**S**	**22 27 33.8**	**-0.4**
GYA				sS	sS	22 27 50.5	-1.7
GYA				SS	**SnSn**	**22 29 26.8**	**+1.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,520nm,17.6s						
GYA				LR	LR		
	comp=Z,480nm,17.9s						
GYA				LR	LR		
	comp=Z,460nm,17.4s						
CD2	**Chengdu**	**32.58**	**272**	*e*P	**P**	**22 22 29.5**	**-0.2**
CD2				sP	sP	22 22 43.5	-1.7
CD2				S	**S**	**22 27 43.0**	**+0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,450nm,8.4s						
CD2				LR	LR		
	comp=Z,720nm,13.4s						
CD2				LR	LR		
	comp=Z,600nm,12.9s						
CD2				LR	LR		
	comp=Z,510nm,20.9s						
QIZ	**Qiongzhong**	**33.53**	**248**	P	**P**	**22 22 39.0**	**+1.0**
QIZ				S	**S**	**22 27 59.3**	**+1.8**
QIZ				sS	**sS**	**22 28 14.8**	**-0.8**
QIZ				LR	LR		
	comp=Z,420nm,19.0s						
QIZ				LR	LR		
	comp=Z,400nm,18.2s						
GTA	**Gaotai**	**33.59**	**288**	⇑P	**P**	**22 22 38.5**	**0.0**
GTA				pP	pP	22 22 48.8	-0.5
GTA				sP	sP	22 22 53.0	-1.0
GTA				S	**S**	**22 27 59.0**	**+0.7**
GTA				sS	sS	22 28 15.0	-1.4
GTA				pmax	pmax		
	comp=Z,9.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,130nm,5.2s						
GTA				LR	LR		
	comp=Z,280nm,13.8s						
GTA				LR	LR		
	comp=Z,330nm,13.8s						
GTA				LR	LR		
	comp=Z,420nm,14.7s						
KMI	**Kunming**	**35.77**	**263**	P	**P**	**22 22 59.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMI				LR	LR		
	comp=Z,320nm,15.1s						
KMI				LR	LR		
	comp=Z,460nm,13.6s						
KMI				LR	LR		
	comp=Z,510nm,13.6s						
TIXI	**Tiksi**	**35.95**	**353⇓**	*e*P	**P**	**22 22 57.2**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MYLDM	**Lahad Datu**	**38.16**	**221**	*e*P	**P**	**22 23 17.7**	**+0.1**
	comp=Z,29nm,1.2s						
MANU	**Manus Island**	**38.59**	**172**	*e*P	**P**	**22 23 23.2**	**+2.0**
	comp=Z,35nm,1.7s						
GAMB	**Gambell**	**38.73**	**31**	*e*P	**P**	**22 23 22.7**	**+0.8**
	comp=Z,127nm,1.4s						
WMQ	**Urumqi**	**41.89**	**298**	P	**P**	**22 23 51.5**	**+3.0**
WMQ				pP	sP	22 24 02.0	-2.1
WMQ				sP	pP	22 24 04.0	+4.5
WMQ				S	**S**	**22 29 57.3**	**-6.6**
WMQ				pmax	pmax		
	comp=Z,12nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.7s						
WMQ				LR	LR		
	comp=Z,210nm,24.5s						
WMQ				LR	LR		
	comp=Z,130nm,18.1s						
WMQ				LR	LR		
	comp=Z,230nm,22.3s						
CHTO	**Chiang Mai**	**42.03**	**257**	*e*P	**P**	**22 23 51.0**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,28nm,2.0s						
CHTO	**Chiang Mai**	**42.03**	**257**	*e*P	**P**	**22 23 51.0**	**+1.2**
	comp=Z,28nm,2.0s						
CMAR	**Chiang Mai Arr**	**42.23**	**257**	P	**P**	**22 23 51.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.1,SNR=1.3						
CMAR	**Chiang Mai Arr**	**42.23**	**257**	*i* P	P	22 23 45.5	-5.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	**Zalesovo Array**	**42.95**	**313**	*e*P	**P**	**22 23 57.0**	**+0.2**
ZALV	**Zalesovo Beam**	**42.95**	**313**	P	**P**	**22 23 56.9**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=94,slow=6.8,SNR=12						
LSA	**Lhasa**	**43.16**	**276**	P	**P**	**22 23 57.2**	**-2.2**
LSA				pmax	pmax		
	comp=Z,11nm,1.3s						
NVS	**Novosibirsk**	**43.87**	**314**	*e*P	**P**	**22 24 03.9**	**-0.3**
NVS				pmax	pmax		
	comp=E,16nm,2.0s						
NVS				pmax	pmax		
	comp=Z,29nm,2.0s						
SBUM	**Sibu**	**43.92**	**227**	*e*P	**P**	**22 24 07.1**	**+2.0**
MK31	**Makanchi Array**	**45.17**	**303**	*e*P	**P**	**22 24 15.7**	**+0.9**
MK31	**Makanchi Array**	**45.17**	**303**	*e*P	**P**	**22 24 15.7**	**+0.9**
MKAR	**Makanchi Array**	**45.17**	**303**	P	**P**	**22 24 15.2**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=88,slow=10,SNR=14						
MKAR	**Makanchi Array**	**45.17**	**303**	*i* P	**P**	**22 24 17.7**	**+2.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**45.17**	**303**	*e*P	**P**	**22 24 15.7**	**+0.9**
	comp=Z,48nm,0.8s						
TAPN	**Taplejung**	**46.88**	**275**	*e*P	**P**	**22 24 29.1**	**+0.3**
KURK	**Kurchatov**	**46.98**	**309⇑**	*e*P	**P**	**22 24 28.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,43nm,1.0s						
KURK	**Kurchatov**	**46.98**	**309**	*e*P	**P**	**22 24 28.6**	**-0.3**
	comp=Z,18nm,0.9s						
KURBB	**Kurchatov Arra**	**47.05**	**309**	P	**P**	**22 24 29.0**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=83,slow=7.8,SNR=26						
ODAN	**Odare**	**47.35**	**275**	*e*P	**P**	**22 24 31.8**	**-0.6**
PDGK	**Podgornoye**	**47.83**	**299**	P	**P**	**22 24 34.2**	**-1.6**
PDGK				pmax	pmax		
	comp=Z,21nm,1.4s						
MLY	**Manley**	**47.85**	**32**	*e*P	**P**	**22 24 36.0**	**+0.5**
	comp=Z,36nm,2.0s						
RAMN	**Ramite**	**47.94**	**275**	*e*P	**P**	**22 24 36.4**	**-0.6**
	comp=Z,23nm,0.9s						
JIRN	**Jiri**	**47.97**	**276**	*e*P	**P**	**22 24 37.2**	**-0.1**
KKN	**Kakani**	**48.64**	**277**	*e*P	**P**	**22 24 41.6**	**-0.7**
MDM	**Murphy Dome**	**48.91**	**32**	*e*P	**P**	**22 24 43.6**	**-0.1**
	comp=Z,13nm,1.0s						
GKN	**Gorkha**	**49.06**	**277**	*e*P	**P**	**22 24 44.9**	**-0.6**
	comp=Z,58nm,1.4s						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**22 24 47.9**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=265,slow=6.5,SNR=37						
ILB	**Eielson Array**	**49.48**	**32**	*e*P	**P**	**22 24 48.6**	**+0.6**
DANN	**Dangsing**	**49.61**	**278**	*e*P	**P**	**22 24 48.8**	**-1.1**
	comp=Z,5.2nm,1.0s						
KOLN	**Koldanda**	**49.99**	**278**	*e*P	**P**	**22 24 50.0**	**-2.6**
PYUN	**Piuthan**	**50.33**	**278**	*e*P	**P**	**22 24 54.2**	**-1.1**
	comp=Z,86nm,1.2s						
KSH	**Kashi**	**51.45**	**295**	*e*P	**P**	**22 25 07.0**	**+3.6**
KSH				pP	sP	22 25 17.5	-1.8
KSH				sP	pP	22 25 21.0	+6.3
KSH				PcP	**PcP**	**22 26 21.0**	**+3.6**
KSH				PP	**PP**	**22 27 06.3**	**+5.6**
KSH				PcS	**PcS**	**22 30 17.3**	**+1.9**
KSH				S	**S**	**22 32 23.3**	**+2.5**
KSH				ScS	**ScS**	**22 34 52.0**	**+1.3**
KSH				SS	**SS**	**22 35 58.5**	**+1.9**
KSH				pmax	pmax		
	comp=Z,71nm,2.4s						
KSH				pmax	pmax		
	comp=Z,160nm,7.3s						
KSH				LR	LR		
	comp=Z,210nm,6.9s						
KSH				LR	LR		
	comp=Z,160nm,8.1s						
KSH				LR	LR		
	comp=Z,410nm,13.3s						
AAK	**Ala-Archa**	**51.54**	**299⇑**	*e*P	**P**	**22 25 03.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRVK	**Borovoye**	**51.66**	**313⇓**	*e*P	**P**	**22 25 04.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MNAS	**Manas**	**52.99**	**299**	P	**P**	**22 25 15.5**	**+0.7**
MNAS				pmax	pmax		
	comp=Z,11nm,1.2s						
SFK	**Sufi-Kurgan**	**53.08**	**296**	P	**P**	**22 25 15.7**	**0.0**
SFK	

ARU						22 27 53.2	
ARU				S	S	22 33 42.2	+2.6
ARU				SS	SS	22 37 31.9	+3.0
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
ARU	**Arti**	**57.37**	**319**	*e*P	**P**	**22 25 45.9**	**-0.1**
	comp=Z,10nm,1.0s						
ABKAR	**Akbulak array**	**58.98**	**311**	*e*P	**P**	**22 25 56.9**	**-0.5**
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**60.37**	**189**	P	**P**	**22 26 05.3**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=10,slow=6.0,SNR=14						
RES	**Resolute Bay**	**62.91**	**15**	P	**P**	**22 26 23.4**	**-0.2**
RES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLMR	**Klimovskoe**	**64.70**	**328**	*e*P	**P**	**22 26 34.5**	**-1.1**
KLMR				*e*		22 27 07.1	
KLMR				pmax	pmax		
	comp=Z,18nm,1.5s						
FINES	**FINESS Array B**	**69.72**	**333**	P	**P**	**22 27 07.2**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=15,slow=7.9,SNR=8.2						
FINES	**FINESS Array B**	**69.72**	**333**	*i* P	**P**	**22 27 08.1**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KVN	**Kaiserville**	**74.38**	**53**	P	**P**	**22 27 37.5**	**+1.5**
KVN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
NOA	**NORSAR Array B**	**75.04**	**338**	P	**P**	**22 27 39.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=46,slow=5.8,SNR=3.2						
NOA				LR	LR	23 04 54.4	
	comp=Z,161nm,19.6s,baz=135,slow=39						
AKASG	**Malin Array Be**	**75.28**	**323**	P	**P**	**22 27 40.0**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=46,slow=6.8,SNR=10						
AKASG	**Malin Array Be**	**75.28**	**323**	P	**P**	**22 27 40.0**	**-0.7**
TPNV	**Topopah Spring**	**76.78**	**54**	*e*P	**P**	**22 27 51.1**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TPNV	**Topopah Spring**	**76.78**	**54**	*e*P	**P**	**22 27 51.1**	**+1.4**
	comp=Z,6.2nm,1.2s						
CCUT	**Cedar City**	**78.28**	**52**	*e*P	**P**	**22 27 60.0**	**+1.8**
	comp=Z,9.2nm,1.6s						
IAS	**Iasi**	**78.41**	**321**	⇑*i*P	**P**	**22 27 58.3**	**-0.1**
LDFC	**Landfair**	**78.63**	**55**	*e*P	**P**	**22 27 57.8**	**-2.2**
	comp=Z,10nm,0.4s						
MTPU	**Mount Pierson**	**78.73**	**51**	*e*P	**P**	**22 28 01.1**	**+0.3**
	comp=Z,15nm,1.6s						
KNB	**Kanab**	**78.95**	**52**	*e*P	**P**	**22 28 04.3**	**+2.5**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KNB	**Kanab**	**78.95**	**52**	*e*P	**P**	**22 28 04.3**	**+2.5**
	comp=Z,7.0nm,1.1s						
SRU	**San Rafael Swe**	**79.10**	**49**	*e*P	**P**	**22 28 03.0**	**+0.4**
SRU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SRU	**San Rafael Swe**	**79.10**	**49**	*e*P	**P**	**22 28 03.0**	**+0.4**
	comp=Z,6.6nm,1.1s						
KWP	**Kalwaria Pacla**	**79.10**	**325**	P	**P**	**22 28 03.1**	**+0.9**
OKC	**Ostrava-Krasne**	**81.00**	**327**	*e*P	**P**	**22 28 11.1**	**-1.3**
OKC	**Ostrava-Krasne**	**81.00**	**327**	*e*P	**P**	**22 28 11.1**	**-1.3**
DPC	**Dobruska-Polom**	**81.40**	**328**	*e*P	**P**	**22 28 15.2**	**+0.6**
DPC	**Dobruska-Polom**	**81.40**	**328**	*e*P	**P**	**22 28 15.2**	**+0.6**
PPT	**Papeete**	**83.58**	**117**	LR	LR	22 57 15.6	
	comp=Z,24nm,21.2s,baz=1.0,slow=30						
GEC2	**GERESS Array S**	**83.65**	**329**	*e*P	**P**	**22 28 25.8**	**-0.6**
GEC2				pmax	pmax		
	comp=Z,57nm,1.4s						
GEC2	**GERESS Array S**	**83.65**	**329**	*e*P	**P**	**22 28 25.8**	**-0.6**
	comp=Z,57nm,1.4s						
ANMO	**Albuquerque**	**84.25**	**50**	*e*P	**P**	**22 28 30.5**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ANMO	**Albuquerque**	**84.25**	**50**	*e*P	**P**	**22 28 30.5**	**+0.6**
	comp=Z,7.1nm,1.5s						
EIL	**Elat**	**85.43**	**304**	LR	LR	23 10 49.9	
	comp=Z,131nm,18.5s,baz=16,slow=38						
TX31	**Lajitas Ar. Si**	**89.74**	**53**	*e*P	**P**	**22 28 56.6**	**+0.1**
TXAR	**Lajitas Array**	**89.74**	**53**	P	**P**	**22 28 56.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=292,slow=3.5,SNR=12						
CVRD	**Centerville Ro**	**96.97**	**31**	*e*P	**P**	**22 29 26.3**	**-3.1**
	comp=Z,37nm,1.1s						
VNA2	**Neumayer--Watz**	**142.03**	**196**	PKP	**PKPdf**	**22 35 22.7**	**-5.9**
	baz=93,slow=2.8						
VNA3	**Neumayer Olymp**	**142.26**	**194**	PKP	**PKPdf**	**22 35 24.3**	**-4.7**
VNA1	**Neumayer--Stat**	**142.43**	**195**	PKP	**PKPdf**	**22 35 23.4**	**-5.8**
LPAZ	**La Paz**	**146.18**	**62**	PKPbc	**PKPbc**	**22 35 39.0**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=355,slow=4.4,SNR=8.2						

IDC 29 22:16:38.5±9.3, 6°.13S×152°.47E, h74km±64km, mb3.3/3, mb1 3.6/4, mb1mx3.1/41, mbtmp3.7/4, ML2.3/1, Error ellipse: s-maj=108.0km s-min=59.7km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.19**	**238**	P	Pn	22 18 07.2	-0.1
	4.1nm,0.3s,baz=54,slow=6.6,SNR=4.8						
PMG				S	Sn	22 19 18.2	+1.5
	1.8nm,0.3s,baz=142,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**22.34**	**230**	P	P	22 21 29.6	-0.8
	0.5nm,0.4s,baz=54,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**24.96**	**224**	P	P	22 21 55.4	+0.1
	0.7nm,0.7s,baz=58,slow=9.0,SNR=5.4						
FITZ	**Fitzroy Crossi**	**26.75**	**243**	P	P	22 22 29.1	-0.2
	0.9nm,0.4s,baz=42,slow=9.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**150.38**	**286**	PKPbc	PKPbc	22 36 22.7	+0.2
	0.5nm,0.9s,baz=101,slow=1.8,SNR=1.1						

*IDC **29** 22:21:44.5±5.4, 13°.78N×143°.30E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.5/45, mbtmp4.1/3, Error ellipse: s-maj=149.1km s-min=25.4km az=23.0*
*NEIC **29** 22:21:47.3±0.7, 13°.99N×143°.54E, h10km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=14.1km az=208.0*
*ISCJB **29** 22:21:49.3±0.9, 13°.9N±0°.2×143°.5E±0°.1, h33km, mb4.1/5, Error ellipse: s-maj=24.9km s-min=16.9km az=25.1*
ISC 29 22:21:51.0±1.0, 14°.0N±0°.2×143°.4E±0°.1, h35km, n7, σ2°52/9, mb4.2/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.49**	**105**	Pn	**Pn**	**22 22 12.7**	**-2.6**
	105nm,0.3s,baz=2.8,slow=3.0,SNR=58						
GUMO				Sn	**Sn**	**22 22 36.5**	**+2.9**
	61nm,0.3s,baz=356,slow=22,SNR=13						
GUMO	**Guam**	**1.49**	**105**	*e*Pn	**Pn**	**22 22 11.6**	**-3.8**
GUMO				Sn	**Sn**	**22 22 36.5**	**+2.9**
YHNB	**Yeheng**	**23.29**	**300**	P	P	**22 26 56.2**	**+0.3**
	20nm,1.5s						
WRAB	**Tennant Creek**	**34.87**	**195**	P	P	**22 28 39.7**	**+0.5**
	1.5nm,0.7s						
ILAR	**Eielson Array**	**68.82**	**26**	P	P	**22 32 51.8**	**+0.2**
	0.5nm,0.4s,baz=250,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**83.16**	**27**	P	P	**22 34 13.3**	**+0.1**
	1.5nm,0.8s,baz=288,slow=5.2,SNR=4.0						
ARCES	**ARCESS Array B**	**86.26**	**342**	P	P	**22 34 29.3**	**+0.6**
	1.0nm,0.7s,baz=81,slow=7.5,SNR=4.0						

MEX 29 22:22:13.2±0.3, 15°.08N×93°.36W, h76km±10km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.63**	**12**	*e*P	Pn	22 22 26.6	-1.3
PCIG				*i* S	Sn	22 22 37.0	-1.7
CCIG	**Comitan**	**1.68**	**44**	*e*P	Pn	22 22 39.6	-1.3
CCIG				*e*S	Sn	22 22 60.0	-1.8
TGIG		**1.70**	**8**	*e*P	Pn	22 22 39.8	-1.3
TGIG				*e*S	Sn	22 23 00.6	-1.6

*IDC **29** 22:22:43.5±12.0, 7°.88S×120°.01E, h157km±143km, mb3.4/3, mb1 3.3/5, mb1mx3.0/41, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=201.3km s-min=41.3km az=45.0*
*ISCJB **29** 22:22:46.0±0.5, 8°.25S±0°.04×119°.80E±0°.04, h188km±5km, mb3.9/2, Error ellipse: s-maj=6.1km s-min=5.5km az=140.8*
*DJA **29** 22:22:47.5±0.4, 8°.S±2°.×12°.0E±°, h172km±4km, M3.7/16, mb3.8/3, MLv3.6/16*
ISC 29 22:22:46.3±0.8, 8°.26S±0°.04×119°.81E±0°.04, h188km±9km, n21, σ1°24/30, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.48**	**161**	P	**Pn**	**22 23 18.8**	**+0.1**
WSI				S	**S**	**22 23 43.9**	**-0.1**
EDFI	**Ende, Flores**	**1.92**	**105**	P	**Pn**	**22 23 23.8**	**+0.6**
EDFI				S	**S**	**22 23 50.4**	**-1.3**
BASI	**Baing, Sumba**	**2.09**	**159**	P	**Pn**	**22 23 25.3**	**+0.4**
BASI				S	**S**	**22 23 55.0**	**+0.1**
PLAI	**Plampang**	**2.09**	**254**	P	**Pn**	**22 23 25.1**	**+0.3**
PLAI				S	**S**	**22 23 54.1**	**-0.6**
BSSI	**Bau Bau, Buton**	**2.21**	**18**	P	**Pn**	**22 23 26.1**	**-0.1**
BSSI				S	**S**	**22 23 56.6**	**-0.6**
MMRI	**Maumere**	**2.43**	**99**	P	**Pn**	**22 23 29.3**	**+0.7**
MMRI				S	**S**	**22 24 02.4**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.94**	**260**	P	**Pn**	**22 23 34.8**	**+0.3**
TWSI				S	**S**	**22 24 12.1**	**0.0**
BKSI	**Bulukumba**	**2.94**	**6**	P	**Pn**	**22 23 34.7**	**+0.1**
BKSI				S	**S**	**22 24 12.5**	**+0.3**
BNSI	**Bone**	**3.85**	**4**	P	**Pn**	**22 23 46.4**	**+0.7**
SPSI	**Sidrap Palu**	**4.27**	**359**	P	**Pn**	**22 23 51.2**	**+0.1**
SRBI	**Singaraja**	**4.55**	**272**	P	**Pn**	**22 23 54.9**	**+0.2**
DNP	**Denpasar**	**4.57**	**264**	P	**Pn**	**22 23 55.6**	**+0.7**
SOEI	**Soe**	**4.65**	**109**	P	**Pn**	**22 23 57.0**	**+1.0**
KDI	**Kendari**	**5.11**	**33**	P	**Pn**	**22 24 02.4**	**+0.6**
TTSI	**Tana Toraja**	**5.18**	**0**	P	**Pn**	**22 24 03.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**5.60**	**267**	P	**Pn**	**22 24 09.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**11.31**	**150**	P	**Pn**	**22 25 25.1**	**+2.4**
	0.3nm,0.3s,baz=326,slow=7.8,SNR=9.5						
FITZ				S	**S**	**22 27 27.6**	**-4.4**
	0.5nm,0.3s,baz=170,slow=21,SNR=8.6						
WRA	**Warramunga Arr**	**18.24**	**131**	P	P	**22 26 46.7**	**+1.0**
	0.5nm,0.3s,baz=308,slow=12,SNR=9.7						
ASAR	**Alice Springs**	**20.42**	**140**	P	P	**22 27 10.3**	**+1.2**
	0.7nm,0.5s,baz=319,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**64.17**	**332**	P	P	**22 32 59.9**	**-0.9**
	0.7nm,0.5s,baz=146,slow=8.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**68.64**	**339**	P	P	**22 33 27.2**	**-1.7**
	1.0nm,0.3s,baz=147,slow=4.4,SNR=4.5						

*ISCJB **29** 22:23:21.6±0.5, 12°.24N±0°.08×143°.70E±0°.09, h26km, mb4.2/23, Error ellipse: s-maj=13.9km s-min=8.6km az=39.2*
*NEIC **29** 22:23:25.6±1.5, 12°.29N×143°.81E, h46km±14km, mb4.2/14, Error ellipse: s-maj=13.6km s-min=10.0km az=112.0*
*IDC **29** 22:23:27.1±3.0, 12°.22N×143°.85E, h60km±27km, mb3.8/9, mb1 4.0/9, mb1mx3.6/46, mbtmp4.1/9, Error ellipse: s-maj=34.9km s-min=21.6km az=114.0*
ISC 29 22:23:23.4±0.7, 12°.3N±0°.1×143°.7E±0°.1, h26km, n26, σ1°03/28, mb4.3/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**40**	P	**Pn**	**22 23 52.5**	**+1.0**
	93nm,0.3s,baz=228,slow=2.5,SNR=6.5						
GUMO				S	**Sb**	**22 24 15.2**	**0.0**
	94nm,0.3s,baz=8.4,slow=22,SNR=8.3						
GUMO	**Guam**	**1.71**	**40**	*e*Pn	**Pn**	**22 23 52.5**	**+1.0**
GUMO				*e*Sn	**Sn**	**22 24 12.7**	**+0.2**
PMG	**Port Moresby**	**21.81**	**171**	*e*P	P	**22 28 14.0**	**+0.3**
	3.4nm,0.5s						
NACB	**Ninganchiao**	**24.09**	**302**	P	P	**22 28 34.6**	**-2.4**
	4.6nm,0.6s						
KKM	**Kota Kinabalu**	**27.85**	**260**	*e*P	P	**22 29 12.5**	**+1.2**
	5.8nm,0.9s						
WRAB	**Tennant Creek**	**33.32**	**196**	*e*P	P	**22 29 59.5**	**+0.2**
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**33.33**	**196**	P	P	**22 29 59.7**	**+0.3**
	0.9nm,0.7s,baz=17,slow=9.7,SNR=5.3						
SONM	**Songino Array**	**47.18**	**326**	P	P	**22 31 54.7**	**+0.8**
	0.4nm,0.5s,baz=146,slow=8.2,SNR=5.4						
UNV	**Unalaska Valle**	**57.02**	**33**	P	P	**22 33 06.6**	**-0.3**
	9.2nm,0.7s						
MKAR	**Makanchi Array**	**61.67**	**317**	P	P	**22 33 39.8**	**+0.6**
	0.9nm,0.6s,baz=96,slow=10.0,SNR=4.9						
KURK	**Kurchatov**	**64.88**	**320**	P	P	**22 34 01.2**	**+0.9**
KURBB	**Kurchatov Arra**	**64.92**	**320**	P	P	**22 34 01.2**	**+0.6**
	1.8nm,0.7s,baz=103,slow=6.9,SNR=4.9						
COLA	**College**	**69.84**	**25**	P	P	**22 34 31.3**	**-0.1**
	1.0nm,0.6s						
ILAR	**Eielson Array**	**70.22**	**25**	P	P	**22 34 32.8**	**-1.0**
	1.1nm,0.5s,baz=249,slow=5.7,SNR=17						
BVAR	**Borovoye Array**	**70.27**	**322**	P	P	**22 34 35.1**	**+0.7**
	2.0nm,0.5s,baz=115,slow=6.9,SNR=6.4						
ARU	**Arti**	**77.21**	**325**	P	P	**22 35 15.2**	**+0.2**
	2.2nm,0.7s						
YKA	**Yellowknife Ar**	**84.52**	**27**	P	P	**22 35 54.5**	**+0.6**
	0.9nm,0.4s,baz=287,slow=5.0,SNR=6.0						
NEW	**Newport**	**86.94**	**41**	*e*P	P	**22 36 05.9**	**-0.4**
	1.6nm,0.8s						
ARCES	**ARCESS Array B**	**87.98**	**342**	P	P	**22 36 10.4**	**-0.5**
	0.9nm,0.5s,baz=71,slow=7.8,SNR=9.7						
WALA	**Waterton Lakes**	**88.76**	**40**	*e*P	P	**22 36 14.3**	**-0.8**
	0.7nm,0.6s						
KIV	**Kislovodsk**	**89.38**	**315**	P	P	**22 36 18.8**	**+0.7**
	2.0nm,0.8s						
OBN	**Obninsk**	**89.59**	**327**	P	P	**22 36 18.7**	**0.0**
	3.8nm,0.7s						
FINES	**FINESS Array B**	**91.88**	**335**	P	P	**22 36 27.8**	**-1.3**
	1.6nm,0.6s,baz=90,slow=5.7,SNR=7.2						
DUG	**Dugway, Tooele**	**92.19**	**48**	P	P	**22 36 28.6**	**-2.8**
	0.5nm,0.7s						
BW06	**Boulder Array**	**93.67**	**45**	*e*P	P	**22 36 38.0**	**-0.1**
	2.0nm,0.6s						
ISCO	**Idaho Springs**	**97.52**	**47**	P	P	**22 36 54.4**	**-1.5**
	0.8nm,0.8s						

*NEIC **29** 22:24:21.9±0.0, 38°.89N×43°.56E, h5km, mb5.0/66, ML4.8(DDA), ML5.2(ISK), After ISK.*
*GCMT **29** 22:24:21.9±0.2, 38°.83N×43°.52E, h19km±1km, MW5.1/102, Moment Tensor Solution. s47,c59; s102,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.14; $M_{\theta\theta}$-3.44±.12; $M_{\phi\phi}$3.92±.12; $M_{r\theta}$0.97±.25; $M_{\theta\phi}$-2.75±.10; $M_{r\phi}$0.68±.24; Best double couple: $M_0$4.76000×10^{16} NP1:ϕ_s206.00000°, δ82.00000°, λ-14.00000°. NP2: ϕ_s298.00000°, δ77.00000°, λ-172.00000°. Principal axes: T 4.8570, Plg4.0000°, Azm252.0000°; N -0.2000, Plg74.0000°, Azm356.0000°; P -4.6620, Plg15.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **29** 22:24:22.5±0.4, 38°.82N±0°.01×43°.57E±0°.01, h6km±2km, mb4.7/152, MS4.4/36 Error ellipse: s-maj=2.5km s-min=1.6km az=170.2*
*TEH **29** 22:24:22.5, 39°.22N×43°.42E, h10km, ML5.1*
*IDC **29** 22:24:22.9±0.5, 38°.82N×43°.43E, h0km, mb4.4/29, mb1 4.5/36, mb1mx4.5/50, mbtmp4.4/36, ML3.5/8, MS4.4/26, Ms1 4.4/26, ms1mx4.3/33, Error ellipse: s-maj=11.2km s-min=8.7km az=175.0*
*ISK **29** 22:24:22.1, 38°.89N×43°.55E, h5km, ML5.1*
*DDA **29** 22:24:22.4, 38°.93N×43°.54E, h17km, Ml4.8*
*AZER **29** 22:24:24.0±0.9, 38°.74N×43°.50E, h19km±20km, Error ellipse: s-maj=21.1km s-min=5.9km az=66.0*
*MOS **29** 22:24:23.1±1.6, 38°.69N×43°.59E, h14km, mb5.1/76, MS4.3/13, Error ellipse: s-maj=4.2km s-min=2.9km az=124.9*
*CSEM **29** 22:24:23.8±0.1, 38°.84N×43°.54E, h5km, mb4.9/60, Error ellipse: s-maj=3.1km s-min=2.0km az=170.0*
*BJI **29** 22:24:23.6, 38°.80N×43°.60E, h11km, mb4.7/44, mB5.0/29, Ms4.8/36, Ms7 4.5/34*
*DSN **29** 22:24:24.3±0.8, 38°.77N×43°.65E, h11km, mb4.8/1, Error ellipse: s-maj=20.0km s-min=6.3km az=66.0*
ISC 29 22:24:24.2±0.6, 38°.85N±0°.01×43°.54E±0°.02, h7km±3km, n866, σ1°71/972, mb4.8/155, MS4.4/38, 78C-83D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**9**	⇓*i*P	**Pg**	**22 24 25.3**	**-2.1**
VMUR				*i* S	**Sg**	**22 24 28.4**	**-1.2**
VMUR	**Van-Muradiye**	**0.15**	**9**	P	**Pg**	**22 24 25.3**	**-2.1**
VMUR				S	**Sg**	**22 24 28.4**	**-1.2**
ERCV	**ERCIS-VAN**	**0.24**	**318**	PG	**Pg**	**22 24 27.2**	**-1.7**
ERCV	**ERCIS-VAN**	**0.24**	**318**	*i* Pg	**Pg**	**22 24 27.2**	**-1.7**
VANB	**Van**	**0.28**	**206**	PG	**Pb**	**22 24 31.5**	**0.0**
VANB	**Van**	**0.28**	**206**	*i* Pg	**Pb**	**22 24 31.5**	**0.0**
TVAN	**Van**	**0.33**	**199**	⇑*i*P	**Pg**	**22 24 31.2**	**+0.4**
TVAN				*i* S	**Sb**	**22 24 38.7**	**+0.5**
TVAN	**Van**	**0.33**	**199**	P	**Pg**	**22 24 31.2**	**+0.4**
CLDR	**Caldiran**	**0.42**	**44**	PG	**Pg**	**22 24 30.2**	**-2.2**
CLDR				SG	**Sg**	**22 24 36.9**	**-1.0**
CLDR	**Caldiran**	**0.42**	**44**	⇑*i*P	**Pg**	**22 24 30.0**	**-2.4**
CLDR				*i* S	**Sg**	**22 24 36.5**	**-1.4**
CLDR	**Caldiran**	**0.42**	**44**	*i* Pg	**Pg**	**22 24 30.2**	**-2.2**
CLDR				S	**Sg**	**22 24 36.5**	**-1.4**
CLDR	**Caldiran**	**0.42**	**44**	*i* P	**Pg**	**22 24 30.1**	**-2.4**
ADCV	**BITLIS_Adilcev**	**0.64**	**267**	⇑*i*P	**Pg**	**22 24 35.6**	**-0.9**
ADCV				*i* S	**Sg**	**22 24 44.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.64**	**267**	P	**Pg**	**22 24 35.7**	**-0.9**
ADCV				S	**Sg**	**22 24 44.5**	**-0.4**
GEVA	**Gevas**	**0.65**	**216**	⇑*i*P	**Pg**	**22 24 36.0**	**-0.8**
GEVA				*i* S	**Sb**	**22 24 47.6**	**+0.3**
GEVA	**Gevas**	**0.65**	**216**	P	**Pg**	**22 24 36.0**	**-0.8**
GEVA	**Gevas**	**0.65**	**216**	*i* P	**Pg**	**22 24 36.0**	**-0.8**
TUTA	**Tutak**	**0.79**	**315**	⇓*i*P	**Pg**	**22 24 36.8**	**-2.7**
TUTA				*i* S	**Sg**	**22 24 46.0**	**-3.8**
TUTA	**Tutak**	**0.79**	**315**	P	**Pg**	**22 24 36.8**	**-2.7**
AGRB	**Hanur-Agry**	**0.84**	**330**	PG	**Pg**	**22 24 38.8**	**-1.7**
AGRB				SG	**Sg**	**22 24 50.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.84**	**330**	*i* Pg	**Pg**	**22 24 38.8**	**-1.7**
AGRB				*i* Sg	**Sg**	**22 24 50.9**	**-0.5**
BASK	**Baskale_VAN**	**0.87**	**155**	⇓*i*P	**Pg**	**22 24 40.2**	**-0.7**
BASK				*i* S	**Sn**	**22 24 56.7**	**+0.7**
BASK	**Baskale_VAN**	**0.87**	**155**	P	**Pg**	**22 24 40.2**	**-0.7**
TATV	**Tatvan**	**1.05**	**252**	⇑*i*P	**Pg**	**22 24 42.4**	**-2.0**
TATV				*i* S	**Sn**	**22 25 00.5**	**0.0**
TATV	**Tatvan**	**1.05**	**252**	P	**Pg**	**22 24 42.4**	**-2.0**
GURO	**Guroymak-BITLI**	**1.22**	**257**	PN	**Pg**	**22 24 45.9**	**-1.6**
GURO	**Guroymak-BITLI**	**1.22**	**257**	*i* Pn	**Pg**	**22 24 45.9**	**-1.6**
EKAR	**Karacoban**	**1.22**	**290**	⇑*i*P	**Pg**	**22 24 45.8**	**-1.8**
EKAR	**Karacoban**	**1.22**	**290**	P	**Pg**	**22 24 45.8**	**-1.8**
EKAR	**Karacoban**	**1.22**	**290**	*i* P	**Pg**	**22 24 45.8**	**-1.8**
HAKT	**HAKKARI**	**1.29**	**174**	⇓*i*P	**Pn**	**22 24 47.3**	**-1.5**
HAKT	**HAKKARI**	**1.29**	**174**	P	**Pn**	**22 24 47.3**	**-1.5**
EATA	**Eleskirt**	**1.30**	**322**	⇓*i*P	**Pn**	**22 24 45.9**	**-3.2**
EATA	**Eleskirt**	**1.30**	**322**	P	**Pn**	**22 24 45.9**	**-3.2**
SRTM	**Siirt_Merkez**	**1.53**	**237**	⇑*i*P	**Pn**	**22 24 51.7**	**-0.3**
SRTM	**Siirt_Merkez**	**1.53**	**237**	P	**Pn**	**22 24 51.7**	**-0.3**
NAX	**Nakhchivan**	**1.56**	**77**	⇑P	**Pn**	**22 24 51.4**	**-0.9**
NAX				⇓S	**Sn**	**22 25 12.3**	**-0.5**
NAX	**Nakhchivan**	**1.56**	**77**	P	**Pn**	**22 24 51.4**	**-0.9**
NAX	**Nakhchivan**	**1.56**	**77**	P	**Pn**	**22 24 51.4**	**-0.9**
NAX				S	**Sn**	**22 25 12.3**	**-0.5**
DIGO	**Kars**	**1.57**	**355**	⇓*i*P	**Pn**	**22 24 51.5**	**-1.2**
DIGO	**Kars**	**1.57**	**355**	P	**Pn**	**22 24 51.5**	**-1.2**
CUKT	**Cukurca**	**1.60**	**178**	PN	**Pn**	**22 24 52.9**	**0.0**
CUKT	**Cukurca**	**1.60**	**178**	⇓*i*P	**Pn**	**22 24 53.0**	**0.0**
CUKT				*i* S	**Sg**	**22 25 19.8**	**+4.3**
CUKT	**Cukurca**	**1.60**	**178**	*i* Pn	**Pn**	**22 24 52.9**	**0.0**
GNI	**Garni**	**1.60**	**35**	Pn	**Pn**	**22 24 52.1**	**-0.9**
	510nm,0.3s,baz=271,slow=3.8,SNR=547						
GNI				Lg	Lg	22 25 15.5	
	802nm,0.3s,baz=142,slow=22,SNR=34						
GNI				LR	LR	22 25 50.8	
	comp=Z,10μm,21.2s,baz=217,slow=53						
GNI	**Garni**	**1.60**	**35**	*e*P	**Pn**	**22 24 51.7**	**-1.3**
	SNR=1607						
GNI	**Garni**	**1.60**	**35**	*c i* P	**Pn**	**22 24 51.9**	**-1.1**
GNI	**Garni**	**1.60**	**35**	*e*Pn	**Pn**	**22 24 52.5**	**-0.5**
GNI	**Garni**	**1.60**	**35**	*e*Pn	**Pn**	**22 24 52.5**	**-0.5**
GNI	**Garni**	**1.60**	**35**	Pn	**Pn**	**22 24 52.3**	**-0.7**
	SNR=354						
GNI	**Garni**	**1.60**	**35**	P	**Pn**	**22 24 52.3**	**-0.7**
	SNR=354						
SIRN	**S¨¨rnak**	**1.61**	**214**	⇑*i*P	**Pn**	**22 24 53.0**	**-0.1**
SIRN	**S¨¨rnak**	**1.61**	**214**	P	**Pn**	**22 24 53.0**	**-0.1**
VRTB	**Varto-Mus**	**1.66**	**282**	*e*PN	**Pn**	**22 24 52.8**	**-0.9**
VRTB	**Varto-Mus**	**1.66**	**282**	⇑*i*P	**Pn**	**22 24 53.2**	**-0.5**
VRTB				*i* S	**Sg**	**22 25 22.5**	**+5.1**
VRTB	**Varto-Mus**	**1.66**	**282**	*e*Pn	**Pn**	**22 24 52.8**	**-0.9**
VRTB	**Varto-Mus**	**1.66**	**282**	P	**Pn**	**22 24 53.2**	**-0.5**
ISHB	**Shabestar**	**1.72**	**108**	*e*Pn	**Pn**	**22 24 54.5**	**-0.2**
ISHB				*e*AMB	AMB	22 25 23.7	
	comp=Z,42μm,0.6s						
HOMI	**Horasan**	**1.74**	**314**	⇓*i*P	**Pn**	**22 24 54.4**	**-0.6**
HOMI				*i* S	**Sg**	**22 25 23.3**	**+3.1**
EAK	**Akyaka**	**1.84**	**2**	⇓*i*P	**Pn**	**22 24 56.1**	**-0.2**
EAK				*i* S	**Sg**	**22 25 29.9**	**+2.5**
EAK	**Akyaka**	**1.84**	**2**	P	**Pn**	**22 24 56.1**	**-0.2**
BNGL

ERZN	Erzincan	3.06	285	ePN	Pn	22 25 13.2	+0.2
TNCL	Tunceli-Merkez	3.13	276	i P	Pb	22 25 17.6	-2.5
BRDA	Brd	3.15	62	⇑P	Pn	22 25 13.6	-0.5
BRDA				⇑S	Sn	22 25 52.3	+0.4
BRDA	Brd	3.15	62	P	Pn	22 25 13.6	-0.5
BRDA				S	Sn	22 25 52.3	+0.4
PTK	Pertek	3.24	272	ePN	Pn	22 25 16.1	+0.5
MNGR	Mingechevir, A	3.34	54	⇑P	Pn	22 25 16.5	-0.3
MNGR				⇓S	Sn	22 25 57.4	+0.8
MNGR	Mingechevir, A	3.34	54	P	Pn	22 25 16.4	-0.3
MNGR	Mingechevir, A	3.34	54	P	Pn	22 25 16.4	-0.3
MNGR				S	Sn	22 25 57.4	+0.8
SVRC	Sivrice-ELAZID	3.35	263	ePN	Pn	22 25 17.4	+0.3
DUS	Dusheti	3.36	15	P	Pb	22 25 25.3	+1.2
DUS				S	Sg	22 26 10.0	-2.1
DUS	Dusheti	3.36	15	P	Pb	22 25 25.3	+1.2
DUS				S	Sg	22 26 10.0	-2.1
EZC	Erzincan	3.37	287	ePn	Pn	22 25 13.2	-4.2
ISRB	Sarab	3.40	106	ePn	Pn	22 25 19.2	+1.4
ISRB				eAMB	AMB	22 26 38.9	
	comp=Z,39µm,0.7s						
ISRB	Sarab	3.40	106	ePn	Pn	22 25 19.2	+1.4
ZRD	Zardab	3.51	65	⇓P	Pn	22 25 18.5	-0.6
ZRD				⇑S	Sn	22 26 00.9	+0.2
KELT	Kelkit	3.56	293	i P	Pb	22 25 25.8	-1.8
KELT				i S	Sb	22 26 14.1	+3.0
MACK	Trabzon	3.58	307	i P	Pb	22 25 27.8	0.0
MACK				i S	Sg	22 26 16.8	-2.3
ELZG	Elazig	3.58	266	i P	Pn	22 25 17.7	-2.6
ELZG				i S	Sg	22 26 20.2	+1.0
ELZG	Elazig	3.58	266	P	Pn	22 25 17.7	-2.6
ZKTA	Zakatala	3.65	39	⇓P	Pn	22 25 21.2	+0.1
ZKTA				⇓S	Sn	22 26 05.6	+1.2
ZKTA	Zakatala	3.65	39	P	Pn	22 25 21.2	+0.1
ZKTA	Zakatala	3.65	39	P	Pn	22 25 21.2	+0.1
SEKA	Sheki	3.67	49	⇑P	Pn	22 25 21.9	+0.5
SEKA				⇑S	Sn	22 26 07.6	+2.8
SEKA	Sheki	3.67	49	P	Pn	22 25 21.8	+0.5
SEKA	Sheki	3.67	49	P	Pn	22 25 21.8	+0.5
SEKA				S	Sn	22 26 07.6	+2.8
ONI	Oni	3.74	359	P	Pn	22 25 25.9	+3.5
ONI				S	Sg	22 26 31.7	+7.4
ONI	Oni	3.74	359	P	Pn	22 25 25.8	+3.5
LRK	Lerik	3.76	92	⇓P	Pn	22 25 21.2	-1.4
LRK				⇓S	Sn	22 26 06.0	-1.2
LRK	Lerik	3.76	92	P	Pn	22 25 21.2	-1.4
LRK				S	Sn	22 26 06.0	-1.2
GLBA	Clilabad	3.80	82	⇑P	Pn	22 25 22.0	-1.1
GLBA				⇓S	Sn	22 26 07.3	-0.6
GLBA	Clilabad	3.80	82	P	Pn	22 25 22.0	-1.1
GLBA				S	Sn	22 26 07.3	-0.6
KDMR	Kurdemir	3.90	65	⇓P	Pn	22 25 23.8	-0.6
KDMR				⇓S	Sn	22 26 10.8	+0.4
KDMR	Kurdemir	3.90	65	P	Pn	22 25 23.8	-0.6
KDMR				S	Sn	22 26 10.8	+0.4
QBL	Gabala	3.91	56	⇑P	Pn	22 25 24.3	-0.4
QBL				⇓S	Sn	22 26 11.6	+0.7
QBL	Gabala	3.91	56	P	Pn	22 25 24.3	-0.4
QBL				S	Sn	22 26 11.6	+0.7
SAAT	Saatly	3.92	73	⇓P	Pn	22 25 23.5	-1.2
SAAT				⇓S	Sn	22 26 09.6	-1.3
ZEI	Tsey	3.95	4	eP	Pn	22 25 25.3	0.0
ZEI				pmax	pmax		
	comp=Z,222nm,0.9s						
KEMA	Kemaliye	3.95	278	i P	Pn	22 25 25.3	0.0
KEMA				i S	Sg	22 26 30.3	-0.8
KEMA	Kemaliye	3.95	278	P	Pn	22 25 25.3	0.0
IML	Ismayilli	4.07	60	⇑P	Pn	22 25 26.3	-0.5
IML				⇑S	Sn	22 26 14.9	+0.2
IML	Ismayilli	4.07	60	P	Pn	22 25 26.3	-0.5
IML				S	Sn	22 26 14.9	+0.2
LKRN	Lenkeran, Azer	4.10	90	⇑P	Pn	22 25 25.9	-1.3
LKRN				⇑S	Sn	22 26 14.4	-0.9
LKRN	Lenkeran, Azer	4.10	90	P	Pn	22 25 25.8	-1.3
LKRN	Lenkeran, Azer	4.10	90	P	Pn	22 25 25.9	-1.3
LKRN				S	Sn	22 26 14.4	-0.9
ASTR	Astara	4.12	92	⇓P	Pn	22 25 26.1	-1.3
ASTR				⇓S	Sn	22 26 14.8	-1.0
ASTR	Astara	4.12	92	P	Pn	22 25 26.1	-1.3
ASTR				S	Sn	22 26 14.8	-1.0
XNQ	Khinaliq	4.23	55	⇑P	Pn	22 25 28.7	-0.5
XNQ				⇓S	Sn	22 26 18.9	+0.1
XNQ	Khinaliq	4.23	55	P	Pn	22 25 28.7	-0.5
XNQ				S	Sn	22 26 18.9	+0.1
SUSE	Susehri	4.35	290	i P	Pb	22 25 40.2	-0.7
SUSE				i S	Sg	22 26 44.4	+0.7
PQL	Pirkuli	4.35	62	⇑P	Pn	22 25 30.1	-0.7
PQL				⇓S	Sn	22 26 21.8	+0.1
PQL	Pirkuli	4.35	62	P	Pn	22 25 30.1	-0.7
PQL				S	Sn	22 26 21.8	+0.1
ATAB	Bozova	4.36	253	i P	Pn	22 25 30.3	-0.5
ATAB				i S	Sg	22 26 44.5	+0.4
ATAB	Bozova	4.36	253	P	Pn	22 25 30.3	-0.5
SURC	SANLIURFA_SURC	4.37	245	i P	Pn	22 25 30.2	-0.7
SURC				i S	Sg	22 26 41.4	-2.9
SURC	SANLIURFA_SURC	4.37	245	P	Pn	22 25 30.2	-0.7
ALIB	Äli-Bayra	4.38	74	⇓P	Pn	22 25 30.1	-0.9
ALIB				⇓S	Sn	22 26 22.1	-0.1
ALIB	Äli-Bayra	4.38	74	P	Pn	22 25 30.1	-0.9
ALIB				S	Sn	22 26 22.1	-0.1
NEY	Neytrino	4.44	352	⇓eP	Pn	22 25 35.6	+3.5
NEY	Neytrino	4.44	352	eP	Pn	22 25 35.6	+3.5
QSAR	Qusar	4.49	52	⇑P	Pn	22 25 32.3	-0.4
QSAR				⇓S	Sn	22 26 26.2	+1.0
QSAR	Qusar	4.49	52	P	Pn	22 25 32.3	-0.4
QSAR				S	Sn	22 26 26.2	+1.0
GBS	Qobustan	4.50	66	⇑P	Pn	22 25 32.0	-0.7
GBS				⇓S	Sn	22 26 25.2	0.0
GBS	Qobustan	4.50	66	P	Pn	22 25 32.0	-0.7
GBS				S	Sn	22 26 25.2	0.0
QUBA	Quba, Azerbaij	4.55	55	⇓P	Pn	22 25 33.0	-0.4
QUBA				⇓S	Sn	22 26 27.4	+0.8
QUBA	Quba, Azerbaij	4.55	55	P	Pn	22 25 33.0	-0.4
QUBA				S	Sn	22 26 27.4	+0.8
CUZAR	Zara_SIVAS	4.59	285	i P	Pb	22 25 43.5	-1.6
CUZAR				i S	Sg	22 26 51.9	+0.2
ATGJ	Altiaghaj	4.62	62	⇑P	Pn	22 25 33.7	-0.7
ATGJ				⇑S	Sn	22 26 28.2	0.0
ATGJ	Altiaghaj	4.62	62	P	Pn	22 25 33.7	-0.7
ATGJ				S	Sn	22 26 28.2	0.0
GROC	Groznyy	4.67	21	eP	Pb	22 25 43.7	-2.7
GROC				pmax	pmax		
	comp=Z,784nm,1.3s						
SIZA	Siyzn	4.68	60	⇑P	Pn	22 25 34.7	-0.6
SIZA				⇓S	Sn	22 26 30.4	+0.6
SIZA	Siyzn	4.68	60	P	Pn	22 25 34.7	-0.6
SIZA				S	Sn	22 26 30.4	+0.6
CUKAN	kangal_SIVAS	4.75	278	i P	Pb	22 25 43.4	-4.4
ILIN	Lien	4.78	144	ePn	Pn	22 25 38.8	+2.0
ILIN				eAMB	AMB	22 27 18.6	
	comp=Z,11µm,0.8s						
ILIN	Lien	4.78	144	ePn	Pn	22 25 38.8	+2.0
ORDU	Ordu-Boztepe	4.87	298	i P	Pb	22 25 51.2	+1.5
ORDU				i S	Sg	22 26 55.9	-4.5
CUGUR	Gurin_S¨VAS	4.90	271	i P	Pb	22 25 46.5	-3.8
KBZ	Khabaz	4.90	355	Pn	Pn	22 25 39.7	+1.5
	comp=Z,0.3nm,0.3s,baz=166,slow=12,SNR=19						
KBZ				LR	LR	22 27 52.2	
	comp=Z,2µm,21.2s,baz=218,slow=43						
GOBA	Gobu	5.03	70	⇓P	Pn	22 25 39.2	-0.8
GOBA				⇓P	Pn	22 25 39.2	-0.8
GOBA				⇓S	Sn	22 26 38.2	0.0
GOBA				⇓S	Sn	22 26 38.2	0.0
GOBA	Gobu	5.03	70	P	Pn	22 25 39.2	-0.8
GOBA				S	Sn	22 26 38.2	0.0
IVIS	Veis	5.06	147	ePn	Pn	22 25 42.6	+2.0
IVIS				eAMB	AMB	22 27 33.9	
	comp=Z,36µm,1.0s						
IVIS	Veis	5.06	147	ePn	Pn	22 25 42.6	+2.0
SCER	sogukcermik	5.07	284	i P	Pb	22 25 47.6	-5.7
SCER				i S	Sg	22 27 01.3	-5.8
MAK	Makhachkala	5.09	35	eP	Pn	22 25 42.1	+1.3
MAK				eS	Sn	22 26 41.7	+1.9
MAK				eS	Sn	22 26 42.2	+2.4
MAK				pmax	pmax		
	comp=Z,194nm,0.2s						
MAK				smax	smax		
	comp=E,58nm,0.8s						
MAK				smax	smax		
	comp=N,110nm,0.7s						
MAK	Makhachkala	5.09	35	eP	Pn	22 25 42.1	+1.3
	comp=N,194nm,0.2s						
MAK				eS	Sn	22 26 41.7	+1.9
	comp=N,110nm,0.7s						
IGHG	Ghaleghazi	5.12	151	eAMB	AMB	22 27 50.8	
	comp=Z,46µm,0.9s						
KIV	Kislovodsk	5.15	353	i P	Pn	22 25 43.0	+1.3
	SNR=24						
KIV	Kislovodsk	5.15	353	⇑eP	Pn	22 25 44.2	+2.5
KIV				pmax	pmax		
	comp=Z,71nm,1.3s						
KIV	Kislovodsk	5.15	353	P	Pn	22 25 43.0	+1.3
	SNR=24						
KIV	Kislovodsk	5.15	353	ePn	Pn	22 25 43.4	+1.7
KIV	Kislovodsk	5.15	353	ePn	Pn	22 25 43.4	+1.7
KIV	Kislovodsk	5.15	353	PnPn	Pn	22 25 47.5	+5.8
	SNR=24						
KIV	Kislovodsk	5.15	353	P	Pn	22 25 47.5	+5.8
	SNR=24						
KVAR	Kislovodsk Arr	5.15	353	Pn	Pn	22 25 43.8	+2.1
	baz=177,slow=12,SNR=6.1						
NDR	Nardaran	5.26	69	⇑P	Pn	22 25 42.4	-0.8
NDR				⇑S	Sn	22 26 44.2	+0.1
NDR	Nardaran	5.26	69	P	Pn	22 25 42.4	-0.8
NDR				S	Sn	22 26 44.2	+0.1
CUALT	Altinyayla-SIV	5.30	277	i P	Pb	22 25 57.2	+0.1
GALA	Gala	5.34	71	⇑P	Pn	22 25 43.4	-0.8
GALA				⇑S	Sn	22 26 45.8	-0.1
GALA	Gala	5.34	71	P	Pn	22 25 43.4	-0.8
GALA				S	Sn	22 26 45.8	-0.1
IKOM	Komasi	5.65	144	ePn	Pn	22 25 51.9	+3.2
IKOM				eAMB	AMB	22 27 57.4	
	comp=Z,9µm,0.6s						
TOKA	Tokat	5.65	287	ePn	Pn	22 25 49.8	+1.2
TOKA	Tokat	5.65	287	ePn	Pn	22 25 49.8	+1.2
GOF	Gofitskoye	6.22	357	⇑eP	Pn	22 26 01.2	+4.9
GOF				eS	Sb	22 27 17.5	-10
GOF				pmax	pmax		
	comp=Z,40nm,1.0s						
GOF				smax	smax		
	comp=E,165nm,0.9s						
YAHY	KAYSERI_Yahyal	6.46	266	i P	Pn	22 26 06.7	+7.0
YAHY				i S	Sg	22 27 46.6	-5.0
COAL	Corum-Alaca	6.76	285	i P	Pb	22 26 14.4	-7.6
CDAG	Cicekdag	7.16	279	i P	Pn	22 26 08.5	-0.8
CDAG				i S	Sg	22 28 07.1	-6.9
CDAG	Cicekdag	7.16	279	P	Pn	22 26 08.5	-0.8
DED	Mersin	7.16	257	i P	Pb	22 26 19.4	-9.5
DED				i S	Sg	22 28 10.6	-3.5
FKH	Fakeheh	7.35	234	eP	Pn	22 26 12.5	+0.5
ANN	Anapa	7.50	324	eP	Pn	22 26 19.2	+5.4
ANN				eS	Sn	22 27 50.3	+11
ANN				pmax	pmax		
	comp=Z,40nm,1.0s						
ANN				MLR	MLR		
	comp=E,2µm,11.0s						
ANN				MLR	MLR		
	comp=Z,2µm,11.0s						
ANN				MLR	MLR		
	comp=N,2µm,11.0s						
KERG	Konya-Eregli	7.56	262	i P	Pb	22 26 35.6	0.0
HWQ	Hawqa	7.62	236	eP	Pn	22 26 16.4	+0.7
BR131	Keskin Array S	7.73	280	ePn	Pn	22 26 19.3	+2.1
BR131	Keskin Array S	7.73	280	ePn	Pn	22 26 19.3	+2.1
BRTR	Keskin Array B	7.73	280	Pn	Pn	22 26 19.0	+1.8
	comp=N,0.3nm,0.3s,baz=109,slow=12,SNR=14						
BRTR				LR	LR	22 29 16.5	
	comp=N,2µm,18.2s,baz=94,slow=38						
BRTR	Keskin Array B	7.73	280	i P	Pn	22 26 22.3	+5.1
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ILGA	Ilgaz	7.86	289	ePn	Pn	22 26 20.0	+0.9
ILGA	Ilgaz	7.86	289	ePn	Pn	22 26 20.0	+0.9
BHL	Bhannes	8.05	235	eP	Pn	22 26 26.5	+5.0
RCY	Rachaya	8.20	232	eP	Pn	22 26 25.8	+2.1
DQRL	Deir Qamar	8.23	234	eP	Pn	22 26 25.1	+1.1
KKUL	Konya-Kulu	8.28	276	i P	Pn	22 26 29.9	+5.2
SHBL	Chebaa	8.36	231	eP	Pn	22 26 26.6	+0.8
ANTO	Ankara	8.39	280	eP	Pn	22 26 27.0	+0.8
ANTO	Ankara	8.39	280	ePn	Pn	22 26 27.0	+0.8
ANTO	Ankara	8.39	280	ePn	Pn	22 26 27.0	+0.8
BR231	Keskin MP Arra	8.40	280	ePn	Pn	22 26 25.9	-0.5
BR231	Keskin MP Arra	8.40	280	ePn	Pn	22 26 25.9	-0.5
ASF	Jabal al Asfar	8.58	221	Pn	Pn	22 26 29.9	+1.1
	comp=Z,0.9nm,0.3s,baz=348,slow=18,SNR=22						
ASF				Lg	Lg	22 29 05.0	
	comp=Z,1.1nm,0.3s,baz=127,slow=23,SNR=2.1						
ASF				LR	LR	22 30 16.1	
	comp=Z,3µm,18.2s,baz=1.0,slow=42						
SUDU	Sudak	8.78	316	eP	Pn	22 26 47.6	+16
SIM	Simferopol'	9.30	314	P	Pn	22 26 45.0	+6.4
SIM				S	Sn	22 28 19.5	-3.9
SIM				pmax	pmax		
	comp=Z,24nm,1.1s						
BOLV	Bolvadin	9.83	273	ePn	Pn	22 26 46.5	+0.5
BOLV	Bolvadin	9.83	273	ePn	Pn	22 26 46.5	+0.5
AKAS	Kas	11.37	261	ePn	Pn	22 27 06.4	-0.6
AKAS	Kas	11.37	261	ePn	Pn	22 27 06.4	-0.6
GEYT	Alibeck	11.48	90	Pn	Pn	22 27 10.1	+1.6
	comp=Z,0.7nm,0.3s,baz=293,slow=16,SNR=14						
EIL	Elat	11.58	220	Pn	Pn	22 27 11.1	+1.3
	comp=Z,0.2nm,0.3s,baz=145,slow=14,SNR=2.2						
EIL				Lg	Lg	22 30 41.0	
	comp=Z,0.3nm,0.3s,baz=52,slow=18,SNR=3.3						
EIL				LR	LR	22 32 10.5	
	comp=Z,4µm,18.7s,baz=42,slow=41						
TIRR	Tirgusor	12.62	301	⇓iP	Pn	22 27 23.9	-0.1
TIRR	Tirgusor	12.62	301	eP	Pn	22 27 24.4	+0.4
TIRR	Tirgusor	12.62	301	ePn	Pn	22 27 24.4	+0.4
TIRR	Tirgusor	12.62	301	ePn	Pn	22 27 24.4	+0.4
CFR	Carcaliu	13.08	304	⇑iP	Pn	22 27 28.8	-1.4
CFR	Carcaliu	13.08	304	P	Pn	22 27 32.8	+2.6
CFR				pmax	pmax		
	comp=Z,15nm,1.4s						
VORR	Voronezh	13.18	348	P	Pn	22 27 33.0	+1.4
VORR				pmax	pmax		
	comp=Z,300nm,1.8s						
KARP	Karpathos	13.47	261	ePn	Pn	22 27 34.5	-1.1
KARP	Karpathos	13.47	261	ePn	Pn	22 27 34.5	-1.1
KIS	Kishinev	13.50	312	⇑iP	P	22 27 48.0	+2.6
	comp=Z,200nm,1.0s						
KIS				eS	S	22 30 20.0	-10
KIS				LRM	MLR	22 35 36.0	
	comp=Z,1µm,14.0s						
KIS	Kishinev	13.50	312	α iP	P	22 27 48.0	+2.6
KIS				eS	S	22 30 20.0	-10
KIS				MLR	MLR		
	comp=Z,1µm,12.0s						
KIS				MLR	MLR		
	comp=Z,1µm,14.0s						
LEOM	Leova	13.58	309	⇓iP	P	22 27 47.3	+1.1
LEOM	Leova	13.58	309	⇓P	P	22 27 47.3	+1.1
PETR	Petresti	13.88	305	⇑iP	P	22 27 54.2	+4.7
ISR	Istrita	14.10	302	⇓iP	Pn	22 27 45.9	+1.6
ISR	Istrita	14.10	302	⇓P	Pn	22 27 45.9	+1.6
LPSR	Galich'ya Gora	14.12	348	eP	Pn	22 27 43.4	-1.1
LPSR				pmax	pmax		
	comp=Z,30nm,1.2s						
SGRR	Singureni	14.21	298	⇑iP	P	22 27 57.5	+4.3
VRI	Vrincioaia	14.26	305	⇓iP	P	22 27 57.3	+3.5
VRI	Vrincioaia	14.26	305	⇓P	P	22 27 57.3	+3.5
PLOR	Plostina	14.30	305	⇑iP	Pn	22 27 48.5	+1.4
PLOR	Plostina	14.30	305	⇑P	Pn	22 27 48.5	+1.4
APE	Apeiranthos	14.32	269	⇓eP	P	22 27 51.0	-3.6
SECR		14.39	301	⇓iP	P	22 28 01.7	+6.5
PVL	Pavlikeni	14.42	293	eP	P	22 27 57.5	+2.0
ZIMR		14.49	295	⇓iP	P	22 27 57.6	+1.3
ZIMR		14.49	295	⇓P	P	22 27 57.6	+1.3
SANT	Santorini	14.55	266	ePn	Pn	22 27 49.9	-0.5
SANT	Santorini	14.55	266	ePn	Pn	22 27 49.9	-0.5
TESR	Tescani	14.58	307	⇑iP	Pn	22 27 52.1	+1.3
MLR	Muntele Rosu	14.63	303	Pn	P	22 27 55.7	-2.3
	comp=Z,0.1nm,0.3s,baz=98,slow=15,SNR=3.2						
MLR	Muntele Rosu	14.63	303	⇓iP	P	22 27 58.5	+0.5
MLR	Muntele Rosu	14.63	303	ePn	Pn	22 27 51.4	-0.2
MLR	Muntele Rosu	14.63	303	ePn	Pn	22 27 51.4	-0.2
HUMR	Humele	14.97	298	⇓iP	P	22 28 04.3	+2.6
MTUR	Matau	15.12	301	⇑iP	P	22 28 08.3	+4.8
PGB	Panagyurishte	15.15	290	eP	P	22 28 03.5	-0.3
DOPR	Dopca	15.16	304	⇑iP	P	22 28 05.8	+2.0
VOIR		15.20	302	⇓iP	Pn	22 27 59.9	+0.7
VOIR		15.20	302	⇓P	Pn	22 27 59.9	+0.7
PRAR	RASCA	15.22	310	⇑iP	P	22 28 04.9	+0.5
IDI	Anoyia	15.31	262	Pn	Pn	22 28 01.1	+0.4
	comp=Z,0.4nm,0.3s,baz=53,slow=11,SNR=3.8						
IDI	Anoyia	15.31	262	ePn	Pn	22 27 58.0	-2.6
	comp=Z,64nm,1.0s						
IDI	Anoyia	15.31	262	ePn	Pn	22 27 58.0	-2.6
	comp=Z,64nm,1.0s						
RAYN	Ar Rayn	15.37	173	ePn	Pn	22 27 57.2	-4.3
	comp=Z,65nm,1.1s						
RAYN	Ar Rayn	15.37	173	ePn	Pn	22 27 57.2	-4.3
	comp=Z,65nm,1.1s						
ARR	Arges	15.46	301	⇑iP	Pn	22 28 04.0	+1.4
AKTO	Aktyubinsk	15.47	37	Pn	Pn	22 28 00.1	-2.5
	comp=Z,0.1nm,0.3s,baz=224,slow=13,SNR=17						
AKTO				LR	LR	22 35 29.6	
	comp=Z,2µm,19.4s,baz=224,slow=43						
AKTO	Aktyubinsk	15.47	37	i P	Pn	22 27 59.5	-3.2
AKTO				pmax	pmax		
	comp=Z,87nm,1.2s						
AKASG	Malin Array Be	15.58	324	Pn	Pn	22 28 02.2	-1.9
	comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=18						
AKASG				LR	LR	22 35 40.6	
	comp=Z,998nm,19.4s,baz=130,slow=44						
AKBB	Malin Array Si	15.58	324	eP	Pn	22 28 03.8	-0.3
AKBB				pmax	pmax		
	comp=Z,65nm,1.3s						
AKBB	Malin Array Si	15.58	324	ePn	Pn	22 28 03.8	-0.3
	comp=Z,65nm,1.3s						
AKBB	Malin Array Si	15.58	324	ePn	Pn	22 28 03.8	-0.3
	comp=Z,65nm,1.3s						
KIEV	Kiev	15.58	324	deP	Pn	22 28 04.4	+0.3
KIEV				pmax	pmax		
	comp=Z,38nm,1.6s						
KIEV	Kiev	15.58	324	ePn	Pn	22 28 03.7	-0.4
	comp=Z,58nm,1.2s						
KIEV	Kiev	15.58	324	ePn	Pn	22 28 03.7	-0.4
	comp=Z,58nm,1.2s						
SOH	Sokhos	15.63	284	P	P	22 28 11.5	+2.4
SOH				pmax	pmax		
	comp=Z,20nm,1.0s						
AB31	Akbulak array	15.69	43	i P	Pn	22 28 02.6	-3.0
AB31				pmax	pmax		
	comp=Z,14nm,0.8s						
ABKAR	Akbulak array	15.69	43	ePn	Pn	22 28 03.0	-2.6
	comp=Z,111nm,0.9s						
ABKAR	Akbulak array	15.69	43	ePn	Pn	22 28 03.0	-2.6
	comp=Z,111nm,0.9s						
VTS	Vitosha	15.86	290	⇑iP	Pn	22 28 09.1	+1.1
VTS	Vitosha	15.86	290	eP	Pn	22 28 07.6	-0.3
VTS				pmax	pmax		
	comp=Z,48nm,1.0s						
VTS	Vitosha	15.86	290	eP	Pn	22 28 09.0	+1.1
VTS	Vitosha	15.86	290	ePn	Pn	22 28 07.6	-0.3
	comp=Z,48nm,1.0s						
VTS	Vitosha	15.86	290	ePn	Pn	22 28 07.6	-0.3
	comp=Z,48nm,1.0s						
KKB	Krupnik	15.88	287	eP	Pn	22 28 09.0	+0.9
THE	Thessaloniki	15.93	283	P	P	22 28 13.7	+1.4
BURAR	Bucovina Array	15.95	309	⇓iP	P	22 28 13.8	+1.2
BURAR	Bucovina Array	15.95	309	⇓P	P	22 28 13.8	+1.2
BUR08	Bucovina Ar. S	15.97	309	ePn	Pn	22 28 09.3	+0.1
BUR08	Bucovina Ar. S	15.97	309	ePn	Pn	22 28 09.3	+0.1
LOT	Lotru	16.06	301	⇓iP	P	22 28 12.9	-1.0
ARCR	ARCALIA	16.25	307	⇑iP	P	22 28 16.6	+0.7
AGG	Agios Georgios	16.51	277	eP	Pn	22 28 15.7	-0.4
AGG				pmax	pmax		
	comp=Z,172nm,1.4s						
AGG	Agios Georgios	16.51	277	ePn	Pn	22 28 15.7	-0.4
	comp=Z,172nm,1.4s						
AGG	Agios Georgios	16.51	277	ePn	Pn	22 28 15.7	-0.4
	comp=Z,172nm,1.4s						
CJR	Cluj-Napoca	16.59	305	⇓iP	P	22 28 21.7	+2.0
CJR	Cluj-Napoca	16.59	305	⇓P	P	22 28 21.7	+2.0
DEV	Deva	16.77	301	P	P	22 28 29.5	+7.9
BANOM	Banah	16.77	136	i P	Pn	22 28 17.3	-2.2
	SNR=30						
BANOM	Banah	16.77	136	Pn	Pn	22 28 17.4	-2.2
	SNR=38						
BANOM	Banah	16.77	136	P	Pn	22 28 17.4	-2.2
	SNR=38						
OBN	Obninsk	16.94	346	Pn	Pn	22 28 18.9	-2.6
	comp=Z,1.7nm,0.3s,baz=342,slow=6.7,SNR=7.1						
OBN	Obninsk	16.94	346	⇑eP	Pn	22 28 19.0	-2.4
OBN				eS	Sn	22 31 31.1	+1.4
OBN				pmax	pmax		
	comp=Z,172nm,1.5s						
OBN				MLR	MLR		
	comp=Z,863nm,17.0s						
OBN	Obninsk	16.94	346	ePn	Pn	22 28 19.6	-1.8
	comp=Z,182nm,1.4s						
OBN	Obninsk	16.94	346	ePn	Pn	22 28 19.6	-1.8
	comp=Z,182nm,1.4s						
BMR	Baia Mare	17.02	308	⇑iP	P	22 28 28.7	+4.3

MICGM eLR LR 22 35 30.0
MNK Minsk 18.92 331 eP **P 22 28 44.0 -1.3**
UPM Unac-Piva 19.07 291 eP **Pn 22 28 47.6 -0.3**
STHS Stebnicka Huta 19.11 311 eP **Pn 22 28 51.4 +3.2**
STHS pmax pmax
comp=Z,18nm,1.1s
STHS Stebnicka Huta 19.11 311 eP **Pn 22 28 51.4 +3.2**
HAPS Han Pijesak,BI 19.13 294 eP **P 22 28 47.1 -0.7**
KECS Kecovo 19.20 308 eP **Pn 22 28 51.4 +2.1**
KECS pmax pmax
comp=Z,8.0nm,1.1s
KECS Kecovo 19.20 308 eP **Pn 22 28 51.3 +2.0**
BRY Bratogost 19.31 290 eP **P 22 28 49.5 -0.3**
HCY Herceg Novi 19.32 289 eP **P 22 28 49.7 -0.1**
PSZ Piszkesteto 19.37 306⇓iP **Pn 22 28 51.9 +0.5**
PSZ Piszkesteto 19.37 306 eP **Pn 22 28 50.9 -0.5**
PSZ pmax pmax
comp=Z,103nm,1.4s
PSZ Piszkesteto 19.37 306 eP **Pn 22 28 50.9 -0.5**
comp=Z,103nm,1.4s
PSZ Piszkesteto 19.37 306⇓ePKKPab **Pn 22 28 51.9 +0.5**
PSZ Piszkesteto 19.37 306 eP **Pn 22 28 50.9 -0.5**
comp=Z,103nm,1.4s
TREB Trebinje 19.44 290 eP **P 22 28 50.3 -0.8**
NACGM Naroch 19.64 330 eP **Pn 22 28 54.0 -0.6**
NACGM eS **Sn 22 32 36.0 +0.9**
NACGM eLQ LQ 22 35 21.0
NACGM eLR LR 22 37 40.0
NIE Niedzica 19.67 310 eP **Pn 22 28 54.8 -0.2**
NIE Niedzica 19.67 310 eP **Pn 22 28 54.8 -0.2**
NIE Niedzica 19.67 310 eP **Pn 22 28 54.8 -0.2**
BIDO Bidbid 19.68 137 P **Pn 22 28 59.0 +3.7**
SNR=13
BIDO Bidbid 19.68 137 P **Pn 22 28 59.0 +3.7**
SNR=13
DZET Dzherino 19.69 82 iP **Pn 22 28 55.6 +0.2**
DZET pmax pmax
comp=Z,30nm,0.9s
DZET Dzherino 19.69 82 iP **Pn 22 28 55.6 +0.2**
comp=Z,30nm,0.9s
BUD Budapest 19.80 304 P **Pn 22 28 59.3 +2.9**
BUD pmax pmax
comp=Z,46nm,1.9s
BUD Budapest 19.80 304⇓epP **Pn 22 28 58.1 +1.7**
DOB Doboj 19.82 295 eP **P 22 28 54.5 -0.7**
SMDO Samad 20.02 138 P **P 22 28 58.1 +0.5**
SNR=10
SMDO Samad 20.02 138 Pn **P 22 28 58.1 +0.5**
SNR=10
SMDO Samad 20.02 138 P **P 22 28 58.1 +0.5**
SNR=10
LANS Liptovska Anna 20.07 309 eP Pn 22 29 02.3 +2.6
LANS Liptovska Anna 20.07 309 eP Pn 22 29 02.3 +2.6
WSAR Wadi Sarin 20.18 136 P **P 22 28 59.8 +0.4**
comp=Z,20nm,1.0s,baz=341,slow=8.2,SNR=10
ARU Arti 20.22 25 P **P 22 28 59.2 -0.1**
comp=Z,30nm,0.8s,baz=236,slow=5.6,SNR=26
ARU Arti 20.22 25c iP **P 22 28 59.3 -0.1**
ARU S Sn 22 32 48.7 -0.2
ARU SS **SnSn 22 33 06.5 +3.2**
ARU pmax pmax
comp=Z,127nm,1.7s
ARU MLR MLR
comp=Z,994nm,17.0s
ARU Arti 20.22 25 iP **P 22 28 59.3 -0.1**
comp=Z,127nm,1.7s
ARU Arti 20.22 25 eP **P 22 28 58.9 -0.6**
comp=Z,154nm,1.3s
VYHS Vyhne 20.23 306 eP **P 22 29 00.0 +0.3**
VYHS e 22 29 03.4
VYHS pmax pmax
comp=Z,110nm,1.9s
VYHS Vyhne 20.23 306 eP **P 22 29 00.0 +0.3**
comp=Z,110nm,1.9s
VYHS Vyhne 20.23 306 ePN **P 22 29 00.0 +0.3**
VYHS Vyhne 20.23 306 eP Pn 22 29 03.4 +1.8
VYHS eS Sn 22 32 54.1 +4.7
OJC Ojcow 20.30 312 eP Pn 22 29 03.2 +0.9
OJC Ojcow 20.30 312 eP Pn 22 29 01.7 -0.6
OJC pmax pmax
comp=Z,142nm,1.9s
OJC Ojcow 20.30 312 eP Pn 22 29 01.7 -0.6
comp=Z,142nm,1.9s
OJC Ojcow 20.30 312 eP Pn 22 29 01.7 -0.6
comp=Z,142nm,1.9s
BLY Banja Luka 20.47 295 eP **P 22 29 01.9 -0.4**
comp=Z,29nm,1.0s
BLY Banja Luka 20.47 295 eP **P 22 29 01.9 -0.4**
comp=Z,29nm,1.0s
BEL Belsk 20.50 317 eP Pn 22 29 04.7 0.0
BEL Belsk 20.50 317 eP Pn 22 29 04.7 +0.1
BEL Belsk 20.50 317 eP Pn 22 29 04.7 +0.1
SUW Suwalki 20.55 324 eP **P 22 29 03.6 +0.5**
SUW Suwalki 20.55 324 eP **P 22 29 03.6 +0.5**
SUW Suwalki 20.55 324 eP **P 22 29 03.6 +0.5**
KK31 Karatay Array 20.77 70ce **P 22 29 04.7 -0.8**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 20.77 70 eP **P 22 29 06.0 +0.5**
KKAR pmax pmax
comp=Z,195nm,0.8s
KKAR Karatay Array 20.77 70 eP **P 22 29 06.0 +0.5**
comp=Z,195nm,0.8s
KKAR Karatay Array 20.77 70 eP **P 22 29 06.0 +0.5**
comp=Z,195nm,0.8s
BEHE Becsehely 21.04 300⇓ePKKPdf **P 22 29 12.2 +3.8**
OKC Ostrava-Krasne 21.12 310 eP **P 22 29 12.7 +3.4**
OKC ex x 22 29 22.1
OKC Ostrava-Krasne 21.12 310 eP **P 22 29 12.7 +3.4**
OKC e 22 29 22.1
RAC Raciborz 21.19 310 eP **P 22 29 14.0 +4.0**
SVE Sverdlovsk 21.23 27 eP **P 22 29 10.6 +0.2**
SVE eS **S 22 33 05.7 -0.7**
SVE pmax pmax
comp=Z,134nm,1.3s
SVE MLR MLR
comp=Z,2μm,16.0s
KOGS Kog 21.39 300 eP **P 22 29 12.5 +0.3**
CUC Castrocucco 21.42 282 eP **P 22 29 12.6 -0.1**
comp=Z,34nm,1.2s
CUC Castrocucco 21.42 282 eP **P 22 29 12.6 -0.1**
comp=Z,34nm,1.2s
MORC Moravsky Berou 21.47 309⇓iP **P 22 29 11.5 -1.6**
MORC Moravsky Berou 21.47 309 eP **P 22 29 13.4 +0.3**
MORC pmax pmax
comp=Z,233nm,1.4s
MORC Moravsky Berou 21.47 309⇓iP **P 22 29 11.5 -1.6**
MORC Moravsky Berou 21.47 309 eP **P 22 29 13.4 +0.3**
comp=Z,232nm,1.4s
CEL Celeste 21.60 277 eP **P 22 29 13.4 -1.2**
comp=Z,44nm,1.2s
CEL Celeste 21.60 277 eP **P 22 29 13.4 -1.2**
comp=Z,44nm,1.2s
CRES Cresnjev 21.83 298 eP **P 22 29 17.6 +0.7**
VRAC Vranov 21.89 307 P **P 22 29 18.0 +0.4**
comp=Z,11nm,1.0s,baz=98,slow=9.5,SNR=15
VRAC Vranov 21.89 307⇑iP **P 22 29 20.4 +2.8**
VRAC Vranov 21.89 307 P **P 22 29 18.0 +0.4**
VRAC Vranov 21.89 307 P **P 22 29 18.0 +0.4**
CONA Conrad Observa 21.97 303 iP **P 22 29 20.0 +1.4**
comp=Z,36nm,1.1s,SNR=13
CONA Conrad Observa 21.97 303 P **P 22 29 20.0 +1.4**
comp=Z,36nm,1.1s,SNR=13
KRLC Kraliky 22.03 309 eP **P 22 29 22.1 +3.0**
KRLC ex x 22 29 26.3
KRLC Kraliky 22.03 309 eP **P 22 29 22.1 +3.0**
KRLC e 22 29 26.3
ARSA Arzberg 22.04 301 iP **P 22 29 20.9 +1.7**
comp=Z,24nm,1.1s
ARSA Arzberg 22.04 301 P **P 22 29 20.9 +1.7**
comp=Z,24nm,1.1s
KLMR Klimovskoe 22.18 355 eP **P 22 29 19.1 -1.4**
KLMR eS **S 22 33 23.2 -1.5**
KLMR pmax pmax
comp=Z,118nm,1.1s
MNAS Manas 22.22 71 iP **P 22 29 20.5 -0.8**
MNAS pmax pmax
comp=Z,37nm,1.3s
SOKA Soboth 22.26 300 iP **P 22 29 22.5 +0.9**
comp=Z,31nm,1.6s,SNR=6.7
SOKA Soboth 22.26 300 P **P 22 29 22.5 +0.9**
comp=Z,31nm,1.6s,SNR=6.7
DPC Dobruska-Polom 22.41 310 eP **P 22 29 25.3 +2.2**
DPC ex x 22 29 31.1
DPC eS Sn 22 33 36.4 -5.2
DPC Dobruska-Polom 22.41 310 eP **P 22 29 25.3 +2.2**
DPC e 22 29 31.1
DPC Dobruska-Polom 22.41 310 P **P 22 29 25.3 +2.2**
SOKR Solikamsk 22.42 18diP **P 22 29 23.1 +0.1**
SOKR pmax pmax
comp=Z,41nm,1.3s
SOKR MLR MLR
comp=Z,724nm,16.0s
VSU Vasula 22.43 337⇑eP **P 22 29 23.7 +0.5**
VSU pmax pmax
comp=Z,214nm,1.7s
CEY Cerknica 22.53 297 eP **P 22 29 25.9 +1.4**
OBKA Obir 22.56 299 epP **P 22 29 27.2 +2.3**
comp=Z,12nm,1.2s
TREC Trest 22.58 307 eP **P 22 29 26.9 +1.9**
TREC ex x 22 29 35.0
TREC eS Sn 22 33 48.3 +2.5
TREC Trest 22.58 307 eP **P 22 29 26.9 +1.9**
TREC e 22 29 35.0
TREC Trest 22.58 307 P **P 22 29 26.9 +1.9**
KSP Ksiaz 22.60 311 eP **P 22 29 27.9 +2.8**
KSP Ksiaz 22.60 311 eP **P 22 29 27.9 +2.8**
UPC Upice 22.65 310 eP **P 22 29 26.8 +1.2**
UPC ex x 22 29 33.4
UPC Upice 22.65 310 eP **P 22 29 26.8 +1.2**
UPC e 22 29 33.4
UPC Upice 22.65 310 P **P 22 29 26.8 +1.2**
WHFO Wadi Hawf 22.68 154 pP **P 22 29 30.0 +3.7**
SNR=7.2
WHFO Wadi Hawf 22.68 154 P **P 22 29 30.0 +3.7**
SNR=7.2
TRI Trieste 22.99 297 eP **P 22 29 29.0 -0.2**
TRI pmax pmax
comp=Z,68nm,1.8s
TRI Trieste 22.99 297 eP **P 22 29 29.0 -0.2**
comp=Z,68nm,1.8s
TRI Trieste 22.99 297 eP **P 22 29 29.0 -0.2**
comp=Z,68nm,1.8s
MOA Molln 23.00 303 iP **P 22 29 30.2 +0.8**
comp=Z,37nm,1.1s,SNR=13
MOA Molln 23.00 303 P **P 22 29 30.2 +0.8**
comp=Z,37nm,1.1s,SNR=13
ABTO Aybut 23.05 156 pP **P 22 29 36.0 +5.9**
SNR=6.1
ABTO Aybut 23.05 156 P **P 22 29 36.0 +5.9**
SNR=6.1
GKP Gorka Klasztor 23.09 317 eP **P 22 29 33.7 +3.5**
GKP Gorka Klasztor 23.09 317 eP **P 22 29 33.7 +3.5**
AQU L'Aquila 23.09 288 eP **P 22 29 29.9 -0.6**
AQU pmax pmax
comp=Z,71nm,1.1s
AQU L'Aquila 23.09 288 eP **P 22 29 29.6 -0.8**
AQU L'Aquila 23.09 288 eP **P 22 29 29.9 -0.6**
comp=Z,71nm,1.1s
MYKA Terra Mystica 23.20 299 iP **P 22 29 35.8 +4.3**
comp=Z,26nm,1.4s
GOPC GO Pecny, Ondr 23.20 308 eP **P 22 29 34.3 +2.9**
GOPC GO Pecny, Ondr 23.20 308 eP **P 22 29 34.3 +2.9**
WDD Wied Dalam 23.22 272 eP **P 22 29 32.4 +0.7**
comp=Z,97nm,0.9s
WDD Wied Dalam 23.22 272 eP **P 22 29 32.4 +0.7**
comp=Z,97nm,0.9s
BRVK Borovoye 23.23 44⇑eP **P 22 29 32.0 +0.4**
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK Borovoye 23.23 44 eP **P 22 29 31.9 +0.4**
comp=Z,46nm,1.2s
BRVK Borovoye 23.23 44 eP **P 22 29 31.9 +0.3**
comp=Z,46nm,1.2s
BRVK Borovoye 23.23 44 P **P 22 29 32.1 +0.4**
SNR=17
BRVK Borovoye 23.23 44 P **P 22 29 32.1 +0.4**
SNR=17
BRVK P **P 22 29 32.1 +0.4**
SNR=17
BVAR Borovoye Array 23.27 44 P **P 22 29 32.4 +0.3**
comp=Z,5.0nm,0.9s,baz=230,slow=8.7,SNR=14
PRU Pruhonice 23.37 308 eP **P 22 29 35.1 +2.0**
PRU ex x 22 29 41.6
PRU Pruhonice 23.37 308 eP **P 22 29 35.1 +2.0**
PRU e 22 29 41.6
PRU Pruhonice 23.37 308 P **P 22 29 35.1 +2.0**
PRA Prague 23.46 308 eP **P 22 29 36.1 +2.1**
PRA ex x 22 29 42.6
PRA Prague 23.46 308 eP **P 22 29 36.1 +2.1**
PRA e 22 29 42.6
PRA Prague 23.46 308 P **P 22 29 36.1 +2.1**
KBA Koelnbreinsper 23.47 300 P **P 22 29 35.2 +0.8**
KBA pmax pmax
comp=Z,38nm,0.8s
KBA Koelnbreinsper 23.47 300 iP **P 22 29 35.2 +0.8**
comp=Z,48nm,1.4s,SNR=9.3
KBA Koelnbreinsper 23.47 300 P **P 22 29 35.2 +0.8**
comp=Z,48nm,1.4s,SNR=9.3
PVCC Panska Ves 23.52 309 eP **P 22 29 37.3 +2.7**
PVCC ex x 22 29 43.3
PVCC Panska Ves 23.52 309 eP **P 22 29 37.3 +2.7**
PVCC e 22 29 43.3
GEC2 GERESS Array S 23.59 305 eP **P 22 29 36.3 +0.8**
GEC2 pmax pmax
comp=Z,57nm,1.4s
GEC2 GERESS Array S 23.59 305 eP **P 22 29 36.3 +0.8**
comp=Z,57nm,1.4s
GEC2 GERESS Array S 23.59 305 eP **P 22 29 36.3 +0.8**
comp=Z,57nm,1.4s
GERES GERESS Array B 23.59 305 P **P 22 29 35.2 -0.3**
comp=Z,7.7nm,1.0s,baz=108,slow=8.8,SNR=12
GERES LR LR 22 39 17.0
comp=Z,336nm,20.2s,baz=110,slow=38
AAK Ala-Archa 23.69 71 P **P 22 29 38.1 +1.6**
comp=Z,3.6nm,0.6s,baz=248,slow=14,SNR=4.8
AAK Ala-Archa 23.69 71deP **P 22 29 36.6 +0.1**
AAK pmax pmax
comp=Z,129nm,1.8s
AAK Ala-Archa 23.69 71 eP **P 22 29 36.9 +0.4**
comp=Z,103nm,1.4s
AAK Ala-Archa 23.69 71 eP **P 22 29 36.9 +0.4**
comp=Z,103nm,1.4s
KHC Kasperske Hory 23.74 305 eP **P 22 29 36.6 -0.2**
KHC Kasperske Hory 23.74 305 eP **P 22 29 36.6 -0.2**
KHC Kasperske Hory 23.74 305 P **P 22 29 36.6 -0.2**
KHC Kasperske Hory 23.74 305 eP **P 22 29 36.8 0.0**
comp=Z,32nm,1.3s
FRU Bishkek 23.77 70 eP **P 22 29 39.0 +1.8**
FRU i 22 29 44.0
CLTB Caltabellotta 23.81 277 eP **P 22 29 38.1 +0.4**
comp=Z,63nm,1.4s
CLTB Caltabellotta 23.81 277 eP **P 22 29 38.1 +0.4**
comp=Z,63nm,1.4s
ABTA Abfaltersbach 23.98 299 iP **P 22 29 40.5 +1.3**
comp=Z,22nm,1.2s,SNR=8.5
BRG Berggiesshubel 24.01 310 eP **P 22 29 40.4 +1.1**
comp=Z,36nm,1.6s
BRG Berggiesshubel 24.01 310 eP **P 22 29 40.4 +1.1**
BRG pmax pmax
comp=Z,36nm,1.6s
WET Wettzell 24.19 305 P **P 22 29 40.1 -1.0**
WET pmax pmax
comp=Z,45nm,1.8s
DAMY Dhamar 24.19 178 eP **P 22 29 40.1 -1.5**
comp=Z,202nm,2.0s
DAMY Dhamar 24.19 178 eP **P 22 29 40.1 -1.5**
comp=Z,202nm,2.0s
SFI Santa Sofia 24.23 292 P **P 22 29 42.7 +1.2**
TKM2 Tokmak 2 24.49 70 iP **P 22 29 44.3 +0.2**
TKM2 pmax pmax
comp=Z,41nm,1.3s
WTTA Wattenberg 24.65 300 iP **P 22 29 45.3 -0.2**
comp=Z,29nm,0.9s,SNR=11
WTTA Wattenberg 24.65 300 P **P 22 29 45.3 -0.2**
comp=Z,29nm,0.9s,SNR=11
FIR Firenze 24.65 292 P **P 22 29 47.5 +2.2**
WATA Walderalm 24.70 300 iP **P 22 29 45.0 -0.9**
comp=Z,50nm,1.2s,SNR=15
WATA Walderalm 24.70 300 P **P 22 29 45.0 -0.9**
comp=Z,50nm,1.2s,SNR=15
CLL Collm 24.71 310 eP **P 22 29 45.0 -0.7**
CLL i 22 29 48.4
CLL i 22 29 52.6
CLL eS **S 22 34 12.0 +4.4**
CLL Collm 24.71 310 eP **P 22 29 46.0 +0.3**
comp=Z,27nm,1.1s
CLL Collm 24.71 310 eP **P 22 29 45.0 -0.7**
CLL iSP **SP 22 29 48.4 -0.5**
comp=Z,51nm,1.9s
CLL i 22 29 52.6
comp=Z,26nm,1.2s
CLL i 22 30 08.0
CLL eS **S 22 34 12.0 +4.4**
CLL e 22 34 36.0
CLL LmH 22 41 00.0
comp=N,800nm,21.8s
CLL LmH 22 41 00.0
comp=E,600nm,20.4s
CLL Collm 24.71 310 eP **P 22 29 46.0 +0.3**
comp=E,27nm,1.1s
NKC Novy Kostel 24.73 308 eP **P 22 29 46.1 +0.1**
NKC Novy Kostel 24.73 308 eP **P 22 29 46.1 +0.1**
NKC Novy Kostel 24.73 308 P **P 22 29 46.1 +0.1**
MOTA Moosalm 25.02 300 iP **P 22 29 48.5 -0.2**
comp=E,48nm,0.9s,SNR=21
MOTA Moosalm 25.02 300 P **P 22 29 48.5 -0.2**
comp=E,48nm,0.9s,SNR=21
FUR Furstenfeldbru 25.03 302 P **P 22 29 48.9 +0.2**
FUR pmax pmax
comp=Z,51nm,1.1s
FIA1 FINESS Array S 25.08 340 eP **P 22 29 50.5 +1.6**
comp=Z,53nm,1.1s
FIA1 FINESS Array S 25.08 340 eP **P 22 29 50.5 +1.6**
comp=Z,53nm,1.1s
FINES FINESS Array B 25.08 340 P **P 22 29 47.5 -1.4**
comp=Z,9.4nm,0.9s,baz=148,slow=11,SNR=10
FINES LR LR 22 40 29.6
comp=Z,1μm,18.7s,baz=162,slow=39
KSH Kashi 25.08 78 P **P 22 29 49.3 -0.1**
KSH pP sP 22 29 53.5 +1.0
KSH sP pP 22 29 56.0 +4.4
KSH PP **PnPn 22 30 26.5 +3.9**
KSH PcP **PcP 22 33 26.5 +2.8**
KSH S **S 22 34 09.5 -4.6**
KSH SS **SnSn 22 35 06.5 +3.6**
KSH PcS **PcS 22 37 06.8 +2.7**
KSH ScS **ScS 22 40 51.0 -0.6**
KSH pmax pmax
comp=Z,16nm,1.1s
KSH pmax pmax
comp=Z,350nm,7.8s
KSH LR LR
comp=Z,1μm,14.1s
KSH LR LR
comp=Z,640nm,11.8s
KSH LR LR
comp=Z,720nm,12.6s
BDI Bagni Di Lucca 25.13 293 P **P 22 29 53.0 +3.3**
BSD Bornholm Skovb 25.17 320 iP **P 22 29 50.3 +0.5**
BSD Bornholm Skovb 25.17 320 iP **P 22 29 50.3 +0.5**
BSD Bornholm Skovb 25.17 320 iP **P 22 29 50.3 +0.5**
FETA Feichten 25.23 300 iP **P 22 29 50.1 -0.6**
comp=Z,24nm,1.1s,SNR=8.4
FETA Feichten 25.23 300 P **P 22 29 50.1 -0.6**
comp=Z,24nm,1.1s,SNR=8.4
RETA Reutte 25.27 301 iP **P 22 29 50.4 -0.5**
comp=Z,37nm,1.1s
RETA Reutte 25.27 301 P **P 22 29 50.4 -0.5**
comp=Z,37nm,1.1s
VLC Villacollemand 25.28 293 eP **P 22 29 51.8 +0.8**
comp=Z,30nm,1.1s
VLC Villacollemand 25.28 293 eP **P 22 29 51.9 +0.8**
comp=Z,30nm,1.1s
MOX Moxa 25.36 308 P **P 22 29 55.5 +3.9**
MOX pmax pmax
comp=Z,39nm,1.8s
GRFO Grafenberg 25.37 306 eP **P 22 29 52.0 +0.3**
GRFO pmax pmax
comp=Z,165nm,1.5s
GRFO Grafenberg 25.37 306 eP **P 22 29 52.0 +0.3**
comp=Z,165nm,1.5s
GRFO Grafenberg 25.37 306 eP **P 22 29 52.0 +0.3**
comp=Z,165nm,1.5s
FUORN Ofenpass-Fuorn 25.50 299 eP **P 22 29 53.4 +0.1**
comp=Z,22nm,1.1s
FUORN Ofenpass-Fuorn 25.50 299 eP **P 22 29 53.4 +0.1**
comp=Z,22nm,1.1s
TMCR Tamitsa 25.57 354 eP **P 22 29 51.6 -1.7**
TMCR pmax pmax
comp=Z,15nm,0.8s
RGN Rugen 25.73 318 eP **P 22 29 56.6 +1.7**
comp=Z,75nm,1.0s
RGN Rugen 25.73 318 eP **P 22 29 56.6 +1.7**
comp=Z,75nm,1.0s
DAVOX Davos/Dischmat 25.78 299 P **P 22 29 54.6 -1.1**
comp=Z,10nm,1.0s,baz=122,slow=7.4,SNR=6.3
DAVA Damuels 25.84 300 iP **P 22 29 55.3 -0.9**
comp=Z,36nm,1.1s
DAVA Damuels 25.84 300 P **P 22 29 55.3 -0.9**
comp=Z,36nm,1.1s
TUE Stuetta 26.12 298 eP **P 22 29 58.8 -0.1**
comp=Z,13nm,1.0s
TUE Stuetta 26.12 298 eP **P 22 29 58.8 -0.1**
comp=Z,13nm,1.0s
PGF Pioggiola 26.34 289 eP **P 22 29 59.6 -1.1**
PGF pmax pmax
comp=Z,28nm,1.0s
STU Stuttgart 26.50 303 eP **P 22 30 00.9 -1.0**
STU pmax pmax
comp=Z,39nm,1.2s
STU Stuttgart 26.50 303 eP **P 22 30 00.9 -1.0**
comp=Z,39nm,1.2s
STU Stuttgart 26.50 303 eP **P 22 30 00.9 -1.0**
comp=Z,39nm,1.2s
SPAK Spaichingen-Ko 26.67 302 eP **P 22 30 01.9 -1.7**
TOD Tromm 26.89 305 eP **P 22 30 05.0 -0.5**
BFO Black Forest 27.00 302 eP **P 22 30 06.8 +0.2**
BFO pmax pmax
comp=Z,19nm,1.5s
BFO Black Forest 27.00 302 eP **P 22 30 06.8 +0.2**
comp=Z,19nm,1.5s
BFO Black Forest 27.00 302 eP **P 22 30 06.8 +0.2**
comp=Z,19nm,1.5s
KURBB Kurchatov Arra 27.25 53 P **P 22 30 09.5 +0.8**
comp=Z,10.0nm,0.8s,baz=263,slow=9.1,SNR=24
KEST Kesra 27.29 274 LR LR 22 42 39.7
comp=Z,1μm,19.5s,baz=28,slow=40
KTD Kalmit 27.30 304 eP **P 22 30 09.2 -0.1**
KURK Kurchatov 27.32 53 eP **P 22 30 10.0 +0.7**
KURK pmax pmax
comp=Z,33nm,1.1s
KURK Kurchatov 27.32 53 eP **P 22 30 10.0 +0.7**
comp=Z,34nm,1.1s
KURK Kurchatov 27.32 53 eP **P 22 30 10.0 +0.7**
comp=Z,34nm,1.1s
KURK Kurchatov 27.32 53 pP **P 22 30 10.6 +1.2**
SNR=11
KURK Kurchatov 27.32 53 P **P 22 30 10.6 +1.2**
SNR=11
KURK P **P 22 30 10.6 +1.2**
SNR=11
SBF Sospel 27.42 292 eP **P 22 30 10.6 +0.2**
SBF pmax pmax
comp=Z,49nm,1.2s
LANF Langenberg 27.43 303 eP **P 22 30 09.0 -1.4**
LANF Langenberg 27.43 303 eP **P 22 30 09.0 -1.4**
SENIN Lac Senin/Sane 27.53 298 eP **P 22 30 10.5 -1.0**
comp=Z,23nm,1.4s
SENIN Lac Senin/Sane 27.53 298 eP **P 22 30 10.5 -1.0**
comp=Z,23nm,1.4s
MOF Molkenrain 27.75 301 eP **P 22 30 15.7 +2.4**
MOF Molkenrain 27.75 301 eP **P 22 30 15.7 +2.4**
ECH Echery 27.77 302 eP **P 22 30 15.6 +2.2**
ECH Echery 27.77 302 eP **P 22 30 13.8 +0.4**
ECH pmax pmax
comp=Z,18nm,1.4s
ECH Echery 27.77 302 eP **P 22 30 15.6 +2.2**
ECH Echery 27.77 302 eP **P 22 30 13.8 +0.4**
comp=Z,18nm,1.4s
MBDF Montbardon 27.87 294 eP **P 22 30 15.2 +0.7**
MBDF pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 27.89 296 eP **P 22 30 13.6 -1.2**
LPG pmax pmax
comp=Z,14nm,1.0s
LOMF Lomont 27.91 300 eP **P 22 30 14.6 -0.2**
LOMF Lomont 27.91 300 eP **P 22 30 14.6 -0.2**
BNI Bardonecchia 27.93 295 eP **P 22 30 14.6 -0.5**
BNI pmax pmax
comp=Z,14nm,0.9s
BNI Bardonecchia 27.93 295 eP **P 22 30 14.6 -0.5**
comp=Z,14nm,0.9s
BNI Bardonecchia 27.93 295 eP **P 22 30 14.6 -0.5**
comp=Z,14nm,0.9s

RSL	Roselend	27.98	296	eP	P	22 30 14.5 -1.0
RSL	Roselend	27.98	296	eP	P	22 30 14.5 -1.0
HAU	Haudompre	28.29	301	eP	P	22 30 21.3 +3.2
HAU				pmax	pmax	
comp=Z,11nm,1.2s						
CABF	La Chapelle	28.38	298	eP	P	22 30 18.1 -0.8
CABF				pmax	pmax	
comp=Z,36nm,1.0s						
WLF	Walferdange	28.60	304	eP	P	22 30 21.3 +0.5
WLF				pmax	pmax	
comp=Z,21nm,1.0s						
WLF	Walferdange	28.60	304	eP	P	22 30 21.3 +0.5
comp=Z,21nm,1.0s						
WLF	Walferdange	28.60	304	eP	P	22 30 21.3 +0.5
comp=Z,21nm,1.0s						
WTSB	Winterswijk	28.61	309	eP	P	22 30 22.9 +2.1
comp=Z,92nm,1.2s						
HGN	Heimansgroeve	28.91	307	eP	P	22 30 24.0 +0.5
comp=Z,73nm,1.4s						
MAKZ	Makanchi	29.06	62	eP	P	22 30 23.4 -1.5
MAKZ				pmax	pmax	
comp=Z,36nm,1.5s						
MAKZ	Makanchi	29.06	62	eP	P	22 30 23.4 -1.5
comp=Z,36nm,1.5s						
MAKZ	Makanchi	29.06	62	eP	P	22 30 23.4 -1.5
comp=Z,36nm,1.5s						
MK31	Makanchi Array	29.27	62	eP	P	22 30 26.6 -0.2
MK31	Makanchi Array	29.27	62	eP	P	22 30 26.6 -0.2
MK31	Makanchi Array	29.27	62	eP	P	22 30 26.6 -0.2
MKAR	Makanchi Array	29.27	62	P	P	22 30 27.3 +0.5
comp=Z,5.1nm,0.7s,baz=261,slow=6.9,SNR=13						
MKAR	Makanchi Array	29.27	62	eP	P	22 30 27.5 +0.7
MKAR				pmax	pmax	
comp=Z,49nm,0.8s						
MKAR	Makanchi Array	29.27	62	eP	P	22 30 27.5 +0.7
comp=Z,49nm,0.8s						
MKAR	Makanchi Array	29.27	62	eP	P	22 30 27.5 +0.7
comp=Z,49nm,0.8s						
APA	Apatity	29.33	352⇓	iP	P	22 30 32.7 +5.7
APA				MLR	MLR	
comp=Z,600nm,15.0s						
VIVF	Saint-Julien-l	29.36	294	eP	P	22 30 25.9 -1.8
VIVF				pmax	pmax	
comp=Z,16nm,1.2s						
SSB	Saint Sauveur	29.44	295	eP	P	22 30 27.3 -1.1
SSB				pmax	pmax	
comp=Z,10.0nm,1.0s						
SSB	Saint Sauveur	29.44	295	eP	P	22 30 27.3 -1.1
comp=Z,9.6nm,1.0s						
SSB	Saint Sauveur	29.44	295	eP	P	22 30 27.3 -1.1
comp=Z,9.6nm,1.0s						
GIVF	Givet	29.51	305	eP	P	22 30 29.2 +0.3
GIVF				pmax	pmax	
comp=Z,15nm,1.0s						
LVZ	Lovozero	29.52	353	eP	P	22 30 28.8 0.0
LVZ				pmax	pmax	
comp=Z,25nm,1.2s						
LVZ	Lovozero	29.52	353	eP	P	22 30 28.8 0.0
comp=Z,24nm,1.2s						
LVZ	Lovozero	29.52	353	eP	P	22 30 28.8 0.0
comp=Z,24nm,1.2s						
NC602	NORSAR Array S	29.61	328	eP	P	22 30 30.2 +0.6
NC602	NORSAR Array S	29.61	328	eP	P	22 30 30.2 +0.6
NC405	NORSAR Array S	29.74	329	eP	P	22 30 31.1 +0.3
NC405	NORSAR Array S	29.74	329	eP	P	22 30 31.1 +0.3
KONO	Kongsberg	29.88	325	eP	P	22 30 32.7 +0.7
KONO				pmax	pmax	
comp=Z,120nm,1.8s						
KONO	Kongsberg	29.88	325	eP	P	22 30 32.7 +0.7
comp=Z,120nm,1.8s						
KONO	Kongsberg	29.88	325	eP	P	22 30 32.7 +0.7
comp=Z,120nm,1.8s						
BAIF	Baives	29.90	305	eP	P	22 30 34.8 +2.5
BAIF				pmax	pmax	
comp=Z,13nm,1.0s						
NB2	NORSAR Subarra	29.91	329	P	P	22 30 30.6 -1.7
comp=Z,1.4nm,0.6s,baz=125,slow=9.3						
NB2	NORSAR Subarra	29.91	329	P	P	22 30 34.7 +2.4
NB2				pmax	pmax	
comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	29.91	329	P	P	22 30 31.0 -1.3
comp=Z,3.4nm,0.8s,baz=125,slow=8.9,SNR=6.3						
NOA				LR	LR	22 44 08.5
comp=Z,313nm,20.5s,baz=125,slow=40						
NOA	NORSAR Array B	29.91	329	P	P	22 30 31.0 -1.3
NOA	NORSAR Array B	29.91	329	P	P	22 30 31.0 -1.3
NAO01	NORSAR Array S	29.93	328	eP	P	22 30 32.5 0.0
NAO01	NORSAR Array S	29.93	328	eP	P	22 30 32.5 0.0
PLDF	La Plantade	30.08	297	eP	P	22 30 33.6 -0.4
PLDF	La Plantade	30.08	297	eP	P	22 30 33.6 -0.4
NBO00	NORSAR Array S	30.08	328	eP	P	22 30 35.3 +1.5
NBO00	NORSAR Array S	30.08	328	eP	P	22 30 35.3 +1.5
FURI	Furi	30.14	190	eP	P	22 30 34.6 -0.4
comp=Z,16nm,1.3s						
FURI	Furi	30.14	190	eP	P	22 30 34.6 -0.4
comp=Z,16nm,1.3s						
SSF	Saint Saulge	30.16	299	eP	P	22 30 36.1 +1.4
SSF				pmax	pmax	
comp=Z,37nm,1.7s						
NC204	NORSAR Array S	30.22	329	eP	P	22 30 35.3 +0.2
NC204	NORSAR Array S	30.22	329	eP	P	22 30 35.3 +0.2
AVF	Avril sur Loir	30.26	298	eP	P	22 30 33.9 -1.6
AVF				pmax	pmax	
comp=Z,9.0nm,0.9s						
AGO	Saint Agoulin	30.42	297	eP	P	22 30 36.7 -0.3
AGO	Saint Agoulin	30.42	297	eP	P	22 30 36.7 -0.3
NVS	Novosibirsk	31.00	46	eP	P	22 30 43.7 +1.7
NVS				e		22 31 40.1
NVS				pmax	pmax	
comp=N,10.0nm,1.3s						
NVS				pmax	pmax	
comp=E,13nm,1.3s						
NVS				pmax	pmax	
comp=Z,31nm,1.3s						
TCF	Toulx Ste Croi	31.05	297	eP	P	22 30 41.4 -1.2
TCF				pmax	pmax	
comp=Z,10.0nm,0.9s						
CAF	Calviac	31.21	295	eP	P	22 30 43.3 -0.7
CAF				pmax	pmax	
comp=Z,10.0nm,1.2s						
ZAA0	Zalesovo Array	31.71	48	eP	P	22 30 48.8 +0.6
ZAA0	Zalesovo Array	31.71	48	eP	P	22 30 48.8 +0.6
ZALV	Zalesovo Beam	31.71	48	P	P	22 30 48.4 +0.2
comp=Z,2.1nm,0.6s,baz=262,slow=10,SNR=9.2						
ZALV				PP	PP	22 32 11.2 +12
comp=Z,2.3nm,0.8s,baz=256,slow=12,SNR=3.6						
ZALV				LR	LR	22 45 37.2
comp=Z,886nm,18.8s,baz=253,slow=40						
LFF	La Frestale	32.15	295	eP	P	22 30 51.1 -1.1
LFF				pmax	pmax	
comp=Z,16nm,0.9s						
KEV	Kevo	32.20	349	eP	P	22 30 54.2 +1.8
KEV				pmax	pmax	
comp=Z,26nm,1.2s						
KEV	Kevo	32.20	349	eP	P	22 30 54.2 +1.8
comp=Z,26nm,1.2s						
KEV	Kevo	32.20	349	eP	P	22 30 54.2 +1.8
comp=Z,26nm,1.2s						
ARCES	ARCESS Array B	32.23	348	P	P	22 30 51.9 -0.8
comp=Z,4.4nm,0.8s,baz=153,slow=11,SNR=7.1						
ARE0	ARCESS Array S	32.23	348	eP	P	22 30 53.6 +0.9
comp=Z,101nm,2.0s						
ARE0	ARCESS Array S	32.23	348	eP	P	22 30 53.6 +0.9
comp=Z,101nm,2.0s						
LDF	La Druitiere	32.63	302	eP	P	22 30 55.8 -0.6
LDF				pmax	pmax	
comp=Z,108nm,2.2s						
GRR	Gorron	33.12	301	eP	P	22 30 58.8 -1.8
GRR				pmax	pmax	
comp=Z,28nm,1.0s						
WMQ	Urumqi	33.22	67	P	P	22 31 03.5 +1.8
WMQ				sP	sP	22 31 10.0 +5.1
WMQ				PP	PnPn	22 32 14.0 +2.4
WMQ				S	S	22 36 20.0 -1.9
WMQ				SS	SnSn	22 38 26.0 +4.9
WMQ				pmax	pmax	
comp=Z,13nm,0.8s						
WMQ				pmax	pmax	
comp=Z,74nm,3.7s						
WMQ				LR	LR	
comp=Z,710nm,22.9s						
WMQ				LR	LR	
comp=Z,440nm,27.1s						
WMQ				LR	LR	
comp=Z,360nm,22.9s						
PYUN	Piuthan	34.37	96	eP	P	22 31 12.5 +0.5
comp=Z,84nm,1.1s						
QUIF	Quistinic	34.67	301	eP	P	22 31 12.3 -1.8
QUIF				pmax	pmax	
comp=Z,47nm,1.2s						
ROSF	Rostrenen	34.73	301	eP	P	22 31 13.0 -1.6
ROSF				pmax	pmax	
comp=Z,90nm,1.6s						
DANN	Dangsing	34.85	95	eP	P	22 31 17.4 +1.1
comp=Z,10nm,1.0s						
KOLN	Koldanda	35.00	96	eP	P	22 31 17.9 +0.4
comp=Z,89nm,1.2s						
ESK	Eskdalemuir	35.07	314	eP	P	22 31 18.5 +1.0
ESK				pmax	pmax	
comp=Z,25nm,0.8s						
ESK	Eskdalemuir	35.07	314	eP	P	22 31 18.5 +1.0
comp=Z,25nm,0.8s						
ESK	Eskdalemuir	35.07	314	eP	P	22 31 18.5 +1.0
comp=Z,25nm,0.8s						
GKN	Gorkha	35.70	95	eP	P	22 31 23.7 +0.3
comp=Z,63nm,1.0s						
TAM	Tamanrasset	36.07	255	eP	P	22 31 25.0 -1.6
TAM				pmax	pmax	
comp=Z,15nm,1.2s						
TAM	Tamanrasset	36.07	255	eP	P	22 31 25.0 -1.6
comp=Z,15nm,1.2s						
TAM	Tamanrasset	36.07	255	eP	P	22 31 25.0 -1.6
comp=Z,15nm,1.2s						
DMN	Daman	36.25	95	eP	P	22 31 28.9 +0.6
comp=Z,88nm,1.1s						
KKN	Kakani	36.30	95	eP	P	22 31 28.9 +0.3
comp=Z,39nm,1.0s						
ESDC	Sonseca Array	36.45	287	P	P	22 31 28.3 -1.3
comp=Z,6.2nm,0.7s,baz=67,slow=8.8,SNR=39						
ESDC				LR	LR	22 46 58.3
comp=Z,318nm,18.9s,baz=300,slow=37						
ESLA	Sonseca Array	36.45	287	eP	P	22 31 28.6 -1.1
comp=Z,13nm,0.9s						
ESLA	Sonseca Array	36.45	287	eP	P	22 31 28.6 -1.1
comp=Z,13nm,0.9s						
ESLA	Sonseca Array	36.45	287	eP	P	22 31 28.6 -1.1
comp=Z,13nm,0.9s						
PKIN	Phulchoki	36.49	95	eP	P	22 31 31.3 +1.0
comp=Z,20nm,0.6s						
PKI	Pulchoki	36.50	95	eP	P	22 31 30.7 +0.2
comp=Z,56nm,1.1s						
GUN	Gumba	36.71	94	eP	P	22 31 32.7 +0.4
comp=Z,156nm,1.2s						
PAB	San Pablo	36.77	287	eP	P	22 31 31.1 -1.3
PAB				pmax	pmax	
comp=Z,16nm,1.1s						
PAB	San Pablo	36.77	287	eP	P	22 31 31.1 -1.3
comp=Z,16nm,1.1s						
PAB	San Pablo	36.77	287	eP	P	22 31 31.1 -1.3
comp=Z,16nm,1.1s						
JIRN	Jiri	37.07	94	eP	P	22 31 35.8 +0.4
comp=Z,880nm,1.2s						
HYB	Hyderabad	37.21	115	iP	P	22 31 35.0 -1.2
RAMN	Ramite	37.73	95	eP	P	22 31 41.2 +0.4
comp=Z,109nm,1.0s						
MVO	Moncorvo	38.37	290	eP	P	22 31 44.8 -1.1
comp=Z,21nm,2.1s						
ODAN	Odare	38.39	95	eP	P	22 31 46.9 +0.5
comp=Z,214nm,1.2s						
TAPN	Taplejung	38.40	94	eP	P	22 31 47.0 +0.4
comp=Z,35nm,0.7s						
NRIK	Noril'sk	38.44	23	P	P	22 31 47.0 +1.0
comp=Z,14nm,1.0s,baz=251,slow=9.0,SNR=10						
NRIK				PP	PnPn	22 33 18.7 +3.3
comp=Z,5.4nm,0.9s,baz=260,slow=9.5,SNR=4.0						
PVRL	Vila Real	38.84	290	eP	P	22 31 49.0 -0.8
comp=Z,27nm,2.0s						
POLO	Lamas de Olo	38.88	291	eP	P	22 31 49.0 -1.2
PCBR	Castelo Branco	39.03	288	eP	P	22 31 50.2 -1.1
comp=Z,35nm,1.7s						
PMRV	Marv??o	39.08	287	eP	P	22 31 51.6 -0.2
comp=Z,26nm,2.1s						
PGAV	Gavieira, Arco	39.09	292	eP	P	22 31 55.3 +3.4
comp=Z,52nm,1.9s						
PBAR	Barrancos	39.17	285	eP	P	22 31 51.3 -1.2
comp=Z,52nm,1.9s						
PESTR	Estremoz	39.38	287	eP	P	22 31 53.0 -1.3
comp=Z,29nm,1.3s						
PTOM	Tomar	39.78	288	eP	P	22 31 57.3 -0.3
comp=Z,49nm,1.4s						
PMTG	Montargil	39.80	287	eP	P	22 31 58.2 +0.4
comp=Z,22nm,1.4s						
PBEJ	Beja	39.84	286	eP	P	22 31 57.3 -0.8
comp=Z,28nm,2.2s						
PVAQ	Vaqueiros	39.92	285	eP	P	22 31 57.9 -0.9
comp=Z,32nm,1.5s						
LSA	Lhasa	40.01	88	P	P	22 32 00.8 +0.7
LSA				pmax	pmax	
comp=Z,9.0nm,1.1s						
LSA	Lhasa	40.01	88	eP	P	22 32 00.9 +0.7
LSA				pmax	pmax	
comp=Z,17nm,1.0s						
LSA	Lhasa	40.01	88	eP	P	22 32 00.9 +0.7
comp=Z,17nm,1.0s						
LSA	Lhasa	40.01	88	eP	P	22 32 00.8 +0.7
comp=Z,17nm,1.0s						
PCVE	Castro Verde	40.09	285	eP	P	22 32 01.9 +1.7
comp=Z,34nm,1.5s						
KMBO	Kilima Mbogo	40.20	190	LR	LR	22 47 31.4
comp=Z,1μm,18.5s,baz=318,slow=35						
PNCL	Nicolau / Gran	40.31	286	eP	P	22 31 59.0 -3.0
MOY	Mondy	41.38	53	eP	P	22 32 13.4 +2.6
MOY				pmax	pmax	
comp=Z,29nm,2.2s						
ZAK	Zakamensk	42.96	54	eP	P	22 32 25.3 +1.6
ZAK				e		22 34 13.4
ZAK				pmax	pmax	
comp=Z,8.0nm,1.3s						
TLY	Talaya	43.02	52	P	P	22 32 25.8 +1.7
comp=Z,1.8nm,0.5s,baz=232,slow=5.2,SNR=6.8						
TLY	Talaya	43.02	52	eP	P	22 32 30.1 +6.0
TLY				pmax	pmax	
comp=Z,9.0nm,0.8s						
TLY				MLR	MLR	
comp=Z,207nm,11.0s						
GTA	Gaotai	43.04	71	⇑P	P	22 32 25.3 +0.7
GTA				pP	sP	22 32 31.5 +3.7
GTA				sP	pP	22 32 34.3 +7.4
GTA				PcP	PcP	22 34 13.3 -1.4
GTA				S	S	22 38 51.5 +0.9
GTA				sS	sS	22 39 02.0 +7.6
GTA				SS	SS	22 41 58.3 -4.0
GTA				pmax	pmax	
comp=Z,7.0nm,1.4s						
GTA				pmax	pmax	
comp=Z,150nm,5.0s						
GTA				LR	LR	
comp=Z,420nm,17.1s						
GTA				LR	LR	
comp=Z,400nm,17.6s						
GTA				LR	LR	
comp=Z,430nm,17.1s						
MSEY	Mahe Island	44.69	163	eP	P	22 32 37.3 -0.5
MSEY				pmax	pmax	
comp=Z,31nm,1.0s						
MSEY	Mahe Island	44.69	163	eP	P	22 32 37.3 -0.5
comp=Z,30nm,1.0s						
MSEY	Mahe Island	44.69	163	eP	P	22 32 37.3 -0.5
comp=Z,30nm,1.0s						
TOA0	Torodi Ar. Sit	44.94	247	eP	P	22 32 38.6 -1.3
TOA0	Torodi Ar. Sit	44.94	247	eP	P	22 32 38.6 -1.3
TORD	Torodi Ar. Bea	44.94	247	P	P	22 32 38.5 -1.4
comp=Z,8.6nm,0.9s,baz=64,slow=7.0,SNR=42						
SONM	Songino Array	45.44	57	P	P	22 32 45.1 +1.4
comp=Z,1.0nm,0.7s,baz=268,slow=9.8,SNR=7.2						
SONM				PcP	PcP	22 34 24.9 +2.2
comp=Z,1.8nm,0.8s,baz=257,slow=3.2,SNR=6.6						
ULN	Ulaanbaatar	45.87	57	ceP	P	22 32 48.5 +1.4
ULN				pmax	pmax	
comp=Z,23nm,1.2s						
ULN	Ulaanbaatar	45.87	57	eP	P	22 32 47.3 +0.2
comp=Z,24nm,1.1s						
ULN	Ulaanbaatar	45.87	57	eP	P	22 32 47.3 +0.2
comp=Z,24nm,1.1s						
ULN	Ulaanbaatar	45.87	57	pP	P	22 32 48.6 +1.6
SNR=13						
ULN	Ulaanbaatar	45.87	57	P	P	22 32 48.6 +1.6
SNR=13						
ULN				P	P	22 32 48.6 +1.6
SNR=13						
DAG	Danmarks Havn	46.23	344	iP	P	22 32 51.3 +2.0
comp=Z,19nm,1.5s						
DAG	Danmarks Havn	46.23	344	iP	P	22 32 51.3 +2.0
DAG				pmax	pmax	
comp=Z,52nm,1.5s						
LZH	Lanzhou	47.18	74	eP	P	22 32 59.5 +1.9
LZH				pP	sP	22 33 04.5 +3.7
LZH				sP	pP	22 33 06.5 +6.6
LZH				PP	PP	22 34 51.0 +2.8
LZH				S	S	22 39 52.3 +1.7
LZH				pmax	pmax	
comp=Z,23nm,1.2s						
LZH				pmax	pmax	
comp=Z,270nm,6.7s						
LZH				LR	LR	
comp=Z,750nm,15.6s						
LZH				LR	LR	
comp=Z,730nm,17.4s						
LZH				LR	LR	
comp=Z,620nm,18.1s						
CD2	Chengdu	49.26	80	P	P	22 33 12.0 -1.5
CD2				PcS	PcS	22 38 31.8 -1.3
CD2				S	S	22 40 17.8 -2.1
CD2				SS	SS	22 43 50.5 -0.6
CD2				pmax	pmax	
comp=Z,20nm,0.5s						
CD2				pmax	pmax	
comp=Z,180nm,5.6s						
CD2				LR	LR	
comp=Z,690nm,15.4s						
CD2				LR	LR	
comp=Z,750nm,14.9s						
CD2				LR	LR	
comp=Z,530nm,16.9s						
HHC	Hu-ho-hao-te	51.05	65	eP	P	22 33 26.5 -0.5
HHC				S	S	22 40 41.3 -3.4
HHC				pmax	pmax	
comp=Z,23nm,1.1s						
HHC				pmax	pmax	
comp=Z,180nm,8.9s						
HHC				LR	LR	
comp=Z,520nm,15.3s						
HHC				LR	LR	
comp=Z,440nm,14.9s						
HHC				LR	LR	
comp=Z,320nm,18.8s						
SUMG	Summit	51.07	337	iP	P	22 33 29.5 +2.4
comp=Z,15nm,1.2s						
SUMG	Summit	51.07	337	iP	P	22 33 29.5 +2.4
SUMG				pmax	pmax	
comp=Z,15nm,1.2s						
SUMG	Summit	51.07	337	iP	P	22 33 29.5 +2.4
comp=Z,15nm,1.2s						
KMI	Kunming	51.23	87	P	P	22 33 28.8 +0.1
KMI				pmax	pmax	
comp=Z,9.0nm,0.5s						
KMI				LR	LR	
comp=Z,220nm,13.6s						
KMI				LR	LR	
comp=Z,210nm,8.3s						
KMI				LR	LR	
comp=Z,300nm,25.5s						
CHTO	Chiang Mai	51.67	96	eP	P	22 33 30.7 -1.1
CHTO				pmax	pmax	
comp=Z,8.0nm,0.9s						
CHTO	Chiang Mai	51.67	96	eP	P	22 33 30.7 -1.1
comp=Z,7.8nm,0.9s						
CHTO	Chiang Mai	51.67	96	eP	P	22 33 30.7 -1.1
comp=Z,7.8nm,0.9s						
XAN	Xi'an	51.82	74	P	P	22 33 33.0 +0.2
XAN				pP	sP	22 33 37.0 +0.9
XAN				sP	pP	22 33 40.0 +4.8
XAN				PP	PP	22 35 31.3 +0.9
XAN				S	S	22 40 52.5 -2.9
XAN				SS	SS	22 44 26.8 -4.9
XAN				pmax	pmax	
comp=Z,21nm,1.1s						
XAN				pmax	pmax	
comp=Z,42nm,4.0s						
XAN				LR	LR	
comp=Z,360nm,14.8s						
XAN				LR	LR	
comp=Z,430nm,17.6s						
XAN				LR	LR	
comp=Z,590nm,19.0s						
CMAR	Chiang Mai Arr	51.87	97	P	P	22 33 32.3 -1.0
comp=Z,2.2nm,0.6s,baz=299,slow=7.8,SNR=16						
CMAR				LR	LR	22 59 18.3
comp=Z,232nm,21.8s,baz=291,slow=40						
CMAR	Chiang Mai Arr	51.87	97	ceP	P	22 33 32.7 -0.6
CMAR				pmax	pmax	
comp=Z,2.0nm,0.6s						
TIXI	Tiksi	52.22	24	P	P	22 33 35.0 -0.2
comp=Z,6.2nm,1.0s,baz=304,slow=4.6,SNR=8.6						
TIXI	Tiksi	52.22	24⇓	eP	P	22 33 35.2 +0.1
TIXI				pmax	pmax	
comp=Z,12nm,1.2s						
TIXI	Tiksi	52.22	24	eP	P	22 33 35.3 +0.1
comp=Z,10nm,1.0s						
TIXI	Tiksi	52.22	24	eP	P	22 33 35.4 +0.2
comp=Z,10nm,1.0s						
LAMP	Lampang	52.37	96	P	P	22 33 46.3 +9.3
comp=Z,4.4nm,1.2s						
UTTA	Uttaradit	53.53	96	P	P	22 33 56.3 +11
comp=Z,2.1nm,1.3s						
GYA	Guiyang	53.61	83	eP	P	22 33 45.5 -0.8
GYA				pmax	pmax	
comp=Z,10.0nm,0.9s						
ENH	Enshi	53.94	78	eP	P	22 33 48.3 -0.2
comp=Z,20nm,0.9s						
ENH	Enshi	53.94	78	eP	P	22 33 48.3 -0.2
comp=Z,20nm,0.9s						
UTHA	Uthaitani	53.95	99	P	P	22 33 59.2 +10
comp=Z,4.0nm,1.0s						
DBIC	Dimbokro	54.05	247	P	P	22 33 47.5 -1.9
comp=Z,8.2nm,0.8s,baz=23,slow=8.7,SNR=15						
DBIC				LR	LR	22 59 12.0
comp=Z,258nm,20.7s,baz=66,slow=39						
DBIC	Dimbokro	54.05	247	eP	P	22 33 47.9 -1.5
comp=Z,18nm,1.0s						
DBIC	Dimbokro	54.05	247	eP	P	22 33 47.9 -1.5
comp=Z,18nm,1.0s						
BJI	Beijing	54.60	64	P	P	22 33 50.5 -2.7
BJI				S	S	22 41 25.8 -7.2
BJI				SS	SS	22 45 12.5 -2.8
BJI				pmax	pmax	
comp=Z,7.0nm,0.9s						
BJI				LR	LR	
comp=Z,460nm,27.5s						
BJI				LR	LR	
comp=Z,620nm,15.9s						
BJI				LR	LR	
comp=Z,290nm,26.3s						
BJI				LR	LR	
comp=Z,320nm,19.6s						
YAK	Yakutsk	54.85	35	LR	LR	22 58 41.6
comp=Z,206nm,20.9s,baz=281,slow=38						
YAK	Yakutsk	54.85	35⇓	eP	P	22 33 59.8 +5.2
YAK				pmax	pmax	
comp=Z,13nm,0.8s						
SRAK	Srakaew	56.89	99	P	P	22 34 22.1 +12
ABPO	Ambohimpanom	57.66	176	eP	P	22 34 14.2 -1.1
ABPO				pmax	pmax	
comp=Z,36nm,1.6s						
ABPO	Ambohimpanom	57.66	176	eP	P	22 34 14.2 -1.1
comp=Z,36nm,1.6s						
ABPO	Ambohimpanom	57.66	176	eP	P	22 34 14.2 -1.1
comp=Z,36nm,1.6s						
LHMI	Lhok Sumawe	58.66	111	P	P	22 34 20.9 -1.4
MLSI	Meulaboh, Aceh	58.91	112	P	P	22 34 25.3 +1.2
CN2	Changchun	59.31	56	eP	P	22 34 27.0 +0.5
CN2				esP	sP	22 34 34.0 +4.2
CN2				eS	S	22 42 32.5 -2.5
CN2				pmax	pmax	
comp=Z,10.0nm,0.6s						
CN2				pmax	pmax	
comp=Z,200nm,4.0s						
CN2				LR	LR	
comp=Z,400nm,19.0s						
CN2				LR	LR	
comp=Z,400nm,19.0s						
CN2				LR	LR	
comp=Z,400nm,19.0s						
QIZ	Qiongzhong	60.04	89	P	P	22 34 30.3 -1.6
QIZ				S	S	22 42 42.5 -2.6
QIZ				pmax	pmax	
comp=Z,20nm,1.5s						
QIZ				LR	LR	
comp=Z,360nm,16.7s						
QIZ				LR	LR	

comp=Z,290nm,22.0s
NJ2 Nanjing 60.13 71 *e*P **P 22 34 31.5 -0.8**
KCSI Kotacane, Aceh 60.41 111 P **P 22 34 31.4 -3.1**
KLR Kul'dur 60.81 49 P **P 22 34 37.5 +0.8**
comp=Z,0.4nm,1.0s,baz=304,slow=13,SNR=3.3
TSI Tuntungan 61.01 111 P **P 22 34 39.1 +0.6**
PSI Prapat 61.74 111 *e*P **P 22 34 41.9 -1.7**
PSI pmax pmax
comp=Z,20nm,1.2s
PSI Prapat 61.74 111 *e*P **P 22 34 41.9 -1.7**
comp=Z,20nm,1.2s
PBSI Pulau Batu 63.24 114 P **P 22 34 55.4 +1.9**
USRK Ussuriysk Ar. 63.31 54 P **P 22 34 53.4 -0.1**
comp=Z,1.4nm,0.6s,baz=307,slow=3.8,SNR=4.4
USRK LR LR 23 07 02.4
comp=Z,195nm,20.1s,baz=294,slow=40
SEY Seymchan 63.89 29 P **P 22 34 59.2 +2.1**
comp=Z,12nm,0.9s,baz=321,slow=8.1,SNR=9.7
SEY Seymchan 63.89 29‖ *e*P **P 22 35 00.4 +3.3**
KSAR Wonju Array Be 63.93 62 P **P 22 34 58.0 +0.2**
KSAR Wonju Array Be 63.93 62 P **P 22 34 58.0 +0.2**
KSAR Wonju Array Be 63.93 62 P **P 22 34 58.0 +0.2**
KSRS Korea Array 63.95 62 P **P 22 34 58.0 +0.1**
comp=Z,6.0nm,1.0s,baz=296,slow=5.8,SNR=10
KSRS LR LR 23 06 28.4
comp=Z,226nm,18.2s,baz=298,slow=39
KSRS Korea Array 63.95 62 P **P 22 34 58.0 +0.1**
KSRS pmax pmax
comp=Z,6.0nm,1.0s
KSRS MLR MLR
comp=Z,226nm,18.2s
SISI Saibi 64.70 114 P **P 22 35 06.2 +3.1**
BILL Bilibino 65.17 20 *e*P **P 22 35 07.1 +1.7**
BILL *e* 22 37 31.2
BILL pmax pmax
comp=Z,22nm,1.2s
BILL MLR MLR
comp=Z,411nm,19.0s
PDSI Padang 65.40 113 P **P 22 35 06.6 -1.1**
comp=Z,9.0nm,1.2s,comp=Z,2μm
DSRI Dabo 68.10 109 P **P 22 35 23.7 -1.2**
MASI Maura Aman, Be 68.22 113 P **P 22 35 24.5 -1.1**
YSS Yuzh-Sakhalins 68.32 47‖ *e*P **P 22 35 30.0 +4.2**
YSS pmax pmax
comp=Z,28nm,1.9s
BOSA Boshof 69.25 197 P **P 22 35 30.9 -0.9**
comp=Z,3.5nm,0.7s,baz=359,slow=4.6,SNR=12
BOSA LR LR 23 06 06.5
comp=Z,519nm,19.6s,baz=15,slow=36
BOSA Boshof 69.25 197 *e*P **P 22 35 32.3 +0.5**
BOSA Boshof 69.25 197 *e*P **P 22 35 32.3 +0.5**
MAT Matsushiro 71.39 58 P **P 22 35 44.4 -0.5**
MJAR Matsushiro Arr 71.39 58 P **P 22 35 44.6 -0.3**
comp=Z,5.3nm,1.1s,baz=303,slow=7.5,SNR=8.5
MJAR LR LR 23 09 43.2
comp=Z,498nm,18.5s,baz=310,slow=38
SBUM Sibu 71.93 102 *e*P **P 22 35 48.2 -0.2**
SBUM Sibu 71.93 102 *e*P **P 22 35 48.2 -0.2**
PETK Petropavlovsk- 72.20 35 LR LR 23 11 52.5
comp=Z,522nm,19.4s,baz=307,slow=39
TOLK Toolik Lake Re 72.39 5 *e*P **P 22 35 52.3 +1.9**
TOLK Toolik Lake Re 72.39 5 *e*P **P 22 35 52.3 +1.9**
COLD Coldfoot 73.73 6 *e*P **P 22 36 01.8 +3.5**
COLD Coldfoot 73.73 6 *e*P **P 22 36 01.8 +3.5**
MLY Manley 75.86 6 *e*P **P 22 36 13.9 +3.2**
MLY Manley 75.86 6 *e*P **P 22 36 13.9 +3.2**
MDM Murphy Dome 76.12 5 *e*P **P 22 36 15.2 +3.0**
MDM Murphy Dome 76.12 5 *e*P **P 22 36 15.2 +3.0**
COLA College 76.23 5 *e*P **P 22 36 12.7 -0.1**
COLA pmax pmax
comp=Z,13nm,1.0s
COLA College 76.23 5 *e*P **P 22 36 12.7 -0.1**
comp=Z,12nm,1.0s
COLA College 76.23 5 *e*P **P 22 36 12.7 -0.1**
comp=Z,12nm,1.0s
ILAR Eielson Array 76.39 5 P **P 22 36 14.1 +0.4**
comp=Z,1.4nm,1.0s,baz=326,slow=3.2,SNR=6.2
ILAR LR LR 23 15 41.4
comp=Z,87nm,18.1s,baz=338,slow=40
CCB Clear Creek Bu 76.46 5 *e*P **P 22 36 16.4 +2.3**
CCB Clear Creek Bu 76.46 5 *e*P **P 22 36 16.4 +2.3**
EGAK Eagle 76.65 2 *e*P **P 22 36 16.2 +1.0**
EGAK Eagle 76.65 2 *e*P **P 22 36 16.2 +1.0**
BPAW Bear Paw Mtn. 76.75 6 *e*P **P 22 36 18.9 +3.1**
BPAW Bear Paw Mtn. 76.75 6 *e*P **P 22 36 18.9 +3.1**
KTH Kantishna Hill 77.29 7 *e*P **P 22 36 19.6 +0.7**
comp=Z,23nm,1.1s
KTH Kantishna Hill 77.29 7 *e*P **P 22 36 19.6 +0.7**
comp=Z,23nm,1.1s
DAWY Dawson 77.40 1 *e*P **P 22 36 19.9 +0.4**
comp=Z,20nm,1.2s
DAWY Dawson 77.40 1 *e*P **P 22 36 19.9 +0.4**
comp=Z,20nm,1.2s
YKA Yellowknife Ar 77.48 350 P **P 22 36 20.5 +0.6**
comp=Z,2.6nm,0.8s,baz=13,slow=6.1,SNR=5.4
YKA LR LR 23 12 24.7
comp=Z,19nm,20.2s,baz=0.0,slow=37
YKA Yellowknife Ar 77.48 350 *e*P **P 22 36 22.1 +2.2**
YKA pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 82.22 341 *e*P **P 22 36 48.2 +2.5**
FFC Flin Flon 82.22 341 *e*P **P 22 36 48.2 +2.5**
FFC Flin Flon 82.22 341 *e*P **P 22 36 48.2 +2.5**
ULM Lac du Bonnet 84.36 335 P **P 22 36 57.5 +0.6**
comp=Z,7.0nm,1.0s,baz=79,slow=2.2,SNR=4.9
ULM LR LR 23 14 24.3
comp=Z,206nm,21.4s,baz=67,slow=36
AGMN Agassiz Nation 86.04 334 *e*P **P 22 37 07.6 +2.3**
AGMN Agassiz Nation 86.04 334 *e*P **P 22 37 07.6 +2.3**
GUMO Guam 90.19 72 LR LR 23 23 08.1
comp=Z,46nm,18.2s,baz=102,slow=39
RSSD Black Hills 92.37 337 *e*P **P 22 37 33.9 -1.7**
RSSD pmax pmax
comp=Z,12nm,1.4s
RSSD Black Hills 92.37 337 *e*P **P 22 37 33.9 -1.7**
comp=Z,12nm,1.4s
RSSD Black Hills 92.37 337 *e*P **P 22 37 33.9 -1.7**
comp=Z,12nm,1.4s
PDAR Pinedale Array 95.17 340 LR LR 23 20 45.8
comp=Z,230nm,19.5s,baz=29,slow=36
NWAO Narrogin (SRO) 98.83 125 LR LR 23 21 28.5
comp=Z,102nm,18.9s,baz=136,slow=35

*CSEM **29** 22:25:44.2,51˚.47N×16˚.22E,h0km*
PRU 29 22:25:42.8,51˚.51N×16˚.22E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**1.01**	**188**	*e*PG	Pg	22 26 01.9	-0.3
UPC				*e*SG	Sg	22 26 14.8	-0.5
UPC	**Upice**	**1.01**	**188**	Pg	Pg	22 26 01.9	-0.3
UPC				Sg	Sg	22 26 14.8	-0.5
DPC	**Dobruska-Polom**	**1.16**	**177**	*e*PG	Pg	22 26 04.1	-1.0
DPC				*e*SG	Sg	22 26 19.2	-0.9
DPC	**Dobruska-Polom**	**1.16**	**177**	Pg	Pg	22 26 04.1	-1.0
DPC				Sg	Sg	22 26 19.2	-0.9
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	Pn	22 26 08.8	-1.2
PVCC				*e*SG	Sg	22 26 28.5	-0.3
PVCC	**Panska Ves**	**1.43**	**227**	Pg	Pn	22 26 08.8	-1.2
PVCC				Sg	Sg	22 26 28.5	-0.3
KRLC	**Kraliky**	**1.48**	**166**	*e*PG	Pn	22 26 10.5	-0.2
KRLC				*e*SG	Sg	22 26 30.1	-0.2
KRLC	**Kraliky**	**1.48**	**166**	Pg	Pn	22 26 10.5	-0.2
KRLC				Sg	Sg	22 26 30.1	-0.2
BRG	**Berggiesshubel**	**1.57**	**247**	PG	Pn	22 26 11.1	-0.8
BRG				SG	Sn	22 26 31.2	-1.7
	1.5nm,0.4s						
BRG				PG		22 27 58.5	
BRG				SG		22 28 53.5	
	12nm,0.2s						
PRU	**Pruhonice**	**1.86**	**216**	*e*SG	Sg	22 26 42.8	+0.3
PRU	**Pruhonice**	**1.86**	**216**	Sg	Sg	22 26 42.8	+0.3
KHC	**Kasperske Hory**	**2.92**	**216**	*e*SG	Sg	22 27 16.5	-0.1
KHC	**Kasperske Hory**	**2.92**	**216**	Sg	Sg	22 27 16.5	-0.1

*CSEM **29** 22:27:36.6,50˚.24N×12˚.45E,h10km*
PRU 29 22:27:36.6,50˚.24N×12˚.45E,h10km,2D,West Bohemia, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**191**‖	*i*PG	Pg	22 27 38.5	+0.1
NKC				*e*SG	Sg	22 27 39.3	-0.3
	comp=Z,571nm,0.1s						
NKC	**Novy Kostel**	**0.01**	**191**	Pg	Pg	22 27 38.5	+0.1
NKC				Sg	Sg	22 27 39.3	-0.3
	571nm,0.1s						
CLL	**Collm**	**1.12**	**18**	*i*Pg	Pb	22 27 58.1	0.0
CLL				*i*		22 28 01.0	
	comp=Z,5.0nm,0.4s						
CLL				*i*Sg	Sg	22 28 12.9	+0.1
CLL				*i*		22 28 16.6	
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	22 28 01.1	-0.2
KHC				*e*SG	Sn	22 28 18.9	-0.1
	comp=Z,3.2nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**146**	Pg	Pn	22 28 01.1	-0.2
KHC				Sg	Sn	22 28 18.9	-0.1
	comp=Z,3.2nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**‖	*e*PG	Pb	22 28 02.1	-0.2
PRU				*e*SG	Sn	22 28 20.0	0.0
	comp=Z,3.6nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	Pg	Pb	22 28 02.1	-0.2
PRU				Sg	Sn	22 28 20.0	0.0
	comp=Z,3.6nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	22 28 25.4	+0.6
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	Sg	Sb	22 28 25.4	+0.6
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	22 28 53.6	+1.6
DPC	**Dobruska-Polom**	**2.49**	**86**	Sg	Sb	22 28 53.6	+1.6

*CSEM **29** 22:27:44.3,50˚.24N×12˚.44E,h10km*
PRU 29 22:27:44.3,50˚.24N×12˚.44E,h10km,2D,West Bohemia, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**144**‖	*i*PG	Pg	22 27 46.4	+0.3
NKC				*e*SG	Sg	22 27 47.2	-0.2
	comp=Z,394nm,0.1s						
NKC	**Novy Kostel**	**0.01**	**144**	Pg	Pg	22 27 46.4	+0.3
NKC				Sg	Sg	22 27 47.2	-0.2
	394nm,0.1s						
CLL	**Collm**	**1.13**	**18**	*i*Pg	Pn	22 28 06.1	0.0
KHC	**Kasperske Hory**	**1.33**	**146**	*e*SG	Sb	22 28 26.6	0.0
	comp=Z,2.6nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**146**	Sg	Sb	22 28 26.6	0.0
	2.6nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**‖	*e*SG	Sg	22 28 28.3	-0.2
PRU	**Pruhonice**	**1.38**	**100**	Sg	Sg	22 28 28.3	-0.2
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	*e*SG	Sg	22 28 33.4	-0.6
	comp=Z,4.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	Sg	Sg	22 28 33.4	-0.6
	4.4nm,0.2s						

*CSEM **29** 22:27:54.4,50˚.24N×12˚.42E,h10km*
PRU 29 22:27:54.4,50˚.24N×12˚.42E,h10km,2D,West Bohemia, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**111**‖	*i*PG	Pg	22 27 56.1	-0.1
NKC				*e*SG	Sg	22 27 57.0	-0.5
	comp=Z,338nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**111**	Pg	Pg	22 27 56.1	-0.1
NKC				Sg	Sg	22 27 57.0	-0.5
	338nm,0.1s						
CLL	**Collm**	**1.13**	**19**	*i*Sg	Sg	22 28 31.1	+0.3
CLL				*i*		22 28 34.5	
KHC	**Kasperske Hory**	**1.34**	**145**	*e*SG	Sg	22 28 38.0	+0.5
	comp=Z,3.5nm,0.3s						
KHC	**Kasperske Hory**	**1.34**	**145**	Sg	Sg	22 28 38.0	+0.5
	3.5nm,0.3s						
PRU	**Pruhonice**	**1.39**	**100**‖	*e*SG	Sn	22 28 38.3	+0.1
PRU	**Pruhonice**	**1.39**	**100**	Sg	Sn	22 28 38.3	+0.1
GOPC	**GO Pecny, Ondr**	**1.56**	**101**	*e*SG	Sb	22 28 43.4	+0.3
	comp=Z,4.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.56**	**101**	Sg	Sb	22 28 43.4	+0.3
	4.1nm,0.2s						

*CSEM **29** 22:28:16.2,50˚.23N×12˚.43E,h10km*
PRU 29 22:28:16.2,50˚.23N×12˚.43E,h10km,2D,West Bohemia, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**75**‖	*i*PG	Pg	22 28 18.4	+0.4
NKC				*e*SG	Sg	22 28 19.2	-0.1
	comp=Z,810nm,0.1s						
NKC	**Novy Kostel**	**0.01**	**75**	Pg	Pg	22 28 18.4	+0.4
NKC				Sg	Sg	22 28 19.2	-0.1
	810nm,0.1s						
CLL	**Collm**	**1.14**	**18**	*i*Sg	Sb	22 28 52.7	-0.1
	comp=Z,8.0nm,0.4s						
CLL				*i*		22 28 56.6	
KHC	**Kasperske Hory**	**1.33**	**145**	*e*SG	Sb	22 28 58.4	+0.1
	comp=Z,5.4nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**145**	Sg	Sb	22 28 58.4	+0.1
	comp=Z,5.4nm,0.2s						
PRU	**Pruhonice**	**1.38**	**99**‖	*e*SG	Sn	22 28 59.8	0.0
	comp=Z,9.4nm,0.4s						
PRU	**Pruhonice**	**1.38**	**99**	Sg	Sn	22 28 59.8	0.0
	comp=Z,9.4nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	*e*SG	Sg	22 29 05.4	-0.7
	comp=Z,8.4nm,0.1s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	Sg	Sg	22 29 05.4	-0.7
	comp=Z,8.4nm,0.1s						

*DDA **29** 22:30:43.4,38˚.96N×43˚.52E,h18km,Ml3.5*
*ISK **29** 22:30:43.3,38˚.90N×43˚.58E,h5km,ML3.2*
*ISCJB **29** 22:30:44.7±0.5,38˚.93N±0˚.03×43˚.58E±0˚.04,h15km±3km, Error ellipse: s-maj=5.4km s-min=3.9km az=37.0*
*CSEM **29** 22:30:44.2±0.3,38˚.92N×43˚.57E,h12km,ML3.5, Error ellipse: s-maj=7.1km s-min=6.0km az=87.0*
ISC 29 22:30:43.7±0.8,38˚.94N±0˚.02×43˚.56E±0˚.02,h16km±5km, n42,σ0˚82/59,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**11**	*i*P	**Pg**	**22 30 46.6**	**-0.3**
VMUR				*i*S	**Sg**	**22 30 48.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.05**	**11**	P	**Pg**	**22 30 46.6**	**-0.3**
VMUR				S	**Sg**	**22 30 48.9**	**-0.1**
ERCV	**ERCIS-VAN**	**0.19**	**295**	*e*PG	**Pb**	**22 30 48.8**	**-0.2**
ERCV				*e*SG	**Sg**	**22 30 53.4**	**+1.8**
ERCV	**ERCIS-VAN**	**0.19**	**295**	*e*Pg	**Pb**	**22 30 48.8**	**-0.2**
ERCV				*e*Sg	**Sg**	**22 30 53.4**	**+1.8**
CLDR	**Caldiran**	**0.34**	**54**	*e*PG	**Pb**	**22 30 51.5**	**-0.2**
CLDR				*e*SG	**Sb**	**22 30 57.4**	**+0.4**
CLDR	**Caldiran**	**0.34**	**54**	*i*P	**Pb**	**22 30 51.5**	**-0.2**
CLDR				*i*S	**Sb**	**22 30 56.6**	**-0.4**
CLDR	**Caldiran**	**0.34**	**54**	P	**Pb**	**22 30 51.5**	**-0.2**
CLDR				S	**Sb**	**22 30 56.6**	**-0.4**
CLDR				*e*Sg	**Sb**	**22 30 57.4**	**+0.4**
VANB	**Van**	**0.37**	**201**	*e*PG	**Pb**	**22 30 52.6**	**+0.6**
VANB				*e*SG	**Sb**	**22 30 59.0**	**+1.4**
VANB	**Van**	**0.37**	**201**	*e*Pg	**Pb**	**22 30 52.6**	**+0.6**
VANB				*e*Sg	**Sb**	**22 30 59.0**	**+1.4**
TVAN	**Van**	**0.43**	**196**	*i*P	**Pb**	**22 30 52.4**	**-0.7**
TVAN				*i*S	**Sb**	**22 30 60.0**	**+0.6**
TVAN	**Van**	**0.43**	**196**	P	**Pb**	**22 30 52.4**	**-0.7**
TVAN				S	**Sb**	**22 31 00.0**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.67**	**259**	*i*P	**Pg**	**22 30 56.8**	**0.0**
ADCV				*i*S	**Sb**	**22 31 06.8**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.67**	**259**	P	**Pg**	**22 30 56.8**	**0.0**
ADCV				S	**Sb**	**22 31 06.8**	**+0.6**
TUTA	**Tutak**	**0.74**	**309**	*i*P	**Pg**	**22 30 58.3**	**+0.1**
TUTA	**Tutak**	**0.74**	**309**	P	**Pg**	**22 30 58.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.77**	**325**	*e*PG	**Pb**	**22 30 59.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.77**	**325**	*e*Pg	**Pb**	**22 30 59.5**	**+0.5**
BASK	**Baskale_VAN**	**0.95**	**158**	*i*P	**Pb**	**22 31 02.1**	**+0.1**
BASK	**Baskale_VAN**	**0.95**	**158**	P	**Pb**	**22 31 02.1**	**+0.1**
TATV	**Tatvan**	**1.10**	**247**	*i*P	**Pb**	**22 31 04.0**	**-0.5**
TATV				*i*S	**Sb**	**22 31 17.2**	**-1.5**
TATV	**Tatvan**	**1.10**	**247**	P	**Pb**	**22 31 04.0**	**-0.5**
TATV				S	**Sb**	**22 31 17.2**	**-1.5**
GURO	**Guroymak-BITLI**	**1.26**	**252**	*e*PN	**Pg**	**22 31 07.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.26**	**252**	*e*Pn	**Pg**	**22 31 07.8**	**-0.1**
HAKT	**HAKKARI**	**1.39**	**175**	*i*P	**Pn**	**22 31 08.1**	**-0.6**
HAKT				*i*S	**Sg**	**22 31 31.0**	**+2.5**
HAKT	**HAKKARI**	**1.39**	**175**	P	**Pn**	**22 31 08.1**	**-0.6**
SRTM	**Siirt_Merkez**	**1.60**	**234**	*i*P	**Pn**	**22 31 10.1**	**-1.4**
SRTM	**Siirt_Merkez**	**1.60**	**234**	P	**Pn**	**22 31 10.1**	**-1.4**
VRTB	**Varto-Mus**	**1.65**	**278**	*e*PN	**Pg**	**22 31 14.8**	**-0.7**
CUKT	**Cukurca**	**1.69**	**179**	*e*PN	**Pb**	**22 31 14.5**	**-0.1**
CUKT	**Cukurca**	**1.69**	**179**	*i*P	**Pb**	**22 31 13.5**	**-1.0**
CUKT	**Cukurca**	**1.69**	**179**	P	**Pb**	**22 31 13.5**	**-1.0**
CUKT	**Cukurca**	**1.69**	**179**	*e*Pn	**Pb**	**22 31 14.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.87**	**330**	*e*PN	**Pb**	**22 31 18.2**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.87**	**330**	*e*Pn	**Pb**	**22 31 18.2**	**+0.6**
BNGL	**BINGOL**	**1.88**	**271**	*i*P	**Pb**	**22 31 17.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.01**	**248**	*e*PN	**Pb**	**22 31 19.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**248**	*e*Pn	**Pb**	**22 31 19.9**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.11**	**289**	*i*P	**Pg**	**22 31 23.4**	**-0.9**
BNGB	**Bing ¶‖**	**2.25**	**272**	*e*PN	**Pb**	**22 31 23.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*PN	**Pb**	**22 31 25.9**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*Pn	**Pb**	**22 31 25.9**	**-0.7**
BINT	**Bingol**	**2.40**	**269**	*e*Pn	**Pn**	**22 31 23.2**	**+0.7**

*CSEM **29** 22:38:38.6,38˚.97N×43˚.53E,h29km,ML2.1*
ISK 29 22:38:38.6,38˚.97N×43˚.53E,h29km,ML2.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.16**	**290**	*e*PG	Pn	22 38 45.1	-0.2
ERCV	**ERCIS-VAN**	**0.16**	**290**	*e*Pg	Pn	22 38 45.1	-0.2
CLDR	**Caldiran**	**0.35**	**60**	*e*PG	Pb	22 38 47.3	+0.4
CLDR				*e*SG	Sn	22 38 53.6	-0.6
CLDR	**Caldiran**	**0.35**	**60**	*e*Pg	Pb	22 38 47.3	+0.4
CLDR				*e*Sg	Sn	22 38 53.6	-0.5
VANB	**Van**	**0.39**	**196**	*e*PG	Pn	22 38 48.7	+0.4
VANB				*e*SG	Sn	22 38 56.9	+2.1
VANB	**Van**	**0.39**	**196**	*e*Pg	Pn	22 38 48.7	+0.3
VANB				*e*Sg	Sn	22 38 56.9	+2.1
AGRB	**Hanur-Agry**	**0.74**	**326**	*e*PG	Pb	22 38 52.3	-0.7
AGRB				*e*SG	Sn	22 39 04.3	+0.7
AGRB	**Hanur-Agry**	**0.74**	**326**	*e*Pg	Pb	22 38 52.3	-0.8
AGRB				*e*Sg	Sn	22 39 04.3	+0.7

*DDA **29** 22:44:22.9,38˚.91N×43˚.53E,h7km,Ml3.5*
*ISCJB **29** 22:44:23.6±0.5,38˚.94N±0˚.03×43˚.52E±0˚.05,h13km±4km, Error ellipse: s-maj=6.2km s-min=4.2km az=12.2*
*CSEM **29** 22:44:23.3±0.2,38˚.94N×43˚.52E,h12km,ML2.9, Error ellipse: s-maj=5.9km s-min=4.6km az=108.0*
*ISK **29** 22:44:23.2,38˚.94N×43˚.50E,h7km,ML2.9*
ISC 29 22:44:23.5±0.9,38˚.93N±0˚.02×43˚.53E±0˚.03,h13km±8km, n40,σ1˚.03/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.17**	**300**	*e*PG	**Pg**	**22 44 27.2**	**-0.5**
ERCV	**ERCIS-VAN**	**0.17**	**300**	*e*Pg	**Pg**	**22 44 27.2**	**-0.5**
VANB	**Van**	**0.36**	**198**	*e*PG	**Pb**	**22 44 31.6**	**-0.1**
VANB				*e*SG	**Sb**	**22 44 39.1**	**+1.9**
VANB	**Van**	**0.36**	**198**	*e*Pg	**Pb**	**22 44 31.6**	**-0.1**
VANB				*e*Sg	**Sb**	**22 44 39.1**	**+1.9**
CLDR	**Caldiran**	**0.37**	**55**	*e*PG	**Pb**	**22 44 31.6**	**-0.4**
CLDR				*e*SG	**Sb**	**22 44 37.0**	**-0.7**
CLDR	**Caldiran**	**0.37**	**55**	*i*P	**Pg**	**22 44 30.3**	**-0.7**
CLDR				*i*S	**Sg**	**22 44 36.5**	**+0.4**
CLDR	**Caldiran**	**0.37**	**55**	P	**Pg**	**22 44 30.3**	**-0.7**
CLDR	**Caldiran**	**0.37**	**55**	*e*Pg	**Pb**	**22 44 31.6**	**-0.4**
CLDR				S	**Sg**	**22 44 36.5**	**+0.4**
CLDR				*e*Sg	**Sb**	**22 44 37.0**	**-0.7**
TVAN	**Van**	**0.42**	**193**	*i*P	**Pg**	**22 44 31.4**	**-0.5**
TVAN				*i*S	**Sb**	**22 44 39.0**	**-0.1**
TVAN	**Van**	**0.42**	**193**	P	**Pg**	**22 44 31.4**	**-0.5**
TVAN				S	**Sb**	**22 44 39.0**	**-0.1**
DYDN	**Diyadin**	**0.62**	**11**	*i*P	**Pg**	**22 44 35.7**	**0.0**
DYDN				*i*S	**Sb**	**22 44 45.5**	**+0.5**
DYDN	**Diyadin**	**0.62**	**11**	P	**Pg**	**22 44 35.7**	**0.0**
DYDN				S	**Sb**	**22 44 45.5**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**259**	*i*P	**Pg**	**22 44 35.7**	**-0.3**
ADCV				*i*S	**Sb**	**22 44 45.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.64**	**259**	P	**Pg**	**22 44 35.7**	**-0.3**
ADCV				S	**Sb**	**22 44 45.2**	**-0.3**
GEVA	**Gevas**	**0.72**	**211**	*i*P	**Pg**	**22 44 36.6**	**-0.9**
GEVA	**Gevas**	**0.72**	**211**	P	**Pg**	**22 44 36.6**	**-0.9**
TUTA	**Tutak**	**0.73**	**310**	*i*P	**Pg**	**22 44 37.0**	**-0.7**
TUTA				*i*S	**Sb**	**22 44 47.9**	**-0.1**
TUTA	**Tutak**	**0.73**	**310**	P	**Pg**	**22 44 37.0**	**-0.7**
TUTA				S	**Sb**	**22 44 47.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.76**	**327**	*e*PG	**Pg**	**22 44 37.8**	**-0.6**
AGRB				*e*SG	**Sb**	**22 44 49.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.76**	**327**	*e*Pg	**Pg**	**22 44 37.8**	**-0.6**
AGRB				*e*Sg	**Sb**	**22 44 49.6**	**+0.5**
BASK	**Baskale_VAN**	**0.96**	**157**	*i*P	**Pg**	**22 44 40.5**	**-1.5**
BASK	**Baskale_VAN**	**0.96**	**157**	P	**Pg**	**22 44 40.5**	**-1.5**
TATV	**Tatvan**	**1.07**	**247**	*i*P	**Pg**	**22 44 41.7**	**-2.5**
TATV	**Tatvan**	**1.07**	**247**	P	**Pg**	**22 44 41.7**	**-2.5**
EATA	**Eleskirt**	**1.23**	**319**	*i*P	**Pg**	**22 44 45.5**	**-1.7**
EATA	**Eleskirt**	**1.23**	**319**	P	**Pg**	**22 44 45.5**	**-1.7**
GURO	**Guroymak-BITLI**	**1.23**	**252**	*e*PN	**Pg**	**22 44 46.1**	**-1.1**
GURO	**Guroymak-BITLI**	**1.23**	**252**	*e*Pn	**Pg**	**22 44 46.1**	**-1.1**
CUKT	**Cukurca**	**1.69**	**178**	*e*PN	**Pb**	**22 44 54.0**	**-0.4**
CUKT	**Cukurca**	**1.69**	**178**	*e*Pn	**Pb**	**22 44 54.0**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.86**	**331**	*e*PN	**Pn**	**22 44 55.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.86**	**331**	*e*Pn	**Pn**	**22 44 55.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.99**	**248**	*e*PN	**Pn**	**22 44 57.9**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.99**	**248**	*e*Pn	**Pn**	**22 44 57.9**	**+1.1**
BNGB	**Bing ¶‖**	**2.22**	**272**	*e*PN	**Pn**	**22 45 01.3**	**+1.2**
BINT	**Bingol**	**2.37**	**270**	*e*Pn	**Pn**	**22 45 01.3**	**-0.9**
YEDI	**Yedisu-Bingol**	**2.37**	**283**	*e*PN	**Pn**	**22 45 03.8**	**+1.6**
YEDI	**Yedisu-Bingol**	**2.37**	**283**	*e*Pn	**

HAKT	HAKKARI	1.23	172	*i* P	Pg	22 53 26.3	-1.1
HAKT				*i* S	Sg	22 53 42.3	-1.1
HAKT	HAKKARI	1.23	172	P	Pg	22 53 26.3	-1.1
HAKT				S	Sg	22 53 42.3	-1.1
CUKT	Cukurca	1.53	177	*e*PN	Pn	22 53 31.8	+1.1
CUKT	Cukurca	1.53	177	*i* P	Pn	22 53 31.4	+0.6
CUKT	Cukurca	1.53	177	P	Pn	22 53 31.4	+0.6
CUKT	Cukurca	1.53	177	*e*Pn	Pn	22 53 31.8	+1.1
VRTB	Varto-Mus	1.64	284	*e*PN	Pb	22 53 33.9	+0.1
VRTB	Varto-Mus	1.64	284	*e*Pn	Pb	22 53 33.9	+0.1
SENK	Senkaya-Erzuru	1.99	334	*e*PN	Pb	22 53 39.2	-0.6
SENK	Senkaya-Erzuru	1.99	334	*e*Pn	Pb	22 53 39.2	-0.6
ECAT	Cat-ERZURUM	2.13	294	*i* P	Pb	22 53 42.5	+0.3
ECAT	Cat-ERZURUM	2.13	294	P	Pb	22 53 42.5	+0.3
BNGB	Bing¶ll	2.21	276	*e*PN	Pn	22 53 41.9	+1.8
BINT	Bingol	2.35	273	*e*Pn	Pn	22 53 41.9	-0.2

CSEM ***29*** *22:55:02.6, 38°.85N×43°.49E, h7km, ML3.2*
ISK ***29*** *22:55:02.6, 38°.85N×43°.49E, h7km, ML3.2*
ISCJB ***29*** *22:55:03.5±0.6, 38°.88N±0°.04×43°.49E±0°.06, h13km, Error ellipse: s-maj=6.7km s-min=5.0km az=28.2*
NSSC ***29*** *22:55:13.8±1.5, 38°.98N×42°.24E, h35km±999km, ML2.2*
ISC 29 22:55:02.3±0.9, 38°.81N±0°.04×43°.45E±0°.04, h13km, n28, σ2°30/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	192	*e*PG	Pb	22 55 10.1	+1.8
VANB	Van	0.22	192	*e*Pg	Pb	22 55 10.1	+1.8
ERCV	ERCIS-VAN	0.23	338	*e*PG	Pg	22 55 08.0	+0.7
ERCV	ERCIS-VAN	0.23	338	*e*Pg	Pg	22 55 08.0	+0.7
CLDR	Caldiran	0.50	48	*e*PG	Pg	22 55 11.8	-0.4
CLDR				*e*SG	Sg	22 55 18.4	-0.4
CLDR	Caldiran	0.50	48	*e*Pg	Pg	22 55 11.8	-0.4
CLDR				*e*Sg	Sg	22 55 18.4	-0.4
AGRB	Hanur-Agry	0.84	335	*e*PG	Pg	22 55 19.2	+0.5
AGRB				*e*SG	Sb	22 55 30.4	+0.2
AGRB	Hanur-Agry	0.84	335	*e*Pg	Pg	22 55 19.2	+0.5
AGRB				*e*Sg	Sb	22 55 30.4	+0.2
GURO	Guroymak-BITLI	1.14	257	*e*PN	Pb	22 55 24.6	+0.7
GURO	Guroymak-BITLI	1.14	257	*e*Pn	Pb	22 55 24.6	+0.7
CUKT	Cukurca	1.57	175	*e*PN	Pn	22 55 32.0	+2.0
CUKT	Cukurca	1.57	175	*e*Pn	Pn	22 55 32.0	+2.0
VRTB	Varto-Mus	1.59	283	*e*PN	Pb	22 55 32.8	+1.1
VRTB	Varto-Mus	1.59	283	*e*Pn	Pb	22 55 32.8	+1.1
SVAN	Silvan-Diyarba	1.88	250	*e*PN	Pn	22 55 36.6	+2.4
SVAN	Silvan-Diyarba	1.88	250	*e*Pn	Pn	22 55 36.6	+2.4
SENK	Senkaya-Erzuru	1.94	335	*e*PN	Pn	22 55 36.1	+1.0
SENK	Senkaya-Erzuru	1.94	335	*e*Pn	Pn	22 55 36.2	+1.0
BNGB	Bing¶ll	2.17	276	*e*PN	Pn	22 55 40.8	+2.6
BINT	Bingol	2.31	273	*e*Pn	Pn	22 55 40.8	+0.6
YEDI	Yedisu-Bingol	2.34	286	*e*PN	Pn	22 55 42.9	+2.2
YEDI	Yedisu-Bingol	2.34	286	*e*Pn	Pn	22 55 42.9	+2.2
MAZI	Mazidag	2.72	241	*e*PN	Pn	22 55 48.8	+2.9
MAZI	Mazidag	2.72	241	*e*Pn	Pn	22 55 48.8	+2.9
KBSD	Kabsdagh	2.92	233	*e*P	Pn	22 55 51.4	+2.9
KBSD				*e*S	Sn	22 56 16.8	-6.7
KBSD				AML	AML	22 56 54.6	
	comp=Z,23nm,0.6s						
SFNV	Sufian	3.56	229	*i* P	Pn	22 56 00.5	+3.1
SFNV				*e*S	Sn	22 56 34.8	-4.6
SFNV				AML	AML	22 57 19.3	
	comp=Z,26nm,0.7s						
MZRK	Al-Mazaregh	3.72	218	*i* P	Pn	22 56 04.6	+5.2
MZRK				AML	AML	22 57 33.8	
	comp=Z,13nm,0.5s						
KSRV	Kasrt alli	4.60	232	*e*P	Pb	22 56 20.3	-2.6
KSRV				AML	AML	22 57 43.3	
	comp=Z,7.6nm,0.7s						

IDC 29 22:56:14.6±1.7, 6°.67S×132°.30E, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.4/39, mbtmp3.6/5, ML3.5/4, Error ellipse: s-maj=59.9km s-min=26.6km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.08	209	Pn	Pn	22 59 22.5	+0.7
	0.1nm,0.3s,baz=36,slow=9.7,SNR=8.0						
FITZ				Sn	Sn	23 01 39.4	-8.9
	0.3nm,0.3s,baz=219,slow=17,SNR=4.1						
WRA	Warramunga Arr	13.34	172	Pn	Pn	22 59 24.4	-1.0
	0.3nm,0.3s,baz=356,slow=13,SNR=8.1						
WRA				Sn	Sn	23 01 45.8	-8.7
	0.4nm,0.3s,baz=354,slow=24,SNR=4.8						
ASAR	Alice Springs	16.97	175	Pn	Pn	23 00 13.5	0.0
	0.2nm,0.3s,baz=355,slow=9.7,SNR=8.4						
ASAR				Sn	Sn	23 03 11.8	-11
	0.1nm,0.3s,baz=354,slow=25,SNR=3.3						
CTA	Charters Tower	19.01	136	P	P	23 00 38.4	+0.2
	0.1nm,0.3s,baz=302,slow=13,SNR=3.3						
MKAR	Makanchi Array	69.22	326	P	P	23 07 23.4	0.0
	0.3nm,0.4s,baz=115,slow=6.8,SNR=7.0						

DDA ***29*** *23:00:12.9, 38°.66N×43°.18E, h7km, Ml3.5*
ISK ***29*** *23:00:12.0, 38°.67N×43°.18E, h5km, ML3.3*
CSEM ***29*** *23:00:13.2±0.2, 38°.66N×43°.18E, h2km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.7km az=125.0*
ISC 29 23:00:13.7±0.9, 38°.66N±0°.02×43°.18E±0°.02, h16km±8km, n67, σ1°04/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	112	*e*PG	Pg	23 00 18.1	-0.2
VANB	Van	0.18	112	*e*Pg	Pg	23 00 18.1	-0.2
TVAN	Van	0.23	126	*i* P	Pg	23 00 17.9	-1.1
TVAN	Van	0.23	126	P	Pg	23 00 17.9	-1.1
GEVA	Gevas	0.36	195	*i* P	Pg	23 00 20.1	-1.2
GEVA	Gevas	0.36	195	P	Pg	23 00 20.1	-1.2
ERCV	ERCIS-VAN	0.38	20	*e*PG	Pg	23 00 20.7	-0.8
ERCV				*e*SG	Sg	23 00 26.9	0.0
ERCV	ERCIS-VAN	0.38	20	*e*Pg	Pg	23 00 20.7	-0.8
ERCV				*e*Sg	Sg	23 00 26.9	0.0
ADCV	BITLIS_Adilcev	0.38	292	*i* P	Pg	23 00 21.0	-0.6
ADCV	BITLIS_Adilcev	0.38	292	P	Pg	23 00 21.0	-0.6
VMUR	Van-Muradiye	0.45	43	*i* P	Pg	23 00 22.4	-0.5
VMUR	Van-Muradiye	0.45	43	P	Pg	23 00 22.4	-0.5
TATV	Tatvan	0.73	258	*i* P	Pg	23 00 26.6	-1.4
TATV	Tatvan	0.73	258	P	Pg	23 00 26.6	-1.4
CLDR	Caldiran	0.75	50	*e*PG	Pg	23 00 27.4	-1.0
CLDR				*e*SG	Sb	23 00 38.3	-0.4
CLDR	Caldiran	0.75	50	*i* P	Pg	23 00 27.6	-0.9
CLDR	Caldiran	0.75	50	*e*Pg	Pg	23 00 27.4	-1.0
CLDR				*e*Sg	Sb	23 00 38.3	-0.4
TUTA	Tutak	0.79	339	*i* P	Pg	23 00 27.9	-1.3
TUTA	Tutak	0.79	339	P	Pg	23 00 27.9	-1.3
BASK	Baskale_VAN	0.89	133	*i* P	Pg	23 00 29.8	-1.3
BASK	Baskale_VAN	0.89	133	P	Pg	23 00 29.8	-1.3
GURO	Guroymak-BITLI	0.90	263	*e*PG	Pg	23 00 29.9	-1.4
GURO	Guroymak-BITLI	0.90	263	*e*Pg	Pg	23 00 29.9	-1.4
AGRB	Hanur-Agry	0.92	351	*e*PG	Pg	23 00 30.1	-1.6
AGRB	Hanur-Agry	0.92	351	*e*Pg	Pg	23 00 30.1	-1.6
DYDN	Diyadin	0.97	24	*i* P	Pg	23 00 31.7	-0.8
DYDN	Diyadin	0.97	24	P	Pg	23 00 31.7	-0.8
EKAR	Karacoban	1.05	305	*i* P	Pb	23 00 34.2	+0.5
EKAR	Karacoban	1.05	305	P	Pb	23 00 34.2	+0.5
HAKT	HAKKARI	1.18	159	*i* P	Pg	23 00 35.2	-1.3
HAKT	HAKKARI	1.18	159	P	Pg	23 00 35.2	-1.3
SRTM	Siirt_Merkez	1.19	236	*i* P	Pg	23 00 35.9	-0.9
SRTM	Siirt_Merkez	1.19	236	P	Pg	23 00 35.9	-0.9
EATA	Eleskirt	1.31	336	*i* P	Pg	23 00 37.4	-1.6
EATA	Eleskirt	1.31	336	P	Pg	23 00 37.4	-1.6
SIRN	S¨–rnak	1.31	208	*i* P	Pb	23 00 38.1	+0.1
SIRN	S¨–rnak	1.31	208	P	Pb	23 00 38.1	+0.1
VRTB	Varto-Mus	1.43	291	*e*PN	Pn	23 00 39.5	+0.3
VRTB	Varto-Mus	1.43	291	*i* P	Pg	23 00 40.6	-0.7
VRTB	Varto-Mus	1.43	291	*e*Pn	Pn	23 00 39.5	+0.3
VRTB	Varto-Mus	1.43	291	P	Pg	23 00 40.6	-0.7
CUKT	Cukurca	1.45	166	*e*PN	Pb	23 00 40.3	-0.2
CUKT	Cukurca	1.45	166	*e*Pn	Pb	23 00 40.3	-0.2
BNGL	BINGOL	1.61	281	*i* P	Pb	23 00 43.3	+0.1
SVAN	Silvan-Diyarba	1.64	252	*e*PN	Pb	23 00 43.8	+0.3
SVAN	Silvan-Diyarba	1.64	252	*i* P	Pb	23 00 43.8	+0.3
SVAN	Silvan-Diyarba	1.64	252	P	Pb	23 00 43.8	+0.3
BTMN	Batman	1.69	243	*i* P	Pb	23 00 44.5	+0.1
BTMN	Batman	1.69	243	P	Pb	23 00 44.5	+0.1
DIGO	Kars	1.76	5	*i* P	Pb	23 00 45.9	+0.2
DIGO	Kars	1.76	5	P	Pb	23 00 45.9	+0.2
ERZM	Erzurum	1.87	312	*i* P	Pg	23 00 49.0	-0.7
ERZM	Erzurum	1.87	312	P	Pg	23 00 49.0	-0.7
ECAT	Cat-ERZURUM	1.95	300	*i* P	Pb	23 00 49.3	+0.2
ECAT	Cat-ERZURUM	1.95	300	P	Pb	23 00 49.3	+0.2
BNGB	Bing¶ll	1.98	280	*e*PN	Pn	23 00 48.4	+1.7
SENK	Senkaya-Erzuru	2.00	342	*e*PN	Pn	23 00 47.9	+0.8
SENK	Senkaya-Erzuru	2.00	342	*e*Pn	Pn	23 00 47.9	+0.8
BINT	Bingol	2.11	277	*e*Pn	Pn	23 00 48.4	-0.1
YEDI	Yedisu-Bingol	2.19	292	*e*PN	Pb	23 00 51.9	-1.2
YEDI	Yedisu-Bingol	2.19	292	*e*Pn	Pb	23 00 51.9	-1.2
MAZI	Mazidag	2.47	242	*e*PN	Pn	23 00 55.1	+1.7
MAZI	Mazidag	2.47	242	*e*Pn	Pn	23 00 55.1	+1.7
PTK	Pertek	2.97	276	*e*PN	Pn	23 01 02.2	+1.9
PTK	Pertek	2.97	276	*e*Pn	Pn	23 01 02.2	+1.9
SVRC	Sivrice-ELAZID	3.05	266	*e*PN	Pn	23 01 03.5	+2.0
SVRC	Sivrice-ELAZID	3.05	266	*e*Pn	Pn	23 01 03.5	+2.0

NSSC ***29*** *23:03:16.3±1.5, 39°.63N×43°.49E, h0km±171km, ML3.0*
IDC ***29*** *23:03:21.3±1.6, 38°.50N×43°.76E, h0km, mb3.4/6, mb1 3.5/11, mb1mx3.4/42, mbtmp3.4/11, ML2.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/39, Error ellipse: s-maj=27.5km s-min=15.8km az=153.0*
AZER ***29*** *23:03:21.1±1.2, 38°.27N×44°.00E, h171km±10km, Error ellipse: s-maj=13.8km s-min=3.6km az=61.0*
DDA ***29*** *23:03:22.1, 38°.89N×43°.55E, h6km, Ml3.9*
CSEM ***29*** *23:03:22.6±0.2, 38°.90N×43°.62E, h2km, ML3.9, Error ellipse: s-maj=6.0km s-min=4.2km az=146.0*
ISK ***29*** *23:03:22.2, 38°.93N×43°.58E, h2km, ML3.9*
ISC 29 23:03:22.9±1.0, 38°.89N±0°.02×43°.63E±0°.02, h8km±8km, n147, σ1°69/150, mb3.5/5, 13C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.26	301	*e*PG	Pg	23 03 27.1	-1.0
ERCV				*e*SG	Sg	23 03 31.6	-0.1
ERCV	ERCIS-VAN	0.26	301	*e*Pg	Pg	23 03 27.1	-1.0
ERCV				*e*Sg	Sg	23 03 31.6	-0.1
CLDR	Caldiran	0.34	41	*e*PG	Pb	23 03 29.9	-1.5
CLDR	Caldiran	0.34	41	*e*Pg	Pb	23 03 29.9	-1.5
VANB	Van	0.34	213	*e*PG	Pb	23 03 31.3	0.0
VANB				*e*SG	Sb	23 03 39.2	+2.1
VANB	Van	0.34	213	*e*Pg	Pb	23 03 31.3	0.0
TVAN	Van	0.40	206	*i* P	Pg	23 03 31.0	+0.3
TVAN	Van	0.40	206	P	Pg	23 03 31.0	+0.3
DYDN	Diyadin	0.66	4	*i* P	Pg	23 03 35.2	-0.4
DYDN	Diyadin	0.66	4	P	Pg	23 03 35.2	-0.4
ADCV	BITLIS_Adilcev	0.71	264	*i* P	Pg	23 03 35.4	-1.1
ADCV	BITLIS_Adilcev	0.71	264	P	Pg	23 03 35.4	-1.1
GEVA	Gevas	0.72	218	*i* P	Pg	23 03 35.8	-1.0
GEVA	Gevas	0.72	218	P	Pg	23 03 35.8	-1.0
TUTA	Tutak	0.81	309	*i* P	Pg	23 03 36.7	-1.9
TUTA	Tutak	0.81	309	P	Pg	23 03 36.7	-1.9
AGRB	Hanur-Agry	0.85	325	*e*PG	Pg	23 03 38.0	-1.1
AGRB				*e*SG	Sg	23 03 49.6	-0.6
AGRB	Hanur-Agry	0.85	325	*e*Pg	Pg	23 03 38.1	-1.1
AGRB				*e*Sg	Sg	23 03 49.6	-0.6
TATV	Tatvan	1.13	251	*i* P	Pb	23 03 42.2	-2.6
TATV	Tatvan	1.13	251	P	Pb	23 03 42.2	-2.6
EATA	Eleskirt	1.31	318	*i* P	Pn	23 03 46.0	-1.9
EATA	Eleskirt	1.31	318	P	Pn	23 03 46.0	-1.9
HAKT	HAKKARI	1.33	177	*i* P	Pn	23 03 47.2	-0.8
HAKT	HAKKARI	1.33	177	P	Pn	23 03 47.2	-0.8
NAX	Nakhchivan	1.48	78	⇓P	Pg	23 03 51.9	+0.6
NAX				⇓S	Sg	23 04 16.1	+5.5
NAX	Nakhchivan	1.48	78	P	Pg	23 03 51.9	+0.6
GNI	Garni	1.53	34	Pn	Pg	23 03 51.4	-0.8
	98nm,0.3s,baz=155,slow=2.8,SNR=82						
GNI				Lg	Lg	23 04 16.4	
	46nm,0.3s,baz=35,slow=23,SNR=5.3						
GNI				LR	LR	23 04 50.4	
	comp=Z,287nm,21.8s,baz=224,slow=49						
DIGO	Kars	1.54	353	*i* P	Pg	23 03 51.7	-0.7
DIGO	Kars	1.54	353	P	Pg	23 03 51.7	-0.7
SRTM	Siirt_Merkez	1.61	237	*i* P	Pn	23 03 51.6	-0.1
SRTM	Siirt_Merkez	1.61	237	P	Pn	23 03 51.6	-0.1
CUKT	Cukurca	1.64	181	*e*PN	Pg	23 03 53.6	-0.6
CUKT	Cukurca	1.64	181	*i* P	Pb	23 03 52.8	-0.6
CUKT	Cukurca	1.64	181	P	Pb	23 03 52.8	-0.6
CUKT	Cukurca	1.64	181	*e*Pn	Pg	23 03 53.6	-0.6
SIRN	S¨–rnak	1.69	215	*i* P	Pb	23 03 53.8	-0.4
SIRN	S¨–rnak	1.69	215	P	Pb	23 03 53.8	-0.4
VRTB	Varto-Mus	1.71	280	*e*PN	Pb	23 03 53.5	-1.2
VRTB	Varto-Mus	1.71	280	*i* P	Pn	23 03 48.4	-4.8
VRTB	Varto-Mus	1.71	280	*e*Pn	Pb	23 03 53.5	-1.2
EAK	Akyaka	1.80	360	*i* P	Pg	23 03 57.9	+0.5
EAK	Akyaka	1.80	360	P	Pg	23 03 57.9	+0.5
BNGL	BINGOL	1.93	273	*i* P	Pn	23 03 56.6	+0.3
SENK	Senkaya-Erzuru	1.94	330	*e*PN	Pb	23 03 56.8	-1.9
SENK	Senkaya-Erzuru	1.94	330	*e*Pn	Pb	23 03 56.8	-1.9
ERZM	Erzurum	2.03	301	*i* P	Pb	23 03 58.7	-1.4
ERZM	Erzurum	2.03	301	P	Pb	23 03 58.7	-1.4
SVAN	Silvan-Diyarba	2.04	250	*e*PN	Pb	23 03 58.6	-1.6
SVAN	Silvan-Diyarba	2.04	250	*i* P	Pn	23 03 56.6	-1.0
SVAN	Silvan-Diyarba	2.04	250	P	Pn	23 03 56.6	-1.0
SVAN	Silvan-Diyarba	2.04	250	*e*Pn	Pb	23 03 58.6	-1.6
BTMN	Batman	2.10	243	*i* P	Pb	23 04 00.4	-0.9
BTMN	Batman	2.10	243	P	Pb	23 04 00.4	-0.9
ECAT	Cat-ERZURUM	2.18	290	*i* P	Pb	23 04 01.5	-1.2
ECAT	Cat-ERZURUM	2.18	290	P	Pb	23 04 01.5	-1.2
BNGB	Bing¶ll	2.30	274	*e*PN	Pn	23 04 02.0	+0.7
BINT	Bingol	2.45	271	*e*Pn	Pn	23 04 02.0	-1.3
YEDI	Yedisu-Bingol	2.46	284	*e*PN	Pn	23 04 04.0	+0.5
YEDI	Yedisu-Bingol	2.46	284	*e*Pn	Pn	23 04 04.0	+0.5
GDB	GEDABAY	2.46	41	⇓P	Pb	23 04 05.6	-1.8
GDB				⇓S	Sg	23 04 41.5	-0.4
GDB	GEDABAY	2.46	41	P	Pb	23 04 05.6	-1.8
DDEM	Demirkent	2.47	325	*i* P	Pb	23 04 07.8	+0.2
DDEM	Demirkent	2.47	325	P	Pb	23 04 07.8	+0.2
AKH	Akhalkalaki	2.52	358	*e*PN	Pn	23 04 05.0	+0.6
AKH	Akhalkalaki	2.52	358	P	Pg	23 04 09.9	-1.3
AKH				S	Sg	23 04 49.0	+5.0
AKH	Akhalkalaki	2.52	358	*e*Pn	Pn	23 04 05.0	+0.6
QZX	Qazax, Azerbai	2.55	31	⇑P	Pb	23 04 08.2	-0.7
QZX				⇓S	Sg	23 04 47.3	+2.5
QZX	Qazax, Azerbai	2.55	31	P	Pb	23 04 08.2	-0.7
KOPT	Kop Dagi	2.67	296	*i* P	Pn	23 04 07.5	+1.0
KOPT	Kop Dagi	2.67	296	P	Pn	23 04 07.5	+1.0
GANJ	Ganja	2.72	49	⇑P	Pb	23 04 09.3	-2.6
GANJ				⇑S	Sg	23 04 49.8	-0.4
GANJ	Ganja	2.72	49	P	Pb	23 04 09.3	-2.6
MAZI	Mazidag	2.88	241	*e*PN	Pn	23 04 10.0	+0.8
MAZI	Mazidag	2.88	241	*e*Pn	Pn	23 04 10.0	+0.8
DGRG	David-gareji	2.89	27	P	Pg	23 04 16.3	-2.0
DGRG				S	Sg	23 04 59.9	+4.2
TBLG	Delisi	2.97	16	*e*PN	Pn	23 04 11.5	+1.2
TBLG	Delisi	2.97	16	P	Pb	23 04 16.6	+0.6
TBLG				S	Sg	23 04 58.2	+0.1
TBLG	Delisi	2.97	16	*e*Pn	Pn	23 04 11.5	+1.2
BRDA	Brd	3.07	62	⇑P	Pn	23 04 11.2	-0.5
BRDA	Brd	3.07	62	P	Pn	23 04 11.2	-0.5
KBSD	Kabsdagh	3.08	233	*e*P	Pn	23 04 12.1	+0.2
KBSD				AML	AML	23 04 52.4	
	comp=Z,102nm,0.5s						
KBSD				*e*S	Sb	23 04 52.9	-2.8
ERZN	Erzincan	3.11	284	*e*PN	Pn	23 04 13.5	+1.1
MNGR	Mingechevir, A	3.26	54	⇓P	Pn	23 04 14.9	+0.5
MNGR	Mingechevir, A	3.26	54	P	Pn	23 04 14.9	+0.5
PTK	Pertek	3.30	271	*e*PN	Pn	23 04 16.5	+1.4
PTK	Pertek	3.30	271	*e*Pn	Pn	23 04 16.5	+1.4
SVRC	Sivrice-ELAZID	3.42	263	*e*PN	Pn	23 04 18.2	+1.5
SVRC	Sivrice-ELAZID	3.42	263	*e*Pn	Pn	23 04 18.2	+1.5
ZRD	Zardab	3.43	65	⇑P	Pn	23 04 15.4	-1.2
ZRD	Zardab	3.43	65	P	Pn	23 04 15.4	-1.2
ZKTA	Zakatala	3.58	39	⇓P	Pn	23 04 21.1	+2.3
SEKA	Sheki	3.59	49	⇑P	Pn	23 04 20.3	+1.4
SEKA	Sheki	3.59	49	P	Pn	23 04 20.3	+1.4
KTUT	Trabzon	3.63	306	*e*PN	Pn	23 04 21.2	+1.8
KTUT	Trabzon	3.63	306	*e*Pn	Pn	23 04 21.2	+1.8
LRK	Lerik	3.69	92	⇑P	Pn	23 04 14.4	-6.1
ONI	Oni	3.70	358	P	Pg	23 04 32.5	-1.3
ONI				S	Sg	23 05 31.2	+9.5
SFNV	Sufian	3.72	230	*e*P	Pn	23 04 21.2	+0.5
SFNV				*e*S	Sb	23 05 08.9	-5.3
SFNV				AML	AML	23 05 27.4	
	comp=Z,130nm,0.5s						
GLBA	Ciilabad	3.73	83	⇓P	Pn	23 04 16.2	-4.5
GLBA	Ciilabad	3.73	83	P	Pn	23 04 16.2	-4.5
KDMR	Kurdemir	3.82	66	⇓P	Pn	23 04 20.0	-2.0
KDMR	Kurdemir	3.82	66	P	Pn	23 04 20.0	-2.0
QBL	Gabala	3.84	56	⇑P	Pn	23 04 22.3	0.0
QBL	Gabala	3.84	56	P	Pn	23 04 22.3	0.0
SAAT	Saatly	3.84	74	⇑P	Pn	23 04 18.8	-3.5
SAAT	Saatly	3.84	74	P	Pn	23 04 18.8	-3.5
MZRK	Al-Mazaregh	3.87	219	*e*P	Pn	23 04 25.9	+3.2
MZRK				AML	AML	23 05 41.1	
	comp=Z,97nm,0.7s						
IML	Ismayilli	3.99	60	⇑P	Pn	23 04 23.3	-1.1
IML	Ismayilli	3.99	60	P	Pn	23 04 23.3	-1.1
LKRN	Lenkeran, Azer	4.03	91	⇑P	Pn	23 04 18.8	-6.1
URFA	Urfa	4.05	251	*e*PN	Pn	23 04 27.4	+2.1
URFA	Urfa	4.05	251	*e*Pn	Pn	23 04 27.4	+2.1
ASTR	Astara	4.05	93	⇓P	Pn	23 04 19.1	-6.2
XNQ	Khinaliq	4.15	55	⇑P	Pn	23 04 25.9	-0.9
XNQ	Khinaliq	4.15	55	P	Pn	23 04 25.9	-0.9
PQL	Pirkuli	4.27	62	⇑P	Pn	23 04 26.3	-2.1
PQL	Pirkuli	4.27	62	P	Pn	23 04 26.3	-2.1
ALIB	Äli-Bayra	4.30	74	⇓P	Pn	23 04 25.2	-3.4
ALIB	Äli-Bayra	4.30	74	P	Pn	23 04 25.2	-3.4
QSAR	Qusar	4.42	52	⇓P	Pn	23 04 29.5	-0.7
QSAR	Qusar	4.42	52	P	Pn	23 04 29.5	-0.7
GBS	Qobustan	4.42	66	⇓P	Pn	23 04 27.3	-3.0
GBS	Qobustan	4.42	66	P	Pn	23 04 27.3	-3.0
KBZ	Khabaz	4.87	354	Pn	Pb	23 04 43.5	-4.9
	comp=Z,0.1nm,0.3s,baz=207,slow=6.8,SNR=3.1						
KVAR	Kislovodsk Arr	5.11	352	Pn	Pb	23 04 47.5	-5.2
	baz=150,slow=20,SNR=1.8						
SLMH	Al Salmeh	5.25	241	*e*P	Pn	23 04 41.1	-0.6
SLMH				AML	AML	23 06 16.0	
	comp=Z,87nm,0.7s						
DRWC	Darouich	5.96	250	*e*P	Pn	23 04 49.4	-2.2
DRWC				AML	AML	23 06 57.1	
	comp=N,20nm,0.6s						
DRWC				AML	AML	23 07 01.2	
	comp=E,31nm,0.7s						
BTCH	Batrach	6.37	246	*e*P	Pn	23 04 55.8	-1.3
BTCH				AML	AML	23 07 07.0	
	comp=E,47nm,0.6s						
BTCH				AML	AML	23 07 08.2	
	comp=N,22nm,0.8s						
ARNB	Al Arnab	6.80	246	*e*P	Pn	23 05 02.2	-0.8
ARNB				AML	AML	23 07 12.0	
	comp=E,28nm,0.7s						
ARNB				AML	AML	23 07 13.4	
	comp=N,22nm,0.7s						
RABH	Abou Rabah	6.81	231	*e*P	Pn	23 05 03.7	+0.6
RABH				AML	AML	23 07 12.4	
	comp=E,15nm,0.8s						
RABH				AML	AML	23 07 19.2	
	comp=N,15nm,0.8s						
ROOS	tl_alroos	6.94	229	*e*P	Pn	23 05 07.0	+2.0
ROOS				AML	AML	23 07 25.8	
	comp=E,26nm,0.8s						
ROOS				AML	AML	23 07 41.6	
	comp=N,18nm,0.7s		

AKTO	Aktyubinsk	16.58	330	P		Pn	23 22 22.9	+1.3
	0.8nm,0.3s,baz=132,slow=9.3,SNR=9.4							
AKTO				S		S	23 25 20.5	-3.1
	0.1nm,0.3s,baz=346,slow=20,SNR=1.8							
TAPN	Taplejung	17.02	118	*e*P		Pn	23 22 26.8	-0.4
	8.4nm,0.6s							
ODAN	Odare	17.09	120	*e*P		Pn	23 22 28.2	+0.1
ZALV	Zalesovo Beam	19.80	25	P		P	23 22 56.5	+1.1
	0.3nm,0.3s,baz=214,slow=10,SNR=5.0							
FINES	FINESS Array B	37.29	326	P		P	23 25 33.8	+1.0
	0.7nm,0.3s,baz=122,slow=9.2,SNR=1.7							
ARCES	ARCESS Array B	40.95	338	P		P	23 26 03.9	+0.9
	0.9nm,0.4s,baz=114,slow=8.3,SNR=1.9							
NOA	NORSAR Array B	44.18	323	P		P	23 26 29.3	+0.1
	0.7nm,0.6s,baz=102,slow=7.6,SNR=1.8							
TORD	Torodi Ar. Bea	65.62	268	P		P	23 29 01.2	-2.1
	0.5nm,0.4s,baz=54,slow=6.5,SNR=5.6							

AZER ***29*** *23:28:43.4±1.0,38°.44N×43°.42E,h3km±10km, Error ellipse: s-maj=10.7km s-min=2.3km az=65.0*
ISK ***29*** *23:28:44.5,38°.89N×43°.57E,h11km,ML3.4*
CSEM ***29*** *23:28:45.9±0.2,38°.81N×43°.42E,h5km,ML3.4, Error ellipse: s-maj=8.6km s-min=5.5km az=165.0*
ISC 29 23:28:45.7±0.9,38°.85N±0°.03×43°.45E±0°.03,h17km±7km, n76,σ2.9 07/85,14C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.19	333	*e*PG	Pg	23 28 49.5	-1.2
ERCV	ERCIS-VAN	0.19	333	*e*Pg	Pg	23 28 49.5	-1.2
VANB	Van	0.26	191	*e*PG	Pg	23 28 52.3	+0.7
VANB				*e*SG	Sg	23 28 59.3	+3.8
VANB	Van	0.26	191	*e*Pg	Pg	23 28 52.3	+0.7
CLDR	Caldiran	0.47	51	*e*PG	Pg	23 28 52.4	-2.8
CLDR				*e*SG	Sg	23 28 57.8	-3.9
AGRB	Hanur-Agry	0.81	334	*e*PG	Pg	23 29 00.7	-0.9
AGRB				*e*SG	Sb	23 29 13.6	+1.4
AGRB	Hanur-Agry	0.81	334	*e*Pg	Pg	23 29 00.7	-0.9
AGRB				*e*Sg	Sb	23 29 13.6	+1.4
GURO	Guroymak-BITLI	1.15	256	*e*PN	Pn	23 29 07.6	+0.5
GURO	Guroymak-BITLI	1.15	256	*e*Pn	Pn	23 29 07.6	+0.5
VRTB	Varto-Mus	1.58	282	*e*PN	Pb	23 29 13.9	-0.7
VRTB	Varto-Mus	1.58	282	*e*Pn	Pb	23 29 13.9	-0.7
CUKT	Cukurca	1.60	176	*e*PN	Pg	23 29 14.8	-1.7
CUKT	Cukurca	1.60	176	*e*Pn	Pg	23 29 14.8	-1.7
NAX	Nakhchivan	1.63	78	⇑P	Pn	23 29 14.1	+0.4
NAX				⇓S	Sg	23 29 39.4	+1.2
NAX	Nakhchivan	1.63	78	P	Pn	23 29 14.1	+0.4
NAX				S	Sg	23 29 39.4	+1.2
SVAN	Silvan-Diyarba	1.90	249	*e*PN	Pb	23 29 18.8	-1.1
SVAN	Silvan-Diyarba	1.90	249	*e*Pn	Pb	23 29 18.8	-1.1
SENK	Senkaya-Erzuru	1.91	334	*e*PN	Pn	23 29 18.4	+0.7
SENK	Senkaya-Erzuru	1.91	334	*e*Pn	Pn	23 29 18.4	+0.7
BNGB	Bing¶‖	2.17	275	*e*PN	Pb	23 29 22.9	-1.6
BINT	Bingol	2.31	272	*e*Pn	Pn	23 29 22.9	-0.2
YEDI	Yedisu-Bingol	2.33	286	*e*PN	Pn	23 29 25.2	+1.7
YEDI	Yedisu-Bingol	2.33	286	*e*Pn	Pn	23 29 25.2	+1.7
GDB	GEDABAY	2.58	43	⇑P	Pb	23 29 30.8	-0.8
GDB				⇑S	Sg	23 30 07.3	-1.4
GDB	GEDABAY	2.58	43	P	Pb	23 29 30.8	-0.8
QZX	Qazax, Azerbai	2.66	33	⇓P	Pb	23 29 32.9	+0.1
QZX				⇓S	Sb	23 30 06.7	+1.5
QZX	Qazax, Azerbai	2.66	33	P	Pb	23 29 32.9	+0.1
QZX				S	Sb	23 30 06.7	+1.5
MAZI	Mazidag	2.74	241	*e*PN	Pb	23 29 31.2	-3.2
MAZI	Mazidag	2.74	241	*e*Pn	Pb	23 29 31.2	-3.2
GANJ	Ganja	2.85	50	⇑P	Pn	23 29 33.4	+2.9
GANJ	Ganja	2.85	50	P	Pn	23 29 33.4	+2.9
DGRG	David-gareji	2.99	29	P	Pb	23 29 38.8	+0.3
TBLG	Delisi	3.04	18	*e*PN	Pb	23 29 32.6	-0.5
TBLG	Delisi	3.04	18	P	Pb	23 29 41.4	+1.9
PTK	Pertek	3.17	272	*e*PN	Pn	23 29 37.2	+2.2
PTK	Pertek	3.17	272	*e*Pn	Pn	23 29 37.2	+2.2
BRDA	Brd	3.21	63	⇓P	Pn	23 29 37.6	+2.3
BRDA	Brd	3.21	63	P	Pn	23 29 37.6	+2.3
SVRC	Sivrice-ELAZID	3.28	263	*e*PN	Pn	23 29 38.7	+2.2
SVRC	Sivrice-ELAZID	3.28	263	*e*Pn	Pn	23 29 38.7	+2.2
MNGR	Mingechevir, A	3.40	54	⇑P	Pn	23 29 40.9	+3.0
MNGR	Mingechevir, A	3.40	54	P	Pn	23 29 40.9	+3.0
ZRD	Zardab	3.57	65	⇓P	Pn	23 29 42.4	+2.1
ZRD	Zardab	3.57	65	P	Pn	23 29 42.4	+2.1
ZKTA	Zakatala	3.70	40	⇑P	Pn	23 29 46.1	+4.0
SEKA	Sheki	3.72	49	⇑P	Pn	23 29 46.5	+4.1
SEKA	Sheki	3.72	49	P	Pn	23 29 46.5	+4.1
ONI	Oni	3.74	0	P	Pg	23 29 54.9	-2.4
LRK	Lerik	3.83	92	⇓P	Pn	23 29 43.6	-0.4
LRK	Lerik	3.83	92	P	Pn	23 29 43.6	-0.4
GLBA	Clilabad	3.87	83	⇑P	Pn	23 29 44.8	+0.4
GLBA	Clilabad	3.87	83	P	Pn	23 29 44.8	+0.4
KDMR	Kurdemir	3.96	66	⇑P	Pn	23 29 47.8	+2.1
KDMR	Kurdemir	3.96	66	P	Pn	23 29 47.8	+2.1
QBL	Gabala	3.97	57	⇓P	Pn	23 29 48.7	+2.8
QBL	Gabala	3.97	57	P	Pn	23 29 48.7	+2.8
SAAT	Saatly	3.98	74	⇓P	Pn	23 29 47.0	+1.0
SAAT	Saatly	3.98	74	P	Pn	23 29 47.0	+1.0
IML	Ismayilli	4.13	60	⇓P	Pn	23 29 50.6	+2.6
IML	Ismayilli	4.13	60	P	Pn	23 29 50.6	+2.6
LKRN	Lenkeran, Azer	4.17	90	⇑P	Pn	23 29 48.2	-0.3
LKRN	Lenkeran, Azer	4.17	90	P	Pn	23 29 48.2	-0.3
ASTR	Astara	4.19	92	⇑P	Pn	23 29 48.4	-0.4
ASTR	Astara	4.19	92	P	Pn	23 29 48.4	-0.4
XNQ	Khinaliq	4.28	56	⇑P	Pn	23 29 53.1	+2.8
XNQ	Khinaliq	4.28	56	P	Pn	23 29 53.1	+2.8
PQL	Pirkuli	4.41	62	⇑P	Pn	23 29 54.2	+2.2
PQL	Pirkuli	4.41	62	P	Pn	23 29 54.2	+2.2
ALIB	Äli-Bayra	4.44	74	⇑P	Pn	23 29 53.6	+1.3
ALIB	Äli-Bayra	4.44	74	P	Pn	23 29 53.6	+1.3
QSAR	Qusar	4.55	53	⇓P	Pn	23 29 56.8	+3.0
QSAR	Qusar	4.55	53	P	Pn	23 29 56.8	+3.0
GBS	Qobustan	4.56	67	⇓P	Pn	23 29 56.0	+2.0
GBS	Qobustan	4.56	67	P	Pn	23 29 56.0	+2.0
QUBA	Quba, Azerbaij	4.61	55	⇓P	Pn	23 29 57.6	+3.0
QUBA	Quba, Azerbaij	4.61	55	P	Pn	23 29 57.6	+3.0

IDC ***29*** *23:42:31.1±1.4,14°.70S×76°.44W,h0km,mb3.7/4, mb1 4.0/7,mb1mx3.8/30,mbtmp3.9/7,ML4.4/3,MS3.3/2, Ms1 3.3/2,ms1mx2.9/21,Error ellipse: s-maj=33.8km s-min=20.0km az=64.0*
ISCJB ***29*** *23:42:32.4±1.0,14°.84S±0°.08×76°.5W±0°.1,h23km,mb3.6/4, MS3.2/1,Error ellipse: s-maj=16.8km s-min=7.6km az=143.6*
ISC 29 23:42:34.1±1.2,14°.70S±0°.09×76°.6W±0°.1,h23km,n9, σ2.9 47/10,mb3.8/4,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.71	354	Pn	Pn	23 43 17.3	+1.1
	26nm,0.3s,baz=153,slow=11,SNR=15						
NNA				Sn	Sn	23 43 51.6	+3.3
	58nm,0.3s,baz=210,slow=20,SNR=10						
ATAH	Atahualpa	7.72	346	Pn	Pn	23 44 31.7	+6.2
	0.9nm,0.3s,baz=98,slow=21,SNR=2.4						
ATAH				Sn	Sb	23 46 14.6	-4.8
	1.2nm,0.3s,baz=14,slow=21,SNR=2.4						
LPAZ	La Paz	8.29	102	Pn	Pn	23 44 33.5	0.0
	1.6nm,0.3s,baz=280,slow=8.1,SNR=48						
LPAZ				Sn	Sn	23 46 07.4	+0.6
	baz=41,slow=20,SNR=1.2						
LVC	Limon Verde	10.71	138	Pn	Pn	23 45 04.8	-1.6
	21nm,0.3s,baz=329,slow=11,SNR=6.4						
SIV	San Ignacio	15.01	97	LR	LR	23 51 44.3	
	comp=Z,98nm,18.3s,baz=290,slow=37						
PTGA	Pitinga	21.49	51	P	P	23 47 20.5	-0.9
	2.5nm,0.6s,baz=225,slow=11,SNR=6.5						
PTGA				LR	LR	23 56 08.5	
	comp=Z,101nm,21.9s,baz=140,slow=38						
TXAR	Lajitas Array	51.00	329	P	P	23 51 35.6	+1.2
	0.1nm,0.7s,baz=144,slow=11,SNR=1.7						
SNAA	Sanae	71.04	161	P	P	23 53 50.8	+0.9
	0.9nm,1.1s,baz=276,slow=9.0,SNR=8.6						
TORD	Torodi Ar. Bea	82.26	74	P	P	23 54 53.3	-1.0
	1.4nm,0.6s,baz=264,slow=3.8,SNR=13						

ISC 29 23:47:27.1±1.2,45°.00N±0°.03×15°.00E±0°.05,h11km±16km, n6,σ0.5 55/12,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.44	192	*e*Pg	Pg	23 47 35.3	-0.4
NVLJ				Sg	Sg	23 47 42.2	+0.7
BOJS	Bojanci	0.54	19	*i* Pg	Pg	23 47 37.3	-0.3
BOJS				*i* Sg	Sg	23 47 45.4	+0.7
KNDS	Knezji Dol	0.69	321	*i* Pg	Pg	23 47 39.8	-0.6
KNDS				*i* Sg	Sb	23 47 51.1	+0.4
OZLJ	Ozalj	0.70	28	*e*Pg	Pg	23 47 40.1	-0.6
OZLJ				Sg	Sg	23 47 50.3	+0.4
UDBI	Udbina	0.72	130	*i* Pg	Pg	23 47 40.7	-0.3
UDBI				Sg	Sb	23 47 51.2	-0.2
VISS	Visnje	0.82	352	*i* Pg	Pg	23 47 42.6	-0.3
VISS				*i* Sg	Sg	23 47 53.7	+0.2

ISK ***30*** *00:01:49.6,38°.64N×43°.20E,h5km,ML3.1*
DDA ***30*** *00:01:50.4,38°.65N×43°.21E,h12km,Ml3.5*
CSEM ***30*** *00:01:50.8±0.1,38°.64N×43°.22E,h2km,ML3.1, Error ellipse: s-maj=3.3km s-min=3.0km az=136.0*
NSSC ***30*** *00:01:50.0±1.4,38°.92N×43°.08E,h0km±145km,ML2.5*
ISCJB ***30*** *00:01:51.0±0.4,38°.65N±0°.02×43°.21E±0°.03,h5km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=0.9*
ISC 30 00:01:51.2±0.8,38°.64N±0°.02×43°.21E±0°.02,h11km±6km, n81,σ1.9 17/114,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	109	*e*PG	Pg	00 01 54.9	+0.1
VANB				*e*SG	Sg	00 01 58.1	+0.8
VANB	Van	0.15	109	*e*Pg	Pg	00 01 54.9	+0.1
TVAN	Van	0.19	127	*i* P	Pg	00 01 54.9	-0.6
TVAN				*i* S	Sg	00 01 58.5	0.0
TVAN	Van	0.19	127	P	Pg	00 01 54.9	-0.6
TVAN				S	Sg	00 01 58.5	0.0
GEVA	Gevas	0.35	200	*i* P	Pg	00 01 57.7	-0.6
GEVA				*i* S	Sb	00 02 03.9	-1.3
GEVA	Gevas	0.35	200	P	Pg	00 01 57.7	-0.6
GEVA				S	Sb	00 02 03.9	-1.3
ERCV	ERCIS-VAN	0.39	15	*e*PG	Pg	00 01 58.7	-0.3
ERCV	ERCIS-VAN	0.39	15	*e*Pg	Pg	00 01 58.7	-0.3
ADCV	BITLIS_Adilcev	0.41	294	*i* P	Pg	00 01 59.2	-0.3
ADCV				*i* S	Sb	00 02 06.3	-0.7
ADCV	BITLIS_Adilcev	0.41	294	P	Pg	00 01 59.2	-0.3
ADCV				S	Sb	00 02 06.3	-0.7
CLDR	Caldiran	0.74	48	*e*PG	Pb	00 02 05.2	-1.1
CLDR				*e*SG	Sb	00 02 16.6	0.0
CLDR	Caldiran	0.74	48	*i* P	Pg	00 02 04.8	-0.9
CLDR				*i* S	Sg	00 02 14.9	-0.6
CLDR	Caldiran	0.74	48	P	Pg	00 02 04.8	-0.9
CLDR	Caldiran	0.74	48	*e*Pg	Pb	00 02 05.2	-1.1
CLDR				S	Sg	00 02 14.9	-0.6
CLDR				*e*Sg	Sb	00 02 16.6	0.0
TATV	Tatvan	0.75	260	*i* P	Pg	00 02 04.7	-1.1
TATV				*i* S	Sg	00 02 14.3	-1.4
TATV	Tatvan	0.75	260	P	Pg	00 02 04.7	-1.1
TATV				S	Sg	00 02 14.3	-1.4
BASK	Baskale_VAN	0.86	133	*i* P	Pg	00 02 06.4	-1.4
BASK				*i* S	Sb	00 02 19.8	-0.1
BASK	Baskale_VAN	0.86	133	P	Pg	00 02 06.4	-1.4
BASK				S	Sb	00 02 19.8	-0.1
GURO	Guroymak-BITLI	0.93	265	*e*PG	Pg	00 02 07.6	-1.5
GURO	Guroymak-BITLI	0.93	265	*e*Pg	Pg	00 02 07.6	-1.5
AGRB	Hanur-Agry	0.95	350	*e*PG	Pg	00 02 08.4	-1.1
AGRB				*e*SG	Sb	00 02 22.8	+0.5
AGRB	Hanur-Agry	0.95	350	*e*Pg	Pg	00 02 08.4	-1.1
AGRB				*e*Sg	Sb	00 02 22.8	+0.5
DYDN	Diyadin	0.97	22	*i* P	Pg	00 02 08.8	-1.2
DYDN				*i* S	Sb	00 02 22.9	-0.3
DYDN	Diyadin	0.97	22	P	Pg	00 02 08.8	-1.2
DYDN				S	Sb	00 02 22.9	-0.3
EKAR	Karacoban	1.08	305	*i* P	Pb	00 02 11.4	-0.7
EKAR	Karacoban	1.08	305	P	Pb	00 02 11.4	-0.7
HAKT	HAKKARI	1.15	160	*i* P	Pg	00 02 11.9	-1.5
HAKT	HAKKARI	1.15	160	P	Pg	00 02 11.9	-1.5
SRTM	Siirt_Merkez	1.20	238	*i* P	Pn	00 02 14.7	+0.6
SRTM				*i* S	Sb	00 02 30.3	+0.6
SRTM	Siirt_Merkez	1.20	238	P	Pn	00 02 14.7	+0.6
SRTM				S	Sb	00 02 30.3	+0.6
SIRN	S¨–rnak	1.31	209	*i* P	Pb	00 02 16.0	+0.2
SIRN	S¨–rnak	1.31	209	P	Pb	00 02 16.0	+0.2
EATA	Eleskirt	1.34	336	*i* P	Pg	00 02 15.4	-1.6
EATA				*i* S	Sb	00 02 33.5	-0.3
EATA	Eleskirt	1.34	336	P	Pg	00 02 15.4	-1.6
EATA				S	Sb	00 02 33.5	-0.3
CUKT	Cukurca	1.43	167	*e*PN	Pn	00 02 17.2	0.0
CUKT	Cukurca	1.43	167	*i* P	Pn	00 02 17.0	-0.2
CUKT	Cukurca	1.43	167	P	Pn	00 02 17.0	-0.2
VRTB	Varto-Mus	1.46	291	*e*PN	Pb	00 02 18.2	-0.3
VRTB	Varto-Mus	1.46	291	*i* P	Pg	00 02 18.4	-0.9
VRTB				*i* S	Sg	00 02 39.3	+1.0
VRTB	Varto-Mus	1.46	291	P	Pg	00 02 18.4	-0.9
VRTB				S	Sg	00 02 39.3	+1.0
BNGL	BINGOL	1.64	281	*i* P	Pb	00 02 21.1	-0.5
BNGL				*i* S	Sb	00 02 42.0	-0.3
SVAN	Silvan-Diyarba	1.66	253	*e*PN	Pb	00 02 21.2	-0.6
SVAN	Silvan-Diyarba	1.66	253	*i* P	Pb	00 02 21.5	-0.2
SVAN				*i* S	Sg	00 02 43.2	-1.2
SVAN	Silvan-Diyarba	1.66	253	*e*Pn	Pb	00 02 21.2	-0.6
SVAN	Silvan-Diyarba	1.66	253	P	Pb	00 02 21.5	-0.2
SVAN				S	Sg	00 02 43.2	-1.2
BTMN	Batman	1.70	244	*i* P	Pb	00 02 22.6	0.0
BTMN				*i* S	Sg	00 02 45.6	-0.3
BTMN	Batman	1.70	244	P	Pb	00 02 22.6	0.0
BTMN				S	Sg	00 02 45.7	-0.3
DIGO	Kars	1.77	4	*i* P	Pg	00 02 23.9	-1.4
DIGO	Kars	1.77	4	P	Pg	00 02 23.9	-1.4
ERZM	Erzurum	1.91	312	*i* P	Pg	00 02 26.5	-1.3
ERZM	Erzurum	1.91	312	P	Pg	00 02 26.5	-1.3
ECAT	Cat-ERZURUM	1.99	300	*i* P	Pb	00 02 26.8	-0.7
ECAT	Cat-ERZURUM	1.99	300	P	Pb	00 02 26.8	-0.7
BNGB	Bing¶‖	2.01	281	*e*PN	Pn	00 02 25.9	+0.8
SENK	Senkaya-Erzuru	2.03	341	*e*PN	Pb	00 02 26.7	-1.5
SENK	Senkaya-Erzuru	2.03	341	*e*Pn	Pb	00 02 26.7	-1.5
EAK	Akyaka	2.06	8	*i* P	Pg	00 02 30.5	-0.3
EAK	Akyaka	2.06	8	P	Pg	00 02 30.5	-0.3
BINT	Bingol	2.14	277	*e*Pn	Pn	00 02 25.9	-1.1
YEDI	Yedisu-Bingol	2.22	292	*e*PN	Pn	00 02 29.1	+1.0
YEDI	Yedisu-Bingol	2.22	292	*e*Pn	Pn	00 02 29.1	+1.0
MARD	Mardin	2.33	236	*i* P	Pn	00 02 30.5	+0.9
MARD				*i* S	Sn	00 03 00.6	+2.2
MAZI	Mazidag	2.48	242	*e*PN	Pn	00 02 32.5	+0.9
MAZI	Mazidag	2.48	242	*e*Pn	Pn	00 02 32.5	+0.9
DDEM	Demirkent	2.51	334	*i* P	Pg	00 02 37.3	-2.1
DDEM	Demirkent	2.51	334	P	Pg	00 02 37.3	-2.1
KOPT	Kop Dagi	2.51	304	*i* P	Pg	00 02 37.3	-2.1
KOPT	Kop Dagi	2.51	304	P	Pg	00 02 37.3	-2.1
DAGI	Agiliar	2.63	338	*i* P	Pb	00 02 38.9	+0.6
KBSD	Kabsdagh	2.67	233	*e*P	Pn	00 02 34.9	+0.7
KBSD				*e*S	Sn	00 03 09.1	+2.5
KBSD				AML	AML	00 03 25.6	
	comp=Z,34nm,0.9s						
PTK	Pertek	2.99	276	*e*PN	Pn	00 02 40.2	+1.4
PTK	Pertek	2.99	276	*e*Pn	Pn	00 02 40.2	+1.4
SVRC	Sivrice-ELAZID	3.07	266	*e*PN	Pn	00 02 40.9	+1.1
SVRC	Sivrice-ELAZID	3.07	266	*e*Pn	Pn	00 02 40.9	+1.1
SFNV	Sufian	3.32	229	*e*P	Pn	00 02 44.7	+1.6
SFNV				*e*S	Sn	00 03 25.4	+2.8
SFNV				AML	AML	00 03 44.2	
	comp=Z,74nm,0.6s						
MZRK	Al-Mazaregh	3.47	217	*e*P	Pb	00 02 48.9	-3.8
MZRK				AML	AML	00 04 01.6	
	comp=Z,31nm,0.6s						
DRWC	Darouich	5.57	251	*e*P	Pn	00 03 15.5	+1.4
DRWC				AML	AML	00 04 59.4	
	comp=N,10nm,0.6s						
BTCH	Batrach	5.97	246	*e*P	Pn	00 03 21.0	+1.4
BTCH				AML	AML	00 05 12.2	
	comp=N,8.1nm,0.7s						
BTCH				AML	AML	00 05 13.0	
	comp=E,18nm,0.7s						
RABH	Abou Rabah	6.40	231	*e*P	Pn	00 03 28.3	+2.8
RABH				AML	AML	00 05 29.4	
	comp=N,6.5nm,0.6s						
RABH				AML	AML	00 05 44.0	
	comp=E,3.8nm,0.8s						
BIDA	Albida	6.61	239	*e*P	Pn	00 03 30.1	+1.7
BIDA				AML	AML	00 05 36.0	
	comp=E,13nm,0.7s						
BIDA				AML	AML	00 05 39.5	
	comp=N,13nm,0.7s						
HAWK	Haweek	6.85	235	*e*P	Pn	00 03 33.9	+2.3
HAWK				AML	AML	00 05 37.4	
	comp=E,4.2nm,0.6s						
HAWK				AML	AML	00 06 01.8	
	comp=N,6.1nm,0.7s						

IDC 30 00:09:01.3±8.9,14°.10S×73°.89W,h185km±108km, mb3.1/2,mb1 3.3/3,mb1mx3.1/19,mbtmp3.6/3,MS3.1/1, Ms1 3.1/1,ms1mx2.8/6,Error ellipse: s-maj=717.1km s-min=34.2km az=28.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.97	112	P	Pn	00 10 28.6	0.0
	0.9nm,0.3s,baz=283,slow=12,SNR=8.5						
ROSC	El Rosal	18.83	359	LR	LR	00 20 51.2	
	comp=Z,63nm,20.6s,baz=95,slow=38						
TXAR	Lajitas Array	51.88	327	P	P	00 17 51.0	-0.1
	0.2nm,0.5s,baz=133,slow=9.1,SNR=4.1						
TORD	Torodi Ar. Bea	79.60	74	P	P	00 20 48.6	0.0
	0.8nm,0.7s,baz=247,slow=4.9,SNR=5.5						

AZER ***30*** *00:17:13.4±0.8,38°.23N×43°.44E,h9km, Error ellipse: s-maj=9.1km s-min=5.5km az=134.0*
ISK ***30*** *00:17:16.9,38°.82N×43°.56E,h8km,ML2.8*
CSEM ***30*** *00:17:17.2±0.2,38°.81N×43°.59E,h2km,ML3.1, Error ellipse: s-maj=5.0km s-min=4.3km az=144.0*
DDA ***30*** *00:17:17.2,38°.84N×43°.59E,h13km,Ml3.1*
ISC 30 00:17:17.3±0.9,38°.82N±0°.02×43°.59E±0°.02,h10km±7km, n80,σ0.9 91/112,7C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.17	356	*i* P	Pg	00 17 20.7	-0.5
VMUR				*i* S	Sg	00 17 24.4	+0.5
VMUR	Van-Muradiye	0.17	356	P	Pg	00 17 20.7	-0.5
VMUR				S	Sg	00 17 24.4	+0.5
VANB	Van	0.27	215	*e*PG	Pb	00 17 24.8	+0.5
VANB	Van	0.27	215	*e*Pg	Pb	00 17 24.8	+0.5
ERCV	ERCIS-VAN	0.28	316	*e*PG	Pg	00 17 23.1	0.0
ERCV	ERCIS-VAN	0.28	316	*e*Pg	Pg	00 17 23.1	0.0
TVAN	Van	0.32	206	*i* P	Pb	00 17 24.7	-0.5
TVAN	Van	0.32	206	P	Pb	00 17 24.7	-0.5
CLDR	Caldiran	0.42	38	*e*PG	Pg	00 17 24.8	-0.7
CLDR				*e*SG	Sb	00 17 32.2	-1.1
CLDR	Caldiran	0.42	38	*i* P	Pg	00 17 24.9	-0.6
CLDR				*i* S	Sg	00 17 31.9	+0.8
CLDR	Caldiran	0.42	38	*e*Pg	Pg	00 17 24.8	-0.7
CLDR	Caldiran	0.42	38	P	Pg	00 17 25.0	-0.6
CLDR				S	Sg	00 17 31.9	+0.8
CLDR				*e*Sg	Sb	00 17 32.2	-1.1
GEVA	Gevas	0.65	220	*i* P	Pg	00 17 29.9	0.0
GEVA				*i* S	Sb	00 17 41.5	+1.6
GEVA	Gevas	0.65	220	P	Pg	00 17 30.0	0.0
ADCV	BITLIS_Adilcev	0.67	270	*i* P	Pb	00 17 30.8	-0.4
ADCV				*i* S	Sb	00 17 40.9	+0.2
ADCV	BITLIS_Adilcev	0.67	270	P	Pb	00 17 30.8	-0.4
ADCV				S	Sb	00 17 40.9	+0.2
DYDN	Diyadin	0.73	6	*i* P	Pg	00 17 30.9	-0.6
DYDN				*i* S	Sb	00 17 41.5	-0.9
DYDN	Diyadin	0.73	6	P	Pg	00 17 30.9	-0.6
DYDN				S	Sb	00 17 41.5	-0.9
BASK	Baskale_VAN	0.83	157	*i* P	Pg	00 17 33.0	-0.3
BASK	Baskale_VAN	0.83	157	P	Pg	00 17 33.0	-0.3
TUTA	Tutak	0.84	314	*i* P	Pg	00 17 32.7	-0.8
TUTA				*i* S	Sg	00 17 44.3	-0.2
TUTA	Tutak	0.84	314	P	Pg	00 17 32.7	-0.8
TUTA				S	Sg	00 17 44.3	-0.2
AGRB	Hanur-Agry	0.89	329	*e*PG	Pg	00 17 34.0	-0.5
AGRB				*e*SG	Sb	00 17 47.0	+0.1
AGRB	Hanur-Agry	0.89	329	*e*Pg	Pg	00 17 34.0	-0.5
AGRB				*e*Sg	Sb	00 17 47.0	+0.1
TATV	Tatvan	1.08	254	*i* P	Pg	00 17 37.5	-0.5
TATV				*i* S	Sb	00 17 52.5	+0.2
TATV	Tatvan

CLDR				S	Sb	00 25 07.7	-1.5
ADCV	**BITLIS_Adilcev**	**0.64**	**262**	*i* P	Pg	00 25 06.4	+0.7
ADCV				*i* S	Sg	00 25 15.1	+1.0
ADCV	**BITLIS_Adilcev**	**0.64**	**262**	P	Pg	00 25 06.4	+0.7
ADCV				S	Sg	00 25 15.1	+1.0
DYDN	**Diyadin**	**0.66**	**11**	*i* P	Pg	00 25 06.3	+0.2
DYDN				*i* S	Sg	00 25 15.7	+1.0
DYDN	**Diyadin**	**0.66**	**11**	P	Pg	00 25 06.3	+0.2
DYDN				S	Sg	00 25 15.7	+1.0
GEVA	**Gevas**	**0.69**	**212**	*i* P	Pg	00 25 06.8	0.0
GEVA	**Gevas**	**0.69**	**212**	P	Pg	00 25 06.8	0.0
TUTA	**Tutak**	**0.75**	**312**	*i* P	Pg	00 25 07.7	-0.2
TUTA				*i* S	Sb	00 25 18.9	-0.8
TUTA	**Tutak**	**0.75**	**312**	P	Pg	00 25 07.7	-0.2
TUTA				S	Sb	00 25 18.9	-0.8
BASK	**Baskale_VAN**	**0.92**	**156**	*i* P	Pg	00 25 11.1	-0.1
BASK	**Baskale_VAN**	**0.92**	**156**	P	Pg	00 25 11.1	-0.1
TATV	**Tatvan**	**1.06**	**249**	*i* P	Pg	00 25 13.2	-0.7
TATV				*i* S	Sg	00 25 28.1	+0.4
TATV	**Tatvan**	**1.06**	**249**	P	Pg	00 25 13.2	-0.7
TATV				S	Sg	00 25 28.0	+0.3
EATA	**Eleskirt**	**1.25**	**320**	*i* P	Pb	00 25 17.7	0.0
EATA				*i* S	Sg	00 25 33.7	-0.2
EATA	**Eleskirt**	**1.25**	**320**	P	Pb	00 25 17.7	-0.1
EATA				S	Sg	00 25 33.7	-0.2
DIGO	**Kars**	**1.52**	**355**	*i* P	Pg	00 25 23.6	+1.0
DIGO	**Kars**	**1.52**	**355**	P	Pg	00 25 23.6	+1.0
SRTM	**Siirt_Merkez**	**1.56**	**235**	*i* P	Pg	00 25 23.6	+0.3
SRTM	**Siirt_Merkez**	**1.56**	**235**	P	Pg	00 25 23.6	+0.3
VRTB	**Varto-Mus**	**1.64**	**280**	*i* P	Pb	00 25 24.4	+0.2
VRTB				*i* S	Sg	00 25 48.8	+2.6
VRTB	**Varto-Mus**	**1.64**	**280**	P	Pb	00 25 24.4	+0.2
VRTB				S	Sg	00 25 48.8	+2.7
CUKT	**Cukurca**	**1.65**	**178**	*i* P	Pb	00 25 23.9	-0.5
CUKT	**Cukurca**	**1.65**	**178**	P	Pb	00 25 23.9	-0.5
SIRN	**S¨–rnak**	**1.66**	**213**	*i* P	Pb	00 25 24.7	+0.3
SIRN	**S¨–rnak**	**1.66**	**213**	P	Pb	00 25 24.7	+0.3
BNGL	**BINGOL**	**1.86**	**272**	*i* P	Pg	00 25 28.8	-0.3

ISK ***30*** *00:31:47.7, 38°.62N×43°.13E, h9km, MD2.9*
ISCJB ***30*** *00:31:48.8±0.4, 38°.64N±0°.02×43°.15E±0°.03, h7km±4km, Error ellipse: s-maj=4.0km s-min=3.9km az=135.1*
DDA ***30*** *00:31:48.2, 38°.62N×43°.15E, h7km, Ml3.6*
CSEM ***30*** *00:31:48.4±0.2, 38°.63N×43°.16E, h2km, MD2.9, Error ellipse: s-maj=5.0km s-min=4.6km az=107.0*
ISC 30 00:31:48.4±0.8,**38°.63N**±0°.02×**43°.18E**±0°.02,**h15**km±**7**km, **n44**,σ0°**54**/**65**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**102**	*e*PG	**Pb**	**00 31 53.1**	**-0.2**
VANB				*e*SG	**Sb**	**00 31 57.0**	**+0.5**
VANB	**Van**	**0.17**	**102**	*e*Pg	**Pb**	**00 31 53.1**	**-0.2**
TVAN	**Van**	**0.20**	**119**	*i* P	**Pg**	**00 31 52.8**	**-0.5**
TVAN				*i* S	**Sg**	**00 31 56.8**	**+0.2**
TVAN	**Van**	**0.20**	**119**	P	**Pg**	**00 31 52.8**	**-0.5**
TVAN				S	**Sg**	**00 31 56.8**	**+0.2**
GEVA	**Gevas**	**0.33**	**197**	*i* P	**Pg**	**00 31 55.4**	**+0.1**
GEVA				*i* S	**Sb**	**00 32 01.6**	**+0.4**
GEVA	**Gevas**	**0.33**	**197**	P	**Pg**	**00 31 55.4**	**+0.1**
GEVA				S	**Sb**	**00 32 01.6**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.40**	**297**	*i* P	**Pg**	**00 31 56.6**	**+0.1**
ADCV				*i* S	**Sb**	**00 32 03.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.40**	**297**	P	**Pg**	**00 31 56.6**	**+0.1**
ADCV				S	**Sb**	**00 32 03.2**	**0.0**
ERCV	**ERCIS-VAN**	**0.41**	**18**	*e*PG	**Pg**	**00 31 56.5**	**-0.2**
ERCV				*e*SG	**Sg**	**00 32 02.9**	**+0.5**
ERCV	**ERCIS-VAN**	**0.41**	**18**	*e*Pg	**Pg**	**00 31 56.6**	**-0.2**
ERCV				*e*Sg	**Sg**	**00 32 02.9**	**+0.5**
TATV	**Tatvan**	**0.72**	**261**	*i* P	**Pb**	**00 32 02.8**	**0.0**
TATV				*i* S	**Sg**	**00 32 11.6**	**-0.6**
TATV	**Tatvan**	**0.72**	**261**	P	**Pb**	**00 32 02.8**	**0.0**
TATV				S	**Sg**	**00 32 11.6**	**-0.6**
CLDR	**Caldiran**	**0.77**	**48**	*e*PG	**Pg**	**00 32 03.4**	**-0.1**
CLDR				*e*SG	**Sn**	**00 32 15.5**	**-0.9**
CLDR	**Caldiran**	**0.77**	**48**	*e*Pg	**Pg**	**00 32 03.4**	**-0.1**
CLDR				*e*Sg	**Sn**	**00 32 15.5**	**-0.9**
TUTA	**Tutak**	**0.82**	**340**	*i* P	**Pg**	**00 32 04.0**	**-0.4**
TUTA	**Tutak**	**0.82**	**340**	P	**Pg**	**00 32 04.0**	**-0.4**
GURO	**Guroymak-BITLI**	**0.90**	**265**	*e*PG	**Pb**	**00 32 04.7**	**-1.0**
GURO	**Guroymak-BITLI**	**0.90**	**265**	*e*Pg	**Pb**	**00 32 04.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.96**	**351**	*e*PG	**Pb**	**00 32 06.7**	**0.0**
AGRB	**Hanur-Agry**	**0.96**	**351**	*e*Pg	**Pb**	**00 32 06.7**	**0.0**
HAKT	**HAKKARI**	**1.15**	**159**	*i* P	**Pb**	**00 32 09.5**	**-0.6**
HAKT				*i* S	**Sg**	**00 32 26.4**	**+0.8**
HAKT	**HAKKARI**	**1.15**	**159**	P	**Pb**	**00 32 09.5**	**-0.6**
HAKT				S	**Sg**	**00 32 26.4**	**+0.8**
EATA	**Eleskirt**	**1.34**	**337**	*i* P	**Pn**	**00 32 12.4**	**-0.4**
EATA				*i* S	**Sg**	**00 32 33.0**	**+1.2**
EATA	**Eleskirt**	**1.34**	**337**	P	**Pn**	**00 32 12.4**	**-0.4**
EATA				S	**Sg**	**00 32 33.0**	**+1.2**
CUKT	**Cukurca**	**1.42**	**166**	*e*PN	**Pb**	**00 32 14.5**	**-0.1**
CUKT	**Cukurca**	**1.42**	**166**	*i* P	**Pb**	**00 32 14.4**	**-0.1**
CUKT	**Cukurca**	**1.42**	**166**	P	**Pb**	**00 32 14.4**	**-0.2**
BNGL	**BINGOL**	**1.62**	**282**	*i* P	**Pn**	**00 32 15.9**	**-0.6**
BNGL				*i* S	**Sg**	**00 32 41.6**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*e*PN	**Pn**	**00 32 17.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*i* P	**Pb**	**00 32 18.7**	**+0.6**
SVAN				*i* S	**Sg**	**00 32 39.9**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*e*Pn	**Pn**	**00 32 17.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	P	**Pb**	**00 32 18.7**	**+0.6**
SVAN				S	**Sg**	**00 32 39.9**	**-0.9**
BTMN	**Batman**	**1.67**	**244**	*i* P	**Pg**	**00 32 20.4**	**-0.1**
BTMN				*i* S	**Sg**	**00 32 42.7**	**+0.4**
BTMN	**Batman**	**1.67**	**244**	P	**Pg**	**00 32 20.4**	**-0.1**
BTMN				S	**Sg**	**00 32 42.7**	**+0.4**
DIGO	**Kars**	**1.79**	**5**	*i* P	**Pg**	**00 32 22.8**	**0.0**
DIGO	**Kars**	**1.79**	**5**	P	**Pg**	**00 32 22.8**	**0.0**
ERZM	**Erzurum**	**1.90**	**313**	*i* P	Pn	00 32 14.7	-5.8
BNGB	**Bing¨¶l**	**1.98**	**281**	*e*PN	**Pn**	**00 32 21.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*PN	**Pn**	**00 32 22.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*Pn	**Pn**	**00 32 22.7**	**+0.5**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*PN	**Pn**	**00 32 24.6**	**0.0**
YEDI	**Yedisu-Bingol**	**2.20**	**292**	*e*Pn	**Pn**	**00 32 24.6**	**0.0**
MAZI	**Mazidag**	**2.45**	**242**	*e*PN	**Pn**	**00 32 28.5**	**+0.6**
MAZI	**Mazidag**	**2.45**	**242**	*e*Pn	**Pn**	**00 32 28.5**	**+0.6**

ISK ***30*** *00:38:15.8, 38°.86N×43°.58E, h8km, MD2.9*
CSEM ***30*** *00:38:16.8±0.3, 38°.91N×43°.55E, h2km, MD2.9, Error ellipse: s-maj=5.9km s-min=4.6km az=90.0*
DDA ***30*** *00:38:16.7, 38°.91N×43°.56E, h7km, Ml3.5*
ISC 30 00:38:16.7±1.1,**38°.89N**±0°.02×**43°.54E**±0°.02,**h5**km±**10**km, **n53**,σ0°**70**/**76**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.20**	**309**	*e*PG	**Pg**	**00 38 21.4**	**+0.6**
ERCV	**ERCIS-VAN**	**0.20**	**309**	*e*Pg	**Pg**	**00 38 21.4**	**+0.6**
VANB	**Van**	**0.32**	**202**	*e*PG	**Pb**	**00 38 24.1**	**-0.9**
VANB	**Van**	**0.32**	**202**	*e*Pg	**Pb**	**00 38 24.1**	**-0.9**
TVAN	**Van**	**0.38**	**196**	*i* P	**Pb**	**00 38 25.2**	**-0.9**
TVAN	**Van**	**0.38**	**196**	P	**Pb**	**00 38 25.2**	**-0.9**
CLDR	**Caldiran**	**0.39**	**49**	*e*PG	**Pg**	**00 38 23.9**	**-0.4**
CLDR				*e*SG	**Sg**	**00 38 29.6**	**+0.2**
CLDR	**Caldiran**	**0.39**	**49**	*i* P	**Pg**	**00 38 24.0**	**-0.2**
CLDR				*i* S	**Sg**	**00 38 30.0**	**+0.6**
CLDR	**Caldiran**	**0.39**	**49**	P	**Pg**	**00 38 24.0**	**-0.2**
CLDR				*e*Sg	**Sg**	**00 38 29.6**	**+0.2**
CLDR				S	**Sg**	**00 38 30.0**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	*i* P	**Pg**	**00 38 29.8**	**+0.7**
ADCV				*i* S	**Sb**	**00 38 40.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	P	**Pg**	**00 38 29.8**	**+0.7**
ADCV				S	**Sb**	**00 38 40.0**	**+0.1**
DYDN	**Diyadin**	**0.66**	**10**	*i* P	**Pg**	**00 38 29.0**	**-0.5**
DYDN	**Diyadin**	**0.66**	**10**	P	**Pg**	**00 38 29.0**	**-0.5**
GEVA	**Gevas**	**0.69**	**213**	*i* P	**Pg**	**00 38 30.1**	**+0.1**
GEVA	**Gevas**	**0.69**	**213**	P	**Pg**	**00 38 30.1**	**+0.1**
TUTA	**Tutak**	**0.76**	**312**	*i* P	**Pg**	**00 38 31.0**	**-0.4**
TUTA				*i* S	**Sg**	**00 38 40.9**	**-0.4**
TUTA	**Tutak**	**0.76**	**312**	P	**Pg**	**00 38 31.0**	**-0.4**
TUTA				S	**Sg**	**00 38 40.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.80**	**328**	*e*PG	**Pg**	**00 38 32.3**	**+0.1**
AGRB				*e*SG	**Sb**	**00 38 44.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.80**	**328**	*e*Pg	**Pg**	**00 38 32.3**	**+0.1**
TATV	**Tatvan**	**1.07**	**249**	*i* P	**Pg**	**00 38 37.3**	**+0.1**
TATV				*i* S	**Sg**	**00 38 51.1**	**0.0**
TATV	**Tatvan**	**1.07**	**249**	P	**Pg**	**00 38 37.3**	**+0.1**
TATV				S	**Sg**	**00 38 51.1**	**0.0**
EKAR	**Karacoban**	**1.21**	**288**	*i* P	**Pg**	**00 38 40.0**	**+0.2**
EKAR				*i* S	**Sn**	**00 38 58.6**	**+1.2**
EKAR	**Karacoban**	**1.21**	**288**	P	**Pg**	**00 38 40.0**	**+0.2**
EKAR				S	**Sn**	**00 38 58.6**	**+1.2**
GURO	**Guroymak-BITLI**	**1.23**	**254**	*e*PN	**Pg**	**00 38 39.5**	**-0.8**
GURO	**Guroymak-BITLI**	**1.23**	**254**	*e*Pn	**Pg**	**00 38 39.5**	**-0.8**
EATA	**Eleskirt**	**1.26**	**320**	*i* P	**Pg**	**00 38 40.0**	**-1.0**
EATA				*i* S	**Sn**	**00 38 58.8**	**-0.2**
EATA	**Eleskirt**	**1.26**	**320**	P	**Pg**	**00 38 40.0**	**-1.0**
EATA				S	**Sn**	**00 38 58.8**	**-0.2**
HAKT	**HAKKARI**	**1.34**	**174**	*i* P	**Pg**	**00 38 42.0**	**-0.4**
HAKT				*i* S	**Sn**	**00 39 02.3**	**+1.6**
HAKT	**HAKKARI**	**1.34**	**174**	P	**Pg**	**00 38 42.0**	**-0.4**
HAKT				S	**Sn**	**00 39 02.3**	**+1.6**
DIGO	**Kars**	**1.53**	**355**	*i* P	**Pg**	**00 38 46.2**	**+0.2**
DIGO	**Kars**	**1.53**	**355**	P	**Pg**	**00 38 46.2**	**+0.2**
CUKT	**Cukurca**	**1.64**	**178**	*e*PN	**Pn**	**00 38 45.2**	**-1.2**
CUKT	**Cukurca**	**1.64**	**178**	*i* P	**Pg**	**00 38 48.2**	**0.0**
CUKT				*i* S	**Sg**	**00 39 11.3**	**+1.8**
CUKT	**Cukurca**	**1.64**	**178**	*e*Pn	**Pn**	**00 38 45.2**	**-1.2**
CUKT	**Cukurca**	**1.64**	**178**	P	**Pg**	**00 38 48.2**	**0.0**
CUKT				S	**Sg**	**00 39 11.3**	**+1.8**
VRTB	**Varto-Mus**	**1.65**	**280**	*e*PN	**Pn**	**00 38 46.5**	**0.0**
VRTB	**Varto-Mus**	**1.65**	**280**	*i* P	**Pb**	**00 38 47.7**	**0.0**
VRTB				*i* S	**Sb**	**00 39 09.1**	**+0.3**
VRTB	**Varto-Mus**	**1.65**	**280**	*e*Pn	**Pn**	**00 38 46.5**	**0.0**
VRTB	**Varto-Mus**	**1.65**	**280**	P	**Pb**	**00 38 47.7**	**0.0**
VRTB				S	**Sb**	**00 39 09.1**	**+0.3**
SIRN	**S¨–rnak**	**1.65**	**213**	*i* P	**Pb**	**00 38 47.9**	**+0.2**
SIRN	**S¨–rnak**	**1.65**	**213**	P	**Pb**	**00 38 47.9**	**+0.2**
BNGL	**BINGOL**	**1.87**	**273**	*i* P	**Pb**	**00 38 51.8**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*PN	**Pn**	**00 38 50.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*e*Pn	**Pn**	**00 38 50.3**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	*e*PN	**Pn**	**00 38 50.3**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.98**	**249**	*e*Pn	**Pn**	**00 38 50.3**	**-0.7**
BTMN	**Batman**	**2.04**	**241**	*i* P	**Pg**	**00 38 55.3**	**-0.6**
BTMN				*i* S	**Sg**	**00 39 21.6**	**-0.9**
BTMN	**Batman**	**2.04**	**241**	P	**Pg**	**00 38 55.3**	**-0.6**
BTMN				S	**Sg**	**00 39 21.5**	**-0.9**
ECAT	**Cat-ERZURUM**	**2.12**	**290**	*i* P	**Pb**	**00 38 55.2**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.12**	**290**	P	**Pb**	**00 38 55.2**	**-0.5**
BNGB	**Bing¨¶l**	**2.23**	**273**	*e*PN	**Pn**	**00 38 55.5**	**+0.9**
BINT	**Bingol**	**2.38**	**271**	*e*Pn	**Pn**	**00 38 55.5**	**-1.1**
KEMA	**Kemaliye**	**3.95**	**277**	*i* P	**Sn**	**00 40 04.5**	**-0.3**

IDC ***30*** *00:50:02.1±1.1, 14°.40S×76°.40W, h0km, mb4.0/5, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML3.4/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/26, Error ellipse: s-maj=36.0km s-min=14.0km az=65.0*
ISCJB ***30*** *00:50:03.3±0.7, 14°.52S±0°.07×76°.5W±0°.1, h23km, mb4.1/11, Error ellipse: s-maj=16.3km s-min=7.1km az=149.3*
NEIC ***30*** *00:50:06.4±2.3, 14°.43S×76°.44W, h28km±15km, mb4.1/6, Error ellipse: s-maj=15.3km s-min=5.7km az=51.0*
ISC 30 00:50:05.0±0.8,**14°.54S**±0°.09×**76°.4W**±0°.1,**h23**km,**n28**, σ1§**67**/**24**,**mb4.0**/**11**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.58**	**350**	Pn	**Pn**	**00 50 44.0**	**-1.4**
NNA	9.9nm,0.3s,baz=237,slow=12,SNR=16			Lg	Lg	00 51 18.1	
NNA	38nm,0.3s,baz=245,slow=16,SNR=13			LR	LR	00 51 45.1	
NNA	**Nana**	**2.58**	**350**	*e*Pn	**Pn**	**00 50 44.4**	**-1.0**
NNA	comp=Z,87nm,18.5s,baz=141,slow=42			*e*Sn	**Sn**	**00 51 15.5**	**-0.6**
ATAH	**Atahualpa**	**7.62**	**345**	Pn	**Pn**	**00 51 53.5**	**-1.6**
ATAH	0.2nm,0.3s,baz=194,slow=17,SNR=2.0			Lg	Lg	00 53 41.7	
LPAZ	**La Paz**	**8.16**	**103**	Pn	**Pn**	**00 52 04.6**	**+1.9**
LVC	0.4nm,0.3s,baz=270,slow=7.4,SNR=15 11nm,0.3s,baz=324,slow=13,SNR=3.0			Sn	**Sn**	**00 52 38.7**	**+1.2**
LVC	7.2nm,0.3s,baz=68,slow=10,SNR=2.6			Lg	Lg	00 55 37.3	
LVC	**Limon Verde**	**10.71**	**140**	Pn	**Pn**	**00 52 39.7**	**+2.2**
LVC				Sn	**Sn**	**00 54 32.7**	**-4.2**
SAML	**Samuel**	**14.08**	**68**	*e*Pn	**Pn**	**00 53 24.1**	**+0.9**
OTAV	**Otavalo**	**14.82**	**352**	*e*Pn	**Pn**	**00 53 33.3**	**-0.5**
SIV	**San Ignacio**	**14.86**	**98**	LR	LR	01 00 08.2	
SDV	**Santo Domingo**	**23.97**	**14**	P	**P**	**00 55 18.1**	**0.0**
BDFB	**Brasilia**	**27.42**	**96**	P	**P**	**00 55 51.5**	**+2.1**
OXF	**Oxford**	**50.33**	**346**	*e*P	**P**	**00 58 60.0**	**-0.1**
TXAR	**Lajitas Array**	**50.95**	**329**	P	**P**	**00 59 05.4**	**+0.4**
ANMO	**Albuquerque**	**56.89**	**331**	P	**P**	**00 59 48.5**	**0.0**
HWUT	**Hardware Ranch**	**64.62**	**331**	*e*P	**P**	**01 00 41.2**	**+0.2**
HLID	**Hailey**	**67.46**	**331**	*e*P	**P**	**01 00 58.9**	**-0.3**
SNAA	**Sanae**	**71.13**	**161**	P	**P**	**01 01 22.8**	**+1.4**
NEW	**Newport**	**72.26**	**333**	*e*P	**P**	**01 01 28.4**	**-0.1**
DBIC	**Dimbokro**	**73.99**	**79**	P	**P**	**01 01 38.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.05**	**74**	P	**P**	**01 02 24.2**	**0.0**
BOSA	**Boshof**	**93.05**	**120**	P	**P**	**01 03 17.6**	**+0.1**
H11N3	**WAKE ISLAND Hy**	**19.57**	**285**	T	T	03 19 38.5	
H11N2	**WAKE ISLAND Hy**	**19.58**	**285**	T	T	03 19 37.7	
H11N1	**WAKE ISLAND Hy**	**19.59**	**285**	T	T	03 19 38.5	
H11S2	**WAKE ISLAND Hy**	**19.63**	**283**	T	T	03 19 37.9	
H11S1	**WAKE ISLAND Hy**	**19.64**	**283**	T	T	03 19 36.8	
H11S3	**WAKE ISLAND Hy**	**19.65**	**283**	T	T	03 19 38.5	
SONM	**Songino Array**	**146.72**	**357**	PKPbc	**PKPbc**	**01 09 45.7**	**+0.4**

baz=95; baz=96,slow=75,SNR=27; baz=96,slow=75,SNR=26; baz=96,slow=75,SNR=27; 0.3nm,0.4s,baz=7.5,slow=6.5,SNR=2.6

IDC 30 00:58:32.3±2.2,**6°.94S×129°.04E**,**h0**km,**mb3.6**/**1**, **mb1 3.7**/**4**,**mb1mx3.3**/**37**,**mbtmp3.5**/**4**,**ML3.7**/**3**,**MS3.8**/**2**, **Ms1 3.8**/**2**,**ms1mx3.0**/**21**,**Error ellipse: s-maj=91.3km s-min=28.5km az=75.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.58**	**196**	Pn	Pn	01 01 18.8	-0.2
FITZ	0.1nm,0.3s,baz=23,slow=9.9,SNR=9.6 0.2nm,0.3s,baz=54,slow=14,SNR=4.8			Sn	Sn	01 03 12.4	-17
WRA	**Warramunga Arr**	**13.91**	**159**	Pn	Pn	01 01 50.2	-0.8
WRA	0.6nm,0.3s,baz=341,slow=13,SNR=21 0.5nm,0.3s,baz=341,slow=21,SNR=6.9			Sn	Sn	01 04 12.2	-14
ASAR	**Alice Springs**	**17.28**	**165**	P	Pn	01 02 35.9	+0.7
USRK	**Ussuriysk Ar.**	**50.97**	**3**	LR	LR	01 30 38.4	
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	01 09 31.3	0.0
NRIK	**Noril'sk**	**81.27**	**346**	LR	LR	01 51 50.2	

2.0nm,0.3s,baz=240,slow=9.6,SNR=10; 0.4nm,0.7s,baz=116,slow=7.1,SNR=4.8; comp=Z,39nm,18.3s,baz=10.0,slow=39

IDC ***30*** *01:00:18.4±2.4, 17°.14S×73°.39W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/29, mbtmp3.9/5, ML3.6/2, MS3.0/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=43.3km s-min=29.4km az=42.0*
ISCJB ***30*** *01:00:21.1±2.1, 17°.40S±0°.09×73°.3W±0°.1, h26km, mb3.5/2, Error ellipse: s-maj=19.3km s-min=12.8km az=11.5*
ISC 30 01:00:21.2±1.2,**17°.30S**±0°.09×**73°.4W**±0°.1,**h26**km,**n13**, σ1§**40**/**9**,**Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.16**	**79**	Pn	**Pn**	**01 01 38.2**	**+0.8**
LPAZ	1.5nm,0.3s,baz=253,slow=10,SNR=67 baz=255,slow=12,SNR=1.9			Sn	**Sn**	**01 02 36.8**	**+0.3**
LPAZ	comp=Z,183nm,20.8s,baz=244,slow=40			LR	LR	01 03 41.5	
NNA	**Nana**	**6.24**	**327**	Pg	**Pb**	**01 02 08.5**	**-0.8**
NNA	4.0nm,0.3s,baz=169,slow=9.5,SNR=7.5 5.8nm,0.3s,baz=247,slow=7.3,SNR=4.7			Lg	Lg	01 03 26.6	
LVC	**Limon Verde**	**6.77**	**142**	Pn	**Pn**	**01 02 00.3**	**+1.0**
LVC	27nm,0.3s,baz=324,slow=14,SNR=11 79nm,0.3s,baz=225,slow=17,SNR=9.0			Sn	**Sn**	**01 03 14.8**	**-0.9**
SIV	**San Ignacio**	**11.90**	**85**	Pn	**Pn**	**01 03 07.6**	**-1.8**
PTGA	**Pitinga**	**21.13**	**40**	P	**P**	**01 05 03.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**80.08**	**73**	P	**P**	**01 12 30.6**	**+1.2**
H11N3	**WAKE ISLAND Hy**	**23.01**	**283**	T	T	03 34 52.5	
H11S2	**WAKE ISLAND Hy**	**23.02**	**281**	T	T	03 34 54.8	
H11N2	**WAKE ISLAND Hy**	**23.02**	**283**	T	T	03 34 54.9	
H11N1	**WAKE ISLAND Hy**	**23.02**	**283**	T	T	03 34 51.9	
H11S1	**WAKE ISLAND Hy**	**23.02**	**281**	T	T	03 34 54.3	
H11S3	**WAKE ISLAND Hy**	**23.03**	**281**	T	T	03 34 54.3	
ZALV	**Zalesovo Beam**	**139.72**	**20**	PKP	**PKPdf**	**01 19 48.3**	**+1.7**

baz=92; baz=121; baz=92; baz=121; 0.5nm,0.5s,baz=15,slow=1.6,SNR=2.3

NIED ***30*** *01:01:00, 38°.20N×141°.80E, h47km, Mw3.5 Best double couple: M0 2.30000×10^14 NP1:φ0=20.00000°, δ21.00000°, λ123.00000°. NP2:φ0=165.00000°, δ72.00000°, λ78.00000°.*
ISCJB ***30*** *01:01:19.5±0.8, 38°.21N±0°.04×141°.78E±0°.09, h65km±5km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=5.2km az=22.5*
JMA ***30*** *01:01:20.3±0.1, 38°.19N×141°.77E, h56km±1km, M3.8*
JMA Felt I J1.
IDC ***30*** *01:01:21.0±2.7, 38°.23N×141°.73E, h62km±24km, mb3.3/7, mb1 3.5/10, mb1mx3.3/40, mbtmp3.5/10, ML2.9/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/17, Error ellipse: s-maj=26.8km s-min=17.1km az=113.0*
ISC 30 01:01:19.9±1.4,**38°.21N**±0°.05×**141°.85E**±0°.09,**h50**km±**11**km, **n30**,σ1§**45**/**36**,**mb3.6**/**7**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.46**	**302**	P	**Pn**	**01 01 31.2**	**+0.4**
JIO				S	**Sn**	**01 01 38.8**	**+0.2**
OFUJ	**Ofunato**	**0.88**	**351**	P	**Pn**	**01 01 36.7**	**+0.6**
OFUJ				S	**Sn**	**01 01 48.6**	**+0.7**
JMK	**Ichinoseki**	**0.89**	**326**	P	**Pn**	**01 01 36.8**	**+0.6**
JMK				S	**Sn**	**01 01 48.5**	**+0.4**
JMM	**Marumori**	**0.90**	**248**	P	**Pn**	**01 01 35.8**	**-0.6**
JMM				*e*S	**Sn**	**01 01 47.4**	**-1.0**
JOU	**Okura**	**0.95**	**280**	P	**Pn**	**01 01 37.0**	**0.0**
JOU				*e*S	**Sn**	**01 01 49.1**	**-0.4**
JFK	**Kawauchi**	**1.14**	**223**	P	**Pn**	**01 01 39.3**	**-0.3**
JFK				S	**Sn**	**01 01 53.4**	**-0.8**
JOM	**Ohasama**	**1.33**	**341**	P	**Pn**	**01 01 43.1**	**+0.9**
JOM				S	**Sn**	**01 01 59.9**	**+1.1**
JYK	**Kaneyama**	**1.37**	**302**	P	**Pn**	**01 01 42.7**	**+0.1**
JYK				*e*S	**Sn**	**01 01 59.6**	**0.0**
JFT	**Otama**	**1.38**	**241**	P	**Pn**	**01 01 43.2**	**+0.3**
JFT				S	**Sn**	**01 01 59.7**	**-0.3**
JYS	**Shiratake**	**1.41**	**271**	P	**Pn**	**01 01 43.3**	**+0.1**
JYS				S	**Sn**	**01 02 00.2**	**-0.4**
JRG	**Rokugo**	**1.52**	**322**	P	**Pn**	**01 01 45.6**	**+0.9**
JYA	**Atsumi**	**1.72**	**283**	P	**Pn**	**01 01 47.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.34**	**241**	P	**Pn**	**01 02 10.8**	**+1.1**
MJAR	2.0nm,0.3s,baz=59,slow=10.0,SNR=32 2.2nm,0.3s,baz=39,slow=21,SNR=5.3			S	**Sn**	**01 02 53.4**	**+5.2**
MJAR	comp=Z,67nm,20.9s,baz=30,slow=44			LR	LR	01 03 45.1	
MAT	**Matsushiro**	**3.35**	**241**	P	**Pn**	**01 02 10.6**	**+0.9**
MAT				*e*S	**Sn**	**01

BASK	Baskale_VAN	0.84	154	P	Pg	01 02 00.4	-0.2
BASK				S	Sb	01 02 13.5	+1.0
AGRB	Hanur-Agry	0.87	331	*e*PG	Pg	01 02 00.4	-0.7
AGRB				*e*SG	Sb	01 02 13.4	+0.1
AGRB	Hanur-Agry	0.87	331	*e*Pg	Pg	01 02 00.4	-0.7
AGRB				*e*Sg	Sb	01 02 13.4	+0.1
TATV	Tatvan	1.04	253	*i* P	Pg	01 02 03.2	-1.2
TATV				*i* S	Sg	01 02 17.6	-0.4
TATV	Tatvan	1.04	253	P	Pg	01 02 03.2	-1.2
TATV				S	Sg	01 02 17.6	-0.4
GURO	Guroymak-BITLI	1.21	258	*e*PN	Pb	01 02 06.2	-1.1
GURO	Guroymak-BITLI	1.21	258	*e*Pn	Pb	01 02 06.2	-1.1
EKAR	Karacoban	1.23	291	*i* P	Pg	01 02 08.7	+0.7
EKAR				*i* S	Sn	01 02 27.3	+2.8
EKAR	Karacoban	1.23	291	P	Pg	01 02 08.7	+0.7
HAKT	HAKKARI	1.26	174	*i* P	Pn	01 02 07.1	-1.0
HAKT	HAKKARI	1.26	174	P	Pn	01 02 07.1	-1.0
EATA	Eleskirt	1.32	322	*i* P	Pg	01 02 09.3	-0.5
EATA				*i* S	Sn	01 02 27.6	+0.7
EATA	Eleskirt	1.32	322	P	Pg	01 02 09.3	-0.5
EATA				S	Sn	01 02 27.6	+0.7
SRTM	Siirt_Merkez	1.52	238	*i* P	Pg	01 02 13.0	-0.4
SRTM	Siirt_Merkez	1.52	238	P	Pg	01 02 13.0	-0.4
CUKT	Cukurca	1.57	178	*e*PN	Pb	01 02 13.5	+0.1
CUKT	Cukurca	1.57	178	*i* P	Pb	01 02 13.4	+0.1
CUKT	Cukurca	1.57	178	P	Pb	01 02 13.4	+0.1
SIRN	S¨–rnak	1.59	214	*i* P	Pb	01 02 13.5	-0.3
SIRN				*i* S	Sg	01 02 34.7	-0.7
SIRN	S¨–rnak	1.59	214	P	Pb	01 02 13.5	-0.3
SIRN				S	Sg	01 02 34.7	-0.7
DIGO	Kars	1.60	355	*i* P	Pg	01 02 14.5	-0.5
DIGO	Kars	1.60	355	P	Pg	01 02 14.5	-0.5
VRTB	Varto-Mus	1.66	283	*e*PN	Pn	01 02 13.6	+0.1
VRTB	Varto-Mus	1.66	283	*i* P	Pb	01 02 14.8	-0.2
VRTB	Varto-Mus	1.66	283	*e*Pn	Pn	01 02 13.6	+0.1
VRTB	Varto-Mus	1.66	283	P	Pb	01 02 14.8	-0.2
SVAN	Silvan-Diyarba	1.96	251	*e*PN	Pb	01 02 18.7	-1.2
SVAN	Silvan-Diyarba	1.96	251	*i* P	Pb	01 02 20.0	0.0
SVAN	Silvan-Diyarba	1.96	251	*e*Pn	Pb	01 02 18.7	-1.2
SVAN	Silvan-Diyarba	1.96	251	P	Pb	01 02 20.0	0.0
SENK	Senkaya-Erzuru	1.97	333	*e*PN	Pn	01 02 18.0	+0.2
SENK	Senkaya-Erzuru	1.97	333	*e*Pn	Pn	01 02 18.0	+0.2
ERZM	Erzurum	2.01	303	*i* P	Pb	01 02 21.3	+0.3
ERZM	Erzurum	2.01	303	P	Pb	01 02 21.3	+0.3
BTMN	Batman	2.01	243	*i* P	Pb	01 02 20.3	-0.6
BTMN	Batman	2.01	243	P	Pb	01 02 20.3	-0.6
ECAT	Cat-ERZURUM	2.15	292	*i* P	Pb	01 02 23.0	-0.3
ECAT	Cat-ERZURUM	2.15	292	P	Pb	01 02 23.0	-0.3
BNGB	Bing¨ll	2.24	275	*e*PN	Pb	01 02 23.1	-1.8
BINT	Bingol	2.38	272	*e*Pn	Pn	01 02 23.1	-0.4
YEDI	Yedisu-Bingol	2.41	286	*e*PN	Pn	01 02 24.8	+0.9

*ISCJB **30** 01:08:29.6±0.6, 12°.41N±0°.03×120°.81E±0°.03, h27km±4km, mb4.0/10, MS3.0/1, Error ellipse: s-maj=5.0km s-min=4.4km az=165.0*
*MAN **30** 01:08:29, 12°.38N×120°.84E, h10km, mb4.9, ML3.8, MS3.9*
*IDC **30** 01:08:35.0±1.9, 12°.54N×121°.09E, h73km±19km, mb3.7/10, mb1 3.9/10, mb1mx3.5/37, mbtmp4.1/10, MS3.2/1, Ms1 3.2/1, ms1mx2.9/37, Error ellipse: s-maj=41.0km s-min=12.6km az=66.0*
ISC 30 01:08:30.0±0.7, **12°.48N**±0°.02×**120°.83E**±0°.03, **h23**km±5km, **n32**, σ1°**91**/47, **mb4.1**/10, **4C-3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.28	94	*e*P	Pb	01 08 35.5	-1.1
SJMP				*e*S	Sb	01 08 40.5	-0.5
BUSP	Coron	0.78	232	*e*P	Pb	01 08 43.6	-1.2
BUSP				*e*S	Sb	01 08 54.3	-0.6
PGP	Puerto Galera	1.02	7	↑*e*P	Pn	01 08 48.6	-0.4
PGP				*i* S	Sn	01 09 03.2	+0.5
OTRP	Odiongan	1.17	96	*e*P	Pn	01 08 50.1	-0.9
OTRP				*e*S	Sn	01 09 07.7	+1.4
LUBP	Lubang	1.37	336	*e*P	Pn	01 08 54.0	+0.3
LUBP				*e*S	Sb	01 09 12.4	+0.3
BOAC	Boac	1.39	45	*e*P	Pn	01 08 54.4	+0.4
BOAC				*e*S	Sb	01 09 12.9	+0.3
TGY	Tagaytay City	1.61	4	P	Pb	01 08 59.0	-0.2
	639nm,0.3s,baz=195,slow=1.9,SNR=81						
TGY				S	Sb	01 09 20.9	+1.7
	431nm,0.3s,baz=208,slow=22,SNR=11						
TGY	Tagaytay City	1.61	4	↑*i* P	Pb	01 08 59.0	-0.2
TGY				*i* S	Sb	01 09 22.3	+3.1
LQP	Lukban	1.76	23	↓*e*P	Pb	01 09 01.8	0.0
ENPP	El Nido	1.87	227	*e*P	Pb	01 09 03.6	+0.2
ENPP				*e*S	Sb	01 09 29.1	+2.7
AUQP	San Andres	1.99	65	*e*P	Pn	01 09 03.6	+1.4
AUQP				*e*S	Sb	01 09 34.4	+4.7
JAP	San Jose, Anti	2.04	147	↓*e*P	Pn	01 09 01.9	-1.1
JAP				*e*S	Sb	01 09 39.1	+7.7
RCP	Roxas	2.09	116	↓*e*P	Pn	01 09 03.2	-0.4
RCP				*e*S	Sn	01 09 29.2	+0.3
GQP	Guinayangan	2.12	48	↑*e*P	Pn	01 09 05.7	+1.7
GQP				*e*S	Sb	01 09 34.2	+0.6
GUIM	Jordan	2.52	137	*e*P	Pn	01 09 09.7	+0.1
GUIM				*e*S	Sn	01 09 40.6	+0.8
BALP	Baler	3.32	13	*e*P	Pn	01 09 22.5	+1.9
PPR	Puerto Princes	3.39	218	↑*e*P	Pn	01 09 22.2	+0.8
PPR				*e*S	Sb	01 10 19.9	+10
CNP	Catarman	3.75	89	*e*P	Pb	01 09 33.0	-2.4
LLP	Lapu-Lapu	3.75	125	*e*P	Pn	01 09 27.2	+0.7
LLP				*e*S	Sb	01 10 19.9	-0.8
BOLP	Bolinao	3.98	347	*e*P	Pb	01 09 35.7	-3.7
PAGZ	Pagadian	5.25	151	*e*P	Pn	01 09 47.3	+0.2
PAGZ				*e*S	Sn	01 10 47.0	+0.1
CMAR	Chiang Mai Arr	21.90	288	P	P	01 13 25.1	+3.4
	0.7nm,0.3s,baz=101,slow=9.3,SNR=8.6						
GUMO	Guam	23.45	85	LR	LR	01 21 03.0	
	comp=Z,66nm,21.9s,baz=144,slow=32						
WRA	Warramunga Arr	34.86	157	P	P	01 15 18.9	-0.8
	3.4nm,0.6s,baz=337,slow=9.5,SNR=22						
SONM	Songino Array	37.26	344	P	P	01 15 39.3	-0.8
	1.3nm,0.7s,baz=162,slow=10,SNR=7.6						
ASAR	Alice Springs	38.13	160	P	P	01 15 47.6	-0.1
	2.5nm,0.5s,baz=340,slow=7.1,SNR=42						
MKAR	Makanchi Array	47.09	324	P	P	01 16 59.5	-0.7
	3.3nm,0.9s,baz=120,slow=7.2,SNR=9.9						
STKA	Stephens Creek	48.39	156	P	P	01 17 08.6	-1.8
	1.0nm,0.7s,baz=349,slow=10,SNR=2.4						
ZALV	Zalesovo Beam	50.19	333	P	P	01 17 24.0	+0.1
	0.6nm,0.3s,baz=124,slow=8.2,SNR=4.8						
BVAR	Borovoye Array	56.85	326	P	P	01 18 12.1	-0.7
	0.6nm,0.6s,baz=116,slow=10,SNR=7.0						
ARCES	ARCESS Array B	80.26	339	P	P	01 20 37.8	-0.9
	2.6nm,0.9s,baz=83,slow=7.4,SNR=4.1						
FINES	FINESS Array B	81.41	331	P	P	01 20 44.9	0.0
	3.1nm,1.0s,baz=341,slow=4.0,SNR=4.7						

*ISCJB **30** 01:12:29.5±0.4, 21°.55S±0°.05×33°.24E±0°.05, h13km, mb4.1/14, Error ellipse: s-maj=7.6km s-min=5.4km az=138.1*
*IDC **30** 01:12:30.4±0.8, 21°.44S×33°.38E, h0km, mb4.0/9, mb1 4.1/13, mb1mx3.9/34, mbtmp4.1/13, ML4.1/4, MS2.8/4, Ms1 2.8/4, ms1mx2.7/37, Error ellipse: s-maj=21.3km s-min=19.3km az=93.0*
*NEIC **30** 01:12:31.7±0.4, 21°.39S×33°.34E, h10km, mb4.4/5, Error ellipse: s-maj=11.6km s-min=8.5km az=155.0*
*PRE **30** 01:12:42.0±2.3, 22°.49S×32°.99E, h5km, ML4.9*
ISC 30 01:12:31.1±0.5, **21°.56S**±0°.07×**33°.39E**±0°.05, **h13**km, **n43**, σ2°**50**/49, **mb4.2**/14, **Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.23	255	*e*P	Pb	01 13 26.3	-1.9
MSNA				*e*S	Sn	01 14 00.8	+0.9
MSNA				AML	AML	01 14 14.0	
	comp=Z,2μm,0.2s						
BLWY	Bulawayo	4.69	287	*i* P	Pn	01 13 41.4	-0.4
BLWY				*i*		01 13 41.6	
	baz=84,slow=12						
BLWY				*i* S	Sn	01 14 31.7	-4.4
POGA	Pongola	6.01	195	*e*P	Pn	01 13 59.5	-0.2
POGA				*e*S	Sn	01 14 51.9	-17
POGA				AML	AML	01 15 56.7	
	comp=Z,387nm,0.5s						
ERPM	east rand prop	6.70	224	*e*P	Pn	01 14 08.5	-0.9
ERPM				*e*S	Sn	01 15 12.2	-14
ERPM				AML	AML	01 16 08.5	
	comp=Z,181nm,0.6s						
WDLM	Western Deep L	7.30	227	*e*P	Pn	01 14 17.6	0.0
WDLM				*e*S	Sn	01 15 29.2	-11
WDLM				AML	AML	01 16 29.0	
	comp=Z,248nm,0.6s						
KSR	Koster	7.33	233	*e*P	Pn	01 14 20.5	+2.5
KSR				*e*S	Sn	01 15 29.4	-12
KSR				AML	AML	01 16 23.2	
	comp=Z,54nm,0.6s						
PRYS	Parys	7.67	225	*e*P	Pn	01 14 24.4	+1.7
PRYS				*e*S	Sn	01 15 36.6	-13
PRYS				AML	AML	01 16 26.1	
	comp=Z,59nm,0.6s						
LBTB	Lobatse	7.95	243	Pn	Pn	01 14 28.4	+1.9
	comp=Z,10nm,0.3s,baz=51,slow=13,SNR=86						
LBTB				Sn	Sn	01 15 53.1	-3.3
	comp=Z,22nm,0.3s,baz=94,slow=16,SNR=6.3						
LBTB				Lg	Lg	01 16 36.7	
	comp=Z,33nm,0.3s,baz=155,slow=23,SNR=19						
LBTB	Lobatse	7.95	243	*e*P	Pn	01 14 28.7	+2.2
LBTB				*e*S	Sn	01 15 46.5	-10
LBTB				AML	AML	01 16 53.9	
	comp=Z,262nm,0.5s						
LSZ	Lusaka	7.96	321	Pn	Pn	01 14 24.0	-2.7
	comp=Z,27nm,0.3s,baz=144,slow=14,SNR=51						
LSZ				Sn	Sn	01 15 45.4	-11
	comp=Z,18nm,0.3s,baz=214,slow=17,SNR=7.3						
LSZ				Lg	Lg	01 16 30.4	
	comp=Z,70nm,0.3s,baz=46,slow=23,SNR=14						
LSZ				LR	LR	01 16 49.6	
	comp=Z,23nm,20.0s,baz=165,slow=33						
SWZ	Schweizer	9.24	231	*e*P	Pn	01 14 45.2	+1.0
SWZ				*e*S	Sn	01 16 17.1	-11
SWZ				AML	AML	01 17 29.2	
	comp=Z,203nm,0.5s						
KSD	Kokstad	9.63	201	*e*P	Pn	01 14 49.5	-0.1
KSD				*e*S	Sn	01 16 20.7	-17
KSD				AML	AML	01 17 28.8	
	comp=Z,18nm,0.6s						
BOSA	Boshof	10.18	225	*i* P	Pn	01 14 58.6	+1.5
BOSA				*i*		01 14 58.7	
	baz=31,slow=16						
BOSA				*i* S	Sn	01 16 45.6	-5.7
BOSA	Boshof	10.18	225	Pn	Pn	01 14 58.6	+1.5
	comp=Z,3.0nm,0.3s,baz=36,slow=12,SNR=73						
BOSA				Sn	Sn	01 16 48.8	-2.5
	comp=Z,6.0nm,0.3s,baz=330,slow=22,SNR=3.8						
BOSA				Lg	Lg	01 17 49.5	
	comp=Z,6.6nm,0.3s,baz=131,slow=20,SNR=2.6						
BOSA				LR	LR	01 19 25.2	
	comp=Z,90nm,21.4s,baz=27,slow=40						
BOSA	Boshof	10.18	225	*e*P	Pn	01 14 55.8	-1.4
BOSA				*e*S	Sn	01 16 36.3	-15
BOSA				AML	AML	01 17 28.6	
	comp=Z,29nm,0.7s						
PKA	Prieska	12.54	228	*e*P	Pn	01 15 29.8	+0.5
PKA				*e*S	Sn	01 17 32.3	-17
PKA				AML	AML	01 18 05.3	
	comp=Z,421nm,0.4s						
UPI	Upington	12.93	236	*e*P	Pn	01 15 36.5	+1.9
UPI				*e*S	Sn	01 17 44.8	-14
UPI				AML	AML	01 18 11.9	
	comp=Z,29nm,0.4s						
SOE	Somerset East	13.11	210	*e*P	Pn	01 15 37.0	-0.1
SOE				*e*S	Sn	01 17 45.6	-17
SOE				AML	AML	01 19 18.0	
	comp=Z,21nm,0.5s						
ABPO	Ambohimpanom	13.22	81	*e*Pn	Pn	01 15 39.8	+1.0
	comp=Z,25nm,0.4s						
ABPO				*e*Sn	Sn	01 17 58.9	-7.0
OPO	Ambohidratompo	13.30	80	Pn	Pn	01 15 39.6	-0.2
	comp=Z,0.7nm,0.3s,baz=259,slow=23,SNR=17						
OPO				Sn	Sn	01 18 01.5	-6.2
	comp=Z,0.9nm,0.3s,baz=294,slow=20,SNR=6.7						
TSUM	Tsumeb	15.01	276	Pn	Pn	01 16 00.4	-2.8
	comp=Z,1.7nm,0.3s,baz=86,slow=12,SNR=33						
TSUM				Sn	Sn	01 18 38.6	-11
	comp=Z,1.1nm,0.3s,baz=72,slow=20,SNR=3.1						
TSUM				Lg	Lg	01 20 14.0	
	comp=Z,2.9nm,0.3s,baz=189,slow=16,SNR=4.0						
TSUM				LR	LR	01 21 32.7	
	comp=Z,130nm,20.6s,baz=143,slow=36						
SUR	Sutherland	15.54	223	Pn	Pn	01 16 11.1	+0.9
	comp=Z,0.2nm,0.3s,baz=60,slow=8.1,SNR=34						
SUR				Sn	Sn	01 18 56.3	-6.0
	comp=Z,0.1nm,0.3s,baz=8.8,slow=18,SNR=5.0						
SUR				Lg	Lg	01 20 36.5	
	comp=Z,0.1nm,0.3s,baz=322,slow=20,SNR=7.1						
SUR				LR	LR	01 22 26.9	
	comp=Z,18nm,18.9s,baz=32,slow=38						
KMBO	Kilima Mbogo	20.65	11	Lg	Lg	01 23 10.8	
	comp=Z,2.9nm,0.7s,baz=84,slow=24,SNR=3.6						
RAYN	Ar Rayn	46.33	15	*e*P	P	01 20 56.6	-0.4
	comp=Z,2.0nm,0.9s						
TORD	Torodi Ar. Bea	46.45	315	P	P	01 20 58.0	0.0
	comp=Z,2.5nm,0.5s,baz=129,slow=6.8,SNR=38						
DBIC	Dimbokro	46.84	303	P	P	01 21 01.1	0.0
	comp=Z,1.5nm,0.4s,baz=112,slow=9.6,SNR=11						
MAW	Mawson	49.61	166	P	P	01 21 23.8	+2.1
	comp=Z,1.3nm,0.3s,baz=321,slow=6.5,SNR=7.9						
SNAA	Sanae	54.26	193	*e*P	P	01 22 00.5	+4.0
KBZ	Khabaz	65.55	8	P	P	01 23 15.9	+1.8
	comp=Z,1.3nm,0.8s,baz=117,slow=4.5,SNR=2.3						
ESDC	Sonseca Array	70.20	330	P	P	01 23 44.6	+1.0
	comp=Z,0.8nm,0.8s,baz=148,slow=5.9,SNR=4.4						
GERES	GERESS Array B	72.26	346	P	P	01 23 56.9	+0.9
	comp=Z,0.1nm,0.5s,baz=198,slow=5.2,SNR=3.0						
AAK	Ala-Archa	74.27	30	*e*P	P	01 24 07.3	-0.8
	comp=Z,5.1nm,1.2s						
ABKAR	Akbulak array	74.36	18	*e*P	P	01 24 08.7	+0.5
	comp=Z,0.3nm,0.4s						
BDFB	Brasilia	76.59	258	P	P	01 24 24.7	+2.7
	comp=Z,5.7nm,0.6s,baz=180,slow=2.0,SNR=9.3						
BVAR	Borovoye Array	80.91	22	P	P	01 24 45.6	+0.9
	comp=Z,0.2nm,0.5s,baz=224,slow=6.0,SNR=2.7						
KURK	Kurchatov	82.25	27	*e*P	P	01 24 52.0	+0.1
	comp=Z,6.2nm,0.5s						
KAPI	Kappang	84.80	93	*e*P	P	01 25 06.4	+0.5
	comp=Z,4.4nm,1.0s						
ASAR	Alice Springs	90.57	116	P	P	01 25 34.7	+1.1
	comp=Z,0.3nm,0.5s,baz=240,slow=4.9,SNR=3.1						
CBKS	Cedar Bluff	136.49	304	*e*PKPdf	PKPdf	01 31 53.2	+0.1
TXAR	Lajitas Array	140.63	290	PKhKP	PKPpre	01 31 58.3	
	comp=Z,0.5nm,1.1s,baz=114,slow=4.0,SNR=2.7						
MFID	Camas Ranch	146.40	318	*e*PKPbc	PKPab	01 32 14.6	+1.7
TUC	Tucson	146.46	296	*e*PKPbc	PKPab	01 32 14.9	+1.5
BMO	Blue Mountains	146.53	321	*e*PKPbc	PKPab	01 32 13.9	+0.6

*ISCJB **30** 01:18:24.2±0.7, 6°.85N±0°.03×73°.15W±0°.05, h153km±5km, mb2.8/1, Error ellipse: s-maj=7.8km s-min=5.5km az=172.0*
*RSNC **30** 01:18:25.9±1.0, 6°.82N×73°.17W, h145km±5km, ML3.5*
*IDC **30** 01:18:29.2±5.8, 6°.49N×73°.54W, h191km±35km, mb2.7/1, mb1 3.2/1, mb1mx2.7/21, mbtmp3.2/1, Error ellipse: s-maj=113.0km s-min=40.4km az=71.0*
ISC 30 01:18:24.1±1.1, **6°.84N**±0°.04×**73°.12W**±0°.06, **h155**km±7km, **n24**, σ0°**81**/37, **2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	Betulia, Santa	0.17	297	*e*P	Pn	01 18 45.7	+0.5
BARC	Barichara	0.26	195	*i* P	Pn	01 18 45.5	0.0
BARC				*e*S	Sn	01 19 00.1	-1.6
BARC				*i*		01 19 01.4	
	comp=Z,624nm,0.3s						
PAMC	Pamplona, Colo	0.65	40	*i* P	Pn	01 18 48.3	+0.9
PAMC				*e*S	Sn	01 19 05.2	0.0
BRRC	Barranca, Sant	0.65	294	↓*i* P	Pn	01 18 47.3	+0.4
BRRC				*e*S	Sn	01 19 04.1	0.0
BRRC				*i*		01 19 08.9	
	comp=Z,414nm,0.2s						
RUSC	La Rusia	0.94	178	↑*i* P	Pn	01 18 49.5	0.0
RUSC				*e*S	Sn	01 19 07.8	-1.1
RUSC				*i*		01 19 09.8	
	comp=Z,298nm,0.3s						
OCAC	Ocana	1.40	352	*e*P	Pn	01 18 53.9	+0.6
OCAC				*e*S	Sn	01 19 15.8	+0.1
OCAC				*i*		01 19 18.9	
	comp=Z,380nm,0.2s						
YOPC	Yopal, Colombi	1.63	155	↑*i* P	Pn	01 18 56.3	+0.7
YOPC				*i*		01 18 56.6	
	comp=Z,146nm,0.4s						
YOPC				*e*S	Sn	01 19 20.1	+0.3
ZARC	Zaragoza, Cauc	1.84	291	*e*P	Pn	01 18 58.0	+0.2
ZARC				*e*S	Sn	01 19 22.7	-1.0
ZARC				*i*		01 19 29.1	
	comp=Z,370nm,0.7s						
NORC	Norcasia	2.15	234	*e*P	Pn	01 19 01.3	-0.1
NORC				*e*S	Sn	01 19 29.8	-0.4
ROSC	El Rosal	2.32	211	P	Pn	01 19 05.5	+1.8
	comp=Z,24nm,0.3s,baz=74,slow=19,SNR=55						
ROSC				S	Sn	01 19 34.0	-0.2
	comp=Z,73nm,0.3s,baz=348,slow=23,SNR=29						
ROSC	El Rosal	2.32	211	*e*S	Sn	01 19 34.1	-0.1
ROSC				*i*		01 19 40.0	
	comp=Z,333nm,0.4s						
HELC	Santa Helena	2.48	255	*e*P	Pn	01 19 05.4	-0.2
HELC				*e*S	Sn	01 19 37.6	0.0
HELC				*i*		01 19 44.6	
	comp=Z,184nm,0.4s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	01 19 08.8	-0.2
VILC				*e*S	Sn	01 19 43.3	-0.4
GUYC	Guyana, Colomb	2.77	235	*e*P	Pn	01 19 09.8	+0.5
GUYC				*e*S	Sn	01 19 43.7	-0.5
GUYC				*i*		01 19 52.5	
	comp=Z,183nm,0.4s						
DBBC	Dabeiba	3.08	273	*e*P	Pn	01 19 13.8	+1.1
TOLC	Tolima	3.13	224	*e*P	Pn	01 19 14.9	+1.1
MOTC	Monteria, Cord	3.17	307	↓*i* P	Pn	01 19 12.8	-1.2
MOTC				*e*S	Sn	01 19 51.0	-1.5
PRAC	Prado	3.57	210	*e*P	Pn	01 19 19.0	-0.1
SJCC	San Jacinto, C	3.66	326	↓*i* P	Pn	01 19 19.9	-0.3
SJCC				*i*		01 20 05.0	
	comp=Z,65nm,0.4s						
PLMC	San Jos¨ del	3.69	239	*e*P	Pn	01 19 21.4	+0.8
GUVC	San Jose del G	4.30	173	*e*P	Pn	01 19 27.4	-1.0
CAPC	Capurgana	4.56	293	*e*P	Pn	01 19 32.9	+1.0
TXAR	Lajitas Array	36.45	312	P	P	01 25 15.3	+0.9
	comp=Z,0.1nm,0.4s,baz=127,slow=8.3,SNR=4.5						
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	01 37 57.2	-1.0
	comp=Z,0.2nm,0.5s,baz=102,slow=2.6,SNR=4.4						

DDA 30 01:20:17.4, 39°.15N×35°.95E, h16km, Md3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUALT	Altinyayla-SIV	0.64	78	*i* P	Pg	01 20 29.8	-0.3
CUALT				*i* S	Sb	01 20 39.9	+0.8
CUKAN	kangal_SIVAS	1.19	81	*i* P	Pb	01 20 39.6	0.0
CUKAN				*i* S	Sg	01 20 57.0	+1.0
CDAG	Cicekdag	1.31	292	*i* P	Pg	01 20 42.2	-0.5
CDAG				*i* S	Sg	01 21 00.3	+0.6
KEMA	Kemaliye	1.98	86	*i* P	Pb	01 20 52.8	-0.3
KEMA				*i* S	Sb	01 21 17.6	+0.1

*CSEM **30** 01:20:49.9, 35°.80N×30°.96E, h11km, ML2.6*
*ISK **30** 01:20:49.9, 35°.80N×30°.96E, h11km, ML2.6*
*ISCJB **30** 01:20:52.0±1.9, 35°.76N±0°.07×30°.99E±0°.03, h30km±21km, Error ellipse: s-maj=11.1km s-min=4.1km az=10.0*
ISC 30 01:20:50.2±1.4, **35°.80N**±0°.05×**30°.99E**±0°.02, **h11**km±10km, **n50**, σ0°**91**/66, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	1.13	346	*e*PN	Pn	01 21 12.0	+0.1
ANTB				*e*SN	Sn	01 21 27.8	+0.4
ANTB	Antalya	1.13	346	*e*Pn	Pn	01 21 12.0	+0.1
ANTB				*e*Sn	Sn	01 21 27.8	+0.4
AKAS	Kas	1.20	291	*e*PN	Pg	01 21 13.3	0.0
AKAS				*e*SN	Sn	01 21 29.5	+0.1
AKAS	Kas	1.20	291	*i* P	Pg	01 21 13.1	-0.2
AKAS				*i* S	Sn	01 21 32.0	+2.6
AKAS	Kas	1.20	291	*e*Pn	Pg	01 21 13.3	0.0
AKAS				*e*Sn	Sn	01 21 29.5	+0.1
ELL	Elmali	1.29	318	*e*PN	Pb	01 21 14.0	-0.5
ELL	Elmali	1.29	318	*e*Pn	Pb	01 21 14.0	-0.5
KORT	Korkueli	1.30	337	*e*PN	Pb	01 21 14.3	-0.5
KORT				*e*SN	Sg	01 21 32.8	+0.6
KORT	Korkueli	1.30	337	*i* P	Pn	01 21 14.2	-0.3
KORT				*i* S	Sg	01 21 33.2	+1.0
KORT	Korkueli	1.30	337	*e*Pn	Pb	01 21 14.3	-0.5
KORT				*e*Sn	Sg	01 21 32.8	+0.6
BCK	Bucak	1.69	349	*e*PN	Pn	01 21 20.0	+0.3
BCK	Bucak	1.69	349	*e*Pn	Pn	01 21 20.0	+0.3
LEF	Lefka	1.69	113	*e*PN	Pn	01 21 19.9	+0.2
LEF	Lefka	1.69	113	*e*Pn	Pn	01 21 19.9	+0.2
FETY	Fethiye	1.75	299	*e*PN	Pb	01 21 21.2	-1.2
FETY	Fethiye	1.75	299	*e*Pn	Pb	01 21 21.2	-1.2
TEKE	Tekeli-Mersin	1.76	78	*e*PN	Pn	01 21 20.9	+0.4
TEKE				*e*SN	Sb	01 21 44.4	0.0
TEKE	Tekeli-Mersin	1.76	78	*e*Pn	Pn	01 21 20.9	+0.4
TEKE				*e*Sn	Sb	01 21 44.4	0.0

URZ S **S** **01 52 50.7 +4.0**
BKZ Black Stump Fm 23.78 196 *e*P **P** **01 49 11.0 +1.2**
7.7nm,0.5s
BFZ Birch Farm 25.27 195 *e*P **P** **01 49 23.0 -0.2**
85nm,1.5s
THZ Tophouse 27.22 199 *e*P **P** **01 49 41.0 +0.4**
12nm,0.9s
OXZ Oxford 28.91 199 *e*P **P** **01 49 53.6 -1.8**
16nm,0.6s
RPZ Rata Peaks 29.57 200 P **P** **01 49 59.4 -1.9**
7.5nm,0.5s,baz=45,slow=4.3,SNR=3.1
FOZ Fox Glacier 29.83 202 *e*P **P** **01 50 01.1 -2.4**
89nm,1.8s
MLZ Mavora Lakes 32.03 202 *e*P **P** **01 50 23.1 +0.3**
70nm,1.5s
EIDS Eidsvold 32.44 248 *e*P **P** **01 50 26.1 -0.5**
5.6nm,0.5s
WHZ Wether Hill Ro 32.54 202 *e*P **P** **01 50 28.8 +1.6**
43nm,0.5s
ARMA Armidale 33.14 239 *e*P **P** **01 50 33.2 +0.5**
24nm,0.6s
CTAO Charters Tower 36.49 258 *e*P **P** **01 51 00.5 -0.7**
36nm,0.8s
CAN Canberra 36.87 232 *e*P **P** **01 51 04.6 +0.4**
18nm,0.7s
PMG Port Moresby 37.04 276 *e*P **P** **01 51 06.5 +0.7**
23nm,0.9s
COEN Coen 39.95 268 *e*P **P** **01 51 29.8 -0.1**
21nm,0.8s
STKA Stephens Creek 41.84 240 P **P** **01 51 45.4 +0.3**
14nm,0.7s,baz=93,slow=8.5,SNR=25
STKA PcP **PcP** **01 53 34.6 -0.2**
1.3nm,0.6s,baz=61,slow=4.4,SNR=4.0
STKA Stephens Creek 41.84 240 *e*P **P** **01 51 45.5 +0.5**
3.0nm,0.7s
STKA PcP **PcP** **01 53 34.6 -0.2**
BBOO Buckleboo 46.61 240 *e*P **P** **01 52 22.2 -0.4**
14nm,0.4s
WB2 Warramunga Arr 47.68 258 *e*P **P** **01 52 30.0 -1.1**
9.3nm,0.6s
WRAB Tennant Creek 47.68 258 *e*P **P** **01 52 30.0 -1.0**
7.5nm,0.6s
WRA Warramunga Arr 47.69 258 P **P** **01 52 30.4 -0.7**
5.9nm,0.4s,baz=92,slow=7.5,SNR=109
WRA PcP **PcP** **01 53 54.9 -0.5**
3.4nm,0.6s,baz=88,slow=3.8,SNR=9.7
AS31 Alice Springs 47.92 253 *e*P **P** **01 52 32.4 -0.5**
18nm,0.6s
ASAR Alice Springs 47.92 253 P **P** **01 52 32.8 -0.1**
68nm,0.5s,baz=88,slow=8.1,SNR=1173
ASAR PcP **PcP** **01 53 55.5 -0.7**
3.3nm,0.7s,baz=100,slow=4.3,SNR=6.4
ASAR S **S** **01 59 05.5 -1.8**
0.6nm,0.9s,baz=89,slow=14,SNR=4.2
MTN Manton Dam 51.68 266 *e*P **P** **01 53 01.0 0.0**
16nm,0.7s
FORT Forrest 53.21 244 *e*P **P** **01 53 11.0 -1.0**
201nm,0.6s
SOEI Soe 58.91 268 *e*P **P** **01 53 54.4 +1.9**
40nm,0.9s
MBWA Marble Bar 61.19 255 *e*P **P** **01 54 07.7 0.0**
24nm,0.7s
SBA Scott Base 62.14 184 *e*P **P** **01 54 15.3 +2.4**
8.1nm,0.8s
VNDA Vanda 62.23 185 P **P** **01 54 14.3 +0.8**
3.4nm,0.9s,baz=10.0,slow=6.0,SNR=17
VNDA Vanda 62.23 185 *e*P **P** **01 54 15.2 +1.7**
5.4nm,0.9s
KKM Kota Kinabalu 71.13 282 *e*P **P** **01 55 10.7 0.0**
PETK Petropavlovsk- 72.96 343 P **P** **01 55 20.1 -0.5**
3.9nm,0.8s,baz=98,slow=8.9,SNR=5.7
QSPA South Pole Qui 73.68 180 *e*P **P** **01 55 25.1 +0.3**
CMB Columbia Colle 74.80 42 *e*P **P** **01 55 31.7 +0.2**
4.7nm,1.1s
AFDM Forest Hills D 74.96 41 *e*P **P** **01 55 32.9 +0.5**
5.8nm,1.1s
PFO Pinyon Flats O 75.03 48 *e*P **P** **01 55 33.9 +0.8**
5.0nm,1.1s
XPFO Piæon Flat 75.04 48 *e*P **P** **01 55 33.9 +0.8**
4.9nm,1.0s
KSM Kuching 75.30 276 *e*P **P** **01 55 34.2 -0.7**
16nm,1.1s
YBH Yreka Blue Hor 75.57 38 *e*P **P** **01 55 36.7 +0.8**
4.4nm,1.0s
GSC Goldstone, Bar 75.68 46 *e*P **P** **01 55 36.6 0.0**
11nm,1.4s
WAKR Walker 75.68 42 *e*P **P** **01 55 36.2 -0.6**
4.0nm,0.8s
PNTR Pine Nut 75.91 42 *e*P **P** **01 55 38.6 +0.5**
10.0nm,0.9s
YERR Yerington 76.08 42 *e*P **P** **01 55 39.3 +0.3**
7.1nm,1.0s
LDFC Landfair 76.75 47 *e*P **P** **01 55 43.5 +0.8**
20nm,1.1s
TPNV Topopah Spring 76.94 45 *e*P **P** **01 55 43.9 +0.1**
5.0nm,0.8s
MOD Modoc Plateau 77.11 39 *e*P **P** **01 55 44.8 +0.2**
12nm,1.4s
SHPR Sheep Range 77.45 46 *e*P **P** **01 55 47.2 +0.6**
3.1nm,0.9s
BMN Battle Mountai 78.18 42 *e*P **P** **01 55 50.9 +0.4**
4.5nm,0.8s
WVOR Wild Horse Val 78.43 39 *e*P **P** **01 55 52.1 +0.3**
6.9nm,1.0s
TUC Tucson 78.54 51 *e*P **P** **01 55 53.4 +0.9**
3.0nm,0.8s
J08A Circle Bar Ran 79.05 39 *e*P **P** **01 55 55.2 +0.1**
11nm,1.3s
U15A North Rim 79.41 47 *e*P **P** **01 55 58.2 +0.8**
MA2 Magadan 80.50 343 P **P** **01 56 00.7 -1.5**
11nm,0.9s,baz=115,slow=17,SNR=2.7
BMO Blue Mountains 80.59 38 *e*P **P** **01 56 03.1 -0.1**
14nm,1.6s
MFID Camas Ranch 80.69 40 *e*P **P** **01 56 04.1 +0.2**
3.6nm,1.0s
DUG Dugway, Tooele 80.92 44 *e*P **P** **01 56 05.2 0.0**
4.1nm,1.2s
D08A Wollman Farm, 80.94 35 *e*P **P** **01 56 05.1 +0.2**
6.1nm,1.0s
TMUT Trail Mountain 81.55 45 *e*P **P** **01 56 09.6 +0.9**
7.5nm,0.9s
HLID Hailey 81.64 40 *e*P **P** **01 56 09.2 +0.3**
3.7nm,0.7s
SPUT South Promonto 81.72 43 *e*P **P** **01 56 10.1 +0.7**
8.9nm,1.3s
HVU Hansel Valley 81.75 42 *e*P **P** **01 56 09.7 +0.2**
3.7nm,0.7s
SRU San Rafael Swe 81.93 45 *e*P **P** **01 56 11.0 +0.5**
7.9nm,0.9s
JLU Jordanelle 82.03 44 *e*P **P** **01 56 11.7 +0.6**
4.7nm,0.9s
TCUT Toone Canyon 82.31 43 *e*P **P** **01 56 12.9 +0.4**
56nm,0.9s
MNTX Cornudas Mount 82.39 54 *e*P **P** **01 56 13.1 +0.2**
13nm,1.8s
PV05 Paradox Valley 82.43 47 *e*P **P** **01 56 14.0 +0.8**
HWUT Hardware Ranch 82.44 43 *e*P **P** **01 56 12.9 -0.2**
4.3nm,0.8s
MCK McKinley 82.45 12 *e*P **P** **01 56 11.1 -1.4**
7.1nm,0.9s
PV09 Paradox Valley 82.60 46 *e*P **P** **01 56 14.5 +0.4**
TXAR Lajitas Array 82.80 57 P **P** **01 56 15.3 +0.2**
0.8nm,0.8s,baz=222,slow=6.8,SNR=8.5
PV01 Paradox Valley 82.83 47 *e*P **P** **01 56 15.3 +0.1**
ANMO Albuquerque 82.94 51 *e*P **P** **01 56 15.9 +0.1**
3.7nm,1.0s
SEY Seymchan 82.94 346 P **P** **01 56 14.3 -0.6**
6.1nm,0.8s,baz=136,slow=6.9,SNR=8.0
MCMT McKenzie Canyo 83.25 40 *e*P **P** **01 56 17.1 -0.2**
WRH Wood River Hil 83.28 12 *e*P **P** **01 56 16.0 -0.6**
MLY Manley 83.31 10 *e*P **P** **01 56 15.9 -0.9**
8.5nm,1.1s
CCB Clear Creek Bu 83.49 12 *e*P **P** **01 56 16.6 -1.1**
9.7nm,0.8s
COLA College 83.69 11 *e*P **P** **01 56 17.1 -1.4**
17nm,0.8s
MDM Murphy Dome 83.69 11 *e*P **P** **01 56 17.9 -0.8**
14nm,1.2s
TPAW Teton Pass 83.77 41 *e*P **P** **01 56 19.4 -0.5**
5.7nm,0.8s
REDW Red Top Meadow 83.77 42 *e*P **P** **01 56 19.6 -0.2**
8.1nm,1.0s
ILAR Eielson Array 83.78 12 P **P** **01 56 18.1 -1.1**
3.3nm,0.5s,baz=219,slow=5.5,SNR=79
ILB Eielson Array 83.78 12 *e*P **P** **01 56 18.1 -1.1**
FXWY Fox Creek 83.79 41 *e*P **P** **01 56 20.3 +0.3**
3.2nm,1.0s
SNOW Snow King Moun 83.88 41 *e*P **P** **01 56 20.9 +0.5**
9.8nm,1.0s
IMW Indian Meadow 83.97 41 *e*P **P** **01 56 21.0 0.0**
6.8nm,0.9s
YHB Horse Butte 84.23 40 *e*P **P** **01 56 23.1 +0.9**
6.0nm,1.0s
PD31 Pinedale Array 84.31 42 *e*P **P** **01 56 22.1 -0.5**
PDAR Pinedale Array 84.31 42 P **P** **01 56 22.0 -0.6**
3.1nm,0.9s,baz=211,slow=3.6,SNR=20
BOZ Bozeman (W) 84.39 39 *e*P **P** **01 56 22.6 -0.2**
15nm,2.0s
SMCO Snowmass 84.41 47 *e*P **P** **01 56 23.3 -0.1**
3.0nm,0.8s
YHH Holmes Hill 84.47 40 *e*P **P** **01 56 25.5 +2.1**
11nm,1.6s
DAWY Dawson 84.85 15 *e*P **P** **01 56 24.4 -0.1**
COLD Coldfoot 85.41 10 *e*P **P** **01 56 26.7 -0.5**
5.2nm,1.0s
MAW Mawson 86.24 199 P **P** **01 56 31.4 +0.1**
7.8nm,0.7s,baz=133,slow=6.4,SNR=30
MAW Mawson 86.24 199 *e*P **P** **01 56 31.6 +0.2**
2.1nm,0.8s
PSI Prapat 86.57 274 *e*P **P** **01 56 33.8 -0.4**
HHC Hu-ho-hao-te 88.23 313 *e*P **P** **01 56 42.5 +1.0**
HHC pmax pmax
comp=Z,36nm,1.2s
HHC pmax pmax
comp=Z,71nm,4.9s
KMI Kunming 89.66 296 P **P** **01 56 50.0 +1.4**
KMI pmax pmax
comp=Z,18nm,0.5s
CMAR Chiang Mai Arr 91.04 289 P **P** **01 56 55.9 +1.0**
comp=Z,2.2nm,0.7s,baz=104,slow=2.2,SNR=9.4
CHTO Chiang Mai 91.14 289 *e*P **P** **01 56 55.6 +0.3**
comp=Z,4.5nm,0.7s
SNAA Sanae 92.04 178 *e*P **P** **01 56 57.7 -0.9**
comp=Z,140nm,0.9s
SONM Songino Array 94.24 319 P **P** **01 57 08.7 -0.4**
comp=Z,0.5nm,0.6s,baz=100,slow=7.9,SNR=3.0
KSH Kashi 114.45 306 *e*PKP PKPdf 02 02 23.0 -5.5
KSH PP **PP** **02 03 32.0 +2.0**
KSH sPKP 02 04 25.8
KSH PKS **PKSdf** **02 05 59.8 -5.4**
KSH SKS SKSdf 02 09 00.3 -11
KSH SKKS SKKSac 02 09 47.0 -13
BVAR Borovoye Array 117.41 322 PKP **PKPdf** **02 02 32.4 -1.2**
comp=Z,2.5nm,0.6s,baz=110,slow=1.3,SNR=11
BRVK Borovoye 117.47 322 *e*PKPdf **PKPdf** **02 02 32.2 -1.5**
ARU Arti 123.10 328 PKP **PKPdf** **02 02 42.1 -2.3**
comp=Z,4.4nm,0.5s,baz=39,slow=0.9,SNR=7.3
ARU Arti 123.10 328 *e*PKPdf **PKPdf** **02 02 43.0 -1.4**
ABKAR Akbulak array 124.65 319 *e*PKPdf **PKPdf** **02 02 46.1 -1.5**
ARCES ARCESS Array B 125.27 351 PKP **PKPdf** **02 02 47.0 -1.2**
comp=Z,1.9nm,0.5s,baz=1.9,slow=1.4,SNR=13
BOSA Boshof 131.00 204 PKP **PKPdf** **02 02 59.7 -0.9**
comp=Z,2.9nm,1.0s,baz=200,slow=7.3,SNR=4.3
FINES FINESS Array B 132.43 346 PKP **PKPdf** **02 03 01.9 -0.1**
comp=Z,1.5nm,0.6s,baz=24,slow=5.2,SNR=5.7
HFS Hagfors 135.79 353 PKhKP PKPpre 02 02 54.6
comp=Z,1.6nm,0.7s,baz=29,slow=3.3,SNR=3.3
AKASG Malin Array Be 140.42 335 PKhKP PKPpre 02 03 08.4
comp=Z,0.3nm,0.3s,baz=34,slow=3.2,SNR=3.4
LSZ Lusaka 140.84 218 *e*PKPdf **PKPdf** **02 03 18.7 -0.4**
KMBO Kilima Mbogo 143.33 245 PKP PKPab 02 03 21.7 +1.2
comp=Z,8.8nm,0.8s,baz=79,slow=5.2,SNR=33
IAS Iasi 143.84 333 ⇓*i*P **PKPdf** **02 03 25.1 +1.8**
STHS Stebnicka Huta 144.34 341 *e*PKP **PKPab** **02 03 23.0 -0.1**
BURAR Bucovina Array 144.47 336 ⇓*i*P **PKPab** **02 03 23.3 -0.5**
CLL Collm 144.49 351 ⇓*i*PKPbc **PKPab** **02 03 22.6 -1.0**
comp=Z,9.0nm,0.8s
UPC Upice 144.71 347 *i* PKP PKPbc 02 03 24.0 -0.4
CRVS Cervenica-Dubn 144.73 341 *e*PKP PKPbc 02 03 24.4 -0.1
BRG Berggiesshubel 144.75 350 *i* P PKPbc 02 03 23.3 -1.2
comp=Z,8.4nm,0.9s
TESR Tescani 144.76 333 ⇓*i*P PKPbc 02 03 24.2 -0.5
TLCR 144.77 330 ⇑*i*P PKPbc 02 03 24.4 -0.3
DPC Dobruska-Polom 144.79 347 *i* PKP PKPbc 02 03 24.6 -0.1
DPC *e*pPKP pPKPdf 02 04 48.1 +7.7
OKC Ostrava-Krasne 144.84 345 *e*PKP PKPbc 02 03 23.9 -0.9
KRLC Kraliky 144.94 346 *e*PKP PKPbc 02 03 24.8 -0.4
PVCC Panska Ves 144.97 349 *i* PKP PKPbc 02 03 24.8 -0.4
MORC Moravsky Berou 145.04 345 ⇓*i*P **PKPdf** **02 03 25.4 0.0**
MORC Moravsky Berou 145.04 345 *e*PKPdf **PKPdf** **02 03 25.0 -0.4**
BMR Baia Mare 145.08 337 ⇓*i*P **PKPdf** **02 03 24.3 -1.2**
CFR Carcaliu 145.10 330 ⇑*i*P **PKPdf** **02 03 25.0 -0.5**
LANS Liptovska Anna 145.11 343 *e*PKP **PKPdf** **02 03 26.2 +0.7**
VRI Vrincioaia 145.23 332 ⇑*i*P **PKPdf** **02 03 25.1 -0.7**
ARCR ARCALIA 145.25 336 ⇓*i*P **PKPdf** **02 03 26.2 +0.4**
PLOR Plostina 145.27 332 ⇑*i*P **PKPdf** **02 03 26.0 +0.1**
KECS Kecovo 145.40 341 *e*PKP **PKPdf** **02 03 26.8 +0.8**
PRA Prague 145.44 349 *e*PKP **PKPdf** **02 03 26.2 +0.2**
PRU Pruhonice 145.50 349 *i* PKP **PKPdf** **02 03 26.2 +0.1**
GOPC GO Pecny, Ondr 145.52 348 *e*PKP **PKPdf** **02 03 26.2 0.0**
BRTR Keskin Array B 145.60 318 PKPbc **PKPdf** **02 03 27.1 +0.2**
comp=Z,5.7nm,0.6s,baz=132,slow=4.6,SNR=38
NKC Novy Kostel 145.62 351 *e*PKP **PKPdf** **02 03 26.8 +0.5**
VRAC Vranov 145.71 346 PKPbc **PKPdf** **02 03 27.4 +0.9**
comp=Z,1.0nm,0.3s,baz=355,slow=5.4,SNR=4.3
VRAC Vranov 145.71 346 ⇓*i*P **PKPdf** **02 03 27.4 +0.9**
DOPR Dopca 145.73 334 ⇓*i*P **PKPdf** **02 03 26.3 -0.4**
MEM Membach 145.82 358 PKPbc **PKPdf** **02 03 27.3 +0.6**
MLR Muntele Rosu 145.86 333 PKPbc **PKPdf** **02 03 28.5 +1.4**
comp=Z,0.9nm,0.5s,baz=88,slow=16,SNR=7.0
VYHS Vyhne 145.88 343 *e*PKP **PKPdf** **02 03 27.8 +1.0**
SNF Seneffe 145.94 0 PKPbc **PKPdf** **02 03 26.6 -0.2**
SNF Seneffe 145.94 0 PKPab **PKPdf** **02 03 27.8 +1.0**
TREC Trest 145.97 347 *e*PKP **PKPdf** **02 03 27.8 +0.8**
BCLA Clavier 146.03 359 PKPab **PKPdf** **02 03 28.7 +1.7**
ANTO Ankara 146.05 319 *e*PKPbc **PKPdf** **02 03 28.6 +1.1**
PSZ Piszkesteto 146.09 341 ⇓*i*P **PKPbc** **02 03 29.2 +0.5**
PSZ Piszkesteto 146.09 341 *e*PKPbc **PKPdf** **02 03 28.2 +0.9**
DRGR 146.11 337 ⇓*i*P **PKPdf** **02 03 28.2 +0.8**
GRFO Grafenberg 146.32 352 *e*PKPbc **PKPdf** **02 03 28.5 +1.0**
DOU Dourbes 146.35 360 PKPbc **PKPdf** **02 03 28.6 +1.1**
DOU PKPab **PKPbc** **02 03 30.1 +0.8**
KHC Kasperske Hory 146.50 349 *i* PKP **PKPdf** **02 03 29.3 +1.4**
KHC Kasperske Hory 146.50 349 *e*PKPbc **PKPdf** **02 03 29.1 +1.2**
GERES GERESS Array B 146.75 349 PKPbc **PKPdf** **02 03 29.9 +1.5**
comp=Z,1.2nm,0.5s,baz=30,slow=3.1,SNR=16
WLF Walferdange 146.76 358 PKPbc **PKPdf** **02 03 28.9 +0.7**
WLF PKPab **PKPbc** **02 03 30.5 0.0**
WLF Walferdange 146.76 358 *e*PKPbc **PKPdf** **02 03 30.2 +2.0**
SIRR Siria 146.94 338 ⇑*i*P **PKPbc** **02 03 31.1 0.0**
CONA Conrad Observa 147.17 346 *i* PKPbc **PKPdf** **02 03 31.4 +2.3**
comp=Z,15nm,1.6s,SNR=6.6
STU Stuttgart 147.46 354 *e*PKPbc **PKPdf** **02 03 31.6 +2.2**
MOA Molln 147.59 348 *i* PKPbc **PKPdf** **02 03 32.4 +2.6**
comp=Z,7.3nm,1.0s
SRE Strehaia 147.69 335 ⇑*i*P **PKPbc** **02 03 33.2 0.0**
ARSA Arzberg 147.89 346 *i* PKPbc **PKPdf** **02 03 32.5 +2.2**
comp=Z,5.4nm,1.1s
KBA Koelnbreinsper 148.51 348 *i* PKPbc **PKPdf** **02 03 34.5 +3.0**
comp=Z,4.0nm,0.6s
SOKA Soboth 148.54 346 *i* PKPbc **PKPdf** **02 03 33.8 +2.4**
comp=Z,9.9nm,1.5s
RETA Reutte 148.54 352 *i* PKPbc **PKPbc** **02 03 34.9 -0.5**
comp=Z,6.3nm,0.9s
PERS Pernice 148.56 346 *i* P **PKPdf** **02 03 34.1 +2.7**
WATA Walderalm 148.57 351 *i* PKPbc **PKPdf** **02 03 34.6 +3.1**
comp=Z,2.7nm,0.5s
WTTA Wattenberg 148.63 351 *i* PKiKP **PKPbc** **02 03 35.4 -0.3**
comp=Z,7.2nm,0.5s
MOTA Moosalm 148.63 351 *i* PKPbc **PKPdf** **02 03 34.6 +2.9**
comp=Z,9.9nm,1.2s
OBKA Obir 148.81 347 *i* PKiKP **PKPbc** **02 03 36.2 +0.1**
comp=Z,3.5nm,0.7s
DAVA Damuels 148.85 353 *i* PKPbc **PKPbc** **02 03 35.6 -0.7**
comp=Z,13nm,1.1s
MYKA Terra Mystica 148.89 348 *i* PKPbc **PKPdf** **02 03 34.9 +2.9**
comp=Z,5.7nm,0.5s
ABTA Abfaltersbach 148.99 349 *i* PKPbc **PKPbc** **02 03 35.5 -1.0**
comp=Z,10nm,0.7s,SNR=5.5
FETA Feichten 149.00 352 *i* PKiKP **PKPbc** **02 03 36.7 +0.1**
comp=Z,10nm,0.8s
DAVOX Davos/Dischmat 149.35 353 PKPbc **PKPbc** **02 03 37.2 -0.3**
comp=Z,14nm,0.8s,baz=272,slow=2.1,SNR=21
VTS Vitosha 149.36 332 ⇑*i*P **PKPbc** **02 03 37.1 -0.6**
VISS Visnje 149.41 346 *i* P **PKPbc** **02 03 36.6 -0.9**
BOJS Bojanci 149.59 345 *e*P **PKPbc** **02 03 37.5 -0.4**
TUE Stuetta 149.71 353 *e*PKPbc **PKPbc** **02 03 37.7 -0.8**
PDG Podgorica 151.12 337 ⇑*i*P **PKPbc** **02 03 40.5 -1.1**
SSB Saint Sauveur 151.17 360 *e*PKPbc **PKPbc** **02 03 41.5 -0.2**
BNI Bardonecchia 151.34 357 *e*PKPbc **PKPbc** **02 03 42.1 -0.1**
AQU L'Aquila 153.00 345 *e*PKPbc **PKPbc** **02 03 45.5 -0.4**
ESDC Sonseca Array 155.62 16 PKPab **PKPab** **02 04 09.2 -0.5**
comp=Z,1.3nm,0.7s,baz=321,slow=4.0,SNR=9.0
TAM Tamanrasset 173.54 352 *e*PKPdf **PKPdf** **02 03 57.9 -0.3**
TORD Torodi Ar. Bea 175.78 139 PKP **PKPdf** **02 03 57.2 -1.6**
comp=Z,2.1nm,0.9s,baz=289,slow=4.4,SNR=4.9
TORD PKPab **PKPab** **02 05 38.0 -0.9**
comp=Z,1.6nm,0.9s,baz=245,slow=4.3,SNR=5.9

IDC 30 01:53:07.6±15.0, 29°.38N×140°.27E, h133km±90km, mb3.7/5, mb1 3.7/6, mb1mx3.2/47, mbtmp4.0/6, Error ellipse: s-maj=151.9km s-min=110.9km az=158.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.35**	**347**	P		Pn		01 54 52.0	-0.3
	0.3nm,0.3s,baz=156,slow=13,SNR=4.3								
KLR	**Kul'dur**	**20.87**	**344**	P		P		01 57 39.0	+0.2
	0.2nm,0.6s,baz=148,slow=8.6,SNR=7.6								
BVAR	**Borovoye Array**	**55.23**	**316**	P		P		02 02 26.4	-0.1
	0.6nm,0.5s,baz=102,slow=7.5,SNR=4.1								
ARCES	**ARCESS Array B**	**70.83**	**340**	P		P		02 04 09.9	+0.5
	3.1nm,1.0s,baz=47,slow=9.0,SNR=4.9								
FINES	**FINESS Array B**	**75.16**	**333**	P		P		02 04 34.7	-0.2
	1.4nm,0.6s,baz=67,slow=4.9,SNR=8.2								
HFS	**Hagfors**	**80.66**	**336**	P		P		02 05 05.4	0.0
	3.1nm,1.0s,baz=61,slow=6.7,SNR=5.2								
NOA	**NORSAR Array B**	**80.87**	**337**	P		P		02 05 06.5	-0.1
	1.3nm,0.8s,baz=54,slow=7.2,SNR=3.0								

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*NSSC **30** 01:55:00.4±10.0, 39°.38N×43°.79E, h38km±999km, ML3.7*
*MOS **30** 01:55:03.7±1.3, 38°.45N×43°.68E, h8km, mb4.5/30, Error ellipse: s-maj=5.4km s-min=3.8km az=99.9*
*DDA **30** 01:55:04.9, 38°.73N×43°.61E, h22km, Ml4.6*
*IDC **30** 01:55:04.4±0.6, 38°.63N×43°.58E, h0km, mb4.0/21, mb1 4.1/30, mb1mx4.0/48, mbtmp4.0/30, ML3.2/8, MS3.5/15, Ms1 3.5/15, ms1mx3.3/49, Error ellipse: s-maj=10.3km s-min=8.3km az=137.0*
*NEIC **30** 01:55:04.7±0.0, 38°.73N×43°.59E, h5km, mb4.5/27, ML4.5(ISK), MN4.3(TEH), After ISK.*
*AZER **30** 01:55:05.0±0.6, 38°.52N×43°.74E, h3km±14km, Error ellipse: s-maj=15.5km s-min=4.3km az=56.0*
*ISCJB **30** 01:55:05.1±0.4, 38°.65N±0°.01×43°.66E±0°.01, h9km±2km, mb4.3/69, MS3.6/9, Error ellipse: s-maj=2.5km s-min=1.5km az=159.3*
*ISK **30** 01:55:05.7, 38°.76N×43°.53E, h9km, ML4.5*
*CSEM **30** 01:55:05.2±0.1, 38°.68N×43°.64E, h2km, mb4.5/24, Error ellipse: s-maj=3.0km s-min=1.9km az=166.0*
*TEH **30** 01:55:07.1, 39°.02N×43°.81E, h10km, ML4.3*
ISC 30 01:55:06.9±0.6, 38°.70N±0°.01×43°.61E±0°.02, h15km±3km, n535, σ1.9±86/642, mb4.4/70, MS3.5/11, 65C-63D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**238**	PG		**Pg**		**01 55 11.3**	**-0.4**
VANB				SG		**Sg**		**01 55 16.5**	**+1.6**
VANB	**Van**	**0.20**	**238**	*i* Pg		**Pg**		**01 55 11.3**	**-0.4**
VANB	**Van**	**0.20**	**238**	Pg		**Pg**		**01 55 11.3**	**-0.4**
TVAN	**Van**	**0.23**	**223**	⇓*i*P		**Pg**		**01 55 11.3**	**-1.0**
TVAN				*i* S		**Sg**		**01 55 16.3**	**+0.4**
TVAN	**Van**	**0.23**	**223**	P		**Pg**		**01 55 11.3**	**-1.0**
TVAN				S		**Sg**		**01 55 16.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.29**	**354**	⇓*i*P		**Pg**		**01 55 11.2**	**-2.1**
VMUR				*i* S		**Sg**		**01 55 16.2**	**-1.3**
VMUR	**Van-Muradiye**	**0.29**	**354**	P		**Pg**		**01 55 11.1**	**-2.1**
VMUR				S		**Sg**		**01 55 16.2**	**-1.3**
ERCV	**ERCIS-VAN**	**0.38**	**326**	PG		**Pg**		**01 55 12.7**	**-2.1**
ERCV	**ERCIS-VAN**	**0.38**	**326**	*i* Pg		**Pg**		**01 55 12.7**	**-2.1**
CLDR	**Caldiran**	**0.50**	**29**	PG		**Pg**		**01 55 15.1**	**-1.8**
CLDR				SG		**Sg**		**01 55 23.4**	**-0.4**
CLDR	**Caldiran**	**0.50**	**29**	⇑*i*P		**Pg**		**01 55 15.2**	**-1.8**
CLDR				*i* S		**Sg**		**01 55 21.9**	**-1.9**
CLDR	**Caldiran**	**0.50**	**29**	P		**Pg**		**01 55 15.2**	**-1.8**
CLDR				S		**Sg**		**01 55 21.9**	**-1.9**
CLDR				*i* Sg		**Sg**		**01 55 23.4**	**-0.4**
CLDR	**Caldiran**	**0.50**	**29**	Pg		**Pg**		**01 55 15.1**	**-1.8**
GEVA	**Gevas**	**0.58**	**228**	⇑*i*P		**Pg**		**01 55 16.8**	**-1.7**
GEVA				*i* S		**Sb**		**01 55 26.2**	**-0.8**
GEVA	**Gevas**	**0.58**	**228**	P		**Pg**		**01 55 16.8**	**-1.7**
GEVA				S		**Sb**		**01 55 26.2**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.70**	**279**	⇑*i*P		**Pg**		**01 55 18.9**	**-1.8**
ADCV				*i* S		**Sg**		**01 55 29.3**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.70**	**279**	P		**Pg**		**01 55 18.9**	**-1.8**
ADCV				S		**Sg**		**01 55 29.3**	**-0.6**
BASK	**Baskale_VAN**	**0.72**	**154**	⇓*i*P		**Pg**		**01 55 19.6**	**-1.4**
BASK				*i* S		**Sb**		**01 55 29.9**	**-1.1**
BASK	**Baskale_VAN**	**0.72**	**154**	P		**Pg**		**01 55 19.6**	**-1.4**
BASK				S		**Sb**		**01 55 29.9**	**-1.1**
DYDN	**Diyadin**	**0.84**	**4**	⇓*i*P		**Pg**		**01 55 20.6**	**-2.7**
DYDN				*i* S		**Sg**		**01 55 32.9**	**-1.6**
DYDN	**Diyadin**	**0.84**	**4**	P		**Pg**		**01 55 20.6**	**-2.7**
DYDN				S		**Sg**		**01 55 32.9**	**-1.6**
TUTA	**Tutak**	**0.93**	**319**	⇓*i*P		**Pg**		**01 55 22.0**	**-3.1**
TUTA				*i* S		**Sg**		**01 55 35.1**	**-2.3**
TUTA	**Tutak**	**0.93**	**319**	P		**Pg**		**01 55 22.0**	**-3.1**
TUTA				S		**Sg**		**01 55 35.1**	**-2.3**
AGRB	**Hanur-Agry**	**1.00**	**331**	PG		**Pg**		**01 55 23.4**	**-2.9**
AGRB				SG		**Sg**		**01 55 36.8**	**-2.5**
AGRB	**Hanur-Agry**	**1.00**	**331**	*i* Pg		**Pg**		**01 55 23.4**	**-2.9**
AGRB				*i* Sg		**Sg**		**01 55 36.8**	**-2.5**
AGRB	**Hanur-Agry**	**1.00**	**331**	Pg		**Pg**		**01 55 23.4**	**-2.9**
TATV	**Tatvan**	**1.07**	**260**	⇑*i*P		**Pb**		**01 55 25.1**	**-2.1**
TATV				*i* S		**Sb**		**01 55 39.9**	**-1.2**
TATV	**Tatvan**	**1.07**	**260**	P		**Pb**		**01 55 25.1**	**-2.1**
TATV				S		**Sb**		**01 55 39.9**	**-1.2**
HAKT	**HAKKARI**	**1.15**	**176**	⇓*i*P		**Pb**		**01 55 26.9**	**-1.6**
HAKT				*i* S		**Sn**		**01 55 46.5**	**+2.4**
HAKT	**HAKKARI**	**1.15**	**176**	P		**Pb**		**01 55 26.9**	**-1.6**
HAKT				S		**Sn**		**01 55 46.5**	**+2.4**
GURO	**Guroymak-BITLI**	**1.24**	**264**	PN		**Pn**		**01 55 28.0**	**-1.9**
GURO	**Guroymak-BITLI**	**1.24**	**264**	*i* Pn		**Pn**		**01 55 28.0**	**-1.9**
EKAR	**Karacoban**	**1.32**	**295**	⇓*i*P		**Pn**		**01 55 30.1**	**-1.0**
EKAR				*i* S		**Sb**		**01 55 48.4**	**-0.1**
EKAR	**Karacoban**	**1.32**	**295**	P		**Pn**		**01 55 30.1**	**-1.0**
EKAR				S		**Sb**		**01 55 48.4**	**-0.1**
EATA	**Eleskirt**	**1.45**	**324**	⇓*i*P		**Pn**		**01 55 31.4**	**-1.4**
EATA				*i* S		**Sn**		**01 55 51.4**	**-0.3**
EATA	**Eleskirt**	**1.45**	**324**	P		**Pn**		**01 55 31.4**	**-1.4**
EATA				S		**Sn**		**01 55 51.4**	**-0.3**
CUKT	**Cukurca**	**1.45**	**180**	*e*PN		**Pb**		**01 55 32.6**	**-1.1**
CUKT	**Cukurca**	**1.45**	**180**	⇓*i*P		**Pb**		**01 55 32.5**	**-1.1**
CUKT				*i* S		**Sg**		**01 55 55.1**	**+1.7**
CUKT	**Cukurca**	**1.45**	**180**	*e*Pn		**Pb**		**01 55 32.6**	**-1.1**
CUKT				S		**Sg**		**01 55 55.5**	**+1.7**
CUKT	**Cukurca**	**1.45**	**180**

VRTB	Varto-Mus	1.74	286	P	Pn	01 55 36.6	-0.1
VRTB	Varto-Mus	1.74	286	Pn	Pn	01 55 37.1	+0.4
VRTB	Varto-Mus	1.74	286	Pn	Pn	01 55 37.1	+0.4
HOMI	Horasan	1.88	316	⇓iP	Pn	01 55 39.3	+0.6
BNGL	BINGOL	1.94	278	⇑iP	Pn	01 55 39.4	0.0
SVAN	Silvan-Diyarba	1.97	255	ePN	Pn	01 55 38.9	-0.9
SVAN	Silvan-Diyarba	1.97	255	⇑iP	Pn	01 55 39.7	-0.1
SVAN	Silvan-Diyarba	1.97	255	P	Pn	01 55 39.7	-0.1
SVAN	Silvan-Diyarba	1.97	255	Pn	Pn	01 55 40.3	+0.5
SVAN	Silvan-Diyarba	1.97	255	Pn	Pn	01 55 40.3	+0.5
EAK	Akyaka	1.98	360	⇓iP	Pn	01 55 41.4	+1.4
EAK	Akyaka	1.98	360	P	Pn	01 55 41.4	+1.4
BTMN	Batman	2.01	247	⇑iP	Pn	01 55 40.4	0.0
BTMN	Batman	2.01	247	P	Pn	01 55 40.4	0.0
SENK	Senkaya-Erzuru	2.10	333	ePN	Pn	01 55 40.8	-0.9
SENK	Senkaya-Erzuru	2.10	333	ePn	Pn	01 55 40.8	-0.9
ERZM	Erzurum	2.12	305	iP	Pn	01 55 41.9	-0.1
ERZM				iS	Sg	01 56 16.1	+1.1
ERZM	Erzurum	2.12	305	P	Pn	01 55 41.9	-0.1
ECAT	Cat-ERZURUM	2.24	295	⇓iP	Pb	01 55 45.7	-1.5
ECAT	Cat-ERZURUM	2.24	295	P	Pb	01 55 45.7	-1.5
BNGB	Bing¶l	2.31	278	ePN	Pn	01 55 44.8	+0.3
BNGB	Bing¶l	2.31	278	Pn	Pn	01 55 45.1	+0.6
BNGB	Bing¶l	2.31	278	Pn	Pn	01 55 45.1	+0.6
BINT	Bingol	2.44	275	P	Pn	01 55 45.1	-1.3
BINT	Bingol	2.44	275	ePn	Pn	01 55 44.8	-1.6
BINT	Bingol	2.44	275	P	Pn	01 55 45.1	-1.3
YEDI	Yedisu-Bingol	2.50	288	ePN	Pn	01 55 46.6	-0.5
YEDI	Yedisu-Bingol	2.50	288	Pn	Pn	01 55 48.1	+1.0
YEDI	Yedisu-Bingol	2.50	288	Pn	Pn	01 55 48.1	+1.0
GDB	GEDABAY	2.61	39	⇓P	Pn	01 55 49.4	+0.8
GDB				⇑S	Sb	01 56 23.8	-1.6
GDB	GEDABAY	2.61	39	P	Pn	01 55 49.4	+0.8
GDB				S	Sb	01 56 23.8	-1.6
DDEM	Demirkent	2.61	327	⇓iP	Pn	01 55 49.1	+0.4
DDEM	Demirkent	2.61	327	P	Pn	01 55 49.1	+0.4
MARD	Mardin	2.63	239	⇑iP	Pn	01 55 49.2	+0.3
MARD	Mardin	2.63	239	ePn	Pn	01 55 49.2	+0.3
MARD	Mardin	2.63	239	ePn	Pn	01 55 49.2	+0.3
AKH	Akhalkalaki	2.71	358	ePN	Pn	01 55 50.8	+0.8
AKH	Akhalkalaki	2.71	358	P	Pb	01 55 55.4	+0.3
AKH				S	Sg	01 56 37.2	+3.3
AKH	Akhalkalaki	2.71	358	⇑iP	Pb	01 55 55.3	+0.2
AKH	Akhalkalaki	2.71	358	P	Pb	01 55 55.4	+0.3
AKH				S	Sg	01 56 37.2	+3.3
AKH	Akhalkalaki	2.71	358	ePn	Pn	01 55 50.8	+0.8
DAGI	Agillar	2.71	332	iP	Pn	01 55 52.1	+2.2
QZX	Qazax, Azerbai	2.72	29	⇑P	Pn	01 55 51.1	+1.1
QZX				⇑S	Sb	01 56 26.8	-1.6
QZX	Qazax, Azerbai	2.72	29	P	Pn	01 55 51.1	+1.1
QZX				S	Sb	01 56 26.8	-1.6
KOPT	Kop Dagi	2.75	300	⇓iP	Pb	01 55 55.2	-0.7
KOPT	Kop Dagi	2.75	300	P	Pb	01 55 55.2	-0.7
KOPT	Kop Dagi	2.75	300	ePn	Pb	01 55 55.7	-0.2
MAZI	Mazidag	2.79	245	ePN	Pn	01 55 50.9	-0.2
MAZI	Mazidag	2.79	245	ePn	Pn	01 55 50.9	-0.2
MAZI	Mazidag	2.79	245	Pn	Pn	01 55 50.9	-0.2
ARTV	Artvin	2.80	333	⇑iP	Pn	01 55 54.0	+2.7
ARTV	Artvin	2.80	333	P	Pn	01 55 54.0	+2.7
ARTV	Artvin	2.80	333	ePn	Pb	01 55 55.1	-1.6
ARTV	Artvin	2.80	333	ePn	Pb	01 55 55.1	-1.6
DIYA	Diyarbakir	2.85	255	⇑iP	Pn	01 55 51.7	-0.2
DIYA	Diyarbakir	2.85	255	P	Pn	01 55 51.7	-0.2
GANJ	Ganja	2.86	46	⇑P	Pn	01 55 52.4	+0.5
GANJ				⇓S	Sn	01 56 28.8	+2.7
GANJ	Ganja	2.86	46	P	Pn	01 55 52.4	+0.5
GANJ	Ganja	2.86	46	P	Pn	01 55 52.4	+0.5
GANJ				S	Sn	01 56 28.8	+2.7
EPOS	Posof	2.88	347	⇓iP	Pb	01 55 57.7	-0.3
KBSD	Kabsdagh	2.96	236	eP	Pn	01 55 54.2	+0.8
KBSD				eS	Sn	01 56 28.5	-0.1
KBSD				AML	AML	01 56 38.1	
	comp=N,732nm,0.5s						
KBSD				AML	AML	01 56 46.8	
	comp=E,1µm,0.5s						
DBOC	Borcka	3.03	331	iP	Pb	01 55 58.7	-1.9
DBOC	Borcka	3.03	331	P	Pb	01 55 58.7	-1.9
DGRG	David-gareji	3.06	26	P	Pb	01 56 01.6	+0.5
DGRG				S	Sg	01 56 55.4	+10
DGRG	David-gareji	3.06	26	P	Pb	01 56 01.6	+0.5
TBLG	Delisi	3.15	16	ePN	Pn	01 55 56.7	+0.8
TBLG	Delisi	3.15	16	P	Pb	01 56 02.2	-0.4
TBLG				S	Sg	01 56 46.8	-1.3
TBLG	Delisi	3.15	16	P	Pb	01 56 02.1	-0.4
TBLG				S	Sg	01 56 46.7	-1.3
TBLG	Delisi	3.15	16	ePn	Pn	01 55 56.7	+0.8
TBLG	Delisi	3.15	16	P	Pb	01 56 00.7	-1.8
ERZN	Erzincan	3.15	288	ePN	Pn	01 55 56.1	0.0
ERZN	Erzincan	3.15	288	Pn	Pn	01 55 57.2	+1.2
ERZN	Erzincan	3.15	288	Pn	Pn	01 55 57.2	+1.2
BRDA	Brd	3.17	59	⇑P	Pn	01 55 55.9	-0.3
BRDA				⇑S	Sn	01 56 35.4	+1.6
BRDA	Brd	3.17	59	P	Pn	01 55 55.9	-0.3
BRDA				S	Sn	01 56 35.4	+1.6
TNCL	Tunceli-Merkez	3.20	279	iP	Pb	01 56 00.6	-2.9
TNCL	Tunceli-Merkez	3.20	279	P	Pb	01 56 00.6	-2.9
PTK	Pertek	3.30	275	ePN	Pn	01 55 58.6	+0.4
PTK	Pertek	3.30	275	ePn	Pn	01 55 58.6	+0.4
ISRB	Sarab	3.31	104	ePn	Pn	01 56 00.2	+1.8
ISRB				eAMB	AMB	01 56 15.8	
	comp=Z,6µm,0.3s						
ISRB	Sarab	3.31	104	ePn	Pn	01 56 00.2	+1.8
MNGR	Mingechevir, A	3.38	51	⇑P	Pn	01 55 59.3	+0.1
MNGR				⇓S	Sn	01 56 41.4	+2.4
MNGR	Mingechevir, A	3.38	51	P	Pn	01 55 59.3	+0.1
MNGR	Mingechevir, A	3.38	51	P	Pn	01 55 59.3	+0.1
MNGR				S	Sn	01 56 41.4	+2.4
SVRC	Sivrice-ELAZID	3.39	266	ePN	Pn	01 56 00.1	+0.7
SVRC	Sivrice-ELAZID	3.39	266	ePn	Pn	01 56 00.1	+0.7
SVRC	Sivrice-ELAZID	3.39	266	Pn	Pn	01 56 01.1	+1.7
EZC	Erzincan	3.47	289	P	Pn	01 55 57.2	-3.3
EZC	Erzincan	3.47	289	P	Pn	01 55 57.2	-3.3
ZRD	Zardab	3.52	62	⇓P	Pn	01 56 00.6	-0.5
ZRD				⇓S	Sn	01 56 44.4	+1.9
ZRD	Zardab	3.52	62	P	Pn	01 56 00.6	-0.5
ZRD				S	Sn	01 56 44.4	+1.9
SFNV	Sufian	3.59	232	eP	Pn	01 56 03.2	+1.0
SFNV				eS	Sn	01 56 44.4	+0.1
SFNV				AML	AML	01 57 14.1	
	comp=E,481nm,0.5s						
SFNV				AML	AML	01 57 15.8	
	comp=N,287nm,0.6s						
ELZG	Elazig	3.63	268	iP	Pn	01 56 03.4	+0.7
ELZG	Elazig	3.63	268	P	Pn	01 56 03.4	+0.7
LRK	Lerik	3.70	89	⇓P	Pn	01 56 01.5	-2.2
LRK				⇑S	Sn	01 56 45.8	-1.4
LRK	Lerik	3.70	89	P	Pn	01 56 01.5	-2.2
LRK				S	Sn	01 56 45.8	-1.4
MACK	Trabzon	3.71	308	iP	Pb	01 56 11.1	-1.0
MZRK	Al-Mazaregh	3.71	220	eP	Pn	01 56 07.2	+3.5
MZRK				eS	Sn	01 56 48.1	+0.9
MZRK				AML	AML	01 57 31.7	
	comp=N,435nm,0.7s						
SEKA	Sheki	3.73	47	⇑P	Pn	01 56 04.9	+1.0
SEKA				⇓S	Sn	01 56 51.9	+4.3
SEKA	Sheki	3.73	47	P	Pn	01 56 04.9	+1.0
SEKA	Sheki	3.73	47	P	Pn	01 56 04.9	+1.0
SEKA				S	Sn	01 56 51.9	+4.3
ZKTA	Zakatala	3.73	37	⇓P	Pn	01 56 04.8	+0.8
ZKTA				⇓S	Sn	01 56 51.8	+4.1
ZKTA	Zakatala	3.73	37	P	Pn	01 56 04.8	+0.8
ZKTA	Zakatala	3.73	37	P	Pn	01 56 04.8	+0.8
KTUT	Trabzon	3.74	309	ePN	Pn	01 56 04.1	+0.1
KTUT	Trabzon	3.74	309	ePn	Pn	01 56 04.1	+0.1
GLBA	Clilabad	3.77	80	⇑P	Pn	01 56 02.9	-1.5
GLBA				⇑S	Sn	01 56 48.2	-0.3
GLBA	Clilabad	3.77	80	P	Pn	01 56 02.9	-1.5
GLBA				S	Sn	01 56 48.2	-0.3
ONI	Oni	3.89	358	P	Pb	01 56 15.7	+0.5
ONI				S	Sg	01 57 19.6	+7.9
ONI	Oni	3.89	358	P	Pb	01 56 15.7	+0.5
SAAT	Saatly	3.91	71	⇓P	Pn	01 56 05.1	-1.3
SAAT				⇑S	Sn	01 56 52.4	+0.4
SAAT	Saatly	3.91	71	P	Pn	01 56 05.1	-1.3
SAAT				S	Sn	01 56 52.4	+0.4
KDMR	Kurdemir	3.91	63	⇑P	Pn	01 56 05.8	-0.6
KDMR				⇑S	Sn	01 56 53.4	+1.4
KDMR	Kurdemir	3.91	63	P	Pn	01 56 05.8	-0.6
KDMR				S	Sn	01 56 53.4	+1.4
QBL	Gabala	3.95	54	⇑P	Pn	01 56 06.9	-0.1
QBL				⇓S	Sn	01 56 55.0	+1.9
QBL	Gabala	3.95	54	P	Pn	01 56 06.9	-0.1
QBL				S	Sn	01 56 55.0	+1.9
URFA	Urfa	3.98	253	ePN	Pn	01 56 08.4	+1.0
URFA	Urfa	3.98	253	ePn	Pn	01 56 08.5	+1.0
LKRN	Lenkeran, Azer	4.04	88	⇓P	Pn	01 56 06.3	-2.0
LKRN				⇓S	Sn	01 56 54.3	-1.0
LKRN	Lenkeran, Azer	4.04	88	P	Pn	01 56 06.2	-2.0
LKRN	Lenkeran, Azer	4.04	88	P	Pn	01 56 06.3	-2.0
LKRN				S	Sn	01 56 54.3	-1.0
ASTR	Astara	4.06	90	⇓P	Pn	01 56 06.4	-2.1
ASTR				⇓S	Sn	01 56 54.6	-1.1
ASTR	Astara	4.06	90	P	Pn	01 56 06.4	-2.1
ASTR				S	Sn	01 56 54.6	-1.1
ZEI	Tsey	4.09	3	eP	Pn	01 56 10.6	+1.6
ZEI				pmax	pmax		
	comp=Z,61nm,0.8s						
IML	Ismayilli	4.10	58	⇑P	Pn	01 56 08.7	-0.3
IML				⇑S	Sn	01 56 58.3	+1.6
IML	Ismayilli	4.10	58	P	Pn	01 56 08.7	-0.3
IML				S	Sn	01 56 58.3	+1.6
LACR	Lac	4.15	7	eP	Pn	01 56 12.9	+3.0
LACR				pmax	pmax		
	comp=Z,253nm,1.1s						
LACR	Lac	4.15	7	eP	Pn	01 56 12.9	+3.0
	comp=Z,253nm,1.1s						
XNQ	Khinaliq	4.27	53	⇑P	Pn	01 56 11.3	-0.2
XNQ				⇑S	Sn	01 57 02.7	+1.6
XNQ	Khinaliq	4.27	53	P	Pn	01 56 11.3	-0.2
XNQ				S	Sn	01 57 02.7	+1.6
SURC	SANLIURFA_SURC	4.36	247	iP	Pn	01 56 07.0	-5.6
ALIB	Äli-Bayra	4.37	72	⇑P	Pn	01 56 11.6	-1.1
ALIB				⇓S	Sn	01 57 04.1	+0.8
ALIB	Äli-Bayra	4.37	72	P	Pn	01 56 11.6	-1.1
ALIB				S	Sn	01 57 04.1	+0.8
PQL	Pirkuli	4.37	60	⇑P	Pn	01 56 12.3	-0.6
PQL				⇓S	Sn	01 57 05.1	+1.5
PQL	Pirkuli	4.37	60	P	Pn	01 56 12.3	-0.6
PQL				S	Sn	01 57 05.1	+1.5
KORR	Kora	4.39	4	eP	Pb	01 56 20.2	-3.6
KORR				pmax	pmax		
	comp=Z,443nm,1.4s						
GBS	Qobustan	4.51	64	⇓P	Pn	01 56 13.9	-0.7
GBS				⇑S	Sn	01 57 07.7	+0.9
GBS	Qobustan	4.51	64	P	Pn	01 56 13.9	-0.7
GBS				S	Sn	01 57 07.7	+0.9
QSAR	Qusar	4.54	50	⇑P	Pn	01 56 15.1	0.0
QSAR				⇑S	Sn	01 57 09.7	+2.1
QSAR	Qusar	4.54	50	P	Pn	01 56 15.1	0.0
QSAR				S	Sn	01 57 09.7	+2.1
LSNR	Lesken	4.58	2	eP	Pn	01 56 21.2	+5.6
LSNR				pmax	pmax		
	comp=Z,402nm,1.7s						
QUBA	Quba, Azerbaij	4.59	53	⇓P	Pn	01 56 15.7	-0.1
QUBA				⇓S	Sn	01 57 10.9	+2.0
QUBA	Quba, Azerbaij	4.59	53	P	Pn	01 56 15.7	-0.1
QUBA				S	Sn	01 57 10.9	+2.0
NEY	Neytrino	4.59	352	⇑eP	Pn	01 56 20.1	+4.2
NEY	Neytrino	4.59	352	eP	Pn	01 56 20.1	+4.2
ILIN	Lien	4.64	144	ePn	Pn	01 56 19.8	+3.1
ILIN				eAMB	AMB	01 57 55.8	
	comp=Z,3µm,0.5s						
ILIN	Lien	4.64	144	Pn	Pn	01 56 19.7	+3.1
ILIN	Lien	4.64	144	Pn	Pn	01 56 19.7	+3.1
ATGJ	Altiaghaj	4.64	61	⇓P	Pn	01 56 15.9	-0.6
ATGJ				⇓S	Sn	01 57 11.4	+1.3
ATGJ	Altiaghaj	4.64	61	P	Pn	01 56 15.9	-0.6
ATGJ				S	Sn	01 57 11.4	+1.3
KSRV	Kasrt alli	4.64	234	eP	Pn	01 56 17.4	+1.0
KSRV				eS	Sb	01 57 19.3	-4.3
KSRV				AML	AML	01 57 46.4	
	comp=E,218nm,0.6s						
KSRV				AML	AML	01 57 49.5	
	comp=N,120nm,0.6s						
SIZA	Siyzn	4.71	58	⇓P	Pn	01 56 17.1	-0.4
SIZA				⇓S	Sn	01 57 13.4	+1.6
SIZA	Siyzn	4.71	58	P	Pn	01 56 17.1	-0.4
SIZA				S	Sn	01 57 13.4	+1.6
NCK	Nalchik	4.79	360	⇑eP	Pn	01 56 21.9	+3.4
NCK	Nalchik	4.79	360	eP	Pn	01 56 21.9	+3.4
GROC	Groznyy	4.79	20	eP	Pb	01 56 30.3	-0.2
GROC				pmax	pmax		
	comp=Z,142nm,1.0s						
IVIS	Veis	4.92	147	ePn	Pn	01 56 23.0	+2.6
IVIS				eAMB	AMB	01 58 18.1	
	comp=Z,3µm,0.8s						
IVIS	Veis	4.92	147	Pn	Pn	01 56 22.9	+2.6
IVIS	Veis	4.92	147	Pn	Pn	01 56 22.9	+2.6
IGHG	Ghaleghazi	4.97	150	eAMB	AMB	01 58 14.5	
	comp=Z,6µm,0.6s						
GOBA	Gobu	5.03	68	⇑P	Pn	01 56 20.8	-0.9
GOBA				⇓S	Sn	01 57 20.3	+0.7
GOBA	Gobu	5.03	68	P	Pn	01 56 20.8	-0.9
GOBA				S	Sn	01 57 20.3	+0.7
KBZ	Khabaz	5.05	354	Pn	Pn	01 56 24.9	+2.8
	comp=Z,0.1nm,0.3s,baz=164,slow=7.4,SNR=5.3						
KBZ				Pg	Pb	01 56 36.4	+1.4
	comp=Z,0.7nm,0.3s,baz=177,slow=6.3,SNR=14						
KBZ				Lg	Lg	01 57 48.6	
	baz=156,slow=11,SNR=3.6						
KBZ				LR	LR	01 58 52.4	
	comp=Z,223nm,21.2s,baz=255,slow=45						
MAK	Makhachkala	5.18	34	eP	Pn	01 56 23.4	-0.4
MAK				eS	Sn	01 57 25.4	+2.1
MAK				pmax	pmax		
	comp=Z,263nm,1.6s						
MAK				MLR	MLR		
	comp=Z,1µm,11.0s						
MAK	Makhachkala	5.18	34	eP	Pn	01 56 23.4	-0.4
	comp=Z,263nm,1.6s						
MAK				eS	Sn	01 57 25.4	+2.1
	comp=Z,1µm,11.0s						
NDR	Nardaran	5.27	67	⇑P	Pn	01 56 24.2	-0.8
NDR				⇓S	Sn	01 57 26.4	+1.0
NDR	Nardaran	5.27	67	P	Pn	01 56 24.2	-0.8
NDR				S	Sn	01 57 26.4	+1.0
KVAR	Kislovodsk Arr	5.29	353	Pn	Pn	01 56 28.7	+3.2
	baz=183,slow=18,SNR=5.3						
KVAR				Pg	Pb	01 56 40.5	+1.3
	baz=170,slow=12,SNR=5.3						
KVAR				LR	LR	01 58 28.8	
	comp=Z,274nm,19.3s,baz=259,slow=38						
KIV	Kislovodsk	5.29	353	eP	Pn	01 56 27.0	+1.5
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,69nm,7.0s						
KIV	Kislovodsk	5.29	353	eP	Pn	01 56 27.0	+1.5
	comp=Z,69nm,7.0s						
KIV	Kislovodsk	5.29	353	ePg	Pg	01 56 47.2	-1.1
KIV	Kislovodsk	5.29	353	ePn	Pn	01 56 27.2	+1.7
KIV				ePg	Pg	01 56 47.2	-1.1
KIV				eSg	Sg	01 57 58.7	+1.9
GALA	Gala	5.34	69	⇓P	Pn	01 56 25.0	-1.0
GALA				⇓S	Sn	01 57 28.0	+0.8
GALA	Gala	5.34	69	P	Pn	01 56 25.0	-1.0
GALA				S	Sn	01 57 28.0	+0.8
IKOM	Komasi	5.50	144	ePn	Pb	01 56 45.5	+2.6
IKOM				eAMB	AMB	01 58 33.5	
	comp=Z,1µm,0.3s						
IKOM	Komasi	5.50	144	Pn	Pb	01 56 45.4	+2.6
KUZU	Kuzuini	5.53	252	iP	Pb	01 56 40.5	-2.5
IGZV	Ghazvin	5.74	112	ePn	Pn	01 56 31.6	-0.2
IGZV				eAMB	AMB	01 58 32.6	
	comp=Z,1µm,0.5s						
IGZV	Ghazvin	5.74	112	Pn	Pn	01 56 31.5	-0.2
IGZV	Ghazvin	5.74	112	Pn	Pn	01 56 31.5	-0.2
TOKA	Tokat	5.75	289	ePn	Pn	01 56 32.7	+1.0
TOKA	Tokat	5.75	289	ePg	Pg	01 56 54.8	-2.2
TOKA	Tokat	5.75	289	ePn	Pn	01 56 32.7	+1.0
TOKA				ePg	Pg	01 56 54.8	-2.2
DRWC	Darouich	5.89	251	eP	Pn	01 56 29.4	-4.3
DRWC				eS	Sn	01 57 44.9	+4.0
DRWC				AML	AML	01 58 32.4	
	comp=E,134nm,0.7s						
DRWC				AML	AML	01 58 45.9	
	comp=N,82nm,0.6s						
BTCH	Batrach	6.28	247	eP	Pn	01 56 40.5	+1.4
BTCH				eS	Sn	01 57 48.3	-2.3
BTCH				AML	AML	01 58 41.5	
	comp=N,142nm,0.7s						
BTCH				AML	AML	01 58 44.8	
	comp=E,257nm,0.6s						
GOF	Gofitskoye	6.37	356	⇑eP	Pn	01 56 48.6	+8.5
GOF				eS	Sn	01 57 57.9	+5.4
GOF				pmax	pmax		
	comp=Z,17nm,0.9s						
GOF				smax	smax		
	comp=E,92nm,1.4s						
KFRA	Kufra	6.47	240	eP	Pn	01 56 42.6	+1.0
KFRA				eS	Sn	01 57 44.0	-11
KFRA				AML	AML	01 58 45.5	
	comp=E,519nm,0.6s						
KFRA				AML	AML	01 58 46.1	
	comp=N,364nm,0.6s						
RABH	Abou Rabah	6.68	232	eP	Pn	01 56 45.7	+1.1
RABH				eS	Sn	01 57 58.9	-1.6
RABH				AML	AML	01 58 56.5	
	comp=E,66nm,0.7s						
RABH				AML	AML	01 59 05.4	
ARNB	Al Arnab	6.72	247	eP	Pn	01 56 34.5	-10
ARNB				eS	Sn	01 57 49.9	-11
ARNB				AML	AML	01 59 03.3	
	comp=E,160nm,0.7s						
ARNB				AML	AML	01 59 05.7	
ROOS	tl_alroos	6.81	230	eP	Pn	01 56 47.7	+1.3
ROOS				eS	Sn	01 58 06.3	+2.7
ROOS				AML	AML	01 59 10.3	
	comp=E,132nm,0.6s						
ROOS				AML	AML	01 59 21.8	
	comp=N,95nm,0.7s						
BIDA	Albida	6.90	240	eP	Pn	01 56 47.7	0.0
BIDA				eS	Sn	01 58 05.8	-0.2
BIDA				AML	AML	01 58 56.8	
	comp=E,303nm,0.7s						
BIDA				AML	AML	01 58 57.5	
	comp=N,173nm,0.7s						
HAWK	Haweek	7.14	236	eP	Pn	01 56 49.1	-1.8
HAWK				eS	Sn	01 58 14.9	+3.2
HAWK				AML	AML	01 59 08.4	
	comp=E,47nm,0.7s						
HAWK				AML	AML	01 59 21.5	
	comp=N,60nm,0.7s						
FKH	Fakeheh	7.31	235	eP	Pn	01 56 53.8	+0.6
FKH	Fakeheh	7.31	235	eP	Pn	01 56 53.8	+0.6
IPRN	Peran	7.36	107	ePn	Pn	01 56 58.6	+4.6
IPRN				eAMB	AMB	01 57 34.4	
	comp=Z,354nm,0.3s						
IPRN	Peran	7.36	107	Pn	Pn	01 56 58.6	+4.6
MARH	Ras Al Marh	7.40	233	eP	Pn	01 56 55.8	+1.1
MARH				eS	Sn	01 58 20.0	+1.5
MARH				AML	AML	01 59 25.9	
	comp=E,70nm,0.7s						
MARH				AML	AML	01 59 29.6	
	comp=N,36nm,0.8s						
IDMV	Damavand	7.42	112	ePn	Pn	01 56 54.8	0.0
IDMV				eAMB	AMB	01 59 27.5	
	comp=Z,1µm,0.8s						
IDMV	Damavand	7.42	112	ePn	Pn	01 56 54.8	0.0
HWQ	Hawqa	7.59	237	eP	Pn	01 56 57.5	+0.5
HWQ	Hawqa	7.59	237	eP	Pn	01 56 57.5	+0.5
ANN	Anapa	7.64	325	eP	Pn	01 57 05.4	+7.8
ANN				eS	Sb	01 58 44.7	-5.2
ANN				pmax	pmax		
	comp=Z,62nm,1.7s						
ANN				MLR	MLR		
	comp=Z,706nm,23.0s						
BR131	Keskin Array S	7.81	281	ePn	Pn	01 57 04.6	+4.5
BRTR	Keskin Array B	7.81	281	Pn	Pn	01 57 02.4	+2.3
	comp=Z,0.1nm,0.3s,baz=96,slow=11,SNR=9.4						
BRTR	Keskin Array B	7.81	281	ceP	Pn	01 57 04.0	+3.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRBR	Barbar	8.14	232	eP	Pn	01 57 06.6	+1.9
BRBR				eS	Sn	01 58 39.6	+3.0
BRBR				AML	AML	01 59 43.4	
	comp=E,43nm,0.7s						
BRBR				AML	AML	01 59 46.6	
SALA	Sala	8.18	225	eP	Pn	01 57 07.0	+1.7
SALA				eS	Sn	01 58 36.3	-1.2
SALA				AML	AML	01 59 55.8	
	comp=N,53nm,0.8s						
SALA				AML	AML	02 00 06.4	
	comp=E,3.0nm,0.7s						
SHBL	Chebaa	8.31	232	eP	Pn	01 57 07.9	+0.9
SHBL	Chebaa	8.31	232	eP	Pn	01 57 07.9	+0.9
IPIR	Pirpir	8.43	133	ePn	Pn	01 57 13.1	+4.3
IPIR				eAMB	AMB	02 00 33.0	
	comp=Z,462nm,0.6s						
IPIR	Pirpir	8.43	133	Pn	Pn	01 57 13.1	+4.3
ANTO	Ankara	8.47	281	eP	Pn	01 57 10.0	+0.9
ANTO	Ankara	8.47	281	eP	Pn	01 57 10.0	+0.9
ANTO	Ankara	8.47	281	ePn	Pn	01 57 10.0	+0.9
ASF	Jabal al Asfar	8.51	222	Pn	Pn	01 57 10.1	+0.5
	comp=Z,0.2nm,0.3s,baz=2.2,slow=7.0,SNR=16						
GEYT	Alibeck	11.43	89	Pn	Pn	01 57 51.0	+1.5
	comp=Z,0.2

VTS	Vitosha	15.96	291	eP		Pn	01 58 52.8 +1.9
	comp=Z,19nm,1.3s						
VTS	Vitosha	15.96	291	ePn		Pn	01 58 52.8 +1.9
	comp=Z,19nm,1.3s						
BURAR	Bucovina Array	16.08	310	⇑iP		P	01 58 56.8 +1.1
BUR08	Bucovina Ar. S	16.10	310	ePn		P	01 58 54.9 -1.0
BUR08	Bucovina Ar. S	16.10	310	ePn		P	01 58 54.9 -1.0
ARCR	ARCALIA	16.38	307	⇓iP		P	01 59 00.2 +1.2
ARCR	ARCALIA	16.38	307	⇓iP		P	01 59 00.2 +1.2
BANOM	Banah	16.63	136	P		Pn	01 58 59.7 +0.2
	SNR=7.6						
BANOM	Banah	16.63	136	P		Pn	01 58 59.7 +0.2
	SNR=7.6						
BANOM	Banah	16.63	136	P		Pn	01 58 59.7 +0.2
	SNR=7.6						
CJR	Cluj-Napoca	16.71	305	⇑iP		P	01 59 06.3 +3.6
DJES	Djerdap	16.82	297	eP		P	01 59 04.8 +0.9
BARS	Barje	17.00	291	eP		P	01 59 05.7 -0.2
OBN	Obninsk	17.09	346	P		Pn	01 59 04.8 -0.3
	comp=Z,3.8nm,0.3s,baz=156,slow=20,SNR=5.5						
OBN				LR		LR	02 05 04.4
	comp=Z,106nm,19.6s,baz=176,slow=35						
OBN	Obninsk	17.09	346	d iP		P	01 59 07.4 +0.7
OBN				pmax		pmax	
	comp=Z,107nm,1.7s						
OBN				MLR		MLR	
	comp=Z,168nm,12.0s						
OBN	Obninsk	17.09	346	ePn		P	01 59 06.9 +0.2
	comp=Z,72nm,1.1s						
OBN	Obninsk	17.09	346	i P		P	01 59 07.4 +0.7
	comp=Z,168nm,12.0s						
OBN	Obninsk	17.09	346	ePn		P	01 59 06.9 +0.2
	comp=Z,72nm,1.1s						
UOSS	Minazif	17.37	138	ePn		Pn	01 59 05.9 -2.9
	comp=Z,28nm,1.0s						
MDVR	Moldovita	17.41	297	⇑iP		Pn	01 59 05.3 -3.9
BZS	Buzias	17.68	300	⇓iP		P	01 59 14.5 +1.2
BZS	Buzias	17.68	300	P		P	01 59 15.3 +2.0
BZS				pmax		pmax	
	comp=Z,6.0nm,1.0s						
BZS	Buzias	17.68	300	P		P	01 59 15.3 +2.0
	comp=Z,6.0nm,1.0s						
SIRR	Siria	17.83	302	⇓iP		P	01 59 16.9 +1.9
SIRR	Siria	17.83	302	⇓iP		P	01 59 16.9 +1.9
TRPA	Tarpa	17.93	309	⇑ePn		P	01 59 18.3 +2.3
GRUS	Gruza	17.95	294	eP		P	01 59 19.2 +2.9
UZH	Uzhgorod	18.28	310	eP		Pn	01 59 17.0 -2.8
IVAS	Ivanjica	18.30	293	eP		P	01 59 21.1 +0.8
KWP	Kalwaria Pacla	18.49	313	eP		Pn	01 59 26.0 +3.6
KWP	Kalwaria Pacla	18.49	313	eP		Pn	01 59 26.0 +3.6
DIVS	Divibare	18.49	294	eP		Pn	01 59 22.8 +0.2
FGSL	Fruska Gora	18.81	298	eP		Pn	01 59 26.3 0.0
TEKS	Tekeris	18.89	296	eP		Pn	01 59 27.2 -0.2
CRVS	Cervenica-Dubn	18.90	310	eP		Pn	01 59 28.0 +0.7
CRVS	Cervenica-Dubn	18.90	310	eP		Pn	01 59 28.0 +0.7
CRVS	Cervenica-Dubn	18.90	310	eP		Pn	01 59 28.0 +0.7
STHS	Stebnicka Huta	19.24	311	eP		Pn	01 59 32.0 +0.5
STHS				pmax		pmax	
	comp=Z,6.0nm,1.1s						
STHS	Stebnicka Huta	19.24	311	eP		Pn	01 59 32.0 +0.5
	comp=Z,6.0nm,1.1s						
STHS	Stebnicka Huta	19.24	311	eP		Pn	01 59 32.0 +0.5
KECS	Kecovo	19.33	308	eP		Pn	01 59 37.5 +5.0
KECS				pmax		pmax	
	comp=Z,3.0nm,1.2s						
KECS	Kecovo	19.33	308	eP		Pn	01 59 37.5 +5.0
PSZ	Piszkesteto	19.50	306	⇑iP		Pn	01 59 38.8 +4.2
PSZ	Piszkesteto	19.50	306	eP		Pn	01 59 35.6 +1.0
PSZ				pmax		pmax	
	comp=Z,25nm,1.2s						
PSZ	Piszkesteto	19.50	306	eP		Pn	01 59 35.6 +1.0
	comp=Z,25nm,1.2s						
PSZ	Piszkesteto	19.50	306	⇓eP		Pn	01 59 36.4 +1.8
PSZ	Piszkesteto	19.50	306	eP		Pn	01 59 35.6 +1.0
	comp=Z,25nm,1.2s						
DZET	Dzherino	19.66	82	P		Pn	01 59 39.7 +3.0
DZET				pmax		pmax	
	comp=Z,6.0nm,0.8s						
WSAR	Wadi Sarin	20.04	136	P		P	01 59 38.9 -0.5
	comp=Z,1.9nm,0.8s,baz=308,slow=12,SNR=2.6						
WSAR				LR		LR	02 08 23.7
	comp=Z,157nm,20.6s,baz=334,slow=40						
ARU	Arti	20.32	24	P		P	01 59 41.8 -0.4
	comp=Z,10nm,0.6s,baz=202,slow=5.6,SNR=10						
ARU	Arti	20.32	24	d iP		P	01 59 43.0 +0.8
ARU							01 59 58.9
ARU				S		Sn	02 03 33.5 +0.8
ARU				SS		SnSn	02 03 50.0 +2.7
ARU				pmax		pmax	
	comp=Z,28nm,1.7s						
ARU	Arti	20.32	24	eP		P	01 59 42.4 +0.2
ARU	Arti	20.32	24	eP		P	01 59 42.4 +0.2
VYHS	Vyhne	20.36	307	eP		P	01 59 43.5 +0.8
VYHS	Vyhne	20.36	307	eP		P	01 59 43.5 +0.8
	comp=Z,946nm,5.5s						
VYHS	Vyhne	20.36	307	eP		P	01 59 43.5 +0.8
CSKK	Cs˙ťkako	20.38	303	⇓eP		Pn	01 59 44.3 -0.7
CSKK	Cs˙ťkako	20.38	303	⇓eP		Pn	01 59 44.3 -0.7
OJC	Ojcow	20.43	312	eP		Pn	01 59 48.1 +2.5
OJC	Ojcow	20.43	312	eP		Pn	01 59 48.0 +2.4
OJC				pmax		pmax	
	comp=Z,22nm,1.3s						
OJC	Ojcow	20.43	312	eP		Pn	01 59 48.0 +2.4
	comp=Z,22nm,1.3s						
SUW	Suwalki	20.70	324	P		P	01 59 47.6 +1.3
SUW				pmax		pmax	
	comp=Z,158nm,1.0s						
SUW	Suwalki	20.70	324	P		P	01 59 47.6 +1.3
	comp=Z,158nm,1.0s						
KK31	Karatay Array	20.77	69	i P		P	01 59 47.5 +0.3
KK31				pmax		pmax	
	comp=Z,11nm,1.0s						
KK31	Karatay Array	20.77	69	i P		P	01 59 47.5 +0.3
	comp=Z,11nm,1.0s						
KKAR	Karatay Array	20.77	69	eP		Pn	01 59 48.3 -1.3
KKAR	Karatay Array	20.77	69	eP		Pn	01 59 48.3 -1.3
KKAR	Karatay Array	20.77	69	eP		Pn	01 59 48.3 -1.3
OKC	Ostrava-Krasne	21.26	310	eP		P	01 59 57.9 +5.6
OKC	Ostrava-Krasne	21.26	310	eP		P	01 59 57.9 +5.6
SVE	Sverdlovsk	21.34	26	eP		P	01 59 54.9 +1.8
SVE				pmax		pmax	
	comp=Z,32nm,1.3s						
SVE	Sverdlovsk	21.34	26	eP		P	01 59 54.9 +1.8
	comp=Z,32nm,1.3s						
CUC	Castrocucco	21.50	282	eP		P	01 59 54.1 -1.0
	comp=Z,13nm,1.2s						
CUC	Castrocucco	21.50	282	eP		P	01 59 54.1 -1.0
	comp=Z,13nm,1.2s						
MORC	Moravsky Berou	21.60	309	eP		P	01 59 59.0 +2.9
MORC				pmax		pmax	
	comp=Z,37nm,1.2s						
MORC	Moravsky Berou	21.60	309	eP		P	01 59 58.8 +2.7
MORC	Moravsky Berou	21.60	309	eP		P	01 59 59.0 +2.9
	comp=Z,37nm,1.2s						
CEL	Celeste	21.67	278	eP		P	01 59 58.2 +1.2
	comp=Z,18nm,0.7s						
CEL	Celeste	21.67	278	eP		P	01 59 58.2 +1.2
	comp=Z,18nm,0.7s						
VRAC	Vranov	22.02	308	P		P	02 00 00.1 -0.5
	comp=Z,5.7nm,0.9s,baz=114,slow=8.5,SNR=8.0						
VRAC				LR		LR	02 09 08.3
	comp=Z,211nm,18.9s,baz=329,slow=38						
CONA	Conrad Observa	22.09	304	i pP		P	02 00 02.4 +0.9
	comp=Z,9.7nm,1.0s						
CONA	Conrad Observa	22.09	304	P		P	02 00 02.4 +0.9
	comp=Z,9.7nm,1.0s						
ARSA	Arzberg	22.16	302	i pP		P	02 00 03.6 +1.5
	comp=Z,9.7nm,1.7s						
ARSA	Arzberg	22.16	302	P		P	02 00 03.6 +1.5
	comp=Z,9.7nm,1.7s						
MNAS	Manas	22.21	71	P		P	02 00 06.4 +3.5
MNAS				pmax		pmax	
	comp=Z,8.0nm,1.0s						
KLMR	Klimovskoe	22.32	355	eP		P	02 00 05.6 +1.9
KLMR				pmax		pmax	
	comp=Z,109nm,1.1s						
KLMR	Klimovskoe	22.32	355	eP		P	02 00 05.6 +1.9
	comp=Z,109nm,1.1s						
SOKA	Soboth	22.38	300	i pP		P	02 00 06.2 +1.7
	comp=Z,6.0nm,1.4s						
SOKA	Soboth	22.38	300	P		P	02 00 06.2 +1.7
	comp=Z,6.0nm,1.4s						
SOKR	Solikamsk	22.54	18	c iP		P	02 00 11.1 +5.2
SOKR				pmax		pmax	
	comp=Z,26nm,1.1s						
SOKR				MLR		MLR	
	comp=Z,156nm,18.0s						
DPC	Dobruska-Polom	22.54	310	eP		P	02 00 07.6 +1.4
DPC				epP		sP	02 00 11.5 -1.0
DPC	Dobruska-Polom	22.54	310	eP		P	02 00 07.6 +1.4
DPC				e			02 00 11.5
DPC	Dobruska-Polom	22.54	310	eP		P	02 00 07.6 +1.4
VSU	Vasula	22.58	337	⇓eP		P	02 00 09.8 +3.3
VSU				pmax		pmax	
	comp=Z,40nm,0.8s						
OBKA	Obir	22.68	300	i pP		P	02 00 11.6 +3.9
	comp=Z,4.8nm,1.1s						
UPC	Upice	22.78	310	eP		P	02 00 09.9 +1.2
UPC	Upice	22.78	310	eP		P	02 00 09.9 +1.2
UPC	Upice	22.78	310	eP		P	02 00 09.9 +1.2
VAE	Valguarnera	22.97	276	LR		LR	02 10 05.4
	comp=Z,264nm,18.7s,baz=168,slow=39						
TRI	Trieste	23.10	297	eP		P	02 00 12.6 +0.6
TRI				pmax		pmax	
	comp=Z,15nm,1.0s						
TRI	Trieste	23.10	297	eP		P	02 00 12.6 +0.6
	comp=Z,15nm,1.0s						
SFK	Sufi-Kurgan	23.11	77	P		P	02 00 15.8 +3.4
SFK				pmax		pmax	
	comp=Z,6.0nm,0.8s						
MOA	Molln	23.12	303	i pP		P	02 00 12.6 +0.3
	comp=Z,6.6nm,0.9s						
MOA	Molln	23.12	303	P		P	02 00 12.6 +0.3
	comp=Z,6.6nm,0.9s						
AQU	L'Aquila	23.19	289	eP		P	02 00 11.8 -1.2
AQU				pmax		pmax	
	comp=Z,17nm,1.0s						
AQU	L'Aquila	23.19	289	eP		P	02 00 11.8 -1.2
	comp=Z,17nm,1.0s						
BRVK	Borovoye	23.29	43	⇑eP		P	02 00 15.9 +2.0
BRVK				pmax		pmax	
	comp=Z,23nm,1.0s						
BRVK	Borovoye	23.29	43	eP		P	02 00 15.0 +1.0
	comp=Z,13nm,1.0s						
BRVK	Borovoye	23.29	43	P		P	02 00 14.9 +1.0
BRVK	Borovoye	23.29	43	P		P	02 00 14.9 +1.0
BVAR	Borovoye Array	23.33	43	P		P	02 00 14.7 +0.3
	comp=Z,1.5nm,0.8s,baz=224,slow=10,SNR=9.5						
PRU	Pruhonice	23.50	308	eP		P	02 00 16.0 0.0
PRU				ex		x	02 00 21.6
PRU	Pruhonice	23.50	308	eP		P	02 00 16.0 0.0
PRU				e			02 00 21.6
PRU	Pruhonice	23.50	308	P		P	02 00 16.0 0.0
KBA	Koelnbreinsper	23.59	301	i pP		P	02 00 17.5 +0.4
	comp=Z,10nm,1.6s						
KBA	Koelnbreinsper	23.59	301	P		P	02 00 17.5 +0.4
	comp=Z,10nm,1.6s						
PRA	Prague	23.59	308	eP		P	02 00 20.3 +3.4
PRA	Prague	23.59	308	eP		P	02 00 20.3 +3.4
PRA	Prague	23.59	308	P		P	02 00 20.3 +3.4
PVCC	Panska Ves	23.65	309	eP		P	02 00 21.8 +4.3
PVCC				ex		x	02 00 29.1
PVCC	Panska Ves	23.65	309	eP		P	02 00 21.8 +4.3
PVCC				e			02 00 29.1
AAK	Ala-Archa	23.68	71	P		P	02 00 17.7 -0.4
	comp=Z,1.2nm,0.8s,baz=204,slow=12,SNR=3.7						
AAK	Ala-Archa	23.68	71	⇓eP		P	02 00 16.1 -2.0
AAK				pmax		pmax	
	comp=Z,18nm,1.7s						
AAK	Ala-Archa	23.68	71	eP		P	02 00 18.4 +0.3
	comp=Z,12nm,1.2s						
GEC2	GERESS Array S	23.72	305	eP		P	02 00 18.5 +0.3
GEC2				pmax		pmax	
	comp=Z,20nm,1.7s						
GEC2	GERESS Array S	23.72	305	eP		P	02 00 18.5 +0.3
	comp=Z,20nm,1.7s						
GERES	GERESS Array B	23.72	305	P		P	02 00 18.2 0.0
	comp=Z,4.6nm,1.3s,baz=111,slow=7.3,SNR=9.8						
FRU	Bishkek	23.77	70	i P		P	02 00 25.0 +6.2
FRU				pmax		pmax	
	comp=Z,120nm,1.6s						
KHC	Kasperske Hory	23.87	306	eP		P	02 00 19.7 +0.1
KHC				ex		x	02 00 24.9
KHC	Kasperske Hory	23.87	306	eP		P	02 00 19.4 -0.2
KHC				pmax		pmax	
	comp=Z,20nm,2.0s						
KHC	Kasperske Hory	23.87	306	P		P	02 00 19.7 +0.1
KHC	Kasperske Hory	23.87	306	eP		P	02 00 19.4 -0.2
	comp=Z,20nm,2.0s						
ABTA	Abfaltersbach	24.10	300	i pP		P	02 00 22.8 +0.9
	comp=Z,4.2nm,0.9s						
ABTA	Abfaltersbach	24.10	300	P		P	02 00 22.8 +0.9
	comp=Z,4.2nm,0.9s						
BRG	Berggiesshubel	24.14	310	eP		P	02 00 25.9 +3.8
	comp=Z,20nm,1.7s						
BRG	Berggiesshubel	24.14	310	eP		P	02 00 25.9 +3.8
BRG				pmax		pmax	
	comp=Z,21nm,1.7s						
WET	Wettzell	24.32	305	P		P	02 00 24.4 +0.6
WET				pmax		pmax	
	comp=Z,29nm,1.6s						
TKM2	Tokmak 2	24.49	70	P		P	02 00 27.5 +1.8
TKM2				pmax		pmax	
	comp=Z,14nm,1.3s						
WTTA	Wattenberg	24.77	301	i P		P	02 00 27.7 -0.4
	comp=Z,12nm,1.3s						
WTTA	Wattenberg	24.77	301	P		P	02 00 27.7 -0.4
	comp=Z,12nm,1.3s						
WATA	Walderalm	24.82	301	i P		P	02 00 28.4 -0.1
	comp=Z,21nm,1.3s						
WATA	Walderalm	24.82	301	P		P	02 00 28.4 -0.1
	comp=Z,21nm,1.3s						
CLL	Collm	24.84	310	i P		P	02 00 28.4 -0.1
CLL				i			02 00 33.6
CLL				pmax		pmax	
	comp=Z,9.0nm,1.0s						
CLL	Collm	24.84	310	i P		P	02 00 28.4 -0.1
	comp=Z,9.0nm,1.0s						
CLL				i			02 00 33.6
CLL				i			02 00 38.0
CLL				e			02 00 47.0
CLL	Collm	24.84	310	eP		P	02 00 28.2 -0.3
	comp=Z,9.3nm,1.0s						
NKC	Novy Kostel	24.86	308	eP		P	02 00 28.3 -0.4
NKC	Novy Kostel	24.86	308	eP		P	02 00 28.3 -0.4
NKC	Novy Kostel	24.86	308	P		P	02 00 28.3 -0.4
KSH	Kashi	25.06	78	eP		P	02 00 32.0 +1.3
KSH				PP		PnPn	02 01 08.0 +3.9
KSH				PcP		PcP	02 04 09.3 +4.2
KSH				S		S	02 04 54.0 -0.5
KSH				SS		SnSn	02 05 50.0 +6.4
KSH				PcS		PcS	02 07 49.0 +3.5
KSH				pmax		pmax	
	comp=Z,4.0nm,0.4s						
KSH				pmax		pmax	
	comp=Z,120nm,5.2s						
KSH				LR		LR	
	comp=N,160nm,8.1s						
KSH				LR		LR	
	comp=E,120nm,8.2s						
KSH				LR		LR	
	comp=Z,130nm,8.6s						
MOTA	Moosalm	25.14	301	i P		P	02 00 30.9 -0.5
	comp=Z,6.6nm,0.8s						
MOTA	Moosalm	25.14	301	P		P	02 00 30.9 -0.5
	comp=Z,6.6nm,0.8s						
FINES	FINESS Array B	25.23	340	P		P	02 00 32.0 +0.2
	comp=Z,1.8nm,0.6s,baz=146,slow=10,SNR=7.5						
FINES	FINESS Array B	25.23	340	i P		P	02 00 32.2 +0.4
FINES				pmax		pmax	
	comp=Z,2.0nm,0.6s						
FETA	Feichten	25.35	300	i P		P	02 00 32.2 -1.1
	comp=Z,5.6nm,0.9s						
FETA	Feichten	25.35	300	P		P	02 00 32.2 -1.1
	comp=Z,5.6nm,0.9s						
RETA	Reutte	25.39	301	i pP		P	02 00 34.8 +1.2
	comp=Z,9.2nm,1.4s						
RETA	Reutte	25.39	301	P		P	02 00 34.8 +1.2
	comp=Z,9.2nm,1.4s						
GRFO	Grafenberg	25.50	306	eP		P	02 00 35.5 +1.1
GRFO				pmax		pmax	
	comp=Z,35nm,1.2s						
GRFO	Grafenberg	25.50	306	eP		P	02 00 35.5 +1.1
	comp=Z,35nm,1.2s						
DAVOX	Davos/Dischmat	25.90	299	P		P	02 00 37.7 -0.7
	comp=Z,2.1nm,0.7s,baz=159,slow=15,SNR=3.6						
DAVA	Damuels	25.95	300	i P		P	02 00 39.2 +0.4
	comp=Z,16nm,1.8s						
DAVA	Damuels	25.95	300	P		P	02 00 39.2 +0.4
	comp=Z,16nm,1.8s						
STU	Stuttgart	26.62	303	eP		P	02 00 44.0 -0.6
STU	Stuttgart	26.62	303	eP		P	02 00 44.0 -0.6
KURBB	Kurchatov Arra	27.29	53	P		P	02 00 51.9 +1.3
	comp=Z,5.2nm,0.8s,baz=264,slow=9.0,SNR=22						
KURK	Kurchatov	27.37	53	⇓eP		P	02 00 52.7 +1.5
KURK				pmax		pmax	
	comp=Z,33nm,1.0s						
KURK	Kurchatov	27.37	53	eP		P	02 00 52.2 +0.9
	comp=Z,8.9nm,0.9s						
KURK	Kurchatov	27.37	53	pP		P	02 00 52.8 +1.5
	SNR=5.8						
KURK	Kurchatov	27.37	53	P		P	02 00 52.8 +1.5
	SNR=5.8						
BNI	Bardonecchia	28.04	295	eP		P	02 00 58.8 +1.2
BNI				pmax		pmax	
	comp=Z,10.0nm,1.1s						
BNI	Bardonecchia	28.04	295	eP		P	02 00 58.8 +1.2
	comp=Z,10nm,1.1s						
HFS	Hagfors	28.53	328	P		P	02 01 00.8 -0.8
	comp=Z,4.0nm,0.8s,baz=119,slow=12,SNR=4.3						
HFS				LR		LR	02 14 20.8
	comp=Z,56nm,20.7s,baz=173,slow=40						
WLF	Walferdange	28.73	305	eP		P	02 01 04.6 +1.2
WLF				pmax		pmax	
	comp=Z,9.0nm,1.1s						
WLF	Walferdange	28.73	305	eP		P	02 01 04.6 +1.2
	comp=Z,8.8nm,1.1s						
MK31	Makanchi Array	29.29	61	i P		P	02 01 13.9 +5.3
MK31				pmax		pmax	
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	29.29	61	P		P	02 01 09.2 +0.6
	comp=Z,1.0nm,0.7s,baz=260,slow=9.1,SNR=6.4						
MKAR				LR		LR	02 14 58.5
	comp=Z,120nm,19.3s,baz=278,slow=41						
MKAR	Makanchi Array	29.29	61	c eP		P	02 01 09.8 +1.2
MKAR				pmax		pmax	
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	30.06	329	P		P	02 01 16.6 +1.5
	comp=Z,5.8nm,1.1s,baz=125,slow=8.8,SNR=2.6						
NOA				LR		LR	02 15 48.1
	comp=Z,30nm,20.9s,baz=270,slow=41						
ZALV	Zalesovo Beam	31.76	48	P		P	02 01 30.6 +0.4
	comp=Z,1.7nm,0.6s,baz=258,slow=9.7,SNR=7.9						
ZALV				LR		LR	02 16 33.1
	comp=Z,99nm,19.0s,baz=248,slow=40						
ARCES	ARCESS Array B	32.38	348	P		P	02 01 34.3 -1.2
	comp=Z,1.7nm,0.7s,baz=168,slow=9.2,SNR=3.2						
WMQ	Urumqi	33.23	67	P		P	02 01 42.0 -1.3
WMQ				pP		pP	02 01 45.3 -2.7
WMQ				sP		sP	02 01 51.0 +1.1
WMQ				PP		PnPn	02 02 52.0 -1.4
WMQ				pmax		pmax	
	comp=Z,7.0nm,1.1s						
WMQ				LR		LR	
	comp=N,57nm,24.1s						
WMQ				LR		LR	
	comp=E,100nm,16.7s						
WMQ				LR		LR	
	comp=Z,89nm,15.1s						
PYUN	Piuthan	34.30	96	eP		P	02 01 54.2 +1.2
DANN	Dangsing	34.79	95	eP		P	02 01 58.5 +1.3
KOLN	Koldanda	34.93	96	eP		P	02 01 59.6 +1.2
	comp=Z,14nm,0.8s						
ESK	Eskdalemuir	35.21	314	eP		P	02 02 01.2 +1.0
ESK				pmax		pmax	
	comp=Z,23nm,1.0s						
ESK	Eskdalemuir	35.21	314	eP		P	02 02 01.2 +1.0
	comp=Z,23nm,1.0s						
ESK	Eskdalemuir	35.21	314	eP		P	02 02 01.2 +1.0
	comp=Z,23nm,1.0s						
GKN	Gorkha	35.63	95	eP		P	02 02 05.4 +1.0
	comp=Z,13nm,0.7s						
TAM	Tamanrasset	36.08	255	eP		P	02 02 08.4 +0.2
TAM				pmax		pmax	
	comp=Z,9.0nm,1.2s						
TAM	Tamanrasset	36.08	255	eP		P	02 02 08.4 +0.2
	comp=Z,8.7nm,1.2s						
TAM	Tamanrasset	36.08	255	eP		P	02 02 08.4 +0.2
	comp=Z,8.7nm,1.2s						
DMN	Daman	36.18	95	eP		P	02 02 10.6 +1.4
	comp=Z,48nm,1.2s						
PKI	Pulchoki	36.44	95	eP		P	02 02 12.5 +1.0
	comp=Z,16nm,0.9s						
ESDC	Sonseca Array	36.55	287	P		P	02 02 10.4 -1.5
	comp=Z,1.7nm,0.7s,baz=69,slow=8.6,SNR=11						
GUN	Gumba	36.64	94	eP		P	02 02 14.3 +1.0
JIRN	Jiri	37.01	94	eP		P	02 02 17.1 +0.7
	comp=Z,238nm,1.0s						
RAMN	Ramite	37.66	95	eP		P	02 02 22.5 +0.7
ODAN	Odare	38.33	95	eP		P	02 02 28.9 +1.5
	comp=Z,61nm,1.2s						
NRIK	Noril'sk	38.55	23	LR		LR	02 21 21.8
	comp=Z,152nm,18.8s,baz=260,slow=41						
SFS	San Fernando	39.15	283	P		P	02 02 35.5 +1.6
SFS				pmax		pmax	
	comp=Z,84nm,1.0s						
SFS	San Fernando	39.15	283	P		P	02 02 35.5 +1.6
	comp=Z,84nm,1.0s						
TOA0	Torodi Ar. Sit	44.93	247	eP		P	02 03 20.0 -1.3
	comp=Z,7.2nm,1.0s						
TOA0	Torodi Ar. Sit	44.93	247	eP		P	02 03 20.1 -1.3
	comp=Z,7.2nm,1.0s						
TORD	Torodi Ar. Bea	44.93	247	P		P	02 03 19.5 -1.8
	comp=Z,3.2nm,0.9s,baz=60,slow=8.2,SNR=20						
SONM	Songino Array	45.47	57	P		P	02 03 26.3 +0.9
	comp=Z,0.5nm,0.3s,baz=273,slow=5.6,SNR=4.7						
ULN	Ulaanbaatar	45.90	57	eP		P	02 03 29.0 +0.2
ULN				pmax		pmax	
	comp=Z,7.0nm,1.0s						
ULN	Ulaanbaatar	45.90	57	eP		P	02 03 29.0 +0.2
	comp=Z,6.9nm,1.0s						
ULN	Ulaanbaatar	45.90	57	eP		P	02 03 29.0 +0.2
	comp=Z,6.9nm,1.0s						
LZH	Lanzhou	47.17	73	eP		P	02 03 41.0 +2.0
LZH				pP		sP	02 03 43.3 -2.4
LZH				sP		pP	02 03 45.3 +1.5
LZH				pmax		pmax	
	comp=Z,12nm,1.0s						
HHC	Hu-ho-hao-te	51.06	65	eP		P	02 04 06.5 -2.1
HHC				PP		PP	02 06 02.5 -2.5
HHC				S		S	02 11 21.0 -4.6
HHC	Hu-ho-hao-te	51.06	65	SS		SS	02 14 50.5 -10
HHC				pmax		pmax	
	comp=Z,22nm,1.1s						
HHC				pmax		pmax	
	comp=Z,82nm,4.8s						
HHC				LR		LR	
	comp=N,230nm,12.3s						
HHC				LR		LR	
	comp=E,250nm,9.9s						
HHC				LR		LR	
	comp=Z,220nm,11.1s						
KMI	Kunming	51.18	87

KKM	**Kota Kinabalu**	**72.68**	**96**	*e*P		**P**	**02 06 33.5**	**-1.0**
	comp=Z,21nm,0.9s							
KKM	**Kota Kinabalu**	**72.68**	**96**	*e*P		**P**	**02 06 33.5**	**-1.0**
	comp=Z,21nm,0.9s							

*DJA **30** 02:02:12.3±0.3,5°N±2°×9°6E±°, h10km, M5.0/14, mb4.9/14, mB5.3/6, MLv5.1/12, Mw(mB)4.8/6*
*ISCJB **30** 02:02:14.6±0.6, 4°80N±0°03×96°07E±0°04, h42km±5km, mb4.5/61, MS4.0/9, Error ellipse: s-maj=6.6km s-min=4.2km az=166.6*
*NEIC **30** 02:02:16.9±0.8, 4°91N×96°13E, h46km±7km, mb4.7/29, Error ellipse: s-maj=8.6km s-min=4.9km az=49.0*
NEIC Felt [III] at Banda Aceh.
*KLM **30** 02:02:18.4, 4°48N×96°03E, h49km, mb4.6*
*IDC **30** 02:02:20.4±5.4, 5°00N×96°22E, h75km±49km, mb3.9/26, mb1 4.0/27, mb1mx3.9/47, mbtmp4.2/27, ML4.4/1, MS3.7/4, Ms1 3.8/4, ms1mx3.3/50, Error ellipse: s-maj=18.4km s-min=9.5km az=52.0*
ISC 30 02:02:14.7±1.3, 4°85N±0°04×96°04E±0°04, h23km±10km, n143, σ2°01/151, mb4.6/61, MS4.0/10, 6C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.68**	**148**	P	**Pb**	**02 02 26.4**	**-1.5**
MLSI				S	**Sb**	**02 02 35.9**	**-1.0**
LHMI	**Lhok Sumawe**	**0.98**	**67**	P	**Pn**	**02 02 31.7**	**-1.2**
LHMI				S	**Sn**	**02 02 45.7**	**-0.3**
LHMI	**Lhok Sumawe**	**0.98**	**67**	*e*Pn	**Pn**	**02 02 31.7**	**-1.2**
LHMI				*e*Sn	**Sn**	**02 02 44.2**	**-1.8**
TPTI		**1.94**	**144**	P	**Pn**	**02 02 45.9**	**-0.3**
TPTI				S	**Sb**	**02 03 13.7**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.17**	**127**	P	**Pn**	**02 02 50.7**	**+1.3**
KCSI				S	**Sb**	**02 03 21.8**	**+2.0**
SNSI	**Sinabang, Aceh**	**2.44**	**173**	P	**Pn**	**02 02 53.1**	**0.0**
TSI	**Tuntungan**	**2.85**	**118**	P	**Pn**	**02 02 58.9**	**+0.2**
TSI				S	**Sb**	**02 03 43.1**	**+3.8**
PSI	**Prapat**	**3.52**	**125**	*e*Pn	**Pn**	**02 03 10.3**	**+2.2**
PKDT	**Phuket**	**3.79**	**37**	P	**Pn**	**02 03 12.9**	**+1.3**
KRAB	**Krabi**	**4.59**	**43**	P	**Pn**	**02 03 24.0**	**+1.4**
KULM	**Kulim**	**4.61**	**84**	*e*Pn	**Pn**	**02 03 22.1**	**-0.9**
KULM				*e*Sn	**Sn**	**02 04 11.9**	**-3.9**
KULM	**Kulim**	**4.61**	**84**	⇓P	**Pn**	**02 03 22.7**	**-0.2**
TRTT	**Trang**	**4.69**	**51**	P	**Pn**	**02 03 24.0**	**0.0**
SURT	**Suratani**	**4.91**	**34**	P	**Pn**	**02 03 27.3**	**+0.2**
PBSI	**Pulau Batu**	**5.36**	**155**	P	**Pn**	**02 03 33.2**	**0.0**
	119nm,0.9s,1.0nm						
FRIM	**Kepong**	**5.79**	**106**	⇓P	**Pn**	**02 03 38.6**	**-0.6**
BKNI	**Bangkinang**	**6.71**	**132**	P	**Pn**	**02 03 52.0**	**+0.1**
BKNI	**Bangkinang**	**6.71**	**132**	*e*Pn	**Pn**	**02 03 53.0**	**+1.1**
SISI	**Saibi**	**6.85**	**154**	P	**Pn**	**02 03 53.9**	**+0.2**
	40nm,0.7s,1μm0.3nm						
KTGM	**Kuala Trenggan**	**7.08**	**86**	⇑P	**Pn**	**02 03 56.7**	**-0.2**
PDSI	**Padang**	**7.23**	**142**	P	**Pn**	**02 03 58.9**	**0.0**
KGM	**Kluang**	**7.79**	**111**	⇑P	**Pn**	**02 04 08.9**	**+2.3**
MYKOM	**Kota Tinggi**	**8.36**	**111**	⇑P	**Pn**	**02 04 15.9**	**+1.4**
PPSI	**Pulau Pagai**	**8.54**	**152**	P	**Pn**	**02 04 15.9**	**-1.0**
TPRI	**Tanjung Pinang**	**9.33**	**114**	P	Pn	02 04 35.2	+7.4
DSRI	**Dabo**	**10.03**	**122**	P	**Pn**	**02 04 37.8**	**+0.3**
MASI	**Maura Aman, Be**	**10.06**	**142**	P	Pn	02 04 50.9	+13
NAYO	**Nakonayok**	**10.75**	**29**	P	**Pn**	**02 04 50.9**	**+3.7**
	12nm,1.1s,694nm						
UTHA	**Uthaitani**	**11.16**	**17**	P	Pn	02 04 57.8	+5.0
	6.3nm,0.8s						
LHSI	**Lahat**	**11.41**	**139**	P	**Pn**	**02 04 56.7**	**+0.4**
MNAI	**Manna**	**11.46**	**143**	P	**Pn**	**02 04 56.9**	**-0.1**
MNAI	**Manna**	**11.46**	**143**	*e*Pn	**Pn**	**02 04 56.2**	**-0.9**
MDSI	**Maura Dua**	**12.33**	**139**	P	**Pn**	**02 05 08.8**	**-0.1**
CHAI	**Chaiyaphum**	**12.44**	**28**	P	**P**	**02 05 25.2**	**+3.1**
PBKT	**Sadao Pong**	**12.61**	**22**	P	**Pn**	**02 05 15.1**	**+2.4**
	39nm,0.6s						
KLSI		**12.85**	**137**	P	**Pn**	**02 05 14.5**	**-1.5**
	20nm,0.8s,520nm						
KASI	**Kota Agung**	**13.32**	**141**	P	**Pn**	**02 05 21.7**	**-0.7**
UTTA	**Uttaradit**	**13.55**	**19**	P	**P**	**02 05 35.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**13.82**	**12**	P	**Pn**	**02 05 31.4**	**+2.1**
	0.6nm,0.3s,baz=197,slow=14,SNR=6.1						
CMAR				LR	LR	02 11 08.9	
	comp=Z,247nm,18.8s,baz=200,slow=39						
CHTO	**Chiang Mai**	**14.17**	**11**	*e*Pn	**Pn**	**02 05 34.8**	**+0.8**
KSM	**Kuching**	**14.63**	**103**	*e*Pn	**Pn**	**02 05 40.4**	**0.0**
KSM	**Kuching**	**14.63**	**103**	⇓P	**P**	**02 05 47.4**	**+0.9**
CMAI	**Chiengmai2**	**15.28**	**11**	P	**P**	**02 05 51.9**	**-1.9**
PALK	**Pallekele**	**15.44**	**280**	*e*Pn	**Pn**	**02 05 52.0**	**+0.7**
SBUM	**Sibu**	**16.32**	**98**	⇓P	**P**	**02 06 08.2**	**+3.0**
QIZ	**Qiongzhong**	**19.49**	**43**	P	**P**	**02 06 40.5**	**+0.3**
QIZ				S	**S**	**02 10 19.0**	**-0.3**
QIZ				LR	LR		
	comp=Z,110nm,14.7s						
KKM	**Kota Kinabalu**	**20.11**	**86**	*e*P	Pn	02 06 48.3	-0.8
	comp=Z,19nm,0.8s						
KKM	**Kota Kinabalu**	**20.11**	**86**	⇓P	Pn	02 06 49.2	+0.1
SDKM	**Sandakan**	**21.08**	**87**	⇓P	**P**	**02 07 01.4**	**+3.8**
KMI	**Kunming**	**21.16**	**17**	P	**P**	**02 06 59.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
KMI				LR	LR		
	comp=N,470nm,11.3s						
KMI				LR	LR		
	comp=E,410nm,10.0s						
KMI				LR	LR		
	comp=Z,510nm,12.2s						
HYB	**Hyderabad**	**21.20**	**307**	*i* P	**P**	**02 06 59.0**	**+0.2**
TSM	**Tawau**	**21.77**	**91**	⇑P	**P**	**02 07 07.2**	**+2.3**
MYLDM	**Lahad Datu**	**22.37**	**88**	*e*P	**P**	**02 07 10.6**	**-0.9**
	comp=Z,37nm,1.2s						
JBP	**Jabalpur**	**23.92**	**321**	⇑*e*P	P	02 07 38.9	+12
JBP				*e*S	**S**	**02 11 46.9**	**+4.7**
JIRN	**Jiri**	**24.55**	**339**	*e*P	**P**	**02 07 32.9**	**-0.3**
GUN	**Gumba**	**24.89**	**338**	*e*P	**P**	**02 07 36.0**	**-0.3**
LSA	**Lhasa**	**25.15**	**350**	*e*P	**P**	**02 07 38.5**	**-0.2**
GKN	**Gorkha**	**25.46**	**336**	*e*P	**P**	**02 07 40.6**	**-0.6**
KAPI	**Kappang**	**25.62**	**112**	*e*P	**P**	**02 07 42.2**	**-0.4**
	comp=Z,14nm,1.0s						
KOLN	**Koldanda**	**25.69**	**334**	*e*P	**P**	**02 07 43.0**	**-0.4**
	comp=Z,16nm,0.7s						
PYUN	**Piuthan**	**26.25**	**333**	*e*P	**P**	**02 07 47.6**	**-0.8**
H08S2	**Diego Garcia H**	**26.57**	**242**	T	T	02 34 59.4	
	baz=61,slow=75,SNR=1141						
H08S3	**Diego Garcia B**	**26.57**	**242**	T	T	02 34 48.5	
	baz=61,slow=75,SNR=764						
H08S1	**Diego Carcia H**	**26.59**	**242**	T	T	02 35 00.3	
	baz=61,slow=75,SNR=1168						
CD2	**Chengdu**	**26.92**	**15**	P	**P**	**02 07 55.5**	**+1.2**
CD2				S	**S**	**02 12 31.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,90nm,4.2s						
CD2				LR	LR		
	comp=N,310nm,10.5s						
CD2				LR	LR		
	comp=E,420nm,13.3s						
CD2				LR	LR		
	comp=Z,450nm,9.9s						
XAN	**Xi'an**	**31.41**	**21**	P	**P**	**02 08 34.5**	**+0.3**
XAN				pP	pP	02 08 40.5	-0.7
XAN				sP	sP	02 08 43.5	-0.6
XAN				PP	**PP**	**02 09 46.8**	**+1.4**
XAN				S	S	02 13 54.0	+13
XAN				sS	sS	02 14 04.0	+12
XAN				SS	**SS**	**02 15 58.5**	**+2.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,69nm,5.6s						
XAN				LR	LR		
	comp=N,210nm,18.6s						
XAN				LR	LR		
	comp=E,420nm,19.6s						
XAN				LR	LR		
	comp=Z,200nm,19.0s						
LZH	**Lanzhou**	**31.91**	**12**	*e*P	**P**	**02 08 41.5**	**+2.9**
LZH				pP	pP	02 08 48.0	+2.3
LZH				sP	sP	02 08 51.5	+2.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
NJ2	**Nanjing**	**34.48**	**36**	*e*P	**P**	**02 09 01.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,1.1s						
GTA	**Gaotai**	**34.58**	**5**	⇑P	P	02 09 06.8	+5.0
GTA				pP	pP	02 09 11.3	+2.4
GTA				sP	sP	02 09 14.0	+2.2
GTA				S	**S**	**02 14 37.0**	**+7.2**
GTA				sS	sS	02 14 44.3	+2.9
GTA				SS	**SS**	**02 16 52.0**	**-8.2**
GTA				pmax	pmax		
	comp=Z,12nm,1.1s						
GTA				pmax	pmax		
	comp=Z,83nm,4.8s						
GTA				LR	LR		
	comp=N,170nm,19.0s						
GTA				LR	LR		
	comp=E,190nm,17.8s						
GTA				LR	LR		
	comp=Z,110nm,18.1s						
FAKI	**Fak Fak**	**36.99**	**101**	*e*P	**P**	**02 09 21.6**	**-1.2**
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.04**	**129**	*e*P	**P**	**02 09 21.4**	**-1.7**
HHC	**Hu-ho-hao-te**	**38.46**	**19**	*e*P	**P**	**02 09 36.0**	**+1.1**
HHC				PP	**PP**	**02 11 04.0**	**+0.8**
HHC				S	**S**	**02 15 28.0**	**-1.0**
HHC				SS	**SnSn**	**02 18 11.5**	**-4.8**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,88nm,3.8s						
HHC				LR	LR		
	comp=N,230nm,13.6s						
HHC				LR	LR		
	comp=E,250nm,12.3s						
HHC				LR	LR		
	comp=Z,210nm,12.2s						
KSH	**Kashi**	**38.99**	**335**	SS	SS	02 18 56.3	+27
KSH				AMB	AMB		
	comp=Z,150nm,11.2s						
KSH				LR	LR		
	comp=N,140nm,12.0s						
KSH				LR	LR		
	comp=E,140nm,11.1s						
KSH				LR	LR		
	comp=Z,100nm,12.2s						
KSH	**Kashi**	**38.99**	**335**	*e*P	**P**	**02 09 39.0**	**-0.5**
KSH				pP	pP	02 09 45.3	-1.3
KSH				sP	sP	02 09 48.3	-1.2
KSH				PP	**PnPn**	**02 11 13.0**	**+1.4**
KSH				PcP	**PcP**	**02 11 50.8**	**+1.2**
KSH				S	**S**	**02 15 34.5**	**-2.7**
KSH				SS	**SnSn**	**02 18 17.8**	**-11**
KSH	**Kashi**	**38.99**	**335**	ScS	ScS	02 19 43.0	-5.0
KSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,98nm,5.4s						
KSH				LR	LR		
	comp=N,120nm,10.4s						
KSH				LR	LR		
	comp=E,120nm,7.8s						
KSH				LR	LR		
	comp=Z,230nm,7.3s						
BJI	**Beijing**	**39.46**	**25**	P	**P**	**02 09 44.0**	**+0.9**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMQ	**Urumqi**	**39.51**	**350**	P	**P**	**02 09 44.3**	**+0.7**
WMQ				pP	pP	02 09 54.0	+3.3
WMQ				sP	sP	02 10 03.8	+10
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,340nm,7.5s						
WMQ				LR	LR		
	comp=N,75nm,14.7s						
WMQ				LR	LR		
	comp=E,200nm,23.7s						
WMQ				LR	LR		
	comp=Z,80nm,23.7s						
WSAR	**Wadi Sarin**	**40.45**	**301**	P	**P**	**02 09 53.6**	**+1.9**
	comp=Z,5.0nm,0.6s,baz=155,slow=5.4,SNR=9.2						
AAK	**Ala-Archa**	**42.22**	**336**	P	**P**	**02 10 06.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=204,slow=10,SNR=2.8						
AAK	**Ala-Archa**	**42.22**	**336**	*e*P	**P**	**02 10 05.8**	**-0.3**
	comp=Z,6.6nm,1.2s						
NWAO	**Narrogin (SRO)**	**42.61**	**153**	P	**P**	**02 10 09.8**	**+0.6**
	comp=Z,24nm,0.8s,baz=199,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**43.45**	**346**	P	**P**	**02 10 14.6**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=161,slow=8.2,SNR=10						
MKAR				LR	LR	02 32 48.7	
	comp=Z,63nm,18.4s,baz=214,slow=42						
KS15	**Wonju Array Si**	**43.56**	**38**	*e*P	**P**	**02 10 15.8**	**-1.1**
SONM	**Songino Array**	**43.74**	**10**	P	**P**	**02 10 18.2**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=185,slow=9.3,SNR=7.0						
ULN	**Ulaanbaatar**	**43.89**	**11**	*e*P	**P**	**02 10 18.9**	**-0.6**
	comp=Z,1.7nm,0.6s						
KKAR	**Karatay Array**	**44.30**	**333**	*e*P	**P**	**02 10 23.0**	**+0.3**
	comp=Z,26nm,0.8s						
WRA	**Warramunga Arr**	**44.99**	**124**	P	**P**	**02 10 27.4**	**-1.2**
	comp=Z,6.6nm,0.5s,baz=302,slow=9.3,SNR=53						
WRAB	**Tennant Creek**	**44.99**	**124**	*e*P	**P**	**02 10 27.4**	**-1.2**
	comp=Z,6.5nm,0.4s						
WB2	**Warramunga Arr**	**45.00**	**124**	*e*P	**P**	**02 10 27.5**	**-1.1**
	comp=Z,8.3nm,0.6s						
AS31	**Alice Springs**	**46.54**	**129**	*e*P	**P**	**02 10 40.2**	**-0.6**
	comp=Z,7.7nm,0.8s						
ASAR	**Alice Springs**	**46.54**	**129**	P	**P**	**02 10 40.1**	**-0.7**
	comp=Z,25nm,0.7s,baz=298,slow=7.8,SNR=263						
FORT	**Forrest**	**46.81**	**141**	*e*P	**P**	**02 10 43.2**	**+0.5**
GEYT	**Alibeck**	**47.70**	**319**	P	**P**	**02 10 49.5**	**-0.2**
	comp=Z,10nm,0.6s,baz=147,slow=8.9,SNR=31						
GEYT				LR	LR	02 32 43.4	
	comp=Z,183nm,20.7s,baz=125,slow=38						
KURBB	**Kurchatov Arra**	**47.93**	**345**	P	**P**	**02 10 50.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=156,slow=7.1,SNR=5.1						
KURK	**Kurchatov**	**47.99**	**345**	*e*P	**P**	**02 10 50.2**	**-1.4**
	comp=Z,8.5nm,0.4s						
ZAA0	**Zalesovo Array**	**49.80**	**351**	*e*P	**P**	**02 11 07.8**	**+2.4**
ZALV	**Zalesovo Beam**	**49.80**	**351**	P	**P**	**02 11 03.8**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=177,slow=8.1,SNR=6.1						
MAJO	**Matsushiro**	**49.86**	**45**	*e*P	**P**	**02 11 06.1**	**-0.2**
	comp=Z,5.6nm,0.8s						
DAMY	**Dhamar**	**51.71**	**285**	*e*P	**P**	**02 11 22.0**	**+1.1**
	comp=Z,14nm,1.1s						
RAYN	**Ar Rayn**	**52.08**	**296**	*e*P	**P**	**02 11 23.6**	**+0.3**
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**52.45**	**341**	P	**P**	**02 11 23.3**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=144,slow=9.3,SNR=5.7						
BRVK	**Borovoye**	**52.51**	**341**	*e*P	**P**	**02 11 24.2**	**-1.6**
	comp=Z,7.8nm,0.8s						
ATD	**Arta Tunnel**	**53.01**	**281**	P	**P**	**02 11 31.3**	**+1.0**
	comp=Z,5.6nm,0.7s,baz=23,slow=11,SNR=3.7						
BBOO	**Buckleboo**	**53.32**	**138**	*e*P	**P**	**02 11 30.6**	**-1.5**
	comp=Z,41nm,1.4s						
KLR	**Kul'dur**	**53.57**	**28**	P	**P**	**02 11 33.9**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=270,slow=11,SNR=2.2						
ABKAR	**Akbulak array**	**53.78**	**331**	*e*P	**P**	**02 11 33.1**	**-2.1**
	comp=Z,1.3nm,0.5s						
CTA	**Charters Tower**	**55.20**	**118**	P	**P**	**02 11 45.1**	**-1.0**
	comp=Z,7.6nm,0.9s,baz=290,slow=9.4,SNR=7.4						
CTAO	**Charters Tower**	**55.20**	**118**	*e*P	**P**	**02 11 44.7**	**-1.4**
	comp=Z,9.3nm,1.0s						
STKA	**Stephens Creek**	**56.66**	**133**	P	**P**	**02 11 55.8**	**-0.6**
	comp=Z,6.8nm,0.6s,baz=309,slow=6.2,SNR=20						
STKA	**Stephens Creek**	**56.66**	**133**	*e*P	**P**	**02 11 55.7**	**-0.6**
	comp=Z,1.6nm,0.7s						
GNI	**Garni**	**57.90**	**315**	*e*P	**P**	**02 12 06.2**	**+1.0**
	comp=Z,51nm,0.6s						
KMBO	**Kilima Mbogo**	**59.03**	**266**	P	**P**	**02 12 15.3**	**+1.7**
	comp=Z,4.8nm,0.7s,baz=61,slow=10,SNR=20						
KMBO	**Kilima Mbogo**	**59.03**	**266**	*e*P	**P**	**02 12 15.0**	**+1.4**
	comp=Z,5.5nm,0.9s						
ARU	**Arti**	**59.40**	**337**	P	**P**	**02 12 16.2**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=289,slow=22,SNR=1.6						
ARU	**Arti**	**59.40**	**337**	*e*P	**P**	**02 12 15.1**	**0.0**
	comp=Z,2.5nm,0.7s						
KBZ	**Khabaz**	**60.59**	**318**	P	**P**	**02 12 22.6**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=148,slow=5.3,SNR=6.7						
KIV	**Kislovodsk**	**60.82**	**318**	*e*P	**P**	**02 12 23.7**	**-1.5**
	comp=Z,16nm,1.0s						
CAN	**Canberra**	**63.73**	**133**	*e*P	**P**	**02 12 44.5**	**-0.3**
	comp=Z,14nm,0.8s						
BR131	**Keskin Array S**	**65.83**	**311**	*e*P	**P**	**02 12 56.8**	**-1.8**
BRTR	**Keskin Array B**	**65.83**	**311**	P	**P**	**02 12 56.8**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=122,slow=6.2,SNR=13						
LSZ	**Lusaka**	**70.09**	**252**	*e*P	**P**	**02 13 26.1**	**+0.3**
	comp=Z,9.4nm,1.4s						
AKASG	**Malin Array Be**	**71.69**	**322**	P	**P**	**02 13 31.5**	**-3.2**
	comp=Z,0.3nm,0.4s,baz=98,slow=3.2,SNR=4.2						
IDI	**Anoyia**	**71.84**	**305**	LR	LR	02 49 28.4	
	comp=Z,35nm,18.5s,baz=258,slow=39						
BUR08	**Bucovina Ar. S**	**73.56**	**318**	*e*P	**P**	**02 13 45.0**	**-1.1**
BOSA	**Boshof**	**75.62**	**239**	P	**P**	**02 13 59.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=65,slow=6.0,SNR=5.8						
MAW	**Mawson**	**75.99**	**192**	P	**P**	**02 14 01.2**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=344,slow=9.0,SNR=6.2						
MAW	**Mawson**	**75.99**	**192**	*e*P	**P**	**02 14 01.4**	**+2.0**
	comp=Z,1.2nm,1.4s						
CRVS	**Cervenica-Dubn**	**76.24**	**319**	*e*P	**P**	**02 14 00.8**	**-0.6**
FINES	**FINESS Array B**	**76.25**	**332**	P	**P**	**02 13 58.9**	**-2.3**
	comp=Z,1.4nm,0.8s,baz=170,slow=18,SNR=3.4						
STHS	**Stebnicka Huta**	**76.45**	**320**	*e*P	**P**	**02 14 02.1**	**-0.5**
PSZ	**Piszkesteto**	**77.14**	**318**	*e*P	**P**	**02 14 04.8**	**-1.7**
	comp=Z,3.1nm,0.8s						
VYHS	**Vyhne**	**77.91**	**318**	*e*P	**P**	**02 14 08.0**	**-2.8**
ARCES	**ARCESS Array B**	**78.73**	**340**	P	**P**	**02 14 13.6**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=90,slow=5.9,SNR=6.7						
AQU	**L'Aquila**	**81.32**	**312**	*e*P	**P**	**02 14 26.4**	**-3.1**
	comp=Z,8.5nm,1.0s						
GEC2	**GERESS Array S**	**81.33**	**319**	*e*P	**P**	**02 14 30.6**	**+1.1**
	comp=Z,4.0nm,1.1s						
GERES	**GERESS Array B**	**81.33**	**319**	P	**P**	**02 14 28.4**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=97,slow=5.5,SNR=10						
URZ	**Urewera**	**85.98**	**129**	P	**P**	**02 14 51.7**	**-1.7**
	comp=Z,3.8nm,0.6s,baz=219,slow=6.5,SNR=3.9						
TAM	**Tamanrasset**	**88.63**	**293**	*e*P	**P**	**02 15 07.3**	**+0.6**
	comp=Z,9.8nm,1.7s						
VNDA	**Vanda**	**89.61**	**169**	P	**P**	**02 15 10.3**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=276,slow=6.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**93.13**	**283**	P	**P**	**02 15 27.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=87,slow=4.9,SNR=12						
ESDC	**Sonseca Array**	**94.60**	**310**	P	**P**	**02 15 32.9**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=53,slow=4.9,SNR=2.7						
FFC	**Flin Flon**	**118.77**	**12**	*e*PKPdf	**PKPdf**	**02 21 00.4**	**-0.6**
CPUP	**Villa Florida**	**146.77**	**227**	PKPbc	**PKPbc**	**02 21 55.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=139,slow=7.2,SNR=3.9						

MEX 30 02:07:48.7±0.4, 17°08N×100°86W, h16km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.57**	**93**	*e*P	Pg	02 07 58.2	-1.8
CAIG				*e*S	Sg	02 08 05.3	-2.4
ZIIG	**Zihuatanejo**	**0.78**	**313**	*e*P	Pb	02 08 01.1	-2.8
ZIIG				*e*S	Sb	02 08 10.8	-3.4
ACP2	**Acapulco**	**0.96**	**102**	*e*P	Pb	02 08 03.6	-3.3
ACP2				*e*S	Sb	02 08 15.4	-3.9
ACX	**Acapulco**	**0.98**	**102**	*e*P	Pb	02 08 07.3	-0.1
ACX				*e*S	Sb	02 08 17.8	-2.4
MEIG	**Mezcala**	**1.46**	**54**	*e*P	Pn	02 08 11.0	-3.4
MEIG				*e*S	Sn	02 08 27.6	-5.6

*ISCJB **30** 02:08:58.8±1.0, 14°71S±0°09×76°6W±0°1, h23km, mb3.7/5, Error ellipse: s-maj=22.3km s-min=6.4km az=150.4*
*IDC **30** 02:09:03.2±2.9, 14°61S×76°51W, h40km±23km, mb3.5/5, mb1 4.0/10, mb1mx3.8/35, mbtmp4.0/10, ML3.7/4, Error ellipse: s-maj=38.6km s-min=11.7km az=58.0*
ISC 30 02:09:00.9±1.2, 14°75±0°1×76°6W±0°2, h23km, n16, σ1°03/12, mb3.6/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.68**	**354**	P	**Pn**	**02 09 42.5**	**-0.2**
	13nm,0.3s,baz=136,slow=17,SNR=19						
NNA				S	**Sn**	**02 10 14.5**	**-0.1**
	74nm,0.3s,baz=186,slow=16,SNR=6.6						
ATAH	**Atahualpa**	**7.70**	**346**	P	**Pn**	**02 10 53.1**	**+1.0**
	0.6nm,0.3s,baz=158,slow=13,SNR=2.8						
LPAZ	**La Paz**	**8.29**	**102**	P	**Pn**	**02 11 02.4**	**+2.1**
	1.3nm,0.3s,baz=286,slow=6.4,SNR=46						
LVC	**Limon Verde**	**10.72**	**139**	P	**Pn**	**02 11 34.8**	**+1.4**
	37nm,0.3s,baz=316,slow=8.9,SNR=3.0						
LVC				S	**Sn**	**02 13 32.5**	**-0.5**
	40nm,0.3s,baz=41,slow=21,SNR=8.1						
LVC				Lg	Lg	02 14 37.9	
	18nm,0.3s,baz=170,slow=20,SNR=4.4						
SIV	**San Ignacio**	**15.00**	**97**	P	**Pn**	**02 12 30.6**	**-1.0**
	0.3nm,0.3s,baz=282,slow=9.6,SNR=3.7						
CPUP	**Villa Florida**	**21.39**	**126**	P	**P**	**02 13 47.7**	**+0.5**
	2.1nm,0.9s,baz=282,slow=12,SNR=3.4						
PTGA	**Pitinga**	**21.47**	**51**	P	**P**	**02 13 47.4**	**-0.6**
	2.0nm,0.6s,baz=241,slow=14,SNR=5.9						
TXAR	**Lujitas Array**	**50.98**	**329**	P	**P**	**02 18 01.2**	**0.0**
	0.4nm,0.6s,baz=151,slow=7.4,SNR=7.2						
PDAR	**Pinedale Array**	**64.69**	**334**	P	**P**	**02 19 37.1**	**-0.3**
	0.3nm,0.6s,baz=104,slow=3.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.24**	**74**	P	**P**	**02 21 20.6**	**-0.4**
	3.7nm,0.8s,baz=263,slow=4.8,SNR=24						
H11N3	**WAKE ISLAND Hyl**	**19.45**	**285**	T	T	04 38 40.7	
	baz=96,slow=74,SNR=208			

σ0$63/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.22	116	*e*PG	Pg	02 10 28.3	+0.6
VANB				*e*SG	Sg	02 10 31.7	+0.6
VANB	Van	0.22	116	*e*Pg	Pg	02 10 28.3	+0.6
VANB				*e*Sg	Sg	02 10 31.7	+0.6
TVAN	Van	0.27	128	*i* P	Pg	02 10 28.1	-0.4
TVAN	Van	0.27	128	P	Pg	02 10 28.1	-0.4
ADCV	BITLIS_Adilcev	0.34	290	*i* P	Pg	02 10 30.3	+0.6
ADCV	BITLIS_Adilcev	0.34	290	P	Pg	02 10 30.3	+0.6
ERCV	ERCIS-VAN	0.36	26	*e*PG	Pg	02 10 29.2	-0.9
ERCV	ERCIS-VAN	0.36	26	*e*Pg	Pg	02 10 29.2	-0.9
GEVA	Gevas	0.38	189	*i* P	Pg	02 10 30.1	-0.3
GEVA	Gevas	0.38	189	P	Pg	02 10 30.1	-0.3
TATV	Tatvan	0.70	255	*i* P	Pg	02 10 36.1	-0.3
TATV	Tatvan	0.70	255	P	Pg	02 10 36.1	-0.3
TUTA	Tutak	0.75	341	*i* P	Pg	02 10 37.2	-0.1
TUTA	Tutak	0.75	341	P	Pg	02 10 37.2	-0.1
CLDR	Caldiran	0.76	53	*e*PG	Pg	02 10 37.3	-0.1
CLDR	Caldiran	0.76	53	*e*Pg	Pg	02 10 37.3	-0.1
GURO	Guroymak-BITLI	0.88	261	*e*PG	Pb	02 10 38.6	-1.0
GURO	Guroymak-BITLI	0.88	261	*e*Pg	Pb	02 10 38.6	-1.0
AGRB	Hanur-Agry	0.89	353	*e*PG	Pb	02 10 39.3	-0.6
AGRB				*e*SG	Sg	02 10 52.4	+0.8
AGRB	Hanur-Agry	0.89	353	*e*Pg	Pb	02 10 39.3	-0.6
AGRB				*e*Sg	Sg	02 10 52.4	+0.8
SVAN	Silvan-Diyarba	1.61	251	*e*PN	Pn	02 10 51.1	+0.5
SVAN	Silvan-Diyarba	1.61	251	*e*Pn	Pn	02 10 51.1	+0.5

BJI ***30*** *02:10:34.0, 4.°71S×144.°86E, h58km, mb5.0/57, mB5.3/46, Ms4.8/50, MS7 4.7/50*

DJA ***30*** *02:10:35.6±1.2, 4.°S±4.°×14.°5E±.°, h29km±10km, M5.3/27, mb5.3/27, mB5.6/24, MLv6.1/5, Mw(mB)5.1/24*

ISCJB ***30*** *02:10:37.8±0.6, 4.°34S±0.°03×144.°40E±0.°03, h54km±5km, mb5.1/125, MS4.6/37, Error ellipse: s-maj=5.2km s-min=3.8km az=146.8*

MOS ***30*** *02:10:38.0±1.0, 4.°35S×144.°32E, h58km, mb5.3/33, MS4.7/5, Error ellipse: s-maj=10.5km s-min=5.5km az=103.7*

GCMT ***30*** *02:10:39.1±0.1, 4.°24S×144.°36E, h38km, MW5.3/114, Moment Tensor Solution. s109,c168; s114,c183; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.89±.02; Mθθ-0.62±.02; Mφφ-0.26±.02; Mrθ-0.55±.02; Mrφ0.60±.01; Mθφ0.42±.02; Best double couple: M0=1.20200×1017 NP1:φs307.00000°, δ63.00000°, λ90.00000°. NP2:φs126.00000°, δ27.00000°, λ89.00000°. Principal axes: T 1.1140, Plg72.0000°, Azm218.0000°; N 0.1780, Plg0.0000°, Azm127.0000°; P -1.2910, Plg18.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *02:10:39.1±0.6, 4.°34S×144.°35E, h51km±5km, mb5.3/59 Error ellipse: s-maj=4.3km s-min=3.3km az=68.0*

NEIC Felt at Lae and Wewak.

IDC ***30*** *02:10:40.7±2.4, 4.°39S×144.°32E, h65km±23km, mb4.5/24, mb1 4.6/27, mb1mx4.6/33, mbtmp4.8/27, MS4.6/24, Ms1 4.6/24, ms1mx4.5/32, Error ellipse: s-maj=15.7km s-min=9.2km az=77.0*

ISC 30 02:10:39.6±0.4, 4.°39S±0.°03×144.°35E±0.°04, h57km±3km, h57km:pP-P,n279,σ1$67/314, mb5.1/126, MS4.6/37, 14C-9D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.81	52	*e*Pn	Pn	02 11 32.1	-3.7
JAY	Jayapura	4.09	297	P	Pn	02 11 38.4	-1.2
JAY	Jayapura	4.09	297	P	Pn	02 11 40.1	+0.5
GENI	Genyem	4.54	293	P	Pn	02 11 44.6	-1.2
GENI				S	Sn	02 12 52.6	+15
MMPI	Merauke	5.65	224	P	Pn	02 12 04.8	+3.8
	1μm,0.6s,11nm						
MMPI				S	Sn	02 13 17.8	+13
	1μm,0.6s,11nm						
PMG	Port Moresby	5.71	151	P	Pn	02 12 01.9	0.0
	37nm,0.3s,baz=350,slow=4.5,SNR=41						
PMG				S	Sn	02 13 09.2	+3.1
	82nm,0.3s,baz=140,slow=22,SNR=10						
PMG				LR	LR	02 14 37.1	
	comp=Z,13μm,19.1s,baz=324,slow=41						
PMG	Port Moresby	5.71	151	⇓*i*P	Pn	02 12 02.5	+0.6
PMG				pmax	pmax		
	comp=Z,1μm,0.5s						
SMPI	Sarmi	6.11	293	P	Pn	02 12 09.3	+1.9
	comp=Z,653nm,1.0s,comp=Z,8μmcomp=Z,6.6nm						
RABL	Rabaul	7.80	89	*e*Pn	Pn	02 12 33.6	+3.2
BAKI	Biak	8.82	291	P	Pn	02 12 44.7	+0.2
	comp=Z,177nm,1.0s,comp=Z,2μm						
COEN	Coen	9.58	187	*e*Pn	Pn	02 12 56.8	+2.0
COEN				*e*Sn	Sn	02 14 35.0	-6.1
KMPI	Kaimana, Papua	10.64	274	P	Pn	02 13 11.9	+2.5
FAKI	Fak Fak	12.16	276	P	Pn	02 13 31.0	+0.8
	comp=Z,139nm,0.9s,comp=Z,2μm						
FAKI	Fak Fak	12.16	276	*e*Pn	Pn	02 13 30.1	-0.1
FAKI				*e*Sn	Sn	02 15 37.9	-6.5
SAUI	Saumlaki	13.45	254	P	P	02 14 04.8	+9.4
SAUI	Saumlaki	13.45	254	*e*Pn	Pn	02 13 48.9	+1.1
SAUI				*e*Sn	S	02 16 28.0	-8.7
BNDI	Bandanaira	14.40	269	P	Pn	02 14 03.0	+2.5
	comp=Z,388nm,1.4s,comp=Z,5μm						
MSAI	Masohi	15.42	273	P	P	02 14 17.5	+0.2
	comp=Z,29nm,1.0s,comp=Z,516nm						
MTN	Manton Dam	15.53	236	*e*Pn	Pn	02 14 15.3	+0.3
	comp=Z,315nm,1.4s						
CTA	Charters Tower	15.71	173	P	Pn	02 14 18.8	+1.4
	comp=Z,0.4nm,0.3s,baz=350,slow=14,SNR=12						
CTA				LR	LR	02 21 37.0	
	comp=Z,3μm,18.5s,baz=1.0,slow=42						
CTAO	Charters Tower	15.71	173	*e*P	Pn	02 14 18.2	+0.7
CTAO				pmax	pmax		
	comp=Z,47nm,0.8s						
CTAO	Charters Tower	15.71	173	*e*Pn	Pn	02 14 18.2	+0.7
	comp=Z,47nm,0.8s						
AAI	Ambon	16.13	272	P	P	02 14 36.8	+12
LBMI	Labuha	17.24	282	P	P	02 14 46.6	+9.2
NLAI	Namlea	17.25	273	P	P	02 14 40.1	+2.6
	comp=Z,69nm,2.2s,comp=Z,1μm						
PATS	Pohnpei	17.85	51	*e*P	P	02 14 44.5	+0.3
	comp=Z,386nm,1.4s						
GUMO	Guam	17.87	2	LR	LR	02 21 23.6	
	comp=Z,2μm,18.8s,baz=198,slow=36						
WRAB	Tennant Creek	18.27	211	*ce*P	P	02 14 48.9	+0.2
WRAB				pmax	pmax		
	comp=Z,175nm,0.8s						
WRAB	Tennant Creek	18.27	211	*e*P	P	02 14 48.3	-0.4
	comp=Z,95nm,0.9s						
WRAB				*e*Sn	Sn	02 18 09.7	-2.8
WB2	Warramunga Arr	18.27	211	*e*P	P	02 14 49.3	+0.5
	comp=Z,142nm,1.0s						
WRA	Warramunga Arr	18.28	211	P	P	02 14 48.7	-0.1
	comp=Z,3.7nm,0.3s,baz=36,slow=13,SNR=30						
WRA				LR	LR	02 22 41.5	
	comp=Z,12μm,18.9s,baz=30,slow=40						
SANI	Sanana	18.48	277	P	Pn	02 14 53.7	+1.9
	comp=Z,60nm,0.8s,comp=Z,1μm						
SOEI	Soe	20.62	254	P	P	02 15 16.4	+1.8
SOEI	Soe	20.62	254	*e*P	P	02 15 15.3	+0.7
	comp=Z,888nm,0.9s						
ASAR	Alice Springs	21.65	207	P	P	02 15 25.2	-0.3
	comp=Z,14nm,0.7s,baz=37,slow=8.7,SNR=38						
ASAR				LR	LR	02 24 47.3	
	comp=Z,6μm,19.4s,baz=31,slow=39						
KDI	Kendari	21.68	270	P	P	02 15 32.6	+6.8
	comp=Z,59nm,1.4s,comp=Z,1μm						
LUWI	Luwuk	21.80	278	*e*P	P	02 15 27.1	0.0
	comp=Z,316nm,1.3s						
EIDS	Eidsvold	21.84	163	*e*P	P	02 15 27.7	+0.3
	comp=Z,156nm,0.9s						
MMRI	Maumere	22.36	258	P	P	02 15 33.7	+0.5
	comp=Z,163nm,1.3s,comp=Z,3μm						
MMRI	Maumere	22.36	258	*e*P	P	02 15 32.0	-1.2
	comp=Z,490nm,1.4s						
MMRI				*e*S	S	02 19 36.9	+1.2
FITZ	Fitzroy Crossi	22.82	232	P	P	02 15 37.5	-0.5
	comp=Z,146nm,1.1s,baz=56,slow=8.1,SNR=120						
MRSI	Marisa	22.90	282	P	P	02 15 40.6	+1.7
	comp=Z,89nm,1.0s,comp=Z,2μm						
EDFI	Ende, Flores	22.92	258	P	P	02 15 37.7	-1.4
	comp=Z,107nm,1.7s,comp=Z,1μm						
APSI	Ampana	22.93	278	P	P	02 15 41.7	+2.5
	comp=Z,288nm,1.2s,comp=Z,3μm						
BSSI	Bau Bau, Buton	23.82	265	P	P	02 15 51.1	+3.5
	comp=Z,159nm,1.3s,comp=Z,3μm						
BNSI	Bone	24.17	269	P	P	02 15 52.9	+2.1
	comp=Z,80nm,1.4s,comp=Z,2μm						
BASI	Baing, Sumba	24.27	255	P	P	02 15 52.1	+0.4
	comp=Z,763nm,1.4s,comp=Z,15μm						
TTSI	Tana Toraja	24.51	272	P	P	02 15 56.3	+2.3
	comp=Z,126nm,1.1s,comp=Z,1μm						
SPSI	Sidrap Palu	24.52	270	P	P	02 15 58.8	+4.8
	comp=Z,44nm,1.8s						
KAPI	Kappang	24.52	268	*e*P	P	02 15 53.5	-0.5
	comp=Z,131nm,1.5s						
PCI	Palu	24.73	277	P	P	02 15 59.3	+3.4
	comp=Z,226nm,1.1s,comp=Z,2μm						
PCI	Palu	24.73	277	P	P	02 15 59.3	+3.4
PCI				pmax	pmax		
	comp=Z,227nm,1.1s						
MPSI	Mapaga	24.88	280	P	P	02 15 57.3	+0.1
	comp=Z,33nm,1.6s,comp=Z,674nm						
ARMA	Armidale	26.79	166	*e*P	P	02 16 14.9	+0.4
	comp=Z,72nm,1.2s						
STKA	Stephens Creek	27.47	185	P	P	02 16 21.0	+0.6
	comp=Z,5.7nm,0.7s,baz=358,slow=8.3,SNR=15						
STKA				LR	LR	02 28 34.5	
	comp=Z,4μm,18.5s,baz=0.2,slow=39						
STKA	Stephens Creek	27.47	185	*e*P	P	02 16 21.1	+0.6
	comp=Z,5.0nm,1.0s						
MYLDM	Lahad Datu	27.51	290	*e*P	P	02 16 21.2	+0.1
	comp=Z,195nm,1.5s						
MYLDM	Lahad Datu	27.51	290	⇑P	P	02 16 22.9	+1.8
DZM	Mont Dzumac	27.70	131	P	P	02 16 22.8	0.0
	comp=Z,15nm,1.0s,baz=250,slow=14,SNR=14						
DZM				LR	LR	02 27 07.7	
	comp=Z,2μm,21.3s,baz=356,slow=36						
DZM	Mont Dzumac	27.70	131	*e*P	P	02 16 21.3	-1.5
	comp=Z,34nm,1.1s						
TSM	Tawau	27.82	288	⇑P	P	02 16 27.4	+3.5
SDKM	Sandakan	28.89	290	⇓P	P	02 16 34.3	+0.9
MBWA	Marble Bar	29.15	233	*e*P	P	02 16 34.8	-0.7
	comp=Z,95nm,1.3s						
BBOO	Buckleboo	29.32	194	*e*P	P	02 16 37.1	+0.2
	comp=Z,127nm,1.8s						
TGY	Tagaytay City	29.61	309	P	P	02 16 39.9	+0.2
	comp=Z,148nm,0.3s,baz=153,slow=20,SNR=2.4						
KKM	Kota Kinabalu	29.94	290	*e*P	P	02 16 42.0	-0.8
	comp=Z,23nm,1.1s						
FORT	Forrest	30.41	208	*e*P	P	02 16 47.3	+0.7
	comp=Z,553nm,0.8s						
CAN	Canberra	31.08	173	*e*P	P	02 16 53.0	+0.5
CAN	Canberra	31.08	173	*e*P	P	02 16 53.0	+0.5
SBUM	Sibu	32.82	281	⇓P	P	02 17 07.3	-0.7
KSM	Kuching	34.51	279	*e*P	P	02 17 22.1	-0.6
	comp=Z,47nm,1.8s						
KSM	Kuching	34.51	279	⇓P	P	02 17 22.5	-0.2
MSVF	Nonsavu	35.55	115	*e*P	P	02 17 31.4	-0.3
MSVF				*e**PP	pP	02 17 45.2	-0.8
MSVF	Nonsavu	35.55	115	*e*P	P	02 17 31.4	-0.3
MSVF				*e*pP	pP	02 17 45.2	-0.8
YULB	Yu-li	35.61	322	*e*P	P	02 17 32.2	+0.2
	comp=Z,156nm,1.9s						
NACB	Ninganchiao	36.02	323	*e*P	P	02 17 36.3	+0.8
	comp=Z,28nm,0.9s						
SSLB	Suanglung	36.12	322	*e*P	P	02 17 36.2	-0.2
	comp=Z,95nm,1.9s						
YHNB	Yeheng	36.52	323	*e*P	P	02 17 40.3	+0.4
	comp=Z,148nm,1.5s						
NWAO	Narrogin (SRO)	38.04	218	P	P	02 17 53.3	+0.7
	comp=Z,30nm,0.9s,baz=270,slow=8.4,SNR=14						
NWAO	Narrogin (SRO)	38.04	218	*e*P	P	02 17 53.1	+0.4
	comp=Z,106nm,1.3s						
OUZ	Omahuta	40.89	142	*e*P	P	02 18 17.7	+1.4
	comp=Z,62nm,1.0s						
MJAR	Matsushiro Arr	41.12	352	P	P	02 18 18.4	+0.2
	comp=Z,4.8nm,0.8s,baz=165,slow=6.6,SNR=12						
MJAR				LR	LR	02 35 01.0	
	comp=Z,576nm,18.7s,baz=155,slow=36						
MAJO	Matsushiro	41.12	352	⇓*e*P	P	02 18 18.2	0.0
MAJO				pmax	pmax		
	comp=Z,97nm,1.1s						
MAJO	Matsushiro	41.12	352	*e*P	P	02 18 18.7	+0.5
	comp=Z,12nm,0.9s						
MAT	Matsushiro	41.12	352	P	P	02 18 17.2	-1.0
MAT				S	S	02 24 27.6	+0.3
MJB9	Matsu-Tunnel	41.12	352	*e*P	P	02 18 18.9	+0.7
	comp=Z,3.2nm,1.0s						
QIZ	Qiongzhong	41.18	306	P	P	02 18 18.8	-0.1
QIZ				S	S	02 24 29.3	+0.8
QIZ				SS	SS	02 27 35.0	+1.6
QIZ				LR	LR		
	comp=Z,540nm,15.6s						
QIZ				LR	LR		
	comp=Z,520nm,17.7s						
QIZ				LR	LR		
	comp=Z,1μm,22.2s						
NJ2	Nanjing	43.60	328	*e*P	P	02 18 39.0	+0.6
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
HIZ	Hauiti	43.86	145	*e*P	P	02 18 40.0	-0.4
	comp=Z,56nm,0.9s						
AFI	Afiamalu	44.26	105	PP	PP	02 20 29.5	+1.4
	comp=Z,16nm,0.3s,baz=123,slow=8.4,SNR=4.6						
AFI	Afiamalu	44.26	105	*e*P	P	02 18 40.8	-3.3
AFI						02 20 29.5	
AFI				pmax	pmax		
	comp=Z,149nm,1.6s						
AFI	Afiamalu	44.26	105	*e*P	P	02 18 40.8	-3.3
	comp=Z,149nm,1.6s						
AFI				PP	PP	02 20 29.5	+1.4
KSRS	Korea Array	44.35	341	P	P	02 18 44.7	+0.4
	comp=Z,9.6nm,0.6s,baz=161,slow=9.1,SNR=31						
KS15	Wonju Array Si	44.35	341	*e*P	P	02 18 44.4	+0.1
KSAR	Wonju Array Be	44.35	341	P	P	02 18 44.7	+0.4
KSAR	Wonju Array Be	44.35	341	P	P	02 18 44.6	+0.4
PANO	Nakornpanom	44.70	300	P	P	02 18 48.9	+1.5
	comp=Z,42nm,0.8s						
URZ	Urewera	45.01	143	P	P	02 18 50.3	+0.7
	comp=Z,6.2nm,0.3s,baz=254,slow=2.6,SNR=15						
URZ	Urewera	45.01	143	*e*P	P	02 18 51.2	+1.6
	comp=Z,20nm,1.1s						
WHN	Wuhan	45.05	322	⇓P	P	02 18 52.0	+2.1
WHN				S	S	02 25 31.3	+6.4
WHN				pmax	pmax		
	comp=Z,88nm,0.9s						
WHN				LR	LR		
	comp=Z,1μm,29.1s						
THZ	Tophouse	45.12	150	*e*P	P	02 18 51.5	+1.1
	comp=Z,102nm,1.6s						
BKZ	Black Stump Fm	45.24	144	*e*P	P	02 18 52.7	+1.2
	comp=Z,40nm,1.1s						
DCZ	Deep Cove	45.50	158	*e*P	P	02 18 55.5	+2.2
	comp=Z,85nm,1.5s						
LTZ	Lake Taylor	45.57	151	*e*P	P	02 18 55.5	+1.5
	comp=Z,142nm,1.6s						
RPZ	Rata Peaks	45.71	153	P	P	02 18 55.7	+0.6
	comp=Z,18nm,0.5s,baz=280,slow=4.1,SNR=11						
RPZ	Rata Peaks	45.71	153	*e*P	P	02 18 56.5	+1.4
	comp=Z,65nm,1.1s						
WKZ	Wanaka	45.72	155	*e*P	P	02 18 55.7	+0.6
	comp=Z,276nm,2.0s						
SNZO	South Karori	45.72	148	*e*P	P	02 18 55.0	-0.1
	comp=Z,99nm,1.2s						
MLZ	Mavora Lakes	45.80	157	*e*P	P	02 18 57.5	+1.8
	comp=Z,138nm,1.6s						
LBZ	Lake Benmore	45.86	154	*e*P	P	02 18 57.2	+1.0
	comp=Z,96nm,1.4s						
OXZ	Oxford	45.87	152	*e*P	P	02 18 57.1	+0.8
	comp=Z,92nm,1.6s						
PSI	Prapat	45.95	278	*e*P	P	02 18 55.9	-1.6
PSI				*e**PP	pP	02 19 10.7	-1.6
PSI	Prapat	45.95	278	*e*P	P	02 18 55.9	-1.6
PSI				*e*pP	pP	02 19 10.7	-1.6
BFZ	Birch Farm	46.12	146	*e*P	P	02 18 59.4	+1.1
	comp=Z,205nm,1.7s						
WHZ	Wether Hill Ro	46.17	157	*e*P	P	02 18 58.6	0.0
	comp=Z,164nm,1.9s						
CHAI	Chaiyaphum	46.51	297	P	P	02 19 02.9	+1.2
	comp=Z,5.0nm,1.2s,comp=Z,350nm						
NAYO	Nakonayok	46.54	294	P	P	02 19 03.3	+1.4
	comp=Z,11nm,1.9s						
GYA	Guiyang	47.65	312	⇑*i*P	P	02 19 11.8	+1.2
GYA				pP	pP	02 19 27.5	+2.0
GYA				sP	sP	02 19 35.3	+3.3
GYA				PcP	PcP	02 20 41.0	+1.5
GYA				PP	PP	02 21 04.8	+2.0
GYA				ScP	ScP	02 24 28.3	-0.8
GYA				S	S	02 26 03.0	+0.4
GYA				sS	sS	02 26 31.8	+4.1
GYA				SS	SS	02 29 26.5	-5.1
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,6.0s						
GYA				LR	LR		
	comp=Z,540nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.9s						
GYA				LR	LR		
	comp=Z,490nm,18.4s						
PBKT	Sadao Pong	47.66	297	P	P	02 19 12.4	+1.7
	comp=Z,18nm,2.1s						
ENH	Enshi	47.96	318	*e*P	P	02 19 13.5	+0.7
	comp=Z,62nm,1.2s						
YUK	Yuzh-Kuril'sk	48.22	1	*e*P	P	02 19 12.6	-1.9
YUK				*e**PP	pP	02 19 29.1	-0.3
YUK				*i* S	S	02 26 08.1	-1.7
YUK				*i* *SS	sS	02 26 33.3	-1.6
YUK				pmax	pmax		
	comp=Z,301nm,4.8s						
YUK				pmax	pmax		
	comp=Z,106nm,1.1s						
ASAJ	Asahikawa	48.31	358	P	P	02 19 16.1	+0.9
	comp=Z,7.0nm,0.7s,baz=180,slow=6.9,SNR=8.3						
ASAJ	Asahikawa	48.31	358	*e*P	P	02 19 16.1	+0.9
	comp=Z,11nm,0.8s						
UTTA	Uttaradit	48.48	298	P	P	02 19 18.2	+1.2
	comp=Z,5.6nm,1.4s						
SRDT	SRDT	48.55	293	P	P	02 19 19.5	+1.9
	comp=Z,60nm,1.1s						
UTHA	Uthaitani	48.67	295	P	P	02 19 19.7	+1.2
	comp=Z,5.0nm,1.3s						
NANT	Nan	48.77	300	P	P	02 19 20.2	+1.0
	comp=Z,10.0nm,1.2s						
LAMP	Lampang	49.59	299	P	P	02 19 27.3	+1.8
	comp=Z,7.0nm,0.9s,comp=Z,102nm						
USRK	Ussuriysk Ar.	49.63	348	P	P	02 19 25.6	+0.2
	comp=Z,5.7nm,0.6s,baz=174,slow=8.6,SNR=14						
USRK				LR	LR	02 36 13.7	
	comp=Z,502nm,20.8s,baz=161,slow=31						
SNY	Shenyang	49.74	340	⇑P	P	02 19 28.0	+1.8
SNY				pmax	pmax		
	comp=Z,19nm,1.8s						
SNY				pmax	pmax		
	comp=Z,150nm,3.5s						
SNY				LR	LR		
	comp=Z,830nm,18.6s						
SNY				LR	LR		
	comp=Z,720nm,19.6s						
SNY				LR	LR		
	comp=Z,1μm,20.8s						
KMI	Kunming	49.93	308	P	P	02 19 31.3	+3.0
KMI				pP	pP	02 19 45.5	+2.3
KMI				S	S	02 26 37.0	+2.0
KMI				pmax	pmax		
	comp=Z,24nm,0.7s						
KMI				pmax	pmax		
	comp=Z,89nm,3.1s						
KMI				LR	LR		
	comp=Z,130nm,17.0s						
KMI				LR	LR		
	comp=Z,280nm,20.7s						
KMI				LR	LR		
	comp=Z,440nm,22.8s						
CMAR	Chiang Mai Arr	50.17	298	P	P	02 19 30.5	+0.6
	comp=Z,12nm,0.8s,baz=118,slow=5.8,SNR=32						
CMAR				LR	LR	02 43 46.8	
	comp=Z,176nm,18.1s,baz=130,slow=40						
CMAR	Chiang Mai Arr	50.17	298	*ce*P	P	02 19 31.2	+1.3
CMAR				pmax	pmax		
	comp=Z,13nm,0.8s						
CHTO	Chiang Mai	50.30	299	P	P	02 19 31.8	+0.9
	comp=Z,114nm,1.5s,comp=Z,2μm						
CHTO	Chiang Mai	50.30	299	*e*P	P	02 19 31.9	+0.9
CHTO				pmax	pmax		
	comp=Z,42nm,1.3s						
CHTO	Chiang Mai	50.30	299	*e*P	P	02 19 31.9	+0.9
	comp=Z,42nm,1.3s						
MDJ	Mudanjiang	50.55	346	P	P	02 19 33.5	+1.2
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,49nm,3.5s						
CMAI	Chiengmai2	50.65	300	P	P	02 19 34.8	+1.1
	comp=Z,241nm,1.2s						
XAN	Xi'an	50.78	322	P	P	02 19 34.5	+0.2
XAN				pP	pP	02 19 50.0	+0.7
XAN				sP	sP	02 19 57.0	+1.2
XAN				PP	PP	02 21 32.5	+1.5
XAN				S	S	02 26 44.8	-1.3
XAN				sS	sS	02 27 11.5	+0.1
XAN				SS	SS	02 30 17.5	-4.0
XAN				pmax	pmax		
	comp=Z,72nm,1.5s						
XAN				pmax	pmax		
	comp=Z,69nm,5.6s						
XAN				LR	LR		
	comp=Z,280nm,20.8s						
XAN				LR	LR		
	comp=Z,250nm,18.6s						
XAN				LR	LR		
	comp=Z,560nm,19.3s						
YSS	Yuzh-Sakhalins	51.14	359	*e*P	P	02 19 37.1	+0.4
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
BJI	Beijing	51.24	332	P	P	02 19 38.3	+0.7
BJI				pP	pP	02 19 54.0	+1.4
BJI				S	S	02 26 50.5	-1.6
BJI				pmax	pmax		
	comp=Z,30nm,1.6s						
BJI				pmax	pmax		
	comp=Z,210nm,6.1s						
BJI				LR	LR		
	comp=Z,500nm,23.1s						
BJI				LR	LR		
	comp=Z,950nm,22.3s						
CD2	Chengdu	52.27	315	P	P	02 19 46.0	+0.5
CD2				pP	pP	02 19 59.3	-1.3
CD2				S	S	02 27 08.8	+2.0
CD2				sS	sS	02 27 31.5	-0.7
CD2				SS	SS	02 30 48.5	+3.2
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,220nm,6.2s						
CD2				LR	LR		
	comp=Z,400nm,17.4s						
CD2				LR	LR		
	comp=Z,590nm,19.4s						
CD2				LR	LR		
	comp=Z,660nm,19.9s						
HABR	Khabarovsk	53.27	352	*e*P	P	02 19 50.3	-2.1
HABR				*e**PP	pP	02 20 06.2	-1.3
HABR				*e**SP	sP	02 20 13.3	-0.7

KLR Kul'dur 54.52 350 P **P 02 20 01.2 -0.3**
comp=Z,0.4nm,0.8s,baz=202,slow=2.6,SNR=14
KLR LR LR 02 40 43.8
comp=Z,42nm,21.9s,baz=170,slow=33
BTO Baotou 54.72 328 *e*P **P 02 20 03.3 0.0**
TYV Tymovskoe 55.05 359 *e*P **P 02 20 05.4 0.0**
TYV *e*S **S 02 27 45.0 +1.4**
TYV pmax pmax
comp=Z,17nm,1.2s
TYV smax smax
comp=E,15nm,1.6s
TYV smax smax
comp=N,700nm,9.4s
LZH Lanzhou 55.28 320 *e*P **P 02 20 09.0 +1.4**
LZH pP pP 02 20 26.0 +3.2
LZH sP sP 02 20 33.3 +4.1
LZH PP **PP 02 22 15.0 +3.2**
LZH S **S 02 27 49.5 +1.9**
LZH sS sS 02 28 14.5 +1.3
LZH SS **SS 02 31 36.5 +3.6**
LZH pmax pmax
comp=N,110nm,1.5s
LZH pmax pmax
comp=N,320nm,4.9s
LZH LR LR
comp=N,380nm,13.9s
LZH LR LR
comp=N,540nm,14.6s
LZH LR LR
comp=N,470nm,15.1s
NKL Nikolayevsk 57.41 357 *e*P **P 02 20 22.6 +0.5**
NKL pmax pmax
comp=Z,200nm,1.8s
HIA Hailar 57.56 341⇑ *i*P **P 02 20 23.2 -0.2**
HIA pmax pmax
comp=Z,30nm,1.4s
PETK Petropavlovsk- 58.38 9 P **P 02 20 29.6 +0.5**
comp=Z,7.6nm,0.7s,baz=166,slow=5.7,SNR=8.3
PET Petropavlovsk 58.46 10 *e*P P 02 20 38.6 +9.1
PET *e*S S 02 28 39.9 +11
PET MLR MLR
comp=Z,400nm,16.0s
GTA Gaotai 59.83 321⇑P **P 02 20 40.0 +0.5**
GTA pP pP 02 20 56.5 +1.7
GTA sP sP 02 21 03.0 +1.8
GTA S **S 02 28 46.8 -0.3**
GTA sS sS 02 29 13.5 +0.6
GTA SS **SS 02 32 44.5 +0.3**
GTA pmax pmax
comp=Z,16nm,1.7s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=Z,270nm,19.5s
GTA LR LR
comp=Z,220nm,20.9s
GTA LR LR
comp=Z,260nm,20.4s
ULN Ulaanbaatar 61.45 332*c i*P **P 02 20 50.7 +0.3**
ULN pmax pmax
comp=Z,64nm,2.5s
ULN Ulaanbaatar 61.45 332 *e*P **P 02 20 51.2 +0.8**
comp=Z,74nm,1.7s
SONM Songino Array 61.74 332 P **P 02 20 52.8 +0.6**
comp=Z,4.6nm,0.8s,baz=156,slow=6.5,SNR=27
SONM LR LR 02 46 24.5
comp=Z,955nm,21.1s,baz=134,slow=35
TAPN Taplejung 63.06 304 *e*P **P 02 21 01.9 +0.1**
ODAN Odare 63.16 303 *e*P **P 02 21 02.3 0.0**
RAMN Ramite 63.85 303 *e*P **P 02 21 07.5 +0.6**
MA2 Magadan 63.97 4 P **P 02 21 07.3 +0.6**
comp=Z,3.8nm,0.3s,baz=129,slow=23,SNR=3.0
JIRN Jiri 64.44 303 *e*P **P 02 21 11.0 +0.1**
GUN Gumba 64.78 304 *e*P **P 02 21 13.2 +0.1**
comp=Z,59nm,1.1s
ZAK Zakamensk 64.98 332 *e*P **P 02 21 13.6 -0.1**
ZAK pmax pmax
comp=Z,30nm,1.3s
PKI Pulchoki 65.06 303 *e*P **P 02 21 14.6 -0.3**
KKN Kakani 65.24 303 *e*P **P 02 21 16.0 +0.1**
comp=Z,29nm,0.8s
DMN Daman 65.33 303 *e*P **P 02 21 16.5 0.0**
TLY Talaya 65.72 334 LR LR 02 48 22.8
comp=Z,728nm,21.7s,baz=126,slow=34
TLY Talaya 65.72 334 *e*P **P 02 21 20.0 +1.7**
TLY pmax pmax
comp=Z,35nm,1.6s
IRK Irkutsk 65.85 334 *e*P **P 02 21 17.9 -1.2**
IRK pmax pmax
comp=Z,37nm,3.0s
GKN Gorkha 65.85 303 *e*P **P 02 21 19.7 -0.1**
PPT2 Papeete2 65.89 107 *e*LR LR 02 41 27.5
comp=Z,530nm,22.2s
TBI Tubuai 66.43 113 *e*LR LR 02 41 42.6
comp=Z,625nm,25.0s
KOLN Koldanda 66.64 303 *e*P **P 02 21 24.7 -0.2**
comp=Z,19nm,0.8s
BOD Bodaibo 66.65 343 *e*P **P 02 21 23.3 -0.8**
BOD pmax pmax
comp=Z,23nm,1.7s
DANN Dangsing 66.69 303 *e*P **P 02 21 24.9 -0.4**
YAK Yakutsk 67.19 353 P **P 02 21 27.8 +0.4**
comp=Z,7.8nm,0.3s,baz=303,slow=1.2,SNR=3.6
YAK LR LR 02 49 55.6
comp=Z,256nm,18.6s,baz=118,slow=35
YAK Yakutsk 67.19 353 *e*P **P 02 21 26.9 -0.5**
YAK *e**PP **pP 02 21 43.5 +0.5**
YAK *e* 02 21 52.2
YAK *e*PPP PPP 02 25 34.4
YAK *e*S **S 02 30 17.5 0.0**
YAK *e**SS **sS 02 30 43.8 +0.1**
YAK *e* 02 31 21.1
YAK *e*SS **SS 02 34 31.6 -6.3**
YAK *e*SSS SSS 02 37 34.9
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax smax
comp=N,113nm,3.0s
YAK smax smax
comp=E,35nm,2.2s
PYUN Piuthan 67.26 303 *e*P **P 02 21 28.3 -0.5**
SEY Seymchan 67.42 4 P **P 02 21 29.7 +0.9**
comp=E,4.1nm,0.8s,baz=175,slow=4.0,SNR=5.5
SEY Seymchan 67.42 4⇓ *e*P **P 02 21 29.4 +0.6**
WMQ Urumqi 69.86 320 P **P 02 21 45.3 +0.7**
WMQ pP pP 02 21 58.0 -2.3
WMQ sP PcP 02 22 09.3 +2.5
WMQ S **S 02 30 49.5 -0.7**
WMQ pmax pmax
comp=E,17nm,1.5s
WMQ pmax pmax
comp=E,240nm,4.1s
WMQ LR LR
comp=E,230nm,22.3s
WMQ LR LR
comp=E,180nm,20.9s
WMQ LR LR
comp=E,180nm,23.7s
MIR Mirnyy 71.40 199 *i*P **P 02 21 53.5 +0.1**
MIR pmax pmax
comp=Z,8.0nm,1.8s
VNDA Vanda 73.68 176 P **P 02 22 07.0 +0.2**
comp=Z,9.8nm,0.6s,baz=334,slow=6.3,SNR=38
VNDA LR LR 02 54 18.5
comp=Z,543nm,19.1s,baz=348,slow=36
VNDA Vanda 73.68 176 *e*P **P 02 22 07.1 +0.3**
VNDA pmax pmax
comp=Z,20nm,0.9s
VNDA Vanda 73.68 176 *e*P **P 02 22 07.0 +0.3**
comp=Z,20nm,0.9s
SBA Scott Base 74.36 175 *e*P **P 02 22 11.4 +0.6**
SBA pmax pmax
comp=Z,81nm,1.6s
SBA Scott Base 74.36 175 *e*P **P 02 22 11.4 +0.6**
comp=Z,81nm,1.6s
MK31 Makanchi Array 74.59 321 *e*P **P 02 22 12.6 -0.1**
MK31 Makanchi Array 74.59 321 *e*P **P 02 22 12.6 -0.1**
MKAR Makanchi Array 74.59 321 P **P 02 22 12.7 -0.1**
comp=Z,3.5nm,0.6s,baz=101,slow=7.3,SNR=26
MKAR LR LR 02 57 51.0
comp=Z,148nm,18.2s,baz=84,slow=38
MKAR Makanchi Array 74.59 321 *e*P **P 02 22 12.6 -0.1**
MKAR pmax pmax
comp=Z,144nm,1.5s
MKAR Makanchi Array 74.59 321 *e*P **P 02 22 12.6 -0.1**
comp=Z,144nm,1.5s
MAKZ Makanchi 74.79 321 *e*P **P 02 22 13.9 +0.1**
MAKZ pmax pmax
comp=Z,26nm,1.3s
MAKZ Makanchi 74.79 321 *e*P **P 02 22 13.9 +0.1**
comp=Z,26nm,1.3s
TAOE Nuku Hiva Isla 75.03 98 *e*LR LR 02 45 35.3
comp=Z,557nm,22.7s
PDGK Podgornoye 75.10 317 P **P 02 22 14.5 -1.4**
PDGK pmax pmax
comp=Z,22nm,1.3s
ZALV Zalesovo Beam 76.26 328 P **P 02 22 20.8 -1.3**
comp=Z,2.3nm,0.6s,baz=114,slow=5.4,SNR=13
ZALV LR LR 02 54 26.9
comp=Z,439nm,21.6s,baz=70,slow=34
KSH Kashi 76.35 312 *e*P **P 02 22 24.0 +0.9**
KSH PcP **PcP 02 22 35.0 +0.3**
KSH pP pP 02 22 41.8 +2.9
KSH sP sP 02 22 47.5 +2.3
KSH PP **PP 02 25 18.5 +3.2**
KSH S **S 02 32 01.0 -3.0**
KSH SKS **SKSac 02 32 22.0 -7.9**
KSH ScS **SKKSac 02 32 28.5 -1.9**
KSH pmax pmax
comp=Z,170nm,6.5s
KSH LR LR
comp=Z,240nm,11.2s
KSH LR LR
comp=Z,170nm,6.3s
KSH LR LR
comp=Z,210nm,11.0s
TIXI Tiksi 76.57 355⇓ *i*P **P 02 22 25.3 +1.9**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
NVS Novosibirsk 77.49 329 *i*P **P 02 22 28.9 0.0**
NVS *e* 02 32 53.8
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,26nm,1.5s
NVS pmax pmax
comp=Z,39nm,1.5s
AAK Ala-Archa 78.34 315⇑ *e*P **P 02 22 33.7 -0.5**
AAK pmax pmax
comp=Z,29nm,1.6s
AAK Ala-Archa 78.34 315 *e*P **P 02 22 33.9 -0.3**
comp=Z,11nm,1.2s
KURK Kurchatov 78.35 324*c i*P **P 02 22 33.3 -0.5**
KURK pmax pmax
comp=Z,73nm,1.2s
KURK Kurchatov 78.35 324 *e*P **P 02 22 32.7 -1.1**
comp=Z,34nm,1.5s
MNAS Manas 79.71 314 P **P 02 22 40.2 -1.5**
MNAS pmax pmax
comp=Z,22nm,1.4s
KDAK Kodiak Island 79.76 29 LR LR 02 53 35.8
comp=Z,438nm,21.7s,baz=291,slow=32
KK31 Karatay Array 81.28 315 *i*P **P 02 22 49.7 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 81.28 315 *e*P **P 02 22 50.1 +0.2**
KKAR Karatay Array 81.28 315 *e*P **P 02 22 50.1 +0.2**
DZET Dzherino 81.53 310 P **P 02 22 51.1 -0.3**
DZET pmax pmax
comp=Z,16nm,1.3s
PPLA Purkeypile 82.16 24 *e*P **P 02 22 54.4 +0.2**
CAST Castle Rocks 82.43 24 *e*P **P 02 22 56.1 +0.6**
MAW Mawson 82.71 202 P **P 02 22 57.1 +0.3**
comp=Z,11nm,0.7s,baz=83,slow=6.7,SNR=28
MAW LR LR 02 59 00.9
comp=Z,326nm,18.5s,baz=64,slow=35
MAW Mawson 82.71 202 *e*P **P 02 22 57.0 +0.1**
PMR Palmer 82.92 26 *e*P **P 02 22 57.1 -0.9**
PMR pmax pmax
comp=Z,12nm,0.9s
PMR Palmer 82.92 26 *e*P **P 02 22 57.1 -0.9**
comp=Z,12nm,0.9s
NRIK Noril'sk 82.95 343 P **P 02 22 58.1 0.0**
comp=Z,5.2nm,0.6s,baz=113,slow=6.8,SNR=15
NRIK LR LR 02 58 57.9
comp=Z,626nm,20.3s,baz=116,slow=35
KTH Kantishna Hill 82.96 24 *e*P **P 02 22 57.9 -0.4**
comp=Z,12nm,0.7s
MLY Manley 83.65 23 *e*P **P 02 23 02.1 +0.3**
RND Reindeer 83.75 25 *e*P **P 02 23 02.1 -0.3**
RND Reindeer 83.75 25 *e*P **P 02 23 02.1 -0.3**
MCK McKinley 83.84 24 *e*P **P 02 23 02.0 -0.8**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 83.84 24 *e*P **P 02 23 02.0 -0.8**
comp=Z,26nm,1.0s
BVA0 Borovoye Array 83.92 324 *i*P **P 02 23 02.9 -0.5**
BVA0 pmax pmax
comp=Z,20nm,1.2s
BVAR Borovoye Array 83.92 324 LR LR 03 00 55.5
comp=Z,238nm,20.6s,baz=82,slow=36
BRVK Borovoye 84.00 324*c i*P **P 02 23 03.2 -0.6**
BRVK pmax pmax
comp=Z,131nm,2.5s
BRVK Borovoye 84.00 324 *e*P **P 02 23 04.0 +0.2**
comp=Z,110nm,1.5s
DHY Denali Highway 84.24 25 *e*P **P 02 23 05.5 +0.5**
WRH Wood River Hil 84.47 24 *e*P **P 02 23 05.5 -0.4**
CCB Clear Creek Bu 84.65 24 *e*P **P 02 23 05.3 -1.5**
COLA College 84.72 23 *e*P **P 02 23 06.0 -1.1**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 84.72 23 *e*P **P 02 23 06.0 -1.1**
comp=Z,9.7nm,0.8s
COLD Coldfoot 84.76 21 *e*P **P 02 23 08.2 +0.8**
ILAR Eielson Array 85.06 24 P **P 02 23 07.3 -1.6**
comp=Z,4.9nm,0.6s,baz=255,slow=4.9,SNR=96
ILAR LR LR 02 59 32.2
comp=Z,442nm,19.5s,baz=278,slow=34
ILB Eielson Array 85.06 24 *e*P **P 02 23 07.3 -1.6**
QSPA South Pole Qui 85.57 180 *e*P **P 02 23 11.0 -0.6**
comp=Z,124nm,0.6s
MENT Mentasta 85.77 26 *e*P **P 02 23 12.7 +0.2**
EGAK Eagle 87.39 24 *e*P **P 02 23 20.4 +0.1**
comp=Z,22nm,0.9s
DAWY Dawson 87.94 25 *e*P **P 02 23 23.6 +0.5**
comp=Z,18nm,1.0s
AB31 Akbulak array 89.64 319 *i*P **P 02 23 29.7 -1.6**
AB31 pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 89.64 319 *e*P **P 02 23 29.6 -1.8**
comp=Z,2.7nm,0.7s
GEYT Alibeck 89.70 308 P **P 02 23 32.0 +0.1**
comp=Z,0.5nm,0.5s,baz=79,slow=7.7,SNR=3.9
GEYT LR LR 03 06 23.1
comp=Z,177nm,20.1s,baz=105,slow=37
AKTO Aktyubinsk 91.01 320 LR LR 03 07 37.9
comp=Z,100nm,18.0s,baz=71,slow=38
SYO Syowa Base 91.18 200⇑ *i*P **P 02 23 37.0 -1.1**
SYO Syowa Base 91.18 200⇑ *e*pP pP 02 23 54.6 +0.3
ARU Arti 91.29 326*d i*P **P 02 23 36.3 -2.5**
ARU 02 27 14.6
ARU S **SKSac 02 34 03.0 -3.2**
ARU pmax pmax
comp=Z,7.0nm,1.7s
MAK Makhachkala 97.98 313 *e*P **P 02 24 09.3 -0.4**
MAK *e* 02 28 06.7
MAK *e*PPP PPP 02 30 15.9
MAK *e*S **SKSac 02 34 43.5 +0.7**
MAK *e*SS **SS 02 42 15.9 +1.0**
MAK *e*SSS SSS 02 46 03.3
WVOR Wild Horse Val 98.12 48 *e*P **P 02 24 10.2 -0.4**
WVOR Wild Horse Val 98.12 48 *e*P **P 02 24 10.2 -0.4**
YKA Yellowknife Ar 98.98 27 LR LR 03 10 13.0
comp=Z,28nm,18.2s,baz=0.0,slow=36
BMO Blue Mountains 99.00 45 *e*P Pdif 02 24 15.4 +1.0
BMO Blue Mountains 99.00 45 *e*P Pdif 02 24 15.4 +1.0
KLMR Klimovskoe 101.02 331 *e*P **Pdif 02 24 21.0 -1.9**
KLMR pmax pmax
comp=Z,12nm,1.4s
SNAA Sanae 101.13 190 PP PP 02 28 31.4 -0.6
comp=Z,9.9nm,1.2s,baz=151,slow=7.6,SNR=11
PDAR Pinedale Array 104.77 47 PP PP 02 29 01.3 +0.6
comp=Z,0.6nm,1.0s,baz=347,slow=6.1,SNR=2.7
CLL Collm 118.21 328 *e*P **Pdif 02 25 35.0 -4.6**
CLL pmax pmax
comp=Z,40nm,2.5s
GERES GERESS Array B 119.09 325 PKP **PKPdf 02 29 22.1 -0.2**
comp=Z,0.3nm,0.7s,baz=82,slow=2.8,SNR=3.7
AQU L'Aquila 122.37 318 *e*PKIKP **PKPdf 02 29 29.0 +0.2**
AQU L'Aquila 122.37 318 *e*PKPdf **PKPdf 02 29 29.0 +0.2**
WLF Walferdange 122.73 329 *e*PKIKP **PKPdf 02 29 30.5 +1.3**
WLF Walferdange 122.73 329 *e*PKPdf **PKPdf 02 29 30.5 +1.3**
ESK Eskdalemuir 122.91 339 *e*PKIKP **PKPdf 02 29 29.9 +0.5**
ESK Eskdalemuir 122.91 339 *e*PKPdf **PKPdf 02 29 29.9 +0.5**
WCI Wyandotte Cave 123.01 47 *e*PKIKP **PKPdf 02 29 30.6 +0.5**
WCI Wyandotte Cave 123.01 47 *e*PKPdf **PKPdf 02 29 30.6 +0.5**
LCO Las Campanas 132.71 137 *e*PKPdf **PKPdf 02 29 48.9 -0.3**
OTAV Otavalo 137.05 94 *e*PKPdf **PKPdf 02 29 58.0 +0.1**
LVC Limon Verde 137.85 131 *e*PKPdf **PKPdf 02 29 59.7 +0.6**
LPAZ La Paz 141.87 123 PKP **PKPdf 02 30 06.6 -0.2**
comp=Z,1.0nm,0.6s,baz=340,slow=4.7,SNR=4.7
TORD Torodi Ar. Bea 142.13 286 PKhKP PKPpre 02 30 00.1
comp=Z,0.3nm,0.4s,baz=72,slow=2.4,SNR=6.6
TORD PKP **PKiKP 02 30 08.1 -1.5**
comp=Z,1.0nm,0.8s,baz=71,slow=3.1,SNR=5.3
CPUP Villa Florida 142.94 147 PKhKP PKPpre 02 30 03.9
comp=Z,3.3nm,1.0s,baz=52,slow=2.7,SNR=2.9
SDV Santo Domingo 144.98 81 *e*PKPdf PKPdf 02 30 19.7 +7.8
SJG San Juan 147.20 63 PKPbc **PKPbc 02 30 16.4 -1.1**
comp=Z,3.3nm,0.3s,baz=358,slow=20,SNR=3.2
SIV San Ignacio 147.71 129 PKPbc **PKPbc 02 30 19.3 +0.3**
comp=Z,7.7nm,0.8s,baz=271,slow=4.6,SNR=8.9
KIC Kosan Boka 149.17 275 *e*PKP2 **PKPbc 02 30 21.5 -1.4**
comp=Z,53nm,1.2s
DBIC Dimbokro 149.27 276 PKPbc **PKPbc 02 30 22.3 -0.8**
comp=Z,1.5nm,0.5s,baz=83,slow=2.6,SNR=7.0
TIC Toumodi 149.43 276 *e*PKP2 **PKPbc 02 30 22.5 -1.0**
LIC Lamto 149.46 275 *e*PKP2 **PKPbc 02 30 22.6 -1.0**
comp=Z,47nm,0.8s
SAML Samuel 149.52 116 *e*PKPbc **PKPbc 02 30 23.8 +0.1**

IDC ***30*** *02:10:42.3±0.7, 9.48S×75.50W, h0km, mb4.5/13, mb1 4.7/17, mb1mx4.5/30, mbtmp4.6/17, ML3.9/4, MS4.0/9, Ms1 4.0/9, ms1mx3.7/32, Error ellipse: s-maj=21.3km s-min=14.2km az=57.0*
MOS ***30*** *02:10:46.4±1.1, 9.34S×75.51W, h33km, mb5.1/37, Error ellipse: s-maj=13.1km s-min=6.5km az=114.9*
ISCJB ***30*** *02:10:47.1±0.7, 9.30S±0.03×75.28W±0.04, h47km±6km, mb4.9/134, MS4.6/6, Error ellipse: s-maj=6.8km s-min=4.4km az=147.6*
NEIC ***30*** *02:10:47.7±1.4, 9.39S×75.36W, h32km±9km, mb4.9/121, ML5.2(ARE), Error ellipse: s-maj=6.3km s-min=4.0km az=55.0*
NEIC Felt [III] at Tingo Maria and [II] at Huanuco.
ISC 30 02:10:48.2±0.4, 9.41S±0.05×75.38W±0.06, h38km±2km, n598, σ1§04/605, mb5.0/143, MS4.6/6, 3C-4D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.94**	**209**	Pn	**Pn**	**02 11 32.9**	**+0.4**
	331nm,0.3s,baz=23,slow=9.8,SNR=14						
NNA				Lg	Lg	02 12 13.4	
	600nm,0.3s,baz=133,slow=20,SNR=15						
NNA				LR	LR	02 12 48.9	
	comp=Z,2μm,18.2s,baz=22,slow=45						
NNA	**Nana**	**2.94**	**209**	*i* P	**Pn**	**02 11 33.8**	**+1.3**
NNA	**Nana**	**2.94**	**209**	*e*Pn	**Pn**	**02 11 32.9**	**+0.4**
NNA				*e*Sn	**Sn**	**02 12 06.0**	**-0.6**
NNA				Lg	Lg	02 12 13.4	
ATAH	**Atahualpa**	**3.75**	**307**	Pn	**Pn**	**02 11 46.0**	**+2.1**
	135nm,0.3s,baz=128,slow=7.7,SNR=91						
ATAH				LR	LR	02 12 40.4	
	comp=Z,121nm,20.9s,baz=150,slow=32						
ATAH				Lg	Lg	02 12 41.5	
	48nm,0.3s,baz=59,slow=9.9,SNR=7.8						
LPAZ	**La Paz**	**9.83**	**135**	Pn	**Pn**	**02 13 08.9**	**+1.3**
	1.1nm,0.3s,baz=335,slow=9.9,SNR=5.4						
LPAZ				Lg	Lg	02 15 59.6	
	6.8nm,0.3s,baz=192,slow=22,SNR=3.5						
LPAZ	**La Paz**	**9.83**	**135**	*e*P	**Pn**	**02 13 09.4**	**+1.8**
LPAZ	**La Paz**	**9.83**	**135**	*e*Pn	**Pn**	**02 13 09.4**	**+1.8**
LPAZ				Lg	Lg	02 15 59.6	
OTAV	**Otavalo**	**10.06**	**342**	*e*P	**Pn**	**02 13 10.3**	**-0.4**
OTAV	**Otavalo**	**10.06**	**342**	*e*Pn	**Pn**	**02 13 10.3**	**-0.4**
CMBC	**Cumbal**	**10.57**	**347**	*e*P	**Pn**	**02 13 17.1**	**-0.5**
CRUC	**La Cruz**	**11.02**	**352**	*e*P	**Pn**	**02 13 22.8**	**-0.9**
POPC	**Popayan, Colom**	**11.94**	**354**	*e*P	**Pn**	**02 13 33.5**	**-2.7**
SAML	**Samuel**	**12.05**	**89**	*e*Pn	**Pn**	**02 13 35.5**	**-1.9**
SAML				*e*Sn	**Sn**	**02 15 48.5**	**-2.1**
GUVC	**San Jose del G**	**12.19**	**13**	*e*P	**Pn**	**02 13 39.8**	**+0.4**
PRAC	**Prado**	**13.05**	**2**	*e*Pn	**Pn**	**02 13 50.7**	**-0.4**
TOLC	**Tolima**	**13.90**	**0**	*e*P	**P**	**02 14 13.2**	**+2.5**
ROSC	**El Rosal**	**14.20**	**4**	Pn	**Pn**	**02 14 06.0**	**-1.1**
	2.1nm,0.3s,baz=104,slow=6.6,SNR=10						
ROSC				Lg	Lg	02 18 16.7	
	1.9nm,0.3s,baz=33,slow=23,SNR=3.5						
ROSC				LR	LR	02 19 59.9	
	comp=Z,140nm,19.9s,baz=199,slow=39						
ROSC	**El Rosal**	**14.20**	**4**	*e*Pn	**Pn**	**02 14 07.9**	**+0.7**
ROSC				Lg	Lg	02 18 16.7	
PLMC	**San Jos¨ del**	**14.25**	**356**	*e*P	**Pn**	**02 14 08.1**	**+0.5**
CTAB	**Cerro Tablazo,**	**14.37**	**5**	*e*P	**Pn**	**02 14 09.2**	**-0.5**
LVC	**Limon Verde**	**14.52**	**155**	LR	LR	02 20 23.7	
	comp=Z,3μm,21.5s,baz=306,slow=40						
LVC	**Limon Verde**	**14.52**	**155**	*e*Pn	**Pn**	**02 14 12.4**	**+0.9**
GUYC	**Guyana, Colomb**	**14.54**	**360**	*e*P	**Pn**	**02 14 12.0**	**+0.2**
NORC	**Norcasia**	**14.88**	**2**	*e*P	**Pn**	**02 14 16.0**	**-0.1**
YOPC	**Yopal, Colombi**	**14.96**	**11**	*e*P	**Pn**	**02 14 15.4**	**-1.8**
RUSC	**La Rusia**	**15.37**	**9**	*e*P	**Pn**	**02 14 22.2**	**-0.8**
RUSC	**La Rusia**	**15.37**	**9**	*e*Pn	**Pn**	**02 14 22.7**	**-0.3**
	79nm,1.3s						
SIV	**San Ignacio**	**15.40**	**117**	Pn	**Pn**	**02 14 21.6**	**-1.4**
	3.2nm,0.3s,baz=308,slow=13,SNR=22						
SIV				Lg	Lg	02 18 52.6	
	2.9nm,0.3s,baz=55,slow=22,SNR=4.6						
SIV				LR	LR	02 20 25.5	
	comp=Z,763nm,18.8s,baz=298,slow=38						
HELC	**Santa Helena**	**15.50**	**359**	*e*P	**P**	**02 14 26.7**	**-1.7**
HELC	**Santa Helena**	**15.50**	**359**	*e*Pn	**Pn**	**02 14 25.5**	**+1.0**
	52nm,0.8s						
BARC	**Barichara**	**16.05**	**8**	*e*P	**Pn**	**02 14 31.3**	**-0.2**
BRRC	**Barranca, Sant**	**16.49**	**6**	*e*P	**Pn**	**02 14 36.9**	**+0.1**
ZARC	**Zaragoza, Cauc**	**16.80**	**2**	*e*P	**Pn**	**02 14 38.1**	**-2.7**
PAMC	**Pamplona, Colo**	**16.85**	**9**	*e*P	**Pn**	**02 14 42.6**	**+0.7**
PTGA	**Pitinga**	**17.59**	**62**	P	**Pn**	**02 14 49.7**	**-0.9**
	1.6nm,0.3s,baz=241,slow=14,SNR=11						
PTGA				LR	LR	02 22 54.2	
	comp=Z,152nm,22.0s,baz=246,slow=41						
PTGA	**Pitinga**	**17.59**	**62**	*e*Pn	**Pn**	**02 14 50.1**	**-0.6**
	61nm,1.1s						
OCAC	**Ocana**	**17.65**	**7**	*e*P	**Pn**	**02 14 51.1**	**-0.4**
CAPC	**Capurgana**	**18.04**	**354**	*e*P	**Pn**	**02 14 55.0**	**-1.0**
MOTC	**Monteria, Cord**	**18.07**	**359**	*e*P	**Pn**	**02 14 53.9**	**-2.6**
SDV	**Santo Domingo**	**18.78**	**15**	P	**Pn**	**02 15 05.6**	**+0.4**
	1.4nm,0.3s,baz=202,slow=14,SNR=8.9						
SDV				LR	LR	02 23 24.0	
	comp=Z,458nm,18.4s,baz=242,slow=40						
BCIP	**Isla Barro Col**	**18.98**	**346**	*e*P	**P**	**02 15 06.9**	**+0.3**
	108nm,1.4s						
SJCC	**San Jacinto, C**	**19.18**	**1**	*e*P	**P**	**02 15 09.2**	**+0.4**
LCO	**Las Campanas**	**19.99**	**168**	*e*P	**P**	**02 15 18.0**	**+0.2**
	16nm,0.8s						
URIC	**Uribia, Colomb**	**21.24**	**9**	*e*P	**P**	**02 15 29.2**	**-1.9**
JTS	**JuntasAbangare**	**21.77**	**334**	*e*P	**P**	**02 15 33.6**	**-3.2**
JTS	**JuntasAbangare**	**21.77**	**334**	*e*P	**P**	**02 15 33.6**	**-3.2**
	1.3nm,0.7s						
PCRV	**Puerto La Cruz**	**22.20**	**29**	P	**P**	**02 15 42.1**	**+0.6**
	13nm,0.7s,baz=167,slow=5.2,SNR=7.9						
PCRV				LR	LR	02 25 07.6	
	comp=Z,412nm,20.5s,baz=206,slow=39						
CPUP	**Villa Florida**	**23.99**	**137**	P	**P**	**02 15 58.8**	**-0.6**
	37nm,1.3s,baz=315,slow=9.6,SNR=9.8						
CPUP				LR	LR	02 27 15.7	
	comp=Z,278nm,18.7s,baz=322,slow=41						
CPUP	**Villa Florida**	**23.99**	**137**	*e*P	**P**	**02 15 59.3**	**-0.1**
CPUP	**Villa Florida**	**23.99**	**137**	*e*P	**P**	**02 15 59.3**	**-0.1**
GRGR	**Grenville**	**25.38**	**33**	*e*P	**P**	**02 16 10.0**	**-2.1**
BDFB	**Brasilia**	**27.40**	**106**	P	**P**	**02 16 30.6**	**+0.1**
	4.7nm,0.8s,baz=44,slow=12,SNR=6.3						
BDFB				LR	LR	02 28 00.2	
	comp=Z,884nm,18.6s,baz=58,slow=38						
CELP	**Cerrillos**	**28.66**	**18**	*e*P	**P**	**02 16 42.4**	**+0.8**
SJG	**San Juan**	**28.82**	**18**	P	**P**	**02 16 43.5**	**+0.5**
	16nm,0.5s,baz=48,slow=6.3,SNR=3.9						
SJG	**San Juan**	**28.82**	**18**	*e*P	**P**	**02 16 41.7**	**-1.3**
SJG				pmax	pmax		
	comp=Z,18nm,0.6s						

SJG	San Juan	28.82	18	eP	P	02 16 41.7	-1.3
	comp=Z,18nm,0.6s						
TRQA	Tornquist	30.97	159	eP	P	02 17 00.7	-1.2
	comp=Z,12nm,1.3s						
PLCA	Paso Flores	31.49	173	P	P	02 17 05.4	-1.0
	comp=Z,4.1nm,0.9s,baz=358,slow=7.6,SNR=5.7						
PLCA				PcP	PcP	02 19 59.8	+0.8
	comp=Z,2.0nm,0.9s,baz=78,slow=2.7,SNR=3.3						
PLCA	Paso Flores	31.49	173	eP	P	02 17 06.0	-0.5
PLCA						02 19 59.8	
PLCA				pmax	pmax		
	comp=Z,22nm,1.4s						
PLCA	Paso Flores	31.49	173	eP	P	02 17 06.0	-0.5
	comp=Z,22nm,1.4s						
PLCA				PcP	PcP	02 19 59.8	+0.8
TUIG	Tuzandepetl	33.13	325	eP	P	02 17 19.1	-1.9
	comp=Z,1µm,1.6s						
LNIG	Linares	41.41	326	eP	P	02 18 31.1	-0.1
	comp=Z,28nm,1.6s						
034A	Hebbronville	42.73	329	P	P	02 18 43.0	+1.2
	baz=145						
835A	Beeville	43.31	331	P	P	02 18 47.9	+1.3
	baz=147						
933A	Laredo	43.48	329	P	P	02 18 48.6	+0.7
	baz=145						
736A	Circle Diamond	43.51	332	P	P	02 18 49.4	+1.3
	baz=148						
637A	Eagle Lake	43.59	333	P	P	02 18 50.2	+1.5
	baz=149						
HKT	Hockley	43.81	334	eP	P	02 18 49.2	-1.2
HKT				pmax	pmax		
	comp=Z,27nm,1.5s						
HKT	Hockley	43.81	334	eP	P	02 18 49.2	-1.2
	comp=Z,27nm,1.5s						
636A	Smothers Creek	43.95	332	P	P	02 18 52.0	+0.4
	baz=148						
341A	Kurthwood	43.95	338	P	P	02 18 51.3	-0.4
	baz=154						
Z47A	Carrollton	44.06	345	P	P	02 18 52.1	-0.4
	baz=162						
Z48A	Northport	44.10	345	P	P	02 18 52.1	-0.7
	baz=163						
833A	Chaparral WMA,	44.12	329	P	P	02 18 52.6	-0.5
	baz=145						
537A	Green Hill Far	44.13	334	P	P	02 18 54.1	+1.0
	baz=150						
Z46A	Louisville	44.29	344	P	P	02 18 54.3	-0.1
	baz=161						
340A	Bronson	44.30	337	P	P	02 18 54.5	+0.1
	baz=153						
438A	Sam Houston St	44.35	335	P	P	02 18 55.6	+0.8
	baz=151						
EFI	East Falkland	44.47	165⇑	eP	P	02 18 55.9	+0.4
EFI				pmax	pmax		
	comp=Z,57nm,1.0s						
Y47A	UCPARC, Winfie	44.67	345	P	P	02 18 56.8	-0.6
	baz=162						
Z44A	Pea Ridge, Bel	44.81	342	P	P	02 18 58.3	-0.2
	baz=159						
338A	Crockett	44.81	336	P	P	02 18 59.7	+1.2
	baz=152,SNR=7.8						
436A	Wall Ranch, Ga	44.93	334	P	P	02 19 00.0	+0.5
	baz=149						
337A	Centerville	45.01	335	P	P	02 19 00.9	+0.7
	baz=151						
239A	Gary	45.06	337	P	P	02 19 01.0	+0.5
	baz=153						
Y45A	Yeager Farm, C	45.09	343	P	P	02 19 00.3	-0.4
	baz=160						
238A	Jacksonville	45.30	336	P	P	02 19 03.4	+1.0
	baz=152						
336A	Riesel	45.48	334	P	P	02 19 04.4	+0.6
	baz=150						
236A	Katherine and	45.88	335	P	P	02 19 07.5	+0.5
	baz=150						
JCT	Junction City	46.08	330	P	P	02 19 09.1	+0.4
	baz=146						
WHTX	Lake Whitney,	46.27	334	P	P	02 19 10.5	+0.5
	baz=149						
136A	Ennis	46.29	335	P	P	02 19 10.6	+0.4
	baz=151						
Z38A	Mt. Pleasant	46.35	337	P	P	02 19 11.1	+0.4
	baz=153						
Y40A	Okolona	46.41	339	P	P	02 19 11.0	-0.1
	baz=155						
Y39A	Lockesburg	46.63	338	P	P	02 19 13.3	+0.4
	baz=154,SNR=7.0						
Y38A	Idabel	46.86	338	P	P	02 19 14.7	+0.1
	baz=153						
Z36A	Blue Ridge	46.94	336	P	P	02 19 15.0	-0.4
	baz=151						
MIAR	Mount Ida	47.00	339	P	P	02 19 15.5	-0.2
	baz=155						
W41B	Gary Mavity, V	47.13	341	P	P	02 19 15.9	-0.7
	baz=157						
IP07	Quail	47.15	357	eP	P	02 19 18.6	+1.8
	comp=Z,46nm,1.4s						
X39A	Fountain Ranch	47.16	339	P	P	02 19 17.3	+0.3
	baz=154						
V43A	Jonesboro	47.18	343	P	P	02 19 17.8	+0.8
	baz=159						
IP01	Cuckoo	47.18	357	eP	P	02 19 19.4	+2.4
	comp=Z,109nm,1.8s						
TXAR	Lajitas Array	47.20	326	P	P	02 19 17.4	-0.1
	comp=Z,1.0nm,0.6s,baz=149,slow=8.3,SNR=10						
TXAR				PcP	PcP	02 20 49.1	+0.5
	comp=Z,1.4nm,0.6s,baz=154,slow=6.8,SNR=9.5						
TX31	Lajitas Ar. Si	47.20	326	eP	P	02 19 17.5	0.0
X301	Greenbrier Sit	47.23	341	eP	P	02 19 17.1	-0.5
	comp=Z,12nm,1.0s						
Y37A	Hugo	47.24	337	P	P	02 19 18.8	+1.1
	baz=152,SNR=6.2						
WHAR	Wooly Hollow	47.25	341	eP	P	02 19 17.1	-0.6
	comp=Z,16nm,1.0s						
W40A	Ferguson Farm,	47.41	340	P	P	02 19 19.2	+0.3
	baz=156						
V42A	Cord	47.44	342	P	P	02 19 17.9	-1.2
	baz=158						
X38A	Whitesboro	47.56	338	P	P	02 19 20.7	+0.6
	baz=154						
W39A	Magazine	47.66	340	P	P	02 19 21.0	+0.2
	baz=155						
V41A	Mountainview	47.66	341	P	P	02 19 19.7	-1.2
	baz=157,SNR=7.9						
X37A	Clayton	47.69	338	P	P	02 19 21.1	0.0
	baz=153						
Y35A	Marietta	47.74	335	P	P	02 19 21.3	-0.2
	baz=151,SNR=5.6						
ABTX	Abilene, Hawle	47.78	332	P	P	02 19 22.0	+0.1
	baz=147						
ABTX	Abilene, Hawle	47.78	332	eP	P	02 19 21.4	-0.5
	comp=Z,14nm,0.9s						
W38A	Poteau	47.80	339	P	P	02 19 22.1	+0.1
	baz=154						
V40A	Witts Springs	47.89	341	P	P	02 19 21.8	-0.9
	baz=157,SNR=9.2						
U42A	Revenden	47.90	343	P	P	02 19 21.5	-1.3
	baz=159,SNR=6.5						
X36A	Centrahoma	48.05	337	P	P	02 19 23.5	-0.4
	baz=152						
PBMO	Poplar Bluff	48.07	344	eP	P	02 19 22.6	-1.5
	comp=Z,48nm,1.7s						
U41A	Viola	48.10	342	P	P	02 19 23.1	-1.2
	baz=158,SNR=9.4						
V39A	Pettigrew	48.19	340	P	P	02 19 24.5	-0.5
	baz=156,SNR=7.1						
W37B	Quinton	48.20	338	P	P	02 19 25.4	+0.3
	baz=153						
T43A	Greenville	48.32	344	P	P	02 19 24.7	-1.2
	baz=160						
U40A	Yellville	48.40	341	P	P	02 19 25.7	-1.0
	baz=157,SNR=6.8						
S45A	Carrier Mills	48.45	346	P	P	02 19 26.1	-0.8
	baz=162						
V38A	Canehill	48.48	339	P	P	02 19 26.5	-0.7
	baz=155,SNR=6.9						
W36A	Wetumka	48.50	337	P	P	02 19 26.6	-0.7
	baz=152						
S44A	Carbondale	48.63	345	P	P	02 19 27.1	-1.2
	baz=162						
U39A	Green Forest	48.63	340	P	P	02 19 27.3	-1.0
	baz=156						
HHAR	Hobbs	48.69	340	eP	P	02 19 28.4	-0.5
	comp=Z,31nm,1.5s						
T41A	Mountain View	48.70	343	P	P	02 19 27.7	-1.2
	baz=158						
S43A	Fulton Ridge,	48.72	344	P	P	02 19 27.9	-1.2
	baz=161						
V37A	Hulbert	48.75	339	P	P	02 19 29.2	-0.1
	baz=154,SNR=6.0						
W35A	Tecumseh	48.76	336	P	P	02 19 29.1	-0.3
	baz=151						
V36A	Jenks	48.96	338	P	P	02 19 30.7	-0.2
	baz=153,SNR=5.5						
U38A	Gravette	48.99	340	P	P	02 19 30.2	-0.9
	baz=155						
TUL1	Leonard	49.02	338	P	P	02 19 31.0	-0.3
	baz=153						
TUL1	Leonard	49.02	338	eP	P	02 19 31.0	-0.3
	comp=Z,13nm,0.9s						
T40A	Mansfield	49.03	342	P	P	02 19 29.4	-2.0
	baz=157						
S42A	Caledonia	49.10	344	P	P	02 19 30.4	-1.6
	baz=160						
R44A	Waltonville	49.11	346	P	P	02 19 30.5	-1.5
	baz=162						
T39A	Clever	49.18	341	P	P	02 19 31.5	-1.1
	baz=156						
WMOK	Wichita Mounta	49.19	334	P	P	02 19 31.9	-0.8
	baz=149						
WMOK	Wichita Mounta	49.19	334	eP	P	02 19 31.2	-1.5
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMOK	Wichita Mounta	49.19	334	eP	P	02 19 31.2	-1.5
	comp=Z,4.5nm,0.9s						
S41A	Jilco Farms,	49.20	343	P	P	02 19 31.0	-1.7
	baz=158						
FVM	French Village	49.20	344	eP	P	02 19 31.6	-1.1
FVM				pmax	pmax		
	comp=Z,15nm,0.7s						
FVM	French Village	49.20	344	eP	P	02 19 31.6	-1.1
	comp=Z,15nm,0.7s						
U37A	Salina	49.21	339	P	P	02 19 32.5	-0.3
	baz=154,SNR=5.8						
R43A	Red Bud	49.35	345	P	P	02 19 32.7	-1.1
	baz=161						
S40A	Lebanon	49.44	342	P	P	02 19 33.4	-1.1
	baz=158,SNR=6.8						
CCM	Cathedral Cave	49.49	344	eP	P	02 19 33.5	-1.4
CCM				e		02 20 56.1	
CCM				pmax	pmax		
	comp=Z,11nm,1.0s						
CCM	Cathedral Cave	49.49	344	eP	P	02 19 33.5	-1.4
	comp=Z,11nm,1.0s						
CCM				ePcP	PcP	02 20 56.1	-0.4
T38A	Diamond	49.50	340	P	P	02 19 34.4	-0.6
	baz=155						
O56A	Blue Knob Stat	49.52	357	P	P	02 19 35.1	0.0
	baz=176						
R42A	Luebbering	49.58	344	P	P	02 19 34.2	-1.3
	baz=160						
P47A	Martinsville	49.69	349	P	P	02 19 34.9	-1.5
	baz=166						
Q44A	Meyer Farm, Va	49.72	346	P	P	02 19 35.0	-1.5
	baz=162						
R41A	Rosebud	49.76	343	P	P	02 19 35.7	-1.2
	baz=159						
S39A	Bolivar	49.78	341	P	P	02 19 36.0	-1.1
	baz=157						
U35A	Pawnee	49.78	337	P	P	02 19 36.9	-0.2
	baz=152						
T37A	Cheneyville 18	49.79	340	P	P	02 19 36.7	-0.5
	baz=154,SNR=11						
S38A	Stockton	49.91	341	P	P	02 19 36.9	-1.2
	baz=156						
MNTX	Cornudas Mount	49.95	326	P	P	02 19 37.5	-1.1
	baz=140,SNR=11						
MNTX	Cornudas Mount	49.95	326	eP	P	02 19 38.1	-0.5
	comp=Z,17nm,1.4s						
P46A	Rosedale	50.00	348	P	P	02 19 37.7	-1.1
	baz=165						
R40A	Maddies Statio	50.01	343	P	P	02 19 37.4	-1.4
	baz=158						
T36A	Boggs Farm, Ca	50.07	339	P	P	02 19 38.7	-0.6
	baz=153						
Q42A	Golden Eagle	50.10	345	P	P	02 19 38.5	-1.1
	baz=160						
P44A	Sand Creek, Wi	50.16	347	P	P	02 19 38.7	-1.3
	baz=163						
T35A	Sooner Cattle	50.17	338	P	P	02 19 39.4	-0.8
	baz=152						
R39A	Chumby, Stover	50.26	342	P	P	02 19 39.6	-1.2
	baz=157						
N54A	Moraine State	50.30	355	P	P	02 19 40.8	-0.3
	baz=174						
Q41A	Truxton	50.33	344	P	P	02 19 40.2	-1.0
	baz=160,SNR=5.5						
S37A	Fort Scott	50.33	340	P	P	02 19 40.7	-0.6
	baz=155						
MSTX	Muleshoe	50.38	330	P	P	02 19 41.4	-0.5
	baz=144						
O47A	Sheridan	50.40	349	P	P	02 19 40.3	-1.5
	baz=166						
R38A	Fenwick Farm,	50.41	341	P	P	02 19 41.1	-0.8
	baz=156						
T34A	McClaskey Farm	50.52	337	P	P	02 19 42.6	-0.2
	baz=152						
P43A	Skaggs, Pawnee	50.54	346	P	P	02 19 41.6	-1.2
	baz=162,SNR=6.2						
S36A	Lake Cedric, C	50.56	339	P	P	02 19 42.4	-0.7
	baz=154,SNR=5.5						
AMTX	Amarillo	50.60	332	P	P	02 19 42.9	-0.6
	baz=146						
Q40A	Laux Farm, Aux	50.60	343	P	P	02 19 42.0	-1.3
	baz=158						
P42A	Winchester	50.69	345	P	P	02 19 42.8	-1.2
	baz=161						
SFIN	Lafayette	50.71	348	P	P	02 19 42.5	-1.6
	baz=165,SNR=5.1						
SFIN	Lafayette	50.71	348	eP	P	02 19 41.9	-2.2
	comp=Z,9.5nm,0.5s						
O45A	Potomac	50.71	348	P	P	02 19 42.4	-1.8
	baz=164,SNR=6.2						
S35A	Otter Creek Ra	50.78	339	P	P	02 19 44.4	-0.4
	baz=153						
M54A	Oil Creek Stat	50.82	356	P	P	02 19 44.9	-0.1
	baz=174						
Q39A	Willow Grove F	50.91	342	P	P	02 19 44.7	-1.0
	baz=157						
P41A	Barry, Barry	50.96	344	P	P	02 19 44.8	-1.2
	baz=160,SNR=6.0						
Q38A	Cooks Store, C	51.03	342	P	P	02 19 45.8	-0.8
	baz=157						
R36A	Gordon, Harris	51.07	340	P	P	02 19 46.3	-0.5
	baz=154						
S34A	Willow Spring	51.09	338	P	P	02 19 46.1	-0.9
	baz=152						
P40A	Paris	51.09	343	P	P	02 19 45.5	-1.5
	baz=159						
O43A	Sugar Creek Fa	51.10	346	P	P	02 19 45.7	-1.3
	baz=162,SNR=7.2						
N46A	Monticello	51.14	349	P	P	02 19 45.8	-1.5
	baz=166						
O42A	Bath	51.20	346	P	P	02 19 46.4	-1.3
	baz=161,SNR=7.6						
N45A	Kentland	51.25	348	P	P	02 19 46.4	-1.7
	baz=165						
P39B	Salisbury	51.26	343	P	P	02 19 47.1	-1.1
	baz=158						
N44A	Piper City	51.32	348	P	P	02 19 47.1	-1.6
	baz=164						
O41A	Passleys Farm,	51.33	345	P	P	02 19 47.0	-1.7
	baz=160,SNR=5.8						
HDIL	Hopedale	51.35	346	P	P	02 19 47.5	-1.5
	baz=162,SNR=8.4						
HDIL	Hopedale	51.35	346	eP	P	02 19 46.6	-2.3
	comp=Z,32nm,0.6s						
O40A	La Belle	51.60	344	P	P	02 19 49.6	-1.2
	baz=159						
P38A	Dawn	51.62	342	P	P	02 19 49.7	-1.2
	baz=157						
Q36A	Arnold C. Orve	51.63	340	P	P	02 19 50.9	-0.2
	baz=154						
R34A	Isabella, Hill	51.67	338	P	P	02 19 51.2	-0.1
	baz=152						
Q35A	Mercer Eighty,	51.73	339	P	P	02 19 51.4	-0.4
	baz=154,SNR=5.9						
N42A	Yates City	51.79	346	P	P	02 19 51.1	-1.1
	baz=162						
P37A	Lathrop	51.83	341	P	P	02 19 51.3	-1.2
	baz=156						
N41A	Harden Midland	51.88	345	P	P	02 19 51.5	-1.3
	baz=160						
O39A	Kirksville	51.91	343	P	P	02 19 52.2	-0.9
	baz=158						
121A	Cookes Peak, D	51.92	325	P	P	02 19 53.5	-0.1
	baz=138,SNR=6.3						
121A	Cookes Peak, D	51.92	325	eP	P	02 19 53.4	-0.1
	comp=Z,29nm,1.6s						
319A	Douglas	51.95	323	eP	P	02 19 54.4	+0.7
	comp=Z,15nm,1.0s						
M43A	Waltham Townsh	52.12	347	P	P	02 19 53.2	-1.4
	baz=163						
P36A	Good Intent, A	52.14	341	P	P	02 19 54.0	-0.9
	baz=155						
P35A	Duane Minner,	52.33	340	P	P	02 19 55.8	-0.5
	baz=154						
N39A	Derby Farms, D	52.47	344	P	P	02 19 56.3	-1.0
	baz=159						
P34A	Walnut Farm, R	52.62	339	P	P	02 19 59.0	+0.5
	baz=153						
LAZ	Ladron	52.96	327	eP	P	02 20 01.8	+0.5
ANMO	Albuquerque	53.02	328	P	P	02 20 01.7	0.0
	baz=140						
ANMO	Albuquerque	53.02	328⇓	eP	P	02 20 01.7	0.0
ANMO				pmax	pmax		
	comp=Z,14nm,1.7s						
ANMO	Albuquerque	53.02	328	eP	P	02 20 01.8	+0.1
	comp=Z,20nm,1.6s						
CBKS	Cedar Bluff	53.07	336	P	P	02 20 01.8	0.0
	baz=150						
N36A	Muff Farm, Cla	53.14	341	P	P	02 20 01.4	-0.8
	baz=156,SNR=5.4						
K43A	Burlington	53.20	348	P	P	02 20 01.3	-1.3
	baz=164						
L40A	Anamosa	53.24	345	P	P	02 20 02.0	-1.0
	baz=160						
O33A	Hebron	53.36	339	P	P	02 20 03.4	-0.5
	baz=152						
N35A	Tabor	53.40	341	P	P	02 20 03.3	-0.8
	baz=155						
M37A	Trindle Farm,	53.41	343	P	P	02 20 03.5	-0.7
	baz=157						
K42A	Prairie Point,	53.48	347	P	P	02 20 03.2	-1.5
	baz=163						
L39A	Vinton	53.50	345	P	P	02 20 03.1	-1.7
	baz=160						
TUC	Tucson	53.52	322	P	P	02 20 05.2	-0.1
	baz=135						
TUC	Tucson	53.52	322	eP	P	02 20 04.5	-0.8
TUC				pmax	pmax		
	comp=Z,27nm,1.9s						
TUC	Tucson	53.52	322	eP	P	02 20 04.5	-0.8
	comp=Z,27nm,1.9s						
K41A	Shullsburg	53.54	346	P	P	02 20 03.6	-1.5
	baz=162						
N34A	Lincoln	53.66	340	P	P	02 20 05.3	-0.8
	baz=154						
M36A	Felix, Anita	53.68	342	P	P	02 20 07.4	+1.2
	baz=156						
T25A	Trinidad	53.72	331	P	P	02 20 07.1	+0.3
	baz=144						
MHTCO	State Highway	53.84	331	eP	P	02 20 07.8	+0.1
	comp=Z,7.1nm,0.8s						
J43A	Natural Harves	53.87	348	P	P	02 20 06.1	-1.4
	baz=164						
J42A	Columbus	53.95	348	P	P	02 20 08.1	-0.1
	baz=163						
M35A	Neola	53.97	341	P	P	02 20 07.6	-0.7
	baz=155						
L37A	Phoenix Point,	53.98	343	P	P	02 20 08.5	+0.1
	baz=157						
K39A	Oelwein	54.02	345	P	P	02 20 07.2	-1.4
	baz=160						
J41A	Loganville	54.19	347	P	P	02 20 08.8	-1.0
	baz=162						
L36A	Harm Buss Farm	54.23	342	P	P	02 20 09.1	-1.1
	baz=156						
M34A	Aspy Farms, Fr	54.29	340	P	P	02 20 09.8	-0.9
	baz=154						
I43A	Langenfeld Bro	54.30	349	P	P	02 20 09.4	-1.2
	baz=164						
J40A	Soldiers Grove	54.39	346	P	P	02 20 09.7	-1.6
	baz=161						
KSCO	Kaye Shedlock'	54.44	334	P	P	02 20 12.0	+0.1
	baz=146						
I42A	Draeger Farm,	54.46	348	P	P	02 20 10.7	-1.0
	baz=164						
L35A	Bielow Farm, R	54.51	342	P	P	02 20 11.0	-1.1
	baz=155,SNR=5.3						
214A	Organ Pipe Nat	54.52	321	P	P	02 20 12.8	+0.3
	baz=133,SNR=10						
214A	Organ Pipe Nat	54.52	321	eP	P	02 20 12.1	-0.4
	comp=Z,123nm,1.4s						
M33A	Taylor Creek F	54.55	340	P	P	02 20 11.8	-0.8
	baz=153						
J39A	Decorah	54.56	345	P	P	02 20 11.3	-1.2
	baz=160						
X18A	Snowflake	54.61	325	eP	P	02 20 13.9	+0.6
	comp=Z,47nm,1.9s						
L34A	Svendsen Farm,	54.64	341	P	P	02 20 12.0	-1.2
	baz=154						
SDCO	Great Sand Dun	54.72	331	P	P	02 20 14.2	0.0
	baz=143,SNR=11						
SDCO	Great Sand Dun	54.72	331	eP	P	02 20 14.2	0.0
	comp=Z,25nm,1.4s						
BGNE	Belgrade	54.74	339	P	P	02 20 13.6	-0.3
	baz=152						
H43A	Windswept, Lux	54.79	349	P	P	02 20 13.2	-1.0
	baz=165						
I41A	Arkdale	54.82	347	P	P	02 20 13.5	-0.9
	baz=162						
I40A	Norwalk	54.83	347	P	P	02 20 13.5	-1.0
	baz=162						
H42A	Shiocton	54.97	349	P	P	02 20 14.7	-0.8
	baz=164						
I39A	Houston	55.01	346	P	P	02 20 14.6	-1.2
	baz=160						
K34A	Le Mars	55.20	341	P	P	02 20 16.6	-0.6
	baz=155						
L32A	Elgin	55.22	340	P	P	02 20 17.1	-0.2
	baz=152						
H41A	Junction City	55.30	348	P	P	02 20 16.9	-1.0
	baz=163						
S22A	4UR Ranch, Cre	55.37	330	P	P	02 20 18.9	0.0
	baz=141,SNR=7.1						
I38A	Scanlan Farm,	55.38	345	P	P	02 20 17.0	-1.4
	baz=160						
X16A	Lo Mia Camp, P	55.39	324	eP	P	02 20 19.2	+0.3
	comp=Z,7.6nm,0.8s						
H40A	Chili	55.47	347	P	P	02 20 18.0	-1.1
	baz=162,SNR=7.6						
F45A	CMU Biological	55.59	351	P	P	02 20 18.0	-2.0
	baz=168						
G42A	Mountain	55.66	349	P	P	02 20 19.3	-1.2
	baz=164						
J34A	George	55.70	342	P	P	02 20 19.9	-0.9
	baz=155						
H39A	Augusta	55.73	346	P	P	02 20 19.9	-1.1
	baz=161						
G41A	Antigo	55.78	348	P	P	02 20 19.9	-1.4
	baz=164						
K32A	Verdigre	55.78	340	P	P	02 20 20.7	-0.8
	baz=153						
MVCO	Mesa Verde	55.81	328	P	P	02 20 21.7	-0.3
	baz=139						
MVCO	Mesa Verde	55.81	328	eP	P	02 20 21.9	-0.1
	comp=Z,19nm,1.5s						
H38A	Maiden Rock	55.96	346	P	P	02 20 21.9	-0.8
	baz=160						
F43A	Flat Rock, Esc	56.00	350	P	P	02 20 21.6	-1.2
	baz=166						
F44A	Big Bay de Noc	56.02	351	P	P	02 20 22.4	-0.5
	baz=167						
K31A	O'Neill	56.02	339	P	P	02 20 23.0	-0.2
	baz=152						
G40A	Rib Lake	56.04	347	P	P	02 20 22.0	-1.2
	baz=162						
J33A	Davis	56.04	341	P	P	02 20 22.4	-0.9
	baz=154,SNR=6.9						
WUAZ	Wupatki	56.13	325	P	P	02 20 24.8	+0.6
	baz=136,SNR=5.9						
WUAZ	Wupatki	56.13	325	eP	P	02 20 24.9	+0.7
	comp=Z,60nm,1.9s						
E45A	Wooded Hills,	56.20	352	P	P	02 20 23.5	-0.8
	baz=168						
F41A	Three Lakes	56.27	348	P	P	02 20 23.6	-1.2
	baz=164						
G39A	Holcombe	56.27	347	P	P	02 20 23.7	-1.1
	baz=161,SNR=7.5						
H36A	Jessenland, He	56.30	344	P	P	02 20 24.1	-0.9
	baz=158						
ECSD	EROS Data Cent	56.30	342	P	P	02 20 23.9	-1.2
	baz=155						

ECSD	EROS Data Cent	56.30 342	eP	P	02 20 23.1	-2.0
	comp=Z,49nm,1.8s					
G38A	Ridgeland	56.32 346	P	P	02 20 24.0	-1.2
	baz=160,SNR=5.4					
J32A	Parkston	56.38 340	P	P	02 20 24.7	-0.9
	baz=153					
ISCO	Idaho Springs	56.41 332	P	P	02 20 26.3	-0.1
	baz=144					
ISCO	Idaho Springs	56.41 332	eP	P	02 20 26.5	+0.1
ISCO			pmax	pmax		
	comp=Z,26nm,1.8s					
ISCO	Idaho Springs	56.41 332	eP	P	02 20 26.5	+0.1
	comp=Z,26nm,1.8s					
E43A	Lone Tree Farm	56.50 350	P	P	02 20 25.2	-1.2
	baz=166					
GLA	Glamis	56.52 320	P	P	02 20 27.1	+0.2
	baz=131					
PV01	Paradox Valley	56.55 329	eP	P	02 20 26.5	-0.7
SMCO	Snowmass	56.56 331	eP	P	02 20 27.8	+0.2
	comp=Z,9.4nm,1.1s					
SPMN	Marine on St.	56.61 345	eP	P	02 20 25.9	-1.3
	comp=Z,9.7nm,0.3s					
F40A	Park Falls	56.65 348	P	P	02 20 26.6	-0.9
	baz=162					
H35A	Sunnyside Ranc	56.66 343	P	P	02 20 26.0	-1.6
	baz=157					
E42A	Champion	56.71 350	P	P	02 20 26.7	-1.3
	baz=165					
PV05	Paradox Valley	56.78 328	eP	P	02 20 28.9	0.0
F39A	Loretta	56.81 347	P	P	02 20 27.6	-1.1
	baz=162,SNR=6.1					
I32A	Karley and Nic	56.84 341	P	P	02 20 28.6	-0.3
	baz=154					
H34A	Spellman Lake,	56.90 343	P	P	02 20 28.5	-0.8
	baz=156					
PDMCI	Parker Dam,Lak	56.92 322	P	P	02 20 29.6	0.0
	baz=133					
E41A	Kenton	56.94 349	P	P	02 20 28.4	-1.2
	baz=164					
F37A	Hinrichs Farm,	57.03 346	P	P	02 20 30.3	+0.1
	baz=160					
SWSC	Sam W. Stewart	57.06 319	P	P	02 20 31.2	+0.5
	baz=130					
F38A	Pierce - Schro	57.07 346	P	P	02 20 29.6	-0.9
	baz=160					
IKP	In-Ko-Pah, Jac	57.08 319	P	P	02 20 31.0	+0.1
	baz=130					
E40A	Wakefield	57.10 348	P	P	02 20 29.9	-0.8
	baz=163,SNR=6.8					
E39A	Mellen	57.17 348	P	P	02 20 30.6	-0.7
	baz=162,SNR=6.5					
H33A	Prehn Over Nor	57.20 342	P	P	02 20 30.6	-0.8
	baz=155					
H32A	Carlson Farm,	57.26 341	P	P	02 20 31.4	-0.5
	baz=154					
U15A	North Rim	57.30 325	eP	P	02 20 32.8	+0.1
	comp=Z,43nm,1.9s					
BC3	Big Chuckawall	57.31 320	P	P	02 20 32.7	+0.1
	baz=131,SNR=9.5					
W13A	Hualapai Mount	57.31 323	eP	P	02 20 33.5	+0.8
	comp=Z,7.6nm,1.0s					
F36A	Milaca	57.38 345	P	P	02 20 31.7	-1.0
	baz=159,SNR=5.4					
MONP2	Monument Peak	57.43 319	P	P	02 20 33.9	+0.3
	baz=130					
D41A	Chassel	57.44 349	P	P	02 20 31.6	-1.4
	baz=164					
IRM	Iron Mountain	57.44 321	P	P	02 20 33.5	+0.1
	baz=132,SNR=16					
N23A	Red Feather La	57.44 333	P	P	02 20 33.2	-0.3
	baz=144					
PHWY	Pilot Hill	57.55 333	eP	P	02 20 31.6	-2.8
	comp=Z,5.2nm,0.6s					
G33A	Ortonville	57.57 342	P	P	02 20 32.9	-1.2
	baz=155					
E38A	The Farm, Brul	57.61 347	P	P	02 20 33.3	-1.0
	baz=161					
F35A	Swanville	57.66 344	P	P	02 20 33.8	-0.8
	baz=158					
F34A	Alexandria	57.78 344	P	P	02 20 34.9	-0.6
	baz=157					
BELC	Belle Mtn. Jos	57.88 320	P	P	02 20 36.9	+0.3
	baz=131,SNR=6.8					
TPFO	Pinon Flats	57.91 320	P	P	02 20 37.0	+0.2
	baz=130					
XPFO	Piæon Flat	57.91 320	eP	P	02 20 37.4	+0.5
	comp=Z,8.7nm,1.3s					
PFO	Pinyon Flats O	57.92 320	P	P	02 20 36.6	-0.2
	baz=130,SNR=5.1					
PFO	Pinyon Flats O	57.92 320	eP	P	02 20 37.4	+0.5
PFO			pmax	pmax		
	comp=Z,8.0nm,1.3s					
PFO	Pinyon Flats O	57.92 320	eP	P	02 20 37.4	+0.5
	comp=Z,8.2nm,1.3s					
O20A	White River Ci	57.92 331	P	P	02 20 36.7	-0.1
	baz=141					
E36A	McGregor	57.93 346	P	P	02 20 35.9	-0.7
	baz=159,SNR=7.2					
G32A	Webster	57.95 342	P	P	02 20 35.9	-0.9
	baz=154					
KNB	Kanab	58.02 325	eP	P	02 20 38.5	+0.9
KNB			pmax	pmax		
	comp=Z,18nm,1.1s					
KNB	Kanab	58.02 325	eP	P	02 20 38.5	+0.9
	comp=Z,18nm,1.1s					
LDFC	Landfair	58.03 322	eP	P	02 20 37.3	-0.3
	comp=Z,16nm,1.1s					
PKCU	Pink Cliffs	58.04 326	eP	P	02 20 39.2	+1.3
	comp=Z,34nm,1.6s					
F33A	5 Mile Ranch,	58.12 343	P	P	02 20 36.7	-1.1
	baz=156					
GMRC	Granite Mounta	58.18 321	P	P	02 20 39.0	+0.3
	baz=131,SNR=8.5					
LCMT	Little Creek M	58.26 325	eP	P	02 20 39.5	+0.3
	comp=Z,16nm,1.4s					
E35A	Pequot Lakes	58.26 345	P	P	02 20 38.2	-0.6
	baz=158					
SRU	San Rafael Swe	58.29 328	eP	P	02 20 39.4	-0.1
SRU			pmax	pmax		
	comp=Z,47nm,1.9s					
SRU	San Rafael Swe	58.29 328	eP	P	02 20 39.4	-0.1
	comp=Z,47nm,1.9s					
D37A	Cotton	58.33 346	P	P	02 20 38.6	-0.8
	baz=160					
MTPU	Mount Pierson	58.39 326	eP	P	02 20 40.7	+0.3
	comp=Z,26nm,1.9s					
C39A	Grand Marais	58.46 348	P	P	02 20 38.5	-1.7
	baz=163,SNR=5.2					
Q16A	Castle Valley	58.49 328	eP	P	02 20 41.6	+0.7
	comp=Z,18nm,1.4s					
D36A	Goodland	58.52 346	P	P	02 20 39.4	-1.3
	baz=159					
P18A	Preston Nutter	58.53 329	eP	P	02 20 41.6	+0.3
	comp=Z,17nm,1.4s					
SZCU	Shurtz Canyon	58.58 325	eP	P	02 20 42.7	+1.1
	comp=Z,13nm,1.3s					
E33A	Westby DABS, E	58.64 343	P	P	02 20 40.7	-0.8
	baz=156					
P17A	Butcher Ranch,	58.67 328	eP	P	02 20 42.2	+0.2
	comp=Z,14nm,1.1s					
CCUT	Cedar City	58.70 325	eP	P	02 20 43.4	+1.0
	comp=Z,12nm,1.4s					
F31A	Hecla	58.73 341	P	P	02 20 41.4	-0.7
	baz=153,SNR=6.0					
MSU	Marysvale	58.73 327	eP	P	02 20 43.0	+0.4
MSU	Marysvale	58.73 327	eP	P	02 20 43.0	+0.4
TUQ	Turquoise Moun	58.77 322	P	P	02 20 42.7	-0.1
	baz=132					
TMUT	Trail Mountain	58.78 328	eP	P	02 20 43.2	+0.1
	comp=Z,9.7nm,1.4s					
C37A	Embarrass	58.81 347	P	P	02 20 41.9	-0.8
	baz=161,SNR=5.4					
EYMN	Ely	58.87 347	P	P	02 20 42.1	-1.0
	baz=161					
EYMN	Ely	58.87 347	eP	P	02 20 41.4	-1.7
	comp=Z,13nm,1.1s					
D34A	Park Rapids	58.95 344	P	P	02 20 42.7	-1.0
	baz=157,SNR=5.3					
C36A	Pine Crest Far	58.99 346	P	P	02 20 43.2	-0.7
	baz=160,SNR=5.6					
SHPR	Sheep Range	59.02 323	eP	P	02 20 45.2	+0.6
	comp=Z,15nm,1.4s					
BFSC	Mount Baldy Ra	59.08 319	P	P	02 20 44.5	-0.5
	baz=129					
K22A	Casper	59.11 334	P	P	02 20 45.7	+0.6
	baz=144					
GSC	Goldstone, Bar	59.23 321	P	P	02 20 46.2	+0.3
	baz=131					
GSC	Goldstone, Bar	59.23 321	eP	P	02 20 46.5	+0.6
GSC			pmax	pmax		
	comp=Z,24nm,1.8s					
GSC	Goldstone, Bar	59.23 321	eP	P	02 20 46.5	+0.6
	comp=Z,24nm,1.8s					
E31A	Nome	59.24 342	P	P	02 20 45.1	-0.6
	baz=154					
RSSD	Black Hills	59.28 336	P	P	02 20 46.9	+0.6
	baz=147					
RSSD	Black Hills	59.28 336	eP	P	02 20 47.2	+0.9
RSSD			pmax	pmax		
	comp=Z,43nm,1.8s					
RSSD	Black Hills	59.28 336	eP	P	02 20 47.2	+0.9
	comp=Z,43nm,1.8s					
SHOC	Shoshone, Teco	59.29 322	P	P	02 20 46.6	+0.4
	baz=131					
MWC	Mount Wilson	59.33 319	eP	P	02 20 47.3	+0.5
MWC			pmax	pmax		
	comp=Z,14nm,1.3s					
MWC	Mount Wilson	59.33 319	eP	P	02 20 47.3	+0.5
	comp=Z,14nm,1.3s					
C34A	RKJ Ranch, Bem	59.40 345	P	P	02 20 46.0	-0.7
	baz=158,SNR=9.4					
EDW2	Edwards Air Fo	59.70 320	P	P	02 20 49.2	+0.1
	baz=129					
NLU	North Lily Min	59.72 328	eP	P	02 20 49.7	+0.3
	comp=Z,28nm,2.0s					
B35A	Bob, Littlefor	59.76 346	P	P	02 20 48.2	-1.0
	baz=159					
JLU	Jordanelle	59.87 329	eP	P	02 20 50.8	+0.3
	comp=Z,7.7nm,1.1s					
LRMC	Laurel Mtn Rad	59.89 321	P	P	02 20 50.7	+0.1
	baz=130					
BLG	Laguna Peak, P	59.91 319	P	P	02 20 51.3	+0.8
	baz=128					
TPNV	Topopah Spring	59.97 323	P	P	02 20 51.7	+0.7
	baz=132,SNR=8.4					
TPNV	Topopah Spring	59.97 323	eP	P	02 20 51.8	+0.7
TPNV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
TPNV	Topopah Spring	59.97 323	eP	P	02 20 51.8	+0.7
	comp=Z,7.4nm,1.0s					
FURC	Furnace Creek,	60.02 322	P	P	02 20 51.9	+0.7
	baz=131					
CTU	Camp Tracy	60.09 329	eP	P	02 20 52.1	+0.2
	comp=Z,5.2nm,0.8s					
B34A	Aery, Baudette	60.11 345	P	P	02 20 50.8	-0.8
	baz=158					
MPMC	Manual Prospec	60.14 321	P	P	02 20 52.3	-0.1
	baz=130					
TCUT	Toone Canyon	60.23 329	eP	P	02 20 53.2	+0.3
	comp=Z,19nm,0.8s					
AGMN	Agassiz Nation	60.24 344	P	P	02 20 51.9	-0.6
	baz=157,SNR=7.5					
AGMN	Agassiz Nation	60.24 344	eP	P	02 20 51.8	-0.7
	comp=Z,12nm,0.6s					
DUG	Dugway, Tooele	60.28 328	P	P	02 20 53.2	+0.1
	baz=136,SNR=14					
DUG	Dugway, Tooele	60.28 328	eP	P	02 20 53.4	+0.2
DUG			pmax	pmax		
	comp=Z,12nm,0.9s					
DUG	Dugway, Tooele	60.28 328	eP	P	02 20 53.4	+0.2
	comp=Z,12nm,0.9s					
DAC	Darwin (Calif)	60.34 321	eP	P	02 20 53.8	+0.1
DAC			pmax	pmax		
	comp=Z,3.0nm,0.9s					
DAC	Darwin (Calif)	60.34 321	eP	P	02 20 53.8	+0.1
	comp=Z,2.7nm,0.9s					
ISA	Isabella, Lake	60.50 320	eP	P	02 20 56.9	+2.2
ISA			e		02 21 38.5	
ISA			pmax	pmax		
	comp=Z,40nm,0.7s					
ISA	Isabella, Lake	60.50 320	eP	P	02 20 56.9	+2.2
	comp=Z,40nm,0.7s					
ISA			ePcP	PcP	02 21 38.5	-0.6
B32A	Ashes, Strandq	60.52 344	P	P	02 20 54.0	-0.4
	baz=156					
R11A	Troy Canyon, C	60.52 324	P	P	02 20 55.2	+0.3
	baz=133,SNR=9.0					
R11A	Troy Canyon, C	60.52 324	eP	P	02 20 54.6	-0.3
	comp=Z,3.1nm,0.7s					
BW06	Boulder Array	60.58 332	P	P	02 20 54.9	-0.4
	baz=141					
BW06	Boulder Array	60.58 332	eP	P	02 20 54.6	-0.7
	comp=Z,10nm,1.4s					
PD31	Pinedale Array	60.58 332	eP	P	02 20 54.6	-0.6
PDAR	Pinedale Array	60.58 332	P	P	02 20 54.2	-1.0
	comp=Z,1.4nm,0.8s,baz=141,slow=7.6,SNR=10					
PDAR			PcP	PcP	02 21 38.8	-0.7
	comp=Z,1.7nm,0.8s,baz=106,slow=5.3,SNR=4.6					
GRAC	Grapevine Rang	60.67 322	P	P	02 20 55.9	+0.2
	baz=131					
HWUT	Hardware Ranch	60.68 329	eP	P	02 20 55.2	-0.7
	comp=Z,13nm,1.0s					
A33A	Warroad	60.71 345	P	P	02 20 55.0	-0.7
	baz=157,SNR=6.2					
CWC	Cottonwood Cre	60.75 321	P	P	02 20 56.6	+0.1
	baz=130					
B31A	Greenbush Farm	60.85 343	P	P	02 20 56.1	-0.6
	baz=155					
SPUT	South Promonto	60.90 329	eP	P	02 20 57.5	+0.1
	comp=Z,9.0nm,1.0s					
MDND	Maddock	60.92 342	P	P	02 20 57.6	+0.4
	baz=152					
MDND	Maddock	60.92 342	eP	P	02 20 56.8	-0.4
	comp=Z,162nm,1.4s					
BGU	Big Grassy Mou	60.93 328	eP	P	02 20 57.5	0.0
	comp=Z,12nm,1.4s					
A32A	Rocking H Ranc	60.98 344	P	P	02 20 56.6	-0.9
	baz=156					
VES	Vestal, Richgr	61.00 320	P	P	02 20 57.7	-0.3
	baz=129					
RCTC	Rector, Farmer	61.39 320	P	P	02 21 00.3	-0.2
	baz=129					
HVU	Hansel Valley	61.41 329	eP	P	02 21 00.6	-0.2
HVU			pmax	pmax		
	comp=Z,12nm,1.4s					
HVU	Hansel Valley	61.41 329	eP	P	02 21 00.6	-0.2
	comp=Z,12nm,1.4s					
REDW	Red Top Meadow	61.65 331	eP	P	02 21 01.9	-0.6
	comp=Z,33nm,1.7s					
LOHW	Long Hollow	61.72 332	eP	P	02 21 02.4	-0.5
	comp=Z,5.2nm,1.1s					
MOOW	Moose Ponds	61.89 332	eP	P	02 21 04.7	+0.6
	comp=Z,28nm,1.9s					
FXWY	Fox Creek	61.94 331	eP	P	02 21 04.1	-0.3
	comp=Z,5.8nm,1.1s					
MLAC	Mammoth, Mammo	61.97 322	P	P	02 21 04.7	-0.1
	baz=130					
ULM	Lac du Bonnet	62.04 345	P	P	02 21 03.5	-1.1
	comp=Z,10.0nm,0.6s,baz=156,slow=6.7,SNR=24					
ULM	Lac du Bonnet	62.04 345	eP	P	02 21 03.7	-1.0
ULM			pmax	pmax		
	comp=Z,12nm,0.8s					
ULM	Lac du Bonnet	62.04 345	eP	P	02 21 03.6	-1.0
	comp=Z,12nm,0.8s					
IMW	Indian Meadow	62.09 332	eP	P	02 21 05.5	-0.1
	comp=Z,17nm,1.4s					
LAO	LASA Array	62.27 336	P	P	02 21 07.3	+0.9
	baz=145					
RLMT	Red Lodge	62.28 334	P	P	02 21 05.9	-0.7
	baz=142					
RLMT	Red Lodge	62.28 334	eP	P	02 21 06.2	-0.5
	comp=Z,30nm,1.9s					
YFT	Old Faithful	62.47 332	eP	P	02 21 10.9	+2.9
	comp=Z,28nm,1.6s					
YMR	Madison River	62.69 332	eP	P	02 21 10.3	+0.9
	comp=Z,12nm,1.1s					
YHH	Holmes Hill	62.73 332	eP	P	02 21 10.6	+0.7
	comp=Z,5.0nm,0.8s					
YHB	Horse Butte	62.86 332	eP	P	02 21 11.2	+0.6
	comp=Z,9.4nm,0.8s					
WAKR	Walker	62.90 322	eP	P	02 21 11.8	+0.9
	comp=Z,13nm,1.4s					
DGMT	Dagmar	62.99 339	P	P	02 21 11.6	+0.5
	baz=148					
YERR	Yerington	63.09 323	eP	P	02 21 12.7	+0.5
	comp=Z,16nm,1.4s					
PNTR	Pine Nut	63.37 323	eP	P	02 21 15.4	+1.3
	comp=Z,30nm,1.7s					
HLID	Hailey	63.54 329	P	P	02 21 15.0	0.0
	baz=136,SNR=7.5					
HLID	Hailey	63.54 329	eP	P	02 21 15.4	+0.4
	comp=Z,5.8nm,1.1s					
PAHR	Pah Rah Range	63.63 323	eP	P	02 21 16.5	+0.8
	comp=Z,8.6nm,1.1s					
MCMT	McKenzie Canyo	63.70 331	eP	P	02 21 16.7	+0.6
BOZ	Bozeman (W)	63.71 332	P	P	02 21 15.8	-0.3
	baz=140,SNR=11					
BOZ	Bozeman (W)	63.71 332	eP	P	02 21 15.2	-0.9
BOZ			pmax	pmax		
	comp=Z,20nm,1.4s					
BOZ	Bozeman (W)	63.71 332	eP	P	02 21 15.2	-0.9
	comp=Z,20nm,1.4s					
DLMT	Dillon	63.98 332	eP	P	02 21 18.0	+0.2
	comp=Z,11nm,1.3s					
AFDM	Forest Hills D	64.11 322	eP	P	02 21 18.8	+0.1
	comp=Z,15nm,1.7s					
MFID	Camas Ranch	64.16 328	eP	P	02 21 19.2	+0.2
	comp=Z,14nm,0.9s					
BEKR	Beckworth	64.31 323	eP	P	02 21 21.2	+1.0
	comp=Z,5.5nm,0.9s					
EGMT	Eagleton	64.77 335	P	P	02 21 22.7	-0.1
	baz=142					
ORV	Oroville	64.81 322	eP	P	02 21 24.0	+0.8
ORV			pmax	pmax		
	comp=Z,37nm,1.5s					
ORV	Oroville	64.81 322	eP	P	02 21 24.0	+0.8
	comp=Z,37nm,1.5s					
WVOR	Wild Horse Val	64.99 326	eP	P	02 21 23.4	-1.1
WVOR			pmax	pmax		
	comp=Z,5.0nm,1.1s					
WVOR	Wild Horse Val	64.99 326	eP	P	02 21 23.4	-1.1
	comp=Z,4.9nm,1.1s					
O03D	Paynes Creek	65.44 322	P	P	02 21 28.0	+0.5
	baz=128					
J08A	Circle Bar Ran	65.52 327	eP	P	02 21 27.8	-0.1
	comp=Z,3.8nm,1.0s					
MOD	Modoc Plateau	65.58 325	eP	P	02 21 28.6	+0.2
	comp=Z,41nm,1.9s					
MSO	Missoula	65.69 332	P	P	02 21 29.3	+0.4
	baz=138,SNR=6.5					
MSO	Missoula	65.69 332	eP	P	02 21 29.4	+0.5
	comp=Z,12nm,1.0s					
BMO	Blue Mountains	65.92 329	eP	P	02 21 30.0	-0.5
BMO			pmax	pmax		
	comp=Z,9.0nm,1.5s					
BMO	Blue Mountains	65.92 329	eP	P	02 21 29.9	-0.5
	comp=Z,8.6nm,1.5s					
M04C	Macdoel	66.39 324	P	P	02 21 33.8	+0.2
	baz=129					
N02D	Trinity Center	66.40 323	P	P	02 21 34.4	+0.9
	baz=128					
J05D	Fort Rock, OR	66.99 325	P	P	02 21 37.4	0.0
	baz=130					
J04D	Umpqua Nationa	67.46 325	P	P	02 21 40.4	0.0
	baz=129					
E09A	Wood Farm, Sta	67.50 329	eP	P	02 21 40.4	0.0
	comp=Z,9.7nm,1.2s					
L02D	Cave Junction,	67.66 323	P	P	02 21 40.9	-0.6
	baz=127					
FFC	Flin Flon	67.70 344	eP	P	02 21 40.4	-1.0
FFC			pmax	pmax		
	comp=Z,5.0nm,0.8s					
FFC	Flin Flon	67.70 344	eP	P	02 21 40.4	-1.0
	comp=Z,5.1nm,0.8s					
I05D	Terrebonne, OR	67.73 326	P	P	02 21 41.8	-0.1
	baz=130					
I04A	Tendick Farm,	67.98 325	P	P	02 21 42.9	-0.6
	baz=129					
NEW	Newport	68.22 331	P	P	02 21 44.8	0.0
	baz=135					
NEW	Newport	68.22 331	eP	P	02 21 44.9	0.0
NEW			pmax	pmax		
	comp=Z,9.0nm,1.2s					
NEW	Newport	68.22 331	eP	P	02 21 44.9	0.0
	comp=Z,9.2nm,1.2s					
G05D	Wamic, OR	68.30 327	P	P	02 21 45.8	+0.4
	baz=130					
E07A	Sunnyside	68.39 329	eP	P	02 21 46.9	+0.9
	comp=Z,7.9nm,0.9s					
I03D	Drain, OR	68.45 325	P	P	02 21 46.6	+0.3
	baz=128					
B08A	Colville Reser	69.35 330	eP	P	02 21 52.0	+0.1
	comp=Z,32nm,1.8s					
D05A	Enumclaw	69.91 328	eP	P	02 21 55.8	+0.4
	comp=Z,17nm,1.0s					
B05A	Bryant	70.66 329	P	P	02 21 59.8	-0.1
	baz=130					
A04D	Lummi Island	71.27 329	P	P	02 22 04.6	+1.1
	baz=130					
LIC	Lamto	71.80 80	eP	P	02 22 07.0	-0.5
	comp=Z,56nm,1.5s					
TIC	Toumodi	71.89 80	eP	P	02 22 06.9	-1.2
DBIC	Dimbokro	72.05 80	P	P	02 22 09.7	+0.6
	comp=Z,4.6nm,0.7s,baz=238,slow=5.8,SNR=8.4					
DBIC	Dimbokro	72.05 80	eP	P	02 22 10.3	+1.2
DBIC			pmax	pmax		
	comp=Z,51nm,1.7s					
DBIC	Dimbokro	72.05 80	eP	P	02 22 10.2	+1.2
	comp=Z,50nm,1.7s					
KIC	Kosan Boka	72.10 80	eP	P	02 22 09.2	-0.2
	comp=Z,50nm,1.4s					
VNA3	Neumayer Olymp	73.44 162	P	P	02 22 16.4	+0.1
VNA1	Neumayer--Stat	73.68 161	P	P	02 22 18.2	+0.6
VNA2	Neumayer--Watz	74.04 162	P	P	02 22 20.2	+0.4
	baz=298,slow=6.8					
SNAA	Sanae	75.65 162	P	P	02 22 29.0	-0.2
SNAA	Sanae	75.65 162	eP	P	02 22 29.3	+0.1
SNAA			pmax	pmax		
	comp=Z,18nm,1.1s					
SNAA	Sanae	75.65 162	eP	P	02 22 29.3	+0.1
	comp=Z,18nm,1.1s					
YKA	Yellowknife Ar	77.82 343	P	P	02 22 40.7	-0.5
	comp=Z,2.4nm,0.6s,baz=140,slow=5.9,SNR=14					
TOA0	Torodi Ar. Sit	79.73 75	eP	P	02 22 53.1	+0.3
TORD	Torodi Ar. Bea	79.73 75	P	P	02 22 52.9	+0.1
	comp=Z,13nm,0.9s,baz=290,slow=5.7,SNR=23					
NVL	N'lazarevskaya	80.26 160	eP	P	02 22 55.1	+0.5
PAB	San Pablo	81.66 48	eP	P	02 23 03.7	+0.9
PAB			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PAB	San Pablo	81.66 48	eP	P	02 23 03.7	+0.9
	comp=Z,10nm,0.8s					
ESDC	Sonseca Array	81.98 48	P	P	02 23 06.2	+1.7
	comp=Z,2.7nm,0.8s,baz=259,slow=4.5,SNR=16					
ESLA	Sonseca Array	81.98 48	eP	P	02 23 06.4	+1.9
	comp=Z,51nm,1.8s					
HYT	Haines Junctio	85.16 334	eP	P	02 23 22.8	+2.5
	comp=Z,14nm,0.8s					
SUMG	Summit	85.25 10	i P	P	02 23 21.7	+0.8
	comp=Z,13nm,0.8s					
SUMG	Summit	85.25 10	eP	P	02 23 21.9	+1.0
SUMG			pmax	pmax		
	comp=Z,10.0nm,0.7s					
SUMG	Summit	85.25 10	eP	P	02 23 21.9	+1.0
	comp=Z,9.9nm,0.7s					
TAM	Tamanrasset	85.33 66	eP	P	02 23 23.8	+1.7
TAM			pmax	pmax		
	comp=Z,12nm,0.8s					
TAM	Tamanrasset	85.33 66	eP	P	02 23 23.8	+1.7
	comp=Z,12nm,0.8s					
KIP	Kipapa	86.63 292⇑	eP	P	02 23 26.1	-2.2
SSB	Saint Sauveur	89.60 44	eP	P	02 23 42.8	+0.8
SSB			pmax	pmax		
	comp=Z,11nm,1.2s					
SSB	Saint Sauveur	89.60 44	eP	P	02 23 42.8	+0.8
	comp=Z,11nm,1.2s					
FYU	Fort Yukon	90.74 338	eP	P	02 23 48.2	+1.4
COLA	College	91.15 336	eP	P	02 23 48.5	-0.2
COLA			pmax	pmax		
	comp=Z,11nm,1.0s					
COLA	College	91.15 336	eP	P	02 23 48.5	-0.2
	comp=Z,11nm,1.0s					
MCK	McKinley	91.22 335	eP	P	02 23 48.6	-0.5
MCK			pmax	pmax		
	comp=Z,11nm,0.8s					
MCK	McKinley	91.22 335	eP	P	02 23 48.6	-0.5
	comp=Z,11nm,0.8s					
MDM	Murphy Dome	91.33 336	eP	P	02 23 49.8	+0.2
WLF	Walferdange	91.66 40	eP	P	02 23 52.5	+1.0
WLF			pmax	pmax		
	comp=Z,11nm,0.9s					
WLF	Walferdange	91.66 40	eP	P	02 23 52.5	+1.0
	comp=Z,12nm,0.9s					
STU	Stuttgart	93.44 41	P	P	02 23 59.9	+0.2
STU			pmax	pmax		
	comp=Z,9.0nm,1.4s					
DAVA	Damuels	93.64 43	i PcP	P	02 24 02.7	+1.8
	comp=Z,3.0nm,0.9s					
FETA	Feichten	94.16 43	i P	P	02 24 03.0	-0.3
	comp=Z,8.7nm,1.4s					
RETA	Reutte	94.26 43	i PcP	P	02 24 04.6	+1.0
	comp=Z,11nm,1.7s					
MOTA	Moosalm	94.47 43	i PcP	P	02 24 05.2	+0.5

comp=Z,16nm,1.9s
WATA Walderalm 94.78 43 *i* PcP **P 02 24 06.8 +0.6**
comp=Z,1.5nm,0.6s
WTTA Wattenberg 94.81 43 *i* PcP **P 02 24 08.0 +1.8**
comp=Z,12nm,1.8s
ABTA Abfaltersbach 95.33 44 *i* PcP **P 02 24 10.8 +2.3**
comp=Z,10nm,1.5s
MYKA Terra Mystica 96.09 44 *i* PcP **P 02 24 14.2 +2.3**
comp=Z,6.0nm,1.0s
CLL Collm 96.25 39 *e*P **P 02 24 13.0 +0.5**
CLL Collm 96.25 39 *e*P **P 02 24 13.0 +0.5**
GERES GERESS Array B 96.40 42 P **P 02 24 14.9 +1.5**
comp=Z,0.6nm,0.9s,baz=262,slow=4.7,SNR=4.7
MOA Molln 96.66 43 *i* PcP **P 02 24 16.3 +1.8**
comp=Z,11nm,1.6s
OBKA Obir 96.69 44 *i* PcP **P 02 24 16.2 +1.4**
comp=Z,5.0nm,1.3s
CEL Celeste 96.74 52 *e*P **P 02 24 14.3 -0.8**
comp=Z,13nm,0.5s
SOKA Soboth 97.05 44 *i* PcP Pdif 02 24 17.1 +0.6
comp=Z,3.3nm,1.4s
ARSA Arzberg 97.44 43 *i* PcP Pdif 02 24 21.0 +2.9
comp=Z,2.6nm,0.9s
CONA Conrad Observa 97.73 43 *i* PcP Pdif 02 24 20.9 +1.5
comp=Z,7.8nm,1.7s
DPC Dobruska-Polom 98.25 40 *e*P Pdif 02 24 23.4 +1.8
DPC Dobruska-Polom 98.25 40 *e*P Pdif 02 24 23.4 +1.8
MORC Moravsky Berou 98.99 41 *e*P Pdif 02 24 26.0 +1.0
MORC pmax pmax
comp=Z,103nm,2.0s
MORC Moravsky Berou 98.99 41 *e*P Pdif 02 24 26.0 +1.0
comp=Z,103nm,2.0s
VYHS Vyhne 99.76 42 *e*P **Pdif 02 24 31.7 +3.3**
VYHS Vyhne 99.76 42 *e*PDIFF **Pdif 02 24 31.7 +3.3**
MAK Makhachkala 120.23 46 *e*P **Pdif 02 26 00.8 +1.3**
MAK *i* 02 29 33.7
MAK *e*SS SS 02 47 28.5 +2.3
MAK *e*SSS SSS 02 51 58.3
ARU Arti 121.03 28 *e*PKIKP **PKPdf 02 29 37.2 +0.6**
ARU Arti 121.03 28 *e*PKPdf **PKPdf 02 29 37.1 +0.6**
ABKAR Akbulak array 125.62 35 *e*PKPdf **PKPdf 02 29 46.4 +0.8**
BRVK Borovoye 128.41 26 *e*PKIKP **PKPdf 02 29 51.1 +0.3**
BRVK Borovoye 128.41 26 *e*PKPdf **PKPdf 02 29 51.1 +0.3**
ZALV Zalesovo Beam 132.83 16 PKP **PKPdf 02 29 59.8 +0.7**
comp=Z,2.8nm,0.6s,baz=254,slow=2.4,SNR=14
KURK Kurchatov 133.56 23 ⇓*i*PKIKP **PKPdf 02 30 01.7 +1.1**
KURK pmax pmax
comp=Z,49nm,2.5s
PMG Port Moresby 133.71 247 *e*PKIKP **PKPdf 02 30 01.8 -0.2**
PMG Port Moresby 133.71 247 *e*PKPdf **PKPdf 02 30 01.8 -0.2**
ASAR Alice Springs 136.41 221 PKhKP PKPpre 02 29 57.5
comp=Z,0.4nm,0.7s,baz=114,slow=1.5,SNR=4.3
ASAR PKP **PKPdf 02 30 06.8 -0.1**
comp=Z,2.7nm,0.8s,baz=118,slow=2.2,SNR=18
MKAR Makanchi Array 138.17 23 PKhKP PKPpre 02 30 04.1
comp=Z,1.3nm,0.9s,baz=201,slow=38,SNR=3.0
MKAR PKP **PKPdf 02 30 09.3 -0.1**
comp=Z,1.4nm,0.8s,baz=339,slow=3.1,SNR=4.9
WRAB Tennant Creek 138.69 225 ⇓*i*PKIKP **PKPdf 02 30 11.5 +0.4**
WRAB pmax pmax
comp=Z,47nm,1.2s
WRAB Tennant Creek 138.69 225 *e*PKPdf **PKPdf 02 30 10.9 -0.3**
WRA Warramunga Arr 138.69 225 PKhKP PKPpre 02 30 05.7
comp=Z,0.6nm,0.8s,baz=130,slow=1.5,SNR=7.0
WRA PKP **PKPdf 02 30 10.9 -0.2**
comp=Z,6.5nm,0.8s,baz=124,slow=1.9,SNR=30
MJAR Matsushiro Arr 139.31 317 PKhKP PKPpre 02 30 05.2
comp=Z,0.4nm,0.5s,baz=248,slow=42,SNR=3.2
MJAR PKP **PKPdf 02 30 11.2 -0.5**
comp=Z,1.5nm,0.9s,baz=116,slow=1.9,SNR=4.7
KSH Kashi 140.60 36 PKP **PKPdf 02 30 11.3 -2.9**
KSH sPKP 02 30 26.8
KSH PP **PP 02 33 15.3 +2.2**
KSH PKS **PKSdf 02 33 46.3 -3.9**
KSH SKKS 02 40 00.3
KSH SS **SS 02 51 33.5 -2.2**
KSH AMB AMB
comp=Z,140nm,9.1s
KSH LR LR
comp=Z,73nm,8.0s
KSH LR LR
comp=Z,98nm,7.5s
KSH LR LR
comp=Z,180nm,5.7s
ULN Ulaanbaatar 141.62 357 ⇓*i*PKIKP **PKPdf 02 30 18.3 +2.5**
ULN pmax pmax
comp=Z,5.0nm,1.7s
ULN Ulaanbaatar 141.62 357 *e*PKPdf **PKPdf 02 30 16.4 +0.6**
SONM Songino Array 141.68 358 PKhKP PKPpre 02 30 10.4
comp=Z,1.0nm,0.7s,baz=320,slow=4.3,SNR=2.9
SONM PKP **PKPdf 02 30 14.4 -1.5**
comp=Z,0.9nm,0.6s,baz=299,slow=3.2,SNR=4.0
WMQ Urumqi 142.69 20 PKP **PKPdf 02 30 16.0 -1.7**
WMQ LR LR
comp=Z,58nm,15.1s
WMQ LR LR
comp=Z,130nm,19.3s
WMQ LR LR
comp=Z,230nm,16.5s
KSRS Korea Array 145.04 327 PKPbc **PKPab 02 30 21.4 +0.1**
comp=Z,9.9nm,0.6s,baz=63,slow=3.6,SNR=27
KSAR Wonju Array Be 145.07 327 PKIKP **PKPbc 02 30 21.4 0.0**
KSAR Wonju Array Be 145.07 327 PKPbc **PKPbc 02 30 21.4 0.0**
MBWA Marble Bar 146.19 206 *e*PKPbc **PKPab 02 30 25.9 -0.1**
HHC Hu-ho-hao-te 148.09 350 *e*PKPbc **PKPdf 02 30 24.3 -2.8**
HHC PP **PP 02 33 59.5 +2.4**
HHC AMB AMB
comp=Z,66nm,6.5s
HHC LR LR
comp=Z,100nm,14.8s
HHC LR LR
comp=Z,150nm,14.8s
HHC LR LR
comp=Z,91nm,12.3s
GTA Gaotai 149.82 7 ⇑PKPbc **PKPbc 02 30 35.0 +0.2**
GTA PP PP 02 34 17.3 +10
GTA SS SS 02 53 28.0 +8.5
GTA AMB AMB
comp=Z,98nm,7.8s
GTA LR LR
comp=Z,890nm,17.1s
GTA LR LR
comp=Z,380nm,16.4s
SOEI Soe 152.71 226 *e*PKPbc **PKPbc 02 30 43.9 +1.8**
LZH Lanzhou 153.44 1 *e*PKPbc **PKPdf 02 30 34.3 -1.3**
LZH pPKP PKiKP 02 30 44.8 +1.5
LZH sPKP 02 30 48.5
NJ2 Nanjing 153.89 332 *e*PKPbc **PKPdf 02 30 36.0 -0.1**
CD2 Chengdu 158.59 2 PKP **PKPdf 02 30 40.5 -1.9**
GYA Guiyang 162.93 354 *e*PKP **PKPdf 02 30 45.0 -2.3**
GYA PKS **PKSdf 02 34 18.5 -2.2**
GYA PP **PP 02 35 23.3 +3.6**
GYA AMB AMB
comp=Z,120nm,8.2s
KKM Kota Kinabalu 168.04 255 *e*PKPdf **PKPdf 02 30 50.9 -1.0**
KKM *e*PKPab **PKPab 02 32 00.1 +0.5**
CHTO Chiang Mai 169.15 30 *e*PKP2 **PKPab 02 32 04.7 +0.7**
CHTO Chiang Mai 169.15 30 *e*PKPab **PKPab 02 32 04.7 +0.7**
CMAR Chiang Mai Arr 169.45 31 PKPab **PKPab 02 32 07.1 +1.7**
comp=Z,0.6nm,0.3s,baz=221,slow=30,SNR=4.1

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*CSEM **30** 02:11:35.8±0.3, 38°.72N×43°.47E, h10km, ML2.6, Error ellipse: s-maj=8.8km s-min=6.3km az=111.0*
*DDA **30** 02:11:35.9, 38°.71N×43°.51E, h7km, Ml2.8*
*ISK **30** 02:11:35.7, 38°.74N×43°.45E, h18km, ML2.6*
*ISCJB **30** 02:11:36.1±0.8, 38°.73N±0°.05×43°.48E±0°.08, h26km±7km, Error ellipse: s-maj=11.7km s-min=7.1km az=26.1*
ISC 30 02:11:36.5±1.1, 38°.76N±0°.03×43°.51E±0°.04, h19km±2km, n24, σ0°88/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**209**	*e*PG	**Pb**	**02 11 41.1**	**+0.3**
VANB				*e*SG	**Sg**	**02 11 46.1**	**+1.2**
VANB	**Van**	**0.19**	**209**	*e*Pg	**Pb**	**02 11 41.1**	**+0.3**
VANB				*e*Sg	**Sg**	**02 11 46.1**	**+1.2**
VMUR	**Van-Muradiye**	**0.23**	**13**	*i* P	**Pb**	**02 11 41.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.23**	**13**	P	**Pb**	**02 11 41.9**	**-0.1**
TVAN	**Van**	**0.24**	**199**	*i* P	**Pb**	**02 11 41.0**	**-1.3**
TVAN	**Van**	**0.24**	**199**	P	**Pb**	**02 11 41.0**	**-1.3**
ERCV	**ERCIS-VAN**	**0.29**	**333**	*e*PG	**Pg**	**02 11 42.4**	**-0.7**
ERCV	**ERCIS-VAN**	**0.29**	**333**	*e*Pg	**Pg**	**02 11 42.4**	**-0.7**
CLDR	**Caldiran**	**0.50**	**40**	*e*PG	**Pb**	**02 11 47.1**	**+0.3**
CLDR				*e*SG	**Sb**	**02 11 55.0**	**+1.2**
CLDR	**Caldiran**	**0.50**	**40**	*i* P	**Pb**	**02 11 46.8**	**0.0**
CLDR	**Caldiran**	**0.50**	**40**	P	**Pb**	**02 11 46.8**	**0.0**
CLDR	**Caldiran**	**0.50**	**40**	*e*Pg	**Pb**	**02 11 47.1**	**+0.3**
CLDR				*e*Sg	**Sb**	**02 11 55.0**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.61**	**275**	*i* P	**Pb**	**02 11 48.4**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.61**	**275**	P	**Pb**	**02 11 48.3**	**-0.3**
TUTA	**Tutak**	**0.84**	**320**	*i* P	**Pb**	**02 11 52.2**	**-0.4**
TUTA	**Tutak**	**0.84**	**320**	P	**Pb**	**02 11 52.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.91**	**334**	*e*PG	**Pb**	**02 11 53.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.91**	**334**	*e*Pg	**Pb**	**02 11 53.6**	**-0.1**
GURO	**Guroymak-BITLI**	**1.17**	**260**	*e*PN	**Pn**	**02 11 57.1**	**-1.0**
GURO	**Guroymak-BITLI**	**1.17**	**260**	*e*Pn	**Pn**	**02 11 57.1**	**-1.0**
HAKT	**HAKKARI**	**1.21**	**172**	*i* P	**Pn**	**02 11 57.2**	**-1.4**
HAKT	**HAKKARI**	**1.21**	**172**	P	**Pn**	**02 11 57.2**	**-1.4**
SRTM	**Siirt_Merkez**	**1.46**	**239**	*i* P	**Pg**	**02 12 05.7**	**+1.0**
SRTM	**Siirt_Merkez**	**1.46**	**239**	P	**Pg**	**02 12 05.7**	**+1.0**

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*CSEM **30** 02:12:38.3, 38°.76N×43°.51E, h5km, MD2.9*
ISK 30 02:12:38.3, 38°.76N×43°.51E, h5km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**210**	*e*PG	**Pg**	**02 12 44.8**	**+2.8**
VANB				*e*SG	**Sg**	**02 12 49.5**	**+5.0**
VANB	**Van**	**0.19**	**210**	*e*Pg	**Pg**	**02 12 44.8**	**+2.8**
VANB				*e*Sg	**Sg**	**02 12 49.5**	**+5.0**
ERCV	**ERCIS-VAN**	**0.29**	**334**	*e*PG	**Pb**	**02 12 45.5**	**-0.6**
ERCV	**ERCIS-VAN**	**0.29**	**334**	*e*Pg	**Pb**	**02 12 45.6**	**-0.6**
CLDR	**Caldiran**	**0.50**	**40**	*e*PG	**Pg**	**02 12 48.7**	**+0.7**
CLDR				*e*SG	**Sb**	**02 12 57.6**	**+0.1**
CLDR	**Caldiran**	**0.50**	**40**	*e*Pg	**Pg**	**02 12 48.7**	**+0.7**
CLDR				*e*Sg	**Sb**	**02 12 57.6**	**+0.1**
GEVA	**Gevas**	**0.57**	**218**	*i* P	**Pb**	**02 12 50.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.91**	**334**	*e*PG	**Pb**	**02 12 57.1**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**334**	*e*Pg	**Pb**	**02 12 57.1**	**+0.4**
GURO	**Guroymak-BITLI**	**1.17**	**260**	*e*PN	**Pn**	**02 13 01.3**	**-0.2**
GURO	**Guroymak-BITLI**	**1.17**	**260**	*e*Pn	**Pb**	**02 13 01.3**	**+0.2**
CUKT	**Cukurca**	**1.51**	**177**	*e*PN	**Pg**	**02 13 07.7**	**+0.5**
CUKT	**Cukurca**	**1.51**	**177**	*e*Pn	**Pg**	**02 13 07.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*PN	**Pb**	**02 13 13.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.91**	**252**	*e*Pn	**Pb**	**02 13 13.5**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.01**	**334**	*e*PN	**Pb**	**02 13 14.8**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.01**	**334**	*e*Pn	**Pb**	**02 13 14.8**	**-0.7**
BNGB	**Bing¶ll**	**2.22**	**277**	*e*PN	**Pb**	**02 13 18.0**	**-1.0**
BINT	**Bingol**	**2.36**	**274**	*e*Pn	**Pn**	**02 13 18.0**	**+0.2**

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*ISCJB **30** 02:22:28.3±0.7, 29°.3S±0°.2×176°.48W±0°.08, h36km, mb4.1/11, MS4.8/1, Error ellipse: s-maj=22.9km s-min=10.3km az=3.1*
*NEIC **30** 02:22:30.8±2.3, 29°.17S×176°.59W, h46km±19km, mb4.4/2, Error ellipse: s-maj=19.7km s-min=18.3km az=150.0*
*IDC **30** 02:22:31.5±3.7, 29°.20S×176°.57W, h52km±28km, mb3.7/8, mb1 3.9/8, mb1mx3.7/31, mbtmp4.0/8, MS4.7/1, Ms1 4.6/1, ms1mx3.4/23, Error ellipse: s-maj=30.8km s-min=24.2km az=53.0*
ISC 30 02:22:29.6±0.8, 29°.2S±0°.2×176°.50W±0°.10, h36km, n16, σ0°87/18, mb4.1/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**268**	P	**Pn**	**02 22 50.3**	**-0.2**
RAO				LR	LR	02 23 00.7	
	comp=Z,382nm,21.1s,baz=134,slow=25						
RAO				S	**Sn**	**02 23 06.9**	**+0.9**
	663nm,0.3s,baz=90,slow=22,SNR=17						
STKA	**Stephens Creek**	**36.03**	**255**	P	**P**	**02 29 27.3**	**-0.3**
	3.4nm,0.9s,baz=105,slow=8.7,SNR=3.0						
BBOO	**Buckleboo**	**40.56**	**253**	*e*P	**P**	**02 30 04.7**	**-0.9**
	64nm,1.7s						
ASAR	**Alice Springs**	**44.49**	**265**	P	**P**	**02 30 36.6**	**-1.1**
	1.3nm,0.8s,baz=95,slow=6.6,SNR=12						
WRAB	**Tennant Creek**	**45.38**	**270**	*e*P	**P**	**02 30 45.5**	**+0.7**
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**45.38**	**270**	P	**P**	**02 30 44.2**	**-0.6**
	1.8nm,0.7s,baz=110,slow=7.9,SNR=5.6						
VNDA	**Vanda**	**49.40**	**186**	P	**P**	**02 31 16.3**	**+1.0**
	1.0nm,0.5s,baz=34,slow=3.6,SNR=8.5						
MAW	**Mawson**	**73.87**	**200**	P	**P**	**02 34 00.3**	**0.0**
	2.4nm,1.0s,baz=81,slow=3.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**78.03**	**324**	P	**P**	**02 34 25.8**	**+1.3**
	0.7nm,0.7s,baz=145,slow=7.8,SNR=4.1						
SNAA	**Sanae**	**79.29**	**178**	P	**P**	**02 34 31.6**	**+0.6**
	1.5nm,1.1s,baz=263,slow=8.1,SNR=3.2						
TXAR	**Lajitas Array**	**90.65**	**57**	P	**P**	**02 35 29.3**	**+0.6**
	0.3nm,0.9s,baz=235,slow=4.4,SNR=3.5						
TXAR				LR	LR	03 07 41.9	
	comp=Z,355nm,21.8s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**91.82**	**51**	*e*P	**P**	**02 35 34.4**	**+0.3**
	1.1nm,0.7s						
FINES	**FINESS Array B**	**144.46**	**341**	PKP	**PKPab**	**02 41 59.2**	**-0.5**
	4.5nm,0.9s,baz=28,slow=6.3,SNR=4.2						
AKASG	**Malin Array Be**	**151.12**	**325**	PKPbc	**PKPbc**	**02 42 17.3**	**-1.3**
	1.0nm,0.6s,baz=43,slow=2.8,SNR=4.8						
KIEV	**Kiev**	**151.13**	**325**	*e*PKPdf	**PKPdf**	**02 42 12.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**163.92**	**174**	PKP	**PKPdf**	**02 42 29.4**	**-0.3**
	1.4nm,1.2s,baz=250,slow=2.9,SNR=3.9						
TORD				PKPab	**PKPab**	**02 43 21.0**	**-1.2**
	1.4nm,0.9s,baz=173,slow=3.5,SNR=6.3						

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*ISCJB **30** 02:24:07.9±0.4, 36°.99N±0°.04×35°.47E±0°.04, h22km, Error ellipse: s-maj=5.7km s-min=4.8km az=152.3*
*CSEM **30** 02:24:07.8±0.2, 37°.00N×35°.45E, h17km±2km, MD2.7, Error ellipse: s-maj=5.7km s-min=4.2km az=155.0*
*DDA **30** 02:24:07.5, 36°.99N×35°.48E, h7km, Ml2.8*
*ISK **30** 02:24:07.3, 36°.99N×35°.47E, h22km, MD2.7*
ISC 30 02:24:07.9±1.0, 36°.98N±0°.03×35°.48E±0°.03, h22km, n33, σ0°65/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.20**	**141**	*e*PG	**Pb**	**02 24 12.7**	**-0.9**
YURE				*e*SG	**Sb**	**02 24 16.9**	**-0.6**
YURE	**YUREGIR**	**0.20**	**141**	*i* P	**Pb**	**02 24 12.8**	**-0.9**
YURE	**YUREGIR**	**0.20**	**141**	*e*Pg	**Pb**	**02 24 12.7**	**-0.9**
YURE				*e*Sg	**Sb**	**02 24 16.9**	**-0.6**
CEYT	**Ceyhan**	**0.22**	**83**	*e*PG	**Pb**	**02 24 13.0**	**-0.7**
CEYT	**Ceyhan**	**0.22**	**83**	*e*Pg	**Pb**	**02 24 13.0**	**-0.7**
KRTS	**Karatas**	**0.42**	**191**	*e*PG	**Pb**	**02 24 16.9**	**+0.3**
KRTS				*e*SG	**Sb**	**02 24 23.5**	**+1.1**
KRTS	**Karatas**	**0.42**	**191**	*e*Pg	**Pb**	**02 24 16.9**	**+0.3**
KRTS				*e*Sg	**Sb**	**02 24 23.5**	**+1.1**
DED	**Mersin**	**0.54**	**268**	*i* P	**Pb**	**02 24 18.4**	**-0.4**
KOZT	**Kozan**	**0.57**	**29**	*e*PG	**Pb**	**02 24 19.7**	**+0.4**
KOZT	**Kozan**	**0.57**	**29**	*e*Pg	**Pb**	**02 24 19.7**	**+0.4**
GULE	**Gulek**	**0.63**	**298**	*i* P	**Pb**	**02 24 18.9**	**-1.6**
GULE	**Gulek**	**0.63**	**298**	P	**Pb**	**02 24 18.9**	**-1.6**
MERS	**Mersin**	**0.77**	**262**	*e*PG	**Pb**	**02 24 22.8**	**+0.1**
MERS	**Mersin**	**0.77**	**262**	*e*Pg	**Pb**	**02 24 22.8**	**+0.1**
ANDN	**Andirin**	**0.91**	**49**	*i* P	**Pn**	**02 24 25.7**	**+0.1**
ANDN	**Andirin**	**0.91**	**49**	P	**Pn**	**02 24 25.7**	**+0.1**
KAMA	**Osmaniye**	**0.97**	**78**	*i* P	**Pb**	**02 24 25.8**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.11**	**355**	*i* P	**Pb**	**02 24 29.4**	**+0.8**
YAHY	**KAYSERI_Yahyal**	**1.11**	**355**	P	**Pb**	**02 24 29.4**	**+0.8**
KERG	**Konya-Eregli**	**1.16**	**292**	*i* P	**Pb**	**02 24 29.8**	**+0.4**
KERG	**Konya-Eregli**	**1.16**	**292**	P	**Pb**	**02 24 29.8**	**+0.4**
KIZK	**Mersin**	**1.18**	**245**	*e*PN	**Pn**	**02 24 29.2**	**+0.1**
HCB	**Kahramanmara¯**	**1.20**	**72**	*i* P	**Pn**	**02 24 29.5**	**+0.1**
KMRS	**Kahramanmaras**	**1.25**	**65**	*e*PN	**Pn**	**02 24 30.4**	**+0.3**
KMRS	**Kahramanmaras**	**1.25**	**65**	*e*Pn	**Pn**	**02 24 30.4**	**+0.3**
KUZU	**Kuzuini**	**1.30**	**99**	*i* P	**Pb**	**02 24 31.5**	**-0.2**
KUZU	**Kuzuini**	**1.30**	**99**	P	**Pb**	**02 24 31.5**	**-0.2**
KEBE	**Keben-Mersin**	**1.51**	**250**	*e*PN	**Pn**	**02 24 33.5**	**-0.2**
KEBE	**Keben-Mersin**	**1.51**	**250**	*e*Pn	**Pn**	**02 24 33.5**	**-0.2**
IKL	**Isikli**	**1.62**	**243**	*e*PN	**Pn**	**02 24 35.2**	**0.0**
IKL	**Isikli**	**1.62**	**243**	*e*Pn	**Pn**	**02 24 35.2**	**0.0**
BNN	**Bunyan**	**1.89**	**9**	*e*PN	**Pn**	**02 24 38.6**	**-0.4**
BNN	**Bunyan**	**1.89**	**9**	*e*Pn	**Pn**	**02 24 38.6**	**-0.4**

SJA 30 02:27:45.0±0.6, 32°.76S×67°.45W, h180km±6km, ML3.0, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.53**	**25**	*i* P	Pn	02 28 10.4	+0.4
ASAL	**Salagasta**	**1.18**	**278**	*i* P	Pn	02 28 14.3	+0.2
ASAL				*i* S	Sn	02 28 36.8	+0.1
AAGR	**Agrelo**	**1.20**	**254**	*i* P	Pn	02 28 15.2	+0.8
ARCO	**CERRO ARCO**	**1.25**	**266**	*i* P	Pn	02 28 15.2	+0.3
ARCO				IAML		02 28 16.0	
	comp=Z,95nm,0.6s						
ARCO				*i* S	Sn	02 28 37.9	0.0
RTCV	**Cerro Valdivia**	**1.28**	**314**	*i* P	Pn	02 28 15.6	+0.5
RTCV				*i* S	Sn	02 28 37.8	-0.5
SJA	**San Juan**	**1.55**	**322**	*i* P	Pn	02 28 18.3	+0.8
SJA				IAML		02 28 18.6	
	comp=Z,186nm,0.2s						
AUSP	**Uspallata**	**1.72**	**288**	*i* P	Pn	02 28 20.2	+0.8
AUSP				*i* S	Sn	02 28 46.4	+0.3
RTLS	**Leoncito**	**1.83**	**301**	*i* P	Pn	02 28 21.7	+1.1
RTLS				*i* S	Sn	02 28 48.6	+0.5
RTLS				IAML		02 28 49.7	
	comp=Z,57nm,0.3s						
SUCO	**SUCO**	**2.23**	**106**	*i* P	Pn	02 28 25.1	+0.5
SUCO				IAML		02 28 25.4	
	comp=Z,55nm,0.3s						

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*ATH **30** 02:28:14.4, 36°.46N×25°.45E, h9km±2km, ML2.0/2, Error ellipse: s-maj=5.1km s-min=2.0km az=60.0*
*CSEM **30** 02:28:14.7±0.1, 36°.44N×25°.43E, h5km, ML2.0, Error ellipse: s-maj=14.6km s-min=8.2km az=84.0*
THE 30 02:28:14.8, 36°.45N×25°.44E, h6km, ML1.9/3, Error ellipse: s-maj=1.4km s-min=0.5km az=70.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.00**	**288**	P	Pg	02 28 16.0	+0.1
THR2	**Thira island,**	**0.00**	**288**	P	Pg	02 28 16.0	0.0
THR2	**Thira island,**	**0.00**	**288**	P	Pg	02 28 16.0	+0.1
THR7	**Fira-Santorini**	**0.03**	**201**	P	Pg	02 28 16.3	+0.3
THR7	**Fira-Santorini**	**0.03**	**201**	P	Pg	02 28 16.3	+0.3
THR7	**Fira-Santorini**	**0.03**	**201**	P	Pg	02 28 16.3	+0.3
SAP2K	**Karterados**	**0.04**	**172**	P	Pg	02 28 16.4	+0.3
SAP2K				S	Sg	02 28 17.6	+0.6
CMBO	**Columbo, Santo**	**0.04**	**313**	P	Pg	02 28 16.1	0.0
CMBO				S	Sg	02 28 17.3	+0.2
CMBO	**Columbo, Santo**	**0.04**	**313**	P	Pg	02 28 16.1	0.0
CMBO				S	Sg	02 28 17.4	+0.3
CMBO				AML	AML	02 28 17.5	
	comp=E,6941μm,0.3s						
CMBO				AML	AML	02 28 17.9	
	comp=N,2929μm,0.1s						
CMBO	**Columbo, Santo**	**0.04**	**313**	P	Pg	02 28 16.1	0.0
CMBO				S	Sg	02 28 17.4	+0.3
THR3	**Thira Island,**	**0.05**	**221**	P	Pg	02 28 16.3	+0.1
THR3	**Thira Island,**	**0.05**	**221**	P	Pg	02 28 16.3	+0.1
THT1	**Athinios (Pele**	**0.06**	**188**	P	Pg	02 28 16.3	-0.1
THT1				S	Sg	02 28 17.6	+0.1
THT1	**Athinios (Pele**	**0.06**	**188**	P	Pg	02 28 16.3	-0.1
THT1				S	Sg	02 28 17.6	+0.1
SANT	**Santorini**	**0.08**	**168**	P	Pg	02 28 16.7	0.0
SANT				S	Sg	02 28 18.1	+0.1
SANT	**Santorini**	**0.08**	**168**	P	Pg	02 28 16.7	0.0
SANT				S	Sg	02 28 18.3	+0.4
SANT				AML	AML	02 28 18.5	
	comp=E,3348μm,0.1s						
SANT				AML	AML	02 28 18.6	
	comp=N,1519μm,0.1s						
SANT	**Santorini**	**0.08**	**168**	P	Pg	02 28 16.7	0.0
SANT				S	Sg	02 28 18.3	+0.3
THR5	**Thira Island,**	**0.08**	**249**	P	Pg	02 28 16.8	+0.1
THR5	**Thira Island,**	**0.08**	**249**	P	Pg	02 28 16.8	+0.1
THR5	**Thira Island,**	**0.08**	**249**	P	Pg	02 28 16.8	+0.1
SAP1	**Santorini-Akro**	**0.09**	**202**	P	Pg	02 28 17.1	+0.2
SAP1	**Santorini-Akro**	**0.09**	**202**	P	Pg	02 28 17.1	+0.2
SAP1				S	Sg	02 28 18.9	+0.5
THR6	**Thira Island,**	**0.10**	**201**	P	Pg	02 28 17.2	+0.3
THR6	**Thira Island,**	**0.10**	**201**	P	Pg	02 28 17.2	+0.3
THR6	**Thira Island,**	**0.10**	**201**	P	Pg	02 28 17.2	+0.3

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*ISK **30** 02:31:52.5, 38°.83N×43°.55E, h5km, ML2.8*
*CSEM **30** 02:31:53.8±0.4, 38°.84N×43°.55E, h2km, ML2.8, Error ellipse: s-maj=11.0km s-min=6.8km az=95.0*
*DDA **30** 02:31:53.7, 38°.84N×43°.55E, h7km, Ml2.9*
*ISCJB **30** 02:31:54.0±0.6, 38°.83N±0°.04×43°.56E±0°.06, h13km, Error ellipse: s-maj=7.1km s-min=4.7km az=25.8*
ISC 30 02:31:54.6±0.9, 38°.83N±0°.03×43°.55E±0°.04, h13km, n37, σ1°14/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.25**	**319**	*e*PG	**Pg**	**02 31 59.1**	**-0.9**
ERCV	**ERCIS-VAN**	**0.25**	**319**	*e*Pg	**Pg**	**02 31 59.1**	**-0.9**
VANB	**Van**	**0.27**	**208**	*e*PG	**Pg**	**02 32 00.0**	**-0.2**
VANB	**Van**	**0.27**	**208**	*e*Pg	**Pg**	**02 32 00.0**	**-0.2**
TVAN	**Van**	**0.32**	**200**	*i* P	**Pg**	**02 31 59.9**	**-1.4**
TVAN	**Van**	**0.32**	**200**	P	**Pg**	**02 31 59.9**	**-1.4**
CLDR	**Caldiran**	**0.42**	**43**	*e*PG	**Pg**	**02 32 01.7**	**-1.4**
CLDR				*e*SG	**Sg**	**02 32 09.2**	**+0.3**
CLDR	**Caldiran**	**0.42**	**43**	*e*Pg	**Pg**	**02 32 01.7**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.64**	**268**	*i* P	**Pg**	**02 32 06.5**	**-0.7**
GEVA	**Gevas**	**0.64**	**217**	*i* P	**Pg**	**02 32 04.7**	**-2.5**
GEVA	**Gevas**	**0.64**	**217**	P	**Pg**	**02 32 04.7**	**-2.5**
DYDN	**Diyadin**	**0.72**	**9**	*i* P	**Pg**	**02 32 07.4**	**-1.3**
DYDN	**Diyadin**	**0.72**	**9**	P	**Pg**	**02 32 07.4**	**-1.3**
AGRB	**Hanur-Agry**	**0.86**	**330**	*e*PG	**Pg**	**02 32 09

ellipse: s-maj=17.6km s-min=15.5km az=78.0
*NEIC **30** 02:36:53.6±3.9, 34°.66N×142°.76E, h8km±24km, mb4.1/6, Error ellipse: s-maj=10.2km s-min=7.3km az=79.0*
*JMA **30** 02:36:55.3±0.3, 34°.72N×142°.72E, h42km, M4.0*
*ISCJB **30** 02:36:56.1±0.4, 34°.68N±0°.04×142°.62E±0°.04, h35km, mb4.0/25, Error ellipse: s-maj=6.0km s-min=4.5km az=8.8*

ISC 30 02:36:57.7±0.6, 34°.78N±0°.05×142.72E±0°.06, h35km, n59, σ1§70/66, mb4.1/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	1.44	266	P	Pn	02 37 19.4	-1.4
BSO1				S	Sn	02 37 38.0	-0.2
CHOJ	**Chosi**	1.78	302	P	Pn	02 37 25.2	-0.8
CHOJ				S	Sn	02 37 47.1	-0.4
BSO3	**Boso 3**	1.82	271	P	Pn	02 37 25.6	-0.7
BSO4	**Boso 4**	1.97	277	P	Pn	02 37 28.0	-0.5
JHJ2	**Mitsune**	2.93	236	P	Pn	02 37 39.6	-2.2
JHJ2	**Mitsune**	2.93	236	ePn	Pn	02 37 39.4	-2.4
JHJ2				eSn	Sn	02 38 11.7	-4.0
JHJ	**Hachijo jima 2**	2.95	237	Pn	Pn	02 37 39.7	-2.3
	76nm,0.3s,baz=234,slow=23,SNR=5.9						
JHJ				Sn	Sn	02 38 12.9	-3.3
	195nm,0.3s,baz=18,slow=18,SNR=10.0						
JOD2	**Odawara 2**	3.02	280	P	Pn	02 37 41.6	-1.5
JOD2				S	Sn	02 38 15.7	-2.4
JAG	**Ashikaga**	3.13	303	P	Pn	02 37 43.5	-1.1
JAG				S	Sn	02 38 19.5	-1.2
JFT	**Otama**	3.35	326	P	Pn	02 37 46.6	-1.0
JFT				S	Sn	02 38 23.9	-2.2
JRY	**Ryogami san**	3.36	293	P	Pn	02 37 47.3	-0.4
JRY				eS	Sn	02 38 26.4	0.0
JYN	**Shimob**	3.50	283	P	Pn	02 37 48.5	-1.2
JYN				eS	Sn	02 38 28.4	-1.5
MJAR	**Matsushiro Arr**	4.08	297	Pn	Pn	02 37 57.4	-0.2
	4.0nm,0.3s,baz=185,slow=8.6,SNR=33						
MJAR				Sn	Sn	02 38 42.1	-2.0
	4.0nm,0.3s,baz=157,slow=15,SNR=6.0						
MAJO	**Matsushiro**	4.08	297	ePn	Pn	02 37 57.8	+0.2
MAT	**Matsushiro**	4.08	297	P	Pn	02 37 56.9	-0.7
MAT				eS	Sn	02 38 38.8	-5.3
MAT	**Matsushiro**	4.08	297	P	Pn	02 37 58.2	+0.6
MAT				eS	Sn	02 38 43.5	-0.6
JMK	**Ichinoseki**	4.34	344	eS	Sn	02 38 46.8	-3.7
ASAJ	**Asahikawa**	9.33	359	Pn	Pn	02 39 07.2	-2.4
	1.0nm,0.3s,baz=194,slow=7.4,SNR=9.9						
ASAJ				Sn	Sn	02 40 49.2	-4.1
	0.4nm,0.3s,baz=13,slow=30,SNR=3.7						
ASAJ	**Asahikawa**	9.33	359	ePn	Pn	02 39 07.2	-2.4
	2.8nm,0.6s						
ASAJ				eSn	Sn	02 40 48.9	-4.4
JNU	**Nakatsue**	9.98	264	ePn	Pn	02 39 17.6	-1.0
H11N2	**WAKE ISLAND Hy 26.11**	119		T	T	03 09 47.3	
	baz=310,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy 26.11**	119		T	T	03 09 48.9	
	baz=310,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy 26.12**	119		T	T	03 09 44.8	
	baz=310,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy 26.76**	121		T	T	03 10 32.8	
	baz=312,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy 26.76**	121		T	T	03 10 33.2	
	baz=312,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy 26.78**	121		T	T	03 10 40.4	
	baz=312,slow=75,SNR=15						
SONM	**Songino Array**	29.96	307	P	P	02 43 04.9	+2.2
	0.4nm,0.4s,baz=112,slow=11,SNR=2.7						
ZALV	**Zalesovo Beam**	44.23	314	P	P	02 45 04.2	+0.8
	1.5nm,0.5s,baz=102,slow=6.8,SNR=6.7						
MKAR	**Makanchi Array**	46.24	304	P	P	02 45 20.3	+0.9
	0.7nm,0.7s,baz=91,slow=11,SNR=5.2						
KDAK	**Kodiak Island**	48.09	41	P	P	02 45 33.3	-0.3
	22nm,1.1s,baz=270,slow=7.1,SNR=3.1						
KURK	**Kurchatov**	48.18	310	eP	P	02 45 34.8	+0.4
	25nm,0.7s						
KURBB	**Kurchatov Arra**	48.24	310	P	P	02 45 35.3	+0.4
	0.8nm,0.4s,baz=83,slow=7.5,SNR=8.6						
ILAR	**Eielson Array**	50.85	31	P	P	02 45 55.1	+0.5
	1.1nm,0.8s,baz=258,slow=5.7,SNR=11						
AAK	**Ala-Archa**	52.52	300	P	P	02 46 07.9	+0.3
	1.5nm,0.7s,baz=90,slow=11,SNR=2.9						
AAK	**Ala-Archa**	52.52	300	eP	P	02 46 07.6	0.0
	2.0nm,0.9s						
BVAR	**Borovoye Array**	52.89	314	P	P	02 46 12.1	+2.2
	0.6nm,0.5s,baz=66,slow=7.2,SNR=4.6						
WRAB	**Tennant Creek**	54.98	190	eP	P	02 46 24.5	-1.0
	3.8nm,0.9s						
WRA	**Warramunga Arr**	54.99	190	P	P	02 46 24.9	-0.8
	2.9nm,0.8s,baz=8.8,slow=7.5,SNR=13						
ASAR	**Alice Springs**	58.72	189	P	P	02 46 51.8	-0.2
	1.4nm,0.9s,baz=5.2,slow=5.9,SNR=14						
ARU	**Arti**	58.76	320	eP	P	02 46 52.4	+0.5
	2.2nm,0.5s						
ABKAR	**Akbulak array**	60.22	312	eP	P	02 47 02.2	+0.1
	1.3nm,0.8s						
AKTO	**Aktyubinsk**	60.98	313	P	P	02 47 07.8	+0.4
	1.8nm,0.7s,baz=85,slow=13,SNR=3.9						
STKA	**Stephens Creek**	66.31	181	P	P	02 47 42.5	+0.1
	1.3nm,0.7s,baz=330,slow=8.5,SNR=2.9						
FINES	**FINESS Array B**	71.50	333	P	P	02 48 13.4	+0.2
	2.3nm,0.8s,baz=20,slow=6.1,SNR=4.7						
BMO	**Blue Mountains**	72.68	47	eP	P	02 48 22.6	+0.6
	0.9nm,0.7s						
NB2	**NORSAR Subarra**	76.67	338	P	P	02 48 45.4	+0.6
	comp=Z,0.9nm,0.7s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	76.67	338	P	P	02 48 45.4	+0.6
	comp=Z,0.6nm,0.6s,baz=39,slow=6.0,SNR=3.6						
AKASG	**Malin Array Be**	76.73	323	P	P	02 48 46.0	+0.8
	comp=Z,0.6nm,0.5s,baz=46,slow=6.0,SNR=4.2						
AKASG	**Malin Array Be**	76.73	323	P	P	02 48 46.0	+0.8
R11A	**Troy Canyon, C**	77.31	52	eP	P	02 48 49.9	+0.9
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	78.49	46	P	P	02 48 56.0	+0.6
	comp=Z,0.2nm,0.5s,baz=282,slow=6.3,SNR=3.0						
BRTR	**Keskin Array B**	81.15	312	P	P	02 49 11.1	+1.2
	comp=Z,0.7nm,0.8s,baz=151,slow=2.8,SNR=3.7						
CLL	**Collm**	83.58	331	eP	P	02 49 22.0	-0.1
GERES	**GERESS Array B**	85.19	329	P	P	02 49 30.9	+0.4
	comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=7.5						
TXAR	**Lajitas Array**	90.64	53	P	P	02 49 57.6	+0.6
	comp=Z,0.3nm,0.9s,baz=305,slow=3.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	119.68	315	PKP	PKPdf	02 55 44.2	-0.3
	comp=Z,0.6nm,1.0s,baz=4.4,slow=1.2,SNR=3.1						
SAML	**Samuel**	145.02	49	ePKPdf	PKPdf	02 56 31.2	-0.6
LPAZ	**La Paz**	146.82	64	PKPbc	PKPab	02 56 38.2	-0.5
	comp=Z,0.9nm,0.6s,baz=357,slow=4.8,SNR=7.3						
PLCA	**Paso Flores**	153.13	113	SKPbc	SKPbc	03 00 28.0	
	comp=Z,1.7nm,0.9s,baz=265,slow=3.2,SNR=3.0						

*ISCJB **30** 02:39:11.9±0.3, 28°.71N±0°.04×128°.66E±0°.07, h140km±4km, mb3.7/12, Error ellipse: s-maj=12.1km s-min=3.6km az=30.0*
*JMA **30** 02:39:12.9±0.1, 28°.75N×128°.59E, h131km±2km, M3.8*
JMA Felt I J1.
*IDC **30** 02:39:16.6±3.0, 28°.84N×128°.85E, h171km±27km, mb3.4/11, mb1 3.6/13, mb1mx3.3/49, mbtmp3.9/13, Error ellipse: s-maj=18.6km s-min=14.4km az=71.0*

ISC 30 02:39:12.8±0.7, 28°.72N±0°.05×128°.65E±0°.08, h138km±7km, n39, σ1§01/54, mb3.7/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	0.65	48	P	Pn	02 39 33.5	-0.1
JTAJ				S	Sn	02 39 48.8	-0.7
JAMN	**Amaminishikomi**	0.66	135	P	Pn	02 39 33.7	0.0
JAMN				S	Sn	02 39 49.0	-0.6
JAM	**Amami Oshima**	0.90	110	P	Pn	02 39 35.3	-0.2
JAM				S	Sn	02 39 51.6	-1.1
JTK	**Tokunoshima**	0.97	164	P	Pn	02 39 36.3	+0.2
JTK				S	Sn	02 39 54.0	+0.2
JZK	**Kikaishima**	1.23	109	P	Pn	02 39 39.8	+1.2
JZK				S	Sn	02 39 59.8	+1.5
JOKE	**Okinoerabujima**	1.35	183	P	Pn	02 39 40.1	+0.2
JOKE				S	Sn	02 40 00.3	-0.2
JNN	**Nakanoshima**	1.55	44	P	Pn	02 39 41.8	-0.2
JNN				eS	Sn	02 40 04.9	+0.6
JIH	**Iheya**	1.78	200	P	Pn	02 39 45.1	+0.5
JIH				S	Sn	02 40 08.8	-0.1
JOW	**Kunigami**	1.91	190	P	Pn	02 39 46.1	0.0
JOW				S	Sn	02 40 10.8	-0.8
JKC	**Kuchinoerabu**	2.20	37	P	Pn	02 39 49.7	+0.1
JKC				eS	Sn	02 40 18.4	+0.5
JYAK	**Yakushimahirau**	2.22	47	P	Pn	02 39 49.6	-0.2
JYAK				eS	Sn	02 40 19.0	+0.7
JNTH	**Nagotoyohara**	2.26	194	P	Pn	02 39 50.7	+0.4
JNTH				eS	Sn	02 40 17.9	-1.3
JAGN	**Aguni-jima**	2.46	211	P	Pn	02 39 53.1	+0.3
JAGN				S	Sn	02 40 22.9	-0.7
JJT2	**Tamagusuku 2**	2.69	198	P	Pn	02 39 56.5	+0.8
JJT2				eS	Sn	02 40 28.0	-0.8
JTN	**Tanegashima 3**	2.80	46	P	Pn	02 39 56.2	-0.9
JTN				eS	Sn	02 40 30.3	-1.0
JKE	**Kume jima 2**	2.90	215	P	Pn	02 39 58.2	-0.2
JKE				S	Sn	02 40 33.1	-0.4
JSJ	**Shimokoshiki**	3.09	17	P	Pn	02 40 01.2	+0.4
JTSR	**Tashiro 2**	3.14	38	P	Pn	02 40 01.2	-0.3
JTSR				eS	Sn	02 40 36.3	-2.8
JSU	**Suzuyama**	3.19	29	P	Pn	02 40 02.7	+0.6
KSRS	**Korea Array**	8.73	356	P	Pn	02 41 17.5	+1.6
	0.1nm,0.3s,baz=174,slow=14,SNR=5.4						
MJAR	**Matsushiro Arr**	11.21	43	P	Pn	02 41 51.3	+2.3
	0.8nm,0.3s,baz=245,slow=14,SNR=4.3						
KLR	**Kul'dur**	20.62	6	P	P	02 43 39.3	-1.7
	0.1nm,0.5s,baz=180,slow=10,SNR=2.8						
SONM	**Songino Array**	25.72	324	P	P	02 44 32.6	+2.3
	0.7nm,0.5s,baz=139,slow=9.8,SNR=2.9						
SONM	**Songino Array**	25.72	324	P	pP	02 45 01.3	+1.9
	0.7nm,0.4s,baz=129,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	40.20	310	P	P	02 46 36.2	+0.6
	0.9nm,0.8s,baz=108,slow=9.3,SNR=3.3						
MKAR				PcP	PcP	02 48 36.0	-1.0
	0.3nm,0.4s,baz=67,slow=3.2,SNR=5.2						
MKAR	**Makanchi Array**	40.20	310	P	pP	02 47 08.6	+2.5
	0.4nm,0.6s,baz=83,slow=9.9,SNR=3.6						
ZALV	**Zalesovo Beam**	40.52	321	P	pP	02 47 11.0	+2.3
	0.6nm,0.5s,baz=96,slow=9.0,SNR=2.4						
KURBB	**Kurchatov Arra**	43.34	315	P	P	02 47 02.0	+1.0
	1.8nm,0.2s,baz=96,slow=9.2,SNR=2.8						
KURBB	**Kurchatov Arra**	43.34	315	P	pP	02 47 34.5	+2.6
	3.0nm,0.2s,baz=101,slow=9.3,SNR=3.3						
WRA	**Warramunga Arr**	48.69	173	P	P	02 47 43.6	+0.4
	1.0nm,0.6s,baz=351,slow=8.2,SNR=2.5						
BVAR	**Borovoye Array**	48.69	317	P	P	02 47 44.2	+1.3
	0.6nm,0.5s,baz=76,slow=8.9,SNR=3.1						
BVAR				PcP	PcP	02 49 05.6	-0.4
	0.9nm,0.3s,baz=100,slow=3.5,SNR=7.3						
BVAR	**Borovoye Array**	48.69	317	P	pP	02 48 16.7	+2.3
	1.3nm,0.7s,baz=82,slow=11,SNR=5.2						
ASAR	**Alice Springs**	52.33	174	P	P	02 48 11.9	+1.5
	0.6nm,0.7s,baz=3.1,slow=15,SNR=5.2						
ASAR				PcP	PcP	02 49 20.5	+0.7
	0.2nm,0.6s,baz=355,slow=3.4,SNR=5.5						
KDAK	**Kodiak Island**	60.31	37	P	P	02 49 05.0	-1.6
	17nm,1.0s,baz=282,slow=5.4,SNR=6.7						
ILAR	**Eielson Array**	62.08	29	P	P	02 49 17.2	-1.2
	0.9nm,0.7s,baz=263,slow=4.1,SNR=18						
FINES	**FINESS Array B**	70.89	330	P	P	02 50 13.3	-1.2
	1.9nm,0.8s,baz=112,slow=2.1,SNR=4.6						
YKA	**Yellowknife Ar**	76.12	25	P	P	02 50 44.9	-0.1
	1.1nm,0.5s,baz=306,slow=5.7,SNR=4.7						
GERES	**GERESS Array B**	83.44	323	P	P	02 51 24.6	-0.3
	0.3nm,0.6s,baz=52,slow=5.2,SNR=3.9						
PDAR	**Pinedale Array**	91.00	39	P	P	02 52 01.9	+0.3
	0.4nm,0.6s,baz=278,slow=1.0,SNR=5.0						

*IDC **30** 02:39:35.2±1.7, 38°.56N×43°.36E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/45, mbtmp3.6/7, ML3.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/47, Error ellipse: s-maj=40.3km s-min=12.8km az=142.0*
*DDA **30** 02:39:36.5, 38°.69N×43°.39E, h7km, Ml3.6*
*ISK **30** 02:39:36.4, 38°.68N×43°.35E, h2km, ML3.5*
*CSEM **30** 02:39:41.9±0.2, 38°.83N×42°.95E, h10km, ML3.5, Error ellipse: s-maj=7.1km s-min=3.9km az=153.0*
*AZER **30** 02:39:47.2±1.7, 38°.93N×43°.47E, h10km, Error ellipse: s-maj=15.1km s-min=11.2km az=147.0*

ISC 30 02:39:37.9±0.9, 38°.68N±0°.02×43°.37E±0°.02, h16km±6km, n92, σ1§46/108, mb3.4/6, 11C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.08	172	PG	Pg	02 39 41.1	-0.2
TVAN	**Van**	0.15	170	*i* P	Pg	02 39 40.9	-1.2
ERCV	**ERCIS-VAN**	0.34	355	PG	Pg	02 39 44.0	-1.2
ERCV				SG	Sg	02 39 50.2	0.0
GEVA	**Gevas**	0.44	214	*i* P	Pg	02 39 45.4	-1.5
ADCV	**BITLIS_Adilcev**	0.53	285	*i* P	Pg	02 39 47.4	-1.1
ADCV	**BITLIS_Adilcev**	0.53	285	P	Pg	02 39 47.3	-1.1
CLDR	**Caldiran**	0.63	42	*e*PG	Pg	02 39 49.0	-1.4
CLDR				*e*SG	Sg	02 39 59.4	+0.6
CLDR	**Caldiran**	0.63	42	*i* P	Pg	02 39 48.9	-1.5
BASK	**Baskale_VAN**	0.80	141	*i* P	Pg	02 39 51.8	-1.7
TUTA	**Tutak**	0.85	329	*i* P	Pg	02 39 52.6	-1.8
TUTA	**Tutak**	0.85	329	P	Pg	02 39 52.6	-1.8
TATV	**Tatvan**	0.88	259	*i* P	Pg	02 39 53.4	-1.7
TATV	**Tatvan**	0.88	259	P	Pg	02 39 53.4	-1.7
DYDN	**Diyadin**	0.90	16	*i* P	Pg	02 39 53.5	-2.0
AGRB	**Hanur-Agry**	0.95	342	*e*PG	Pb	02 39 54.9	-1.1
AGRB				*e*SG	Sb	02 40 08.7	+0.3
AGRB	**Hanur-Agry**	0.95	342	*e*Pg	Pb	02 39 54.9	-1.1
AGRB				*e*Sg	Sb	02 40 08.7	+0.3
GURO	**Guroymak-BITLI**	1.06	264	*e*PG	Pb	02 39 56.4	-1.5
GURO	**Guroymak-BITLI**	1.06	264	*e*Pg	Pb	02 39 56.4	-1.5
HAKT	**HAKKARI**	1.15	167	*i* P	Pb	02 39 57.9	-1.5
EKAR	**Karacoban**	1.17	300	*i* P	Pb	02 39 59.2	-0.7
EKAR	**Karacoban**	1.17	300	P	Pb	02 39 59.2	-0.7
SRTM	**Siirt_Merkez**	1.33	240	*i* P	Pb	02 40 03.4	+0.8
SRTM	**Siirt_Merkez**	1.33	240	P	Pb	02 40 03.3	+0.8
EATA	**Eleskirt**	1.37	330	*i* P	Pn	02 40 02.3	-0.3
EATA	**Eleskirt**	1.37	330	P	Pn	02 40 02.3	-0.3
SIRN	**S¨–rnak**	1.40	213	*i* P	Pn	02 40 03.9	+1.1
SIRN	**S¨–rnak**	1.40	213	P	Pn	02 40 03.9	+1.1
CUKT	**Cukurca**	1.44	173	*e*PN	Pn	02 40 04.0	+0.7
CUKT	**Cukurca**	1.44	173	*i* P	Pn	02 40 03.5	+0.1
VRTB	**Varto-Mus**	1.57	289	*e*PN	Pn	02 40 06.5	+1.3
VRTB	**Varto-Mus**	1.57	289	*i* P	Pn	02 40 05.8	+0.5
VRTB	**Varto-Mus**	1.57	289	P	Pn	02 40 05.8	+0.5
VRTB	**Varto-Mus**	1.57	289	*e*Pn	Pn	02 40 06.5	+1.3
NAX	**Nakhchivan**	1.73	73	⇓P	Pn	02 40 08.4	+1.0
	SNR=19						
NAX				⇑S	Sg	02 40 37.1	+3.5
SVAN	**Silvan-Diyarba**	1.79	254	*e*PN	Pn	02 40 09.4	+1.3
SVAN	**Silvan-Diyarba**	1.79	254	*i* P	Pn	02 40 09.0	+0.9
SVAN	**Silvan-Diyarba**	1.79	254	P	Pn	02 40 09.0	+0.9
SVAN	**Silvan-Diyarba**	1.79	254	*e*Pn	Pn	02 40 09.4	+1.3
GNI	**Garni**	1.81	35	Pn	Pn	02 40 09.6	+1.0
	16nm,0.3s,baz=257,slow=3.5,SNR=53						
GNI				Lg	Lg	02 40 37.5	
	27nm,0.3s,baz=144,slow=22,SNR=9.5						
BTMN	**Batman**	1.83	245	*i* P	Pn	02 40 10.2	+1.4
BTMN	**Batman**	1.83	245	P	Pn	02 40 10.2	+1.4
SENK	**Senkaya-Erzuru**	2.04	338	*e*PN	Pn	02 40 12.8	+1.0
SENK	**Senkaya-Erzuru**	2.04	338	*e*Pn	Pn	02 40 12.8	+1.0
BNGB	**Bing¨¶l**	2.13	279	*e*PN	Pn	02 40 14.0	+1.2
BINT	**Bingol**	2.26	276	*e*Pn	Pn	02 40 14.0	-0.7
YEDI	**Yedisu-Bingol**	2.33	290	*e*PN	Pn	02 40 16.9	+1.2
YEDI	**Yedisu-Bingol**	2.33	290	*e*Pn	Pn	02 40 16.9	+1.2
MARD	**Mardin**	2.46	237	*i* P	Pn	02 40 18.4	+1.0
MAZI	**Mazidag**	2.61	243	*e*PN	Pn	02 40 20.4	+0.9
MAZI	**Mazidag**	2.61	243	*e*Pn	Pn	02 40 20.4	+0.9
AKH	**Akhalkalaki**	2.73	2	*e*PN	Pn	02 40 23.1	+1.9
AKH	**Akhalkalaki**	2.73	2	*e*Pn	Pn	02 40 23.1	+1.9
GDB	**GEDABAY**	2.75	41	⇑P	Pb	02 40 28.7	+2.0
	SNR=6.5						
GDB				⇑S	Sb	02 40 59.8	-0.4
GDB	**GEDABAY**	2.75	41	P	Pb	02 40 28.7	+2.0
	SNR=6.5						
GDB				S	Sb	02 40 59.8	-0.4
QZX	**Qazax, Azerbai**	2.83	32	⇑P	Pb	02 40 29.2	+1.1
	SNR=5.2						
QZX				⇑S	Sb	02 41 01.3	-1.2
QZX	**Qazax, Azerbai**	2.83	32	P	Pb	02 40 29.2	+1.1
	SNR=5.2						
QZX				S	Sb	02 41 01.3	-1.2
ERZN	**Erzincan**	2.98	289	*e*PN	Pn	02 40 26.5	+1.9
GANJ	**Ganja**	3.01	48	⇓P	Pb	02 40 32.3	+1.2
	SNR=14						
GANJ				⇓S	Sb	02 41 06.6	-1.0
GANJ	**Ganja**	3.01	48	P	Pb	02 40 32.3	+1.2
	SNR=14						
GANJ				S	Sb	02 41 06.6	-1.0
PTK	**Pertek**	3.12	275	*e*PN	Pn	02 40 28.4	+1.9
PTK	**Pertek**	3.12	275	*e*Pn	Pn	02 40 28.5	+1.9
SVRC	**Sivrice-ELAZID**	3.20	266	*e*PN	Pn	02 40 29.5	+1.8
SVRC	**Sivrice-ELAZID**	3.20	266	*e*Pn	Pn	02 40 29.5	+1.8
EZC	**Erzincan**	3.30	290	*e*Pn	Pn	02 40 26.5	-2.5
BRDA	**Brd**	3.34	61	⇓P	Pb	02 40 37.4	+0.6
	SNR=3.9						
BRDA				⇓S	Sb	02 41 15.7	-1.5
BRDA	**Brd**	3.34	61	P	Pb	02 40 37.4	+0.6
	SNR=3.9						
BRDA				S	Sb	02 41 15.7	-1.5
MNGR	**Mingechevir, A**	3.55	53	⇑P	Pb	02 40 39.7	-0.5
	SNR=5.3						
MNGR				⇓S	Sb	02 41 20.1	-2.9
MNGR	**Mingechevir, A**	3.55	53	P	Pb	02 40 39.7	-0.5
	SNR=5.3						
MNGR				S	Sb	02 41 20.1	-2.9
ZRD	**Zardab**	3.70	63	⇑P	Pb	02 40 42.4	-0.4
	SNR=3.2						
ZRD				⇓S	Sb	02 41 24.7	-2.7
ZRD	**Zardab**	3.70	63	P	Pb	02 40 42.4	-0.4
	SNR=3.2						
ZRD				S	Sb	02 41 24.7	-2.7
ZKTA	**Zakatala**	3.87	39	⇓P	Pb	02 40 43.7	-2.0
	SNR=3.6						
SEKA	**Sheki**	3.88	48	⇓P	Pb	02 40 45.0	-0.9
	SNR=6.2						
SEKA	**Sheki**	3.88	48	P	Pb	02 40 45.0	-0.9
	SNR=6.2						
LRK	**Lerik**	3.89	89	⇓P	Pb	02 40 46.8	+0.7
	SNR=5.9						
LRK	**Lerik**	3.89	89	P	Pb	02 40 46.8	+0.7
	SNR=5.9						
GLBA	**Cilabad**	3.95	80	⇑P	Pb	02 40 46.9	-0.2
	SNR=4.8						
GLBA	**Cilabad**	3.95	80	P	Pb	02 40 46.9	-0.2
	SNR=4.8						
SAAT	**Saatly**	4.09	72	⇑P	Pb	02 40 48.0	-1.5
	SNR=3.0						
SAAT	**Saatly**	4.09	72	P	Pb	02 40 48.0	-1.5
	SNR=3.0						
QBL	**Gabala**	4.12	55	⇑P	Pb	02 40 47.8	-2.2
	SNR=6.5						
QBL	**Gabala**	4.12	55	P	Pb	02 40 47.8	-2.2
	SNR=6.5						
PQL	**Pirkuli**	4.54	61	⇑P	Pb	02 40 53.9	-3.4
	SNR=3.2						
PQL	**Pirkuli**	4.54	61	P	Pb	02 40 53.9	-3.4
	SNR=3.2						
KBZ	**Khabaz**	5.06	356	Pg	Pg	02 41 15.0	+0.2
	0.2nm,0.3s,baz=190,slow=11,SNR=4.7						
AKTO	**Aktyubinsk**	15.69	37	Pn	Pn	02 43 18.5	+0.4
	0.1nm,0.3s,baz=225,slow=13,SNR=2.5						
GERES	**GERESS Array B**	23.58	305	P	P	02 44 49.9	+2.2
	0.2nm,0.8s,baz=96,slow=9.3,SNR=4.4						
AAK	**Ala-Archa**	23.87	70	LR	LR	02 55 38.6	
	comp=Z,220nm,20.4s,baz=78,slow=40						
FINES	**FINESS Array B**	25.19	340	P	P	02 45 02.3	0.0
	1.4nm,0.8s,baz=134,slow=5.5,SNR=3.4						
KURBB	**Kurchatov Arra**	27.45	53	P	P	02 45 24.6	+1.7
	0.4nm,0.4s,baz=264,slow=9.2,SNR=4.3						
ARCES	**ARCESS Array B**	32.37	348	P	P	02 46 06.4	+0.2
	5.5nm,1.2s,baz=143,slow=9.1,SNR=4.2						
ESDC	**Sonseca Array**	36.38	287	P	P	02 46 40.8	-0.6
	0.3nm,0.5s,baz=67,slow=9.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	44.75	247	P	P	02 47 50.0	-0.7
	0.2nm,0.8s,baz=51,slow=11,SNR=3.5						

*DDA **30** 02:41:18.8, 38°.90N×43°.56E, h10km, Ml3.9*
*ISCJB **30** 02:41:19.1±0.5, 38°.91N±0°.03×43°.54E±0°.04, h4km±5km, mb3.7/2, Error ellipse: s-maj=5.8km s-min=4.7km az=16.2*
*CSEM **30** 02:41:19.1±0.2, 38°.92N×43°.55E, h2km, ML3.9, Error ellipse: s

ONI	Oni	3.68	359	P	Pg	02 42 31.0 +0.9
ONI				S	Sg	02 43 19.7 +1.9
KBZ	Khabaz	4.84	354	Pg	Pg	02 42 53.4 +1.0
	0.2nm,0.3s,baz=202,slow=13,SNR=6.2					
KVAR	Kislovodsk Arr	5.09	353	Pg	Pg	02 42 56.9 -0.2
	baz=15,slow=9.0,SNR=4.0					
EIL	Elat	11.65	220	LR	LR	02 49 08.0
	comp=Z,113nm,18.6s,baz=92,slow=40					
AKTO	Aktyubinsk	15.40	37	Pn	Pn	02 44 53.9 -3.0
	0.0nm,0.3s,baz=235,slow=11,SNR=2.9					
AKASG	Malin Array Be	15.55	324	Pn	P	02 45 03.2 0.0
	0.4nm,0.3s,baz=130,slow=11,SNR=2.9					
VYHS	Vyhne	20.22	306	*e*P	Pn	02 45 57.8 +1.3
ESDC	Sonseca Array	36.46	287	P	P	02 48 27.0 +2.2
	1.0nm,0.8s,baz=73,slow=9.3,SNR=5.9					
TORD	Torodi Ar. Bea	44.99	247	P	P	02 49 35.5 +0.2
	1.5nm,1.2s,baz=69,slow=5.6,SNR=2.9					

*SJA **30** 02:42:58.4±1.1,30.°71S×71.°68W,h68km±23km,ML3.1, MW3.6*
*ISCJB **30** 02:49:7.±1.1,30.°73S±0.°03×71.°7W±0.°1,h33km,Error ellipse: s-maj=13.0km s-min=4.4km az=4.2*
*GUC **30** 02:43:00.8±0.5,30.°74S×70.°40W,h62km±8km,ML3.1*

ISC 30 02:42:56.4±1.5,30.°78S±0.°03×71.°71W±0.°09,h33km,n18, σ2§16/23,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.99	52⇑	*i*P	Pb	02 43 16.2	+1.0
TLL				*i*S	Sb	02 43 28.2	+0.1
TLL				IAML		02 43 29.0	
	comp=N,682nm,0.1s						
LCO	Las Campanas	1.97	27⇑	*i*P	Pb	02 43 31.1	-0.6
LCO				*i*S	Sb	02 43 53.8	-2.1
LCO				IAML		02 43 58.6	
	comp=N,174nm,0.3s						
LCO	Las Campanas	1.97	27	*e*P	Pb	02 43 31.3	-0.4
LCO				*e*S	Sb	02 43 54.0	-1.9
ROCH	El Roble	2.27	165	IAML		02 44 14.4	
	comp=N,177nm,0.4s						
ROC1	El Roble	2.27	165	*e*P	Pb	02 43 36.1	-0.8
RTLS	Leoncito	2.31	117	*i*P	Pb	02 43 36.3	-1.1
RTLS				*i*S	Sb	02 44 05.2	-0.4
RTLS				IAML		02 44 07.5	
	comp=Z,98nm,0.4s						
VACH	Vallenar	2.35	21	*i*P	Pb	02 43 36.1	-1.9
VACH				*i*S	Sb	02 44 03.2	-3.3
AUSP	Uspallata	2.45	127	*e*P	Pb	02 43 39.2	-0.8
PEL	Peldehue	2.52	160	*e*P	Pb	02 43 39.2	-1.7
PEL				*e*S	Sb	02 44 09.0	-2.4
PEL				IAML		02 44 17.9	
	comp=E,130nm,0.2s						
AMOG	MOGNA	2.77	94	*i*P	Pb	02 43 42.6	-2.7
CLCH	Cerro Calan	2.79	159	*e*P	Pb	02 43 43.7	-2.0
CLCH				*e*S	Sn	02 44 15.2	+3.7
CLCH				IAML		02 44 36.6	
	comp=E,129nm,0.5s						
RTCV	Cerro Valdivia	2.92	113	*e*P	Pb	02 43 44.9	-2.9
ASAL	Salagasta	3.05	127	*e*P	Pb	02 43 47.7	-2.3
AGUA	GUANDACOL	3.07	66	*i*P	Pb	02 43 48.2	-2.2
AAGR	Agrelo	3.36	134	*e*P	Pb	02 43 53.4	-1.9
AVFE	Valle Fertil	3.67	89	*i*P	Pn	02 43 53.1	+2.2
ACLC	CERRO LA CRUZ	4.34	73	*e*P	Pn	02 44 03.2	+3.1
APLL	PUNTA DE LOS L	4.49	86	*e*P	Pn	02 44 04.4	+2.3

*ISCJB **30** 02:43:54.0±0.6,38.°60N±0.°04×43.°12E±0.°05,h4km±7km, Error ellipse: s-maj=6.9km s-min=5.5km az=34.7*
*CSEM **30** 02:43:53.9±0.2,38.°58N×43.°13E,h2km,ML2.6,Error ellipse: s-maj=4.5km s-min=3.8km az=10.0*
*DDA **30** 02:43:53.8,38.°59N×43.°17E,h7km,Ml3.1*
*ISK **30** 02:43:53.7,38.°59N×43.°15E,h5km,ML2.6*

ISC 30 02:43:54.3±0.9,38.°58N±0.°03×43.°15E±0.°03,h12km±9km, n34,σ0§72/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	85	*e*PG	Pg	02 43 58.3	-0.3
VANB				*e*SG	Sg	02 44 01.9	+0.4
VANB	Van	0.19	85	*e*Pg	Pg	02 43 58.3	-0.3
VANB				*e*Sg	Sg	02 44 02.0	+0.4
TVAN	Van	0.21	104	*i*P	Pg	02 43 58.3	-0.7
TVAN	Van	0.21	104	P	Pg	02 43 58.3	-0.7
GEVA	Gevas	0.28	195	*i*P	Pg	02 44 00.2	0.0
GEVA	Gevas	0.28	195	P	Pg	02 44 00.2	0.0
ADCV	BITLIS_Adilcev	0.40	304	*i*P	Pg	02 44 02.2	-0.3
ADCV	BITLIS_Adilcev	0.40	304	P	Pg	02 44 02.2	-0.3
ERCV	ERCIS-VAN	0.46	18	*e*PG	Pg	02 44 03.3	-0.2
ERCV	ERCIS-VAN	0.46	18	*e*Pg	Pg	02 44 03.3	-0.2
TATV	Tatvan	0.70	264	*i*P	Pg	02 44 07.3	-0.6
TATV	Tatvan	0.70	264	P	Pg	02 44 07.3	-0.6
CLDR	Caldiran	0.82	47	*e*PG	Pb	02 44 10.2	-0.4
CLDR	Caldiran	0.82	47	*e*Pg	Pb	02 44 10.2	-0.4
BASK	Baskale_VAN	0.85	128	*i*P	Pg	02 44 09.9	-0.9
BASK	Baskale_VAN	0.85	128	P	Pg	02 44 09.9	-0.9
TUTA	Tutak	0.86	342	*i*P	Pg	02 44 10.5	-0.6
TUTA	Tutak	0.86	342	P	Pg	02 44 10.5	-0.6
GURO	Guroymak-BITLI	0.88	268	*e*PG	Pg	02 44 10.5	-0.8
GURO	Guroymak-BITLI	0.88	268	*e*Pg	Pg	02 44 10.5	-0.8
AGRB	Hanur-Agry	1.00	353	*e*PG	Pg	02 44 13.0	-0.7
AGRB				*e*SG	Sg	02 44 26.4	-0.4
AGRB	Hanur-Agry	1.00	353	*e*Pg	Pg	02 44 13.0	-0.7
AGRB				*e*Sg	Sg	02 44 26.4	-0.4
CUKT	Cukurca	1.38	165	*e*PN	Pg	02 44 20.7	-0.2
CUKT	Cukurca	1.38	165	*e*Pn	Pg	02 44 20.7	-0.2
VRTB	Varto-Mus	1.45	294	*e*PN	Pb	02 44 21.2	0.0
VRTB	Varto-Mus	1.45	294	*e*Pn	Pb	02 44 21.2	0.0
SVAN	Silvan-Diyarba	1.59	255	*e*PN	Pb	02 44 23.5	-0.2
SVAN	Silvan-Diyarba	1.59	255	*e*Pn	Pb	02 44 23.5	-0.2
BNGB	Bing¶ll	1.98	283	*e*PN	Pn	02 44 28.1	+0.5
SENK	Senkaya-Erzuru	2.07	343	*e*PN	Pn	02 44 30.4	+1.3
SENK	Senkaya-Erzuru	2.07	343	*e*Pn	Pn	02 44 30.4	+1.3
BINT	Bingol	2.10	279	*e*Pn	Pn	02 44 28.1	-1.3
YEDI	Yedisu-Bingol	2.20	294	*e*PN	Pn	02 44 32.3	+1.5
YEDI	Yedisu-Bingol	2.20	294	*e*Pn	Pn	02 44 32.3	+1.5

*ISCJB **30** 02:43:59.9±1.0,36.°00N±0.°09×143.°09E±0.°09,h33km, mb3.9/4,Error ellipse: s-maj=13.5km s-min=9.2km az=28.5*
*IDC **30** 02:44:00.4±3.2,35.°57N×142.°82E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.5/56,mbtmp3.7/5,ML3.0/1,Error ellipse: s-maj=82.6km s-min=24.4km az=52.0*
*JMA **30** 02:44:01.5±0.3,36.°17N×142.°79E,h10km,M3.0*

ISC 30 02:44:03.1±1.4,36.°03N±0.°10×143.°0E±0.°1,h35km,n16, σ1§79/17,mb3.7/4,Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	2.04	287	P	Pn	02 44 33.5	-1.4
JHO				S	Sn	02 44 57.0	-2.1
JMM	Marumori	2.54	317	P	Pn	02 44 40.9	-0.9
JFT	Otama	2.60	306	P	Pn	02 44 42.5	-0.1
JAG	Ashikaga	2.89	279	P	Pn	02 44 45.9	-0.6
JOD2	Odawara 2	3.27	258	P	Pn	02 44 52.0	+0.2
JOD2				*e*S	Sn	02 45 30.0	+0.6
JRY	Ryogami san	3.31	271	P	Pn	02 44 51.9	-0.5
JYK	Kaneyama	3.56	325	P	Pn	02 44 54.9	-1.0
MJAR	Matsushiro Arr	3.90	279	Pn	Pn	02 45 00.6	+0.2
	1.2nm,0.3s,baz=88,slow=14,SNR=11						
MJAR				Sn	Sn	02 45 47.7	+2.8
	0.5nm,0.3s,baz=136,slow=13,SNR=4.9						
MAT	Matsushiro	3.90	279	P	Pn	02 44 59.2	-1.2
MAT				*e*S	Sn	02 45 41.8	-3.2
H11S1	WAKE ISLAND Hy	27.25	124	T	T	03 18 14.1	
	baz=311						
H11S3	WAKE ISLAND Hy	27.25	124	T	T	03 18 13.5	
	baz=311						
H11S2	WAKE ISLAND Hy	27.26	124	T	T	03 18 15.2	
	baz=311						
SONM	Songino Array	29.40	305	P	P	02 50 06.8	+3.7
	0.6nm,0.7s,baz=93,slow=7.2,SNR=3.1						
WRA	Warramunga Arr	56.26	190	P	P	02 53 39.9	-0.1
	0.7nm,0.8s,baz=8.5,slow=7.6,SNR=4.2						
FITZ	Fitzroy Crossi	56.28	200	P	P	02 53 38.7	-1.5
	10.0nm,1.2s,baz=130,slow=1.6,SNR=6.6						
ASAR	Alice Springs	59.99	190	P	P	02 54 05.3	-0.7
	0.5nm,0.8s,baz=19,slow=5.9,SNR=4.3						

*ISCJB **30** 02:49:01.9±1.0,38.°67N±0.°04×43.°44E±0.°08,h21km±15km, Error ellipse: s-maj=11.1km s-min=6.9km az=17.7*
*ISK **30** 02:49:01.5,38.°70N×43.°38E,h15km,MD2.6*
*CSEM **30** 02:49:01.2±0.2,38.°70N×43.°44E,h19km,MD2.6,Error ellipse: s-maj=9.3km s-min=4.7km az=110.0*
*DDA **30** 02:49:01.3,38.°68N×43.°50E,h7km,Ml2.5*

ISC 30 02:49:01.4±1.3,38.°71N±0.°03×43.°41E±0.°04,h15km±11km, n22,σ0§61/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.11	188	*e*PG	Pb	02 49 06.2	+0.9
VANB	Van	0.11	188	*e*Pg	Pb	02 49 06.2	+0.9
TVAN	Van	0.18	181	*i*P	Pb	02 49 06.3	-0.2
TVAN	Van	0.18	181	P	Pb	02 49 06.3	-0.2
VMUR	Van-Muradiye	0.31	24	*i*P	Pg	02 49 07.7	-0.2
VMUR	Van-Muradiye	0.31	24	P	Pg	02 49 07.7	-0.2
ERCV	ERCIS-VAN	0.32	350	*e*PG	Pb	02 49 08.9	0.0
ERCV	ERCIS-VAN	0.32	350	*e*Pg	Pb	02 49 08.9	0.0
GEVA	Gevas	0.48	215	*i*P	Pb	02 49 11.6	-0.1
GEVA	Gevas	0.48	215	P	Pb	02 49 11.6	-0.1
CLDR	Caldiran	0.59	42	*e*PG	Pg	02 49 13.5	+0.5
CLDR				*e*SG	Sb	02 49 23.1	+1.3
CLDR	Caldiran	0.59	42	*i*P	Pg	02 49 12.7	-0.3
CLDR	Caldiran	0.59	42	P	Pg	02 49 12.7	-0.3
CLDR	Caldiran	0.59	42	*e*Pg	Pg	02 49 13.5	+0.5
CLDR				*e*Sg	Sb	02 49 23.1	+1.3
TUTA	Tutak	0.83	326	*i*P	Pn	02 49 18.4	-0.5
TUTA	Tutak	0.83	326	P	Pn	02 49 18.4	-0.5
AGRB	Hanur-Agry	0.93	340	*e*PG	Pg	02 49 19.5	+0.2
AGRB				*e*SG	Sn	02 49 32.9	-0.4
AGRB	Hanur-Agry	0.93	340	*e*Pg	Pg	02 49 19.5	+0.2
AGRB				*e*Sg	Sn	02 49 32.9	-0.4
GURO	Guroymak-BITLI	1.09	262	*e*PG	Pg	02 49 22.7	+0.3
GURO	Guroymak-BITLI	1.09	262	*e*Pg	Pg	02 49 22.7	+0.3
HAKT	HAKKARI	1.17	168	*i*P	Pn	02 49 22.6	-0.9
HAKT	HAKKARI	1.17	168	P	Pn	02 49 22.6	-0.9

*NEIC **30** 02:51:13.9±1.9,4.°32S×144.°44E,h58km±16km,mb4.2/3, Error ellipse: s-maj=13.8km s-min=11.9km az=173.0*
*IDC **30** 02:51:14.0±4.5,4.°28S×144.°41E,h57km±41km,mb3.5/7, mb1 3.8/9,mb1mx3.5/32,mbtmp3.9/9,ML4.1/1,MS2.8/1, Ms1 2.8/1,ms1mx2.5/30,Error ellipse: s-maj=28.4km s-min=25.5km az=103.0*
*ISCJB **30** 02:51:17.4±0.8,4.°47S±0.°09×144.°4E±0.°1,h100km, mb3.8/9,Error ellipse: s-maj=17.3km s-min=10.1km az=148.7*

ISC 30 02:51:18.4±0.8,4.°5S±0.°1×144.°5E±0.°2,h100km,n17, σ1§37/19,mb3.7/9,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.61	152	P	Pn	02 52 36.8	-2.6
	5.2nm,0.3s,baz=16,slow=5.1,SNR=11						
PMG				S	Sn	02 53 43.8	+1.3
	5.0nm,0.3s,baz=87,slow=23,SNR=5.8						
PMG				LR	LR	02 55 19.2	
	comp=Z,101nm,21.8s,baz=230,slow=42						
PMG	Port Moresby	5.61	152	*e*Pn	Pn	02 52 36.4	-3.0
	21nm,0.6s						
PMG				S	Sn	02 53 43.8	+1.3
WRAB	Tennant Creek	18.28	212	*e*P	P	02 55 23.4	-1.1
	3.1nm,0.5s						
WRA	Warramunga Arr	18.29	212	P	P	02 55 23.8	-0.8
	0.6nm,0.3s,baz=33,slow=12,SNR=14						
SOEI	Soe	20.72	254	*e*P	P	02 55 50.3	-0.9
	29nm,0.8s						
ASAR	Alice Springs	21.66	207	P	P	02 56 00.8	-0.2
	1.4nm,0.5s,baz=34,slow=10,SNR=15						
EIDS	Eidsvold	21.75	164	*e*P	P	02 56 02.9	+0.9
	11nm,1.0s						
FITZ	Fitzroy Crossi	22.88	232	P	P	02 56 13.6	-0.1
	4.0nm,0.6s						
VNDA	Vanda	73.61	176	P	P	03 02 41.9	+1.5
	0.8nm,0.7s,baz=337,slow=6.6,SNR=4.5						
MKAR	Makanchi Array	74.71	321	P	P	03 02 47.2	-0.1
	0.2nm,0.4s,baz=106,slow=7.5,SNR=4.3						
MAW	Mawson	82.71	202	P	P	03 03 31.9	+1.2
	0.3nm,0.3s,baz=342,slow=14,SNR=2.7						
BVAR	Borovoye Array	84.04	324	P	P	03 03 38.2	+0.4
	0.6nm,0.5s,baz=111,slow=3.2,SNR=3.2						
ILAR	Eielson Array	85.06	24	P	P	03 03 41.8	-0.9
	0.4nm,0.6s,baz=250,slow=4.8,SNR=9.2						
QSPA	South Pole Qui	85.51	180	*e*P	P	03 03 45.4	+0.2
	9.9nm,0.6s						
AQU	L'Aquila	122.49	319	*e*PKPdf	PKPdf	03 10 02.4	-0.2
TORD	Torodi Ar. Bea	142.25	286	PKP	PKPdf	03 10 40.1	-0.1
	0.7nm,1.0s,baz=169,slow=1.5,SNR=2.8						
SAML	Samuel	149.39	116	*e*PKPbc	PKPbc	03 10 58.2	+1.3

*DDA **30** 02:51:39.0,38.°70N×43.°68E,h7km,Ml2.8*
*ISK **30** 02:51:38.9,38.°68N×43.°71E,h10km,ML2.6*
*ISCJB **30** 02:51:39.1±0.7,38.°70N±0.°04×43.°73E±0.°06,h13km,Error ellipse: s-maj=6.9km s-min=4.9km az=15.7*
*CSEM **30** 02:51:39.0±0.3,38.°69N×43.°72E,h10km,ML2.6,Error ellipse: s-maj=6.9km s-min=4.6km az=96.0*

ISC 30 02:51:39.2±1.0,38.°69N±0.°03×43.°70E±0.°04,h13km,n43, σ0§65/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	248	*e*PG	Pg	02 51 45.1	+0.3
VANB				*e*SG	Sb	02 51 50.1	-0.2
VANB	Van	0.26	248	*e*Pg	Pg	02 51 45.1	+0.3
VANB				*e*Sg	Sb	02 51 50.1	-0.2
TVAN	Van	0.28	235	*i*P	Pg	02 51 45.2	0.0
TVAN	Van	0.28	235	P	Pg	02 51 45.2	0.0
VMUR	Van-Muradiye	0.31	342	*i*P	Pg	02 51 45.5	-0.3
VMUR	Van-Muradiye	0.31	342	P	Pg	02 51 45.5	-0.3
ERCV	ERCIS-VAN	0.43	320	*e*PG	Pg	02 51 48.0	+0.1
ERCV				*e*SG	Sb	02 51 54.9	-0.5
ERCV	ERCIS-VAN	0.43	320	*e*Pg	Pg	02 51 48.0	+0.1
ERCV				*e*Sg	Sb	02 51 54.9	-0.5
CLDR	Caldiran	0.48	21	*e*PG	Pg	02 51 49.0	+0.2
CLDR	Caldiran	0.48	21	*i*P	Pg	02 51 48.9	0.0
CLDR	Caldiran	0.48	21	P	Pg	02 51 48.9	0.0
GEVA	Gevas	0.63	233	*i*P	Pg	02 51 51.8	+0.3
GEVA	Gevas	0.63	233	P	Pg	02 51 51.8	+0.3
BASK	Baskale_VAN	0.68	159	*i*P	Pg	02 51 52.0	-0.5
BASK	Baskale_VAN	0.68	159	P	Pg	02 51 52.0	-0.5
ADCV	BITLIS_Adilcev	0.77	279	*i*P	Pg	02 51 53.7	-0.5
ADCV	BITLIS_Adilcev	0.77	279	P	Pg	02 51 53.7	-0.5
DYDN	Diyadin	0.85	360	*i*P	Pg	02 51 55.4	-0.5
DYDN	Diyadin	0.85	360	P	Pg	02 51 55.3	-0.5
TUTA	Tutak	0.99	316	*i*P	Pg	02 51 57.2	-1.2
TUTA	Tutak	0.99	316	P	Pg	02 51 57.2	-1.2
AGRB	Hanur-Agry	1.04	328	*e*PG	Pb	02 51 59.2	0.0
AGRB	Hanur-Agry	1.04	328	*e*Pg	Pb	02 51 59.2	0.0
TATV	Tatvan	1.14	261	*i*P	Pb	02 51 59.8	-1.1
TATV	Tatvan	1.14	261	P	Pb	02 51 59.8	-1.1
GURO	Guroymak-BITLI	1.31	264	*e*PN	Pn	02 52 03.1	-0.2
GURO	Guroymak-BITLI	1.31	264	*e*Pn	Pn	02 52 03.2	-0.2
EKAR	Karacoban	1.39	294	*i*P	Pg	02 52 06.4	+0.3
EKAR	Karacoban	1.39	294	P	Pg	02 52 06.4	+0.3
CUKT	Cukurca	1.44	183	*e*PN	Pn	02 52 05.7	+0.5
CUKT	Cukurca	1.44	183	*e*Pn	Pn	02 52 05.7	+0.5
SRTM	Siirt_Merkez	1.56	244	*i*P	Pb	02 52 08.3	+0.3
SRTM	Siirt_Merkez	1.56	244	P	Pb	02 52 08.3	+0.3
VRTB	Varto-Mus	1.81	286	*e*PN	Pn	02 52 11.2	+0.9
VRTB	Varto-Mus	1.81	286	*e*Pn	Pn	02 52 11.2	+0.9
SVAN	Silvan-Diyarba	2.04	255	*e*PN	Pn	02 52 14.1	+0.8
SVAN	Silvan-Diyarba	2.04	255	*e*Pn	Pn	02 52 14.1	+0.8
SENK	Senkaya-Erzuru	2.14	331	*e*PN	Pn	02 52 16.0	+1.2
SENK	Senkaya-Erzuru	2.14	331	*e*Pn	Pn	02 52 16.0	+1.2
BNGB	Bing¶ll	2.38	278	*e*PN	Pn	02 52 19.1	+1.1
BINT	Bingol	2.52	275	*e*Pn	Pn	02 52 19.2	-0.7
YEDI	Yedisu-Bingol	2.57	288	*e*PN	Pn	02 52 21.7	+1.0
YEDI	Yedisu-Bingol	2.57	288	*e*Pn	Pn	02 52 21.7	+1.0

MAN 30 03:00:32,12.°41N×120.°82E,h24km,mb3.7,ML2.5,MS2.0, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.29	81	*e*P	Pb	03 00 39.5	+0.6
SJMP				*e*S	Sb	03 00 44.1	+0.6
BUSP	Coron	0.73	236	*e*P	Pn	03 00 47.5	+0.6
BUSP				*e*S	Sn	03 00 58.3	+1.0
PGP	Puerto Galera	1.09	7⇓	*e*P	Pb	03 00 52.4	+0.2
PGP				*i*S	Sn	03 01 06.8	+0.6
OTRP	Odiongan	1.17	92	*e*P	Pb	03 00 53.8	+0.2

*IDC **30** 03:05:43.5±1.5,27.°11N×143.°98E,h0km,mb4.0/12, mb1 4.1/15,mb1mx4.0/37,mbtmp4.0/15,ML3.8/3,Error ellipse: s-maj=61.9km s-min=16.1km az=79.0*
*ISCJB **30** 03:05:48.1±0.7,27.°31N±0.°05×143.°59E±0.°07,h33km, mb4.0/20,Error ellipse: s-maj=10.3km s-min=6.0km az=37.0*
*JMA **30** 03:05:48.6±0.2,27.°25N×143.°48E,h77km,M4.0*
*NEIC **30** 03:05:49.7±0.8,27.°11N×143.°58E,h35km,mb4.3/7,Error ellipse: s-maj=22.9km s-min=9.9km az=78.0*

ISC 30 03:05:50.6±0.9,27.°28N±0.°07×143.°5E±0.°1,h35km,n35, σ1§61/43,mb4.1/20,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.17	261	P	Pn	03 06 09.8	-0.6
CBIJ				*e*S	Sn	03 06 26.2	+1.1
CBIJ	Chichi jima	1.17	261	*e*Pn	Pn	03 06 09.7	-0.8
CBIJ				*e*Sn	Sn	03 06 25.7	+0.6
JHHJ	Haha-jima-NKT	1.33	241	P	Pn	03 06 11.6	-1.1
JHHJ				S	Sn	03 06 28.9	-0.2
JOD2	Odawara 2	8.80	336	P	Pn	03 07 54.7	-0.7
JHU	Hanno	9.27	338	P	Pn	03 08 00.5	-1.2
JHU				*e*S	Sn	03 09 41.0	-3.7
JRY	Ryogami san	9.54	337	P	Pn	03 08 04.8	-0.8
JRY				*e*S	Sn	03 09 49.2	-2.4
JAG	Ashikaga	9.74	340	P	Pn	03 08 07.1	-1.1
MJAR	Matsushiro Arr	10.26	335	Pn	Pn	03 08 14.6	-0.8
	2.6nm,0.3s,baz=151,slow=10,SNR=36						
MJAR				Sn	Sn	03 10 08.0	-1.2
	0.4nm,0.3s,baz=163,slow=14,SNR=4.7						
MAJO	Matsushiro	10.26	335	*e*Pn	Pn	03 08 14.8	-0.6
	9.3nm,0.3s						
MAT	Matsushiro	10.26	335	P	Pn	03 08 14.5	-0.9
MAT				*e*S	Sn	03 10 04.1	-5.1
KSRS	Korea Array	16.58	312	P	P	03 09 43.5	+0.9
	0.4nm,0.3s,baz=117,slow=12,SNR=11						
KSAR	Wonju Array Be	16.60	312	P	P	03 09 43.5	+0.7
USRK	Ussuriysk Ar.	19.25	334	P	Pn	03 10 14.0	+0.9
	0.6nm,0.3s,baz=139,slow=10,SNR=6.3						
KLR	Kul'dur	23.72	341	P	P	03 11 00.3	+1.1
	0.1nm,0.4s,baz=132,slow=9.0,SNR=5.3						
ULN	Ulaanbaatar	34.99	316	*e*P	P	03 12 41.1	+1.4
	1.6nm,0.6s						
SONM	Songino Array	35.39	315	P	P	03 12 45.5	+2.4
	0.7nm,0.6s,baz=108,slow=9.5,SNR=3.8						
WRAB	Tennant Creek	47.76	192	*e*P	P	03 14 22.0	-2.4
	2.8nm,0.7s						
WRA	Warramunga Arr	47.77	192	P	P	03 14 21.5	-3.0
	0.9nm,0.6s,baz=13,slow=8.4,SNR=7.1						
FITZ	Fitzroy Crossi	48.31	203	P	P	03 14 27.2	-1.5
	1.2nm,0.7s,baz=11,slow=16,SNR=1.7						
ZALV	Zalesovo Beam	50.11	319	P	P	03 14 43.7	+1.6
	0.7nm,0.4s,baz=114,slow=7.3,SNR=2.8						
ZALV				PcP	PcP	03 16 01.1	-0.1
	0.8nm,0.5s,baz=123,slow=5.5,SNR=4.0						
MKAR	Makanchi Array	51.25	309	P	P	03 14 51.6	+0.7
	1.5nm,0.6s,baz=90,slow=7.8,SNR=9.9						
ASAR	Alice Springs	51.48	191	P	P	03 14 50.3	-2.5
	0.2nm,0.5s,baz=7.3,slow=6.1,SNR=4.9						
NRIK	Noril'sk	52.90	338	P	P	03 15 03.0	+0.3
	3.2nm,0.5s,baz=100,slow=13,SNR=3.5						
KURK	Kurchatov	53.68	314	P	P	03 15 09.9	+1.2
KURBB	Kurchatov Arra	53.74	314	P	P	03 15 09.9	+0.7
	3.3nm,0.4s,baz=92,slow=8.1,SNR=14						
AAK	Ala-Archa	57.10	305	*e*P	P	03 15 33.5	-0.2
	1.1nm,0.4s						
BRVK	Borovoye	58.75	317	*e*P	P	03 15 45.4	+0.5
	3.3nm,0.5s						
ARU	Arti	64.98	322	*e*P	P	03 16 27.2	+0.5
	3.0nm,0.8s						
ABKAR	Akbulak array	65.79	314	*e*P	P	03 16 32.7	+0.5
	0.6nm,0.5s						
GEYT	Alibeck	70.37	303	P	P	03 17 02.8	+1.6
	1.1nm,0.6s,baz=90,slow=9.1,SNR=3.0						
FINES	FINESS Array B	78.29	334	P	P	03 17 47.5	+0.8
	1.6nm,0.8s,baz=55,slow=7.2,SNR=8.5						
KBZ	Khabaz	78.72	313	P	P	03 17 50.8	+1.4
	2.8nm,0.8s,baz=74,slow=7.0,SNR=4.8						
AKASG	Malin Array Be	83.15	324	P	P	03 18 11.6	-1.3
	0.1nm,0.3s,baz=55,slow=5.6,SNR=4.4						
PSZ	Piszkesteto	89.65	326	*e*P	P	03 18 45.3	+0.4
	1.2nm,0.6s						
TORD	Torodi Ar. Bea	125.32	312	PKP	PKPdf	03 24 48.3	-0.3
	0.1nm,0.3s

*ISCJB **30** 03:12:04.3±0.9, 38.′92N±0.′06×43.′55E±0.′07, h23km±9km, Error ellipse: s-maj=10.9km s-min=8.3km az=149.8*
*DDA **30** 03:12:04.4, 38.′93N×43.′54E, h7km, Ml2.7*
ISC 30 03:12:03.8±1.1, 38.′92N±0.′04×43.′56E±0.′03, h14km±8km, n20, σ0.′57/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**9**	*i* P	**Pg**	**03 12 06.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.07**	**9**	P	**Pg**	**03 12 06.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.20**	**301**	*e*PG	**Pg**	**03 12 09.0**	**+0.5**
ERCV				*e*SG	**Sb**	**03 12 13.8**	**+0.8**
ERCV	**ERCIS-VAN**	**0.20**	**301**	*e*Pg	**Pg**	**03 12 09.0**	**+0.5**
ERCV				*e*Sg	**Sb**	**03 12 13.8**	**+0.8**
VANB	**Van**	**0.35**	**202**	*e*PG	**Pb**	**03 12 12.5**	**+0.7**
VANB	**Van**	**0.35**	**202**	*e*Pg	**Pb**	**03 12 12.5**	**+0.7**
CLDR	**Caldiran**	**0.36**	**51**	*e*PG	**Pb**	**03 12 12.2**	**+0.1**
CLDR				*e*SG	**Sb**	**03 12 18.3**	**+0.6**
CLDR	**Caldiran**	**0.36**	**51**	*i* P	**Pg**	**03 12 11.7**	**+0.4**
CLDR	**Caldiran**	**0.36**	**51**	P	**Pg**	**03 12 11.7**	**+0.4**
CLDR	**Caldiran**	**0.36**	**51**	*e*Pg	**Pb**	**03 12 12.2**	**+0.1**
CLDR				*e*Sg	**Sb**	**03 12 18.3**	**+0.6**
TVAN	**Van**	**0.41**	**197**	*i* P	**Pb**	**03 12 12.8**	**-0.1**
TVAN	**Van**	**0.41**	**197**	P	**Pb**	**03 12 12.8**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	*i* P	**Pb**	**03 12 17.4**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	P	**Pb**	**03 12 17.4**	**+0.2**
TUTA	**Tutak**	**0.75**	**310**	*i* P	**Pg**	**03 12 18.5**	**0.0**
TUTA	**Tutak**	**0.75**	**310**	P	**Pg**	**03 12 18.5**	**0.0**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*PG	**Pb**	**03 12 19.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*Pg	**Pb**	**03 12 19.6**	**+0.1**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*PN	**Pn**	**03 12 25.8**	**-1.1**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*Pn	**Pn**	**03 12 25.8**	**-1.1**

*IDC **30** 03:14:31.8±0.6, 9.′14S×119.′82E, h0km, mb4.3/16, mb1 4.4/19, mb1mx4.2/41, mbtmp4.4/19, ML4.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/43, Error ellipse: s-maj=28.8km s-min=12.8km az=73.0*
*ISCJB **30** 03:14:40.6±0.3, 9.′47S±0.′04×119.′82E±0.′03, h100km±3km, mb4.3/24, Error ellipse: s-maj=6.1km s-min=4.0km az=15.3*
*NEIC **30** 03:14:40.7±0.8, 9.′39S×119.′79E, h78km±8km, mb4.4/10, Error ellipse: s-maj=10.2km s-min=7.2km az=50.0*
*DJA **30** 03:14:43.2±0.3, 9.′5±3.′×12.′0E±.′, h49km±8km, M4.7/13, mb4.7/2, mB5.1/3, MLv4.8/13, Mw(mB)4.5/3*
ISC 30 03:14:40.9±0.7, 9.′48S±0.′04×119.′82E±0.′03, h84km±7km, n72, σ1.9±56/80, mb4.3/24, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.51**	**112**	P	**Pn**	**03 14 55.8**	**+0.7**
WSI				S	**Sn**	**03 15 06.4**	**+0.8**
BASI	**Baing, Sumba**	**1.05**	**135**	P	**Pn**	**03 15 02.1**	**+1.3**
EDFI	**Ende, Flores**	**1.98**	**69**	P	**Pn**	**03 15 14.3**	**+1.5**
PLAI	**Plampang**	**2.12**	**288**	P	**Pn**	**03 15 15.7**	**+1.2**
PLAI				S	**Sn**	**03 15 40.8**	**+0.6**
MMRI	**Maumere**	**2.53**	**71**	P	**Pn**	**03 15 21.1**	**+1.1**
MMRI				S	**Sn**	**03 15 51.9**	**+1.9**
MMRI	**Maumere**	**2.53**	**71**	*e*Pn	**Pn**	**03 15 21.3**	**+1.3**
MMRI				*e*Sn	**Sn**	**03 15 50.0**	**0.0**
TWSI	**Taliwang, Sumb**	**2.99**	**284**	P	**Pn**	**03 15 28.4**	**+2.2**
TWSI				S	**Sn**	**03 16 03.3**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.38**	**11**	P	**Pn**	**03 15 32.3**	**+0.8**
BSSI				S	**Sn**	**03 16 11.8**	**+1.3**
SOEI	**Soe**	**4.39**	**94**	P	Pn	03 15 50.3	+4.9
SOEI				S	**Sn**	**03 16 36.2**	**+0.8**
SOEI	**Soe**	**4.39**	**94**	*e*Pn	**Pn**	**03 15 47.6**	**+2.3**
SOEI				*e*Sn	**Sn**	**03 16 35.5**	**0.0**
KAPI	**Kappang**	**4.43**	**359**	*e*Pn	**Pn**	**03 15 46.7**	**+0.9**
IGBI				*e*Sn	**Sn**	**03 16 34.1**	**-2.1**
IGBI	**Denpasar**	**4.66**	**278**	P	**Pn**	**03 15 51.7**	**+2.8**
IGBI				S	**Sn**	**03 16 42.6**	**+0.8**
BBSI	**Bau Bau**	**4.81**	**35**	P	**Pn**	**03 15 52.6**	**+1.7**
BNSI	**Bone**	**5.05**	**3**	P	Pn	03 15 58.5	+4.3
SPSI	**Sidrap Palu** 44nm,0.6s,2µm	**5.47**	**359**	P	Pn	03 16 04.5	+4.5
JAGI	**Jajag, Banyuwa**	**5.69**	**280**	P	**Pn**	**03 16 04.4**	**+1.5**
JAGI	**Jajag, Banyuwa** 82nm,0.3s	**5.69**	**280**	*e*Pn	**Pn**	**03 16 02.1**	**-0.9**
JAGI				*e*Sn	**Sn**	**03 17 03.3**	**-3.6**
KDI	**Kendari**	**6.14**	**27**	P	**Pn**	**03 16 11.5**	**+2.3**
TTSI	**Tana Toraja**	**6.39**	**360**	P	**Pn**	**03 16 16.1**	**+3.6**
PCI	**Palu**	**8.51**	**0**	P	Pn	03 16 49.2	+7.7
FITZ	**Fitzroy Crossi** baz=330,slow=8.1,SNR=30	**10.27**	**147**	Pn	**Pn**	**03 17 04.3**	**-1.1**
FITZ				Sn	**Sn**	**03 18 55.3**	**-3.4**
	baz=354,slow=23,SNR=16						
MBWA	**Marble Bar** 59nm,0.3s	**11.62**	**180**	*e*Pn	**Pn**	**03 17 23.1**	**-0.7**
MBWA				*e*Sn	Sn	03 19 21.8	-10
FAKI	**Fak Fak** 27nm,0.6s	**13.96**	**63**	*e*Pn	**Pn**	**03 17 53.4**	**-1.7**
FAKI				*e*Sn	**Sn**	**03 20 29.0**	**+0.3**
WRA	**Warramunga Arr** 2.2nm,0.3s,baz=302,slow=13,SNR=32	**17.46**	**128**	P	**P**	**03 18 38.8**	**-0.5**
WRA				S	Sn	03 21 42.8	-11
	1.9nm,0.3s,baz=304,slow=25,SNR=10						
WRAB	**Tennant Creek** 9.3nm,0.6s	**17.47**	**128**	*e*Pn	**P**	**03 18 38.7**	**-0.5**
WRAB				*e*Sn	Sn	03 21 39.8	-14
MNAI	**Manna**	**17.49**	**286**	*e*Pn	**Pn**	**03 18 38.7**	**-0.9**
ASAR	**Alice Springs** 1.5nm,0.3s,baz=317,slow=9.5,SNR=107	**19.50**	**138**	P	**Pn**	**03 19 04.2**	**+0.6**
ASAR				S	**S**	**03 22 34.2**	**-3.4**
	0.8nm,0.3s,baz=313,slow=24,SNR=8.1						
COEN	**Coen** 6.3nm,0.5s	**23.29**	**103**	*e*P	**P**	**03 19 42.4**	**+0.7**
NWAO	**Narrogin (SRO)** 16nm,0.7s,baz=241,slow=10,SNR=11	**23.46**	**185**	P	**P**	**03 19 45.0**	**+1.9**
KULM	**Kulim** 10nm,1.0s	**24.09**	**307**	*e*P	**P**	**03 19 48.7**	**-0.2**
PMG	**Port Moresby**	**26.97**	**92**	*e*P	**P**	**03 20 15.2**	**+0.2**
CTAO	**Charters Tower** 11nm,0.7s	**27.61**	**115**	*e*P	**P**	**03 20 21.0**	**+0.3**
BBOO	**Buckleboo** 6.9nm,0.6s	**27.64**	**150**	*e*P	**P**	**03 20 22.5**	**+1.7**
STKA	**Stephens Creek** 2.0nm,0.5s,baz=333,slow=7.7,SNR=5.4	**30.07**	**141**	P	**P**	**03 20 45.0**	**+2.5**
GUMO	**Guam** comp=Z,374nm,19.5s,baz=176,slow=40	**33.81**	**48**	LR	LR	03 36 46.1	
CMAR	**Chiang Mai Arr** 1.2nm,0.4s,baz=148,slow=6.9,SNR=4.1	**34.57**	**323**	P	**P**	**03 21 21.1**	**-0.8**
ENH	**Enshi** 6.2nm,0.4s	**40.75**	**346**	*e*P	**P**	**03 22 13.4**	**-0.4**
KSAR	**Wonju Array Be**	**47.28**	**9**	P	**P**	**03 23 05.5**	**-0.4**
KSRS	**Korea Array** 0.9nm,0.7s,baz=188,slow=8.0,SNR=3.1	**47.30**	**9**	P	**P**	**03 23 05.5**	**-0.5**
ODAN	**Odare**	**47.91**	**320**	*e*P	**P**	**03 23 11.5**	**+0.2**
MAJO	**Matsushiro** 3.2nm,0.5s	**48.93**	**20**	*e*P	**P**	**03 23 15.9**	**-2.8**
MJAR	**Matsushiro Arr** 1.4nm,0.5s,baz=206,slow=7.9,SNR=8.8	**48.93**	**20**	P	**P**	**03 23 15.8**	**-2.9**
JIRN	**Jiri**	**49.23**	**320**	*e*P	**P**	**03 23 21.1**	**-0.5**
GUN	**Gumba**	**49.60**	**320**	*e*P	**P**	**03 23 24.1**	**-0.3**
PKI	**Pulchoki**	**49.67**	**319**	*e*P	**P**	**03 23 24.1**	**-0.8**
KOLN	**Koldanda**	**50.99**	**318**	*e*P	**P**	**03 23 33.8**	**-0.9**
DANN	**Dangsing**	**51.27**	**318**	*e*P	**P**	**03 23 36.1**	**-0.8**
PYUN	**Piuthan** 9.8nm,0.5s	**51.61**	**317**	*e*P	**P**	**03 23 38.7**	**-0.7**
USRK	**Ussuriysk Ar.** 1.5nm,0.6s,baz=183,slow=6.9,SNR=3.7	**54.55**	**11**	P	**P**	**03 23 58.3**	**-2.0**
ASAJ	**Asahikawa** 2.0nm,0.7s,baz=234,slow=19,SNR=3.6	**57.20**	**19**	P	**P**	**03 24 19.0**	**-0.3**
ULN	**Ulaanbaatar** 11nm,1.4s	**58.20**	**350**	*e*P	**P**	**03 24 26.0**	**-0.5**
SONM	**Songino Array** 4.4nm,0.6s,baz=166,slow=8.6,SNR=27	**58.29**	**349**	P	**P**	**03 24 27.1**	**0.0**
TLY	**Talaya** 3.8nm,0.5s,baz=213,slow=15,SNR=2.5	**62.49**	**349**	P	**P**	**03 24 56.2**	**+0.8**
MKAR	**Makanchi Array** 2.0nm,0.4s,baz=156,slow=7.5,SNR=36	**65.25**	**333**	P	**P**	**03 25 13.2**	**-0.5**
AAK	**Ala-Archa** 1.0nm,0.4s,baz=137,slow=6.6,SNR=4.6	**66.33**	**325**	P	**P**	**03 25 20.5**	**-0.4**
AAK	**Ala-Archa** 1.9nm,0.7s	**66.33**	**325**	*e*P	**P**	**03 25 20.6**	**-0.3**
ZALV	**Zalesovo Beam** 3.0nm,0.3s,baz=141,slow=4.8,SNR=13	**69.77**	**339**	P	**P**	**03 25 40.7**	**-1.3**
PETK	**Petropavlovsk-** 1.8nm,0.6s,baz=213,slow=2.3,SNR=5.4	**70.19**	**23**	P	**P**	**03 25 45.1**	**+0.6**
VNDA	**Vanda** 0.5nm,0.7s,baz=307,slow=5.8,SNR=2.9	**71.40**	**171**	P	P	03 25 57.0	+5.4
SEY	**Seymchan** 5.2nm,0.7s,baz=210,slow=6.8,SNR=10	**76.41**	**15**	P	**P**	**03 26 21.0**	**+0.1**
ABKAR	**Akbulak array** 1.4nm,0.4s	**78.41**	**325**	*e*P	**P**	**03 26 31.6**	**-0.8**
TIXI	**Tiksi** 2.0nm,0.6s,baz=137,slow=3.6,SNR=2.3	**81.17**	**3**	P	**P**	**03 26 45.5**	**-1.4**
SNAA	**Sanae**	**90.76**	**195**	*e*P	**P**	**03 27 37.2**	**+2.8**
TORD	**Torodi Ar. Bea** 0.4nm,0.5s,baz=60,slow=1.5,SNR=8.6	**119.34**	**280**	PKP	**PKPdf**	**03 33 23.0**	**+1.4**
HLID	**Hailey**	**122.10**	**44**	*e*PKPdf	**PKPdf**	**03 33 27.3**	**+0.9**
DUG	**Dugway, Tooele**	**124.32**	**47**	*e*PKPdf	**PKPdf**	**03 33 31.6**	**+1.0**
TPAW	**Teton Pass**	**124.49**	**43**	*e*PKPdf	**PKPdf**	**03 33 29.6**	**-1.5**
MNTX	**Cornudas Mount**	**132.69**	**55**	*e*PKPdf	**PKPdf**	**03 33 49.3**	**+2.6**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=343,slow=2.8,SNR=3.5	**134.81**	**58**	PKP	**PKPdf**	**03 33 53.7**	**+2.8**
JCT	**Junction City**	**137.61**	**55**	*e*PKPdf	**PKPdf**	**03 33 56.6**	**+0.7**
LRAL	**Lakeview Retre**	**145.92**	**43**	*e*PKPbc	**PKPbc**	**03 34 11.9**	**+0.5**
TKL	**Tuckaleechee C** 13nm,0.7s,baz=160,slow=4.6,SNR=22	**146.22**	**36**	PKPbc	**PKPab**	**03 34 13.1**	**0.0**

PGC 30 03:16:50.3±1.8, 49.′10N×129.′72W, h10km, MLSn3.1/8, Mw3.7/8, 243km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.65**	**49**	Sn	Sn	03 17 36.5	-4.2
EDB	**Eliza Dome**	**1.86**	**64**	Pn	Pn	03 17 20.0	-2.2
EDB				Sn	Sn	03 17 41.6	-4.3
NC89	**ODP889**	**1.94**	**102**	Sn	Sn	03 17 44.4	-3.1
PACB	**Port Alice, BC**	**1.97**	**46**	Pn	Pn	03 17 22.4	-1.3
PACB				Sn	Sn	03 17 44.2	-4.2
MAYB	**Maynard**	**2.11**	**51**	Pn	Pn	03 17 23.9	-1.8
PHC	**Port Hardy**	**2.19**	**42**	Pn	Pn	03 17 24.8	-1.9
PHC				Sn	Sn	03 17 49.6	-4.1
WOSB	**Woss**	**2.31**	**61**	Pn	Pn	03 17 27.1	-1.3
WOSB				Sn	Sn	03 17 53.7	-3.2
TLCB	**Telegraph Cove**	**2.37**	**51**	Pn	Pn	03 17 27.9	-1.2
TLCB				Sn	Sn	03 17 55.4	-2.8
NCRB	**Newcastle Ridg**	**2.71**	**60**	Pn	Pn	03 17 33.0	-1.0
BTB	**Buttle Lake**	**2.77**	**81**	Pn	Pn	03 17 33.5	-1.4
OZB	**Mount Ozzard**	**2.79**	**91**	Pn	Pn	03 17 33.0	-1.9
OZB				Sn	Sn	03 18 04.2	-4.4
BBB	**Bella Bella**	**3.26**	**18**	Pn	Pn	03 17 39.8	-1.6
BBB				Sn	Sn	03 18 15.0	-5.1

*NIED **30** 03:23:00, 25.′20N×123.′00E, h195km, Mw5.5 Best double couple: M0 1.89000×10^17 NP1:φs235.00000°, δ35.00000°, λ33.00000°. NP2:φs117.00000°, δ71.00000°, λ121.00000°.*
*TAP **30** 03:23:43.8, 25.′31N×123.′16E, h216km, ML6.3, D*
*BJI **30** 03:23:43.0, 25.′25N×123.′05E, h210km, mb5.5/59, mB5.5/54*
*ISCJB **30** 03:23:43.6±0.1, 25.′41N±0.′01×123.′00E±0.′01, h212km±1km, mb5.3/361, Error ellipse: s-maj=2.1km s-min=1.7km az=142.9*
*MOS **30** 03:23:43.3±0.9, 25.′48N×123.′05E, h215km, mb5.5/121, Error ellipse: s-maj=6.8km s-min=4.2km az=106.4*
*JMA **30** 03:23:44.8±0.2, 25.′22N×122.′99E, h209km±3km, M5.5*
JMA Felt II J1.
*IDC **30** 03:23:45.9±0.3, 25.′44N×123.′01E, h222km±2km, mb4.9/43, mb1 5.0/47, mb1mx5.0/48, mbtmp5.5/47, Error ellipse: s-maj=7.3km s-min=5.3km az=73.0*
*BKK **30** 03:23:45.0±0.7, 25.′N±5.′×12.′3E±.′, h200km±6km, M5.5/48, mb5.4/48, mB5.8/40, MLv5.9/1, Mw(mB)5.4/40, Mwp5.8/2*
*NEIC **30** 03:23:46.0±0.1, 25.′37N×122.′87E, mb5.4/185, MW5.7, Error ellipse: s-maj=3.2km s-min=2.5km az=107.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^17Nm; Mrr2.38; Mθθ-2.72; Mφφ0.34; Mrθ3.37; Mθφ-0.22; Mφr-0.51; Best double couple: M0 4.30000×10^17 NP1: φs96.00000°, δ72.00000°, λ98.00000°. NP2:φs253.00000°, δ20.00000°, λ68.00000°. Principal axes: T 4.1400, Plg62.0000°, Azm18.0000°; N 0.2600, Plg7.0000°, Azm274.0000°; P -4.4000, Plg26.0000°, Azm180.0000°;*
NEIC Felt [III] at Taipei. Also felt at Chengkung, Chupei, Hualien, Kaohsiung and Tanshui. Recorded [3 TAP] in Hualien; [2 TAP] in Nantou, Taoyuan and Yilan; [1 TAP] in Miaoli and Taitung. Recorded [2 JMA] on Ishigaki-jima, Ryukyu Islands.
*GCMT **30** 03:23:46.0±0.1, 25.′32N×122.′91E, h213km, MW5.7/134, Moment Tensor Solution. s116,c220; s134,c369; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr1.63±.03; Mθθ-2.17±.04; Mφφ0.54±.04; Mrθ3.43±.03; Mθφ-0.61±.04; Mφr-0.75±.03; Best double couple: M0 4.05800×10^17 NP1:φs100.00000°, δ77.00000°, λ105.00000°. NP2:φs231.00000°, δ20.00000°, λ42.00000°. Principal axes: T 3.9210, Plg56.0000°, Azm29.0000°; N 0.2760, Plg15.0000°, Azm277.0000°; P -4.1960, Plg30.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 30 03:23:45.5±0.2, 25.′40N±0.′02×123.′04E±0.′02, h220km±1km, h221km:pP-P, n1266, σ1.9±64/1634, mb5.3/369, 96C-101D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu** baz=288	**0.90**	**285**	*i* P	**Pn**	**03 24 16.1**	**-0.7**
PCYT				*i* S	**S**	**03 24 39.6**	**-1.5**
	baz=288						
YOJ	**Yonaguni jima** baz=192	**0.94**	**181**	⇑*i* P	**Pn**	**03 24 14.6**	**-2.4**
YOJ				*i* S	**S**	**03 24 37.2**	**-4.4**
	baz=192						
YOJ	**Yonaguni jima**	**0.94**	**181**	P	**Pn**	**03 24 14.2**	**-2.8**
YOJ				S	**S**	**03 24 37.3**	**-4.4**
YOJ	**Yonaguni jima**	**0.94**	**181**	*e*P	**Pn**	**03 24 14.3**	**-2.8**
YOJ				*e*		03 24 34.9	
YOJ	**Yonaguni jima**	**0.94**	**181**	*e*Pn	**Pn**	**03 24 14.2**	**-2.8**
YOJ				*e*Sn	**S**	**03 24 34.9**	**-6.8**
JYNG	**Yonagunijimaku**	**0.95**	**185**	P	**Pn**	**03 24 14.3**	**-2.8**
JYNG				S	**S**	**03 24 37.6**	**-4.2**
TWB1	**Santiao Chiao** baz=261	**1.03**	**248**	⇓*i* P	**Pn**	**03 24 15.9**	**-1.7**
TWB1				S	**S**	**03 24 40.0**	**-2.4**
	baz=261						
EGS	**1.15**	**241**	⇓*i* P	**Pn**	**03 24 16.9**	**-1.5**
	baz=239						
NWF	**Wu-fen Shan** baz=261	**1.18**	**254**	⇓P	**Pn**	**03 24 17.1**	**-1.6**
NWF				S	**S**	**03 24 42.2**	**-2.2**
	baz=261						
IRIF	**Iriomote-Funau**	**1.24**	**149**	P	**Pn**	**03 24 16.2**	**-2.8**
IRIF				S	**S**	**03 24 40.3**	**-4.7**
TWY	**Chenhua** baz=268	**1.31**	**265**	⇓P	**Pn**	**03 24 18.4**	**-1.1**
TWY				*e*S	**S**	**03 24 43.3**	**-2.6**
	baz=268						
ILA	**Ilan** baz=247	**1.33**	**242**	⇓*i* P	**Pn**	**03 24 18.2**	**-1.5**
ILA				*e*S	**S**	**03 24 43.0**	**-3.1**
	baz=247						
TWC	**Suao** baz=235	**1.34**	**234**	⇓P	**Pn**	**03 24 17.1**	**-2.6**
TWA	**Mucha** baz=257	**1.38**	**253**	⇓P	**Pn**	**03 24 18.8**	**-1.3**
TWA				*e*S	**S**	**03 24 43.9**	**-3.1**
	baz=257						
JISG	**Ishigakijimahi**	**1.41**	**125**	P	**Pn**	**03 24 18.0**	**-2.3**
JISG				S	**S**	**03 24 43.3**	**-4.0**
TAP1	**Taipei** baz=251	**1.42**	**256**	⇓P	**Pn**	**03 24 18.6**	**-1.7**
TAP	**Taipei** baz=251	**1.43**	**256**	⇓P	**Pn**	**03 24 19.1**	**-1.4**
JIJ	**Ishigaki jima**	**1.44**	**136**	P	**Pn**	**03 24 18.1**	**-2.5**
JIJ				S	**S**	**03 24 42.8**	**-5.0**
JKRS	**Kuro-shima**	**1.46**	**143**	P	**Pn**	**03 24 18.6**	**-2.1**
JKRS				S	**S**	**03 24 44.0**	**-4.0**
TATO	**Taipei**	**1.47**	**253**	*e*Pn	**Pn**	**03 24 18.7**	**-2.0**
TATO				*e*S	**S**	**03 24 47.3**	**-0.7**
TWS1	**Kuangyinshan** baz=265	**1.50**	**259**	*e*P	**Pn**	**03 24 20.1**	**-0.9**
TWS1				*e*S	**S**	**03 24 46.2**	**-2.3**
	baz=265						
HATJ	**Hateruma jima**	**1.51**	**152**	P	**Pn**	**03 24 19.0**	**-2.2**
HATJ				S	**S**	**03 24 44.7**	**-4.1**
ENA	**Nanau**	**1.52**	**231**	⇓P	**Pn**	**03 24 19.0**	**-2.3**
	baz=231						
ENTT	**Nioudou** baz=245	**1.54**	**241**	⇓*e*P	**Pn**	**03 24 19.1**	**-2.3**
EHP	**Heping Village** baz=228	**1.60**	**228**	*e*P	**Pn**	**03 24 20.3**	**-1.6**
YHNB	**Yeheng**	**1.67**	**244**	*e*Pn	**Pn**	**03 24 20.3**	**-2.3**
YHNB				*e*S	**S**	**03 24 47.6**	**-3.8**
NSK	**Sanguang** baz=242	**1.69**	**245**	⇓P	**Pn**	**03 24 20.6**	**-2.1**
NSK				*e*S	**S**	**03 24 46.8**	**-4.7**
	baz=242						
JTJ	**Tarama**	**1.69**	**116**	P	**Pn**	**03 24 21.2**	**-1.5**
JTJ				S	**S**	**03 24 48.5**	**-3.0**
NCU	**National Centr** baz=268	**1.73**	**256**	*e*P	**Pn**	**03 24 21.9**	**-1.1**
NCU				*e*S	**S**	**03 24 49.4**	**-2.7**
	baz=268						
NNS	**Nan Shan** baz=248	**1.79**	**238**	⇓P	**Pn**	**03 24 22.0**	**-1.8**
NACB	**Ninganchiao**	**1.79**	**227**	*e*Pn	**Pn**	**03 24 20.6**	**-3.0**
NACB				*e*S	**S**	**03 24 45.6**	**-7.6**
TWD	**Chiawan** baz=228	**1.86**	**225**	⇓*i* P	**Pn**	**03 24 21.7**	**-2.5**
TWD				*e*S	**S**	**03 24 49.5**	**-4.7**
	baz=228						
HWA	**Hwalien** baz=224	**1.93**	**223**	⇓*i* P	**Pn**	**03 24 22.7**	**-2.2**
HSN	**Hsinchu** baz=248	**1.97**	**253**	⇓P	**Pn**	**03 24 23.6**	**-1.6**
HSN				*e*S	**S**	**03 24 52.2**	**-3.8**
	baz=248						
NSTT	**Nanjuang** baz=245	**2.00**	**248**	*e*S	**S**	**03 24 52.4**	**-4.2**
JIRB	**Irabujima**	**2.02**	**106**	P	**Pn**	**03 24 24.4**	**-1.3**
JIRB				S	**S**	**03 24 53.0**	**-3.9**
WHF	**Hehuan Shan** baz=238	**2.04**	**232**	⇓P	**Pn**	**03 24 24.3**	**-2.2**
TWT	**Tachien** baz=243	**2.04**	**236**	⇓*e*P	**Pn**	**03 24 24.8**	**-1.4**
JIKM	**Ikemajima**	**2.06**	**103**	P	**Pn**	**03 24 24.9**	**-1.2**
JIKM				S	**S**	**03 24 55.0**	**-2.6**
ESF	**Shoufeng Towns** baz=223	**2.06**	**223**	*e*P	**Pn**	**03 24 24.2**	**-2.1**
JMJ	**Miyako jima 2** baz=104	**2.13**	**106**	*e*P	**Pn**	**03 24 25.7**	**-1.1**
JMJ	**Miyako jima 2**	**2.13**	**106**	P	**Pn**	**03 24 25.7**	**-1.1**
JMJ				S	**S**	**03 24 56.4**	**-2.5**
ESL	**Shilin** baz=233	**2.15**	**223**	⇓*i* P	**Pn**	**03 24 24.1**	**-3.1**
TEGC	**Jichi Village** baz=222	**2.17**	**219**	*e*P	**Pn**	**03 24 25.8**	**-1.4**
JOGS	**Gusukube**	**2.24**	**106**	P	**Pn**	**03 24 27.1**	**-0.9**
JOGS				S	**S**	**03 24 58.4**	**-2.5**
NSY	**Sanyi** baz=247	**2.29**	**245**	⇓*e*P	**Pn**	**03 24 27.0**	**-1.5**
NSY				*e*S	**S**	**03 24 58.4**	**-3.4**
	baz=247						
TWQ1	**Liyutan** baz=246	**2.31**	**243**	⇓*e*P	**Pn**	**03 24 26.7**	**-2.0**
TWQ1				*e*S	**S**	**03 24 58.1**	**-4.2**
	baz=246						
WDT	**Danda** baz=223	**2.39**	**227**	⇓P	**Pn**	**03 24 27.8**	**-2.1**
EHY	**Hungye** baz=228	**2.45**	**220**	⇓P	**Pn**	**03 24 27.3**	**-2.9**
SMLT	**Sun Moon Lake** baz=235	**2.46**	**233**	⇓*e*P	**Pn**	**03 24 28.8**	**-1.7**
SMLT				*e*S	**S**	**03 25 02.4**	**-3.0**
	baz=235						
TYC	**Yuchr** baz=236	**2.48**	**233**	⇓*i* P	**Pn**	**03 24 29.2**	**-1.3**
TYC				*e*S	**S**	**03 25 02.3**	**-3.2**
	baz=236						
TCU	**Taichung** baz=242	**2.48**	**240**	⇓*e*P	**Pn**	**03 24 28.9**	**-1.6**
TCU				*e*S	**S**	**03 25 01.2**	**-4.3**
	baz=242						
SSLB	**Suanglung**	**2.49**	**230**	*e*Pn	**Pn**	**03 24 28.8**	**-1.8**
SSLB				*e*S	**S**	**03 25 01.8**	**-3.9**
YULB	**Yu-li**	**2.55**	**219**	*e*Pn	**Pn**	**03 24 28.0**	**-3.3**
YULB				*e*S	**S**	**03 24 58.5**	**-8.4**
TWF1	**Yuli** baz=227	**2.59**	**218**	⇓P	**Pn**	**03 24 29.0**	**-2.7**
TWF1				*e*S	**S**	**03 25 01.8**	**-5.8**
	baz=227						
WNT	**Mingjian** baz=237	**2.62**	**235**	⇓P	**Pn**	**03 24 30.8**	**-1.3**
WNT				S	**S**	**03 25 05.1**	**-3.2**
	baz=237						
YUS	**Yu-Shan** baz=222	**2.69**	**225**	⇓P	**Pn**	**03 24 31.7**	**-1.6**
YUS				*e*S	**S**	**03 25 06.8**	**-3.7**
	baz=222						
CHKT	**Chengkung** baz=212	**2.75**	**214**	⇓*i* P	**Pn**	**03 24 31.1**	**-2.4**
CHKT				*e*S	**S**	**03 25 06.1**	**-4.8**
	baz=212						
ALS	**Alishan** baz=226	**2.77**	**228**	⇓P	**Pn**	**03 24 32.8**	**-1.2**
ALS				*e*S	**S**	**03 25 08.7**	**-3.0**
	baz=226						
CHN5	**Tsauling** baz=233	**2.80**	**231**	⇓P	**Pn**	**03 24 32.7**	**-1.5**
WGK	**Gukeng** baz=241	**2.83**	**233**	⇓P	**Pn**	**03 24 33.0**	**-1.3**
WGK				*e*S	**S**	**03 25 08.8**	**-3.5**
	baz=241						
ELDTW	**Lidau** baz=225	**2.87**	**220**	⇓*e*P	**Pn**	**03 24 32.9**	**-2.1**
ELDTW				*e*S	**S**	**03 25 09.3**	**-4.1**
	baz=225						
WTCT	**Ta-ch'eng** baz=241	**2.94**	**239**	⇓P	**Pn**	**03 24 33.8**	**-1.7**
WTCT				*e*S	**S**	**03 25 10.4**	**-4.1**
	baz=241						
CHN2	**Minshiung** baz=240	**2.99**	**232**	*e*P	**Pn**	**03 24 34.8**	**-1.3**
CHN2				*e*S	**S**	**03 25 12.9**	**-2.6**
	baz

ECL	Taimali	3.38	215	eP		Pn	03 24 37.9 -2.8
	baz=215						
SCLT	Jiali	3.41	230	eP		Pn	03 24 39.6 -1.4
	baz=231						
SCLT				eS		S	03 25 21.2 -3.2
	baz=231						
SSD	Sandimen	3.44	220	⇓eP		Pn	03 24 40.2 -1.2
	baz=222						
SSD				eS		S	03 25 21.8 -3.2
	baz=222						
TAI1	Yung-k'ang	3.48	228	⇓iP		Pn	03 24 40.9 -0.9
	baz=236						
JKE	Kume jima 2	3.50	74	P		Pn	03 24 40.8 -1.2
TWM1	Shoushan	3.51	223	⇓eP		Pn	03 24 41.8 -0.4
	baz=225						
SGLT	Jiouru	3.54	222	eP		Pn	03 24 41.2 -1.3
	baz=215						
TAW	Tawu	3.61	213	⇓P		Pn	03 24 41.0 -2.3
	baz=215						
TAW				eS		S	03 25 25.0 -3.7
	baz=215						
EAST	Anshuo	3.61	214	⇓P		Pn	03 24 41.2 -2.2
	baz=216						
LAY	Lan-yu	3.62	202	⇓eP		Pn	03 24 41.4 -2.1
	baz=204						
PNG	Penghu	3.66	241	⇓P		Pn	03 24 42.0 -2.0
	baz=238						
PNG				eS		S	03 25 24.9 -4.8
	baz=238						
SCZT	Fangliau	3.74	217	⇓P		Pn	03 24 43.3 -1.7
	baz=225						
SCZT				eS		S	03 25 28.7 -2.8
	baz=225						
WDGT	Dungji	3.75	236	⇓iP		Pn	03 24 43.2 -1.8
	baz=237						
WDGT				eS		S	03 25 27.0 -4.6
	baz=237						
KAU	Kaohsiung	3.77	222	eP		Pn	03 24 43.3 -2.0
	baz=223						
TWP	Hsiaoliuchiu	3.91	219	eP		Pn	03 24 46.5 -0.4
	baz=213						
JAGN	Aguni-jima	3.96	72	P		Pn	03 24 46.2 -1.4
JAGN				eS		S	03 25 32.3 -4.0
HEN	Hengchun	3.98	212	eP		Pn	03 24 47.0 -0.9
	baz=222						
HEN				eS		S	03 25 34.1 -2.7
	baz=222						
TSEB	Hengchuen, Pin	4.00	210	eP		Pn	03 24 47.4 -0.7
	baz=212						
TWK1	Hengchun	4.01	211	eP		Pn	03 24 46.6 -1.6
	baz=209						
QZH	Quanzhou	4.05	264	⇑iP		Pn	03 24 46.0 -2.7
QZH				sP			03 25 29.0
QZH				S		S	03 25 31.5 -6.7
QZH				smax		smax	
	comp=N,10μm,1.4s						
QZH				smax		smax	
	comp=E,5μm,1.2s						
QZH				LR		LR	
	comp=N,13μm,4.9s						
QZH				LR		LR	
	comp=E,12μm,5.9s						
QZH				LR		LR	
	comp=Z,10μm,7.4s						
KNM	Kinmen	4.29	258	⇓iP		Pn	03 24 51.7 0.0
	baz=258						
JJT2	Tamagusuku 2	4.31	79	P		Pn	03 24 50.8 -1.0
JJT2				S		S	03 25 40.6 -3.4
JNTH	Nagotoyohara	4.62	75	P		Pn	03 24 54.0 -1.7
JNTH				S		S	03 25 45.5 -5.5
JIH	Iheya	4.72	69	P		Pn	03 24 55.1 -1.7
JIH				S		S	03 25 48.2 -4.9
JOW	Kunigami	4.92	72	⇓eP		Pn	03 24 57.1 -2.3
	baz=72						
JOW	Kunigami	4.92	72	P		Pn	03 24 57.7 -1.7
JOW				S		S	03 25 51.6 -6.1
JOW	Kunigami	4.92	72	ePn		Pn	03 24 57.1 -2.3
JOW				eS		S	03 25 44.6 -13
JOKE	Okinoerabujima	5.33	67	P		Pn	03 25 02.1 -2.5
JOKE				eS		S	03 26 01.7 -5.4
JTK	Tokunoshima	5.80	65	P		Pn	03 25 07.8 -2.7
JTK				S		S	03 26 11.0 -6.9
SSE	Sheshan	5.90	344	P		Pn	03 25 11.8 +0.1
SSE				pmax		pmax	
	comp=Z,650nm,1.2s						
SSE				pmax		pmax	
	comp=Z,5μm,7.3s						
SSE				LR		LR	
	comp=N,2μm,8.0s						
SSE				LR		LR	
	comp=E,4μm,8.0s						
SSE				LR		LR	
	comp=Z,3μm,8.2s						
JAMN	Amaminishikomi	6.17	61	P		Pn	03 25 11.9 -3.3
JAM	Amami Oshima	6.58	61	P		Pn	03 25 17.7 -2.8
JAM				eS		S	03 26 28.7 -7.4
JTAJ	Takarajima	6.64	54	P		Pn	03 25 19.8 -1.4
JMZ	Minamidaito 2	7.40	85	P		Pn	03 25 29.3 -1.7
JMZ				S		S	03 26 46.3 -8.9
NJ2	Nanjing	7.57	332	eP		Pn	03 25 33.8 +0.6
NJ2				S		S	03 26 57.0 -2.2
NJ2				smax		smax	
	comp=N,480nm,1.9s						
NJ2				smax		smax	
	comp=E,950nm,1.5s						
NJ2				LR		LR	
	comp=N,4μm,6.5s						
NJ2				LR		LR	
	comp=E,10μm,5.4s						
NJ2				LR		LR	
	comp=Z,4μm,7.3s						
CVP	Callao Caves	7.75	189	⇓eP		Pn	03 25 35.0 -0.5
CAUP	Cauayan	8.49	188	eP		Pn	03 25 46.2 +1.1
JFU	Fukue jima 2	8.79	33	P		Pn	03 25 50.8 +2.0
WHN	Wuhan	9.23	306	⇓iP		Pn	03 25 54.8 +0.3
WHN				sP		sP	03 26 44.5
WHN				S		S	03 27 35.8 -2.5
WHN				pmax		pmax	
	comp=Z,370nm,0.9s						
WHN				LR		LR	
	comp=N,33μm,8.9s						
WHN				LR		LR	
	comp=E,20μm,8.4s						
WHN				LR		LR	
	comp=Z,7μm,6.8s						
MCO	Taipa Grande	9.28	251	P		Pn	03 25 55.0 -0.2
BOLP	Bolinao	9.44	199	eP		Pn	03 25 56.2 -1.1
BALP	Baler	9.71	188	eP		Pn	03 26 00.1 -0.7
BALP				eS		S	03 27 48.5 -1.5
SCZP	Santa Cruz	10.02	198	eP		Pn	03 26 04.2 -0.6
JNU	Nakatsue	10.29	40	ePn		Pn	03 26 09.2 +1.0
JTU	Tsushima	10.63	30	P		Pn	03 26 14.2 +1.8
TGY	Tagaytay City	11.41	190	P		Pn	03 26 22.3 -0.3
	56nm,0.3s,baz=118,slow=1.4,SNR=14						
TGY				S		S	03 28 28.1 -0.7
	59nm,0.3s,baz=190,slow=11,SNR=1.9						
GQP	Guinayangan	11.45	183	⇑eP		Pn	03 26 23.5 +0.5
PVCP	Virac	11.79	175	eP		Pn	03 26 28.3 +1.0
LUBP	Lubang	11.90	193	eP		Pn	03 26 25.6 -3.0
BOAC	Boac	11.94	186	eP		Pn	03 26 29.3 +0.2
AUQP	San Andres	12.02	182	eP		Pn	03 26 30.8 +0.6
INCN	Inchon	12.43	13	ePn		P	03 26 37.0 -1.5
INCN	Inchon	12.43	13	P		Pn	03 26 36.6 +1.5
INCN	Inchon	12.43	13	Pn		Pn	03 26 36.6 +1.5
KS15	Wonju Array Si	12.69	18	ePn		Pn	03 26 39.1 +0.7
KSAR	Wonju Array Be	12.69	18	P		Pn	03 26 39.4 +1.0
KSAR	Wonju Array Be	12.69	18	P		Pn	03 26 39.4 +1.0
KSAR				S		S	03 29 03.3 +4.6
KSAR				ScP		ScP	03 35 08.2 -0.4
KSRS	Korea Array	12.71	18	P		Pn	03 26 39.4 +0.8
	72nm,0.3s,baz=197,slow=12,SNR=529						
KSRS				S		S	03 29 03.3 +4.1
	baz=120,slow=36,SNR=2.0						
KSRS				ScP		ScP	03 35 08.2 -0.4
	0.2nm,0.3s,baz=210,slow=1.9,SNR=8.9						
CNP	Cataraman	12.92	173	eP		Pn	03 26 42.4 +1.0
ENH	Enshi	12.93	295	eP		P	03 26 43.6 -0.6
	361nm,0.9s						
SJMP	San Jose	13.00	188	eP		Pn	03 26 42.6 +0.2
OTRP	Odiongan	13.01	184	eP		Pn	03 26 42.8 +0.2
DL2	Dalian	13.52	355	⇑iP		P	03 26 50.8 +0.3
DL2				sP		sP	03 27 41.3
DL2				S		S	03 29 20.8 +2.8
DL2				pmax		pmax	
	comp=Z,2μm,4.3s						
BUSP	Coron	13.60	192	eP		Pn	03 26 49.3 -0.5
QIZ	Qiongzhong	13.76	245	P		P	03 26 54.8 +1.3
QIZ				sP		sP	03 27 46.5
QIZ				S		S	03 29 26.3 +2.1
QIZ				pmax		pmax	
	comp=Z,88nm,1.1s						
QIZ				pmax		pmax	
	comp=Z,280nm,3.5s						
QIZ				LR		LR	
	comp=N,2μm,20.1s						
QIZ				LR		LR	
	comp=E,2μm,22.1s						
QIZ				LR		LR	
	comp=Z,4μm,20.1s						
RCP	Roxas	13.77	181	⇓eP		P	03 26 53.1 -0.5
BESP	Borongan	13.92	170	eP		Pn	03 26 54.4 +0.6
PLP	Palo	14.28	172	⇓eP		Pn	03 26 57.9 -0.3
ENPP	El Nido	14.53	194	eP		Pn	03 26 59.8 -1.4
JAP	San Jose, Anti	14.61	184	⇓eP		P	03 27 03.4 +0.4
GYA	Guiyang	14.77	278	⇑iP		P	03 27 05.0 +0.3
GYA				sP		sP	03 27 59.3
GYA				S		S	03 29 47.3 -0.4
GYA				PcP		PcP	03 32 01.0 +1.4
GYA				pmax		pmax	
	comp=Z,90nm,0.9s						
GYA				pmax		pmax	
	comp=Z,990nm,7.8s						
GYA				LR		LR	
	comp=N,2μm,8.8s						
GYA				LR		LR	
	comp=E,1μm,11.6s						
GYA				LR		LR	
	comp=Z,1μm,7.5s						
XAN	Xi'an	14.97	308	P		P	03 27 07.5 +0.7
XAN				sP		sP	03 28 04.8
XAN				S		S	03 29 52.8 +0.7
XAN				pmax		pmax	
	comp=Z,220nm,0.8s						
XAN				pmax		pmax	
	comp=Z,2μm,6.3s						
XAN				LR		LR	
	comp=N,3μm,7.1s						
XAN				LR		LR	
	comp=E,2μm,8.0s						
XAN				LR		LR	
	comp=Z,2μm,7.4s						
LLP	Lapu-Lapu	15.03	176	⇑eP		P	03 27 08.2 +0.7
LLP				eS		S	03 29 51.1 -2.6
TIY	Taiyuan	15.22	326	eP		Pn	03 27 11.5 +1.9
TIY				S		S	03 29 58.5 +0.6
TIY				pmax		pmax	
	comp=Z,330nm,0.9s						
TIY				pmax		pmax	
	comp=Z,3μm,5.7s						
TIY				LR		LR	
	comp=N,3μm,9.5s						
TIY				LR		LR	
	comp=E,790nm,3.8s						
TIY				LR		LR	
	comp=Z,2μm,5.9s						
MSLP	Maasin	15.29	173	eP		Pn	03 27 11.5 +1.1
INU	Inuyama	15.60	47	eP		P	03 27 13.2 -0.4
INU				ePn		Pn	03 27 14.3 +0.3
BJT	Baijiatuau	15.67	340	eP		Pn	03 27 14.6 -0.2
BJT				pmax		pmax	
	comp=Z,238nm,0.8s						
BJT	Baijiatuau	15.67	340	eP		Pn	03 27 14.6 -0.2
	comp=Z,238nm,0.8s						
BJI	Beijing	15.69	340	P		Pn	03 27 15.5 +0.5
BJI				sP		sP	03 28 10.8 -7.0
BJI				S		S	03 30 10.3 +2.3
BJI				pmax		pmax	
	comp=Z,260nm,0.9s						
SCPH	Surigao	15.71	171	⇓eP		Pn	03 27 15.3 -0.3
SNPH	Sibulan	15.97	179	⇓eP		Pn	03 27 19.4 +0.7
PPR	Puerto Princes	16.07	196	⇓eP		Pn	03 27 20.1 +0.2
SNY	Shenyang	16.39	1	⇑P		Pn	03 27 23.0 -0.4
SNY				S		S	03 30 24.3 +1.7
SNY				ScS		ScS	03 38 52.8 -1.4
SNY				pmax		pmax	
	comp=Z,3μm,6.9s						
SNY				LR		LR	
	comp=Z,1μm,14.1s						
SNY				LR		LR	
	comp=Z,2μm,13.1s						
JHJ	Hachijo jima 2	16.50	58	P		P	03 27 24.0 +0.4
	comp=Z,30nm,0.3s,baz=76,slow=18,SNR=8.2						
JHJ2	Mitsune	16.52	58	eP		Pn	03 27 26.4 +1.3
DCPH	Dipolog City	16.73	179	⇓eP		Pn	03 27 27.3 -0.4
MAJO	Matsushiro	17.08	46c	iP		P	03 27 28.9 -1.0
MAJO	Matsushiro	17.08	46	eP		P	03 27 30.4 +0.5
	comp=Z,114nm,0.8s						
MAT	Matsushiro	17.08	46	P		P	03 27 28.8 -1.1
MAT				S		S	03 30 34.4 -2.0
MJB9	Matsu-Tunnel	17.08	46	eP		P	03 27 27.4 -2.5
	comp=Z,29nm,0.8s						
MJAR	Matsushiro Arr	17.08	46	P		P	03 27 29.0 -0.9
	comp=Z,4.7nm,0.3s,baz=225,slow=9.0,SNR=63						
MJAR				pP		pP	03 28 08.7 +3.7
	baz=220,slow=11,SNR=1.1						
MJAR				ScP		ScP	03 35 16.6 0.0
	comp=Z,0.2nm,0.3s,baz=250,slow=2.5,SNR=3.9						
MJAR	Matsushiro Arr	17.08	46	P		P	03 27 29.0 -0.9
CBIJ	Chichi jima	17.26	80	eP		P	03 27 32.9 +0.9
PAGZ	Pagadian	17.46	179	eP		P	03 27 34.0 -0.2
BUKP	Musuan	17.53	173	eP		P	03 27 35.2 +0.2
CD2	Chengdu	17.86	292	⇑iP		P	03 27 39.0 +0.5
CD2				sP		sP	03 28 41.5 -0.5
CD2				S		S	03 30 51.3 -0.8
CD2				pmax		pmax	
	comp=Z,900nm,4.2s						
CD2				LR		LR	
	comp=Z,5μm,9.1s						
CD2				LR		LR	
	comp=Z,3μm,6.6s						
CD2				LR		LR	
	comp=Z,2μm,7.0s						
CTBH	Cotabato--PC H	18.12	176	⇓eP		P	03 27 42.4 +1.0
HHC	Hu-ho-hao-te	18.13	331	eP		Pn	03 27 43.3 -0.7
HHC				sP		sP	03 28 42.5 -2.5
HHC				S		S	03 31 02.5 +5.1
HHC				LR		LR	
	comp=N,10μm,7.9s						
HHC				LR		LR	
	comp=E,12μm,6.2s						
HHC	Hu-ho-hao-te	18.13	331	eP		Pn	03 27 43.0 -1.0
HHC				sP		sP	03 28 43.5 -1.5
HHC				S		S	03 30 53.5 -3.9
HHC				PcP		PcP	03 32 09.5 +5.0
HHC				PcS		PcS	03 35 42.8 +1.6
HHC				pmax		pmax	
	comp=E,140nm,0.9s						
HHC				pmax		pmax	
	comp=E,1μm,3.3s						
KMI	Kunming	18.36	273	P		Pn	03 27 46.3 -0.7
KMI				sP		sP	03 28 45.8 -2.0
KMI				S		S	03 31 00.0 -2.6
KMI				pmax		pmax	
	comp=E,120nm,0.9s						
KMI				pmax		pmax	
	comp=E,420nm,3.3s						
KMI				LR		LR	
	comp=E,1μm,5.7s						
KMI				LR		LR	
	comp=E,1μm,6.1s						
KMI				LR		LR	
	comp=E,820nm,6.7s						
DAV	Davao City (W)	18.39	172	⇓eP		P	03 27 43.0 -1.3
DAV	Davao City (W)	18.39	172	eP		P	03 27 43.7 -0.6
	comp=E,2μm,0.4s						
MSHR	Mys Shultsa	18.39	19c	iP		P	03 27 45.2 +1.1
CN2	Changchun	18.46	6	⇑P		P	03 27 45.0 +0.2
CN2				eS		S	03 31 05.0 +1.3
CN2				pmax		pmax	
	comp=E,60nm,1.0s						
CN2				pmax		pmax	
	comp=E,200nm,4.0s						
CN2				LR		LR	
	comp=E,1μm,10.0s						
CN2				LR		LR	
	comp=E,1μm,10.0s						
CN2				LR		LR	
	comp=E,1μm,10.0s						
BTO	Baotou	18.65	328	eP		P	03 27 47.8 +0.8
PANO	Nakornpanom	19.02	248	P		Pn	03 27 53.3 -1.3
	comp=E,168nm,1.0s						
VLA	Vladivostok	19.11	20j	iP		P	03 27 52.5 +0.8
VLA				iS		S	03 31 16.5 +0.1
VLA				pmax		pmax	
	comp=Z,494nm,0.9s						
UBPT	Khong Chiam	19.29	242	P		P	03 27 55.6 +1.6
	comp=Z,117nm,0.9s,comp=Z,2μm						
KDM	Kudat	19.32	199	⇑P		P	03 27 55.1 +0.8
LZH	Lanzhou	19.60	307	⇑P		P	03 27 58.5 +1.2
LZH				S		S	03 31 26.3 -0.3
LZH				SS			03 32 23.5
LZH				pmax		pmax	
	comp=Z,2μm,4.1s						
LZH				LR		LR	
	comp=Z,2μm,10.0s						
LZH				LR		LR	
	comp=Z,2μm,9.6s						
LZH				LR		LR	
	comp=Z,3μm,10.7s						
MDJ	Mudanjiang	19.89	14	P		P	03 28 00.5 +0.3
MDJ				sP		sP	03 29 02.0 -2.3
MDJ				S		S	03 31 32.3 +0.5
MDJ				PcS		PcS	03 35 42.5 -2.3
MDJ				ScS		ScS	03 39 06.3 +1.2
MDJ				pmax		pmax	
	comp=Z,76nm,0.9s						
MDJ				pmax		pmax	
	comp=Z,1μm,5.2s						
MDJ	Mudanjiang	19.89	14	eP		P	03 27 59.9 -0.3
	comp=Z,174nm,0.9s						
USRK	Ussuriysk Ar.	20.12	19	P		P	03 28 02.4 -0.1
	comp=Z,221nm,0.8s,baz=203,slow=8.9,SNR=220						
USRK				pP		pP	03 28 41.6 +3.1
	comp=Z,42nm,1.0s,baz=240,slow=9.9,SNR=1.2						
USRK				ScP		ScP	03 35 24.1 +1.0
	comp=Z,3.8nm,0.9s,baz=239,slow=2.5,SNR=4.5						
KKM	Kota Kinabalu	20.33	200	eP		P	03 28 04.1 -1.1
	comp=Z,364nm,1.0s						
KKM	Kota Kinabalu	20.33	200	⇑P		P	03 28 04.8 -0.4
SDKM	Sandakan	20.43	197	⇑P		P	03 28 05.8 -0.5
MYLDM	Lahad Datu	20.57	193	eP		P	03 28 08.0 +0.3
	comp=Z,387nm,1.0s						
MYLDM	Lahad Datu	20.57	193	⇓P		P	03 28 09.6 +1.8
KHON	Khomkaen	20.91	248	P		P	03 28 12.5 +1.2
	comp=Z,53nm,0.8s						
KHON	Khomkaen	20.91	248	P		ScP	03 35 26.8 +1.3
	comp=Z,29nm,1.0s						
TSM	Tawau	21.57	194	⇓P		P	03 28 17.4 -0.6
SGSI	Sangihe	21.73	173	P		P	03 28 18.1 -1.4
	comp=Z,636nm,0.6s,comp=Z,6μm						
CHAI	Chaiyaphum	21.82	248	P		P	03 28 20.7 +0.3
	comp=Z,37nm,0.9s,comp=Z,294nm						
CHAI	Chaiyaphum	21.82	248	P		ScP	03 35 28.7 +0.9
	comp=Z,7.7nm,0.9s						
UTTA	Uttaradit	22.23	254	P		P	03 28 25.4 +1.1
	comp=Z,7.0nm,0.8s,comp=Z,147nm						
UTTA	Uttaradit	22.23	254	P		ScP	03 35 30.7 +1.9
	comp=Z,3.9nm,0.8s						
PBKT	Sadao Pong	22.37	251	P		P	03 28 26.0 +0.5
	comp=Z,42nm,1.1s,comp=Z,4μm						
PBKT	Sadao Pong	22.37	251	P		ScP	03 35 29.7 +0.6
	comp=Z,26nm,0.7s						
LAMP	Lampang	22.74	257	P		P	03 28 30.3 +1.4
	comp=Z,16nm,0.9s,comp=Z,198nm						
LAMP	Lampang	22.74	257	P		ScP	03 35 33.3 +3.2
	comp=Z,6.3nm,1.1s						
SRAK	Srakaew	22.75	244	P		P	03 28 25.4 -3.5
	comp=Z,512nm,1.0s,comp=Z,4μm						
CMAI	Chiengmai2	22.78	261	P		P	03 28 30.9 +1.4
	comp=Z,247nm,1.3s,comp=Z,14μm						
NAYO	Nakonayok	23.18	246	P		P	03 28 33.5 +0.7
	comp=Z,44nm,0.9s,comp=Z,2μm						
CHTO	Chiang Mai	23.25	258	P		P	03 28 33.9 +0.5
	comp=Z,180nm,1.2s,comp=Z,7μm						
CHTO	Chiang Mai	23.25	258	P		ScP	03 35 32.2 +0.7
	comp=Z,153nm,1.3s						
CHTO	Chiang Mai	23.25	258	eP		P	03 28 33.2 -0.2
CHTO	Chiang Mai	23.25	258	eP		P	03 28 33.2 -0.2
CHTO				eScP		ScP	03 35 30.3 -1.1
CMAR	Chiang Mai Arr	23.37	258	P		P	03 28 35.1 +0.5
	comp=Z,15nm,1.0s,baz=60,slow=7.5,SNR=34						
CMAR				pP		pP	03 29 15.5 +1.0
	comp=Z,24nm,1.0s,baz=65,slow=10,SNR=3.0						
CMAR				PcP		PcP	03 32 16.0 +1.3
	comp=Z,3.2nm,0.4s,baz=49,slow=1.3,SNR=7.2						
CMAR				ScP		ScP	03 35 32.1 +0.2
	comp=Z,14nm,0.7s,baz=58,slow=0.8,SNR=24						
CMAR				PKiKP		PKiKP	03 39 58.0 -0.5
	comp=Z,0.5nm,0.3s,baz=336,slow=3.1,SNR=4.1						
GUMO	Guam	23.66	116	P		P	03 28 37.8 +0.6
	comp=Z,203nm,0.9s,baz=175,slow=8.8,SNR=6.3						
GUMO				pP		pP	03 29 19.9 +2.3
	comp=Z,127nm,1.0s,baz=204,slow=18,SNR=2.2						
GUMO	Guam	23.66	116	eP		P	03 28 38.5 +1.3
GUMO				*PP		pP	03 29 19.9 +2.3
GUMO				pmax		pmax	
	comp=Z,398nm,1.2s						
GUMO	Guam	23.66	116	eP		P	03 28 38.5 +1.3
	comp=Z,398nm,1.2s						
GUMO				pP		pP	03 29 19.9 +2.3
HIA	Hailar	23.96	355	eP		P	03 28 38.6 -1.1
HIA				pmax		pmax	
	comp=Z,355nm,0.8s						
HIA	Hailar	23.96	355	eP		P	03 28 38.6 -1.1
	comp=Z,355nm,0.8s						
HIA				eScP		ScP	03 35 32.2 -0.7
GTA	Gaotai	23.98	311	⇑P		P	03 28 39.8 -0.3
GTA				pP		pP	03 29 23.5 +2.5
GTA				sP		sP	03 29 49.0 +0.3
GTA				PcP		PcP	03 32 17.0 +1.1
GTA				S		S	03 32 42.3 +1.7
GTA				sS		sS	03 33 57.8 +2.2
GTA				SS		SS	03 34 03.3 -27
GTA				ScP		ScP	03 35 34.0 +0.7
GTA				PcS		PcS	03 35 56.5 +0.7
GTA				pmax		pmax	
	comp=Z,100nm,1.3s						
GTA				pmax		pmax	
	comp=Z,750nm,5.2s						
GTA				LR		LR	
	comp=Z,1μm,14.3s						
GTA				LR		LR	
	comp=Z,800nm,14.3s						
GTA				LR		LR	
	comp=Z,650nm,15.7s						
UTHA	Uthaitani	24.14	251	P		P	03 28 42.7 +1.1
	comp=Z,10nm,0.8s,comp=Z,187nm						
ASAJ	Asahikawa	24.52	36	P		P	03 28 44.1 -0.7
	comp=Z,88nm,0.3s,baz=234,slow=9.8,SNR=221						
ASAJ				pP		pP	03 29 29.2 +2.6
	comp=Z,36nm,0.7s,baz=230,slow=17,SNR=2.1						
ASAJ	Asahikawa	24.52	36	eP		P	03 28 44.1 -0.7
	comp=Z,89nm,0.5s						
ASAJ				pP		pP	03 29 29.2 +2.6
KMSI	Cibinong	24.70	178	P		P	03 28 50.5 +3.9
	comp=Z,330nm,0.7s						
KLR	Kul'dur	24.74	14	P		P	03 28 46.8 +0.1
	comp=Z,6.6nm,0.4s,baz=204,slow=7.5,SNR=265						
KLR				pP		pP	03 29 32.4 +3.5
	comp=Z,1.8nm,0.5s,baz=179,slow=9.0,SNR=1.1						
KLR				PcP		PcP	03 32 18.0 +0.9
	comp=Z,0.7nm,0.5s,baz=218,slow=3.2,SNR=7.8						
KLR				ScP		ScP	03 35 33.4 -1.6
	comp=Z,0.7nm,0.9s,baz=293,slow=2.8,SNR=4.5						
MRSI	Marisa	24.80	183	P		P	03 28 49.1 +1.5
	comp=Z,354nm,0.7s,comp=Z,5μm						
HABR	Khabarovsk	24.89	19	eP		P	03 28 45.8 -2.2
HABR				e*PP		pP	03 29 27.7 -2.7
HABR				e*SP		sP	03 29 54.9 -2.4
HABR				e			03 32 15.8
HABR				eS		S	03 32 52.3 -2.1
HABR				e*SS		sS	03 34 10.2 -2.2
HABR				e			03 39 21.9
HABR				pmax		pmax	
	comp=N,19nm,1.0s						
HABR				pmax		pmax	
	comp=E,11nm,1.0s						
HABR				pmax		pmax	
	comp=Z,46nm,1.0s						
HABR				MLR		MLR	
	comp=Z,243nm,17.0s						
SBUM	Sibu	25.09	206	eP		P	03 28 50.0 -0.2
	comp=Z,228nm,0.8s						
SBUM	Sibu	25.09	206	⇓P		P	03 28 50.5 +0.3
MPSI	Mapaga	25.10	187	P		P	03 28 50.6 +0.3
	comp=Z,185nm,0.8s,comp=Z,3μm						

ULN Ulaanbaatar 25.73 335 *c iP* **P 03 28 55.4 -0.4**
ULN pmax pmax
comp=Z,84nm,0.8s
ULN Ulaanbaatar 25.73 335 *eP* **P 03 28 55.6 -0.2**
comp=Z,242nm,1.3s
ULN *e*ScP **ScP 03 35 37.6 -0.4**
SONM Songino Array 25.96 334 P **P 03 28 57.6 -0.3**
comp=Z,111nm,0.9s,baz=149,slow=9.7,SNR=263
SONM pP **pP 03 29 41.7 +0.1**
comp=Z,46nm,1.1s,baz=158,slow=14,SNR=2.3
SONM PcP **PcP 03 32 20.9 +0.8**
comp=Z,8.0nm,0.9s,baz=132,slow=2.1,SNR=4.7
SONM ScP **ScP 03 35 39.1 +0.4**
comp=Z,3.1nm,0.7s,baz=168,slow=4.2,SNR=5.1
APSI Ampana 26.19 183 P **P 03 29 00.7 +0.6**
comp=Z,405nm,1.0s,comp=Z,4μm
LBMI Labuha 26.25 170 P **P 03 29 01.1 +0.6**
comp=Z,401nm,0.8s,comp=Z,5μm
YUK Yuzh-Kuril'sk 26.27 39 *c iP* **P 03 28 59.5 -0.9**
YUK *i* *PP **pP 03 29 42.3 -2.0**
YUK *e*S **S 03 33 15.6 -0.6**
YUK *e**SS **sS 03 34 32.9 -2.1**
YUK pmax pmax
comp=Z,182nm,1.1s
YUK pmax pmax
comp=Z,1μm,5.5s
LUWI Luwuk 26.29 181 *eP* **P 03 28 59.1 -1.8**
comp=Z,409nm,1.1s
YSS Yuzh-Sakhalins 26.61 31 *αeP* **P 03 29 02.6 -0.9**
YSS *e**SP **sP 03 30 15.0 +2.0**
YSS *e* 03 34 45.0
YSS pmax pmax
comp=Z,1μm,3.0s
YSS pmax pmax
comp=Z,270nm,0.7s
YSS MLR MLR
comp=Z,500nm,11.0s
YSS Yuzh-Sakhalins 26.61 31 *eP* **P 03 29 02.9 -0.6**
comp=Z,777nm,1.2s
YSS *e*PcP **PcP 03 32 21.7 +0.2**
KSM Kuching 26.77 209 *eP* **P 03 29 05.0 -0.3**
comp=Z,102nm,1.0s
KSM *e*ScP **ScP 03 35 41.3 -0.2**
KSM Kuching 26.77 209 ⇑P **P 03 29 05.2 -0.1**
MTKI Muara Teweh, K 27.35 198 P **P 03 29 10.5 +0.1**
comp=Z,686nm,0.9s,comp=Z,9μm
SANI Sanana 27.44 174 P **P 03 29 10.0 -1.2**
comp=Z,242nm,1.1s,comp=Z,4μm
STKI Sintang 27.55 206 P **P 03 29 13.4 +1.2**
comp=Z,92nm,1.3s
KTGM Kuala Trenggan 27.61 227 ⇑P **P 03 29 14.5 +1.8**
KUR Kuril'sk 28.13 39 *eP* **P 03 29 14.6 -2.4**
KUR *e**PP **pP 03 30 00.7 -0.4**
KUR *e* 03 30 18.6
KUR S **S 03 33 50.9 +5.4**
KUR *i* 03 35 05.2
KUR MLR MLR
comp=E,343nm,13.0s
KUR MLR MLR
comp=Z,414nm,13.0s
KUR MLR MLR
comp=N,146nm,10.0s
SURT Suratani 28.27 239 P **P 03 29 19.9 +1.4**
comp=N,38nm,0.9s,comp=N,481nm
TRTT Trang 28.30 236 P **P 03 29 20.3 +1.5**
comp=N,69nm,0.9s,comp=N,1μm
KRAB Krabi 28.42 237 P **P 03 29 21.2 +1.3**
comp=N,133nm,0.7s,comp=N,6μm
TTSI Tana Toraja 28.45 187 P **P 03 29 19.2 -0.9**
comp=N,147nm,1.0s,comp=N,1μm
LSA Lhasa 28.54 286 P **P 03 29 22.0 +0.6**
LSA S **S 03 33 53.3 0.0**
LSA pmax pmax
comp=N,22nm,0.8s
LSA pmax pmax
comp=N,270nm,12.4s
LSA LR LR
comp=N,830nm,16.7s
LSA LR LR
comp=N,5μm,40.3s
LSA LR LR
comp=N,670nm,13.7s
LSA Lhasa 28.54 286 *eP* **P 03 29 22.0 +0.6**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 28.54 286 *eP* **P 03 29 22.0 +0.6**
comp=Z,20nm,0.6s
NLAI Namlea 28.74 172 P **P 03 29 24.2 +1.5**
comp=Z,110nm,1.1s,comp=Z,2μm
MSAI Masohi 29.14 168 P **P 03 29 27.4 +1.1**
comp=Z,51nm,0.8s,comp=Z,1μm
ZAK Zakamensk 29.23 334 *eP* **P 03 29 25.5 -1.3**
ZAK pmax pmax
comp=Z,58nm,1.0s
PKDT Phuket 29.29 238 P **P 03 29 29.4 +1.8**
comp=Z,90nm,1.0s,comp=Z,5μm
BAKI Biak 29.31 152 P **P 03 29 28.4 +0.7**
comp=Z,80nm,0.8s,comp=Z,2μm
KULM Kulim 29.33 231 *eP* **P 03 29 28.9 +1.0**
comp=Z,84nm,0.9s
KULM Kulim 29.33 231 ⇑P **P 03 29 29.4 +1.5**
AAI Ambon 29.35 169 P **P 03 29 28.8 +0.8**
comp=Z,198nm,0.9s,comp=Z,3μm
SPSI Sidrap Palu 29.36 187 P **P 03 29 27.5 -0.7**
comp=Z,135nm,1.0s,comp=Z,2μm
FAKI Fak Fak 29.54 161 P **P 03 29 29.4 -0.3**
comp=Z,263nm,0.9s,comp=Z,3μm
FAKI Fak Fak 29.54 161 *eP* **P 03 29 29.1 -0.6**
comp=Z,178nm,0.6s
FAKI *e*ScP **ScP 03 35 49.9 -0.2**
TYV Tymovskoe 29.55 26 *eP* **P 03 29 29.1 -0.4**
TYV pmax pmax
comp=Z,81nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.9s
BNSI Bone 29.76 186 P **P 03 29 31.3 -0.4**
comp=Z,82nm,0.8s,comp=Z,2μm
MYKOM Kota Tinggi 29.89 221 *eP* **P 03 29 33.6 +0.7**
comp=Z,119nm,0.9s
MYKOM Kota Tinggi 29.89 221 ⇑P **P 03 29 33.7 +0.8**
KGM Kluang 30.03 222 ⇑P **P 03 29 35.2 +1.1**
PBKI Pangkalan Bun 30.04 203 P **P 03 29 35.1 +1.0**
comp=Z,354nm,0.9s,comp=Z,5μm
TLY Talaya 30.12 336 P **P 03 29 34.4 -0.1**
comp=Z,47nm,0.5s
TLY pP **pP 03 30 19.8 +0.9**
comp=Z,10nm,0.7s,baz=249,slow=6.4,SNR=1.5
TLY PcP **PcP 03 32 30.8 +0.6**
comp=Z,12nm,0.9s,baz=172,slow=4.8,SNR=3.4
TLY Talaya 30.12 336 *eP* **P 03 29 34.7 +0.2**
TLY *e* 03 30 41.5
TLY pmax pmax
comp=Z,62nm,0.7s
TLY MLR MLR
comp=Z,359nm,14.0s
TLY Talaya 30.12 336 *eP* **P 03 29 34.2 -0.3**
comp=Z,59nm,0.6s
TLY pP **pP 03 30 19.8 +0.9**
TLY PcP **PcP 03 32 30.8 +0.6**
FRIM Kepong 30.16 227 ⇓P **P 03 29 36.3 +1.1**
TPRI Tanjung Pinang 30.20 219 P **P 03 29 36.9 +1.4**
IRK Irkutsk 30.34 337 *eP* **P 03 29 35.4 -1.1**
IRK *e* 03 30 21.0
IRK pmax pmax
comp=Z,188nm,2.9s
KAPI Kappang 30.40 186 *eP* **P 03 29 36.5 -0.9**
comp=Z,246nm,0.9s
KAPI *e*ScP **ScP 03 35 54.6 +1.8**
BNDI Bandanaira 30.48 166 P **P 03 29 38.2 +0.1**
comp=Z,220nm,1.4s,comp=Z,4μm
KMPI Kaimana, Papua 30.69 159 P **P 03 29 40.8 +0.9**
comp=Z,724nm,0.7s,comp=Z,6μm
BBSI Bau Bau 30.71 181 P **P 03 29 42.3 +2.3**
NKL Nikolayevsk 30.72 21 *eP* **P 03 29 38.5 -1.2**
NKL *e* 03 30 26.0
NKL pmax pmax
comp=N,51nm,1.0s
NKL pmax pmax
comp=E,43nm,1.0s
NKL pmax pmax
comp=Z,110nm,1.0s
NKL pmax pmax
comp=Z,900nm,10.0s
NKL MLR MLR
comp=Z,1μm,16.0s
MOY Mondy 31.14 333 *eP* **P 03 29 43.1 -0.5**
MOY pmax pmax
comp=Z,216nm,1.7s
SMPI Sarmi 31.18 149 P **P 03 29 45.5 +1.3**
comp=Z,156nm,1.3s,comp=Z,3μm
CLNS Chul'man 31.43 2 *eP* **P 03 29 45.5 -0.5**
CLNS *e**PP **pP 03 30 29.6 -1.0**
CLNS *e*S **S 03 34 33.9 -3.1**
CLNS *e**SS **ScP 03 35 55.1 -0.6**
CLNS *e*SS **SS 03 36 47.6 -11**
CLNS pmax pmax
comp=Z,59nm,0.8s
CLNS pmax pmax
comp=N,31nm,0.9s
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS smax smax
comp=E,153nm,13.5s
CLNS smax smax
comp=N,133nm,13.8s
BSSI Bau Bau, Buton 31.45 185 P **P 03 29 46.7 +0.1**
comp=N,67nm,1.0s,comp=N,944nm
TAPN Taplejung 31.65 281 *eP* **P 03 29 49.1 +0.5**
comp=N,52nm,0.5s
ODAN Odare 31.97 281 *eP* **P 03 29 50.8 -0.6**
TSI Tuntungan 32.06 231 P **P 03 29 54.2 +2.3**
comp=N,257nm,0.9s
PSI Prapat 32.30 230 *eP* **P 03 29 55.0 +0.8**
PSI pmax pmax
comp=Z,156nm,0.9s
PSI Prapat 32.30 230 *eP* **P 03 29 55.0 +0.8**
comp=Z,156nm,0.9s
GENI Genyem 32.41 147 P **P 03 29 56.6 +1.7**
comp=Z,101nm,0.6s,comp=Z,4μm
KCSI Kotacane, Aceh 32.60 232 P **P 03 29 56.2 -0.5**
comp=Z,51nm,0.8s,comp=Z,1μm
JAY Jayapura 32.61 146 P **P 03 29 59.3 +2.6**
comp=Z,274nm,1.2s,comp=Z,5μm
RAMN Ramite 32.67 281 *eP* **P 03 29 57.5 +0.1**
comp=Z,57nm,0.6s
BKNI Bangkinang 32.76 224 P **P 03 29 59.0 +1.1**
comp=Z,390nm,1.0s,comp=Z,4μm
BKNI Bangkinang 32.76 224 *eP* **P 03 29 58.0 +0.1**
comp=Z,324nm,0.9s
JMBI JAMBI 32.79 218 P **P 03 30 02.4 +4.2**
comp=Z,880nm,0.8s
JIRN Jiri 32.97 282 *eP* **P 03 30 00.3 +0.2**
comp=Z,201nm,0.4s
BOD Bodaibo 33.03 351 *eP* **P 03 29 58.1 -1.7**
BOD pmax pmax
comp=Z,38nm,1.9s
MLSI Meulaboh, Aceh 33.09 235 P **P 03 30 01.2 +0.3**
comp=Z,250nm,0.6s,comp=Z,3μm
TPTI 33.21 233 P **P 03 30 00.5 -1.4**
comp=Z,69nm,0.9s,comp=Z,751nm
GUN Gumba 33.22 283 *eP* **P 03 30 02.4 +0.1**
comp=Z,64nm,0.6s
KMMI Kalianget 33.44 196 P **P 03 30 04.8 +1.0**
comp=Z,299nm,0.8s,comp=Z,7μm
PKI Pulchoki 33.66 282 *eP* **P 03 30 05.8 -0.3**
comp=Z,30nm,0.4s
PKIN Phulchoki 33.68 282 *eP* **P 03 30 06.3 +0.2**
comp=Z,67nm,0.6s
UWJI Ujung Watu 33.75 202 P **P 03 30 09.7 +3.2**
comp=Z,342nm,1.0s,comp=Z,3μm
KKN Kakani 33.76 283 *eP* **P 03 30 06.7 -0.1**
comp=Z,50nm,0.5s
MMRI Maumere 33.84 181 P **P 03 30 06.9 -0.4**
comp=Z,190nm,1.0s,comp=Z,4μm
MMRI Maumere 33.84 181 *eP* **P 03 30 06.3 -1.0**
DMN Daman 33.93 282 *eP* **P 03 30 08.1 -0.2**
comp=Z,44nm,0.7s
EDFI Ende, Flores 33.97 182 P **P 03 30 07.1 -1.4**
comp=Z,264nm,0.8s,comp=Z,3μm
WMQ Urumqi 34.07 312 P **P 03 30 08.8 -0.3**
WMQ pP pP 03 30 52.8 -1.2
WMQ PP **PnPn 03 31 37.0 +5.5**
WMQ PcP **PcP 03 32 41.3 0.0**
WMQ S **S 03 35 15.8 -2.3**
WMQ PcS **PcS 03 36 24.0 -3.7**
WMQ sS sS 03 36 40.5 +2.3
WMQ SS **SS 03 37 45.5 -7.5**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,550nm,3.8s
WMQ LR LR
comp=Z,710nm,8.1s
WMQ LR LR
comp=Z,450nm,10.3s
WMQ LR LR
comp=Z,320nm,19.3s
PDSI Padang 34.08 223 P **P 03 30 09.3 -0.1**
comp=Z,77nm,1.0s,comp=Z,4μm
SAUI Saumlaki 34.15 165 P **P 03 30 10.7 +0.8**
comp=Z,473nm,1.0s,comp=Z,4μm
SAUI Saumlaki 34.15 165 *eP* **P 03 30 10.2 +0.3**
comp=Z,309nm,0.7s
SRBI Singaraja 34.15 194 P **P 03 30 10.6 +0.7**
comp=Z,121nm,0.6s,comp=Z,2μm
GKN Gorkha 34.31 283 *eP* **P 03 30 11.1 -0.4**
PLAI Plampang 34.41 189 P **P 03 30 11.9 -0.2**
comp=Z,254nm,1.0s,comp=Z,3μm
TWSI Taliwang, Sumb 34.46 191 P **P 03 30 12.3 -0.3**
comp=Z,132nm,0.9s,comp=Z,3μm
SMRI Semarang 34.51 202 P **P 03 30 14.1 +1.1**
comp=Z,457nm,1.1s,comp=Z,8μm
SMRI Semarang 34.51 202 *eP* **P 03 30 14.1 +1.1**
comp=Z,454nm,1.1s
LHSI Lahat 34.68 216 P **P 03 30 15.6 +1.1**
comp=Z,225nm,0.9s,comp=Z,5μm
DNP Denpasar 34.72 194 P **P 03 30 15.6 +0.8**
comp=Z,1μm,1.1s
JAGI Jajag, Banyuwa 34.76 196 P **P 03 30 15.8 +0.6**
comp=Z,157nm,1.0s,comp=Z,3μm
JAGI Jajag, Banyuwa 34.76 196 *eP* **P 03 30 14.6 -0.6**
comp=Z,115nm,0.9s
KLSI 34.80 213 P **P 03 30 16.2 +0.7**
comp=Z,107nm,1.2s,comp=Z,2μm
MASI Maura Aman, Be 34.81 218 P **P 03 30 16.9 +1.2**
comp=Z,193nm,0.9s,comp=Z,3μm
PBSI Pulau Batu 34.83 227 P **P 03 30 16.9 +1.1**
comp=Z,187nm,0.8s,comp=Z,2μm
IGBI Denpasar 34.87 194 P **P 03 30 16.1 0.0**
comp=Z,1μm,1.1s,comp=Z,14μm
MDSI Maura Dua 34.90 214 P **P 03 30 16.5 +0.1**
comp=Z,142nm,1.0s,comp=Z,2μm
SOEI Soe 34.97 178 P **P 03 30 16.5 -0.5**
SOEI Soe 34.97 178 *eP* **P 03 30 14.1 -2.9**
comp=Z,63nm,0.9s
SOEI *e*S **S 03 35 27.3 -5.1**
DANN Dangsing 35.05 284 *eP* **P 03 30 18.6 +0.6**
KOLN Koldanda 35.24 283 *eP* **P 03 30 19.4 -0.1**
comp=Z,52nm,0.8s
SISI Saibi 35.26 225 P **P 03 30 18.8 -0.7**
UGM Wanagama 35.28 202 P **P 03 30 20.3 +0.7**
comp=Z,515nm,1.0s,comp=Z,6μm
UGM Wanagama 35.28 202 *eP* **P 03 30 20.4 +0.7**
comp=Z,348nm,0.7s
SBJI Serang 35.38 210 P **P 03 30 21.7 +1.2**
comp=Z,298nm,1.1s,comp=Z,5μm
LWLI Liwa 35.42 214 P **P 03 30 21.4 +0.5**
comp=Z,154nm,1.0s
MNAI Manna 35.43 216 *eP* **P 03 30 19.5 -1.4**
comp=Z,182nm,0.9s
BASI Baing, Sumba 35.49 184 P **P 03 30 21.4 +0.1**
DBJI Dramaga 35.50 209 P **P 03 30 22.5 +1.0**
comp=Z,362nm,1.3s
KASI Kota Agung 35.63 213 P **P 03 30 22.4 -0.2**
PYUN Piuthan 35.75 283 *eP* **P 03 30 24.2 +0.4**
comp=Z,76nm,0.6s
CISI Cisompet, Garu 35.95 206 P **P 03 30 24.6 -0.8**
CISI Cisompet, Garu 35.95 206 *eP* **P 03 30 23.8 -1.6**
comp=Z,113nm,0.7s
SKJI Sukabumi 35.98 209 P **P 03 30 26.5 +0.9**
CNJI Cibinong 36.01 208 P **P 03 30 25.6 -0.2**
YAK Yakutsk 36.89 5 P **P 03 30 31.9 -0.8**
comp=Z,753nm,0.8s,baz=173,slow=2.5,SNR=131
YAK pP **pP 03 31 17.9 -0.3**
comp=Z,65nm,0.7s,baz=141,slow=1.2,SNR=1.3
YAK PcP **PcP 03 32 49.1 0.0**
comp=Z,22nm,0.4s,baz=291,slow=3.3,SNR=3.7
YAK Yakutsk 36.89 5 *c iP* **P 03 30 32.1 -0.6**
YAK *e**PP **pP 03 31 16.9 -1.3**
YAK *e* 03 32 00.4
YAK *e* 03 32 48.1
YAK *e*S **S 03 36 02.1 +1.7**
YAK *e*SS **SS 03 38 50.5 -1.3**
YAK *e* 03 40 19.9
YAK pmax pmax
comp=Z,659nm,1.0s
YAK pmax pmax
comp=N,173nm,1.0s
YAK pmax pmax
comp=E,67nm,1.1s
YAK pmax pmax
comp=Z,187nm,2.6s
YAK pmax pmax
comp=N,256nm,2.7s
YAK pmax pmax
comp=E,107nm,2.5s
YAK smax smax
comp=N,117nm,2.8s
YAK smax smax
comp=E,62nm,2.7s
YAK Yakutsk 36.89 5 *eP* **P 03 30 32.1 -0.6**
comp=E,877nm,0.8s
YAK pP **pP 03 31 17.9 -0.3**
YAK PcP **PcP 03 32 49.1 0.0**
PEA0B Petropavlovsk- 37.92 34 *eP* **P 03 30 40.8 -0.7**
comp=E,30nm,0.8s
PETK Petropavlovsk- 37.92 34 P **P 03 30 40.9 -0.6**
comp=E,22nm,0.6s,baz=228,slow=6.1,SNR=35
PETK pP **pP 03 31 24.0 -3.2**
comp=E,3.0nm,0.5s,baz=103,slow=20,SNR=1.3
PETK PcP **PcP 03 32 52.9 +0.3**
comp=E,6.6nm,1.0s,baz=98,slow=2.9,SNR=2.5
PET Petropavlovsk 38.36 35 *eP* **P 03 30 44.2 -0.9**
PET pmax pmax
comp=Z,203nm,1.2s
PET Petropavlovsk 38.36 35 *eP* **P 03 30 44.2 -0.9**
comp=Z,203nm,1.2s
PATS Pohnpei 38.41 113 *eP* **P 03 30 45.7 -0.3**
comp=Z,99nm,0.9s
MK31 Makanchi Array 38.67 314 *i P* **P 03 30 47.6 -0.2**
MK31 pmax pmax
comp=Z,162nm,0.7s
MK31 Makanchi Array 38.67 314 *eP* **P 03 30 47.8 0.0**
MKAR Makanchi Array 38.67 314 P **P 03 30 47.6 -0.3**
comp=Z,200nm,0.6s,baz=100,slow=9.1,SNR=526
MKAR pP **pP 03 31 33.0 -0.7**
comp=Z,45nm,1.1s,baz=113,slow=7.5,SNR=1.2
MKAR PcP **PcP 03 32 55.7 +0.6**
comp=Z,25nm,1.0s,baz=93,slow=1.7,SNR=4.3
MKAR ScP **ScP 03 36 22.4 +0.3**
comp=Z,5.0nm,1.0s,baz=102,slow=6.7,SNR=5.6
MKAR Makanchi Array 38.67 314 *ceP* **P 03 30 47.5 -0.3**
MKAR pmax pmax
comp=Z,199nm,0.6s
MKAR Makanchi Array 38.67 314 *eP* **P 03 30 47.1 -0.8**
comp=Z,1μm,0.8s
MKAR pP **pP 03 31 33.0 -0.7**
MKAR PcP **PcP 03 32 55.7 +0.6**
MKAR ScP **ScP 03 36 22.4 +0.3**
MTN Manton Dam 38.83 167 *eP* **P 03 30 48.1 -1.3**
comp=Z,80nm,0.6s
MAKZ Makanchi 38.88 314 *eP* **P 03 30 49.3 -0.3**
MAKZ pmax pmax
comp=Z,314nm,0.8s
MAKZ Makanchi 38.88 314 *eP* **P 03 30 49.3 -0.3**
comp=Z,314nm,0.8s
JBP Jabalpur 39.19 276 ⇑*eP* **P 03 30 54.5 +2.1**
JBP *e*S **S 03 36 31.1 -4.8**
JBP AMS AMS 03 36 38.8
comp=Z,166nm,18.4s
MA2 Magadan 39.22 22 P **P 03 30 51.9 -0.3**
comp=Z,32nm,0.6s,baz=239,slow=12,SNR=15
MA2 pP **pP 03 31 38.9 +0.8**
comp=Z,57nm,1.2s,baz=131,slow=3.7,SNR=2.9
MA2 PcP **PcP 03 32 57.3 +0.8**
comp=Z,24nm,1.0s,baz=220,slow=7.5,SNR=3.1
MA2 Magadan 39.22 22 *deP* **P 03 30 52.7 +0.5**
MA2 *i* *PP **pP 03 31 39.6 +1.4**
XMIS Christmas Isla 39.48 208 *eP* **P 03 30 54.6 -0.2**
comp=Z,262nm,1.5s
PDGK Podgornoye 39.64 308 P **P 03 30 56.0 -0.1**
PDGK pmax pmax
comp=Z,389nm,0.9s
ZAA0 Zalesovo Array 40.17 325 *eP* **P 03 30 59.2 -0.8**
ZALV Zalesovo Beam 40.17 325 P **P 03 30 59.1 -0.9**
comp=Z,164nm,0.5s,baz=118,slow=8.4,SNR=361
ZALV pP **pP 03 31 46.0 -0.2**
comp=Z,38nm,0.9s,baz=126,slow=7.5,SNR=1.6
ZALV PP **PP 03 32 39.5 +2.2**
comp=Z,25nm,0.9s,baz=140,slow=9.4,SNR=3.8
ZALV PcP **PcP 03 32 59.0 -0.7**
comp=Z,8.8nm,0.5s,baz=112,slow=4.1,SNR=5.1
ZALV ScP **ScP 03 36 26.9 -0.9**
comp=Z,4.6nm,0.6s,baz=129,slow=3.3,SNR=5.8
SDNR Sundarnagar 40.73 289 *eP* **P 03 31 06.0 +1.0**
H11N1 WAKE ISLAND Hy 40.76 89 T T 04 14 23.8
baz=283,slow=74,SNR=4.4
H11N2 WAKE ISLAND Hy 40.76 89 T T 04 13 54.6
baz=283,slow=74,SNR=3.4
H11N3 WAKE ISLAND Hy 40.77 89 T T 04 14 19.4
baz=283,slow=74,SNR=3.7
BHK Bhakra 41.20 289 *eP* **P 03 31 09.6 +0.7**
NVS Novosibirsk 41.41 326 ⇓*iP* **P 03 31 09.9 -0.3**
NVS *e* 03 31 55.7
NVS *e* 03 32 51.5
NVS *e*S **S 03 37 05.1 -3.0**
NVS pmax pmax
comp=N,43nm,0.8s
NVS pmax pmax
comp=E,51nm,0.8s
NVS pmax pmax
comp=Z,82nm,0.8s
NVS smax smax
comp=N,6.0nm,0.9s
NVS smax smax
comp=E,9.0nm,0.9s
KSH Kashi 41.67 302 ⇑*iP* **P 03 31 16.5 +3.8**
KSH pP pP 03 32 04.8 +5.6
KSH sP sP 03 32 29.5 +5.3
KSH PP **PnPn 03 33 00.3 -0.9**
KSH PcP **PcP 03 33 08.5 +3.4**
KSH PcS **PcS 03 36 59.3 +2.3**
KSH S **S 03 37 17.5 +4.8**
KSH sS sS 03 38 41.3 +6.5
KSH SS **SS 03 40 27.0 -0.2**
KSH ScS **ScS 03 40 53.8 +2.0**
KSH pmax pmax
comp=E,140nm,0.7s
KSH pmax pmax
comp=E,390nm,5.7s
KSH LR LR
comp=E,300nm,10.4s
KSH LR LR
comp=E,610nm,10.5s
KSH LR LR
comp=E,250nm,11.1s
PMG Port Moresby 41.82 143 P **P 03 31 14.6 +0.7**
comp=E,24nm,0.6s,baz=338,slow=6.4,SNR=7.0
PMG Port Moresby 41.82 143 *eP* **P 03 31 14.5 +0.5**
comp=E,36nm,0.8s
HYB Hyderabad 42.02 268 *i P* **P 03 31 17.5 +1.9**
HYB *e*pP **pP 03 32 01.0 -1.1**
HYB *e*PcP **PcP 03 33 06.5 +0.1**
HYB *e*ScP **ScP 03 36 35.5 -0.3**
HYB *e*S **S 03 37 18.0 0.0**
HYB *e*ScS **ScS 03 40 50.0 -4.3**
SEY Seymchan 42.27 19 P **P 03 31 17.1 +0.1**
comp=E,37nm,0.8s,baz=218,slow=7.5,SNR=29
SEY pP **pP 03 32 05.0 +1.4**
comp=E,42nm,1.1s,baz=222,slow=9.2,SNR=4.1
SEY PcP **PcP 03 33 07.4 +1.0**
comp=E,36nm,0.9s,baz=204,slow=5.7,SNR=7.1
SEY Seymchan 42.27 19 ⇑*eP* **P 03 31 16.9 0.0**
KURK Kurchatov 42.27 319 *eP* **P 03 31 16.8 -0.4**
KURK *PP **pP 03 32 03.8 +0.1**
KURK 03 33 00.2
KURK 03 33 06.1
KURK pmax pmax
comp=Z,228nm,1.0s
KURK Kurchatov 42.27 319 *eP* **P 03 31 16.8 -0.4**
comp=Z,228nm,1.0s
KURK pP **pP 03 32 03.8 +0.1**
KURK PP **PP 03 33 00.2 +0.4**
KURK PcP **PcP 03 33 06.1 -0.5**
KURK ScP **ScP 03 36 35.8 -0.3**
KURK Kurchatov 42.27 319 P **P 03 31 16.7 -0.4**
KURK Kurchatov 42.27 319 P **P 03 31 16.7 -0.4**
KURBB Kurchatov Arra 42.29 318 P **P 03 31 16.5 -0.8**
comp=Z,132nm,0.9s,baz=108,slow=8.0,SNR=321

KURBB pP **pP** **03 32 03.8 -0.1**
comp=Z,6.9nm,0.7s,baz=112,slow=10,SNR=1.2
KURBB PP **PP** **03 33 00.2 +0.2**
comp=Z,42nm,1.1s,baz=128,slow=8.4,SNR=5.8
KURBB PcP **PcP** **03 33 06.1 -0.6**
comp=Z,12nm,0.7s,baz=122,slow=3.2,SNR=5.5
KURBB ScP **ScP** **03 36 35.8 -0.4**
comp=Z,3.1nm,0.9s,baz=111,slow=3.7,SNR=4.6
FRU Bishkek 43.07 306⇑ *i*P **P** **03 31 24.0 +0.2**
FRU pmax pmax
comp=Z,200nm,1.2s
AAK Ala-Archa 43.13 306 *e*P **P** **03 31 24.8 +0.3**
AAK pmax pmax
comp=Z,111nm,0.9s
AAK Ala-Archa 43.13 306 *e*P **P** **03 31 24.8 +0.3**
comp=Z,111nm,0.9s
AAK *e*ScP **ScP** **03 36 39.1 -0.9**
AAK Ala-Archa 43.13 306 P **P** **03 31 25.4 +0.9**
SNR=31
AAK Ala-Archa 43.13 306 P **P** **03 31 25.4 +0.9**
SNR=31
FITZ Fitzroy Crossi 43.32 176 P **P** **03 31 25.0 -0.8**
comp=Z,73nm,0.7s
FITZ PP **PcP** **03 33 10.8 +0.2**
baz=3.0,slow=16
COEN Coen 43.77 151 *e*P **P** **03 31 30.0 +0.4**
comp=Z,238nm,0.6s
COEN *e*ScP **ScP** **03 36 42.2 -0.5**
PALK Pallekele 44.20 253 *i*P **P** **03 31 35.4 +2.3**
PALK Pallekele 44.20 253 *e*P **P** **03 31 34.1 +0.9**
comp=Z,48nm,1.4s
MNAS Manas 44.57 306 P **P** **03 31 36.4 +0.5**
MNAS pmax pmax
comp=Z,145nm,0.8s
KK31 Karatay Array 46.09 306 *e*P **P** **03 31 47.5 -0.1**
KK31 pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 46.09 306 *e*P **P** **03 31 47.9 +0.3**
KKAR *e* 03 33 19.9
KKAR pmax pmax
comp=Z,611nm,1.3s
KKAR Karatay Array 46.09 306 *e*P **P** **03 31 47.9 +0.3**
comp=Z,611nm,1.3s
KKAR *e*PcP **PcP** **03 33 19.9 -0.1**
KKAR *e*ScP **ScP** **03 36 51.0 -1.1**
WRAB Tennant Creek 46.39 165 *e*P **P** **03 31 49.7 -0.4**
WRAB *e*S **S** **03 38 17.6 -3.1**
WRAB pmax pmax
comp=Z,88nm,0.8s
WRAB Tennant Creek 46.39 165 *e*P **P** **03 31 49.7 -0.4**
comp=Z,88nm,0.8s
WRAB *e*S **S** **03 38 17.6 -3.1**
WRA Warramunga Arr 46.39 165 P **P** **03 31 49.9 -0.2**
comp=Z,100nm,0.8s,baz=347,slow=8.6,SNR=240
WRA pP **pP** **03 32 35.0 -2.6**
comp=Z,27nm,1.0s,baz=345,slow=8.4,SNR=2.3
WRA S **S** **03 38 18.6 -2.2**
comp=Z,20nm,1.2s,baz=343,slow=14,SNR=20
MBWA Marble Bar 46.40 184 *e*P **P** **03 31 48.8 -1.2**
comp=Z,141nm,0.8s
MBWA Marble Bar 46.40 184 P **P** **03 31 48.9 -1.2**
SNR=7.7
MBWA Marble Bar 46.40 184 P **P** **03 31 48.9 -1.2**
SNR=7.7
TIXI Tiksi 46.40 3 P **P** **03 31 48.8 -0.7**
comp=Z,192nm,0.5s,baz=158,slow=4.7,SNR=155
TIXI pP **pP** **03 32 36.7 -0.2**
comp=Z,60nm,0.9s,baz=168,slow=6.0,SNR=1.9
TIXI PcP **PcP** **03 33 21.0 +0.6**
comp=Z,24nm,0.8s,baz=173,slow=16,SNR=1.9
TIXI Tiksi 46.40 3 *e*P **P** **03 31 48.6 -0.9**
TIXI *PP **pP** **03 32 36.7 -0.2**
TIXI 03 33 21.0
TIXI pmax pmax
comp=Z,249nm,0.6s
TIXI Tiksi 46.40 3 *e*P **P** **03 31 48.6 -0.9**
comp=Z,249nm,0.6s
TIXI pP **pP** **03 32 36.7 -0.2**
TIXI PcP **PcP** **03 33 21.0 +0.6**
WB2 Warramunga Arr 46.40 165 *e*P **P** **03 31 50.0 -0.1**
comp=Z,100nm,0.7s
DZET Dzherino 47.19 300 P **P** **03 31 56.7 +0.4**
DZET pmax pmax
comp=Z,312nm,0.6s
BVA0 Borovoye Array 47.82 320 P **P** **03 32 00.2 -0.6**
BVA0 pmax pmax
comp=Z,47nm,0.9s
BVAR Borovoye Array 47.82 320 P **P** **03 32 00.4 -0.4**
comp=Z,45nm,0.6s,baz=109,slow=11,SNR=174
BVAR pP **pP** **03 32 47.4 -1.1**
comp=Z,7.2nm,0.7s,baz=97,slow=6.1,SNR=1.2
BVAR PcP **PcP** **03 33 25.6 -0.3**
comp=Z,22nm,0.5s,baz=130,slow=2.9,SNR=11
BVAR ScP **ScP** **03 36 58.8 -0.2**
comp=Z,11nm,0.9s,baz=117,slow=5.2,SNR=8.3
BRVK Borovoye 47.89 320*c* *i*P **P** **03 32 00.9 -0.4**
BRVK pmax pmax
comp=Z,340nm,0.9s
BRVK Borovoye 47.89 320 *e*P **P** **03 32 00.8 -0.4**
comp=Z,142nm,0.9s
BRVK *e*PcP **PcP** **03 33 25.6 -0.5**
BRVK *e*ScP **ScP** **03 36 58.5 -0.8**
BRVK Borovoye 47.89 320 P **P** **03 32 01.2 -0.1**
SNR=42
BRVK Borovoye 47.89 320 P **P** **03 32 01.2 -0.1**
SNR=42
NRIK Noril'sk 48.68 344 P **P** **03 32 06.4 -0.6**
comp=Z,142nm,0.8s,baz=121,slow=9.0,SNR=83
NRIK pP **pP** **03 32 54.4 -0.5**
comp=Z,112nm,1.1s,baz=131,slow=6.9,SNR=4.2
AS31 Alice Springs 49.90 167 *e*P **P** **03 32 16.6 -0.3**
comp=Z,18nm,0.7s
ASAR Alice Springs 49.90 167 P **P** **03 32 17.0 +0.1**
comp=Z,49nm,0.8s,baz=346,slow=6.6,SNR=202
ASAR pP **pP** **03 33 02.5 -2.5**
comp=Z,9.6nm,0.7s,baz=338,slow=5.4,SNR=1.3
ASAR ScP **ScP** **03 37 09.0 +0.7**
comp=Z,2.9nm,0.7s,baz=355,slow=4.6,SNR=4.3
ASAR S **S** **03 39 11.8 +1.8**
comp=Z,6.2nm,1.2s,baz=354,slow=10,SNR=7.8
BILL Bilibino 49.97 20*c* *i*P **P** **03 32 16.1 -0.7**
BILL *i* *PP **pP** **03 33 05.8 +0.8**
BILL *i* 03 33 34.0
BILL *e* 03 34 14.4
BILL PPP PPP 03 35 23.0
BILL pmax pmax
comp=Z,26nm,0.8s
BILL MLR MLR
comp=Z,220nm,17.0s
CTA Charters Tower 50.54 151 P **P** **03 32 22.6 +0.8**
comp=Z,85nm,0.8s,baz=330,slow=9.3,SNR=82
CTA pP **pP** **03 33 07.9 -2.0**
comp=Z,8.8nm,0.9s,baz=330,slow=9.4,SNR=1.0
CTA ScP **ScP** **03 37 11.3 +0.2**
comp=Z,4.6nm,0.9s,baz=349,slow=8.6,SNR=3.2
CTAO Charters Tower 50.54 151 *e*P **P** **03 32 22.5 +0.8**
CTAO pmax pmax
comp=Z,76nm,0.8s
CTAO Charters Tower 50.54 151 *e*P **P** **03 32 22.5 +0.8**
comp=Z,76nm,0.8s
CTAO *e*ScP **ScP** **03 37 10.7 -0.4**
ATKA Atka Island 53.77 43 *e*P **P** **03 32 45.9 +0.9**
comp=Z,66nm,0.8s
ABKAR Akbulak array 53.81 314 *e*P **P** **03 32 45.2 -0.2**
comp=Z,1μm,1.1s
SVE Sverdlovsk 54.07 323⇓ *i*P **P** **03 32 47.2 0.0**
SVE pmax pmax
comp=Z,128nm,0.9s
AKTO Aktyubinsk 55.09 315 P **P** **03 32 54.4 -0.3**
comp=Z,27nm,0.8s,baz=81,slow=6.6,SNR=55
AKTO pP **pP** **03 33 43.6 -0.1**
comp=Z,6.2nm,0.9s,baz=181,slow=22,SNR=1.0
ARU Arti 55.16 322 P **P** **03 32 54.4 -0.6**
comp=Z,70nm,0.4s,baz=102,slow=3.5,SNR=90
ARU pP **pP** **03 33 44.2 +0.2**
comp=Z,16nm,0.7s,baz=337,slow=3.8,SNR=1.5
ARU ScP **ScP** **03 37 29.5 -1.2**
comp=Z,2.8nm,0.5s,baz=117,slow=6.8,SNR=3.3
ARU Arti 55.16 322⇑ *i*P **P** **03 32 54.3 -0.7**
ARU *e*AP **pP** **03 33 43.3 -0.8**
ARU *e*PP **PP** **03 34 55.8 -4.9**
ARU *e*S **S** **03 40 20.3 -0.2**
ARU *e*SS **SS** **03 44 00.0 -7.6**
ARU pmax pmax
comp=Z,127nm,1.0s
ARU Arti 55.16 322 *e*P **P** **03 32 54.3 -0.7**
comp=Z,106nm,0.6s
ARU pP **pP** **03 33 44.2 +0.2**
ARU *e*ScP **ScP** **03 37 28.6 -2.2**
GEYT Alibeck 55.65 300 P **P** **03 33 00.0 +1.1**
comp=Z,134nm,0.8s,baz=72,slow=4.8,SNR=229
GEYT pP **pP** **03 33 48.5 +0.4**
comp=Z,20nm,0.9s,baz=57,slow=11,SNR=1.2
GEYT PcP **PcP** **03 33 55.5 -0.2**
comp=Z,40nm,0.9s,baz=90,slow=4.4,SNR=4.4
GEYT ScP **ScP** **03 37 34.3 +0.9**
comp=Z,3.5nm,0.9s,baz=108,slow=4.7,SNR=3.5
FORT Forrest 56.07 175 *e*P **P** **03 33 01.9 +0.2**
comp=Z,1μm,0.7s
SOKR Solikamsk 56.45 326*c* *i*P **P** **03 33 01.5 -2.5**
SOKR pmax pmax
comp=Z,76nm,1.2s
EIDS Eidsvold 57.29 150 *e*P **P** **03 33 09.8 -0.6**
comp=Z,27nm,0.7s
NWAO Narrogin (SRO) 58.27 186 *e*P **P** **03 33 17.1 0.0**
NWAO pmax pmax
comp=Z,94nm,0.7s
NWAO Narrogin (SRO) 58.27 186 *e*P **P** **03 33 17.1 0.0**
comp=Z,94nm,0.7s
NWAO Narrogin (SRO) 58.27 186 P **P** **03 33 17.3 +0.3**
SNR=5.1
NWAO Narrogin (SRO) 58.27 186 P **P** **03 33 17.3 +0.3**
SNR=5.1
BIDO Bidbid 58.58 283 P **P** **03 33 20.0 +0.5**
SNR=6.9
BIDO Bidbid 58.58 283 P **P** **03 33 20.0 +0.5**
SNR=6.9
H08S3 Diego Garcia H 59.11 243 P **P** **03 33 20.1 -2.8**
baz=16,slow=10,SNR=7.6
H08S2 Diego Garcia H 59.11 243 P **P** **03 33 20.1 -2.8**
baz=16,slow=10,SNR=8.2
H08S1 Diego Carcia H 59.13 243 P **P** **03 33 20.4 -2.7**
baz=16,slow=10,SNR=8.6
BBOO Buckleboo 59.20 167 *e*P **P** **03 33 23.5 0.0**
comp=Z,106nm,1.0s
BANOM Banah 59.52 286 *i*P **P** **03 33 27.1 +1.0**
SNR=5.7
STKA Stephens Creek 59.65 162 P **P** **03 33 26.6 +0.1**
comp=Z,25nm,0.5s,baz=344,slow=6.2,SNR=61
STKA pP **pP** **03 34 14.6 -1.9**
comp=Z,11nm,0.8s,baz=322,slow=5.9,SNR=1.9
STKA PP **PP** **03 35 44.7 +3.4**
comp=Z,7.9nm,0.8s,baz=344,slow=12,SNR=3.3
STKA Stephens Creek 59.65 162 *e*P **P** **03 33 26.7 +0.1**
comp=Z,6.1nm,0.6s
STKA pP **pP** **03 34 14.6 -1.9**
STKA PP **PP** **03 35 44.7 +3.4**
HATD Hatta, Dubai 59.97 285 *i*P **P** **03 33 29.1 +0.1**
SNR=7.9
HATD Hatta, Dubai 59.97 285 P **P** **03 33 29.4 +0.4**
SNR=5.5
HATD Hatta, Dubai 59.97 285 P **P** **03 33 29.4 +0.4**
SNR=5.5
ASHO Ashiyiah 60.07 285 *i*P **P** **03 33 29.7 0.0**
SNR=10.0
ASHO Ashiyiah 60.07 285 P **P** **03 33 30.4 +0.6**
SNR=5.7
ASHO Ashiyiah 60.07 285 P **P** **03 33 30.4 +0.6**
SNR=5.7
NAZ Nazwa, Dubai 60.33 285 *i*P **P** **03 33 31.9 +0.5**
SNR=5.6
FAQ Al Faqa, Dubai 60.46 285 *i*P **P** **03 33 32.4 0.0**
SNR=5.4
ARMA Armidale 61.90 152 *e*P **P** **03 33 43.3 +1.5**
comp=Z,51nm,0.8s
MAK Makhachkala 62.90 307 *e*P **P** **03 33 47.9 -0.4**
MAK *e**PP **pP** **03 34 40.2 +1.5**
MAK *e**SP **sP** **03 35 04.4 +1.8**
MAK *e* 03 36 09.6
MAK *e*PPP PPP 03 37 45.2
MAK *e*S **S** **03 41 58.8 -1.4**
MAK *e*SS **SS** **03 46 08.6 -0.6**
MAK *e*SSS SSS 03 49 02.7
MAK pmax pmax
comp=Z,377nm,1.5s
DZM Mont Dzumac 63.25 134 *e*P **P** **03 33 52.4 +1.5**
comp=Z,25nm,0.8s
SEKA Sheki 63.45 305 P **P** **03 33 50.5 -1.6**
TT01 Tatalina 63.61 30 *e*P **P** **03 33 53.3 +0.7**
TTA Tatalina 63.61 30 *e*P **P** **03 33 53.2 +0.5**
TTA Tatalina 63.61 30 *e*P **P** **03 33 53.2 +0.5**
MNGR Mingechevir, A 63.62 305 P **P** **03 33 52.1 -1.0**
SVW2 Sparrevohn 63.98 32 *e*P **P** **03 33 55.6 +0.5**
comp=Z,105nm,1.6s
GROC Groznyy 64.08 308 *e*P **P** **03 33 55.8 -0.3**
GROC pmax pmax
comp=Z,82nm,0.9s
GANJ Ganja 64.22 305 P **P** **03 33 55.9 -1.1**
DGRG David-gareji 64.75 306 P **P** **03 34 01.7 +1.2**
DGRG David-gareji 64.75 306 P **P** **03 34 01.7 +1.2**
KLMR Klimovskoe 65.04 328 *e*P **P** **03 34 00.1 -1.8**
KLMR *e**PP **pP** **03 34 52.8 +0.2**
KLMR *e*PPP PPP 03 38 01.0
KLMR pmax pmax
comp=Z,113nm,0.9s
TBLG Delisi 65.15 306 P **P** **03 34 03.2 +0.2**
TBLG Delisi 65.15 306 P **P** **03 34 03.2 +0.2**
NAX Nakhchivan 65.16 303 P **P** **03 34 02.0 -1.2**
CAN Canberra 65.20 157 *e*P **P** **03 34 04.1 +0.8**
CAN pmax pmax
comp=Z,29nm,1.1s
CAN Canberra 65.20 157 *e*P **P** **03 34 04.1 +0.8**
comp=Z,29nm,1.1s
TMCR Tamitsa 65.29 331 *e*P **P** **03 34 03.2 -0.2**
TMCR pmax pmax
comp=Z,124nm,0.6s
CAST Castle Rocks 65.33 30 *e*P **P** **03 34 05.0 +1.2**
comp=Z,24nm,0.7s
PPLA Purkeypile 65.36 30 *e*P **P** **03 34 05.2 +1.1**
comp=Z,168nm,1.8s
RSO Redoubt South 65.43 33 *e*P **P** **03 34 05.5 +0.8**
GNI Garni 65.50 304*d* *i*P **P** **03 34 05.6 +0.1**
GNI pmax pmax
comp=Z,131nm,1.0s
GNI Garni 65.50 304 *e*P **P** **03 34 06.2 +0.6**
comp=Z,64nm,0.8s
ZEI Tsey 65.53 307 *e*P **P** **03 34 03.5 -2.2**
ZEI *e* 03 34 56.4
ZEI pmax pmax
comp=Z,61nm,0.9s
NCK Nalchik 65.59 308⇑ *i*P **P** **03 34 05.6 -0.2**
NCK pmax pmax
comp=Z,40nm,1.0s
COLD Coldfoot 65.61 25 *e*P **P** **03 34 06.5 +0.9**
comp=Z,34nm,1.2s
GOF Gofitskoye 65.65 310⇑ *i*P **P** **03 34 05.8 -0.3**
GOF pmax pmax
comp=Z,88nm,1.0s
OHAK Old Harbor 65.66 36 *e*P **P** **03 34 06.6 +0.7**
SPU Mount Spurr 65.66 32 *e*P **P** **03 34 06.2 +0.2**
TOLK Toolik Lake Re 65.67 24 P **P** **03 34 06.8 +0.9**
baz=278
MLY Manley 65.70 28 *e*P **P** **03 34 07.1 +1.0**
comp=Z,61nm,1.2s
BPAW Bear Paw Mtn. 65.72 29 *e*P **P** **03 34 07.1 +0.8**
comp=Z,48nm,1.1s
KTH Kantishna Hill 65.83 29 *e*P **P** **03 34 07.2 +0.2**
comp=Z,43nm,1.2s
ONI Oni 65.89 307 P **P** **03 34 08.8 +0.9**
KDAK Kodiak Island 65.94 36 P **P** **03 34 07.8 +0.1**
comp=Z,11nm,0.4s,baz=102,slow=1.9,SNR=13
KBZ Khabaz 66.04 309 P **P** **03 34 08.3 -0.3**
comp=Z,69nm,0.8s,baz=88,slow=4.1,SNR=64
KBZ pP **pP** **03 35 02.5 +3.1**
comp=Z,31nm,0.9s,baz=172,slow=7.2,SNR=3.7
AKH Akhalkalaki 66.14 306 P **P** **03 34 10.8 +1.2**
AKH Akhalkalaki 66.14 306 P **P** **03 34 10.7 +1.2**
KIV Kislovodsk 66.14 309 *i*P **P** **03 34 09.8 +0.5**
SNR=31
KIV Kislovodsk 66.14 309 *e*P **P** **03 34 09.7 +0.3**
KIV *e**PP **pP** **03 35 00.9 +0.7**
KIV *e**SP **sP** **03 35 23.9 -0.2**
KIV *e*S **S** **03 42 40.4 +0.4**
KIV pmax pmax
comp=Z,155nm,3.2s
KIV pmax pmax
comp=Z,142nm,1.0s
KIV Kislovodsk 66.14 309 *e*P **P** **03 34 09.8 +0.5**
comp=Z,137nm,1.0s
KIV Kislovodsk 66.14 309 P **P** **03 34 10.3 +0.9**
SNR=16
KIV Kislovodsk 66.14 309 P **P** **03 34 10.3 +0.9**
SNR=16
LVZ Lovozero 66.14 336 *e*P **P** **03 34 08.9 0.0**
LVZ pmax pmax
comp=Z,84nm,1.3s
LVZ Lovozero 66.14 336 *e*P **P** **03 34 08.9 0.0**
comp=Z,84nm,1.3s
SUA Susitna One 66.24 32 *e*P **P** **03 34 10.3 +0.5**
comp=Z,80nm,0.9s
NEY Neytrino 66.27 308⇑ *e*P **P** **03 34 10.8 +0.5**
NEY pmax pmax
comp=Z,14nm,0.8s
BRLK Bradley Lake 66.47 33 *e*P **P** **03 34 12.6 +1.5**
comp=Z,41nm,0.9s
APA Apatity 66.66 335⇑ *i*P **P** **03 34 11.1 -1.0**
APA *i* 03 34 42.7
APA *i* *PP **pP** **03 35 02.8 -0.3**
APA pmax pmax
comp=Z,48nm,0.7s
APA MLR MLR
comp=Z,800nm,12.0s
MCK McKinley 66.68 29 *e*P **P** **03 34 12.0 -0.4**
MCK pmax pmax
comp=Z,45nm,1.0s
MCK McKinley 66.68 29 *e*P **P** **03 34 12.0 -0.4**
comp=Z,45nm,1.0s
LPSR Galich'ya Gora 66.75 319 *e*P **P** **03 34 12.1 -0.9**
LPSR pmax pmax
comp=Z,110nm,0.9s
MDM Murphy Dome 66.76 28 *e*P **P** **03 34 13.5 +0.6**
comp=Z,155nm,1.2s
RND Reindeer 66.77 29 *e*P **P** **03 34 12.9 -0.1**
RND pmax pmax
comp=Z,106nm,1.0s
RND Reindeer 66.77 29 *e*P **P** **03 34 12.9 -0.1**
comp=Z,106nm,1.0s
RC01 Rabbit Creek A 66.79 32 *e*P **P** **03 34 14.0 +1.0**
comp=Z,105nm,1.6s
MOS Moscow 66.87 322 *e*P **P** **03 34 11.5 -2.2**
MOS *e* 03 35 03.9
MOS pmax pmax
comp=Z,600nm,2.2s
MOS pmax pmax
comp=Z,174nm,0.8s
WRH Wood River Hil 66.91 28 *e*P **P** **03 34 13.9 +0.2**
comp=Z,44nm,1.0s
COLA College 66.94 28 *e*P **P** **03 34 14.6 +0.7**
COLA pmax pmax
comp=Z,95nm,1.4s
COLA College 66.94 28 *e*P **P** **03 34 14.6 +0.7**
comp=Z,94nm,1.4s
PMR Palmer 66.98 31 *e*P **P** **03 34 14.3 +0.1**
PMR pmax pmax
comp=Z,166nm,1.8s
PMR Palmer 66.98 31 *e*P **P** **03 34 14.3 +0.1**
comp=Z,166nm,1.8s
CCB Clear Creek Bu 67.00 28 *e*P **P** **03 34 14.5 +0.2**
comp=Z,12nm,1.0s
SEW Seward 67.11 33 *e*P **P** **03 34 14.8 -0.3**
comp=Z,70nm,1.2s
SML Sawmill 67.31 31 *e*P **P** **03 34 17.0 +0.6**
SML pmax pmax
comp=Z,36nm,1.0s
SML Sawmill 67.31 31 *e*P **P** **03 34 17.0 +0.6**
comp=Z,36nm,1.0s
ARTV Artvin 67.33 306 *e*P **P** **03 34 18.2 +1.0**
comp=Z,16nm,0.9s
ILAR Eielson Array 67.36 28 P **P** **03 34 15.8 -0.8**
comp=Z,5.9nm,0.4s,baz=267,slow=4.7,SNR=159
ILAR pP **pP** **03 35 07.8 +0.2**
comp=Z,2.6nm,0.7s,baz=279,slow=5.3,SNR=1.9
ILAR PP PP 03 36 38.8 -8.9
comp=Z,4.4nm,0.9s,baz=285,slow=7.9,SNR=5.5
ILB Eielson Array 67.36 28 *e*P **P** **03 34 15.8 -0.8**
DHY Denali Highway 67.49 30 *e*P **P** **03 34 17.6 0.0**
comp=Z,13nm,0.6s
OBN Obninsk 67.59 322*c* *i*P **P** **03 34 17.4 -0.8**
OBN *e* 03 34 43.3
OBN *i* *PP **pP** **03 35 10.3 +1.1**
OBN 03 36 55.0
OBN *e* 03 43 53.2
OBN pmax pmax
comp=Z,114nm,1.4s
OBN Obninsk 67.59 322 *e*P **P** **03 34 17.6 -0.6**
comp=Z,291nm,1.7s
FYU Fort Yukon 67.66 26 *e*P **P** **03 34 19.8 +1.4**
comp=Z,94nm,1.4s
SCM Sheep Creek Mo 67.77 31 *e*P **P** **03 34 20.2 +0.9**
SCM pmax pmax
comp=Z,87nm,1.0s
SCM Sheep Creek Mo 67.77 31 *e*P **P** **03 34 20.2 +0.9**
comp=Z,87nm,1.0s
PAX Paxson 68.36 29 *e*P **P** **03 34 22.8 -0.2**
PAX pmax pmax
comp=Z,44nm,1.2s
PAX Paxson 68.36 29 *e*P **P** **03 34 22.8 -0.2**
comp=Z,44nm,1.2s
FID Port Fidalgo 68.42 32 *e*P **P** **03 34 23.8 +0.6**
comp=Z,128nm,1.4s
KEV Kevo 68.48 338 *e*P **P** **03 34 23.2 -0.2**
KEV pmax pmax
comp=Z,58nm,0.7s
KEV Kevo 68.48 338 *e*P **P** **03 34 23.2 -0.2**
comp=Z,58nm,0.7s
JOF Joensuu 68.48 331 P **P** **03 34 23.0 -0.5**
JOF pmax pmax
comp=Z,96nm,0.9s
KLU Klutina 68.50 31 *e*P **P** **03 34 24.8 +0.9**
comp=Z,85nm,1.2s
MSVF Nonsavu 68.59 123 *e*P **P** **03 34 25.6 +0.6**
MSVF pmax pmax
comp=Z,45nm,0.9s
MSVF Nonsavu 68.59 123 *e*P **P** **03 34 25.6 +0.6**
comp=Z,45nm,0.9s
HARP HAARP 68.64 30 *e*P **P** **03 34 26.0 +1.4**
comp=Z,303nm,1.9s
SPA0 Spitsbergen Ar 68.66 348 *e*P **P** **03 34 25.5 +1.1**
SPITS Spitsbergen Ar 68.66 348 P **P** **03 34 24.4 0.0**
comp=Z,20nm,0.6s,baz=76,slow=10,SNR=24
DIV Divide 68.66 31 *e*P **P** **03 34 24.9 0.0**
comp=Z,96nm,1.2s
KOPT Kop Dagi 68.69 305 *e*P **P** **03 34 27.1 +1.5**
comp=Z,80nm,1.0s
MSF Maaselka 68.70 334 P **P** **03 34 24.7 -0.2**
DOT Dot Lake 68.82 29 *e*P **P** **03 34 26.0 +0.3**
comp=Z,114nm,1.0s
ARCES ARCESS Array B 69.04 338 P **P** **03 34 26.7 -0.2**
comp=Z,23nm,0.8s,baz=69,slow=6.8,SNR=48
ARCES PcP **PcP** **03 34 50.0 +0.5**
comp=Z,25nm,0.9s,baz=72,slow=5.8,SNR=9.7
ARCES pP **pP** **03 35 18.9 +0.6**
comp=Z,10nm,0.9s,baz=42,slow=12,SNR=1.7
ARE0 ARCESS Array S 69.04 338 *e*P **P** **03 34 26.6 -0.4**
ARE0 *e* 03 34 46.9
ARE0 ARCESS Array S 69.04 338 *e*P **P** **03 34 27.2 +0.2**
comp=Z,36nm,1.0s
MENT Mentasta 69.15 29 *e*P **P** **03 34 28.7 +1.0**
comp=Z,66nm,0.9s
MARD Mardin 69.23 302 *e*P **P** **03 34 29.5 +0.7**
comp=Z,264nm,0.7s
BMRM Bremner River 69.25 31 *e*P **P** **03 34 29.4 +0.9**
comp=Z,61nm,0.9s
SGF Sodankyl 69.27 336 P **P** **03 34 28.4 +0.1**
SGF pmax pmax
comp=Z,255nm,0.7s
HSPB Hornsund (broa 69.27 347 *e*P **P** **03 34 28.9 +0.7**
HAMF Hammerfest 69.32 339 *e*P **P** **03 34 28.7 +0.1**
HAMF IAmb IAmb 03 34 29.9
comp=Z,39nm,0.7s
RAGM Ragged Mountai 69.37 32 *e*P **P** **03 34 30.4 +1.3**
comp=Z,156nm,1.2s
KBSD Kabsdagh 69.50 302 *e*P **P** **03 34 30.8 +0.5**
ANN Anapa 69.58 311 *e*P **P** **03 34 29.4 -1.2**
ANN *e**PP **pP** **03 35 23.3 +1.3**
ANN *e*S **S** **03 43 20.7 +0.2**
ANN pmax pmax
comp=Z,170nm,0.9s
RAYN Ar Rayn 69.60 287 *e*P **P** **03 34 31.1 -0.1**
RAYN *e*pP **pP** **03 35 22.3 -0.4**
EGAK Eagle 69.74 27 *e*P **P** **03 34 31.6 +0.4**
comp=Z,64nm,0.9s
PUL Pulkovo 69.74 327⇓ *e*P **P** **03 34 31.5 +0.2**
PUL pmax pmax
comp=Z,82nm,0.5s
KTK1 Kautokeino 69.97 338 *e*P **P** **03 34 32.4 -0.3**
KTK1 IAmb IAmb 03 34 34.1
comp=Z,45nm,0.7s

CRQM Cirque 70.00 31 *eP* **P 03 34 33.4 +0.2**
comp=Z,73nm,0.9s
SFNV Sufian 70.00 302 *eP* **P 03 34 35.0 +1.5**
BALM Baldy 70.29 31 *eP* **P 03 34 35.7 +0.9**
BALM pmax pmax
comp=Z,46nm,1.0s
BALM Baldy 70.29 31 *eP* **P 03 34 35.7 +0.9**
comp=Z,46nm,1.0s
DAWY Dawson 70.68 28 *eP* **P 03 34 37.8 +0.7**
comp=Z,56nm,0.8s
SUF Sumiainen 70.81 331 P **P 03 34 37.3 -0.5**
SUF pmax pmax
comp=Z,103nm,0.8s
KSRV Kasrt alli 71.02 301 *eP* **P 03 34 39.9 +0.3**
TRO Tromso 71.19 339 *eP* **P 03 34 43.3 +3.4**
FINES FINESS Array B 71.25 330 P **P 03 34 40.0 -0.4**
comp=Z,53nm,0.7s,baz=72,slow=5.6,SNR=118
FINES pP **pP 03 35 33.7 +1.7**
comp=Z,24nm,0.8s,baz=72,slow=6.2,SNR=4.2
TOKA Tokat 71.55 306 *eP* **P 03 34 43.4 +0.7**
comp=Z,44nm,0.9s
KIP Kipapa 71.55 75 *eP* **P 03 34 44.5 +1.5**
KIP pmax pmax
comp=Z,265nm,1.8s
KIP Kipapa 71.55 75 *eP* **P 03 34 44.5 +1.5**
comp=Z,265nm,1.8s
SIM Simferopol' 71.79 312*c i P* **P 03 34 43.6 -0.4**
SIM *i* *PP **pP 03 35 38.0 +2.3**
SIM *i* S **S 03 43 47.4 +1.3**
SIM pmax pmax
comp=Z,129nm,0.9s
VSU Vasula 71.89 327*c i P* **P 03 34 44.0 -0.3**
VSU pmax pmax
comp=Z,244nm,0.7s
MSEY Mahe Island 71.97 256 *i* P **P 03 34 48.1 +2.5**
VAF Ylistaro 72.21 332 P **P 03 34 47.4 +1.3**
VAF pmax pmax
comp=Z,55nm,0.7s
DRWC Darouich 72.58 303 *eP* **P 03 34 48.4 -0.5**
MICGM Minsk 72.59 322⇑*eP* **P 03 34 47.0 -1.5**
MICGM PM 03 34 48.0
comp=Z,0.2nm,0.8s
MICGM *e* 03 35 42.0
MNK Minsk 72.59 322⇑*eP* **P 03 34 47.0 -1.5**
MNK *e* 03 35 42.0
MNK pmax pmax
comp=Z,230nm,0.8s
HYT Haines Junctio 72.60 30 *eP* **P 03 34 50.1 +1.4**
comp=Z,106nm,1.3s
RABH Abou Rabah 72.87 300 *eP* **P 03 34 48.6 -2.0**
KFRA Kufra 72.93 301 *eP* **P 03 34 46.6 -4.4**
NACGM Naroch 73.06 323 *eP* **P 03 34 51.0 -0.3**
NACGM PM 03 34 53.0
comp=Z,0.6nm,0.8s
AKASG Malin Array Be 73.08 318 P **P 03 34 50.6 -0.9**
comp=Z,25nm,0.7s,baz=58,slow=6.4,SNR=68
AKASG pP **pP 03 35 43.6 +0.3**
comp=Z,45nm,1.0s,baz=58,slow=6.0,SNR=7.5
AKBB Malin Array Si 73.08 318 *eP* **P 03 34 50.6 -0.9**
AKBB pmax pmax
comp=Z,99nm,1.4s
AKBB Malin Array Si 73.08 318 *eP* **P 03 34 50.5 -0.9**
comp=Z,99nm,1.4s
KIEV Kiev 73.09 318*c i P* **P 03 34 50.7 -0.8**
KIEV pmax pmax
comp=Z,23nm,0.8s
KIEV Kiev 73.09 318 *eP* **P 03 34 50.5 -1.1**
comp=Z,89nm,1.3s
KIEV *ep*P **pP 03 35 44.2 +0.8**
ILGA Ilgaz 73.31 308 *eP* **P 03 34 54.0 +0.7**
comp=Z,32nm,0.9s
ARNB Al Arnab 73.35 302 *eP* **P 03 34 51.0 -2.5**
BIDA Albida 73.37 301 *eP* **P 03 34 50.5 -3.1**
DAMY Dhamar 73.79 279 *eP* **P 03 34 57.5 +0.8**
comp=Z,30nm,0.8s
BR131 Keskin Array S 73.81 307 *eP* **P 03 34 55.9 -0.2**
BRTR Keskin Array B 73.81 307 P **P 03 34 55.8 -0.3**
comp=Z,70nm,1.0s,baz=98,slow=5.0,SNR=135
BRTR pP **pP 03 35 48.9 +0.7**
comp=Z,63nm,1.1s,baz=92,slow=6.2,SNR=8.0
SALA Sala 73.82 299 *eP* **P 03 34 52.1 -4.3**
WHY Whitehorse 73.86 30 *eP* **P 03 34 57.3 +1.3**
comp=Z,52nm,0.9s
SKAG Skagway 74.12 31 *eP* **P 03 34 58.9 +1.5**
comp=Z,72nm,0.8s
MOR8 Moi Rana 74.18 336 *eP* **P 03 34 56.2 -1.4**
BRBR Barbar 74.20 300 *eP* P 03 34 52.4 -6.2
ANTO Ankara 74.37 307 *eP* **P 03 34 59.4 +0.1**
ANTO *e*PP **pP 03 35 51.9 +0.6**
ANTO pmax pmax
comp=Z,70nm,0.7s
ANTO Ankara 74.37 307 *eP* **P 03 34 59.4 +0.1**
comp=Z,70nm,0.7s
ANTO *ep*P **pP 03 35 51.9 +0.6**
ANTO Ankara 74.37 307 P **P 03 34 59.5 +0.2**
SNR=9.2
ANTO Ankara 74.37 307 P **P 03 34 59.5 +0.2**
SNR=9.2
BR231 Keskin MP Arra 74.39 307 *eP* **P 03 34 59.5 +0.1**
BR231 *ep*P **pP 03 35 52.9 +1.4**
KONS Konsvik 74.50 337 *eP* **P 03 34 59.6 +0.2**
KIS Kishinev 74.60 315⇑*iP* **pP 03 35 54.0 +1.5**
comp=Z,200nm,1.4s
KIS *ep*P sP 03 36 46.0 +30
BESE Bessie Mountai 74.69 32 *eP* **P 03 35 02.5 +1.7**
comp=Z,126nm,1.5s
TLCR 75.25 313⇑*iP* **P 03 35 03.9 -0.2**
IAS Iasi 75.33 315⇑*iP* **P 03 35 04.2 -0.4**
SUW Suwalki 75.34 323 *eP* **P 03 35 04.0 -0.4**
SUW *e* 03 35 58.6
SUW Suwalki 75.34 323 *eP* **P 03 35 04.0 -0.4**
SUW *e* 03 35 58.6
DAG Danmarks Havn 75.42 352 *i P* **P 03 35 03.5 -1.0**
comp=Z,35nm,0.9s
DAG Danmarks Havn 75.42 352 *i P* **P 03 35 03.5 -1.0**
DAG pmax pmax
comp=Z,29nm,0.9s
MAMC Mammari 75.70 302 P **P 03 35 06.7 -0.2**
CFR Carcaliu 75.70 313⇑*iP* **P 03 35 06.6 -0.1**
TIRR Tirgusor 75.78 313⇓*iP* **P 03 35 07.3 +0.1**
TIRR Tirgusor 75.78 313 *eP* **P 03 35 07.2 +0.1**
TIRR *e*PP **pP 03 36 00.4 +1.0**
TIRR pmax pmax
comp=Z,56nm,0.9s
TIRR Tirgusor 75.78 313 *eP* **P 03 35 07.2 +0.1**
comp=Z,56nm,0.9s
TIRR *ep*P **pP 03 36 00.4 +1.0**
HARR Harsova 76.02 313⇓*iP* **P 03 35 08.9 +0.4**
PETR Petresti 76.09 314⇑*iP* **P 03 35 09.8 +0.9**
SZAC Souni 76.11 302 P **P 03 35 09.6 +0.4**
BOLV Bolvadin 76.11 306 *eP* **P 03 35 09.8 +0.5**
comp=Z,177nm,1.0s
BOLV *ep*P **pP 03 36 03.0 +1.4**
PRAR RASCA 76.11 316⇑*iP* **P 03 35 08.7 -0.3**
TESR Tescani 76.17 315⇑*iP* **P 03 35 09.2 -0.1**
ALFC Alefka 76.18 302 P **P 03 35 10.4 +0.8**
ICOR Ion Corvin 76.32 312⇑*iP* **P 03 35 10.8 +0.6**
VRI Vrincioaia 76.36 314⇓*iP* **P 03 35 11.5 +1.1**
GRER 76.39 314⇑*iP* **P 03 35 12.3 +1.7**
PLOR Plostina 76.42 314⇓*iP* **P 03 35 11.2 +0.5**
PLOR Plostina 76.42 314 P **P 03 35 11.3 +0.5**
AKMC Akamas 76.43 302 P **P 03 35 10.5 -0.5**
PPCY Paphos 76.47 302 P **P 03 35 10.7 -0.5**
LVV L'vov 76.51 319 *eP* **P 03 35 12.8 +1.7**
LVV *e* 03 36 07.6
PGOR Pogoanele 76.56 313⇓*iP* **P 03 35 12.5 +1.0**
BUR08 Bucovina Ar. S 76.65 316 *eP* **P 03 35 12.1 -0.1**
BUR08 *ep*P **pP 03 36 06.7 +2.2**
BURAR Bucovina Array 76.65 316⇓*iP* **P 03 35 12.5 +0.4**
BURAR Bucovina Array 76.65 316 P **P 03 35 12.1 0.0**
ISR Istrita 76.77 314⇓*iP* **P 03 35 14.0 +1.2**
ISR Istrita 76.77 314 P **P 03 35 14.0 +1.2**
CRAG Craig 76.85 35 *eP* **P 03 35 13.9 +1.0**
comp=Z,219nm,1.5s
PRD Provadia 76.94 312 P **P 03 35 14.0 +0.4**
MLR Muntele Rosu 77.02 314⇓*iP* **P 03 35 14.6 +0.4**
MLR Muntele Rosu 77.02 314 P **P 03 35 14.7 +0.5**
SECR 77.11 314⇑*iP* **P 03 35 15.7 +1.1**
SULR 77.13 313⇑*iP* **P 03 35 15.5 +0.8**
TBLU Trondheim 77.17 335 *eP* **P 03 35 13.8 -0.8**
DOPR Dopca 77.19 315⇑*iP* **P 03 35 15.6 +0.5**
KWP Kalwaria Pacla 77.37 319 *eP* **P 03 35 16.4 +0.4**
KWP *e* 03 36 09.7
KWP Kalwaria Pacla 77.37 319 *eP* **P 03 35 16.4 +0.4**
KWP *e* 03 36 09.7
ARCR ARCALIA 77.40 316⇑*iP* **P 03 35 16.7 +0.5**
SGRR Singureni 77.49 313⇑*iP* **P 03 35 17.8 +1.1**
BEL Belsk 77.55 322 *eP* **P 03 35 17.2 +0.3**
BEL *e* 03 36 11.8
BEL Belsk 77.55 322 *eP* **P 03 35 17.2 +0.3**
BEL *e* 03 36 11.8
VOIR 77.61 314⇑*iP* **P 03 35 17.1 -0.4**
NC405 NORSAR Array S 77.69 332 *eP* **P 03 35 17.1 -0.4**
BMR Baia Mare 77.69 317⇓*iP* **P 03 35 18.6 +0.8**
NC303 NORSAR Array S 77.77 333 *eP* **P 03 35 17.8 -0.2**
NB201 NORSAR Array S 77.89 332 *eP* **P 03 35 18.4 -0.2**
SZH Strazhica 77.90 312 P **P 03 35 18.5 -0.5**
ARR Arges 77.91 315⇓*iP* **P 03 35 19.1 0.0**
NB2 NORSAR Subarra 77.93 332 P **P 03 35 18.2 -0.7**
comp=Z,48nm,0.8s,baz=61,slow=5.6
NB2 NORSAR Subarra 77.93 332 P **P 03 35 18.2 -0.7**
baz=61,slow=5.6
NB2 NORSAR Subarra 77.93 332 P **P 03 35 17.8 -1.1**
NB2 pmax pmax
comp=Z,43nm,0.8s
NOA NORSAR Array B 77.93 332 P **P 03 35 18.2 -0.7**
comp=Z,53nm,0.9s,baz=57,slow=5.5,SNR=70
NOA pP **pP 03 36 12.0 +0.6**
comp=Z,24nm,0.9s,baz=58,slow=5.7,SNR=6.1
NOA PP **PP 03 38 19.9 +2.4**
comp=Z,6.0nm,0.9s,baz=67,slow=8.2,SNR=4.2
NC602 NORSAR Array S 77.95 332 *eP* **P 03 35 18.4 -0.5**
NC602 *ep*P **pP 03 36 14.7 +3.2**
NC204 NORSAR Array S 78.00 333 *eP* **P 03 35 19.1 -0.2**
CJR Cluj-Napoca 78.02 316⇑*iP* **P 03 35 20.1 +0.4**
HUMR Humele 78.02 314⇑*iP* **P 03 35 19.5 -0.2**
UZH Uzhgorod 78.03 318⇑*iP* **P 03 35 19.8 +0.2**
UZH *i* 03 35 27.6
UZH *e*PP **pP 03 36 09.8 -2.3**
UZH *e*SP **sP 03 36 29.6 -6.0**
AKAS Kas 78.04 304 *eP* **P 03 35 18.9 -1.2**
comp=Z,30nm,0.9s
TRPA Tarpa 78.09 318⇓*eP* **P 03 35 20.1 +0.2**
TRPA ⇓*e*PcP **pP 03 36 14.5 +2.0**
NBO00 NORSAR Array S 78.12 333 *eP* **P 03 35 19.6 -0.3**
ZIMR 78.12 313⇓*iP* **P 03 35 20.1 -0.1**
NAO01 NORSAR Array S 78.17 332 *eP* **P 03 35 19.6 -0.5**
DOMB Dombas 78.28 334 *eP* **P 03 35 20.4 -0.4**
DOMB IAmb IAmb 03 35 22.1
comp=Z,80nm,0.7s
STHS Stebnicka Huta 78.32 319 *eP* **P 03 35 21.5 +0.2**
STHS *e* 03 36 17.1
STHS pmax pmax
comp=Z,24nm,0.9s
STHS Stebnicka Huta 78.32 319 *eP* **P 03 35 21.4 +0.2**
STHS *e* 03 36 17.1
CRVS Cervenica-Dubn 78.42 319 *eP* **P 03 35 22.1 +0.3**
CRVS *e* 03 36 16.6
CRVS Cervenica-Dubn 78.42 319 *eP* **P 03 35 22.1 +0.3**
CRVS *e* 03 36 16.6
LOT Lotru 78.43 315⇓*iP* **P 03 35 22.5 +0.4**
DRGR 78.55 316⇓*iP* **P 03 35 22.6 0.0**
DRGR 78.55 316 P **P 03 35 22.7 +0.1**
MOL Molde 78.59 335 *eP* **P 03 35 22.6 +0.2**
OSL Oslo 78.71 332 *eP* **P 03 35 23.0 -0.1**
OSL IAmb IAmb 03 35 24.5
comp=Z,63nm,0.7s
DEV Deva 78.81 315⇓*iP* **P 03 35 24.4 +0.5**
DEV Deva 78.81 315 P **P 03 35 24.4 +0.5**
OJC Ojcow 78.82 320 *eP* **P 03 35 24.2 +0.3**
OJC *e* 03 36 17.2
OJC Ojcow 78.82 320 *eP* **P 03 35 24.2 +0.3**
OJC *e* 03 36 17.6
OJC Ojcow 78.82 320 *eP* **P 03 35 24.1 +0.2**
comp=Z,108nm,0.9s
OJC *ep*P **pP 03 36 18.6 +2.1**
GKP Gorka Klasztor 78.86 324 *eP* **P 03 35 24.2 +0.2**
GKP *e* 03 36 19.0
GKP Gorka Klasztor 78.86 324 *eP* **P 03 35 24.2 +0.2**
GKP *e* 03 36 19.0
NIE Niedzica 78.88 320 *eP* **P 03 35 25.0 +0.7**
NIE *e* 03 36 18.8
NIE Niedzica 78.88 320 *eP* **P 03 35 25.0 +0.7**
NIE *e* 03 36 18.8
SRE Strehaia 79.12 314⇓*iP* **P 03 35 26.3 +0.6**
KECS Kecovo 79.18 319 *eP* **P 03 35 26.4 +0.5**
KECS *e* 03 36 19.6
KECS *e* 03 38 26.8
KECS pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 79.18 319 *eP* **P 03 35 26.4 +0.5**
KECS *e* 03 36 19.6
KECS *e*PP **PP 03 38 26.8 -1.3**
BSD Bornholm Skovb 79.19 326 *i P* **P 03 35 25.2 -0.6**
comp=Z,42nm,0.9s
BSD *i* 03 36 20.5
BSD Bornholm Skovb 79.19 326 *i P* **P 03 35 25.2 -0.6**
BSD *i* 03 36 20.5
BSD pmax pmax
comp=Z,42nm,0.9s
PLD Plovdiv 79.20 311 P **P 03 35 26.4 +0.3**
KONO Kongsberg 79.35 332⇓*eP* **P 03 35 26.5 -0.1**
KONO pmax pmax
comp=Z,259nm,1.2s
RZN Rozhen 79.36 311 P **P 03 35 27.0 -0.2**
PGB Panagyurishte 79.37 312 P **P 03 35 27.0 -0.1**
SIRR Siria 79.42 316⇑*iP* **P 03 35 27.5 +0.2**
LANS Liptovska Anna 79.49 320 *eP* **P 03 35 28.3 +0.7**
LANS *e* 03 36 24.1
LANS Liptovska Anna 79.49 320 *eP* **P 03 35 28.3 +0.7**
LANS *e* 03 36 24.1
BZS Buzias 79.73 316⇓*iP* **P 03 35 28.7 -0.2**
PSZ Piszkesteto 79.78 318⇓*iP* **P 03 35 29.7 +0.4**
PSZ Piszkesteto 79.78 318 *eP* **P 03 35 29.7 +0.4**
PSZ *e*PP **pP 03 36 22.6 +0.6**
PSZ pmax pmax
comp=Z,81nm,1.2s
PSZ Piszkesteto 79.78 318⇓*eP* **P 03 35 29.2 -0.1**
PSZ ⇓*e*PcP **pP 03 36 23.7 +1.7**
PSZ Piszkesteto 79.78 318 *eP* **P 03 35 29.7 +0.4**
comp=Z,81nm,1.2s
PSZ *ep*P **pP 03 36 22.6 +0.6**
RAC Raciborz 79.80 321 *eP* **P 03 35 28.6 -0.6**
RAC *e*PP **pP 03 36 24.4 +2.4**
HYA Hoyanger 79.91 334 *eP* **P 03 35 29.8 +0.2**
OKC Ostrava-Krasne 79.94 321⇑*iP* **P 03 35 30.0 0.0**
OKC *ep*P **pP 03 36 25.1 +2.4**
OKC Ostrava-Krasne 79.94 321⇑*iP* **P 03 35 30.0 0.0**
OKC *e*PP **pP 03 36 25.1 +2.4**
VTS Vitosha 80.00 312⇑*iP* **P 03 35 30.6 -0.1**
VTS Vitosha 80.00 312 *eP* **P 03 35 30.9 +0.3**
VTS pmax pmax
comp=Z,102nm,0.9s
VTS Vitosha 80.00 312 P **P 03 35 30.5 -0.1**
VTS Vitosha 80.00 312 *eP* **P 03 35 30.9 +0.3**
comp=Z,102nm,0.9s
MDVR Moldovita 80.04 315⇓*iP* **P 03 35 30.3 -0.3**
MMB Musomiste 80.07 311 P **P 03 35 30.0 -0.9**
NVR Nevrokopi 80.08 311 P **P 03 35 28.4 -2.5**
NVR Nevrokopi 80.08 311 P **P 03 35 28.4 -2.5**
KARP Karpathos 80.13 305 *eP* **P 03 35 31.1 -0.2**
comp=Z,70nm,1.1s
COP Copenhagen 80.13 327 *i P* **P 03 35 31.1 +0.3**
comp=Z,43nm,0.9s
COP Copenhagen 80.13 327 *i P* **P 03 35 31.1 +0.3**
COP pmax pmax
comp=Z,43nm,0.9s
VYHS Vyhne 80.16 319 *eP* **P 03 35 31.5 +0.3**
VYHS *e* 03 36 26.1
VYHS pmax pmax
comp=Z,49nm,1.1s
VYHS Vyhne 80.16 319 *eP* **P 03 35 31.5 +0.3**
VYHS *e* 03 36 26.1
KULLO Kullorsuaq 80.26 0 *i P* **P 03 35 30.9 -0.3**
comp=Z,80nm,0.9s
KULLO Kullorsuaq 80.26 0 *i P* **P 03 35 30.9 -0.3**
KULLO pmax pmax
comp=Z,80nm,0.9s
MORC Moravsky Berou 80.32 321⇑*iP* **P 03 35 32.3 +0.3**
MORC Moravsky Berou 80.32 321 *eP* **P 03 35 32.1 +0.1**
MORC *e*PP **pP 03 36 26.8 +1.9**
MORC pmax pmax
comp=Z,323nm,1.3s
MORC Moravsky Berou 80.32 321 *eP* **P 03 35 32.1 +0.1**
comp=Z,323nm,1.3s
MORC *ep*P **pP 03 36 26.8 +1.9**
SRS Serrai 80.37 311 P **P 03 35 31.1 -1.3**
SRS Serrai 80.37 311 P **P 03 35 31.1 -1.3**
SRS Serrai 80.37 311 P **P 03 35 31.1 -1.3**
KKB Krupnik 80.39 312 P **P 03 35 32.0 -0.6**
ODD1 Odda 80.45 333 *eP* **P 03 35 33.3 +0.7**
ODD1 IAmb IAmb 03 35 34.1
comp=Z,32nm,0.9s
BUD Budapest 80.50 318 P **P 03 35 33.5 +0.5**
BUD Budapest 80.50 318⇑*eP* **P 03 35 33.0 0.0**
BUD ⇓*e*PcP **pP 03 36 27.8 +1.9**
KSP Ksiaz 80.52 322 *eP* **P 03 35 33.5 +0.5**
KSP *e* 03 36 28.1
KSP Ksiaz 80.52 322 *eP* **P 03 35 33.5 +0.5**
KSP *e* 03 36 28.1
SUE Sulen 80.54 334 *eP* **P 03 35 33.3 +0.4**
KRLC Kraliky 80.61 321⇑*iP* **P 03 35 33.8 +0.2**
KRLC *ep*P **pP 03 36 28.6 +2.1**
KRLC Kraliky 80.61 321⇑*iP* **P 03 35 33.8 +0.2**
KRLC *e*PP **pP 03 36 28.6 +2.1**
DPC Dobruska-Polom 80.74 322⇑*iP* **P 03 35 34.5 +0.2**
DPC *ep*P **pP 03 36 28.9 +1.7**
DPC Dobruska-Polom 80.74 322⇑*iP* **P 03 35 34.5 +0.2**
DPC *e*PP **pP 03 36 28.9 +1.7**
PLG Polygyros 80.78 310 P **P 03 35 33.6 -1.1**
PLG Polygyros 80.78 310 P **P 03 35 33.6 -1.1**
PLG Polygyros 80.78 310 P **P 03 35 33.6 -1.1**
PAIG Paliouri 80.81 310 P **P 03 35 33.9 -0.9**
PAIG Paliouri 80.81 310 P **P 03 35 33.9 -0.9**
PAIG Paliouri 80.81 310 P **P 03 35 33.9 -0.9**
KNT Kendrikon 80.82 311 P **P 03 35 32.5 -2.3**
KNT Kendrikon 80.82 311 P **P 03 35 32.5 -2.3**
KNT Kendrikon 80.82 311 P **P 03 35 32.5 -2.3**
UPC Upice 80.84 322⇑*iP* **P 03 35 35.0 +0.3**
UPC *ep*P **pP 03 36 30.0 +2.4**
UPC *e*XS **sS 03 47 01.3 +4.5**
UPC Upice 80.84 322⇑*iP* **P 03 35 35.0 +0.3**
UPC *e*PP **pP 03 36 30.0 +2.4**
UPC *e*S **sS 03 47 01.3 +4.5**
HORT Hortiatis 80.93 311 P **P 03 35 34.2 -1.3**
HORT Hortiatis 80.93 311 P **P 03 35 34.2 -1.3**
FOZ Fox Glacier 80.93 148 *eP* **P 03 35 36.5 +1.4**
comp=Z,34nm,0.7s
VAY Valandovo 80.97 311 P **P 03 35 34.9 -0.7**
VAY Valandovo 80.97 311⇑*iP* **P 03 35 34.9 -0.7**
VAY Valandovo 80.97 311 P **P 03 35 34.9 -0.7**
VAY Valandovo 80.97 311 P **P 03 35 34.9 -0.7**
SMOL Smolenice 80.98 320 *eP* **P 03 35 36.1 +0.6**
SMOL *e* 03 36 29.1
SMOL Smolenice 80.98 320 *eP* **P 03 35 36.1 +0.6**
SMOL *e* 03 36 29.1
CSKK Cs˙‡kako 81.02 318⇑*eP* **P 03 35 35.6 -0.1**
CSKK ⇓*e*PcP **pP 03 36 30.5 +1.8**
SANT Santorini 81.05 306 *eP* **P 03 35 34.7 -1.5**
comp=Z,192nm,1.1s
VRAC Vranov 81.08 321⇑*iP* **P 03 35 36.6 +0.5**
URZ Urewera 81.10 140 *eP* **P 03 35 36.6 +0.5**
comp=Z,21nm,0.6s
YKA Yellowknife Ar 81.19 23 P **P 03 35 36.3 0.0**
comp=Z,26nm,0.6s,baz=305,slow=5.4,SNR=42
YKA pP **pP 03 36 30.4 +1.1**
comp=Z,6.9nm,0.8s,baz=311,slow=4.9,SNR=2.4
YKA PKKPbc **PKKPbc 03 54 09.1 -2.6**
comp=Z,0.8nm,0.7s,baz=134,slow=2.6,SNR=4.3
THZ Tophouse 81.20 145 *eP* **P 03 35 36.9 +0.2**
comp=Z,35nm,0.6s
SCO Scoresbysund 81.21 349 *i P* **P 03 35 36.9 +0.7**
comp=Z,51nm,1.1s
SCO Scoresbysund 81.21 349 *i P* **P 03 35 36.9 +0.7**
SCO pmax pmax
comp=Z,51nm,1.1s
GRG Griva 81.25 311 P **P 03 35 35.0 -2.1**
GRG Griva 81.25 311 P **P 03 35 35.0 -2.1**
GRG Griva 81.25 311 P **P 03 35 35.0 -2.1**
MUD Monsted U'grnd 81.27 329 *i P* **P 03 35 37.1 +0.3**
comp=Z,35nm,0.8s
MUD Monsted U'grnd 81.27 329 *eP* **P 03 35 36.7 -0.2**
MUD Monsted U'grnd 81.27 329 *i P* **P 03 35 37.1 +0.3**
MUD pmax pmax
comp=Z,35nm,0.8s
BKZ Black Stump Fm 81.36 141 *eP* **P 03 35 37.7 +0.2**
comp=Z,26nm,1.1s
STAV Stavanger 81.41 332 *eP* **P 03 35 37.3 -0.2**
DIVS Divibare 81.44 315 P **P 03 35 37.7 -0.5**
SKO Skopje 81.45 312 P **P 03 35 38.0 -0.1**
SKO Skopje 81.45 312⇑*iP* **P 03 35 38.2 +0.1**
SKO Skopje 81.45 312 P **P 03 35 38.0 -0.1**
SKO Skopje 81.45 312 P **P 03 35 38.0 -0.1**
SUMG Summit 81.46 354 *i P* **P 03 35 38.1 0.0**
comp=Z,77nm,1.0s
SUMG Summit 81.46 354 *eP* **P 03 35 38.2 +0.1**
SUMG *e*PP **pP 03 36 33.1 +2.0**
SUMG pmax pmax
comp=Z,69nm,0.9s
SUMG Summit 81.46 354 *eP* **P 03 35 38.2 +0.1**
comp=Z,69nm,0.9s
SUMG *ep*P **pP 03 36 33.1 +2.0**
LAST Lasithi 81.54 305 P **P 03 35 37.7 -1.1**
LAST Lasithi 81.54 305 P **P 03 35 37.7 -1.1**
LIT Litokhoron 81.56 310 P **P 03 35 36.8 -2.0**
LIT Litokhoron 81.56 310 P **P 03 35 36.8 -2.0**
LIT Litokhoron 81.56 310 P **P 03 35 36.8 -2.0**
LTZ Lake Taylor 81.60 146 *eP* **P 03 35 40.6 +1.9**
comp=Z,25nm,1.1s
PVCC Panska Ves 81.63 322⇑*iP* **P 03 35 39.2 +0.3**
PVCC Panska Ves 81.63 322⇑*iP* **P 03 35 39.2 +0.3**
RPZ Rata Peaks 81.67 147 *eP* **P 03 35 39.8 +0.8**
comp=Z,131nm,0.7s
TREC Trest 81.72 321⇑*eP* **P 03 35 39.6 +0.2**
TREC *ep*P **pP 03 36 34.0 +1.5**
TREC *e*XS **sS 03 47 08.0 +1.8**
TREC Trest 81.72 321 *eP* **P 03 35 39.6 +0.2**
TREC *e*PP **pP 03 36 34.0 +1.5**
LBZ Lake Benmore 81.74 148 *eP* **P 03 35 40.7 +1.4**
comp=Z,36nm,0.7s
BRG Berggiesshubel 81.80 323 *i P* **P 03 35 39.6 -0.1**
comp=Z,25nm,0.8s
BRG *e* 03 36 34.6
comp=Z,26nm,1.2s
BRG Berggiesshubel 81.80 323 *i P* **P 03 35 39.6 -0.1**
BRG *e* 03 36 34.6
BRG pmax pmax
comp=Z,25nm,0.8s
BRG pmax pmax
comp=Z,26nm,1.2s
GOPC GO Pecny, Ondr 81.81 322⇑*iP* **P 03 35 40.0 +0.1**
GOPC *ep*P **pP 03 36 34.3 +1.4**
GOPC GO Pecny, Ondr 81.81 322⇑*iP* **P 03 35 40.0 +0.1**
GOPC *e*PP **pP 03 36 34.3 +1.4**
KRUS Krusevo 81.85 312 *i P* **P 03 35 39.1 -1.2**
OXZ Oxford 81.88 146 *eP* **P 03 35 41.4 +1.3**
comp=Z,106nm,1.7s
PRU Pruhonice 81.91 322⇑*iP* **P 03 35 40.3 -0.1**
PRU *ep*P **pP 03 36 32.8 -0.6**
PRU *e*XS **sS 03 47 11.0 +2.9**
PRU Pruhonice 81.91 322⇑*iP* **P 03 35 40.3 -0.1**
PRU *e*PP **pP 03 36 32.8 -0.6**
IDI Anoyia 81.92 305 *eP* **P 03 35 39.7 -1.1**
comp=Z,66nm,1.0s
PRA Prague 81.93 322⇑*eP* **P 03 35 40.7 +0.2**
PRA *ep*P **pP 03 36 35.3 +1.8**
PRA Prague 81.93 322 *eP* **P 03 35 40.7 +0.2**
PRA *e*PP **pP 03 36 35.3 +1.8**
BIA Bitola 81.95 312 *eP* **P 03 35 40.7 -0.2**
KZN Kozani 81.97 311 P **P 03 35 39.6 -1.3**
KZN Kozani 81.97 311 P **P 03 35 39.6 -1.3**
KZN Kozani 81.97 311 P **P 03 35 39.6 -1.3**
KHZ Kahutara 81.99 145 *eP* **P 03 35 41.0 +0.3**
comp=Z,50nm,0.7s
FNA Florina 82.02 311 P **P 03 35 38.1 -3.1**
FNA Florina 82.02 311 P **P 03 35 39.8 -1.4**
FNA Florina 82.02 311 P **P 03 35 38.1 -3.1**
CLL Collm 82.09 323 *eP* **P 03 35 40.8 -0.5**
CLL pmax pmax
comp=Z,30nm,0.8s
CLL Collm 82.09 323⇑*iP* **P 03 35 40.8 -0.5**
comp=Z,34nm,0.9s
CLL *i* 03 35 43.3
CLL *ep*P **pP 03 36 36.0 +1.7**
CLL *e* 03 36 46.0
CLL *i* 03 38 38.4
CLL *e*PP **PP 03 38 52.0 +0.1**
CLL *e* 03 39 28.0

CLL *e*S **S** 03 45 38.0 +1.0
CLL *es*S **sS** 03 47 09.0 -0.8
CLL *es*SS 03 52 24.0
CLL *e* 03 56 48.0
CLL Collm 82.09 323 *e*P **P** 03 35 40.8 -0.5
comp=Z,30nm,0.8s
AGG Agios Georgios 82.15 309 P **P** 03 35 40.3 -1.6
AGG Agios Georgios 82.15 309 *e*P **P** 03 35 40.3 -1.6
AGG pmax pmax
comp=Z,199nm,0.9s
AGG Agios Georgios 82.15 309 *e*P **P** 03 35 40.3 -1.6
comp=Z,199nm,0.9s
CONA Conrad Observa 82.18 320 *i* P **P** 03 35 42.3 +0.4
comp=Z,27nm,1.0s,SNR=14
CONA *i* pP **pP** 03 36 37.7 +2.8
comp=Z,63nm,1.4s,SNR=11
PLE Pljevlja 82.18 314 P **P** 03 35 42.7 +0.6
BFZ Birch Farm 82.25 142 *e*P **P** 03 35 42.7 +0.6
comp=Z,42nm,0.8s
OHR Ohrid 82.27 312⇑ *i*P **P** 03 35 41.2 -1.3
BEHE Becsehely 82.34 318⇓ *e*P P 03 35 37.6 -5.1
BEHE *e*PcP pP 03 36 38.4 +2.6
MQZ McQueen's Vall 82.46 146 *e*P **P** 03 35 44.4 +1.3
comp=Z,161nm,1.8s
GUR Goura 82.62 308 P **P** 03 35 42.4 -2.0
GUR Goura 82.62 308 P **P** 03 35 42.4 -2.0
ANX Ano Chora 82.62 309 P **P** 03 35 43.0 -1.4
PDG Podgorica 82.69 314⇓ *i*P **P** 03 35 44.8 +0.3
ARSA Arzberg 82.71 319 *i* P **P** 03 35 44.6 0.0
comp=Z,16nm,1.1s,SNR=9.4
ARSA *i* pP **pP** 03 36 39.3 +1.5
comp=Z,26nm,1.3s
GVD Gavdhos 82.71 305 P **P** 03 35 44.0 -0.8
GVD Gavdhos 82.71 305 P **P** 03 35 44.0 -0.8
LAKA Lakka 82.74 309 P **P** 03 35 43.3 -1.6
LAKA Lakka 82.74 309 P **P** 03 35 43.3 -1.6
TIR Tirane 82.78 312⇓ *i*P **P** 03 35 44.9 -0.1
TIR Tirane 82.78 312 *e*P **P** 03 35 45.1 0.0
TIR pmax pmax
comp=Z,48nm,0.7s
TIR Tirane 82.78 312 *e*P **P** 03 35 45.1 0.0
comp=Z,48nm,0.7s
KHC Kasperske Hory 82.89 321⇑ *i*P **P** 03 35 45.4 0.0
KHC *e*pP **pP** 03 36 39.4 +0.7
KHC *e*XS **sS** 03 47 20.4 +2.1
KHC Kasperske Hory 82.89 321 *e*P **P** 03 35 45.5 0.0
KHC *e**PP **pP** 03 36 40.0 +1.3
KHC pmax pmax
comp=Z,14nm,1.1s
KHC Kasperske Hory 82.89 321 *e*P **P** 03 35 45.5 0.0
comp=Z,14nm,1.1s
KHC *e*pP **pP** 03 36 40.0 +1.3
BLY Banja Luka 82.92 316 *e*P **P** 03 35 45.6 0.0
comp=Z,36nm,0.9s
BLY *e*pP **pP** 03 36 40.6 +1.8
NKC Novy Kostel 82.95 323⇑ *e*P **P** 03 35 45.4 -0.3
NKC Novy Kostel 82.95 323 *e*P **P** 03 35 45.4 -0.3
DSL Palaion Diasel 82.95 310 P **P** 03 35 43.5 -2.5
DSL Palaion Diasel 82.95 310 P **P** 03 35 43.5 -2.5
GEC2 GERESS Array S 82.97 321 *e*P **P** 03 35 45.9 -0.1
GEC2 GERESS Array S 82.97 321 *e*P **P** 03 35 45.9 -0.1
GERES GERESS Array B 82.97 321 P **P** 03 35 45.8 -0.1
comp=Z,44nm,0.9s,baz=58,slow=3.5,SNR=210
GERES pP **pP** 03 36 40.8 +1.6
comp=Z,17nm,1.1s,baz=62,slow=3.2,SNR=4.3
GERES PKKPbc **PKKPbc** 03 54 06.9 -0.5
comp=Z,0.4nm,0.5s,baz=238,slow=2.4,SNR=4.4
DRO Drossia 83.06 309 P **P** 03 35 45.2 -1.4
SISC Sisak 83.07 317 P **P** 03 35 47.4 +1.0
ZAG Zagreb 83.13 318 P **P** 03 35 48.0 +1.3
MOA Molln 83.15 320 *i* P **P** 03 35 47.1 +0.3
comp=Z,48nm,0.9s,SNR=22
MOA *i* pP **pP** 03 36 42.2 +2.2
comp=Z,48nm,1.6s
MOX Moxa 83.18 323 P **P** 03 35 47.2 +0.3
MOX pmax pmax
comp=Z,53nm,1.2s
AMT Artemida-Makis 83.25 308 P **P** 03 35 45.4 -2.1
ITM Ithomi 83.25 308 P P 03 35 41.2 -6.4
ITM Ithomi 83.25 308 P P 03 35 41.2 -6.4
PERS Pernice 83.26 319 *i* P **P** 03 35 47.1 -0.3
WET Wettzell 83.28 322 P **P** 03 35 47.6 +0.1
WET pmax pmax
comp=Z,19nm,1.5s
SOKA Soboth 83.28 319 *i* P **P** 03 35 47.4 -0.2
comp=Z,39nm,1.0s,SNR=28
SOKA *i* pP **pP** 03 36 42.9 +2.1
comp=Z,41nm,1.4s,SNR=10
OZLJ Ozalj 83.55 318 P **P** 03 35 48.8 0.0
KEK Kerkira 83.58 311 P **P** 03 35 45.8 -3.4
KEK Kerkira 83.58 311 P **P** 03 35 45.8 -3.4
KFL Anninata 83.64 309 P **P** 03 35 47.9 -1.6
OBKA Obir 83.66 319 *i* P **P** 03 35 49.2 -0.3
comp=Z,44nm,0.9s,SNR=23
OBKA *i* pP **pP** 03 36 44.7 +1.9
comp=Z,26nm,1.1s
BOJS Bojanci 83.74 318 *i* P **P** 03 35 49.8 -0.1
VLS Valsamata 83.74 309 P **P** 03 35 47.1 -2.9
VLS Valsamata 83.74 309 P **P** 03 35 47.1 -2.9
VLS Valsamata 83.74 309 P **P** 03 35 47.1 -2.9
VISS Visnje 83.84 318 *i* P **P** 03 35 50.1 -0.3
GRF Grafenberg Arr 83.91 323 P **P** 03 35 51.3 +0.7
GRF pmax pmax
comp=Z,34nm,1.2s
GRFO Grafenberg 83.91 323 *e*P **P** 03 35 51.0 +0.4
GRFO *e**PP **pP** 03 36 46.1 +2.2
GRFO pmax pmax
comp=Z,56nm,1.3s
GRFO Grafenberg 83.91 323 *e*P **P** 03 35 51.0 +0.4
comp=Z,56nm,1.3s
GRFO *e*pP **pP** 03 36 46.1 +2.2
UDBI Udbina 83.91 317 P **P** 03 35 50.3 -0.5
KBA Koelnbreinsper 84.08 320 P **P** 03 35 51.5 -0.3
KBA pmax pmax
comp=Z,52nm,1.0s
KBA Koelnbreinsper 84.08 320 *i* P **P** 03 35 51.4 -0.4
comp=Z,49nm,1.0s,SNR=20
KBA *i* pP **pP** 03 36 47.3 +2.2
comp=Z,32nm,1.3s
MYKA Terra Mystica 84.14 319 *i* P **P** 03 35 51.2 -0.7
comp=Z,22nm,0.8s,SNR=12
MYKA *i* pP **pP** 03 36 46.7 +1.5
comp=Z,16nm,1.3s
NVLJ Novalja 84.45 317 P **P** 03 35 51.4 -2.0
TRI Trieste 84.54 318 *e*P **P** 03 35 53.2 -0.6
TRI Trieste 84.54 318 *e*P **P** 03 35 53.2 -0.6
ABTA Abfaltersbach 84.74 320 *i* P **P** 03 35 54.1 -0.9
comp=Z,55nm,1.1s,SNR=29
ABTA *i* pP **pP** 03 36 49.9 +1.5
comp=Z,39nm,1.3s,SNR=5.5
WTSB Winterswijk 84.96 326 *e*P **P** 03 35 55.5 -0.3
comp=Z,60nm,1.0s
WTSB *e*pP **pP** 03 36 50.4 +1.2
WATA Walderalm 84.97 321 *i* P **P** 03 35 55.8 -0.3
comp=Z,25nm,1.1s,SNR=12
WATA *i* pP **pP** 03 36 51.9 +2.3
comp=Z,26nm,1.1s
WTTA Wattenberg 84.97 320 *i* P **P** 03 35 55.8 -0.4
comp=Z,22nm,0.8s,SNR=10
WTTA *i* pP **pP** 03 36 49.7 0.0
comp=Z,43nm,1.5s,SNR=5.2
BUG Bochum--Univer 85.03 326 P **P** 03 35 56.2 +0.1
BUG pmax pmax
comp=Z,59nm,1.1s
TNS Taunus Mts 85.11 324 P **P** 03 35 57.1 +0.4
TNS pmax pmax
comp=Z,45nm,1.0s
LLLB Lilloget 85.15 35 *e*P **P** 03 35 58.0 +1.1
MOTA Moosalm 85.23 321 *i* P **P** 03 35 57.0 -0.5
comp=Z,20nm,0.9s,SNR=16
MOTA *i* pP **pP** 03 36 51.9 +1.0
comp=Z,22nm,1.0s
RETA Reutte 85.35 321 *i* P **P** 03 35 57.5 -0.5
comp=Z,16nm,1.2s,SNR=5.8
RETA *i* pP **pP** 03 36 52.2 +0.7
comp=Z,9.4nm,1.1s
PGC Sidney 85.41 38 *e*P **P** 03 35 59.0 +1.0
comp=Z,31nm,0.9s
STU Stuttgart 85.52 323 *e*P **P** 03 35 58.4 -0.3
STU pmax pmax
comp=Z,36nm,0.9s
STU Stuttgart 85.52 323 *e*P **P** 03 35 58.4 -0.3
comp=Z,36nm,0.9s
ILULI Ilulissat 85.56 358 *i* P **P** 03 35 58.1 -0.3
ILULI Ilulissat 85.56 358 *e*P **P** 03 35 58.1 -0.3

FETA Feichten 85.63 321 *i* PcP **P** 03 35 59.2 -0.2
comp=Z,15nm,0.9s,SNR=11
FETA *i* pP **pP** 03 36 53.4 +0.4
comp=Z,35nm,1.4s
A04D Lummi Island 85.78 37 P **P** 03 36 01.3 +1.4
baz=304
ABPO Ambohimpanom 85.89 247 *e*P **P** 03 36 01.4 +0.2
ABPO *e**PP **pP** 03 36 54.4 -0.3
ABPO pmax pmax
comp=Z,27nm,0.9s
ABPO Ambohimpanom 85.89 247 *e*P **P** 03 36 01.4 +0.2
comp=Z,27nm,0.9s
ABPO *e*pP **pP** 03 36 54.4 -0.3
DAVA Damuels 85.96 321 *i* PcP **P** 03 36 01.0 -0.1
comp=Z,23nm,1.0s,SNR=7.5
DAVA *i* pP **pP** 03 36 54.2 -0.4
comp=Z,30nm,1.7s
HGN Heimansgroeve 86.11 325 *e*P **P** 03 36 01.2 -0.3
comp=Z,44nm,1.0s
HGN *e*pP **pP** 03 36 56.5 +1.4
FUORN Ofenpass-Fuorn 86.11 320 *e*P **P** 03 36 01.9 -0.1
CUC Castrocucco 86.14 313 *e*P **P** 03 36 01.6 -0.4
comp=Z,16nm,1.1s
LANF Langenberg 86.16 323 *e*P **P** 03 36 01.8 0.0
LANF Langenberg 86.16 323 P **P** 03 36 02.3 +0.5
MEM Membach 86.16 325 P **P** 03 36 01.4 -0.4
comp=Z,14nm,0.9s
MEM AP **pP** 03 36 57.1 +1.7
BEBN Eben Emael 86.22 326 P **P** 03 36 02.2 +0.2
comp=Z,12nm,1.6s
BEBN AP **pP** 03 36 57.5 +2.0
BFO Black Forest 86.25 323 *i* P **P** 03 36 02.2 -0.1
BFO Black Forest 86.25 323 *e*P **P** 03 36 01.8 -0.5
BFO *e*pP **pP** 03 36 57.3 +1.4
B05A Bryant 86.37 37 P **P** 03 36 03.6 +0.8
baz=305
STR Strasbourg 86.41 323 *e*P **P** 03 36 03.3 +0.3
SLE Schleitheim 86.48 322 P **P** 03 36 03.2 -0.2
AQU L'Aquila 86.50 316 *e*P **P** 03 36 03.7 +0.1
AQU *e**PP **pP** 03 36 58.6 +1.3
AQU L'Aquila 86.50 316 *e*P **P** 03 36 03.7 +0.1
AQU *e*pP **pP** 03 36 58.6 +1.3
E03A Lebam 86.51 39 *e*P **P** 03 36 05.2 +1.6
B06A Marblemount 86.56 37 *e*P **P** 03 36 05.0 +1.3
comp=Z,33nm,0.8s
B06A *e*pP **pP** 03 37 01.6 +4.3
BCLA Clavier 86.64 325 P **P** 03 36 03.6 -0.4
comp=Z,30nm,2.0s
BCLA AP **pP** 03 36 58.6 +0.9
WLF Walferdange 86.64 325 P **P** 03 36 04.6 +0.5
comp=Z,64nm,1.0s
WLF AP **pP** 03 36 60.0 +2.2
WLF Walferdange 86.64 325 *e*P **P** 03 36 03.5 -0.7
WLF *e**PP **pP** 03 36 59.1 +1.3
WLF pmax pmax
comp=Z,102nm,0.9s
WLF Walferdange 86.64 325 *e*P **P** 03 36 03.5 -0.7
comp=Z,102nm,0.9s
WLF *e*pP **pP** 03 36 59.1 +1.3
KMBO Kilima Mbogo 86.67 267 P **P** 03 36 06.0 +0.8
comp=Z,7.3nm,0.9s,baz=48,slow=8.1,SNR=18
KMBO pP **pP** 03 36 59.0 +0.2
comp=Z,5.9nm,0.8s,baz=47,slow=7.1,SNR=3.2
KMBO Kilima Mbogo 86.67 267 *e*P **P** 03 36 05.3 +0.1
comp=Z,9.5nm,0.9s
KMBO *e*pP **pP** 03 36 59.4 +0.5
KMBO Kilima Mbogo 86.67 267 P **P** 03 36 06.0 +0.8
SNR=8.0
KMBO Kilima Mbogo 86.67 267 PcP **P** 03 36 06.0 +0.8
SNR=8.0
TUE Stuetta 86.72 321 *e*P **P** 03 36 04.4 -0.4
TUE *e*pP **pP** 03 36 59.2 +0.7
CDF Champ du Feu 86.78 323 *e*P **P** 03 36 03.6 -1.3
CDF pmax pmax
comp=Z,69nm,1.0s
F03A Seaside 86.86 40 *e*P **P** 03 36 07.2 +2.0
comp=Z,71nm,1.0s
CEL Celeste 86.95 311 *e*P **P** 03 36 06.3 +0.4
comp=Z,198nm,1.1s
CEL *e*pP **pP** 03 37 00.7 +1.1
ECH Echery 86.95 323 *e*P **P** 03 36 05.0 -0.8
ECH Echery 86.95 323 *e*P **P** 03 36 04.9 -0.8
ECH *e**PP **pP** 03 36 59.5 +0.1
ECH pmax pmax
comp=Z,21nm,1.0s
ECH Echery 86.95 323 *e*P **P** 03 36 04.9 -0.8
comp=Z,21nm,1.0s
ECH *e*pP **pP** 03 36 59.5 +0.1
D05A Enumclaw 87.05 38 *e*P **P** 03 36 08.1 +1.9
comp=Z,44nm,0.9s
GIVF Givet 87.07 325 *e*P **P** 03 36 05.8 -0.4
GIVF pmax pmax
comp=Z,39nm,1.1s
F04D Rainier, OR 87.09 40 P **P** 03 36 07.7 +1.4
baz=304
SNF Seneffe 87.10 326 P **P** 03 36 05.8 -0.5
SNF AP **pP** 03 37 01.7 +1.7
MOF Molkenrain 87.18 323 *e*P **P** 03 36 06.3 -0.6
DOU Dourbes 87.19 325 P **P** 03 36 06.8 +0.1
comp=Z,21nm,1.8s
DOU AP **pP** 03 37 02.2 +1.7
C06D Leavenworth 87.23 37 P **P** 03 36 08.2 +1.2
baz=306
HINF Hinteralfeld 87.35 323 *e*P **P** 03 36 06.7 -0.9
HINF pmax pmax
comp=Z,14nm,0.7s
VLC Villacollemand 87.39 318 *e*P **P** 03 36 07.8 -0.1
comp=Z,25nm,1.1s
LON Longmire 87.40 39 *e*P **P** 03 36 08.9 +1.0
LON Longmire 87.40 39 *e*P **P** 03 36 08.9 +1.0
BAIF Baives 87.41 326 *e*P **P** 03 36 08.6 +0.8
BAIF pmax pmax
comp=Z,22nm,1.2s
G03D McMinnville, O 87.43 40 P **P** 03 36 08.4 +0.4
baz=304
ESK Eskdalemuir 87.45 333 *e*P **P** 03 36 08.3 +0.4
ESK pmax pmax
comp=Z,22nm,1.0s
ESK Eskdalemuir 87.45 333 *e*P **P** 03 36 08.3 +0.4
comp=Z,22nm,1.0s
F04A Amboy 87.52 39 *e*P **P** 03 36 09.6 +1.2
comp=Z,59nm,0.8s
WPW White Pass 87.57 38 P **P** 03 36 09.9 +1.1
THEF They Montfort 87.58 323 *e*P **P** 03 36 08.2 -0.5
LOMF Lomont 87.64 322 *e*P **P** 03 36 08.4 -0.6
ETW Entiat 87.72 37 P **P** 03 36 10.4 +0.9
LTY Liberty 87.74 38 *e*P **P** 03 36 10.2 +0.7
COR Corvallis 87.76 41 *e*P **P** 03 36 11.7 +2.2
COR pmax pmax
comp=Z,76nm,0.9s
COR Corvallis 87.76 41 *e*P **P** 03 36 11.7 +2.2
comp=Z,76nm,0.9s
SFJD Kangerlussuaq 87.76 358 P **P** 03 36 08.8 -0.3
comp=Z,11nm,0.7s,baz=340,slow=22,SNR=5.1
SFJD pP **pP** 03 37 05.8 +2.9
comp=Z,11nm,0.8s,baz=340,slow=5.3,SNR=2.6
SFJD PP **PP** 03 39 37.0 -0.1
comp=Z,18nm,0.9s,baz=22,slow=7.4,SNR=6.0
SFJD Kangerlussuaq 87.76 358 *i* P **P** 03 36 08.8 -0.3
B08A Colville Reser 87.81 36 *e*P **P** 03 36 10.8 +1.0
WTV Waterville 87.87 37 P **P** 03 36 10.9 +0.8
SENIN Lac Senin/Sane 87.95 321 *e*P **P** 03 36 10.0 -0.7
SENIN *e*pP **pP** 03 37 05.0 +0.5
NAC Naches 87.96 38 P **P** 03 36 11.9 +1.4
KEBM Edson Butte 88.09 43 *e*P **P** 03 36 12.0 +0.8
SAW Saint Andrews 88.17 37 P **P** 03 36 12.5 +1.0
I03D Drain, OR 88.23 42 P **P** 03 36 12.8 +1.0
baz=304,SNR=6.6
TDH Tom, Dick, Har 88.25 40 P **P** 03 36 13.3 +1.2
CWF Charnwood Fore 88.37 330 *e*P **P** 03 36 11.6 -0.7
CWF *e*pP **pP** 03 37 07.6 +1.5
VFP Flag Point 88.42 40 P **P** 03 36 14.2 +1.3
CABF La Chapelle 88.48 322 *e*P **P** 03 36 12.4 -0.7
CABF pmax pmax
comp=Z,25nm,1.2s
G05D Wamic, OR 88.55 40 P **P** 03 36 14.8 +1.5
baz=306
E07A Sunyside 88.60 38 *e*P **P** 03 36 15.0 +1.5
GBB Gable Butte 88.70 38 P **P** 03 36 15.3 +1.4
C09A Chrisman Ranch 88.72 36 *e*P **P** 03 36 15.3 +1.3
I04A Tendick Farm, 88.73 41 P **P** 03 36 15.1 +0.9
baz=305,SNR=20
LPG La Plagne 88.76 321 *e*P **P** 03 36 13.6 -1.0
LPG pmax pmax
comp=Z,83nm,0.9s

LPL La Plagne 88.76 321 *e*P **P** 03 36 13.5 -1.1
LPL pmax pmax
comp=Z,76nm,0.9s
D08A Wollman Farm, 88.82 37 *e*P **P** 03 36 15.7 +1.2
HAWA Hanford 88.88 38 *e*P **P** 03 36 16.2 +1.4
comp=Z,42nm,1.0s
L02D Cave Junction, 88.93 43 P **P** 03 36 16.2 +1.0
baz=304
G06A Carlson Farm, 88.94 39 *e*P **P** 03 36 16.6 +1.5
NEW Newport 89.04 35 P **P** 03 36 16.0 +0.4
comp=Z,33nm,0.9s,baz=301,slow=4.5,SNR=42
NEW pP **pP** 03 37 12.7 +3.2
comp=Z,9.1nm,1.1s,baz=40,slow=2.7,SNR=1.9
NEW Newport 89.04 35 P **P** 03 36 16.5 +0.9
baz=308
NEW Newport 89.04 35 *e*P **P** 03 36 16.8 +1.2
NEW **PP* **pP** 03 37 12.7 +3.2
NEW pmax pmax
comp=Z,53nm,1.0s
NEW Newport 89.04 35 *e*P **P** 03 36 16.8 +1.2
comp=Z,53nm,1.0s
NEW pP **pP** 03 37 12.7 +3.2
I05D Terrebonne, OR 89.06 40 P **P** 03 36 16.8 +1.1
baz=306,SNR=14
BNI Bardonecchia 89.07 321 *e*P **P** 03 36 14.5 -1.4
BNI Bardonecchia 89.07 321 *e*P **P** 03 36 14.5 -1.4
HUMO Hull Mountain 89.08 42 *e*P **P** 03 36 17.5 +1.6
comp=Z,69nm,0.7s
KRMB Red Mountain 89.09 44 *e*P **P** 03 36 18.0 +1.9
SAOF Saorge 89.17 319 *e*P **P** 03 36 16.2 -0.1
J04D Umpqua Nationa 89.23 42 P **P** 03 36 17.2 +0.4
baz=305,SNR=18
SBF Sospel 89.32 319 *e*P **P** 03 36 15.2 -1.8
SBF pmax pmax
comp=Z,57nm,0.9s
LUCF Luceram 89.35 319 *e*P **P** 03 36 17.0 -0.2
MVIF Mont Vial 89.46 319 *e*P **P** 03 36 18.0 +0.2
E09A Wood Farm, Sta 89.57 37 *e*P **P** 03 36 19.6 +1.5
ORIF Oris-en-Rattie 89.60 321 *e*P **P** 03 36 18.0 -0.3
ORIF pmax pmax
comp=Z,34nm,0.9s
SSF Saint Saulge 89.62 323 *e*P **P** 03 36 17.6 -0.7
SSF pmax pmax
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 89.72 43 *e*P **P** 03 36 20.4 +1.4
YBH Yreka Blue Hor 89.72 43 *e*P **P** 03 36 20.4 +1.4
J05D Fort Rock, OR 89.73 41 P **P** 03 36 20.3 +1.3
baz=306,SNR=29
K04D Chiloquin, OR 89.80 42 P **P** 03 36 20.3 +1.0
baz=305,SNR=10
M02C Callahan 89.83 43 P **P** 03 36 20.4 +0.9
baz=305,SNR=7.5
AVF Avril sur Loir 89.87 323 *e*P **P** 03 36 17.9 -1.5
AVF pmax pmax
comp=Z,28nm,1.0s
SSB Saint Sauveur 90.14 322 *e*P **P** 03 36 20.3 -0.5
SSB Saint Sauveur 90.14 322 *e*P **P** 03 36 20.3 -0.5
SSB *e**PP **pP** 03 37 13.1 -1.7
SSB pmax pmax
comp=Z,32nm,0.9s
SSB Saint Sauveur 90.14 322 *e*P **P** 03 36 20.3 -0.5
comp=Z,32nm,0.9s
SSB *e*pP **pP** 03 37 13.1 -1.7
N02D Trinity Center 90.15 44 P **P** 03 36 22.0 +1.0
baz=305
WALA Waterton Lakes 90.18 33 *e*P **P** 03 36 22.4 +1.4
comp=Z,33nm,0.9s
M04C Macdoel 90.23 43 P **P** 03 36 21.9 +0.5
baz=305,SNR=35
PLDF La Plantade 90.23 323 *e*P **P** 03 36 21.2 0.0
VIVF Saint-Julien-l 90.33 321 *e*P **P** 03 36 21.2 -0.4
VIVF pmax pmax
comp=Z,56nm,0.9s
AGO Saint Agoulin 90.45 323 *e*P **P** 03 36 22.4 +0.2
WDC Whiskeytown Da 90.48 44 *e*P **P** 03 36 23.8 +1.4
WDC Whiskeytown Da 90.48 44 *e*P **P** 03 36 23.8 +1.4
BSMT Bassoo Peak 90.52 35 P **P** 03 36 24.2 +1.6
VSL Villasalto 90.61 315 *e*P **P** 03 36 22.8 -0.2
BLMT Blacktail Moun 90.63 34 *e*P **P** 03 36 24.8 +1.6
PYM Petit Puy Mans 90.70 323 *e*P **P** 03 36 23.5 +0.1
JTMT Jette 90.84 35 *e*P **P** 03 36 25.4 +1.3
LBL Lubilhac 90.89 322 *e*P **P** 03 36 24.6 +0.3
YBMT Yellow Bay 90.91 34 *e*P **P** 03 36 25.8 +1.4
GRR Gorron 91.04 326 *e*P **P** 03 36 23.8 -1.0
GRR pmax pmax
comp=Z,44nm,1.4s
BMO Blue Mountains 91.06 38 *e*P **P** 03 36 26.0 +0.9
BMO pmax pmax
comp=Z,28nm,0.9s
BMO Blue Mountains 91.06 38 *e*P **P** 03 36 26.0 +0.9
comp=Z,28nm,0.9s
LBCM Butte Creek Ri 91.07 43 P **P** 03 36 26.3 +1.0
MOD Modoc Plateau 91.09 42 *e*P **P** 03 36 26.4 +0.9
comp=Z,42nm,0.9s
O03D Paynes Creek 91.11 44 P **P** 03 36 25.2 -0.2
baz=305,SNR=13
SWMT Swartz Lake 91.14 35 *e*P **P** 03 36 26.5 +1.0
FRNF Fournols 91.18 323 *e*P **P** 03 36 26.1 +0.5
J08A Circle Bar Ran 91.31 40 *e*P **P** 03 36 28.1 +1.8
FFC Flin Flon 91.34 24 *e*P **P** 03 36 26.1 +0.1
FFC *e**PP **pP** 03 37 20.1 0.0
FFC pmax pmax
comp=Z,59nm,0.8s
FFC Flin Flon 91.34 24 *e*P **P** 03 36 26.1 +0.1
comp=Z,59nm,0.8s
FFC *e*pP **pP** 03 37 20.1 0.0
SLMT Seeley Lake 91.58 35 *e*P **P** 03 36 28.3 +0.8
MSO Missoula 91.62 35 P **P** 03 36 27.6 -0.1
baz=311
MSO Missoula 91.62 35 *e*P **P** 03 36 28.4 +0.7
ORV Oroville 91.72 44 *e*P **P** 03 36 28.5 +0.3
ORV Oroville 91.72 44 *e*P **P** 03 36 28.5 +0.3
CAF Calviac 91.74 322 *e*P **P** 03 36 27.5 -0.7
CAF pmax pmax
comp=Z,34nm,0.9s
WVOR Wild Horse Val 91.77 41 *e*P **P** 03 36 29.9 +1.4
WVOR pmax pmax
comp=Z,26nm,1.0s
WVOR Wild Horse Val 91.77 41 *e*P **P** 03 36 29.9 +1.4
comp=Z,26nm,1.0s
CHMT Chamberlain Mo 91.92 35 *e*P **P** 03 36 30.1 +0.9
AFDM Forest Hills D 92.41 45 *e*P **P** 03 36 32.0 +0.7
QUIF Quistinic 92.50 327 *e*P **P** 03 36 31.2 -0.3
QUIF pmax pmax
comp=Z,40nm,1.2s
KEST Kesra 92.73 312 P **P** 03 36 33.2 +0.2
comp=Z,38nm,0.9s,baz=299,slow=2.4,SNR=18
KEST Kesra 92.73 312 *e*P **P** 03 36 33.5 +0.5
HRY Holter Researc 92.78 34 *e*P **P** 03 36 34.1 +1.1
MFID Camas Ranch 92.78 39 *e*P **P** 03 36 34.5 +1.3
comp=Z,40nm,1.1s
EGMT Eagleton 92.92 32 P **P** 03 36 33.3 -0.4
baz=314
EGMT Eagleton 92.92 32 *e*P **P** 03 36 34.3 +0.7
comp=Z,28nm,0.9s
PAHR Pah Rah Range 92.95 43 *e*P **P** 03 36 35.1 +1.0
LRM Limekiln Ridge 93.06 35 *e*P **P** 03 36 36.0 +1.5
PNTR Pine Nut 93.19 44 *e*P **P** 03 36 36.6 +1.4
DLMT Dillon 93.29 36 *e*P **P** 03 36 36.6 +1.2
comp=Z,42nm,1.1s
CMB Columbia Colle 93.31 45 *e*P **P** 03 36 36.4 +0.8
CMB pmax pmax
comp=Z,173nm,1.0s
CMB Columbia Colle 93.31 45 *e*P **P** 03 36 36.4 +0.8
comp=Z,173nm,1.0s
YERR Yerington 93.47 44 *e*P **P** 03 36 37.5 +1.1
HLID Hailey 93.48 38 P **P** 03 36 37.2 +0.8
baz=310
HLID Hailey 93.48 38 *e*P **P** 03 36 38.1 +1.7
comp=Z,33nm,1.0s
MCMT McKenzie Canyo 93.51 36 *e*P **P** 03 36 37.5 +0.9
WAKR Walker 93.64 44 *e*P **P** 03 36 38.5 +1.3
BOZ Bozeman (W) 93.64 35 P **P** 03 36 37.6 +0.6
baz=312
BOZ Bozeman (W) 93.64 35 *e*P **P** 03 36 37.8 +0.8
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 93.64 35 *e*P **P** 03 36 37.8 +0.8
comp=Z,7.8nm,1.0s
BMN Battle Mountai 93.83 42 *e*P **P** 03 36 39.6 +1.5
BMN pmax pmax
comp=Z,26nm,1.0s
BMN Battle Mountai 93.83 42 *e*P **P** 03 36 39.5 +1.5
comp=Z,26nm,1.0s
PMPB Monarch Peak 94.10 47 *e*P **P** 03 36 41.0 +1.8

QLMT Earthquake Lak 94.26 35 eP P 03 36 41.7 +1.7
MLAC Mammoth, Mammo 94.54 45 P P 03 36 42.4 +0.9
baz=307,SNR=13
PAGB Antelope Grade 94.75 47 eP P 03 36 43.5 +1.3
LKWY Lake 94.98 35 eP P 03 36 43.2 -0.2
LKWY pmax pmax
comp=Z,21nm,0.9s
LKWY Lake 94.98 35 eP P 03 36 43.1 -0.2
comp=Z,22nm,0.9s
H17A Grant Village 95.00 35 P P 03 36 46.0 +2.5
baz=313
H17A Grant Village 95.00 35 eP P 03 36 45.8 +2.4
comp=Z,13nm,1.1s
RCTC Rector, Farmer 95.07 46 P P 03 36 44.1 +0.6
baz=307
IMW Indian Meadow 95.15 36 eP P 03 36 46.0 +1.9
comp=Z,8.9nm,1.0s
SMMC Simmler 95.16 47 P P 03 36 45.1 +1.0
baz=306
RLMT Red Lodge 95.18 34 P P 03 36 45.1 +0.9
baz=314
RLMT Red Lodge 95.18 34 eP P 03 36 45.1 +0.9
DGMT Dagmar 95.18 29 P P 03 36 44.4 +0.5
baz=318
DGMT Dagmar 95.18 29 eP P 03 36 44.3 +0.5
comp=Z,46nm,1.0s
TIN Tinemaha, Big 95.27 45 P P 03 36 45.6 +1.0
baz=307
FXWY Fox Creek 95.28 36 eP P 03 36 46.3 +1.6
MOOW Moose Ponds 95.35 36 eP P 03 36 46.6 +1.6
TPAW Teton Pass 95.42 36 eP P 03 36 47.0 +1.6
VES Vestal, Richgr 95.45 46 P P 03 36 45.2 -0.1
baz=307,SNR=5.9
PKM Mcpherson Peak 95.53 47 P P 03 36 46.4 +0.4
baz=306
SNOW Snow King Moun 95.54 36 eP P 03 36 49.1 +3.2
REDW Red Top Meadow 95.56 36 eP P 03 36 47.3 +1.3
LAO LASA Array 95.56 32 P P 03 36 46.3 +0.6
baz=317
LAO LASA Array 95.56 32 eP P 03 36 46.8 +1.1
comp=Z,14nm,0.9s
CWC Cottonwood Cre 95.74 45 P P 03 36 47.0 +0.2
baz=308
GRAC Grapevine Rang 95.85 44 P P 03 36 47.4 +0.1
baz=308
SBC Santa Barbara 95.86 48 P P 03 36 48.0 +0.8
baz=306
ARVC Arvin 96.04 47 P P 03 36 48.0 0.0
baz=307
R11A Troy Canyon, C 96.12 42 P P 03 36 48.6 0.0
baz=309
DAC Darwin (Calif) 96.15 45 eP P 03 36 49.4 +0.6
DAC pmax pmax
comp=Z,13nm,1.0s
DAC Darwin (Calif) 96.15 45 eP P 03 36 49.4 +0.6
comp=Z,13nm,1.0s
SCZ2 Santa Cruz Isl 96.17 48 P P 03 36 49.3 +0.6
baz=306
MPMC Manual Prospec 96.35 45 P P 03 36 50.1 +0.4
baz=308,SNR=15
HWUT Hardware Ranch 96.35 38 eP P 03 36 51.3 +1.7
OSI Osito Audit: C 96.41 47 P P 03 36 50.5 +0.7
baz=307
BLG Laguna Peak, P 96.49 48 P P 03 36 49.7 -0.4
baz=307
FURC Furnace Creek, 96.50 45 P P 03 36 50.6 +0.5
baz=308,SNR=14
LRMC Laurel Mtn Rad 96.58 46 P P 03 36 51.1 +0.5
baz=308,SNR=14
DUG Dugway, Tooele 96.58 40 P P 03 36 51.2 +0.6
baz=311
DUG Dugway, Tooele 96.58 40 eP P 03 36 51.2 +0.6
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 96.58 40 eP P 03 36 51.2 +0.6
comp=Z,3.6nm,0.8s
TPNV Topopah Spring 96.59 44 P P 03 36 51.2 +0.5
baz=309,SNR=11
TPNV Topopah Spring 96.59 44 eP P 03 36 51.5 +0.8
TPNV Topopah Spring 96.59 44 eP P 03 36 51.5 +0.8
BW06 Boulder Array 96.66 36 P P 03 36 50.6 -0.4
baz=314
PDAR Pinedale Array 96.66 36 P P 03 36 50.7 -0.3
comp=Z,0.6nm,0.4s,baz=327,slow=0.3,SNR=8.5
PDAR PP PP 03 40 52.0 +4.2
comp=Z,1.7nm,1.0s,baz=291,slow=6.2,SNR=3.9
SNCC San Nicolas Is 96.69 48 P P 03 36 51.3 +0.3
baz=306
EDW2 Edwards Air Fo 96.73 46 P P 03 36 51.7 +0.4
baz=307,SNR=11
DECC Green Verdugo 96.89 47 P P 03 36 52.2 +0.3
baz=307
ULM Lac du Bonnet 97.16 24 P P 03 36 52.7 0.0
comp=Z,4.7nm,0.8s,baz=323,slow=7.9,SNR=4.4
SHOC Shoshone, Teco 97.22 45 P Pdif 03 36 53.7 +0.3
baz=309
GSC Goldstone, Bar 97.25 45 P Pdif 03 36 54.3 +0.7
baz=308,SNR=13
GSC Goldstone, Bar 97.25 45 eP Pdif 03 36 54.4 +0.7
GSC Goldstone, Bar 97.25 45 eP Pdif 03 36 54.4 +0.8
BFSC Mount Baldy Ra 97.34 47 P P 03 36 53.8 -0.3
baz=308,SNR=7.2
SHPR Sheep Range 97.55 44 eP Pdif 03 36 56.6 +1.5
TUQ Turquoise Moun 97.73 45 P Pdif 03 36 56.4 +0.5
baz=309,SNR=5.7
BBRC Big Bear Solar 97.81 46 P P 03 36 56.2 -0.1
baz=308
HEC Hector,Ludlow 97.84 46 P Pdif 03 36 57.1 +0.8
baz=306,SNR=5.1
B31A Greenbush Farm 97.97 26 P P 03 36 55.9 -0.5
baz=324
A32A Rocking H Ranc 98.02 25 P Pdif 03 36 56.8 +0.1
baz=325
MURC Murrieta 98.03 47 P Pdif 03 36 57.8 +0.7
baz=308
GMRC Granite Mounta 98.31 45 P P 03 36 58.3 -0.2
baz=309
B32A Ashes, Strandq 98.43 25 P P 03 36 57.6 -0.9
baz=325
C31A Landman Farms, 98.44 26 P P 03 36 57.9 -0.6
baz=324
LDFC Landfair 98.48 45 eP Pdif 03 37 00.3 +1.1
RSSD Black Hills 98.49 32 P P 03 36 58.9 -0.3
baz=318
RSSD Black Hills 98.49 32 eP P 03 36 59.0 -0.2
RSSD Black Hills 98.49 32 eP P 03 36 59.0 -0.2
PFO Pinyon Flats O 98.51 47 P Pdif 03 36 59.7 +0.3
baz=308,SNR=8.8
PFO Pinyon Flats O 98.51 47 eP Pdif 03 37 00.1 +0.7
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 98.51 47 eP Pdif 03 37 00.1 +0.7
comp=Z,11nm,1.1s
XPFO Piæon Flat 98.52 47 eP Pdif 03 37 00.1 +0.7
TPFO Pinon Flats 98.52 47 P P 03 36 59.4 0.0
baz=308,SNR=9.1
109C Camp Elliot, M 98.53 48 P Pdif 03 36 59.9 +0.7
baz=308
ESDC Sonseca Array 98.56 321 P P 03 36 58.5 -0.8
comp=Z,1.6nm,0.9s,baz=26,slow=4.2,SNR=7.6
ESDC pP pP 03 37 52.8 -0.8
comp=Z,0.9nm,0.9s,baz=54,slow=3.8,SNR=2.6
ESDC PP PP 03 41 02.1 0.0
comp=Z,2.3nm,0.8s,baz=48,slow=8.0,SNR=5.5
BELC Belle Mtn. Jos 98.58 46 P Pdif 03 37 00.0 +0.4
baz=309
MONP2 Monument Peak 98.98 47 P P 03 37 02.0 +0.4
baz=309
IRM Iron Mountain 99.03 46 P Pdif 03 37 02.1 +0.6
baz=309,SNR=9.8
BC3 Big Chuckawall 99.14 46 P Pdif 03 37 02.2 +0.1
baz=309
O20A White River Ci 99.20 37 P Pdif 03 37 02.7 +0.4
baz=315
IKP In-Ko-Pah, Jac 99.34 47 P Pdif 03 37 03.1 +0.1
baz=308
SWSC Sam W. Stewart 99.36 47 P Pdif 03 37 03.5 +0.6
baz=309
B35A Bob, Littlefor 99.52 24 P Pdif 03 37 03.2 -0.1
baz=327
PDMCI Parker Dam,Lak 99.58 45 P Pdif 03 37 04.6 +0.7
baz=310
SCHQ Schefferville 99.64 6 PP PP 03 41 05.8 -3.8
comp=Z,16nm,0.8s,baz=17,slow=7.8,SNR=7.5
Y12C Blythe 99.69 46 P Pdif 03 37 04.6 +0.2
baz=310
F31A Hecla 99.77 28 P Pdif 03 37 04.8 +0.2
baz=323
N23A Red Feather La 99.89 35 P Pdif 03 37 05.6 +0.1
baz=316
GLA Glamis 99.93 46 P Pdif 03 37 05.8 +0.2
baz=309
D34A Park Rapids 100.02 25 P Pdif 03 37 04.7 -0.9
baz=326
C36A Pine Crest Far 100.35 24 P Pdif 03 37 07.7 +0.7
baz=328
WUAZ Wupatki 100.52 42 P Pdif 03 37 09.7 +1.3
baz=312
WUAZ Wupatki 100.52 42 ePdif Pdif 03 37 09.6 +1.3
comp=Z,7.8nm,1.0s
G32A Webster 100.57 28 P Pdif 03 37 08.0 -0.1
baz=324
C37A Embarrass 100.61 23 P Pdif 03 37 07.6 -0.6
baz=328
LSZ Lusaka 100.69 258 eP Pdif 03 37 08.3 -0.9
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ Lusaka 100.69 258 eP Pdif 03 37 08.3 -0.9
comp=Z,3.8nm,0.8s
H33A Prehn Over Nor 101.35 28 P Pdif 03 37 09.8 -1.8
baz=324
MAW Mawson 102.81 200 P Pdif 03 37 16.1 -1.1
comp=Z,0.4nm,0.3s,baz=357,slow=16,SNR=2.8
MAW PKKPbc PKKPbc 03 53 14.4 -2.9
comp=Z,1.9nm,0.8s,baz=216,slow=4.1,SNR=4.9
MAW PKKPab PKKPdf 03 53 34.8 +10
comp=Z,1.4nm,0.8s,baz=290,slow=7.8,SNR=3.9
ANMO Albuquerque 103.85 40 PP PP 03 41 40.2 -1.9
comp=Z,0.6nm,0.6s,baz=270,slow=14,SNR=2.8
VNDA Vanda 105.26 172 PKiKP PKiKP 03 41 43.2 +2.5
comp=Z,1.7nm,0.9s,baz=319,slow=6.0,SNR=5.3
VNDA PP PP 03 41 51.6 -0.6
comp=Z,2.4nm,0.7s,baz=324,slow=6.3,SNR=7.9
VNDA PKKPbc PKKPbc 03 53 08.1 -2.1
comp=Z,1.9nm,1.0s,baz=103,slow=0.7,SNR=7.4
VNDA PKKPab PKKPab 03 53 26.4 +3.0
comp=Z,1.0nm,0.9s,baz=144,slow=3.6,SNR=4.2
SBA Scott Base 106.17 171 ePKP PKiKP 03 41 42.0 -0.5
MSTX Muleshoe 106.66 38 P PKiKP 03 41 44.5 -0.4
baz=318
MNTX Cornudas Mount 106.77 42 P PKiKP 03 41 44.6 -0.4
baz=315
Q39A Willow Grove F 107.58 29 P PKiKP 03 41 45.2 -1.1
baz=326
HDIL Hopedale 107.82 25 P PKiKP 03 41 45.3 -1.4
baz=330
R38A Fenwick Farm, 107.88 30 P PKiKP 03 41 45.6 -1.3
baz=325
BOSA Boshof 108.11 246 PKiKP PKiKP 03 41 47.7 +0.1
comp=Z,0.9nm,0.6s,baz=60,slow=8.1,SNR=3.5
N45A Kentland 108.23 24 P PKiKP 03 41 48.2 +0.7
baz=331
S38A Stockton 108.33 30 P PKiKP 03 41 48.1 +0.3
baz=325
N46A Monticello 108.47 23 P PKiKP 03 41 45.4 -2.5
baz=332
R40A Maddies Statio 108.51 29 P PKiKP 03 41 46.8 -1.3
baz=327
S39A Bolivar 108.55 30 P PKiKP 03 41 46.8 -1.4
baz=326
T38A Diamond 108.64 31 P PKiKP 03 41 46.6 -1.8
baz=325
U37A Salina 108.76 32 P PKiKP 03 41 47.1 -1.5
baz=324
V37A Hulbert 109.17 32 P PKiKP 03 41 48.9 -0.5
baz=324
S41A Jillco Farms, 109.33 29 P PKiKP 03 41 48.1 -1.5
baz=327
T40A Mansfield 109.35 30 P PKiKP 03 41 47.9 -1.8
baz=326
TXAR Lajitas Array 109.49 42 Pdiff Pdif 03 37 48.5 +0.3
comp=Z,0.5nm,0.8s,baz=270,slow=4.5,SNR=4.8
TXAR PKiKP PKiKP 03 41 49.9 -0.4
comp=Z,2.1nm,0.7s,baz=191,slow=0.8,SNR=20
TXAR PP PP 03 42 22.1 -1.2
comp=Z,1.7nm,1.0s,baz=270,slow=3.8,SNR=4.4
V38A Canehill 109.54 32 P PKiKP 03 41 48.7 -1.4
baz=325
S42A Caledonia 109.58 28 P PKiKP 03 41 48.9 -1.2
baz=328
U40A Yellville 109.86 30 P PKiKP 03 41 49.3 -1.4
baz=326
V39A Pettigrew 109.92 31 P PKiKP 03 41 49.3 -1.6
baz=325
Y36A Durant 110.19 34 P PKiKP 03 41 49.9 -1.4
baz=323
X38A Whitesboro 110.30 33 P PKiKP 03 41 50.1 -1.4
baz=324
V40A Witts Springs 110.33 31 P PKiKP 03 41 50.2 -1.5
baz=326
U42A Revenden 110.58 29 P PKiKP 03 41 51.6 -0.4
baz=327
X39A Fountain Ranch 110.77 32 P PKiKP 03 41 52.4 -0.1
baz=324
JCT Junction City 110.93 39 P PKiKP 03 41 52.4 -0.5
baz=319
JCT Junction City 110.93 39 ePKIKP PKiKP 03 41 52.4 -0.5
JCT Junction City 110.93 39 ePKP PKiKP 03 41 52.4 -0.5
TORD Torodi Ar. Bea 111.21 297 PKiKP PKiKP 03 41 52.9 -0.8
comp=Z,0.8nm,0.4s,baz=78,slow=1.6,SNR=30
TORD PP PP 03 42 25.8 -11
comp=Z,3.1nm,1.0s,baz=53,slow=7.5,SNR=7.3
TORD PKKPbc PKKPbc 03 52 47.8 -1.7
comp=Z,0.5nm,0.5s,baz=254,slow=2.2,SNR=8.4
TORD PKKPab PKKPab 03 53 01.4 -0.3
comp=Z,0.9nm,0.7s,baz=235,slow=3.3,SNR=5.7
933A Laredo 113.38 41 P PKiKP 03 41 57.0 -0.6
baz=319
Y46A Houston 113.71 29 P PKiKP 03 41 56.8 -1.2
baz=329
034A Hebbronville 114.14 41 P PKPdf 03 41 58.9 -0.1
baz=319
244A Avery, Jackson 114.43 31 P PKPdf 03 41 57.9 -1.5
baz=327
DBIC Dimbokro 120.17 295 PKP PKPdf 03 42 10.4 -0.5
comp=Z,3.1nm,0.6s,baz=85,slow=1.9,SNR=13
DBIC PKKPab PKKPbc 03 52 20.1 +1.7
comp=Z,2.7nm,0.7s,baz=176,slow=4.5,SNR=6.7
KIC Kosan Boka 120.25 295 ePKIKP PKPdf 03 42 10.3 -0.8
comp=Z,11nm,0.6s
TIC Toumodi 120.32 295 ePKIKP PKPdf 03 42 10.1 -1.2
LIC Lamto 120.56 295 ePKIKP PKPdf 03 42 10.7 -1.0
comp=Z,41nm,1.3s
SNAA Sanae 124.92 198 ePKIKP PKPdf 03 42 17.9 -0.5
SNAA Sanae 124.92 198 ePKPdf PKPdf 03 42 17.9 -0.5
SJCC San Jacinto, C 140.68 29 eP PKPpre 03 42 43.0
CAPC Capurgana 140.77 33 eP PKPpre 03 42 41.3
MOTC Monteria, Cord 141.45 31 eP PKPpre 03 42 43.6
SOLC Bahia Solano 142.80 35 eP PKPpre 03 42 48.7
ZARC Zaragoza, Cauc 142.95 30 eP PKPpre 03 42 47.6
OCAC Ocana 142.96 28 eP PKPdf 03 42 52.1 -1.8
SDV Santo Domingo 143.41 23 ePKPdf PKPbc 03 42 52.3 -0.3
HELC Santa Helena 143.78 32 eP PKPab 03 42 51.0 -2.0
BRRC Barranca, Sant 143.81 29 eP PKPab 03 42 52.7 0.0
PCRV Puerto La Cruz 143.85 13 PKhKP PKPpre 03 42 51.9
comp=Z,46nm,0.4s,baz=315,slow=1.1,SNR=82
PAMC Pamplona, Colo 144.03 27 eP PKPab 03 42 53.2 -0.9
BARC Barichara 144.50 29 eP PKPab 03 42 53.8 -1.8
PLMC San Jos¨ del 144.51 35 eP PKPab 03 42 54.4 -1.1
NORC Norcasia 144.64 32 eP PKPab 03 42 54.9 -1.0
GUYC Guyana, Colomb 144.68 33 eP PKPab 03 42 55.5 -1.1
GRGC Isla de Gorgon 145.07 39 eP PKPbc 03 42 55.5 -1.8
RUSC La Rusia 145.17 29 eP PKPdf 03 42 57.2 -1.0
TOLC Tolima 145.27 33 eP PKPdf 03 42 57.8 -0.4
CTAB Cerro Tablazo, 145.44 31 eP PKPbc 03 42 58.9 -0.1
ROSC El Rosal 145.53 32 PKPbc PKPab 03 42 59.5 -0.2
comp=Z,29nm,0.6s,baz=34,slow=1.9,SNR=20
ROSC El Rosal 145.53 32 eP PKPab 03 43 00.0 +0.3
TUMC Tumaco 145.69 41 eP PKPdf 03 42 57.2 -1.3
YOPC Yopal, Colombi 145.94 28 eP PKPab 03 43 00.6 -0.3
PRAC Prado 146.23 34 eP PKPdf 03 43 00.0 +0.6
POPC Popayan, Colom 146.28 37 eP PKPpre 03 42 49.8
VILC Villavicencio, 146.47 31 eP PKPdf 03 43 00.6 +0.6
BETC Betania 146.83 35 eP PKPdf 03 43 01.2 +0.7
CRUC La Cruz 146.93 39 eP PKPbc 03 43 03.4 +0.2
CMBC Cumbal 146.94 41 eP PKPbc 03 43 02.3 -1.1
OTAV Otavalo 147.12 42 eP PKPbc 03 43 03.4 -0.5
OTAV Otavalo 147.12 42 ePKPbc PKPbc 03 43 04.1 +0.2
GUVC San Jose del G 148.34 31 eP PKPbc 03 43 06.3 -0.3
RCBR Riachuelo 151.97 310 ePKPbc PKPbc 03 43 15.2 -0.1
ATAH Atahualpa 152.63 52 PKP PKPdf 03 43 11.5 +1.5
comp=Z,6.0nm,0.7s,baz=50,slow=4.4,SNR=6.7
ATAH PKPbc PKiKP 03 43 19.0 +1.6
comp=Z,42nm,0.9s,baz=308,slow=1.8,SNR=14
PTGA Pitinga 155.30 7 PKP PKPdf 03 43 13.8 +0.5
comp=Z,3.0nm,0.8s,baz=15,slow=6.5,SNR=6.4
PTGA PKPbc PKPbc 03 43 22.6
comp=Z,5.5nm,0.6s,baz=330,slow=6.4,SNR=15
PTGA PKPab PKPab 03 43 38.8 -0.5
comp=Z,17nm,0.9s,baz=1.2,slow=6.6,SNR=11
PTGA pPKPab pPKPab 03 44 33.4 -0.4
comp=Z,6.3nm,0.9s,baz=316,slow=4.8,SNR=2.0
PTGA PP PP 03 47 15.0 +0.1
comp=Z,4.7nm,0.9s,baz=338,slow=5.6,SNR=5.9
NNA Nana 156.97 58 PKPbc PKPbc 03 43 25.9
comp=Z,4.8nm,0.5s,baz=8.2,slow=7.2,SNR=3.1
NNA PKPab PKPab 03 43 46.8 +0.1
comp=Z,6.8nm,0.6s,baz=257,slow=9.0,SNR=4.9
NNA Nana 156.97 58 PKPbc PKPbc 03 43 25.9
NNA ePKPab PKPab 03 43 46.1 -0.5
PLCA Paso Flores 160.97 147 PKPab PKPab 03 44 05.4 +2.0
comp=Z,3.7nm,1.0s,baz=327,slow=2.8,SNR=3.2
SAML Samuel 162.60 21 ePKPdf PKPdf 03 43 21.4 -0.3
SAML ePKPab PKPab 03 44 09.2 -1.7
LPAZ La Paz 166.18 51 PKP PKPdf 03 43 26.6 +1.0
comp=Z,8.3nm,1.1s,baz=24,slow=4.1,SNR=15
LPAZ pPKP pPKPdf 03 44 22.9 +0.2
comp=Z,12nm,1.0s,baz=15,slow=3.0,SNR=7.2
LPAZ PKPab PKPab 03 44 26.8 -0.8
comp=Z,11nm,1.0s,baz=344,slow=6.0,SNR=10.0
BDFB Brasilia 167.18 318 PKP PKPdf 03 43 25.8 0.0
comp=Z,11nm,0.9s,baz=49,slow=2.1,SNR=14
BDFB pPKP pPKPdf 03 44 22.7 -0.2
comp=Z,7.5nm,1.1s,baz=185,slow=3.9,SNR=3.9
BDFB PKPab PKPab 03 44 30.9 -0.5
comp=Z,21nm,0.9s,baz=161,slow=2.9,SNR=16
BDFB pPKPab pPKPab 03 45 25.2 -0.4
comp=Z,6.2nm,0.9s,baz=231,slow=6.1,SNR=2.8
LVC Limon Verde 168.73 78 pPKP pPKPdf 03 44 24.8 +0.7
comp=Z,10.0nm,0.7s,baz=325,slow=6.3,SNR=2.0
LVC PKPab PKPab 03 44 39.7 +1.0
comp=Z,37nm,0.9s,baz=280,slow=5.8,SNR=6.8
LVC Limon Verde 168.73 78 ePKPab PKPab 03 44 39.2 +0.5
SIV San Ignacio 169.88 23 PKP PKPdf 03 43 27.6 +0.2
comp=Z,9.5nm,0.9s,baz=107,slow=0.5,SNR=13
SIV pPKP pPKPdf 03 44 25.2 +0.6
comp=Z,3.4nm,0.9s,baz=298,slow=3.7,SNR=2.7
SIV PKPab PKPab 03 44 42.3 -0.7
comp=Z,6.2nm,0.8s,baz=13,slow=2.3,SNR=6.3
CPUP Villa Florida 179.02 160 PKP PKPdf 03 43 30.1 +0.1
comp=Z,4.4nm,1.0s,baz=55,slow=2.2,SNR=3.7
CPUP PKPab PKPab 03 45 24.2
comp=Z,13nm,1.1s,baz=127,slow=2.8,SNR=3.1

IDC ***30*** *03:24:51.6±1.8, 13°.49N×91°.22W, h0km, mb4.0/7, mb1 4.3/9, mb1mx4.0/39, mbtmp4.0/9, ML4.2/2, MS4.1/3, Ms1 4.0/3, ms1mx3.3/49, Error ellipse: s-maj=54.9km s-min=21.0km az=36.0*
CASC ***30*** *03:24:56.0±1.2, 13°.66N×91°.38W, h4km±29km, MD3.9, ML3.8, mb4.3(NEIC)*
NEIC ***30*** *03:24:58.9±1.2, 13°.61N×91°.33W, h44km±10km, mb4.3/35, Error ellipse: s-maj=15.4km s-min=6.7km az=215.0*
NEIC Felt at Mejicanos and San Salvador, El Salvador.
MEX ***30*** *03:25:16.2±0.3, 14°.65N×92°.39W, h70km±97km, MD4.2*
ISC 30 03:24:57.0±0.6, 13°.56N±0°.08×91°.40W±0°.06, h28km, n180, σ1**^{s}43**/184**, mb4.3**/39**, MS4.1**/3**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUS1	Cusmapa	1.45	76	eP	Pn	03 25 21.6	+0.1
MONT	Ecomontaæa	1.73	80	eP	Pn	03 25 26.0	+0.6
RTR	El Retiro	1.73	79	eP	Pn	03 25 26.2	+0.7
SBLS	San Blas	1.75	81	eP	Pn	03 25 26.3	+0.7
RBDL	Robledal	1.75	71	eP	Pn	03 25 26.9	+1.2
BOQS	Boqueron	2.07	85	eP	Pn	03 25 30.7	+0.6
SNET	Serv Nac Est T	2.11	86	eP	Pn	03 25 31.2	+0.7
SNET				eS	Sb	03 25 58.4	-2.0
SNET				AML	AML	03 26 07.4	
	comp=Z,1μm,0.3s						
OPAM	San Salvador	2.14	86	eP	Pn	03 25 32.4	+1.4
LFRS	El Faro	2.27	88	eP	Pn	03 25 34.5	+1.7
LFRS				eS	Sb	03 26 04.2	-1.0
LBRS	Las Brisas	2.30	85	eP	Pn	03 25 34.2	+1.1
PCIG		2.77	321	eP	Pn	03 25 37.4	-2.1
PCIG				i S	Sn	03 25 53.7	-18
CCIG	Comitan	2.80	345	eP	Pn	03 25 41.8	+1.7
CCIG				eS	Sn	03 26 01.8	-11
CCIG	Comitan	2.80	345	ePn	Pn	03 25 41.8	+1.7
TGIG		3.61	333	eP	Pn	03 25 49.7	-1.4
TGIG				i S	Sn	03 26 15.9	-17
TGUH	Tegucigalpa,Un	4.04	82	ePn	Pn	03 25 58.5	+1.5
CMIG	Matias Romero	4.86	317	Pn	Pn	03 26 07.0	-1.3
	comp=Z,2.7nm,0.3s,baz=130,slow=11,SNR=26						
CMIG				Sn	Sn	03 27 08.4	+4.6
	comp=Z,7.9nm,0.3s,baz=66,slow=18,SNR=7.4						
JTS	JuntasAbangare	7.09	117	Pn	Pb	03 27 37.6	+38
	comp=Z,2.3nm,0.3s,baz=344,slow=14,SNR=11						
JTS				Sn	Sb	03 28 52.0	+28
	comp=Z,1.4nm,0.3s,baz=321,slow=19,SNR=2.0						
TEIG	Tepich	7.27	24	ePn	Pn	03 26 42.7	+1.3
TLIG	Tlapa	7.97	301	ePn	Pn	03 26 51.2	0.0
LNIG	Linares	13.60	327	ePn	Pn	03 28 09.3	+1.1
034A	Hebbronville	15.07	334	P	P	03 28 33.4	+0.4
	baz=152						
636A	Smothers Creek	16.69	343	P	P	03 28 51.2	+0.2
	baz=160						
446A	Poplarville	17.25	6	P	Pn	03 28 56.7	+0.8
	baz=186						
447A	Lucedale	17.34	8	P	Pn	03 28 57.7	+0.7
	baz=189						
438A	Sam Houston St	17.52	348	P	P	03 29 00.8	+0.6
	baz=166						
340A	Bronson	17.92	353	P	Pn	03 29 04.3	0.0
	baz=172						
348A	Jackson	18.06	10	P	Pn	03 29 05.7	-0.2
	baz=191						
338A	Crockett	18.08	349	P	P	03 29 06.6	+0.3
	baz=168						
JCT	Junction City	18.54	337	eP	Pn	03 29 12.6	+0.8
	comp=Z,5.7nm,0.8s						
TXAR	Lajitas Array	19.39	326	P	Pn	03 29 22.1	-0.1
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=50						
TX31	Lajitas Ar. Si	19.39	326	eP	Pn	03 29 22.1	0.0
RUSC	La Rusia	19.58	111	eP	P	03 29 25.3	+1.8
RUSC				ePn	Pn	03 29 31.6	+6.6
Z40A	Long Farm, Mag	19.70	355	P	P	03 29 23.8	-0.3
	baz=174						
Z36A	Blue Ridge	20.15	348	P	P	03 29 29.0	-0.1
	baz=166						
Y45A	Yeager Farm, C	20.29	4	P	P	03 29 30.0	-0.5
	baz=185						
Y46A	Houston	20.36	6	P	P	03 29 31.0	-0.4
	baz=187						
Y38A	Idabel	20.50	352	P	P	03 29 31.4	-1.5
	baz=170						
Y47A	UCPARC, Winfie	20.51	8	P	P	03 29 32.7	-0.2
	baz=190						
Y37A	Hugo	20.69	350	P	P	03 29 34.0	-0.9
	baz=168						
Y36A	Durant	20.73	348	P	P	03 29 35.2	-0.2
	baz=166						
SDV	Santo Domingo	20.89	101	P	P	03 29 35.0	-2.4
	comp=Z,3.0nm,0.4s,baz=323,slow=6.1,SNR=2.6						
Y35A	Marietta	20.89	347	P	P	03 29 36.9	-0.2
	baz=164						
MIAR	Mount Ida	20.99	355	P	P	03 29 36.8	-1.3
	baz=174						
X39A	Fountain Ranch	21.00	354	P	P	03 29 37.9	-0.4
	baz=172						
GOGA	Godfrey	21.04	19	eP	P	03 29 39.2	+0.5
	comp=Z,9.5nm,0.8s						
X37A	Clayton	21.25	351	P	P	03 29 42.3	+1.4
	baz=169						
X38A	Whitesboro	21.25	352	P	P	03 29 40.4	-0.5
	baz=171						
X35A	Drake	21.36	347	P	P	03 29 43.4	+1.3
	baz=165						
X36A	Centrahoma	21.39	349	P	P	03 29 42.6	+0.1
	baz=166						
W37B	Quinton	21.79	351	P	P	03 29 46.9	+0.1
	baz=169						
W35A	Tecumseh	22.06	348	P	P	03 29 49.0	-0.6
	baz=166						
WMOK	Wichita Mounta	22.12	344	P	P	03 29 50.5	+0.2
	baz=160						
WMOK	Wichita Mounta	22.12	344	eP	P	03 29 50.3	0.0
	comp=Z,3.3nm,0.8s						

V41A	Mountainview	22.14	358	P	P	03 29 48.7	-1.8
	baz=178						
MNTX	Cornudas Mount	22.15	327	P	P	03 29 50.5	-0.2
	baz=141,SNR=17						
MNTX	Cornudas Mount	22.15	327	eP	P	03 29 50.3	-0.4
	comp=Z,10.0nm,0.9s						
V42A	Cord	22.15	0	P	P	03 29 49.4	-1.3
	baz=180,SNR=7.7						
V40A	Witts Springs	22.19	357	P	P	03 29 51.0	-0.1
	baz=176						
V39A	Pettigrew	22.28	355	P	P	03 29 51.1	-0.9
	baz=174						
V38A	Canehill	22.37	354	P	P	03 29 51.8	-1.3
	baz=172						
V37A	Hulbert	22.48	352	P	P	03 29 53.0	-1.1
	baz=170						
V35A	Meyer Ranch, C	22.64	348	P	P	03 29 55.4	-0.5
	baz=166						
U41A	Viola	22.69	359	P	P	03 29 55.1	-1.3
	baz=178						
U42A	Revenden	22.70	0	P	P	03 29 55.1	-1.3
	baz=180						
U40A	Yellville	22.74	357	P	P	03 29 55.7	-1.2
	baz=176						
U44B	Burton Farm, H	22.76	4	P	P	03 29 55.7	-1.3
	baz=185						
MSTX	Muleshoe	22.80	335	P	P	03 29 57.0	-0.7
	baz=150,SNR=6.3						
MSTX	Muleshoe	22.80	335	eP	P	03 29 55.7	-1.9
	comp=Z,9.7nm,0.7s						
U39A	Green Forest	22.80	356	P	P	03 29 56.3	-1.3
	baz=175						
U37A	Salina	22.99	352	P	P	03 29 58.7	-0.9
	baz=171						
TKL	Tuckaleechee C	23.05	16	P	P	03 29 59.5	-0.7
	comp=Z,10nm,0.6s,baz=180,slow=11,SNR=24						
TKL				LR	LR	03 39 35.8	
	comp=Z,209nm,20.1s,baz=166,slow=38						
AMTX	Amarillo	23.18	338	P	P	03 30 00.2	-1.4
	baz=154						
AMTX	Amarillo	23.18	338	eP	P	03 30 00.2	-1.4
	comp=Z,12nm,0.8s						
U35A	Pawnee	23.21	349	P	P	03 29 59.8	-2.0
	baz=167						
T41A	Mountain View	23.39	359	P	P	03 30 02.0	-1.5
	baz=179,SNR=5.2						
T39A	Clever	23.43	356	P	P	03 30 02.8	-1.1
	baz=175						
T43A	Greenville	23.45	2	P	P	03 30 02.1	-1.9
	baz=182						
T40A	Mansfield	23.52	358	P	P	03 30 03.2	-1.5
	baz=177,SNR=7.2						
T38A	Diamond	23.52	354	P	P	03 30 03.8	-1.1
	baz=173						
T37A	Cheneyville 18	23.68	353	P	P	03 30 05.4	-0.9
	baz=171						
T35A	Sooner Cattle	23.71	350	P	P	03 30 05.6	-1.0
	baz=167						
S41A	Jillco Farms,	23.93	359	P	P	03 30 06.7	-2.0
	baz=179,SNR=6.2						
T34A	McClaskey Farm	23.93	349	P	P	03 30 07.5	-1.2
	baz=166						
S43A	Fulton Ridge,	23.94	3	P	P	03 30 06.2	-2.6
	baz=183						
S40A	Lebanon	23.96	358	P	P	03 30 06.8	-2.2
	baz=177						
S38A	Stockton	24.08	355	P	P	03 30 07.8	-2.3
	baz=174						
S39A	Bolivar	24.09	356	P	P	03 30 08.3	-1.9
	baz=175,SNR=7.9						
121A	Cookes Peak, D	24.11	324	P	P	03 30 12.0	+1.4
	baz=138,SNR=5.4						
121A	Cookes Peak, D	24.11	324	eP	P	03 30 11.6	+1.0
	comp=Z,9.7nm,1.0s						
S44A	Carbondale	24.11	4	P	P	03 30 08.8	-1.6
	baz=185						
S42A	Caledonia	24.12	1	P	P	03 30 07.9	-2.6
	baz=181						
319A	Douglas	24.18	320	eP	P	03 30 11.9	+0.7
	comp=Z,9.3nm,1.0s						
S37A	Fort Scott	24.30	353	P	P	03 30 09.8	-2.3
	baz=172						
S36A	Lake Cedric, C	24.36	352	P	P	03 30 10.8	-1.8
	baz=170						
CCM	Cathedral Cave	24.40	0	eP	P	03 30 10.5	-2.5
	comp=Z,12nm,0.6s						
R42A	Luebbering	24.63	1	P	P	03 30 13.8	-1.2
	baz=181						
R38A	Fenwick Farm,	24.63	355	P	P	03 30 13.0	-2.1
	baz=174						
R41A	Rosebud	24.64	0	P	P	03 30 12.9	-2.2
	baz=180,SNR=6.8						
R40A	Maddies Statio	24.64	358	P	P	03 30 12.9	-2.3
	baz=178,SNR=5.2						
R43A	Red Bud	24.65	3	P	P	03 30 13.7	-1.6
	baz=183						
R44A	Waltonville	24.68	4	P	P	03 30 13.8	-1.7
	baz=185						
SJG	San Juan	24.70	76	eP	P	03 30 16.8	+0.9
	comp=Z,67nm,1.6s						
R39A	Chumby, Stover	24.70	357	P	P	03 30 14.2	-1.5
	baz=176,SNR=6.2						
BNM	Barren Site	24.72	329	eP	P	03 30 17.2	+1.0
R37A	Teagarden Farm	24.84	354	P	P	03 30 15.5	-1.6
	baz=172						
WCI	Wyandotte Cave	24.98	10	eP	P	03 30 15.7	-2.7
	comp=Z,41nm,1.0s						
CBYP	Canovanas	24.99	76	eP	P	03 30 17.3	-1.3
	comp=Z,43nm,1.3s						
LAZ	Ladron	25.18	328	eP	P	03 30 20.8	+0.4
R34A	Isabella, Hill	25.18	349	P	P	03 30 17.5	-2.6
	baz=166						
Q42A	Golden Eagle	25.26	2	P	P	03 30 19.1	-1.7
	baz=182						
ANMO	Albuquerque	25.27	330	P	P	03 30 21.4	+0.2
	comp=Z,1.1nm,0.5s,baz=348,slow=12,SNR=6.9						
ANMO	Albuquerque	25.27	330	P	P	03 30 21.5	+0.4
	baz=144						
ANMO	Albuquerque	25.27	330	eP	P	03 30 20.8	-0.4
	comp=Z,1.5nm,0.6s						
Q41A	Truxton	25.29	0	P	P	03 30 19.2	-1.9
	baz=180						
Q43A	New Douglas	25.33	3	P	P	03 30 19.2	-2.2
	baz=184						
Q44A	Meyer Farm, Va	25.33	4	P	P	03 30 20.1	-1.3
	baz=185						
Q40A	Laux Farm, Aux	25.34	359	P	P	03 30 19.6	-1.9
	baz=178						
Q38A	Cooks Store, C	25.38	356	P	P	03 30 20.6	-1.2
	baz=175						
Q39A	Willow Grove F	25.42	357	P	P	03 30 22.0	-0.2
	baz=176						
TUC	Tucson	25.75	320	P	P	03 30 26.0	+0.6
	baz=132						
TUC	Tucson	25.75	320	eP	P	03 30 26.2	+0.8
	comp=Z,5.9nm,1.0s						
P39B	Salisbury	25.86	358	P	P	03 30 25.1	-1.0
	baz=177						
P40A	Paris	25.88	359	P	P	03 30 24.0	-2.3
	baz=178						
P44A	Sand Creek, Wi	25.92	5	P	P	03 30 25.9	-0.9
	baz=186						
P42A	Winchester	25.94	2	P	P	03 30 26.0	-1.0
	baz=182						
P41A	Barry, Barry	26.02	1	P	P	03 30 26.0	-1.7
	baz=181						
P38A	Dawn	26.03	356	P	P	03 30 27.5	-0.3
	baz=175						
T25A	Trinidad	26.20	336	P	P	03 30 29.9	+0.2
	baz=150						
O41A	Passleys Farm,	26.46	1	P	P	03 30 31.6	0.0
	baz=181						
214A	Organ Pipe Nat	26.84	317	P	P	03 30 37.3	+2.0
	baz=128						
SDCO	Great Sand Dun	27.17	335	eP	P	03 30 38.8	+0.4
	comp=Z,16nm,1.9s						
N38A	Joes South For	27.18	357	P	P	03 30 38.2	+0.1
	baz=176						
X16A	Lo Mia Camp, P	27.58	322	eP	P	03 30 42.4	+0.3
	comp=Z,2.4nm,0.8s						
S22A	4UR Ranch, Cre	27.73	333	P	P	03 30 43.5	0.0
	baz=146						
M38A	Pleasantville	27.80	357	P	P	03 30 43.8	+0.1
	baz=176						
MVCO	Mesa Verde	28.07	330	P	P	03 30 46.9	+0.4
	baz=142						
MVCO	Mesa Verde	28.07	330	eP	P	03 30 47.1	+0.7
	comp=Z,27nm,1.8s						
WUAZ	Wupatki	28.32	324	P	P	03 30 47.8	-0.8
	baz=136						
L40A	Anamosa	28.40	0	P	P	03 30 48.9	-0.2
	baz=180						
PDMCI	Parker Dam,Lak	29.17	319	P	P	03 30 56.8	+0.8
	baz=130						
NNA	Nana	29.20	150	eP	P	03 30 59.4	+2.9
	comp=Z,29nm,0.9s						
U15A	North Rim	29.49	324	eP	P	03 31 00.3	+1.2
	comp=Z,4.4nm,1.4s						
W13A	Hualapai Mount	29.53	320	eP	P	03 31 01.1	+1.7
	comp=Z,3.5nm,1.1s						
BC3	Big Chuckawall	29.63	317	P	P	03 31 01.0	+0.7
	baz=127						
F43A	Flat Rock, Esc	32.37	6	P	P	03 31 21.4	-2.6
	baz=188						
MPMC	Manual Prospec	32.41	318	P	P	03 31 24.3	-0.6
	baz=127						
DUG	Dugway, Tooele	32.52	329	eP	P	03 31 25.5	-0.2
	comp=Z,1.1nm,0.6s						
R11A	Troy Canyon, C	32.71	323	P	P	03 31 28.4	+1.0
	baz=132						
HWUT	Hardware Ranch	33.00	332	eP	P	03 31 30.8	+1.0
	comp=Z,3.7nm,0.8s						
E34A	Wadena	33.00	355	P	P	03 31 29.4	-0.2
	baz=173						
PDAR	Pinedale Array	33.06	335	P	P	03 31 30.6	+0.2
	comp=Z,0.4nm,0.6s,baz=132,slow=6.2,SNR=4.7						
PDAR				PcP	PcP	03 34 13.8	+0.1
	comp=Z,0.3nm,0.6s,baz=116,slow=4.1,SNR=3.3						
BW06	Boulder Array	33.06	335	eP	P	03 31 29.4	-1.1
	comp=Z,0.9nm,0.5s						
D41A	Chassel	33.48	4	P	P	03 31 33.1	-0.6
	baz=185						
REDW	Red Top Meadow	34.09	334	eP	P	03 31 39.2	-0.2
	comp=Z,5.8nm,0.8s						
C36A	Pine Crest Far	34.12	358	P	P	03 31 37.4	-1.9
	baz=177						
SNOW	Snow King Moun	34.13	335	eP	P	03 31 39.9	+0.1
	comp=Z,6.7nm,0.7s						
LOHW	Long Hollow	34.19	335	eP	P	03 31 39.2	-1.1
	comp=Z,2.3nm,0.8s						
TPAW	Teton Pass	34.24	334	eP	P	03 31 40.4	-0.3
	comp=Z,2.8nm,0.8s						
MOOW	Moose Ponds	34.36	335	eP	P	03 31 41.9	+0.2
	comp=Z,1.6nm,0.8s						
BMN	Battle Mountai	35.05	325	eP	P	03 31 49.7	+2.0
	comp=Z,3.6nm,0.7s						
A33A	Warroad	35.43	355	P	P	03 31 48.4	-2.2
	baz=173						
SAML	Samuel	35.84	127	eP	P	03 31 51.9	-2.6
	comp=Z,2.0nm,0.7s						
HLID	Hailey	35.84	331	P	P	03 31 54.1	-0.4
	baz=140						
HLID	Hailey	35.84	331	eP	P	03 31 53.7	-0.8
	comp=Z,2.0nm,0.9s						
MCMT	McKenzie Canyo	36.12	334	eP	P	03 31 58.1	+1.1
WVOR	Wild Horse Val	37.18	326	eP	P	03 32 07.1	+1.2
	comp=Z,5.7nm,1.1s						
J08A	Circle Bar Ran	37.73	327	eP	P	03 32 10.9	+0.5
	comp=Z,12nm,0.6s						
MSO	Missoula	38.18	335	P	P	03 32 13.5	-0.7
	baz=143						
J04D	Umpqua Nationa	39.64	324	P	P	03 32 27.5	+0.8
	baz=129						
I05D	Terrebonne, OR	39.92	326	P	P	03 32 28.9	+0.2
	baz=131						
C09A	Chrisman Ranch	40.81	332	eP	P	03 32 36.0	0.0
	comp=Z,6.9nm,0.9s						
LVC	Limon Verde	42.16	148	eP	P	03 32 46.9	-0.9
	comp=Z,3.6nm,0.9s						
SCHQ	Schefferville	45.43	20	LR	LR	03 52 41.4	
	comp=Z,222nm,21.2s,baz=335,slow=37						
YKA	Yellowknife Ar	51.59	346	P	P	03 33 58.7	-1.8
	comp=Z,1.7nm,0.6s,baz=142,slow=6.7,SNR=4.5						
ILAR	Eielson Array	63.47	337	P	P	03 35 24.3	+0.1
	comp=Z,2.7nm,0.8s,baz=121,slow=8.5,SNR=5.0						
GERES	GERESS Array B	89.57	40	LR	LR	04 18 10.7	
	comp=Z,149nm,18.5s,baz=12,slow=36						
TORD	Torodi Ar. Bea	89.91	77	P	P	03 37 51.1	-3.1
	comp=Z,0.4nm,0.9s,baz=288,slow=4.2,SNR=2.7						
KSH	Kashi	125.90	12	ePKP	PKPdf	03 43 57.8	+0.9
KSH				sPKP		03 44 12.8	
KSH				PP	PP	03 45 56.8	+8.3
KSH				PKS	PKSdf	03 47 35.0	+1.4
KSH				SKS	SKSdf	03 51 07.3	+0.1
KSH				SKKS	SKKSac	03 52 43.8	-2.5
KSH	Kashi	125.90	12	SS	SS	04 02 51.0	+3.8
KSH				AMB	AMB		
	comp=Z,370nm,9.4s						
KSH				LR	LR		
	comp=N,75nm,8.3s						
KSH				LR	LR		
	comp=E,84nm,7.3s						
KSH				LR	LR		
	comp=Z,84nm,9.4s						
CMAR	Chiang Mai Arr	146.59	342	PKPbc	PKPbc	03 44 36.2	-0.6
	comp=Z,3.4nm,0.8s,baz=345,slow=4.5,SNR=19						

AZER ***30*** *03:30:22.1±1.3, 38°.29N×43°.44E, h114km±15km, Error ellipse: s-maj=15.3km s-min=4.4km az=60.0*
DDA ***30*** *03:30:23.7, 38°.93N×43°.53E, h9km, Ml3.7*
IASPEI ***30*** *03:30:24.5±1.1, 38°.91N±0°.03×43°.55E±0°.03, h4km±17km, Error ellipse: s-maj=4.4km s-min=4.3km az=72.6, GT5 selection from ISC bulletin GT5 identified by Bond˜¡r and McLaughlin (2009) selection criteria Bond˜¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
CSEM ***30*** *03:30:24.7±0.2, 38°.93N×43°.52E, h2km, ML3.7, Error ellipse: s-maj=5.8km s-min=4.1km az=145.0*
ISK ***30*** *03:30:24.4, 38°.97N×43°.55E, h6km, ML3.6*

ISC 30 03:30:24.7±0.9, **38°.93N**±0°.02×**43°.55E**±0°.02, **h9**km±7km, **n86**, σ1°**58**/97, **8C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.06	16	*i* P	Pg	03 30 25.9	-0.9
VMUR	Van-Muradiye	0.06	16	P	Pg	03 30 25.9	-0.9
ERCV	ERCIS-VAN	0.19	298	*e*PG	Pg	03 30 28.2	-0.5
ERCV	ERCIS-VAN	0.19	298	*e*Pg	Pg	03 30 28.2	-0.5
CLDR	Caldiran	0.35	54	*e*PG	Pg	03 30 31.3	-0.5
CLDR				*e*SG	Sg	03 30 37.0	+0.6
CLDR	Caldiran	0.35	54	*i* P	Pg	03 30 31.0	-0.8
CLDR	Caldiran	0.35	54	P	Pg	03 30 31.0	-0.8
CLDR	Caldiran	0.35	54	*e*Pg	Pg	03 30 31.3	-0.5
CLDR				*e*Sg	Sg	03 30 37.0	+0.6
VANB	Van	0.36	201	*e*PG	Pb	03 30 33.5	+0.1
VANB				*e*SG	Sb	03 30 41.4	+2.2
VANB	Van	0.36	201	*e*Pg	Pb	03 30 33.5	+0.1
VANB				*e*Sg	Sb	03 30 41.4	+2.2
TVAN	Van	0.42	196	*i* P	Pg	03 30 32.2	-0.7
TVAN	Van	0.42	196	P	Pg	03 30 32.2	-0.7
DYDN	Diyadin	0.62	10	*i* P	Pg	03 30 36.5	-0.2
DYDN	Diyadin	0.62	10	P	Pg	03 30 36.5	-0.2
ADCV	BITLIS_Adilcev	0.66	259	*i* P	Pg	03 30 36.3	-1.1
ADCV	BITLIS_Adilcev	0.66	259	P	Pg	03 30 36.3	-1.1
GEVA	Gevas	0.73	212	*i* P	Pg	03 30 37.3	-1.5
GEVA	Gevas	0.73	212	P	Pg	03 30 37.3	-1.5
TUTA	Tutak	0.74	309	*i* P	Pg	03 30 37.6	-1.4
TUTA	Tutak	0.74	309	P	Pg	03 30 37.6	-1.4
AGRB	Hanur-Agry	0.78	326	*e*PG	Pg	03 30 39.1	-0.5
AGRB				*e*SG	Sb	03 30 50.2	-1.0
AGRB	Hanur-Agry	0.78	326	*e*Pg	Pg	03 30 39.1	-0.5
AGRB				*e*Sg	Sb	03 30 50.2	-1.0
BASK	Baskale_VAN	0.95	158	*i* P	Pg	03 30 41.9	-1.0
BASK	Baskale_VAN	0.95	158	P	Pg	03 30 41.9	-1.0
TATV	Tatvan	1.09	247	*i* P	Pb	03 30 43.5	-2.4
TATV	Tatvan	1.09	247	P	Pb	03 30 43.5	-2.4
EKAR	Karacoban	1.20	286	*i* P	Pb	03 30 47.3	-0.5
EKAR	Karacoban	1.20	286	P	Pb	03 30 47.3	-0.5
HAKT	HAKKARI	1.38	175	*i* P	Pn	03 30 48.0	-2.4
NAX	Nakhchivan	1.53	80	⇑P	Pb	03 30 53.5	+0.1
NAX				⇓S	Sg	03 31 17.7	+3.7
NAX	Nakhchivan	1.53	80	P	Pb	03 30 53.5	+0.1
NAX				S	Sg	03 31 17.7	+3.7
SRTM	Siirt_Merkez	1.59	234	*i* P	Pb	03 30 53.4	-0.9
SRTM	Siirt_Merkez	1.59	234	P	Pb	03 30 53.4	-0.9
VRTB	Varto-Mus	1.65	279	*e*PN	Pb	03 30 54.5	-0.9
VRTB	Varto-Mus	1.65	279	*e*Pn	Pb	03 30 54.5	-0.9
CUKT	Cukurca	1.68	178	*e*PN	Pb	03 30 55.4	-0.5
CUKT	Cukurca	1.68	178	*i* P	Pb	03 30 55.3	-0.7
CUKT	Cukurca	1.68	178	P	Pb	03 30 55.3	-0.7
SENK	Senkaya-Erzuru	1.87	331	*e*PN	Pn	03 30 57.7	+0.5
SENK	Senkaya-Erzuru	1.87	331	*e*Pn	Pn	03 30 57.7	+0.5
SVAN	Silvan-Diyarba	2.00	248	*e*PN	Pb	03 30 59.9	-1.4
SVAN	Silvan-Diyarba	2.00	248	*i* P	Pb	03 30 60.0	-1.4
SVAN	Silvan-Diyarba	2.00	248	*e*Pn	Pb	03 30 59.9	-1.4
BTMN	Batman	2.07	241	*i* P	Pb	03 31 01.6	-0.9
BTMN	Batman	2.07	241	P	Pb	03 31 01.6	-0.9
BNGB	Bing˜¶l	2.24	272	*e*PN	Pn	03 31 02.9	+0.8
BINT	Bingol	2.39	270	*e*Pn	Pn	03 31 02.9	-1.3
YEDI	Yedisu-Bingol	2.39	283	*e*PN	Pn	03 31 05.3	+1.1
YEDI	Yedisu-Bingol	2.39	283	*e*Pn	Pn	03 31 05.3	+1.1
GDB	GEDABAY	2.46	43	⇑P	Pb	03 31 07.3	-2.0
GDB				⇓S	Sg	03 31 44.9	+1.1
GDB	GEDABAY	2.46	43	P	Pb	03 31 07.3	-2.0
AKH	Akhalkalaki	2.47	359	*e*PN	Pn	03 31 05.7	+0.3
AKH	Akhalkalaki	2.47	359	P	Pg	03 31 11.5	-0.7
AKH	Akhalkalaki	2.47	359	*e*Pn	Pn	03 31 05.7	+0.3
QZX	Qazax, Azerbai	2.54	33	⇓P	Pb	03 31 08.5	-2.0
QZX				⇑S	Sg	03 31 48.4	+2.1
QZX	Qazax, Azerbai	2.54	33	P	Pb	03 31 08.5	-2.0
GANJ	Ganja	2.73	50	⇑P	Pn	03 31 10.9	+2.1
GANJ				⇓S	Sg	03 31 51.3	-1.2
GANJ	Ganja	2.73	50	P	Pn	03 31 10.9	+2.1
MAZI	Mazidag	2.85	240	*e*PN	Pn	03 31 12.1	+1.5
MAZI	Mazidag	2.85	240	*e*Pn	Pn	03 31 12.1	+1.5
DGRG	David-gareji	2.88	28	P	Pb	03 31 13.8	-2.4
TBLG	Delisi	2.94	18	*e*PN	Pn	03 31 12.1	+0.5
TBLG	Delisi	2.94	18	P	Pb	03 31 18.1	+0.9
TBLG	Delisi	2.94	18	*e*Pn	Pn	03 31 12.1	+0.5
BRDA	Brd	3.10	64	⇓P	Pn	03 31 14.7	+0.9
BRDA	Brd	3.10	64	P	Pn	03 31 14.7	+0.9
PTK	Pertek	3.25	271	*e*PN	Pn	03 31 17.4	+1.5
PTK	Pertek	3.25	271	*e*Pn	Pn	03 31 17.5	+1.5
MNGR	Mingechevir, A	3.28	55	⇑P	Pn	03 31 18.2	+1.9
MNGR	Mingechevir, A	3.28	55	P	Pn	03 31 18.2	+1.9
SVRC	Sivrice-ELAZID	3.37	262	*e*PN	Pn	03 31 19.3	+1.6
SVRC	Sivrice-ELAZID	3.37	262	*e*Pn	Pn	03 31 19.3	+1.6
ZRD	Zardab	3.46	66	⇑P	Pn	03 31 19.4	+0.6
ZRD	Zardab	3.46	66	P	Pn	03 31 19.4	+0.6
ZKTA	Zakatala	3.58	40	⇓P	Pn	03 31 23.8	+3.3
SEKA	Sheki	3.60	50	⇑P	Pn	03 31 23.7	+2.8
SEKA	Sheki	3.60	50	P	Pn	03 31 23.7	+2.8
ONI	Oni	3.65	359	P	Pg	03 31 32.1	-2.6
LRK	Lerik	3.75	93	⇓P	Pn	03 31 19.8	-3.2
LRK	Lerik	3.75	93	P	Pn	03 31 19.8	-3.2
GLBA	Cilalabad	3.78	84	⇓P	Pn	03 31 21.2	-2.0
GLBA	Cilalabad	3.78	84	P	Pn	03 31 21.2	-2.0
SAAT	Saatly	3.89	75	⇑P	Pn	03 31 23.8	-0.8
SAAT	Saatly	3.89	75	P	Pn	03 31 23.8	-0.8
URFA	Urfa	4.01	250	*e*PN	Pn	03 31 29.0	+2.5
URFA	Urfa	4.01	250	*e*Pn	Pn	03 31 29.0	+2.5

CSEM ***30*** *03:33:55.4, 43°.40N×12°.55E, h10km, MD1.4/4*

ROM 30 03:33:55.4±0.2, **43°.40N**×**12°.55E, h10**km±2km, **Md1.4**/4, **Ml0.5**/4, **Error ellipse: s-maj=0.8km s-min=0.6km az=127.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	Poggio Castell	0.10	320	Pg	Pg	03 33 58.5	+0.4
ATPC				Sg	Sg	03 34 00.8	+0.7
	12nm,0.2s						
ATPC	Poggio Castell	0.10	320	Pg	Pg	03 33 58.5	+0.4
ATPC				Sg	Sg	03 34 00.8	+0.7
	12nm,0.2s						
MURB	Monte Urbino	0.14	187	Pg	Pg	03 33 59.3	+0.7
MURB				Sg	Sg	03 34 01.8	+0.9
	38nm,1.1s						
MURB	Monte Urbino	0.14	187	Pg	Pg	03 33 59.3	+0.7
MURB				Sg	Sg	03 34 01.8	+0.9
	38nm,1.1s						
FRON	Frontone	0.17	47	Pg	Pg	03 33 59.8	+0.6
FRON				Sg	Sg	03 34 03.2	+1.4
	5.0nm,0.3s						
FRON	Frontone	0.17	47	Pg	Pg	03 33 59.8	+0.6
FRON				Sg	Sg	03 34 03.2	+1.4
	5.0nm,0.3s						
SSFR	Montelago di S	0.17	78	Pg	Pg	03 33 59.7	+0.5
SSFR				Sg	Sg	03 34 02.9	+1.1
	14nm,0.2s						
SSFR	Montelago di S	0.17	78	Pg	Pg	03 33 59.7	+0.5
SSFR				Sg	Sg	03 34 02.9	+1.1
	14nm,0.2s						

CSEM ***30*** *03:37:50.9±0.3, 38°.75N×43°.57E, h2km, ML2.9, Error ellipse: s-maj=8.1km s-min=4.7km az=115.0*
DDA ***30*** *03:37:50.4, 38°.76N×43°.58E, h7km, Ml3.0*
ISK ***30*** *03:37:50.3, 38°.74N×43°.52E, h5km, ML2.9*
ISCJB ***30*** *03:37:51.4±0.6, 38°.75N±0°.04×43°.57E±0°.06, h13km, Error ellipse: s-maj=7.5km s-min=4.3km az=26.5*

ISC 30 03:37:51.4±0.9, **38°.76N**±0°.03×**43°.56E**±0°.04, **h13**km, **n40**, σ0°**98**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	218	*e*PG	Pg	03 37 56.5	+0.3
VANB	Van	0.21	218	*e*Pg	Pg	03 37 56.5	+0.3
VMUR	Van-Muradiye	0.23	3	*i* P	Pg	03 37 56.3	-0.2
VMUR	Van-Muradiye	0.23	3	P	Pg	03 37 56.3	-0.2
TVAN	Van	0.26	207	*i* P	Pg	03 37 56.1	-0.9
TVAN	Van	0.26	207	P	Pg	03 37 56.1	-0.9
ERCV	ERCIS-VAN	0.31	327	*e*PG	Pg	03 37 58.1	+0.2
ERCV	ERCIS-VAN	0.31	327	*e*Pg	Pg	03 37 58.1	+0.2
CLDR	Caldiran	0.47	36	*e*PG	Pg	03 38 00.5	-0.4
CLDR				*e*SG	Sb	03 38 09.6	+0.8
CLDR	Caldiran	0.47	36	*i* P	Pg	03 37 59.9	-1.0
CLDR	Caldiran	0.47	36	P	Pg	03 37 59.9	-1.0
CLDR	Caldiran	0.47	36	*e*Pg	Pg	03 38 00.5	-0.4
GEVA	Gevas	0.59	221	*i* P	Pg	03 38 01.5	-1.6
GEVA	Gevas	0.59	221	P	Pg	03 38 01.5	-1.6
ADCV	BITLIS_Adilcev	0.65	274	*i* P	Pg	03 38 03.6	-0.6
ADCV	BITLIS_Adilcev	0.65	274	P	Pg	03 38 03.6	-0.6

OKCE	Okmok Cone E	1.58	46	P		Pn	03 41 52.5 +0.6
OKTU	Okmok Mt. Tuli	1.60	49	P		Pn	03 41 52.6 +0.3
OKNC	Okmok New Cone	1.61	46	P		Pn	03 41 53.6 +1.2
OKFG	Magazine Ridge	1.68	50	P		Pn	03 41 53.7 +0.4
KOSE	Korovin Southe	2.45	272	P		Pn	03 42 04.9 +1.1
KOFP	Korovin Flat P	2.48	270	P		Pn	03 42 04.3 +0.1
MSW	Makushin Switc	2.52	50	P		Pn	03 42 05.5 +0.6
MSW				S		Sn	03 42 37.1 +2.8
KOKL	Mount Kliuchef	2.54	271	P		Pn	03 42 06.0 +0.9
MTBL	Makushin Table	2.60	50	P		Pn	03 42 07.2 +1.2
UNV	Unalaska Valle	2.62	54	P		Pn	03 42 06.3 +0.2
UNV				S		Sn	03 42 37.0 +0.4
ZRO	Akutan Zero	3.01	53	P		Pn	03 42 13.7 +2.2
ADK	Adak	4.11	266	P		Pn	03 42 26.5 -0.1
KDAK	Kodiak Island	11.39	55	P		Pn	03 44 05.5 -0.6
	0.4nm,0.3s,baz=248,slow=7.2,SNR=5.8						
KDAK				S		Sn	03 46 07.0 -4.8
	0.3nm,0.3s,baz=94,slow=16,SNR=2.1						
BPAW	Bear Paw Mtn.	15.39	33	ePn		P	03 45 03.8 -0.5
	1.3nm,0.7s						
ILAR	Eielson Array	17.21	35	P		Pn	03 45 22.4 -0.8
	0.1nm,0.3s,baz=218,slow=11,SNR=7.5						
ILAR				PcP		PcP	03 50 04.5 +0.1
	0.0nm,0.3s,baz=282,slow=2.8,SNR=4.8						
EGAK	Eagle	19.32	39	eP		P	03 45 48.4 +0.9
	3.5nm,0.6s						
PETK	Petropavlovsk-	19.46	285	P		P	03 45 49.7 +0.6
	3.9nm,0.3s,baz=83,slow=14,SNR=78						
SEY	Seymchan	22.38	313	P		P	03 46 20.8 +0.4
	1.7nm,0.5s,baz=75,slow=6.9,SNR=3.7						
SEY				PcP		PcP	03 50 14.5 +0.7
	1.1nm,0.3s,baz=208,slow=6.4,SNR=4.4						
MA2	Magadan	22.80	304	P		P	03 46 26.5 +1.5
	15nm,1.1s,baz=78,slow=14,SNR=3.4						
YKA	Yellowknife Ar	30.57	49	P		P	03 47 35.7 +0.3
	0.8nm,0.7s,baz=278,slow=7.0,SNR=2.9						
NEW	Newport	33.42	75	P		P	03 48 02.0 +1.3
	0.4nm,0.3s,baz=302,slow=9.5,SNR=2.7						
WVOR	Wild Horse Val	35.50	85	eP		P	03 48 18.1 -0.7
	2.2nm,0.9s						
KLR	Kul'dur	36.07	289	P		P	03 48 21.8 -1.6
	0.2nm,0.5s,baz=57,slow=4.8,SNR=12						
H11N2	WAKE ISLAND Hy	37.17	218	T		T	04 28 15.5
	baz=24,slow=76,SNR=9.3						
H11N3	WAKE ISLAND Hy	37.18	218	T		T	04 28 28.4
	baz=24,slow=76,SNR=12						
H11N1	WAKE ISLAND Hy	37.19	218	T		T	04 28 21.9
	baz=24,slow=76,SNR=8.9						
BOZ	Bozeman (W)	38.02	76	eP		P	03 48 40.8 +0.7
	0.8nm,0.5s						
H11S1	WAKE ISLAND Hy	38.37	217	T		T	04 29 40.5
	baz=23,slow=76,SNR=104						
H11S2	WAKE ISLAND Hy	38.38	217	T		T	04 29 40.0
	baz=23,slow=76,SNR=71						
H11S3	WAKE ISLAND Hy	38.38	217	T		T	04 29 53.6
	baz=23,slow=76,SNR=40						
MJAR	Matsushiro Arr	39.27	267	P		P	03 48 50.4 -0.2
	0.3nm,0.3s,baz=16,slow=8.3,SNR=4.6						
BW06	Boulder Array	40.82	79	eP		P	03 49 04.4 +0.7
	1.4nm,0.7s						
PDAR	Pinedale Array	40.82	79	P		P	03 49 04.5 +0.8
	0.5nm,0.5s,baz=289,slow=4.6,SNR=7.5						
KSRS	Korea Array	44.99	276	P		P	03 49 37.6 +0.6
	2.4nm,0.9s,baz=55,slow=7.4,SNR=5.3						
KSAR	Wonju Array Be	45.02	276	P		P	03 49 37.6 +0.3
SPITS	Spitsbergen Ar	49.68	358	P		P	03 50 13.1 0.0
	6.7nm,0.8s,baz=14,slow=3.9,SNR=4.4						
MNTX	Cornudas Mount	50.46	88	eP		P	03 50 20.8 +1.2
	2.5nm,1.1s						
SONM	Songino Array	50.95	300	P		P	03 50 24.1 +0.9
	0.8nm,0.4s,baz=48,slow=5.0,SNR=6.2						
SONM				PcP		PcP	03 51 38.8 -0.1
	0.8nm,0.9s,baz=67,slow=4.7,SNR=3.7						
TXAR	Lajitas Array	53.17	88	P		P	03 50 40.4 +0.5
	0.6nm,0.7s,baz=299,slow=5.5,SNR=7.7						
TXAR				PcP		PcP	03 51 47.0 -0.6
	0.1nm,0.7s,baz=336,slow=4.2,SNR=2.6						
ZALV	Zalesovo Beam	57.15	317	PcP		PcP	03 52 01.9 -0.5
	0.7nm,0.5s,baz=62,slow=3.5,SNR=4.1						
KURK	Kurchatov	62.11	318	eP		P	03 51 41.7 -0.6
	17nm,0.5s						
BRVK	Borovoye	63.48	324	eP		P	03 51 51.0 -0.5
	9.6nm,0.9s						
MKAR	Makanchi Array	63.51	313	P		P	03 51 50.6 -1.2
	0.4nm,0.4s,baz=54,slow=5.6,SNR=8.6						
ARU	Arti	64.45	332	eP		P	03 51 57.5 -0.2
	3.2nm,0.6s						
FINES	FINESS Array B	65.83	352	P		P	03 52 05.6 -1.0
	0.8nm,0.3s,baz=8.9,slow=8.1,SNR=10						
NOA	NORSAR Array B	66.96	359	P		P	03 52 14.1 +0.2
	0.3nm,0.4s,baz=360,slow=3.1,SNR=2.9						
AAK	Ala-Archa	70.22	315	eP		P	03 52 34.4 -0.3
	1.2nm,0.5s						
ABKAR	Akbulak array	70.23	328	eP		P	03 52 33.9 -0.4
	1.6nm,0.4s						
CHTO	Chiang Mai	75.93	282	eP		P	03 53 07.9 -0.6
	2.6nm,0.6s						
AKASG	Malin Array Be	76.04	348	P		P	03 53 08.2 -0.4
	0.6nm,0.5s,baz=16,slow=5.5,SNR=4.2						
CMAR	Chiang Mai Arr	76.21	282	P		P	03 53 10.0 -0.1
	2.7nm,0.6s,baz=26,slow=6.7,SNR=9.8						
MORC	Moravsky Berou	78.05	355	eP		P	03 53 19.3 -0.7
	5.4nm,0.7s						
GRFO	Grafenberg	78.33	359	eP		P	03 53 21.8 +0.3
	4.7nm,0.9s						
GERES	GERESS Array B	79.13	357	P		P	03 53 27.2 +1.1
	0.4nm,0.6s,baz=356,slow=7.9,SNR=4.6						
BRTR	Keskin Array B	86.02	342	P		P	03 54 02.5 +0.4
	0.7nm,0.8s,baz=17,slow=3.7,SNR=3.5						
WRA	Warramunga Arr	86.66	231	P		P	03 54 03.9 -1.2
	0.5nm,0.8s,baz=31,slow=5.7,SNR=4.5						
ESDC	Sonseca Array	87.56	11	P		P	03 54 09.8 +0.3
	1.1nm,0.8s,baz=352,slow=4.6,SNR=5.6						
ASAR	Alice Springs	90.06	230	P		P	03 54 20.4 -0.9
	1.4nm,0.7s,baz=29,slow=4.7,SNR=12						
TORD	Torodi Ar. Bea	114.39	9	PKP		PKPdf	04 00 00.9 -0.6
	0.6nm,1.0s,baz=270,slow=2.2,SNR=4.3						
TSUM	Tsumeb	146.39	347	ePKPbc		PKPbc	04 01 03.6 +1.1
BOSA	Boshof	153.70	328	PKPbc		PKPbc	04 01 20.6 +0.3
	1.4nm,0.7s,baz=339,slow=4.9,SNR=3.0						
BOSA				PKPab		sPKPdf	04 01 31.4 +0.5
	1.1nm,0.5s,baz=305,slow=1.7,SNR=3.8						

ISCJB ***30*** *04:01:24.8±0.3, 5°.50S±0°.04×147°.25E±0°.07, h170km, mb4.4/39, Error ellipse: s-maj=9.4km s-min=4.9km az=8.3*
IDC ***30*** *04:01:25.9±1.4, 5°.60S×147°.28E, h166km±13km, mb3.8/16, mb1 4.0/18, mb1mx3.9/36, mbtmp4.3/18, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=16.6km s-min=7.6km az=104.0*
NEIC ***30*** *04:01:28.1±0.7, 5°.53S×147°.27E, h192km±7km, mb4.6/18, Error ellipse: s-maj=9.5km s-min=5.8km az=103.0*
NEIC Felt at Kainantu and Lae.
ISC 30 04:01:26.0±0.4**, 5°.58S**±0°.04×**147°.25E**±0°.07**, h170**km**, n64, σ1**^{s}**81**/72**, mb4.4**/39**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.51	2	ePn	Pn	04 02 24.5	+3.9
PMG	Port Moresby	3.81	181	P	Pn	04 02 25.3	+0.9
	144nm,0.3s,baz=51,slow=6.9,SNR=353						
PMG				S	Sn	04 03 07.6	-2.3
	41nm,0.3s,baz=347,slow=17,SNR=3.2						
PMG	Port Moresby	3.81	181	ePn	Pn	04 02 25.2	+0.9
PMG				eSn	Sn	04 03 05.1	-4.8
RABL	Rabaul	5.08	75	ePn	Pn	04 02 43.6	+2.7
COEN	Coen	9.25	205	ePn	Pn	04 03 38.4	+2.6
COEN				eSn	Sn	04 05 17.1	-1.7
CTA	Charters Tower	14.46	184	P	P	04 04 45.5	+0.7
	0.3nm,0.3s,baz=3.6,slow=12,SNR=5.5						
CTAO	Charters Tower	14.46	184	ePn	P	04 04 45.6	+0.7
MTN	Manton Dam	17.46	244	eP	Pn	04 05 19.9	+0.5
	28nm,0.4s						
WRAB	Tennant Creek	19.00	220	eP	P	04 05 36.4	+1.6
	42nm,0.8s						
WB2	Warramunga Arr	19.01	220	eP	P	04 05 36.5	+1.6
	36nm,0.8s						
WRA	Warramunga Arr	19.02	220	P	P	04 05 36.6	+1.6
	3.4nm,0.3s,baz=49,slow=12,SNR=68						
WRA				S	S	04 09 01.1	-0.9
	0.3nm,0.3s,baz=41,slow=20,SNR=27						
WRA				LR	LR	04 13 44.7	
	comp=Z,122nm,19.7s,baz=15,slow=39						
EIDS	Eidsvold	20.02	170	eP	Pn	04 05 47.9	-1.6
	8.4nm,0.8s						
AS31	Alice Springs	22.11	214	eP	P	04 06 09.2	+1.4
	12nm,0.7s						
AS31				eS	S	04 10 00.7	+1.4
ASAR	Alice Springs	22.11	214	P	P	04 06 09.2	+1.4
	26nm,0.7s,baz=49,slow=8.4,SNR=84						
ASAR				S	S	04 10 02.0	+2.7
	20nm,0.9s,baz=30,slow=22,SNR=36						
SARN	Sarigan	22.18	356	eP	P	04 06 07.7	-0.8
FITZ	Fitzroy Crossi	24.50	238	eP	P	04 06 30.2	+0.4
DZM	Mont Dzumac	24.77	133	P	P	04 06 31.7	-0.6
	6.3nm,0.6s,baz=323,slow=10,SNR=11						
DZM	Mont Dzumac	24.77	133	eP	P	04 06 31.7	-0.6
	9.6nm,0.8s						
KWAJ	Kwajalein Atol	24.82	55	eP	P	04 06 32.2	-0.4
	218nm,1.2s						
ARMA	Armidale	25.05	171	eP	P	04 06 35.3	+0.6
	8.8nm,0.6s						
STKA	Stephens Creek	26.70	191	P	P	04 06 50.6	+1.2
	0.6nm,0.3s,baz=15,slow=12,SNR=2.5						
BBOO	Buckleboo	29.04	200	eP	P	04 07 10.7	+0.5
	16nm,1.3s						
MBWA	Marble Bar	30.84	237	eP	P	04 07 24.8	-1.5
	98nm,1.3s						
FORT	Forrest	30.89	213	eP	P	04 07 26.1	-0.5
	220nm,0.9s						
WAKE	Wake Island	31.23	37	eP	P	04 07 26.8	-2.8
	275nm,1.4s						
KKM	Kota Kinabalu	33.06	290	eP	P	04 07 45.4	-0.4
	6.8nm,0.7s						
JOW	Kunigami	37.09	331	eP	P	04 08 16.9	-3.2
	81nm,1.3s						
KSM	Kuching	37.55	280	eP	P	04 08 23.4	-0.8
	3.7nm,0.8s						
URZ	Urewera	42.35	144	P	P	04 09 04.3	+1.0
	2.9nm,0.4s,baz=186,slow=6.5,SNR=3.6						
MJAR	Matsushiro Arr	42.74	349	P	P	04 09 06.7	+0.2
	1.5nm,0.9s,baz=169,slow=9.5,SNR=4.1						
MAJO	Matsushiro	42.74	349	eP	P	04 09 03.7	-2.8
	7.7nm,1.0s						
NJ2	Nanjing	46.17	326	eP	P	04 09 34.8	+1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	Korea Array	46.45	339	P	P	04 09 36.3	+0.5
	comp=Z,0.9nm,0.7s,baz=152,slow=7.1,SNR=3.5						
KSAR	Wonju Array Be	46.45	339	P	P	04 09 36.3	+0.5
GYA	Guiyang	50.59	311	eP	P	04 10 09.3	+1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	Kunming	52.94	307	P	P	04 10 27.0	+1.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	Xi'an	53.52	320	P	P	04 10 28.5	-0.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,42nm,3.5s						
KLR	Kul'dur	56.23	348	P	P	04 10 50.1	+1.8
	comp=Z,0.1nm,0.4s,baz=186,slow=9.2,SNR=3.4						
HHC	Hu-ho-hao-te	56.61	328	eP	P	04 10 51.5	+0.2
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,6.7s						
LZH	Lanzhou	58.05	319	eP	P	04 11 01.5	-0.1
LZH				pP	pP	04 11 41.5	+0.6
LZH				sP	sP	04 12 05.0	+5.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
PETK	Petropavlovsk-	59.13	7	P	P	04 11 08.5	+0.1
	comp=Z,4.2nm,1.0s,baz=193,slow=12,SNR=2.4						
ULN	Ulaanbaatar	63.86	331	eP	P	04 11 40.6	+0.1
	comp=Z,2.6nm,0.7s						
SONM	Songino Array	64.16	331	P	P	04 11 43.7	+1.3
	comp=Z,1.8nm,1.0s,baz=146,slow=6.4,SNR=7.6						
SEY	Seymchan	68.43	3	P	P	04 12 10.3	+1.3
	comp=Z,1.9nm,0.7s,baz=202,slow=19						
VNDA	Vanda	72.32	177	P	P	04 12 33.5	+0.9
	comp=Z,3.5nm,0.7s,baz=325,slow=6.5,SNR=22						
WMQ	Urumqi	72.64	319	P	P	04 12 34.5	-0.6
WMQ				S	S	04 21 35.0	-11
WMQ				SKS	SKSac	04 22 19.0	-5.2
WMQ	Urumqi	72.64	319	SS	SS	04 26 25.0	-4.4
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,6.5s						
WMQ				LR	LR		
	comp=N,96nm,20.7s						
WMQ				LR	LR		
	comp=E,140nm,18.5s						
WMQ				LR	LR		
	comp=Z,64nm,20.1s						
MKAR	Makanchi Array	77.33	320	P	P	04 13 02.0	+0.1
	comp=Z,0.8nm,0.7s,baz=106,slow=7.7,SNR=4.1						
TIXI	Tiksi	78.02	354	P	P	04 13 05.0	-0.1
	comp=Z,2.2nm,0.6s,baz=160,slow=1.5,SNR=5.3						
ZALV	Zalesovo Beam	78.79	328	P	P	04 13 08.9	-0.8
	comp=Z,0.7nm,0.4s,baz=114,slow=6.6,SNR=3.6						
KSH	Kashi	79.28	312	eP	P	04 13 13.0	+0.1
KSH				PcP	PcP	04 13 20.8	+0.3
KSH				pP	pP	04 14 00.5	+5.9
KSH				sP	sP	04 14 19.8	+7.2
KSH				PP	PP	04 16 17.5	+2.3
KSH				S	S	04 22 50.0	-9.3
KSH				SKS	SKSac	04 22 59.5	-14
KSH				ScS	SKKSac	04 23 08.5	-6.5
KSH				sS	ScS	04 23 10.0	-11
KSH				pmax	pmax		
	comp=Z,32nm,2.2s						
KSH				pmax	pmax		
	comp=Z,140nm,5.5s						
KSH				LR	LR		
	comp=N,82nm,7.7s						
KSH				LR	LR		
	comp=E,120nm,12.7s						
KSH				LR	LR		
	comp=Z,55nm,10.6s						
KURK	Kurchatov	81.02	323	eP	P	04 13 21.0	-0.8
	comp=Z,12nm,0.9s						
MAW	Mawson	82.73	203	P	P	04 13 30.0	-0.3
	comp=Z,1.7nm,0.6s,baz=82,slow=8.7,SNR=6.4						
QSPA	South Pole Qui	84.39	180	eP	P	04 13 38.5	-0.5
	comp=Z,10nm,0.9s						
NRIK	Noril'sk	84.95	342	P	P	04 13 42.3	+0.7
	comp=Z,1.5nm,0.4s,baz=78,slow=6.2,SNR=3.0						
ILAR	Eielson Array	85.00	23	P	P	04 13 41.0	-0.8
	comp=Z,2.6nm,0.6s,baz=252,slow=4.8,SNR=55						
ILB	Eielson Array	85.00	23	eP	P	04 13 41.1	-0.8
CYBM	Yerba Buena Is	93.69	53	eP	P	04 14 26.7	+3.2
GERES	GERESS Array B	121.70	326	PKP	PKPdf	04 19 59.6	-0.3
	comp=Z,0.6nm,0.5s,baz=81,slow=2.0,SNR=14						
LVC	L'mon Verde	134.88	130	ePKPdf	PKPdf	04 20 24.3	-1.7
LPAZ	La Paz	138.80	122	PKP	PKPdf	04 20 34.1	+0.4
	comp=Z,0.7nm,0.6s,baz=302,slow=1.8,SNR=4.0						
TORD	Torodi Ar. Bea	145.22	285	PKPbc	PKPdf	04 20 43.4	-1.0
	comp=Z,2.1nm,0.6s,baz=67,slow=3.6,SNR=26						
SAML	Samuel	146.41	115	ePKPbc	PKPdf	04 20 46.5	+0.1
BDFB	Brasilia	154.06	145	PKPbc	PKPbc	04 21 06.5	-0.2
	comp=Z,1.6nm,0.4s,baz=38,slow=3.1,SNR=6.0						

DDA ***30*** *04:03:06.9, 38°.78N×43°.49E, h7km, Ml2.5*
ISCJB ***30*** *04:03:07.5±0.6, 38°.82N±0°.04×43°.41E±0°.07, h13km, Error ellipse: s-maj=8.5km s-min=5.2km az=28.5*
ISK ***30*** *04:03:07.2, 38°.81N×43°.40E, h15km, MD2.5*
CSEM ***30*** *04:03:07.1±0.3, 38°.80N×43°.42E, h10km, MD2.5, Error ellipse: s-maj=11.2km s-min=7.3km az=112.0*
ISC 30 04:03:07.5±1.1**, 38°.80N**±0°.03×**43°.43E**±0°.04**, h13**km**, n20, σ0^{s}80**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	189	ePG	Pb	04 03 13.4	+0.2
VANB				eSG	Sb	04 03 19.1	+2.0
VANB	Van	0.21	189	ePg	Pb	04 03 13.4	+0.2
VMUR	Van-Muradiye	0.22	30	iP	Pg	04 03 10.8	-1.6
VMUR	Van-Muradiye	0.22	30	P	Pg	04 03 10.8	-1.6
ERCV	ERCIS-VAN	0.23	342	ePG	Pg	04 03 12.4	-0.2
ERCV	ERCIS-VAN	0.23	342	ePg	Pg	04 03 12.4	-0.2
TVAN	Van	0.27	184	iP	Pg	04 03 13.0	-0.3
TVAN	Van	0.27	184	P	Pg	04 03 13.0	-0.3
CLDR	Caldiran	0.51	48	ePG	Pg	04 03 18.0	+0.4
CLDR				eSG	Sb	04 03 25.8	-0.1
CLDR	Caldiran	0.51	48	iP	Pg	04 03 17.2	-0.4
CLDR	Caldiran	0.51	48	P	Pg	04 03 17.2	-0.4
CLDR	Caldiran	0.51	48	ePg	Pg	04 03 18.0	+0.4
CLDR				eSg	Sb	04 03 25.8	-0.1
GEVA	Gevas	0.57	211	iP	Pg	04 03 17.5	-1.2
GEVA	Gevas	0.57	211	P	Pg	04 03 17.5	-1.2
TUTA	Tutak	0.77	321	iP	Pb	04 03 23.2	+0.4
TUTA	Tutak	0.77	321	P	Pb	04 03 23.2	+0.4
AGRB	Hanur-Agry	0.84	336	ePG	Pg	04 03 23.6	-0.3
AGRB	Hanur-Agry	0.84	336	ePg	Pg	04 03 23.6	-0.3
GURO	Guroymak-BITLI	1.12	258	ePN	Pb	04 03 28.7	-0.1
GURO	Guroymak-BITLI	1.12	258	ePn	Pb	04 03 28.7	-0.1

ISCJB ***30*** *04:04:31.6±0.9, 33°.51N±0°.04×140°.83E±0°.10, h66km±10km, mb4.2/3, Error ellipse: s-maj=13.4km s-min=7.0km az=5.7*
JMA ***30*** *04:04:32.3±0.1, 33°.58N×140°.83E, h43km, M3.4*
IDC ***30*** *04:04:34.6±4.1, 33°.42N×140°.64E, h66km±30km, mb3.9/3, mb1 4.0/4, mb1mx3.4/45, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=67.1km s-min=12.4km az=84.0*
ISC 30 04:04:32.0±1.7**, 33°.51N**±0°.06×**140°.9E**±0°.1**, h48**km±19**km, n15, σ0^{s}96**/22**, mb4.4**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.98	246	P	Pn	04 04 49.7	+0.3
JHJ2				eS	Sn	04 05 02.4	+0.2
JHJ	Hachijo jima 2	1.00	247	P	Pn	04 04 50.0	+0.3
	168nm,0.3s,baz=236,slow=20,SNR=5.7						
JHJ				S	Sn	04 05 02.4	-0.3
	283nm,0.3s,baz=44,slow=23,SNR=14						
JHCJ	Hachijojimakas	1.01	245	P	Pn	04 04 50.1	+0.3
JHCJ				eS	Sn	04 05 02.3	-0.6
BSO1	Boso 1	1.14	4	P	Pn	04 04 51.3	+0.2
BSO3	Boso 3	1.32	346	P	Pn	04 04 54.1	+0.3
BSO4	Boso 4	1.54	343	P	Pn	04 04 57.4	+0.5
JKO	Kozu shima	1.60	295	P	Pn	04 04 58.2	+0.3
JKO				eS	Sn	04 05 16.6	-0.8
JIM2	Oshima 3	1.70	315	P	Pn	04 04 59.0	-0.3
JIZS	Izushimoda	2.06	306	P	Pn	04 05 04.6	+0.6
JIZS				eS	Sn	04 05 27.9	-0.6
JOD2	Odawara 2	2.29	320	P	Pn	04 05 07.2	-0.1
JOD2				eS	Sn	04 05 31.9	-2.5
TK02	Tokai 2	2.64	280	P	Pn	04 05 13.0	+1.1
MJAR	Matsushiro Arr	3.74	325	P	Pn	04 05 28.9	+1.7
	3.9nm,0.3s,baz=155,slow=12,SNR=47						
MJAR				S	Sn	04 06 11.6	+1.7
	1.6nm,0.3s,baz=76,slow=23,SNR=5.4						
FITZ	Fitzroy Crossi	53.35	198	P	P	04 13 46.0	-0.5
	3.2nm,0.8s,baz=190,slow=15,SNR=3.4						
WRA	Warramunga Arr	53.52	188	P	P	04 13 47.3	-0.5
	2.1nm,0.4s,baz=5.4,slow=7.6,SNR=27						
ASAR	Alice Springs	57.25	188	P	P	04 14 14.8	+0.3
	0.5nm,0.6s,baz=14,slow=9.6,SNR=6.5						

DDA ***30*** *04:12:54.8, 38°.93N×43°.54E, h7km, Ml2.8*
ISK ***30*** *04:12:54.3, 38°.91N×43°.54E, h5km, ML2.4*
ISCJB ***30*** *04:12:55.4±0.6, 38°.92N±0°.04×43°.51E±0°.06, h6km±9km, Error ellipse: s-maj=7.8km s-min=7.0km az=168.2*
CSEM ***30*** *04:12:55.2±0.3, 38°.93N×43°.51E, h2km, ML2.8, Error ellipse: s-maj=6.2km s-min=5.5km az=104.0*
ISC 30 04:12:55.3±1.2**, 38°.93N**±0°.03×**43°.55E**±0°.03**, h6**km±10**km, n25, σ0^{s}92**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.07	17	iP	Pg	04 12 57.0	-0.1
VMUR	Van-Muradiye	0.07	17	P	Pg	04 12 57.0	-0.1
ERCV	ERCIS-VAN	0.19	300	ePG	Pg	04 12 59.3	+0.2
ERCV	ERCIS-VAN	0.19	300	ePg	Pg	04 12 59.3	+0.2
VANB	Van	0.35	200	ePG	Pb	04 13 03.5	-0.6
VANB	Van	0.35	200	ePg	Pb	04 13 03.5	-0.6
CLDR	Caldiran	0.36	53	ePG	Pg	04 13 02.5	+0.1
CLDR				eSG	Sb	04 13 09.0	-1.3
CLDR	Caldiran	0.36	53	iP	Pg	04 13 02.1	-0.3
CLDR	Caldiran	0.36	53	P	Pg	04 13 02.1	-0.3
CLDR	Caldiran	0.36	53	ePg	Pg	04 13 02.5	+0.1
CLDR				eSg	Sb	04 13 09.0	-1.3
TVAN	Van	0.41	195	iP	Pg	04 13 03.2	-0.2
TVAN	Van	0.41	195	P	Pg	04 13 03.2	-0.2
TUTA	Tutak	0.74	310	iP	Pg	04 13 08.7	-0.9
TUTA	Tutak	0.74	310	P	Pg	04 13 08.7	-0.9
AGRB	Hanur-Agry	0.78	327	ePG	Pb	04 13 10.3	-1.1
AGRB				eSG	Sb	04 13 22.6	+0.3
AGRB	Hanur-Agry	0.78	327	ePg	Pb	04 13 10.3	-1.1
AGRB				eSg	Sb	04 13 22.6	+0.3
TATV	Tatvan	1.08	248	iP	Pg	04 13 14.8	-1.3
TATV	Tatvan	1.08	248	P	Pg	04 13 14.8	-1.3
EKAR	Karacoban	1.20	286	iP	Pn	04 13 21.4	+2.5
EATA	Eleskirt	1.24	319	iP	Pb	04 13 18.7	-0.7
EATA	Eleskirt	1.24	319	P	Pb	04 13 18.7	-0.7
GURO	Guroymak-BITLI	1.24	253	ePN	Pb	04 13 18.6	-0.7
GURO	Guroymak-BITLI	1.24	253	ePn	Pb	04 13 18.6	-0.7
CUKT	Cukurca	1.68	178

Error ellipse: s-maj=12.3km s-min=6.4km az=178.0
ISC 30 04:15:04.0±0.6,**54°50N**±0'.04×**166°48E**±0'.06,**h23**km,**n98**, σ2**°29**/119,**mb4.0**/25,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.76**	**338**	PN	**Pb**	**04 15 16.5**	**-2.0**
BKI				S	**Sb**	**04 15 25.5**	**-2.9**
BKI	**Bering**	**0.76**	**338**	*eP*	**Pb**	**04 15 16.5**	**-2.0**
BKI				*eS*	**Sb**	**04 15 25.5**	**-2.9**
KBTR	**Krutoberegovo**	**2.70**	**311**	PN	**Pn**	**04 15 45.2**	**-0.7**
KBTR	**Krutoberegovo**	**2.70**	**311**	*eP*	**Pn**	**04 15 45.2**	**-0.7**
KBTR				*eS*	**Sn**	**04 16 14.9**	**-2.9**
MKZ	**Mys Kozlova**	**2.77**	**273**	PN	**Pn**	**04 15 48.1**	**+1.3**
MKZ	**Mys Kozlova**	**2.77**	**273**	*eP*	**Pn**	**04 15 48.1**	**+1.3**
MKZ				*eS*	**Sn**	**04 16 17.7**	**-1.8**
SMKR	**Semkarok**	**3.53**	**308**	PN	**Pn**	**04 16 01.3**	**+4.0**
SMKR				S	**Sn**	**04 16 43.4**	**+5.1**
SMKR	**Semkarok**	**3.53**	**308**	*eP*	**Pn**	**04 16 01.3**	**+4.0**
SMKR				*eS*	**Sn**	**04 16 43.4**	**+5.1**
TUMD	**Tumrok D**	**3.58**	**284**	*eP*	**Pn**	**04 16 01.3**	**+3.2**
ZLN	**Zelenaya**	**3.58**	**297**	PN	**Pn**	**04 16 01.8**	**+3.7**
ZLN	**Zelenaya**	**3.58**	**297**	*eP*	**Pn**	**04 16 01.8**	**+3.7**
ZLN				*eS*	**Sn**	**04 16 42.4**	**+2.6**
CIRR	**Tsirk**	**3.65**	**299**	PN	**Pn**	04 16 04.4	+5.3
CIRR	**Tsirk**	**3.65**	**299**	*eP*	**Pn**	04 16 04.4	+5.3
LGNR	**Loginova**	**3.67**	**298**	PN	**Pn**	**04 16 04.2**	**+4.7**
LGNR	**Loginova**	**3.67**	**298**	*eP*	**Pn**	**04 16 04.2**	**+4.7**
BZWR	**Bezymyannyi-We**	**3.73**	**296**	PN	**Pn**	**04 16 04.3**	**+4.2**
BZWR	**Bezymyannyi-We**	**3.73**	**296**	*eP*	**Pn**	**04 16 04.3**	**+4.2**
BZWR				*eS*	**Sn**	**04 16 44.4**	**+1.1**
TUMR	**Tumrok**	**3.74**	**285**	PN	**Pn**	**04 16 01.3**	**+1.0**
TUMR	**Tumrok**	**3.74**	**285**	*eP*	**Pn**	**04 16 03.0**	**+2.7**
TUMR				*eS*	**Sn**	**04 16 43.7**	**+0.1**
KLY	**Klyuchi**	**3.78**	**301**	*eS*	**Sn**	**04 16 42.8**	**-1.7**
KRSR	**Krestovskiy**	**3.79**	**299**	PN	**Pn**	**04 16 04.2**	**+3.3**
KRSR	**Krestovskiy**	**3.79**	**299**	*eP*	**Pn**	**04 16 04.2**	**+3.3**
KRSR				*eS*	**Sn**	**04 16 47.4**	**+2.6**
KIRR	**Kirishev**	**3.80**	**295**	PN	**Pn**	**04 16 04.0**	**+2.8**
KIRR	**Kirishev**	**3.80**	**295**	*eP*	**Pn**	**04 16 04.0**	**+2.8**
KIRR				*eS*	**Sn**	**04 16 45.2**	**0.0**
KPT	**Kopyto**	**3.87**	**295**	PN	**Pn**	**04 16 05.9**	**+3.8**
KPT	**Kopyto**	**3.87**	**295**	*eP*	**Pn**	**04 16 05.9**	**+3.8**
SPN	**Mys Shipunski**	**4.08**	**252**	PN	**Pn**	**04 16 06.5**	**+1.7**
SPN	**Mys Shipunski**	**4.08**	**252**	*eP*	**Pn**	**04 16 06.5**	**+1.7**
SPN				*eS*	**Sn**	**04 16 49.8**	**-2.0**
KII	**Karymskiy**	**4.15**	**266**	PN	**Pn**	**04 16 07.9**	**+2.0**
KII	**Karymskiy**	**4.15**	**266**	*eP*	**Pn**	**04 16 07.9**	**+2.0**
KII				*eS*	**Sn**	**04 16 52.2**	**-1.4**
NLC	**Nalytchevo**	**4.43**	**255**	PN	**Pn**	**04 16 11.2**	**+1.5**
NLC	**Nalytchevo**	**4.43**	**255**	*eP*	**Pn**	**04 16 11.2**	**+1.5**
NLC				*eS*	**Sn**	**04 16 58.5**	**-2.0**
SDLR	**Sedlovina**	**4.66**	**258**	PN	**Pn**	**04 16 15.2**	**+2.3**
SDLR	**Sedlovina**	**4.66**	**258**	*eP*	**Pn**	**04 16 15.2**	**+2.3**
SDLR				*eS*	**Sn**	**04 17 05.5**	**-0.8**
UGLR	**Uglovaya**	**4.71**	**257**	PN	**Pn**	**04 16 16.3**	**+2.6**
UGLR	**Uglovaya**	**4.71**	**257**	*eP*	**Pn**	**04 16 16.3**	**+2.6**
UGLR				*eS*	**Sn**	**04 17 08.1**	**+0.5**
KRER	**Koryakskii**	**4.73**	**258**	PN	**Pn**	**04 16 16.5**	**+2.6**
KRER	**Koryakskii**	**4.73**	**258**	*eP*	**Pn**	**04 16 16.5**	**+2.6**
KRER				*eS*	**Sn**	**04 17 07.7**	**-0.4**
AVH	**Avacha**	**4.75**	**258**	PN	**Pn**	**04 16 16.7**	**+2.6**
AVH	**Avacha**	**4.75**	**258**	*eP*	**Pn**	**04 16 16.7**	**+2.6**
AVH				*eP*	**Pn**	**04 16 16.7**	**+2.6**
AVH				*eS*	**Sn**	**04 17 08.4**	**+0.1**
AVH				*eS*	**Sn**	**04 17 09.0**	**+0.7**
KRX	**Arik**	**4.77**	**259**	PN	**Pn**	**04 16 16.7**	**+2.3**
KRX	**Arik**	**4.77**	**259**	*eP*	**Pn**	**04 16 16.7**	**+2.3**
KRX				*eS*	**Sn**	**04 17 08.3**	**-0.7**
KOK	**Koryaka**	**4.79**	**259**	PN	**Pn**	**04 16 17.6**	**+2.8**
KOK	**Koryaka**	**4.79**	**259**	*eP*	**Pn**	**04 16 17.6**	**+2.8**
KOK				*eS*	**Sn**	**04 17 10.0**	**+0.4**
DALK	**Dalny**	**4.81**	**255**	PN	**Pn**	**04 16 16.9**	**+2.0**
DALK	**Dalny**	**4.81**	**255**	*eP*	**Pn**	**04 16 16.9**	**+2.0**
DALK				*eS*	**Sn**	**04 17 09.3**	**-0.6**
PET	**Petropavlovsk**	**4.87**	**255**	*e*PN	**Pn**	**04 16 17.9**	**+2.2**
PET	**Petropavlovsk**	**4.87**	**255**	P	**Pn**	**04 16 18.4**	**+2.7**
PET				*eS*	**Sn**	**04 17 10.9**	**-0.5**
GNL	**Ganaly**	**5.09**	**264**	PN	**Pn**	**04 16 21.9**	**+3.1**
GNL	**Ganaly**	**5.09**	**264**	*eP*	**Pn**	**04 16 21.9**	**+3.1**
RUS	**Russkaya**	**5.19**	**250**	PN	**Pn**	**04 16 22.4**	**+2.3**
RUS	**Russkaya**	**5.19**	**250**	*eP*	**Pn**	**04 16 22.4**	**+2.3**
RUS				*eS*	**Sn**	**04 17 16.2**	**-3.0**
KRMR	**Karymshinskiy**	**5.24**	**255**	PN	**Pn**	**04 16 23.5**	**+2.7**
KRMR	**Karymshinskiy**	**5.24**	**255**	*eP*	**Pn**	**04 16 23.5**	**+2.7**
KRMR				*eS*	**Sn**	**04 17 19.8**	**-0.6**
MTVR	**Mutnovka**	**5.35**	**251**	PN	**Pn**	**04 16 25.5**	**+3.1**
MTVR	**Mutnovka**	**5.35**	**251**	P	**Pn**	**04 16 25.5**	**+3.1**
MTVR				*eS*	**Sn**	**04 17 21.9**	**-1.4**
PETK	**Petropavlovsk-**	**5.39**	**259**	Pn	**Pn**	**04 16 25.6**	**+2.8**
	1.8nm,0.3s,baz=89,slow=21,SNR=42						
PETK				Sn	**Sn**	**04 17 25.6**	**+1.5**
	2.9nm,0.3s,baz=17,slow=26,SNR=7.0						
ASAK	**Asacha**	**5.55**	**251**	PN	**Pn**	**04 16 28.3**	**+3.2**
ASAK	**Asacha**	**5.55**	**251**	*eP*	**Pn**	**04 16 28.3**	**+3.2**
ASAK				*eS*	**Sn**	**04 17 28.3**	**+0.1**
KDAK	**Kodiak Island**	**22.79**	**65**	P	**P**	**04 20 04.2**	**-0.3**
	12nm,1.0s,baz=205,slow=2.3,SNR=9.6						
TIXI	**Tiksi**	**23.54**	**331**	P	**P**	**04 20 11.9**	**0.0**
	4.7nm,0.5s,baz=113,slow=13,SNR=15						
MCK	**McKinley**	**24.18**	**50**	*e*P	**P**	**04 20 18.6**	**+0.4**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MCK	**McKinley**	**24.18**	**50**	*e*P	**P**	**04 20 18.6**	**+0.4**
	comp=Z,1.8nm,0.4s						
COLA	**College**	**24.69**	**47**	*e*P	**P**	**04 20 22.1**	**-0.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**24.69**	**47**	*e*P	**P**	**04 20 22.1**	**-0.7**
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**25.10**	**47**	P	**P**	**04 20 25.8**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=252,slow=8.0,SNR=53						
H11N2	**WAKE ISLAND Hy**	**34.71**	**179**	T	T	04 58 47.5	
	baz=0.2,slow=76,SNR=734						
H11N3	**WAKE ISLAND Hy**	**34.73**	**179**	T	T	04 58 48.6	
	baz=0.2,slow=76,SNR=597						
H11N1	**WAKE ISLAND Hy**	**34.73**	**179**	T	T	04 58 51.3	
	baz=0.2,slow=76,SNR=638						
H11S1	**WAKE ISLAND Hy**	**35.93**	**180**	T	T	05 00 42.2	
	baz=360,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy**	**35.94**	**180**	T	T	05 00 26.8	
	baz=360,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**35.95**	**180**	T	T	05 00 43.9	
	baz=360,slow=76,SNR=128						
SONM	**Songino Array**	**37.23**	**285**	P	**P**	**04 22 14.8**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=64,slow=8.4,SNR=4.0						
YKA	**Yellowknife Ar**	**39.51**	**46**	P	**P**	**04 22 32.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=293,slow=7.6,SNR=3.7						
SPITS	**Spitsbergen Ar**	**46.32**	**352**	P	**P**	**04 23 26.7**	**-0.6**
	comp=Z,15nm,0.9s,baz=50,slow=14,SNR=6.1						
KURK	**Kurchatov**	**50.14**	**304**	*e*P	**P**	**04 23 56.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,14nm,0.4s						
KURK	**Kurchatov**	**50.14**	**304**	*e*P	**P**	**04 23 56.1**	**-0.9**
	comp=Z,14nm,0.4s						
BOZ	**Bozeman (W)**	**50.49**	**64**	*e*P	**P**	**04 24 00.0**	**0.0**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOZ	**Bozeman (W)**	**50.49**	**64**	*e*P	**P**	**04 23 60.0**	**0.0**
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**50.89**	**298**	P	**P**	**04 24 02.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=52,slow=5.9,SNR=4.4						
BVAR	**Borovoye Array**	**52.41**	**311**	P	**P**	**04 24 13.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=46,slow=8.5,SNR=4.8						
BRVK	**Borovoye**	**52.44**	**311**	*e*P	**P**	**04 24 13.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**52.44**	**311**	*e*P	**P**	**04 24 13.9**	**-0.3**
	comp=Z,5.1nm,0.6s						
ARCES	**ARCESS Array B**	**53.05**	**344**	P	**P**	**04 24 16.4**	**-2.2**
	comp=Z,5.5nm,1.1s,baz=53,slow=12,SNR=3.5						
BW06	**Boulder Array**	**53.51**	**66**	*e*P	**P**	**04 24 22.5**	**-0.1**
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**53.51**	**66**	P	**P**	**04 24 23.3**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=17,slow=1.5,SNR=6.2						
RSSD	**Black Hills**	**55.44**	**61**	*e*P	**P**	**04 24 36.7**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RSSD	**Black Hills**	**55.44**	**61**	*e*P	**P**	**04 24 36.7**	**+0.1**
	comp=Z,1.6nm,0.6s						
SDCO	**Great Sand Dun**	**59.26**	**67**	*e*P	**P**	**04 25 04.5**	**+0.8**
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**60.23**	**339**	P	**P**	**04 25 08.9**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=52,slow=9.0,SNR=3.3						
ANMO	**Albuquerque**	**60.81**	**70**	*e*P	**P**	**04 25 15.2**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANMO	**Albuquerque**	**60.81**	**70**	*e*P	**P**	**04 25 15.2**	**+0.9**
	comp=Z,0.7nm,0.6s						
NOA	**NORSAR Array B**	**63.14**	**347**	P	**P**	**04 25 27.1**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=14,slow=6.3,SNR=3.7						
MNTX	**Cornudas Mount**	**63.84**	**72**	*e*P	**P**	**04 25 35.4**	**+1.1**
	comp=Z,1.0nm,0.8s						
PMG	**Port Moresby**	**65.72**	**201**	*e*P	**P**	**04 25 49.4**	**+2.8**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PMG	**Port Moresby**	**65.72**	**201**	*e*P	**P**	**04 25 49.4**	**+2.8**
	comp=Z,8.5nm,0.6s						
TXAR	**Lajitas Array**	**66.60**	**72**	P	**P**	**04 25 53.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=300,slow=3.9,SNR=13						
GERES	**GERESS Array B**	**74.50**	**342**	P	**P**	**04 26 40.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=35,slow=3.6,SNR=3.8						

*CSEM **30** 04:24:39.8±0.2,38°.94N×43°.55E,h10km,MD2.5, Error ellipse: s-maj=6.0km s-min=5.0km az=135.0*
*DDA **30** 04:24:39.6,38°.93N×43°.53E,h7km,Ml2.7*
*ISK **30** 04:24:39.6,38°.92N×43°.55E,h12km,MD2.5*
ISC 30 04:24:39.7±1.2,**38°93N**±0'.03×**43°56E**±0'.03,**h12**km±**8**km, **n20**,σ0°**41**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**10**	*i* P	**Pg**	**04 24 42.0**	**-0.3**
VMUR	**Van-Muradiye**	**0.06**	**10**	P	**Pg**	**04 24 42.0**	**-0.3**
ERCV	**ERCIS-VAN**	**0.19**	**297**	*e*PG	**Pg**	**04 24 44.6**	**+0.6**
ERCV	**ERCIS-VAN**	**0.19**	**297**	*e*Pg	**Pg**	**04 24 44.6**	**+0.6**
CLDR	**Caldiran**	**0.35**	**53**	*e*PG	**Pg**	**04 24 47.3**	**+0.5**
CLDR				*e*SG	**Sb**	**04 24 53.0**	**-0.6**
CLDR	**Caldiran**	**0.35**	**53**	*i* P	**Pg**	**04 24 46.8**	**0.0**
CLDR	**Caldiran**	**0.35**	**53**	P	**Pg**	**04 24 46.8**	**0.0**
CLDR	**Caldiran**	**0.35**	**53**	*e*Pg	**Pg**	**04 24 47.3**	**+0.5**
CLDR				*e*Sg	**Sb**	**04 24 53.0**	**-0.6**
VANB	**Van**	**0.36**	**201**	*e*PG	**Pb**	**04 24 48.3**	**+0.2**
VANB	**Van**	**0.36**	**201**	*e*Pg	**Pb**	**04 24 48.3**	**+0.2**
TVAN	**Van**	**0.42**	**196**	*i* P	**Pg**	**04 24 48.1**	**+0.1**
TVAN	**Van**	**0.42**	**196**	P	**Pg**	**04 24 48.1**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**259**	*i* P	**Pg**	**04 24 52.0**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.66**	**259**	P	**Pg**	**04 24 52.0**	**-0.6**
TUTA	**Tutak**	**0.74**	**309**	*i* P	**Pg**	**04 24 53.9**	**-0.3**
TUTA	**Tutak**	**0.74**	**309**	P	**Pg**	**04 24 53.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.78**	**326**	*e*PG	**Pb**	**04 24 55.2**	**-0.1**
AGRB				*e*SG	**Sb**	**04 25 06.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.78**	**326**	*e*Pg	**Pb**	**04 24 55.2**	**-0.1**
AGRB				*e*Sg	**Sb**	**04 25 06.4**	**+0.5**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*PN	**Pb**	**04 25 03.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*Pn	**Pb**	**04 25 03.4**	**+0.1**

*CSEM **30** 04:25:31.8±0.3,38°.73N×43°.60E,h2km,ML3.1, Error ellipse: s-maj=8.1km s-min=5.4km az=97.0*
*DDA **30** 04:25:31.6,38°.72N×43°.60E,h7km,Ml3.2*
*ISCJB **30** 04:25:32.4±0.5,38°.73N±0'.03×43°.59E±0'.05,h13km, Error ellipse: s-maj=6.4km s-min=4.2km az=21.2*
*ISK **30** 04:25:32.0,38°.74N×43°.53E,h7km,ML3.1*
ISC 30 04:25:32.3±0.9,**38°73N**±0'.02×**43°60E**±0'.03,**h13**km,**n48**, σ0°**73**/51,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**231**	*e*PG	**Pb**	**04 25 37.8**	**-0.3**
VANB	**Van**	**0.21**	**231**	*e*Pg	**Pb**	**04 25 37.8**	**-0.3**
TVAN	**Van**	**0.25**	**217**	*i* P	**Pg**	**04 25 37.8**	**+0.1**
TVAN	**Van**	**0.25**	**217**	P	**Pg**	**04 25 37.8**	**+0.1**
VMUR	**Van-Muradiye**	**0.26**	**355**	*i* P	**Pg**	**04 25 37.5**	**-0.4**
VMUR	**Van-Muradiye**	**0.26**	**355**	P	**Pg**	**04 25 37.5**	**-0.4**
ERCV	**ERCIS-VAN**	**0.36**	**325**	*e*PG	**Pg**	**04 25 39.2**	**-0.4**
ERCV	**ERCIS-VAN**	**0.36**	**325**	*e*Pg	**Pg**	**04 25 39.2**	**-0.4**
CLDR	**Caldiran**	**0.48**	**31**	*e*PG	**Pg**	**04 25 41.4**	**-0.5**
CLDR				*e*SG	**Sb**	**04 25 50.7**	**+0.8**
CLDR	**Caldiran**	**0.48**	**31**	*i* P	**Pg**	**04 25 41.4**	**-0.5**
CLDR	**Caldiran**	**0.48**	**31**	P	**Pg**	**04 25 41.4**	**-0.5**
GEVA	**Gevas**	**0.59**	**226**	*i* P	**Pg**	**04 25 43.1**	**-0.8**
GEVA	**Gevas**	**0.59**	**226**	P	**Pg**	**04 25 43.1**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.69**	**277**	*i* P	**Pg**	**04 25 45.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.69**	**277**	P	**Pg**	**04 25 45.5**	**-0.2**
BASK	**Baskale_VAN**	**0.74**	**155**	*i* P	**Pg**	**04 25 45.9**	**-0.9**
BASK	**Baskale_VAN**	**0.74**	**155**	P	**Pg**	**04 25 45.9**	**-0.9**
DYDN	**Diyadin**	**0.82**	**5**	*i* P	**Pg**	**04 25 47.4**	**-0.8**
DYDN	**Diyadin**	**0.82**	**5**	P	**Pg**	**04 25 47.4**	**-0.8**
TUTA	**Tutak**	**0.91**	**318**	*i* P	**Pg**	**04 25 48.7**	**-1.2**
TUTA	**Tutak**	**0.91**	**318**	P	**Pg**	**04 25 48.7**	**-1.2**
AGRB	**Hanur-Agry**	**0.97**	**331**	*e*PG	**Pg**	**04 25 49.8**	**-1.2**
AGRB				*e*SG	**Sg**	**04 26 03.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.97**	**331**	*e*Pg	**Pg**	**04 25 49.8**	**-1.2**
AGRB				*e*Sg	**Sg**	**04 26 03.6**	**-0.2**
TATV	**Tatvan**	**1.07**	**259**	*i* P	**Pb**	**04 25 51.3**	**-1.4**
TATV	**Tatvan**	**1.07**	**259**	P	**Pb**	**04 25 51.3**	**-1.4**
GURO	**Guroymak-BITLI**	**1.24**	**262**	*e*PN	**Pn**	**04 25 54.7**	**-0.7**
GURO	**Guroymak-BITLI**	**1.24**	**262**	*e*Pn	**Pn**	**04 25 54.7**	**-0.7**
EKAR	**Karacoban**	**1.31**	**294**	*i* P	**Pg**	**04 25 57.7**	**+0.2**
EKAR	**Karacoban**	**1.31**	**294**	P	**Pg**	**04 25 57.7**	**+0.2**
EATA	**Eleskirt**	**1.42**	**323**	*i* P	**Pn**	**04 25 58.3**	**+0.2**
EATA	**Eleskirt**	**1.42**	**323**	P	**Pn**	**04 25 58.3**	**+0.2**
CUKT	**Cukurca**	**1.48**	**180**	*e*PN	**Pn**	**04 25 59.1**	**+0.5**
CUKT	**Cukurca**	**1.48**	**180**	*i* P	**Pn**	**04 25 59.2**	**+0.5**
CUKT	**Cukurca**	**1.48**	**180**	P	**Pn**	**04 25 59.2**	**+0.5**
SRTM	**Siirt_Merkez**	**1.51**	**241**	*i* P	**Pb**	**04 26 00.5**	**+0.3**
SRTM	**Siirt_Merkez**	**1.51**	**241**	P	**Pb**	**04 26 00.5**	**+0.3**
DIGO	**Kars**	**1.69**	**354**	*i* P	**Pb**	**04 26 04.0**	**+0.6**
DIGO	**Kars**	**1.69**	**354**	P	**Pb**	**04 26 04.1**	**+0.6**
VRTB	**Varto-Mus**	**1.73**	**285**	*e*PN	**Pn**	**04 26 02.5**	**+0.4**
VRTB	**Varto-Mus**	**1.73**	**285**	*e*Pn	**Pn**	**04 26 02.5**	**+0.4**
HOMI	**Horasan**	**1.86**	**316**	*i* P	**Pb**	**04 26 06.1**	**-0.1**
BNGL	**BINGOL**	**1.93**	**277**	*i* P	**Pg**	**04 26 09.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.97**	**254**	*e*PN	**Pn**	**04 26 06.7**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.97**	**254**	*e*Pn	**Pn**	**04 26 06.7**	**+1.3**
ERZM	**Erzurum**	**2.09**	**305**	*i* P	**Pb**	**04 26 10.6**	**+0.3**
ERZM	**Erzurum**	**2.09**	**305**	P	**Pb**	**04 26 10.6**	**+0.3**
BNGB	**Bing¶l**	**2.29**	**278**	*e*PN	**Pn**	**04 26 11.4**	**+1.5**
BINT	**Bingol**	**2.44**	**274**	*e*Pn	**Pn**	**04 26 11.4**	**-0.5**

*AZER **30** 04:29:01.8±2.7,37°.87N×43°.01E,h15km±49km, Error ellipse: s-maj=60.4km s-min=12.8km az=61.0*
*ISK **30** 04:29:09.8,38°.75N×43°.28E,h7km,ML3.8*
*ISCJB **30** 04:29:10.9±0.3,38°.73N±0'.02×43°.35E±0'.02,h18km±3km, mb3.6/13,MS3.5/1, Error ellipse: s-maj=3.8km s-min=2.8km az=140.9*
*DDA **30** 04:29:10.0,38°.75N×43°.31E,h20km,Ml4.2*
*CSEM **30** 04:29:10.4±0.1,38°.75N×43°.28E,h5km,ML3.8, Error ellipse: s-maj=3.6km s-min=2.8km az=146.0*
*IDC **30** 04:29:12.9±4.6,38°.61N×43°.34E,h33km±29km,mb3.6/14, mb1 3.7/16,mb1mx3.5/42,mbtmp3.8/16,ML3.5/2,MS3.7/1, Ms1 3.7/1,ms1mx2.6/50, Error ellipse: s-maj=34.6km s-min=12.3km az=174.0*
ISC 30 04:29:10.9±0.8,**38°74N**±0'.01×**43°31E**±0'.01,**h16**km±5km, **n127**,σ1°**30**/172,**mb3.7**/13,**13C-26D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**156**	PG	**Pb**	**04 29 15.8**	**+0.2**
VANB				SG	**Sg**	**04 29 19.9**	**+2.1**
VANB	**Van**	**0.15**	**156**	*i* Pg	**Pb**	**04 29 15.8**	**+0.2**
TVAN	**Van**	**0.22**	**160**	*i*P	**Pg**	**04 29 15.6**	**-0.5**
TVAN				*i* S	**Sg**	**04 29 20.2**	**+0.6**
TVAN	**Van**	**0.22**	**160**	P	**Pg**	**04 29 15.6**	**-0.5**
TVAN				S	**Sg**	**04 29 20.2**	**+0.6**
ERCV	**ERCIS-VAN**	**0.29**	**5**	PG	**Pg**	**04 29 16.2**	**-0.9**
ERCV	**ERCIS-VAN**	**0.29**	**5**	*i* Pg	**Pg**	**04 29 16.3**	**-0.9**
VMUR	**Van-Muradiye**	**0.33**	**39**	*i*P	**Pb**	**04 29 17.4**	**-1.2**
VMUR				*i* S	**Sb**	**04 29 23.3**	**-0.4**
VMUR	**Van-Muradiye**	**0.33**	**39**	P	**Pb**	**04 29 17.4**	**-1.2**
VMUR				S	**Sb**	**04 29 23.3**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.46**	**279**	*i*P	**Pg**	**04 29 19.4**	**-0.9**
ADCV				*i* S	**Sb**	**04 29 26.9**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.46**	**279**	P	**Pg**	**04 29 19.4**	**-0.9**
ADCV				S	**Sb**	**04 29 26.9**	**-0.7**
GEVA	**Gevas**	**0.47**	**205**	*i*P	**Pg**	**04 29 19.2**	**-1.1**
GEVA				*i* S	**Sb**	**04 29 27.0**	**-0.6**
GEVA	**Gevas**	**0.47**	**205**	P	**Pg**	**04 29 19.2**	**-1.1**
GEVA				S	**Sb**	**04 29 27.0**	**-0.6**
CLDR	**Caldiran**	**0.63**	**49**	PG	**Pg**	**04 29 21.7**	**-1.6**
CLDR				SG	**Sb**	**04 29 31.8**	**-0.5**
CLDR	**Caldiran**	**0.63**	**49**	*i*P	**Pg**	**04 29 22.2**	**-1.1**
CLDR				*i* S	**Sg**	**04 29 31.0**	**-0.7**
CLDR	**Caldiran**	**0.63**	**49**	*i* Pg	**Pg**	**04 29 21.7**	**-1.6**
CLDR	**Caldiran**	**0.63**	**49**	P	**Pg**	**04 29 22.2**	**-1.1**
CLDR				S	**Sg**	**04 29 31.0**	**-0.7**
TUTA	**Tutak**	**0.77**	**330**	*i*P	**Pg**	**04 29 24.4**	**-1.6**
TUTA				*i* S	**Sg**	**04 29 34.3**	**-1.9**
TUTA	**Tutak**	**0.77**	**330**	P	**Pg**	**04 29 24.4**	**-1.6**
TUTA				S	**Sg**	**04 29 34.3**	**-1.9**
TATV	**Tatvan**	**0.85**	**255**	*i*P	**Pg**	**04 29 25.5**	**-1.9**
TATV				*i* S	**Sg**	**04 29 36.9**	**-1.7**
TATV	**Tatvan**	**0.85**	**255**	P	**Pg**	**04 29 25.5**	**-1.9**
TATV				S	**Sg**	**04 29 36.9**	**-1.7**
DYDN	**Diyadin**	**0.86**	**20**	*i* P	**Pg**	**04 29 26.3**	**-1.4**
DYDN				*i* S	**Sb**	**04 29 38.7**	**-0.4**
DYDN	**Diyadin**	**0.86**	**20**	P	**Pg**	**04 29 26.3**	**-1.4**
DYDN				S	**Sb**	**04 29 38.7**	**-0.4**
BASK	**Baskale_VAN**	**0.87**	**141**	*i*P	**Pg**	**04 29 26.4**	**-1.6**
BASK				*i* S	**Sn**	**04 29 41.8**	**+0.5**
BASK	**Baskale_VAN**	**0.87**	**141**	P	**Pg**	**04 29 26.4**	**-1.6**
BASK				S	**Sn**	**04 29 41.8**	**+0.5**
AGRB	**Hanur-Agry**	**0.88**	**344**	PG	**Pg**	**04 29 26.3**	**-1.7**
AGRB				SG	**Sb**	**04 29 39.5**	**0.0**
AGRB	**Hanur-Agry**	**0.88**	**344**	*i* Pg	**Pg**	**04 29 26.3**	**-1.7**
AGRB				*i* Sg	**Sb**	**04 29 39.5**	**0.0**
GURO	**Guroymak-BITLI**	**1.02**	**260**	*e*PG	**Pg**	**04 29 28.4**	**-2.2**
GURO	**Guroymak-BITLI**	**1.02**	**260**	*e*Pg	**Pg**	**04 29 28.4**	**-2.2**
EKAR	**Karacoban**	**1.10**	**299**	*i*P	**Pg**	**04 29 30.9**	**-1.3**
EKAR				*i* S	**Sn**	**04 29 49.6**	**+2.6**
EKAR	**Karacoban**	**1.10**	**299**	P	**Pg**	**04 29 30.9**	**-1.3**
EKAR				S	**Sn**	**04 29 49.6**	**+2.6**
EATA	**Eleskirt**	**1.29**	**331**	*i*P	**Pn**	**04 29 33.8**	**-0.9**
EATA				*i* S	**Sn**	**04 29 52.2**	**+0.4**
**

BVAR			LR	LR	04 45 45.5		
	comp=Z,199nm,20.9s,baz=266,slow=42						
GERES	GERESS Array B	23.50	305	P	P	04 34 21.4	+1.3
	0.4nm,0.7s,baz=111,slow=9.2,SNR=4.8						
FINES	FINESS Array B	25.12	340	P	P	04 34 35.5	+0.7
	4.3nm,0.9s,baz=125,slow=13,SNR=4.7						
DAVOX	Davos/Dischmat	25.68	299	P	P	04 34 40.9	+0.6
	1.0nm,0.5s,baz=320,slow=20,SNR=2.2						
KURBB	Kurchatov Arra	27.46	53	P	P	04 34 57.5	+1.4
	2.6nm,0.6s,baz=263,slow=8.9,SNR=20						
HFS	Hagfors	28.38	329	P	P	04 35 04.4	+0.2
	2.9nm,0.8s,baz=128,slow=12,SNR=5.1						
MKAR	Makanchi Array	29.48	61	P	P	04 35 15.3	+1.1
	0.5nm,0.6s,baz=267,slow=7.6,SNR=3.4						
ZALV	Zalesovo Beam	31.92	48	P	P	04 35 35.7	+0.1
	0.6nm,0.4s,baz=257,slow=11,SNR=2.2						
ARCES	ARCESS Array B	32.30	348	P	P	04 35 38.7	0.0
	1.3nm,0.8s,baz=161,slow=7.7,SNR=6.5						
ESDC	Sonseca Array	36.31	287	P	P	04 36 12.8	-1.1
	0.1nm,0.4s,baz=76,slow=12,SNR=5.1						
TORD	Torodi Ar. Bea	44.73	247	P	P	04 37 22.1	-1.5
	0.4nm,1.0s,baz=39,slow=8.8,SNR=5.1						
KSRS	Korea Array	64.17	62	P	P	04 39 45.0	+0.3
	1.2nm,0.8s,baz=283,slow=8.2,SNR=3.2						

*IDC **30** 04:29:35.3±0.9, 1°.28N×12°.12E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/39, mbtmp3.9/8, Error ellipse: s-maj=65.4km s-min=16.4km az=72.0*
*ISCJB **30** 04:29:36.5±0.5, 1°.22N±0°.05×128°.09E±0°.08, h23km, mb4.2/14, Error ellipse: s-maj=11.8km s-min=7.1km az=176.2*
*DJA **30** 04:29:36.2±1.5, 1°.N±6°×12°.8E±1°.7, h101km±13km, M3.9/3, MLv3.9/3*
*NEIC **30** 04:29:40.8±1.3, 1°.22N×128°.14E, h40km±13km, mb4.4/3, Error ellipse: s-maj=13.8km s-min=7.2km az=51.0*
ISC 30 04:29:38.7±0.7, 1°.10N±0°.07×128°.00E±0°.08, h23km, n20, σ1§90/23, mb4.0/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	1.80	196	P	Pn	04 30 08.3	-0.1
LBMI				S	Sb	04 30 32.2	-1.0
SANI	Sanana	3.72	213	P	Pn	04 30 32.8	-2.0
SANI				S	Sn	04 31 15.1	-2.9
LUWI	Luwuk	5.64	248	*e*Pn	Pn	04 31 04.5	+3.2
FAKI	Fak Fak	5.83	133	*e*Pn	Pn	04 31 05.0	+1.1
FAKI				*e*Sn	Sn	04 32 05.1	-5.0
SOEI	Soe	11.41	199	*e*Pn	Pn	04 32 23.3	+2.8
WRAB	Tennant Creek	21.82	164	*e*P	P	04 34 30.3	+0.9
	3.2nm,0.6s						
WRA	Warramunga Arr	21.82	164	P	P	04 34 29.8	+0.2
	3.7nm,0.8s,baz=341,slow=11,SNR=11						
ASAR	Alice Springs	25.28	167	P	P	04 35 06.2	+2.7
	2.8nm,0.8s,baz=344,slow=11,SNR=13						
CTAO	Charters Tower	27.64	141	*e*P	P	04 35 24.2	-0.7
	36nm,1.1s						
STKA	Stephens Creek	35.24	160	P	P	04 36 32.1	+0.5
	1.7nm,0.8s,baz=164,slow=3.2,SNR=2.8						
MJAR	Matsushiro Arr	36.51	14	P	P	04 36 40.6	-1.8
	0.4nm,0.4s,baz=191,slow=8.9,SNR=4.3						
CAN	Canberra	41.21	154	*e*P	P	04 37 21.4	-0.5
	7.9nm,0.9s						
DZM	Mont Dzumac	44.01	124	*e*P	P	04 37 44.3	-0.7
	21nm,1.3s						
SONM	Songino Array	50.17	341	P	P	04 38 32.6	-0.1
	0.4nm,0.4s,baz=167,slow=8.9,SNR=2.4						
MKAR	Makanchi Array	60.42	326	P	P	04 39 46.2	-0.3
	0.6nm,0.4s,baz=116,slow=7.5,SNR=7.0						
KURBB	Kurchatov Arra	64.62	328	P	P	04 40 13.7	-0.7
	1.3nm,0.6s,baz=126,slow=6.0,SNR=12						
KURK	Kurchatov	64.62	328	*e*P	P	04 40 13.8	-0.6
	14nm,0.6s						
BVAR	Borovoye Array	70.20	327	P	P	04 40 49.4	-0.3
	0.6nm,0.5s,baz=116,slow=6.6,SNR=3.6						
BRVK	Borovoye	70.27	327	*e*P	P	04 40 49.6	-0.5
	2.9nm,0.5s						
ABKAR	Abkulak array	74.97	321	*e*P	P	04 41 18.1	-0.1

*ISCJB **30** 04:33:02.7±1.1, 38°.69N±0°.05×43°.47E±0°.09, h20km±13km, Error ellipse: s-maj=13.4km s-min=7.1km az=30.5*
*CSEM **30** 04:33:02.4±0.3, 38°.72N×43°.46E, h15km, MD2.3, Error ellipse: s-maj=9.0km s-min=5.8km az=114.0*
*DDA **30** 04:33:02.5, 38°.72N×43°.48E, h7km, Ml2.6*
*ISK **30** 04:33:02.4, 38°.73N×43°.41E, h11km, MD2.3*
ISC 30 04:33:02.6±1.2, 38°.73N±0°.03×43°.43E±0°.04, h10km±13km, n19, σ0§17/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.14	194	*e*PG	Pb	04 33 07.5	+0.2
VANB	Van	0.14	194	*e*Pg	Pb	04 33 07.6	+0.2
TVAN	Van	0.20	185	*i* P	Pg	04 33 07.1	+0.1
TVAN	Van	0.20	185	P	Pg	04 33 07.1	+0.1
VMUR	Van-Muradiye	0.28	23	*i* P	Pg	04 33 08.3	-0.2
VMUR	Van-Muradiye	0.28	23	P	Pg	04 33 08.3	-0.2
GEVA	Gevas	0.51	215	*i* P	Pg	04 33 12.3	-0.3
GEVA	Gevas	0.51	215	P	Pg	04 33 12.3	-0.3
ADCV	BITLIS_Adilcev	0.56	278	*i* P	Pb	04 33 14.7	+0.1
ADCV	BITLIS_Adilcev	0.56	278	P	Pb	04 33 14.7	+0.1
CLDR	Caldiran	0.56	42	*e*PG	Pg	04 33 13.7	+0.1
CLDR				*e*SG	Sb	04 33 22.7	-0.2
CLDR	Caldiran	0.56	42	*i* P	Pg	04 33 13.5	-0.1
CLDR	Caldiran	0.56	42	*e*Pg	Pg	04 33 13.7	+0.1
CLDR				*e*Sg	Sb	04 33 22.7	-0.2
TUTA	Tutak	0.83	325	*i* P	Pg	04 33 18.6	0.0
TUTA	Tutak	0.83	325	P	Pg	04 33 18.6	0.0
AGRB	Hanur-Agry	0.91	338	*e*PG	Pg	04 33 20.4	+0.1
AGRB				*e*SG	Sb	04 33 33.1	+0.1
AGRB	Hanur-Agry	0.91	338	*e*Pg	Pg	04 33 20.4	+0.1
AGRB				*e*Sg	Sb	04 33 33.1	+0.1
GURO	Guroymak-BITLI	1.11	261	*e*PN	Pb	04 33 23.9	-0.1
GURO	Guroymak-BITLI	1.11	261	*e*Pn	Pb	04 33 23.9	-0.1

*CSEM **30** 04:34:54.7±0.2, 38°.74N×43°.57E, h5km, ML3.0, Error ellipse: s-maj=5.1km s-min=3.7km az=107.0*
*DDA **30** 04:34:54.3, 38°.72N×43°.59E, h7km, Ml3.3*
*ISK **30** 04:34:54.9, 38°.76N×43°.52E, h8km, ML3.0*
*ISCJB **30** 04:34:55.2±0.6, 38°.76N±0°.03×43°.58E±0°.05, h15km±4km, Error ellipse: s-maj=7.4km s-min=4.7km az=23.2*
ISC 30 04:34:55.3±1.0, 38°.75N±0°.03×43°.61E±0°.03, h18km±8km, n52, σ1§01/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	228	*e*PG	Pb	04 35 00.5	-0.5
VANB				*e*SG	Sg	04 35 05.4	+1.0
VANB	Van	0.23	228	*e*Pg	Pb	04 35 00.5	-0.5
VMUR	Van-Muradiye	0.24	353	*i* P	Pb	04 35 00.2	-1.1
VMUR	Van-Muradiye	0.24	353	P	Pb	04 35 00.2	-1.1
TVAN	Van	0.27	216	*i* P	Pb	04 35 00.4	-1.4
TVAN	Van	0.27	216	P	Pb	04 35 00.4	-1.4
ERCV	ERCIS-VAN	0.34	322	*e*PG	Pg	04 35 02.1	-0.5
ERCV	ERCIS-VAN	0.34	322	*e*Pg	Pg	04 35 02.1	-0.5
CLDR	Caldiran	0.46	31	*e*PG	Pg	04 35 04.7	-0.1
CLDR				*e*SG	Sb	04 35 12.1	+0.4
CLDR	Caldiran	0.46	31	*i* P	Pg	04 35 04.3	-0.5
CLDR	Caldiran	0.46	31	P	Pg	04 35 04.3	-0.5
CLDR	Caldiran	0.46	31	*e*Pg	Pg	04 35 04.7	-0.1
CLDR				*e*Sg	Sb	04 35 12.1	+0.4
GEVA	Gevas	0.61	225	*i* P	Pb	04 35 05.1	-2.5
GEVA	Gevas	0.61	225	P	Pb	04 35 05.1	-2.5
ADCV	BITLIS_Adilcev	0.69	275	*i* P	Pb	04 35 08.3	-0.7
ADCV	BITLIS_Adilcev	0.69	275	P	Pb	04 35 08.3	-0.7
BASK	Baskale_VAN	0.76	156	*i* P	Pb	04 35 09.0	-1.1
BASK	Baskale_VAN	0.76	156	P	Pb	04 35 09.0	-1.1
DYDN	Diyadin	0.80	5	*i* P	Pb	04 35 10.6	-0.2
DYDN	Diyadin	0.80	5	P	Pb	04 35 10.6	-0.2
TUTA	Tutak	0.90	317	*i* P	Pb	04 35 11.1	-1.5
TUTA	Tutak	0.90	317	P	Pb	04 35 11.1	-1.5
AGRB	Hanur-Agry	0.95	330	*e*PG	Pb	04 35 12.6	-0.9
AGRB				*e*SG	Sb	04 35 25.9	0.0
AGRB	Hanur-Agry	0.95	330	*e*Pg	Pb	04 35 12.6	-0.9
AGRB				*e*Sg	Sb	04 35 25.9	0.0
TATV	Tatvan	1.08	258	*i* P	Pb	04 35 14.0	-1.5
TATV	Tatvan	1.08	258	P	Pb	04 35 14.0	-1.5
GURO	Guroymak-BITLI	1.25	261	*e*PN	Pn	04 35 17.3	-0.7
GURO	Guroymak-BITLI	1.25	261	*e*Pn	Pn	04 35 17.3	-0.7
EKAR	Karacoban	1.30	293	*i* P	Pn	04 35 19.0	+0.1
EKAR	Karacoban	1.30	293	P	Pn	04 35 19.0	+0.1
CUKT	Cukurca	1.50	180	*e*PN	Pb	04 35 23.0	+0.3
CUKT	Cukurca	1.50	180	*i* P	Pn	04 35 21.3	-0.2
CUKT	Cukurca	1.50	180	P	Pn	04 35 21.3	-0.2
CUKT	Cukurca	1.50	180	*e*Pn	Pb	04 35 23.0	+0.3
SRTM	Siirt_Merkez	1.52	241	*i* P	Pb	04 35 22.9	-0.2
SRTM	Siirt_Merkez	1.52	241	P	Pb	04 35 22.9	-0.2
VRTB	Varto-Mus	1.73	284	*e*PN	Pn	04 35 25.0	+0.4
VRTB	Varto-Mus	1.73	284	*e*Pn	Pn	04 35 25.0	+0.4
SVAN	Silvan-Diyarba	1.98	253	*e*PN	Pn	04 35 28.3	+0.3
SVAN	Silvan-Diyarba	1.98	253	*e*Pn	Pn	04 35 28.3	+0.3
BTMN	Batman	2.03	246	*i* P	Pb	04 35 32.9	+1.2
BTMN	Batman	2.03	246	P	Pb	04 35 32.9	+1.2
BNGB	Bing¶ll	2.30	277	*e*PN	Pn	04 35 33.8	+1.4
BINT	Bingol	2.44	274	*e*Pn	Pn	04 35 33.8	-0.6
YEDI	Yedisu-Bingol	2.48	287	*e*PN	Pn	04 35 35.8	+0.8
YEDI	Yedisu-Bingol	2.48	287	*e*Pn	Pn	04 35 35.8	+0.8
MAZI	Mazidag	2.81	244	*e*PN	Pn	04 35 40.4	+1.0
MAZI	Mazidag	2.81	244	*e*Pn	Pn	04 35 40.4	+1.0
PTK	Pertek	3.30	274	*e*PN	Pn	04 35 47.5	+1.2
PTK	Pertek	3.30	274	*e*Pn	Pn	04 35 47.5	+1.2
SVRC	Sivrice-ELAZID	3.39	265	*e*PN	Pn	04 35 49.1	+1.6
SVRC	Sivrice-ELAZID	3.39	265	*e*Pn	Pn	04 35 49.1	+1.6

MAN 30 04:38:07, 12°.42N×120°.80E, h22km, mb4.2, ML3.0, MS2.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.32	82	*e*P	Pb	04 38 13.8	-0.3
SJMP				*e*S	Sb	04 38 18.4	-0.5
BUSP	Coron	0.71	235	*e*P	Pn	04 38 22.0	+0.2
BUSP				*e*S	Sn	04 38 32.7	+0.7
PGP	Puerto Galera	1.09	8	*e*P	Pn	04 38 26.9	-0.1
PGP				*i* S	Sn	04 38 41.7	+0.2
OTRP	Odiongan	1.20	92	*e*P	Pn	04 38 28.7	+0.2
OTRP				*e*S	Sb	04 38 45.1	+1.0
LUBP	Lubang	1.42	338	*e*P	Pn	04 38 31.3	-0.2
LUBP				*e*S	Sb	04 38 50.6	+0.3
BOAC	Boac	1.46	44	*e*P	Pn	04 38 32.4	+0.4
BOAC				*e*S	Sb	04 38 51.5	-0.1

IDC 30 04:40:55.0±9.9, 1°.17S×124°.86E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/38, mbtmp3.9/3, Error ellipse: s-maj=168.5km s-min=148.2km az=73.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.83	154	P	P	04 45 38.0	-0.4
	1.6nm,0.5s,baz=332,slow=11,SNR=12						
ASAR	Alice Springs	24.02	159	P	P	04 46 11.6	-0.2
	2.2nm,0.5s,baz=335,slow=8.0,SNR=38						
STKA	Stephens Creek	34.38	154	P	P	04 47 44.5	+0.5
	1.6nm,0.9s,baz=328,slow=11,SNR=3.0						

*ATH **30** 04:47:16.7, 41°.67N×24°.60E, h20km±1km, ML3.1/14, Error ellipse: s-maj=1.8km s-min=0.7km az=191.0*
*THE **30** 04:47:17.7, 41°.63N×24°.60E, h2km, ML3.2/14, Error ellipse: s-maj=1.0km s-min=0.3km az=187.0*
*BEO **30** 04:47:17.5±0.6, 41°.66N×24°.65E, h8km±2km, M3.3/1*
*ISCJB **30** 04:47:17.5±0.5, 41°.68N±0°.01×24°.52E±0°.02, h4km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=157.7*
*CSEM **30** 04:47:18.5±0.1, 41°.65N×24°.48E, h5km, ML3.3, Error ellipse: s-maj=2.6km s-min=2.4km az=31.0*
*ISK **30** 04:47:19.5, 41°.48N×24°.54E, h7km, ML3.3*
ISC 30 04:47:17.0±1.1, 41°.65N±0°.01×24°.60E±0°.01, h2km±9km, n189, σ1§21/261, 33C-19D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	Plovdiv	0.46	10	↑*i*Pg	Pg	04 47 26.4	+0.5
PLD	Plovdiv	0.46	10	↑*i*Pg	Pg	04 47 26.4	+0.5
NVR	Nevrokopi	0.63	242	P	Pg	04 47 29.1	0.0
NVR				S	Sg	04 47 38.0	+0.8
NVR	Nevrokopi	0.63	242	P	Pg	04 47 29.1	0.0
NVR				S	Sg	04 47 38.0	+0.8
NVR				AML	AML	04 47 38.5	
	comp=N,2081μm,0.2s						
NVR				AML	AML	04 47 39.3	
	comp=E,1442μm,0.2s						
NVR	Nevrokopi	0.63	242	P	Pg	04 47 29.1	0.0
NVR				S	Sg	04 47 38.0	+0.8
KAVA	Kavala	0.66	186	P	Pg	04 47 29.8	+0.2
KAVA				S	Sg	04 47 38.9	+0.8
KAVA	Kavala	0.66	186	P	Pg	04 47 29.7	+0.2
KAVA				S	Sg	04 47 38.7	+0.7
KAVA				AML	AML	04 47 44.6	
	comp=E,1628μm,0.2s						
KAVA				AML	AML	04 47 45.5	
	comp=N,2093μm,0.3s						
KAVA	Kavala	0.66	186	P	Pg	04 47 29.8	+0.2
KAVA				S	Sg	04 47 38.9	+0.8
RDO	Rodhopi	0.87	125	P	Pg	04 47 33.8	+0.1
RDO				S	Sg	04 47 45.4	+0.5
RDO	Rodhopi	0.87	125	P	Pb	04 47 34.3	-0.5
RDO				S	Sg	04 47 45.5	+0.6
RDO				AML	AML	04 47 50.9	
	comp=E,3429μm,0.2s						
RDO				AML	AML	04 47 52.1	
	comp=N,3590μm,0.2s						
RDO	Rodhopi	0.87	125	P	Pb	04 47 34.3	-0.5
RDO				S	Sg	04 47 45.5	+0.6
SRS	Serrai	0.93	235	P	Pg	04 47 34.7	0.0
SRS				S	Sb	04 47 48.1	-0.4
SRS	Serrai	0.93	235	P	Pg	04 47 35.1	+0.4
SRS				S	Sb	04 47 48.4	-0.1
SRS				AML	AML	04 47 53.4	
	comp=E,3227μm,0.4s						
SRS				AML	AML	04 47 53.6	
	comp=N,3062μm,0.4s						
SRS	Serrai	0.93	235	P	Pg	04 47 35.1	+0.4
SRS				S	Sb	04 47 48.1	-0.4
SOH	Sokhos	1.25	229	P	Pg	04 47 40.8	-0.2
SOH				S	Sb	04 47 58.2	+0.3
SOH	Sokhos	1.25	229	P	Pg	04 47 41.0	0.0
SOH				S	Sb	04 47 57.8	-0.1
SOH				AML	AML	04 48 01.3	
	comp=E,3984μm,0.4s						
SOH				AML	AML	04 48 02.2	
	comp=N,4814μm,0.5s						
SOH	Sokhos	1.25	229	P	Pg	04 47 41.0	0.0
SOH				S	Sb	04 47 57.8	-0.1
KNT	Kendrikon	1.37	250	P	Pn	04 47 42.9	-0.2
KNT				S	Sn	04 48 02.3	+0.5
KNT	Kendrikon	1.37	250	P	Pn	04 47 43.1	0.0
KNT				S	Sn	04 48 02.0	+0.2
KNT				AML	AML	04 48 04.1	
	comp=E,2559μm,0.3s						
KNT				AML	AML	04 48 04.3	
	comp=N,2606μm,0.5s						
KNT	Kendrikon	1.37	250	P	Pn	04 47 42.9	-0.2
KNT				S	Sn	04 48 02.0	+0.2
SMTH	Samothraki Isl	1.37	149	P	Pg	04 47 44.0	+0.7
SMTH				S	Sn	04 48 02.1	+0.2
SMTH	Samothraki Isl	1.37	149	P	Pg	04 47 43.2	-0.1
SMTH				S	Sn	04 48 02.2	+0.3
SMTH				AML	AML	04 48 03.9	
	comp=N,869μm,0.4s						
SMTH				AML	AML	04 48 05.5	
	comp=E,552μm,0.4s						
SMTH	Samothraki Isl	1.37	149	P	Pg	04 47 44.0	+0.7
SMTH				S	Sn	04 48 02.2	+0.3
OUR	Ouranopolis	1.39	200	*e*PN	Pn	04 47 43.4	-0.1
OUR	Ouranopolis	1.39	200	P	Pn	04 47 42.9	-0.5
OUR				S	Sn	04 48 02.9	+0.5
OUR	Ouranopolis	1.39	200	P	Pn	04 47 42.7	-0.7
OUR				S	Sn	04 48 02.9	+0.5
OUR				AML	AML	04 48 05.2	
	comp=E,2244μm,0.4s						
OUR				AML	AML	04 48 06.4	
	comp=N,1440μm,0.3s						
OUR	Ouranopolis	1.39	200	P	Pn	04 47 42.9	-0.5
OUR	Ouranopolis	1.39	200	*e*Pn	Pn	04 47 43.4	-0.1
OUR				S	Sn	04 48 02.9	+0.5
VTS	Vitosha	1.40	313	↓*i*Pg	Pn	04 47 43.0	-0.7
VTS				*e*Sg	Sn	04 48 02.4	-0.4
VTS	Vitosha	1.40	313	↑*i*P	Pn	04 47 43.2	-0.5
VTS				S	Sb	04 48 02.3	0.0
VTS	Vitosha	1.40	313	↑*i*P	Pn	04 47 43.2	-0.5
VTS				*e*Sg	Sn	04 48 02.4	-0.4
ENEZ	Enez	1.49	127	*e*PN	Pg	04 47 46.4	+0.9
ENEZ				*e*SN	Sg	04 48 05.6	+0.8
ENEZ	Enez	1.49	127	P	Pn	04 47 44.7	0.0
ENEZ				S	Sg	04 48 05.2	+0.4
ENEZ	Enez	1.49	127	P	Pn	04 47 44.7	0.0
ENEZ	Enez	1.49	127	*e*Pn	Pg	04 47 46.4	+0.9
ENEZ				S	Sg	04 48 05.2	+0.4
HORT	Hortiatis	1.54	228	*e*PN	Pn	04 47 45.8	+0.2
HORT				*e*SN	Sn	04 48 05.6	-0.7
HORT	Hortiatis	1.54	228	P	Pn	04 47 45.7	+0.1
HORT				S	Sb	04 48 06.5	+0.1
HORT	Hortiatis	1.54	228	P	Pn	04 47 45.9	+0.2
HORT				S	Sg	04 48 07.0	+0.3
HORT				AML	AML	04 48 09.3	
	comp=E,1026μm,0.5s						
HORT				AML	AML	04 48 10.7	
	comp=N,806μm,0.4s						
HORT	Hortiatis	1.54	228	P	Pn	04 47 45.7	+0.1
HORT				*e*Sn	Sn	04 48 05.6	-0.7
HORT				S	Sb	04 48 06.5	+0.1
PLG	Polygyros	1.54	215	P	Pn	04 47 45.0	-0.6
PLG				S	Sg	04 48 06.6	0.0
PLG	Polygyros	1.54	215	P	Pn	04 47 45.4	-0.2
PLG				S	Sg	04 48 07.4	+0.7
PLG				AML	AML	04 48 08.9	
	comp=N,1409μm,0.4s						
PLG				AML	AML	04 48 10.2	
	comp=E,963μm,0.3s						
PLG	Polygyros	1.54	215	P	Pn	04 47 45.4	-0.2
PLG				S	Sg	04 48 06.6	0.0
VAY	Valandovo	1.56	258	P	Pb	04 47 46.1	-0.5
VAY				S	Sg	04 48 07.4	+0.3
VAY	Valandovo	1.56	258	↑*i*Pn	Pb	04 47 46.6	+0.1
VAY	Valandovo	1.56	258	↓*i*Pg	Pb	04 47 46.3	-0.3
VAY				*e*Sg	Sg	04 48 08.6	+1.5
VAY	Valandovo	1.56	258	↓*i*Pg	Pb	04 47 46.3	-0.3
VAY	Valandovo	1.56	258	↑*i*Pn	Pb	04 47 46.6	+0.1
VAY				S	Sg	04 48 07.4	+0.3
VAY				*e*Sg	Sg	04 48 08.6	+1.5
THE	Thessaloniki	1.60	231	P	Pn	04 47 46.6	+0.4
THE				S	Sb	04 48 07.8	0.0
THE	Thessaloniki	1.60	231	P	Pb	04 47 46.9	-0.4
THE				S	Sn	04 48 07.6	+0.2
THE				AML	AML	04 48 09.8	
	comp=N,793μm,0.6s						
THE				AML	AML	04 48 10.2	
	comp=E,1007μm,0.5s						
THE	Thessaloniki	1.60	231	P	Pn	04 47 46.6	+0.4
THE				S	Sn	04 48 07.6	+0.2
ERIK	Erikli-Kesan	1.75	123	*e*PN	Pg	04 47 50.0	-0.5
ERIK	Erikli-Kesan	1.75	123	*e*Pn	Pg	04 47 50.0	-0.5
GADA	Gvkgeada	1.76	145	*e*PN	Pn	04 47 48.8	+0.3
GADA				*e*SN	Sb	04 48 12.0	-0.5
GADA	Gvkgeada	1.76	145	P	Pn	04 47 48.7	+0.3
GADA				S	Sb	04 48 11.8	-0.7
GADA	Gvkgeada	1.76	145	*e*Pn	Pn	04 47 48.8	+0.3
GADA				*e*Sn	Sb	04 48 12.0	-0.5
GRG	Griva	1.79	248	*e*PN	Pb	04 47 50.2	-0.3
GRG	Griva	1.79	248	P	Pn	04 47 48.7	-0.3
GRG				S	Sn	04 48 12.7	+0.4
GRG	Griva	1.79	248	P	Pn	04 47 48.3	-0.7
GRG				S	Sn	04 48 12.1	-0.2
GRG				AML	AML	04 48 17.4	
	comp=N,3165μm,0.5s						
GRG				AML	AML	04 48 18.2	
	comp=E,1274μm,0.4s						
GRG	Griva	1.79	248	P	Pn	04 47 48.7	-0.3
GRG	Griva	1.79	248	*e*Pn	Pb	04 47 50.3	-0.3
GRG				S	Sn	04 48 12.1	-0.2
LIA	Limnos Island	1.81	166	P	Pn	04 47 48.9	-0.2
LIA				S	Sb	04 48 13.2	-0.6
LIA	Limnos Island	1.81	166	P	Pn	04 47 48.6	-0.5
LIA				S	Sb	04 48 13.5	-0.3
LIA				AML	AML	04 48 16.5	
	comp=N,1049μm,0.5s						
LIA				AML	AML	04 48 16.6	
	comp=E,984μm,0.5s						
LIA	Limnos Island	1.81	166	P	Pn	04 47 48.9	-0.2
LIA				S	Sb	04 48 13.2	-0.6
PAIG	Paliouri	1.86	202	P	Pn	04 47 49.3	-0.5
PAIG				S	Sn	04 48 13.8	0.0
PAIG	Paliouri	1.86	202	P	Pn	04 47 49.0	-0.8
PAIG				S	Sn	04 48 13.4	-0.4
PAIG				AML	AML	04 48 21.5	
	comp=N,268μm,0.3s						
PAIG				AML	AML	04 48 24.8	
	comp=E,264μm,0.7s						
PAIG	Paliouri	1.86	202	P	Pn	04 47 49.3	-0.5
PAIG				S	Sn	04 48 13.4	-0.4
GELI	Tayfur-Gelibol	1.89	131	*e*PN	Pb	04 47 52.2	0.0
GELI	Tayfur-Gelibol	1.89	131	*e*Pn	Pb	04 47 52.2	0.0
LPK	Lapseki	2.08	127	*e*PN	Pb	04 47 55.3	-0.1
LPK	Lapseki	2.08	127	*e*Pn	Pb	04 47 55.3	-0.1
BOZC	Bozcaada	2.12	148	*e*PN	Pb	04 47 54.9	-1.2
BOZC	Bozcaada	2.12	148	*e*Pn	Pb	04 47 54.9	-1.2
ZAPS	Zavoj	2.18	319	*e*Pn	Pn	04 47 55.2	+0.9
ZAPS				*e*Sg	Sg	04 48 28.4	+1.4
PHSR	Pinarhisar	2.19	90	*e*PN	Pg	04 47 58.2	-0.9
PHSR	Pinarhisar	2.19	90	*e*Pn	Pg	04 47 58.2	-0.9
LIT	Litokhoron	2.22	227	P	Pn	04 47 54.4	-0.5
LIT	Litokhoron	2.

KLYT	Kilyos	3.36	95	*e*PN	Pb	04 48 14.5	-2.8
KLYT	Kilyos	3.36	95	*e*Pn	Pb	04 48 14.5	-2.8
ARMT	Armutlu	3.40	107	*e*PN	Pb	04 48 15.3	-2.7
ARMT	Armutlu	3.40	107	*e*Pn	Pb	04 48 15.3	-2.7
ICOR	Ion Corvin	3.41	43	⇓*i*P	Pb	04 48 16.8	-1.3
ICOR	Ion Corvin	3.41	43	⇓*i*P	Pb	04 48 16.8	-1.3
ICOR				S	Sn	04 48 55.4	+3.3
ISK	Istanbul-Kandi	3.41	98	*e*PN	Pb	04 48 14.9	-3.2
ISK	Istanbul-Kandi	3.41	98	*e*Pn	Pb	04 48 14.9	-3.2
KAVV	Kandilli-Istan	3.41	98	*e*PN	Pb	04 48 15.3	-2.8
KAVV	Kandilli-Istan	3.41	98	*e*Pn	Pb	04 48 15.3	-2.8
KUBS	Kucevo	3.49	323	*e*Pn	Pn	04 48 10.8	-1.6
KUBS				*e*Sn	Sn	04 48 53.7	-0.6
KUBS	Kucevo	3.49	323	*e*Pn	Pn	04 48 10.8	-1.6
KUBS				*e*Sn	Sn	04 48 53.7	-0.6
BUY	Buyukada	3.50	102	*e*PN	Pb	04 48 16.0	-3.6
BUY	Buyukada	3.50	102	*e*Pn	Pb	04 48 16.0	-3.6
GRUS	Gruza	3.63	309	⇓*i*Pn	Pn	04 48 14.1	-0.1
GRUS				*e*Sn	Sn	04 48 57.1	-0.5
GRUS	Gruza	3.63	309	⇓*i*Pn	Pn	04 48 14.1	-0.1
GRUS				*e*Sn	Sn	04 48 57.1	-0.5
ARR	Arges	3.72	0	⇓*i*P	Pn	04 48 16.0	+0.5
ARR	Arges	3.72	0	⇓*i*P	Pn	04 48 16.0	+0.5
ARR				S	Sn	04 48 58.6	-1.2
ISR	Istrita	3.75	22	⇑*i*P	Pn	04 48 17.6	+1.7
ISR	Istrita	3.75	22	S	Sg	04 49 20.2	+2.9
ISR	Istrita	3.75	22	⇑*i*P	Pn	04 48 17.6	+1.7
SJES	Sjenica	3.78	297	*e*Pn	Pn	04 48 16.0	-0.4
VOIR		3.80	5	⇑*i*P	Pn	04 48 17.3	+0.7
VOIR		3.80	5	⇑*i*P	Pn	04 48 17.3	+0.7
VOIR				S	Sn	04 49 00.6	-1.3
IVAS	Ivanjica	3.80	302	*i* Pn	Pn	04 48 16.5	-0.2
IVAS	Ivanjica	3.80	302	*i* Pn	Pn	04 48 16.5	-0.2
TIRR	Tirgusor	3.96	44	⇑*i*P	Pn	04 48 21.0	+2.3
TIRR	Tirgusor	3.96	44	S	Sg	04 49 20.4	-3.9
TIRR	Tirgusor	3.96	44	⇑*i*P	Pn	04 48 21.0	+2.3
MLR	Muntele Rosu	3.96	14	⇓*i*P	Pn	04 48 21.1	+2.2
MLR	Muntele Rosu	3.96	14	S	Sg	04 49 22.1	-2.2
MLR	Muntele Rosu	3.96	14	⇓*i*P	Pn	04 48 21.1	+2.2
TRUS	Trudelj	4.01	311	*e*Pn	Pn	04 48 19.1	-0.3
TRUS	Trudelj	4.01	311	*e*Pn	Pn	04 48 19.1	-0.3
PDG	Podgorica	4.05	283	⇓*i*P	Pn	04 48 23.5	+3.5
PDG	Podgorica	4.05	283	⇓*i*P	Pn	04 48 23.5	+3.5
DIVS	Divibare	4.18	307	*i* Pn	Pn	04 48 21.5	-0.3
DIVS	Divibare	4.18	307	*i* Pn	Pn	04 48 21.5	-0.3
DOPR	Dopca	4.35	7	⇓*i*P	Pn	04 48 25.2	+1.0
DOPR	Dopca	4.35	7	⇓*i*P	Pn	04 48 25.2	+1.0
CFR	Carcaliu	4.37	35	⇑*i*P	Pn	04 48 25.3	+1.0
CFR	Carcaliu	4.37	35	S	Sb	04 49 31.2	+3.7
CFR	Carcaliu	4.37	35	⇑*i*P	Pn	04 48 25.3	+1.0
BBLS	Lazići	4.42	302	*e*Pn	Pn	04 48 25.8	+0.7
BBLS	Lazići	4.42	302	*e*Pn	Pn	04 48 25.8	+0.7
PLOR	Plostina	4.46	19	⇑*i*P	Pn	04 48 27.3	+1.7
PLOR	Plostina	4.46	19	⇑*i*P	Pn	04 48 27.3	+1.7
VRI	Vrincioaia	4.49	19	⇑*i*P	Pn	04 48 28.2	+2.2
VRI	Vrincioaia	4.49	19	⇑*i*P	Pn	04 48 28.2	+2.2
BZS	Buzias	4.52	332	*e*Pn	Pn	04 48 26.3	-0.1
BZS	Buzias	4.52	332	⇑*i*P	Pn	04 48 26.5	+0.1
BZS	Buzias	4.52	332	S	Sg	04 49 40.3	-1.8
BZS	Buzias	4.52	332	⇑*i*P	Pn	04 48 26.5	+0.1
TEKS	Tekeris	4.71	310	⇑*i*Pn	Pn	04 48 28.7	-0.3
TEKS	Tekeris	4.71	310	⇑*i*Pn	Pn	04 48 28.7	-0.3
TREB	Trebinje	4.76	285	*e*Pn	Pn	04 48 31.3	+1.5
TREB	Trebinje	4.76	285	*e*Pn	Pn	04 48 31.3	+1.5
SIRR	Siria	5.08	336	⇑*i*P	Pn	04 48 34.4	+0.3
SIRR	Siria	5.08	336	⇑*i*P	Pn	04 48 34.4	+0.3
SIRR				S	Sn	04 49 31.5	-1.9
TESR	Tescani	5.08	16	⇑*i*P	Pn	04 48 36.1	+2.0
TESR	Tescani	5.08	16	⇑*i*P	Pn	04 48 36.1	+2.0
BURAR	Bucovina Array	5.98	4	⇑*i*P	Pn	04 48 47.8	+1.2
BURAR	Bucovina Array	5.98	4	⇑*i*P	Pn	04 48 47.8	+1.2

MAN 30 04:54:08, 7.72N×124.57E, h2km, mb4.6, ML3.4, MS3.3, Mindanao

*ISCJB **30** 04:56:06.6±0.4, 38.17N±0.03×28.88E±0.05, h10km, Error ellipse: s-maj=6.3km s-min=3.9km az=168.5*
*CSEM **30** 04:56:06.2±0.1, 38.15N×28.85E, h2km, MD2.8, Error ellipse: s-maj=3.8km s-min=2.4km az=79.0*
*DDA **30** 04:56:06.0, 38.13N×28.86E, h7km, Ml2.9*
*ISK **30** 04:56:06.3, 38.18N×28.86E, h6km, MD2.8*
ISC 30 04:56:06.5±0.9, 38.15N±0.02×28.86E±0.03, h10km, n39, σ0.58/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	Kula-Manisa	0.40	338	*e*PG	Pg	04 56 14.2	-0.2
KULA				*e*SG	Sg	04 56 19.4	-0.2
KULA	Kula-Manisa	0.40	338	*e*Pg	Pg	04 56 14.2	-0.2
KULA				*e*Sg	Sg	04 56 19.4	-0.2
DENT	Denizli	0.42	160	*e*PG	Pb	04 56 15.6	-0.4
DENT	Denizli	0.42	160	*e*Pg	Pb	04 56 15.6	-0.4
DNZL	Cakiroluk	0.48	162	*i* P	Pg	04 56 15.1	-0.8
DNZL	Cakiroluk	0.48	162	P	Pg	04 56 15.1	-0.8
KHAL	Karahalli	0.55	66	*i* P	Pg	04 56 16.8	-0.4
KHAL	Karahalli	0.55	66	P	Pg	04 56 16.8	-0.4
KHL	Karahalli	0.56	71	*e*PG	Pg	04 56 17.2	-0.1
KHL	Karahalli	0.56	71	*e*Pg	Pg	04 56 17.2	-0.1
TAVA	DENIZLI_Tavas	0.68	176	*i* P	Pg	04 56 19.3	-0.4
TAVA	DENIZLI_Tavas	0.68	176	P	Pg	04 56 19.3	-0.4
DEMI	Demirci	0.90	353	*i* P	Pg	04 56 22.7	-1.2
DEMI	Demirci	0.90	353	P	Pg	04 56 22.7	-1.2
AYDN	Tasoluk	0.91	238	*i* P	Pg	04 56 23.1	-0.9
AYDN	Tasoluk	0.91	238	P	Pg	04 56 23.1	-0.9
SIMA	Simav-Kutahya	0.94	6	*e*PG	Pg	04 56 24.2	-0.4
SIMA				*e*SG	Sg	04 56 36.7	-0.2
SIMA	Simav-Kutahya	0.94	6	*e*Pg	Pg	04 56 24.2	-0.4
SIMA				*e*Sg	Sg	04 56 36.7	-0.2
GDZ	Gediz	1.06	27	*i* P	Pg	04 56 26.4	-0.5
GDZ	Gediz	1.06	27	P	Pg	04 56 26.4	-0.5
GOLH	Golhisar	1.07	148	*i* P	Pn	04 56 27.6	0.0
GOLH	Golhisar	1.07	148	P	Pn	04 56 27.6	0.0
AKHS	Akhisar	1.10	312	*i* P	Pb	04 56 27.3	-0.2
AKHS	Akhisar	1.10	312	P	Pb	04 56 27.3	-0.2
GLHS	Glhisar (BURDU	1.11	152	*e*PN	Pg	04 56 28.2	+0.3
GLHS	Glhisar (BURDU	1.11	152	*e*Pn	Pg	04 56 28.2	+0.3
DALY	Dalyan (Mu¨la	1.34	187	*e*PN	Pg	04 56 32.5	+0.4
DALY	Dalyan (Mu¨la	1.34	187	*e*Pn	Pg	04 56 32.5	+0.4
TVSB	Tavsanli	1.39	20	*e*PN	Pb	04 56 32.2	-0.3
TVSB	Tavsanli	1.39	20	*e*Pn	Pb	04 56 32.3	-0.3
SHUT	Suhut-Afyon	1.39	73	*e*PN	Pb	04 56 32.8	+0.1
SHUT	Suhut-Afyon	1.39	73	*e*Pn	Pb	04 56 32.8	+0.1
DGB	¨zmir	1.56	267	*i* P	Pg	04 56 36.9	+0.6
BALB	Balikesir	1.67	333	*e*PN	Pn	04 56 36.5	+0.7
BALB	Balikesir	1.67	333	*e*Pn	Pn	04 56 36.5	+0.7
DKL	Dikili	1.78	302	*e*PN	Pn	04 56 38.1	+0.8
DKL	Dikili	1.78	302	*e*Pn	Pn	04 56 38.2	+0.8
KCTX	Karacabey (Bur	2.15	350	*e*PN	Pn	04 56 43.5	+1.1
KCTX	Karacabey (Bur	2.15	350	*e*Pn	Pn	04 56 43.5	+1.1

*ISCJB **30** 04:59:02.6±0.6, 38.79N±0.04×43.48E±0.06, h13km, Error ellipse: s-maj=7.4km s-min=4.8km az=23.1*
*CSEM **30** 04:59:02.3±0.3, 38.78N×43.50E, h10km, MD2.6, Error ellipse: s-maj=8.6km s-min=5.4km az=115.0*
*DDA **30** 04:59:02.0, 38.75N×43.60E, h7km, Ml2.6*
*ISK **30** 04:59:02.2, 38.78N×43.45E, h8km, MD2.6*
ISC 30 04:59:02.0±0.9, 38.77N±0.03×43.53E±0.04, h13km, n22, σ0.55/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	213	*e*PG	Pb	04 59 08.0	+0.2
VANB	Van	0.21	213	*e*Pg	Pb	04 59 08.0	+0.2
VMUR	Van-Muradiye	0.22	8	*i* P	Pb	04 59 07.5	-0.5
VMUR	Van-Muradiye	0.22	8	P	Pb	04 59 07.5	-0.5
TVAN	Van	0.26	202	*i* P	Pg	04 59 07.8	+0.2
TVAN	Van	0.26	202	P	Pg	04 59 07.8	+0.2
CLDR	Caldiran	0.48	39	*e*PG	Pg	04 59 12.3	-0.2
CLDR				*e*SG	Sb	04 59 20.5	+1.0
CLDR	Caldiran	0.48	39	*i* P	Pg	04 59 11.2	-0.3
CLDR	Caldiran	0.48	39	P	Pg	04 59 11.2	-0.3
CLDR	Caldiran	0.48	39	*e*Pg	Pb	04 59 12.3	-0.2
CLDR				*e*Sg	Sb	04 59 20.5	+1.0
GEVA	Gevas	0.59	219	*i* P	Pg	04 59 12.4	-1.2
GEVA	Gevas	0.59	219	P	Pg	04 59 12.4	-1.2
TUTA	Tutak	0.84	319	*i* P	Pb	04 59 19.0	+0.3
TUTA	Tutak	0.84	319	P	Pb	04 59 19.0	+0.3
AGRB	Hanur-Agry	0.91	333	*e*PG	Pg	04 59 19.3	-0.3
AGRB				*e*SG	Sg	04 59 31.5	0.0
AGRB	Hanur-Agry	0.91	333	*e*Pg	Pg	04 59 19.3	-0.3
AGRB				*e*Sg	Sg	04 59 31.5	0.0
TATV	Tatvan	1.02	256	*i* P	Pn	04 59 22.3	0.0
TATV	Tatvan	1.02	256	P	Pn	04 59 22.3	0.0
GURO	Guroymak-BITLI	1.20	260	*e*PN	Pn	04 59 24.5	-0.1
GURO	Guroymak-BITLI	1.20	260	*e*Pn	Pn	04 59 24.5	-0.1
CUKT	Cukurca	1.52	178	*e*PN	Pg	04 59 30.7	-0.6
CUKT	Cukurca	1.52	178	*e*Pn	Pg	04 59 30.7	-0.6

*BJI **30** 05:09:04.1, 4.82N×125.43E, h223km, mb4.4/26, mB4.5/17*
*MAN **30** 05:09:05, 4.83N×125.15E, h157km, mb5.6, ML4.6, MS4.9*
*ISCJB **30** 05:09:06.9±0.2, 5.24N±0.02×125.45E±0.03, h223km±2km, mb4.5/75, Error ellipse: s-maj=4.5km s-min=3.2km az=174.0*
*KLM **30** 05:09:06.4, 5.15N×125.71E, h220km, mb4.9*
*IDC **30** 05:09:07.6±1.0, 5.15N×125.16E, h214km±9km, mb4.0/33, mb1 4.0/33, mb1mx4.0/47, mbtmp4.5/33, Error ellipse: s-maj=12.1km s-min=6.1km az=77.0*
*NEIC **30** 05:09:08.5±0.6, 5.21N×125.38E, h226km±6km, mb4.9/30, Error ellipse: s-maj=6.2km s-min=4.3km az=80.0*
*DJA **30** 05:09:08.5±0.7, 5°N±8°×12°5E±°, h192km±6km, M4.8/24, mb4.9/24, mB5.2/13, MLv4.9/6, Mw(mB)4.7/13*
ISC 30 05:09:07.5±0.5, 5.20N±0.03×125.40E±0.05, h214km±3km, n201, σ1.50/248, mb4.5/75, 9C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.99	333	⇓*e*P	Pn	05 09 38.0	-0.9
GSPH				*e*S	S	05 10 02.2	-1.0
SGSI	Sangihe	1.51	175	P	Pn	05 09 41.0	-1.6
KCP	Kidapawan	1.83	350	⇓*i*P	Pn	05 09 45.2	-0.3
KCP				*i* S	S	05 10 15.8	+0.9
DAV	Davao City (W)	1.87	5	*e*Pn	Pn	05 09 46.4	+0.6
MATI	Mati	1.94	26	*e*P	Pn	05 09 45.6	-0.8
MATI				*e*S	S	05 10 17.2	+0.6
CTBH	Cotabato--PC H	2.31	330	⇓*e*P	Pn	05 09 50.2	-0.1
CTBH				*i* S	S	05 10 22.9	-0.6
BUKP	Musuan	2.69	353	*e*P	Pn	05 09 54.4	0.0
BUKP				*e*S	S	05 10 31.2	+0.4
BIPH	Bislig	3.12	18	⇑*e*P	Pn	05 10 00.4	+1.1
BIPH				*e*S	S	05 10 38.9	-0.7
PAGZ	Pagadian	3.31	323	*e*P	Pn	05 10 00.1	-1.4
SCPH	Surigao	4.55	1	⇓*e*P	Pn	05 10 20.8	+4.1
KMSI	Cibinong	4.81	197	P	Pn	05 10 20.1	+0.2
LLP	Lapu-Lapu	5.28	344	*e*P	Pn	05 10 26.6	+0.8
LLP				*e*S	S	05 11 31.1	+3.4
MRSI	Marisa	5.82	216	P	Pn	05 10 32.4	-0.4
LUWI	Luwuk	6.73	203	*e*Pn	Pn	05 10 45.5	+1.1
LUWI	74nm,0.7s						
				*e*S	S	05 12 03.2	+1.7
MYLDM	Lahad Datu	6.87	270	*e*Pn	Pn	05 10 48.2	+2.0
MYLDM	Lahad Datu	6.87	270	⇓P	Pn	05 10 48.5	+2.3
APSI	Ampana	7.13	212	P	Pn	05 10 53.0	+3.4
SANI	Sanana	7.22	175	P	Pn	05 10 46.7	-4.1
MPSI	Mapaga	7.31	229	P	Pn	05 10 54.3	+2.3
MPSI	27nm,0.9s,0.1nm						
TSM	Tawau	7.56	263	⇓P	Pn	05 10 55.4	+0.3
SDKM	Sandakan	8.18	273	⇓P	Pn	05 11 03.8	+0.5
NLAI	Namlea	8.55	169	P	Pn	05 11 05.8	-2.1
KDM	Kudat	8.69	282	⇑P	Pn	05 11 13.4	+3.7
KKM	Kota Kinabalu	9.18	276	*e*Pn	Pn	05 11 17.3	+1.1
KKM				*e*S	S	05 12 58.0	-1.6
KKM	Kota Kinabalu	9.18	276	⇑P	Pn	05 11 18.5	+2.3
MSAI	Masohi	9.19	157	P	Pn	05 11 16.7	+0.5
PALU	Palau	9.27	76	P	Pn	05 11 18.1	+0.9
PALU	baz=9.3,SNR=10						
TTSI	Tana Toraja	9.91	214	P	Pn	05 11 27.1	+1.7
SPSI	Sidrap Palu	10.70	212	P	Pn	05 11 36.7	+1.1
BNSI	Bone	10.90	209	P	Pn	05 11 40.2	+2.0
KAPI	Kappang	11.61	209	*e*Pn	Pn	05 11 46.7	-0.5
MTKI	Muara Teweh, K	12.14	240	P	P	05 12 03.3	+5.4
BAKI	Biak	12.44	120	P	P	05 12 00.1	-1.1
BAKI	208nm,0.8s,2μm						
BTM	Bintulu	12.44	261	⇑P	P	05 12 02.2	+0.9
SBUM	Sibu	13.43	259	*e*Pn	P	05 12 14.7	+2.4
SBUM	Sibu	13.43	259	⇓P	P	05 12 15.1	+2.9
MMRI	Maumere	14.10	193	P	P	05 12 25.8	+6.1
MMRI	Maumere	14.10	193	*e*Pn	Pn	05 12 18.3	0.0
MMRI	54nm,0.5s						
EDFI	Ende, Flores	14.34	195	P	P	05 12 23.2	+0.7
STKI	Sintang	14.81	250	P	P	05 12 29.6	+2.0
SOEI	Soe	14.90	184	P	P	05 12 32.1	+3.5
SOEI	72nm,0.9s						
SOEI	Soe	14.90	184	*e*Pn	Pn	05 12 28.1	0.0
SOEI	48nm,0.7s						
SMPI	Sarmi	15.09	118	P	P	05 12 33.5	+2.8
SMPI	85nm,1.0s						
KSM	Kuching	15.51	257	*e*P	Pn	05 12 37.1	+1.6
KSM	46nm,0.8s						
KSM	Kuching	15.51	257	⇑P	Pn	05 12 37.3	+1.8
PBKI	Pangkalan Bun	15.80	241	P	P	05 12 29.1	-9.5
PLAI	Plampang	15.87	209	P	Pn	05 12 40.9	+1.1
TWSI	Taliwang, Sumb	16.24	212	P	Pn	05 12 45.2	+1.0
GENI	Genyem	16.66	117	P	Pn	05 12 51.5	+2.3
KMMI	Kalianget	16.68	223	P	Pn	05 12 50.7	+1.2
JAY	Jayapura	17.10	116	P	Pn	05 12 55.2	+0.7
JAGI	Jajag, Banyuwa	17.61	220	P	Pn	05 12 59.8	-0.6
JAGI	Jajag, Banyuwa	17.61	220	*e*P	P	05 12 59.4	+1.1
JAGI	58nm,0.4s						
YULB	Yu-li	18.52	348	*e*P	Pn	05 13 09.6	-1.4
YULB	99nm,1.8s						
TPUB	Ta-pu	18.58	346	*e*P	P	05 13 07.8	-1.0
TPUB	104nm,1.8s						
MTN	Manton Dam	18.81	162	P	P	05 13 11.5	+0.2
MTN	baz=19,SNR=63						
MTN	Manton Dam	18.81	162	*e*P	P	05 13 11.7	+0.4
MTN	62nm,0.3s						
KDU	Kakadu	19.11	158	P	P	05 13 14.6	+0.1
KDU	baz=19,SNR=24						
GUMO	Guam	20.92	65	P	P	05 13 36.6	+2.6
GUMO	48nm,0.3s,baz=250,slow=2.1,SNR=12						
GUMO	Guam	20.92	65	*e*P	P	05 13 33.1	-0.8
GUMO	331nm,1.4s						
KNRA	Kununurra	21.01	171	P	P	05 13 33.9	-0.8
KNRA	baz=21,SNR=18						
TPRI	Tanjung Pinang	21.27	259	P	P	05 13 39.4	+1.8
CISI	Cisompet, Garu	21.64	234	P	P	05 13 42.7	+1.4
CISI	28nm,0.6s						
JOW	Kunigami	21.69	7	*e*P	P	05 13 41.8	+0.2
JOW	168nm,1.7s						
MYKOM	Kota Tinggi	21.77	262	*e*P	P	05 13 42.9	+0.3
MYKOM	120nm,1.4s						
MYKOM	Kota Tinggi	21.77	262	⇑P	P	05 13 43.3	+0.7
DBJI	Dramaga	21.97	238	P	P	05 13 49.0	+4.5
DBJI	70nm,1.1s,6μm						
UBPT	Khong Chiam	22.00	299	P	P	05 13 45.0	+0.3
UBPT	91nm,1.1s						
KTGM	Kuala Trenggan	22.17	271	⇑P	P	05 13 47.3	+0.9
KGM	Kluang	22.26	263	⇓P	P	05 13 48.0	+0.8
SBJI	Serang	22.28	240	P	P	05 13 49.4	+2.0
SBJI	264nm,0.6s,6μm						
ANA2	Anatahan	22.79	59	*e*P	P	05 13 51.9	-0.1
KLSI		22.86	245	P	P	05 13 54.0	+1.3
KLSI	58nm,0.7s,560nm						
MANU	Manus Island	23.09	108	*e*P	P	05 13 53.5	-1.3
MANU	17nm,0.7s						
FITZ	Fitzroy Crossi	23.15	179	P	P	05 13 55.1	-0.1
FITZ	25nm,0.4s,baz=8.1,slow=9.1,SNR=128						
FITZ				PcP	PcP	05 17 37.1	-0.1
FITZ	2.1nm,0.6s,baz=0.0,slow=3.0,SNR=3.4						
FITZ				S	S	05 17 49.7	-0.9
FITZ	5.1nm,0.9s,baz=333,slow=18,SNR=3.9						
FITZ				ScP	ScP	05 20 55.7	+0.7
FITZ	2.2nm,0.7s,baz=0.0,slow=6.1,SNR=3.1						
MDSI	Maura Dua	23.28	246	P	P	05 13 57.7	+1.3
MDSI	37nm,0.8s,343nm						
KASI	Kota Agung	23.43	243	P	P	05 14 00.4	+2.6
KASI	64nm,0.8s						
PANO	Nakornpanom	23.57	302	P	P	05 14 00.0	+1.0
PANO	48nm,0.8s						
LWLI	Liwa	23.61	245	P	P	05 14 01.3	+1.8
LWLI	166nm,0.9s,6μm						
FRIM	Kepong	23.79	266	⇓P	P	05 14 01.7	+0.6
MASI	Maura Aman, Be	24.57	251	P	P	05 14 11.4	+3.1
KULM	Kulim	24.65	271	*e*P	P	05 14 08.9	0.0
KULM	15nm,0.9s						
KULM	Kulim	24.65	271	⇑P	P	05 14 09.3	+0.4
KHON	Khomkaen	24.75	298	P	P	05 14 12.0	+2.2
KHON	25nm,0.9s						
BKNI	Bangkinang	24.80	260	*e*P	P	05 14 09.2	-1.1
BKNI	40nm,0.8s						
CHAI	Chaiyaphum	25.32	297	P	P	05 14 15.1	+0.1
CHAI	14nm,0.7s						
PBKT	Sadao Pong	26.48	297	P	P	05 14 25.9	+0.6
PBKT	29nm,1.0s,1μm						
WRAB	Tennant Creek	26.48	161	*e*P	P	05 14 24.4	-0.8
WRAB	22nm,1.0s						
WRA	Warramunga Arr	26.48	161	P	P	05 14 24.7	-0.6
WRA	7.9nm,0.5s,baz=333,slow=11,SNR=57						
WRA				PcP	PcP	05 17 44.3	-0.4
WRA	2.2nm,0.7s,baz=348,slow=3.1,SNR=5.1						
WRA				S	S	05 18 38.8	-4.6
WRA	2.1nm,1.0s,baz=337,slow=17,SNR=5.3						
WRA				ScP	ScP	05 21 04.3	0.0
WRA	1.6nm,0.6s,baz=337,slow=3.6,SNR=5.9						
WB2	Warramunga Arr	26.49	161	*e*P	P	05 14 24.9	-0.5
WB2	20nm,1.0s						
PSI	Prapat	26.52	266	*e*P	P	05 14 25.7	-0.2
PSI	17nm,0.8s						
MBWA	Marble Bar	26.78	192	*e*P	P	05 14 26.9	-1.0
MBWA	15nm,0.6s						
NJ2	Nanjing	27.41	348	*e*P	P	05 14 33.0	-0.4
NJ2				pmax	pmax		
NJ2	comp=Z,4.0nm,0.8s						
UTHA	Uthaitani	27.49	294	P	P	05 14 35.2	+0.9
UTHA	5.8nm,0.6s,147nm						
NANT	Nan	27.63	301	P	P	05 14 46.8	+11
LAMP	Lampang	28.43	300	P	P	05 14 50.0	+7.4
CMAR	Chiang Mai Arr	29.00	299	P	P	05 14 47.3	-0.4
CMAR	3.8nm,0.6s,baz=119,slow=7.5,SNR=20						
CMAR				PcP	PcP	05 17 50.7	-0.2
CMAR	0.8nm,0.4s,baz=108,slow=2.0,SNR=3.3						
CMAR				ScP	ScP	05 21 12.6	+0.4
CMAR	1.1nm,0.5s,baz=144,slow=1.5,SNR=7.8						
CHTO	Chiang Mai	29.14	300	P	P	05 14 50.5	+1.6
CHTO	46nm,1.3s						
CHTO	Chiang Mai	29.14	300	*e*P	P	05 14 48.8	-0.1
CHTO	6.0nm,0.6s						
QIS	Mount Isa	29.15	152	P	P	05 14 49.2	+0.2
QIS	baz=29,SNR=5.2						
KMI	Kunming	29.41	315	P	P	05 14 52.5	+1.0
KMI				pmax	pmax		
KMI	comp=Z,8.0nm,0.6s						
CMAI	Chiengmai2	29.53	302	P	P	05 14 53.5	+1.0
GIRL	Giralia	29.75	201	P	P	05 14 54.4	+0.2
GIRL	baz=30,SNR=4.3						
AS31	Alice Springs	29.86	164	*e*P	P	05 14 55.1	-0.1
AS31	5.7nm,0.3s						
ASAR	Alice Springs	29.86	164	P	P	05 14 55.1	-0.1
ASAR	4.3nm,0.4s,baz=339,slow=6.9,SNR=111						
ASAR				PcP	PcP	05 17 53.1	+0.2
ASAR	4.8nm,0.3s,baz=346,slow=2.4,SNR=14						
ASAR				S	S	05 19 34.7	-1.8
ASAR	1.4nm,0.7s,baz=354,slow=19,SNR=4.5						
ASAR				ScP	ScP	05 21 14.7	-0.2
ASAR	3.6nm,0.7s,baz=346,slow=2.8,SNR=18						
WRKA	Warakurna	30.18	175	P	P	05 14 58.0	-0.1
WRKA	baz=30,SNR=17						
KSAR	Wonju Array Be	32.17	4	P	P	05 15 16.5	+1.2
KSAR				PcP	PcP	05 18 00.3	+1.4
KSAR				ScP	ScP	05 21 24.0	+1.8
KSRS	Korea Array	32.19	4	P	P	05 15 16.5	+1.1
KSRS	2.2nm,0.4s,baz=176,slow=9.6,SNR=11						
KSRS				PcP	PcP	05 18 00.3	+1.4
KSRS	0.5nm,0.3s,baz=135,slow=2.8,SNR=3.2						
KSRS				ScP	ScP	05 21 24.0	+1.8
KSRS	0.9nm,0.8s,baz=169,slow=2.5,SNR=3.0						
CTA	Charters Tower	32.43

ODAN	**Odare**	42.15	305	*e*P	**P**	05 16 39.4 -0.1
	26nm,0.7s					
RAMN	**Ramite**	42.83	305	*e*P	**P**	05 16 45.3 +0.2
	28nm,0.7s					
JIRN	**Jiri**	43.45	305	*e*P	**P**	05 16 49.9 -0.2
	260nm,0.6s					
GUN	**Gumba**	43.80	306	*e*P	**P**	05 16 52.5 -0.4
	42nm,0.7s					
PKI	**Pulchoki**	44.05	305	*e*P	**P**	05 16 54.0 -0.9
	4.3nm,0.3s					
KLR	**Kul'dur**	44.21	6	P	**P**	05 16 56.2 +0.9
	0.3nm,0.6s,baz=221,slow=4.5,SNR=7.9					
KKN	**Kakani**	44.24	305	*e*P	**P**	05 16 55.4 -0.8
DMN	**Daman**	44.31	305	*e*P	**P**	05 16 56.3 -0.6
	13nm,0.7s					
ARPS	**Mount Arapiles**	44.49	161	P	**P**	05 16 59.1 +1.3
	baz=45,SNR=10.0					
SONM	**Songino Array**	45.50	342	P	**P**	05 17 05.3 -0.4
	0.4nm,0.4s,baz=161,slow=5.8,SNR=2.8					
SONM				PcP	**PcP**	05 18 41.0 +0.2
	0.5nm,0.4s,baz=152,slow=6.5,SNR=3.0					
SONM				ScP	**ScP**	05 22 13.2 -0.1
	0.4nm,0.5s,baz=108,slow=4.7,SNR=2.6					
KOLN	**Koldanda**	45.60	304	*e*P	**P**	05 17 06.8 -0.2
	30nm,0.3s					
DANN	**Dangsing**	45.69	305	*e*P	**P**	05 17 06.9 -0.9
CAN	**Canberra**	46.01	153	*e*P	**P**	05 17 11.7 +1.9
	17nm,0.7s					
CNB	**Canberra Magne**	46.17	153	P	**P**	05 17 11.8 +0.7
	baz=46,SNR=13					
PYUN	**Piuthan**	46.23	304	*e*P	**P**	05 17 11.7 -0.2
	35nm,0.7s					
TOO	**Toolangi**	46.48	158	P	**P**	05 17 15.7 +2.3
	baz=47,SNR=4.5					
WMQ	**Urumqi**	50.77	325	P	**P**	05 17 46.5 +0.5
WMQ				pP	pP	05 18 34.5 +1.4
WMQ				sP	PcP	05 18 58.5 -1.3
WMQ				pmax	pmax	
	comp=Z,6.0nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,100nm,4.9s					
WMQ				LR	LR	
	comp=N,47nm,14.7s					
WMQ				LR	LR	
	comp=E,160nm,24.1s					
WMQ				LR	LR	
	comp=Z,64nm,16.1s					
PETK	**Petropavlovsk-**	54.60	23	P	**P**	05 18 13.8 0.0
	3.5nm,1.0s,baz=197,slow=14,SNR=2.7					
PETK				PcP	**PcP**	05 19 12.9 -1.1
	4.1nm,0.8s,baz=194,slow=5.3,SNR=2.8					
MK31	**Makanchi Array**	55.60	325	*e*P	**P**	05 18 20.9 -0.2
MKAR	**Makanchi Array**	55.60	325	P	**P**	05 18 20.5 -0.6
	5.8nm,0.4s,baz=117,slow=7.5,SNR=64					
MKAR				PcP	**PcP**	05 19 16.8 -1.3
	3.0nm,0.5s,baz=141,slow=2.6,SNR=7.9					
MKAR				ScP	**ScP**	05 22 57.0 +0.4
	1.0nm,0.8s,baz=103,slow=5.0,SNR=4.4					
MKAR	**Makanchi Array**	55.60	325	*e*P	**P**	05 18 20.9 -0.2
MKAR				PcP	**PcP**	05 19 16.8 -1.3
MKAR				ScP	**ScP**	05 22 57.0 +0.4
MAKZ	**Makanchi**	55.79	325	*e*P	**P**	05 18 22.3 -0.2
	5.8nm,0.6s					
KSH	**Kashi**	56.08	315	P	**P**	05 18 26.8 +2.0
KSH				*e*pP	PcP	05 19 16.5 -3.8
KSH				*e*PcP	pP	05 19 21.0 +8.3
KSH				sP	sP	05 19 39.0 +2.8
KSH				PP	**PP**	05 20 35.0 +2.8
KSH				PcS	**PcS**	05 23 19.5 -1.6
KSH				S	**S**	05 25 55.0 -1.8
KSH				sS	sS	05 27 22.5 +1.8
KSH				ScS	**ScS**	05 27 47.5 -4.9
KSH				SS	**SS**	05 29 46.3 -0.2
KSH				pmax	pmax	
	comp=Z,28nm,2.0s					
KSH				pmax	pmax	
	comp=Z,73nm,7.6s					
KSH				LR	LR	
	comp=N,110nm,8.3s					
KSH				LR	LR	
	comp=E,160nm,10.9s					
KSH				LR	LR	
	comp=Z,120nm,6.2s					
YAK	**Yakutsk**	56.80	2	*e*P	**P**	05 18 30.0 +0.8
	28nm,0.6s					
AAK	**Ala-Archa**	58.39	318	P	**P**	05 18 41.2 +0.3
	1.5nm,0.4s,baz=95,slow=5.2,SNR=7.4					
AAK				PcP	**pP**	05 19 28.7 -0.6
	1.5nm,0.5s,baz=150,slow=2.3,SNR=4.6					
ZALV	**Zalesovo Beam**	58.69	333	P	**P**	05 18 41.1 -1.4
	1.4nm,0.4s,baz=126,slow=6.2,SNR=7.0					
KURBB	**Kurchatov Arra**	59.80	327	P	**P**	05 18 48.7 -1.4
	5.8nm,0.5s,baz=130,slow=6.5,SNR=73					
KURK	**Kurchatov**	59.80	328	*e*P	**P**	05 18 49.3 -0.9
SEY	**Seymchan**	60.92	14	P	**P**	05 18 59.3 +1.8
	1.4nm,0.4s,baz=197,slow=19,SNR=5.1					
KKAR	**Karatay Array**	61.26	317	*e*P	**P**	05 18 59.6 -0.7
	4.4nm,0.9s					
RPZ	**Rata Peaks**	63.72	145	P	**P**	05 19 16.8 +0.4
	2.7nm,0.4s,baz=235,slow=18,SNR=2.4					
BKZ	**Black Stump Fm**	64.55	138	*e*P	**P**	05 19 22.0 0.0
BVAR	**Borovoye Array**	65.38	327	P	**P**	05 19 26.0 -1.0
	1.4nm,0.4s,baz=127,slow=9.5,SNR=12					
BVAR				PcP	**PcP**	05 19 57.2 -0.1
	1.4nm,0.7s,baz=143,slow=5.0,SNR=4.6					
BRVK	**Borovoye**	65.45	327	*e*P	**P**	05 19 26.8 -0.7
TIXI	**Tiksi**	66.41	1	P	**P**	05 19 33.1 -0.1
	3.4nm,0.3s,baz=186,slow=2.9,SNR=9.7					
TIXI	**Tiksi**	66.41	1	*e*P	**P**	05 19 32.6 -0.6
WSAR	**Wadi Sarin**	66.63	293	P	**P**	05 19 34.5 -1.1
	1.9nm,0.5s,baz=96,slow=10,SNR=3.8					
NRIK	**Noril'sk**	68.70	346	P	**P**	05 19 47.4 -0.2
	4.4nm,0.6s,baz=117,slow=9.0,SNR=2.6					
GEYT	**Alibeck**	68.95	309	P	**P**	05 19 49.7 -0.1
	2.7nm,0.7s,baz=120,slow=8.8,SNR=5.2					
ABKAR	**Akbulak array**	70.18	321	*e*P	**P**	05 19 55.8 -1.3
	4.8nm,0.7s					
ARU	**Arti**	73.00	328	*e*P	**P**	05 20 12.1 -1.6
RAYN	**Ar Rayn**	78.69	293	*e*P	**P**	05 20 45.0 -1.6
	3.2nm,0.6s					
ILAR	**Eielson Array**	84.36	25	P	**P**	05 21 15.7 +0.3
	0.7nm,0.5s,baz=252,slow=5.1,SNR=18					
ILAR				pP	**pP**	05 22 05.3 -2.0
	1.7nm,1.0s,baz=260,slow=5.1,SNR=4.6					
MAW	**Mawson**	84.67	200	P	**P**	05 21 16.8 0.0
	4.2nm,0.6s,baz=56,slow=5.6,SNR=12					
MAW	**Mawson**	84.67	200	P	**P**	05 21 16.9 0.0
	baz=85,SNR=11					
VNDA	**Vanda**	85.04	173	P	**P**	05 21 18.8 +0.3
	2.1nm,0.4s,baz=316,slow=6.9,SNR=22					
BRTR	**Keskin Array B**	88.07	310	P	**P**	05 21 31.9 -2.3
	1.1nm,0.4s,baz=134,slow=3.7,SNR=9.6					
KMBO	**Kilima Mbogo**	88.26	269	P	**P**	05 21 34.4 -1.3
	3.5nm,0.8s,baz=57,slow=6.1,SNR=8.7					
KMBO	**Kilima Mbogo**	88.26	269	*e*P	**P**	05 21 34.9 -0.9
	8.4nm,1.3s					
ARCES	**ARCESS Array B**	88.62	340	P	**P**	05 21 34.5 -1.4
	1.9nm,0.7s,baz=89,slow=6.1,SNR=16					
FINES	**FINESS Array B**	89.92	332	P	**P**	05 21 39.9 -2.3
	1.8nm,0.4s,baz=69,slow=3.6,SNR=20					
AKASG	**Malin Array Be**	89.92	321	P	**P**	05 21 40.0 -2.5
	0.6nm,0.5s,baz=68,slow=4.8,SNR=2.8					
SYO	**Syowa Base**	93.31	201⇑	*e*P	**P**	05 21 56.2 -1.4
NOA	**NORSAR Array B**	96.89	333	P	**P**	05 22 11.9 -2.4
	0.9nm,0.7s,baz=58,slow=5.9,SNR=3.3					
GERES	**GERESS Array B**	100.12	321	P	**Pdif**	05 22 29.7 +0.7
	0.2nm,0.5s,baz=80,slow=6.1,SNR=3.4					
GERES				PKiKP	**PKiKP**	05 26 57.4 +1.8
	0.2nm,0.6s,baz=62,slow=2.3,SNR=2.9					
TORD	**Torodi Ar. Bea**	121.20	289	PKP	**PKPdf**	05 27 35.1 -0.9
	2.3nm,0.6s,baz=62,slow=2.1,SNR=30					
TORD				pPKP	**pPKPdf**	05 28 29.0 -2.1
	0.4nm,0.6s,baz=44,slow=1.5,SNR=1.7					
TORD				SKP		05 30 50.2
	0.9nm,0.8s,baz=43,slow=2.2,SNR=4.6					
TXAR	**Lajitas Array**	121.73	51	PKP	**PKPdf**	05 27 37.7 +0.9
	0.8nm,0.6s,baz=191,slow=0.1,SNR=17					
KIC	**Kosan Boka**	128.92	282	*e*PKP1	**PKPdf**	05 27 50.3 -0.5
	5.3nm,0.5s					
DBIC	**Dimbokro**	128.97	283	PKP	**PKPdf**	05 27 50.0 -1.0
	1.6nm,0.6s,baz=70,slow=3.5,SNR=4.5					
TIC	**Toumodi**	129.13	283	*e*PKP1	**PKPdf**	05 27 51.0 -0.3
LIC	**Lamto**	129.23	282	*e*PKP1	**PKPdf**	05 27 51.2 -0.2
	58nm,1.7s					
PLCA	**Paso Flores**	141.83	160	PKhKP	PKPpre	05 28 09.0
	2.0nm,0.9s,baz=252,slow=5.7,SNR=5.5					
PLCA				PKP	**PKPdf**	05 28 12.0 -2.2
	2.0nm,0.9s,baz=243,slow=4.5,SNR=5.6					
TRQA	**Tornquist**	146.61	169	*e*PKPbc	**PKPbc**	05 28 24.7 +0.3
BDFB	**Brasilia**	167.77	211	PKPab	**PKPab**	05 29 56.8 -0.2
	1.6nm,0.8s,baz=304,slow=4.6,SNR=5.9					

*ISCJB **30** 05:19:16.7±0.7, 16°.0S±0°.3×177°.5W±0°.1, h400km, mb3.6/7, Error ellipse: s-maj=38.7km s-min=10.0km az=158.2*
*IDC **30** 05:19:18.4±1.5, 15°.96S×177°.31W, h414km±18km, mb3.3/7, mb1 3.5/8, mb1mx3.3/38, mbtmp4.1/8, Error ellipse: s-maj=31.3km s-min=13.8km az=150.0*
ISC 30 05:19:17.6±0.7, 15°.9S±0°.2×177°.4W±0°.1, h400km, n11, σ1§28/11, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	5.78	71	P	**Pn**	05 20 48.4	+0.4
	13nm,0.3s,baz=252,slow=16,SNR=14						
AFI				S	**S**	05 22 02.4	+0.9
	1.9nm,0.3s,baz=252,slow=19,SNR=4.8						
CTA	**Charters Tower**	34.78	258	P	**P**	05 25 34.6	+1.9
	1.2nm,0.5s,baz=100,slow=12,SNR=3.7						
STKA	**Stephens Creek**	40.46	239	P	**P**	05 26 20.2	+0.7
	1.8nm,0.6s,baz=100,slow=6.1,SNR=4.5						
WRA	**Warramunga Arr**	45.99	258	P	**P**	05 27 02.2	-1.0
	0.9nm,0.6s,baz=94,slow=7.3,SNR=11						
ASAR	**Alice Springs**	46.30	252	P	**P**	05 27 05.5	-0.1
	7.2nm,0.6s,baz=85,slow=7.9,SNR=122						
VNDA	**Vanda**	62.50	185	P	**P**	05 28 58.5	-1.3
	0.3nm,0.3s,baz=39,slow=8.0,SNR=6.3						
ILAR	**Eielson Array**	83.74	13	P	**P**	05 31 00.8	-1.7
	0.9nm,0.6s,baz=225,slow=5.1,SNR=18						
TXAR	**Lajitas Array**	84.11	57	P	**P**	05 31 06.0	+0.7
	0.9nm,0.8s,baz=228,slow=7.1,SNR=11						
BVAR	**Borovoye Array**	115.92	322	PKP	**PKPdf**	05 37 12.1	-1.3
	0.4nm,0.6s,baz=186,slow=1.4,SNR=2.9						
BRTR	**Keskin Array B**	144.03	317	PKP	PKPbc	05 38 05.3	-0.4
	2.1nm,0.9s,baz=100,slow=5.1,SNR=4.0						
GERES	**GERESS Array B**	145.93	347	PKPbc	**PKPdf**	05 38 10.3	+0.6
	0.6nm,0.5s,baz=7.1,slow=4.0,SNR=3.9						

IDC 30 05:22:04.6±13.0, 32°.26S×176°.65W, h305km±89km, mb3.2/2, mb1 3.6/4, mb1mx3.1/32, mbtmp4.2/4, Error ellipse: s-maj=145.1km s-min=32.8km az=40.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	7.86	219	P	Pn	05 23 56.6	+0.2
	9.8nm,0.3s,baz=4.7,slow=1.8,SNR=44						
URZ				S	S	05 25 05.6	-21
	5.0nm,0.3s,baz=265,slow=23,SNR=11						
RPZ	**Rata Peaks**	14.97	217	P	P	05 25 19.3	-1.6
	0.8nm,0.3s,baz=323,slow=1.5,SNR=3.9						
ASAR	**Alice Springs**	44.18	268	P	P	05 29 44.1	-0.1
	0.5nm,0.5s,baz=108,slow=7.4,SNR=6.3						
WRA	**Warramunga Arr**	45.34	273	P	P	05 29 53.3	0.0
	0.9nm,0.3s,baz=113,slow=8.0,SNR=13						
TORD	**Torodi Ar. Bea**	160.91	175	PKPab	PKPab	05 42 12.7	-0.4
	0.7nm,1.0s,baz=206,slow=6.3,SNR=2.7						

*NIED **30** 05:24:00, 37°.70N×144°.30E, h8km, Mw4.7 Best double couple: M0=1.31000×10^16 NP1:φ=264.00000°, δ=44.00000°, λ=-95.00000°. NP2:φ=91.00000°, δ=47.00000°, λ=-85.00000°.*
*BJI **30** 05:24:04.2, 37°.86N×144°.70E, h6km, mb4.9/69, mB5.0/55, Ms4.6/65, Ms7 4.3/63*
*IDC **30** 05:24:05.0±0.4, 37°.63N×144°.67E, h0km, mb4.7/40, mb1 4.8/46, mb1mx4.8/62, mbtmp4.8/46, ML3.2/4, MS3.9/31, Ms1 3.9/31, ms1mx3.8/48, Error ellipse: s-maj=11.5km s-min=9.8km az=79.0*
*ISCJB **30** 05:24:06.4±0.8, 37°.74N±0°.02×144°.52E±0°.02, h14km±5km, mb5.0/200, MS4.1/50, Error ellipse: s-maj=3.9km s-min=2.1km az=174.1*
*GCMT **30** 05:24:07.3±0.2, 37°.70N×144°.50E, h12km, MW4.9/104, Moment Tensor Solution. s43,c55; s104,c166; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.06±.14; Mθθ=2.86±.10; Mφφ=0.20±.08; Mrθ=0.14±.19; Mφθ=-0.05±.06; Mφr=1.11±.29; Best double couple: M0=3.13500×10^16 NP1:φ=108.00000°, δ=49.00000°, λ=-67.00000°. NP2: φ=255.00000°, δ=46.00000°, λ=-114.00000°. Principal axes: T 2.8650, Plg2.0000°, Azm182.0000°; N 0.5420, Plg17.0000°, Azm272.0000°; P -3.4040, Plg73.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 05:24:07.3±0.1, 37°.67N×144°.55E, h10km, mb5.2/86 Error ellipse: s-maj=3.5km s-min=2.3km az=156.0*
NEIC Recorded [1 JMA] in Miyagi.
*MOS **30** 05:24:08.3±0.9, 37°.81N×144°.49E, h24km, mb5.2/68, MS4.2/8, Error ellipse: s-maj=6.1km s-min=4.1km az=110.1*
*JMA **30** 05:24:09.6±0.2, 37°.78N×144°.40E, h48km, M4.8*
JMA Felt I J1.
ISC 30 05:24:07.5±0.6, 37°.75N±0°.04×144°.66E±0°.04, h14km±3km, n1000, σ1§46/1063, mb5.1/206, MS4.2/50, 36C-45D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	2.70	300	P	**Pn**	05 24 49.3	-1.2
OFUJ				S	**Sn**	05 25 18.6	-4.4
JIO	**Ouri**	2.71	286	P	**Pn**	05 24 49.1	-1.4
JIO				*e*S	**Sn**	05 25 18.5	-4.6
MIYJ	**Miyakonagasawa**	2.88	310	P	**Pn**	05 24 51.4	-1.5
MIYJ				S	**Sn**	05 25 23.0	-4.3
JMK	**Ichinoseki**	2.96	295	P	**Pn**	05 24 53.1	-0.9
JMK				*e*S	**Sn**	05 25 25.3	-4.1
JOM	**Ohasama**	3.15	304	P	**Pn**	05 24 55.9	-0.8
JOM				*e*S	**Sn**	05 25 30.2	-3.9
JFT	**Otama**	3.44	267	P	**Pn**	05 25 00.1	-0.6
JFT				*e*S	**Sn**	05 25 37.4	-3.9
JYK	**Kaneyama**	3.58	290	P	**Pn**	05 25 01.9	-0.7
JYK				*e*S	**Sn**	05 25 41.6	-3.0
JANG	**Nango**	3.58	318	P	**Pn**	05 25 01.5	-1.2
JANG				*e*S	**Sn**	05 25 39.5	-5.3
BSO1	**Boso 1**	4.29	225	P	**Pn**	05 25 09.1	-2.8
BSO1				*e*S	**Sn**	05 25 56.5	-5.0
JOT	**Ohata**	4.58	324	P	**Pn**	05 25 15.8	-0.4
JOT				*e*S	**Sn**	05 26 03.9	-5.3
JRY	**Ryogami san**	4.93	251	P	**Pn**	05 25 19.2	-2.0
JRY				*e*S	**Sn**	05 26 11.3	-6.8
JCH	**Churui**	4.96	349	P	**Pn**	05 25 19.8	-1.7
JCH				S	**Sn**	05 26 13.7	-4.9
JKB	**Kayabe**	4.99	327	P	**Pn**	05 25 22.0	+0.1
JKB				*e*S	**Sn**	05 26 13.7	-5.6
JOD2	**Odawara 2**	5.13	243	P	**Pn**	05 25 21.5	-2.4
JOD2				*e*S	**Sn**	05 26 15.8	-7.2
MJAR	**Matsushiro Arr**	5.29	259	Pn	**Pn**	05 25 25.6	-0.6
	33nm,0.3s,baz=87,slow=15,SNR=242						
MJAR				Sn	**Sn**	05 26 24.8	-2.2
	40nm,0.3s,baz=89,slow=27,SNR=6.1						
MJAR				LR	LR	05 27 10.3	
	comp=Z,401nm,18.1s,baz=105,slow=35						
MAJO	**Matsushiro**	5.30	259	*c i*P	**Pn**	05 25 25.7	-0.5
MAJO	**Matsushiro**	5.30	259	*e*Pn	**Pn**	05 25 26.1	-0.1
MAJO				*e*Sn	Sn	05 26 17.2	-10
MAT	**Matsushiro**	5.30	259	P	**Pn**	05 25 25.5	-0.7
MAT				*e*S	**Sn**	05 26 23.9	-3.1
MJB9	**Matsu-Tunnel**	5.30	259	*e*Pn	**Pn**	05 25 26.1	-0.1
NEM2	**Nemuro 2**	5.67	8	P	**Pn**	05 25 28.5	-2.7
NEM2				*e*S	**Sn**	05 26 29.9	-6.2
JOSM	**Okushiri--Mats**	5.88	319	P	**Pn**	05 25 34.2	0.0
JHJ2	**Mitsune**	6.09	222	P	**Pn**	05 25 33.4	-3.6
JHJ2				*e*S	Sn	05 26 36.8	-10
JHJ2	**Mitsune**	6.09	222	*e*Pn	**Pn**	05 25 33.4	-3.6
JHJ2				*e*Sn	Sn	05 26 36.6	-10
JHJ	**Hachijo jima 2**	6.10	222	Pn	**Pn**	05 25 33.3	-3.9
	291nm,0.3s,baz=85,slow=23,SNR=8.7						
JHJ				Sn	Sn	05 26 37.1	-10
	475nm,0.3s,baz=68,slow=21,SNR=11						
JTKR	**Abashiri--Toko**	6.24	355	P	**Pn**	05 25 37.8	-1.3
JTKR				*e*S	**Sn**	05 26 45.1	-5.1
SHO	**Shikotan**	6.33	14	*c i*P	**Pn**	05 25 37.4	-2.9
SHO				*i* S	**Sn**	05 26 44.9	-7.5
SHO				pmax	pmax		
	comp=Z,2μm,0.6s						
SHO				pmax	pmax		
	comp=E,670nm,0.7s						
SHO				pmax	pmax		
	comp=N,668nm,0.5s						
SHO				smax	smax		
	comp=N,1μm,0.8s						
SHO				smax	smax		
	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	6.34	8	*c i*P	**Pn**	05 25 37.6	-2.9
YUK				*i* S	**Sn**	05 26 45.7	-7.0
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
YUK				smax	smax		
	comp=E,4μm,0.6s						
YUK				MLR	MLR		
	comp=Z,1μm,7.0s						
JHR	**Hokuryu**	6.39	340	P	**Pn**	05 25 42.0	+0.9
JHR				*e*S	**Sn**	05 26 50.8	-3.0
ASAJ	**Asahikawa**	6.55	347	Pn	**Pn**	05 25 42.9	-0.4
	comp=Z,43nm,0.3s,baz=198,slow=10,SNR=88						
ASAJ				Sn	**Sn**	05 26 55.1	-2.7
	comp=Z,16nm,0.3s,baz=52,slow=6.9,SNR=6.3						
ASAJ	**Asahikawa**	6.55	347	*e*Pn	**Pn**	05 25 42.6	-0.7
ASAJ				*e*Sn	**Sn**	05 26 57.0	-0.8
INU	**Inuyama**	6.60	251	*e*Pn	**Pn**	05 25 43.9	-0.2
INU				*e*Sn	**Sn**	05 26 58.0	-1.3
JIE	**Ise**	7.26	245	P	**Pn**	05 25 52.2	-1.0
JWK2	**Keihoku**	7.84	346	P	**Pn**	05 26 02.5	+1.5
KUR	**Kuril'sk**	7.85	17	*c i*P	**Pn**	05 25 58.4	-2.8
KUR				*i* S	**Sn**	05 27 22.6	-7.2
KUR				pmax	pmax		
	comp=Z,1μm,0.9s						
KUR				pmax	pmax		
	comp=N,377nm,0.7s						
KUR				pmax	pmax		
	comp=Z,499nm,0.7s						
KUR				pmax	pmax		
	comp=E,160nm,0.4s						
KUR				smax	smax		
	comp=E,314nm,0.5s						
KUR				smax	smax		
	comp=N,113nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,1.9s						
KUR				smax	smax		
	comp=N,692nm,2.2s						
KUR				MLR	MLR		
	comp=Z,1μm,15.0s						
KUR				MLR	MLR		
	comp=E,1μm,10.0s						
YSS	**Yuzh-Sakhalins**	9.30	352	*e*P	**Pn**	05 26 19.8	-1.3
YSS				*e*		05 28 03.9	
YSS	**Yuzh-Sakhalins**	9.30	352	*e*Pn	**Pn**	05 26 19.8	-1.3
YSS				*e*Sn	**Sn**	05 28 03.9	-1.6
CBIJ	**Chichi jima**	10.83	192	*e*Pn	Pn	05 26 35.7	-6.4
CBIJ				*e*Sn	Sn	05 28 28.5	-15
VLA	**Vladivostok**	11.11	303	*d i*P	**Pn**	05 26 46.7	+0.8
VLA				*e*S	**Sn**	05 28 52.6	+2.7
VLA				pmax	pmax		
	comp=Z,105nm,2.3s						
MSHR	**Mys Shultsa**	11.40	299⇑	*e*P	**Pn**	05 26 49.8	0.0
USRK	**Ussuriysk Ar.**	11.54	308	Pn	**Pn**	05 26 52.6	+0.9
	comp=Z,1.3nm,0.3s,baz=106,slow=19,SNR=19						
USRK				LR	LR	05 31 10.8	
	comp=Z,601nm,18.8s,baz=126,slow=37						
JNU	**Nakatsue**	12.15	252	*e*Pn	**Pn**	05 26 59.5	-0.7
HABR	**Khabarovsk**	12.80	330	*de*P	**Pn**	05 27 06.0	-2.9
HABR				*e*S	**Sn**	05 29 28.4	-2.7
HABR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
HABR				MLR	MLR		
	comp=Z,406nm,13.0s						
TYV	**Tymovskoe**	13.19	354	*e*P	Pn	05 27 08.5	-5.7
TYV				pmax	pmax		
	comp=Z,47nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,3.4s						
MDJ	**Mudanjiang**	13.25	306	P	**Pn**	05 27 15.5	+0.4
MDJ				S	**Sn**	05 29 42.3	+0.1
MDJ				ScP	**ScP**	05 36 19.3	+1.5
MDJ				ScS	**ScS**	05 39 57.3	+2.9
MDJ				pmax	pmax		
	comp=Z,36nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,210nm,7.9s						
MDJ				LR	LR		
	comp=Z,570nm,13.0s						
MDJ				LR	LR		
	comp=Z,670nm,17.2s						
MDJ				LR	LR		
	comp=Z,1μm,16.0s						
MDJ	**Mudanjiang**	13.25	306	*e*Pn	**Pn**	05 27 15.6	+0.4
	comp=Z,81nm,1.1s						
KSRS	**Korea Array**	13.28	274	Pn	**Pn**	05 27 15.6	+0.1
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=22						
KSRS				LR	LR	05 32 14.8	
	comp=Z,396nm,18.4s,baz=62,slow=37						
KS15	**Wonju Array Si**	13.31	274	*e*Pn	**Pn**	05 27 16.8	+0.8
KSAR	**Wonju Array Be**	13.31	274	P	**Pn**	05 27 15.6	-0.4
KSAR	**Wonju Array Be**	13.31	274	Pn	**Pn**	05 27 15.6	-0.4
INCN	**Inchon**	14.30	274	*e*Pn	**Pn**	05 27 29.3	-0.2
KLR	**Kul'dur**	14.79	325	Pn	**Pn**	05 27 35.8	-0.3
	comp=Z,0.0nm,0.3s,baz=134,slow=12,SNR=20						
KLR				LR	LR	05 33 20.8	
	comp=Z,21nm,18.2s,baz=142,slow=37						
NKL	**Nikolayevsk**	15.65	351	*e*P	**Pn**	05 27 44.0	-3.4
NKL				pmax	pmax		
	comp=Z,140nm,1.2s						
CN2	**Changchun**	15.75	299	*e*P	**Pn**	05 27 48.0	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=

NJ2 Nanjing 21.88 263 *e*P **P 05 29 03.5 +3.5**
NJ2 pmax pmax
comp=Z,25nm,0.8s
MA2 Magadan 22.19 8 P **P 05 29 04.7 +1.7**
comp=Z,12nm,0.8s,baz=211,slow=18,SNR=4.8
MA2 LR LR 05 38 00.5
comp=Z,170nm,19.7s,baz=197,slow=38
MA2 Magadan 22.19 8⇑*e*P **P 05 29 04.9 +1.8**
BJI Beijing 22.25 285 P **P 05 29 01.8 -2.1**
BJI S **S 05 33 05.5 -2.9**
BJI pmax pmax
comp=Z,14nm,1.2s
BJI pmax pmax
comp=Z,130nm,4.1s
BJI LR LR
comp=Z,640nm,14.3s
BJI LR LR
comp=Z,280nm,15.3s
CLNS Chul'man 23.18 332 *e*P **P 05 29 14.7 +1.2**
CLNS pmax pmax
comp=Z,28nm,1.2s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,26nm,1.0s
GUMO Guam 24.07 180 P **P 05 29 20.8 -1.6**
comp=E,101nm,1.0s,baz=350,slow=19,SNR=2.1
GUMO LR LR 05 37 17.2
comp=E,170nm,21.9s,baz=9.0,slow=33
TIY Taiyuan 25.43 280 *e*P **P 05 29 35.8 +1.0**
TIY S **S 05 33 50.5 -11**
TIY pmax pmax
comp=E,58nm,0.5s
TIY pmax pmax
comp=E,220nm,5.4s
TIY LR LR
comp=E,79nm,5.1s
TIY LR LR
comp=E,470nm,11.2s
TIY LR LR
comp=E,560nm,13.0s
QZH Quanzhou 25.57 248 P **P 05 29 36.0 -0.1**
QZH S **S 05 33 59.3 -4.2**
QZH LR LR
comp=E,990nm,13.0s
QZH LR LR
comp=E,930nm,12.2s
QZH LR LR
comp=E,990nm,14.2s
SEY Seymchan 25.65 8 P **P 05 29 37.0 +0.6**
comp=E,11nm,0.9s,baz=195,slow=7.8,SNR=10
SEY Seymchan 25.65 8⇑*e*P **P 05 29 37.5 +1.1**
HHC Hu-ho-hao-te 25.71 287 *e*P **P 05 29 37.5 +0.1**
HHC S **S 05 34 08.0 +2.2**
HHC pmax pmax
comp=E,35nm,0.8s
HHC pmax pmax
comp=E,230nm,5.4s
HHC LR LR
comp=E,240nm,11.0s
HHC LR LR
comp=E,530nm,14.3s
HHC LR LR
comp=E,540nm,10.3s
YAK Yakutsk 26.02 344 P **P 05 29 39.9 +0.2**
comp=E,28nm,0.7s,baz=218,slow=3.4,SNR=6.3
YAK LR LR 05 40 16.4
comp=E,249nm,21.7s,baz=88,slow=37
YAK Yakutsk 26.02 344 *e*P **P 05 29 39.6 -0.2**
YAK *e**PP **sP 05 29 50.5 +4.9**
YAK *e* 05 30 18.6
YAK *e*PPP PPP 05 30 26.9
YAK *e* 05 33 05.1
YAK *e*S **S 05 34 08.8 -1.1**
YAK *e*SS **SnSn 05 35 09.1 +1.8**
YAK *e*SSS SSS 05 35 27.7
YAK pmax pmax
comp=Z,33nm,1.1s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=E,14nm,0.9s
YAK smax smax
comp=N,71nm,2.7s
YAK smax smax
comp=E,100nm,2.8s
YAK Yakutsk 26.02 344 *e*P **P 05 29 39.8 0.0**
comp=E,78nm,0.7s
H11N2 WAKE ISLAND Hy 26.39 127 T T 05 56 42.8
baz=333
H11N1 WAKE ISLAND Hy 26.40 127 T T 05 56 44.6
baz=333,slow=74
H11N3 WAKE ISLAND Hy 26.41 127 T T 05 56 34.9
baz=333,slow=74
H11S1 WAKE ISLAND Hy 27.18 129 T T 05 57 44.2
baz=319,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 27.18 129 T T 05 57 46.5
baz=319,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 27.20 129 T T 05 57 43.5
baz=319,slow=76,SNR=27
BOD Bodaibo 28.37 325 *e*P **P 05 30 01.1 +0.2**
BOD pmax pmax
comp=Z,31nm,0.8s
XAN Xi'an 29.08 274 P **P 05 30 11.0 +3.4**
XAN pP sP 05 30 15.0 +1.5
XAN sP pP 05 30 17.5 +5.7
XAN pmax pmax
comp=Z,16nm,1.4s
XAN pmax pmax
comp=Z,180nm,6.3s
XAN LR LR
comp=Z,200nm,13.0s
XAN LR LR
comp=Z,410nm,15.9s
XAN LR LR
comp=Z,710nm,14.0s
ULN Ulaanbaatar 29.12 302 *d i*P **P 05 30 08.5 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 29.12 302 *e*P **P 05 30 07.0 -1.0**
ULN *e*pP **P 05 30 09.0 +1.1**
ULN Ulaanbaatar 29.12 302 P **P 05 30 09.1 +1.1**
SNR=6.5
ULN P **P 05 30 09.1 +1.1**
SNR=6.5
SONM Songino Array 29.56 302 P **P 05 30 12.0 +0.2**
comp=Z,3.6nm,0.8s,baz=102,slow=8.5,SNR=19
SONM LR LR 05 42 32.6
comp=Z,303nm,18.9s,baz=86,slow=37
ENH Enshi 29.97 266 *e*P **P 05 30 15.6 +0.1**
comp=Z,31nm,0.8s
TLY Talaya 31.85 309 P **P 05 30 32.5 +0.6**
comp=Z,0.9nm,0.2s,baz=56,slow=20,SNR=2.7
TLY Talaya 31.85 309 *e*P P 05 30 46.2 +14
TLY pmax pmax
comp=Z,8.0nm,0.5s
TLY MLR MLR
comp=Z,656nm,17.0s
ZAK Zakamensk 31.88 307 *e*P **P 05 30 32.2 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
LZH Lanzhou 32.50 280 *e*P **P 05 30 37.8 -0.1**
LZH pP pP 05 30 42.8 +0.7
LZH sP sP 05 30 44.8 +1.0
LZH PP **PnPn 05 31 46.0 +1.0**
LZH *e*S **S 05 35 47.0 -5.6**
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.3s
LZH LR LR
comp=Z,490nm,11.6s
LZH LR LR
comp=Z,600nm,11.9s
LZH LR LR
comp=Z,730nm,14.4s
BILL Bilibino 32.64 15⇓*e*P **P 05 30 38.6 +0.1**
BILL *i* *SP **pP 05 30 42.0 -0.7**
BILL *i* 05 30 50.2
BILL 05 31 47.0
BILL *e*PPP PPP 05 31 58.0
BILL *e* 05 33 25.4
BILL S **S 05 35 54.0 +0.2**
BILL SS **SnSn 05 37 44.0 -4.4**
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,148nm,16.0s
GYA Guiyang 33.89 262⇑*i*P **P 05 30 49.0 -1.1**
GYA PP **PnPn 05 32 02.5 -0.3**
GYA S **S 05 36 12.8 -1.5**
GYA ScP **ScP 05 37 13.5 +0.6**
GYA SS **SnSn 05 38 17.0 -2.9**
GYA ScS **ScS 05 41 13.0 -1.9**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=Z,540nm,18.1s
GYA LR LR
comp=Z,510nm,18.4s
GYA LR LR
comp=Z,490nm,18.6s
CD2 Chengdu 34.25 271 *e*P **P 05 30 52.0 -1.1**
CD2 S **S 05 36 18.8 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.2s
CD2 LR LR
comp=Z,810nm,15.4s
CD2 LR LR
comp=Z,460nm,16.9s
CD2 LR LR
comp=Z,450nm,15.4s
GTA Gaotai 34.83 287⇑P **P 05 30 59.5 +1.4**
GTA pP sP 05 31 04.0 0.0
GTA sP pP 05 31 06.5 +4.2
GTA PcP **PcP 05 33 31.8 +0.7**
GTA S **S 05 36 31.0 +2.4**
GTA sS sS 05 36 37.5 +2.0
GTA SS **SnSn 05 38 45.0 +2.6**
GTA pmax pmax
comp=Z,17nm,2.0s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,470nm,19.0s
GTA LR LR
comp=Z,420nm,17.6s
GTA LR LR
comp=Z,500nm,17.1s
TIXI Tiksi 34.93 351 P **P 05 30 58.1 -0.2**
comp=Z,0.8nm,0.3s,baz=121,slow=5.4,SNR=4.7
TIXI LR LR 05 47 17.5
comp=Z,112nm,18.9s,baz=145,slow=40
TIXI Tiksi 34.93 351⇑*i*P **P 05 30 58.2 -0.2**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TIXI Tiksi 34.93 351 *e*P **P 05 30 56.7 -1.7**
comp=Z,4.7nm,0.7s
QIZ Qiongzhong 35.59 248 P **P 05 31 03.5 -1.2**
QIZ S **S 05 36 42.0 +1.7**
QIZ LR LR
comp=Z,300nm,15.1s
KMI Kunming 37.62 263 P **P 05 31 22.8 +0.6**
KMI pP pP 05 31 25.5 -1.0
KMI S **S 05 37 14.8 +3.0**
KMI pmax pmax
comp=Z,39nm,0.7s
KMI pmax pmax
comp=Z,200nm,5.1s
KMI LR LR
comp=Z,270nm,12.5s
KMI LR LR
comp=Z,330nm,13.8s
KMI LR LR
comp=Z,370nm,13.4s
JAY Jayapura 40.23 186 LR LR 05 44 40.1
comp=Z,87nm,20.2s,baz=354,slow=31
SIJI Sorong 40.38 201 LR LR 05 45 18.4
comp=Z,54nm,20.9s,slow=32
TSM Tawau 41.33 223⇑P **P 05 31 52.7 -0.2**
KHON Khomkaen 42.49 251 P **P 05 32 03.6 +1.2**
comp=Z,11nm,1.3s
WMQ Urumqi 42.83 297 P **P 05 32 05.8 +0.8**
WMQ pP pP 05 32 10.0 +0.7
WMQ sP sP 05 32 16.5 +5.5
WMQ S **S 05 38 33.5 +4.6**
WMQ ScS **ScS 05 42 02.8 -2.9**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,300nm,4.7s
WMQ LR LR
comp=Z,310nm,14.5s
WMQ LR LR
comp=Z,180nm,10.7s
WMQ LR LR
comp=Z,100nm,17.9s
CMAI Chiengmai2 43.26 259 P **P 05 32 09.8 +0.9**
comp=Z,428nm,1.1s,comp=Z,5μm
TTA Tatalina 43.35 35 *e*P **P 05 32 10.8 +1.8**
TTA Tatalina 43.35 35 *e*P **P 05 32 10.8 +1.8**
ZAA0 Zalesovo Array 43.35 312 *e*P **P 05 32 09.5 +0.5**
ZALV Zalesovo Beam 43.35 312 P **P 05 32 09.6 +0.6**
comp=Z,3.4nm,0.3s,baz=88,slow=7.0,SNR=25
ZALV PcP **PcP 05 33 57.2 -0.2**
comp=Z,9.7nm,0.5s,baz=95,slow=3.4,SNR=11
ZALV LR LR 05 51 01.6
comp=Z,152nm,19.8s,baz=68,slow=37
UTTA Uttaradit 43.36 255 P **P 05 32 10.1 +0.7**
comp=Z,14nm,0.9s,comp=Z,122nm
SVW2 Sparrevohn 43.38 38 *e*P **P 05 32 10.0 +0.9**
comp=Z,27nm,1.0s
CHAI Chaiyaphum 43.38 252 P **P 05 32 10.0 +0.3**
comp=Z,17nm,1.2s,comp=Z,157nm
LAMP Lampang 43.61 257 P **P 05 32 12.2 +0.7**
comp=Z,32nm,0.9s,comp=Z,259nm
NRIK Noril'sk 43.72 334 P **P 05 32 12.6 +0.9**
comp=Z,6.4nm,0.6s,baz=108,slow=11,SNR=6.9
NRIK LR LR 05 51 46.9
comp=Z,300nm,18.2s,baz=104,slow=38
CHTO Chiang Mai 43.97 258 P **P 05 32 14.9 +0.4**
comp=Z,147nm,1.3s
CHTO Chiang Mai 43.97 258 *e*P **P 05 32 15.1 +0.6**
CHTO pmax pmax
comp=Z,33nm,0.8s
CHTO Chiang Mai 43.97 258 *e*P **P 05 32 15.1 +0.6**
comp=Z,33nm,0.8s
CHTO Chiang Mai 43.97 258 pP **P 05 32 15.3 +0.9**
SNR=14
CHTO Chiang Mai 43.97 258 P **P 05 32 15.3 +0.9**
SNR=14
CMAR Chiang Mai Arr 44.18 257 P **P 05 32 15.9 -0.2**
comp=Z,7.5nm,0.8s,baz=46,slow=6.9,SNR=32
CMAR LR LR 05 52 55.5
comp=Z,148nm,18.3s,baz=56,slow=39
NVS Novosibirsk 44.22 313⇑*i*P **P 05 32 15.9 -0.1**
NVS *e*S S 05 39 05.1 +16
NVS pmax pmax
comp=E,23nm,2.0s
NVS pmax pmax
comp=Z,26nm,2.0s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS smax smax
comp=N,25nm,2.2s
SRAK Srakaew 44.53 250 P **P 05 32 16.4 -2.5**
comp=N,78nm,1.0s,comp=N,754nm
RSO Redoubt South 44.73 39 *e*P **P 05 32 21.7 +1.5**
KDAK Kodiak Island 44.83 42 P **P 05 32 20.6 -0.2**
comp=N,34nm,0.8s,baz=269,slow=4.0,SNR=9.5
KDAK LR LR 05 47 57.4
comp=N,146nm,21.2s,baz=329,slow=32
KDAK Kodiak Island 44.83 42 *i* P **P 05 32 21.0 +0.2**
SPU Mount Spurr 45.09 38 *e*P **P 05 32 24.8 +1.9**
PPLA Purkeypile 45.09 35 *e*P **P 05 32 25.6 +2.5**
comp=N,55nm,1.4s
CAST Castle Rocks 45.17 35 *e*P **P 05 32 25.9 +2.3**
comp=N,14nm,0.8s
UTHA Uthaitani 45.52 253 P **P 05 32 27.9 +1.1**
comp=N,4.9nm,1.2s,comp=N,61nm
KTH Kantishna Hill 45.70 34 *e*P **P 05 32 29.8 +2.0**
comp=N,34nm,1.1s
BPAW Bear Paw Mtn. 45.70 34 *e*P **P 05 32 29.6 +1.9**
comp=N,14nm,1.1s
SUA Susitna One 45.73 37 *e*P **P 05 32 29.0 +0.9**
comp=N,22nm,0.9s
MLY Manley 45.87 32 *e*P **P 05 32 30.9 +1.9**
comp=N,24nm,0.9s
MK31 Makanchi Array 45.93 302 *i* P **P 05 32 29.7 0.0**
MK31 pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 45.93 302 *e*P **P 05 32 30.1 +0.3**
MKAR Makanchi Array 45.93 302 P **P 05 32 30.0 +0.3**
comp=Z,9.5nm,0.8s,baz=83,slow=9.3,SNR=53
MKAR PcP **PcP 05 34 06.2 -0.3**
comp=Z,3.2nm,0.7s,baz=72,slow=3.6,SNR=2.9
MKAR LR LR 05 52 29.1
comp=Z,172nm,18.1s,baz=70,slow=37
MKAR Makanchi Array 45.93 302 *e*P **P 05 32 30.1 +0.3**
MKAR 05 34 06.2
MKAR pmax pmax
comp=Z,80nm,0.8s
MKAR Makanchi Array 45.93 302 *e*P **P 05 32 30.1 +0.3**
comp=Z,80nm,0.8s
MKAR PcP **PcP 05 34 06.2 -0.3**
SBUM Sibu 46.03 228 *e*P **P 05 32 30.9 0.0**
comp=Z,16nm,1.2s
SBUM Sibu 46.03 228⇑P **P 05 32 30.5 -0.3**
MAKZ Makanchi 46.14 302 *e*P **P 05 32 31.7 +0.3**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 46.14 302 *e*P **P 05 32 31.7 +0.3**
comp=Z,12nm,0.9s
RC01 Rabbit Creek A 46.21 38 *e*P **P 05 32 32.6 +0.8**
comp=Z,27nm,0.9s
COLD Coldfoot 46.27 29 *e*P **P 05 32 33.9 +1.8**
comp=Z,9.9nm,1.1s
PMR Palmer 46.50 37 *e*P **P 05 32 34.8 +0.9**
PMR pmax pmax
comp=Z,49nm,1.2s
PMR Palmer 46.50 37 *e*P **P 05 32 34.8 +0.9**
comp=Z,49nm,1.2s
SRDT SRDT 46.51 252 P **P 05 32 38.6 +4.0**
comp=Z,72nm,1.2s
MCK McKinley 46.59 34 *e*P **P 05 32 36.0 +1.3**
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 46.59 34 *e*P **P 05 32 36.0 +1.3**
comp=Z,18nm,0.9s
RND Reindeer 46.62 35 *e*P **P 05 32 35.1 +0.1**
RND pmax pmax
comp=Z,31nm,1.0s
RND Reindeer 46.62 35 *e*P **P 05 32 35.1 +0.1**
comp=Z,31nm,1.0s
TOLK Toolik Lake Re 46.65 27 P **P 05 32 36.5 +1.4**
baz=264
SML Sawmill 46.88 37 *e*P **P 05 32 38.4 +1.4**
SML pmax pmax
comp=Z,27nm,0.8s
SML Sawmill 46.88 37 *e*P **P 05 32 38.4 +1.4**
comp=Z,27nm,0.8s
MDM Murphy Dome 46.93 32 *e*P **P 05 32 38.8 +1.5**
comp=Z,43nm,0.9s
PMG Port Moresby 46.97 177 P **P 05 32 38.4 +0.3**
comp=Z,15nm,0.8s,baz=336,slow=12,SNR=3.3
PMG LR LR 05 49 55.3
comp=Z,44nm,20.2s,baz=229,slow=33
PMG Port Moresby 46.97 177⇓*e*P **P 05 32 38.0 -0.1**
PMG pmax pmax
comp=Z,132nm,1.1s
WRH Wood River Hil 46.98 33 *e*P **P 05 32 38.9 +1.2**
WRH *e*PcP **PcP 05 34 10.1 +0.3**
PHET Kaeng Krachan 47.04 251 P **P 05 32 40.5 +1.8**
comp=Z,21nm,1.0s
COLA College 47.09 33 *e*P **P 05 32 40.3 +1.8**
COLA pmax pmax
comp=Z,18nm,0.9s
COLA College 47.09 33 *e*P **P 05 32 40.3 +1.8**
comp=Z,18nm,0.9s
CCB Clear Creek Bu 47.10 33 *e*P **P 05 32 37.4 -1.2**
comp=Z,11nm,1.1s
DHY Denali Highway 47.30 35 *e*P **P 05 32 41.5 +1.1**
comp=Z,10nm,0.9s
SCM Sheep Creek Mo 47.35 37 *e*P **P 05 32 42.3 +1.6**
SCM pmax pmax
comp=Z,43nm,1.0s
SCM Sheep Creek Mo 47.35 37 *e*P **P 05 32 42.3 +1.6**
comp=Z,43nm,1.0s
ILAR Eielson Array 47.50 33 P **P 05 32 42.2 +0.5**
comp=Z,17nm,0.8s,baz=262,slow=6.5,SNR=164
ILAR PcP **PcP 05 34 11.3 -0.3**
comp=Z,2.5nm,1.0s,baz=266,slow=3.8,SNR=2.0
ILB Eielson Array 47.50 33 *e*P **P 05 32 41.2 -0.6**
KURK Kurchatov 47.53 308 *d i*P **P 05 32 42.1 0.0**
KURK pmax pmax
comp=Z,183nm,1.7s
KURK Kurchatov 47.53 308 *e*P **P 05 32 42.2 0.0**
comp=Z,27nm,0.8s
KURK PcP **PcP 05 34 12.1 +0.1**
KURK Kurchatov 47.53 308 P **P 05 32 42.2 +0.1**
SNR=11
KURK Kurchatov 47.53 308 P **P 05 32 42.2 +0.1**
SNR=11
KURK P **P 05 32 42.2 +0.1**
SNR=11
KURBB Kurchatov Arra 47.60 308 P **P 05 32 42.7 0.0**
comp=Z,20nm,0.5s,baz=82,slow=7.9,SNR=162
KURBB PcP **PcP 05 34 12.1 -0.2**
comp=Z,2.9nm,0.9s,baz=80,slow=4.1,SNR=4.4
KSM Kuching 47.95 229 *e*P **P 05 32 46.5 +0.7**
comp=Z,41nm,1.4s
KSM Kuching 47.95 229⇑P **P 05 32 45.4 -0.5**
KLU Klutina 48.04 37 *e*P **P 05 32 47.9 +1.8**
comp=Z,58nm,1.2s
DIV Divide 48.14 38 *e*P **P 05 32 48.6 +1.8**
comp=Z,66nm,1.2s
PAX Paxson 48.17 35 *e*P **P 05 32 49.1 +2.1**
PAX pmax pmax
comp=Z,11nm,0.8s
PAX Paxson 48.17 35 *e*P **P 05 32 49.1 +2.1**
comp=Z,11nm,0.8s
FYU Fort Yukon 48.19 30 *e*P **P 05 32 49.7 +2.7**
comp=Z,32nm,0.9s
HARP HAARP 48.34 36 *e*P **P 05 32 50.4 +2.1**
comp=Z,280nm,1.9s
KAPI Kappang 48.45 214 LR LR 05 52 31.2
comp=Z,2μm,20.9s,baz=115,slow=35
TAPN Taplejung 48.46 275 *e*P **P 05 32 50.4 +0.3**
PDGK Podgornoye 48.72 298 P **P 05 32 50.9 -0.8**
PDGK pmax pmax
comp=Z,42nm,1.4s
DOT Dot Lake 48.77 34 *e*P **P 05 32 52.2 +0.6**
comp=Z,27nm,0.7s
ODAN Odare 48.94 275 *e*P **P 05 32 53.9 +0.2**
comp=Z,32nm,0.9s
MENT Mentasta 48.97 35 *e*P **P 05 32 54.6 +1.4**
comp=Z,24nm,0.9s
HNR Honiara 49.07 160 LR LR 05 55 20.9
comp=Z,66nm,18.2s,baz=340,slow=38
CRQM Cirque 49.45 38 *e*P **P 05 32 59.1 +2.1**
comp=Z,67nm,1.0s
JIRN Jiri 49.52 276 *e*P **P 05 32 58.7 +0.4**
RAMN Ramite 49.52 275 *e*P **P 05 32 58.3 +0.2**
comp=Z,56nm,0.7s
GUN Gumba 49.65 277 *e*P **P 05 32 59.6 +0.4**
KTGM Kuala Trenggan 49.68 240⇑P **P 05 32 59.2 +0.1**
BALM Baldy 49.80 38 *e*P **P 05 33 01.3 +1.7**
BALM pmax pmax
comp=Z,29nm,1.2s
BALM Baldy 49.80 38 *e*P **P 05 33 01.3 +1.7**
comp=Z,29nm,1.2s
EGAK Eagle 49.95 33 *e*P **P 05 33 01.3 +0.7**
comp=Z,11nm,1.0s
PKI Pulchoki 50.18 277 *e*P **P 05 33 03.1 -0.1**
KKN Kakani 50.18 277 *e*P **P 05 33 03.4 +0.3**
DMN Daman 50.40 277 *e*P **P 05 33 04.9 +0.1**
GKN Gorkha 50.59 278 *e*P **P 05 33 06.3 +0.2**
SOEI Soe 50.97 206 *e*P **P 05 33 07.8 -1.1**
comp=Z,89nm,1.0s
DANN Dangsing 51.12 278 *e*P **P 05 33 10.5 +0.3**
KULM Kulim 51.43 242 *e*P **P 05 33 13.0 +0.7**
comp=Z,26nm,1.1s
KULM Kulim 51.43 242⇑P **P 05 33 12.3 -0.1**
COEN Coen 51.45 182 *e*P **P 05 33 11.7 -0.7**
comp=Z,22nm,0.8s
KOLN Koldanda 51.51 278 *e*P **P 05 33 13.3 +0.2**
TKM2 Tokmak 2 51.56 299 P **P 05 33 13.7 +0.4**
TKM2 pmax pmax

comp=Z,27nm,1.3s
PYUN **Piuthan** 51.83 278 *e*P P 05 33 15.8 +0.3
MTN **Manton Dam** 51.91 197 *e*P P 05 33 14.4 -1.3
comp=Z,57nm,0.9s
KGM **Kluang** 51.97 237 ⇑P P 05 33 16.8 +0.4
BVA0 **Borovoye Array** 52.00 312 P P 05 33 15.5 -0.7
BVA0 pmax pmax
comp=Z,17nm,1.0s
BVAR **Borovoye Array** 52.00 312 P P 05 33 16.6 +0.4
comp=Z,7.3nm,0.5s,baz=78,slow=8.3,SNR=59
BVAR PcP PcP 05 34 28.5 +0.2
comp=Z,4.9nm,0.8s,baz=72,slow=4.7,SNR=2.6
BRVK **Borovoye** 52.05 313 *d*P P 05 33 16.9 +0.4
BRVK pmax pmax
comp=Z,85nm,1.7s
BRVK **Borovoye** 52.05 313 *e*P P 05 33 17.0 +0.4
comp=Z,18nm,0.9s
BRVK **Borovoye** 52.05 313 pP P 05 33 17.1 +0.6
SNR=7.1
BRVK **Borovoye** 52.05 313 P P 05 33 17.1 +0.6
SNR=7.1
HYT **Haines Junctio** 52.17 37 *e*P P 05 33 20.3 +2.8
comp=Z,60nm,1.0s
FRIM **Kepong** 52.22 240 ⇑P P 05 33 18.1 -0.1
AAK **Ala-Archa** 52.42 299 P P 05 33 20.0 +0.4
comp=Z,5.2nm,0.8s,baz=124,slow=3.6,SNR=11
AAK **Ala-Archa** 52.42 299 *d*P P 05 33 19.6 0.0
AAK pmax pmax
comp=Z,18nm,1.1s
AAK **Ala-Archa** 52.42 299 *e*P P 05 33 20.1 +0.4
comp=Z,7.0nm,0.8s
KSH **Kashi** 52.47 295 P P 05 33 24.0 +4.0
KSH pP sP 05 33 29.3 +3.3
KSH sP pP 05 33 31.8 +7.5
KSH PcP PcP 05 34 34.3 +3.8
KSH PP PP 05 35 24.0 +5.4
KSH PcS PcS 05 38 32.8 +3.7
KSH S S 05 40 50.0 +4.0
KSH sS sS 05 40 57.5 +4.3
KSH ScS ScS 05 43 11.0 +1.3
KSH SS SS 05 44 27.3 +3.6
KSH pmax pmax
comp=Z,23nm,1.0s
KSH pmax pmax
comp=Z,180nm,5.2s
KSH LR LR
comp=Z,230nm,9.5s
KSH LR LR
comp=Z,160nm,6.8s
KSH LR LR
comp=Z,230nm,6.3s
WHY **Whitehorse** 53.46 37 *e*P P 05 33 29.3 +2.3
comp=Z,14nm,0.9s
SFK **Sufi-Kurgan** 54.05 296 P P 05 33 32.3 +0.5
SFK pmax pmax
comp=Z,27nm,0.8s
PSI **Prapat** 54.40 242 *e*P P 05 33 34.5 +0.1
PSI pmax pmax
comp=Z,15nm,0.8s
PSI **Prapat** 54.40 242 *e*P P 05 33 34.5 +0.1
comp=Z,15nm,0.8s
KK31 **Karatay Array** 54.99 301 *i*P P 05 33 37.4 -0.9
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR **Karatay Array** 54.99 301 *e*P P 05 33 38.2 -0.1
KKAR pmax pmax
comp=Z,71nm,0.8s
KKAR **Karatay Array** 54.99 301 *e*P P 05 33 38.2 -0.1
comp=Z,71nm,0.8s
SVE **Sverdlovsk** 56.31 319 ⇑*i*P P 05 33 48.3 +0.8
SVE pmax pmax
comp=Z,31nm,1.4s
SVE MLR MLR
comp=Z,764nm,16.0s
ARU **Arti** 57.53 319 P P 05 33 56.6 +0.4
comp=Z,5.4nm,0.5s,baz=73,slow=4.8,SNR=18
ARU **Arti** 57.53 319 *d*P P 05 33 56.5 +0.4
ARU 05 36 03.6
ARU S S 05 41 56.7 +3.6
ARU pmax pmax
comp=Z,43nm,1.7s
ARU MLR MLR
comp=Z,619nm,15.0s
ARU **Arti** 57.53 319 *e*P P 05 33 56.4 +0.3
comp=Z,29nm,1.2s
CTA **Charters Tower** 57.55 178 P P 05 33 59.0 +2.4
comp=Z,1.6nm,0.4s,baz=7.2,slow=1.8,SNR=2.6
CTA **Charters Tower** 57.55 178 P P 05 33 59.0 +2.4
DZET **Dzherino** 57.85 297 P P 05 33 58.8 -0.1
DZET pmax pmax
comp=Z,25nm,0.9s
WRAB **Tennant Creek** 58.19 191 *d*P P 05 33 59.4 -1.8
WRAB pmax pmax
comp=Z,121nm,1.1s
WRAB **Tennant Creek** 58.19 191 *e*P P 05 33 59.3 -1.8
comp=Z,85nm,0.8s
WB2 **Warramunga Arr** 58.20 191 *e*P P 05 33 59.4 -1.9
WRA **Warramunga Arr** 58.20 191 P P 05 33 59.3 -1.9
comp=Z,43nm,0.9s,baz=8.7,slow=7.0,SNR=88
WRA LR LR 05 58 11.0
comp=Z,29nm,21.5s,baz=20,slow=35
FITZ **Fitzroy Crossi** 58.37 201 P P 05 34 01.5 -0.8
comp=Z,19nm,0.9s,baz=25,slow=8.7
AB31 **Akbulak array** 59.44 311 *i*P P 05 34 09.2 -0.4
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR **Akbulak array** 59.44 311 *e*P P 05 34 09.7 +0.1
AKTO **Aktyubinsk** 60.11 313 P P 05 34 13.9 -0.2
comp=Z,7.8nm,0.7s,baz=68,slow=6.8,SNR=18
AKTO **Aktyubinsk** 60.11 313 P P 05 34 14.0 -0.2
HYB **Hyderabad** 60.80 270 *i*P P 05 34 19.0 -0.4
HYB *e* 05 34 30.0
YKA **Yellowknife Ar** 61.87 31 P P 05 34 25.6 -0.3
comp=Z,3.7nm,0.7s,baz=294,slow=6.6,SNR=6.6
YKA LR LR 06 03 14.5
comp=Z,5.1nm,21.0s,baz=0.0,slow=38
AS31 **Alice Springs** 61.92 191 *e*P P 05 34 25.4 -1.4
comp=Z,5.2nm,0.7s
ASAR **Alice Springs** 61.92 191 P P 05 34 25.1 -1.6
comp=Z,5.0nm,0.7s,baz=11,slow=6.9,SNR=42
ASAR LR LR 05 59 52.0
comp=Z,50nm,21.5s,baz=32,slow=35
ASAR PKP2ab 06 03 54.2
comp=Z,0.7nm,0.9s,baz=180,slow=3.1,SNR=4.1
MDRS **Chennai** 61.93 265 *ex* P 05 34 27.8 +0.8
MDRS *ex* x 05 42 33.8
MDRS *ex* x 05 50 21.8
MDRS *ex* x 05 53 21.8
DZM **Mont Dzumac** 62.94 157 P P 05 34 31.9 -1.7
comp=Z,4.2nm,0.6s,baz=218,slow=19,SNR=4.9
EIDS **Eidsvold** 63.08 173 *e*P P 05 34 36.5 +2.2
comp=Z,12nm,1.0s
APA **Apatity** 63.08 336 ⇓*i*P P 05 34 33.7 -0.3
APA pmax pmax
comp=Z,6.0nm,0.5s
APA MLR MLR
comp=Z,500nm,15.0s
MBWA **Marble Bar** 63.12 206 *e*P P 05 34 33.3 -1.4
comp=Z,19nm,0.8s
TMCR **Tamitsa** 63.34 332 *e*P P 05 34 35.8 +0.1
TMCR pmax pmax
comp=Z,42nm,1.5s
POO **Poona** 63.91 274 ⇓*i*P P 05 34 35.0 -5.3
comp=Z,30nm,1.0s
LLLB **Lilloet** 63.93 45 *e*P P 05 34 41.0 +1.0
comp=Z,17nm,1.2s
ARCES **ARCESS Array B** 64.22 340 P P 05 34 41.6 +0.2
comp=Z,3.5nm,0.8s,baz=62,slow=9.6,SNR=6.1
ARCES LR LR 06 05 55.0
comp=Z,100nm,19.0s,baz=310,slow=39
NLWA **Neilton Lookou** 64.31 49 *e*P P 05 34 45.0 +2.6
comp=Z,45nm,1.0s
KLMR **Klimovskoe** 64.52 328 *e*P P 05 34 41.9 -1.6
KLMR pmax pmax
comp=Z,28nm,1.5s
E03A **Lebam** 64.90 50 *e*P P 05 34 48.5 +2.3
comp=Z,39nm,1.1s
B05A **Bryant** 64.94 47 P P 05 34 48.1 +1.7
baz=299
PALK **Pallekele** 65.05 259 *i*P P 05 34 49.0 +1.3
B06A **Marblemount** 65.17 47 *e*P P 05 34 49.5 +1.6
comp=Z,35nm,1.2s
DAG **Danmarks Havn** 65.27 356 *i*P P 05 34 48.0 -0.1
comp=Z,13nm,0.9s
DAG **Danmarks Havn** 65.27 356 *i*P P 05 34 48.0 -0.1
DAG pmax pmax
comp=Z,11nm,0.9s
SGF **Sodankyl** 65.28 338 P P 05 34 50.9 +2.6
SGF pmax pmax
comp=Z,19nm,2.0s
D05A **Enumclaw** 65.53 48 *e*P P 05 34 52.4 +2.1
comp=Z,33nm,0.9s
G03D **McMinnville, O** 65.73 51 P P 05 34 52.2 +0.5
baz=300
GEYT **Alibeck** 65.73 300 P P 05 34 52.1 +0.2
comp=Z,17nm,0.9s,baz=49,slow=4.5,SNR=25
GEYT LR LR 06 03 42.5
comp=Z,71nm,20.5s,baz=310,slow=36
C06D **Leavenworth** 65.80 47 P P 05 34 52.2 0.0
baz=300
LON **Longmire** 65.85 49 *e*P P 05 34 54.1 +1.6
LON pmax pmax
comp=Z,11nm,1.1s
LON **Longmire** 65.85 49 *e*P P 05 34 54.1 +1.6
comp=Z,11nm,1.1s
F04A **Amboy** 65.89 50 *e*P P 05 34 54.6 +1.9
comp=Z,33nm,0.9s
LTY **Liberty** 66.27 48 *e*P P 05 34 56.4 +1.2
comp=Z,16nm,0.9s
I03D **Drain, OR** 66.44 52 P P 05 34 57.1 +0.9
baz=300
B08A **Colville Reser** 66.49 46 *e*P P 05 34 57.5 +1.0
comp=Z,22nm,1.2s
G05D **Wamic, OR** 66.91 50 P P 05 35 00.9 +1.6
baz=301,SNR=5.6
I04A **Tendick Farm,** 66.97 52 P P 05 35 01.2 +1.4
baz=301
L02D **Cave Junction,** 67.06 54 P P 05 35 01.7 +1.5
baz=301
E07A **Sunnyside** 67.11 48 *e*P P 05 35 02.0 +1.5
comp=Z,27nm,0.9s
G06A **Carlson Farm,** 67.32 50 *e*P P 05 35 03.0 +1.0
comp=Z,21nm,1.0s
I05D **Terrebonne, OR** 67.36 51 P P 05 35 03.5 +1.3
baz=301,SNR=6.1
HAWA **Hanford** 67.38 48 *e*P P 05 35 03.7 +1.4
comp=Z,14nm,1.0s
D08A **Wollman Farm,** 67.40 47 *e*P P 05 35 03.4 +1.1
comp=Z,20nm,0.8s
J04D **Umpqua Nationa** 67.45 52 P P 05 35 04.4 +1.4
baz=301
NEW **Newport** 67.80 46 P P 05 35 05.8 +1.0
baz=302
NEW **Newport** 67.80 46 *e*P P 05 35 06.0 +1.1
NEW pmax pmax
comp=Z,23nm,0.9s
NEW **Newport** 67.80 46 *e*P P 05 35 06.0 +1.1
comp=Z,23nm,0.9s
YBH **Yreka Blue Hor** 67.84 54 *e*P P 05 35 07.1 +1.7
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH **Yreka Blue Hor** 67.84 54 *e*P P 05 35 07.1 +1.7
comp=Z,8.6nm,1.0s
M02C **Callahan** 67.93 54 P P 05 35 07.2 +1.3
baz=301
J05D **Fort Rock, OR** 67.97 52 P P 05 35 07.5 +1.3
baz=302,SNR=13
E09A **Wood Farm, Sta** 68.14 48 *e*P P 05 35 08.2 +1.2
comp=Z,27nm,0.9s
MOS **Moscow** 68.19 324 *e*P P 05 35 06.5 -0.6
MOS pmax pmax
comp=Z,52nm,1.3s
N02D **Trinity Center** 68.24 55 P P 05 35 09.3 +1.4
baz=302,SNR=6.2
M04C **Macdoel** 68.38 53 P P 05 35 09.6 +0.8
baz=302,SNR=7.5
WDC **Whiskeytown Da** 68.56 55 *e*P P 05 35 11.2 +1.5
WDC pmax pmax
comp=Z,14nm,1.1s
WDC **Whiskeytown Da** 68.56 55 *e*P P 05 35 11.2 +1.5
comp=Z,14nm,1.1s
OBN **Obninsk** 69.05 324 *d*P P 05 35 12.6 +0.1
OBN *e**SP pP 05 35 16.5 -0.4
OBN *i* 05 35 23.5
OBN 05 35 35.0
OBN S S 05 44 24.0 +7.1
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,348nm,16.0s
WALA **Waterton Lakes** 69.15 44 *e*P P 05 35 14.9 +1.5
O03D **Paynes Creek** 69.19 55 P P 05 35 14.6 +0.8
baz=302
STKA **Stephens Creek** 69.33 183 P P 05 35 12.7 -1.6
comp=Z,1.8nm,0.8s,baz=328,slow=13,SNR=2.5
STKA LR LR 06 04 18.9
comp=Z,42nm,21.8s,baz=25,slow=35
BSMT **Bassoo Peak** 69.34 45 *e*P P 05 35 16.3 +1.6
FINES **FINESS Array B** 69.36 333 P P 05 35 14.6 +0.3
comp=Z,7.3nm,0.7s,baz=55,slow=7.2,SNR=18
FINES LR LR 06 08 26.8
comp=Z,166nm,19.3s,baz=44,slow=38
LPSR **Galich'ya Gora** 69.39 321 *e*P P 05 35 14.4 -0.2
LPSR pmax pmax
comp=Z,20nm,0.8s
BLMT **Blacktail Moun** 69.48 45 *e*P P 05 35 17.4 +1.7
BMO **Blue Mountains** 69.53 49 *e*P P 05 35 17.0 +1.2
BMO pmax pmax
comp=Z,15nm,1.0s
BMO **Blue Mountains** 69.53 49 *e*P P 05 35 17.0 +1.2
comp=Z,15nm,1.0s
J08A **Circle Bar Ran** 69.64 51 *e*P P 05 35 18.1 +1.6
comp=Z,28nm,1.0s
JTMT **Jette** 69.68 45 *e*P P 05 35 18.0 +1.3
YBMT **Yellow Bay** 69.76 45 *e*P P 05 35 18.5 +1.3
ORV **Oroville** 69.78 55 *e*P P 05 35 17.9 +0.6
ORV pmax pmax
comp=Z,20nm,1.4s
ORV **Oroville** 69.78 55 *e*P P 05 35 17.9 +0.6
comp=Z,20nm,1.4s
SUMG **Summit** 69.95 1 *i*P P 05 35 18.9 +0.6
comp=Z,40nm,1.3s
SUMG **Summit** 69.95 1 *e*P P 05 35 19.1 +0.8
SUMG **Summit** 69.95 1 *e*P P 05 35 19.1 +0.8
SWMT **Swartz Lake** 69.97 45 *e*P P 05 35 19.6 +1.1
MAK **Makhachkala** 70.03 309 *e*P P 05 35 14.8 -4.0
MAK *e*S S 05 44 29.6 +0.7
MAK pmax pmax
comp=Z,565nm,1.6s
WVOR **Wild Horse Val** 70.04 51 *e*P P 05 35 20.4 +1.4
WVOR pmax pmax
comp=Z,26nm,1.4s
WVOR **Wild Horse Val** 70.04 51 *e*P P 05 35 20.4 +1.4
comp=Z,26nm,1.4s
BEKR **Beckworth** 70.35 55 *e*P P 05 35 22.4 +1.4
comp=Z,17nm,1.0s
MSO **Missoula** 70.39 46 P P 05 35 21.8 +0.8
baz=304
MSO **Missoula** 70.39 46 *e*P P 05 35 22.1 +1.1
comp=Z,18nm,1.1s
SLMT **Seeley Lake** 70.40 45 *e*P P 05 35 22.0 +0.7
AFDM **Forest Hills D** 70.45 56 *e*P P 05 35 22.8 +1.4
comp=Z,10nm,1.3s
PAHR **Pah Rah Range** 71.06 54 *e*P P 05 35 26.6 +1.2
comp=Z,17nm,1.0s
SEKA **Sheki** 71.19 308 P P 05 35 24.1 -1.9
MFID **Camas Ranch** 71.21 49 *e*P P 05 35 27.4 +1.3
comp=Z,21nm,1.0s
PNTR **Pine Nut** 71.27 55 *e*P P 05 35 28.6 +1.9
comp=Z,70nm,1.9s
ZKTA **Zakatala** 71.31 308 P P 05 35 24.1 -2.5
CMB **Columbia Colle** 71.33 56 *e*P P 05 35 28.0 +1.1
CMB pmax pmax
comp=Z,24nm,1.2s
CMB **Columbia Colle** 71.33 56 *e*P P 05 35 28.0 +1.1
comp=Z,24nm,1.2s
MNGR **Mingechevir, A** 71.50 307 P P 05 35 26.4 -1.4
GOF **Gofitskoye** 71.52 313 ⇑*e*P P 05 35 28.3 +0.5
GOF pmax pmax
comp=Z,41nm,0.9s
YERR **Yerington** 71.56 55 *e*P P 05 35 29.8 +1.4
comp=Z,22nm,1.0s
LKRN **Lenkeran, Azer** 71.57 305 P P 05 35 26.8 -1.4
HRY **Holter Researc** 71.64 45 *e*P P 05 35 29.9 +1.2
FFC **Flin Flon** 71.68 34 *e*P P 05 35 29.2 +0.6
FFC pmax pmax
comp=Z,32nm,1.2s
FFC **Flin Flon** 71.68 34 *e*P P 05 35 29.2 +0.6
comp=Z,32nm,1.2s
WAKR **Walker** 71.69 55 *e*P P 05 35 30.8 +1.6
comp=Z,12nm,1.1s
LRM **Limekiln Ridge** 71.81 46 *e*P P 05 35 31.1 +1.2
HLID **Hailey** 71.97 49 P P 05 35 31.9 +1.1
baz=305
HLID **Hailey** 71.97 49 *e*P P 05 35 32.2 +1.4
comp=Z,13nm,0.9s
DLMT **Dillon** 71.99 46 *e*P P 05 35 32.1 +1.3
EGMT **Eagleton** 72.00 43 P P 05 35 31.2 +0.4
baz=307
EGMT **Eagleton** 72.00 43 *e*P P 05 35 31.9 +1.1
BMN **Battle Mountai** 72.03 53 *e*P P 05 35 33.0 +1.8
BMN **Battle Mountai** 72.03 53 *e*P P 05 35 33.0 +1.8
GANJ **Ganja** 72.05 308 P P 05 35 29.8 -1.4
NCK **Nalchik** 72.09 311 ⇓*e*P P 05 35 31.9 +0.6
NCK pmax pmax
comp=Z,13nm,1.1s
MCMT **McKenzie Canyo** 72.16 47 *e*P P 05 35 33.0 +1.0
ZEI **Tsey** 72.32 311 *e*P P 05 35 32.0 -0.9
ZEI pmax pmax
comp=Z,5.0nm,0.8s
KVAR **Kislovodsk Arr** 72.36 312 P P 05 35 34.1 +1.1
comp=Z,28nm,1.0s,baz=56,slow=7.3,SNR=9.2
KIV **Kislovodsk** 72.37 312 *i*P P 05 35 34.0 +0.9
SNR=6.3
KIV **Kislovodsk** 72.37 312 *e*P P 05 35 33.7 +0.6
KIV pmax pmax
comp=Z,48nm,1.1s
KIV MLR MLR
comp=Z,158nm,18.0s
KIV **Kislovodsk** 72.37 312 *e*P P 05 35 34.0 +1.0
KIV *e*PcP PcP 05 35 45.9 -5.1
KIV **Kislovodsk** 72.37 312 pP P 05 35 35.0 +1.9
SNR=5.2
KBZ **Khabaz** 72.37 312 P P 05 35 33.9 +1.0
comp=Z,14nm,1.0s,baz=41,slow=2.4,SNR=17
BOZ **Bozeman (W)** 72.41 46 P P 05 35 34.2 +0.8
baz=306
BOZ **Bozeman (W)** 72.41 46 *e*P P 05 35 34.5 +1.1
BOZ **Bozeman (W)** 72.41 46 *e*P P 05 35 34.5 +1.1
MLAC **Mammoth, Mammo** 72.58 56 P P 05 35 35.8 +1.2
baz=304
PAGB **Antelope Grade** 72.71 58 *e*P P 05 35 37.0 +1.9
NEY **Neytrino** 72.76 312 ⇑*e*P P 05 35 36.5 +1.0
NEY pmax pmax
comp=Z,3.0nm,1.2s
QLMT **Earthquake Lak** 72.97 46 *e*P P 05 35 38.5 +1.7
YHB **Horse Butte** 73.16 46 *e*P P 05 35 39.4 +1.5
WSAR **Wadi Sarin** 73.16 287 P P 05 35 38.4 +0.4
comp=Z,6.3nm,0.8s,baz=57,slow=3.0,SNR=4.1
YHH **Holmes Hill** 73.33 46 *e*P P 05 35 40.7 +1.7
YMR **Madison River** 73.34 46 *e*P P 05 35 40.9 +1.9
GCMT **Greycliff** 73.39 45 *e*P P 05 35 40.9 +1.7
BANOM **Banah** 73.41 290 P P 05 35 39.4 0.0
SNR=5.7
BANOM **Banah** 73.41 290 P P 05 35 39.4 0.0
SNR=5.7
NAX **Nakhchivan** 73.42 307 P P 05 35 37.8 -1.5
VES **Vestal, Richgr** 73.42 57 P P 05 35 39.5 +0.2
baz=305,SNR=6.8
YNR **Norris Junctio** 73.47 46 *e*P P 05 35 42.2 +2.5
PKM **Mcpherson Peak** 73.48 59 P P 05 35 40.6 +0.7
baz=305,SNR=5.7
NACGM **Naroch** 73.52 328 *e* P 05 35 38.0 -1.5
YFT **Old Faithful** 73.54 46 *e*P P 05 35 43.5 +3.2
YPP **Pitchstone Pla** 73.67 46 *e*P P 05 35 43.8 +2.8
H17A **Grant Village** 73.72 46 P P 05 35 44.1 +2.8
baz=307
CWC **Cottonwood Cre** 73.75 56 P P 05 35 42.5 +1.0
baz=305
IMW **Indian Meadow** 73.81 47 *e*P P 05 35 43.5 +1.6
GRAC **Grapevine Rang** 73.90 56 P P 05 35 43.7 +1.5
baz=305,SNR=5.1
FXWY **Fox Creek** 73.92 47 *e*P P 05 35 44.1 +1.7
ISA **Isabella, Lake** 73.94 57 P P 05 35 43.0 +0.5
baz=305
HVU **Hansel Valley** 73.99 49 *e*P P 05 35 44.3 +1.5
HVU **Hansel Valley** 73.99 49 *e*P P 05 35 44.3 +1.5
ARVC **Arvin** 74.00 58 P P 05 35 43.6 +0.8
baz=305
MOOW **Moose Ponds** 74.02 47 *e*P P 05 35 44.6 +1.6
RLMT **Red Lodge** 74.02 45 P P 05 35 43.8 +0.8
baz=308
RLMT **Red Lodge** 74.02 45 *e*P P 05 35 44.3 +1.3
UOSS **Minazif** 74.03 289 *e*P P 05 35 43.1 0.0
TPAW **Teton Pass** 74.05 47 *e*P P 05 35 45.0 +1.8
HATD **Hatta, Dubai** 74.16 289 P P 05 35 44.0 +0.2
SNR=5.0
HATD **Hatta, Dubai** 74.16 289 P P 05 35 44.0 +0.2
SNR=5.0
DAC **Darwin (Calif)** 74.17 56 *e*P P 05 35 45.3 +1.4
DAC **Darwin (Calif)** 74.17 56 *e*P P 05 35 45.3 +1.4
LOHW **Long Hollow** 74.18 47 *e*P P 05 35 45.5 +1.6
SNOW **Snow King Moun** 74.18 47 *e*P P 05 35 45.9 +1.9
SNOW *e*PcP PcP 05 35 56.8 -2.2
REDW **Red Top Meadow** 74.19 47 *e*P P 05 35 45.6 +1.7
R11A **Troy Canyon, C** 74.27 54 P P 05 35 45.4 +0.9
baz=306
ASHO **Ashiyiah** 74.29 289 pP P 05 35 44.9 +0.3
SNR=6.4
ASHO **Ashiyiah** 74.29 289 P P 05 35 44.9 +0.3
SNR=6.4
BGU **Big Grassy Mou** 74.35 50 *e*P P 05 35 46.3 +1.4
MPMC **Manual Prospec** 74.36 56 P P 05 35 45.8 +0.7
baz=306,SNR=20
BLG **Laguna Peak, P** 74.43 59 P P 05 35 46.2 +0.9
baz=305
HFS **Hagfors** 74.47 337 P P 05 35 45.3 +0.3
comp=Z,12nm,0.8s,baz=35,slow=5.3,SNR=26
SPUT **South Promonto** 74.47 50 *e*P P 05 35 47.1 +1.5
NB2 **NORSAR Subarra** 74.50 338 P P 05 35 45.3 +0.1
comp=Z,18nm,0.9s,baz=38,slow=5.9
NB2 **NORSAR Subarra** 74.50 338 P P 05 35 45.3 +0.1
baz=38,slow=5.9
NB2 **NORSAR Subarra** 74.50 338 P P 05 35 45.2 +0.1
NB2 pmax pmax
comp=Z,15nm,1.0s
NOA **NORSAR Array B** 74.50 338 P P 05 35 45.3 +0.1
comp=Z,9.9nm,0.8s,baz=38,slow=5.9,SNR=17
NOA LR LR 06 12 36.2
comp=Z,73nm,21.8s,baz=40,slow=39
FURC **Furnace Creek,** 74.54 56 P P 05 35 47.0 +1.2
baz=306,SNR=14
LRMC **Laurel Mtn Rad** 74.57 57 P P 05 35 46.8 +0.6
baz=306,SNR=15
DGMT **Dagmar** 74.64 40 P P 05 35 46.7 +0.4
baz=310
DGMT **Dagmar** 74.64 40 *e*P P 05 35 47.1 +0.8
TPNV **Topopah Spring** 74.66 55 P P 05 35 47.7 +0.9
baz=306,SNR=25
TPNV **Topopah Spring** 74.66 55 *e*P P 05 35 47.9 +1.2
TPNV **Topopah Spring** 74.66 55 *e*P P 05 35 47.9 +1.2
EDW2 **Edwards Air Fo** 74.70 58 P P 05 35 47.6 +0.7
baz=306,SNR=17
LAO **LASA Array** 74.72 42 P P 05 35 47.4 +0.6
baz=309
LAO **LASA Array** 74.72 42 *e*P P 05 35 48.4 +1.6
HWUT **Hardware Ranch** 74.82 49 *e*P P 05 35 49.1 +1.5
DECC **Green Verdugo** 74.84 58 P P 05 35 48.6 +0.9
baz=306
DUG **Dugway, Tooele** 74.91 51 P P 05 35 49.0 +0.8
baz=307
DUG **Dugway, Tooele** 74.91 51 *e*P P 05 35 49.7 +1.5
DUG **Dugway, Tooele** 74.91 51 *e*P P 05 35 49.7 +1.5
MWC **Mount Wilson** 75.04 58 *e*P P 05 35 50.3 +1.2
MWC **Mount Wilson** 75.04 58 *e*P P 05 35 50.3 +1.2
TCUT **Toone Canyon** 75.21 49 *e*P P 05 35 51.5 +1.5
GSC **Goldstone, Bar** 75.25 57 P P 05 35 51.0 +1.0
baz=306,SNR=13
GSC **Goldstone, Bar** 75.25 57 *e*P P 05 35 51.1 +1.0
GSC **Goldstone, Bar** 75.25 57 *e*P P 05 35 51.1 +1.0
SHOC **Shoshone, Teco** 75.25 56 P P 05 35 51.0 +0.9
baz=306,SNR=8.4
CTU **Camp Tracy** 75.26 50 *e*P P 05 35 51.8 +1.6
CIS **Catalina Islan** 75.28 59 P P 05 35 50.9 +0.7
baz=306
AKASG **Malin Array Be** 75.28 324 P P 05 35 49.9 0.0
comp=Z,6.0nm,0.5s,baz=44,slow=6.0,SNR=40
AKASG LR LR 06 11 44.1
comp=Z,148nm,18.1s,baz=320,slow=38
AKBB **Malin Array Si** 75.28 324 *e*P P 05 35 50.0 +0.1
AKBB **Malin Array Si** 75.28 324 *e*P P 05 35 50.0 +0.1
KIEV **Kiev** 75.30 324 *d*P P 05 35 49.7 -0.2
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV **Kiev** 75.30 324 *e*P P 05 35 49.1 -0.9
BW06 **Boulder Array** 75.30 47 P P 05 35 50.8 +0.4
baz=308

BW06 Boulder Array 75.30 47 eP P 05 35 51.1 +0.7
PD31 Pinedale Array 75.30 47 eP P 05 35 51.1 +0.7
PDAR Pinedale Array 75.30 47 P P 05 35 51.1 +0.7
comp=Z,7.4nm,0.8s,baz=268,slow=2.9,SNR=49
RAO Raoul Island 75.30 147 LR LR 06 03 32.1
comp=Z,755nm,20.0s,baz=116,slow=32
BFSC Mount Baldy Ra 75.30 58 P P 05 35 51.2 +0.7
baz=306,SNR=8.8
RRX Edison Barstow 75.38 57 P P 05 35 51.8 +1.1
baz=306
SCI2 San Clemente I 75.43 60 P P 05 35 52.0 +0.9
baz=306
JLU Jordanelle 75.50 50 eP P 05 35 53.1 +1.4
NLU North Lily Min 75.51 51 eP P 05 35 53.1 +1.4
SHPR Sheep Range 75.62 55 eP P 05 35 53.8 +1.4
SUW Suwalki 75.65 329 P P 05 35 51.5 -0.4
MPU Maple Canyon 75.74 50 eP P 05 35 54.4 +1.4
TUQ Turquoise Moun 75.76 56 P P 05 35 53.5 +0.5
baz=306,SNR=17
BBRC Big Bear Solar 75.78 58 P P 05 35 54.1 +0.7
baz=306
HEC Hector,Ludlow 75.84 57 P P 05 35 54.6 +1.1
baz=306
MURC Murrieta 75.99 58 P P 05 35 55.2 +0.9
baz=306,SNR=5.1
CCUT Cedar City 76.16 53 eP P 05 35 57.0 +1.6
SZCU Shurtz Canyon 76.30 53 eP P 05 35 57.6 +1.3
GMRC Granite Mounta 76.32 57 P P 05 35 57.1 +0.9
baz=307,SNR=9.1
MSU Marysvale 76.32 52 eP P 05 35 58.0 +1.7
MSU Marysvale 76.32 52 eP P 05 35 58.0 +1.7
TMUT Trail Mountain 76.44 51 eP P 05 35 58.7 +1.6
109C Camp Elliot, M 76.47 59 P P 05 35 58.0 +1.1
baz=306,SNR=5.0
PFO Pinyon Flats O 76.48 58 P P 05 35 58.1 +0.9
baz=306,SNR=9.7
PFO Pinyon Flats O 76.48 58 eP P 05 35 58.4 +1.2
PFO Pinyon Flats O 76.48 58 eP P 05 35 58.4 +1.2
XPFO Piæon Flat 76.48 58 eP P 05 35 58.4 +1.2
TPFO Pinon Flats 76.48 58 P P 05 35 58.0 +0.8
baz=306,SNR=10
LCMT Little Creek M 76.56 54 eP P 05 35 59.2 +1.6
BELC Belle Mtn. Jos 76.56 57 P P 05 35 58.3 +0.6
baz=307,SNR=7.4
SIM Simferopol' 76.60 317 c iP P 05 35 58.3 +0.8
SIM pmax pmax
comp=Z,21nm,0.9s
SIM MLR MLR
comp=Z,180nm,17.4s
MTPU Mount Pierson 76.60 52 eP P 05 35 59.9 +1.8
P17A Butcher Ranch, 76.62 50 eP P 05 35 59.5 +1.5
Q16A Castle Valley 76.70 51 eP P 05 36 00.0 +1.6
KNB Kanab 76.82 53 eP P 05 36 01.0 +1.8
KNB Kanab 76.82 53 eP P 05 36 01.0 +1.8
P18A Preston Nutter 76.83 50 eP P 05 36 01.0 +1.7
BAR Barrett 76.89 59 eP P 05 36 00.6 +1.2
MONP2 Monument Peak 76.93 59 P P 05 36 00.6 +0.7
baz=307,SNR=8.1
SRU San Rafael Swe 76.98 51 eP P 05 36 01.2 +1.2
SRU San Rafael Swe 76.98 51 eP P 05 36 01.2 +1.2
IRM Iron Mountain 77.03 57 P P 05 36 01.0 +0.9
baz=307,SNR=12
K22A Casper 77.12 46 P P 05 36 01.3 +0.6
baz=310
BC3 Big Chuckawall 77.13 57 P P 05 36 01.7 +0.9
baz=307,SNR=10
IKP In-Ko-Pah, Jac 77.28 59 P P 05 36 02.6 +0.9
baz=307,SNR=13
SWSC Sam W. Stewart 77.32 58 P P 05 36 02.6 +0.9
baz=307,SNR=6.0
RWWY Rawlins 77.33 47 eP P 05 36 03.2 +1.2
MDND Maddock 77.36 38 P P 05 36 02.4 +0.6
baz=313
ULM Lac du Bonnet 77.46 35 P P 05 36 02.2 0.0
comp=Z,7.7nm,1.0s,baz=298,slow=5.6,SNR=4.4
ULM Lac du Bonnet 77.46 35 eP P 05 36 02.5 +0.2
ULM Lac du Bonnet 77.46 35 eP P 05 36 02.5 +0.2
U15A North Rim 77.52 54 eP P 05 36 04.8 +1.6
RSSD Black Hills 77.55 43 P P 05 36 03.3 +0.1
baz=311
RSSD Black Hills 77.55 43 eP P 05 36 03.4 +0.2
RSSD Black Hills 77.55 43 eP P 05 36 03.4 +0.2
PDMCI Parker Dam,Lak 77.61 56 P P 05 36 04.3 +0.9
baz=307,SNR=13
Y12C Blythe 77.69 57 P P 05 36 04.9 +1.0
baz=307,SNR=12
O20A White River Ci 77.71 49 P P 05 36 04.7 +0.6
baz=309
KBSD Kabsdagh 77.84 307 eP P 05 36 04.1 -0.6
GLA Glamis 77.91 58 P P 05 36 05.4 +0.3
baz=307,SNR=5.7
GLA Glamis 77.91 58 eP P 05 36 06.6 +1.5
GLA Glamis 77.91 58 eP P 05 36 06.6 +1.5
B31A Greenbush Farm 77.91 37 P P 05 36 05.0 +0.2
baz=314
A32A Rocking H Ranc 78.11 36 P P 05 36 06.2 +0.3
baz=315
PV09 Paradox Valley 78.21 50 eP P 05 36 08.4 +1.3
LVV L'vov 78.29 325 eP P 05 36 09.7 +2.8
C31A Landman Farms, 78.31 38 P P 05 36 07.2 +0.2
baz=314
B32A Ashes, Strandq 78.46 37 P P 05 36 07.6 -0.3
baz=315,SNR=6.2
SFNV Sufian 78.48 307 eP P 05 36 04.1 -4.1
PV05 Paradox Valley 78.49 51 eP P 05 36 10.1 +1.5
MZRK Al-Mazaregh 78.50 306 eP P 05 36 07.6 -0.7
RAR Rarotonga 78.53 128 LR LR 06 03 31.1
comp=Z,402nm,20.8s,baz=237,slow=30
N23A Red Feather La 78.58 47 P P 05 36 09.6 +0.6
baz=310
PHWY Pilot Hill 78.59 46 eP P 05 36 10.2 +1.1
A33A Warroad 78.61 36 P P 05 36 08.5 -0.2
baz=316,SNR=8.8
WUAZ Wupatki 78.66 54 P P 05 36 10.0 +0.6
baz=308,SNR=23
WUAZ Wupatki 78.66 54 eP P 05 36 10.8 +1.4
PV01 Paradox Valley 78.78 50 eP P 05 36 11.2 +1.1
113A Mohawk Valley, 78.79 57 eP P 05 36 10.5 +0.6
AGMN Agassiz Nation 78.85 36 P P 05 36 09.9 0.0
baz=315
AGMN Agassiz Nation 78.85 36 eP P 05 36 10.0 0.0
B33A Robert and Kas 79.00 36 P P 05 36 10.5 -0.3
baz=316
KWP Kalwaria Pacla 79.02 326 eP P 05 36 12.1 +1.2
KWP Kalwaria Pacla 79.02 326 eP P 05 36 12.1 +1.2
SMCO Snowmass 79.08 49 eP P 05 36 13.0 +1.1
C33A Trail 79.28 37 P P 05 36 12.1 -0.2
baz=316
B34A Aery, Baudette 79.28 36 P P 05 36 12.0 -0.3
baz=316
BUR08 Bucovina Ar. S 79.31 323 eP P 05 36 13.4 +0.8
BURAR Bucovina Array 79.32 323 ⇓iP P 05 36 13.4 +0.7
BURAR Bucovina Array 79.32 323 P P 05 36 13.4 +0.7
ILGA Ilgaz 79.36 314 eP P 05 36 15.1 +1.8
F31A Hecla 79.40 39 P P 05 36 12.8 -0.3
baz=314
TESR Tescani 79.41 322 ⇓iP P 05 36 13.7 +0.6
MVCO Mesa Verde 79.41 51 P P 05 36 14.1 +0.5
baz=310,SNR=15
MVCO Mesa Verde 79.41 51 eP P 05 36 14.7 +1.1
ISCO Idaho Springs 79.48 48 P P 05 36 14.3 +0.3
baz=311
ISCO Idaho Springs 79.48 48 eP P 05 36 15.6 +1.6
ISCO Idaho Springs 79.48 48 eP P 05 36 15.6 +1.6
KSRV Kasrt alli 79.52 307 eP P 05 36 10.0 -3.9
CFR Carcaliu 79.52 320 ⇑iP P 05 36 14.7 +0.6
B35A Bob, Littlefor 79.79 35 P P 05 36 15.2 +0.1
baz=317
VRI Vrincioaia 79.82 321 ⇓iP P 05 36 17.4 +2.0
VRI Vrincioaia 79.82 321 P P 05 36 17.4 +2.0
STHS Stebnicka Huta 79.83 326 eP P 05 36 16.6 +1.3
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 79.83 326 eP P 05 36 16.6 +1.3
OJC Ojcow 79.85 328 eP P 05 35 15.9 +0.4
OJC Ojcow 79.85 328 eP P 05 35 15.9 +0.5
OJC Ojcow 79.85 328 eP P 05 35 15.8 +0.4
G31A Conde 79.87 40 P P 05 35 15.9 +0.3
baz=314
PLOR Plostina 79.87 321 ⇓iP P 05 36 17.2 +1.5
PLOR Plostina 79.87 321 P P 05 36 17.1 +1.4
214A Organ Pipe Nat 79.92 57 P P 05 36 17.0 +0.8
baz=308,SNR=9.0
UZH Uzhgorod 79.94 325 ⇓iP P 05 36 16.6 +0.7
UZH e 05 36 20.4
W18A Petrified Fore 79.96 53 P P 05 36 17.1 +0.6
baz=309
F32A Veblen 79.96 39 P P 05 36 16.1 0.0
baz=315
D34A Park Rapids 80.03 37 P P 05 36 16.6 +0.2
baz=316
TLB Topalu 80.05 320 ⇓iP P 05 36 17.5 +0.9
E33A Westby DABS, E 80.06 38 P P 05 36 16.9 +0.2
baz=316
S22A 4UR Ranch, Cre 80.08 50 P P 05 36 17.3 0.0
baz=310,SNR=22
CRVS Cervenica-Dubn 80.11 326 eP P 05 36 17.9 +1.0
CRVS Cervenica-Dubn 80.11 326 eP P 05 36 17.9 +1.0
C35A Jirik Farms, M 80.16 36 P P 05 36 16.6 -0.5
baz=317,SNR=5.4
X18A Snowflake 80.19 54 eP P 05 36 18.4 +0.6
TRPA Tarpa 80.20 325 ⇓eP P 05 36 18.2 +0.9
NIE Niedzica 80.24 327 eP P 05 36 18.7 +1.1
NIE Niedzica 80.24 327 eP P 05 36 18.7 +1.1
BR131 Keskin Array S 80.28 313 eP P 05 36 19.0 +0.8
BRTR Keskin Array B 80.28 313 P P 05 36 18.5 +0.4
comp=Z,4.9nm,1.0s,baz=103,slow=3.9,SNR=18
Q24A Divide 80.30 48 P P 05 36 18.5 0.0
baz=311
F33A 5 Mile Ranch, 80.39 38 P P 05 36 18.7 +0.3
baz=316,SNR=8.1
DOPR Dopca 80.41 322 ⇑iP P 05 36 20.2 +1.6
ISR Istrita 80.44 321 ⇑iP P 05 36 20.3 +1.5
ISR Istrita 80.44 321 P P 05 36 20.3 +1.5
MLR Muntele Rosu 80.48 321 ⇑iP P 05 36 19.4 +0.3
MLR Muntele Rosu 80.48 321 eP P 05 36 19.2 +0.1
MLR Muntele Rosu 80.48 321 eP P 05 36 19.2 +0.1
DRWC Darouich 80.50 309 eP P 05 36 19.6 +0.3
D35A Remer 80.57 36 P P 05 36 19.0 -0.4
baz=317
C36A Pine Crest Far 80.64 35 P P 05 36 19.8 0.0
baz=318
ANTO Ankara 80.67 314 eP P 05 36 21.1 +0.9
ANTO Ankara 80.67 314 eP P 05 36 21.1 +0.9
CJR Cluj-Napoca 80.74 323 ⇑iP P 05 36 21.7 +1.4
CJR Cluj-Napoca 80.74 323 P P 05 36 21.7 +1.4
H32A Carlson Farm, 80.77 40 P P 05 36 20.1 -0.4
baz=315
G33A Ortonville 80.78 39 P P 05 36 20.6 +0.1
baz=315,SNR=12
E35A Pequot Lakes 80.79 37 P P 05 36 20.0 -0.5
baz=317
LANS Liptovska Anna 80.80 327 eP P 05 36 22.2 +1.6
LANS Liptovska Anna 80.80 327 eP P 05 36 22.2 +1.6
KSP Ksiaz 80.82 330 eP P 05 36 21.5 +0.9
KSP Ksiaz 80.82 330 eP P 05 36 21.5 +0.9
OKC Ostrava-Krasne 80.84 328 eP P 05 36 32.1 +11
KECS Kecovo 80.86 326 eP P 05 36 21.9 +1.0
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 80.86 326 eP P 05 36 21.9 +1.0
SDCO Great Sand Dun 80.89 49 P P 05 36 21.6 0.0
baz=311,SNR=9.2
SDCO Great Sand Dun 80.89 49 eP P 05 36 22.8 +1.2
D36A Goodland 80.92 36 P P 05 36 21.0 -0.2
baz=317
F34A Alexandria 80.93 38 P P 05 36 21.5 +0.2
baz=316
J31A Geddes 80.94 41 P P 05 36 21.5 +0.1
baz=314
VOIR 80.96 322 ⇑iP P 05 36 22.6 +1.0
VOIR 80.96 322 P P 05 36 22.5 +1.0
C37A Embarrass 80.96 35 P P 05 36 21.1 -0.4
baz=318
H33A Prehn Over Nor 80.99 39 P P 05 36 21.9 +0.2
baz=315,SNR=9.9
TUC Tucson 81.05 56 P P 05 36 22.6 +0.3
baz=309
TUC Tucson 81.05 56 eP P 05 36 23.6 +1.3
TUC Tucson 81.05 56 eP P 05 36 23.6 +1.3
DRGR 81.10 324 ⇓iP P 05 36 22.8 +0.5
MORC Moravsky Berou 81.14 328 ⇑iP P 05 36 23.4 +1.0
MORC Moravsky Berou 81.14 328 eP P 05 36 23.1 +0.7
MORC Moravsky Berou 81.14 328 eP P 05 36 23.1 +0.7
G34A Benson 81.14 38 P P 05 36 22.5 +0.1
baz=316
DPC Dobruska-Polom 81.19 329 ⇓iP P 05 36 23.6 +0.9
DPC ex x 05 36 34.6
DPC Dobruska-Polom 81.19 329 ⇓iP P 05 36 23.6 +0.9
DPC e 05 36 34.6
UPC Upice 81.19 330 ⇓iP P 05 36 23.3 +0.7
UPC Upice 81.19 330 ⇓iP P 05 36 23.3 +0.7
ARR Arges 81.21 322 ⇑iP P 05 36 24.6 +1.7
F35A Swanville 81.21 37 P P 05 36 22.8 0.0
baz=317
KRLC Kraliky 81.22 329 ⇓iP P 05 36 23.3 +0.5
KRLC ex x 05 36 34.2
KRLC Kraliky 81.22 329 ⇓iP P 05 36 23.3 +0.5
KRLC e 05 36 34.2
D37A Cotton 81.27 35 P P 05 36 22.7 -0.4
baz=318
J32A Parkston 81.35 41 P P 05 36 23.6 0.0
baz=315
E36A McGregor 81.36 36 P P 05 36 23.6 0.0
baz=317
C38A Sawbill Land. 81.38 34 P P 05 36 23.6 -0.1
baz=318
K31A O'Neill 81.40 42 P P 05 36 23.8 -0.1
baz=314
I33A Coleman 81.41 40 P P 05 36 24.3 +0.3
baz=315,SNR=7.0
ARNB Al Arnab 81.42 309 eP P 05 36 22.2 -2.0
H34A Spellman Lake, 81.48 39 P P 05 36 24.1 -0.2
baz=316
PSZ Piszkesteto 81.54 326 ⇑iP P 05 36 25.6 +1.0
PSZ Piszkesteto 81.54 326 eP P 05 36 25.4 +0.8
PSZ Piszkesteto 81.54 326 ⇓eP P 05 36 25.2 +0.6
PSZ Piszkesteto 81.54 326 eP P 05 36 25.4 +0.8
RABH Abou Rabah 81.57 307 eP P 05 36 23.3 -1.7
VYHS Vyhne 81.57 327 eP P 05 36 25.4 +0.7
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 81.57 327 eP P 05 36 25.4 +0.7
F36A Milaca 81.71 37 P P 05 36 23.8 -1.6
baz=317
BRG Berggiesshubel 81.72 331 eP P 05 36 25.8 +0.4
comp=Z,17nm,1.2s
BRG e 05 36 36.3
comp=Z,8.7nm,1.1s
BRG Berggiesshubel 81.72 331 eP P 05 36 25.8 +0.4
BRG e 05 36 36.3
BRG pmax pmax
comp=Z,17nm,1.2s
G35A Watkins 81.72 38 P P 05 36 25.8 +0.3
baz=317
CLL Collm 81.73 332 ⇓iP P 05 36 25.5 +0.1
CLL i 05 36 36.4
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 81.73 332 ⇓iP P 05 36 25.5 +0.1
comp=Z,24nm,1.1s
CLL iSP pP 05 36 28.8 -1.1
CLL i 05 36 36.4
CLL ePP PP 05 39 29.0 -2.6
CLL Collm 81.73 332 eP P 05 36 25.6 +0.1
ECSD EROS Data Cent 81.73 40 P P 05 36 25.6 0.0
baz=316,SNR=9.0
ECSD EROS Data Cent 81.73 40 eP P 05 36 25.5 0.0
KSCO Kaye Shedlock' 81.73 47 P P 05 36 25.7 -0.2
baz=312
PVCC Panska Ves 81.75 330 ⇓eP P 05 36 26.2 +0.7
PVCC Panska Ves 81.75 330 eP P 05 36 26.2 +0.7
BIDA Albida 81.75 308 eP P 05 36 24.4 -1.6
MHTCO State Highway 81.78 49 eP P 05 36 27.6 +1.4
K32A Verdigre 81.79 41 P P 05 36 25.7 -0.2
baz=315
J33A Davis 81.84 40 P P 05 36 26.1 -0.2
baz=315
VRAC Vranov 81.89 329 ⇑iP P 05 36 27.6 +1.2
VRAC Vranov 81.89 329 P P 05 36 27.6 +1.2
H35A Sunnyside Ranc 81.93 38 P P 05 36 27.0 +0.4
baz=316,SNR=6.0
T25A Trinidad 81.94 49 P P 05 36 27.3 +0.2
baz=312,SNR=9.6
SIRR Siria 81.97 324 ⇑iP P 05 36 27.6 +0.7
HAWK Haweek 82.02 308 eP P 05 36 25.6 -1.8
LAZ Ladron 82.06 52 eP P 05 36 29.1 +1.3
E38A The Farm, Brul 82.08 35 P P 05 36 27.0 -0.4
baz=318
ANMO Albuquerque 82.13 52 P P 05 36 28.1 0.0
baz=311
ANMO Albuquerque 82.13 52 eP P 05 36 29.7 +1.6
ANMO Albuquerque 82.13 52 eP P 05 36 29.7 +1.6
GOPC GO Pecny, Ondr 82.15 330 ⇓iP P 05 36 28.3 +0.6
GOPC ex x 05 36 39.0
GOPC GO Pecny, Ondr 82.15 330 ⇓iP P 05 36 28.3 +0.6
GOPC e 05 36 39.0
PRA Prague 82.16 330 ⇓eP P 05 36 28.7 +1.0
PRA Prague 82.16 330 eP P 05 36 28.7 +1.0
PRU Pruhonice 82.19 330 ⇓iP P 05 36 28.4 +0.5
PRU ex x 05 36 39.2
PRU Pruhonice 82.19 330 ⇓iP P 05 36 28.4 +0.5
PRU e 05 36 39.2
L32A Elgin 82.23 42 P P 05 36 28.5 +0.2
baz=315
F37A Hinrichs Farm, 82.24 37 P P 05 36 27.6 -0.7
baz=318
MARH Ras Al Marh 82.29 307 eP P 05 36 29.6 +0.5
K33A Hardington 82.33 41 P P 05 36 28.9 +0.1
baz=315
TREC Trest 82.35 329 ⇓iP P 05 36 29.4 +0.6
TREC Trest 82.35 329 ⇓iP P 05 36 29.4 +0.6
F38A Pierce - Schro 82.42 36 P P 05 36 29.5 +0.3
baz=318
H36A Jessenland, He 82.46 38 P P 05 36 29.7 +0.3
baz=317,SNR=6.1
BZS Buzias 82.48 324 ⇓iP P 05 36 29.8 +0.3
L33A Hoskins 82.50 41 P P 05 36 29.4 -0.3
baz=315
SPMN Marine on St. 82.53 37 P P 05 36 29.4 -0.4
baz=318
BNM Barren Site 82.54 52 eP P 05 36 31.6 +1.2
BGNE Belgrade 82.57 42 P P 05 36 29.7 -0.4
baz=315
PPT Papeete 82.67 119 LR LR 06 15 15.1
comp=Z,38nm,18.6s,baz=306,slow=37
CSKK Cs‡tkako 82.68 327 ⇑eP P 05 36 31.4 +0.9
J35A Milford 82.70 39 P P 05 36 30.9 +0.2
baz=316
E39A Mellen 82.71 35 P P 05 36 30.0 -0.7
baz=319
K34A Le Mars 82.74 40 P P 05 36 31.0 +0.1
baz=316,SNR=5.9
RAYN Ar Rayn 82.75 294 eP P 05 36 31.5 +0.1
TOTH TOTAH 82.75 307 eP P 05 36 30.5 -0.7
NKC Novy Kostel 82.80 331 ⇓eP P 05 36 31.8 +0.7
NKC Novy Kostel 82.80 331 eP P 05 36 31.8 +0.7
121A Cookes Peak, D 82.86 54 P P 05 36 32.4 +0.5
baz=310,SNR=13
F39A Loretta 82.89 35 P P 05 36 31.3 -0.4
baz=319
H37A Dierke Farm, C 82.95 37 P P 05 36 31.8 -0.2
baz=318
E40A Wakefield 82.96 35 P P 05 36 31.6 -0.4
baz=320,SNR=6.2
M33A Taylor Creek F 82.96 42 P P 05 36 31.5 -0.6
baz=315
G38A Ridgeland 83.02 36 P P 05 36 31.8 -0.5
baz=318
BRBR Barbar 83.02 307 eP P 05 36 27.7 -5.1
L34A Svendsen Farm, 83.11 41 P P 05 36 32.7 -0.2
baz=316
I37A Lemond, Waseca 83.13 38 P P 05 36 33.0 +0.1
baz=318,SNR=7.0
K35A Storm Lake 83.16 40 P P 05 36 33.1 0.0
baz=316
J36A Seneca 1, Swea 83.17 39 P P 05 36 33.1 -0.1
baz=317
H38A Maiden Rock 83.18 37 P P 05 36 33.3 +0.1
baz=318
KHC Kasperske Hory 83.25 330 ⇓iP P 05 36 34.0 +0.6
KHC ex x 05 36 44.9
KHC ex x 05 36 52.3
KHC Kasperske Hory 83.25 330 eP P 05 36 34.1 +0.6
KHC Kasperske Hory 83.25 330 eP P 05 36 34.0 +0.6
G39A Holcombe 83.25 36 P P 05 36 33.1 -0.5
baz=319
F40A Park Falls 83.25 35 P P 05 36 33.5 0.0
baz=319
CONA Conrad Observa 83.27 328 i pP P 05 36 34.7 +1.1
comp=Z,18nm,1.1s,SNR=9.4
M34A Aspy Farms, Fr 83.33 42 P P 05 36 33.9 -0.1
baz=316
E41A Kenton 83.36 34 P P 05 36 33.9 -0.1
baz=320
GEC2 GERESS Array S 83.43 330 eP P 05 36 34.2 -0.3
GEC2 GERESS Array S 83.43 330 eP P 05 36 34.2 -0.3
GERES GERESS Array B 83.43 330 P P 05 36 34.6 +0.1
comp=Z,1.7nm,0.7s,baz=35,slow=4.9,SNR=20
GERES LR LR 06 15 54.0
comp=Z,219nm,20.1s,baz=332,slow=37
CBKS Cedar Bluff 83.51 45 P P 05 36 34.4 -0.7
baz=314
J37A Redenius Farm, 83.57 39 P P 05 36 34.7 -0.5
baz=317
K36A Gilmore City 83.61 40 P P 05 36 35.4 -0.1
baz=317
I38A Scanlan Farm, 83.63 37 P P 05 36 35.4 -0.1
baz=318,SNR=6.0
H39A Augusta 83.65 36 P P 05 36 35.3 -0.3
baz=319
GRFO Grafenberg 83.70 332 eP P 05 36 37.0 +1.2
GRFO Grafenberg 83.70 332 eP P 05 36 37.0 +1.2
G40A Rib Lake 83.71 36 P P 05 36 35.5 -0.4
baz=319
M35A Neola 83.83 41 P P 05 36 36.3 -0.2
baz=316
E42A Champion 83.85 34 P P 05 36 36.4 -0.2
baz=321
F41A Three Lakes 83.85 35 P P 05 36 36.5 -0.1
baz=320,SNR=5.7
N34A Lincoln 83.85 42 P P 05 36 36.0 -0.7
baz=316
SCHQ Schefferville 83.90 18 LR LR 06 17 54.5
comp=Z,88nm,18.8s,baz=348,slow=38
K37A Belmond 83.93 39 P P 05 36 37.0 -0.1
baz=317
VTS Vitosha 83.93 321 ⇓iP P 05 36 38.3 +1.0
VTS Vitosha 83.93 321 eP P 05 36 38.1 +0.8
VTS Vitosha 83.93 321 eP P 05 36 38.0 +0.8
ARSA Arzberg 83.95 328 i P P 05 36 37.2 +0.1
comp=Z,8.1nm,1.2s
MOA Molln 83.99 329 i P P 05 36 37.8 +0.5
comp=Z,14nm,1.4s,SNR=5.1
J38A Wedel Dairy, R 84.09 38 P P 05 36 37.8 -0.1
baz=318
H40A Chili 84.11 36 P P 05 36 37.7 -0.2
baz=319
I39A Houston 84.16 37 P P 05 36 38.0 -0.2
baz=319,SNR=5.8
O34A Beatrice 84.22 43 P P 05 36 38.4 -0.2
baz=316
G41A Antigo 84.22 35 P P 05 36 38.4 -0.1
baz=320
F42A Maple Grove Fa 84.27 34 P P 05 36 38.6 -0.1
baz=321
N35A Tabor 84.29 41 P P 05 36 38.9 0.0
baz=316
E43A Lone Tree Farm 84.29 33 P P 05 36 38.6 -0.2
baz=321
M36A Felix, Anita 84.30 41 P P 05 36 39.0 0.0
baz=317
J39A Decorah 84.46 38 P P 05 36 39.2 -0.5
baz=319,SNR=11
H41A Junction City 84.46 36 P P 05 36 39.5 -0.2
baz=320
G42A Mountain 84.54 35 P P 05 36 40.3 +0.2
baz=321
I40A Norwalk 84.56 37 P P 05 36 39.8 -0.4
baz=319
O35A Humboldt 84.58 42 P P 05 36 40.2 -0.1
baz=316
P34A Walnut Farm, R 84.60 43 P P 05 36 40.2 -0.3
baz=316
SOKA Soboth 84.60 328 i P P 05 36 40.8 +0.3
comp=Z,25nm,1.3s,SNR=12
F43A Flat Rock, Esc 84.64 34 P P 05 36 40.3 -0.2
baz=321
M37A Trindle Farm, 84.72 40 P P 05 36 41.3 +0.3
baz=317
BEBN Eben Emael 84.74 335 P P 05 36 41.4 +0.5
I41A Arkdale 84.78 36 P P 05 36 41.3 0.0
baz=320
MEM Membach 84.79 335 P P 05 36 41.8 +0.5

SRS	Serrai	84.82	319	P		P	05 36 42.1	+0.5
K39A	Oelwein	84.84	38	P		P	05 36 41.4	-0.3
	baz=318							
F44A	Big Bay de Noc	84.85	33	P		P	05 36 41.9	+0.2
	baz=322							
G43A	Wallace	84.86	34	P		P	05 36 41.6	-0.1
	baz=321							
J40A	Soldiers Grove	84.88	37	P		P	05 36 41.5	-0.3
	baz=319							
MNTX	Cornudas Mount	84.94	54	P		P	05 36 42.7	+0.3
	baz=312,SNR=16							
MNTX	Cornudas Mount	84.94	54	eP		P	05 36 43.4	+1.0
OBKA	Obir	84.94	328	i P		P	05 36 42.2	0.0
	comp=Z,8.9nm,1.2s							
Q34A	Chapman	84.98	44	P		P	05 36 42.4	-0.1
	baz=316							
KBA	Koelnbreinsper	84.99	329	i PcP		P	05 36 43.8	+1.3
	comp=Z,12nm,1.1s							
KSU1	Kansas State U	85.04	43	P		P	05 36 42.5	-0.3
	baz=316							
KSU1	Kansas State U	85.04	43	eP		P	05 36 42.8	+0.1
MSTX	Muleshoe	85.05	50	P		P	05 36 43.0	0.0
	baz=313							
P35A	Duane Minner,	85.05	43	P		P	05 36 42.5	-0.3
	baz=316							
E45A	Wooded Hills,	85.08	32	P		P	05 36 42.7	-0.1
	baz=323							
AMTX	Amarillo	85.09	49	P		P	05 36 43.5	+0.4
	baz=313							
AMTX	Amarillo	85.09	49	eP		P	05 36 44.2	+1.0
N37A	Lee Faris, Mou	85.11	41	P		P	05 36 43.5	+0.4
	baz=317,SNR=7.0							
M38A	Pleasantville	85.14	40	P		P	05 36 43.4	+0.2
	baz=318,SNR=6.5							
CWF	Charnwood Fore	85.15	340	eP		P	05 36 44.2	+1.2
O36A	Bolckow	85.17	42	P		P	05 36 43.7	+0.3
	baz=317							
BCLA	Clavier	85.19	335	P		P	05 36 43.3	+0.1
K40A	Colesburg	85.21	38	P		P	05 36 43.5	0.0
	baz=319,SNR=9.2							
STU	Stuttgart	85.22	332	eP		P	05 36 43.8	+0.4
STU	Stuttgart	85.22	332	eP		P	05 36 43.8	+0.4
L39A	Vinton	85.22	39	P		P	05 36 43.8	+0.3
	baz=318,SNR=6.2							
MYKA	Terra Mystica	85.22	329	i P		P	05 36 43.1	-0.5
	comp=Z,12nm,1.5s							
J41A	Loganville	85.24	37	P		P	05 36 43.4	-0.3
	baz=320,SNR=5.9							
R34A	Isabella, Hill	85.26	44	P		P	05 36 43.5	-0.4
	baz=316							
I42A	Draeger Farm,	85.36	36	P		P	05 36 44.0	-0.2
	baz=320							
P36A	Good Intent, A	85.42	42	P		P	05 36 44.3	-0.3
	baz=317							
H43A	Windswept, Lux	85.43	35	P		P	05 36 44.5	-0.1
	baz=321							
SNF	Seneffe	85.45	336	P		P	05 36 45.2	+0.7
F45A	CMU Biological	85.47	33	P		P	05 36 44.4	-0.3
	baz=322							
WATA	Walderalm	85.49	330	i PcP		P	05 36 45.4	+0.4
	comp=Z,12nm,1.3s							
Q35A	Mercer Eighty,	85.52	43	P		P	05 36 45.3	+0.1
	baz=316,SNR=6.7							
WTTA	Wattenberg	85.52	330	i PcP		P	05 36 47.1	+1.9
	comp=Z,9.8nm,1.3s							
LANF	Langenberg	85.55	333	eP		P	05 36 45.8	+0.7
WLF	Walferdange	85.55	334	P		P	05 36 46.1	+1.1
	comp=Z,25nm,2.1s							
O37A	Wolven Farm, M	85.58	41	P		P	05 36 45.3	-0.1
	baz=317							
N38A	Joes South For	85.59	40	P		P	05 36 45.7	+0.3
	baz=318							
ABTA	Abfaltersbach	85.59	329	i P		P	05 36 44.4	-1.0
	comp=Z,9.3nm,1.1s							
M39A	Webster	85.61	39	P		P	05 36 45.4	-0.1
	baz=318,SNR=5.4							
L40A	Anamosa	85.65	38	P		P	05 36 45.5	-0.2
	baz=319,SNR=5.0							
MOTA	Moosalm	85.67	330	i PcP		P	05 36 46.3	+0.4
	comp=Z,13nm,1.0s,SNR=11							
K41A	Shullsburg	85.68	37	P		P	05 36 45.4	-0.5
	baz=320,SNR=5.1							
RETA	Reutte	85.68	331	i PcP		P	05 36 46.4	+0.5
	comp=Z,33nm,1.2s,SNR=13							
J42A	Columbus	85.70	36	P		P	05 36 45.8	-0.1
	baz=320							
DOU	Dourbes	85.70	336	P		P	05 36 46.0	+0.2
F46A	Macinaw City C	85.72	32	P		P	05 36 46.2	+0.2
	baz=323							
Q36A	Arnold C. Orve	85.76	43	P		P	05 36 46.3	0.0
	baz=317							
S34A	Willow Spring	85.76	44	P		P	05 36 46.4	0.0
	baz=316,SNR=5.8							
R35A	Emporia Munici	85.82	44	P		P	05 36 47.0	+0.4
	baz=316							
BAIF	Baives	85.86	336	eP		P	05 36 46.3	-0.3
BAIF				pmax		pmax		
	comp=Z,17nm,1.3s							
P37A	Lathrop	85.89	42	P		P	05 36 46.8	-0.2
	baz=317,SNR=5.9							
N39A	Derby Farms, D	85.90	40	P		P	05 36 46.8	-0.2
	baz=318,SNR=7.6							
BFO	Black Forest	85.90	332	i P		P	05 36 47.5	+0.6
BFO	Black Forest	85.90	332	eP		P	05 36 47.2	+0.3
O38A	Galt	85.96	41	P		P	05 36 47.3	0.0
	baz=318							
J43A	Natural Harves	85.98	36	P		P	05 36 46.8	-0.6
	baz=321							
L41A	Preston	85.99	38	P		P	05 36 47.1	-0.3
	baz=319							
PDG	Podgorica	86.00	323⇑	i P		P	05 36 47.5	+0.1
M40A	Post Highland	86.00	39	P		P	05 36 46.9	-0.5
	baz=319,SNR=5.5							
K42A	Prairie Point,	86.01	37	P		P	05 36 47.2	-0.3
	baz=320							
FETA	Feichten	86.08	330	i P		P	05 36 48.1	+0.1
	comp=Z,14nm,1.1s,SNR=5.0							
DAVA	Damuels	86.19	331	i PcP		P	05 36 49.0	+0.5
	comp=Z,28nm,1.1s,SNR=9.4							
FNA	Florina	86.19	320	P		P	05 36 49.1	+0.6
R36A	Gordon, Harris	86.20	43	P		P	05 36 48.1	-0.4
	baz=317,SNR=13							
T34A	McClaskey Farm	86.20	45	P		P	05 36 48.9	+0.3
	baz=316							
S35A	Otter Creek Ra	86.21	44	P		P	05 36 48.8	+0.2
	baz=316,SNR=10							
CDF	Champ du Feu	86.22	333	eP		P	05 36 48.1	-0.4
P38A	Dawn	86.30	41	P		P	05 36 49.4	+0.4
	baz=318							
O39A	Kirksville	86.34	40	P		P	05 36 49.4	+0.3
	baz=318							
N40A	Mertquake, Sal	86.35	39	P		P	05 36 49.3	0.0
	baz=319							
ECH	Echery	86.42	333	eP		P	05 36 49.5	0.0
ECH	Echery	86.42	333	eP		P	05 36 49.5	0.0
ECH	Echery	86.42	333	eP		P	05 36 49.5	0.0
M41A	Milan	86.50	38	P		P	05 36 49.9	0.0
	baz=319							
K43A	Burlington	86.54	36	P		P	05 36 49.9	-0.2
	baz=321							
R37A	Teagarden Farm	86.57	43	P		P	05 36 50.1	-0.2
	baz=317							
S36A	Lake Cedric, C	86.58	44	P		P	05 36 50.5	+0.1
	baz=316							
FUORN	Ofenpass-Fuorn	86.59	330	eP		P	05 36 50.9	+0.3
T35A	Sooner Cattle	86.66	45	P		P	05 36 51.1	+0.3
	baz=316							
Q38A	Cooks Store, C	86.74	42	P		P	05 36 50.7	-0.4
	baz=318							
MOF	Molkenrain	86.74	333	eP		P	05 36 51.1	0.0
L43A	Garden Prairie	86.75	37	P		P	05 36 50.6	-0.5
	baz=320							
O40A	La Belle	86.78	40	P		P	05 36 51.6	+0.3
	baz=319							
P39B	Salisbury	86.80	41	P		P	05 36 51.5	+0.1
	baz=318							
M42A	Sheffield	86.82	38	P		P	05 36 51.6	+0.1
	baz=320							
THEF	They Montfort	86.83	334	eP		P	05 36 51.6	+0.2
N41A	Harden Midland	86.85	39	P		P	05 36 51.9	+0.2
	baz=319							
HINF	Hinteralfeld	86.87	333	eP		P	05 36 50.9	-0.8
HINF				pmax		pmax		
	comp=Z,8.0nm,1.2s							
T36A	Boggs Farm, Ca	86.90	44	P		P	05 36 52.3	+0.3
	baz=316,SNR=7.3							
WMOK	Wichita Mounta	86.91	48	P		P	05 36 52.5	+0.4
	baz=315							
WMOK	Wichita Mounta	86.91	48	eP		P	05 36 52.6	+0.5
WMOK	Wichita Mounta	86.91	48	eP		P	05 36 52.6	+0.5
U35A	Pawnee	86.92	45	P		P	05 36 52.5	+0.4
	baz=316							
S37A	Fort Scott	86.97	43	P		P	05 36 52.2	-0.1
	baz=317,SNR=5.7							
Q39A	Willow Grove F	87.01	41	P		P	05 36 52.7	+0.3
	baz=318							
TUE	Stuetta	87.07	331	eP		P	05 36 53.3	+0.4
P40A	Paris	87.13	40	P		P	05 36 53.2	+0.2
	baz=319,SNR=6.6							
L44A	Lake County Fo	87.15	36	P		P	05 36 53.0	-0.1
	baz=321							
R38A	Fenwick Farm,	87.16	42	P		P	05 36 52.7	-0.5
	baz=318							
N42A	Yates City	87.16	38	P		P	05 36 53.5	+0.3
	baz=320							
M43A	Walthaon Townsh	87.22	37	P		P	05 36 53.7	+0.3
	baz=320							
O41A	Passleys Farm,	87.28	39	P		P	05 36 53.7	0.0
	baz=319,SNR=6.4							
V35A	Meyer Ranch, C	87.30	46	P		P	05 36 54.2	+0.3
	baz=316							
T37A	Cheneyville 18	87.39	44	P		P	05 36 54.4	+0.1
	baz=317							
U36A	Oologah	87.47	45	P		P	05 36 55.1	+0.4
	baz=316							
Q40A	Laux Farm, Aux	87.52	41	P		P	05 36 55.2	+0.3
	baz=319							
R39A	Chumby, Stover	87.52	42	P		P	05 36 54.5	-0.5
	baz=318							
P41A	Barry, Barry	87.53	40	P		P	05 36 55.1	+0.2
	baz=319,SNR=7.7							
S38A	Stockton	87.56	43	P		P	05 36 54.7	-0.5
	baz=318							
TX31	Lajitas Ar. Si	87.62	54	eP		P	05 36 56.1	+0.4
TXAR	Lajitas Array	87.62	54	P		P	05 36 56.1	+0.4
	comp=Z,4.7nm,1.0s,baz=301,slow=2.9,SNR=29							
M44A	Midewin, Midew	87.70	37	P		P	05 36 55.7	0.0
	baz=321							
W35A	Tecumseh	87.71	46	P		P	05 36 55.8	-0.1
	baz=316							
HDIL	Hopedale	87.74	38	P		P	05 36 55.7	-0.2
	baz=320							
HDIL	Hopedale	87.74	38	eP		P	05 36 55.7	-0.2
TUL1	Leonard	87.78	45	P		P	05 36 56.4	+0.1
	baz=316							
V36A	Jenks	87.79	45	P		P	05 36 56.5	+0.2
	baz=316							
T38A	Diamond	87.79	43	P		P	05 36 56.1	-0.2
	baz=317,SNR=5.7							
U37A	Salina	87.80	44	P		P	05 36 56.0	-0.4
	baz=317,SNR=5.6							
S39A	Bolivar	87.83	42	P		P	05 36 56.3	-0.2
	baz=318							
HPIG		87.91	57	eP		P	05 36 58.3	+1.0
R40A	Maddies Statio	87.94	41	P		P	05 36 56.7	-0.3
	baz=318							
P42A	Winchester	87.96	39	P		P	05 36 57.0	0.0
	baz=320,SNR=7.2							
Q41A	Truxton	87.98	40	P		P	05 36 57.1	0.0
	baz=319,SNR=5.3							
W36A	Wetumka	88.09	46	P		P	05 36 58.0	+0.2
	baz=316							
N44A	Piper City	88.11	37	P		P	05 36 57.8	+0.1
	baz=321							
V37A	Hulbert	88.17	45	P		P	05 36 58.4	+0.3
	baz=317,SNR=7.6							
U38A	Gravette	88.18	44	P		P	05 36 58.2	+0.1
	baz=317							
X35A	Drake	88.20	47	P		P	05 36 58.4	+0.1
	baz=316							
T39A	Clever	88.30	43	P		P	05 36 58.8	+0.1
	baz=318							
P43A	Skaggs, Pawnee	88.32	39	P		P	05 36 58.8	+0.1
	baz=320							
S40A	Lebanon	88.34	42	P		P	05 36 58.7	-0.2
	baz=318							
N45A	Kentland	88.37	37	P		P	05 36 59.3	+0.3
	baz=321							
Q42A	Golden Eagle	88.37	40	P		P	05 36 59.4	+0.4
	baz=320							
R41A	Rosebud	88.40	41	P		P	05 36 59.4	+0.3
	baz=319,SNR=6.0							
X36A	Centrahoma	88.43	46	P		P	05 36 59.4	0.0
	baz=316							
O44A	Mansfield	88.45	38	P		P	05 36 59.2	-0.2
	baz=321							
M46A	Old House Fiel	88.47	36	P		P	05 36 59.8	+0.3
	baz=322							
Y35A	Marietta	88.51	47	P		P	05 37 00.2	+0.4
	baz=316							
HHAR	Hobbs	88.54	44	eP		P	05 36 59.8	0.0
W37B	Quinton	88.54	45	P		P	05 37 00.3	+0.4
	baz=317							
V38A	Canehill	88.59	44	P		P	05 36 60.0	-0.1
	baz=317							
CCM	Cathedral Cave	88.65	41	eP		P	05 37 00.3	-0.1
CCM	Cathedral Cave	88.65	41	eP		P	05 37 00.3	-0.1
T40A	Mansfield	88.66	42	P		P	05 37 00.5	+0.1
	baz=318							
U39A	Green Forest	88.71	43	P		P	05 37 00.4	-0.3
	baz=318,SNR=8.2							
R42A	Luebbering	88.72	40	P		P	05 37 00.8	+0.1
	baz=319							
O45A	Potomac	88.73	37	P		P	05 37 00.8	+0.1
	baz=321							
S41A	Jillco Farms,	88.74	41	P		P	05 37 00.3	-0.5
	baz=319							
LPL	La Plagne	88.86	332	eP		P	05 37 02.2	+0.7
LPL				pmax		pmax		
	comp=Z,11nm,1.2s							
LPG	La Plagne	88.87	332	eP		P	05 37 01.6	0.0
LPG				pmax		pmax		
	comp=Z,22nm,1.6s							
P44A	Sand Creek, Wi	88.90	38	P		P	05 37 01.8	+0.3
	baz=321							
GRR	Gorron	88.92	338	eP		P	05 37 01.0	-0.4
GRR				pmax		pmax		
	comp=Z,30nm,1.2s							
SFIN	Lafayette	88.93	37	P		P	05 37 01.7	+0.1
	baz=322							
SMF	Signal de Mont	88.94	334	eP		P	05 37 01.2	-0.3
SMF				pmax		pmax		
	comp=Z,10.0nm,1.2s							
Y36A	Durant	88.95	47	P		P	05 37 01.9	0.0
	baz=316							
X37A	Clayton	88.97	46	P		P	05 37 02.1	+0.2
	baz=317							
AVF	Avril sur Loir	88.98	335	eP		P	05 37 01.5	-0.2
AVF				pmax		pmax		
	comp=Z,34nm,1.2s							
V39A	Pettigrew	89.02	44	P		P	05 37 02.1	-0.1
	baz=318,SNR=5.3							
U40A	Yellville	89.07	43	P		P	05 37 02.4	+0.1
	baz=318,SNR=10							
S42A	Caledonia	89.10	41	P		P	05 37 02.6	+0.1
	baz=319							
W38A	Poteau	89.11	45	P		P	05 37 02.7	+0.2
	baz=317							
FVM	French Village	89.13	40	eP		P	05 37 03.2	+0.6
FVM	French Village	89.13	40	eP		P	05 37 03.2	+0.6
Q44A	Meyer Farm, Va	89.14	39	P		P	05 37 02.6	0.0
	baz=320							
T41A	Mountain View	89.14	42	P		P	05 37 02.6	-0.1
	baz=319							
R43A	Red Bud	89.16	40	P		P	05 37 02.7	0.0
	baz=320							
X38A	Whitesboro	89.22	45	P		P	05 37 03.1	0.0
	baz=317							
JCT	Junction City	89.27	51	P		P	05 37 03.5	0.0
	baz=314							
Y37A	Hugo	89.28	46	P		P	05 37 03.4	0.0
	baz=317							
Z36A	Blue Ridge	89.32	47	P		P	05 37 03.5	0.0
	baz=316							
W39A	Magazine	89.42	44	P		P	05 37 04.0	+0.1
	baz=318							
P46A	Rosedale	89.47	37	P		P	05 37 03.8	-0.4
	baz=322							
O47A	Sheridan	89.48	36	P		P	05 37 03.7	-0.5
	baz=322							
V40A	Witts Springs	89.50	43	P		P	05 37 04.2	-0.3
	baz=318							
U41A	Viola	89.58	42	P		P	05 37 04.5	-0.2
	baz=319							
R44A	Waltonville	89.61	39	P		P	05 37 04.6	-0.3
	baz=320							
S43A	Fulton Ridge,	89.62	40	P		P	05 37 04.7	-0.2
	baz=320							
WHTX	Lake Whitney,	89.63	49	P		P	05 37 05.0	0.0
	baz=316							
ORIF	Oris-en-Rattie	89.69	332	eP		P	05 37 05.7	+0.5
ORIF				pmax		pmax		
	comp=Z,25nm,1.8s							
OLIL	Olney	89.73	39	eP		P	05 37 06.2	+0.9
X39A	Fountain Ranch	89.74	45	P		P	05 37 05.5	0.0
	baz=318							
W40A	Ferguson Farm,	89.82	44	P		P	05 37 05.9	+0.1
	baz=318							
Y38A	Idabel	89.82	46	P		P	05 37 06.0	+0.1
	baz=317							
136A	Ennis	89.83	48	P		P	05 37 06.1	+0.2
	baz=316							
V41A	Mountainview	89.87	43	P		P	05 37 05.9	-0.2
	baz=319							
T43A	Greenville	89.89	41	P		P	05 37 06.2	+0.1
	baz=320							
MIAR	Mount Ida	90.02	45	P		P	05 37 07.1	+0.3
	baz=318							
MIAR	Mount Ida	90.02	45	eP		P	05 37 07.1	+0.3
MIAR	Mount Ida	90.02	45	eP		P	05 37 07.1	+0.3
P47A	Martinsville	90.03	37	P		P	05 37 06.8	0.0
	baz=322							
PBMO	Poplar Bluff	90.04	41	eP		P	05 37 07.0	+0.1
Z38A	Mt. Pleasant	90.17	46	P		P	05 37 07.5	0.0
	baz=317							
WHAR	Wooly Hollow	90.17	43	eP		P	05 37 07.8	+0.2
Y39A	Lockesburg	90.17	45	P		P	05 37 07.6	+0.1
	baz=318							
VIVF	Saint-Julien-l	90.19	333	eP		P	05 37 07.3	-0.1
VIVF				pmax		pmax		
	comp=Z,4.0nm,0.9s							
V42A	Cord	90.27	42	P		P	05 37 07.8	-0.2
	baz=319							
W41B	Gary Mavity, V	90.28	43	P		P	05 37 07.9	-0.1
	baz=318							
S45A	Carrier Mills	90.30	39	P		P	05 37 08.1	+0.1
	baz=321							
U43A	Rector	90.36	41	P		P	05 37 08.6	+0.2
	baz=320							
X40A	Basin Creek Fa	90.47	44	P		P	05 37 09.1	+0.2
	baz=318							
PARMO	Parma	90.48	41	eP		P	05 37 10.1	+1.2
Y40A	Okolona	90.57	45	P		P	05 37 09.6	+0.2
	baz=318							
X41A	Kaden, Bauxite	90.64	44	P		P	05 37 09.9	+0.2
	baz=318							
V43A	Jonesboro	90.73	42	P		P	05 37 10.2	+0.1
	baz=320							
HBAR	Harrisburg	90.85	42	eP		P	05 37 12.1	+1.5
WLAR	White Oak Lake	90.91	45	eP		P	05 37 11.9	+1.0
Y41A	Eaglette Beard	91.04	44	P		P	05 37 11.9	+0.3
	baz=318							
CAF	Calviac	91.04	334	eP		P	05 37 11.8	+0.4
CAF				pmax		pmax		
	comp=Z,13nm,0.9s							
U45A	Rockin P Farm,	91.23	40	P		P	05 37 12.1	-0.3
	baz=321							
Z41A	Richland Creek	91.40	45	P		P	05 37 13.6	+0.4
	baz=318							
LFF	La Frestale	91.48	335	eP		P	05 37 13.5	+0.1
LFF				pmax		pmax		
	comp=Z,17nm,1.1s							
CCAR	Cane Creek	91.48	44	eP		P	05 37 15.2	+1.6
933A	Laredo	91.60	53	P		P	05 37 14.3	0.0
	baz=315							
N54A	Moraine State	91.66	32	P		P	05 37 14.0	-0.3
	baz=326							
438A	Sam Houston St	91.70	48	P		P	05 37 15.1	+0.5
	baz=317							
Y44A	Strider, Charl	92.30	43	P		P	05 37 17.8	+0.4
	baz=320							
Z43A	Armstrong Fami	92.30	44	P		P	05 37 17.9	+0.5
	baz=319							
034A	Hebbronville	92.36	53	P		P	05 37 18.1	+0.3
	baz=315							
X45A	UM Field Stati	92.38	42	P		P	05 37 17.5	-0.3
	baz=320							
Y45A	Yeager Farm, C	92.73	43	P		P	05 37 19.7	+0.3
	baz=320							
ZAIG	Zacatecas	92.78	58	eP		P	05 37 21.6	+1.4
Y46A	Houston	93.08	42	P		P	05 37 21.0	0.0
	baz=320							
035Z	Hargill	93.17	53	P		P	05 37 21.4	-0.1
	baz=315							
LNIG	Linares	93.37	55	eP		P	05 37 22.5	0.0
244A	Avery, Jackson	93.49	44	P		P	05 37 22.8	-0.1
	baz=319							
SJPF	Ste Jean	93.75	336	eP		P	05 37 22.4	-1.5
SJPF				pmax		pmax		
	comp=Z,9.0nm,1.2s							
146A	Union	93.93	43	P		P	05 37 25.7	+0.7
	baz=320							
ESDC	Sonseca Array	97.74	336	P		Pdif	05 37 42.3	0.0
	comp=Z,0.6nm,0.8s,baz=20,slow=2.3,SNR=3.8							
ESDC				LR		LR	06 27 12.2	
	comp=Z,182nm,19.6s,baz=230,slow=39							
TORD	Torodi Ar. Bea	118.59	318	PKP		PKPdf	05 42 54.3	-1.2
	comp=Z,1.1nm,0.7s,baz=28,slow=2.5,SNR=7.7							
TORD				PP		PP	05 44 11.8	-0.2
	comp=Z,1.1nm,0.9s,baz=42,slow=6.8,SNR=3.6							
TORD				PKKPab		PKKPab	05 53 22.4	+5.9
	comp=Z,1.1nm,0.8s,baz=219,slow=3.6,SNR=4.6							
DBIC	Dimbokro	127.46	321	PKP		PKPdf	05 43 12.3	-0.3
	comp=Z,6.8nm,1.1s,baz=48,slow=5.1,SNR=4.0							
BOSA	Boshof	129.25	262	PKP		PKPdf	05 43 15.9	+0.2
	comp=Z,2.1nm,0.8s,baz=90,slow=1.0,SNR=3.1							
PTGA	Pitinga	136.74	37	PKP		PKPdf	05 43 30.1	+0.1
	comp=Z,5.3nm,1.1s,baz=127,slow=3.4,SNR=5.8							
LPAZ	La Paz	144.08	62	PKP		PKPbc	05 43 42.1	+0.2
	comp=Z,2.6nm,0.7s,baz=288,slow=2.2,SNR=14							
LVC	Limon Verde	147.49	72	PKPbc		PKPbc	05 43 52.4	+0.5
	comp=Z,109nm,1.1s,baz=308,slow=5.0,SNR=6.6							
RCBR	Riachuelo	148.22	1	PKPbc		PKPbc	05 43 53.8	+0.2
	comp=Z,10nm,1.0s,baz=21,slow=3.8,SNR=4.1							
SIV	San Ignacio	148.61	53	PKPbc		PKPbc	05 43 54.5	-0.1
	comp=Z,22nm,0.9s,baz=316,slow=2.1,SNR=21							
PLCA	Paso Flores	152.68	107	PKPbc		PKPbc	05 44 02.9	-0.8
	comp=Z,1.6nm,0.9s,baz=253,slow=2.7,SNR=3.2							
PLCA				PKPab		PKPab	05 44 14.9	+0.5
	comp=Z,10nm,0.9s,baz=262,slow=5.2,SNR=12							
BDFB	Brasilia	155.29	30	PKPab		PKPab	05 44 26.2	+0.2
	comp=Z,6.5nm,1.0s,baz=18,slow=6.4,SNR=5.9							
CPUP	Villa Florida	158.21	65	PKPab		PKPab	05 44 38.0	-0.3
	comp=Z,3.1nm,1.0s,baz=315,slow=2.9,SNR=3.6							
CPUP	Villa Florida	158.21	65	PKP2		PKPab	05 44 38.0	-0.3

*ISCJB **30** 05:35:09.0±0.5, 37°.63N±0°.04×72°.34E±0°.07, h176km, mb3.8/3, Error ellipse: s-maj=8.7km s-min=4.4km az=147.6*

*NNC **30** 05:35:14.5±3.2, 37°.97N×72°.13E, h170km±33km, mb3.1, mpv4.0, Error ellipse: s-maj=34.4km s-min=12.5km az=146.0*

*IDC **30** 05:35:21.1±2.6, 38°.61N×72°.13E, h189km±25km, mb3.6/3, mb1 3.2/10, mb1mx2.9/82, mbtmp3.8/10, MS2.9/1, Ms1 2.9/1, ms1m

23nm,0.3s,baz=172,slow=24,SNR=4.9
TKM2 Tokmak 2 5.82 24 ⇑P **Pn 05 36 35.8 +1.9**
4.2nm,0.5s
TKM2 ⇑S Sn 05 37 37.6 -3.0
1.7nm,0.5s
GEYT Alibeck 11.30 276 P **P 05 37 54.7 +2.3**
0.7nm,0.3s,baz=94,slow=15,SNR=3.7
MKAR Makanchi Array 11.73 36 P **Pn 05 37 52.6 +1.6**
0.1nm,0.3s,baz=216,slow=14,SNR=4.0
PYUN Piuthan 13.02 134 *e*P **Pn 05 38 06.7 -1.2**
17nm,0.4s
KOLN Koldanda 13.62 133 *e*P **Pn 05 38 15.0 -0.4**
5.2nm,0.3s
KOLN *e*S **Sn 05 40 40.1 -7.0**
KURBB Kurchatov Arra 13.71 17 P **Pn 05 38 15.8 -0.2**
0.0nm,0.3s,baz=204,slow=13,SNR=3.5
GKN Gorkha 14.07 129 *e*P **Pn 05 38 20.9 -0.1**
9.0nm,0.3s
KKN Kakani 14.62 128 *e*P **Pn 05 38 27.8 -0.1**
AB31 Akbulak array 14.69 326 P **P 05 38 29.9 0.0**
1.1nm,0.5s,baz=0.2,slow=14,SNR=22
AB31 ⇑S **Sn 05 41 03.1 -8.9**
1.4nm,0.5s,baz=137,slow=24,SNR=16
PKI Pulchoki 14.86 129 *e*P **P 05 38 32.0 -0.3**
GUN Gumba 14.91 127 *e*P **P 05 38 32.0 -0.9**
11nm,0.3s
JIRN Jiri 15.29 127 *e*P **P 05 38 37.6 +0.5**
173nm,0.4s
BVAR Borovoye Array 15.46 355 P **P 05 38 38.4 +0.1**
0.1nm,0.3s,baz=171,slow=12,SNR=2.3
RAMN Ramite 16.04 128 *e*P **P 05 38 47.2 +1.9**
9.0nm,0.3s
AKTO Aktyubinsk 16.41 326 P **Pn 05 38 48.9 -0.4**
0.2nm,0.3s,baz=131,slow=12,SNR=3.7
AKTO S **S 05 41 45.3 -5.1**
0.1nm,0.3s,baz=135,slow=22,SNR=3.0
AKTO Aktyubinsk 16.41 326 ⇑P **Pn 05 38 50.8 +1.6**
2.7nm,0.8s
ODAN Odare 16.61 126 *e*P **Pn 05 38 54.4 +2.3**
ZALV Zalesovo Beam 18.43 24 P **Pn 05 39 13.9 +0.7**
0.4nm,0.3s,baz=214,slow=11,SNR=6.3
ARCES ARCESS Array B 40.53 337 P **P 05 42 32.9 +2.4**
1.4nm,0.8s,baz=114,slow=9.0,SNR=6.8
HFS Hagfors 42.87 321 P **P 05 42 52.9 +3.3**
2.2nm,0.9s,baz=84,slow=13,SNR=3.7
KLR Kul'dur 43.59 55 LR LR 06 02 44.2
comp=Z,17nm,20.6s,baz=358,slow=38
FITZ Fitzroy Crossi 74.69 128 P P 05 46 44.8 +15
3.0nm,0.8s,baz=349,slow=5.2,SNR=4.8

IDC 30 05:36:28.7±2.8, 5°28S×131°13E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/47, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=120.7km s-min=30.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** baz=32,slow=12	**13.83**	**202**	Pn	Pn	05 39 45.5	-0.7
FITZ				Sn	Sn	05 42 14.9	-5.7
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=351,slow=13,SNR=18	**14.91**	**168**	Pn	Pn	05 39 59.5	-1.4
WRA				Sn	Sn	05 42 41.8	-5.2
ASAR	**Alice Springs** 0.6nm,0.3s,baz=349,slow=11,SNR=36	**18.48**	**172**	P	Pn	05 40 47.2	+0.7
ASAR				S	Sn	05 44 08.6	-5.1
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=108,slow=9.4,SNR=2.3	**67.42**	**326**	P	P	05 47 26.2	0.0

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*ISCJB **30** 05:45:24.0±0.7, 38°78N±0°04×43°61E±0°07, h13km, Error ellipse: s-maj=8.0km s-min=5.0km az=18.1*
*DDA **30** 05:45:23.5, 38°78N×43°65E, h7km, Ml2.8*
*ISK **30** 05:45:23.6, 38°78N×43°59E, h14km, MD2.7*
*CSEM **30** 05:45:23.6±0.3, 38°78N×43°62E, h10km, ML2.8, Error ellipse: s-maj=6.7km s-min=4.3km az=113.0*
ISC 30 05:45:23.8±1.0, 38°78N±0°03×43°63E±0°04, h13km, n28, σ0§42/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**349**	*i* P	**Pg**	**05 45 28.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.21**	**349**	P	**Pg**	**05 45 28.1**	**-0.5**
VANB	**Van**	**0.26**	**225**	*e*PG	**Pb**	**05 45 30.4**	**0.0**
VANB	**Van**	**0.26**	**225**	*e*Pg	**Pb**	**05 45 30.4**	**0.0**
TVAN	**Van**	**0.31**	**214**	*i* P	**Pg**	**05 45 30.4**	**+0.2**
TVAN	**Van**	**0.31**	**214**	P	**Pg**	**05 45 30.4**	**+0.2**
ERCV	**ERCIS-VAN**	**0.33**	**317**	*e*PG	**Pg**	**05 45 30.6**	**+0.1**
ERCV	**ERCIS-VAN**	**0.33**	**317**	*e*Pg	**Pg**	**05 45 30.6**	**+0.1**
CLDR	**Caldiran**	**0.43**	**32**	*e*PG	**Pg**	**05 45 32.6**	**+0.3**
CLDR				*e*SG	**Sb**	**05 45 39.7**	**-0.1**
CLDR	**Caldiran**	**0.43**	**32**	*i* P	**Pg**	**05 45 32.2**	**-0.1**
CLDR	**Caldiran**	**0.43**	**32**	P	**Pg**	**05 45 32.2**	**-0.1**
CLDR	**Caldiran**	**0.43**	**32**	*e*Pg	**Pg**	**05 45 32.6**	**+0.3**
CLDR				*e*Sg	**Sb**	**05 45 39.7**	**-0.1**
GEVA	**Gevas**	**0.65**	**224**	*i* P	**Pg**	**05 45 35.5**	**-0.9**
GEVA	**Gevas**	**0.65**	**224**	P	**Pg**	**05 45 35.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.70**	**272**	*i* P	**Pg**	**05 45 37.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.70**	**272**	P	**Pg**	**05 45 37.8**	**+0.3**
TUTA	**Tutak**	**0.88**	**315**	*i* P	**Pg**	**05 45 40.1**	**-0.8**
TUTA	**Tutak**	**0.88**	**315**	P	**Pg**	**05 45 40.1**	**-0.8**
AGRB	**Hanur-Agry**	**0.93**	**328**	*e*PG	**Pg**	**05 45 41.4**	**-0.4**
AGRB				*e*SG	**Sb**	**05 45 54.8**	**+0.5**
AGRB	**Hanur-Agry**	**0.93**	**328**	*e*Pg	**Pg**	**05 45 41.4**	**-0.4**
AGRB				*e*Sg	**Sb**	**05 45 54.8**	**+0.5**
GURO	**Guroymak-BITLI**	**1.27**	**260**	*e*PN	**Pn**	**05 45 47.1**	**-0.2**
GURO	**Guroymak-BITLI**	**1.27**	**260**	*e*Pn	**Pn**	**05 45 47.1**	**-0.2**
EKAR	**Karacoban**	**1.30**	**292**	*i* P	**Pg**	**05 45 49.2**	**+0.3**
EKAR	**Karacoban**	**1.30**	**292**	P	**Pg**	**05 45 49.2**	**+0.3**
EATA	**Eleskirt**	**1.39**	**321**	*i* P	**Pb**	**05 45 49.9**	**+0.1**
EATA	**Eleskirt**	**1.39**	**321**	P	**Pb**	**05 45 49.9**	**+0.1**
CUKT	**Cukurca**	**1.53**	**181**	*e*PN	**Pn**	**05 45 51.1**	**+0.2**
CUKT	**Cukurca**	**1.53**	**181**	*e*Pn	**Pn**	**05 45 51.1**	**+0.2**

MAN 30 05:46:35, 13°28N×120°48E, h8km, mb4.2, ML3.0, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.50**	**333**	*e*P	Pg	05 46 45.3	+0.5
LUBP				*e*S	Sn	05 46 57.8	+0.5
PGP	**Puerto Galera**	**0.51**	**65**	⇓*i*P	Pb	05 46 46.0	-0.3
PGP				*e*S	Sn	05 46 58.3	+0.7
SJMP	**San Jose**	**1.03**	**142**	*e*P	Pg	05 46 50.9	-3.9
SJMP				*e*S	Sg	05 46 55.5	-13
BUSP	**Coron**	**1.30**	**192**	*e*P	Pn	05 46 59.4	0.0
BUSP				*e*S	Sb	05 47 09.6	-7.0

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*ISCJB **30** 05:48:57.4±0.5, 17°11S±0°09×178°41W±0°09, h550km, mb4.4/23, Error ellipse: s-maj=12.0km s-min=10.5km az=139.6*
*NEIC **30** 05:48:57.3±0.4, 17°04S×178°31W, h549km±6km, mb4.6/10, Error ellipse: s-maj=11.1km s-min=9.4km az=154.0*
*IDC **30** 05:48:60.0±2.1, 17°47S×178°52W, h539km±25km, mb3.5/8, mb1 3.7/9, mb1mx3.2/41, mbtmp4.4/9, Error ellipse: s-maj=52.8km s-min=12.5km az=155.0*
ISC 30 05:48:58.8±0.6, 17°15S±0°10×178°43W±0°09, h550km, n41, σ1§77/44, mb4.5/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**260**	*e*P	**P**	**05 50 17.2**	**+0.6**
AFI	**Afiamalu**	**7.18**	**64**	*e*P	**P**	**05 50 46.2**	**-2.4**
FUNA	**Funafuti**	**8.88**	**345**	*e*P	**P**	**05 51 02.8**	**-2.7**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=79,slow=19,SNR=6.7	**15.06**	**249**	P	**P**	**05 52 07.1**	**-2.0**
DZM	**Mont Dzumac** 14nm,0.9s	**15.06**	**249**	*e*P	**P**	**05 52 08.5**	**-0.5**
OUZ	**Omahuta** 164nm,2.0s	**19.35**	**200**	*e*P	**P**	**05 52 48.6**	**-0.2**
URZ	**Urewera** 18nm,1.2s	**21.39**	**190**	*e*P	**P**	**05 53 07.0**	**-0.3**
EIDS	**Eidsvold** 12nm,0.8s	**29.51**	**249**	*e*P	**P**	**05 54 18.7**	**-0.4**
WKZ	**Wanaka** 217nm,2.0s	**29.54**	**198**	*e*P	**P**	**05 54 19.3**	**+0.2**
ARMA	**Armidale** 17nm,0.6s	**30.31**	**239**	*e*P	**P**	**05 54 25.8**	**-0.3**
CTA	**Charters Tower**	**33.56**	**259**	P	**P**	**05 54 53.9**	**+0.2**
CTAO	**Charters Tower** 12nm,0.9s	**33.56**	**259**	*e*P	**P**	**05 54 53.1**	**-0.6**
PMG	**Port Moresby** 26nm,0.8s,baz=114,slow=4.0,SNR=4.5	**34.32**	**279**	P	**P**	**05 55 03.2**	**+3.0**
STKA	**Stephens Creek** 11nm,0.4s,baz=86,slow=9.8,SNR=50	**38.98**	**240**	P	**P**	**05 55 38.7**	**+0.5**
STKA	**Stephens Creek** 2.7nm,0.6s	**38.98**	**240**	*e*P	**P**	**05 55 38.4**	**+0.2**
BBOO	**Buckleboo** 33nm,0.8s	**43.76**	**240**	*e*P	**P**	**05 56 15.6**	**-0.4**
WB2	**Warramunga Arr** 9.2nm,0.6s	**44.74**	**259**	*e*P	**P**	**05 56 23.5**	**-0.3**
WRAB	**Tennant Creek** 3.5nm,0.4s	**44.74**	**259**	*e*P	**P**	**05 56 23.5**	**-0.3**
WRA	**Warramunga Arr** 6.2nm,0.6s,baz=96,slow=7.0,SNR=59	**44.75**	**259**	P	**P**	**05 56 23.6**	**-0.3**
WRA				S	**S**	**06 02 23.6**	**+2.4**
AS31	**Alice Springs** 18nm,0.6s	**44.98**	**254**	*e*P	**P**	**05 56 25.8**	**+0.1**
ASAR	**Alice Springs** 62nm,0.5s,baz=88,slow=8.2,SNR=738	**44.98**	**254**	P	**P**	**05 56 26.0**	**+0.4**
ASAR				S	**S**	**06 02 23.1**	**-1.4**
FITZ	**Fitzroy Crossi** 2.9nm,0.3s,baz=103,slow=5.9,SNR=14	**53.13**	**260**	P	**P**	**05 57 27.0**	**+1.2**
MBWA	**Marble Bar** 23nm,0.3s	**58.24**	**255**	*e*P	**P**	**05 58 01.0**	**-0.2**
QSPA	**South Pole Qui** 19nm,1.8s	**72.90**	**180**	*e*P	**P**	**05 59 31.6**	**-0.4**
NJ2	**Nanjing**	**77.44**	**309**	*e*P	**P**	**05 59 55.8**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
BJI	**Beijing**	**83.23**	**315**	P	**P**	**06 00 27.0**	**-0.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=228,slow=5.6,SNR=5.1	**85.16**	**13**	P	**P**	**06 00 38.6**	**+1.9**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=212,slow=6.1,SNR=8.8	**85.61**	**58**	P	**P**	**06 00 43.9**	**+4.1**
HHC	**Hu-ho-hao-te**	**86.73**	**314**	*e*P	**P**	**06 00 45.3**	**+0.4**
HHC				pP	pP	06 02 39.5	-5.2
HHC				sP	sP	06 03 37.5	-2.7
HHC				S	**S**	**06 10 35.0**	**-1.7**
HHC	**Hu-ho-hao-te**	**86.73**	**314**	SS	SS	06 16 38.8	+3.4
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,86nm,8.1s						
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=230,slow=5.6,SNR=2.7	**86.82**	**43**	P	**P**	**06 00 48.4**	**+3.0**
KMI	**Kunming**	**87.47**	**297**	P	**P**	**06 00 48.0**	**-0.8**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
SNAA	**Sanae**	**91.35**	**179**	P	**P**	**06 01 02.8**	**-3.0**
VNA3	**Neumayer Olymp**	**91.49**	**176**	P	**P**	**06 01 06.3**	**-0.1**
VNA2	**Neumayer--Watz**	**91.93**	**177**	P	**P**	**06 01 08.7**	**+0.3**
VNA1	**Neumayer--Stat**	**92.16**	**177**	P	**P**	**06 01 10.0**	**+0.6**
NNA	**Nana**	**97.32**	**105**	*e*pP	pP	06 03 32.4	-3.0
KSH	**Kashi**	**112.62**	**306**	*e*PKP	**PKiKP**	**06 06 29.8**	**-3.5**
KSH				PP	**PP**	**06 07 34.3**	**+3.2**
KSH				sPKP		06 09 29.3	
KSH				PKS	**PKSdf**	**06 10 06.8**	**-3.3**
KSH				SKKS		06 13 32.8	
KSH				SKS		06 15 52.0	
KSH				AMB	AMB		
	comp=Z,120nm,7.1s						
KSH				LR	LR		
	comp=N,150nm,8.0s						
KSH				LR	LR		
	comp=E,110nm,8.0s						
KSH				LR	LR		
	comp=Z,110nm,8.9s						
BRTR	**Keskin Array B** comp=Z,0.5nm,0.6s,baz=26,slow=3.7,SNR=2.5	**144.23**	**316**	PKP	**PKPdf**	**06 07 35.2**	**+2.5**
GERES	**GERESS Array B** comp=Z,0.2nm,0.6s,baz=90,slow=0.3,SNR=2.9	**146.88**	**345**	PKPbc	**PKPab**	**06 07 42.4**	**-0.4**
CMLA	**Cha da Macela** 1.31 ± 0.7	**148.57**	**44**	*e*PKPbc	**PKPbc**	**06 07 42.5**	**-1.8**

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*IDC **30** 05:49:25.4±1.6, 5°51N×125°76E, h172km±14km, mb3.4/8, mb1 3.6/8, mb1mx3.2/39, mbtmp3.9/8, Error ellipse: s-maj=54.4km s-min=15.7km az=72.0*
ISC 30 05:49:28.4±0.9, 5°8N±0°2×125°9E±0°4, h200km, n10, σ3§50/14, mb3.6/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)** 47nm,0.3s,baz=192,slow=19,SNR=2.9	**1.30**	**345**	P	**Pn**	**05 49 57.9**	**-2.5**
DAV				S	**Sn**	**05 50 18.0**	**-7.4**
	87nm,0.3s,baz=142,slow=22,SNR=8.6						
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=345,slow=10,SNR=2.1	**26.90**	**162**	P	**P**	**05 54 46.6**	**-4.4**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=346,slow=7.5,SNR=7.7	**30.32**	**165**	P	**P**	**05 55 20.0**	**-1.3**
SONM	**Songino Array** 0.5nm,0.6s,baz=168,slow=7.4,SNR=3.3	**45.08**	**341**	P	**P**	**05 57 26.8**	**+2.1**
SONM				PcP	**PcP**	**05 59 03.4**	**+1.6**
	0.5nm,0.5s,baz=116,slow=3.4,SNR=3.6						
PETK	**Petropavlovsk-** 2.2nm,0.6s,baz=205,slow=5.7,SNR=2.6	**53.84**	**23**	P	**P**	**05 58 32.7**	**+2.2**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=117,slow=7.5,SNR=12	**55.40**	**325**	P	**P**	**05 58 43.3**	**+1.3**
MKAR				PcP	**PcP**	**05 59 40.1**	**+0.3**
	0.3nm,0.5s,baz=106,slow=4.2,SNR=2.2						
MKAR				ScP	**ScP**	**06 03 25.7**	**+6.1**
	1.0nm,0.9s,baz=107,slow=4.8,SNR=3.6						
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=123,slow=6.0,SNR=2.5	**58.38**	**333**	P	**P**	**05 59 02.5**	**-0.2**
ARCES	**ARCESS Array B** 1.5nm,0.7s,baz=82,slow=6.5,SNR=7.5	**88.23**	**340**	P	**P**	**06 01 57.3**	**+0.7**
FINES	**FINESS Array B** 2.1nm,0.8s,baz=30,slow=5.0,SNR=7.9	**89.63**	**332**	P	**P**	**06 02 03.3**	**+0.1**
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=36,slow=2.8,SNR=7.3	**121.49**	**289**	PKP	**PKPdf**	**06 07 59.1**	**+0.1**

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*ISCJB **30** 05:49:37.4±0.6, 38°66N±0°05×43°11E±0°04, h15km, Error ellipse: s-maj=7.1km s-min=4.7km az=3.3*
*CSEM **30** 05:49:37.1±0.3, 38°65N×43°12E, h15km, ML2.7, Error ellipse: s-maj=7.7km s-min=6.0km az=172.0*
*DDA **30** 05:49:37.1, 38°67N×43°18E, h7km, Ml2.7*
*ISK **30** 05:49:37.4, 38°66N×43°11E, h6km, MD2.6*
ISC 30 05:49:37.5±0.9, 38°65N±0°03×43°14E±0°02, h15km, n22, σ0§69/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**106**	*e*PG	**Pb**	**05 49 43.5**	**+0.4**
VANB				*e*SG	**Sb**	**05 49 47.8**	**+1.0**
VANB	**Van**	**0.21**	**106**	*e*Pg	**Pb**	**05 49 43.5**	**+0.4**
VANB				*e*Sg	**Sb**	**05 49 47.8**	**+1.0**
TVAN	**Van**	**0.25**	**120**	*i* P	**Pg**	**05 49 41.8**	**-1.3**
TVAN	**Van**	**0.25**	**120**	P	**Pg**	**05 49 41.8**	**-1.3**
GEVA	**Gevas**	**0.35**	**190**	*i* P	**Pg**	**05 49 44.6**	**-0.1**
GEVA	**Gevas**	**0.35**	**190**	P	**Pg**	**05 49 44.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.36**	**296**	*i* P	**Pg**	**05 49 45.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.36**	**296**	P	**Pg**	**05 49 45.0**	**+0.1**
VMUR	**Van-Muradiye**	**0.48**	**45**	*i* P	**Pg**	**05 49 46.2**	**-0.9**
VMUR	**Van-Muradiye**	**0.48**	**45**	P	**Pg**	**05 49 46.2**	**-0.9**
TATV	**Tatvan**	**0.69**	**258**	*i* P	**Pg**	**05 49 50.0**	**-1.1**
TATV	**Tatvan**	**0.69**	**258**	P	**Pg**	**05 49 50.0**	**-1.1**
CLDR	**Caldiran**	**0.78**	**51**	*e*PG	**Pb**	**05 49 53.3**	**+0.3**
CLDR	**Caldiran**	**0.78**	**51**	*e*Pg	**Pb**	**05 49 53.3**	**+0.3**
TUTA	**Tutak**	**0.79**	**342**	*i* P	**Pg**	**05 49 52.5**	**-0.4**
TUTA	**Tutak**	**0.79**	**342**	P	**Pg**	**05 49 52.5**	**-0.4**
GURO	**Guroymak-BITLI**	**0.87**	**264**	*e*PG	**Pb**	**05 49 54.1**	**-0.2**
GURO				*e*SG	**Sb**	**05 50 06.4**	**+0.5**
GURO	**Guroymak-BITLI**	**0.87**	**264**	*e*Pg	**Pb**	**05 49 54.2**	**-0.2**
GURO				*e*Sg	**Sb**	**05 50 06.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*PG	**Pb**	**05 49 55.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*Pg	**Pb**	**05 49 55.4**	**-0.1**
EATA	**Eleskirt**	**1.31**	**338**	*i* P	**Pn**	**05 50 01.6**	**+0.1**
EATA	**Eleskirt**	**1.31**	**338**	P	**Pn**	**05 50 01.6**	**+0.1**

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*THE **30** 05:53:11.7, 41°63N×24°60E, h3km±1km, ML2.7/10, Error ellipse: s-maj=1.3km s-min=0.4km az=187.0*
*CSEM **30** 05:53:11.7±0.2, 41°65N×24°58E, h2km, ML2.8, Error ellipse: s-maj=3.6km s-min=3.0km az=84.0*
*ATH **30** 05:53:11.3, 41°64N×24°61E, h18km±1km, ML2.6/12, Error ellipse: s-maj=1.9km s-min=0.8km az=187.0*
*SOF **30** 05:53:11.2, 41°65N×24°60E, h7km, MD2.7*
*BEO **30** 05:53:12.8±0.7, 41°71N×24°61E, h10km±3km, M2.8/9*
ISC 30 05:53:11.6±0.9, 41°65N±0°01×24°60E±0°02, h8km±8km, n94, σ1§10/142, 12C-3D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.10**	**64**	*i* P	**Pg**	**05 53 14.1**	**-0.1**
PLD	**Plovdiv**	**0.47**	**10**	*e*Pg	**Pg**	**05 53 20.3**	**-0.4**
PLD				*e*Sg	**Sg**	**05 53 26.8**	**0.0**
PLD	**Plovdiv**	**0.47**	**10**	*i* P	**Pg**	**05 53 21.1**	**+0.4**
PLD	**Plovdiv**	**0.47**	**10**	*e*Pg	**Pg**	**05 53 20.3**	**-0.4**
PLD				*e*Sg	**Sg**	**05 53 26.8**	**0.0**
KDZ	**Kurdzhali**	**0.61**	**89**	*i* P	**Pg**	**05 53 22.2**	**-1.3**
NVR	**Nevrokopi**	**0.63**	**242**	P	**Pg**	**05 53 23.5**	**-0.2**
NVR				S	**Sg**	**05 53 32.1**	**+0.1**
NVR	**Nevrokopi**	**0.63**	**242**	P	**Pg**	**05 53 23.3**	**-0.4**
NVR				S	**Sg**	**05 53 32.1**	**+0.1**
NVR				AML	AML	05 53 32.6	
	comp=E,523μm,0.1s						
NVR				AML	AML	05 53 32.6	
	comp=N,866μm,0.2s						
NVR	**Nevrokopi**	**0.63**	**242**	P	**Pg**	**05 53 23.5**	**-0.2**
NVR				S	**Sg**	**05 53 32.1**	**+0.1**
KAVA	**Kavala**	**0.65**	**186**	P	**Pg**	**05 53 24.0**	**-0.1**
KAVA				S	**Sg**	**05 53 33.5**	**+0.8**
KAVA	**Kavala**	**0.65**	**186**	P	**Pg**	**05 53 24.1**	**-0.1**
KAVA				S	**Sb**	**05 53 33.9**	**-0.5**
KAVA				AML	AML	05 53 39.2	
	comp=E,537μm,0.2s						
KAVA				AML	AML	05 53 39.7	
	comp=N,866μm,0.3s						
KAVA	**Kavala**	**0.65**	**186**	P	**Pg**	**05 53 24.1**	**-0.1**
KAVA				S	**Sg**	**05 53 33.5**	**+0.8**
MMB	**Musomiste**	**0.66**	**265**	*i* P	**Pg**	**05 53 24.0**	**-0.3**
RDO	**Rodhopi**	**0.86**	**125**	P	**Pg**	**05 53 27.9**	**-0.3**
RDO				S	**Sg**	**05 53 39.6**	**+0.1**
RDO	**Rodhopi**	**0.86**	**125**	P	**Pg**	**05 53 28.2**	**-0.1**
RDO				S	**Sg**	**05 53 39.2**	**-0.2**
RDO				AML	AML	05 53 41.7	
	comp=N,1220μm,0.2s						
RDO				AML	AML	05 53 42.0	
	comp=E,1170μm,0.2s						
RDO	**Rodhopi**	**0.86**	**125**	P	**Pg**	**05 53 27.9**	**-0.3**
RDO				S	**Sg**	**05 53 39.2**	**-0.2**
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**05 53 29.2**	**-0.1**
SRS				S	**Sb**	**05 53 42.0**	**-0.3**
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**05 53 29.3**	**-0.1**
SRS				S	**Sb**	**05 53 42.1**	**-0.3**
SRS				AML	AML	05 53 43.1	
	comp=N,488μm,0.2s						
SRS				AML	AML	05 53 43.7	
	comp=E,802μm,0.2s						
SRS	**Serrai**	**0.92**	**235**	P	**Pg**	**05 53 29.3**	**-0.1**
SRS				S	**Sb**	**05 53 42.0**	**-0.3**
KKB	**Krupnik**	**1.16**	**282**	*i* P	**Pg**	**05 53 32.8**	**-1.0**
SOH	**Sokhos**	**1.25**	**229**	P	**Pn**	**05 53 34.8**	**-0.6**
SOH				S	**Sg**	**05 53 52.2**	**+0.4**
SOH	**Sokhos**	**1.25**	**229**	P	**Pn**	**05 53 35.2**	**-0.2**
SOH				S	**Sn**	**05 53 52.4**	**-0.1**
SOH				AML	AML	05 53 55.3	
	comp=E,678μm,0.4s						
SOH				AML	AML	05 53 56.4	
	comp=N,1152μm,0.5s						
SOH	**Sokhos**	**1.25**	**229**	P	**Pn**	**05 53 35.2**	**-0.2**
SOH				S	**Sg**	**05 53 52.2**	**+0.4**
KNT	**Kendrikon**	**1.37**	**250**	P	**Pb**	**05 53 37.4**	**-0.1**
KNT				S	**Sg**	**05 53 56.1**	**+0.5**
KNT	**Kendrikon**	**1.37**	**250**	P	**Pg**	**05 53 37.9**	**+0.1**
KNT				S	**Sg**	**05 53 55.9**	**+0.3**
KNT				AML	AML	05 53 59.1	
	comp=E,599μm,0.2s						
KNT				AML	AML	05 53 59.6	
	comp=N,644μm,0.3s						
KNT	**Kendrikon**	**1.37**	**250**	P	**Pb**	**05 53 37.4**	**-0.1**
KNT				S	**Sg**	**05 53 55.9**	**+0.3**
SMTH	**Samothraki Isl**	**1.37**	**149**	P	**Pn**	**05 53 37.0**	**0.0**
SMTH				S	**Sg**	**05 53 56.0**	**+0.4**
SMTH	**Samothraki Isl**	**1.37**	**149**	P	**Pn**	**05 53 37.2**	**+0.2**
SMTH				S	**Sg**	**05 53 56.1**	**+0.4**
SMTH				AML	AML	05 53 58.1	
	comp=N,265μm,0.5s						
SMTH				AML	AML	05 53 58.3	
	comp=E,199μm,0.3s						
SMTH	**Samothraki Isl**	**1.37**	**149**	P	**Pn**	**05 53 37.2**	**+0.2**
SMTH				S	**Sg**	**05 53 56.0**	**+0.4**
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**05 53 37.2**	**-0.1**
OUR				S	**Sg**	**05 53 56.4**	**+0.1**
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**05 53 37.2**	**-0.1**
OUR				S	**Sg**	**05 53 56.7**	**+0.4**
OUR				AML	AML	05 53 60.0	
	comp=E,626μm,0.3s						
OUR				AML	AML	05 54 00.6	
	comp=N,350μm,0.3s						
OUR	**Ouranopolis**	**1.39**	**200**	P	**Pn**	**05 53 37.2**	**-0.1**
OUR				S	**Sg**	**05 53 56.4**	**+0.1**
VTS	**Vitosha**	**1.40**	**313**	*e*Pg	**Pn**	**05 53 37.3**	**-0.3**
VTS				*e*Sn	**Sb**	**05 53 56.1**	**-0.1**
VTS	**Vitosha**	**1.40**	**313**	⇑*i*P	Pg	05 53 50.8	+12
VTS				S	**Sg**	**05 53 58.4**	**+1.7**
VTS	**Vitosha**	**1.40**	**313**	*e*Pg	**Pn**	**05 53 37.3**	**-0.3**
VTS				*e*Sn	**Sb**	**05 53 56.1**	**-0.1**
VTS				S	**Sg**	**05 53 58.4**	**+1.7**
ENEZ	**Enez**	**1.48**	**127**	P	**Pn**	**05 53 38.4**	**-0.2**
ENEZ				S	**Sb**	**05 53 58.7**	**+0.3**
ENEZ	**Enez**	**1.48**	**127**	P	**Pn**	**05 53 38.4**	**-0.2**
ENEZ				S	**Sb**	**05 53 58.7**	**+0.3**
PLG	**Polygyros**	**1.54**	**215**	P	**Pn**	**05 53 38.8**	**-0.6**
PLG				S	**Sb**	**05 54 00.4**	**+0.3**
PLG	**Polygyros**	**1.54**	**215**	P	**Pb**	**05 53 40.0**	**-0.4**
PLG				S	**Sb**	**05 54 00.7**	**+0.6**
PLG				AML	AML	05 54 03.1	
	comp=N,408μm,0.3s						
PLG				AML	AML	05 54 03.6	
	com

BARS	**Barje**	**2.38**	**300**	*e*Sg	**Sg**	**05 54 27.0**	**-0.9**
KRUS	**Krusevo**	**2.53**	**265**	*i* Pn	**Pn**	**05 53 54.0**	**+0.9**
KRUS	**Krusevo**	**2.53**	**265**	*i* Pn	**Pn**	**05 53 54.0**	**+0.9**
ZAGS	**Zajecar**	**2.78**	**322**	*e*Pn	**Pn**	**05 53 57.0**	**+0.6**
ZAGS				*e*Sg	**Sg**	**05 54 40.0**	**-0.9**
ZAGS	**Zajecar**	**2.78**	**322**	*e*Pn	**Pn**	**05 53 57.0**	**+0.6**
ZAGS				*e*Sg	**Sg**	**05 54 40.0**	**-0.9**
BOVS	**Bovan**	**2.92**	**314**	*e*Pn	**Pn**	**05 53 59.1**	**+0.8**
BOVS	**Bovan**	**2.92**	**314**	*e*Pn	**Pn**	**05 53 59.1**	**+0.8**
SRE	**Strehaia**	**3.18**	**342**	⇑*i*P	**Pb**	**05 54 08.8**	**+0.4**
SRE	**Strehaia**	**3.18**	**342**	S	**Sg**	**05 54 56.0**	**+2.1**
KUBS	**Kucevo**	**3.50**	**323**	*e*Pn	**Pn**	**05 54 05.4**	**-0.9**
KUBS	**Kucevo**	**3.50**	**323**	*e*Pn	**Pn**	**05 54 05.4**	**-0.9**
GRUS	**Gruza**	**3.63**	**309**	*e*Pn	**Pn**	**05 54 08.3**	**+0.1**
GRUS	**Gruza**	**3.63**	**309**	*e*Pn	**Pn**	**05 54 08.3**	**+0.1**
VOIR		**3.81**	**5**	⇑*i*P	**Pg**	**05 54 25.9**	**+1.4**
VOIR		**3.81**	**5**	S	**Sg**	**05 55 13.2**	**-0.6**
IVAS	**Ivanjica**	**3.81**	**302**	*e*Pn	**Pn**	**05 54 09.9**	**-0.7**
IVAS	**Ivanjica**	**3.81**	**302**	*e*Pn	**Pn**	**05 54 09.9**	**-0.7**
TLB	**Topalu**	**3.87**	**39**	⇑*i*P	**Pb**	**05 54 21.0**	**+0.9**
TLB	**Topalu**	**3.87**	**39**	S	**Sg**	**05 55 13.7**	**-2.2**
MLR	**Muntele Rosu**	**3.97**	**14**	⇑*i*P	**Pn**	**05 54 15.1**	**+2.2**
MLR	**Muntele Rosu**	**3.97**	**14**	⇑*i*P	**Pn**	**05 54 15.1**	**+2.2**
DIVS	**Divibare**	**4.18**	**307**	*e*Pn	**Pn**	**05 54 15.8**	**0.0**
DIVS	**Divibare**	**4.18**	**307**	*e*Pn	**Pn**	**05 54 15.8**	**0.0**
DOPR	**Dopca**	**4.36**	**7**	⇓*i*P	**Pg**	**05 54 36.9**	**+1.8**
CFR	**Carcaliu**	**4.37**	**35**	⇑*i*P	**Pg**	**05 54 33.3**	**-2.0**
PLOR	**Plostina**	**4.46**	**19**	⇑*i*P	**Pn**	**05 54 22.2**	**+2.7**
PLOR	**Plostina**	**4.46**	**19**	⇑*i*P	**Pn**	**05 54 22.2**	**+2.7**
VRI	**Vrincioaia**	**4.49**	**19**	⇑*i*P	**Pn**	**05 54 23.5**	**+3.5**
VRI	**Vrincioaia**	**4.49**	**19**	S	**Sg**	**05 55 32.7**	**-3.1**
VRI	**Vrincioaia**	**4.49**	**19**	⇑*i*P	**Pn**	**05 54 23.5**	**+3.5**
BZS	**Buzias**	**4.52**	**332**	*e*Pn	**Pn**	**05 54 20.4**	**0.0**
BZS	**Buzias**	**4.52**	**332**	S	**Sg**	**05 55 34.4**	**-2.4**
BZS	**Buzias**	**4.52**	**332**	*e*Pn	**Pn**	**05 54 20.4**	**0.0**
TLCR		**4.69**	**40**	⇓*i*P	**Pn**	**05 54 26.5**	**+3.9**
TLCR		**4.69**	**40**	⇓*i*P	**Pn**	**05 54 26.5**	**+3.9**
BURAR	**Bucovina Array**	**5.99**	**4**	⇑*i*P	**Pb**	**05 54 52.2**	**-4.0**

MEX 30 05:59:40.9±0.8,**15°.40N**×**93°.19W**,**h81**km±11km,**MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.31**	**354**	*e*P	Pn	05 59 51.5	-1.9
PCIG				*e*S	Sn	06 00 01.1	-1.4
CCIG	**Comitan**	**1.34**	**49**	*e*P	Pn	06 00 03.6	-0.8
CCIG				*e*S	Sn	06 00 19.8	-2.3
TGIG		**1.37**	**3**	*e*P	Pn	06 00 03.6	-1.2
TGIG				*e*S	Sn	06 00 20.6	-2.0

*ISK **30** 06:02:36.3,38°.69N×43°.41E,h5km,MD2.7*
*ISCJB **30** 06:02:37.6±0.7,38°.70N±0°.03×43°.46E±0°.08,h6km±7km, Error ellipse: s-maj=10.5km s-min=4.4km az=19.1*
*CSEM **30** 06:02:37.1±0.4,38°.68N×43°.48E,h5km,MD2.7,Error ellipse: s-maj=9.2km s-min=5.0km az=112.0*
*DDA **30** 06:02:37.6,38°.69N×43°.44E,h7km,Ml2.8*
ISC 30 06:02:37.7±1.0,**38°.70N**±0°.03×**43°.44E**±0°.04,**h8**km±9km, **n27**,σ0**s65**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**202**	*e*PG	**Pg**	**06 02 40.5**	**+0.2**
VANB	**Van**	**0.11**	**202**	*e*Pg	**Pg**	**06 02 40.5**	**+0.2**
TVAN	**Van**	**0.17**	**189**	*i* P	**Pg**	**06 02 40.5**	**-0.9**
TVAN				*i* S	**Sg**	**06 02 44.5**	**+0.6**
TVAN	**Van**	**0.17**	**189**	P	**Pg**	**06 02 40.5**	**-0.9**
TVAN				S	**Sg**	**06 02 44.5**	**+0.6**
VMUR	**Van-Muradiye**	**0.31**	**19**	*i* P	**Pg**	**06 02 42.3**	**-1.6**
VMUR	**Van-Muradiye**	**0.31**	**19**	P	**Pg**	**06 02 42.3**	**-1.6**
ERCV	**ERCIS-VAN**	**0.33**	**346**	*e*PG	**Pg**	**06 02 44.1**	**-0.2**
ERCV	**ERCIS-VAN**	**0.33**	**346**	*e*Pg	**Pg**	**06 02 44.1**	**-0.2**
GEVA	**Gevas**	**0.49**	**218**	*i* P	**Pg**	**06 02 46.1**	**-1.1**
GEVA				*i* S	**Sb**	**06 02 56.0**	**-0.1**
GEVA	**Gevas**	**0.49**	**218**	P	**Pg**	**06 02 46.1**	**-1.1**
GEVA				S	**Sb**	**06 02 56.0**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.57**	**281**	*i* P	**Pb**	**06 02 49.7**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.57**	**281**	P	**Pb**	**06 02 49.7**	**-0.4**
CLDR	**Caldiran**	**0.58**	**40**	*e*PG	**Pg**	**06 02 48.9**	**0.0**
CLDR				*e*SG	**Sb**	**06 02 58.7**	**0.0**
CLDR	**Caldiran**	**0.58**	**40**	*i* P	**Pg**	**06 02 49.0**	**0.0**
CLDR				*i* S	**Sb**	**06 02 58.7**	**0.0**
CLDR	**Caldiran**	**0.58**	**40**	*e*Pg	**Pg**	**06 02 48.9**	**0.0**
CLDR				S	**Sb**	**06 02 58.7**	**0.0**
TUTA	**Tutak**	**0.85**	**325**	*i* P	**Pb**	**06 02 54.4**	**-0.7**
TUTA	**Tutak**	**0.85**	**325**	P	**Pb**	**06 02 54.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.94**	**338**	*e*PG	**Pg**	**06 02 55.6**	**-0.3**
AGRB				*e*SG	**Sb**	**06 03 09.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.94**	**338**	*e*Pg	**Pg**	**06 02 55.6**	**-0.3**
AGRB				*e*Sg	**Sb**	**06 03 09.4**	**+0.2**
GURO	**Guroymak-BITLI**	**1.11**	**263**	*e*PN	**Pg**	**06 02 58.4**	**-0.7**
GURO	**Guroymak-BITLI**	**1.11**	**263**	*e*Pn	**Pg**	**06 02 58.4**	**-0.7**
EATA	**Eleskirt**	**1.38**	**328**	*i* P	**Pg**	**06 03 03.6**	**-0.5**
EATA				*i* S	**Sn**	**06 03 22.8**	**+0.7**
EATA	**Eleskirt**	**1.38**	**328**	P	**Pg**	**06 03 03.6**	**-0.5**
EATA				S	**Sn**	**06 03 22.8**	**+0.7**
SRTM	**Siirt_Merkez**	**1.39**	**240**	*i* P	**Pg**	**06 03 04.0**	**-0.3**
SRTM	**Siirt_Merkez**	**1.39**	**240**	P	**Pg**	**06 03 04.0**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*PN	**Pn**	**06 03 10.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.84**	**253**	*e*Pn	**Pn**	**06 03 10.2**	**+0.5**

*IDC **30** 06:02:46.5±2.3,14°.46S×76°.62W,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.5/20,mbtmp3.4/4,ML3.2/2,MS3.6/1, Ms1 3.6/1,ms1mx3.0/13,Error ellipse: s-maj=51.6km s-min=20.5km az=66.0*
*NEIC **30** 06:02:47.0±0.0,14°.41S×76°.32W,h45km,MG4.3(ARE), After ARE.*
*ISCJB **30** 06:02:48.3±1.0,14°.5S±0°.1×76°.2W±0°.2,h23km,mb4.0/3, MS3.6/1,Error ellipse: s-maj=25.4km s-min=8.0km az=149.1*
ISC 30 06:02:49.9±0.9,**14°.41S**±0°.08×**76°.2W**±0°.2,**h23**km,**n18**, σ2**s21**/13,**mb3.9**/3,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.49**	**345**	Pn	**Pn**	**06 03 29.4**	**+0.3**
	1.0nm,0.3s,baz=163,slow=14,SNR=3.6						
NNA				Sn	**Sn**	**06 03 56.5**	**-2.2**
	34nm,0.3s,baz=194,slow=11,SNR=8.8						
NNA				Lg	Lg	06 04 04.3	
	41nm,0.3s,baz=188,slow=13,SNR=7.1						
NNA	**Nana**	**2.49**	**345**	*e*Pn	**Pb**	**06 03 31.0**	**-3.0**
MNMC	**Minye Minye**	**7.87**	**128**	*e*Pn	**Pn**	**06 04 45.3**	**+2.1**
LPAZ	**La Paz**	**8.00**	**105**	Pn	Pn	06 04 51.2	+5.9
	0.5nm,0.3s,baz=279,slow=7.8,SNR=15						
PB11	**IPOC Station P**	**8.21**	**131**	*e*Pn	**Pn**	**06 04 48.4**	**+0.6**
PB11				*e*Sn	**Sn**	**06 06 16.8**	**-3.1**
PB01	**IPOC Station P**	**9.18**	**137**	*e*Pn	**Pn**	**06 05 01.8**	**+0.6**
PB01				*e*Sn	**Sn**	**06 06 40.5**	**-3.3**
LVC	**Limon Verde**	**10.69**	**141**	*e*Pn	**Pn**	**06 05 22.9**	**+1.0**
SAML	**Samuel**	**13.84**	**68**	*e*Pn	**Pn**	**06 06 06.2**	**+1.4**
TXAR	**Lajitas Array**	**50.94**	**329**	P	**P**	**06 11 48.7**	**-1.1**
	0.2nm,0.8s,baz=141,slow=8.9,SNR=3.5						
ANMO	**Albuquerque**	**56.87**	**330**	LR	LR	06 35 21.6	
	comp=Z,47nm,18.6s,baz=223,slow=34						
SMCO	**Snowmass**	**60.56**	**333**	*e*P	**P**	**06 13 00.4**	**+1.3**
	15nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.82**	**74**	P	**P**	**06 15 09.6**	**+1.8**
	0.8nm,0.7s,baz=254,slow=5.1,SNR=5.0						
H11N3	**WAKE ISLAND Hyl**	**19.73**	**285**	T	T	08 32 24.9	
	baz=101						
H11N2	**WAKE ISLAND Hyl**	**19.75**	**285**	T	T	08 32 28.9	
	baz=101						
H11N1	**WAKE ISLAND Hyl**	**19.75**	**285**	T	T	08 32 24.6	
	baz=101						
H11S2	**WAKE ISLAND Hyl**	**19.80**	**283**	T	T	08 32 26.5	
	baz=123						
H11S1	**WAKE ISLAND Hyl**	**19.80**	**283**	T	T	08 32 34.4	
	baz=123						
H11S3	**WAKE ISLAND Hyl**	**19.81**	**283**	T	T	08 32 33.7	
	baz=123						

MEX 30 06:03:51.2±0.7,**16°.14N**×**97°.62W**,**h20**km±249km,**MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**298**	*e*P	Pb	06 04 00.4	-1.8
PNIG				*e*S	Sb	06 04 07.7	-2.0
VHO	**Vista Hermosa**	**1.26**	**42**	*e*P	Pn	06 04 10.2	-3.6
VHO				*e*S	Sb	06 04 26.1	-4.2
HUIG	**Huatulco**	**1.50**	**104**	*i* P	Pn	06 04 15.2	-1.7
HUIG				*e*S	Sn	06 04 32.9	-3.1
TLIG	**Tlapa**	**1.68**	**328**	*e*P	Pn	06 04 19.6	0.0
TLIG				*e*S	Sb	06 04 44.3	+1.9

*IDC **30** 06:05:27.0±2.1,23°.82S×179°.99W,h494km±21km, mb3.5/10,mb1 3.7/12,mb1mx3.4/27,mbtmp4.3/12,Error ellipse: s-maj=27.4km s-min=17.3km az=153.0*
*ISCJB **30** 06:05:28.0±0.7,23°.91S±0°.08×180°.0E±0°.1,h518km, mb3.9/11,Error ellipse: s-maj=15.9km s-min=10.9km az=7.1*
ISC 30 06:05:28.6±0.7,**24°.0S**±0°.1×**179°.9W**±0°.1,**h518**km,**n17**, σ1**s20**/21,**mb3.9**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.68**	**276**	P	**P**	**06 08 14.1**	**-0.4**
	0.2nm,0.3s,baz=94,slow=19,SNR=2.9						
URZ	**Urewera**	**14.42**	**189**	P	**P**	**06 08 32.2**	**-0.1**
	3.1nm,0.3s,baz=340,slow=1.7,SNR=15						
URZ				S	**S**	**06 11 02.5**	**-1.3**
	1.0nm,0.3s,baz=67,slow=20,SNR=7.2						
RPZ	**Rata Peaks**	**21.00**	**198**	P	**P**	**06 09 36.7**	**+1.5**
	3.7nm,0.5s,baz=30,slow=4.7,SNR=3.4						
PMG	**Port Moresby**	**34.58**	**289**	P	**P**	**06 11 34.0**	**-0.1**
	8.5nm,0.6s,baz=51,slow=3.1,SNR=2.8						
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	**06 11 36.0**	**+0.8**
	1.4nm,0.4s,baz=99,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**42.07**	**261**	P	**P**	**06 12 34.9**	**-0.2**
	4.5nm,0.5s,baz=99,slow=6.6,SNR=62						
ASAR				ScP	**ScP**	**06 17 21.6**	**+2.5**
	1.8nm,0.8s,baz=106,slow=4.4,SNR=14						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**06 12 37.3**	**-0.8**
	12nm,0.6s,baz=103,slow=8.2,SNR=76						
WRA				ScP	**ScP**	**06 17 23.6**	**+3.1**
	2.1nm,1.0s,baz=100,slow=4.2,SNR=7.7						
FITZ	**Fitzroy Crossi**	**50.87**	**266**	P	**P**	**06 13 41.9**	**+0.1**
	5.3nm,0.6s,baz=106,slow=11						
NWAO	**Narrogin (SRO)**	**55.24**	**246**	P	**P**	**06 14 12.5**	**-0.2**
	4.0nm,0.7s,baz=72,slow=6.4,SNR=3.4						
PETK	**Petropavlovsk-**	**79.22**	**346**	P	**P**	**06 16 39.3**	**-0.1**
	0.9nm,0.6s,baz=111,slow=5.5,SNR=3.2						
TXAR	**Lajitas Array**	**90.45**	**58**	P	**P**	**06 17 36.1**	**+1.0**
	0.9nm,0.7s,baz=212,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**92.13**	**14**	P	**P**	**06 17 40.5**	**-1.4**
	0.4nm,1.0s,baz=192,slow=7.3,SNR=3.7						
PDAR	**Pinedale Array**	**92.74**	**44**	P	**P**	**06 17 45.5**	**0.0**
	0.6nm,0.8s,baz=129,slow=2.1,SNR=4.5						
ARCES	**ARCESS Array B**	**132.01**	**348**	PKP	**PKPdf**	**06 23 41.2**	**-1.1**
	3.1nm,1.0s,baz=58,slow=2.2,SNR=4.9						
FINES	**FINESS Array B**	**138.57**	**341**	PKP	**PKPdf**	**06 23 55.4**	**+0.7**
	3.0nm,0.9s,baz=111,slow=4.3,SNR=3.8						
AKASG	**Malin Array Be**	**145.10**	**327**	PKP	**PKPdf**	**06 24 06.4**	**-0.2**
	0.6nm,0.3s,baz=44,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**06 24 14.7**	**-0.5**
	0.5nm,0.5s,baz=101,slow=3.7,SNR=2.3						
BRTR				PKPab	**PKPab**	**06 24 19.0**	**-0.3**
	0.8nm,0.6s,baz=108,slow=4.0,SNR=3.7						

*GEN **30** 06:12:28.9,46°.04N×6°.92E,h47km,ML2.1*
*ISCJB **30** 06:12:30.3±0.3,46°.01N±0°.02×6°.89E±0°.04,h15km±4km, Error ellipse: s-maj=4.3km s-min=2.6km az=164.7*
*CSEM **30** 06:12:31.2±0.1,45°.97N×6°.94E,h14km±2km,ML2.6/15, Error ellipse: s-maj=2.5km s-min=1.7km az=79.0*
*ROM **30** 06:12:31.6±0.3,45°.95N×6°.98E,h5km,Md2.5/7,Ml1.7/3, Error ellipse: s-maj=4.1km s-min=2.7km az=77.0*
*LDG **30** 06:12:32.1±0.1,45°.95N×7°.00E,h2km,Md2.6/3,Ml2.7/13, Error ellipse: s-maj=2.6km s-min=1.1km az=95.0*
ISC 30 06:12:31.5±0.9,**45°.97N**±0°.02×**6°.96E**±0°.02,**h12**km±8km, **n46**,σ0**s52**/71,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.11**	**335**	Pg	**Pg**	**06 12 34.7**	**0.0**
EMV	**Vieux Emosson**	**0.11**	**335**	Pg	**Pg**	**06 12 34.7**	**0.0**
DIX	**Grande Dixence**	**0.33**	**70**	Pg	**Pg**	**06 12 38.5**	**+0.2**
DIX	**Grande Dixence**	**0.33**	**70**	Pg	**Pg**	**06 12 38.5**	**+0.2**
LPL	**La Plagne**	**0.48**	**200**	*e*Pg	**Pg**	**06 12 40.1**	**-0.9**
LPL				*e*Sg	**Sg**	**06 12 47.7**	**+0.4**
	45nm,0.4s						
LPL	**La Plagne**	**0.48**	**200**	*e*Pg	**Pg**	**06 12 40.1**	**-0.9**
LPL				*e*Sg	**Sg**	**06 12 47.7**	**+0.4**
	23nm,0.4s						
LPG	**La Plagne**	**0.49**	**198**	*e*Pg	**Pg**	**06 12 40.7**	**-0.5**
LPG				*e*Sn	**Sb**	**06 12 50.5**	**+1.0**
	76nm,0.6s						
LPG	**La Plagne**	**0.49**	**198**	*e*Pg	**Pg**	**06 12 40.7**	**-0.5**
LPG				*e*Sn	**Sb**	**06 12 50.5**	**+1.0**
	38nm,0.6s						
LSD	**Lago del Serru**	**0.52**	**167**	Pg	**Pb**	**06 12 42.4**	**-0.3**
LSD				Sg	**Sb**	**06 12 50.1**	**-0.2**
LSD	**Lago del Serru**	**0.52**	**167**	P	**Pg**	**06 12 41.9**	**+0.1**
LSD	**Lago del Serru**	**0.52**	**167**	Pg	**Pb**	**06 12 42.4**	**-0.3**
LSD				S	**Sb**	**06 12 50.1**	**-0.2**
CIRO	**Champorcher**	**0.56**	**130**	Pg	**Pb**	**06 12 44.1**	**+0.7**
	40nm,0.4s						
CIRO	**Champorcher**	**0.56**	**130**	P	**Pg**	**06 12 42.5**	**0.0**
CIRO	**Champorcher**	**0.56**	**130**	Pg	**Pb**	**06 12 44.1**	**+0.7**
	40nm,0.4s						
CIRO				S	**Sb**	**06 12 51.2**	**-0.2**
SATI	**Passo dei Sala**	**0.64**	**98**	Pg	**Pb**	**06 12 44.6**	**-0.2**
SATI	**Passo dei Sala**	**0.64**	**98**	Pg	**Pb**	**06 12 44.6**	**-0.2**
MMK	**Mattmark**	**0.70**	**83**	Pg	**Pb**	**06 12 46.0**	**+0.2**
	23nm,0.4s						
MMK	**Mattmark**	**0.70**	**83**	Pg	**Pb**	**06 12 46.0**	**+0.2**
	23nm,0.4s						
TRAV	**Traversella**	**0.71**	**129**	Pg	**Pg**	**06 12 44.9**	**-0.4**
	43nm,0.4s						
TRAV	**Traversella**	**0.71**	**129**	Pg	**Pg**	**06 12 44.9**	**-0.4**
	43nm,0.4s						
CABF	**La Chapelle**	**0.89**	**317**	*e*P	**Pn**	**06 12 51.1**	**+1.2**
CABF				*e*Sg	**Sg**	**06 12 59.7**	**-0.6**
	58nm,0.5s						
CABF	**La Chapelle**	**0.89**	**317**	*e*P	**Pn**	**06 12 51.1**	**+1.2**
CABF				*e*Sg	**Sg**	**06 12 59.7**	**-0.6**
	29nm,0.5s						
MBDF	**Montbardon**	**1.25**	**186**	*e*Pg	**Pn**	**06 12 54.7**	**-0.2**
MBDF				*e*Sg	**Sg**	**06 13 12.1**	**+0.4**
	42nm,0.6s						
MBDF	**Montbardon**	**1.25**	**186**	*e*Pg	**Pn**	**06 12 54.7**	**-0.2**
MBDF				*e*Sg	**Sg**	**06 13 12.1**	**+0.4**
	21nm,0.6s						
ORIF	**Oris-en-Rattie**	**1.30**	**216**	*e*Pg	**Pg**	**06 12 56.8**	**+0.4**
ORIF				*e*Sn	**Sb**	**06 13 12.4**	**-0.1**
	43nm,0.6s						
ORIF	**Oris-en-Rattie**	**1.30**	**216**	*e*Pg	**Pg**	**06 12 56.8**	**+0.4**
ORIF				*e*Sn	**Sb**	**06 13 12.4**	**-0.1**
	21nm,0.6s						
HINF	**Hinteralfeld**	**1.85**	**358**	*e*Pg	**Pg**	**06 13 07.0**	**-0.1**
HINF				*e*Sg	**Sg**	**06 13 31.0**	**-0.1**
	16nm,0.4s						
HINF	**Hinteralfeld**	**1.85**	**358**	*e*Pg	**Pg**	**06 13 07.0**	**-0.1**
HINF				*e*Sg	**Sg**	**06 13 31.0**	**-0.1**
	8.2nm,0.4s						
VIVF	**Saint-Julien-l**	**1.96**	**236**	*e*Pg	**Pg**	**06 13 08.8**	**-0.3**
VIVF				*e*Sg	**Sg**	**06 13 34.0**	**-0.5**
	8.4nm,0.3s						
VIVF	**Saint-Julien-l**	**1.96**	**236**	*e*Pg	**Pg**	**06 13 08.8**	**-0.3**
VIVF				*e*Sg	**Sg**	**06 13 34.0**	**-0.5**
	4.2nm,0.3s						
HAU	**Haudompre**	**2.08**	**349**	*e*Pg	**Pg**	**06 13 11.3**	**-0.2**
HAU				*e*Sg	**Sg**	**06 13 38.3**	**-0.2**
	12nm,0.4s						
HAU	**Haudompre**	**2.08**	**349**	*e*Pg	**Pg**	**06 13 11.3**	**-0.2**
HAU				*e*Sg	**Sg**	**06 13 38.3**	**-0.2**
	6.2nm,0.4s						
SBF	**Sospel**	**2.13**	**171**	*e*Sg	**Sg**	**06 13 39.0**	**-0.9**
	36nm,0.7s						
SBF	**Sospel**	**2.13**	**171**	*e*Sg	**Sg**	**06 13 39.0**	**-0.9**
	18nm,0.7s						
SMF	**Signal de Mont**	**2.27**	**289**	*e*Pg	**Pg**	**06 13 14.7**	**-0.3**
SMF				*e*Sg	**Sg**	**06 13 44.0**	**-0.4**
	9.1nm,0.5s						
SMF	**Signal de Mont**	**2.27**	**289**	*e*Pg	**Pg**	**06 13 14.7**	**-0.3**
SMF				*e*Sg	**Sg**	**06 13 44.0**	**-0.4**
	4.6nm,0.5s						
CDF	**Champ du Feu**	**2.46**	**5**	*e*Pg	**Pg**	**06 13 18.2**	**-0.4**
CDF				*e*Sg	**Sg**	**06 13 49.4**	**-1.1**
	7.7nm,0.5s						
CDF	**Champ du Feu**	**2.46**	**5**	*e*Pg	**Pg**	**06 13 18.2**	**-0.4**
CDF				*e*Sg	**Sg**	**06 13 49.4**	**-1.1**
	3.8nm,0.5s						
LOR	**Lormes**	**2.51**	**302**	*e*Sg	**Sg**	**06 13 52.1**	**+0.1**
	8.5nm,0.4s						
LOR	**Lormes**	**2.51**	**302**	*e*Sg	**Sg**	**06 13 52.1**	**+0.1**
	4.2nm,0.4s						
SFTF	**Sexfontaines**	**2.60**	**330**	*e*Sg	**Sg**	**06 13 54.5**	**-0.5**
	14nm,0.6s						
SFTF	**Sexfontaines**	**2.60**	**330**	*e*Sg	**Sg**	**06 13 54.5**	**-0.5**
	7.1nm,0.6s						
PAGF	**Fort de Pagny**	**2.73**	**342**	*e*Pg	**Pg**	**06 13 22.9**	**-0.8**
PAGF				*e*Sg	**Sg**	**06 13 58.6**	**-0.4**
	2.1nm,0.5s						
PAGF	**Fort de Pagny**	**2.73**	**342**	*e*Pg	**Pg**	**06 13 22.9**	**-0.8**
PAGF				*e*Sg	**Sg**	**06 13 58.6**	**-0.4**
	1.0nm,0.5s						
MEZF	**Maizieres J'vi**	**2.85**	**334**	*e*Sg	**Sg**	**06 14 02.8**	**-0.3**
	16nm,0.6s						
MEZF	**Maizieres J'vi**	**2.85**	**334**	*e*Sg	**Sg**	**06 14 02.8**	**-0.3**
	8.2nm,0.6s						

*ISK **30** 06:15:10.5,38°.67N×43°.23E,h5km,MD2.6*
*ISCJB **30** 06:15:11.2±0.6,38°.68N±0°.04×43°.23E±0°.09,h11km±9km, Error ellipse: s-maj=11.6km s-min=5.9km az=179.3*
*DDA **30** 06:15:11.2,38°.67N×43°.27E,h7km,Ml2.8*
*CSEM **30** 06:15:11.0±0.2,38°.67N×43°.24E,h10km,MD2.6,Error ellipse: s-maj=4.3km s-min=4.2km az=2.0*
ISC 30 06:15:11.2±0.9,**38°.67N**±0°.03×**43°.25E**±0°.03,**h13**km±8km, **n22**,σ0**s42**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**122**	*e*PG	**Pg**	**06 15 15.2**	**+0.5**
VANB				*e*SG	**Sb**	**06 15 18.6**	**+0.1**
VANB	**Van**	**0.13**	**122**	*e*Pg	**Pg**	**06 15 15.2**	**+0.5**
VANB				*e*Sg	**Sb**	**06 15 18.7**	**+0.1**
TVAN	**Van**	**0.18**	**138**	*i* P	**Pg**	**06 15 15.0**	**-0.6**
TVAN				*i* S	**Sg**	**06 15 18.5**	**-0.1**
TVAN	**Van**	**0.18**	**138**	P	**Pg**	**06 15 15.0**	**-0.6**
TVAN				S	**Sg**	**06 15 18.5**	**-0.1**
GEVA	**Gevas**	**0.38**	**203**	*i* P	**Pg**	**06 15 18.6**	**-0.4**
GEVA	**Gevas**	**0.38**	**203**	P	**Pg**	**06 15 18.6**	**-0.4**
VMUR	**Van-Muradiye**	**0.41**	**38**	*i* P	**Pg**	**06 15 19.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.41**	**38**	P	**Pg**	**06 15 19.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.43**	**289**	*i* P	**Pg**	**06 15 19.8**	**-0.1**
ADCV				*i* S	**Sb**	**06 15 27.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.43**	**289**	P	**Pg**	**06 15 19.8**	**-0.1**
ADCV				S	**Sb**	**06 15 27.7**	**+0.4**
CLDR	**Caldiran**	**0.71**	**47**	*e*PG	**Pg**	**06 15 24.8**	**-0.2**
CLDR	**Caldiran**	**0.71**	**47**	*e*Pg	**Pg**	**06 15 24.8**	**-0.2**
TATV	**Tatvan**	**0.79**	**259**	*i* P	**Pg**	**06 15 26.5**	**+0.1**
TATV	**Tatvan**	**0.79**	**259**	P	**Pg**	**06 15 26.5**	**+0.1**
TUTA	**Tutak**	**0.81**	**335**	*i* P	**Pg**	**06 15 26.7**	**-0.2**
TUTA				*i* S	**Sg**	**06 15 37.3**	**-0.3**
TUTA	**Tutak**	**0.81**	**335**	P	**Pg**	**06 15 26.7**	**-0.2**
TUTA				S	**Sg**	**06 15 37.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*PG	**Pg**	**06 15 28.9**	**-0.3**
AGRB				*e*SG	**Sg**	**06 15 41.5**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**348**	*e*Pg	**Pg**	**06 15 28.9**	**-0.3**
AGRB				*e*Sg	**Sg**	**06 15 41.5**

UTEC	San Salvador	0.68	12	eP		Pn	06 28 19.5 +0.1
UTEC				eS		Sn	06 28 28.8 -0.3
UESS	San Salvador	0.68	12	eP		Pn	06 28 19.7 +0.3
UESS				eS		Sn	06 28 29.8 +0.5
OPAM	San Salvador	0.69	12	eP		Pn	06 28 19.6 +0.1
OPAM				eS		Sn	06 28 29.4 -0.1
OPAM				AML		AML	06 28 37.9
	comp=Z,21µm,0.7s						
UEES	San Salvador	0.69	8	eP		Pn	06 28 19.6 0.0
UEES				AML		AML	06 28 31.4
	comp=Z,33µm,0.4s						
BOQS	Boqueron	0.70	5	⇑iP		Pn	06 28 20.1 +0.3
UDBS	Soyapango	0.71	15	eP		Pn	06 28 19.8 0.0
UDBS				eS		Sn	06 28 29.5 -0.3
UDBS				AML		AML	06 28 34.6
	comp=Z,28µm,0.5s						
SNVI	San Vicente	0.75	41	eP		Pn	06 28 20.2 -0.3
LBRS	Las Brisas	0.76	23	iP		Pn	06 28 20.7 +0.3
SBLS	San Blas	0.84	341	‖iP		Pn	06 28 22.2 +0.5
SNJE	San Jose	0.86	343	eP		Pn	06 28 22.4 +0.4
MONT	Ecomontaæa	0.87	340	iP		Pn	06 28 22.6 +0.5
RTR	El Retiro	0.90	341	‖iP		Pn	06 28 23.2 +0.7
UNIC	Santa Ana	0.97	348	eP		Pn	06 28 23.6 +0.4
UNIC				eS		Sn	06 28 36.5 +0.4
CUS1	Cusmapa	1.05	326	eP		Pn	06 28 24.7 +0.4
PACA	Pacayal	1.08	67	eP		Pn	06 28 25.7 +0.9
PACA				eS		Sn	06 28 39.3 +0.5
LCY	Lacayo	1.09	69	eP		Pn	06 28 25.6 +0.7
LCY				eS		Sn	06 28 38.9 -0.1
VSM	San Miguel	1.11	69	eP		Pn	06 28 25.9 +0.6
RBDL	Robledal	1.12	343	‖iP		Pn	06 28 26.0 +0.6
CAHU	Cacacuatique	1.32	56	eP		Pn	06 28 27.9 -0.2
TGUH	Tegucigalpa,Un	2.25	63	ePn		Pn	06 28 40.9 +0.3
MOMN	Momotombo	2.81	103	eP		Pn	06 28 48.3 0.0
COPN	Copaltepe	2.82	107	eP		Pn	06 28 48.5 +0.1
CCIG	Comitan	4.21	320	ePn		Pn	06 29 10.0 +2.3
JTS	JuntasAbangare	5.09	122	P			06 30 21.0
	comp=Z,2.7nm,0.3s,baz=354,slow=12,SNR=13						
JTS				S			06 31 33.4
	comp=Z,4.6nm,0.3s,baz=357,slow=23,SNR=8.3						
CGA2	Cerro Gallo 2	5.64	122	eP		Pn	06 29 31.5 +4.2
CGA2				eS		Sn	06 30 32.5 +1.5
QCR1	Quepos	6.22	125	eP		Pn	06 29 38.5 +3.4
URSC	Urasca	6.32	120	eP		Pn	06 29 40.2 +3.6
URSC				eS		Sn	06 30 49.9 +2.3
CMIG	Matias Romero	6.70	308	P		Pn	06 29 44.3 +2.6
	comp=Z,3.1nm,0.3s,baz=131,slow=8.4,SNR=59						
CMIG				S		Sn	06 30 58.8 +2.1
	comp=Z,7.3nm,0.3s,baz=255,slow=23,SNR=10						
TEIG	Tepich	7.22	8	ePn		Pn	06 29 50.3 +1.5
LNIG	Linares	15.18	322	ePn		P	06 31 40.6 -0.6
035A	Encino	16.08	331	P		P	06 31 52.3 +1.1
	baz=147						
034A	Hebbronville	16.47	329	P		P	06 31 56.4 +0.9
	baz=146						
KVTX	Kingsville	16.50	332	eP		P	06 31 55.3 -0.5
934A	Benavides	16.84	331	P		P	06 32 01.0 +1.4
	baz=147						
835A	Beeville	17.11	334	P		P	06 32 03.5 +0.9
	baz=150						
835A	Beeville	17.11	334	eP		Pn	06 32 01.8 +0.3
933A	Laredo	17.22	329	P		P	06 32 04.5 +0.7
	baz=145						
736A	Circle Diamond	17.39	337	P		P	06 32 06.7 +1.1
	baz=153						
736A	Circle Diamond	17.39	337	eP		Pn	06 32 05.2 +0.2
637A	Eagle Lake	17.56	339	P		P	06 32 08.6 +1.0
	baz=156						
735A	Kenedy	17.60	335	eP		P	06 32 09.7 +1.7
447A	Lucedale	17.68	2	P		P	06 32 12.4 +3.5
	baz=182						
636A	Smothers Creek	17.86	338	P		P	06 32 12.1 +1.3
	baz=154						
636A	Smothers Creek	17.86	338	eP		Pn	06 32 10.4 -0.3
	comp=Z,11nm,0.7s						
833A	Chaparral WMA,	17.86	330	P		P	06 32 12.4 +1.5
	baz=146						
HKT	Hockley	17.87	341	eP		P	06 32 11.1 +0.2
	comp=Z,16nm,1.4s						
344A	Westbrook Farm	18.37	356	P		Pn	06 32 19.2 +2.3
	baz=175						
342A	Flagon Creek P	18.46	352	P		Pn	06 32 20.1 +2.2
	baz=170						
438A	Sam Houston St	18.52	343	P		Pn	06 32 19.6 +0.9
	baz=160						
340A	Bronson	18.77	348	P		Pn	06 32 22.1 +0.5
	baz=166,SNR=5.5						
339A	Huntington	18.83	346	P		Pn	06 32 22.5 +0.1
	baz=164						
244A	Avery, Jackson	18.96	356	P		Pn	06 32 24.9 +1.0
	baz=175						
338A	Crockett	19.04	344	P		Pn	06 32 25.3 +0.3
	baz=161						
242A	Grayson	19.11	353	P		Pn	06 32 26.7 +0.9
	baz=171						
VBMS	Vicksburg	19.12	357	P		Pn	06 32 26.9 +1.0
	baz=176						
VBMS	Vicksburg	19.12	357	eP		P	06 32 25.5 +0.8
	comp=Z,29nm,0.6s						
435B	Jarrell	19.23	338	P		Pn	06 32 26.7 -0.5
	baz=154						
NATX	Nacogdoches	19.27	346	P		P	06 32 26.1 -0.1
	baz=164						
NATX	Nacogdoches	19.27	346	ePn		Pn	06 32 28.9 +1.2
	comp=Z,53nm,1.1s						
145A	Houston Renfro	19.48	359	P		Pn	06 32 30.1 -0.1
	baz=178						
336A	Riesel	19.52	340	P		P	06 32 29.9 +0.8
	baz=157						
147A	Livingston	19.57	3	P		Pn	06 32 34.4 +3.2
	baz=183						
JCT	Junction City	19.87	333	P		P	06 32 33.6 +0.7
	baz=148						
JCT	Junction City	19.87	333	eP		P	06 32 33.4 +0.5
	comp=Z,7.5nm,0.9s						
LRAL	Lakeview Retre	20.02	6	eP		Pn	06 32 36.8 +0.3
	comp=Z,56nm,1.8s						
Z47A	Carrollton	20.10	3	P		Pn	06 32 37.6 +0.1
	baz=183						
Z44A	Pea Ridge, Bel	20.17	357	P		Pn	06 32 38.3 -0.1
	baz=176						
WHTX	Lake Whitney,	20.28	340	eP		P	06 32 37.5 +0.2
	comp=Z,36nm,0.5s						
Z48A	Northport	20.31	4	P		Pn	06 32 40.3 +0.3
	baz=184						
Z41A	Richland Creek	20.38	352	P		Pn	06 32 41.9 +1.2
	baz=170						
136A	Ennis	20.44	342	P		P	06 32 40.1 +1.1
	baz=159						
Z40A	Long Farm, Mag	20.47	350	P		Pn	06 32 43.0 +1.1
	baz=168						
HPIG		20.62	315	eP		Pn	06 32 43.0 -0.9
	comp=Z,4.7nm,1.0s						
Y45A	Yeager Farm, C	20.74	360	P		Pn	06 32 47.0 +2.0
	baz=179						
Y46A	Houston	20.76	1	P		Pn	06 32 46.0 +0.8
	baz=181						
Y47A	UCPARC, Winfie	20.82	3	P		Pn	06 32 45.3 -0.7
	baz=184,SNR=5.4						
Y42A	Garnett, Star	20.82	354	P		Pn	06 32 45.6 -0.5
	baz=173						
Y43A	Makayla and Ka	20.83	356	P		Pn	06 32 47.0 +0.9
	baz=175						
WLAR	White Oak Lake	20.84	351	eP		P	06 32 43.5 +0.1
	comp=Z,34nm,1.0s						
Y44A	Strider, Charl	20.85	358	P		Pn	06 32 45.3 -1.0
	baz=177						
Y41A	Eaglette Beard	20.96	352	P		P	06 32 45.2 +0.6
	baz=171						
TX31	Lajitas Ar. Si	20.97	323	eP		P	06 32 45.3 +0.4
TXAR	Lajitas Array	20.97	323	P		P	06 32 46.5 +1.5
	comp=Z,3.8nm,0.7s,baz=143,slow=10,SNR=45						
TXAR				pP		pP	06 32 58.8 +2.2
	comp=Z,2.6nm,0.8s,baz=142,slow=9.9,SNR=7.5						
TXAR				PcP		PcP	06 36 50.7 -0.3
	comp=Z,0.3nm,0.7s,baz=121,slow=3.4,SNR=3.4						
TXAR				LR		LR	06 43 24.8
	comp=Z,51nm,18.2s,baz=0.0,slow=44						
Y40A	Okolona	21.19	351	P		P	06 32 47.4 +0.3
	baz=169						
Y39A	Lockesburg	21.25	349	P		P	06 32 50.0 +2.3
	baz=167						
X45A	UM Field Stati	21.29	360	P		P	06 32 49.5 +1.3
	baz=179						
Y38A	Idabel	21.37	348	P		P	06 32 49.3 +0.3
	baz=165						
OXF	Oxford	21.38	360	eP		P	06 32 51.1 +2.0
	comp=Z,41nm,1.1s						
X43A	Marvell	21.43	357	P		P	06 32 52.3 +2.6
	baz=175						
X41A	Kaden, Bauxite	21.56	353	P		P	06 32 51.3 +0.3
	baz=171,SNR=6.5						
X40A	Basin Creek Fa	21.59	352	P		P	06 32 53.2 +1.9
	baz=170						
Y37A	Hugo	21.62	346	P		P	06 32 51.1 -0.5
	baz=163						
ABTX	Abilene, Hawle	21.66	336	P		P	06 32 52.2 +0.1
	comp=Z,8.5nm,0.7s						
Y36A	Durant	21.71	344	P		P	06 32 52.4 -0.2
	baz=161						
MIAR	Mount Ida	21.75	351	P		P	06 32 53.3 +0.2
	baz=168,SNR=10.0						
MIAR	Mount Ida	21.75	351	eP		P	06 32 52.1 -1.1
	comp=Z,12nm,0.8s						
X39A	Fountain Ranch	21.81	349	P		P	06 32 55.2 +1.4
	baz=167						
UALR	University of	21.81	353	eP		P	06 32 53.5 -0.2
	comp=Z,12nm,0.8s						
Y35A	Marietta	21.92	343	P		P	06 32 54.9 -0.1
	baz=159						
X38A	Whitesboro	22.10	348	P		P	06 32 58.8 +1.9
	baz=165						
X37A	Clayton	22.14	347	P		P	06 32 58.5 +1.2
	baz=164						
W41B	Gary Mavity, V	22.20	354	P		P	06 32 59.2 +1.4
	baz=172						
SWET	Sewanee	22.30	7	eP		P	06 33 01.5 +2.5
	comp=Z,18nm,1.3s						
WHAR	Wooly Hollow	22.32	354	eP		P	06 32 59.0 -0.2
	comp=Z,16nm,1.1s						
X36A	Centrahoma	22.36	345	P		P	06 32 59.3 -0.3
	baz=161						
X35A	Drake	22.37	343	P		P	06 32 59.5 -0.2
	baz=160						
W39A	Magazine	22.43	350	P		P	06 33 00.1 -0.2
	baz=168						
W37B	Quinton	22.68	347	P		P	06 33 03.1 0.0
	baz=164,SNR=5.5						
V42A	Cord	22.75	356	P		P	06 33 03.6 -0.1
	baz=174						
V41A	Mountainview	22.79	354	P		P	06 33 04.3 0.0
	baz=172,SNR=5.9						
V40A	Witts Springs	22.89	353	P		P	06 33 05.2 0.0
	baz=171						
V39A	Pettigrew	23.03	351	P		P	06 33 06.3 -0.4
	baz=169						
W35A	Tecumseh	23.05	344	P		P	06 33 06.0 -0.9
	baz=160						
TKL	Tuckaleechee C	23.08	12	P		P	06 33 06.7 -0.4
	comp=Z,3.9nm,0.8s,baz=183,slow=12,SNR=4.3						
TKL	Tuckaleechee C	23.08	12	eP		P	06 33 09.5 +2.4
V38A	Canehill	23.18	350	P		P	06 33 07.5 -0.7
	baz=167						
U44B	Burton Farm, H	23.20	360	P		P	06 33 09.1 +0.8
	baz=180						
WMOK	Wichita Mounta	23.24	340	P		P	06 33 07.2 -1.5
	baz=156						
WMOK	Wichita Mounta	23.24	340	eP		P	06 33 07.6 -1.1
	comp=Z,13nm,1.3s						
U43A	Rector	23.25	358	P		P	06 33 09.8 +1.0
	baz=177						
U42A	Revenden	23.28	356	P		P	06 33 09.5 +0.4
	baz=175						
V37A	Hulbert	23.34	348	P		P	06 33 08.5 -1.2
	baz=165						
V36A	Jenks	23.42	346	P		P	06 33 09.5 -0.9
	baz=163						
U40A	Yellville	23.43	353	P		P	06 33 10.7 +0.1
	baz=171,SNR=6.5						
TUL1	Leonard	23.50	347	P		P	06 33 10.8 -0.5
	baz=164						
U39A	Green Forest	23.54	352	P		P	06 33 11.6 0.0
	baz=169						
V35A	Meyer Ranch, C	23.62	345	P		P	06 33 11.5 -0.8
	baz=161						
PBMO	Poplar Bluff	23.66	358	eP		P	06 33 12.2 -0.4
	comp=Z,24nm,0.8s						
MNTX	Cornudas Mount	23.71	324	P		P	06 33 13.2 -0.1
	baz=138						
MNTX	Cornudas Mount	23.71	324	eP		P	06 33 14.5 +1.2
	comp=Z,7.8nm,1.5s						
U38A	Gravette	23.74	350	P		P	06 33 13.2 -0.2
	baz=167						
U37A	Salina	23.84	348	P		P	06 33 14.0 -0.3
	baz=166						
T43A	Greenville	23.96	358	P		P	06 33 15.8 +0.4
	baz=177,SNR=8.0						
T41A	Montain View	24.00	355	P		P	06 33 16.1 +0.3
	baz=174						
MSTX	Muleshoe	24.16	332	P		P	06 33 16.5 -0.9
	baz=146						
MSTX	Muleshoe	24.16	332	eP		P	06 33 16.5 -0.9
	comp=Z,9.9nm,0.8s						
T39A	Clever	24.16	352	P		P	06 33 16.4 -0.8
	baz=170						
U35A	Pawnee	24.17	345	P		P	06 33 16.4 -1.0
	baz=162						
T40A	Mansfield	24.18	354	P		P	06 33 17.5 0.0
	baz=172						
T38A	Diamond	24.31	350	P		P	06 33 17.9 -0.7
	baz=168						
S43A	Fulton Ridge,	24.44	359	P		P	06 33 19.8 -0.1
	baz=178						
AMTX	Amarillo	24.45	335	P		P	06 33 19.1 -1.0
	baz=149						
AMTX	Amarillo	24.45	335	eP		P	06 33 19.8 -0.3
	comp=Z,16nm,1.2s						
T37A	Cheneyville 18	24.50	349	P		P	06 33 19.9 -0.4
	baz=166						
S41A	Jillco Farms,	24.54	355	P		P	06 33 20.4 -0.4
	baz=174						
S40A	Lebanon	24.62	354	P		P	06 33 21.5 0.0
	baz=172						
T36A	Boggs Farm, Ca	24.63	347	P		P	06 33 20.7 -0.8
	baz=164						
T35A	Sooner Cattle	24.63	346	P		P	06 33 21.6 -0.1
	baz=163						
S42A	Caledonia	24.66	357	P		P	06 33 22.4 +0.6
	baz=176						
S39A	Bolivar	24.81	352	P		P	06 33 22.4 -0.8
	baz=170						
S38A	Stockton	24.83	351	P		P	06 33 22.5 -0.8
	baz=169						
T34A	McClaskey Farm	24.90	345	P		P	06 33 22.7 -1.3
	baz=161						
CCM	Cathedral Cave	24.97	356	eP		P	06 33 23.7 -1.0
	comp=Z,10.0nm,0.8s						
S37A	Fort Scott	25.10	350	P		P	06 33 24.9 -1.0
	baz=167						
R43A	Red Bud	25.14	359	P		P	06 33 27.1 +0.9
	baz=178,SNR=5.5						
R42A	Luebbering	25.17	357	P		P	06 33 26.8 +0.3
	baz=176						
S36A	Lake Cedric, C	25.21	348	P		P	06 33 25.7 -1.2
	baz=165,SNR=5.6						
R41A	Rosebud	25.22	356	P		P	06 33 26.2 -0.7
	baz=175,SNR=11						
R40A	Maddies Statio	25.29	355	P		P	06 33 27.0 -0.5
	baz=173						
S35A	Otter Creek Ra	25.32	347	P		P	06 33 27.1 -0.7
	baz=164						
R38A	Fenwick Farm,	25.38	352	P		P	06 33 27.4 -0.9
	baz=169						
R39A	Chumby, Stover	25.39	353	P		P	06 33 27.6 -0.8
	baz=171						
SLM	Saint Louis	25.51	358	eP		P	06 33 30.8 +1.3
	comp=Z,17nm,0.8s						
S34A	Willow Spring	25.52	346	P		P	06 33 29.1 -0.6
	baz=162						
121A	Cookes Peak, D	25.72	322	P		P	06 33 31.2 -0.6
	baz=134						
Q44A	Meyer Farm, Va	25.76	1	P		P	06 33 32.8 +0.9
	baz=180						
R36A	Gordon, Harris	25.77	349	P		P	06 33 30.9 -1.0
	baz=166						
Q42A	Golden Eagle	25.79	358	P		P	06 33 32.5 +0.4
	baz=177						
Q43A	New Douglas	25.80	359	P		P	06 33 32.8 +0.7
	baz=179						
Q41A	Truxton	25.87	357	P		P	06 33 32.8 +0.1
	baz=175,SNR=6.4						
319A	Douglas	25.88	318	eP		P	06 33 34.3 +1.2
	comp=Z,21nm,1.8s						
Q40A	Laux Farm, Aux	25.97	355	P		P	06 33 33.9 +0.2
	baz=174						
Q38A	Cooks Store, C	26.10	352	P		P	06 33 34.1 -0.7
	baz=170						
R34A	Isabella, Hill	26.12	346	P		P	06 33 34.4 -0.7
	baz=162						
BNM	Barren Site	26.24	326	eP		P	06 33 36.9 +0.4
P40A	Paris	26.50	355	P		P	06 33 37.2 -1.2
	baz=174						
P39B	Salisbury	26.52	354	P		P	06 33 38.9 +0.3
	baz=172						
P38A	Dawn	26.74	353	P		P	06 33 40.2 -0.4
	baz=170						
KSU1	Kansas State U	26.75	347	eP		P	06 33 39.5 -1.2
	comp=Z,53nm,1.8s						
ANMO	Albuquerque	26.75	328	P		P	06 33 40.6 -0.5
	baz=140						
ANMO	Albuquerque	26.75	328	eP		P	06 33 40.8 -0.3
	comp=Z,7.4nm,1.8s						
P35A	Duane Minner,	27.04	349	P		P	06 33 42.6 -0.8
	baz=165						
P34A	Walnut Farm, R	27.22	347	P		P	06 33 44.5 -0.5
	baz=164						
CBKS	Cedar Bluff	27.28	342	eP		P	06 33 44.5 -1.0
	comp=Z,11nm,0.9s						
T25A	Trinidad	27.53	333	P		P	06 33 48.6 +0.6
	baz=146						
T25A	Trinidad	27.53	333	eP		P	06 33 49.1 +1.1
	comp=Z,18nm,1.5s						
O34A	Beatrice	27.80	348	P		P	06 33 49.3 -0.9
	baz=164						
KSCO	Kaye Shedlock'	28.42	338	eP		P	06 33 55.3 -0.6
	comp=Z,40nm,1.9s						
SDCO	Great Sand Dun	28.52	332	eP		P	06 33 56.6 -0.3
	comp=Z,2.3nm,1.3s						
214A	Organ Pipe Nat	28.60	315	P		P	06 33 58.6 +1.1
	baz=126						
S22A	4UR Ranch, Cre	29.13	331	P		P	06 34 02.5 +0.1
	baz=143						
S22A	4UR Ranch, Cre	29.13	331	eP		P	06 34 02.5 +0.1
	comp=Z,2.6nm,0.8s						
BGNE	Belgrade	29.29	346	eP		P	06 34 03.4 -0.1
	comp=Z,15nm,0.7s						
113A	Mohawk Valley,	29.73	315	eP		P	06 34 07.9 +0.5
	comp=Z,2.8nm,1.1s						
WUAZ	Wupatki	29.93	322	eP		P	06 34 10.3 +1.0
	comp=Z,8.2nm,1.8s						
J42A	Columbus	30.17	0	P		P	06 34 10.7 -0.5
	baz=180						
ISCO	Idaho Springs	30.27	335	P		P	06 34 11.6 -0.9
	baz=147						
ISCO	Idaho Springs	30.27	335	eP		P	06 34 12.4 -0.1
	comp=Z,2.3nm,0.8s						
PV05	Paradox Valley	30.52	328	eP		P	06 34 14.8 +0.2
GLA	Glamis	30.62	315	eP		P	06 34 16.9 +1.6
	comp=Z,3.9nm,1.0s						
PV10	Paradox Valley	30.71	329	eP		P	06 34 16.4 +0.1
I39A	Houston	30.77	357	P		P	06 34 15.1 -1.4
	baz=176						
PDMCI	Parker Dam,Lak	30.89	317	P		P	06 34 19.4 +1.8
	baz=127						
I41A	Arkdale	30.92	359	P		P	06 34 16.3 -1.4
	baz=179						
I38A	Scanlan Farm,	31.00	356	P		P	06 34 17.8 -0.6
	baz=174						
J31A	Geddes	31.22	347	P		P	06 34 19.7 -0.8
	baz=162						
N23A	Red Feather La	31.33	335	P		P	06 34 21.1 -0.6
	baz=147						
BC3	Big Chuckawall	31.40	315	P		P	06 34 24.0 +1.8
	baz=124,SNR=5.5						
H40A	Chili	31.49	359	P		P	06 34 21.4 -1.4
	baz=178						
H38A	Maiden Rock	31.63	356	P		P	06 34 23.0 -1.0
	baz=174						
MONP2	Monument Peak	31.66	313	P		P	06 34 23.7 -1.0
	baz=122						
O20A	White River Ci	31.70	332	P		P	06 34 25.4 +0.5
	baz=143						
O20A	White River Ci	31.70	332	eP		P	06 34 25.4 +0.5
	comp=Z,25nm,1.7s						
BELC	Belle Mtn. Jos	31.97	315	P		P	06 34 27.9 +0.7
	baz=124						
TPFO	Pinon Flats	32.06	314	P		P	06 34 29.1 +0.9
	baz=123						
XPFO	Piæon Flat	32.07	314	eP		P	06 34 29.6 +1.4
	comp=Z,7.7nm,1.6s						
PFO	Pinyon Flats O	32.07	314	P		P	06 34 29.1 +0.9
	baz=123						
PFO	Pinyon Flats O	32.07	314	eP		P	06 34 30.1 +1.9
	comp=Z,6.7nm,1.5s						
G40A	Rib Lake	32.13	359	P		P	06 34 29.3 +0.9
	baz=178						
G39A	Holcombe	32.18	358	P		P	06 34 27.2 -1.6
	baz=176						
GMRC	Granite Mounta	32.19	317	P		P	06 34 30.6 +1.4
	baz=126						
SPMN	Marine on St.	32.22	355	eP		P	06 34 27.7 -1.4
	comp=Z,40nm,1.8s						
P18A	Preston Nutter	32.27	329	eP		P	06 34 27.8 -2.3
	comp=Z,25nm,1.1s						
F40A	Park Falls	32.78	359	P		P	06 34 32.4 -1.7
	baz=178						
F38A	Pierce - Schro	32.88	357	P		P	06 34 33.3 -1.7
	baz=175						
BFSC	Mount Baldy Ra	33.25	314	P		P	06 34 40.3 +1.8
	baz=122						
E40A	Wakefield	33.30	359	P		P	06 34 37.0 -1.7
	baz=179						
EDW2	Edwards Air Fo	33.83	315	P		P	06 34 43.6 +0.2
	baz=123						
E33A	Westby DABS, E	33.83	352	P		P	06 34 42.4 -0.9
	baz=168						
TCUT	Toone Canyon	33.98	329	eP		P	06 34 47.5 +2.5
	comp=Z,6.3nm,0.6s						
MPMC	Manual Prospec	34.14	317	P		P	06 34 46.7 +0.4
	baz=125						
PDAR	Pinedale Array	34.40	333	P		P	06 34 48.2 -0.3
	comp=Z,0.8nm,0.7s,baz=123,slow=11,SNR=8.4						
PDAR				sP		sP	06 35 10.7 +3.1
	comp=Z,0.6nm,0.8s,baz=118,slow=13,SNR=2.9						
PDAR				PcP		PcP	06 37 22.1 -1.2
	comp=Z,0.6nm,0.6s,baz=124,slow=4.9,SNR=6.0						
BW06	Boulder Array	34.40	333	P		P	06 34 47.5 -1.0
	baz=143						
HVU	Hansel Valley	35.16	329	eP		P	06 34 54.3 -0.7
	comp=Z,17nm,2.0s						
REDW	Red Top Meadow	35.45	333	eP		P	06 34 57.1 -0.5
	comp=Z,9.7nm,0.6s						
RCTC	Rector, Farmer	35.46	316	P		P	06 34 57.3 -0.1
	baz=123						
SNOW	Snow King Moun	35.48	333	eP		P	06 34 57.4 -0.5
	comp=Z,14nm,0.8s						
LOHW	Long Hollow	35.54	333	eP		P	06 34 59.1 +0.9
	comp=Z,5.4nm,0.7s						
AGMN	Agassiz Nation	35.57	353	P		P	06 34 56.8 -1.5
	baz=169						
TPAW	Teton Pass	35.59	333	eP		P	06 34 59.9 +1.1
	comp=Z,3.9nm,0.8s						
B34A	Aery, Baudette	35.62	354	P		P	06 34 56.8 -1.8
	baz=171						
MDND	Maddock	35.75	348	P		P	06 34 58.6 -1.2
	baz=162,SNR=5.5						
MDND	Maddock	35.75	348	eP		P	06 34 58.8 -1.0
	comp=Z,30nm,0.8s						
B32A	Ashes, Strandq	35.76	352	P		P	06 34 58.5 -1.3
	baz=168,SNR=6.3						
LPAZ	La Paz	35.90	144	LR		LR	06 49 54.1
	comp=Z,66nm,19.0s,baz=335,slow=36						
IMW	Indian Meadow	35.91	333	eP		P	06 35 01.4 -0.2
	comp=Z,2.8nm,0.7s						
B31A	Greenbush Farm	35.95	351	P		P	06 34 59.9 -1.6
	baz=166						
A33A	Warroad	36.14	353	P		P	06 35 01.6 -1.5
	baz=170						
RLMT	Red

comp=Z,83nm,21.4s,baz=244,slow=38
MCMT McKenzie Canyo 37.49 332 *e*P **P 06 35 15.1 +0.2**
BOZ Bozeman (W) 37.56 334 P **P 06 35 15.1 -0.3**
baz=142
EGMT Eagleton 38.81 338 P **P 06 35 25.2 -0.6**
baz=147
EGMT Eagleton 38.81 338 *e*P **P 06 35 26.2 +0.4**
comp=Z,8.9nm,0.8s
YKA Yellowknife Ar 52.57 346 P **P 06 37 12.2 -1.9**
comp=Z,5.6nm,0.9s,baz=145,slow=7.6,SNR=14
YKA pP **sP 06 37 31.0 -2.6**
comp=Z,0.8nm,0.7s,baz=109,slow=17,SNR=1.6
YKA LR LR 07 00 51.8
comp=Z,5.9nm,18.2s,baz=0.0,slow=38
ILAR Eielson Array 64.74 336 P **P 06 38 36.8 -1.9**
comp=Z,1.4nm,1.0s,baz=122,slow=4.8,SNR=10
COLA College 65.16 336 *e*P **P 06 38 43.0 +1.7**
COLA epP pP 06 39 47.3 +52
ARCES ARCESS Array B 86.23 19 P **P 06 40 38.2 -3.4**
comp=Z,1.5nm,0.8s,baz=297,slow=4.0,SNR=3.0
WRA Warramunga Arr 137.65 255 PKP **PKPdf 06 47 26.1 +0.9**
comp=Z,1.0nm,0.9s,baz=100,slow=1.5,SNR=5.2
WRA pPKP **sPKPdf 06 47 43.4 -2.6**
comp=Z,1.9nm,1.0s,baz=93,slow=1.9,SNR=7.4
ASAR Alice Springs 137.76 249 PKP **PKPdf 06 47 26.5 +1.1**
comp=Z,0.8nm,1.0s,baz=97,slow=2.6,SNR=4.1
ASAR pPKP **sPKPdf 06 47 43.2 -3.0**
comp=Z,0.7nm,0.9s,baz=100,slow=2.1,SNR=3.8
CMAR Chiang Mai Arr 147.66 345 PKPbc **PKPdf 06 47 44.1 +1.2**
comp=Z,1.9nm,0.8s,baz=340,slow=3.5,SNR=7.7

*IDC **30** 06:29:59.4±0.6,34°.71N×142°.78E,h0km,mb4.0/19, mb1 4.2/22,mb1mx4.1/45,mbtmp4.0/22,ML3.8/2,MS3.0/5, Ms1 3.0/5,ms1mx2.8/33,Error ellipse: s-maj=18.9km s-min=15.9km az=52.0*
*NIED **30** 06:30:00,34°.80N×142°.50E,h5km,Mw4.2 Best double couple: M0:34000×1015 NP1:φ=12.00000°,δ=28.00000°, λ=118.00000°. NP2:φ=223.00000°,δ=65.00000°, λ=76.00000°.*
*ISCJB **30** 06:30:03.5±1.3,35°.04N±0°.05×142°.65E±0°.03,h24km±9km, mb4.4/47,MS3.4/4,Error ellipse: s-maj=8.3km s-min=4.5km az=13.8*
*JMA **30** 06:30:03.8±0.3,34°.77N×142°.51E,h28km,M3.9*
*MOS **30** 06:30:05.7±0.9,35°.27N×142°.64E,h34km,mb4.6/13,Error ellipse: s-maj=13.9km s-min=8.2km az=118.4*
*NEIC **30** 06:30:07.9±0.9,35°.28N×142°.76E,h38km±8km,mb4.5/15, Error ellipse: s-maj=9.3km s-min=7.3km az=147.0*
ISC 30 06:30:03.0±1.4,34°.92N±0°.06×142°.61E±0°.05,h11km±8km, n106,σ2§31/120,mb4.4/47,MS3.4/4,6C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.37**	**259**	P	**Pn**	**06 30 26.0**	**-1.5**
BSO1				S	**Sb**	**06 30 41.5**	**-4.1**
CHOJ	**Chosi**	**1.63**	**299**	P	**Pn**	**06 30 32.0**	**+0.4**
CHOJ				*e*S	**Sn**	**06 30 52.6**	**0.0**
BSO3	**Boso 3**	**1.73**	**267**	P	**Pn**	**06 30 32.3**	**-0.4**
BSO4	**Boso 4**	**1.87**	**273**	P	**Pn**	**06 30 34.9**	**+0.1**
KTR	**Katsuura**	**1.90**	**278**	*e*S	**Sn**	**06 30 56.3**	**-2.9**
JIM2	**Oshima 3**	**2.62**	**266**	P	**Pn**	**06 30 43.2**	**-2.1**
JIM2				*e*S	**Sn**	**06 31 13.8**	**-3.4**
JFK	**Kawauchi**	**2.82**	**331**	P	**Pn**	**06 30 46.9**	**-1.1**
JFK				*e*S	**Sn**	**06 31 19.9**	**-2.0**
JOD2	**Odawara 2**	**2.91**	**278**	P	**Pn**	**06 30 48.3**	**-0.9**
JOD2				*e*S	**Sn**	**06 31 21.6**	**-2.6**
JHJ2	**Mitsune**	**2.94**	**233**	*e*Pn	**Pg**	**06 30 56.1**	**-3.2**
JHJ2				*e*Sn	**Sg**	**06 31 35.5**	**-1.9**
JHJ	**Hachijo jima 2**	**2.96**	**233**	Sn	**Sn**	**06 31 19.7**	**-5.7**
	26nm,0.3s,baz=52,slow=20,SNR=6.7						
JAG	**Ashikaga**	**2.98**	**301**	P	**Pn**	**06 30 50.4**	**+0.3**
JAG				S	**Sn**	**06 31 25.8**	**0.0**
JFT	**Otama**	**3.18**	**325**	P	**Pn**	**06 30 53.4**	**+0.5**
JFT				S	**Sn**	**06 31 30.3**	**-0.5**
JRY	**Ryogami san**	**3.22**	**291**	P	**Pn**	**06 30 54.2**	**+0.7**
JRY				*e*S	**Sn**	**06 31 32.1**	**+0.2**
JYN	**Shimob**	**3.38**	**281**	S	**Sn**	**06 31 35.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.93**	**296**	Pn	**Pn**	**06 31 03.5**	**+0.3**
	1.8nm,0.3s,baz=104,slow=9.2,SNR=24						
MJAR				Sn	**Sn**	**06 31 49.6**	**+0.2**
	2.2nm,0.3s,baz=120,slow=14,SNR=7.1						
MAJO	**Matsushiro**	**3.93**	**296**	‖*e*P	**Pn**	**06 31 04.3**	**+1.0**
MAJO	**Matsushiro**	**3.93**	**296**	*e*Pn	**Pn**	**06 31 05.3**	**+2.0**
MAJO				*e*Sn	**Sn**	**06 31 50.5**	**+1.1**
MAT	**Matsushiro**	**3.93**	**296**	P	**Pn**	**06 31 03.1**	**-0.2**
MAT				*e*S	**Sn**	**06 31 47.8**	**-1.6**
MAT	**Matsushiro**	**3.93**	**296**	P	**Pn**	**06 31 04.0**	**+0.7**
MAT				*e*S	**Sn**	**06 31 48.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**3.94**	**296**	*e*Pn	**Pn**	**06 31 04.3**	**+1.0**
MJB9				*e*Sn	**Sn**	**06 31 50.1**	**+0.6**
INU	**Inuyama**	**4.61**	**277**	*e*Pn	Pn	06 31 17.5	+5.0
ASAJ	**Asahikawa**	**9.18**	**360**	Pn	**Pn**	**06 32 13.9**	**-1.4**
	1.6nm,0.3s,baz=199,slow=13,SNR=10						
ASAJ				Sn	Sn	06 33 53.0	-5.6
	0.4nm,0.3s,baz=163,slow=20,SNR=3.1						
ASAJ	**Asahikawa**	**9.18**	**360**	*e*Pn	**Pn**	**06 32 14.1**	**-1.2**
ASAJ				*e*Sn	**Sn**	**06 33 56.2**	**-2.4**
VLA	**Vladivostok**	**11.68**	**318**	⇑*i*P	**Pn**	**06 32 50.0**	**+0.5**
VLA				*e*S	**Sn**	**06 34 59.3**	**-0.5**
VLA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**12.02**	**0**	*e*P	Pn	06 32 52.0	-2.1
YSS	**Yuzh-Sakhalins**	**12.02**	**0**	*e*Pn	Pn	06 32 51.0	-3.2
KSRS	**Korea Array**	**12.14**	**286**	LR	LR	06 37 40.7	
	comp=Z,169nm,19.4s,baz=65,slow=37						
KS15	**Wonju Array Si**	**12.16**	**286**	*e*Pn	**Pn**	**06 32 59.9**	**+3.7**
USRK	**Ussuriysk Ar.**	**12.36**	**322**	Pn	**Pn**	**06 33 01.0**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=132,slow=8.7,SNR=3.4						
USRK				LR	LR	06 37 25.0	
	comp=Z,158nm,20.4s,baz=161,slow=35						
TYV	**Tymovskoe**	**15.93**	**0**	*e*P	Pn	06 33 32.1	-15
TYV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KLR	**Kul'dur**	**16.39**	**334**	LR	LR	06 40 30.5	
	comp=Z,6.9nm,18.6s,baz=148,slow=38						
NJ2	**Nanjing**	**20.01**	**269**	*e*P	**Pn**	**06 34 40.5**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.8s						
NACB	**Ninganchiao**	**21.15**	**245**	*e*P	**P**	**06 34 53.9**	**+5.8**
	comp=Z,22nm,1.0s						
GUMO	**Guam**	**21.34**	**174**	LR	LR	06 41 39.7	
	comp=Z,30nm,21.4s,baz=148,slow=33						
GUMO	**Guam**	**21.34**	**174**	*e*P	**P**	**06 34 54.3**	**+4.2**
GUMO	**Guam**	**21.34**	**174**	*e*P	**P**	**06 34 54.3**	**+4.2**
	comp=Z,746nm,1.8s						
TPUB	**Ta-pu**	**22.37**	**245**	*e*P	**P**	**06 35 07.3**	**+6.1**
	comp=Z,130nm,1.8s						
HHC	**Hu-ho-hao-te**	**25.13**	**293**	*e*P	**P**	**06 35 28.8**	**+0.8**
HHC				S	**S**	**06 39 48.5**	**-4.2**
HHC				SS	**SnSn**	**06 40 35.8**	**-6.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,89nm,5.4s						
HHC				LR	LR		
	comp=N,410nm,10.3s						
HHC				LR	LR		
	comp=E,420nm,10.3s						
HHC				LR	LR		
	comp=Z,470nm,11.3s						
H11N2	**WAKE ISLAND Hy**	**26.25**	**119**	T	T	07 02 50.1	
	baz=310,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**26.26**	**119**	T	T	07 02 53.8	
	baz=310,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**26.27**	**119**	T	T	07 02 56.3	
	baz=310,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**26.92**	**121**	T	T	07 03 39.8	
	baz=312,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**26.92**	**121**	T	T	07 03 39.2	
	baz=312,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**26.93**	**121**	T	T	07 03 41.6	
	baz=312,slow=75,SNR=17						
YAK	**Yakutsk**	**28.34**	**347**	*i*P	**P**	**06 35 53.9**	**-2.6**
YAK				pmax	pmax		
	comp=Z,35nm,2.0s						
YAK	**Yakutsk**	**28.34**	**347**	*e*P	**P**	**06 35 55.0**	**-1.6**
	comp=Z,15nm,0.5s						
ULN	**Ulaanbaatar**	**29.37**	**307**	*i*P	**P**	**06 36 05.2**	**-0.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.8s						
SONM	**Songino Array**	**29.80**	**307**	P	**P**	**06 36 11.1**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=109,slow=8.2,SNR=7.1						
LZH	**Lanzhou**	**31.44**	**284**	*e*P	**P**	**06 36 26.5**	**+1.9**
LZH				pP	sP	06 36 29.5	+0.1
LZH				sP	pP	06 36 31.8	+3.8
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
ZAK	**Zakamensk**	**32.36**	**311**	*e*P	**P**	**06 36 34.3**	**+1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA	**Gaotai**	**34.16**	**290**	*e*P	**P**	**06 36 50.0**	**+1.7**
GTA				pP	sP	06 36 54.3	+1.2
GTA				sP	pP	06 36 57.0	+5.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMI	**Kunming**	**35.68**	**265**	P	**P**	**06 37 06.0**	**+4.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.97**	**259**	LR	LR	06 56 07.8	
	comp=Z,26nm,18.0s,baz=354,slow=37						
WMQ	**Urumqi**	**42.69**	**299**	P	**P**	**06 38 01.3**	**+1.5**
WMQ				pP	sP	06 38 06.5	+1.8
WMQ				sP	pP	06 38 11.5	+8.2
WMQ				PcP	**PcP**	**06 39 51.3**	**-0.2**
WMQ				PcS	**PcS**	**06 43 44.5**	**+0.9**
WMQ				S	**S**	**06 44 20.3**	**-2.8**
WMQ				SS	**SS**	**06 47 24.3**	**-8.9**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.7s						
WMQ				LR	LR		
	comp=N,84nm,23.9s						
WMQ				LR	LR		
	comp=E,51nm,14.7s						
WMQ				LR	LR		
	comp=Z,58nm,21.3s						
ZAA0	**Zalesovo Array**	**44.07**	**314**	*e*P	**P**	**06 38 10.7**	**0.0**
ZALV	**Zalesovo Beam**	**44.07**	**314**	P	**P**	**06 38 10.4**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=90,slow=7.3,SNR=12						
ZALV				PcP	**PP**	**06 39 53.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=108,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**46.08**	**304**	P	**P**	**06 38 26.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=87,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**46.08**	**304**	*c*e*P*	**P**	**06 38 27.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**48.01**	**310**	⇑‖*e*P	**P**	**06 38 40.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s						
KURK	**Kurchatov**	**48.01**	**310**	P	**P**	**06 38 42.1**	**+0.3**
KDAK	**Kodiak Island**	**48.04**	**41**	P	**P**	**06 38 40.9**	**-1.0**
	comp=Z,8.4nm,0.7s,baz=221,slow=7.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.08**	**310**	P	**P**	**06 38 42.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=85,slow=7.3,SNR=14						
ILAR	**Eielson Array**	**50.77**	**31**	P	**P**	**06 39 01.7**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=265,slow=5.9,SNR=16						
KSH	**Kashi**	**52.18**	**296**	*e*P	**P**	**06 39 17.3**	**+3.5**
KSH				pP	sP	06 39 22.3	+3.6
KSH				sP	pP	06 39 24.5	+7.2
KSH				PcP	**PcP**	**06 40 29.5**	**+4.1**
KSH				PP	**PP**	**06 41 18.5**	**+6.5**
KSH				PcS	**PcS**	**06 44 25.0**	**+1.2**
KSH				S	**S**	**06 46 40.8**	**+2.5**
KSH				ScS	**ScS**	**06 49 03.8**	**-0.2**
KSH	**Kashi**	**52.18**	**296**	SS	**SS**	**06 50 16.5**	**+1.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,83nm,6.2s						
KSH				LR	LR		
	comp=N,200nm,9.9s						
KSH				LR	LR		
	comp=E,110nm,8.7s						
KSH				LR	LR		
	comp=Z,94nm,9.1s						
AAK	**Ala-Archa**	**52.37**	**300**	P	**P**	**06 39 13.9**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=90,slow=14,SNR=3.3						
BVAR	**Borovoye Array**	**52.72**	**314**	P	**P**	**06 39 17.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=87,slow=6.2,SNR=3.8						
BRVK	**Borovoye**	**52.78**	**314**	*i*P	**P**	**06 39 17.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**55.04**	**302**	*e*P	**P**	**06 39 35.1**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,32nm,1.3s						
KKAR	**Karatay Array**	**55.04**	**302**	*e*P	**P**	**06 39 35.1**	**+0.5**
	comp=Z,32nm,1.3s						
WRAB	**Tennant Creek**	**55.11**	**189**	*c*e*P*	**P**	**06 39 30.9**	**-4.3**
WRAB				pmax	pmax		
	comp=Z,29nm,1.2s						
WRA	**Warramunga Arr**	**55.12**	**189**	P	**P**	**06 39 31.9**	**-3.4**
	comp=Z,7.7nm,1.1s,baz=8.9,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**55.12**	**189**	*i*P	**P**	**06 39 31.8**	**-3.5**
WRA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARU	**Arti**	**58.59**	**320**	P	**P**	**06 39 59.1**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=216,slow=2.1,SNR=5.2						
ARU	**Arti**	**58.59**	**320**	*c*e*P*	**P**	**06 39 59.4**	**-0.1**
ARU						06 42 09.0	
ARU				S	**S**	**06 48 04.6**	**+1.4**
ARU				SS	**SS**	**06 51 56.3**	**+0.9**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ASAR	**Alice Springs**	**58.85**	**189**	P	**P**	**06 39 58.5**	**-3.1**
	comp=Z,2.1nm,0.9s,baz=13,slow=5.2,SNR=15						
ABKAR	**Akbulak array**	**60.05**	**311**	*e*P	**P**	**06 40 08.5**	**-1.3**
	comp=Z,15nm,0.9s						
AKTO	**Aktyubinsk**	**60.82**	**313**	P	**P**	**06 40 16.3**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=60,slow=17,SNR=3.6						
YKA	**Yellowknife Ar**	**65.15**	**30**	P	**P**	**06 40 42.5**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=298,slow=6.4,SNR=3.2						
GEYT	**Alibeck**	**65.72**	**300**	P	**P**	**06 40 47.9**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=90,slow=1.4,SNR=3.0						
MOD	**Modoc Plateau**	**72.33**	**51**	*e*P	**P**	**06 41 28.8**	**-0.1**
	comp=Z,7.3nm,1.3s						
BEKR	**Beckworth**	**73.35**	**53**	*e*P	**P**	**06 41 34.6**	**-0.5**
	comp=Z,3.8nm,0.9s						
CMB	**Columbia Colle**	**74.30**	**54**	*e*P	**P**	**06 41 39.8**	**-0.7**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMB	**Columbia Colle**	**74.30**	**54**	*e*P	**P**	**06 41 39.8**	**-0.7**
	comp=Z,4.1nm,0.9s						
YERR	**Yerington**	**74.56**	**53**	*e*P	**P**	**06 41 41.6**	**-0.5**
	comp=Z,4.1nm,0.9s						
NOA	**NORSAR Array B**	**76.51**	**338**	P	**P**	**06 41 52.5**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=38,slow=5.8,SNR=3.4						
AKASG	**Malin Array Be**	**76.56**	**323**	P	**P**	**06 41 52.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=48,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**76.56**	**323**	*i*P	P	06 41 48.7	-4.4
YLT	**Little Thumb C**	**76.85**	**45**	*e*P	P	06 41 52.3	-2.9
PASC	**Pasadena Art C**	**77.90**	**57**	*e*P	**P**	**06 41 59.2**	**-1.7**
DUG	**Dugway, Tooele**	**78.00**	**49**	*e*P	**P**	**06 42 01.3**	**-0.3**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DUG	**Dugway, Tooele**	**78.00**	**49**	*e*P	**P**	**06 42 01.2**	**-0.3**
	comp=Z,2.9nm,0.8s						
PDAR	**Pinedale Array**	**78.45**	**46**	P	**P**	**06 42 03.0**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=311,slow=5.5,SNR=3.6						
CCUT	**Cedar City**	**79.19**	**52**	*e*P	**P**	**06 42 08.2**	**-0.1**
	comp=Z,4.5nm,1.2s						
LCMT	**Little Creek M**	**79.58**	**52**	*e*P	**P**	**06 42 10.1**	**-0.3**
	comp=Z,3.0nm,1.0s						
KNB	**Kanab**	**79.85**	**52**	*e*P	**P**	**06 42 11.8**	**-0.1**
KNB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KNB	**Kanab**	**79.85**	**52**	*e*P	**P**	**06 42 11.8**	**-0.1**
	comp=Z,4.4nm,1.0s						
SRU	**San Rafael Swe**	**80.06**	**49**	*e*P	**P**	**06 42 12.5**	**-0.5**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SRU	**San Rafael Swe**	**80.06**	**49**	*e*P	**P**	**06 42 12.5**	**-0.5**
	comp=Z,3.4nm,0.7s						
RWWY	**Rawlins**	**80.49**	**45**	*e*P	**P**	**06 42 15.1**	**-0.3**
	comp=Z,4.8nm,0.6s						
GERES	**GERESS Array B**	**85.02**	**329**	P	**P**	**06 42 37.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=26,slow=3.4,SNR=5.8						
ANMO	**Albuquerque**	**85.19**	**50**	*c*e*P*	**P**	**06 42 40.8**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TXAR	**Lajitas Array**	**90.62**	**53**	P	**P**	**06 43 04.2**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=321,slow=1.8,SNR=4.1						
KEST	**Kesra**	**97.29**	**323**	P	**P**	**06 43 37.2**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=197,slow=1.2,SNR=3.6						
LPAZ	**La Paz**	**146.84**	**64**	PKPbc	**PKPdf**	**06 49 44.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=287,slow=1.0,SNR=5.8						
PLCA	**Paso Flores**	**153.27**	**112**	PKPab	**PKPab**	**06 50 09.6**	**-3.4**
	comp=Z,2.6nm,0.9s,baz=296,slow=4.7,SNR=2.9						

*CSEM **30** 06:41:04.8±0.2,38°.61N×43°.14E,h10km,MD2.7,Error ellipse: s-maj=6.0km s-min=4.4km az=5.0*
*ISK **30** 06:41:04.0,38°.59N×43°.11E,h8km,ML3.3*
*ISCJB **30** 06:41:05.1±0.5,38°.59N±0°.04×43°.14E±0°.04,h13km±6km, Error ellipse: s-maj=7.0km s-min=5.4km az=5.6*
*DDA **30** 06:41:05.1,38°.64N×43°.24E,h7km,Md2.7*
ISC 30 06:41:05.1±0.9,38°.58N±0°.03×43°.13E±0°.03,h12km±9km, n22,σ0§69/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**87**	*e*PG	**Pg**	**06 41 09.4**	**-0.2**
VANB				*e*SG	**Sg**	**06 41 13.3**	**+0.6**
VANB	**Van**	**0.20**	**87**	*e*Pg	**Pg**	**06 41 09.4**	**-0.2**
VANB				*e*Sg	**Sg**	**06 41 13.3**	**+0.6**
TVAN	**Van**	**0.22**	**104**	*i*P	**Pg**	**06 41 09.3**	**-0.7**
TVAN	**Van**	**0.22**	**104**	P	**Pg**	**06 41 09.3**	**-0.7**
GEVA	**Gevas**	**0.28**	**192**	*i*P	**Pb**	**06 41 11.8**	**-0.4**
GEVA				*i*S	**Sb**	**06 41 18.1**	**+1.2**
GEVA	**Gevas**	**0.28**	**192**	P	**Pb**	**06 41 11.8**	**-0.4**
GEVA				S	**Sb**	**06 41 18.1**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.39**	**305**	*i*P	**Pg**	**06 41 13.3**	**+0.3**
ADCV				*i*S	**Sb**	**06 41 21.1**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.39**	**305**	P	**Pg**	**06 41 13.3**	**+0.3**
ADCV				S	**Sb**	**06 41 21.1**	**+0.9**
TATV	**Tatvan**	**0.68**	**264**	*i*P	**Pg**	**06 41 18.6**	**+0.1**
TATV	**Tatvan**	**0.68**	**264**	P	**Pg**	**06 41 18.6**	**+0.1**
CLDR	**Caldiran**	**0.83**	**47**	*e*PG	**Pg**	**06 41 21.3**	**0.0**
CLDR	**Caldiran**	**0.83**	**47**	*e*Pg	**Pg**	**06 41 21.3**	**0.0**
GURO	**Guroymak-BITLI**	**0.86**	**268**	*e*PG	**Pg**	**06 41 20.9**	**-1.0**
GURO				*e*SG	**Sg**	**06 41 32.9**	**-0.3**
GURO	**Guroymak-BITLI**	**0.86**	**268**	*e*Pg	**Pg**	**06 41 20.9**	**-1.0**
GURO				*e*Sg	**Sg**	**06 41 32.9**	**-0.3**
BASK	**Baskale_VAN**	**0.87**	**127**	*i*P	**Pg**	**06 41 21.3**	**-0.6**
BASK	**Baskale_VAN**	**0.87**	**127**	P	**Pg**	**06 41 21.3**	**-0.6**
AGRB	**Hanur-Agry**	**1.00**	**354**	*e*PG	**Pg**	**06 41 23.2**	**-1.2**
AGRB	**Hanur-Agry**	**1.00**	**354**	*e*Pg	**Pg**	**06 41 23.2**	**-1.2**
EATA	**Eleskirt**	**1.37**	**339**	*i*P	**Pn**	**06 41 30.4**	**0.0**
EATA				*i*S	**Sg**	**06 41 49.4**	**0.0**
EATA	**Eleskirt**	**1.37**	**339**	P	**Pn**	**06 41 30.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.58**	**255**	*e*PN	**Pn**	**06 41 32.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.58**	**255**	*e*Pn	**Pn**	**06 41 32.9**	**-0.1**

*AZER **30** 06:43:58.3±1.0,38°.41N×43°.35E,h21km,Error ellipse: s-maj=11.0km s-min=3.4km az=66.0*
*ISK **30** 06:43:59.6,38°.92N×43°.53E,h3km,ML3.2*
*ISCJB **30** 06:44:00.9±0.4,38°.91N±0°.02×43°.55E±0°.03,h11km±3km, Error ellipse: s-maj=4.3km s-min=3.1km az=147.0*
*CSEM **30** 06:44:00.7±0.2,38°.89N×43°.52E,h2km,ML3.6,Error ellipse: s-maj=4.8km s-min=3.4km az=153.0*
*DDA **30** 06:44:00.3,38°.90N×43°.59E,h9km,Ml3.6*
ISC 30 06:44:00.6±0.9,38°.89N±0°.02×43°.54E±0°.02,h8km±9km, n92,σ1§18/111,12C-13D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.10**	**14**	*i*P	**Pg**	**06 44 02.8**	**-0.3**
VMUR	**Van-Muradiye**	**0.10**	**14**	P	**Pg**	**06 44 02.8**	**-0.3**
ERCV	**ERCIS-VAN**	**0.20**	**309**	*e*PG	**Pg**	**06 44 04.7**	**-0.1**
ERCV	**ERCIS-VAN**	**0.20**	**309**	*e*Pg	**Pg**	**06 44 04.7**	**-0.1**
VANB	**Van**	**0.32**	**202**	PG	**Pb**	**06 44 08.7**	**0.0**
VANB				*e*SG	**Sb**	**06 44 15.6**	**+1.5**
VANB	**Van**	**0.32**	**202**	*i*Pg	**Pb**	**06 44 08.7**	**0.0**
VANB				*e*Sg	**Sb**	**06 44 15.6**	**+1.5**
TVAN	**Van**	**0.38**	**196**	*i*P	**Pg**	**06 44 08.7**	**+0.6**
TVAN				*i*S	**Sb**	**06 44 15.1**	**-0.8**
TVAN	**Van**	**0.38**	**196**	P	**Pg**	**06 44 08.7**	**+0.6**
TVAN				S	**Sb**	**06 44 15.1**	**-0.8**
CLDR	**Caldiran**	**0.39**	**49**	PG	**Pg**	**06 44 07.6**	**-0.7**
CLDR				*e*SG	**Sg**	**06 44 14.2**	**+0.8**
CLDR	**Caldiran**	**0.39**	**49**	*i*P	**Pg**	**06 44 07.6**	**-0.7**
CLDR	**Caldiran**	**0.39**	**49**	P	**Pg**	**06 44 07.6**	**-0.7**
CLDR				*e*Sg	**Sg**	**06 44 14.2**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	*i*P	**Pb**	**06 44 13.5**	**-0.7**
ADCV				*i*S	**Sb**	**06 44 24.2**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	P	**Pb**	**06 44 13.5**	**-0.7**
DYDN	**Diyadin**	**0.66**	**10**	*i*P	**Pg**	**06 44 13.1**	**-0.3**
DYDN				*i*S	**Sb**	**06 44 23.0**	**-1.0**
DYDN	**Diyadin**	**0.66**	**10**	P	**Pg**	**06 44 13.1**	**-0.3**
DYDN				S	**Sb**	**06 44 23.0**	**-1.0**
GEVA	**Gevas**	**0.69**	**213**	*i*P	**Pg**	**06 44 13.4**	**-0.6**
GEVA	**Gevas**	**0.69**	**213**	P	**Pg**	**06 44 13.4**	**-0.6

IML	Ismayilli	4.04	61	⇑P	Pn	06 45 04.3	+1.4
IML	Ismayilli	4.04	61	P	Pn	06 45 04.3	+1.4
LKRN	Lenkeran, Azer	4.10	91	⇓P	Pn	06 45 02.0	-1.6
LKRN	Lenkeran, Azer	4.10	91	P	Pn	06 45 02.0	-1.6
ASTR	Astara	4.12	93	⇑P	Pn	06 45 02.0	-1.9
ASTR	Astara	4.12	93	P	Pn	06 45 02.0	-1.9
XNQ	Khinaliq	4.20	56	⇓P	Pn	06 45 06.6	+1.4
XNQ	Khinaliq	4.20	56	P	Pn	06 45 06.6	+1.4
PQL	Pirkuli	4.33	62	⇑P	Pn	06 45 07.6	+0.7
PQL	Pirkuli	4.33	62	P	Pn	06 45 07.6	+0.7
ALIB	Äli-Bayra	4.36	74	⇑P	Pn	06 45 07.1	-0.1
ALIB	Äli-Bayra	4.36	74	P	Pn	06 45 07.1	-0.1
QSAR	Qusar	4.46	53	⇑P	Pn	06 45 10.3	+1.6
QSAR	Qusar	4.46	53	P	Pn	06 45 10.3	+1.6
GBS	Qobustan	4.48	67	⇓P	Pn	06 45 09.2	+0.3
GBS	Qobustan	4.48	67	P	Pn	06 45 09.2	+0.3

MEX 30 06:53:19.4±0.3, 15°24′N×93°26′W, h82km±5km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.46	5	eP	Pn	06 53 31.7	-1.3
PCIG				eS	Sn	06 53 41.3	-1.8
CCIG	Comitan	1.50	46	eP	Pn	06 53 43.6	-1.3
CCIG				i S	Sn	06 54 02.5	-1.7
TGIG		1.53	5	eP	Pn	06 53 44.0	-1.3
TGIG				eS	Sn	06 54 03.2	-1.7

NIED ***30*** *07:01:00, 34°70N×142°70E, h8km, Mw4.2 Best double couple: M=2.00000×10^15 NP1:φ=24.00000°, δ=33.00000°, λ=-101.00000°. NP2:φ=217.00000°, δ=58.00000°, λ=-83.00000°.*
IDC ***30*** *07:01:26.0±0.7, 34°71N×142°71E, h0km, mb3.7/11, mb1 4.0/13, mb1mx3.9/45, mbtmp3.8/13, ML3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=23.4km s-min=17.8km az=76.0*
ISCJB ***30*** *07:01:27.3±0.6, 34°94N±0°05×142°68E±0°05, h10km, mb3.8/12, MS3.2/3, Error ellipse: s-maj=6.7km s-min=5.3km az=161.4*
NEIC ***30*** *07:01:27.4±0.5, 34°77N×142°77E, h10km, mb4.5/1, Error ellipse: s-maj=11.8km s-min=8.8km az=74.0*
JMA ***30*** *07:01:27.9±0.4, 34°74N×142°70E, h23km, M3.7*
ISC 30 07:01:27.8±0.7, 34°88N±0°07×142°72E±0°07, h10km, n41, σ1§57/46, mb3.7/12, MS3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.45 261		P	Pn	07 01 52.6	-1.0
BSO1				eS	Sn	07 02 11.0	-1.4
CHOJ	Chosi	1.73 299		P	Pn	07 01 58.7	+0.8
BSO3	Boso 3	1.82 268		P	Pn	07 01 58.9	0.0
BSO3				eS	Sn	07 02 21.8	-0.1
BSO4	Boso 4	1.96 274		P	Pn	07 02 01.5	+0.5
JOD2	Odawara 2	3.00 278		P	Pn	07 02 14.7	-0.7
JOD2				eS	Sn	07 02 49.4	-2.1
JAG	Ashikaga	3.07 301		P	Pn	07 02 17.0	+0.6
JAG				S	Sn	07 02 52.8	-0.4
JFT	Otama	3.26 324		P	Pn	07 02 20.2	+1.2
JFT				S	Sn	07 02 57.2	-0.7
JRY	Ryogami san	3.32 291		P	Pn	07 02 20.8	+1.0
JYN	Shimob	3.48 281		P	Pn	07 02 21.7	-0.3
JYN				S	Sn	07 03 02.6	-0.6
JNS	Sasagawa	4.02 318		P	Pn	07 02 30.8	+1.5
JNS				S	Sn	07 03 16.6	+0.1
MJAR	Matsushiro Arr	4.03 296		Pn	Pn	07 02 30.9	+1.3
	1.8nm,0.3s,baz=102,slow=8.9,SNR=19						
MJAR				Sn	Sn	07 03 16.3	-0.5
	1.5nm,0.3s,baz=17,slow=21,SNR=5.6						
MAJO	Matsushiro	4.03 296		ePn	Pn	07 02 30.5	+0.9
MAT	Matsushiro	4.03 296		P	Pn	07 02 29.9	+0.3
MAT				eS	Sn	07 03 12.9	-3.9
JMK	Ichinoseki	4.24 344		P	Pn	07 02 32.7	+0.3
JMK				eS	Sn	07 03 20.2	-1.7
JYK	Kaneyama	4.45 336		P	Pn	07 02 36.7	+1.4
JYK				eS	Sn	07 03 26.3	-0.9
ASAJ	Asahikawa	9.22 359		Pn	Pn	07 03 40.5	-0.3
	1.8nm,0.3s,baz=204,slow=11,SNR=12						
ASAJ				Sn	Sn	07 05 19.8	-4.8
	1.0nm,0.3s,baz=124,slow=18,SNR=5.6						
ASAJ	Asahikawa	9.22 359		ePn	Pn	07 03 40.1	-0.7
	3.2nm,0.6s						
ASAJ				Sn	Sn	07 05 19.8	-4.8
YSS	Yuzh-Sakhalins	12.06	0	ePn	Pn	07 04 19.8	+0.2
KSRS	Korea Array	12.23 286		LR	LR	07 09 09.1	
	comp=Z,101nm,21.5s,baz=78,slow=38						
H11N2	WAKE ISLAND Hy 26.16 119			T	T	07 34 12.2	
	baz=310,slow=75,SNR=9.4						
H11N1	WAKE ISLAND Hy 26.16 119			T	T	07 34 13.5	
	baz=310,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy 26.18 119			T	T	07 34 15.2	
	baz=310,slow=75,SNR=8.2						
H11S1	WAKE ISLAND Hy 26.82 121			T	T	07 35 06.2	
	baz=312,slow=76,SNR=37						
H11S3	WAKE ISLAND Hy 26.82 121			T	T	07 35 03.6	
	baz=312,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy 26.84 121			T	T	07 35 04.7	
	baz=312,slow=76,SNR=20						
SONM	Songino Array	29.89 307		P	P	07 07 36.6	+0.9
	0.5nm,0.6s,baz=120,slow=8.5,SNR=3.2						
SONM				LR	LR	07 19 16.9	
	comp=Z,57nm,18.9s,baz=341,slow=36						
CMAR	Chiang Mai Arr	42.05 259		LR	LR	07 27 19.3	
	comp=Z,12nm,20.3s,baz=140,slow=37						
ZALV	Zalesovo Beam	44.16 314		P	P	07 09 36.8	+0.4
	1.7nm,0.8s,baz=83,slow=7.4,SNR=5.8						
ZALV				PcP	PP	07 11 20.8	+1.7
	0.4nm,0.3s,baz=95,slow=4.9,SNR=2.8						
MKAR	Makanchi Array	46.18 304		P	P	07 09 53.7	+1.1
	0.3nm,0.7s,baz=86,slow=10,SNR=3.1						
ILAR	Eielson Array	50.76	31	P	P	07 10 28.6	+1.0
	1.6nm,1.1s,baz=249,slow=6.4,SNR=8.8						
WRAB	Tennant Creek	55.09 190		eP	P	07 10 58.0	-2.1
	5.8nm,1.1s						
WRA	Warramunga Arr	55.10 190		P	P	07 10 58.5	-1.6
	3.9nm,1.1s,baz=7.9,slow=7.5,SNR=8.8						
ASAR	Alice Springs	58.83 189		P	P	07 11 24.7	-1.8
	1.5nm,1.0s,baz=12,slow=5.0,SNR=6.7						
AFI	Afiamalu	64.94 130		LR	LR	07 39 23.4	
	comp=Z,28nm,18.6s,baz=273,slow=35						
STKA	Stephens Creek	66.42 181		P	P	07 12 15.7	-1.3
	2.2nm,0.8s,baz=19,slow=10.0,SNR=3.1						
AKASG	Malin Array Be	76.65 323		P	P	07 13 18.2	-0.4
	0.1nm,0.3s,baz=54,slow=6.5,SNR=4.2						
PDAR	Pinedale Array	78.41	46	P	P	07 13 30.0	+1.0
	0.2nm,0.5s,baz=324,slow=6.0,SNR=2.4						
CLL	Collm	83.49 331		eP	P	07 13 56.0	+0.4
GERES	GERESS Array B	85.10 329		P	P	07 14 04.6	+0.6
	0.2nm,0.6s,baz=43,slow=7.3,SNR=3.7						
TXAR	Lajitas Array	90.58	53	P	P	07 14 31.5	+0.9
	0.2nm,0.7s,baz=298,slow=3.7,SNR=4.0						
LPAZ	La Paz	146.77	64	PKPbc	PKPbc	07 21 11.3	-0.1
	1.2nm,0.6s,baz=28,slow=0.5,SNR=5.3						

ISK ***30*** *07:03:24.8, 38°66N×43°19E, h6km, ML2.3*
ISCJB ***30*** *07:03:25.5±1.0, 38°64N±0°07×43°19E±0°06, h14km±16km, Error ellipse: s-maj=12.4km s-min=6.7km az=164.7*
CSEM ***30*** *07:03:25.5±0.3, 38°64N×43°20E, h10km, ML2.3, Error ellipse: s-maj=8.0km s-min=6.6km az=179.0*
DDA ***30*** *07:03:25.9, 38°61N×43°19E, h7km, Ml2.9*
ISC 30 07:03:25.6±1.0, 38°65N±0°05×43°21E±0°04, h18km±11km, n18, σ0§76/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	111	PG	Pg	07 03 29.9	0.0
VANB				eSG	Sg	07 03 33.3	+0.4
VANB	Van	0.15	111	i Pg	Pg	07 03 29.9	0.0
VANB				eSg	Sg	07 03 33.3	+0.4
TVAN	Van	0.19	128	i P	Pg	07 03 29.9	-0.8
TVAN				i S	Sg	07 03 33.3	-0.7
TVAN	Van	0.19	128	P	Pg	07 03 29.9	-0.8
TVAN				S	Sg	07 03 33.3	-0.7
GEVA	Gevas	0.36	200	i P	Pg	07 03 32.5	-0.7
GEVA	Gevas	0.36	200	P	Pg	07 03 32.5	-0.7
ADCV	BITLIS_Adilcev	0.41	293	i P	Pb	07 03 35.4	+0.8
ADCV	BITLIS_Adilcev	0.41	293	P	Pb	07 03 35.4	+0.8
VMUR	Van-Muradiye	0.44	39	i P	Pb	07 03 35.4	+0.3
VMUR	Van-Muradiye	0.44	39	P	Pb	07 03 35.4	+0.3
CLDR	Caldiran	0.74	48	ePG	Pg	07 03 39.5	-0.7
CLDR	Caldiran	0.74	48	ePg	Pg	07 03 39.5	-0.7
TUTA	Tutak	0.81	338	i P	Pb	07 03 42.2	+0.7
TUTA	Tutak	0.81	338	P	Pb	07 03 42.2	+0.7
GURO	Guroymak-BITLI	0.93	264	ePG	Pg	07 03 42.7	-1.0
GURO				eSG	Sb	07 03 56.0	+0.5
GURO	Guroymak-BITLI	0.93	264	ePg	Pg	07 03 42.7	-1.0
GURO				eSg	Sb	07 03 56.0	+0.5
AGRB	Hanur-Agry	0.94	350	ePG	Pg	07 03 43.1	-0.9
AGRB	Hanur-Agry	0.94	350	ePg	Pg	07 03 43.1	-0.9

ISCJB ***30*** *07:09:27.8±0.5, 38°85N±0°02×43°51E±0°04, h14km±3km, Error ellipse: s-maj=5.0km s-min=3.8km az=10.9*
CSEM ***30*** *07:09:27.3±0.3, 38°84N×43°50E, h10km, ML3.5, Error ellipse: s-maj=6.0km s-min=4.8km az=107.0*
DDA ***30*** *07:09:27.3, 38°84N×43°46E, h12km, Ml3.5*
ISK ***30*** *07:09:27.1, 38°83N×43°48E, h16km, ML2.8*
ISC 30 07:09:27.3±0.9, 38°83N±0°02×43°50E±0°02, h14km±7km, n46, σ0§76/67, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.17	19	⇓i P	Pg	07 09 31.3	-0.3
VMUR	Van-Muradiye	0.17	19	P	Pg	07 09 31.3	-0.3
ERCV	ERCIS-VAN	0.23	327	PG	Pg	07 09 32.2	-0.3
ERCV				eSG	Sb	07 09 37.3	-0.2
ERCV	ERCIS-VAN	0.23	327	i Pg	Pg	07 09 32.2	-0.3
ERCV				eSg	Sb	07 09 37.3	-0.2
VANB	Van	0.25	200	PG	Pb	07 09 34.1	+0.5
VANB				eSG	Sb	07 09 39.7	+1.8
VANB	Van	0.25	200	i Pg	Pb	07 09 34.1	+0.5
TVAN	Van	0.31	194	i P	Pg	07 09 34.0	+0.2
TVAN				i S	Sb	07 09 39.9	+0.2
TVAN	Van	0.31	194	P	Pg	07 09 34.0	+0.2
TVAN				S	Sb	07 09 39.9	+0.2
CLDR	Caldiran	0.45	46	PG	Pg	07 09 37.1	+0.6
CLDR	Caldiran	0.45	46	i P	Pg	07 09 36.6	+0.2
CLDR				i S	Sb	07 09 44.6	+0.7
CLDR	Caldiran	0.45	46	P	Pg	07 09 36.6	+0.2
CLDR	Caldiran	0.45	46	i Pg	Pg	07 09 37.1	+0.6
CLDR				S	Sb	07 09 44.6	+0.7
ADCV	BITLIS_Adilcev	0.60	268	i P	Pg	07 09 39.5	+0.2
ADCV				i S	Sb	07 09 49.3	+1.0
ADCV	BITLIS_Adilcev	0.60	268	P	Pg	07 09 39.5	+0.2
ADCV				S	Sb	07 09 49.3	+1.0
GEVA	Gevas	0.62	214	i P	Pg	07 09 38.0	-1.5
GEVA				i S	Sg	07 09 47.7	0.0
GEVA	Gevas	0.62	214	P	Pg	07 09 38.0	-1.5
GEVA				S	Sg	07 09 47.7	0.0
DYDN	Diyadin	0.73	12	i P	Pg	07 09 40.3	-1.3
DYDN	Diyadin	0.73	12	P	Pg	07 09 40.3	-1.3
TUTA	Tutak	0.78	317	i P	Pg	07 09 41.8	-0.8
TUTA				i S	Sg	07 09 52.4	-0.6
TUTA	Tutak	0.78	317	P	Pg	07 09 41.8	-0.8
TUTA				S	Sg	07 09 52.4	-0.6
AGRB	Hanur-Agry	0.84	332	ePG	Pg	07 09 43.2	-0.5
AGRB	Hanur-Agry	0.84	332	ePg	Pg	07 09 43.2	-0.5
BASK	Baskale_VAN	0.87	153	i P	Pb	07 09 43.9	-0.4
BASK				i S	Sn	07 09 57.4	-0.5
BASK	Baskale_VAN	0.87	153	P	Pb	07 09 43.9	-0.4
BASK				S	Sn	07 09 57.4	-0.5
TATV	Tatvan	1.02	252	i P	Pb	07 09 45.9	-0.9
TATV				i S	Sb	07 09 59.9	-0.2
TATV	Tatvan	1.02	252	P	Pb	07 09 45.9	-0.9
TATV				S	Sb	07 09 59.8	-0.2
GURO	Guroymak-BITLI	1.18	257	ePN	Pn	07 09 48.9	-0.6
GURO	Guroymak-BITLI	1.18	257	ePn	Pn	07 09 48.9	-0.6
EKAR	Karacoban	1.20	291	i P	Pg	07 09 51.7	+1.3
EKAR	Karacoban	1.20	291	P	Pg	07 09 51.7	+1.3
EATA	Eleskirt	1.30	323	i P	Pb	07 09 51.7	+0.1
EATA				i S	Sg	07 10 11.8	+2.6
EATA	Eleskirt	1.30	323	P	Pb	07 09 51.7	+0.1
SRTM	Siirt_Merkez	1.49	237	i P	Pg	07 09 55.9	-0.1
SRTM				i S	Sg	07 10 15.6	+0.1
SRTM	Siirt_Merkez	1.49	237	P	Pg	07 09 55.9	-0.1
SRTM				S	Sg	07 10 15.6	+0.1
CUKT	Cukurca	1.58	177	ePN	Pn	07 09 55.0	0.0
CUKT	Cukurca	1.58	177	ePn	Pn	07 09 55.0	0.0
SVAN	Silvan-Diyarba	1.93	250	ePN	Pn	07 10 00.3	+0.6
SVAN	Silvan-Diyarba	1.93	250	i P	Pb	07 10 02.5	+0.3
SVAN	Silvan-Diyarba	1.93	250	ePn	Pn	07 10 00.3	+0.6
SVAN	Silvan-Diyarba	1.93	250	P	Pb	07 10 02.5	+0.3
BTMN	Batman	1.99	243	i P	Pb	07 10 03.2	0.0
BTMN				i S	Sg	07 10 30.6	-0.6
BTMN	Batman	1.99	243	P	Pb	07 10 03.2	0.0
BNGB	Bing¶ll	2.21	275	ePN	Pn	07 10 04.3	+0.7
BINT	Bingol	2.35	272	ePn	Pn	07 10 04.3	-1.3
MAZI	Mazidag	2.77	241	ePN	Pn	07 10 11.7	+0.4
MAZI	Mazidag	2.77	241	ePn	Pn	07 10 11.7	+0.4

ISK ***30*** *07:17:37.4, 38°54N×43°14E, h6km, ML2.2*
ISCJB ***30*** *07:17:38.8±0.7, 38°55N±0°05×43°24E±0°06, h14km±7km, Error ellipse: s-maj=10.6km s-min=6.0km az=138.0*
CSEM ***30*** *07:17:38.2±0.4, 38°54N×43°19E, h10km, ML2.8, Error ellipse: s-maj=10.2km s-min=7.8km az=167.0*
DDA ***30*** *07:17:39.0, 38°58N×43°27E, h7km, Ml2.8*
ISC 30 07:17:38.2±1.0, 38°54N±0°04×43°21E±0°06, h15km±7km, n16, σ0§81/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	66	PG	Pg	07 17 42.2	-0.1
VANB				eSG	Sg	07 17 45.4	+0.4
VANB	Van	0.15	66	i Pg	Pg	07 17 42.2	-0.1
VANB				eSg	Sg	07 17 45.4	+0.4
TVAN	Van	0.15	92	i P	Pg	07 17 42.1	-0.3
TVAN	Van	0.15	92	P	Pg	07 17 42.1	-0.3
GEVA	Gevas	0.25	209	i P	Pb	07 17 44.4	-0.2
GEVA				i S	Sb	07 17 50.1	+1.2
GEVA	Gevas	0.25	209	P	Pb	07 17 44.4	-0.2
GEVA				S	Sb	07 17 50.1	+1.2
ADCV	BITLIS_Adilcev	0.47	306	i P	Pb	07 17 48.5	+0.2
ADCV				i S	Sb	07 17 56.1	+0.9
ADCV	BITLIS_Adilcev	0.47	306	P	Pb	07 17 48.5	+0.2
ADCV				S	Sb	07 17 56.1	+0.9
CLDR	Caldiran	0.82	42	ePG	Pg	07 17 54.5	+0.2
CLDR				eSG	Sn	07 18 06.7	-0.8
CLDR	Caldiran	0.82	42	ePg	Pg	07 17 54.5	+0.2
CLDR				eSg	Sn	07 18 06.7	-0.8
TUTA	Tutak	0.92	340	i P	Pb	07 17 56.0	-0.1
TUTA	Tutak	0.92	340	P	Pb	07 17 56.0	-0.1
GURO	Guroymak-BITLI	0.93	271	ePG	Pb	07 17 54.5	-1.6
GURO	Guroymak-BITLI	0.93	271	ePg	Pb	07 17 54.5	-1.6
AGRB	Hanur-Agry	1.05	351	ePG	Pb	07 17 57.5	-0.8
AGRB	Hanur-Agry	1.05	351	ePg	Pb	07 17 57.5	-0.8

IDC ***30*** *07:19:54.4±0.7, 9°33S×159°04E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/33, mbtmp4.1/7, MS3.4/10, Ms1 3.4/10, ms1mx3.2/31, Error ellipse: s-maj=23.6km s-min=14.9km az=173.0*
ISCJB ***30*** *07:19:56.9±0.6, 9°3S±0°1×159°00E±0°05, h27km, mb4.0/9, MS3.3/8, Error ellipse: s-maj=14.7km s-min=6.6km az=4.0*
NEIC ***30*** *07:19:56.1±0.5, 9°26S×158°96E, h10km, mb4.4/2, Error ellipse: s-maj=13.7km s-min=9.5km az=189.0*
ISC 30 07:19:58.4±0.6, 9°3S±0°1×159°02E±0°06, h27km, n29, σ1§45/21, mb4.1/9, MS3.3/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.92	99	Pn	Pn	07 20 14.1	-1.5
	1μm,0.3s,baz=237,slow=6.5,SNR=126						
HNR				Sn	Sn	07 20 28.4	+0.4
	2μm,0.3s,baz=288,slow=19,SNR=52						
HNR	Honiara	0.92	99	i P	Sn	07 20 30.0	+2.0
HNR				i S	Sb	07 20 25.0	-2.7
HNR	Honiara	0.92	99	ePg	Pn	07 20 14.0	-1.6
HNR				Pn	Pn	07 20 14.1	-1.5
HNR				Sn	Sn	07 20 28.4	+0.4
PMG	Port Moresby	11.71	268	LR	LR	07 26 58.7	
	comp=Z,308nm,20.8s,baz=91,slow=36						
PMG	Port Moresby	11.71	268	ePn	Pn	07 22 41.4	-2.4
	8.4nm,0.4s						
DZM	Mont Dzumac	14.57	152	Pn	Pn	07 23 24.8	+1.8
	0.3nm,0.3s,baz=299,slow=19,SNR=3.7						
DZM				LR	LR	07 28 28.5	
	comp=Z,247nm,18.4s,baz=34,slow=35						
WRAB	Tennant Creek	26.07	243	eP	P	07 25 30.4	+0.4
	8.6nm,1.1s						
WRA	Warramunga Arr	26.09	243	P	P	07 25 30.3	+0.2
	7.1nm,1.0s,baz=70,slow=9.6,SNR=13						
WRA				LR	LR	07 35 30.4	
	comp=Z,102nm,21.2s,baz=50,slow=36						
GUMO	Guam	26.72	328	LR	LR	07 34 26.5	
	comp=Z,34nm,19.9s,baz=140,slow=33						
STKA	Stephens Creek	27.69	213	P	P	07 25 42.5	-1.9
	2.0nm,0.8s,baz=32,slow=8.5,SNR=2.5						
STKA				LR	LR	07 35 28.9	
	comp=Z,99nm,18.4s,baz=25,slow=34						
ASAR	Alice Springs	27.94	236	P	P	07 25 46.5	-0.2
	2.1nm,0.9s,baz=65,slow=9.3,SNR=12						
ASAR				LR	LR	07 36 38.9	
	comp=Z,67nm,19.1s,baz=99,slow=36						
H11S2	WAKE ISLAND Hy 28.63		15	T	T	07 54 38.8	
	baz=194,slow=76,SNR=111						
H11S3	WAKE ISLAND Hy 28.63		15	T	T	07 54 40.0	
	baz=194,slow=76,SNR=78						
H11S1	WAKE ISLAND Hy 28.64		15	T	T	07 54 40.7	
	baz=194,slow=76,SNR=44						
H11N1	WAKE ISLAND Hy 29.84		15	T	T	07 56 14.4	
	baz=194,slow=76,SNR=45						
H11N3	WAKE ISLAND Hy 29.85		15	T	T	07 56 12.0	
	baz=194,slow=76,SNR=53						
H11N2	WAKE ISLAND Hy 29.86		15	T	T	07 56 13.4	
	baz=194,slow=76,SNR=78						
URZ	Urewera	33.12	153	LR	LR	07 37 36.1	
	comp=Z,102nm,19.2s,baz=325,slow=32						
PPT	Papeete	50.54	105	LR	LR	07 46 53.2	
	comp=Z,60nm,18.1s,baz=334,slow=32						
KSRS	Korea Array	54.87	330	LR	LR	07 49 32.2	
	comp=Z,17nm,20.7s,baz=20,slow=32						
ASAJ	Asahikawa	55.20	346	eP	P	07 29 29.3	+0.5
	3.4nm,0.9s						
PETK	Petropavlovsk-	62.16	359	LR	LR	07 53 52.6	
	comp=Z,15nm,21.1s,baz=65,slow=33						
VNDA	Vanda	68.22	179	P	P	07 30 57.4	+1.3
	1.3nm,0.8s,baz=337,slow=4.6,SNR=9.0						
SONM	Songino Array	73.43	326	P	P	07 31 29.7	+1.3
	0.7nm,0.7s,baz=150,slow=4.9,SNR=4.7						
ILAR	Eielson Array	84.08	20	P	P	07 32 26.7	+0.3
	1.3nm,1.1s,baz=247,slow=4.1,SNR=11						
MKAR	Makanchi Array	87.76	318	P	P	07 32 45.5	+0.5
	0.7nm,0.6s,baz=98,slow=5.0,SNR=5.6						
AKASG	Malin Array Be	121.70	325	PKP	PKPdf	07 38 48.7	-1.1
	0.3nm,0.4s,baz=56,slow=2.3,SNR=4.0						
LPAZ	La Paz	126.86	118	PKP	PKPdf	07 39 02.1	+0.6
	0.7nm,0.8s,baz=256,slow=4.2,SNR=4.9						
GERES	GERESS Array B	131.04	330	PKP	PKPdf	07 39 08.8	+0.9
	0.3nm,0.6s,baz=66,slow=2.5,SNR=3.6						

IDC ***30*** *07:27:32.2±1.8, 46°51N×153°00E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/43, mbtmp3.7/10, ML3.0/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/45, Error ellipse: s-maj=47.0km s-min=20.4km az=159.0*
SKHL ***30*** *07:27:34.2±0.7, 44°75N×153°43E, h108km±6km, mb5.0/3, msh5.4/4*
MOS ***30*** *07:27:39.5±1.0, 45°99N×152°64E, h89km, mb4.5/4, Error ellipse: s-maj=18.5km s-min=11.5km az=24.2*
ISCJB ***30*** *07:27:41.0±1.4, 45°9N±0°1×152°5E±0°2, h100km, mb3.9/11, Error ellipse: s-maj=25.0km s-min=8.6km az=142.5*
ISC 30 07:27:41.0±1.1, 46°0N±0°1×152°71E±0°10, h100km, n45, σ2§50/37, mb4.1/11, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.47	260	c i PN	Pn	07 28 32.7	-0.3
KUR				pmax	pmax		
	comp=Z,146nm,0.4s						
KUR				pmax	pmax		
	comp=N,54nm,0.3s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR	Kuril'sk	3.47	260	i P	Pn	07 28 32.7	-0.3
KUR				AMB	AMB	07 28 33.4	
	comp=E,150nm,0.4s						
KUR				i S	Sn	07 29 16.6	+3.4
KUR				A	A	07 29 20.5	
	comp=E,98nm,0.4s						
KUR				A	A	07 29 20.5	
	comp=E,57nm,0.4s						
SHO	Shikotan	4.66	246	ePN	Pn	07 28 46.3	-2.8
SHO				eS	Sn	07 29 40.8	-1.2
SHO				pmax	pmax		
	comp=Z,26nm,0.5s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,18nm,0.2s						
SHO				smax	smax		
	comp=E,87nm,0.6s						
SHO				smax	smax		
	comp=N,52nm,0.3s						
SHO	Shikotan	4.66	246	eP	Pn	07 28 46.0	-3.1
SHO				AMB	AMB	07 28 53.9	
	comp=N,26nm,0.5s						
SHO				eS	Sn	07 29 39.2	-2.8
SHO				A	A	07 29 43.6	
	comp=N,87nm,0.6s						
SHO				A	A	07 29 43.6	
	comp=N,52nm,0.6s						
YUK	Yuzh-Kuril'sk	5.22	251	PN	Pn	07 28 57.7	+1.1
YUK				S	Sn	07 30 00.9	+5.4
YUK				pmax	pmax		
	comp=Z,60nm,0.2s						
YUK				smax	smax		
	comp=N,42nm,0.2s						
YUK				smax	smax		
	comp=E,94nm,0.5s						
YUK	Yuzh-Kuril'sk	5.22	251	eP	Pn	07 28 53.7	-2.9
YUK				AMB	AMB	07 28 59.1	
	comp=E,60nm,0.2s	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.06**	**298**	*e*P	**P**	**07 36 04.6**	**+2.2**
KURK	**Kurchatov**	**47.58**	**304**	*i* P	**P**	**07 36 06.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KURK	**Kurchatov**	**47.58**	**304**	*e*P	**P**	**07 36 06.5**	**+0.2**
BRVK	**Borovoye**	**51.19**	**310**	*i* P	**P**	**07 36 35.6**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRVK	**Borovoye**	**51.19**	**310**	*e*P	**P**	**07 36 35.6**	**+1.9**
AAK	**Ala-Archa**	**53.94**	**297**	*i* P	**P**	**07 36 56.5**	**+2.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**53.94**	**297**	*e*P	**P**	**07 36 56.5**	**+2.1**
ARU	**Arti**	**55.41**	**318**	*d* iP	**P**	**07 37 05.3**	**+0.7**
ARU				*PP	**sP**	**07 37 34.5**	**-5.5**
ARU						07 39 07.8	
ARU				S	**S**	**07 44 38.7**	**-2.5**
ARU				SS	**SS**	**07 48 20.4**	**-6.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARU	**Arti**	**55.41**	**318**	*e*P	**P**	**07 37 05.3**	**+0.7**
FINES	**FINESS Array B**	**64.64**	**335**	P	**P**	**07 38 08.8**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=60,slow=4.6,SNR=7.8						
FINES	**FINESS Array B**	**64.64**	**335**	*e*P	**P**	**07 38 09.5**	**+2.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.64**	**335**	*e*P	**P**	**07 38 09.5**	**+2.0**
NOA	**NORSAR Array B**	**68.89**	**341**	P	**P**	**07 38 36.4**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.6,SNR=5.1						
NOA	**NORSAR Array B**	**68.89**	**341**	P	**P**	**07 38 36.4**	**+1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.06**	**326**	P	**P**	**07 38 56.0**	**+2.1**
	comp=Z,1.5nm,0.5s,baz=35,slow=6.3,SNR=6.2						
TXAR	**Lajitas Array**	**78.13**	**60**	P	**P**	**07 39 30.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=311,slow=4.7,SNR=2.9						
TXAR	**Lajitas Array**	**78.13**	**60**	*e*P	P	07 39 34.6	+5.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

IDC ***30*** *07:31:36.9±5.6, 34°.22N×142°.14E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/43, mbtmp3.4/3, ML2.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/43, Error ellipse: s-maj=182.7km s-min=27.1km az=58.0*
ISCJB ***30*** *07:31:37.7±1.3, 34°.77N±0°.08×142°.69E±0°.09, h33km, mb3.7/2, MS3.5/1, Error ellipse: s-maj=12.5km s-min=10.2km az=34.0*
JMA ***30*** *07:31:37.5±0.4, 34°.71N×142°.69E, h56km, M3.3*
ISC 30 07:31:38.6±1.7, 34°.76N±0°.09×142°.7E±0°.1, h35km, n13, σ1§17/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.45**	**266**	P	**Pn**	**07 32 01.2**	**-0.7**
BSO1				*e*S	**Sn**	**07 32 18.8**	**-0.7**
CHOJ	**Chosi**	**1.81**	**302**	P	**Pn**	**07 32 06.9**	**-0.3**
CHOJ				*e*S	**Sn**	**07 32 29.2**	**+0.3**
BSO3	**Boso 3**	**1.83**	**272**	P	**Pn**	**07 32 07.5**	**+0.1**
BSO4	**Boso 4**	**1.99**	**277**	P	**Pn**	**07 32 09.8**	**+0.1**
JOD2	**Odawara 2**	**3.04**	**281**	P	**Pn**	**07 32 23.2**	**-1.0**
JOD2				*e*S	**Sn**	**07 32 57.6**	**-1.8**
JAG	**Ashikaga**	**3.15**	**303**	P	**Pn**	**07 32 25.4**	**-0.4**
JAG				S	**Sn**	**07 33 01.4**	**-0.8**
JFT	**Otama**	**3.37**	**325**	P	**Pn**	**07 32 28.5**	**-0.3**
JFT				S	**Sn**	**07 33 04.9**	**-2.7**
JRY	**Ryogami san**	**3.38**	**293**	P	**Pn**	**07 32 29.3**	**+0.4**
JYN	**Shimob**	**3.52**	**283**	S	**Sn**	**07 33 11.4**	**+0.1**
MJAR	**Matsushiro Arr**	**4.10**	**297**	Pn	**Pn**	**07 32 39.7**	**+1.0**
	0.8nm,0.3s,baz=108,slow=7.5,SNR=9.0						
MJAR				Sn	**Sn**	**07 33 26.2**	**+0.7**
	0.9nm,0.3s,baz=84,slow=29,SNR=4.9						
MKAR	**Makanchi Array**	**46.26**	**304**	P	**P**	**07 40 02.6**	**+2.1**
	0.5nm,0.8s,baz=90,slow=7.2,SNR=3.2						
AAK	**Ala-Archa**	**52.54**	**300**	LR	LR	08 06 06.6	
	comp=Z,48nm,19.5s,baz=250,slow=40						
WRA	**Warramunga Arr**	**54.98**	**190**	P	**P**	**07 41 05.5**	**-0.9**
	0.9nm,0.9s,baz=2.0,slow=7.3,SNR=3.7						

ISCJB ***30*** *07:34:32.7±0.4, 47°.47S±0°.07×100°.1E±0°.1, h11km, mb4.7/22, MS4.2/20, Error ellipse: s-maj=14.4km s-min=8.9km az=25.9*
IDC ***30*** *07:34:32.6±0.8, 47°.38S×99°.88E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.2/27, mbtmp4.4/9, MS4.1/19, Ms1 4.1/19, ms1mx4.0/30, Error ellipse: s-maj=27.2km s-min=17.1km az=125.0*
NEIC ***30*** *07:34:33.6±0.5, 47°.38S×100°.01E, h10km, mb4.5/9, Error ellipse: s-maj=16.6km s-min=8.7km az=123.0*
GCMT ***30*** *07:34:33.6±0.3, 47°.42S×100°.01E, h17km±1km, MW5.0/87, Moment Tensor Solution. s26,c33; s87,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.71±.14; Mθθ3.74±.14; Mφφ-3.03±.12; Mrθ-0.12±.32; Mrφ1.18±.09; Mθφ0.98±.31; Best double couple: M0=3.75600×10^16 NP1:φ=217.00000°, δ77.00000°, λ-166.00000°. NP2: φ=124.00000°, δ76.00000°, λ-13.00000°. Principal axes: T 3.9400, Plg1.0000°, Azm350.0000°; N -0.3660, Plg71.0000°, Azm259.0000°; P -3.5720, Plg19.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 07:34:34.6±0.5, 47°.50S±0°.08×100°.1E±0°.1, h11km, n64, σ1§47/43, mb4.7/22, MS4.2/20, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**19.52**	**48**	LR	LR	07 44 49.1	
	comp=Z,358nm,21.2s,baz=122,slow=32						
FORT	**Forrest**	**27.17**	**62**	*e*P	**P**	**07 40 15.1**	**-2.8**
	918nm,1.7s						
MAW	**Mawson**	**27.65**	**210**	P	**P**	**07 40 21.7**	**-0.1**
	1.5nm,0.9s,baz=25,slow=13,SNR=4.2						
MAW				LR	LR	07 48 29.2	
	comp=Z,434nm,19.6s,baz=58,slow=30						
MAW	**Mawson**	**27.65**	**210**	*e*P	**P**	**07 40 21.3**	**-0.5**
	1.0nm,1.0s						
STKA	**Stephens Creek**	**35.09**	**79**	P	**P**	**07 41 27.5**	**-0.2**
	12nm,0.9s,baz=232,slow=9.1,SNR=19						
STKA				LR	LR	07 53 00.1	
	comp=Z,434nm,21.4s,baz=205,slow=32						
STKA	**Stephens Creek**	**35.09**	**79**	*e*P	**P**	**07 41 27.2**	**-0.5**
	2.9nm,0.9s						
ASAR	**Alice Springs**	**35.91**	**60**	P	**P**	**07 41 34.5**	**-0.4**
	4.6nm,0.8s,baz=215,slow=6.9,SNR=28						
ASAR				PcP	**PcP**	**07 44 03.1**	**+1.3**
	1.9nm,0.8s,baz=215,slow=2.4,SNR=3.9						
ASAR				LR	LR	07 54 37.2	
	comp=Z,293nm,18.1s,baz=218,slow=34						
AS31	**Alice Springs**	**35.92**	**60**	*e*P	**P**	**07 41 32.7**	**-2.2**
	2.9nm,0.9s						
SYO	**Syowa Base**	**36.30**	**212**	⇑*e*pP	pP	07 41 42.5	+1.5
VNDA	**Vanda**	**38.08**	**162**	P	**P**	**07 41 53.5**	**+0.8**
	2.3nm,0.7s,baz=284,slow=9.6,SNR=18						
VNDA	**Vanda**	**38.08**	**162**	*e*P	**P**	**07 41 53.2**	**+0.6**
	7.6nm,0.9s						
WRA	**Warramunga Arr**	**39.06**	**57**	P	**P**	**07 42 01.1**	**-0.5**
	5.8nm,0.7s,baz=220,slow=8.7,SNR=32						
WRA				PcP	**PcP**	**07 44 13.9**	**+2.5**
	1.2nm,0.7s,baz=228,slow=2.8,SNR=6.1						
WRA				LR	LR	07 56 12.4	
	comp=Z,459nm,21.0s,baz=220,slow=33						
WB2	**Warramunga Arr**	**39.07**	**57**	*e*P	**P**	**07 42 00.4**	**-1.2**
	27nm,1.5s						
WRAB	**Tennant Creek**	**39.08**	**57**	*e*P	**P**	**07 42 01.1**	**-0.6**
	20nm,1.4s						
SBA	**Scott Base**	**39.18**	**162**	*e*P	**P**	**07 42 02.6**	**+0.7**
	10nm,1.1s						
QSPA	**South Pole Qui**	**42.64**	**180**	*e*P	**P**	**07 42 30.9**	**+0.2**
EIDS	**Eidsvold**	**45.63**	**80**	*e*P	**P**	**07 42 54.1**	**-0.9**
	5.1nm,0.9s						
H08S2	**Diego Garcia H**	**46.14**	**320**	T	T	08 31 57.7	
	baz=154,slow=76,SNR=100						
H08S1	**Diego Garcia H**	**46.15**	**320**	T	T	08 31 58.3	
	baz=154,slow=76,SNR=77						
H08S3	**Diego Garcia H**	**46.16**	**320**	T	T	08 31 59.3	
	baz=154,slow=76,SNR=91						
CTA	**Charters Tower**	**46.19**	**70**	P	**P**	**07 42 59.2**	**-0.1**
	5.5nm,0.7s,baz=206,slow=10.0,SNR=5.3						
CTAO	**Charters Tower**	**46.19**	**70**	*e*P	**P**	**07 42 59.3**	**-0.1**
	41nm,0.8s						
H08N1	**Diego Carcia H**	**47.95**	**319**	T	T	08 34 51.6	
	baz=228,slow=77,SNR=9.1						
H08N3	**Diego Garcia H**	**47.96**	**319**	T	T	08 34 51.0	
	baz=228,slow=77,SNR=9.5						
H08N2	**Diego Garcia H**	**47.97**	**319**	T	T	08 34 51.6	
	baz=228,slow=77,SNR=7.9						
SNAA	**Sanae**	**49.52**	**204**	P	**P**	**07 43 24.4**	**-0.2**
SNAA	**Sanae**	**49.52**	**204**	P	**P**	**07 43 24.8**	**+0.1**
	3.0nm,0.8s,baz=132,slow=9.1,SNR=16						
SNAA	**Sanae**	**49.52**	**204**	*e*P	**P**	**07 43 24.8**	**+0.1**
	7.7nm,1.0s						
PSI	**Prapat**	**50.10**	**358**	*e*P	**P**	**07 43 27.6**	**-2.1**
	14nm,1.3s						
VNA2	**Neumayer--Watz**	**51.16**	**204**	P	**P**	**07 43 37.0**	**0.0**
	baz=112,slow=7.3						
VNA1	**Neumayer--Stat**	**51.55**	**204**	P	**P**	**07 43 39.4**	**-0.5**
VNA3	**Neumayer Olymp**	**51.59**	**203**	P	**P**	**07 43 37.5**	**-2.8**
URZ	**Urewera**	**55.04**	**111**	P	**P**	**07 44 08.5**	**+2.5**
	6.4nm,0.9s,baz=198,slow=7.1,SNR=3.3						
BOSA	**Boshof**	**59.59**	**260**	LR	LR	08 04 59.5	
	comp=Z,163nm,20.9s,baz=166,slow=31						
HNR	**Honiara**	**62.90**	**73**	LR	LR	08 09 26.2	
	comp=Z,256nm,21.1s,baz=214,slow=33						
CMAR	**Chiang Mai Arr**	**65.66**	**359**	P	**P**	**07 45 18.4**	**-0.3**
	4.3nm,0.6s,baz=193,slow=5.8,SNR=17						
CMAR				LR	LR	08 10 58.2	
	comp=Z,247nm,19.5s,baz=192,slow=33						
QIZ	**Qiongzhong**	**66.80**	**10**	P	**P**	**07 45 26.8**	**+0.8**
QIZ				S	**S**	**07 54 21.3**	**+3.2**
QIZ	**Qiongzhong**	**66.80**	**10**	SS	SS	07 58 40.5	+3.8
QIZ				LR	LR		
	comp=Z,320nm,22.3s						
HYB	**Hyderabad**	**67.44**	**338**	*i* P	**P**	**07 45 30.5**	**+0.3**
KMBO	**Kilima Mbogo**	**71.10**	**290**	LR	LR	08 10 25.1	
	comp=Z,70nm,18.1s,baz=145,slow=30						
KMI	**Kunming**	**72.32**	**3**	P	**P**	**07 46 03.3**	**+3.0**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KSRS	**Korea Array**	**88.16**	**22**	LR	LR	08 29 49.2	
	comp=Z,34nm,18.5s,baz=290,slow=38						
BJI	**Beijing**	**88.33**	**12**	P	**P**	**07 47 26.3**	**+0.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**88.55**	**9**	*e*P	**P**	**07 47 27.5**	**+0.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,45nm,6.8s						
KSH	**Kashi**	**89.26**	**342**	*e*P	**P**	**07 47 31.5**	**+1.2**
KSH				pP	sP	07 47 35.0	-0.2
KSH				sP	pP	07 47 38.5	+4.6
KSH				PP	**PP**	**07 51 04.0**	**+2.5**
KSH	**Kashi**	**89.26**	**342**	SKS	**SKSac**	**07 57 58.3**	**-1.5**
KSH	**Kashi**	**89.26**	**342**	S	**S**	**07 58 18.3**	**-1.1**
KSH	**Kashi**	**89.26**	**342**	sS	sS	07 58 26.0	+0.6
KSH	**Kashi**	**89.26**	**342**	SS	SS	08 04 16.3	+1.6
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,80nm,6.8s						
KSH				LR	LR		
	comp=N,78nm,6.8s						
KSH				LR	LR		
	comp=E,51nm,6.3s						
KSH				LR	LR		
	comp=Z,100nm,5.8s						
PPT	**Papeete**	**90.25**	**117**	LR	LR	08 21 41.7	
	comp=Z,74nm,18.4s,baz=237,slow=31						
WMQ	**Urumqi**	**91.59**	**351**	P	**P**	**07 47 40.0**	**-1.0**
WMQ				pP	pP	07 47 44.0	-0.6
WMQ				sP	sP	07 47 47.3	+1.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,59nm,5.9s						
WMQ				LR	LR		
	comp=N,150nm,25.1s						
WMQ				LR	LR		
	comp=E,91nm,28.7s						
WMQ				LR	LR		
	comp=Z,130nm,32.3s						
PLCA	**Paso Flores**	**91.76**	**187**	LR	LR	08 27 53.3	
	comp=Z,216nm,19.2s,baz=164,slow=35						
GEYT	**Alibeck**	**92.94**	**328**	LR	LR	08 26 22.4	
	comp=Z,34nm,18.1s,baz=325,slow=34						
SONM	**Songino Array**	**95.11**	**4**	LR	LR	08 32 11.6	
	comp=Z,79nm,19.0s,baz=216,slow=36						
MKAR	**Makanchi Array**	**95.19**	**348**	LR	LR	08 30 23.8	
	comp=Z,78nm,18.3s,baz=226,slow=35						
EIL	**Elat**	**96.53**	**307**	LR	LR	08 25 23.7	
	comp=Z,141nm,18.6s,baz=68,slow=32						
GNI	**Garni**	**100.16**	**320**	LR	LR	08 28 44.1	
	comp=Z,102nm,20.2s,baz=66,slow=32						
GERES	**GERESS Array B**	**121.57**	**309**	PKP	**PKPdf**	**07 53 24.7**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=144,slow=3.5,SNR=3.9						
ILAR	**Eielson Array**	**141.06**	**39**	PKnKP	PKPpre	07 53 56.4	
	comp=Z,0.3nm,0.8s,baz=269,slow=5.4,SNR=2.8						
TXAR	**Lajitas Array**	**154.18**	**126**	PKPbc	**PKPbc**	**07 54 33.7**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=208,slow=3.1,SNR=3.4						
PDAR	**Pinedale Array**	**158.63**	**92**	PKPab	**PKPab**	**07 55 06.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=174,slow=0.9,SNR=2.5						

ISCJB ***30*** *07:43:12.1±0.5, 49°.96N±0°.02×78°.49E±0°.07, h0km, Error ellipse: s-maj=6.6km s-min=3.3km az=179.4*
NNC ***30*** *07:43:13.0±0.6, 49°.99N×78°.64E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=8.5km s-min=3.2km az=78.0*
IDC ***30*** *07:43:13.6±0.9, 50°.04N×78°.74E, h0km, mb1 3.3/4, mb1mx3.2/34, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=9.8km s-min=6.9km az=69.0*
ISC 30 07:43:13.8±0.8, 50°.02N±0°.04×78°.62E±0°.06, h0km, n22, σ1§07/34, 17C-16D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**353**	⇓P	**Pg**	**07 43 25.0**	**+0.3**
KUR07				⇓S	**Sb**	**07 43 34.4**	**-0.9**
KUR06	**Kurchatov Arra**	**0.59**	**354**	⇓P	**Pg**	**07 43 24.5**	**-0.5**
KUR06				⇑S	**Sg**	**07 43 34.0**	**+1.2**
KUR14	**Kurchatov Arra**	**0.60**	**358**	⇓P	**Pg**	**07 43 25.2**	**0.0**
KUR14				⇑S	**Sg**	**07 43 33.1**	**0.0**
KUR15	**Kurchatov Arra**	**0.60**	**356**	⇓P	**Pg**	**07 43 25.5**	**+0.1**
KUR15				⇓S	**Sb**	**07 43 35.1**	**-1.2**
KURBB	**Kurchatov Arra**	**0.61**	**355**	Pg	**Pg**	**07 43 25.2**	**-0.2**
	6.0nm,0.3s,baz=168,slow=19,SNR=41						
KURBB				Lg	Lg	07 43 33.5	
	9.4nm,0.3s,baz=168,slow=33,SNR=35						
KURBB	**Kurchatov Arra**	**0.61**	**355**	⇑P	**Pg**	**07 43 25.1**	**-0.4**
	27nm,0.2s						
KURBB				⇑S	**Sg**	**07 43 34.9**	**+1.5**
	120nm,0.5s						
KUR16	**Kurchatov Arra**	**0.62**	**353**	⇓P	**Pg**	**07 43 25.5**	**-0.1**
KUR16				⇓S	**Sg**	**07 43 34.2**	**+0.6**
KUR17	**Kurchatov Arra**	**0.62**	**351**	⇑P	**Pg**	**07 43 25.9**	**+0.2**
KUR17				⇑S	**Sg**	**07 43 35.4**	**+1.6**
KUR05	**Kurchatov Arra**	**0.63**	**355**	⇑P	**Pg**	**07 43 25.7**	**-0.1**
KUR05				⇑S	**Sg**	**07 43 34.7**	**+0.7**
KUR04	**Kurchatov Arra**	**0.65**	**356**	⇑P	**Pg**	**07 43 26.2**	**0.0**
KUR04				⇓S	**Sg**	**07 43 35.4**	**+0.8**
KURK	**Kurchatov**	**0.70**	**0**	⇑P	**Pg**	**07 43 26.4**	**-0.8**
	13nm,0.3s						
KURK				⇑S	**Sg**	**07 43 36.7**	**+0.5**
	11nm,0.3s						
MK31	**Makanchi Array**	**4.05**	**141**	⇓Pn	**Pn**	**07 44 17.3**	**+0.3**
	0.2nm,0.1s,baz=153,slow=41,SNR=112						
MK31				Pg	**Pb**	**07 44 23.9**	**-2.0**
	0.5nm,0.2s,baz=321,slow=14,SNR=25						
MK31				⇑Sn	**Sn**	**07 45 08.3**	**+3.3**
	1.3nm,0.3s,baz=343,slow=21,SNR=5.3						
MK31				⇓Lg	Lg	07 45 20.1	
	14nm,0.6s,baz=327,slow=25,SNR=14						
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 44 16.6**	**-0.4**
	0.8nm,0.3s,baz=327,slow=11,SNR=61						
MKAR				Lg	Lg	07 45 16.8	
	2.9nm,0.3s,baz=326,slow=24,SNR=14						
I46RU	**ZALESOVO INFRA**	**5.49**	**42**	*i*		08 15 10.0	
	baz=219,slow=333,SNR=0.9						
ZAA0	**Zalesovo Array**	**5.49**	**42**	⇓Pn	**Pn**	**07 44 37.6**	**+0.9**
	0.2nm,0.3s						
ZAA0				⇓Sn	**Sn**	**07 45 41.1**	**+0.6**
	0.1nm,0.4s						
ZAA0				⇓Lg	Lg	07 46 04.9	
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**5.49**	**42**	Pn	**Pn**	**07 44 37.7**	**+1.0**
	2.1nm,0.3s,baz=232,slow=14,SNR=22						
ZALV				Lg	Lg	07 46 03.1	
	0.6nm,0.3s,baz=225,slow=26,SNR=3.9						
BVA0	**Borovoye Array**	**5.96**	**304**	⇑Pn	**Pn**	**07 44 43.9**	**+0.8**
	0.2nm,0.2s,baz=108,slow=15,SNR=10						
BVA0				⇑Sn	**Sn**	**07 45 52.7**	**+0.7**
	3.3nm,0.5s,baz=113,slow=22,SNR=16						
BVA0				⇑Lg	Lg	07 46 21.1	
	3.9nm,0.6s						
BVAR	**Borovoye Array**	**5.96**	**304**	Pn	**Pn**	**07 44 43.6**	**+0.5**
	0.3nm,0.3s,baz=114,slow=13,SNR=8.1						
BVAR				Sn	**Sn**	**07 45 50.3**	**-1.7**
	1.9nm,0.3s,baz=112,slow=23,SNR=19						
BVAR				Lg	Lg	07 46 21.0	
	1.6nm,0.3s,baz=121,slow=26,SNR=5.6						
TKM2	**Tokmak 2**	**7.40**	**198**	⇑Lg	Lg	07 47 07.4	
	2.7nm,0.8s						
AAK	**Ala-Archa**	**7.91**	**203**	Pn	**Pn**	**07 45 11.0**	**+0.8**
	0.5nm,0.3s,baz=94,slow=2.1,SNR=5.7						
AAK				Lg	Lg	07 47 22.4	
	0.2nm,0.3s,baz=53,slow=20,SNR=3.4						
MNAS	**Manas**	**8.64**	**212**	⇑Lg	Lg	07 47 45.9	
	1.9nm,0.8s						
KK31	**Karatay Array**	**8.88**	**222**	⇓Pn	**Pn**	**07 45 21.8**	**-1.6**
	0.1nm,0.3s,baz=18,slow=11,SNR=8.0						
KK31				⇓Lg	Lg	07 47 54.6	
	1.6nm,0.6s,baz=35,slow=28,SNR=3.7						

ISK ***30*** *07:43:19.1, 38°.65N×43°.43E, h16km, ML3.1*
ISCJB ***30*** *07:43:22.5±1.0, 38°.83N±0°.04×43°.61E±0°.07, h10km±6km, Error ellipse: s-maj=9.4km s-min=6.3km az=9.0*
CSEM ***30*** *07:43:22.3±0.5, 38°.84N×43°.58E, h15km, MD2.7, Error ellipse: s-maj=10.6km s-min=7.0km az=113.0*
DDA ***30*** *07:43:23.3, 38°.84N×43°.53E, h7km, Md2.7*
ISC 30 07:43:21.9±1.1, 38°.83N±0°.03×43°.53E±0°.04, h17km±8km, n19, σ1§15/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.16**	**13**	*i* P	**Pg**	**07 43 26.6**	**+0.3**
VMUR				*i* S	**Sb**	**07 43 30.4**	**+0.7**
VMUR	**Van-Muradiye**	**0.16**	**13**	P	**Pg**	**07 43 26.6**	**+0.3**
VMUR				S	**Sb**	**07 43 30.4**	**+0.7**
ERCV	**ERCIS-VAN**	**0.24**	**322**	*e*PG	**Pg**	**07 43 27.3**	**-0.1**
ERCV				*e*SG	**Sb**	**07 43 33.3**	**+1.4**
ERCV	**ERCIS-VAN**	**0.24**	**322**	*e*Pg	**Pg**	**07 43 27.3**	**-0.1**
ERCV				*e*Sg	**Sb**	**07 43 33.3**	**+1.4**
TVAN	**Van**	**0.32**	**197**	*i* P	**Pb**	**07 43 29.6**	**+0.4**
TVAN				*i* S	**Sb**	**07 43 36.0**	**+1.9**
TVAN	**Van**	**0.32**	**197**	P	**Pb**	**07 43 29.6**	**+0.4**
TVAN				S	**Sb**	**07 43 36.0**	**+1.9**
CLDR	**Caldiran**	**0.44**	**44**	*e*PG	**Pb**	**07 43 31.8**	**+0.5**
CLDR	**Caldiran**	**0.44**	**44**	*e*Pg	**Pb**	**07 43 31.8**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.63**	**268**	*i* P	**Pb**	**07 43 35.8**	**+1.3**
ADCV				*i* S	**Sn**	**07 43 45.6**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.63**	**268**	P	**Pb**	**07 43 35.8**	**+1.3**
ADCV				S	**Sn**	**07 43 45.6**	**-0.3**
GEVA	**Gevas**	**0.64**	**215**	*i* P	**Pg**	**07 43 34.7**	**+0.3**
GEVA				*i* S	**Sn**	**07 43 46.5**	**+0.4**
GEVA	**Gevas**	**0.64**	**215**	P	**Pg**	**07 43 34.7**	**+0.3**
GEVA				S	**Sn**	**07 43 46.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**331**	*e*PG	**Pg**	**07 43 38.5**	**0.0**
AGRB				*e*SG	**Sn**	**07 43 52.8**	**+1.3**
AGRB	**Hanur-Agry**	**0.85**	**331**	*e*Pg	**Pg**	**07 43 38.5**	**0.0**
AGRB				*e*Sg	**Sn**	**07 43 52.8**	**+1.3**
TATV	**Tatvan**	**1.04**	**252**	*i* P	**Pb**	**07 43 41.5**	**0.0**
TATV				*i* S	**Sn**	**07 43 57.5**	**+1.5**
TATV	**Tatvan**	**1.04**	**252**	P	**Pb**	**07 43 41.5**	**0.0**
TATV				S	**Sn**	**07 43 57.5**	**+1.5**
GURO	**Guroymak-BITLI**	**1.20**	**257**	*e*PN	**Pn**	**07 43 40.4**	**-3.7**
BTMN	**Batman**	**2.01**	**243**	*i* P	**Pb**	**07 43 58.4**	**+0.4**
BTMN	**Batman**	**2.01**	**243**	P	**Pb**	**07 43 58.4**	**+0.4**

CSEM ***30*** *07:47:18.9±0.3, 38°.51N×43°.47E, h5km, ML3.3, Error ellipse: s-maj=5.9km s-min=4.5km az=115.0*
ISK ***30*** *07:47:18.6, 38°.54N×43°.34E, h5km, ML3.1*
DDA ***30*** *07:47:19.2, 38°.53N×43°.45E, h14km, Ml3.3*
ISC 30 07:47:19.9±0.9, 38°.55N±0°.02×43°.45E±0°.03, h7km±5km, n43, σ1§38/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.04**	**238**	*i* P	**Pg**	**07 47 20.6**	**-1.0**
TVAN				*i* S	**Sg**	**07 47 23.8**	**+1.0**
TVAN	**Van**	**0.04**	**238**	P	**Pg**	**07 47 20.6**	**-1.0**
TVAN				S	**Sg**	**07 47 23.8**	**+1.0**
VANB	**Van**	**0.07**	**311**	PG	**Pg**	**07 47 21.0**	**-0.8**
VANB	**Van**	**0.07**	**311**	*i* Pg	**Pg**	**07 47 21.0**	**-0.8**
GEVA	**Gevas**	**0.39**	**233**	*i* P	**Pg**	**07 47 27.1**	**-0.5**
GEVA	**Gevas**	**0.39**	**233**	P	**Pg**	**07 47 27.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.45**	**12**	*i* P	**Pg**	**07 47 28.1**	**-0.5**
VMUR				*i* S	**Sb**	**07 47 36.1**	**-1.2**
VMUR	**Van-Muradi

ISC 30 07:52:35.1±0.9, 38°.80N±0°.02×43°.29E±0°.02, h11km±7km, n60, σ1°38/86, 1C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.22**	**11**	*e*PG	**Pg**	**07 52 40.1**	**+0.3**
ERCV	**ERCIS-VAN**	**0.22**	**11**	*e*Pg	**Pg**	**07 52 40.1**	**+0.3**
VANB	**Van**	**0.22**	**158**	*e*PG	**Pb**	**07 52 41.3**	**+0.1**
VANB				*e*SG	**Sg**	**07 52 45.6**	**+2.7**
VANB	**Van**	**0.22**	**158**	*e*Pg	**Pb**	**07 52 41.3**	**+0.1**
TVAN	**Van**	**0.29**	**161**	⇑*i*P	**Pg**	**07 52 41.3**	**+0.3**
TVAN				*i* S	**Sb**	**07 52 46.6**	**-0.7**
TVAN	**Van**	**0.29**	**161**	P	**Pg**	**07 52 41.3**	**+0.3**
TVAN				S	**Sb**	**07 52 46.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.29**	**50**	⇓*i*P	**Pg**	**07 52 38.6**	**-2.5**
VMUR				*i* S	**Sb**	**07 52 48.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.29**	**50**	P	**Pg**	**07 52 38.6**	**-2.5**
VMUR				S	**Sb**	**07 52 48.7**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.44**	**271**	*i* P	**Pg**	**07 52 43.2**	**-0.5**
ADCV				*i* S	**Sg**	**07 52 49.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.44**	**271**	P	**Pg**	**07 52 43.2**	**-0.5**
ADCV				S	**Sg**	**07 52 49.7**	**+0.1**
GEVA	**Gevas**	**0.52**	**200**	*i* P	**Pg**	**07 52 43.5**	**-1.7**
GEVA				*i* S	**Sg**	**07 52 51.5**	**-0.7**
GEVA	**Gevas**	**0.52**	**200**	P	**Pg**	**07 52 43.5**	**-1.7**
GEVA				S	**Sg**	**07 52 51.5**	**-0.7**
CLDR	**Caldiran**	**0.60**	**55**	*e*PG	**Pg**	**07 52 45.8**	**-1.0**
CLDR				*e*SG	**Sg**	**07 52 54.2**	**-0.5**
CLDR	**Caldiran**	**0.60**	**55**	*i* P	Pg	07 52 42.0	-4.8
CLDR	**Caldiran**	**0.60**	**55**	P	Pg	07 52 42.0	-4.8
CLDR	**Caldiran**	**0.60**	**55**	*e*Pg	**Pg**	**07 52 45.8**	**-1.0**
CLDR				*e*Sg	**Sg**	**07 52 54.2**	**-0.5**
TUTA	**Tutak**	**0.70**	**329**	⇓*i*P	**Pg**	**07 52 48.5**	**-0.2**
TUTA	**Tutak**	**0.70**	**329**	P	**Pg**	**07 52 48.5**	**-0.2**
DYDN	**Diyadin**	**0.81**	**23**	*i* P	**Pg**	**07 52 46.8**	**-3.9**
DYDN				*i* S	**Sn**	**07 53 03.9**	**-0.8**
DYDN	**Diyadin**	**0.81**	**23**	P	**Pg**	**07 52 46.8**	**-3.9**
DYDN				S	**Sn**	**07 53 03.9**	**-0.8**
AGRB	**Hanur-Agry**	**0.81**	**344**	*e*PG	**Pg**	**07 52 50.6**	**0.0**
AGRB	**Hanur-Agry**	**0.81**	**344**	*e*Pg	**Pg**	**07 52 50.6**	**0.0**
TATV	**Tatvan**	**0.85**	**250**	⇓*i*P	**Pg**	**07 52 49.4**	**-2.1**
TATV				*i* S	**Sg**	**07 53 00.1**	**-2.5**
TATV	**Tatvan**	**0.85**	**250**	P	**Pg**	**07 52 49.4**	**-2.1**
TATV				S	**Sg**	**07 53 00.1**	**-2.5**
BASK	**Baskale_VAN**	**0.94**	**143**	*i* P	**Pg**	**07 52 52.6**	**-0.6**
BASK				*i* S	**Sb**	**07 53 06.4**	**+0.4**
BASK	**Baskale_VAN**	**0.94**	**143**	P	**Pg**	**07 52 52.6**	**-0.6**
BASK				S	**Sb**	**07 53 06.4**	**+0.4**
GURO	**Guroymak-BITLI**	**1.01**	**256**	*e*PG	**Pb**	**07 52 55.0**	**+0.3**
GURO	**Guroymak-BITLI**	**1.01**	**256**	*e*Pg	**Pb**	**07 52 55.0**	**+0.3**
EKAR	**Karacoban**	**1.05**	**296**	*i* P	**Pn**	**07 52 56.7**	**+0.7**
EKAR				*i* S	**Sn**	**07 53 13.6**	**+2.8**
EKAR	**Karacoban**	**1.05**	**296**	P	**Pn**	**07 52 56.7**	**+0.7**
EKAR				S	**Sn**	**07 53 13.6**	**+2.8**
EATA	**Eleskirt**	**1.23**	**330**	⇓*i*P	**Pn**	**07 52 58.0**	**-0.4**
EATA				*i* S	**Sn**	**07 53 16.6**	**+1.5**
EATA	**Eleskirt**	**1.23**	**330**	P	**Pn**	**07 52 58.0**	**-0.4**
EATA				S	**Sn**	**07 53 16.6**	**+1.5**
SIRN	**S¨–rnak**	**1.47**	**208**	*i* P	**Pn**	**07 53 01.8**	**+0.2**
SIRN				*i* S	**Sn**	**07 53 19.8**	**-1.1**
SIRN	**S¨–rnak**	**1.47**	**208**	P	**Pn**	**07 53 01.8**	**+0.2**
SIRN				S	**Sn**	**07 53 19.8**	**-1.1**
CUKT	**Cukurca**	**1.57**	**171**	*e*PN	**Pn**	**07 53 03.6**	**+0.6**
CUKT	**Cukurca**	**1.57**	**171**	*i* P	**Pb**	**07 53 05.0**	**+0.8**
CUKT	**Cukurca**	**1.57**	**171**	*e*Pn	**Pn**	**07 53 03.6**	**+0.6**
CUKT	**Cukurca**	**1.57**	**171**	P	**Pb**	**07 53 05.0**	**+0.8**
DIGO	**Kars**	**1.61**	**2**	*i* P	**Pb**	**07 53 05.3**	**+0.3**
DIGO	**Kars**	**1.61**	**2**	P	**Pb**	**07 53 05.3**	**+0.3**
BNGL	**BINGOL**	**1.67**	**276**	*i* P	**Pn**	**07 53 04.6**	**+0.1**
BNGL				*i* S	**Sb**	**07 53 27.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.76**	**249**	*e*PN	**Pn**	**07 53 06.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.76**	**249**	*i* P	**Pn**	**07 53 05.8**	**+0.2**
SVAN				*i* S	**Sb**	**07 53 29.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.76**	**249**	P	**Pn**	**07 53 05.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.76**	**249**	*e*Pn	**Pn**	**07 53 06.3**	**+0.7**
SVAN				S	**Sb**	**07 53 29.3**	**-0.2**
BTMN	**Batman**	**1.83**	**241**	*i* P	**Pn**	**07 53 07.1**	**+0.6**
BTMN				*i* S	**Sn**	**07 53 30.1**	**+0.5**
BTMN	**Batman**	**1.83**	**241**	P	**Pn**	**07 53 07.1**	**+0.6**
BTMN				S	**Sn**	**07 53 30.1**	**+0.5**
ERZM	**Erzurum**	**1.85**	**307**	*i* P	**Pb**	**07 53 09.1**	**0.0**
ERZM	**Erzurum**	**1.85**	**307**	P	**Pb**	**07 53 09.1**	**0.0**
EAK	**Akyaka**	**1.90**	**7**	*i* P	**Pg**	**07 53 12.1**	**+0.6**
EAK	**Akyaka**	**1.90**	**7**	P	**Pg**	**07 53 12.1**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.97**	**295**	*i* P	**Pn**	**07 53 05.8**	**-2.7**
ECAT	**Cat-ERZURUM**	**1.97**	**295**	P	**Pn**	**07 53 05.8**	**-2.7**
BNGB	**Bing¨¶l**	**2.04**	**276**	*e*PN	**Pb**	**07 53 11.6**	**-0.7**
BINT	**Bingol**	**2.19**	**273**	*e*Pn	**Pn**	**07 53 11.6**	**+0.1**
MARD	**Mardin**	**2.47**	**234**	*i* P	**Pn**	**07 53 14.6**	**-0.8**
MAZI	**Mazidag**	**2.61**	**240**	*e*PN	**Pn**	**07 53 19.6**	**+2.3**
MAZI	**Mazidag**	**2.61**	**240**	*e*Pn	**Pn**	**07 53 19.6**	**+2.3**
PTK	**Pertek**	**3.04**	**273**	*e*PN	**Pn**	**07 53 25.8**	**+2.5**
PTK	**Pertek**	**3.04**	**273**	*e*Pn	**Pn**	**07 53 25.8**	**+2.5**

*ISCJB **30** 07:54:30.3±0.8, 19°.86S±0°.05×69°.0W±0°.2, h104km, mb3.7/4, Error ellipse: s-maj=21.5km s-min=7.3km az=7.4*
*IDC **30** 07:54:32.6±1.4, 19°.97S×68°.89W, h116km±14km, mb3.4/5, mb1 3.7/8, mb1mx3.4/26, mbtmp4.0/8, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=25.6km s-min=13.6km az=100.0*

ISC 30 07:54:31.4±0.9, 19°.88S±0°.07×69°.0W±0°.2, h104km, n17, σ0°74/12, mb3.8/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.72**	**179**	P	**Pn**	**07 55 14.6**	**+0.7**
	973nm,0.3s,baz=24,slow=12,SNR=275						
LVC				S	**Sn**	**07 55 46.5**	**0.0**
	1μm,0.3s,baz=30,slow=20,SNR=30						
LPAZ	**La Paz**	**3.66**	**13**	P	Pn	07 55 30.9	+4.2
	7.5nm,0.3s,baz=204,slow=6.7,SNR=156						
LPAZ				S	**Sn**	**07 56 10.1**	**+0.8**
	baz=214,slow=7.3,SNR=1.7						
SIV	**San Ignacio**	**8.44**	**64**	P	**Pn**	**07 56 31.4**	**+0.4**
	2.7nm,0.3s,baz=262,slow=12,SNR=38						
ATAH	**Atahualpa**	**15.63**	**323**	LR	LR	08 05 21.5	
	comp=Z,81nm,18.4s,baz=192,slow=41						
PTGA	**Pitinga**	**20.97**	**26**	P	**P**	**07 59 05.5**	**-0.8**
	1.0nm,0.5s,baz=162,slow=20,SNR=3.4						
TXAR	**Lajitas Array**	**59.28**	**325**	P	**P**	**08 04 22.4**	**0.0**
	0.1nm,0.6s,baz=135,slow=9.0,SNR=2.4						
DBIC	**Dimbokro**	**68.33**	**74**	P	**P**	**08 05 22.0**	**0.0**
	0.7nm,0.4s,baz=229,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.86**	**71**	P	**P**	**08 06 12.2**	**-0.4**
	0.5nm,0.4s,baz=250,slow=5.7,SNR=10						
TORD				pP	**pP**	**08 06 39.1**	**-0.1**
	0.4nm,0.5s,baz=247,slow=5.5,SNR=2.2						
YKA	**Yellowknife Ar**	**89.65**	**341**	P	**P**	**08 07 17.4**	**+0.3**
	1.5nm,0.7s,baz=137,slow=4.3,SNR=5.3						
H11S2	**WAKE ISLAND Hyl**	**27.61**	**278**	T	T	10 33 10.2	
	baz=101,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hyl**	**27.62**	**278**	T	T	10 33 07.4	
	baz=101,slow=75,SNR=39						
H11S3	**WAKE ISLAND Hyl**	**27.63**	**278**	T	T	10 33 06.8	
	baz=101,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hyl**	**27.65**	**280**	T	T	10 33 10.4	
	baz=101,slow=74,SNR=8.6						
H11N2	**WAKE ISLAND Hyl**	**27.67**	**280**	T	T	10 33 13.2	
	baz=101,slow=74,SNR=8.6						
H11N1	**WAKE ISLAND Hyl**	**27.67**	**280**	T	T	10 33 15.4	
	baz=101,slow=74,SNR=5.7						
MKAR	**Makanchi Array**	**144.34**	**35**	PKP	**PKPdf**	**08 13 53.9**	**-1.5**
	0.2nm,0.5s,baz=337,slow=3.3,SNR=3.3						
SONM	**Songino Array**	**151.86**	**7**	PKPbc	**PKPbc**	**08 14 15.0**	**+0.7**
	0.5nm,0.3s,baz=290,slow=1.0,SNR=3.3						

*ISK **30** 08:06:20.9, 38°.93N×43°.54E, h15km, ML3.1*
*ISCJB **30** 08:06:21.7±0.5, 38°.94N±0°.02×43°.51E±0°.04, h6km±5km, Error ellipse: s-maj=4.7km s-min=3.8km az=9.9*
*CSEM **30** 08:06:21.5±0.2, 38°.93N×43°.52E, h10km, ML3.1, Error ellipse: s-maj=5.1km s-min=4.1km az=105.0*
*DDA **30** 08:06:21.6, 38°.93N×43°.54E, h6km, Ml3.5*

ISC 30 08:06:20.9±1.1, 38°.92N±0°.02×43°.53E±0°.02, h6km±10km, n50, σ1°00/76, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.34**	**199**	PG	**Pb**	**08 06 29.5**	**+0.1**
VANB				*e*SG	**Sb**	**08 06 37.5**	**+2.4**
VANB	**Van**	**0.34**	**199**	*i* Pg	**Pb**	**08 06 29.5**	**+0.1**
CLDR	**Caldiran**	**0.38**	**53**	PG	**Pg**	**08 06 28.2**	**-0.2**
CLDR				*e*SG	**Sb**	**08 06 35.1**	**-1.4**
CLDR	**Caldiran**	**0.38**	**53**	⇑*i*P	**Pg**	**08 06 28.4**	**0.0**
CLDR				*i* S	**Sg**	**08 06 34.7**	**+1.3**
CLDR	**Caldiran**	**0.38**	**53**	P	**Pg**	**08 06 28.4**	**0.0**
CLDR				S	**Sg**	**08 06 34.7**	**+1.3**
CLDR				*e*Sg	**Sb**	**08 06 35.1**	**-1.4**
TVAN	**Van**	**0.40**	**194**	*i* P	**Pg**	**08 06 29.5**	**+0.8**
TVAN				*i* S	**Sb**	**08 06 37.0**	**+0.1**
TVAN	**Van**	**0.40**	**194**	P	**Pg**	**08 06 29.5**	**+0.8**
TVAN				S	**Sb**	**08 06 37.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.63**	**261**	*i* P	**Pb**	**08 06 34.0**	**-0.5**
ADCV				*i* S	**Sb**	**08 06 43.7**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.63**	**261**	P	**Pb**	**08 06 34.0**	**-0.5**
ADCV				S	**Sb**	**08 06 43.7**	**0.0**
DYDN	**Diyadin**	**0.64**	**11**	⇓*i*P	**Pb**	**08 06 33.8**	**-0.9**
DYDN				*i* S	**Sb**	**08 06 43.5**	**-0.5**
DYDN	**Diyadin**	**0.64**	**11**	P	**Pb**	**08 06 33.8**	**-0.9**
DYDN				S	**Sb**	**08 06 43.5**	**-0.5**
GEVA	**Gevas**	**0.70**	**211**	*i* P	**Pg**	**08 06 32.4**	**-2.1**
GEVA				*i* S	**Sb**	**08 06 46.1**	**+0.4**
GEVA	**Gevas**	**0.70**	**211**	P	**Pg**	**08 06 32.3**	**-2.1**
GEVA				S	**Sb**	**08 06 46.1**	**+0.4**
TUTA	**Tutak**	**0.74**	**312**	⇓*i*P	**Pb**	**08 06 35.2**	**-1.1**
TUTA				*i* S	**Sg**	**08 06 43.7**	**-1.0**
TUTA	**Tutak**	**0.74**	**312**	P	**Pb**	**08 06 35.2**	**-1.1**
TUTA				S	**Sg**	**08 06 43.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.78**	**328**	*e*PG	**Pb**	**08 06 36.1**	**-0.9**
AGRB				*e*SG	**Sb**	**08 06 48.2**	**+0.2**
AGRB	**Hanur-Agry**	**0.78**	**328**	*e*Pg	**Pb**	**08 06 36.1**	**-0.9**
AGRB				*e*Sg	**Sb**	**08 06 48.2**	**+0.2**
BASK	**Baskale_VAN**	**0.94**	**156**	*i* P	**Pg**	**08 06 39.2**	**+0.2**
BASK				*i* S	**Sn**	**08 06 54.4**	**-0.3**
BASK	**Baskale_VAN**	**0.94**	**156**	P	**Pg**	**08 06 39.2**	**+0.2**
BASK				S	**Sn**	**08 06 54.4**	**-0.3**
TATV	**Tatvan**	**1.06**	**248**	*i* P	**Pg**	**08 06 40.9**	**-0.4**
TATV				*i* S	**Sn**	**08 06 56.6**	**-1.2**
TATV	**Tatvan**	**1.06**	**248**	P	**Pg**	**08 06 40.9**	**-0.4**
TATV				S	**Sn**	**08 06 56.6**	**-1.2**
EKAR	**Karacoban**	**1.19**	**287**	*i* P	**Pn**	**08 06 45.3**	**+1.0**
EKAR				*i* S	**Sn**	**08 07 03.8**	**+2.9**
EKAR	**Karacoban**	**1.19**	**287**	P	**Pn**	**08 06 45.3**	**+1.0**
EKAR				S	**Sn**	**08 07 03.8**	**+2.9**
GURO	**Guroymak-BITLI**	**1.22**	**253**	*e*PN	**Pg**	**08 06 43.9**	**-0.5**
GURO	**Guroymak-BITLI**	**1.22**	**253**	*e*Pn	**Pg**	**08 06 43.9**	**-0.5**
DIGO	**Kars**	**1.50**	**356**	*i* P	**Pg**	**08 06 50.3**	**+0.6**
DIGO	**Kars**	**1.50**	**356**	P	**Pg**	**08 06 50.3**	**+0.6**
SRTM	**Siirt_Merkez**	**1.56**	**234**	*i* P	**Pg**	**08 06 51.3**	**+0.5**
SRTM	**Siirt_Merkez**	**1.56**	**234**	P	**Pg**	**08 06 51.3**	**+0.5**
CUKT	**Cukurca**	**1.67**	**178**	*e*PN	**Pn**	**08 06 50.9**	**+0.1**
CUKT	**Cukurca**	**1.67**	**178**	*e*Pn	**Pn**	**08 06 50.9**	**+0.1**
HOMI	**Horasan**	**1.69**	**313**	*i* P	**Pg**	**08 06 54.4**	**+1.2**
BNGL	**BINGOL**	**1.85**	**272**	*i* P	**Pb**	**08 06 54.6**	**-0.7**
BNGL				*i* S	**Sg**	**08 07 22.4**	**+1.9**
ERZM	**Erzurum**	**1.94**	**301**	*i* P	**Pg**	**08 06 59.3**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	*e*PN	**Pn**	**08 06 55.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	*i* P	**Pn**	**08 06 55.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	P	**Pn**	**08 06 55.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.98**	**248**	*e*Pn	**Pn**	**08 06 55.6**	**+0.6**
BTMN	**Batman**	**2.05**	**241**	*i* P	**Pg**	**08 06 59.7**	**-0.4**
BTMN				*i* S	**Sg**	**08 07 25.9**	**-0.7**
BTMN	**Batman**	**2.05**	**241**	P	**Pg**	**08 06 59.7**	**-0.4**
BTMN				S	**Sg**	**08 07 25.9**	**-0.7**
BNGB	**Bing¨¶l**	**2.22**	**273**	*e*PN	**Pn**	**08 06 58.8**	**+0.4**
BINT	**Bingol**	**2.37**	**270**	*e*Pn	**Pn**	**08 06 58.8**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*PN	**Pn**	**08 06 59.9**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	*e*Pn	**Pn**	**08 06 59.9**	**-0.7**
MAZI	**Mazidag**	**2.83**	**240**	*e*PN	**Pn**	**08 07 06.6**	**-0.2**
MAZI	**Mazidag**	**2.83**	**240**	*e*Pn	**Pn**	**08 07 06.6**	**-0.2**
PTK	**Pertek**	**3.23**	**271**	*e*PN	**Pn**	**08 07 11.7**	**-0.6**
PTK	**Pertek**	**3.23**	**271**	*e*Pn	**Pn**	**08 07 11.7**	**-0.6**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*PN	**Pn**	**08 07 14.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**3.35**	**262**	*e*Pn	**Pn**	**08 07 14.8**	**+0.9**

*CSEM **30** 08:07:16.9±0.3, 38°.72N×43°.58E, h20km, ML2.7, Error ellipse: s-maj=8.6km s-min=4.7km az=129.0*
*ISCJB **30** 08:07:17.2±0.9, 38°.72N±0°.04×43°.59E±0°.07, h29km±5km, Error ellipse: s-maj=9.9km s-min=5.5km az=26.6*
*ISK **30** 08:07:17.3, 38°.76N×43°.52E, h20km, ML2.7*
*DDA **30** 08:07:18.2, 38°.78N×43°.45E, h7km, Md2.8*

ISC 30 08:07:17.4±1.0, 38°.75N±0°.03×43°.55E±0°.04, h23km±7km, n22, σ0°69/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**219**	*e*PG	**Pb**	**08 07 22.9**	**-0.2**
VANB				*e*SG	**Sb**	**08 07 29.1**	**+2.1**
VANB	**Van**	**0.20**	**219**	*e*Pg	**Pb**	**08 07 22.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.23**	**3**	*i* P	**Pb**	**08 07 22.7**	**-0.9**
VMUR				*i* S	**Sb**	**08 07 27.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.23**	**3**	P	**Pb**	**08 07 22.7**	**-0.9**
VMUR				S	**Sb**	**08 07 27.9**	**+0.1**
TVAN	**Van**	**0.25**	**207**	*i* P	**Pb**	**08 07 22.8**	**-1.0**
TVAN				*i* S	**Sb**	**08 07 28.3**	**+0.1**
TVAN	**Van**	**0.25**	**207**	P	**Pb**	**08 07 22.8**	**-1.0**
TVAN				S	**Sb**	**08 07 28.3**	**+0.1**
CLDR	**Caldiran**	**0.48**	**36**	*e*PG	**Pb**	**08 07 26.9**	**-0.6**
CLDR				*e*SG	**Sn**	**08 07 36.1**	**-0.8**
CLDR	**Caldiran**	**0.48**	**36**	*i* P	**Pb**	**08 07 27.5**	**+0.1**
CLDR				*i* S	**Sn**	**08 07 36.6**	**-0.3**
CLDR	**Caldiran**	**0.48**	**36**	*e*Pg	**Pb**	**08 07 26.9**	**-0.6**
CLDR	**Caldiran**	**0.48**	**36**	P	**Pb**	**08 07 27.5**	**+0.1**
CLDR				*e*Sg	**Sn**	**08 07 36.1**	**-0.8**
GEVA	**Gevas**	**0.59**	**221**	*i* P	**Pb**	**08 07 29.1**	**-0.1**
GEVA	**Gevas**	**0.59**	**221**	P	**Pb**	**08 07 29.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**275**	*i* P	**Pb**	**08 07 29.7**	**-0.5**
ADCV				*i* S	**Sn**	**08 07 41.0**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.65**	**275**	P	**Pb**	**08 07 29.7**	**-0.5**
ADCV				S	**Sn**	**08 07 41.0**	**0.0**
TUTA	**Tutak**	**0.87**	**319**	*i* P	**Pb**	**08 07 33.2**	**-0.7**
TUTA				*i* S	**Sb**	**08 07 45.1**	**-0.1**
TUTA	**Tutak**	**0.87**	**319**	P	**Pb**	**08 07 33.2**	**-0.7**
TUTA				S	**Sb**	**08 07 45.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.93**	**332**	*e*PG	**Pn**	**08 07 36.4**	**+1.2**
AGRB				*e*SG	**Sn**	**08 07 48.6**	**+0.7**
AGRB	**Hanur-Agry**	**0.93**	**332**	*e*Pg	**Pn**	**08 07 36.4**	**+1.2**
AGRB				*e*Sg	**Sn**	**08 07 48.6**	**+0.7**
TATV	**Tatvan**	**1.04**	**257**	*i* P	**Pn**	**08 07 36.2**	**-0.5**
TATV				*i* S	**Sb**	**08 07 49.9**	**-0.1**
TATV	**Tatvan**	**1.04**	**257**	P	**Pn**	**08 07 36.2**	**-0.5**
TATV				S	**Sb**	**08 07 49.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*PN	**Pn**	**08 07 39.3**	**+0.3**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*Pn	**Pn**	**08 07 39.3**	**+0.3**

IDC 30 08:08:28.8±3.1, 5°.23S×152°.52E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.5/35, mbtmp3.9/3, ML1.5/1, Error ellipse: s-maj=128.7km s-min=41.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.75**	**232**	Pn	Pn	08 10 11.5	+2.3
	0.6nm,0.3s,baz=61,slow=19,SNR=2.3						
PMG				Sn	Sn	08 11 22.5	-4.3
	4.5nm,0.3s,baz=37,slow=20,SNR=6.8						
WRA	**Warramunga Arr**	**22.96**	**229**	P	P	08 13 34.0	-1.1
	1.4nm,0.6s,baz=55,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.65**	**223**	P	P	08 14 00.8	+0.3
	1.2nm,0.4s,baz=56,slow=8.9,SNR=26						
TORD	**Torodi Ar. Bea**	**150.17**	**287**	PKPbc	PKPbc	08 28 22.3	-0.6
	0.5nm,0.8s,baz=87,slow=2.0,SNR=2.6						

*ISK **30** 08:11:45.7, 38°.69N×43°.17E, h9km, ML2.2*
*ISCJB **30** 08:11:46.5±0.9, 38°.64N±0°.05×43°.21E±0°.05, h25km±9km, Error ellipse: s-maj=7.8km s-min=7.0km az=162.4*
*CSEM **30** 08:11:46.5±0.2, 38°.68N×43°.18E, h10km, ML2.2, Error ellipse: s-maj=5.4km s-min=4.9km az=8.0*
*DDA **30** 08:11:46.8, 38°.68N×43°.19E, h7km, Md2.5*

ISC 30 08:11:46.8±1.1, 38°.65N±0°.04×43°.21E±0°.03, h23km±9km, n20, σ0°67/30, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**113**	PG	**Pb**	**08 11 51.6**	**-0.2**
VANB				*e*SG	**Sb**	**08 11 55.7**	**+0.5**
VANB	**Van**	**0.15**	**113**	*i* Pg	**Pb**	**08 11 51.6**	**-0.2**
VANB				*e*Sg	**Sb**	**08 11 55.7**	**+0.5**
TVAN	**Van**	**0.20**	**129**	⇓*i*P	**Pb**	**08 11 51.5**	**-0.9**
TVAN				*i* S	**Sb**	**08 11 55.7**	**-0.5**
TVAN	**Van**	**0.20**	**129**	P	**Pb**	**08 11 51.5**	**-0.9**
TVAN				S	**Sb**	**08 11 55.7**	**-0.5**
GEVA	**Gevas**	**0.36**	**200**	*i* P	**Pb**	**08 11 54.2**	**-0.5**
GEVA	**Gevas**	**0.36**	**200**	P	**Pb**	**08 11 54.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**292**	*i* P	**Pb**	**08 11 55.0**	**-0.6**
ADCV				*i* S	**Sb**	**08 12 01.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.41**	**292**	P	**Pb**	**08 11 55.0**	**-0.6**
ADCV				S	**Sb**	**08 12 01.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**40**	*i* P	**Pb**	**08 11 55.5**	**-0.5**
VMUR	**Van-Muradiye**	**0.44**	**40**	P	**Pb**	**08 11 55.5**	**-0.5**
CLDR	**Caldiran**	**0.74**	**48**	*e*PG	**Pb**	**08 12 00.1**	**-0.9**
CLDR				*e*SG	**Sb**	**08 12 11.1**	**+0.3**
CLDR	**Caldiran**	**0.74**	**48**	*e*Pg	**Pb**	**08 12 00.1**	**-0.9**
CLDR				*e*Sg	**Sb**	**08 12 11.1**	**+0.3**
TUTA	**Tutak**	**0.81**	**338**	*i* P	**Pb**	**08 12 01.9**	**-0.4**
TUTA				*i* S	**Sb**	**08 12 12.7**	**-0.3**
TUTA	**Tutak**	**0.81**	**338**	P	**Pb**	**08 12 01.9**	**-0.4**
TUTA				S	**Sb**	**08 12 12.7**	**-0.3**
GURO	**Guroymak-BITLI**	**0.93**	**264**	*e*PG	**Pb**	**08 12 03.3**	**-1.0**
GURO	**Guroymak-BITLI**	**0.93**	**264**	*e*Pg	**Pb**	**08 12 03.3**	**-1.0**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*PG	**Pb**	**08 12 03.8**	**-0.7**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*Pg	**Pb**	**08 12 03.8**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	*e*PN	**Pn**	**08 12 15.4**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	*e*Pn	**Pn**	**08 12 15.4**	**+0.9**

*ISK **30** 08:18:26.7, 38°.67N×43°.18E, h14km, ML2.3*
*CSEM **30** 08:18:27.6±0.3, 38°.65N×43°.18E, h10km, ML2.3, Error ellipse: s-maj=6.6km s-min=5.9km az=48.0*
*DDA **30** 08:18:28.3, 38°.64N×43°.18E, h7km, Ml3.2*

ISC 30 08:18:27.8±1.0, 38°.64N±0°.03×43°.16E±0°.03, h17km±9km, n18, σ0°97/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**104**	PG	**Pg**	**08 18 32.3**	**-0.2**
VANB				*e*SG	**Sg**	**08 18 36.4**	**+0.7**
VANB	**Van**	**0.19**	**104**	*i* Pg	**Pg**	**08 18 32.3**	**-0.2**
VANB				*e*Sg	**Sg**	**08 18 36.4**	**+0.7**
TVAN	**Van**	**0.23**	**119**	*i* P	**Pg**	**08 18 32.2**	**-1.0**
TVAN				*i* S	**Sg**	**08 18 36.3**	**-0.5**
TVAN	**Van**	**0.23**	**119**	P	**Pg**	**08 18 32.2**	**-1.0**
TVAN				S	**Sg**

WRA Warramunga Arr 54.19 95 P P 08 30 43.6 -0.1
2.5nm,1.0s,baz=252,slow=7.5,SNR=5.0
MKAR Makanchi Array 75.43 5 P P 08 32 59.6 -1.9
1.4nm,1.0s,baz=194,slow=7.3,SNR=4.0
SONM Songino Array 81.21 21 P P 08 33 33.9 +0.2
0.8nm,0.9s,baz=219,slow=3.7,SNR=4.0
TORD Torodi Ar. Bea 82.19 290 P P 08 33 40.0 +0.5
0.4nm,0.8s,baz=103,slow=6.4,SNR=2.3

IDC 30 08:22:03.4±1.6, 29°.01S×74°.62E, h0^{km}, mb3.9/4, mb1 4.1/4, mb1mx3.6/44, mbtmp3.9/4, Error ellipse: s-maj=58.6km s-min=31.5km az=13.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.34**	**354**	T	T	08 48 44.6	
	baz=172						
H08S1	**Diego Carcia H**	**21.34**	**354**	T	T	08 48 45.9	
	baz=172						
H08S3	**Diego Garcia H**	**21.36**	**354**	T	T	08 48 44.9	
	baz=172						
CMAR	**Chiang Mai Arr**	**52.71**	**29**	P	P	08 31 19.9	-0.1
	0.6nm,0.3s,baz=213,slow=6.5,SNR=3.0						
ASAR	**Alice Springs**	**52.93**	**99**	P	P	08 31 21.7	-0.1
	1.2nm,0.8s,baz=246,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**54.61**	**95**	P	P	08 31 34.0	-0.1
	1.6nm,0.7s,baz=250,slow=7.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**81.87**	**290**	P	P	08 34 25.1	0.0
	0.5nm,0.9s,baz=134,slow=6.2,SNR=2.5						

IDC 30 08:24:00.2±1.6, 29°.01S×74°.67E, h0^{km}, mb3.9/6, mb1 4.2/6, mb1mx3.7/42, mbtmp3.9/6, Error ellipse: s-maj=50.0km s-min=29.0km az=23.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.36**	**354**	T	T	08 50 36.6	
	baz=175,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**21.36**	**354**	T	T	08 50 36.1	
	baz=175,slow=76,SNR=8.8						
H08S3	**Diego Garcia H**	**21.37**	**354**	T	T	08 50 37.8	
	baz=175,slow=76,SNR=9.8						
CMAR	**Chiang Mai Arr**	**52.70**	**29**	P	P	08 33 17.4	+0.7
	0.8nm,0.4s,baz=203,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**52.88**	**99**	P	P	08 33 18.1	-0.1
	2.7nm,1.1s,baz=249,slow=6.9,SNR=9.7						
WRA	**Warramunga Arr**	**54.57**	**95**	P	P	08 33 30.4	-0.2
	4.1nm,1.1s,baz=250,slow=7.1,SNR=5.8						
MKAR	**Makanchi Array**	**75.77**	**5**	P	P	08 35 46.6	-1.0
	0.8nm,1.0s,baz=191,slow=5.3,SNR=2.6						
SONM	**Songino Array**	**81.64**	**21**	P	P	08 36 20.5	+0.4
	0.3nm,0.4s,baz=212,slow=5.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.91**	**290**	P	P	08 36 22.4	+0.3
	0.7nm,0.9s,baz=114,slow=5.4,SNR=3.0						

*DDA **30** 08:32:42.9, 39°.10N×29°.10E, h7^{km}, Md2.7*
*ISK **30** 08:32:42.1, 39°.06N×29°.16E, h6^{km}, ML2.2*
*ISCJB **30** 08:32:43.0±0.5, 39°.07N±0°.04×29°.13E±0°.04, h7^{km}±5^{km}, Error ellipse: s-maj=7.6km s-min=3.8km az=152.8*
*CSEM **30** 08:32:43.0±0.1, 39°.06N×29°.13E, h8^{km}, ML2.2, Error ellipse: s-maj=3.0km s-min=1.7km az=147.0*
ISC 30 08:32:43.0±0.9, 39°.07N±0°.03×29°.13E±0°.03, h10^{km}±7^{km}, n33, σ 9°.49/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**276**	PG	**Pg**	**08 32 45.9**	**0.0**
SIMA				*e*SG	**Sg**	**08 32 47.7**	**-0.3**
SIMA	**Simav-Kutahya**	**0.12**	**276**	*i* Pg	**Pg**	**08 32 45.9**	**0.0**
SIMA				*e*Sg	**Sg**	**08 32 47.7**	**-0.3**
GDZ	**Gediz**	**0.27**	**86**	*i* P	**Pb**	**08 32 49.4**	**-0.7**
GDZ				*i* S	**Sg**	**08 32 53.5**	**+1.2**
GDZ	**Gediz**	**0.27**	**86**	P	**Pb**	**08 32 49.4**	**-0.7**
GDZ				S	**Sg**	**08 32 53.5**	**+1.2**
DEMI	**Demirci**	**0.33**	**265**	*i* P	**Pg**	**08 32 49.5**	**-0.1**
DEMI				*i* S	**Sg**	**08 32 53.7**	**-0.2**
DEMI	**Demirci**	**0.33**	**265**	P	**Pg**	**08 32 49.5**	**-0.1**
DEMI				S	**Sg**	**08 32 53.7**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**34**	PG	**Pg**	**08 32 51.8**	**-0.2**
TVSB				*e*SG	**Sg**	**08 32 57.6**	**-0.4**
TVSB	**Tavsanli**	**0.46**	**34**	*i* Pg	**Pg**	**08 32 51.8**	**-0.2**
TVSB				*e*Sg	**Sg**	**08 32 57.6**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**214**	*e*PG	**Pg**	**08 32 55.5**	**-0.5**
KULA				*e*SG	**Sg**	**08 33 05.0**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**214**	*e*Pg	**Pg**	**08 32 55.5**	**-0.5**
KULA				*e*Sg	**Sg**	**08 33 05.0**	**+0.3**
AKHS	**Akhisar**	**1.05**	**260**	*i* P	**Pg**	**08 33 02.7**	**-0.4**
AKHS				*i* S	**Sb**	**08 33 17.0**	**-0.1**
AKHS	**Akhisar**	**1.05**	**260**	P	**Pg**	**08 33 02.7**	**-0.4**
AKHS				S	**Sb**	**08 33 17.0**	**-0.1**
BALB	**Balikesir**	**1.13**	**301**	*e*PN	**Pg**	**08 33 04.5**	**-0.1**
BALB	**Balikesir**	**1.13**	**301**	*e*Pn	**Pg**	**08 33 04.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.14**	**286**	*i* P	**Pg**	**08 33 04.4**	**-0.6**
STEP				*i* S	**Sb**	**08 33 20.3**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.14**	**286**	P	**Pg**	**08 33 04.4**	**-0.6**
STEP				S	**Sb**	**08 33 20.3**	**+0.5**
IGD	**Bursa**	**1.19**	**2**	*i* P	**Pg**	**08 33 05.0**	**-1.0**
IGD				*i* S	**Sb**	**08 33 21.7**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**26**	*e*PN	**Pn**	**08 33 06.8**	**+0.1**
CAVI	**Cavuskoy**	**1.25**	**26**	*e*Pn	**Pn**	**08 33 06.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.33**	**334**	*e*PN	**Pb**	**08 33 08.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.33**	**334**	*e*Pn	**Pb**	**08 33 08.3**	**+0.1**
ADVT	**Abdulvahap**	**1.44**	**19**	*e*PN	**Pn**	**08 33 09.3**	**+0.1**
ADVT	**Abdulvahap**	**1.44**	**19**	*e*Pn	**Pn**	**08 33 09.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**311**	*e*PN	**Pn**	**08 33 10.4**	**+0.6**
GONE	**Gonen-Balikesi**	**1.48**	**311**	*e*Pn	**Pn**	**08 33 10.4**	**+0.6**
YLV	**Yalova**	**1.50**	**7**	*e*PN	**Pn**	**08 33 10.6**	**+0.4**
YLV	**Yalova**	**1.50**	**7**	*e*Pn	**Pn**	**08 33 10.6**	**+0.4**
ARMT	**Armutlu**	**1.51**	**352**	*e*PN	**Pn**	**08 33 10.4**	**+0.2**
ARMT	**Armutlu**	**1.51**	**352**	*e*Pn	**Pn**	**08 33 10.4**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.57**	**353**	*e*PN	**Pn**	**08 33 11.4**	**+0.5**
SBT5	**Esenkoy-Cinarc**	**1.57**	**353**	*e*Pn	**Pn**	**08 33 11.4**	**+0.5**
EDC	**Edincik**	**1.61**	**323**	*e*PN	**Pn**	**08 33 12.0**	**+0.5**
EDC	**Edincik**	**1.61**	**323**	*e*Pn	**Pn**	**08 33 12.0**	**+0.5**

*SJA **30** 08:33:05.7±0.6, 31°.56S×69°.79W, h102^{km}±4^{km}, ML3.1, MW3.6*
*ISCJB **30** 08:33:06.0±1.3, 31°.56S±0°.08×69°.75W±0°.09, h112^{km}±12^{km}, Error ellipse: s-maj=16.9km s-min=7.9km az=141.0*
*GUC **30** 08:33:07.5±0.6, 31°.62S×70°.25W, h134^{km}±24^{km}, ML2.9*
ISC 30 08:33:06.6±2.5, 31°.6S±0°.1×69°.76W±0°.08, h106^{km}±18^{km}, n12, σ 9°.51/20, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.47**	**123**	*i* P	**Pn**	**08 33 23.3**	**0.0**
RTLS				*i* S	**Sn**	**08 33 35.8**	**+0.1**
RTLS				IAML		08 33 36.3	
	comp=Z,488nm,0.1s						
AUSP	**Uspallata**	**0.74**	**155**	*i* P	**Pn**	**08 33 25.5**	**+0.1**
AUSP				*i* S	**Sn**	**08 33 39.3**	**-0.2**
RTCV	**Cerro Valdivia**	**1.08**	**107**	*i* P	**Pn**	**08 33 28.1**	**-0.4**
AMOG	**MOGNA**	**1.24**	**61**	*i* P	**Pn**	**08 33 30.4**	**+0.1**
ASAL	**Salagasta**	**1.30**	**143**	*i* P	**Pn**	**08 33 30.8**	**-0.2**
ASAL				*i* S	**Sn**	**08 33 49.9**	**+0.4**
ARCO	**CERRO ARCO**	**1.47**	**152**	*i* P	**Pn**	**08 33 33.0**	**-0.1**
ARCO				*i* S	**Sn**	**08 33 53.1**	**+0.1**
ARCO				IAML		08 33 55.0	
	comp=Z,177nm,0.2s						
AAGR	**Agrelo**	**1.73**	**153**	*i* P	**Pn**	**08 33 35.9**	**-0.3**
ROCH	**El Roble**	**1.77**	**216**	*e*P	**Pn**	**08 33 36.9**	**+0.1**
ROCH				*i* S	**Sn**	**08 33 59.8**	**-0.1**
ROCH				IAML		08 34 01.9	
	comp=E,150nm,0.3s						
PEL	**Peldehue**	**1.78**	**206**	*e*P	**Pn**	**08 33 35.5**	**-1.2**
PEL				*i* S	**Sn**	**08 33 59.5**	**-0.1**
PEL				IAML		08 34 01.6	
	comp=E,127nm,0.3s						
CLCH	**Cerro Calan**	**1.96**	**199**	*e*P	**Pn**	**08 33 39.9**	**+0.8**
CLCH				*i* S	**Sn**	**08 34 04.8**	**+1.0**
CLCH				IAML		08 34 07.1	
	comp=E,138nm,0.5s						
RCDM	**Rinconada Maip**	**2.13**	**204**	*e*P	**Pn**	**08 33 41.5**	**+0.3**
RCDM				*i* S	**Sn**	**08 34 06.9**	**-0.7**
ANTU	**Antumapu**	**2.15**	**200**	*i* S	**Sn**	**08 34 08.0**	**0.0**

*JMA **30** 08:36:55.4±0.5, 34°.68N×142°.82E, h61^{km}, M3.3*
*IDC **30** 08:36:55.0±8.9, 34°.33N×142°.36E, h0^{km}, mb3.5/2, mb1 3.6/3, mb1mx3.3/50, mbtmp3.3/3, ML2.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.4/36, Error ellipse: s-maj=244.9km s-min=29.8km az=52.0*
*ISCJB **30** 08:36:57.8±1.1, 34°.84N±0°.08×142°.67E±0°.10, h76^{km}, mb3.5/2, Error ellipse: s-maj=13.5km s-min=7.8km az=138.2*
ISC 30 08:36:60.0±1.7, 34°.74N±0°.07×142°.6E±0°.1, h76^{km}, n16, σ 1°.57/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.31**	**267**	P	**Pn**	**08 37 20.6**	**-1.6**
BSO1				*e*S	**Sn**	**08 37 39.4**	**+0.4**
BSO3	**Boso 3**	**1.70**	**273**	P	**Pn**	**08 37 26.8**	**-0.6**
CHOJ	**Chosi**	**1.70**	**305**	P	**Pn**	**08 37 26.8**	**-0.9**
BSO4	**Boso 4**	**1.85**	**278**	P	**Pn**	**08 37 29.4**	**-0.3**
JCN	**Nagara**	**2.06**	**290**	S	**Sn**	**08 37 59.0**	**+1.7**
JHJ	**Hachijo jima 2**	**2.83**	**236**	Sn	**Sn**	**08 38 12.4**	**-3.5**
	34nm,0.3s,baz=66,slow=20,SNR=4.3						
JOD2	**Odawara 2**	**2.91**	**281**	P	**Pn**	**08 37 42.9**	**-1.1**
JAG	**Ashikaga**	**3.05**	**304**	P	**Pn**	**08 37 45.0**	**-0.9**
JAG				S	**Sn**	**08 38 20.5**	**-0.7**
JRY	**Ryogami san**	**3.26**	**294**	P	**Pn**	**08 37 48.3**	**-0.4**
JRY				*e*S	**Sn**	**08 38 28.1**	**+1.7**
JFT	**Otama**	**3.31**	**328**	P	**Pn**	**08 37 48.1**	**-1.3**
JFT				S	**Sn**	**08 38 24.9**	**-2.8**
MJAR	**Matsushiro Arr**	**3.98**	**298**	Pn	**Pn**	**08 37 58.5**	**-0.1**
	0.8nm,0.3s,baz=115,slow=8.5,SNR=7.8						
MJAR				Sn	**Sn**	**08 38 44.9**	**+0.9**
	0.9nm,0.3s,baz=94,slow=37,SNR=5.1						
MAT	**Matsushiro**	**3.98**	**298**	P	**Pn**	**08 37 59.3**	**+0.7**
MAT				*e*S	**Sn**	**08 38 42.7**	**-1.4**
ILAR	**Eielson Array**	**50.94**	**31**	LR	LR	09 14 04.2	
	comp=Z,19nm,18.0s,baz=356,slow=43						
WRA	**Warramunga Arr**	**54.94**	**189**	P	**P**	**08 46 24.2**	**+1.0**
	0.3nm,0.5s,baz=6.3,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**58.67**	**189**	P	**P**	**08 46 51.4**	**+1.9**
	0.5nm,1.0s,baz=10,slow=6.6,SNR=3.5						
GNI	**Garni**	**73.84**	**308**	LR	LR	09 23 26.8	
	comp=Z,34nm,18.0s,baz=332,slow=38						

*NIED **30** 08:40:00, 46°.60N×152°.60E, h47^{km}, Mw4.1 Best double couple: M0 1.69000×10^{15} NP1:φs=227.00000°, δ67.00000°, λ-158.00000°. NP2:φs=128.00000°, δ70.00000°, λ-25.00000°.*
*JMA **30** 08:40:59.8±0.6, 46°.61N×152°.59E, h30^{km}, M4.9*
*ISCJB **30** 08:41:00.7±0.4, 46°.34N±0°.04×152°.46E±0°.05, h52^{km}, mb4.1/24, MS3.4/5, Error ellipse: s-maj=6.5km s-min=3.1km az=139.5*
*SKHL **30** 08:41:02.6±0.8, 46°.15N×152°.60E, h98^{km}±3^{km}, mb5.2/2, msh5.0/3*
*MOS **30** 08:41:04.4±1.4, 46°.51N×152°.19E, h80^{km}, mb4.3/12, Error ellipse: s-maj=8.5km s-min=7.5km az=97.1*
*IDC **30** 08:41:06.3±2.2, 46°.58N×152°.35E, h84^{km}±19^{km}, mb3.7/18, mb1 3.9/24, mb1mx3.8/50, mbtmp4.1/24, MS3.2/7, Ms1 3.2/7, ms1mx2.9/44, Error ellipse: s-maj=17.7km s-min=12.3km az=138.0*
ISC 30 08:41:02.0±0.5, 46°.30N±0°.05×152°.45E±0°.06, h52^{km}, n133, σ 9°.40/160, mb4.2/35, MS3.3/5, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.38**	**253**	*d* PN	**Pn**	**08 41 54.5**	**+2.4**
KUR				*i* S	**Sn**	**08 42 33.5**	**+2.6**
KUR				pmax	pmax		
	comp=Z,277nm,0.3s						
KUR				pmax	pmax		
	comp=N,169nm,0.2s						
KUR				pmax	pmax		
	comp=E,72nm,0.2s						
KUR				smax	smax		
	comp=E,632nm,0.4s						
KUR				smax	smax		
	comp=N,620nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,1.7s						
KUR				smax	smax		
	comp=N,1μm,1.2s						
KUR				MLR	MLR		
	comp=Z,593nm,4.0s						
KUR	**Kuril'sk**	**3.38**	**253**	*i* P	**Pn**	**08 41 54.5**	**+2.4**
KUR				AMB	AMB	08 41 59.2	
	comp=Z,280nm,0.3s						
KUR				*i* S	**Sn**	**08 42 33.5**	**+2.6**
KUR				A	A	08 42 47.8	
	comp=Z,630nm,0.8s						
KUR				A	A	08 42 47.8	
	comp=Z,620nm,0.8s						
KUR				A	A	08 42 48.2	
	comp=Z,1μm,1.7s						
KUR				A	A	08 42 48.2	
	comp=Z,1μm,1.7s						
SHO	**Shikotan**	**4.66**	**241**	*d* PN	**Pn**	**08 42 10.9**	**+1.2**
SHO				*i* S	**Sn**	**08 43 02.9**	**+0.4**
SHO				pmax	pmax		
	comp=Z,134nm,0.4s						
SHO				pmax	pmax		
	comp=N,41nm,0.2s						
SHO				pmax	pmax		
	comp=E,58nm,0.2s						
SHO				smax	smax		
	comp=E,885nm,0.5s						
SHO				smax	smax		
	comp=N,262nm,0.4s						
SHO	**Shikotan**	**4.66**	**241**	*e*P	**Pn**	**08 42 10.9**	**+1.2**
SHO				AMB	AMB	08 42 26.4	
	comp=N,135nm,0.4s						
SHO				*i* S	**Sn**	**08 43 02.9**	**+0.4**
SHO				A	A	08 43 23.5	
	comp=N,900nm,0.5s						
SHO				A	A	08 43 23.5	
	comp=N,300nm,0.5s						
SKR	**Severo-Kuril's**	**5.02**	**28**	*e*PN	**Pn**	**08 42 17.5**	**+2.8**
SKR				*e*S	**Sn**	**08 43 08.3**	**-3.0**
SKR				pmax	pmax		
	comp=Z,102nm,1.2s						
SKR				smax	smax		
	comp=N,268nm,0.7s						
SKR				smax	smax		
	comp=E,190nm,0.6s						
SKR	**Severo-Kuril's**	**5.02**	**28**	*e*P	**Pn**	**08 42 17.5**	**+2.8**
SKR				AMB	AMB	08 42 19.1	
	comp=E,110nm,1.0s						
SKR				AMB	AMB	08 42 20.5	
	comp=E,510nm,4.0s						
SKR				*e*S	**Sn**	**08 43 13.3**	**+2.0**
SKR				A	A	08 43 24.7	
	comp=E,880nm,4.0s						
SKR				A	A	08 43 30.8	
	comp=E,300nm,0.7s						
SKR				A	A	08 43 30.8	
	comp=E,200nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.18**	**246**	*d* PN	**Pn**	**08 42 19.9**	**+3.1**
YUK				*i* S	**Sn**	**08 43 18.9**	**+3.7**
YUK				pmax	pmax		
	comp=Z,233nm,0.5s						
YUK				pmax	pmax		
	comp=E,165nm,0.4s						
YUK				pmax	pmax		
	comp=N,122nm,0.2s						
YUK				smax	smax		
	comp=E,196nm,0.3s						
YUK				smax	smax		
	comp=N,358nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.18**	**246**	*e*P	**Pn**	**08 42 19.9**	**+3.1**
YUK				AMB	AMB	08 42 28.1	
	comp=N,233nm,0.5s						
YUK				*i* S	**Sn**	**08 43 17.4**	**+2.2**
YUK				A	A	08 43 26.9	
	comp=N,200nm,0.3s						
YUK				A	A	08 43 26.9	
	comp=N,360nm,0.3s						
NEM2	**Nemuro 2**	**5.60**	**241**	P	**Pn**	**08 42 23.4**	**+0.8**
NEM2				*e*S	**Sn**	**08 43 25.2**	**-0.3**
JRA	**Rausu**	**5.69**	**248**	P	**Pn**	**08 42 27.6**	**+3.7**
JNK	**Nakash**	**6.12**	**246**	P	**Pn**	**08 42 32.4**	**+2.7**
JNK				*e*S	**Sn**	**08 43 41.3**	**+3.0**
JAK	**Akkeshi**	**6.44**	**242**	P	**Pn**	**08 42 35.1**	**+1.0**
JAK				*e*S	**Sn**	**08 43 45.4**	**-0.8**
JTKR	**Abashiri--Toko**	**6.47**	**252**	P	**Pn**	**08 42 38.1**	**+3.5**
YSS	**Yuzh-Sakhalins**	**6.71**	**279**	*e*PN	**Pn**	**08 42 40.7**	**+2.9**
YSS				*e*S	**Sn**	**08 43 53.9**	**+1.1**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				smax	smax		
	comp=E,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.71**	**279**	*e*P	**Pn**	**08 42 40.6**	**+2.8**
YSS				AMB	AMB	08 42 41.6	
	comp=Z,50nm,0.6s						
YSS				*e*S	**Sn**	**08 43 55.5**	**+2.7**
YSS				A	A	08 43 57.2	
	comp=Z,50nm,0.5s						
JMP	**Maruseppu**	**6.82**	**254**	P	**Pn**	**08 42 43.2**	**+3.8**
JAR	**Ashorobuto**	**6.86**	**247**	P	**Pn**	**08 42 42.9**	**+3.0**
JAR				*e*S	**Sn**	**08 44 00.1**	**+3.5**
JOB	**Onbets**	**7.02**	**244**	P	**Pn**	**08 42 43.9**	**+1.8**
JOB				*e*S	**Sn**	**08 44 00.7**	**+0.2**
JKK2	**Kamakawa 2**	**7.28**	**254**	P	**Pn**	**08 42 49.5**	**+3.8**
ASAJ	**Asahikawa**	**7.29**	**256**	P	**Pn**	**08 42 50.2**	**+4.4**
	comp=Z,4.1nm,0.3s,baz=77,slow=16,SNR=34						
ASAJ				S	**Sn**	**08 44 15.0**	**+7.9**
	comp=Z,0.6nm,0.3s,baz=152,slow=8.7,SNR=1.1						
ASAJ	**Asahikawa**	**7.29**	**256**	P	**Pn**	**08 42 50.2**	**+4.4**
JCH	**Churui**	**7.47**	**244**	P	**Pn**	**08 42 49.3**	**+1.1**
JCH				*e*S	**Sn**	**08 44 10.2**	**-1.3**
UGL	**Uglegorsk**	**7.54**	**295**	*e*PN	**Pn**	**08 42 49.8**	**+0.7**
UGL				*e*S	**Sn**	**08 44 15.8**	**+2.7**
UGL	**Uglegorsk**	**7.54**	**295**	*e*P	**Pn**	**08 42 53.0**	**+3.9**
PETK	**Petropavlovsk-**	**7.62**	**25**	P	**Pn**	**08 42 50.8**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=182,slow=12,SNR=17						
PET	**Petropavlovsk**	**7.84**	**29**	*e*P	**Pn**	**08 42 55.7**	**+2.4**
PET				AMB	AMB	08 42 59.6	
	comp=Z,23nm,0.9s						
PET				AMB	AMB	08 43 01.4	
	comp=Z,320nm,3.0s						
PET				*e*S	**Sn**	**08 44 20.2**	**-0.4**
PET				A	A	08 44 30.1	
	comp=Z,360nm,3.8s						
PET				A	A	08 44 35.0	
	comp=Z,73nm,0.9s						
TYV	**Tymovskoe**	**7.94**	**309**	*e*PN	**Pn**	**08 42 56.5**	**+1.9**
TYV				*e*S	**Sn**	**08 44 22.4**	**-0.5**
TYV				pmax	pmax		
	comp=Z,17nm,0.8s						
TYV				smax	smax		
	comp=E,22nm,1.9s						
TYV	**Tymovskoe**	**7.94**	**309**	*e*P	**Pn**	**08 42 57.7**	**+3.1**
TYV				*e*S	**Sn**	**08 44 24.4**	**+1.5**
JBT2	**Biratori 2**	**8.02**	**248**	P	**Pn**	**08 42 57.5**	**+1.8**
JNBK	**Urakawa-nobuka**	**8.03**	**243**	P	**Pn**	**08 42 56.5**	**+0.6**
JNB	**Noboribetsu**	**9.02**	**249**	P	**Pn**	**08 43 10.9**	**+1.4**
JKB	**Kayabe**	**9.32**	**246**	P	**Pn**	**08 43 13.8**	**+0.3**
JKB				*e*S	**Sn**	**08 44 52.8**	**-4.1**
JYM2	**Yakumo 2**	**9.62**	**249**	P	**Pn**	**08 43 19.1**	**+1.4**
JANG	**Nango**	**9.92**	**237**	P	**Pn**	**08 43 20.3**	**-1.5**
JANG				*e*S	**Sn**	**08 45 04.2**	**-7.4**
JTM	**Tenmabayashi**	**9.92**	**240**	P	**Pn**	**08 43 21.3**	**-0.6**
JTM				*e*S	**Sn**	**08 45 05.6**	**-6.1**
JOSM	**Okushiri--Mats**	**10.22**	**250**	P	**Pn**	**08 43 27.0**	**+1.1**
OFUJ	**Ofunato**	**10.71**	**232**	P	**Pn**	**08 43 31.2**	**-1.5**
OFUJ				*e*S	**Sn**	**08 45 23.7**	**-7.4**
HABR	**Khabarovsk**	**11.99**	**287**	*e*PN	**Pn**	**08 43 50.4**	**+0.4**
HABR				*e*S	**Sn**	**08 46 04.3**	**+2.2**
HABR				pmax	pmax		
	comp=E,29nm,2.0s						
HABR				pmax	pmax		
	comp=Z,29nm,2.0s						
HABR				pmax	pmax		
	comp=N,7.0nm,1.0s						
HABR				MLR	MLR		
	comp=Z,37nm,12.0s						
MA2	**Magadan**	**13.34**	**356**	P	**Pn**	**08 44 07.8**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=167,slow=10,SNR=5.8						
MA2				LR	LR	08 48 57.0	
	comp=Z,36nm,19.6s,baz=168,slow=36						
KLR	**Kul'dur**	**14.22**	**289**	P	**Pn**	**08 44 21.7**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=89,slow=11,SNR=5.7						
MAJO	**Matsushiro**	**14.44**	**233**	*i* P	**Pn**	**08 44 23.1**	**-0.2**
MAJO	**Matsushiro**	**14.44**	**233**	*e*P	**Pn**	**08 44 20.8**	**-2.5**
MAT	**Matsushiro**	**14.44**	**233**	P	**Pn**	**08 44 22.5**	**-0.8**
MAT				*e*S	**Sn**	**08 47 09.8**	**+7.8**
MJAR	**Matsushiro Arr**	**14.44**	**233**	P	**P**	**08 44 27.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=30,slow=10,SNR=8.7						
MJAR				LR	LR	08 50 36.6	
	comp=Z,31nm,19.8s,baz=95,slow=39						
USRK	**Ussuriysk Ar.**	**14.56**	**269**	P	**Pn**	**08 44 25.7**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=71,slow=13,SNR=12						
SEY	**Seymchan**	**16.67**	**360**	P	**Pn**	**08 44 52.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=194,slow=13,SNR=9.3						
SEY	**Seymchan**	**16.67**	**360**	*i* P	**P**	**08 44 54.1**	**+0.7**
KSRS	**Korea Array**	**20.22**	**253**	P	Pn	08 45 35.4	+0.5
	comp=Z,7.0nm,0.6s,baz=53,slow=11,SNR=19						
KSRS				LR	LR	08 52 19.5	
	comp=Z,39nm,20.9s,baz=330,slow=33						
YAK	**Yakutsk**	**20.46**	**329**	P	**P**	**08 45 35.0**	**+0.1**
	comp=Z,7.5nm,0.3s,baz=208,slow=1.6,SNR=3.3						
YAK	**Yakutsk**	**20.46**	**329**	*e*P	Pn	08 45 38.0	+0.6
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
H11N2	**WAKE ISLAND Hy 29.04**	**151**		T	T	09 18 18.9	
	baz=340,slow=76,SNR=6525						
H11N1	**WAKE ISLAND Hy 29.05**	**151**		T	T	09 18 20.0	
	baz=340,slow=76,SNR=3622						
H11N3	**WAKE ISLAND Hy 29.05**	**151**		T	T	09 18 20.1	
	baz=340,slow=76,SNR=2707						
H11S1	**WAKE ISLAND Hy 30.11**	**152**		T	T	09 19 41.7	
	baz=340,slow=76,SNR=4506						
H11S3	**WAKE ISLAND Hy 30.12**	**152**		T	T	09 19 40.6	

KSH			PcP	**PcP**	08 51 28.0	+1.1
KSH			PP	**PP**	08 52 31.0	+5.1
KSH			PcS	**PcS**	08 55 22.0	-4.6
KSH			S	**S**	08 57 50.8	-7.5
KSH			ScS	ScS	08 59 56.3	-12
KSH	**Kashi**	**54.40 292**	SS	**SS**	**09 01 35.0**	**-5.6**
KSH			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KSH			pmax	pmax		
	comp=Z,67nm,6.2s					
KSH			LR	LR		
	comp=N,220nm,6.1s					
KSH			LR	LR		
	comp=E,160nm,6.5s					
KSH			LR	LR		
	comp=Z,110nm,6.7s					
JIRN	**Jiri**	**54.52 274**	*e*P	**P**	**08 50 26.1**	**+1.1**
GUN	**Gumba**	**54.58 275**	*e*P	**P**	**08 50 26.2**	**+0.8**
	comp=Z,14nm,0.4s					
RAMN	**Ramite**	**54.68 273**	*e*P	**P**	**08 50 26.9**	**+0.8**
	comp=Z,21nm,0.4s					
ARU	**Arti**	**55.03 317**	*d i*P	**P**	**08 50 26.3**	**-1.6**
ARU			*PP	**sP**	**08 50 45.9**	**-2.1**
ARU					08 52 26.2	
ARU			S	**S**	**08 58 04.6**	**-1.4**
ARU			SS	**SS**	**09 01 48.5**	**-1.1**
ARU			pmax	pmax		
	comp=Z,10.0nm,1.7s					
ARU	**Arti**	**55.03 317**	*e*P	**P**	**08 50 26.1**	**-1.8**
KKN	**Kakani**	**55.07 275**	*e*P	**P**	**08 50 30.5**	**+1.7**
	comp=Z,14nm,0.5s					
PKI	**Pulchoki**	**55.12 275**	*e*P	**P**	**08 50 30.1**	**+0.8**
PKIN	**Phulchoki**	**55.12 275**	*e*P	**P**	**08 50 30.3**	**+1.1**
DMN	**Daman**	**55.30 275**	*e*P	**P**	**08 50 31.7**	**+1.2**
GKN	**Gorkha**	**55.38 276**	*e*P	**P**	**08 50 31.9**	**+0.9**
	comp=Z,26nm,0.6s					
DANN	**Dangsing**	**55.77 277**	*e*P	**P**	**08 50 35.5**	**+1.6**
KOLN	**Koldanda**	**56.24 276**	*e*P	**P**	**08 50 38.3**	**+1.1**
PYUN	**Piuthan**	**56.45 277**	*e*P	**P**	**08 50 39.7**	**+1.0**
AKTO	**Aktyubinsk**	**58.68 312**	LR	LR	09 19 08.9	
	comp=Z,97nm,18.3s,slow=39					
FINES	**FINESS Array B**	**64.25 335**	P	**P**	**08 51 29.8**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=39,slow=6.5,SNR=15					
FINES	**FINESS Array B**	**64.25 335**	*i* P	**P**	**08 51 30.1**	**-1.1**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.4s					
FINES	**FINESS Array B**	**64.25 335**	*e*P	**P**	**08 51 30.0**	**-1.1**
PDAR	**Pinedale Array**	**65.39 53**	P	**P**	**08 51 38.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.0,SNR=6.0					
GEYT	**Alibeck**	**66.44 301**	P	**P**	**08 51 46.0**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=106,slow=4.7,SNR=2.8					
WRA	**Warramunga Arr**	**67.94 198**	P	**P**	**08 51 56.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=16,slow=6.7,SNR=5.6					
WRA	**Warramunga Arr**	**67.94 198**	*e*P	**P**	**08 51 57.9**	**+2.7**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
NB2	**NORSAR Subarra**	**68.51 341**	P	**P**	**08 51 57.2**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=29,slow=6.2					
NOA	**NORSAR Array B**	**68.51 341**	P	**P**	**08 51 57.1**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=31,slow=6.6,SNR=7.8					
NOA	**NORSAR Array B**	**68.51 341**	*e*P	**P**	**08 51 57.9**	**-0.5**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.5s					
NOA	**NORSAR Array B**	**68.51 341**	*e*P	**P**	**08 51 57.9**	**-0.5**
KBZ	**Khabaz**	**70.84 314**	P	**P**	**08 52 12.8**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=327,slow=4.9,SNR=4.1					
ASAR	**Alice Springs**	**71.64 198**	P	**P**	**08 52 19.8**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=13,slow=5.8,SNR=6.9					
AKASG	**Malin Array Be**	**71.66 326**	P	**P**	**08 52 16.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=37,slow=6.3,SNR=4.4					
DPC	**Dobruska-Polom**	**76.52 333**	*e*P	**P**	**08 52 47.0**	**+0.8**
DPC	**Dobruska-Polom**	**76.52 333**	*e*P	**P**	**08 52 47.0**	**+0.8**
CLL	**Collm**	**76.68 335**	*i* P	**P**	**08 52 43.9**	**-3.2**
CLL	**Collm**	**76.68 335**	*i* PKPbc	**P**	**08 52 43.9**	**-3.2**
PRU	**Pruhonice**	**77.39 334**	*e*P	**P**	**08 52 51.2**	**+0.1**
PRU	**Pruhonice**	**77.39 334**	*e*P	**P**	**08 52 51.2**	**+0.1**
TXAR	**Lajitas Array**	**78.12 60**	P	**P**	**08 52 56.9**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=298,slow=4.8,SNR=8.8					
BRTR	**Keskin Array B**	**78.40 316**	P	**P**	**08 52 56.7**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=92,slow=4.3,SNR=6.4					
BRTR	**Keskin Array B**	**78.40 316**	*e*P	**P**	**08 52 58.3**	**+1.2**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KHC	**Kasperske Hory**	**78.44 334**	*e*P	**P**	**08 52 57.3**	**+0.3**
KHC	**Kasperske Hory**	**78.44 334**	*e*P	**P**	**08 52 57.3**	**+0.3**
GERES	**GERESS Array B**	**78.66 334**	P	**P**	**08 52 57.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=35,slow=4.9,SNR=9.1					
GERES	**GERESS Array B**	**78.66 334**	*e*P	**P**	**08 52 57.9**	**-0.4**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
GERES	**GERESS Array B**	**78.66 334**	*e*P	**P**	**08 52 57.9**	**-0.4**
CONA	**Conrad Observa**	**78.78 332**	*i* PcP	**P**	**08 52 59.4**	**+0.4**
	comp=Z,2.2nm,0.7s					
MOA	**Molin**	**79.36 333**	*i* PcP	**P**	**08 53 01.9**	**-0.2**
	comp=Z,1.8nm,0.8s					
ARSA	**Arzberg**	**79.48 332**	*i* P	**P**	**08 52 59.6**	**-3.1**
	comp=Z,0.9nm,0.6s					
SOKA	**Soboth**	**80.15 332**	*i* PcP	**P**	**08 53 06.5**	**+0.1**
	comp=Z,5.8nm,1.1s					
KBA	**Koelnbreinsper**	**80.34 333**	*i* PcP	**P**	**08 53 07.8**	**+0.3**
	comp=Z,9.0nm,1.1s					
OBKA	**Obir**	**80.45 332**	*i* PcP	**P**	**08 53 09.9**	**+1.9**
	comp=Z,1.1nm,0.5s					
WATA	**Walderalm**	**80.65 334**	*i* PcP	**P**	**08 53 09.6**	**+0.4**
	comp=Z,2.4nm,0.6s					
WTTA	**Wattenberg**	**80.70 334**	*i* PcP	**P**	**08 53 09.7**	**+0.3**
	comp=Z,3.8nm,0.7s					
RETA	**Reutte**	**80.76 335**	*i* PcP	**P**	**08 53 10.0**	**+0.4**
	comp=Z,1.8nm,0.6s					
MOTA	**Moosalm**	**80.78 335**	*i* PcP	**P**	**08 53 10.1**	**+0.2**
	comp=Z,6.1nm,1.0s					
FETA	**Feichten**	**81.19 335**	*i* PcP	**P**	**08 53 12.3**	**+0.3**
	comp=Z,3.3nm,1.0s					
DAVA	**Damuels**	**81.20 335**	*i* PcP	**P**	**08 53 11.2**	**-0.9**
	comp=Z,4.0nm,0.8s					
TORD	**Torodi Ar. Bea**	**115.24 328**	PKP	**PKPdf**	**08 59 37.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=353,slow=0.4,SNR=2.7					
MAW	**Mawson**	**131.58 211**	PKP	**PKPdf**	**09 00 08.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=30,slow=4.0,SNR=3.5					
PLCA	**Paso Flores**	**148.62 96**	PKPbc	**PKPbc**	**09 00 43.6**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=206,slow=6.4,SNR=4.7					

*ISK **30** 08:43:41.3,38°.71N×43°.58E, h6km, ML2.5*
*CSEM **30** 08:43:42.2±0.2,38°.71N×43°.56E, h2km, ML2.5, Error ellipse: s-maj=6.1km s-min=3.5km az=124.0*
*DDA **30** 08:43:42.0,38°.72N×43°.58E, h8km, Ml2.8*
ISC 30 08:43:38.7±1.6,**38°.60N**±0°.05×**43°.75E**±0°.07,**h14**km±10km,
n20,σ1§**31**/34,**1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.28**	**256**	*i* P	**Pb**	**08 43 46.0**	**+0.4**
TVAN	**Van**	**0.28**	**256**	P	**Pb**	**08 43 46.0**	**+0.4**
VANB	**Van**	**0.28**	**270**	*e*PG	**Pb**	**08 43 45.9**	**+0.3**
VANB				*e*SG	**Sg**	**08 43 50.5**	**+1.7**
VANB	**Van**	**0.28**	**270**	*e*Pg	**Pb**	**08 43 45.9**	**+0.3**
VANB				*e*Sg	**Sg**	**08 43 50.5**	**+1.7**
VMUR	**Van-Muradiye**	**0.42**	**340**	⇓*i*P	**Pb**	**08 43 48.1**	**+0.1**
VMUR				*i* S	**Sg**	**08 43 50.6**	**-2.3**
VMUR	**Van-Muradiye**	**0.42**	**340**	P	**Pb**	**08 43 48.1**	**+0.1**
VMUR				S	**Sg**	**08 43 50.6**	**-2.3**
CLDR	**Caldiran**	**0.56**	**13**	*e*PG	**Pn**	**08 43 52.6**	**+0.1**
CLDR				*e*SG	**Sb**	**08 43 58.5**	**+0.1**
CLDR	**Caldiran**	**0.56**	**13**	*i* P	**Pn**	**08 43 52.8**	**+0.3**
CLDR				*i* S	**Sb**	**08 43 59.2**	**+0.8**
CLDR	**Caldiran**	**0.56**	**13**	*e*Pg	**Pn**	**08 43 52.6**	**+0.1**
CLDR	**Caldiran**	**0.56**	**13**	P	**Pn**	**08 43 52.8**	**+0.3**
CLDR				*e*Sg	**Sb**	**08 43 58.5**	**+0.1**
CLDR				S	**Sb**	**08 43 59.2**	**+0.8**
GEVA	**Gevas**	**0.61**	**243**	*i* P	**Pg**	**08 43 48.9**	**-1.9**
GEVA	**Gevas**	**0.61**	**243**	P	**Pg**	**08 43 48.9**	**-1.9**
TUTA	**Tutak**	**1.09**	**318**	*i* P	**Pb**	**08 43 59.6**	**+0.2**
TUTA				*i* S	**Sb**	**08 44 10.5**	**-3.1**
TUTA	**Tutak**	**1.09**	**318**	P	**Pb**	**08 43 59.6**	**+0.2**
TUTA				S	**Sb**	**08 44 10.5**	**-3.1**
AGRB	**Hanur-Agry**	**1.14**	**329**	*e*PG	**Pg**	**08 44 01.2**	**+0.5**
AGRB				*e*SG	**Sb**	**08 44 14.2**	**-0.9**
AGRB	**Hanur-Agry**	**1.14**	**329**	*e*Pg	**Pg**	**08 44 01.2**	**+0.5**
AGRB				*e*Sg	**Sb**	**08 44 14.2**	**-0.9**
GURO	**Guroymak-BITLI**	**1.35**	**269**	*e*PN	**Pg**	**08 44 05.9**	**+1.3**
GURO	**Guroymak-BITLI**	**1.35**	**269**	*e*Pn	**Pg**	**08 44 05.9**	**+1.3**
EKAR	**Karacoban**	**1.47**	**297**	*i* P	**Pg**	**08 44 07.5**	**+0.5**
EKAR				*i* S	**Sg**	**08 44 27.8**	**+1.6**
EATA	**Eleskirt**	**1.60**	**323**	*i* P	**Pg**	**08 44 09.8**	**+0.3**
EATA				*i* S	**Sb**	**08 44 28.6**	**+0.3**

*IDC **30** 08:49:16.7±2.5,31°.81S×179°.54E, h484km±27km, mb3.2/3, mb1 3.5/4, mb1mx3.0/31, mbtmp4.3/4, Error ellipse: s-maj=34.7km s-min=19.2km az=2.0*
ISC 30 08:49:13.5±1.1,**31°.5S**±0°.1×**179°.6E**±0°.2,**h451**km,**n11,**
σ1§**11**/13,**mb3.6/3,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.02**	**196**	P	**P**	**08 50 59.2**	**+1.0**
	12nm,0.3s,baz=85,slow=17,SNR=92						
URZ				S	**S**	**08 52 22.9**	**-1.2**
	12nm,0.3s,baz=92,slow=21,SNR=12						
STKA	**Stephens Creek**	**32.23**	**259**	P	**P**	**08 55 04.8**	**+1.8**
	2.7nm,1.0s,baz=113,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**41.01**	**269**	P	**P**	**08 56 16.5**	**+0.5**
	1.1nm,0.5s,baz=107,slow=7.2,SNR=23						
ASAR				S	**S**	**09 01 52.6**	**-2.3**
	0.6nm,0.8s,baz=106,slow=9.8,SNR=5.1						
WRA	**Warramunga Arr**	**42.10**	**275**	P	**P**	**08 56 25.1**	**+0.4**
	2.0nm,0.3s,baz=112,slow=8.0,SNR=44						
MKAR	**Makanchi Array**	**116.92**	**310**	PKP	**PKPdf**	**09 07 05.6**	**-0.1**
	0.2nm,0.4s,baz=91,slow=5.5,SNR=3.3						
ARCES	**ARCESS Array B**	**139.22**	**346**	PKP	**PKPdf**	**09 07 46.6**	**-0.6**
	2.0nm,0.9s,baz=48,slow=1.3,SNR=3.7						
FINES	**FINESS Array B**	**145.45**	**338**	PKPbc	**PKPbc**	**09 07 59.2**	**-0.2**
	2.8nm,0.3s,baz=54,slow=4.5,SNR=48						
HFS	**Hagfors**	**149.89**	**346**	PKPbc	**PKPbc**	**09 08 10.8**	**-0.3**
	2.4nm,0.9s,baz=66,slow=1.3,SNR=4.8						
AKASG	**Malin Array Be**	**150.88**	**320**	PKPbc	**PKPbc**	**09 08 13.5**	**-0.2**
	0.3nm,0.3s,baz=44,slow=3.1,SNR=4.3						
BRTR	**Keskin Array B**	**151.28**	**296**	PKPbc	**PKPbc**	**09 08 15.1**	**-0.1**
	0.6nm,0.5s,baz=62,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**161.60**	**186**	PKPab	**PKPab**	**09 09 09.1**	**-0.9**
	0.3nm,0.4s,baz=180,slow=2.7,SNR=2.4						

*IDC **30** 08:55:25.8±1.7, 66°.08N×13°.14E, h0km, mb1 3.1/3, mb1mx2.9/39, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=21.2km s-min=10.7km az=117.0*
*HEL **30** 08:55:26.6±0.2, 66°.08N×13°.23E, h5km, ML2.3, ML2.0(UPP), ML1.4(BER)*
*CSEM **30** 08:55:26.3±0.2, 66°.10N×13°.17E, h5km, ML1.4, Error ellipse: s-maj=6.3km s-min=4.4km az=102.0*
*UPP **30** 08:55:26.9±0.9, 66°.06N×13°.35E, h0km, ML2.0*
*NAO **30** 08:55:27.0±1.5, 66°.06N×13°.48E, ML2.1*
*BER **30** 08:55:27.7±3.6, 66°.10N×13°.33E, h0km±11km, MD2.0, ML1.4, ML2.1(NAO)*
ISC 30 08:55:25.5±1.1,**66°.04N**±0°.02×**13°.16E**±0°.05,**h7**km±10km,
n80,σ1§**56**/128,**3D,Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.30**	**349**	⇓*i* P	**Pg**	**08 55 31.4**	**-0.1**
STOK				*e*S	**Sg**	**08 55 35.9**	**+0.5**
STOK				IAML		08 55 36.2	
	comp=Z,49nm,0.4s						
STOK	**Stokkvaagen**	**0.30**	**349**	⇓*i* P	**Pg**	**08 55 31.4**	**-0.1**
STOK				*i* S	**Sg**	**08 55 35.9**	**+0.5**
STOK				IAML		08 55 36.2	
	comp=Z,49nm,0.4s						
STOK	**Stokkvaagen**	**0.30**	**349**	⇓*i* P	**Pg**	**08 55 31.4**	**-0.1**
	SNR=90						
STOK				*e*S	**Sg**	**08 55 35.9**	**+0.5**
	SNR=90						
KONS	**Konsvik**	**0.46**	**358**	*e*P	**Pg**	**08 55 34.2**	**-0.2**
KONS				IAML		08 55 42.0	
	comp=Z,25nm,0.2s						
KONS	**Konsvik**	**0.46**	**358**	*i* P	**Pg**	**08 55 34.2**	**-0.2**
KONS				IAML		08 55 42.0	
	comp=Z,25nm,0.2s						
KONS	**Konsvik**	**0.46**	**358**	*e*P	**Pg**	**08 55 34.2**	**-0.2**
	SNR=90						
MOR8	**Moi Rana**	**0.54**	**75**	*e*P	**Pb**	**08 55 37.5**	**+0.1**
MOR8				*e*S	**Sb**	**08 55 46.5**	**+1.2**
MOR8	**Moi Rana**	**0.54**	**75**	*i* P	**Pb**	**08 55 37.5**	**+0.1**
MOR8				*i* S	**Sb**	**08 55 46.5**	**+1.2**
MOR8	**Moi Rana**	**0.54**	**75**	P	**Pb**	**08 55 37.4**	**+0.1**
MOR8				*e*S	**Sb**	**08 55 46.5**	**+1.2**
	SNR=90						
LOF	**Lofoten**	**2.11**	**4**	*e*P	**Pn**	**08 56 00.1**	**-1.0**
LOF				*e*S	**Sn**	**08 56 27.0**	**-0.6**
LOF				IAML		08 56 36.0	
	comp=Z,7.5nm,0.5s						
LOF	**Lofoten**	**2.11**	**4**	*e*P	**Pn**	**08 56 00.1**	**-1.0**
LOF				*e*S	**Sn**	**08 56 27.0**	**-0.6**
LOF				IAML		08 56 36.0	
	comp=Z,7.5nm,0.5s						
LOF	**Lofoten**	**2.11**	**4**	*e*P	**Pn**	**08 56 00.2**	**-1.0**
	SNR=50						
LOF				*e*S	**Sn**	**08 56 27.0**	**-0.6**
	SNR=50						
SALU	**Saltoluokta**	**2.52**	**55**	P	**Pn**	**08 56 08.4**	**+1.6**
SALU				S	**Sb**	**08 56 41.0**	**-1.2**
SALU	**Saltoluokta**	**2.52**	**55**	*e*P	**Pn**	**08 56 08.4**	**+1.6**
SALU				*e*S	**Sb**	**08 56 41.0**	**-1.2**
SALU	**Saltoluokta**	**2.52**	**55**	P	**Pn**	**08 56 08.4**	**+1.6**
SALU				S	**Sb**	**08 56 40.9**	**-1.2**
NOD	**Norderasen**	**2.71**	**164**	P	**Pn**	**08 56 11.7**	**+2.2**
NOD				S	**Sb**	**08 56 47.1**	**-0.5**
NOD	**Norderasen**	**2.71**	**164**	*e*P	**Pn**	**08 56 11.7**	**+2.2**
NOD				*e*S	**Sb**	**08 56 47.1**	**-0.5**
NOD	**Norderasen**	**2.71**	**164**	P	**Pn**	**08 56 11.7**	**+2.2**
NOD				S	**Sb**	**08 56 47.1**	**-0.5**
LILU	**Lilltraesk**	**2.87**	**102**	P	**Pn**	**08 56 13.2**	**+1.5**
LILU				S	**Sn**	**08 56 47.6**	**+1.2**
LILU	**Lilltraesk**	**2.87**	**102**	*e*P	**Pn**	**08 56 13.2**	**+1.5**
LILU				*e*S	**Sn**	**08 56 47.6**	**+1.2**
LILU	**Lilltraesk**	**2.87**	**102**	P	**Pn**	**08 56 13.2**	**+1.5**
LILU				S	**Sn**	**08 56 47.6**	**+1.2**
NIKU	**Nikkaluokta**	**2.95**	**49**	P	**Pn**	**08 56 13.9**	**+1.0**
NIKU				S	**Sn**	**08 56 50.2**	**+1.7**
NIKU	**Nikkaluokta**	**2.95**	**49**	*e*P	**Pn**	**08 56 13.9**	**+1.0**
NIKU				*e*S	**Sn**	**08 56 50.2**	**+1.7**
NIKU	**Nikkaluokta**	**2.95**	**49**	P	**Pn**	**08 56 13.8**	**+1.0**
NIKU				S	**Sn**	**08 56 50.2**	**+1.7**
HARU	**Harads**	**3.19**	**84**	P	**Pn**	**08 56 16.6**	**+0.6**
HARU				S	**Sn**	**08 56 55.1**	**+1.0**
HARU	**Harads**	**3.19**	**84**	*e*P	**Pn**	**08 56 16.6**	**+0.6**
HARU				*e*S	**Sn**	**08 56 55.1**	**+1.0**
HARU	**Harads**	**3.19**	**84**	P	**Pn**	**08 56 16.6**	**+0.6**
HARU				S	**Sn**	**08 56 55.1**	**+1.0**
SJUU	**Sjulsmark**	**3.52**	**95**	P	**Pn**	**08 56 20.5**	**-0.1**
SJUU	**Sjulsmark**	**3.52**	**95**	*e*P	**Pn**	**08 56 20.5**	**-0.1**
SJUU	**Sjulsmark**	**3.52**	**95**	P	**Pn**	**08 56 20.5**	**-0.1**
ERTU	**Ertsjaerv**	**3.68**	**78**	P	**Pn**	**08 56 23.4**	**+0.5**
ERTU	**Ertsjaerv**	**3.68**	**78**	*e*P	**Pn**	**08 56 23.4**	**+0.5**
ERTU	**Ertsjaerv**	**3.68**	**78**	P	**Pn**	**08 56 23.4**	**+0.5**
BURU	**Burvik**	**3.75**	**109**	P	**Pn**	**08 56 26.2**	**+2.6**
BURU	**Burvik**	**3.75**	**109**	*e*P	**Pn**	**08 56 26.2**	**+2.6**
BURU	**Burvik**	**3.75**	**109**	P	**Pn**	**08 56 26.2**	**+2.6**
UMAU	**Umeaa**	**3.86**	**121**	P	**Pn**	**08 56 26.2**	**+1.0**
UMAU	**Umeaa**	**3.86**	**121**	*e*P	**Pn**	**08 56 26.2**	**+1.0**
UMAU	**Umeaa**	**3.86**	**121**	P	**Pn**	**08 56 26.2**	**+1.0**
LANU	**Lannavaara**	**4.00**	**56**	P	**Pn**	**08 56 28.7**	**+1.4**
LANU	**Lannavaara**	**4.00**	**56**	*e*P	**Pn**	**08 56 28.7**	**+1.4**
LANU				*e*S	**Sn**	**08 57 15.1**	**+0.7**
LANU	**Lannavaara**	**4.00**	**56**	P	**Pn**	**08 56 28.7**	**+1.4**
LANU				S	**Sn**	**08 57 15.1**	**+0.7**
PAJU	**Pajala**	**4.10**	**72**	P	**Pn**	**08 56 28.8**	**+0.2**
PAJU	**Pajala**	**4.10**	**72**	*e*P	**Pn**	**08 56 28.8**	**+0.2**
PAJU	**Pajala**	**4.10**	**72**	P	**Pn**	**08 56 28.8**	**+0.2**
KIF	**Kilpisjarvi**	**4.18**	**41**	*e*P	**Pn**	**08 56 31.4**	**+1.8**
KIF				*e*S	**Sn**	**08 57 19.8**	**+1.2**
KIF				MSN		08 57 22.8	
	comp=Z,1.8nm,0.2s						
KIF	**Kilpisjarvi**	**4.18**	**41**	P	**Pn**	**08 56 31.4**	**+1.8**
KIF				S	**Sn**	**08 57 19.8**	**+1.2**
TOF	**Tornio**	**4.55**	**84**	*e*P	**Pn**	**08 56 34.3**	**-0.4**
TOF				*e*S	**Sn**	**08 57 26.2**	**-1.7**
TOF				MSN		08 57 29.3	
	comp=Z,1.1nm,0.2s						
TOF	**Tornio**	**4.55**	**84**	P	**Pn**	**08 56 34.3**	**-0.4**
TOF				S	**Sn**	**08 57 26.1**	**-1.7**
AKN	**Aaknes**	**4.72**	**218**	Pn	**Pn**	**08 56 38.1**	**+1.0**
AKN	**Aaknes**	**4.72**	**218**	Pn	**Pn**	**08 56 38.1**	**+1.0**
AKN	**Aaknes**	**4.72**	**218**	*e*P	**Pn**	**08 56 38.1**	**+1.0**
AKN	**Aaknes**	**4.72**	**218**	P	**Pn**	**08 56 38.1**	**+1.0**
HEF	**Hetta**	**4.72**	**55**	*e*P	**Pn**	**08 56 38.1**	**+1.0**
HEF				*e*S	**Sn**	**08 57 31.4**	**-0.7**
HEF				MSN		08 57 34.6	
	comp=Z,0.9nm,0.2s						
HEF	**Hetta**	**4.72**	**55**	P	**Pn**	**08 56 38.1**	**+1.0**
HEF				S	**Sn**	**08 57 31.4**	**-0.7**
VAF	**Ylistaro**	**5.09**	**122**	*e*P	**Pn**	**08 56 44.3**	**+2.1**
VAF				*e*S	**Sn**	**08 57 39.4**	**-1.6**
VAF				MSN		08 57 43.2	
	comp=Z,1.0nm,0.2s						
VAF	**Ylistaro**	**5.09**	**122**	P	**Pn**	**08 56 44.2**	**+2.1**
NB2	**NORSAR Subarra**	**5.09**	**191**	Pn	**Pn**	**08 56 45.2**	**+3.0**
	baz=4.2,slow=12						
NB2				Lg	Lg	08 58 08.2	
NB2	**NORSAR Subarra**	**5.09**	**191**	Pn	**Pn**	**08 56 45.2**	**+3.0**
	baz=4.2,slow=12						
NB2				Lg	Lg	08 58 08.2	
NB2	**NORSAR Subarra**	**5.09**	**191**	*e*P	**Pn**	**08 56 45.2**	**+3.0**
NB2				*e*SG	**Sg**	**08 58 08.2**	**-0.7**
NB2	**NORSAR Subarra**	**5.09**	**191**	P	**Pn**	**08 56 45.2**	**+3.0**
NB2				Sg	**Sg**	**08 58 08.2**	**-0.7**
NOA	**NORSAR Array B**	**5.09**	**191**	Pn	**Pn**	**08 56 43.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=3.4,slow=13,SNR=2.7						
SGF	**Sodankyl**	**5.48**	**69**	*e*P	**Pn**	**08 56 47.4**	**-0.1**
SGF	**Sodankyl**	**5.48**	**69**	P	**Pn**	**08 56 47.4**	**-0.1**
ARA0	**ARCESS Array S**	**5.85**	**48**	Pn	**Pn**	**08 56 52.5**	**-0.1**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**08 57 56.5**	**-3.3**
	baz=234,slow=22						
ARA0				Lg	Lg	08 58 26.4	
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**5.85**	**48**	Pn	**Pn**	**08 56 52.5**	**-0.1**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**08 57 56.5**	**-3.3**
	baz=234,slow=22						
ARA0				Lg	Lg	08 58 26.4	
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**5.85**	**48**	Pn	**Pn**	**08 56 52.5**	**-0.1**
	SNR=50						
ARCES	**ARCESS Array B**	**5.85**	**48**	Pn	**Pn**	**08 56 52.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=237,slow=12,SNR=8.7						
ARCES				Sn	**Sn**	**08 57 57.4**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=232,slow=20,SNR=6.1						
ARCES				Lg	Lg	08 58 27.2	
	comp=Z,0.4nm,0.3s,baz=237,slow=30,SNR=5.5						
ARE0	**ARCESS Array S**	**5.85**	**48**	*e*P	**Pn**	**08 56 53.0**	**+0.5**
ARE0	**ARCESS Array S**	**5.85**	**48**	*e*P	**Pn**	**08 56 52.4**	**-0.1**
ARE0				*e*S	**Sn**	**08 57 56.7**	**-3.1**
ARE0	**ARCESS Array S**	**5.85**	**48**	*e*P	**Pn**	**08 56 53.0**	**+0.5**
	SNR=49						
HFS	**Hagfors**	**5.93**	**177**	Pn	**Pn**	**08 56 56.0**	**+2.2**
	baz=355,slow=14						
HFS				Sn	**Sn**	**08 58 04.4**	**+2.5**
	baz=352,slow=28						
HFS				Lg	Lg	08 58 31.2	
	slow=28						
HFS	**Hagfors**	**5.93**	**177**	Pn	**Pn**	**08 56 56.0**	**+2.2**
	baz=355,slow=14						
HFS				Sn	**Sn**	**08 58 04.4**	**+2.5**
	baz=352,slow=28						
HFS				Lg	Lg	08 58 31.2	
	slow=28						
HFS	**Hagfors**	**5.93**	**177**	*e*P	**Pn**	**08 56 56.0**	**+2.2**
HFS				*e*S	**Sn**	**08 58 04.4**	**+2.5**
HFS				*e*SG	**Sg**	**08 58 31.2**	**-4.6**
HFS	**Hagfors**	**5.93**	**177**	P	**Pn**	**08 56 55.9**	**+2.2**
HFS				S	**Sn**	**08 58 04.4**	**+2.5**
HFS				Lg	Lg	08 58 31.2	
FIA0	**FINESS Array S**	**7.35**	**123**	Pn	**Pn**	**08 57 13.1**	**0.0**
FIA0				Sn	**Sn**	**08 58 33.6**	**-3.0**
	baz=323,slow=22						
FIA0				Lg	Lg	08 59 11.2	
	baz=319,slow=28						
FIA0	**FINESS Array S**	**7.35**	**123**	Pn	**Pn**	**

KSP	**Ksiaz**	0.67	174	*i* Pg	Pb	09 11 22.8	-0.6
KSP				*i* Sg	Sg	09 11 30.8	+0.5
UPC	**Upice**	1.01	186	⇓*i*PG	Pb	09 11 29.0	-0.1
UPC				*e*SG	Sg	09 11 41.2	0.0
comp=Z,262nm,0.5s							
UPC	**Upice**	1.01	186	Pg	Pb	09 11 29.0	-0.1
UPC				Sg	Sg	09 11 41.2	0.0
262nm,0.5s							
DPC	**Dobruska-Polom**	1.16	176	⇓*i*PG	Pg	09 11 31.5	+0.5
DPC				*e*SG	Sg	09 11 45.8	-0.3
comp=Z,92nm,0.4s							
DPC	**Dobruska-Polom**	1.16	176	*e*Pg	Pg	09 11 31.6	+0.5
DPC	**Dobruska-Polom**	1.16	176	Pg	Pg	09 11 31.6	+0.5
DPC				Sg	Sg	09 11 45.8	-0.3
92nm,0.4s							
PVCC	**Panska Ves**	1.42	227	⇓*e*PG	Pb	09 11 37.1	+1.0
PVCC				*e*SG	Sn	09 11 56.1	+0.9
comp=Z,358nm,0.3s							
PVCC	**Panska Ves**	1.42	227	Pg	Pb	09 11 37.1	+1.0
PVCC				Sg	Sn	09 11 56.1	+0.9
358nm,0.3s							
KRLC	**Kraliky**	1.48	165	⇓*e*PG	Pn	09 11 37.2	+0.4
KRLC				*e*SG	Sg	09 11 56.3	-0.1
KRLC	**Kraliky**	1.48	165	Pg	Pn	09 11 37.2	+0.4
KRLC				Sg	Sg	09 11 56.3	-0.1
BRG	**Berggiesshubel**	1.55	247	PN	Pn	09 11 38.3	+0.7
BRG				PG	Pg	09 11 40.4	+1.9
BRG				SG	Sg	09 12 00.4	+1.8
107nm,0.4s							
BRG	**Berggiesshubel**	1.55	247	*e*Sg	Sg	09 11 59.9	+1.3
BRG	**Berggiesshubel**	1.55	247	Sg	Sg	09 11 59.9	+1.3
PRA	**Prague**	1.82	218	⇓*e*PN	Pn	09 11 42.3	+0.9
PRA				*e*PG	Pg	09 11 43.9	+0.2
PRA				*e*SG	Sb	09 12 07.0	+0.7
comp=Z,35nm,0.3s							
PRA	**Prague**	1.82	218	Pn	Pn	09 11 42.3	+0.9
GOPC	**GO Pecny, Ondr**	1.83	210	⇓*e*PN	Pb	09 11 42.9	-0.2
GOPC				*e*PG	Pg	09 11 44.2	+0.4
GOPC				*e*SG	Sg	09 12 07.5	0.0
comp=Z,55nm,0.4s							
GOPC	**GO Pecny, Ondr**	1.83	210	Pn	Pb	09 11 42.9	-0.2
PRU	**Pruhonice**	1.85	215	⇓*e*PN	Pn	09 11 42.0	+0.3
PRU				*e*PG	Pg	09 11 44.4	+0.2
PRU				*e*SG	Sb	09 12 07.8	+0.7
comp=Z,77nm,0.5s							
PRU	**Pruhonice**	1.85	215	Pn	Pn	09 11 42.0	+0.3
FBE	**Freiberg**	1.88	253	*e*Sg	Sg	09 12 09.7	+0.6
FBE	**Freiberg**	1.88	253	Sg	Sg	09 12 09.7	+0.6
RAC	**Raciborz**	1.91	138	*e*Pg	Pg	09 11 46.3	+0.9
RAC				*e*Sg	Sg	09 12 11.2	+1.0
MORC	**Moravsky Berou**	1.94	153	*e*Pn	Pn	09 11 43.5	+0.5
MORC	**Moravsky Berou**	1.94	153	Pn	Pn	09 11 43.5	+0.5
MORC				*e*Sg	Sn	09 12 08.3	+0.3
CLL	**Collm**	2.01	265	*e*Pn	Pn	09 11 44.9	+1.0
CLL	**Collm**	2.01	265	Pn	Pn	09 11 44.9	+1.0
CLL	**Collm**	2.01	265	*e*Pn	Pn	09 11 45.0	+1.0
CLL				*e*Pg	Pg	09 11 48.0	+0.8
CLL				*i*		09 11 49.6	
CLL				*i*		09 11 51.3	
CLL				*e*Sg	Sg	09 12 15.0	+1.8
comp=Z,37nm,0.6s							
OKC	**Ostrava-Krasne**	2.09	143	*e*Pn	Pn	09 11 45.1	+0.1
OKC	**Ostrava-Krasne**	2.09	143	Pn	Pn	09 11 45.1	+0.1
OKC				Sg	Sb	09 12 14.4	+0.5
comp=Z,71nm,0.6s							
VRAC	**Vranov**	2.22	173	Pn	Pn	09 11 47.7	+0.9
comp=Z,4.5nm,0.3s,baz=347,slow=16,SNR=24							
VRAC				Pg	Pg	09 11 51.4	+0.1
comp=Z,4.5nm,0.3s,baz=353,slow=16,SNR=16							
VRAC				Lg	Lg	09 12 17.9	
comp=Z,9.6nm,0.3s,baz=256,slow=19,SNR=11							
VRAC	**Vranov**	2.22	173	*e*Pn	Pn	09 11 47.9	+1.1
VRAC				*e*Sg	Sb	09 12 17.5	-0.3
OJC	**Ojcow**	2.62	118	*e*Pg	Pg	09 11 59.0	-0.1
OJC				*e*Sg	Sg	09 12 34.0	+0.9
OJC	**Ojcow**	2.62	118	*e*Pg	Pg	09 11 59.0	-0.1
OJC				*e*Sg	Sg	09 12 34.0	+0.9
OJC	**Ojcow**	2.62	118	*e*Pg	Pg	09 11 59.0	-0.1
OJC				*e*Sg	Sg	09 12 34.0	+0.9
WERD	**Werda**	2.67	248	*e*Sg	Sg	09 12 34.0	-0.7
WERD	**Werda**	2.67	248	Sg	Sg	09 12 34.0	-0.7
NKC	**Novy Kostel**	2.69	243	⇓*e*PN	Pn	09 11 54.8	+1.4
NKC				*e*PG	Pg	09 12 01.0	+0.6
NKC				*e*SG	Sg	09 12 36.9	+1.6
comp=Z,59nm,0.3s							
NKC	**Novy Kostel**	2.69	243	Pn	Pn	09 11 54.8	+1.4
KHC	**Kasperske Hory**	2.91	216	⇓*e*PN	Pn	09 11 57.3	+0.9
KHC				*e*PG	Pg	09 12 03.6	-0.9
KHC				*e*SN	Sn	09 12 32.2	+0.1
KHC				*e*SG	Sg	09 12 41.6	-0.6
comp=Z,27nm,0.3s							
KHC	**Kasperske Hory**	2.91	216	Pn	Pn	09 11 57.3	+0.9
ROTZ	**Rotzenmuhle**	3.08	237	*e*Pn	Pn	09 12 00.1	+1.5
ROTZ	**Rotzenmuhle**	3.08	237	Pn	Pn	09 12 00.1	+1.5
SMOL	**Smolenice**	3.10	165	*e*Pg	Pg	09 12 09.4	+1.2
SMOL				*e*Sg	Sg	09 12 49.0	+0.6
SMOL	**Smolenice**	3.10	165	*e*	Pn	09 11 56.1	-2.9
SMOL	**Smolenice**	3.10	165	*e*PG	Pg	09 12 09.4	+1.2
SMOL				*e*SG	Sg	09 12 49.0	+0.6
GERES	**GERESS Array B**	3.11	212	Pn	Pn	09 12 00.2	+1.1
comp=Z,1.0nm,0.3s,baz=34,slow=13,SNR=43							
GERES				Pg	Pb	09 12 06.8	+1.8
comp=Z,9.9nm,0.3s,baz=31,slow=18,SNR=90							
GERES				Lg	Lg	09 12 45.7	
comp=Z,4.2nm,0.3s,baz=30,slow=26,SNR=4.9							
LANS	**Liptovska Anna**	3.16	137	*e*Pg	Pg	09 12 10.2	+0.9
LANS				*e*Sg	Sg	09 12 47.9	-2.4
LANS	**Liptovska Anna**	3.16	137	*e*	Pn	09 12 00.1	+0.3
LANS	**Liptovska Anna**	3.16	137	*e*PG	Pg	09 12 10.2	+0.9
LANS				*e*SG	Sg	09 12 47.9	-2.4
WET	**Wettzell**	3.18	223	*e*Pn	Pn	09 12 01.5	+1.4
WET	**Wettzell**	3.18	223	Pn	Pn	09 12 01.5	+1.4
NIE	**Niedzica**	3.36	127	*e*P	Pg	09 12 13.7	+0.6
NIE				*e*S	Sg	09 12 57.7	+1.1
NIE	**Niedzica**	3.36	127	*e*P	Pg	09 12 13.7	+0.6
NIE				*e*S	Sg	09 12 57.7	+1.1
VYHS	**Vyhne**	3.47	149	*e*Pg	Pg	09 12 16.1	+0.9
VYHS				*e*Sg	Sg	09 12 58.8	-1.3
VYHS	**Vyhne**	3.47	149	*e*PG	Pg	09 12 16.1	+0.9
VYHS				*e*SG	Sg	09 12 58.8	-1.3
CONA	**Conrad Observa**	3.59	184	Pn	Pn	09 12 07.4	+1.6
comp=Z,0.4nm,0.1s							
CONA				Sg	Sg	09 13 04.2	+0.1
comp=Z,28nm,0.5s							
GRA1	**Grafenberg Arr**	3.65	242	Sg	Sg	09 13 06.5	+0.5
GRF	**Grafenberg Arr**	3.65	242	*e*Sg	Sg	09 13 06.5	+0.5
STHS	**Stebnicka Huta**	3.85	121	*e*Pg	Pg	09 12 25.3	+2.8
STHS	**Stebnicka Huta**	3.85	121	*e*	Pn	09 12 10.5	+1.3
STHS	**Stebnicka Huta**	3.85	121	*e*PG	Pg	09 12 25.3	+2.8
STHS				*e*SG	Sg	09 13 19.0	+6.6
STHS				*e*LG	Lg	09 13 29.5	
MOA	**Molln**	3.87	200	Pn	Pn	09 12 11.0	+1.4
comp=Z,2.3nm,0.2s							
MOA				Sg	Sg	09 13 13.5	+0.4
comp=Z,19nm,0.5s							
KECS	**Kecovo**	4.11	136	*e*Pg	Pg	09 12 28.2	+0.8
KECS				*e*Sg	Sg	09 13 21.3	+0.7
KECS	**Kecovo**	4.11	136	*e*	Pn	09 12 14.2	+1.4
KECS	**Kecovo**	4.11	136	*e*PG	Pg	09 12 28.2	+0.8
KECS				*e*SG	Sg	09 13 21.3	+0.7
KECS				*e*LG	Lg	09 13 26.3	
ARSA	**Arzberg**	4.29	186	Pn	Pn	09 12 16.6	+1.3
comp=Z,0.3nm,0.0s							
ARSA				Sg	Sg	09 13 26.8	+0.4
comp=Z,6.1nm,0.4s							
KBA	**Koelnbreinsper**	4.81	204	Pn	Pn	09 12 24.3	+1.7
comp=Z,0.5nm,0.2s							
KBA				Sg	Sg	09 13 45.2	+2.0
comp=Z,2.1nm,0.3s							
SOKA	**Soboth**	4.89	189	Sg	Sg	09 13 43.8	-2.2
comp=Z,2.0nm,0.4s							
OBKA	**Obir**	5.12	193	Pn	Pn	09 12 28.8	+2.0
comp=Z,0.1nm,0.1s							
OBKA				Sg	Sg	09 13 55.2	+2.0
comp=Z,4.6nm,0.5s							
WATA	**Walderalm**	5.15	218	Pn	Pn	09 12 28.1	+0.9
WATA				Sg	Sg	09 13 51.0	-3.1
comp=Z,2.5nm,0.2s							
MYKA	**Terra Mystica**	5.16	200	Sg	Sg	09 13 53.6	-1.0
comp=Z,1.0nm,0.2s							
WTTA	**Wattenberg**	5.19	217	Pn	Pn	09 12 28.3	+0.5
comp=Z,0.4nm,0.1s							
WTTA				Sg	Sg	09 13 52.7	-2.6
comp=Z,7.0nm,0.4s							
MOTA	**Moosalm**	5.33	220	Pn	Pn	09 12 31.7	+2.0
comp=Z,1.0nm,0.2s							
MOTA				Sg	Sg	09 14 01.1	+1.3
comp=Z,2.8nm,0.5s							
ABTA	**Abfaltersbach**	5.34	208	Pn	Pn	09 12 31.6	+1.8
comp=Z,0.5nm,0.2s							
ABTA				Sg	Sg	09 13 58.6	-1.7
comp=Z,2.5nm,0.3s							
RETA	**Reutte**	5.36	223	Pn	Pn	09 12 31.2	+1.2
comp=Z,1.2nm,0.2s							
RETA				Sg	Sg	09 13 57.4	-3.4
comp=Z,3.6nm,0.3s							
FETA	**Feichten**	5.74	221	Pn	Pn	09 12 37.1	+1.7
comp=Z,1.3nm,0.5s							
DAVOX	**Davos/Dischmat**	6.29	224	Pn	Pn	09 12 44.6	+1.7
comp=Z,0.3nm,0.3s,baz=36,slow=8.7,SNR=3.4							
DAVOX				Lg	Lg	09 14 24.6	
comp=Z,0.4nm,0.3s,baz=338,slow=19,SNR=2.5							
AKASG	**Malin Array Be**	8.25	91	Pn	Pn	09 13 09.4	-0.1
comp=Z,1.2nm,0.3s,baz=281,slow=12,SNR=6.0							
AKASG				Lg	Lg	09 15 36.1	
comp=Z,0.4nm,0.3s,baz=279,slow=25,SNR=2.8							
HFS	**Hagfors**	8.76	352	Pn	Pn	09 13 16.4	-0.1
comp=Z,0.3nm,0.3s,baz=171,slow=16,SNR=8.4							
NOA	**NORSAR Array B**	9.94	346	Pn	Pn	09 13 31.9	-0.9
comp=Z,0.3nm,0.3s,baz=160,slow=12,SNR=4.3							
FINES	**FINESS Array B**	11.34	25	Pn	Pn	09 13 51.4	-0.5
comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=11							
FINES				Sn	Sn	09 15 53.4	-5.8
comp=Z,0.2nm,0.3s,baz=208,slow=25,SNR=3.6							
EKA	**Eskdalemuir Ar**	12.15	296	Pn	Pn	09 14 02.4	-0.6
baz=99,slow=14,SNR=3.5							
ARCES	**ARCESS Array B**	18.61	10	Pn	P	09 15 25.4	-2.0
comp=Z,0.5nm,0.3s,baz=193,slow=12,SNR=11							
TORD	**Torodi Ar. Bea**	40.02	202	P	P	09 18 46.5	+1.2
comp=Z,0.4nm,0.8s,baz=4.6,slow=7.2,SNR=3.2							

*KRNET **30** 09:20:39.5±0.1, 39°.15N×71°.23E, mb2.3*
*NNC **30** 09:20:40.1±3.0, 39°.01N×71°.54E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=36.8km s-min=9.1km az=143.0
*ISCJB **30** 09:20:41.7±1.1, 39°.19N±0°.07×71°.24E±0°.07, h10km, Error ellipse: s-maj=9.7km s-min=7.2km az=164.8*
ISC 30 09:20:41.8±1.3, 39°.23N±0°.07×71°.31E±0°.05, h10km, n11, σ2.5 04/22, 8C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	0.91	336	⇓*i*P	Pg	09 20 58.2	-1.1
baz=341							
BTK				⇓*i*S	Sg	09 21 11.9	+0.7
baz=341							
SFK	**Sufi-Kurgan**	1.87	65	⇓*e*P	Pb	09 21 15.0	-1.1
baz=63							
SFK				⇓*e*S	Sg	09 21 41.0	-0.8
baz=63							
DZET	**Dzherino**	1.98	258	⇓Pn	Pn	09 21 15.8	+0.4
3.8nm,0.3s							
DZET				⇑Sn	Sg	09 21 46.3	+0.9
17nm,0.5s							
ARSB	**Arslanbob**	2.45	31	⇑*e*P	Pb	09 21 23.9	-2.2
baz=31							
ARSB				⇑*i*S	Sb	09 21 55.6	-0.8
baz=31							
ARK	**Arkit**	2.61	11	⇓*e*P	Pn	09 21 25.4	+1.2
baz=12							
ARK				⇓*e*S	Sn	09 21 59.3	+3.2
baz=12							
MNAS	**Manas**	3.38	15	⇓*e*P	Pn	09 21 36.5	+1.8
baz=16							
MNAS				⇓*e*S	Sn	09 22 17.9	+3.0
baz=16							
MNAS	**Manas**	3.38	15	⇑Pn	Pn	09 21 36.3	+1.6
2.3nm,0.4s							
MNAS				⇓Sn	Sb	09 22 20.9	-2.2
1.9nm,0.4s							
AML	**Almayashu**	3.42	31	⇑*e*P	Pn	09 21 35.6	+0.1
baz=31							
AML				⇑*e*S	Sn	09 22 16.7	+0.4
baz=31							
ARLS	**Aral**	3.49	40	⇓*e*P	Pn	09 21 37.9	+1.6
baz=40							
ARLS				⇓*e*S	Sn	09 22 20.4	+2.7
baz=40							
KK31	**Karatay Array**	3.92	351	Pn	Pn	09 21 43.6	+1.6
0.5nm,0.3s,baz=174,slow=13,SNR=18							
KK31				Sn	Sb	09 22 35.1	-3.3
0.4nm,0.3s,baz=172,slow=24,SNR=4.3							
AAK	**Ala-Archa**	4.17	34	⇑Pn	Pn	09 21 46.8	+1.1
1.0nm,0.5s							
AAK				⇑Sn	Sn	09 22 38.2	+3.7
2.0nm,0.8s							

*ISK **30** 09:24:19.9, 38°.64N×43°.17E, h5km, ML2.6*
*CSEM **30** 09:24:20.8±0.2, 38°.65N×43°.20E, h10km, ML2.6, Error ellipse: s-maj=4.9km s-min=4.3km az=165.0*
*DDA **30** 09:24:21.1, 38°.64N×43°.21E, h7km, Ml3.3*
ISC 30 09:24:21.3±0.9, 38°.67N±0°.03×43°.20E±0°.02, h9km±9km, n31, σ0.8 83/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.17	116	PG	Pg	09 24 25.2	+0.3
VANB				*e*SG	Sg	09 24 28.0	+0.6
VANB	**Van**	0.17	116	*i* Pg	Pg	09 24 25.2	+0.3
VANB				*e*Sg	Sg	09 24 28.0	+0.6
TVAN	**Van**	0.21	131	*i* P	Pg	09 24 24.9	-0.8
TVAN				*i* S	Sg	09 24 28.8	0.0
TVAN	**Van**	0.21	131	P	Pg	09 24 25.0	-0.8
TVAN				S	Sg	09 24 28.8	0.0
GEVA	**Gevas**	0.37	197	*i* P	Pg	09 24 28.2	-0.5
GEVA	**Gevas**	0.37	197	P	Pg	09 24 28.2	-0.5
ADCV	**BITLIS_Adilcev**	0.40	291	*i* P	Pb	09 24 29.7	-0.9
ADCV				*i* S	Sb	09 24 36.9	0.0
ADCV	**BITLIS_Adilcev**	0.40	291	P	Pb	09 24 29.7	-0.9
ADCV				S	Sb	09 24 36.9	0.0
VMUR	**Van-Muradiye**	0.43	42	*i* P	Pg	09 24 29.8	0.0
VMUR				*i* S	Sb	09 24 37.9	0.0
VMUR	**Van-Muradiye**	0.43	42	P	Pg	09 24 29.8	0.0
VMUR				S	Sb	09 24 37.9	0.0
CLDR	**Caldiran**	0.73	50	*e*PG	Pg	09 24 35.0	-0.5
CLDR				*e*SG	Sb	09 24 46.9	+0.3
CLDR	**Caldiran**	0.73	50	*i* P	Pg	09 24 34.9	-0.5
CLDR				*i* S	Sb	09 24 46.7	+0.1
CLDR	**Caldiran**	0.73	50	*e*Pg	Pg	09 24 35.0	-0.5
CLDR				S	Sb	09 24 46.7	+0.1
TATV	**Tatvan**	0.75	258	*i* P	Pg	09 24 35.1	-0.6
TATV				*i* S	Sb	09 24 46.2	-0.8
TATV	**Tatvan**	0.75	258	P	Pg	09 24 35.1	-0.6
TATV				S	Sb	09 24 46.2	-0.8
TUTA	**Tutak**	0.79	338	*i* P	Pg	09 24 36.2	-0.4
TUTA	**Tutak**	0.79	338	P	Pg	09 24 36.2	-0.4
AGRB	**Hanur-Agry**	0.92	350	*e*PG	Pg	09 24 38.2	-0.8
AGRB	**Hanur-Agry**	0.92	350	*e*Pg	Pg	09 24 38.2	-0.8
GURO	**Guroymak-BITLI**	0.92	263	*e*PG	Pg	09 24 37.5	-1.5
GURO	**Guroymak-BITLI**	0.92	263	*e*Pg	Pg	09 24 37.5	-1.5
EKAR	**Karacoban**	1.06	304	*i* P	Pn	09 24 44.6	+2.0
EKAR	**Karacoban**	1.06	304	P	Pn	09 24 44.6	+2.0
EATA	**Eleskirt**	1.31	335	*i* P	Pn	09 24 46.0	-0.1
EATA				*i* S	Sb	09 25 03.9	+0.5
EATA	**Eleskirt**	1.31	335	P	Pn	09 24 46.0	-0.1
EATA				S	Sb	09 25 03.9	+0.5
CUKT	**Cukurca**	1.46	167	*e*PN	Pb	09 24 47.7	-0.9
CUKT	**Cukurca**	1.46	167	*e*Pn	Pb	09 24 47.7	-0.9
SVAN	**Silvan-Diyarba**	1.66	252	*e*PN	Pn	09 24 50.8	+0.2
SVAN	**Silvan-Diyarba**	1.66	252	*i* P	Pg	09 24 54.3	+1.3
SVAN				*i* S	Sg	09 25 14.8	+0.3
SVAN	**Silvan-Diyarba**	1.66	252	*e*Pn	Pn	09 24 50.8	+0.2
SVAN				S	Sg	09 25 14.8	+0.3
BTMN	**Batman**	1.71	244	*i* P	Pg	09 24 55.3	+1.3
BTMN				*i* S	Sg	09 25 17.9	+1.8

*ISK **30** 09:26:11.5, 38°.97N×43°.55E, h5km, ML3.1*
*CSEM **30** 09:26:12.7±0.3, 38°.95N×43°.56E, h2km, ML3.1, Error ellipse: s-maj=6.0km s-min=4.5km az=92.0*
*DDA **30** 09:26:12.1, 38°.95N×43°.56E, h3km, Ml3.4*
ISC 30 09:26:12.5±1.1, 38°.96N±0°.02×43°.56E±0°.02, h3km±10km, n61, σ0.5 75/89, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	0.18	290	*e*PG	Pg	09 26 16.0	-0.2
ERCV				*e*SG	Sg	09 26 19.5	+1.1
ERCV	**ERCIS-VAN**	0.18	290	*e*Pg	Pg	09 26 16.0	-0.1
ERCV				*e*Sg	Sg	09 26 19.5	+1.1
CLDR	**Caldiran**	0.34	57	*e*PG	Pg	09 26 19.2	+0.2
CLDR				*e*SG	Sb	09 26 25.3	-1.9
CLDR	**Caldiran**	0.34	57	*i* P	Pg	09 26 19.2	+0.2
CLDR	**Caldiran**	0.34	57	P	Pg	09 26 19.2	+0.2
CLDR				*e*Sg	Sb	09 26 25.3	-1.9
VANB	**Van**	0.39	200	*e*PG	Pb	09 26 21.3	-0.8
VANB				*e*SG	Sb	09 26 29.5	+1.0
VANB	**Van**	0.39	200	*e*Pg	Pb	09 26 21.3	-0.8
TVAN	**Van**	0.45	195	*i* P	Pg	09 26 21.1	+0.1
TVAN				*i* S	Sb	09 26 29.9	-0.4
TVAN	**Van**	0.45	195	P	Pg	09 26 21.1	+0.1
TVAN				S	Sb	09 26 29.9	-0.4
DYDN	**Diyadin**	0.59	10	*i* P	Pg	09 26 23.7	-0.2
DYDN	**Diyadin**	0.59	10	*i* P	Pg	09 26 23.7	-0.2
DYDN				*i* S	Sb	09 26 33.8	-0.8
DYDN	**Diyadin**	0.59	10	P	Pg	09 26 23.7	-0.2
DYDN				S	Sb	09 26 33.8	-0.8
ADCV	**BITLIS_Adilcev**	0.67	257	⇑*i*P	Pg	09 26 24.9	-0.4
ADCV				*i* S	Sb	09 26 35.6	-1.0
ADCV	**BITLIS_Adilcev**	0.67	257	P	Pg	09 26 24.9	-0.4
ADCV				S	Sb	09 26 35.6	-1.0
TUTA	**Tutak**	0.73	308	*i* P	Pg	09 26 25.7	-0.7
TUTA	**Tutak**	0.73	308	P	Pg	09 26 25.7	-0.7
GEVA	**Gevas**	0.75	211	*i* P	Pg	09 26 26.4	-0.5
GEVA				*i* S	Sb	09 26 38.3	-0.8
GEVA	**Gevas**	0.75	211	P	Pg	09 26 26.4	-0.5
GEVA				S	Sb	09 26 38.3	-0.8
AGRB	**Hanur-Agry**	0.76	325	*e*PG	Pg	09 26 26.6	-0.4
AGRB				*e*SG	Sb	09 26 38.2	-1.0
AGRB	**Hanur-Agry**	0.76	325	*e*Pg	Pg	09 26 26.6	-0.4
AGRB				*e*Sg	Sb	09 26 38.2	-1.0
BASK	**Baskale_VAN**	0.97	159	*i* P	Pg	09 26 31.4	+0.3
BASK	**Baskale_VAN**	0.97	159	*i* P	Pg	09 26 30.8	-0.3
BASK	**Baskale_VAN**	0.97	159	P	Pg	09 26 30.8	-0.3
TATV	**Tatvan**	1.10	246	*i* P	Pg	09 26 32.2	-1.4
TATV				*i* S	Sg	09 26 48.0	+0.1
TATV	**Tatvan**	1.10	246	P	Pg	09 26 32.2	-1.4
TATV				S	Sg	09 26 48.0	+0.1
EKAR	**Karacoban**	1.20	285	*i* P	Pn	09 26 37.4	+1.0
EKAR				*i* S	Sn	09 26 55.4	+2.0
EKAR	**Karacoban**	1.20	285	P	Pn	09 26 37.4	+1.0
EKAR				S	Sn	09 26 55.4	+2.0
EATA	**Eleskirt**	1.22	318	*i* P	Pg	09 26 35.3	-0.6
EATA				*i* S	Sn	09 26 53.4	-0.6
EATA	**Eleskirt**	1.22	318	P	Pg	09 26 35.3	-0.6
EATA				S	Sn	09 26 53.4	-0.6
GURO	**Guroymak-BITLI**	1.26	252	*e*PN	Pg	09 26 36.3	-0.3
GURO	**Guroymak-BITLI**	1.26	252	*e*Pn	Pg	09 26 36.3	-0.3
SRTM	**Siirt_Merkez**	1.61	234	*i* P	Pn	09 26 42.1	+0.2
SRTM	**Siirt_Merkez**	1.61	234	P	Pn	09 26 42.1	+0.2
HOMI	**Horasan**	1.68	311	*i* P	Pg	09 26 45.1	+0.5
CUKT	**Cukurca**	1.71	179	*e*PN	Pn	09 26 43.8	+0.5
CUKT	**Cukurca**	1.71	179	*i* P	Pn	09 26 43.1	-0.2
CUKT	**Cukurca**	1.71	179	P	Pn	09 26 43.1	-0.2
CUKT	**Cukurca**	1.71	179	*e*Pn	Pn	09 26 43.8	+0.5
SIRN	**S¨–rnak**	1.72	212	*i* P	Pn	09 26 37.7	-5.7
SIRN				*i* S	Sb	09 27 06.6	-0.1
EAK	**Akyaka**	1.73	1	*i* P	Pg	09 26 46.1	+0.5
EAK	**Akyaka**	1.73	1	P	Pg	09 26 46.1	+0.5
SENK	**Senkaya-Erzuru**	1.85	330	*e*PN	Pn	09 26 45.8	+0.4
SENK	**Senkaya-Erzuru**	1.85	330	*e*Pn	Pn	09 26 45.8	+0.4
BNGL	**BINGOL**	1.88	271	*i* P	Pb	09 26 47.7	+0.2
BNGL				*i* S	Sg	09 27 13.3	+0.6
ERZM	**Erzurum**	1.94

EATA	Eleskirt	1.31 332	P	Pg	09 39 28.5	-0.2
EATA			S	Sg	09 39 46.8	+0.9

*ISK **30** 09:40:02.2, 38°.70N×43°.35E, h10km, ML3.0*
*CSEM **30** 09:40:02.9±0.2, 38°.69N×43°.38E, h5km, ML3.0, Error ellipse: s-maj=4.5km s-min=3.4km az=107.0*
*DDA **30** 09:40:02.5, 38°.69N×43°.39E, h18km, Ml3.5*
*ISCJB **30** 09:40:03.3±0.4, 38°.70N±0°.02×43°.38E±0°.03, h8km±3km, Error ellipse: s-maj=4.6km s-min=3.0km az=15.0*
ISC 30 09:40:03.1±0.8, **38°.69N**±0°.02×**43°.39E**±0°.02, **h16**km±5km, **n58**, σ0°**83**/86, **1C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**179**	PG	**Pg**	**09 40 06.6**	**0.0**
VANB				*e*SG	**Sg**	**09 40 10.3**	**+1.4**
VANB	**Van**	**0.10**	**179**	*i* Pg	**Pg**	**09 40 06.6**	**0.0**
TVAN	**Van**	**0.16**	**175**	⇓*i*P	**Pg**	**09 40 06.5**	**-1.0**
TVAN				*i* S	**Sg**	**09 40 10.5**	**+0.1**
TVAN	**Van**	**0.16**	**175**	P	**Pg**	**09 40 06.5**	**-1.0**
TVAN				S	**Sg**	**09 40 10.5**	**+0.1**
ERCV	**ERCIS-VAN**	**0.33**	**353**	*e*PG	**Pg**	**09 40 09.3**	**-0.8**
ERCV				*e*SG	**Sg**	**09 40 14.1**	**-0.9**
ERCV	**ERCIS-VAN**	**0.33**	**353**	*e*Pg	**Pg**	**09 40 09.3**	**-0.8**
ERCV				*e*Sg	**Sg**	**09 40 14.1**	**-0.9**
VMUR	**Van-Muradiye**	**0.33**	**26**	⇓*i*P	**Pg**	**09 40 09.7**	**-0.5**
VMUR				*i* S	**Sb**	**09 40 16.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.33**	**26**	P	**Pg**	**09 40 09.7**	**-0.5**
VMUR				S	**Sb**	**09 40 16.1**	**+0.2**
GEVA	**Gevas**	**0.46**	**215**	*i* P	**Pg**	**09 40 11.2**	**-1.2**
GEVA				*i* S	**Sg**	**09 40 18.9**	**+0.3**
GEVA	**Gevas**	**0.46**	**215**	P	**Pg**	**09 40 11.2**	**-1.2**
GEVA				S	**Sg**	**09 40 18.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.53**	**283**	⇓*i*P	**Pg**	**09 40 13.6**	**-0.7**
ADCV				*i* S	**Sb**	**09 40 21.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.53**	**283**	P	**Pg**	**09 40 13.0**	**-0.7**
ADCV				S	**Sb**	**09 40 21.4**	**-0.2**
CLDR	**Caldiran**	**0.61**	**42**	*e*PG	**Pg**	**09 40 14.4**	**-0.8**
CLDR				*e*SG	**Sb**	**09 40 24.1**	**+0.1**
CLDR	**Caldiran**	**0.61**	**42**	⇑*i*P	**Pg**	**09 40 14.5**	**-0.8**
CLDR				*i* S	**Sb**	**09 40 24.5**	**+0.5**
CLDR	**Caldiran**	**0.61**	**42**	P	**Pg**	**09 40 14.5**	**-0.8**
CLDR				*e*Sg	**Sb**	**09 40 24.1**	**+0.1**
BASK	**Baskale_VAN**	**0.80**	**143**	*i* P	**Pg**	**09 40 17.4**	**-1.3**
BASK				*i* S	**Sb**	**09 40 30.1**	**+0.8**
BASK	**Baskale_VAN**	**0.80**	**143**	P	**Pg**	**09 40 17.4**	**-1.3**
BASK				S	**Sb**	**09 40 30.1**	**+0.8**
TUTA	**Tutak**	**0.84**	**328**	*i* P	**Pg**	**09 40 18.1**	**-1.4**
TUTA	**Tutak**	**0.84**	**328**	P	**Pg**	**09 40 18.1**	**-1.4**
DYDN	**Diyadin**	**0.88**	**15**	*i* P	**Pb**	**09 40 19.8**	**-0.4**
DYDN				*i* S	**Sb**	**09 40 31.9**	**+0.1**
DYDN	**Diyadin**	**0.88**	**15**	P	**Pb**	**09 40 19.8**	**-0.4**
DYDN				S	**Sb**	**09 40 31.9**	**+0.1**
TATV	**Tatvan**	**0.90**	**259**	*i* P	**Pb**	**09 40 19.5**	**-0.8**
TATV				*i* S	**Sb**	**09 40 30.2**	**-1.9**
TATV	**Tatvan**	**0.90**	**259**	P	**Pb**	**09 40 19.5**	**-0.8**
TATV				S	**Sb**	**09 40 30.2**	**-1.9**
AGRB	**Hanur-Agry**	**0.94**	**341**	*e*PG	**Pb**	**09 40 20.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.94**	**341**	*e*Pg	**Pb**	**09 40 20.3**	**-0.7**
GURO	**Guroymak-BITLI**	**1.07**	**263**	*e*PG	**Pb**	**09 40 21.7**	**-1.6**
GURO	**Guroymak-BITLI**	**1.07**	**263**	*e*Pg	**Pb**	**09 40 21.7**	**-1.6**
EKAR	**Karacoban**	**1.18**	**299**	*i* P	**Pg**	**09 40 26.2**	**+0.3**
EKAR				*i* S	**Sg**	**09 40 43.1**	**+1.8**
EKAR	**Karacoban**	**1.18**	**299**	P	**Pg**	**09 40 26.2**	**+0.3**
EKAR				S	**Sg**	**09 40 43.1**	**+1.8**
SRTM	**Siirt_Merkez**	**1.35**	**239**	⇓*i*P	**Pg**	**09 40 28.7**	**-0.3**
SRTM				*i* S	**Sg**	**09 40 47.5**	**+0.9**
SRTM	**Siirt_Merkez**	**1.35**	**239**	P	**Pg**	**09 40 28.7**	**-0.3**
SRTM				S	**Sg**	**09 40 47.5**	**+0.9**
EATA	**Eleskirt**	**1.36**	**330**	⇓*i*P	**Pn**	**09 40 27.7**	**0.0**
EATA				*i* S	**Sg**	**09 40 47.1**	**-0.1**
EATA	**Eleskirt**	**1.36**	**330**	P	**Pn**	**09 40 27.7**	**0.0**
EATA				S	**Sg**	**09 40 47.1**	**-0.1**
SIRN	**S¨–rnak**	**1.42**	**213**	*i* P	**Pg**	**09 40 30.8**	**+0.4**
SIRN				*i* S	**Sg**	**09 40 48.5**	**-0.4**
SIRN	**S¨–rnak**	**1.42**	**213**	P	**Pg**	**09 40 30.8**	**+0.4**
SIRN				S	**Sg**	**09 40 48.5**	**-0.4**
CUKT	**Cukurca**	**1.45**	**173**	*e*PN	**Pn**	**09 40 28.8**	**+0.1**
CUKT	**Cukurca**	**1.45**	**173**	*i* P	**Pb**	**09 40 29.8**	**+0.1**
CUKT	**Cukurca**	**1.45**	**173**	*e*Pn	**Pn**	**09 40 28.8**	**+0.1**
CUKT	**Cukurca**	**1.45**	**173**	P	**Pb**	**09 40 29.8**	**+0.1**
DIGO	**Kars**	**1.72**	**360**	*i* P	**Pb**	**09 40 34.7**	**+0.2**
DIGO	**Kars**	**1.72**	**360**	P	**Pb**	**09 40 34.7**	**+0.2**
BNGL	**BINGOL**	**1.77**	**279**	*i* P	**Pb**	**09 40 35.1**	**-0.1**
HOMI	**Horasan**	**1.78**	**320**	*i* P	**Pb**	**09 40 35.6**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	*e*PN	**Pn**	**09 40 34.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	*i* P	**Pb**	**09 40 35.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	*e*Pn	**Pn**	**09 40 34.1**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.80**	**253**	P	**Pb**	**09 40 35.6**	**-0.1**
BTMN	**Batman**	**1.85**	**245**	⇓*i*P	**Pb**	**09 40 35.6**	**-0.8**
BTMN	**Batman**	**1.85**	**245**	P	**Pb**	**09 40 35.7**	**-0.8**
ERZM	**Erzurum**	**1.98**	**308**	*i* P	**Pb**	**09 40 39.8**	**+0.9**
ERZM	**Erzurum**	**1.98**	**308**	P	**Pb**	**09 40 39.8**	**+0.9**
BNGB	**Bing¶ll**	**2.14**	**279**	*e*PN	**Pn**	**09 40 38.5**	**+0.3**
MARD	**Mardin**	**2.48**	**237**	*i* P	**Pn**	**09 40 44.1**	**+1.3**
MAZI	**Mazidag**	**2.63**	**243**	*e*PN	**Pn**	**09 40 45.4**	**+0.5**
MAZI	**Mazidag**	**2.63**	**243**	*e*Pn	**Pn**	**09 40 45.4**	**+0.5**
DAGI	**Agillar**	**2.64**	**335**	*i* P	**Pb**	**09 40 50.3**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.22**	**266**	*e*PN	**Pn**	**09 40 54.4**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.22**	**266**	*e*Pn	**Pn**	**09 40 54.4**	**+1.4**

*CSEM **30** 09:46:05.3±0.3, 38°.34N×43°.57E, h15km, ML2.5, Error ellipse: s-maj=8.3km s-min=5.4km az=104.0*
*ISK **30** 09:46:05.6, 38°.35N×43°.61E, h20km, ML2.6*
*ISCJB **30** 09:46:06.1±1.2, 38°.37N±0°.05×43°.57E±0°.09, h15km±6km, Error ellipse: s-maj=12.4km s-min=7.2km az=31.1*
*DDA **30** 09:46:09.3, 38°.59N×43°.44E, h5km, Ml2.5*
ISC 30 09:46:05.8±1.3, **38°.42N**±0°.04×**43°.66E**±0°.05, **h20**km±5km, **n22**, σ1°**49**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.23**	**298**	*i* P	**Pb**	**09 46 11.3**	**+0.1**
TVAN	**Van**	**0.23**	**298**	P	**Pb**	**09 46 11.3**	**+0.1**
VANB	**Van**	**0.28**	**309**	PG	**Pb**	**09 46 11.5**	**-0.6**
VANB				*e*SG	**Sb**	**09 46 15.7**	**-0.6**
VANB	**Van**	**0.28**	**309**	*i* Pg	**Pb**	**09 46 11.5**	**-0.6**
VANB				*e*Sg	**Sb**	**09 46 15.7**	**-0.6**
GEVA	**Gevas**	**0.49**	**257**	*i* P	**Pn**	**09 46 17.5**	**-0.3**
VMUR	**Van-Muradiye**	**0.57**	**353**	*i* P	**Pb**	**09 46 17.5**	**+0.3**
VMUR				*i* S	**Sg**	**09 46 24.3**	**-0.8**
VMUR	**Van-Muradiye**	**0.57**	**353**	P	**Pb**	**09 46 17.5**	**+0.3**
CLDR	**Caldiran**	**0.75**	**15**	*e*PG	**Pn**	**09 46 22.2**	**+0.7**
CLDR				*e*SG	**Sn**	**09 46 34.2**	**+1.8**
CLDR	**Caldiran**	**0.75**	**15**	*i* P	**Pn**	**09 46 22.3**	**+0.8**
CLDR				*i* S	**Sn**	**09 46 33.7**	**+1.3**
CLDR	**Caldiran**	**0.75**	**15**	P	**Pn**	**09 46 22.3**	**+0.8**
CLDR				S	**Sn**	**09 46 33.7**	**+1.3**
CLDR				*e*Sg	**Sn**	**09 46 34.2**	**+1.8**
ADCV	**BITLIS_Adilcev**	**0.83**	**298**	*i* P	**Pb**	**09 46 21.8**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.83**	**298**	P	**Pb**	**09 46 21.8**	**+0.2**
CUKT	**Cukurca**	**1.17**	**182**	*e*PN	**Pb**	**09 46 26.3**	**-1.1**
CUKT	**Cukurca**	**1.17**	**182**	*e*Pn	**Pb**	**09 46 26.3**	**-1.1**
TUTA	**Tutak**	**1.18**	**326**	*i* P	**Pb**	**09 46 26.9**	**-0.8**
TUTA	**Tutak**	**1.18**	**326**	P	**Pb**	**09 46 26.9**	**-0.8**
AGRB	**Hanur-Agry**	**1.27**	**336**	*e*PN	**Pg**	**09 46 29.6**	**-0.7**
AGRB	**Hanur-Agry**	**1.27**	**336**	*e*Pn	**Pg**	**09 46 29.6**	**-0.7**
GURO	**Guroymak-BITLI**	**1.29**	**276**	*e*PN	**Pn**	**09 46 28.6**	**-0.2**
GURO	**Guroymak-BITLI**	**1.29**	**276**	*e*Pn	**Pn**	**09 46 28.6**	**-0.2**
SRTM	**Siirt_Merkez**	**1.44**	**253**	*i* P	Pg	09 46 37.5	+4.0
SRTM				*i* S	**Sg**	**09 46 56.4**	**+4.1**
EATA	**Eleskirt**	**1.70**	**328**	*i* P	**Pn**	**09 46 30.2**	**-4.5**

*IDC **30** 09:46:11.8±1.2, 28°.15S×176°.05W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/21, mbtmp4.0/5, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=38.9km s-min=25.6km az=142.0*
*ISCJB **30** 09:46:13.7±0.7, 28°.18S±0°.09×176°.0W±0°.1, h28km, mb4.4/13, MS3.7/2, Error ellipse: s-maj=15.5km s-min=9.9km az=41.3*
*NEIC **30** 09:46:18.0±2.5, 28°.22S×176°.11W, h47km±20km, mb4.5/14, Error ellipse: s-maj=18.1km s-min=13.8km az=61.0*
ISC 30 09:46:16.0±0.6, **28°.2S**±0°.1×**176°.0W**±0°.1, **h28**km, **n37**, σ0°**98**/34, **mb4.5**/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.94**	**238**	Pn	**Pn**	**09 46 48.2**	**+1.0**
	112nn,0.3s,baz=90,slow=20,SNR=3.6						
RAO				Sn	**Sn**	**09 47 11.4**	**+0.8**
	226nn,0.3s,baz=105,slow=22,SNR=6.6						
RAO	**Raoul Island**	**1.94**	**238**	*e*Pn	**Pn**	**09 46 48.2**	**+1.0**
RAO				*e*Sn	**Sb**	**09 47 12.9**	**-1.7**
URZ	**Urewera**	**11.52**	**208**	Pn	Pn	09 48 50.5	-8.1
	0.3nm,0.3s,baz=328,slow=13,SNR=2.6						
URZ				Sn	Sn	09 50 56.6	-10
	0.8nm,0.3s,baz=351,slow=19,SNR=6.6						
THZ	**Tophouse**	**16.24**	**211**	*e*Pn	**Pn**	**09 50 01.7**	**-0.5**
	12nm,1.1s						
KHZ	**Kahutara**	**16.49**	**208**	*e*Pn	**Pn**	**09 50 04.8**	**-0.5**
	123nm,1.9s						
DZM	**Mont Dzumac**	**17.01**	**287**	LR	LR	09 54 24.3	
	comp=Z,35nm,20.3s,baz=49,slow=29						
CRLZ	**Canterbury Las**	**17.82**	**208**	*e*Pn	**P**	**09 50 23.8**	**+1.4**
	137nm,1.9s						
OXZ	**Oxford**	**17.87**	**209**	*e*P	**P**	**09 50 23.2**	**+0.2**
	29nm,1.4s						
ODZ	**Otahua Downs**	**19.85**	**209**	*e*P	**P**	**09 50 44.5**	**-0.1**
	95nm,2.0s						
STKA	**Stephens Creek**	**36.69**	**254**	P	**P**	**09 53 21.4**	**+0.7**
	4.4nm,0.8s,baz=108,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**36.69**	**254**	*e*P	**P**	**09 53 21.0**	**+0.4**
	1.4nm,1.0s						
BBOO	**Buckleboo**	**41.25**	**251**	*e*P	**P**	**09 53 58.1**	**-0.7**
	60nm,1.7s						
AS31	**Alice Springs**	**45.00**	**264**	*e*P	**P**	**09 54 28.2**	**-1.0**
	1.2nm,1.1s						
ASAR	**Alice Springs**	**45.00**	**264**	P	**P**	**09 54 28.2**	**-1.1**
	0.6nm,0.5s,baz=98,slow=6.6,SNR=8.6						
WB2	**Warramunga Arr**	**45.79**	**269**	*e*P	**P**	**09 54 34.5**	**-1.0**
	21nm,1.9s						
WR1	**Warramunga Arr**	**45.80**	**269**	*e*P	**P**	**09 54 34.4**	**-1.2**
	8.1nm,1.4s						
WRA	**Warramunga Arr**	**45.80**	**269**	P	**P**	**09 54 34.4**	**-1.3**
	1.3nm,0.6s,baz=109,slow=7.5,SNR=7.9						
WRA				LR	LR	10 13 18.6	
	comp=Z,34nm,18.7s,baz=315,slow=36						
SBA	**Scott Base**	**50.32**	**185**	*e*P	**P**	**09 55 09.9**	**+0.2**
	14nm,1.6s						
MAW	**Mawson**	**74.92**	**200**	P	**P**	**09 57 55.2**	**+1.3**
	1.3nm,0.9s,baz=140,slow=16,SNR=3.7						
MAW	**Mawson**	**74.92**	**200**	*e*P	**P**	**09 57 55.2**	**+1.3**
	2.5nm,1.9s						
MJAR	**Matsushiro Arr**	**77.48**	**324**	P	**P**	**09 58 10.4**	**+1.5**
	0.7nm,0.6s,baz=152,slow=4.7,SNR=4.1						
SNAA	**Sanae**	**80.25**	**178**	*e*P	**P**	**09 58 22.7**	**-1.1**
	12nm,1.9s						
DIB	**Dawson Inlet,**	**89.50**	**24**	*e*P	**P**	**09 59 11.1**	**+1.0**
	150nm,1.5s						
ANMO	**Albuquerque**	**90.88**	**50**	*e*P	**P**	**09 59 15.4**	**-2.0**
	6.0nm,1.6s						
YAK	**Yakutsk**	**99.92**	**337**	LR	LR	10 41 37.5	
	comp=Z,51nm,19.6s,baz=40,slow=33						
MK32	**Makanchi Array**	**117.69**	**311**	*e*PKPdf	**PKPdf**	**10 04 58.5**	**-0.9**
MKAR	**Makanchi Array**	**117.69**	**311**	PKP	**PKPdf**	**10 04 58.5**	**-0.9**
	0.2nm,0.5s,baz=123,slow=1.4,SNR=2.6						
AAK	**Ala-Archa**	**122.33**	**305**	*e*PKPdf	**PKPdf**	**10 05 08.1**	**-0.5**
BVAR	**Borovoye Array**	**126.04**	**317**	PKP	**PKPdf**	**10 05 14.6**	**-0.6**
	0.4nm,0.5s,baz=42,slow=2.3,SNR=2.1						
SUMG	**Summit**	**130.17**	**15**	*e*PKPdf	**PKPdf**	**10 05 23.5**	**+0.5**
FIA0	**FINESS Array S**	**143.66**	**342**	*e*PKPdf	PKPbc	10 05 45.2	+0.1
FINES	**FINESS Array B**	**143.66**	**342**	PKP	PKPbc	10 05 45.2	+0.1
	2.2nm,0.8s,baz=92,slow=4.6,SNR=5.9						
NC303	**NORSAR Array S**	**146.64**	**353**	*e*PKPdf	**PKPab**	**10 05 56.0**	**+0.5**
AKASG	**Malin Array Be**	**150.54**	**327**	PKPbc	**PKPbc**	**10 06 04.8**	**0.0**
	1.1nm,0.5s,baz=45,slow=3.2,SNR=6.2						
AKBB	**Malin Array Si**	**150.54**	**327**	*e*PKPbc	**PKPbc**	**10 06 04.8**	**0.0**
TORD	**Torodi Ar. Bea**	**164.84**	**171**	PKPab	**PKPab**	**10 07 14.0**	**+0.2**
	0.5nm,0.6s,baz=200,slow=3.6,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**164.84**	**171**	*e*PKPab	**PKPab**	**10 07 14.0**	**+0.2**

*ISK **30** 09:48:34.2, 38°.68N×43°.17E, h10km, ML2.4*
*ISCJB **30** 09:48:35.4±0.4, 38°.67N±0°.03×43°.18E±0°.03, h11km±4km, Error ellipse: s-maj=4.9km s-min=3.8km az=137.9*
*CSEM **30** 09:48:35.1±0.2, 38°.68N×43°.16E, h10km, ML2.4, Error ellipse: s-maj=4.4km s-min=3.5km az=150.0*
*DDA **30** 09:48:35.3, 38°.65N×43°.18E, h7km, Ml3.2*
ISC 30 09:48:35.2±0.9, **38°.68N**±0°.02×**43°.18E**±0°.02, **h13**km±8km, **n38**, σ0°**53**/58, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**116**	PG	**Pg**	**09 48 39.9**	**+0.4**
VANB				*e*SG	**Sb**	**09 48 43.8**	**-0.2**
VANB	**Van**	**0.18**	**116**	*i* Pg	**Pg**	**09 48 39.9**	**+0.4**
VANB				*e*Sg	**Sb**	**09 48 43.8**	**-0.2**
TVAN	**Van**	**0.23**	**130**	*i* P	**Pg**	**09 48 39.8**	**-0.5**
TVAN				*i* S	**Sg**	**09 48 43.6**	**-0.2**
TVAN	**Van**	**0.23**	**130**	P	**Pg**	**09 48 39.8**	**-0.5**
TVAN				S	**Sg**	**09 48 43.6**	**-0.2**
GEVA	**Gevas**	**0.38**	**195**	*i* P	**Pg**	**09 48 42.4**	**-0.4**
GEVA				*i* S	**Sg**	**09 48 48.1**	**+0.1**
GEVA	**Gevas**	**0.38**	**195**	P	**Pg**	**09 48 42.4**	**-0.4**
GEVA				S	**Sg**	**09 48 48.1**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**290**	⇓*i*P	**Pg**	**09 48 43.2**	**+0.3**
ADCV				*i* S	**Sb**	**09 48 49.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**290**	P	**Pg**	**09 48 43.2**	**+0.3**
ADCV				S	**Sb**	**09 48 49.8**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**44**	*i* P	**Pg**	**09 48 44.5**	**+0.5**
VMUR				*i* S	**Sb**	**09 48 52.1**	**+0.7**
VMUR	**Van-Muradiye**	**0.44**	**44**	P	**Pg**	**09 48 44.5**	**+0.5**
VMUR				S	**Sb**	**09 48 52.1**	**+0.7**
TATV	**Tatvan**	**0.73**	**257**	*i* P	**Pg**	**09 48 49.1**	**-0.4**
TATV	**Tatvan**	**0.73**	**257**	P	**Pg**	**09 48 49.1**	**-0.4**
CLDR	**Caldiran**	**0.74**	**51**	*e*PG	**Pg**	**09 48 49.5**	**-0.1**
CLDR				*e*SG	**Sg**	**09 48 59.5**	**+0.1**
CLDR	**Caldiran**	**0.74**	**51**	*i* P	**Pg**	**09 48 49.8**	**+0.2**
CLDR				*i* S	**Sb**	**09 49 00.2**	**0.0**
CLDR	**Caldiran**	**0.74**	**51**	*e*Pg	**Pg**	**09 48 49.5**	**-0.1**
CLDR	**Caldiran**	**0.74**	**51**	P	**Pg**	**09 48 49.8**	**+0.2**
CLDR				*e*Sg	**Sg**	**09 48 59.5**	**+0.1**
CLDR				S	**Sb**	**09 49 00.2**	**0.0**
TUTA	**Tutak**	**0.78**	**339**	*i* P	**Pg**	**09 48 50.3**	**-0.1**
TUTA	**Tutak**	**0.78**	**339**	P	**Pg**	**09 48 50.3**	**-0.1**
GURO	**Guroymak-BITLI**	**0.91**	**262**	*e*PG	**Pg**	**09 48 51.9**	**-0.9**
GURO	**Guroymak-BITLI**	**0.91**	**262**	*e*Pg	**Pg**	**09 48 51.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.91**	**351**	*e*PG	**Pg**	**09 48 52.2**	**-0.6**
AGRB	**Hanur-Agry**	**0.91**	**351**	*e*Pg	**Pg**	**09 48 52.2**	**-0.6**
EKAR	**Karacoban**	**1.04**	**304**	*i* P	**Pb**	**09 48 54.5**	**-0.8**
EKAR	**Karacoban**	**1.04**	**304**	P	**Pb**	**09 48 54.5**	**-0.8**
SRTM	**Siirt_Merkez**	**1.20**	**236**	*i* P	**Pg**	**09 48 59.1**	**+0.7**
SRTM				*i* S	**Sb**	**09 49 13.7**	**+0.3**
SRTM	**Siirt_Merkez**	**1.20**	**236**	P	**Pg**	**09 48 59.1**	**+0.7**
SRTM				S	**Sb**	**09 49 13.6**	**+0.3**
EATA	**Eleskirt**	**1.30**	**336**	*i* P	**Pb**	**09 48 59.9**	**+0.3**
EATA				*i* S	**Sg**	**09 49 17.2**	**0.0**
EATA	**Eleskirt**	**1.30**	**336**	P	**Pb**	**09 48 59.9**	**+0.3**
EATA				S	**Sg**	**09 49 17.2**	**0.0**
CUKT	**Cukurca**	**1.47**	**167**	*e*PN	**Pn**	**09 49 01.3**	**-0.1**
CUKT	**Cukurca**	**1.47**	**167**	*e*Pn	**Pn**	**09 49 01.3**	**-0.1**
BTMN	**Batman**	**1.69**	**243**	*i* P	**Pb**	**09 49 06.4**	**+0.2**
BTMN				*i* S	**Sg**	**09 49 31.1**	**+1.3**
BTMN	**Batman**	**1.69**	**243**	P	**Pb**	**09 49 06.4**	**+0.2**
BTMN				S	**Sg**	**09 49 31.0**	**+1.3**
ERZM	**Erzurum**	**1.87**	**312**	*i* P	**Pg**	**09 49 11.1**	**0.0**
ERZM	**Erzurum**	**1.87**	**312**	P	**Pg**	**09 49 11.1**	**0.0**
BNGB	**Bing¶ll**	**1.98**	**280**	*e*PN	**Pn**	**09 49 08.6**	**+0.1**
BINT	**Bingol**	**2.11**	**276**	*e*Pn	**Pn**	**09 49 08.6**	**-1.7**
MAZI	**Mazidag**	**2.48**	**241**	*e*PN	**Pn**	**09 49 15.6**	**+0.3**
MAZI	**Mazidag**	**2.48**	**241**	*e*Pn	**Pn**	**09 49 15.6**	**+0.3**

*ISK **30** 09:55:15.9, 38°.70N×43°.45E, h19km, ML2.5*
*ISCJB **30** 09:55:16.6±0.7, 38°.66N±0°.03×43°.53E±0°.07, h24km±5km, Error ellipse: s-maj=9.9km s-min=4.7km az=19.6*
*CSEM **30** 09:55:16.1±0.2, 38°.67N×43°.55E, h20km, ML2.5, Error ellipse: s-maj=7.3km s-min=3.7km az=114.0*
*DDA **30** 09:55:17.0, 38°.72N×43°.44E, h7km, Ml3.0*
ISC 30 09:55:15.7±1.0, **38°.65N**±0°.03×**43°.59E**±0°.05, **h23**km±6km, **n24**, σ0°**75**/44, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**251**	PG	**Pb**	**09 55 21.1**	**+0.2**
VANB				*e*SG	**Sb**	**09 55 24.9**	**+0.5**
VANB	**Van**	**0.16**	**251**	*i* Pg	**Pb**	**09 55 21.1**	**+0.2**
VANB				*e*Sg	**Sb**	**09 55 24.9**	**+0.5**
TVAN	**Van**	**0.18**	**230**	⇓*i*P	**Pb**	**09 55 21.1**	**-0.1**
TVAN				*i* S	**Sb**	**09 55 24.9**	**0.0**
TVAN	**Van**	**0.18**	**230**	P	**Pb**	**09 55 21.1**	**-0.1**
TVAN				S	**Sb**	**09 55 24.9**	**0.0**
VMUR	**Van-Muradiye**	**0.34**	**358**	*i* P	**Pb**	**09 55 23.1**	**-0.4**
VMUR				*i* S	**Sb**	**09 55 29.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.34**	**358**	P	**Pb**	**09 55 23.0**	**-0.4**
VMUR				S	**Sb**	**09 55 29.0**	**+0.4**
GEVA	**Gevas**	**0.53**	**231**	*i* P	**Pb**	**09 55 26.9**	**+0.3**
GEVA				*i* S	**Sn**	**09 55 36.4**	**0.0**
GEVA	**Gevas**	**0.53**	**231**	P	**Pb**	**09 55 26.9**	**+0.3**
GEVA				S	**Sn**	**09 55 36.4**	**0.0**
CLDR	**Caldiran**	**0.56**	**27**	*e*PG	**Pb**	**09 55 27.5**	**+0.5**
CLDR				*e*SG	**Sn**	**09 55 36.6**	**-0.6**
CLDR	**Caldiran**	**0.56**	**27**	*i* P	**Pb**	**09 55 27.1**	**+0.1**
CLDR				*i* S	**Sn**	**09 55 37.3**	**+0.1**
CLDR	**Caldiran**	**0.56**	**27**	P	**Pb**	**09 55 27.1**	**+0.1**
CLDR	**Caldiran**	**0.56**	**27**	*e*Pg	**Pb**	**09 55 27.5**	**+0.5**
CLDR				*e*Sg	**Sn**	**09 55 36.6**	**-0.6**
CLDR				S	**Sn**	**09 55 37.3**	**+0.1**
DYDN	**Diyadin**	**0.90**	**5**	*i* P	**Pb**	**09 55 32.7**	**-0.1**
DYDN				*i* S	**Sn**	**09 55 45.5**	**0.0**
DYDN	**Diyadin**	**0.90**	**5**	P	**Pb**	**09 55 32.7**	**-0.1**
DYDN				S	**Sn**	**09 55 45.5**	**0.0**
TUTA	**Tutak**	**0.96**	**322**	*i* P	**Pb**	**09 55 33.9**	**0.0**
TUTA				*i* S	**Sb**	**09 55 45.4**	**-0.9**
TUTA	**Tutak**	**0.96**	**322**	P	**Pb**	**09 55 33.9**	**0.0**
TUTA				S	**Sb**	**09 55 45.4**	**-0.9**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*PG	**Pn**	**09 55 34.7**	**-0.3**
AGRB				*e*SG	**Sb**	**09 55 48.3**	**0.0**
AGRB	**Hanur-Agry**	**1.03**	**334**	*e*Pg	**Pn**	**09 55 34.7**	**-0.3**
AGRB				*e*Sg	**Sb**	**09 55 48.3**	**0.0**
GURO	**Guroymak-BITLI**	**1.22**	**266**	*e*PN	**Pn**	**09 55 37.0**	**-0.5**
GURO	**Guroymak-BITLI**	**1.22**	**266**	*e*Pn	**Pn**	**09 55 37.0**	**-0.5**
CUKT	**Cukurca**	**1.40**	**179**	*e*PN	**Pb**	**09 55 41.2**	**0.0**
CUKT	**Cukurca**	**1.40**	**179**	*e*Pn	**Pb**	**09 55 41.2**	**0.0**
EATA	**Eleskirt**	**1.48**	**325**	*i* P	**Pb**	**09 55 42.3**	**-0.5**
EATA				*i* S	**Sb**	**09 56 04.2**	**+2.9**
EATA	**Eleskirt**	**1.48**	**325**	P	**Pb**	**09 55 42.3**	**-0.5**
EATA				S	**Sb**	**09 56 04.2**	**+2.9**

*ISK **30** 09:58:21.4, 38°.72N×43°.05E, h14km, ML2.6*
*

*DDA **30** 10:04:33.6, 38°.72N×43°.33E, h7km, Ml2.8*
*CSEM **30** 10:04:34.3±0.4, 38°.65N×43°.16E, h10km, ML2.8, Error ellipse: s-maj=10.4km s-min=7.3km az=57.0*
ISC 30 10:04:32.9±1.0, 38°.61N±0°.04×43°.27E±0°.07, h31km±8km, n15, σ1°07/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.09**	**98**	PG	**Pb**	**10 04 38.6**	**+0.1**
VANB				*e*SG	**Sb**	**10 04 43.2**	**+0.9**
VANB	**Van**	**0.09**	**98**	*i* Pg	**Pb**	**10 04 38.6**	**+0.1**
VANB				*e*Sg	**Sb**	**10 04 43.2**	**+0.9**
TVAN	**Van**	**0.13**	**127**	*i* P	**Pb**	**10 04 38.4**	**-0.5**
TVAN				*i* S	**Sb**	**10 04 42.2**	**-0.7**
TVAN	**Van**	**0.13**	**127**	P	**Pb**	**10 04 38.4**	**-0.5**
TVAN				S	**Sb**	**10 04 42.2**	**-0.7**
GEVA	**Gevas**	**0.34**	**209**	*i* P	**Pn**	**10 04 42.2**	**+0.3**
GEVA				*i* S	**Sn**	**10 04 48.7**	**+0.9**
GEVA	**Gevas**	**0.34**	**209**	P	**Pn**	**10 04 42.2**	**+0.3**
GEVA				S	**Sn**	**10 04 48.7**	**+0.9**
VMUR	**Van-Muradiye**	**0.45**	**32**	*i* P	**Pb**	**10 04 39.6**	**-3.1**
ADCV	**BITLIS_Adilcev**	**0.47**	**295**	*i* P	**Pn**	**10 04 43.4**	**-0.3**
ADCV				*i* S	**Sn**	**10 04 50.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.47**	**295**	P	**Pn**	**10 04 43.4**	**-0.3**
ADCV				S	**Sn**	**10 04 50.9**	**-0.2**
TUTA	**Tutak**	**0.87**	**336**	*i* P	**Pn**	**10 04 49.6**	**+0.3**
TUTA				*i* S	**Sb**	**10 05 00.2**	**-0.9**
TUTA	**Tutak**	**0.87**	**336**	P	**Pn**	**10 04 49.6**	**+0.3**
TUTA				S	**Sb**	**10 05 00.2**	**-0.9**
GURO	**Guroymak-BITLI**	**0.97**	**267**	*e*PG	**Pb**	**10 04 50.1**	**-1.2**
GURO	**Guroymak-BITLI**	**0.97**	**267**	*e*Pg	**Pb**	**10 04 50.1**	**-1.2**
AGRB	**Hanur-Agry**	**0.99**	**347**	*e*PG	**Pb**	**10 04 52.8**	**+1.2**
AGRB				*e*SG	**Sb**	**10 05 05.9**	**+1.4**
AGRB	**Hanur-Agry**	**0.99**	**347**	*e*Pg	**Pb**	**10 04 52.8**	**+1.2**
AGRB				*e*Sg	**Sb**	**10 05 05.9**	**+1.4**

*IDC **30** 10:09:53.4±0.8, 0°.59N×126°.75E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.8/47, mbtmp4.2/8, MS3.7/1, Ms1 3.7/1, ms1mx2.6/33, Error ellipse: s-maj=46.6km s-min=15.9km az=77.0*
*ISCJB **30** 10:09:58.2±0.3, 0°.55N±0°.05×126°.75E±0°.05, h47km, mb4.5/18, MS3.7/1, Error ellipse: s-maj=7.4km s-min=6.8km az=3.1*
*DJA **30** 10:10:00.6±2.4, 1°.N±4°×12°.7E±°, h18km±21km, M4.4/7, mB5.3/2, mb4.8/3, MLv4.2/7, Mw(mB)4.7/2*
*NEIC **30** 10:10:03.8±0.9, 0°.44N×126°.68E, h87km±9km, mb4.6/13, Error ellipse: s-maj=9.2km s-min=5.7km az=66.0*
ISC 30 10:09:59.8±0.5, 0°.56N±0°.07×126°.66E±0°.07, h47km, n43, σ1°56/42, mb4.5/18, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.46**	**145**	P	**Pn**	**10 10 25.7**	**+1.9**
LBMI				S	**Sn**	**10 10 44.6**	**+2.9**
KMSI	**Cibinong**	**2.68**	**270**	P	**Pn**	**10 10 42.4**	**+2.0**
SANI	**Sanana**	**2.68**	**194**	P	**Pn**	**10 10 40.5**	**0.0**
LUWI	**Luwuk**	**4.20**	**248**	P	**Pn**	**10 11 04.3**	**+3.0**
LUWI	**Luwuk**	**4.20**	**248**	*e*Pn	**Pn**	**10 11 04.8**	**+3.5**
MRSI	**Marisa**	**4.72**	**269**	P	**Pn**	**10 11 10.8**	**+2.4**
FAKI	**Fak Fak**	**6.57**	**122**	*e*Pn	**Pn**	**10 11 36.3**	**+2.4**
TTSI	**Tana Toraja**	**7.72**	**242**	P	**Pn**	**10 11 51.5**	**+1.9**
	48nm,0.6s,986nm						
BNSI	**Bone**	**8.19**	**233**	P	**Pn**	**10 11 58.4**	**+2.2**
	25nm,0.7s						
SPSI	**Sidrap Palu**	**8.22**	**237**	P	**Pn**	**10 11 58.5**	**+1.9**
MYLDM	**Lahad Datu**	**9.35**	**300**	*e*Pn	Pn	10 12 18.0	+6.0
FITZ	**Fitzroy Crossi**	**18.57**	**183**	P	**P**	**10 14 13.0**	**0.0**
	baz=356,slow=11						
WRAB	**Tennant Creek**	**21.72**	**160**	*e*P	**P**	**10 14 46.7**	**-0.5**
	18nm,0.4s						
WR1	**Warramunga Arr**	**21.73**	**160**	*e*P	**P**	**10 14 46.5**	**-0.7**
	20nm,0.4s						
WRA	**Warramunga Arr**	**21.73**	**160**	P	**P**	**10 14 46.5**	**-0.7**
	12nm,0.4s,baz=335,slow=10,SNR=107						
WB2	**Warramunga Arr**	**21.73**	**160**	*e*P	**P**	**10 14 46.7**	**-0.6**
	15nm,0.4s						
COEN	**Coen**	**21.81**	**132**	*e*P	**P**	**10 14 48.2**	**0.0**
	15nm,1.3s						
MBWA	**Marble Bar**	**22.62**	**197**	*e*P	**P**	**10 14 55.5**	**-1.3**
	14nm,1.2s						
SARN	**Sarigan**	**24.74**	**49**	*e*P	**P**	**10 15 19.0**	**+1.8**
ASAR	**Alice Springs**	**25.09**	**164**	P	**P**	**10 15 19.8**	**-0.5**
	4.9nm,0.4s,baz=344,slow=12,SNR=166						
PATS	**Pohnpei**	**32.18**	**78**	*e*P	**P**	**10 16 24.8**	**+1.2**
	120nm,1.4s						
BBOO	**Buckleboo**	**34.36**	**166**	*e*P	**P**	**10 16 41.7**	**-0.6**
STKA	**Stephens Creek**	**35.23**	**158**	P	**P**	**10 16 49.2**	**-0.6**
	1.5nm,0.3s,baz=328,slow=7.3,SNR=3.7						
STKA	**Stephens Creek**	**35.23**	**158**	*e*P	**P**	**10 16 49.2**	**-0.6**
	2.7nm,1.4s						
MJAR	**Matsushiro Arr**	**37.37**	**15**	P	**P**	**10 17 06.8**	**-1.3**
	0.3nm,0.5s,baz=187,slow=8.9,SNR=3.6						
CAN	**Canberra**	**41.35**	**152**	*e*P	**P**	**10 17 40.3**	**-1.0**
	26nm,1.4s						
SONM	**Songino Array**	**50.27**	**342**	LR	LR	10 41 02.5	
	comp=Z,72nm,18.3s,baz=296,slow=37						
PETK	**Petropavlovsk-**	**58.38**	**21**	P	**P**	**10 19 51.0**	**+0.7**
	1.6nm,0.6s,baz=197,slow=3.6,SNR=5.6						
PEA1	**Petropavlovsk-**	**58.38**	**21**	*e*P	**P**	**10 19 51.0**	**+0.7**
MK31	**Makanchi Array**	**60.12**	**326**	*e*P	**P**	**10 20 03.1**	**+0.7**
MK32	**Makanchi Array**	**60.12**	**326**	*e*P	**P**	**10 20 03.0**	**+0.5**
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**10 20 03.0**	**+0.5**
	1.4nm,0.4s,baz=119,slow=7.9,SNR=16						
MKAR	**Makanchi Array**	**60.12**	**326**	*e*P	**P**	**10 20 03.1**	**+0.6**
	17nm,0.5s						
KURBB	**Kurchatov Arra**	**64.36**	**328**	P	**P**	**10 20 31.1**	**+0.4**
	0.9nm,0.4s,baz=124,slow=5.8,SNR=9.2						
KURK	**Kurchatov**	**64.37**	**328**	*e*P	**P**	**10 20 31.1**	**+0.4**
TIXI	**Tiksi**	**70.99**	**1**	*e*P	**P**	**10 21 10.3**	**-1.8**
	2.6nm,1.4s						
VNDA	**Vanda**	**80.31**	**173**	*e*P	**P**	**10 22 04.3**	**-1.1**
	3.4nm,1.4s						
TT01	**Tatalina**	**83.73**	**27**	*e*P	**P**	**10 22 24.9**	**+1.3**
RND	**Reindeer**	**87.02**	**27**	*e*P	**P**	**10 22 40.4**	**+0.3**
	5.0nm,0.8s						
HARP	**HAARP**	**88.66**	**28**	*e*P	**P**	**10 22 46.5**	**-1.3**
	18nm,1.4s						
QSPA	**South Pole Qui**	**90.49**	**180**	*e*P	**P**	**10 22 55.8**	**-0.7**
GLAT	**Glass**	**130.43**	**39**	*e*PKPdf	**PKPdf**	**10 29 05.4**	**-0.3**
LVC	**Limon Verde**	**153.36**	**146**	*e*PKPbc	**PKPbc**	**10 29 50.9**	**-3.3**

IDC 30 10:10:07.7±5.9, 13°.11S×75°.30W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.1/1, MS2.8/1, Ms1 2.9/1, ms1mx2.7/14, Error ellipse: s-maj=264.6km s-min=31.7km az=33.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.62**	**115**	Pn	Pn	10 12 00.1	-0.6
	0.1nm,0.3s,baz=290,slow=9.4,SNR=5.7						
LPAZ				Sn	Sn	10 13 34.7	+6.5
	baz=52,slow=12,SNR=1.3						
LPAZ				LR	LR	10 15 30.7	
	comp=Z,77nm,21.0s,baz=75,slow=42						
TXAR	**Lajitas Array**	**50.30**	**327**	P	P	10 19 05.8	-0.5
	0.1nm,0.5s,baz=155,slow=6.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**80.64**	**74**	P	P	10 22 23.1	+0.1
	0.8nm,0.7s,baz=250,slow=3.7,SNR=5.2						
H11N3	**WAKE ISLAND Hyl**	**20.23**	**285**	T	T	12 39 50.1	
	baz=96,slow=74,SNR=28						
H11N2	**WAKE ISLAND Hyl**	**20.24**	**285**	T	T	12 39 47.4	
	baz=96,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hyl**	**20.25**	**285**	T	T	12 39 46.0	
	baz=96,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**20.33**	**284**	T	T	12 39 55.6	
	baz=97,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hyl**	**20.34**	**284**	T	T	12 39 52.3	
	baz=97,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hyl**	**20.35**	**284**	T	T	12 39 54.2	
	baz=97,slow=75,SNR=8.6						
SONM	**Songino Array**	**145.35**	**358**	PKPbc	PKPbc	10 29 47.4	-0.2
	0.4nm,0.5s,baz=4.4,slow=1.9,SNR=2.8						

*IDC **30** 10:29:32.1±1.0, 53°.56S×142°.78W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/29, mbtmp4.3/4, MS4.0/13, Ms1 4.0/13, ms1mx3.8/26, Error ellipse: s-maj=163.3km s-min=28.0km az=178.0*
*ISCJB **30** 10:29:33.1±0.8, 57°.1S±0°.1×142°.6W±0°.3, h10km, mb4.3/4, MS4.0/13, Error ellipse: s-maj=26.0km s-min=15.9km az=152.1*
*GCMT **30** 10:29:36.0±0.3, 56°.87S×141°.92W, h18km±1km, MW5.0/75, Moment Tensor Solution. s34,c45; s75,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.06±.17; $M_{\theta\theta}$2.13±.18; $M_{\phi\phi}$-2.20±.15; $M_{r\theta}$1.45±.42; $M_{\theta\phi}$3.28±.12; $M_{r\phi}$0.06±.32; Best double couple: $M_0$4.18500×10^{16} NP1:ϕ_s108.00000°, δ84.00000°, λ19.00000°. NP2: ϕ_s16.00000°, δ71.00000°, λ174.00000°. Principal axes: T 4.3010, Plg17.0000°, Azm333.0000°; N -0.2390, Plg70.0000°, Azm123.0000°; P -4.0690, Plg9.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 10:29:34.0±1.1, 57°.3S±0°.2×143°.7W±0°.3, h10km, n36, σ1°76/10, mb4.5/4, MS4.0/13, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.19**	**276**	LR	LR	10 45 38.7	
	comp=Z,314nm,21.8s,baz=128,slow=31						
URZ	**Urewera**	**31.87**	**290**	LR	LR	10 46 04.5	
	comp=Z,315nm,22.0s,baz=134,slow=32						
TBI	**Tubuai**	**34.13**	**351**	*e*LR	LR	10 44 57.2	
	825nm,29.0s,baz=177						
TBI	**Tubuai**	**34.13**	**351**	*e*T	T	11 11 12.5	
	52nm,0.3s						
RKT	**Rikitea**	**34.69**	**14**	*e*LQ	LQ	10 43 44.1	
	710nm,33.2s						
RKT				*e*LR	LR	10 45 11.0	
	555nm,28.5s						
RKT	**Rikitea**	**34.69**	**14**	*e*T	T	11 11 33.3	
	8.6nm,0.4s						
TVO	**Taravao**	**39.63**	**352**	*e*T	T	11 18 03.4	
	2.4nm,0.4s						
PPT2	**Papeete2**	**39.85**	**351**	*e*S	**S**	**10 43 13.0**	**+1.0**
	88nm,24.2s						
PPT2				*e*LR	LR	10 47 32.0	
	882nm,28.2s						
PPT2	**Papeete2**	**39.85**	**351**	*e*T	T	11 18 19.7	
	5.9nm,0.3s						
VAH	**Vaihoa**	**42.05**	**354**	*e*T	T	11 21 01.3	
	32nm,0.2s						
VNA3	**Neumayer Olymp**	**47.77**	**162**	P	**P**	**10 38 11.0**	**+0.4**
TAOE	**Nuku Hiva Isla**	**48.37**	**5**	*e*LR	LR	10 51 31.6	
	452nm,28.7s						
VNA2	**Neumayer--Watz**	**48.42**	**162**	P	**P**	**10 38 15.8**	**+0.1**
	baz=214,slow=7.9						
SNAA	**Sanae**	**48.47**	**165**	P	**P**	**10 38 16.5**	**+0.4**
VNA1	**Neumayer--Stat**	**48.52**	**162**	P	**P**	**10 38 17.8**	**+1.5**
MAW	**Mawson**	**53.90**	**192**	LR	LR	10 59 53.1	
	comp=Z,95nm,21.3s,baz=222,slow=32						
STKA	**Stephens Creek**	**55.73**	**263**	P	P	10 39 18.2	+7.7
	4.6nm,0.8s,baz=137,slow=11,SNR=5.4						
STKA				LR	LR	10 58 56.9	
	comp=Z,129nm,21.5s,baz=173,slow=31						
CTA	**Charters Tower**	**62.55**	**275**	P	**P**	**10 39 59.6**	**+1.6**
	5.2nm,1.0s,baz=157,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**66.36**	**263**	LR	LR	11 05 27.9	
	comp=Z,76nm,21.6s,baz=144,slow=32						
NNA	**Nana**	**67.53**	**77**	LR	LR	11 00 11.8	
	comp=Z,288nm,20.3s,baz=162,slow=28						
NWAO	**Narrogin (SRO)**	**67.53**	**244**	LR	LR	11 03 53.7	
	comp=Z,66nm,18.1s,baz=286,slow=30						
LPAZ	**La Paz**	**68.65**	**87**	P	P	10 40 34.2	-3.9
	0.4nm,0.5s,baz=225,slow=1.4,SNR=3.4						
LPAZ				LR	LR	11 04 58.8	
	comp=Z,57nm,19.8s,baz=284,slow=31						
WRA	**Warramunga Arr**	**69.14**	**265**	P	P	10 40 45.0	+4.7
	4.0nm,1.0s,baz=150,slow=6.0,SNR=7.0						
WRA				LR	LR	11 07 12.1	
	comp=Z,95nm,21.5s,baz=160,slow=32						
ATAH	**Atahualpa**	**70.80**	**73**	LR	LR	11 03 14.0	
	comp=Z,189nm,19.1s,baz=207,slow=29						
JTS	**JuntasAbangare**	**82.62**	**58**	LR	LR	11 10 50.0	
	comp=Z,87nm,18.4s,baz=232,slow=31						
ROSC	**El Rosal**	**83.09**	**70**	LR	LR	11 13 04.9	
	comp=Z,79nm,18.9s,baz=230,slow=32						
BOSA	**Boshof**	**93.95**	**170**	LR	LR	11 22 59.9	
	comp=Z,86nm,18.3s,baz=206,slow=33						
H10S3	**ASCENSION HYDR**	**102.02**	**128**	T	T	12 37 34.5	
	baz=207,slow=74,SNR=9.4						
H10S2	**ASCENSION HYDR**	**102.03**	**128**	T	T	12 37 35.6	
	baz=207,slow=74,SNR=8.2						
H10S1	**ASCENSION HYDR**	**102.04**	**128**	T	T	12 37 40.8	
	baz=207,slow=74,SNR=6.3						
H10N3	**ASCENSION HYDR**	**103.09**	**128**	T	T	12 38 52.4	
	baz=206,slow=74,SNR=8.0						
H10N1	**ASCENSION HYDR**	**103.09**	**128**	T	T	12 38 53.0	
	baz=206,slow=74,SNR=12						
H10N2	**ASCENSION HYDR**	**103.11**	**128**	T	T	12 38 53.8	
	baz=206,slow=74,SNR=7.9						
ESDC	**Sonseca Array**	**148.63**	**107**	PKPbc	**PKPbc**	**10 49 19.8**	**-0.7**
	0.1nm,0.3s,baz=255,slow=4.0,SNR=3.8						
MKAR	**Makanchi Array**	**150.38**	**269**	PKPbc	**PKPbc**	**10 49 24.6**	**0.0**
	1.5nm,0.9s,baz=129,slow=3.9,SNR=3.1						
MKAR				PKPab	**pPKPab**	**10 49 34.0**	**-0.4**
	3.4nm,0.9s,baz=163,slow=1.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**152.86**	**284**	PKPab	**PKPab**	**10 49 37.3**	**-3.9**
	0.6nm,0.3s,baz=95,slow=3.5,SNR=2.2						

MAN 30 10:33:55, 13°.20N×121°.19E, h17km, mb4.2, ML3.1, MS2.8, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.38**	**323**	*i* P	Pb	10 34 03.3	0.0
PGP				*i* S	Sb	10 34 09.6	+0.7
BOAC	**Boac**	**0.69**	**68**	*e*P	Pn	10 34 09.6	-0.4
BOAC				*e*S	Sn	10 34 20.6	+0.3
SJMP	**San Jose**	**0.74**	**185**	*e*P	Pb	10 34 08.3	-1.2
SJMP				*e*S	Sg	10 34 19.4	+0.1
LUBP	**Lubang**	**1.06**	**300**	*e*P	Pb	10 34 14.8	-0.1
LUBP				*e*S	Sg	10 34 29.2	-0.2
GQP	**Guinayangan**	**1.41**	**60**	*e*P	Pg	10 34 21.9	-0.4
GQP				*e*S	Sg	10 34 44.7	+4.0
BUSP	**Coron**	**1.53**	**219**	*e*P	Pn	10 34 22.0	+0.4
BUSP				*e*S	Sb	10 34 41.9	-0.2

*IDC **30** 10:36:22.9±1.0, 6°.57S×129°.23E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/33, mbtmp3.9/9, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=53.6km s-min=17.7km az=79.0*
*ISCJB **30** 10:36:25.5±0.7, 6°.64S±0°.06×129°.4E±0°.2, h35km, mb3.8/6, Error ellipse: s-maj=25.1km s-min=8.6km az=0.8*
ISC 30 10:36:27.6±0.8, 6°.61S±0°.07×129°.6E±0°.2, h35km, n9, σ1°65/12, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.05**	**198**	Pn	**Pn**	**10 39 17.2**	**+0.3**
	baz=37,slow=9.9						
FITZ				Sn	**Sn**	**10 41 30.2**	**+0.1**
	baz=174,slow=18						
WRA	**Warramunga Arr**	**14.04**	**161**	Pn	**Pn**	**10 39 43.3**	**-0.8**
	0.3nm,0.3s,baz=338,slow=12,SNR=15						
WRA				Sn	**Sn**	**10 42 16.1**	**-2.8**
	1.0nm,0.3s,baz=334,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.47**	**167**	P	**Pn**	**10 40 28.0**	**-0.6**
	0.2nm,0.3s,baz=348,slow=13,SNR=22						
ASAR				S	**Sn**	**10 43 44.5**	**+2.4**
	0.2nm,0.3s,baz=351,slow=23,SNR=6.4						
ASAR				LR	LR	10 46 59.6	
	comp=Z,58nm,19.6s,baz=246,slow=36						
STKA	**Stephens Creek**	**27.54**	**157**	P	**P**	**10 42 13.7**	**+2.6**
	3.0nm,0.8s,baz=332,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**43.68**	**10**	P	**P**	**10 44 30.1**	**+1.0**
	1.7nm,0.8s,baz=192,slow=10.0,SNR=6.0						
SONM	**Songino Array**	**57.94**	**342**	P	**P**	**10 46 16.3**	**-0.1**
	0.5nm,0.9s,baz=165,slow=6.0,SNR=2.6						
MKAR	**Makanchi Array**	**67.66**	**327**	P	**P**	**10 47 20.6**	**-0.6**
	1.1nm,0.8s,baz=130,slow=7.7,SNR=6.8						
ZALV	**Zalesovo Beam**	**71.04**	**334**	P	**P**	**10 47 40.7**	**-1.2**
	0.5nm,0.4s,baz=132,slow=2.1,SNR=2.8						
BVAR	**Borovoye Array**	**77.50**	**328**	P	**P**	**10 48 19.1**	**-0.4**
	0.3nm,0.4s,baz=114,slow=6.5,SNR=2.9						

IDC 30 10:39:00.0±6.2, 7°.27S×129°.86E, h0km, mb4.3/1, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, ML3.6/2, Error ellipse: s-maj=119.9km s-min=70.5km az=83.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.32**	**161**	Pn	Pn	10 42 08.5	-2.1
	0.3nm,0.3s,baz=340,slow=13,SNR=3.8						
WRA				Sn	Sn	10 44 41.8	+2.2
	0.3nm,0.3s,baz=343,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**16.76**	**167**	Pn	Pn	10 42 55.7	-0.6
	0.2nm,0.3s,baz=342,slow=9.0,SNR=4.2						
ASAR				Sn	Sn	10 46 06.5	+3.2
	0.1nm,0.3s,baz=0.9,slow=30,SNR=3.3						
STKA	**Stephens Creek**	**26.82**	**157**	P	P	10 44 42.6	+0.5
	3.9nm,0.8s,baz=320,slow=10.0,SNR=4.3						

*IDC **30** 10:57:54.8±0.8, 14°.35S×75°.93W, h0km, mb4.0/10, mb1 4.2/13, mb1mx4.1/29, mbtmp4.1/13, ML3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/25, Error ellipse: s-maj=28.2km s-min=12.8km az=62.0*
*ISCJB **30** 10:57:57.7±0.3, 14°.39S±0°.04×75°.90W±0°.05, h29km, mb4.5/26, MS3.5/2, Error ellipse: s-maj=8.7km s-min=4.9km az=144.9*
*NEIC **30** 10:58:01.6±0.9, 14°.35S×75°.85W, h46km±8km, mb4.7/21, Error ellipse: s-maj=12.6km s-min=6.0km az=57.0*
NEIC Felt [III] at Pisco.
ISC 30 10:57:59.1±0.5, 14°.43S±0°.06×75°.93W±0°.08, h29km, n64, σ2°07/66, mb4.6/26, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.58**	**340**	Pn	**Pn**	**10 58 39.0**	**0.0**
	27nm,0.3s,baz=157,slow=10,SNR=31						
NNA				Lg	Lg	10 59 14.8	
	274nm,0.3s,baz=240,slow=16,SNR=14						
NNA	**Nana**	**2.58**	**340**	*e*Pn	**Pn**	**10 58 39.5**	**+0.5**
NNA				*e*Sn	**Sb**	**10 59 15.6**	**-0.6**
ATAH	**Atahualpa**	**7.64**	**341**	Pn	**Pn**	**10 59 51.1**	**+2.1**
	0.5nm,0.3s,baz=180,slow=4.9,SNR=2.6						
ATAH				Sn	**Sn**	**11 01 17.1**	**+2.3**
	1.4nm,0.3s,baz=176,slow=5.3,SNR=4.2						
MNMC	**Minye Minye**	**7.66**	**129**	*e*Pn	**Pn**	**10 59 49.6**	**+0.5**
LPAZ	**La Paz**	**7.75**	**105**	Pn	**Pn**	**10 59 53.9**	**+3.3**
	0.9nm,0.3s,baz=281,slow=6.4,SNR=27						
LPAZ	**La Paz**	**7.75**	**105**	*e*Pn	**Pn**	**10 59 54.3**	**+3.7**
PB01	**IPOC Station P**	**9.00**	**138**	*e*Pn	**Pn**	**11 00 08.6**	**+1.3**
PB04	**IPOC Station P**	**9.59**	**146**	*e*Pn	**Pn**	**11 00 17.0**	**+1.5**
LVC	**Limon Verde**	**10.51**	**142**	Pn	**Pn**	**11 00 29.5**	**+1.2**
	64nm,0.3s,baz=311,slow=10,SNR=18						
LVC				Lg	Lg	11 03 16.8	
	8.4nm,0.3s,baz=228,slow=22,SNR=3.4						
LVC	**Limon Verde**	**10.51**	**142**	*e*Pn	**Pn**	**11 00 31.1**	**+2.8**
LVC				Lg	Lg	11 03 16.8	
SAML	**Samuel**	**13.62**	**68**	*e*Pn	**Pn**	**11 01 10.4**	**0.0**
SAML				*e*Sn	**Sn**	**11 03 42.7**	**+1.9**
SIV	**San Ignacio**	**14.43**	**98**	Pn	**Pn**	**11 01 20.6**	**-0.9**
	0.2nm,0.3s,baz=281,slow=14,SNR=6.9						
OTAV	**Otavalo**	**14.78**	**350**	*e*Pn	**P**	**11 01 31.7**	**-0.7**
RUSC	**La Rusia**	**20.38**	**8**	*e*P	Pn	11 02 35.6	-0.8
	8.1nm,0.9s						
PTGA	**Pitinga**	**20.84**	**51**	P	**P**	**11 02 37.2**	**-1.5**
	2.9nm,0.8s,baz=228,slow=15,SNR=4.1						
PTGA	**Pitinga**	**20.84**	**51**	*e*P	**P**	**11 02 39.2**	**+0.5**
	11nm,1.1s						
CPUP	**Villa Florida**	**21.05**	**127**	P	**P**	**11 02 40.6**	**-0.3**
	4.1nm,1.0s,baz=323,slow=11,SNR=3.4						
SDV	**Santo Domingo**	**23.75**	**13**	P	**P**	**11 03 09.2**	**-0.2**
	9.6nm,0.6s,baz=195,slow=9.2,SNR=10.0						
PLCA	**Paso Flores**	**26.63**	**171**	P	**P**	**11 03 36.1**	**+0.8**
	3.9nm,1.0s,baz=2.7,slow=9.9,SNR=5.6						
PLCA				LR	LR	11 11 27.2	
	comp=Z,92nm,21.0s,baz=354,slow=30						
PLCA	**Paso Flores**	**26.63**	**171**	*e*P	**P**	**11 03 36.8**	**+1.5**
	27nm,1.6s						
BDFB	**Brasilia**	**26.98**	**96**	P	**P**	**11 03 38.3**	**-0.4**
	0.9nm,0.4s,baz=317,slow=6.2,SNR=3.2						
BDFB				LR	LR	11 15 25.4	
	comp=Z,225nm,21.3s,baz=340,slow=39						
CELP	**Cerrillos**	**33.59**	**16**	*e*P	**P**	**11 04 36.4**	**-0.6**
CBYP	**Canovanas**	**33.97**	**17**	*e*P	**P**	**11 04 41.0**	**+0.6**
	29nm,1.2s						
636A	**Smothers Creek**	**48.18**	**335**	*e*P	**P**	**11 06 41.3**	**+4.2**
	31nm,1.5s						
WLAR	**White Oak Lake**	**50.57**	**341**	*e*P	**P**	**11 06 57.0**	**+1.7**
	53nm,0.9s						
TXAR	**Lajitas Array**	**51.09**	**329**	P	**P**	**11 06 59.6**	**+0.3**
	0.4nm,0.7s,baz=150,slow=9.4,SNR=5.3						
TX31	**Lajitas Ar. Si**	**51.09**	**329**	*e*P	**P**	**11 07 01.0**	**+1.6**
UALR	**University of**	**51.35**	**343**	*e*P	**P**	**11 07 00.7**	**-0.4**
	12nm,1.0s						
MIAR	**Mount Ida**	**51.51**	**341**	*e*P	**P**	**11 07 01.0**	**-1.3**
	49nm,1.8s						
TUL1	**Leonard**	**53.47**	**340**	*e*P	**P**	**11 07 17.1**	**+0.3

mb1 3.7/3, mb1mx3.2/38, mbtmp3.5/3, Error ellipse: s-maj=186.6km s-min=28.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.79**	**165**	P	P	11 09 22.7	-1.9
	0.9nm,0.6s,baz=344,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**28.27**	**168**	P	P	11 09 57.7	+1.7
	0.3nm,0.7s,baz=345,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	11 13 53.5	-0.1
	0.3nm,0.5s,baz=121,slow=8.3,SNR=4.0						

*ISCJB **30** 11:29:17.7±0.2, 73°.72N±0°.02×8°.8E±0°.1, h10km, mb4.4/66, MS3.6/14, Error ellipse: s-maj=4.8km s-min=3.2km az=163.1*
*IDC **30** 11:29:17.6±0.5, 73°.63N×8°.65E, h0km, mb3.9/22, mb1 4.0/28, mb1mx3.9/51, mbtmp3.9/28, ML3.3/5, MS3.6/17, Ms1 3.6/17, ms1mx3.4/45, Error ellipse: s-maj=12.6km s-min=8.9km az=65.0*
*CSEM **30** 11:29:18.7±0.1, 73°.69N×8°.87E, h10km, mb4.7/37, Error ellipse: s-maj=5.3km s-min=3.3km az=77.0*
*MOS **30** 11:29:18.1±1.4, 73°.77N×8°.71E, h10km, mb4.4/28, Error ellipse: s-maj=23.5km s-min=5.4km az=94.6*
*NAO **30** 11:29:19.1±1.7, 73°.67N×9°.42E, ML4.0*
*NEIC **30** 11:29:19.3±0.2, 73°.68N×8°.78E, h10km, mb4.7/36, Error ellipse: s-maj=5.4km s-min=3.4km az=78.0*
*BER **30** 11:29:20.7±3.1, 73°.77N×9°.03E, h10km, ML2.5, ML4.0(NAO)*

ISC 30 11:29:19.6±0.4, 73°.69N±0°.05×8°.81E±0°.05, h10km, n296, σ1°73/300, mb4.5/66, MS3.7/14, 1C-4D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.92**	**69**	Pn	**Pn**	**11 30 05.5**	**-0.5**
BJO	**Bjornoya**	**2.97**	**69**	Pn	**Pn**	**11 30 05.5**	**-1.2**
BJO	**Bjornoya**	**2.97**	**69**	Pn	**Pn**	**11 30 05.5**	**-1.2**
HSPB	**Hornsund (broa**	**3.74**	**24**	*e*P	**Pn**	**11 30 14.5**	**-2.8**
HSPB	**Hornsund (broa**	**3.74**	**24**	*e*P	**Pn**	**11 30 14.5**	**-2.8**
	SNR=50						
SPB3	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.2**	**-1.6**
SPB3	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.2**	**-1.6**
SPA3	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.3**	**-1.5**
SPA3	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.3**	**-1.5**
SPB2	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.3**	**-1.5**
SPB2	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.3**	**-1.5**
SPA2	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPA2	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPB4	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPB4	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPA0	**Spitsbergen Ar**	**4.87**	**19**	Pn	**Pn**	**11 30 31.6**	**-1.2**
	baz=187,slow=12						
SPA0	**Spitsbergen Ar**	**4.87**	**19**	*e*P	**Pn**	**11 30 30.8**	**-2.0**
SPA0	**Spitsbergen Ar**	**4.87**	**19**	*e*P	**Pn**	**11 30 30.8**	**-2.0**
	SNR=49						
SPA0	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPA0	**Spitsbergen Ar**	**4.87**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPITS	**Spitsbergen Ar**	**4.87**	**19**	Pn	**Pn**	**11 30 30.9**	**-2.0**
	baz=182,slow=15,SNR=200						
SPITS				LR	LR	11 32 25.0	
	comp=Z,273nm,18.9s,baz=255,slow=38						
SPA1	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.5**	**-1.4**
SPA1	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.4**
SPB1	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.5**	**-1.4**
SPB1	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.5**	**-1.4**
SPB5	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
SPB5	**Spitsbergen Ar**	**4.88**	**19**	*e*Pn	**Pn**	**11 30 31.4**	**-1.5**
HOPEN	**Hopen**	**5.04**	**48**	Pn	**Pn**	**11 30 32.7**	**-2.4**
HOPEN	**Hopen**	**5.04**	**48**	*e*P	**Pn**	**11 30 32.2**	**-2.9**
HOPEN	**Hopen**	**5.04**	**48**	*e*P	**Pn**	**11 30 32.2**	**-2.9**
	SNR=49						
HOPEN	**Hopen**	**5.04**	**48**	Pn	**Pn**	**11 30 32.7**	**-2.4**
TRO	**Tromso**	**5.17**	**137**	*e*P	**Pn**	**11 30 39.8**	**+2.9**
KBS	**Kingsbay**	**5.32**	**7**	Pn	**Pn**	**11 30 37.0**	**-1.9**
KBS	**Kingsbay**	**5.32**	**7**	*e*P	**Pn**	**11 30 35.9**	**-3.1**
KBS	**Kingsbay**	**5.32**	**7**	*e*P	**Pn**	**11 30 37.1**	**-1.9**
KBS	**Kingsbay**	**5.32**	**7**	*e*P	**Pn**	**11 30 37.1**	**-1.9**
KBS	**Kingsbay**	**5.32**	**7**	*e*Pn	**Pn**	**11 30 37.1**	**-1.9**
HAMF	**Hammerfest**	**5.49**	**116**	*e*P	**Pn**	**11 30 39.9**	**-1.4**
HAMF				*e*S	**Sn**	**11 31 37.1**	**-7.2**
HAMF				IAML		11 31 37.3	
	comp=Z,10.0nm,0.6s						
HAMF	**Hammerfest**	**5.49**	**116**	*e*P	**Pn**	**11 30 39.9**	**-1.4**
	SNR=49						
LOF	**Lofoten**	**5.79**	**162**	*e*P	**Pn**	**11 30 43.5**	**-2.0**
LOF				IAML		11 31 49.9	
	comp=Z,16nm,0.5s						
LOF	**Lofoten**	**5.79**	**162**	*e*P	**Pn**	**11 30 43.5**	**-2.0**
	SNR=49						
KIF	**Kilpisjarvi**	**6.06**	**135**	*e*P	**Pn**	**11 30 49.0**	**-0.1**
KIF	**Kilpisjarvi**	**6.06**	**135**	*e*P	**Pn**	**11 30 49.0**	**-0.1**
	SNR=49						
KTK1	**Kautokeino**	**6.57**	**128**	*e*P	**Pn**	**11 30 55.3**	**-0.9**
KTK1	**Kautokeino**	**6.57**	**128**	*e*P	**Pn**	**11 30 55.3**	**-0.9**
	SNR=47						
ARA0	**ARCESS Array S**	**6.71**	**120**	Pn	**Pn**	**11 30 57.2**	**-0.8**
	baz=311,slow=12						
ARA0				Sn	**Sn**	**11 32 07.5**	**-6.8**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**6.71**	**120**	Pn	**Pn**	**11 30 57.2**	**-0.8**
	baz=311,slow=12						
ARA0				Sn	**Sn**	**11 32 07.5**	**-6.8**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**6.71**	**120**	Pn	**Pn**	**11 30 57.2**	**-0.8**
	SNR=104						
ARA0				*e*Sn	**Sn**	**11 32 10.6**	**-3.7**
ARA0	**ARCESS Array S**	**6.71**	**120**	*e*Pn	**Pn**	**11 30 57.0**	**-1.0**
ARA0				*e*Sn	**Sn**	**11 32 10.6**	**-3.7**
ARCES	**ARCESS Array B**	**6.71**	**120**	Pn	**Pn**	**11 30 57.0**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=323,slow=12,SNR=37						
ARCES				Sn	**Sn**	**11 32 10.6**	**-3.7**
	comp=Z,0.8nm,0.3s,baz=328,slow=20,SNR=3.4						
ARCES				LR	LR	11 33 51.6	
	comp=Z,450nm,20.7s,baz=282,slow=41						
ARE0	**ARCESS Array S**	**6.71**	**120**	*e*P	**Pn**	**11 30 58.1**	**+0.1**
ARE0	**ARCESS Array S**	**6.71**	**120**	*e*Pn	**Pn**	**11 30 57.9**	**-0.1**
ARE0	**ARCESS Array S**	**6.71**	**120**	*e*Pn	**Pn**	**11 30 57.9**	**-0.1**
KEV	**Kevo**	**6.92**	**116**	*e*P	**Pn**	**11 31 00.5**	**-0.5**
KEV	**Kevo**	**6.92**	**116**	*e*Pn	**Pn**	**11 31 00.4**	**-0.5**
KEV	**Kevo**	**6.92**	**116**	*e*Pn	**Pn**	**11 31 00.5**	**-0.5**
HEF	**Hetta**	**7.15**	**130**	*e*P	**Pn**	**11 31 06.3**	**+2.2**
KONS	**Konsvik**	**7.37**	**166**	*e*P	**Pn**	**11 31 06.2**	**-0.8**
KONS	**Konsvik**	**7.37**	**166**	*e*P	**Pn**	**11 31 06.2**	**-0.8**
	SNR=47						
DAG	**Danmarks Havn**	**7.61**	**307**	*e*P	Pn	11 31 04.4	-5.9
MOR8	**Moi Rana**	**7.79**	**163**	*e*P	**Pn**	**11 31 11.6**	**-1.3**
MOR8				IAML		11 32 36.3	
	comp=Z,4.8nm,0.4s						
MOR8	**Moi Rana**	**7.79**	**163**	*e*P	**Pn**	**11 31 11.6**	**-1.3**
	SNR=47						
APA0	**Apatity Array**	**10.00**	**115**	Pn	**Pn**	**11 31 42.1**	**-1.0**
	baz=315,slow=14						
APA0	**Apatity Array**	**10.00**	**115**	Pn	**Pn**	**11 31 42.1**	**-1.0**
	baz=315,slow=14						
APA0	**Apatity Array**	**10.00**	**115**	Pn	**Pn**	**11 31 42.1**	**-1.0**
	SNR=7.4						
MSF	**Maaselka**	**10.40**	**128**	P	Pn	11 31 55.3	+6.7
MSF				pmax	pmax		
	comp=Z,44nm,2.1s						
OUL	**Oulu**	**10.47**	**137**	P	Pn	11 31 59.1	+10
OUL				pmax	pmax		
	comp=Z,48nm,0.9s						
NC204	**NORSAR Array S**	**12.49**	**176**	*e*Pn	**Pn**	**11 32 15.9**	**-1.3**
NC204	**NORSAR Array S**	**12.49**	**176**	*e*Pn	**Pn**	**11 32 15.9**	**-1.3**
NB201	**NORSAR Array S**	**12.73**	**175**	*e*Pn	**Pn**	**11 32 19.0**	**-1.4**
NB201	**NORSAR Array S**	**12.73**	**175**	*e*Pn	**Pn**	**11 32 19.0**	**-1.4**
NB2	**NORSAR Subarra**	**12.74**	**175**	Pn	**Pn**	**11 32 19.8**	**-0.8**
NB2	**NORSAR Subarra**	**12.74**	**175**	Pn	**Pn**	**11 32 19.8**	**-0.8**
NB2	**NORSAR Subarra**	**12.74**	**175**	Pn	**Pn**	**11 32 19.8**	**-0.8**
NB200	**NORSAR Array S**	**12.74**	**175**	*e*Pn	**Pn**	**11 32 20.0**	**-0.5**
NB200	**NORSAR Array S**	**12.74**	**175**	*e*Pn	**Pn**	**11 32 20.1**	**-0.5**
NOA	**NORSAR Array B**	**12.74**	**175**	Pn	**Pn**	**11 32 20.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=3.4,slow=12,SNR=3.2						
NOA				LR	LR	11 36 53.7	
	comp=Z,147nm,20.1s,baz=350,slow=36						
HFS	**Hagfors**	**13.74**	**170**	Pn	**Pn**	**11 32 33.6**	**-0.5**
	baz=349,slow=12						
HFS	**Hagfors**	**13.74**	**170**	Pn	**Pn**	**11 32 32.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=2.3,slow=14,SNR=3.8						
HFS				LR	LR	11 37 34.5	
	comp=Z,226nm,19.0s,baz=332,slow=36						
HFS	**Hagfors**	**13.74**	**170**	Pn	**Pn**	**11 32 33.6**	**-0.5**
	baz=349,slow=12						
HFS	**Hagfors**	**13.74**	**170**	P	**Pn**	**11 32 32.0**	**-2.2**
HFS				MLR	MLR		
	comp=Z,226nm,19.0s						
HFS	**Hagfors**	**13.74**	**170**	P	**Pn**	**11 32 32.0**	**-2.2**
	comp=Z,226nm,19.0s						
HFS	**Hagfors**	**13.74**	**170**	Pn	**Pn**	**11 32 33.6**	**-0.5**
	SNR=4.4						
BORG	**Borgarnes**	**13.75**	**245**	*e*P	**Pn**	**11 32 32.7**	**-1.6**
BORG	**Borgarnes**	**13.75**	**245**	*e*P	**Pn**	**11 32 32.7**	**-1.6**
BORG	**Borgarnes**	**13.75**	**245**	*e*Pn	**Pn**	**11 32 32.7**	**-1.6**
FIA1	**FINESS Array S**	**13.85**	**143**	*e*Pn	**Pn**	**11 32 34.0**	**-1.6**
FIA1	**FINESS Array S**	**13.85**	**143**	*e*Pn	**Pn**	**11 32 34.0**	**-1.6**
FIA0	**FINESS Array S**	**13.85**	**143**	Pn	**Pn**	**11 32 33.6**	**-2.0**
	baz=342,slow=14						
FIA0	**FINESS Array S**	**13.85**	**143**	Pn	**Pn**	**11 32 33.6**	**-2.0**
	baz=342,slow=14						
FIA0	**FINESS Array S**	**13.85**	**143**	*e*P	**Pn**	**11 32 33.4**	**-2.2**
FIA0	**FINESS Array S**	**13.85**	**143**	Pn	**Pn**	**11 32 33.6**	**-2.0**
	SNR=9.4						
FIA0	**FINESS Array S**	**13.85**	**143**	*e*Pn	**Pn**	**11 32 33.4**	**-2.2**
FINES	**FINESS Array B**	**13.85**	**143**	Pn	**Pn**	**11 32 33.4**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=353,slow=14,SNR=7.2						
FINES				LR	LR	11 37 24.7	
	comp=Z,345nm,21.9s,baz=305,slow=35						
TMCR	**Tamitsa**	**13.99**	**118**	*e*P	**Pn**	**11 32 35.2**	**-2.4**
TMCR				*e*		11 35 10.5	
TMCR				pmax	pmax		
	comp=Z,31nm,1.3s						
TMCR	**Tamitsa**	**13.99**	**118**	*e*P	**Pn**	**11 32 35.2**	**-2.4**
	comp=Z,31nm,1.3s						
KONO	**Kongsberg**	**14.10**	**178**	*e*P	**Pn**	**11 32 39.4**	**+0.2**
KONO	**Kongsberg**	**14.10**	**178**	*e*P	**Pn**	**11 32 39.4**	**+0.2**
KONO	**Kongsberg**	**14.10**	**178**	*e*Pn	**Pn**	**11 32 39.4**	**+0.2**
VSU	**Vasula**	**16.79**	**146**	*i* P	**P**	**11 33 15.8**	**-0.8**
VSU				pmax	pmax		
	comp=Z,189nm,2.1s						
VSU	**Vasula**	**16.79**	**146**	*i* P	**P**	**11 33 15.8**	**-0.8**
	comp=Z,189nm,2.1s						
KLMR	**Klimovskoe**	**17.18**	**122**	*e*P	**Pn**	**11 33 18.8**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,111nm,1.4s						
KLMR	**Klimovskoe**	**17.18**	**122**	*e*P	**Pn**	**11 33 18.8**	**-0.5**
	comp=Z,111nm,1.4s						
EKA	**Eskdalemuir Ar**	**19.05**	**201**	P	**P**	**11 33 39.5**	**-2.1**
	baz=15,slow=11,SNR=3.9						
SFJD	**Kangerlussuaq**	**20.20**	**281**	LR	LR	11 40 38.2	
	comp=Z,390nm,19.0s,baz=24,slow=34						
MOS	**Moscow**	**21.39**	**132**	*e*P	**P**	**11 34 07.1**	**+0.2**
MOS				pmax	pmax		
	comp=Z,76nm,1.5s						
MOS				pmax	pmax		
	comp=Z,100nm,1.7s						
MOS	**Moscow**	**21.39**	**132**	*e*P	**P**	**11 34 07.1**	**+0.2**
	comp=Z,100nm,1.7s						
CWF	**Charnwood Fore**	**21.45**	**197**	*e*P	**P**	**11 34 07.0**	**-0.6**
	comp=Z,54nm,1.6s						
CWF	**Charnwood Fore**	**21.45**	**197**	*e*P	**P**	**11 34 07.0**	**-0.6**
	comp=Z,54nm,1.6s						
OBN	**Obninsk**	**21.75**	**134**	P	**P**	**11 34 10.7**	**-0.1**
	comp=Z,13nm,0.5s,baz=156,slow=19,SNR=2.9						
OBN				LR	LR	11 42 59.3	
	comp=Z,201nm,20.4s,baz=289,slow=38						
OBN	**Obninsk**	**21.75**	**134**	‖ *e*P	**P**	**11 34 11.7**	**+0.9**
OBN				*i* *SP	**sP**	**11 34 16.6**	**+1.7**
OBN				*e*PPP	PPP	11 34 38.6	
OBN				*e*S	**S**	**11 38 14.4**	**+3.4**
OBN				*i*		11 38 15.6	
OBN				SSS	SSS	11 38 53.0	
OBN				pmax	pmax		
	comp=Z,54nm,2.2s						
OBN				MLR	MLR		
	comp=Z,201nm,16.0s						
OBN	**Obninsk**	**21.75**	**134**	*e*P	**P**	**11 34 10.7**	**-0.1**
	comp=Z,49nm,1.2s						
OBN	**Obninsk**	**21.75**	**134**	*e*P	**P**	**11 34 10.7**	**-0.1**
	comp=Z,49nm,1.2s						
CLL	**Collm**	**22.53**	**173**	*e*P	**P**	**11 34 20.0**	**+0.8**
CLL				*e*		11 34 23.0	
CLL	**Collm**	**22.53**	**173**	*e*P	**P**	**11 34 20.0**	**+0.8**
CLL				*e*sP	**sP**	**11 34 23.0**	**-0.4**
CLL				*i*		11 34 32.2	
CLL				*e*PP	**PnPn**	**11 34 39.0**	**-3.3**
SOKR	**Solikamsk**	**22.76**	**102**	*d i*P	**P**	**11 34 28.4**	**+6.8**
SOKR				pmax	pmax		
	comp=Z,57nm,1.1s						
BRG	**Berggiesshubel**	**23.00**	**172**	*e*P	**P**	**11 34 28.0**	**+3.8**
	comp=Z,11nm,1.7s						
BRG	**Berggiesshubel**	**23.00**	**172**	*e*P	**P**	**11 34 28.0**	**+3.8**
BRG				pmax	pmax		
	comp=Z,11nm,1.7s						
MOX	**Moxa**	**23.16**	**175**	P	**P**	**11 34 30.0**	**+4.2**
UPC	**Upice**	**23.47**	**168**	*e*P	P	11 34 37.1	+8.2
UPC				*e*x	x	11 34 44.7	
UPC	**Upice**	**23.47**	**168**	*e*P	P	11 34 37.1	+8.2
UPC				*e*		11 34 44.7	
NKC	**Novy Kostel**	**23.59**	**174**	*e*P	**P**	**11 34 32.1**	**+2.0**
NKC	**Novy Kostel**	**23.59**	**174**	*e*P	**P**	**11 34 32.1**	**+2.0**
NKC	**Novy Kostel**	**23.59**	**174**	P	**P**	**11 34 32.1**	**+2.0**
NRIK	**Noril'sk**	**23.60**	**60**	P	**P**	**11 34 29.9**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=314,slow=7.4,SNR=5.4						
DPC	**Dobruska-Polom**	**23.64**	**168**	*e*P	**P**	**11 34 30.5**	**-0.2**
DPC				*e*x	x	11 34 39.6	
DPC	**Dobruska-Polom**	**23.64**	**168**	*e*P	**P**	**11 34 30.5**	**-0.2**
DPC	**Dobruska-Polom**	**23.64**	**168**	P	**P**	**11 34 30.5**	**-0.2**
PRU	**Pruhonice**	**23.91**	**171**	*e*P	P	11 34 46.4	+13
KRLC	**Kraliky**	**23.94**	**167**	*e*P	**P**	**11 34 36.8**	**+3.2**
KRLC	**Kraliky**	**23.94**	**167**	*e*P	**P**	**11 34 36.8**	**+3.2**
OJC	**Ojcow**	**24.02**	**163**	*e*P	**P**	**11 34 35.4**	**+1.1**
OJC	**Ojcow**	**24.02**	**163**	*e*P	**P**	**11 34 34.5**	**+0.2**
	comp=Z,12nm,0.9s						
OJC	**Ojcow**	**24.02**	**163**	*e*P	**P**	**11 34 34.5**	**+0.2**
	comp=Z,12nm,0.9s						
MORC	**Moravsky Berou**	**24.29**	**166**	*e*P	**P**	**11 34 36.9**	**+0.1**
MORC				pmax	pmax		
	comp=Z,41nm,1.3s						
MORC	**Moravsky Berou**	**24.29**	**166**	*e*P	**P**	**11 34 36.9**	**+0.1**
	comp=Z,41nm,1.3s						
MORC	**Moravsky Berou**	**24.29**	**166**	*e*P	**P**	**11 34 36.9**	**+0.1**
	comp=Z,41nm,1.3s						
LPSR	**Galich'ya Gora**	**24.59**	**133**	*e*P	**P**	**11 34 40.1**	**+0.6**
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG	**Malin Array Be**	**24.67**	**148**	P	**P**	**11 34 38.0**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=344,slow=10,SNR=5.4						
AKASG				LR	LR	11 44 04.7	
	comp=Z,282nm,20.7s,baz=315,slow=36						
AKASG	**Malin Array Be**	**24.67**	**148**	*i* P	**P**	**11 34 41.4**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**24.67**	**148**	*e*P	**P**	**11 34 40.3**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKBB	**Malin Array Si**	**24.67**	**148**	*e*P	**P**	**11 34 40.3**	**+0.2**
	comp=Z,9.7nm,0.9s						
AKBB	**Malin Array Si**	**24.67**	**148**	*e*P	**P**	**11 34 40.3**	**+0.2**
	comp=Z,9.7nm,0.9s						
KIEV	**Kiev**	**24.67**	**148**	*e*P	**P**	**11 34 40.4**	**+0.2**
KIEV				pmax	pmax		
	comp=Z,18nm,1.8s						
KIEV	**Kiev**	**24.67**	**148**	*e*P	**P**	**11 34 40.6**	**+0.5**
	comp=Z,8.3nm,0.8s						
KIEV	**Kiev**	**24.67**	**148**	*e*P	**P**	**11 34 40.6**	**+0.5**
	comp=Z,8.3nm,0.8s						
WET	**Wettzell**	**24.69**	**174**	P	P	11 34 51.6	+11
WET				pmax	pmax		
	comp=Z,7.0nm,2.0s						
VRAC	**Vranov**	**24.70**	**168**	P	**P**	**11 34 38.6**	**-1.9**
	comp=Z,3.3nm,0.7s,baz=350,slow=10,SNR=6.7						
VRAC				LR	LR	11 44 15.5	
	comp=Z,138nm,20.3s,baz=330,slow=36						
VRAC	**Vranov**	**24.70**	**168**	*e*P	**P**	**11 34 40.5**	**0.0**
KHC	**Kasperske Hory**	**24.73**	**173**	*e*P	P	11 34 48.6	+7.8
KHC				*e*x	x	11 34 56.9	
KHC	**Kasperske Hory**	**24.73**	**173**	*e*P	P	11 34 48.6	+7.8
KHC				*e*		11 34 56.9	
LVV	**L'vov**	**24.84**	**156**	*e*P	P	11 34 52.0	+10
NIE	**Niedzica**	**24.86**	**162**	*e*P	**P**	**11 34 45.3**	**+3.3**
STHS	**Stebnicka Huta**	**24.95**	**161**	*e*P	**P**	**11 34 44.2**	**+1.5**
STHS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GEC2	**GERESS Array S**	**25.02**	**172**	*e*P	**P**	**11 34 44.8**	**+1.3**
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GEC2	**GERESS Array S**	**25.02**	**172**	*e*P	**P**	**11 34 44.8**	**+1.3**
	comp=Z,7.7nm,1.1s						
GEC2	**GERESS Array S**	**25.02**	**172**	*e*P	**P**	**11 34 44.8**	**+1.3**
	comp=Z,7.7nm,1.1s						
GERES	**GERESS Array B**	**25.02**	**172**	P	**P**	**11 34 43.0**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=0.9,slow=8.1,SNR=8.6						
GERES				LR	LR	11 43 47.3	
	comp=Z,133nm,19.8s,baz=342,slow=35						
BFO	**Black Forest**	**25.44**	**181**	*i* P	**P**	**11 34 50.6**	**+3.4**
BFO	**Black Forest**	**25.44**	**181**	*e*P	**P**	**11 34 46.1**	**-1.1**
	comp=Z,13nm,1.1s						
BFO	**Black Forest**	**25.44**	**181**	*e*P	**P**	**11 34 46.1**	**-1.1**
	comp=Z,13nm,1.1s						
CRVS	**Cervenica-Dubn**	**25.48**	**160**	*e*P	**P**	**11 34 52.8**	**+5.3**
VYHS	**Vyhne**	**25.66**	**164**	*e*P	**P**	**11 34 51.7**	**+2.5**
VYHS	**Vyhne**	**25.66**	**164**	*e*P	**P**	**11 34 51.7**	**+2.5**
HORU	**Horodok**	**25.73**	**153**	P	**P**	**11 34 55.8**	**+6.0**
UZH	**Uzhgorod**	**25.83**	**159**	*e*P	P	11 35 00.2	+10
ARU	**Arti**	**25.97**	**104**	P	**P**	**11 34 50.9**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=346,slow=5.1,SNR=4.7						
ARU				LR	LR	11 45 49.3	
	comp=Z,127nm,19.4s,baz=310,slow=38						
ARU	**Arti**	**25.97**	**104**	*d i*P	**P**	**11 34 52.1**	**+0.2**
ARU						11 35 28.4	
ARU						11 38 19.2	
ARU				S	**S**	**11 39 23.2**	**+1.3**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ARU	**Arti**	**25.97**	**104**	*e*P	**P**	**11 34 52.4**	**+0.6**
	comp=Z,43nm,1.1s						
ARU	**Arti**	**25.97**	**104**	*e*P	**P**	**11 34 52.4**	**+0.6**
	comp=Z,43nm,1.1s						
SVE	**Sverdlovsk**	**26.19**	**102**	*e*P	**P**	**11 34 54.0**	**+0.1**
PSZ	**Piszkesteto**	**26.32**	**163**	*e*P	**P**	**11 34 56.5**	**+1.3**
PSZ				pmax	pmax		
	comp=Z,30nm,1.8s						
PSZ	**Piszkesteto**	**26.32**	**163**	*e*P	**P**	**11 34 56.5**	**+1.3**
	comp=Z,30nm,1.8s						
PSZ	**Piszkesteto**	**26.32**	**163**	*e*P	**P**	**11 34 56.5**	**+1.3**
	comp=Z,30nm,1.8s						
TIXI	**Tiksi**	**30.12**	**33**	P	**P**	**11 35 28.6**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=335,slow=7.1,SNR=6.4						
TIXI	**Tiksi**	**30.12**	**33**	*i* P	**P**	**11 35 29.0**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**30.12**	**33**	*e*P	**P**	**11 35 29.5**	**+0.8**
	comp=Z,8.2nm,1.2s						
TIXI	**Tiksi**	**30.12**	**33**	*e*P	**P**	**11 35 29.5**	**+0.8**
	comp=Z,8.2nm,1.2s						
AKTO	**Aktyubinsk**	**31.18**	**111**	P	**P**	**11 35 36.6**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=80,slow=12,SNR=4.6						
BRVK	**Borovoye**	**32.19**	**96**	*i* P	**P**	**11 35 47.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BVAR	**Borovoye Array**	**32.25**	**95**	P	**P**	**11 35 48.6**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=325,slow=9.4,SNR=9.4						
ABKAR	**Akbulak array**	**32.77**	**110**	*e*P	**P**	**11 35 52.7**	**+0.4**
	comp=Z,51nm,1.0s						
ABKAR	**Akbulak array**	**32.77**	**110**	*e*P	**P**	**11 35 52.7**	**+0.4**
	comp=Z,51nm,1.0s						
KIV	**Kislovodsk**	**33.59**	**133**	*e*P	**P**	**11 35 59.1**	**-0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,101nm,15.0s						
NVS	**Novosibirsk**	**34.27**	**82**	*e*P	**P**	**11 36 08.7**	**+3.4**
SCHQ	**Schefferville**	**34.62**	**279**	LR	LR	11 48 19.5	
	comp=Z,152nm,20.1s,baz=140,slow=33						
ZEI	**Tsey**	**34.97**	**132**	*e*P

comp=Z,0.9nm,0.4s,baz=297,slow=9.8,SNR=3.5
GEYT LR LR 11 56 41.7
comp=Z,175nm,21.6s,baz=335,slow=38
PPLA Purkeypile 43.09 347 *eP* **P 11 37 21.8 +2.5**
comp=Z,62nm,1.8s
PPLA Purkeypile 43.09 347 *eP* **P 11 37 21.8 +2.5**
comp=Z,62nm,1.8s
SCM Sheep Creek Mo 43.81 344 *eP* **P 11 37 23.9 -1.1**
SCM pmax pmax
comp=Z,106nm,1.8s
SCM Sheep Creek Mo 43.81 344 *eP* **P 11 37 23.9 -1.1**
comp=Z,106nm,1.8s
SCM Sheep Creek Mo 43.81 344 *eP* **P 11 37 23.9 -1.1**
comp=Z,106nm,1.8s
KSH Kashi 46.15 99 *eP* **P 11 37 48.3 +4.3**
KSH PcP **PcP 11 39 21.0 +1.3**
KSH PP PP 11 39 41.3 +9.4
KSH PcS **PcS 11 43 14.0 -0.3**
KSH S **S 11 44 27.0 -2.7**
KSH ScS ScS 11 47 26.3 -13
PLVO Plevna 46.30 282 *eP* **P 11 37 45.2 +0.2**
comp=Z,40nm,1.5s
PLVO Plevna 46.30 282 *eP* **P 11 37 45.2 +0.2**
comp=Z,40nm,1.5s
ULM Lac du Bonnet 46.41 301 LR LR 11 56 53.4
comp=Z,137nm,18.9s,baz=6.5,slow=36
SONA0 Songino Array 46.87 66 *eP* **P 11 37 50.9 +1.4**
comp=Z,8.8nm,1.2s
SONA0 Songino Array 46.87 66 *eP* **P 11 37 50.9 +1.4**
comp=Z,8.8nm,1.2s
SONM Songino Array 46.87 66 P **P 11 37 50.9 +1.4**
comp=Z,0.5nm,0.6s,baz=335,slow=6.6,SNR=4.3
ULN Ulaanbaatar 47.01 66 *iP* **P 11 37 53.1 +2.4**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 47.01 66 *eP* **P 11 37 51.6 +0.9**
comp=Z,11nm,1.2s
ULN Ulaanbaatar 47.01 66 *eP* **P 11 37 51.6 +0.9**
comp=Z,11nm,1.2s
ECSD EROS Data Cent 52.68 299 *eP* **P 11 38 34.3 +0.7**
comp=Z,4.4nm,1.3s
ECSD EROS Data Cent 52.68 299 *eP* **P 11 38 34.3 +0.7**
comp=Z,4.4nm,1.3s
IMW Indian Meadow 55.85 311 *eP* **P 11 38 56.7 -0.4**
comp=Z,19nm,1.8s
IMW Indian Meadow 55.85 311 *eP* **P 11 38 56.7 -0.4**
comp=Z,19nm,1.8s
BW06 Boulder Array 56.63 309 *eP* **P 11 39 02.7 +0.1**
comp=Z,15nm,1.6s
BW06 Boulder Array 56.63 309 *eP* **P 11 39 02.7 +0.1**
comp=Z,15nm,1.6s
PD31 Pinedale Array 56.63 309 *eP* **P 11 39 02.8 +0.2**
PD31 Pinedale Array 56.63 309 *eP* **P 11 39 02.8 +0.2**
PDAR Pinedale Array 56.63 309 P **P 11 39 03.5 +1.0**
comp=Z,0.6nm,0.9s,baz=27,slow=8.1,SNR=3.7
PDAR LR LR 12 03 07.1
comp=Z,133nm,18.2s,baz=56,slow=36
HLID Hailey 56.90 313 *eP* **P 11 39 03.5 -0.9**
comp=Z,14nm,1.8s
HLID Hailey 56.90 313 *eP* **P 11 39 03.5 -0.9**
comp=Z,14nm,1.8s
RWWY Rawlins 57.13 307 *eP* **P 11 39 05.7 -0.5**
comp=Z,24nm,0.9s
RWWY Rawlins 57.13 307 *eP* **P 11 39 05.7 -0.5**
comp=Z,24nm,0.9s
TOA1 Torodi Ar. Sit 60.65 188 *eP* **P 11 39 30.0 -0.6**
comp=Z,13nm,1.5s
TOA1 Torodi Ar. Sit 60.65 188 *eP* **P 11 39 30.0 -0.6**
comp=Z,13nm,1.5s
TORD Torodi Ar. Bea 60.66 188 P **P 11 39 30.0 -0.6**
comp=Z,1.8nm,0.8s,baz=352,slow=6.7,SNR=12
TORD Torodi Ar. Bea 60.66 188 P **P 11 39 30.0 -0.6**
R11A Troy Canyon, C 62.15 313 *eP* **P 11 39 39.8 -0.9**
comp=Z,4.4nm,1.3s
R11A Troy Canyon, C 62.15 313 *eP* **P 11 39 39.9 -0.9**
comp=Z,4.4nm,1.3s
CCUT Cedar City 62.45 311 *eP* **P 11 39 42.8 0.0**
comp=Z,7.0nm,1.4s
CCUT Cedar City 62.45 311 *eP* **P 11 39 42.9 0.0**
comp=Z,7.0nm,1.4s
LCMT Little Creek M 62.94 310 *eP* **P 11 39 46.2 +0.2**
comp=Z,3.0nm,1.0s
LCMT Little Creek M 62.94 310 *eP* **P 11 39 46.2 +0.2**
comp=Z,3.0nm,1.0s
TPNV Topopah Spring 63.64 313 *eP* **P 11 39 51.1 +0.5**
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 63.64 313 *eP* **P 11 39 51.0 +0.5**
comp=Z,4.3nm,1.0s
TPNV Topopah Spring 63.64 313 *eP* **P 11 39 51.0 +0.5**
comp=Z,4.3nm,1.0s
LTX Lajitas 68.09 300 *eP* **P 11 40 17.4 -1.9**
LTX Lajitas 68.09 300 *eP* **P 11 40 17.4 -1.9**
LTX Lajitas 68.09 300 *eP* **P 11 40 17.4 -1.9**
TXAR Lajitas Array 68.09 300 P **P 11 40 17.4 -1.9**
comp=Z,0.3nm,0.7s,baz=80,slow=2.0,SNR=4.1
CM31 Chiang Mai Arr 72.47 85 *eP* **P 11 40 46.5 +0.5**
CM31 Chiang Mai Arr 72.47 85 *eP* **P 11 40 46.5 +0.5**
CMAR Chiang Mai Arr 72.47 85 P **P 11 40 46.5 +0.5**
comp=Z,0.3nm,0.3s,baz=342,slow=5.7,SNR=3.4
YOJ Yonaguni jima 73.18 60 *eP* **P 11 40 51.3 +1.1**
YOJ Yonaguni jima 73.18 60 *eP* **P 11 40 51.3 +1.1**
comp=Z,328nm,1.4s
YOJ Yonaguni jima 73.18 60 *eP* **P 11 40 51.3 +1.1**
comp=Z,328nm,1.4s
ASAR Alice Springs 122.13 62 PKP **PKPdf 11 48 12.1 -1.8**
comp=Z,0.7nm,0.9s,baz=340,slow=2.7,SNR=5.1
SNAA Sanae 145.32 186 PKPbc **PKPbc 11 48 54.8 -0.6**
comp=Z,3.1nm,0.8s,baz=101,slow=0.7,SNR=12
SNAA Sanae 145.32 186 *e*PKIKP **PKPbc 11 48 55.3 -0.1**
SNAA Sanae 145.32 186 *e*PKPbc **PKPbc 11 48 55.3 -0.1**
SNAA Sanae 145.32 186 *e*PKPbc **PKPbc 11 48 55.3 -0.1**
MAW Mawson 145.33 147 PKPbc **PKPab 11 48 55.7 +0.1**
comp=Z,2.5nm,0.8s,baz=300,slow=6.7,SNR=11
MAW Mawson 145.33 147 *e*PKPbc **PKPab 11 48 56.0 +0.4**
MAW Mawson 145.33 147 *e*PKPbc **PKPab 11 48 56.0 +0.4**
CRLZ Canterbury Las 148.89 23 *e*PKIKP **PKPdf 11 49 02.3 +0.1**
CRLZ Canterbury Las 148.89 23 *e*PKPdf **PKPdf 11 49 02.3 +0.1**

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*ISK **30** 11:32:27.2, 38.°79N×43.°33E, h8km, ML2.7*
*DDA **30** 11:32:27.7, 38.°75N×43.°45E, h16km, Ml3.0*
*CSEM **30** 11:32:28.0±0.3, 38.°77N×43.°42E, h2km, ML2.7, Error ellipse: s-maj=5.7km s-min=4.5km az=126.0*
ISC 30 11:32:28.3±0.9, 38.°77N±0.°02×43.°46E±0.°03, h20km±3km, n42, σ1°99/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**197**	PG	**Pg**	**11 32 33.2**	**-0.1**
VANB				*e*SG	**Sg**	**11 32 38.6**	**+1.9**
VANB	**Van**	**0.18**	**197**	*i* Pg	**Pg**	**11 32 33.2**	**-0.1**
VANB				*e*Sg	**Sg**	**11 32 38.6**	**+1.9**
VMUR	**Van-Muradiye**	**0.24**	**22**	*i* P	**Pb**	**11 32 33.4**	**-0.5**
VMUR				*i* S	**Sg**	**11 32 37.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.24**	**22**	P	**Pb**	**11 32 33.4**	**-0.5**
VMUR				S	**Sg**	**11 32 37.9**	**-0.2**
TVAN	**Van**	**0.24**	**189**	*i* P	**Pb**	**11 32 32.7**	**-1.3**
TVAN	**Van**	**0.24**	**189**	P	**Pb**	**11 32 32.7**	**-1.3**
ERCV	**ERCIS-VAN**	**0.27**	**339**	*e*PG	**Pb**	**11 32 33.1**	**-1.3**
ERCV	**ERCIS-VAN**	**0.27**	**339**	*e*Pg	**Pb**	**11 32 33.1**	**-1.3**
CLDR	**Caldiran**	**0.52**	**44**	*e*PG	**Pb**	**11 32 38.2**	**-0.6**
CLDR				*e*SG	**Sg**	**11 32 47.2**	**+1.2**
CLDR	**Caldiran**	**0.52**	**44**	*i* P	**Pb**	**11 32 38.4**	**-0.5**
CLDR				*i* S	**Sg**	**11 32 46.6**	**+0.6**
CLDR	**Caldiran**	**0.52**	**44**	*e*Pg	**Pb**	**11 32 38.2**	**-0.6**
CLDR	**Caldiran**	**0.52**	**44**	P	**Pb**	**11 32 38.4**	**-0.5**
CLDR				S	**Sg**	**11 32 46.6**	**+0.6**
CLDR				*e*Sg	**Sg**	**11 32 47.2**	**+1.2**
GEVA	**Gevas**	**0.55**	**214**	*i* P	**Pb**	**11 32 37.7**	**-1.7**
GEVA	**Gevas**	**0.55**	**214**	P	**Pb**	**11 32 37.7**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.57**	**274**	*i* P	**Pb**	**11 32 38.9**	**-0.9**
ADCV				*i* S	**Sb**	**11 32 47.5**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.57**	**274**	P	**Pb**	**11 32 38.9**	**-0.9**
ADCV				S	**Sb**	**11 32 47.5**	**-0.1**
TUTA	**Tutak**	**0.81**	**322**	*i* P	**Pb**	**11 32 42.7**	**-1.1**
TUTA				*i* S	**Sb**	**11 32 53.8**	**-0.6**
TUTA	**Tutak**	**0.81**	**322**	P	**Pb**	**11 32 42.7**	**-1.1**
TUTA				S	**Sb**	**11 32 53.8**	**-0.6**
BASK	**Baskale_VAN**	**0.84**	**149**	*i* P	**Pb**	**11 32 43.9**	**-0.4**
BASK	**Baskale_VAN**	**0.84**	**149**	P	**Pb**	**11 32 43.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.88**	**336**	*e*PG	**Pb**	**11 32 43.8**	**-1.3**
AGRB	**Hanur-Agry**	**0.88**	**336**	*e*Pg	**Pb**	**11 32 43.8**	**-1.3**
TATV	**Tatvan**	**0.97**	**255**	*i* P	**Pb**	**11 32 45.4**	**-1.2**
TATV				*i* S	**Sb**	**11 32 59.5**	**+0.5**
TATV	**Tatvan**	**0.97**	**255**	P	**Pb**	**11 32 45.4**	**-1.2**
TATV				S	**Sb**	**11 32 59.5**	**+0.5**
GURO	**Guroymak-BITLI**	**1.14**	**259**	*e*PG	**Pn**	**11 32 47.4**	**-1.8**
GURO	**Guroymak-BITLI**	**1.14**	**259**	*e*Pg	**Pn**	**11 32 47.4**	**-1.8**
EKAR	**Karacoban**	**1.19**	**294**	*i* P	**Pg**	**11 32 50.9**	**-0.5**
EKAR	**Karacoban**	**1.19**	**294**	P	**Pg**	**11 32 50.9**	**-0.5**
EATA	**Eleskirt**	**1.32**	**326**	*i* P	**Pb**	**11 32 52.5**	**-0.1**
EATA				*i* S	**Sg**	**11 33 12.2**	**+0.9**
EATA	**Eleskirt**	**1.32**	**326**	P	**Pb**	**11 32 52.5**	**-0.1**
EATA				S	**Sg**	**11 33 12.2**	**+0.9**
SRTM	**Siirt_Merkez**	**1.44**	**238**	*i* P	**Pb**	**11 32 55.2**	**+0.7**
SRTM				*i* S	**Sb**	**11 33 13.6**	**+1.2**
SRTM	**Siirt_Merkez**	**1.44**	**238**	P	**Pb**	**11 32 55.2**	**+0.7**
SRTM				S	**Sb**	**11 33 13.6**	**+1.2**
DIGO	**Kars**	**1.64**	**358**	*i* P	**Pg**	**11 32 59.8**	**-0.2**
HOMI	**Horasan**	**1.75**	**317**	*i* P	**Pb**	**11 32 59.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.88**	**251**	*e*PN	**Pn**	**11 32 59.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.88**	**251**	*i* P	**Pb**	**11 33 02.7**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.88**	**251**	*e*Pn	**Pn**	**11 32 59.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.88**	**251**	P	**Pb**	**11 33 02.7**	**+0.7**
BTMN	**Batman**	**1.93**	**244**	*i* P	**Pb**	**11 33 02.4**	**-0.5**
BTMN				*i* S	**Sb**	**11 33 28.2**	**+1.6**
BTMN	**Batman**	**1.93**	**244**	P	**Pb**	**11 33 02.4**	**-0.5**
BTMN				S	**Sb**	**11 33 28.2**	**+1.6**
ERZM	**Erzurum**	**1.98**	**306**	*i* P	**Pb**	**11 33 04.2**	**+0.4**
ERZM	**Erzurum**	**1.98**	**306**	P	**Pb**	**11 33 04.2**	**+0.4**

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*DDA **30** 11:36:19.9, 38.°87N×43.°50E, h8km, Ml3.0*
*ISK **30** 11:36:19.0, 38.°87N×43.°61E, h27km, ML2.6*
*CSEM **30** 11:36:20.0±0.3, 38.°90N×43.°51E, h10km, ML3.0, Error ellipse: s-maj=9.4km s-min=6.1km az=134.0*
ISC 30 11:36:20.2±1.0, 38.°88N±0.°03×43.°49E±0.°03, h9km±11km, n21, σ1°06/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**31**	*i* P	**Pg**	**11 36 22.7**	**-0.4**
VMUR				*i* S	**Sg**	**11 36 26.2**	**+1.0**
VANB	**Van**	**0.30**	**195**	*e*PG	**Pb**	**11 36 27.9**	**+0.2**
VANB				*e*SG	**Sb**	**11 36 35.2**	**+2.3**
VANB	**Van**	**0.30**	**195**	*e*Pg	**Pb**	**11 36 28.0**	**+0.2**
VANB				*e*Sg	**Sb**	**11 36 35.2**	**+2.3**
TVAN	**Van**	**0.36**	**190**	*i* P	**Pb**	**11 36 27.6**	**-1.3**
TVAN				*i* S	**Sb**	**11 36 35.5**	**+0.7**
TVAN	**Van**	**0.36**	**190**	P	**Pb**	**11 36 27.6**	**-1.3**
TVAN				S	**Sb**	**11 36 35.5**	**+0.7**
CLDR	**Caldiran**	**0.42**	**52**	*e*PG	**Pg**	**11 36 27.5**	**-1.0**
CLDR				*e*SG	**Sg**	**11 36 34.2**	**+0.2**
CLDR	**Caldiran**	**0.42**	**52**	*i* P	**Pg**	**11 36 28.2**	**-0.3**
CLDR				*i* S	**Sg**	**11 36 35.0**	**+1.0**
CLDR	**Caldiran**	**0.42**	**52**	*e*Pg	**Pg**	**11 36 27.5**	**-1.0**
CLDR	**Caldiran**	**0.42**	**52**	P	**Pg**	**11 36 28.2**	**-0.3**
CLDR				*e*Sg	**Sg**	**11 36 34.2**	**+0.2**
CLDR				S	**Sg**	**11 36 35.0**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.60**	**263**	*i* P	**Pg**	**11 36 32.1**	**+0.2**
ADCV				*i* S	**Sb**	**11 36 42.8**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.60**	**263**	P	**Pg**	**11 36 32.1**	**+0.2**
ADCV				S	**Sb**	**11 36 42.8**	**+1.0**
GEVA	**Gevas**	**0.66**	**211**	*i* P	**Pg**	**11 36 32.3**	**-0.7**
GEVA	**Gevas**	**0.66**	**211**	P	**Pg**	**11 36 32.3**	**-0.7**
TUTA	**Tutak**	**0.74**	**315**	*i* P	**Pg**	**11 36 34.3**	**-0.1**
TUTA	**Tutak**	**0.74**	**315**	P	**Pg**	**11 36 34.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.79**	**331**	*e*PG	**Pg**	**11 36 35.7**	**+0.2**
AGRB				*e*SG	**Sb**	**11 36 47.8**	**+0.6**
AGRB	**Hanur-Agry**	**0.79**	**331**	*e*Pg	**Pg**	**11 36 35.7**	**+0.3**
TATV	**Tatvan**	**1.03**	**249**	*i* P	**Pg**	**11 36 39.1**	**-0.8**
TATV	**Tatvan**	**1.03**	**249**	P	**Pg**	**11 36 39.1**	**-0.8**
GURO	**Guroymak-BITLI**	**1.19**	**254**	*e*PN	**Pb**	**11 36 41.0**	**-1.9**
GURO	**Guroymak-BITLI**	**1.19**	**254**	*e*Pn	**Pb**	**11 36 41.1**	**-1.9**

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*IDC **30** 11:41:56.7±0.8, 18.°78N×121.°25E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/38, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=27.8km s-min=16.4km az=82.0*
*MAN **30** 11:42:02, 19.°01N×120.°90E, h24km, mb4.5, ML3.4, MS3.3*
*ISCJB **30** 11:42:05.5±0.9, 18.°86N±0.°07×121.°11E±0.°08, h92km±10km, mb3.8/8, Error ellipse: s-maj=15.7km s-min=8.9km az=42.0*
ISC 30 11:42:04.6±1.5, 18.°90N±0.°10×120.°97E±0.°08, h64km±17km, n23, σ1°89/16, mb3.8/7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.22**	**122**	*e*P	**Pn**	**11 42 25.1**	**-0.5**
SGCP				*e*S	**Sn**	**11 42 42.5**	**+1.2**
ABRA	**Dolores**	**1.27**	**191**	*e*P	**Pn**	**11 42 24.7**	**-1.6**
ABRA				*e*S	**Sn**	**11 42 40.9**	**-1.7**
CVP	**Callao Caves**	**1.44**	**146**	⇓*e*P	**Pn**	**11 42 29.1**	**+0.4**
CVP				*e*S	**Sn**	**11 42 49.3**	**+2.6**
CAUP	**Cauayan**	**2.11**	**157**	*e*P	Pn	11 42 40.1	+2.4
CAUP				*e*S	Sn	11 43 12.7	+10
BOLP	**Bolinao**	**2.70**	**202**	*e*P	**Pn**	**11 42 45.1**	**-0.6**
BOLP				*e*S	**Sn**	**11 43 19.8**	**+2.6**
BALP	**Baler**	**3.20**	**169**	*e*P	Pn	11 42 53.7	+1.2
BALP				*e*S	Sn	11 43 36.7	+7.3
SCZP	**Santa Cruz**	**3.27**	**198**	*e*P	Pn	11 42 56.4	+2.9
SCZP				*e*S	**Sn**	**11 43 34.1**	**+3.0**
PCPH	**Palayan**	**3.32**	**178**	⇑*e*P	Pn	11 42 55.9	+1.7
KSRS	**Korea Array**	**19.46**	**17**	P	**Pn**	**11 46 26.3**	**-1.6**
	0.5nm,0.3s,baz=196,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**20.87**	**272**	P	Pn	11 46 44.0	-0.7
	1.0nm,0.6s,baz=77,slow=9.2,SNR=8.5						
JHJ	**Hachijo jima 2**	**22.01**	**46**	P	**P**	**11 46 52.6**	**-1.0**
	132nm,0.7s,baz=78,slow=20,SNR=2.9						
SONM	**Songino Array**	**31.21**	**341**	P	**P**	**11 48 19.2**	**+1.2**
	0.4nm,0.4s,baz=168,slow=7.4,SNR=2.7						
FITZ	**Fitzroy Crossi**	**37.06**	**173**	P	**P**	**11 49 07.5**	**-1.1**
	0.6nm,0.4s,baz=333,slow=6.8						
WRA	**Warramunga Arr**	**40.77**	**161**	P	P	11 49 37.6	-2.1
	0.7nm,0.3s,baz=343,slow=9.1,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**43.22**	**83**	T	T	12 35 31.2	
	baz=276,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**43.23**	**83**	T	T	12 35 50.8	
	baz=276,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**43.23**	**83**	T	T	12 35 47.8	
	baz=276,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**43.25**	**81**	T	T	12 35 50.9	
	baz=277,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**43.25**	**81**	T	T	12 35 50.2	
	baz=277,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**43.27**	**81**	T	T	12 35 52.6	
	baz=277,slow=75,SNR=10						
ASAR	**Alice Springs**	**44.15**	**163**	P	**P**	**11 50 05.9**	**-1.3**
	0.3nm,0.3s,baz=343,slow=7.1,SNR=14						
BVAR	**Borovoye Array**	**51.70**	**324**	P	**P**	**11 51 07.4**	**+2.2**
	0.7nm,0.6s,baz=96,slow=8.8,SNR=3.4						
ILAR	**Eielson Array**	**74.00**	**26**	P	**P**	**11 53 32.9**	**-0.2**
	0.3nm,0.7s,baz=274,slow=5.5,SNR=4.3						

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*BJI **30** 11:52:20.7, 3.°90S×101.°22E, h43km, mb5.4/82, mB5.3/71, Ms5.4/82, Ms7 5.2/83*
*NEIC **30** 11:52:27.4±0.1, 3.°25S×101.°35E, h36km, mb5.6/121, ME4.9, MS5.1/148, MW5.6, Error ellipse: s-maj=4.6km s-min=3.0km az=224.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}2.50; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$-1.61; $M_{r\theta}$1.31; $M_{\theta\phi}$1.04; $M_{\phi r}$-0.11; Best double couple: $M_0$2.80000×10^{17} NP1:ϕ_s126.00000°, δ57.00000°, λ70.00000°. NP2:ϕ_s340.00000°, δ38.00000°, λ118.00000°. Principal axes: T 2.9600, Plg70.0000°, Azm351.0000°; N -0.4500, Plg17.0000°, Azm137.0000°; P -2.5100, Plg10.0000°, Azm230.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s300.00000°, δ10.00000°, λ90.00000°. NP2:ϕ_s120.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm210.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Mukomuko and [III] at Bengkulu and Kapahiang. Felt in Singapore.
*GCMT **30** 11:52:27.4±0.1, 3.°46S×101.°18E, h47km, MW5.6/118, Moment Tensor Solution. s118,c204; s108,c218; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.14±.04; $M_{\theta\theta}$-1.19±.03; $M_{\phi\phi}$-0.94±.03; $M_{r\theta}$1.51±.04; $M_{\theta\phi}$1.16±.02; $M_{\phi r}$-0.86±.04; Best double couple: $M_0$2.79600×10^{17} NP1:ϕ_s124.00000°, δ64.00000°, λ83.00000°. NP2:ϕ_s320.00000°, δ27.00000°, λ104.00000°. Principal axes: T 2.7690, Plg70.0000°, Azm20.0000°; N 0.0570, Plg6.0000°, Azm127.0000°; P -2.8240, Plg19.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **30** 11:52:27.1±1.0, 3.°13S×101.°50E, h48km, mb5.8/117, MS5.1/55 Error ellipse: s-maj=7.6km s-min=4.4km az=112.7*
*ISCJB **30** 11:52:28.6±0.3, 3.°22S±0.°02×101.°40E±0.°02, h60km±2km, mb5.5/246, MS5.0/211, Error ellipse: s-maj=3.9km s-min=2.3km az=39.4*
*IDC **30** 11:52:28.8±0.3, 3.°18S×101.°45E, h51km±2km, mb5.1/35, mb1 5.2/35, mb1mx5.2/36, mbtmp5.4/35, MS4.8/34, Ms1 4.8/34, ms1mx4.8/39, Error ellipse: s-maj=10.0km s-min=7.6km az=76.0*
*KLM **30** 11:52:29.3, 3.°37S×101.°23E, h44km, mb5.6*
*DJA **30** 11:52:29.3±0.2, 3.°S±2.°×10.°1E±.°, h52km±3km, M5.4/30, mb5.6/30, mB5.8/27, MLv5.9/23, Mw(mB)5.3/27, Mwp5.3/2*
ISC 30 11:52:27.9±0.2, 3.°20S±0.°03×101.°37E±0.°03, h42km±1km, h43km: pP-P, n1489, σ1°44/1497, mb5.5/259, MS5.0/213, 74C-33D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.87**	**86**	P	**Pn**	**11 52 44.8**	**+1.0**
MASI				S	**Sn**	**11 52 58.0**	**+2.7**
PPSI	**Pulau Pagai**	**1.43**	**288**	P	**Pn**	**11 52 53.4**	**+2.0**
PPSI				S	**Sn**	**11 53 12.1**	**+3.1**
MNAI	**Manna**	**1.96**	**126**	P	**Pn**	**11 52 59.7**	**+1.0**
MNAI				S	**Sn**	**11 53 23.7**	**+1.6**
MNAI	**Manna**	**1.96**	**126**	*e*Pn	**Pn**	**11 52 59.5**	**+0.8**
MNAI				*e*Sn	**Sn**	**11 53 27.7**	**+5.6**
LHSI	**Lahat**	**2.24**	**106**	P	**Pn**	**11 53 04.5**	**+2.0**
PDSI	**Padang**	**2.45**	**338**	P	**Pn**	**11 53 07.7**	**+2.3**
JMBI	**JAMBI**	**2.75**	**56**	P	**Pn**	**11 53 12.1**	**+2.5**
SISI	**Saibi**	**2.94**	**309**	P	**Pn**	**11 53 14.2**	**+2.0**
RGRI	**Rengat**	**2.99**	**19**	P	**Pn**	**11 53 16.9**	**+4.0**
MDSI	**Maura Dua**	**3.08**	**115**	P	**Pn**	**11 53 15.8**	**+1.7**
LWLI	**Liwa**	**3.23**	**124**	P	**Pn**	**11 53 18.1**	**+1.8**
PMBI	**Palembang**	**3.41**	**86**	P	**Pn**	**11 53 20.9**	**+2.3**
BKNI	**Bangkinang**	**3.52**	**355**	P	**Pn**	**11 53 23.7**	**+3.6**
BKNI	**Bangkinang**	**3.52**	**355**	*e*Pn	**Pn**	**11 53 23.9**	**+3.8**
KLSI		**3.66**	**114**	P	**Pn**	**11 53 24.5**	**+2.3**
KASI	**Kota Agung**	**3.88**	**127**	P	**Pn**	**11 53 26.1**	**+1.0**
KASI				S	**Sn**	**11 54 11.0**	**+1.6**
DSRI	**Dabo**	**4.19**	**50**	P	**Pn**	**11 53 32.3**	**+2.9**
PBSI	**Pulau Batu**	**4.39**	**315**	P	**Pn**	**11 53 34.6**	**+2.4**
PBSI				S	**Sn**	**11 54 22.6**	**+0.5**
BLSI	**Bandar Lampung**	**4.42**	**119**	P	**Pn**	**11 53 36.9**	**+4.3**
TPRI	**Tanjung Pinang**	**5.17**	**38**	P	**Pn**	**11 53 46.2**	**+3.4**
	2μm,1.0s,30μm9.2nm						
CGJI	**Cibinong**	**5.48**	**128**	P	**Pn**	**11 53 47.9**	**+0.8**
	721nm,1.5s,11μm9.3nm						
KGM	**Kluang**	**5.53**	**21**	⇑P	**Pn**	**11 53 51.9**	**+4.1**
MYKOM	**Kota Tinggi**	**5.54**	**27**	*e*Pn	**Pn**	**11 53 52.1**	**+4.2**
MYKOM	**Kota Tinggi**	**5.54**	**27**	⇓P	**Pn**	**11 53 51.9**	**+4.0**
SBJI	**Serang**	**5.56**	**122**	P	**Pn**	**11 53 52.5**	**+4.3**
TNG	**Tangerang**	**6.03**	**120**	P	Pn	11 54 06.1	+11
DBJI	**Dramaga**	**6.31**	**122**	P	**Pn**	**11 54 01.8**	**+3.3**
	753nm,1.2s,9μm5.1nm						
FRIM	**Kepong**	**6.40**	**2**	⇑P	**Pn**	**11 54 03.6**	**+3.8**
SKJI	**Sukabumi**	**6.40**	**126**	P	Pn	11 54 08.5	+8.7
PSI	**Prapat**	**6.44**	**338**	*e*P	**Pn**	**11 54 01.8**	**+1.4**
PSI	**Prapat**	**6.44**	**338**	*e*Pn	**Pn**	**11 54 01.8**	**+1.4**
CNJI	**Cibinong**	**7.04**	**126**	P	Pn	11 54 16.7	+8.2
TSI	**Tuntungan**	**7.22**	**337**	P	Pn	11 54 16.2	+5.2
	820nm,0.7s,9μm6.0nm						
SNSI	**Sinabang, Aceh**	**7.51**	**318**	P	**Pn**	**11 54 18.3**	**+3.3**
	1μm,0.9s,17μm5.4nm						
KCSI	**Kotacane, Aceh**	**7.58**	**332**	P	**Pn**	**11 54 17.9**	**+1.9**
	155nm,0.8s,3μm10μm3.7nm						
TPTI		**7.66**	**327**	P	**Pn**	**11 54 19.9**	**+2.8**
	257nm,0.5s,7μm3.8nm						
CISI	**Cisompet, Garu**	**7.74**	**124**	P	**Pn**	**11 54 17.5**	**-0.7**
	816nm,0.5s,11μm6μm4.6nm						
CISI	**Cisompet, Garu**	**7.74**	**124**	*e*Pn	**Pn**	**11 54 17.9**	**-0.2**
XMIS	**Christmas Isla**	**8.39**	**150**	*e*Pn	Pn	11 54 20.4	-6.6
XMIS				*e*Sn	Sn	11 55 50.2	-10
KULM	**Kulim**	**8.46**	**355**	*e*Pn	**Pn**	**11 54 32.3**	**+4.2**
KULM	**Kulim**	**8.46**	**355**	⇑P	**Pn**	**11 54 32.1**	**+4.0**
KTGM	**Kuala Trenggan**	**8.65**	**12**	⇑P	Pn	11 54 35.9	+5.2
MLSI	**Meulaboh, Aceh**	**8.92**	**326**	P	**Pn**	**11 54 35.6**	**+1.2**
	984nm,1.0s,11μm						
MLSI				S	**Sn**	**11 56 12.8**	**-0.9**
	984nm,1.0s,11μm						
LHMI	**Lhok Sumawe**	**9.47**	**332**	*e*Pn	**Pn**	**11 54 44.7**	**+2.8**
SMRI	**Semarang**	**9.81**	**113**	P	**Pn**	**11 54 50.1**	**+3.6**
	456nm,1.0s,5μm						
SMRI	**Semarang

MYLDM Lahad Datu 19.03 64 *e*P **Pn 11 56 50.2 +2.6**
comp=Z,745nm,1.5s
MYLDM Lahad Datu 19.03 64 ⇑P **Pn 11 56 50.4 +2.7**
BSSI Bau Bau, Buton 19.28 99 P **P 11 56 49.9 +0.6**
comp=Z,103nm,1.0s,comp=Z,2μm
KHON Khomkaen 19.46 4 P **Pn 11 56 52.9 +0.1**
comp=Z,46nm,0.8s,comp=Z,11μm
PBKT Sadao Pong 19.65 359 P **Pn 11 56 55.5 +0.6**
comp=Z,47nm,1.2s,comp=Z,1μm
BASI Baing, Sumba 20.30 111 P **P 11 57 00.0 -0.4**
comp=Z,764nm,0.9s,comp=Z,8μm
APSI Ampana 20.39 84 P Pn 11 57 03.5 -0.3
PANO Nakornpanom 20.47 9 P Pn 11 57 04.9 +0.3
comp=Z,221nm,1.0s,comp=Z,10μm
UTTA Uttaradit 20.83 358 P **P 11 57 06.2 +0.1**
comp=Z,18nm,0.9s,comp=Z,142nm
MRSI Marisa 20.88 80 P **P 11 57 07.9 +1.1**
comp=Z,160nm,0.9s,comp=Z,3μm
EDFI Ende, Flores 20.94 106 P **P 11 57 07.5 0.0**
comp=Z,87nm,0.6s,comp=Z,844nm
KDI Kendari 21.22 93 P **P 11 57 13.3 +2.9**
comp=Z,201nm,1.1s,comp=Z,2μm
BBSI Bau Bau 21.26 97 P **P 11 57 12.5 +1.7**
MMRI Maumere 21.44 106 P **P 11 57 12.2 -0.6**
MMRI Maumere 21.44 106 *e*P **P 11 57 12.0 -0.8**
comp=Z,123nm,0.8s
MMRI LR LR
comp=Z,5μm,22.0s
LUWI Luwuk 21.49 85 *e*P **P 11 57 14.7 +1.3**
comp=Z,838nm,1.2s
LUWI LR LR
comp=Z,2μm,21.0s
CM31 Chiang Mai Arr 21.65 354 *e*P **P 11 57 16.4 +1.5**
CMAR Chiang Mai Arr 21.65 354 P **P 11 57 13.3 -1.7**
comp=Z,29nm,0.9s,baz=184,slow=10.0,SNR=41
CMAR pP **sP 11 57 28.6 -2.2**
comp=Z,18nm,0.7s,baz=185,slow=9.2,SNR=4.5
CMAR PcP **PcP 12 01 15.9 +0.4**
comp=Z,4.3nm,0.5s,baz=205,slow=3.2,SNR=8.1
CMAR pPcP 12 01 30.0
comp=Z,3.5nm,0.5s,baz=208,slow=3.4,SNR=5.5
CMAR ScP **ScP 12 04 49.6 +0.1**
comp=Z,3.7nm,1.1s,baz=209,slow=4.1,SNR=6.1
CMAR LR LR 12 06 41.0
comp=Z,4μm,18.4s,baz=176,slow=39
CMAR Chiang Mai Arr 21.65 354 P **P 11 57 13.3 -1.7**
CMAR *PP **sP 11 57 28.6 -2.2**
CMAR 12 01 15.9
CMAR pmax pmax
comp=Z,28nm,0.9s
CMAR MLR MLR
comp=Z,4μm,18.4s
LAMP Lampang 21.65 356 P **P 11 57 15.4 +0.5**
comp=Z,30nm,1.0s,comp=Z,218nm
CHTO Chiang Mai 22.00 354 P **P 11 57 18.7 0.0**
comp=Z,206nm,1.1s,comp=Z,3μm
CHTO Chiang Mai 22.00 354 *e*P **P 11 57 20.0 +1.3**
CHTO pmax pmax
comp=Z,47nm,1.0s
CHTO MLR MLR
comp=Z,4μm,18.0s
CHTO Chiang Mai 22.00 354 *e*P **P 11 57 20.0 +1.3**
comp=Z,47nm,1.0s
CHTO LR LR
comp=Z,4μm,18.0s
CHTO Chiang Mai 22.00 354 P **P 11 57 17.7 -1.0**
SNR=12
CHTO Chiang Mai 22.00 354 P **P 11 57 17.7 -1.0**
SNR=12
CHTO P **P 11 57 17.7 -1.0**
SNR=12
GIRL Giralia 23.00 148 P **P 11 57 29.7 +0.4**
baz=23,SNR=3.8
CMAI Chiengmai2 23.10 354 P **P 11 57 31.8 +1.3**
comp=Z,379nm,1.1s
PALK Pallekele 23.10 297 *e*P **P 11 57 28.8 -1.7**
PALK pmax pmax
comp=Z,91nm,1.2s
PALK MLR MLR
comp=Z,2μm,20.0s
PALK Pallekele 23.10 297 *e*P **P 11 57 28.8 -1.7**
comp=Z,91nm,1.2s
PALK LR LR
comp=Z,2μm,20.0s
QIZ Qiongzhong 23.61 20 P **P 11 57 37.8 +2.6**
QIZ pP **pP 11 57 42.5 -3.8**
QIZ S **S 12 01 47.0 +0.1**
QIZ pmax pmax
comp=Z,79nm,1.8s
QIZ pmax pmax
comp=Z,1μm,9.1s
QIZ LR LR
comp=Z,3μm,22.3s
QIZ LR LR
comp=Z,4μm,25.2s
QIZ Qiongzhong 23.61 20 *e*P **P 11 57 36.8 +1.6**
comp=Z,93nm,1.1s
QIZ LR LR
comp=Z,4μm,20.0s
SOEI Soe 23.65 107 *e*P **P 11 57 33.7 -2.2**
comp=Z,177nm,0.7s
SOEI LR LR
comp=Z,6μm,20.0s
BUSP Coron 24.05 51 *e*P **P 11 57 41.0 +1.6**
PAGZ Pagadian 24.55 63 *e*P **P 11 57 46.1 +2.2**
SJMP San Jose 25.04 51 *e*P **P 11 57 49.1 +0.7**
LUBP Lubang 25.17 48 *e*P **P 11 57 49.6 0.0**
MBWA Marble Bar 25.26 136 *e*P **P 11 57 50.7 +0.3**
comp=Z,53nm,0.9s
MBWA LR LR
comp=Z,2μm,21.0s
MBWA Marble Bar 25.26 136 P **P 11 57 53.1 +2.7**
SNR=5.2
MBWA Marble Bar 25.26 136 P **P 11 57 53.1 +2.7**
SNR=5.2
MBWA P **P 11 57 53.1 +2.7**
SNR=5.2
OTRP Odiongan 25.69 53 *e*P **P 11 57 55.4 +1.0**
RCP Roxas 25.82 55⇑*e*P **P 11 57 58.4 +2.9**
TGY Tagaytay City 25.92 48 P **P 11 57 55.6 -0.9**
comp=Z,660nm,0.8s,baz=220,slow=3.7,SNR=9.3
TGY Tagaytay City 25.92 48 P **P 11 57 55.6 -0.9**
TGY pmax pmax
comp=Z,533nm,0.7s
DAV Davao City (W) 26.23 67⇑*e*P **P 11 57 55.1 -4.1**
DAV Davao City (W) 26.23 67 PFAKE 11 58 10.0 +11
DAV LR LR
comp=Z,2μm,22.0s
MDRS Chennai 26.48 308 *e*P **P 11 58 01.6 +0.2**
MDRS AMB AMB 11 58 20.5
comp=Z,71nm,0.7s
TRD Trivandrum 26.98 296 *e*P **P 11 58 06.0 0.0**
SKHT Srikalahasti 27.30 309 *e*P **P 11 58 11.3 +2.6**
SKHT IAmb IAmb 11 58 13.5
comp=Z,147nm,1.0s
SKHT *e*S **S 12 02 46.5 +0.9**
SKHT IVMs_BB IVMs_BB 12 06 21.5
comp=Z,443nm,19.6s
VIS Vishakhapatnam 27.36 320 *e*P **P 11 58 09.7 +0.3**
VIS AMB AMB 11 58 16.3
comp=Z,61nm,0.3s
CHLP Challavanipeta 27.49 322 *e*P **P 11 58 12.1 +1.5**
CHLP IAmb IAmb 11 58 16.8
comp=Z,96nm,1.0s
CHLP *e*S **S 12 02 50.0 +1.4**
CHLP IVMs_BB IVMs_BB 12 09 22.8
comp=Z,962nm,20.2s
FITZ Fitzroy Crossi 28.01 124 P **P 11 58 14.1 -1.1**
comp=Z,19nm,0.5s,baz=304,slow=5.9,SNR=44
PVM Polavaram 28.16 317 *e*P **P 11 58 14.1 -2.4**
KMI Kunming 28.18 3 P **P 11 58 18.3 +1.4**
KMI pP sP 11 58 32.0 -1.4
KMI sP pP 11 58 38.8 +10
KMI S **S 12 02 59.8 -0.1**
KMI sS sS 12 03 21.8 +2.8
KMI pmax pmax
comp=Z,27nm,1.0s
KMI pmax pmax
comp=Z,330nm,4.2s
KMI LR LR
comp=Z,4μm,18.0s
KMI LR LR
comp=Z,2μm,10.8s
KMI LR LR
comp=Z,5μm,19.5s

RCLA Racherla 28.91 310 *e*P **P 11 58 22.9 -0.3**
H08S2 Diego Garcia H 29.08 260 T T 12 28 03.1
baz=83,slow=75,SNR=2841
H08S3 Diego Garcia H 29.08 260 T T 12 28 03.4
baz=83,slow=75,SNR=3277
DGAR Diego Garcia 29.09 261 PFAKE 11 58 40.0 +15
DGAR LR LR
comp=Z,3μm,19.0s
H08S1 Diego Garcia H 29.10 260 T T 12 28 04.3
baz=83,slow=75,SNR=2029
NJS Nagarjunasagar 29.34 313 *e*P **P 11 58 29.0 +2.1**
NJS IAmb IAmb 11 58 30.0
comp=Z,19nm,0.9s
NJS *e*S **S 12 03 18.7 +1.0**
NJS IVMs_BB IVMs_BB 12 07 23.1
comp=Z,635nm,24.6s
SRLM Srisailam 29.36 311 *e*P **P 11 58 28.1 +0.9**
SRLM IAmb IAmb 11 58 30.8
comp=Z,78nm,1.4s
SRLM *e*S **S 12 03 17.3 -0.8**
SRLM IVMs_BB IVMs_BB 12 07 25.6
comp=Z,682nm,28.0s
KNRA Kununurra 29.68 116 P **P 11 58 28.1 -1.9**
baz=30,SNR=37
URV Uravakonda 29.92 308 *e*P P 11 58 27.1 -5.1
GYA Guiyang 29.92 10⇑*i*P **P 11 58 32.0 -0.2**
GYA pP pP 11 58 44.5 +0.8
GYA PP **PnPn 11 59 34.0 +4.2**
GYA S **S 12 03 28.8 +1.8**
GYA sS sS 12 03 46.0 -0.2
GYA ScS **ScS 12 09 08.0 -0.8**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.7s
GYA LR LR
comp=Z,840nm,18.0s
GYA LR LR
comp=Z,710nm,18.2s
GYA LR LR
comp=Z,890nm,18.4s
SHL Shillong 30.04 343 *e*P **P 11 58 32.9 -0.4**
SHL AMB AMB 11 58 36.1
comp=Z,36nm,0.7s
SAUI Saumlaki 30.15 100 PFAKE 11 58 50.0 +16
SAUI LR LR
comp=Z,4μm,22.0s
H08N1 Diego Carcia H 30.41 263 T T 12 30 59.2
baz=186,slow=71,SNR=28
H08N2 Diego Garcia H 30.42 263 T T 12 30 58.8
baz=186,slow=71,SNR=24
H08N3 Diego Garcia H 30.43 263 T T 12 30 49.8
baz=186,slow=71,SNR=30
HYB Hyderabad 30.44 313 *i*P **P 11 58 39.0 +2.2**
HYB *e*S **S 12 03 36.0 +0.9**
HYB Hyderabad 30.44 313 *e*P **P 11 58 35.2 -1.6**
HYBB Hyderabad (bro 30.44 313 *e*P **P 11 58 37.5 +0.7**
HYBB IAmb IAmb 11 58 39.5
comp=Z,17nm,0.9s
HYBB *e*S **S 12 03 31.5 -3.7**
HYBB IVMs_BB IVMs_BB 12 07 35.1
comp=Z,491nm,32.7s
BOK Bokaro 30.78 331 *e*P **P 11 58 41.9 +2.2**
BOK AMB AMB 11 58 43.7
comp=Z,183nm,1.5s
FAKI Fak Fak 30.84 90 *e*P **P 11 58 39.7 -0.6**
comp=Z,79nm,0.9s
RPR Rampur 30.86 316 *e*P **P 11 58 41.1 +0.6**
RPR IAmb IAmb 11 58 43.3
comp=Z,25nm,1.0s
RPR *e*S **S 12 03 40.7 -0.9**
RPR IVMs_BB IVMs_BB 12 08 13.3
comp=Z,687nm,26.6s
MTN Manton Dam 30.95 110 P **P 11 58 40.6 -0.7**
baz=31,SNR=10
MTN Manton Dam 30.95 110 *e*P **P 11 58 40.1 -1.2**
comp=Z,27nm,0.5s
MTN LR LR
comp=Z,1μm,21.0s
SRSP Sriramsagar 31.57 315 *e*P **P 11 58 48.0 +1.2**
SRSP IAmb IAmb 11 58 50.0
comp=Z,44nm,1.0s
SRSP *e*S **S 12 03 53.3 +0.4**
SRSP IVMs_BB IVMs_BB 12 08 45.2
comp=Z,640nm,29.3s
KDU Kakadu 32.17 109 P **P 11 58 49.2 -2.9**
baz=32,SNR=4.5
KLBR Kellerberrin 32.18 153 P **P 11 58 53.5 +1.5**
baz=32,SNR=4.8
TWG Pinlang 32.23 36 PFAKE 11 59 10.0 +18
TWG LR LR
comp=Z,4μm,20.0s
KLRI Killari 32.29 312 *e*P **P 11 58 53.6 +0.5**
KLRI IAmb IAmb 11 58 56.4
comp=Z,91nm,1.1s
KLRI *e*S **S 12 04 04.3 +0.2**
KLRI IVMs_BB IVMs_BB 12 08 39.7
comp=Z,832nm,40.2s
TPUB Ta-pu 32.35 35 *e*P **P 11 58 54.7 +1.2**
TPUB *e*pP **pP 11 59 03.4 -1.6**
QZH Quanzhou 32.59 30⇑*i*P **P 11 58 54.8 -0.8**
QZH S **S 12 04 02.0 -6.5**
QZH LR LR
comp=Z,3μm,13.8s
QZH LR LR
comp=Z,1μm,12.5s
QZH LR LR
comp=Z,7μm,26.1s
ODAN Odare 32.79 337 *e*P **P 11 58 58.6 +1.0**
comp=Z,280nm,0.7s
ODAN Odare 32.79 337 *e*P **P 11 58 58.6 +1.0**
ODAN Odare 32.79 337 *e*P **P 11 58 58.6 +1.0**
YULB Yu-li 32.80 35 *e*P **P 11 59 01.2 +3.8**
comp=Z,43nm,1.2s
YULB LR LR
comp=Z,1μm,22.0s
SSLB Suanglung 32.91 34 *e*P **P 11 59 00.2 +1.8**
comp=Z,36nm,1.0s
GOA Goa 32.99 305 *e*P **P 11 58 58.7 -0.4**
NWAO Narrogin (SRO) 33.10 155 LR LR 12 10 44.7
comp=Z,4μm,21.4s,baz=202,slow=33
NWAO Narrogin (SRO) 33.10 155 P **P 11 59 02.3 +2.3**
baz=33,SNR=3.8
NWAO P **P 11 59 02.3 +2.3**
baz=33,SNR=3.8
NWAO Narrogin (SRO) 33.10 155 *e*P **P 11 59 01.0 +1.1**
NWAO pmax pmax
comp=Z,63nm,1.1s
NWAO Narrogin (SRO) 33.10 155 *e*P **P 11 59 01.0 +1.1**
comp=Z,63nm,1.1s
TAPN Taplejung 33.11 337 *e*P **P 11 59 01.8 +1.4**
comp=Z,1μm,0.9s
TAPN Taplejung 33.11 337 *e*P **P 11 59 01.8 +1.4**
TAPN Taplejung 33.11 337 *e*P **P 11 59 01.8 +1.4**
RAMN Ramite 33.20 335 *e*P **P 11 59 02.6 +1.5**
comp=Z,206nm,0.7s
RAMN Ramite 33.20 335 *e*P **P 11 59 02.6 +1.5**
JBP Jabalpur 33.49 323⇑*e*P **P 11 59 05.5 +2.0**
JBP AMB AMB 11 59 06.6
JBP *ex* x 12 04 21.8
NACB Ninganchiao 33.58 35 *e*P **P 11 59 06.2 +2.0**
comp=Z,66nm,1.1s
NACB LR LR
comp=Z,1μm,19.0s
WRKA Warakurna 33.81 132 P **P 11 59 06.7 +0.3**
baz=34,SNR=29
YHNB Yeheng 33.84 34 *e*P **P 11 59 08.0 +1.4**
comp=Z,76nm,1.1s
YHNB LR LR
comp=Z,2μm,22.0s
JIRN Jiri 33.99 335 *e*P **P 11 59 09.5 +1.3**
comp=Z,1μm,0.6s
JIRN Jiri 33.99 335 *e*P **P 11 59 09.5 +1.3**
JIRN Jiri 33.99 335 *e*P **P 11 59 09.5 +1.3**
CD2 Chengdu 33.99 4 P **P 11 59 08.8 +1.0**
CD2 pP pP 11 59 19.8 +0.4
CD2 sP sP 11 59 26.8 +2.4
CD2 PP **PP 12 00 27.0 +1.6**
CD2 S **S 12 04 34.3 +4.1**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,490nm,5.6s
CD2 LR LR
comp=Z,6μm,19.4s
CD2 LR LR
comp=Z,3μm,16.9s
CD2 LR LR
comp=Z,7μm,21.9s
KMBL Kambalda 34.04 148 P **P 11 59 09.1 +0.9**
baz=34,SNR=9.2
TATO Taipei 34.15 34 PFAKE 11 59 20.0 +11
TATO LR LR
comp=Z,2μm,19.0s
LSA Lhasa 34.15 344 P **P 11 59 10.3 +0.6**
LSA Lhasa 34.15 344 *e*P **P 11 59 10.2 +0.6**
LSA pmax pmax
comp=Z,66nm,0.9s
LSA MLR MLR
comp=Z,2μm,21.0s
LSA Lhasa 34.15 344 *e*P **P 11 59 10.2 +0.5**
comp=Z,66nm,0.9s
LSA LR LR
comp=Z,2μm,21.0s
ENH Enshi 34.17 13 *e*P **P 11 59 08.3 -1.1**
comp=Z,146nm,1.1s
ENH LR LR
comp=Z,4μm,21.0s
PKI Pulchoki 34.24 334 *e*P **P 11 59 11.2 +0.9**
PKI Pulchoki 34.24 334 *e*P **P 11 59 11.2 +0.9**
PKI Pulchoki 34.24 334 *e*P **P 11 59 11.2 +0.9**
PKIN Phulchoki 34.25 334 *e*P **P 11 59 11.4 +1.0**
comp=Z,172nm,0.9s
PKIN Phulchoki 34.25 334 *e*P **P 11 59 11.8 +1.4**
comp=Z,172nm,0.9s
PKIN Phulchoki 34.25 334 *e*P **P 11 59 11.4 +1.0**
GUN Gumba 34.34 335 *e*P **P 11 59 12.5 +1.3**
GUN Gumba 34.34 335 *e*P **P 11 59 12.5 +1.3**
GUN Gumba 34.34 335 *e*P **P 11 59 12.5 +1.3**
comp=Z,876nm,1.0s
DMN Daman 34.41 334 *e*P **P 11 59 12.8 +1.1**
DMN Daman 34.41 334 *e*P **P 11 59 12.8 +1.1**
DMN Daman 34.41 334 *e*P **P 11 59 12.8 +1.1**
KKN Kakani 34.49 334 *e*P **P 11 59 13.4 +1.1**
KKN Kakani 34.49 334 *e*P **P 11 59 13.4 +1.1**
KKN Kakani 34.49 334 *e*P **P 11 59 13.4 +1.1**
YOJ Yonaguni jima 34.62 36 PFAKE 11 59 30.0 +17
YOJ LR LR
comp=Z,1μm,18.0s
POO Poona 34.65 310 *e*P **P 11 59 14.2 +0.5**
GKN Gorkha 34.96 334 *e*P **P 11 59 17.5 +1.3**
GKN Gorkha 34.96 334 *e*P **P 11 59 17.6 +1.3**
GKN Gorkha 34.96 334 *e*P **P 11 59 17.6 +1.3**
BHPL Bhopal 35.16 320 *e*P **P 11 59 20.0 +2.1**
BHPL AMB AMB 11 59 21.1
comp=Z,44nm,0.9s
KOLN Koldanda 35.23 332 *e*P **P 11 59 20.2 +1.5**
comp=Z,699nm,1.0s
KOLN Koldanda 35.23 332 *e*P **P 11 59 20.2 +1.5**
comp=Z,699nm,1.0s
KOLN Koldanda 35.23 332 *e*P **P 11 59 20.2 +1.5**
comp=Z,699nm,1.0s
DANN Dangsing 35.65 333 *e*P **P 11 59 24.0 +1.6**
DANN Dangsing 35.65 333 *e*P **P 11 59 23.7 +1.3**
DANN Dangsing 35.65 333 *e*P **P 11 59 23.7 +1.3**
WHN Wuhan 35.77 19⇑P **P 11 59 25.8 +2.8**
WHN PP **PP 12 00 52.3 +7.3**
WHN S **S 12 04 59.0 +1.5**
WHN pmax pmax
comp=Z,88nm,1.0s
WHN LR LR
comp=Z,2μm,15.6s
WHN LR LR
comp=Z,4μm,12.7s
WHN LR LR
comp=Z,7μm,33.2s
PYUN Piuthan 35.80 332 *e*P **P 11 59 25.0 +1.4**
comp=Z,630nm,0.9s
PYUN Piuthan 35.80 332 *e*P **P 11 59 24.9 +1.4**
comp=Z,630nm,0.9s
PYUN Piuthan 35.80 332 *e*P **P 11 59 25.0 +1.4**
comp=Z,630nm,0.9s
WB0 Warramunga Arr 36.19 120 PFAKE 11 59 40.0 +13
WB0 LR LR
comp=Z,1μm,20.0s
WB9 Warramunga Arr 36.19 120 PFAKE 11 59 40.0 +13
WB9 LR LR
comp=Z,2μm,20.0s
WB8 Warramunga Arr 36.20 120 PFAKE 11 59 40.0 +13
WB8 LR LR
comp=Z,1μm,20.0s
WB6 Warramunga Arr 36.20 120 PFAKE 11 59 40.0 +13
WB6 LR LR
comp=Z,1μm,20.0s
WC1 Warramunga Arr 36.20 120 PFAKE 11 59 40.0 +13
WC1 LR LR
comp=Z,900nm,20.0s
WB5 Warramunga Arr 36.21 120 PFAKE 11 59 40.0 +13
WB5 LR LR
comp=Z,1μm,20.0s
WRA Warramunga Arr 36.21 120 P **P 11 59 25.6 -1.4**
comp=Z,83nm,0.5s,baz=303,slow=8.9,SNR=230
WRA S **S 12 04 57.7 -6.9**
comp=Z,14nm,1.1s,baz=291,slow=16,SNR=6.3
WRA LR LR 12 16 21.1
comp=Z,1μm,21.0s,baz=290,slow=40
WRA P3KPbc 12 30 05.2
comp=Z,1.4nm,0.8s,baz=104,slow=4.3,SNR=8.0
WRA Warramunga Arr 36.21 120 P **P 11 59 25.6 -1.4**
WRA S **S 12 04 57.7 -6.9**
WRA pmax pmax
comp=Z,82nm,0.6s
WRA smax smax
comp=N,14nm,1.1s
WRA MLR MLR
comp=Z,1μm,21.0s
WR1 Warramunga Arr 36.21 120 PFAKE 11 59 40.0 +13
WR1 LR LR
comp=Z,1μm,20.0s
WB4 Warramunga Arr 36.21 120 PFAKE 11 59 40.0 +13
WB4 LR LR
comp=Z,1μm,20.0s
WRAB Tennant Creek 36.22 120*c i*P **P 11 59 25.7 -1.4**
WRAB pmax pmax
comp=Z,390nm,1.0s
WRAB MLR MLR
comp=Z,3μm,20.0s
WRAB Tennant Creek 36.22 120 *e*P **P 11 59 26.5 -0.6**
comp=Z,129nm,0.8s
WRAB LR LR
comp=Z,1μm,20.0s
WB3 Warramunga Arr 36.22 120 PFAKE 11 59 40.0 +13
WB3 LR LR
comp=Z,1μm,20.0s
WC4 Warramunga Arr 36.22 120 PFAKE 11 59 40.0 +13
WC4 LR LR
comp=Z,1μm,22.0s
WB2 Warramunga Arr 36.22 120 *e*P **P 11 59 26.2 -0.9**
comp=Z,105nm,0.7s
WB2 LR LR
comp=Z,1μm,20.0s
WC2 Warramunga Arr 36.23 120 PFAKE 11 59 40.0 +13
WC2 LR LR
comp=Z,1μm,20.0s
WR2 Warramunga Arr 36.23 120 PFAKE 11 59 40.0 +13
WR2 LR LR
comp=Z,1μm,21.0s
WC3 Warramunga Arr 36.24 120 *e*P **P 11 59 26.4 -1.0**
comp=Z,326nm,1.4s
WR3 Warramunga Arr 36.25 120 PFAKE 11 59 40.0 +13
WR3 LR LR
comp=Z,1μm,20.0s
WR4 Warramunga Arr 36.27 120 PFAKE 11 59 40.0 +12
WR4 LR LR
comp=Z,1μm,20.0s
WR5 Warramunga Arr 36.29 120 PFAKE 11 59 40.0 +12
WR5 LR LR
comp=Z,1μm,20.0s
WR6 Warramunga Arr 36.31 120 PFAKE 11 59 40.0 +12
WR6 LR LR
comp=Z,1μm,22.0s
WR7 Warramunga Arr 36.33 120 PFAKE 11 59 40.0 +12
WR7 LR LR
comp=Z,1μm,21.0s
WR8 Warramunga Arr 36.35 120 PFAKE 11 59 40.0 +12
WR8 LR LR
comp=Z,1μm,20.0s
WR0 Warramunga Arr 36.39 120 PFAKE 11 59 40.0 +11
WR0 LR LR
comp=Z,1μm,20.0s
FORT Forrest 37.25 140 *e*P **P 11 59 38.1 +2.4**
comp=Z,612nm,0.8s

FORT LR LR
comp=Z,21μm,20.0s
AS31 Alice Springs 37.45 126 *eP* **P 11 59 36.9 -0.6**
comp=Z,32nm,0.5s
AS31 *e*S **S 12 05 20.1 -3.3**
ASAR Alice Springs 37.45 126 P **P 11 59 37.1 -0.4**
comp=Z,63nm,0.5s,baz=298,slow=8.2,SNR=502
ASAR pP **pP 11 59 49.4 +0.2**
comp=Z,36nm,0.6s,baz=299,slow=8.2,SNR=7.9
ASAR PcP **PcP 12 01 55.6 0.0**
comp=Z,6.9nm,0.7s,baz=309,slow=1.5,SNR=4.9
ASAR pPcP 12 02 11.2
comp=Z,12nm,0.7s,baz=298,slow=2.4,SNR=4.6
ASAR S **S 12 05 20.2 -3.2**
comp=Z,9.5nm,0.7s,baz=296,slow=14,SNR=12
ASAR LR LR 12 16 10.5
comp=Z,2μm,21.4s,baz=302,slow=38
ASAR P3KPbc 12 29 58.4
comp=Z,0.3nm,0.6s,baz=117,slow=3.8,SNR=5.9
XAN Xi'an 37.72 10 P **P 11 59 39.3 -0.4**
XAN pP pP 11 59 49.3 -2.0
XAN sP sP 11 59 53.8 -2.6
XAN PP **PP 12 01 06.8 +0.4**
XAN S **S 12 05 23.0 -4.2**
XAN pmax pmax
comp=Z,63nm,0.7s
XAN pmax pmax
comp=Z,480nm,8.4s
XAN LR LR
comp=Z,3μm,17.0s
XAN LR LR
comp=Z,4μm,20.3s
XAN LR LR
comp=Z,5μm,17.7s
PTH Pithoragarh 38.35 330 *e*P **P 11 59 47.7 +2.4**
NJ2 Nanjing 38.79 24 *e*P **P 11 59 50.5 +1.8**
NJ2 pP **pP 11 59 58.3 -2.1**
NJ2 sP **sP 12 00 02.5 -2.9**
NJ2 S **S 12 05 46.0 +2.6**
NJ2 pmax pmax
comp=Z,36nm,0.9s
NJ2 pmax pmax
comp=Z,440nm,5.1s
NJ2 LR LR
comp=Z,3μm,17.9s
NJ2 LR LR
comp=Z,2μm,17.3s
NJ2 LR LR
comp=Z,5μm,17.9s
SSE Sheshan 38.98 28 P **P 11 59 50.5 +0.2**
SSE sP **sP 12 00 06.0 -1.0**
SSE S **S 12 05 49.5 +3.2**
SSE pmax pmax
comp=Z,64nm,1.0s
SSE pmax pmax
comp=Z,420nm,7.7s
SSE LR LR
comp=Z,2μm,25.3s
SSE LR LR
comp=Z,830nm,25.3s
SSE LR LR
comp=Z,2μm,27.4s
LZH Lanzhou 39.15 3 ⇑P **P 11 59 52.3 +0.5**
LZH pP pP 12 00 04.5 +1.0
LZH sP sP 12 00 08.5 0.0
LZH SS SS 12 08 40.3 -2.9
LZH pmax pmax
comp=Z,86nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.1s
LZH LR LR
comp=Z,5μm,17.0s
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,6μm,17.9s
NDI New Delhi 39.28 325 *e*P **P 11 59 52.0 -0.9**
NDI *ex* x 12 00 13.2
JAY Jayapura 39.29 90 P **P 11 59 50.6 -2.6**
JAY pmax pmax
comp=Z,196nm,1.1s
JOW Kunigami 39.58 39 *e*P **P 11 59 59.6 +4.2**
comp=Z,76nm,1.0s
DDI Dehra Dun 40.09 328 *e*P **P 12 00 00.8 +1.1**
DDI AMB AMB 12 00 02.7
comp=Z,268nm,1.0s
BHJ Bhuj 40.59 312 *e*P **P 12 00 04.1 +0.3**
BHJ AMB AMB 12 00 08.1
comp=Z,64nm,0.9s
QIS Mount Isa 41.04 118 P **P 12 00 06.5 -1.1**
baz=41,SNR=54
SMLA Simla 41.20 328 *e*P **P 12 00 09.3 +0.6**
SMLA AMB AMB 12 00 12.0
comp=Z,190nm,0.4s
SDNR Sundarnagar 41.59 328 *e*P **P 12 00 13.5 +1.6**
TIY Taiyuan 41.98 13 *e*P **P 12 00 16.5 +1.4**
TIY pP **pP 12 00 29.0 +2.1**
TIY PP **PP 12 01 53.8 +0.9**
TIY S **S 12 06 29.5 -1.5**
TIY sS **sS 12 06 50.8 +0.2**
TIY ScS **ScS 12 10 12.5 -1.9**
TIY pmax pmax
comp=Z,62nm,1.0s
TIY pmax pmax
comp=Z,390nm,3.9s
TIY LR LR
comp=Z,4μm,18.6s
GTA Gaotai 42.42 358 ⇑P **P 12 00 18.8 +0.1**
GTA pP pP 12 00 28.8 -1.7
GTA sP sP 12 00 32.8 -2.7
GTA PcP **PcP 12 02 11.8 +0.5**
GTA ScP **ScP 12 05 59.5 +0.7**
GTA S **S 12 06 38.5 +0.9**
GTA ScS **ScS 12 10 14.8 -2.4**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,470nm,5.0s
GTA LR LR
comp=Z,4μm,18.1s
GTA LR LR
comp=Z,2μm,17.6s
GTA LR LR
comp=Z,5μm,19.5s
PONG Pong 42.49 327 *e*P **P 12 00 19.0 -0.2**
PONG *ex* x 12 00 38.0
DHRM DHARAMSHALA 42.53 328 *e*P **P 12 00 20.7 +0.9**
DHRM AMB AMB 12 00 22.4
comp=Z,298nm,1.4s
COEN Coen 42.62 107 P **P 12 00 19.8 -0.8**
baz=42,SNR=10
COEN Coen 42.62 107 *e*P **P 12 00 19.9 -0.6**
comp=Z,22nm,0.9s
COEN LR LR
comp=Z,1μm,21.0s
THN Thein Dam 42.99 328 *e*P **P 12 00 23.6 +0.4**
THN *ex* x 12 06 38.7
BBOO Buckleboo 43.84 136 P **P 12 00 30.6 +0.4**
baz=44,SNR=7.1
BBOO Buckleboo 43.84 136 *e*P **P 12 00 30.0 -0.1**
comp=Z,68nm,1.0s
BBOO LR LR
comp=Z,2μm,20.0s
BTO Baotou 44.31 9 *e*P **P 12 00 35.3 +1.4**
BTO pmax pmax
comp=Z,8.0nm,1.3s
MTSU Mount Surprise 44.59 113 P **P 12 00 35.5 -0.9**
baz=44,SNR=36
HHC Hu-ho-hao-te 44.82 11 *e*P **P 12 00 40.5 +2.6**
HHC pP pP 12 00 52.0 +2.2
HHC sP sP 12 00 57.5 +2.7
HHC S **S 12 07 09.3 -3.2**
HHC sS sS 12 07 35.0 +2.8
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,440nm,5.9s
HHC LR LR
comp=Z,2μm,15.2s
HHC LR LR
comp=Z,990nm,16.6s
HHC LR LR
comp=Z,2μm,14.9s
BJT Baijiatuau 45.10 16 *e*P **P 12 00 40.2 +0.2**
BJT pmax pmax
comp=Z,56nm,1.0s
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuau 45.10 16 *e*P **P 12 00 40.2 +0.2**
comp=Z,56nm,1.0s
BJT LR LR
comp=Z,3μm,20.0s
BJI Beijing 45.12 16 P **P 12 00 40.8 +0.6**
BJI pP **pP 12 00 48.5 -3.6**
BJI sP **sP 12 00 53.5 -3.6**
BJI PP **PP 12 02 28.0 +1.6**
BJI S **S 12 07 14.3 -2.4**
BJI pmax pmax
comp=Z,54nm,1.1s
BJI pmax pmax
comp=Z,630nm,5.0s
BJI LR LR
comp=Z,3μm,19.4s
BJI LR LR
comp=Z,1μm,15.7s
BJI LR LR
comp=Z,2μm,24.9s
JNU Nakatsue 45.65 35 *e*P **P 12 00 46.5 +1.9**
comp=Z,117nm,1.2s
DL2 Dalian 45.88 22 P **P 12 00 46.0 -0.2**
DL2 PP **PP 12 02 33.0 -1.4**
DL2 S **S 12 07 26.8 -0.8**
DL2 pmax pmax
comp=Z,42nm,1.2s
DL2 pmax pmax
comp=Z,440nm,5.5s
DL2 LR LR
comp=Z,2μm,16.7s
DL2 LR LR
comp=Z,760nm,19.0s
DL2 LR LR
comp=Z,2μm,17.5s
PMG Port Moresby 45.89 100 *e*P **P 12 00 45.4 -1.4**
PMG pmax pmax
comp=Z,22nm,0.8s
PMG MLR MLR
comp=Z,900nm,20.0s
PMG Port Moresby 45.89 100 *e*P **P 12 00 45.4 -1.4**
comp=Z,22nm,0.8s
PMG LR LR
comp=Z,900nm,20.0s
HTT Hallett 46.18 135 P **P 12 00 49.1 +0.2**
baz=46,SNR=25
GUMO Guam 46.27 68 *e*P **P 12 00 48.4 -1.3**
GUMO pmax pmax
comp=Z,338nm,1.5s
GUMO MLR MLR
comp=Z,695nm,20.0s
GUMO Guam 46.27 68 *e*P **P 12 00 48.4 -1.3**
comp=Z,338nm,1.5s
GUMO LR LR
comp=Z,695nm,20.0s
INCN Inchon 46.78 28 PFAKE 12 01 10.0 +17
INCN LR LR
comp=Z,1μm,21.0s
CTA Charters Tower 46.85 115 LR LR 12 22 18.9
comp=Z,1μm,20.5s,baz=283,slow=38
CTAO Charters Tower 46.85 115 *e*P **P 12 00 53.5 -0.8**
CTAO pmax pmax
comp=Z,144nm,0.8s
CTAO MLR MLR
comp=Z,1μm,20.0s
CTAO Charters Tower 46.85 115 *e*P **P 12 00 53.5 -0.8**
comp=Z,144nm,0.8s
CTAO LR LR
comp=Z,1μm,20.0s
QLP Quilpie 47.15 124 P **P 12 00 56.6 +0.1**
baz=47,SNR=53
STKA Stephens Creek 47.34 132 P **P 12 00 57.5 -0.3**
comp=Z,20nm,0.6s,baz=308,slow=7.4,SNR=58
STKA LR LR 12 21 09.3
comp=Z,2μm,21.5s,baz=289,slow=36
STKA Stephens Creek 47.34 132 P **P 12 00 57.6 -0.3**
baz=47,SNR=31
STKA Stephens Creek 47.34 132 *e*P **P 12 00 57.6 -0.3**
STKA pmax pmax
comp=Z,44nm,1.4s
STKA Stephens Creek 47.34 132 *e*P **P 12 00 57.6 -0.3**
comp=Z,44nm,1.4s
KS15 Wonju Array Si 47.35 29 *e*P **P 12 00 58.9 +1.1**
KSAR Wonju Array Be 47.35 29 P **P 12 00 58.5 +0.8**
KSAR *PP **pP 12 01 10.9 +1.2**
KSAR Wonju Array Be 47.35 29 P **P 12 00 58.5 +0.8**
KSAR pP **pP 12 01 10.9 +1.2**
KSRS Korea Array 47.37 29 P **P 12 00 58.5 +0.6**
comp=Z,24nm,1.1s,baz=220,slow=8.0,SNR=26
KSRS pP **pP 12 01 10.9 +1.0**
comp=Z,53nm,1.0s,baz=221,slow=8.3,SNR=22
KSRS LR LR 12 22 40.1
comp=Z,613nm,18.1s,baz=238,slow=38
RER Riviere de l'E 47.80 244 PFAKE 12 01 10.0 +8.3
RER LR LR
comp=Z,2μm,21.0s
WMQ Urumqi 48.40 347 P **P 12 01 07.3 +1.4**
WMQ pP pP 12 01 19.0 +1.1
WMQ sP sP 12 01 27.3 +4.5
WMQ PP **PP 12 02 57.0 -1.9**
WMQ ScP **ScP 12 06 23.8 +0.4**
WMQ S **S 12 08 05.0 +1.5**
WMQ sS sS 12 08 22.5 -1.0
WMQ pmax pmax
comp=Z,370nm,1.1s
WMQ pmax pmax
comp=Z,1μm,3.6s
WMQ LR LR
comp=Z,590nm,10.9s
WMQ LR LR
comp=Z,570nm,15.7s
WMQ LR LR
comp=Z,1μm,31.3s
KSH Kashi 48.50 334 P **P 12 01 06.0 -0.9**
KSH pP pP 12 01 15.5 -3.3
KSH sP sP 12 01 20.3 -3.5
KSH PcP **PcP 12 02 32.3 -0.1**
KSH PP **PP 12 02 59.0 -1.0**
KSH PcS **PcS 12 06 22.3 -6.2**
KSH S **S 12 08 00.5 -4.8**
KSH ScS **ScS 12 10 49.0 -7.3**
KSH SS **SS 12 11 25.5 -10**
KSH pmax pmax
comp=Z,71nm,0.9s
KSH pmax pmax
comp=Z,680nm,4.4s
KSH LR LR
comp=Z,400nm,10.5s
KSH LR LR
comp=Z,630nm,17.5s
KSH LR LR
comp=Z,850nm,20.5s
SNY Shenyang 49.15 22 ⇑P **P 12 01 10.5 -1.1**
SNY PP **PP 12 03 08.3 +2.6**
SNY pmax pmax
comp=Z,27nm,0.9s
SNY pmax pmax
comp=Z,550nm,4.7s
SNY LR LR
comp=Z,2μm,19.2s
SNY LR LR
comp=Z,2μm,19.0s
SNY LR LR
comp=Z,3μm,14.9s
CBIJ Chichi jima 49.57 50 *e*P **P 12 01 14.9 -0.1**
comp=Z,369nm,1.4s
SFK Sufi-Kurgan 50.03 332 P **P 12 01 18.8 +0.2**
SFK pmax pmax
comp=Z,153nm,1.0s
CMSA Cobar Meteorol 50.30 129 P **P 12 01 20.6 0.0**
baz=50,SNR=67
PDGK Podgornoye 50.34 339 P **P 12 01 21.4 +0.6**
PDGK pmax pmax
comp=Z,178nm,1.0s
INU Inuyama 50.85 38 *e*P **P 12 01 25.2 +0.5**
comp=Z,24nm,1.1s
RMQ Roma 50.92 122 P **P 12 01 25.9 +0.5**
baz=51,SNR=30
SONM Songino Array 51.01 4 P **P 12 01 27.0 +1.3**
comp=Z,53nm,0.9s,baz=185,slow=8.8,SNR=180
SONM pP **pP 12 01 39.3 +1.4**
comp=Z,54nm,0.8s,baz=187,slow=9.1,SNR=13
SONM PcP **PcP 12 02 42.2 +0.8**
comp=Z,11nm,0.6s,baz=190,slow=4.3,SNR=6.8
SONM pPcP 12 02 56.0
comp=Z,13nm,0.5s,baz=187,slow=3.9,SNR=6.3
SONM ScP **ScP 12 06 31.6 -2.9**
comp=Z,3.7nm,1.0s,baz=193,slow=3.6,SNR=4.6
SONM LR LR 12 26 20.7
comp=Z,3μm,18.7s,baz=188,slow=40
SONM PKP2bc 12 32 18.3
comp=Z,0.4nm,0.5s,baz=357,slow=2.9,SNR=3.7
ULN Ulaanbaatar 51.09 5 *c i*P **P 12 01 27.1 +0.7**
ULN pmax pmax
comp=Z,69nm,1.2s
ULN MLR MLR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 51.09 5 *e*P **P 12 01 27.8 +1.3**
comp=Z,59nm,1.1s
ULN LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 51.09 5 P **P 12 01 27.5 +1.1**
SNR=25
ULN Ulaanbaatar 51.09 5 P **P 12 01 27.5 +1.1**
SNR=25
ULN P **P 12 01 27.5 +1.1**
SNR=25
MDOK Medeo 51.10 337 *e*P **P 12 01 26.2 -0.4**
comp=Z,482nm,0.8s
MDOK *i* S **S 12 08 42.0 +0.5**
MDOK *i* LR LR 12 22 46.3
comp=Z,280nm,19.0s
AAA Alma-Ata 51.19 337 *i* P **P 12 01 30.0 +2.8**
AAA *i* S **S 12 08 44.2 +1.6**
AAA pmax pmax
comp=Z,1μm,2.6s
AAA smax smax
comp=N,1μm,4.0s
AAA MLR MLR
comp=Z,600nm,17.0s
AAA Alma-Ata 51.19 337 *e*P **P 12 01 27.1 0.0**
comp=Z,583nm,0.8s
AAA *e*PP **PP 12 03 24.1 -0.2**
AAA *e*S **S 12 08 43.8 +1.1**
DZET Dzherino 51.46 327 P **P 12 01 28.2 -1.1**
DZET pmax pmax
comp=Z,73nm,1.3s
TKM2 Tokmak 2 51.47 336 P **P 12 01 30.0 +0.5**
TKM2 pmax pmax
comp=Z,112nm,1.0s
CN2 Changchun 51.55 22 *e*P **P 12 01 29.0 -0.7**
CN2 *e*pP pP 12 01 43.3 +1.5
CN2 *e*S **S 12 08 49.8 +2.4**
CN2 pmax pmax
comp=Z,70nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 51.70 335 LR LR 12 27 50.5
comp=Z,334nm,19.3s,baz=142,slow=41
AAK Ala-Archa 51.70 335 *e*P **P 12 01 32.2 +1.1**
AAK pmax pmax
comp=Z,63nm,1.1s
AAK Ala-Archa 51.70 335 *e*P **P 12 01 32.2 +1.1**
comp=Z,63nm,1.1s
AAK Ala-Archa 51.70 335 P **P 12 01 32.2 +1.1**
SNR=16
AAK Ala-Archa 51.70 335 P **P 12 01 32.2 +1.1**
SNR=16
AAK P **P 12 01 32.2 +1.1**
SNR=16
FRU Bishkek 51.81 335 *i* P **P 12 01 32.0 +0.3**
FRU *i* 12 01 45.0
FRU pmax pmax
comp=Z,160nm,1.6s
FRU MLR MLR
comp=E,1μm,18.0s
UOSS Minazif 51.99 305 *e*P **P 12 01 33.7 +0.4**
comp=E,27nm,1.0s
ASHO Ashiyiah 51.99 305 *i* P **P 12 01 34.6 +1.2**
SNR=17
ASHO Ashiyiah 51.99 305 P **P 12 01 35.0 +1.5**
SNR=6.2
ASHO Ashiyiah 51.99 305 P **P 12 01 35.0 +1.5**
SNR=6.2
ASHO P **P 12 01 35.0 +1.5**
SNR=6.2
HATD Hatta, Dubai 52.00 305 *i* P **P 12 01 35.1 +1.7**
SNR=10
HATD Hatta, Dubai 52.00 305 P **P 12 01 35.2 +1.7**
SNR=5.7
HATD Hatta, Dubai 52.00 305 P **P 12 01 35.2 +1.7**
SNR=5.7
MAJO Matsushiro 52.36 38 *c i*P **P 12 01 35.5 -0.4**
MAJO pmax pmax
comp=Z,298nm,1.4s
MAJO Matsushiro 52.36 38 *e*P **P 12 01 36.8 +0.8**
comp=Z,63nm,1.4s
MAJO LR LR
comp=Z,838nm,21.0s
MAT Matsushiro 52.36 38 P **P 12 01 34.3 -1.6**
MAT S **S 12 08 54.2 -4.6**
MJAR Matsushiro Arr 52.36 38 P **P 12 01 35.0 -0.9**
comp=Z,25nm,0.7s,baz=214,slow=7.1,SNR=66
MJAR pP **pP 12 01 49.2 +1.2**
comp=Z,44nm,1.2s,baz=217,slow=7.3,SNR=7.4
MJAR ScP **ScP 12 06 38.4 -2.1**
comp=Z,5.1nm,1.0s,baz=220,slow=4.6,SNR=7.2
MJAR LR LR 12 24 11.5
comp=Z,587nm,21.9s,baz=250,slow=36
MJAR Matsushiro Arr 52.36 38 P **P 12 01 35.0 -0.9**
MJAR *PP **pP 12 01 49.2 +1.2**
MJAR pmax pmax
comp=Z,31nm,0.9s
MJAR MLR MLR
comp=Z,587nm,21.9s
MJB9 Matsu-Tunnel 52.36 38 *e*P **P 12 01 36.6 +0.7**
comp=Z,17nm,1.4s
FAQ Al Faqa, Dubai 52.40 305 *i* P **P 12 01 37.4 +0.9**
SNR=24
FAQ Al Faqa, Dubai 52.40 305 P **P 12 01 38.0 +1.6**
SNR=10
FAQ Al Faqa, Dubai 52.40 305 P **P 12 01 38.0 +1.6**
SNR=10
NAZ Nazwa, Dubai 52.45 305 P **P 12 01 38.0 +1.2**
NAZ Nazwa, Dubai 52.45 305 P **P 12 01 39.0 +2.2**
SNR=5.4
NAZ Nazwa, Dubai 52.45 305 P **P 12 01 39.0 +2.2**
SNR=5.4
NAZ P **P 12 01 39.0 +2.2**
SNR=5.4
MK31 Makanchi Array 52.55 344 *i* P **P 12 01 37.1 -0.1**
MK31 pmax pmax
comp=Z,121nm,0.9s
MK31 Makanchi Array 52.55 344 *e*P **P 12 01 37.6 +0.5**
MKAR Makanchi Array 52.55 344 P **P 12 01 37.2 0.0**
comp=Z,74nm,0.7s,baz=150,slow=6.8,SNR=286
MKAR pP **pP 12 01 50.7 +1.4**
comp=Z,65nm,0.8s,baz=146,slow=7.6,SNR=8.6
MKAR S **S 12 09 01.4 +0.3**
comp=Z,0.9nm,0.9s,baz=140,slow=12,SNR=2.2
MKAR LR LR 12 28 54.8
comp=Z,799nm,20.8s,baz=146,slow=42
MKAR PKP2bc 12 32 24.8
comp=Z,1.4nm,1.2s,baz=328,slow=5.1,SNR=4.3
MKAR Makanchi Array 52.55 344 *e*P **P 12 01 37.6 +0.4**
MKAR *PP **pP 12 01 50.7 +1.4**
MKAR S **S 12 09 01.4 +0.3**
MKAR pmax pmax
comp=Z,820nm,1.1s
MKAR Makanchi Array 52.55 344 *e*P **P 12 01 37.6 +0.4**
comp=Z,820nm,1.1s
MKAR pP **pP 12 01 50.7 +1.4**
MKAR S **S 12 09 01.4 +0.3**
MKAR ⇑*e* 12 32 24.8
EIDS Eidsvold 52.58 120 P **P 12 01 37.5 -0.2**
baz=52,SNR=32
EIDS Eidsvold 52.58 120 *e*P **P 12 01 37.5 -0.2**
comp=Z,82nm,0.9s
MAKZ Makanchi 52.65 343 *e*P **P 12 01 38.6 +0.7**
MAKZ pmax pmax
comp=Z,86nm,0.9s
MAKZ Makanchi 52.65 343 *e*P **P 12 01 38.6 +0.7**
comp=Z,86nm,0.9s
MSHR Mys Shultsa 52.94 27 *c e*P **P 12 01 40.4 +0.4**
PAF Port-aux-Franc 53.08 205 PFAKE 12 01 50.0 +9.0
PAF LR LR

comp=Z,2μm,20.0s
ZAK Zakamensk 53.40 2 *e*P **P 12 01 43.7 +0.3**
ZAK pmax pmax
comp=Z,28nm,1.1s
VLA Vladivostok 53.70 27*d i*P **P 12 01 46.2 +0.6**
VLA *i* *PP **pP 12 01 59.1 +1.4**
VLA *e**SP **sP 12 02 02.0 -0.6**
VLA *i* 12 03 47.3
VLA pmax pmax
comp=Z,68nm,1.0s
KK31 Karatay Array 53.84 332 *i* P **P 12 01 46.0 -0.7**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 53.84 332 *e*P **P 12 01 46.9 +0.2**
KKAR pmax pmax
comp=Z,219nm,1.1s
KKAR Karatay Array 53.84 332 *e*P **P 12 01 46.9 +0.2**
comp=Z,218nm,1.1s
MDJ Mudanjiang 53.88 25 P **P 12 01 47.5 +0.6**
MDJ pP pP 12 01 56.5 -2.5
MDJ sP sP 12 02 00.5 -3.5
MDJ PP **PP 12 03 49.0 +0.5**
MDJ S **S 12 09 18.5 -0.6**
MDJ SS **SS 12 13 01.5 +0.6**
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,390nm,7.2s
MDJ LR LR
comp=Z,2μm,23.4s
MDJ LR LR
comp=Z,2μm,23.4s
MDJ LR LR
comp=Z,2μm,27.2s
MDJ Mudanjiang 53.88 25 *e*P **P 12 01 47.2 +0.3**
comp=Z,37nm,0.8s
MDJ LR LR
comp=Z,2μm,22.0s
CAN Canberra 54.40 132 *e*P **P 12 01 51.7 +0.7**
CAN pmax pmax
comp=Z,69nm,1.0s
CAN MLR MLR
comp=Z,2μm,19.0s
CAN Canberra 54.40 132 *e*P **P 12 01 51.7 +0.7**
comp=Z,69nm,1.0s
CAN LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 54.58 27 P **P 12 01 52.3 +0.2**
comp=Z,155nm,0.8s,baz=221,slow=7.1,SNR=192
USRK pP **pP 12 02 05.5 +1.3**
comp=Z,186nm,0.9s,baz=229,slow=7.2,SNR=13
USRK LR LR 12 27 54.9
comp=Z,1μm,18.1s,baz=211,slow=39
ARMA Armidale 54.60 125 P **P 12 01 52.5 -0.1**
baz=54,SNR=14
ARMA Armidale 54.60 125 *e*P **P 12 01 53.8 +1.2**
comp=Z,127nm,1.4s
HIA Hailar 54.63 15 *e*P **P 12 01 52.0 -0.4**
HIA pmax pmax
comp=Z,32nm,0.9s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 54.63 15 *e*P **P 12 01 52.0 -0.4**
comp=Z,32nm,0.9s
HIA LR LR
comp=Z,1μm,20.0s
MOY Mondy 54.66 360 *e*P **P 12 01 54.0 +1.4**
MOY pmax pmax
comp=Z,94nm,1.8s
TLY Talaya 54.70 2 LR LR 12 28 05.7
comp=Z,3μm,18.6s,baz=174,slow=39
TLY Talaya 54.70 2 *e*P **P 12 01 54.9 +2.1**
TLY *e*S **S 12 09 33.4 +3.3**
TLY *e*SSS SSS 12 15 08.4
TLY pmax pmax
comp=Z,50nm,0.8s
TLY MLR MLR
comp=Z,3μm,21.0s
TLY Talaya 54.70 2 *e*P **P 12 01 53.6 +0.8**
comp=Z,88nm,1.0s
ABPO Ambohimpanom 55.16 249 PFAKE 12 02 10.0 +13
ABPO LR LR
comp=Z,915nm,22.0s
MGCD Mangrove Creek 55.17 129 P **P 12 01 58.2 +1.7**
baz=55,SNR=9.3
IRK Irkutsk 55.29 2 *e*P **P 12 01 57.8 +0.8**
IRK *e*S S 12 09 26.9 -11
IRK pmax pmax
comp=Z,132nm,2.4s
CIT Chita 55.98 9 *e*P **P 12 02 04.2 +2.2**
CIT *e* 12 02 21.0
CIT pmax pmax
comp=Z,137nm,1.3s
SEM Semipalatinsk 56.40 344 *i* P **P 12 02 05.0 -0.3**
comp=Z,501nm,0.7s
SEM *e*S **S 12 09 54.0 +0.8**
SEM *i* LR LR 12 26 40.0
comp=Z,247nm,17.5s
TAU Tasmania Unive 56.79 141 *e*P **P 12 02 09.5 +1.5**
TAU pmax pmax
comp=Z,150nm,1.6s
TAU MLR MLR
comp=Z,2μm,20.0s
TAU Tasmania Unive 56.79 141 *e*P **P 12 02 09.5 +1.5**
comp=Z,150nm,1.6s
TAU LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 57.14 343*c i*P **P 12 02 10.0 -0.2**
KURK pmax pmax
comp=Z,225nm,0.7s
KURK Kurchatov 57.14 343 *e*P **P 12 02 10.9 +0.6**
comp=Z,136nm,0.8s
KURK *e*S **S 12 10 01.6 -0.9**
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 57.14 343 P **P 12 02 10.2 0.0**
SNR=50
GEYT Alibeck 57.24 320 P **P 12 02 11.3 0.0**
comp=Z,45nm,0.9s,baz=140,slow=7.2,SNR=51
GEYT pP **sP 12 02 27.2 -1.2**
comp=Z,46nm,0.9s,baz=145,slow=5.4,SNR=12
GEYT LR LR 12 29 08.3
comp=Z,744nm,21.5s,baz=115,slow=38
PATS Pohnpei 57.70 80 *e*P **P 12 02 14.4 -0.5**
comp=Z,109nm,1.2s
KLR Kul'dur 58.48 23 LR LR 12 30 29.6
comp=Z,286nm,18.1s,slow=39
HNR Honiara 58.49 99 LR LR 12 30 10.8
comp=Z,298nm,20.4s,baz=260,slow=39
HNR Honiara 58.49 99 PFAKE 12 02 30.0 +10
HNR LR LR
comp=Z,68μm,22.0s
ZAA0 Zalesovo Array 58.60 349 *e*P **P 12 02 20.5 +0.1**
ZAA0 *e*S **S 12 10 21.5 +0.1**
ZALV Zalesovo Beam 58.60 349 P **P 12 02 20.1 -0.2**
comp=Z,303nm,0.9s,baz=170,slow=5.1,SNR=356
ZALV pP **pP 12 02 35.0 +2.3**
comp=Z,452nm,1.1s,baz=175,slow=5.4,SNR=9.0
ZALV S **S 12 10 19.1 -2.3**
comp=Z,0.8nm,0.3s,baz=160,slow=14,SNR=5.1
ZALV LR LR 12 30 55.8
comp=Z,1μm,20.8s,baz=138,slow=39
ZALV PKPPKP P'P'df 12 32 10.2 +14
comp=Z,0.5nm,0.5s,baz=318,slow=5.8,SNR=3.6
ERM Erimo 58.81 35 PFAKE 12 02 40.0 +18
ERM LR LR
comp=Z,675nm,22.0s
DAMY Dhamar 59.14 289 *e*P **P 12 02 27.3 +2.0**
comp=Z,68nm,0.9s
HABR Khabarovsk 59.23 25 *e*P **P 12 02 22.1 -2.8**
HABR *e**SP **pP 12 02 36.3 -0.9**
HABR *e* 12 03 10.6
HABR *e* 12 04 32.9
HABR *e*S **S 12 10 27.2 -2.6**
HABR *e**SS **pS 12 10 44.3 -0.1**
HABR *e* 12 12 09.2
HABR *e*SS **SS 12 14 22.4 -2.6**
HABR pmax pmax
comp=N,20nm,1.0s
HABR pmax pmax
comp=E,33nm,1.0s
HABR pmax pmax
comp=Z,62nm,1.0s
HABR MLR MLR
comp=Z,1μm,20.0s
NVS Novosibirsk 59.76 348⇓ *i*P **P 12 02 28.1 -0.3**
NVS *i* 12 02 42.9
NVS *e*S **S 12 10 34.6 -1.8**
NVS pmax pmax
comp=Z,70nm,1.0s
NVS pmax pmax
comp=N,41nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.4s
NVS smax smax
comp=N,17nm,1.0s
NVS smax smax
comp=E,24nm,1.1s
ASAJ Asahikawa 59.84 33 P **P 12 02 29.8 +0.6**
comp=E,25nm,0.4s,baz=228,slow=8.4,SNR=35
ASAJ Asahikawa 59.84 33 *e*P **P 12 02 30.3 +1.1**
comp=E,48nm,1.0s
RAYN Ar Rayn 60.51 299 *e*P **P 12 02 35.0 +0.7**
comp=E,27nm,1.0s
RAYN LR LR
comp=Z,890nm,22.0s
YUK Yuzh-Kuril'sk 61.62 35*c i*P **P 12 02 42.2 +0.9**
YUK *e* 12 05 02.8
YUK *e*PPP PPP 12 06 29.7
YUK *e*S **S 12 11 05.3 +4.8**
YUK *e*SS **SS 12 15 07.8 +5.2**
YUK pmax pmax
comp=Z,530nm,5.9s
YUK MLR MLR
comp=Z,457nm,17.0s
BOD Bodaibo 61.67 8⇑ *i*P **P 12 02 41.5 +0.2**
BOD pmax pmax
comp=Z,107nm,1.1s
BVA0 Borovoye Array 61.78 339 P **P 12 02 41.0 -1.2**
BVA0 pmax pmax
comp=Z,49nm,0.8s
BVAR Borovoye Array 61.78 339 P **P 12 02 41.4 -0.8**
comp=Z,56nm,0.8s,baz=139,slow=7.9,SNR=125
BVAR pP **pP 12 02 55.2 +0.7**
comp=Z,42nm,0.7s,baz=149,slow=9.2,SNR=12
YSS Yuzh-Sakhalins 61.78 31α*e*P **P 12 02 42.5 +0.2**
YSS *e**PP **pP 12 02 54.9 +0.2**
YSS *e**SP **sP 12 02 59.8 +0.3**
YSS *e*S **S 12 11 01.6 -0.9**
YSS pmax pmax
comp=Z,500nm,5.0s
YSS pmax pmax
comp=Z,160nm,1.1s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=E,400nm,14.0s
YSS Yuzh-Sakhalins 61.78 31 *e*P **P 12 02 42.4 0.0**
comp=E,211nm,1.1s
YSS LR LR
comp=Z,232nm,22.0s
BRVK Borovoye 61.84 339*c i*P **P 12 02 41.6 -1.0**
BRVK pmax pmax
comp=Z,146nm,1.0s
BRVK Borovoye 61.84 339 *e*P **P 12 02 42.1 -0.5**
comp=Z,59nm,0.9s
BRVK LR LR
comp=Z,326nm,21.0s
BRVK Borovoye 61.84 339 P **P 12 02 41.8 -0.8**
SNR=23
CLNS Chul'man 62.82 14 *e*P **P 12 02 48.9 -0.2**
CLNS pmax pmax
comp=Z,77nm,0.9s
CLNS pmax pmax
comp=E,32nm,0.9s
CLNS pmax pmax
comp=N,45nm,0.9s
ABKAR Akbulak array 63.34 331 *e*P **P 12 02 52.4 -0.3**
comp=N,807nm,0.8s
KUR Kuril'sk 63.48 35 *e*P **P 12 02 54.7 +1.0**
KUR *e* 12 03 24.3
KUR *e*S **S 12 11 20.0 -3.9**
KUR pmax pmax
comp=Z,209nm,1.1s
KUR pmax pmax
comp=Z,702nm,5.3s
KMBO Kilima Mbogo 64.10 270 P **P 12 02 59.2 +0.5**
comp=Z,5.0nm,0.8s,baz=54,slow=8.2,SNR=13
KMBO pP **sP 12 03 14.7 -1.2**
comp=Z,5.6nm,0.9s,baz=75,slow=10,SNR=4.1
KMBO LR LR 12 25 27.4
comp=Z,882nm,21.5s,baz=93,slow=31
KMBO Kilima Mbogo 64.10 270 *i* P **P 12 03 01.1 +2.4**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 64.10 270 *e*P **P 12 02 58.7 -0.1**
comp=Z,17nm,1.1s
KMBO pP **sP 12 03 14.7 -1.2**
TYV Tymovskoe 64.37 28 *e*P **P 12 02 59.3 -0.1**
TYV *e*S **S 12 11 36.1 +1.4**
TYV pmax pmax
comp=Z,400nm,4.3s
TYV pmax pmax
comp=Z,31nm,1.3s
TYV smax smax
comp=N,700nm,13.7s
TYV MLR MLR
comp=Z,1μm,16.0s
AKTO Aktyubinsk 65.06 331 P **P 12 03 03.2 -0.7**
comp=Z,30nm,0.9s,baz=122,slow=8.4,SNR=40
AKTO pP **sP 12 03 19.5 -1.7**
comp=Z,14nm,0.4s,baz=178,slow=7.8,SNR=6.4
NKL Nikolayevsk 65.10 25 *e*P **P 12 03 03.0 -1.1**
NKL *e* 12 12 05.0
NKL pmax pmax
comp=N,40nm,1.0s
NKL pmax pmax
comp=Z,77nm,1.0s
NKL pmax pmax
comp=E,400nm,8.0s
NKL pmax pmax
comp=Z,500nm,8.0s
NKL MLR MLR
comp=N,1μm,15.0s
NKL MLR MLR
comp=Z,1μm,15.0s
DZM Mont Dzumac 65.73 113 LR LR 12 34 09.4
comp=Z,860nm,18.8s,baz=252,slow=38
DZM Mont Dzumac 65.73 113 *e*P **P 12 03 09.4 +0.4**
comp=Z,46nm,1.0s
MAK Makhachkala 66.76 320 *e*P **P 12 03 13.0 -2.0**
MAK *e* 12 05 41.9
MAK *e*PPP PPP 12 07 16.8
MAK *e*S **S 12 12 03.4 -0.8**
MAK *e*SS **SS 12 16 26.7 +3.9**
MAK pmax pmax
comp=Z,538nm,1.7s
GNI Garni 67.33 316*ce*P **P 12 03 19.5 +0.5**
GNI pmax pmax
comp=Z,118nm,1.2s
GNI Garni 67.33 316 *e*P **P 12 03 19.7 +0.7**
comp=Z,248nm,0.9s
GNI LR LR
comp=Z,400nm,22.0s
DGRG David-gareji 67.47 318 P **P 12 03 20.9 +1.3**
DGRG David-gareji 67.47 318 P **P 12 03 20.9 +1.3**
GROC Groznyy 67.98 319 *e*P **P 12 03 24.1 +1.3**
GROC *e* 12 03 41.7
GROC pmax pmax
comp=Z,182nm,1.1s
TBLG Delisi 68.02 318 P **P 12 03 23.6 +0.4**
TBLG Delisi 68.02 318 P **P 12 03 23.5 +0.4**
H11N1 WAKE ISLAND Hy 68.21 67 P **P 12 03 22.9 -1.5**
baz=256,slow=7.2,SNR=4.5
H11N2 WAKE ISLAND Hy 68.22 67 P **P 12 03 23.3 -1.1**
baz=256,slow=7.2,SNR=5.5
H11N3 WAKE ISLAND Hy 68.23 67 P **P 12 03 22.3 -2.2**
baz=256,slow=7.2,SNR=4.7
SVE Sverdlovsk 68.31 337*de*P **P 12 03 24.5 0.0**
SVE pmax pmax
comp=Z,128nm,1.1s
SVE MLR MLR
comp=Z,822nm,22.0s
YAK Yakutsk 68.56 14 P **P 12 03 25.2 -0.8**
comp=Z,208nm,0.7s,baz=157,slow=1.8,SNR=7.8
YAK LR LR 12 37 08.9
comp=Z,2μm,18.6s,baz=256,slow=39
YAK Yakutsk 68.56 14*c i*P **P 12 03 24.8 -1.2**
YAK *e**PP **pP 12 03 34.7 -3.7**
YAK *e* 12 03 46.3
YAK *e* 12 05 56.3
YAK *e*PPP PPP 12 07 37.1
YAK *e*S **S 12 12 23.8 -1.2**
YAK *e**SS **sS 12 12 50.4 +4.6**
YAK *e* 12 13 17.1
YAK *e*SS **SS 12 16 44.7 -5.2**
YAK pmax pmax
comp=Z,94nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=Z,97nm,4.2s
YAK pmax pmax
comp=N,56nm,3.0s
YAK pmax pmax
comp=E,64nm,2.7s
YAK smax smax
comp=N,35nm,2.2s
YAK smax smax
comp=E,40nm,2.2s
YAK Yakutsk 68.56 14 *e*P **P 12 03 25.7 -0.3**
comp=E,233nm,0.8s
ARU Arti 68.85 336*c i*P **P 12 03 27.3 -0.6**
ARU 12 03 46.1
ARU 12 06 01.0
ARU PPP PPP 12 07 34.3
ARU S **S 12 12 30.0 +1.3**
ARU 12 13 25.1
ARU SS **SS 12 16 57.7 +3.1**
ARU pmax pmax
comp=Z,78nm,1.0s
ARU MLR MLR
comp=Z,1μm,25.0s
ARU Arti 68.85 336 *e*P **P 12 03 28.0 +0.1**
comp=Z,101nm,1.2s
ARU LR LR
comp=Z,992nm,20.0s
ZEI Tsey 69.04 318 *e*P **P 12 03 28.1 -1.6**
ZEI *e* 12 03 45.4
ZEI pmax pmax
comp=Z,28nm,0.6s
MARD Mardin 69.06 312 *e*P **P 12 03 30.8 +1.0**
comp=Z,624nm,0.6s
ONI Oni 69.25 318 P **P 12 03 32.5 +1.7**
ONI Oni 69.25 318 P **P 12 03 32.5 +1.7**
MAW Mawson 69.47 195 P **P 12 03 33.2 +1.6**
comp=Z,3.8nm,0.7s,baz=13,slow=4.3,SNR=17
MAW pP **pP 12 03 44.8 +0.7**
comp=Z,25nm,0.7s,baz=313,slow=14,SNR=17
MAW LR LR 12 27 29.3
comp=Z,2μm,21.5s,baz=46,slow=30
MAW PKPPKP **P'P'df 12 31 38.9 -1.0**
comp=Z,5.2nm,1.2s,baz=194,slow=5.5,SNR=8.6
MAW Mawson 69.47 195 P **P 12 03 33.5 +1.9**
baz=70,SNR=7.8
MAW Mawson 69.47 195 *e*P **P 12 03 33.5 +1.9**
MAW *PP **pP 12 03 44.8 +0.7**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 69.47 195 *e*P **P 12 03 33.5 +1.9**
comp=Z,7.1nm,0.8s
MAW pP **pP 12 03 44.8 +0.7**
MAW P'P' 12 31 38.9
NCK Nalchik 69.55 319⇓ *i*P **P 12 03 33.5 +0.9**
NCK pmax pmax
comp=Z,123nm,1.1s
ARTV Artvin 69.71 316 *e*P **P 12 03 34.6 +0.7**
comp=Z,20nm,0.7s
NEY Neytrino 70.02 318*d i*P **P 12 03 36.9 +1.2**
NEY pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 70.10 319 P **P 12 03 36.4 +0.5**
comp=Z,84nm,1.0s,baz=119,slow=7.2,SNR=47
KBZ pP **sP 12 03 51.3 -1.9**
comp=Z,73nm,0.9s,baz=139,slow=2.1,SNR=5.6
KBZ LR LR 12 38 28.6
comp=Z,232nm,20.0s,baz=107,slow=39
KOPT Kop Dagi 70.26 315 *e*P **P 12 03 38.8 +1.5**
comp=Z,125nm,0.6s
KIV Kislovodsk 70.34 319 *i* P **P 12 03 38.6 +1.1**
SNR=15
KIV Kislovodsk 70.34 319 *e*P **P 12 03 38.6 +1.1**
KIV *e* 12 03 53.5
KIV *e* 12 06 14.4
KIV *e*S **S 12 12 48.8 +1.8**
KIV pmax pmax
comp=Z,106nm,1.1s
KIV pmax pmax
comp=Z,109nm,3.5s
KIV MLR MLR
comp=Z,280nm,17.0s
KIV Kislovodsk 70.34 319 *e*P **P 12 03 38.2 +0.7**
comp=Z,138nm,1.1s
KIV LR LR
comp=Z,398nm,21.0s
KIV Kislovodsk 70.34 319 P **P 12 03 38.6 +1.1**
SNR=11
KIV Kislovodsk 70.34 319 P **P 12 03 38.6 +1.1**
SNR=11
KIV P **P 12 03 38.6 +1.1**
SNR=11
ASF Jabal al Asfar 70.40 306 P **P 12 03 38.8 +0.6**
comp=Z,31nm,1.0s,baz=65,slow=4.5,SNR=20
ASF pP **sP 12 03 54.1 -1.4**
comp=Z,11nm,0.8s,baz=122,slow=14,SNR=5.1
GOF Gofitskoye 70.58 320⇑ *i*P **P 12 03 40.7 +1.9**
GOF pmax pmax
comp=Z,105nm,0.8s
SKR Severo-Kuril's 71.10 33⇑ *e*P **P 12 03 42.6 +0.8**
WHZ Wether Hill Ro 71.53 137 *e*P **P 12 03 45.6 +1.0**
comp=Z,41nm,1.2s
SOKR Solikamsk 71.70 338*c i*P **P 12 03 44.4 -0.8**
SOKR pmax pmax
comp=Z,103nm,1.1s
SOKR MLR MLR
comp=Z,767nm,25.0s
WKZ Wanaka 71.99 136 *e*P **P 12 03 48.7 +1.3**
comp=Z,44nm,1.2s
LBZ Lake Benmore 72.70 136 *e*P **P 12 03 51.7 0.0**
comp=Z,135nm,1.9s
LBZ *e* 12 04 04.9
LSZ Lusaka 72.94 255 *e*P **P 12 03 54.5 +0.7**
LSZ MLR MLR
comp=Z,1μm,22.0s
LSZ Lusaka 72.94 255 *e*P **P 12 03 54.5 +0.7**
LSZ *e*pP **pP 12 04 02.5 -3.8**
LSZ LR LR
comp=Z,1μm,22.0s
NRIK Noril'sk 73.00 355 P **P 12 03 52.2 -0.7**
comp=Z,34nm,0.5s,baz=157,slow=5.0,SNR=43
NRIK pP **pP 12 04 07.2 +1.7**
comp=Z,63nm,0.9s,baz=161,slow=6.2,SNR=8.2
NRIK LR LR 12 39 47.2
comp=Z,2μm,18.6s,baz=170,slow=39
RPZ Rata Peaks 73.17 135 *e*P **P 12 03 54.5 0.0**
comp=Z,50nm,1.1s
PEA0B Petropavlovsk- 73.17 32 *e*P **P 12 03 54.0 -0.2**
comp=Z,74nm,1.1s
PETK Petropavlovsk- 73.17 32 P **P 12 03 53.7 -0.5**
comp=Z,28nm,0.9s,baz=210,slow=3.5,SNR=20
PETK pP **pP 12 04 08.3 +1.5**
comp=Z,15nm,0.8s,baz=334,slow=0.4,SNR=5.0
PETK Petropavlovsk- 73.17 32 P **P 12 03 53.7 -0.5**
PETK *PP **pP 12 04 08.3 +1.5**
PETK pmax pmax
comp=Z,28nm,0.8s
MA2 Magadan 73.56 24 P **P 12 03 56.7 +0.3**
comp=Z,67nm,0.8s,baz=212,slow=5.7,SNR=5.3
MA2 LR LR 12 37 29.1
comp=Z,824nm,21.9s,baz=234,slow=37
MA2 Magadan 73.56 24*c i*P **P 12 03 57.2 +0.8**
PET Petropavlovsk 73.63 32 *e*P **P 12 03 56.6 -0.3**
PET *e*S **S 12 13 24.0 -0.1**
PET pmax pmax
comp=Z,114nm,1.0s
PET MLR MLR
comp=Z,700nm,20.0s
PET MLR MLR
comp=Z,600nm,19.0s
PET Petropavlovsk 73.63 32 *e*P **P 12 03 56.9 0.0**
comp=Z,99nm,1.0s
PET LR LR
comp=Z,523nm,19.0s
OXZ Oxford 73.79 134 *e*P **P 12 03 57.8 -0.3**

comp=Z,41nm,0.7s
LTZ Lake Taylor 73.86 134 *e*P **P 12 03 58.2 -0.3**
LTZ *ep*P **PcP 12 04 14.2 +0.3**
ANN Anapa 74.13 318 *e*P **P 12 04 00.5 +0.5**
ANN *e*S S 12 13 39.6 +9.5
ANN pmax pmax
comp=Z,80nm,1.4s
THZ Tophouse 74.14 132 *e*P **P 12 04 00.1 -0.1**
comp=Z,38nm,0.9s
CRLZ Canterbury Las 74.26 134 *e*P **P 12 04 01.1 +0.3**
comp=Z,183nm,1.6s
MQZ McQueen's Vall 74.31 134 *e*P **P 12 04 01.9 +0.8**
comp=Z,90nm,1.6s
KHZ Kahutara 74.71 133 *e*P **P 12 04 02.9 -0.6**
comp=Z,36nm,0.9s
BR131 Keskin Array S 75.14 312 *e*P **P 12 04 05.7 -0.5**
BRTR Keskin Array B 75.14 312 P **P 12 04 05.5 -0.7**
comp=Z,28nm,0.7s,baz=136,slow=6.7,SNR=84
BRTR pP **PcP 12 04 20.0 +0.5**
comp=Z,21nm,0.7s,baz=120,slow=7.3,SNR=6.2
BRTR LR LR 12 39 13.8
comp=Z,141nm,20.1s,baz=104,slow=37
SNZO South Karori 75.39 132 PFAKE 12 04 20.0 +13
SNZO LR LR
comp=Z,2μm,21.0s
ILGA Ilgaz 75.47 314 *e*P **P 12 04 08.8 +0.7**
comp=Z,89nm,1.0s
LBTB Lobatse 75.76 245 *e*P **P 12 04 10.8 +0.8**
LBTB pmax pmax
comp=Z,28nm,0.9s
LBTB Lobatse 75.76 245 *e*P **P 12 04 10.8 +0.8**
comp=Z,28nm,0.9s
ANTO Ankara 75.80 312 *e*P **P 12 04 10.0 +0.1**
ANTO pmax pmax
comp=Z,48nm,0.9s
ANTO MLR MLR
comp=Z,238nm,20.0s
ANTO Ankara 75.80 312 *e*P **P 12 04 10.0 +0.1**
comp=Z,48nm,0.9s
ANTO LR LR
comp=Z,238nm,20.0s
ANTO Ankara 75.80 312 P **P 12 04 10.1 +0.1**
SNR=7.4
ANTO Ankara 75.80 312 P **P 12 04 10.1 +0.1**
SNR=7.4
BR231 Keskin MP Arra 75.81 312 *e*P **P 12 04 10.2 +0.2**
SEY Seymchan 76.23 21 P **P 12 04 11.6 -0.1**
comp=Z,61nm,1.0s,baz=237,slow=6.2,SNR=44
SEY pP **pP 12 04 24.4 +0.1**
comp=Z,35nm,1.0s,baz=216,slow=6.5,SNR=6.8
SEY Seymchan 76.23 21 *ce*P **P 12 04 11.8 +0.1**
LPSR Galich'ya Gora 76.24 326 *e*P **P 12 04 11.4 -0.6**
LPSR pmax pmax
comp=Z,100nm,0.9s
BOSA Boshof 76.29 241 P **P 12 04 12.3 -0.7**
comp=Z,7.4nm,0.8s,baz=99,slow=4.2,SNR=23
BOSA pP **pP 12 04 27.1 +1.5**
comp=Z,16nm,0.7s,baz=110,slow=4.1,SNR=9.4
BOSA LR LR 12 31 31.9
comp=Z,866nm,21.1s,baz=51,slow=31
BOSA Boshof 76.29 241 *e*P **P 12 04 13.9 +0.9**
BOSA *PP **pP 12 04 27.1 +1.5**
BOSA pmax pmax
comp=Z,40nm,1.0s
BOSA Boshof 76.29 241 *e*P **P 12 04 13.9 +0.9**
comp=Z,40nm,1.0s
BOSA pP **pP 12 04 27.1 +1.5**
MSVF Nonsavu 76.35 107 *e*P **P 12 04 13.1 -0.3**
MSVF pmax pmax
comp=Z,80nm,1.1s
MSVF MLR MLR
comp=Z,499nm,21.0s
MSVF Nonsavu 76.35 107 *e*P **P 12 04 13.1 -0.3**
comp=Z,80nm,1.1s
MSVF LR LR
comp=Z,499nm,21.0s
SIM Simferopol' 76.40 318 *c i*P **P 12 04 13.9 +0.8**
SIM *e* 12 04 31.0
SIM *e*S **S 12 13 52.7 -2.7**
SIM pmax pmax
comp=Z,56nm,1.0s
BFZ Birch Farm 76.46 131 *e*P **P 12 04 13.6 +0.1**
comp=Z,65nm,0.7s
TIXI Tiksi 76.82 9 P **P 12 04 13.5 -1.4**
comp=Z,24nm,0.4s,baz=215,slow=3.8,SNR=73
TIXI pP **pP 12 04 29.4 +1.9**
comp=Z,58nm,1.0s,baz=243,slow=4.4,SNR=7.0
TIXI Tiksi 76.82 9 *c i*P **P 12 04 13.3 -1.6**
TIXI pmax pmax
comp=Z,39nm,0.7s
TIXI Tiksi 76.82 9 *e*P **P 12 04 12.1 -2.8**
comp=Z,143nm,1.4s
TIXI pP **pP 12 04 29.4 +1.9**
TIXI LR LR
comp=Z,3μm,20.0s
URZ Urewera 76.83 128 LR LR 12 38 19.1
comp=Z,657nm,21.3s,baz=288,slow=36
URZ Urewera 76.83 128 *e*P **P 12 04 15.8 +0.1**
URZ *ep*P **PcP 12 04 27.0 +0.3**
BOLV Bolvadin 76.87 311 *e*P **P 12 04 16.7 +0.7**
BOLV *e*PcP **sP 12 04 35.7 +2.2**
SYO Syowa Base 77.18 199⇑ *e*P **P 12 04 17.3 +0.3**
SYO Syowa Base 77.18 199⇑ *e*PcP **PcP 12 04 27.8 +0.2**
FUNA Funafuti 77.50 98 *e*P **P 12 04 20.9 +1.1**
comp=Z,63nm,1.1s
FUNA LR LR
comp=Z,5μm,19.0s
MOS Moscow 78.22 329 *e*P **P 12 04 23.6 +0.6**
MOS *e* 12 04 37.7
MOS *e* 12 04 43.3
MOS *e*S **S 12 14 12.7 -2.0**
MOS *e* 12 14 40.6
MOS pmax pmax
comp=Z,200nm,1.4s
MOS pmax pmax
comp=Z,138nm,1.1s
MOS MLR MLR
comp=Z,900nm,22.0s
OBN Obninsk 78.53 328 *c i*P **P 12 04 24.6 -0.1**
OBN *e**PP **pP 12 04 36.7 -0.7**
OBN *i* *SP **sP 12 04 39.5 -2.7**
OBN 12 07 25.0
OBN *i* S **S 12 14 16.2 -1.7**
OBN *e*SS **SS 12 19 25.7 +3.6**
OBN pmax pmax
comp=Z,138nm,1.0s
OBN MLR MLR
comp=Z,750nm,24.0s
OBN Obninsk 78.53 328 *e*P **P 12 04 25.0 +0.3**
comp=Z,116nm,0.9s
OBN LR LR
comp=Z,870nm,19.0s
KARP Karpathos 79.08 307 *e*P **P 12 04 29.5 +1.2**
comp=Z,76nm,1.1s
KLMR Klimovskoe 79.50 334 *e*P **P 12 04 30.4 +0.5**
KLMR *e* 12 07 30.2
KLMR pmax pmax
comp=Z,114nm,1.3s
TLCR 80.07 317⇓ *i*P **P 12 04 33.7 +0.4**
TLCR 80.07 317 ⇓P **P 12 04 33.7 +0.4**
TIRR Tirgusor 80.16 316⇑ *i*P **P 12 04 33.6 -0.3**
TIRR Tirgusor 80.16 316 *e*P **P 12 04 33.9 +0.1**
TIRR pmax pmax
comp=Z,59nm,1.0s
TIRR Tirgusor 80.16 316 *e*P **P 12 04 33.9 +0.1**
comp=Z,59nm,1.0s
SUR Sutherland 80.32 238 *e*P **P 12 04 36.4 +1.1**
comp=Z,53nm,0.8s
SUR LR LR
comp=Z,2μm,19.0s
RAO Raoul Island 80.34 119 LR LR 12 40 27.9
comp=Z,600nm,20.5s,baz=57,slow=36
TLB Topalu 80.45 316⇓ *i*P **P 12 04 35.5 +0.1**
TLB Topalu 80.45 316 ⇓P **P 12 04 35.6 +0.1**
ICOR Ion Corvin 80.50 316⇓ *i*P sP 12 04 53.0 -0.2
CFR Carcaliu 80.53 317⇓ *i*P **P 12 04 36.3 +0.5**
CFR Carcaliu 80.53 317 ⇓P **P 12 04 36.3 +0.5**
KIS Kishinev 80.53 319 *e*P **P 12 04 35.0 -0.8**
KIS *e*S S 12 14 27.0 -13
KIS LRM MLR 12 43 06.0
comp=Z,300nm,20.0s
KIS Kishinev 80.53 319 *e*P **P 12 04 35.0 -0.8**
KIS MLR MLR
comp=Z,300nm,20.0s
HARR Harsova 80.55 316⇓ *i*P sP 12 04 54.4 +0.9

SANT Santorini 80.59 307 PFAKE 12 04 50.0 +14
SANT LR LR
comp=Z,584nm,21.0s
VNDA Vanda 80.73 169 P **P 12 04 36.6 +0.3**
comp=Z,3.4nm,0.7s,baz=343,slow=5.2,SNR=20
VNDA pP **sP 12 04 51.8 -2.0**
comp=Z,23nm,1.1s,baz=293,slow=7.4,SNR=15
VNDA LR LR 12 35 07.8
comp=Z,638nm,21.6s,baz=310,slow=32
VNDA Vanda 80.73 169 *e*P **P 12 04 36.8 +0.5**
VNDA *PP **sP 12 04 51.8 -2.0**
VNDA pmax pmax
comp=Z,33nm,1.1s
VNDA Vanda 80.73 169 *e*P **P 12 04 36.8 +0.5**
comp=Z,33nm,1.1s
VNDA pP **sP 12 04 51.8 -2.0**
IDI Anoyia 80.85 306 *e*P **P 12 04 38.2 +0.3**
comp=Z,51nm,0.8s
AKASG Malin Array Be 81.26 322 P **P 12 04 38.9 -0.7**
comp=Z,19nm,0.8s,baz=84,slow=5.0,SNR=58
AKASG pP **pP 12 04 52.6 +0.2**
comp=Z,13nm,0.8s,baz=89,slow=4.8,SNR=4.1
AKASG PP **PP 12 07 45.2 -0.4**
comp=Z,0.9nm,0.5s,baz=91,slow=6.4,SNR=4.9
AKASG LR LR 12 46 42.7
comp=Z,221nm,19.9s,baz=105,slow=40
AKASG Malin Array Be 81.26 322 P **P 12 04 38.9 -0.7**
AKASG *PP **pP 12 04 52.6 +0.2**
AKASG 12 07 45.2
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 81.26 322 *e*P **P 12 04 39.0 -0.6**
AKBB pmax pmax
comp=Z,46nm,1.0s
AKBB Malin Array Si 81.26 322 *e*P **P 12 04 39.0 -0.6**
comp=Z,46nm,1.0s
KIEV Kiev 81.27 322⇓ *i*P **P 12 04 39.1 -0.6**
KIEV pmax pmax
comp=Z,44nm,1.0s
KIEV Kiev 81.27 322 *e*P **P 12 04 39.4 -0.3**
comp=Z,42nm,1.0s
KIEV LR LR
comp=Z,518nm,19.0s
PETR Petresti 81.28 317⇑ *i*P **P 12 04 39.0 -0.8**
IAS Iasi 81.41 319⇑ *i*P sP 12 04 59.9 +1.9
TMCR Tamitsa 81.58 337 *e*P **P 12 04 41.9 +0.9**
TMCR pmax pmax
comp=Z,62nm,1.0s
ISR Istrita 81.61 316⇓ *i*P pP 12 04 53.0 -1.4
VRI Vrincioaia 81.66 317⇓ *i*P **P 12 04 42.5 +0.6**
VRI Vrincioaia 81.66 317 ⇓P **P 12 04 42.5 +0.6**
PLOR Plostina 81.71 317⇑ *i*P **P 12 04 41.3 -0.9**
PLOR Plostina 81.71 317 ⇑P **P 12 04 41.3 -0.9**
SBA Scott Base 81.82 169 *e*P **P 12 04 43.8 +1.7**
SBA pmax pmax
comp=Z,31nm,1.0s
SBA MLR MLR
comp=Z,878nm,22.0s
SBA Scott Base 81.82 169 *e*P **P 12 04 43.8 +1.7**
comp=Z,31nm,1.0s
SBA LR LR
comp=Z,878nm,22.0s
TESR Tescani 81.86 318⇑ *i*P **P 12 04 43.5 +0.6**
MLR Muntele Rosu 82.11 317⇑ *i*P **P 12 04 44.9 +0.5**
MLR Muntele Rosu 82.11 317 *e*P **P 12 04 45.2 +0.8**
MLR pmax pmax
comp=Z,54nm,1.1s
MLR Muntele Rosu 82.11 317 *e*P **P 12 04 45.2 +0.8**
comp=Z,54nm,1.1s
ZIMR 82.12 315⇓ *i*P **P 12 04 45.3 +1.0**
ZIMR 82.12 315 ⇓P **P 12 04 45.3 +1.0**
PRAR RASCA 82.33 316⇑ *i*P **P 12 04 46.2 +0.8**
HUMR Humele 82.57 315⇑ *i*P sP 12 05 06.1 +1.9
DOPR Dopca 82.59 317⇑ *i*P **P 12 04 47.5 +0.7**
PAIG Paliouri 82.63 311 P **P 12 04 49.4 +2.3**
MTUR Matau 82.66 316⇑ *i*P pP 12 04 57.4 -2.6
VOIR 82.71 316⇑ *i*P **P 12 04 47.3 -0.2**
VOIR 82.71 316 ⇑P **P 12 04 47.3 -0.2**
ARR Arges 82.98 316⇑ *i*P **P 12 04 48.2 -0.7**
SOH Sokhos 83.04 312 P **P 12 04 50.1 +0.9**
SOH pmax pmax
comp=Z,29nm,1.1s
BURAR Bucovina Array 83.06 319⇑ *i*P **P 12 04 50.2 +0.9**
BURAR Bucovina Array 83.06 319 ⇑P **P 12 04 50.2 +0.9**
BUR08 Bucovina Ar. S 83.08 319 *e*P **P 12 04 50.7 +1.3**
MICGM Minsk 83.08 326⇓ *e*P **P 12 04 50.0 +1.0**
MICGM PM 12 04 51.0
comp=Z,0.3nm,0.8s
MNK Minsk 83.08 326⇓ *e*P **P 12 04 50.0 +1.0**
MNK pmax pmax
comp=Z,340nm,0.8s
TSUM Tsumeb 83.09 251 *e*P **P 12 04 50.6 +0.5**
comp=Z,8.3nm,1.1s
THE Thessaloniki 83.29 311 P **P 12 04 51.5 +1.0**
THE pmax pmax
comp=Z,31nm,1.3s
VTS Vitosha 83.46 313⇓ *i*P **P 12 04 50.9 -0.6**
VTS Vitosha 83.46 313 *e*P **P 12 04 52.0 +0.5**
VTS pmax pmax
comp=Z,38nm,0.9s
VTS Vitosha 83.46 313 *e*P **P 12 04 52.0 +0.5**
comp=Z,38nm,0.9s
AGG Agios Georgios 83.50 310 *e*P **P 12 04 51.2 -0.5**
AGG pmax pmax
comp=Z,101nm,1.2s
AGG Agios Georgios 83.50 310 *e*P **P 12 04 51.2 -0.5**
comp=Z,101nm,1.2s
ARCR ARCALIA 83.52 318⇓ *i*P **P 12 04 52.4 +0.9**
VAY Valandovo 83.71 312 *i* P **P 12 04 53.6 +1.1**
GRG Griva 83.77 312 P **P 12 04 52.9 -0.1**
GRG pmax pmax
comp=Z,105nm,1.1s
NACGM Naroch 83.80 326 *e* **P 12 04 52.0 -0.7**
NACGM *e*LR LR 12 47 10.0
BILL Bilibino 83.80 20⇓ *i*P **P 12 04 52.7 +0.2**
BILL *e**SP **pP 12 05 06.5 +1.2**
BILL *e* 12 05 12.5
BILL PPP PPP 12 10 08.0
BILL *e* 12 16 16.0
BILL SS SS 12 20 40.0 -0.3
BILL SSS SSS 12 24 02.4
BILL pmax pmax
comp=Z,34nm,1.3s
JOF Joensuu 83.88 334 P **P 12 04 54.6 +1.6**
JOF pmax pmax
comp=Z,35nm,1.7s
CJR Cluj-Napoca 83.96 317⇓ *i*P **P 12 04 55.3 +1.5**
CJR Cluj-Napoca 83.96 317 ⇓P **P 12 04 55.3 +1.5**
BMR Baia Mare 84.21 318⇑ *i*P **P 12 04 55.6 +0.6**
BMR Baia Mare 84.21 318 ⇑P **P 12 04 55.6 +0.6**
DEV Deva 84.27 317⇑ *i*P **P 12 04 56.7 +1.3**
DEV Deva 84.27 317 ⇑P **P 12 04 56.7 +1.3**
LVV L'vov 84.29 321 *e*P **P 12 04 53.3 -2.1**
LVV *e*S S 12 15 08.0 -10
LVV pmax pmax
comp=Z,200nm,1.2s
LVV MLR MLR
comp=Z,300nm,18.0s
LVZ Lovozero 84.37 340 *ce*P **P 12 04 54.3 -1.2**
LVZ pmax pmax
comp=Z,44nm,0.8s
LVZ Lovozero 84.37 340 *e*P **P 12 04 55.1 -0.3**
comp=Z,186nm,1.7s
LVZ LR LR
comp=Z,909nm,22.0s
FNA Florina 84.51 311 P **P 12 04 57.7 +0.9**
FNA pmax pmax
comp=Z,17nm,1.0s
DRGR 84.57 317⇑ *i*P **P 12 04 57.4 +0.4**
DRGR 84.57 317 ⇑P **P 12 04 57.4 +0.4**
SKO Skopje 84.65 312 P **P 12 04 59.1 +1.7**
SKO pmax pmax
comp=Z,2.0nm,1.0s
APA Apatity 84.69 339⇑ *i*P **P 12 04 57.4 +0.4**
APA MLR MLR
comp=Z,2μm,21.0s
KRUS Krusevo 84.70 312 *i* P **P 12 04 56.7 -1.0**
VSU Vasula 84.73 329 *ce*P **P 12 04 57.3 0.0**
VSU pmax pmax
comp=Z,219nm,1.0s
MDVR Moldovita 84.91 315⇑ *i*P **P 12 04 59.1 +0.4**
TRPA Tarpa 84.93 319 *e*P **P 12 04 59.6 +1.0**

OHR Ohrid 84.99 312 *e*P **P 12 04 59.7 +0.5**
KWP Kalwaria Pacla 85.09 320 P **P 12 05 01.5 +2.0**
BZS Buzias 85.11 316⇑ *i*P **P 12 04 59.7 +0.1**
BZS Buzias 85.11 316 ⇑P **P 12 04 59.7 +0.1**
UZH Uzhgorod 85.18 319 *c i*P **P 12 05 02.0 +2.1**
UZH *e*S **S 12 15 27.0 +0.3**
UZH pmax pmax
comp=Z,300nm,6.0s
SIRR Siria 85.19 317⇑ *i*P **P 12 05 00.6 +0.6**
SUW Suwalki 85.65 325 *e*P **P 12 05 02.4 +0.3**
SUW Suwalki 85.65 325 *e*P **P 12 05 02.4 +0.3**
TIR Tirane 85.72 312 PFAKE 12 05 10.0 +7.2
TIR LR LR
comp=Z,437nm,22.0s
MSF Maaselka 85.77 337 P **P 12 05 02.9 +0.5**
MSF pmax pmax
comp=Z,65nm,1.1s
CRVS Cervenica-Dubn 85.77 319 *e*P **P 12 05 03.4 +0.6**
CRVS *e* 12 05 23.9
CRVS Cervenica-Dubn 85.77 319 *e*P **P 12 05 03.4 +0.6**
CRVS *e* 12 05 23.9
FINES FINESS Array B 85.80 332 P **P 12 05 02.6 -0.1**
comp=Z,12nm,0.7s,baz=114,slow=5.9,SNR=39
FINES LR LR 12 47 01.4
comp=Z,680nm,21.0s,baz=100,slow=38
STHS Stebnicka Huta 86.00 320 *e*P **P 12 05 04.8 +0.8**
STHS *e* 12 05 24.2
STHS pmax pmax
comp=Z,37nm,0.9s
STHS Stebnicka Huta 86.00 320 *e*P **P 12 05 04.8 +0.8**
STHS *e* 12 05 24.2
SUF Sumiainen 86.09 333 P **P 12 05 05.8 +1.7**
SUF pmax pmax
comp=Z,35nm,1.0s
AFI Afiamalu 86.19 104 *e*P **P 12 05 06.3 +0.6**
AFI pmax pmax
comp=Z,98nm,1.1s
AFI Afiamalu 86.19 104 *e*P **P 12 05 06.2 +0.6**
comp=Z,98nm,1.1s
PDG Podgorica 86.32 313⇑ *i*P **P 12 05 05.7 0.0**
KECS Kecovo 86.34 319 *e*P **P 12 05 06.4 +0.8**
KECS *e* 12 05 19.5
KECS pmax pmax
comp=Z,12nm,1.0s
KECS Kecovo 86.34 319 *e*P **P 12 05 06.4 +0.8**
KECS *e* 12 05 19.5
NIE Niedzica 86.60 320 *e*P **P 12 05 07.6 +0.6**
NIE Niedzica 86.60 320 *e*P **P 12 05 07.6 +0.6**
PSZ Piszkesteto 86.64 318⇑ *i*P **P 12 05 07.6 +0.3**
PSZ Piszkesteto 86.64 318 *e*P **P 12 05 07.8 +0.6**
PSZ pmax pmax
comp=Z,32nm,1.0s
PSZ MLR MLR
comp=Z,381nm,21.0s
PSZ Piszkesteto 86.64 318 *e*P **P 12 05 08.3 +1.0**
PSZ Piszkesteto 86.64 318 *e*P **P 12 05 07.8 +0.6**
comp=Z,32nm,1.0s
PSZ LR LR
comp=Z,381nm,21.0s
BEL Belsk 86.68 322 *e*P **P 12 05 08.6 +1.4**
BEL Belsk 86.68 322 *e*P **P 12 05 08.6 +1.4**
QSPA South Pole Qui 86.77 180 *e*P **P 12 05 07.7 +0.1**
comp=Z,45nm,0.8s
OUL Oulu 86.80 336 P **P 12 05 07.5 0.0**
OUL pmax pmax
comp=Z,80nm,1.1s
NVL N'lazarevskaya 86.85 199 *e*P **sP 12 05 24.2 -1.1**
NVL *e*S **S 12 15 47.1 +4.8**
BRY Bratogost 86.91 313 P **P 12 05 09.3 +0.6**
OJC Ojcow 87.05 320 *e*P **P 12 05 10.3 +1.2**
OJC Ojcow 87.05 320 *e*P **P 12 05 10.3 +1.2**
OJC Ojcow 87.05 320 *e*P **P 12 05 09.7 +0.6**
comp=Z,48nm,1.2s
LANS Liptovska Anna 87.10 319 *e*P **P 12 05 10.5 +1.1**
LANS Liptovska Anna 87.10 319 *e*P **P 12 05 10.5 +1.1**
SGF Sodankyl 87.16 338 P **P 12 05 09.4 +0.2**
VYHS Vyhne 87.43 319 *e*P **P 12 05 11.8 +0.8**
VYHS *e* 12 05 31.0
VYHS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 87.43 319 *e*P **P 12 05 11.8 +0.8**
VYHS *e* 12 05 31.0
KEV Kevo 87.61 340 *e*P **P 12 05 11.7 +0.4**
KEV pmax pmax
comp=Z,72nm,1.2s
KEV MLR MLR
comp=Z,920nm,21.0s
KEV Kevo 87.61 340 *e*P **P 12 05 11.7 +0.4**
comp=Z,72nm,1.2s
KEV LR LR
comp=Z,920nm,21.0s
CSKK Cs̄‡kako 87.66 318⇓ *e*P **P 12 05 13.0 +0.9**
OKC Ostrava-Krasne 88.05 320 *e*P **P 12 05 13.8 -0.1**
OKC *ep*P **pP 12 05 26.0 -0.7**
OKC Ostrava-Krasne 88.05 320 *e*P **P 12 05 13.8 -0.1**
OKC *e* 12 05 26.0
ARCES ARCESS Array B 88.06 340 P **P 12 05 13.4 -0.1**
comp=Z,46nm,0.9s,baz=102,slow=5.1,SNR=41
ARCES pP **pP 12 05 27.9 +1.5**
comp=Z,18nm,0.8s,baz=109,slow=5.0,SNR=6.1
ARCES LR LR 12 48 42.1
comp=Z,715nm,20.2s,baz=106,slow=38
ARE0 ARCESS Array S 88.06 340 *e*P **P 12 05 13.9 +0.3**
comp=Z,57nm,1.0s
BLY Banja Luka 88.10 315 *e*P **P 12 05 14.9 +0.7**
comp=Z,58nm,1.0s
ORI Oriolo Calabro 88.15 310 P **P 12 05 18.6 +4.0**
SMOL Smolenice 88.36 319 *e*P **P 12 05 16.9 +1.5**
SMOL Smolenice 88.36 319 *e*P **P 12 05 16.9 +1.5**
MORC Moravsky Berou 88.43 320⇓ *i*P **P 12 05 16.7 +0.9**
MORC Moravsky Berou 88.43 320 *e*P **P 12 05 16.4 +0.7**
MORC pmax pmax
comp=Z,207nm,1.1s
MORC Moravsky Berou 88.43 320 *e*P **P 12 05 16.4 +0.7**
comp=Z,207nm,1.1s
BEHE Becsehely 88.57 317⇑ *e*P **P 12 05 19.1 +2.7**
CUC Castrocucco 88.63 310 *e*P **P 12 05 17.1 +0.2**
comp=Z,26nm,1.2s
CUC LR LR
comp=Z,283nm,20.0s
KRLC Kraliky 88.95 320 *e*P **P 12 05 19.3 +1.1**
KRLC Kraliky 88.95 320 *e*P **P 12 05 19.3 +1.1**
UDBI Udbina 89.08 314 P **P 12 05 19.1 +0.1**
DPC Dobruska-Polom 89.28 320 *e*P **P 12 05 20.8 +1.1**
DPC *ep*P **pP 12 05 30.8 -1.8**
DPC AMS AMS 12 54 10.0
comp=Z,700nm,22.4s
DPC Dobruska-Polom 89.28 320 *e*P **P 12 05 20.8 +1.1**
DPC *e* 12 05 30.8
DPC MLR MLR
comp=Z,700nm,22.4s
CONA Conrad Observa 89.34 318 *i* P **P 12 05 20.6 +0.4**
comp=Z,19nm,1.0s,SNR=12
KSP Ksiaz 89.34 321 *e*P **P 12 05 21.3 +1.3**
KSP Ksiaz 89.34 321 *e*P **P 12 05 21.3 +1.3**
OZLJ Ozalj 89.39 316 P **P 12 05 20.6 +0.4**
UPC Upice 89.49 320 *e*P **P 12 05 22.0 +1.3**
UPC Upice 89.49 320 *e*P **P 12 05 22.0 +1.3**
ARSA Arzberg 89.50 317 *i* PcP **P 12 05 21.8 +1.0**
comp=Z,46nm,1.2s,SNR=23
BOJS Bojanci 89.53 315 *e*P **P 12 05 21.4 +0.5**
TREC Trest 89.71 319 *e*P **P 12 05 22.6 +0.8**
TREC *ex* x 12 05 42.4
TREC Trest 89.71 319 *e*P **P 12 05 22.6 +0.8**
TREC *e* 12 05 42.4
NVLJ Novalja 89.72 314 P **P 12 05 21.6 -0.3**
PERS Pernice 89.73 317 *i* P **P 12 05 22.5 +0.5**
SOKA Soboth 89.79 317 *i* PcP **P 12 05 23.3 +1.0**
comp=Z,64nm,1.1s,SNR=34
VISS Visnje 89.85 316 *i* P **P 12 05 22.9 +0.5**
OBKA Obir 90.11 316 *i* PcP **P 12 05 24.5 +0.7**
comp=Z,33nm,1.1s,SNR=11
GOPC GO Pecny, Ondr 90.22 320 *e*P **P 12 05 26.4 +2.3**
GOPC *es*P **sP 12 05 41.5 -0.3**
GOPC AMS AMS 12 54 30.0
comp=Z,600nm,20.8s
GOPC GO Pecny, Ondr 90.22 320 *e*P **P 12 05 26.4 +2.3**
GOPC *e* 12 05 41.5
GOPC MLR MLR
comp=Z,600nm,20.8s
PRU Pruhonice 90.38 320 *e*P **P 12 05 25.8 +1.0**
PRU Pruhonice 90.38 320 *e*P **P 12 05 25.8 +1.0**
MOA Molln 90.40 318 *i* P **P 12 05 25.2 +0.2**
comp=Z,12nm,0.9s,SNR=6.0

PVCC Panska Ves 90.41 320 *e*P **P 12 05 26.7 +1.8**
PVCC *e*x x 12 05 47.1
PVCC Panska Ves 90.41 320 *e*P **P 12 05 26.7 +1.8**
PVCC *e* 12 05 47.1
PRA Prague 90.46 320 *e*P **P 12 05 27.2 +2.0**
PRA Prague 90.46 320 *e*P **P 12 05 27.2 +2.0**
CLTB Caltabellotta 90.47 307 PFAKE 12 05 40.0 +14
CLTB LR LR
comp=Z,265nm,22.0s
TRI Trieste 90.59 316 *e*P **P 12 05 26.0 +0.1**
TRI pmax pmax
comp=Z,62nm,1.5s
TRI Trieste 90.59 316 *e*P **P 12 05 26.0 +0.1**
comp=Z,62nm,1.5s
AQU L'Aquila 90.63 312 *e*P **P 12 05 27.1 +0.8**
AQU pmax pmax
comp=Z,51nm,1.0s
AQU MLR MLR
comp=Z,413nm,19.0s
AQU L'Aquila 90.63 312 *e*P **P 12 05 27.1 +0.8**
comp=Z,51nm,1.0s
AQU LR LR
comp=Z,413nm,19.0s
MYKA Terra Mystica 90.74 316 *i* P **P 12 05 27.1 +0.5**
comp=Z,26nm,1.4s,SNR=9.0
BRG Berggiesshubel 90.83 321 *e*P **P 12 05 27.7 +0.8**
comp=Z,37nm,1.1s
BRG *e* 12 05 44.4
comp=Z,20nm,1.0s
BRG *e*PP **PP 12 09 03.6 +0.6**
comp=Z,15nm,1.3s
BRG Berggiesshubel 90.83 321 *e*P **P 12 05 27.7 +0.8**
BRG *e* 12 05 44.4
BRG *e* 12 09 03.6
BRG pmax pmax
comp=Z,37nm,1.2s
BRG pmax pmax
comp=Z,15nm,1.3s
GEC2 GERESS Array S 90.85 319 *e*P **P 12 05 28.0 +0.8**
GEC2 pmax pmax
comp=Z,44nm,1.1s
GEC2 GERESS Array S 90.85 319 *e*P **P 12 05 28.0 +0.8**
comp=Z,44nm,1.1s
GERES GERESS Array B 90.85 319 P **P 12 05 27.7 +0.5**
comp=Z,20nm,1.0s,baz=90,slow=4.3,SNR=56
KHC Kasperske Hory 90.95 319 *e*P **P 12 05 27.7 +0.2**
KHC *e*S **S 12 16 18.0 -3.7**
KHC AMS AMS 12 55 20.0
comp=Z,900nm,22.4s
KHC Kasperske Hory 90.95 319 *e*P **P 12 05 27.9 +0.3**
KHC pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 90.95 319 *e*P **P 12 05 27.9 +0.3**
comp=Z,4.9nm,1.1s
KBA Koelnbreinsper 90.97 317 P **P 12 05 29.2 +1.3**
KBA Koelnbreinsper 90.97 317 *i* PcP **P 12 05 29.2 +1.3**
comp=Z,28nm,1.3s,SNR=7.7
SNAA Sanae 91.43 198 P **P 12 05 31.9 +2.5**
SNAA Sanae 91.43 198 *i* P **P 12 05 31.6 +2.2**
SNAA Sanae 91.43 198 *e*P **P 12 05 29.6 +0.2**
comp=Z,12nm,0.9s
CLL Collm 91.45 321 *i* P **P 12 05 30.7 +1.0**
CLL *e* 12 05 40.0
CLL *e*S **S 12 16 28.0 +1.9**
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 91.45 321 *i* P **P 12 05 30.7 +1.0**
comp=Z,22nm,1.1s
CLL *e*pP **pP 12 05 40.0 -2.6**
CLL *e*(sP) **sP 12 05 48.0 +0.6**
CLL *e* 12 06 01.0
CLL *e*PP **PP 12 09 03.0 -4.9**
CLL *e*S **S 12 16 28.0 +1.9**
CLL *e*PS **PnS 12 17 41.0 -0.1**
CLL *e*SS SS 12 22 48.0 +15
CLL *e*SSS SSS 12 26 42.0
CLL *e*SSSS 12 29 24.0
CLL Collm 91.45 321 *e*P **P 12 05 30.2 +0.5**
comp=Z,22nm,1.1s
ABTA Abfaltersbach 91.52 317 *i* P **P 12 05 30.3 0.0**
comp=Z,23nm,0.9s,SNR=13
NKC Novy Kostel 91.74 320 *e*P **P 12 05 33.5 +2.3**
NKC Novy Kostel 91.74 320 *e*P **P 12 05 33.5 +2.3**
SPB1 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.7 -0.4**
SPB2 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.9 -0.3**
SPA2 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.8 -0.4**
SPA0 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.9 -0.3**
SPITS Spitsbergen Ar 92.08 348 P **P 12 05 31.4 -0.8**
comp=Z,15nm,0.7s,baz=102,slow=7.8,SNR=11
SPB5 Spitsbergen Ar 92.08 348 *e*P **P 12 05 32.3 +0.1**
SPA3 Spitsbergen Ar 92.08 348 *e*P **P 12 05 32.0 -0.2**
SPB3 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.4 -0.8**
SPB4 Spitsbergen Ar 92.08 348 *e*P **P 12 05 31.6 -0.6**
WTTA Wattenberg 92.14 317 *i* P **P 12 05 33.1 -0.2**
comp=Z,30nm,1.2s,SNR=7.9
WATA Walderalm 92.19 317 *i* P **P 12 05 33.3 -0.2**
comp=Z,22nm,1.0s,SNR=13
MOTA Moosalm 92.51 317 *i* P **P 12 05 34.8 -0.2**
comp=Z,23nm,0.8s,SNR=26
GRFO Grafenberg 92.51 319 *e*P **P 12 05 35.1 +0.4**
GRFO pmax pmax
comp=Z,30nm,1.1s
GRFO Grafenberg 92.51 319 *e*P **P 12 05 35.1 +0.4**
comp=Z,30nm,1.1s
NC405 NORSAR Array S 92.61 331 *e*P **P 12 05 35.0 +0.1**
NC602 NORSAR Array S 92.68 331 *e*P **P 12 05 35.5 +0.2**
RETA Reutte 92.75 317 *i* P **P 12 05 36.1 +0.2**
comp=Z,22nm,0.8s,SNR=11
FETA Feichten 92.75 317 *i* PcP **P 12 05 36.6 +0.5**
comp=Z,22nm,1.1s,SNR=9.6
NC303 NORSAR Array S 92.78 331 *e*P **P 12 05 36.2 +0.5**
NB2 NORSAR Subarra 92.85 331 P **P 12 05 35.7 -0.4**
comp=Z,5.0nm,1.0s,baz=90,slow=5.3
NB2 NORSAR Subarra 92.85 331 P **P 12 05 35.7 -0.4**
baz=90,slow=5.3
NB2 NORSAR Subarra 92.85 331 P **P 12 05 35.6 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 92.85 331 P **P 12 05 35.8 -0.4**
comp=Z,9.0nm,0.9s,baz=90,slow=4.8,SNR=11
NOA LR LR 12 51 57.9
comp=Z,438nm,21.6s,baz=105,slow=38
VLC Villacollemand 92.91 314 PFAKE 12 05 50.0 +13
VLC LR LR
comp=Z,558nm,20.0s
KBS Kingsbay 93.01 349 PFAKE 12 05 50.0 +14
KBS LR LR
comp=Z,1μm,19.0s
NAO01 NORSAR Array S 93.01 331 *e*P **P 12 05 37.0 +0.3**
VNA2 Neumayer--Watz 93.05 198 P **P 12 05 41.0 +4.2**
baz=351,slow=30
FUORN Ofenpass-Fuorn 93.06 316 *e*P **P 12 05 38.4 +0.7**
comp=Z,30nm,0.9s
NBO00 NORSAR Array S 93.06 331 *e*P **P 12 05 37.6 +0.5**
NBO00 *e*PcP **PcP 12 05 37.9 +0.2**
NC204 NORSAR Array S 93.08 331 *e*P **P 12 05 37.2 +0.1**
DAVA Damuels 93.34 317 *i* PcP **P 12 05 39.3 +0.4**
comp=Z,41nm,1.1s,SNR=14
VNA1 Neumayer--Stat 93.42 198 P **P 12 05 41.3 +2.9**
KEST Kesra 93.49 305 P **P 12 05 40.1 +0.4**
comp=Z,19nm,1.0s,baz=232,slow=1.1,SNR=7.6
KEST LR LR 12 52 46.4
comp=Z,237nm,18.5s,baz=14,slow=39
KEST Kesra 93.49 305 *e*P **P 12 05 41.2 +1.6**
comp=Z,48nm,1.1s
KONO Kongsberg 93.64 329 *e*P **P 12 05 40.0 +0.4**
KONO pmax pmax
comp=Z,27nm,1.1s
KONO Kongsberg 93.64 329 *e*P **P 12 05 40.0 +0.4**
comp=Z,26nm,1.1s
VNA3 Neumayer Olymp 93.64 198 P **P 12 05 35.9 -3.6**
TUE Stuetta 93.69 316 *e*P **P 12 05 40.6 +0.1**
comp=Z,13nm,1.1s
TUE LR LR
comp=Z,384nm,19.0s
BFO Black Forest 94.39 318 *i* P **P 12 05 45.4 +1.9**
BFO Black Forest 94.39 318 *e*P **P 12 05 43.9 +0.4**
comp=Z,9.2nm,1.0s
BFO LR LR
comp=Z,614nm,19.0s
LANF Langenberg 94.74 319 *e*P **P 12 05 46.2 +1.2**
SBF Sospel 95.04 314 P **P 12 05 48.0 +1.4**
SBF pmax pmax
comp=Z,18nm,1.1s
SENIN Lac Senin/Sane 95.11 316 *e*P **P 12 05 46.8 -0.2**
comp=Z,8.8nm,0.9s
ECH Echery 95.18 318 *e*P **P 12 05 47.9 +0.8**
ECH Echery 95.18 318 *e*P **P 12 05 48.2 +1.1**
ECH pmax pmax
comp=Z,11nm,1.0s
ECH MLR MLR
comp=Z,537nm,21.0s
ECH Echery 95.18 318 *e*P **P 12 05 48.2 +1.1**
comp=Z,11nm,1.0s
ECH LR LR
comp=Z,537nm,21.0s
LOMF Lomont 95.42 317 *e*P **P 12 05 48.4 +0.2**
LPG La Plagne 95.51 315 *e*P **P 12 05 49.0 0.0**
LPG pmax pmax
comp=Z,4.0nm,0.7s
LPL La Plagne 95.52 315 *e*P **P 12 05 49.0 +0.1**
LPL pmax pmax
comp=Z,16nm,1.2s
BNI Bardonecchia 95.57 315 PFAKE 12 06 00.0 +11
BNI LR LR
comp=Z,568nm,19.0s
FRF La Foret Royal 95.61 313 *e*P **P 12 05 50.0 +0.9**
HAU Haudompre 95.73 318 *e*P **P 12 05 49.5 -0.1**
HAU pmax pmax
comp=Z,13nm,1.1s
WLF Walferdange 95.81 319 PFAKE 12 06 00.0 +10
WLF LR LR
comp=Z,546nm,20.0s
TAM Tamanrasset 96.62 292 PFAKE 12 06 10.0 +16
TAM LR LR
comp=Z,449nm,19.0s
BAIF Baives 97.04 320 *e*P Pdif 12 05 56.8 +1.3
BAIF pmax pmax
comp=Z,21nm,1.2s
AVF Avril sur Loir 97.81 317 *e*P Pdif 12 06 00.0 +1.0
AVF pmax pmax
comp=Z,18nm,1.6s
TOLK Toolik Lake Re 99.85 21 P **Pdif 12 06 07.8 +0.1**
baz=287
TOLK Toolik Lake Re 99.85 21 *e*Pdif **Pdif 12 06 07.9 +0.2**
comp=Z,34nm,1.5s
TORD Torodi Ar. Bea 100.14 283 P **Pdif 12 06 10.4 +0.3**
comp=Z,2.0nm,1.0s,baz=100,slow=4.6,SNR=6.8
TORD PKiKP **PKiKP 12 10 37.3 -0.4**
comp=Z,0.8nm,0.9s,baz=61,slow=1.6,SNR=5.2
TORD PKKPbc **PKKPbc 12 22 28.0 +0.1**
comp=Z,0.5nm,0.6s,baz=305,slow=3.2,SNR=8.5
COLA College 101.62 24 PFAKE 12 06 30.0 +14
COLA LR LR
comp=Z,624nm,21.0s
ILAR Eielson Array 102.04 24 P **Pdif 12 06 16.1 -1.3**
comp=Z,0.3nm,0.8s,baz=286,slow=4.1,SNR=5.9
ILAR PKKPbc **PKKPbc 12 22 21.6 -2.4**
comp=Z,0.8nm,0.8s,baz=151,slow=2.3,SNR=9.5
ILAR PKKP **PKKPdf 12 22 30.4 -0.1**
comp=Z,0.7nm,0.6s,baz=119,slow=1.2,SNR=5.7
ESDC Sonseca Array 103.83 310 PP PP 12 10 44.1 +0.8
comp=Z,0.9nm,0.6s,baz=60,slow=7.2,SNR=5.6
EGAK Eagle 104.33 23 PFAKE 12 06 40.0 +12
EGAK LR LR
comp=Z,1μm,20.0s
SHEL Horse Pasture 105.52 253 PFAKE 12 11 00.0
SHEL LR LR
comp=Z,701nm,19.0s
TRIS Tristan da Cun 106.71 230 PFAKE 12 11 00.0
TRIS LR LR
comp=Z,871nm,21.0s
RTC Rabat Centre 106.88 304 PFAKE 12 11 00.0
RTC LR LR
comp=Z,2μm,21.0s
PPT2 Papeete2 107.11 109 *e*LR LR 12 42 18.2
comp=Z,498nm,24.0s
ASCN Ascension 114.95 260 PFAKE 12 11 20.0 +15
ASCN LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 115.10 18 PKP **PKPdf 12 11 03.1 -1.1**
comp=Z,3.8nm,1.0s,baz=325,slow=2.7,SNR=4.7
TAOE Nuku Hiva Isla 117.52 102 *e*LR LR 12 46 43.0
comp=Z,399nm,23.6s
LLLB Lillooet 120.40 30 *e*PKPdf **PKPdf 12 11 15.0 +0.1**
PGC Sidney 120.74 33 *e*PKPdf **PKPdf 12 11 15.8 +0.3**
A04D Lummi Island 121.10 33 P **PKPdf 12 11 15.7 -0.5**
baz=306
NLWA Neilton Lookou 121.22 34 PFAKE 12 11 30.0 +13
NLWA LR LR
comp=Z,349nm,20.0s
B05A Bryant 121.70 33 P **PKPdf 12 11 17.8 +0.5**
baz=306
E03A Lebam 121.87 35 *e*PKPdf **PKPdf 12 11 18.3 +0.6**
D05A Enumclaw 122.39 34 *e*PKPdf **PKPdf 12 11 19.5 +0.7**
LON Longmire 122.74 34 *e*PKIKP **PKPdf 12 11 19.6 0.0**
LON Longmire 122.74 34 *e*PKPdf **PKPdf 12 11 19.6 0.0**
F04A Amboy 122.87 35 *e*PKPdf **PKPdf 12 11 19.7 0.0**
LTY Liberty 123.07 33 *e*PKPdf **PKPdf 12 11 19.5 -0.6**
B08A Colville Reser 123.10 31 *e*PKPdf **PKPdf 12 11 19.8 -0.4**
KEBM Edson Butte 123.38 39 *e*PKPdf **PKPdf 12 11 22.6 +1.7**
I03D Drain, OR 123.56 38 P **PKPdf 12 11 21.3 +0.2**
baz=303
G05D Wamic, OR 123.90 35 P **PKPdf 12 11 21.5 -0.2**
baz=305
E07A Sunnyside 123.94 33 *e*PKPdf **PKPdf 12 11 22.1 +0.3**
C09A Chrisman Ranch 124.00 31 *e*PKPdf **PKPdf 12 11 21.9 0.0**
I04A Tendick Farm, 124.07 37 P **PKPdf 12 11 21.9 -0.3**
baz=304
D08A Wollman Farm, 124.14 32 *e*PKPdf **PKPdf 12 11 22.0 -0.1**
L02D Cave Junction, 124.21 39 P **PKPdf 12 11 22.2 -0.2**
baz=302
HAWA Hanford 124.22 33 *e*PKPdf **PKPdf 12 11 22.5 +0.2**
HAWA LR LR
comp=Z,490nm,19.0s
NEW Newport 124.29 30 PKP **PKPdf 12 11 21.2 -1.3**
comp=Z,5.1nm,0.8s,baz=14,slow=1.9,SNR=10
NEW Newport 124.29 30 P **PKPdf 12 11 22.6 +0.2**
baz=311
NEW Newport 124.29 30 *e*PKIKP **PKPdf 12 11 23.0 +0.6**
NEW MLR MLR
comp=Z,930nm,22.0s
NEW Newport 124.29 30 *e*PKPdf **PKPdf 12 11 23.0 +0.6**
NEW LR LR
comp=Z,930nm,22.0s
G06A Carlson Farm, 124.30 35 *e*PKPdf **PKPdf 12 11 22.5 -0.1**
KRMB Red Mountain 124.34 40 *e*PKPdf **PKPdf 12 11 23.2 +0.4**
HUMO Hull Mountain 124.38 39 *e*PKPdf **PKPdf 12 11 23.5 +0.7**
I05D Terrebonne, OR 124.41 36 P **PKPdf 12 11 23.1 +0.3**
baz=305
J04D Umpqua Nationa 124.56 38 P **PKPdf 12 11 23.6 +0.3**
baz=304,SNR=29
JCC Jacoby Creek, 124.62 41 *e*PKPdf **PKPdf 12 11 23.8 +0.6**
KHMM Horse Mountain 124.79 41 *e*PKPdf **PKPdf 12 11 24.6 +0.9**
E09A Wood Farm, Sta 124.89 32 *e*PKPdf **PKPdf 12 11 23.7 +0.1**
YBH Yreka Blue Hor 125.00 39 *e*PKIKP **PKPdf 12 11 25.2 +1.1**
YBH Yreka Blue Hor 125.00 39 *e*PKPdf **PKPdf 12 11 25.2 +1.1**
J05D Fort Rock, OR 125.07 37 P **PKPdf 12 11 24.1 -0.1**
baz=304,SNR=16
M02C Callahan 125.09 40 P **PKPdf 12 11 24.3 +0.1**
baz=302,SNR=9.4
FFC Flin Flon 125.23 16 *e*PKIKP **PKPdf 12 11 23.5 -0.5**
FFC Flin Flon 125.23 16 *e*PKPdf **PKPdf 12 11 23.5 -0.5**
N02D Trinity Center 125.40 40 P **PKPdf 12 11 24.9 +0.1**
baz=302
M04C Macdoel 125.53 39 P **PKPdf 12 11 25.2 +0.1**
baz=303
WDC Whiskeytown Da 125.72 41 *e*PKIKP **PKPdf 12 11 25.3 -0.1**
WDC Whiskeytown Da 125.72 41 *e*PKPdf **PKPdf 12 11 25.3 -0.1**
BSMT Bassoo Peak 125.73 29 *e*PKPdf **PKPdf 12 11 25.3 -0.1**
BLMT Blacktail Moun 125.82 29 *e*PKPdf **PKPdf 12 11 26.3 +0.7**
YBMT Yellow Bay 126.10 29 *e*PKPdf **PKPdf 12 11 26.3 +0.3**
O03D Paynes Creek 126.35 41 P **PKPdf 12 11 26.3 -0.4**
baz=302,SNR=9.3
SWMT Swartz Lake 126.35 29 *e*PKPdf **PKPdf 12 11 26.7 +0.2**
BMO Blue Mountains 126.40 34 *e*PKIKP **PKPdf 12 11 27.3 +0.6**
BMO MLR MLR
comp=Z,436nm,19.0s
BMO Blue Mountains 126.40 34 *e*PKPdf **PKPdf 12 11 27.2 +0.6**
BMO LR LR
comp=Z,436nm,19.0s
MOD Modoc Plateau 126.41 38 *e*PKPdf **PKPdf 12 11 27.1 +0.3**
J08A Circle Bar Ran 126.66 36 *e*PKPdf **PKPdf 12 11 28.2 +1.0**
SLMT Seeley Lake 126.78 29 *e*PKPdf **PKPdf 12 11 27.2 -0.2**
MSO Missoula 126.85 30 P **PKPdf 12 11 27.1 -0.4**
baz=314
MSO Missoula 126.85 30 *e*PKPdf **PKPdf 12 11 27.1 -0.4**
ORV Oroville 126.93 41 *e*PKIKP **PKPdf 12 11 27.9 +0.2**
ORV Oroville 126.93 41 *e*PKPdf **PKPdf 12 11 27.9 +0.2**
WVOR Wild Horse Val 127.12 37 *e*PKIKP **PKPdf 12 11 28.3 +0.1**
WVOR MLR MLR
comp=Z,524nm,19.0s
WVOR Wild Horse Val 127.12 37 *e*PKPdf **PKPdf 12 11 28.3 +0.1**
WVOR LR LR
comp=Z,524nm,19.0s
CHMT Chamberlain Mo 127.13 29 *e*PKPdf **PKPdf 12 11 29.0 +0.9**
BEKR Beckworth 127.51 40 *e*PKPdf **PKPdf 12 11 29.4 +0.3**
AFDM Forest Hills D 127.60 42 *e*PKPdf **PKPdf 12 11 29.6 +0.5**
SCHQ Schefferville 127.64 351 PKP **PKPdf 12 11 27.6 -1.0**
comp=Z,5.0nm,0.5s,baz=340,slow=4.7,SNR=3.6
EGMT Eagleton 127.94 26 P **PKPdf 12 11 29.4 -0.1**
baz=319
EGMT Eagleton 127.94 26 *e*PKPdf **PKPdf 12 11 29.8 +0.3**
EGMT LR LR
comp=Z,663nm,19.0s
MFID Camas Ranch 128.13 34 *e*PKPdf **PKPdf 12 11 30.3 +0.2**
PAHR Pah Rah Range 128.22 40 *e*PKPdf **PKPdf 12 11 30.9 +0.5**
PNTR Pine Nut 128.43 41 *e*PKPdf **PKPdf 12 11 32.2 +1.3**
DLMT Dillon 128.54 30 *e*PKPdf **PKPdf 12 11 31.6 +0.8**
YERR Yerington 128.72 41 *e*PKPdf **PKPdf 12 11 32.4 +1.0**
MCMT McKenzie Canyo 128.79 31 *e*PKPdf **PKPdf 12 11 32.5 +1.0**
HLID Hailey 128.82 33 P **PKPdf 12 11 32.5 +1.0**
baz=312
HLID Hailey 128.82 33 PFAKE 12 11 40.0 +8.6
HLID LR LR
comp=Z,531nm,20.0s
WAKR Walker 128.85 41 *e*PKPdf **PKPdf 12 11 32.9 +1.2**
BOZ Bozeman (W) 128.86 29 P **PKPdf 12 11 32.1 +0.7**
baz=316
BOZ Bozeman (W) 128.86 29 PFAKE 12 11 40.0 +8.6
BOZ LR LR
comp=Z,596nm,19.0s
QLMT Earthquake Lak 129.50 30 *e*PKPdf **PKPdf 12 11 34.7 +2.0**
YHB Horse Butte 129.68 30 *e*PKPdf **PKPdf 12 11 34.3 +1.2**
MLAC Mammoth, Mammt 129.73 42 P **PKPdf 12 11 33.8 +0.4**
baz=303
PAGB Antelope Grade 129.76 45 *e*PKPdf **PKPdf 12 11 35.1 +1.8**
YHH Holmes Hill 129.82 30 *e*PKPdf **PKPdf 12 11 34.8 +1.3**
DGMT Dagmar 129.85 22 P **PKPdf 12 11 33.9 +0.9**
baz=326
DGMT Dagmar 129.85 22 PFAKE 12 11 50.0 +17
DGMT LR LR
comp=Z,606nm,19.0s
YMR Madison River 129.85 30 *e*PKPdf **PKPdf 12 11 34.8 +1.4**
SMMC Simmler 130.15 45 P **PKPdf 12 11 35.3 +1.3**
baz=300
RCTC Rector, Farmer 130.16 43 P **PKPdf 12 11 35.7 +1.7**
baz=302
LKWY Lake 130.21 30 PFAKE 12 11 50.0 +16
LKWY LR LR
comp=Z,805nm,19.0s
H17A Grant Village 130.24 30 P **PKPdf 12 11 33.9 -0.3**
baz=316
RLMT Red Lodge 130.34 28 P **PKPdf 12 11 34.5 +0.2**
baz=318
RLMT Red Lodge 130.34 28 *e*PKPdf **PKPdf 12 11 33.6 -0.7**
RLMT LR LR
comp=Z,343nm,19.0s
PKM Mcpherson Peak 130.49 45 P **PKPdf 12 11 35.6 +0.7**
baz=300
LAO LASA Array 130.49 25 P **PKPdf 12 11 35.5 +1.2**
baz=323
LAO LASA Array 130.49 25 *e*PKPdf **PKPdf 12 11 35.7 +1.3**
LAO LR LR
comp=Z,687nm,20.0s
VES Vestal, Richgr 130.51 44 P **PKPdf 12 11 34.3 -0.3**
baz=302
FXWY Fox Creek 130.56 31 *e*PKPdf **PKPdf 12 11 35.0 +0.2**
MOOW Moose Ponds 130.62 31 *e*PKPdf **PKPdf 12 11 35.9 +1.0**
TPAW Teton Pass 130.70 31 *e*PKPdf **PKPdf 12 11 35.7 +0.6**
SBC Santa Barbara 130.78 46 P **PKPdf 12 11 36.1 +0.9**
baz=300
LOHW Long Hollow 130.79 31 *e*PKPdf **PKPdf 12 11 35.4 +0.2**
SNOW Snow King Moun 130.82 31 *e*PKPdf **PKPdf 12 11 36.1 +0.8**
REDW Red Top Meadow 130.84 31 *e*PKPdf **PKPdf 12 11 35.3 -0.1**
CWC Cottonwood Cre 130.88 43 P **PKPdf 12 11 36.9 +1.3**
baz=303
ULM Lac du Bonnet 130.90 15 PKP **PKPdf 12 11 33.5 -1.4**
comp=Z,7.3nm,0.6s,baz=337,slow=2.7,SNR=17
ULM SKPbc **SKPbc 12 14 52.4 -3.5**
comp=Z,4.0nm,0.8s,baz=307,slow=6.4,SNR=3.7
ULM Lac du Bonnet 130.90 15 *e*PKIKP **PKPdf 12 11 34.4 -0.5**
ULM Lac du Bonnet 130.90 15 *e*PKPdf **PKPdf 12 11 34.4 -0.5**
ULM SKPbc **SKPbc 12 14 52.4 -3.5**
HVU Hansel Valley 130.91 34 *e*PKIKP **PKPdf 12 11 35.5 +0.1**
HVU Hansel Valley 130.91 34 *e*PKPdf **PKPdf 12 11 35.5 +0.1**
ISA Isabella, Lake 131.03 44 P **PKPdf 12 11 36.7 +1.0**
baz=302
GRAC Grapevine Rang 131.05 42 P **PKPdf 12 11 37.1 +1.4**
baz=304
SCZ2 Santa Cruz Isl 131.06 46 P **PKPdf 12 11 37.7 +1.9**
baz=300
ARVC Arvin 131.06 45 P **PKPdf 12 11 36.6 +0.9**
baz=301
BGU Big Grassy Mou 131.33 35 *e*PKPdf **PKPdf 12 11 37.1 +0.8**
SPUT South Promonto 131.40 34 *e*PKPdf **PKPdf 12 11 36.6 +0.2**
BLG Laguna Peak, P 131.41 46 P **PKPdf 12 11 37.4 +1.0**
baz=300
R11A Troy Canyon, C 131.42 39 P **PKPdf 12 11 38.0 +1.4**
baz=307
R11A Troy Canyon, C 131.42 39 *e*PKPdf **PKPdf 12 11 37.0 +0.5**
MPMC Manual Prospec 131.49 43 P **PKPdf 12 11 37.4 +0.6**
baz=303
LRMC Laurel Mtn Rad 131.67 44 P **PKPdf 12 11 37.5 +0.5**
baz=303
FURC Furnace Creek, 131.68 42 P **PKPdf 12 11 37.3 +0.5**
baz=304
HWUT Hardware Ranch 131.69 33 *e*PKPdf **PKPdf 12 11 37.1 +0.2**
HWUT LR LR
comp=Z,456nm,19.0s
EDW2 Edwards Air Fo 131.77 44 P **PKPdf 12 11 37.6 +0.5**
baz=302
TPNV Topopah Spring 131.81 41 P **PKPdf 12 11 37.8 +0.5**
baz=305
TPNV Topopah Spring 131.81 41 *e*PKIKP **PKPdf 12 11 38.4 +1.1**
TPNV Topopah Spring 131.81 41 *e*PKPdf **PKPdf 12 11 38.4 +1.1**
BW06 Boulder Array 131.93 31 P **PKPdf 12 11 37.3 -0.2**
baz=316
BW06 Boulder Array 131.93 31 *e*PKPdf **PKPdf 12 11 37.5 +0.1**
BW06 LR LR
comp=Z,569nm,21.0s
PD31 Pinedale Array 131.93 31 *e*PKPdf **PKPdf 12 11 37.5 +0.1**
PDAR Pinedale Array 131.93 31 PKP **PKPdf 12 11 37.1 -0.3**
comp=Z,1.7nm,0.6s,baz=205,slow=1.4,SNR=16
PDAR SKPbc **SKPbc 12 14 58.6 -1.6**
comp=Z,3.2nm,0.9s,baz=279,slow=3.5,SNR=7.2
DUG Dugway, Tooele 131.94 35 P **PKPdf 12 11 38.3 +0.8**
baz=311
DUG Dugway, Tooele 131.94 35 *e*PKIKP **PKPdf 12 11 38.8 +1.4**
DUG MLR MLR
comp=Z,460nm,20.0s
DUG Dugway, Tooele 131.94 35 *e*PKPdf **PKPdf 12 11 38.8 +1.4**
DUG LR LR
comp=Z,460nm,20.0s
A32A Rocking H Ranc 131.96 16 P **PKPdf 12 11 36.2 -0.7**
baz=336
MDND Maddock 131.99 19 P **PKPdf 12 11 36.6 -0.4**
baz=331
B31A Greenbush Farm 132.08 17 P **PKPdf 12 11 36.5 -0.7**
baz=334
TCUT Toone Canyon 132.11 33 *e*PKPdf **PKPdf 12 11 39.0 +1.1**
CTU Camp Tracy 132.21 34 *e*PKPdf **PKPdf 12 11 39.6 +1.6**
A33A Warroad 132.23 15 P **PKPdf 12 11 36.7 -0.7**
baz=337
CIS Catalina Islan 132.24 46 P **PKPdf 12 11 37.4 -0.6**
baz=300
BFSC Mount Baldy Ra 132.35 45 P **PKPdf 12 11 38.1 -0.2**
baz=302
GSC Goldstone, Bar 132.37 43 P **PKPdf 12 11 38.3 0.0**
baz=303
GSC Goldstone, Bar 132.37 43 *e*PKIKP **PKPdf 12 11 39.8 +1.5**
GSC Goldstone, Bar 132.37 43 *e*PKPdf **PKPdf 12 11 39.8 +1.5**
SHOC Shoshone, Teco 132.40 42 P **PKPdf 12 11 38.5 +0.3**
baz=304
B32A Ashes, Strandq 132.42 16 P **PKPdf 12 11 37.2 -0.7**
baz=336
JLU Jordanelle 132.44 34 *e*PKPdf **PKPdf 12 11 39.5 +1.1**
NLU North Lily Min 132.52 35 *e*PKPdf **PKPdf 12 11 39.5 +0.9**
C31A Landman Farms, 132.62 17 P **PKPdf 12 11 37.5 -0.8**
baz=334
AGMN Agassiz Nation 132.69 16 P **PKPdf 12 11 36.9 -1.5**
baz=336
AGMN Agassiz Nation 132.69 16 PFAKE 12 11 50.0 +12
AGMN LR LR
comp=Z,804nm,20.0s

MPU	Maple Canyon	132.73	35	ePKPdf	PKPdf	12 11 40.0	+1.0
SHPR	Sheep Range	132.78	41	ePKPdf	PKPdf	12 11 40.5	+1.3
B33A	Robert and Kas	132.79	15	P	PKPdf	12 11 37.4	-1.1
	baz=337						
B34A	Aery, Baudette	132.83	14	P	PKPdf	12 11 38.1	-0.5
	baz=338						
BBRC	Big Bear Solar	132.85	44	P	PKPdf	12 11 39.9	+0.5
	baz=302						
HEC	Hector,Ludlow	132.95	43	P	PKPdf	12 11 40.9	+1.5
	baz=304						
MURC	Murrieta	133.01	45	P	PKPdf	12 11 40.6	+1.1
	baz=302						
B35A	Bob, Littlefor	133.18	14	P	PKPdf	12 11 38.9	-0.4
	baz=339						
C33A	Trail	133.21	16	P	PKPdf	12 11 38.3	-1.1
	baz=336						
CCUT	Cedar City	133.30	38	ePKPdf	PKPdf	12 11 40.2	0.0
MSU	Marysvale	133.41	37	ePKIKP	PKPdf	12 11 41.6	+1.2
MSU	Marysvale	133.41	37	ePKPdf	PKPdf	12 11 41.5	+1.2
GMRC	Granite Mounta	133.44	43	P	PKPdf	12 11 41.2	+0.8
	baz=304						
SZCU	Shurtz Canyon	133.44	38	ePKPdf	PKPdf	12 11 41.4	+1.0
TMUT	Trail Mountain	133.46	35	ePKPdf	PKPdf	12 11 41.9	+1.4
RSSD	Black Hills	133.47	25	P	PKPdf	12 11 40.0	-0.2
	baz=324						
RSSD	Black Hills	133.47	25	ePKIKP	PKPdf	12 11 40.1	-0.2
RSSD	Black Hills	133.47	25	ePKPdf	PKPdf	12 11 40.1	-0.2
K22A	Casper	133.51	28	P	PKPdf	12 11 40.3	0.0
	baz=320						
K22A	Casper	133.51	28	ePKPdf	PKPdf	12 11 40.1	-0.3
PFO	Pinyon Flats O	133.52	45	P	PKPdf	12 11 40.7	+0.1
	baz=302						
PFO	Pinyon Flats O	133.52	45	ePKIKP	PKPdf	12 11 41.8	+1.2
PFO				MLR	MLR		
	comp=Z,526nm,22.0s						
PFO	Pinyon Flats O	133.52	45	ePKPdf	PKPdf	12 11 41.8	+1.2
PFO				LR	LR		
	comp=Z,526nm,22.0s						
XPFO	Pizæon Flat	133.53	45	ePKPdf	PKPdf	12 11 40.7	+0.2
TPFO	Pinon Flats	133.53	45	P	PKPdf	12 11 40.6	+0.1
	baz=302						
C34A	RKJ Ranch, Bem	133.54	15	P	PKPdf	12 11 39.0	-1.0
	baz=337						
P17A	Butcher Ranch,	133.61	35	ePKPdf	PKPdf	12 11 42.0	+1.4
BELC	Belle Mtn. Jos	133.64	44	P	PKPdf	12 11 40.8	0.0
	baz=303						
E31A	Nome	133.67	18	P	PKPdf	12 11 40.6	+0.3
	baz=333						
LCMT	Little Creek M	133.71	39	ePKPdf	PKPdf	12 11 41.8	+1.0
MTPU	Mount Pierson	133.71	37	ePKPdf	PKPdf	12 11 41.4	+0.3
C35A	Jirik Farms, M	133.73	14	P	PKPdf	12 11 39.1	-1.3
	baz=339						
Q16A	Castle Valley	133.73	36	ePKPdf	PKPdf	12 11 42.8	+1.9
D33A	AnnSam, Wauburn	133.75	16	P	PKPdf	12 11 40.6	+0.2
	baz=336						
P18A	Preston Nutter	133.78	34	ePKPdf	PKPdf	12 11 42.1	+1.0
MONP2	Monument Peak	133.93	46	P	PKPdf	12 11 42.3	+0.8
	baz=302						
C36A	Pine Crest Far	133.95	13	P	PKPdf	12 11 40.6	-0.2
	baz=340						
KNB	Kanab	133.97	39	ePKIKP	PKPdf	12 11 41.9	+0.5
KNB	Kanab	133.97	39	ePKPdf	PKPdf	12 11 41.9	+0.5
SRU	San Rafael Swe	133.97	35	ePKIKP	PKPdf	12 11 42.8	+1.4
SRU	San Rafael Swe	133.97	35	ePKPdf	PKPdf	12 11 42.8	+1.4
D34A	Park Rapids	133.98	16	P	PKPdf	12 11 40.0	-0.8
	baz=337						
PKCU	Pink Cliffs	134.01	38	ePKPdf	PKPdf	12 11 43.5	+1.8
EYMN	Ely	134.06	12	P	PKPdf	12 11 41.3	+0.3
	baz=342						
C37A	Embarrass	134.12	13	P	PKPdf	12 11 41.4	+0.3
	baz=341						
IRM	Iron Mountain	134.14	43	P	PKPdf	12 11 42.0	+0.4
	baz=304						
F31A	Hecla	134.18	19	P	PKPdf	12 11 41.8	+0.6
	baz=332						
BC3	Big Chuckawall	134.21	44	P	PKPdf	12 11 42.1	+0.3
	baz=304						
IKP	In-Ko-Pah, Jac	134.28	46	P	PKPdf	12 11 42.0	0.0
	baz=302						
D35A	Remer	134.29	15	P	PKPdf	12 11 41.5	+0.1
	baz=338						
E33A	Westby DABS, E	134.29	17	P	PKPdf	12 11 42.0	+0.6
	baz=336						
SWSC	Sam W. Stewart	134.35	45	P	PKPdf	12 11 43.0	+1.1
	baz=303						
D36A	Goodland	134.42	14	P	PKPdf	12 11 40.7	-1.0
	baz=340						
W13A	Hualapai Mount	134.45	42	ePKPdf	PKPdf	12 11 43.5	+1.2
O20A	White River Ci	134.51	32	P	PKPdf	12 11 42.5	+0.2
	baz=316						
O20A	White River Ci	134.51	32	ePKPdf	PKPdf	12 11 43.1	+0.8
F32A	Veblen	134.53	18	P	PKPdf	12 11 41.8	-0.1
	baz=334						
C40A	Isle Royale Na	134.54	10	P	PKPdf	12 11 42.3	+0.4
	baz=345						
D37A	Cotton	134.61	13	P	PKPdf	12 11 42.6	+0.5
	baz=340						
U15A	North Rim	134.67	39	ePKPdf	PKPdf	12 11 43.7	+0.8
E35A	Pequot Lakes	134.68	15	P	PKPdf	12 11 41.7	-0.5
	baz=338						
PDMCI	Parker Dam,Lak	134.74	43	P	PKPdf	12 11 44.3	+1.7
	baz=305						
Y12C	Blythe	134.79	44	P	PKPdf	12 11 43.3	+0.6
	baz=304						
Y12C	Blythe	134.79	44	ePKPdf	PKPdf	12 11 44.2	+1.4
F33A	5 Mile Ranch,	134.81	17	P	PKPdf	12 11 42.0	-0.4
	baz=335						
GLA	Glamis	134.97	45	P	PKPdf	12 11 44.6	+1.4
	baz=304						
E36A	McGregor	135.01	14	P	PKPdf	12 11 43.1	+0.3
	baz=339						
PHWY	Pilot Hill	135.05	29	ePKPdf	PKPdf	12 11 44.1	+0.7
N23A	Red Feather La	135.13	30	P	PKPdf	12 11 43.2	-0.4
	baz=320						
N23A	Red Feather La	135.13	30	ePKPdf	PKPdf	12 11 44.7	+1.1
E37A	Wrenshall	135.17	13	P	PKPdf	12 11 43.1	+0.1
	baz=340						
SUSD	Miller	135.18	21	P	PKPdf	12 11 43.8	+0.6
	baz=331						
PV09	Paradox Valley	135.18	34	ePKPdf	PKPdf	12 11 44.9	+1.1
F35A	Swanville	135.28	16	P	PKPdf	12 11 42.5	-0.8
	baz=337						
PV10	Paradox Valley	135.32	34	ePKPdf	PKPdf	12 11 45.8	+1.9
E38A	The Farm, Brul	135.32	13	P	PKPdf	12 11 43.1	-0.3
	baz=342						
G33A	Ortonville	135.34	18	P	PKPdf	12 11 43.7	+0.3
	baz=334						
D41A	Chassel	135.47	10	P	PKPdf	12 11 43.6	0.0
	baz=346						
PV05	Paradox Valley	135.49	35	ePKPdf	PKPdf	12 11 45.4	+1.1
F36A	Milaca	135.56	15	P	PKPdf	12 11 44.1	+0.2
	baz=339						
PLCA	Paso Flores	135.66	189	PKhKP	PKPpre	12 11 34.3	
	comp=Z,2.1nm,0.9s,baz=216,slow=17,SNR=2.9						
E39A	Mellen	135.75	12	P	PKPdf	12 11 43.8	-0.4
	baz=343						
PV01	Paradox Valley	135.75	34	ePKPdf	PKPdf	12 11 46.7	+1.9
E40A	Wakefield	135.82	11	P	PKPdf	12 11 45.2	+0.8
	baz=344						
WUAZ	Wupatki	135.82	39	P	PKPdf	12 11 45.0	+0.2
	baz=309						
WUAZ	Wupatki	135.82	39	ePKPdf	PKPdf	12 11 45.0	+0.2
WUAZ				LR	LR		
	comp=Z,425nm,20.0s						
F38A	Pierce - Schro	135.86	13	P	PKPdf	12 11 45.2	+0.8
	baz=341						
G35A	Watkins	135.89	16	P	PKPdf	12 11 44.8	+0.3
	baz=337						
F37A	Hinrichs Farm,	135.91	14	P	PKPdf	12 11 45.3	+0.8
	baz=340						
E41A	Kenton	135.97	10	P	PKPdf	12 11 44.1	-0.5
	baz=345						
H34A	Spellman Lake,	136.02	18	P	PKPdf	12 11 45.4	+0.7
	baz=335						
I32A	Karley and Nic	136.06	20	P	PKPdf	12 11 44.9	+0.1
	baz=332						
G36A	St. Michael	136.08	15	P	PKPdf	12 11 45.4	+0.6
	baz=338						
F39A	Loretta	136.12	12	P	PKPdf	12 11 45.1	+0.2
	baz=342						
ISCO	Idaho Springs	136.12	30	P	PKPdf	12 11 45.9	+0.4
	baz=319						
ISCO	Idaho Springs	136.12	30	PFAKE		12 12 00.0	+15
ISCO				LR	LR		
	comp=Z,582nm,19.0s						
TRQA	Tornquist	136.15	199	PFAKE		12 12 00.0	+15
TRQA				LR	LR		
	comp=Z,1μm,20.0s						
E42A	Champion	136.19	9	P	PKPdf	12 11 46.1	+1.1
	baz=347						
J31A	Geddes	136.26	21	P	PKPdf	12 11 46.1	+0.9
	baz=330						
I33A	Coleman	136.26	19	P	PKPdf	12 11 46.2	+1.0
	baz=333						
H35A	Sunnyside Ranc	136.27	17	P	PKPdf	12 11 45.7	+0.5
	baz=336						
F40A	Park Falls	136.28	12	P	PKPdf	12 11 45.4	+0.2
	baz=343						
SPMN	Marine on St.	136.33	15	P	PKPdf	12 11 46.3	+1.0
	baz=339						
E43A	Lone Tree Farm	136.38	8	P	PKPdf	12 11 45.7	+0.3
	baz=348						
RCBR	Riachuelo	136.40	258	PFAKE		12 12 00.0	+14
RCBR				LR	LR		
	comp=Z,626nm,20.0s						
MVCO	Mesa Verde	136.44	35	P	PKPdf	12 11 48.0	+2.0
	baz=314						
MVCO	Mesa Verde	136.44	35	ePKPdf	PKPdf	12 11 47.8	+1.8
MVCO				LR	LR		
	comp=Z,457nm,21.0s						
I34A	Hadley	136.57	18	P	PKPdf	12 11 47.3	+1.5
	baz=335						
ECSD	EROS Data Cent	136.60	19	P	PKPdf	12 11 46.7	+0.8
	baz=333						
ECSD	EROS Data Cent	136.60	19	ePKPdf	PKPdf	12 11 43.1	-2.8
ECSD				LR	LR		
	comp=Z,1μm,19.0s						
G38A	Ridgeland	136.61	14	P	PKPdf	12 11 46.3	+0.5
	baz=341						
E45A	Wooded Hills,	136.63	7	P	PKPdf	12 11 46.0	+0.1
	baz=350						
H36A	Jessenland, He	136.64	16	P	PKPdf	12 11 47.5	+1.6
	baz=338						
F41A	Three Lakes	136.65	11	P	PKPdf	12 11 47.2	+1.3
	baz=345						
G39A	Holcombe	136.66	13	P	PKPdf	12 11 47.3	+1.4
	baz=342						
F42A	Maple Grove Fa	136.80	10	P	PKPdf	12 11 47.5	+1.3
	baz=346						
K31A	O'Neill	136.83	22	P	PKPdf	12 11 47.6	+1.2
	baz=330						
F44A	Big Bay de Noc	136.85	8	P	PKPdf	12 11 47.5	+1.3
	baz=349						
J33A	Davis	136.85	20	P	PKPdf	12 11 47.0	+0.7
	baz=333						
F43A	Flat Rock, Esc	136.88	9	P	PKPdf	12 11 47.4	+1.1
	baz=348						
G40A	Rib Lake	136.89	12	P	PKPdf	12 11 47.1	+0.8
	baz=343						
OGNE	Ogallala	136.91	26	PFAKE		12 12 00.0	+13
OGNE				LR	LR		
	comp=Z,870nm,19.0s						
H38A	Maiden Rock	136.98	14	P	PKPdf	12 11 47.8	+1.3
	baz=340						
I35A	Creekview Farm	137.00	17	P	PKPdf	12 11 47.1	+0.5
	baz=336						
S22A	4UR Ranch, Cre	137.00	33	P	PKPdf	12 11 47.8	+0.6
	baz=316						
S22A	4UR Ranch, Cre	137.00	33	ePKPdf	PKPdf	12 11 48.1	+1.0
K32A	Verdigre	137.09	21	P	PKPdf	12 11 47.0	+0.2
	baz=331						
W18A	Petrified Fore	137.10	38	P	PKPdf	12 11 49.6	+2.3
	baz=311						
G41A	Antigo	137.14	11	P	PKPdf	12 11 49.1	+2.3
	baz=344						
H39A	Augusta	137.21	13	P	PKPdf	12 11 48.0	+1.1
	baz=341						
J34A	George	137.22	19	P	PKPdf	12 11 48.0	+1.0
	baz=334						
G42A	Mountain	137.25	10	P	PKPdf	12 11 48.1	+1.1
	baz=346						
F45A	CMU Biological	137.26	7	P	PKPdf	12 11 47.6	+0.7
	baz=350						
F46A	Macinaw City C	137.26	6	P	PKPdf	12 11 48.1	+1.1
	baz=351						
I37A	Lemond, Waseca	137.30	16	P	PKPdf	12 11 47.5	+0.3
	baz=338						
PKME	Peaks-Kenny Pk	137.31	350	ePKPdf	PKPdf	12 11 49.1	+2.0
X18A	Snowflake	137.35	39	ePKPdf	PKPdf	12 11 47.9	+0.2
G43A	Wallace	137.36	9	P	PKPdf	12 11 48.1	+1.0
	baz=347						
H40A	Chili	137.46	12	P	PKPdf	12 11 47.8	+0.4
	baz=343						
I38A	Scanlan Farm,	137.56	15	P	PKPdf	12 11 47.5	-0.1
	baz=340						
H41A	Junction City	137.62	12	P	PKPdf	12 11 47.7	0.0
	baz=344						
L32A	Elgin	137.64	22	P	PKPdf	12 11 48.0	+0.1
	baz=331						
J36A	Seneca 1, Swea	137.67	17	P	PKPdf	12 11 47.5	-0.4
	baz=336						
K34A	Le Mars	137.71	19	P	PKPdf	12 11 47.7	-0.2
	baz=334						
SDCO	Great Sand Dun	137.72	32	P	PKPdf	12 11 48.5	0.0
	baz=318						
SDCO	Great Sand Dun	137.72	32	ePKPdf	PKPdf	12 11 48.9	+0.4
SDCO				LR	LR		
	comp=Z,605nm,20.0s						
J37A	Redenius Farm,	137.91	16	P	PKPdf	12 11 48.1	-0.2
	baz=336						
I39A	Houston	137.93	14	P	PKPdf	12 11 48.8	+0.5
	baz=341						
H42A	Shiocton	137.94	11	P	PKPdf	12 11 49.1	+0.8
	baz=345						
K35A	Storm Lake	137.95	18	P	PKPdf	12 11 48.9	+0.5
	baz=335						
BGNE	Belgrade	138.11	22	P	PKPdf	12 11 49.0	+0.2
	baz=330						
BGNE	Belgrade	138.11	22	ePKPdf	PKPdf	12 11 49.4	+0.7
I40A	Norwalk	138.11	13	P	PKPdf	12 11 49.5	+0.9
	baz=342						
TUC	Tucson	138.18	43	P	PKPdf	12 11 50.0	+0.8
	baz=307						
TUC	Tucson	138.18	43	ePKHKP	PKPpre	12 11 41.1	
TUC				e		12 11 50.1	
TUC				MLR	MLR		
	comp=Z,689nm,20.0s						
TUC	Tucson	138.18	43	ePKPpre	PKPpre	12 11 41.1	
TUC				ePKPdf	PKPdf	12 11 50.1	+0.9
TUC				LR	LR		
	comp=Z,689nm,20.0s						
KSCO	Kaye Shedlock'	138.19	28	P	PKPdf	12 11 50.0	+0.9
	baz=323						
J38A	Wedel Dairy, R	138.20	15	P	PKPdf	12 11 49.4	+0.6
	baz=339						
L34A	Svendsen Farm,	138.25	20	P	PKPdf	12 11 50.1	+1.1
	baz=333						
K36A	Gilmore City	138.27	18	P	PKPdf	12 11 48.6	-0.3
	baz=336						
M33A	Taylor Creek F	138.32	21	P	PKPdf	12 11 47.9	-1.2
	baz=332						
J39A	Decorah	138.38	14	P	PKPdf	12 11 48.2	-1.0
	baz=340						
K37A	Belmond	138.39	17	P	PKPdf	12 11 48.0	-1.2
	baz=337						
L35A	Bielow Farm, R	138.40	19	P	PKPdf	12 11 48.9	-0.3
	baz=334						
I42A	Draeger Farm,	138.47	11	P	PKPdf	12 11 48.8	-0.5
	baz=344						
J40A	Soldiers Grove	138.55	13	P	PKPdf	12 11 48.5	-1.0
	baz=342						
MHTCO	State Highway	138.61	32	ePKPdf	PKPdf	12 11 51.6	+1.6
L36A	Harm Buss Farm	138.69	18	P	PKPdf	12 11 49.6	-0.2
	baz=335						
J41A	Loganville	138.74	13	P	PKPdf	12 11 49.9	+0.1
	baz=343						
K38A	Parkersburg	138.74	16	P	PKPdf	12 11 49.6	-0.2
	baz=338						
T25A	Trinidad	138.75	32	P	PKPdf	12 11 49.9	-0.4
	baz=319						
T25A	Trinidad	138.75	32	ePKPdf	PKPdf	12 11 50.6	+0.3
K39A	Oelwein	138.92	15	P	PKPdf	12 11 49.2	-1.0
	baz=340						
M35A	Neola	138.93	20	P	PKPdf	12 11 49.6	-0.7
	baz=334						
L37A	Phoenix Point,	138.95	17	P	PKPdf	12 11 48.9	-1.3
	baz=337						
J42A	Columbus	138.98	12	P	PKPdf	12 11 50.2	-0.1
	baz=344						
J43A	Natural Harves	139.05	11	P	PKPdf	12 11 49.7	-0.7
	baz=345						
MDV	Middlebury	139.09	354	ePKPdf	PKPdf	12 11 52.7	+2.4
K40A	Colesburg	139.12	14	P	PKPdf	12 11 50.1	-0.4
	baz=341						
JFWS	Jewell Farm	139.12	13	ePKIKP	PKPdf	12 11 50.1	-0.4
JFWS	Jewell Farm	139.12	13	ePKPdf	PKPdf	12 11 50.1	-0.4
L38A	Oak Wood Farm,	139.16	16	P	PKPdf	12 11 51.1	+0.5
	baz=338						
ANMO	Albuquerque	139.20	36	PKhKP	PKPpre	12 11 43.5	
	comp=Z,5.4nm,1.0s,baz=124,slow=2.5,SNR=12						
ANMO	Albuquerque	139.20	36	ePKPpre	PKPpre	12 11 43.6	
ANMO				ePKPdf	PKPdf	12 11 52.3	+1.1
ANMO				LR	LR		
	comp=Z,551nm,21.0s						
N34A	Lincoln	139.21	21	P	PKPdf	12 11 50.1	-0.7
	baz=332						
SCIA	State Center	139.30	17	PFAKE		12 12 00.0	+9.1
SCIA				LR	LR		
	comp=Z,658nm,20.0s						
K41A	Shullsburg	139.40	13	P	PKPdf	12 11 50.1	-0.9
	baz=342						
L39A	Vinton	139.44	15	P	PKPdf	12 11 50.1	-1.0
	baz=339						
K42A	Prairie Point,	139.45	12	P	PKPdf	12 11 50.6	-0.5
	baz=344						
M37A	Trindle Farm,	139.51	18	P	PKPdf	12 11 50.6	-0.6
	baz=336						
LPM	Los Pinos Moun	139.54	37	ePKPdf	PKPdf	12 11 54.1	+2.4
SPB	Sao Paulo	139.59	227	PFAKE		12 12 00.0	+8.1
SPB				LR	LR		
	comp=Z,840nm,20.0s						
BNM	Barren Site	139.65	37	ePKPdf	PKPdf	12 11 54.4	+2.3
CBKS	Cedar Bluff	139.67	26	PFAKE		12 12 00.0	+8.3
CBKS				LR	LR		
	comp=Z,1μm,19.0s						
L40A	Anamosa	139.69	15	P	PKPdf	12 11 50.4	-1.2
	baz=340						
O34A	Beatrice	139.72	22	P	PKPdf	12 11 52.1	+0.4
	baz=332						
M38A	Pleasantville	139.76	17	P	PKPdf	12 11 51.6	-0.1
	baz=337						
N36A	Muff Farm, Cla	139.76	19	P	PKPdf	12 11 51.5	-0.2
	baz=334						
L41A	Preston	139.86	14	P	PKPdf	12 11 51.6	-0.3
	baz=342						
O35A	Humboldt	139.93	21	P	PKPdf	12 11 51.5	-0.5
	baz=333						
M39A	Webster	139.99	16	P	PKPdf	12 11 51.9	-0.2
	baz=339						
121A	Cookes Peak, D	140.02	40	P	PKPdf	12 11 51.3	-1.4
	baz=311						
121A	Cookes Peak, D	140.02	40	ePKPpre	PKPpre	12 11 46.9	
121A				ePKPdf	PKPdf	12 11 53.4	+0.8
L43A	Garden Prairie	140.14	12	P	PKPdf	12 11 50.5	-1.8
	baz=344						
P34A	Walnut Farm, R	140.22	22	P	PKPdf	12 11 53.0	+0.4
	baz=331						
M40A	Post Highland	140.24	15	P	PKPdf	12 11 52.0	-0.6
	baz=340						
N38A	Joes South For	140.32	17	P	PKPdf	12 11 53.1	+0.4
	baz=337						
N39A	Derby Farms, D	140.46	17	P	PKPdf	12 11 51.9	-1.1
	baz=338						
M41A	Milan	140.51	14	P	PKPdf	12 11 50.9	-2.2
	baz=341						
P35A	Duane Minner,	140.54	21	P	PKPdf	12 11 53.8	+0.5
	baz=332						
O37A	Wolven Farm, M	140.61	19	P	PKPdf	12 11 54.2	+0.9
	baz=335						
KSU1	Kansas State U	140.69	22	P	PKPdf	12 11 53.9	+0.4
	baz=331						
KSU1	Kansas State U	140.69	22	ePKPdf	PKPdf	12 11 53.5	+0.1
KSU1				LR	LR		
	comp=Z,890nm,21.0s						
Q34A	Chapman	140.72	23	P	PKPdf	12 11 54.3	+0.7
	baz=330						
P36A	Good Intent, A	140.75	20	P	PKPdf	12 11 53.1	-0.5
	baz=333						
AAM	Ann Arbor	140.81	6	PFAKE		12 12 10.0	+16
AAM				LR	LR		
	comp=Z,860nm,20.0s						
M43A	Waltham Townsh	140.81	12	P	PKPdf	12 11 53.4	-0.2
	baz=344						
O38A	Galt	140.86	18	P	PKPdf	12 11 52.8	-0.9
	baz=336						
P37A	Lathrop	141.07	19	P	PKPdf	12 11 52.8	-1.3
	baz=335						
Q35A	Mercer Eighty,	141.12	22	P	PKPdf	12 11 53.5	-0.8
	baz=332						
R34A	Isabella, Hill	141.14	24	P	PKPdf	12 11 50.3	-4.0
	baz=330						
M46A	Old House Fiel	141.33	9	P	PKPdf	12 11 53.0	-1.6
	baz=348						
O40A	La Belle	141.34	16	P	PKPdf	12 11 54.3	-0.3
	baz=339						
HDIL	Hopedale	141.58	13	PFAKE		12 12 10.0	+15
HDIL				LR	LR		
	comp=Z,708nm,20.0s						
P39B	Salisbury	141.67	18	P	PKPpre	12 11 50.9	
	baz=337						
S34A	Willow Spring	141.71	24	P	PKPpre	12 11 51.2	
	baz=329						
N46A	Monticello	141.77	10	P	PKPpre	12 11 50.8	
	baz=347						
R36A	Gordon, Harris	141.79	22	P	PKPpre	12 11 50.7	
	baz=332						
P40A	Paris	141.84	17	P	PKPpre	12 11 50.9	
	baz=338						
M54A	Oil Creek Stat	141.85	1	P	PKPpre	12 11 51.3	
	baz=358						
Q38A	Cooks Store, C	141.87	19	P	PKPpre	12 11 50.6	
	baz=335						
AMTX	Amarillo	141.89	31	P	PKPpre	12 11 51.6	
	baz=321						
AMTX	Amarillo	141.89	31	ePKPdf	PKPdf	12 11 59.8	+3.9
P41A	Barry, Barry	141.98	16	P	PKPpre	12 11 51.3	
	baz=340						
MSTX	Muleshoe	142.00	34	P	PKPpre	12 11 52.8	
	baz=319						
MSTX	Muleshoe	142.00	34	ePKPdf	PKPdf	12 11 56.3	+0.1
Q39A	Willow Grove F	142.00	18	P	PKPpre	12 11 51.1	
	baz=336						
U32A	Winter Ranch,	142.01	27	P	PKPpre	12 11 52.3	
	baz=326						
S35A	Otter Creek Ra	142.04	23	P	PKPpre	12 11 52.3	
	baz=331						
R37A	Teagarden Farm	142.04	21	P	PKPpre	12 11 51.1	
	baz=333						
MNTX	Cornudas Mount	142.09	39	P	PKPdf	12 11 53.8	-2.4
	baz=313						
MNTX	Cornudas Mount	142.09	39	ePKPdf	PKPdf	12 11 55.1	-1.1
MNTX				LR	LR		
	comp=Z,584nm,21.0s						
O44A	Mansfield	142.15	12	P	PKPdf	12 11 53.5	-2.5
	baz=344						
SFIN	Lafayette	142.20	11	P	PKPpre	12 11 51.4	
	baz=346						
O45A	Potomac	142.21	11	P	PKPpre	12 11 53.1	
	baz=345						
P42A	Winchester	142.25	15	P	PKPpre	12 11 53.6	
	baz=341						
T34A	McClaskey Farm	142.26	25	P	PKPpre	12 11 52.4	
	baz=329						
S36A	Lake Cedric, C	142.28	22	P	PKPpre	12 11 51.9	
	baz=332						
Q40A	Laux Farm, Aux	142.32	17	P	PKPpre	12 11 51.6	
	baz=338						
N59A	State Game Lan	142.36	356	P	PKPdf	12 11 55.4	-1.1
	baz=4.7						
N54A	Moraine State	142.39	2	P	PKPdf	12 11 55.5	-0.9
	baz=358					

P46A	Rosedale	142.92	11	P	PKPpre	12 11 53.8	
	baz=346						
ACSO	Alum Creek Sta	142.93	6	ePKPpre	PKPpre	12 11 54.3	
ACSO				LR	LR		
	comp=Z,1µm,21.0s						
S38A	Stockton	142.98	20	P	PKPpre	12 11 53.3	
	baz=334						
U35A	Pawnee	143.00	25	P	PKPab	12 11 53.5	+0.6
	baz=329						
Q43A	New Douglas	143.02	14	P	PKPbc	12 11 53.8	-0.6
	baz=342						
T37A	Cheneyville 18	143.07	22	P	PKPbc	12 11 53.9	-0.7
	baz=332						
O56A	Blue Knob Stat	143.10	360	P	PKPab	12 11 53.5	+0.3
	baz=0.1						
S39A	Bolivar	143.12	20	P	PKPab	12 11 53.8	+0.5
	baz=335						
R41A	Rosebud	143.17	17	P	PKPbc	12 11 54.4	-0.5
	baz=338						
P47A	Martinsville	143.22	10	P	PKPbc	12 11 54.3	-0.6
	baz=347						
Q44A	Meyer Farm, Va	143.22	14	P	PKPbc	12 11 54.7	-0.3
	baz=343						
MVL	Millersville	143.31	357	ePKPdf	PKPbc	12 11 56.5	+1.4
R42A	Luebbering	143.35	16	P	PKPab	12 11 54.5	+0.2
	baz=339						
T38A	Diamond	143.37	21	P	PKPab	12 11 54.7	+0.3
	baz=333						
U36A	Oologah	143.39	23	P	PKPbc	12 11 55.6	+0.1
	baz=331						
CCM	Cathedral Cave	143.44	17	ePKPpre	PKPpre	12 11 54.9	
CCM				ePKPdf	PKPbc	12 11 55.3	-0.3
WMOK	Wichita Mounta	143.46	28	P	PKPab	12 11 54.7	-0.1
	baz=325						
WMOK	Wichita Mounta	143.46	28	ePKIKP	PKPab	12 11 54.6	-0.2
WMOK				MLR	MLR		
	comp=Z,1µm,19.0s						
WMOK	Wichita Mounta	143.46	28	ePKPdf	PKPab	12 11 55.3	+0.5
WMOK				LR	LR		
	comp=Z,1µm,19.0s						
S40A	Lebanon	143.47	19	P	PKPab	12 11 54.3	-0.4
	baz=336						
V35A	Meyer Ranch, C	143.48	25	P	PKPab	12 11 54.8	-0.1
	baz=328						
SLBS	Sierra La Lagu	143.53	53	ePKPdf	PKPbc	12 11 57.4	+1.0
OLIL	Olney	143.59	13	ePKPdf	PKPbc	12 11 57.3	+1.3
R43A	Red Bud	143.59	15	P	PKPbc	12 11 56.1	+0.1
	baz=341						
U37A	Salina	143.62	23	P	PKPbc	12 11 56.3	+0.1
	baz=332						
MCWV	Mont Chateau	143.69	2	ePKPdf	PKPbc	12 11 56.7	+0.4
T39A	Clever	143.71	20	P	PKPab	12 11 55.8	+0.1
	baz=335						
S41A	Jillco Farms,	143.72	18	P	PKPab	12 11 55.4	-0.3
	baz=338						
FVM	French Village	143.73	16	ePKIKP	PKPbc	12 11 56.4	-0.1
FVM	French Village	143.73	16	ePKPpre	PKPab	12 11 56.4	+0.7
TUL1	Leonard	143.79	24	P	PKPab	12 11 56.1	+0.1
	baz=330						
TUL1	Leonard	143.79	24	ePKPpre	PKPab	12 11 56.1	+0.1
TUL1				ePKPdf	PKPab	12 11 56.7	+0.7
R44A	Waltonville	143.83	14	P	PKPab	12 11 56.2	+0.1
	baz=342						
S42A	Caledonia	143.83	16	P	PKPab	12 11 55.8	-0.4
	baz=339						
V36A	Jenks	143.83	24	P	PKPab	12 11 56.2	+0.1
	baz=330						
U38A	Gravette	143.87	22	P	PKPab	12 11 55.7	-0.6
	baz=333						
T40A	Mansfield	143.88	19	P	PKPab	12 11 56.1	-0.3
	baz=336						
W35A	Tecumseh	143.98	26	P	PKPab	12 11 57.0	+0.3
	baz=328						
V37A	Hulbert	144.07	23	P	**PKPab**	**12 11 56.7**	**-0.4**
	baz=331						
CPUP	Villa Florida	144.13	214	PKP	PKPbc	12 11 58.1	+0.1
	comp=Z,8.3nm,0.8s,baz=156,slow=3.0,SNR=14						
CPUP	Villa Florida	144.13	214	ePKIKP	PKPbc	12 11 58.5	+0.5
CPUP	Villa Florida	144.13	214	ePKPdf	PKPbc	12 11 58.5	+0.5
HHAR	Hobbs	144.17	21	ePKPdf	**PKPab**	**12 11 57.1**	**-0.4**
S43A	Fulton Ridge,	144.22	16	P	**PKPab**	**12 11 57.0**	**-0.6**
	baz=340						
T41A	Mountain View	144.22	18	P	**PKPab**	**12 11 56.6**	**-1.0**
	baz=337						
U39A	Green Forest	144.25	21	P	**PKPab**	**12 11 57.0**	**-0.8**
	baz=334						
W36A	Wetumka	144.27	25	P	**PKPab**	**12 11 57.2**	**-0.7**
	baz=329						
S44A	Carbondale	144.31	15	P	PKPbc	12 11 58.3	+0.1
	baz=342						
V38A	Canehill	144.37	22	P	**PKPab**	**12 11 57.4**	**-0.8**
	baz=332						
BDFB	Brasilia	144.39	237	PKP	PKPbc	12 11 59.6	+0.4
	comp=Z,11nm,0.6s,baz=247,slow=2.7,SNR=20						
BDFB				pPKP	pPKPdf	12 12 14.4	+0.3
	comp=Z,18nm,0.6s,baz=282,slow=2.8,SNR=11						
BDFB	Brasilia	144.39	237	ePKIKP	**PKPdf**	**12 12 00.1**	**-0.7**
BDFB						12 12 14.4	
BDFB	Brasilia	144.39	237	ePKPdf	**PKPdf**	**12 12 00.1**	**-0.7**
BDFB				pPKP	**pPKPdf**	**12 12 14.4**	**+0.3**
USIN	University of	144.42	12	ePKPdf	PKPbc	12 11 58.9	+0.3
WCI	Wyandotte Cave	144.44	10	ePKIKP	**PKPab**	**12 11 58.0**	**-0.3**
WCI	Wyandotte Cave	144.44	10	ePKPdf	**PKPab**	**12 11 58.0**	**-0.3**
U40A	Yellville	144.49	20	P	**PKPab**	**12 11 57.9**	**-0.7**
	baz=335						
S45A	Carrier Mills	144.49	14	P	PKPbc	12 11 58.9	+0.1
	baz=343						
X35A	Drake	144.57	27	P	**PKPab**	**12 11 58.1**	**-0.9**
	baz=327						
W37B	Quinton	144.60	24	P	**PKPab**	**12 11 58.7**	**-0.4**
	baz=330						
T43A	Greenville	144.62	16	P	**PKPab**	**12 11 58.8**	**-0.3**
	baz=340						
V39A	Pettigrew	144.68	21	P	**PKPab**	**12 11 58.6**	**-0.8**
	baz=334						
X36A	Centrahoma	144.70	26	P	**PKPab**	**12 11 59.1**	**-0.3**
	baz=328						
ABTX	Abilene, Hawle	144.71	32	P	**PKPab**	**12 11 59.6**	**0.0**
	baz=322						
TX31	Lajitas Ar. Si	144.78	40	ePKPdf	PKPbc	12 12 00.4	+0.3
TXAR	Lajitas Array	144.78	40	PKP	**PKPab**	**12 11 60.0**	**0.0**
	comp=Z,30nm,0.7s,baz=294,slow=1.2,SNR=336						
TXAR				SKPbc	**SKPbc**	**12 15 35.7**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=344,slow=2.0,SNR=4.3						
TXAR	Lajitas Array	144.78	40	PKIKP	**PKPab**	**12 12 00.0**	**0.0**
TXAR				pmax	pmax		
	comp=Z,30nm,0.7s						
T44A	Benton	144.80	15	P	PKPbc	12 11 60.0	+0.2
	baz=341						
U41A	Viola	144.81	19	P	**PKPab**	**12 11 59.5**	**-0.2**
	baz=337						
PBMO	Poplar Bluff	144.86	17	ePKPdf	**PKPab**	**12 11 58.4**	**-1.5**
Y35A	Marietta	144.95	27	P	**PKPab**	**12 11 59.7**	**-0.7**
	baz=327						
HPIG		144.98	45	ePKPdf	**PKPab**	**12 12 00.3**	**-0.7**
V40A	Witts Springs	145.00	20	P	**PKPab**	**12 11 59.6**	**-1.0**
	baz=335						
U42A	Revenden	145.02	18	P	**PKPbc**	**12 11 59.8**	**-0.7**
	baz=338						
W38A	Poteau	145.03	23	P	**PKPbc**	**12 12 00.1**	**-0.5**
	baz=332						
X37A	Clayton	145.10	25	P	**PKPbc**	**12 12 00.4**	**-0.5**
	baz=330						
CBN	Corbin Frederi	145.14	358	PFAKE		12 12 10.0	+8.7
CBN				LR	LR		
	comp=Z,1µm,21.0s						
PARMO	Parma	145.16	16	ePKPbc	**PKPab**	**12 12 01.1**	**+0.1**
W39A	Magazine	145.20	22	P	**PKPbc**	**12 12 00.5**	**-0.6**
	baz=333						
SPFD	Spotsylvania F	145.21	358	ePKPbc	**PKPbc**	**12 12 00.3**	**-0.8**
V41A	Mountainview	145.24	19	P	**PKPbc**	**12 12 00.5**	**-0.8**
	baz=336						
U43A	Rector	145.25	17	P	**PKPbc**	**12 12 00.4**	**-0.9**
	baz=339						
X38A	Whitesboro	145.25	24	P	**PKPbc**	**12 12 01.2**	**-0.1**
	baz=331						
IP04	Greensprings	145.27	359	ePKPbc	**PKPbc**	**12 12 00.8**	**-0.5**
CVRD	Centerville Ro	145.29	359	ePKPbc	**PKPbc**	**12 12 00.8**	**-0.6**
Y36A	Durant	145.30	26	P	**PKPbc**	**12 12 01.0**	**-0.5**
	baz=328						
IP03	Louisa	145.34	359	ePKPbc	**PKPbc**	**12 12 00.9**	**-0.6**
IP01	Cuckoo	145.40	359	ePKPbc	**PKPbc**	**12 12 01.1**	**-0.6**
IP06	Yanceyville	145.43	359	ePKPbc	**PKPbc**	**12 12 01.1**	**-0.7**
IP07	Quail	145.44	359	ePKPbc	**PKPbc**	**12 12 01.2**	**-0.6**
W40A	Ferguson Farm,	145.46	21	P	**PKPbc**	**12 12 01.6**	**-0.4**
	baz=334						
V42A	Cord	145.47	18	P	**PKPdf**	**12 12 01.3**	**-0.7**
	baz=337						
Y37A	Hugo	145.52	25	P	**PKPbc**	**12 12 02.2**	**0.0**
	baz=329						
IP05	Hopewell Churc	145.52	359	ePKPdf	**PKPdf**	**12 12 01.5**	**-0.5**
U44B	Burton Farm, H	145.57	15	P	**PKPbc**	**12 12 02.3**	**0.0**
	baz=341						
WHAR	Wooly Hollow	145.65	20	ePKPdf	**PKPdf**	**12 12 02.2**	**-0.1**
GLAT	Glass	145.65	15	ePKPdf	**PKPab**	**12 12 03.5**	**+0.6**
X301	Greenbrier Sit	145.66	20	ePKPdf	**PKPdf**	**12 12 01.9**	**-0.4**
JSRW	J. Sargeant Re	145.66	359	ePKPdf	**PKPdf**	**12 12 01.9**	**-0.3**
X39A	Fountain Ranch	145.68	23	P	**PKPbc**	**12 12 02.8**	**0.0**
	baz=332						
UTMT	University of	145.69	15	ePKPdf	**PKPbc**	**12 12 02.5**	**-0.1**
U45A	Rockin P Farm,	145.71	15	P	**PKPbc**	**12 12 02.9**	**+0.1**
	baz=342						
V43A	Jonesboro	145.75	17	P	**PKPbc**	**12 12 02.9**	**0.0**
	baz=339						
Z36A	Blue Ridge	145.76	27	P	**PKPbc**	**12 12 02.8**	**-0.2**
	baz=327						
W41B	Gary Mavity, V	145.77	20	P	**PKPdf**	**12 12 02.1**	**-0.4**
	baz=335						
URVA	University of	145.78	358	ePKPdf	**PKPbc**	**12 12 02.7**	**-0.2**
MIAR	Mount Ida	145.85	22	P	**PKPbc**	**12 12 03.2**	**0.0**
	baz=333						
MIAR	Mount Ida	145.85	22	ePKP2	**PKPbc**	**12 12 03.4**	**+0.1**
MIAR				MLR	MLR		
	comp=Z,635nm,22.0s						
MIAR	Mount Ida	145.85	22	ePKPdf	**PKPbc**	**12 12 03.4**	**+0.1**
MIAR				LR	LR		
	comp=Z,635nm,22.0s						
V44A	Blytheville	145.90	16	P	**PKPbc**	**12 12 03.2**	**-0.1**
	baz=340						
W42A	Bald Knob	145.92	19	P	**PKPbc**	**12 12 03.6**	**+0.2**
	baz=337						
HBAR	Harrisburg	145.93	18	ePKPdf	**PKPbc**	**12 12 03.5**	**+0.1**
Y38A	Idabel	145.94	24	P	**PKPdf**	**12 12 02.7**	**-0.2**
	baz=330						
HALT	Halls	145.97	16	ePKPdf	**PKPdf**	**12 12 03.0**	**+0.1**
UALR	University of	146.09	20	ePKPdf	**PKPdf**	**12 12 02.9**	**-0.2**
VWCC	Virginia Weste	146.09	2	ePKPdf	**PKPdf**	**12 12 02.1**	**-0.9**
BLA	Blacksburg	146.11	3	ePKP2	**PKPdf**	**12 12 03.5**	**+0.4**
BLA				MLR	MLR		
	comp=Z,1µm,21.0s						
BLA	Blacksburg	146.11	3	ePKPdf	**PKPdf**	**12 12 03.5**	**+0.4**
BLA				LR	LR		
	comp=Z,1µm,21.0s						
WVT	Waverly	146.15	13	ePKP2	**PKPdf**	**12 12 03.5**	**+0.3**
WVT	Waverly	146.15	13	ePKPdf	**PKPdf**	**12 12 03.5**	**+0.3**
X40A	Basin Creek Fa	146.18	21	P	**PKPdf**	**12 12 03.7**	**+0.4**
	baz=334						
Z37A	Pogue Cattle C	146.18	26	P	**PKPbc**	**12 12 03.9**	**-0.4**
	baz=328						
Y39A	Lockesburg	146.19	23	P	**PKPbc**	**12 12 03.9**	**-0.4**
	baz=332						
V45A	Humboldt	146.24	15	P	**PKPbc**	**12 12 04.1**	**-0.3**
	baz=341						
JCT	Junction City	146.28	34	P	**PKPdf**	**12 12 03.9**	**+0.3**
	baz=320						
JCT	Junction City	146.28	34	ePKP2	**PKPdf**	**12 12 03.9**	**+0.3**
JCT				MLR	MLR		
	comp=Z,988nm,21.0s						
JCT	Junction City	146.28	34	ePKPdf	**PKPdf**	**12 12 03.9**	**+0.3**
JCT				LR	LR		
	comp=Z,988nm,21.0s						
X41A	Kaden, Bauxite	146.29	21	P	**PKPdf**	**12 12 03.9**	**+0.5**
	baz=334						
WHTX	Lake Whitney,	146.33	30	P	**PKPbc**	**12 12 04.5**	**-0.3**
	baz=325						
WHTX	Lake Whitney,	146.33	30	ePKPdf	**PKPbc**	**12 12 04.5**	**-0.3**
W43A	Forest City	146.35	18	P	**PKPbc**	**12 12 04.4**	**-0.3**
	baz=338						
136A	Ennis	146.38	28	P	**PKPbc**	**12 12 04.5**	**-0.4**
	baz=326						
Z38A	Mt. Pleasant	146.41	25	P	**PKPbc**	**12 12 04.6**	**-0.4**
	baz=330						
Y40A	Okolona	146.44	22	P	**PKPbc**	**12 12 05.2**	**+0.2**
	baz=333						
X42A	Stuttgart	146.54	20	P	**PKPab**	**12 12 05.8**	**-0.5**
	baz=336						
137A	Heron Place, G	146.63	27	P	**PKPbc**	**12 12 05.7**	**+0.1**
	baz=328						
W45A	Hickory Valley	146.73	16	P	**PKPbc**	**12 12 05.2**	**-0.7**
	baz=341						
Z39A	Irene McRaven,	146.76	24	P	**PKPbc**	**12 12 05.7**	**-0.2**
	baz=331						
236A	Katherine and	146.77	28	P	**PKPbc**	**12 12 06.0**	**-0.1**
	baz=326						
WLAR	White Oak Lake	146.79	22	ePKPdf	**PKPbc**	**12 12 05.4**	**-0.6**
Y41A	Eaglette Beard	146.80	22	P	**PKPbc**	**12 12 05.6**	**-0.4**
	baz=334						
X43A	Marvell	146.82	19	P	**PKPbc**	**12 12 05.8**	**-0.3**
	baz=337						
138A	Matatall Enter	146.88	26	P	**PKPbc**	**12 12 06.5**	**+0.1**
	baz=329						
Z40A	Long Farm, Mag	147.06	23	P	**PKPdf**	**12 12 05.7**	**+0.9**
	baz=332						
X44A	Crenshaw	147.06	18	P	**PKPbc**	**12 12 05.9**	**-0.9**
	baz=339						
CCAR	Cane Creek	147.07	20	ePKPdf	**PKPdf**	**12 12 05.6**	**+0.8**
LCO	Las Campanas	147.08	193	ePKPdf	**PKPdf**	**12 12 06.1**	**+0.8**
237A	Washetta, Mont	147.11	28	P	**PKPdf**	**12 12 05.8**	**+0.9**
	baz=327						
336A	Riesel	147.12	30	P	**PKPdf**	**12 12 05.1**	**+0.2**
	baz=325						
Y42A	Garnett, Star	147.14	20	P	**PKPdf**	**12 12 05.1**	**+0.2**
	baz=335						
139A	Bunkhouse Ranc	147.16	25	P	**PKPbc**	**12 12 06.9**	**-0.2**
	baz=330						
PLAL	Pickwick Lake	147.18	14	ePKPdf	**PKPdf**	**12 12 03.8**	**-1.1**
PLAL				ePKPbc	**PKPbc**	**12 12 06.3**	**-0.8**
435B	Jarrell	147.24	31	P	**PKPdf**	**12 12 06.1**	**+1.0**
	baz=323						
OXF	Oxford	147.27	17	ePKP2	**PKPdf**	**12 12 05.7**	**+0.6**
OXF	Oxford	147.27	17	ePKPdf	**PKPdf**	**12 12 05.7**	**+0.6**
Z41A	Richland Creek	147.29	22	P	**PKPbc**	**12 12 07.0**	**-0.4**
	baz=333						
TKL	Tuckaleechee C	147.35	8	ePKP2	**PKPbc**	**12 12 06.5**	**-1.1**
TKL	Tuckaleechee C	147.35	8	ePKPdf	**PKPbc**	**12 12 06.5**	**-1.1**
X45A	UM Field Stati	147.36	17	P	**PKPdf**	**12 12 06.1**	**+0.9**
	baz=340						
Y43A	Makayla and Ka	147.36	19	P	**PKPbc**	**12 12 07.3**	**-0.3**
	baz=337						
238A	Jacksonville	147.42	27	P	**PKPbc**	**12 12 07.4**	**-0.5**
	baz=328						
SWET	Sewanee	147.43	11	ePKPdf	**PKPdf**	**12 12 06.5**	**+1.2**
CPCT	Cooper Cave	147.45	9	ePKPdf	**PKPbc**	**12 12 07.4**	**-0.4**
140A	Cam and Jess,	147.53	24	P	**PKPbc**	**12 12 07.0**	**-1.1**
	baz=332						
Y44A	Strider, Charl	147.54	18	P	**PKPbc**	**12 12 07.2**	**-1.0**
	baz=338						
Z42A	Norrel Spur, H	147.59	21	P	**PKPdf**	**12 12 06.4**	**+0.8**
	baz=335						
337A	Centerville	147.65	28	P	**PKPdf**	**12 12 06.7**	**+0.9**
	baz=326						
436A	Wall Ranch, Ga	147.65	30	P	**PKPbc**	**12 12 07.9**	**-0.7**
	baz=325						
239A	Gary	147.69	26	P	**PKPbc**	**12 12 07.8**	**-0.8**
	baz=330						
141A	Papa Simpson,	147.83	23	P	**PKPbc**	**12 12 09.5**	**+0.6**
	baz=333						
NATX	Nacogdoches	147.83	26	P	**PKPbc**	**12 12 08.6**	**-0.4**
	baz=329						
NATX	Nacogdoches	147.83	26	ePKPdf	**PKPdf**	**12 12 06.8**	**+0.7**
NATX				LR	LR		
	comp=Z,985nm,19.0s						
Y45A	Yeager Farm, C	147.83	17	P	**PKPdf**	**12 12 07.0**	**+0.9**
	baz=339						
338A	Crockett	147.88	28	P	**PKPbc**	**12 12 09.4**	**+0.2**
	baz=328						
Z43A	Armstrong Fami	147.89	20	P	**PKPbc**	**12 12 08.5**	**-0.6**
	baz=336						
437A	Phantom Ranch,	147.93	29	P	**PKPbc**	**12 12 09.1**	**-0.1**
	baz=326						
240A	Hunter Patters	147.98	25	P	**PKPbc**	**12 12 10.3**	**+0.9**
	baz=331						
Y46A	Houston	148.01	16	P	**PKPdf**	**12 12 05.9**	**-0.4**
	baz=341						
536A	Bastrop	148.07	31	P	**PKPbc**	**12 12 10.7**	**+1.0**
	baz=324						
536A	Bastrop	148.07	31	ePKPdf	**PKPdf**	**12 12 05.8**	**-0.7**
Z44A	Pea Ridge, Bel	148.10	19	P	**PKPbc**	**12 12 09.2**	**-0.4**
	baz=337						
CNNC	Cliffs of the	148.11	359	ePKPbc	**PKPbc**	**12 12 09.6**	**-0.1**
CNNC				LR	LR		
	comp=Z,992nm,20.0s						
BG3	Lake Jocassee	148.11	7	ePKPdf	**PKPbc**	**12 12 09.0**	**-0.7**
KMSC	Kings Mountain	148.12	4	P	**PKPdf**	**12 12 07.9**	**+1.5**
	baz=355						
KMSC	Kings Mountain	148.12	4	ePKPdf	**PKPdf**	**12 12 06.6**	**+0.1**
833A	Chaparral WMA,	148.13	36	P	**PKPdf**	**12 12 07.7**	**+1.0**
	baz=318						
142A	Monroe	148.24	22	P	**PKPbc**	**12 12 08.9**	**-1.2**
	baz=334						
339A	Huntington	148.24	26	P	**PKPdf**	**12 12 07.9**	**+1.2**
	baz=329						
Z45A	Winona	148.25	18	P	**PKPbc**	**12 12 09.4**	**-0.7**
	baz=339						
Y47A	UCPARC, Winfie	148.26	15	P	**PKPdf**	**12 12 07.6**	**+0.9**
	baz=342						
143A	Socs Landing,	148.30	21	P	**PKPbc**	**12 12 11.0**	**+0.8**
	baz=335						
438A	Sam Houston St	148.31	28	P	**PKPbc**	**12 12 10.4**	**+0.1**
	baz=327						
241A	Mo Tay, Goldon	148.34	24	P	**PKPbc**	**12 12 10.7**	**+0.4**
	baz=332						
537A	Green Hill Far	148.45	30	P	**PKPbc**	**12 12 10.0**	**-0.7**
	baz=325						
340A	Bronson	148.46	25	P	**PKPbc**	**12 12 10.2**	**-0.4**
	baz=330						
636A	Smothers Creek	148.55	32	P	**PKPbc**	**12 12 09.1**	**-1.8**
	baz=323						
636A	Smothers Creek	148.55	32	ePKPdf	**PKPdf**	**12 12 08.7**	**+1.4**
242A	Grayson	148.60	22	P	**PKPbc**	**12 12 10.1**	**-0.9**
	baz=334						
439A	Center Grove,	148.60	27	P	**PKPbc**	**12 12 09.2**	**-1.8**
	baz=328						
735A	Kenedy	148.63	34	P	**PKPbc**	**12 12 10.2**	**-1.0**
	baz=321						
735A	Kenedy	148.63	34	ePKPbc	**PKPbc**	**12 12 12.1**	**+0.9**
Z46A	Louisville	148.64	17	P	**PKPbc**	**12 12 10.4**	**-0.6**
	baz=340						
144A	Alexander Plac	148.70	19	P	**PKPbc**	**12 12 10.3**	**-0.9**
	baz=337						
933A	Laredo	148.72	37	P	**PKPdf**	**12 12 09.3**	**+1.6**
	baz=317						
HKT	Hockley	148.80	30	ePKIKP	**PKPdf**	**12 12 09.2**	**+1.6**
HKT	Hockley	148.80	30	ePKPdf	**PKPdf**	**12 12 09.2**	**+1.6**
341A	Kurthwood	148.84	25	P	**PKPbc**	**12 12 10.0**	**-1.6**
	baz=331						
Z48A	Northport	148.84	15	P	**PKPbc**	**12 12 10.0**	**-1.5**
	baz=343						
Z47A	Carrollton	148.87	15	P	**PKPbc**	**12 12 10.5**	**-1.1**
	baz=342						
145A	Houston Renfro	148.89	19	P	**PKPbc**	**12 12 10.4**	**-1.4**
	baz=338						
HODGE	Hodges	148.94	6	ePKPdf	**PKPdf**	**12 12 08.5**	**+0.6**
736A	Circle Diamond	148.96	33	P	**PKPdf**	**12 12 09.7**	**+1.7**
	baz=322						
736A	Circle Diamond	148.96	33	ePKPdf	**PKPbc**	**12 12 10.2**	**-1.8**
637A	Eagle Lake	148.96	31	P	**PKPdf**	**12 12 10.0**	**+2.0**
	baz=324						
JSC	Jenkinsville	148.98	4	ePKP2	**PKPbc**	**12 12 10.7**	**-1.2**
JSC	Jenkinsville	148.98	4	ePKPbc	**PKPbc**	**12 12 10.7**	**-1.2**
440A	Kirbyville	149.01	26	P	**PKPbc**	**12 12 11.1**	**-1.0**
	baz=329						
243A	Waterproof	149.01	22	P	**PKPbc**	**12 12 12.3**	**+0.2**
	baz=335						
VBMS	Vicksburg	149.05	20	P	**PKPbc**	**12 12 10.7**	**-1.4**
	baz=336						
VBMS	Vicksburg	149.05	20	ePKPbc	**PKPbc**	**12 12 12.1**	**-0.1**
835A	Beeville	149.06	34	P	**PKPbc**	**12 12 10.3**	**-2.0**
	baz=320						
835A	Beeville	149.06	34	ePKPdf	**PKPdf**	**12 12 09.8**	**+1.6**
146A	Union	149.12	17	P	**PKPbc**	**12 12 10.4**	**-2.0**
	baz=340						
342A	Flagon Creek P	149.14	23	P	**PKPbc**	**12 12 12.3**	**-0.1**
	baz=333						
244A	Avery, Jackson	149.15	20	P	**PKPbc**	**12 12 12.0**	**-0.4**
	baz=336						
934A	Benavides	149.18	36	P	**PKPbc**	**12 12 12.5**	**-0.1**
	baz=319						
LRAL	Lakeview Retre	149.30	14	ePKPdf	**PKPdf**	**12 12 08.3**	**-0.1**
147A	Livingston	149.31	16	P	**PKPbc**	**12 12 12.1**	**-0.7**
	baz=341						
441A	DeRidder	149.34	25	P	**PKPbc**	**12 12 12.2**	**-0.7**
	baz=331						
638A	Rosharon	149.42	30	P	**PKPbc**	**12 12 14.4**	**+1.3**
	baz=326						
245A	Little AP, Sta	149.42	19	P	**PKPbc**	**12 12 13.2**	**+0.1**
	baz=338						
737A	Port Lavaca	149.44	32	P	**PKPbc**	**12 12 13.8**	**+0.6**
	baz=323						
540A	Vidor	149.46	27	P	**PKPbc**	**12 12 14.5**	**+1.2**
	baz=329						
034A	Hebbronville	149.48	37	P	**PKPbc**	**12 12 13.6**	**+0.2**
	baz=318						
343A	Vidalia	149.50	22	P	**PKPbc**	**12 12 13.8**	**+0.5**
	baz=334						
KVTX	Kingsville	149.59	35	ePKPbc	**PKPbc**	**12 12 11.7**	**-1.9**
KVTX				LR	LR		
	comp=Z,754nm,21.0s						
GOGA	Godfrey	149.60	8	ePKP2	**PKPbc**	**12 12 13.1**	**-0.4**
GOGA				MLR	MLR		
	comp=Z,1µm,21.0s						
GOGA	Godfrey	149.60	8	ePKPbc	**PKPbc**	**12 12 13.1**	**-0.4**
GOGA				LR	LR		
	comp=Z,1µm,21.0s						
344A	Westbrook Farm	149.67	21	P	**PKPbc**	**12 12 14.0**	**+0.3**
	baz=336						
246A	Jackson Lee, B	149.68	18	P	**PKPbc**	**12 12 14.0**	**+0.3**
	baz=339						
ZAIG	Zacatecas	149.73	48	ePKPdf	**PKPdf**	**12 12 12.0**	**+2.2**
247A	Quitman	149.80	17	P	**PKPbc**	**12 12 14.2**	**+0.2**
	baz=340						
035A	Encino	149.92	36	P	**PKPbc**	**12 12 15.5**	**+1.0**
	baz=318						
541A	Lake Charles	149.94	26	P	**PKPbc**	**12 12 14.1**	**-0

SAML Samuel 160.44 232 *e*PKPdf **PKPdf 12 12 24.2 +0.1**
SAML LR LR
comp=Z,1μm,22.0s
SJG San Juan 160.79 321 PFAKE 12 12 40.0 +16
SJG LR LR
comp=Z,694nm,21.0s
PTGA Pitinga 160.94 258 PKP **PKPdf 12 12 25.4 +0.6**
comp=Z,3.9nm,0.7s,baz=296,slow=20,SNR=6.0
PTGA PKPab **PKPab 12 13 07.7 +0.1**
comp=Z,5.8nm,0.8s,baz=112,slow=11,SNR=5.4
PTGA Pitinga 160.94 258 *e*PKPdf **PKPdf 12 12 24.4 -0.4**
PTGA PKPab **PKPab 12 13 07.7 +0.1**
PTGA LR LR
comp=Z,36μm,19.0s
SDDR Presa de Saban 162.75 336 *e*PKPab **PKPab 12 13 15.5 +0.5**
SDDR LR LR
comp=Z,586nm,20.0s
BANI BANI 162.86 332 *e*PKPdf **PKPdf 12 12 26.6 -0.1**
GTBY Guantanamo Bay 163.02 349 PFAKE 12 12 40.0 +13
GTBY LR LR
comp=Z,707nm,21.0s
NNA Nana 164.81 187 PFAKE 12 12 40.0 +11
NNA LR LR
comp=Z,397nm,20.0s
MTDJ Mount Denham 165.03 356 PFAKE 12 12 40.0 +11
MTDJ LR LR
comp=Z,554nm,20.0s
PAYG Puerto Ayora 167.73 108 PFAKE 12 12 40.0 +9.2
PAYG LR LR
comp=Z,678nm,20.0s
SDV Santo Domingo 170.25 306 PKP **PKPdf 12 12 31.5 -1.1**
comp=Z,2.0nm,0.2s,baz=339,slow=5.7,SNR=4.0
MOTC Monteria, Cord 173.72 332 *e*P PKPpre 12 12 31.2
BRRC Barranca, Sant 173.75 309 *e*P PKPpre 12 12 29.0
RUSC La Rusia 173.86 296 *e*P PKPpre 12 12 31.2
RUSC La Rusia 173.86 296 *e*PKPdf **PKPdf 12 12 33.4 -1.2**
BCIP Isla Barro Col 173.95 11 PFAKE 12 12 40.0 +6.0
BCIP LR LR
comp=Z,621nm,20.0s
HELC Santa Helena 175.71 314 *e*PKPdf **PKPdf 12 12 34.3 -0.8**
OTAV Otavalo 177.05 183 *e*P PKPpre 12 12 32.3
OTAV Otavalo 177.05 183 *e*PKPdf **PKPdf 12 12 36.4 +0.9**
OTAV LR LR
comp=Z,623nm,22.0s

ISK ***30*** *12:03:52.3,38°.61N×43°.14E,h5km,ML3.6*
DDA ***30*** *12:03:53.1,38°.61N×43°.17E,h5km,Ml3.3*
CSEM ***30*** *12:03:53.7±0.1,38°.62N×43°.17E,h2km,ML3.6,Error ellipse: s-maj=3.7km s-min=3.0km az=143.0*
ISC 30 12:03:53.9±0.9,38°.61N±0°.02×43°.16E±0°.02,h14km±7km, n67,σ1§13/85,2C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**95**	PG	**Pg**	**12 03 57.9**	**-0.3**
VANB				*e*SG	**Sg**	**12 04 02.0**	**+0.8**
VANB	**Van**	**0.18**	**95**	*i* Pg	**Pg**	**12 03 57.9**	**-0.3**
TVAN	**Van**	**0.21**	**113**	⇑*i* P	**Pg**	**12 03 57.8**	**-1.0**
TVAN	**Van**	**0.21**	**113**	P	**Pg**	**12 03 57.8**	**-1.0**
GEVA	**Gevas**	**0.31**	**195**	⇓*i* P	**Pb**	**12 03 60.0**	**-1.3**
GEVA	**Gevas**	**0.31**	**195**	P	**Pb**	**12 04 00.0**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.39**	**300**	*i* P	**Pb**	**12 04 01.5**	**-1.2**
ADCV				*i* S	**Sb**	**12 04 09.1**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.39**	**300**	P	**Pb**	**12 04 01.5**	**-1.2**
ADCV				S	**Sb**	**12 04 09.1**	**+0.4**
ERCV	**ERCIS-VAN**	**0.43**	**19**	*e*PG	**Pb**	**12 04 01.9**	**-1.5**
ERCV				*e*SG	**Sb**	**12 04 10.0**	**+0.1**
ERCV	**ERCIS-VAN**	**0.43**	**19**	*e*Pg	**Pb**	**12 04 01.9**	**-1.5**
VMUR	**Van-Muradiye**	**0.50**	**40**	*i* P	**Pb**	**12 04 03.8**	**-0.8**
VMUR				*i* S	**Sb**	**12 04 11.8**	**0.0**
VMUR	**Van-Muradiye**	**0.50**	**40**	P	**Pb**	**12 04 03.8**	**-0.8**
VMUR				S	**Sb**	**12 04 11.8**	**0.0**
TATV	**Tatvan**	**0.71**	**262**	*i* P	**Pb**	**12 04 06.5**	**-1.6**
TATV				*i* S	**Sb**	**12 04 18.3**	**+0.5**
TATV	**Tatvan**	**0.71**	**262**	P	**Pb**	**12 04 06.5**	**-1.6**
TATV				S	**Sb**	**12 04 18.3**	**+0.5**
CLDR	**Caldiran**	**0.80**	**48**	*e*PG	**Pb**	**12 04 08.5**	**-1.2**
CLDR				*e*SG	**Sb**	**12 04 21.1**	**+0.7**
CLDR	**Caldiran**	**0.80**	**48**	*i* P	**Pb**	**12 04 08.8**	**-0.9**
CLDR				*i* S	**Sb**	**12 04 20.2**	**-0.2**
CLDR	**Caldiran**	**0.80**	**48**	*e*Pg	**Pb**	**12 04 08.5**	**-1.2**
CLDR	**Caldiran**	**0.80**	**48**	P	**Pb**	**12 04 08.8**	**-0.9**
CLDR				S	**Sb**	**12 04 20.2**	**-0.2**
CLDR				*e*Sg	**Sb**	**12 04 21.1**	**+0.7**
TUTA	**Tutak**	**0.83**	**341**	*i* P	**Pb**	**12 04 09.2**	**-1.1**
TUTA	**Tutak**	**0.83**	**341**	P	**Pb**	**12 04 09.2**	**-1.1**
BASK	**Baskale_VAN**	**0.87**	**130**	*i* P	**Pb**	**12 04 09.9**	**-1.0**
BASK				*i* S	**Sn**	**12 04 24.6**	**+0.1**
BASK	**Baskale_VAN**	**0.87**	**130**	P	**Pb**	**12 04 09.9**	**-1.0**
BASK				S	**Sn**	**12 04 24.6**	**+0.1**
GURO	**Guroymak-BITLI**	**0.88**	**266**	*e*PG	**Pb**	**12 04 09.7**	**-1.4**
GURO	**Guroymak-BITLI**	**0.88**	**266**	*e*Pg	**Pb**	**12 04 09.7**	**-1.4**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*PG	**Pb**	**12 04 11.9**	**-0.8**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*Pg	**Pb**	**12 04 11.9**	**-0.8**
DYDN	**Diyadin**	**1.02**	**24**	*i* P	**Pg**	**12 04 12.3**	**-1.3**
DYDN	**Diyadin**	**1.02**	**24**	P	**Pg**	**12 04 12.3**	**-1.3**
EKAR	**Karacoban**	**1.07**	**307**	*i* P	**Pn**	**12 04 14.5**	**-0.2**
EKAR	**Karacoban**	**1.07**	**307**	P	**Pn**	**12 04 14.5**	**-0.2**
SRTM	**Siirt_Merkez**	**1.15**	**238**	*i* P	**Pn**	**12 04 16.0**	**+0.3**
SRTM	**Siirt_Merkez**	**1.15**	**238**	P	**Pn**	**12 04 16.0**	**+0.3**
SIRN	**S¨–rnak**	**1.26**	**208**	*i* P	**Pn**	**12 04 17.9**	**+0.7**
SIRN	**S¨–rnak**	**1.26**	**208**	P	**Pn**	**12 04 17.9**	**+0.7**
EATA	**Eleskirt**	**1.35**	**338**	*i* P	**Pb**	**12 04 18.8**	**-0.4**
EATA	**Eleskirt**	**1.35**	**338**	P	**Pb**	**12 04 18.8**	**-0.4**
CUKT	**Cukurca**	**1.41**	**165**	*e*PN	**Pg**	**12 04 20.4**	**-0.6**
CUKT	**Cukurca**	**1.41**	**165**	*i* P	**Pg**	**12 04 20.1**	**-0.8**
CUKT	**Cukurca**	**1.41**	**165**	P	**Pg**	**12 04 20.1**	**-0.8**
CUKT	**Cukurca**	**1.41**	**165**	*e*Pn	**Pg**	**12 04 20.4**	**-0.6**
BNGL	**BINGOL**	**1.61**	**283**	*i* P	**Pg**	**12 04 23.7**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*e*PN	**Pg**	**12 04 23.2**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*i* P	**Pg**	**12 04 24.2**	**-0.5**
SVAN				*i* S	**Sg**	**12 04 47.8**	**+2.2**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	*e*Pn	**Pg**	**12 04 23.2**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.61**	**254**	P	**Pg**	**12 04 24.2**	**-0.5**
SVAN				S	**Sg**	**12 04 47.8**	**+2.2**
BTMN	**Batman**	**1.65**	**245**	*i* P	**Pg**	**12 04 25.1**	**-0.5**
BTMN				*i* S	**Sg**	**12 04 47.8**	**+0.8**
BTMN	**Batman**	**1.65**	**245**	P	**Pg**	**12 04 25.1**	**-0.5**
BTMN				S	**Sg**	**12 04 47.8**	**+0.8**
HOMI	**Horasan**	**1.73**	**326**	*i* P	**Pg**	**12 04 27.1**	**0.0**
DIGO	**Kars**	**1.81**	**5**	*i* P	**Pg**	**12 04 27.4**	**-1.2**
DIGO	**Kars**	**1.81**	**5**	P	**Pg**	**12 04 27.4**	**-1.2**
ERZM	**Erzurum**	**1.90**	**313**	*i* P	**Pg**	**12 04 28.9**	**-1.4**
ERZM	**Erzurum**	**1.90**	**313**	P	**Pg**	**12 04 28.9**	**-1.4**
BNGB	**Bing¶ll**	**1.97**	**282**	*e*PN	**Pb**	**12 04 27.6**	**-2.0**
SENK	**Senkaya-Erzuru**	**2.04**	**342**	*e*PN	**Pb**	**12 04 29.6**	**-1.4**
SENK	**Senkaya-Erzuru**	**2.04**	**342**	*e*Pn	**Pb**	**12 04 29.6**	**-1.4**
EAK	**Akyaka**	**2.10**	**9**	*i* P	**Pg**	**12 04 33.0**	**-1.2**
EAK	**Akyaka**	**2.10**	**9**	P	**Pg**	**12 04 33.0**	**-1.2**
MARD	**Mardin**	**2.28**	**236**	*i* P	**Pb**	**12 04 34.7**	**-0.2**
MAZI	**Mazidag**	**2.43**	**243**	*e*PN	**Pb**	**12 04 35.0**	**-2.4**
MAZI	**Mazidag**	**2.43**	**243**	*e*Pn	**Pb**	**12 04 35.0**	**-2.4**
KOPT	**Kop Dagi**	**2.50**	**305**	*i* P	**Pb**	**12 04 38.8**	**+0.1**
KOPT	**Kop Dagi**	**2.50**	**305**	P	**Pb**	**12 04 38.8**	**+0.1**
AKH	**Akhalkalaki**	**2.81**	**5**	⇑*i* P	**Pg**	**12 04 48.7**	**+1.0**
PTK	**Pertek**	**2.96**	**277**	*e*PN	**Pn**	**12 04 42.2**	**+1.6**
PTK	**Pertek**	**2.96**	**277**	*e*Pn	**Pn**	**12 04 42.2**	**+1.6**
SVRC	**Sivrice-ELAZID**	**3.03**	**267**	*e*PN	**Pn**	**12 04 43.3**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.03**	**267**	*e*Pn	**Pn**	**12 04 43.3**	**+1.7**

IDC 30 12:11:05.7±3.9,6°.76S×143°.16E,h0km,mb3.6/2, mb1 3.7/5,mb1mx3.4/32,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=56.1km s-min=28.6km az=173.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**124**	Pn	Pn	12 12 20.1	+1.5
	1.3nm,0.3s,baz=45,slow=2.9,SNR=3.5						
PMG				Sn	Sn	12 13 14.9	+0.4
	1.5nm,0.3s,baz=216,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**15.66**	**212**	Pn	Pn	12 14 46.0	-1.8
	0.2nm,0.3s,baz=31,slow=13,SNR=5.4						
WRA				Lg	Lg	12 19 21.5	
	0.0nm,0.3s,baz=26,slow=28,SNR=3.6						
ASAR	**Alice Springs**	**19.02**	**207**	P	Pn	12 15 31.2	+1.2
	0.1nm,0.3s,baz=35,slow=9.4,SNR=8.8						
ASAR				Lg	Lg	12 21 11.3	
	0.0nm,0.3s,baz=13,slow=30,SNR=3.0						
FITZ	**Fitzroy Crossi**	**20.47**	**235**	P	P	12 15 45.9	+0.8
	1.0nm,0.6s,baz=72,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**25.04**	**183**	P	P	12 16 29.7	-1.9
	2.5nm,0.9s,baz=346,slow=17,SNR=2.9						

ISCJB ***30*** *12:12:07.8±1.2,38°.52N±0°.06×43°.54E±0°.08,h8km±8km, Error ellipse: s-maj=13.3km s-min=6.3km az=138.0*
DDA ***30*** *12:12:07.7,38°.48N×43°.49E,h14km,Ml2.8*
CSEM ***30*** *12:12:08.2±0.6,38°.58N×43°.50E,h5km,ML2.6,Error ellipse: s-maj=15.2km s-min=7.5km az=131.0*
ISK ***30*** *12:12:08.0,38°.60N×43°.43E,h5km,ML2.6*
ISC 30 12:12:08.5±1.0,38°.59N±0°.04×43°.49E±0°.05,h7km±6km, n21,σ0§79/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
VANB	**Van**	**0.08**	**271**	*e*PG	**Pg**	**12 12 10.4**	**-0.2**
VANB				*e*SG	**Sg**	**12 12 12.4**	**+0.5**
VANB	**Van**	**0.08**	**271**	*e*Pg	**Pg**	**12 12 10.4**	**-0.2**
VANB				*e*Sg	**Sg**	**12 12 12.5**	**+0.5**
TVAN	**Van**	**0.09**	**225**	*i* P	**Pg**	**12 12 09.9**	**-0.9**
TVAN				*i* S	**Sg**	**12 12 13.3**	**+0.9**
TVAN	**Van**	**0.09**	**225**	P	**Pg**	**12 12 09.9**	**-0.9**
TVAN				S	**Sg**	**12 12 13.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.40**	**9**	*i* P	**Pg**	**12 12 16.8**	**+0.4**
VMUR				*i* S	**Sb**	**12 12 25.8**	**+1.3**
VMUR	**Van-Muradiye**	**0.40**	**9**	P	**Pg**	**12 12 16.8**	**+0.4**
VMUR				S	**Sb**	**12 12 25.8**	**+1.3**
GEVA	**Gevas**	**0.44**	**230**	*i* P	**Pg**	**12 12 16.7**	**-0.4**
GEVA	**Gevas**	**0.44**	**230**	P	**Pg**	**12 12 16.7**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.63**	**290**	*i* P	**Pg**	**12 12 19.9**	**-0.9**
ADCV				*i* S	**Sb**	**12 12 31.5**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.63**	**290**	P	**Pg**	**12 12 19.9**	**-0.9**
ADCV				S	**Sb**	**12 12 31.5**	**+0.3**
CLDR	**Caldiran**	**0.64**	**31**	*e*PG	**Pb**	**12 12 21.4**	**-0.8**
CLDR				*e*SG	**Sb**	**12 12 31.0**	**-0.5**
CLDR	**Caldiran**	**0.64**	**31**	*i* P	**Pb**	**12 12 21.4**	**-0.8**
CLDR				*i* S	**Sn**	**12 12 34.4**	**-0.5**
CLDR	**Caldiran**	**0.64**	**31**	P	**Pb**	**12 12 21.4**	**-0.8**
CLDR				*e*Sg	**Sb**	**12 12 31.0**	**-0.5**
CLDR				S	**Sn**	**12 12 34.4**	**-0.5**
AGRB	**Hanur-Agry**	**1.05**	**339**	*e*PG	**Pg**	**12 12 28.4**	**-0.4**
AGRB	**Hanur-Agry**	**1.05**	**339**	*e*Pg	**Pg**	**12 12 28.4**	**-0.4**
GURO	**Guroymak-BITLI**	**1.14**	**268**	*e*PN	**Pg**	**12 12 29.4**	**-1.0**
GURO	**Guroymak-BITLI**	**1.14**	**268**	*e*Pn	**Pg**	**12 12 29.4**	**-1.0**
SRTM	**Siirt_Merkez**	**1.37**	**244**	*i* P	**Pg**	**12 12 36.0**	**+1.2**
SRTM	**Siirt_Merkez**	**1.37**	**244**	P	**Pg**	**12 12 36.0**	**+1.2**
SVAN	**Silvan-Diyarba**	**1.85**	**257**	*e*PN	**Pn**	**12 12 41.3**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.85**	**257**	*e*Pn	**Pn**	**12 12 41.3**	**+0.5**

IDC ***30*** *12:18:03.1±7.7,2°.11S×102°.74E,h0km,mb3.3/4, mb1 3.4/4,mb1mx3.1/47,mbtmp3.3/4,Error ellipse: s-maj=454.4km s-min=26.4km az=54.0*
ISCJB ***30*** *12:18:17.6±0.8,2°.32S±0°.09×102°.5E±0°.2,h150km, mb3.1/4,Error ellipse: s-maj=24.2km s-min=10.2km az=159.5*
DJA ***30*** *12:18:20.6±0.9,3°.S±6°.×10°.2E±°.,h144km±8km,M3.4/6, MLv3.4/6*
ISC 30 12:18:19.2±1.1,2°.5S±0°.1×102°.4E±0°.2,h150km,n9, σ0§81/11,mb3.1/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.71**	**197**	P	**Pn**	**12 18 42.6**	**+0.8**
MASI				S	**Sn**	**12 19 00.0**	**+0.9**
LHSI	**Lahat**	**1.73**	**142**	P	**Pn**	**12 18 52.2**	**+0.9**
MNAI	**Manna**	**1.96**	**165**	P	**Pn**	**12 18 53.9**	**0.0**
MNAI				S	**Sn**	**12 19 19.3**	**-1.2**
MDSI	**Maura Dua**	**2.66**	**139**	P	**Pn**	**12 19 02.6**	**+0.3**
KLSI		**3.18**	**134**	P	**Pn**	**12 19 09.7**	**+0.8**
ASAR	**Alice Springs**	**37.02**	**127**	P	**P**	**12 25 14.7**	**0.0**
	0.3nm,0.8s,baz=302,slow=7.7,SNR=6.3						
MKAR	**Makanchi Array**	**52.16**	**343**	P	**P**	**12 27 13.9**	**-0.4**
	0.1nm,0.3s,baz=154,slow=8.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**56.71**	**342**	P	**P**	**12 27 46.5**	**-0.5**
	0.1nm,0.4s,baz=152,slow=6.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**58.10**	**348**	P	**P**	**12 27 56.1**	**-0.6**
	0.4nm,0.3s,baz=156,slow=7.4,SNR=2.6						

AZER ***30*** *12:28:48.2±2.5,38°.04N×41°.99E,h9km,Error ellipse: s-maj=45.7km s-min=19.9km az=130.0*
NSSC ***30*** *12:28:55.8±1.5,38°.63N×43°.98E,h0km±126km,MD2.5, ML2.9*
CSEM ***30*** *12:28:59.9±0.2,38°.75N×43°.28E,h10km,ML3.2,Error ellipse: s-maj=4.5km s-min=3.6km az=119.0*
DDA ***30*** *12:28:59.5,38°.76N×43°.29E,h7km,Ml3.5*
ISK ***30*** *12:28:59.0,38°.73N×43°.24E,h10km,ML3.2*
ISC 30 12:29:00.4±1.0,38°.76N±0°.02×43°.25E±0°.02,h4km±9km, n74,σ1§91/107,4C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**146**	PG	**Pg**	**12 29 04.7**	**+0.5**
VANB				*e*SG	**Sg**	**12 29 08.8**	**+2.0**
VANB	**Van**	**0.20**	**146**	*i* Pg	**Pg**	**12 29 04.7**	**+0.5**
VANB				*e*Sg	**Sg**	**12 29 08.8**	**+2.0**
TVAN	**Van**	**0.26**	**152**	*i* P	**Pg**	**12 29 04.6**	**-0.8**
TVAN				*i* S	**Sb**	**12 29 15.3**	**+2.8**
TVAN	**Van**	**0.26**	**152**	P	**Pg**	**12 29 04.6**	**-0.8**
ERCV	**ERCIS-VAN**	**0.27**	**14**	*e*PG	**Pg**	**12 29 05.5**	**-0.2**
ERCV				*e*SG	**Sg**	**12 29 10.1**	**+0.8**
ERCV	**ERCIS-VAN**	**0.27**	**14**	*e*Pg	**Pg**	**12 29 05.5**	**-0.2**
ERCV				*e*Sg	**Sg**	**12 29 10.1**	**+0.8**
VMUR	**Van-Muradiye**	**0.34**	**47**	*i* P	**Pg**	**12 29 07.1**	**+0.1**
VMUR				*i* S	**Sb**	**12 29 13.2**	**-1.8**
VMUR	**Van-Muradiye**	**0.34**	**47**	P	**Pg**	**12 29 07.1**	**+0.1**
VMUR				S	**Sb**	**12 29 13.2**	**-1.8**
ADCV	**BITLIS_Adilcev**	**0.41**	**277**	*i* P	**Pg**	**12 29 09.1**	**+0.7**
ADCV				*i* S	**Sb**	**12 29 16.5**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.41**	**277**	P	**Pg**	**12 29 09.1**	**+0.7**
ADCV				S	**Sb**	**12 29 16.5**	**-0.6**
GEVA	**Gevas**	**0.47**	**199**	*i* P	**Pg**	**12 29 08.5**	**-0.9**
GEVA				*i* S	**Sb**	**12 29 17.1**	**-1.5**
GEVA	**Gevas**	**0.47**	**199**	P	**Pg**	**12 29 08.5**	**-0.9**
GEVA				S	**Sb**	**12 29 17.1**	**-1.5**
CLDR	**Caldiran**	**0.65**	**53**	*e*PG	**Pg**	**12 29 12.6**	**-0.2**
CLDR				*e*SG	**Sg**	**12 29 21.8**	**+0.5**
CLDR	**Caldiran**	**0.65**	**53**	*i* P	**Pg**	**12 29 12.0**	**-0.8**
CLDR				*i* S	**Sg**	**12 29 21.2**	**-0.1**
CLDR	**Caldiran**	**0.65**	**53**	P	**Pg**	**12 29 12.0**	**-0.8**
CLDR	**Caldiran**	**0.65**	**53**	*e*Pg	**Pg**	**12 29 12.6**	**-0.2**
CLDR				S	**Sg**	**12 29 21.2**	**-0.1**
TUTA	**Tutak**	**0.73**	**332**	*i* P	**Pg**	**12 29 14.2**	**-0.2**
TUTA				*i* S	**Sg**	**12 29 23.8**	**0.0**
TUTA	**Tutak**	**0.73**	**332**	P	**Pg**	**12 29 14.2**	**-0.2**
TUTA				S	**Sg**	**12 29 23.8**	**0.0**
TATV	**Tatvan**	**0.81**	**252**	*i* P	**Pg**	**12 29 15.3**	**-0.6**
TATV				*i* S	**Sg**	**12 29 26.5**	**+0.1**
TATV	**Tatvan**	**0.81**	**252**	P	**Pg**	**12 29 15.3**	**-0.6**
TATV				S	**Sg**	**12 29 26.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**346**	*e*PG	**Pg**	**12 29 16.2**	**-0.3**
AGRB				*e*SG	**Sb**	**12 29 28.4**	**-1.0**
AGRB	**Hanur-Agry**	**0.84**	**346**	*e*Pg	**Pg**	**12 29 16.2**	**-0.3**
AGRB				*e*Sg	**Sb**	**12 29 28.4**	**-1.0**
DYDN	**Diyadin**	**0.86**	**23**	*i* P	**Pg**	**12 29 15.6**	**-1.2**
DYDN				*i* S	**Sg**	**12 29 27.0**	**-1.0**
DYDN	**Diyadin**	**0.86**	**23**	P	**Pg**	**12 29 15.6**	**-1.2**
DYDN				S	**Sg**	**12 29 27.0**	**-1.0**
BASK	**Baskale_VAN**	**0.92**	**140**	*i* P	**Pg**	**12 29 16.0**	**-2.0**
BASK	**Baskale_VAN**	**0.92**	**140**	P	**Pg**	**12 29 16.0**	**-2.0**
GURO	**Guroymak-BITLI**	**0.98**	**258**	*e*PG	**Pg**	**12 29 17.8**	**-1.3**
GURO	**Guroymak-BITLI**	**0.98**	**258**	*e*Pg	**Pg**	**12 29 17.8**	**-1.3**
EKAR	**Karacoban**	**1.05**	**299**	*i* P	**Pg**	**12 29 20.6**	**+0.1**
EKAR	**Karacoban**	**1.05**	**299**	P	**Pg**	**12 29 20.6**	**+0.1**
EATA	**Eleskirt**	**1.25**	**332**	*i* P	**Pb**	**12 29 23.5**	**-1.2**
EATA				*i* S	**Sb**	**12 29 39.4**	**-1.9**
EATA	**Eleskirt**	**1.25**	**332**	P	**Pb**	**12 29 23.5**	**-1.2**
EATA				S	**Sb**	**12 29 39.4**	**-1.9**
SRTM	**Siirt_Merkez**	**1.29**	**234**	*i* P	**Pg**	**12 29 25.4**	**+0.2**
SRTM				*i* S	**Sn**	**12 29 43.3**	**+0.2**
SRTM	**Siirt_Merkez**	**1.29**	**234**	P	**Pg**	**12 29 25.4**	**+0.2**
SRTM				S	**Sn**	**12 29 43.3**	**+0.2**
SIRN	**S¨–rnak**	**1.42**	**208**	*i* P	**Pn**	**12 29 26.0**	**-1.0**
SIRN	**S¨–rnak**	**1.42**	**208**	P	**Pn**	**12 29 26.0**	**-1.0**
CUKT	**Cukurca**	**1.53**	**169**	*e*PN	**Pn**	**12 29 25.9**	**-2.7**
CUKT	**Cukurca**	**1.53**	**169**	*i* P	**Pb**	**12 29 29.3**	**-0.1**
CUKT	**Cukurca**	**1.53**	**169**	*e*Pn	**Pn**	**12 29 25.9**	**-2.7**
CUKT	**Cukurca**	**1.53**	**169**	P	**Pb**	**12 29 29.3**	**-0.1**
BNGL	**BINGOL**	**1.65**	**277**	*i* P	**Pb**	**12 29 31.4**	**-0.1**
HOMI	**Horasan**	**1.66**	**321**	*i* P	**Pb**	**12 29 31.1**	**-0.5**
DIGO	**Kars**	**1.66**	**3**	*i* P	**Pb**	**12 29 31.5**	**-0.1**
DIGO	**Kars**	**1.66**	**3**	P	**Pb**	**12 29 31.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.72**	**250**	*e*PN	**Pn**	**12 29 29.4**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.72**	**250**	*i* P	**Pn**	**12 29 30.1**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.72**	**250**	*e*Pn	**Pn**	**12 29 29.4**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.72**	**250**	P	**Pn**	**12 29 30.1**	**-1.0**
BTMN	**Batman**	**1.78**	**242**	*i* P	**Pb**	**12 29 32.3**	**-1.3**
BTMN	**Batman**	**1.78**	**242**	P	**Pb**	**12 29 32.3**	**-1.3**
NAX	**Nakhchivan**	**1.80**	**76**	⇓P	**Pg**	**12 29 35.3**	**+0.5**
NAX				⇓S	Sg	12 30 12.5	+14
NAX	**Nakhchivan**	**1.80**	**76**	P	**Pg**	**12 29 35.3**	**+0.5**
ERZM	**Erzurum**	**1.86**	**309**	*i* P	**Pb**	**12 29 34.8**	**-0.2**
ERZM	**Erzurum**	**1.86**	**309**	P	**Pb**	**12 29 34.8**	**-0.2**
BNGB	**Bing¶ll**	**2.02**	**277**	*e*PN	**Pn**	**12 29 34.6**	**-0.7**
BINT	**Bingol**	**2.16**	**274**	*e*Pn	**Pn**	**12 29 34.6**	**-2.6**
MAZI	**Mazidag**	**2.56**	**241**	*e*PN	**Pn**	**12 29 41.3**	**-1.5**
MAZI	**Mazidag**	**2.56**	**241**	*e*Pn	**Pn**	**12 29 41.3**	**-1.5**
GDB	**GEDABAY**	**2.75**	**44**	⇑P	**Pb**	**12 29 49.5**	**-0.7**
GDB				⇓S	**Sg**	**12 30 37.1**	**+8.3**
KBSD	**Kabsdagh**	**2.77**	**232**	*e*P	**Pn**	**12 29 46.2**	**+0.7**
KBSD				*e*S	**Sb**	**12 30 24.4**	**-0.3**
KBSD				AML	AML	12 30 44.2	
	comp=N,83nm,0.5s						
KBSD				AML	AML	12 30 54.7	
	comp=E,117nm,0.5s						
QZX	**Qazax, Azerbai**	**2.82**	**35**	⇑P	**Pb**	**12 29 49.7**	**-1.6**
QZX				⇓S	**Sg**	**12 30 37.3**	**+6.4**
QZX	**Qazax, Azerbai**	**2.82**	**35**	P	**Pb**	**12 29 49.7**	**-1.6**
PTK	**Pertek**	**3.02**	**274**	*e*PN	**Pn**	**12 29 48.6**	**-0.5**
PTK	**Pertek**	**3.02**	**274**	*e*Pn	**Pn**	**12 29 48.6**	**-0.5**
GANJ	**Ganja**	**3.03**	**51**	⇑P	**Pb**	**12 29 53.1**	**-1.7**
GANJ				⇓S	**Sg**	**12 30 44.1**	**+6.5**
SVRC	**Sivrice-ELAZID**	**3.12**	**264**	*e*PN	**Pn**	**12 29 49.5**	**-0.9**
SVRC	**Sivrice-ELAZID**	**3.12**	**264**	*e*Pn	**Pn**	**12 29 49.5**	**-0.9**
BRDA	**Brd**	**3.39**	**62**	⇑P	**Pb**	**12 29 57.8**	**-3.2**
BRDA	**Brd**	**3.39**	**62**	P	**Pb**	**12 29 57.8**	**-3.2**
SFNV	**Sufian**	**3.42**	**228**	*e*P	**Pn**	**12 29 55.7**	**+1.3**
SFNV				*e*S	**Sb**	**12 30 38.8**	**-4.6**
SFNV				AML	AML	12 31 07.8	
	comp=N,29nm,0.6s						
SFNV				AML	AML	12 31 12.6	
	comp=E,50nm,0.6s						
MNGR	**Mingechevir, A**	**3.58**	**55**	⇓P	**Pb**	**12 30 00.6**	**-3.5**
MZRK	**Al-Mazaregh**	**3.58**	**216**	*e*P	**Pn**	**12 29 56.8**	**+0.1**
MZRK				*e*S	**Sn**	**12 30 41.9**	**+2.4**
MZRK				AML	AML	12 31 16.0	
	comp=N,39nm,0.6s						
DRWC	**Darouich**	**5.64**	**250**	*e*P	Pn	12 30 29.6	+4.5
DRWC				*e*S	**Sn**	**12 31 36.2**	**+5.9**
DRWC				AML	AML	12 32 30.5	
	comp=E,114nm,0.7s						
DRWC				AML	AML	12 32 35.7	
	comp=N,11nm,0.7s						
HAWK	**Haweek**	**6.94**	**235**	*e*P	**Pn**	**12 30 45.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.44**	**195**	*e*Pg	**Pg**	**12 46 09.8**	**-0.7**
NVLJ				Sg	**Sg**	**12 46 16.8**	**+0.7**
BOJS	**Bojanci**	**0.54**	**17**	*i* Pg	**Pg**	**12 46 11.8**	**-0.6**
BOJS				*i* Sg	**Sg**	**12 46 19.9**	**+0.4**
UDBI	**Udbina**	**0.70**	**131**	*e*Pg	**Pg**	**12 46 15.4**	**0.0**
UDBI				Sg	**Sb**	**12 46 26.2**	**-0.2**
OZLJ	**Ozalj**	**0.70**	**26**	*e*Pg	**Pg**	**12 46 15.7**	**+0.2**
OZLJ				Sg	**Sg**	**12 46 24.7**	**+0.1**
VISS	**Visnje**	**0.83**	**351**	*i* Pg	**Pg**	**12 46 17.4**	**-0.5**
VISS				*i* Sg	**Sg**	**12 46 28.5**	**-0.1**
SKDS	**Skadanscina**	**0.91**	**308**	*i* Pg	**Pg**	**12 46 19.2**	**-0.2**
SKDS				*i* Sg	**Sg**	**12 46 32.2**	**+1.0**
PDKS	**Podkum**	**1.07**	**359**	*i* Pg	**Pg**	**12 46 22.4**	**-0.2**
PDKS				*i* Sg	**Sb**	**12 46 37.5**	**+0.2**
VNDS	**Vrh nad Dolski**	**1.14**	**349**	*i* Pg	**Pg**	**12 46 23.2**	**-0.6**
VNDS				*i* Sg	**Sg**	**12 46 38.8**	**+0.2**

*LDG **30** 12:56:54.0±0.2, 42.°94N×13.°73E, h30km, MI3.4/8, Error ellipse: s-maj=5.7km s-min=3.0km az=65.0*
*ISCJB **30** 12:56:56.0±0.2, 42.°95N±0.°02×13.°67E±0.°03, h31km±2km, Error ellipse: s-maj=3.7km s-min=3.0km az=155.5*
*CSEM **30** 12:56:55.6±0.1, 42.°95N×13.°66E, h16km±1km, ML3.1/7, Error ellipse: s-maj=3.1km s-min=2.1km az=55.0*
*ROM **30** 12:56:56.0±0.1, 42.°94N×13.°68E, h19km±2km, MI3.0/35, Error ellipse: s-maj=2.6km s-min=1.3km az=59.0*
ISC 30 12:56:55.5±0.9, **42.°95N**±0.°02×**13.°62E**±0.°02, **h23**km±5km, **n145**, σ1§69/173, **4C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.05**	**103**	⇑*i*Pg	**Pb**	**12 56 59.2**	**-0.3**
OFFI				Sg	**Sb**	**12 57 01.8**	**-0.5**
	45nm,1.0s						
OFFI	**Offida**	**0.05**	**103**	⇑*i*Pg	**Pb**	**12 56 59.2**	**-0.3**
OFFI				Sg	**Sb**	**12 57 01.8**	**-0.5**
	45nm,1.0s						
TRTR	**Tortoreto Alta**	**0.25**	**123**	⇓*i*Pg	**Pb**	**12 57 01.6**	**0.0**
TRTR				Sg	**Sb**	**12 57 06.7**	**+0.9**
	5μm,0.3s						
TRTR	**Tortoreto Alta**	**0.25**	**123**	⇓*i*Pg	**Pb**	**12 57 01.6**	**0.0**
TRTR				Sg	**Sb**	**12 57 06.7**	**+0.9**
	5μm,0.3s						
GUMA	**Gualdo di Mace**	**0.26**	**63**	⇓*i*Pg	**Pb**	**12 57 02.6**	**+0.9**
GUMA				Sg	**Sn**	**12 57 08.5**	**-0.7**
	4μm,0.5s						
GUMA	**Gualdo di Mace**	**0.26**	**63**	⇓*i*Pg	**Pb**	**12 57 02.6**	**+0.9**
TERO	**Teramo**	**0.32**	**183**	⇑*i*Pg	**Pb**	**12 57 02.8**	**+0.1**
TERO				Sg	**Sb**	**12 57 08.7**	**+1.0**
	1μm,0.2s						
TERO	**Teramo**	**0.32**	**183**	⇑*i*Pg	**Pb**	**12 57 02.8**	**+0.1**
TERO				Sg	**Sb**	**12 57 08.7**	**+1.0**
	1μm,0.2s						
SMA1	**SAN MARTINO**	**0.38**	**214**	Pg	**Pb**	**12 57 04.1**	**+0.4**
SMA1				Sg	**Sn**	**12 57 11.4**	**-0.9**
	844nm,0.4s						
SMA1	**SAN MARTINO**	**0.38**	**214**	Pg	**Pb**	**12 57 04.1**	**+0.4**
SMA1				Sg	**Sn**	**12 57 11.4**	**-0.9**
	844nm,0.4s						
NRCA	**Norcia**	**0.39**	**254**	Pg	**Pb**	**12 57 04.8**	**+0.9**
NRCA				Sg	**Sn**	**12 57 12.5**	**-0.1**
	2μm,0.1s						
NRCA	**Norcia**	**0.39**	**254**	Pg	**Pb**	**12 57 04.8**	**+0.9**
FDMO	**Fiordimonte**	**0.40**	**283**	⇓*i*Pg	**Pb**	**12 57 04.9**	**+0.9**
FDMO				Sg	**Sn**	**12 57 12.7**	**-0.1**
	1μm,0.4s						
FDMO	**Fiordimonte**	**0.40**	**283**	⇓*i*Pg	**Pb**	**12 57 04.9**	**+0.9**
CING	**Cingoli**	**0.53**	**324**	⇓*i*Pg	**Pb**	**12 57 06.7**	**+0.5**
	498nm,0.3s						
CING	**Cingoli**	**0.53**	**324**	⇓*i*Pg	**Pb**	**12 57 06.7**	**+0.5**
	498nm,0.3s						
LNSS	**Leonessa**	**0.55**	**232**	Pg	**Pb**	**12 57 07.3**	**+0.8**
	961nm,0.3s						
LNSS	**Leonessa**	**0.55**	**232**	Pg	**Pb**	**12 57 07.3**	**+0.8**
	961nm,0.3s						
SNTG	**Esanatoglia**	**0.59**	**302**	⇓*i*Pg	**Pb**	**12 57 07.8**	**+0.6**
SNTG				Sg	**Sn**	**12 57 18.1**	**+0.7**
	262nm,0.3s						
SNTG	**Esanatoglia**	**0.59**	**302**	⇓*i*Pg	**Pb**	**12 57 07.8**	**+0.6**
AOI	**Ancona**	**0.60**	**358**	Pg	**Pb**	**12 57 07.3**	**-0.1**
AOI				Sg	**Sn**	**12 57 18.3**	**+0.5**
	751nm,0.4s						
AOI	**Ancona**	**0.60**	**358**	Pg	**Pb**	**12 57 07.3**	**-0.1**
AQU	**L'Aquila**	**0.61**	**196**	Pg	**Pb**	**12 57 08.1**	**+0.5**
	249nm,0.4s						
AQU	**L'Aquila**	**0.61**	**196**	Pg	**Pb**	**12 57 08.1**	**+0.5**
	249nm,0.4s						
T0104	**Madonna delle**	**0.62**	**200**	Pg	**Pb**	**12 57 08.1**	**+0.4**
FAGN	**Fagnano**	**0.68**	**183**	Pg	**Pb**	**12 57 08.7**	**0.0**
	902nm,0.6s						
FAGN	**Fagnano**	**0.68**	**183**	Pg	**Pb**	**12 57 08.7**	**0.0**
	902nm,0.6s						
ARVD	**Arcevia**	**0.74**	**318**	Pg	**Pb**	**12 57 10.5**	**+0.7**
	433nm,0.6s						
ARVD	**Arcevia**	**0.74**	**318**	Pg	**Pb**	**12 57 10.5**	**+0.7**
	433nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.76**	**289**	Pg	**Pb**	**12 57 11.0**	**+1.0**
	433nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.76**	**289**	Pg	**Pb**	**12 57 11.0**	**+1.0**
	433nm,0.4s						
FIAM	**Fiamignano**	**0.77**	**209**	Pg	**Pb**	**12 57 11.1**	**+0.8**
	220nm,0.8s						
FIAM	**Fiamignano**	**0.77**	**209**	Pg	**Pb**	**12 57 11.1**	**+0.8**
	220nm,0.8s						
SSFR	**Montelago di S**	**0.79**	**309**	Pg	**Pb**	**12 57 11.2**	**+0.7**
	1μm,0.3s						
SSFR	**Montelago di S**	**0.79**	**309**	Pg	**Pb**	**12 57 11.2**	**+0.7**
	1μm,0.3s						
SENI	**Senigallia**	**0.81**	**340**	Pg	**Pn**	**12 57 12.2**	**+0.7**
	1μm,0.9s						
SENI	**Senigallia**	**0.81**	**340**	Pg	**Pn**	**12 57 12.2**	**+0.7**
	1μm,0.9s						
CESX	**Cesi**	**0.84**	**247**	Pg	**Pb**	**12 57 12.2**	**+0.8**
	434nm,0.8s						
CESX	**Cesi**	**0.84**	**247**	Pg	**Pb**	**12 57 12.2**	**+0.8**
	434nm,0.8s						
MURB	**Monte Urbino**	**0.87**	**292**	Pg	**Pn**	**12 57 12.8**	**+0.5**
	1μm,0.3s						
MURB	**Monte Urbino**	**0.87**	**292**	Pg	**Pn**	**12 57 12.8**	**+0.5**
	1μm,0.3s						
FRON	**Frontone**	**0.87**	**311**	Pg	**Pn**	**12 57 12.8**	**+0.5**
	484nm,0.3s						
FRON	**Frontone**	**0.87**	**311**	Pg	**Pn**	**12 57 12.8**	**+0.5**
	484nm,0.3s						
MPAG	**Monte Paganucc**	**0.93**	**318**	Pg	**Pb**	**12 57 13.5**	**+0.5**
	518nm,0.5s						
MPAG	**Monte Paganucc**	**0.93**	**318**	Pg	**Pb**	**12 57 13.5**	**+0.5**
	518nm,0.5s						
INTR	**Introdacqua**	**0.96**	**167**	Pg	**Pb**	**12 57 12.5**	**-0.9**
	372nm,0.6s						
INTR	**Introdacqua**	**0.96**	**167**	Pg	**Pb**	**12 57 12.5**	**-0.9**
	372nm,0.6s						
FSSB	**Fossombrone**	**0.97**	**321**	Pg	**Pn**	**12 57 14.4**	**+0.7**
	1μm,0.3s						
FSSB	**Fossombrone**	**0.97**	**321**	Pg	**Pn**	**12 57 14.4**	**+0.7**
	1μm,0.3s						
PIEI	**Pieia**	**0.99**	**307**	Pg	**Pb**	**12 57 14.5**	**+0.5**
	190nm,0.3s						
PIEI	**Pieia**	**0.99**	**307**	Pg	**Pb**	**12 57 14.5**	**+0.5**
	190nm,0.3s						
ATVO	**AVT- Monte Val**	**0.99**	**297**	Pg	**Pn**	**12 57 14.7**	**+0.7**
	257nm,0.5s						
ATVO	**AVT- Monte Val**	**0.99**	**297**	Pg	**Pn**	**12 57 14.7**	**+0.7**
	257nm,0.5s						
ATPC	**Poggio Castell**	**1.01**	**302**	Pg	**Pn**	**12 57 15.1**	**+0.9**
	456nm,0.7s						
ATPC	**Poggio Castell**	**1.01**	**302**	Pg	**Pn**	**12 57 15.1**	**+0.9**
	456nm,0.7s						
MGAB	**Montegabbione**	**1.11**	**269**	Pg	**Pb**	**12 57 17.6**	**+1.6**
	247nm,0.7s						
MGAB	**Montegabbione**	**1.11**	**269**	Pg	**Pb**	**12 57 17.6**	**+1.6**
	247nm,0.7s						
PESA	**Pesaro**	**1.15**	**330**	Pg	**Pb**	**12 57 18.1**	**+1.5**
	317nm,0.3s						
PESA	**Pesaro**	**1.15**	**330**	Pg	**Pb**	**12 57 18.1**	**+1.5**
	317nm,0.3s						
ATMC	**Monte Cedrone**	**1.16**	**296**	Pg	**Pb**	**12 57 18.3**	**+1.4**
	199nm,0.4s						
ATMC	**Monte Cedrone**	**1.16**	**296**	Pg	**Pb**	**12 57 18.3**	**+1.4**
	199nm,0.4s						
POFI	**Posta Fibreno**	**1.23**	**177**	Pg	**Pb**	**12 57 18.9**	**+0.8**
	92nm,0.4s						
POFI	**Posta Fibreno**	**1.23**	**177**	Pg	**Pb**	**12 57 18.9**	**+0.8**
	92nm,0.4s						
PARC	**Parchiule**	**1.23**	**305**	Pg	**Pb**	**12 57 19.3**	**+1.2**
	70nm,0.3s						
PARC	**Parchiule**	**1.23**	**305**	Pg	**Pb**	**12 57 19.3**	**+1.2**
	70nm,0.3s						
FRES	**Fresagrandinar**	**1.24**	**141**	Pg	**Pb**	**12 57 18.6**	**+0.4**
	306nm,0.5s						
FRES	**Fresagrandinar**	**1.24**	**141**	Pg	**Pb**	**12 57 18.6**	**+0.4**
	306nm,0.5s						
VAGA	**Valle Agricola**	**1.59**	**163**	Pg	**Pb**	**12 57 25.1**	**+0.8**
	80nm,0.6s						
VAGA	**Valle Agricola**	**1.59**	**163**	Pg	**Pb**	**12 57 25.1**	**+0.8**
	80nm,0.6s						
SFI	**Santa Sofia**	**1.61**	**307**	Pg	**Pb**	**12 57 26.2**	**+1.7**
	58nm,0.7s						
SFI	**Santa Sofia**	**1.61**	**307**	Pg	**Pb**	**12 57 26.2**	**+1.7**
	58nm,0.7s						
SGG	**Gregorio Mates**	**1.66**	**160**	Pg	**Pb**	**12 57 26.2**	**+0.9**
	77nm,0.7s						
SGG	**Gregorio Mates**	**1.66**	**160**	Pg	**Pb**	**12 57 26.2**	**+0.9**
	77nm,0.7s						
NVLJ	**Novalja**	**1.85**	**29**	*e*Pn	**Pn**	**12 57 25.9**	**+0.1**
NVLJ				Sn	**Sb**	**12 57 50.8**	**-0.5**
NVLJ	**Novalja**	**1.85**	**29**	*e*Pn	**Pn**	**12 57 25.9**	**+0.1**
NVLJ				Sn	**Sb**	**12 57 50.8**	**-0.5**
MS1	**Monte Sant'Ang**	**2.12**	**125**	*e*Pn	**Pn**	**12 57 30.5**	**+1.0**
UDBI	**Udbina**	**2.21**	**44**	*i* Pn	**Pn**	**12 57 32.0**	**+1.2**
UDBI				Sn	**Sn**	**12 57 59.2**	**+1.6**
UDBI	**Udbina**	**2.21**	**44**	*i* Pn	**Pn**	**12 57 32.0**	**+1.2**
UDBI				Sn	**Sn**	**12 57 59.1**	**+1.6**
SKDS	**Skadanscina**	**2.62**	**6**	*i* Pn	**Pn**	**12 57 36.7**	**+0.4**
SKDS				*i* Sn	**Sn**	**12 58 07.8**	**+0.4**
SKDS	**Skadanscina**	**2.62**	**6**	Pn	**Pn**	**12 57 36.7**	**+0.4**
SKDS				*i* Sn	**Sn**	**12 58 07.8**	**+0.4**
KNDS	**Knezji Dol**	**2.64**	**12**	*i* Pn	**Pn**	**12 57 37.0**	**+0.3**
KNDS	**Knezji Dol**	**2.64**	**12**	*i* Pn	**Pn**	**12 57 37.0**	**+0.3**
CDT	**Castel del Mon**	**2.71**	**132**	*e*Pn	**Pn**	**12 57 38.2**	**+0.5**
BOJS	**Bojanci**	**2.81**	**24**	*i* Pn	**Pn**	**12 57 39.8**	**+0.8**
BOJS	**Bojanci**	**2.81**	**24**	*i* Pn	**Pn**	**12 57 39.8**	**+0.8**
OZLJ	**Ozalj**	**2.98**	**26**	*e*Pn	**Pn**	**12 57 42.0**	**+0.7**
OZLJ	**Ozalj**	**2.98**	**26**	*e*Pn	**Pn**	**12 57 41.9**	**+0.7**
SG1	**Sgolgore (BA)**	**3.10**	**132**	*e*Pn	**Pn**	**12 57 43.8**	**+0.8**
CRES	**Cresnjev**	**3.17**	**24**	*i* Pn	**Pn**	**12 57 44.7**	**+0.9**
CRES	**Cresnjev**	**3.17**	**24**	*i* Pn	**Pn**	**12 57 44.7**	**+0.9**
PGF	**Pioggiola**	**3.43**	**265**	*e*P	**Pn**	**12 57 49.6**	**+2.0**
PGF	**Pioggiola**	**3.43**	**265**	*e*P	**Pn**	**12 57 49.6**	**+2.0**
MASS	**Massafra**	**3.50**	**130**	*e*Pn	**Pn**	**12 57 49.1**	**+0.6**
FASA	**Fasano**	**3.50**	**126**	*e*Pn	**Pn**	**12 57 49.3**	**+0.8**
OBKA	**Obir**	**3.62**	**10**	*i* Pn	**Pn**	**12 57 51.0**	**+0.7**
	0.6nm,0.2s						
OBKA	**Obir**	**3.62**	**10**	Pn	**Pn**	**12 57 51.0**	**+0.7**
	0.6nm,0.2s						
MYKA	**Terra Mystica**	**3.68**	**0**	*i* Pn	**Pn**	**12 57 52.3**	**+1.3**
	1.5nm,0.2s						
MYKA				*e*Sn	**Sn**	**12 58 36.2**	**+2.4**
	1.8nm,0.2s						
MYKA	**Terra Mystica**	**3.68**	**0**	Pn	**Pn**	**12 57 52.3**	**+1.3**
	1.5nm,0.2s						
MYKA				Sn	**Sn**	**12 58 36.2**	**+2.4**
	1.8nm,0.2s						
SOKA	**Soboth**	**3.86**	**15**	*i* Pn	**Pn**	**12 57 52.2**	**-1.3**
	0.6nm,0.2s						
SOKA	**Soboth**	**3.86**	**15**	Pn	**Pn**	**12 57 52.2**	**-1.3**
	0.6nm,0.2s						
ABTA	**Abfaltersbach**	**3.88**	**349**	*i* Pn	**Pn**	**12 57 54.4**	**+0.6**
	0.6nm,0.1s						
ABTA	**Abfaltersbach**	**3.88**	**349**	Pn	**Pn**	**12 57 54.4**	**+0.6**
	0.6nm,0.1s						
KBA	**Koelnbreinsper**	**4.14**	**357**	*i* Pn	**Pn**	**12 57 59.2**	**+1.8**
	1.6nm,0.2s						
KBA	**Koelnbreinsper**	**4.14**	**357**	Pn	**Pn**	**12 57 59.2**	**+1.8**
	1.6nm,0.2s						
ARSA	**Arzberg**	**4.51**	**17**	*e*Pn	Pn	12 57 57.9	-4.4
	0.1nm,0.2s						
WTTA	**Wattenberg**	**4.54**	**343**	*i* Pn	**Pn**	**12 58 02.9**	**0.0**
	1.0nm,0.2s						
WTTA				*i* Sn	**Sn**	**12 58 56.5**	**+1.4**
	0.3nm,0.1s						
WTTA	**Wattenberg**	**4.54**	**343**	Pn	**Pn**	**12 58 02.9**	**0.0**
	1.0nm,0.2s						
WTTA				Sn	**Sn**	**12 58 56.5**	**+1.4**
	0.3nm,0.1s						
FETA	**Feichten**	**4.56**	**334**	*i* Pn	**Pn**	**12 58 04.7**	**+1.5**
FETA	**Feichten**	**4.56**	**334**	Pn	**Pn**	**12 58 04.7**	**+1.5**
SBF	**Sospel**	**4.60**	**284**	*e*P	**Pn**	**12 58 05.5**	**+1.8**
SBF	**Sospel**	**4.60**	**284**	*e*P	**Pn**	**12 58 05.5**	**+1.8**
WATA	**Walderalm**	**4.62**	**342**	*i* Pn	**Pn**	**12 58 05.3**	**+1.3**
	1.8nm,0.2s						
WATA	**Walderalm**	**4.62**	**342**	Pn	**Pn**	**12 58 05.3**	**+1.3**
	1.8nm,0.2s						
MOTA	**Moosalm**	**4.75**	**339**	*i* Pn	**Pn**	**12 58 07.2**	**+1.5**
	0.5nm,0.2s						
MOTA	**Moosalm**	**4.75**	**339**	Pn	**Pn**	**12 58 07.2**	**+1.5**
	0.5nm,0.2s						
MOA	**Molln**	**4.92**	**5**	*e*Sn	**Sn**	**12 59 04.2**	**-0.1**
	0.1nm,0.1s						
MOA	**Molln**	**4.92**	**5**	Sn	**Sn**	**12 59 04.2**	**-0.1**
	0.1nm,0.1s						
RETA	**Reutte**	**4.97**	**337**	*e*Pn	**Pn**	**12 58 07.9**	**-0.8**
	0.4nm,0.1s						
RETA	**Reutte**	**4.97**	**337**	Pn	**Pn**	**12 58 07.9**	**-0.8**
	0.4nm,0.1s						
DAVA	**Damuels**	**5.08**	**330**	*i* Pn	**Pn**	**12 58 12.7**	**+2.3**
	2.2nm,0.4s						
DAVA				*i* Sn	**Sn**	**12 59 09.5**	**+1.1**
	4.9nm,0.4s						
DAVA	**Damuels**	**5.08**	**330**	Pn	**Pn**	**12 58 12.7**	**+2.3**
	2.2nm,0.4s						
DAVA				Sn	**Sn**	**12 59 09.5**	**+1.1**
	4.9nm,0.4s						
FRF	**La Foret Royal**	**5.13**	**279**	*e*P	**Pn**	**12 58 14.4**	**+3.5**
FRF	**La Foret Royal**	**5.13**	**279**	*e*P	**Pn**	**12 58 14.4**	**+3.5**
LMR	**La Mourre**	**5.22**	**277**	*e*P	**Pn**	**12 58 15.1**	**+3.0**
LMR	**La Mourre**	**5.22**	**277**	*e*P	**Pn**	**12 58 15.1**	**+3.0**
CONA	**Conrad Observa**	**5.22**	**17**	*i* Pn	**Pn**	**12 58 12.5**	**+0.3**
	0.3nm,0.1s						
CONA	**Conrad Observa**	**5.22**	**17**	Pn	**Pn**	**12 58 12.5**	**+0.3**
	0.3nm,0.1s						
LPG	**La Plagne**	**5.56**	**300**	*e*P	**Pn**	**12 58 17.8**	**+0.8**
LPG				*e*Sn	**Sn**	**12 59 13.9**	**-6.4**
	6.3nm,0.3s						
LPG	**La Plagne**	**5.56**	**300**	*e*P	**Pn**	**12 58 17.8**	**+0.8**
LPL	**La Plagne**	**5.58**	**300**	*e*P	**Pn**	**12 58 18.6**	**+1.4**
LPL				*e*Sn	**Sn**	**12 59 13.7**	**-7.0**
	7.9nm,0.4s						
LPL	**La Plagne**	**5.58**	**300**	*e*P	**Pn**	**12 58 18.6**	**+1.4**
CABF	**La Chapelle**	**6.50**	**307**	*e*P	**Pn**	**12 58 31.1**	**+1.4**
CABF				*e*Sn	**Sn**	**12 59 36.0**	**-7.1**
	2.2nm,0.4s						
CABF	**La Chapelle**	**6.50**	**307**	*e*P	**Pn**	**12 58 31.1**	**+1.4**
HINF	**Hinteralfeld**	**6.81**	**318**	*e*Pn	**Pn**	**12 58 30.7**	**-3.3**
HINF	**Hinteralfeld**	**6.81**	**318**	*e*P	**Pn**	**12 58 34.7**	**+0.7**
HINF				*e*Sn	**Sn**	**12 59 43.7**	**-7.1**
	9.9nm,0.4s						
HINF	**Hinteralfeld**	**6.81**	**318**	*e*P	**Pn**	**12 58 34.7**	**+0.7**
CDF	**Champ du Feu**	**7.04**	**323**	*e*P	**Pn**	**12 58 38.0**	**+0.8**
CDF				*e*Sn	Sn	12 59 48.9	-7.7
	3.3nm,0.3s						
CDF	**Champ du Feu**	**7.04**	**323**	*e*P	**Pn**	**12 58 38.0**	**+0.8**
HAU	**Haudompre**	**7.19**	**317**	*e*Pn	**Pn**	**12 58 36.0**	**-3.2**
HAU	**Haudompre**	**7.19**	**317**	*e*P	**Pn**	**12 58 39.9**	**+0.7**
HAU				*e*Sn	**Sn**	**12 59 52.6**	**-7.5**
	13nm,0.4s						
HAU	**Haudompre**	**7.19**	**317**	*e*P	**Pn**	**12 58 39.9**	**+0.7**
SMF	**Signal de Mont**	**7.88**	**301**	*e*Sn	Sn	13 00 09.0	-8.0
	2.4nm,0.3s						
LOR	**Lormes**	**8.15**	**305**	*e*Pn	**Pn**	**12 58 49.0**	**-3.3**
LOR	**Lormes**	**8.15**	**305**	*e*P	**Pn**	**12 58 53.4**	**+1.1**
LOR				*e*Sn	Sn	13 00 15.7	-7.9
	3.5nm,0.3s						
LOR	**Lormes**	**8.15**	**305**	*e*P	**Pn**	**12 58 53.4**	**+1.1**

IDC 30 12:59:11.6±3.5, **12.°16S×74.°93W, h0**km, **mb3.7**/2, **mb1 4.0**/3, **mb1mx3.6**/30, **mbtmp3.8**/3, **ML4.2**/1, **Error ellipse: s-maj=153.8km s-min=30.8km az=36.0, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.77**	**123**	Pn	Pn	13 01 05.7	-0.9
	1.6nm,0.3s,baz=304,slow=8.8,SNR=38						
LPAZ				Sn	Sn	13 02 43.9	+8.3
	0.1nm,0.3s,baz=218,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**49.70**	**327**	P	P	13 08 05.2	-0.6
	0.1nm,0.5s,baz=146,slow=9.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**80.04**	**74**	P	P	13 11 23.9	+0.2
	2.0nm,0.6s,baz=250,slow=4.9,SNR=12						
SONM	**Songino Array**	**144.42**	**358**	PKP	PKPdf	13 18 50.8	+0.6
	0.4nm,0.6s,baz=343,slow=4.5,SNR=2.6						

*DDA **30** 13:10:23.0, 38.°64N×43.°19E, h7km, Md2.6*
*ISK **30** 13:10:22.1, 38.°58N×43.°10E, h4km, ML2.2*
*ISCJB **30** 13:10:23.6±0.5, 38.°62N±0.°04×43.°12E±0.°03, h2km±8km, Error ellipse: s-maj=6.0km s-min=4.0km az=169.6*
*CSEM **30** 13:10:23.3±0.2, 38.°63N×43.°13E, h2km, MD2.6*
ISC 30 13:10:23.4±0.9, **38.°63N**±0.°04×**43.°16E**±0.°03, **h13**km±8km, **n20**, σ1§03/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**102**	PG	**Pg**	**13 10 27.7**	**0.0**
VANB				*e*SG	**Sg**	**13 10 31.8**	**+1.1**
VANB	**Van**	**0.19**	**102**	*i* Pg	**Pg**	**13 10 27.7**	**0.0**
VANB				*e*Sg	**Sg**	**13 10 31.8**	**+1.1**
TVAN	**Van**	**0.22**	**118**	*i* P	**Pg**	**13 10 27.5**	**-0.8**
TVAN				*i* S	**Sg**	**13 10 31.2**	**-0.5**
TVAN	**Van**	**0.22**	**118**	P	**Pg**	**13 10 27.5**	**-0.8**
TVAN				S	**Sg**	**13 10 31.2**	**-0.5**
GEVA	**Gevas**	**0.33**	**193**	*i* P	**Pg**	**13 10 29.6**	**-0.5**
GEVA				*i* S	**Sg**	**13 10 35.2**	**+0.5**
GEVA	**Gevas**	**0.33**	**193**	P	**Pg**	**13 10 29.6**	**-0.5**
GEVA				S	**Sg**	**13 10 35.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.38**	**297**	*i* P	**Pg**	**13 10 31.2**	**+0.1**
ADCV				*i* S	**Sb**	**13 10 37.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.38**	**297**	P	**Pg**	**13 10 31.2**	**+0.1**
ADCV				S	**Sb**	**13 10 37.5**	**-0.4**
TATV	**Tatvan**	**0.71**	**260**	*i* P	**Pg**	**13 10 37.3**	**+0.2**
TATV				*i* S	**Sg**	**13 10 46.2**	**-0.3**
TATV	**Tatvan**	**0.71**	**260**	P	**Pg**	**13 10 37.3**	**+0.2**
TATV				S	**Sg**	**13 10 46.2**	**-0.3**
CLDR	**Caldiran**	**0.78**	**49**	*e*PG	**Pb**	**13 10 38.5**	**-0.5**
CLDR				*e*SG	**Sn**	**13 10 51.5**	**-0.6**
CLDR	**Caldiran**	**0.78**	**49**	*e*Pg	**Pb**	**13 10 38.5**	**-0.5**
CLDR				*e*Sg	**Sn**	**13 10 51.5**	**-0.6**
TUTA	**Tutak**	**0.81**	**341**	*i* P	**Pg**	**13 10 38.5**	**-0.6**
TUTA	**Tutak**	**0.81**	**341**	P	**Pg**	**13 10 38.5**	**-0.6**
GURO	**Guroymak-BITLI**	**0.88**	**265**	*e*PG	**Pg**	**13 10 38.9**	**-1.6**
GURO				*e*SG	**Sg**	**13 10 50.9**	**-1.2**
GURO	**Guroymak-BITLI**	**0.88**	**265**	*e*Pg	**Pg**	**13 10 38.9**	**-1.6**
GURO				*e*Sg	**Sg**	**13 10 50.9**	**-1.2**
EATA	**Eleskirt**	**1.33**	**337**	*i* P	**Pn**	**13 10 47.9**	**-0.1**
EATA				*i* S	**Sn**	**13 11 08.3**	**+2.7**
EATA	**Eleskirt**	**1.33**	**337**	P	**Pn**	**13 10 47.8**	**-0.1**
EATA				S	**Sn**	**13 11 08.4**	**+2.7**
BTMN	**Batman**	**1.66**	**244**	*i* S	**Sb**	**13 11 16.1**	**+1.4**
BTMN	**Batman**	**1.66**	**244**	S	**Sb**	**13 11 16.1**	**+1.4**

*NIED **30** 13:18:00, 34.°80N×142.°70E, h5km, Mw3.7 Best double couple: M0 4.26000×10^14 NP1:φs 70.00000°, δ46.00000°, λ-10.00000°. NP2:φs 166.00000°, δ83.00000°, λ-136.00000°.*
*IDC **30** 13:18:37.9±1.1, 34.°70N×142.°76E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/39, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=28.1km s-min=20.8km az=84.0*
*ISCJB **30** 13:18:42.0±0.7, 34.°74N±0.°05×142.°60E±0.°07, h42km, mb3.5/8, Error ellipse: s-maj=8.6km s-min=6.8km az=42.9*
*JMA **30** 13:18:41.2±0.4, 34.°78N×142.°69E, h58km, M3.6*
ISC 30 13:18:43.1±1.0, **34.°80N**±0.°07×**142.°72E**±0.°08, **h42**km, **n26**, σ2§13/28, **mb3.6/8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.44**	**265**	P	**Pn**	**13 19 04.7**	**-1.4**
BSO1				X		13 19 22.7	
**CHOJ

	comp=N,292nm,0.6s					
HAJJ	**Hajjah**	3.70	349	*i* P	Pn	13 24 55.3 +3.3
HAJJ				*i* S	Sb	13 25 40.9 -4.4
	comp=N,146nm,0.6s					

*NEIC **30** 13:25:19.1±0.0,39.°62N×120.°47W,h15km,ML4.1(REN), MW3.8(BRK),After REN.*
NEIC Felt [III] at Calpine, Camptonville, Chilcoot, Downieville, Greenville, Loyalton, Meadow Valley, Pollock Pines, Portola, Sierra City, Soda Springs and Taylorsville. Felt in much of the Chico-Roseville-South Lake Tahoe-Susanville area. Felt [III] at Incline Village, Nevada. Also felt at Reno.

ISC 30 13:25:17.9±1.2,39.°61N±0.°02×120.°50W±0.°02,h4km±10km, n114,σ1°72/128,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFDM	**Forest Hills D**	0.76	209	*e*Pg	**Pg**	13 25 32.9	+0.6
ORV	**Oroville**	0.78	266	*e*Pg	**Pg**	13 25 33.6	+0.8
ORV				*e*Sg	**Sg**	13 25 44.0	+1.2
OHCM	**Honcut**	0.81	251	*e*Pg	**Pb**	13 25 34.2	-0.4
PNTR	**Pine Nut**	0.87	126	*e*Pg	**Pg**	13 25 35.5	+1.0
LRDM	**Redding Peak**	1.13	319	*e*Pg	**Pn**	13 25 40.6	0.0
YERR	**Yerington**	1.16	122	*e*Pg	**Pb**	13 25 40.4	-0.2
YERR				*e*Sg	**Sb**	13 25 54.8	-1.2
O03D	**Paynes Creek**	1.21	305	P	**Pn**	13 25 41.9	+0.1
	baz=124,SNR=1000						
O03D				S	**Sn**	13 25 58.3	-0.5
	baz=124						
AASM	**Arroyo Seco**	1.27	202	*e*Pg	**Pn**	13 25 42.1	-0.3
WAKR	**Walker**	1.38	143	*e*Pn	**Pb**	13 25 44.5	+0.1
WAKR				*e*Sn	**Sb**	13 26 02.4	0.0
LBCM	**Butte Creek Ri**	1.39	332	*e*Pn	**Pb**	13 25 44.6	0.0
GARM	**Arbuckle**	1.51	245	*e*Pn	**Pb**	13 25 47.3	+0.8
CMB	**Columbia Colle**	1.57	177	*e*Pn	**Pn**	13 25 46.9	+0.2
CMB				*e*Sn	**Sn**	13 26 06.5	-1.1
NBPM	**Berryessa Peak**	1.62	235	*e*Pn	**Pb**	13 25 48.6	+0.3
NMTM	**Middletown**	1.71	243	*e*Pn	**Pn**	13 25 49.2	+0.7
GASB	**Alder Springs**	1.71	272	*e*Pn	**Pn**	13 25 49.3	+0.6
LTIM	**Timbered Crate**	1.74	335	*e*Pn	**Pb**	13 25 51.1	+0.6
GRTM	**Round Top Moun**	1.81	249	*e*Pn	**Pn**	13 25 50.7	+0.8
WDC	**Whiskeytown Da**	1.84	302	*e*Pn	**Pn**	13 25 50.9	+0.6
WDC				*e*Sn	**Sn**	13 26 14.0	-0.1
GSGM	**Seigler Mounta**	1.87	247	*e*Pn	**Pn**	13 25 51.9	+1.2
GCRM	**Castle Rock Sp**	1.91	245	*e*Pn	**Pn**	13 25 52.1	+0.7
GDXM	**Geysers**	1.96	247	*e*Pn	**Pn**	13 25 52.6	+0.6
LBFM	**Black Fox Moun**	2.04	329	*e*Pn	**Pb**	13 25 56.2	+0.7
HOPS	**Hopland Field**	2.09	254	*e*Pn	**Pn**	13 25 54.9	+1.2
CPIM	**Pinole Ridge**	2.10	220	*e*Pn	**Pn**	13 25 55.6	+1.7
NMCNC	**Mill Creek, So**	2.14	242	*e*Pn	**Pn**	13 25 55.1	+0.8
SKG	**Skaggs Springs**	2.15	246	*e*Pn	**Pn**	13 25 55.6	+1.0
LGBM	**Gray Butte**	2.16	324	*e*Pn	**Pb**	13 25 58.3	+0.5
N02D	**Trinity Center**	2.17	310	P	**Pn**	13 25 55.4	+0.5
	baz=128,SNR=81						
N02D				S	**Sb**	13 26 23.5	-1.6
	baz=128						
CVPM	**Vollmer Peak**	2.19	219	*e*Pn	**Pn**	13 25 56.3	+1.2
CVLM	**Vallecito**	2.24	208	*e*Pn	**Pn**	13 25 56.9	+1.1
CMMM	**Mount Mocho**	2.29	200	*e*Pn	**Pn**	13 25 57.5	+1.0
MOD	**Modoc Plateau**	2.30	4	*e*Pn	**Pn**	13 25 59.7	-0.3
MSJ	**Mission San Jo**	2.35	208	*e*Pn	**Pn**	13 25 58.4	+1.1
MCCM	**Marconi Confer**	2.37	233	*e*Pn	**Pn**	13 25 58.3	+0.9
MLAC	**Mammoth, Mammo**	2.37	146	Pb	**Pb**	13 26 02.9	+1.7
	baz=328						
KCPM	**Cahto Peak**	2.38	273	*e*Pn	**Pn**	13 25 59.0	+1.1
CVR	**Calaveras Rese**	2.38	206	*e*Pn	**Pn**	13 25 58.7	+0.9
M04C	**Macdoel**	2.40	335	Pb	**Pb**	13 26 02.2	+0.5
	baz=154,SNR=170						
M04C				Sb	**Sg**	13 26 34.9	-0.1
	baz=154						
M02C	**Callahan**	2.53	316	P	**Pn**	13 26 01.6	+1.8
	baz=134,SNR=83						
M02C				Sb	**Sb**	13 26 37.6	+2.2
	baz=134						
KMRM	**Mail Ridge**	2.54	285	*e*Pn	**Pn**	13 26 01.8	+1.7
HSPM	**Sheep**	2.62	198	*e*Pn	**Pn**	13 26 03.1	+2.0
SOS	**Soda Springs**	2.68	205	*e*Pn	**Pn**	13 26 03.2	+1.2
YBH	**Yreka Blue Hor**	2.71	322	*e*Pn	**Pn**	13 26 04.0	+1.7
KHMM	**Horse Mountain**	2.78	298	*e*Pn	**Pn**	13 26 05.2	+1.8
BRMM	**Rolling Bench**	2.78	185	*e*Pn	**Pn**	13 26 05.0	+1.7
SAO	**San Andreas Ge**	2.94	195	*e*Pn	**Pn**	13 26 06.3	+0.9
BVYM	**Vineyard**	2.94	194	*e*Pn	**Pn**	13 26 06.8	+1.3
JCC	**Jacoby Creek,**	2.96	295	*e*Pn	**Pn**	13 26 07.1	+1.4
EMT	**Emmet**	2.98	189	*e*Pn	**Pn**	13 26 07.6	+1.6
TIN	**Tinemaha, Big**	3.11	144	Pb	**Pb**	13 26 16.4	+2.5
	baz=326						
WVOR	**Wild Horse Val**	3.15	26	*e*Pn	**Pn**	13 26 08.6	+0.1
K04D	**Chiloquin, OR**	3.16	343	Pb	**Pb**	13 26 14.8	+0.1
	baz=162,SNR=20						
K04D				Sb	**Sg**	13 26 58.4	-1.0
	baz=162						
KTRM	**Thompson Ridge**	3.17	317	*e*Pn	**Pb**	13 26 12.2	-2.8
KRMB	**Red Mountain**	3.23	307	*e*Pn	**Pn**	13 26 12.0	+2.5
BSMM	**Soledad Missio**	3.30	193	*e*Pn	**Pn**	13 26 11.8	+1.3
LRC	**Lone Oak Road**	3.38	187	*e*Sg	**Sb**	13 27 00.8	+0.8
PMPB	**Monarch Peak**	3.40	184	*e*Pn	**Pn**	13 26 13.0	+1.3
PMPB				*e*Sn	**Sb**	13 26 57.6	-2.7
RCTC	**Rector, Farmer**	3.44	163	P	**Pn**	13 26 14.5	+2.1
	baz=344						
L02D	**Cave Junction,**	3.47	318	P	**Pn**	13 26 15.0	+2.3
	baz=136,SNR=13						
PTV	**Peach Tree Val**	3.50	183	*e*Sn	**Sn**	13 26 56.2	+1.2
HUMO	**Hull Mountain**	3.52	329	*e*Pn	**Pn**	13 26 16.3	+2.8
PSMM	**Smith Mountain**	3.53	181	*e*Sn	**Sn**	13 26 54.7	-1.3
PCCM	**Crazy Canyon**	3.55	189	*e*Sn	**Sb**	13 27 01.7	-3.1
GRAC	**Grapevine Rang**	3.59	136	Pb	**Pb**	13 26 24.0	+2.1
	baz=318						
GRAC				Sb	**Sg**	13 27 09.9	-3.2
	baz=318						
CWC	**Cottonwood Cre**	3.69	148	Pb	**Pb**	13 26 26.0	+2.2
	baz=330						
CWC				Sb	**Sg**	13 27 13.3	-3.3
	baz=330						
J05D	**Fort Rock, OR**	3.71	352	Pb	**Pb**	13 26 24.7	+0.5
	baz=171						
J05D				Sb	**Sg**	13 27 15.2	-2.0
	baz=171						
PAPM	**Alder Peak**	3.75	191	*e*Sn	**Sn**	13 27 03.6	+2.3
J04D	**Umpqua Nationa**	3.83	342	Pb	**Pb**	13 26 25.9	-0.2
	baz=161						
PANM	**San Antonio Re**	3.84	185	*e*Sn	**Sn**	13 26 58.6	-4.7
PAGB	**Antelope Grade**	3.88	177	*e*Pn	**Pn**	13 26 20.2	+1.8
VES	**Vestal, Richgr**	3.92	163	P	**Pn**	13 26 20.6	+1.6
	baz=344						
PHCM	**Hearst Castle**	3.95	188	*e*Sn	**Sn**	13 27 02.6	-3.7
R11A	**Troy Canyon, C**	4.03	107	P	**Pn**	13 26 20.9	+0.3
	baz=290						
R11A	**Troy Canyon, C**	4.03	107	*e*Pn	**Pn**	13 26 20.3	-0.3
DAC	**Darwin (Calif)**	4.04	144	*e*Pn	**Pn**	13 26 22.7	+2.0
J08A	**Circle Bar Ran**	4.04	21	*e*Pn	**Pn**	13 26 21.9	+1.2
WCHM	**Chimney Peak**	4.19	152	*e*Sn	**Sn**	13 27 12.1	-0.2
ISA	**Isabella, Lake**	4.25	157	P	**Pn**	13 26 25.2	+1.7
	baz=339						
TPNV	**Topopah Spring**	4.27	127	P	**Pn**	13 26 24.9	+1.1
	baz=310						
TPNV	**Topopah Spring**	4.27	127	*e*Pn	**Pn**	13 26 24.4	+0.6
MPMC	**Manual Prospec**	4.27	145	P	**Pn**	13 26 28.0	+4.1
	baz=327						
I04A	**Tendick Farm,**	4.42	342	P	**Pn**	13 26 29.4	+3.6
	baz=160						
MFID	**Camas Ranch**	5.17	41	*e*Pn	**Pn**	13 26 36.4	+0.2
GSC	**Goldstone, Bar**	5.21	145	*e*Pn	**Pn**	13 26 38.7	+2.1
SHPR	**Sheep Range**	5.23	125	*e*Pn	**Pn**	13 26 37.7	+0.6
FSU	**Fish Springs**	5.49	87	*e*Pn	**Pn**	13 26 41.6	+1.1
MWC	**Mount Wilson**	5.72	159	*e*Pn	**Pn**	13 26 43.5	-0.3
PASC	**Pasadena Art C**	5.73	160	*e*Pn	**Pn**	13 26 45.5	+1.6
BMO	**Blue Mountains**	5.75	23	*e*Pn	**Pn**	13 26 46.5	+2.4
BGU	**Big Grassy Mou**	5.86	75	*e*Pn	**Pn**	13 26 46.4	+0.7
DUG	**Dugway, Tooele**	5.94	82	*e*Pn	**Pn**	13 26 47.9	+1.1
CCUT	**Cedar City**	5.96	108	*e*Pn	**Pn**	13 26 47.5	+0.5
HLID	**Hailey**	6.03	47	*e*Pn	**Pn**	13 26 49.2	+1.1
SZCU	**Shurtz Canyon**	6.14	107	*e*Pg	**Pg**	13 27 15.2	-0.4
SNUT	**Stansbury Nort**	6.24	76	*e*Pn	**Pn**	13 26 52.9	+2.0
HVU	**Hansel Valley**	6.26	67	*e*Pn	**Pn**	13 26 52.8	+1.6
LCMT	**Little Creek M**	6.26	112	*e*Pg	**Pg**	13 27 17.9	0.0
SPUT	**South Promonto**	6.37	72	*e*Pn	**Pn**	13 26 54.4	+1.7
NLU	**North Lily Min**	6.50	84	*e*Pn	**Pn**	13 26 56.8	+2.3
KNB	**Kanab**	6.57	111	*e*Pn	**Pn**	13 26 56.6	+1.2
KNB				*e*Pg	**Pg**	13 27 21.9	-1.7
MSU	**Marysvale**	6.57	97	*e*Pn	**Pn**	13 26 56.7	+1.2
MTPU	**Mount Pierson**	6.68	101	*e*Pn	**Pn**	13 26 57.8	+0.6
PKCU	**Pink Cliffs**	6.77	106	*e*Pn	**Pn**	13 27 00.0	+1.6
PFO	**Pinyon Flats O**	6.81	150	Pn	**Pn**	13 26 54.3	-4.4
XPFO	**Piæon Flat**	6.81	150	*e*Pn	**Pn**	13 27 00.4	+1.7
XPFO				*e*		13 27 22.8	
HAWA	**Hanford**	6.82	6	*e*Pn	Pn	13 27 03.2	+4.5
MPU	**Maple Canyon**	6.84	84	*e*Pn	**Pn**	13 27 00.7	+1.5
SGU	**Sterling**	6.87	91	*e*Pn	**Pn**	13 27 02.7	+3.0
TMUT	**Trail Mountain**	7.20	90	*e*Pn	**Pn**	13 27 07.2	+3.0
U15A	**North Rim**	7.21	114	*e*Pn	**Pn**	13 27 06.3	+1.9
Q16A	**Castle Valley**	7.27	92	*e*Pn	**Pn**	13 27 05.3	+0.2
P17A	**Butcher Ranch,**	7.54	88	*e*Pn	**Pn**	13 27 10.0	+1.2
SRU	**San Rafael Swe**	7.74	91	*e*Pn	**Pn**	13 27 15.0	+3.4
P18A	**Preston Nutter**	7.92	87	*e*Pn	**Pn**	13 27 18.3	+4.2

*ISCJB **30** 13:26:43.2±0.5,35.°99N±0.°03×120.°02W±0.°03,h8km±5km, Error ellipse: s-maj=4.3km s-min=3.9km az=6.2*
*NEIC **30** 13:26:43.9±0.0,35.°94N×120.°03W,h8km,MW3.5(BRK), After NCEDC.*
NEIC Felt at Atascadero, Avenal, Kettleman City, Santa Maria and Solvang.

ISC 30 13:26:43.4±1.2,35.°96N±0.°03×120.°02W±0.°03,h9km±11km, n36,σ1°00/45,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGB	**Antelope Grade**	0.30	219	*e*Pg	**Pb**	13 26 50.2	-0.8
PSTM	**Stockdale Moun**	0.40	265	*e*Pg	**Pb**	13 26 52.8	+0.1
WKR	**Work Ranch**	0.43	250	*e*Pg	**Pb**	13 26 53.1	-0.1
SMMC	**Simmler**	0.65	178	P	**Pb**	13 26 57.1	+0.1
	baz=0.4						
SMMC				S	**Sb**	13 27 07.1	+0.9
	baz=0.4						
RCTC	**Rector, Farmer**	0.71	61	P	**Pg**	13 26 57.1	-0.1
	baz=241						
RCTC				S	**Sg**	13 27 06.9	+0.3
	baz=241						
VES	**Vestal, Richgr**	0.77	99	P	**Pg**	13 26 58.2	0.0
	baz=280						
VES				S	**Sg**	13 27 08.9	+0.6
	baz=280						
BLDC	**Black Mountain**	0.84	240	*e*Pg	**Pb**	13 27 00.3	+0.1
EFD	**Emergency Oper**	0.86	222	*e*Pg	**Pb**	13 27 01.0	+0.4
ARDC	**Alexander Ranc**	0.93	238	*e*Pg	**Pb**	13 27 01.7	0.0
LRV	**Little Rabbit**	0.93	300	*e*Pn	**Pb**	13 27 02.0	+0.2
LSDC	**Los Osos Digit**	0.94	226	*e*Pn	**Pn**	13 27 03.0	+0.1
DPD	**Davis Peak**	0.96	221	*e*Pg	**Pb**	13 27 02.4	+0.1
PCBM	**Cambria**	0.96	243	*e*Pg	**Pb**	13 27 02.2	-0.1
VPDC	**Valencia Peak**	1.00	224	*e*Pn	**Pn**	13 27 03.9	+0.2
DCD	**Diablo Creek**	1.00	222	*e*Pg	**Pb**	13 27 03.0	-0.1
BPIM	**Pinnacles**	1.07	300	*e*Pg	**Pg**	13 27 04.0	0.0
PKM	**Mcpherson Peak**	1.08	171	P	**Pg**	13 27 04.2	-0.1
	baz=352						
PKM				S	**Sn**	13 27 20.1	-0.2
	baz=352						
SHG	**Shirttail Gulc**	1.10	295	*e*Pg	**Pg**	13 27 04.0	-0.5
PMLM	**Mount Lospe**	1.17	205	*e*Pn	**Pn**	13 27 07.7	+1.7
JHC	**Johnson Canyon**	1.25	298	*e*Pn	**Pn**	13 27 06.3	-0.9
ARVC	**Arvin**	1.28	130	P	**Pn**	13 27 07.2	-0.3
	baz=312						
ARVC				S	**Sb**	13 27 24.1	-0.2
	baz=312						
ABL	**Mount Abel**	1.29	149	*e*Pn	**Pn**	13 27 06.6	-1.2
ISA	**Isabella, Lake**	1.29	103	P	**Pn**	13 27 06.6	-1.2
	baz=285						
ISA				S	**Sb**	13 27 23.5	-1.2
	baz=285						
BSRM	**Salinas Radio**	1.40	301	*e*Pn	**Pn**	13 27 09.2	0.0
BPCNC	**Pine Canyon**	1.44	296	*e*Pn	**Pn**	13 27 10.2	+0.5
BPRM	**Ponciano Ridge**	1.45	288	*e*Pn	**Pn**	13 27 08.7	-1.3
WORM	**Onyx Ranch**	1.47	100	*e*Pn	**Pn**	13 27 09.9	-0.3
OSI	**Osíto Audit: C**	1.71	141	*e*Pn	**Pn**	13 27 13.4	-0.1
MTUM	**Tungsten Hills**	1.81	40	*e*Pn	**Pn**	13 27 16.3	+1.2
MLAC	**Mammoth, Mammo**	1.92	29	Pb	**Pn**	13 27 17.4	+0.8
	baz=210						
MLAC				Sb	**Sn**	13 27 42.4	+1.5
	baz=210						
LRMC	**Laurel Mtn Rad**	1.96	104	Pb	**Pn**	13 27 18.0	+0.9
	baz=285						
LRMC				Sb	**Sb**	13 27 43.8	-0.3
	baz=285						
EDW2	**Edwards Air Fo**	1.97	123	Pb	**Pn**	13 27 18.7	+1.5
	baz=304						
EDW2				Sb	**Sb**	13 27 44.8	+0.4
	baz=304						
SCZ2	**Santa Cruz Isl**	1.99	171	P	**Pn**	13 27 16.5	-0.8
	baz=352						
MPMC	**Manual Prospec**	2.05	87	Pb	**Pn**	13 27 20.3	+1.9
	baz=268						
PASC	**Pasadena Art C**	2.33	139	*e*Pn	**Pn**	13 27 21.8	-0.3
PSUT	**Pine Spring**	5.55	61	*e*Pn	**Pn**	13 28 02.4	-4.1

*IDC **30** 13:32:59.3±5.8, 1.°84S×103.°65E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/42,mbtmp3.7/4,Error ellipse: s-maj=320.5km s-min=24.7km az=53.0*
*ISCJB **30** 13:33:04.0±0.6,3.°37S±0.°09×101.°82E±0.°07,h112km±5km, mb3.8/4,Error ellipse: s-maj=18.5km s-min=5.1km az=36.3*
*DJA **30** 13:33:06.3±0.4,3.°S±3.°×10.°2E±.°,h79km±5km,M3.5/10, MLv3.5/10*

ISC 30 13:33:05.2±1.0,3.°4S±0.°1×101.°81E±0.°08,h105km±9km, n14,σ1°05/20,mb3.8/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	0.51	57	P	**Pn**	13 33 21.5	-0.1
MASI				S	**Sn**	13 33 34.0	+0.1
MNAI	**Manna**	1.47	129	P	**Pn**	13 33 32.3	+1.0
MNAI				S	**Sn**	13 33 50.9	-0.3
LHSI	**Lahat**	1.75	103	P	**Pn**	13 33 35.2	+0.4
LHSI				S	**Sn**	13 33 57.1	-0.3
PPSI	**Pulau Pagai**	1.92	290	S	**Sn**	13 34 00.8	-0.3
MDSI	**Maura Dua**	2.58	114	P	**Pn**	13 33 45.8	+0.3
MDSI				S	**Sn**	13 34 16.2	-0.4
LWLI	**Liwa**	2.74	125	P	**Pn**	13 33 48.3	+0.6
PDSI	**Padang**	2.84	332	P	**Pn**	13 33 49.6	+0.7
PDSI				S	**Sn**	13 34 21.2	-1.4
KLSI		3.17	113	P	**Pn**	13 33 53.6	+0.3
KASI	**Kota Agung**	3.39	128	P	**Pn**	13 33 55.7	-0.6
KASI				S	**Sn**	13 34 33.0	-2.8
SISI	**Saibi**	3.43	307	P	**Pn**	13 33 57.5	+0.7
SISI				S	**Sn**	13 34 34.7	-1.9
WRA	**Warramunga Arr**	35.72	120	P	**P**	13 39 54.2	+0.2
	0.4nm,0.5s,baz=303,slow=8.8,SNR=3.3						
ASAR	**Alice Springs**	36.95	126	P	**P**	13 40 05.5	+1.0
	0.4nm,0.5s,baz=299,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	52.89	343	P	**P**	13 42 10.2	-0.1
	0.7nm,0.5s,baz=152,slow=8.6,SNR=8.3						
ZALV	**Zalesovo Beam**	58.91	348	P	P	13 42 51.7	-1.3
	0.9nm,0.4s,baz=157,slow=5.1,SNR=5.5						

*IDC **30** 13:38:51.2±0.9,27.°04N×92.°22E,h0km,mb3.6/12, mb1 3.7/13,mb1mx3.6/39,mbtmp3.6/13,ML3.5/1,Error ellipse: s-maj=42.4km s-min=15.6km az=55.0*
*ISCJB **30** 13:38:53.8±1.1,27.°16N±0.°04×92.°22E±0.°03,h21km±9km, mb3.6/12,Error ellipse: s-maj=7.2km s-min=3.8km az=4.0*
*DMN **30** 13:38:53.0±0.5,27.°49N×92.°59E,h10km,Ml4.5/7,Error ellipse: s-maj=37.1km s-min=10.0km az=3.0*

ISC 30 13:38:54.2±1.2,27.°01N±0.°04×92.°26E±0.°03,h18km±5km, n37,σ1°35/56,mb3.6/12,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	0.62	129	*e*P	**Pg**	13 39 05.5	-1.0
TEZP				*e*S	**Sg**	13 39 14.8	-0.1
TEZP				AML	AML	13 39 16.2	
	comp=E,1μm,0.2s						
TEZP				AML	AML	13 39 16.4	
	comp=N,1μm,0.2s						
ITAN	**ITANAGAR**	1.31	84	*e*P	**Pg**	13 39 19.5	0.0
ITAN				*e*S	**Sg**	13 39 39.8	+3.0
SHL	**Shillong**	1.48	193	*e*P	**Pn**	13 39 20.8	+0.7
SHL				*e*S	**Sn**	13 39 40.6	+1.5
SHL				AML	AML	13 39 42.0	
	comp=N,391nm,0.2s						
SHL				AML	AML	13 39 42.1	
	comp=E,465nm,0.3s						
ZIRO	**ZIRO**	1.51	70	*e*P	**Pb**	13 39 21.5	-0.3
ZIRO				*e*S	**Sg**	13 39 44.5	+1.5
MOKO	**MOKOCHONG**	2.13	108	*e*P	**Pb**	13 39 31.7	-0.8
MOKO				*e*S	**Sb**	13 39 58.6	-0.1
MOKO				AML	AML	13 40 14.2	
	comp=E,737nm,0.5s						
MOKO				AML	AML	13 40 14.3	
	comp=N,504nm,0.6s						
DHUB	**DHUBRI**	2.25	245	*e*P	**Pn**	13 39 32.6	+2.0
DHUB				*e*S	**Sb**	13 40 01.0	-0.9
DHUB				AML	AML	13 40 03.8	
	comp=E,684nm,0.2s						
DHUB				AML	AML	13 40 03.9	
	comp=N,746nm,0.2s						
TURI	**Tura**	2.26	230	*e*P	**Pb**	13 39 33.8	-0.7
TURI				*e*S	**Sb**	13 40 02.1	0.0
TURI				AML	AML	13 40 06.3	
	comp=N,2μm,0.2s						
TURI				AML	AML	13 40 06.5	
	comp=E,1μm,0.2s						
DIBR	**DIBRUGARH**	2.41	78	*e*S	**Sg**	13 40 08.5	-3.1
IMP	**Imphal**	2.65	145	*ex*	**Pg**	13 39 46.1	+1.0
LSA	**Lhasa**	2.85	340	Pg	**Pb**	13 39 44.5	-0.4
LSA				Sg	**Sb**	13 40 21.3	+1.6
LSA				smax	smax		
	comp=N,180nm,0.5s						
LSA				smax	smax		
	comp=E,490nm,0.5s						
LKP	**Lekhapani**	3.21	83	*e*S	**Sn**	13 40 23.9	+2.2
LKP				AML	AML	13 40 47.0	
	comp=N,414nm,0.3s						
LKP				AML	AML	13 40 47.6	
	comp=E,444nm,0.4s						
GTK	**Tadong**	3.27	276	*e*P	**Pb**	13 39 53.0	+1.1
GTK				*e*S	**Sn**	13 40 25.1	+1.8
GTK				AML	AML	13 40 39.1	
	comp=E,218nm,0.3s						
GTK				AML	AML	13 40 39.2	
	comp=N,243nm,0.3s						
TAPN	**Taplejung**	4.07	276	*e*Pn	**Pn**	13 39 56.7	+0.9
TAPN				*e*Sn	**Sn**	13 40 45.5	+2.4
ODAN	**Odare**	4.35	269	*e*Pn	**Pn**	13 40 01.5	+1.8
ODAN				*e*Sn	**Sn**	13 40 52.4	+2.4
RAMN	**Ramite**	5.05	271	*e*Pn	**Pn**	13 40 11.2	+1.9
JIRN	**Jiri**	5.44	278	*e*Pn	**Pn**	13 40 16.1	+1.4
JIRN				*e*Sn	**Sn**	13 41 16.3	-0.8
GUN	**Gumba**	5.74	280	*e*Pn	**Pn**	13 40 20.4	+1.5
GUN				*e*Sn	**Sn**	13 41 24.0	-0.5
	comp=N,104nm,0.4s						
PKI	**Pulchoki**	6.12	277	*e*Pn	**Pn**	13 40 24.9	+0.8
PKI				*e*Sn	**Sn**	13 41 33.3	-0.6
	comp=N,36nm,0.4s						
PKIN	**Phulchoki**	6.13	277	*e*Pn	**Pn**	13 40 25.9	+1.7
PKIN				*e*Sn	**Sn**	13 41 33.2	-0.8
	comp=N,136nm,0.3s						
KKN	**Kakani**	6.25	279	*e*Pn	**Pn**	13 40 26.8	+1.0
KKN				*e*Sn	**Sn**	13 41 36.4	-0.5
	comp=N,118nm,0.5s						
DMN	**Daman**	6.39	277	*e*Pn	**Pn**	13 40 28.5	+0.7
DMN				*e*Sn	**Sn**	13 41 39.4	-1.0
	comp=N,36nm,0.3s						
GKN	**Gorkha**	6.84	280	*e*Pn	**Pn**	13 40 34.1	+0.3
GKN				*e*Sn	**Sn**	13 41 51.0	-0.3
	comp=N,86nm,0.4s						
KOLN	**Koldanda**	7.74	278	*e*Pn	**Pn**	13 40 46.4	+0.2
PYUN	**Piuthan**	8.30	280	*e*Pn	**Pn**	13 40 52.8	-1.1
PYUN				*e*Sn	**Sn**	13 42 24.4	-2.9
	comp=N,74nm,0.5s						
CMAR	**Chiang Mai Ar**	10.51	143	Pn	**Pn**	13 41 24.3	+0.2
	comp=N,0.1nm,0.3s,baz=312,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	21.26

VANB	**Van**	**0.19**	**85**	*i* Pg	**Pg**	**13 53 22.7**	**-0.4**
VANB				*e*Sg	**Sg**	**13 53 26.4**	**+0.4**
TVAN	**Van**	**0.20**	**104**	*i* P	**Pg**	**13 53 22.5**	**-1.0**
TVAN				*i* S	**Sg**	**13 53 27.1**	**+0.5**
TVAN	**Van**	**0.20**	**104**	P	**Pg**	**13 53 22.5**	**-1.0**
TVAN				S	**Sg**	**13 53 27.1**	**+0.5**
GEVA	**Gevas**	**0.28**	**196**	*i* P	**Pg**	**13 53 24.3**	**-0.4**
GEVA				*i* S	**Sb**	**13 53 31.2**	**+0.5**
GEVA	**Gevas**	**0.28**	**196**	P	**Pg**	**13 53 24.3**	**-0.4**
GEVA				S	**Sb**	**13 53 31.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**305**	*i* P	**Pg**	**13 53 27.3**	**+0.2**
ADCV				*i* S	**Sb**	**13 53 34.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.41**	**305**	P	**Pg**	**13 53 27.3**	**+0.2**
ADCV				S	**Sb**	**13 53 34.3**	**-0.3**
VMUR	**Van-Muradiye**	**0.53**	**38**	*i* P	**Pg**	**13 53 28.8**	**-0.5**
VMUR				*i* S	**Sb**	**13 53 37.7**	**-0.3**
VMUR	**Van-Muradiye**	**0.53**	**38**	P	**Pg**	**13 53 28.8**	**-0.5**
VMUR				S	**Sb**	**13 53 37.7**	**-0.3**
CLDR	**Caldiran**	**0.82**	**46**	*e*PG	**Pg**	**13 53 34.3**	**-0.6**
CLDR	**Caldiran**	**0.82**	**46**	*e*Pg	**Pg**	**13 53 34.3**	**-0.6**
TUTA	**Tutak**	**0.86**	**342**	*i* P	**Pg**	**13 53 34.9**	**-0.8**
TUTA				*i* S	**Sg**	**13 53 47.2**	**+0.2**
TUTA	**Tutak**	**0.86**	**342**	P	**Pg**	**13 53 34.9**	**-0.8**
TUTA				S	**Sg**	**13 53 47.2**	**+0.2**
GURO	**Guroymak-BITLI**	**0.88**	**269**	*e*PG	**Pg**	**13 53 34.2**	**-1.7**
GURO	**Guroymak-BITLI**	**0.88**	**269**	*e*Pg	**Pg**	**13 53 34.2**	**-1.7**
AGRB	**Hanur-Agry**	**1.00**	**353**	*e*PG	**Pg**	**13 53 37.8**	**-0.5**
AGRB				*e*SG	**Sb**	**13 53 52.7**	**+0.9**
AGRB	**Hanur-Agry**	**1.00**	**353**	*e*Pg	**Pg**	**13 53 37.8**	**-0.5**
AGRB				*e*Sg	**Sb**	**13 53 52.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.59**	**255**	*e*PN	**Pn**	**13 53 47.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.59**	**255**	*e*Pn	**Pn**	**13 53 47.2**	**+0.1**
BTMN	**Batman**	**1.63**	**246**	*i* P	**Pb**	**13 53 49.2**	**+0.1**
BTMN				*i* S	**Sg**	**13 54 12.4**	**+0.9**
BTMN	**Batman**	**1.63**	**246**	P	**Pb**	**13 53 49.2**	**+0.1**
BTMN				S	**Sg**	**13 54 12.4**	**+0.9**

*ISK **30** 13:56:28.0,38°.64N×43°.20E,h17km, ML2.3*
*ISCJB **30** 13:56:29.2±1.0,38°.62N±0°.05×43°.26E±0°.06,h24km±9km, Error ellipse: s-maj=10.4km s-min=6.0km az=142.2*
*CSEM **30** 13:56:29.1±0.3,38°.66N×43°.21E,h10km,ML2.3,Error ellipse: s-maj=6.3km s-min=5.6km az=155.0*
*DDA **30** 13:56:29.5,38°.64N×43°.25E,h7km,Ml2.9*
ISC 30 13:56:28.6±1.0,38°.64N±0°.03×43°.20E±0°.03,h19km±2km, n18,σ0§69/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**108**	PG	**Pg**	**13 56 33.4**	**+0.2**
VANB				*e*SG	**Sg**	**13 56 36.9**	**+0.6**
VANB	**Van**	**0.16**	**108**	*i* Pg	**Pg**	**13 56 33.4**	**+0.2**
VANB				*e*Sg	**Sg**	**13 56 36.9**	**+0.6**
TVAN	**Van**	**0.20**	**125**	*i* P	**Pb**	**13 56 33.3**	**0.0**
TVAN				*i* S	**Sb**	**13 56 37.0**	**+0.7**
TVAN	**Van**	**0.20**	**125**	P	**Pb**	**13 56 33.3**	**0.0**
TVAN				S	**Sb**	**13 56 37.0**	**+0.7**
GEVA	**Gevas**	**0.35**	**198**	*i* P	**Pb**	**13 56 36.6**	**+0.2**
GEVA				*i* S	**Sn**	**13 56 44.0**	**-1.5**
GEVA	**Gevas**	**0.35**	**198**	P	**Pb**	**13 56 36.6**	**+0.2**
GEVA				S	**Sn**	**13 56 44.0**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**294**	*i* P	**Pb**	**13 56 38.1**	**+0.6**
ADCV				*i* S	**Sn**	**13 56 45.5**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.41**	**294**	P	**Pb**	**13 56 38.1**	**+0.6**
ADCV				S	**Sn**	**13 56 45.5**	**-1.4**
VMUR	**Van-Muradiye**	**0.45**	**40**	*i* P	**Pg**	**13 56 38.0**	**0.0**
VMUR				*i* S	**Sb**	**13 56 44.8**	**+0.1**
VMUR	**Van-Muradiye**	**0.45**	**40**	P	**Pg**	**13 56 38.0**	**0.0**
VMUR				S	**Sb**	**13 56 44.8**	**+0.1**
CLDR	**Caldiran**	**0.75**	**48**	*e*PG	**Pb**	**13 56 42.8**	**-0.5**
CLDR				*e*SG	**Sg**	**13 56 54.0**	**+0.5**
CLDR	**Caldiran**	**0.75**	**48**	*e*Pg	**Pb**	**13 56 42.8**	**-0.5**
CLDR				*e*Sg	**Sg**	**13 56 54.0**	**+0.5**
GURO	**Guroymak-BITLI**	**0.92**	**265**	*e*PG	**Pb**	**13 56 46.0**	**-0.1**
GURO	**Guroymak-BITLI**	**0.92**	**265**	*e*Pg	**Pb**	**13 56 46.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*PG	**Pn**	**13 56 47.3**	**+0.2**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*Pg	**Pn**	**13 56 47.3**	**+0.2**
EATA	**Eleskirt**	**1.33**	**336**	*i* P	**Pb**	**13 56 53.6**	**+0.3**
EATA	**Eleskirt**	**1.33**	**336**	P	**Pb**	**13 56 53.6**	**+0.3**

*ISCJB **30** 14:00:55.2±1.1,27°.89S±0°.05×69°.98W±0°.06, h104km±10km, Error ellipse: s-maj=9.8km s-min=7.3km az=137.0*
*GUC **30** 14:00:55.8±0.5,27°.93S×69°.90W,h90km±4km,ML2.8*
*SJA **30** 14:00:56.8±0.8,27°.89S×69°.75W,h134km±26km,ML2.7, MW3.2*
ISC 30 14:00:54.9±2.1,27°.91S±0°.06×70°.06W±0°.06, h110km±17km,n12,σ1§56/24,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.35**	**333**	*e*P	**Pn**	**14 01 10.5**	**-0.5**
GO03				*i* S	**Sn**	**14 01 21.4**	**-1.7**
GO03				IAML		14 01 21.7	
	comp=E,658nm,0.4s						
CPCH	**Copiapo**	**0.61**	**334**	⇑*i*P	**Pn**	**14 01 12.6**	**0.0**
CPCH				*i* S	**Sn**	**14 01 24.9**	**-0.9**
VACH	**Vallenar**	**0.91**	**223**	⇑*i*P	**Pn**	**14 01 15.8**	**+0.6**
VACH				*i* S	**Sn**	**14 01 31.1**	**+0.6**
CDCH	**Caldera**	**1.08**	**321**	*e*P	**Pn**	**14 01 18.0**	**+1.1**
CDCH				*i* S	**Sn**	**14 01 34.3**	**+0.8**
LCO	**Las Campanas**	**1.24**	**207**	⇑*i*P	**Pn**	**14 01 19.7**	**+0.8**
LCO				*i* S	**Sn**	**14 01 37.9**	**+0.7**
LCO				IAML		14 01 39.9	
	comp=N,197nm,0.4s						
VCA	**Vinchina**	**1.83**	**117**	*e*P	**Pn**	**14 01 27.3**	**+1.4**
VCA				*e*S	**Sn**	**14 01 50.9**	**+1.4**
VCA				IAML		14 01 53.5	
	comp=Z,65nm,0.4s						
AGUA	**GUANDACOL**	**2.09**	**139**	*e*P	**Pn**	**14 01 31.0**	**+1.8**
AGUA				*e*S	**Sn**	**14 01 56.8**	**+1.5**
TLL	**Tololo Astrono**	**2.34**	**196**	*e*P	**Pn**	**14 01 33.8**	**+1.2**
TLL				*e*S	**Sn**	**14 01 57.6**	**-3.7**
TLL				IAML		14 02 25.5	
	comp=N,53nm,0.7s						
ACLC	**CERRO LA CRUZ**	**3.12**	**120**	*i* P	**Pn**	**14 01 43.1**	**+0.4**
ACLC				*e*S	**Sn**	**14 02 18.1**	**-1.4**
AVFE	**Valle Fertil**	**3.56**	**141**	*e*P	**Pn**	**14 01 49.1**	**+0.7**
AVFE				*i* S	**Sn**	**14 02 28.7**	**-1.1**
AVFE				IAML		14 02 30.9	
	comp=Z,14nm,0.3s						
APLL	**PUNTA DE LOS L**	**3.96**	**130**	*e*P	**Pn**	**14 01 54.1**	**+0.4**
APLL				*e*S	**Sn**	**14 02 37.4**	**-2.0**
ACHE	**Chepes**	**4.39**	**138**	*i* P	**Pn**	**14 02 00.1**	**+0.5**
ACHE				*e*S	**Sn**	**14 02 46.9**	**-2.8**

*ISCJB **30** 14:14:21.9±1.2,31°.68S±0°.04×69°.69W±0°.07, h107km±12km, Error ellipse: s-maj=10.7km s-min=7.1km az=11.1*
*SJA **30** 14:14:21.8±0.4,31°.67S×69°.64W,h98km±3km, ML2.7, MW3.3*
*GUC **30** 14:14:21.5±0.5,31°.65S×70°.33W,h140km,ML2.6*
ISC 30 14:14:23.3±1.8,31°.68S±0°.05×69°.75W±0°.07,h93km±17km, n11,σ1§24/16,4C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.40**	**108**	*i* P	**Pn**	**14 14 37.6**	**-0.5**
RTLS				*i* S	**Sn**	**14 14 49.6**	**+0.5**
RTLS				IAML		14 14 51.5	
	comp=Z,215nm,0.4s						
AUSP	**Uspallata**	**0.63**	**151**	*i* P	**Pn**	**14 14 39.8**	**0.0**
RTCV	**Cerro Valdivia**	**1.04**	**101**	*i* P	**Pn**	**14 14 42.6**	**-1.2**
ASAL	**Salagasta**	**1.20**	**140**	*i* P	**Pn**	**14 14 45.0**	**-0.6**
AMOG	**MOGNA**	**1.30**	**56**	*i* P	**Pn**	**14 14 45.7**	**-1.1**
AAGR	**Agrelo**	**1.61**	**151**	*i* P	**Pn**	**14 14 50.0**	**-0.7**
PEL	**Peldehue**	**1.67**	**208**	⇑*i*P	**Pn**	**14 14 50.5**	**-0.9**
PEL				*i* S	**Sn**	**14 15 13.2**	**+0.5**
ROCH	**El Roble**	**1.68**	**219**	⇑*i*P	**Pn**	**14 14 50.5**	**-1.2**
ROCH				*i* S	**Sn**	**14 15 13.1**	**-0.2**
ROCH				IAML		14 15 15.3	
	comp=N,91nm,0.3s						
TLL	**Tololo Astrono**	**1.76**	**329**	⇑*i*P	**Pn**	**14 14 51.8**	**-0.9**
TLL				*i* S	**Sn**	**14 15 15.0**	**-0.1**
TLL				IAML		14 15 17.0	
	comp=E,74nm,0.2s						
CLCH	**Cerro Calan**	**1.84**	**201**	⇑*i*P	**Pn**	**14 14 53.6**	**-0.1**
CLCH				*i* S	**Sn**	**14 15 18.6**	**+1.9**
CPCH	**Copiapo**	**4.33**	**353**	*e*P	Pn	14 15 22.3	-4.7
CPCH				*i* S	**Sn**	**14 16 19.1**	**+2.8**

*ISCJB **30** 14:31:26.3±1.0,38°.71N±0°.05×43°.56E±0°.10,h28km±5km, Error ellipse: s-maj=13.8km s-min=6.1km az=26.7*
*ISK **30** 14:31:26.1,38°.75N×43°.46E,h19km,ML2.5*
*CSEM **30** 14:31:27.2±0.3,38°.78N×43°.42E,h10km,ML2.5,Error ellipse: s-maj=8.9km s-min=5.8km az=113.0*
*DDA **30** 14:31:27.0,38°.73N×43°.47E,h7km,Ml2.9*
ISC 30 14:31:26.5±1.1,38°.74N±0°.05×43°.52E±0°.06,h24km±7km, n17,σ0§60/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**215**	*e*PG	**Pb**	**14 31 32.0**	**0.0**
VANB				*e*SG	**Sb**	**14 31 36.8**	**+1.1**
VANB	**Van**	**0.18**	**215**	*e*Pg	**Pb**	**14 31 32.0**	**0.0**
VANB				*e*Sg	**Sb**	**14 31 36.8**	**+1.1**
TVAN	**Van**	**0.23**	**203**	*i* P	**Pb**	**14 31 31.7**	**-1.0**
TVAN				*i* S	**Sb**	**14 31 36.8**	**-0.1**
VMUR	**Van-Muradiye**	**0.25**	**9**	*i* P	**Pb**	**14 31 32.2**	**-0.8**
VMUR				*i* S	**Sb**	**14 31 37.1**	**-0.3**
CLDR	**Caldiran**	**0.51**	**37**	*e*PG	**Pb**	**14 31 37.0**	**0.0**
CLDR				*e*SG	**Sb**	**14 31 45.3**	**+1.2**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pb**	**14 31 36.8**	**-0.2**
CLDR				*i* S	**Sn**	**14 31 46.0**	**-0.5**
CLDR	**Caldiran**	**0.51**	**37**	*e*Pg	**Pb**	**14 31 37.0**	**0.0**
CLDR				*e*Sg	**Sb**	**14 31 45.3**	**+1.2**
CLDR				S	**Sn**	**14 46.0**	**-0.5**
GEVA	**Gevas**	**0.56**	**220**	*i* P	**Pb**	**14 31 37.7**	**-0.2**
GEVA	**Gevas**	**0.56**	**220**	P	**Pb**	**14 31 37.7**	**-0.2**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pn**	**14 31 43.1**	**-0.2**
TUTA				*i* S	**Sn**	**14 31 55.5**	**+0.3**
TUTA	**Tutak**	**0.86**	**320**	P	**Pn**	**14 31 43.1**	**-0.2**
TUTA				S	**Sn**	**14 31 55.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*PG	**Pn**	**14 31 44.1**	**-0.2**
AGRB	**Hanur-Agry**	**0.93**	**334**	*e*Pg	**Pn**	**14 31 44.1**	**-0.2**
TATV	**Tatvan**	**1.01**	**257**	*i* P	**Pb**	**14 31 45.2**	**-0.3**
TATV	**Tatvan**	**1.01**	**257**	P	**Pb**	**14 31 45.2**	**-0.3**
GURO	**Guroymak-BITLI**	**1.18**	**261**	*e*PN	**Pn**	**14 31 47.5**	**-0.2**
GURO	**Guroymak-BITLI**	**1.18**	**261**	*e*Pn	**Pn**	**14 31 47.5**	**-0.2**

*ISCJB **30** 14:32:24.8±0.8,31°.31S±0°.04×68°.86W±0°.05,h117km±7km, Error ellipse: s-maj=7.1km s-min=6.7km az=143.0*
*GUC **30** 14:32:24.9±0.5,31°.28S×69°.02W,h104km±2km,ML3.6*
*SJA **30** 14:32:24.7±0.8,31°.33S×68°.89W,h111km±5km,ML3.5, MW3.6*
ISC 30 14:32:25.2±1.5,31°.32S±0°.05×68°.87W±0°.04,h113km±9km, n16,σ0§74/24,4C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.34**	**92**	*i* P	**Pn**	**14 32 41.3**	**-0.3**
RTLL				*i* S	**Sn**	**14 32 53.4**	**-0.4**
RTLL				IAML		14 32 56.2	
	comp=E,5μm,0.2s						
RTLL	**Cerro Villicun**	**0.34**	**92**	*i* P	**Pn**	**14 32 41.2**	**-0.3**
SJA	**San Juan**	**0.34**	**129**	*i* P	**Pn**	**14 32 41.7**	**+0.2**
SJA				IAML		14 32 42.1	
	comp=Z,2μm,0.1s						
SJA				*i* S	**Sn**	**14 32 54.3**	**+0.4**
AMOG	**MOGNA**	**0.49**	**40**	*i* P	**Pn**	**14 32 42.6**	**+0.1**
RTLS	**Leoncito**	**0.60**	**217**	*i* P	**Pn**	**14 32 43.5**	**+0.1**
RTLS				*i* S	**Sn**	**14 32 57.5**	**+0.3**
RTLS				IAML		14 33 00.4	
	comp=Z,467nm,0.4s						
RTCV	**Cerro Valdivia**	**0.61**	**153**	*i* P	**Pn**	**14 32 43.2**	**0.0**
AUSP	**Uspallata**	**1.01**	**206**	*i* P	**Pn**	**14 32 47.6**	**+0.5**
ACAN	**Cantantal**	**1.72**	**124**	*i* P	**Pn**	**14 32 55.6**	**+0.7**
AGUA	**GUANDACOL**	**1.85**	**10**	*i* P	**Pn**	**14 32 57.6**	**+1.0**
ACHE	**Chepes**	**1.89**	**86**	*i* P	**Pn**	**14 32 57.5**	**+0.3**
TLL	**Tololo Astrono**	**2.02**	**304**	⇑*i*P	**Pn**	**14 32 58.7**	**-0.1**
TLL				*i* S	**Sn**	**14 33 23.9**	**-0.7**
TLL				IAML		14 33 29.4	
	comp=N,476nm,0.6s						
AVIZ	**Vizcacheras**	**2.17**	**172**	*i* P	**Pn**	**14 33 01.3**	**+0.7**
ROCH	**El Roble**	**2.46**	**227**	⇑*i*P	**Pn**	**14 33 04.2**	**-0.2**
ROCH				*i* S	**Sn**	**14 33 34.8**	**+0.4**
ROCH				IAML		14 33 37.3	
	comp=N,211nm,0.2s						
VCA	**Vinchina**	**2.63**	**13**	⇑*i*P	**Pn**	**14 33 07.6**	**+1.0**
VCA				*i* S	**Sn**	**14 33 39.6**	**+1.1**
VCA				IAML		14 33 43.0	
	comp=N,345nm,0.3s						
LCO	**Las Campanas**	**2.79**	**325**	⇑*i*P	**Pn**	**14 33 08.5**	**-0.3**
LCO				*i* S	**Sn**	**14 33 41.5**	**-0.9**
LCO				IAML		14 33 46.6	
	comp=N,158nm,0.5s						
TCA	**Tanti**	**3.66**	**91**	*i* P	**Pn**	**14 33 19.8**	**-0.2**
TCA				*i* S	**Sn**	**14 34 00.5**	**-2.0**

*IASPEI **30** 14:40:32.9±0.9,42°.30N±0°.02×13°.33E±0°.02,h13km±5km, mb3.8/8,MS3.6/3,Error ellipse: s-maj=3.0km s-min=2.8km az=65.2,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **30** 14:40:32.7±0.2,42°.30N±0°.01×13°.28E±0°.02,h3km±2km, mb3.8/8,MS3.5/3,Error ellipse: s-maj=2.5km s-min=2.2km az=135.5*
*ROM **30** 14:40:32.6±0.1,42°.28N×13°.33E,h10km,Ml3.6/38,Error ellipse: s-maj=0.7km s-min=0.6km az=58.0*
*CSEM **30** 14:40:33.8±0.1,42°.29N×13°.25E,h2km,ML3.9/14,Error ellipse: s-maj=3.0km s-min=2.5km az=31.0*
*LDG **30** 14:40:33.1±0.1,42°.29N×13°.31E,h10km,Ml3.2/5,Error ellipse: s-maj=2.4km s-min=2.0km az=54.0*
*IDC **30** 14:40:33.3±1.4,42°.44N×13°.04E,h0km,mb3.7/9, mb1 3.9/12,mb1mx3.7/57,mbtmp3.7/12,ML3.4/3,MS3.3/6, Ms1 3.3/6,ms1mx2.9/56,Error ellipse: s-maj=25.6km s-min=13.0km az=80.0*
*PRU **30** 14:40:35.1,42°.29N×13°.43E,h0km*
ISC 30 14:40:34.0±0.7,42°.31N±0°.02×13°.30E±0°.02,h8km±4km, n231,σ1§99/273,mb3.8/8,MS3.6/3,39C-22D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.06**	**26**	⇑*e*Pg	**Pg**	**14 40 35.3**	**-0.6**
T0104				Sg	**Sg**	**14 40 37.0**	**-0.3**
AQU	**L'Aquila**	**0.09**	**57**	⇑*e*Pg	**Pg**	**14 40 35.5**	**-0.7**
AQU				Sg	**Sg**	**14 40 37.5**	**-0.3**
	103μm,1.2s						
AQU	**L'Aquila**	**0.09**	**57**	⇑*e*Pg	**Pg**	**14 40 35.5**	**-0.7**
AQU				Sg	**Sg**	**14 40 37.5**	**-0.3**
	103μm,1.2s						
FIAM	**Fiamignano**	**0.14**	**255**	Pg	**Pg**	**14 40 36.8**	**-0.3**
FIAM				Sg	**Sg**	**14 40 39.6**	**+0.4**
	110μm,1.5s						
FIAM	**Fiamignano**	**0.14**	**255**	Pg	**Pg**	**14 40 36.8**	**-0.3**
FIAM				Sg	**Sg**	**14 40 39.6**	**+0.4**
	110μm,1.5s						
FAGN	**Fagnano**	**0.21**	**101**	⇑*e*Pg	**Pg**	**14 40 37.4**	**-0.9**
FAGN				Sg	**Sg**	**14 40 41.1**	**-0.1**
	65μm,0.7s						
FAGN	**Fagnano**	**0.21**	**101**	⇑*e*Pg	**Pg**	**14 40 37.4**	**-0.9**
FAGN				Sg	**Sg**	**14 40 41.1**	**-0.1**
	65μm,0.7s						
PTQR	**Pietraquaria**	**0.29**	**166**	⇑*e*Pg	**Pg**	**14 40 38.6**	**-1.2**
PTQR				Sg	**Sg**	**14 40 43.2**	**-0.5**
PTQR	**Pietraquaria**	**0.29**	**166**	⇑*e*Pg	**Pg**	**14 40 38.6**	**-1.2**
PTQR				Sg	**Sg**	**14 40 43.2**	**-0.5**
SMA1	**SAN MARTINO**	**0.33**	**4**	⇓*e*Pg	**Pg**	**14 40 40.2**	**-0.3**
SMA1				Sg	**Sg**	**14 40 45.8**	**+1.0**
	16μm,0.9s						
SMA1	**SAN MARTINO**	**0.33**	**4**	⇓*e*Pg	**Pg**	**14 40 40.2**	**-0.3**
SMA1				Sg	**Sg**	**14 40 45.8**	**+1.0**
	16μm,0.9s						
LNSS	**Leonessa**	**0.35**	**327**	⇓*e*Pg	**Pg**	**14 40 40.7**	**-0.3**
LNSS				Sg	**Sb**	**14 40 47.4**	**-1.1**
	18μm,1.0s						
LNSS	**Leonessa**	**0.35**	**327**	⇓*e*Pg	**Pg**	**14 40 40.7**	**-0.3**
LNSS				Sg	**Sb**	**14 40 47.4**	**-1.1**
	18μm,1.0s						
TERO	**Teramo**	**0.39**	**35**	⇓*e*Pg	**Pg**	**14 40 40.7**	**-0.9**
TERO				Sg	**Sg**	**14 40 47.1**	**+0.4**
	6μm,0.9s						
TERO	**Teramo**	**0.39**	**35**	⇓*e*Pg	**Pg**	**14 40 40.7**	**-0.9**
TERO				Sg	**Sg**	**14 40 47.1**	**+0.4**
	6μm,0.9s						
CERT	**Cerreto**	**0.43**	**214**	⇑*i*Pg	**Pg**	**14 40 41.3**	**-1.0**
CERT				Sg	**Sg**	**14 40 48.0**	**0.0**
	16μm,1.2s						
CERT	**Cerreto**	**0.43**	**214**	⇑*i*Pg	**Pg**	**14 40 41.3**	**-1.0**
CERT				Sg	**Sg**	**14 40 48.0**	**0.0**
	16μm,1.2s						
VVLD	**Villa Vallelon**	**0.49**	**151**	⇑*e*Pg	**Pg**	**14 40 41.9**	**-1.7**
VVLD				Sg	**Sg**	**14 40 50.2**	**+0.1**
	5μm,0.9s						
VVLD	**Villa Vallelon**	**0.49**	**151**	⇑*e*Pg	**Pg**	**14 40 41.9**	**-1.7**
VVLD				Sg	**Sg**	**14 40 50.2**	**+0.1**
	5μm,0.9s						
MTCE	**Montecelio**	**0.50**	**236**	⇑*e*Pg	**Pg**	**14 40 42.8**	**-0.9**
MTCE				Sg	**Sg**	**14 40 50.6**	**+0.3**
	7μm,1.1s						
MTCE	**Montecelio**	**0.50**	**236**	⇑*e*Pg	**Pg**	**14 40 42.8**	**-0.9**
MTCE				Sg	**Sg**	**14 40 50.6**	**+0.3**
	7μm,1.1s						
INTR	**Introdacqua**	**0.54**	**123**	⇑*e*Pg	**Pg**	**14 40 42.7**	**-1.7**
INTR				Sg	**Sg**	**14 40 50.6**	**-0.8**
	11μm,0.9s						
INTR	**Introdacqua**	**0.54**	**123**	⇑*e*Pg	**Pg**	**14 40 42.7**	**-1.7**
INTR				Sg	**Sg**	**14 40 50.6**	**-0.8**
	11μm,0.9s						
NRCA	**Norcia**	**0.55**	**345**	⇓*i*Pg	**Pg**	**14 40 43.8**	**-0.8**
	5μm,1.4s						
NRCA	**Norcia**	**0.55**	**345**	⇓*i*Pg	**Pg**	**14 40 43.8**	**-0.8**
	5μm,1.4s						
CESX	**Cesi**	**0.61**	**300**	Pg	**Pg**	**14 40 44.9**	**-1.0**
	6μm,1.6s						
CESX	**Cesi**	**0.61**	**300**	Pg	**Pg**	**14 40 44.9**	**-1.0**
	6μm,1.6s						
POFI	**Posta Fibreno**	**0.66**	**152**	⇑*e*Pg	**Pg**	**14 40 44.6**	**-2.2**
	4μm,1.0s						
POFI	**Posta Fibreno**	**0.66**	**152**	⇑*e*Pg	**Pg**	**14 40 44.6**	**-2.2**
	4μm,1.0s						
RMP	**Rome, Mte Porz**	**0.67**	**222**	Pg	**Pg**	**14 40 45.3**	**-1.5**
	6μm,0.9s						
RMP	**Rome, Mte Porz**	**0.67**	**222**	Pg	**Pg**	**14 40 45.3**	**-1.5**
	6μm,0.9s						
SAMA	**S.Maria delle**	**0.74**	**225**	Pg	**Pg**	**14 40 46.9**	**-1.4**
	7μm,1.4s						
SAMA	**S.Maria delle**	**0.74**	**225**	Pg	**Pg**	**14 40 46.9**	**-1.4**
	7μm,1.4s						
FDMO	**Fiordimonte**	**0.75**	**348**	Pg	**Pg**	**14 40 47.3**	**-1.1**
	1μm,1.0s						
FDMO	**Fiordimonte**	**0.75**	**348**	Pg	**Pg**	**14 40 47.3**	**-1.1**
	1μm,1.0s						
GIUL	**Giuliano Di Ro**	**0.75**	**183**	Pg	**Pg**	**14 40 46.4**	**-2.0**
	4μm,1.0s						
GIUL	**Giuliano Di Ro**	**0.75**	**183**	Pg	**Pg**	**14 40 46.4**	**-2.0**
	4μm,1.0s						
ROM9	**Roma**	**0.76**	**231**	Pg	**Pg**	**14 40 47.8**	**-0.7**
	10μm,1.0s						
ROM9	**Roma**	**0.76**	**231**	Pg	**Pg**	**14 40 47.8**	**-0.7**
	10μm,1.0s						
CESI	**CESI - Serrava**	**0.76**	**337**	⇓*e*Pg	**Pg**	**14 40 47.6**	**-1.0**
	2μm,1.0s						
CESI	**CESI - Serrava**	**0.76**	**337**	⇓*e*Pg	**Pg**	**14 40 47.6**	**-1.0**
	2μm,1.0s						
RNI2	**Rionero Sannit**	**0.88**	**133**	Pg	**Pg**	**14 40 48.9**	**-1.9**
	5μm,1.1s						
RNI2	**Rionero Sannit**	**0.88**	**133**	Pg	**Pg**	**14 40 48.9**	**-1.9**
	5μm,1.1s						
CERA	**Filignano**	**0.89**	**143**	Pg	**Pg**	**14 40 48.6**	**-2.4**
GUMA	**Gualdo di Mace**	**0.89**	**31**	⇓*e*Pg	**Pg**	**14 40 47.9**	**-3.2**
	6μm,0.7s						
MIDA	**Miranda**	**0.97**	**133**	Pg	**Pg**	**14 40 49.9**	**-2.7**
	2μm,0.8s						
SNTG	**Esanatoglia**	**0.98**	**344**	Pg	**Pg**	**14 40 51.4**	**-1.5**
SNTG	**Esanatoglia**	**0.98**	**344**	Pg	**Pg**	**14 40 51.4**	**-1.5**
TOLF	**Tolfa**	**1.00**	**256**	Pg	**Pg**	**14 40 51.8**	**-1.3**
	2μm,1.2s						
TOLF	**Tolfa**	**1.00**	**256**	Pg	**Pg**	**14 40 51.8**	**-1.3**
	2μm,1.2s						
ATCC	**AVT- Casa Cast**	**1.00**	**331**	Pg	**Pg**	**14 40 52.0**	**-1.3**
	9μm,1.8s						
ATCC	**AVT- Casa Cast**	**1.00**	**331**	Pg	**Pg**	**14 40 52.0**	**-1.3**
	9μm,1.8s						
MGAB	**Montegabbione**	**1.07**	**305**	Pg	**Pg**	**14 40 53.1**	**-1.4**
	2μm,0.9s						
MGAB	**Montegabbione**	**1.07**	**305**	Pg	**Pg**	**14 40 53.1**	**-1.4**
	2μm,0.9s						
CING	**Cingoli**	**1.07**	**356**	Pg	**Pg**	**14 40 53.0**	**-1.6**
	1μm,0.7s						

TREB	Trebinje	3.75	82	*e*Pn	Pn	14 41 33.0	+0.8
LJU	Ljubljana	3.84	13	*e*Pn	Pn	14 41 34.8	+1.4
CRES	Cresnjev	3.85	23	*i* Pn	Pn	14 41 34.5	+1.0
CRES	Cresnjev	3.85	23	*i* Pn	Pn	14 41 34.5	+1.0
HCY	Herceg Novi	3.85	86	*e*Pn	Pn	14 41 33.5	0.0
BRY	Bratogost	3.91	79	*e*Pn	Pn	14 41 35.9	+1.4
UPM	Unac-Piva	4.22	76	*e*Pn	Pn	14 41 40.3	+1.5
OBKA	Obir	4.30	12	*i* Pn	Pn	14 41 40.9	+1.2
	1.2nm,0.2s						
OBKA	Obir	4.30	12	Pn	Pn	14 41 40.9	+1.2
	1.2nm,0.2s						
MYKA	Terra Mystica	4.33	3	*i* Pn	Pn	14 41 41.8	+1.6
	4.6nm,0.3s,SNR=6.5						
MYKA	Terra Mystica	4.33	3	Pn	Pn	14 41 41.8	+1.6
	4.6nm,0.3s,SNR=6.5						
DRME	Dracevica, Mon	4.37	90	*e*Pn	Pn	14 41 42.0	+1.4
PDG	Podgorica	4.41	86	⇓*i*P	Sn	14 42 37.2	+4.4
PDG	Podgorica	4.41	86	*e*Pn	Pn	14 41 43.1	+1.9
ABTA	Abfaltersbach	4.48	353	*i* Pn	Pn	14 41 43.7	+1.5
	24nm,0.5s,SNR=30						
ABTA				*i* Sn	Sn	14 42 36.4	+1.9
	32nm,0.8s						
ABTA	Abfaltersbach	4.48	353	Pn	Pn	14 41 43.7	+1.5
	24nm,0.5s,SNR=30						
ABTA				Sn	Sn	14 42 36.4	+1.9
	32nm,0.8s						
HAPS	Han Pijesak,BI	4.50	65	*e*Pn	Pn	14 41 43.2	+0.7
SOKA	Soboth	4.54	15	*i* Pn	Pn	14 41 44.9	+1.8
	1.9nm,0.3s						
SOKA	Soboth	4.54	15	Pn	Pn	14 41 44.9	+1.8
	1.9nm,0.3s						
SBF	Sospel	4.57	292	*e*P	Pn	14 41 44.0	+0.5
SBF	Sospel	4.57	292	*e*P	Pn	14 41 44.0	+0.5
BBLS	Lazići	4.73	69	⇑*i*Pn	Pn	14 41 47.4	+1.7
KBA	Koelnbreinsper	4.77	0	*i* Pn	Pn	14 41 48.4	+2.0
	3.1nm,0.3s,SNR=11						
KBA	Koelnbreinsper	4.77	0	Pn	Pn	14 41 48.4	+2.0
	3.1nm,0.3s,SNR=11						
VAE	Valguarnera	4.90	170	LR	LR	14 43 28.8	
	comp=Z,191nm,20.1s,baz=342,slow=35						
TIR	Tirane	5.00	99	⇓*i*P	Sn	14 42 46.7	-0.5
FRF	La Foret Royal	5.04	287	*e*P	Pn	14 41 50.6	+0.7
FRF	La Foret Royal	5.04	287	*e*P	Pn	14 41 50.6	+0.7
TEKS	Tekeris	5.06	62	*e*Pn	Pn	14 41 48.0	-2.1
FETA	Feichten	5.06	340	*i* Pn	Pn	14 41 52.3	+2.0
	18nm,0.9s,SNR=13						
FETA				*i* Sn	Sn	14 42 49.8	+0.8
	6.1nm,0.5s						
FETA	Feichten	5.06	340	Pn	Pn	14 41 52.3	+2.0
	18nm,0.9s,SNR=13						
FETA				Sn	Sn	14 42 49.8	+0.8
	6.1nm,0.5s						
WTTA	Wattenberg	5.10	347	*i* Pn	Pn	14 41 53.8	+3.0
	1.4nm,0.2s						
WTTA				*i* Sn	Sn	14 42 52.9	+3.0
	31nm,0.7s						
WTTA	Wattenberg	5.10	347	Pn	Pn	14 41 53.8	+3.0
	1.4nm,0.2s						
WTTA				Sn	Sn	14 42 52.9	+3.0
	31nm,0.7s						
DAVOX	Davos/Dischmat	5.10	333	Pn	Pn	14 41 52.8	+1.9
	2.1nm,0.3s,baz=168,slow=20,SNR=38						
DAVOX				Sn	Sn	14 42 53.0	+3.0
	1.1nm,0.3s,baz=101,slow=23,SNR=6.2						
LMR	La Mourre	5.10	284	*e*P	Pn	14 41 51.1	+0.4
LMR	La Mourre	5.10	284	*e*P	Pn	14 41 51.1	+0.4
WATA	Walderalm	5.18	347	*i* Pn	Pn	14 41 54.8	+2.9
	3.0nm,0.2s,SNR=8.5						
WATA	Walderalm	5.18	347	Pn	Pn	14 41 54.8	+2.9
	3.0nm,0.2s,SNR=8.5						
IVAS	Ivanjica	5.19	74	*e*Pn	Pn	14 41 52.8	+0.9
ARSA	Arzberg	5.19	17	*i* Pn	Pn	14 41 53.4	+1.4
	2.2nm,0.3s						
ARSA	Arzberg	5.19	17	Pn	Pn	14 41 53.4	+1.4
	2.2nm,0.3s						
DIVS	Divibare	5.21	68	*e*Pn	Pn	14 41 52.7	+0.5
MOTA	Moosalm	5.28	344	*i* Pn	Pn	14 41 55.9	+2.7
	11nm,0.6s,SNR=15						
MOTA	Moosalm	5.28	344	Pn	Pn	14 41 55.9	+2.7
	11nm,0.6s,SNR=15						
MBDF	Montbardon	5.33	299	*e*Pn	Pn	14 41 50.8	-3.2
MBDF	Montbardon	5.33	299	*e*P	Pn	14 41 55.1	+1.1
MBDF				*e*Sn	Sn	14 42 47.5	-8.1
	16nm,0.9s						
MBDF	Montbardon	5.33	299	*e*Pn	Pn	14 41 50.8	-3.2
MBDF	Montbardon	5.33	299	*e*P	Pn	14 41 55.1	+1.1
RETA	Reutte	5.49	342	*i* Pn	Pn	14 41 58.9	+2.8
	2.7nm,0.3s,SNR=6.6						
RETA	Reutte	5.49	342	Pn	Pn	14 41 58.9	+2.8
	2.7nm,0.3s,SNR=6.6						
FGSL	Fruska Gora	5.51	57	*e*Pn	Pn	14 41 57.9	+1.6
TRUS	Trudelj	5.53	67	*e*Pn	Pn	14 41 57.3	+0.7
DAVA	Damuels	5.54	335	*i* Pn	Pn	14 41 58.9	+2.0
	4.8nm,0.5s						
DAVA				*e*Sn	Sn	14 43 00.4	-0.5
	11nm,0.5s						
DAVA	Damuels	5.54	335	Pn	Pn	14 41 58.9	+2.0
	4.8nm,0.5s						
DAVA				Sn	Sn	14 43 00.4	-0.5
	11nm,0.5s						
MOA	Molln	5.58	7	*i* Pn	Pn	14 41 59.3	+1.9
	3.9nm,0.3s,SNR=11						
MOA	Molln	5.58	7	Pn	Pn	14 41 59.3	+1.9
	3.9nm,0.3s,SNR=11						
GRUS	Gruza	5.65	71	⇓*i*Pn	Pn	14 41 59.5	+1.2
LPG	La Plagne	5.71	306	*e*P	Pn	14 42 00.8	+1.5
LPG				*e*Sn	Sn	14 42 58.5	-6.6
	8.4nm,0.7s						
LPG	La Plagne	5.71	306	*e*P	Pn	14 42 00.8	+1.5
LPL	La Plagne	5.73	306	*e*P	Pn	14 42 02.0	+2.5
LPL	La Plagne	5.73	306	*e*P	Pn	14 42 02.0	+2.5
SELS	Selova	5.83	78	*e*Pn	Pn	14 42 01.5	+0.8
CONA	Conrad Observa	5.91	17	*i* Pn	Pn	14 42 02.9	+1.1
	2.2nm,0.5s						
CONA	Conrad Observa	5.91	17	Pn	Pn	14 42 02.9	+1.1
	2.2nm,0.5s						
ORIF	Oris-en-Rattie	5.99	298	*e*P	Pn	14 42 04.9	+1.9
ORIF	Oris-en-Rattie	5.99	298	*e*P	Pn	14 42 04.9	+1.9
BOVS	Bovan	6.31	75	*e*Pn	Pn	14 42 09.1	+1.9
BARS	Barje	6.31	82	⇑*i*Pn	Pn	14 42 08.2	+0.9
GERES	GERESS Array B	6.55	2	Pn	Pn	14 42 11.6	+1.0
	0.5nm,0.3s,baz=175,slow=13,SNR=24						
GERES				Sn	Sn	14 43 21.6	-3.8
	0.3nm,0.3s,baz=190,slow=23,SNR=2.4						
GERES				LR	LR	14 45 24.0	
	comp=Z,169nm,18.7s,baz=320,slow=45						
MDVR	Moldovita	6.59	65	⇓*i*P	Pn	14 42 13.2	+2.0
MDVR	Moldovita	6.59	65	⇓*i*P	Pn	14 42 13.2	+2.0
ZAGS	Zajecar	6.71	74	*e*Pn	Pn	14 42 13.1	+0.3
VIVF	Saint-Julien-l	6.76	295	*e*P	Pn	14 42 15.3	+1.7
VIVF	Saint-Julien-l	6.76	295	*e*P	Pn	14 42 15.3	+1.7
KHC	Kasperske Hory	6.83	2	*e*PN	Pn	14 42 15.0	+0.5
KHC				*e*SN	Sn	14 43 30.8	-1.6
KHC	Kasperske Hory	6.83	2	Pn	Pn	14 42 15.0	+0.5
BZS	Buzias	6.85	58	⇑*i*P	Pn	14 42 17.8	+3.1
BZS	Buzias	6.85	58	⇑*i*P	Pn	14 42 17.8	+3.1
ZAPS	Zavoj	6.93	79	*e*Pn	Pn	14 42 17.8	+1.9
HINF	Hinteralfeld	7.15	323	*e*Pn	Pn	14 42 16.8	-2.1
HINF				*e*Sn	Sn	14 43 32.7	-7.7
	3.5nm,0.4s						
SIRR	Siria	7.18	54	⇓*i*P	Pb	14 42 34.2	-4.8
KEST	Kesra	7.25	206	Pn	Pn	14 42 24.8	+4.5
	1.4nm,0.3s,baz=321,slow=5.9,SNR=18						
KEST				Sn	Sn	14 43 41.7	-1.2
	0.2nm,0.3s,baz=197,slow=17,SNR=1.6						
PSZ	Piszkesteto	7.29	37	⇑*i*P	Pn	14 42 25.4	+4.5
VYHS	Vyhne	7.31	30	*e*Pn	Pn	14 42 22.8	+1.8
VYHS	Vyhne	7.31	30	*e*PN	Pn	14 42 22.8	+1.8
VTS	Vitosha	7.33	84	⇑*i*P	Pn	14 42 23.3	+1.8
VTS	Vitosha	7.33	84	⇑*i*P	Pn	14 42 23.3	+1.8
VRAC	Vranov	7.37	17	Pn	Pn	14 42 20.9	-1.0
	0.2nm,0.3s,baz=198,slow=6.4,SNR=2.0						
VRAC				LR	LR	14 45 10.7	
	comp=Z,61nm,18.1s,baz=230,slow=38						
VRAC	Vranov	7.37	17	⇑*i*P	Pn	14 42 21.9	0.0
VRAC	Vranov	7.37	17	⇑*i*P	Pn	14 42 21.9	0.0
CDF	Champ du Feu	7.43	327	*e*Pn	Pn	14 42 22.2	-0.6
CDF				*e*Sn	Sn	14 43 38.7	-8.6
	3.0nm,0.4s						
CDF	Champ du Feu	7.43	327	*e*Pn	Pn	14 42 22.2	-0.6
HAU	Haudompre	7.52	322	*e*Pn	Pn	14 42 22.7	-1.3
HAU				*e*Sn	Sn	14 43 41.2	-8.2
	5.4nm,0.4s						
HAU	Haudompre	7.52	322	*e*Pn	Pn	14 42 22.7	-1.3
GOPC	GO Pecny, Ondr	7.68	7	*e*PN	Pn	14 42 27.4	+1.3
GOPC	GO Pecny, Ondr	7.68	7	Pn	Pn	14 42 27.4	+1.3
PRU	Pruhonice	7.73	6	*e*SN	Sn	14 43 52.6	-1.9
MORC	Moravsky Berou	8.03	20	⇑*i*P	Pn	14 42 34.4	+3.4
MORC	Moravsky Berou	8.03	20	⇑*i*P	Pn	14 42 34.4	+3.4
DRGR		8.08	53	⇑*i*P	Pn	14 42 34.3	+2.7
DRGR		8.08	53	⇑*i*P	Pn	14 42 34.3	+2.7
ARR	Arges	8.74	66	⇑*i*P	Pn	14 42 43.4	+2.7
ARR	Arges	8.74	66	⇑*i*P	Pn	14 42 43.4	+2.7
STHS	Stebnicka Huta	9.01	35	*e*PN	Pn	14 42 50.3	+5.9
VOIR		9.04	66	⇓*i*P	Pn	14 42 47.8	+2.9
VOIR		9.04	66	⇓*i*P	Pn	14 42 47.8	+2.9
DOPR	Dopca	9.43	63	⇑*i*P	Pn	14 42 52.9	+2.8
DOPR	Dopca	9.43	63	⇑*i*P	Pn	14 42 52.9	+2.8
MLR	Muntele Rosu	9.66	66	⇓*i*P	Pn	14 42 57.3	+3.9
BURAR	Bucovina Array	9.97	54	⇑*i*P	Pn	14 42 54.0	-3.6
PLOR	Plostina	10.24	65	⇓*i*P	Pn	14 43 03.4	+2.2
PLOR	Plostina	10.24	65	⇓*i*P	Pn	14 43 03.4	+2.2
VRI	Vrincioaia	10.29	65	⇑*i*P	Pn	14 43 02.9	+1.0
VRI	Vrincioaia	10.29	65	⇑*i*P	Pn	14 43 02.9	+1.0
CFR	Carcaliu	11.11	70	⇑*i*P	Pn	14 43 14.5	+1.4
CFR	Carcaliu	11.11	70	⇑*i*P	Pn	14 43 14.5	+1.4
AKASG	Malin Array Be	13.79	47	Pn	P	14 43 56.0	-2.3
	0.3nm,0.3s,baz=238,slow=12,SNR=2.2						
BRTR	Keskin Array B	15.56	93	Pn	P	14 44 19.9	+1.7
	0.1nm,0.3s,baz=273,slow=13,SNR=3.5						
FINES	FINESS Array B	20.65	18	P	P	14 45 12.8	-1.1
	3.9nm,0.8s,baz=167,slow=18,SNR=5.3						
KVAR	Kislovodsk Arr	21.47	76	P	P	14 45 24.8	+1.9
	6.6nm,0.9s,baz=271,slow=7.9,SNR=2.5						
KBZ	Khabaz	21.64	76	P	P	14 45 27.1	+2.6
	4.4nm,0.9s,baz=330,slow=5.6,SNR=5.7						
TORD	Torodi Ar. Bea	30.75	203	P	P	14 46 50.5	+0.7
	1.0nm,0.8s,baz=21,slow=9.1,SNR=6.3						
JMIC	Jan Mayen	30.76	346	LR	LR	15 01 18.1	
	comp=Z,114nm,18.7s,baz=60,slow=41						
AKTO	Aktyubinsk	31.50	59	LR	LR	15 00 20.7	
	comp=Z,64nm,20.2s,slow=38						
GEYT	Alibeck	34.25	82	P	P	14 47 21.8	+1.5
	0.6nm,0.5s,baz=278,slow=12,SNR=2.5						
ZALV	Zalesovo Beam	47.16	50	P	P	14 49 07.4	+0.8
	0.3nm,0.3s,baz=316,slow=12,SNR=3.4						
ZALV				LR	LR	15 11 40.2	
	comp=Z,87nm,18.6s,baz=219,slow=40						
MKAR	Makanchi Array	47.93	60	P	P	14 49 14.0	+1.2
	0.7nm,0.8s,baz=280,slow=8.1,SNR=3.6						
SONM	Songino Array	62.06	50	P	P	14 50 56.4	+1.4
	0.7nm,0.8s,baz=308,slow=7.3,SNR=4.0						
CMAR	Chiang Mai Arr	74.66	79	P	P	14 52 14.3	+0.1
	0.4nm,0.7s,baz=300,slow=8.1,SNR=4.0						

*ISCJB **30** 14:43:12.6±0.6, 38°.50N±0°.03×43°.52E±0°.05, h8km±4km, Error ellipse: s-maj=7.5km s-min=5.1km az=149.4*
*CSEM **30** 14:43:12.2±0.3, 38°.51N×43°.53E, h10km, ML3.0, Error ellipse: s-maj=7.7km s-min=5.6km az=61.0*
*DDA **30** 14:43:12.6, 38°.50N×43°.51E, h7km, Ml3.0*
*ISK **30** 14:43:12.2, 38°.46N×43°.29E, h11km, ML2.2*

ISC 30 14:43:12.2±0.9, 38°.52N±0°.03×43°.51E±0°.03, h9km±6km, n24, σ0°.95/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	Van	0.08	278	*i* P	Pg	14 43 14.9	+0.2
TVAN	Van	0.08	278	P	Pg	14 43 14.9	+0.2
VANB	Van	0.12	309	PG	Pg	14 43 15.0	-0.1
VANB				SG	Sg	14 43 17.7	+0.5
VANB	Van	0.12	309	*i* Pg	Pg	14 43 15.0	-0.1
VANB				*i* Sg	Sg	14 43 17.7	+0.5
GEVA	Gevas	0.41	240	*i* P	Pb	14 43 20.9	-0.8
GEVA	Gevas	0.41	240	P	Pb	14 43 20.9	-0.8
VMUR	Van-Muradiye	0.47	6	*i* P	Pg	14 43 22.1	+0.6
VMUR				*i* S	Sb	14 43 30.5	+0.5
VMUR	Van-Muradiye	0.47	6	P	Pg	14 43 22.1	+0.6
VMUR				S	Sb	14 43 30.5	+0.5
BASK	Baskale_VAN	0.60	140	*i* P	Pg	14 43 23.6	-0.3
BASK				*i* S	Sb	14 43 33.7	0.0
BASK	Baskale_VAN	0.60	140	P	Pg	14 43 23.6	-0.3
BASK				S	Sb	14 43 33.7	0.0
ADCV	BITLIS_Adilcev	0.68	296	*i* P	Pg	14 43 25.9	+0.5
ADCV				*i* S	Sb	14 43 37.4	+1.5
ADCV	BITLIS_Adilcev	0.68	296	P	Pg	14 43 25.9	+0.5
ADCV				S	Sb	14 43 37.4	+1.5
TATV	Tatvan	0.98	270	*i* P	Pg	14 43 30.2	-0.8
TATV				*i* S	Sb	14 43 45.0	+0.6
TATV	Tatvan	0.98	270	P	Pg	14 43 30.2	-0.8
TATV				S	Sb	14 43 45.0	+0.6
TUTA	Tutak	1.04	329	*i* P	Pg	14 43 31.7	-0.4
TUTA	Tutak	1.04	329	P	Pg	14 43 31.7	-0.4
AGRB	Hanur-Agry	1.13	339	*e*PN	Pn	14 43 34.5	+0.1
AGRB				*e*SN	Sn	14 43 50.7	+0.6
AGRB	Hanur-Agry	1.13	339	*e*Pn	Pn	14 43 34.5	+0.1
AGRB				*e*Sn	Sn	14 43 50.7	+0.6
GURO	Guroymak-BITLI	1.16	272	*e*PG	Pb	14 43 31.7	-2.8
GURO	Guroymak-BITLI	1.16	272	*e*Pg	Pb	14 43 31.7	-2.8
CUKT	Cukurca	1.27	177	*e*PN	Pb	14 43 36.0	-0.3
CUKT	Cukurca	1.27	177	*e*Pn	Pb	14 43 36.0	-0.3
SRTM	Siirt_Merkez	1.36	248	*i* P	Pg	14 43 39.4	+1.1
SRTM	Siirt_Merkez	1.36	248	P	Pg	14 43 39.3	+1.1

*NIED **30** 14:45:00, 37°.30N×142°.20E, h5km, Mw3.6 Best double couple: M0=2.37000×10^14 NP1:φ=80.00000°, δ=34.00000°, λ=-9.00000°. NP2:φ=178.00000°, δ=85.00000°, λ=-123.00000°.*

JMA 30 14:45:07.6±0.3, 37°.33N×142°.18E, h7km±3km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.04	272	P	Pg	14 45 27.5	-0.1
JMM	Marumori	1.23	296	P	Pb	14 45 30.5	-0.6
JIO	Ouri	1.30	330	*e*S	Sb	14 45 48.0	-1.3
JFT	Otama	1.48	278	P	Pn	14 45 35.0	+0.3
JFT				*e*S	Sg	14 45 55.0	-0.2
JOU	Okura	1.58	311	P	Pn	14 45 36.4	+0.3
JOU				*e*S	Sn	14 45 56.9	0.0
JYS	Shirataka	1.90	299	P	Pb	14 45 41.5	-1.1
JYS				*e*S	Sb	14 46 06.7	+0.2
JFY	Yanaizu	1.97	273	P	Pn	14 45 42.0	+0.5
MAT	Matsushiro	3.28	257	P	Pn	14 46 02.3	+2.9
MAT				S	Sn	14 46 40.5	+1.8

*ISK **30** 15:01:53.1, 38°.62N×43°.08E, h6km, ML2.4*
*CSEM **30** 15:01:55.1±0.2, 38°.66N×43°.14E, h2km, ML2.4, Error ellipse: s-maj=4.4km s-min=4.2km az=142.0*
*DDA **30** 15:01:55.2, 38°.65N×43°.13E, h7km, Md2.9*

ISC 30 15:01:54.8±1.0, 38°.63N±0°.02×43°.17E±0°.02, h18km±3km, n23, σ0°.82/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	102	PG	Pb	15 01 59.4	+0.2
VANB				*e*SG	Sg	15 02 03.3	+0.5
VANB	Van	0.18	102	*i* Pg	Pb	15 01 59.4	+0.2
VANB				*e*Sg	Sg	15 02 03.3	+0.5
TVAN	Van	0.21	119	*i* P	Pb	15 01 59.4	-0.7
TVAN				*i* S	Sb	15 02 03.0	-0.5
TVAN	Van	0.21	119	P	Pb	15 01 59.4	-0.7
TVAN				S	Sb	15 02 03.0	-0.5
GEVA	Gevas	0.33	195	*i* P	Pg	15 02 01.8	-0.2
GEVA				*i* S	Sb	15 02 08.6	+1.3
GEVA	Gevas	0.33	195	P	Pg	15 02 01.8	-0.2
GEVA				S	Sb	15 02 08.6	+1.3
ADCV	BITLIS_Adilcev	0.39	297	*i* P	Pg	15 02 03.2	+0.2
ADCV				*i* S	Sb	15 02 10.3	+1.2
ADCV	BITLIS_Adilcev	0.39	297	P	Pg	15 02 03.2	+0.2
ADCV				S	Sb	15 02 10.3	+1.2
VMUR	Van-Muradiye	0.48	41	*i* P	Pg	15 02 04.6	+0.1
VMUR				*i* S	Sb	15 02 13.0	+1.5
VMUR	Van-Muradiye	0.48	41	P	Pg	15 02 04.6	+0.1
VMUR				S	Sb	15 02 13.0	+1.5
TATV	Tatvan	0.72	260	*i* P	Pb	15 02 08.7	-0.2
TATV				*i* S	Sb	15 02 18.6	+0.1
TATV	Tatvan	0.72	260	P	Pb	15 02 08.7	-0.2
TATV				S	Sb	15 02 18.6	+0.1
CLDR	Caldiran	0.78	49	*e*PG	Pb	15 02 09.4	-0.5
CLDR				*e*SG	Sn	15 02 21.6	-0.8
CLDR	Caldiran	0.78	49	*e*Pg	Pb	15 02 09.4	-0.5
CLDR				*e*Sg	Sn	15 02 21.6	-0.8
TUTA	Tutak	0.82	340	*i* P	Pb	15 02 10.5	-0.1
TUTA				*i* S	Sb	15 02 21.1	-0.3
TUTA	Tutak	0.82	340	P	Pb	15 02 10.5	-0.1
TUTA				S	Sb	15 02 21.1	-0.3
GURO	Guroymak-BITLI	0.89	265	*e*PG	Pb	15 02 09.2	-2.7
AGRB	Hanur-Agry	0.95	352	*e*PG	Pb	15 02 12.1	-0.8
AGRB				*e*SG	Sg	15 02 25.5	-0.5
AGRB	Hanur-Agry	0.95	352	*e*Pg	Pb	15 02 12.1	-0.8
AGRB				*e*Sg	Sg	15 02 25.5	-0.5
EATA	Eleskirt	1.34	337	*i* P	Pb	15 02 19.6	+0.1
EATA				*i* S	Sg	15 02 38.8	+0.6
EATA	Eleskirt	1.34	337	P	Pb	15 02 19.6	+0.1
EATA				S	Sg	15 02 38.8	+0.6
BTMN	Batman	1.67	244	*i* P	Pb	15 02 24.5	-0.5
BTMN				*i* S	Sg	15 02 49.7	+1.1
BTMN	Batman	1.67	244	P	Pb	15 02 24.5	-0.5
BTMN				S	Sg	15 02 49.7	+1.1

*DDA **30** 15:07:13.8, 38°.76N×43°.27E, h7km, Md2.7*
*ISK **30** 15:07:13.1, 38°.73N×43°.20E, h6km, ML2.4*
*CSEM **30** 15:07:14.4±1.0, 38°.78N±0°.02×43°.22E±0°.03, h8km±10km, n28, σ0°.63/48, Turkey*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	144	PG	Pg	15 07 19.3	+0.3
VANB				*e*SG	Sg	15 07 23.3	+1.2
VANB	Van	0.23	144	*i* Pg	Pg	15 07 19.3	+0.3
VANB				*e*Sg	Sg	15 07 23.3	+1.2
ERCV	ERCIS-VAN	0.26	21	*e*PG	Pg	15 07 19.8	+0.1
ERCV	ERCIS-VAN	0.26	21	*e*Pg	Pg	15 07 19.8	+0.1
TVAN	Van	0.29	149	*i* P	Pg	15 07 19.3	-0.9
TVAN				*i* S	Sg	15 07 23.5	-0.5
TVAN	Van	0.29	149	P	Pg	15 07 19.3	-0.9
TVAN				S	Sg	15 07 23.5	-0.5
VMUR	Van-Muradiye	0.35	52	*i* P	Pg	15 07 20.6	-0.7
VMUR				*i* S	Sg	15 07 25.8	-0.1
VMUR	Van-Muradiye	0.35	52	P	Pg	15 07 20.6	-0.7
VMUR				S	Sg	15 07 25.8	-0.1
ADCV	BITLIS_Adilcev	0.39	275	*i* P	Pb	15 07 23.4	-0.2
ADCV				*i* S	Sb	15 07 30.5	+0.7
ADCV	BITLIS_Adilcev	0.39	275	P	Pb	15 07 23.4	-0.2
ADCV				S	Sb	15 07 30.5	+0.7
GEVA	Gevas	0.48	195	*i* P	Pg	15 07 23.1	-0.6
GEVA				*i* S	Sg	15 07 29.6	-0.5
GEVA	Gevas	0.48	195	P	Pg	15 07 23.1	-0.6
GEVA				S	Sg	15 07 29.6	-0.5
CLDR	Caldiran	0.66	56	*e*PG	Pg	15 07 27.0	-0.1
CLDR	Caldiran	0.66	56	*e*Pg	Pg	15 07 27.0	-0.1
TUTA	Tutak	0.70	333	*i* P	Pg	15 07 28.1	+0.2
TUTA				*i* S	Sg	15 07 37.3	+0.2
TUTA	Tutak	0.70	333	P	Pg	15 07 28.1	+0.2
TUTA				S	Sg	15 07 37.3	+0.2
TATV	Tatvan	0.79	250	*i* P	Pg	15 07 29.8	+0.1
TATV				*i* S	Sb	15 07 41.3	-0.2
TATV	Tatvan	0.79	250	P	Pg	15 07 29.8	+0.1
TATV				S	Sb	15 07 41.3	-0.2
AGRB	Hanur-Agry	0.82	348	*e*PG	Pg	15 07 29.6	-0.5
AGRB				*e*SG	Sb	15 07 42.5	+0.2
AGRB	Hanur-Agry	0.82	348	*e*Pg	Pg	15 07 29.6	-0.5
AGRB				*e*Sg	Sb	15 07 42.5	+0.2
GURO	Guroymak-BITLI	0.96	257	*e*PG	Pg	15 07 31.4	-1.3
GURO	Guroymak-BITLI	0.96	257	*e*Pg	Pg	15 07 31.4	-1.3
EATA	Eleskirt	1.22	333	*i* P	Pg	15 07 37.1	-0.8
EATA				*i* S	Sn	15 07 55.4	+0.4
EATA	Eleskirt	1.22	333	P	Pg	15 07 37.1	-0.8
EATA				S	Sn	15 07 55.4	+0.4
SRTM	Siirt_Merkez	1.29	233	*i* P	Pg	15 07 40.2	+1.1
SRTM				*i* S	Sn	15 07 56.3	+0.1
SRTM	Siirt_Merkez	1.29	233	P	Pg	15 07 40.2	+1.1
SRTM				S	Sn	15 07 56.3	+0.1
BTMN	Batman	1.77	241	*i* S	Sg	15 08 11.2	-0.1
BTMN	Batman

VNA3	Neumayer Olymp	79.46	176	P		P	15 24 32.5 +1.5
VNA2	Neumayer--Watz	79.92	176	P		P	15 24 35.2 +1.8
	baz=167,slow=4.6						
VNA1	Neumayer--Stat	80.13	176	P		P	15 24 38.3 +3.8
PLCA	Paso Flores	82.09	132	P		P	15 24 47.5 +1.8
	2.3nm,0.9s,baz=164,slow=4.9,SNR=4.0						
PETK	Petropavlovsk-	85.02	344	P		P	15 24 59.3 -0.7
	3.9nm,1.0s,baz=86,slow=13,SNR=4.2						
USRK	Ussuriysk Ar.	87.08	325	P		P	15 25 10.7 +0.3
	1.9nm,0.7s,baz=329,slow=2.2,SNR=4.9						
TXAR	Lajitas Array	90.22	56	P		P	15 25 26.6 +0.8
	1.8nm,1.1s,baz=221,slow=5.0,SNR=9.0						
ILAR	Eielson Array	96.30	12	P		P	15 25 51.6 -1.2
	0.5nm,0.8s,baz=216,slow=5.8,SNR=4.8						
MKAR	Makanchi Array	118.28	310	PKP		PKPdf	15 31 11.3 -0.6
	0.9nm,0.9s,baz=39,slow=5.7,SNR=4.6						
FINES	FINESS Array B	144.50	342	PKP		PKPab	15 31 58.1 -0.8
	2.8nm,0.6s,baz=85,slow=4.0,SNR=12						
NB2	NORSAR Subarra	147.71	353	PKPbc		PKPbc	15 32 09.1 +0.2
	comp=Z,4.9nm,0.9s,baz=12,slow=2.9						
NOA	NORSAR Array B	147.71	353	PKPbc		PKPbc	15 32 08.3 -0.6
	comp=Z,2.8nm,0.8s,baz=2.3,slow=6.4,SNR=7.4						
AKASG	Malin Array Be	151.28	326	PKPbc		PKPbc	15 32 17.7 -0.3
	comp=Z,4.8nm,0.8s,baz=46,slow=2.8,SNR=12						
KIEV	Kiev	151.29	326	ePKPbc		PKPbc	15 32 17.6 -0.4
BRTR	Keskin Array B	153.47	301	PKP		PKPdf	15 32 14.1 -1.7
	comp=Z,0.5nm,0.5s,baz=83,slow=4.9,SNR=3.1						
BRTR				PKPbc		PKPbc	15 32 23.1 -0.4
	comp=Z,0.6nm,0.4s,baz=113,slow=2.7,SNR=2.6						
TORD	Torodi Ar. Bea	163.97	172	PKP		PKPdf	15 32 27.5 -1.3
	comp=Z,1.0nm,1.0s,baz=245,slow=2.7,SNR=3.5						
TORD				PKPab		PKPab	15 33 24.4 +2.9
	comp=Z,2.3nm,0.9s,baz=197,slow=4.7,SNR=6.6						

PGC 30 15:15:41.0±2.6, 48°.80N×128°.41W, h10km, MLSn2.9/7, Mw3.5/7, 185km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	Estevan Point	1.35	64	Pn	Pn	15 16 04.1	-1.8
EDB	Eliza Dome	1.36	38	Pn	Pn	15 16 03.4	-2.7
EDB				Sn	Sb	15 16 20.0	-4.1
BPBC	Brooks Peninsu	1.42	17	Pn	Pn	15 16 04.4	-2.5
PACB	Port Alice, BC	1.74	20	Pn	Pn	15 16 08.8	-2.5
PACB				Sn	Sn	15 16 29.4	-4.1
MAYB	Maynard	1.79	26	Pn	Pn	15 16 10.2	-1.9
MAYB				Sn	Sn	15 16 31.8	-3.2
WOSB	Woss	1.81	41	Pn	Pn	15 16 10.5	-1.8
GDR	Gold River	1.84	57	Pn	Pn	15 16 10.7	-1.9
HOLB	Holberg	1.85	5	Pn	Pn	15 16 10.7	-2.1
HOLB				Sn	Sn	15 16 32.7	-3.6
BTB	Buttle Lake	2.01	70	Pn	Pn	15 16 13.6	-1.5
BTB				Sn	Sn	15 16 36.6	-3.7
PHC	Port Hardy	2.01	18	Pn	Pn	15 16 12.7	-2.2
PHC				Sn	Sn	15 16 36.0	-4.1
TLCB	Telegraph Cove	2.02	30	Pn	Pn	15 16 13.8	-1.3
TLCB				Sn	Sn	15 16 37.0	-3.4
NCRB	Newcastle Ridg	2.21	43	Pn	Pn	15 16 16.6	-1.3
MGB	Mount Grey	2.46	84	Sn	Sn	15 16 47.1	-4.3
BBB	Bella Bella	3.39	3	Pn	Pn	15 16 32.9	-1.0
BBB				Sn	Sn	15 17 11.4	-2.8

*ISCJB **30** 15:24:34.0±0.8, 19°.00S±0°.10×169°.2E±0°.1, h147km, mb3.8/9, Error ellipse: s-maj=20.6km s-min=10.9km az=29.9*
*IDC **30** 15:24:36.6±3.0, 19°.10S×169°.20E, h159km±25km, mb3.6/10, mb1 3.7/11, mb1mx3.6/31, mbtmp4.1/11, Error ellipse: s-maj=24.4km s-min=22.5km az=32.0*
ISC 30 15:24:35.3±0.9, 19°.1S±0°.1×169°.4E±0°.2, h147km, n13, σ1§94/16, mb3.7/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.05	222	P	Pn	15 25 36.6	+0.4
	10nm,0.3s,baz=57,slow=9.2,SNR=113						
DZM				S	Sn	15 26 22.1	-1.4
	7.9nm,0.3s,baz=149,slow=23,SNR=7.4						
URZ	Urewera	20.30	162	P	P	15 29 01.4	+1.9
	7.2nm,0.7s,baz=284,slow=3.9,SNR=7.9						
CTA	Charters Tower	21.78	263	P	P	15 29 15.7	+0.1
	1.2nm,0.4s,baz=96,slow=9.2,SNR=4.9						
STKA	Stephens Creek	28.03	237	P	P	15 30 11.5	-1.2
	1.1nm,0.5s,baz=72,slow=9.5,SNR=6.0						
WRA	Warramunga Arr	32.98	263	P	P	15 30 55.0	-1.4
	0.7nm,0.5s,baz=82,slow=6.6,SNR=10						
WRA				pP	pP	15 31 33.0	+5.1
	0.2nm,0.4s,baz=99,slow=8.9,SNR=1.5						
ASAR	Alice Springs	33.27	256	P	P	15 30 58.0	-0.9
	8.9nm,0.5s,baz=82,slow=8.7,SNR=280						
ASAR				pP	pP	15 31 33.2	+2.8
	1.2nm,0.8s,baz=78,slow=9.6,SNR=2.3						
ASAR				PcP	PcP	15 33 36.6	-1.3
	0.4nm,0.7s,baz=89,slow=2.1,SNR=4.5						
PETK	Petropavlovsk-	72.56	353	P	P	15 35 46.3	+0.3
	4.5nm,1.0s,baz=143,slow=10.0,SNR=4.9						
CMAR	Chiang Mai Arr	78.52	294	P	P	15 36 20.4	-0.3
	0.4nm,0.3s,baz=133,slow=5.6,SNR=4.9						
MAW	Mawson	78.64	202	P	P	15 36 19.6	-0.9
	1.5nm,0.7s,baz=115,slow=10,SNR=6.3						
SONM	Songino Array	87.13	323	P	P	15 37 05.3	+0.7
	0.8nm,0.8s,baz=168,slow=7.4,SNR=5.6						
ILAR	Eielson Array	90.02	17	P	P	15 37 16.7	-1.0
	0.1nm,0.3s,baz=242,slow=5.0,SNR=4.2						
ARCES	ARCESS Array B	124.91	345	PKP	PKPdf	15 43 16.4	-0.7
	2.4nm,0.9s,baz=47,slow=2.1,SNR=6.9						
GERES	GERESS Array B	144.37	332	PKP	PKPbc	15 43 53.1	+0.3
	1.3nm,0.7s,baz=35,slow=3.2,SNR=16						

*IDC **30** 15:24:58.1±1.9, 14°.60S×76°.19W, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.7/33, mbtmp3.9/6, ML3.5/3, Error ellipse: s-maj=45.4km s-min=19.9km az=60.0*
*NEIC **30** 15:25:00.9±6.4, 14°.52S×76°.16W, h16km±41km, ML4.1(ARE), Error ellipse: s-maj=26.6km s-min=13.5km az=55.0*
NEIC Felt [II] at Ica.
*ISCJB **30** 15:25:01.5±1.3, 14°.6S±0°.1×76°.0W±0°.1, h29km, mb3.6/3, Error ellipse: s-maj=24.2km s-min=10.3km az=141.3*
ISC 30 15:25:02.3±1.3, 14°.6S±0°.1×76°.2W±0°.2, h29km, n18, σ1§72/11, mb3.8/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.64	346	Pn	Pn	15 25 44.0	+0.9
	14nm,0.3s,baz=123,slow=11,SNR=10						
NNA				Lg	Lg	15 26 21.2	
	60nm,0.3s,baz=226,slow=17,SNR=11						
NNA	Nana	2.64	346	ePn	Pn	15 25 41.4	-1.7
NNA				Lg	Lg	15 26 21.2	
ATAH	Atahualpa	7.69	343	Pn	Pn	15 26 57.7	+4.8
	0.6nm,0.3s,baz=147,slow=17,SNR=2.6						
ATAH				Sn	Sn	15 28 27.1	+7.7
	0.5nm,0.3s,baz=340,slow=15,SNR=2.1						
ATAH				Lg	Lg	15 28 53.9	
	1.0nm,0.3s,baz=99,slow=11,SNR=4.2						
LPAZ	La Paz	7.96	103	Pn	Pn	15 27 00.0	+3.3
	1.3nm,0.3s,baz=296,slow=7.6,SNR=37						
LVC	Limon Verde	10.56	140	ePn	Pn	15 27 33.5	+1.3
SAML	Samuel	13.90	68	ePn	Pn	15 28 17.1	-0.5
SIV	San Ignacio	14.66	98	Pn	Pn	15 28 25.7	-2.2
	0.2nm,0.3s,baz=268,slow=10,SNR=3.2						
ROSC	El Rosal	19.37	6	P	Pn	15 29 28.0	+0.5
	2.4nm,0.3s,baz=189,slow=16,SNR=4.6						
PTGA	Pitinga	21.12	51	P	P	15 29 45.3	+0.3
	2.2nm,0.5s,baz=220,slow=9.7,SNR=5.4						
TXAR	Lajitas Array	51.08	329	P	P	15 34 02.4	0.0
	0.1nm,0.6s,baz=132,slow=14,SNR=2.4						
TORD	Torodi Ar. Bea	81.87	74	P	P	15 37 19.8	+0.2
	2.2nm,0.7s,baz=264,slow=4.9,SNR=13						
H11N3	WAKE ISLAND Hy	19.77	285	T	T	17 54 52.5	
	baz=96,slow=74,SNR=23						
H11N2	WAKE ISLAND Hy	19.78	285	T	T	17 54 52.2	
	baz=96,slow=74,SNR=31						
H11N1	WAKE ISLAND Hy	19.78	285	T	T	17 54 53.2	
	baz=96,slow=74,SNR=9.5						
H11S2	WAKE ISLAND Hy	19.83	283	T	T	17 54 57.9	
	baz=104,slow=73,SNR=5.4						
H11S1	WAKE ISLAND Hy	19.84	283	T	T	17 54 45.2	
	baz=104,slow=73,SNR=4.3						
H11S3	WAKE ISLAND Hy	19.85	283	T	T	17 54 46.9	
	baz=104,slow=73,SNR=5.3						

SONM	Songino Array	146.76	357	PKPbc	PKPdf	15 44 41.5	+1.4
	0.7nm,0.6s,baz=13,slow=1.9,SNR=4.5						

*NIED **30** 15:26:00,38°.00N×143°.30E, h17km, Mw3.7 Best double couple: M0=4.04000×10^14 NP1:φ0=341.00000°, δ81.00000°, λ178.00000°. NP2:φ0=71.00000°, δ88.00000°, λ9.00000°.*
*IDC **30** 15:26:54.3±1.4, 37°.77N×143°.52E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.6/47, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=31.6km s-min=22.1km az=95.0*
*ISCJB **30** 15:26:56.1±0.8, 37°.87N±0°.04×143°.30E±0°.06, h19km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=5.2km az=23.9*
*JMA **30** 15:26:57.6±0.2, 37°.97N×143°.30E, h33km, M4.0*
ISC 30 15:26:57.4±1.1, 37°.89N±0°.05×143°.34E±0°.09, h19km, n30, σ1§85/40, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.67	290	P	Pn	15 27 24.8	-0.7
JIO				S	Sn	15 27 44.3	-2.1
OFUJ	Ofunato	1.77	313	P	Pn	15 27 25.8	-1.2
OFUJ				S	Sn	15 27 46.5	-2.5
JMK	Ichinoseki	1.97	303	P	Pn	15 27 29.1	-0.7
JMK				S	Sn	15 27 52.7	-1.3
JOU	Okura	2.16	284	P	Pn	15 27 32.4	0.0
JOM	Ohasama	2.25	315	P	Pn	15 27 32.9	-0.7
JOM				S	Sn	15 27 59.5	-1.3
JFT	Otama	2.41	262	P	Pn	15 27 36.3	+0.5
JFT				S	Sn	15 28 03.8	-1.0
JYK	Kaneyama	2.56	295	P	Pn	15 27 37.7	-0.1
JRG	Rokugo	2.60	306	P	Pn	15 27 38.4	0.0
JANG	Nango	2.86	331	P	Pn	15 27 41.9	0.0
JAH	Hinai	3.12	318	P	Pn	15 27 46.5	+1.0
JAW	Awa shima	3.27	281	P	Pn	15 27 48.3	+0.7
JTM	Tenmabayashi	3.39	329	P	Pn	15 27 49.8	+0.6
JTM				eS	Sn	15 28 25.9	-3.0
JAG	Ashikaga	3.43	246	P	Pn	15 27 49.6	-0.2
JAG				S	Sn	15 28 28.6	-1.4
JOT	Ohata	3.91	334	P	Pn	15 27 56.3	-0.1
JRY	Ryogami san	4.01	244	P	Pn	15 27 57.8	-0.1
JRY				S	Sn	15 28 42.0	-2.4
JSD	Sado	4.02	274	P	Pn	15 27 58.5	+0.6
JOD2	Odawara 2	4.31	234	P	Pn	15 28 01.3	-0.6
JOD2				S	Sn	15 28 48.4	-3.3
MJAR	Matsushiro Arr	4.31	253	Pn	Pn	15 28 03.0	+1.1
	3.3nm,0.3s,baz=68,slow=9.2,SNR=52						
MJAR				Sn	Sn	15 28 51.4	-0.3
	1.5nm,0.3s,baz=87,slow=14,SNR=6.6						
MAT	Matsushiro	4.31	253	P	Pn	15 28 03.6	+1.7
MAT				S	Sn	15 28 54.6	+2.9
JHJ	Hachijo jima 2	5.57	212	Pn	Pn	15 28 17.1	-2.2
	40nm,0.3s,baz=315,slow=19,SNR=9.8						
JHJ				Sn	Sn	15 29 16.9	-5.9
	16nm,0.3s,baz=331,slow=23,SNR=5.6						
ASAJ	Asahikawa	6.25	355	Pn	Pn	15 28 27.7	-0.8
	1.4nm,0.3s,baz=214,slow=10,SNR=18						
ASAJ				Sn	Sn	15 29 35.4	-4.0
	1.5nm,0.3s,baz=46,slow=30,SNR=7.2						
USRK	Ussuriysk Ar.	10.63	310	Pn	Pn	15 29 30.3	+1.6
	0.1nm,0.3s,baz=133,slow=10,SNR=2.7						
H11N2	WAKE ISLAND Hy	27.32	125	T	T	16 01 23.7	
	baz=317,slow=76,SNR=8.4						
H11N1	WAKE ISLAND Hy	27.33	125	T	T	16 01 17.9	
	baz=317,slow=76,SNR=6.1						
H11N3	WAKE ISLAND Hy	27.34	125	T	T	16 01 25.1	
	baz=317,slow=76,SNR=7.6						
SONM	Songino Array	28.60	302	P	P	15 32 54.0	+1.6
	0.3nm,0.4s,baz=90,slow=8.6,SNR=2.7						
ZALV	Zalesovo Beam	42.48	312	P	P	15 34 53.1	+2.1
	0.7nm,0.3s,baz=74,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	44.97	302	P	P	15 35 11.8	+0.6
	0.7nm,0.7s,baz=79,slow=9.9,SNR=3.8						
ILAR	Eielson Array	47.95	33	P	P	15 35 34.7	+0.4
	0.4nm,0.9s,baz=298,slow=3.8,SNR=3.2						
WRA	Warramunga Arr	58.14	190	P	P	15 36 49.1	-0.8
	0.7nm,0.5s,baz=8.9,slow=7.2,SNR=7.6						

*IDC **30** 15:33:50.2±3.3, 3°.14S×136°.24E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=132.7km s-min=32.6km az=80.0*
*DJA **30** 15:33:56.2±1.5, 4°.5±6°.×13°.6E±°, h18km±12km, M3.4/5, MLv3.4/5*
*ISCJB **30** 15:33:57.3±0.7, 3°.49S±0°.09×135°.59E±0°.06, h35km, mb3.4/1, Error ellipse: s-maj=13.8km s-min=6.9km az=160.0*
ISC 30 15:33:58.1±1.1, 3°.5S±0°.1×135°.58E±0°.06, h35km, n7, σ1§34/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.88	265	P	Pn	15 34 27.7	0.0
KMPI				S	Sn	15 34 52.0	+1.7
BAKI	Biak	2.37	13	P	Pn	15 34 35.0	+0.6
FAKI	Fak Fak	3.38	280	P	Pn	15 34 48.1	-0.3
SMPI	Sarmi	3.47	64	P	Pn	15 34 49.1	-0.6
SMPI				S	Sn	15 35 31.2	+1.6
WRA	Warramunga Arr	16.38	184	Pn	P	15 37 48.1	+0.1
	0.1nm,0.3s,baz=7.9,slow=12,SNR=3.5						
ASAR	Alice Springs	20.10	184	P	P	15 38 29.9	+1.0
	1.8nm,0.8s,baz=7.6,slow=11,SNR=14						
MKAR	Makanchi Array	68.55	324	P	P	15 44 55.4	-1.8
	0.4nm,0.8s,baz=111,slow=8.0,SNR=2.1						

*IDC **30** 15:34:05.4±0.6, 9°.59S×158°.71E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/33, mbtmp4.3/16, ML3.9/1, MS3.6/10, Ms1 3.6/10, ms1mx3.4/26, Error ellipse: s-maj=19.1km s-min=15.1km az=115.0*
*NEIC **30** 15:34:06.4±0.4, 9°.57S×158°.65E, h10km, mb4.7/13, Error ellipse: s-maj=11.6km s-min=9.3km az=132.0*
*ISCJB **30** 15:34:07.3±0.3, 9°.60S±0°.06×158°.67E±0°.05, h30km, mb4.5/30, MS3.9/12, Error ellipse: s-maj=8.9km s-min=7.2km az=150.1*
ISC 30 15:34:09.1±0.4, 9°.53S±0°.08×158°.70E±0°.06, h30km, n61, σ1§71/55, mb4.5/30, MS3.7/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.23	86	Pn	Pn	15 34 29.3	-1.0
	134nm,0.3s,baz=224,slow=6.9,SNR=127						
HNR				Sn	Sn	15 34 45.1	-0.8
	461nm,0.3s,baz=201,slow=17,SNR=18						
HNR	Honiara	1.23	86	iP	Pn	15 34 29.0	-1.3
HNR				iS	Sn	15 34 42.0	-4.0
PMG	Port Moresby	11.38	270	LR	LR	15 40 54.3	
	comp=Z,501nm,20.5s,baz=86,slow=36						
DZM	Mont Dzumac	14.52	150	Pn	Pn	15 37 34.9	+2.2
	0.1nm,0.3s,baz=343,slow=19,SNR=2.0						
DZM				LR	LR	15 42 30.1	
	comp=Z,307nm,19.2s,baz=8.0,slow=35						
CTA	Charters Tower	15.96	227	Pn	Pn	15 37 52.0	+0.4
	0.3nm,0.3s,baz=48,slow=15,SNR=3.7						
CTAO	Charters Tower	15.96	227	ePn	Pn	15 37 49.2	-2.4
	57nm,1.1s						
EIDS	Eidsvold	17.34	204	ePn	Pn	15 38 07.3	-1.7
	47nm,1.0s						
MSVF	Nonsavu	20.48	116	eP	P	15 38 42.9	-1.9
	27nm,1.1s						
WRAB	Tennant Creek	25.68	244	eP	P	15 39 36.5	-0.2
	12nm,0.8s						
WB2	Warramunga Arr	25.69	243	eP	P	15 39 36.1	-0.7
	15nm,0.8s						
WRA	Warramunga Arr	25.70	243	P	P	15 39 37.1	+0.3
	12nm,0.9s,baz=70,slow=9.2,SNR=27						
WRA				LR	LR	15 49 26.2	
	comp=Z,164nm,21.1s,baz=75,slow=36						
STKA	Stephens Creek	27.32	213	P	P	15 39 50.6	-0.7
	3.8nm,0.9s,baz=47,slow=14,SNR=6.9						
STKA				LR	LR	15 50 49.9	
	comp=Z,195nm,18.6s,baz=31,slow=37						
AS31	Alice Springs	27.54	236	eP	P	15 39 50.9	-2.7
	2.0nm,0.9s						
ASAR	Alice Springs	27.54	236	P	P	15 39 52.5	-1.0
	6.7nm,0.9s,baz=69,slow=9.4,SNR=22						
ASAR				LR	LR	15 49 39.4	
	comp=Z,87nm,21.3s,baz=68,slow=34						
H11S2	WAKE ISLAND Hy	28.94	16	T	T	16 09 05.6	
	baz=193,slow=74						
H11S3	WAKE ISLAND Hy	28.94	16	T	T	16 08 43.6	
	baz=193,slow=74						
H11S1	WAKE ISLAND Hy	28.95	16	T	T	16 09 05.4	
	baz=193						
AFI	Afiamalu	29.22	101	LR	LR	15 49 18.1	
	comp=Z,201nm,21.5s,baz=270,slow=31						
H11N1	WAKE ISLAND Hy	30.16	15	T	T	16 10 36.8	
	baz=194,slow=76,SNR=7.1						
H11N3	WAKE ISLAND Hy	30.17	16	T	T	16 10 30.2	
	baz=194,slow=76,SNR=9.9						
H11N2	WAKE ISLAND Hy	30.17	16	T	T	16 10 41.4	
	baz=194,slow=76,SNR=8.3						
FITZ	Fitzroy Crossi	33.17	252	LR	LR	15 53 44.4	
	comp=Z,115nm,19.7s,baz=81,slow=36						
MMRI	Maumere	36.01	268	eP	P	15 41 05.0	-2.9
	38nm,1.0s						
KAPI	Kappang	38.88	274	LR	LR	15 57 40.0	
	comp=Z,3μm,19.3s,baz=119,slow=36						
MYLDM	Lahad Datu	42.64	288	eP	P	15 42 01.4	-1.9
	13nm,1.0s						
MJAR	Matsushiro Arr	49.71	338	P	P	15 42 59.0	+0.4
	0.8nm,0.8s,baz=174,slow=10,SNR=2.8						
MJAR				LR	LR	16 05 09.2	
	comp=Z,25nm,18.8s,baz=260,slow=38						
PPT	Papeete	50.79	105	LR	LR	15 59 47.7	
	comp=Z,64nm,21.1s,baz=330,slow=30						
KSRS	Korea Array	54.91	330	P	P	15 43 38.3	+1.2
	2.4nm,0.9s,baz=149,slow=8.4,SNR=9.5						
KSAR	Wonju Array Be	54.92	330	P	P	15 43 38.3	+1.1
NJ2	Nanjing	56.20	319	eP	P	15 43 45.8	-0.7
NJ2				pmax	pmax		
	comp=Z,16nm,1.0s						
USRK	Ussuriysk Ar.	58.70	338	P	P	15 44 05.2	+1.3
	comp=Z,3.2nm,0.9s,baz=158,slow=7.6,SNR=7.1						
MDJ	Mudanjiang	59.97	336	P	P	15 44 12.8	+0.1
MDJ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,42nm,5.5s						
PETK	Petropavlovsk-	62.39	359	P	P	15 44 30.3	+1.4
	comp=Z,7.1nm,0.9s,baz=147,slow=4.7,SNR=5.6						
PETK				LR	LR	16 08 44.5	
	comp=Z,59nm,21.1s,baz=163,slow=33						
KMI	Kunming	64.46	304	P	P	15 44 44.0	+0.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	Chiang Mai Arr	65.18	295	P	P	15 44 50.4	+2.4
	comp=Z,1.3nm,0.7s,baz=132,slow=5.1,SNR=13						
HHC	Hu-ho-hao-te	66.30	323	eP	P	15 44 55.5	+0.6
HHC				PP	PP	15 47 19.0	-2.3
HHC				S	S	15 53 40.0	-2.7
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,8.5s						
HHC				LR	LR		
	comp=N,81nm,12.3s						
HHC				LR	LR		
	comp=E,100nm,13.6s						
HHC				LR	LR		
	comp=Z,110nm,11.1s						
VNDA	Vanda	67.99	179	P	P	15 45 07.0	+2.1
	comp=Z,3.1nm,0.8s,baz=340,slow=5.9,SNR=20						
VNDA	Vanda	67.99	179	eP	P	15 45 06.3	+1.4
	comp=Z,4.4nm,0.9s						
LZH	Lanzhou	68.68	315	eP	P	15 45 10.3	+0.1
LZH				pP	pP	15 45 15.0	-4.6
LZH				sP	sP	15 45 17.8	-5.3
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	Gaotai	73.09	316	eP	P	15 45 38.8	+2.0
GTA				pP	pP	15 45 43.5	-2.8
GTA				sP	sP	15 45 46.0	-3.8
GTA				S	SKiKP	15 55 09.8	+2.4
GTA				sS	SKSac	15 55 37.3	-3.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,6.2s						
GTA				LR	LR		
	comp=N,72nm,15.4s						
GTA				LR	LR		
	comp=E,92nm,17.3s						
GTA				LR	LR		
	comp=Z,100nm,16.2s						
SONM	Songino Array	73.45	326	P	P	15 45 40.8	+2.0
	comp=Z,3.4nm,0.8s,baz=135,slow=5.7,SNR=12						
MCK	McKinley	83.06	21	eP	P	15 46 31.7	+0.2
	comp=Z,16nm,1.1s						
WMQ	Urumqi	83.17	316	P	P	15 46 32.3	-0.2
WMQ				pP	PcP	15 46 35.8	-1.2
WMQ				sP	pP	15 46 38.3	-3.8
WMQ				PP	PP	15 49 42.8	-1.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.9s						
WMQ				LR	LR		
	comp=N,55nm,21.9s						
WMQ				LR	LR		
	comp=E,100nm,3.9s						
WMQ				LR	LR		
	comp=Z,75nm,18.1s						
TIXI	Tiksi	83.39	351	P	P	15 46 35.5	+2.5
	comp=Z,0.8nm,0.3s,baz=153,slow=3.6,SNR=3.5						
MAW	Mawson	83.48	203	P	P	15 46 33.8	+0.2
	comp=Z,2.0nm,1.0s,baz=70,slow=5.9,SNR=6.4						
MAW	Mawson	83.48	203	eP	P	15 46 33.2	-0.4
	comp=Z,1.0nm,1.3s						
CCB	Clear Creek Bu	84.02	20	eP	P	15 46 35.9	-0.4
	comp=Z,30nm,2.0s						
COLA	College	84.14	20	eP	P	15 46 36.3	-0.6
	comp=Z,8.6nm,0.7s						
ILAR	Eielson Array	84.41	20	P	P	15 46 39.0	+0.7
	comp=Z,1.9nm,0.5s,baz=252,slow=5.0,SNR=23						
ILB	Eielson Array	84.41	20	eP	P	15 46 38.4	+0.1
MKAR	Makanchi Array	87.72	318	P	P	15 46 56.2	+1.1
	comp=Z,1.1nm,0.6s,baz=98,slow=6.3,SNR=7.9						
ZALV	Zalesovo Beam	88.32	325	P	P	15 46 57.7

ISC 30 15:35:18.9±0.9, 38°.71N±0°.02×43°.49E±0°.03, h18km±3km, n36, σ0°89/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**213**	*e*PG	**Pg**	**15 35 23.5**	**+0.3**
VANB	**Van**	**0.14**	**213**	*e*Pg	**Pg**	**15 35 23.5**	**+0.3**
TVAN	**Van**	**0.19**	**199**	*i* P	**Pb**	**15 35 23.5**	**-0.3**
TVAN				*i* S	**Sg**	**15 35 28.0**	**+0.6**
TVAN	**Van**	**0.19**	**199**	P	**Pb**	**15 35 23.5**	**-0.3**
TVAN				S	**Sg**	**15 35 28.0**	**+0.6**
VMUR	**Van-Muradiye**	**0.29**	**14**	*i* P	**Pg**	**15 35 24.5**	**-0.9**
VMUR				*i* S	**Sb**	**15 35 30.2**	**+0.2**
VMUR	**Van-Muradiye**	**0.29**	**14**	P	**Pg**	**15 35 24.5**	**-0.9**
VMUR				S	**Sb**	**15 35 30.2**	**+0.2**
GEVA	**Gevas**	**0.52**	**220**	*i* P	**Pg**	**15 35 28.8**	**-0.7**
GEVA				*i* S	**Sb**	**15 35 37.9**	**+1.0**
GEVA	**Gevas**	**0.52**	**220**	P	**Pg**	**15 35 28.8**	**-0.7**
GEVA				S	**Sb**	**15 35 37.9**	**+1.0**
CLDR	**Caldiran**	**0.55**	**38**	*e*PG	**Pg**	**15 35 29.7**	**-0.3**
CLDR				*e*SG	**Sb**	**15 35 38.4**	**+0.7**
CLDR	**Caldiran**	**0.55**	**38**	*i* P	**Pg**	**15 35 29.4**	**-0.6**
CLDR				*i* S	**Sb**	**15 35 38.6**	**+0.9**
CLDR	**Caldiran**	**0.55**	**38**	P	**Pg**	**15 35 29.4**	**-0.6**
CLDR	**Caldiran**	**0.55**	**38**	*e*Pg	**Pg**	**15 35 29.7**	**-0.3**
CLDR				*e*Sg	**Sb**	**15 35 38.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.60**	**279**	*i* P	**Pg**	**15 35 30.2**	**-0.8**
ADCV				*i* S	**Sg**	**15 35 38.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.60**	**279**	P	**Pg**	**15 35 30.2**	**-0.8**
ADCV				S	**Sg**	**15 35 38.8**	**-0.3**
BASK	**Baskale_VAN**	**0.77**	**148**	*i* P	**Pb**	**15 35 32.2**	**-1.8**
BASK				*i* S	**Sn**	**15 35 45.8**	**-0.6**
BASK	**Baskale_VAN**	**0.77**	**148**	P	**Pb**	**15 35 32.2**	**-1.8**
BASK				S	**Sn**	**15 35 45.8**	**-0.6**
TUTA	**Tutak**	**0.86**	**323**	*i* P	**Pb**	**15 35 34.9**	**-0.7**
TUTA				*i* S	**Sb**	**15 35 47.1**	**+0.2**
TUTA	**Tutak**	**0.86**	**323**	P	**Pb**	**15 35 34.9**	**-0.7**
TUTA				S	**Sb**	**15 35 47.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.94**	**336**	*e*PG	**Pb**	**15 35 35.8**	**-1.1**
AGRB				*e*SG	**Sb**	**15 35 48.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.94**	**336**	*e*Pg	**Pb**	**15 35 35.8**	**-1.1**
AGRB				*e*Sg	**Sb**	**15 35 48.9**	**-0.3**
TATV	**Tatvan**	**0.97**	**258**	*i* P	**Pb**	**15 35 36.8**	**-0.6**
TATV				*i* S	**Sb**	**15 35 50.0**	**0.0**
TATV	**Tatvan**	**0.97**	**258**	P	**Pb**	**15 35 36.8**	**-0.6**
TATV				S	**Sb**	**15 35 50.0**	**0.0**
GURO	**Guroymak-BITLI**	**1.15**	**262**	*e*PN	**Pn**	**15 35 39.7**	**-0.6**
GURO	**Guroymak-BITLI**	**1.15**	**262**	*e*Pn	**Pn**	**15 35 39.7**	**-0.6**
EATA	**Eleskirt**	**1.38**	**326**	*i* P	**Pb**	**15 35 45.1**	**+0.6**
EATA				*i* S	**Sg**	**15 36 04.8**	**+1.0**
EATA	**Eleskirt**	**1.38**	**326**	P	**Pb**	**15 35 45.1**	**+0.6**
EATA				S	**Sg**	**15 36 04.8**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.40**	**24**	*e*PN	**Pb**	**15 35 45.1**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.40**	**24**	*e*Pn	**Pb**	**15 35 45.1**	**+0.5**
SRTM	**Siirt_Merkez**	**1.42**	**240**	*i* P	**Pg**	**15 35 46.3**	**-0.1**
SRTM				*i* S	**Sg**	**15 36 06.6**	**+1.6**
SRTM	**Siirt_Merkez**	**1.42**	**240**	P	**Pg**	**15 35 46.3**	**-0.1**
SRTM				S	**Sg**	**15 36 06.6**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*PN	**Pb**	**15 35 51.8**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	*e*Pn	**Pb**	**15 35 51.8**	**-1.0**
BTMN	**Batman**	**1.93**	**246**	*i* S	**Sg**	**15 36 20.1**	**-1.0**
BTMN	**Batman**	**1.93**	**246**	S	**Sg**	**15 36 20.0**	**-1.0**
MAZI	**Mazidag**	**2.70**	**243**	*e*PN	**Pn**	**15 36 03.7**	**+2.1**
MAZI	**Mazidag**	**2.70**	**243**	*e*Pn	**Pn**	**15 36 03.7**	**+2.1**

MAN 30 15:36:19, 16°.06N×119°.88E, h32km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.28**	**174**	*e*P	Pn	15 36 28.9	+1.9
SCZP				*e*S	Sn	15 36 34.9	+2.8
BOLP	**Bolinao**	**0.32**	**6**	*e*P	Pn	15 36 29.0	+1.5
BOLP				*e*S	Sn	15 36 35.5	+2.5
PCPH	**Palayan**	**1.27**	**113**	⇑*e*P	Pn	15 36 40.4	-0.2
BALP	**Baler**	**1.66**	**101**	*e*P	Pn	15 36 45.8	-0.1
BALP				*e*S	Sb	15 37 08.2	-1.4
ABRA	**Dolores**	**1.77**	**27**	*e*P	Pn	15 36 48.8	+1.4
ABRA				*e*S	Sb	15 37 13.0	+0.3

*CSEM **30** 15:41:29.7±0.2, 38°.59N×43°.09E, h5km, MD2.9, Error ellipse: s-maj=3.8km s-min=3.0km az=149.0*
*DDA **30** 15:41:29.5, 38°.55N×43°.06E, h7km, Md2.9*
*ISK **30** 15:41:29.2, 38°.60N×43°.08E, h5km, MD2.8*
ISC 30 15:41:29.7±1.1, 38°.59N±0°.03×43°.07E±0°.02, h7km±10km, n32, σ0°52/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**89**	*e*PG	**Pg**	**15 41 34.6**	**-0.1**
VANB	**Van**	**0.25**	**89**	*e*Pg	**Pg**	**15 41 34.6**	**-0.1**
TVAN	**Van**	**0.27**	**103**	*i* P	**Pg**	**15 41 34.5**	**-0.6**
TVAN	**Van**	**0.27**	**103**	P	**Pg**	**15 41 34.5**	**-0.6**
GEVA	**Gevas**	**0.28**	**182**	*i* P	**Pg**	**15 41 35.5**	**+0.2**
GEVA	**Gevas**	**0.28**	**182**	P	**Pg**	**15 41 35.5**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.35**	**309**	*i* P	**Pg**	**15 41 37.1**	**+0.6**
ADCV				*i* S	**Sb**	**15 41 43.4**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.35**	**309**	P	**Pg**	**15 41 37.2**	**+0.6**
ADCV				S	**Sb**	**15 41 43.4**	**-0.7**
VMUR	**Van-Muradiye**	**0.56**	**44**	*i* P	**Pg**	**15 41 40.7**	**+0.2**
VMUR				*i* S	**Sb**	**15 41 50.9**	**+0.7**
VMUR	**Van-Muradiye**	**0.56**	**44**	P	**Pg**	**15 41 40.7**	**+0.2**
TATV	**Tatvan**	**0.64**	**263**	*i* P	**Pg**	**15 41 42.0**	**0.0**
TATV				*i* S	**Sg**	**15 41 50.2**	**-0.1**
TATV	**Tatvan**	**0.64**	**263**	P	**Pg**	**15 41 42.0**	**0.0**
TATV				S	**Sg**	**15 41 50.2**	**-0.1**
GURO	**Guroymak-BITLI**	**0.81**	**268**	*e*PG	**Pg**	**15 41 45.1**	**-0.3**
GURO				*e*SG	**Sb**	**15 41 56.9**	**-0.6**
GURO	**Guroymak-BITLI**	**0.81**	**268**	*e*Pg	**Pg**	**15 41 45.1**	**-0.3**
GURO				*e*Sg	**Sb**	**15 41 56.9**	**-0.6**
TUTA	**Tutak**	**0.83**	**346**	*i* P	**Pg**	**15 41 45.7**	**-0.1**
TUTA				*i* S	**Sb**	**15 41 59.0**	**+0.8**
TUTA	**Tutak**	**0.83**	**346**	P	**Pg**	**15 41 45.7**	**-0.1**
TUTA				S	**Sb**	**15 41 59.0**	**+0.8**
CLDR	**Caldiran**	**0.86**	**50**	*e*PG	**Pg**	**15 41 46.4**	**+0.1**
CLDR	**Caldiran**	**0.86**	**50**	*e*Pg	**Pg**	**15 41 46.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.98**	**356**	*e*PG	**Pb**	**15 41 48.9**	**-0.3**
AGRB				*e*SG	**Sb**	**15 42 02.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.98**	**356**	*e*Pg	**Pb**	**15 41 48.9**	**-0.3**
AGRB				*e*Sg	**Sb**	**15 42 02.1**	**-0.4**
SRTM	**Siirt_Merkez**	**1.08**	**237**	*i* P	**Pn**	**15 41 51.9**	**+0.5**
SRTM				*i* S	**Sn**	**15 42 06.3**	**-0.4**
SRTM	**Siirt_Merkez**	**1.08**	**237**	P	**Pn**	**15 41 51.9**	**+0.5**
SRTM				S	**Sn**	**15 42 06.3**	**-0.4**
EATA	**Eleskirt**	**1.35**	**341**	*i* P	**Pn**	**15 41 55.3**	**+0.1**
EATA	**Eleskirt**	**1.35**	**341**	P	**Pn**	**15 41 55.3**	**+0.1**
CUKT	**Cukurca**	**1.41**	**162**	*e*PN	**Pb**	**15 41 56.4**	**0.0**
CUKT	**Cukurca**	**1.41**	**162**	*e*Pn	**Pb**	**15 41 56.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.54**	**254**	*e*PN	**Pb**	**15 41 58.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.54**	**254**	*e*Pn	**Pb**	**15 41 58.4**	**-0.1**
BNGB	**Bing¶**	**1.91**	**283**	*e*PN	**Pn**	**15 42 03.9**	**+1.1**
BINT	**Bingol**	**2.04**	**279**	*e*Pn	**Pn**	**15 42 03.9**	**-0.7**
MAZI	**Mazidag**	**2.36**	**242**	*e*PN	**Pn**	**15 42 10.1**	**+1.1**
MAZI	**Mazidag**	**2.36**	**242**	*e*Pn	**Pn**	**15 42 10.1**	**+1.1**

IDC 30 15:55:21.8±2.8, 18°.87S×179°.32W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=297.9km s-min=36.1km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.61**	**261**	P	P	16 03 28.3	0.0
	0.3nm,0.3s,baz=98,slow=7.8,SNR=4.7						
ASAR	**Alice Springs**	**43.70**	**255**	P	P	16 03 28.8	-0.3
	0.6nm,0.4s,baz=85,slow=8.3,SNR=22						
TXAR	**Lajitas Array**	**87.24**	**58**	P	P	16 08 10.7	0.0
	0.1nm,0.5s,baz=229,slow=6.9,SNR=2.1						

*ISK **30** 16:04:51.8, 38°.69N×43°.12E, h5km, MD2.6*
*DDA **30** 16:04:52.2, 38°.70N×43°.11E, h7km, Md2.7*
*CSEM **30** 16:04:52.7±0.2, 38°.70N×43°.11E, h2km, MD2.6, Error ellipse: s-maj=4.9km s-min=3.8km az=150.0*
ISC 30 16:04:52.3±1.1, 38°.72N±0°.02×43°.09E±0°.02, h3km±12km, n25, σ1°19/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**118**	*e*PG	**Pg**	**16 04 58.4**	**+0.9**
VANB				*e*SG	**Sg**	**16 05 02.2**	**+1.2**
VANB	**Van**	**0.27**	**118**	*e*Pg	**Pg**	**16 04 58.4**	**+0.9**
VANB				*e*Sg	**Sg**	**16 05 02.2**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.30**	**287**	*i* P	**Pg**	**16 04 53.7**	**-4.3**
ADCV				*i* S	**Sb**	**16 05 05.9**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.30**	**287**	P	Pg	16 04 53.7	-4.3
ADCV				S	**Sb**	**16 05 05.9**	**+0.1**
TVAN	**Van**	**0.32**	**128**	*i* P	**Pg**	**16 04 57.3**	**-1.1**
TVAN				*i* S	**Sg**	**16 05 02.6**	**0.0**
TVAN	**Van**	**0.32**	**128**	P	**Pg**	**16 04 57.3**	**-1.1**
TVAN				S	**Sg**	**16 05 02.6**	**0.0**
GEVA	**Gevas**	**0.41**	**183**	*i* P	**Pg**	**16 04 59.9**	**-0.3**
GEVA	**Gevas**	**0.41**	**183**	P	**Pg**	**16 04 59.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.46**	**55**	*i* P	**Pg**	**16 05 01.9**	**+0.7**
VMUR				*i* S	**Sb**	**16 05 09.8**	**-0.8**
VMUR	**Van-Muradiye**	**0.46**	**55**	P	**Pg**	**16 05 01.9**	**+0.7**
VMUR				S	**Sb**	**16 05 09.8**	**-0.8**
TATV	**Tatvan**	**0.68**	**252**	*i* P	**Pg**	**16 05 05.6**	**+0.3**
TATV				*i* S	**Sg**	**16 05 14.4**	**+0.3**
TATV	**Tatvan**	**0.68**	**252**	P	**Pg**	**16 05 05.6**	**+0.3**
TATV				S	**Sg**	**16 05 14.4**	**+0.3**
TUTA	**Tutak**	**0.71**	**343**	*i* P	**Pg**	**16 05 06.9**	**+0.9**
TUTA				*i* S	**Sg**	**16 05 16.6**	**+1.4**
TUTA	**Tutak**	**0.71**	**343**	P	**Pg**	**16 05 06.9**	**+0.9**
TUTA				S	**Sg**	**16 05 16.6**	**+1.4**
CLDR	**Caldiran**	**0.77**	**57**	*e*PG	**Pg**	**16 05 07.3**	**+0.2**
CLDR	**Caldiran**	**0.77**	**57**	*i* P	**Pg**	**16 05 02.7**	**-4.4**
CLDR				*i* S	**Sg**	**16 05 17.2**	**+0.1**
CLDR	**Caldiran**	**0.77**	**57**	*e*Pg	**Pg**	**16 05 07.3**	**+0.2**
CLDR				*e*Sg	**Sg**	**16 05 17.2**	**+0.1**
GURO	**Guroymak-BITLI**	**0.84**	**259**	*e*PG	**Pg**	**16 05 08.8**	**+0.4**
GURO	**Guroymak-BITLI**	**0.84**	**259**	*e*Pg	**Pg**	**16 05 08.8**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**355**	*e*PG	**Pb**	**16 05 09.8**	**-0.2**
AGRB				*e*SG	**Sb**	**16 05 21.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**355**	*e*Pg	**Pb**	**16 05 09.8**	**-0.2**
AGRB				*e*Sg	**Sb**	**16 05 21.7**	**-0.2**
SRTM	**Siirt_Merkez**	**1.17**	**232**	*i* P	**Pg**	**16 05 14.7**	**-0.1**
SRTM				*i* S	**Sn**	**16 05 32.1**	**-0.2**
SRTM	**Siirt_Merkez**	**1.17**	**232**	P	**Pg**	**16 05 14.6**	**-0.1**
SRTM				S	**Sn**	**16 05 32.1**	**-0.2**
BTMN	**Batman**	**1.65**	**240**	*i* P	**Pg**	**16 05 24.4**	**+0.4**
BTMN				*i* S	**Sg**	**16 05 46.3**	**+0.9**
BTMN	**Batman**	**1.65**	**240**	P	**Pg**	**16 05 24.4**	**+0.4**
BTMN				S	**Sg**	**16 05 46.3**	**+0.9**

*IDC **30** 16:16:01.2±0.6, 8°.65N×58°.50E, h0km, mb4.0/21, mb1 4.2/22, mb1mx4.1/36, mbtmp4.1/22, ML3.3/1, MS3.8/12, Ms1 3.8/12, ms1mx3.4/43, Error ellipse: s-maj=16.5km s-min=13.6km az=137.0*
*ISCJB **30** 16:16:02.7±0.4, 8°.71N±0°.07×58°.41E±0°.07, h20km, mb4.3/32, MS3.8/12, Error ellipse: s-maj=10.8km s-min=8.6km az=139.5*
*NEIC **30** 16:16:02.8±0.5, 8°.70N×58°.41E, h10km, mb4.4/9, Error ellipse: s-maj=11.5km s-min=9.2km az=125.0*
*CSEM **30** 16:16:03.2±0.2, 8°.70N×58°.48E, h10km, mb4.8/7, Error ellipse: s-maj=10.6km s-min=8.9km az=125.0*
ISC 30 16:16:04.6±0.6, 8°.70N±0°.09×58°.35E±0°.08, h20km, n59, σ1°25/51, mb4.3/32, MS3.8/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**14.46**	**1**	Pn	**Pn**	**16 19 28.3**	**0.0**
	0.1nm,0.3s,baz=174,slow=6.5,SNR=2.4						
WSAR				LR	LR	16 24 08.5	
	comp=Z,354nm,18.7s,baz=202,slow=34						
UOSS	**Minazif**	**16.29**	**353**	*e*Pn	**Pn**	**16 19 49.4**	**-2.9**
	9.3nm,0.8s						
RAYN	**Ar Rayn**	**19.20**	**322**	*e*P	**P**	**16 20 24.7**	**-2.7**
	38nm,1.9s						
H08N2	**Diego Garcia H**	**19.54**	**139**	T	T	16 41 07.9	
	baz=318,slow=76,SNR=61						
H08N3	**Diego Garcia H**	**19.55**	**139**	T	T	16 41 04.3	
	baz=318,slow=76,SNR=56						
H08N1	**Diego Carcia H**	**19.56**	**139**	T	T	16 41 06.8	
	baz=318,slow=76,SNR=74						
HYB	**Hyderabad**	**21.48**	**64**	*i* P	**P**	**16 20 56.0**	**+3.8**
KMBO	**Kilima Mbogo**	**23.18**	**246**	P	**P**	**16 21 09.8**	**-0.7**
KMBO				LR	LR	16 29 54.2	
	comp=Z,108nm,19.6s,baz=94,slow=36						
KMBO	**Kilima Mbogo**	**23.18**	**246**	*e*P	**P**	**16 21 08.8**	**-1.7**
	5.8nm,1.0s						
KKAR	**Karatay Array**	**35.89**	**15**	*e*P	**P**	**16 23 04.2**	**+0.9**
	63nm,0.8s						
KKAR	**Karatay Array**	**35.89**	**15**	*e*P	**P**	**16 23 04.2**	**+0.9**
	63nm,0.8s						
AAK	**Ala-Archa**	**36.66**	**20**	*e*P	**P**	**16 23 11.0**	**+0.9**
	7.6nm,0.9s						
AAK	**Ala-Archa**	**36.66**	**20**	*e*P	**P**	**16 23 11.0**	**+0.9**
	7.6nm,0.9s						
LSA	**Lhasa**	**37.15**	**51**	*e*P	**P**	**16 23 14.8**	**0.0**
	6.5nm,1.0s						
LSA	**Lhasa**	**37.15**	**51**	*e*P	**P**	**16 23 14.8**	**0.0**
	6.5nm,1.0s						
KBZ	**Khabaz**	**37.42**	**341**	P	**P**	**16 23 17.6**	**+1.4**
	7.1nm,1.1s,baz=207,slow=6.3,SNR=3.6						
KBZ				LR	LR	16 39 30.4	
	comp=Z,117nm,18.3s,baz=3.0,slow=38						
KVAR	**Kislovodsk Arr**	**37.68**	**341**	P	**P**	**16 23 20.3**	**+1.6**
	6.4nm,1.0s,baz=143,slow=15,SNR=2.4						
BRTR	**Keskin Array B**	**37.98**	**328**	P	**P**	**16 23 21.1**	**-0.2**
	1.3nm,0.8s,baz=129,slow=6.9,SNR=5.4						
LSZ	**Lusaka**	**38.22**	**232**	P	**P**	**16 23 24.7**	**+1.1**
	1.3nm,0.6s,baz=55,slow=8.5,SNR=4.0						
ABKAR	**Akbulak array**	**40.45**	**2**	*e*P	**P**	**16 23 41.5**	**-0.1**
	53nm,0.8s						
ABKAR	**Akbulak array**	**40.45**	**2**	*e*P	**P**	**16 23 41.5**	**-0.1**
	53nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.55**	**72**	P	**P**	**16 23 42.7**	**-0.2**
	1.1nm,0.9s,baz=259,slow=8.2,SNR=12						
CMAR				LR	LR	16 38 41.1	
	comp=Z,49nm,18.9s,baz=308,slow=34						
AKTO	**Aktyubinsk**	**41.61**	**360**	P	**P**	**16 23 51.4**	**+0.3**
	3.8nm,0.9s,baz=199,slow=7.9,SNR=6.4						
MKAR	**Makanchi Array**	**43.12**	**24**	P	**P**	**16 24 01.5**	**-2.1**
	2.7nm,1.0s,baz=201,slow=6.4,SNR=6.7						
WMQ	**Urumqi**	**43.33**	**31**	P	**P**	**16 24 05.8**	**+0.4**
WMQ				pP	pP	16 24 10.0	-1.6
WMQ				sP	sP	16 24 18.0	+3.9
WMQ				LR	LR		
	comp=N,65nm,27.3s						
WMQ				LR	LR		
	comp=E,77nm,23.5s						
WMQ				LR	LR		
	comp=Z,65nm,25.5s						
KURK	**Kurchatov**	**45.13**	**18**	*e*P	**P**	**16 24 19.5**	**0.0**
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**45.13**	**18**	*e*P	**P**	**16 24 19.5**	**0.0**
	comp=Z,6.1nm,0.8s						
KMI	**Kunming**	**45.26**	**63**	P	**P**	**16 24 22.0**	**+0.7**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LBTB	**Lobatse**	**46.27**	**223**	P	**P**	**16 24 30.3**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=56,slow=6.5,SNR=11						
GTA	**Gaotai**	**48.02**	**44**	*e*P	**P**	**16 24 42.3**	**-0.3**
GTA				pP	pP	16 24 46.8	-2.1
GTA				sP	sP	16 24 49.3	-2.1
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**48.31**	**336**	P	**P**	**16 24 43.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=138,slow=7.0,SNR=3.9						
BOSA	**Boshof**	**48.95**	**220**	P	**P**	**16 24 50.3**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=31,slow=7.5,SNR=5.2						
BOSA				LR	LR	16 42 25.8	
	comp=Z,147nm,20.7s,baz=24,slow=32						
ZAA0	**Zalesovo Array**	**49.89**	**20**	*e*P	**P**	**16 24 55.7**	**-0.8**
ZAA0	**Zalesovo Array**	**49.89**	**20**	*e*P	**P**	**16 24 55.7**	**-0.8**
ZALV	**Zalesovo Beam**	**49.89**	**20**	P	**P**	**16 24 56.0**	**-0.5**
	comp=Z,7.0nm,0.6s,baz=222,slow=7.5,SNR=27						
ZALV				LR	LR	16 46 12.9	
	comp=Z,114nm,21.0s,baz=250,slow=36						
VYHS	**Vyhne**	**51.72**	**327**	*e*P	**P**	**16 25 11.0**	**+0.5**
VYHS	**Vyhne**	**51.72**	**327**	*e*P	**P**	**16 25 11.0**	**+0.5**
XAN	**Xi'an**	**52.76**	**54**	P	**P**	**16 25 18.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,85nm,4.0s						
SBUM	**Sibu**	**53.93**	**93**	*e*P	**P**	**16 25 26.1**	**-1.2**
	comp=Z,6.4nm,0.8s						
SBUM	**Sibu**	**53.93**	**93**	*e*P	**P**	**16 25 26.1**	**-1.2**
	comp=Z,6.4nm,0.8s						
GERES	**GERESS Array B**	**54.73**	**325**	P	**P**	**16 25 34.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=146,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**55.72**	**280**	P	**P**	**16 25 41.4**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=98,slow=5.7,SNR=14						
SONM	**Songino Array**	**56.20**	**37**	P	**P**	**16 25 43.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=259,slow=7.1,SNR=4.6						
HHC	**Hu-ho-hao-te**	**56.84**	**47**	*e*P	**P**	**16 25 49.5**	**+1.5**
HHC				pmax	pmax		
	comp=Z,34nm,0.9s						
HHC				pmax	pmax		
	comp=Z,95nm,4.4s						
FINES	**FINESS Array B**	**57.77**	**342**	P	**P**	**16 25 54.6**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=116,slow=4.4,SNR=4.3						
DBIC	**Dimbokro**	**62.61**	**273**	P	**P**	**16 26 28.4**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=77,slow=12,SNR=3.7						
NOA	**NORSAR Array B**	**62.71**	**336**	LR	LR	16 56 52.9	
	comp=Z,98nm,18.0s,baz=20,slow=39						
ESDC	**Sonseca Array**	**63.26**	**310**	P	**P**	**16 26 32.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=83,slow=5.7,SNR=8.5						
KSAR	**Wonju Array Be**	**68.53**	**53**	P	**P**	**16 27 04.3**	**-1.6**
KSAR	**Wonju Array Be**	**68.53**	**53**	P	**P**	**16 27 04.3**	**-1.6**
KSRS	**Korea Array**	**68.56**	**53**	P	**P**	**16 27 04.3**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=278,slow=6.7,SNR=3.4						
KSRS				LR	LR	16 57 57.5	
	comp=Z,39nm,21.8s,baz=336,slow=37						
TIXI	**Tiksi**	**75.70**	**18**	LR	LR	17 04 12.1	
	comp=Z,42nm,19.6s,baz=288,slow=38						
TIXI	**Tiksi**	**75.70**	**18**	P	**P**	**16 27 46.9**	**-1.3**
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**75.70**	**18**	P	**P**	**16 27 46.9**	**-1.3**
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**76.75**	**55**	LR	LR	17 03 29.7	
	comp=Z,39nm,18.1s,baz=220,slow=37						
WRA	**Warramunga Arr**	**79.96**	**112**	P	**P**	**16 28 11.7**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=294,slow=3.9,SNR=3.7						
ASAR	**Alice Springs**	**80.43**	**116**	P	**P**	**16 28 14.1**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=293,slow=5.1,SNR=8.3						
SEY	**Seymchan**	**84.16**	**27**	LR	LR	17 11 11.3	
	comp=Z,200nm,21.8s,baz=150,slow=39						
PETK	**Petropavlovsk-**	**88.68**	**37**	LR	LR	17 10 58.3	
	comp=Z,30nm,18.4s,baz=356,slow=37						

*ISK **30** 16:19:36.6, 38°.84N×43°.55E, h5km, ML2.8*
*ISCJB **30** 16:19:38.3±0.6, 38°.85N±0°.03×43°.56E±0°.06, h10km±5km, Error ellipse: s-maj=7.8km s-min=5.3km az=25.6*
*CSEM **30** 16:19:38.1±0.2, 38°.87N×43°.54E, h10km, ML2.9, Error ellipse: s-maj=5.0km s-min=3.6km az=116.0*
*DDA **30** 16:19:38.1, 38°.85N×43°.54E, h7km, Ml2.9*
ISC 30 16:19:38.5±0.9, 38°.88N±0°.03×43°.55E±0°.03, h13km±6km, n28, σ0°74/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**8**	*i* P	**Pg**	**16 19 41.1**	**-0.7**
VMUR				*i* S	**Sg**	**16 19 44.8**	**+0.7**
VMUR	**Van-Muradiye**	**0.11**	**8**	P	**Pg**	**16 19 41.1**	**-0.7**
VMUR				S	**Sg**	**16 19 44.8**	**+0.7**
VANB	**Van**	**0.31**	**204**	*e*PG	**Pg**	**16 19 44.3**	**-0.6**
VANB	**Van**	**0.31**	**204**	*e*Pg	**Pg**	**16 19 44.3**	**-0.6**
TVAN	**Van**	**0.37**	**198**	*i* P	**Pg**	**16 19 45.4**	**-0.5**
TVAN	**Van**	**0.37**	**198**	P	**Pg**	**16 19 45.4**	**-0.5**
CLDR	**Caldiran**	**0.39**	**47**	*e*PG	**Pg**	**16 19 45.7**	**-0.6**
CLDR				*e*SG	**Sg**	**16 19 52.9**	**+1.3**
CLDR	**Caldiran**	**0.39**	**47**	*i* P	**Pg**	**16 19 45.8**	**-0.6**
CLDR				*i* S	**Sb**	**16 19 53.2**	**-0.

BTMN			*i* S		**Sb**	**16 47 04.6**	**+1.1**
BTMN	**Batman**	**0.74 263**	P		**Pb**	**16 46 52.8**	**-0.4**
BTMN			S		**Sb**	**16 47 04.6**	**+1.1**
GEVA	**Gevas**	**0.75 64**	*i* P		**Pg**	**16 46 52.0**	**-0.6**
GEVA			*i* S		**Sb**	**16 47 04.1**	**+0.4**
GEVA	**Gevas**	**0.75 64**	P		**Pg**	**16 46 52.0**	**-0.6**
GEVA			S		**Sb**	**16 47 04.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**0.81 282**	*e*PG		**Pg**	**16 46 52.6**	**-1.2**
SVAN			*e*SG		**Sb**	**16 47 05.3**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.81 282**	*i* P		**Pg**	**16 46 53.6**	**-0.1**
SVAN			*i* S		**Sb**	**16 47 05.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**0.81 282**	*e*Pg		**Pg**	**16 46 52.6**	**-1.2**
SVAN	**Silvan-Diyarba**	**0.81 282**	P		**Pg**	**16 46 53.6**	**-0.1**
SVAN			*e*Sg		**Sb**	**16 47 05.3**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.92 26**	*i* P		**Pg**	**16 46 54.2**	**-1.6**
ADCV			*i* S		**Sg**	**16 47 06.9**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.92 26**	P		**Pg**	**16 46 54.2**	**-1.6**
ADCV			S		**Sg**	**16 47 06.9**	**-0.9**
TVAN	**Van**	**1.09 60**	*i* P		Pg	16 46 52.3	-6.8
VANB	**Van**	**1.11 56**	*e*PN		**Pg**	**16 46 58.4**	**-1.1**
VANB			*e*SN		**Sg**	**16 47 13.4**	**-0.5**
VANB	**Van**	**1.11 56**	*e*Pn		**Pg**	**16 46 58.4**	**-1.1**
VANB			*e*Sn		**Sg**	**16 47 13.5**	**-0.5**
BNGL	**BINGOL**	**1.27 320**	*i* P		**Pg**	**16 47 02.5**	**-0.1**
BNGL			*i* S		**Sn**	**16 47 20.9**	**+1.5**
EKAR	**Karacoban**	**1.27 355**	*i* P		**Pg**	**16 47 00.8**	**-1.8**
EKAR	**Karacoban**	**1.27 355**	P		**Pg**	**16 47 00.8**	**-1.8**
VRTB	**Varto-Mus**	**1.31 334**	*e*PN		**Pg**	**16 47 02.2**	**-1.1**
VRTB	**Varto-Mus**	**1.31 334**	*e*Pn		**Pg**	**16 47 02.2**	**-1.1**
MARD	**Mardin**	**1.31 240**	*i* P		**Pn**	**16 47 03.7**	**+1.0**
MARD			*i* S		**Sn**	**16 47 22.4**	**+2.1**
CUKT	**Cukurca**	**1.33 123**	*e*PN		**Pg**	**16 47 02.2**	**-1.5**
CUKT	**Cukurca**	**1.33 123**	*i* P		**Pg**	**16 47 02.4**	**-1.3**
CUKT			*i* S		**Sn**	**16 47 23.4**	**+2.5**
CUKT	**Cukurca**	**1.33 123**	*e*Pn		**Pg**	**16 47 02.2**	**-1.5**
CUKT	**Cukurca**	**1.33 123**	P		**Pg**	**16 47 02.4**	**-1.3**
BASK	**Baskale_VAN**	**1.42 87**	*i* P		**Pb**	**16 47 05.0**	**+0.2**
BASK			*i* S		**Sn**	**16 47 27.9**	**+4.8**
BASK	**Baskale_VAN**	**1.42 87**	P		**Pb**	**16 47 05.0**	**+0.2**
VMUR	**Van-Muradiye**	**1.47 46**	*i* P		**Pn**	**16 47 04.8**	**0.0**
VMUR			*i* S		**Sb**	**16 47 25.2**	**+0.8**
VMUR	**Van-Muradiye**	**1.47 46**	P		**Pn**	**16 47 04.8**	**0.0**
VMUR			S		**Sb**	**16 47 25.2**	**+0.8**
MAZI	**Mazidag**	**1.49 250**	*e*PN		**Pn**	**16 47 04.8**	**-0.2**
MAZI	**Mazidag**	**1.49 250**	*e*Pn		**Pn**	**16 47 04.8**	**-0.2**
TUTA	**Tutak**	**1.49 18**	*i* P		**Pn**	**16 47 04.0**	**-1.2**
TUTA			*i* S		**Sg**	**16 47 26.0**	**-0.2**
TUTA	**Tutak**	**1.49 18**	P		**Pn**	**16 47 04.0**	**-1.2**
TUTA			S		**Sg**	**16 47 26.0**	**-0.2**
BNGB	**Bing¨¶l**	**1.56 310**	*e*PN		**Pn**	**16 47 06.1**	**0.0**
BINT	**Bingol**	**1.61 304**	*e*Pn		**Pn**	**16 47 06.1**	**-0.7**
KBSD	**Kabsdagh**	**1.65 234**	*e*P		**Pn**	**16 47 07.4**	**+0.3**
KBSD			*e*S		**Sn**	**16 47 28.1**	**-0.3**
KBSD			AML		AML	16 47 34.6	
	comp=N,703nm,0.4s						
KBSD			AML		AML	16 47 34.7	
	comp=E,1μm,1.0s						
DIYA	**Diyarbakir**	**1.65 269**	*i* P		**Pn**	**16 47 07.7**	**+0.5**
DIYA			*i* S		**Sg**	**16 47 30.8**	**-0.3**
DIYA	**Diyarbakir**	**1.65 269**	P		**Pn**	**16 47 07.7**	**+0.5**
DIYA			S		**Sg**	**16 47 30.8**	**-0.3**
AGRB	**Hanur-Agry**	**1.70 21**	*e*PN		**Pn**	**16 47 08.4**	**+0.3**
AGRB	**Hanur-Agry**	**1.70 21**	*e*Pn		**Pn**	**16 47 08.4**	**+0.3**
CLDR	**Caldiran**	**1.77 49**	*e*PN		**Pn**	**16 47 09.2**	**+0.2**
CLDR	**Caldiran**	**1.77 49**	*i* P		**Pn**	**16 47 05.9**	**-3.1**
CLDR			*i* S		**Sb**	**16 47 33.6**	**+0.4**
CLDR	**Caldiran**	**1.77 49**	*e*Pn		**Pn**	**16 47 09.2**	**+0.2**
CLDR			S		**Sb**	**16 47 33.6**	**+0.4**
ECAT	**Cat-ERZURUM**	**1.88 330**	*i* P		**Pn**	**16 47 11.8**	**+1.3**
ECAT			*i* S		**Sb**	**16 47 37.0**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.88 330**	P		**Pn**	**16 47 11.8**	**+1.3**
ECAT			S		**Sb**	**16 47 37.0**	**+0.6**
EATA	**Eleskirt**	**1.89 7**	*i* P		**Pn**	**16 47 12.1**	**+1.4**
EATA	**Eleskirt**	**1.89 7**	P		**Pn**	**16 47 12.1**	**+1.4**
YEDI	**Yedisu-Bingol**	**1.95 319**	*e*PN		**Pn**	**16 47 11.5**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.95 319**	*e*Pn		**Pn**	**16 47 11.5**	**+0.1**
ERZM	**Erzurum**	**2.03 341**	*i* P		**Pn**	**16 47 14.3**	**+1.7**
ERZM	**Erzurum**	**2.03 341**	P		**Pn**	**16 47 14.3**	**+1.7**
HOMI	**Horasan**	**2.07 354**	*i* P		**Pb**	**16 47 15.2**	**-0.7**
SFNV	**Sufian**	**2.29 228**	*e*P		**Pn**	**16 47 17.5**	**+1.5**
SFNV			*e*S		**Sn**	**16 47 44.2**	**0.0**
SFNV			AML		AML	16 47 59.1	
	comp=N,508nm,0.6s						
SFNV			AML		AML	16 48 08.6	
	comp=E,434nm,0.5s						
SVRC	**Sivrice-ELAZID**	**2.32 281**	*e*PN		**Pn**	**16 47 16.6**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.32 281**	*e*Pn		**Pn**	**16 47 16.6**	**+0.1**
TNCL	**Tunceli-Merkez**	**2.37 299**	*i* P		**Pn**	**16 47 18.6**	**+1.4**
TNCL			*i* S		**Sb**	**16 47 51.6**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.37 299**	P		**Pn**	**16 47 18.6**	**+1.4**
PTK	**Pertek**	**2.39 293**	*e*PN		**Pn**	**16 47 17.7**	**+0.2**
PTK	**Pertek**	**2.39 293**	*e*Pn		**Pn**	**16 47 17.7**	**+0.2**
KOPT	**Kop Dagi**	**2.43 327**	*i* P		**Pn**	**16 47 20.4**	**+2.3**
KOPT	**Kop Dagi**	**2.43 327**	P		**Pn**	**16 47 20.4**	**+2.3**
MZRK	**Al-Mazaregh**	**2.49 210**	*e*P		**Pb**	**16 47 21.6**	**-1.3**
MZRK			*e*S		**Sb**	**16 47 52.2**	**-1.4**
MZRK			AML		AML	16 48 05.8	
	comp=E,165nm,0.5s						
ERZN	**Erzincan**	**2.52 310**	*e*PN		**Pn**	**16 47 19.3**	**+0.1**
TASB	**TASBURUN-IGDIR**	**2.55 38**	*e*PN		**Pn**	**16 47 20.0**	**+0.4**
TASB	**TASBURUN-IGDIR**	**2.55 38**	*e*Pn		**Pn**	**16 47 20.0**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.58 2**	*e*PN		**Pn**	**16 47 20.4**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.58 2**	*e*Pn		**Pn**	**16 47 20.4**	**+0.3**
ELZG	**Elazig**	**2.59 282**	*i* P		**Pn**	**16 47 21.6**	**+1.4**
ELZG			*i* S		**Sb**	**16 47 57.5**	**+0.9**
ELZG	**Elazig**	**2.59 282**	P		**Pn**	**16 47 21.6**	**+1.4**
DIGO	**Kars**	**2.59 20**	*i* P		**Pn**	**16 47 23.0**	**+2.7**
DIGO	**Kars**	**2.59 20**	P		**Pn**	**16 47 23.0**	**+2.7**
EZC	**Erzincan**	**2.84 309**	*e*Pn		Pn	16 47 19.3	-4.4
EAK	**Akyaka**	**2.91 22**	*i* P		**Pb**	**16 47 31.9**	**+1.7**
DDEM	**Demirkent**	**2.92 353**	*i* P		**Pn**	**16 47 26.1**	**+1.3**
DDEM	**Demirkent**	**2.92 353**	P		**Pn**	**16 47 26.1**	**+1.3**
SURC	**SANLIURFA_SURC**	**3.06 250**	*i* P		**Pn**	**16 47 28.0**	**+1.4**
SURC			*i* S		**Sb**	**16 48 12.3**	**+2.1**
SURC	**SANLIURFA_SURC**	**3.06 250**	P		**Pn**	**16 47 28.0**	**+1.4**
DAGI	**Agillar**	**3.10 356**	*i* P		**Pn**	**16 47 27.9**	**+0.7**
KELT	**Kelkit**	**3.15 314**	*i* P		**Pb**	**16 47 35.3**	**+0.9**
KEMA	**Kemaliye**	**3.18 295**	*i* P		**Pb**	**16 47 33.3**	**-1.4**
KSRV	**Kasrt alli**	**3.33 231**	*e*P		**Pb**	**16 47 37.9**	**+0.7**
KSRV			*e*S		**Sb**	**16 48 20.2**	**+2.5**
KSRV			AML		AML	16 48 32.7	
	comp=N,63nm,0.8s						
KSRV			AML		AML	16 48 33.8	
	comp=E,182nm,0.6s						
SLMH	**Al Salmeh**	**3.85 244**	*e*P		**Pn**	**16 47 37.7**	**+0.3**
SLMH			*e*S		**Sn**	**16 48 19.7**	**-3.0**
SLMH			AML		AML	16 48 48.8	
	comp=N,248nm,0.6s						
SLMH			AML		AML	16 48 53.3	
	comp=E,144nm,0.6s						
RTB	**Rutbah**	**5.18 198**	*e*Pn		**Pn**	**16 47 58.0**	**+2.3**
	SNR=3.0						
RTB			*e*Sn		**Sn**	**16 48 53.0**	**-2.6**
	SNR=3.0						
BIDA	**Albida**	**5.59 240**	*e*P		**Pn**	**16 48 02.0**	**+0.7**
BIDA			*e*S		**Sn**	**16 49 01.6**	**-4.1**
BIDA			AML		AML	16 49 50.5	
	comp=E,123nm,0.5s						
BIDA			AML		AML	16 49 54.8	
	comp=N,98nm,0.6s						
HAWK	**Haweek**	**5.82 235**	*e*P		**Pn**	**16 48 06.0**	**+1.5**
HAWK			*e*S		**Sn**	**16 49 08.7**	**-2.8**
HAWK			AML		AML	16 49 54.5	
	comp=N,40nm,0.6s						
HAWK			AML		AML	16 49 55.3	
	comp=E,34nm,0.7s						
MARH	**Ras Al Marh**	**6.09 231**	*e*P		**Pn**	**16 48 10.4**	**+1.9**
MARH			*e*S		**Sn**	**16 49 15.4**	**-3.0**
MARH			AML		AML	16 50 11.1	
	comp=E,41nm,0.7s						
MARH			AML		AML	16 50 15.4	
	comp=N,14nm,0.9s						
BRBR	**Barbar**	**6.83 230**	*e*P		**Pn**	**16 48 21.5**	**+2.9**
BRBR			*e*S		**Sn**	**16 49 33.9**	**-2.6**
BRBR			AML		AML	16 50 29.2	
	comp=N,30nm,0.6s						
BRBR			AML		AML	16 50 39.5	
	comp=E,22nm,0.6s						
SALA	**Sala**	**6.90 222**	*e*P		**Pn**	**16 48 22.8**	**+3.3**
SALA			*e*S		**Sn**	**16 49 36.3**	**-1.9**
SALA			AML		AML	16 50 30.3	
	comp=E,2.5nm,0.6s						
SALA			AML		AML	16 50 34.9	
	comp=N,22nm,0.6s						

KRNET ***30*** *16:50:01.2±0.1, 39.°45N×73.°62E, mb2.2*
NNC ***30*** *16:50:05.0±3.5, 39.°60N×73.°48E, h0km, mb2.7, mpv2.4,*
Error ellipse: s-maj=28.7km s-min=15.1km az=132.0
ISC 30 16:50:05.1±2.4, 39.°59N±0.°08×73.°54E±0.°08, h3km±13km, n11, σ1§31/19, 15C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.43**	**357**	⇑*i*P	**Pg**	**16 50 12.7**	**-0.7**
	baz=351						
SFK				⇑*e*S	**Sg**	**16 50 21.2**	**+2.2**
	baz=351						
ARSB	**Arslanbob**	**1.79**	**347**	⇑*e*P	**Pb**	**16 50 37.4**	**-1.2**
	baz=346						
ARSB				⇑*e*S	**Sg**	**16 51 03.6**	**+1.1**
	baz=346						
BTK	**Batken**	**2.15**	**284**	⇓*e*P	**Pn**	**16 50 41.9**	**0.0**
	baz=287						
BTK				⇓*i*S	**Sb**	**16 51 11.3**	**-0.4**
	baz=287						
ARLS	**Aral**	**2.35**	**15**	⇑*e*P	**Pn**	**16 50 45.3**	**+0.5**
	baz=12						
ARLS				⇑*e*S	**Sb**	**16 51 17.1**	**-0.6**
	baz=12						
ARK	**Arkit**	**2.51**	**332**	⇑*e*P	**Pn**	**16 50 47.1**	**+0.1**
	baz=332						
ARK				⇑*e*S	**Sb**	**16 51 21.2**	**-1.1**
	baz=332						
AML	**Almayashu**	**2.55**	**3**	⇑*i*P	**Pn**	**16 50 47.5**	**-0.2**
	baz=1.0						
AML				⇑*i*S	**Sn**	**16 51 21.3**	**+1.9**
	baz=1.0						
MNAS	**Manas**	**3.00**	**345**	⇑*e*P	**Pn**	**16 50 54.5**	**+0.8**
	baz=345						
MNAS				⇑*e*S	**Sb**	**16 51 33.5**	**-3.0**
	baz=345						
MNAS	**Manas**	**3.00**	**345**	⇑Pn	**Pn**	**16 50 55.0**	**+1.3**
	0.3nm,0.5s						
MNAS				⇓Lg	Lg	16 51 41.1	
	1.8nm,0.5s						
AAK	**Ala-Archa**	**3.13**	**13**	⇓Pg	**Pb**	**16 51 00.9**	**-0.7**
	1.6nm,0.8s						
AAK				⇑Lg	Lg	16 51 41.2	
	3.7nm,1.1s						
DZET	**Dzherino**	**3.74**	**259**	⇓Pg	**Pb**	**16 51 11.7**	**-0.2**
	1.7nm,0.6s						
DZET				⇓Lg	Lg	16 51 60.0	
	4.4nm,0.6s						
KK31	**Karatay Array**	**4.19**	**328**	⇓Pg	**Pb**	**16 51 19.2**	**-0.2**
	0.1nm,0.3s,baz=152,slow=14,SNR=3.8						
KK31				⇓Sn	**Sn**	**16 52 00.2**	**+0.8**
	0.1nm,0.3s,baz=160,slow=28						
KK31				⇑Lg	Lg	16 52 15.6	
	0.3nm,0.3s,baz=146,slow=28						

MEX 30 16:54:03.3±0.5, 15.°45N×95.°77W, h3km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**314**	*e*P	Pg	16 54 11.6	-0.5
HUIG				*e*S	Sg	16 54 18.3	+0.4
PNIG	**Pinotepa**	**2.45**	**293**	*e*P	Pn	16 54 41.6	-2.7
PNIG				*e*S	Sn	16 55 11.3	-3.5
PCIG		**2.47**	**84**	*e*P	Pn	16 54 43.8	-0.7

ISCJB ***30*** *16:58:41.4±0.3, 2.°63N±0.°03×128.°73E±0.°04, h200km,*
mb4.2/51, Error ellipse: s-maj=5.0km s-min=4.0km az=7.0
NEIC ***30*** *16:58:44.2±0.2, 2.°59N×128.°62E, mb4.7/20, Error ellipse:*
s-maj=6.3km s-min=4.8km az=99.0
IDC ***30*** *16:58:45.5±1.3, 2.°52N×128.°61E, h229km±12km, mb3.8/22,*
mb1 4.0/23, mb1mx3.8/45, mbtmp4.4/23, Error ellipse:
s-maj=14.3km s-min=6.5km az=81.0
KLM ***30*** *16:58:47.7, 2.°24N×128.°34E, h186km, mb4.7*
DJA ***30*** *16:58:48.5±0.6, 2.°N±4.°×12.°8E±.°, h185km±8km, M4.5/9,*
mb4.6/6, mB4.9/7, MLv4.9/9, Mw(mB)4.1/7
ISC 30 16:58:42.9±0.4, 2.°59N±0.°04×128.°61E±0.°06, h200km, n118, σ1§96/131, mb4.4/51, 10C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.27**	**289**	P	**Pn**	**16 59 37.6**	**+1.9**
SGSI				S	**Sn**	**17 00 17.7**	**+0.6**
LBMI	**Labuha**	**3.40**	**199**	P	**Pn**	**16 59 40.2**	**+2.8**
KMSI	**Cibinong**	**5.05**	**247**	P	**Pn**	**16 59 59.7**	**+1.7**
KMSI				S	**Sn**	**17 00 57.0**	**-0.1**
SANI	**Sanana**	**5.31**	**210**	P	**Pn**	**17 00 01.4**	**+0.1**
SANI				S	**Sn**	**17 00 58.6**	**-4.6**
NLAI	**Namlea**	**5.99**	**195**	P	**Pn**	**17 00 13.4**	**+3.3**
NLAI				S	**Sn**	**17 01 19.3**	**+0.2**
FAKI	**Fak Fak**	**6.57**	**146**	P	**Pn**	**17 00 21.8**	**+4.1**
LUWI	**Luwuk**	**6.87**	**238**	P	**Pn**	**17 00 23.5**	**+2.0**
LUWI	**Luwuk**	**6.87**	**238**	*e*Pn	**Pn**	**17 00 21.2**	**-0.3**
MRSI	**Marisa**	**6.99**	**253**	P	**Pn**	**17 00 24.9**	**+1.8**
APSI	**Ampana**	**7.79**	**244**	P	**Pn**	**17 00 34.2**	**+0.8**
MPSI	**Mapaga**	**9.00**	**256**	P	**Pn**	**17 00 50.9**	**+1.7**
MYLDM	**Lahad Datu**	**10.41**	**285**	*e*Pn	**Pn**	**17 01 08.4**	**+0.8**
MYLDM	**Lahad Datu**	**10.41**	**285**	⇑P	**Pn**	**17 01 09.9**	**+2.3**
MYLDM	**Lahad Datu**	**10.41**	**285**	⇑P	**Pn**	**17 01 09.9**	**+2.3**
TSM	**Tawau**	**10.85**	**279**	⇑P	**Pn**	**17 01 15.4**	**+2.2**
TSM	**Tawau**	**10.85**	**279**	⇑P	**Pn**	**17 01 15.4**	**+2.2**
KAPI	**Kappang**	**11.64**	**230**	Pn	**Pn**	**17 01 22.8**	**-0.6**
	22nm,0.9s						
SDKM	**Sandakan**	**11.78**	**285**	⇑P	**Pn**	**17 01 27.8**	**+2.6**
SDKM	**Sandakan**	**11.78**	**285**	⇑P	**Pn**	**17 01 27.8**	**+2.6**
KDM	**Kudat**	**12.50**	**291**	⇓P	**P**	**17 01 38.1**	**-0.1**
KDM	**Kudat**	**12.50**	**291**	⇓P	**P**	**17 01 38.1**	**-0.1**
KKM	**Kota Kinabalu**	**12.83**	**286**	⇑P	**P**	**17 01 41.5**	**-0.4**
KKM	**Kota Kinabalu**	**12.83**	**286**	⇑P	**P**	**17 01 41.5**	**-0.4**
MMRI	**Maumere**	**12.84**	**210**	*e*Pn	**Pn**	**17 01 40.8**	**+2.3**
SOEI	**Soe**	**13.01**	**199**	*e*Pn	**Pn**	**17 01 42.8**	**+2.0**
BTM	**Bintulu**	**15.52**	**273**	⇓P	**P**	**17 02 13.4**	**+1.7**
BTM	**Bintulu**	**15.52**	**273**	⇓P	**P**	**17 02 13.4**	**+1.7**
MTN	**Manton Dam**	**15.54**	**171**	*e*Pn	**Pn**	**17 02 11.4**	**-0.4**
	18nm,0.3s						
SBUM	**Sibu**	**16.38**	**270**	*e*P	**Pn**	**17 02 23.1**	**+1.1**
	189nm,1.5s						
SBUM	**Sibu**	**16.38**	**270**	⇓P	**Pn**	**17 02 24.0**	**+2.0**
JAGI	**Jajag, Banyuwa**	**18.13**	**233**	*e*P	**P**	**17 02 41.8**	**+1.4**
	49nm,0.6s						
KSM	**Kuching**	**18.33**	**267**	*e*P	**P**	**17 02 43.6**	**+1.1**
	127nm,1.1s						
KSM	**Kuching**	**18.33**	**267**	⇑P	**P**	**17 02 44.4**	**+1.9**
KSM	**Kuching**	**18.33**	**267**	⇑P	**P**	**17 02 44.4**	**+1.9**
GUMO	**Guam**	**19.43**	**55**	P	**P**	**17 02 55.2**	**+0.8**
	6.4nm,0.3s,baz=210,slow=20,SNR=3.4						
FITZ	**Fitzroy Crossi**	**20.77**	**188**	P	**P**	**17 03 08.4**	**-0.3**
	2.1nm,0.6s,baz=23,slow=9.9,SNR=12						
CISI	**Cisompet, Garu**	**23.07**	**244**	*e*P	**P**	**17 03 30.2**	**-1.0**
	43nm,0.7s						
WRAB	**Tennant Creek**	**23.08**	**166**	*e*P	**P**	**17 03 31.5**	**+0.3**
	14nm,0.6s						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**17 03 31.0**	**-0.3**
	9.4nm,0.4s,baz=346,slow=10.0,SNR=69						
WRA				S	**S**	**17 07 22.7**	**-4.5**
	0.9nm,0.9s,baz=340,slow=14,SNR=3.0						
WRA				ScP	**ScP**	**17 10 29.7**	**-3.6**
	0.3nm,0.6s,baz=348,slow=3.0,SNR=6.2						
WB2	**Warramunga Arr**	**23.09**	**166**	*e*P	**P**	**17 03 30.7**	**-0.5**
	15nm,0.6s						
RABL	**Rabaul**	**24.48**	**106**	*e*P	**P**	**17 03 44.7**	**+0.7**
	27nm,0.6s						
MYKOM	**Kota Tinggi**	**24.76**	**269**	*e*P	**P**	**17 03 46.6**	**+0.1**
	20nm,0.8s						
AS31	**Alice Springs**	**26.60**	**169**	*e*P	**P**	**17 04 02.9**	**-0.1**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**26.61**	**169**	P	**P**	**17 04 02.7**	**-0.3**
	3.7nm,0.5s,baz=354,slow=7.5,SNR=247						
ASAR				PcP	**PcP**	**17 07 21.4**	**-0.5**
	1.4nm,0.4s,baz=354,slow=2.1,SNR=13						
ASAR				S	**S**	**17 08 18.4**	**-4.5**
	1.2nm,0.8s,baz=348,slow=20,SNR=5.7						
ASAR				ScP	**ScP**	**17 10 39.5**	**-3.7**
	0.6nm,0.4s,baz=344,slow=2.9,SNR=11						
KHON	**Khomkaen**	**28.82**	**300**	P	**P**	**17 04 24.0**	**+1.3**
	9.9nm,0.7s						
CHAI	**Chaiyaphum**	**29.36**	**298**	P	**P**	**17 04 28.0**	**+0.5**
	6.1nm,0.8s						
PSI	**Prapat**	**29.66**	**271**	*e*P	**P**	**17 04 30.3**	**-0.1**
	30nm,1.1s						
PBKT	**Sadao Pong**	**30.52**	**299**	P	**P**	**17 04 39.4**	**+1.7**
	12nm,0.8s						
NJ2	**Nanjing**	**30.71**	**344**	*e*P	**P**	**17 04 40.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UTTA	**Uttaradit**	**31.38**	**301**	P	**P**	**17 04 46.3**	**+1.1**
	comp=Z,3.4nm,0.8s						
UTHA	**Uthaitani**	**31.49**	**296**	P	**P**	**17 04 47.1**	**+0.9**
	comp=Z,6.8nm,0.7s,comp=Z,56nm						
NANT	**Nan**	**31.72**	**302**	P	**P**	**17 04 49.7**	**+1.5**
	comp=Z,4.4nm,0.9s						
GYA	**Guiyang**	**31.73**	**320**	*e*P	**P**	**17 04 50.3**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LAMP	**Lampang**	**32.50**	**301**	P	**P**	**17 04 56.7**	**+1.6**
	comp=Z,4.9nm,0.8s						
CM31	**Chiang Mai Arr**	**33.06**	**301**	*e*P	**P**	**17 05 01.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**33.06**	**301**	P	**P**	**17 05 01.1**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=119,slow=7.3,SNR=76						
CMAR				ScP	**ScP**	**17 11 02.1**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=92,slow=3.0,SNR=4.7						
CHTO	**Chiang Mai**	**33.22**	**301**	P	**P**	**17 05 02.1**	**+0.8**
	comp=Z,91nm,1.0s						
CHTO	**Chiang Mai**	**33.22**	**301**	*e*P	**P**	**17 05 01.9**	**+0.6**
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**33.51**	**314**	P	**P**	**17 05 05.3**	**+1.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
CMAI	**Chiengmai2**	**33.62**	**303**	P	**P**	**17 05 06.7**	**+1.7**
KSAR	**Wonju Array Be**	**34.69**	**359**	P	**P**	**17 05 14.2**	**+0.6**
KSRS	**Korea Array**	**34.70**	**359**	P	**P**	**17 05 14.2**	**+0.5**
	comp=Z,4.3nm,0.4s,baz=175,slow=9.7,SNR=33						
MJAR	**Matsushiro Arr**	**34.92**	**14**	P	**P**	**17 05 14.7**	**-1.0**
	comp=Z,7.9nm,0.7s,baz=186,slow=9.5,SNR=26						
MAJO	**Matsushiro**	**34.92**	**14**	*e*P	**P**	**17 05 14.7**	**-1.0**
	comp=Z,11nm,0.8s						
MJB9	**Matsu-Tunnel**	**34.93**	**14**	*e*P	**P**	**17 05 14.4**	**-1.4**
	comp=Z,2.9nm,0.8s						
STKA	**Stephens Creek**	**36.43**	**161**	P	**P**	**17 05 28.1**	**-0.4**
	comp=Z,4.6nm,0.4s,baz=340,slow=8.5,SNR=20						
CD2	**Chengdu**	**36.67**	**323**	*e*P	**P**	**17 05 32.0**	**+1.3**
LZH	**Lanzhou**	**40.44**	**328**	*e*P	**P**	**17 06 03.5**	**+1.4**
LZH				pP	pP	17 06 44.0	-0.6
LZH				sP	sP	17 07 05.8	-1.5
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.49**	**64**	T	T	17 50 07.3	
	baz=253,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**40.51**	**64**	T	T	17 50 09.4	
	baz=253,slow=74,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**40.51**	**64**	T	T	17 50 03.6	
	baz=253,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**41.07**	**63**	T	T	17 50 36.7	
	baz=250,slow=75,SNR=14						
HHC	**Hu-ho-hao-te**	**41.08**	**340**	*e*P	**P**	**17 06 06.8**	**-0.4**
HHC				S	**S**	**17 12 06.5**	**+1.7**
HHC				sS	sS	17 13 14.3	-5.6
HHC				SS	**SS**	**17 15 08.5**	**-7.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
H11N2	**WAKE ISLAND Hy**	**41.08**	**63**	T	T	17 50 42.2	
	baz=250,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**41.09**	**63**	T	T	17 50 37.7	
	baz=250,slow=75,SNR=9.3						
USRK	**Ussuriysk Ar.**	**41.54**	**4**	P	**P**	**17 06 10.4**	**-0.3**
	comp=Z,4.2nm,0.6

comp=Z,4.3nm,1.0s
BVAR Borovoye Array 69.29 327 P P 17 09 27.7 -0.7
comp=Z,0.5nm,0.3s,baz=77,slow=3.9,SNR=7.9
GEYT Alibeck 73.07 309 P P 17 09 51.0 -0.5
comp=Z,1.8nm,0.7s,baz=115,slow=7.0,SNR=5.8
KDAK Kodiak Island 81.84 32 P P 17 10 40.1 +0.6
comp=Z,17nm,0.6s,baz=254,slow=3.9,SNR=17
VNDA Vanda 82.07 173 P P 17 10 40.2 -0.2
comp=Z,1.4nm,0.7s,baz=316,slow=6.0,SNR=9.4
ILAR Eielson Array 85.32 25 P P 17 10 55.9 -1.2
comp=Z,0.5nm,0.5s,baz=250,slow=4.6,SNR=12
ARCES ARCESS Array B 92.16 340 P P 17 11 27.7 -1.6
comp=Z,2.5nm,0.8s,baz=84,slow=5.6,SNR=12
FINES FINESS Array B 93.71 332 P P 17 11 35.2 -1.5
comp=Z,5.2nm,1.0s,baz=48,slow=6.2,SNR=3.4
ESDC Sonseca Array 119.54 319 PKP PKPdf 17 17 08.7 -0.6
comp=Z,0.3nm,0.4s,baz=263,slow=12,SNR=6.5
TXAR Lajitas Array 120.78 54 PKP PKPdf 17 17 11.9 -0.2
comp=Z,0.1nm,0.4s,baz=248,slow=1.3,SNR=3.7
LPAZ La Paz 158.63 131 PKPab PKPab 17 18 54.7 +0.2
comp=Z,1.2nm,0.7s,baz=197,slow=3.4,SNR=6.1

IDC 30 17:04:59.9±5.8, 49°96S×117°30E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, ML2.5/1, MS3.5/8, Ms1 3.5/8, ms1mx3.4/13, Error ellipse: s-maj=118.0km s-min=62.2km az=169.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.02	360	P	P	17 09 00.5	-0.7
NWAO	0.8nm,0.3s,baz=20,slow=14,SNR=7.2			LR	LR	17 13 51.9	
	comp=Z,189nm,19.1s,baz=297,slow=31						
STKA	Stephens Creek	25.57	54	LR	LR	17 18 45.6	
	comp=Z,108nm,20.6s,baz=204,slow=32						
ASAR	Alice Springs	29.28	32	P	P	17 11 03.9	0.0
ASAR	1.0nm,0.9s,baz=203,slow=11,SNR=5.2			LR	LR	17 21 25.4	
	comp=Z,136nm,19.9s,baz=186,slow=34						
MAW	Mawson	31.88	216	LR	LR	17 22 36.3	
	comp=Z,118nm,18.3s,baz=64,slow=33						
VNDA	Vanda	32.30	163	LR	LR	17 24 05.2	
	comp=Z,52nm,18.0s,baz=314,slow=36						
WRA	Warramunga Arr	32.88	31	P	P	17 11 34.8	-0.7
	0.4nm,0.5s,baz=204,slow=8.6,SNR=3.0						
H08S2	Diego Garcia H	56.28	303	T	T	18 15 05.7	
	baz=147,slow=76,SNR=7.1						
H08S1	Diego Garcia H	56.29	303	T	T	18 15 14.4	
	baz=147,slow=76,SNR=6.7						
H08S3	Diego Garcia H	56.30	303	T	T	18 15 09.1	
	baz=147,slow=76,SNR=6.8						
BOSA	Boshof	69.91	249	LR	LR	17 41 44.7	
	comp=Z,38nm,18.0s,baz=297,slow=32						
CMAR	Chiang Mai Arr	70.03	341	P	P	17 16 13.4	+0.2
CMAR	0.6nm,0.5s,baz=189,slow=5.0,SNR=5.2			LR	LR	17 46 20.3	
	comp=Z,18nm,19.2s,baz=334,slow=35						
PLCA	Paso Flores	89.42	174	LR	LR	17 56 14.7	
	comp=Z,33nm,18.1s,baz=350,slow=34						

*ISK **30** 17:26:55.9, 38°83N×43°56E, h16km, ML2.7*
*ISCJB **30** 17:26:56.8±0.6, 38°80N±0°03×43°58E±0°05, h24km±4km, Error ellipse: s-maj=7.1km s-min=4.0km az=23.8*
*CSEM **30** 17:26:56.0±0.3, 38°80N×43°55E, h12km, ML3.1, Error ellipse: s-maj=7.3km s-min=4.7km az=111.0*
*DDA **30** 17:26:56.9, 38°78N×43°56E, h17km, Ml3.1*
ISC 30 17:26:56.5±1.0, 38°82N±0°02×43°54E±0°03, h16km±7km, n41, σ1s26/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.17	7	*i* P	Pg	17 27 00.1	-0.9
VMUR				*i* S	Sb	17 27 05.1	+0.3
VMUR	Van-Muradiye	0.17	7	P	Pg	17 27 00.2	-0.9
VMUR				S	Sb	17 27 05.1	+0.3
VANB	Van	0.25	209	*e*PG	Pb	17 27 02.9	+0.2
VANB				*e*SG	Sb	17 27 09.5	+2.6
VANB	Van	0.25	209	*e*Pg	Pb	17 27 02.9	+0.2
VANB				*e*Sg	Sb	17 27 09.5	+2.6
ERCV	ERCIS-VAN	0.26	322	*e*PG	Pg	17 27 02.3	-0.1
ERCV	ERCIS-VAN	0.26	322	*e*Pg	Pg	17 27 02.3	-0.1
TVAN	Van	0.31	201	*i* P	Pb	17 27 02.8	-0.9
TVAN				*i* S	Sb	17 27 09.5	+1.0
TVAN	Van	0.31	201	P	Pb	17 27 02.8	-0.9
CLDR	Caldiran	0.44	42	*e*PG	Pg	17 27 04.8	-0.7
CLDR	Caldiran	0.44	42	*i* P	Pg	17 27 05.0	-0.5
CLDR				*i* S	Sb	17 27 13.8	+1.4
CLDR	Caldiran	0.44	42	*e*Pg	Pg	17 27 04.8	-0.7
GEVA	Gevas	0.63	217	*i* P	Pg	17 27 08.0	-1.1
GEVA				*i* S	Sn	17 27 20.0	-0.7
GEVA	Gevas	0.63	217	P	Pg	17 27 07.9	-1.1
ADCV	BITLIS_Adilcev	0.64	270	*i* P	Pg	17 27 08.5	-0.7
ADCV				*i* S	Sn	17 27 19.6	-1.4
ADCV	BITLIS_Adilcev	0.64	270	P	Pg	17 27 08.5	-0.7
ADCV				S	Sn	17 27 19.6	-1.4
DYDN	Diyadin	0.73	9	*i* P	Pg	17 27 10.7	-0.3
DYDN				*i* S	Sn	17 27 22.4	-1.0
DYDN	Diyadin	0.73	9	P	Pg	17 27 10.7	-0.3
DYDN				S	Sn	17 27 22.4	-1.0
TUTA	Tutak	0.82	316	*i* P	Pb	17 27 11.0	-1.4
TUTA				*i* S	Sb	17 27 23.9	+0.6
TUTA	Tutak	0.82	316	P	Pb	17 27 11.0	-1.4
TUTA				S	Sb	17 27 23.9	+0.6
AGRB	Hanur-Agry	0.87	331	*e*PG	Pb	17 27 12.6	-0.8
AGRB				*e*SG	Sg	17 27 25.6	+0.6
AGRB	Hanur-Agry	0.87	331	*e*Pg	Pb	17 27 12.6	-0.8
AGRB				*e*Sg	Sg	17 27 25.7	+0.6
TATV	Tatvan	1.05	253	*i* P	Pb	17 27 15.2	-1.1
TATV				*i* S	Sn	17 27 31.0	0.0
TATV	Tatvan	1.05	253	P	Pb	17 27 15.2	-1.1
TATV				S	Sn	17 27 31.0	0.0
GURO	Guroymak-BITLI	1.21	258	*e*PN	Pn	17 27 18.6	-0.3
GURO	Guroymak-BITLI	1.21	258	*e*Pn	Pn	17 27 18.6	-0.3
TASB	TASBURUN-IGDIR	1.28	25	*e*PN	Pn	17 27 19.5	-0.3
TASB	TASBURUN-IGDIR	1.28	25	*e*Pn	Pn	17 27 19.5	-0.3
EATA	Eleskirt	1.33	322	*i* P	Pn	17 27 20.5	-0.1
EATA				*i* S	Sg	17 27 41.0	+1.5
EATA	Eleskirt	1.33	322	P	Pn	17 27 20.5	-0.1
EATA				S	Sg	17 27 41.0	+1.5
CUKT	Cukurca	1.57	178	*e*PN	Pb	17 27 24.0	-1.2
CUKT	Cukurca	1.57	178	*e*Pn	Pb	17 27 24.0	-1.2
DIGO	Kars	1.60	355	*i* P	Pg	17 27 26.7	-0.7
DIGO				*i* S	Sg	17 27 54.2	+6.0
DIGO	Kars	1.60	355	P	Pg	17 27 26.7	-0.7
SVAN	Silvan-Diyarba	1.96	251	*e*PN	Pn	17 27 29.3	+0.3
SVAN	Silvan-Diyarba	1.96	251	*e*Pn	Pn	17 27 29.3	+0.3
SENK	Senkaya-Erzuru	1.97	333	*e*PN	Pn	17 27 30.1	+0.8
SENK	Senkaya-Erzuru	1.97	333	*e*Pn	Pn	17 27 30.2	+0.8
BNGB	Bing¶ll	2.24	275	*e*PN	Pn	17 27 33.4	+0.4
BINT	Bingol	2.39	272	*e*Pn	Pn	17 27 33.4	-1.6
YEDI	Yedisu-Bingol	2.41	286	*e*PN	Pn	17 27 36.3	+0.9
YEDI	Yedisu-Bingol	2.41	286	*e*Pn	Pn	17 27 36.3	+0.9

*CSEM **30** 17:34:05.8±0.2, 38°60N×43°13E, h5km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.6km az=170.0*
*DDA **30** 17:34:05.8, 38°59N×43°13E, h7km, Ml2.4*
*ISK **30** 17:34:05.4, 38°60N×43°15E, h6km, MD2.7*
ISC 30 17:34:06.1±1.0, 38°62N±0°03×43°14E±0°03, h12km±9km, n18, σ0s50/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	96	*e*PG	Pg	17 34 10.3	-0.2
VANB				*e*SG	Sg	17 34 14.2	+0.7
VANB	Van	0.20	96	*e*Pg	Pg	17 34 10.3	-0.2
VANB				*e*Sg	Sg	17 34 14.2	+0.7
TVAN	Van	0.23	112	*i* P	Pg	17 34 10.2	-0.9
TVAN				*i* S	Sg	17 34 14.7	+0.3
TVAN	Van	0.23	112	P	Pg	17 34 10.1	-0.9
TVAN				S	Sg	17 34 14.7	+0.3
GEVA	Gevas	0.31	192	*i* P	Pg	17 34 11.9	-0.5
GEVA				*i* S	Sb	17 34 19.5	+0.8
GEVA	Gevas	0.31	192	P	Pg	17 34 11.9	-0.5
GEVA				S	Sb	17 34 19.5	+0.8
ADCV	BITLIS_Adilcev	0.38	301	*i* P	Pg	17 34 13.6	0.0
ADCV				*i* S	Sb	17 34 19.9	-0.9
ADCV	BITLIS_Adilcev	0.38	301	P	Pg	17 34 13.6	0.0
ADCV				S	Sb	17 34 19.9	-0.9
VMUR	Van-Muradiye	0.50	42	*i* P	Pg	17 34 15.6	-0.4
VMUR				*i* S	Sb	17 34 24.4	0.0
VMUR	Van-Muradiye	0.50	42	P	Pg	17 34 15.6	-0.4
VMUR				S	Sb	17 34 24.4	0.0
CLDR	Caldiran	0.81	49	*e*PG	Pg	17 34 21.5	-0.2
CLDR				*e*SG	Sb	17 34 33.1	0.0
CLDR	Caldiran	0.81	49	*e*Pg	Pg	17 34 21.5	-0.2
CLDR				*e*Sg	Sb	17 34 33.1	0.0
GURO	Guroymak-BITLI	0.87	266	*e*PG	Pg	17 34 22.7	-0.2
GURO	Guroymak-BITLI	0.87	266	*e*Pg	Pg	17 34 22.7	-0.2
AGRB	Hanur-Agry	0.96	353	*e*PG	Pg	17 34 24.7	0.0
AGRB	Hanur-Agry	0.96	353	*e*Pg	Pg	17 34 24.7	0.0
CUKT	Cukurca	1.42	165	*e*PN	Pb	17 34 32.5	0.0
CUKT	Cukurca	1.42	165	*e*Pn	Pb	17 34 32.5	0.0

*ISK **30** 17:38:24.2, 38°73N×43°46E, h5km, ML2.8*
*ISCJB **30** 17:38:25.7±0.5, 38°72N±0°02×43°50E±0°04, h9km±3km, Error ellipse: s-maj=4.9km s-min=3.3km az=17.6*
*CSEM **30** 17:38:25.2±0.2, 38°72N×43°50E, h5km, ML2.8, Error ellipse: s-maj=5.0km s-min=3.6km az=108.0*
*DDA **30** 17:38:25.3, 38°72N×43°49E, h7km, Ml3.4*
ISC 30 17:38:26.1±0.9, 38°72N±0°02×43°50E±0°02, h9km±7km, n49, σ1s37/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	216	*e*PG	Pg	17 38 29.4	0.0
VANB	Van	0.15	216	*e*Pg	Pg	17 38 29.4	0.0
TVAN	Van	0.20	201	*i* P	Pg	17 38 29.4	-0.9
TVAN				*i* S	Sg	17 38 34.3	+1.0
TVAN	Van	0.20	201	P	Pg	17 38 29.5	-0.9
TVAN				S	Sg	17 38 34.3	+1.0
VMUR	Van-Muradiye	0.28	12	*i* P	Pg	17 38 30.6	-1.2
VMUR				*i* S	Sb	17 38 36.9	-1.4
VMUR	Van-Muradiye	0.28	12	P	Pg	17 38 30.6	-1.2
VMUR				S	Sb	17 38 36.9	-1.4
GEVA	Gevas	0.53	221	*i* P	Pg	17 38 34.7	-1.7
GEVA				*i* S	Sb	17 38 45.0	-0.5
GEVA	Gevas	0.53	221	P	Pg	17 38 34.7	-1.7
GEVA				S	Sb	17 38 45.0	-0.5
CLDR	Caldiran	0.54	37	*e*PG	Pg	17 38 35.2	-1.4
CLDR				*e*SG	Sb	17 38 45.2	-0.5
CLDR	Caldiran	0.54	37	*i* P	Pg	17 38 35.3	-1.4
CLDR				*i* S	Sb	17 38 45.3	-0.5
CLDR	Caldiran	0.54	37	*e*Pg	Pg	17 38 35.2	-1.4
CLDR				S	Sb	17 38 45.3	-0.5
ADCV	BITLIS_Adilcev	0.61	279	*i* P	Pg	17 38 37.1	-0.9
ADCV				*i* S	Sb	17 38 47.4	-0.5
ADCV	BITLIS_Adilcev	0.61	279	P	Pg	17 38 37.1	-0.9
ADCV				S	Sb	17 38 47.4	-0.5
BASK	Baskale_VAN	0.77	149	*i* P	Pg	17 38 39.2	-1.8
BASK				*i* S	Sb	17 38 52.4	-0.2
BASK	Baskale_VAN	0.77	149	P	Pg	17 38 39.2	-1.8
BASK				S	Sb	17 38 52.3	-0.2
DYDN	Diyadin	0.84	10	*i* P	Pg	17 38 41.3	-1.0
DYDN				*i* S	Sb	17 38 54.0	-0.5
DYDN	Diyadin	0.84	10	P	Pg	17 38 41.3	-1.0
DYDN				S	Sb	17 38 54.0	-0.5
TUTA	Tutak	0.87	322	*i* P	Pg	17 38 41.1	-1.8
TUTA				*i* S	Sb	17 38 54.4	-0.9
TUTA	Tutak	0.87	322	P	Pg	17 38 41.1	-1.8
TUTA				S	Sb	17 38 54.4	-0.9
AGRB	Hanur-Agry	0.94	336	*e*PG	Pg	17 38 42.7	-1.6
AGRB				*e*SG	Sb	17 38 56.9	-0.6
AGRB	Hanur-Agry	0.94	336	*e*Pg	Pg	17 38 42.7	-1.6
AGRB				*e*Sg	Sb	17 38 56.9	-0.6
TATV	Tatvan	0.99	258	*i* P	Pg	17 38 43.1	-2.0
TATV				*i* S	Sg	17 38 57.3	-0.6
TATV	Tatvan	0.99	258	P	Pg	17 38 43.1	-2.0
TATV				S	Sg	17 38 57.3	-0.6
EKAR	Karacoban	1.24	296	*i* P	Pg	17 38 48.5	-1.5
EKAR				*i* S	Sn	17 39 11.5	+4.7
EKAR	Karacoban	1.24	296	P	Pg	17 38 48.5	-1.5
EKAR				S	Sn	17 39 11.5	+4.7
EATA	Eleskirt	1.39	326	*i* P	Pn	17 38 50.6	-1.3
EATA				*i* S	Sn	17 39 10.8	+0.2
EATA	Eleskirt	1.39	326	P	Pn	17 38 50.6	-1.3
EATA				S	Sn	17 39 10.8	+0.2
TASB	TASBURUN-IGDIR	1.39	24	*e*PN	Pg	17 38 52.0	-0.8
TASB	TASBURUN-IGDIR	1.39	24	*e*Pn	Pg	17 38 52.0	-0.8
SRTM	Siirt_Merkez	1.44	240	*i* P	Pb	17 38 52.2	-0.9
SRTM				*i* S	Sg	17 39 13.5	+1.2
SRTM	Siirt_Merkez	1.44	240	P	Pb	17 38 52.2	-0.9
SRTM				S	Sg	17 39 13.5	+1.2
CUKT	Cukurca	1.47	177	*e*PN	Pn	17 38 52.8	-0.1
CUKT	Cukurca	1.47	177	*e*Pn	Pn	17 38 52.8	-0.1
DIGO	Kars	1.70	357	*i* P	Pn	17 38 56.3	+0.1
DIGO				*i* S	Sg	17 39 23.8	+3.0
DIGO	Kars	1.70	357	P	Pn	17 38 56.3	+0.1
DIGO				S	Sg	17 39 23.8	+3.0
SVAN	Silvan-Diyarba	1.89	253	*e*PN	Pn	17 38 58.3	-0.3
SVAN	Silvan-Diyarba	1.89	253	*e*Pn	Pn	17 38 58.3	-0.3
SENK	Senkaya-Erzuru	2.05	335	*e*PN	Pn	17 39 00.9	+0.1
SENK	Senkaya-Erzuru	2.05	335	*e*Pn	Pn	17 39 01.0	+0.1
BNGB	Bing¶ll	2.22	278	*e*PN	Pn	17 39 03.6	+0.4
BINT	Bingol	2.36	275	*e*Pn	Pn	17 39 03.6	-1.5
YEDI	Yedisu-Bingol	2.41	288	*e*PN	Pn	17 39 06.0	+0.1
YEDI	Yedisu-Bingol	2.41	288	*e*Pn	Pn	17 39 06.0	+0.1
MAZI	Mazidag	2.71	243	*e*PN	Pn	17 39 10.4	+0.4
MAZI	Mazidag	2.71	243	*e*Pn	Pn	17 39 10.4	+0.4
PTK	Pertek	3.21	274	*e*PN	Pn	17 39 17.5	+0.6
PTK	Pertek	3.21	274	*e*Pn	Pn	17 39 17.5	+0.6
SVRC	Sivrice-ELAZID	3.31	265	*e*PN	Pn	17 39 19.1	+0.9
SVRC	Sivrice-ELAZID	3.31	265	*e*Pn	Pn	17 39 19.1	+0.9

DJA 30 17:44:26.2±0.7, 7°S±4°×10°6E±°, h23km±4km, M3.9/9, MLv3.9/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.38	31	P	Pn	17 44 35.3	-1.0
CGJI				S	Sn	17 44 42.0	-0.8
SBJI	Serang	1.03	38	P	Pn	17 44 45.1	-0.1
SBJI				S	Sn	17 44 59.6	+0.7
SKJI	Sukabumi	1.05	94	P	Pb	17 44 45.7	0.0
DBJI	Dramaga	1.30	73	P	Pn	17 44 49.3	+0.3
DBJI				S	Sb	17 45 07.1	+0.9
CBJI	Citeko	1.44	69	P	Pb	17 44 51.7	-0.6
CNJI	Cibinong	1.66	103	P	Pn	17 44 53.4	-0.5
CNJI				S	Sn	17 45 13.5	-1.0
KASI	Kota Agung	1.73	325	P	Pn	17 44 54.6	-0.2
KASI				S	Sn	17 45 15.0	-1.1
KLSI		2.36	341	P	Pn	17 45 04.5	+0.9
CISI	Cisompet, Garu	2.38	105	P	Pn	17 45 03.7	-0.2
LWLI	Liwa	2.39	323	P	Pn	17 45 05.0	+0.9
MDSI	Maura Dua	2.77	332	P	Pn	17 45 10.3	+1.1

*ISK **30** 17:52:29.7, 38°93N×43°53E, h19km, MD2.8*
*ISCJB **30** 17:52:30.6±0.7, 38°94N±0°04×43°59E±0°06, h19km±7km, Error ellipse: s-maj=7.3km s-min=6.2km az=6.7*
*CSEM **30** 17:52:30.0±0.3, 38°97N×43°55E, h19km±3km, ML2.9, Error ellipse: s-maj=6.8km s-min=5.7km az=96.0*
*DDA **30** 17:52:31.0, 38°93N×43°56E, h12km, Ml2.9*
ISC 30 17:52:30.1±0.8, 38°96N±0°03×43°53E±0°03, h15km±5km, n20, σ0s75/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.04	49	*i* P	Pg	17 52 33.0	-0.2
VMUR				*i* S	Sg	17 52 35.7	+0.4
VMUR	Van-Muradiye	0.04	49	P	Pg	17 52 33.0	-0.2
VMUR				S	Sg	17 52 35.7	+0.4
CLDR	Caldiran	0.35	59	*e*PG	Pg	17 52 37.8	+0.3
CLDR				*e*SG	Sb	17 52 43.7	-0.1
CLDR	Caldiran	0.35	59	*i* P	Pb	17 52 38.0	-0.3
CLDR				*i* S	Sb	17 52 44.3	+0.5
CLDR	Caldiran	0.35	59	*e*Pg	Pg	17 52 37.8	+0.3
CLDR	Caldiran	0.35	59	P	Pb	17 52 38.0	-0.3
CLDR				*e*Sg	Sb	17 52 43.7	-0.1
CLDR				S	Sb	17 52 44.3	+0.5
VANB	Van	0.38	197	*e*PG	Pb	17 52 39.0	+0.3
VANB	Van	0.38	197	*e*Pg	Pb	17 52 39.0	+0.3
TVAN	Van	0.44	193	*i* P	Pb	17 52 39.2	-0.6
TVAN				*i* S	Sb	17 52 46.4	+0.2
TVAN	Van	0.44	193	P	Pb	17 52 39.2	-0.6
TVAN				S	Sb	17 52 46.4	+0.2
ADCV	BITLIS_Adilcev	0.65	257	*i* P	Pg	17 52 43.5	+0.7
ADCV				*i* S	Sn	17 52 54.4	-0.5
ADCV	BITLIS_Adilcev	0.65	257	P	Pg	17 52 43.5	+0.7
ADCV				S	Sn	17 52 54.4	-0.5
TUTA	Tutak	0.71	309	*i* P	Pb	17 52 42.8	-1.5
TUTA				*i* S	Sn	17 52 56.2	-0.4
TUTA	Tutak	0.71	309	P	Pb	17 52 42.8	-1.5
TUTA				S	Sn	17 52 56.2	-0.4
AGRB	Hanur-Agry	0.74	326	*e*PG	Pb	17 52 45.0	+0.1
AGRB				*e*SG	Sg	17 52 56.4	+1.9
AGRB	Hanur-Agry	0.74	326	*e*Pg	Pb	17 52 45.0	+0.1
AGRB				*e*Sg	Sg	17 52 56.4	+1.9
GURO	Guroymak-BITLI	1.24	251	*e*PN	Pn	17 52 52.3	-0.7
GURO	Guroymak-BITLI	1.24	251	*e*Pn	Pn	17 52 52.3	-0.7
CUKT	Cukurca	1.71	178	*e*PN	Pn	17 52 59.1	-0.4
CUKT	Cukurca	1.71	178	*e*Pn	Pn	17 52 59.1	-0.4

*ISCJB **30** 17:54:09.1±0.4, 32°37N±0°02×115°42W±0°03, h15km±6km, Error ellipse: s-maj=4.0km s-min=3.8km az=149.4*
*MEX **30** 17:54:09.9±0.3, 32°51N×115°34W, h7km±80km, MD3.2*
*ECX **30** 17:54:10.1±0.5, 32°37N×115°44W, h5km, MD2.3, ML2.5*
ISC 30 17:54:08.5±1.0, 32°42N±0°03×115°42W±0°02, h19km±2km, n33, σ0s61/50, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.10	89	*e*P	Pg	17 54 12.9	+0.7
CPBX				*e*S	Sg	17 54 14.7	0.0
CPBX				IAML		17 54 22.0	
	comp=N,4μm,0.2s						
CPBX				*e*		17 54 22.0	
MBIG	Mexicali	0.19	93	*e*P	Pb	17 54 12.6	+0.1
MBIG				*i* S	Sb	17 54 14.8	-0.2
SGL	Mount Signal	0.35	312	⇑*i*P	Pb	17 54 16.5	+0.3
SGL				*i* S	Sb	17 54 22.2	+0.8
WESC	Westside Schoo	0.43	322	⇓*e*P	Pn	17 54 18.7	-1.0
YUH	Yuha Desert	0.48	299	⇓*i*P	Pb	17 54 18.4	0.0
COK	Cook Ranch	0.50	329	⇑*i*P	Pn	17 54 20.3	-0.4
SWSC	Sam W. Stewart	0.62	329	P	Pn	17 54 21.6	-0.7
SWSC	baz=157,SNR=11			S	Sn	17 54 30.8	-0.8
	baz=157						
IKP	In-Ko-Pah, Jac	0.63	292	P	Pg	17 54 21.0	0.0
IKP	baz=122,SNR=21			S	Sg	17 54 29.3	-0.1
	baz=122						
IKP	In-Ko-Pah, Jac	0.63	292	⇓*i*P	Pg	17 54 21.0	0.0
IKP				*i* S	Sg	17 54 29.8	+0.4
CRR	Carrizo Plain	0.66	315	⇑*i*P	Pn	17 54 22.4	-0.5
GLA	Glamis	0.81	38	P	Pn	17 54 25.2	+0.3
GLA	baz=217,SNR=7.7			S	Sn	17 54 36.9	+0.5
	baz=217						
MONP2	Monument Peak	0.97	300	P	Pg	17 54 27.4	0.0
MONP2	baz=126,SNR=28			S	Sg	17 54 40.4	+0.1
	baz=126						
ECBX	El Chinero	0.99	162	⇑*e*P	Pb	17 54 26.7	-0.4
ECBX				*e*S	Sb	17 54 39.4	-0.3
CBX	Cerro Bola	1.06	265	*e*P	Pb	17 54 28.3	+0.1
CBX				*e*S	Sn	17 54 42.7	-0.1
CBX	Cerro Bola	1.06	265	⇓*e*P	Pb	17 54 28.4	+0.1
CBX				*e*S	Sb	17 54 42.3	+0.5
CBX				IAML		17 54 47.0	
	comp=E,158nm,0.3s						
TJIG	Tijuana	1.06	271	*e*P	Pb	17 54 28.1	-0.2
TJIG				*e*S	Sn	17 54 42.5	-0.2
TJIG	Tijuana	1.06	271	*e*P	Pb	17 54 28.1	-0.2
BAR	Barrett	1.09	284	*e*P	Pn	17 54 29.0	+0.2
ZAX	El Zacaton	1.16	219	*e*P	Pn	17 54 29.3	-0.5
ZAX				*e*S	Sb	17 54 44.5	0.0
BC3	Big Chuckawall	1.24	359	P	Pg	17 54 31.6	-0.8
BC3	baz=181			S	Sg	17 54 48.1	-0.5
	baz=181						
ECNX	Esteban Cantu	1.26	233	*e*P	Pn	17 54 31.2	0.0
PBX	Punta Banda	1.30	239	*e*P	Pn	17 54 31.9	+0.3
SDRC	San Diego Road	1.33	284	*e*P	Pb	17 54 33.0	+0.2
SPMG	San Pedro Mart	1.37	182	*e*P	Pn	17 54 33.1	+0.2
SPX	San Pedro Mart	1.37	182	*e*P	Pn	17 54 33.1	+0.2
PFO	Pinyon Flats O	1.48	324	P	Pb	17 54 34.8	-0.7
109C	baz=148,SNR=7.9						
	Camp Elliot, M	1.50	289	Pb	Pb	17 54 35.8	+0.1
109C	baz=112,SNR=13			S	Sb	17 54 54.8	+0.5
	baz=112						
Y12C	Blythe	1.53	29	Sb	Sg	17 55 00.0	+2.2
BELC	baz=210						
	Belle Mtn. Jos	1.65	343	P	Pb	17 54 38.1	-0.3
IRM	baz=166,SNR=5.2						
	Iron Mountain	1.75	7	P	Pb	17 54 39.8	-0.2
MURC	baz=189,SNR=8.8						
	Murrieta	1.90	309	P	Pn	17 54 40.9	+0.9
MURC	baz=131			Sb	Sg	17 55 09.5	-0.4
	baz=131						
214A	Organ Pipe Nat	2.26	101	Pb	Pg	17 54 51.1	-0.7
BFSC	baz=280						
	Mount Baldy Ra	2.61	315	Pb	Pb	17 54 56.1	+1.4
BFSC	baz=136			Sb	Sg	17 55 31.2	-1.3
	baz=136						

*ISK **30** 17:58:03.

ADCV	BITLIS_Adilcev	0.45	301	*i* P		Pg	18 00 52.4 -0.8
ADCV				*i* S		Sb	18 01 00.7 -0.6
ADCV	BITLIS_Adilcev	0.45	301	P		Pg	18 00 52.4 -0.8
ADCV				S		Sb	18 01 00.6 -0.6
VMUR	Van-Muradiye	0.50	34	*i* P		Pg	18 00 52.8 -1.3
VMUR				*i* S		Sg	18 00 55.6 -5.1
VMUR	Van-Muradiye	0.50	34	P		Pg	18 00 52.8 -1.3
CLDR	Caldiran	0.79	44	*e*PG		Pb	18 01 00.9 +0.7
CLDR	Caldiran	0.79	44	*e*Pg		Pb	18 01 00.9 +0.7
GURO	Guroymak-BITLI	0.93	269	*e*PG		Pg	18 01 01.5 -0.8
GURO				*e*SG		Sb	18 01 14.4 -0.6
GURO	Guroymak-BITLI	0.93	269	*e*Pg		Pg	18 01 01.5 -0.8
GURO				*e*Sg		Sb	18 01 14.4 -0.6
AGRB	Hanur-Agry	1.01	350	*e*PG		Pb	18 01 04.9 +0.8
AGRB				*e*SG		Sb	18 01 19.2 +1.7
AGRB	Hanur-Agry	1.01	350	*e*Pg		Pb	18 01 04.9 +0.8
AGRB				*e*Sg		Sb	18 01 19.2 +1.7
CUKT	Cukurca	1.36	167	*e*PN		Pb	18 01 09.6 -0.4
CUKT				*e*SN		Sn	18 01 27.5 -0.2
CUKT	Cukurca	1.36	167	*e*Pn		Pb	18 01 09.6 -0.4
CUKT				*e*Sn		Sn	18 01 27.5 -0.2
TASB	TASBURUN-IGDIR	1.61	29	*e*PN		Pb	18 01 14.7 +0.5
TASB	TASBURUN-IGDIR	1.61	29	*e*Pn		Pb	18 01 14.7 +0.5
SVAN	Silvan-Diyarba	1.64	256	*e*PN		Pn	18 01 13.6 +0.3
SVAN	Silvan-Diyarba	1.64	256	*e*Pn		Pn	18 01 13.6 +0.3
BNGB	Bing¯¶l	2.03	283	*e*PN		Pn	18 01 19.4 +0.8
SENK	Senkaya-Erzuru	2.09	342	*e*PN		Pn	18 01 21.3 +1.7
SENK	Senkaya-Erzuru	2.09	342	*e*Pn		Pn	18 01 21.3 +1.7
BINT	Bingol	2.15	279	*e*Pn		Pn	18 01 19.4 -1.0
YEDI	Yedisu-Bingol	2.25	293	*e*PN		Pn	18 01 22.9 +1.1
YEDI	Yedisu-Bingol	2.25	293	*e*Pn		Pn	18 01 22.9 +1.1
MAZI	Mazidag	2.46	244	*e*PN		Pn	18 01 24.9 +0.4
MAZI	Mazidag	2.46	244	*e*Pn		Pn	18 01 24.9 +0.4

MEX 30 18:01:13.6±0.4, 32°.25N×115°.38W, h5km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.22	44	*e*P	Pg	18 01 17.1	-1.0
MBIG				*i* S	Sg	18 01 21.0	+0.1
CBX	Cerro Bola	1.09	274	*e*P	Pg	18 01 32.1	-2.4
CBX				*e*S	Sg	18 01 45.5	-3.1
SPIG	San Pedro Mart	1.20	183	*e*P	Pg	18 01 34.0	-2.6
SPIG				*i* S	Sg	18 01 48.9	-3.2

*ISK **30** 18:02:20.7, 38°.95N×43°.54E, h13km, MD2.6*
*ISCJB **30** 18:02:21.5±0.6, 38°.95N±0°.03×43°.55E±0°.06, h9km±5km, Error ellipse: s-maj=7.6km s-min=4.9km az=17.9*
*CSEM **30** 18:02:21.1±0.2, 38°.96N×43°.56E, h15km, ML2.9, Error ellipse: s-maj=4.6km s-min=4.0km az=107.0*
*DDA **30** 18:02:21.3, 38°.93N×43°.56E, h14km, Ml2.9*
ISC 30 18:02:21.2±0.9, 38°.95N±0°.03×43°.56E±0°.03, h13km±5km, n19, σ0s45/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.04	10	*i* P	Pg	18 02 23.6	-0.3
VMUR				*i* S	Sg	18 02 26.2	+0.4
VMUR	Van-Muradiye	0.04	10	P	Pg	18 02 23.6	-0.3
VMUR				S	Sg	18 02 26.2	+0.4
CLDR	Caldiran	0.34	55	*e*PG	Pg	18 02 28.3	+0.1
CLDR				*e*SG	Sb	18 02 33.8	-0.8
CLDR	Caldiran	0.34	55	*i* P	Pg	18 02 28.4	+0.1
CLDR				*i* S	Sb	18 02 34.5	0.0
CLDR	Caldiran	0.34	55	*e*Pg	Pg	18 02 28.3	+0.1
CLDR				*e*Sg	Sb	18 02 33.8	-0.8
CLDR				S	Sb	18 02 34.5	0.0
VANB	Van	0.38	201	*e*PG	Pb	18 02 30.1	+0.3
VANB	Van	0.38	201	*e*Pg	Pb	18 02 30.1	+0.3
TVAN	Van	0.44	196	*i* P	Pg	18 02 29.5	-0.4
TVAN				*i* S	Sb	18 02 36.8	-0.6
TVAN	Van	0.44	196	P	Pg	18 02 29.5	-0.4
TVAN				S	Sb	18 02 36.8	-0.6
ADCV	BITLIS_Adilcev	0.67	258	*i* P	Pg	18 02 34.0	-0.2
ADCV				*i* S	Sb	18 02 44.6	+0.6
ADCV	BITLIS_Adilcev	0.67	258	P	Pg	18 02 34.0	-0.2
ADCV				S	Sb	18 02 44.6	+0.6
TUTA	Tutak	0.74	308	*i* P	Pb	18 02 35.7	-0.3
TUTA				*i* S	Sb	18 02 46.8	+0.7
TUTA	Tutak	0.74	308	P	Pb	18 02 35.7	-0.3
TUTA				S	Sb	18 02 46.8	+0.7
AGRB	Hanur-Agry	0.77	325	*e*PG	Pg	18 02 35.9	-0.2
AGRB				*e*SG	Sb	18 02 46.8	-0.1
AGRB	Hanur-Agry	0.77	325	*e*Pg	Pg	18 02 35.9	-0.2
AGRB				*e*Sg	Sb	18 02 46.8	-0.1
GURO	Guroymak-BITLI	1.26	252	*e*PN	Pn	18 02 44.2	-0.4
GURO	Guroymak-BITLI	1.26	252	*e*Pn	Pn	18 02 44.2	-0.4
CUKT	Cukurca	1.70	179	*e*PN	Pn	18 02 51.1	+0.5
CUKT	Cukurca	1.70	179	*e*Pn	Pn	18 02 51.1	+0.5

*ISK **30** 18:11:52.6, 38°.73N×43°.32E, h27km, MD2.5*
*ISCJB **30** 18:11:53.6±0.6, 38°.69N±0°.04×43°.21E±0°.05, h32km±5km, Error ellipse: s-maj=7.6km s-min=6.4km az=141.8*
*CSEM **30** 18:11:54.1±0.3, 38°.73N×43°.15E, h10km, ML2.6, Error ellipse: s-maj=7.4km s-min=6.9km az=58.0*
*DDA **30** 18:11:54.8, 38°.69N×43°.20E, h7km, Ml2.6*
ISC 30 18:11:53.2±0.9, 38°.71N±0°.04×43°.25E±0°.04, h29km±8km, n14, σ0s60/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	136	*e*PG	Pn	18 11 59.6	-0.2
VANB				*e*SG	Sb	18 12 03.8	+0.8
VANB	Van	0.16	136	*e*Pg	Pn	18 11 59.7	-0.2
VANB				*e*Sg	Sb	18 12 03.8	+0.8
TVAN	Van	0.22	145	*i* P	Pb	18 11 59.5	-0.3
TVAN				*i* S	Sb	18 12 03.9	-0.3
TVAN	Van	0.22	145	P	Pb	18 11 59.5	-0.3
TVAN				S	Sb	18 12 03.9	-0.3
VMUR	Van-Muradiye	0.38	42	*i* P	Pn	18 12 02.9	-0.1
VMUR				*i* S	Sn	18 12 10.4	+1.0
VMUR	Van-Muradiye	0.38	42	P	Pn	18 12 02.9	-0.1
VMUR				S	Sn	18 12 10.4	+1.0
ADCV	BITLIS_Adilcev	0.42	284	*i* P	Pb	18 12 02.2	-0.3
ADCV				*i* S	Sb	18 12 09.0	+0.2
ADCV	BITLIS_Adilcev	0.42	284	P	Pb	18 12 02.2	-0.3
ADCV				S	Sb	18 12 09.0	+0.2
GEVA	Gevas	0.42	200	*e*P	Pb	18 12 01.7	-0.8
GEVA				*i* S	Sb	18 12 09.6	+0.8
GEVA	Gevas	0.42	200	P	Pb	18 12 01.7	-0.8
GEVA				S	Sb	18 12 09.6	+0.8
AGRB	Hanur-Agry	0.89	347	*e*PG	Pb	18 12 09.6	-0.6
AGRB				*e*SG	Sn	18 12 21.6	-0.4
AGRB	Hanur-Agry	0.89	347	*e*Pg	Pb	18 12 09.6	-0.6
AGRB				*e*Sg	Sn	18 12 21.6	-0.4
GURO	Guroymak-BITLI	0.96	261	*e*PG	Pb	18 12 11.6	+0.2
GURO	Guroymak-BITLI	0.96	261	*e*Pg	Pb	18 12 11.6	+0.2

*IDC **30** 18:16:07.3±1.0, 26°.68S×177°.79W, h0km, mb4.0/5, mb1 4.4/5, mb1mx3.8/35, mbtmp4.0/5, MS3.3/8, Ms1 3.3/8, ms1mx3.1/32, Error ellipse: s-maj=62.1km s-min=25.8km az=163.0*
*ISCJB **30** 18:16:11.1±0.7, 27°.0S±0°.2×177°.8W±0°.2, h35km, mb4.0/6, MS3.3/5, Error ellipse: s-maj=25.9km s-min=19.8km az=8.9*
*NEIC **30** 18:16:12.2±0.5, 26°.92S×177°.79W, h35km, mb4.0/1, Error ellipse: s-maj=25.0km s-min=17.6km az=164.0*
ISC 30 18:16:12.2±0.7, 26°.9S±0°.2×177°.8W±0°.2, h35km, n34, σ0s94/20, mb4.0/6, MS3.2/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.31	183	LR	LR	18 17 52.6	
	comp=Z,540nm,21.5s,baz=126,slow=41						
URZ	Urewera	12.08	200	LR	LR	18 23 20.9	
	comp=Z,159nm,19.7s,baz=22,slow=35						
DZM	Mont Dzumac	15.15	285	LR	LR	18 24 08.8	
	comp=Z,188nm,21.6s,baz=124,slow=32						
TBI	Tubuai	25.86	88	eLR	LR	18 28 05.4	
	122nm,27.0s						
TBI	Tubuai	25.86	88	*e*T	T	18 48 08.9	
	6.7nm,0.3s						
HNR	Honiara	27.32	305	LR	LR	18 31 01.3	
	comp=Z,67nm,19.0s,baz=154,slow=33						
PAE	Paea	27.62	76	*e*T	T	18 50 27.2	
	2.5nm,0.2s						
PPT2	Papeete2	27.66	76	*e*LR	LR	18 28 47.2	
	117nm,25.2s						
PPT2	Papeete2	27.66	76	*e*T	T	18 50 30.3	
	4.9nm,0.3s						
PPT	Papeete	27.66	76	LR	LR	18 32 54.9	
	comp=Z,50nm,18.1s,baz=32,slow=36						
TVO	Taravao	27.86	77	*e*T	T	18 50 44.9	
	2.0nm,0.3s						
STKA	Stephens Creek	35.58	252	LR	LR	18 35 13.7	
	comp=Z,61nm,20.7s,baz=33,slow=32						
PMG	Port Moresby	37.42	291	LR	LR	18 36 19.1	
	comp=Z,60nm,19.0s,baz=112,slow=32						
RKT	Rikitea	38.84	94	*e*T	T	19 04 17.9	
	3.9nm,0.3s						
ASAR	Alice Springs	43.60	263	P	P	18 24 13.8	+0.5
	3.9nm,1.0s,baz=107,slow=8.2,SNR=16						
ASAR				LR	LR	18 40 31.1	
	comp=Z,33nm,20.3s,baz=96,slow=34						
WRAB	Tennant Creek	44.26	269	*e*P	P	18 24 17.8	-0.9
	1.8nm,0.7s						
WRA	Warramunga Arr	44.27	268	P	P	18 24 18.7	0.0
	4.2nm,0.7s,baz=105,slow=8.2,SNR=14						
QSPA	South Pole Qui	63.16	180	*e*P	P	18 26 35.2	-1.3
SNAA	Sanae	81.60	178	P	P	18 28 26.8	+0.6
VNA3	Neumayer Olymp	81.73	176	P	P	18 28 28.4	+1.5
VNA2	Neumayer--Watz	82.17	177	P	P	18 28 28.0	-1.2
	baz=20,slow=32						
TXAR	Lajitas Array	90.36	57	P	P	18 29 09.3	-0.9
	0.6nm,1.0s,baz=226,slow=7.5,SNR=3.6						
CMAR	Chiang Mai Arr	92.44	289	P	P	18 29 20.7	+0.8
	0.6nm,0.9s,baz=146,slow=3.5,SNR=5.3						
PDAR	Pinedale Array	93.49	43	P	P	18 29 25.7	+1.2
	0.3nm,0.7s,baz=225,slow=4.0,SNR=3.5						
KURK	Kurchatov	118.77	315	PKP	PKPdf	18 34 56.0	-0.5
KURBB	Kurchatov Arra	118.81	315	PKP	PKPdf	18 34 56.0	-0.5
	0.5nm,0.9s,baz=98,slow=2.0,SNR=5.0						
NB2	NORSAR Subarra	145.36	352	PKP	PKPdf	18 35 45.7	-0.1
	comp=Z,1.6nm,0.7s,baz=13,slow=3.6						
NOA	NORSAR Array B	145.36	352	PKPbc	PKPbc	18 35 45.3	-0.5
	comp=Z,4.2nm,0.9s,baz=16,slow=5.0,SNR=6.9						
AKASG	Malin Array Be	148.60	326	PKPbc	PKPbc	18 35 54.7	-0.5
	comp=Z,1.4nm,0.7s,baz=45,slow=3.0,SNR=4.9						
MMAI	Mount Meron Ar	150.70	290	PKPbc	PKPbc	18 36 00.4	-0.6
	comp=Z,0.6nm,0.4s,baz=39,slow=2.9,SNR=4.1						
BRTR	Keskin Array B	150.97	304	PKPbc	PKPbc	18 36 01.7	+0.1
	comp=Z,0.7nm,0.9s,baz=116,slow=3.4,SNR=3.1						
EKA	Eskdalemuir Ar	151.36	6	PKPbc	PKPbc	18 36 01.2	-0.5
	comp=Z,1.1nm,0.7s,baz=336,slow=1.6,SNR=3.3						
CLL	Collm	154.32	344	*e*PKPbc	PKPbc	18 36 09.0	+0.5
TORD	Torodi Ar. Bea	166.27	178	PKPab	PKPab	18 37 17.2	+1.8
	comp=Z,1.1nm,1.0s,baz=175,slow=4.0,SNR=3.7						

*AZER **30** 18:20:22.2±0.6, 38°.31N×43°.25E, h22km±17km, Error ellipse: s-maj=13.8km s-min=3.6km az=53.0*
*DDA **30** 18:20:24.8, 38°.91N×43°.56E, h11km, Ml3.9*
*ISK **30** 18:20:24.9, 38°.92N×43°.57E, h12km, ML3.5*
*CSEM **30** 18:20:25.6±0.2, 38°.91N×43°.46E, h2km, ML3.9, Error ellipse: s-maj=5.5km s-min=4.0km az=154.0*
ISC 30 18:20:25.3±0.9, 38°.90N±0°.02×43°.55E±0°.02, h6km±7km, n94, σ1s54/129, 16C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.09	13	⇓*i* P	Pg	18 20 27.1	-0.3
VMUR				*i* S	Sg	18 20 29.5	+0.7
VMUR	Van-Muradiye	0.09	13	P	Pg	18 20 27.1	-0.3
VMUR				S	Sg	18 20 29.5	+0.7
VANB	Van	0.33	202	*e*PG	Pb	18 20 33.4	-0.3
VANB				*e*SG	Sb	18 20 40.8	+1.5
VANB	Van	0.33	202	*e*Pg	Pb	18 20 33.4	-0.3
VANB				*e*Sg	Sb	18 20 40.8	+1.5
CLDR	Caldiran	0.38	50	PG	Pg	18 20 32.0	-0.6
CLDR				SG	Sg	18 20 38.3	+0.8
CLDR	Caldiran	0.38	50	⇑*i* P	Pg	18 20 32.0	-0.6
CLDR				*i* S	Sg	18 20 38.4	+0.8
CLDR	Caldiran	0.38	50	P	Pg	18 20 32.0	-0.6
CLDR				S	Sg	18 20 38.4	+0.8
TVAN	Van	0.39	196	*i* P	Pg	18 20 27.9	-5.0
TVAN				*i* S	Sb	18 20 41.1	0.0
DYDN	Diyadin	0.65	10	⇓*i* P	Pg	18 20 36.8	-1.0
DYDN				*i* S	Sg	18 20 46.4	+0.2
DYDN	Diyadin	0.65	10	P	Pg	18 20 36.8	-1.0
DYDN				S	Sg	18 20 46.4	+0.2
ADCV	BITLIS_Adilcev	0.65	262	⇑*i* P	Pg	18 20 37.7	-0.1
ADCV				*i* S	Sb	18 20 48.2	-0.3
ADCV	BITLIS_Adilcev	0.65	262	P	Pg	18 20 37.7	-0.1
GEVA	Gevas	0.70	213	*i* P	Pg	18 20 30.3	-8.5
GEVA				*i* S	Sg	18 20 48.6	+0.7
TUTA	Tutak	0.76	311	⇓*i* P	Pg	18 20 39.0	-0.8
TUTA				*i* S	Sg	18 20 50.4	+0.7
TUTA	Tutak	0.76	311	P	Pg	18 20 39.0	-0.8
TUTA				S	Sg	18 20 50.3	+0.7
AGRB	Hanur-Agry	0.80	327	*e*PG	Pg	18 20 40.8	+0.2
AGRB				*e*SG	Sb	18 20 52.2	-0.6
AGRB	Hanur-Agry	0.80	327	*e*Pg	Pg	18 20 40.8	+0.2
AGRB				*e*Sg	Sb	18 20 52.3	-0.6
TATV	Tatvan	1.08	249	⇑*i* P	Pg	18 20 44.4	-1.5
TATV				*i* S	Sg	18 20 59.7	-0.2
TATV	Tatvan	1.08	249	P	Pg	18 20 44.4	-1.5
TATV				S	Sg	18 20 59.7	-0.2
TASB	TASBURUN-IGDIR	1.20	26	*e*PN	Pg	18 20 47.3	-1.0
TASB	TASBURUN-IGDIR	1.20	26	*e*Pn	Pg	18 20 47.3	-1.0
EKAR	Karacoban	1.21	287	*i* P	Pb	18 20 48.6	-0.1
EKAR				*i* S	Sn	18 21 08.5	+2.7
EKAR	Karacoban	1.21	287	P	Pb	18 20 48.6	-0.1
GURO	Guroymak-BITLI	1.24	254	*e*PN	Pg	18 20 47.9	-1.1
GURO	Guroymak-BITLI	1.24	254	*e*Pn	Pg	18 20 47.9	-1.1
EATA	Eleskirt	1.26	320	*i* P	Pg	18 20 48.8	-0.6
EATA				*i* S	Sn	18 21 06.4	-0.8
EATA	Eleskirt	1.26	320	P	Pg	18 20 48.8	-0.6
EATA				S	Sn	18 21 06.4	-0.8
DIGO	Kars	1.52	355	⇓*i* P	Pb	18 20 53.8	-0.2
DIGO				*i* S	Sg	18 21 17.8	+3.8
DIGO	Kars	1.52	355	P	Pb	18 20 53.8	-0.2
NAX	Nakhchivan	1.54	79	⇑P	Pb	18 20 54.0	-0.3
	SNR=11						
NAX				⇓S	Sg	18 21 18.6	+3.8
NAX	Nakhchivan	1.54	79	P	Pb	18 20 54.0	-0.3
	SNR=11						
NAX				S	Sg	18 21 18.6	+3.8
VRTB	Varto-Mus	1.65	280	*e*PN	Pn	18 20 54.3	-0.6
VRTB	Varto-Mus	1.65	280	*e*Pn	Pn	18 20 54.3	-0.6
CUKT	Cukurca	1.65	178	*e*PN	Pn	18 20 54.7	-0.3
CUKT	Cukurca	1.65	178	*i* P	Pn	18 20 55.5	+0.5
CUKT				*i* S	Sg	18 21 19.8	+1.4
CUKT	Cukurca	1.65	178	*e*Pn	Pn	18 20 54.7	-0.3
CUKT	Cukurca	1.65	178	P	Pn	18 20 55.5	+0.5
CUKT				S	Sg	18 21 19.8	+1.4
HOMI	Horasan	1.71	312	*i* P	Pg	18 20 58.9	+0.9
HOMI				*i* S	Sg	18 21 24.7	+4.6
SENK	Senkaya-Erzuru	1.90	331	*e*PN	Pn	18 20 58.4	0.0
SENK	Senkaya-Erzuru	1.90	331	*e*Pn	Pn	18 20 58.4	0.0
SVAN	Silvan-Diyarba	1.99	249	*e*PN	Pn	18 20 58.8	-0.7
SVAN	Silvan-Diyarba	1.99	249	*e*Pn	Pn	18 20 58.8	-0.7
BNGB	Bing¯¶l	2.24	273	*e*PN	Pn	18 21 03.3	+0.3
BINT	Bingol	2.39	270	*e*Pn	Pn	18 21 03.3	-1.8
YEDI	Yedisu-Bingol	2.39	284	*e*PN	Pn	18 21 05.3	+0.1
YEDI	Yedisu-Bingol	2.39	284	*e*Pn	Pn	18 21 05.3	+0.1
GDB	GEDABAY	2.49	42	⇑P	Pb	18 21 09.9	-0.6
	SNR=6.0						
GDB				⇓S	Sg	18 21 46.9	+1.8
GDB	GEDABAY	2.49	42	P	Pb	18 21 09.9	-0.6
	SNR=6.0						
AKH	Akhalkalaki	2.50	359	P	Pg	18 21 12.4	-0.9
AKH				S	Sg	18 21 45.3	-0.4
QZX	Qazax, Azerbai	2.57	33	⇓P	Pb	18 21 11.1	-0.7
	SNR=4.1						
QZX				⇑S	Sg	18 21 49.1	+1.4
QZX	Qazax, Azerbai	2.57	33	P	Pb	18 21 11.1	-0.7
	SNR=4.1						
GANJ	Ganja	2.76	50	⇑P	Pb	18 21 13.1	-1.9
	SNR=10						
GANJ				⇓S	Sg	18 21 52.7	-1.1
GANJ	Ganja	2.76	50	P	Pb	18 21 13.1	-1.9
	SNR=10						
MAZI	Mazidag	2.84	240	*e*PN	Pn	18 21 11.9	+0.7
MAZI	Mazidag	2.84	240	*e*Pn	Pn	18 21 11.9	+0.7
DGRG	David-gareji	2.90	28	P	Pg	18 21 19.4	-1.5
DGRG				S	Sg	18 22 00.5	+2.0
TBLG	Delisi	2.97	18	P	Pg	18 21 20.5	-1.6
TBLG				S	Sg	18 22 00.8	+0.3
ERZN	Erzincan	3.05	284	*e*PN	Pn	18 21 13.9	-0.2
BRDA	Brd	3.12	63	⇓P	Pn	18 21 16.9	+1.9
BRDA				⇓S	Sb	18 21 59.7	+0.3
BRDA	Brd	3.12	63	P	Pn	18 21 16.9	+1.9
BRDA				S	Sb	18 21 59.7	+0.3
PTK	Pertek	3.24	271	*e*PN	Pn	18 21 17.6	+0.7
PTK	Pertek	3.24	271	*e*Pn	Pn	18 21 17.6	+0.7
MNGR	Mingechevir, A	3.30	54	⇓S	Sb	18 22 05.4	+0.7
DUS	Dusheti	3.30	15	P	Pg	18 21 31.3	+2.8
EZC	Erzincan	3.36	286	*e*Pn	Pn	18 21 13.9	-4.6
SVRC	Sivrice-ELAZID	3.36	262	*e*PN	Pn	18 21 19.7	+1.2
SVRC	Sivrice-ELAZID	3.36	262	*e*Pn	Pn	18 21 19.7	+1.2
ZRD	Zardab	3.48	65	⇓P	Pn	18 21 21.6	+1.7
ZRD				⇑S	Sb	18 22 08.1	-1.7
ZRD	Zardab	3.48	65	P	Pn	18 21 21.6	+1.7
ZRD				S	Sb	18 22 08.1	-1.7
SEKA	Sheki	3.63	49	⇑P	Pb	18 21 25.7	-4.1
SEKA	Sheki	3.63	49	P	Pb	18 21 25.7	-4.1
ONI	Oni	3.68	359	P	Pg	18 21 33.8	-2.1
ONI				S	Sg	18 22 32.9	+9.4
LRK	Lerik	3.76	92	⇑P	Pn	18 21 22.2	-1.7
LRK	Lerik	3.76	92	P	Pn	18 21 22.2	-1.7
GLBA	Clilabad	3.79	83	⇓P	Pn	18 21 23.8	-0.4
GLBA	Clilabad	3.79	83	P	Pn	18 21 23.8	-0.4
QBL	Gabala	3.88	57	⇑P	Pn	18 21 27.7	+2.2
QBL	Gabala	3.88	57	P	Pn	18 21 27.7	+2.2
IML	Ismayilli	4.04	61	⇑P	Pn	18 21 29.7	+2.0
IML	Ismayilli	4.04	61	P	Pn	18 21 29.7	+2.0
ASTR	Astara	4.12	93	⇑P	Pn	18 21 27.0	-1.7
ASTR	Astara	4.12	93	P	Pn	18 21 27.0	-1.7
XNQ	Khinaliq	4.19	56	⇑P	Pn	18 21 32.2	+2.2
XNQ	Khinaliq	4.19	56	P	Pn	18 21 32.2	+2.2
PQL	Pirkuli	4.32	63	⇓P	Pn	18 21 33.2	+1.6
PQL	Pirkuli	4.32	63	P	Pn	18 21 33.2	+1.6
QSAR	Qusar	4.45	53	⇓P	Pn	18 21 35.9	+2.5
QSAR	Qusar	4.45	53	P	Pn	18 21 35.9	+2.5
GBS	Qobustan	4.47	67	⇑P	Pn	18 21 34.9	+1.3
GBS	Qobustan	4.47	67	P	Pn	18 21 34.9	+1.3
ATGJ	Altiaghaj	4.58	63	⇓P	Pn	18 21 36.9	+1.7
ATGJ	Altiaghaj	4.58	63	P	Pn	18 21 36.9	+1.7
SIZA	Siyzn	4.65	60	⇑P	Pn	18 21 38.0	+1.9
SIZA	Siyzn	4.65	60	P	Pn	18 21 38.0	+1.9

*DDA **30** 18:24:03.3, 38°.71N×43°.70E, h7km, Ml2.9*
*ISK **30** 18:24:03.2, 38°.78N×43°.55E, h5km, MD2.8*
*ISCJB **30** 18:24:04.1±0.7, 38°.79N±0°.04×43°.60E±0°.08, h7km±6km, Error ellipse: s-maj=10.9km s-min=4.6km az=27.0*
*CSEM **30** 18:24:04.0±0.3, 38°.79N×43°.56E, h8km, MD2.8, Error ellipse: s-maj=9.4km s-min=4.7km az=121.0*
ISC 30 18:24:03.0±1.0, 38°.77N±0°.03×43°.59E±0°.05, h13km±8km, n19, σ0s47/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.22	357	*i* P	Pg	18 24 08.2	+0.3
VMUR				*i* S	Sg	18 24 11.0	-0.3
VMUR	Van-Muradiye	0.22	357	P	Pg	18 24 08.2	+0.3
VMUR				S	Sg	18 24 11.0	-0.3
VANB	Van	0.23	222	*e*PG	Pb	18 24 09.3	+0.2
VANB				*e*SG	Sb	18 24 14.0	+0.8
VANB	Van	0.23	222	*e*Pg	Pb	18 24 09.3	+0.2
VANB				*e*Sg	Sb	18 24 14.0	+0.8
TVAN	Van	0.28	211	*i* P	Pg	18 24 09.1	+0.3
TVAN				*i* S	Sb	18 24 14.4	-0.3
TVAN	Van	0.28	211	P	Pg	18 24 09.1	+0.3
TVAN				S	Sb	18 24 14.4	-0.3
CLDR	Caldiran	0.46	34	*e*PG	Pb	18 24 12.9	-0.1
CLDR				*e*SG	Sb	18 24 19.3	-0.6
CLDR	Caldiran	0.46	34	*i* P	Pb	18 24 13.1	0.0
CLDR				*i* S	Sb	18 24 19.6	-0.3
CLDR	Caldiran	0.46	34	P	Pb	18 24 13.1	0.0
CLDR				*e*Sg	Sb	18 24 19.3	-0.6
ADCV	BITLIS_Adilcev	0.68	274	*i* P	Pn	18 24 18.1	-0.4
ADCV				*i* S	Sn	18 24 29.7	+0.7
ADCV	BITLIS_Adilcev	0.68	274	P	Pn	18 24 18.1	-0.4
AGRB	Hanur-Agry	0.93	330	*e*PG	Pg	18 24 21.0	0.0
AGRB	Hanur-Agry	0.93	330	*e*Pg	Pg	18 24 21

JYK	**Kaneyama**	**1.97 308**	P	Pn	18 32 34.5	+1.5
JRG	**Rokugo**	**2.15 321**	P	Pn	18 32 37.5	+2.2
JANG	**Nango**	**2.72 346**	P	Pn	18 32 45.8	+2.5

*IDC **30** 18:34:44.3±2.0, 7.36S×150.26E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/28, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=75.2km s-min=20.4km az=127.0*
*ISCJB **30** 18:34:46.7±1.4, 7.6S±0.3×150.5E±0.2, h33km, mb3.7/5, Error ellipse: s-maj=48.1km s-min=11.9km az=138.2*
ISC 30 18:34:48.9±1.8, 7.5S±0.4×150.4E±0.3, h35km, n8, σ0s88/9, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**240**	Pn	**Pn**	**18 35 44.6**	**+0.4**
	2.2nm,0.3s,baz=351,slow=5.2,SNR=9.4						
PMG				Sn	**Sn**	**18 36 27.4**	**+0.4**
	13nm,0.3s,baz=336,slow=20,SNR=11						
WRA	**Warramunga Arr**	**19.90**	**230**	P	**P**	**18 39 16.8**	**-0.8**
	0.3nm,0.3s,baz=53,slow=10,SNR=14						
ASAR	**Alice Springs**	**22.57**	**223**	P	**P**	**18 39 46.0**	**-0.3**
	0.5nm,0.5s,baz=53,slow=9.2,SNR=28						
FITZ	**Fitzroy Crossi**	**26.33**	**244**	P	**P**	**18 40 20.8**	**-0.9**
	2.1nm,0.5s,baz=67,slow=11,SNR=9.6						
MKAR	**Makanchi Array**	**80.84**	**320**	P	**P**	**18 46 59.8**	**+0.5**
	0.6nm,0.8s,baz=110,slow=6.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**82.12**	**327**	P	**P**	**18 47 04.5**	**-1.4**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.2						
ILAR	**Eielson Array**	**85.55**	**22**	P	**P**	**18 47 23.9**	**+0.7**
	0.6nm,0.7s,baz=246,slow=4.7,SNR=8.0						
TORD	**Torodi Ar. Bea**	**148.76**	**283**	PKPbc	**PKPbc**	**18 54 34.2**	**+0.5**
	0.7nm,0.7s,baz=52,slow=2.7,SNR=7.0						

*ISK **30** 18:36:02.9, 38.76N×43.48E, h9km, MD2.9*
*ISCJB **30** 18:36:03.6±0.5, 38.76N±0.03×43.53E±0.04, h14km±4km, Error ellipse: s-maj=6.0km s-min=3.9km az=20.9*
*CSEM **30** 18:36:03.1±0.2, 38.74N×43.55E, h15km, MD2.9, Error ellipse: s-maj=6.5km s-min=4.7km az=108.0*
*DDA **30** 18:36:03.2, 38.74N×43.61E, h7km, Ml3.1*
ISC 30 18:36:03.2±1.1, 38.74N±0.02×43.55E±0.03, h17km±8km, n29, σ0s71/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**221**	*e*PG	**Pb**	**18 36 08.8**	**+0.4**
VANB	**Van**	**0.19**	**221**	*e*Pg	**Pb**	**18 36 08.8**	**+0.4**
TVAN	**Van**	**0.24**	**208**	*i* P	**Pg**	**18 36 08.7**	**-0.1**
TVAN				*i* S	**Sb**	**18 36 14.0**	**+0.7**
TVAN	**Van**	**0.24**	**208**	P	**Pg**	**18 36 08.7**	**-0.1**
TVAN				S	**Sb**	**18 36 14.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.25**	**4**	*i* P	**Pg**	**18 36 08.3**	**-0.6**
VMUR				*i* S	**Sb**	**18 36 13.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.25**	**4**	P	**Pg**	**18 36 08.3**	**-0.6**
VMUR				S	**Sb**	**18 36 13.4**	**-0.1**
CLDR	**Caldiran**	**0.49**	**35**	*e*PG	**Pg**	**18 36 12.8**	**-0.5**
CLDR				*e*SG	**Sb**	**18 36 21.2**	**+0.7**
CLDR	**Caldiran**	**0.49**	**35**	*i* P	**Pg**	**18 36 12.7**	**-0.5**
CLDR				*i* S	**Sb**	**18 36 21.6**	**+1.0**
CLDR	**Caldiran**	**0.49**	**35**	P	**Pg**	**18 36 12.7**	**-0.5**
CLDR				*e*Sg	**Sb**	**18 36 21.2**	**+0.7**
GEVA	**Gevas**	**0.58**	**222**	*i* P	**Pg**	**18 36 14.3**	**-0.4**
GEVA				*i* S	**Sn**	**18 36 24.9**	**-1.0**
GEVA	**Gevas**	**0.58**	**222**	P	**Pg**	**18 36 14.3**	**-0.4**
GEVA				S	**Sn**	**18 36 24.9**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.65**	**276**	*i* P	**Pg**	**18 36 16.1**	**0.0**
ADCV				*i* S	**Sn**	**18 36 26.7**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.65**	**276**	P	**Pg**	**18 36 16.1**	**0.0**
ADCV				S	**Sn**	**18 36 26.7**	**-1.0**
BASK	**Baskale_VAN**	**0.77**	**153**	*e*P	**Pg**	**18 36 17.3**	**-1.1**
BASK				*i* S	**Sb**	**18 36 29.3**	**+0.7**
BASK	**Baskale_VAN**	**0.77**	**153**	P	**Pg**	**18 36 17.3**	**-1.1**
BASK				S	**Sb**	**18 36 29.3**	**+0.7**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*PG	**Pb**	**18 36 21.2**	**+0.1**
AGRB				*e*SG	**Sb**	**18 36 33.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**333**	*e*Pg	**Pb**	**18 36 21.2**	**+0.1**
AGRB				*e*Sg	**Sb**	**18 36 33.3**	**-0.1**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*PN	**Pn**	**18 36 25.1**	**-0.2**
GURO	**Guroymak-BITLI**	**1.21**	**261**	*e*Pn	**Pn**	**18 36 25.2**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.35**	**23**	*e*PN	**Pb**	**18 36 28.6**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.35**	**23**	*e*Pn	**Pb**	**18 36 28.6**	**+0.5**
CUKT	**Cukurca**	**1.49**	**178**	*e*PN	**Pb**	**18 36 30.7**	**+0.2**
CUKT	**Cukurca**	**1.49**	**178**	*e*Pn	**Pb**	**18 36 30.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.94**	**253**	*e*PN	**Pn**	**18 36 36.5**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.94**	**253**	*e*Pn	**Pn**	**18 36 36.5**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.04**	**333**	*e*PN	**Pn**	**18 36 38.0**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.04**	**333**	*e*Pn	**Pn**	**18 36 38.0**	**+1.1**
BNGB	**Bing¶ll**	**2.26**	**277**	*e*PN	**Pn**	**18 36 40.4**	**+0.6**
BINT	**Bingol**	**2.40**	**274**	*e*Pn	**Pn**	**18 36 40.4**	**-1.3**

MAN 30 18:37:17, 9.30N×126.07E, h53km, mb4.8, ML3.7, MS3.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**310⇓**	*e*P	Pn	18 37 29.3	-2.2
SCPH				*e*S	Sn	18 37 42.1	+0.1
BIPH	**Bislig**	**1.15**	**165⇑**	*i*P	Pn	18 37 37.6	+0.8
BIPH				*i* S	Sn	18 37 52.5	+1.1
MSLP	**Maasin**	**1.45**	**305**	*e*P	Pn	18 37 40.6	-0.3
MSLP				*e*S	Sn	18 38 01.3	+2.5
BUKP	**Musuan**	**1.73**	**215**	*e*P	Pn	18 37 46.0	+1.3
BUKP				*e*S	Sn	18 38 13.7	+8.1
TBP	**Tagbilaran**	**2.21**	**280**	*e*P	Pn	18 37 52.1	+0.9
LLP	**Lapu-Lapu**	**2.30**	**296⇓**	*e*P	Pn	18 37 53.2	+0.7
LLP				*e*S	Sn	18 38 22.1	+2.4
BESP	**Borongan**	**2.37**	**345**	*e*P	Pn	18 37 54.0	+0.5
BESP				*e*S	Sn	18 38 24.6	+3.3

*ISK **30** 18:40:24.8, 38.72N×43.33E, h5km, ML2.4*
*ISCJB **30** 18:40:26.5±0.6, 38.71N±0.03×43.32E±0.06, h11km±6km, Error ellipse: s-maj=7.4km s-min=5.1km az=11.8*
*CSEM **30** 18:40:26.4±0.2, 38.71N×43.36E, h10km, ML2.4, Error ellipse: s-maj=6.5km s-min=4.5km az=104.0*
*DDA **30** 18:40:26.6, 38.70N×43.36E, h7km, Ml2.7*
ISC 30 18:40:26.6±1.0, 38.70N±0.03×43.37E±0.04, h15km±8km, n20, σ0s55/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**173**	*e*PG	**Pg**	**18 40 30.1**	**0.0**
VANB	**Van**	**0.11**	**173**	*e*Pg	**Pg**	**18 40 30.1**	**0.0**
TVAN	**Van**	**0.18**	**171**	*i* P	**Pg**	**18 40 30.3**	**-0.7**
TVAN				*i* S	**Sg**	**18 40 33.8**	**-0.2**
TVAN	**Van**	**0.18**	**171**	P	**Pg**	**18 40 30.3**	**-0.7**
TVAN				S	**Sg**	**18 40 33.8**	**-0.2**
VMUR	**Van-Muradiye**	**0.33**	**28**	*i* P	**Pg**	**18 40 33.6**	**+0.2**
VMUR				*i* S	**Sb**	**18 40 40.2**	**+0.8**
VMUR	**Van-Muradiye**	**0.33**	**28**	P	**Pg**	**18 40 33.6**	**+0.2**
VMUR				S	**Sb**	**18 40 40.2**	**+0.8**
GEVA	**Gevas**	**0.46**	**212**	*i* P	**Pg**	**18 40 35.4**	**-0.4**
GEVA	**Gevas**	**0.46**	**212**	P	**Pg**	**18 40 35.4**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.52**	**282**	*i* P	**Pg**	**18 40 37.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.52**	**282**	P	**Pg**	**18 40 37.0**	**+0.1**
CLDR	**Caldiran**	**0.61**	**44**	*e*PG	**Pg**	**18 40 37.7**	**-1.0**
CLDR				*e*SG	**Sb**	**18 40 48.0**	**+0.4**
CLDR	**Caldiran**	**0.61**	**44**	*i* P	**Pg**	**18 40 38.4**	**-0.3**
CLDR				*i* S	**Sb**	**18 40 48.1**	**+0.4**
CLDR	**Caldiran**	**0.61**	**44**	*e*Pg	**Pg**	**18 40 37.7**	**-1.0**
CLDR	**Caldiran**	**0.61**	**44**	P	**Pg**	**18 40 38.4**	**-0.3**
CLDR				S	**Sb**	**18 40 48.1**	**+0.4**
TUTA	**Tutak**	**0.82**	**328**	*i* P	**Pg**	**18 40 42.2**	**-0.4**
TUTA	**Tutak**	**0.82**	**328**	P	**Pg**	**18 40 42.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**341**	*e*PG	**Pg**	**18 40 43.5**	**-1.0**
AGRB				*e*SG	**Sb**	**18 40 56.5**	**0.0**
AGRB	**Hanur-Agry**	**0.92**	**341**	*e*Pg	**Pg**	**18 40 43.5**	**-1.0**
AGRB				*e*Sg	**Sb**	**18 40 56.6**	**0.0**
CUKT	**Cukurca**	**1.47**	**173**	*e*PN	**Pb**	**18 40 53.9**	**+0.3**
CUKT	**Cukurca**	**1.47**	**173**	*e*Pn	**Pb**	**18 40 53.9**	**+0.3**

*ISK **30** 18:42:04.4, 38.77N×43.40E, h5km, ML2.6*
*CSEM **30** 18:42:05.8±0.3, 38.78N×43.41E, h10km, ML2.6, Error ellipse: s-maj=7.0km s-min=5.3km az=115.0*
*ISCJB **30** 18:42:06.2±0.6, 38.77N±0.03×43.42E±0.06, h15km±7km, Error ellipse: s-maj=7.5km s-min=4.9km az=14.1*
*DDA **30** 18:42:06.4, 38.75N×43.46E, h7km, Ml3.1*
ISC 30 18:42:06.3±0.9, 38.79N±0.03×43.42E±0.03, h13km±6km, n20, σ0s83/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**186**	*e*PG	**Pg**	**18 42 10.8**	**0.0**
VANB	**Van**	**0.19**	**186**	*e*Pg	**Pg**	**18 42 10.8**	**0.0**
VMUR	**Van-Muradiye**	**0.23**	**31**	*i* P	**Pg**	**18 42 11.0**	**-0.5**
VMUR				*i* S	**Sb**	**18 42 16.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.23**	**31**	P	**Pg**	**18 42 11.0**	**-0.5**
VMUR				S	**Sb**	**18 42 16.6**	**-0.1**
TVAN	**Van**	**0.26**	**182**	*i* P	**Pg**	**18 42 10.7**	**-1.3**
TVAN				*i* S	**Sg**	**18 42 15.7**	**0.0**
TVAN	**Van**	**0.26**	**182**	P	**Pg**	**18 42 10.7**	**-1.3**
TVAN				S	**Sg**	**18 42 15.7**	**0.0**
CLDR	**Caldiran**	**0.53**	**48**	*e*PG	**Pg**	**18 42 15.9**	**-0.8**
CLDR				*e*SG	**Sb**	**18 42 25.2**	**+0.1**
CLDR	**Caldiran**	**0.53**	**48**	*i* P	**Pg**	**18 42 16.4**	**-0.4**
CLDR				*i* S	**Sb**	**18 42 26.1**	**+1.0**
CLDR	**Caldiran**	**0.53**	**48**	*e*Pg	**Pg**	**18 42 15.9**	**-0.8**
CLDR	**Caldiran**	**0.53**	**48**	P	**Pg**	**18 42 16.4**	**-0.4**
CLDR				*e*Sg	**Sb**	**18 42 25.3**	**+0.1**
CLDR				S	**Sb**	**18 42 26.1**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.54**	**272**	*i* P	**Pb**	**18 42 17.4**	**-0.4**
ADCV				*i* S	**Sb**	**18 42 27.2**	**+1.7**
ADCV	**BITLIS_Adilcev**	**0.54**	**272**	P	**Pb**	**18 42 17.4**	**-0.4**
ADCV				S	**Sb**	**18 42 27.2**	**+1.7**
TUTA	**Tutak**	**0.77**	**323**	*i* P	**Pb**	**18 42 21.5**	**-0.2**
TUTA	**Tutak**	**0.77**	**323**	P	**Pb**	**18 42 21.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.85**	**337**	*e*PG	**Pg**	**18 42 22.1**	**-0.7**
AGRB				*e*SG	**Sb**	**18 42 35.2**	**+0.7**
AGRB	**Hanur-Agry**	**0.85**	**337**	*e*Pg	**Pg**	**18 42 22.1**	**-0.7**
AGRB				*e*Sg	**Sb**	**18 42 35.2**	**+0.7**
GURO	**Guroymak-BITLI**	**1.11**	**258**	*e*PN	**Pg**	**18 42 26.4**	**-1.3**
GURO	**Guroymak-BITLI**	**1.11**	**258**	*e*Pn	**Pg**	**18 42 26.4**	**-1.3**
CUKT	**Cukurca**	**1.55**	**174**	*e*PN	**Pn**	**18 42 34.0**	**+0.4**
CUKT	**Cukurca**	**1.55**	**174**	*e*Pn	**Pn**	**18 42 34.1**	**+0.4**

*ISK **30** 18:42:47.4, 38.65N×43.09E, h6km, ML2.7*
*ISCJB **30** 18:42:48.6±0.6, 38.67N±0.04×43.11E±0.05, h15km, Error ellipse: s-maj=5.7km s-min=4.6km az=39.5*
*CSEM **30** 18:42:48.9±0.2, 38.68N×43.10E, h5km, ML2.7, Error ellipse: s-maj=5.3km s-min=4.7km az=178.0*
*DDA **30** 18:42:49.1, 38.68N×43.16E, h7km, Ml3.2*
ISC 30 18:42:48.1±0.9, 38.64N±0.03×43.11E±0.03, h15km, n20, σ0s38/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**102**	*e*PG	**Pb**	**18 42 53.8**	**-0.1**
VANB				*e*SG	**Sb**	**18 42 57.4**	**-0.4**
VANB	**Van**	**0.22**	**102**	*e*Pg	**Pb**	**18 42 53.8**	**-0.1**
VANB				*e*Sg	**Sb**	**18 42 57.4**	**-0.4**
TVAN	**Van**	**0.26**	**116**	*i* P	**Pg**	**18 42 54.1**	**+0.3**
TVAN				*i* S	**Sb**	**18 42 58.7**	**-0.2**
TVAN	**Van**	**0.26**	**116**	P	**Pg**	**18 42 54.1**	**+0.3**
TVAN				S	**Sb**	**18 42 58.7**	**-0.2**
GEVA	**Gevas**	**0.33**	**187**	*i* P	**Pb**	**18 42 56.3**	**+0.5**
GEVA	**Gevas**	**0.33**	**187**	P	**Pb**	**18 42 56.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.34**	**299**	*i* P	**Pb**	**18 42 56.7**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.34**	**299**	P	**Pb**	**18 42 56.7**	**+0.7**
VMUR	**Van-Muradiye**	**0.50**	**46**	*i* P	**Pg**	**18 42 58.3**	**+0.3**
VMUR				*i* S	**Sb**	**18 43 06.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.50**	**46**	P	**Pg**	**18 42 58.3**	**+0.3**
VMUR				S	**Sb**	**18 43 06.1**	**+0.2**
TATV	**Tatvan**	**0.67**	**259**	*i* P	**Pn**	**18 43 03.1**	**-0.1**
TATV	**Tatvan**	**0.67**	**259**	P	**Pn**	**18 43 03.1**	**-0.1**
TUTA	**Tutak**	**0.79**	**343**	*i* P	**Pg**	**18 43 03.6**	**+0.1**
TUTA	**Tutak**	**0.79**	**343**	P	**Pg**	**18 43 03.7**	**+0.1**
CLDR	**Caldiran**	**0.80**	**51**	*e*PG	**Pb**	**18 43 04.0**	**+0.1**
CLDR	**Caldiran**	**0.80**	**51**	*e*Pg	**Pb**	**18 43 04.0**	**+0.1**
GURO	**Guroymak-BITLI**	**0.85**	**264**	*e*PG	**Pg**	**18 43 04.0**	**-0.6**
GURO	**Guroymak-BITLI**	**0.85**	**264**	*e*Pg	**Pg**	**18 43 04.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.94**	**354**	*e*PG	**Pb**	**18 43 05.7**	**-0.4**
AGRB				*e*SG	**Sb**	**18 43 18.7**	**+0.2**
AGRB	**Hanur-Agry**	**0.94**	**354**	*e*Pg	**Pb**	**18 43 05.7**	**-0.4**
AGRB				*e*Sg	**Sb**	**18 43 18.7**	**+0.2**

*DDA **30** 18:46:04.8, 38.75N×43.56E, h7km, Ml3.2*
*ISK **30** 18:46:04.7, 38.78N×43.55E, h6km, ML2.8*
*ISCJB **30** 18:46:05.3±0.6, 38.78N±0.03×43.57E±0.06, h13km, Error ellipse: s-maj=7.3km s-min=3.7km az=23.0*
*CSEM **30** 18:46:05.0±0.2, 38.77N×43.59E, h2km, ML2.8, Error ellipse: s-maj=6.3km s-min=3.4km az=120.0*
ISC 30 18:46:05.2±0.9, 38.76N±0.02×43.55E±0.04, h11km, n32, σ0s59/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**218**	*e*PG	**Pg**	**18 46 10.4**	**+0.5**
VANB	**Van**	**0.21**	**218**	*e*Pg	**Pg**	**18 46 10.4**	**+0.5**
VMUR	**Van-Muradiye**	**0.23**	**4**	*i* P	**Pg**	**18 46 09.7**	**-0.5**
VMUR				*i* S	**Sg**	**18 46 12.1**	**-1.5**
VMUR	**Van-Muradiye**	**0.23**	**4**	P	**Pg**	**18 46 09.7**	**-0.5**
VMUR				S	**Sg**	**18 46 12.1**	**-1.5**
TVAN	**Van**	**0.26**	**206**	*i* P	**Pg**	**18 46 10.5**	**-0.3**
TVAN				*i* S	**Sg**	**18 46 14.2**	**-0.4**
TVAN	**Van**	**0.26**	**206**	P	**Pg**	**18 46 10.5**	**-0.3**
TVAN				S	**Sg**	**18 46 14.2**	**-0.4**
CLDR	**Caldiran**	**0.47**	**37**	*e*PG	**Pg**	**18 46 14.4**	**-0.2**
CLDR				*e*SG	**Sg**	**18 46 20.9**	**-0.1**
CLDR	**Caldiran**	**0.47**	**37**	*i* P	**Pg**	**18 46 14.6**	**0.0**
CLDR	**Caldiran**	**0.47**	**37**	*e*Pg	**Pg**	**18 46 14.4**	**-0.2**
CLDR	**Caldiran**	**0.47**	**37**	P	**Pg**	**18 46 14.6**	**0.0**
CLDR				*e*Sg	**Sg**	**18 46 20.9**	**-0.1**
GEVA	**Gevas**	**0.59**	**221**	*i* P	**Pg**	**18 46 16.0**	**-0.8**
GEVA	**Gevas**	**0.59**	**221**	P	**Pg**	**18 46 16.0**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	*i* P	**Pn**	**18 46 20.2**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	P	**Pn**	**18 46 20.2**	**-0.1**
DYDN	**Diyadin**	**0.79**	**8**	*i* P	**Pg**	**18 46 19.9**	**-0.5**
DYDN	**Diyadin**	**0.79**	**8**	P	**Pg**	**18 46 20.0**	**-0.5**
TUTA	**Tutak**	**0.86**	**318**	*i* P	**Pg**	**18 46 21.7**	**-0.2**
TUTA	**Tutak**	**0.86**	**318**	P	**Pg**	**18 46 21.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.92**	**332**	*e*PG	**Pg**	**18 46 23.0**	**0.0**
AGRB				*e*SG	**Sg**	**18 46 34.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.92**	**332**	*e*Pg	**Pg**	**18 46 23.0**	**0.0**
AGRB				*e*Sg	**Sg**	**18 46 34.8**	**-0.3**
TATV	**Tatvan**	**1.04**	**256**	*i* P	**Pg**	**18 46 25.6**	**+0.4**
TATV	**Tatvan**	**1.04**	**256**	P	**Pg**	**18 46 25.6**	**+0.4**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*PN	**Pb**	**18 46 28.6**	**+0.6**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*Pn	**Pb**	**18 46 28.6**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.33**	**23**	*e*PN	**Pb**	**18 46 30.6**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.33**	**23**	*e*Pn	**Pb**	**18 46 30.6**	**+0.6**
CUKT	**Cukurca**	**1.51**	**178**	*e*PN	**Pb**	**18 46 33.3**	**+0.1**
CUKT	**Cukurca**	**1.51**	**178**	*e*Pn	**Pb**	**18 46 33.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	*e*PN	**Pb**	**18 46 40.0**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.95**	**252**	*e*Pn	**Pb**	**18 46 40.0**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.02**	**333**	*e*PN	**Pn**	**18 46 40.2**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.02**	**333**	*e*Pn	**Pn**	**18 46 40.2**	**+1.0**

*ISK **30** 18:49:01.3, 38.92N×43.55E, h5km, ML2.6*
*CSEM **30** 18:49:02.7±0.3, 38.93N×43.54E, h8km, ML3.5, Error ellipse: s-maj=7.4km s-min=5.1km az=118.0*
*DDA **30** 18:49:02.3, 38.91N×43.55E, h13km, Ml3.5*
*ISCJB **30** 18:49:03.1±0.5, 38.95N±0.04×43.54E±0.06, h13km±6km, Error ellipse: s-maj=9.7km s-min=4.3km az=36.0*
ISC 30 18:49:02.6±0.9, 38.94N±0.03×43.55E±0.03, h11km±5km, n35, σ0s90/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**18**	*i* P	**Pg**	**18 49 04.7**	**-0.4**
VMUR				*i* S	**Sg**	**18 49 07.5**	**+0.6**
VMUR	**Van-Muradiye**	**0.06**	**18**	P	**Pg**	**18 49 04.7**	**-0.4**
VMUR				S	**Sg**	**18 49 07.5**	**+0.6**
CLDR	**Caldiran**	**0.35**	**54**	*e*PG	**Pg**	**18 49 09.7**	**-0.1**
CLDR				*e*SG	**Sb**	**18 49 15.7**	**-1.0**
CLDR	**Caldiran**	**0.35**	**54**	*i* P	**Pg**	**18 49 09.6**	**-0.1**
CLDR	**Caldiran**	**0.35**	**54**	*e*Pg	**Pg**	**18 49 09.7**	**-0.1**
CLDR				*e*Sg	**Sb**	**18 49 15.7**	**-1.0**
VANB	**Van**	**0.36**	**200**	*e*PG	**Pb**	**18 49 10.7**	**-0.4**
VANB				*e*SG	**Sb**	**18 49 18.1**	**+1.3**
VANB	**Van**	**0.36**	**200**	*e*Pg	**Pb**	**18 49 10.7**	**-0.4**
VANB				*e*Sg	**Sb**	**18 49 18.1**	**+1.3**
TVAN	**Van**	**0.42**	**195**	*i* P	**Pg**	**18 49 10.9**	**-0.1**
TVAN				*i* S	**Sb**	**18 49 18.4**	**-0.2**
TVAN	**Van**	**0.42**	**195**	P	**Pg**	**18 49 10.9**	**-0.1**
TVAN				S	**Sb**	**18 49 18.4**	**-0.2**
DYDN	**Diyadin**	**0.62**	**10**	*i* P	**Pb**	**18 49 15.3**	**-0.2**
DYDN	**Diyadin**	**0.62**	**10**	P	**Pb**	**18 49 15.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**259**	*i* P	**Pg**	**18 49 15.3**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**259**	P	**Pg**	**18 49 15.3**	**-0.1**
GEVA	**Gevas**	**0.73**	**212**	*i* P	**Pg**	**18 49 15.9**	**-0.9**
GEVA	**Gevas**	**0.73**	**212**	P	**Pg**	**18 49 15.9**	**-0.9**
TUTA	**Tutak**	**0.74**	**309**	*i* P	**Pg**	**18 49 16.7**	**-0.2**
TUTA	**Tutak**	**0.74**	**309**	P	**Pg**	**18 49 16.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.77**	**326**	*e*PG	**Pg**	**18 49 17.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.77**	**326**	*e*Pg	**Pg**	**18 49 17.7**	**+0.1**
TATV	**Tatvan**	**1.09**	**247**	*i* P	**Pg**	**18 49 22.5**	**-1.1**
TATV	**Tatvan**	**1.09**	**247**	P	**Pg**	**18 49 22.5**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.18**	**27**	*e*PN	**Pn**	**18 49 25.3**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.18**	**27**	*e*Pn	**Pn**	**18 49 25.3**	**+0.3**
EKAR	**Karacoban**	**1.20**	**286**	*i* P	**Pn**	**18 49 27.6**	**+2.1**
EKAR	**Karacoban**	**1.20**	**286**	P	**Pn**	**18 49 27.6**	**+2.1**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*PN	**Pb**	**18 49 25.6**	**-0.6**
GURO	**Guroymak-BITLI**	**1.25**	**253**	*e*Pn	**Pb**	**18 49 25.6**	**-0.6**
CUKT	**Cukurca**	**1.69**	**178**	*e*PN	**Pb**	**18 49 33.1**	**-0.6**
CUKT	**Cukurca**	**1.69**	**178**	*e*Pn	**Pb**	**18 49 33.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*PN	**Pb**	**18 49 38.0**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*Pn	**Pb**	**18 49 38.0**	**-1.0**
BNGB	**Bing¶ll**	**2.24**	**272**	*e*PN	**Pn**	**18 49 41.1**	**+1.5**
BINT	**Bingol**	**2.39**	**270**	*e*Pn	**Pn**	**18 49 41.1**	**-0.6**
YEDI	**Yedisu-Bingol**	**2.39**	**283**	*e*PN	**Pb**	**18 49 44.0**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.39**	**283**	*e*Pn	**Pb**	**18 49 44.0**	**-1.7**

*IDC **30** 18:53:39.5±0.3, 25.77S×70.63W, h0km, mb5.3/31, mb1 5.4/35, mb1mx5.3/42, mbtmp5.3/35, ML4.6/5, MS5.2/32, Ms1 5.2/32, ms1mx5.2/39, Error ellipse: s-maj=13.1km s-min=9.3km az=73.0*
*MOS **30** 18:53:43.9±1.4, 25.65S×70.65W, h34km, mb5.7/58, MS5.2/42, Error ellipse: s-maj=12.1km s-min=6.3km az=100.8*
*ISCJB **30** 18:53:43.1±0.4, 25.73S±0.02×70.59W±0.03, h37km±3km, mb5.7/135, MS5.3/190, Error ellipse: s-maj=5.2km s-min=2.7km az=178.1*
*NEIC **30** 18:53:43.0±0.0, 25.74S×70.96W, h47km, mb5.7/93, MS5.4/144, MW5.7, Moment Tensor Solution. s51 Moment tensor: Scale 10^{17}Nm; M_{rr}3.99; $M_{\theta\theta}$-1.58; $M_{\phi\phi}$-2.41; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.13; $M_{\phi r}$-2.04; Best double couple: $M_0$4.00000×10^{17} NP1:ϕ_s187.00000°, δ61.00000°, λ90.00000°. NP2:ϕ_s8.00000°, δ29.00000°, λ91.00000°. Principal axes: T 4.5900, Plg74.0000°, Azm96.0000°; N -1.5600, Plg0.0000°, Azm187.0000°; P -3.0300, Plg16.0000°, Azm278.0000°; After GUC.*
*NEIC Felt [V] at Chanaral and Diego de Almagro; [IV] at Copiapo and Tierra Amarilla; [III] at Caldera; [II] at Alto de Carmen, Antofagasta, Coquimbo, La Serena and Vallenar. Also felt at Taltal and Vicuna. Felt at La Rioja, Argentina.

PLCA Paso Flores 14.97 180 Pn **Pn 18 57 10.8 -2.7**
comp=Z,0.4nm,0.3s,baz=19,slow=14,SNR=20
PLCA Sn **Sn 18 59 59.4 +1.2**
comp=Z,0.6nm,0.3s,baz=16,slow=18,SNR=1.8
PLCA Lg Lg 19 01 29.1
comp=Z,0.5nm,0.3s,baz=331,slow=18,SNR=3.2
PLCA LR LR 19 03 05.9
comp=Z,27μm,21.1s,baz=16,slow=38
SAML Samuel 18.14 24 *e*Pn **Pn 18 57 50.9 -2.9**
comp=Z,365nm,1.4s
ATAH Atahualpa 19.90 337 P **Pn 18 58 15.8 +0.4**
comp=Z,0.3nm,0.3s,baz=163,slow=9.1,SNR=16
ATAH LR LR 19 05 03.5
comp=Z,4μm,21.4s,baz=163,slow=34
SPB Sao Paulo 21.23 89 *e*P **P 18 58 27.0 -0.5**
comp=Z,769nm,0.9s
SPB LR LR
comp=Z,14μm,20.0s
CHRN Cochrane 21.54 184 *e*P **P 18 58 29.8 -0.8**
comp=Z,193nm,1.0s
BDFB Brasilia 23.42 69 P **P 18 58 49.2 -1.6**
comp=Z,127nm,0.6s,baz=34,slow=11,SNR=105
BDFB LR LR 19 08 55.7
comp=Z,16μm,20.8s,baz=32,slow=39
BDFB Brasilia 23.42 69 *e*P **P 18 58 49.4 -1.4**
comp=Z,3μm,1.2s
OTAV Otavalo 26.88 343 *e*P **P 18 59 25.2 +2.5**
OTAV Otavalo 26.88 343 *e*P **P 18 59 24.3 +1.6**
comp=Z,145nm,1.4s
OTAV LR LR
comp=Z,4μm,19.0s
PTGA Pitinga 26.91 24 P **P 18 59 22.6 +0.1**
comp=Z,119nm,0.9s,baz=203,slow=9.8,SNR=81
PTGA LR LR 19 10 53.9
comp=Z,11μm,18.9s,baz=200,slow=38
PTGA Pitinga 26.91 24 *e*P **P 18 59 22.6 +0.1**
comp=Z,262nm,1.3s
EFI East Falkland 27.64 163⇓ *e*P **P 18 59 27.3 -1.4**
EFI pmax pmax
comp=Z,171nm,1.1s
EFI East Falkland 27.64 163 *e*P **P 18 59 27.5 -1.2**
comp=Z,148nm,1.1s
EFI LR LR
comp=Z,10μm,20.0s
USHA Ushuaia 29.12 177 P **P 18 59 41.4 -0.5**
comp=Z,435nm,1.0s,baz=335,slow=5.0,SNR=16
USHA LR LR 19 12 23.6
comp=Z,71μm,19.2s,baz=344,slow=39
PRAC Prado 29.55 351 *e*P **P 18 59 45.5 -0.6**
PRAC Prado 29.55 351 *e*P **P 18 59 47.3 +1.3**
comp=Z,298nm,1.4s
VILC Villavicencio, 29.80 354 *e*P **P 18 59 49.9 +1.5**
ROSC El Rosal 30.59 353 P **P 18 59 57.0 +1.4**
comp=Z,24nm,1.0s,baz=192,slow=6.6,SNR=14
ROSC LR LR 19 12 07.7
comp=Z,5μm,22.0s,baz=198,slow=36
ROSC El Rosal 30.59 353 *e*P **P 18 59 55.1 -0.5**
comp=Z,35nm,1.0s
CTAB Cerro Tablazo, 30.74 353 *e*P **P 18 59 59.2 +2.1**
PLMC San Jos`` del 30.93 349 *e*P **P 18 59 59.2 +0.9**
GUYC Guyana, Colomb 31.10 351 *e*P **P 19 00 00.8 +0.6**
PAYG Puerto Ayora 31.27 320 PFAKE 19 00 10.0 +8.7
PAYG LR LR
comp=Z,6μm,20.0s
NORC Norcasia 31.36 352 *e*P **P 19 00 02.5 +0.4**
RUSC La Rusia 31.51 355 *e*P **P 19 00 03.0 -0.9**
RUSC La Rusia 31.51 355 *e*P **P 19 00 04.8 +0.9**
comp=Z,122nm,1.5s
HELC Santa Helena 32.07 351 *e*P **P 19 00 09.6 +0.9**
HELC Santa Helena 32.07 351 *e*P **P 19 00 09.1 +0.4**
comp=Z,535nm,1.6s
BARC Barichara 32.21 355 *e*P **P 19 00 09.6 -0.2**
BRRC Barranca, Sant 32.77 354 *e*P **P 19 00 11.8 -2.6**
ZARC Zaragoza, Cauc 33.27 352 *e*P **P 19 00 17.3 -1.5**
SDV Santo Domingo 34.40 0 P **P 19 00 28.1 -0.7**
comp=Z,18nm,1.0s,baz=208,slow=8.4,SNR=14
SDV LR LR 19 15 44.9
comp=Z,6μm,18.4s,baz=184,slow=38
SDV Santo Domingo 34.40 0 *e*P **P 19 00 24.4 -4.4**
SDV Santo Domingo 34.40 0 *e*P **P 19 00 27.1 -1.7**
comp=Z,22nm,0.9s
RPN Rapa Nui 34.55 259 LR LR 19 11 14.7
comp=Z,7μm,18.2s,baz=80,slow=30
RPN Rapa Nui 34.55 259 PFAKE 19 00 40.0 +10
RPN LR LR
comp=Z,137μm,20.0s
MOTC Monteria, Cord 34.63 351 *e*P **P 19 00 31.0 +0.4**
CAPC Capurgana 34.76 348 *e*P **P 19 00 33.2 +1.5**
SJCC San Jacinto, C 35.67 352 *e*P **P 19 00 38.6 -1.0**
BCIP Isla Barro Col 35.81 344 PFAKE 19 00 50.0 +9.3
BCIP LR LR
comp=Z,2μm,21.0s
PCRV Puerto La Cruz 36.16 10 P **P 19 00 44.5 +0.7**
comp=Z,14nm,0.9s,baz=173,slow=7.5,SNR=7.2
PCRV LR LR 19 16 37.2
comp=Z,11μm,20.2s,baz=178,slow=38
HOPE Hope Point 38.08 148 *e*P **P 19 00 59.0 -0.7**
comp=Z,573nm,1.9s
HOPE LR LR
comp=Z,4μm,20.0s
RCBR Riachuelo 38.68 65 P **P 19 01 06.0 +0.8**
comp=Z,167nm,1.1s,baz=224,slow=9.3,SNR=40
RCBR LR LR 19 17 16.7
comp=Z,4μm,21.3s,baz=210,slow=37
RCBR Riachuelo 38.68 65 *e*P **P 19 01 06.1 +0.9**
comp=Z,645nm,1.2s
PMSA Palmer Station 39.29 176 P **P 19 01 09.4 -0.2**
comp=Z,73nm,1.1s,baz=3.9,slow=8.3,SNR=7.1
PMSA Palmer Station 39.29 176 *e*P **P 19 01 08.8 -0.9**
comp=Z,393nm,1.6s
PMSA LR LR
comp=Z,9μm,21.0s
BBGH Gun Hill 40.12 17 PFAKE 19 01 30.0 +13
BBGH LR LR
comp=Z,7μm,22.0s
FDF Fort de France 41.27 14 *e*P **P 19 01 24.9 -1.7**
FDF Fort de France 41.27 14 *e*P **P 19 01 23.8 -2.8**
FDF pmax pmax
comp=Z,152nm,1.1s
FDF MLR MLR
comp=Z,5μm,20.0s
FDF Fort de France 41.27 14 *e*P **P 19 01 23.8 -2.8**
comp=Z,152nm,1.1s
FDF LR LR
comp=Z,5μm,20.0s
TGUH Tegucigalpa,Un 42.72 336 *e*P **P 19 01 38.6 +0.3**
comp=Z,195nm,1.2s
SJG San Juan 43.79 6 P **P 19 01 45.5 -1.6**
comp=Z,57nm,0.9s,baz=218,slow=2.8,SNR=16
SJG LR LR 19 21 38.6
comp=Z,4μm,20.6s,baz=186,slow=38
SJG San Juan 43.79 6 *e*P **P 19 01 45.4 -1.6**
comp=Z,75nm,0.9s
MPR Mayaguez 43.81 5 *e*P **P 19 01 45.5 -1.6**
comp=Z,91nm,1.1s
MTP Monte Pirata 43.84 7 *e*P **P 19 01 45.5 -1.9**
comp=Z,74nm,1.1s
HUMP Col San Antoni 43.85 7 *e*P **P 19 01 45.6 -1.9**
comp=Z,120nm,1.5s
CBYP Canovanas 43.98 7 *e*P **P 19 01 46.5 -2.1**
comp=Z,172nm,1.1s
ANWB Willy Bob 43.99 12 PFAKE 19 02 00.0 +11
ANWB LR LR
comp=Z,5μm,20.0s
SMRT St. Maarten 44.13 10 *e*P **P 19 01 47.3 -2.5**
comp=Z,58nm,0.9s
MTDJ Mount Denham 44.19 351 *e*P **P 19 01 48.7 -1.7**
comp=Z,269nm,1.5s
MTDJ LR LR
comp=Z,1μm,22.0s
SDDR Presa de Saban 44.44 359 PFAKE 19 02 00.0 +7.7
SDDR LR LR
comp=Z,3μm,19.0s
GTBY Guantanamo Bay 45.58 354 *e*P **P 19 02 01.3 +0.1**
comp=Z,202nm,1.2s
GTBY LR LR
comp=Z,1μm,19.0s
GRTK Grand Turk 46.95 359 *e*P **P 19 02 11.1 -0.9**
comp=Z,907nm,1.7s
GRTK LR LR
comp=Z,3μm,19.0s
CMIG Matias Romero 48.64 329 P **P 19 02 26.4 +1.2**
comp=Z,19nm,1.0s,baz=108,slow=4.7,SNR=15
CMIG LR LR 19 18 51.5
comp=Z,2μm,21.8s,baz=166,slow=31
TEIG Tepich 48.77 338 *e*P **P 19 02 26.5 +0.4**
comp=Z,84nm,1.4s

TRIS Tristan da Cun 50.39 118 *e*P **P 19 02 38.1 -0.3**
comp=Z,423nm,1.4s
TRIS LR LR
comp=Z,2μm,19.0s
PTCN Pitcairn Islan 53.27 257 PFAKE 19 03 10.0 +10
PTCN LR LR
comp=Z,3μm,20.0s
ASCN Ascension 56.31 82 PFAKE 19 03 30.0 +7.8
ASCN LR LR
comp=Z,5μm,22.0s
VNA3 Neumayer Olymp 56.64 160 P **P 19 03 23.5 -0.3**
VNA1 Neumayer--Stat 56.89 159 P **P 19 03 25.6 +0.1**
VNA2 Neumayer--Watz 57.25 160 P **P 19 03 27.5 -0.5**
baz=285,slow=8.1
ZAIG Zacatecas 57.26 325 *e*P **P 19 03 31.0 +1.9**
LNIG Linares 57.51 329 *e*P **P 19 03 30.3 -0.1**
BBSR BB Station 58.05 6 PFAKE 19 03 40.0 +6.0
BBSR LR LR
comp=Z,1μm,21.0s
RKT Rikitea 58.08 258 *e*T T 20 06 19.0
comp=Z,6.2nm,0.2s
TIGA Tifton 58.16 347 P **P 19 03 35.1 +0.3**
baz=167,SNR=6.2
TIGA Tifton 58.16 347 *e*P **P 19 03 33.5 -1.3**
035Z Hargill 58.22 331 P **P 19 03 37.0 +1.6**
baz=151
035A Encino 58.65 331 P **P 19 03 39.6 +1.3**
baz=151
448A Bay Minette 58.68 343 P **P 19 03 39.4 +0.9**
baz=162
BRAL Brewton 58.70 344 *e*P **P 19 03 37.8 -0.8**
BRAL LR LR
comp=Z,1μm,19.0s
SNAA Sanae 58.86 160 P **P 19 03 39.0 -0.4**
SNAA Sanae 58.86 160 P **P 19 03 38.6 -0.8**
comp=Z,41nm,1.0s,baz=283,slow=6.1,SNR=99
SNAA PKPPKP **P'P'df 19 33 17.4 -1.9**
comp=Z,2.4nm,1.1s,baz=41,slow=8.2,SNR=3.6
SNAA Sanae 58.86 160 *e*P **P 19 03 37.7 -1.7**
SNAA P'P' 19 33 17.4
446A Poplarville 58.97 341 P **P 19 03 41.6 +1.1**
baz=161
RGRS Roger Stewart 59.01 351 *e*P **P 19 03 39.1 -1.5**
034A Hebbronville 59.01 331 P **P 19 03 42.5 +1.6**
baz=151,SNR=13
H06S1 SOCORRO T 59.05 314 T T 20 07 39.3
SNR=80
H06E1 SOCORRO T-PHAS 59.06 314 T T 20 07 41.1
SNR=1333
CSU Charleston Sou 59.06 351 *e*P **P 19 03 41.1 0.0**
KVTX Kingsville 59.09 332 PFAKE 19 03 50.0 +8.6
KVTX LR LR
comp=Z,988nm,21.0s
348A Jackson 59.15 343 P **P 19 03 42.3 +0.6**
baz=162
NHSC New Hope 59.20 351 *e*P **P 19 03 43.0 +0.9**
NHSC LR LR
comp=Z,2μm,22.0s
347A Saraland 59.31 342 P **P 19 03 43.5 +0.6**
baz=162,SNR=7.6
444A Pine Grove 59.32 340 P **P 19 03 44.7 +1.8**
baz=159
934A Benavides 59.41 331 P **P 19 03 45.7 +2.1**
baz=151
346A Big Creek Wild 59.56 341 P **P 19 03 45.3 +0.7**
baz=161
737A Port Lavaca 59.56 334 P **P 19 03 46.7 +2.1**
baz=153
345A Thompson Farm, 59.65 341 P **P 19 03 46.1 +0.9**
baz=160
835A Beeville 59.71 332 P **P 19 03 47.5 +1.8**
baz=152,SNR=8.0
933A Laredo 59.75 331 P **P 19 03 47.7 +1.7**
baz=150,SNR=11
248A Dixon Mills 59.76 343 P **P 19 03 46.4 +0.5**
baz=162,SNR=6.0
540A Vidor 59.93 337 P **P 19 03 47.0 -0.2**
baz=156
247A Quitman 59.95 342 P **P 19 03 47.9 +0.7**
baz=162,SNR=6.6
736A Circle Diamond 59.98 333 P **P 19 03 49.8 +2.3**
baz=153,SNR=21
344A Westbrook Farm 60.00 340 P **P 19 03 48.6 +1.0**
baz=159,SNR=12
GOGA Godfrey 60.05 348 *e*P **P 19 03 47.5 -0.4**
GOGA MLR MLR
comp=Z,1μm,21.0s
GOGA Godfrey 60.05 348 *e*P **P 19 03 47.5 -0.4**
GOGA LR LR
comp=Z,1μm,21.0s
246A Jackson Lee, B 60.05 342 P **P 19 03 48.0 +0.1**
baz=161
637A Eagle Lake 60.12 334 P **P 19 03 50.6 +2.1**
baz=154
441A DeRidder 60.15 338 P **P 19 03 50.3 +1.7**
baz=157
735A Kenedy 60.20 333 P **P 19 03 50.9 +1.9**
baz=152
735A Kenedy 60.20 333 *e*P **P 19 03 50.3 +1.3**
245A Little AP, Sta 60.29 341 P **P 19 03 50.4 +0.8**
baz=160,SNR=5.8
HKT Hockley 60.38 335 *e*P **P 19 03 50.9 +0.7**
HKT Hockley 60.38 335 *e*P **P 19 03 50.9 +0.7**
440A Kirbyville 60.41 337 P **P 19 03 51.8 +1.4**
baz=156
833A Chaparral WMA, 60.41 331 P **P 19 03 51.9 +1.4**
baz=150,SNR=16
342A Flagon Creek P 60.43 339 P **P 19 03 52.3 +1.7**
baz=158,SNR=6.5
147A Livingston 60.44 343 P **P 19 03 50.9 +0.3**
baz=162,SNR=5.3
636A Smothers Creek 60.44 334 P **P 19 03 52.5 +1.8**
baz=153,SNR=11
LRAL Lakeview Retre 60.46 344 *e*P **P 19 03 50.0 -0.7**
538A Harpers Horsep 60.49 335 P **P 19 03 52.8 +1.8**
baz=155
JSC Jenkinsville 60.52 350 *e*P **P 19 03 51.0 -0.1**
JSC Jenkinsville 60.52 350 *e*P **P 19 03 51.0 -0.1**
244A Avery, Jackson 60.53 341 P **P 19 03 52.0 +0.8**
baz=160,SNR=13
146A Union 60.62 342 P **P 19 03 51.9 +0.1**
baz=161
243A Waterproof 60.63 340 P **P 19 03 53.3 +1.5**
baz=159,SNR=5.6
HODGE Hodges 60.63 349 *e*P **P 19 03 52.0 +0.1**
VBMS Vicksburg 60.65 341 P **P 19 03 53.1 +1.1**
baz=160
VBMS Vicksburg 60.65 341 *e*P **P 19 03 52.4 +0.4**
341A Kurthwood 60.67 338 P **P 19 03 54.0 +1.8**
baz=157,SNR=5.1
537A Green Hill Far 60.68 335 P **P 19 03 54.0 +1.7**
baz=154,SNR=6.7
439A Center Grove, 60.74 336 P **P 19 03 54.4 +1.7**
baz=155,SNR=12
145A Houston Renfro 60.84 341 P **P 19 03 54.0 +0.7**
baz=160
Z47A Carrollton 60.89 343 P **P 19 03 53.9 +0.2**
baz=162,SNR=6.7
Z48A Northport 60.93 344 P **P 19 03 53.5 -0.4**
baz=163,SNR=12
SHEL Horse Pasture 60.95 95 PFAKE 19 04 10.0 +15
SHEL LR LR
comp=Z,2μm,21.0s
438A Sam Houston St 60.96 336 P **P 19 03 56.0 +1.8**
baz=155,SNR=6.8
536A Bastrop 60.97 334 P **P 19 03 55.6 +1.3**
baz=153
340A Bronson 61.00 337 P **P 19 03 55.6 +1.2**
baz=156,SNR=12
144A Alexander Plac 61.00 341 P **P 19 03 55.2 +0.8**
baz=160
242A Grayson 61.01 339 P **P 19 03 56.0 +1.5**
baz=158,SNR=13
CNNC Cliffs of the 61.01 353 *e*P **P 19 03 55.1 +0.7**
CNNC LR LR
comp=Z,2μm,22.0s
Z46A Louisville 61.11 343 P **P 19 03 55.9 +0.8**
baz=162,SNR=7.1
SACV Santiago Islan 61.12 54 PFAKE 19 04 10.0 +14
SACV LR LR
comp=Z,2μm,22.0s
339A Huntington 61.15 337 P **P 19 03 57.2 +1.7**
baz=156
241A Mo Tay, Goldon 61.22 338 P **P 19 03 57.5 +1.6**
baz=157,SNR=12
437A Phantom Ranch, 61.28 335 P **P 19 03 58.0 +1.6**
baz=154

143A Socs Landing, 61.37 340 P **P 19 03 58.2 +1.3**
baz=159,SNR=8.9
KMSC Kings Mountain 61.37 350 P **P 19 03 57.5 +0.6**
baz=169,SNR=14
KMSC Kings Mountain 61.37 350 *e*P **P 19 03 56.1 -0.8**
142A Monroe 61.39 340 P **P 19 03 58.6 +1.5**
baz=158,SNR=8.2
338A Crockett 61.45 336 P **P 19 03 59.1 +1.7**
baz=155,SNR=8.1
436A Wall Ranch, Ga 61.48 334 P **P 19 03 59.1 +1.3**
baz=154,SNR=6.4
Z45A Winona 61.49 342 P **P 19 03 58.5 +0.8**
baz=161,SNR=5.7
BG3 Lake Jocassee 61.49 349 *e*P **P 19 03 57.8 +0.1**
Y47A UCPARC, Winfie 61.50 344 P **P 19 03 57.9 +0.1**
baz=163,SNR=19
240A Hunter Patters 61.52 338 P **P 19 03 59.8 +1.8**
baz=157
NATX Nacogdoches 61.58 337 P **P 19 03 59.8 +1.5**
baz=156,SNR=6.6
NATX Nacogdoches 61.58 337 *e*P **P 19 03 59.4 +1.1**
NATX LR LR
comp=Z,1μm,21.0s
Z44A Pea Ridge, Bel 61.61 341 P **P 19 03 59.5 +1.0**
baz=160
337A Centerville 61.62 336 P **P 19 04 00.7 +2.0**
baz=154
Y46A Houston 61.74 343 P **P 19 03 59.2 -0.2**
baz=162,SNR=8.7
239A Gary 61.74 337 P **P 19 04 01.1 +1.7**
baz=156,SNR=7.2
141A Papa Simpson, 61.75 339 P **P 19 04 00.9 +1.4**
baz=158,SNR=8.0
435B Jarrell 61.81 334 P **P 19 04 01.0 +1.1**
baz=153,SNR=5.9
Y45A Yeager Farm, C 61.91 342 P **P 19 04 01.0 +0.5**
baz=161,SNR=9.8
238A Jacksonville 61.96 337 P **P 19 04 02.4 +1.5**
baz=155
140A Cam and Jess, 62.01 338 P **P 19 04 02.8 +1.6**
baz=157
336A Riesel 62.05 335 P **P 19 04 02.5 +1.0**
baz=154,SNR=6.7
Z42A Norrel Spur, H 62.06 340 P **P 19 04 02.7 +1.1**
baz=159
Y44A Strider, Charl 62.19 342 P **P 19 04 03.3 +0.9**
baz=160
237A Washetta, Mont 62.21 336 P **P 19 04 04.0 +1.4**
baz=155,SNR=9.8
CPCT Cooper Cave 62.23 347 *e*P **P 19 04 02.5 -0.2**
HPIG 62.27 325 *e*P **P 19 04 04.5 +1.1**
TKL Tuckaleechee C 62.29 348 P **P 19 04 02.8 -0.3**
comp=Z,50nm,1.0s,baz=159,slow=8.0,SNR=23
TKL LR LR 19 34 50.3
comp=Z,623nm,18.1s,baz=156,slow=40
TKL Tuckaleechee C 62.29 348 *e*P **P 19 04 02.7 -0.4**
SWET Sewanee 62.30 346 *e*P **P 19 04 02.9 -0.4**
Z41A Richland Creek 62.32 339 P **P 19 04 04.4 +1.1**
baz=158
Y43A Makayla and Ka 62.35 341 P **P 19 04 04.6 +1.1**
baz=160,SNR=7.3
X45A UM Field Stati 62.40 343 P **P 19 04 03.5 -0.3**
baz=161,SNR=15
JCT Junction City 62.46 332 P **P 19 04 05.5 +1.2**
baz=151,SNR=22
JCT Junction City 62.46 332 *e*P **P 19 04 05.1 +0.8**
JCT MLR MLR
comp=Z,551nm,20.0s
JCT Junction City 62.46 332 *e*P **P 19 04 05.1 +0.8**
JCT LR LR
comp=Z,551nm,20.0s
236A Katherine and 62.48 335 P **P 19 04 05.7 +1.3**
baz=154,SNR=9.4
OXF Oxford 62.48 343 *e*P **P 19 04 01.9 -2.5**
OXF pmax pmax
comp=Z,177nm,1.0s
OXF Oxford 62.48 343 *e*P **P 19 04 01.9 -2.5**
comp=Z,177nm,1.0s
Z40A Long Farm, Mag 62.51 339 P **P 19 04 06.2 +1.7**
baz=157,SNR=6.5
Y42A Garnett, Star 62.54 340 P **P 19 04 05.8 +1.1**
baz=159,SNR=7.5
138A Matatall Enter 62.55 337 P **P 19 04 06.6 +1.8**
baz=156
PLAL Pickwick Lake 62.58 344 *e*P **P 19 04 04.1 -0.9**
CCAR Cane Creek 62.61 340 *e*P **P 19 04 06.0 +0.8**
LPIG La Paz 62.64 319 LR LR 19 26 01.1
comp=Z,860nm,20.4s,baz=149,slow=31
X44A Crenshaw 62.68 342 P **P 19 04 05.7 0.0**
baz=161,SNR=5.9
137A Heron Place, G 62.73 336 P **P 19 04 07.8 +1.7**
baz=155,SNR=9.9
WLAR White Oak Lake 62.81 339 *e*P **P 19 04 07.8 +1.3**
WHTX Lake Whitney, 62.83 335 P **P 19 04 07.7 +1.0**
baz=153,SNR=13
WHTX Lake Whitney, 62.83 335 *e*P **P 19 04 07.4 +0.7**
Y41A Eaglette Beard 62.83 340 P **P 19 04 08.0 +1.3**
baz=158,SNR=11
X43A Marvell 62.90 341 P **P 19 04 08.1 +1.0**
baz=160,SNR=7.5
136A Ennis 62.90 336 P **P 19 04 08.4 +1.2**
baz=154,SNR=6.1
W45A Hickory Valley 63.03 343 P **P 19 04 08.0 0.0**
baz=162,SNR=9.6
Z38A Mt. Pleasant 63.04 337 P **P 19 04 09.4 +1.3**
baz=156
X42A Stuttgart 63.15 341 P **P 19 04 09.3 +0.5**
baz=159
Y40A Okolona 63.17 339 P **P 19 04 09.4 +0.5**
baz=158,SNR=8.0
W44A Shelby Farms P 63.19 342 P **P 19 04 09.7 +0.7**
baz=161
TXAR Lajitas Array 63.24 328 P **P 19 04 10.9 +1.3**
comp=Z,8.5nm,1.0s,baz=145,slow=7.6,SNR=46
TXAR LR LR 19 27 32.0
comp=Z,1μm,21.1s,baz=0.0,slow=32
TXAR PKP2bc 19 33 14.8
comp=Z,2.1nm,1.0s,baz=354,slow=1.3,SNR=6.0
TX31 Lajitas Ar. Si 63.24 328 *e*P **P 19 04 10.5 +0.8**
VWCC Virginia Weste 63.24 352 *e*P **P 19 04 10.3 +0.9**
BLA Blacksburg 63.27 351 *e*P **P 19 04 10.8 +1.2**
BLA MLR MLR
comp=Z,2μm,22.0s
BLA Blacksburg 63.27 351 *e*P **P 19 04 10.8 +1.2**
BLA LR LR
comp=Z,2μm,22.0s
URVA University of 63.29 354 *e*P **P 19 04 11.0 +1.4**
Y39A Lockesburg 63.37 338 P **P 19 04 11.1 +0.9**
baz=157,SNR=10
X41A Kaden, Bauxite 63.37 340 P **P 19 04 11.1 +0.9**
baz=158
JSRW J. Sargeant Re 63.44 354 *e*P **P 19 04 12.0 +1.3**
X40A Basin Creek Fa 63.46 340 P **P 19 04 11.4 +0.6**
baz=158
NVL N'lazarevskaya 63.50 158⇑ *i*P **P 19 04 10.2 -0.5**
NVL *e*PP **pP 19 04 19.0 -2.3**
NVL *e* 19 06 29.1
NVL *e*S **S 19 12 39.5 -1.8**
V45A Humboldt 63.53 343 P **P 19 04 10.7 -0.5**
baz=162
IP05 Hopewell Churc 63.57 354 *e*P **P 19 04 12.8 +1.3**
Y38A Idabel 63.57 338 P **P 19 04 12.2 +0.6**
baz=156
UALR University of 63.58 340 *e*P **P 19 04 12.5 +0.9**
Z36A Blue Ridge 63.58 336 P **P 19 04 12.4 +0.7**
baz=154,SNR=18
WVT Waverly 63.62 345 *e*P **P 19 04 11.6 -0.3**
WVT Waverly 63.62 345 *e*P **P 19 04 11.6 -0.3**
IP07 Quail 63.68 354 *e*P **P 19 04 13.6 +1.3**
IP06 Yanceyville 63.69 354 *e*P **P 19 04 13.7 +1.5**
IP01 Cuckoo 63.71 354 *e*P **P 19 04 14.2 +1.8**
MIAR Mount Ida 63.75 339 P **P 19 04 13.3 +0.5**
baz=157,SNR=22
MIAR Mount Ida 63.75 339 *e*P **P 19 04 13.9 +1.1**
MIAR MLR MLR
comp=Z,639nm,19.0s
MIAR Mount Ida 63.75 339 *e*P **P 19 04 13.9 +1.1**
MIAR LR LR
comp=Z,639nm,19.0s
IP03 Louisa 63.78 354 *e*P **P 19 04 14.3 +1.4**
W42A Bald Knob 63.79 341 P **P 19 04 13.6 +0.6**
baz=159
CVRD Centerville Ro 63.81 354 *e*P **P 19 04 14.3 +1.2**
SPFD Spotsylvania F 63.84 354 *e*P **P 19 04 14.4 +1.1**
IP04 Greensprings 63.86 353 *e*P **P 19 04 15.0 +1.6**
X39A Fountain Ranch 63.90 339 P **P 19 04 14.9 +1.1**

baz=157,SNR=9.5
CBN Corbin Frederi 63.90 354 eP P 19 04 15.2 +1.5
CBN LR LR
comp=Z,1µm,22.0s
W41B Gary Mavity, V 63.92 340 P P 19 04 14.4 +0.6
baz=159,SNR=18
Y37A Hugo 63.93 337 P P 19 04 15.3 +1.3
baz=155,SNR=6.4
X301 Greenbrier Sit 64.02 340 eP P 19 04 15.3 +0.8
WHAR Wooly Hollow 64.04 340 eP P 19 04 15.7 +1.0
U45A Rockin P Farm, 64.05 344 P P 19 04 15.2 +0.5
baz=162
UTMT University of 64.07 344 eP P 19 04 15.5 +0.7
Y36A Durant 64.09 336 P P 19 04 16.6 +1.5
baz=155,SNR=5.7
W40A Ferguson Farm, 64.19 340 P P 19 04 16.9 +1.3
baz=158,SNR=10
V42A Cord 64.25 341 P P 19 04 16.1 0.0
baz=160,SNR=8.6
ABTX Abilene, Hawle 64.25 333 P P 19 04 17.2 +1.0
baz=151,SNR=35
ABTX Abilene, Hawle 64.25 333 eP P 19 04 16.9 +0.7
comp=Z,288nm,1.3s
X38A Whitesboro 64.28 338 P P 19 04 17.2 +1.0
baz=156,SNR=24
Y35A Marietta 64.37 336 P P 19 04 18.1 +1.2
baz=154,SNR=8.1
X37A Clayton 64.39 338 P P 19 04 18.1 +1.1
baz=156,SNR=24
W39A Magazine 64.42 339 P P 19 04 18.1 +1.0
baz=157,SNR=17
U44A Portageville 64.44 343 P P 19 04 17.7 +0.5
baz=161
V41A Mountainview 64.46 341 P P 19 04 17.8 +0.3
baz=159,SNR=30
QSPA South Pole Qui 64.49 180 eP P 19 04 18.2 +0.7
QSPA LR LR
comp=Z,2µm,20.0s
W38A Poteau 64.54 338 P P 19 04 18.9 +0.9
baz=157,SNR=13
V40A Witts Springs 64.67 340 P P 19 04 19.3 +0.4
baz=158,SNR=16
U42A Revenden 64.72 342 P P 19 04 19.3 +0.3
baz=160,SNR=44
X36A Centrahoma 64.72 337 P P 19 04 19.4 +0.3
baz=155,SNR=12
X35A Drake 64.79 336 P P 19 04 19.9 +0.3
baz=154,SNR=7.3
PBMO Poplar Bluff 64.89 343 eP P 19 04 20.5 +0.3
U41A Viola 64.91 341 P P 19 04 20.6 +0.2
baz=159,SNR=27
W37B Quinton 64.91 338 P P 19 04 21.0 +0.6
baz=156,SNR=15
T44A Benton 64.96 343 P P 19 04 20.9 +0.2
baz=162
V39A Pettigrew 64.96 340 P P 19 04 21.4 +0.6
baz=158,SNR=26
T43A Greenville 65.14 343 P P 19 04 22.0 +0.2
baz=161,SNR=14
W36A Wetumka 65.19 337 P P 19 04 22.1 -0.1
baz=155,SNR=17
U40A Yellville 65.19 340 P P 19 04 22.7 +0.5
baz=158,SNR=31
V38A Canehill 65.23 339 P P 19 04 22.9 +0.5
baz=157,SNR=28
S45A Carrier Mills 65.27 344 P P 19 04 22.7 +0.1
baz=163,SNR=5.9
WCI Wyandotte Cave 65.28 347 eP P 19 04 22.4 -0.4
WCI Wyandotte Cave 65.28 347 eP P 19 04 22.4 -0.4
USIN University of 65.33 345 eP P 19 04 23.1 +0.1
U39A Green Forest 65.41 340 P P 19 04 24.2 +0.5
baz=158,SNR=22
W35A Tecumseh 65.43 337 P P 19 04 24.4 +0.6
baz=154,SNR=9.9
S44A Carbondale 65.45 344 P P 19 04 24.0 +0.1
baz=162,SNR=26
HHAR Hobbs 65.46 339 eP P 19 04 24.7 +0.7
PSUB Penn St. - Bra 65.46 356 eP P 19 04 25.3 +1.5
V37A Hulbert 65.49 338 P P 19 04 24.6 +0.5
baz=156,SNR=20
T41A Mountain View 65.51 342 P P 19 04 24.5 +0.2
baz=160,SNR=39
S43A Fulton Ridge, 65.55 343 P P 19 04 24.6 +0.1
baz=161,SNR=8.0
MCWV Mont Chateau 65.60 352 eP P 19 04 25.9 +1.1
V36A Jenks 65.67 338 P P 19 04 25.8 +0.5
baz=155,SNR=28
TUL1 Leonard 65.73 338 P P 19 04 26.1 +0.4
baz=156,SNR=21
TUL1 Leonard 65.73 338 eP P 19 04 26.0 +0.4
comp=Z,315nm,1.5s
U38A Gravette 65.75 339 P P 19 04 26.4 +0.6
baz=157,SNR=13
WMOK Wichita Mounta 65.77 335 P P 19 04 26.2 +0.3
baz=153,SNR=11
WMOK Wichita Mounta 65.77 335 eP P 19 04 25.4 -0.6
WMOK MLR MLR
comp=Z,615nm,19.0s
WMOK Wichita Mounta 65.77 335 eP P 19 04 25.4 -0.6
WMOK LR LR
comp=Z,615nm,19.0s
T40A Mansfield 65.83 341 P P 19 04 26.2 -0.1
baz=159,SNR=16
S42A Caledonia 65.92 343 P P 19 04 26.5 -0.3
baz=160,SNR=17
R44A Waltonville 65.93 344 P P 19 04 26.8 -0.1
baz=162,SNR=9.6
U37A Salina 65.96 339 P P 19 04 27.5 +0.4
baz=156,SNR=15
V35A Meyer Ranch, C 65.96 337 P P 19 04 27.6 +0.4
baz=155,SNR=7.7
T39A Clever 65.97 340 P P 19 04 27.7 +0.5
baz=158,SNR=20
S41A Jillco Farms, 66.02 342 P P 19 04 27.7 +0.2
baz=160,SNR=48
MNTX Cornudas Mount 66.02 328 P P 19 04 28.3 +0.6
baz=146,SNR=36
MNTX Cornudas Mount 66.02 328 eP P 19 04 28.3 +0.6
MNTX LR LR
comp=Z,1µm,20.0s
FVM French Village 66.03 343 eP P 19 04 27.8 +0.2
FVM French Village 66.03 343 eP P 19 04 27.8 +0.2
O56A Blue Knob Stat 66.06 353 P P 19 04 28.5 +0.8
baz=172,SNR=10
U36A Oologah 66.15 338 P P 19 04 28.7 +0.3
baz=156,SNR=5.4
OLIL Olney 66.16 345 eP P 19 04 28.0 -0.3
R43A Red Bud 66.17 344 P P 19 04 28.6 +0.1
baz=161,SNR=11
S40A Lebanon 66.24 341 P P 19 04 29.4 +0.4
baz=159,SNR=21
BBTS Babate 66.25 59 P P 19 04 30.2 +0.8
comp=Z,62nm,0.8s,baz=243,slow=2.9,SNR=8.3
BBTS LR LR 19 32 49.1
comp=Z,4µm,20.2s,baz=198,slow=36
T38A Diamond 66.27 340 P P 19 04 29.9 +0.8
baz=157,SNR=29
CCM Cathedral Cave 66.31 342 eP P 19 04 29.7 +0.3
CCM Cathedral Cave 66.31 342 eP P 19 04 29.7 +0.3
SSPA Standing Stone 66.36 354 eP P 19 04 31.0 +1.4
R42A Luebbering 66.40 343 P P 19 04 30.3 +0.3
baz=161,SNR=29
N59A State Game Lan 66.47 356 P P 19 04 30.8 +0.4
baz=175,SNR=6.1
U35A Pawnee 66.47 337 P P 19 04 31.0 +0.6
baz=155,SNR=21
P47A Martinsville 66.49 347 P P 19 04 29.5 -0.9
baz=165
Q44A Meyer Farm, Va 66.54 344 P P 19 04 30.3 -0.4
baz=162,SNR=11
T37A Cheneyville 18 66.55 339 P P 19 04 31.4 +0.6
baz=157,SNR=36
S39A Bolivar 66.57 341 P P 19 04 31.6 +0.6
baz=158,SNR=56
R41A Rosebud 66.58 342 P P 19 04 31.4 +0.3
baz=160,SNR=39
SLM Saint Louis 66.59 343 eP P 19 04 31.8 +0.7
SLM Saint Louis 66.59 343 eP P 19 04 31.8 +0.7
ACSO Alum Creek Sta 66.61 350 eP P 19 04 31.2 0.0
ACSO LR LR
comp=Z,2µm,20.0s
S38A Stockton 66.69 340 P P 19 04 32.3 +0.5
baz=158,SNR=36
MSTX Muleshoe 66.73 331 P P 19 04 33.2 +0.9
baz=149,SNR=19
MSTX Muleshoe 66.73 331 eP P 19 04 32.9 +0.6
comp=Z,277nm,1.2s

Q43A New Douglas 66.74 344 P P 19 04 31.7 -0.4
baz=162,SNR=9.0
HSIG 66.77 322 eP P 19 04 34.5 +2.1
T36A Boggs Farm, Ca 66.80 338 P P 19 04 32.8 +0.3
baz=156,SNR=24
P46A Rosedale 66.81 346 P P 19 04 31.8 -0.7
baz=164
R40A Maddies Statio 66.82 342 P P 19 04 32.6 0.0
baz=159,SNR=59
T35A Sooner Cattle 66.89 338 P P 19 04 34.0 +0.9
baz=155,SNR=16
N54A Moraine State 66.91 352 P P 19 04 33.7 +0.6
baz=171,SNR=12
Q42A Golden Eagle 66.93 343 P P 19 04 33.8 +0.5
baz=161,SNR=20
P44A Sand Creek, Wi 66.98 345 P P 19 04 32.9 -0.7
baz=163,SNR=5.0
R39A Chumby, Stover 67.06 341 P P 19 04 34.5 +0.4
baz=158,SNR=18
S37A Fort Scott 67.10 339 P P 19 04 34.7 +0.3
baz=157,SNR=26
Q41A Truxton 67.15 343 P P 19 04 35.0 +0.3
baz=160,SNR=28
O47A Sheridan 67.19 347 P P 19 04 34.3 -0.6
baz=165,SNR=8.4
R38A Fenwick Farm, 67.20 340 P P 19 04 35.3 +0.2
baz=158,SNR=26
T34A McClaskey Farm 67.22 337 P P 19 04 35.9 +0.7
baz=154,SNR=12
U32A Winter Ranch, 67.30 335 P P 19 04 36.3 +0.6
baz=153,SNR=6.6
S36A Lake Cedric, C 67.31 339 P P 19 04 36.2 +0.5
baz=156,SNR=27
P43A Skaggs, Pawnee 67.36 344 P P 19 04 35.9 -0.1
baz=162,SNR=19
M54A Oil Creek Stat 67.41 353 P P 19 04 36.7 +0.4
baz=172,SNR=11
Q40A Laux Farm, Aux 67.42 342 P P 19 04 37.2 +0.8
baz=160,SNR=8.0
P42A Winchester 67.52 344 P P 19 04 36.7 -0.2
baz=161,SNR=17
S35A Otter Creek Ra 67.52 338 P P 19 04 37.3 +0.2
baz=155,SNR=17
SFIN Lafayette 67.52 346 P P 19 04 36.0 -0.9
baz=164
O45A Potomac 67.53 346 P P 19 04 35.8 -1.2
baz=164,SNR=6.8
O44A Mansfield 67.60 345 P P 19 04 37.9 +0.4
baz=163
R37A Teagarden Farm 67.61 340 P P 19 04 38.1 +0.5
baz=157,SNR=26
Q39A Willow Grove F 67.72 341 P P 19 04 38.7 +0.4
baz=159,SNR=27
TAOE Nuku Hiva Isla 67.75 271 eS S 19 13 31.9 -3.2
comp=Z,1µm,25.7s
TAOE Nuku Hiva Isla 67.75 271 eLR LR 19 25 00.7
comp=Z,5µm,24.8s,baz=113
P41A Barry, Barry 67.78 343 P P 19 04 38.9 +0.3
baz=160,SNR=16
S34A Willow Spring 67.80 338 P P 19 04 39.6 +0.8
baz=155,SNR=7.8
R36A Gordon, Harris 67.83 339 P P 19 04 39.2 +0.2
baz=156,SNR=6.9
Q38A Cooks Store, C 67.83 341 P P 19 04 39.7 +0.7
baz=158,SNR=45
121A Cookes Peak, D 67.87 327 P P 19 04 41.6 +2.0
baz=144,SNR=16
121A Cookes Peak, D 67.87 327 eP P 19 04 35.1 -4.6
comp=Z,136nm,1.4s
HRV Adam Dziewonsk 67.89 359 eP P 19 04 34.9 -4.4
HRV pmax pmax
comp=Z,134nm,1.3s
HRV Adam Dziewonsk 67.89 359 eP P 19 04 34.9 -4.4
comp=Z,134nm,1.3s
P40A Paris 67.91 342 P P 19 04 40.0 +0.5
baz=160,SNR=40
O43A Sugar Creek Fa 67.92 345 P P 19 04 39.1 -0.4
baz=162
N46A Monticello 67.94 347 P P 19 04 38.9 -0.7
baz=165,SNR=7.7
Q37A Longview Farm, 68.00 340 P P 19 04 40.4 +0.4
baz=157,SNR=7.6
O42A Bath 68.03 344 P P 19 04 40.2 0.0
baz=162,SNR=15
ERPA Erie 68.05 353 eP P 19 04 41.1 +0.8
N45A Kentland 68.05 346 P P 19 04 39.8 -0.6
baz=164
R35A Emporia Munici 68.06 339 P P 19 04 41.1 +0.7
baz=156
P39B Salisbury 68.07 342 P P 19 04 41.0 +0.5
baz=159,SNR=37
N44A Piper City 68.14 346 P P 19 04 40.2 -0.6
baz=163,SNR=5.6
O41A Passleys Farm, 68.15 343 P P 19 04 40.7 -0.3
baz=161,SNR=14
HDIL Hopedale 68.18 345 P P 19 04 40.8 -0.3
baz=162,SNR=7.8
HDIL Hopedale 68.18 345 eP P 19 04 41.0 -0.1
HDIL LR LR
comp=Z,923nm,19.0s
M46A Old House Fiel 68.35 347 P P 19 04 41.8 -0.4
baz=165
R34A Isabella, Hill 68.39 338 P P 19 04 42.9 +0.4
baz=155,SNR=23
Q36A Arnold C. Orve 68.40 339 P P 19 04 42.7 +0.1
baz=156,SNR=5.4
O40A La Belle 68.42 343 P P 19 04 42.9 +0.3
baz=160,SNR=21
P38A Dawn 68.42 341 P P 19 04 43.1 +0.5
baz=158,SNR=24
Q35A Mercer Eighty, 68.49 339 P P 19 04 43.5 +0.4
baz=156,SNR=12
N42A Yates City 68.61 344 P P 19 04 43.5 -0.3
baz=162,SNR=10.0
P37A Lathrop 68.63 341 P P 19 04 44.0 +0.1
baz=158,SNR=8.2
BNM Barren Site 68.63 328 eP P 19 04 46.6 +2.2
M44A Midewin, Midew 68.69 346 P P 19 04 45.2 +1.0
baz=164
N41A Harden Midland 68.70 344 P P 19 04 44.2 -0.2
baz=161,SNR=6.6
O39A Kirksville 68.72 342 P P 19 04 44.9 +0.3
baz=159,SNR=13
AAM Ann Arbor 68.74 350 eP P 19 04 44.9 +0.3
AAM MLR MLR
comp=Z,2µm,21.0s
AAM Ann Arbor 68.74 350 eP P 19 04 44.9 +0.3
AAM LR LR
comp=Z,2µm,21.0s
LPM Los Pinos Moun 68.76 329 eP P 19 04 47.4 +2.2
Q34A Chapman 68.84 338 P P 19 04 45.8 +0.4
baz=155,SNR=11
O38A Galt 68.86 341 P P 19 04 45.7 +0.3
baz=158,SNR=8.3
KSU1 Kansas State U 68.89 339 P P 19 04 46.0 +0.4
baz=155,SNR=9.6
KSU1 Kansas State U 68.89 339 eP P 19 04 46.2 +0.6
KSU1 LR LR
comp=Z,500nm,20.0s
P36A Good Intent, A 68.92 340 P P 19 04 45.8 0.0
baz=157
M43A Waltham Townsh 68.94 345 P P 19 04 45.5 -0.3
baz=163
N40A Mertquake, Sal 69.06 343 P P 19 04 46.9 +0.3
baz=160,SNR=27
LAZ Ladron 69.08 328 eP P 19 04 49.7 +2.5
P35A Duane Minner, 69.09 339 P P 19 04 47.0 +0.2
baz=156,SNR=11
O37A Wolven Farm, M 69.10 341 P P 19 04 47.2 +0.3
baz=158,SNR=11
ANMO Albuquerque 69.20 329 P P 19 04 49.6 +1.8
comp=Z,14nm,1.0s,baz=240,slow=8.1,SNR=35
ANMO LR LR 19 31 26.6
comp=Z,2µm,20.7s,baz=346,slow=33
ANMO PKPPKP P'P'df 19 32 58.1 +4.0
comp=Z,1.7nm,1.0s,baz=270,slow=1.2,SNR=8.6
ANMO Albuquerque 69.20 329 P P 19 04 49.7 +1.8
baz=146
ANMO Albuquerque 69.20 329⇑ iP P 19 04 50.3 +2.4
ANMO pmax pmax
comp=Z,77nm,1.9s
ANMO MLR MLR
comp=Z,410nm,16.0s
ANMO Albuquerque 69.20 329 eP P 19 04 49.2 +1.3
comp=Z,2.8nm,1.4s
ANMO P'P' 19 32 58.1
TUC Tucson 69.23 324 P P 19 04 49.7 +1.7
baz=142

TUC Tucson 69.23 324 eP P 19 04 50.0 +2.0
TUC MLR MLR
comp=Z,3µm,21.0s
TUC Tucson 69.23 324 eP P 19 04 50.0 +2.0
TUC LR LR
comp=Z,3µm,21.0s
M41A Milan 69.25 344 P P 19 04 47.7 -0.1
baz=161,SNR=15
N39A Derby Farms, D 69.29 342 P P 19 04 48.2 +0.1
baz=159,SNR=16
O36A Bolckow 69.31 340 P P 19 04 48.6 +0.4
baz=157
P34A Walnut Farm, R 69.37 339 P P 19 04 49.5 +0.9
baz=155,SNR=13
L44A Lake County Fo 69.41 346 P P 19 04 48.6 -0.1
baz=164
N38A Joes South For 69.42 342 P P 19 04 49.2 +0.4
baz=159,SNR=5.4
M40A Post Highland 69.53 343 P P 19 04 49.6 +0.1
baz=160,SNR=14
L43A Garden Prairie 69.60 346 P P 19 04 49.9 0.0
baz=163,SNR=11
LBNH Lisbon 69.63 359 eP P 19 04 52.2 +2.1
LBNH Lisbon 69.63 359 eP P 19 04 52.2 +2.1
N37A Lee Faris, Mou 69.67 341 P P 19 04 50.8 +0.4
baz=158,SNR=9.2
CBKS Cedar Bluff 69.72 336 P P 19 04 52.2 +1.3
baz=152,SNR=16
CBKS Cedar Bluff 69.72 336 eP P 19 04 52.4 +1.6
CBKS MLR MLR
comp=Z,820nm,21.0s
CBKS Cedar Bluff 69.72 336 eP P 19 04 52.4 +1.6
CBKS LR LR
comp=Z,820nm,21.0s
O35A Humboldt 69.73 340 P P 19 04 50.6 -0.2
baz=156
M39A Webster 69.77 343 P P 19 04 51.2 +0.3
baz=160,SNR=6.4
O34A Beatrice 69.90 339 P P 19 04 52.4 +0.5
baz=155,SNR=12
L41A Preston 69.90 344 P P 19 04 51.6 -0.2
baz=161,SNR=11
N36A Muff Farm, Cla 69.94 341 P P 19 04 52.6 +0.6
baz=157,SNR=6.7
M38A Pleasantville 69.99 342 P P 19 04 52.5 +0.2
baz=159,SNR=12
K43A Burlington 70.01 346 P P 19 04 52.6 +0.1
baz=163,SNR=6.7
214A Organ Pipe Nat 70.05 323 P P 19 04 55.3 +2.3
baz=140,SNR=27
214A Organ Pipe Nat 70.05 323 eP P 19 04 55.0 +2.1
comp=Z,980nm,1.5s
L40A Anamosa 70.07 344 P P 19 04 53.1 +0.3
baz=161,SNR=29
LONY Lake Ozonia 70.09 357 eP P 19 04 54.5 +1.5
LONY LR LR
comp=Z,1µm,20.0s
O33A Hebron 70.10 338 P P 19 04 53.8 +0.7
baz=155,SNR=8.9
T25A Trinidad 70.12 332 P P 19 04 55.3 +1.8
baz=148,SNR=24
N35A Tabor 70.19 340 P P 19 04 54.2 +0.6
baz=156,SNR=7.7
M37A Trindle Farm, 70.22 342 P P 19 04 54.6 +0.8
baz=158,SNR=22
K42A Prairie Point, 70.30 346 P P 19 04 54.4 +0.2
baz=162,SNR=16
L39A Vinton 70.33 343 P P 19 04 54.4 0.0
baz=160,SNR=9.8
K41A Shullsburg 70.36 345 P P 19 04 55.0 +0.4
baz=162,SNR=11
N34A Lincoln 70.43 339 P P 19 04 55.5 +0.4
baz=156,SNR=9.0
SCIA State Center 70.45 342 eP P 19 04 56.3 +1.2
SCIA LR LR
comp=Z,711nm,19.0s
M36A Felix, Anita 70.48 341 P P 19 04 56.0 +0.6
baz=157,SNR=6.5
SADO Sadowa 70.58 354 eP P 19 04 54.1 -1.8
comp=Z,104nm,1.0s
L38A Oak Wood Farm, 70.60 343 P P 19 04 56.4 +0.3
baz=159,SNR=6.5
JFWS Jewell Farm 70.64 345 eP P 19 04 56.6 +0.3
JFWS MLR MLR
comp=Z,1µm,20.0s
JFWS Jewell Farm 70.64 345 eP P 19 04 56.6 +0.3
JFWS LR LR
comp=Z,1µm,20.0s
TBI Tubuai 70.65 253 eS S 19 14 02.6 -6.3
comp=Z,2µm,36.5s
TBI eLQ LQ 19 23 22.6
comp=Z,803nm,36.0s
TBI eLR LR 19 26 29.3
comp=Z,3µm,27.8s,baz=100
TBI Tubuai 70.65 253 eT T 20 22 00.8
comp=Z,5.4nm,0.2s
K40A Colesburg 70.65 344 P P 19 04 56.6 +0.2
baz=161,SNR=15
N33A J Bar K, Exete 70.65 339 P P 19 04 56.8 +0.4
baz=155
J43A Natural Harves 70.67 346 P P 19 04 56.1 -0.4
baz=163,SNR=8.1
M35A Neola 70.76 340 P P 19 04 57.6 +0.6
baz=156
J42A Columbus 70.76 346 P P 19 04 57.3 +0.3
baz=163,SNR=5.6
L37A Phoenix Point, 70.80 342 P P 19 04 57.7 +0.4
baz=158
K39A Oelwein 70.84 344 P P 19 04 57.5 0.0
baz=160,SNR=20
W18A Petrified Fore 70.91 327 P P 19 04 60.0 +1.6
baz=143,SNR=12
W18A Petrified Fore 70.91 327 P P 19 04 55.5 -2.9
comp=Z,206nm,1.3s
KSCO Kaye Shedlock' 70.99 334 P P 19 05 00.4 +1.7
baz=150,SNR=6.2
KSCO Kaye Shedlock' 70.99 334 P P 19 04 52.8 -6.0
comp=Z,294nm,1.4s
J41A Loganville 71.01 345 P P 19 04 58.7 +0.2
baz=162,SNR=8.5
K38A Parkersburg 71.02 343 P P 19 04 58.8 +0.2
baz=159,SNR=7.4
L36A Harm Buss Farm 71.03 341 P P 19 04 59.3 +0.6
baz=158,SNR=13
M34A Aspy Farms, Fr 71.06 340 P P 19 04 59.3 +0.4
baz=156,SNR=9.2
I43A Langenfeld Bro 71.10 347 P P 19 05 00.2 +1.2
baz=164
SDCO Great Sand Dun 71.10 331 P P 19 05 01.3 +1.7
baz=147,SNR=48
SDCO Great Sand Dun 71.10 331 eP P 19 05 01.6 +1.9
SDCO LR LR
comp=Z,871nm,19.0s
LIC Lamto 71.14 73 eP P 19 04 58.9 -1.1
comp=Z,162nm,0.8s
J40A Soldiers Grove 71.21 345 P P 19 05 00.0 +0.3
baz=161,SNR=14
I42A Draeger Farm, 71.27 346 P P 19 05 00.4 +0.3
baz=163,SNR=6.8
L35A Bielow Farm, R 71.30 341 P P 19 05 00.9 +0.6
baz=157
M33A Taylor Creek F 71.32 339 P P 19 05 01.1 +0.6
baz=155,SNR=7.6
GLMI Grayling 71.35 350 eP P 19 05 01.0 +0.5
GLMI LR LR
comp=Z,1µm,22.0s
TIC Toumodi 71.36 73 eP P 19 05 00.1 -1.2
K37A Belmond 71.36 342 P P 19 05 00.8 +0.1
baz=158
J39A Decorah 71.39 344 P P 19 05 01.0 +0.2
baz=160,SNR=26
SBA Scott Base 71.40 191 eP P 19 05 01.3 +0.8
SBA pmax pmax
comp=Z,124nm,1.3s
SBA MLR MLR
comp=Z,903nm,20.0s
SBA Scott Base 71.40 191 eP P 19 05 01.3 +0.8
comp=Z,124nm,1.3s
SBA LR LR
comp=Z,903nm,20.0s
L34A Svendsen Farm, 71.42 340 P P 19 05 01.6 +0.5
baz=156
KIC Kosan Boka 71.45 73 eP P 19 05 01.0 -0.9
comp=Z,246nm,1.0s
K36A Gilmore City 71.47 342 P P 19 05 01.9 +0.6
baz=158,SNR=6.4
BGNE Belgrade 71.48 339 P P 19 05 02.6 +1.1
baz=154,SNR=12

BGNE	Belgrade	71.48 339	eP	P	19 04 58.5	-3.0
	comp=Z,310nm,1.0s					
DBIC	Dimbokro	71.51 73	P	P	19 05 02.6	+0.3
	comp=Z,60nm,0.8s,baz=209,slow=6.5,SNR=46					
DBIC			LR	LR	19 36 31.6	
	comp=Z,4µm,18.0s,baz=218,slow=36					
J38A	Wedel Dairy, R	71.57 343	P	P	19 05 01.9	0.0
	baz=160,SNR=9.0					
H43A	Windswept, Lux	71.58 347	P	P	19 05 02.3	+0.4
	baz=164					
I41A	Arkdale	71.64 346	P	P	19 05 02.4	+0.1
	baz=162,SNR=5.7					
I40A	Norwalk	71.65 345	P	P	19 05 02.7	+0.2
	baz=161,SNR=6.9					
S22A	4UR Ranch, Cre	71.68 330	P	P	19 05 04.5	+1.3
	baz=146,SNR=21					
K35A	Storm Lake	71.77 341	P	P	19 05 03.7	+0.6
	baz=157					
H42A	Shiocton	71.78 347	P	P	19 05 03.4	+0.3
	baz=163,SNR=5.7					
I39A	Houston	71.83 344	P	P	19 05 03.7	+0.2
	baz=161,SNR=17					
J37A	Redenius Farm,	71.84 343	P	P	19 05 03.7	+0.1
	baz=159,SNR=11					
L33A	Hoskins	71.88 340	P	P	19 05 05.0	+1.2
	baz=155					
L32A	Elgin	71.97 339	P	P	19 05 05.2	+0.8
	baz=154					
Q24A	Divide	71.98 332	P	P	19 05 06.2	+1.4
	baz=148,SNR=33					
GLA	Glamis	71.98 322	P	P	19 05 04.6	-0.1
	baz=139					
MVCO	Mesa Verde	72.00 329	P	P	19 05 06.6	+1.6
	baz=145,SNR=28					
MVCO	Mesa Verde	72.00 329	P	P	19 04 58.8	-6.2
	comp=Z,138nm,1.3s					
MVCO			LR	LR		
	comp=Z,2µm,20.0s					
WUAZ	Wupatki	72.05 326	P	P	19 05 07.0	+1.8
	baz=142,SNR=36					
WUAZ	Wupatki	72.05 326	P	P	19 05 04.0	-1.2
	comp=Z,124nm,1.2s					
WUAZ			LR	LR		
	comp=Z,3µm,22.0s					
H41A	Junction City	72.12 346	P	P	19 05 05.3	+0.1
	baz=162,SNR=5.8					
K33A	Hardington	72.19 340	P	P	19 05 06.5	+0.8
	baz=156					
I38A	Scanlan Farm,	72.21 344	P	P	19 05 06.0	+0.2
	baz=160,SNR=34					
H40A	Chili	72.29 345	P	P	19 05 06.5	+0.3
	baz=162,SNR=14					
F46A	Macinaw City C	72.30 350	P	P	19 05 06.2	0.0
	baz=167,SNR=8.7					
G43A	Wallace	72.32 347	P	P	19 05 06.4	0.0
	baz=164					
F45A	CMU Biological	72.34 349	P	P	19 05 06.1	-0.3
	baz=166					
Y12C	Blythe	72.34 323	P	P	19 05 08.6	+1.8
	baz=139,SNR=7.9					
J35A	Milford	72.35 341	P	P	19 05 07.4	+0.7
	baz=157					
IKP	In-Ko-Pah, Jac	72.41 321	P	P	19 05 08.6	+1.3
	baz=138,SNR=13					
VNDA	Vanda	72.42 190	P	P	19 05 08.4	+1.6
	comp=Z,25nm,1.0s,baz=130,slow=5.2,SNR=80					
VNDA			PKPPKP	P'P'df	19 32 50.9	-5.4
	comp=Z,0.6nm,0.3s,baz=299,slow=4.0,SNR=12					
OGNE	Ogallala	72.44 336	P	P	19 05 08.7	+1.4
	baz=151					
OGNE	Ogallala	72.44 336	eP	P	19 05 04.0	-3.3
	comp=Z,306nm,1.7s					
OGNE			LR	LR		
	comp=Z,774nm,20.0s					
SWSC	Sam W. Stewart	72.45 321	P	P	19 05 08.1	+0.7
	baz=138					
G42A	Mountain	72.45 347	P	P	19 05 07.3	+0.1
	baz=164,SNR=9.2					
I37A	Lemond, Waseca	72.46 343	P	P	19 05 07.8	+0.5
	baz=159,SNR=12					
J34A	George	72.50 341	P	P	19 05 08.4	+0.9
	baz=156,SNR=9.8					
H39A	Augusta	72.55 345	P	P	19 05 07.9	+0.1
	baz=161,SNR=5.0					
K32A	Verdigre	72.55 339	P	P	19 05 08.3	+0.5
	baz=155					
PDMCI	Parker Dam,Lak	72.55 323	P	P	19 05 09.6	+1.6
	baz=140,SNR=7.0					
G41A	Antigo	72.58 346	P	P	19 05 08.2	+0.2
	baz=163					
I36A	Fitzsimmons Fa	72.62 343	P	P	19 05 08.7	+0.4
	baz=158					
TIAR	Tiarei	72.63 259	eT	T	20 24 29.6	
	comp=Z,2.1nm,0.2s					
I35A	Creekview Farm	72.74 342	P	P	19 05 10.3	+1.4
	baz=157					
MONP2	Monument Peak	72.76 321	P	P	19 05 11.1	+1.5
	baz=138,SNR=14					
K31A	O'Neill	72.77 339	P	P	19 05 10.8	+1.6
	baz=154,SNR=14					
F43A	Flat Rock, Esc	72.78 348	P	P	19 05 09.1	+0.1
	baz=165					
F44A	Big Bay de Noc	72.78 349	P	P	19 05 08.9	-0.1
	baz=166					
BC3	Big Chuckawall	72.78 322	P	P	19 05 11.0	+1.5
	baz=139,SNR=27					
PV01	Paradox Valley	72.79 330	eP	P	19 05 11.0	+1.3
	comp=Z,8µm,1.3s					
H38A	Maiden Rock	72.79 344	P	P	19 05 09.9	+0.8
	baz=160,SNR=14					
PPT2	Papeete2	72.82 258	eS	S	19 14 31.4	-2.9
	comp=Z,5µm,28.8s					
PPT2	Papeete2	72.82 258	eLR	LR	19 27 26.1	
	comp=Z,6µm,28.0s,baz=114					
PPT	Papeete	72.83 258	LR	LR	19 29 59.3	
	comp=Z,433nm,18.7s,baz=114,slow=30					
J33A	Davis	72.83 340	P	P	19 05 10.2	+0.8
	baz=156					
G40A	Rib Lake	72.86 346	P	P	19 05 10.3	+0.7
	baz=162,SNR=6.1					
H37A	Dierke Farm, C	72.86 344	P	P	19 05 09.6	-0.1
	baz=159,SNR=13					
ISCO	Idaho Springs	72.87 333	P	P	19 05 11.4	+1.2
	baz=148,SNR=26					
ISCO	Idaho Springs	72.87 333	eP	P	19 05 05.9	-4.3
ISCO			pmax	pmax		
	comp=Z,76nm,1.3s					
ISCO			MLR	MLR		
	comp=Z,815nm,20.0s					
ISCO	Idaho Springs	72.87 333	eP	P	19 05 05.9	-4.3
	comp=Z,76nm,1.3s					
ISCO			LR	LR		
	comp=Z,815nm,20.0s					
F42A	Maple Grove Fa	72.89 347	P	P	19 05 10.3	+0.5
	baz=164					
SMCO	Snowmass	72.93 331	eP	P	19 05 12.9	+2.2
	comp=Z,77nm,1.1s					
E45A	Wooded Hills,	72.93 350	P	P	19 05 10.8	+0.8
	baz=167					
IRM	Iron Mountain	72.99 323	P	P	19 05 12.2	+1.5
	baz=139,SNR=30					
F41A	Three Lakes	73.07 347	P	P	19 05 11.5	+0.7
	baz=163,SNR=13					
G39A	Holcombe	73.10 345	P	P	19 05 11.2	+0.2
	baz=161,SNR=11					
ECSD	EROS Data Cent	73.10 341	P	P	19 05 11.8	+0.7
	baz=156,SNR=57					
ECSD	EROS Data Cent	73.10 341	eP	P	19 05 08.1	-3.0
	comp=Z,138nm,1.1s					
ECSD			LR	LR		
	comp=Z,944nm,19.0s					
H36A	Jessenland, He	73.12 343	P	P	19 05 12.4	+1.2
	baz=158					
SYO	Syowa Base	73.14 159	‖iP	P	19 05 09.4	-1.6
SYO	Syowa Base	73.14 159	‖iX	P	19 05 15.0	+4.0
G38A	Ridgeland	73.15 345	P	P	19 05 11.4	+0.1
	baz=160,SNR=13					
109C	Camp Elliot, M	73.15 320	P	P	19 05 13.3	+1.7
	baz=137					
PV04	Paradox Valley	73.15 329	eP	P	19 05 12.8	+1.1
J32A	Parkston	73.15 340	P	P	19 05 12.1	+0.7
	baz=155,SNR=13					
I34A	Hadley	73.16 341	P	P	19 05 11.9	+0.5
	baz=157					
NEE2	Needles Airpor	73.16 323	P	P	19 05 12.9	+1.2
	baz=140					
E43A	Lone Tree Farm	73.27 348	P	P	19 05 12.2	+0.2
	baz=165,SNR=10.0					
TPFO	Pinon Flats	73.31 321	P	P	19 05 14.9	+2.2
	baz=138,SNR=20					
PFO	Pinyon Flats O	73.31 321	P	P	19 05 14.6	+1.8
	comp=Z,15nm,1.0s,baz=124,slow=5.4,SNR=26					
PFO			LR	LR	19 31 16.9	
	comp=Z,1µm,21.2s,baz=146,slow=31					
PFO	Pinyon Flats O	73.31 321	P	P	19 05 14.9	+2.2
	baz=138,SNR=20					
PFO	Pinyon Flats O	73.31 321	eP	P	19 05 14.3	+1.6
PFO			pmax	pmax		
	comp=Z,64nm,1.3s					
PFO	Pinyon Flats O	73.31 321	eP	P	19 05 14.3	+1.6
	comp=Z,64nm,1.3s					
BELC	Belle Mtn. Jos	73.34 322	P	P	19 05 14.6	+1.7
	baz=138,SNR=13					
J31A	Geddes	73.36 339	P	P	19 05 13.4	+0.7
	baz=154,SNR=22					
SPMN	Marine on St.	73.43 344	P	P	19 05 13.3	+0.3
	baz=160,SNR=13					
SPMN	Marine on St.	73.43 344	eP	P	19 05 08.7	-4.3
	comp=Z,125nm,1.1s					
F40A	Park Falls	73.46 346	P	P	19 05 13.8	+0.7
	baz=162,SNR=28					
H35A	Sunnyside Ranc	73.48 342	P	P	19 05 13.7	+0.4
	baz=158,SNR=39					
E42A	Champion	73.49 348	P	P	19 05 13.9	+0.6
	baz=164,SNR=18					
I32A	Karley and Nic	73.63 340	P	P	19 05 15.0	+0.8
	baz=155,SNR=12					
F39A	Loretta	73.63 345	P	P	19 05 14.6	+0.4
	baz=161,SNR=17					
G36A	St. Michael	73.68 343	P	P	19 05 15.0	+0.6
	baz=159,SNR=13					
H34A	Spellman Lake,	73.71 342	P	P	19 05 15.1	+0.4
	baz=157,SNR=13					
MURC	Murrieta	73.72 321	P	P	19 05 16.8	+1.7
	baz=137,SNR=8.1					
E41A	Kenton	73.73 347	P	P	19 05 15.3	+0.5
	baz=163					
GMRC	Granite Mounta	73.74 323	P	P	19 05 16.4	+1.2
	baz=139,SNR=43					
F37A	Hinrichs Farm,	73.86 344	P	P	19 05 15.8	+0.4
	baz=160,SNR=24					
G35A	Watkins	73.86 343	P	P	19 05 16.2	+0.6
	baz=158,SNR=5.8					
F38A	Pierce - Schro	73.90 345	P	P	19 05 16.4	+0.7
	baz=160,SNR=26					
E40A	Wakefield	73.91 346	P	P	19 05 16.5	+0.7
	baz=162,SNR=25					
N23A	Red Feather La	73.93 333	P	P	19 05 17.8	+1.4
	baz=148					
I31A	Royce, Wessing	73.96 339	P	P	19 05 17.1	+1.0
	baz=154					
E39A	Mellen	73.99 346	P	P	19 05 16.9	+0.7
	baz=162,SNR=24					
H33A	Prehn Over Nor	74.00 341	P	P	19 05 17.3	+0.9
	baz=156,SNR=20					
H32A	Carlson Farm,	74.05 340	P	P	19 05 17.5	+0.9
	baz=155					
SCI2	San Clemente I	74.05 320	P	P	19 05 18.2	+1.3
	baz=136					
HEC	Hector,Ludlow	74.14 322	P	P	19 05 19.5	+2.0
	baz=138,SNR=34					
G34A	Benson	74.20 342	P	P	19 05 17.9	+0.4
	baz=157					
F36A	Milaca	74.21 344	P	P	19 05 17.7	+0.2
	baz=159,SNR=48					
D41A	Chassel	74.22 347	P	P	19 05 18.6	+1.0
	baz=164,SNR=18					
O20A	White River Ci	74.27 331	P	P	19 05 20.3	+2.0
	baz=146,SNR=26					
O20A	White River Ci	74.27 331	P	P	19 05 13.8	-4.5
	comp=Z,109nm,1.0s					
CIS	Catalina Islan	74.28 320	P	P	19 05 18.7	+0.4
	baz=136					
H31A	Wolsey	74.35 340	P	P	19 05 19.6	+1.2
	baz=154					
TUQ	Turquoise Moun	74.37 323	P	P	19 05 21.1	+2.2
	baz=139,SNR=7.1					
G33A	Ortonville	74.38 341	P	P	19 05 19.2	+0.6
	baz=156,SNR=10					
E38A	The Farm, Brul	74.43 345	P	P	19 05 19.2	+0.5
	baz=161,SNR=15					
BFSC	Mount Baldy Ra	74.45 321	P	P	19 05 21.1	+1.8
	baz=137,SNR=21					
SUSD	Miller	74.47 339	P	P	19 05 19.7	+0.6
	baz=154					
F35A	Swanville	74.48 343	P	P	19 05 20.3	+1.2
	baz=158					
RRX	Edison Barstow	74.54 322	P	P	19 05 21.5	+1.7
	baz=138					
E37A	Wrenshall	74.59 345	P	P	19 05 20.1	+0.4
	baz=160					
F34A	Alexandria	74.60 342	P	P	19 05 20.2	+0.4
	baz=157,SNR=5.3					
PASC	Pasadena Art C	74.70 321	P	P	19 05 15.2	-5.5
	comp=Z,163nm,1.5s					
GSC	Goldstone, Bar	74.75 322	P	P	19 05 22.8	+1.7
	baz=138,SNR=21					
E36A	McGregor	74.75 344	P	P	19 05 21.2	+0.5
	baz=159,SNR=25					
SNCC	San Nicolas Is	74.82 319	P	P	19 05 22.1	+0.8
	baz=136					
DECC	Green Verdugo	74.84 321	P	P	19 05 23.2	+1.7
	baz=137					
SHOC	Shoshone, Teco	74.90 323	P	P	19 05 23.5	+1.7
	baz=138					
F33A	5 Mile Ranch,	74.93 342	P	P	19 05 21.8	+0.1
	baz=156,SNR=11					
G31A	Conde	74.94 340	P	P	19 05 22.6	+0.8
	baz=155					
E35A	Pequot Lakes	75.08 343	P	P	19 05 23.3	+0.8
	baz=158,SNR=11					
EDW2	Edwards Air Fo	75.11 321	P	P	19 05 24.4	+1.3
	baz=137,SNR=28					
RWWY	Rawlins	75.12 333	eP	P	19 05 18.1	-5.1
	comp=Z,104nm,1.2s					
D37A	Cotton	75.15 345	P	P	19 05 23.4	+0.4
	baz=160,SNR=13					
C40A	Isle Royale Na	75.16 347	P	P	19 05 23.3	+0.3
	baz=163					
BLG	Laguna Peak, P	75.16 320	P	P	19 05 25.0	+1.7
	baz=136,SNR=5.4					
F32A	Veblen	75.20 341	P	P	19 05 24.2	+1.0
	baz=156					
E34A	Wadena	75.24 343	P	P	19 05 24.2	+0.7
	baz=158,SNR=13					
C39A	Grand Marais	75.26 347	P	P	19 05 23.8	+0.2
	baz=162,SNR=5.7					
OSI	Osito Audit: C	75.33 321	P	P	19 05 25.9	+1.5
	baz=136					
D36A	Goodland	75.35 344	P	P	19 05 24.6	+0.6
	baz=159					
LRMC	Laurel Mtn Rad	75.37 322	P	P	19 05 26.3	+1.6
	baz=137,SNR=19					
SCZ2	Santa Cruz Isl	75.41 320	P	P	19 05 27.2	+2.4
	baz=136,SNR=7.4					
C38A	Sawbill Land.	75.42 346	P	P	19 05 24.6	+0.1
	baz=161,SNR=9.7					
E33A	Westby DABS, E	75.46 342	P	P	19 05 25.2	+0.5
	baz=157					
D35A	Remer	75.48 344	P	P	19 05 25.7	+0.8
	baz=159,SNR=20					
F31A	Hecla	75.52 340	P	P	19 05 26.5	+1.4
	baz=155					
C37A	Embarrass	75.63 345	P	P	19 05 26.4	+0.7
	baz=160,SNR=13					
K22A	Casper	75.64 334	P	P	19 05 28.0	+2.0
	baz=147,SNR=14					
K22A	Casper	75.64 334	P	P	19 05 22.8	-3.3
	comp=Z,198nm,1.6s					
FURC	Furnace Creek,	75.64 323	P	P	19 05 28.8	+2.8
	baz=138,SNR=15					
TPNV	Topopah Spring	75.67 324	P	P	19 05 28.1	+1.7
	baz=139,SNR=38					
EYMN	Ely	75.68 346	P	P	19 05 26.4	+0.5
	baz=161,SNR=8.4					
EYMN	Ely	75.68 346	eP	P	19 05 21.4	-4.6
	comp=Z,67nm,1.1s					
EYMN			LR	LR		
	comp=Z,1µm,19.0s					
MPMC	Manual Prospec	75.68 322	P	P	19 05 28.1	+1.6
	baz=138,SNR=18					
ARVC	Arvin	75.76 321	P	P	19 05 28.4	+1.7
	baz=136					
D34A	Park Rapids	75.78 343	P	P	19 05 26.7	+0.1
	baz=158,SNR=10					
C36A	Pine Crest Far	75.81 345	P	P	19 05 27.4	+0.7
	baz=160,SNR=15					
E32A	Braaten, Kindr	75.84 342	P	P	19 05 27.8	+0.9
	baz=156					
DAC	Darwin (Calif)	75.90 323	eP	P	19 05 29.9	+2.1
DAC			pmax	pmax		
	comp=Z,82nm,1.3s					
DAC	Darwin (Calif)	75.90 323	eP	P	19 05 29.9	+2.1
	comp=Z,82nm,1.3s					
RSSD	Black Hills	75.93 336	P	P	19 05 29.1	+1.4
	baz=150					
RSSD	Black Hills	75.93 336	eP	P	19 05 26.6	-1.2
RSSD			pmax	pmax		
	comp=Z,57nm,1.1s					
RSSD	Black Hills	75.93 336	eP	P	19 05 26.6	-1.2
	comp=Z,58nm,1.1s					
ISA	Isabella, Lake	75.94 322	P	P	19 05 29.6	+1.7
	baz=137,SNR=9.0					
D33A	AnnSam, Waubun	76.00 343	P	P	19 05 27.9	+0.1
	baz=157					
C35A	Jirik Farms, M	76.03 344	P	P	19 05 28.5	+0.5
	baz=159,SNR=24					
E31A	Nome	76.05 341	P	P	19 05 29.1	+1.0
	baz=155					
CMLA	Cha da Macela	76.06 35	PFAKE		19 05 40.0	+12
CMLA			LR	LR		
	comp=Z,3µm,19.0s					
PKM	Mcpherson Peak	76.15 320	P	P	19 05 30.8	+1.6
	baz=136,SNR=18					
C34A	RKJ Ranch, Bem	76.22 343	P	P	19 05 29.0	-0.1
	baz=158					
CWC	Cottonwood Cre	76.29 322	P	P	19 05 32.1	+2.2
	baz=137					
GRAC	Grapevine Rang	76.30 323	P	P	19 05 32.2	+2.4
	baz=138					
D32A	Dogwood Acres,	76.32 342	P	P	19 05 30.3	+0.7
	baz=156					
R11A	Troy Canyon, C	76.37 325	P	P	19 05 32.2	+1.8
	baz=139,SNR=53					
R11A	Troy Canyon, C	76.37 325	eP	P	19 05 31.2	+0.8
	comp=Z,104nm,1.4s					
VES	Vestal, Richgr	76.41 321	P	P	19 05 32.2	+1.7
	baz=136,SNR=19					
DUG	Dugway, Tooele	76.42 328	P	P	19 05 32.7	+2.1
	baz=142,SNR=41					
DUG	Dugway, Tooele	76.42 328	eP	P	19 05 31.3	+0.8
DUG			pmax	pmax		
	comp=Z,150nm,1.4s					
DUG			MLR	MLR		
	comp=Z,797nm,21.0s					
DUG	Dugway, Tooele	76.42 328	eP	P	19 05 31.3	+0.8
	comp=Z,150nm,1.4s					
DUG			LR	LR		
	comp=Z,797nm,21.0s					
D31A	Mcclaflin, Tow	76.44 341	P	P	19 05 31.1	+0.8
	baz=155					
C33A	Trail	76.55 343	P	P	19 05 31.4	+0.5
	baz=157,SNR=17					
SMMC	Simmler	76.56 320	P	P	19 05 33.7	+2.4
	baz=136,SNR=8.9					
B35A	Bob, Littlefor	76.59 344	P	P	19 05 31.3	+0.2
	baz=159,SNR=16					
C32A	Crookston	76.81 342	P	P	19 05 32.8	+0.4
	baz=156					
TIN	Tinemaha, Big	76.82 323	P	P	19 05 34.4	+1.6
	baz=137					
RCTC	Rector, Farmer	76.84 322	P	P	19 05 33.9	+1.2
	baz=136					
B34A	Aery, Baudette	76.93 344	P	P	19 05 33.4	+0.3
	baz=158,SNR=13					
HWUT	Hardware Ranch	76.95 330	P	P	19 05 30.8	-2.8
	comp=Z,112nm,1.2s					
HWUT			LR	LR		
	comp=Z,2µm,21.0s					
B33A	Robert and Kas	76.97 343	P	P	19 05 33.8	+0.5
	baz=157					
BW06	Boulder Array	76.99 332	P	P	19 05 34.6	+0.8
	baz=145,SNR=16					
BW06	Boulder Array	76.99 332	eP	P	19 05 30.4	-3.5
	comp=Z,96nm,1.6s					
BW06			LR	LR		
	comp=Z,851nm,20.0s					
PDAR	Pinedale Array	76.99 332	P	P	19 05 34.6	+0.8
	comp=Z,6.2nm,1.0s,baz=140,slow=5.8,SNR=31					
PDAR			LR	LR	19 37 08.4	
	comp=Z,503nm,20.1s,baz=164,slow=34					
AGMN	Agassiz Nation	77.07 343	P	P	19 05 34.2	+0.4
	baz=157,SNR=22					
AGMN	Agassiz Nation	77.07 343	eP	P	19 05 31.9	-1.9
	comp=Z,65nm,1.0s					
AGMN			LR	LR		
	comp=Z,956nm,19.0s					
C31A	Landman Farms,	77.12 342	P	P	19 05 34.8	+0.7
	baz=155,SNR=5.6					
B32A	Ashes, Strandq	77.34 343	P	P	19 05 35.9	+0.6
	baz=156,SNR=31					
PMOZ	Porto Moniz, M	77.34 44	eLR	LR	19 30 01.9	
	comp=Z,1µm,18.0s					
A33A	Warroad	77.54 344	P	P	19 05 37.0	+0.6
	baz=158,SNR=23					
MLAC	Mammoth, Mammo	77.57 323	P	P	19 05 39.4	+2.2
	baz=137					
B31A	Greenbush Farm	77.67 342	P	P	19 05 37.6	+0.4
	baz=156,SNR=7.7					
MDND	Maddock	77.72 341	P	P	19 05 38.8	+1.3
	baz=154,SNR=9.9					
MDND	Maddock	77.72 341	P	P	19 05 37.8	+0.4
	comp=Z,566nm,1.4s					
A32A	Rocking H Ranc	77.81 343	P	P	19 05 39.0	+1.0
	baz=157					
SUR	Sutherland	77.87 120	P	P	19 05 40.0	+0.9
	comp=Z,3.2nm,0.9s,baz=242,slow=9.0					
SUR			LR	LR	19 36 35.9	
	comp=Z,202nm,19.5s,baz=230,slow=33					
SUR	Sutherland	77.87 120	P	P	19 05 40.0	+0.9
	comp=Z,28nm,0.9s					
A31A	Linda, St. Vin	78.00 342	P	P	19 05 39.4	+0.4
	baz=156					
REDW	Red Top Meadow	78.03 331	eP	P	19 05 40.8	+1.2
	comp=Z,1µm,0.6s					
SNOW	Snow King Moun	78.07 331	P	P	19 05 39.3	-0.6
	comp=Z,78nm,1.1s					
LOHW	Long Hollow	78.13 332	eP	P	19 05 36.8	-3.3
	comp=Z,92nm,1.2s					
TPAW	Teton Pass	78.18 331	P	P	19 05 41.5	+1.0
	comp=Z,123nm,1.4s					
MOOW	Moose Ponds	78.30 332	eP	P	19 05 42.2	+1.1
	comp=Z,122nm,1.4s					
IMW	Indian Meadow	78.50 332	eP	P	19 05 42.1	-0.2
	comp=Z,60nm,0.6s					
CMB	Columbia Colle	78.71 322	eP	P	19 05 43.3	0.0
CMB			pmax	pmax		
	comp=Z,229nm,1.5s					
CMB	Columbia Colle	78.71 322	eP	P	19 05 43.3	0.0
	comp=Z,229nm,1.5s					
H17A	Grant Village	78.75 332	P	P	19 05 44.0	+0.4
	baz=144					
BMN	Battle Mountai	78.77 326	eP	P	19 05 42.6	-1.1
BMN			pmax	pmax		
	comp=Z,25nm,1.1s					
BMN	Battle Mountai	78.77 326	eP	P	19 05 42.6	-1.1
	comp=Z,25nm,1.1s					
RLMT	Red Lodge	78.80 333	P	P	19 05 45.6	+1.8
	baz=145,SNR=26					
RLMT	Red Lodge	78.80 333	eP	P	19 05 44.3	+0.5
	comp=Z,336nm,1.8s					
RLMT			LR	LR		
	comp=Z,1µm,22.0s					
LKWY	Lake	78.81 332	eP	P	19 05 42.6	-1.4
LKWY			pmax	pmax		
	comp=Z,145nm,1.5s					
LKWY			MLR	MLR		
	comp=Z,1µm,22.0s					
LKWY	Lake	78.81 332	eP	P	19 05 42.5	-1.4
	comp=Z,145nm,1.5s					
LKWY			LR	LR		
	comp=Z,1µm,22.0s					
ULM	Lac du Bonnet	78.87 344	P	P	19 05 44.2	+0.4
	comp=Z,28nm,0.8s,baz=152,slow=5.6,SNR=29					
ULM			PKKPbc	PKKPbc	19 24 41.0	+1.1
	comp=Z,4.5nm,0.8s,baz=288,slow=3.2,SNR=2.9					
ULM			LR	LR	19 44 09.0	
	comp=Z,474nm,19.4s,baz=144,slow=38					
LAO	LASA Array	78.92 336	P	P	19 05 45.6	+1.4
	baz=148,SNR=11					
LAO	LASA Array	78.92 336	eP	P	19 05 44.1	-0.2
	comp=Z,153nm,1.2s					
LAO			LR	LR		
	comp=Z,994nm,21.0s					

DGMT	**Dagmar**	79.73	338	P		**P**	**19 05 50.3 +1.7**
	baz=150,SNR=22						
DGMT	**Dagmar**	79.73	338	*e*P		**P**	**19 05 48.4 -0.2**
	comp=Z,245nm,1.4s						
DGMT				LR		LR	
	comp=Z,1μm,21.0s						
HLID	**Hailey**	79.78	329	P		**P**	**19 05 51.0 +1.8**
	baz=141,SNR=121						
HLID	**Hailey**	79.78	329	*e*P		**P**	**19 05 51.4 +2.2**
	comp=Z,358nm,1.7s						
HLID				LR		LR	
	comp=Z,1μm,22.0s						
BOZ	**Bozeman (W)**	80.16	332	P		**P**	**19 05 52.6 +1.5**
	baz=144,SNR=6.5						
BOZ	**Bozeman (W)**	80.16	332	PFAKE			19 06 00.0 +8.9
BOZ				LR		LR	
	comp=Z,1μm,21.0s						
SCHQ	**Schefferville**	80.29	2	P		**P**	**19 05 51.8 +0.4**
	comp=Z,29nm,1.0s,baz=161,slow=5.5,SNR=8.4						
SCHQ				LR		LR	19 41 47.2
	comp=Z,342nm,21.8s,baz=185,slow=36						
RAR	**Rarotonga**	80.29	251	LR		LR	19 32 51.7
	comp=Z,2μm,19.1s,baz=111,slow=29						
TORD	**Torodi Ar. Bea**	80.30	70	P		**P**	**19 05 52.6 +0.2**
	comp=Z,76nm,0.5s,baz=257,slow=4.6,SNR=596						
TORD				PKKPbc		**PKKPbc**	**19 24 36.1 +1.6**
	comp=Z,1.2nm,1.1s,baz=27,slow=3.3,SNR=3.2						
TORD				PKPPKP		**P'P'df**	**19 32 34.8 -3.9**
	comp=Z,0.9nm,1.0s,baz=59,slow=1.7,SNR=3.5						
TORD				LR		LR	19 41 38.5
	comp=Z,4μm,18.6s,baz=235,slow=36						
MFID	**Camas Ranch**	80.33	328	*e*P		**P**	**19 05 52.4 +0.3**
	comp=Z,278nm,1.8s						
DLMT	**Dillon**	80.38	331	*e*P		**P**	**19 05 51.8 -0.5**
	comp=Z,197nm,1.5s						
TSUM	**Tsumeb**	80.39	107	P		**P**	**19 05 52.6 -0.5**
	comp=Z,54nm,1.1s,baz=233,slow=6.3,SNR=31						
TSUM	**Tsumeb**	80.39	107	*e*P		**P**	**19 05 51.8 -1.3**
	comp=Z,180nm,1.1s						
MAW	**Mawson**	80.76	164	P		**P**	**19 05 54.2 +0.2**
	comp=Z,104nm,1.1s,baz=216,slow=6.4,SNR=162						
MAW				LR		LR	19 40 26.3
	comp=Z,2μm,22.0s,baz=230,slow=35						
WVOR	**Wild Horse Val**	80.97	326	*e*P		**P**	**19 05 54.1 -1.4**
WVOR				pmax		pmax	
	comp=Z,71nm,1.4s						
WVOR				MLR		MLR	
	comp=Z,1μm,21.0s						
WVOR	**Wild Horse Val**	80.97	326	*e*P		**P**	**19 05 54.1 -1.4**
	comp=Z,70nm,1.4s						
WVOR				LR		LR	
	comp=Z,1μm,21.0s						
O03D	**Paynes Creek**	81.08	323	P		**P**	**19 05 56.8 +0.7**
	baz=135,SNR=16						
EGMT	**Eagleton**	81.36	335	P		**P**	**19 05 58.3 +0.9**
	baz=145,SNR=24						
EGMT	**Eagleton**	81.36	335	*e*P		**P**	**19 05 56.8 -0.7**
	comp=Z,267nm,1.7s						
EGMT				LR		LR	
	comp=Z,1μm,21.0s						
MOD	**Modoc Plateau**	81.43	325	*e*P		**P**	**19 05 59.3 +1.3**
	comp=Z,120nm,1.3s						
N02D	**Trinity Center**	82.05	323	P		**P**	**19 06 01.6 +0.4**
	baz=134,SNR=7.9						
BMO	**Blue Mountains**	82.11	329	*e*P		**P**	**19 06 02.6 +1.1**
BMO				pmax		pmax	
	comp=Z,141nm,1.6s						
BMO				MLR		MLR	
	comp=Z,1μm,20.0s						
BMO	**Blue Mountains**	82.11	329	*e*P		**P**	**19 06 02.6 +1.1**
	comp=Z,141nm,1.6s						
BMO				LR		LR	
	comp=Z,1μm,20.0s						
MSO	**Missoula**	82.11	332	P		**P**	**19 06 03.1 +1.6**
	baz=142,SNR=16						
M04C	**Macdoel**	82.15	324	P		**P**	**19 06 03.0 +1.2**
	baz=135,SNR=32						
M02C	**Callahan**	82.42	323	P		**P**	**19 06 04.2 +1.0**
	baz=134,SNR=12						
K04D	**Chiloquin, OR**	82.70	325	P		**P**	**19 06 05.6 +0.9**
	baz=135						
BOSA	**Boshof**	82.90	118	P		**P**	**19 06 05.8 -0.4**
	comp=Z,40nm,0.9s,baz=242,slow=5.1,SNR=30						
BOSA				LR		LR	19 38 38.1
	comp=Z,3μm,21.4s,baz=239,slow=33						
J05D	**Fort Rock, OR**	82.90	325	P		**P**	**19 06 07.4 +1.7**
	baz=136,SNR=24						
J04D	**Umpqua Nationa**	83.32	325	P		**P**	**19 06 09.3 +1.3**
	baz=135,SNR=12						
HUMO	**Hull Mountain**	83.32	324	*e*P		**P**	**19 06 07.0 -0.7**
	comp=Z,100nm,1.1s						
L02D	**Cave Junction,**	83.36	323	P		**P**	**19 06 09.6 +1.7**
	baz=134,SNR=9.3						
I05D	**Terrebonne, OR**	83.70	326	P		**P**	**19 06 11.4 +1.8**
	baz=136,SNR=14						
WALA	**Waterton Lakes**	83.85	333	*e*P		**P**	**19 06 11.4 +1.0**
	comp=Z,106nm,1.1s						
I04A	**Tendick Farm,**	83.86	325	P		**P**	**19 06 11.4 +0.9**
	baz=135,SNR=8.7						
I03D	**Drain, OR**	84.28	325	P		**P**	**19 06 14.0 +1.4**
	baz=134,SNR=11						
HAWA	**Hanford**	84.30	328	*e*P		**P**	**19 06 11.5 -1.1**
	comp=Z,165nm,1.5s						
HAWA				LR		LR	
	comp=Z,1μm,20.0s						
G05D	**Wamic, OR**	84.34	327	P		**P**	**19 06 14.5 +1.7**
	baz=136,SNR=9.1						
FFC	**Flin Flon**	84.52	342	*e*P		**P**	**19 06 12.7 -0.8**
FFC				pmax		pmax	
	comp=Z,73nm,1.4s						
FFC	**Flin Flon**	84.52	342	*e*P		**P**	**19 06 12.7 -0.8**
	comp=Z,74nm,1.4s						
NEW	**Newport**	84.60	331	P		**P**	**19 06 14.2 +0.1**
	comp=Z,21nm,1.2s,baz=135,slow=6.4,SNR=12						
NEW	**Newport**	84.60	331	P		**P**	**19 06 14.6 +0.5**
	baz=139,SNR=13						
NEW	**Newport**	84.60	331	P		**P**	**19 06 14.2 +0.1**
	comp=Z,2.4nm,1.6s						
NEW				LR		LR	
	comp=Z,825nm,20.0s						
LBTB	**Lobatse**	84.72	115	P		**P**	**19 06 15.4 -0.1**
	comp=Z,19nm,0.5s,baz=239,slow=6.9,SNR=52						
RTC	**Rabat Centre**	84.81	48	PFAKE			19 06 20.0 +4.6
RTC				LR		LR	
	comp=Z,8μm,19.0s						
COR	**Corvallis**	84.88	325	*e*P		**P**	**19 06 11.3 -4.2**
COR				pmax		pmax	
	comp=Z,137nm,1.4s						
COR	**Corvallis**	84.88	325	*e*P		**P**	**19 06 11.3 -4.2**
	comp=Z,137nm,1.4s						
G03D	**McMinnville, O**	85.29	326	P		**P**	**19 06 18.8 +1.2**
	baz=134						
PFVI	**Vila Bisbo**	85.38	45	*e*P		**P**	**19 06 19.8 +1.6**
	comp=Z,198nm,1.5s						
PFVI	**Vila Bisbo**	85.38	45	*e*LR		LR	19 33 47.2
	comp=Z,3μm,20.0s						
MORF	**Marmelete**	85.59	45	*e*P		**P**	**19 06 20.3 +0.9**
MORF				AMS		AMS	19 43 03.3
	comp=Z,3μm,21.0s						
MORF	**Marmelete**	85.59	45	*e*P		**P**	**19 06 21.0 +1.6**
	comp=Z,166nm,1.3s						
MORF	**Marmelete**	85.59	45	*e*LR		LR	19 35 33.0
	comp=Z,3μm,20.0s						
MORF	**Marmelete**	85.59	45	*e*P		**P**	**19 06 20.3 +0.9**
MDT	**Midelt**	85.68	51	P		**P**	**19 06 21.5 +1.4**
	comp=Z,50nm,1.1s,baz=240,slow=5.2,SNR=47						
F04D	**Rainier, OR**	85.77	326	P		**P**	**19 06 21.3 +1.4**
	baz=135						
PBDV	**Barranco-do-Ve**	86.02	45	*e*P		**P**	**19 06 23.2 +1.8**
	comp=Z,280nm,1.3s						
PBDV	**Barranco-do-Ve**	86.02	45	*e*LR		LR	19 34 24.8
	comp=Z,3μm,20.0s						
PMST	**Lisbon--Monsan**	86.12	44	*e*P		**P**	**19 06 23.1 +1.2**
	comp=Z,152nm,1.8s						
PNCL	**Nicolau / Gran**	86.15	44	*e*P		**P**	**19 06 23.7 +1.7**
	comp=Z,138nm,1.5s						
PNCL	**Nicolau / Gran**	86.15	44	*e*LR		LR	19 34 19.5
	comp=Z,2μm,20.0s						
PCVE	**Castro Verde**	86.18	45	*e*P		**P**	**19 06 24.1 +1.9**
	comp=Z,167nm,1.5s						
PMAFR	**Mafra**	86.19	43	*e*P		**P**	**19 06 23.6 +1.4**
PMAFR	**Mafra**	86.19	43	*e*LR		LR	19 34 16.0
	comp=Z,1μm,22.0s						
PVAQ	**Vaqueiros**	86.25	45	*e*P		**P**	**19 06 24.1 +1.6**
	comp=Z,190nm,1.8s						
PVAQ	**Vaqueiros**	86.25	45	*e*S		**S**	**19 16 59.6 +4.3**
PVAQ	**Vaqueiros**	86.25	45	*e*LR		LR	19 35 09.2
	comp=Z,3μm,20.0s						
PBEJ	**Beja**	86.52	45	*e*P		**P**	**19 06 25.5 +1.6**
	comp=Z,157nm,1.6s						
EVO	**Evora**	86.73	44	*e*P		**P**	**19 06 26.1 +1.2**
	comp=Z,85nm,1.8s						
B05A	**Bryant**	86.86	328	P		**P**	**19 06 25.8 +0.5**
	baz=135						
PMTG	**Montargil**	86.92	44	*e*P		**P**	**19 06 27.2 +1.4**
	comp=Z,135nm,1.5s						
PMTG	**Montargil**	86.92	44	*e*LR		LR	19 35 09.5
	comp=Z,1μm,20.0s						
NLWA	**Neilton Lookou**	87.11	327	PFAKE			19 06 30.0 +3.5
NLWA				LR		LR	
	comp=Z,1μm,21.0s						
PTOM	**Tomar**	87.13	43	*e*P		**P**	**19 06 28.1 +1.3**
	comp=Z,105nm,1.4s						
PBAR	**Barrancos**	87.14	45	*e*P		**P**	**19 06 27.9 +1.0**
	comp=Z,183nm,1.4s						
PBAR	**Barrancos**	87.14	45	*e*LR		LR	19 34 29.6
	comp=Z,6μm,20.0s						
MIR	**Mirnyy**	87.18	174	*i* P		**P**	**19 06 26.5 -0.2**
MIR				pmax		pmax	
	comp=Z,7.0nm,1.8s						
PESTR	**Estremoz**	87.19	44	*e*P		**P**	**19 06 27.2 0.0**
	comp=Z,95nm,1.5s						
PESTR	**Estremoz**	87.19	44	*e*LR		LR	19 34 46.5
	comp=Z,1μm,18.0s						
PCAS	**Casmilo, Conde**	87.34	43	*e*P		**P**	**19 06 28.9 +1.1**
PCAS	**Casmilo, Conde**	87.34	43	*e*LR		LR	19 34 36.6
	comp=Z,2μm,18.0s						
PMRV	**Marv??o**	87.65	44	*e*P		**P**	**19 06 30.1 +0.8**
	comp=Z,27nm,1.5s						
PMRV	**Marv??o**	87.65	44	*e*LR		LR	19 34 55.5
	comp=Z,1μm,20.0s						
PGC	**Sidney**	87.78	328	*e*P		**P**	**19 06 26.7 -2.9**
	comp=Z,116nm,1.5s						
PCBR	**Castelo Branco**	87.84	43	*e*P		**P**	**19 06 31.4 +1.2**
	comp=Z,32nm,1.5s						
MTE	**Mateigas**	88.13	43	*e*P		**P**	**19 06 32.9 +1.2**
MTE	**Mateigas**	88.13	43	*e*LR		LR	19 32 49.6
	comp=Z,2μm,18.0s						
MTE	**Mateigas**	88.13	43	*e*P		**P**	**19 06 29.8 -1.9**
	comp=Z,18nm,1.0s						
MTE				LR		LR	
	comp=Z,2μm,19.0s						
TAM	**Tamanrasset**	88.15	64	*e*P		**P**	**19 06 30.0 -2.3**
TAM				pmax		pmax	
	comp=Z,39nm,1.3s						
TAM				MLR		MLR	
	comp=Z,3μm,20.0s						
TAM	**Tamanrasset**	88.15	64	*e*P		**P**	**19 06 30.0 -2.3**
	comp=Z,39nm,1.3s						
TAM				LR		LR	
	comp=Z,3μm,20.0s						
PVRL	**Vila Real**	88.55	42	*e*P		**P**	**19 06 34.3 +0.7**
	comp=Z,54nm,1.8s						
POLO	**Lamas de Olo**	88.56	42	*e*P		**P**	**19 06 34.1 +0.4**
POLO	**Lamas de Olo**	88.56	42	*e*LR		LR	19 35 13.8
	comp=Z,921nm,18.0s						
PGAV	**Gavieira, Arco**	88.62	41	*e*LR		LR	19 34 29.4
	comp=Z,2μm,20.0s						
MVO	**Moncorvo**	88.90	43	*e*P		**P**	**19 06 36.1 +0.8**
	comp=Z,55nm,1.5s						
MVO	**Moncorvo**	88.90	43	*e*LR		LR	19 34 56.1
	comp=Z,2μm,18.0s						
PBRG	**Braganca**	89.45	42	*e*P		**P**	**19 06 39.3 +1.5**
	comp=Z,47nm,1.7s						
PBRG	**Braganca**	89.45	42	*e*LR		LR	19 35 35.9
	comp=Z,2μm,22.0s						
PAB	**San Pablo**	89.64	45	*e*P		**P**	**19 06 36.6 -2.2**
PAB				pmax		pmax	
	comp=Z,40nm,1.3s						
PAB				MLR		MLR	
	comp=Z,3μm,20.0s						
PAB	**San Pablo**	89.64	45	*e*P		**P**	**19 06 36.6 -2.2**
	comp=Z,40nm,1.3s						
PAB				LR		LR	
	comp=Z,3μm,20.0s						
SNZO	**South Karori**	89.95	223	PFAKE			19 06 50.0 +10
SNZO				LR		LR	
	comp=Z,1μm,19.0s						
ESDC	**Sonseca Array**	89.96	45	P		**P**	**19 06 40.6 +0.3**
	comp=Z,9.5nm,1.1s,baz=234,slow=4.8,SNR=26						
ESDC				PP		PP	19 10 22.3 +8.4
	comp=Z,0.6nm,0.7s,baz=230,slow=6.6,SNR=4.2						
ESDC				LR		LR	19 45 30.8
	comp=Z,2μm,19.9s,baz=230,slow=35						
LSZ	**Lusaka**	91.21	107	P		**P**	**19 06 48.4 +1.6**
	comp=Z,7.1nm,0.8s,baz=248,slow=5.6,SNR=17						
LSZ				PP		PP	19 10 33.4 +9.5
	comp=Z,32nm,1.3s,baz=244,slow=8.8,SNR=7.5						
LSZ	**Lusaka**	91.21	107	P		**P**	**19 06 48.4 +1.6**
	comp=Z,16nm,1.3s						
LSZ				PP		PP	19 10 33.4 +9.5
LSZ				LR		LR	
	comp=Z,3μm,22.0s						
LSZ	**Lusaka**	91.21	107	PcP		**PcP**	**19 06 49.2 +1.4**
	SNR=14						
LSZ	**Lusaka**	91.21	107	P		**PcP**	**19 06 49.2 +1.4**
	SNR=14						
LSZ				P		**PcP**	**19 06 49.2 +1.4**
	SNR=14						
SFJD	**Kangerlussuaq**	93.66	8	P		**P**	**19 06 56.6 0.0**
	comp=Z,15nm,0.9s,baz=191,slow=9.0,SNR=3.9						
AFI	**Afiamalu**	93.75	253	PFAKE			19 07 10.0 +11
AFI				LR		LR	
	comp=Z,2μm,21.0s						
POHA	**Pohakuloa**	93.95	290	PFAKE			19 07 10.0 +11
POHA				LR		LR	
	comp=Z,2μm,20.0s						
YKA	**Yellowknife Ar**	94.63	341	P		**P**	**19 07 01.2 0.0**
	comp=Z,8.8nm,0.9s,baz=139,slow=4.7,SNR=12						
YKA				LR		LR	19 53 58.2
	comp=Z,78nm,19.0s,baz=180,slow=38						
KIP	**Kipapa**	96.76	290	PFAKE			19 07 20.0 +8.1
KIP				LR		LR	
	comp=Z,3μm,19.0s						
WRAK	**Wrangell Islan**	96.95	330	PFAKE			19 07 20.0 +8.1
WRAK				LR		LR	
	comp=Z,908nm,19.0s						
KEST	**Kesra**	97.11	54	LR		LR	19 53 50.3
	comp=Z,2μm,18.3s,baz=183,slow=37						
PAF	**Port-aux-Franc**	97.54	155	PFAKE			19 07 20.0 +5.0
PAF				LR		LR	
	comp=Z,1μm,21.0s						
SSB	**Saint Sauveur**	98.23	44	PFAKE			19 07 30.0 +12
SSB				LR		LR	
	comp=Z,2μm,19.0s						
VSL	**Villasalto**	98.80	50	PFAKE			19 07 30.0 +9.3
VSL				LR		LR	
	comp=Z,2μm,20.0s						
ESK	**Eskdalemuir**	99.01	32	PFAKE			19 07 30.0 +8.8
ESK				LR		LR	
	comp=Z,2μm,20.0s						
BNI	**Bardonecchia**	99.47	45	PFAKE			19 07 30.0 +6.2
BNI				LR		LR	
	comp=Z,4μm,22.0s						
MSVF	**Nonsavu**	100.44	245	PFAKE			19 07 40.0 +11
MSVF				LR		LR	
	comp=Z,2μm,21.0s						
SUMG	**Summit**	100.47	9	*i* P		**Pdif**	**19 07 28.7 +0.8**
	comp=Z,22nm,1.1s						
SUMG	**Summit**	100.47	9	*i* P		**Pdif**	**19 07 28.7 +0.8**
SUMG				pmax		pmax	
	comp=Z,22nm,1.1s						
SUMG	**Summit**	100.47	9	*e*P		**Pdif**	**19 07 25.9 -2.0**
	comp=Z,17nm,1.0s						
CLTB	**Caltabellotta**	100.71	54	PFAKE			19 07 40.0 +11
CLTB				LR		LR	
	comp=Z,2μm,21.0s						
WDD	**Wied Dalam**	100.97	56	PFAKE			19 07 40.0 +10
WDD				LR		LR	
	comp=Z,2μm,19.0s						
ECH	**Echery**	101.17	42	PFAKE			19 07 40.0 +8.9
ECH				LR		LR	
	comp=Z,2μm,19.0s						
WLF	**Walferdange**	101.22	40	P		**Pdif**	**19 07 32.0 +0.8**
WLF				pmax		pmax	
	comp=Z,15nm,1.3s						
WLF	**Walferdange**	101.22	40	PFAKE			19 07 40.0 +8.8
WLF				LR		LR	
	comp=Z,2μm,19.0s						
VLC	**Villacollemand**	101.47	47	PFAKE			19 07 40.0 +7.5
VLC				LR		LR	
	comp=Z,1μm,19.0s						
TUE	**Stuetta**	101.77	44	*e*Pdif		**Pdif**	**19 07 30.7 -3.3**
	comp=Z,9.8nm,1.1s						
TUE				LR		LR	
	comp=Z,2μm,20.0s						
BFO	**Black Forest**	101.93	42	PFAKE			19 07 40.0 +5.5
BFO				LR		LR	
	comp=Z,1μm,19.0s						
DAVOX	**Davos/Dischmat**	102.23	44	P		**Pdif**	**19 07 36.6 +0.6**
	comp=Z,3.6nm,0.8s,baz=247,slow=6.9,SNR=6.0						
DAVA	**Damuels**	102.44	43	*i* Pdiff		**Pdif**	**19 07 37.6 +0.7**
	comp=Z,7.5nm,1.4s						
DAVA				*i* PKKPdf		**PKKPdf**	**19 23 43.2 -3.8**
	comp=Z,0.2nm,0.4s						
AQU	**L'Aquila**	102.76	49	PFAKE			19 07 50.0 +12
AQU				LR		LR	
	comp=Z,1μm,20.0s						
FETA	**Feichten**	102.86	44	*i* Pdiff		**Pdif**	**19 07 39.6 +0.8**
	comp=Z,7.8nm,1.2s						
FETA				*i* pPKiKP		**pPKiKP**	**19 12 08.0 -2.4**
	comp=Z,12nm,1.6s						
FETA				*i* PKKPdf		**PKKPdf**	**19 23 44.7 -1.4**
	comp=Z,8.2nm,1.4s						
RETA	**Reutte**	103.07	44	*i* Pdiff		**Pdif**	**19 07 39.2 -0.4**
	comp=Z,8.1nm,1.4s						
RETA				*i* PKiKP		**PKiKP**	**19 12 00.0 +0.7**
RETA				*i* PKKPdf		**PKKPbc**	**19 23 39.1 +1.9**
	comp=Z,5.0nm,1.2s						
MOTA	**Moosalm**	103.23	44	*i* Pdiff		**Pdif**	**19 07 41.4 +1.0**
	comp=Z,5.5nm,1.0s						
MOTA				*i* PP		**PP**	**19 11 52.5 -3.7**
	comp=Z,4.5nm,0.9s						
MOTA				*i* PKKPdf		**PKKPbc**	**19 23 35.2 -1.6**
	comp=Z,4.5nm,1.1s						
TAU	**Tasmania Unive**	103.26	208	PFAKE			19 07 50.0 +9.3
TAU				LR		LR	
	comp=Z,1μm,20.0s						
WATA	**Walderalm**	103.52	44	*i* Pdiff		**Pdif**	**19 07 43.1 +1.4**
	comp=Z,5.6nm,1.1s						
WATA				*i* PKKPdf		**PKKPdf**	**19 23 43.4 -1.5**
	comp=Z,1.5nm,0.6s						
WTTA	**Wattenberg**	103.53	44	*i* Pdiff		**Pdif**	**19 07 43.6 +1.8**
	comp=Z,6.4nm,0.9s						
WTTA				*i* PKiKP		**PKiKP**	**19 12 00.5 +0.2**
CUC	**Castrocucco**	103.53	52	PFAKE			19 07 50.0 +8.2
CUC				LR		LR	
	comp=Z,809nm,20.0s						
ABTA	**Abfaltersbach**	103.88	45	*i* Pdiff		**Pdif**	**19 07 41.8 -1.5**
	comp=Z,5.5nm,1.3s						
ABTA				*i* PP		**PP**	**19 12 03.6 +2.6**
	comp=Z,16nm,1.4s						
ABTA				*i* PKKPdf		**PKKPdf**	**19 23 42.9 -1.2**
	comp=Z,4.3nm,1.2s						
FUNA	**Funafuti**	104.09	253	PFAKE			19 07 50.0 +5.1
FUNA				LR		LR	
	comp=Z,6μm,20.0s						
KBA	**Koelnbreinsper**	104.53	45	*i* Pdiff		**Pdif**	**19 07 43.6 -2.7**
	comp=Z,2.2nm,0.6s						
KBA				*i* PKiKP		**PKiKP**	**19 12 01.1 -1.1**
	comp=Z,6.4nm,1.0s						
KBA				*i* PKKPbc		**PKKPbc**	**19 23 30.9 -2.0**
	comp=Z,1.5nm,0.7s						
MYKA	**Terra Mystica**	104.55	45	*i* Pdiff		**Pdif**	**19 07 47.4 +1.2**
	comp=Z,7.3nm,1.4s						
MYKA				*i* pPKiKP		**pPKiKP**	**19 12 13.7 +0.3**
	comp=Z,20nm,1.4s						
JOHN	**Johnston Islan**	104.86	282	PFAKE			19 08 00.0 +12
JOHN				LR		LR	
	comp=Z,114nm,19.0s						
ABPO	**Ambohimpanom**	105.05	120	PFAKE			19 12 10.0
ABPO				LR		LR	
	comp=Z,672nm,21.0s						
OBKA	**Obir**	105.09	45	*i* Pdiff		**Pdif**	**19 07 50.0 +1.3**
	comp=Z,12nm,1.5s						
OBKA				*i* PKiKP		**PKiKP**	**19 12 03.0 -0.1**
	comp=Z,5.0nm,1.0s						
OBKA				*i* PKKPab		**PKKPdf**	**19 23 42.2 +0.4**
	comp=Z,4.9nm,1.4s						
EGAK	**Eagle**	105.12	335	PFAKE			19 12 10.0
EGAK				LR		LR	
	comp=Z,820nm,20.0s						
NKC	**Novy Kostel**	105.16	41	*ex*		x	19 21 40.5
NKC				AMS		AMS	19 50 20.0
	comp=Z,2μm,23.3s						
MOA	**Molln**	105.40	44	*i* pPdiff		**pPdif**	**19 08 01.1 +0.2**
	comp=Z,5.5nm,1.2s						
MOA				*i* PKKPab		**PKKPab**	**19 23 48.3 +3.9**
	comp=Z,8.3nm,1.2s						
GERES	**GERESS Array B**	105.41	43	Pdiff		**Pdif**	**19 07 50.6 +0.6**
	comp=Z,0.7nm,0.9s,baz=302,slow=7.7,SNR=5.6						
GERES				PP		**PKiKP**	**19 12 06.9 +3.3**
	comp=Z,1.1nm,0.9s,baz=201,slow=5.2,SNR=4.9						
GERES				PKKPbc		**PKKPbc**	**19 23 29.3 -0.9**
	comp=Z,0.6nm,0.9s,baz=130,slow=4.2,SNR=4.3						
GERES				PKPPKP		**P'P'df**	**19 31 52.5 +3.2**
	comp=Z,0.1nm,0.5s,baz=355,slow=2.1,SNR=3.8						
KHC	**Kasperske Hory**	105.44	43	*e*PP		PP	19 12 04.6 -7.9
KHC				*e*PS		**PS**	**19 21 32.0 +3.5**
KHC				AMS		AMS	19 50 10.0
	comp=Z,2μm,24.8s						
SOKA	**Soboth**	105.46	45	*i* Pdiff		**Pdif**	**19 07 46.5 -3.8**
	comp=Z,4.8nm,1.7s						
SOKA				*i* PKiKP		**PKiKP**	**19 12 05.1 +1.3**
	comp=Z,5.0nm,1.1s						
SOKA				*i* PKKPbc		**PKKPbc**	**19 23 28.1 -1.8**
	comp=Z,3.7nm,1.3s						
KMBO	**Kilima Mbogo**	105.62	99	PFAKE			19 12 10.0
KMBO				LR		LR	
	comp=Z,2μm,22.0s						
CLL	**Collm**	105.89	40	*e*P		**Pdif**	**19 07 54.0 +2.1**
CLL				*e*			19 12 15.0
CLL				MLR		MLR	
	comp=Z,1μm,18.2s						
CLL	**Collm**	105.89	40	*e*(Pdif)		**Pdif**	**19 07 54.0 +2.1**
CLL				*es*Pdif		**sPdif**	**19 08 09.0 +2.1**
CLL				*e*PP		**PP**	**19 12 15.0 -0.7**
CLL				*e*			19 20 56.0
CLL				*e*PS		**PS**	**19 21 33.0 +0.1**
CLL				*e*PPS		PPS	19 22 32.0
CLL				*e*SS		SS	19 27 18.0 +4.9
CLL				*e*			19 32 18.0
CLL				LmV			19 57 00.0
	comp=Z,1μm,18.2s						
ARSA	**Arzberg**	105.98	45	*i* Pdiff		**Pdif**	**19 07 52.8 +0.3**
	comp=Z,4.8nm,1.8s						
ARSA				*i* PKiKP		**PKiKP**	**19 12 04.7 +0.1**
	comp=Z,4.6nm,1.4s						
ARSA				*i* PKKPab		**PKKPdf**	**19 23 40.3 +0.2**
	comp=Z,4.7nm,1.3s						
BRG	**Berggiesshubel**	106.28	41	*e*PKP		**PKKPdf**	**19 23 36.7 -2.9**
	comp=Z,5.2nm,1.2s						
PRA	**Prague**	106.29	42	AMS		AMS	19 50 20.0

comp=Z,0.7nm,0.8s,baz=69,slow=4.5,SNR=3.6
OKC Ostrava-Krasne 108.48 43 AMS AMS 19 57 30.0
comp=Z,1μm,24.2s
VYHS Vyhne 108.50 45 *e* **PKiKP 19 12 10.2 +1.0**
CAN Canberra 108.62 213 PFAKE 19 12 20.0
CAN LR LR
comp=Z,763nm,20.0s
PSZ Piszkesteto 109.00 45 PFAKE 19 12 20.0
PSZ LR LR
comp=Z,1μm,20.0s
SANT Santorini 109.43 58 PFAKE 19 12 20.0
SANT LR LR
comp=Z,1μm,20.0s
BZS Buzias 109.44 48⇑ *i*P **PKiKP 19 12 11.7 +0.6**
SIRR Siria 109.66 47⇑ *i*P **PKiKP 19 12 11.1 -0.4**
RER Riviere de l'E 110.18 127 PFAKE 19 12 20.0
RER LR LR
comp=Z,1μm,20.0s
DRGR 110.50 47⇓ *i*P **PKiKP 19 12 13.9 +0.7**
DRGR 110.50 47⇓ *i*PKIKP **PKiKP 19 12 13.9 +0.7**
CJR Cluj-Napoca 111.07 47⇑ *i*P **PKiKP 19 12 17.5 +3.3**
CJR Cluj-Napoca 111.07 47⇑ *i*PKIKP **PKiKP 19 12 17.5 +3.3**
ARR Arges 111.41 49⇑ *i*P **PKiKP 19 12 17.7 +2.8**
ARCR ARCALIA 111.67 47⇑ *i*P PKiKP 19 12 23.9 +8.6
VOIR 111.71 49⇓ *i*P **PKiKP 19 12 19.3 +3.8**
VOIR 111.71 49⇓ *i*PKIKP **PKiKP 19 12 19.3 +3.8**
DOPR Dopca 112.08 48⇑ *i*P **PKiKP 19 12 16.8 +0.7**
MLR Muntele Rosu 112.33 49⇑ *i*P **PKiKP 19 12 15.2 -1.5**
MLR Muntele Rosu 112.33 49⇑ *i*PKIKP **PKiKP 19 12 15.2 -1.5**
BURAR Bucovina Array 112.37 47⇓ *i*P **PKiKP 19 12 17.9 +1.2**
BURAR Bucovina Array 112.37 47⇓ *i*PKIKP **PKiKP 19 12 17.9 +1.2**
PLOR Plostina 112.90 49⇓ *i*P **PKiKP 19 12 16.8 -0.9**
PLOR Plostina 112.90 49⇓ *i*PKIKP **PKiKP 19 12 16.8 -0.9**
VRI Vrincioaia 112.96 49⇓ *i*P **PKiKP 19 12 16.5 -1.3**
VRI Vrincioaia 112.96 49⇓ *i*PKIKP **PKiKP 19 12 16.5 -1.3**
TESR Tescani 113.06 48⇓ *i*P **PKiKP 19 12 16.6 -1.3**
HARR Harsova 113.51 50⇓ *i*P **PKiKP 19 12 19.0 +0.2**
HARR Harsova 113.51 50⇓ *i*PKIKP **PKiKP 19 12 19.0 +0.2**
TLB Topalu 113.56 50⇑ *i*P **PKiKP 19 12 19.9 +1.0**
TLB Topalu 113.56 50⇑ *i*PKIKP **PKiKP 19 12 19.9 +1.0**
KBS Kingsbay 113.65 12 PFAKE 19 12 30.0
KBS LR LR
comp=Z,807nm,19.0s
ISP Isparta 113.72 58 PFAKE 19 12 30.0
ISP LR LR
comp=Z,1μm,21.0s
CFR Carcaliu 113.76 50⇓ *i*P **PKiKP 19 12 19.0 -0.3**
CFR Carcaliu 113.76 50⇓ *i*PKIKP **PKiKP 19 12 19.0 -0.3**
TIRR Tirgusor 113.79 51⇓ *i*P **PKiKP 19 12 19.7 +0.4**
TIRR Tirgusor 113.79 51⇓ *i*PKIKP **PKiKP 19 12 19.7 +0.4**
TLCR 114.23 50⇑ *i*P PKPdf 19 12 22.8 +2.6
TLCR 114.23 50⇑ *i*PKIKP PKPdf 19 12 22.8 +2.6
TARA Tarawa 114.27 259 PFAKE 19 12 30.0 +8.8
TARA LR LR
comp=Z,79nm,20.0s
MILM Milestii Mici 114.60 48⇓ *i*P PKPdf 19 12 21.4 +0.6
STKA Stephens Creek 114.96 210 PKP PKPdf 19 12 22.6 +0.4
comp=Z,2.2nm,0.9s,baz=141,slow=2.3,SNR=2.7
EIL Elat 115.09 68 PKP **PKPdf 19 12 22.2 -0.1**
comp=Z,4.5nm,0.9s,baz=210,slow=2.4,SNR=3.4
FINES FINESS Array B 115.44 32 PKKPbc PKKPbc 19 22 56.9 -0.6
comp=Z,4.9nm,1.0s,baz=146,slow=3.7,SNR=4.4
KIEV Kiev 115.57 44 *i* PKiKP **PKPdf 19 12 22.2 -0.4**
KIEV Kiev 115.57 44 PFAKE 19 12 30.0 +7.4
KIEV LR LR
comp=Z,1μm,20.0s
MIDW Midway 115.57 290 PFAKE 19 12 30.0 +6.7
MIDW LR LR
comp=Z,2μm,19.0s
AKASG Malin Array Be 115.58 44 PKP **PKPdf 19 12 21.9 -0.7**
comp=Z,1.0nm,0.4s,baz=268,slow=2.4,SNR=11
AKASG PP **PP 19 13 25.1 -0.4**
comp=Z,0.9nm,0.6s,baz=259,slow=7.1,SNR=6.0
AKASG PKKPab **PKKPab 19 22 59.5 +0.2**
comp=Z,1.6nm,0.6s,baz=63,slow=3.8,SNR=4.3
ANTO Ankara 115.94 56 PFAKE 19 12 30.0 +6.2
ANTO LR LR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 115.99 23 PKP **PKPdf 19 12 24.5 +1.6**
comp=Z,2.3nm,0.9s,baz=290,slow=3.7,SNR=3.1
ARCES PKKPbc **PKKPab 19 22 56.9 +0.1**
comp=Z,4.6nm,0.9s,baz=57,slow=4.5,SNR=4.3
ATD Arta Tunnel 116.02 89 PKP **PKPdf 19 12 26.4 +1.8**
comp=Z,3.1nm,0.3s,baz=199,slow=5.9,SNR=3.7
MMAI Mount Meron Ar 116.36 64 PKP **PKPdf 19 12 25.2 +0.4**
comp=Z,3.4nm,0.6s,baz=225,slow=0.8,SNR=7.3
BRTR Keskin Array B 116.54 57 PKP **PKPdf 19 12 25.2 +0.2**
comp=Z,3.8nm,0.8s,baz=200,slow=2.5,SNR=14
BRTR PP **PP 19 13 34.6 +1.9**
comp=Z,2.2nm,0.9s,baz=205,slow=7.9,SNR=3.8
BRTR SKKPbc SKKPbc 19 26 43.6 +5.3
comp=Z,0.9nm,0.9s,baz=123,slow=4.6,SNR=3.8
ASF Jabal al Asfar 117.37 66 PKP **PKPdf 19 12 27.6 +0.8**
comp=Z,5.6nm,1.0s,baz=217,slow=2.3,SNR=6.0
SIM Simferopol' 117.87 51 *d* *i*PKIKP **PKPdf 19 12 28.0 +0.8**
SIM pmax pmax
comp=Z,14nm,1.3s
APA Apatity 118.87 25⇓ *i*PKIKP PKPpre 19 12 23.0
APA MLR MLR
comp=Z,2μm,28.0s
LVZ Lovozero 119.33 25 PFAKE 19 12 40.0 +11
LVZ LR LR
comp=Z,857nm,21.0s
HNR Honiara 119.62 241 PFAKE 19 12 40.0 +8.5
HNR LR LR
comp=Z,882nm,20.0s
MSEY Mahe Island 119.70 112 PFAKE 19 12 40.0 +8.2
MSEY LR LR
comp=Z,2μm,21.0s
OBN Obninsk 120.46 40 PKP **PKPdf 19 12 31.9 +0.1**
comp=Z,7.0nm,0.4s,baz=307,slow=4.5,SNR=7.2
OBN Obninsk 120.46 40⇓ *i*PKIKP **PKPdf 19 12 31.8 0.0**
OBN *i* 19 12 41.9
OBN *e* 19 12 46.7
OBN *e* 19 13 57.7
OBN pmax pmax
comp=Z,48nm,1.3s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 120.46 40 PKP **PKPdf 19 12 31.9 +0.1**
OBN LR LR
comp=Z,2μm,21.0s
MOS Moscow 121.08 39 *e*PKIKP PKPpre 19 12 24.7
MOS *e* 19 12 41.2
MOS *e* 19 14 08.4
MOS pmax pmax
comp=Z,37nm,0.9s
NWAO Narrogin (SRO) 121.19 188 PFAKE 19 12 40.0 +5.9
NWAO LR LR
comp=Z,1μm,20.0s
LPSR Galich'ya Gora 121.78 43 *e*PKIKP **PKPdf 19 12 34.4 -0.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 121.93 33 *e*PKIKP **PKPdf 19 12 33.7 -0.8**
KLMR pmax pmax
comp=Z,46nm,1.3s
CTA Charters Tower 122.03 222 PKP **PKPdf 19 12 36.5 +0.4**
comp=Z,13nm,1.1s,baz=165,slow=2.9,SNR=5.1
CTAO Charters Tower 122.03 222 PFAKE 19 12 40.0 +3.9
CTAO LR LR
comp=Z,959nm,19.0s
RAYN Ar Rayn 122.45 77 PFAKE 19 12 50.0 +13
RAYN LR LR
comp=Z,2μm,21.0s
NEY Neytrino 123.81 54 *i* PKIKP **PKPdf 19 12 40.0 +1.1**
KIV Kislovodsk 123.84 53 *i* P **PKPdf 19 12 39.3 +0.5**
SNR=7.0
KIV Kislovodsk 123.84 53 *i* PKIKP **PKPdf 19 12 39.4 +0.5**
KIV *e* 19 14 23.5
KIV *e*PS **PS 19 24 20.5 -0.4**
KIV *e*SS SS 19 31 11.4 +1.6
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,489nm,21.0s
KIV Kislovodsk 123.84 53 PFAKE 19 12 50.0 +11
KIV LR LR
comp=Z,567nm,20.0s
KIV Kislovodsk 123.84 53 PKiKP **PKiKP 19 12 40.2 +1.0**
SNR=6.3
KIV Kislovodsk 123.84 53 P **PKiKP 19 12 40.2 +1.0**
SNR=6.3
KVAR Kislovodsk Arr 123.85 53 PKP **PKPdf 19 12 39.4 +0.5**
comp=Z,21nm,1.1s,baz=246,slow=1.6,SNR=8.2
KBZ Khabaz 123.98 53 PKP **PKPdf 19 12 39.6 +0.7**
comp=Z,18nm,0.9s,baz=252,slow=2.1,SNR=20
GOF Gofitskoye 124.17 52⇑ *e*PKIKP **PKPdf 19 12 39.7 +0.4**
GOF pmax pmax
comp=Z,40nm,1.0s
AKH Akhalkalaki 124.21 56⇑ *i*P **PKPdf 19 12 39.5 -0.3**
ONI Oni 124.29 55 P **PKPdf 19 12 40.8 +1.1**
ONI Oni 124.29 55 PKIKP **PKPdf 19 12 40.8 +1.1**
NCK Nalchik 124.47 54 *i* PKIKP **PKPdf 19 12 40.0 0.0**
ZEI Tsey 124.64 54 *e*PKIKP **PKPdf 19 12 37.1 -3.5**
ZEI pmax pmax
comp=Z,11nm,1.1s
GNI Garni 125.03 58 PKP **PKPdf 19 12 41.7 +0.4**
comp=Z,17nm,1.1s,baz=195,slow=8.0,SNR=3.7
GNI Garni 125.03 58 *c* *i*PKIKP **PKPdf 19 12 42.5 +1.1**
GNI pmax pmax
comp=Z,88nm,1.2s
GNI Garni 125.03 58 PKP **PKPdf 19 12 41.7 +0.4**
GNI LR LR
comp=Z,1μm,21.0s
ASAR Alice Springs 125.44 208 PKP **PKPdf 19 12 42.1 -0.4**
comp=Z,11nm,0.9s,baz=148,slow=1.5,SNR=24
ASAR PP **PP 19 14 38.0 +5.8**
comp=Z,2.4nm,0.9s,baz=153,slow=6.3,SNR=5.2
DGRG David-gareji 125.62 56 P **PKPdf 19 12 43.9 +1.5**
DGRG David-gareji 125.62 56 PKIKP **PKPdf 19 12 43.8 +1.5**
BILL Bilibino 125.80 337⇓ *i*PKIKP **PKPdf 19 12 41.6 -0.2**
BILL *e* 19 12 52.6
BILL *e* 19 14 37.2
BILL PS **PS 19 24 32.0 -5.0**
BILL pmax pmax
comp=Z,14nm,1.3s
BILL MLR MLR
comp=Z,509nm,21.0s
H11S2 WAKE ISLAND Hyl26.69 275 T T 21 32 17.5
baz=108,slow=75,SNR=769
H11S1 WAKE ISLAND Hyl26.70 275 T T 21 32 16.6
baz=108,slow=75,SNR=801
H11S3 WAKE ISLAND Hyl26.71 275 T T 21 32 12.4
baz=108,slow=75,SNR=698
H11N3 WAKE ISLAND Hyl26.89 276 T T 21 32 22.1
baz=108,slow=75,SNR=494
H11N1 WAKE ISLAND Hyl26.90 276 T T 21 32 30.9
baz=108,slow=75,SNR=257
H11N2 WAKE ISLAND Hyl26.90 276 T T 21 32 26.1
baz=108,slow=75,SNR=305
WAKE Wake Island 126.98 275 PFAKE 19 12 50.0 +4.6
WAKE LR LR
comp=Z,1μm,20.0s
MAK Makhachkala 127.29 54 *i* PKIKP PKPpre 19 12 38.9
MAK *e*PPP PPP 19 17 28.5
MAK pmax pmax
comp=Z,297nm,1.5s
WRA Warramunga Arr 128.51 211 PKP **PKPdf 19 12 48.4 -0.1**
comp=Z,26nm,1.0s,baz=154,slow=1.8,SNR=65
WRAB Tennant Creek 128.51 211 *e*PKIKP **PKPdf 19 12 48.1 -0.4**
WRAB MLR MLR
comp=Z,1μm,19.0s
WRAB Tennant Creek 128.51 211 *e*PKPdf **PKPdf 19 12 48.1 -0.4**
WRAB LR LR
comp=Z,1μm,19.0s
COEN Coen 128.59 224 *e*PKPdf **PKPdf 19 12 49.4 +0.7**
PMG Port Moresby 129.26 231 PKP **PKPdf 19 12 51.0 +1.0**
comp=Z,30nm,0.9s,baz=174,slow=2.2,SNR=6.2
PMG Port Moresby 129.26 231 PKIKP **PKPdf 19 12 51.0 +1.0**
PMG pmax pmax
comp=Z,31nm,0.9s
PMG Port Moresby 129.26 231 *e*PKPdf **PKPdf 19 12 51.2 +1.2**
PMG LR LR
comp=Z,1μm,21.0s
SOKR Solikamsk 130.60 32⇑ *i*PKIKP PKPdf 19 12 59.7 +8.6
SOKR pmax pmax
comp=Z,38nm,1.5s
DGAR Diego Garcia 131.33 128 PFAKE 19 13 00.0 +6.1
DGAR LR LR
comp=Z,1μm,20.0s
FAQ Al Faqa, Dubai 131.68 79 *i* P **PKPdf 19 12 54.6 +0.3**
SNR=8.2
FAQ Al Faqa, Dubai 131.68 79 PKiKP **PKiKP 19 12 55.1 -0.2**
SNR=8.8
FAQ Al Faqa, Dubai 131.68 79 P **PKiKP 19 12 55.1 -0.2**
SNR=8.8
NAZ Nazwa, Dubai 131.79 79 PKiKP **PKiKP 19 12 56.0 +0.5**
SNR=8.4
NAZ Nazwa, Dubai 131.79 79 P **PKiKP 19 12 56.0 +0.5**
SNR=8.4
ASHO Ashiyiah 132.07 79 PKiKP **PKiKP 19 12 56.7 +0.6**
SNR=6.4
ASHO Ashiyiah 132.07 79 P **PKiKP 19 12 56.7 +0.6**
SNR=6.4
HATD Hatta, Dubai 132.17 79 *i* P **PKPdf 19 12 55.2 0.0**
SNR=7.7
HATD Hatta, Dubai 132.17 79 PKiKP **PKiKP 19 12 57.0 +0.7**
SNR=14
HATD Hatta, Dubai 132.17 79 P **PKiKP 19 12 57.0 +0.7**
SNR=14
MBWA Marble Bar 132.31 193 *e*PKPdf **PKPdf 19 12 55.6 -0.1**
MBWA LR LR
comp=Z,1μm,21.0s
ARU Arti 132.53 36 PKP **PKPdf 19 12 55.9 +1.0**
comp=Z,3.2nm,0.4s,baz=282,slow=2.1,SNR=16
ARU Arti 132.53 36 *i* PKIKP **PKPdf 19 12 54.7 -0.2**
ARU 19 15 15.9
ARU MLR MLR
comp=Z,1μm,23.0s
ARU Arti 132.53 36 *e*PKPdf **PKPdf 19 12 52.2 -2.6**
ARU LR LR
comp=Z,2μm,21.0s
BANOM Banah 132.56 78 P **PKPdf 19 12 56.1 +0.2**
TIXI Tiksi 132.74 352 PKhKP PKPpre 19 12 46.2
comp=Z,0.9nm,0.4s,baz=17,slow=1.3,SNR=5.4
TIXI PKP **PKiKP 19 12 55.5 -0.5**
comp=Z,5.1nm,0.9s,baz=4.1,slow=2.1,SNR=9.6
TIXI Tiksi 132.74 352⇑ *i*PKIKP **PKPdf 19 12 54.6 -0.3**
TIXI pmax pmax
comp=Z,13nm,1.2s
TIXI Tiksi 132.74 352 PKPpre PKPpre 19 12 46.2
TIXI *e*PKPdf **PKPdf 19 12 54.5 -0.3**
TIXI LR LR
comp=Z,626nm,22.0s
SEY Seymchan 133.26 335 PKP **PKPdf 19 12 56.5 +0.5**
comp=Z,11nm,1.0s,baz=117,slow=1.7,SNR=14
SEY Seymchan 133.26 335 *c* *i*PKIKP **PKPdf 19 12 56.2 +0.1**
SVE Sverdlovsk 133.47 35 *i* PKIKP **PKPdf 19 12 57.7 +1.1**
SVE pmax pmax
comp=Z,50nm,1.8s
SVE MLR MLR
comp=E,1μm,22.0s
SVE MLR MLR
comp=Z,1μm,24.0s
FITZ Fitzroy Crossi 133.64 202 PKhKP PKPpre 19 12 48.4
comp=Z,5.1nm,1.1s,baz=155,slow=4.6,SNR=4.9
FITZ PKP **PKPdf 19 12 58.4 +0.2**
comp=Z,6.6nm,1.1s,baz=208,slow=9.3,SNR=6.1
AKTO Aktyubinsk 133.83 44 PKhKP PKPpre 19 12 46.0
comp=Z,0.4nm,0.5s,baz=317,slow=7.3,SNR=3.6
AKTO PKP **PKPdf 19 12 57.8 +0.3**
comp=Z,4.4nm,0.9s,baz=348,slow=2.0,SNR=17
WSAR Wadi Sarin 134.03 82 PKP **PKPdf 19 12 59.2 +0.5**
comp=Z,9.4nm,0.7s,baz=254,slow=4.2,SNR=7.3
WSAR PP **PP 19 15 27.6 -2.2**
comp=Z,25nm,1.3s,baz=339,slow=5.3,SNR=5.8
PET Petropavlovsk 134.35 320 *i* PKIKP **PKPdf 19 12 55.6 -2.8**
PET *e* 19 15 34.1
PET *e*PPP PPP 19 18 24.3
PET *e*PS **PS 19 25 44.6 -7.0**
PET *e*PPS PPS 19 27 37.3
PET *e*SS SS 19 33 18.5 +0.1
PET MLR MLR
comp=Z,600nm,18.0s
PET Petropavlovsk 134.35 320 PFAKE 19 13 10.0 +12
PET LR LR
comp=Z,615nm,20.0s
NRIK Noril'sk 134.50 11 PKP **PKPdf 19 12 59.0 +0.8**
comp=Z,1.8nm,0.4s,baz=18,slow=4.2,SNR=5.1
PETK Petropavlovsk- 134.88 321 PKP **PKPdf 19 13 00.6 +1.2**
comp=Z,8.5nm,1.0s,baz=96,slow=9.1,SNR=4.4
PETK Petropavlovsk- 134.88 321 PKIKP **PKPdf 19 13 00.6 +1.2**
PETK pmax pmax
comp=Z,10.0nm,1.0s
AB31 Akbulak array 135.31 45 *i* PKIKP **PKPdf 19 13 01.0 +0.7**
AB31 pmax pmax
comp=Z,39nm,1.3s
ABKAR Akbulak array 135.31 45 *e*PKPdf **PKPdf 19 12 59.3 -1.0**
GEYT Alibeck 135.33 61 PKhKP PKPpre 19 12 53.2
comp=Z,2.4nm,0.7s,baz=242,slow=9.4,SNR=5.0
GEYT PKP **PKPdf 19 13 01.4 +0.6**
comp=Z,5.6nm,0.5s,baz=266,slow=5.8,SNR=13
GEYT SKKPbc SKKPbc 19 25 38.9 +5.3
comp=Z,3.0nm,1.2s,baz=48,slow=2.1,SNR=4.0
BRVK Borovoye 140.09 36 *c* *i*PKIKP **PKPdf 19 13 10.2 +1.2**
BRVK pmax pmax
comp=Z,38nm,1.7s
BRVK Borovoye 140.09 36 *e*PKPdf **PKPdf 19 13 08.2 -0.8**
BRVK LR LR
comp=Z,708nm,22.0s
BVAR Borovoye Array 140.16 36 PKhKP PKPpre 19 13 03.9
comp=Z,9.6nm,1.1s,baz=298,slow=2.4,SNR=9.1
COCO West Island 140.40 161 PFAKE 19 13 20.0 +9.3
COCO LR LR
comp=Z,797nm,21.0s
YAK Yakutsk 141.20 345 PKhKP PKPpre 19 13 04.8
comp=Z,6.3nm,0.4s,baz=313,slow=2.3,SNR=6.8
YAK Yakutsk 141.20 345 *e*PKIKP PKPpre 19 13 06.7
YAK *e* 19 16 09.6
YAK *e*SS SS 19 34 34.2 -4.1
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=Z,176nm,2.3s
YAK pmax pmax
comp=N,112nm,2.0s
YAK pmax pmax
comp=E,30nm,1.7s
YAK Yakutsk 141.20 345 PKPpre PKPpre 19 13 04.8
YAK LR LR
comp=Z,551nm,21.0s
BATI Baumata 141.65 203 PKhKP PKPpre 19 13 10.4
baz=180,slow=6.1
SOEI Soe 141.85 204 *e*PKPdf **PKPdf 19 13 11.4 -2.2**
KUR Kuril'sk 143.51 312 *d* *i*PKIKP PKPbc 19 13 13.7 +1.0
KUR *i* 19 13 21.4
KUR *e*SS SS 19 35 09.1 +2.4
MMRI Maumere 143.61 202 *e*PKPdf PKPab 19 13 13.1 +0.1
DZET Dzherino 143.65 59 PKIKP PKPbc 19 13 13.1 -0.4
DZET pmax pmax
comp=Z,44nm,1.1s
FAKI Fak Fak 143.89 221 *e*PKPdf **PKPdf 19 13 16.2 -0.8**
NKL Nikolayevsk 143.95 328 *e*PKIKP PKPbc 19 13 14.0 +0.3
NKL *e* 19 16 32.0
NKL pmax pmax
comp=Z,1μm,11.0s
KK31 Karatay Array 143.97 51 *i* PKIKP PKPbc 19 13 14.5 +0.3
KK31 pmax pmax
comp=Z,22nm,1.3s
KKAR Karatay Array 143.97 51 *e*PKIKP PKPbc 19 13 14.7 +0.5
KKAR Karatay Array 143.97 51 *e*PKPdf PKPbc 19 13 14.7 +0.5
GUMO Guam 144.53 257 PKP PKPbc 19 13 16.5 -0.2
comp=Z,378nm,1.1s,baz=197,slow=6.6,SNR=6.5
GUMO Guam 144.53 257 *e*PKPdf PKPbc 19 13 17.1 +0.4
GUMO LR LR
comp=Z,960nm,21.0s
NVS Novosibirsk 145.16 26⇓ *i*PKIKP **PKPdf 19 13 19.0 +1.1**
NVS pmax pmax
comp=Z,150nm,1.0s
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,19nm,0.7s
YUK Yuzh-Kuril'sk 145.26 311 *e*PKIKP **PKPdf 19 13 18.8 +0.4**
YUK *e*PPP PPP 19 19 49.4
YUK pmax pmax
comp=Z,1μm,1.4s
YUK pmax pmax
comp=E,708nm,1.5s
YUK pmax pmax
comp=N,508μm,1.5s
MNAS Manas 145.55 52 PKIKP **PKPab 19 13 20.2 +0.5**
MNAS pmax pmax
comp=Z,491nm,1.4s
JAGI Jajag, Banyuwa 145.69 188 *e*PKPdf **PKPdf 19 13 19.3 -0.9**
KURK Kurchatov 145.72 35 *c* *i*PKP2 **PKPab 19 13 20.2 +0.4**
KURK pmax pmax
comp=Z,603nm,1.7s
KURK Kurchatov 145.72 35 *e*PKPdf **PKPab 19 13 20.0 +0.2**
KURK LR LR
comp=Z,2μm,22.0s
KURK Kurchatov 145.72 35 PKiKP **PKPab 19 13 20.6 +0.7**
SNR=87
KURK Kurchatov 145.72 35 P **PKPab 19 13 20.6 +0.7**
SNR=87
KURBB Kurchatov Arra 145.72 35 PKPbc **PKPab 19 13 20.1 +0.2**
comp=Z,15nm,0.6s,baz=303,slow=3.3,SNR=154
SIJI Sorong 146.11 222 PKPbc **PKPbc 19 13 21.8 0.0**
comp=Z,92nm,0.9s,baz=52,slow=3.8,SNR=57
YSS Yuzh-Sakhalins 146.11 317 *c* *i*PKP2 **PKPab 19 13 21.4 0.0**
YSS Yuzh-Sakhalins 146.11 317 *e*PKPdf **PKPdf 19 13 20.0 +0.2**
YSS LR LR
comp=Z,281nm,20.0s
ZALV Zalesovo Beam 146.44 26 PKPbc **PKPbc 19 13 21.0 -0.5**
comp=Z,144nm,0.9s,baz=303,slow=3.5,SNR=170
CISI Cisompet, Garu 146.89 177 *e*PKPdf **PKPdf 19 13 22.5 +0.2**
AAK Ala-Archa 146.90 51 PKPbc **PKPbc 19 13 23.3 -0.2**
comp=Z,143nm,0.9s,baz=215,slow=2.3,SNR=95
AAK Ala-Archa 146.90 51 *e*PKPdf **PKPbc 19 13 23.0 -0.5**
AAK LR LR
comp=Z,766nm,20.0s
AAK Ala-Archa 146.90 51 PKPab **PKPbc 19 13 23.6 +0.1**
SNR=115
AAK Ala-Archa 146.90 51 P **PKPbc 19 13 23.6 +0.1**
SNR=115
FRU Bishkek 146.92 50 *i* PKP2 **PKPbc 19 13 23.0 -0.4**
FRU pmax pmax
comp=Z,660nm,1.4s
CLNS Chul'man 146.95 344 *e*PKP2 **PKPbc 19 13 22.1 -0.9**
CLNS pmax pmax
comp=Z,36nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=N,19nm,1.1s
PALK Pallekele 147.12 119 *i* P **PKPbc 19 13 25.2 +0.5**
SNR=8.0
PALK Pallekele 147.12 119 *i* PKP2 **PKPab 19 13 25.9 -0.5**
PALK Pallekele 147.12 119 *e*PKPdf **PKPdf 19 13 19.5 -3.1**
ASAJ Asahikawa 147.42 313 PKPbc **PKPbc 19 13 23.7 -0.9**
comp=N,35nm,1.0s,baz=139,slow=3.9,SNR=21
ASAJ Asahikawa 147.42 313 *e*PKPdf **PKPdf 19 13 21.1 -1.0**
TKM2 Tokmak 2 147.56 49 PKIKP **PKPdf 19 13 23.8 +1.1**
TKM2 pmax pmax
comp=Z,127nm,1.1s
BOD Bodaibo 147.75 355 *e*PKIKP **PKPdf 19 13 22.5 +0.3**
BOD pmax pmax
comp=Z,122nm,1.9s
ERM Erimo 147.80 309 PFAKE 19 13 30.0 +1.8
ERM LR LR
comp=Z,775nm,19.0s
KAPI Kappang 147.81 200 *e*PKPdf **PKPbc 19 13 25.1 -1.5**
KAPI LR LR
comp=Z,627nm,21.0s
KAPI Kappang 147.81 200 PKiKP **PKPbc 19 13 26.4 -0.2**
SNR=62
KAPI Kappang 147.81 200 P **PKPbc 19 13 26.4 -0.2**
SNR=62
KLRI Killari 148.76 97 *e*PKPbc **PKPdf 19 13 25.7 +0.5**
KLRI *e*PKPab **PKPbc 19 13 29.2 +0.2**
KSH Kashi 148.92 55 PKPbc **PKPdf 19 13 26.0 +1.1**
KSH pPKP pPKPdf 19 13 37.0 +0.8
KSH sPKP 19 13 41.5
KSH PKS **PP 19 17 00.5 +0.5**
KSH PP PP 19 17 04.0 +4.0
KSH SKS **SKSdf 19 20 30.0 -0.7**
KSH SKKS **SKKSac 19 23 49.0 +0.2**
KSH SS **SS 19 36 09.0 0.0**
KSH AMB AMB
comp=Z,360nm,6.6s
KSH LR LR
comp=Z,150nm,6.6s
KSH LR LR
comp=Z,96nm,9.6s
KSH LR LR
comp=Z,480nm,6.6s
HABR Khabarovsk 149.65 325 *ce*PKIKP **PKPdf 19 13 24.9 -0.7**
HABR *i* 19 13 31.2
HABR *e* 19 13 35.6
HABR *e* 19 13 40.7
HABR *e* 19 17 04.1
HABR *e*PPP PPP 19 20 25.4
HABR *e* 19 20 30.2
HABR *e*SS SS 19 36 18.8 +3.3
SKHT Srikalahasti 149.76 108 *e*PKPbc **PKPdf 19 13 26.7 -0.1**
SKHT *e*PKPab **PKPbc 19 13 31.9 +0.4**

MAKZ	**Makanchi**	**149.78**	**39**	PKP2	**PKPbc**	**19 13 30.4**	**-0.3**
MAKZ				pmax	pmax		
comp=Z,173nm,1.5s							
MK31	**Makanchi Array**	**149.96**	**39**	*i* PKP2	**PKPbc**	**19 13 31.1**	**0.0**
MK31				pmax	pmax		
comp=Z,123nm,1.1s							
MKAR	**Makanchi Array**	**149.96**	**39**	PKP	**PKPdf**	**19 13 27.2**	**+1.0**
comp=Z,19nm,1.0s,baz=325,slow=1.6,SNR=89							
MKAR				PKPbc	**PKPbc**	**19 13 31.5**	**+0.4**
comp=Z,72nm,0.9s,baz=311,slow=2.3,SNR=110							
MKAR	**Makanchi Array**	**149.96**	**39**	PKHKP	**PKPdf**	**19 13 27.2**	**+1.0**
MKAR						19 13 31.5	
MKAR				pmax	pmax		
comp=Z,73nm,0.9s							
MKAR				pmax	pmax		
comp=Z,73nm,0.9s							
PDGK	**Podgornoye**	**150.02**	**47**	PKP2	**PKPbc**	**19 13 31.8**	**+0.3**
PDGK				pmax	pmax		
comp=Z,167nm,1.3s							
SRLM	**Srisailam**	**150.07**	**103**	*e*PKPbc	**PKPdf**	**19 13 27.9**	**+0.7**
SRLM				*e*PKPab	**PKPbc**	**19 13 32.5**	**+0.2**
PONG	**Pong**	**150.19**	**70**	*e*P	PKPpre	19 13 18.0	
PONG				*e*S	**PKPbc**	**19 13 32.0**	**-0.1**
HYB	**Hyderabad**	**150.27**	**100**	*i* PKP	**PKPdf**	**19 13 28.0**	**+0.4**
HYB				*e*		19 13 33.0	
HYB				*e*		19 13 43.0	
HYB				*e*PP	**PP**	**19 17 08.0**	**-0.3**
HYBB	**Hyderabad (bro**	**150.27**	**100**	*e*PKPbc	**PKPdf**	**19 13 28.0**	**+0.5**
HYBB				*e*PKiKP	**PKPbc**	**19 13 32.7**	**0.0**
LUWI	**Luwuk**	**150.38**	**208**	*e*PKPdf	**PKPdf**	**19 13 28.8**	**+1.0**
SRSP	**Sriramsagar**	**150.60**	**97**	*e*PKPbc	**PKPdf**	**19 13 28.3**	**+0.3**
SRSP				*e*PKiKP	**PKPbc**	**19 13 33.3**	**-0.1**
NJS	**Nagarjunasagar**	**150.61**	**102**	*e*PKPbc	**PKPdf**	**19 13 28.6**	**+0.5**
NJS				*e*PKiKP	**PKPbc**	**19 13 33.6**	**+0.1**
BHK	**Bhakra**	**150.62**	**71**	*e*P	**PKPbc**	**19 13 32.2**	**-1.0**
KLR	**Kul'dur**	**150.76**	**329**	PKP	**PKPdf**	**19 13 27.8**	**+0.4**
comp=Z,2.3nm,1.1s,baz=36,slow=2.4,SNR=12							
KLR				PKPbc	**PKPbc**	**19 13 33.1**	**+0.2**
comp=Z,2.6nm,0.9s,baz=350,slow=6.1,SNR=28							
ADKI	**Addanki**	**150.91**	**104**	*e*PKiKP	**PKPbc**	**19 13 34.1**	**-0.1**
RPR	**Rampur**	**151.43**	**98**	*e*PKPbc	**PKPdf**	**19 13 29.6**	**+0.3**
RPR				*e*PKiKP	**PKPbc**	**19 13 35.2**	**-0.1**
PVM	**Polavaram**	**152.93**	**103**	*e*PKPbc	**PKPdf**	**19 13 32.5**	**+0.9**
MJAR	**Matsushiro Arr**	**153.12**	**301**	PKP	**PKPdf**	**19 13 31.4**	**+0.1**
comp=Z,4.4nm,1.1s,baz=123,slow=0.3,SNR=9.0							
MJAR				PKPbc	**PKiKP**	**19 13 38.9**	**0.0**
comp=Z,11nm,1.0s,baz=85,slow=1.0,SNR=19							
MJAR				PKPab	**pPKPbc**	**19 13 49.0**	**-1.0**
comp=Z,19nm,0.9s,baz=91,slow=1.6,SNR=17							
MAJO	**Matsushiro**	**153.12**	**301**	*e*PKIKP	**PKPbc**	**19 13 38.6**	**-0.1**
MAJO				MLR	MLR		
comp=Z,952nm,22.0s							
MAJO	**Matsushiro**	**153.12**	**301**	*e*PKPbc	**PKPbc**	**19 13 38.6**	**-0.1**
MAJO				LR	LR		
comp=Z,952nm,22.0s							
MAT	**Matsushiro**	**153.12**	**301**	PKP	**PKPdf**	**19 13 29.9**	**-1.4**
IRK	**Irkutsk**	**153.24**	**7**	*e*PKIKP	**PKPdf**	**19 13 31.3**	**+0.3**
IRK				pmax	pmax		
comp=Z,165nm,3.0s							
MOY	**Mondy**	**153.33**	**12**	*e*PKIKP	**PKPdf**	**19 13 33.2**	**+1.9**
MOY				pmax	pmax		
comp=Z,130nm,2.3s							
CIT	**Chita**	**153.54**	**354**	*e*PKIKP	**PKPdf**	**19 13 31.4**	**-0.1**
CIT				*e*		19 13 40.2	
CIT				*e*		19 13 50.6	
CIT				pmax	pmax		
comp=Z,48nm,2.3s							
TLY	**Talaya**	**153.72**	**8**	PKPbc	**PKPbc**	**19 13 40.4**	**+0.9**
comp=Z,8.0nm,0.8s,baz=288,slow=6.4,SNR=2.5							
TLY				PKPab	**PKPab**	**19 13 53.2**	**+0.9**
comp=Z,13nm,0.9s,baz=342,slow=6.0,SNR=5.0							
TLY	**Talaya**	**153.72**	**8**	*i* PKIKP	**PKPdf**	**19 13 33.1**	**+1.4**
TLY				*e*		19 13 40.6	
TLY				*e*		19 17 26.9	
TLY				*e*SS	SS	19 37 01.6	+2.2
USRK	**Ussuriysk Ar.**	**153.97**	**321**	PKP	**PKPdf**	**19 13 33.3**	**+1.0**
comp=Z,1.1nm,0.6s,baz=124,slow=2.2,SNR=11							
USRK				PKPbc	**PKiKP**	**19 13 40.6**	**+0.3**
comp=Z,8.5nm,1.0s,baz=22,slow=2.1,SNR=17							
WMQ	**Urumqi**	**154.80**	**39**	PKPbc	**PKPdf**	**19 13 34.0**	**+0.5**
WMQ				pPKP	PKiKP	19 13 43.0	+0.8
WMQ				PKPab	**PKPab**	**19 13 57.5**	**+0.2**
WMQ				PP	**PP**	**19 17 35.3**	**+2.4**
WMQ				AMB	AMB		
comp=Z,480nm,10.5s							
WMQ				LR	LR		
comp=Z,740nm,23.9s							
WMQ				LR	LR		
comp=Z,750nm,18.5s							
WMQ				LR	LR		
comp=Z,1μm,26.5s							
ZAK	**Zakamensk**	**154.94**	**9**	*e*PKIKP	**PKPdf**	**19 13 34.4**	**+0.8**
ZAK				pmax	pmax		
comp=Z,14nm,1.2s							
MDJ	**Mudanjiang**	**155.02**	**324**	PKP	**PKPdf**	**19 13 33.5**	**-0.2**
MDJ				PP	**PP**	**19 17 35.5**	**+1.6**
MDJ				SS	SS	19 37 18.0	+3.3
MDJ				LR	LR		
comp=Z,410nm,28.5s							
MDJ				LR	LR		
comp=Z,440nm,21.0s							
MDJ				LR	LR		
comp=Z,720nm,23.1s							
MDJ	**Mudanjiang**	**155.02**	**324**	PFAKE		19 13 40.0	+6.3
MDJ				LR	LR		
comp=Z,737nm,19.0s							
HIA	**Hailar**	**155.13**	**344**	PFAKE		19 13 40.0	+6.2
HIA				LR	LR		
comp=Z,618nm,20.0s							
MSHR	**Mys Shultsa**	**155.43**	**319** *c*	*i* PKP2	**PKPab**	**19 13 54.8**	**-5.1**
CHLP	**Challavanipeta**	**155.54**	**102**	*e*PKPdf	**PKPdf**	**19 13 34.9**	**-0.2**
DAV	**Davao City (W)**	**155.82**	**223**	PFAKE		19 13 40.0	+4.3
DAV				LR	LR		
comp=Z,390nm,19.0s							
KSM	**Kuching**	**155.87**	**182**	*e*PKPbc	PKPdf	19 13 45.0	+9.2
KSM				LR	LR		
comp=Z,1μm,21.0s							
PYUN	**Piuthan**	**156.41**	**78**	*e*P	**PKPdf**	**19 13 36.7**	**+0.3**
comp=Z,166nm,1.3s							
KOLN	**Koldanda**	**156.95**	**79**	*e*P	**PKPdf**	**19 13 37.1**	**0.0**
comp=Z,107nm,1.5s							
DANN	**Dangsing**	**157.09**	**78**	*e*P	**PKPdf**	**19 13 38.6**	**+1.2**
CN2	**Changchun**	**157.69**	**328**	*e*PKP	PKPdf	19 13 47.0	+10
CN2				PP	**PP**	**19 17 48.0**	**-0.6**
SONM	**Songino Array**	**157.81**	**5**	PKP	**PKPdf**	**19 13 38.3**	**+0.9**
comp=Z,8.4nm,0.9s,baz=307,slow=1.0,SNR=40							
SONM				PKPab	**PKPab**	**19 14 11.6**	**+1.5**
comp=Z,13nm,1.0s,baz=296,slow=2.4,SNR=7.8							
SONM				PP	**PP**	**19 17 50.8**	**+1.9**
comp=Z,3.7nm,1.1s,baz=344,slow=4.8,SNR=5.1							
SONM	**Songino Array**	**157.81**	**5**	PKIKP	**PKPdf**	**19 13 38.3**	**+0.9**
SONM						19 17 50.8	
SONM				pmax	pmax		
comp=Z,9.0nm,0.9s							
ULN	**Ulaanbaatar**	**157.83**	**4**	*e*PKIKP	**PKPdf**	**19 13 37.0**	**-0.5**
ULN				MLR	MLR		
comp=Z,1μm,21.0s							
ULN	**Ulaanbaatar**	**157.83**	**4**	*e*PKPdf	**PKPdf**	**19 13 37.0**	**-0.5**
ULN				LR	LR		
comp=Z,1μm,21.0s							
ULN	**Ulaanbaatar**	**157.83**	**4**	PKPdf	**PKPdf**	**19 13 38.8**	**+1.3**
SNR=20							
ULN	**Ulaanbaatar**	**157.83**	**4**	P	**PKPdf**	**19 13 38.8**	**+1.3**
SNR=20							
GKN	**Gorkha**	**157.87**	**79**	*e*P	**PKPdf**	**19 13 38.3**	**+0.1**
comp=Z,207nm,1.6s							
KULM	**Kulim**	**158.05**	**156**	PFAKE		19 13 50.0	+11
KULM				LR	LR		
comp=Z,781nm,21.0s							
DMN	**Daman**	**158.28**	**80**	*e*P	**PKPdf**	**19 13 38.9**	**+0.1**
comp=Z,105nm,1.3s							
KKN	**Kakani**	**158.44**	**79**	*e*P	**PKPdf**	**19 13 39.2**	**+0.3**
comp=Z,60nm,1.1s							
PKIN	**Phulchoki**	**158.54**	**80**	*e*P	**PKPdf**	**19 13 39.5**	**+0.4**
comp=Z,29nm,1.1s							
PKI	**Pulchoki**	**158.55**	**80**	*e*P	**PKPdf**	**19 13 39.2**	**0.0**
comp=Z,188nm,1.7s							
GUN	**Gumba**	**158.97**	**79**	*e*P	**PKPdf**	**19 13 40.0**	**+0.3**
JIRN	**Jiri**	**159.25**	**80**	*e*P	**PKPdf**	**19 13 40.1**	**0.0**
KKM	**Kota Kinabalu**	**159.35**	**200**	PFAKE		19 13 50.0	+10
KKM				LR	LR		
comp=Z,902nm,22.0s							
RAMN	**Ramite**	**159.60**	**82**	*e*P	**PKPdf**	**19 13 41.0**	**+0.6**
SNY	**Shenyang**	**160.08**	**327**	⇑PKP	**PKPdf**	**19 13 37.0**	**-3.1**
SNY				PKPab	**PKPab**	**19 14 22.3**	**+2.3**
SNY				PP	**PP**	**19 18 04.5**	**+2.9**
SNY				SS	SS	19 38 15.0	+6.5
SNY				AMB	AMB		
comp=Z,650nm,12.0s							
SNY				LR	LR		
comp=Z,340nm,18.1s							
SNY				LR	LR		
comp=Z,620nm,20.1s							
SNY				LR	LR		
comp=Z,860nm,20.8s							
ODAN	**Odare**	**160.30**	**82**	*e*P	**PKPdf**	**19 13 41.7**	**+0.6**
KSRS	**Korea Array**	**160.34**	**311**	PKP	**PKPdf**	**19 13 41.0**	**+0.5**
comp=Z,13nm,1.1s,baz=124,slow=0.3,SNR=26							
KSRS				PKPab	**PKPab**	**19 14 22.4**	**+1.1**
comp=Z,5.0nm,0.9s,baz=58,slow=4.1,SNR=5.3							
KSRS				PP	**PP**	**19 18 07.5**	**+3.9**
comp=Z,1.2nm,0.9s,baz=58,slow=4.6,SNR=3.6							
KSAR	**Wonju Array Be**	**160.38**	**311**	PKIKP	**PKPdf**	**19 13 41.0**	**+0.4**
KSAR						19 14 22.5	
KSAR						19 18 07.5	
KSAR	**Wonju Array Be**	**160.38**	**311**	PKP	**PKPdf**	**19 13 41.0**	**+0.4**
KSAR				PKPab	**PKPab**	**19 14 22.4**	**+1.0**
KSAR				PP	**PP**	**19 18 07.5**	**+3.7**
TAPN	**Taplejung**	**160.60**	**80**	*e*P	**PKPdf**	**19 13 42.0**	**+0.5**
INCN	**Inchon**	**161.20**	**313**	PFAKE		19 13 50.0	+8.5
INCN				LR	LR		
comp=Z,858nm,21.0s							
DL2	**Dalian**	**163.26**	**325**	⇑PKP	**PKPdf**	**19 13 44.3**	**+0.8**
DL2				PKPab	**PKPab**	**19 14 33.3**	**-0.7**
DL2				PP	**PP**	**19 18 20.3**	**+1.6**
DL2				SS	SS	19 38 42.5	+0.7
DL2				AMB	AMB		
comp=Z,470nm,4.3s							
DL2				LR	LR		
comp=Z,390nm,21.4s							
DL2				LR	LR		
comp=Z,440nm,16.7s							
DL2				LR	LR		
comp=Z,980nm,19.2s							
LSA	**Lhasa**	**163.43**	**72**	PKP	**PKPdf**	**19 13 45.0**	**+0.4**
LSA	**Lhasa**	**163.43**	**72**	PFAKE		19 13 50.0	+5.4
LSA				LR	LR		
comp=Z,2μm,21.0s							
GTA	**Gaotai**	**164.19**	**28**	⇑PKP	**PKPdf**	**19 13 45.5**	**+1.0**
GTA				pPKP	pPKPdf	19 13 56.0	+0.1
GTA				sPKP		19 14 00.0	
GTA				PKPab	**PKPab**	**19 14 39.3**	**+1.1**
GTA				SKS	**SKSdf**	**19 20 44.5**	**-2.0**
GTA				SKKS	**SKKSac**	**19 25 10.8**	**+1.3**
GTA				SS	**SS**	**19 38 52.3**	**+1.0**
GTA				AMB	AMB		
comp=Z,490nm,6.7s							
GTA				LR	LR		
comp=Z,520nm,20.9s							
GTA				LR	LR		
comp=Z,490nm,21.4s							
GTA				LR	LR		
comp=Z,520nm,23.3s							
BJI	**Beijing**	**164.61**	**340**	PKP	**PKPdf**	**19 13 40.8**	**-3.9**
BJI				sPKP		19 13 55.5	
BJT	**Baijiatuau**	**164.64**	**340**	PFAKE		19 13 50.0	+5.3
BJT				LR	LR		
comp=Z,1μm,22.0s							
HHC	**Hu-ho-hao-te**	**164.80**	**353**	*e*PKP	**PKPdf**	**19 13 46.3**	**+1.3**
HHC				pPKP	pPKPdf	19 13 56.5	+0.2
HHC				PP	**PP**	**19 18 25.8**	**-0.4**
HHC				SKKS		19 25 12.8	
HHC				SS	**SS**	**19 38 57.8**	**+1.1**
HHC				AMB	AMB		
comp=Z,370nm,7.1s							
HHC				LR	LR		
comp=Z,710nm,17.4s							
HHC				LR	LR		
comp=Z,550nm,19.0s							
HHC				LR	LR		
comp=Z,460nm,18.5s							
UTHA	**Uthaitani**	**166.31**	**136**	P	**PKPdf**	**19 13 48.0**	**+1.2**
NAYO	**Nakonayok**	**166.39**	**145**	P	**PKPdf**	**19 13 50.1**	**+3.3**
comp=Z,189nm,0.9s							
TIY	**Taiyuan**	**167.76**	**348**	*e*PKP	**PKPdf**	**19 13 47.0**	**-0.4**
TIY				PKPab	**PKPab**	**19 14 53.8**	**0.0**
TIY				PP	**PP**	**19 18 39.8**	**-1.7**
TIY				AMB	AMB		
comp=Z,320nm,6.8s							
TIY				LR	LR		
comp=Z,1μm,25.0s							
TIY				LR	LR		
comp=Z,530nm,19.7s							
TIY				LR	LR		
comp=Z,1μm,22.5s							
CMAR	**Chiang Mai Arr**	**167.97**	**125**	PKP	**PKPdf**	**19 13 48.5**	**+0.5**
comp=Z,11nm,0.9s,baz=264,slow=2.2,SNR=62							
CMAR				PKPab	**PKPab**	**19 14 54.9**	**-0.5**
comp=Z,6.4nm,1.0s,baz=244,slow=3.9,SNR=5.9							
CMAR				PP	**PP**	**19 18 41.9**	**-2.0**
comp=Z,3.4nm,1.1s,baz=252,slow=5.0,SNR=4.9							
PBKT	**Sadao Pong**	**168.02**	**138**	P	**PKPdf**	**19 13 48.6**	**+0.6**
comp=Z,44nm,1.3s,comp=Z,2μm							
CHAI	**Chaiyaphum**	**168.07**	**144**	P	**PKPdf**	**19 13 49.4**	**+1.3**
comp=Z,6.4nm,1.5s							
CHTO	**Chiang Mai**	**168.19**	**124**	P	**PKPdf**	**19 13 48.5**	**+0.4**
comp=Z,101nm,1.6s,comp=Z,3μm							
CHTO	**Chiang Mai**	**168.19**	**124**	*e*PKIKP	**PKPdf**	**19 13 48.2**	**+0.1**
CHTO				MLR	MLR		
comp=Z,777nm,20.0s							
CHTO	**Chiang Mai**	**168.19**	**124**	*e*PKPdf	**PKPdf**	**19 13 48.1**	**+0.1**
CHTO				LR	LR		
comp=Z,777nm,20.0s							
CHTO	**Chiang Mai**	**168.19**	**124**	PKPdf	**PKPdf**	**19 13 48.9**	**+0.8**
SNR=11							
CHTO	**Chiang Mai**	**168.19**	**124**	P	**PKPdf**	**19 13 48.9**	**+0.8**
SNR=11							
SSE	**Sheshan**	**168.27**	**300**	PKP	**PKPdf**	**19 13 47.3**	**-0.5**
SSE				PP	**PP**	**19 18 49.3**	**+3.7**
SSE				AMB	AMB		
comp=Z,190nm,12.0s							
SSE				LR	LR		
comp=Z,470nm,23.8s							
SSE				LR	LR		
comp=Z,350nm,23.8s							
SSE				LR	LR		
comp=Z,810nm,21.8s							
LAMP	**Lampang**	**168.52**	**127**	P	**PKPdf**	**19 13 49.5**	**+1.2**
comp=Z,17nm,1.1s,comp=Z,158nm							
UTTA	**Uttaradit**	**168.63**	**133**	P	**PKPdf**	**19 13 49.4**	**+1.0**
comp=Z,12nm,1.1s,comp=Z,122nm							
LZH	**Lanzhou**	**168.65**	**23**	*e*PKP	**PKPdf**	**19 13 49.5**	**+1.4**
LZH				pPKP	pPKPdf	19 13 59.8	+0.3
LZH				sPKP		19 14 03.5	
LZH				PP	**PP**	**19 18 45.5**	**-1.0**
LZH				SKKS		19 25 28.0	
LZH				SS	**SS**	**19 39 39.5**	**+3.2**
LZH				AMB	AMB		
comp=Z,450nm,4.5s							
LZH				LR	LR		
comp=Z,930nm,19.8s							
LZH				LR	LR		
comp=Z,870nm,18.6s							
LZH				LR	LR		
comp=Z,1μm,20.7s							
KHON	**Khomkaen**	**168.87**	**146**	P	PKPdf	19 14 00.0	+11
CMAI	**Chiengmai2**	**168.91**	**119**	P	**PKPdf**	**19 13 49.7**	**+0.9**
comp=Z,472nm,1.8s,comp=Z,60μm							
TATO	**Taipei**	**168.97**	**269**	PFAKE		19 14 00.0	+12
TATO				LR	LR		
comp=Z,1μm,19.0s							
YHNB	**Yeheng**	**169.03**	**267**	PFAKE		19 14 00.0	+11
YHNB				LR	LR		
comp=Z,980nm,19.0s							
NJ2	**Nanjing**	**169.54**	**309**	*e*PKP	**PKPdf**	**19 13 49.0**	**+0.4**
XAN	**Xi'an**	**171.70**	**2**	PKP	**PKPdf**	**19 13 50.5**	**+0.7**
XAN				pPKP	pPKPdf	19 14 01.3	+0.2
XAN				sPKP		19 14 05.0	
XAN				PKS	**PKSdf**	**19 17 21.8**	**-0.4**
XAN				PP	**PP**	**19 19 01.5**	**+0.2**
XAN				SKS	**SKSdf**	**19 20 49.0**	**-1.7**
XAN				SKKS	**SKKSac**	**19 25 42.5**	**-3.9**
XAN				LR	LR		
comp=Z,390nm,22.2s							
XAN				LR	LR		
comp=Z,450nm,18.7s							
XAN				LR	LR		
comp=Z,1μm,20.8s							
CD2	**Chengdu**	**172.88**	**42**	PKP	**PKPdf**	**19 13 49.5**	**-0.9**
CD2				pPKP	pPKPdf	19 14 00.0	-1.7
CD2				sPKP		19 14 06.0	
CD2				PP	**PP**	**19 19 07.0**	**-1.0**
CD2				SKS	**SKSdf**	**19 20 50.3**	**-0.9**
CD2				SS	**SS**	**19 40 19.8**	**+0.9**
CD2				AMB	AMB		
comp=Z,560nm,5.6s							
CD2				LR	LR		
comp=Z,950nm,22.8s							
CD2				LR	LR		
comp=Z,930nm,23.3s							
CD2				LR	LR		
comp=Z,1μm,21.4s							
QIZ	**Qiongzhong**	**173.32**	**184**	PKP	**PKPdf**	**19 13 55.0**	**+4.2**
QIZ				PKPab	**PKPab**	**19 15 18.5**	**-0.3**
QIZ				PP	**PP**	**19 19 16.0**	**+6.9**
QIZ				LR	LR		
comp=Z,880nm,21.4s							
QIZ	**Qiongzhong**	**173.32**	**184**	PFAKE		19 14 00.0	+9.2
QIZ				LR	LR		
comp=Z,1μm,21.0s							
WHN	**Wuhan**	**173.46**	**318**	PKP	**PKPdf**	**19 13 51.8**	**+1.3**
WHN				PKPab	**PKPab**	**19 15 18.3**	**-1.0**
WHN				PP	**PP**	**19 19 11.5**	**+0.7**
WHN				SS	SS	19 40 26.3	+1.9
WHN				LR	LR		
comp=Z,4μm,25.5s							
KMI	**Kunming**	**174.02**	**94**	PKP	**PKPdf**	**19 13 50.5**	**-0.7**
KMI				pPKP	pPKPdf	19 14 01.0	-1.6
ENH	**Enshi**	**175.47**	**358**	PFAKE		19 14 00.0	+8.7
ENH				LR	LR		
comp=Z,940nm,21.0s							
GYA	**Guiyang**	**177.50**	**72**	*i* PKP	**PKPdf**	**19 13 50.8**	**-1.1**
GYA				PKPab	PKPab	19 15 38.0	+0.2
GYA				PKS	**PKSdf**	**19 17 21.3**	**-2.9**
GYA				PP	**PP**	**19 19 32.0**	**+0.6**
GYA				SKKS		19 26 12.5	
GYA				SS	**SS**	**19 41 01.8**	**-3.5**
GYA				AMB	AMB		
comp=Z,160nm,8.7s							
GYA				LR	LR		
comp=Z,170nm,20.0s							
GYA				LR	LR		
comp=Z,160nm,20.8s							

*ISCJB **30** 18:55:31.8±0.5, 36°.08N±0°.04×71°.05E±0°.07, h102km, mb3.4/7, Error ellipse: s-maj=8.8km s-min=4.5km az=151.7*

*IDC **30** 18:55:32.1±3.3, 35°.99N×70°.96E, h83km±29km, mb3.3/8, mb1 3.5/14, mb1mx3.2/82, mbtmp3.7/14, Error ellipse: s-maj=26.8km s-min=22.4km az=41.0*

*NNC **30** 18:55:37.6±3.1, 36°.42N×70°.82E, h122km±38km, mb3.3, mpv4.0, Error ellipse: s-maj=28.5km s-min=16.4km az=159.0*

ISC 30 18:55:32.7±0.8, 36°.02N±0°.07×71°.04E±0°.07, h102km, n31, σ1°93/38, mb3.5/7, 4C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.29**	**328**	⇓P	**Pn**	**18 56 21.8**	**-0.7**
14nm,0.3s							
DZET				⇓S	**Sn**	**18 56 57.5**	**-3.5**
12nm,0.2s							
MNAS	**Manas**	**6.56**	**10**	⇓P	**Pn**	**18 57 06.4**	**-0.3**
4.5nm,0.5s							
MNAS				⇓S	**Sn**	**18 58 16.9**	**-3.2**
5.3nm,0.3s							
KK31	**Karatay Array**	**7.09**	**357**	⇓P	**Pn**	**18 57 13.2**	**-0.5**
3.0nm,0.3s,baz=178,slow=12,SNR=182							
KK31				⇑S	**Sn**	**18 58 27.2**	**-5.6**
1.5nm,0.3s,baz=173,slow=23,SNR=6.5							
AAK	**Ala-Archa**	**7.13**	**21**	P	**Pn**	**18 57 15.4**	**+1.0**
8.1nm,0.3s,baz=168,slow=6.1,SNR=89							
AAK				S	**Sn**	**18 58 31.7**	**-2.4**
0.6nm,0.3s,baz=315,slow=19,SNR=4.5							
AAK	**Ala-Archa**	**7.13**	**21**	⇓P	**Pn**	**18 57 15.6**	**+1.1**
7.1nm,0.3s							
AAK				⇓S	**Sn**	**18 58 33.5**	**-0.5**
11nm,0.8s							
TKM2	**Tokmak 2**	**7.74**	**26**	⇓P	**Pn**	**18 57 23.5**	**+0.7**
2.9nm,0.3s							
TKM2				⇑S	**Sn**	**18 58 47.9**	**-1.0**
6.6nm,1.1s							
GEYT	**Alibeck**	**10.51**	**284**	P	**Pn**	**18 57 58.0**	**-2.3**
0.5nm,0.3s,baz=119,slow=10,SNR=8.1							
GEYT				S	Sn	18 59 46.2	-10
0.5nm,0.3s,baz=109,slow=23,SNR=4.6							
PYUN	**Piuthan**	**12.84**	**125**	*e*P	**Pn**	**18 58 31.0**	**-0.6**
PYUN				*e*S	**Sn**	**19 00 47.1**	**-5.8**
KOLN	**Koldanda**	**13.46**	**124**	*e*P	**Pn**	**18 58 39.7**	**-0.1**
MKAR	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**18 58 42.9**	**+0.8**
0.3nm,0.3s,baz=212,slow=11,SNR=4.3							
GKN	**Gorkha**	**14.02**	**121**	*e*P	**Pn**	**18 58 46.5**	**-0.5**
12nm,0.6s							
DMN	**Daman**	**14.59**	**121**	*e*P	**Pn**	**18 58 54.4**	**0.0**
KKN	**Kakani**	**14.60**	**120**	*e*P	**Pn**	**18 58 53.9**	**-0.6**
PKIN	**Phulchoki**	**14.81**	**121**	*e*P	**Pn**	**18 58 56.5**	**-0.8**
7.6nm,0.4s							
PKI	**Pulchoki**	**14.83**	**121**	*e*P	**Pn**	**18 58 56.9**	**-0.6**
JIRN	**Jiri**	**15.32**	**119**	*e*P	**Pn**	**18 59 03.5**	**-0.3**
52nm,0.3s							
AB31	**Akbulak array**	**15.52**	**332**	⇑P	**Pn**	**18 59 04.2**	**-1.5**
0.9nm,0.3s,baz=141,slow=14,SNR=50							
AB31				⇑S	Sn	19 01 44.8	-12
0.7nm,0.5s,baz=160,slow=23,SNR=4.6							
KURBB	**Kurchatov Arra**	**15.57**	**18**	P	**Pn**	**18 59 06.7**	**+0.3**
0.1nm,0.3s,baz=208,slow=10,SNR=7.7							
RAMN	**Ramite**	**16.04**	**120**	*e*P	**Pn**	**18 59 12.6**	**-0.1**
4.3nm,0.2s							
TAPN	**Taplejung**	**16.60**	**117**	*e*P	**Pn**	**18 59 19.4**	**-0.1**
6.4nm,0.5s							
BVAR	**Borovoye Array**	**17.01**	**359**	P	**Pn**	**18 59 23.8**	**-0.4**
0.3nm,0.3s,baz=161,slow=11,SNR=8.6							
AKTO	**Aktyubinsk**	**17.22**	**331**	P	**Pn**	**18 59 27.3**	**+0.7**
0.4nm,0.3s,baz=141,slow=13,SNR=16							
AKTO	**Aktyubinsk**	**17.22**	**331**	⇓P	**Pn**	**18 59 27.3**	**+0.7**
4.0nm,0.7s							
ZALV	**Zalesovo Beam**	**20.34**	**24**	P	**P**	**19 00 01.6**	**+1.0**
2.1nm,0.3s,baz=210,slow=10,SNR=20							

FETY				*e*SG		**Sg**	**19 06 43.0**	**+0.2**
FETY	**Fethiye**	**0.43**	**20**	*e*Pg		**Pg**	**19 06 37.0**	**-0.1**
FETY				*e*Sg		**Sg**	**19 06 43.0**	**+0.2**
KSL	**Kastellorizon**	**0.56**	**98**	P		**Pg**	**19 06 39.6**	**+0.2**
KSL				S		**Sb**	**19 06 48.6**	**0.0**
KSL				AML	AML		19 06 51.0	
	comp=E,1088μm,0.6s							
KSL				AML	AML		19 06 51.0	
	comp=N,774μm,0.6s							
KSL	**Kastellorizon**	**0.56**	**98**	P		**Pg**	**19 06 39.6**	**+0.2**
KSL				S		**Sb**	**19 06 48.6**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.62**	**342**	*e*PG		**Pg**	**19 06 40.5**	**-0.1**
DALY				*e*SG		**Sb**	**19 06 49.6**	**-0.8**
DALY	**Dalyan (Mu¨la**	**0.62**	**342**	*e*Pg		**Pg**	**19 06 40.5**	**-0.1**
DALY				*e*Sg		**Sb**	**19 06 49.6**	**-0.8**
ARG	**Arkhangelos**	**0.62**	**269**	P		**Pb**	**19 06 41.3**	**-0.3**
ARG				S		**Sb**	**19 06 51.6**	**+1.2**
ARG				AML	AML		19 06 53.7	
	comp=N,441μm,0.4s							
ARG				AML	AML		19 06 55.0	
	comp=E,601μm,0.5s							
ARG	**Arkhangelos**	**0.62**	**269**	P		**Pb**	**19 06 41.3**	**-0.3**
ARG				S		**Sb**	**19 06 51.6**	**+1.2**
ELL	**Elmali**	**0.97**	**57**	*e*PG		**Pb**	**19 06 47.2**	**-0.3**
ELL	**Elmali**	**0.97**	**57**	*e*Pg		**Pb**	**19 06 47.2**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.05**	**27**	*e*PG		**Pg**	**19 06 48.0**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.05**	**27**	*e*Pg		**Pg**	**19 06 48.0**	**-0.6**
DAT	**Datca**	**1.18**	**296**	*e*PN		**Pg**	**19 06 51.3**	**+0.2**
DAT	**Datca**	**1.18**	**296**	*e*Pn		**Pg**	**19 06 51.3**	**+0.2**
KARP	**Karpathos**	**1.56**	**245**	P		**Pn**	**19 06 56.7**	**+0.2**
KARP				S		**Sn**	**19 07 16.8**	**-0.1**
KARP	**Karpathos**	**1.56**	**245**	P		**Pn**	**19 06 56.7**	**+0.2**
KARP				S		**Sn**	**19 07 16.8**	**-0.1**
ANTB	**Antalya**	**1.57**	**64**	*e*PN		**Pb**	**19 06 57.0**	**-0.6**
ANTB	**Antalya**	**1.57**	**64**	*e*Pn		**Pb**	**19 06 57.0**	**-0.6**
BCK	**Bucak**	**1.83**	**47**	*e*PN		**Pn**	**19 07 01.0**	**+0.7**
BCK	**Bucak**	**1.83**	**47**	*e*Pn		**Pn**	**19 07 01.0**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.10**	**53**	*e*PN		**Pn**	**19 07 04.4**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.10**	**53**	*e*Pn		**Pn**	**19 07 04.4**	**+0.5**
KULA	**Kula-Manisa**	**2.29**	**355**	*e*PN		**Pn**	**19 07 07.1**	**+0.5**
KULA	**Kula-Manisa**	**2.29**	**355**	*e*Pn		**Pn**	**19 07 07.1**	**+0.5**
ZKR	**Zakros**	**2.45**	**244**	P		**Pn**	**19 07 09.2**	**+0.6**
ZKR	**Zakros**	**2.45**	**244**	P		**Pn**	**19 07 09.2**	**+0.6**
NPS	**Neapolis**	**2.84**	**251**	P		**Pn**	**19 07 13.0**	**-1.0**
NPS	**Neapolis**	**2.84**	**251**	P		**Pn**	**19 07 13.0**	**-1.0**
LAST	**Lasithi**	**2.98**	**250**	P		**Pn**	**19 07 14.9**	**-1.1**
LAST	**Lasithi**	**2.98**	**250**	P		**Pn**	**19 07 14.9**	**-1.1**
TVSB	**Tavsanli**	**3.25**	**8**	*e*PN		**Pn**	**19 07 21.1**	**+1.4**
TVSB	**Tavsanli**	**3.25**	**8**	*e*Pn		**Pn**	**19 07 21.1**	**+1.4**

*ISK **30** 19:08:41.6,38.°72N×43.°52E,h11km,MD2.6*
*CSEM **30** 19:08:42.1±0.4,38.°71N×43.°52E,h10km,MD2.6, Error ellipse: s-maj=12.5km s-min=6.4km az=111.0*
*DDA **30** 19:08:42.5,38.°68N×43.°48E,h7km,Ml2.4*
ISC 30 19:08:42.1±1.2,38.°70N±0.°04×43.°52E±0.°07,h15km±14km, n14,σ0.°46/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**225**	*e*PG	**Pb**	**19 08 46.7**	**0.0**
VANB	**Van**	**0.15**	**225**	*e*Pg	**Pb**	**19 08 46.7**	**0.0**
TVAN	**Van**	**0.19**	**208**	*i* P	**Pg**	**19 08 46.6**	**-0.1**
TVAN	**Van**	**0.19**	**208**	P	**Pg**	**19 08 46.7**	**-0.1**
VMUR	**Van-Muradiye**	**0.29**	**8**	*i* P	**Pb**	**19 08 49.6**	**+0.4**
VMUR	**Van-Muradiye**	**0.29**	**8**	P	**Pb**	**19 08 49.6**	**+0.4**
GEVA	**Gevas**	**0.53**	**223**	*i* P	**Pg**	**19 08 52.1**	**-0.5**
GEVA	**Gevas**	**0.53**	**223**	P	**Pg**	**19 08 52.1**	**-0.5**
CLDR	**Caldiran**	**0.54**	**35**	*e*PG	**Pg**	**19 08 52.2**	**-0.7**
CLDR				*e*SG	**Sg**	**19 09 00.2**	**+0.2**
CLDR	**Caldiran**	**0.54**	**35**	*e*Pg	**Pg**	**19 08 52.2**	**-0.7**
CLDR				*e*Sg	**Sg**	**19 09 00.3**	**+0.2**
TUTA	**Tutak**	**0.89**	**322**	*i* P	**Pg**	**19 08 58.9**	**-0.6**
TUTA	**Tutak**	**0.89**	**322**	P	**Pg**	**19 08 58.9**	**-0.6**
AGRB	**Hanur-Agry**	**0.97**	**335**	*e*PG	**Pg**	**19 09 00.5**	**-0.4**
AGRB				*e*SG	**Sb**	**19 09 13.8**	**+0.4**
AGRB	**Hanur-Agry**	**0.97**	**335**	*e*Pg	**Pg**	**19 09 00.5**	**-0.4**
AGRB				*e*Sg	**Sb**	**19 09 13.8**	**+0.4**

*ISCJB **30** 19:10:22.9±0.7,38.°77N±0.°03×43.°22E±0.°07,h23km±11km, Error ellipse: s-maj=8.6km s-min=5.8km az=176.6*
*CSEM **30** 19:10:22.5±0.2,38.°79N×43.°21E,h10km,MD2.5, Error ellipse: s-maj=4.3km s-min=3.8km az=108.0*
*DDA **30** 19:10:22.6,38.°78N×43.°21E,h7km,Ml3.0*
*ISK **30** 19:10:22.1,38.°78N×43.°20E,h9km,MD2.5*
ISC 30 19:10:22.2±1.0,38.°76N±0.°03×43.°26E±0.°04,h29km±8km, n24,σ0.°57/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**148**	*e*PG	**Pn**	**19 10 28.7**	**-0.6**
VANB				*e*SG	**Sn**	**19 10 34.0**	**+1.5**
VANB	**Van**	**0.19**	**148**	*e*Pg	**Pn**	**19 10 28.7**	**-0.6**
TVAN	**Van**	**0.25**	**153**	*i* P	**Pb**	**19 10 28.6**	**-0.6**
TVAN				*i* S	**Sb**	**19 10 33.9**	**0.0**
TVAN	**Van**	**0.25**	**153**	P	**Pb**	**19 10 28.6**	**-0.6**
TVAN				S	**Sb**	**19 10 33.9**	**0.0**
VMUR	**Van-Muradiye**	**0.34**	**46**	*i* P	**Pb**	**19 10 29.9**	**-0.4**
VMUR	**Van-Muradiye**	**0.34**	**46**	P	**Pb**	**19 10 29.9**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.42**	**277**	*i* P	**Pb**	**19 10 31.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.42**	**277**	P	**Pb**	**19 10 31.5**	**0.0**
GEVA	**Gevas**	**0.47**	**200**	*i* P	**Pb**	**19 10 31.7**	**-0.6**
GEVA				*i* S	**Sb**	**19 10 39.2**	**+0.1**
GEVA	**Gevas**	**0.47**	**200**	P	**Pb**	**19 10 31.7**	**-0.6**
GEVA				S	**Sb**	**19 10 39.2**	**+0.1**
CLDR	**Caldiran**	**0.64**	**53**	*e*PG	**Pn**	**19 10 35.1**	**-0.5**
CLDR	**Caldiran**	**0.64**	**53**	*i* P	**Pn**	**19 10 35.3**	**-0.3**
CLDR	**Caldiran**	**0.64**	**53**	*e*Pg	**Pn**	**19 10 35.1**	**-0.5**
CLDR	**Caldiran**	**0.64**	**53**	P	**Pn**	**19 10 35.3**	**-0.3**
TUTA	**Tutak**	**0.73**	**332**	*i* P	**Pn**	**19 10 36.4**	**-0.6**
TUTA	**Tutak**	**0.73**	**332**	P	**Pn**	**19 10 36.3**	**-0.6**
TATV	**Tatvan**	**0.82**	**253**	*i* P	**Pb**	**19 10 37.7**	**-0.3**
TATV	**Tatvan**	**0.82**	**253**	P	**Pb**	**19 10 37.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.84**	**346**	*e*PG	**Pn**	**19 10 37.9**	**-0.5**
AGRB				*e*SG	**Sb**	**19 10 50.1**	**+0.6**
AGRB	**Hanur-Agry**	**0.84**	**346**	*e*Pg	**Pn**	**19 10 37.9**	**-0.5**
AGRB				*e*Sg	**Sb**	**19 10 50.2**	**+0.6**
GURO	**Guroymak-BITLI**	**0.98**	**258**	*e*PG	**Pb**	**19 10 40.5**	**-0.3**
GURO	**Guroymak-BITLI**	**0.98**	**258**	*e*Pg	**Pb**	**19 10 40.5**	**-0.3**
CUKT	**Cukurca**	**1.53**	**170**	*e*PN	**Pb**	**19 10 50.8**	**+0.7**
CUKT	**Cukurca**	**1.53**	**170**	*e*Pn	**Pb**	**19 10 50.8**	**+0.7**

*CSEM **30** 19:11:08.3,38.°69N×43.°15E,h7km,Ml2.4,Turkey*
DDA 30 19:11:08.3,38.°69N×43.°15E,h7km,Ml2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.26**	**129**	*i* P	Pg	19 11 13.3	-0.1
TVAN				*i* S	Sg	19 11 18.2	+1.2
TVAN	**Van**	**0.26**	**129**	P	Pg	19 11 13.3	-0.2
TVAN				S	Sg	19 11 18.2	+1.3
ADCV	**BITLIS_Adilcev**	**0.35**	**289**	*i* P	Pg	19 11 15.7	+0.3
ADCV	**BITLIS_Adilcev**	**0.35**	**289**	P	Pg	19 11 15.7	+0.4
GEVA	**Gevas**	**0.39**	**191**	*i* P	Pg	19 11 15.6	-0.3
GEVA				*i* S	Sb	19 11 22.5	-1.3
GEVA	**Gevas**	**0.39**	**191**	P	Pg	19 11 15.6	-0.3
GEVA				S	Sb	19 11 22.5	-1.3
VMUR	**Van-Muradiye**	**0.44**	**48**	*i* P	Pg	19 11 17.5	+0.5
VMUR	**Van-Muradiye**	**0.44**	**48**	P	Pg	19 11 17.5	+0.5

*ISK **30** 19:12:31.4,38.°98N×43.°28E,h6km,MD2.5*
*ISCJB **30** 19:12:32.2±1.1,39.°02N±0.°06×43.°22E±0.°08,h13km, Error ellipse: s-maj=9.7km s-min=6.4km az=140.0*
*DDA **30** 19:12:38.7,38.°70N×43.°19E,h7km,Ml2.5*
*CSEM **30** 19:12:38.2±0.6,38.°67N×43.°11E,h5km,ML2.5, Error ellipse: s-maj=19.4km s-min=11.4km az=22.0*
ISC 30 19:12:31.6±1.5,39.°02N±0.°07×43.°35E±0.°08,h13km,n13, σ0.°98/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.42**	**176**	*e*PG	**Pb**	**19 12 41.8**	**+0.8**
VANB				*e*SG	**Sb**	**19 12 47.9**	**+0.6**
VANB	**Van**	**0.42**	**176**	*e*Pg	**Pb**	**19 12 41.8**	**+0.8**
VANB				*e*Sg	**Sb**	**19 12 47.9**	**+0.6**
TVAN	**Van**	**0.49**	**175**	*i* P	**Pn**	**19 12 43.6**	**-0.9**
TVAN				*i* S	**Sg**	**19 12 48.0**	**+0.1**
TVAN	**Van**	**0.49**	**175**	P	**Pn**	**19 12 43.6**	**-0.9**
TVAN				S	**Sg**	**19 12 48.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.53**	**247**	*i* P	**Pn**	**19 12 46.7**	**+1.6**
ADCV	**BITLIS_Adilcev**	**0.53**	**247**	P	**Pn**	**19 12 46.7**	**+1.6**
TUTA	**Tutak**	**0.57**	**313**	*i* P	Pn	19 12 53.3	+7.7
TUTA	**Tutak**	**0.57**	**313**	P	Pn	19 12 53.3	+7.7
AGRB	**Hanur-Agry**	**0.62**	**334**	*e*PG	**Pg**	**19 12 43.8**	**-0.1**
GEVA	**Gevas**	**0.74**	**198**	*i* P	**Pb**	**19 12 46.6**	**+0.2**
GEVA	**Gevas**	**0.74**	**198**	P	**Pb**	**19 12 46.6**	**+0.2**
GURO	**Guroymak-BITLI**	**1.13**	**246**	*e*PG	**Pb**	**19 12 52.3**	**-0.8**
GURO				*e*SG	**Sn**	**19 13 07.4**	**-1.3**
GURO	**Guroymak-BITLI**	**1.13**	**246**	*e*Pg	**Pb**	**19 12 52.3**	**-0.8**
GURO				*e*Sg	**Sn**	**19 13 07.4**	**-1.3**

*ISCJB **30** 19:18:10.9±0.6,20.°57S±0.°08×177.°8W±0.°1,h450km, mb3.9/15, Error ellipse: s-maj=15.0km s-min=9.4km az=28.8*
*IDC **30** 19:18:12.2±2.1,20.°68S×177.°73W,h458km±21km, mb3.6/15,mb1 3.7/18,mb1mx3.5/42,mbtmp4.4/18, Error ellipse: s-maj=18.3km s-min=12.8km az=136.0*
ISC 30 19:18:11.2±0.6,20.°7S±0.°1×177.°6W±0.°1,h450km,n30, σ1.°69/36,mb4.0/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.75**	**41**	P	**P**	**19 20 15.7**	**+0.7**
	7.9nm,0.3s,baz=168,slow=2.9,SNR=11						
AFI				S	**S**	**19 21 51.2**	**-5.3**
	4.3nm,0.3s,baz=242,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**14.91**	**262**	P	**P**	**19 21 21.8**	**+0.2**
	0.4nm,0.3s,baz=110,slow=11,SNR=6.2						
URZ	**Urewera**	**18.10**	**193**	P	**P**	**19 21 55.3**	**+0.5**
	0.9nm,0.3s,baz=350,slow=9.2,SNR=3.5						
URZ				S	**S**	**19 24 56.3**	**-1.9**
	0.6nm,0.3s,baz=241,slow=19,SNR=2.9						
CTA	**Charters Tower**	**33.82**	**265**	P	**P**	**19 24 14.4**	**-0.2**
	4.6nm,0.4s,baz=88,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.03**	**244**	P	**P**	**19 24 49.8**	**+0.2**
	11nm,0.7s,baz=91,slow=10,SNR=28						
JAY	**Jayapura**	**44.44**	**288**	P	**P**	**19 25 40.6**	**-0.5**
	8.6nm,0.6s,baz=84,slow=3.4,SNR=6.6						
ASAR	**Alice Springs**	**44.82**	**257**	P	**P**	**19 25 43.2**	**-0.7**
	4.8nm,0.6s,baz=95,slow=7.9,SNR=109						
ASAR				PcP	**PcP**	**19 27 16.0**	**-0.7**
	1.2nm,0.6s,baz=101,slow=3.9,SNR=9.3						
WRA	**Warramunga Arr**	**44.92**	**262**	P	**P**	**19 25 43.3**	**-1.5**
	1.2nm,0.4s,baz=97,slow=7.7,SNR=38						
WRA				PcP	**PcP**	**19 27 16.4**	**-0.7**
	0.6nm,0.7s,baz=100,slow=3.2,SNR=3.1						
FITZ	**Fitzroy Crossi**	**53.35**	**262**	P	**P**	**19 26 47.0**	**-0.6**
	2.8nm,0.5s,baz=94,slow=3.7,SNR=21						
SIJI	**Sorong**	**53.62**	**285**	P	**P**	**19 26 48.7**	**-0.9**
	7.5nm,0.9s,baz=124,slow=11,SNR=4.5						
NWAO	**Narrogin (SRO)**	**58.60**	**243**	P	**P**	**19 27 23.2**	**-0.7**
	9.1nm,0.7s,baz=164,slow=15,SNR=5.9						
ASAJ	**Asahikawa**	**74.06**	**331**	P	**P**	**19 29 01.0**	**+1.0**
	3.1nm,0.8s,baz=82,slow=2.3,SNR=4.9						
PETK	**Petropavlovsk-**	**76.54**	**345**	P	**P**	**19 29 14.1**	**+0.4**
	2.9nm,0.7s,baz=125,slow=6.1,SNR=3.7						
USRK	**Ussuriysk Ar.**	**79.31**	**326**	P	**P**	**19 29 30.2**	**+1.3**
	2.1nm,0.6s,baz=137,slow=2.5,SNR=5.6						
MAW	**Mawson**	**81.51**	**200**	P	**P**	**19 29 40.5**	**+0.4**
	0.7nm,0.5s,baz=131,slow=11,SNR=4.7						
TXAR	**Lajitas Array**	**86.86**	**57**	P	**P**	**19 30 09.6**	**+2.1**
	0.4nm,0.7s,baz=221,slow=6.6,SNR=5.1						
ILAR	**Eielson Array**	**88.41**	**13**	P	**P**	**19 30 13.2**	**-0.5**
	0.4nm,0.5s,baz=216,slow=5.0,SNR=8.0						
ILAR				pP	**pP**	**19 32 01.6**	**+6.0**
	0.1nm,0.5s,baz=219,slow=6.9,SNR=1.3						
CMAR	**Chiang Mai Arr**	**90.51**	**289**	P	**P**	**19 30 25.6**	**+1.0**
	3.2nm,0.8s,baz=119,slow=2.9,SNR=27						
MKAR	**Makanchi Array**	**111.58**	**313**	PKiKP	**PKiKP**	**19 35 52.8**	**-0.8**
	0.3nm,0.6s,baz=56,slow=1.5,SNR=4.6						
BVAR	**Borovoye Array**	**119.44**	**320**	PKP	**PKPdf**	**19 36 07.1**	**-1.3**
	0.9nm,0.4s,baz=116,slow=2.9,SNR=4.7						
ARCES	**ARCESS Array B**	**129.16**	**350**	PKP	**PKPdf**	**19 36 25.9**	**-0.7**
	2.1nm,0.8s,baz=17,slow=3.8,SNR=4.3						
AKASG	**Malin Array Be**	**143.34**	**331**	PKhKP	PKPpre	19 36 49.9	
	3.9nm,0.6s,baz=42,slow=4.3,SNR=18						
EKA	**Eskdalemuir Ar**	**145.15**	**6**	PKPbc	**PKPdf**	**19 36 56.5**	**+0.3**
	0.4nm,0.4s,baz=338,slow=2.7,SNR=5.6						
BRTR	**Keskin Array B**	**147.22**	**312**	PKPbc	**PKPdf**	**19 37 02.4**	**+2.0**
	0.7nm,0.5s,baz=150,slow=5.0,SNR=5.0						
MMAI	**Mount Meron Ar**	**148.21**	**300**	PKPbc	**PKPbc**	**19 37 06.1**	**-0.1**
	3.4nm,0.6s,baz=70,slow=5.4,SNR=4.5						
DPC	**Dobruska-Polom**	**148.40**	**343**	*e*P	**PKPbc**	**19 37 06.3**	**+0.3**
DPC				*ex*	x	19 37 11.2	
KHC	**Kasperske Hory**	**150.23**	**345**	*e*P	**PKPbc**	**19 37 10.4**	**-0.1**
KHC				*ex*	x	19 37 18.7	
GERES	**GERESS Array B**	**150.47**	**345**	PKPbc	**PKPbc**	**19 37 10.5**	**-0.6**
	0.6nm,0.6s,baz=39,slow=1.8,SNR=6.5						
GERES				PKPab	**PKPab**	**19 37 18.9**	**-0.6**
	0.3nm,0.6s,baz=44,slow=5.8,SNR=3.5						
DAVOX	**Davos/Dischmat**	**153.26**	**348**	PKPbc	**PKPbc**	**19 37 16.9**	**-0.6**
	0.8nm,0.5s,baz=86,slow=1.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**172.48**	**175**	PKP	**PKPdf**	**19 37 26.9**	**-1.6**
	0.6nm,0.8s,baz=243,slow=0.5,SNR=3.5						
TORD				PKPab	**PKPab**	**19 38 56.3**	**+0.2**
	0.3nm,0.7s,baz=201,slow=4.6,SNR=2.1						

*ISCJB **30** 19:22:55.9±0.5,38.°65N±0.°03×43.°09E±0.°04,h3km±7km, Error ellipse: s-maj=5.1km s-min=4.9km az=179.5*
*CSEM **30** 19:22:55.9±0.2,38.°65N×43.°12E,h5km,MD2.8, Error ellipse: s-maj=4.5km s-min=3.5km az=149.0*
*ISK **30** 19:22:55.0,38.°65N×43.°15E,h5km,MD2.8*
*DDA **30** 19:22:56.0,38.°66N×43.°16E,h7km,Ml2.9*
ISC 30 19:22:56.4±0.9,38.°66N±0.°03×43.°14E±0.°03,h11km±9km, n38,σ0.°67/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**107**	*e*PG	**Pg**	**19 23 00.5**	**-0.3**
VANB				*e*SG	**Sg**	**19 23 04.4**	**+0.5**
VANB	**Van**	**0.20**	**107**	*e*Pg	**Pg**	**19 23 00.5**	**-0.3**
VANB				*e*Sg	**Sg**	**19 23 04.4**	**+0.5**
TVAN	**Van**	**0.24**	**121**	*i* P	**Pg**	**19 23 00.6**	**-1.0**
TVAN				*i* S	**Sg**	**19 23 05.0**	**-0.1**
TVAN	**Van**	**0.24**	**121**	P	**Pg**	**19 23 00.6**	**-1.0**
TVAN				S	**Sg**	**19 23 05.0**	**-0.1**
GEVA	**Gevas**	**0.35**	**191**	*i* P	**Pg**	**19 23 02.9**	**-0.5**
GEVA	**Gevas**	**0.35**	**191**	P	**Pg**	**19 23 02.9**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.36**	**295**	*i* P	**Pg**	**19 23 03.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.36**	**295**	P	**Pg**	**19 23 03.9**	**+0.3**
VMUR	**Van-Muradiye**	**0.47**	**45**	*i* P	**Pg**	**19 23 05.6**	**-0.1**
VMUR				*i* S	**Sb**	**19 23 14.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.47**	**45**	P	**Pg**	**19 23 05.6**	**-0.1**
VMUR				S	**Sb**	**19 23 14.3**	**+0.4**
TATV	**Tatvan**	**0.70**	**258**	*i* P	**Pg**	**19 23 09.3**	**-0.7**
TATV	**Tatvan**	**0.70**	**258**	P	**Pg**	**19 23 09.3**	**-0.7**
CLDR	**Caldiran**	**0.78**	**51**	*e*PG	**Pg**	**19 23 10.4**	**-1.0**
CLDR	**Caldiran**	**0.78**	**51**	*i* P	**Pg**	**19 23 10.9**	**-0.5**
CLDR				*i* S	**Sb**	**19 23 23.5**	**+0.9**
CLDR	**Caldiran**	**0.78**	**51**	*e*Pg	**Pg**	**19 23 10.4**	**-1.0**
CLDR	**Caldiran**	**0.78**	**51**	P	**Pg**	**19 23 10.9**	**-0.5**
CLDR				S	**Sb**	**19 23 23.5**	**+0.9**
TUTA	**Tutak**	**0.79**	**341**	*i* P	**Pg**	**19 23 11.1**	**-0.5**
TUTA	**Tutak**	**0.79**	**341**	P	**Pg**	**19 23 11.1**	**-0.5**
GURO	**Guroymak-BITLI**	**0.88**	**263**	*e*PG	**Pg**	**19 23 12.1**	**-1.2**
GURO	**Guroymak-BITLI**	**0.88**	**263**	*e*Pg	**Pg**	**19 23 12.1**	**-1.2**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*PG	**Pg**	**19 23 13.4**	**-0.8**
AGRB				*e*SG	**Sb**	**19 23 26.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.93**	**353**	*e*Pg	**Pg**	**19 23 13.4**	**-0.8**
AGRB				*e*Sg	**Sb**	**19 23 26.7**	**-0.2**
SRTM	**Siirt_Merkez**	**1.17**	**236**	*i* P	**Pn**	**19 23 18.9**	**+0.2**
SRTM	**Siirt_Merkez**	**1.17**	**236**	P	**Pn**	**19 23 18.9**	**+0.2**
EATA	**Eleskirt**	**1.31**	**338**	*i* P	**Pg**	**19 23 20.6**	**-0.9**
EATA	**Eleskirt**	**1.31**	**338**	P	**Pg**	**19 23 20.6**	**-0.9**
CUKT	**Cukurca**	**1.45**	**165**	*e*PN	**Pn**	**19 23 22.6**	**-0.1**
CUKT	**Cukurca**	**1.45**	**165**	*e*Pn	**Pn**	**19 23 22.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.58**	**32**	*e*PN	**Pn**	**19 23 24.2**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.58**	**32**	*e*Pn	**Pn**	**19 23 24.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*PN	**Pn**	**19 23 25.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.61**	**252**	*e*Pn	**Pn**	**19 23 25.1**	**+0.4**
DIGO	**Kars**	**1.77**	**6**	*i* P	**Pb**	**19 23 28.9**	**0.0**
DIGO	**Kars**	**1.77**	**6**	P	**Pb**	**19 23 28.9**	**0.0**
BNGB	**Bing¨¶l**	**1.95**	**281**	*e*PN	**Pn**	**19 23 30.1**	**+0.7**
BINT	**Bingol**	**2.08**	**277**	*e*Pn	**Pn**	**19 23 30.2**	**-1.1**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**19 23 37.3**	**+1.1**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**19 23 37.3**	**+1.1**

*CSEM **30** 19:26:06.7±0.2,38.°76N×43.°53E,h8km,MD2.9, Error ellipse: s-maj=6.8km s-min=4.5km az=114.0*
*DDA **30** 19:26:06.4,38.°75N×43.°57E,h7km,Ml3.2*
*ISK **30** 19:26:06.2,38.°74N×43.°49E,h8km,MD2.9*
*ISCJB **30** 19:26:07.1±0.5,38.°75N±0.°03×43.°54E±0.°05,h14km±4km, Error ellipse: s-maj=7.0km s-min=4.2km az=21.2*
ISC 30 19:26:07.3±0.9,38.°76N±0.°02×43.°53E±0.°03,h17km±6km, n43,σ1.°11/51,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**214**	*e*PG	**Pg**	**19 26 12.2**	**-0.1**
VANB	**Van**	**0.20**	**214**	*e*Pg	**Pg**	**19 26 12.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.23**	**8**	*i* P	**Pg**	**19 26 11.3**	**-1.5**
VMUR				*i* S	**Sg**	**19 26 16.9**	**+0.3**
VMUR	**Van-Muradiye**	**0.23**	**8**	P	**Pg**	**19 26 11.3**	**-1.5**
VMUR				S	**Sg**	**19 26 16.9**	**+0.3**
TVAN	**Van**	**0.25**	**203**	*i* P	**Pg**	**19 26 12.0**	**-1.2**
TVAN				*i* S	**Sg**	**19 26 18.0**	**+0.9**
TVAN	**Van**	**0.25**	**203**	P	**Pg**	**19 26 12.0**	**-1.2**
TVAN				S	**Sg**	**19 26 18.0**	**+0.9**
CLDR	**Caldiran**	**0.48**	**38**	*e*PG	**Pg**	**19 26 15.9**	**-1.3**
CLDR				*e*SG	**Sb**	**19 26 25.3**	**+0.8**
CLDR	**Caldiran**	**0.48**	**38**	*i* P	**Pg**	**19 26 16.4**	**-0.8**
CLDR	**Caldiran**	**0.48**	**38**	*e*Pg	**Pg**	**19 26 15.9**	**-1.3**
CLDR	**Caldiran**	**0.48**	**38**	P	**Pg**	**19 26 16.4**	**-0.8**
GEVA	**Gevas**	**0.58**	**220**	*i* P	**Pg**	**19 26 17.4**	**-1.6**
GEVA	**Gevas**	**0.58**	**220**	P	**Pg**	**19 26 17.4**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.63**	**274**	*i* P	**Pg**	**19 26 19.1**	**-0.8**
ADCV				*i* S	**Sb**	**19 26 30.0**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.63**	**274**	P	**Pg**	**19 26 19.1**	**-0.8**
ADCV				S	**Sb**	**19 26 30.0**	**+1.3**
DYDN	**Diyadin**	**0.79**	**9**	*i* P	**Pg**	**19 26 21.6**	**-1.3**
DYDN	**Diyadin**	**0.79**	**9**	P	**Pg**	**19 26 21.6**	**-1.3**
BASK	**Baskale_VAN**	**0.80**	**152**	*i* P	**Pg**	**19 26 21.9**	**-1.1**
BASK	**Baskale_VAN**	**0.80**	**152**	P	**Pg**	**19 26 21.9**	**-1.1**
TUTA	**Tutak**	**0.85**	**319**	*i* P	**Pg**	**19 26 22.6**	**-1.4**
TUTA	**Tutak**	**0.85**	**319**	P	**Pg**	**19 26 22.6**	**-1.4**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*PG	**Pg**	**19 26 23.7**	**-1.5**
AGRB				*e*SG	**Sn**	**19 26 38.6**	**+0.1**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*Pg	**Pg**	**19 26 23.7**	**-1.5**
TATV	**Tatvan**	**1.02**

0.7nm,0.3s,baz=140,slow=31,SNR=4.9
PDGK Podgornoye 5.73 48 ⇓Sn **Sn 19 37 59.7 +5.2**
0.4nm,0.3s
PDGK ⇓Lg Lg 19 38 18.0
3.5nm,1.0s

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*IDC **30** 19:36:06.0±1.0, 36°.75N×140°.60E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/53, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=22.8km s-min=20.6km az=129.0*
*JMA **30** 19:36:07.3, 36°.85N×140°.57E, h5km±1km, M3.5*
JMA Felt I J1.
ISC 30 19:36:07.7±1.1, 36°.85N±0°.03×140°.60E±0°.04, h7km±8km, n24, σ1°50/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.24**	**186**	P	**Pg**	**19 36 12.4**	**0.0**
JHO				S	**Sg**	**19 36 15.8**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.30**	**32**	P	**Pg**	**19 36 13.5**	**-0.2**
ONAJ				*e*S	**Sg**	**19 36 17.9**	**+0.2**
JSB	**Shiboa**	**0.56**	**283**	P	**Pg**	**19 36 18.3**	**-0.1**
JSB				S	**Sg**	**19 36 26.1**	**+0.4**
JFK	**Kawauchi**	**0.56**	**23**	P	**Pg**	**19 36 18.0**	**-0.6**
JYT	**Yasato**	**0.70**	**208**	P	**Pg**	**19 36 20.5**	**-0.6**
JFT	**Otama**	**0.70**	**343**	P	**Pg**	**19 36 20.5**	**-0.7**
JFT				S	**Sg**	**19 36 29.9**	**-0.5**
JFY	**Yanaizu**	**0.91**	**308**	P	**Pg**	**19 36 24.1**	**-1.0**
JFY				S	**Sg**	**19 36 35.6**	**-1.3**
MJAR	**Matsushiro Arr**	**1.94**	**262**	Pn	**Pn**	**19 36 40.0**	**-1.3**
	16nm,0.3s,baz=84,slow=16,SNR=198						
MJAR				Sn	**Sn**	**19 37 05.1**	**-0.8**
	22nm,0.3s,baz=81,slow=28,SNR=38						
MAT	**Matsushiro**	**1.94**	**262**	P	**Pn**	**19 36 39.9**	**-1.3**
MAT				S	**Sn**	**19 37 06.7**	**+0.8**
ASAJ	**Asahikawa**	**7.42**	**11**	Pn	**Pn**	**19 37 56.0**	**-0.4**
	0.6nm,0.3s,baz=244,slow=16,SNR=8.1						
ASAJ				Sn	**Sn**	**19 39 22.2**	**+1.4**
	0.1nm,0.3s,baz=108,slow=19,SNR=4.2						
USRK	**Ussuriysk Ar.**	**9.84**	**321**	Pn	**Pn**	**19 38 33.2**	**+3.7**
	0.1nm,0.3s,baz=101,slow=12,SNR=5.3						
KSRS	**Korea Array**	**10.14**	**277**	Pn	**Pn**	**19 38 38.1**	**+4.4**
	0.2nm,0.3s,baz=104,slow=15,SNR=4.7						
SONM	**Songino Array**	**27.35**	**304**	P	**P**	**19 41 53.2**	**-0.3**
	0.6nm,0.8s,baz=86,slow=9.5,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	20 11 51.4	
	baz=312,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T	T	20 11 52.0	
	baz=312,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	20 11 52.7	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	20 12 40.1	
	baz=314,slow=75,SNR=71						
H11S3	**WAKE ISLAND Hy**	**29.31**	**122**	T	T	20 12 42.6	
	baz=314,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**29.33**	**122**	T	T	20 12 43.2	
	baz=314,slow=75,SNR=51						
ZALV	**Zalesovo Beam**	**41.56**	**313**	P	**P**	**19 43 55.7**	**0.0**
	0.3nm,0.5s,baz=99,slow=8.9,SNR=2.8						
ILAR	**Eielson Array**	**50.00**	**32**	P	**P**	**19 45 02.1**	**-0.2**
	0.3nm,0.7s,baz=286,slow=6.5,SNR=3.4						
WRA	**Warramunga Arr**	**56.79**	**187**	P	**P**	**19 45 50.6**	**-2.0**
	0.9nm,0.6s,baz=3.5,slow=7.1,SNR=7.5						
ASAR	**Alice Springs**	**60.52**	**187**	P	**P**	**19 46 17.6**	**-1.0**
	0.8nm,1.0s,baz=15,slow=7.7,SNR=4.9						
TXAR	**Lajitas Array**	**90.75**	**52**	P	**P**	**19 49 11.9**	**0.0**
	0.3nm,0.7s,baz=307,slow=3.2,SNR=3.9						

MAN 30 19:43:10, 8°.61N×123°.26E, h17km, mb3.9, ML2.7, MS2.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.09**	**107**	⇑*e*P	Pg	19 43 14.8	+1.4
DCPH				*i* S	Sg	19 43 18.5	+2.8
SNPH	**Sibulan**	**0.73**	**358**	⇑*i*P	Pb	19 43 24.2	-0.1
SNPH				*i* S	Sg	19 43 33.4	-0.6
PAGZ	**Pagadian**	**0.77**	**171**	*e*P	Pg	19 43 25.3	+0.3
PAGZ				*e*S	Sn	19 43 38.2	+1.0
TBP	**Tagbilaran**	**1.23**	**29**	*e*P	Pn	19 43 32.2	-0.2

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*ISCJB **30** 19:49:53.9±0.5, 38°.68N±0°.03×43°.19E±0°.05, h9km±6km, Error ellipse: s-maj=6.5km s-min=5.3km az=140.4*
*CSEM **30** 19:49:53.8±0.2, 38°.68N×43°.20E, h10km, ML2.2, Error ellipse: s-maj=4.8km s-min=4.5km az=35.0*
*DDA **30** 19:49:53.6, 38°.69N×43°.27E, h7km, Ml3.2*
*ISK **30** 19:49:53.1, 38°.65N×43°.20E, h6km, ML2.2*
ISC 30 19:49:54.1±0.9, 38°.67N±0°.03×43°.19E±0°.03, h10km±10km, n30, σ0°76/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**117**	*e*PG	**Pg**	**19 49 58.0**	**+0.2**
VANB				*e*SG	**Sg**	**19 50 01.1**	**+0.7**
VANB	**Van**	**0.17**	**117**	*e*Pg	**Pg**	**19 49 58.0**	**+0.2**
VANB				*e*Sg	**Sg**	**19 50 01.1**	**+0.7**
TVAN	**Van**	**0.22**	**131**	*i* P	**Pg**	**19 49 58.0**	**-0.7**
TVAN				*i* S	**Sg**	**19 50 01.7**	**-0.2**
TVAN	**Van**	**0.22**	**131**	P	**Pg**	**19 49 58.0**	**-0.7**
TVAN				S	**Sg**	**19 50 01.7**	**-0.2**
GEVA	**Gevas**	**0.38**	**196**	*i* P	**Pg**	**19 50 01.6**	**0.0**
GEVA	**Gevas**	**0.38**	**196**	P	**Pg**	**19 50 01.6**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.39**	**290**	*i* P	**Pb**	**19 50 02.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.39**	**290**	P	**Pb**	**19 50 02.7**	**-0.6**
CLDR	**Caldiran**	**0.73**	**50**	*e*PG	**Pg**	**19 50 08.6**	**+0.2**
CLDR	**Caldiran**	**0.73**	**50**	*e*Pg	**Pg**	**19 50 08.6**	**+0.2**
TATV	**Tatvan**	**0.74**	**258**	*i* P	**Pg**	**19 50 08.3**	**-0.1**
TATV	**Tatvan**	**0.74**	**258**	P	**Pg**	**19 50 08.3**	**-0.1**
TUTA	**Tutak**	**0.79**	**338**	*i* P	**Pg**	**19 50 09.2**	**-0.1**
TUTA	**Tutak**	**0.79**	**338**	P	**Pg**	**19 50 09.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.92**	**350**	*e*PG	**Pg**	**19 50 11.4**	**-0.4**
AGRB				*e*SG	**Sb**	**19 50 24.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.92**	**350**	*e*Pg	**Pg**	**19 50 11.4**	**-0.4**
AGRB				*e*Sg	**Sb**	**19 50 24.8**	**+0.2**
GURO	**Guroymak-BITLI**	**0.92**	**263**	*e*PG	**Pg**	**19 50 11.0**	**-0.8**
GURO				*e*SG	**Sb**	**19 50 24.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.92**	**263**	*e*Pg	**Pg**	**19 50 11.0**	**-0.8**
GURO				*e*Sg	**Sb**	**19 50 24.5**	**0.0**
EKAR	**Karacoban**	**1.05**	**304**	*i* P	**Pn**	**19 50 17.5**	**+2.2**
EKAR	**Karacoban**	**1.05**	**304**	P	**Pn**	**19 50 17.5**	**+2.2**
SRTM	**Siirt_Merkez**	**1.21**	**236**	*i* P	**Pg**	**19 50 18.1**	**+0.8**
SRTM	**Siirt_Merkez**	**1.21**	**236**	P	**Pg**	**19 50 18.1**	**+0.8**
EATA	**Eleskirt**	**1.31**	**336**	*i* P	**Pn**	**19 50 18.2**	**-0.6**
EATA	**Eleskirt**	**1.31**	**336**	P	**Pn**	**19 50 18.2**	**-0.6**
CUKT	**Cukurca**	**1.46**	**167**	*e*PN	**Pn**	**19 50 20.8**	**+0.1**
CUKT	**Cukurca**	**1.46**	**167**	*e*Pn	**Pn**	**19 50 20.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*PN	**Pn**	**19 50 23.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*Pn	**Pn**	**19 50 23.7**	**+0.5**
BNGB	**Bing¶‖**	**1.99**	**280**	*e*PN	**Pn**	**19 50 28.2**	**+0.2**
BINT	**Bingol**	**2.12**	**276**	*e*Pn	**Pn**	**19 50 28.2**	**-1.6**

DJA 30 19:51:38.7±1.2, 3°S±4°×13°0E±°, h11km±9km, M4.2/11, mB5.7/1, mb5.5/1, MLv3.5/11, Mw(mB)5.2/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.19**	**234**	P	Pb	19 52 00.0	-1.3
MSAI				S	Sn	19 52 17.5	0.0
BNDI	**Bandanaira**	**1.87**	**180**	P	Pn	19 52 10.6	-0.1
AAI	**Ambon**	**1.99**	**238**	P	Pn	19 52 12.4	+0.1
FAKI	**Fak Fak**	**2.37**	**97**	P	Pn	19 52 17.8	+0.2
FAKI				S	Sn	19 52 47.6	+0.9
NLAI	**Namlea**	**2.85**	**258**	P	Pn	19 52 24.2	+0.1
LBMI	**Labuha**	**3.11**	**310**	P	Pn	19 52 28.1	+0.4
LBMI				S	Sn	19 53 05.7	+0.8
KMPI	**Kaimana, Papua**	**3.94**	**105**	P	Pn	19 52 39.1	-0.1
SANI	**Sanana**	**3.94**	**278**	P	Pn	19 52 37.6	-1.6
SGSI	**Sangihe**	**7.65**	**325**	P	Pn	19 53 30.3	+0.1

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*DDA **30** 20:02:46.2, 38°.62N×44°.21E, h7km, Ml2.9*
*ISK **30** 20:02:46.7, 38°.68N×44°.18E, h4km, ML2.6*
*CSEM **30** 20:02:46.4±0.4, 38°.65N×44°.24E, h2km, ML2.6, Error ellipse: s-maj=8.1km s-min=5.0km az=94.0*
ISC 30 20:02:46.9±1.3, 38°.64N±0°.02×44°.17E±0°.04, h1km±11km, n32, σ0°60/51, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.54**	**339**	*e*PG	**Pg**	**20 02 57.1**	**-0.2**
CLDR				*e*SG	**Sg**	**20 03 04.7**	**+0.4**
CLDR	**Caldiran**	**0.54**	**339**	*i* P	**Pg**	**20 02 56.8**	**-0.5**
CLDR				*i* S	**Sg**	**20 03 04.9**	**+0.5**
CLDR	**Caldiran**	**0.54**	**339**	P	**Pg**	**20 02 56.8**	**-0.5**
CLDR	**Caldiran**	**0.54**	**339**	*e*Pg	**Pg**	**20 02 57.1**	**-0.2**
CLDR				*e*Sg	**Sg**	**20 03 04.7**	**+0.4**
VMUR	**Van-Muradiye**	**0.58**	**307**	*i* P	**Pg**	**20 02 58.5**	**+0.4**
VMUR				*i* S	**Sb**	**20 03 08.7**	**-0.2**
VMUR	**Van-Muradiye**	**0.58**	**307**	P	**Pg**	**20 02 58.5**	**+0.4**
VMUR				S	**Sb**	**20 03 08.7**	**-0.2**
BASK	**Baskale_VAN**	**0.60**	**193**	*i* P	**Pg**	**20 02 58.4**	**-0.1**
BASK				*i* S	**Sb**	**20 03 08.8**	**-0.5**
BASK	**Baskale_VAN**	**0.60**	**193**	P	**Pg**	**20 02 58.3**	**-0.1**
BASK				S	**Sb**	**20 03 08.8**	**-0.5**
TVAN	**Van**	**0.61**	**260**	*i* P	**Pg**	**20 02 58.6**	**0.0**
TVAN				*i* S	**Sb**	**20 03 08.5**	**-1.1**
TVAN	**Van**	**0.61**	**260**	P	**Pg**	**20 02 58.6**	**0.0**
TVAN				S	**Sb**	**20 03 08.5**	**-1.1**
VANB	**Van**	**0.61**	**266**	*e*PG	**Pg**	**20 02 58.8**	**+0.1**
VANB				*e*SG	**Sb**	**20 03 09.2**	**-0.4**
VANB	**Van**	**0.61**	**266**	*e*Pg	**Pg**	**20 02 58.8**	**+0.1**
VANB				*e*Sg	**Sb**	**20 03 09.2**	**-0.4**
GEVA	**Gevas**	**0.93**	**250**	*i* P	**Pg**	**20 03 03.1**	**-1.6**
GEVA				*i* S	**Sb**	**20 03 18.2**	**-0.6**
GEVA	**Gevas**	**0.93**	**250**	P	**Pg**	**20 03 03.2**	**-1.6**
GEVA				S	**Sb**	**20 03 18.2**	**-0.6**
ADCV	**BITLIS_Adilcev**	**1.15**	**279**	*i* P	**Pg**	**20 03 08.6**	**-0.2**
ADCV				*i* S	**Sn**	**20 03 27.7**	**+1.1**
ADCV	**BITLIS_Adilcev**	**1.15**	**279**	P	**Pg**	**20 03 08.6**	**-0.2**
ADCV				S	**Sn**	**20 03 27.7**	**+1.1**
TUTA	**Tutak**	**1.30**	**306**	*i* P	**Pb**	**20 03 12.5**	**+0.2**
TUTA				*i* S	**Sn**	**20 03 30.2**	**-0.4**
TUTA	**Tutak**	**1.30**	**306**	P	**Pb**	**20 03 12.5**	**+0.2**
TUTA				S	**Sn**	**20 03 30.2**	**-0.4**
AGRB	**Hanur-Agry**	**1.31**	**316**	*e*PN	**Pb**	**20 03 12.0**	**-0.4**
AGRB	**Hanur-Agry**	**1.31**	**316**	*e*Pn	**Pb**	**20 03 12.0**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.34**	**2**	*e*PN	**Pb**	**20 03 12.6**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.34**	**2**	*e*Pn	**Pb**	**20 03 12.6**	**-0.3**
CUKT	**Cukurca**	**1.46**	**198**	*e*PN	**Pg**	**20 03 15.0**	**+0.1**
CUKT	**Cukurca**	**1.46**	**198**	*e*Pn	**Pg**	**20 03 15.0**	**+0.1**
GURO	**Guroymak-BITLI**	**1.68**	**268**	*e*PN	**Pn**	**20 03 17.7**	**+0.2**
GURO	**Guroymak-BITLI**	**1.68**	**268**	*e*Pn	**Pn**	**20 03 17.7**	**+0.2**
SRTM	**Siirt_Merkez**	**1.88**	**251**	*i* P	**Pb**	**20 03 21.7**	**-0.4**
SRTM				*i* S	**Sg**	**20 03 48.1**	**+0.7**
SRTM	**Siirt_Merkez**	**1.88**	**251**	P	**Pb**	**20 03 21.7**	**-0.4**
SRTM				S	**Sg**	**20 03 48.1**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.38**	**324**	*e*PN	**Pn**	**20 03 27.4**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.38**	**324**	*e*Pn	**Pn**	**20 03 27.4**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.39**	**259**	*e*PN	**Pn**	**20 03 27.8**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.39**	**259**	*e*Pn	**Pn**	**20 03 27.8**	**+0.7**

TRN 30 20:05:03.5, 17°.09N×62°.49W, h147km, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEV	**Hard Times**	**0.09**	**303**	*e*P	Pn	20 05 23.8	+0.6
SKI	**Saint Kitts**	**0.34**	**316**	*e*P	Pn	20 05 25.2	+1.3
SKI				*e*S	Sn	20 05 40.3	+0.9
MLYT	**Lee's Yard**	**0.46**	**141**	*e*P	Pn	20 05 25.7	+1.3
MLYT				*e*S	Sn	20 05 41.5	+1.2
BPA	**Boggy Peak**	**0.61**	**94**	*e*P	Pn	20 05 27.3	+2.1
BPA				*e*S	Sn	20 05 43.0	+1.4
ANWB	**Willy Bob**	**0.89**	**49**	*e*P	Pn	20 05 28.8	+1.7
ANWB				*e*S	Sn	20 05 46.3	+1.3
SABA	**Saba**	**0.89**	**307**	*e*P	Pn	20 05 28.8	+1.7
SMRT	**St. Maarten**	**1.11**	**330**	*e*P	Pn	20 05 30.3	+1.3
SMRT				*e*S	Sn	20 05 49.1	+0.6
LZG	**Guadaloupe-1**	**1.16**	**144**	*e*P	Pn	20 05 30.6	+1.1
SEG	**Port Louis**	**1.16**	**126**	⇑*i*P	Pn	20 05 30.6	+1.2
TBG	**Guadaloupe-3**	**1.47**	**146**	*e*P	Pn	20 05 33.6	+1.1
TBG				*e*S	Sn	20 05 56.1	+1.3
MGG	**Marie-Galante**	**1.62**	**136**	*e*P	Pn	20 05 35.5	+1.4
BBL	**Barber's Block**	**1.83**	**148**	*e*P	Pn	20 05 37.4	+0.8

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*CSEM **30** 20:05:33.7±0.2, 38°.99N×43°.61E, h10km, ML2.7, Error ellipse: s-maj=4.8km s-min=4.2km az=99.0*
*ISK **30** 20:05:33.2, 38°.96N×43°.58E, h7km, MD2.6*
*ISCJB **30** 20:05:34.0±0.6, 38°.99N±0°.03×43°.60E±0°.06, h12km±7km, Error ellipse: s-maj=8.1km s-min=5.7km az=2.9*
*DDA **30** 20:05:34.6, 38°.99N×43°.54E, h8km, Ml2.7*
ISC 30 20:05:33.5±0.9, 38°.99N±0°.03×43°.61E±0°.03, h12km±5km, n18, σ0°23/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.03**	**277**	*i* P	**Pg**	**20 05 35.7**	**-0.2**
VMUR				*i* S	**Sg**	**20 05 37.9**	**+0.3**
VMUR	**Van-Muradiye**	**0.03**	**277**	P	**Pg**	**20 05 35.7**	**-0.2**
VMUR				S	**Sg**	**20 05 37.9**	**+0.3**
CLDR	**Caldiran**	**0.29**	**57**	*e*PG	**Pg**	**20 05 39.5**	**0.0**
CLDR				*e*SG	**Sb**	**20 05 45.6**	**-0.1**
CLDR	**Caldiran**	**0.29**	**57**	*e*Pg	**Pg**	**20 05 39.5**	**0.0**
CLDR				*e*Sg	**Sb**	**20 05 45.6**	**-0.1**
VANB	**Van**	**0.43**	**203**	*e*PG	**Pb**	**20 05 42.8**	**-0.2**
VANB	**Van**	**0.43**	**203**	*e*Pg	**Pb**	**20 05 42.8**	**-0.2**
TVAN	**Van**	**0.48**	**199**	*i* P	**Pg**	**20 05 42.9**	**-0.1**
TVAN				*i* S	**Sb**	**20 05 51.5**	**+0.3**
TVAN	**Van**	**0.48**	**199**	P	**Pg**	**20 05 42.9**	**-0.1**
TVAN				S	**Sb**	**20 05 51.5**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.71**	**256**	*i* P	**Pg**	**20 05 46.9**	**-0.4**
ADCV				*i* S	**Sb**	**20 05 57.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.71**	**256**	P	**Pg**	**20 05 46.9**	**-0.4**
ADCV				S	**Sb**	**20 05 57.6**	**-0.1**
TUTA	**Tutak**	**0.74**	**304**	*i* P	**Pg**	**20 05 48.0**	**+0.1**
TUTA				*i* S	**Sb**	**20 05 58.8**	**+0.1**
TUTA	**Tutak**	**0.74**	**304**	P	**Pg**	**20 05 48.0**	**+0.1**
TUTA				S	**Sb**	**20 05 58.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.76**	**321**	*e*PG	**Pb**	**20 05 48.5**	**-0.3**
AGRB				*e*SG	**Sb**	**20 05 59.3**	**+0.2**
AGRB	**Hanur-Agry**	**0.76**	**321**	*e*Pg	**Pb**	**20 05 48.5**	**-0.3**
AGRB				*e*Sg	**Sb**	**20 05 59.3**	**+0.2**
GURO	**Guroymak-BITLI**	**1.30**	**251**	*e*PN	**Pg**	**20 05 58.8**	**+0.2**
GURO	**Guroymak-BITLI**	**1.30**	**251**	*e*Pn	**Pg**	**20 05 58.8**	**+0.2**
CUKT	**Cukurca**	**1.74**	**180**	*e*PN	**Pn**	**20 06 03.7**	**+0.1**
CUKT	**Cukurca**	**1.74**	**180**	*e*Pn	**Pn**	**20 06 03.7**	**+0.1**

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*AZER **30** 20:07:16.8±0.8, 38°.09N×44°.28E, h5km, Error ellipse: s-maj=7.9km s-min=3.2km az=23.0*
*ISK **30** 20:07:17.6, 38°.95N×43°.51E, h5km, ML3.1*
*ISCJB **30** 20:07:18.6±0.5, 38°.94N±0°.03×43°.60E±0°.03, h14km±4km, Error ellipse: s-maj=4.6km s-min=3.2km az=155.3*
*CSEM **30** 20:07:18.2±0.2, 38°.94N×43°.58E, h5km, ML3.6, Error ellipse: s-maj=6.9km s-min=4.2km az=154.0*
*DDA **30** 20:07:18.2, 38°.92N×43°.54E, h12km, Ml3.6*
ISC 30 20:07:18.3±0.8, 38°.92N±0°.02×43°.61E±0°.02, h11km±6km, n81, σ1°52/105, 10C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**337**	*i* P	**Pg**	**20 07 20.6**	**-0.3**
VMUR				*i* S	**Sg**	**20 07 23.1**	**+0.3**
VMUR	**Van-Muradiye**	**0.07**	**337**	P	**Pg**	**20 07 20.6**	**-0.3**
CLDR	**Caldiran**	**0.33**	**47**	*e*PG	**Pg**	**20 07 25.2**	**+0.3**
CLDR				*e*SG	**Sb**	**20 07 32.7**	**+1.0**
CLDR	**Caldiran**	**0.33**	**47**	*i* P	**Pg**	**20 07 25.1**	**+0.2**
CLDR				*i* S	**Sb**	**20 07 32.1**	**+0.5**
CLDR	**Caldiran**	**0.33**	**47**	P	**Pg**	**20 07 25.1**	**+0.2**
CLDR				*e*Sg	**Sb**	**20 07 32.7**	**+1.0**
VANB	**Van**	**0.37**	**208**	*e*PG	**Pb**	**20 07 27.6**	**+0.8**
VANB	**Van**	**0.37**	**208**	*e*Pg	**Pb**	**20 07 27.7**	**+0.8**
TVAN	**Van**	**0.42**	**202**	*i* P	**Pg**	**20 07 26.3**	**-0.3**
TVAN				*i* S	**Sb**	**20 07 34.4**	**+0.1**
TVAN	**Van**	**0.42**	**202**	P	**Pg**	**20 07 26.3**	**-0.3**
TVAN				S	**Sb**	**20 07 34.4**	**+0.1**
DYDN	**Diyadin**	**0.63**	**6**	*i* P	**Pg**	**20 07 30.7**	**+0.2**
DYDN				*i* S	**Sb**	**20 07 40.4**	**+0.2**
DYDN	**Diyadin**	**0.63**	**6**	P	**Pg**	**20 07 30.7**	**+0.2**
DYDN				S	**Sb**	**20 07 40.4**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.70**	**261**	*i* P	**Pg**	**20 07 31.0**	**-0.8**
ADCV				*i* S	**Sg**	**20 07 41.4**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.70**	**261**	P	**Pg**	**20 07 31.0**	**-0.8**
ADCV				S	**Sg**	**20 07 41.4**	**+0.3**
TUTA	**Tutak**	**0.78**	**308**	*i* P	**Pg**	**20 07 32.1**	**-1.4**
TUTA				*i* S	**Sg**	**20 07 43.1**	**-0.6**
TUTA	**Tutak**	**0.78**	**308**	P	**Pg**	**20 07 32.1**	**-1.4**
TUTA				S	**Sg**	**20 07 43.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.81**	**324**	*e*PG	**Pg**	**20 07 33.3**	**-0.7**
AGRB				*e*SG	**Sg**	**20 07 44.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.81**	**324**	*e*Pg	**Pg**	**20 07 33.3**	**-0.7**
AGRB				*e*Sg	**Sg**	**20 07 44.7**	**+0.1**
TATV	**Tatvan**	**1.13**	**249**	*i* P	**Pb**	**20 07 38.1**	**-1.8**
TATV				*i* S	**Sb**	**20 07 53.5**	**-1.1**
TATV	**Tatvan**	**1.13**	**249**	P	**Pb**	**20 07 38.1**	**-1.8**
TATV				S	**Sb**	**20 07 53.5**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.17**	**24**	*e*PN	**Pb**	**20 07 40.4**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.17**	**24**	*e*Pn	**Pb**	**20 07 40.4**	**-0.2**
EKAR	**Karacoban**	**1.25**	**286**	*i* P	**Pg**	**20 07 42.3**	**0.0**
EKAR				*i* S	**Sn**	**20 08 01.3**	**+2.4**
EKAR	**Karacoban**	**1.25**	**286**	P	**Pg**	**20 07 42.3**	**0.0**
GURO	**Guroymak-BITLI**	**1.29**	**254**	*e*PN	**Pb**	**20 07 41.5**	**-0.8**
GURO	**Guroymak-BITLI**	**1.29**	**254**	*e*Pn	**Pn**	**20 07 41.5**	**-0.8**
NAX	**Nakhchivan**	**1.49**	**80**	⇓P	**Pn**	**20 07 43.9**	**-1.2**
	SNR=12						
NAX				⇓S	**Sn**	**20 08 04.1**	**-0.5**
NAX	**Nakhchivan**	**1.49**	**80**	P	**Pn**	**20 07 43.9**	**-1.2**
	SNR=12						
NAX				S	**Sn**	**20 08 04.1**	**-0.5**
SRTM	**Siirt_Merkez**	**1.62**	**236**	*i* P	**Pb**	**20 07 47.9**	**-0.3**
SRTM				*i* S	**Sg**	**20 08 12.5**	**+2.3**
SRTM	**Siirt_Merkez**	**1.62**	**236**	P	**Pb**	**20 07 47.9**	**-0.3**
CUKT	**Cukurca**	**1.67**	**180**	*e*PN	**Pb**	**20 07 49.7**	**+0.6**
CUKT	**Cukurca**	**1.67**	**180**	*e*Pn	**Pb**	**20 07 49.7**	**+0.6**
VRTB	**Varto-Mus**	**1.69**	**279**	*e*PN	**Pn**	**20 07 48.5**	**+0.5**
VRTB	**Varto-Mus**	**1.69**	**279**	*e*Pn	**Pn**	**20 07 48.5**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.91**	**330**	*e*PN	**Pn**	**20 07 51.5**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.91**	**330**	*e*Pn	**Pn**	**20 07 51.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.04**	**249**	*e*PN	**Pn**	**20 07 53.8**	**+1.2**
SVAN	**Silvan-Diyarba**	**2.04**	**249**	*e*Pn	**Pn**	**20 07 53.8**	**+1.2**
BNGB	**Bing¶‖**	**2.29**	**273**	*e*PN	**Pn**	**20 07 56.4**	**+0.4**
BINT	**Bingol**	**2.44**	**270**	*e*Pn	**Pn**	**20 07 56.4**	**-1.7**
YEDI	**Yedisu-Bingol**	**2.44**	**283**	*e*PN	**Pn**	**20 07 58.3**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.44**	**283**	*e*Pn	**Pn**	**20 07 58.3**	**+0.1**
GDB	**GEDABAY**	**2.44**	**42**	⇓P	**Pb**	**20 08 03.5**	**+1.2**
	SNR=4.4						
GDB				⇓S	**Sg**	**20 08 39.4**	**+2.6**
GDB	**GEDABAY**	**2.44**	**42**	P	**Pb**	**20 08 03.5**	**+1.2**
	SNR=4.4						
QZX	**Qazax, Azerbai**	**2.53**	**32**	⇓P	**Pg**	**20 08 05.5**	**-1.2**
	SNR=7.5						
QZX				⇓S	**Sg**	**20 08 44.3**	**+4.8**
GANJ	**Ganja**	**2.71**	**50**	⇓P	**Pb**	**20 08 05.3**	**-1.5**
	SNR=11						
GANJ				⇓S	**Sg**	**20 08 42.9**	**-2.4**
GANJ	**Ganja**	**2.71**	**50**	P	**Pb**	**20 08 05.3**	**-1.5**
	SNR=11						
DGRG	**David-gareji**	**2.87**	**28**	P	**Pg**	**20 08 12.6**	**-0.6**
MAZI	**Mazidag**	**2.89**	**241**	*e*PN	**Pn**	**20 08 05.9**	**+1.6**
MAZI	**Mazidag**	**2.89**	**241**	*e*Pn	**Pn**	**20 08 05.9**	**+1.6**
TBLG	**Delisi**	**2.94**	**17**	P	**Pg**	**20 08 13.2**	**-1.3**
BRDA	**Brd**	**3.07**	**63**	⇓P	**

mb3.5/6, Error ellipse: s-maj=8.4km s-min=4.6km az=153.6
*DJA **30** 20:11:22.9±0.4, 1°N±3°×10°0E±°, h155km±7km, M4.3/12, mb4.4/3, MLv4.2/12*
*IDC **30** 20:11:24.2±4.5, 0°63N×99°92E, h151km±33km, mb3.2/6, mb1 3.3/7, mb1mx3.1/41, mbtmp3.6/7, Error ellipse: s-maj=82.5km s-min=14.9km az=58.0*
ISC 30 20:11:23.3±0.7, 0°55N±0°06×99°67E±0°07, h150km, n24, σ0°74/29, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.38**	**99**	P	**Pn**	20 11 52.1	+0.4
PBSI	**Pulau Batu**	**1.52**	**247**	P	**Pn**	20 11 54.0	+1.0
PBSI				S	**Sn**	20 12 16.3	+0.5
PDSI	**Padang**	**1.65**	**151**	P	**Pn**	20 11 55.6	+1.1
PDSI				S	**Sn**	20 12 19.4	+0.9
SISI	**Saibi**	**1.95**	**197**	P	**Pn**	20 11 58.1	+0.2
SISI				S	**Sn**	20 12 25.0	+0.5
PPSI	**Pulau Pagai**	**3.30**	**174**	P	**Pn**	20 12 13.9	-0.7
PPSI				S	**Sn**	20 12 52.9	-1.4
KCSI	**Kotacane, Aceh**	**3.51**	**327**	P	**Pn**	20 12 17.1	-0.2
TPTI		**3.67**	**317**	P	**Pn**	20 12 19.6	+0.3
TPTI				S	**Sn**	20 13 00.8	-2.0
SNSI	**Sinabang, Aceh**	**3.82**	**299**	P	**Pn**	20 12 20.7	-0.6
MASI	**Maura Aman, Be**	**4.47**	**145**	P	**Pn**	20 12 29.5	-0.3
MLSI	**Meulaboh, Aceh**	**4.93**	**319**	P	**Pn**	20 12 36.1	+0.2
LHMI	**Lhok Sumawe**	**5.39**	**330**	P	**Pn**	20 12 41.7	-0.2
MDSI	**Maura Dua**	**6.73**	**138**	P	**Pn**	20 12 59.5	-0.3
KASI	**Kota Agung**	**7.72**	**141**	P	**Pn**	20 13 12.7	-0.3
CMAR	**Chiang Mai Arr**	**17.81**	**358**	P	**P**	20 15 20.8	+0.1
	baz=190,slow=10,SNR=2.9						
H08S2	**Diego Garcia H**	**28.30**	**253**	T	T	20 45 04.4	
	baz=72,slow=74,SNR=4.3						
H08S3	**Diego Garcia H**	**28.30**	**253**	T	T	20 45 05.9	
	baz=72,slow=74,SNR=4.5						
H08S1	**Diego Carcia H**	**28.32**	**253**	T	T	20 45 05.9	
	baz=72,slow=74,SNR=3.8						
WRA	**Warramunga Arr**	**39.60**	**123**	P	**P**	20 18 39.8	-0.7
	0.4nm,0.4s,baz=305,slow=9.0,SNR=3.4						
WRA				PcP	**PcP**	20 20 45.3	+0.6
	0.3nm,0.5s,baz=316,slow=2.4,SNR=3.3						
WRA				ScP	**ScP**	20 24 18.9	-0.8
	0.3nm,0.8s,baz=307,slow=3.0,SNR=2.6						
ASAR	**Alice Springs**	**41.04**	**128**	P	**P**	20 18 51.5	-0.7
	0.4nm,0.7s,baz=298,slow=8.4,SNR=5.2						
ASAR				PcP	**PcP**	20 20 49.5	+0.2
	0.3nm,0.7s,baz=313,slow=3.3,SNR=4.0						
SONM	**Songino Array**	**47.46**	**6**	P	**P**	20 19 42.9	-0.2
	0.2nm,0.3s,baz=185,slow=8.2,SNR=2.6						
MKAR	**Makanchi Array**	**48.51**	**344**	P	**P**	20 19 51.8	+0.8
	0.5nm,0.5s,baz=156,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**54.62**	**349**	P	**P**	20 20 37.0	+0.8
	0.6nm,0.3s,baz=182,slow=7.1,SNR=6.5						
BVAR	**Borovoye Array**	**57.70**	**340**	P	**P**	20 20 58.3	+0.2
	0.8nm,0.5s,baz=144,slow=10,SNR=7.7						
TXAR	**Lajitas Array**	**142.85**	**35**	PKP	**PKPdf**	20 30 40.1	+0.2
	0.1nm,0.5s,baz=343,slow=2.8,SNR=3.2						

MAN 30 20:11:49, 12°51N×123°62E, h55km, mb4.0, ML2.8, MS2.5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.02**	**90**	*e*P	Pn	20 12 07.1	0.0
CNP				*e*S	Sn	20 12 23.1	+2.4
AUQP	**San Andres**	**1.22**	**312**	*e*P	Pn	20 12 11.3	+1.5
AUQP				*e*S	Sn	20 12 31.0	+5.6
RCP	**Roxas**	**1.27**	**222**	*e*P	Pn	20 12 10.4	-0.1
RCP				*e*S	Sn	20 12 28.6	+2.0
BOAC	**Boac**	**1.97**	**299**	*e*P	Pn	20 12 22.4	+2.4
LLP	**Lapu-Lapu**	**2.20**	**171**	*e*P	Pn	20 12 24.4	+1.2
LLP				*e*S	Sn	20 12 52.5	+3.2

*ISK **30** 20:21:05.4, 38°86N×43°54E, h5km, MD2.7*
*ISCJB **30** 20:21:07.3±0.7, 38°88N±0°03×43°57E±0°07, h13km±6km, Error ellipse: s-maj=8.8km s-min=5.7km az=9.6*
*CSEM **30** 20:21:07.0±0.3, 38°88N×43°56E, h5km, ML2.7, Error ellipse: s-maj=7.8km s-min=5.5km az=114.0*
*DDA **30** 20:21:07.6, 38°86N×43°56E, h7km, Ml2.7*
ISC 30 20:21:06.5±1.1, 38°89N±0°03×43°60E±0°04, h15km±8km, n17, σ0°70/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**348**	*i* P	**Pg**	20 21 09.9	-0.2
VMUR				*i* S	**Sb**	20 21 13.7	+0.7
VMUR	**Van-Muradiye**	**0.11**	**348**	P	**Pg**	20 21 09.9	-0.2
VMUR				S	**Sb**	20 21 13.6	+0.7
VANB	**Van**	**0.33**	**210**	*e*PG	**Pg**	20 21 13.7	+0.3
VANB	**Van**	**0.33**	**210**	*e*Pg	**Pg**	20 21 13.7	+0.3
CLDR	**Caldiran**	**0.36**	**44**	*e*PG	**Pb**	20 21 14.3	-0.4
CLDR				*e*SG	**Sb**	20 21 21.6	+1.4
CLDR	**Caldiran**	**0.36**	**44**	*i* P	**Pb**	20 21 14.4	-0.3
CLDR				*i* S	**Sn**	20 21 22.9	-1.3
CLDR	**Caldiran**	**0.36**	**44**	P	**Pb**	20 21 14.4	-0.3
CLDR				*e*Sg	**Sb**	20 21 21.6	+1.4
TVAN	**Van**	**0.39**	**203**	*i* P	**Pg**	20 21 14.3	-0.2
TVAN				*i* S	**Sb**	20 21 21.2	+0.2
TVAN	**Van**	**0.39**	**203**	P	**Pg**	20 21 14.3	-0.2
TVAN				S	**Sb**	20 21 21.2	+0.2
ADCV	**BITLIS_Adilcev**	**0.69**	**264**	*i* P	**Pg**	20 21 19.6	-0.4
ADCV				*i* S	**Sb**	20 21 30.7	+1.1
ADCV	**BITLIS_Adilcev**	**0.69**	**264**	P	**Pg**	20 21 19.6	-0.4
ADCV				S	**Sb**	20 21 30.7	+1.1
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*PG	**Pb**	20 21 22.7	-0.1
AGRB				*e*SG	**Sn**	20 21 35.2	-0.8
AGRB	**Hanur-Agry**	**0.83**	**326**	*e*Pg	**Pb**	20 21 22.7	-0.1
AGRB				*e*Sg	**Sn**	20 21 35.2	-0.8
GURO	**Guroymak-BITLI**	**1.27**	**255**	*e*PN	**Pn**	20 21 30.1	+0.3
GURO	**Guroymak-BITLI**	**1.27**	**255**	*e*Pn	**Pn**	20 21 30.1	+0.3
CUKT	**Cukurca**	**1.64**	**180**	*e*PN	**Pb**	20 21 36.1	-0.2
CUKT	**Cukurca**	**1.64**	**180**	*e*Pn	**Pb**	20 21 36.2	-0.2

*ISCJB **30** 20:26:15.8±0.7, 38°68N±0°03×43°22E±0°05, h28km±6km, Error ellipse: s-maj=6.4km s-min=5.4km az=1.3*
*ISK **30** 20:26:15.0, 38°71N×43°20E, h14km, MD2.5*
*CSEM **30** 20:26:15.8±0.3, 38°70N×43°18E, h10km, MD2.5, Error ellipse: s-maj=6.5km s-min=5.2km az=46.0*
*DDA **30** 20:26:16.0, 38°71N×43°19E, h7km, Ml2.9*
ISC 30 20:26:15.8±1.2, 38°68N±0°03×43°22E±0°04, h20km±3km, n18, σ0°56/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**124**	*e*PG	**Pb**	20 26 20.9	0.0
VANB				*e*SG	**Sb**	20 26 25.2	+0.8
VANB	**Van**	**0.16**	**124**	*e*Pg	**Pb**	20 26 20.9	0.0
VANB				*e*Sg	**Sb**	20 26 25.2	+0.8
TVAN	**Van**	**0.21**	**137**	*i* P	**Pb**	20 26 21.0	-0.5
TVAN				*i* S	**Sb**	20 26 25.4	0.0
TVAN	**Van**	**0.21**	**137**	P	**Pb**	20 26 21.0	-0.5
TVAN				S	**Sb**	20 26 25.4	0.0
GEVA	**Gevas**	**0.39**	**199**	*i* P	**Pb**	20 26 23.8	-0.3
GEVA				*i* S	**Sb**	20 26 31.1	+1.3
ADCV	**BITLIS_Adilcev**	**0.41**	**288**	*i* P	**Pb**	20 26 24.2	-0.2
ADCV				*i* S	**Sb**	20 26 31.0	+0.8
ADCV	**BITLIS_Adilcev**	**0.41**	**288**	P	**Pb**	20 26 24.2	-0.2
ADCV				S	**Sb**	20 26 31.0	+0.8
VMUR	**Van-Muradiye**	**0.41**	**42**	*i* P	**Pb**	20 26 24.6	+0.1
VMUR				*i* S	**Sb**	20 26 31.8	+1.4
TATV	**Tatvan**	**0.77**	**257**	*i* P	**Pb**	20 26 30.1	-0.5
TATV				*i* S	**Sb**	20 26 40.8	+0.2
TATV	**Tatvan**	**0.77**	**257**	P	**Pb**	20 26 30.1	-0.5
TATV				S	**Sb**	20 26 40.8	+0.2
TUTA	**Tutak**	**0.78**	**336**	*i* P	**Pb**	20 26 30.4	-0.5
TUTA				*i* S	**Sb**	20 26 41.2	0.0
TUTA	**Tutak**	**0.78**	**336**	P	**Pb**	20 26 30.5	-0.5
TUTA				S	**Sb**	20 26 41.2	0.0
AGRB	**Hanur-Agry**	**0.91**	**349**	*e*PG	**Pb**	20 26 32.5	-0.5
AGRB				*e*SG	**Sb**	20 26 44.9	+0.1
AGRB	**Hanur-Agry**	**0.91**	**349**	*e*Pg	**Pb**	20 26 32.5	-0.5
AGRB				*e*Sg	**Sb**	20 26 44.9	+0.1
GURO	**Guroymak-BITLI**	**0.94**	**262**	*e*PG	**Pb**	20 26 33.4	-0.1
GURO	**Guroymak-BITLI**	**0.94**	**262**	*e*Pg	**Pb**	20 26 33.4	-0.1
CUKT	**Cukurca**	**1.47**	**168**	*e*PN	**Pn**	20 26 41.2	-0.1
CUKT	**Cukurca**	**1.47**	**168**	*e*Pn	**Pn**	20 26 41.2	-0.1

SGS 30 20:30:50.3, 25°24N×37°82E, h0km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY06	**LNY06**	**0.04**	**231**	S	Sg	20 30 51.7	-0.1
LNY06				P	Pg	20 30 50.8	-0.3
LNY06	**LNY06**	**0.04**	**231**	P	Pg	20 30 51.1	0.0
LNY10	**LNY10**	**0.05**	**52**	P	Pg	20 30 51.2	-0.1
LNY10	**LNY10**	**0.05**	**52**	P	Pg	20 30 51.2	0.0
LNY12	**LNY12**	**0.05**	**309**	P	Pg	20 30 50.6	-0.7
LNY12	**LNY12**	**0.05**	**309**	P	Pg	20 30 50.6	-0.7
LNY11	**LNY11**	**0.09**	**333**	P	Pg	20 30 51.3	-0.7
LNY11	**LNY11**	**0.09**	**333**	P	Pg	20 30 51.3	-0.7
LNY01	**LNY01**	**0.13**	**98**	P	Pg	20 30 52.7	-0.1
LNY01	**LNY01**	**0.13**	**98**	P	Pg	20 30 54.9	+2.1
LNY04	**LNY04**	**0.16**	**282**	P	Pg	20 30 52.3	-1.1
LNY04	**LNY04**	**0.16**	**282**	P	Pg	20 30 54.1	+0.8

*CSEM **30** 20:31:44.8±0.5, 38°54N×43°35E, h15km, ML2.5, Error ellipse: s-maj=18.8km s-min=7.4km az=136.0*
*ISK **30** 20:31:44.2, 38°51N×43°34E, h16km, MD2.5*
*ISCJB **30** 20:31:45.2±0.9, 38°53N±0°07×43°31E±0°09, h12km±6km, Error ellipse: s-maj=16.0km s-min=6.7km az=136.8*
*DDA **30** 20:31:45.3, 38°51N×43°49E, h10km, Ml2.5*
ISC 30 20:31:43.9±1.8, 38°46N±0°10×43°5E±0°1, h13km±5km, n15, σ0°93/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.08**	**331**	*i* P	**Pb**	20 31 47.0	+0.1
TVAN				*i* S	**Sb**	20 31 50.1	+1.1
TVAN	**Van**	**0.08**	**331**	P	**Pb**	20 31 47.0	+0.1
TVAN				S	**Sb**	20 31 50.1	+1.1
VANB	**Van**	**0.14**	**340**	*e*PG	**Pg**	20 31 47.3	-0.3
VANB				*e*SG	**Sg**	20 31 49.8	-0.4
VANB	**Van**	**0.14**	**340**	*e*Pg	**Pg**	20 31 47.3	-0.3
VANB				*e*Sg	**Sg**	20 31 49.8	-0.4
GEVA	**Gevas**	**0.34**	**244**	*i* P	**Pn**	20 31 53.5	-1.2
GEVA				*i* S	**Sn**	20 32 02.9	+1.3
GEVA	**Gevas**	**0.34**	**244**	P	**Pn**	20 31 53.5	-1.2
VMUR	**Van-Muradiye**	**0.54**	**10**	*i* P	**Pb**	20 31 54.9	-0.3
VMUR				*i* S	**Sb**	20 32 04.1	+1.2
VMUR	**Van-Muradiye**	**0.54**	**10**	P	**Pb**	20 31 54.9	-0.3
CLDR	**Caldiran**	**0.77**	**28**	*e*PG	**Pb**	20 31 59.3	+0.1
CLDR				*e*SG	**Sb**	20 32 11.4	+1.7
CLDR	**Caldiran**	**0.77**	**28**	*i* P	**Pb**	20 31 59.6	+0.3
CLDR				*i* S	**Sn**	20 32 11.6	-0.7
CLDR	**Caldiran**	**0.77**	**28**	P	**Pb**	20 31 59.6	+0.3
CLDR				*e*Sg	**Sb**	20 32 11.4	+1.7
GURO	**Guroymak-BITLI**	**1.12**	**275**	*e*PG	**Pn**	20 32 05.0	-0.3
GURO	**Guroymak-BITLI**	**1.12**	**275**	*e*Pg	**Pn**	20 32 05.0	-0.3
AGRB	**Hanur-Agry**	**1.17**	**342**	*e*PN	**Pn**	20 32 05.1	-1.0
AGRB	**Hanur-Agry**	**1.17**	**342**	*e*Pn	**Pn**	20 32 05.1	-1.0

*ISCJB **30** 20:40:08.6±0.8, 38°69N±0°04×43°29E±0°05, h28km±6km, Error ellipse: s-maj=8.0km s-min=5.5km az=136.9*
*CSEM **30** 20:40:08.3±0.2, 38°72N×43°24E, h19km, MD2.6, Error ellipse: s-maj=7.2km s-min=4.9km az=144.0*
*ISK **30** 20:40:08.1, 38°71N×43°22E, h10km, MD2.6*
*DDA **30** 20:40:08.8, 38°74N×43°22E, h7km, Ml2.9*
ISC 30 20:40:08.5±1.0, 38°74N±0°03×43°21E±0°02, h20km±3km, n20, σ0°63/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**136**	*e*PG	**Pg**	20 40 13.8	+0.1
VANB				*e*SG	**Sg**	20 40 17.6	+0.4
VANB	**Van**	**0.20**	**136**	*e*Pg	**Pg**	20 40 13.8	+0.1
VANB				*e*Sg	**Sg**	20 40 17.6	+0.4
TVAN	**Van**	**0.26**	**144**	*i* P	**Pb**	20 40 13.9	-0.5
TVAN				*i* S	**Sg**	20 40 18.3	-0.5
TVAN	**Van**	**0.26**	**144**	P	**Pb**	20 40 13.9	-0.5
TVAN				S	**Sg**	20 40 18.3	-0.5
VMUR	**Van-Muradiye**	**0.38**	**48**	*i* P	**Pb**	20 40 16.5	-0.1
VMUR				*i* S	**Sb**	20 40 22.6	+0.4
VMUR	**Van-Muradiye**	**0.38**	**48**	P	**Pb**	20 40 16.5	-0.1
VMUR				S	**Sb**	20 40 22.6	+0.4
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	*e*P	**Pg**	20 40 15.4	-1.3
ADCV				*i* S	**Sn**	20 40 25.1	-1.0
ADCV	**BITLIS_Adilcev**	**0.39**	**280**	P	**Pg**	20 40 15.4	-1.3
ADCV				S	**Sn**	20 40 25.1	-1.0
GEVA	**Gevas**	**0.44**	**196**	*i* P	**Pg**	20 40 17.3	-0.4
GEVA				*i* S	**Sb**	20 40 25.1	+1.1
GEVA	**Gevas**	**0.44**	**196**	P	**Pg**	20 40 17.3	-0.4
GEVA				S	**Sb**	20 40 25.1	+1.1
CLDR	**Caldiran**	**0.68**	**53**	*e*PG	**Pg**	20 40 21.9	-0.2
CLDR	**Caldiran**	**0.68**	**53**	*e*Pg	**Pg**	20 40 21.9	-0.2
TATV	**Tatvan**	**0.78**	**253**	*i* P	**Pb**	20 40 23.6	+0.2
TATV				*i* S	**Sg**	20 40 34.6	+0.5
TATV	**Tatvan**	**0.78**	**253**	P	**Pb**	20 40 23.6	+0.2
TATV				S	**Sg**	20 40 34.6	+0.5
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*PG	**Pn**	20 40 25.3	-0.3
AGRB				*e*SG	**Sn**	20 40 38.2	+0.6
AGRB	**Hanur-Agry**	**0.85**	**348**	*e*Pg	**Pn**	20 40 25.3	-0.3
AGRB				*e*Sg	**Sn**	20 40 38.2	+0.6
GURO	**Guroymak-BITLI**	**0.94**	**259**	*e*PG	**Pb**	20 40 26.7	+0.5
GURO				*e*SG	**Sg**	20 40 40.0	+0.6
GURO	**Guroymak-BITLI**	**0.94**	**259**	*e*Pg	**Pb**	20 40 26.7	+0.5
GURO				*e*Sg	**Sg**	20 40 40.0	+0.6
VRTB	**Varto-Mus**	**1.43**	**288**	*e*PN	**Pb**	20 40 35.0	+0.4
VRTB	**Varto-Mus**	**1.43**	**288**	*e*Pn	**Pb**	20 40 35.0	+0.4

*ISCJB **30** 20:45:11.0±0.9, 5°25N±0°07×77°47W±0°06, h33km, mb3.5/4, Error ellipse: s-maj=10.5km s-min=8.3km az=17.7*
*RSNC **30** 20:45:12.2±0.7, 5°33N×77°32W, h4km±12km, ML3.3*
*IDC **30** 20:45:20.6±3.6, 5°13N×76°99W, h106km±31km, mb3.3/4, mb1 3.5/7, mb1mx3.3/28, mbtmp3.8/7, Error ellipse: s-maj=32.4km s-min=21.5km az=83.0*
ISC 30 20:45:11.9±1.0, 5°24N±0°08×77°47W±0°08, h35km, n16, σ2°14/21, mb3.7/4, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.99**	**3**	*e*P	**Pn**	20 45 27.9	-1.3
SOLC				*i*		20 45 43.6	
	comp=Z,372nm,0.3s						
PLMC	**San Jos¨ del**	**1.22**	**106**	*e*P	**Pn**	20 45 31.6	-1.0
PLMC				*e*S	**Sn**	20 45 46.9	-1.0
GUYC	**Guyana, Colomb**	**2.07**	**90**	*e*P	**Pn**	20 45 45.5	+1.0
GUYC				*e*S	**Sn**	20 46 09.7	+0.4
GUYC				*i*		20 46 15.7	
	comp=Z,432nm,0.3s						
HELC	**Santa Helena**	**2.15**	**64**	*e*P	**Pn**	20 45 45.5	-0.1
HELC				*e*S	**Sn**	20 46 11.4	+0.2
HELC				*i*		20 46 14.2	
	comp=Z,118nm,0.5s						
DBBC	**Dabeiba**	**2.17**	**35**	*e*P	**Pn**	20 45 45.7	+0.1
TOLC	**Tolima**	**2.23**	**107**	*e*P	**Pn**	20 45 47.4	+0.7
NORC	**Norcasia**	**2.61**	**83**	*e*S	**Sn**	20 46 23.1	+1.0
ROSC	**El Rosal**	**3.16**	**97**	P	**Pn**	20 46 03.1	+3.7
	comp=Z,6.6nm,0.3s,baz=333,slow=4.5,SNR=17						
ROSC				S	**Sn**	20 46 29.4	-6.8
	comp=Z,7.1nm,0.3s,baz=245,slow=19,SNR=8.0						
SDV	**Santo Domingo**	**7.69**	**61**	P	**Pn**	20 47 03.4	+1.8
	comp=Z,3.0nm,0.3s,baz=237,slow=14,SNR=11						
SDV				S	**Sn**	20 48 27.2	-0.5
	comp=Z,1.2nm,0.3s,baz=282,slow=20,SNR=2.4						
PTGA	**Pitinga**	**18.46**	**108**	P	**P**	20 49 23.7	-1.1
	comp=Z,1.1nm,0.3s,baz=294,slow=18,SNR=10						
LPAZ	**La Paz**	**23.30**	**157**	P	**P**	20 50 17.9	+0.4
	comp=Z,1.2nm,0.6s,baz=330,slow=8.1,SNR=5.9						
SIV	**San Ignacio**	**26.61**	**143**	P	**P**	20 50 45.2	-2.1
	comp=Z,1.1nm,0.5s,baz=325,slow=10.0,SNR=2.8						
ILAR	**Eielson Array**	**76.59**	**336**	P	**P**	20 57 00.8	+2.2
	comp=Z,0.1nm,0.6s,baz=97,slow=4.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.29**	**78**	P	**P**	20 57 08.4	-0.7
	comp=Z,0.5nm,0.5s,baz=281,slow=6.4,SNR=9.2						
ASAR	**Alice Springs**	**144.67**	**236**	PKPbc	**PKPab**	21 04 44.0	-0.5
	comp=Z,0.4nm,0.8s,baz=115,slow=4.1,SNR=3.8						
WRA	**Warramunga Arr**	**145.79**	**242**	PKPbc	**PKPbc**	21 04 49.4	+1.1
	comp=Z,0.4nm,0.8s,baz=109,slow=3.2,SNR=2.8						

*IDC **30** 20:49:00.7±1.6, 15°27N×144°95E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.7/40, mbtmp4.0/8, Error ellipse: s-maj=65.2km s-min=17.4km az=79.0*
*ISCJB **30** 20:49:04.5±1.2, 15°24N±0°09×144°8E±0°3, h33km, mb3.9/8, Error ellipse: s-maj=49.3km s-min=8.6km az=168.8*
ISC 30 20:49:06.0±1.6, 15°2N±0°1×144°9E±0°4, h35km, n15, σ0°41/10, mb3.9/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.62**	**181**	Pn	**Pn**	20 49 31.8	-0.2
	61nm,0.3s,baz=330,slow=5.2,SNR=23						
GUMO				Sn	**Sn**	20 49 51.9	+0.2
	45nm,0.3s,baz=142,slow=21,SNR=15						
H11S3	**WAKE ISLAND Hy**	**21.12**	**78**	T	T	21 15 59.8	
	baz=265,slow=75,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**21.13**	**78**	T	T	21 16 00.4	
	baz=265,slow=75,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**21.13**	**78**	T	T	21 15 58.9	
	baz=265,slow=75,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**21.46**	**75**	T	T	21 16 28.1	
	baz=262,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**21.47**	**75**	T	T	21 16 27.7	
	baz=262,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**21.48**	**75**	T	T	21 16 26.6	
	baz=262,slow=75,SNR=5.8						
KSRS	**Korea Array**	**26.78**	**329**	P	**P**	20 54 42.4	-0.2
	0.4nm,0.4s,baz=144,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**36.44**	**197**	P	**P**	20 56 07.9	+0.2
	1.4nm,0.7s,baz=11,slow=9.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**44.00**	**281**	P	**P**	20 57 10.4	-0.1
	0.3nm,0.2s,baz=98,slow=4.8,SNR=4.7						
STKA	**Stephens Creek**	**46.93**	**184**	P	**P**	20 57 33.1	-0.2
	1.8nm,0.7s,baz=8.1,slow=7.1,SNR=2.9						
MKAR	**Makanchi Array**	**60.34**	**315**	P	**P**	20 59 11.7	+0.2
	1.0nm,1.0s,baz=98,slow=5.9,SNR=3.2						
BVAR	**Borovoye Array**	**68.67**	**321**	P	**P**	21 00 06.0	+0.2
	0.7nm,0.6s,baz=111,slow=8.2,SNR=4.8						
ARCES	**ARCESS Array B**	**85.55**	**342**	P	**P**	21 01 40.9	+0.6
	1.7nm,0.8s,baz=56,slow=9.9,SNR=4.1						
FINES	**FINESS Array B**	**89.70**	**335**	P	**P**	21 01 59.6	-0.7
	3.7nm,1.0s,baz=19,slow=4.2,SNR=3.4						

IDC 30 20:51:16.6±1.7, 3°54S×145°77E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/30, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=68.3km s-min=22.6km az=112.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.75**	**213**	P	P	20 55 48.3	0.0
	0.3nm,0.3s,baz=33,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.06**	**209**	P	P	20 56 24.1	+0.2
	2.6nm,0.6s,baz=35,slow=12,SNR=27						
FITZ	**Fitzroy Crossi**	**24.46**	**232**	P	P	20 56 37.4	-0.1
	3.8nm,0.8s,baz=56,slow=7.3,SNR=6.1						
KSRS	**Korea Array**	**44.03**	**339**	P	P	20 59 26.8	+0.7
	0.8nm,0.6s,baz=146,slow=8.8,SNR=4.1						
ILAR	**Eielson Array**	**83.72**	**23**	P	P	21 03 46.5	-0.7
	0.6nm,0.9s,baz=243,slow=5.9,SNR=3.6						

*ISK **30** 20:58:57.9, 38°92N×43°56E, h3km, MD2.8*
*DDA **30** 20:58:57.8, 38°84N×43°60E, h7km, MD2.8*
*ISCJB **30** 20:58:58.6±0.6, 38°89N±0°03×43°56E±0°05, h6km±6km, Error ellipse: s-maj=7.1km s-min=4.7km az=26.6*
*CSEM **30** 20:58:58.6±0.2, 38°91N×43°57E, h5km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.8km az=120.0*
ISC 30 20:58:58.1±0.9, 38°89N±0°03×43°59E±0°03, h10km±6km, n25, σ0°73/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.10**	**352**	*i* P	**Pg**	20 59 00.5	-0.4
VMUR				*i* S	**Sg**	20 59 03.6	+0.7
VMUR	**Van-Muradiye**	**0.10**	**352**	P	**Pg**	20 59 00.5	-0.4
VMUR				S	**Sg**	20 59 03.6	+0.7
VANB	**Van**	**0.34**	**208**	*e*PG	**Pb**	20 59 06.9	+0.6
VANB	**Van**	**0.34**	**208**	*e*Pg	**Pb**	20 59 06.9	+0.6
CLDR	**Caldiran**	**0.36**	**46**	*e*PG	**Pg**	20 59 05.8	+0.5
CLDR				*e*SG	**Sb**	20 59 11.7	-0.8
CLDR	**Caldiran**	**0.36**	**46**	*i* P	**Pg**	20 59 05.3	0.0
CLDR				*i* S	**Sb**	20 59 12.2	-0.3
CLDR	**Caldiran**	**0.36**	**46**	P	**Pg**	20 59 05.3	0.0
CLDR				*e*S

n28,σ1°61/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.03**	**352**	*e*PG	**Pg**	**21 05 06.9**	**-0.6**
URFA	**Urfa**	**0.03**	**352**	*e*Pg	**Pg**	**21 05 06.9**	**-0.6**
ATAB	**Bozova**	**0.43**	**278**	*i* P	**Pg**	**21 05 14.2**	**0.0**
ATAB				*i* S	**Sg**	**21 05 20.3**	**+0.5**
ATAB	**Bozova**	**0.43**	**278**	P	**Pg**	**21 05 14.2**	**0.0**
ATAB				S	**Sg**	**21 05 20.3**	**+0.5**
SURC	**SANLIURFA_SURC**	**0.56**	**198**	*i* P	**Pg**	**21 05 18.0**	**+1.4**
SURC				*i* S	**Sg**	**21 05 26.3**	**+2.4**
SURC	**SANLIURFA_SURC**	**0.56**	**198**	P	**Pg**	**21 05 18.0**	**+1.4**
SURC				S	**Sg**	**21 05 26.3**	**+2.4**
GZT	**Gaziantep**	**1.01**	**267**	*i* P	**Pg**	**21 05 26.2**	**+1.0**
GZT				*i* S	**Sn**	**21 05 41.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.04**	**21**	*e*PG	**Pg**	**21 05 25.8**	**-0.1**
SVRC				*e*SG	**Sb**	**21 05 39.5**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.04**	**21**	*e*Pg	**Pg**	**21 05 25.8**	**-0.1**
SVRC				*e*Sg	**Sb**	**21 05 39.5**	**-0.7**
ELZG	**Elazig**	**1.09**	**6**	*i* P	**Pn**	**21 05 27.9**	**+0.1**
ELZG				*i* S	**Sn**	**21 05 42.1**	**-1.1**
ELZG	**Elazig**	**1.09**	**6**	P	**Pn**	**21 05 27.9**	**+0.1**
ELZG				S	**Sn**	**21 05 42.1**	**-1.1**
DIYA	**Diyarbakir**	**1.15**	**63**	*i* P	**Pn**	**21 05 28.9**	**+0.5**
DIYA				*i* S	**Sn**	**21 05 43.9**	**-0.5**
DIYA	**Diyarbakir**	**1.15**	**63**	P	**Pn**	**21 05 28.9**	**+0.5**
DIYA				S	**Sn**	**21 05 43.9**	**-0.5**
MAZI	**Mazidag**	**1.29**	**87**	*e*PN	**Pg**	**21 05 31.6**	**+0.9**
MAZI				*e*SN	**Sn**	**21 05 48.7**	**+0.7**
MAZI	**Mazidag**	**1.29**	**87**	*e*Pn	**Pg**	**21 05 31.6**	**+0.9**
MAZI				*e*Sn	**Sn**	**21 05 48.7**	**+0.7**
SLMH	**Al Salmeh**	**1.39**	**211**	*e*P	**Pn**	**21 05 31.1**	**-0.6**
SLMH				*e*S	**Sb**	**21 05 45.0**	**-5.2**
SLMH				AML	AML	21 05 50.1	
	comp=N,45nm,0.5s						
SLMH				AML	AML	21 05 51.4	
	comp=E,21nm,0.4s						
SFNV	**Sufian**	**1.43**	**133**	*e*P	**Pn**	**21 05 31.4**	**-0.8**
SFNV				*e*S	**Sn**	**21 05 45.1**	**-6.1**
SFNV				AML	AML	21 05 56.1	
	comp=N,51nm,0.2s						
SFNV				AML	AML	21 05 59.2	
	comp=E,56nm,0.6s						
KBSD	**Kabsdagh**	**1.43**	**106**	*e*P	**Pb**	**21 05 33.4**	**+0.6**
KBSD				*e*S	**Sb**	**21 05 50.1**	**-1.2**
KBSD				AML	AML	21 05 55.0	
	comp=E,34nm,0.5s						
KBSD				AML	AML	21 05 57.4	
	comp=N,26nm,0.1s						
KMRS	**Kahramanmaras**	**1.54**	**274**	*e*PN	**Pn**	**21 05 34.6**	**+0.9**
KMRS	**Kahramanmaras**	**1.54**	**274**	*e*Pn	**Pn**	**21 05 34.6**	**+0.9**
DARE	**Darende-Malaty**	**1.57**	**318**	*e*PN	**Pn**	**21 05 34.8**	**+0.5**
DARE	**Darende-Malaty**	**1.57**	**318**	*e*Pn	**Pn**	**21 05 34.8**	**+0.5**
DRWC	**Darouich**	**1.90**	**246**	*e*P	**Pb**	**21 05 41.6**	**+0.7**
DRWC				*e*S	**Sn**	**21 06 02.9**	**0.0**
DRWC				AML	AML	21 06 15.9	
	comp=N,13nm,0.6s						
DRWC				AML	AML	21 06 16.1	
	comp=E,11nm,0.4s						
SVAN	**Silvan-Diyarba**	**2.02**	**68**	*e*PN	**Pn**	**21 05 40.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.02**	**68**	*e*Pn	**Pn**	**21 05 40.8**	**+0.4**
BNGB	**Bing¶ll**	**2.15**	**42**	*e*PN	**Pn**	**21 05 43.2**	**+1.0**
MZRK	**Al-Mazaregh**	**2.16**	**137**	*e*P	Pn	21 05 38.5	-3.8
MZRK				*e*S	Sn	21 06 00.1	-9.1
MZRK				AML	AML	21 06 16.7	
	comp=E,18nm,0.3s						
BTCH	**Batrach**	**2.34**	**235**	*e*P	**Pn**	**21 05 46.3**	**+1.5**
BTCH				*e*S	**Sn**	**21 06 11.1**	**-2.7**

*NEIC **30** 21:13:47.9±1.1, 32°.92N×116°.25W, h3km±8km, ML2.6(PAS), Error ellipse: s-maj=10.8km s-min=8.6km az=184.0*
NEIC Felt at Campo, Descanso and Pine Valley.
*ISCJB **30** 21:13:48.7±0.3, 32°.91N±0°.02×116°.36W±0°.02, h10km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=36.7*
*ECX **30** 21:13:49.9±0.5, 32°.90N×116°.35W, h8km, MD2.4, ML2.6*
*MEX **30** 21:13:51.2±0.5, 32°.79N×116°.31W, h10km, MD3.5*

ISC 30 21:13:48.0±0.8, 32°.90N±0°.02×116°.28W±0°.02, h14km±5km, n46, σ0°83/72, 8C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.12**	**265**	⇑*i*P	**Pg**	**21 13 51.8**	**+0.4**
MONP2				*i* S	**Sg**	**21 13 53.5**	**-0.3**
MONP2	**Monument Peak**	**0.12**	**265**	P	**Pg**	**21 13 51.6**	**+0.1**
	baz=69,SNR=1000						
MONP2				S	**Sg**	**21 13 53.5**	**-0.5**
	baz=69						
CRR	**Carrizo Plain**	**0.27**	**93**	⇑*i*P	**Pb**	**21 13 55.6**	**+1.1**
IKP	**In-Ko-Pah, Jac**	**0.29**	**150**	P	**Pb**	**21 13 55.7**	**+0.7**
	baz=322,SNR=329						
IKP				S	**Sb**	**21 14 00.3**	**+0.5**
	baz=322						
IKP	**In-Ko-Pah, Jac**	**0.29**	**150**	⇓*i*P	**Pb**	**21 13 55.7**	**+0.7**
IKP				*e*S	**Sb**	**21 14 00.2**	**+0.5**
RMX	**La Rumorosa**	**0.34**	**150**	*e*P	**Pb**	**21 13 55.9**	**-0.1**
RMX				*e*S	**Sb**	**21 14 01.6**	**+0.3**
RMX				⇓*e*		21 14 01.9	
RMX				IAML		21 14 01.9	
	comp=E,561nm,0.1s						
BAR	**Barrett**	**0.40**	**236**	⇑*i*P	**Pb**	**21 13 56.3**	**-0.4**
BAR				*e*S	**Sg**	**21 14 01.4**	**0.0**
BAR	**Barrett**	**0.40**	**236**	*e*Pg	**Pb**	**21 13 56.4**	**-0.4**
BAR				*e*Sg	**Sg**	**21 14 00.4**	**-0.9**
YUH	**Yuha Desert**	**0.40**	**130**	⇓*i*P	**Pb**	**21 13 57.7**	**+1.0**
SWSC	**Sam W. Stewart**	**0.41**	**84**	P	**Pn**	**21 13 58.1**	**-1.4**
	baz=266,SNR=84						
SWSC	**Sam W. Stewart**	**0.41**	**84**	⇑*i*P	**Pn**	**21 13 58.1**	**-1.4**
EML	**El Monte Cty P**	**0.47**	**269**	⇑*i*P	**Pg**	**21 13 57.3**	**-0.1**
WESC	**Westside Schoo**	**0.49**	**107**	*e*P	**Pn**	**21 13 59.9**	**-0.6**
SGL	**Mount Signal**	**0.53**	**118**	⇑*i*P	**Pn**	**21 14 00.5**	**-0.6**
TJIG	**Tijuana**	**0.57**	**215**	*e*P	**Pb**	**21 13 59.7**	**-0.1**
TJIG				*e*S	**Sg**	**21 14 06.9**	**+0.1**
TJIG	**Tijuana**	**0.57**	**215**	⇑*e*P	**Pb**	**21 13 59.7**	**-0.1**
TJIG				*e*S	**Sg**	**21 14 07.1**	**+0.3**
SDRC	**San Diego Road**	**0.58**	**254**	⇑*i*P	**Pg**	**21 13 59.2**	**-0.1**
SDRC				*e*S	**Sg**	**21 14 06.2**	**-0.8**
CBX	**Cerro Bola**	**0.67**	**209**	*e*P	**Pb**	**21 14 01.2**	**-0.2**
CBX				*e*S	**Sg**	**21 14 08.5**	**-1.4**
CBX	**Cerro Bola**	**0.67**	**209**	⇓*e*P	**Pb**	**21 14 01.6**	**+0.2**
CBX				⇓*e*		21 14 13.6	
CBX				IAML		21 14 13.6	
	comp=N,396nm,0.5s						
109C	**Camp Elliot, M**	**0.69**	**269**	P	**Pg**	**21 14 01.0**	**-0.5**
	baz=88,SNR=41						
109C				S	**Sg**	**21 14 09.6**	**-1.0**
	baz=88						
XPFO	**Pizæon Flat**	**0.72**	**349**	*e*Pg	**Pb**	**21 14 02.3**	**-0.1**
XPFO				*e*Sg	**Sb**	**21 14 12.5**	**+0.3**
PFO	**Pinyon Flats O**	**0.72**	**348**	P	**Pb**	**21 14 02.3**	**-0.1**
	baz=173,SNR=33						
PFO				S	**Sb**	**21 14 11.8**	**-0.4**
	baz=173						
PFO	**Pinyon Flats O**	**0.72**	**348**	*e*Pg	**Pb**	**21 14 02.3**	**-0.1**
PFO				*e*Sg	**Sg**	**21 14 11.3**	**-0.4**
BC3	**Big Chuckawall**	**1.02**	**43**	P	**Pn**	**21 14 08.5**	**+0.5**
	baz=226,SNR=20						
MURC	**Murrieta**	**1.03**	**313**	P	**Pg**	**21 14 07.2**	**-0.7**
	baz=134,SNR=20						
MURC				S	**Sg**	**21 14 20.4**	**-1.0**
	baz=134						
BELC	**Belle Mtn. Jos**	**1.12**	**12**	P	**Pn**	**21 14 10.2**	**+0.9**
	baz=196,SNR=25						
BELC				S	**Sn**	**21 14 25.1**	**+0.4**
	baz=196						
GLA	**Glamis**	**1.23**	**83**	*e*Pg	**Pg**	**21 14 11.0**	**-0.8**
BBRC	**Big Bear Solar**	**1.46**	**339**	P	**Pb**	**21 14 15.1**	**+0.1**
	baz=161						
BBRC				S	**Sg**	**21 14 34.0**	**-1.0**
	baz=161						
IRM	**Iron Mountain**	**1.57**	**37**	P	**Pb**	**21 14 16.8**	**0.0**
	baz=219,SNR=7.5						
IRM				S	**Sg**	**21 14 38.6**	**-0.1**
	baz=219						
Y12C	**Blythe**	**1.70**	**60**	P	**Pb**	**21 14 19.2**	**+0.2**
	baz=242						
Y12C				S	**Sg**	**21 14 42.5**	**-0.2**
	baz=242						
Y12C	**Blythe**	**1.70**	**60**	*e*Pn	**Pb**	**21 14 17.9**	**-1.1**
Y12C				*e*Sn	**Sg**	**21 14 43.3**	**+0.6**
BFSC	**Mount Baldy Ra**	**1.76**	**320**	Pb	**Pb**	**21 14 20.0**	**-0.1**
	baz=140						
BFSC				S	**Sn**	**21 14 41.2**	**+0.8**
	baz=140						
CIS	**Catalina Islan**	**1.86**	**286**	P	**Pn**	**21 14 20.0**	**+0.6**
	baz=105						
CIS				S	**Sn**	**21 14 42.4**	**-0.2**
	baz=105						
SCI2	**San Clemente I**	**1.90**	**273**	P	**Pn**	**21 14 20.0**	**0.0**
	baz=92						
HEC	**Hector,Ludlow**	**1.92**	**359**	Pb	**Pg**	**21 14 24.5**	**-0.4**
	baz=180						
GMRC	**Granite Mounta**	**1.95**	**15**	Pb	**Pg**	**21 14 24.6**	**-0.8**
	baz=197						
SPIG	**San Pedro Mart**	**1.98**	**159**	*e*P	**Pg**	**21 14 24.8**	**-1.2**
SPIG				*e*S	**Sb**	**21 14 48.8**	**+0.3**
MWC	**Mount Wilson**	**1.98**	**312**	*e*Pn	**Pb**	**21 14 23.9**	**-0.1**
MWC				*e*Sn	**Sn**	**21 14 45.7**	**-0.2**
PASC	**Pasadena Art C**	**2.03**	**309**	*e*Pn	**Pn**	**21 14 21.7**	**-0.1**
PASC				*e*Sn	**Sn**	**21 14 48.2**	**+1.3**
EDW2	**Edwards Air Fo**	**2.43**	**325**	Pb	**Pb**	**21 14 32.2**	**+0.6**
	baz=145						
GSC	**Goldstone, Bar**	**2.43**	**350**	Pb	**Pg**	**21 14 33.3**	**-1.3**
	baz=171						
GSC	**Goldstone, Bar**	**2.43**	**350**	*e*Pn	**Pn**	**21 14 27.8**	**+0.5**
DAC	**Darwin (Calif)**	**3.54**	**343**	*e*Pg	**Pg**	**21 14 53.8**	**-2.0**
TPNV	**Topopah Spring**	**4.04**	**0**	*e*Pn	**Pn**	**21 14 51.9**	**+2.5**
PTRM	**Twissleman Ran**	**4.25**	**311**	*e*Sn	**Sn**	**21 15 45.0**	**+3.1**
MDPB	**Devils Postpil**	**5.24**	**335**	*e*Pn	**Pn**	**21 15 05.9**	**-0.2**

*ISK **30** 21:13:52.6, 38°.96N×43°.55E, h10km, MD2.7*
*ISCJB **30** 21:13:53.6±0.6, 38°.98N±0°.03×43°.56E±0°.04, h11km±6km, Error ellipse: s-maj=6.3km s-min=4.8km az=39.3*
*CSEM **30** 21:13:53.2±0.2, 38°.98N×43°.56E, h12km, ML2.9, Error ellipse: s-maj=4.9km s-min=4.2km az=133.0*
*DDA **30** 21:13:53.6, 38°.98N×43°.55E, h10km, Ml2.9*

ISC 30 21:13:53.3±0.9, 38°.97N±0°.03×43°.56E±0°.03, h10km±5km, n22, σ0°44/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.02**	**32**	*i* P	**Pg**	**21 13 54.9**	**-0.5**
VMUR				*i* S	**Sg**	**21 13 57.4**	**+0.6**
VMUR	**Van-Muradiye**	**0.02**	**32**	P	**Pg**	**21 13 54.9**	**-0.5**
VMUR				S	**Sg**	**21 13 57.4**	**+0.6**
CLDR	**Caldiran**	**0.33**	**58**	*e*PG	**Pg**	**21 13 59.5**	**-0.4**
CLDR				*e*SG	**Sg**	**21 14 05.0**	**+0.6**
CLDR	**Caldiran**	**0.33**	**58**	*i* P	**Pg**	**21 14 00.1**	**+0.1**
CLDR				*i* S	**Sb**	**21 14 06.4**	**-0.5**
CLDR	**Caldiran**	**0.33**	**58**	*e*Pg	**Pg**	**21 13 59.6**	**-0.4**
CLDR	**Caldiran**	**0.33**	**58**	P	**Pg**	**21 14 00.1**	**+0.1**
CLDR				*e*Sg	**Sg**	**21 14 05.0**	**+0.6**
CLDR				S	**Sb**	**21 14 06.4**	**-0.5**
VANB	**Van**	**0.40**	**199**	*e*PG	**Pb**	**21 14 02.3**	**-0.2**
VANB	**Van**	**0.40**	**199**	*e*Pg	**Pb**	**21 14 02.3**	**-0.2**
TVAN	**Van**	**0.46**	**195**	*i* P	**Pg**	**21 14 02.0**	**-0.2**
TVAN				*i* S	**Sb**	**21 14 10.8**	**+0.4**
TVAN	**Van**	**0.46**	**195**	P	**Pg**	**21 14 02.0**	**-0.2**
TVAN				S	**Sb**	**21 14 10.8**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.67**	**256**	*i* P	**Pg**	**21 14 06.2**	**-0.1**
ADCV				*i* S	**Sb**	**21 14 17.0**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.67**	**256**	P	**Pg**	**21 14 06.2**	**-0.1**
ADCV				S	**Sb**	**21 14 17.0**	**+0.4**
TUTA	**Tutak**	**0.72**	**307**	*i* P	**Pg**	**21 14 07.1**	**-0.1**
TUTA				*i* S	**Sb**	**21 14 18.1**	**0.0**
TUTA	**Tutak**	**0.72**	**307**	P	**Pg**	**21 14 07.1**	**-0.1**
TUTA				S	**Sb**	**21 14 18.1**	**0.0**
AGRB	**Hanur-Agry**	**0.75**	**324**	*e*PG	**Pg**	**21 14 07.6**	**-0.2**
AGRB				*e*SG	**Sb**	**21 14 18.4**	**-0.4**
AGRB	**Hanur-Agry**	**0.75**	**324**	*e*Pg	**Pg**	**21 14 07.6**	**-0.2**
GURO	**Guroymak-BITLI**	**1.26**	**251**	*e*PN	**Pn**	**21 14 16.1**	**-0.9**
GURO	**Guroymak-BITLI**	**1.26**	**251**	*e*Pn	**Pn**	**21 14 16.2**	**-0.9**
CUKT	**Cukurca**	**1.72**	**179**	*e*PN	**Pn**	**21 14 23.5**	**+0.1**
CUKT	**Cukurca**	**1.72**	**179**	*e*Pn	**Pn**	**21 14 23.5**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.84**	**330**	*e*PN	**Pn**	**21 14 25.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.84**	**330**	*e*Pn	**Pn**	**21 14 25.6**	**+0.4**

*ISK **30** 21:18:30.1, 37°.27N×26°.64E, h12km, ML3.2*
*ATH **30** 21:18:32.6, 37°.50N×27°.22E, h24km±4km, ML2.9/4, Error ellipse: s-maj=4.2km s-min=1.7km az=205.0*
*THE **30** 21:18:33.1, 37°.54N×27°.34E, h4km±2km, ML2.9/6, Error ellipse: s-maj=2.1km s-min=0.6km az=148.0*
*CSEM **30** 21:18:33.4±0.2, 37°.47N×27°.08E, h5km, ML3.8, Error ellipse: s-maj=7.2km s-min=3.8km az=65.0*
*DDA **30** 21:18:33.1, 37°.50N×27°.20E, h22km, Ml3.8*

ISC 30 21:18:33.7±0.9, 37°.50N±0°.02×27°.18E±0°.02, h17km±8km, n95, σ1°26/135, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.45**	**167**	*e*PG	**Pg**	**21 18 41.9**	**-0.8**
BODT				*e*SG	**Sb**	**21 18 50.4**	**+0.9**
BODT	**Bodrum**	**0.45**	**167**	P	**Pg**	**21 18 42.2**	**-0.5**
BODT				S	**Sb**	**21 18 50.0**	**+0.5**
BODT	**Bodrum**	**0.45**	**167**	*e*Pg	**Pg**	**21 18 41.9**	**-0.8**
BODT	**Bodrum**	**0.45**	**167**	P	**Pg**	**21 18 42.2**	**-0.5**
BODT				S	**Sb**	**21 18 50.0**	**+0.5**
BDRM	**Kayabasi**	**0.48**	**154**	*i* P	**Pb**	**21 18 42.9**	**-0.8**
BDRM				*i* S	**Sb**	**21 18 49.9**	**-0.6**
BDRM	**Kayabasi**	**0.48**	**154**	P	**Pb**	**21 18 42.9**	**-0.8**
BDRM				S	**Sb**	**21 18 49.9**	**-0.6**
AYDN	**Tasoluk**	**0.58**	**74**	*i* P	**Pb**	**21 18 45.0**	**-0.4**
AYDN				*i* S	**Sb**	**21 18 53.0**	**-0.4**
AYDN	**Tasoluk**	**0.58**	**74**	P	**Pb**	**21 18 45.0**	**-0.4**
AYDN				S	**Sb**	**21 18 53.0**	**-0.4**
DGB	**¯zmir**	**0.60**	**337**	*i* P	**Pb**	**21 18 45.5**	**-0.3**
DGB				*i* S	**Sb**	**21 18 54.5**	**+0.6**
DAT	**Datca**	**0.83**	**157**	*e*PG	**Pg**	**21 18 48.7**	**-1.1**
DAT				*e*SG	**Sb**	**21 19 00.9**	**+0.2**
DAT	**Datca**	**0.83**	**157**	*i* P	**Pg**	**21 18 49.1**	**-0.8**
DAT				*i* S	**Sn**	**21 19 03.8**	**+1.2**
DAT	**Datca**	**0.83**	**157**	*e*Pg	**Pg**	**21 18 48.7**	**-1.1**
DAT	**Datca**	**0.83**	**157**	P	**Pg**	**21 18 49.1**	**-0.8**
DAT				*e*Sg	**Sb**	**21 19 00.9**	**+0.2**
NIS1	**Nisyros Isl.**	**0.89**	**180**	P	**Pg**	**21 18 50.1**	**-0.9**
NIS1				S	**Sn**	**21 19 04.9**	**+0.8**
NIS1	**Nisyros Isl.**	**0.89**	**180**	P	**Pg**	**21 18 49.6**	**-1.5**
NIS1				AML	AML	21 19 09.7	
	comp=N,2217μm,0.5s						
NIS1				AML	AML	21 19 13.8	
	comp=E,3456μm,0.6s						
NIS1	**Nisyros Isl.**	**0.89**	**180**	P	**Pg**	**21 18 50.1**	**-0.9**
NIS1				S	**Sn**	**21 19 04.9**	**+0.8**
ZEY	**¯zmir**	**0.91**	**324**	*i* P	**Pg**	**21 18 50.9**	**-0.5**
ZEY				*i* S	**Sb**	**21 19 03.5**	**+0.6**
URLA	**Izmir**	**0.98**	**332**	*i* P	**Pb**	**21 18 52.4**	**+0.2**
URLA				*i* S	**Sn**	**21 19 06.7**	**+0.6**
URLA	**Izmir**	**0.98**	**332**	P	**Pb**	**21 18 52.4**	**+0.2**
CHOS	**Chios island**	**1.26**	**315**	P	**Pn**	**21 18 56.8**	**+0.2**
CHOS				S	**Sg**	**21 19 15.1**	**+0.8**
CHOS	**Chios island**	**1.26**	**315**	P	**Pg**	**21 18 57.4**	**-0.5**
CHOS				S	**Sg**	**21 19 14.7**	**+0.4**
CHOS				AML	AML	21 19 16.8	
	comp=N,967μm,0.4s						
CHOS				AML	AML	21 19 18.7	
	comp=E,1682μm,0.2s						
CHOS	**Chios island**	**1.26**	**315**	P	**Pn**	**21 18 56.8**	**+0.2**
CHOS				S	**Sg**	**21 19 14.7**	**+0.4**
TURN	**Turunc**	**1.30**	**118**	*i* P	**Pn**	**21 18 54.5**	**-2.5**
TURN				*i* S	**Sb**	**21 19 11.8**	**-2.1**
DALY	**Dalyan (Mu¨la**	**1.36**	**120**	*e*PN	**Pg**	**21 19 00.2**	**+0.3**
DALY				*e*SN	**Sg**	**21 19 21.8**	**+4.2**
DALY	**Dalyan (Mu¨la**	**1.36**	**120**	*i* P	**Pg**	**21 18 58.6**	**-1.2**
DALY				*i* S	**Sg**	**21 19 20.1**	**+2.5**
DALY	**Dalyan (Mu¨la**	**1.36**	**120**	P	**Pg**	**21 18 58.6**	**-1.2**
DALY	**Dalyan (Mu¨la**	**1.36**	**120**	*e*Pn	**Pg**	**21 19 00.2**	**+0.3**
DALY				*e*Sn	**Sg**	**21 19 21.8**	**+4.2**
APE	**Apeiranthos**	**1.38**	**252**	P	**Pg**	**21 19 00.1**	**-0.2**
APE				S	**Sg**	**21 19 20.1**	**+1.7**
APE	**Apeiranthos**	**1.38**	**252**	P	**Pg**	**21 18 59.9**	**-0.4**
APE				S	**Sg**	**21 19 17.9**	**-0.5**
APE				AML	AML	21 19 22.8	
	comp=E,359μm,0.3s						
APE				AML	AML	21 19 23.2	
	comp=N,398μm,0.4s						
APE	**Apeiranthos**	**1.38**	**252**	P	**Pg**	**21 18 59.9**	**-0.4**
APE				S	**Sg**	**21 19 17.9**	**-0.5**
AKHS	**Akhisar**	**1.47**	**20**	*i* P	**Pn**	**21 18 59.0**	**-0.4**
AKHS				*i* S	**Sn**	**21 19 17.3**	**-0.9**
AKHS	**Akhisar**	**1.47**	**20**	P	**Pn**	**21 18 59.0**	**-0.4**
AKHS				S	**Sn**	**21 19 17.3**	**-0.9**
ARG	**Arkhangelos**	**1.49**	**149**	P	**Pn**	**21 18 59.6**	**-0.1**
ARG				S	**Sn**	**21 19 18.5**	**-0.2**
ARG	**Arkhangelos**	**1.49**	**149**	P	**Pn**	**21 18 59.8**	**+0.1**
ARG				AML	AML	21 19 27.7	
	comp=N,630μm,0.8s						
ARG				AML	AML	21 19 31.3	
	comp=E,491μm,0.9s						
ARG	**Arkhangelos**	**1.49**	**149**	P	**Pn**	**21 18 59.8**	**+0.1**
ARG				S	**Sn**	**21 19 18.5**	**-0.2**
DNZL	**Cakiroluk**	**1.50**	**82**	*i* P	**Pb**	**21 19 01.0**	**-0.1**
DNZL				*i* S	**Sg**	**21 19 21.6**	**-0.4**
DNZL	**Cakiroluk**	**1.50**	**82**	P	**Pb**	**21 19 01.0**	**-0.1**
DNZL				S	**Sg**	**21 19 21.5**	**-0.4**
KULA	**Kula-Manisa**	**1.55**	**49**	*e*PN	**Pg**	**21 19 04.2**	**+0.7**
KULA	**Kula-Manisa**	**1.55**	**49**	*e*Pn	**Pg**	**21 19 04.2**	**+0.7**
DKL	**Dikili**	**1.58**	**352**	*e*PN	**Pb**	**21 19 02.0**	**-0.5**
DKL				*e*SN	**Sg**	**21 19 25.2**	**+0.4**
DKL	**Dikili**	**1.58**	**352**	*e*Pn	**Pb**	**21 19 02.0**	**-0.5**
DKL				*e*Sn	**Sg**	**21 19 25.2**	**+0.4**
FETY	**Fethiye**	**1.75**	**119**	*e*PN	**Pb**	**21 19 05.5**	**+0.1**
FETY	**Fethiye**	**1.75**	**119**	*e*Pn	**Pb**	**21 19 05.5**	**+0.1**
AYVA	**Ayvalik**	**1.85**	**348**	*i* P	**Pn**	**21 19 05.3**	**+0.7**
AYVA				*i* S	**Sg**	**21 19 34.6**	**+1.4**
AYVA	**Ayvalik**	**1.85**	**348**	P	**Pn**	**21 19 05.3**	**+0.7**
GLHS	**Glhisar (BURDU**	**1.88**	**100**	*e*PN	**Pg**	**21 19 08.4**	**-1.4**
GLHS	**Glhisar (BURDU**	**1.88**	**100**	*e*Pn	**Pg**	**21 19 08.4**	**-1.4**
PRK	**Paraskevi**	**1.89**	**338**	P	**Pn**	**21 19 05.1**	**0.0**
PRK				S	**Sn**	**21 19 29.4**	**+0.9**
PRK	**Paraskevi**	**1.89**	**338**	P	**Pn**	**21 19 05.1**	**0.0**
PRK				S	**Sn**	**21 19 29.4**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.92**	**13**	*i* P	**Pn**	**21 19 06.3**	**+0.6**
STEP				*i* S	**Sg**	**21 19 38.4**	**+2.8**
STEP	**BALIKESIR_Sava**	**1.92**	**13**	P	**Pn**	**21 19 06.3**	**+0.6**
KARP	**Karpathos**	**1.95**	**180**	P	**Pn**	**21 19 05.8**	**-0.2**
KARP	**Karpathos**	**1.95**	**180**	P	**Pn**	**21 19 05.8**	**-0.2**
DEMI	**Demirci**	**1.96**	**38**	*i* P	**Pg**	**21 19 10.7**	**-0.7**
DEMI				*i* S	**Sg**	**21 19 36.7**	**-0.1**
SIGR	**SIGRI**	**2.00**	**329**	P	**Pn**	**21 19 06.4**	**-0.3**
SIGR				S	**Sn**	**21 19 32.9**	**+1.5**
SIGR	**SIGRI**	**2.00**	**329**	P	**Pn**	**21 19 06.4**	**-0.3**
SIGR				S	**Sn**	**21 19 32.9**	**+1.5**
SIMA	**Simav-Kutahya**	**2.12**	**41**	*e*PN	**Pg**	**21 19 12.9**	**-1.6**
SIMA	**Simav-Kutahya**	**2.12**	**41**	*e*Pn	**Pg**	**21 19 12.9**	**-1.6**
BALB	**Balikesir**	**2.21**	**14**	*e*PN	**Pb**	**21 19 12.9**	**-0.2**
BALB	**Balikesir**	**2.21**	**14**	*e*Pn	**Pb**	**21 19 12.9**	**-0.2**
ELL	**Elmali**	**2.31**	**108**	*e*PN	**Pb**	**21 19 14.2**	**-0.7**
ELL	**Elmali**	**2.31**	**108**	*e*Pn	**Pb**	**21 19 14.2**	**-0.7**
KSL	**Kastellorizon**	**2.35**	**124**	P	**Pn**	**21 19 12.6**	**+1.1**
EZN	**Ezine**	**2.42**	**344**	*e*PN	**Pn**	**21 19 12.6**	**+0.2**
EZN	**Ezine**	**2.42**	**344**	*e*Pn	**Pn**	**21 19 12.6**	**+0.2**
BOZC	**Bozcaada**	**2.50**	**340**	*e*PN	**Pn**	**21 19 13.0**	**-0.6**
BOZC	**Bozcaada**	**2.50**	**340**	*e*Pn	**Pn**	**21 19 13.0**	**-0.6**
TVSB	**Tavsanli**	**2.65**	**42**	*e*PN	**Pb**	**21 19 21.1**	**+0.4**
TVSB	**Tavsanli**	**2.65**	**42**	*e*Pn	**Pb**	**21 19 21.1**	**+0.4**
SHUT	**Suhut-Afyon**	**2.86**	**67**	*e*PN	**Pb**	**21 19 24.0**	**-0.4**
SHUT	**Suhut-Afyon**	**2.86**	**67**	*e*Pn	**Pb**	**21 19 24.0**	**-0.4**
GADA	**Gvkgeada**	**2.87**	**340**	*e*PN	**Pn**	**21 19 18.2**	**-0.5**
GADA	**Gvkgeada**	**2.87**	**340**	*e*Pn	**Pn**	**21 19 18.2**	**-0.5**
LPK	**Lapseki**	**2.89**	**354**	*e*PN	**Pn**	**21 19 20.8**	**+1.9**
LPK	**Lapseki**	**2.89**	**354

SRTM S **Sg** **21 24 40.9 +0.3**
VRTB Varto-Mus 1.65 276 *e*PN **Pb** **21 24 18.7 -0.2**
VRTB Varto-Mus 1.65 276 *e*Pn **Pb** **21 24 18.7 -0.2**
CUKT Cukurca 1.75 179 *e*PN **Pb** **21 24 20.0 -0.5**
CUKT Cukurca 1.75 179 *e*Pn **Pb** **21 24 20.0 -0.5**
SENK Senkaya-Erzuru 1.82 329 *e*PN **Pb** **21 24 21.3 -0.5**
SENK Senkaya-Erzuru 1.82 329 *e*Pn **Pb** **21 24 21.3 -0.5**
SVAN Silvan-Diyarba 2.04 246 *e*PN **Pb** **21 24 24.0 -1.5**
SVAN Silvan-Diyarba 2.04 246 *e*Pn **Pb** **21 24 24.0 -1.5**
BTMN Batman 2.12 239 *i* P **Pb** **21 24 26.3 -0.5**
BTMN *i* S **Sg** **21 24 55.5 -0.5**
BTMN Batman 2.12 239 P **Pb** **21 24 26.3 -0.5**
BNGB Bing'ℓl 2.25 271 *e*PN **Pb** **21 24 27.4 -1.6**
YEDI Yedisu-Bingol 2.39 282 *e*PN **Pb** **21 24 29.6 -1.9**
YEDI Yedisu-Bingol 2.39 282 *e*Pn **Pb** **21 24 29.6 -1.9**
BINT Bingol 2.40 268 *e*Pn **Pn** **21 24 27.4 -0.5**
MAZI Mazidag 2.90 239 *e*PN **Pn** **21 24 36.7 +2.0**
MAZI Mazidag 2.90 239 *e*Pn **Pn** **21 24 36.7 +2.0**

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*IDC **30** 21:35:06.9±5.2, 36.°18N×70.°83E, h148km±51km, mb3.5/5, mb1 3.3/10, mb1mx3.0/48, mbtmp3.8/10, Error ellipse: s-maj=53.0km s-min=35.1km az=121.0*
*ISCJB **30** 21:35:11.2±0.5, 36.°53N±0.°04×70.°90E±0.°07, h188km, mb3.8/4, Error ellipse: s-maj=9.1km s-min=4.7km az=153.4*
*NNC **30** 21:35:16.9±3.7, 36.°92N×70.°71E, h191km±35km, mb3.0, mpv4.0, Error ellipse: s-maj=42.9km s-min=20.0km az=146.0*
ISC 30 21:35:12.4±0.8, 36.°55N±0.°07×70.°87E±0.°08, h188km, n28, σ1ᵮ53/34, **mb3.8/4, 9C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.77**	**325**	⇑P	**Pn**	**21 35 58.9**	**+0.1**
	45nm,0.3s						
DZET				⇑S	**Sn**	**21 36 32.9**	**-2.2**
	88nm,0.6s						
MNAS	**Manas**	**6.06**	**12**	⇑P	**Pn**	**21 36 41.2**	**+0.9**
	8.6nm,0.5s						
MNAS				⇓S	**Sn**	**21 37 47.5**	**-2.4**
	45nm,0.7s						
KK31	**Karatay Array**	**6.55**	**358**	⇑P	**Pn**	**21 36 46.9**	**+0.4**
	7.4nm,0.5s,baz=182,slow=11,SNR=59						
KK31				⇓S	**Sn**	**21 37 57.1**	**-4.0**
	11nm,0.5s,baz=186,slow=23,SNR=14						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**21 36 49.4**	**+0.8**
	3.8nm,0.3s,baz=161,slow=6.2,SNR=42						
AAK				S	**Sn**	**21 38 03.5**	**-1.1**
	1.6nm,0.3s,baz=152,slow=23,SNR=16						
AAK	**Ala-Archa**	**6.69**	**24**	⇑P	**Pn**	**21 36 49.0**	**+0.4**
	2.4nm,0.3s						
AAK				⇑S	**Sn**	**21 38 04.0**	**-0.7**
	9.2nm,0.5s						
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P	**Pn**	**21 36 57.0**	**0.0**
	12nm,0.6s						
TKM2				⇑S	**Sn**	**21 38 17.0**	**-2.9**
	3.0nm,0.6s						
PYUN	**Piuthan**	**13.26**	**126**	*e*P	**Pn**	**21 38 12.0**	**-1.7**
	7.0nm,0.3s						
PYUN				*e*S	Sn	21 40 28.7	-13
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**21 38 14.8**	**+0.7**
	0.0nm,0.3s,baz=229,slow=15,SNR=3.1						
KOLN	**Koldanda**	**13.88**	**125**	*e*P	**Pn**	**21 38 19.6**	**-1.9**
	11nm,0.4s						
GKN	**Gorkha**	**14.42**	**122**	*e*P	**Pn**	**21 38 26.3**	**-1.8**
	28nm,0.4s						
AB31	**Akbulak array**	**14.99**	**331**	P	**Pn**	**21 38 36.0**	**+1.2**
	0.6nm,0.5s,baz=146,slow=13,SNR=23						
DMN	**Daman**	**14.99**	**122**	*e*P	**Pn**	**21 38 34.6**	**-0.7**
	15nm,0.4s						
KKN	**Kakani**	**14.99**	**122**	*e*P	**Pn**	**21 38 34.1**	**-1.2**
KURBB	**Kurchatov Arra**	**15.11**	**19**	P	**Pn**	**21 38 38.1**	**+1.9**
	0.0nm,0.3s,baz=209,slow=9.9,SNR=4.4						
PKIN	**Phulchoki**	**15.21**	**122**	*e*P	**Pn**	**21 38 37.0**	**-0.9**
PKI	**Pulchoki**	**15.22**	**122**	*e*P	**Pn**	**21 38 36.9**	**-1.3**
	48nm,0.6s						
JIRN	**Jiri**	**15.71**	**120**	*e*P	**Pn**	**21 38 43.5**	**-0.6**
	100nm,0.4s						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**21 38 54.1**	**+1.3**
	0.2nm,0.3s,baz=157,slow=9.6,SNR=5.8						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**21 38 55.9**	**+0.6**
	0.4nm,0.3s,baz=137,slow=9.8,SNR=21						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P	**P**	**21 38 55.6**	**+1.2**
	6.0nm,0.8s						
TAPN	**Taplejung**	**16.96**	**118**	*e*P	**P**	**21 38 59.3**	**+1.3**
	6.4nm,0.4s						
ODAN	**Odare**	**17.04**	**120**	*e*P	**P**	**21 39 00.2**	**+1.5**
	11nm,0.6s						
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**21 39 30.3**	**+0.9**
	1.6nm,0.5s,baz=220,slow=11,SNR=11						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**21 42 07.3**	**+0.7**
	3.0nm,0.9s,baz=106,slow=15,SNR=3.3						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**21 42 38.1**	**+1.1**
	1.6nm,0.8s,baz=99,slow=7.5,SNR=5.7						
NB2	**NORSAR Subarra**	**44.28**	**323**	P	**P**	**21 43 03.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**21 43 03.9**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=104,slow=7.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**21 45 34.6**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=52,slow=6.0,SNR=23						

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*IDC **30** 21:35:10.5±0.8, 18.°53N×120.°34E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/49, mbtmp3.7/12, ML3.6/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/44, Error ellipse: s-maj=26.4km s-min=15.2km az=81.0*
*MAN **30** 21:35:11, 18.°92N×120.°15E, h5km, mb5.2, ML4.2, MS4.4*
*ISCJB **30** 21:35:12.8±0.5, 18.°89N±0.°05×120.°20E±0.°09, h10km, mb3.6/10, MS3.5/6, Error ellipse: s-maj=12.5km s-min=6.1km az=163.0*
ISC 30 21:35:13.5±0.6, 18.°76N±0.°05×120.°36E±0.°08, h10km, n23, σ2ᵮ08/22, **mb3.7**/10, **MS3.6**/6, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.15**	**163**	*e*P	**Pg**	**21 35 35.0**	**-0.6**
ABRA				*e*S	Sn	21 36 02.5	+11
SGCP	**Mt. Cagua**	**1.68**	**107**	*e*P	**Pb**	**21 35 44.8**	**+0.3**
CVP	**Callao Caves**	**1.74**	**127**	*e*P	**Pb**	**21 35 45.4**	**-0.1**
CAUP	**Cauayan**	**2.28**	**142**	*e*P	**Pb**	**21 35 54.4**	**-0.3**
CAUP				*e*S	Sg	21 36 55.8	+29
BOLP	**Bolinao**	**2.40**	**190**	*e*P	**Pb**	**21 35 56.5**	**-0.3**
BOLP				*e*S	Sg	21 36 42.3	+12
SCZP	**Santa Cruz**	**2.99**	**188**	*e*P	**Pn**	**21 36 02.0**	**+1.0**
SCZP				*e*S	**Sg**	**21 36 54.5**	**+4.8**
BALP	**Baler**	**3.21**	**159**	*e*P	**Pn**	**21 36 07.3**	**+3.2**
BALP				*e*S	**Sb**	**21 36 48.5**	**-1.4**
KSRS	**Korea Array**	**19.77**	**18**	P	**P**	**21 39 44.9**	**+1.2**
	0.2nm,0.3s,baz=196,slow=11,SNR=7.8						
CMAR	**Chiang Mai Arr**	**20.30**	**273**	P	**P**	**21 39 48.4**	**-1.4**
	1.7nm,0.8s,baz=90,slow=8.4,SNR=14						
CMAR				LR	LR	21 47 33.8	
	comp=Z,36nm,18.2s,baz=128,slow=37						
MJAR	**Matsushiro Arr**	**23.68**	**38**	P	**P**	**21 40 25.4**	**0.0**
	0.9nm,0.7s,baz=203,slow=8.8,SNR=4.1						
GUMO	**Guam**	**24.08**	**99**	LR	LR	21 50 18.7	
	comp=Z,74nm,18.7s,baz=246,slow=38						
USRK	**Ussuriysk Ar.**	**27.18**	**19**	P	**P**	**21 40 57.8**	**+0.6**
	1.3nm,0.7s,baz=197,slow=7.0,SNR=9.1						
SONM	**Songino Array**	**31.16**	**342**	P	**P**	**21 41 33.1**	**+0.4**
	0.4nm,0.8s,baz=161,slow=9.2,SNR=3.0						
SONM				LR	LR	21 53 37.2	
	comp=Z,104nm,18.6s,baz=24,slow=35						
KLR	**Kul'dur**	**31.76**	**14**	P	**P**	**21 41 38.7**	**+1.0**
	0.4nm,0.7s,baz=223,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**40.83**	**160**	P	**P**	**21 42 51.6**	**-3.9**
	1.5nm,0.9s,baz=341,slow=9.3,SNR=7.7						
ASAR	**Alice Springs**	**44.19**	**162**	P	**P**	**21 43 20.4**	**-2.4**
	3.5nm,0.8s,baz=335,slow=7.2,SNR=32						
ZALV	**Zalesovo Beam**	**44.48**	**331**	P	**P**	**21 43 24.8**	**0.0**
	0.5nm,0.6s,baz=132,slow=8.7,SNR=2.4						
ZALV				LR	LR	22 05 08.9	
	comp=Z,76nm,18.0s,baz=66,slow=40						
KURBB	**Kurchatov Arra**	**45.88**	**324**	P	**P**	**21 43 35.8**	**-0.3**
	1.0nm,0.6s,baz=122,slow=8.3,SNR=7.5						
STKA	**Stephens Creek**	**54.31**	**158**	P	**P**	**21 44 37.3**	**-2.8**
	1.7nm,0.7s,baz=342,slow=6.5,SNR=3.7						
NRIK	**Noril'sk**	**54.45**	**346**	LR	LR	22 11 51.3	
	comp=Z,99nm,18.5s,baz=290,slow=40						
GEYT	**Alibeck**	**57.00**	**303**	LR	LR	22 12 56.8	
	comp=Z,105nm,18.4s,baz=330,slow=40						
ILAR	**Eielson Array**	**74.38**	**26**	P	**P**	**21 46 51.6**	**+0.3**
	0.2nm,0.8s,baz=263,slow=4.5,SNR=3.6						

SDV Santo Domingo 150.47 22 PKPbc **PKPdf** **21 55 04.6 +3.2**
2.3nm,0.5s,baz=40,slow=5.0,SNR=4.5

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*IDC **30** 21:39:05.0±3.2, 32.°29N×48.°37E, h0km, mb3.8/4, mb1 3.7/7, mb1mx3.4/45, mbtmp3.7/7, ML3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/48, Error ellipse: s-maj=55.1km s-min=34.0km az=39.0*
*CSEM **30** 21:39:10.6±0.2, 32.°42N×48.°69E, h5km, ML3.3, Error ellipse: s-maj=4.9km s-min=3.7km az=55.0*
*TEH **30** 21:39:12.1, 32.°41N×48.°66E, h16km, ML3.4*
ISC 30 21:39:09.4±0.8, 32.°42N±0.°04×48.°43E±0.°06, h17km, n53, σ1ᵮ28/56, **mb3.8/4, 5C-1D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.44**	**135**	*e*Pg	**Pg**	**21 39 17.5**	**-0.9**
AHWZ	**Ahwaz**	**1.10**	**171**	*e*Pg	**Pg**	**21 39 32.0**	**+1.2**
AHWZ	**Ahwaz**	**1.10**	**171**	*e*Pg	**Pg**	**21 39 32.0**	**+1.2**
KHMZ	**Khomeyn**	**1.84**	**44**	*e*Pn	**Pn**	**21 39 41.7**	**+1.3**
KHMZ				*e*Sg	**Sn**	**21 40 05.4**	**+2.0**
IKOM	**Komasi**	**1.91**	**336**	*e*Pn	**Pg**	**21 39 45.2**	**-1.0**
IKOM				*e*AMB	AMB	21 40 16.8	
	comp=Z,3μm,0.3s						
IKOM	**Komasi**	**1.91**	**336**	*e*Pn	**Pg**	**21 39 45.2**	**-1.0**
IPIR	**Pirpir**	**2.09**	**82**	*e*Pn	**Pn**	**21 39 44.4**	**+0.4**
IPIR				*e*Sg	**Sn**	**21 40 11.2**	**+1.4**
IPIR				*e*AMB	AMB	21 40 15.3	
	comp=Z,5μm,0.2s						
IPIR	**Pirpir**	**2.09**	**82**	*e*Pn	**Pn**	**21 39 44.4**	**+0.4**
IPIR				*e*Sg	**Sn**	**21 40 11.2**	**+1.4**
IGHG	**Ghaleghazi**	**2.46**	**321**	*e*Pn	**Pb**	**21 39 53.8**	**+0.4**
IGHG				*e*AMB	AMB	21 40 45.8	
	comp=Z,2μm,0.3s						
IGHG	**Ghaleghazi**	**2.46**	**321**	*e*Pn	**Pb**	**21 39 53.8**	**+0.4**
IVIS	**Veis**	**2.48**	**328**	*e*Pn	**Pb**	**21 39 52.9**	**-0.8**
IVIS				*e*AMB	AMB	21 40 24.8	
	comp=Z,726nm,0.3s						
IVIS	**Veis**	**2.48**	**328**	*e*Pn	**Pb**	**21 39 52.9**	**-0.8**
ASAO	**Ashtian**	**2.50**	**32**	*e*Pn	**Pn**	**21 39 51.6**	**+1.9**
ASAO				*e*Sg	**Sb**	**21 40 26.6**	**+1.8**
ILIN	**Lien**	**2.78**	**334**	*e*Pn	**Pb**	**21 39 57.0**	**-1.8**
ILIN				*e*AMB	AMB	21 40 41.8	
	comp=Z,1μm,0.2s						
ILIN	**Lien**	**2.78**	**334**	*e*Pn	**Pb**	**21 39 57.0**	**-1.8**
IKLH	**Kolahrood**	**2.79**	**70**	*e*Pn	**Pn**	**21 39 54.8**	**+1.2**
IKLH				*e*AMB	AMB	21 40 41.1	
	comp=Z,2μm,0.3s						
IKLH	**Kolahrood**	**2.79**	**70**	*e*Pn	**Pn**	**21 39 54.8**	**+1.2**
SNGE	**Sanandaj**	**2.81**	**342**	*e*Pn	**Pb**	**21 39 58.0**	**-1.4**
QAM	**Ghamsar**	**2.86**	**61**	*e*Pn	**Pn**	**21 39 55.2**	**+0.8**
QAM				*e*AMB	AMB	21 40 09.0	
	comp=Z,3μm,0.2s						
IGAR	**Gharneh**	**3.05**	**89**	*e*Pn	**Pn**	**21 39 57.3**	**+0.1**
IGAR				*e*AMB	AMB	21 40 34.4	
	comp=Z,2μm,0.2s						
IZEF	**Zefreh**	**3.32**	**81**	*e*Pn	**Pn**	**21 40 01.1**	**+0.2**
IZEF				*e*AMB	AMB	21 40 51.1	
	comp=Z,719nm,0.2s						
IZEF	**Zefreh**	**3.32**	**81**	*e*Pn	**Pn**	**21 40 01.1**	**+0.2**
IRAM	**Ramesheh**	**3.41**	**99**	*e*Pn	**Pn**	**21 40 01.3**	**-0.7**
IRAM				*e*AMB	AMB	21 40 54.2	
	comp=Z,508nm,0.3s						
IRAM	**Ramesheh**	**3.41**	**99**	*e*Pn	**Pn**	**21 40 01.3**	**-0.7**
NASN	**Na'in**	**3.71**	**83**	*e*Pn	**Pn**	**21 40 06.8**	**+0.5**
IVRN	**Varamin**	**3.76**	**46**	*e*Pn	**Pn**	**21 40 07.7**	**+1.0**
IVRN				*e*AMB	AMB	21 41 17.3	
	comp=Z,919nm,0.2s						
IVRN	**Varamin**	**3.76**	**46**	*e*Pn	**Pn**	**21 40 07.7**	**+1.0**
IDMV	**Damavand**	**4.34**	**43**	*e*Pn	**Pn**	**21 40 15.8**	**+0.9**
IDMV				*e*AMB	AMB	21 41 35.2	
	comp=Z,396nm,0.4s						
IDMV	**Damavand**	**4.34**	**43**	*e*Pn	**Pn**	**21 40 15.8**	**+0.9**
ISAD	**Sadrabad**	**4.48**	**95**	*e*Pn	**Pn**	**21 40 16.3**	**-0.6**
ISAD				*e*AMB	AMB	21 41 42.0	
	comp=Z,246nm,0.3s						
ISAD	**Sadrabad**	**4.48**	**95**	*e*Pn	**Pn**	**21 40 16.3**	**-0.6**
ISRV	**Sarvestan**	**5.03**	**126**	*e*Pn	**Pn**	**21 40 23.7**	**-0.8**
ISRV				*e*AMB	AMB	21 41 22.6	
	comp=Z,420nm,0.1s						
ISRV	**Sarvestan**	**5.03**	**126**	*e*Pn	**Pn**	**21 40 23.7**	**-0.8**
ICHK	**Chekchek**	**5.06**	**90**	*e*Pn	**Pn**	**21 40 24.3**	**-0.5**
ICHK				*e*AMB	AMB	21 41 24.5	
	comp=Z,267nm,0.2s						
ICHK	**Chekchek**	**5.06**	**90**	*e*Pn	**Pn**	**21 40 24.3**	**-0.5**
IMEH	**Mehriz**	**5.36**	**99**	*e*Pn	**Pn**	**21 40 28.2**	**-0.6**
IMEH				*e*AMB	AMB	21 41 30.0	
	comp=Z,132nm,0.2s						
IMEH	**Mehriz**	**5.36**	**99**	*e*Pn	**Pn**	**21 40 28.2**	**-0.6**
IBAF	**Bafgh**	**6.12**	**96**	*e*Pn	**Pn**	**21 40 38.5**	**-0.7**
IBAF				*e*AMB	AMB	21 41 55.2	
	comp=Z,74nm,0.2s						
IBAF	**Bafgh**	**6.12**	**96**	*e*Pn	**Pn**	**21 40 38.5**	**-0.7**
GEYT	**Alibeck**	**9.64**	**53**	Pn	**Pn**	**21 41 27.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=202,slow=14,SNR=1.9						
WSAR	**Wadi Sarin**	**12.84**	**133**	Pn	**Pn**	**21 42 08.0**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=354,slow=4.8,SNR=7.7						
WSAR				Sn	Sn	21 44 20.6	-13
	comp=Z,0.3nm,0.3s,baz=118,slow=11,SNR=2.2						
AKTO	**Aktyubinsk**	**19.35**	**19**	P	**P**	**21 43 33.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=213,slow=8.4,SNR=5.0						
VRI	**Vrincioaia**	**21.45**	**315**	⇑*i*P	**P**	**21 43 54.8**	**-2.0**
PLOR	**Plostina**	**21.48**	**315**	⇑*i*P	**P**	**21 43 59.1**	**+1.9**
MLR	**Muntele Rosu**	**21.73**	**313**	⇑*i*P	**P**	**21 43 58.4**	**-1.6**
TESR	**Tescani**	**21.83**	**316**	⇑*i*P	**P**	**21 44 02.8**	**+1.9**
VOIR		**22.26**	**312**	⇑*i*P	**P**	**21 44 08.4**	**+2.8**
AKASG	**Malin Array Be**	**23.12**	**328**	P	**P**	**21 44 13.5**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=121,slow=11,SNR=2.0						
DRGR		**24.33**	**314**	⇓*i*P	**P**	**21 44 28.8**	**+2.5**
BVAR	**Borovoye Array**	**25.97**	**31**	P	**P**	**21 44 40.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=213,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**29.51**	**51**	P	**P**	**21 45 12.7**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=247,slow=9.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**33.61**	**39**	P	**P**	**21 45 47.6**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=248,slow=8.1,SNR=7.7						
KMBO	**Kilima Mbogo**	**35.00**	**200**	LR	LR	22 01 29.6	
	comp=Z,51nm,18.6s,baz=92,slow=39						

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*ISCJB **30** 21:39:10.9±0.7, 38.°75N±0.°04×43.°43E±0.°07, h10km±8km, Error ellipse: s-maj=9.7km s-min=6.3km az=28.9*
*CSEM **30** 21:39:10.7±0.3, 38.°75N×43.°44E, h10km, MD2.7, Error ellipse: s-maj=7.9km s-min=5.5km az=126.0*
*DDA **30** 21:39:10.7, 38.°72N×43.°50E, h7km, Ml2.8*
*ISK **30** 21:39:10.0, 38.°74N×43.°42E, h6km, MD2.7*
ISC 30 21:39:11.0±1.1, 38.°74N±0.°04×43.°44E±0.°04, h15km±11km, n21, σ0ᵮ73/25, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**195**	*e*PG	**Pg**	**21 39 15.2**	**0.0**
VANB	**Van**	**0.15**	**195**	*e*Pg	**Pg**	**21 39 15.2**	**0.0**
TVAN	**Van**	**0.21**	**187**	*i* P	**Pg**	**21 39 15.2**	**-0.9**
TVAN	**Van**	**0.21**	**187**	P	**Pg**	**21 39 15.2**	**-0.9**
VMUR	**Van-Muradiye**	**0.27**	**22**	*i* P	**Pg**	**21 39 16.5**	**-0.4**
VMUR	**Van-Muradiye**	**0.27**	**22**	P	**Pg**	**21 39 16.5**	**-0.4**
CLDR	**Caldiran**	**0.55**	**43**	*e*PG	**Pg**	**21 39 21.1**	**-0.8**
CLDR				*e*SG	**Sb**	**21 39 29.9**	**-0.3**
CLDR	**Caldiran**	**0.55**	**43**	*i* P	**Pg**	**21 39 21.3**	**-0.6**
CLDR	**Caldiran**	**0.55**	**43**	P	**Pg**	**21 39 21.3**	**-0.6**
CLDR				*e*Sg	**Sb**	**21 39 29.9**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.56**	**277**	*i* P	**Pb**	**21 39 22.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.56**	**277**	P	**Pb**	**21 39 22.8**	**+0.1**
TUTA	**Tutak**	**0.82**	**324**	*i* P	**Pg**	**21 39 26.9**	**-0.1**
TUTA	**Tutak**	**0.82**	**324**	P	**Pg**	**21 39 26.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*PG	**Pg**	**21 39 27.2**	**-1.3**
AGRB				*e*SG	**Sb**	**21 39 40.9**	**+0.5**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*Pg	**Pg**	**21 39 27.3**	**-1.3**
AGRB				*e*Sg	**Sb**	**21 39 40.9**	**+0.5**
TATV	**Tatvan**	**0.95**	**256**	*i* P	**Pb**	**21 39 29.3**	**0.0**
TATV	**Tatvan**	**0.95**	**256**	P	**Pb**	**21 39 29.3**	**0.0**
GURO	**Guroymak-BITLI**	**1.12**	**261**	*e*PN	**Pg**	**21 39 31.7**	**-1.0**
GURO	**Guroymak-BITLI**	**1.12**	**261**	*e*Pn	**Pg**	**21 39 31.7**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.39**	**26**	*e*PN	**Pn**	**21 39 36.7**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.39**	**26**	*e*Pn	**Pn**	**21 39 36.7**	**+0.8**

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*NIED **30** 21:40:00, 39.°40N×144.°60E, h5km, Mw3.7 Best double couple: M0=4.71000×10^14 NP1:φs=9.00000°, δ21.00000°, λ-88.00000°. NP2:φs=187.00000°, δ69.00000°, λ-91.00000°.*

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*IDC **30** 21:40:35.8±1.6, 38.°99N×144.°92E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/50, mbtmp3.6/12, ML3.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/41, Error ellipse: s-maj=44.2km s-min=21.3km az=72.0*
*ISCJB **30** 21:40:38.5±0.7, 39.°35N±0.°04×144.°74E±0.°06, h38km, mb3.6/10, MS3.6/1, Error ellipse: s-maj=7.6km s-min=4.5km az=30.0*
*JMA **30** 21:40:39.9±0.2, 39.°35N×144.°64E, h52km, M3.8*
ISC 30 21:40:40.9±1.1, 39.°29N±0.°06×144.°75E±0.°08, h38km, n29, σ2ᵮ14/38, **mb3.5**/10, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.29**	**278**	P	**Pn**	**21 41 15.0**	**-1.1**
MIYJ				S	**Sn**	**21 41 40.9**	**-2.1**
JTH	**Tanohata**	**2.32**	**287**	P	**Pn**	**21 41 15.2**	**-1.3**
OFUJ	**Ofunato**	**2.41**	**266**	P	**Pn**	**21 41 16.5**	**-1.2**
OFUJ				*e*S	**Sn**	**21 41 43.2**	**-2.7**
JOM	**Ohasama**	**2.69**	**275**	P	**Pn**	**21 41 20.9**	**-0.7**
JOM				S	**Sn**	**21 41 51.2**	**-1.6**
JANG	**Nango**	**2.72**	**294**	P	**Pn**	**21 41 20.5**	**-1.5**
JMK	**Ichinoseki**	**2.77**	**264**	P	**Pn**	**21 41 21.7**	**-0.9**
JMK				*e*S	**Sn**	**21 41 52.4**	**-2.4**
JNBK	**Urakawa-nobuka**	**3.35**	**334**	P	**Pn**	**21 41 29.7**	**-0.9**
JYK	**Kaneyama**	**3.44**	**265**	P	**Pn**	**21 41 31.4**	**-0.5**
JCH	**Churui**	**3.48**	**343**	P	**Pn**	**21 41 30.8**	**-1.7**
JCH				*e*S	**Sn**	**21 42 09.9**	**-2.5**
JOT	**Ohata**	**3.52**	**308**	P	**Pn**	**21 41 32.4**	**-0.5**
JOT				*e*S	**Sn**	**21 42 11.8**	**-1.5**
JAK	**Akkeshi**	**3.70**	**359**	P	**Pn**	**21 41 33.2**	**-2.2**
JAK				*e*S	**Sn**	**21 42 14.9**	**-2.9**
NEM2	**Nemuro 2**	**4.14**	**10**	P	**Pn**	**21 41 38.5**	**-2.9**
NEM2				*e*S	**Sn**	**21 42 23.8**	**-4.7**
JTKR	**Abashiri--Toko**	**4.72**	**353**	P	**Pn**	**21 41 48.1**	**-1.3**
JTKR				*e*S	**Sn**	**21 42 40.1**	**-2.7**
JOSM	**Okushiri--Mats**	**4.88**	**306**	P	**Pn**	**21 41 51.4**	**-0.3**
JHR	**Hokuryu**	**4.99**	**334**	P	**Pn**	**21 41 54.5**	**+1.3**
JHR				*e*S	**Sn**	**21 42 49.3**	**-0.4**
ASAJ	**Asahikawa**	**5.08**	**342**	Pn	**Pn**	**21 41 53.9**	**-0.6**
	2.6nm,0.3s,baz=215,slow=11,SNR=7.6						
ASAJ				Sn	**Sn**	**21 42 50.4**	**-1.4**
	1.8nm,0.3s,baz=356,slow=21,SNR=3.3						
JRY	**Ryogami san**	**5.68**	**237**	P	**Pn**	**21 42 00.8**	**-1.9**
JRY				*e*S	**Sn**	**21 43 00.8**	**-5.8**
MJAR	**Matsushiro Arr**	**5.86**	**244**	P	**Pn**	**21 42 03.4**	**-1.8**
	1.8nm,0.3s,baz=64,slow=12,SNR=19						
MJAR				LR	LR	21 44 22.0	
	comp=Z,51nm,18.7s,baz=55,slow=39						
USRK	**Ussuriysk Ar.**	**10.72**	**301**	Pn	**Pn**	**21 43 13.2**	**+1.5**
	0.5nm,0.3s,baz=98,slow=14,SNR=17						
SONM	**Songino Array**	**28.83**	**300**	P	P	21 46 39.6	+4.1
	0.2nm,0.5s,baz=108,slow=9.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.39**	**311**	P	P	21 48 35.0	+3.7
	0.3nm,0.4s,baz=101,slow=9.0,SNR=1.5						
CMAR	**Chiang Mai Arr**	**44.61**	**256**	P	**P**	**21 48 51.0**	**+1.4**
	0.3nm,0.6s,baz=53,slow=8.0,SNR=2.3						
MKAR	**Makanchi Array**	**45.19**	**301**	P	**P**	**21 48 55.3**	**+1.4**
	0.4nm,0.8s,baz=70,slow=12,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.72**	**307**	P	**P**	**21 49 07.0**	**+1.1**
	0.4nm,0.6s,baz=79,slow=8.9,SNR=3.4						
BVAR	**Borovoye Array**	**51.02**	**312**	P	**P**	**21 49 40.9**	**+2.0**
	0.3nm,0.5s,baz=72

GEVA	**Gevas**	**0.62 224**	P	**Pg**	**21 54 04.4**	**-4.2**
GEVA			S	**Sg**	**21 54 14.7**	**-2.1**
ADCV	**BITLIS_Adilcev**	**0.69 274**	*i* P	**Pb**	**21 54 10.7**	**-0.5**
ADCV			*i* S	**Sb**	**21 54 21.9**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.69 274**	P	**Pb**	**21 54 10.7**	**-0.5**
ADCV			S	**Sb**	**21 54 21.9**	**+0.8**
TUTA	**Tutak**	**0.89 316**	*i* P	**Pg**	**21 54 12.2**	**-1.5**
TUTA			*i* S	**Sb**	**21 54 25.8**	**-1.0**
TUTA	**Tutak**	**0.89 316**	P	**Pg**	**21 54 12.2**	**-1.5**
TUTA			S	**Sb**	**21 54 25.8**	**-1.0**
AGRB	**Hanur-Agry**	**0.94 330**	*e*PG	**Pg**	**21 54 14.4**	**-0.4**
AGRB			*e*SG	**Sb**	**21 54 27.0**	**-1.3**
AGRB	**Hanur-Agry**	**0.94 330**	*e*Pg	**Pg**	**21 54 14.4**	**-0.4**
AGRB			*e*Sg	**Sb**	**21 54 27.0**	**-1.3**
TATV	**Tatvan**	**1.08 257**	*i* P	**Pg**	**21 54 17.4**	**+0.1**
TATV			*i* S	**Sn**	**21 54 33.7**	**-0.1**
TATV	**Tatvan**	**1.08 257**	P	**Pg**	**21 54 17.4**	**+0.1**
TATV			S	**Sn**	**21 54 33.7**	**-0.1**
GURO	**Guroymak-BITLI**	**1.25 261**	*e*PN	**Pb**	**21 54 20.6**	**-0.1**
GURO	**Guroymak-BITLI**	**1.25 261**	*e*Pn	**Pb**	**21 54 20.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.31 22**	*e*PN	**Pn**	**21 54 22.3**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.31 22**	*e*Pn	**Pn**	**21 54 22.3**	**+0.7**
CUKT	**Cukurca**	**1.51 180**	*e*PN	**Pg**	**21 54 26.8**	**+1.1**
CUKT	**Cukurca**	**1.51 180**	*e*Pn	**Pg**	**21 54 26.8**	**+1.1**
SRTM	**Siirt_Merkez**	**1.53 240**	*i* P	**Pg**	**21 54 27.2**	**+1.2**
SRTM			*i* S	**Sg**	**21 54 50.1**	**+4.3**
SRTM	**Siirt_Merkez**	**1.53 240**	P	**Pg**	**21 54 27.2**	**+1.2**
SRTM			S	**Sg**	**21 54 50.2**	**+4.3**
VRTB	**Varto-Mus**	**1.72 284**	*e*PN	**Pb**	**21 54 28.4**	**-0.4**
VRTB	**Varto-Mus**	**1.72 284**	*e*Pn	**Pb**	**21 54 28.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99 253**	*e*PN	**Pb**	**21 54 32.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.99 253**	*e*Pn	**Pb**	**21 54 32.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**2.04 332**	*e*PN	**Pn**	**21 54 32.1**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.04 332**	*e*Pn	**Pn**	**21 54 32.1**	**+0.4**
BNGB	**Bing˚¶‖**	**2.30 277**	*e*PN	**Pn**	**21 54 36.9**	**+1.7**
BINT	**Bingol**	**2.44 274**	*e*Pn	**Pn**	**21 54 36.9**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.48 287**	*e*PN	**Pn**	**21 54 38.7**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.48 287**	*e*Pn	**Pn**	**21 54 38.7**	**+1.0**

ISK ***30*** *21:58:30.7, 38˚62N×43˚18E, h2km, ML2.7*
CSEM ***30*** *21:58:31.8±0.1, 38˚65N×43˚15E, h2km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.9km az=150.0*
DDA ***30*** *21:58:31.6, 38˚63N×43˚16E, h16km, Ml3.6*
ISC 30 21:58:31.9±1.1, 38˚64N±0˚02×43˚15E±0˚02, h1km±10km, n55, σ0ˢ94/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**102**	*e*PG	**Pg**	**21 58 35.9**	**+0.3**
VANB				*e*SG	**Sg**	**21 58 39.8**	**+1.7**
VANB	**Van**	**0.19**	**102**	*e*Pg	**Pg**	**21 58 35.9**	**+0.3**
VANB				*e*Sg	**Sg**	**21 58 39.8**	**+1.7**
TVAN	**Van**	**0.23**	**118**	*i* P	**Pg**	**21 58 35.8**	**-0.5**
TVAN				*i* S	**Sg**	**21 58 40.2**	**+1.0**
TVAN	**Van**	**0.23**	**118**	P	**Pg**	**21 58 35.8**	**-0.5**
TVAN				S	**Sg**	**21 58 40.2**	**+1.0**
GEVA	**Gevas**	**0.33**	**193**	*i* P	**Pg**	**21 58 37.9**	**-0.4**
GEVA				*i* S	**Sb**	**21 58 45.0**	**-1.6**
GEVA	**Gevas**	**0.33**	**193**	P	**Pg**	**21 58 37.9**	**-0.4**
GEVA				S	**Sb**	**21 58 45.0**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.38**	**297**	*i* P	**Pg**	**21 58 39.5**	**+0.3**
ADCV				*i* S	**Sb**	**21 58 46.6**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.38**	**297**	P	**Pg**	**21 58 39.5**	**+0.3**
ADCV				S	**Sb**	**21 58 46.6**	**-1.4**
VMUR	**Van-Muradiye**	**0.48**	**43**	*i* P	**Pg**	**21 58 41.2**	**0.0**
VMUR				*i* S	**Sb**	**21 58 50.0**	**-1.0**
VMUR	**Van-Muradiye**	**0.48**	**43**	P	**Pg**	**21 58 41.2**	**0.0**
VMUR				S	**Sb**	**21 58 50.0**	**-1.0**
TATV	**Tatvan**	**0.71**	**260**	*i* P	**Pg**	**21 58 45.0**	**-0.5**
TATV				*i* S	**Sg**	**21 58 55.2**	**+0.6**
TATV	**Tatvan**	**0.71**	**260**	P	**Pg**	**21 58 45.0**	**-0.5**
TATV				S	**Sg**	**21 58 55.2**	**+0.6**
CLDR	**Caldiran**	**0.78**	**49**	*e*PG	**Pg**	**21 58 47.2**	**+0.3**
CLDR				*e*SG	**Sg**	**21 58 57.9**	**+0.8**
CLDR	**Caldiran**	**0.78**	**49**	*i* P	**Pg**	**21 58 46.3**	**-0.7**
CLDR				*i* S	**Sb**	**21 58 59.2**	**-0.5**
CLDR	**Caldiran**	**0.78**	**49**	P	**Pg**	**21 58 46.3**	**-0.7**
CLDR	**Caldiran**	**0.78**	**49**	*e*Pg	**Pg**	**21 58 47.2**	**+0.3**
CLDR				*e*Sg	**Sg**	**21 58 57.9**	**+0.8**
CLDR				S	**Sb**	**21 58 59.2**	**-0.5**
TUTA	**Tutak**	**0.81**	**341**	*i* P	**Pg**	**21 58 46.7**	**-0.7**
TUTA				*i* S	**Sg**	**21 58 59.0**	**+1.0**
TUTA	**Tutak**	**0.81**	**341**	P	**Pg**	**21 58 46.7**	**-0.7**
TUTA				S	**Sg**	**21 58 59.0**	**+1.0**
GURO	**Guroymak-BITLI**	**0.88**	**265**	*e*PG	**Pg**	**21 58 48.2**	**-0.7**
GURO	**Guroymak-BITLI**	**0.88**	**265**	*e*Pg	**Pg**	**21 58 48.2**	**-0.7**
BASK	**Baskale_VAN**	**0.89**	**131**	*i* P	**Pg**	**21 58 48.2**	**-0.7**
BASK				*i* S	**Sb**	**21 59 02.0**	**-0.7**
BASK	**Baskale_VAN**	**0.89**	**131**	P	**Pg**	**21 58 48.2**	**-0.7**
BASK				S	**Sb**	**21 59 02.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.95**	**352**	*e*PG	**Pg**	**21 58 49.7**	**-0.4**
AGRB				*e*SG	**Sb**	**21 59 04.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**352**	*e*Pg	**Pg**	**21 58 49.7**	**-0.4**
AGRB				*e*Sg	**Sb**	**21 59 04.3**	**-0.1**
EKAR	**Karacoban**	**1.05**	**306**	*i* P	**Pb**	**21 58 52.5**	**-0.6**
EKAR				*i* S	**Sn**	**21 59 12.7**	**+3.2**
EKAR	**Karacoban**	**1.05**	**306**	P	**Pb**	**21 58 52.5**	**-0.6**
SRTM	**Siirt_Merkez**	**1.16**	**237**	*i* P	**Pb**	**21 58 54.3**	**-0.6**
SRTM				*i* S	**Sb**	**21 59 10.8**	**+0.3**
SRTM	**Siirt_Merkez**	**1.16**	**237**	P	**Pb**	**21 58 54.3**	**-0.6**
SRTM				S	**Sb**	**21 59 10.8**	**+0.3**
SIRN	**S¨–rnak**	**1.28**	**207**	*i* P	**Pg**	**21 58 55.8**	**-0.6**
SIRN				*i* S	**Sn**	**21 59 15.7**	**+0.9**
SIRN	**S¨–rnak**	**1.28**	**207**	P	**Pg**	**21 58 55.8**	**-0.6**
SIRN				S	**Sn**	**21 59 15.7**	**+0.9**
EATA	**Eleskirt**	**1.33**	**337**	*i* P	**Pg**	**21 58 56.1**	**-1.3**
EATA				*i* S	**Sn**	**21 59 16.1**	**-0.4**
EATA	**Eleskirt**	**1.33**	**337**	P	**Pg**	**21 58 56.1**	**-1.3**
EATA				S	**Sn**	**21 59 16.1**	**-0.4**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*PN	**Pg**	**21 58 59.1**	**-0.1**
VRTB	**Varto-Mus**	**1.42**	**292**	*i* P	**Pn**	**21 58 58.6**	**-0.5**
VRTB				*i* S	**Sn**	**21 59 21.7**	**+3.1**
VRTB	**Varto-Mus**	**1.42**	**292**	P	**Pn**	**21 58 58.6**	**-0.5**
VRTB	**Varto-Mus**	**1.42**	**292**	*e*Pn	**Pg**	**21 58 59.1**	**-0.1**
CUKT	**Cukurca**	**1.43**	**165**	*e*PN	**Pn**	**21 58 58.6**	**-0.6**
CUKT	**Cukurca**	**1.43**	**165**	*i* P	**Pg**	**21 58 58.9**	**-0.5**
CUKT				*i* S	**Sn**	**21 59 20.5**	**+1.8**
CUKT	**Cukurca**	**1.43**	**165**	P	**Pg**	**21 58 58.9**	**-0.5**
CUKT				S	**Sn**	**21 59 20.5**	**+1.8**
TASB	**TASBURUN-IGDIR**	**1.59**	**32**	*e*PN	**Pn**	**21 59 00.5**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.59**	**32**	*e*Pn	**Pn**	**21 59 00.5**	**-0.8**
BNGL	**BINGOL**	**1.60**	**282**	*i* P	**Pb**	**21 59 01.8**	**-0.6**
BNGL				*i* S	**Sg**	**21 59 24.9**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*PN	**Pn**	**21 59 01.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*i* P	**Pn**	**21 59 01.6**	**0.0**
SVAN				*i* S	**Sg**	**21 59 23.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	*e*Pn	**Pn**	**21 59 01.5**	**0.0**
SVAN				S	**Sg**	**21 59 23.9**	**+0.2**
BTMN	**Batman**	**1.66**	**244**	*i* P	**Pn**	**21 59 01.9**	**-0.3**
BTMN				*i* S	**Sg**	**21 59 26.3**	**+1.1**
BTMN	**Batman**	**1.66**	**244**	P	**Pn**	**21 59 01.9**	**-0.3**
BTMN				S	**Sg**	**21 59 26.3**	**+1.1**
BNGB	**Bing˚¶‖**	**1.96**	**281**	*e*PN	**Pn**	**21 59 07.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*PN	**Pn**	**21 59 06.4**	**-1.0**
SENK	**Senkaya-Erzuru**	**2.02**	**342**	*e*Pn	**Pn**	**21 59 06.4**	**-1.0**
BINT	**Bingol**	**2.10**	**277**	*e*Pn	**Pn**	**21 59 07.7**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.18**	**292**	*e*PN	**Pn**	**21 59 10.3**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.18**	**292**	*e*Pn	**Pn**	**21 59 10.3**	**+0.7**
MAZI	**Mazidag**	**2.44**	**242**	*e*PN	**Pn**	**21 59 12.8**	**-0.2**
MAZI	**Mazidag**	**2.44**	**242**	*e*Pn	**Pn**	**21 59 12.8**	**-0.2**

ISCJB ***30*** *22:02:43.5±0.5, 6˚39S±0˚04×147˚30E±0˚08, h35km, mb4.2/16, MS3.1/5, Error ellipse: s-maj=11.4km s-min=6.0km az=13.8*
NEIC ***30*** *22:02:46.1±1.7, 6˚41S×147˚41E, h45km±16km, mb4.5/10, Error ellipse: s-maj=13.3km s-min=11.8km az=80.0*
IDC ***30*** *22:02:46.4±3.3, 6˚41S×147˚55E, h49km±32km, mb3.7/10, mb1 3.9/13, mb1mx3.7/35, mbtmp4.0/13, ML4.0/2, MS3.1/7, Ms1 3.1/7, ms1mx3.0/22, Error ellipse: s-maj=34.2km s-min=22.7km az=88.0*
ISC 30 22:02:45.5±0.6, 6˚43S±0˚06×147˚17E±0˚10, h35km, n37, σ1ˢ75/38, mb4.0/16, MS3.1/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**180**	P	**Pn**	**22 03 31.3**	**+1.2**
	18nm,0.3s,baz=14,slow=6.7,SNR=18						
PMG				S	**Sn**	**22 04 07.3**	**+2.9**
	45nm,0.3s,baz=254,slow=21,SNR=9.1						
COEN	**Coen**	**8.46**	**207**	*e*Pn	**Pn**	**22 04 46.7**	**+1.1**
COEN				*e*Sn	**Sn**	**22 06 17.9**	**-2.0**
HNR	**Honiara**	**13.00**	**104**	LR	LR	22 10 10.3	
	comp=Z,74nm,20.5s,baz=303,slow=35						
CTA	**Charters Tower**	**13.61**	**184**	P	**Pn**	**22 05 57.9**	**+1.6**
	0.4nm,0.3s,baz=14,slow=16,SNR=3.8						
CTAO	**Charters Tower**	**13.61**	**184**	*e*Pn	**Pn**	**22 05 57.9**	**+1.6**
WRAB	**Tennant Creek**	**18.32**	**222**	*e*P	**P**	**22 06 54.8**	**-2.0**
	27nm,1.0s						
WB2	**Warramunga Arr**	**18.32**	**222**	*e*P	**P**	**22 06 58.5**	**+1.6**
	12nm,1.4s						
WR1	**Warramunga Arr**	**18.33**	**222**	*e*P	**P**	**22 06 58.5**	**+1.5**
	11nm,1.4s						
WR1				*e*Sn	**Sn**	**22 10 17.9**	**-3.0**
WRA	**Warramunga Arr**	**18.33**	**222**	P	**P**	**22 06 58.5**	**+1.5**
	0.7nm,0.3s,baz=52,slow=11,SNR=15						
WRA				S	**Sn**	**22 10 17.9**	**-3.0**
	0.1nm,0.3s,baz=44,slow=24,SNR=3.0						
GUMO	**Guam**	**20.02**	**353**	LR	LR	22 15 19.3	
	comp=Z,48nm,18.2s,baz=172,slow=38						
AS31	**Alice Springs**	**21.37**	**215**	*e*P	**P**	**22 07 30.4**	**+0.3**
	2.1nm,0.6s						
AS31				*e*S	**S**	**22 11 23.8**	**-1.9**
ASAR	**Alice Springs**	**21.37**	**215**	P	**P**	**22 07 31.9**	**+1.7**
	3.1nm,0.6s,baz=53,slow=8.9,SNR=34						
ASAR				S	**S**	**22 11 23.8**	**-1.9**
	2.3nm,0.9s,baz=30,slow=24,SNR=10						
FITZ	**Fitzroy Crossi**	**24.00**	**239**	P	**P**	**22 07 58.8**	**+1.7**
	3.9nm,0.3s,baz=47,slow=8.6,SNR=72						
FITZ				LR	LR	22 18 52.9	
	comp=Z,69nm,20.2s,baz=58,slow=40						
STKA	**Stephens Creek**	**25.85**	**191**	P	**P**	**22 08 14.3**	**+0.4**
	2.1nm,0.4s,baz=17,slow=9.2,SNR=9.4						
STKA				LR	LR	22 17 55.3	
	comp=Z,65nm,19.1s,baz=24,slow=35						
STKA	**Stephens Creek**	**25.85**	**191**	*e*P	**P**	**22 08 14.3**	**+0.4**
	5.2nm,1.8s						
BBOO	**Buckleboo**	**28.22**	**200**	*e*P	**P**	**22 08 36.8**	**+1.6**
	65nm,1.6s						
MBWA	**Marble Bar**	**30.33**	**238**	*e*P	**P**	**22 08 53.1**	**-1.0**
	28nm,1.4s						
MSVF	**Nonsavu**	**32.16**	**113**	*e*P	**P**	**22 09 08.0**	**-2.3**
	19nm,1.5s						
NACB	**Ninganchiao**	**39.34**	**322**	*e*P	**P**	**22 10 10.7**	**-1.0**
	45nm,1.2s						
WKZ	**Wanaka**	**42.73**	**157**	*e*P	**P**	**22 10 38.0**	**-1.4**
	150nm,1.8s						
MJAR	**Matsushiro Arr**	**43.56**	**350**	LR	LR	22 28 00.5	
	comp=Z,28nm,18.3s,baz=310,slow=35						
KSRS	**Korea Array**	**47.21**	**339**	LR	LR	22 32 38.7	
	comp=Z,9.1nm,18.0s,baz=150,slow=38						
CM31	**Chiang Mai Arr**	**53.60**	**298**	*e*P	**P**	**22 12 06.5**	**+2.8**
CMAR	**Chiang Mai Arr**	**53.60**	**298**	P	**P**	**22 12 06.5**	**+2.8**
	0.7nm,0.4s,baz=117,slow=5.5,SNR=7.6						
PETK	**Petropavlovsk-**	**59.98**	**7**	LR	LR	22 34 54.9	
	comp=Z,26nm,21.5s,baz=216,slow=32						
SONA0	**Songino Array**	**64.86**	**331**	*e*P	**P**	**22 13 22.3**	**+1.1**
SONM	**Songino Array**	**64.86**	**331**	P	**P**	**22 13 22.3**	**+1.1**
	0.2nm,0.4s,baz=153,slow=13,SNR=5.4						
VNDA	**Vanda**	**71.48**	**177**	P	**P**	**22 14 01.8**	**-0.4**
	0.3nm,0.6s,baz=346,slow=4.4,SNR=3.0						
MK32	**Makanchi Array**	**77.93**	**320**	*e*P	**P**	**22 14 41.1**	**+1.1**
MKAR	**Makanchi Array**	**77.93**	**320**	P	**P**	**22 14 41.1**	**+1.1**
	0.2nm,0.5s,baz=99,slow=6.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**79.46**	**328**	P	**P**	**22 14 47.5**	**-0.8**
	0.8nm,0.5s,baz=108,slow=4.8,SNR=4.1						
ZAA1	**Zalesovo Array**	**79.46**	**328**	*e*P	**P**	**22 14 47.5**	**-0.8**
ILAR	**Eielson Array**	**85.80**	**23**	P	**P**	**22 15 18.9**	**-2.1**
	0.7nm,1.1s,baz=252,slow=5.4,SNR=3.6						
ILB	**Eielson Array**	**85.80**	**23**	*e*P	**P**	**22 15 18.9**	**-2.1**
BVAR	**Borovoye Array**	**87.21**	**324**	P	**P**	**22 15 26.7**	**-1.5**
	0.6nm,0.7s,baz=99,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.36**	**284**	PKPbc	**PKPdf**	**22 22 21.5**	**+0.7**
	1.5nm,0.5s,baz=90,slow=2.9,SNR=30						
TOA1	**Torodi Ar. Sit**	**145.36**	**284**	*e*PKPdf	**PKPdf**	**22 22 21.5**	**+0.7**

NNC 30 22:06:10.8±1.0, 51˚81N×75˚48E, h0km, mb3.5, mpv3.2, 7C-7D, Error ellipse: s-maj=12.0km s-min=7.5km az=25.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.26**	**121**	⇓Pn	Pn	22 06 48.4	-0.9
	13nm,0.2s,baz=300,slow=17						
KURBB				⇓Sn	Sb	22 07 19.9	-1.0
	106nm,0.4s,baz=306,slow=28						
KURK	**Kurchatov**	**2.26**	**118**	⇓Pn	Pn	22 06 48.7	-0.7
	9.2nm,0.5s						
KURK				⇓Sn	Sb	22 07 20.0	-0.8
	36nm,0.4s						
BVA0	**Borovoye Array**	**3.34**	**293**	Pn	Pn	22 07 05.3	+1.0
	2.1nm,0.3s,baz=113,slow=15,SNR=84						
BVA0				Pg	Pb	22 07 12.0	+1.1
	4.1nm,0.4s,baz=118,slow=16,SNR=12						
BVA0				⇓Lg	Lg	22 07 55.2	
	31nm,0.5s,baz=113,slow=29,SNR=10						
ZAA0	**Zalesovo Array**	**6.04**	**66**	⇑Pn	Pn	22 07 43.6	+2.3
	0.1nm,0.3s						
ZAA0				⇓Sn	Sn	22 08 49.5	-1.6
	0.5nm,0.5s						
MK31	**Makanchi Array**	**6.71**	**136**	Pn	Pn	22 07 49.3	-1.2
	1.1nm,0.3s,baz=318,slow=12,SNR=13						
MK31				⇓Sn	Sn	22 09 04.4	-3.2
	1.9nm,0.4s,baz=318,slow=23,SNR=3.2						
MK31				⇑Lg	Lg	22 09 39.6	
	7.5nm,0.5s,baz=316,slow=25,SNR=9.1						
TKM2	**Tokmak 2**	**8.90**	**179**	⇑Lg	Lg	22 10 48.2	
	3.3nm,0.6s						
PDGK	**Podgornoye**	**8.91**	**161**	⇑Lg	Lg	22 10 48.5	
	3.0nm,0.6s						
AAK	**Ala-Archa**	**9.21**	**185**	⇑Lg	Lg	22 10 59.6	
	3.6nm,0.6s						
MNAS	**Manas**	**9.55**	**193**	⇑Lg	Lg	22 11 12.6	
	7.1nm,0.8s						
AB31	**Akbulak array**	**10.22**	**262**	⇑Lg	Lg	22 11 40.3	
	1.3nm,0.7s						

WEL 30 22:07:07.1±0.3, 35˚92S×179˚02E, h185km±6km, ML3.7/10, 1D, Error ellipse: s-maj=7.4km s-min=5.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.74**	**199**	PN	Pn	22 07 40.6	-1.1
WMGZ	**Waiomatatini S**	**1.96**	**194**	PN	Pn	22 07 43.9	0.0
WMGZ				SN	Sn	22 08 11.8	-1.0
HAZ	**Te Kaha**	**2.08**	**208**	PN	Pn	22 07 45.9	+0.6
HAZ				SN	Sn	22 08 14.9	-0.3
PKGZ	**Pakihiroa**	**2.10**	**201**	PN	Pn	22 07 45.5	-0.1
PKGZ				AML	AML	22 07 46.2	
PKGZ				AML	AML	22 08 15.6	
PUZ	**Puketiti**	**2.23**	**196**	⇓PN	Pn	22 07 46.8	-0.2
PUZ				SN	Sn	22 08 16.6	-1.6
RUGZ	**Raukumara Rang**	**2.31**	**207**	PN	Pn	22 07 48.0	0.0
TWGZ	**Tauwhareparae**	**2.40**	**200**	PN	Pn	22 07 49.4	+0.5
TWGZ				AML	AML	22 08 22.9	
TWGZ				AML	AML	22 08 23.7	
MWZ	**Matawai**	**2.69**	**206**	PN	Pn	22 07 52.7	+0.5
URZ	**Urewera**	**2.79**	**213**	PN	Pn	22 07 53.8	+0.4
RIGZ	**Rimuhau**	**2.96**	**199**	PN	Pn	22 07 55.3	-0.1
MUGZ	**Murupara**	**3.12**	**214**	PN	Pn	22 07 57.9	+0.5
RTZ	**Ruatahuna**	**3.14**	**211**	PN	Pn	22 07 58.1	+0.4
KNZ	**Kokohu**	**3.28**	**199**	PN	Pn	22 07 58.7	-0.6
NMHZ	**Naumai**	**3.63**	**208**	PN	Pn	22 08 04.7	+1.1

CRAAG ***30*** *22:12:40.2, 36˚63N×1˚71E, Ml3.9*
ISCJB ***30*** *22:12:43.7±0.4, 36˚63N±0˚02×1˚63E±0˚03, h14km, mb2.8/1, Error ellipse: s-maj=3.4km s-min=3.2km az=14.0*
IDC ***30*** *22:12:43.7±2.3, 36˚70N×1˚59E, h0km, mb2.8/1, mb1 3.1/4, mb1mx2.9/47, mbtmp3.0/4, ML3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/15, Error ellipse: s-maj=39.0km s-min=27.0km az=33.0*
CSEM ***30*** *22:12:44.2±0.2, 36˚56N×1˚66E, h10km, ML3.9, Error ellipse: s-maj=5.3km s-min=4.5km az=121.0*
MDD ***30*** *22:12:45.8±0.8, 36˚49N×1˚70E, h18km±9km, mb3.9/10, Error ellipse: s-maj=7.8km s-min=5.2km az=171.0, PRXIMO*
ISC 30 22:12:44.3±0.8, 36˚52N±0˚04×1˚71E±0˚03, h14km, n77, σ1ˢ93/123, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.27**	**213**	P	**Pg**	**22 12 49.6**	**-0.4**
ECHA	**Ech Chlef**	**0.46**	**217**	P	**Pg**	**22 12 53.5**	**+0.2**
ECHA	**Ech Chlef**	**0.46**	**217**	P	**Pg**	**22 12 53.5**	**+0.2**
ECHF	**Ech Chlef**	**0.47**	**220**	P	**Pg**	**22 12 53.5**	**0.0**
ECHF	**Ech Chlef**	**0.47**	**220**	P	**Pg**	**22 12 53.5**	**0.0**
EANR	**'Ain N'Sour**	**0.75**	**221**	P	**Pg**	**22 12 59.6**	**+0.8**
EANR	**'Ain N'Sour**	**0.75**	**221**	P	**Pg**	**22 12 59.6**	**+0.8**
EANR	**'Ain N'Sour**	**0.75**	**221**	P	**Pg**	**22 12 59.6**	**+0.8**
OKGL	**Djebel Kef Gue**	**0.98**	**241**	P	**Pb**	**22 13 04.1**	**+1.0**
OKGL	**Djebel Kef Gue**	**0.98**	**241**	P	**Pb**	**22 13 04.1**	**+1.0**
OKGL	**Djebel Kef Gue**	**0.98**	**241**	P	**Pb**	**22 13 04.1**	**+1.0**
EMHD	**Djebel Mahouad**	**1.05**	**107**	P	**Pb**	**22 13 05.3**	**+0.9**
EMHD	**Djebel Mahouad**	**1.05**	**107**	P	**Pb**	**22 13 05.3**	**+0.9**
EMHD	**Djebel Mahouad**	**1.05**	**107**	P	**Pb**	**22 13 05.3**	**+0.9**
ABA	**Alger-Bouzarea**	**1.10**	**75**	P	**Pg**	**22 13 06.2**	**+0.6**
ABA	**Alger-Bouzarea**	**1.10**	**75**	P	**Pg**	**22 13 06.2**	**+0.6**
ABA	**Alger-Bouzarea**	**1.10**	**75**	P	**Pg**	**22 13 06.2**	**+0.6**
OJGS	**Djebel Guires**	**1.27**	**218**	P	**Pn**	**22 13 07.4**	**-0.3**
OJGS	**Djebel Guires**	**1.27**	**218**	P	**Pn**	**22 13 07.4**	**-0.3**
OJGS	**Djebel Guires**	**1.27**	**218**	P	**Pn**	**22 13 07.4**	**-0.3**
ADJB	**Djebel Djouab**	**1.44**	**104**	P	**Pn**	**22 13 08.8**	**-1.3**
ADJB	**Djebel Djouab**	**1.44**	**104**	P	**Pn**	**22 13 08.8**	**-1.3**
ADJB	**Djebel Djouab**	**1.44**	**104**	P	**Pn**	**22 13 08.8**	**-1.3**
EIBI	**Ibiza**	**2.52**	**354**	P	**Pn**	**22 13 25.1**	**+0.2**
	8.5nm,0.1s,SNR=41						
EIBI				S	**Sn**	**22 13 53.4**	**-2.0**
	67nm,0.2s,SNR=9.3						
EIBI	**Ibiza**	**2.52**	**354**	P	**Pn**	**22 13 25.1**	**+0.2**
	8.5nm,0.1s,SNR=41						
EIBI				S	**Sn**	**22 13 53.4**	**-2.0**
	67nm,0.2s,SNR=9.3						
EMUR	**La Murta**	**2.70**	**300**	P	**Pn**	**22 13 27.0**	**-0.3**
	0.3nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 13 57.7**	**-2.2**
	5.6nm,0.2s,SNR=4.7						
EMUR	**La Murta**	**2.70**	**300**	P	**Pn**	**22 13 27.0**	**-0.3**
	0.3nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 13 57.7**	**-2.2**
	5.6nm,0.2s,SNR=4.7						
AFON	**Font Roja**	**2.79**	**321**	P	**Pn**	**22 13 28.6**	**-0.1**
	1.2nm,0.3s,SNR=10.0						
AFON				S	**Sn**	**22 14 00.9**	**-1.3**
	0.3nm,0.1s,SNR=6.1						
AFON	**Font Roja**	**2.79**	**321**	P	**Pn**	**22 13 28.6**	**-0.1**
	1.2nm,0.3s,SNR=10.0						
AFON				S	**Sn**	**22 14 00.9**	**-1.3**
	0.3nm,0.1s,SNR=6.1						
ENIJ	**Nijar**	**3.18**	**279**	P	**Pn**	**22 13 33.3**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**22 14 08.4**	**-3.2**
	9.0nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**3.18**	**279**	P	**Pn**	**22 13 33.3**	**-0

EMIR			S		Sn	22 15 03.1	-3.2
	5.8nm,0.3s,SNR=8.1						
ESAC	**San Caprasio**	**5.47 343**	S		Sn	22 15 06.1	-2.0
	30nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.47 343**	S		Sn	22 15 06.1	-2.0
	30nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**5.47 307**	Pn		Pn	22 14 04.7	-0.7
	0.6nm,0.3s,baz=122,slow=13,SNR=14						
ESDC			Sn		Sn	22 15 05.7	-2.5
	0.4nm,0.3s,baz=123,slow=24,SNR=4.8						
ESDC			Lg		Lg	22 15 17.7	
	0.8nm,0.3s,baz=133,slow=29,SNR=5.4						
ESDC	**Sonseca Array**	**5.47 307**	P		Pn	22 14 05.4	-0.1
	0.1nm,0.3s,baz=123,slow=13,SNR=9.1						
ESDC			S		Sn	22 15 06.8	-1.4
	0.4nm,0.2s,baz=123,slow=24,SNR=4.5						
ESDC	**Sonseca Array**	**5.47 307**	P		Pn	22 14 05.4	-0.1
	0.1nm,0.3s,SNR=9.1						
ESDC			S		Sn	22 15 06.8	-1.4
	0.4nm,0.2s,SNR=4.5						
CSOR	**Sort**	**5.87 356**	P		Pn	22 14 12.3	+1.4
	0.2nm,0.1s,SNR=9.4						
CSOR			S		Sn	22 15 15.7	-2.4
	0.9nm,0.2s						
CSOR	**Sort**	**5.87 356**	P		Pn	22 14 12.3	+1.4
	0.2nm,0.1s,SNR=9.4						
CSOR			S		Sn	22 15 15.7	-2.4
	0.9nm,0.2s						
ECAB	**El Cabril**	**5.89 287**	P		Pn	22 14 09.6	-1.6
	0.4nm,0.2s,SNR=7.9						
ECAB			S		Sn	22 15 15.5	-3.0
	3.3nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**5.89 287**	P		Pn	22 14 09.6	-1.6
	0.4nm,0.2s,SNR=7.9						
ECAB			S		Sn	22 15 15.5	-3.0
	3.3nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**5.96 2**	P		Pn	22 14 12.9	+0.7
	0.2nm,0.2s,SNR=6.3						
CLLI			S		Sn	22 15 17.3	-3.1
	0.8nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**5.96 2**	P		Pn	22 14 12.9	+0.7
	0.2nm,0.2s,SNR=6.3						
EJON	**La Jonquera**	**6.00 8**	S		Sn	22 15 16.4	-4.7
	3.1nm,0.3s,SNR=7.9						
KEST	**Kesra**	**6.23 95**	Pn		Pn	22 14 17.9	+1.9
	0.5nm,0.3s,baz=61,slow=19,SNR=2.1						
KEST			Sn		Sn	22 15 28.2	+1.2
	0.1nm,0.3s,baz=326,slow=22,SNR=1.5						
MDT	**Midelt**	**6.38 237**	Pn		Pn	22 14 18.3	+0.3
	0.1nm,0.3s,baz=45,slow=8.6,SNR=1.6						
MDT			LR		LR	22 15 59.8	
	comp=Z,111nm,21.5s,baz=16,slow=31						
ATE	**Arette**	**6.82 345**	P		Pn	22 14 26.1	+2.2
	0.4nm,0.3s,SNR=7.9						
ATE			S		Sn	22 15 37.2	-4.1
	0.0nm,0.1s,SNR=7.9						
ATE	**Arette**	**6.82 345**	P		Pn	22 14 26.1	+2.2
	0.4nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**7.79 331**	P		Pn	22 14 39.7	+2.5
	4.5nm,0.8s,SNR=25						
TORD	**Torodi Ar. Bea**	**23.27 180**	P		P	22 17 55.3	+3.8
	0.2nm,0.6s,baz=352,slow=9.7,SNR=1.8						

*AZER **30** 22:16:42.0±0.6, 38°.58N×43°.19E, h9km, Error ellipse: s-maj=7.3km s-min=4.1km az=121.0*
*DDA **30** 22:16:45.9, 38°.92N×43°.57E, h9km, Ml3.7*
*ISK **30** 22:16:45.7, 38°.92N×43°.52E, h6km, ML3.1*
*IASPEI **30** 22:16:46.3±0.9, 38°.91N±0°.02×43°.55E±0°.03, h7km±7km, Error ellipse: s-maj=3.9km s-min=3.1km az=114.4, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **30** 22:16:46.2±0.1, 38°.91N×43°.54E, h2km, ML3.7, Error ellipse: s-maj=4.0km s-min=2.8km az=153.0*

ISC 30 22:16:46.3±0.8, 38°.91N±0°.02×43°.56E±0°.01, h7km±6km, n114, σ1§69/159, 16C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.08**	**7**	*i* P	**Pg**	**22 16 47.9**	**-0.5**
VMUR				*i* S	**Sg**	**22 16 50.4**	**+0.6**
VMUR	**Van-Muradiye**	**0.08**	**7**	P	**Pg**	**22 16 47.9**	**-0.5**
VMUR				S	**Sg**	**22 16 50.4**	**+0.6**
VANB	**Van**	**0.34**	**203**	*e*PG	**Pb**	**22 16 54.5**	**-0.4**
VANB	**Van**	**0.34**	**203**	*e*Pg	**Pb**	**22 16 54.5**	**-0.4**
CLDR	**Caldiran**	**0.36**	**50**	*e*PG	**Pg**	**22 16 52.9**	**-0.5**
CLDR				*e*SG	**Sb**	**22 16 59.8**	**-1.5**
CLDR	**Caldiran**	**0.36**	**50**	*i* P	**Pg**	**22 16 52.8**	**-0.7**
CLDR				*i* S	**Sb**	**22 16 59.5**	**-1.7**
CLDR	**Caldiran**	**0.36**	**50**	*e*Pg	**Pg**	**22 16 52.9**	**-0.5**
CLDR				S	**Sb**	**22 16 59.5**	**-1.7**
TVAN	**Van**	**0.40**	**197**	*i* P	**Pg**	**22 16 54.3**	**+0.1**
TVAN				*i* S	**Sb**	**22 17 02.5**	**+0.1**
TVAN	**Van**	**0.40**	**197**	P	**Pg**	**22 16 54.3**	**+0.1**
DYDN	**Diyadin**	**0.64**	**9**	*i* P	**Pg**	**22 16 58.1**	**-0.5**
DYDN				*i* S	**Sb**	**22 17 08.0**	**-1.2**
DYDN	**Diyadin**	**0.64**	**9**	P	**Pg**	**22 16 58.1**	**-0.5**
DYDN				S	**Sb**	**22 17 08.0**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	*i* P	**Pg**	**22 16 58.7**	**-0.3**
ADCV				*i* S	**Sb**	**22 17 09.6**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	P	**Pg**	**22 16 58.7**	**-0.3**
ADCV				S	**Sb**	**22 17 09.6**	**-0.2**
GEVA	**Gevas**	**0.72**	**213**	*i* P	**Pg**	**22 16 59.3**	**-0.8**
GEVA				*i* S	**Sb**	**22 17 11.8**	**+0.3**
GEVA	**Gevas**	**0.72**	**213**	P	**Pg**	**22 16 59.3**	**-0.8**
TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**22 16 59.9**	**-1.0**
TUTA				*i* S	**Sb**	**22 17 11.7**	**-1.0**
TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**22 16 59.9**	**-1.0**
TUTA				S	**Sb**	**22 17 11.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*PG	**Pg**	**22 17 01.0**	**-0.6**
AGRB				*e*SG	**Sb**	**22 17 12.2**	**-1.5**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*Pg	**Pg**	**22 17 01.0**	**-0.6**
AGRB				*e*Sg	**Sb**	**22 17 12.2**	**-1.5**
BASK	**Baskale_VAN**	**0.93**	**158**	*i* P	**Pg**	**22 17 03.2**	**-0.9**
BASK				*i* S	**Sn**	**22 17 19.9**	**+0.2**
BASK	**Baskale_VAN**	**0.93**	**158**	P	**Pg**	**22 17 03.2**	**-0.9**
TATV	**Tatvan**	**1.09**	**249**	*i* P	**Pg**	**22 17 05.6**	**-1.6**
TATV				*i* S	**Sb**	**22 17 21.3**	**-0.8**
TATV	**Tatvan**	**1.09**	**249**	P	**Pg**	**22 17 05.6**	**-1.6**
TATV				S	**Sb**	**22 17 21.3**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*PN	**Pn**	**22 17 09.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*Pn	**Pn**	**22 17 09.4**	**-0.1**
EKAR	**Karacoban**	**1.21**	**287**	*i* P	**Pn**	**22 17 09.2**	**-0.8**
EKAR				*i* S	**Sn**	**22 17 28.6**	**+1.8**
EKAR	**Karacoban**	**1.21**	**287**	P	**Pn**	**22 17 09.2**	**-0.8**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*PN	**Pn**	**22 17 09.0**	**-1.4**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn	**Pn**	**22 17 09.0**	**-1.4**
EATA	**Eleskirt**	**1.26**	**319**	*i* P	**Pb**	**22 17 09.1**	**-1.5**
EATA				*i* S	**Sn**	**22 17 27.3**	**-0.8**
EATA	**Eleskirt**	**1.26**	**319**	P	**Pb**	**22 17 09.1**	**-1.5**
EATA				S	**Sn**	**22 17 27.3**	**-0.8**
DIGO	**Kars**	**1.51**	**355**	*i* P	**Pg**	**22 17 14.5**	**-0.7**
DIGO				*i* S	**Sg**	**22 17 43.2**	**+8.4**
DIGO	**Kars**	**1.51**	**355**	P	**Pg**	**22 17 14.5**	**-0.7**
NAX	**Nakhchivan**	**1.53**	**80**	⇑P	**Pb**	**22 17 14.6**	**-0.5**
NAX				⇓S	**Sg**	**22 17 39.4**	**+3.9**
NAX	**Nakhchivan**	**1.53**	**80**	P	**Pb**	**22 17 14.6**	**-0.5**
NAX				S	**Sg**	**22 17 39.4**	**+3.9**
SRTM	**Siirt_Merkez**	**1.58**	**235**	*i* P	**Pb**	**22 17 15.6**	**-0.4**
SRTM				*i* S	**Sg**	**22 17 38.3**	**+1.2**
SRTM	**Siirt_Merkez**	**1.58**	**235**	P	**Pb**	**22 17 15.6**	**-0.4**
SRTM				S	**Sg**	**22 17 38.3**	**+1.2**
VRTB	**Varto-Mus**	**1.66**	**279**	*e*PN	**Pn**	**22 17 15.7**	**-0.3**
VRTB	**Varto-Mus**	**1.66**	**279**	*i* P	**Pb**	**22 17 16.9**	**-0.4**
VRTB				*i* S	**Sg**	**22 17 42.4**	**+2.9**
VRTB	**Varto-Mus**	**1.66**	**279**	*e*Pn	**Pn**	**22 17 15.7**	**-0.3**
VRTB	**Varto-Mus**	**1.66**	**279**	P	**Pb**	**22 17 16.9**	**-0.4**
CUKT	**Cukurca**	**1.66**	**179**	*e*PN	**Pn**	**22 17 15.7**	**-0.4**
CUKT	**Cukurca**	**1.66**	**179**	*i* P	**Pb**	**22 17 16.6**	**-0.8**
CUKT				*i* S	**Sg**	**22 17 41.6**	**+1.8**
CUKT	**Cukurca**	**1.66**	**179**	*e*Pn	**Pn**	**22 17 15.7**	**-0.4**
CUKT	**Cukurca**	**1.66**	**179**	P	**Pb**	**22 17 16.6**	**-0.8**
SIRN	**S¨–rnak**	**1.68**	**213**	*i* P	**Pg**	**22 17 18.4**	**-0.1**
SIRN				*i* S	**Sg**	**22 17 46.8**	**+6.6**
SIRN	**S¨–rnak**	**1.68**	**213**	P	**Pg**	**22 17 18.4**	**-0.1**
HOMI	**Horasan**	**1.71**	**312**	*i* P	**Pb**	**22 17 17.6**	**-0.6**
HOMI				*i* S	**Sg**	**22 17 45.1**	**+3.9**
EAK	**Akyaka**	**1.77**	**1**	*i* P	**Pb**	**22 17 18.2**	**-1.0**
EAK				*i* S	**Sg**	**22 17 51.2**	**+7.9**
EAK	**Akyaka**	**1.77**	**1**	P	**Pb**	**22 17 18.2**	**-1.0**
BNGL	**BINGOL**	**1.88**	**272**	*i* P	**Pg**	**22 17 21.4**	**-0.9**
BNGL				*i* S	**Sg**	**22 17 47.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*PN	**Pn**	**22 17 18.6**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*Pn	**Pn**	**22 17 18.6**	**-0.7**
ERZM	**Erzurum**	**1.97**	**301**	*i* P	**Pb**	**22 17 21.7**	**-0.9**
ERZM				*i* S	**Sg**	**22 17 52.4**	**+2.9**
ERZM	**Erzurum**	**1.97**	**301**	P	**Pb**	**22 17 21.7**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*PN	**Pn**	**22 17 20.7**	**0.0**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*i* P	**Pb**	**22 17 22.5**	**-0.6**
SVAN				*i* S	**Sg**	**22 17 51.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*Pn	**Pn**	**22 17 20.7**	**0.0**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	P	**Pb**	**22 17 22.5**	**-0.6**
BTMN	**Batman**	**2.07**	**241**	*i* P	**Pb**	**22 17 23.6**	**-0.6**
BTMN				*i* S	**Sg**	**22 17 51.8**	**-0.9**
BTMN	**Batman**	**2.07**	**241**	P	**Pb**	**22 17 23.6**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.12**	**290**	*i* P	**Pb**	**22 17 24.5**	**-0.8**
ECAT				*i* S	**Sg**	**22 17 55.6**	**+1.0**
ECAT	**Cat-ERZURUM**	**2.12**	**290**	P	**Pb**	**22 17 24.5**	**-0.8**
BNGB	**Bing¨¶l**	**2.25**	**273**	*e*PN	**Pn**	**22 17 24.4**	**+0.4**
BINT	**Bingol**	**2.40**	**270**	*e*Pn	**Pn**	**22 17 24.5**	**-1.6**
YEDI	**Yedisu-Bingol**	**2.40**	**284**	*e*PN	**Pn**	**22 17 26.6**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.40**	**284**	*e*Pn	**Pn**	**22 17 26.6**	**+0.3**
GDB	**GEDABAY**	**2.47**	**42**	⇓P	**Pb**	**22 17 29.0**	**-2.2**
GDB				⇑S	**Sg**	**22 18 05.2**	**-0.6**
GDB	**GEDABAY**	**2.47**	**42**	P	**Pb**	**22 17 29.0**	**-2.2**
AKH	**Akhalkalaki**	**2.49**	**359**	P	**Pg**	**22 17 33.4**	**-0.7**
QZX	**Qazax, Azerbai**	**2.56**	**32**	⇓P	**Pb**	**22 17 29.9**	**-2.7**
QZX				⇓S	**Sg**	**22 18 06.7**	**-1.7**
QZX	**Qazax, Azerbai**	**2.56**	**32**	P	**Pb**	**22 17 29.9**	**-2.7**
GANJ	**Ganja**	**2.74**	**50**	⇑P	**Pn**	**22 17 32.5**	**+1.7**
GANJ				⇓S	**Sb**	**22 18 11.5**	**+1.9**
GANJ	**Ganja**	**2.74**	**50**	P	**Pn**	**22 17 32.5**	**+1.7**
MAZI	**Mazidag**	**2.85**	**240**	*e*PN	**Pn**	**22 17 32.8**	**+0.4**
MAZI	**Mazidag**	**2.85**	**240**	*e*Pn	**Pn**	**22 17 32.8**	**+0.4**
DGRG	**David-gareji**	**2.89**	**28**	P	**Pg**	**22 17 43.0**	**+1.4**
TBLG	**Delisi**	**2.96**	**17**	P	**Pb**	**22 17 40.4**	**+1.1**
BRDA	**Brd**	**3.10**	**63**	⇑P	**Pn**	**22 17 36.8**	**+1.0**
BRDA				⇑S	**Sb**	**22 18 19.4**	**-0.5**
BRDA	**Brd**	**3.10**	**63**	P	**Pn**	**22 17 36.8**	**+1.0**
BRDA				S	**Sb**	**22 18 19.4**	**-0.5**
MNGR	**Mingechevir, A**	**3.29**	**55**	⇓S	**Sb**	**22 18 24.4**	**-0.9**
ZRD	**Zardab**	**3.47**	**66**	⇓P	**Pn**	**22 17 41.6**	**+0.9**
ZRD				⇓S	**Sb**	**22 18 28.5**	**-1.9**
ZRD	**Zardab**	**3.47**	**66**	P	**Pn**	**22 17 41.6**	**+0.9**
ZKTA	**Zakatala**	**3.59**	**40**	⇑P	**Pn**	**22 17 44.2**	**+1.7**
ZKTA				⇓S	**Sb**	**22 18 32.5**	**-1.5**
SEKA	**Sheki**	**3.61**	**49**	⇑P	**Pn**	**22 17 45.2**	**+2.4**
SEKA				⇑S	**Sb**	**22 18 34.1**	**-0.6**
SEKA	**Sheki**	**3.61**	**49**	P	**Pn**	**22 17 45.2**	**+2.4**
LRK	**Lerik**	**3.75**	**93**	⇓P	**Pn**	**22 17 44.2**	**-0.5**
LRK	**Lerik**	**3.75**	**93**	P	**Pn**	**22 17 44.2**	**-0.5**
GLBA	**Clilabad**	**3.78**	**84**	⇓P	**Pn**	**22 17 44.9**	**-0.1**
GLBA	**Clilabad**	**3.78**	**84**	P	**Pn**	**22 17 44.9**	**-0.1**
KDMR	**Kurdemir**	**3.86**	**66**	⇑S	**Sb**	**22 18 37.5**	**-4.1**
KDMR	**Kurdemir**	**3.86**	**66**	S	**Sb**	**22 18 37.5**	**-4.1**
QBL	**Gabala**	**3.87**	**57**	⇑P	**Pn**	**22 17 47.7**	**+1.4**
QBL				⇑S	**Sb**	**22 18 38.7**	**-3.2**
QBL	**Gabala**	**3.87**	**57**	P	**Pn**	**22 17 47.7**	**+1.4**
IML	**Ismayilli**	**4.02**	**61**	⇓P	**Pn**	**22 17 49.3**	**+0.9**
IML	**Ismayilli**	**4.02**	**61**	P	**Pn**	**22 17 49.3**	**+0.9**
LKRN	**Lenkeran, Azer**	**4.08**	**91**	⇓P	**Pn**	**22 17 48.6**	**-0.6**
LKRN	**Lenkeran, Azer**	**4.08**	**91**	P	**Pn**	**22 17 48.6**	**-0.6**
ASTR	**Astara**	**4.11**	**93**	⇑P	**Pn**	**22 17 48.7**	**-0.8**
ASTR	**Astara**	**4.11**	**93**	P	**Pn**	**22 17 48.7**	**-0.8**
XNQ	**Khinaliq**	**4.18**	**56**	⇓P	**Pn**	**22 17 51.8**	**+1.1**
XNQ	**Khinaliq**	**4.18**	**56**	P	**Pn**	**22 17 51.8**	**+1.1**
PQL	**Pirkuli**	**4.30**	**63**	⇓P	**Pn**	**22 17 53.4**	**+0.9**
PQL	**Pirkuli**	**4.30**	**63**	P	**Pn**	**22 17 53.3**	**+0.9**
QSAR	**Qusar**	**4.44**	**53**	⇑P	**Pn**	**22 17 55.4**	**+1.2**
QSAR	**Qusar**	**4.44**	**53**	P	**Pn**	**22 17 55.4**	**+1.2**
ATGJ	**Altiaghaj**	**4.57**	**63**	⇑P	**Pn**	**22 17 56.6**	**+0.6**
ATGJ	**Altiaghaj**	**4.57**	**63**	P	**Pn**	**22 17 56.6**	**+0.6**
SIZA	**Siyzn**	**4.63**	**61**	⇑P	**Pn**	**22 17 57.8**	**+0.9**
SIZA	**Siyzn**	**4.63**	**61**	P	**Pn**	**22 17 57.8**	**+0.9**
GOBA	**Gobu**	**4.99**	**71**	⇑P	**Pn**	**22 18 02.4**	**+0.7**
GOBA	**Gobu**	**4.99**	**71**	P	**Pn**	**22 18 02.4**	**+0.7**
NDR	**Nardaran**	**5.23**	**69**	⇓P	**Pn**	**22 18 05.7**	**+0.8**
NDR	**Nardaran**	**5.23**	**69**	P	**Pn**	**22 18 05.7**	**+0.8**

*ISK **30** 22:30:09.2, 38°.90N×43°.58E, h5km, MD2.7*
*ISCJB **30** 22:30:10.9±0.6, 38°.91N±0°.04×43°.58E±0°.06, h9km±5km, Error ellipse: s-maj=8.1km s-min=6.6km az=13.4*
*CSEM **30** 22:30:10.6±0.2, 38°.92N×43°.60E, h8km, ML2.7, Error ellipse: s-maj=4.3km s-min=3.3km az=122.0*
*DDA **30** 22:30:10.7, 38°.90N×43°.63E, h7km, Ml2.7*

ISC 30 22:30:10.9±1.0, 38°.93N±0°.03×43°.61E±0°.03, h9km±6km, n26, σ0§42/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**334**	*i* P	**Pg**	**22 30 12.6**	**-0.5**
VMUR				*i* S	**Sg**	**22 30 15.2**	**+0.5**
VMUR	**Van-Muradiye**	**0.07**	**334**	P	**Pg**	**22 30 12.6**	**-0.5**
VMUR				S	**Sg**	**22 30 15.2**	**+0.5**
CLDR	**Caldiran**	**0.32**	**48**	*e*PG	**Pg**	**22 30 17.2**	**-0.1**
CLDR				*e*SG	**Sb**	**22 30 23.6**	**-0.7**
CLDR	**Caldiran**	**0.32**	**48**	*i* P	**Pg**	**22 30 17.6**	**+0.3**
CLDR	**Caldiran**	**0.32**	**48**	*e*Pg	**Pg**	**22 30 17.3**	**-0.1**
CLDR	**Caldiran**	**0.32**	**48**	P	**Pg**	**22 30 17.6**	**+0.3**
CLDR				*e*Sg	**Sb**	**22 30 23.6**	**-0.7**
VANB	**Van**	**0.38**	**207**	*e*PG	**Pg**	**22 30 18.3**	**0.0**
VANB	**Van**	**0.38**	**207**	*e*Pg	**Pg**	**22 30 18.3**	**0.0**
TVAN	**Van**	**0.43**	**202**	*i* P	**Pg**	**22 30 19.1**	**-0.3**
TVAN	**Van**	**0.43**	**202**	P	**Pg**	**22 30 19.1**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.70**	**260**	*i* P	**Pg**	**22 30 24.5**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.70**	**260**	P	**Pg**	**22 30 24.5**	**+0.1**
TUTA	**Tutak**	**0.78**	**308**	*i* P	**Pg**	**22 30 25.2**	**-0.7**
TUTA	**Tutak**	**0.78**	**308**	P	**Pg**	**22 30 25.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.80**	**324**	*e*PG	**Pg**	**22 30 26.0**	**-0.4**
AGRB				*e*SG	**Sb**	**22 30 38.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.80**	**324**	*e*Pg	**Pg**	**22 30 26.0**	**-0.4**
AGRB				*e*Sg	**Sb**	**22 30 38.3**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.16**	**25**	*e*PN	**Pb**	**22 30 33.5**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.16**	**25**	*e*Pn	**Pb**	**22 30 33.5**	**+0.4**
EATA	**Eleskirt**	**1.27**	**317**	*i* P	**Pb**	**22 30 35.7**	**+0.5**
EATA	**Eleskirt**	**1.27**	**317**	P	**Pb**	**22 30 35.7**	**+0.5**
GURO	**Guroymak-BITLI**	**1.29**	**253**	*e*PN	**Pn**	**22 30 34.8**	**-0.4**
GURO	**Guroymak-BITLI**	**1.29**	**253**	*e*Pn	**Pn**	**22 30 34.8**	**-0.4**
CUKT	**Cukurca**	**1.68**	**180**	*e*PN	**Pn**	**22 30 40.1**	**-0.4**
CUKT	**Cukurca**	**1.68**	**180**	*e*Pn	**Pn**	**22 30 40.1**	**-0.4**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*PN	**Pn**	**22 30 40.9**	**+0.2**
VRTB	**Varto-Mus**	**1.69**	**278**	*e*Pn	**Pn**	**22 30 40.9**	**+0.2**

IDC 30 22:38:14.5±1.9, 6°.70S×144°.11E, h0km, mb4.1/2, mb1 4.0/5, mb1mx3.6/29, mbtmp3.8/5, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=48.4km s-min=30.6km az=66.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.04**	**132**	Pn	Pn	22 39 18.2	+0.5
	3.0nm,0.3s,baz=307,slow=5.1,SNR=2.2						
PMG				Sn	Sn	22 40 01.7	-4.1
	4.9nm,0.3s,baz=20,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**16.23**	**215**	Pn	Pn	22 42 05.6	+1.6
	0.1nm,0.3s,baz=30,slow=9.9,SNR=3.2						
WRA				Lg	Lg	22 46 45.4	
	0.1nm,0.3s,baz=30,slow=25,SNR=4.1						
ASAR	**Alice Springs**	**19.51**	**209**	P	P	22 42 42.6	-1.0
	0.3nm,0.3s,baz=39,slow=10.0,SNR=7.3						
ASAR				LR	LR	22 50 28.4	
	comp=Z,44nm,19.7s,baz=54,slow=38						
GUMO	**Guam**	**20.17**	**2**	LR	LR	22 50 10.9	
	comp=Z,33nm,20.0s,baz=122,slow=36						
CMAR	**Chiang Mai Arr**	**51.08**	**300**	P	P	22 47 20.0	+0.8
	2.3nm,0.3s,baz=120,slow=5.6,SNR=1.5						
MKAR	**Makanchi Array**	**76.23**	**321**	P	P	22 50 04.3	-0.6
	0.5nm,0.7s,baz=117,slow=6.9,SNR=3.6						

IDC 30 22:54:35.6±6.0, 18°.11N×146°.54E, h205km±57km, mb3.3/8, mb1 3.5/9, mb1mx3.2/34, mbtmp3.8/9, Error ellipse: s-maj=49.6km s-min=15.1km az=85.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 19.13**	**86**		T	T	23 19 57.4	
	baz=172,slow=74,SNR=5.4						
H11S1	**WAKE ISLAND Hy 19.15**	**86**		T	T	23 19 55.0	
	baz=274,slow=74,SNR=8.1						
H11N1	**WAKE ISLAND Hy 19.32**	**82**		T	T	23 19 54.9	
	baz=266,slow=74,SNR=6.2						
H11N2	**WAKE ISLAND Hy 19.33**	**82**		T	T	23 19 55.3	
	baz=266,slow=74,SNR=6.8						
H11N3	**WAKE ISLAND Hy 19.34**	**82**		T	T	23 19 55.9	
	baz=266,slow=74,SNR=6.4						
MJAR	**Matsushiro Arr**	**19.78**	**340**	P	P	22 58 50.1	-0.2
	0.6nm,0.3s,baz=170,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**39.67**	**198**	P	P	23 01 47.7	-0.3
	0.6nm,0.4s,baz=26,slow=8.2,SNR=7.6						
ASAR	**Alice Springs**	**43.32**	**197**	P	P	23 02 17.6	0.0
	0.4nm,0.3s,baz=16,slow=11,SNR=5.6						
SONM	**Songino Array**	**44.10**	**321**	P	P	23 02 23.3	-0.4
	0.3nm,0.4s,baz=134,slow=8.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**45.09**	**278**	P	P	23 02 31.9	+0.1
	0.5nm,0.7s,baz=64,slow=8.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**58.96**	**323**	P	P	23 04 13.2	-0.2
	0.9nm,0.5s,baz=114,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**59.44**	**314**	P	P	23 04 16.8	-0.2
	0.6nm,0.7s,baz=91,slow=9.6,SNR=7.1						
ARCES	**ARCESS Array B**	**83.29**	**342**	P	P	23 06 39.6	+0.6
	3.1nm,1.0s,baz=64,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**87.75**	**336**	P	P	23 07 01.0	-0.1
	3.3nm,1.0s,baz=83,slow=6.0,SNR=7.1						

*ISK **30** 22:55:17.2, 38°.63N×43°.17E, h6km, MD2.5*
*ISCJB **30** 22:55:18.5±0.7, 38°.65N±0°.04×43°.18E±0°.06, h11km±11km, Error ellipse: s-maj=7.8km s-min=5.8km az=28.6*
*CSEM **30** 22:55:18.3±0.3, 38°.65N×43°.17E, h5km, MD2.5, Error ellipse: s-maj=6.3km s-min=5.9km az=58.0*
*DDA **30** 22:55:18.9, 38°.65N×43°.23E, h7km, Ml3.0*

ISC 30 22:55:18.5±1.0, 38°.65N±0°.03×43°.17E±0°.03, h10km±11km, n18, σ0§71/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**107**	*e*PG	**Pg**	**22 55 22.2**	**-0.2**
VANB				*e*SG	**Sg**	**22 55 25.7**	**+0.7**
VANB	**Van**	**0.18**	**107**	*e*Pg	**Pg**	**22 55 22.2**	**-0.2**
VANB				*e*Sg	**Sg**	**22 55 25.7**	**+0.7**
TVAN	**Van**	**0.22**	**123**	*i* P	**Pg**	**22 55 22.2**	**-0.9**
TVAN				*i* S	**Sg**	**22 55 26.1**	**-0.2**
TVAN	**Van**	**0.22**	**123**	P	**Pg**	**22 55 22.2**	**-0.9**
TVAN				S	**Sg**	**22 55 26.0**	**-0.2**
**GEVA

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SVAN	Silvan-Diyarba	2.37	293	*i* P		Pb	23 05 46.7	-0.8
SVAN				*i* S		Sb	23 06 17.3	+0.2
SVAN	Silvan-Diyarba	2.37	293	*e*Pn		Pn	23 05 45.0	+1.0
SVAN	Silvan-Diyarba	2.37	293	P		Pb	23 05 46.7	-0.8
SVAN				S		Sb	23 06 17.3	+0.2
AGRB	Hanur-Agry	2.43	342	*e*PN		Pb	23 05 47.3	-1.5
AGRB	Hanur-Agry	2.43	342	*e*Pn		Pb	23 05 47.3	-1.5
MARD	Mardin	2.54	272	*i* P		Pn	23 05 47.1	+0.6
MARD				*i* S		Sb	23 06 22.4	+0.2
TASB	TASBURUN-IGDIR	2.73	4	*e*PN		Pb	23 05 53.2	-0.5
VRTB	Varto-Mus	2.74	315	*e*PN		Pn	23 05 50.7	+1.5
VRTB	Varto-Mus	2.74	315	*e*Pn		Pn	23 05 50.7	+1.5
MAZI	Mazidag	2.81	275	*e*PN		Pn	23 05 51.8	+1.6
MAZI	Mazidag	2.81	275	*e*Pn		Pn	23 05 51.8	+1.6
BNGB	Bing˘ll	3.11	305	*e*PN		Pn	23 05 55.7	+1.3
BINT	Bingol	3.18	301	*e*Pn		Pn	23 05 55.7	+0.4
YEDI	Yedisu-Bingol	3.46	310	*e*PN		Pn	23 06 00.5	+1.4
YEDI	Yedisu-Bingol	3.46	310	*e*Pn		Pn	23 06 00.5	+1.4
SENK	Senkaya-Erzuru	3.53	340	*e*PN		Pn	23 06 03.6	+3.5
SVRC	Sivrice-ELAZID	3.85	288	*e*PN		Pn	23 06 07.0	+2.4
SVRC	Sivrice-ELAZID	3.85	288	*e*Pn		Pn	23 06 07.0	+2.4
PTK	Pertek	3.96	296	*e*PN		Pn	23 06 08.1	+2.1
PTK	Pertek	3.96	296	*e*Pn		Pn	23 06 08.1	+2.1
RTB	Rutbah	5.18	216	*e*Pn		Pn	23 06 22.0	-0.7
	SNR=3.0							

NIED ***30*** *23:08:00, 38°.80N×142°.50E, h35km, Mw4.4 Best double couple: M0=5.17000×10^15 NP1:φ=135.00000°, δ=51.00000°, λ=-44.00000°. NP2:φ=256.00000°, δ=57.00000°, λ=-132.00000°.*

BJI ***30*** *23:08:23.5, 38°.72N×142°.95E, h30km, mb4.6/43, mB4.8/27, Ms4.2/23, Ms7 3.9/22*

ISCJB ***30*** *23:08:26.5±0.7, 38°.78N±0°.02×142°.44E±0°.04, h26km±4km, mb4.6/97, MS3.8/16, Error ellipse: s-maj=5.2km s-min=3.6km az=32.1*

MOS ***30*** *23:08:26.3±1.3, 38°.83N×142°.57E, h27km, mb4.7/36, Error ellipse: s-maj=8.2km s-min=5.6km az=94.5*

JMA ***30*** *23:08:27.3±0.1, 38°.83N×142°.46E, h34km±2km, M4.5*

JMA Felt II J1.

IDC ***30*** *23:08:28.4±0.5, 38°.77N×142°.42E, h31km±2km, mb4.1/26, mb1 4.3/31, mb1mx4.2/48, mbtmp4.3/31, ML3.8/4, MS3.5/13, Ms1 3.5/13, ms1mx3.4/31, Error ellipse: s-maj=13.1km s-min=10.3km az=96.0*

NEIC ***30*** *23:08:28.8±0.3, 38°.78N×142°.42E, h31km±1km, mb4.8/38, Error ellipse: s-maj=4.3km s-min=2.9km az=134.0*

NEIC Recorded [2 JMA] in Iwate.

ISC 30 23:08:27.4±0.4, 38°.77N±0°.03×142°.53E±0°.04, h24km±2km, h24km:pP-P, n237, σ1s77/245, mb4.7/101, MS3.8/16, 16C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
OFUJ	Ofunato	0.74	295	P		Pb	23 08 40.4	-1.2
OFUJ				S		Sb	23 08 49.3	-2.0
MIYJ	Miyakonagasawa	0.98	326	P		Pn	23 08 43.4	-2.2
MIYJ				S		Sb	23 08 54.6	-3.5
JIO	Ouri	0.98	251	P		Pn	23 08 44.1	-1.5
JIO				S		Sb	23 08 55.7	-2.5
JMK	Ichinoseki	1.04	280	P		Pn	23 08 45.1	-1.3
JMK				S		Sb	23 08 57.4	-2.5
JOM	Ohasama	1.19	306	P		Pn	23 08 47.3	-1.2
JOM				S		Sn	23 09 01.4	-2.6
JTH	Tanohata	1.27	336	P		Pn	23 08 47.7	-2.0
JTH				*e*S		Sn	23 09 02.7	-3.3
JOU	Okura	1.52	255	P		Pn	23 08 52.3	-0.8
JRG	Rokugo	1.60	293	P		Pn	23 08 53.7	-0.5
JMM	Marumori	1.64	237	P		Pn	23 08 53.5	-1.2
JMM				*e*S		Sn	23 09 13.0	-2.0
JYK	Kaneyama	1.71	276	P		Pn	23 08 55.1	-0.5
JANG	Nango	1.78	334	P		Pn	23 08 55.4	-1.3
JANG				*e*S		Sn	23 09 16.6	-1.9
MJAR	Matsushiro Arr	4.09	238	Pn		Pn	23 09 29.1	+0.7
	18nm,0.3s,baz=35,slow=12,SNR=112							
MJAR				Sn		Sb	23 10 24.6	-3.1
	4.5nm,0.3s,baz=12,slow=9.5,SNR=4.3							
MJAR				LR		LR	23 11 19.4	
	comp=Z,704nm,18.5s,baz=70,slow=43							
MAJO	Matsushiro	4.09	238	⇑*i* P		Pn	23 09 29.7	+1.3
MAJO	Matsushiro	4.09	238	*e*Pn		Pn	23 09 30.1	+1.7
MAJO				*e*Sn		Sn	23 10 13.9	-1.6
MJB9	Matsu-Tunnel	4.09	238	*e*Pn		Pn	23 09 30.1	+1.7
MJB9				*e*Sn		Sn	23 10 14.4	-1.1
ASAJ	Asahikawa	5.34	0	Pn		Pn	23 09 46.3	+0.8
	12nm,0.3s,baz=210,slow=10,SNR=25							
ASAJ				Sn		Sn	23 10 53.4	+7.1
	baz=55,slow=29,SNR=2.6							
ASAJ	Asahikawa	5.34	0	*e*Pn		Pn	23 09 45.5	0.0
ASAJ				*e*Sn		Sn	23 10 46.3	+0.1
ASAJ				Sn		Sn	23 10 53.4	+7.1
INU	Inuyama	5.58	234	*e*Pn		Pn	23 09 49.9	+1.1
YUK	Yuzh-Kuril'sk	5.82	24	*e*P		Pn	23 09 50.3	-1.8
YUK				*i* S		Sn	23 10 52.1	-6.0
YUK				pmax		pmax		
	comp=E,171nm,0.3s							
YUK				pmax		pmax		
	comp=Z,331nm,0.3s							
YUK				pmax		pmax		
	comp=N,173nm,0.4s							
YUK				smax		smax		
	comp=N,812nm,0.6s							
YUK				smax		smax		
	comp=E,487nm,0.4s							
YUK				MLR		MLR		
	comp=Z,647nm,13.0s							
YUK				MLR		MLR		
	comp=N,721nm,12.0s							
SHO	Shikotan	6.03	31	*e*P		Pn	23 09 52.5	-2.5
SHO				*i* S		Sn	23 10 55.9	-7.3
SHO				pmax		pmax		
	comp=Z,160nm,0.4s							
SHO				pmax		pmax		
	comp=E,90nm,0.3s							
SHO				smax		smax		
	comp=N,676nm,0.6s							
SHO				smax		smax		
	comp=E,560nm,0.3s							
JHJ2	Mitsune	6.06	202	*e*Pn		Pn	23 09 55.4	0.0
JHJ	Hachijo jima 2	6.07	202	Pn		Pn	23 09 55.5	0.0
	comp=E,82nm,0.3s,baz=74,slow=4.2,SNR=13							
JHJ				Sn		Sn	23 11 01.4	-2.8
	comp=E,29nm,0.3s,baz=62,slow=23,SNR=2.8							
KUR	Kuril'sk	7.58	30	*d i*P		Pn	23 10 15.3	-0.9
KUR				*e*S		Sn	23 11 35.9	-5.4
KUR				pmax		pmax		
	comp=Z,109nm,0.4s							
KUR				pmax		pmax		
	comp=N,29nm,0.5s							
KUR				pmax		pmax		
	comp=E,28nm,0.2s							
KUR				smax		smax		
	comp=E,200nm,0.5s							
KUR				smax		smax		
	comp=N,123nm,0.2s							
KUR				MLR		MLR		
	comp=Z,403nm,13.0s							
YSS	Yuzh-Sakhalins	8.18	1	*e*P		Pn	23 10 24.1	-0.4
YSS				*e*S		Sn	23 11 54.5	-1.5
YSS				pmax		pmax		
	comp=Z,30nm,1.2s							
YSS				MLR		MLR		
	comp=Z,300nm,14.0s							
YSS	Yuzh-Sakhalins	8.18	1	*e*Pn		Pn	23 10 24.5	+0.1
VLA	Vladivostok	9.15	302	⇑*i*P		Pn	23 10 42.2	+4.4
VLA				pmax		pmax		
	comp=Z,26nm,0.8s							
MSHR	Mys Shultsa	9.44	297	*i* P		Pn	23 10 43.4	+1.6
USRK	Ussuriysk Ar.	9.59	308	Pn		Pn	23 10 45.1	+1.3
	comp=Z,1.0nm,0.3s,baz=123,slow=12,SNR=21							
USRK				LR		LR	23 14 08.2	
	comp=Z,279nm,20.0s,baz=127,slow=36							
JNU	Nakatsue	11.00	243	*e*Pn		Pn	23 11 02.6	-0.6
MDJ	Mudanjiang	11.30	305	P		Pn	23 11 11.8	+4.6
MDJ				pmax		pmax		
	comp=Z,9.0nm,0.6s							
MDJ				pmax		pmax		
	comp=Z,61nm,6.2s							
KSRS	Korea Array	11.59	268	Pn		Pn	23 11 14.4	+3.3
	comp=Z,0.3nm,0.3s,baz=81,slow=14,SNR=9.2							
KSRS				LR		LR	23 15 26.5	
	comp=Z,170nm,18.4s,baz=80,slow=36							
KS15	Wonju Array Si	11.62	268	*e*Pn		Pn	23 11 10.6	-1.1
KSAR	Wonju Array Be	11.62	268	P		Pn	23 11 14.5	+2.8
KSAR	Wonju Array Be	11.62	268	Pn		Pn	23 11 14.4	+2.8
CBIJ	Chichi jima	11.65	182	*e*Pn		Pn	23 11 13.2	+1.1
TYV	Tymovskoe	12.09	0	*e*P		Pn	23 11 16.2	-1.8
TYV				pmax		pmax		
	comp=Z,24nm,1.7s							
TYV				pmax		pmax		
	comp=Z,200nm,6.4s							
TYV				MLR		MLR		
	comp=N,900nm,17.0s							
TYV				MLR		MLR		
	comp=Z,700nm,19.0s							
INCN	Inchon	12.59	269	*e*Pn		Pn	23 11 23.6	-1.3
KLR	Kul'dur	13.01	327	Pn		Pn	23 11 31.0	+0.5
	comp=Z,0.0nm,0.3s,baz=128,slow=14,SNR=4.4							
KLR				LR		LR	23 16 19.3	
	comp=Z,25nm,21.1s,baz=149,slow=36							
PETK	Petropavlovsk-	17.74	31	P		P	23 12 33.5	+0.3
	comp=Z,0.2nm,0.3s,baz=210,slow=8.3,SNR=3.3							
PETK				LR		LR	23 19 51.8	
	comp=Z,42nm,18.4s,baz=220,slow=38							
NJ2	Nanjing	20.40	258	*e*P		P	23 13 02.5	0.0
NJ2				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MA2	Magadan	21.47	11	P		P	23 13 13.9	0.0
	comp=Z,23nm,0.7s,baz=192,slow=9.9,SNR=8.1							
HHC	Hu-ho-hao-te	23.82	285	*e*P		P	23 13 38.3	-0.3
HHC				sP		sP	23 13 51.3	+2.7
HHC				PP		PnPn	23 14 14.5	+7.8
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,43nm,3.8s							
HHC				LR		LR		
	comp=Z,150nm,11.3s							
HHC				LR		LR		
	comp=Z,230nm,10.3s							
HHC				LR		LR		
	comp=Z,130nm,9.4s							
TPUB	Ta-pu	24.20	237	*e*P		P	23 13 41.7	-0.4
	comp=Z,195nm,2.0s							
TWG	Pinlang	24.25	235	*e*P		P	23 13 42.0	-0.6
	comp=Z,686nm,2.0s							
YAK	Yakutsk	24.59	345	P		P	23 13 44.6	-0.6
	comp=Z,20nm,0.4s,baz=196,slow=1.1,SNR=7.1							
YAK	Yakutsk	24.59	345	*e*P		P	23 13 44.7	-0.6
YAK				*e**PP		pP	23 13 49.3	-3.1
YAK				*e*			23 14 13.9	
YAK				*e*S		S	23 18 06.0	+1.4
YAK				*e*SS		SnSn	23 18 52.0	+1.4
YAK				pmax		pmax		
	comp=Z,24nm,1.0s							
YAK				pmax		pmax		
	comp=N,10.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,19nm,0.9s							
YAK				pmax		pmax		
	comp=N,10.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,9.0nm,1.1s							
YAK				smax		smax		
	comp=N,64nm,3.2s							
YAK				smax		smax		
	comp=E,106nm,3.8s							
YAK				MLR		MLR		
	comp=Z,140nm,15.0s							
YAK				MLR		MLR		
	comp=N,339nm,27.0s							
YAK	Yakutsk	24.59	345	*e*P		P	23 13 44.5	-0.8
	comp=N,38nm,0.7s							
SEY	Seymchan	24.92	11	P		P	23 13 49.0	+0.8
	comp=N,9.6nm,0.6s,baz=189,slow=8.8,SNR=17							
SEY	Seymchan	24.92	11	*i* P		P	23 13 50.1	+1.9
BOD	Bodaibo	26.57	325	*e*P		P	23 14 02.6	-0.6
BOD				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ULN	Ulaanbaatar	27.16	301	*i* P		P	23 14 11.2	+2.3
ULN				pmax		pmax		
	comp=Z,5.0nm,1.8s							
ULN	Ulaanbaatar	27.16	301	*e*P		P	23 14 09.0	+0.1
	comp=Z,2.1nm,0.8s							
SONM	Songino Array	27.60	301	P		P	23 14 12.3	-0.5
	comp=Z,0.9nm,0.5s,baz=98,slow=8.6,SNR=9.2							
SONM				LR		LR	23 25 28.5	
	comp=Z,82nm,18.8s,baz=55,slow=37							
H11N2	WAKE ISLAND Hy	28.35	125	T		T	23 44 49.2	
	baz=75,slow=74,SNR=5801							
H11N1	WAKE ISLAND Hy	28.36	125	T		T	23 44 48.2	
	baz=319,slow=74,SNR=4264							
H11N3	WAKE ISLAND Hy	28.36	125	T		T	23 44 49.0	
	SNR=4345							
ENH	Enshi	28.40	263	*e*P		P	23 14 19.8	-0.2
	comp=Z,11nm,0.6s							
H11S1	WAKE ISLAND Hy	29.13	127	T		T	23 45 57.5	
	baz=319,slow=76,SNR=368							
H11S3	WAKE ISLAND Hy	29.13	127	T		T	23 45 48.6	
	baz=319,slow=76,SNR=620							
H11S2	WAKE ISLAND Hy	29.14	127	T		T	23 45 54.4	
	baz=319,slow=76,SNR=374							
TLY	Talaya	29.91	308	*e*P		P	23 14 33.6	+0.5
TLY				pmax		pmax		
	comp=Z,7.0nm,1.0s							
TLY				MLR		MLR		
	comp=Z,132nm,16.0s							
LZH	Lanzhou	30.69	277	*e*P		P	23 14 42.3	+1.9
LZH				pP		pP	23 14 45.5	-2.1
LZH				pmax		pmax		
	comp=Z,23nm,1.0s							
LZH				pmax		pmax		
	comp=Z,130nm,4.5s							
LZH				LR		LR		
	comp=Z,190nm,11.2s							
LZH				LR		LR		
	comp=Z,210nm,12.5s							
LZH				LR		LR		
	comp=Z,260nm,13.0s							
GYA	Guiyang	32.41	259	⇑*i*P		P	23 14 55.0	-0.5
GYA				pP		sP	23 15 05.5	-0.2
GYA				PP		PnPn	23 16 03.5	+0.9
GYA				PcP		PcP	23 17 44.3	+1.6
GYA				S		S	23 20 04.8	-3.9
GYA				sS		sS	23 20 23.3	+2.7
GYA				ScP		ScP	23 21 24.0	-0.8
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,130nm,5.6s							
GYA				LR		LR		
	comp=Z,490nm,17.0s							
GYA				LR		LR		
	comp=Z,460nm,17.8s							
GYA				LR		LR		
	comp=Z,440nm,17.6s							
CD2	Chengdu	32.59	268	*e*P		P	23 14 56.5	-0.5
GTA	Gaotai	32.94	285	*e*P		P	23 15 01.0	+0.9
GTA				pP		sP	23 15 10.3	0.0
GTA				sP		pP	23 15 14.5	+7.2
GTA				S		S	23 20 14.8	-1.9
GTA				sS		sS	23 20 30.3	+1.7
GTA				SS		SnSn	23 22 15.0	+0.4
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,63nm,4.8s							
GTA				LR		LR		
	comp=Z,120nm,18.5s							
GTA				LR		LR		
	comp=Z,150nm,19.0s							
GTA				LR		LR		
	comp=Z,230nm,18.5s							
TIXI	Tiksi	33.68	352	P		P	23 15 05.1	-0.8
	comp=Z,0.9nm,0.4s,baz=123,slow=1.3,SNR=2.9							
TIXI	Tiksi	33.68	352	⇑*e*P		P	23 15 04.3	-1.6
TIXI				pmax		pmax		
	comp=Z,5.0nm,2.0s							
TIXI	Tiksi	33.68	352	*e*P		P	23 15 05.7	-0.2
	comp=Z,2.5nm,0.5s							
QIZ	Qiongzhong	34.46	245	P		P	23 15 12.3	-1.0
QIZ				S		S	23 20 39.5	-0.9
MIDW	Midway	34.81	95	*e*P		P	23 15 16.8	+0.5
	comp=Z,158nm,1.3s							
NIKH	Nikolski High	35.98	51	*e*P		P	23 15 26.7	+0.7
	comp=Z,125nm,0.7s							
KMI	Kunming	36.12	260	P		P	23 15 30.8	+3.0
KMI				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MYLDM	Lahad Datu	39.92	219	*e*P		P	23 15 59.3	-0.3
	comp=Z,11nm,1.0s							
WMQ	Urumqi	40.87	295	P		P	23 16 09.0	+1.6
WMQ				pP		sP	23 16 16.8	-0.9
WMQ				sP		pP	23 16 21.5	+6.8
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,94nm,5.5s							
WMQ				LR		LR		
	comp=Z,60nm,17.3s							
WMQ				LR		LR		
	comp=Z,90nm,18.9s							
WMQ				LR		LR		
	comp=Z,72nm,14.1s							
ZAA0	Zalesovo Array	41.42	311	*e*P		P	23 16 12.2	+0.5
ZALV	Zalesovo Beam	41.42	311	P		P	23 16 12.0	+0.3
	comp=Z,3.9nm,0.6s,baz=83,slow=8.0,SNR=19							
ZALV				LR		LR	23 33 58.8	
	comp=Z,82nm,18.9s,baz=73,slow=37							
FAKI	Fak Fak	42.56	195	*e*P		P	23 16 21.9	+0.7
	comp=Z,16nm,1.1s							
CHTO	Chiang Mai	42.59	255	*e*P		P	23 16 20.9	-0.7
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CHTO	Chiang Mai	42.59	255	*e*P		P	23 16 20.9	-0.7
	comp=Z,2.6nm,0.6s							
CMAR	Chiang Mai Arr	42.81	254	P		P	23 16 22.4	-0.9
	comp=Z,0.6nm,0.3s,baz=41,slow=7.2,SNR=3.0							
CMAR				LR		LR	23 35 00.9	
	comp=Z,33nm,19.9s,baz=36,slow=37							
SVW2	Sparrevohn	43.61	38	*e*P		P	23 16 31.4	+2.0
	comp=Z,45nm,1.7s							
MK31	Makanchi Array	43.97	301	*i* P		pP	23 16 39.3	-0.6
MK31				pmax		pmax		
	comp=Z,13nm,0.6s							
MK31	Makanchi Array	43.97	301	*e*P		P	23 16 32.3	-0.2
MKAR	Makanchi Array	43.97	301	P		P	23 16 32.1	-0.4
	comp=Z,2.2nm,0.7s,baz=85,slow=9.7,SNR=19							
MKAR				pP		pP	23 16 40.0	+0.2
	comp=Z,12nm,0.7s,baz=85,slow=9.4,SNR=35							
MKAR	Makanchi Array	43.97	301	*e*P		P	23 16 32.3	-0.2
	comp=Z,100nm,0.7s							
MKAR				pP		pP	23 16 40.0	+0.2
MAKZ	Makanchi	44.18	301	*i* P		pP	23 16 40.8	-0.7
MAKZ				pmax		pmax		
	comp=Z,13nm,0.8s							
MAKZ	Makanchi	44.18	301	*e*P		P	23 16 34.0	-0.2
	comp=Z,12nm,0.8s							
SII	Sitkinak Islan	44.44	45	*e*P		P	23 16 37.6	+1.5
	comp=Z,177nm,1.5s							
KDAK	Kodiak Island	45.22	43	P		P	23 16 42.3	+0.2
	comp=Z,9.1nm,0.8s,baz=288,slow=3.3,SNR=5.3							
KDAK	Kodiak Island	45.22	43	*i* P		P	23 16 43.4	+1.2
KDAK	Kodiak Island	45.22	43	*e*P		P	23 16 42.4	+0.2
	comp=Z,169nm,1.8s							
PPLA	Purkeypile	45.24	36	*e*P		P	23 16 44.2	+1.7
	comp=Z,41nm,1.7s							
KURK	Kurchatov	45.58	307	*c i*P		P	23 16 45.5	+0.3
KURK				pmax		pmax		
	comp=Z,30nm,0.7s							
KURK	Kurchatov	45.58	307	*e*P		P	23 16 45.8	+0.6
	comp=Z,19nm,0.9s							
KURK				pP		pP	23 16 54.0	+1.4
KURBB	Kurchatov Arra	45.65	307	P		P	23 16 45.3	-0.5
	comp=Z,7.1nm,0.7s,baz=82,slow=8.2,SNR=26							
KURBB				pP		pP	23 16 54.0	+0.9
	comp=Z,10nm,0.5s,baz=81,slow=8.7,SNR=10							
MDM	Murphy Dome	46.98	33	*e*P		P	23 16 57.8	+1.8
	comp=Z,30nm,1.8s							
ILAR	Eielson Array	47.55	33	P		P	23 17 01.2	+0.7
	comp=Z,4.0nm,0.6s,baz=264,slow=6.1,SNR=78							
ILB	Eielson Array	47.55	33	*e*P		P	23 17 01.2	+0.7
RAGM	Ragged Mountai	48.99	39	*e*P		P	23 17 13.0	+1.3
	comp=Z,87nm,0.7s							
TKM2	Tokmak 2	49.60	297	*i* P		pP	23 17 22.5	-1.8
TKM2				pmax		pmax		
	comp=Z,13nm,0.7s							
BVAR	Borovoye Array	50.07	311	P		P	23 17 20.2	+0.2
	comp=Z,2.0nm,0.6s,baz=66,slow=8.0,SNR=13							
BVAR				pP		sP	23 17 29.4	-1.0
	comp=Z,5.5nm,0.5s,baz=66,slow=7.7,SNR=16							
BRVK	Borovoye	50.13	311	*i* P		P	23 17 20.5	+0.1
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BRVK	Borovoye	50.13	311	*e*P		P	23 17 21.7	+1.3
	comp=Z,12nm,1.2s							
AAK	Ala-Archa	50.46	297	*i* P		P	23 17 24.7	+1.4
AAK				pmax		pmax		
	comp=Z,11nm,1.8s							
KSH	Kashi	50.52	293	*e*P		P	23 17 24.8	+1.0
KSH				pP		sP	23 17 33.8	-0.4
KSH				sP		pP	23 17 36.5	+5.3
KSH				PcP		PcP	23 18 40.5	-1.0
KSH				PP		PP	23 19 19.0	-0.4
KSH				pmax		pmax		
	comp=Z,33nm,2.2s							
KSH				pmax		pmax		
	comp=Z,220nm,6.6s							
KSH				LR		LR		
	comp=Z,130nm,8.6s							
KSH				LR		LR		
	comp=Z,110nm,9.7s							
MNAS	Manas	51.89	298	*i* P		pP	23 17 41.5	0.0
MNAS				pmax		pmax		
	comp=Z,16nm,0.7s							
KK31	Karatay Array	53.03	299	*i* P		pP	23 17 50.8	+1.0
KK31				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KKAR	Karatay Array	53.03	299	*e*P		P	23 17 42.9	+0.6
KKAR	Karatay Array	53.03	299	*e*P		P	23 17 42.9	+0.6
	comp=Z,72nm,0.8s							
SVE	Sverdlovsk	54.44	318	*e*P		pP	23 18 00.1	+0.2
SVE				pmax		pmax		
	comp=Z,30nm,0.8s							
ARU	Arti	55.66	318	*d i*P		P	23 18 01.9	+0.8
ARU				*PP		pP	23 18 10.3	+1.6
ARU							23 18 59.3	
ARU				S		S	23 25 47.8	+2.2
ARU				SS		SS	23 29 34.3	+4.0
ARU				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ARU	Arti	55.66	318	*e*P		P	23 18 01.5	+0.3
	comp=Z,20nm,0.6s							
DZET	Dzherino	55.90	295	P		P	23 18 05.9	+2.6
DZET				pmax		pmax		
	comp=Z,7.0nm,0.8s							
ABKAR	Akbulak array	57.51	310	*e*P		P	23 18 13.9	-0.5
	comp=Z,153nm,0.4s							
AKTO	Aktyubinsk	58.18	311	*i* P		pP	23 18 27.6	+0.9
AKTO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WRAB	Tennant Creek	58.90	189	*e*P		P	23 18 24.0	-0.4
WRAB				pmax		pmax		
	comp=Z,29nm,1.4s							
WRAB	Tennant Creek	58.90	189	*e*P		P	23 18 23.9	-0.4
	comp=Z,29nm,1.4s							
WB2	Warramunga Arr	58.91	189	*e*P		P	23 18 23.9	-0.5
	comp=Z,7.6nm,0.6s							
WRA	Warramunga Arr	58.91	189	P		P	23 18 23.9	-0.6
	comp

LPSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 67.69 332 P **P 23 19 21.6 -0.5**
comp=Z,2.5nm,0.6s,baz=46,slow=8.2,SNR=6.8
FINES pP **pP 23 19 31.7 +1.9**
comp=Z,6.1nm,0.6s,baz=22,slow=11,SNR=7.4
STKA Stephens Creek 70.30 181 P **P 23 19 38.5 -0.1**
comp=Z,1.9nm,0.7s,baz=350,slow=9.9,SNR=3.7
ZEI Tsey 70.38 309 *eP* **pP 23 19 47.4 +0.2**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 70.44 311 *eP* **P 23 19 41.3 +1.6**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 70.44 311 *eP* **P 23 19 39.5 -0.2**
comp=Z,24nm,0.9s
KBZ Khabaz 70.44 311 P **P 23 19 39.0 -0.6**
comp=Z,1.5nm,0.7s,baz=108,slow=6.6,SNR=4.3
KBZ pP **sP 23 19 49.6 -0.5**
comp=Z,7.2nm,0.9s,baz=110,slow=3.0,SNR=8.4
AKH Akhalkalaki 71.42 308 ⇑ *iP* pP 23 19 55.5 +2.0
YERR Yerington 72.33 54 *eP* **P 23 19 52.8 +1.5**
comp=Z,12nm,1.6s
NB2 NORSAR Subarra 72.92 338 P **P 23 19 53.6 -0.6**
comp=Z,4.4nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.92 338 P **P 23 19 53.4 -0.9**
comp=Z,0.6nm,0.6s,baz=48,slow=5.3,SNR=4.4
NOA pP **sP 23 20 04.0 -0.8**
comp=Z,4.2nm,0.9s,baz=38,slow=6.0,SNR=7.2
NOA LR LR 23 56 10.8
comp=Z,72nm,19.0s,baz=345,slow=39
AKASG Malin Array Be 73.46 322 P **P 23 19 57.1 -0.5**
comp=Z,1.2nm,0.4s,baz=43,slow=6.3,SNR=9.4
AKASG pP **pP 23 20 07.0 +1.7**
comp=Z,2.3nm,0.4s,baz=46,slow=6.4,SNR=12
AKASG LR LR 23 55 07.9
comp=Z,91nm,19.4s,baz=330,slow=38
AKBB Malin Array Si 73.46 322 *eP* pP 23 20 07.2 +1.9
AKBB Malin Array Si 73.46 322 *epP* pP 23 20 07.2 +1.9
KIEV Kiev 73.47 322 ⇓ *eP* **P 23 19 56.9 -0.6**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 73.47 322 *eP* **P 23 19 57.0 -0.6**
KIEV *e* 23 20 07.2
HVU Hansel Valley 74.59 49 *eP* **P 23 20 06.2 +1.7**
HVU pmax pmax
comp=Z,3.0nm,0.9s
HVU Hansel Valley 74.59 49 *eP* **P 23 20 06.2 +1.7**
comp=Z,2.8nm,0.9s
SNOW Snow King Moun 74.70 46 *eP* **P 23 20 06.4 +1.1**
comp=Z,1.5nm,0.6s
R11A Troy Canyon, C 75.00 53 *eP* **P 23 20 08.0 +1.0**
comp=Z,4.3nm,1.3s
DUG Dugway, Tooele 75.55 50 *eP* **P 23 20 11.7 +1.6**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 75.55 50 *eP* **P 23 20 11.7 +1.6**
comp=Z,3.6nm,0.8s
PD31 Pinedale Array 75.82 46 *eP* **P 23 20 12.4 +0.7**
PDAR Pinedale Array 75.82 46 P **P 23 20 12.0 +0.3**
comp=Z,1.1nm,0.6s,baz=269,slow=3.0,SNR=12
PDAR pP **sP 23 20 23.0 +0.7**
comp=Z,1.2nm,0.7s,baz=88,slow=0.7,SNR=6.6
BEL Belsk 76.47 327 *eP* pP 23 20 25.8 +3.1
BEL Belsk 76.47 327 *eP* pP 23 20 25.8 +3.1
CCUT Cedar City 76.87 52 *eP* **P 23 20 19.3 +1.6**
comp=Z,2.3nm,1.0s
P17A Butcher Ranch, 77.25 49 *eP* **P 23 20 21.3 +1.6**
comp=Z,7.4nm,1.0s
LCMT Little Creek M 77.28 53 *eP* **P 23 20 21.6 +1.7**
comp=Z,4.1nm,1.0s
MTPU Mount Pierson 77.29 51 *eP* **P 23 20 22.2 +2.0**
comp=Z,3.7nm,0.8s
BUR08 Bucovina Ar. S 77.48 322 *eP* **P 23 20 20.9 +0.1**
BURAR Bucovina Array 77.49 322 ⇓ *iP* pP 23 20 31.4 +2.7
KNB Kanab 77.54 52 *eP* **P 23 20 22.2 +0.7**
KNB pmax pmax
comp=Z,19nm,1.7s
KNB Kanab 77.54 52 *eP* **P 23 20 22.2 +0.7**
comp=Z,19nm,1.7s
TESR Tescani 77.56 320 ⇓ *iP* pP 23 20 31.2 +2.2
SRU San Rafael Swe 77.61 50 *eP* **P 23 20 23.0 +1.2**
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU San Rafael Swe 77.61 50 *eP* **P 23 20 23.0 +1.2**
comp=Z,5.7nm,0.7s
VRI Vrincioaia 77.97 320 ⇑ *iP* pP 23 20 34.2 +2.9
STHS Stebnicka Huta 78.04 325 *eP* **P 23 20 24.1 +0.3**
STHS *e* 23 20 34.6
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 78.04 325 *eP* **P 23 20 24.1 +0.3**
STHS *e* 23 20 34.6
OJC Ojcow 78.09 326 *eP* pP 23 20 34.6 +2.8
OJC Ojcow 78.09 326 *eP* pP 23 20 34.2 +2.4
OJC Ojcow 78.09 326 *epP* pP 23 20 34.2 +2.4
U15A North Rim 78.25 53 *eP* **P 23 20 26.2 +0.7**
BR131 Keskin Array S 78.36 312 *epP* pP 23 20 36.0 +2.3
BRTR Keskin Array B 78.36 312 P **P 23 20 25.8 -0.1**
comp=Z,0.5nm,0.6s,baz=88,slow=4.2,SNR=4.2
BRTR pP **PcP 23 20 35.9 +0.8**
comp=Z,1.8nm,0.4s,baz=115,slow=3.6,SNR=12
ISR Istrita 78.59 320 ⇓ *iP* pP 23 20 37.6 +2.9
ANTO Ankara 78.75 312 *eP* **P 23 20 27.9 -0.1**
ANTO *e**PP **sP 23 20 38.8 +0.2**
ANTO Ankara 78.75 312 *eP* **P 23 20 27.9 -0.1**
ANTO *epP* **sP 23 20 38.8 +0.2**
LANS Liptovska Anna 79.03 326 *eP* pP 23 20 39.3 +2.2
LANS Liptovska Anna 79.03 326 *e* pP 23 20 39.3 +2.2
KSP Ksiaz 79.09 329 *eP* pP 23 20 40.3 +3.0
KSP Ksiaz 79.09 329 *eP* pP 23 20 40.3 +3.0
VOIR 79.11 321 ⇑ *iP* pP 23 20 40.6 +2.9
DRGR 79.28 323 ⇑ *iP* pP 23 20 41.3 +2.8
ARR Arges 79.37 321 ⇑ *iP* pP 23 20 42.2 +3.2
MORC Moravsky Berou 79.38 327 ⇓ *iP* pP 23 20 41.7 +2.7
MORC Moravsky Berou 79.38 327 *eP* **P 23 20 31.2 0.0**
MORC *e**PP **sP 23 20 41.6 -0.2**
MORC Moravsky Berou 79.38 327 *eP* **P 23 20 31.2 0.0**
MORC *epP* **sP 23 20 41.6 -0.2**
WUAZ Wupatki 79.40 53 *eP* **P 23 20 31.9 +0.1**
comp=Z,4.3nm,0.9s
PV01 Paradox Valley 79.40 49 *eP* **P 23 20 32.7 +0.9**
comp=Z,121nm,0.6s
DPC Dobruska-Polom 79.45 328 *eP* **P 23 20 33.5 +1.9**
DPC *epP* **sP 23 20 42.4 +0.2**
DPC Dobruska-Polom 79.45 328 *eP* **P 23 20 33.5 +1.9**
DPC *e**PP **sP 23 20 42.4 +0.2**
KRLC Kraliky 79.47 328 *epP* pP 23 20 42.3 +2.8
BRG Berggiesshubel 80.00 330 *eP* pP 23 20 44.6 +2.3
comp=Z,5.8nm,1.1s
BRG Berggiesshubel 80.00 330 *eP* **pP 23 20 44.6 +2.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s
PVCC Panska Ves 80.03 329 *eP* **P 23 20 35.1 +0.5**
PVCC Panska Ves 80.03 329 *eP* **P 23 20 35.1 +0.5**
CLL Collm 80.03 331 *eP* **P 23 20 34.0 -0.6**
CLL *i* 23 20 44.0
CLL Collm 80.03 331 *eP* **P 23 20 34.0 -0.6**
CLL *i* pP **pP 23 20 44.0 +1.6**
comp=Z,8.0nm,0.9s
X16A Lo Mia Camp, P 80.07 54 *eP* **P 23 20 37.0 +1.7**
VRAC Vranov 80.14 327 ⇑ *iP* pP 23 20 45.9 +2.8
SIRR Siria 80.16 323 ⇑ *iP* pP 23 20 46.0 +2.8
PRU Pruhonice 80.46 329 *epP* pP 23 20 47.0 +2.2
BZS Buzias 80.66 322 ⇓ *iP* pP 23 20 48.0 +2.1
MDVR Moldovita 81.22 322 ⇑ *iP* pP 23 20 51.3 +2.3
CONA Conrad Observa 81.51 327 *iP* **P 23 20 42.7 0.0**
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 81.52 329 *eP* **P 23 20 43.0 +0.4**
KHC *epP* **sP 23 20 53.1 -0.3**
KHC Kasperske Hory 81.52 329 *eP* **P 23 20 43.1 +0.4**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 81.52 329 *eP* **P 23 20 43.1 +0.4**
comp=Z,2.1nm,0.8s
GERES GERESS Array B 81.70 329 P **P 23 20 43.1 -0.6**
comp=Z,0.2nm,0.5s,baz=350,slow=29,SNR=8.6
GERES pP **sP 23 20 53.6 -0.8**
comp=Z,1.4nm,0.6s,baz=46,slow=4.1,SNR=9.4
GERES LR LR 23 59 39.2
comp=Z,143nm,18.8s,baz=356,slow=38
VTS Vitosha 82.08 319 ⇓ *iP* pP 23 20 56.2 +2.5
VTS Vitosha 82.08 319 *eP* pP 23 20 55.0 +1.3
VTS Vitosha 82.08 319 *epP* pP 23 20 55.0 +1.3
ARSA Arzberg 82.18 327 *iP* **P 23 20 42.0 -4.2**
comp=Z,1.8nm,0.7s
ANMO Albuquerque 82.80 51 *eP* **P 23 20 50.7 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
SOKA Soboth 82.84 327 *iP* **P 23 20 49.8 +0.1**
comp=Z,9.5nm,1.0s
OBKA Obir 83.18 327 *iP* **P 23 20 51.5 0.0**
comp=Z,4.2nm,1.2s
KBA Koelnbreinsper 83.24 328 *iP* **P 23 20 52.5 +0.6**
comp=Z,7.0nm,0.9s
MYKA Terra Mystica 83.47 327 *iP* **P 23 20 52.4 -0.5**
comp=Z,1.8nm,0.4s
WATA Walderalm 83.76 329 *iP* pP 23 21 04.8 +2.4
comp=Z,5.5nm,1.1s
WTTA Wattenberg 83.79 329 *iP* pP 23 21 05.5 +2.9
comp=Z,3.4nm,0.8s
ABTA Abfaltersbach 83.85 328 *i* pP pP 23 21 04.1 +1.3
comp=Z,4.9nm,1.0s
MOTA Moosalm 83.94 329 *i* pP pP 23 21 05.2 +1.9
comp=Z,7.8nm,1.0s
RETA Reutte 83.97 329 *iP* pP 23 21 05.9 +2.6
comp=Z,8.3nm,1.0s
PDG Podgorica 84.16 322 ⇑ *iP* pP 23 21 06.8 +2.5
BFO Black Forest 84.22 331 *iP* pP 23 21 08.0 +3.5
BFO Black Forest 84.22 331 *epP* pP 23 21 06.7 +2.2
FETA Feichten 84.36 329 *iP* pP 23 21 08.0 +2.5
comp=Z,6.2nm,1.0s
DAVA Damuels 84.48 330 *i* pP pP 23 21 08.4 +2.4
comp=Z,11nm,0.9s
PPT Papeete 84.63 117 LR LR 23 49 45.4
comp=Z,43nm,21.7s,baz=355,slow=29
FUORN Ofenpass-Fuorn 84.87 329 *eP* **P 23 21 00.6 +0.3**
comp=Z,20nm,1.2s
TX31 Lajitas Ar. Si 88.36 53 *eP* **P 23 21 18.2 +0.7**
TXAR Lajitas Array 88.36 53 P **P 23 21 18.1 +0.6**
comp=Z,1.5nm,0.6s,baz=296,slow=3.1,SNR=31
H06N1 SOCORRO T-PHAS 90.55 65 T T 01 02 28.6
SNR=6.6
H06E1 SOCORRO T-PHAS 90.64 65 T T 01 02 39.5
SNR=9.1
ESDC Sonseca Array 96.11 335 P **P 23 21 52.5 -0.6**
comp=Z,0.2nm,0.6s,baz=21,slow=3.9,SNR=3.4
TORD Torodi Ar. Bea 116.71 316 PKP **PKPdf 23 27 08.8 -1.3**
comp=Z,0.3nm,0.6s,baz=6.6,slow=2.1,SNR=4.3
TORD pPKP sPKPdf 23 27 20.3 -0.7
comp=Z,0.2nm,0.6s,baz=356,slow=3.2,SNR=1.8
MAW Mawson 121.49 206 PKP **PKPdf 23 27 17.2 -0.3**
comp=Z,1.0nm,0.8s,baz=41,slow=7.1,SNR=4.9
SNAA Sanae 142.67 197 PKP **PKPdf 23 27 51.8 -5.5**
VNA2 Neumayer--Watz 144.23 196 PKP **PKPab 23 27 54.3 -3.6**
baz=120,slow=2.9
VNA3 Neumayer Olymp 144.47 195 PKP **PKPab 23 27 58.5 -0.2**
VNA1 Neumayer--Stat 144.63 196 PKP PKPbc 23 27 59.9 +0.4
LPAZ La Paz 145.04 59 PKPbc **PKPbc 23 28 02.7 -0.5**
comp=Z,1.6nm,0.5s,baz=60,slow=6.1,SNR=10

*ISK **30** 23:11:53.6, 38.°70N×43.°22E, h5km, MD2.8*
*CSEM **30** 23:11:54.7±0.2, 38.°67N×43.°18E, h2km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.5km az=155.0*
*DDA **30** 23:11:54.7, 38.°66N×43.°20E, h7km, Ml3.2*
ISC 30 23:11:55.1±0.9, 38.°68N±0.°02×43.°21E±0.°02, h8km±8km, n46, σ1°53/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**120**	*e*PG	**Pg**		**23 11 59.0**	**+0.5**
VANB	**Van**	**0.16**	**120**	*e*Pg	**Pg**		**23 11 59.0**	**+0.5**
TVAN	**Van**	**0.21**	**134**	*i* P	**Pg**		**23 11 58.9**	**-0.5**
TVAN				*i* S	**Sg**		**23 12 02.8**	**+0.4**
TVAN	**Van**	**0.21**	**134**	P	**Pg**		**23 11 58.9**	**-0.5**
TVAN				S	**Sg**		**23 12 02.8**	**+0.4**
GEVA	**Gevas**	**0.38**	**198**	*i* P	**Pg**		**23 12 01.8**	**-0.9**
GEVA				*i* S	**Sb**		**23 12 11.6**	**+1.2**
GEVA	**Gevas**	**0.38**	**198**	P	**Pg**		**23 12 01.8**	**-0.9**
GEVA				S	**Sb**		**23 12 11.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.40**	**289**	*i* P	**Pg**		**23 12 03.1**	**0.0**
ADCV				*i* S	**Sb**		**23 12 10.7**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.40**	**289**	P	**Pg**		**23 12 03.1**	**0.0**
ADCV				S	**Sb**		**23 12 10.7**	**-0.3**
VMUR	**Van-Muradiye**	**0.42**	**42**	*i* P	**Pg**		**23 12 03.1**	**-0.3**
VMUR				*i* S	**Sb**		**23 12 10.7**	**-0.8**
VMUR	**Van-Muradiye**	**0.42**	**42**	P	**Pg**		**23 12 03.1**	**-0.3**
VMUR				S	**Sb**		**23 12 10.7**	**-0.8**
CLDR	**Caldiran**	**0.72**	**49**	*e*PG	**Pg**		**23 12 08.1**	**-0.9**
CLDR				*e*SG	**Sg**		**23 12 19.0**	**+0.5**
CLDR	**Caldiran**	**0.72**	**49**	*i* P	**Pb**		**23 12 10.1**	**0.0**
CLDR				*i* S	**Sb**		**23 12 20.4**	**+0.1**
CLDR	**Caldiran**	**0.72**	**49**	*e*Pg	**Pg**		**23 12 08.1**	**-0.9**
CLDR	**Caldiran**	**0.72**	**49**	P	**Pb**		**23 12 10.1**	**0.0**
CLDR				*e*Sg	**Sg**		**23 12 19.0**	**+0.5**
CLDR				S	**Sb**		**23 12 20.4**	**+0.1**
TATV	**Tatvan**	**0.76**	**258**	*i* P	**Pg**		**23 12 08.9**	**-0.8**
TATV				*i* S	**Sg**		**23 12 20.2**	**+0.6**
TATV	**Tatvan**	**0.76**	**258**	P	**Pg**		**23 12 08.9**	**-0.8**
TATV				S	**Sg**		**23 12 20.2**	**+0.6**
TUTA	**Tutak**	**0.79**	**337**	*i* P	**Pg**		**23 12 09.2**	**-1.1**
TUTA				*i* S	**Sg**		**23 12 21.3**	**+0.6**
TUTA	**Tutak**	**0.79**	**337**	P	**Pg**		**23 12 09.2**	**-1.1**
TUTA				S	**Sg**		**23 12 21.3**	**+0.6**
BASK	**Baskale_VAN**	**0.88**	**135**	*i* P	**Pg**		**23 12 11.2**	**-0.8**
BASK				*i* S	**Sg**		**23 12 23.8**	**+0.3**
BASK	**Baskale_VAN**	**0.88**	**135**	P	**Pg**		**23 12 11.2**	**-0.8**
BASK				S	**Sg**		**23 12 23.8**	**+0.3**
AGRB	**Hanur-Agry**	**0.92**	**349**	*e*PG	**Pg**		**23 12 11.9**	**-0.9**
AGRB				*e*SG	**Sg**		**23 12 24.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.92**	**349**	*e*Pg	**Pg**		**23 12 11.9**	**-0.9**
AGRB				*e*Sg	**Sg**		**23 12 24.9**	**+0.2**
GURO	**Guroymak-BITLI**	**0.93**	**263**	*e*PG	**Pg**		**23 12 12.0**	**-1.0**
GURO	**Guroymak-BITLI**	**0.93**	**263**	*e*Pg	**Pg**		**23 12 12.0**	**-1.0**
SRTM	**Siirt_Merkez**	**1.22**	**236**	*i* P	**Pb**		**23 12 17.5**	**-1.1**
SRTM				*i* S	**Sn**		**23 12 39.6**	**+4.2**
SRTM	**Siirt_Merkez**	**1.22**	**236**	P	**Pb**		**23 12 17.5**	**-1.1**
SRTM				S	**Sn**		**23 12 39.6**	**+4.2**
EATA	**Eleskirt**	**1.31**	**335**	*i* P	**Pn**		**23 12 18.7**	**-1.3**
EATA				*i* S	**Sn**		**23 12 37.9**	**0.0**
EATA	**Eleskirt**	**1.31**	**335**	P	**Pn**		**23 12 18.7**	**-1.3**
EATA				S	**Sn**		**23 12 37.9**	**0.0**
SIRN	**S¨–rnak**	**1.33**	**208**	*i* P	**Pg**		**23 12 20.9**	**+0.2**
SIRN				*i* S	**Sb**		**23 12 31.0**	**-6.7**
SIRN	**S¨–rnak**	**1.33**	**208**	P	**Pg**		**23 12 20.9**	**+0.2**
SIRN				S	**Sb**		**23 12 31.0**	**-6.7**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*PN	**Pb**		**23 12 22.3**	**-0.2**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*Pn	**Pb**		**23 12 22.3**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	*e*PN	**Pb**		**23 12 23.6**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	*e*Pn	**Pb**		**23 12 23.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*PN	**Pb**		**23 12 25.7**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*i* P	**Pb**		**23 12 26.0**	**-0.1**
SVAN				*i* S	**Sg**		**23 12 50.5**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	P	**Pb**		**23 12 26.0**	**-0.1**
SVAN				S	**Sg**		**23 12 50.5**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*Pn	**Pb**		**23 12 25.7**	**-0.3**
BTMN	**Batman**	**1.72**	**243**	*i* P	**Pb**		**23 12 26.5**	**-0.4**
BTMN				*i* S	**Sg**		**23 12 51.6**	**+1.3**
BTMN	**Batman**	**1.72**	**243**	P	**Pb**		**23 12 26.5**	**-0.4**
BTMN				S	**Sg**		**23 12 51.6**	**+1.3**
SENK	**Senkaya-Erzuru**	**2.00**	**341**	*e*PN	**Pn**		**23 12 30.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.00**	**341**	*e*Pn	**Pn**		**23 12 30.2**	**+0.8**
BNGB	**Bing¶ll**	**2.00**	**280**	*e*Pn	**Pn**		**23 12 30.0**	**+0.6**
BINT	**Bingol**	**2.14**	**276**	*e*Pn	**Pn**		**23 12 30.0**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.21**	**291**	*e*PN	**Pn**		**23 12 33.4**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.21**	**291**	*e*Pn	**Pn**		**23 12 33.4**	**+1.1**

*ISCJB **30** 23:14:39.2±1.4, 14.°1S±0.°2×170.°1E±0.°3, h600km, mb3.5/7, Error ellipse: s-maj=42.3km s-min=17.6km az=26.7*
*IDC **30** 23:14:40.2±2.9, 14.°29S×170.°34E, h614km±38km, mb3.0/7, mb1 3.1/8, mb1mx2.9/23, mbtmp3.9/8, Error ellipse: s-maj=48.7km s-min=25.3km az=139.0*
ISC 30 23:14:39.6±1.4, 14.°1S±0.°2×170.°3E±0.°3, h600km, n11, σ0°83/10, mb3.5/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.70**	**204**	P	**P**		**23 16 46.3**	**+0.7**
	1.3nm,0.3s,baz=223,slow=15,SNR=13							
STKA	**Stephens Creek**	**31.61**	**231**	P	**P**		**23 20 14.8**	**-0.3**
	2.3nm,0.5s,baz=55,slow=7.1,SNR=6.1							
WRA	**Warramunga Arr**	**34.78**	**255**	P	**P**		**23 20 41.3**	**-0.6**
	0.2nm,0.3s,baz=87,slow=9.4,SNR=3.8							
ASAR	**Alice Springs**	**35.59**	**249**	P	**P**		**23 20 48.0**	**-0.6**
	0.5nm,0.5s,baz=81,slow=9.2,SNR=5.0							
PETK	**Petropavlovsk-**	**67.82**	**352**	P	**P**		**23 24 39.2**	**+0.4**
	1.0nm,0.4s,baz=148,slow=6.6,SNR=6.4							
CMAR	**Chiang Mai Arr**	**77.37**	**293**	P	**P**		**23 25 35.6**	**+1.3**
	1.0nm,0.4s,baz=130,slow=4.3,SNR=7.1							
ILAR	**Eielson Array**	**85.08**	**17**	P	**P**		**23 26 12.5**	**-0.2**
	0.3nm,0.9s,baz=238,slow=5.2,SNR=3.6							
MKAR	**Makanchi Array**	**98.77**	**316**	P	Pdif		23 27 16.8	+0.8
	0.3nm,0.7s,baz=85,slow=5.9,SNR=3.2							
ARCES	**ARCESS Array B**	**120.37**	**346**	PKP	**PKPdf**		**23 32 22.1**	**-1.0**
	1.2nm,0.7s,baz=61,slow=3.2,SNR=9.7							
FINES	**FINESS Array B**	**126.20**	**340**	PKP	**PKPdf**		**23 32 33.8**	**-0.7**
	2.0nm,0.9s,baz=123,slow=5.1,SNR=2.7							
TORD	**Torodi Ar. Bea**	**168.84**	**266**	PKPab	**PKPab**		**23 34 54.4**	**-0.6**
	0.3nm,1.0s,baz=96,slow=5.7,SNR=4.1							

*ISK **30** 23:16:22.9, 38.°70N×43.°08E, h6km, MD2.7*
*ISCJB **30** 23:16:23.8±0.5, 38.°70N±0.°03×43.°09E±0.°04, h13km±5km, Error ellipse: s-maj=5.0km s-min=4.7km az=151.0*
*CSEM **30** 23:16:23.5±0.2, 38.°70N×43.°07E, h10km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.8km az=59.0*
*DDA **30** 23:16:23.8, 38.°70N×43.°10E, h7km, Ml2.8*
ISC 30 23:16:23.4±1.0, 38.°70N±0.°02×43.°08E±0.°02, h14km±10km, n24, σ0°47/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**112**	*e*PG	**Pb**		**23 16 29.8**	**-0.2**
VANB				*e*SG	**Sb**		**23 16 34.9**	**+0.5**
VANB	**Van**	**0.26**	**112**	*e*Pg	**Pb**		**23 16 29.8**	**-0.2**
VANB				*e*Sg	**Sb**		**23 16 34.9**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.30**	**292**	*i* P	**Pb**		**23 16 30.5**	**-0.2**
ADCV				*i* S	**Sb**		**23 16 36.3**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.30**	**292**	P	**Pb**		**23 16 30.5**	**-0.2**
ADCV				S	**Sb**		**23 16 36.3**	**+0.8**
TVAN	**Van**	**0.30**	**123**	*i* P	**Pg**		**23 16 29.6**	**-0.3**
TVAN				*i* S	**Sg**		**23 16 35.0**	**+0.7**
TVAN	**Van**	**0.30**	**123**	P	**Pg**		**23 16 29.6**	**-0.3**
TVAN				S	**Sg**		**23 16 35.0**	**+0.7**
GEVA	**Gevas**	**0.38**	**182**	*i* P	**Pg**		**23 16 30.6**	**-0.6**
GEVA				*i* S	**Sb**		**23 16 37.7**	**-0.2**
GEVA	**Gevas**	**0.38**	**182**	P	**Pg**		**23 16 30.6**	**-0.6**
GEVA				S	**Sb**		**23 16 37.7**	**-0.2**
VMUR	**Van-Muradiye**	**0.48**	**52**	*i* P	Pg		23 16 24.3	-8.8
VMUR				*i* S	**Sb**		**23 16 41.0**	**+0.1**
VMUR	**Van-Muradiye**	**0.48**	**52**	P	Pg		23 16 24.3	-8.8
VMUR				S	**Sb**		**23 16 41.0**	**+0.1**
TUTA	**Tutak**	**0.74**	**344**	*i* P	**Pg**		**23 16 37.6**	**-0.2**
TUTA				*i* S	**Sb**		**23 16 48.1**	**-0.1**
TUTA	**Tutak**	**0.74**	**344**	P	**Pg**		**23 16 37.6**	**-0.2**
TUTA				S	**Sb**		**23 16 48.1**	**-0.1**
CLDR	**Caldiran**	**0.79**	**55**	*e*PG	**Pg**		**23 16 38.5**	**-0.4**
CLDR				*e*SG	**Sg**		**23 16 49.3**	**0.0**
CLDR	**Caldiran**	**0.79**	**55**	*e*Pg	**Pg**		**23 16 38.5**	**-0.4**
CLDR				*e*Sg	**Sg**		**23 16 49.3**	**0.0**
GURO	**Guroymak-BITLI**	**0.83**	**260**	*e*PG	**Pg**		**23 16 39.1**	**-0.5**
GURO	**Guroymak-BITLI**	**0.83**	**260**	*e*Pg	**Pg**		**23 16 39.1**	**-0.5**
AGRB	**Hanur-Agry**	**0.88**	**356**	*e*PG	**Pg**		**23 16 39.9**	**-0.7**
AGRB				*e*SG	**Sb**		**23 16 53.2**	**+0.9**
AGRB	**Hanur-Agry**	**0.88**	**356**	*e*Pg	**Pg**		**23 16 39.9**	**-0.7**
AGRB				*e*Sg	**Sb**		**23 16 53.2**	**+0.9**
VRTB	**Varto-Mus**	**1.35**	**291**	*e*PN	**Pb**		**23 16 48.5**	**0.0**
VRTB	**Varto-Mus**	**1.35**	**291**	*e*Pn	**Pb**		**23 16 48.6**	**0.0**
CUKT	**Cukurca**	**1.50**	**164**	*e*PN	**Pb**		**23 16 51.3**	**+0.1**
CUKT	**Cukurca**	**1.50**	**164**	*e*Pn	**Pb**		**23 16 51.3**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.57**	**35**	*e*PN	**Pb**		**23 16 52.0**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.57**	**35**	*e*Pn	**Pb**		**23 16 52.0**	**-0.3**

*ISK **30** 23:39:23.1, 38.°63N×43.°18E, h5km, MD2.8*
*ISCJB **30** 23:39:24.9±0.5, 38.°66N±0.°04×43.°17E±0.°04, h11km±5km, Error ellipse: s-maj=7.3km s-min=4.9km az=160.5*
*CSEM **30** 23:39:24.3±0.2, 38.°64N×43.°19E, h8km, MD2.8, Error ellipse: s-maj=5.9km s-min=4.6km az=156.0*
*DDA **30** 23:39:24.9, 38.°62N×43.°22E, h7km, Ml2.6*
ISC 30 23:39:25.3±1.0, 38.°67N±0.°02×43.°20E±0.°02, h8km±7km, n32, σ1°10/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**116**	*e*PG	**Pg**		**23 39 28.4**	**-0.5**
VANB	**Van**	**0.17**	**116**	*e*Pg	**Pg**		**23 39 28.4**	**-0.5**
TVAN	**Van**	**0.21**	**130**	*i* P	**Pg**		**23 39 28.1**	**-1.7**
TVAN				*i* S	**Sg**		**23 39 32.5**	**-0.3**
TVAN	**Van**	**0.21**	**130**	*e*P	**Pb**		**23 39 30.4**	**+0.7**
TVAN				*i* S	**Sg**		**23 39 34.2**	**+1.4**
TVAN	**Van**	**0.21**	**130**	P	**Pb**		**23 39 30.4**	**+0.7**
TVAN				S	**Sg**		**23 39 34.2**	**+1.4**
TVAN	**Van**	**0.21**	**130**	P	**Pg**		**23 39 28.0**	**-1.7**
TVAN				S	**Sg**		**23 39 32.5**	**-0.3**
GEVA	**Gevas**	**0.37**	**197**	*i* P	**Pg**		**23 39 31.7**	**-1.0**
GEVA				*i* S	**Sb**		**23 39 40.1**	**-0.1**
GEVA	**Gevas**	**0.37**	**197**	*e*P	**Pb**		**23 39 35.1**	**+0.8**
GEVA				*e*S	**Sb**		**23 39 43.1**	**+2.9**
GEVA	**Gevas**	**0.37**	**197**	P	**Pb**		**23 39 35.1**	**+0.8**
GEVA				S	**Sb**		**23 39 43.1**	**+2.9**
GEVA	**Gevas**	**0.37**	**197**	P	**Pg**		**23 39 31.7**	**-1.0**
GEVA				S	**Sb**		**23 39 40.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	*e*P	**Pg**		**23 39 32.7**	**-0.4**
ADCV				*i* S	**Sb**		**23 39 41.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	*e*P	**Pb**		**23 39 35.1**	**+0.4**
ADCV				*e*S	**Sb**		**23 39 42.5**	**+1.5**
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	P	**Pb**		**23 39 35

CLDR	**Caldiran**	**0.50**	**33**	P	**Pg**	**23 43 02.2**	**-0.6**
CLDR	**Caldiran**	**0.50**	**33**	*e*Pg	**Pb**	**23 43 02.9**	**-0.4**
CLDR				*e*Sg	**Sb**	**23 43 11.4**	**+0.9**
GEVA	**Gevas**	**0.57**	**224**	*i* P	**Pg**	**23 43 03.2**	**-0.8**
GEVA				*i* S	**Sb**	**23 43 13.3**	**+1.0**
GEVA	**Gevas**	**0.57**	**224**	P	**Pg**	**23 43 03.2**	**-0.8**
GEVA				S	**Sb**	**23 43 13.3**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.66**	**278**	*i* P	**Pg**	**23 43 05.4**	**-0.3**
ADCV				*i* S	**Sb**	**23 43 16.2**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**278**	P	**Pg**	**23 43 05.4**	**-0.3**
ADCV				S	**Sb**	**23 43 16.2**	**+1.2**
BASK	**Baskale_VAN**	**0.76**	**152**	*i* P	**Pg**	**23 43 06.0**	**-1.5**
BASK				*i* S	**Sn**	**23 43 20.9**	**+0.8**
BASK	**Baskale_VAN**	**0.76**	**152**	P	**Pg**	**23 43 06.0**	**-1.5**
TUTA	**Tutak**	**0.89**	**320**	*i* P	**Pg**	**23 43 09.1**	**-1.0**
TUTA				*i* S	**Sb**	**23 43 22.9**	**+1.1**
TUTA	**Tutak**	**0.89**	**320**	P	**Pg**	**23 43 09.1**	**-1.0**
TUTA				S	**Sb**	**23 43 22.9**	**+1.1**
AGRB	**Hanur-Agry**	**0.96**	**333**	*e*PG	**Pg**	**23 43 10.5**	**-0.8**
AGRB				*e*SG	**Sg**	**23 43 23.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**333**	*e*Pg	**Pg**	**23 43 10.5**	**-0.8**
AGRB				*e*Sg	**Sg**	**23 43 23.6**	**-0.3**
TATV	**Tatvan**	**1.04**	**258**	*i* P	**Pb**	**23 43 11.3**	**-1.1**
TATV				*i* S	**Sb**	**23 43 25.9**	**+0.1**
TATV	**Tatvan**	**1.04**	**258**	P	**Pb**	**23 43 11.3**	**-1.1**
TATV				S	**Sb**	**23 43 25.9**	**+0.1**
GURO	**Guroymak-BITLI**	**1.21**	**262**	*e*PN	**Pn**	**23 43 14.6**	**-0.5**
GURO	**Guroymak-BITLI**	**1.21**	**262**	*e*Pn	**Pn**	**23 43 14.6**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.36**	**22**	*e*PN	**Pg**	**23 43 18.8**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.36**	**22**	*e*Pn	**Pg**	**23 43 18.8**	**-0.2**
CUKT	**Cukurca**	**1.47**	**179**	*e*PN	**Pn**	**23 43 18.8**	**+0.1**
CUKT	**Cukurca**	**1.47**	**179**	*e*Pn	**Pn**	**23 43 18.8**	**+0.1**
SRTM	**Siirt_Merkez**	**1.48**	**241**	*i* P	**Pg**	**23 43 20.3**	**-0.9**
SRTM				*i* S	**Sg**	**23 43 42.9**	**+2.4**
SRTM	**Siirt_Merkez**	**1.48**	**241**	P	**Pg**	**23 43 20.3**	**-0.9**
VRTB	**Varto-Mus**	**1.70**	**286**	*e*PN	**Pn**	**23 43 21.5**	**-0.4**
VRTB	**Varto-Mus**	**1.70**	**286**	*e*Pn	**Pn**	**23 43 21.5**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.94**	**254**	*e*PN	**Pn**	**23 43 24.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.94**	**254**	*e*Pn	**Pn**	**23 43 24.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.06**	**333**	*e*PN	**Pn**	**23 43 27.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.06**	**333**	*e*Pn	**Pn**	**23 43 27.0**	**+0.1**

*ISK **30** 23:51:29.9, 38°.72N×43°.33E, h5km, MD2.7*
*ISCJB **30** 23:51:30.8±0.5, 38°.72N±0°.03×43°.33E±0°.04, h10km±5km, Error ellipse: s-maj=5.4km s-min=4.3km az=28.4*
*CSEM **30** 23:51:30.5±0.2, 38°.72N×43°.34E, h10km, MD2.7, Error ellipse: s-maj=5.0km s-min=3.9km az=117.0*
*DDA **30** 23:51:30.6, 38°.71N×43°.35E, h7km, Ml2.8*
ISC 30 23:51:30.7±0.9, **38°.71N**±0°.03×**43°.34E**±0°.03, **h16**km±8km, **n22**, σ0°**59**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**160**	*e*PG	**Pg**	**23 51 34.6**	**+0.1**
VANB	**Van**	**0.12**	**160**	*e*Pg	**Pg**	**23 51 34.6**	**+0.1**
TVAN	**Van**	**0.19**	**163**	*i* P	**Pg**	**23 51 34.3**	**-1.1**
TVAN				*i* S	**Sg**	**23 51 38.7**	**+0.1**
TVAN	**Van**	**0.19**	**163**	P	**Pg**	**23 51 34.3**	**-1.1**
TVAN				S	**Sg**	**23 51 38.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.34**	**33**	*i* P	**Pg**	**23 51 37.6**	**-0.2**
VMUR				*i* S	**Sb**	**23 51 44.1**	**+0.5**
VMUR	**Van-Muradiye**	**0.34**	**33**	P	**Pg**	**23 51 37.6**	**-0.2**
VMUR				S	**Sb**	**23 51 44.1**	**+0.5**
GEVA	**Gevas**	**0.45**	**209**	*i* P	**Pg**	**23 51 39.0**	**-0.8**
GEVA				*i* S	**Sb**	**23 51 47.0**	**+0.1**
GEVA	**Gevas**	**0.45**	**209**	P	**Pg**	**23 51 39.0**	**-0.8**
GEVA				S	**Sb**	**23 51 47.0**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.49**	**282**	*i* P	**Pb**	**23 51 40.9**	**-0.1**
ADCV				*i* S	**Sb**	**23 51 48.2**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.49**	**282**	P	**Pb**	**23 51 40.9**	**-0.1**
ADCV				S	**Sb**	**23 51 48.2**	**+0.2**
CLDR	**Caldiran**	**0.63**	**46**	*e*PG	**Pg**	**23 51 42.4**	**-0.7**
CLDR				*e*SG	**Sb**	**23 51 51.8**	**-0.2**
CLDR	**Caldiran**	**0.63**	**46**	*i* P	**Pg**	**23 51 42.2**	**-0.9**
CLDR				*i* S	**Sb**	**23 51 52.3**	**+0.3**
CLDR	**Caldiran**	**0.63**	**46**	P	**Pg**	**23 51 42.2**	**-0.9**
CLDR	**Caldiran**	**0.63**	**46**	*e*Pg	**Pg**	**23 51 42.4**	**-0.7**
CLDR				*e*Sg	**Sb**	**23 51 51.8**	**-0.2**
CLDR				S	**Sb**	**23 51 52.3**	**+0.3**
TUTA	**Tutak**	**0.80**	**330**	*i* P	**Pg**	**23 51 46.0**	**-0.4**
TUTA				*i* S	**Sb**	**23 51 58.0**	**+0.9**
TUTA	**Tutak**	**0.80**	**330**	P	**Pg**	**23 51 46.0**	**-0.4**
TUTA				S	**Sb**	**23 51 58.0**	**+0.9**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*PG	**Pg**	**23 51 47.6**	**-0.7**
AGRB				*e*SG	**Sg**	**23 52 00.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.91**	**343**	*e*Pg	**Pg**	**23 51 47.6**	**-0.7**
AGRB				*e*Sg	**Sg**	**23 52 00.2**	**-0.1**
GURO	**Guroymak-BITLI**	**1.03**	**262**	*e*PG	**Pg**	**23 51 50.4**	**-0.3**
GURO	**Guroymak-BITLI**	**1.03**	**262**	*e*Pg	**Pg**	**23 51 50.4**	**-0.3**
CUKT	**Cukurca**	**1.47**	**172**	*e*PN	**Pb**	**23 51 58.5**	**+0.7**
CUKT	**Cukurca**	**1.47**	**172**	*e*Pn	**Pb**	**23 51 58.5**	**+0.7**

*ISK **30** 23:54:41.9, 38°.79N×43°.52E, h2km, MD2.9*
*CSEM **30** 23:54:42.9±0.2, 38°.79N×43°.53E, h10km, ML2.8, Error ellipse: s-maj=5.7km s-min=3.9km az=122.0*
*ISCJB **30** 23:54:43.3±0.6, 38°.80N±0°.03×43°.55E±0°.06, h11km±5km, Error ellipse: s-maj=8.0km s-min=4.4km az=13.4*
*DDA **30** 23:54:43.1, 38°.79N×43°.52E, h7km, Ml2.8*
ISC 30 23:54:43.0±1.0, **38°.78N**±0°.02×**43°.55E**±0°.04, **h14**km±9km, **n26**, σ0°**58**/39, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**6**	*i* P	**Pg**	**23 54 47.3**	**-0.6**
VMUR				*i* S	**Sb**	**23 54 52.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.21**	**6**	P	**Pg**	**23 54 47.3**	**-0.6**
VMUR				S	**Sb**	**23 54 52.2**	**-0.3**
VANB	**Van**	**0.22**	**214**	*e*PG	**Pb**	**23 54 48.8**	**0.0**
VANB	**Van**	**0.22**	**214**	*e*Pg	**Pb**	**23 54 48.8**	**0.0**
TVAN	**Van**	**0.27**	**204**	*i* P	**Pg**	**23 54 48.6**	**-0.3**
TVAN				*i* S	**Sb**	**23 54 54.5**	**+0.2**
TVAN	**Van**	**0.27**	**204**	P	**Pg**	**23 54 48.6**	**-0.3**
TVAN				S	**Sb**	**23 54 54.5**	**+0.2**
CLDR	**Caldiran**	**0.47**	**38**	*e*PG	**Pg**	**23 54 52.0**	**-0.3**
CLDR				*e*SG	**Sg**	**23 54 59.0**	**+0.4**
CLDR	**Caldiran**	**0.47**	**38**	*i* P	**Pg**	**23 54 51.8**	**-0.5**
CLDR	**Caldiran**	**0.47**	**38**	P	**Pg**	**23 54 51.8**	**-0.5**
CLDR	**Caldiran**	**0.47**	**38**	*e*Pg	**Pg**	**23 54 52.0**	**-0.3**
CLDR				*e*Sg	**Sg**	**23 54 59.0**	**+0.4**
GEVA	**Gevas**	**0.60**	**219**	*i* P	**Pg**	**23 54 53.9**	**-0.9**
GEVA				*i* S	**Sn**	**23 55 05.8**	**-1.0**
GEVA	**Gevas**	**0.60**	**219**	P	**Pg**	**23 54 53.9**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.64**	**273**	*i* P	**Pg**	**23 54 55.4**	**-0.2**
ADCV				*i* S	**Sb**	**23 55 05.7**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.64**	**273**	P	**Pg**	**23 54 55.4**	**-0.2**
ADCV				S	**Sb**	**23 55 05.7**	**+0.8**
TUTA	**Tutak**	**0.84**	**318**	*i* P	**Pg**	**23 54 58.5**	**-0.9**
TUTA				*i* S	**Sb**	**23 55 11.1**	**+0.3**
TUTA	**Tutak**	**0.84**	**318**	P	**Pg**	**23 54 58.5**	**-0.9**
TUTA				S	**Sb**	**23 55 11.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.91**	**332**	*e*PG	**Pg**	**23 54 59.8**	**-0.7**
AGRB				*e*SG	**Sb**	**23 55 12.8**	**+0.3**
AGRB	**Hanur-Agry**	**0.91**	**332**	*e*Pg	**Pg**	**23 54 59.8**	**-0.7**
AGRB				*e*Sg	**Sb**	**23 55 12.8**	**+0.3**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*PN	**Pn**	**23 55 05.2**	**-0.3**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*Pn	**Pn**	**23 55 05.2**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.32**	**24**	*e*PN	**Pb**	**23 55 07.8**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.32**	**24**	*e*Pn	**Pb**	**23 55 07.8**	**+0.3**
CUKT	**Cukurca**	**1.53**	**178**	*e*PN	**Pb**	**23 55 11.5**	**+0.4**
CUKT	**Cukurca**	**1.53**	**178**	*e*Pn	**Pb**	**23 55 11.5**	**+0.4**
VRTB	**Varto-Mus**	**1.67**	**284**	*e*PN	**Pn**	**23 55 12.8**	**+0.9**
VRTB	**Varto-Mus**	**1.67**	**284**	*e*Pn	**Pn**	**23 55 12.9**	**+0.9**

*CSEM **30** 23:54:49.3, 38°.80N×43°.29E, h7km, ML2.8*
DDA 30 23:54:49.3, 38°.80N×43°.29E, h7km, Ml2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.29**	**50**	*i* P	Pg	23 54 55.7	+0.7
VMUR				*i* S	Sg	23 54 59.7	+0.7
VMUR	**Van-Muradiye**	**0.29**	**50**	P	Pg	23 54 55.7	+0.6
VMUR				S	Sg	23 54 59.7	+0.8
TVAN	**Van**	**0.29**	**162**	*e*P	Pg	23 54 55.4	+0.3
TVAN				*i* S	Sb	23 55 04.0	+1.9
TVAN	**Van**	**0.29**	**162**	P	Pg	23 54 55.4	+0.3
TVAN				S	Sb	23 55 04.0	+1.9

ADCV	**BITLIS_Adilcev**	**0.44**	**271**	*e*P	Pg	23 54 58.1	+0.2
ADCV				*e*S	Sb	23 55 07.5	+1.0
ADCV	**BITLIS_Adilcev**	**0.44**	**271**	P	Pg	23 54 58.1	+0.1
ADCV				S	Sb	23 55 07.5	+1.0
CLDR	**Caldiran**	**0.59**	**55**	*e*P	Pg	23 55 00.9	0.0
CLDR				*e*S	Sg	23 55 06.7	-1.9
CLDR	**Caldiran**	**0.59**	**55**	P	Pg	23 55 00.9	+0.1
CLDR				S	Sg	23 55 06.7	-1.9
CLDR	**Caldiran**	**0.59**	**55**	S	Pg	23 55 00.4	-0.4
CLDR	**Caldiran**	**0.59**	**55**	*i* S	Pg	23 55 00.4	-0.4

*AZER **30** 23:59:03.6±0.4, 37°.97N×43°.34E, h35km±60km, Error ellipse: s-maj=5.4km s-min=2.9km az=64.0*
*ISK **30** 23:59:06.6, 38°.84N×43°.61E, h10km, ML3.1*
*ISCJB **30** 23:59:08.0±0.4, 38°.83N±0°.02×43°.57E±0°.03, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.0km az=139.0*
*DDA **30** 23:59:07.4, 38°.85N×43°.56E, h7km, Ml3.6*
*CSEM **30** 23:59:08.2±0.2, 38°.86N×43°.49E, h10km, ML3.6, Error ellipse: s-maj=6.2km s-min=4.2km az=145.0*
ISC 30 23:59:07.7±0.9, **38°.82N**±0°.02×**43°.58E**±0°.02, **h11**km±7km, **n90**, σ1°**57**/123, **17C-14D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**357**	*i* P	**Pg**	**23 59 10.9**	**-0.7**
VMUR				*i* S	**Sg**	**23 59 16.0**	**+1.7**
VMUR	**Van-Muradiye**	**0.17**	**357**	P	**Pg**	**23 59 10.9**	**-0.7**
VANB	**Van**	**0.27**	**214**	PG	**Pb**	**23 59 14.0**	**-0.6**
VANB				SG	**Sb**	**23 59 20.2**	**+0.9**
VANB	**Van**	**0.27**	**214**	*i* Pg	**Pb**	**23 59 14.0**	**-0.6**
VANB				*i* Sg	**Sb**	**23 59 20.2**	**+0.9**
TVAN	**Van**	**0.32**	**205**	*i* P	**Pg**	**23 59 13.9**	**-0.3**
TVAN				*i* S	**Sb**	**23 59 20.3**	**-0.5**
TVAN	**Van**	**0.32**	**205**	P	**Pg**	**23 59 13.9**	**-0.3**
TVAN				S	**Sb**	**23 59 20.3**	**-0.5**
CLDR	**Caldiran**	**0.42**	**39**	*e*PG	**Pg**	**23 59 14.6**	**-1.4**
CLDR				*e*SG	**Sg**	**23 59 21.1**	**-0.4**
CLDR	**Caldiran**	**0.42**	**39**	*i* P	**Pg**	**23 59 14.9**	**-1.1**
CLDR				*i* S	**Sb**	**23 59 22.8**	**-0.8**
CLDR	**Caldiran**	**0.42**	**39**	*e*Pg	**Pg**	**23 59 14.6**	**-1.4**
CLDR	**Caldiran**	**0.42**	**39**	P	**Pg**	**23 59 14.9**	**-1.1**
CLDR				*e*Sg	**Sg**	**23 59 21.1**	**-0.4**
CLDR				S	**Sb**	**23 59 22.8**	**-0.8**
GEVA	**Gevas**	**0.65**	**219**	*i* P	**Pg**	**23 59 19.4**	**-0.9**
GEVA				*i* S	**Sb**	**23 59 30.5**	**+0.2**
GEVA	**Gevas**	**0.65**	**219**	P	**Pg**	**23 59 19.4**	**-0.9**
GEVA				S	**Sb**	**23 59 30.5**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.67**	**269**	*i* P	**Pg**	**23 59 20.4**	**-0.2**
ADCV				*i* S	**Sb**	**23 59 31.4**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.67**	**269**	P	**Pg**	**23 59 20.4**	**-0.2**
DYDN	**Diyadin**	**0.73**	**7**	*i* P	**Pg**	**23 59 20.6**	**-1.2**
DYDN				*i* S	**Sb**	**23 59 32.5**	**-0.1**
DYDN	**Diyadin**	**0.73**	**7**	P	**Pg**	**23 59 20.6**	**-1.2**
DYDN				S	**Sb**	**23 59 32.5**	**-0.1**
BASK	**Baskale_VAN**	**0.83**	**156**	*i* P	**Pg**	**23 59 22.5**	**-1.3**
BASK				*i* S	**Sn**	**23 59 37.5**	**-0.5**
TUTA	**Tutak**	**0.83**	**315**	*i* P	**Pg**	**23 59 22.6**	**-1.2**
TUTA				*i* S	**Sg**	**23 59 34.0**	**-0.7**
TUTA	**Tutak**	**0.83**	**315**	P	**Pg**	**23 59 22.6**	**-1.2**
TUTA				S	**Sg**	**23 59 34.0**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**329**	*e*PG	**Pg**	**23 59 23.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.88**	**329**	*e*Pg	**Pg**	**23 59 23.7**	**-1.0**
TATV	**Tatvan**	**1.07**	**254**	*i* P	**Pg**	**23 59 27.1**	**-1.2**
TATV				*i* S	**Sb**	**23 59 42.9**	**+0.4**
TATV	**Tatvan**	**1.07**	**254**	P	**Pg**	**23 59 27.1**	**-1.2**
TATV				S	**Sb**	**23 59 42.9**	**+0.4**
GURO	**Guroymak-BITLI**	**1.24**	**258**	*e*PN	**Pn**	**23 59 30.2**	**-0.9**
GURO	**Guroymak-BITLI**	**1.24**	**258**	*e*Pn	**Pn**	**23 59 30.2**	**-0.9**
EKAR	**Karacoban**	**1.26**	**291**	*i* P	**Pn**	**23 59 31.5**	**+0.1**
EKAR	**Karacoban**	**1.26**	**291**	P	**Pn**	**23 59 31.5**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.27**	**23**	*e*PN	**Pn**	**23 59 30.1**	**-1.3**
TASB	**TASBURUN-IGDIR**	**1.27**	**23**	*e*Pn	**Pn**	**23 59 30.1**	**-1.3**
EATA	**Eleskirt**	**1.34**	**321**	*i* P	**Pn**	**23 59 31.8**	**-0.9**
EATA				*i* S	**Sg**	**23 59 53.5**	**+2.6**
EATA	**Eleskirt**	**1.34**	**321**	P	**Pn**	**23 59 31.8**	**-0.9**
NAX	**Nakhchivan** SNR=18	**1.53**	**76**	⇑P	**Pb**	**23 59 35.9**	**-0.3**
NAX				⇑S	**Sg**	**00 00 00.9**	**+3.9**
NAX	**Nakhchivan** SNR=18	**1.53**	**76**	P	**Pb**	**23 59 35.9**	**-0.3**
CUKT	**Cukurca**	**1.57**	**179**	*e*PN	**Pn**	**23 59 35.5**	**-0.1**
CUKT	**Cukurca**	**1.57**	**179**	*e*Pn	**Pn**	**23 59 35.5**	**-0.1**
DIGO	**Kars**	**1.60**	**354**	*i* P	**Pb**	**23 59 37.1**	**-0.3**
DIGO				*i* S	**Sg**	**23 59 58.9**	**-0.4**
DIGO	**Kars**	**1.60**	**354**	P	**Pb**	**23 59 37.1**	**-0.3**
DIGO				S	**Sg**	**23 59 58.9**	**-0.4**
VRTB	**Varto-Mus**	**1.69**	**282**	*e*PN	**Pn**	**23 59 37.0**	**-0.3**
VRTB	**Varto-Mus**	**1.69**	**282**	*e*Pn	**Pn**	**23 59 37.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*PN	**Pn**	**23 59 40.8**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.98**	**332**	*e*Pn	**Pn**	**23 59 40.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*PN	**Pn**	**23 59 41.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*Pn	**Pn**	**23 59 41.2**	**0.0**
BNGB	**Bing¨¶l**	**2.27**	**275**	*e*PN	**Pn**	**23 59 45.4**	**+0.2**
BINT	**Bingol**	**2.42**	**272**	*e*Pn	**Pn**	**23 59 45.4**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.44**	**286**	*e*PN	**Pn**	**23 59 48.8**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.44**	**286**	*e*Pn	**Pn**	**23 59 48.8**	**+1.2**
GDB	**GEDABAY** SNR=6.7	**2.53**	**41**	⇓P	**Pb**	**23 59 53.5**	**+0.3**
GDB				⇑S	**Sg**	**00 00 31.0**	**+2.0**
GDB	**GEDABAY** SNR=6.7	**2.53**	**41**	P	**Pb**	**23 59 53.5**	**+0.3**
AKH	**Akhalkalaki**	**2.59**	**359**	P	**Pg**	**23 59 56.5**	**-0.8**
QZX	**Qazax, Azerbai** SNR=3.7	**2.63**	**31**	⇑P	**Pb**	**23 59 54.8**	**+0.1**
QZX				⇓S	**Sg**	**00 00 35.5**	**+3.5**
QZX	**Qazax, Azerbai** SNR=3.7	**2.63**	**31**	P	**Pb**	**23 59 54.8**	**+0.1**
GANJ	**Ganja** SNR=9.5	**2.79**	**48**	⇓P	**Pb**	**23 59 56.1**	**-1.5**
GANJ				⇓S	**Sg**	**00 00 37.6**	**+0.3**
GANJ	**Ganja** SNR=9.5	**2.79**	**48**	P	**Pb**	**23 59 56.1**	**-1.5**
MAZI	**Mazidag**	**2.82**	**242**	*e*PN	**Pn**	**23 59 54.1**	**+1.3**
MAZI	**Mazidag**	**2.82**	**242**	*e*Pn	**Pn**	**23 59 54.1**	**+1.3**
DGRG	**David-gareji**	**2.97**	**27**	P	**Pb**	**00 00 01.6**	**+1.1**
TBLG	**Delisi**	**3.04**	**17**	P	**Pb**	**00 00 01.7**	**-0.1**
BRDA	**Brd**	**3.13**	**61**	⇑P	**Pn**	**23 59 59.2**	**+2.2**
BRDA				⇑S	**Sb**	**00 00 42.7**	**+1.1**
BRDA	**Brd**	**3.13**	**61**	P	**Pn**	**23 59 59.2**	**+2.2**
PTK	**Pertek**	**3.27**	**273**	*e*PN	**Pn**	**00 00 00.4**	**+1.4**
PTK	**Pertek**	**3.27**	**273**	*e*Pn	**Pn**	**00 00 00.4**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.38**	**264**	*e*PN	**Pn**	**00 00 02.3**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.38**	**264**	*e*Pn	**Pn**	**00 00 02.3**	**+1.8**
ZRD	**Zardab**	**3.49**	**64**	⇓P	**Pn**	**00 00 03.5**	**+1.7**
ZRD				⇑S	**Sb**	**00 00 50.9**	**-0.9**
ZRD	**Zardab**	**3.49**	**64**	P	**Pn**	**00 00 03.5**	**+1.7**
ZKTA	**Zakatala**	**3.65**	**39**	⇑P	**Pb**	**00 00 09.0**	**-3.2**
SEKA	**Sheki**	**3.66**	**48**	⇓P	**Pb**	**00 00 08.7**	**-3.7**
SEKA				⇑S	**Sb**	**00 00 59.8**	**+2.9**
LRK	**Lerik**	**3.73**	**91**	⇓P	**Pn**	**00 00 22.2**	**-3.1**
LRK				⇑S	**Sn**	**00 00 48.4**	**-0.9**
ONI	**Oni**	**3.77**	**359**	P	**Pg**	**00 00 17.3**	**-2.6**
GLBA	**Clilabad**	**3.77**	**82**	⇓P	**Pn**	**00 00 04.6**	**-1.1**
GLBA				⇑S	**Sn**	**00 00 52.4**	**+2.3**
GLBA	**Clilabad**	**3.77**	**82**	S	**Sn**	**00 00 52.4**	**+2.3**
QBL	**Gabala**	**3.90**	**56**	⇑P	**Pn**	**00 00 10.4**	**+2.8**
QBL	**Gabala**	**3.90**	**56**	P	**Pn**	**00 00 10.4**	**+2.8**
IML	**Ismayilli**	**4.05**	**59**	⇑P	**Pn**	**00 00 12.0**	**+2.3**
IML	**Ismayilli**	**4.05**	**59**	P	**Pn**	**00 00 12.0**	**+2.3**
LKRN	**Lenkeran, Azer**	**4.06**	**90**	⇓P	**Pn**	**00 00 07.0**	**-2.7**
LKRN				⇓S	**Sn**	**00 00 57.0**	**-0.3**
ASTR	**Astara**	**4.08**	**92**	⇓P	**Pn**	**00 00 06.9**	**-3.1**
ASTR				⇑S	**Sn**	**00 00 56.7**	**-1.1**
XNQ	**Khinaliq**	**4.22**	**55**	⇑P	**Pn**	**00 00 14.8**	**+2.8**
XNQ	**Khinaliq**	**4.22**	**55**	P	**Pn**	**00 00 14.8**	**+2.8**
PQL	**Pirkuli**	**4.33**	**61**	⇓P	**Pn**	**00 00 15.5**	**+1.9**
PQL	**Pirkuli**	**4.33**	**61**	P	**Pn**	**00 00 15.5**	**+1.9**
GBS	**Qobustan**	**4.48**	**66**	⇓P	**Pn**	**00 00 16.7**	**+1.2**
GBS	**Qobustan**	**4.48**	**66**	P	**Pn**	**00 00 16.7**	**+1.2**
QSAR	**Qusar**	**4.49**	**52**	⇓P	**Pn**	**00 00 18.7**	**+3.1**
QSAR	**Qusar**	**4.49**	**52**	P	**Pn**	**00 00 18.7**	**+3.1**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	⇑P	**Pn**	**00 00 19.1**	**+2.8**
QUBA	**Quba, Azerbaij**	**4.54**	**55**	P	**Pn**	**00 00 19.1**	**+2.8**
ATGJ	**Altiaghaj**	**4.60**	**62**	⇑P	**Pn**	**00 00 19.0**	**+1.8**
ATGJ	**Altiaghaj**	**4.60**	**62**	P	**Pn**	**00 00 19.0**	**+1.8**

MEX 31 00:00:32.2±0.5, **19°.08N**×**104°.14W**, **h6**km, **MD3.6**, **Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.17**	**60**	*e*P	Pg	00 00 35.5	-0.3
R15V				*e*S	Sg	00 00 38.6	+0.4
EZ5V		**0.65**	**52**	*e*P	Pg	00 00 43.5	-1.2
EZ5V				*e*S	Sg	00 00 52.8	-0.4
CJM	**Chamela**	**0.94**	**296**	*i* P	Pg	00 00 48.2	-2.2
CJM				*e*S	Sg	00 01 00.2	-2.5
MMIG	**Aquila**	**1.09**	**136**	*e*P	Pg	00 00 50.4	-2.8
MMIG				*i* S	Sg	00 01 03.2	-4.3
ZIIG	**Zihuatanejo**	**2.94**	**120**	*e*P	Pn	00 01 09.1	-10
ARIG	**Puente Sto Nin**	**3.69**	**102**	*e*P	Pn	00 01 28.0	-1.8

*ISK **31** 00:04:50.4, 38°.70N×43°.07E, h8km, MD2.7*
*ISCJB **31** 00:04:51.3±0.4, 38°.70N±0°.03×43°.08E±0°.04, h13km±4km, Error ellipse: s-maj=4.8km s-min=4.6km az=30.2*
*CSEM **31** 00:04:51.1±0.1, 38°.70N×43°.07E, h10km, MD2.7, Error ellipse: s-maj=3.1km s-min=3.1km az=5.0*
*DDA **31** 00:04:51.1, 38°.68N×43°.08E, h7km, Ml2.8*
ISC 31 00:04:51.2±0.9, **38°.69N**±0°.02×**43°.07E**±0°.02, **h14**km±9km, **n26**, σ0°**51**/42, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**111**	*e*PG	**Pg**	**00 04 57.4**	**+0.3**
VANB				*e*SG	**Sb**	**00 05 01.9**	**-0.5**
VANB	**Van**	**0.27**	**111**	*e*Pg	**Pg**	**00 04 57.4**	**+0.3**
VANB				*e*Sg	**Sb**	**00 05 02.0**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.29**	**293**	*i* P	**Pb**	**00 04 58.1**	**-0.1**
ADCV				*i* S	**Sb**	**00 05 04.0**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.29**	**293**	P	**Pb**	**00 04 58.2**	**-0.1**
ADCV				S	**Sb**	**00 05 04.0**	**+0.9**
TVAN	**Van**	**0.31**	**122**	*i* P	**Pg**	**00 04 57.3**	**-0.5**
TVAN				*i* S	**Sg**	**00 05 02.7**	**+0.4**
TVAN	**Van**	**0.31**	**122**	P	**Pg**	**00 04 57.3**	**-0.5**
TVAN				S	**Sg**	**00 05 02.7**	**+0.4**
GEVA	**Gevas**	**0.38**	**181**	*i* P	**Pg**	**00 04 58.2**	**-0.8**
GEVA				*i* S	**Sb**	**00 05 05.2**	**-0.4**
GEVA	**Gevas**	**0.

MKAR	Makanchi Array	58.29	340	P	P	00 34 57.3	-0.4
	0.3nm,0.5s,baz=143,slow=8.4,SNR=4.4						
TLY	Talaya	58.89	357	P	P	00 35 01.6	-0.2
	3.0nm,0.6s						
GEYT	Alibeck	64.16	318	P	P	00 35 39.4	+1.8
	0.5nm,0.3s,baz=161,slow=4.6,SNR=4.6						
ABKAR	Akbulak array	69.82	329	eP	P	00 36 14.0	+0.7
	0.5nm,0.4s						
YAK	Yakutsk	71.36	11	eP	P	00 36 22.2	-0.1
	9.9nm,0.4s						
RAO	Raoul Island	73.28	118	P	P	00 36 34.4	-0.2
	164nm,0.4s						
SBA	Scott Base	76.65	169	P	P	00 36 53.8	+0.6
	0.8nm,0.4s						
TXAR	Lajitas Array	143.67	49	PKP	PKPdf	00 44 37.8	-0.8
	0.5nm,0.6s,baz=287,slow=1.7,SNR=8.0						
JCT	Junction City	145.82	44	ePKPbc	PKPab	00 44 43.9	+0.8

*IDC **31** 00:26:28.6±4.0, 34°.71N×75°.63E, $h0^{km}$, mb3.5/4, mb1 3.5/5, mb1mx3.2/44, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=86.7km s-min=32.6km az=129.0*
*ISCJB **31** 00:26:33.5±0.7, 35°.02N±0°.06×75°.6E±0°.1, $h33^{km}$, mb3.3/2, Error ellipse: s-maj=14.4km s-min=7.2km az=156.7*
ISC 31 00:26:36.0±0.9, **34°.98N**±0°.08×**75°.5E**±0°.1, **$h35^{km}$, n10, σ1§62/12, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	2.55	177	eP	Pn	00 27 13.2	-1.6
THN				eS	Sn	00 27 46.6	+2.0
PYUN	Piuthan	9.35	135	eP	Pn	00 28 49.5	+1.0
PYUN				eS	Sn	00 30 31.3	-1.2
GKN	Gorkha	10.42	129	eP	Pn	00 29 05.1	+2.0
PKI	Pulchoki	11.21	129	eP	Pn	00 29 11.7	-2.4
JIRN	Jiri	11.66	126	eP	Pn	00 29 19.9	-0.4
MKAR	Makanchi Array	12.85	21	Pn	Pn	00 29 37.5	+1.5
	0.0nm,0.3s,baz=193,slow=12,SNR=3.0						
AKTO	Aktyubinsk	20.03	326	P	P	00 31 05.8	+0.1
	0.9nm,0.6s,baz=118,slow=15,SNR=4.1						
ZALV	Zalesovo Beam	20.05	16	P	P	00 31 05.5	-0.4
	1.1nm,0.4s,baz=210,slow=9.0,SNR=5.4						
FINES	FINESS Array B	40.80	326	P	P	00 34 13.5	-0.1
	0.7nm,0.6s,baz=116,slow=13,SNR=3.3						
TORD	Torodi Ar. Bea	69.42	272	P	P	00 37 39.3	-1.5
	0.1nm,0.4s,baz=49,slow=5.5,SNR=7.7						

*IDC **31** 00:26:33.7±4.3, 21°.01S×168°.11E, $h0^{km}$, mb3.9/2, mb1 4.1/2, mb1mx3.6/26, mbtmp3.9/2, Error ellipse: s-maj=219.5km s-min=59.9km az=159.0*
*NEIC **31** 00:26:37.2±0.6, 18°.90S×167°.55E, $h10^{km}$, mb4.5/11, Error ellipse: s-maj=18.3km s-min=12.5km az=167.0*
*ISCJB **31** 00:26:38.5±0.7, 18°.8S±0°.1×167°.4E±0°.1, $h28^{km}$, mb4.5/13, Error ellipse: s-maj=21.1km s-min=14.5km az=166.4*
ISC 31 00:26:40.0±0.8, **18°.9S**±0°.2×**167°.5E**±0°.1, **$h28^{km}$, n19, σ1§17/19, mb4.5/13, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	11.91	321	ePn	Pn	00 29 28.1	0.0
CTAO	Charters Tower	20.07	263	P	P	00 31 12.0	+0.6
	6.0nm,0.5s						
WRAB	Tennant Creek	31.26	263	eP	P	00 32 57.9	+0.2
	0.6nm,0.5s						
WRA	Warramunga Arr	31.27	263	P	P	00 32 59.0	+1.2
	0.7nm,0.3s,baz=96,slow=7.6,SNR=10						
WRA	Warramunga Arr	31.27	263	P	P	00 32 59.0	+1.2
ASAR	Alice Springs	31.63	255	P	P	00 32 58.9	-2.0
	0.8nm,0.5s,baz=94,slow=7.4,SNR=9.5						
ASAR	Alice Springs	31.63	255	P	P	00 32 58.9	-2.0
KKM	Kota Kinabalu	56.28	291	P	P	00 36 18.7	0.0
	2.4nm,0.5s						
COCO	West Island	68.05	264	eP	P	00 37 37.6	+0.1
	46nm,0.4s						
KULM	Kulim	70.06	283	eP	P	00 37 49.9	-0.2
	2.5nm,0.8s						
ENH	Enshi	74.19	310	eP	P	00 38 14.4	-0.1
	4.5nm,0.4s						
BJT	Baijiatuau	75.63	322	eP	P	00 38 21.7	-0.8
	6.2nm,0.6s						
CMB	Columbia Colle	88.15	49	eP	P	00 39 28.0	-0.5
	22nm,2.0s						
SNAA	Sanae	89.43	183	eP	P	00 39 34.4	+0.3
	3.8nm,0.5s						
COLA	College	90.19	17	eP	P	00 39 36.9	-0.4
	1.1nm,0.4s						
TUC	Tucson	93.18	57	eP	P	00 39 52.0	-0.1
	0.5nm,0.4s						
HWUT	Hardware Ranch	95.79	48	eP	P	00 40 03.8	-0.2
	0.6nm,0.7s						
FINES	FINESS Array B	129.63	337	PKP	PKPdf	00 45 48.1	+2.1
	1.0nm,0.8s,baz=72,slow=6.2,SNR=4.4						
FINES	FINESS Array B	129.63	337	PKP	PKPdf	00 45 48.1	+2.1

*NIED **31** 00:31:00, 38°.40N×141°.80E, $h26^{km}$, Mw3.4 Best double couple: $M_0$1.30000×10^{14} NP1:ϕ_s=273.00000°, δ13.00000°, λ63.00000°. NP2:ϕ_s=120.00000°, δ78.00000°, λ96.00000°.*
JMA 31 00:31:46.4, 38°.42N×141°.82E, $h54^{km}$, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.37	275	P	Pn	00 31 56.6	+0.1
JIO				S	Sn	00 32 03.6	-0.2
OFUJ	Ofunato	0.67	350	P	Pn	00 31 59.9	-0.1
OFUJ				S	Sn	00 32 09.5	-0.3
JMK	Ichinoseki	0.71	319	P	Pn	00 32 00.7	+0.3
JMK				eS	Sn	00 32 10.7	+0.1
JOU	Okura	0.91	267	P	Pn	00 32 03.2	+0.1
JOU				S	Sn	00 32 15.3	0.0
JMM	Marumori	0.98	236	P	Pn	00 32 03.6	-0.4
JMM				S	Sn	00 32 16.1	-0.8
JOM	Ohasama	1.13	339	P	Pn	00 32 06.3	+0.3
JOM				eS	Sn	00 32 20.9	+0.4
JYK	Kaneyama	1.25	294	P	Pn	00 32 07.9	+0.4
JYK				S	Sn	00 32 23.9	+0.6
JFK	Kawauchi	1.29	216	P	Pn	00 32 07.9	-0.3
JFK				S	Sn	00 32 23.6	-0.8
JYS	Shiratake	1.39	262	P	Pn	00 32 10.0	+0.5
JYS				S	Sn	00 32 27.4	+0.5
JFT	Otama	1.48	233	P	Pn	00 32 11.1	+0.4
JFT				S	Sn	00 32 28.8	-0.1

JMA 31 00:49:14.7±0.2, **37°.46N**×**142°.60E, $h19^{km}$, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.38	267	P	Pn	00 49 39.2	+0.3
JFK				eS	Sn	00 49 56.6	-0.1
JIO	Ouri	1.40	315	P	Pn	00 49 39.4	+0.2
JIO				S	Sb	00 49 57.8	+0.1
ONAJ	Iwakimizuishiy	1.48	257	P	Pn	00 49 40.9	+0.5
ONAJ				eS	Sb	00 49 59.9	-0.2
JMM	Marumori	1.49	286	P	Pn	00 49 40.6	+0.2
JMM				eS	Sb	00 49 59.9	-0.4
JOU	Okura	1.78	301	P	Pb	00 49 45.8	-0.9
JOU				S	Sb	00 50 08.6	0.0
JFT	Otama	1.80	273	P	Pn	00 49 45.9	+1.2
JFT				eS	Sb	00 50 08.3	-1.0
JMK	Ichinoseki	1.84	324	P	Pn	00 49 46.3	+1.0
JMK				eS	Sb	00 50 09.3	-1.2

*ISCJB **31** 00:57:24.6±1.0, 29°.6N±0°.1×48°.3E±0°.1, $h10^{km}$, mb3.8/7, MS3.8/1, Error ellipse: s-maj=23.0km s-min=14.2km az=36.6*
*IDC **31** 00:57:25.3±1.6, 29°.66N×48°.22E, $h0^{km}$, mb3.7/6, mb1 3.7/8, mb1mx3.4/47, mbtmp3.7/8, ML3.6/2, MS3.8/1, Ms1 3.8/1, ms1mx2.4/54, Error ellipse: s-maj=30.6km s-min=25.6km az=179.0*
ISC 31 00:57:26.3±1.0, **29°.6N**±0°.1×**48°.4E**±0°.1, **$h10^{km}$, n10, σ1§88/10, mb3.7/7, Eastern Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	11.13	122	Pn	Pn	01 00 07.8	+2.3
	0.9nm,0.3s,baz=275,slow=7.3,SNR=17						
WSAR				Sn	Sn	01 02 07.2	-2.9
	0.2nm,0.3s,baz=108,slow=20,SNR=3.5						

BRTR	Keskin Array B	15.80	314	Pn	Pn	01 01 11.2	+2.2
	0.1nm,0.3s,baz=137,slow=12,SNR=7.4						
AKTO	Aktyubinsk	22.09	17	P	P	01 02 21.1	-0.4
	1.1nm,0.9s,baz=175,slow=11,SNR=3.2						
AKASG	Malin Array Be	25.57	331	P	P	01 02 54.3	-1.0
	0.9nm,0.6s,baz=119,slow=6.4,SNR=5.0						
MKAR	Makanchi Array	31.42	47	P	P	01 03 49.0	+1.3
	0.3nm,0.5s,baz=241,slow=11,SNR=3.9						
FINES	FINESS Array B	35.15	342	P	P	01 04 18.5	-1.4
	2.1nm,0.8s,baz=155,slow=10,SNR=6.3						
HFS	Hagfors	38.43	333	P	P	01 04 46.7	-1.1
	1.2nm,0.5s,baz=123,slow=10,SNR=6.1						
TORD	Torodi Ar. Bea	46.12	260	P	P	01 05 50.7	-0.4
	0.7nm,0.9s,baz=51,slow=8.2,SNR=7.2						
SPITS	Spitsbergen Ar	50.77	352	P	P	01 06 25.6	-0.5
	15nm,1.0s,baz=143,slow=12,SNR=3.5						
LBTB	Lobatse	58.50	204	LR	LR	01 32 25.8	
	comp=Z,73nm,20.0s,baz=284,slow=36						

*ISK **31** 00:58:00.9, 38°.67N×43°.14E, $h5^{km}$, MD2.8*
*ISCJB **31** 00:58:02.8±0.4, 38°.67N±0°.02×43°.14E±0°.03, $h10^{km}$±4^{km}, Error ellipse: s-maj=4.4km s-min=3.7km az=136.2*
*DDA **31** 00:58:02.3, 38°.67N×43°.14E, $h7^{km}$, Ml2.9*
*CSEM **31** 00:58:02.4±0.2, 38°.67N×43°.14E, $h10^{km}$, MD2.8, Error ellipse: s-maj=3.9km s-min=3.4km az=149.0*
ISC 31 00:58:02.9±0.9, **38°.68N**±0°.02×**43°.14E**±0°.02, **$h12^{km}$**±**7^{km}, n38, σ0§83/61, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	112	ePG	Pg	00 58 07.5	0.0
VANB				eSG	Sg	00 58 11.9	+1.2
VANB	Van	0.21	112	ePg	Pg	00 58 07.5	0.0
VANB				eSg	Sg	00 58 11.9	+1.2
TVAN	Van	0.26	125	iP	Pg	00 58 07.4	-0.9
TVAN				iS	Sg	00 58 12.2	+0.2
TVAN	Van	0.26	125	P	Pg	00 58 07.4	-0.9
TVAN				S	Sg	00 58 12.2	+0.2
ADCV	BITLIS_Adilcev	0.35	292	iP	Pg	00 58 10.0	0.0
ADCV				iS	Sb	00 58 16.7	-0.1
ADCV	BITLIS_Adilcev	0.35	292	P	Pg	00 58 10.0	0.0
ADCV				S	Sb	00 58 16.7	-0.1
GEVA	Gevas	0.37	190	iP	Pg	00 58 09.4	-1.0
GEVA				iS	Sb	00 58 16.9	-0.4
GEVA	Gevas	0.37	190	P	Pg	00 58 09.4	-1.0
GEVA				S	Sb	00 58 16.9	-0.4
VMUR	Van-Muradiye	0.46	47	iP	Pg	00 58 11.6	-0.5
VMUR				iS	Sb	00 58 19.3	-0.7
VMUR	Van-Muradiye	0.46	47	P	Pg	00 58 11.6	-0.5
VMUR				S	Sb	00 58 19.3	-0.7
TATV	Tatvan	0.70	257	iP	Pg	00 58 15.7	-0.9
TATV				iS	Sg	00 58 25.9	+0.1
TATV	Tatvan	0.70	257	P	Pg	00 58 15.7	-0.9
TATV				S	Sg	00 58 25.9	+0.1
CLDR	Caldiran	0.77	52	ePG	Pg	00 58 17.0	-0.8
CLDR				eSG	Sb	00 58 28.4	-0.4
CLDR	Caldiran	0.77	52	iP	Pg	00 58 16.7	-1.1
CLDR				iS	Sb	00 58 28.2	-0.6
CLDR	Caldiran	0.77	52	P	Pg	00 58 16.7	-1.1
CLDR	Caldiran	0.77	52	ePg	Pg	00 58 17.0	-0.8
CLDR				S	Sb	00 58 28.2	-0.6
TUTA	Tutak	0.77	341	iP	Pg	00 58 16.9	-1.0
TUTA				iS	Sb	00 58 28.7	-0.2
TUTA	Tutak	0.77	341	P	Pg	00 58 16.9	-1.0
TUTA				S	Sb	00 58 28.7	-0.2
GURO	Guroymak-BITLI	0.88	262	ePG	Pg	00 58 18.8	-1.0
GURO	Guroymak-BITLI	0.88	262	ePg	Pg	00 58 18.8	-1.0
AGRB	Hanur-Agry	0.91	353	ePG	Pg	00 58 19.3	-1.2
AGRB				eSG	Sb	00 58 33.5	+0.6
AGRB	Hanur-Agry	0.91	353	ePg	Pg	00 58 19.3	-1.2
AGRB				eSg	Sb	00 58 33.5	+0.6
SRTM	Siirt_Merkez	1.18	235	iP	Pn	00 58 25.2	-0.1
SRTM				iS	Sn	00 58 43.5	+2.2
SRTM	Siirt_Merkez	1.18	235	P	Pn	00 58 25.2	-0.1
SRTM				S	Sn	00 58 43.5	+2.2
EATA	Eleskirt	1.29	337	iP	Pn	00 58 26.6	-0.4
EATA				iS	Sn	00 58 45.4	+1.0
EATA	Eleskirt	1.29	337	P	Pn	00 58 26.6	-0.4
EATA				S	Sn	00 58 45.4	+1.0
VRTB	Varto-Mus	1.40	291	ePN	Pb	00 58 28.8	-0.3
VRTB	Varto-Mus	1.40	291	ePn	Pb	00 58 28.8	-0.3
CUKT	Cukurca	1.47	165	ePN	Pn	00 58 29.6	+0.2
CUKT	Cukurca	1.47	165	ePn	Pn	00 58 29.6	+0.2
TASB	TASBURUN-IGDIR	1.56	33	ePN	Pb	00 58 31.5	-0.3
TASB	TASBURUN-IGDIR	1.56	33	ePn	Pb	00 58 31.5	-0.3
SVAN	Silvan-Diyarba	1.61	252	ePN	Pb	00 58 31.9	-0.7
SVAN	Silvan-Diyarba	1.61	252	ePn	Pb	00 58 31.9	-0.7
BNGB	Bing¶ll	1.95	280	ePN	Pn	00 58 36.7	+0.8
SENK	Senkaya-Erzuru	1.98	342	ePN	Pn	00 58 37.2	+0.8
SENK	Senkaya-Erzuru	1.98	342	ePn	Pn	00 58 37.2	+0.8
BINT	Bingol	2.08	276	ePn	Pn	00 58 36.7	-1.1

*CSEM **31** 00:59:24.7±0.2, 38°.68N×43°.40E, $h10^{km}$, MD2.1, Error ellipse: s-maj=7.7km s-min=4.1km az=122.0*
*ISK **31** 00:59:24.3, 38°.68N×43°.39E, $h6^{km}$, MD2.1*
*ISCJB **31** 00:59:25.1±1.3, 38°.65N±0°.06×43°.46E±0°.10, $h18^{km}$±12^{km}, Error ellipse: s-maj=15.1km s-min=6.2km az=32.5*
*DDA **31** 00:59:25.4, 38°.65N×43°.51E, $h7^{km}$, Ml2.5*
ISC 31 00:59:24.9±1.0, **38°.69N**±0°.04×**43°.42E**±0°.05, **$h14^{km}$**±**8^{km}, n16, σ0§72/27, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	194	ePG	Pg	00 59 28.1	-0.1
VANB	Van	0.10	194	ePg	Pg	00 59 28.1	-0.1
TVAN	Van	0.16	184	iP	Pg	00 59 28.3	-0.8
TVAN				iS	Sg	00 59 32.4	+0.5
TVAN	Van	0.16	184	P	Pg	00 59 28.3	-0.8
TVAN				S	Sg	00 59 32.4	+0.5
VMUR	Van-Muradiye	0.32	21	iP	Pg	00 59 31.3	-0.4
VMUR				iS	Sb	00 59 38.4	+0.6
VMUR	Van-Muradiye	0.32	21	P	Pg	00 59 31.3	-0.4
VMUR				S	Sb	00 59 38.4	+0.6
GEVA	Gevas	0.47	217	iP	Pb	00 59 34.3	-0.7
GEVA				iS	Sb	00 59 43.4	+1.5
GEVA	Gevas	0.47	217	P	Pb	00 59 34.3	-0.7
GEVA				S	Sb	00 59 43.4	+1.5
CLDR	Caldiran	0.60	40	ePG	Pg	00 59 36.5	-0.2
CLDR				eSG	Sb	00 59 46.1	+0.4
CLDR	Caldiran	0.60	40	iP	Pg	00 59 36.3	-0.5
CLDR				iS	Sb	00 59 46.4	+0.7
CLDR	Caldiran	0.60	40	P	Pg	00 59 36.3	-0.5
CLDR	Caldiran	0.60	40	ePg	Pg	00 59 36.6	-0.2
CLDR				eSg	Sb	00 59 46.1	+0.4
AGRB	Hanur-Agry	0.95	340	ePG	Pg	00 59 43.2	-0.1
AGRB				eSG	Sb	00 59 56.3	+0.6
AGRB	Hanur-Agry	0.95	340	ePg	Pg	00 59 43.2	-0.1
AGRB				eSg	Sb	00 59 56.3	+0.6
GURO	Guroymak-BITLI	1.09	263	ePG	Pg	00 59 45.3	-0.7
GURO	Guroymak-BITLI	1.09	263	ePg	Pg	00 59 45.3	-0.7

*ISK **31** 01:01:27.9, 38°.67N×43°.15E, $h6^{km}$, MD2.5*
*ISCJB **31** 01:01:28.9±0.5, 38°.70N±0°.03×43°.17E±0°.04, $h12^{km}$±6^{km}, Error ellipse: s-maj=5.3km s-min=4.7km az=154.8*
*CSEM **31** 01:01:28.7±0.2, 38°.70N×43°.17E, $h10^{km}$, MD2.5, Error ellipse: s-maj=3.8km s-min=3.5km az=170.0*
*DDA **31** 01:01:28.6, 38°.71N×43°.21E, $h7^{km}$, Ml2.7*
ISC 31 01:01:28.8±0.9, **38°.70N**±0°.03×**43°.16E**±0°.03, **$h13^{km}$**±**9^{km}, n22, σ0§48/38, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	121	ePG	Pg	01 01 33.6	+0.3
VANB				eSG	Sg	01 01 37.5	+0.9
VANB	Van	0.21	121	ePg	Pg	01 01 33.7	+0.3
VANB				eSg	Sg	01 01 37.5	+0.9
TVAN	Van	0.26	132	iP	Pg	01 01 33.7	-0.7
TVAN				iS	Sg	01 01 37.3	-0.8
TVAN	Van	0.26	132	P	Pg	01 01 33.7	-0.7
TVAN				S	Sg	01 01 37.3	-0.8
ADCV	BITLIS_Adilcev	0.36	288	iP	Pb	01 01 36.8	-0.3
ADCV				iS	Sb	01 01 43.5	+0.8
ADCV	BITLIS_Adilcev	0.36	288	P	Pb	01 01 36.8	-0.3
ADCV				S	Sb	01 01 43.5	+0.8
GEVA	Gevas	0.40	192	iP	Pg	01 01 36.5	-0.3
GEVA				iS	Sb	01 01 43.6	-0.2
GEVA	Gevas	0.40	192	P	Pg	01 01 36.5	-0.3
GEVA				S	Sb	01 01 43.6	-0.2
VMUR	Van-Muradiye	0.43	48	iP	Pg	01 01 37.2	-0.2
VMUR				iS	Sb	01 01 44.5	-0.4
VMUR	Van-Muradiye	0.43	48	P	Pg	01 01 37.2	-0.2
VMUR				S	Sb	01 01 44.5	-0.4
TATV	Tatvan	0.72	255	iP	Pg	01 01 42.6	-0.3
TATV				iS	Sb	01 01 53.8	+0.4
TATV	Tatvan	0.72	255	P	Pg	01 01 42.6	-0.3
TATV				S	Sb	01 01 53.8	+0.4
CLDR	Caldiran	0.74	53	ePG	Pg	01 01 43.2	+0.1
CLDR	Caldiran	0.74	53	ePg	Pg	01 01 43.2	+0.1
TUTA	Tutak	0.75	339	iP	Pg	01 01 43.0	-0.4
TUTA				iS	Sb	01 01 54.2	+0.1
TUTA	Tutak	0.75	339	P	Pg	01 01 43.0	-0.4
TUTA				S	Sb	01 01 54.2	+0.1
AGRB	Hanur-Agry	0.88	352	ePG	Pg	01 01 45.6	-0.3
AGRB	Hanur-Agry	0.88	352	ePg	Pg	01 01 45.6	-0.3
GURO	Guroymak-BITLI	0.90	261	ePG	Pg	01 01 46.1	0.0
GURO				eSG	Sg	01 01 57.4	-0.5
GURO	Guroymak-BITLI	0.90	261	ePg	Pg	01 01 46.1	0.0
GURO				eSg	Sg	01 01 57.4	-0.5
CUKT	Cukurca	1.49	166	ePN	Pn	01 01 56.0	+0.6
CUKT	Cukurca	1.49	166	ePn	Pn	01 01 56.0	+0.6

*ISK **31** 01:09:23.3, 38°.74N×43°.64E, $h5^{km}$, MD3.0*
*ISCJB **31** 01:09:25.0±0.5, 38°.73N±0°.02×43°.65E±0°.04, $h6^{km}$±4^{km}, Error ellipse: s-maj=5.5km s-min=3.5km az=11.9*
*CSEM **31** 01:09:24.5±0.2, 38°.72N×43°.65E, $h5^{km}$, ML3.2, Error ellipse: s-maj=4.8km s-min=3.2km az=107.0*
*DDA **31** 01:09:25.0, 38°.72N×43°.60E, $h22^{km}$, Ml3.2*
ISC 31 01:09:25.3±1.0, **38°.72N**±0°.02×**43°.63E**±0°.03, **$h12^{km}$**±**8^{km}, n46, σ1§08/71, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.23	237	ePG	Pg	01 09 30.3	+0.1
VANB	Van	0.23	237	ePg	Pg	01 09 30.3	+0.1
TVAN	Van	0.26	223	iP	Pg	01 09 30.2	-0.6
TVAN				iS	Sb	01 09 35.5	-1.1
TVAN	Van	0.26	223	P	Pg	01 09 30.2	-0.6
TVAN				S	Sb	01 09 35.5	-1.1
VMUR	Van-Muradiye	0.27	350	iP	Pg	01 09 30.5	-0.5
VMUR				iS	Sb	01 09 36.2	-0.7
VMUR	Van-Muradiye	0.27	350	P	Pg	01 09 30.5	-0.5
VMUR				S	Sb	01 09 36.2	-0.7
CLDR	Caldiran	0.48	28	ePG	Pg	01 09 33.4	-1.3
CLDR				eSG	Sg	01 09 40.5	-0.6
CLDR	Caldiran	0.48	28	iP	Pg	01 09 34.3	-0.4
CLDR				iS	Sb	01 09 44.7	+1.9
CLDR	Caldiran	0.48	28	ePg	Pg	01 09 33.4	-1.3
CLDR	Caldiran	0.48	28	P	Pg	01 09 34.3	-0.4
CLDR				eSg	Sg	01 09 40.5	-0.6
GEVA	Gevas	0.61	228	iP	Pg	01 09 35.9	-1.3
GEVA				iS	Sb	01 09 46.7	+0.2
GEVA	Gevas	0.61	228	P	Pg	01 09 35.9	-1.3
GEVA				S	Sb	01 09 46.7	+0.2
ADCV	BITLIS_Adilcev	0.72	277	iP	Pg	01 09 38.5	-0.7
ADCV				iS	Sb	01 09 49.6	0.0
ADCV	BITLIS_Adilcev	0.72	277	P	Pg	01 09 38.5	-0.7
ADCV				S	Sb	01 09 49.6	0.0
BASK	Baskale_VAN	0.73	156	iP	Pg	01 09 38.7	-0.7
BASK				iS	Sn	01 09 51.6	-1.1
BASK	Baskale_VAN	0.73	156	P	Pg	01 09 38.7	-0.7
DYDN	Diyadin	0.82	3	iP	Pg	01 09 40.7	-0.6
DYDN				iS	Sb	01 09 53.5	+0.7
DYDN	Diyadin	0.82	3	P	Pg	01 09 40.7	-0.6
DYDN				S	Sb	01 09 53.5	+0.7
TUTA	Tutak	0.93	317	iP	Pg	01 09 42.2	-1.1
TUTA				iS	Sb	01 09 56.2	+0.3
TUTA	Tutak	0.93	317	P	Pg	01 09 42.2	-1.1
TUTA				S	Sb	01 09 56.2	+0.3
AGRB	Hanur-Agry	0.99	330	ePG	Pg	01 09 43.0	-1.4
AGRB				eSG	Sb	01 09 57.3	-0.2
AGRB	Hanur-Agry	0.99	330	ePg	Pg	01 09 43.0	-1.4
AGRB				eSg	Sb	01 09 57.3	-0.2
TATV	Tatvan	1.09	259	iP	Pg	01 09 44.5	-1.8
TATV				iS	Sg	01 09 59.9	-0.6
TATV	Tatvan	1.09	259	P	Pg	01 09 44.5	-1.8
TATV				S	Sg	01 09 59.9	-0.6
GURO	Guroymak-BITLI	1.27	263	ePN	Pg	01 09 47.9	-1.7
GURO	Guroymak-BITLI	1.27	263	ePn	Pg	01 09 47.9	-1.7
TASB	TASBURUN-IGDIR	1.35	20	ePN	Pn	01 09 49.7	-0.2
TASB	TASBURUN-IGDIR	1.35	20	ePn	Pn	01 09 49.7	-0.2
EATA	Eleskirt	1.44	323	iP	Pn	01 09 51.7	+0.2
EATA				iS	Sn	01 10 12.5	+2.0
EATA	Eleskirt	1.44	323	P	Pn	01 09 51.7	+0.2
EATA				S	Sn	01 10 12.5	+2.0
CUKT	Cukurca	1.47	181	ePN	Pn	01 09 52.0	+0.3
CUKT	Cukurca	1.47	181	iP	Pn	01 09 51.2	-0.5
CUKT				iS	Sg	01 10 15.5	+2.9
CUKT	Cukurca	1.47	181	P	Pn	01 09 51.2	-0.5
CUKT	Cukurca	1.47	181	ePn	Pn	01 09 52.0	+0.3
SRTM	Siirt_Merkez	1.53	242	iP	Pb	01 09 53.4	-0.2
SRTM				iS	Sg	01 10 17.6	+3.1
SRTM	Siirt_Merkez	1.53	242	P	Pb	01 09 53.4	-0.2
SIRN	S¨¨rnak	1.56	219	iP	Pg	01 09 54.1	-1.0
SIRN				iS	Sg	01 10 16.5	+1.2
SIRN	S¨¨rnak	1.56	219	P	Pg	01 09 54.1	-1.0
VRTB	Varto-Mus	1.75	285	ePN	Pb	01 09 56.8	-0.7

Duration: 1ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$1.26±.02; $M_{\phi\phi}$-1.11±.02; $M_{r\theta}$0.01±.04; $M_{r\phi}$0.57±.02; $M_{\theta\phi}$0.30±.04; Best double couple: $M_0$1.35600×10^{17} NP1:ϕ_s213.00000°, δ82.00000°, λ-168.00000°. NP2:ϕ_s121.00000°, δ78.00000°, λ-8.00000°. Principal axes: T 1.3960, Plg3.0000°, Azm347.0000°; N -0.0830, Plg76.0000°, Azm245.0000°; P -1.3150, Plg14.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

CSEM ***31*** *01:22:05.8±0.2, 12°.49N×47°.97E, h10km, mb4.7/11 Error ellipse: s-maj=9.3km s-min=8.8km az=104.0*

NEIC ***31*** *01:22:05.8±0.4, 12°.52N×48°.06E, h10km, mb5.0/22, Error ellipse: s-maj=9.1km s-min=6.9km az=123.0*

ISC 31 01:22:06.4±0.4, 12°.60N±0°.04×47°.79E±0°.04, h14km, n196, σ2ˢ49/182, mb4.5/87, MS4.6/45, 3C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.56**	**303**	*i* P		**Pn**	**01 22 45.1**	**-2.6**
BDHA				*i* S		**Sn**	**01 23 16.3**	**-2.6**
BDHA						AML	AML	01 23 21.6
	comp=Z,4μm,0.6s							
BDHA	**Al Bayda'**	**2.56**	**303**	*i* P		**Pn**	**01 22 45.1**	**-2.6**
BDHA				*i* S		**Sn**	**01 23 16.3**	**-2.6**
	comp=Z,2μm,0.6s							
ADEN	**Aden**	**2.75**	**274**	*i* P		**Pn**	**01 22 46.9**	**-3.1**
ADEN						AML	AML	01 22 56.6
	comp=Z,1μm,0.5s							
ADEN				*i* S		**Sn**	**01 23 20.3**	**-2.7**
ADEN	**Aden**	**2.75**	**274**	*i* P		**Pn**	**01 22 46.9**	**-3.1**
	comp=Z,538nm,0.5s							
ADEN				*i* S		**Sn**	**01 23 20.3**	**-2.7**
TRBA	**At Turbah**	**3.64**	**280**	⇑*i* P		**Pn**	**01 22 59.8**	**-2.7**
TRBA				*i* S		**Sn**	**01 23 43.7**	**-1.7**
TRBA						AML	AML	01 24 05.4
	comp=N,1μm,0.6s							
TRBA	**At Turbah**	**3.64**	**280**	⇑*i* P		**Pn**	**01 22 59.8**	**-2.7**
TRBA				*i* S		**Sn**	**01 23 43.7**	**-1.7**
	comp=N,522nm,0.6s							
DAMY	**Dhamar**	**3.84**	**301**	*e*Pn		**Pn**	**01 23 06.8**	**+1.4**
DAMY				*e*Sn		**Sb**	**01 23 54.0**	**-6.8**
DAMY	**Dhamar**	**3.84**	**301**	*e*Pn		**Pn**	**01 23 06.8**	**+1.4**
DAMY				*e*Sn		**Sb**	**01 23 54.0**	**-6.8**
UDYN	**Al 'Udayn**	**3.96**	**291**	*i* P		**Pn**	**01 23 02.5**	**-4.5**
UDYN				*i* S		**Sn**	**01 23 50.0**	**-3.4**
ATD	**Arta Tunnel**	**4.95**	**258**	Pn		**Pn**	**01 23 21.8**	**+1.4**
	comp=N,210nm,0.3s,baz=357,slow=4.4,SNR=674							
ATD				Sn		**Sn**	**01 24 20.4**	**+2.9**
	baz=72,slow=20,SNR=2.0							
ATD				LR		LR	01 24 50.2	
	comp=N,8μm,19.3s,baz=94,slow=32							
HAJJ	**Hajjah**	**5.10**	**308**	*i* S		**Sn**	**01 24 17.5**	**-4.0**
HAJJ	**Hajjah**	**5.10**	**308**	*i* S		**Sn**	**01 24 17.5**	**-4.0**
FURI	**Furi**	**9.68**	**249**	*e*Pn		Pn	01 24 31.0	+5.4
RAYN	**Ar Rayn**	**11.08**	**349**	*e*Pn		Pn	01 24 39.1	-5.5
UOSS	**Minazif**	**14.63**	**32**	*e*Pn		**Pn**	**01 25 32.9**	**-0.2**
UOSS	**Minazif**	**14.63**	**32**	*e*Pn		**Pn**	**01 25 32.9**	**-0.2**
WSAR	**Wadi Sarin**	**14.77**	**43**	Pn		**Pn**	**01 25 34.0**	**-0.9**
	comp=N,0.2nm,0.3s,baz=252,slow=13,SNR=2.5							
WSAR						LR	LR	01 30 56.6
	comp=N,4μm,21.1s,baz=240,slow=36							
KMBO	**Kilima Mbogo**	**17.18**	**218**	P		**P**	**01 26 06.2**	**-1.8**
	baz=30,slow=12,SNR=6.2							
KMBO						LR	LR	01 33 05.5
	comp=N,284nm,18.4s,baz=22,slow=38							
KMBO	**Kilima Mbogo**	**17.18**	**218**	*e*P		**Pn**	**01 26 05.1**	**-1.4**
KMBO	**Kilima Mbogo**	**17.18**	**218**	*e*Pn		**Pn**	**01 26 05.1**	**-1.4**
KMBO	**Kilima Mbogo**	**17.18**	**218**	*e*Pn		**Pn**	**01 26 05.0**	**-1.4**
MSEY	**Mahe Island**	**18.78**	**156**	*e*P		**P**	**01 26 23.8**	**-1.7**
MSEY	**Mahe Island**	**18.78**	**156**	*e*P		**P**	**01 26 23.8**	**-1.7**
MSEY	**Mahe Island**	**18.78**	**156**	*e*Pn		**P**	**01 26 23.8**	**-1.7**
EIL	**Elat**	**20.75**	**327**	P		Pn	01 26 48.7	-0.6
	comp=N,4.6nm,0.8s,baz=262,slow=1.7,SNR=4.8							
EIL				LR		LR	01 33 46.0	
	comp=N,3μm,21.3s,baz=152,slow=34							
ASF	**Jabal al Asfar**	**21.90**	**335**	P		**P**	**01 27 00.4**	**+1.1**
	comp=N,6.6nm,1.1s,baz=134,slow=3.7,SNR=6.9							
MMAI	**Mount Meron Ar**	**23.27**	**333**	P		**P**	**01 27 15.5**	**+1.8**
	comp=N,0.4nm,0.5s,baz=149,slow=17,SNR=3.4							
MMAI						LR	LR	01 35 49.0
	comp=N,3μm,18.7s,baz=160,slow=35							
MARD	**Mardin**	**25.40**	**347**	*e*P		P	01 27 40.9	+7.3
	comp=N,20nm,0.9s							
GEYT	**Alibeck**	**26.86**	**18**	P		**P**	**01 27 45.9**	**-0.8**
	comp=N,3.0nm,0.8s,baz=165,slow=6.2,SNR=6.0							
GEYT						LR	LR	01 40 42.1
	comp=N,2μm,18.6s,baz=185,slow=42							
GNI	**Garni**	**27.58**	**355**	LR		LR	01 40 21.6	
	comp=N,2μm,20.0s,baz=164,slow=40							
GNI	**Garni**	**27.58**	**355**	*i* P		**P**	**01 27 51.7**	**-1.6**
GNI						pmax	pmax	
	comp=Z,22nm,1.0s							
GNI	**Garni**	**27.58**	**355**	*i* P		**P**	**01 27 51.7**	**-1.6**
	comp=Z,22nm,1.0s							
BRTR	**Keskin Array B**	**29.77**	**338**	P		**P**	**01 28 13.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=160,slow=11,SNR=6.8							
BRTR						LR	LR	01 40 05.5
	comp=Z,2μm,19.8s,baz=154,slow=36							
ANTO	**Ankara**	**30.22**	**337**	*e*P		**P**	**01 28 12.8**	**-3.9**
ANTO						pmax	pmax	
	comp=Z,39nm,1.0s							
ANTO	**Ankara**	**30.22**	**337**	*e*P		**P**	**01 28 12.8**	**-3.9**
	comp=Z,39nm,1.0s							
MAK	**Makhachkala**	**30.26**	**360**	*e*P		**P**	**01 28 12.5**	**-4.3**
MAK				*e*S		**S**	**01 33 12.9**	**-3.2**
MAK						pmax	pmax	
	comp=Z,269nm,1.7s							
MAK						MLR	MLR	
	comp=Z,3μm,19.0s							
NEY	**Neytrino**	**30.86**	**353**	*i* P		**P**	**01 28 23.1**	**+0.7**
NEY	**Neytrino**	**30.86**	**353**	*i* P		**P**	**01 28 23.1**	**+0.7**
KBZ	**Khabaz**	**31.31**	**353**	P		**P**	**01 28 28.3**	**+2.2**
	comp=Z,2.1nm,0.9s,baz=192,slow=12,SNR=2.7							
KBZ				LR		LR	01 43 10.1	
	comp=Z,1μm,18.3s,baz=142,slow=40							
KIV	**Kislovodsk**	**31.56**	**353**	*e*P		**P**	**01 28 28.9**	**+0.5**
KIV				*e*PPP		PPP	01 29 41.9	
KIV				*e*S		**S**	**01 33 39.3**	**+2.6**
KIV						pmax	pmax	
	comp=Z,8.0nm,1.1s							
KIV						MLR	MLR	
	comp=Z,1μm,15.0s							
KIV	**Kislovodsk**	**31.56**	**353**	*e*P		**P**	**01 28 28.9**	**+0.5**
	comp=Z,8.0nm,1.1s							
KIV				*e*S		**S**	**01 33 39.3**	**+2.6**
ANN	**Anapa**	**33.30**	**347**	*e*P		P	01 28 32.4	-11
ANN				*e**PP		pP	01 28 40.7	-7.1
ANN						pmax	pmax	
	comp=Z,73nm,1.3s							
ANN						MLR	MLR	
	comp=E,378nm,14.0s							
ANN						MLR	MLR	
	comp=N,927nm,14.0s							
ANN						MLR	MLR	
	comp=Z,1μm,14.0s							
LSZ	**Lusaka**	**33.81**	**216**	P		**P**	**01 28 49.5**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=86,slow=17,SNR=3.1							
AGG	**Agios Georgios**	**34.67**	**324**	*e*P		**P**	**01 28 57.9**	**+2.3**
AGG						pmax	pmax	
	comp=Z,211nm,1.9s							
AGG	**Agios Georgios**	**34.67**	**324**	*e*P		**P**	**01 28 57.9**	**+2.3**
	comp=Z,211nm,1.9s							
TIRR	**Tirgusor**	**35.83**	**336**	*e*P		**P**	**01 29 07.6**	**+2.1**
TIRR	**Tirgusor**	**35.83**	**336**	*e*P		**P**	**01 29 07.6**	**+2.1**
	comp=Z,2μm,1.7s							
CFR	**Carcaliu**	**36.54**	**336**	P		P	01 29 17.6	+6.1
CFR						pmax	pmax	
	comp=Z,11nm,2.2s							
KSH	**Kashi**	**36.59**	**38**	*e*P		**P**	**01 29 10.5**	**-1.7**
KSH				pP		pP	01 29 14.0	-2.5
KSH				sP		sP	01 29 17.5	-0.8
KSH				PP		**PnPn**	**01 30 33.8**	**-1.5**
KSH				PcP		**PcP**	**01 31 36.0**	**+0.5**
KSH				S		**S**	**01 34 49.0**	**-5.7**
KSH						pmax	pmax	
	comp=Z,4.0nm,1.2s							
KSH						pmax	pmax	
	comp=Z,160nm,5.0s							
KSH						LR	LR	
	comp=Z,590nm,15.6s							
KSH						LR	LR	
	comp=Z,530nm,12.9s							
KSH						LR	LR	
	comp=Z,560nm,18.2s							
VTS	**Vitosha**	**36.71**	**329**	P		P	01 29 23.4	+10
VTS						pmax	pmax	
	comp=Z,7.0nm,1.3s							
AAK	**Ala-Archa**	**37.83**	**33**	P		**P**	**01 29 22.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=222,slow=12,SNR=2.6							
AAK						LR	LR	01 46 41.2
	comp=Z,612nm,19.2s,baz=210,slow=39							
AAK	**Ala-Archa**	**37.83**	**33**	*i* P		**P**	**01 29 23.2**	**+0.4**
AAK						pmax	pmax	
	comp=Z,6.0nm,0.9s							
ABKAR	**Akbulak array**	**37.91**	**13**	*e*P		**P**	**01 29 22.2**	**-0.9**
	comp=Z,109nm,1.4s							
VOIR		**38.02**	**334**	P		P	01 29 29.7	+5.5
VOIR						pmax	pmax	
	comp=Z,11nm,1.5s							
AKTO	**Aktyubinsk**	**38.65**	**10**	P		**P**	**01 29 28.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=202,slow=9.3,SNR=3.1							
AKTO	**Aktyubinsk**	**38.65**	**10**	P		**P**	**01 29 29.0**	**-0.4**
DRGR		**40.10**	**333**	P		P	01 29 48.9	+7.3
DRGR						pmax	pmax	
	comp=Z,29nm,1.4s							
HORU	**Horodok**	**40.56**	**338**	P		**P**	**01 29 47.0**	**+1.7**
KIEV	**Kiev**	**40.91**	**342**	*i* P		**P**	**01 29 48.6**	**+0.5**
KIEV						pmax	pmax	
	comp=Z,24nm,3.0s							
AKASG	**Malin Array Be**	**40.91**	**342**	P		**P**	**01 29 47.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=155,slow=6.9,SNR=6.0							
AKASG				PcP		**PcP**	**01 31 53.4**	**+4.8**
	comp=Z,0.6nm,0.4s,baz=149,slow=2.5,SNR=4.8							
AKASG				LR		LR	01 48 20.8	
	comp=Z,570nm,19.3s,baz=140,slow=38							
TAM	**Tamanrasset**	**41.40**	**290**	*e*P		P	01 29 57.4	+4.6
TAM						pmax	pmax	
	comp=Z,9.0nm,1.1s							
TAM	**Tamanrasset**	**41.40**	**290**	*e*P		P	01 29 57.4	+4.6
	comp=Z,9.3nm,1.1s							
KEST	**Kesra**	**41.58**	**310**	LR		LR	01 47 45.8	
	comp=Z,2μm,18.9s,baz=41,slow=37							
KEST	**Kesra**	**41.58**	**310**	*e*P		P	01 29 57.1	+3.2
	comp=Z,54nm,1.6s							
UZH	**Uzhgorod**	**41.70**	**335**	*e*P		**P**	**01 29 55.5**	**+0.9**
UZH				*e*			01 30 00.1	
CRVS	**Cervenica-Dubn**	**42.26**	**334**	*e*P		P	01 30 07.0	+7.8
CRVS	**Cervenica-Dubn**	**42.26**	**334**	*e*P		P	01 30 07.0	+7.8
STHS	**Stebnicka Huta**	**42.74**	**335**	*e*P		P	01 30 09.3	+6.1
STHS	**Stebnicka Huta**	**42.74**	**335**	*e*P		P	01 30 09.3	+6.1
VYHS	**Vyhne**	**43.11**	**332**	*e*P		P	01 30 12.2	+6.0
VYHS	**Vyhne**	**43.11**	**332**	*e*P		P	01 30 12.2	+6.0
LBTB	**Lobatse**	**43.20**	**210**	P		**P**	**01 30 07.7**	**+0.5**
	comp=Z,11nm,1.1s,baz=27,slow=6.9,SNR=5.7							
LBTB	**Lobatse**	**43.20**	**210**	*e*P		**P**	**01 30 08.2**	**+0.9**
LBTB						pmax	pmax	
	comp=Z,24nm,1.1s							
LBTB	**Lobatse**	**43.20**	**210**	*e*P		**P**	**01 30 08.2**	**+0.9**
	comp=Z,24nm,1.1s							
OBN	**Obninsk**	**43.32**	**351**	*e*P		**P**	**01 30 08.7**	**+1.0**
OBN						pmax	pmax	
	comp=Z,4.0nm,0.7s							
TSUM	**Tsumeb**	**43.41**	**224**	P		**P**	**01 30 12.3**	**+3.2**
	comp=Z,2.5nm,0.9s,baz=0.0,slow=13,SNR=2.3							
SOKA	**Soboth**	**43.75**	**327**	*e*pP		P	01 30 15.8	+4.4
	comp=Z,5.7nm,0.9s							
MOS	**Moscow**	**43.77**	**352**	*e*P		**P**	**01 30 12.0**	**+0.7**
MOS						pmax	pmax	
	comp=Z,45nm,1.4s							
ARSA	**Arzberg**	**43.87**	**328**	*e*P		**P**	**01 30 13.7**	**+1.4**
	comp=Z,5.2nm,1.7s							
ARSA	**Arzberg**	**43.87**	**328**	P		**P**	**01 30 13.7**	**+1.4**
	comp=Z,5.2nm,1.7s							
OBKA	**Obir**	**43.89**	**327**	pP		P	01 30 17.4	+4.7
	comp=Z,13nm,1.4s							
CONA	**Conrad Observa**	**44.14**	**329**	*e*P		**P**	**01 30 17.4**	**+2.8**
	comp=Z,12nm,1.9s							
CONA	**Conrad Observa**	**44.14**	**329**	P		**P**	**01 30 17.4**	**+2.8**
	comp=Z,12nm,1.9s							
BRVK	**Borovoye**	**44.18**	**19**	*i* P		**P**	**01 30 14.3**	**-0.4**
BRVK						pmax	pmax	
	comp=Z,14nm,1.7s							
BVAR	**Borovoye Array**	**44.18**	**19**	P		**P**	**01 30 13.7**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=227,slow=5.7,SNR=2.6							
BVAR				LR		LR	01 49 46.5	
	comp=Z,836nm,18.1s,baz=210,slow=38							
MYKA	**Terra Mystica**	**44.46**	**326**	*e*pP		P	01 30 21.3	+4.1
	comp=Z,7.8nm,1.1s							
ARU	**Arti**	**44.52**	**9**	P		**P**	**01 30 16.2**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=118,slow=1.0,SNR=6.4							
ARU	**Arti**	**44.52**	**9**	*d i*P		**P**	**01 30 18.9**	**+1.5**
ARU							01 32 03.7	
ARU				S		**S**	**01 36 56.4**	**+4.1**
ARU				SS		**ScS**	**01 40 14.4**	**-0.5**
ARU						pmax	pmax	
	comp=Z,6.0nm,0.8s							
ARU						MLR	MLR	
	comp=Z,1μm,23.0s							
ARU	**Arti**	**44.52**	**9**	*e*P		**P**	**01 30 19.1**	**+1.7**
	comp=Z,10.0nm,1.0s							
MAKZ	**Makanchi**	**44.59**	**33**	*e*P		**P**	**01 30 17.0**	**-1.1**
	comp=Z,9.4nm,1.0s							
MORC	**Moravsky Berou**	**44.63**	**332**	*e*P		**P**	**01 30 20.4**	**+2.0**
MORC						pmax	pmax	
	comp=Z,50nm,1.3s							
MORC	**Moravsky Berou**	**44.63**	**332**	*e*P		**P**	**01 30 20.4**	**+2.0**
	comp=Z,50nm,1.3s							
MK31	**Makanchi Array**	**44.75**	**34**	*e*P		**P**	**01 30 19.7**	**+0.3**
MK31	**Makanchi Array**	**44.75**	**34**	*e*P		**P**	**01 30 19.6**	**+0.3**
MKAR	**Makanchi Array**	**44.75**	**34**	P		**P**	**01 30 17.5**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=223,slow=7.2,SNR=14							
MKAR				LR		LR	01 51 21.6	
	comp=Z,692nm,19.9s,baz=234,slow=39							
MKAR	**Makanchi Array**	**44.75**	**34**	*ce*P		**P**	**01 30 18.8**	**-0.6**
MKAR						pmax	pmax	
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**44.75**	**34**	*e*P		**P**	**01 30 19.6**	**+0.2**
	comp=Z,40nm,0.9s							
TOA0	**Torodi Ar. Sit**	**44.89**	**276**	*e*P		P	01 30 24.6	+3.7
	comp=Z,14nm,1.4s							
TORD	**Torodi Ar. Bea**	**44.89**	**276**	P		P	01 30 24.1	+3.2
	comp=Z,1.7nm,0.7s,baz=89,slow=6.1,SNR=14							
TORD				PcP		**PP**	**01 32 05.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=82,slow=4.0,SNR=2.4							
TORD				LR		LR	01 48 34.5	
	comp=Z,491nm,20.1s,baz=90,slow=35							
KBA	**Koelnbreinsper**	**44.90**	**327**	P		P	01 30 29.8	+9.0
KBA						pmax	pmax	
	comp=Z,39nm,1.0s							
KBA	**Koelnbreinsper**	**44.90**	**327**	*e*P		**P**	**01 30 24.0**	**+3.3**
	comp=Z,9.1nm,1.1s							
KBA	**Koelnbreinsper**	**44.90**	**327**	P		**P**	**01 30 24.0**	**+3.3**
	comp=Z,9.1nm,1.1s							
MOA	**Molln**	**44.90**	**328**	*e*pP		P	01 30 25.7	+5.0
	comp=Z,7.0nm,0.9s							
ABTA	**Abfaltersbach**	**45.14**	**326**	*e*P		**P**	**01 30 25.1**	**+2.5**
	comp=Z,7.2nm,1.1s							
ABTA	**Abfaltersbach**	**45.14**	**326**	P		**P**	**01 30 25.1**	**+2.5**
	comp=Z,7.2nm,1.1s							
TREC	**Trest**	**45.25**	**330**	*e*P		P	01 30 26.8	+3.4
TREC	**Trest**	**45.25**	**330**	*e*P		P	01 30 26.8	+3.4
TREC	**Trest**	**45.25**	**330**	P		P	01 30 26.8	+3.4
KURBB	**Kurchatov Arra**	**45.45**	**27**	P		**P**	**01 30 23.9**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=227,slow=8.1,SNR=14							
KURK	**Kurchatov**	**45.56**	**27**	*i* P		**P**	**01 30 24.2**	**-1.5**
KURK						pmax	pmax	
	comp=Z,43nm,2.7s							
KURK	**Kurchatov**	**45.56**	**27**	*e*P		**P**	**01 30 24.5**	**-1.2**
	comp=Z,9.4nm,1.0s							
DPC	**Dobruska-Polom**	**45.59**	**332**	*e*P		**P**	**01 30 26.3**	**+0.3**
DPC				*ex*		x	01 30 35.7	
DPC				*ex*		x	01 30 44.1	
DPC				*e*S		**S**	**01 37 12.7**	**+4.7**
DPC	**Dobruska-Polom**	**45.59**	**332**	*e*P		**P**	**01 30 26.3**	**+0.3**
DPC				*e*S		**S**	**01 37 12.7**	**+4.7**
DPC	**Dobruska-Polom**	**45.59**	**332**	P		**P**	**01 30 26.3**	**+0.3**
DPC				*e*S		**S**	**01 37 12.7**	**+4.7**
SUW	**Suwalki**	**45.67**	**340**	P		P	01 30 34.4	+7.8
SUW						pmax	pmax	
	comp=Z,256nm,1.6s							
GEC2	**GERESS Array S**	**45.83**	**329**	*e*P		**P**	**01 30 30.1**	**+2.0**
GEC2						pmax	pmax	
	comp=Z,30nm,1.8s							
GEC2	**GERESS Array S**	**45.83**	**329**	*e*P		**P**	**01 30 30.1**	**+2.0**
	comp=Z,30nm,1.8s							
GERES	**GERESS Array B**	**45.83**	**329**	P		**P**	**01 30 27.6**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=132,slow=8.1,SNR=12							
GERES				LR		LR	01 50 02.5	
	comp=Z,282nm,20.7s,baz=136,slow=36							
UPC	**Upice**	**45.84**	**332**	*e*P		**P**	**01 30 29.9**	**+1.9**
UPC	**Upice**	**45.84**	**332**	*e*P		**P**	**01 30 29.9**	**+1.9**
UPC	**Upice**	**45.84**	**332**	P		**P**	**01 30 29.9**	**+1.9**
WATA	**Walderalm**	**46.01**	**326**	*e*P		P	01 30 36.7	+7.2
	comp=Z,2.4nm,0.8s							
KHC	**Kasperske Hory**	**46.08**	**329**	*e*P		**P**	**01 30 32.2**	**+2.3**
KHC				*e*pP		**sP**	**01 30 38.4**	**+2.3**
KHC	**Kasperske Hory**	**46.08**	**329**	*e*P		**P**	**01 30 32.2**	**+2.3**
KHC				*e*			01 30 38.4	
KHC	**Kasperske Hory**	**46.08**	**329**	P		**P**	**01 30 32.2**	**+2.3**
KHC	**Kasperske Hory**	**46.08**	**329**	*e*P		**P**	**01 30 32.0**	**+2.1**
	comp=Z,7.9nm,1.9s							
PRU	**Pruhonice**	**46.17**	**331**	*e*P		**P**	**01 30 31.3**	**+0.7**
PRU				*ex*		x	01 30 39.3	
PRU				*e*S		**S**	**01 37 22.1**	**+5.8**
PRU	**Pruhonice**	**46.17**	**331**	*e*P		**P**	**01 30 31.3**	**+0.7**
PRU				*e*			01 30 39.3	
PRU				*e*S		**S**	**01 37 22.1**	**+5.8**
PRU	**Pruhonice**	**46.17**	**331**	P		**P**	**01 30 31.3**	**+0.7**
WMQ	**Urumqi**	**46.24**	**40**	P		**P**	**01 30 32.0**	**+0.6**
WMQ				pP		sP	01 30 36.5	-1.0
WMQ				sP		pP	01 30 41.0	+5.2
WMQ				S		**S**	**01 37 23.5**	**+5.8**
WMQ						pmax	pmax	
	comp=Z,130nm,2.2s							
WMQ						LR	LR	
	comp=Z,670nm,17.7s							
WMQ						LR	LR	
	comp=Z,600nm,20.9s							
WMQ						LR	LR	
	comp=Z,310nm,26.1s							
MOTA	**Moosalm**	**46.27**	**326**	*e*P		P	01 30 37.5	+5.9
	comp=Z,2.7nm,0.9s							
FETA	**Feichten**	**46.29**	**325**	*e*P		P	01 30 39.2	+7.4
	comp=Z,5.3nm,1.2s							
BOSA	**Boshof**	**46.41**	**208**	P		**P**	**01 30 32.2**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=44,slow=8.4,SNR=7.9							
BOSA						LR	LR	01 48 25.5
	comp=Z,899nm,18.7s,baz=35,slow=34							
BOSA	**Boshof**	**46.41**	**208**	*e*P		**P**	**01 30 30.6**	**-2.2**
BOSA						pmax	pmax	
	comp=Z,28nm,1.4s							
BOSA	**Boshof**	**46.41**	**208**	*e*P		**P**	**01 30 30.6**	**-2.2**
	comp=Z,28nm,1.4s							
RETA	**Reutte**	**46.54**	**326**	*e*P		P	01 30 41.2	+7.5
	comp=Z,6.9nm,1.2s							
DAVA	**Damuels**	**46.91**	**325**	*e*P		P	01 30 42.8	+6.1
	comp=Z,8.8nm,1.1s							
BRG	**Berggiesshubel**	**47.05**	**331**	*e*P		P	01 30 45.2	+7.7
	comp=Z,4.6nm,0.9s							
BRG	**Berggiesshubel**	**47.05**	**331**	*e*P		P	01 30 45.2	+7.7
BRG						pmax	pmax	
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**47.78**	**331**	*i* P		**P**	**01 30 43.8**	**+0.7**
CLL				*i*			01 30 51.7	
CLL				*e*S		**S**	**01 37 43.0**	**+3.7**
CLL						pmax	pmax	
	comp=Z,36nm,2.1s							
CLL						MLR	MLR	
	comp=Z,400nm,20.2s							
CLL	**Collm**	**47.78**	**331**	*i* P		**P**	**01 30 43.8**	**+0.7**
	comp=Z,36nm,2.1s							
CLL				*i*			01 30 51.7	
CLL				*e*			01 33 12.0	
CLL				*e*S		**S**	**01 37 43.0**	**+3.7**
CLL				*e*SS		SS	01 41 18.0	+10
CLL				*e*SSSS			01 42 42.0	
CLL				LmV			01 53 00.0	
	comp=Z,400nm,20.2s							
SENIN	**Lac Senin/Sane**	**47.90**	**323**	*e*P		**P**	**01 30 45.9**	**+1.5**
	comp=Z,41nm,1.8s							
SLE	**Schleitheim**	**47.96**	**325**	P		P	01 30 52.3	+7.6
SLE						pmax	pmax	
	comp=Z,11nm,0.8s							
KLMR	**Klimovskoe**	**48.56**	**355**	*e*P		**P**	**01 30 51.4**	**+2.4**
KLMR				*e*S		**S**	**01 37 57.3**	**+7.4**
KLMR						pmax	pmax	
	comp=Z,20nm,1.5s							
CMAR	**Chiang Mai Arr**	**49.50**	**76**	P		**P**	**01 30 53.8**	**-3.1**
	comp=Z,2.1nm,0.7s,baz=278,slow=8.2,SNR=11							
CMAR						LR	LR	01 51 44.3
	comp=Z,160nm,18.6s,baz=306,slow=36							
NVS	**Novosibirsk**	**50.45**	**26**	*e*P		P	01 30 53.9	-10
ZAA0	**Zalesovo Array**	**50.55**	**27**	*e*P		**P**	**01 31 07.3**	**+3.1**
ZALV	**Zalesovo Beam**	**50.55**	**27**	P		**P**	**01 31 03.1**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=220,slow=6.7,SNR=7.7							
ZALV						LR	LR	01 56 10.5
	comp=Z,586nm,18.1s,baz=236,slow=41							
FINES	**FINESS Array B**	**51.26**	**347**	P		**P**	**01

QIZ LR LR
comp=Z,490nm,36.3s
SONM Songino Array 59.82 42 P **P 01 32 10.2 -1.3**
comp=Z,1.7nm,0.8s,baz=239,slow=7.9,SNR=7.2
SONM LR LR 02 02 33.2
comp=Z,290nm,18.5s,baz=266,slow=41
ULN Ulaanbaatar 60.25 42 *i* P **P 01 32 13.0 -1.5**
ULN pmax pmax
comp=Z,1.0nm,0.9s
ULN Ulaanbaatar 60.25 42 *i* P **P 01 32 13.0 -1.5**
comp=Z,1.0nm,0.9s
NRIK Noril'sk 62.04 15 LR LR 02 04 38.5
comp=Z,739nm,18.8s,baz=222,slow=41
HHC Hu-ho-hao-te 62.07 50 *eP* **P 01 32 26.0 -0.9**
HHC sP sP 01 32 35.5 +2.4
HHC S **S 01 40 47.0 -4.6**
HHC ScS **SKSac 01 42 12.8 -6.1**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,140nm,7.0s
HHC LR LR
comp=Z,340nm,18.5s
HHC LR LR
comp=Z,910nm,17.3s
HHC LR LR
comp=Z,480nm,18.5s
BJI Beijing 65.48 52 P **P 01 32 50.0 +0.7**
BJI S **S 01 41 37.5 +3.6**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=Z,470nm,25.5s
BJI LR LR
comp=Z,250nm,27.6s
BJI LR LR
comp=Z,590nm,34.0s
NJ2 Nanjing 67.45 60 *eP* **P 01 33 01.0 -1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NACB Ninganchiao 70.31 69 *eP* **P 01 33 18.6 -1.4**
comp=Z,106nm,1.7s
NACB Ninganchiao 70.31 69 *eP* **P 01 33 18.6 -1.4**
comp=Z,106nm,1.7s
CN2 Changchun 72.51 48 *eP* **P 01 33 33.5 +0.6**
KSRS Korea Array 74.67 54 LR LR 02 11 14.1
comp=Z,111nm,18.3s,baz=286,slow=40
TRIS Tristan da Cun 74.98 226 *eP* **P 01 33 47.2 -0.2**
comp=Z,124nm,1.2s
TRIS Tristan da Cun 74.98 226 *eP* **P 01 33 47.2 -0.2**
comp=Z,124nm,1.2s
TIXI Tiksi 75.32 19 P **P 01 33 50.1 +1.3**
comp=Z,2.0nm,0.2s,baz=345,slow=6.6,SNR=3.8
TIXI Tiksi 75.32 19 *eP* **P 01 33 50.9 +2.1**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 75.32 19 *eP* **P 01 33 50.9 +2.1**
comp=Z,8.7nm,1.1s
TIXI Tiksi 75.32 19 *eP* **P 01 33 50.9 +2.1**
comp=Z,8.7nm,1.1s
USRK Ussuriysk Ar. 77.20 47 LR LR 02 12 03.5
comp=Z,268nm,20.3s,baz=277,slow=39
MAW Mawson 80.73 174 P **P 01 34 18.8 +0.1**
comp=Z,1.4nm,0.8s,baz=349,slow=5.6,SNR=6.9
MAW LR LR 02 05 19.6
comp=Z,465nm,18.9s,baz=36,slow=32
SFJD Kangerlussuaq 81.77 337 LR LR 02 14 59.2
comp=Z,200nm,18.3s,baz=66,slow=39
MJAR Matsushiro Arr 82.95 54 LR LR 02 14 37.5
comp=Z,205nm,20.1s,baz=295,slow=38
BILL Bilibino 88.53 19 *eP* **P 01 34 57.7 -0.6**
BILL *e* 01 38 28.3
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 88.53 19 *eP* **P 01 34 57.7 -0.6**
comp=Z,3.0nm,1.2s
WRA Warramunga Arr 91.04 110 P **P 01 35 09.2 -1.9**
comp=Z,2.0nm,0.9s,baz=298,slow=3.5,SNR=11
ASAR Alice Springs 91.48 114 P **P 01 35 11.3 -1.7**
comp=Z,0.8nm,0.8s,baz=300,slow=4.2,SNR=2.8
PETK Petropavlovsk- 91.58 35 LR LR 02 22 14.8
comp=Z,212nm,18.4s,baz=301,slow=40
SCHQ Schefferville 93.36 328 LR LR 02 21 28.9
comp=Z,71nm,19.1s,baz=54,slow=38
BDFB Brasilia 98.81 256 LR LR 02 17 14.2
comp=Z,190nm,19.7s,baz=232,slow=33
STKA Stephens Creek 99.73 121 LR LR 02 15 39.6
comp=Z,546nm,19.6s,baz=253,slow=32
PDAR Pinedale Array 121.12 341 PKP **PKPdf 01 41 02.3 +2.9**
comp=Z,0.2nm,0.5s,baz=107,slow=3.1,SNR=2.4
FPU Francis Peak 123.42 342 *e*PKIKP **PKPdf 01 41 04.3 +0.3**
FPU Francis Peak 123.42 342 *e*PKPdf **PKPdf 01 41 04.3 +0.3**
BRMM Rolling Bench 129.68 348 *e*PKPpre PKPpre 01 41 08.3
TXAR Lajitas Array 130.03 327 PKP **PKPdf 01 41 18.1 +1.5**
comp=Z,0.4nm,0.9s,baz=69,slow=3.0,SNR=3.2

MEX 31 01:29:55.7±0.5, 16°.68N×94°.77W, h92km±13km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**346**	*i*	S		Sn	01 30 19.1	-1.8
PCIG		**1.78**	**123**	*e*	P		Pn	01 30 23.5	-1.6
PCIG				*e*	S		Sn	01 30 46.3	-1.2
VHO	**Vista Hermosa**	**1.92**	**282**	*e*	P		Pn	01 30 25.9	-1.3
VHO				*i*	S		Sn	01 30 49.5	-1.5
PNIG	**Pinotepa**	**3.23**	**265**	*e*	P		Pn	01 30 40.0	-4.4
PNIG				*e*	S		Sn	01 31 14.8	-7.2

NIED ***31*** *01:31:00, 36°.10N×140°.40E, h56km, Mw4.2 Best double couple: M0 2.18000×10^15 NP1:φs200.00000°, δ25.00000°, λ105.00000°. NP2:φs4.00000°, δ66.00000°, λ83.00000°.*
BJI ***31*** *01:31:36.5, 35°.75N×140°.52E, h60km, mb4.6/29, mB4.9/17, Ms4.6/13, Ms7 4.3/12*
MOS ***31*** *01:31:38.7±0.9, 35°.95N×140°.40E, h63km, mb4.6/26, Error ellipse: s-maj=13.1km s-min=7.6km az=118.6*
ISCJB ***31*** *01:31:39.8±0.3, 35°.99N±0°.03×140°.37E±0°.04, h69km±2km, mb4.5/48, Error ellipse: s-maj=5.5km s-min=4.1km az=158.9*
JMA ***31*** *01:31:40.4, 36°.00N×140°.38E, h56km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs27.00000°, δ87.00000°, λ91.00000°. NP2:φs181.00000°, δ3.00000°, λ64.00000°. Principal axes: T Plg48.0000°, Azm299.0000°; N Plg1.0000°, Azm207.0000°; P Plg42.0000°, Azm116.0000°;*
JMA Felt II J1.
NEIC ***31*** *01:31:41.8±0.6, 35°.90N×140°.31E, h73km±5km, mb4.9/17 Error ellipse: s-maj=7.4km s-min=5.9km az=79.0*
NEIC Felt at Tokyo.
IDC ***31*** *01:31:42.1±1.5, 35°.94N×140°.30E, h73km±13km, mb3.9/21, mb1 4.1/24, mb1mx3.9/49, mbtmp4.2/24, MS2.4/2, Ms1 2.4/2, ms1mx2.1/53, Error ellipse: s-maj=18.2km s-min=9.3km az=76.0*
ISC 31 01:31:40.4±0.7, 36°.00N±0°.04×140°.36E±0°.04, h58km±5km, n118, σ1°52/132, mb4.5/48, MS4.0/3, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.27**	**330**	||P		**Pn**	**01 31 50.0**	**0.0**
JYT					S		**Sn**	**01 31 57.2**	**+0.2**
JAG	**Ashikaga**	**0.85**	**301**	||P		**Pn**	**01 31 56.9**	**+0.5**
JAG				*e*	S		**Sn**	**01 32 08.4**	**+0.3**
JKT	**Katashina**	**1.18**	**311**	||P		**Pn**	**01 32 01.2**	**+0.3**
JKT					S		**Sn**	**01 32 16.5**	**+0.5**
JRY	**Ryogami san**	**1.18**	**271**	||P		**Pn**	**01 32 01.6**	**+0.8**
JRY				*e*	S		**Sn**	**01 32 16.4**	**+0.4**
BSO3	**Boso 3**	**1.20**	**174**	P			**Pn**	**01 32 01.5**	**+0.7**
BSO3				*e*	S		**Sn**	**01 32 15.9**	**0.0**
JOD2	**Odawara 2**	**1.27**	**235**	||P		**Pn**	**01 32 02.7**	**+0.8**
JOD2				*e*	S		**Sn**	**01 32 18.7**	**+0.7**
JFK	**Kawauchi**	**1.43**	**17**	P			**Pn**	**01 32 04.0**	**-0.2**
BSO1	**Boso 1**	**1.43**	**159**	P			**Pn**	**01 32 03.9**	**+0.3**
BSO1				*e*	S		**Sn**	**01 32 22.6**	**+1.5**
MJAR	**Matsushiro Arr**	**1.82**	**288**	P			**Pn**	**01 32 10.8**	**+1.4**
	145nm,0.3s,baz=93,slow=10,SNR=1201								
MJAR					LR		LR	01 33 03.5	
	comp=Z,380nm,19.3s,baz=125,slow=46								
MAJO	**Matsushiro**	**1.82**	**288**	*e*	P		**Pn**	**01 32 10.8**	**+1.4**
MAJO	**Matsushiro**	**1.82**	**288**	*e*	Pn		**Pn**	**01 32 11.4**	**+2.0**
MAJO				*e*	S		**Sn**	**01 32 30.7**	**-0.7**
MAT	**Matsushiro**	**1.82**	**288**		P		**Pn**	**01 32 10.3**	**+0.9**
MAT					S		**Sn**	**01 32 34.2**	**+2.8**
MJB9	**Matsu-Tunnel**	**1.82**	**288**	*e*	Pn		**Pn**	**01 32 11.4**	**+1.9**
INU	**Inuyama**	**2.79**	**258**	*e*	Pn		**Pn**	**01 32 24.1**	**+1.4**
INU				*e*	Sn		**Sn**	**01 32 55.5**	**+0.2**
JHJ	**Hachijo jima 2**	**2.91**	**190**		P		**Pn**	**01 32 26.6**	**+2.3**
	65nm,0.3s,baz=66,slow=20,SNR=2.9								
JHJ					S		**Sn**	**01 32 58.7**	**+0.7**
	100nm,0.3s,baz=68,slow=23,SNR=5.6								
JHJ2	**Mitsune**	**2.91**	**189**	*e*	Pn		**Pn**	**01 32 27.3**	**+3.0**
JHJ2				*e*	S		**Sn**	**01 32 59.2**	**+1.1**
ASAJ	**Asahikawa**	**8.29**	**11**		P		**Pn**	**01 33 38.9**	**+1.0**
	1.9nm,0.3s,baz=201,slow=8.6,SNR=3.0								
ASAJ					S		**Sn**	**01 35 06.5**	**-3.5**
	0.8nm,0.3s,baz=356,slow=19,SNR=2.1								
CBIJ	**Chichi jima**	**9.01**	**170**	*e*	Pn		**Pn**	**01 33 45.1**	**-2.7**
CBIJ				*e*	S		Sn	01 35 17.7	-10
SHO	**Shikotan**	**9.30**	**30**		P		**Pn**	**01 33 52.6**	**+0.9**
MSHR	**Mys Shultsa**	**9.70**	**315**	*i*	P		**Pn**	**01 33 58.1**	**+1.0**
MSHR	**Mys Shultsa**	**9.70**	**315**	*i*	P		**Pn**	**01 33 58.1**	**+1.0**
MSHR	**Mys Shultsa**	**9.70**	**315**	*i*	P		**Pn**	**01 33 58.1**	**+1.0**
KSRS	**Korea Array**	**10.09**	**282**		P		Pn	01 34 08.2	+5.6
	0.4nm,0.3s,baz=99,slow=14,SNR=5.2								
KSRS					LR		LR	01 38 01.7	
	comp=Z,39nm,20.6s,baz=53,slow=38								
KSAR	**Wonju Array Be**	**10.12**	**282**		P		Pn	01 34 08.2	+5.3
KSAR	**Wonju Array Be**	**10.12**	**282**		P		Pn	01 34 08.2	+5.2
USRK	**Ussuriysk Ar.**	**10.40**	**325**		P		**Pn**	**01 34 09.9**	**+3.2**
	0.5nm,0.3s,baz=138,slow=13,SNR=10								
CN2	**Changchun**	**13.84**	**309**	*e*	P		**P**	**01 34 57.5**	**-2.6**
KLR	**Kul'dur**	**14.65**	**337**	LR			LR	01 39 50.9	
	comp=Z,8.7nm,19.8s,baz=117,slow=33								
NJ2	**Nanjing**	**18.25**	**264**	*e*	P		**P**	**01 35 49.0**	**-0.1**
NJ2					pmax		pmax		
	comp=Z,16nm,0.5s								
BJI	**Beijing**	**19.46**	**289**		P		**P**	**01 36 02.0**	**-0.3**
BJI					pmax		pmax		
	comp=Z,10.0nm,0.8s								
TPUB	**Ta-pu**	**21.26**	**239**	*e*	P		**P**	**01 36 19.9**	**-2.0**
	104nm,1.5s								
HHC	**Hu-ho-hao-te**	**23.02**	**291**	*e*	P		**P**	**01 36 38.8**	**-1.8**
HHC					pP		pP	01 36 53.3	-0.3
HHC					sP		sP	01 37 00.0	-0.8
HHC					S		**S**	**01 40 41.3**	**-5.6**
HHC					pmax		pmax		
	comp=Z,23nm,0.7s								
HHC					pmax		pmax		
	comp=Z,110nm,8.8s								
HHC					LR		LR		
	comp=N,650nm,17.3s								
HHC					LR		LR		
	comp=E,380nm,17.3s								
HHC					LR		LR		
	comp=Z,160nm,17.3s								
ENH	**Enshi**	**26.41**	**266**	*e*	P		**P**	**01 37 10.2**	**-1.5**
	16nm,0.8s								
YAK	**Yakutsk**	**26.91**	**349**	*i*	P		**P**	**01 37 16.3**	**+0.6**
YAK					pmax		pmax		
	comp=Z,11nm,0.5s								
ULN	**Ulaanbaatar**	**27.26**	**306**	*e*	P		**P**	**01 37 18.5**	**-0.8**
ULN					pmax		pmax		
	comp=Z,4.0nm,1.4s								
SONM	**Songino Array**	**27.68**	**306**		P		**P**	**01 37 22.7**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=99,slow=8.5,SNR=14								
H11N2	**WAKE ISLAND Hy 28.38 118**				T		T	02 07 43.0	
	baz=312,slow=75,SNR=10								
H11N1	**WAKE ISLAND Hy 28.39 118**				T		T	02 07 32.6	
	baz=312,slow=75,SNR=10								
H11N3	**WAKE ISLAND Hy 28.40 118**				T		T	02 07 43.2	
	baz=312,slow=75,SNR=11								
H11S3	**WAKE ISLAND Hy 29.05 120**				T		T	02 08 30.8	
	baz=314,slow=76,SNR=11								
H11S1	**WAKE ISLAND Hy 29.05 120**				T		T	02 08 31.9	
	baz=314,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy 29.06 120**				T		T	02 08 32.7	
	baz=314,slow=76,SNR=12								
LZH	**Lanzhou**	**29.42**	**281**	*e*	P		**P**	**01 37 38.3**	**-0.3**
LZH					pP		pP	01 37 52.5	-0.5
LZH					pmax		pmax		
	comp=Z,16nm,1.0s								
GYA	**Guiyang**	**30.21**	**261**	*e*	P		**P**	**01 37 44.8**	**-0.9**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**30.83**	**271**	*e*	P		**P**	**01 37 49.5**	**-1.6**
GTA	**Gaotai**	**32.07**	**288**	*e*	P		**P**	**01 38 02.8**	**+0.9**
GTA					pP		pP	01 38 17.5	+1.2
GTA					sP		sP	01 38 25.0	+1.9
GTA					pmax		pmax		
	comp=Z,5.0nm,0.6s								
KMI	**Kunming**	**33.97**	**262**		P		**P**	**01 38 19.0**	**+0.2**
KMI					pmax		pmax		
	comp=Z,16nm,0.5s								
KMI					pmax		pmax		
	comp=Z,120nm,4.4s								
TIXI	**Tiksi**	**36.22**	**354**	*i*	P		**P**	**01 38 35.7**	**-1.6**
TIXI					pmax		pmax		
	comp=Z,1.0nm,1.0s								
WMQ	**Urumqi**	**40.56**	**298**		P		**P**	**01 39 14.0**	**-0.2**
WMQ					pP		pP	01 39 30.3	+1.4
WMQ					sP		sP	01 39 38.5	+2.9
WMQ					ScP		**ScP**	**01 44 58.8**	**-1.1**
WMQ					S		**S**	**01 45 23.3**	**+4.0**
WMQ					sS		sS	01 45 47.5	+3.2
WMQ					pmax		pmax		
	comp=Z,6.0nm,0.8s								
WMQ					pmax		pmax		
	comp=Z,230nm,9.7s								
WMQ					LR		LR		
	comp=Z,460nm,11.1s								
WMQ					LR		LR		
	comp=Z,710nm,17.5s								
WMQ					LR		LR		
	comp=Z,710nm,26.9s								
ZAA0	**Zalesovo Array**	**41.99**	**313**	*e*	P		**P**	**01 39 25.8**	**+0.1**
ZALV	**Zalesovo Beam**	**41.99**	**313**		P		**P**	**01 39 25.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=96,slow=8.1,SNR=9.9								
ZALV					PcP		**PcP**	**01 41 19.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=96,slow=2.5,SNR=4.9								
SBUM	**Sibu**	**42.33**	**224**	*e*	P		**P**	**01 39 27.1**	**-1.7**
	comp=Z,15nm,1.3s								
MK31	**Makanchi Array**	**43.96**	**303**	*e*	P		**P**	**01 39 41.8**	**+0.1**
MK31	**Makanchi Array**	**43.96**	**303**	*e*	P		**P**	**01 39 41.8**	**+0.1**
MKAR	**Makanchi Array**	**43.96**	**303**		P		**P**	**01 39 41.7**	**0.0**
	comp=Z,2.4nm,0.7s,baz=88,slow=10.0,SNR=22								
MKAR	**Makanchi Array**	**43.96**	**303**	*i*	P		**P**	**01 39 41.9**	**+0.2**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**43.96**	**303**	*e*	P		**P**	**01 39 41.8**	**0.0**
	comp=Z,17nm,0.6s								
MAKZ	**Makanchi**	**44.17**	**303**	*e*	P		**P**	**01 39 43.7**	**+0.3**
MAKZ					pmax		pmax		
	comp=Z,17nm,1.9s								
MAKZ	**Makanchi**	**44.17**	**303**	*e*	P		**P**	**01 39 43.7**	**+0.3**
	comp=Z,17nm,1.9s								
KURK	**Kurchatov**	**45.91**	**309**		P		**P**	**01 39 57.3**	**+0.2**
KURK					pmax		pmax		
	comp=Z,5.0nm,0.6s								
KURK	**Kurchatov**	**45.91**	**309**	*e*	P		**P**	**01 39 56.3**	**-0.8**
	comp=Z,11nm,0.8s								
KURBB	**Kurchatov Arra**	**45.98**	**309**		P		**P**	**01 39 57.3**	**-0.3**
	comp=Z,5.4nm,0.6s,baz=83,slow=7.7,SNR=50								
JIRN	**Jiri**	**46.27**	**276**	*e*	P		**P**	**01 40 00.8**	**+0.1**
GUN	**Gumba**	**46.41**	**276**	*e*	P		**P**	**01 40 02.6**	**+0.8**
GKN	**Gorkha**	**47.38**	**277**	*e*	P		**P**	**01 40 09.3**	**+0.2**
DANN	**Dangsing**	**47.94**	**278**	*e*	P		**P**	**01 40 14.1**	**+0.5**
	comp=Z,3.4nm,0.9s								
KOLN	**Koldanda**	**48.31**	**277**	*e*	P		**P**	**01 40 16.1**	**-0.3**
PYUN	**Piuthan**	**48.66**	**278**	*e*	P		**P**	**01 40 19.0**	**-0.1**
	comp=Z,21nm,0.6s								
TOLK	**Toolik Lake Re**	**49.78**	**27**	*e*	P		**P**	**01 40 28.7**	**+1.8**
	comp=Z,29nm,1.6s								
KSH	**Kashi**	**50.06**	**295**	*e*	P		**P**	**01 40 33.0**	**+3.5**
KSH					pP		sP	01 40 48.8	-2.5
KSH					sP		pP	01 40 56.5	+12
KSH					PcP		**PcP**	**01 41 52.0**	**+3.5**
KSH					PP		**PP**	**01 42 30.8**	**+6.0**
KSH					PcS		**PcS**	**01 45 44.0**	**-1.7**
KSH					S		**S**	**01 47 38.3**	**+1.8**
KSH					sS		sS	01 48 05.3	+3.3
KSH					ScS		**ScS**	**01 50 12.8**	**-2.9**
KSH					SS		**SS**	**01 51 09.5**	**-0.4**
KSH					pmax		pmax		
	comp=Z,5.0nm,1.2s								
KSH					pmax		pmax		
	comp=Z,170nm,5.4s								
KSH					LR		LR		
	comp=Z,290nm,7.2s								
KSH					LR		LR		
	comp=Z,210nm,7.2s								
KSH					LR		LR		
	comp=Z,260nm,8.0s								
AAK	**Ala-Archa**	**50.24**	**299**		P		**P**	**01 40 31.6**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=135,slow=7.2,SNR=6.2								
AAK	**Ala-Archa**	**50.24**	**299**	*e*	P		**P**	**01 40 31.3**	**+0.4**
	comp=Z,0.8nm,0.3s								
MDM	**Murphy Dome**	**50.24**	**32**	*e*	P		**P**	**01 40 31.8**	**+1.4**
	comp=Z,19nm,1.6s								
WRH	**Wood River Hil**	**50.32**	**32**	*e*	P		**P**	**01 40 31.3**	**+0.4**
	comp=Z,19nm,1.8s								
PSI	**Prapat**	**50.53**	**239**	*e*	P		**P**	**01 40 31.6**	**-1.7**
PSI					pmax		pmax		
	comp=Z,16nm,1.5s								
PSI	**Prapat**	**50.53**	**239**	*e*	P		**P**	**01 40 31.6**	**-1.7**
	comp=Z,16nm,1.5s								
BVAR	**Borovoye Array**	**50.65**	**313**		P		**P**	**01 40 33.4**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=86,slow=7.9,SNR=7.2								
BRVK	**Borovoye**	**50.70**	**313**	*i*	P		**P**	**01 40 33.3**	**-0.7**
BRVK					pmax		pmax		
	comp=Z,28nm,2.8s								
ILAR	**Eielson Array**	**50.82**	**32**		P		**P**	**01 40 35.2**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=267,slow=6.2,SNR=29								
ILB	**Eielson Array**	**50.82**	**32**	*e*	P		**P**	**01 40 35.4**	**+0.6**
KKAR	**Karatay Array**	**52.91**	**300**	*e*	P		**P**	**01 40 50.8**	**+0.2**
KKAR					pmax		pmax		
	comp=Z,26nm,0.9s								
KKAR	**Karatay Array**	**52.91**	**300**	*e*	P		**P**	**01 40 50.8**	**+0.2**
	comp=Z,26nm,0.9s								
FITZ	**Fitzroy Crossi**	**55.58**	**197**		P		**P**	**01 41 10.0**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=20,slow=6.4,SNR=9.6								
WRAB	**Tennant Creek**	**55.91**	**187**	*e*	P		**P**	**01 41 11.6**	**-0.9**
WRAB					pmax		pmax		
	comp=Z,2.0nm,0.4s								
WRAB	**Tennant Creek**	**55.91**	**187**	*e*	P		**P**	**01 41 11.6**	**-0.9**
	comp=Z,1.8nm,0.4s								
WRA	**Warramunga Arr**	**55.92**	**187**		P		**P**	**01 41 11.8**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=3.7,slow=7.4,SNR=39								
ARU	**Arti**	**56.58**	**319**		P		**P**	**01 41 16.8**	**-0.3**
	comp=Z,7.7nm,0.4s,baz=88,slow=4.9,SNR=14								
ARU	**Arti**	**56.58**	**319**	*c*	*i* P		**P**	**01 41 16.6**	**-0.3**
ARU								01 43 22.1	
ARU					S		**S**	**01 49 04.6**	**+0.4**
ARU					SS		**SS**	**01 52 52.3**	**+0.5**
ARU					pmax		pmax		
	comp=Z,10.0nm,0.8s								
ARU	**Arti**	**56.58**	**319**	*e*	P		**P**	**01 41 16.7**	**-0.1**
	comp=Z,13nm,0.8s								
ABKAR	**Akbulak array**	**57.96**	**310**	*e*	P		**P**	**01 41 26.6**	**-0.1**
	comp=Z,56nm,0.4s								
AKTO	**Aktyubinsk**	**58.74**	**312**		P		**P**	**01 41 32.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=82,slow=11,SNR=8.5								
ASAR	**Alice Springs**	**59.65**	**187**		P		**P**	**01 41 38.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=16,slow=12,SNR=12								
KLMR	**Klimovskoe**	**64.18**	**328**	*e*	P		**P**	**01 42 05.1**	**-3.5**
KLMR					pmax		pmax		
	comp=Z,12nm,1.5s								
ARCES	**ARCESS Array B**	**64.67**	**339**		P		**P**	**01 42 11.7**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=56,slow=8.9,SNR=5.5								
YKA	**Yellowknife Ar**	**65.13**	**30**	*i*	P		**P**	**01 42 14.5**	**-0.3**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.8s								
FINES	**FINESS Array B**	**69.33**	**332**		P		**P**	**01 42 41.0**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=59,slow=4.5,SNR=8.6								
FINES	**FINESS Array B**	**69.33**	**332**	*i*	P		**P**	**01 42 41.2**	**-0.2**
FINES					pmax		pmax		
	comp=Z,3.0nm,0.7s								
KBZ	**Khabaz**	**70.93**	**310**		P		**P**	**01 42 52.5**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=42,slow=3.9,SNR=7.3								
GNI	**Garni**	**71.64**	**307**	LR			LR	02 19 04.6	
	comp=Z,81nm,18.2s,baz=345,slow=40								
AKASG	**Malin Array Be**	**74.59**	**322**		P		**P**	**01 43 12.7**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=47,slow=6.1,SNR=20								
KIEV	**Kiev**	**74.61**	**322**	*e*	P		**P**	**01 43 12.8**	**-0.4**
KIEV					pmax		pmax		
	comp=Z,6.0nm,0.7s								
KIEV	**Kiev**	**74.61**	**322**	*e*	P		**P**	**01 43 13.0**	**-0.1**
	comp=Z,6.0nm,0.7s								
NB2	**NORSAR Subarra**	**74.81**	**337**		P		**P**	**01 43 14.0**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=41,slow=5.9								
NB2	**NORSAR Subarra**	**74.81**	**337**		P		**P**	**01 43 13.7**	**-0.6**
NB2					pmax		pmax		
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**74.81**	**337**		P		**P**	**01 43 13.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=39,slow=5.8,SNR=8.3								
OAT	**Oat Mountain**	**78.45**	**56**	*e*	P		**P**	**01 43 34.5**	**-0.8**
BUR08	**Bucovina Ar. S**	**78.58**	**321**	*e*	P		**P**	**01 43 36.4**	**+0.5**
MWC	**Mount Wilson**	**78.89**	**56**	*e*	P		**P**	**01 43 41.8**	**+3.9**
MWC	**Mount Wilson**	**78.89**	**56**	*e*	P		**P**	**01 43 41.8**	**+3.9**
	comp=Z,77nm,1.4s								
BRTR	**Keskin Array B**	**78.90**	**311**		P		**P**	**01 43 37.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=110,slow=3.7,SNR=9.7								
BRTR	**Keskin Array B**	**78.90**	**311**	*i*	P		**P**	**01 43 37.7**	**-0.1**
BRTR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
PDAR	**Pinedale Array**	**79.00**	**45**		P		**P**	**01 43 39.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=273,slow=5.8,SNR=4.2								
URZ	**Urewera**	**81.33**	**152**	*e*	P		**P**	**01 43 49.2**	**-1.2**
	comp=Z,27nm,0.4s								
CLL	**Collm**	**81.57**	**330**	*i*	P		**P**	**01 43 51.4**	**-0.3**
CLL	**Collm**	**81.57**	**330**	*i*	P		**P**	**01 43 51.4**	**-0.3**
GERES	**GERESS Array B**	**83.14**	**328**		P		**P**	**01 43 59.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=46,slow=7.6,SNR=4.8								
TXAR	**Lajitas Array**	**91.43**	**52**		P		**P**	**01 44 41.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=292,slow=2.8,SNR=8.4								
LPAZ	**La Paz**	**147.95**	**60**	PKPbc			**PKPbc**	**01 51 20.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=18,slow=3.2,SNR=3.9								

ISCJB ***31*** *01:46:41.1±0.8, 36°.06N±0°.09×140°.65E±0°.08, h50km, mb3.6/6, MS2.8/1, Error ellipse: s-maj=13.1km s-min=8.6km az=25.8*
JMA ***31*** *01:46:43

VANB	**Van**	**0.16**	**198**	*e*Pg	**Pb**	**01 49 48.3**	**+0.3**
TVAN	**Van**	**0.22**	**190**	*i* P	**Pb**	**01 49 48.1**	**-1.0**
TVAN				*i* S	**Sg**	**01 49 53.0**	**+0.7**
TVAN	**Van**	**0.22**	**190**	P	**Pb**	**01 49 48.1**	**-1.0**
TVAN				S	**Sg**	**01 49 53.0**	**+0.7**
VMUR	**Van-Muradiye**	**0.26**	**21**	*i* P	**Pg**	**01 49 48.8**	**-0.4**
VMUR				*i* S	**Sb**	**01 49 54.4**	**+0.5**
VMUR	**Van-Muradiye**	**0.26**	**21**	P	**Pg**	**01 49 48.8**	**-0.4**
VMUR				S	**Sb**	**01 49 54.4**	**+0.5**
CLDR	**Caldiran**	**0.53**	**42**	*e*PG	**Pg**	**01 49 53.7**	**-0.4**
CLDR				*e*SG	**Sb**	**01 50 02.5**	**+0.6**
CLDR	**Caldiran**	**0.53**	**42**	*i* P	**Pg**	**01 49 53.7**	**-0.4**
CLDR				*i* S	**Sb**	**01 50 02.1**	**+0.2**
CLDR	**Caldiran**	**0.53**	**42**	P	**Pg**	**01 49 53.7**	**-0.4**
CLDR				S	**Sb**	**01 50 02.1**	**+0.2**
GEVA	**Gevas**	**0.54**	**216**	*i* P	**Pb**	**01 49 53.6**	**-0.8**
GEVA				*i* S	**Sn**	**01 50 05.5**	**+0.4**
GEVA	**Gevas**	**0.54**	**216**	P	**Pb**	**01 49 53.6**	**-0.8**
TUTA	**Tutak**	**0.82**	**323**	*i* P	**Pg**	**01 49 59.2**	**-0.2**
TUTA				*i* S	**Sn**	**01 50 12.1**	**-0.1**
TUTA	**Tutak**	**0.82**	**323**	P	**Pg**	**01 49 59.2**	**-0.2**
TUTA				S	**Sn**	**01 50 12.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*PG	**Pg**	**01 50 00.4**	**-0.5**
AGRB				*e*SG	**Sn**	**01 50 14.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.90**	**337**	*e*Pg	**Pg**	**01 50 00.4**	**-0.5**
AGRB				*e*Sg	**Sn**	**01 50 14.7**	**+0.5**
GURO	**Guroymak-BITLI**	**1.13**	**260**	*e*PN	**Pb**	**01 50 04.1**	**-0.4**
GURO	**Guroymak-BITLI**	**1.13**	**260**	*e*Pn	**Pb**	**01 50 04.1**	**-0.4**

*CSEM **31** 01:53:30.3, 38°.78N×43°.33E, h10km, MD2.5*
ISK 31 01:53:30.3, 38°.78N×43°.33E, h10km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**165**	*e*PG	Pg	01 53 36.6	+2.3
VANB	**Van**	**0.19**	**165**	*e*Pg	Pg	01 53 36.6	+2.3
CLDR	**Caldiran**	**0.59**	**51**	*e*PG	Pb	01 53 42.5	-0.4
CLDR				*e*SG	Sg	01 53 50.1	+0.6
CLDR	**Caldiran**	**0.59**	**51**	*e*Pg	Pb	01 53 42.5	-0.3
CLDR				*e*Sg	Sg	01 53 50.1	+0.5
AGRB	**Hanur-Agry**	**0.84**	**342**	*e*PG	Pb	01 53 47.4	+0.2
AGRB				*e*SG	Sb	01 53 59.3	+0.7
AGRB	**Hanur-Agry**	**0.84**	**342**	*e*Pg	Pb	01 53 47.4	+0.3
AGRB				*e*Sg	Sb	01 53 59.3	+0.7
GURO	**Guroymak-BITLI**	**1.04**	**258**	*e*PG	Pg	01 53 50.0	-0.3
GURO	**Guroymak-BITLI**	**1.04**	**258**	*e*Pg	Pg	01 53 50.0	-0.3
CUKT	**Cukurca**	**1.54**	**172**	*e*PN	Pb	01 53 58.6	-0.4
CUKT	**Cukurca**	**1.54**	**172**	*e*Pn	Pb	01 53 58.6	-0.4

*CSEM **31** 02:02:07.2, 37°.31N×23°.51E, h99km, ML1.8/1*
ATH 31 02:02:07.2, 37°.31N×23°.51E, h99km±4km, ML1.8/1, Error ellipse: s-maj=4.4km s-min=2.4km az=148.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.29**	**311**	P	Pn	02 02 22.6	+0.9
DID				S	Sn	02 02 32.4	-0.1
DID				AML	AML	02 02 33.7	
	comp=N,121μm,0.3s						
DID				AML	AML	02 02 34.5	
	comp=E,109μm,0.3s						
DID	**Didima**	**0.29**	**311**	P	Pn	02 02 22.6	+0.9
DID				S	Sn	02 02 32.4	-0.1
VLY	**Voula,Athens**	**0.58**	**22**	P	Pn	02 02 24.1	+0.6
VLY	**Voula,Athens**	**0.58**	**22**	P	Pn	02 02 24.1	+0.5
ATHU	**Athens Univers**	**0.69**	**18**	P	Pn	02 02 24.9	+0.5
ATHU	**Athens Univers**	**0.69**	**18**	P	Pn	02 02 24.9	+0.4
VLI	**Veliai**	**0.75**	**218**	P	Pn	02 02 25.1	+0.1
VLI	**Veliai**	**0.75**	**218**	P	Pn	02 02 25.1	+0.1
LTK	**Loutraki**	**0.83**	**329**	P	Pn	02 02 26.8	+0.9
LTK	**Loutraki**	**0.83**	**329**	P	Pn	02 02 26.8	+1.0
VILL	**Villia**	**0.87**	**349**	P	Pn	02 02 27.0	+0.8
VILL				S	Sn	02 02 41.0	+0.5
VIL2	**Platees**	**0.92**	**348**	P	Pn	02 02 27.0	+0.2
VIL2				S	Sn	02 02 41.0	-0.4
TRIP	**Tripoli**	**1.01**	**283**	P	Pn	02 02 29.0	+1.2
TRIP	**Tripoli**	**1.01**	**283**	P	Pn	02 02 29.0	+1.2
KARY	**Karystos**	**1.03**	**45**	P	Pn	02 02 28.1	+0.3
KARY	**Karystos**	**1.03**	**45**	P	Pn	02 02 28.1	+0.3
GUR	**Goura**	**1.12**	**304**	P	Pn	02 02 29.5	+0.5
GUR				S	Sn	02 02 45.0	-0.5
GUR	**Goura**	**1.12**	**304**	P	Pn	02 02 29.5	+0.5
GUR				S	Sn	02 02 45.0	-0.4
EREA	**Eretria**	**1.16**	**16**	P	Pn	02 02 29.9	+0.6
EREA	**Eretria**	**1.16**	**16**	P	Pn	02 02 29.9	+0.6
KLV	**Kalavryta, Ach**	**1.31**	**304**	P	Pn	02 02 31.2	0.0
KLV	**Kalavryta, Ach**	**1.31**	**304**	P	Pn	02 02 31.2	+0.1

KRSC 31 02:04:06.8±1.0, 52°.55N×159°.94E, h54km±12km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.55**	**5**	*e*P	Pn	02 04 20.0	+1.1
SPN				*e*S	Sn	02 04 28.4	+0.7
NLC	**Nalytchevo**	**0.72**	**330**	*e*P	Pn	02 04 22.4	+1.4
NLC				*e*S	Sn	02 04 32.9	+1.6
DALK	**Dalny**	**0.87**	**304**	*e*P	Pn	02 04 23.7	+0.8
DALK				*e*S	Sn	02 04 35.3	+0.6
RUS	**Russkaya**	**0.88**	**263**	*e*P	Pn	02 04 24.0	+1.0
RUS				*e*S	Sn	02 04 35.9	+0.9
PET	**Petropavlovsk**	**0.92**	**302**	*e*P	Pn	02 04 24.3	+0.8
PET				*e*S	Sn	02 04 36.5	+0.7
UGLR	**Uglovaya**	**0.95**	**315**	*e*P	Pn	02 04 25.5	+1.5
UGLR				*e*S	Sn	02 04 38.4	+1.7
SDLR	**Sedlovina**	**0.97**	**319**	*e*P	Pn	02 04 25.5	+1.1
AVH	**Avacha**	**1.02**	**315**	*e*P	Pn	02 04 26.7	+1.7
AVH				*e*S	Sn	02 04 41.9	+3.4
KRER	**Koryakskii**	**1.05**	**317**	*e*S	Sn	02 04 41.0	+1.8
MTVR	**Mutnovka**	**1.08**	**267**	*e*P	Pn	02 04 27.1	+1.3
MTVR				*e*S	Sn	02 04 41.4	+1.6
KOK	**Koryaka**	**1.09**	**314**	*e*P	Pn	02 04 27.6	+1.7
KOK				*e*S	Sn	02 04 41.6	+1.6
KRX	**Arik**	**1.13**	**317**	*e*P	Pn	02 04 27.8	+1.3
KRX				*e*S	Sn	02 04 42.1	+1.1
KRMR	**Karymshinskiy**	**1.14**	**285**	*e*P	Pn	02 04 27.6	+1.2
KRMR				*e*S	Sn	02 04 41.8	+0.8
ASAK	**Asacha**	**1.26**	**263**	*e*P	Pn	02 04 30.1	+1.9
ASAK				*e*S	Sn	02 04 46.7	+2.6
KII	**Karymskiy**	**1.52**	**349**	*e*P	Pn	02 04 34.2	+2.5
KII				*e*S	Sn	02 04 52.5	+2.1
GNL	**Ganaly**	**1.67**	**314**	*e*P	Pn	02 04 36.2	+2.5
GNL				*e*S	Sn	02 04 56.9	+2.9
APC	**Apacha**	**1.73**	**284**	*e*P	Pn	02 04 37.0	+2.5
APC				*e*S	Sn	02 04 58.0	+2.5
TUMD	**Tumrok D**	**2.67**	**6**	*e*S	Sn	02 05 20.0	+1.5
TUMR	**Tumrok**	**2.74**	**2**	*e*P	Pn	02 04 51.5	+3.1
KBTR	**Krutoberegovo**	**4.03**	**23**	*e*P	Pn	02 05 08.9	+2.9

*ISK **31** 02:04:11.5, 38°.72N×43°.26E, h2km, MD2.5*
*CSEM **31** 02:04:12.8±0.2, 38°.74N×43°.25E, h5km, MD2.5, Error ellipse: s-maj=4.4km s-min=4.0km az=112.0*
*DDA **31** 02:04:12.8, 38°.72N×43°.27E, h7km, Ml2.7*
*ISCJB **31** 02:04:13.3±0.6, 38°.72N±0°.03×43°.30E±0°.04, h20km±9km, Error ellipse: s-maj=6.2km s-min=4.8km az=35.4*
ISC 31 02:04:13.3±0.9, 38°.73N±0°.03×43°.27E±0°.03, h16km±7km, n22, σ0°91/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**145**	*e*PG	**Pg**	**02 04 17.3**	**-0.3**
VANB				*e*SG	**Sg**	**02 04 21.6**	**+1.2**
VANB	**Van**	**0.16**	**145**	*e*Pg	**Pg**	**02 04 17.3**	**-0.3**
VANB				*e*Sg	**Sg**	**02 04 21.6**	**+1.2**
TVAN	**Van**	**0.23**	**152**	*i* P	**Pg**	**02 04 17.2**	**-1.4**
TVAN				*i* S	**Sg**	**02 04 21.5**	**-0.7**
TVAN	**Van**	**0.23**	**152**	P	**Pg**	**02 04 17.2**	**-1.4**
TVAN				S	**Sg**	**02 04 21.5**	**-0.7**
VMUR	**Van-Muradiye**	**0.35**	**42**	*i* P	**Pg**	**02 04 19.9**	**-0.8**
VMUR				*i* S	**Sg**	**02 04 26.2**	**+0.5**
VMUR	**Van-Muradiye**	**0.35**	**42**	P	**Pg**	**02 04 19.9**	**-0.8**
VMUR				S	**Sg**	**02 04 26.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.43**	**281**	*i* P	**Pg**	**02 04 21.4**	**-0.8**
ADCV				*i* S	**Sb**	**02 04 30.6**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**281**	P	**Pg**	**02 04 21.4**	**-0.8**
ADCV				S	**Sb**	**02 04 30.5**	**+1.3**
GEVA	**Gevas**	**0.45**	**202**	*i* P	**Pg**	**02 04 21.4**	**-1.0**
GEVA				*i* S	**Sb**	**02 04 29.9**	**+0.4**
GEVA	**Gevas**	**0.45**	**202**	P	**Pg**	**02 04 21.4**	**-1.0**
GEVA				S	**Sb**	**02 04 29.9**	**+0.4**
CLDR	**Caldiran**	**0.65**	**50**	*e*PG	**Pg**	**02 04 25.4**	**-0.8**
CLDR				*e*SG	**Sb**	**02 04 35.6**	**+0.1**
CLDR	**Caldiran**	**0.65**	**50**	*e*Pg	**Pg**	**02 04 25.4**	**-0.8**
CLDR				*e*Sg	**Sb**	**02 04 35.6**	**+0.1**
TUTA	**Tutak**	**0.76**	**332**	*i* P	**Pg**	**02 04 27.4**	**-0.8**
TUTA				*i* S	**Sb**	**02 04 38.6**	**0.0**
TUTA	**Tutak**	**0.76**	**332**	P	**Pg**	**02 04 27.4**	**-0.8**
TUTA				S	**Sb**	**02 04 38.6**	**0.0**
TATV	**Tatvan**	**0.82**	**255**	*i* P	**Pg**	**02 04 28.1**	**-1.2**
TATV				*i* S	**Sb**	**02 04 40.5**	**+0.3**
TATV	**Tatvan**	**0.82**	**255**	P	**Pg**	**02 04 28.1**	**-1.2**
TATV				S	**Sb**	**02 04 40.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.87**	**346**	*e*PG	**Pg**	**02 04 29.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.87**	**346**	*e*Pg	**Pg**	**02 04 29.1**	**-1.3**
GURO	**Guroymak-BITLI**	**0.99**	**260**	*e*PG	**Pg**	**02 04 31.5**	**-1.0**
GURO	**Guroymak-BITLI**	**0.99**	**260**	*e*Pg	**Pg**	**02 04 31.5**	**-1.0**
CUKT	**Cukurca**	**1.50**	**170**	*e*PN	**Pn**	**02 04 40.3**	**+0.5**
CUKT	**Cukurca**	**1.50**	**170**	*e*Pn	**Pn**	**02 04 40.3**	**+0.5**

*ISK **31** 02:08:28.1, 38°.69N×43°.16E, h19km, MD2.6*
*ISCJB **31** 02:08:30.0±0.4, 38°.69N±0°.03×43°.14E±0°.03, h10km±5km, Error ellipse: s-maj=5.6km s-min=4.0km az=158.2*
*CSEM **31** 02:08:29.5±0.3, 38°.69N×43°.16E, h10km, MD2.6, Error ellipse: s-maj=6.3km s-min=5.0km az=164.0*
*DDA **31** 02:08:30.1, 38°.68N×43°.17E, h7km, Ml2.9*
ISC 31 02:08:29.5±1.1, 38°.72N±0°.03×43°.15E±0°.02, h2km±11km, n28, σ1°21/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**123**	PG	**Pg**	**02 08 34.5**	**+0.6**
VANB				*e*SG	**Sg**	**02 08 38.8**	**+2.0**
VANB	**Van**	**0.23**	**123**	*i* Pg	**Pg**	**02 08 34.5**	**+0.6**
VANB				*e*Sg	**Sg**	**02 08 38.8**	**+2.0**
TVAN	**Van**	**0.28**	**133**	*i* P	**Pg**	**02 08 34.5**	**-0.4**
TVAN				*i* S	**Sg**	**02 08 39.2**	**+0.7**
TVAN	**Van**	**0.28**	**133**	P	**Pg**	**02 08 34.5**	**-0.4**
TVAN				S	**Sg**	**02 08 39.2**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.34**	**285**	*i* P	**Pb**	**02 08 37.7**	**-0.7**
ADCV				*i* S	**Sb**	**02 08 44.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.34**	**285**	P	**Pb**	**02 08 37.7**	**-0.7**
ADCV				S	**Sb**	**02 08 44.7**	**+0.4**
GEVA	**Gevas**	**0.41**	**190**	*i* P	**Pg**	**02 08 36.9**	**-0.5**
GEVA				*i* S	**Sb**	**02 08 44.4**	**-2.0**
GEVA	**Gevas**	**0.41**	**190**	P	**Pg**	**02 08 36.9**	**-0.5**
VMUR	**Van-Muradiye**	**0.43**	**51**	*i* P	**Pb**	**02 08 39.1**	**-0.8**
VMUR				*i* S	**Sb**	**02 08 46.9**	**0.0**
VMUR	**Van-Muradiye**	**0.43**	**51**	P	**Pb**	**02 08 39.1**	**-0.8**
VMUR				S	**Sb**	**02 08 46.9**	**0.0**
TATV	**Tatvan**	**0.72**	**253**	*i* P	**Pb**	**02 08 44.1**	**-0.7**
TATV				*i* S	**Sg**	**02 08 53.3**	**+0.7**
TATV	**Tatvan**	**0.72**	**253**	P	**Pb**	**02 08 44.1**	**-0.7**
TATV				S	**Sg**	**02 08 53.3**	**+0.7**
TUTA	**Tutak**	**0.73**	**339**	*i* P	**Pb**	**02 08 44.6**	**-0.4**
TUTA				*i* S	**Sb**	**02 08 56.0**	**+0.4**
TUTA	**Tutak**	**0.73**	**339**	P	**Pb**	**02 08 44.7**	**-0.4**
TUTA				S	**Sb**	**02 08 56.0**	**+0.4**
CLDR	**Caldiran**	**0.74**	**55**	PG	**Pg**	**02 08 43.0**	**-0.6**
CLDR	**Caldiran**	**0.74**	**55**	*i* P	**Pg**	**02 08 43.7**	**+0.1**
CLDR				*i* S	**Sb**	**02 08 56.2**	**+0.5**
CLDR	**Caldiran**	**0.74**	**55**	*i* Pg	**Pg**	**02 08 43.0**	**-0.6**
CLDR	**Caldiran**	**0.74**	**55**	P	**Pg**	**02 08 43.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**352**	*e*PG	**Pg**	**02 08 46.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**352**	*e*Pg	**Pg**	**02 08 46.2**	**+0.1**
GURO	**Guroymak-BITLI**	**0.89**	**259**	*e*PG	**Pg**	**02 08 45.9**	**-0.6**
GURO				*e*SG	**Sg**	**02 08 58.7**	**+0.7**
GURO	**Guroymak-BITLI**	**0.89**	**259**	*e*Pg	**Pg**	**02 08 45.9**	**-0.6**
GURO				*e*Sg	**Sg**	**02 08 58.7**	**+0.7**
SRTM	**Siirt_Merkez**	**1.20**	**233**	*i* P	**Pg**	**02 08 54.1**	**+1.5**
SRTM				*i* S	**Sn**	**02 09 14.6**	**+4.2**
SRTM	**Siirt_Merkez**	**1.20**	**233**	P	**Pg**	**02 08 54.1**	**+1.5**
EATA	**Eleskirt**	**1.25**	**336**	*i* P	**Pb**	**02 08 53.9**	**-0.1**
EATA				*i* S	**Sn**	**02 09 13.5**	**+1.7**
EATA	**Eleskirt**	**1.25**	**336**	P	**Pb**	**02 08 53.9**	**-0.1**
EATA				S	**Sn**	**02 09 13.5**	**+1.7**
VRTB	**Varto-Mus**	**1.39**	**289**	*e*PN	**Pn**	**02 08 53.4**	**-2.6**
VRTB	**Varto-Mus**	**1.39**	**289**	*e*Pn	**Pn**	**02 08 53.4**	**-2.6**

*IDC **31** 02:10:30.3±4.2, 52°.43N×152°.68E, h442km±28km, mb2.6/4, mb1 3.0/5, mb1mx2.7/64, mbtmp3.4/5, Error ellipse: s-maj=149.5km s-min=21.8km az=124.0*
*ISCJB **31** 02:10:32.7±1.0, 52°.0N±0°.2×153°.9E±0°.2, h457km, mb3.0/4, Error ellipse: s-maj=29.2km s-min=12.8km az=147.4*
*KRSC **31** 02:10:32.2±2.7, 52°.03N×154°.21E, h481km±33km, ML4.2*
*MOS **31** 02:10:35.2±0.9, 51°.50N×155°.50E, h478km, mb4.5/2, Error ellipse: s-maj=47.9km s-min=13.6km az=66.6*
ISC 31 02:10:34.2±1.4, 52°.2N±0°.1×154°.1E±0°.2, h457km, n29, σ1°72/35, mb3.1/4, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**2.38**	**83**	PN	**P**	**02 11 38.7**	**+1.2**
ASAK	**Asacha**	**2.38**	**83**	*e*P	**P**	**02 11 38.7**	**+1.2**
PETK	**Petropavlovsk-**	**2.42**	**65**	P	**P**	**02 11 37.6**	**-0.1**
	1.8nm,0.3s,baz=260,slow=1.3,SNR=24						
RUS	**Russkaya**	**2.75**	**82**	PN	**P**	**02 11 40.5**	**+0.7**
RUS				S	**S**	**02 12 33.9**	**+0.6**
RUS	**Russkaya**	**2.75**	**82**	*e*P	**P**	**02 11 40.5**	**+0.7**
RUS				*e*S	**S**	**02 12 33.9**	**+0.6**
GNL	**Ganaly**	**2.81**	**55**	PN	**P**	**02 11 41.3**	**+0.9**
GNL	**Ganaly**	**2.81**	**55**	*e*P	**P**	**02 11 41.3**	**+0.9**
KRX	**Arik**	**3.04**	**65**	PN	**P**	**02 11 42.8**	**+0.7**
KRX	**Arik**	**3.04**	**65**	*e*P	**P**	**02 11 42.8**	**+0.7**
AVH	**Avacha**	**3.06**	**67**	PN	**P**	**02 11 42.1**	**0.0**
AVH	**Avacha**	**3.06**	**67**	*e*P	**P**	**02 11 42.1**	**0.0**
UGLR	**Uglovaya**	**3.09**	**68**	PN	**P**	**02 11 44.1**	**+1.7**
UGLR	**Uglovaya**	**3.09**	**68**	*e*P	**P**	**02 11 44.1**	**+1.7**
SDLR	**Sedlovina**	**3.15**	**67**	PN	**P**	**02 11 43.9**	**+1.1**
SDLR	**Sedlovina**	**3.15**	**67**	*e*P	**P**	**02 11 43.9**	**+1.1**
NLC	**Nalytchevo**	**3.38**	**70**	*e*S	**S**	**02 12 43.7**	**+1.9**
SPN	**Mys Shipunski**	**3.76**	**73**	PN	**P**	**02 11 47.5**	**0.0**
SPN				S	**S**	**02 12 46.7**	**-0.7**
SPN	**Mys Shipunski**	**3.76**	**73**	*e*P	**P**	**02 11 47.5**	**0.0**
SPN				*e*S	**S**	**02 12 46.7**	**-0.7**
KMNR	**Kamenistaya**	**5.13**	**43**	PN	**P**	**02 12 02.6**	**+2.5**
KMNR	**Kamenistaya**	**5.13**	**43**	*e*P	**P**	**02 12 02.6**	**+2.5**
ZLN	**Zelenaya**	**5.55**	**43**	PN	**P**	**02 12 06.8**	**+2.7**
ZLN	**Zelenaya**	**5.55**	**43**	*e*P	**P**	**02 12 06.8**	**+2.7**
KBTR	**Krutoberegovo**	**6.55**	**48**	PN	**P**	**02 12 13.1**	**-1.0**
KBTR				S	**S**	**02 13 31.9**	**-4.2**
KBTR	**Krutoberegovo**	**6.55**	**48**	*e*P	**P**	**02 12 13.1**	**-1.0**
KBTR				*e*S	**S**	**02 13 31.9**	**-4.2**
BKI	**Bering**	**7.71**	**62**	*e*S	**S**	**02 13 59.0**	**+0.6**
ILAR	**Eielson Array**	**32.07**	**44**	P	**P**	**02 16 21.8**	**+0.3**
	0.4nm,0.7s,baz=284,slow=11,SNR=10						
PDAR	**Pinedale Array**	**61.16**	**57**	P	**P**	**02 20 03.5**	**+0.4**
	0.3nm,0.5s,baz=25,slow=1.7,SNR=3.7						
WRA	**Warramunga Arr**	**73.82**	**199**	P	**P**	**02 21 18.4**	**-2.6**
	0.3nm,0.6s,baz=12,slow=6.0,SNR=2.5						
TXAR	**Lajitas Array**	**74.37**	**62**	P	**P**	**02 21 25.7**	**+1.4**
	0.2nm,0.5s,baz=288,slow=4.8,SNR=4.1						

*ISK **31** 02:11:03.0, 38°.89N×43°.54E, h5km, ML2.9*
*ISCJB **31** 02:11:04.8±0.5, 38°.88N±0°.02×43°.58E±0°.05, h13km±4km, Error ellipse: s-maj=6.6km s-min=3.6km az=19.3*
*CSEM **31** 02:11:04.5±0.2, 38°.89N×43°.54E, h10km, ML3.3, Error ellipse: s-maj=5.8km s-min=3.8km az=115.0*
*DDA **31** 02:11:04.2, 38°.86N×43°.56E, h7km, Ml3.3*
ISC 31 02:11:04.6±0.9, 38°.88N±0°.02×43°.54E±0°.03, h11km±9km, n46, σ1°03/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**13**	*e*P	**Pb**	**02 11 09.2**	**+0.2**
VMUR				*e*S	**Sb**	**02 11 12.8**	**+2.9**
VMUR	**Van-Muradiye**	**0.11**	**13**	P	**Pb**	**02 11 09.1**	**+0.2**
VANB	**Van**	**0.31**	**202**	*e*PG	**Pg**	**02 11 11.4**	**+0.5**
VANB				*e*SG	**Sb**	**02 11 18.8**	**+1.4**
VANB	**Van**	**0.31**	**202**	*e*Pg	**Pg**	**02 11 11.4**	**+0.5**
VANB				*e*Sg	**Sb**	**02 11 18.8**	**+1.4**
TVAN	**Van**	**0.37**	**197**	*i* P	**Pg**	**02 11 11.4**	**-0.6**
TVAN				*i* S	**Sb**	**02 11 18.4**	**-0.8**
TVAN	**Van**	**0.37**	**197**	P	**Pg**	**02 11 11.4**	**-0.6**
TVAN				S	**Sb**	**02 11 18.4**	**-0.8**
CLDR	**Caldiran**	**0.39**	**48**	*e*PG	**Pg**	**02 11 18.4**	**+0.5**
CLDR				*e*SG	**Sg**	**02 11 18.4**	**+0.5**
CLDR	**Caldiran**	**0.39**	**48**	*i* P	**Pg**	**02 11 11.6**	**-0.9**
CLDR				*i* S	**Sg**	**02 11 18.7**	**+0.9**
CLDR	**Caldiran**	**0.39**	**48**	P	**Pg**	**02 11 11.6**	**-0.9**
CLDR				*e*Sg	**Sg**	**02 11 18.4**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**264**	*i* P	**Pg**	**02 11 16.8**	**-0.3**
ADCV				*i* S	**Sb**	**02 11 27.5**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**264**	P	**Pg**	**02 11 16.8**	**-0.3**
ADCV				S	**Sb**	**02 11 27.5**	**+0.5**
DYDN	**Diyadin**	**0.67**	**10**	*i* P	**Pg**	**02 11 17.4**	**-0.4**
DYDN				*i* S	**Sb**	**02 11 27.9**	**-0.1**
DYDN	**Diyadin**	**0.67**	**10**	P	**Pg**	**02 11 17.4**	**-0.4**
DYDN				S	**Sb**	**02 11 27.9**	**-0.1**
GEVA	**Gevas**	**0.68**	**214**	*i* P	**Pg**	**02 11 16.5**	**-1.4**
GEVA				*i* S	**Sb**	**02 11 27.6**	**-0.6**
GEVA	**Gevas**	**0.68**	**214**	P	**Pg**	**02 11 16.5**	**-1.4**
GEVA				S	**Sb**	**02 11 27.6**	**-0.6**
TUTA	**Tutak**	**0.77**	**313**	*i* P	**Pg**	**02 11 18.7**	**-0.8**
TUTA				*i* S	**Sb**	**02 11 30.6**	**-0.1**
TUTA	**Tutak**	**0.77**	**313**	P	**Pg**	**02 11 18.7**	**-0.8**
TUTA				S	**Sb**	**02 11 30.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.81**	**329**	*e*PG	**Pg**	**02 11 19.9**	**-0.5**
AGRB				*e*SG	**Sg**	**02 11 31.2**	**+0.2**
AGRB	**Hanur-Agry**	**0.81**	**329**	*e*Pg	**Pg**	**02 11 19.9**	**-0.5**
AGRB				*e*Sg	**Sg**	**02 11 31.3**	**+0.2**
TATV	**Tatvan**	**1.06**	**250**	*i* P	**Pb**	**02 11 23.5**	**-1.7**
TATV				*i* S	**Sb**	**02 11 38.7**	**-0.5**
TATV	**Tatvan**	**1.06**	**250**	P	**Pb**	**02 11 23.5**	**-1.7**
TATV				S	**Sb**	**02 11 38.7**	**-0.5**
EKAR	**Karacoban**	**1.21**	**289**	*i* P	**Pb**	**02 11 27.7**	**0.0**
EKAR				*i* S	**Sn**	**02 11 45.9**	**+1.7**
EKAR	**Karacoban**	**1.21**	**289**	P	**Pb**	**02 11 27.7**	**0.0**
GURO	**Guroymak-BITLI**	**1.22**	**255**	*e*PN	**Pn**	**02 11 26.6**	**-1.3**
GURO	**Guroymak-BITLI**	**1.22**	**255**	*e*Pn	**Pn**	**02 11 26.6**	**-1.3**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	*e*PN	**Pn**	**02 11 27.6**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	*e*Pn	**Pn**	**02 11 27.6**	**-0.2**
EATA	**Eleskirt**	**1.27**	**321**	*i* P	**Pn**	**02 11 28.0**	**-0.7**
EATA				*i* S	**Sg**	**02 11 48.9**	**+3.2**
EATA	**Eleskirt**	**1.27**	**321**	P	**Pn**	**02 11 28.0**	**-0.7**
SRTM	**Siirt_Merkez**	**1.55**	**236**	*i* P	**Pb**	**02 11 33.4**	**0.0**
SRTM				*i* S	**Sg**	**02 11 54.3**	**-0.2**
SRTM	**Siirt_Merkez**	**1.55**	**236**	P	**Pb**	**02 11 33.4**	**0.0**
SRTM				S	**Sg**	**02 11 54.3**	**-0.2**
CUKT	**Cukurca**	**1.63**	**178**	*e*PN	**Pn**	**02 11 33.6**	**+0.2**
CUKT	**Cukurca**	**1.63**	**178**	*e*Pn	**Pn**	**02 11 33.6**	**+0.2**
SIRN	**S¨–rnak**	**1.64**	**213**	*i* P	**Pb**	**02 11 34.3**	**-0.7**
SIRN				*i* S	**Sg**	**02 11 59.8**	**+2.3**
SIRN	**S¨–rnak**	**1.64**	**213**	P	**Pb**	**02 11 34.3**	**-0.7**
VRTB	**Varto-Mus**	**1.65**	**280**	*e*PN	**Pb**	**02 11 34.4**	**-0.7**
VRTB	**Varto-Mus**	**1.65**	**280**	*e*Pn	**Pb**	**02 11 34.4**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.91**	**332**	*e*P

GEYT S **Sn** **02 16 01.1 -2.8**
comp=Z,1.7nm,0.3s,baz=150,slow=15,SNR=3.4
BHJ **Bhuj** **13.12 184** *e*P **Pn** **02 14 48.7 +1.4**
BHJ AMB AMB 02 14 49.4
comp=Z,98nm,1.4s
PYUN **Piuthan** **13.24 125** *e*P **Pn** **02 14 49.3 +0.4**
PYUN *e*S Sn 02 17 06.2 -10
MAKZ **Makanchi** **13.36 35** *i* P **Pn** **02 14 50.2 +0.2**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ **Makanchi** **13.36 35** *e*Pn **Pn** **02 14 50.6 +0.5**
MK31 **Makanchi Array** **13.49 36** ⇑P **Pn** **02 14 52.7 +0.9**
comp=Z,16nm,0.8s,baz=220,slow=14,SNR=60
MK31 S **Sn** **02 17 20.4 -1.7**
comp=Z,7.2nm,1.1s,baz=228,slow=24,SNR=3.5
MK31 **Makanchi Array** **13.49 36** *ce*P **Pn** **02 14 52.9 +1.2**
MK31 pmax pmax
comp=Z,16nm,0.8s
MK31 **Makanchi Array** **13.49 36** *e*Pn **Pn** **02 14 52.3 +0.5**
MKAR **Makanchi Array** **13.49 36** P **Pn** **02 14 53.0 +1.2**
comp=Z,0.7nm,0.3s,baz=218,slow=9.2,SNR=34
MKAR ScP **ScP** **02 23 12.0 -5.8**
comp=Z,0.0nm,0.3s,baz=215,slow=1.5,SNR=4.3
MKAR **Makanchi Array** **13.49 36** P **Pn** **02 14 53.0 +1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR **Makanchi Array** **13.49 36** *e*Pn **Pn** **02 14 52.3 +0.5**
MKAR ScP **ScP** **02 23 12.0 -5.8**
DANN **Dangsing** **13.59 122** *e*P **Pn** **02 14 53.7 +0.3**
KOLN **Koldanda** **13.86 125** *e*P **Pn** **02 14 56.7 +0.1**
comp=Z,25nm,0.5s
KOLN *e*S Sn 02 17 20.6 -11
BHPL **Bhopal** **14.32 154** *e*P **Pn** **02 15 03.0 +0.8**
BHPL *ex* x 02 17 33.2
GKN **Gorkha** **14.41 122** *e*P **Pn** **02 15 03.8 +0.4**
comp=Z,47nm,0.5s
WMQ **Urumqi** **14.92 55** P **P** **02 15 11.5 +1.2**
WMQ sP Pn 02 16 02.3 +53
WMQ S **S** **02 17 50.8 -4.8**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,220nm,4.9s
WMQ LR LR
comp=Z,40nm,21.9s
WMQ LR LR
comp=Z,99nm,19.9s
WMQ LR LR
comp=Z,62nm,15.9s
DMN **Daman** **14.98 122** *e*P **Pn** **02 15 10.7 +0.2**
comp=Z,34nm,0.5s
KKN **Kakani** **14.99 121** *e*P **Pn** **02 15 10.9 +0.4**
comp=Z,64nm,0.6s
AB31 **Akbulak array** **15.09 332** ⇑P **Pn** **02 15 11.4 0.0**
comp=Z,15nm,0.7s,baz=143,slow=11,SNR=141
AB31 ⇑S **S** **02 17 56.4 -2.8**
comp=Z,5.6nm,0.6s,baz=142,slow=25,SNR=5.2
AB31 **Akbulak array** **15.09 332** *ce*P **P** **02 15 12.1 +0.1**
AB31 pmax pmax
comp=Z,15nm,0.6s
ABKAR **Akbulak array** **15.09 332** *e*Pn **Pn** **02 15 11.7 +0.3**
comp=Z,146nm,0.6s
ABKAR *e*S **S** **02 17 53.9 -5.3**
PKIN **Phulchoki** **15.20 121** *e*P **P** **02 15 13.9 +0.1**
comp=Z,72nm,0.6s
PKI **Pulchoki** **15.21 121** *e*P **Pn** **02 15 13.8 +0.4**
comp=Z,138nm,0.8s
KURBB **Kurchatov Arra** **15.29 19** P **Pn** **02 15 13.8 +0.1**
comp=Z,0.3nm,0.3s,baz=211,slow=10,SNR=21
KURBB S **S** **02 18 02.4 -1.3**
baz=208,slow=18,SNR=5.4
KURBB **Kurchatov Arra** **15.29 19** ⇑P **Pn** **02 15 13.5 -0.3**
comp=Z,8.1nm,0.7s
KURBB ⇓S **S** **02 18 00.8 -2.9**
comp=Z,18nm,0.8s
GUN **Gumba** **15.33 119** *e*P **P** **02 15 15.3 0.0**
comp=Z,101nm,0.9s
KURK **Kurchatov** **15.40 19** *i* P **Pn** **02 15 15.0 -0.1**
KURK **Kurchatov** **15.40 19** *e*Pn **Pn** **02 15 14.7 -0.4**
comp=Z,12nm,1.0s
KURK *e*S **S** **02 18 02.5 -3.7**
JBP **Jabalpur** **15.41 146** *e*P **P** **02 15 16.6 +0.9**
JBP AMB AMB 02 15 18.8
comp=Z,72nm,0.7s
JBP *ex* x 02 17 56.5
JIRN **Jiri** **15.70 119** *e*P **P** **02 15 20.0 +0.6**
comp=Z,285nm,0.3s
BANOM **Banah** **16.17 234** *i* P **Pn** **02 15 25.7 +1.0**
SNR=16
RAMN **Ramite** **16.43 120** *e*P **Pn** **02 15 28.6 +0.6**
comp=Z,62nm,0.7s
BVA0 **Borovoye Array** **16.64 359** ⇑P **Pn** **02 15 29.8 -0.2**
comp=Z,12nm,0.7s,baz=177,slow=9.8,SNR=60
BVA0 S **S** **02 18 30.0 -2.8**
comp=Z,40nm,1.4s,baz=172,slow=20,SNR=14
BVA0 **Borovoye Array** **16.64 359** *i* P **Pn** **02 15 30.6 +0.6**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s
BVAR **Borovoye Array** **16.64 359** P **Pn** **02 15 30.6 +0.6**
comp=Z,2.4nm,0.3s,baz=171,slow=10,SNR=28
BVAR S **S** **02 18 33.8 +1.1**
comp=Z,0.1nm,0.3s,baz=170,slow=21,SNR=7.9
BRVK **Borovoye** **16.67 359** ⇓*i*P **Pn** **02 15 30.5 +0.1**
BRVK pmax pmax
comp=Z,56nm,0.8s
BRVK **Borovoye** **16.67 359** *e*Pn **Pn** **02 15 30.9 +0.5**
comp=Z,19nm,0.8s
BRVK *e*S **S** **02 18 31.3 -2.1**
AKTO **Aktyubinsk** **16.78 331** P **Pn** **02 15 32.2 +0.4**
comp=Z,2.5nm,0.3s,baz=144,slow=9.7,SNR=172
AKTO S **S** **02 18 33.0 -2.8**
comp=Z,0.1nm,0.3s,baz=357,slow=19,SNR=5.6
AKTO **Aktyubinsk** **16.78 331** ⇑P **Pn** **02 15 31.7 -0.1**
comp=Z,72nm,1.0s
AKTO ⇑S **S** **02 18 34.7 -1.1**
comp=Z,13nm,0.9s
AKTO **Aktyubinsk** **16.78 331** *i* P **Pn** **02 15 31.9 +0.1**
AKTO pmax pmax
comp=Z,72nm,1.0s
WSAR **Wadi Sarin** **16.79 222** P **P** **02 15 31.4 +0.4**
comp=Z,1.6nm,0.3s,baz=81,slow=5.3,SNR=18
NGP **Nagpur** **16.82 152** *e*P **Pn** **02 15 32.1 -0.4**
NGP *ex* x 02 18 31.5
UOSS **Minazif** **16.91 232** *e*P **Pn** **02 15 33.7 +0.1**
comp=Z,29nm,0.8s
TAPN **Taplejung** **16.97 117** *e*P **Pn** **02 15 34.9 +0.4**
ODAN **Odare** **17.03 119** *e*P **Pn** **02 15 36.2 +1.0**
comp=Z,40nm,0.7s
HATD **Hatta, Dubai** **17.05 232** *i* P **Pn** **02 15 35.2 0.0**
SNR=8.9
ASHO **Ashiyiah** **17.19 231** *i* P **Pn** **02 15 36.8 -0.1**
SNR=23
NAZ **Nazwa, Dubai** **17.23 233** *i* P **Pn** **02 15 37.4 +0.1**
SNR=10
FAQ **Al Faqa, Dubai** **17.45 233** P **P** **02 15 38.8 +0.6**
LKRN **Lenkeran, Azer** **17.58 284** P **P** **02 15 39.4 -0.1**
POO **Poona** **18.00 170** *e*P **Pn** **02 15 45.6 -0.8**
BOK **Bokaro** **18.11 130** *e*P **Pn** **02 15 48.2 +0.6**
LSA **Lhasa** **18.33 105** *e*P **Pn** **02 15 51.8 +1.1**
LSA pmax pmax
comp=Z,17nm,0.6s
LSA **Lhasa** **18.33 105** *e*Pn **Pn** **02 15 51.8 +1.1**
comp=Z,17nm,0.6s
SEKA **Sheki** **18.96 292** P **P** **02 15 53.6 -1.0**
ZKTA **Zakatala** **19.45 293** P **P** **02 15 59.7 -0.1**
ZAA0 **Zalesovo Array** **20.10 25** ⇑P **P** **02 16 06.7 +0.2**
comp=Z,5.8nm,0.9s
ZAA0 ⇓S **S** **02 19 40.8 -0.5**
comp=Z,3.8nm,0.9s
ZAA0 **Zalesovo Array** **20.10 25** *e*P **P** **02 16 07.0 +0.5**
ZALV **Zalesovo Beam** **20.10 25** P **P** **02 16 07.0 +0.5**
comp=Z,18nm,0.4s,baz=220,slow=11,SNR=97
ZALV S **S** **02 19 38.6 -2.7**
comp=Z,3.1nm,0.5s,baz=221,slow=18,SNR=5.8
HYB **Hyderabad** **20.12 158** *i* P **P** **02 16 08.0 +0.8**
HYB *e*S **S** **02 19 40.0 -2.4**
HYB **Hyderabad** **20.12 158** *e*P **P** **02 16 09.2 +2.1**
NVS **Novosibirsk** **20.35 21** ⇑*i*P **P** **02 16 11.0 +1.7**
NVS *e*S **S** **02 19 41.0 -5.3**
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS pmax pmax
comp=Z,44nm,0.5s
NVS pmax pmax
comp=N,50nm,0.8s
NVS smax smax
comp=N,39nm,1.1s
NVS smax smax
comp=E,48nm,1.1s
GNI **Garni** **20.74 288** P Pn 02 16 16.8 -2.7
comp=E,6.5nm,0.6s,baz=78,slow=12,SNR=3.5
GNI **Garni** **20.74 288** *i* P Pn 02 16 16.8 -2.6
GNI pmax pmax
comp=Z,65nm,1.4s
SHL **Shillong** **21.04 115** *e*P **P** **02 16 18.2 +1.2**
SVE **Sverdlovsk** **21.55 345** *e*P **P** **02 16 23.0 +1.2**
SVE pmax pmax
comp=Z,32nm,1.3s
ZEI **Tsey** **21.61 295** *e*P **P** **02 16 25.0 +2.1**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
VIS **Vishakhapatnam** **21.66 146** *ex* **P** **02 16 21.2 -2.2**
ARU **Arti** **21.68 341** P **P** **02 16 24.6 +1.4**
comp=Z,26nm,0.5s,baz=145,slow=4.4,SNR=43
ARU **Arti** **21.68 341** *c i* P **P** **02 16 23.6 +0.5**
ARU 02 16 55.5
ARU S **S** **02 20 10.6 +1.0**
ARU pmax pmax
comp=Z,94nm,1.2s
ARU **Arti** **21.68 341** *e*P **P** **02 16 24.0 +0.9**
comp=Z,60nm,0.9s
NCK **Nalchik** **21.94 297** ⇓*i*P **P** **02 16 26.0 0.0**
NCK pmax pmax
comp=Z,35nm,1.8s
KBZ **Khabaz** **22.48 298** P **P** **02 16 32.3 +1.4**
comp=Z,2.0nm,0.7s,baz=109,slow=7.8,SNR=6.5
NEY **Neytrino** **22.53 296** ⇑*e*P **P** **02 16 34.4 +2.7**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KIV **Kislovodsk** **22.67 298** *e*P **P** **02 16 35.6 +2.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s
GTA **Gaotai** **23.08 74** ⇓P **P** **02 16 39.3 +2.7**
GTA pP pP 02 17 22.3 +10
GTA S **S** **02 20 37.0 +4.1**
GTA SS SnSn 02 21 49.3 +18
GTA pmax pmax
comp=Z,18nm,1.3s
GTA pmax pmax
comp=Z,180nm,6.2s
GTA LR LR
comp=Z,190nm,17.6s
GTA LR LR
comp=Z,140nm,16.9s
GTA LR LR
comp=Z,160nm,17.3s
KOPT **Kop Dagi** **24.00 288** *e*P **P** **02 16 45.0 -0.1**
comp=Z,13nm,1.1s
SOKR **Solikamsk** **24.93 343** *d i*P **P** **02 16 53.2 +0.3**
SOKR pmax pmax
comp=Z,32nm,0.9s
RAYN **Ar Rayn** **25.28 247** *e*P **P** **02 16 56.9 +0.3**
comp=Z,6.6nm,0.8s
RAYN *e*S **S** **02 21 07.8 -0.1**
ANN **Anapa** **26.52 299** *e*P **P** **02 17 04.1 -3.3**
ANN *e**PP **pP** **02 17 44.6 -2.1**
ANN *e*S **S** **02 21 21.5 -5.4**
ANN pmax pmax
comp=Z,29nm,1.1s
LZH **Lanzhou** **26.62 81** *e*P **P** **02 17 10.3 +1.6**
LZH pP pP 02 17 51.3 +3.3
LZH sP PP 02 18 16.5 +3.8
LZH pmax pmax
comp=Z,19nm,1.0s
TOKA **Tokat** **27.07 289** *e*P **P** **02 17 12.6 +0.2**
comp=Z,4.7nm,0.7s
SONM **Songino Array** **28.56 55** P **P** **02 17 27.1 +1.4**
comp=Z,1.6nm,0.5s,baz=265,slow=9.2,SNR=13
ULN **Ulaanbaatar** **29.00 55** *ce*P **P** **02 17 30.3 +0.7**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN **Ulaanbaatar** **29.00 55** *e*P **P** **02 17 29.9 +0.3**
comp=Z,20nm,1.9s
ILGA **Ilgaz** **29.13 291** *e*P **P** **02 17 31.2 +0.3**
comp=Z,11nm,1.2s
MMAI **Mount Meron Ar** **29.16 274** PcP **PcP** **02 20 34.2 +0.6**
comp=Z,1.7nm,0.6s,baz=71,slow=6.2,SNR=7.2
BR131 **Keskin Array S** **29.28 288** *e*P **P** **02 17 32.9 +0.7**
BRTR **Keskin Array B** **29.28 288** P **P** **02 17 33.1 +0.9**
comp=Z,1.3nm,0.7s,baz=104,slow=8.7,SNR=6.4
BRTR PcP **PcP** **02 20 33.5 -0.4**
comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=4.1
BRTR **Keskin Array B** **29.28 288** *ce*P P 02 17 38.0 +5.8
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KMI **Kunming** **29.56 103** P **P** **02 17 36.8 +1.9**
KMI pmax pmax
comp=Z,18nm,0.5s
KMI pmax pmax
comp=Z,92nm,4.6s
OBN **Obninsk** **29.90 320** P **P** **02 17 38.1 +0.9**
comp=Z,20nm,0.5s,baz=132,slow=12,SNR=4.8
OBN **Obninsk** **29.90 320** ⇑*e*P **P** **02 17 37.8 +0.6**
OBN pmax pmax
comp=Z,12nm,0.3s
OBN **Obninsk** **29.90 320** *e*P **P** **02 17 37.6 +0.4**
comp=Z,82nm,1.5s
ANTO **Ankara** **29.92 288** *e*P **P** **02 17 38.5 +0.8**
ANTO pmax pmax
comp=Z,9.0nm,1.3s
ANTO **Ankara** **29.92 288** *e*P **P** **02 17 38.5 +0.8**
comp=Z,8.8nm,1.3s
CHTO **Chiang Mai** **30.34 118** *e*P **P** **02 17 41.9 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO **Chiang Mai** **30.34 118** *e*P **P** **02 17 41.9 +0.3**
comp=Z,4.5nm,1.1s
CMAR **Chiang Mai Arr** **30.57 118** P **P** **02 17 44.6 +1.0**
comp=Z,1.2nm,0.3s,baz=294,slow=8.7,SNR=6.5
XAN **Xi'an** **31.14 83** P **P** **02 17 49.5 +1.0**
XAN pmax pmax
comp=Z,21nm,1.0s
XAN pmax pmax
comp=Z,67nm,4.9s
KLMR **Klimovskoe** **31.48 331** *e*P **P** **02 17 50.2 -0.9**
KLMR *e* 02 19 01.4
KLMR pmax pmax
comp=Z,39nm,1.2s
HHC **Hu-ho-hao-te** **31.98 69** *e*P **P** **02 17 56.0 +0.1**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,150nm,6.3s
DAMY **Dhamar** **32.04 234** *e*P **P** **02 17 56.1 -0.7**
comp=Z,8.9nm,1.3s
GYA **Guiyang** **32.04 98** *e*P **P** **02 17 57.3 +0.7**
GYA pmax pmax
comp=Z,10.0nm,0.8s
AKASG **Malin Array Be** **32.86 309** P **P** **02 18 03.5 +0.3**
comp=Z,9.7nm,0.7s,baz=81,slow=7.1,SNR=35
AKASG PP **PP** **02 19 23.1 +1.6**
comp=Z,2.1nm,0.9s,baz=94,slow=12,SNR=7.3
AKBB **Malin Array Si** **32.86 309** *e*P **P** **02 18 03.1 -0.2**
AKBB pmax pmax
comp=Z,9.0nm,0.6s
AKBB **Malin Array Si** **32.86 309** *e*P **P** **02 18 03.1 -0.2**
comp=Z,9.3nm,0.6s
KIEV **Kiev** **32.87 309** *e*P **P** **02 18 03.5 +0.2**
KIEV pmax pmax
comp=Z,39nm,2.9s
KIEV **Kiev** **32.87 309** *e*P **P** **02 18 02.8 -0.5**
comp=Z,9.2nm,0.6s
TMCR **Tamitsa** **34.06 335** *e*P **P** **02 18 14.1 +0.7**
TMCR pmax pmax
comp=Z,31nm,0.8s
PLOR **Plostina** **34.17 300** ⇑*i*P **P** **02 18 13.5 -1.2**
PLOR **Plostina** **34.17 300** ⇑P **P** **02 18 13.5 -1.2**
NRIK **Noril'sk** **34.27 10** P **P** **02 18 16.9 +1.7**
comp=Z,30nm,0.6s,baz=200,slow=5.7,SNR=18
PRAR **RASCA** **34.49 303** ⇑*i*P **P** **02 18 18.1 +0.7**
MLR **Muntele Rosu** **34.66 299** ⇑*i*P **P** **02 18 21.3 +2.2**
MLR **Muntele Rosu** **34.66 299** ⇑P **P** **02 18 21.3 +2.2**
MLR **Muntele Rosu** **34.66 299** *e*P **P** **02 18 19.9 +0.9**
comp=Z,10nm,0.9s
DOPR **Dopca** **35.05 300** ⇑*i*P **P** **02 18 21.9 -0.3**
KARP **Karpathos** **35.07 282** *e*P **P** **02 18 23.4 +0.8**
comp=Z,68nm,1.7s
BURAR **Bucovina Array** **35.18 303** ⇑*i*P **P** **02 18 24.1 +0.7**
BURAR **Bucovina Array** **35.18 303** ⇑P **P** **02 18 24.2 +0.8**
BUR08 **Bucovina Ar. S** **35.20 303** *e*P **P** **02 18 24.5 +1.0**
VOIR **35.30 299** P **P** **02 18 25.8 +1.4**
VOIR pmax pmax
comp=Z,5.0nm,0.8s
BOD **Bodaibo** **35.56 39** *e*P **P** **02 18 26.7 +0.4**
BOD pmax pmax
comp=Z,7.0nm,1.4s
ARR **Arges** **35.59 299** ⇑*i*P **P** **02 18 28.0 +1.1**
JOF **Joensuu** **35.87 330** P **P** **02 18 30.2 +1.3**
JOF pmax pmax
comp=Z,26nm,1.2s
APE **Apeiranthos** **35.99 285** ⇑*i*P P 02 18 25.2 -5.2
APE **Apeiranthos** **35.99 285** ⇑P P 02 18 25.2 -5.2
LOT **Lotru** **36.20 299** ⇑*i*P **P** **02 18 33.5 +1.4**
DRGR **36.89 302** ⇑*i*P **P** **02 18 39.1 +1.2**
DRGR **36.89 302** ⇑P **P** **02 18 39.1 +1.2**
SUW **Suwalki** **37.05 314** P **P** **02 18 39.1 +0.1**
SUW pmax pmax
comp=Z,16nm,0.5s
FIA1 **FINESS Array S** **37.47 326** *e*P **P** **02 18 43.5 +1.1**
comp=Z,40nm,1.4s
FINES **FINESS Array B** **37.47 326** P **P** **02 18 42.9 +0.5**
comp=Z,3.6nm,0.7s,baz=195,slow=30,SNR=41
LVZ **Lovozero** **37.49 339** *i* P **P** **02 18 42.6 0.0**
LVZ pmax pmax
comp=Z,16nm,0.7s
LVZ **Lovozero** **37.49 339** *e*P **P** **02 18 43.5 +0.9**
comp=Z,29nm,0.9s
BZS **Buzias** **37.70 300** ⇑*i*P **P** **02 18 45.9 +1.3**
BZS **Buzias** **37.70 300** ⇑P **P** **02 18 45.9 +1.3**
STHS **Stebnicka Huta** **37.87 306** *e*P **P** **02 18 46.7 +0.7**
STHS **Stebnicka Huta** **37.87 306** *e*P **P** **02 18 46.7 +0.7**
SUF **Sumiainen** **37.91 328** P **P** **02 18 47.6 +1.5**
KECS **Kecovo** **38.36 304** *e*P **P** **02 18 50.5 +0.4**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS **Kecovo** **38.36 304** *e*P **P** **02 18 50.5 +0.4**
NIE **Niedzica** **38.48 306** *e*P **P** **02 18 52.6 +1.5**
NIE **Niedzica** **38.48 306** *e*P **P** **02 18 52.6 +1.5**
BEO **Beograd** **38.57 299** *e*P **P** **02 18 51.6 -0.2**
BEO **Beograd** **38.57 299** *e*P **P** **02 18 51.6 -0.2**
PSZ **Piszkesteto** **38.77 304** *e*P **P** **02 18 54.0 +0.4**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ **Piszkesteto** **38.77 304** *e*P **P** **02 18 54.0 +0.4**
comp=Z,3.3nm,0.8s
OJC **Ojcow** **38.82 307** *e*P **P** **02 18 52.0 -1.8**
OJC **Ojcow** **38.82 307** *e*P **P** **02 18 53.7 -0.1**
OJC pmax pmax
comp=Z,10.0nm,1.1s
OJC **Ojcow** **38.82 307** *e*P **P** **02 18 53.7 -0.1**
comp=Z,9.9nm,1.1s
TIR **Tirane** **39.47 293** *e*P **P** **02 18 58.8 -0.6**
TIR pmax pmax
comp=Z,19nm,1.2s
TIR **Tirane** **39.47 293** *e*P **P** **02 18 58.8 -0.6**
comp=Z,19nm,1.2s
NJ2 **Nanjing** **39.68 82** *e*P **P** **02 19 02.5 +1.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
SGF **Sodankyl** **39.83 335** P **P** **02 19 03.5 +1.6**
MORC **Moravsky Berou** **40.27 307** *e*P **P** **02 19 06.4 +0.5**
MORC pmax pmax
comp=Z,12nm,0.5s
MORC **Moravsky Berou** **40.27 307** *e*P **P** **02 19 06.4 +0.5**
comp=Z,12nm,0.5s
GKP **Gorka Klasztor** **40.50 312** *e*P **P** **02 19 08.4 +0.8**
GKP **Gorka Klasztor** **40.50 312** *e*P **P** **02 19 08.4 +0.8**
KEV **Kevo** **40.83 338** *e*P **P** **02 19 11.0 +0.9**
comp=Z,9.3nm,0.6s
DPC **Dobruska-Polom** **41.05 307** ⇑*i*P **P** **02 19 13.2 +1.0**
DPC *e*PP **PP** **02 20 53.9 +3.0**
DPC **Dobruska-Polom** **41.05 307** ⇑*i*P **P** **02 19 13.2 +1.0**
DPC *e* 02 20 53.9
ARCES **ARCESS Array B** **41.17 338** P **P** **02 19 13.8 +0.9**
comp=Z,17nm,0.7s,baz=111,slow=7.1,SNR=46
CONA **Conrad Observa** **41.48 304** *e*P **P** **02 19 16.7 +0.9**
comp=Z,5.6nm,0.9s
CONA *e*P **P** **02 19 16.9 +1.0**
SNR=6.0
TREC **Trest** **41.63 306** ⇑*e*P **P** **02 19 18.2 +1.2**
TREC **Trest** **41.63 306** *e*P **P** **02 19 18.2 +1.2**
CN2 **Changchun** **41.83 62** *e*P **P** **02 19 19.0 +0.4**
GROS **Grobnik** **41.87 302** *i* P **P** **02 19 19.5 +0.5**
BSD **Bornholm Skovb** **41.95 315** *i* P P 02 19 35.3 +16
comp=Z,19nm,1.0s
SOKA **Soboth** **42.16 302** *i* P **P** **02 19 22.1 +0.7**
comp=Z,6.1nm,1.0s,SNR=9.3
PRU **Pruhonice** **42.20 307** ⇑*e*P **P** **02 19 22.1 +0.5**
PRU **Pruhonice** **42.20 307** *e*P **P** **02 19 22.1 +0.5**
OBKA **Obir** **42.52 302** *e*P **P** **02 19 25.0 +0.8**
comp=Z,5.3nm,1.1s
BRG **Berggiesshubel** **42.54 308** *i* P **P** **02 19 25.1 +0.8**
comp=Z,5.5nm,0.7s
BRG **Berggiesshubel** **42.54 308** *i* P **P** **02 19 25.1 +0.8**
BRG pmax pmax
comp=Z,6.0nm,0.7s
MOA **Molln** **42.56 304** *e*P **P** **02 19 24.9 +0.4**
comp=Z,3.3nm,0.9s
CUC **Castrocucco** **42.76 292** *e*P **P** **02 19 26.1 -0.2**
comp=Z,6.9nm,0.7s
GERES **GERESS Array B** **42.84 305** P **P** **02 19 27.0 +0.2**
comp=Z,0.7nm,0.5s,baz=65,slow=7.5,SNR=12
GERES PcP **PcP** **02 21 12.3 -1.8**
comp=Z,0.5nm,0.7s,baz=96,slow=2.0,SNR=3.8
KHC **Kasperske Hory** **42.89 306** ⇑*e*P **P** **02 19 27.8 +0.6**
KHC **Kasperske Hory** **42.89 306** *e*P **P** **02 19 27.8 +0.6**
HFS **Hagfors** **43.03 322** P **P** **02 19 28.6 +0.5**
comp=Z,9.6nm,0.5s,baz=104,slow=10,SNR=16
CLL **Collm** **43.11 309** *e*P **P** **02 19 28.6 -0.2**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL **Collm** **43.11 309** *e*P **P** **02 19 28.0 -0.8**
CLL **Collm** **43.11 309** *e*P **P** **02 19 28.6 -0.2**
comp=Z,6.7nm,1.3s
TRI **Trieste** **43.16 301** *e*P **P** **02 19 29.5 +0.2**
TRI pmax pmax
comp=Z,12nm,0.9s
TRI **Trieste** **43.16 301** *e*P **P** **02 19 29.5 +0.2**
comp=Z,12nm,0.9s
ROBS **Robic** **43.26 302** *i* P **P** **02 19 30.3 +0.1**
ABTA **Abfaltersbach** **43.87 302** *e*PcP **PcP** **02 21 17.1 -0.6**
comp=Z,2.1nm,0.8s
YAK **Yakutsk** **44.17 35** *e*P **P** **02 19 37.5 +0.5**
comp=Z,21nm,0.5s
NB2 **NORSAR Subarra** **44.35 323** P **P** **02 19 38.0 -0.7**
comp=Z,7.1nm,0.6s,baz=97,slow=7.9
NB2 **NORSAR Subarra** **44.35 323** P **P** **02 19 37.9 -0.7**
NB2 pmax pmax
comp=Z,6.0nm,0.6s
NOA **NORSAR Array B** **44.35 323** P **P** **02 19 38.4 -0.3**
comp=Z,0.9nm,0.3s,baz=97,slow=7.8,SNR=33
WTTA **Wattenberg** **44.40 303** *e*P **P** **02 19 39.0 -0.4**
comp=Z,6.5nm,1.1s
WATA **Walderalm** **44.42 303** *e*P **P** **02 19 39.5 0.0**
comp=Z,1.3nm,0.4s
MOTA **Moosalm** **44.74 304** *i* P **P** **02 19 41.5 -0.5**
comp=Z,2.2nm,0.6s
MOTA *e*PcP **PcP** **02 21 20.2 -0.5**
comp=Z,1.6nm,0.7s
RETA **Reutte** **44.95 304** *e*P **P** **02 19 43.8 +0.1**
comp=Z,1.5nm,0.5s
FETA **Feichten** **45.04 303** *e*P **P** **02 19 44.0 -0.4**
comp=Z,1.7nm,0.5s
FETA *e*PcP **PcP** **02 21 21.5 -0.3**
comp=Z,5.9nm,0.9s
KSAR **Wonju Array Be** **45.07 71** P **P** **02 19 45.5 +0.9**
KSAR 02 21 20.7
KSAR **Wonju Array Be** **45.07 71** P **P** **02 19 45.5 +0.9**
KSAR PcP **PcP** **02 21 20.7 -1.2**
KSRS **Korea Array** **45.10 71** P **P** **02 19 45.5 +0.7**
comp=Z,1.5nm,0.5s,baz=277,slow=6.6,SNR=5.7
KSRS PcP **PcP** **02 21 20.7 -1.2**
comp=Z,0.9nm,0.3s,baz=269,slow=3.6,SNR=6.7
KLR **Kul'dur** **45.37 54** P **P** **02 19 47.2 +0.5**
comp=Z,0.2nm,0.7s,baz=276,slow=8.1,SNR=8.3
DAVA **Damuels** **45.57 304** *e*P **P** **02 19 48.7 +0.1**
comp=Z,6.6nm,0.5s,SNR=14
DAVOX **Davos/Dischmat** **45.66 303** P **P** **02 19 48.6 -0.7**
comp=Z,2.6nm,0.6s,baz=96,slow=13
DAVOX PcP **PcP** **02 21 23.0 -1.0**
baz=72,slow=6.4
TIXI **Tiksi** **45.95 22** P **P** **02 19 51.5 +0.5**
comp=Z,13nm,0.3s,baz=286,slow=3.7,SNR=18
TIXI **Tiksi** **45.95 22** *ce*P **P** **02 19 51.1 +0.2**
TIXI pmax pmax
comp=Z,21nm,0.8s
TIXI **Tiksi** **45.95 22** *e*P **P** **02 19 51.3 +0.3**

comp=Z,23nm,0.8s
SENIN Lac Senin/Sane 47.48 303 *e*P **P 02 20 03.4 -0.1**
comp=Z,5.9nm,0.8s
SPITS Spitsbergen Ar 47.56 347 P **P 02 20 05.0 +1.6**
comp=Z,8.7nm,0.6s,baz=116,slow=11,SNR=9.1
WLF Walferdange 47.64 307 P **P 02 20 05.0 +0.6**
WLF pmax pmax
comp=Z,12nm,2.3s
KMBO Kilima Mbogo 48.61 227 P **P 02 20 14.3 +1.8**
comp=Z,2.1nm,0.5s,baz=43,slow=13,SNR=11
KMBO Kilima Mbogo 48.61 227 *e*P **P 02 20 14.1 +1.6**
comp=Z,1.9nm,0.6s
KBS Kingsbay 48.68 347 P **P 02 20 16.1 +4.2**
KEST Kesra 48.89 289 P **P 02 20 15.4 +1.2**
comp=Z,7.0nm,0.6s,baz=340,slow=0.8,SNR=29
SSB Saint Sauveur 49.61 302 *e*P **P 02 20 19.6 +0.1**
SSB pmax pmax
comp=Z,2.0nm,0.4s
SSB Saint Sauveur 49.61 302 *e*P **P 02 20 19.6 +0.1**
comp=Z,1.7nm,0.4s
YSS Yuzh-Sakhalins 53.05 55 *e*P **P 02 20 45.9 +1.0**
YSS pmax pmax
comp=Z,2.0nm,0.4s
SEY Seymchan 54.62 34 P **P 02 20 57.0 +0.9**
comp=Z,2.4nm,0.5s,baz=196,slow=24,SNR=5.9
SEY Seymchan 54.62 34 P **P 02 20 57.0 +0.9**
SEY pmax pmax
comp=Z,2.0nm,0.5s
DAG Danmarks Havn 54.78 344 *i*P **P 02 20 57.6 +0.6**
comp=Z,16nm,0.9s
DAG Danmarks Havn 54.78 344 *i*P **P 02 20 57.6 +0.6**
DAG pmax pmax
comp=Z,13nm,0.9s
GUD Guadarrama 57.11 299 P **P 02 21 13.9 -0.4**
GUD pmax pmax
comp=Z,87nm,1.2s
ESDC Sonseca Array 57.34 298 P **P 02 21 15.4 -0.4**
comp=Z,2.3nm,0.6s,baz=60,slow=7.5,SNR=29
TAM Tamanrasset 57.35 276 *e*P **P 02 21 16.0 -0.2**
TAM Tamanrasset 57.35 276 *e*P **P 02 21 16.0 -0.2**
SUMG Summit 61.10 341 *i*P **P 02 21 42.6 +1.1**
comp=Z,18nm,1.0s
SUMG Summit 61.10 341 *i*P **P 02 21 42.6 +1.1**
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 61.10 341 *e*P **P 02 21 42.5 +1.1**
TORD Torodi Ar. Bea 65.52 269 P **P 02 22 09.1 -1.7**
comp=Z,10nm,0.5s,baz=49,slow=5.9,SNR=204
COLD Coldfoot 72.13 16 *e*P **P 02 22 51.2 +0.5**
comp=Z,15nm,0.9s
DBIC Dimbokro 74.50 267 P **P 02 23 04.0 -1.5**
comp=Z,2.5nm,0.6s,baz=20,slow=7.3,SNR=5.6
BPAW Bear Paw Mtn. 74.56 18 *e*P **P 02 23 04.4 -0.7**
comp=Z,1.2nm,0.9s
COLA College 74.64 16 *e*P **P 02 23 05.5 +0.1**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 74.64 16 *e*P **P 02 23 05.5 +0.1**
comp=Z,21nm,0.8s
TSUM Tsumeb 74.70 232 *e*P **P 02 23 06.9 +0.4**
comp=Z,1.6nm,0.4s
ILAR Eielson Array 74.94 16 P **P 02 23 06.5 -0.6**
comp=Z,5.3nm,0.8s,baz=285,slow=5.1,SNR=45
FITZ Fitzroy Crossi 74.98 126 P **P 02 23 07.7 -0.4**
comp=Z,2.1nm,0.6s,baz=321,slow=8.6,SNR=7.0
MCK McKinley 75.36 17 *e*P **P 02 23 09.7 0.0**
MCK pmax pmax
comp=Z,150nm,2.4s
MCK McKinley 75.36 17 *e*P **P 02 23 09.7 0.0**
comp=Z,150nm,2.4s
EGAK Eagle 76.10 13 *e*P **P 02 23 14.3 +0.6**
comp=Z,5.6nm,1.0s
DAWY Dawson 77.07 13 *e*P **P 02 23 19.2 -0.2**
comp=Z,16nm,1.2s
BOSA Boshof 77.54 220 P **P 02 23 22.6 +0.2**
comp=Z,6.5nm,0.7s,baz=6.8,slow=3.5,SNR=11
KDAK Kodiak Island 79.37 22 P **P 02 23 31.9 0.0**
comp=Z,17nm,0.7s,baz=331,slow=5.0,SNR=7.3
KDAK Kodiak Island 79.37 22 *i*P **P 02 23 32.1 +0.2**
YKA Yellowknife Ar 81.36 3 P **P 02 23 42.5 +0.1**
comp=Z,9.5nm,0.5s,baz=350,slow=5.4,SNR=30
WRA Warramunga Arr 82.10 122 P **P 02 23 45.8 -1.2**
comp=Z,3.2nm,0.4s,baz=325,slow=5.0,SNR=49
WRAB Tennant Creek 82.10 122 *e*P **P 02 23 45.8 -1.2**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 82.10 122 *e*P **P 02 23 45.8 -1.2**
comp=Z,11nm,1.0s
SUR Sutherland 82.85 221 *e*P **P 02 23 51.5 +0.7**
ASAR Alice Springs 84.35 125 P **P 02 23 57.2 -1.2**
comp=Z,4.1nm,0.7s,baz=312,slow=4.7,SNR=51
CTAO Charters Tower 90.67 114 *e*P **P 02 24 27.6 -1.2**
CTAO pmax pmax
comp=Z,22nm,0.6s
CTAO Charters Tower 90.67 114 *e*P **P 02 24 27.6 -1.2**
comp=Z,22nm,0.6s
VNDA Vanda 125.44 165 PKP **PKPdf 02 30 22.6 -1.9**
comp=Z,0.4nm,0.5s,baz=54,slow=1.4,SNR=2.8
ROSC El Rosal 127.57 314 PKP **PKPdf 02 30 29.9 -1.1**
comp=Z,2.7nm,0.5s,baz=328,slow=13,SNR=6.0
CPUP Villa Florida 135.01 268 PKP **PKPdf 02 30 43.0 -1.1**
comp=Z,2.2nm,0.6s,baz=14,slow=2.1,SNR=7.0
PLCA Paso Flores 149.61 250 PKPbc **PKPbc 02 31 12.9 -1.4**
comp=Z,5.0nm,0.9s,baz=168,slow=5.9,SNR=5.3

MAN 31 02:12:06, 12°.37N×120°.85E, h23km, mb4.0, ML2.9, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.28**	**71**	*e*P	Pb	02 12 13.2	+0.6
SJMP				*e*S	Sb	02 12 17.6	+0.5
BUSP	**Coron**	**0.73**	**240**	*e*P	Pn	02 12 21.2	+0.3
BUSP				*e*S	Sn	02 12 32.4	+1.0
PGP	**Puerto Galera**	**1.13**	**5**	*e*P	Pb	02 12 26.8	-0.1
PGP				*i*S	Sn	02 12 41.9	+0.6
OTRP	**Odiongan**	**1.15**	**90**	*e*P	Pb	02 12 27.3	+0.1
OTRP				*e*S	Sn	02 12 42.2	+0.5
LUBP	**Lubang**	**1.48**	**337**	*e*P	Pb	02 12 32.0	-0.8

*CSEM **31** 02:13:37.6±0.3, 38°.62N×43°.16E, h10km, ML2.8, Error ellipse: s-maj=6.1km s-min=5.2km az=160.0*
*ISK **31** 02:13:37.2, 38°.65N×43°.16E, h8km, MD2.6*
*ISCJB **31** 02:13:38.1±0.5, 38°.63N±0°.03×43°.18E±0°.04, h13km±6km, Error ellipse: s-maj=5.8km s-min=4.9km az=11.5*
*DDA **31** 02:13:38.3, 38°.60N×43°.19E, h7km, Ml2.8*
ISC 31 02:13:37.9±0.9, 38°.62N±0°.02×43°.16E±0°.03, h13km±7km, n21, σ0°68/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**97**	*e*PG	**Pg**	**02 13 42.1**	**+0.1**
VANB				*e*SG	**Sb**	**02 13 46.6**	**0.0**
VANB	**Van**	**0.18**	**97**	*e*Pg	**Pg**	**02 13 42.1**	**+0.1**
VANB				*e*Sg	**Sb**	**02 13 46.6**	**0.0**
TVAN	**Van**	**0.21**	**114**	*i*P	**Pg**	**02 13 41.6**	**-0.9**
TVAN				*i*S	**Sg**	**02 13 45.6**	**-0.2**
TVAN	**Van**	**0.21**	**114**	P	**Pg**	**02 13 41.7**	**-0.9**
TVAN				S	**Sg**	**02 13 45.6**	**-0.2**
GEVA	**Gevas**	**0.31**	**195**	*i*P	**Pg**	**02 13 44.0**	**-0.3**
GEVA				*i*S	**Sb**	**02 13 50.9**	**+0.4**
GEVA	**Gevas**	**0.31**	**195**	P	**Pg**	**02 13 44.0**	**-0.3**
GEVA				S	**Sb**	**02 13 50.9**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.39**	**299**	*i*P	**Pb**	**02 13 46.5**	**-0.4**
ADCV				*i*S	**Sb**	**02 13 54.3**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.39**	**299**	P	**Pb**	**02 13 46.5**	**-0.4**
ADCV				S	**Sb**	**02 13 54.3**	**+1.4**
VMUR	**Van-Muradiye**	**0.49**	**40**	*i*P	**Pg**	**02 13 47.8**	**+0.2**
VMUR				*i*S	**Sb**	**02 13 56.6**	**+1.0**
VMUR	**Van-Muradiye**	**0.49**	**40**	P	**Pg**	**02 13 47.8**	**+0.2**
VMUR				S	**Sb**	**02 13 56.7**	**+1.0**
TATV	**Tatvan**	**0.71**	**262**	*i*P	**Pg**	**02 13 51.4**	**-0.3**
TATV				*i*S	**Sb**	**02 14 02.6**	**+0.7**
TATV	**Tatvan**	**0.71**	**262**	P	**Pg**	**02 13 51.4**	**-0.3**
TATV				S	**Sb**	**02 14 02.7**	**+0.7**
CLDR	**Caldiran**	**0.79**	**48**	*e*PG	**Pg**	**02 13 52.5**	**-0.7**
CLDR	**Caldiran**	**0.79**	**48**	*e*Pg	**Pg**	**02 13 52.5**	**-0.7**
TUTA	**Tutak**	**0.83**	**341**	*i*P	**Pg**	**02 13 53.2**	**-0.8**
TUTA				*i*S	**Sb**	**02 14 06.3**	**+0.8**
TUTA	**Tutak**	**0.83**	**341**	P	**Pg**	**02 13 53.2**	**-0.8**
TUTA				S	**Sb**	**02 14 06.3**	**+0.8**
GURO	**Guroymak-BITLI**	**0.89**	**266**	*e*PG	**Pg**	**02 13 54.8**	**-0.3**
GURO	**Guroymak-BITLI**	**0.89**	**266**	*e*Pg	**Pg**	**02 13 54.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*PG	**Pg**	**02 13 55.5**	**-1.1**
AGRB				*e*SG	**Sg**	**02 14 09.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.97**	**352**	*e*Pg	**Pg**	**02 13 55.5**	**-1.1**
AGRB				*e*Sg	**Sg**	**02 14 09.2**	**-0.1**
CUKT	**Cukurca**	**1.41**	**165**	*e*PN	**Pb**	**02 14 04.2**	**+0.1**

*IDC **31** 02:16:51.8±0.8, 35°.92N×143°.08E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/54, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=22.5km s-min=20.2km az=122.0*
*ISCJB **31** 02:16:55.3±0.7, 35°.95N±0°.06×142°.83E±0°.08, h33km, mb3.7/8, Error ellipse: s-maj=9.1km s-min=8.2km az=150.5*
*JMA **31** 02:16:56.6±0.4, 36°.15N×142°.63E, h14km, M3.1*
ISC 31 02:16:57.2±0.8, 35°.98N±0°.07×142°.78E±0°.08, h35km, n22, σ1°50/19, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.59**	**260**	P	**Pn**	**02 17 23.4**	**+0.7**
ONAJ	**Iwakimizuishiy**	**1.95**	**306**	S	**Sn**	**02 17 48.9**	**-2.2**
JFT	**Otama**	**2.49**	**309**	P	**Pn**	**02 17 35.5**	**+0.3**
JFT				*e*S	**Sn**	**02 18 03.5**	**-0.9**
JAG	**Ashikaga**	**2.73**	**280**	P	**Pn**	**02 17 38.9**	**+0.4**
MJAR	**Matsushiro Arr**	**3.74**	**280**	Pn	**Pn**	**02 17 53.4**	**+1.1**
	0.9nm,0.3s,baz=100,slow=8.5,SNR=10						
MAT	**Matsushiro**	**3.74**	**280**	P	**Pn**	**02 17 53.9**	**+1.5**
MAT				*e*S	**Sn**	**02 18 31.6**	**-3.6**
JHJ	**Hachijo jima 2**	**3.78**	**222**	Pn	**Pn**	**02 17 53.3**	**+0.4**
	7.8nm,0.3s,baz=240,slow=20,SNR=2.4						
JHJ				Sn	**Sn**	**02 18 34.9**	**-1.2**
	12nm,0.3s,baz=49,slow=18,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**26.66**	**121**	T	T	02 50 13.6	
	baz=312,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.67**	**121**	T	T	02 50 12.8	
	baz=312,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**26.68**	**121**	T	T	02 50 13.5	
	baz=312,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**27.36**	**123**	T	T	02 51 09.6	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.36**	**123**	T	T	02 51 02.5	
	baz=316,slow=76,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**27.38**	**123**	T	T	02 51 12.4	
	baz=316,slow=76,SNR=7.7						
SONM	**Songino Array**	**29.29**	**305**	P	**P**	**02 22 58.0**	**+1.8**
	0.8nm,0.8s,baz=108,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**45.61**	**303**	P	**P**	**02 25 16.3**	**+2.4**
	0.4nm,0.8s,baz=93,slow=8.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**47.52**	**309**	P	**P**	**02 25 29.4**	**+0.7**
	1.4nm,0.8s,baz=82,slow=7.5,SNR=7.3						
ILAR	**Eielson Array**	**49.80**	**32**	P	**P**	**02 25 45.3**	**-0.8**
	0.5nm,0.8s,baz=270,slow=6.3,SNR=2.3						
WRA	**Warramunga Arr**	**56.19**	**190**	P	**P**	**02 26 33.1**	**-0.5**
	2.3nm,0.9s,baz=10,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**59.91**	**189**	P	**P**	**02 26 59.5**	**-0.2**
	0.7nm,0.8s,baz=20,slow=3.7,SNR=5.9						
PDAR	**Pinedale Array**	**77.61**	**46**	P	**P**	**02 28 49.1**	**-1.0**
	0.4nm,0.9s,baz=310,slow=4.6,SNR=2.9						
TXAR	**Lajitas Array**	**89.88**	**53**	P	**P**	**02 29 52.7**	**-0.2**
	0.3nm,0.6s,baz=313,slow=3.2,SNR=5.1						
LPAZ	**La Paz**	**146.24**	**63**	PKPbc	**PKPbc**	**02 36 34.7**	**-0.4**
	1.0nm,0.8s,baz=353,slow=8.8,SNR=4.3						

*CSEM **31** 02:17:54.5, 43°.37N×12°.52E, h10km, ML0.9/5*
ROM 31 02:17:54.5±0.1, 43°.37N×12°.52E, h10km±1km, Ml0.9/5, Error ellipse: s-maj=0.9km s-min=0.8km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.09**	**280**	Pg	Pg	02 17 57.0	+0.1
ATVO				Sg	Sg	02 17 58.7	+0.1
ATVO	**AVT- Monte Val**	**0.09**	**280**	Pg	Pg	02 17 57.0	+0.1
ATVO				Sg	Sg	02 17 58.7	+0.1
MURB	**Monte Urbino**	**0.10**	**179**	Pg	Pg	02 17 57.6	+0.4
MURB				Sg	Sg	02 17 59.8	+0.7
MURB	**Monte Urbino**	**0.10**	**179**	Pg	Pg	02 17 57.6	+0.4
MURB				Sg	Sg	02 17 59.8	+0.7
ATPC	**Poggio Castell**	**0.12**	**338**	Pg	Pg	02 17 58.0	+0.6
ATPC				Sg	Sg	02 18 00.7	+1.2
ATPC	**Poggio Castell**	**0.12**	**338**	Pg	Pg	02 17 58.0	+0.6
ATPC				Sg	Sg	02 18 00.7	+1.2
PIEI	**Pieia**	**0.17**	**3**	Pg	Pg	02 17 58.8	+0.6
PIEI				Sg	Sg	02 18 02.2	+1.5
	16nm,0.3s						
PIEI	**Pieia**	**0.17**	**3**	Pg	Pg	02 17 58.8	+0.6
PIEI				Sg	Sg	02 18 02.2	+1.5
	16nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.20**	**155**	Pg	Pg	02 17 59.4	+0.7
ATCC				Sg	Sg	02 18 03.5	+1.9
	76nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.20**	**155**	Pg	Pg	02 17 59.4	+0.7
ATCC				Sg	Sg	02 18 03.5	+1.9
	76nm,0.3s						
SSFR	**Montelago di S**	**0.20**	**70**	Pg	Pg	02 17 59.5	+0.7
SSFR				Sg	Sg	02 18 02.9	+1.2
	36nm,0.2s						
SSFR	**Montelago di S**	**0.20**	**70**	Pg	Pg	02 17 59.5	+0.7
SSFR				Sg	Sg	02 18 02.9	+1.2
	36nm,0.2s						
FRON	**Frontone**	**0.21**	**45**	Pg	Pg	02 17 59.2	+0.3
FRON				Sg	Sg	02 18 03.2	+1.3
	7.0nm,0.2s						
FRON	**Frontone**	**0.21**	**45**	Pg	Pg	02 17 59.2	+0.3
FRON				Sg	Sg	02 18 03.2	+1.3
	7.0nm,0.2s						
BADI	**Badiali**	**0.25**	**305**	Pg	Pg	02 18 00.3	+0.8
BADI				Sg	Sg	02 18 04.7	+1.8
	22nm,0.8s						
BADI	**Badiali**	**0.25**	**305**	Pg	Pg	02 18 00.3	+0.8
BADI				Sg	Sg	02 18 04.7	+1.8
	22nm,0.8s						

*ISCJB **31** 02:17:58.8±0.4, 43°.30N±0°.03×13°.53E±0°.03, h32km±3km, Error ellipse: s-maj=4.6km s-min=3.9km az=178.9*
*CSEM **31** 02:17:58.8±0.1, 43°.30N×13°.51E, h30km, ML2.7/8, Error ellipse: s-maj=3.5km s-min=2.6km az=44.0*
*ROM **31** 02:17:59.1±0.2, 43°.29N×13°.45E, h34km±1km, Ml1.9/14, Error ellipse: s-maj=2.4km s-min=1.5km az=53.0*
ISC 31 02:17:59.0±0.9, 43°.29N±0°.03×13°.51E±0°.03, h30km±6km, n52, σ0°62/81, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.25**	**290**	Pg	**Pb**	**02 18 05.7**	**-0.1**
CING				Sg	**Sb**	**02 18 10.7**	**+0.3**
	90nm,0.1s						
CING	**Cingoli**	**0.25**	**290**	Pg	**Pb**	**02 18 05.7**	**-0.1**
CING				Sg	**Sb**	**02 18 10.7**	**+0.3**
	90nm,0.1s						
AOI	**Ancona**	**0.27**	**14**	Pg	**Pb**	**02 18 06.8**	**+0.7**
AOI				Sg	**Sn**	**02 18 13.2**	**+1.0**
	125nm,0.2s						
AOI	**Ancona**	**0.27**	**14**	Pg	**Pb**	**02 18 06.8**	**+0.7**
OFFI	**Offida**	**0.38**	**160**	Pg	**Pn**	**02 18 09.4**	**+0.9**
	121nm,0.5s						
OFFI	**Offida**	**0.38**	**160**	Pg	**Pn**	**02 18 09.4**	**+0.9**
	121nm,0.5s						
GUMA	**Gualdo di Mace**	**0.38**	**126**	Pg	**Pb**	**02 18 06.5**	**-1.2**
GUMA				Sg	**Sb**	**02 18 12.5**	**-1.1**
	905nm,0.3s						
GUMA	**Gualdo di Mace**	**0.38**	**126**	Pg	**Pb**	**02 18 06.5**	**-1.2**
GUMA				Sg	**Sb**	**02 18 12.5**	**-1.1**
	905nm,0.3s						
FDMO	**Fiordimonte**	**0.40**	**231**	Pg	**Pb**	**02 18 07.5**	**-0.4**
FDMO				Sg	**Sb**	**02 18 14.4**	**+0.4**
	106nm,0.1s						
FDMO	**Fiordimonte**	**0.40**	**231**	Pg	**Pb**	**02 18 07.5**	**-0.4**
FDMO				Sg	**Sb**	**02 18 14.4**	**+0.4**
	106nm,0.1s						
SNTG	**Esanatoglia**	**0.42**	**265**	Pg	**Pb**	**02 18 07.6**	**-0.6**
SNTG				Sg	**Sb**	**02 18 14.4**	**-0.1**
SNTG	**Esanatoglia**	**0.42**	**265**	Pg	**Pb**	**02 18 07.6**	**-0.6**
SNTG				Sg	**Sb**	**02 18 14.4**	**-0.1**
ARVD	**Arcevia**	**0.46**	**297**	Pg	**Pb**	**02 18 08.1**	**-0.8**
ARVD				Sg	**Sb**	**02 18 15.8**	**+0.1**
ARVD	**Arcevia**	**0.46**	**297**	Pg	**Pb**	**02 18 08.1**	**-0.8**
ARVD				Sg	**Sb**	**02 18 15.8**	**+0.1**
NRCA	**Norcia**	**0.54**	**213**	Pg	**Pb**	**02 18 09.9**	**-0.3**
NRCA				Sg	**Sb**	**02 18 18.7**	**+0.9**
	147nm,0.1s						
NRCA	**Norcia**	**0.54**	**213**	Pg	**Pb**	**02 18 09.9**	**-0.3**
NRCA				Sg	**Sb**	**02 18 18.7**	**+0.9**
	147nm,0.1s						
SSFR	**Montelago di S**	**0.55**	**286**	Pg	**Pb**	**02 18 09.9**	**-0.4**
SSFR				Sg	**Sb**	**02 18 18.5**	**+0.4**
	36nm,0.2s						
SSFR	**Montelago di S**	**0.55**	**286**	Pg	**Pb**	**02 18 09.9**	**-0.4**
SSFR				Sg	**Sb**	**02 18 18.5**	**+0.4**
	36nm,0.2s						
FRON	**Frontone**	**0.62**	**292**	Pg	**Pb**	**02 18 10.8**	**-0.6**
FRON				Sg	**Sb**	**02 18 20.1**	**+0.3**
	7.0nm,0.2s						
FRON	**Frontone**	**0.62**	**292**	Pg	**Pb**	**02 18 10.8**	**-0.6**
FRON				Sg	**Sb**	**02 18 20.1**	**+0.3**
	7.0nm,0.2s						
MPAG	**Monte Paganucc**	**0.64**	**302**	Pg	**Pb**	**02 18 11.5**	**-0.4**
MPAG				Sg	**Sb**	**02 18 21.1**	**+0.5**
MPAG	**Monte Paganucc**	**0.64**	**302**	Pg	**Pb**	**02 18 11.5**	**-0.4**
MPAG				Sg	**Sb**	**02 18 21.1**	**+0.5**
ATCC	**AVT- Casa Cast**	**0.65**	**261**	Pg	**Pb**	**02 18 11.2**	**-0.7**
ATCC				Sg	**Sb**	**02 18 21.3**	**+0.7**
	76nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.65**	**261**	Pg	**Pb**	**02 18 11.2**	**-0.7**
ATCC				Sg	**Sb**	**02 18 21.3**	**+0.7**
	76nm,0.3s						
FSSB	**Fossombrone**	**0.67**	**307**	Pg	**Pb**	**02 18 12.0**	**-0.3**
FSSB	**Fossombrone**	**0.67**	**307**	Pg	**Pb**	**02 18 12.0**	**-0.3**
TERO	**Teramo**	**0.67**	**174**	Pg	**Pb**	**02 18 12.3**	**0.0**
TERO	**Teramo**	**0.67**	**174**	Pg	**Pb**	**02 18 12.3**	**0.0**
SMA1	**SAN MARTINO**	**0.67**	**191**	Pg	**Pb**	**02 18 12.6**	**+0.2**
	78nm,0.6s						
SMA1	**SAN MARTINO**	**0.67**	**191**	Pg	**Pb**	**02 18 12.6**	**+0.2**
	78nm,0.6s						
MURB	**Monte Urbino**	**0.72**	**268**	Pg	**Pn**	**02 18 12.9**	**-0.4**
MURB	**Monte Urbino**	**0.72**	**268**	Pg	**Pn**	**02 18 12.9**	**-0.4**
PIEI	**Pieia**	**0.75**	**289**	Pg	**Pn**	**02 18 12.8**	**-0.9**
PIEI				Sg	**Sb**	**02 18 24.1**	**+0.5**
	16nm,0.3s						
PIEI	**Pieia**	**0.75**	**289**	Pg	**Pn**	**02 18 12.8**	**-0.9**
PIEI				Sg	**Sb**	**02 18 24.1**	**+0.5**
	16nm,0.3s						
CAMP	**Campotosto**	**0.76**	**186**	Pg	**Pn**	**02 18 13.9**	**+0.1**
	18nm,0.5s						
CAMP	**Campotosto**	**0.76**	**186**	Pg	**Pn**	**02 18 13.9**	**+0.1**
	18nm,0.5s						
LNSS	**Leonessa**	**0.77**	**207**	Pg	**Pn**	**02 18 13.9**	**-0.1**
	42nm,0.2s						
LNSS	**Leonessa**	**0.77**	**207**	Pg	**Pn**	**02 18 13.9**	**-0.1**
	42nm,0.2s						
ATPC	**Poggio Castell**	**0.79**	**284**	Pg	**Pn**	**02 18 13.9**	**-0.3**
ATPC				Sg	**Sb**	**02 18 25.5**	**+0.8**
ATPC	**Poggio Castell**	**0.79**	**284**	Pg	**Pn**	**02 18 13.9**	**-0.3**
ATPC				Sg	**Sb**	**02 18 25.5**	**+0.8**
ATVO	**AVT- Monte Val**	**0.81**	**277**	Pg	**Pn**	**02 18 13.9**	**-0.6**
ATVO				Sg	**Sb**	**02 18 25.7**	**+0.4**
ATVO	**AVT- Monte Val**	**0.81**	**277**	Pg	**Pn**	**02 18 13.9**	**-0.6**
ATVO				Sg	**Sb**	**02 18 25.7**	**+0.4**
BADI	**Badiali**	**0.95**	**284**	Pg	**Pn**	**02 18 16.4**	**0.0**
	22nm,0.8s						
BADI	**Badiali**	**0.95**	**284**	Pg	**Pn**	**02 18 16.4**	**0.0**
	22nm,0.8s						
CESX	**Cesi**	**0.96**	**225**	Pg	**Pn**	**02 18 17.2**	**+0.6**
CESX	**Cesi**	**0.96**	**225**	Pg	**Pn**	**02 18 17.2**	**+0.6**
CPGN	**Carpegna, Ital**	**1.00**	**301**	Pg	**Pn**	**02 18 17.8**	**+0.5**
CPGN	**Carpegna, Ital**	**1.00**	**301**	Pg	**Pn**	**02 18 17.8**	**+0.5**
NVLJ	**Novalja**	**1.61**	**37**	*e*Pn	**Pn**	**02 18 25.0**	**-0.3**
NVLJ				Sn	**Sn**	**02 18 43.8**	**-1.3**
UDBI	**Udbina**	**2.04**	**52**	*e*Pn	**Pn**	**02 18 32.7**	**+1.3**
UDBI				Sn	**Sn**	**02 18 56.7**	**+0.7**
OZLJ	**Ozalj**	**2.71**	**30**	Sn	**Sn**	**02 19 11.6**	**-0.8**
OZLJ	**Ozalj**	**2.71**	**30**	Sn	**Sn**	**02 19 11.5**	**-0.8**

*HEL **31** 02:21:42.6±0.4, 67°.67N×34°.18E, h0km, ML2.4, Explosion*
*ISCJB **31** 02:21:45.0±0.6, 67°.59N±0°.03×33°.22E±0°.10, h0km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=5.4km s-min=4.7km az=16.2*
*IDC **31** 02:21:46.0±1.2, 67°.70N×33°.90E, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.3/53, mbtmp3.7/8, ML3.2/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/46, Error ellipse: s-maj=14.0km s-min=9.5km az=79.0*
*CSEM **31** 02:21:46.4±0.6, 67°.60N×33°.27E, h2km, ML2.6, Error ellipse: s-maj=11.9km s-min=9.1km az=90.0, Mining explosion.*
*NAO **31** 02:21:46.3±1.1, 67°.72N×33°.58E, ML3.1*
ISC 31 02:21:45.7±0.9, 67°.64N±0°.03×33°.41E±0°.05, h0km, n54, σ1°56/81, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.07**	**181**	Pg	**Pg**	**02 21 48.5**	**+1.6**
APZ9				Lg	Lg	02 21 50.6	
APZ9	**Apatity**	**0.07**	**181**	Pg	**Pg**	**02 21 48.5**	**+1.6**
APZ9				Lg	Lg	02 21 50.6	
APZ9	**Apatity**	**0.07**	**181**	Pg	**Pg**	**02 21 48.5**	**+1.6**
	SNR=91						
APZ9				Lg	Lg	02 21 50.6	
APA0	**Apatity Array**	**0.16**	**260**	Pg	**Pg**	**02 21 50.9**	**+2.1**
	baz=64,slow=16						
APA0				Lg	Lg	02 21 54.9	
	baz=75,slow=28						
APA0				Rg	Rg	02 21 56.8	
	baz=68,slow=37						
APA0	**Apatity Array**	**0.16**	**260**	Pg	**Pg**	**02 21 50.9**	**+2.1**
	baz=64,slow=16						
APA0				Lg	Lg	02 21 54.9	
	baz=75,slow=28						
APA0				Rg	Rg	02 21 56.8	
	baz=68,slow=37						
APA0	**Apatity Array**	**0.16**	**260**	Pg	**Pg**	**02 21 50.8**	**+2.1**
	SNR=90						
APA0				Lg	Lg	02 21 54.9	
KU6	**Riekki**	**2.13**	**222**	PG	**Pn**	**02 22 24.0**	**+1.5**
	baz=48						
KU6				MSG		02 22 52.6	
	comp=Z,20nm,0.2s						
KU6				SG	**Sg**	**02 22 55.2**	**+1.1**
KU6	**Riekki**	**2.13**	**222**	Pg	**Pn**

ARE0	**ARCESS Array S**	**3.47 307**	Pn	**Pn**	**02 22 41.0**	**+0.2**
HEF	**Hetta**	**3.75 286**	*e*P	**Pn**	**02 22 45.5**	**+0.9**
HEF	**Hetta**	**3.75 286**	PN	**Pn**	**02 22 45.2**	**+0.6**
	baz=108					
HEF			SN	**Sn**	**02 23 32.9**	**+3.4**
HEF	**Hetta**	**3.75 286**	Pn	**Pn**	**02 22 45.2**	**+0.6**
HEF	**Hetta**	**3.75 286**	*e*P	**Pn**	**02 22 45.5**	**+0.9**
	SNR=50					
HEF			Sn	**Sn**	**02 23 32.8**	**+3.4**
TOF	**Tornio**	**3.91 251**	PN	**Pn**	**02 22 47.7**	**+0.9**
	baz=62					
TOF	**Tornio**	**3.91 251**	Pn	**Pn**	**02 22 47.7**	**+0.9**
OUL	**Oulu**	**3.96 233**	PB	**Pb**	**02 22 54.0**	**-2.2**
	baz=40					
OUL			SG	**Sg**	**02 23 53.5**	**+0.8**
OUL	**Oulu**	**3.96 233**	Pb	**Pb**	**02 22 54.0**	**-2.2**
OUL			Sg	**Sg**	**02 23 53.5**	**+0.8**
KTK1	**Kautokeino**	**4.02 295**	*e*P	**Pn**	**02 22 49.5**	**+1.1**
KTK1			IAML		02 23 59.0	
	comp=Z,29nm,0.5s					
KTK1	**Kautokeino**	**4.02 295**	*e*P	**Pn**	**02 22 49.5**	**+1.1**
	SNR=49					
LANU	**Lannavaara**	**4.34 281**	PN	**Pn**	**02 22 53.2**	**+0.3**
LANU			SG	**Sg**	**02 24 01.5**	**-3.5**
LANU	**Lannavaara**	**4.34 281**	Pn	**Pn**	**02 22 53.2**	**+0.3**
LANU			Sg	**Sg**	**02 24 01.5**	**-3.5**
KALU	**Kalix**	**4.36 251**	PG	**Pg**	**02 23 07.1**	**-2.1**
	baz=51					
KALU			SG	**Sg**	**02 24 06.1**	**+0.4**
KALU	**Kalix**	**4.36 251**	Pg	**Pg**	**02 23 07.1**	**-2.1**
KALU			Sg	**Sg**	**02 24 06.0**	**+0.4**
ERTU	**Ertsjaerv**	**4.52 261**	PN	**Pn**	**02 22 55.6**	**+0.4**
ERTU			SN	**Sn**	**02 23 49.1**	**+0.8**
ERTU	**Ertsjaerv**	**4.52 261**	Pn	**Pn**	**02 22 55.6**	**+0.4**
ERTU			Sn	**Sn**	**02 23 49.1**	**+0.8**
KIF	**Kilpisjarvi**	**4.87 292**	*e*P	**Pn**	**02 23 00.9**	**+0.9**
KIF	**Kilpisjarvi**	**4.87 292**	*e*P	**Pn**	**02 23 00.9**	**+0.9**
	SNR=49					
FIA0	**FINESS Array S**	**6.97 210**	Pn	**Pn**	**02 23 29.2**	**+0.4**
	baz=26,slow=12					
FIA0			Sn	**Sn**	**02 24 48.9**	**+0.3**
	baz=26,slow=22					
FIA0			Lg	Lg	02 25 20.8	
	baz=25,slow=28					
FIA0	**FINESS Array S**	**6.97 210**	Pn	**Pn**	**02 23 29.2**	**+0.4**
	baz=26,slow=12					
FIA0			Sn	**Sn**	**02 24 48.9**	**+0.3**
	baz=26,slow=22					
FIA0			Lg	Lg	02 25 20.8	
	baz=25,slow=28					
FIA0	**FINESS Array S**	**6.97 210**	Pn	**Pn**	**02 23 29.2**	**+0.4**
	SNR=50					
FIA0			Sn	**Sn**	**02 24 48.9**	**+0.3**
	SNR=50					
FINES	**FINESS Array B**	**6.97 210**	Pn	**Pn**	**02 23 28.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=5.9					
FINES			Sn	**Sn**	**02 24 48.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=38,slow=23,SNR=4.1					
FINES			Lg	Lg	02 25 21.7	
	comp=Z,1.5nm,0.3s,baz=26,slow=26,SNR=14					
HFS	**Hagfors**	**11.44 238**	Pn	**Pn**	**02 24 28.6**	**-1.4**
	baz=51,slow=14					
HFS	**Hagfors**	**11.44 238**	Pn	**Pn**	**02 24 29.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=49,slow=15,SNR=3.8					
HFS			Sn	**Sn**	**02 26 34.3**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=36,slow=20,SNR=4.7					
HFS			Lg	Lg	02 27 38.0	
	comp=Z,0.2nm,0.3s,baz=37,slow=22,SNR=2.7					
HFS	**Hagfors**	**11.44 238**	Pn	**Pn**	**02 24 28.6**	**-1.4**
	baz=51,slow=14					
HFS	**Hagfors**	**11.44 238**	Pn	**Pn**	**02 24 28.6**	**-1.4**
	SNR=50					
NB2	**NORSAR Subarra**	**11.61 246**	Pn	**Pn**	**02 24 33.8**	**+1.4**
NB2	**NORSAR Subarra**	**11.61 246**	Pn	**Pn**	**02 24 33.8**	**+1.4**
NB2	**NORSAR Subarra**	**11.61 246**	Pn	**Pn**	**02 24 33.8**	**+1.4**
	SNR=50					
NOA	**NORSAR Array B**	**11.61 246**	Pn	**Pn**	**02 24 31.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=7.5					
NOA			Lg	Lg	02 27 51.1	
	comp=Z,0.4nm,0.3s,baz=106,slow=8.3,SNR=7.3					
SPITS	**Spitsbergen Ar**	**11.63 343**	Pn	**Pn**	**02 24 30.6**	**-2.0**
	baz=109,slow=17,SNR=5.3					
VRAC	**Vranov**	**20.24 213**	P	**P**	**02 26 23.2**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=117,slow=6.8,SNR=2.8					
AKTO	**Aktyubinsk**	**21.13 132**	P	**P**	**02 26 29.2**	**-2.5**
	comp=Z,1.1nm,0.6s,baz=316,slow=11,SNR=4.8					
BVAR	**Borovoye Array**	**22.93 111**	P	**P**	**02 26 50.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=317,slow=10,SNR=4.2					
ZALV	**Zalesovo Beam**	**27.59 94**	LR	LR	02 40 47.5	
	comp=Z,83nm,18.1s,baz=246,slow=42					

SOME ***31*** *02:22:34.1,41°.48N×77°.63E,h5km*
KRNET ***31*** *02:22:35.2±0.1,41°.54N×77°.50E,h18km,mb2.7*
NNC ***31*** *02:22:36.7±4.1,41°.50N×77°.54E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=40.4km s-min=11.5km az=170.0
ISC 31 02:22:32.0±1.8,41°.33N±0°.07×77°.50E±0°.03,h6km±11km,
n32,σ0s89/59,27C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.31**	**315**	⇑*i*P	**Pg**	**02 22 58.5**	**+1.3**
	baz=306						
ULHL				⇑*i*S	**Sn**	**02 23 14.9**	**-0.3**
	baz=306						
ANVS	**Anan'yevo**	**1.46**	**5**	⇑*i*P	**Pn**	**02 22 59.2**	**0.0**
	baz=5.0						
ANVS				⇑*i*S	**Sb**	**02 23 17.6**	**-1.1**
	baz=5.0						
BOOM	**Boomskoye usch**	**1.65**	**315**	⇓*e*P	**Pg**	**02 23 04.0**	**+0.4**
	baz=310						
BOOM				⇓*e*S	**Sg**	**02 23 25.7**	**+0.8**
	baz=310						
TNSS	**Tian-Shan**	**1.76**	**347**	*e*P	**Pb**	**02 23 04.7**	**-0.2**
	7.6nm,0.1s						
TNSS				*e*S	**Sb**	**02 23 26.5**	**-1.0**
	16nm,0.2s						
IZV	**Izvestkoviy**	**1.83**	**339**	*e*P	**Pg**	**02 23 06.8**	**-0.3**
	14nm,0.2s						
IZV				*e*S	**Sg**	**02 23 30.3**	**-0.5**
	61nm,0.2s						
SATY	**Saty**	**1.86**	**21**	*e*P	**Pn**	**02 23 05.5**	**+0.9**
	24nm,0.1s						
SATY				*e*S	**Sn**	**02 23 28.0**	**-0.4**
	54nm,0.1s						
MDOK	**Medeo**	**1.87**	**350**	*e*P	**Pb**	**02 23 06.4**	**-0.3**
	25nm,0.4s						
MDOK				*e*S	**Sb**	**02 23 29.7**	**-0.6**
	10nm,0.5s						
KOTS	**Kotyrbulak**	**1.93**	**352**	*e*P	**Pb**	**02 23 08.1**	**+0.4**
KOTS				*e*S	**Sb**	**02 23 32.4**	**+0.3**
MTBS	**Maitube**	**1.97**	**337**	*e*P	**Pb**	**02 23 08.7**	**+0.3**
	5.0nm,0.1s						
MTBS				*e*S	**Sb**	**02 23 33.5**	**+0.3**
	30nm,0.3s						
KST	**Kastek**	**2.06**	**327**	*e*P	**Pg**	**02 23 11.2**	**-0.3**
	2.7nm,0.1s						
KST				*e*S	**Sg**	**02 23 37.7**	**-0.5**
	28nm,0.5s						
TKM2	**Tokmak 2**	**2.13**	**319**	⇑*i*P	**Pg**	**02 23 12.6**	**-0.3**
	baz=315						
TKM2				⇑*i*S	**Sb**	**02 23 38.3**	**+0.3**
	baz=315						
TKM2	**Tokmak 2**	**2.13**	**319**	⇓Pn	**Pg**	**02 23 12.4**	**-0.4**
	5.5nm,0.5s						
TKM2				⇑Sn	**Sg**	**02 23 40.6**	**+0.1**
	11nm,0.4s						
UZB	**Uzynbulak**	**2.14**	**31**	*e*P	**Pb**	**02 23 10.2**	**-1.1**
	3.9nm,0.2s						
UZB				*e*S	**Sn**	**02 23 35.7**	**+0.2**
	9.9nm,0.1s						
DGS	**Degeres**	**2.30**	**327**	*e*P	**Pg**	**02 23 15.6**	**-0.6**
	5.7nm,0.3s						
DGS				*e*S	**Sg**	**02 23 45.4**	**-0.6**
	16nm,0.2s						
KBK	**Karagaybulak**	**2.32**	**306**	⇑*i*P	**Pg**	**02 23 16.5**	**0.0**
	baz=301						
KBK				⇑*i*S	**Sg**	**02 23 45.1**	**-1.5**
	baz=301						
SHLS	**Shalkode**	**2.34**	**38**	*e*P	**Pg**	**02 23 17.9**	**+1.1**
	19nm,0.4s						
SHLS				*e*S	**Sg**	**02 23 49.2**	**+2.2**
	14nm,0.4s						
ARLS	**Aral**	**2.44**	**284**	⇑*e*P	**Pb**	**02 23 17.5**	**+1.0**
	baz=279						
ARLS				⇑*e*S	**Sg**	**02 23 49.7**	**-0.8**
	baz=279						
KTBS	**Karatobe**	**2.46**	**346**	*e*P	**Pb**	**02 23 17.5**	**+0.8**
KTBS				*e*S	**Sb**	**02 23 48.6**	**+1.3**
PDGK	**Podgornoye**	**2.49**	**36**	⇑*e*P	**Pb**	**02 23 16.0**	**-1.2**
	baz=39						
PDGK				⇑*i*S	**Sb**	**02 23 47.2**	**-0.9**
	baz=39						
PDGK	**Podgornoye**	**2.49**	**36**	⇑Pn	**Pb**	**02 23 15.8**	**-1.4**
	2.9nm,0.4s						
PDGK				⇑Sn	**Sb**	**02 23 46.9**	**-1.2**
	14nm,0.7s						
CHKK	**Chushkaly**	**2.55**	**352**	*e*P	**Pb**	**02 23 18.2**	**-0.1**
	10nm,0.2s						
CHKK				*e*S	**Sb**	**02 23 49.8**	**-0.1**
	58nm,0.3s						
AAK	**Ala-Archa**	**2.60**	**301**	⇑*i*P	**Pg**	**02 23 20.7**	**-1.1**
	baz=297						
AAK				⇑*i*S	**Sb**	**02 23 52.7**	**+1.4**
	baz=297						
AAK	**Ala-Archa**	**2.60**	**301**	⇑Pg	**Pg**	**02 23 22.2**	**+0.5**
	0.8nm,0.3s						
AAK				⇑Lg	Lg	02 23 55.5	
	3.3nm,0.5s						
CHMS	**Chumysh**	**2.64**	**310**	⇑*i*P	**Pb**	**02 23 20.1**	**+0.4**
	baz=307						
CHMS				⇑*i*S	**Sb**	**02 23 52.2**	**-0.2**
	baz=307						
KUU	**Kurty**	**2.71**	**342**	*e*P	**Pb**	**02 23 21.4**	**+0.5**
	3.1nm,0.1s						
KUU				*e*S	**Sb**	**02 23 55.1**	**+0.8**
	7.5nm,0.6s						
MNBS	**Baschi**	**2.83**	**13**	*e*P	**Pb**	**02 23 22.9**	**-0.2**
	5.5nm,0.2s						
MNBS				*e*S	**Sb**	**02 23 57.9**	**-0.1**
	14nm,0.3s						
ARXS	**Arharly**	**2.90**	**5**	*e*P	**Pb**	**02 23 24.2**	**+0.1**
	4.5nm,0.2s						
ARXS				*e*S	**Sb**	**02 24 00.7**	**+0.9**
	25nm,0.3s						
USP	**Ospenovka**	**2.95**	**312**	⇑*i*P	**Pb**	**02 23 24.3**	**-0.8**
	baz=309						
USP				⇑*i*S	**Sb**	**02 23 59.3**	**-2.1**
	baz=309						
AML	**Almayashu**	**2.96**	**287**	⇑*i*P	**Pg**	**02 23 27.2**	**-1.5**
	baz=283						
AML				⇑*i*S	**Sb**	**02 24 03.8**	**+1.8**
	baz=283						
EKS2	**Erkin-Say**	**3.08**	**297**	⇑*i*P	**Pb**	**02 23 27.6**	**+0.3**
	baz=294						
EKS2				⇑*i*S	**Sb**	**02 24 04.4**	**-0.8**
	baz=294						
MNAS	**Manas**	**3.91**	**289**	⇓Lg	Lg	02 24 39.3	
	3.1nm,1.0s						
KK31	**Karatay Array**	**5.49**	**291**	⇓Lg	Lg	02 25 28.1	
	0.7nm,0.6s,baz=99,slow=31,SNR=7.0						

ISK ***31*** *02:29:00.1,38°.66N×43°.21E,h5km,MD2.7*
ISCJB ***31*** *02:29:01.7±0.4,38°.68N±0°.03×43°.20E±0°.04,h12km±5km,*
Error ellipse: s-maj=6.0km s-min=4.5km az=145.6
CSEM ***31*** *02:29:01.4±0.2,38°.68N×43°.18E,h8km,MD2.7,Error*
ellipse: s-maj=4.3km s-min=3.8km az=155.0
DDA ***31*** *02:29:01.5,38°.66N×43°.18E,h7km,Ml3.3*
ISC 31 02:29:01.6±0.9,38°.67N±0°.02×43°.18E±0°.03,h11km±9km,
n26,σ0s55/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**115**	*e*PG	**Pg**	**02 29 05.4**	**-0.2**
VANB				*e*SG	**Sg**	**02 29 09.3**	**+0.8**
VANB	**Van**	**0.18**	**115**	*e*Pg	**Pg**	**02 29 05.4**	**-0.2**
VANB				*e*Sg	**Sg**	**02 29 09.3**	**+0.8**
TVAN	**Van**	**0.23**	**128**	*i* P	**Pg**	**02 29 05.8**	**-0.7**
TVAN				*i* S	**Sg**	**02 29 09.6**	**-0.2**
TVAN	**Van**	**0.23**	**128**	P	**Pg**	**02 29 05.8**	**-0.7**
TVAN				S	**Sg**	**02 29 09.6**	**-0.2**
GEVA	**Gevas**	**0.37**	**195**	*i* P	**Pg**	**02 29 08.9**	**-0.1**
GEVA				*i* S	**Sb**	**02 29 16.2**	**+0.1**
GEVA	**Gevas**	**0.37**	**195**	P	**Pg**	**02 29 08.9**	**-0.1**
GEVA				S	**Sb**	**02 29 16.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**291**	*i* P	**Pb**	**02 29 10.1**	**-0.4**
ADCV				*i* S	**Sb**	**02 29 17.4**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.38**	**291**	P	**Pb**	**02 29 10.1**	**-0.4**
ADCV				S	**Sb**	**02 29 17.4**	**+0.9**
VMUR	**Van-Muradiye**	**0.44**	**44**	*i* P	**Pg**	**02 29 10.6**	**+0.2**
VMUR				*i* S	**Sb**	**02 29 18.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.44**	**44**	P	**Pg**	**02 29 10.6**	**+0.2**
VMUR				S	**Sb**	**02 29 18.2**	**-0.1**
TATV	**Tatvan**	**0.73**	**257**	*i* P	**Pg**	**02 29 15.5**	**-0.3**
TATV				*i* S	**Sb**	**02 29 26.0**	**-0.6**
TATV	**Tatvan**	**0.73**	**257**	P	**Pg**	**02 29 15.5**	**-0.3**
TATV				S	**Sb**	**02 29 26.0**	**-0.6**
CLDR	**Caldiran**	**0.74**	**51**	*e*PG	**Pg**	**02 29 15.3**	**-0.8**
CLDR				*e*SG	**Sg**	**02 29 26.4**	**+0.5**
CLDR	**Caldiran**	**0.74**	**51**	*e*Pg	**Pg**	**02 29 15.3**	**-0.8**
CLDR				*e*Sg	**Sg**	**02 29 26.4**	**+0.5**
TUTA	**Tutak**	**0.78**	**339**	*i* P	**Pg**	**02 29 16.0**	**-0.8**
TUTA				*i* S	**Sb**	**02 29 27.9**	**-0.2**
TUTA	**Tutak**	**0.78**	**339**	P	**Pg**	**02 29 16.0**	**-0.8**
TUTA				S	**Sb**	**02 29 27.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.91**	**263**	*e*PG	**Pg**	**02 29 18.8**	**-0.3**
GURO	**Guroymak-BITLI**	**0.91**	**263**	*e*Pg	**Pg**	**02 29 18.8**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**351**	*e*PG	**Pg**	**02 29 19.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**351**	*e*Pg	**Pg**	**02 29 19.0**	**-0.3**
CUKT	**Cukurca**	**1.46**	**166**	*e*PN	**Pb**	**02 29 28.8**	**-0.1**
CUKT	**Cukurca**	**1.46**	**166**	*e*Pn	**Pb**	**02 29 28.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.64**	**252**	*e*PN	**Pb**	**02 29 31.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.64**	**252**	*e*Pn	**Pb**	**02 29 31.6**	**-0.3**
BNGB	**Bing¶‖**	**1.98**	**280**	*e*PN	**Pn**	**02 29 36.5**	**+1.3**
BINT	**Bingol**	**2.11**	**276**	*e*PN	**Pn**	**02 29 36.5**	**-0.5**

ISK ***31*** *02:36:36.5,38°.92N×43°.54E,h5km,MD2.7*
CSEM ***31*** *02:36:37.8±0.2,38°.94N×43°.56E,h10km,ML2.7,Error*
ellipse: s-maj=4.9km s-min=4.1km az=132.0
ISCJB ***31*** *02:36:38.4±0.6,38°.94N±0°.03×43°.57E±0°.05,h15km±6km,*
Error ellipse: s-maj=7.1km s-min=4.8km az=20.7
DDA ***31*** *02:36:38.0,38°.97N×43°.51E,h10km,Ml2.7*
ISC 31 02:36:37.8±0.9,38°.94N±0°.03×43°.55E±0°.03,h10km±5km,
n24,σ0s43/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**22**	*i* P	**Pg**	**02 36 39.7**	**-0.4**
VMUR				*i* S	**Sg**	**02 36 42.3**	**+0.6**
VMUR	**Van-Muradiye**	**0.05**	**22**	P	**Pg**	**02 36 39.7**	**-0.4**
VMUR				S	**Sg**	**02 36 42.3**	**+0.6**
CLDR	**Caldiran**	**0.35**	**55**	*e*PG	**Pg**	**02 36 44.7**	**-0.2**
CLDR				*e*SG	**Sb**	**02 36 51.6**	**-0.4**
CLDR	**Caldiran**	**0.35**	**55**	*i* P	**Pg**	**02 36 45.0**	**+0.1**
CLDR				*i* S	**Sb**	**02 36 51.6**	**-0.4**
CLDR	**Caldiran**	**0.35**	**55**	*e*Pg	**Pg**	**02 36 44.7**	**-0.2**
CLDR	**Caldiran**	**0.35**	**55**	P	**Pg**	**02 36 45.0**	**+0.1**
CLDR				S	**Sb**	**02 36 51.6**	**-0.4**
VANB	**Van**	**0.37**	**200**	*e*PG	**Pb**	**02 36 46.0**	**-0.5**
VANB	**Van**	**0.37**	**200**	*e*Pg	**Pb**	**02 36 46.0**	**-0.5**
TVAN	**Van**	**0.43**	**195**	*i* P	**Pg**	**02 36 46.1**	**-0.1**
TVAN				*i* S	**Sb**	**02 36 54.9**	**+0.7**
TVAN	**Van**	**0.43**	**195**	P	**Pg**	**02 36 46.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**258**	*i* P	**Pg**	**02 36 50.5**	**0.0**
ADCV				*i* S	**Sb**	**02 37 00.9**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**258**	P	**Pg**	**02 36 50.5**	**0.0**
ADCV				S	**Sb**	**02 37 00.9**	**+0.2**
TUTA	**Tutak**	**0.73**	**309**	*i* P	**Pg**	**02 36 51.8**	**-0.2**
TUTA				*i* S	**Sb**	**02 37 03.3**	**+0.3**
TUTA	**Tutak**	**0.73**	**309**	P	**Pg**	**02 36 51.8**	**-0.2**
TUTA				S	**Sb**	**02 37 03.3**	**+0.3**
AGRB	**Hanur-Agry**	**0.77**	**326**	*e*PG	**Pb**	**02 36 53.0**	**-0.4**
AGRB				*e*SG	**Sb**	**02 37 04.6**	**+0.7**
AGRB	**Hanur-Agry**	**0.77**	**326**	*e*Pg	**Pb**	**02 36 53.0**	**-0.4**
AGRB				*e*Sg	**Sb**	**02 37 04.6**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.17**	**27**	*e*PN	**Pn**	**02 37 00.6**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.17**	**27**	*e*Pn	**Pn**	**02 37 00.6**	**+0.3**
GURO	**Guroymak-BITLI**	**1.25**	**252**	*e*PN	**Pn**	**02 37 00.8**	**-0.7**
GURO	**Guroymak-BITLI**	**1.25**	**252**	*e*Pn	**Pn**	**02 37 00.8**	**-0.7**
VRTB	**Varto-Mus**	**1.64**	**278**	*e*PN	**Pb**	**02 37 08.0**	**-0.3**
VRTB	**Varto-Mus**	**1.64**	**278**	*e*Pn	**Pb**	**02 37 08.0**	**-0.3**
CUKT	**Cukurca**	**1.69**	**178**	*e*PN	**Pn**	**02 37 08.0**	**+0.5**
CUKT	**Cukurca**	**1.69**	**178**	*e*Pn	**Pn**	**02 37 08.0**	**+0.5**

ISK ***31*** *02:37:40.6,38°.43N×39°.30E,h4km,MD3.0*
ISCJB ***31*** *02:37:41.5±0.5,38°.44N±0°.02×39°.31E±0°.03,h2km±5km,*
Error ellipse: s-maj=4.6km s-min=3.8km az=179.8
CSEM ***31*** *02:37:41.4±0.2,38°.44N×39°.31E,h2km,MD3.0,Error*
ellipse: s-maj=4.6km s-min=4.1km az=87.0
DDA ***31*** *02:37:41.4,38°.48N×39°.33E,h7km,Ml3.0*
NSSC ***31*** *02:37:52.4±1.1,37°.65N×39°.23E,h0km±7km,MD1.6,ML2.0*
ISC 31 02:37:41.2±0.9,38°.42N±0°.02×39°.33E±0°.02,h4km±6km,
n41,σ1s23/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.04**	**204**	*e*PG	**Pg**	**02 37 42.1**	**-0.3**
SVRC				*e*SG	**Sg**	**02 37 43.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.04**	**204**	*e*Pg	**Pg**	**02 37 42.1**	**-0.4**
SVRC				*e*Sg	**Sg**	**02 37 43.5**	**+0.1**
ELZG	**Elazig**	**0.28**	**286**	*i* P	**Pg**	**02 37 46.6**	**-0.1**
ELZG				*i* S	**Sg**	**02 37 51.5**	**+1.1**
ELZG	**Elazig**	**0.28**	**286**	P	**Pg**	**02 37 46.6**	**-0.1**
ELZG				S	**Sg**	**02 37 51.5**	**+1.1**
PTK	**Pertek**	**0.47**	**6**	*e*PG	**Pg**	**02 37 50.4**	**0.0**
PTK				*e*SG	**Sg**	**02 37 57.5**	**+0.9**
PTK	**Pertek**	**0.47**	**6**	*e*Pg	**Pg**	**02 37 50.4**	**0.0**
PTK				*e*Sg	**Sg**	**02 37 57.5**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.71**	**13**	*i* P	**Pg**	**02 37 54.0**	**-0.9**
TNCL				*i* S	**Sg**	**02 38 05.0**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.71**	**13**	P	**Pg**	**02 37 54.0**	**-0.9**
TNCL				S	**Sg**	**02 38 05.0**	**+0.8**
DIYA	**Diyarbakir**	**0.80**	**128**	*i* P	**Pb**	**02 37 58.0**	**+0.3**
DIYA				*i* S	**Sn**	**02 38 12.5**	**+0.9**
DIYA	**Diyarbakir**	**0.80**	**128**	P	**Pb**	**02 37 58.0**	**+0.3**
DIYA				S	**Sn**	**02 38 12.5**	**+0.9**
BINT	**Bingol**	**1.02**	**63**	*e*Pn	**Pn**	**02 38 04.3**	**+1.9**
URFA	**Urfa**	**1.06**	**203**	*e*PG	**Pg**	**02 38 01.8**	**+0.4**
URFA	**Urfa**	**1.06**	**203**	*e*Pg	**Pg**	**02 38 01.8**	**+0.4**
KEMA	**Kemaliye**	**1.07**	**323**	*i* P	**Pg**	**02 38 00.4**	**-1.4**
KEMA				*i* S	**Sg**	**02 38 15.5**	**-0.1**
KEMA	**Kemaliye**	**1.07**	**323**	P	**Pg**	**02 38 00.4**	**-1.4**
KEMA				S	**Sg**	**02 38 15.5**	**-0.1**
BNGB	**Bing¶‖**	**1.20**	**61**	*e*PN	**Pg**	**02 38 04.3**	**+0.1**
ERZN	**Erzincan**	**1.21**	**15**	*e*PN	**Pg**	**02 38 04.0**	**-0.3**
ATAB	**Bozova**	**1.25**	**221**	*i* P	**Pn**	**02 38 06.2**	**+0.7**
ATAB				*i* S	**Sn**	**02 38 24.9**	**+2.1**
ATAB	**Bozova**	**1.25**	**221**	P	**Pn**	**02 38 06.2**	**+0.7**
ATAB				S	**Sn**	**02 38 24.9**	**+2.1**
MAZI	**Mazidag**	**1.30**	**137**	*e*PN	**Pn**	**02 38 06.2**	**-0.1**
MAZI	**Mazidag**	**1.30**	**137**	*e*Pn	**Pn**	**02 38 06.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.39**	**43**	*e*PN	**Pb**	**02 38 07.9**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.39**	**43**	*e*Pn	**Pb**	**02 38 07.9**	**+0.1**
DARE	**Darende-Malaty**	**1.46**	**277**	*e*PN	**Pn**	**02 38 08.2**	**-0.2**
DARE	**Darende-Malaty**	**1.46**	**277**	*e*Pn	**Pn**	**02 38 08.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.50**	**100**	*e*PN	**Pg**	**02 38 10.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.50**	**100**	*e*Pn	**Pg**	**02 38 10.1**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.71**	**302**	*i* P	**Pb**	**02 38 13.4**	**+0.2**
CUKAN				*i* S	**Sg**	**02 38 36.2**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.71**	**302**	P	**Pb**	**02 38 13.4**	**+0.2**
CUKAN				S	**Sg**	**02 38 36.2**	**+0.1**
KBSD	**Kabsdagh**	**1.71**	**145**	*e*P	**Pg**	**02 38 15.0**	**+1.0**
KBSD				*e*S	**Sn**	**02 38 32.5**	**-1.7**
KBSD				AML	AML	02 38 38.5	
	comp=E,76nm,0.3s						
KBSD				AML	AML	02 38 38.6	
	comp=N,36nm,0.5s						
VRTB	**Varto-Mus**	**1.82**	**65**	*e*PN	**Pn**	**02 38 13.9**	**+0.5**
VRTB	**Varto-Mus**	**1.82**	**65**	*e*Pn	**Pn**	**02 38 13.9**	**+0.5**
SFNV	**Sufian**	**2.09**	**162**	*e*P	**Pb**	**02 38 18.8**	**-1.0**
SFNV				*e*S	**Sn**	**02 38 38.0**	**-5.6**
SFNV				AML	AML	02 38 59.0	
	comp=E,60nm,0.5s						
SFNV				AML	AML	02 39 01.0	
	comp=N,52nm,0.6s						
KMRS	**Kahramanmaras**	**2.13**	**245**	*e*PN	**Pn**	**02 38 17.8**	**+0.3**
KMRS	**Kahramanmaras**	**2.13**	**245**	*e*Pn	**Pn**	**02 38 17.8**	**+0.3**
SARI	**SarD1z-Kayseri**	**2.29**	**271**	*e*PN	**Pn**	**02 38 20.0**	**+0.1**
SVSK	**Karacayir**	**2.35**	**310**	*e*PN	**Pn**	**02 38 20.8**	**+0.3**
SVSK	**Karacayir**	**2.35**	**310**	*e*Pn	**Pn**	**02 38 20.8**	**+0.3**
KSRV	**

3.1nm,0.9s,baz=258,slow=11,SNR=4.0
CPUP LR LR 03 16 00.9
comp=Z,476nm,18.1s,baz=254,slow=33
TXAR Lajitas Array 53.86 13 P P 02 56 38.6 -0.6
0.6nm,0.8s,baz=209,slow=7.2,SNR=4.9
TXAR LR LR 03 15 10.0
comp=Z,213nm,19.1s,baz=0.0,slow=31
AFI Afiamalu 53.95 270 LR LR 03 13 30.8
comp=Z,625nm,18.2s,baz=110,slow=29
SDV Santo Domingo 54.40 59 P P 02 56 43.0 -0.5
3.1nm,0.5s,baz=271,slow=6.9,SNR=3.2
121A Cookes Peak, D 56.33 8 *eP* **P 02 56 57.6 +0.5**
11nm,1.1s
HKT Hockley 56.50 20 *eP* **P 02 56 59.1 +1.1**
113nm,1.5s
ANMO Albuquerque 58.88 9 P P 02 57 15.9 +0.9
1.0nm,0.8s,baz=2.7,slow=4.4,SNR=4.5
ANMO LR LR 03 17 42.3
comp=Z,244nm,20.0s,baz=33,slow=31
DAC Darwin (Calif) 59.62 358 *eP* **P 02 57 18.2 -2.0**
14nm,1.5s
R11A Troy Canyon, C 61.66 360 *eP* **P 02 57 34.5 +0.6**
9.3nm,1.2s
SMCO Snowmass 62.98 7 *eP* **P 02 57 42.9 -0.2**
12nm,1.5s
BDFB Brasilia 63.48 96 P P 02 57 46.3 -0.4
3.4nm,0.9s,baz=270,slow=1.0,SNR=4.3
BDFB LR LR 03 23 03.8
comp=Z,422nm,18.6s,baz=43,slow=34
DUG Dugway, Tooele 63.55 2 *eP* **P 02 57 48.9 +2.4**
5.4nm,1.3s
BMN Battle Mountai 63.76 358 *eP* **P 02 57 50.5 +2.5**
8.3nm,1.4s
ELK Elko 64.05 0 P P 02 57 51.0 +1.1
1.4nm,0.8s,baz=244,slow=4.7,SNR=6.1
MOD Modoc Plateau 65.36 356 *eP* **P 02 58 00.1 +1.7**
2.4nm,0.8s
VNDA Vanda 65.52 194 LR LR 03 20 47.8
comp=Z,430nm,18.9s,baz=98,slow=31
WVOR Wild Horse Val 65.80 357 *eP* **P 02 58 00.9 -0.3**
3.7nm,1.2s
HUMO Hull Mountain 66.28 354 *eP* **P 02 58 06.0 +1.9**
75nm,1.2s
PDAR Pinedale Array 66.29 5 P P 02 58 03.4 -1.0
0.5nm,0.6s,baz=185,slow=6.8,SNR=3.9
PDAR LR LR 03 22 50.6
comp=Z,168nm,18.5s,baz=188,slow=32
K22A Casper 66.46 7 *eP* **P 02 58 07.0 +1.6**
2.0nm,0.4s
QSPA South Pole Qui 66.52 180 *eP* **P 02 58 08.1 +2.5**
122nm,1.5s
MFID Camas Ranch 66.72 360 *eP* **P 02 58 08.7 +1.7**
0.9nm,0.4s
HLID Hailey 66.87 1 *eP* **P 02 58 08.0 -0.1**
1.0nm,0.7s
TPAW Teton Pass 66.92 4 *eP* **P 02 58 09.7 +1.2**
11nm,1.3s
DLMT Dillon 68.71 2 *eP* P 02 58 24.9 +5.3
1.7nm,0.8s
NEW Newport 71.58 359 P **P 02 58 36.1 -0.9**
2.1nm,1.0s,baz=85,slow=12,SNR=2.5
NEW LR LR 03 24 38.3
comp=Z,222nm,18.5s,baz=190,slow=31
DGMT Dagmar 72.47 8 *eP* **P 02 58 43.2 +0.9**
22nm,1.2s
VNA3 Neumayer Olymp 72.74 161 P **P 02 58 44.0 +0.2**
VNA1 Neumayer--Stat 73.40 161 P P 02 58 51.7 +4.1
VNA2 Neumayer--Watz 73.55 161 P **P 02 58 50.0 +1.5**
baz=257,slow=2.0
SNAA Sanae 74.53 162 P P 02 58 54.4 +0.1
SNAA Sanae 74.53 162 P P 02 58 54.3 0.0
7.9nm,1.2s,baz=247,slow=5.7,SNR=9.1
SNAA Sanae 74.53 162 *eP* **P 02 58 54.7 +0.4**
631nm,1.1s
ULM Lac du Bonnet 75.57 13 LR LR 03 27 37.8
comp=Z,202nm,21.4s,baz=212,slow=32
YKA Yellowknife Ar 85.83 0 P P 02 59 56.2 +1.3
1.3nm,0.8s,baz=171,slow=5.3,SNR=3.2
H11S2 WAKE ISLAND Hy 86.73 292 T T 04 35 55.1
baz=116,slow=75,SNR=114
H11S1 WAKE ISLAND Hy 86.75 292 T T 04 35 55.4
baz=116,slow=75,SNR=94
H11S3 WAKE ISLAND Hy 86.75 292 T T 04 35 55.7
baz=116,slow=75,SNR=644
H11N3 WAKE ISLAND Hy 87.10 293 T T 04 36 23.6
baz=117,slow=75,SNR=103
H11N1 WAKE ISLAND Hy 87.11 293 T T 04 36 22.2
baz=117,slow=75,SNR=73
H11N2 WAKE ISLAND Hy 87.12 293 T T 04 36 19.6
baz=117,slow=75,SNR=144
STKA Stephens Creek 88.05 236 LR LR 03 35 59.6
comp=Z,234nm,18.1s,baz=124,slow=33
SCHQ Schefferville **88.52 26** LR LR 03 37 29.2
comp=Z,169nm,20.9s,baz=212,slow=34
MAW Mawson 89.03 179 LR LR 03 36 34.7
comp=Z,320nm,18.3s,baz=218,slow=33
ASAR Alice Springs 97.93 240 LR LR 03 44 49.6
comp=Z,181nm,18.3s,baz=127,slow=35
WRA Warramunga Arr 99.41 243 LR LR 03 43 45.7
comp=Z,214nm,18.6s,baz=150,slow=34
GERES GERESS Array B 132.96 44 PKP **PKPdf 03 06 29.8 -1.6**
0.2nm,0.4s,baz=207,slow=1.8,SNR=2.2
SONM Songino Array 139.04 317 PKP **PKPdf 03 06 42.9 +0.2**
0.4nm,0.4s,baz=149,slow=0.8,SNR=2.9
AKASG Malin Array Be 141.56 36 PKP **PKPdf 03 06 46.7 -0.3**
0.3nm,0.4s,baz=287,slow=2.4,SNR=2.8
KMBO Kilima Mbogo 143.78 129 PKP **PKPdf 03 06 51.3 -1.2**
0.8nm,0.3s,baz=117,slow=6.8,SNR=3.1
ZALV Zalesovo Beam 146.12 338 PKPbc **PKPbc 03 06 56.2 +0.4**
1.2nm,0.3s,baz=336,slow=1.7,SNR=2.8
ARU Arti 146.94 6 PKPbc **PKPbc 03 06 58.6 +0.5**
5.7nm,0.2s,baz=292,slow=7.3,SNR=3.1
CMAR Chiang Mai Arr 147.58 267 PKPbc **PKPbc 03 07 01.0 -0.1**
2.0nm,0.3s,baz=104,slow=1.1,SNR=5.3
BRTR Keskin Array B 149.35 51 PKPbc **PKPbc 03 07 04.9 -0.4**
3.0nm,0.9s,baz=241,slow=1.7,SNR=9.6
BRVK Borovoye 150.30 353 *e*PKPbc **PKPbc 03 07 07.4 +0.5**
BVAR Borovoye Array 150.32 353 PKPbc **PKPbc 03 07 06.4 -0.6**
1.2nm,0.6s,baz=303,slow=3.0,SNR=5.7
KURK Kurchatov 150.45 342 *e*PKPbc **PKPbc 03 07 08.5 +0.2**
KURBB Kurchatov Arra 150.96 342 PKPbc **PKPbc 03 07 08.5 -0.1**
2.6nm,1.0s,baz=20,slow=1.8,SNR=7.1
AKTO Aktyubinsk 152.76 9 PKPbc **PKPbc 03 07 14.9 +2.2**
2.2nm,0.9s,baz=31,slow=5.9,SNR=2.2
MKAR Makanchi Array 152.87 333 PKP **PKPdf 03 07 06.7 +0.8**
0.6nm,0.8s,baz=336,slow=3.2,SNR=3.2
MKAR PKPbc **PKPbc 03 07 13.3 +0.2**
1.2nm,0.9s,baz=45,slow=1.9,SNR=4.3
ABKAR Akbulak array 154.17 7 *e*PKPbc **PKPbc 03 07 16.6 +0.8**

*CSEM **31** 02:49:11.9±0.1,38°.87N×43°.54E,h10km,ML2.7,Error ellipse: s-maj=4.2km s-min=2.9km az=120.0*
*ISK **31** 02:49:11.1,38°.85N×43°.51E,h8km,MD2.7*
*ISCJB **31** 02:49:12.1±0.6,38°.88N±0°.04×43°.55E±0°.05,h12km±7km, Error ellipse: s-maj=7.6km s-min=5.7km az=37.4*
*DDA **31** 02:49:12.3,38°.90N×43°.53E,h7km,Ml2.7*
ISC 31 02:49:12.0±1.0,38°.86N±0°.03×43°.53E±0°.03,h9km±10km, n26,σ0°49/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**13**	*i* P	**Pg**	**02 49 14.8**	**-0.4**
VMUR	**Van-Muradiye**	**0.13**	**13**	P	**Pg**	**02 49 14.8**	**-0.4**
VANB	**Van**	**0.29**	**203**	*e*PG	**Pg**	**02 49 18.1**	**+0.2**
VANB	**Van**	**0.29**	**203**	*e*Pg	**Pg**	**02 49 18.1**	**+0.2**
TVAN	**Van**	**0.35**	**197**	*i* P	**Pb**	**02 49 20.1**	**-0.4**
TVAN	**Van**	**0.35**	**197**	P	**Pb**	**02 49 20.1**	**-0.4**
CLDR	**Caldiran**	**0.41**	**47**	*e*PG	**Pg**	**02 49 19.8**	**-0.4**
CLDR				*e*SG	**Sg**	**02 49 26.6**	**+1.0**
CLDR	**Caldiran**	**0.41**	**47**	*i* P	**Pg**	**02 49 20.2**	**0.0**
CLDR	**Caldiran**	**0.41**	**47**	*e*Pg	**Pg**	**02 49 19.8**	**-0.4**
CLDR	**Caldiran**	**0.41**	**47**	P	**Pg**	**02 49 20.2**	**0.0**
CLDR				*e*Sg	**Sg**	**02 49 26.6**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.63**	**265**	*i* P	**Pb**	**02 49 24.9**	**-0.5**
ADCV				*i* S	**Sb**	**02 49 35.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.63**	**265**	P	**Pb**	**02 49 24.9**	**-0.5**
DYDN	**Diyadin**	**0.69**	**10**	*i* P	**Pb**	**02 49 25.8**	**-0.6**
DYDN	**Diyadin**	**0.69**	**10**	P	**Pb**	**02 49 25.8**	**-0.6**
TUTA	**Tutak**	**0.78**	**314**	*i* P	**Pg**	**02 49 26.9**	**-0.1**
TUTA	**Tutak**	**0.78**	**314**	P	**Pg**	**02 49 26.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.83**	**330**	*e*PG	**Pg**	**02 49 28.1**	**+0.1**
AGRB				*e*SG	**Sg**	**02 49 38.8**	**0.0**
AGRB	**Hanur-Agry**	**0.83**	**330**	*e*Pg	**Pg**	**02 49 28.1**	**+0.1**
AGRB				*e*Sg	**Sg**	**02 49 38.8**	**0.0**
TATV	**Tatvan**	**1.05**	**251**	*i* P	**Pg**	**02 49 31.8**	**-0.5**
TATV	**Tatvan**	**1.05**	**251**	P	**Pg**	**02 49 31.8**	**-0.5**
GURO	**Guroymak-BITLI**	**1.22**	**256**	*e*PN	**Pb**	**02 49 35.0**	**-0.2**
GURO	**Guroymak-BITLI**	**1.22**	**256**	*e*Pn	**Pb**	**02 49 35.1**	**-0.2**
CUKT	**Cukurca**	**1.61**	**178**	*e*PN	**Pn**	**02 49 40.3**	**-0.5**
CUKT	**Cukurca**	**1.61**	**178**	*e*Pn	**Pn**	**02 49 40.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.93**	**332**	*e*PN	**Pn**	**02 49 45.3**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.93**	**332**	*e*Pn	**Pn**	**02 49 45.3**	**+0.1**

*ISCJB **31** 02:49:38.7±0.8,38°.46N±0°.03×27°.08E±0°.04,h6km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=164.1*
*ISK **31** 02:49:38.1,38°.43N×27°.09E,h6km,ML2.8*
*THE **31** 02:49:39.3,38°.47N×27°.05E,h7km±1km,ML3.0/3,Error ellipse: s-maj=1.5km s-min=0.7km az=250.0*
*ATH **31** 02:49:39.6,38°.50N×27°.02E,h26km±2km,ML2.9/3,Error ellipse: s-maj=4.0km s-min=1.9km az=258.0*
*CSEM **31** 02:49:39.0±0.1,38°.45N×27°.07E,h10km,ML2.8,Error ellipse: s-maj=3.1km s-min=2.5km az=68.0*
ISC 31 02:49:38.3±1.2,38°.48N±0°.02×27°.07E±0°.02,h4km±11km, n52,σ0°67/73,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.39**	**253**	*e*PG	**Pg**	**02 49 46.5**	**+0.8**
URLA				*e*SG	**Sg**	**02 49 52.0**	**+1.2**
URLA	**Izmir**	**0.39**	**253**	*e*Pg	**Pg**	**02 49 46.5**	**+0.8**
URLA				*e*Sg	**Sg**	**02 49 52.0**	**+1.2**
DKL	**Dikili**	**0.61**	**348**	*e*PG	**Pb**	**02 49 51.2**	**-0.3**
DKL				*e*SG	**Sb**	**02 50 01.1**	**+0.7**
DKL	**Dikili**	**0.61**	**348**	*e*Pg	**Pb**	**02 49 51.2**	**-0.3**
DKL				*e*Sg	**Sb**	**02 50 01.1**	**+0.7**
CHOS	**Chios island**	**0.80**	**264**	P	**Pb**	**02 49 54.2**	**-0.6**
CHOS				S	**Sb**	**02 50 06.0**	**0.0**
CHOS	**Chios island**	**0.80**	**264**	P	**Pg**	**02 49 53.5**	**-0.1**
CHOS				S	**Sb**	**02 50 06.4**	**+0.4**
CHOS				AML	AML	02 50 07.4	
	comp=N,1961μm,0.3s						
CHOS				AML	AML	02 50 07.8	
	comp=E,2759μm,0.5s						
CHOS	**Chios island**	**0.80**	**264**	P	**Pb**	**02 49 54.2**	**-0.6**
CHOS				S	**Sb**	**02 50 06.0**	**0.0**
PRK	**Paraskevi**	**0.99**	**321**	P	**Pb**	**02 49 58.0**	**+0.1**
PRK				S	**Sb**	**02 50 11.8**	**+0.4**
PRK	**Paraskevi**	**0.99**	**321**	P	**Pn**	**02 49 58.4**	**-0.5**
PRK				S	**Sb**	**02 50 11.7**	**+0.4**
PRK				AML	AML	02 50 14.6	
	comp=N,1479μm,0.4s						
PRK				AML	AML	02 50 15.4	
	comp=E,1538μm,0.5s						
PRK	**Paraskevi**	**0.99**	**321**	P	**Pn**	**02 49 58.4**	**-0.5**
PRK				S	**Sb**	**02 50 11.8**	**+0.4**
SIGR	**SIGRI**	**1.20**	**308**	P	**Pg**	**02 50 00.6**	**-0.6**
SIGR				S	**Sn**	**02 50 18.1**	**-0.4**
SIGR	**SIGRI**	**1.20**	**308**	P	**Pn**	**02 50 01.9**	**+0.1**
SIGR				S	**Sn**	**02 50 18.9**	**+0.4**
SIGR				AML	AML	02 50 19.8	
	comp=E,440μm,0.5s						
SIGR				AML	AML	02 50 20.9	
	comp=N,525μm,0.5s						
SIGR	**SIGRI**	**1.20**	**308**	P	**Pn**	**02 50 01.9**	**+0.1**
SIGR				S	**Sn**	**02 50 18.1**	**-0.4**
KULA	**Kula-Manisa**	**1.25**	**88**	*e*PN	**Pb**	**02 50 02.3**	**-0.2**
KULA				*e*SN	**Sb**	**02 50 19.3**	**+0.3**
KULA	**Kula-Manisa**	**1.25**	**88**	*e*Pn	**Pb**	**02 50 02.3**	**-0.2**
KULA				*e*Sn	**Sb**	**02 50 19.3**	**+0.3**
BALB	**Balikesir**	**1.32**	**28**	*e*PN	**Pn**	**02 50 03.9**	**+0.4**
BALB				*e*SN	**Sn**	**02 50 23.4**	**+1.9**
BALB	**Balikesir**	**1.32**	**28**	*e*Pn	**Pn**	**02 50 03.9**	**+0.4**
BALB				*e*Sn	**Sn**	**02 50 23.5**	**+1.9**
BODT	**Bodrum**	**1.43**	**172**	*e*PN	**Pn**	**02 50 04.4**	**-0.5**
BODT	**Bodrum**	**1.43**	**172**	P	**Pn**	**02 50 04.2**	**-0.8**
BODT				S	**Sg**	**02 50 23.6**	**-0.4**
BODT	**Bodrum**	**1.43**	**172**	P	**Pn**	**02 50 04.2**	**-0.8**
BODT	**Bodrum**	**1.43**	**172**	*e*Pn	**Pn**	**02 50 04.4**	**-0.5**
BODT				S	**Sg**	**02 50 23.6**	**-0.4**
EZN	**Ezine**	**1.47**	**337**	*e*PN	**Pg**	**02 50 06.1**	**-0.3**
EZN	**Ezine**	**1.47**	**337**	P	**Pn**	**02 50 04.7**	**-0.8**
EZN				S	**Sb**	**02 50 24.7**	**-0.4**
EZN	**Ezine**	**1.47**	**337**	P	**Pn**	**02 50 04.7**	**-0.8**
EZN	**Ezine**	**1.47**	**337**	*e*Pn	**Pg**	**02 50 06.1**	**-0.3**
EZN				S	**Sb**	**02 50 24.7**	**-0.4**
BOZC	**Bozcaada**	**1.57**	**330**	*e*PN	**Pg**	**02 50 08.0**	**-0.5**
BOZC	**Bozcaada**	**1.57**	**330**	*e*Pn	**Pg**	**02 50 08.0**	**-0.5**
SIMA	**Simav-Kutahya**	**1.61**	**67**	*e*PN	**Pn**	**02 50 07.7**	**0.0**
SIMA	**Simav-Kutahya**	**1.61**	**67**	*e*Pn	**Pn**	**02 50 07.7**	**0.0**
DAT	**Datca**	**1.79**	**167**	*e*PN	**Pn**	**02 50 09.8**	**-0.2**
DAT	**Datca**	**1.79**	**167**	*e*Pn	**Pn**	**02 50 09.8**	**-0.2**
APE	**Apeiranthos**	**1.86**	**221**	P	**Pn**	**02 50 11.6**	**+0.6**
APE	**Apeiranthos**	**1.86**	**221**	P	**Pn**	**02 50 11.6**	**+0.6**
NIS1	**Nisyros Isl.**	**1.87**	**177**	P	**Pg**	**02 50 13.8**	**-0.3**
NIS1	**Nisyros Isl.**	**1.87**	**177**	P	**Pg**	**02 50 13.8**	**-0.3**
LPK	**Lapseki**	**1.91**	**353**	*e*PN	**Pb**	**02 50 12.6**	**-1.1**
LPK	**Lapseki**	**1.91**	**353**	*e*Pn	**Pb**	**02 50 12.6**	**-1.1**
KRBG	**Karabiga-Canak**	**1.92**	**5**	*e*PN	**Pn**	**02 50 12.6**	**+0.8**
KRBG	**Karabiga-Canak**	**1.92**	**5**	*e*Pn	**Pn**	**02 50 12.6**	**+0.8**
GADA	**Gvkgeada**	**1.94**	**332**	*e*PN	**Pb**	**02 50 13.1**	**-1.0**
GADA	**Gvkgeada**	**1.94**	**332**	P	**Pn**	**02 50 11.6**	**-0.4**
GADA	**Gvkgeada**	**1.94**	**332**	P	**Pn**	**02 50 11.6**	**-0.4**
GADA	**Gvkgeada**	**1.94**	**332**	*e*Pn	**Pb**	**02 50 13.1**	**-1.0**
EDC	**Edincik**	**1.97**	**18**	*e*PN	**Pb**	**02 50 13.4**	**-1.3**
EDC	**Edincik**	**1.97**	**18**	*e*Pn	**Pb**	**02 50 13.4**	**-1.3**
LIA	**Limnos Island**	**2.04**	**315**	P	**Pn**	**02 50 13.1**	**-0.3**
LIA	**Limnos Island**	**2.04**	**315**	P	**Pn**	**02 50 12.6**	**-0.7**
LIA	**Limnos Island**	**2.04**	**315**	P	**Pn**	**02 50 13.1**	**-0.3**
DALY	**Dalyan (Mu¨la**	**2.08**	**142**	*e*PN	**Pn**	**02 50 13.6**	**-0.3**
DALY	**Dalyan (Mu¨la**	**2.08**	**142**	*e*Pn	**Pn**	**02 50 13.6**	**-0.3**
SMTH	**Samothraki Isl**	**2.32**	**330**	P	**Pn**	**02 50 16.9**	**-0.3**
SMTH	**Samothraki Isl**	**2.32**	**330**	P	**Pn**	**02 50 16.9**	**-0.3**

GCMT 31 02:53:12.0±0.5,23°.55S×115°.09W,h25km±2km,MW4.9/71, Moment Tensor Solution. s15,c16; s71,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm;
Mrr0.49±.22; Mθθ-2.59±.19; Mφφ2.10±.17; Mrθ-1.34±.37; Mrφ1.28±.11; Mθφ-0.47±.33; **Best double couple:**
M☐3.01700×10^{16} **NP1:**φ☐241.00000°,δ88.00000°, λ28.00000°; **NP2:**φ☐150.00000°,δ62.00000°,λ177.00000°.
Principal axes: T 2.7370, Plg21.0000°, Azm109.0000°; N 0.5560, Plg62.0000°, Azm245.0000°; P -3.2970, Plg18.0000°, Azm12.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Southern East Pacific Rise**

*ISK **31** 02:53:21.4,38°.70N×43°.04E,h7km,MD2.8*
*ISCJB **31** 02:53:22.2±0.5,38°.68N±0°.03×43°.00E±0°.04,h10km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=179.5*
*DDA **31** 02:53:22.3,38°.64N×43°.00E,h7km,Ml2.9*
*CSEM **31** 02:53:22.1±0.2,38°.68N×43°.02E,h10km,ML2.9,Error ellipse: s-maj=4.2km s-min=3.3km az=168.0*
ISC 31 02:53:22.4±1.0,38°.69N±0°.03×43°.00E±0°.02,h9km±11km, n28,σ0°52/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.25**	**299**	*i* P	**Pb**	**02 53 29.1**	**-0.1**
ADCV				*i* S	**Sb**	**02 53 34.6**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.25**	**299**	P	**Pb**	**02 53 29.1**	**-0.1**
VANB	**Van**	**0.32**	**107**	*e*PG	**Pg**	**02 53 28.9**	**+0.2**
VANB				*e*SG	**Sg**	**02 53 33.6**	**+0.7**
VANB	**Van**	**0.32**	**107**	*e*Pg	**Pg**	**02 53 28.9**	**+0.2**
VANB				*e*Sg	**Sg**	**02 53 33.6**	**+0.7**
TVAN	**Van**	**0.35**	**116**	*i* P	**Pg**	**02 53 28.9**	**-0.6**
TVAN				*i* S	**Sg**	**02 53 34.7**	**+0.6**
TVAN	**Van**	**0.35**	**116**	P	**Pg**	**02 53 28.9**	**-0.6**
TVAN				S	**Sg**	**02 53 34.7**	**+0.6**
GEVA	**Gevas**	**0.38**	**173**	*i* P	**Pg**	**02 53 28.8**	**-1.1**
GEVA	**Gevas**	**0.38**	**173**	P	**Pg**	**02 53 28.8**	**-1.1**
VMUR	**Van-Muradiye**	**0.54**	**55**	*i* P	**Pg**	**02 53 33.1**	**+0.2**
VMUR				*i* S	**Sb**	**02 53 42.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.54**	**55**	P	**Pg**	**02 53 33.1**	**+0.2**
VMUR				S	**Sb**	**02 53 42.1**	**+0.1**
TATV	**Tatvan**	**0.60**	**253**	*i* P	**Pg**	**02 53 34.0**	**-0.2**
TATV				*i* S	**Sg**	**02 53 42.3**	**+0.2**
TATV	**Tatvan**	**0.60**	**253**	P	**Pg**	**02 53 34.0**	**-0.2**
TATV				S	**Sg**	**02 53 42.3**	**+0.2**
TUTA	**Tutak**	**0.73**	**348**	*i* P	**Pb**	**02 53 37.0**	**-0.5**
TUTA	**Tutak**	**0.73**	**348**	P	**Pb**	**02 53 37.0**	**-0.5**
GURO	**Guroymak-BITLI**	**0.77**	**260**	*e*PG	**Pg**	**02 53 37.2**	**-0.1**
GURO	**Guroymak-BITLI**	**0.77**	**260**	*e*Pg	**Pg**	**02 53 37.2**	**-0.1**
CLDR	**Caldiran**	**0.85**	**57**	*e*PG	**Pg**	**02 53 37.7**	**-1.1**
CLDR	**Caldiran**	**0.85**	**57**	*i* P	**Pg**	**02 53 38.4**	**-0.3**
CLDR	**Caldiran**	**0.85**	**57**	*e*Pg	**Pg**	**02 53 37.7**	**-1.1**
CLDR	**Caldiran**	**0.85**	**57**	P	**Pg**	**02 53 38.4**	**-0.3**
AGRB	**Hanur-Agry**	**0.89**	**359**	*e*PG	**Pg**	**02 53 39.0**	**-0.5**
AGRB				*e*SG	**Sg**	**02 53 51.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**359**	*e*Pg	**Pg**	**02 53 39.1**	**-0.5**
AGRB				*e*Sg	**Sg**	**02 53 51.3**	**+0.1**
VRTB	**Varto-Mus**	**1.30**	**292**	*e*PN	**Pn**	**02 53 46.5**	**-0.2**
VRTB	**Varto-Mus**	**1.30**	**292**	*e*Pn	**Pn**	**02 53 46.6**	**-0.2**
CUKT	**Cukurca**	**1.51**	**161**	*e*PN	**Pn**	**02 53 49.9**	**+0.1**
CUKT	**Cukurca**	**1.51**	**161**	*e*Pn	**Pn**	**02 53 49.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.52**	**250**	*e*PN	**Pn**	**02 53 50.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.52**	**250**	*e*Pn	**Pn**	**02 53 50.2**	**+0.5**

*ISCJB **31** 02:58:10.0±0.5,38°.77N±0°.03×43°.07E±0°.04,h10km±5km, Error ellipse: s-maj=5.5km s-min=4.6km az=146.6*
*ISK **31** 02:58:09.4,38°.78N×43°.08E,h9km,MD2.8*
*CSEM **31** 02:58:10.0±0.2,38°.77N×43°.08E,h10km,ML3.0,Error ellipse: s-maj=4.7km s-min=4.4km az=153.0*
*DDA **31** 02:58:10.4,38°.74N×43°.10E,h7km,Ml3.0*
ISC 31 02:58:10.2±1.0,38°.77N±0°.03×43°.09E±0°.02,h13km±10km, n30,σ0°58/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.29**	**279**	*i* P	**Pb**	**02 58 17.7**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.29**	**279**	P	**Pb**	**02 58 17.7**	**+0.3**
VANB	**Van**	**0.29**	**126**	*e*PG	**Pb**	**02 58 17.1**	**-0.3**
VANB	**Van**	**0.29**	**126**	*e*Pg	**Pb**	**02 58 17.1**	**-0.3**
TVAN	**Van**	**0.34**	**133**	*i* P	**Pg**	**02 58 17.2**	**-0.1**
TVAN				*i* S	**Sg**	**02 58 22.6**	**+0.6**
TVAN	**Van**	**0.34**	**133**	P	**Pg**	**02 58 17.2**	**-0.1**
TVAN				S	**Sg**	**02 58 22.6**	**+0.6**
GEVA	**Gevas**	**0.45**	**183**	*i* P	**Pg**	**02 58 18.5**	**-0.7**
GEVA	**Gevas**	**0.45**	**183**	P	**Pg**	**02 58 18.5**	**-0.7**
TUTA	**Tutak**	**0.67**	**342**	*i* P	**Pb**	**02 58 24.3**	**+0.4**
TUTA	**Tutak**	**0.67**	**342**	P	**Pb**	**02 58 24.3**	**+0.4**
TATV	**Tatvan**	**0.69**	**248**	*i* P	**Pg**	**02 58 23.6**	**-0.1**
TATV				*i* S	**Sg**	**02 58 33.0**	**+0.2**
TATV	**Tatvan**	**0.69**	**248**	P	**Pg**	**02 58 23.6**	**-0.1**
TATV				S	**Sg**	**02 58 33.0**	**+0.2**
CLDR	**Caldiran**	**0.75**	**60**	*e*PG	**Pg**	**02 58 24.4**	**-0.4**
CLDR	**Caldiran**	**0.75**	**60**	*i* P	**Pg**	**02 58 24.2**	**-0.6**
CLDR	**Caldiran**	**0.75**	**60**	*e*Pg	**Pg**	**02 58 24.4**	**-0.4**
AGRB	**Hanur-Agry**	**0.81**	**355**	*e*PG	**Pg**	**02 58 25.2**	**-0.8**
AGRB				*e*SG	**Sg**	**02 58 36.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.81**	**355**	*e*Pg	**Pg**	**02 58 25.2**	**-0.8**
GURO	**Guroymak-BITLI**	**0.85**	**256**	*e*PG	**Pg**	**02 58 26.4**	**-0.3**
GURO				*e*SG	**Sb**	**02 58 38.2**	**-0.2**
GURO	**Guroymak-BITLI**	**0.85**	**256**	*e*Pg	**Pg**	**02 58 26.4**	**-0.3**
GURO				*e*Sg	**Sb**	**02 58 38.2**	**-0.2**
DYDN	**Diyadin**	**0.91**	**31**	*i* P	**Pn**	**02 58 30.8**	**+1.9**
DYDN				*i* S	**Sb**	**02 58 40.1**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.51**	**36**	*e*PN	**Pn**	**02 58 37.0**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.51**	**36**	*e*Pn	**Pn**	**02 58 37.0**	**-0.1**
CUKT	**Cukurca**	**1.57**	**165**	*e*PN	**Pn**	**02 58 38.0**	**0.0**
CUKT	**Cukurca**	**1.57**	**165**	*e*Pn	**Pn**	**02 58 38.0**	**0.0**
SVAN	**Silvan-Diyarba**	**1.60**	**248**	*e*PN	**Pn**	**02 58 39.0**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.60**	**248**	*e*Pn	**Pn**	**02 58 39.1**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.88**	**343**	*e*PN	**Pn**	**02 58 42.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.88**	**343**	*e*Pn	**Pn**	**02 58 42.0**	**-0.3**
BNGB	**Bing¨¶l**	**1.89**	**278**	*e*PN	**Pn**	**02 58 42.9**	**+0.5**
BINT	**Bingol**	**2.03**	**274**	*e*PN	**Pn**	**02 58 42.9**	**-1.4**

*ISCJB **31** 03:02:47.8±0.5,38°.77N±0°.03×43°.19E±0°.05,h15km,Error ellipse: s-maj=5.2km s-min=4.8km az=156.6*
*CSEM **31** 03:02:47.6±0.2,38°.75N×43°.18E,h10km,MD2.6,Error ellipse: s-maj=3.8km s-min=3.5km az=144.0*
*DDA **31** 03:02:47.8,38°.72N×43°.21E,h7km,Ml2.5*
*ISK **31** 03:02:47.0,38°.74N×43°.17E,h6km,MD2.6*
ISC 31 03:02:47.9±0.9,38°.74N±0°.03×43°.19E±0°.03,h15km,n24, σ0°51/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**133**	*e*PG	**Pg**	**03 02 53.1**	**+0.2**
VANB				*e*SG	**Sb**	**03 02 57.6**	**+0.2**
VANB	**Van**	**0.22**	**133**	*e*Pg	**Pg**	**03 02 53.1**	**+0.2**
VANB				*e*Sg	**Sb**	**03 02 57.6**	**+0.2**
TVAN	**Van**	**0.28**	**141**	*i* P	**Pg**	**03 02 53.0**	**-0.9**
TVAN	**Van**	**0.28**	**141**	P	**Pg**	**03 02 53.0**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.37**	**280**	*i* P	**Pg**	**03 02 55.9**	**+0.4**
**

CLDR				*e*Sg	**Sb**	03 07 18.7	+0.3
TUTA	**Tutak**	**0.84**	**327**	*i* P	**Pg**	03 07 13.4	-1.0
TUTA	**Tutak**	**0.84**	**327**	P	**Pg**	03 07 13.4	-1.0
TATV	**Tatvan**	**0.92**	**259**	*i* P	**Pg**	03 07 14.7	-1.1
TATV	**Tatvan**	**0.92**	**259**	P	**Pg**	03 07 14.7	-1.1
AGRB	**Hanur-Agry**	**0.94**	**340**	*e*PG	**Pg**	03 07 15.6	-0.5
AGRB				*e*SG	**Sb**	03 07 28.3	+0.1
AGRB	**Hanur-Agry**	**0.94**	**340**	*e*Pg	**Pg**	03 07 15.6	-0.5
AGRB				*e*Sg	**Sb**	03 07 28.3	+0.1
GURO	**Guroymak-BITLI**	**1.09**	**263**	*e*PG	**Pb**	03 07 17.8	-0.7
GURO	**Guroymak-BITLI**	**1.09**	**263**	*e*Pg	**Pb**	03 07 17.8	-0.7
EKAR	**Karacoban**	**1.19**	**298**	*i* P	**Pg**	03 07 22.4	+1.5
EKAR	**Karacoban**	**1.19**	**298**	P	**Pg**	03 07 22.4	+1.5
EATA	**Eleskirt**	**1.37**	**329**	*i* P	**Pb**	03 07 23.0	-0.3
EATA	**Eleskirt**	**1.37**	**329**	P	**Pb**	03 07 23.0	-0.3
SRTM	**Siirt_Merkez**	**1.37**	**239**	*i* P	**Pg**	03 07 24.6	+0.3
SRTM	**Siirt_Merkez**	**1.37**	**239**	P	**Pg**	03 07 24.5	+0.3
TASB	**TASBURUN-IGDIR**	**1.44**	**26**	*e*PN	**Pb**	03 07 24.4	+0.1
TASB	**TASBURUN-IGDIR**	**1.44**	**26**	*e*Pn	**Pb**	03 07 24.4	+0.1
VRTB	**Varto-Mus**	**1.60**	**287**	*e*PN	**Pn**	03 07 26.2	+0.6
VRTB	**Varto-Mus**	**1.60**	**287**	*e*Pn	**Pn**	03 07 26.2	+0.6
HOMI	**Horasan**	**1.78**	**319**	*i* P	**Pg**	03 07 31.5	-0.7
SVAN	**Silvan-Diyarba**	**1.82**	**253**	*e*PN	**Pn**	03 07 29.2	+0.5
SVAN	**Silvan-Diyarba**	**1.82**	**253**	*e*Pn	**Pn**	03 07 29.2	+0.5
SENK	**Senkaya-Erzuru**	**2.04**	**337**	*e*PN	**Pn**	03 07 32.5	+0.8
SENK	**Senkaya-Erzuru**	**2.04**	**337**	*e*Pn	**Pn**	03 07 32.5	+0.8
BNGB	**Bing¶ll**	**2.16**	**279**	*e*PN	**Pn**	03 07 34.4	+1.1
BINT	**Bingol**	**2.29**	**275**	*e*Pn	**Pn**	03 07 34.4	-0.8

KRNET ***31*** *03:18:02.1±0.1, 39°.11N×72°.02E, mb3.2*
NNC ***31*** *03:18:03.5±1.5, 38°.84N×71°.99E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=16.1km s-min=5.0km az=143.0
ISCJB ***31*** *03:18:04.2±1.1, 39°.02N±0°.07×72°.03E±0°.05, h10km, Error ellipse: s-maj=10.5km s-min=4.9km az=157.8*

ISC 31 03:18:00.7±1.4, 39°.00N±0°.08×72°.08E±0°.04, h10km, n15, σ3§17/27, 17C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.45**	**318**	⇑*e*P	**Pg**	03 18 28.2	-0.2
	baz=316						
BTK				⇑*i*S	**Sg**	03 18 46.6	-0.6
	baz=316						
SFK	**Sufi-Kurgan**	**1.50**	**47**	⇑*e*P	**Pg**	03 18 29.8	+0.4
	baz=51						
SFK				⇑*i*S	**Sg**	03 18 51.0	+2.1
	baz=51						
ARSB	**Arslanbob**	**2.43**	**16**	⇓*e*P	**Pb**	03 18 44.3	-0.2
	baz=18						
ARSB				⇓*e*S	**Sb**	03 19 14.6	+0.1
	baz=18						
DZET	**Dzherino**	**2.55**	**267**	⇓P	**Pn**	03 18 44.2	+2.0
	53nm,0.5s						
DZET				⇓S	**Sb**	03 19 17.8	-0.2
	76nm,0.4s						
ARLS	**Aral**	**3.33**	**30**	⇓*e*P	**Pb**	03 18 56.8	-3.2
	baz=32						
ARLS				⇓*e*S	**Sn**	03 19 36.0	+3.2
	baz=32						
AML	**Almayashu**	**3.36**	**21**	⇑*i*P	**Pb**	03 18 57.7	-3.0
	baz=22						
AML				⇑*i*S	**Sb**	03 19 37.3	-4.5
	baz=22						
MNAS	**Manas**	**3.50**	**5**	⇑*e*P	**Pn**	03 18 58.8	+3.5
	baz=6.0						
MNAS				⇑*e*S	**Sn**	03 19 39.7	+2.8
	baz=6.0						
MNAS	**Manas**	**3.50**	**5**	⇑Pn	**Pb**	03 19 01.1	-1.8
	4.4nm,0.4s						
MNAS				⇓Sn	**Sb**	03 19 45.9	+0.4
	23nm,0.8s						
EKS2	**Erkin-Say**	**3.88**	**19**	⇑*i*P	**Pb**	03 19 06.6	-2.7
	baz=20						
EKS2				⇑*i*S	**Sb**	03 19 53.3	-3.1
	baz=20						
AAK	**Ala-Archa**	**4.07**	**26**	⇑*i*P	**Pb**	03 19 08.6	-4.0
	baz=27						
AAK				⇑*i*S	**Sb**	03 19 56.6	-5.3
	baz=27						
AAK	**Ala-Archa**	**4.07**	**26**	⇓Pn	**Pb**	03 19 10.0	-2.6
	3.8nm,0.5s						
AAK				⇑Sn	**Sb**	03 20 02.3	+0.4
	21nm,0.8s						
KK31	**Karatay Array**	**4.27**	**344**	Pn	**Pb**	03 19 11.1	-4.8
	2.3nm,0.4s,baz=156,slow=12,SNR=39						
KK31				⇓Sn	**Sb**	03 20 05.1	-2.5
	2.4nm,0.3s						
TKM2	**Tokmak 2**	**4.74**	**33**	⇓Pn	Pb	03 19 19.2	-4.7
	2.8nm,1.1s						
TKM2				⇑Lg	Lg	03 20 39.5	
	5.8nm,0.8s						
AB31	**Akbulak array**	**13.45**	**324**	⇑Pn	**P**	03 21 16.6	-4.2
	0.2nm,0.3s						
AB31				⇓Sn	**Sn**	03 23 47.6	+6.7
	0.9nm,0.7s						
AKTO	**Aktyubinsk**	**15.16**	**324**	⇑Pn	**P**	03 21 40.2	+0.3
	4.2nm,0.9s						

MEX 31 03:28:30.0±1.2, 19°.88N×104°.41W, h8km±21km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.71**	**238**	*e*P	Pg	03 28 42.2	-1.4
CJM				*e*S	Sg	03 28 51.4	-1.5
R15V		**0.81**	**150**	*i* P	Pg	03 28 43.2	-2.4
R15V				*i* S	Sg	03 28 54.6	-1.6
EZ5V		**0.86**	**118**	*i* P	Pg	03 28 44.3	-2.3
EZ5V				*i* S	Sg	03 28 56.2	-1.6
PUVA	**Puert Vallarta**	**1.06**	**314**	*i* P	Pg	03 28 47.4	-3.0
PUVA				*e*S	Sg	03 29 01.3	-2.9
MMIG	**Aquila**	**1.88**	**147**	*e*P	Pn	03 29 00.2	-2.2
MMIG				*e*S	Sn	03 29 23.2	-3.2
ZAIG	**Zacatecas**	**3.35**	**31**	*e*P	Pn	03 29 25.8	+2.8
ZAIG				*e*S	Sn	03 30 06.5	+3.3
ZIIG	**Zihuatanejo**	**3.59**	**129**	*e*P	Pn	03 29 28.6	+2.6
ARIG	**Puente Sto Nin**	**4.16**	**112**	*i* P	Pn	03 29 33.2	-0.7
ARIG				*e*S	Sn	03 30 27.6	+4.9

AZER ***31*** *03:34:40.3±1.1, 38°.05N×43°.34E, h3km±27km, Error ellipse: s-maj=29.4km s-min=8.3km az=47.0*
ISK ***31*** *03:34:44.6, 38°.72N×43°.46E, h5km, ML3.4*
DDA ***31*** *03:34:45.4, 38°.71N×43°.53E, h12km, Ml3.7*
CSEM ***31*** *03:34:46.3±0.2, 38°.71N×43°.47E, h2km, ML3.4, Error ellipse: s-maj=5.6km s-min=4.0km az=137.0*

ISC 31 03:34:46.8±0.9, 38°.71N±0°.02×43°.51E±0°.02, h12km±7km, n94, σ1§48/109, 7C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**220**	PG	**Pg**	03 34 50.2	-0.3
VANB	**Van**	**0.14**	**220**	*i* Pg	**Pg**	03 34 50.2	-0.3
TVAN	**Van**	**0.20**	**204**	*i* P	**Pg**	03 34 50.1	-1.2
TVAN	**Van**	**0.20**	**204**	P	**Pg**	03 34 50.1	-1.2
VMUR	**Van-Muradiye**	**0.29**	**10**	*i* P	**Pg**	03 34 51.5	-1.3
VMUR	**Van-Muradiye**	**0.29**	**10**	P	**Pg**	03 34 51.5	-1.3
GEVA	**Gevas**	**0.53**	**222**	*i* P	**Pg**	03 34 55.8	-1.4
GEVA				*i* S	**Sb**	03 35 05.8	+0.1
GEVA	**Gevas**	**0.53**	**222**	P	**Pg**	03 34 55.8	-1.4
GEVA				S	**Sb**	03 35 05.8	+0.1
CLDR	**Caldiran**	**0.54**	**36**	*e*PG	**Pg**	03 34 55.6	-1.9
CLDR				*e*SG	**Sb**	03 35 05.7	-0.5
CLDR	**Caldiran**	**0.54**	**36**	*i* P	**Pg**	03 34 55.6	-1.9
CLDR				*i* S	**Sb**	03 35 06.2	0.0
CLDR	**Caldiran**	**0.54**	**36**	P	**Pg**	03 34 55.6	-1.9
CLDR				S	**Sb**	03 35 06.2	0.0
ADCV	**BITLIS_Adilcev**	**0.62**	**280**	*i* P	**Pg**	03 34 58.0	-1.0
ADCV	**BITLIS_Adilcev**	**0.62**	**280**	P	**Pg**	03 34 58.0	-1.0
BASK	**Baskale_VAN**	**0.76**	**149**	*i* P	**Pg**	03 35 00.1	-1.5
BASK	**Baskale_VAN**	**0.76**	**149**	P	**Pg**	03 35 00.1	-1.5
DYDN	**Diyadin**	**0.85**	**10**	*i* P	**Pb**	03 35 01.5	-2.1
DYDN	**Diyadin**	**0.85**	**10**	P	**Pb**	03 35 01.5	-2.1
TUTA	**Tutak**	**0.88**	**322**	*i* P	**Pb**	03 35 02.3	-1.9
TUTA	**Tutak**	**0.88**	**322**	P	**Pb**	03 35 02.3	-1.9
AGRB	**Hanur-Agry**	**0.96**	**335**	*e*PG	**Pb**	03 35 03.3	-2.1
AGRB				*e*SG	**Sg**	03 35 17.9	+0.1
AGRB	**Hanur-Agry**	**0.96**	**335**	*e*Pg	**Pb**	03 35 03.3	-2.1
AGRB				*e*Sg	**Sg**	03 35 17.9	+0.1
TATV	**Tatvan**	**0.99**	**259**	*i* P	**Pb**	03 35 04.0	-2.0
TATV	**Tatvan**	**0.99**	**259**	P	**Pb**	03 35 04.0	-2.0
GURO	**Guroymak-BITLI**	**1.17**	**263**	*e*PN	**Pn**	03 35 06.9	-2.2
EKAR	**Karacoban**	**1.25**	**296**	*i* P	**Pg**	03 35 10.9	0.0
EKAR	**Karacoban**	**1.25**	**296**	P	**Pg**	03 35 10.9	0.0
TASB	**TASBURUN-IGDIR**	**1.40**	**24**	*e*PN	**Pn**	03 35 12.1	-0.1
TASB	**TASBURUN-IGDIR**	**1.40**	**24**	*e*Pn	**Pn**	03 35 12.1	-0.1
EATA	**Eleskirt**	**1.40**	**326**	*i* P	**Pn**	03 35 11.9	-0.5
EATA	**Eleskirt**	**1.40**	**326**	P	**Pn**	03 35 11.9	-0.5
SRTM	**Siirt_Merkez**	**1.44**	**241**	*i* P	**Pb**	03 35 13.4	-0.2
SRTM	**Siirt_Merkez**	**1.44**	**241**	P	**Pb**	03 35 13.4	-0.2
CUKT	**Cukurca**	**1.46**	**177**	*e*PN	**Pb**	03 35 13.4	-0.5
CUKT	**Cukurca**	**1.46**	**177**	*i* P	**Pn**	03 35 13.1	0.0
CUKT	**Cukurca**	**1.46**	**177**	P	**Pn**	03 35 13.1	0.0
CUKT	**Cukurca**	**1.46**	**177**	*e*Pn	**Pb**	03 35 13.4	-0.5
SIRN	**Sˆˆrnak**	**1.48**	**216**	*i* P	**Pb**	03 35 14.6	+0.2
SIRN	**Sˆˆrnak**	**1.48**	**216**	P	**Pb**	03 35 14.6	+0.2
NAX	**Nakhchivan**	**1.62**	**73**	⇓P	**Pn**	03 35 15.3	+0.1
NAX				⇓S	**Sg**	03 35 42.3	+3.3
NAX	**Nakhchivan**	**1.62**	**73**	P	**Pn**	03 35 15.3	+0.1
VRTB	**Varto-Mus**	**1.66**	**286**	*e*PN	**Pn**	03 35 15.9	0.0
VRTB	**Varto-Mus**	**1.66**	**286**	*i* P	**Pb**	03 35 16.9	-0.5
VRTB	**Varto-Mus**	**1.66**	**286**	*e*Pn	**Pn**	03 35 15.9	0.0
VRTB	**Varto-Mus**	**1.66**	**286**	P	**Pb**	03 35 16.9	-0.5
DIGO	**Kars**	**1.71**	**357**	*i* P	**Pb**	03 35 17.5	-0.8
DIGO	**Kars**	**1.71**	**357**	P	**Pb**	03 35 17.5	-0.8
HOMI	**Horasan**	**1.82**	**318**	*i* P	**Pb**	03 35 19.8	-0.5
BNGL	**BINGOL**	**1.86**	**278**	*i* P	**Pb**	03 35 19.6	-1.2
SVAN	**Silvan-Diyarba**	**1.90**	**254**	*e*PN	**Pn**	03 35 19.2	+0.2
SVAN	**Silvan-Diyarba**	**1.90**	**254**	*i* P	**Pb**	03 35 19.8	-1.6
SVAN	**Silvan-Diyarba**	**1.90**	**254**	*e*Pn	**Pn**	03 35 19.2	+0.2
SVAN	**Silvan-Diyarba**	**1.90**	**254**	P	**Pb**	03 35 19.8	-1.6
BTMN	**Batman**	**1.94**	**246**	*i* P	**Pn**	03 35 20.2	+0.5
BTMN	**Batman**	**1.94**	**246**	P	**Pn**	03 35 20.2	+0.5
SENK	**Senkaya-Erzuru**	**2.06**	**335**	*e*PN	**Pn**	03 35 21.3	-0.1
SENK	**Senkaya-Erzuru**	**2.06**	**335**	*e*Pn	**Pn**	03 35 21.3	-0.1
ECAT	**Cat-ERZURUM**	**2.17**	**295**	*i* P	**Pb**	03 35 25.8	-0.3
ECAT	**Cat-ERZURUM**	**2.17**	**295**	P	**Pb**	03 35 25.8	-0.3
BNGB	**Bing¶ll**	**2.23**	**278**	*e*PN	**Pn**	03 35 23.5	-0.1
BINT	**Bingol**	**2.37**	**275**	*e*Pn	**Pn**	03 35 23.5	-2.0
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*PN	**Pn**	03 35 26.7	+0.4
YEDI	**Yedisu-Bingol**	**2.42**	**288**	*e*Pn	**Pn**	03 35 26.7	+0.4
MARD	**Mardin**	**2.56**	**238**	*i* P	**Pn**	03 35 28.6	+0.3
GDB	**GEDABAY**	**2.66**	**40**	⇑P	**Pb**	03 35 32.4	-2.0
GDB				⇑S	**Sg**	03 36 13.0	+0.9
GDB	**GEDABAY**	**2.66**	**40**	P	**Pb**	03 35 32.4	-2.0
AKH	**Akhalkalaki**	**2.70**	**360**	P	**Pb**	03 35 36.2	+1.0
AKH				S	**Sg**	03 36 16.7	+3.1
MAZI	**Mazidag**	**2.72**	**244**	*e*PN	**Pn**	03 35 29.8	-0.6
MAZI	**Mazidag**	**2.72**	**244**	*e*Pn	**Pn**	03 35 29.8	-0.6
QZX	**Qazax, Azerbai**	**2.75**	**31**	⇑P	**Pb**	03 35 34.0	-1.9
QZX				⇑S	**Sg**	03 36 16.3	+1.0
QZX	**Qazax, Azerbai**	**2.75**	**31**	P	**Pb**	03 35 34.0	-1.9
GANJ	**Ganja**	**2.91**	**47**	⇑P	**Pn**	03 35 35.4	+2.4
GANJ				⇓S	**Sg**	03 36 18.4	-1.9
GANJ	**Ganja**	**2.91**	**47**	P	**Pn**	03 35 35.4	+2.4
DGRG	**David-gareji**	**3.09**	**27**	P	**Pb**	03 35 43.7	+2.0
DGRG				S	**Sg**	03 36 32.5	+6.3
TBLG	**Delisi**	**3.16**	**17**	P	**Pb**	03 35 42.7	-0.3
TBLG				S	**Sg**	03 36 27.7	-0.8
PTK	**Pertek**	**3.22**	**275**	*e*PN	**Pn**	03 35 37.9	+0.5
PTK	**Pertek**	**3.22**	**275**	*e*Pn	**Pn**	03 35 37.9	+0.5
BRDA	**Brd**	**3.24**	**60**	⇓P	**Pn**	03 35 38.7	+1.3
BRDA				⇓S	**Sb**	03 36 23.8	+0.2
BRDA	**Brd**	**3.24**	**60**	P	**Pn**	03 35 38.7	+1.3
SVRC	**Sivrice-ELAZID**	**3.31**	**266**	*e*PN	**Pn**	03 35 39.4	+0.8
SVRC	**Sivrice-ELAZID**	**3.31**	**266**	*e*Pn	**Pn**	03 35 39.4	+0.8
ZKTA	**Zakatala**	**3.78**	**38**	⇑P	**Pn**	03 35 48.0	+3.2
LRK	**Lerik**	**3.78**	**89**	⇓S	**Sn**	03 36 30.4	+0.9
LRK	**Lerik**	**3.78**	**89**	S	**Sn**	03 36 30.4	+0.9
ONI	**Oni**	**3.88**	**359**	P	**Pg**	03 35 60.0	-1.2
ONI				S	Sg	03 37 03.4	+12
URFA	**Urfa**	**3.91**	**253**	*e*PN	**Pn**	03 35 47.9	+1.2
URFA	**Urfa**	**3.91**	**253**	*e*Pn	**Pn**	03 35 47.9	+1.2
LKRN	**Lenkeran, Azer**	**4.12**	**88**	⇓P	**Pn**	03 35 46.8	-2.8
LKRN	**Lenkeran, Azer**	**4.12**	**88**	P	**Pn**	03 35 46.8	-2.8
XNQ	**Khinaliq**	**4.33**	**54**	⇑P	**Pn**	03 35 53.7	+1.1
XNQ	**Khinaliq**	**4.33**	**54**	P	**Pn**	03 35 53.7	+1.1
PQL	**Pirkuli**	**4.44**	**60**	⇓P	**Pn**	03 35 55.1	+1.0
PQL	**Pirkuli**	**4.44**	**60**	P	**Pn**	03 35 55.1	+1.0
QSAR	**Qusar**	**4.60**	**51**	⇓P	**Pn**	03 35 58.4	+2.2
QSAR	**Qusar**	**4.60**	**51**	P	**Pn**	03 35 58.4	+2.2

SJA ***31*** *03:40:10.5±0.8, 25°.90S×70°.31W, h19km±12km, ML4.3, MW4.6*
GUC ***31*** *03:40:11.3±0.6, 25°.75S×70°.82W, h44km±3km, ML5.0*
NEIC ***31*** *03:40:12.0±0.0, 25°.72S×70°.80W, h45km, mb4.8/19, After GUC.*
NEIC Felt [III] at Taltal. Also felt at Copiapo.
IDC ***31*** *03:40:13.5±0.5, 25°.78S×70°.50W, h32km±2km, mb4.2/11, mb1 4.3/14, mb1mx4.2/24, mbtmp4.3/14, ML4.0/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/31, Error ellipse: s-maj=19.4km s-min=15.5km az=97.0*

ISC 31 03:40:11.2±0.5, 25°.74S±0°.03×70°.84W±0°.06, h29km±2km, h29km:pP-P, n103, σ2§22/106, mb4.8/31, MS4.0/6, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.18**	**20**	⇑*i*P	**Pb**	03 40 33.4	+0.3
PB14				*i* S	**Sn**	03 40 49.2	+2.0
PB14				IAML		03 40 50.5	
	comp=E,33μm,0.5s						
CDCH	**Caldera**	**1.32**	**179**	*e*P	**Pn**	03 40 34.0	+0.3
CDCH				*e*S	**Sn**	03 40 50.0	-0.4
CPCH	**Copiapo**	**1.67**	**165**	*e*P	**Pn**	03 40 37.8	-0.7
CPCH				*i* S	**Sn**	03 40 59.3	+0.3
PB10	**IPOC Station P**	**2.23**	**7**	⇑*i*P	**Pn**	03 40 47.3	+1.1
PB10				*i* S	**Sn**	03 41 14.8	+2.0
PB10				IAML		03 41 29.1	
	comp=E,11μm,0.9s						
PB10	**IPOC Station P**	**2.23**	**7**	*e*P	**Pn**	03 40 47.5	+1.3
PB10				*e*S	**Sn**	03 41 14.1	+1.3
PB10	**IPOC Station P**	**2.23**	**7**	*e*Pn	**Pn**	03 40 47.0	+0.8
VACH	**Vallenar**	**2.83**	**179**	*e*P	**Pn**	03 40 55.4	+1.0
VACH				*i* S	**Sn**	03 41 28.6	+1.1
PB06	**IPOC Station P**	**3.23**	**21**	*i* P	**Pn**	03 41 01.4	+1.3
PB06				*i* S	**Sn**	03 41 39.7	+1.9
PB06				IAML		03 41 54.5	
	comp=N,4μm,0.7s						
LCO	**Las Campanas**	**3.26**	**178**	⇓*i*P	**Pn**	03 41 01.0	+0.4
LCO				*i* S	**Sn**	03 41 40.1	+1.5
LCO				IAML		03 41 55.4	
	comp=N,2μm,1.0s						
LCO	**Las Campanas**	**3.26**	**178**	*e*P	**Pn**	03 41 01.4	+0.8
LCO				*e*S	**Sn**	03 41 40.0	+1.4
LCO				IAML		03 42 02.0	
	comp=E,2μm,0.7s						
LCO	**Las Campanas**	**3.26**	**178**	*e*Pn	**Pn**	03 41 01.3	+0.7
LCO				*e*S	**Sn**	03 41 40.2	+1.6
PB04	**IPOC Station P**	**3.45**	**11**	IAML		03 42 10.0	
	comp=N,3μm,0.7s						
PB04	**IPOC Station P**	**3.45**	**11**	*e*Pn	**Pn**	03 41 03.6	+0.5
LVC	**Limon Verde**	**3.58**	**30**	Pn	**Pn**	03 41 07.3	+2.2
	comp=N,333nm,0.3s,baz=206,slow=7.5,SNR=115						
LVC				Lg	Lg	03 41 57.3	
	comp=N,14μm,0.3s,baz=3.0,slow=7.4,SNR=11						
LVC				LR	LR	03 42 38.8	
	comp=N,5μm,20.6s,baz=206,slow=42						
LVC	**Limon Verde**	**3.58**	**30**	*e*P	**Pn**	03 41 07.1	+2.1
LVC	**Limon Verde**	**3.58**	**30**	*e*P	**Pn**	03 41 07.7	+2.6
LVC				*e*S	**Sb**	03 41 57.7	+0.6
LVC	**Limon Verde**	**3.58**	**30**	*e*Pn	**Pn**	03 41 07.9	+2.8
LVC				*e*S	**Sb**	03 41 56.9	-0.3
LVC				Lg	Lg	03 41 57.3	
PB09	**IPOC Station P**	**4.19**	**21**	*e*P	**Pn**	03 41 15.1	+1.8
FSA	**Cafayete**	**4.39**	**96**	*e*P	**Pn**	03 41 19.3	+3.3
FSA				*e*S	**Sb**	03 42 17.4	-2.9
TLL	**Tololo Astrono**	**4.41**	**180**	*e*P	**Pn**	03 41 17.6	+1.2
PB01	**IPOC Station P**	**4.84**	**15**	*e*Pn	**Pn**	03 41 22.6	+0.5
HJA	**Humahuaca**	**5.55**	**64**	*e*P	Pn	03 41 37.4	+5.2
HJA				IAML		03 41 52.4	
	comp=Z,92nm,0.5s						
HJA				*e*S	**Sb**	03 42 55.8	+1.9
YJA	**Yavi**	**6.02**	**55**	*e*P	Pn	03 41 44.3	+5.5
MNMC	**Minye Minye**	**6.68**	**10**	*e*Pn	**Pn**	03 41 46.8	-0.7
ROC1	**El Roble**	**7.21**	**181**	*e*Pn	**Pn**	03 41 53.0	-1.9
GO05	**HualaæØ**	**9.29**	**186**	*e*Pn	**Pn**	03 42 20.2	-2.9
LPAZ	**La Paz**	**9.74**	**16**	Pn	**Pn**	03 42 31.7	+1.8
	comp=Z,0.6nm,0.3s,baz=209,slow=6.4,SNR=15						
LPAZ	**La Paz**	**9.74**	**16**	*e*Pn	**Pn**	03 42 30.4	+0.5
CPUP	**Villa Florida**	**12.16**	**96**	Pn	**Pn**	03 43 03.4	+0.9
	comp=Z,0.2nm,0.3s,baz=272,slow=18,SNR=3.7						
CPUP				LR	LR	03 48 24.3	
	comp=Z,305nm,21.3s,baz=284,slow=41						
SIV	**San Ignacio**	**13.31**	**45**	Pn	**Pn**	03 43 15.6	-2.7
	comp=Z,0.6nm,0.3s,baz=258,slow=9.8,SNR=7.7						
SIV				Sn	**Sn**	03 45 38.1	-7.3
	comp=Z,0.4nm,0.3s,baz=246,slow=18,SNR=3.2						
SIV				LR	LR	03 48 26.0	
	comp=Z,144nm,19.1s,baz=201,slow=38						
TRQA	**Tornquist**	**14.39**	**151**	*e*Pn	**Pn**	03 43 32.7	-0.2
TRQA				*e*S	**Sn**	03 46 16.4	+4.8
PLCA	**Paso Flores**	**14.96**	**179**	Pn	**P**	03 43 44.8	-1.1
	comp=Z,0.4nm,0.3s,baz=22,slow=13,SNR=11						
PLCA				LR	LR	03 49 34.1	
	comp=Z,382nm,20.8s,baz=350,slow=38						
PLCA	**Paso Flores**	**14.96**	**179**	*e*Pn	**Pn**	03 43 39.8	-0.8
	comp=Z,5.6nm,0.7s						
SAML	**Samuel**	**18.21**	**25**	*e*Pn	**Pn**	03 44 21.2	-0.8
	comp=Z,8.3nm,0.9s						
CHRN	**Cochrane**	**21.51**	**183**	*e*P	**P**	03 44 55.1	-2.6
	comp=Z,7.5nm,0.8s						
BDFB	**Brasilia**	**23.56**	**69**	P	**P**	03 45 17.9	-1.6
	comp=Z,22nm,0.9s,baz=34,slow=11,SNR=19						
BDFB				LR	LR	03 55 33.2	
	comp=Z,232nm,19.0s,baz=47,slow=40						
OTAV	**Otavalo**	**26.85**	**343**	*e*P	**P**	03 45 44.6	-5.3
	comp=Z,3.8nm,1.0s						
PTGA	**Pitinga**	**26.98**	**25**	P	**P**	03 45 51.3	+0.7
	comp=Z,15nm,0.9s,baz=198,slow=11,SNR=19						
TUMC	**Tumaco**	**28.44**	**343**	*e*P	P	03 45 58.8	-4.9
	comp=Z,152nm,0.8s						
PRAC	**Prado**	**29.54**	**352**	*e*P	P	03 46 07.8	-5.6
	comp=Z,7.8nm,1.0s						
ROSC	**El Rosal**	**30.58**	**353**	LR	LR	03 58 45.4	
	comp=Z,77nm,20.9s,baz=162,slow=36						
ROSC	**El Rosal**	**30.58**	**353**	*e*P	**P**	03 46 19.4	-3.7
	comp=Z,3.0nm,0.8s						
RUSC	**La Rusia**	**31.52**	**356**	*e*P	**P**	03 46 28.1	-3.2
HELC	**Santa Helena**	**32.06**	**351**	*e*P	P	03 46 30.4	-5.6
	comp=Z,11nm,0.7s						
RPN	**Rapa Nui**	**34.41**	**259**	*e*P	P	03 46 46.5	-10
	comp=Z,100nm,1.0s						
SDV	**Santo Domingo**	**34.42**	**0**	*e*P	**P**	03 46 53.5	-2.8
	comp=Z,6.9nm,1.1s						
BCIP	**Isla Barro Col**	**35.78**	**345**	*e*P	P	03 47 02.1	-5.9
	comp=Z,82nm,1.6s						
RCBR	**Riachuelo**	**38.81**	**65**	P	**P**	03 47 30.9	-2.9
	comp=Z,20nm,0.9s,baz=224,slow=7.9,SNR=5.4						
RCBR	**Riachuelo**	**38.81**	**65**	P	**P**	03 47 31.3	-2.5
	comp=Z,20nm,1.2s						
GDHS	**Morne Mazeau,**	**42.68**	**13**	*e*P	**P**	03 48 04.3	-1.3
	comp=Z,46nm,0.8s						
SEUS	**St. Eustatius**	**43.65**	**11**	*e

KSH LR LR
comp=E,110nm,6.8s
KSH LR LR
comp=Z,150nm,6.4s
MKAR Makanchi Array 150.06 38 PKPbc **PKPbc 04 00 00.5 +1.5**
comp=Z,6.3nm,0.8s,baz=302,slow=2.3,SNR=27
HYB Hyderabad 150.41 100 *i* PKP **PKPbc 04 00 01.5 +0.9**
SONM Songino Array 157.84 5 PKP **PKPdf 04 00 07.4 +2.4**
comp=Z,1.2nm,0.9s,baz=131,slow=4.1,SNR=4.5
SONM PKPab **PKPab 04 00 40.0 +2.3**
comp=Z,0.6nm,0.7s,baz=316,slow=2.3,SNR=3.8
HHC Hu-ho-hao-te 164.80 353 *e*PKP **PKPdf 04 00 09.0 -3.5**
HHC pPKP **pPKPdf 04 00 21.5 -0.7**
HHC PP **PP 04 04 54.8 +1.1**
CD2 Chengdu 172.99 42 PKP **PKPdf 04 00 14.5 -3.5**

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*ISCJB **31** 03:40:42.7±0.8, 39°.32N±0°.04×43°.89E±0°.07, h1km±12km, Error ellipse: s-maj=9.3km s-min=6.7km az=13.7*
*CSEM **31** 03:40:42.8±0.3, 39°.32N×43°.90E, h2km, MD2.6, Error ellipse: s-maj=8.5km s-min=5.4km az=101.0*
*DDA **31** 03:40:42.6, 39°.31N×43°.93E, h7km, Ml2.5*
*ISK **31** 03:40:42.1, 39°.31N×43°.88E, h7km, MD2.6*
ISC 31 03:40:42.7±1.2, 39°.31N±0°.03×43°.91E±0°.04, h9km±13km, n19, σ0°.44/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.17**	**179**	*e*PG	**Pg**	**03 40 46.1**	**-0.3**
CLDR	**Caldiran**	**0.17**	**179**	*i* P	**Pg**	**03 40 46.0**	**-0.3**
CLDR	**Caldiran**	**0.17**	**179**	*e*Pg	**Pg**	**03 40 46.1**	**-0.3**
DYDN	**Diyadin**	**0.29**	**323**	*i* P	**Pg**	**03 40 48.5**	**-0.1**
DYDN	**Diyadin**	**0.29**	**323**	P	**Pg**	**03 40 48.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.42**	**219**	*i* P	**Pg**	**03 40 50.8**	**-0.2**
VMUR	**Van-Muradiye**	**0.42**	**219**	P	**Pg**	**03 40 50.8**	**-0.2**
TASB	**TASBURUN-IGDIR**	**0.72**	**21**	*e*PG	**Pg**	**03 40 56.0**	**-0.5**
TASB				*e*SG	**Sb**	**03 41 07.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.72**	**21**	*e*Pg	**Pg**	**03 40 56.1**	**-0.5**
TASB				*e*Sg	**Sb**	**03 41 07.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.76**	**290**	*e*PG	**Pg**	**03 40 56.8**	**-0.6**
AGRB				*e*SG	**Sg**	**03 41 07.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.76**	**290**	*e*Pg	**Pg**	**03 40 56.8**	**-0.6**
AGRB				*e*Sg	**Sg**	**03 41 07.5**	**+0.2**
VANB	**Van**	**0.82**	**210**	*e*PG	**Pb**	**03 40 59.7**	**+0.4**
VANB	**Van**	**0.82**	**210**	*e*Pg	**Pb**	**03 40 59.7**	**+0.4**
TUTA	**Tutak**	**0.86**	**276**	*i* P	**Pb**	**03 41 00.3**	**+0.3**
TUTA	**Tutak**	**0.86**	**276**	P	**Pb**	**03 41 00.3**	**+0.3**
TVAN	**Van**	**0.88**	**207**	*i* P	**Pb**	**03 41 00.7**	**+0.4**
TVAN	**Van**	**0.88**	**207**	P	**Pb**	**03 41 00.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**1.05**	**242**	*i* P	**Pg**	**03 41 02.2**	**-0.8**
ADCV	**BITLIS_Adilcev**	**1.05**	**242**	P	**Pg**	**03 41 02.2**	**-0.8**

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*DDA **31** 03:46:17.7, 38°.67N×43°.51E, h7km, Ml2.5*
*CSEM **31** 03:46:17.9±0.3, 38°.73N×43°.42E, h10km, ML2.5, Error ellipse: s-maj=8.7km s-min=6.4km az=111.0*
*ISK **31** 03:46:17.1, 38°.76N×43°.36E, h9km, MD2.8*
*ISCJB **31** 03:46:18.1±0.6, 38°.74N±0°.03×43°.37E±0°.06, h6km±9km, Error ellipse: s-maj=7.7km s-min=5.3km az=19.3*
ISC 31 03:46:17.8±0.9, 38°.72N±0°.03×43°.41E±0°.04, h17km±8km, n27, σ0°.89/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**187**	*e*PG	**Pg**	**03 46 22.4**	**+0.6**
VANB	**Van**	**0.13**	**187**	*e*Pg	**Pg**	**03 46 22.4**	**+0.6**
TVAN	**Van**	**0.19**	**181**	*i* P	**Pg**	**03 46 22.2**	**-0.5**
TVAN	**Van**	**0.19**	**181**	P	**Pg**	**03 46 22.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.30**	**25**	*i* P	**Pg**	**03 46 23.8**	**-0.5**
VMUR				*i* S	**Sb**	**03 46 30.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.30**	**25**	P	**Pg**	**03 46 23.8**	**-0.5**
VMUR				S	**Sb**	**03 46 30.0**	**+0.4**
GEVA	**Gevas**	**0.49**	**214**	*i* P	**Pg**	**03 46 27.3**	**-0.5**
GEVA	**Gevas**	**0.49**	**214**	P	**Pg**	**03 46 27.3**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.54**	**279**	*i* P	**Pb**	**03 46 30.5**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.54**	**279**	P	**Pb**	**03 46 30.5**	**+1.4**
CLDR	**Caldiran**	**0.58**	**43**	*e*PG	**Pg**	**03 46 28.9**	**-0.5**
CLDR				*e*SG	**Sg**	**03 46 37.1**	**-0.1**
CLDR	**Caldiran**	**0.58**	**43**	*i* P	**Pg**	**03 46 28.7**	**-0.7**
CLDR	**Caldiran**	**0.58**	**43**	*e*Pg	**Pg**	**03 46 28.9**	**-0.5**
CLDR				*e*Sg	**Sg**	**03 46 37.1**	**-0.1**
TUTA	**Tutak**	**0.82**	**326**	*i* P	**Pb**	**03 46 34.6**	**+0.7**
TUTA	**Tutak**	**0.82**	**326**	P	**Pb**	**03 46 34.6**	**+0.7**
AGRB	**Hanur-Agry**	**0.91**	**339**	*e*PG	**Pg**	**03 46 35.0**	**-0.7**
AGRB				*e*SG	**Sg**	**03 46 45.8**	**-1.9**
AGRB	**Hanur-Agry**	**0.91**	**339**	*e*Pg	**Pg**	**03 46 35.0**	**-0.7**
AGRB				*e*Sg	**Sg**	**03 46 45.8**	**-1.9**
TATV	**Tatvan**	**0.92**	**257**	*i* P	**Pb**	**03 46 36.1**	**+0.6**
TATV	**Tatvan**	**0.92**	**257**	P	**Pb**	**03 46 36.1**	**+0.6**
GURO	**Guroymak-BITLI**	**1.09**	**261**	*e*PG	**Pg**	**03 46 37.9**	**-1.1**
GURO	**Guroymak-BITLI**	**1.09**	**261**	*e*Pg	**Pg**	**03 46 37.9**	**-1.1**
EATA	**Eleskirt**	**1.34**	**328**	*i* P	**Pg**	**03 46 44.9**	**+1.1**
EATA	**Eleskirt**	**1.34**	**328**	P	**Pg**	**03 46 44.9**	**+1.1**
CUKT	**Cukurca**	**1.48**	**174**	*e*PN	**Pb**	**03 46 45.4**	**+0.4**
CUKT	**Cukurca**	**1.48**	**174**	*e*Pn	**Pb**	**03 46 45.4**	**+0.4**
VRTB	**Varto-Mus**	**1.59**	**287**	*e*PN	**Pn**	**03 46 45.4**	**0.0**
VRTB	**Varto-Mus**	**1.59**	**287**	*e*Pn	**Pn**	**03 46 45.4**	**0.0**

GUC 31 03:49:36.9±0.7, 37°.14S×73°.79W, h31km±5km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.62**	**62**	*i* P	Pb	03 49 47.5	-1.7
CCSP				*i* S	Sb	03 49 56.7	-1.0
CCSP				IAML		03 50 01.5	
	comp=N,13μm,0.4s						
COCH	**Cobquecura**	**1.29**	**39**	*i* P	Pn	03 49 58.6	-0.2
COCH				*i* S	Sn	03 50 14.9	0.0
CCHI	**Chillan**	**1.47**	**69**	*i* P	Pn	03 50 01.4	+0.1
CCHI				*i* S	Sn	03 50 19.8	+0.3
CCHI				IAML		03 50 35.9	
	comp=E,3μm,0.4s						
NICH	**Los Niches**	**2.97**	**45**	*i* P	Pn	03 50 23.1	+1.2
NICH				*i* S	Sn	03 50 57.7	+1.1

IDC 31 03:49:41.2±1.8, 0°.95S×124°.82E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx3.0/14, Error ellipse: s-maj=232.5km s-min=25.8km az=70.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.05**	**154**	P	P	03 54 25.3	-1.7
	0.6nm,0.5s,baz=329,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**24.24**	**159**	P	P	03 55 01.6	+1.5
	0.4nm,0.7s,baz=336,slow=10,SNR=4.8						
DZM	**Mont Dzumac**	**45.62**	**120**	LR	LR	04 17 30.0	
	comp=Z,201nm,22.0s,baz=206,slow=37						
SONM	**Songino Array**	**51.17**	**344**	P	P	03 58 46.0	-0.3
	0.4nm,0.5s,baz=142,slow=7.2,SNR=2.7						

IDC 31 03:53:14.4±2.1, 17°.42S×174°.04W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.6/4, Error ellipse: s-maj=125.8km s-min=27.2km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.81**	**259**	P	P	04 02 01.3	-0.6
	0.4nm,0.6s,baz=98,slow=6.6,SNR=1.4						
ASAR	**Alice Springs**	**48.93**	**254**	P	P	04 02 03.0	+0.3
	1.7nm,0.6s,baz=89,slow=8.5,SNR=24						
TXAR	**Lajitas Array**	**82.24**	**56**	P	P	04 05 38.1	+0.1
	0.1nm,0.4s,baz=242,slow=7.1,SNR=2.9						
ILAR	**Eielson Array**	**84.53**	**11**	P	P	04 05 48.9	-0.1
	0.2nm,0.5s,baz=235,slow=5.3,SNR=6.6						

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*ISK **31** 03:54:32.9, 38°.81N×43°.34E, h5km, MD2.7*
*ISCJB **31** 03:54:34.2±0.5, 38°.82N±0°.03×43°.35E±0°.05, h13km, Error ellipse: s-maj=5.9km s-min=4.7km az=25.5*
*CSEM **31** 03:54:34.0±0.2, 38°.82N×43°.36E, h10km, MD2.7, Error ellipse: s-maj=4.3km s-min=3.5km az=116.0*
*DDA **31** 03:54:34.1, 38°.81N×43°.37E, h7km, Ml3.0*
ISC 31 03:54:34.2±0.9, 38°.82N±0°.03×43°.37E±0°.03, h13km, n26, σ0°.42/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**176**	*e*PG	**Pb**	**03 54 40.0**	**-0.2**
VANB	**Van**	**0.22**	**176**	*e*Pg	**Pb**	**03 54 40.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.23**	**43**	*i* P	**Pg**	**03 54 39.4**	**0.0**
VMUR	**Van-Muradiye**	**0.23**	**43**	P	**Pg**	**03 54 39.4**	**0.0**
TVAN	**Van**	**0.29**	**174**	*i* P	**Pg**	**03 54 40.0**	**-0.3**
TVAN	**Van**	**0.29**	**174**	P	**Pg**	**03 54 40.0**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.50**	**269**	*i* P	**Pg**	**03 54 44.8**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.50**	**269**	P	**Pg**	**03 54 44.8**	**+0.6**
CLDR	**Caldiran**	**0.54**	**53**	*e*PG	**Pg**	**03 54 44.5**	**-0.4**
CLDR				*e*SG	**Sb**	**03 54 53.5**	**+0.1**
CLDR	**Caldiran**	**0.54**	**53**	*i* P	**Pg**	**03 54 44.7**	**-0.1**
CLDR	**Caldiran**	**0.54**	**53**	*e*Pg	**Pg**	**03 54 44.5**	**-0.4**
CLDR	**Caldiran**	**0.54**	**53**	P	**Pg**	**03 54 44.7**	**-0.1**
CLDR				*e*Sg	**Sb**	**03 54 53.5**	**+0.1**
GEVA	**Gevas**	**0.56**	**206**	*i* P	**Pg**	**03 54 44.9**	**-0.4**
GEVA	**Gevas**	**0.56**	**206**	P	**Pg**	**03 54 44.9**	**-0.4**
TUTA	**Tutak**	**0.73**	**324**	*i* P	**Pg**	**03 54 48.2**	**-0.2**
TUTA	**Tutak**	**0.73**	**324**	P	**Pg**	**03 54 48.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.81**	**339**	*e*PG	**Pg**	**03 54 49.5**	**-0.5**
AGRB				*e*SG	**Sb**	**03 55 01.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.81**	**339**	*e*Pg	**Pg**	**03 54 49.5**	**-0.5**
AGRB				*e*Sg	**Sb**	**03 55 01.5**	**+0.2**
TATV	**Tatvan**	**0.92**	**251**	*i* P	**Pg**	**03 54 51.5**	**-0.5**
TATV	**Tatvan**	**0.92**	**251**	P	**Pg**	**03 54 51.5**	**-0.5**
GURO	**Guroymak-BITLI**	**1.08**	**256**	*e*PG	**Pb**	**03 54 54.3**	**-0.6**
GURO	**Guroymak-BITLI**	**1.08**	**256**	*e*Pg	**Pb**	**03 54 54.3**	**-0.6**
EATA	**Eleskirt**	**1.25**	**327**	*i* P	**Pn**	**03 54 58.0**	**+0.3**
EATA	**Eleskirt**	**1.25**	**327**	P	**Pn**	**03 54 58.0**	**+0.3**
CUKT	**Cukurca**	**1.58**	**173**	*e*PN	**Pn**	**03 55 02.8**	**+0.7**
CUKT	**Cukurca**	**1.58**	**173**	*e*Pn	**Pn**	**03 55 02.8**	**+0.7**

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*ISK **31** 04:02:05.5, 38°.67N×43°.20E, h6km, MD2.5*
*ISCJB **31** 04:02:06.4±1.3, 38°.64N±0°.08×43°.2E±0°.1, h21km±19km, Error ellipse: s-maj=18.8km s-min=6.7km az=135.6*
*CSEM **31** 04:02:06.2±0.2, 38°.69N×43°.19E, h10km, MD2.5, Error ellipse: s-maj=6.2km s-min=4.6km az=146.0*
*DDA **31** 04:02:06.8, 38°.66N×43°.22E, h7km, Ml2.5*
ISC 31 04:02:06.2±1.0, 38°.66N±0°.04×43°.19E±0°.04, h16km±10km, n16, σ0°.52/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**114**	*e*PG	**Pg**	**04 02 10.5**	**-0.1**
VANB				*e*SG	**Sg**	**04 02 14.3**	**+0.7**
VANB	**Van**	**0.17**	**114**	*e*Pg	**Pg**	**04 02 10.5**	**-0.1**
VANB				*e*Sg	**Sg**	**04 02 14.3**	**+0.7**
TVAN	**Van**	**0.22**	**129**	*i* P	**Pg**	**04 02 10.5**	**-0.9**
TVAN				*i* S	**Sg**	**04 02 14.8**	**-0.1**
TVAN	**Van**	**0.22**	**129**	P	**Pg**	**04 02 10.5**	**-0.9**
TVAN				S	**Sg**	**04 02 14.8**	**-0.1**
GEVA	**Gevas**	**0.37**	**196**	*i* P	**Pb**	**04 02 14.6**	**+0.1**
GEVA	**Gevas**	**0.37**	**196**	P	**Pb**	**04 02 14.6**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**42**	*i* P	**Pg**	**04 02 14.7**	**-0.5**
VMUR				*i* S	**Sb**	**04 02 22.3**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**42**	P	**Pg**	**04 02 14.7**	**-0.5**
VMUR				S	**Sb**	**04 02 22.3**	**+0.1**
TATV	**Tatvan**	**0.74**	**258**	*i* P	**Pb**	**04 02 21.5**	**+0.6**
TATV	**Tatvan**	**0.74**	**258**	P	**Pb**	**04 02 21.5**	**+0.6**
CLDR	**Caldiran**	**0.74**	**50**	*e*PG	**Pg**	**04 02 20.8**	**0.0**
CLDR				*e*SG	**Sg**	**04 02 30.4**	**-0.2**
CLDR	**Caldiran**	**0.74**	**50**	*e*Pg	**Pg**	**04 02 20.8**	**0.0**
CLDR				*e*Sg	**Sg**	**04 02 30.4**	**-0.2**
GURO	**Guroymak-BITLI**	**0.91**	**263**	*e*PG	**Pg**	**04 02 23.6**	**-0.4**
GURO	**Guroymak-BITLI**	**0.91**	**263**	*e*Pg	**Pg**	**04 02 23.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**350**	*e*PG	**Pg**	**04 02 23.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.92**	**350**	*e*Pg	**Pg**	**04 02 23.5**	**-0.7**

IDC 31 04:02:54.2±11.0, 11°.32S×166°.25E, h319km±133km, mb3.0/3, mb1 3.3/4, mb1mx2.9/30, mbtmp3.8/4, Error ellipse: s-maj=91.3km s-min=29.9km az=159.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.69**	**179**	P	Pn	04 05 20.6	-0.1
	1.5nm,0.3s,baz=300,slow=20,SNR=15						
DZM				S	S	04 07 21.0	+0.2
	0.4nm,0.3s,baz=150,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**31.86**	**250**	P	P	04 08 50.2	-0.4
	0.8nm,0.5s,baz=83,slow=8.9,SNR=8.1						
ASAR	**Alice Springs**	**33.12**	**244**	P	P	04 09 01.8	+0.3
	0.5nm,0.8s,baz=67,slow=9.6,SNR=4.5						
ILAR	**Eielson Array**	**83.62**	**18**	P	P	04 14 46.9	0.0
	0.4nm,0.6s,baz=235,slow=4.8,SNR=11						

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*ISK **31** 04:13:31.7, 38°.73N×43°.41E, h16km, MD2.6*
*ISCJB **31** 04:13:32.2±1.1, 38°.69N±0°.05×43°.47E±0°.09, h25km±9km, Error ellipse: s-maj=13.1km s-min=5.9km az=27.6*
*CSEM **31** 04:13:32.3±0.2, 38°.74N×43°.41E, h10km, MD2.6, Error ellipse: s-maj=6.8km s-min=4.7km az=115.0*
*DDA **31** 04:13:32.7, 38°.74N×43°.42E, h7km, Ml2.7*
ISC 31 04:13:32.4±1.1, 38°.73N±0°.03×43°.43E±0°.05, h18km±2km, n21, σ0°.51/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**194**	*e*PG	**Pg**	**04 13 37.1**	**+0.4**
VANB	**Van**	**0.14**	**194**	*e*Pg	**Pg**	**04 13 37.1**	**+0.4**
TVAN	**Van**	**0.21**	**186**	*i* P	**Pb**	**04 13 37.1**	**-0.2**
TVAN				*i* S	**Sg**	**04 13 41.3**	**+0.1**
TVAN	**Van**	**0.21**	**186**	P	**Pb**	**04 13 37.1**	**-0.2**
TVAN				S	**Sg**	**04 13 41.3**	**+0.1**
VMUR	**Van-Muradiye**	**0.28**	**23**	*i* P	**Pg**	**04 13 38.3**	**-0.5**
VMUR				*i* S	**Sb**	**04 13 44.0**	**+0.8**
VMUR	**Van-Muradiye**	**0.28**	**23**	P	**Pg**	**04 13 38.3**	**-0.5**
VMUR				S	**Sb**	**04 13 44.0**	**+0.8**
GEVA	**Gevas**	**0.51**	**215**	*i* P	**Pg**	**04 13 42.0**	**-0.8**
GEVA	**Gevas**	**0.51**	**215**	P	**Pg**	**04 13 42.0**	**-0.8**
CLDR	**Caldiran**	**0.56**	**43**	*e*PG	**Pg**	**04 13 43.3**	**-0.4**
CLDR				*e*SG	**Sb**	**04 13 52.1**	**+0.7**
CLDR	**Caldiran**	**0.56**	**43**	*i* P	**Pg**	**04 13 43.2**	**-0.4**
CLDR				*i* S	**Sb**	**04 13 52.3**	**+0.9**
CLDR	**Caldiran**	**0.56**	**43**	P	**Pg**	**04 13 43.2**	**-0.4**
CLDR				*e*Sg	**Sb**	**04 13 52.1**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.56**	**278**	*i* P	**Pb**	**04 13 44.1**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.56**	**278**	P	**Pb**	**04 13 44.1**	**+0.5**
TUTA	**Tutak**	**0.82**	**324**	*i* P	**Pb**	**04 13 48.0**	**-0.3**
TUTA	**Tutak**	**0.82**	**324**	P	**Pb**	**04 13 48.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.91**	**338**	*e*PG	**Pb**	**04 13 49.6**	**-0.1**
AGRB				*e*SG	**Sn**	**04 14 02.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.91**	**338**	*e*Pg	**Pb**	**04 13 49.6**	**-0.1**
AGRB				*e*Sg	**Sn**	**04 14 02.8**	**-0.4**
TATV	**Tatvan**	**0.94**	**256**	*i* P	**Pb**	**04 13 50.4**	**+0.2**
TATV	**Tatvan**	**0.94**	**256**	P	**Pb**	**04 13 50.4**	**+0.2**
GURO	**Guroymak-BITLI**	**1.11**	**261**	*e*PN	**Pb**	**04 13 52.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.11**	**261**	*e*Pn	**Pb**	**04 13 52.9**	**-0.2**

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*ISCJB **31** 04:20:51.0±0.6, 38°.76N±0°.04×43°.41E±0°.07, h10km±8km, Error ellipse: s-maj=9.8km s-min=5.9km az=26.2*
*DDA **31** 04:20:50.9, 38°.73N×43°.45E, h7km, Ml2.6*
*ISK **31** 04:20:50.1, 38°.76N×43°.39E, h4km, MD2.5*
*CSEM **31** 04:20:51.0±0.3, 38°.76N×43°.42E, h5km, MD2.5, Error ellipse: s-maj=7.7km s-min=5.3km az=124.0*
ISC 31 04:20:50.8±1.3, 38°.73N±0°.03×43°.47E±0°.04, h19km±3km, n22, σ0°.45/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**203**	*e*PG	**Pg**	**04 20 55.6**	**+0.4**
VANB	**Van**	**0.15**	**203**	*e*Pg	**Pg**	**04 20 55.6**	**+0.4**
TVAN	**Van**	**0.21**	**193**	*i* P	**Pb**	**04 20 55.6**	**-0.1**
TVAN	**Van**	**0.21**	**193**	P	**Pb**	**04 20 55.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.27**	**18**	*i* P	**Pg**	**04 20 56.8**	**-0.2**
VMUR	**Van-Muradiye**	**0.27**	**18**	P	**Pg**	**04 20 56.8**	**-0.2**
GEVA	**Gevas**	**0.53**	**217**	*i* P	**Pg**	**04 21 00.9**	**-0.6**
GEVA	**Gevas**	**0.53**	**217**	P	**Pg**	**04 21 00.9**	**-0.6**
CLDR	**Caldiran**	**0.54**	**41**	*e*PG	**Pb**	**04 21 01.6**	**-0.2**
CLDR				*e*SG	**Sb**	**04 21 10.1**	**+0.8**
CLDR	**Caldiran**	**0.54**	**41**	*i* P	**Pb**	**04 21 01.8**	**0.0**
CLDR	**Caldiran**	**0.54**	**41**	*e*Pg	**Pb**	**04 21 01.6**	**-0.2**
CLDR	**Caldiran**	**0.54**	**41**	P	**Pb**	**04 21 01.8**	**0.0**
CLDR				*e*Sg	**Sb**	**04 21 10.1**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.58**	**278**	*i* P	**Pg**	**04 21 03.2**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.58**	**278**	P	**Pg**	**04 21 03.2**	**+0.7**
TUTA	**Tutak**	**0.84**	**323**	*i* P	**Pb**	**04 21 07.0**	**0.0**
TUTA	**Tutak**	**0.84**	**323**	P	**Pb**	**04 21 06.9**	**0.0**
AGRB	**Hanur-Agry**	**0.92**	**337**	*e*PG	**Pb**	**04 21 07.6**	**-0.7**
AGRB				*e*SG	**Sb**	**04 21 20.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.92**	**337**	*e*Pg	**Pb**	**04 21 07.6**	**-0.7**
AGRB				*e*Sg	**Sb**	**04 21 20.1**	**-0.1**
TATV	**Tatvan**	**0.96**	**257**	*i* P	**Pb**	**04 21 09.0**	**0.0**
TATV	**Tatvan**	**0.96**	**257**	P	**Pb**	**04 21 09.0**	**0.0**
GURO	**Guroymak-BITLI**	**1.14**	**261**	*e*PN	**Pn**	**04 21 11.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.14**	**261**	*e*Pn	**Pn**	**04 21 11.8**	**-0.1**

NNC 31 04:28:19.2±1.2, 37°.87N×73°.24E, h0km, mb3.8, mpv3.4, 10C-6D, Error ellipse: s-maj=10.7km s-min=4.7km az=153.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.59**	**286**	⇑Pn	Pn	04 29 15.3	-0.9
	20nm,0.4s						
DZET				⇑Sn	Sn	04 30 01.0	+1.7
	93nm,0.6s						
MNAS	**Manas**	**4.64**	**353**	⇓Pn	Pn	04 29 30.5	-0.2
MNAS				⇓Pg	Pb	04 29 44.3	+2.7
MNAS				⇑Lg	Lg	04 30 46.1	
	21nm,1.2s						
AAK	**Ala-Archa**	**4.86**	**11**	⇑Pn	Pn	04 29 33.8	+0.2
	3.3nm,0.6s						
AAK				⇑Pg	Pb	04 29 47.9	+2.7
	8.1nm,0.9s						
AAK				⇓Lg	Lg	04 30 53.5	
	27nm,1.5s						
TKM2	**Tokmak 2**	**5.35**	**19**	⇓Pn	Pn	04 29 41.7	+1.1
	1.9nm,0.8s						
TKM2				⇓Pg	Pb	04 29 56.4	+2.7
	4.0nm,0.9s						
TKM2				⇑Lg	Lg	04 31 09.6	
	22nm,1.9s						
KK31	**Karatay Array**	**5.62**	**339**	⇓Pn	Pn	04 29 43.2	-0.8
	3.9nm,0.8s,baz=145,slow=11,SNR=12						
KK31				⇑Pg	Pb	04 30 01.3	+3.1
	1.8nm,0.5s,baz=163,slow=14,SNR=5.0						
KK31				⇑Sn	Sn	04 30 50.3	+1.0
	2.8nm,0.6s,baz=159,slow=26,SNR=3.9						
KK31				⇑Lg	Lg	04 31 16.7	
	4.8nm,0.7s,baz=135,slow=10,SNR=6.2						
MDOK	**Medeo**	**6.03**	**28**	Lg	Lg	04 31 32.3	
PDGK	**Podgornoye**	**7.23**	**39**	⇑Lg	Lg	04 32 08.9	
	14nm,1.3s						

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*ISK **31** 04:32:23.9, 38°.72N×43°.57E, h5km, ML3.2*
*AZER **31** 04:32:23.8±3.3, 38°.05N×43°.69E, h15km, Error ellipse: s-maj=48.1km s-min=29.4km az=138.0*
*DDA **31** 04:32:24.4, 38°.69N×43°.63E, h12km, Ml3.6*
*CSEM **31** 04:32:25.6±0.2, 38°.71N×43°.57E, h10km, ML3.2, Error ellipse: s-maj=5.8km s-min=5.2km az=136.0*
*TEH **31** 04:32:26.4, 38°.92N×43°.52E, h18km, ML3.0*
ISC 31 04:32:25.4±0.9, 38°.72N±0°.02×43°.57E±0°.02, h15km±8km, n66, σ1°.34/76, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**229**	PG	**Pb**	**04 32 30.1**	**-0.6**
VANB	**Van**	**0.19**	**229**	*i* Pg	**Pb**	**04 32 30.1**	**-0.6**
TVAN	**Van**	**0.23**	**214**	*i* P	**Pb**	**04 32 30.2**	**-1.2**
TVAN				*i* S	**Sg**	**04 32 35.2**	**+1.0**
VMUR	**Van-Muradiye**	**0.27**	**0**	*i* P	**Pg**	**04 32 30.8**	**-0.5**
VMUR	**Van-Muradiye**	**0.27**	**0**	P	**Pg**	**04 32 30.8**	**-0.5**
CLDR	**Caldiran**	**0.50**	**33**	*e*PG	**Pg**	**04 32 34.4**	**-1.1**
CLDR				*e*SG	**Sb**	**04 32 43.2**	**-0.1**
CLDR	**Caldiran**	**0.50**	**33**	*i* P	**Pg**	**04 32 34.3**	**-1.1**
CLDR	**Caldiran**	**0.50**	**33**	*e*Pg	**Pg**	**04 32 34.4**	**-1.1**
CLDR				*e*Sg	**Sb**	**04 32 43.2**	**-0.1**
GEVA	**Gevas**	**0.57**	**225**	*i* P	**Pg**	**04 32 35.8**	**-0.9**
GEVA	**Gevas**	**0.57**	**225**	P	**Pg**	**04 32 35.8**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.67**	**278**	*i* P	**Pb**	**04 32 38.6**	**-0.2**
BASK	**Baskale_VAN**	**0.75**	**153**	*i* P	**Pg**	**04 32 38.4**	**-1.6**
BASK	**Ba

VMUR	**Van-Muradiye**	**0.44**	**30**	*i* P	**Pb**	**04 38 14.7**	**+0.3**
VMUR	**Van-Muradiye**	**0.44**	**30**	P	**Pb**	**04 38 14.7**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.49**	**295**	*i* P	**Pb**	**04 38 14.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.49**	**295**	P	**Pb**	**04 38 14.8**	**-0.3**
CLDR	**Caldiran**	**0.73**	**42**	*e*PG	**Pb**	**04 38 19.4**	**+0.3**
CLDR				*e*SG	**Sn**	**04 38 29.7**	**-0.5**
CLDR	**Caldiran**	**0.73**	**42**	*e*Pg	**Pb**	**04 38 19.5**	**+0.3**
CLDR				*e*Sg	**Sn**	**04 38 29.7**	**-0.5**
TATV	**Tatvan**	**0.81**	**263**	*i* P	**Pn**	**04 38 21.0**	**+0.2**
TATV	**Tatvan**	**0.81**	**263**	P	**Pn**	**04 38 21.0**	**+0.2**
GURO	**Guroymak-BITLI**	**0.99**	**267**	*e*PG	**Pb**	**04 38 23.9**	**+0.4**
GURO	**Guroymak-BITLI**	**0.99**	**267**	*e*Pg	**Pb**	**04 38 23.9**	**+0.4**
AGRB	**Hanur-Agry**	**1.00**	**347**	*e*PG	**Pn**	**04 38 23.4**	**-0.1**
AGRB	**Hanur-Agry**	**1.00**	**347**	*e*Pg	**Pn**	**04 38 23.4**	**-0.1**

NNC 31 04:38:07.5±2.5, 36°.93N×71°.05E, h0km, mb3.7, mpv3.4, 7C-2D, Error ellipse: s-maj=20.7km s-min=10.7km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**317**	⇑Pn	Pn	04 38 51.1	+0.7
	8.9nm,0.3s						
DZET				⇑Sn	Sn	04 39 23.4	+0.9
	131nm,0.5s						
MNAS	**Manas**	**5.66**	**11**	⇓Pn	Pn	04 39 33.0	0.0
	1.5nm,0.7s						
MNAS				⇑Sn	Sn	04 40 41.1	+2.4
	7.5nm,0.6s						
KK31	**Karatay Array**	**6.18**	**356**	⇑Pn	Pn	04 39 38.6	-1.4
	1.3nm,0.3s,baz=189,slow=13,SNR=21						
KK31				Sn	Sn	04 40 51.1	-0.2
	0.9nm,0.3s,baz=180,slow=16,SNR=7.6						
AAK	**Ala-Archa**	**6.28**	**24**	⇑Pn	Pn	04 39 41.1	-0.5
	2.2nm,0.6s						
AAK				⇓Sn	Sn	04 40 56.5	+2.3
	4.8nm,0.9s						
TKM2	**Tokmak 2**	**6.92**	**29**	⇑Pn	Pn	04 39 49.4	-1.1
	5.0nm,1.0s						
AB31	**Akbulak array**	**14.72**	**330**	⇑Pn	Pn	04 41 32.4	-4.5
	0.2nm,0.3s,baz=158,slow=12,SNR=7.0						

MEX 31 04:40:52.9±0.7, 16°.60N×94°.84W, h5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.47**	**236**	*e*P	Pn	04 41 15.6	-4.6
HUIG				*e*S	Sn	04 41 35.2	-4.6
PCIG		**1.79**	**119**	*e*P	Pn	04 41 21.0	-3.4
PCIG				*e*S	Sn	04 41 43.2	-4.4
VHO	**Vista Hermosa**	**1.88**	**285**	*e*P	Pn	04 41 22.6	-3.3
VHO				*e*S	Sn	04 41 45.8	-4.3
PNIG	**Pinotepa**	**3.16**	**267**	*e*P	Pn	04 41 41.5	-1.9
PNIG				*e*S	Sn	04 42 17.8	-3.8

WEL 31 04:42:23.6±0.2, 38°.24S×178°.40E, h56km±1km, ML3.5/23, 8C-7D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.20**	**326**	⇑PN	Pn	04 42 32.2	-0.4
PUZ				SN	Sn	04 42 38.4	-0.7
PUZ				AML	AML	04 42 38.8	
CNGZ	**Carnagh Statio**	**0.29**	**211**	⇓PN	Pn	04 42 33.4	+0.3
CNGZ				AML	AML	04 42 34.6	
CNGZ				AML	AML	04 42 42.9	
TWGZ	**Tauwhareparae**	**0.34**	**281**	⇓PN	Pn	04 42 33.4	-0.2
TWGZ				SN	Sn	04 42 41.4	+0.6
TWGZ				AML	AML	04 42 42.9	
WMGZ	**Waiomatatini S**	**0.42**	**2**	⇑PN	Pn	04 42 34.4	+0.1
WMGZ				SN	Sn	04 42 42.9	+0.8
WMGZ				AML	AML	04 42 43.0	
PKGZ	**Pakihiroa**	**0.43**	**324**	⇑PN	Pn	04 42 34.3	-0.2
PKGZ				SN	Sn	04 42 42.2	-0.3
PKGZ				AML	AML	04 42 42.3	
TKGZ	**Te Karaka**	**0.48**	**245**	⇓PN	Pn	04 42 34.7	-0.2
TKGZ				AML	AML	04 42 43.5	
TKGZ				AML	AML	04 42 44.7	
RUGZ	**Raukumara Rang**	**0.63**	**295**	⇑PN	Pn	04 42 36.3	-0.6
RUGZ				SN	Sn	04 42 45.4	-1.0
MXZ	**Matakaoa Point**	**0.68**	**354**	⇑PN	Pn	04 42 37.5	+0.2
MXZ				AML	AML	04 42 48.5	
MXZ				AML	AML	04 42 49.0	
RIGZ	**Rimuhau**	**0.68**	**227**	⇓PN	Pn	04 42 37.3	-0.1
RIGZ				SN	Sn	04 42 48.3	+0.8
RIGZ				AML	AML	04 42 48.9	
HAZ	**Te Kaha**	**0.69**	**315**	PN	Pn	04 42 37.0	-0.4
HAZ				AML	AML	04 42 49.3	
HAZ				AML	AML	04 42 50.9	
MWZ	**Matawai**	**0.69**	**262**	⇓PN	Pn	04 42 37.0	-0.5
MWZ				SN	Sn	04 42 46.8	-0.8
MWZ				AML	AML	04 42 47.5	
PRGZ	**Paritu Road**	**0.79**	**210**	PN	Pn	04 42 38.4	-0.4
PRGZ				AML	AML	04 42 51.2	
PRGZ				AML	AML	04 42 52.0	
RAGZ	**Rawiri**	**0.81**	**251**	PN	Pn	04 42 38.6	-0.5
RAGZ				AML	AML	04 42 50.7	
RAGZ				AML	AML	04 42 51.1	
KNZ	**Kokohu**	**0.97**	**216**	⇓PN	Pn	04 42 40.3	-0.7
MHGZ	**Mahia Peninsul**	**0.99**	**203**	⇓PN	Pn	04 42 41.1	-0.2
MHGZ				AML	AML	04 42 56.2	
SNGZ	**Shannon Statio**	**0.99**	**237**	PN	Pn	04 42 39.3	-2.0
SNGZ				AML	AML	04 42 55.6	
SNGZ				AML	AML	04 42 55.8	
URZ	**Urewera**	**1.01**	**268**	⇑PN	Pn	04 42 41.7	+0.1
URZ				AML	AML	04 42 56.2	
URZ				AML	AML	04 42 56.2	
RTZ	**Ruatahuna**	**1.18**	**251**	PN	Pn	04 42 43.8	0.0
WHRZ	**Whale Island**	**1.19**	**288**	PN	Pn	04 42 43.9	0.0
WHHZ	**Waihua**	**1.24**	**227**	PN	Pn	04 42 44.3	-0.3
WHHZ				SN	Sn	04 43 00.8	+0.5
WHHZ				AML	AML	04 43 01.8	
TARZ	**Mount Tarawera**	**1.49**	**270**	⇑PN	Pn	04 42 48.2	+0.1
ARHZ	**Aropaoanui**	**1.50**	**227**	PN	Pn	04 42 47.9	-0.3
ARHZ				AML	AML	04 43 08.4	
ARHZ				AML	AML	04 43 09.0	
NMHZ	**Naumai**	**1.51**	**235**	PN	Pn	04 42 48.2	-0.2
NMHZ				AML	AML	04 43 09.0	
NMHZ				AML	AML	04 43 09.0	
MRHZ	**Matea Rd**	**1.66**	**248**	PN	Pn	04 42 50.5	+0.1
MRHZ				AML	AML	04 43 10.7	
MRHZ				AML	AML	04 43 13.9	
CKHZ	**Cape Kidnapper**	**1.75**	**216**	PN	Pn	04 42 50.6	-1.0
CKHZ				AML	AML	04 43 13.0	
MCHZ	**McNeill Hill**	**1.79**	**227**	PN	Pn	04 42 51.8	-0.3
MCHZ				SN	Sn	04 43 13.3	-0.5
MCHZ				AML	AML	04 43 15.1	
KWHZ	**Kaweka Forest**	**1.94**	**232**	PN	Pn	04 42 53.7	-0.5
KWHZ				AML	AML	04 43 17.5	
KWHZ				AML	AML	04 43 18.2	
KAHZ	**Kahuranaki**	**1.95**	**217**	PN	Pn	04 42 53.3	-1.1
KRHZ	**Kereru**	**2.11**	**228**	PN	Pn	04 42 55.6	-0.9
KRHZ				AML	AML	04 43 21.6	
BHHZ	**Black Hill Sta**	**2.21**	**235**	⇑PN	Pn	04 42 57.4	-0.4
PNHZ	**Pukenui**	**2.39**	**225**	PN	Pn	04 42 58.8	-1.5
WNVZ	**Wahianoa**	**2.44**	**243**	PN	Pn	04 43 02.5	+1.3

*ISCJB **31** 04:45:42.3±0.3, 23°.22S±0°.05×114°.84W±0°.06, h10km, mb4.9/136, MS5.1/157, Error ellipse: s-maj=9.1km s-min=5.3km az=147.9*

*IDC **31** 04:45:42.2±0.6, 23°.15S×114°.84W, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.4/32, mbtmp4.4/16, MS4.8/18, Ms1 4.8/18, ms1mx4.8/20, Error ellipse: s-maj=21.3km s-min=17.1km az=36.0*

*MOS **31** 04:45:42.7±1.1, 23°.17S×114°.75W, h10km, mb5.1/29, MS5.0/16, Error ellipse: s-maj=14.4km s-min=7.7km az=92.4*

*GCMT **31** 04:45:43.8±0.1, 23°.56S×115°.21W, h16km, MW5.5/141, Moment Tensor Solution. s111,c194; s141,c268; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$-1.45±.03; $M_{\phi\phi}$1.50±.03; $M_{r\theta}$-0.45±.07; $M_{r\phi}$1.54±.02; $M_{\theta\phi}$0.30±.07; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s159.00000°, δ82.00000°, λ-168.00000°. NP2:ϕ_s67.00000°, δ78.00000°, λ-8.00000°. Principal axes: T 2.1620, Plg3.0000°, Azm293.0000°; N 0.0760, Plg76.0000°, Azm192.0000°; P -2.2380, Plg14.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 04:45:43.8±0.3, 23°.35S×114°.96W, h10km, mb5.1/125, MS5.1/134 Error ellipse: s-maj=8.3km s-min=5.5km az=60.0*

*BJI **31** 04:45:47.3, 23°.40S×115°.00W, h30km, mB5.3/16, Ms5.6/20, Ms7 5.3/20*

ISC 31 04:45:43.3±0.3, 23°.40S±0°.08×115°.12W±0°.06, h10km, n597, σ1§32/486, mb5.1/135, MS5.1/157, 1C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.42**	**127**	LR	LR	04 49 06.6	
	comp=Z,15μm,19.4s,baz=316,slow=32						
RPN	**Rapa Nui**	**6.42**	**127**	P	**Pn**	**04 47 18.1**	**+0.1**
RPN				pmax	pmax		
	comp=Z,13nm,0.8s						
RKT	**Rikitea**	**18.24**	**267**	*e*LQ	LQ	04 53 15.4	
	comp=Z,16μm,27.2s						
RKT				*e*LR	LR	04 54 01.7	
	comp=Z,12μm,26.8s						
RKT	**Rikitea**	**18.24**	**267**	*e*T	T	05 08 21.8	
	comp=Z,5.6nm,0.2s						
TAOE	**Nuku Hiva Isla**	**27.98**	**297**	*e*S	**S**	**04 56 11.2**	**-7.7**
	comp=Z,578nm,25.8s						
TAOE				*e*LR	LR	04 58 28.4	
	comp=Z,11μm,25.6s,baz=129						
TBI	**Tubuai**	**31.48**	**263**	*e*S	**S**	**04 57 09.3**	**-4.2**
	comp=Z,318nm,26.8s						
TBI				*e*LQ	LQ	04 58 52.3	
	comp=Z,3μm,30.0s						
TBI				*e*LR	LR	05 00 11.0	
	comp=Z,4μm,25.5s						
TBI	**Tubuai**	**31.48**	**263**	*e*T	T	05 24 53.0	
	comp=Z,14nm,0.3s						
TIAR	**Tiarei**	**32.53**	**274**	*e*T	T	05 26 13.1	
	comp=Z,5.0nm,0.3s						
PPT2	**Papeete2**	**32.73**	**274**	*e*S	**S**	**04 57 28.8**	**-4.6**
	comp=Z,708nm,26.5s						
PPT2				*e*LQ	LQ	04 59 19.1	
	comp=Z,4μm,24.8s						
PPT2				*e*LR	LR	05 00 23.4	
	comp=Z,5μm,27.2s,baz=108						
PPT	**Papeete**	**32.74**	**274**	LR	LR	05 01 47.3	
	comp=Z,2μm,19.5s,baz=104,slow=29						
PAYG	**Puerto Ayora**	**33.04**	**50**	*e*P	**P**	**04 52 19.4**	**+0.3**
	comp=Z,95nm,1.4s						
PAYG				LR	LR		
	comp=Z,3μm,20.0s						
NNA	**Nana**	**38.08**	**79**	LR	LR	05 04 20.6	
	comp=Z,3μm,21.2s,baz=248,slow=30						
NNA	**Nana**	**38.08**	**79**	*e*P	**P**	**04 53 01.7**	**-0.8**
NNA				pmax	pmax		
	comp=Z,91nm,1.8s						
NNA				MLR	MLR		
	comp=Z,1μm,19.0s						
NNA	**Nana**	**38.08**	**79**	*e*P	**P**	**04 53 01.7**	**-0.8**
	comp=Z,91nm,1.8s						
NNA				LR	LR		
	comp=Z,1μm,19.0s						
LCO	**Las Campanas**	**40.07**	**108**	*e*P	**P**	**04 53 18.0**	**-1.3**
	comp=Z,66nm,1.6s						
LCO				LR	LR		
	comp=Z,6μm,21.0s						
PLCA	**Paso Flores**	**41.06**	**126**	P	**P**	**04 53 27.0**	**-0.2**
	comp=Z,11nm,1.2s,baz=306,slow=11,SNR=6.2						
PLCA				LR	LR	05 06 17.4	
	comp=Z,3μm,19.5s,baz=304,slow=30						
PLCA	**Paso Flores**	**41.06**	**126**	*e*P	**P**	**04 53 27.2**	**0.0**
PLCA				pmax	pmax		
	comp=Z,40nm,1.4s						
PLCA	**Paso Flores**	**41.06**	**126**	*e*P	**P**	**04 53 27.2**	**0.0**
	comp=Z,40nm,1.4s						
PB04	**IPOC Station P**	**41.33**	**98**	*e*P	**P**	**04 53 29.5**	**-0.2**
	comp=Z,72nm,1.4s						
PB01	**IPOC Station P**	**42.18**	**96**	*e*P	**P**	**04 53 36.3**	**-0.3**
	comp=Z,66nm,1.8s						
LVC	**Limon Verde**	**42.41**	**98**	P	**P**	**04 53 38.3**	**-0.5**
	comp=Z,26nm,1.1s,baz=260,slow=8.0,SNR=4.7						
LVC	**Limon Verde**	**42.41**	**98**	*e*P	**P**	**04 53 40.2**	**+1.5**
	comp=Z,28nm,1.4s						
LVC				LR	LR		
	comp=Z,2μm,19.0s						
MNMC	**Minye Minye**	**42.51**	**93**	*e*P	**P**	**04 53 39.8**	**+0.3**
	comp=Z,46nm,1.5s						
OTAV	**Otavalo**	**42.67**	**62**	*e*P	**P**	**04 53 42.5**	**+1.5**
	comp=Z,12nm,1.3s						
OTAV				LR	LR		
	comp=Z,981nm,22.0s						
TUMC	**Tumaco**	**43.39**	**60**	*e*P	**P**	**04 53 46.3**	**0.0**
LPAZ	**La Paz**	**44.61**	**90**	P	**P**	**04 53 56.0**	**-0.9**
	comp=Z,34nm,1.3s,baz=279,slow=5.2,SNR=17						
LPAZ				LR	LR	05 08 11.4	
	comp=Z,2μm,20.4s,baz=252,slow=30						
LPAZ	**La Paz**	**44.61**	**90**	*e*P	**P**	**04 53 56.4**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,29nm,1.1s						
LPAZ	**La Paz**	**44.61**	**90**	*e*P	**P**	**04 53 56.4**	**-0.5**
	comp=Z,29nm,1.1s						
CMIG	**Matias Romero**	**44.84**	**28**	P	**P**	**04 53 57.1**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=180,slow=1.0,SNR=2.5						
HDC	**Heredia**	**44.97**	**46**	*e*P	**P**	**04 53 59.5**	**+0.4**
	comp=Z,118nm,1.6s						
BCIP	**Isla Barro Col**	**47.31**	**51**	PFAKE		04 54 30.0	+13
BCIP				LR	LR		
	comp=Z,2μm,22.0s						
TRQA	**Tornquist**	**47.36**	**121**	*e*P	**P**	**04 54 16.7**	**-0.9**
	comp=Z,18nm,1.1s						
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
PRAC	**Prado**	**47.59**	**61**	*e*P	**P**	**04 54 18.9**	**-0.8**
	comp=Z,47nm,1.7s						
HELC	**Santa Helena**	**48.58**	**58**	*e*P	**P**	**04 54 26.9**	**-0.7**
HELC	**Santa Helena**	**48.58**	**58**	*e*P	**P**	**04 54 28.1**	**+0.4**
ROSC	**El Rosal**	**48.71**	**60**	LR	LR	05 10 59.0	
	comp=Z,586nm,19.4s,baz=194,slow=31						
ZARC	**Zaragoza, Cauc**	**49.91**	**57**	*e*P	**P**	**04 54 38.3**	**+0.8**
MOTC	**Monteria, Cord**	**50.11**	**55**	*e*P	**P**	**04 54 36.0**	**-3.0**
RUSC	**La Rusia**	**50.32**	**60**	*e*P	**P**	**04 54 41.7**	**+0.5**
RUSC	**La Rusia**	**50.32**	**60**	*e*P	**P**	**04 54 42.8**	**+1.7**
BRRC	**Barranca, Sant**	**50.56**	**58**	*e*P	**P**	**04 54 40.0**	**-2.4**
BARC	**Barichara**	**50.66**	**59**	*e*P	**P**	**04 54 45.0**	**+1.6**
HPIG		**50.87**	**11**	*e*P	**P**	**04 54 44.9**	**+0.3**
	comp=Z,29nm,1.7s						
SIV	**San Ignacio**	**51.18**	**92**	P	**P**	**04 54 45.6**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=251,slow=11,SNR=8.4						
SJCC	**San Jacinto, C**	**51.20**	**54**	*e*P	**P**	**04 54 44.5**	**-2.8**
SAML	**Samuel**	**51.64**	**83**	*e*P	**P**	**04 54 48.9**	**-1.7**
	comp=Z,17nm,1.5s						
SAML				LR	LR		
	comp=Z,2μm,19.0s						
EFI	**East Falkland**	**51.68**	**138**	PFAKE		04 55 00.0	+10
EFI				LR	LR		
	comp=Z,3μm,20.0s						
CPUP	**Villa Florida**	**52.15**	**106**	P	**P**	**04 54 52.4**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=249,slow=17,SNR=2.6						
CPUP				LR	LR	05 13 09.8	
	comp=Z,1μm,19.6s,baz=258,slow=32						
035Z	**Hargill**	**52.24**	**19**	P	**P**	**04 54 55.1**	**+0.4**
	baz=200						
034A	**Hebbronville**	**52.62**	**19**	P	**P**	**04 54 57.6**	**+0.1**
	baz=199						
035A	**Encino**	**52.68**	**19**	P	**P**	**04 54 59.0**	**+1.1**
	baz=200						
934A	**Benavides**	**53.18**	**18**	P	**P**	**04 55 02.8**	**+1.2**
	baz=199						
KVTX	**Kingsville**	**53.31**	**19**	PFAKE		04 55 10.0	+7.4
KVTX				LR	LR		
	comp=Z,2μm,19.0s						
TX31	**Lajitas Ar. Si**	**53.57**	**12**	*e*P	**P**	**04 55 04.8**	**+0.2**
TXAR	**Lajitas Array**	**53.57**	**12**	P	**P**	**04 55 03.2**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=207,slow=9.8,SNR=4.6						
TXAR				LR	LR	05 13 16.3	
	comp=Z,471nm,18.4s,baz=0.0,slow=31						
833A	**Chaparral WMA,**	**53.61**	**17**	P	**P**	**04 55 05.5**	**+0.8**
	baz=198						
SDV	**Santo Domingo**	**54.05**	**59**	PFAKE		04 55 20.0	+11
SDV				LR	LR		
	comp=Z,910nm,19.0s						
AFI	**Afiamalu**	**54.22**	**269**	P	**P**	**04 55 13.2**	**+3.5**
	comp=Z,6.3nm,0.4s,baz=158,slow=5.4,SNR=1.8						
AFI	**Afiamalu**	**54.22**	**269**	P	**P**	**04 55 13.2**	**+3.5**
AFI				MLR	MLR		
	comp=Z,2μm,20.0s						
AFI	**Afiamalu**	**54.22**	**269**	P	**P**	**04 55 13.2**	**+3.5**
AFI				LR	LR		
	comp=Z,2μm,20.0s						
319A	**Douglas**	**54.75**	**6**	*e*P	**P**	**04 55 13.7**	**+0.5**
	comp=Z,25nm,1.1s						
214A	**Organ Pipe Nat**	**55.09**	**2**	P	**P**	**04 55 15.2**	**-0.3**
	baz=182						
214A	**Organ Pipe Nat**	**55.09**	**2**	*e*P	**P**	**04 55 15.2**	**-0.3**
	comp=Z,41nm,1.1s						
MTDJ	**Mount Denham**	**55.31**	**45**	PFAKE		04 55 30.0	+13
MTDJ				LR	LR		
	comp=Z,830nm,20.0s						
TUC	**Tucson**	**55.55**	**4**	P	**P**	**04 55 18.4**	**-0.5**
	baz=185						
TUC	**Tucson**	**55.55**	**4**	*e*P	**P**	**04 55 18.9**	**0.0**
TUC				pmax	pmax		
	comp=Z,14nm,1.4s						
TUC				MLR	MLR		
	comp=Z,2μm,19.0s						
TUC	**Tucson**	**55.55**	**4**	*e*P	**P**	**04 55 18.9**	**0.0**
	comp=Z,14nm,1.4s						
TUC				LR	LR		
	comp=Z,2μm,19.0s						
JCT	**Junction City**	**55.55**	**16**	P	**P**	**04 55 18.3**	**-0.6**
	baz=197,SNR=6.7						
JCT	**Junction City**	**55.55**	**16**	*e*P	**P**	**04 55 18.3**	**-0.6**
JCT				pmax	pmax		
	comp=Z,35nm,1.1s						
JCT				MLR	MLR		
	comp=Z,2μm,19.0s						
JCT	**Junction City**	**55.55**	**16**	*e*P	**P**	**04 55 18.3**	**-0.6**
	comp=Z,35nm,1.1s						
JCT				LR	LR		
	comp=Z,2μm,19.0s						
637A	**Eagle Lake**	**55.56**	**20**	P	**P**	**04 55 18.3**	**-0.5**
	baz=201						
MNTX	**Cornudas Mount**	**55.57**	**10**	P	**P**	**04 55 18.2**	**-0.8**
	baz=191,SNR=11						
MNTX	**Cornudas Mount**	**55.57**	**10**	*e*P	**P**	**04 55 17.6**	**-1.4**
	comp=Z,16nm,1.2s						
MNTX				LR	LR		
	comp=Z,1μm,22.0s						
IKP	**In-Ko-Pah, Jac**	**55.74**	**359**	P	**P**	**04 55 20.3**	**0.0**
	baz=179,SNR=6.4						
BAR	**Barrett**	**55.78**	**358**	*e*P	**P**	**04 55 20.8**	**+0.3**
	comp=Z,26nm,1.4s						
113A	**Mohawk Valley,**	**55.87**	**1**	*e*P	**P**	**04 55 22.1**	**+1.1**
	comp=Z,36nm,1.8s						
536A	**Bastrop**	**55.93**	**19**	P	**P**	**04 55 21.2**	**-0.4**
	baz=200						
MONP2	**Monument Peak**	**55.99**	**359**	P	**P**	**04 55 22.1**	**-0.1**
	baz=178,SNR=5.2						
SWSC	**Sam W. Stewart**	**56.03**	**359**	P	**P**	**04 55 22.6**	**+0.3**
	baz=179						
121A	**Cookes Peak, D**	**56.05**	**7**	P	**P**	**04 55 22.7**	**+0.1**
	baz=188						
121A	**Cookes Peak, D**	**56.05**	**7**	*e*P	**P**	**04 55 22.4**	**-0.3**
	comp=Z,16nm,1.0s						
HKT	**Hockley**	**56.19**	**20**	*e*P	**P**	**04 55 23.9**	**+0.5**
HKT				pmax	pmax		
	comp=Z,62nm,1.8s						
HKT	**Hockley**	**56.19**	**20**	*e*P	**P**	**04 55 23.9**	**+0.5**
	comp=Z,62nm,1.8s						
XPFO	**Pizon Flat**	**56.70**	**359**	*e*P	**P**	**04 55 27.5**	**+0.2**
	comp=Z,15nm,1.4s						
PFO	**Pinyon Flats O**	**56.71**	**359**	P	**P**	**04 55 25.1**	**-2.2**
	comp=Z,2.7nm,0.9s,baz=158,slow=3.6,SNR=7.4						
PFO	**Pinyon Flats O**	**56.71**	**359**	P	**P**	**04 55 27.0**	**-0.3**
	baz=178						
PFO	**Pinyon Flats O**	**56.71**	**359**	*e*P	**P**	**04 55 27.5**	**+0.3**
PFO				pmax	pmax		
	comp=Z,16nm,1.5s						
PFO				MLR	MLR		
	comp=Z,868nm,19.0s						
PFO	**Pinyon Flats O**	**56.71**	**359**	*e*P	**P**	**04 55 27.5**	**+0.3**
	comp=Z,16nm,1.5s						
PFO				LR	LR		
	comp=Z,868nm,19.0s						
MURC	**Murrieta**	**56.71**	**358**	P	**P**	**04 55 26.9**	**-0.2**
	baz=178						
BC3	**Big Chuckawall**	**56.74**	**360**	P	**P**	**04 55 27.1**	**-0.3**
	baz=180						
Y12C	**Blythe**	**56.83**	**1**	P	**P**	**04 55 27.8**	**-0.1**
	baz=180						
Y12C	**Blythe**	**56.83**	**1**	*e*P	**P**	**04 55 28.4**	**+0.5**
	comp=Z,18nm,1.4s						
BELC	**Belle Mtn. Jos**	**57.09**	**359**	P	**P**	**04 55 30.2**	**+0.2**
	baz=179,SNR=11						
IRM	**Iron Mountain**	**57.24**	**360**	P	**P**	**04 55 30.8**	**-0.1**
	baz=180						
439A	**Center Grove,**	**57.31**	**21**	P	**P**	**04 55 32.0**	**+0.6**
	baz=202						
BFSC	**Mount Baldy Ra**	**57.37**	**358**	P	**P**	**04 55 31.4**	**-0.5**
	baz=177,SNR=7.7						
MWC	**Mount Wilson**	**57.37**	**357**	*e*P	**P**	**04 55 32.1**	**+0.1**
MWC				pmax	pmax		
	comp=Z,21nm,1.3s						
MWC	**Mount Wilson**	**57.37**	**357**	*e*P	**P**	**04 55 32.1**	**+0.1**
	comp=Z,21nm,1.3s						
PDMCI	**Parker Dam,Lak**	**57.39**	**1**	P	**P**	**04 55 31.9**	**0.0**
	baz=181						
X16A	**Lo Mia Camp, P**	**57.60**	**4**	*e*P	**P**	**04 55 34.1**	**+0.5**
	comp=Z,29nm,1.9s						
WHTX	**Lake Whitney,**	**57.61**	**18**	P	**P**	**04 55 32.5**	**-1.0**
	baz=199						
WHTX	**Lake Whitney,**	**57.61**	**18**	*e*P	**P**	**04 55 33.2**	**-0.3**
	comp=Z,20nm,1.3s						
ABTX	**Abilene, Hawle**	**57.63**	**15**	P	**P**	**04 55 33.2**	**-0.5**
	baz=197						
ABTX	**Abilene, Hawle**	**57.63**	**15**	*e*P	**P**	**04 55 34.8**	**+1.1**
	comp=Z,12nm,1.0s						
338A	**Crockett**	**57.66**	**20**	P	**P**	**04 55 33.4**	**-0.4**
	baz=201						
Y22D	**IRIS PASSCAL I**	**57.68**	**8**	P	**P**	**04 55 33.8**	**-0.3**
	baz=189						
BNM	**Barren Site**	**57.80**	**8**	*e*P	**P**	**04 55 35.6**	**+0.6**
X18A	**Snowflake**	**57.82**	**5**	*e*P	**P**	**04 55 35.3**	**+0.2**
	comp=Z,46nm,1.8s						
GMRC	**Granite Mounta**	**57.86**	**359**	P	**P**	**04 55 36.1**	**+0.8**
	baz=179						
HEC	**Hector,Ludlow**	**57.92**	**359**	P	**P**	**04 55 36.3**	**+0.6**
	baz=176						
LAZ	**

comp=Z,13nm,1.6s
ANMO MLR MLR
ANMO Albuquerque 58.60 8 *eP* **P 04 55 40.0 -0.6**
comp=Z,712nm,21.0s
ANMO LR LR
LRMC Laurel Mtn Rad 58.60 358 P **P 04 55 40.6 0.0**
baz=177
WUAZ Wupatki 58.70 4 P **P 04 55 41.1 -0.1**
baz=184
WUAZ Wupatki 58.70 4 *eP* **P 04 55 42.0 +0.7**
comp=Z,17nm,1.4s
SHOC Shoshone, Teco 58.98 359 P **P 04 55 43.5 +0.5**
baz=179
VES Vestal, Richgr 59.03 356 P **P 04 55 43.6 +0.2**
baz=176
Z36A Blue Ridge 59.10 18 P **P 04 55 43.5 -0.4**
baz=200
MPMC Manual Prospec 59.17 358 P **P 04 55 44.4 -0.2**
baz=177
344A Westbrook Farm 59.33 24 P **P 04 55 45.2 -0.3**
baz=206
242A Grayson 59.36 23 P **P 04 55 45.6 -0.1**
baz=204
DAC Darwin (Calif) 59.40 358 *eP* **P 04 55 46.0 -0.1**
DAC pmax pmax
comp=Z,14nm,1.3s
DAC Darwin (Calif) 59.40 358 *eP* **P 04 55 46.0 -0.1**
comp=Z,14nm,1.3s
Y35A Marietta 59.53 17 P **P 04 55 46.1 -0.7**
baz=199
U15A North Rim 59.56 3 *eP* **P 04 55 48.0 +0.6**
comp=Z,16nm,1.1s
FURC Furnace Creek, 59.56 358 P **P 04 55 47.1 +0.1**
baz=178
CWC Cottonwood Cre 59.58 357 P **P 04 55 47.1 -0.3**
baz=177
SHPR Sheep Range 59.58 360 *eP* **P 04 55 47.8 +0.5**
comp=Z,17nm,1.0s
346A Big Creek Wild 59.76 25 P **P 04 55 47.6 -0.9**
baz=207
WMOK Wichita Mounta 59.86 16 P **P 04 55 48.3 -0.8**
baz=197
WMOK Wichita Mounta 59.86 16 *eP* **P 04 55 49.6 +0.4**
WMOK pmax pmax
comp=Z,23nm,1.6s
WMOK MLR MLR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 59.86 16 *eP* **P 04 55 49.6 +0.4**
comp=Z,22nm,1.6s
WMOK LR LR
comp=Z,1μm,20.0s
Y37A Hugo 60.00 19 P **P 04 55 50.0 -0.1**
baz=200
X35A Drake 60.01 17 P **P 04 55 50.0 -0.2**
baz=199
TPNV Topopah Spring 60.03 359 P **P 04 55 51.1 +0.6**
baz=179
TPNV Topopah Spring 60.03 359 *eP* **P 04 55 50.9 +0.4**
TPNV pmax pmax
comp=Z,13nm,1.1s
TPNV Topopah Spring 60.03 359 *eP* **P 04 55 50.9 +0.4**
comp=Z,13nm,1.1s
SDDR Presa de Saban 60.04 49 PFAKE 04 56 00.0 +9.3
SDDR LR LR
comp=Z,810nm,20.0s
GRAC Grapevine Rang 60.11 358 P **P 04 55 51.3 +0.4**
baz=178
LCMT Little Creek M 60.11 2 *eP* **P 04 55 51.2 +0.2**
comp=Z,15nm,1.5s
KNB Kanab 60.13 2 *eP* **P 04 55 51.6 +0.5**
KNB pmax pmax
comp=Z,11nm,1.1s
KNB Kanab 60.13 2 *eP* **P 04 55 51.6 +0.5**
comp=Z,11nm,1.1s
245A Little AP, Sta 60.17 25 P **P 04 55 51.2 -0.1**
baz=207
143A Socs Landing, 60.21 23 P **P 04 55 51.4 -0.1**
baz=205
Z41A Richland Creek 60.23 22 P **P 04 55 51.6 -0.1**
baz=204
SNZO South Karori 60.37 235 PFAKE 04 56 10.0 +17
SNZO LR LR
comp=Z,1μm,21.0s
WLAR White Oak Lake 60.52 21 *eP* **P 04 55 53.5 -0.1**
comp=Z,35nm,1.1s
BRAL Brewton 60.56 28 PFAKE 04 56 10.0 +16
BRAL LR LR
comp=Z,906nm,20.0s
PKCU Pink Cliffs 60.57 3 *eP* **P 04 55 54.1 -0.2**
comp=Z,21nm,1.3s
MVCO Mesa Verde 60.60 6 P **P 04 55 54.1 -0.4**
baz=187
MVCO Mesa Verde 60.60 6 *eP* **P 04 55 53.5 -1.0**
comp=Z,36nm,1.6s
MVCO LR LR
comp=Z,1μm,19.0s
X37A Clayton 60.64 19 P **P 04 55 53.9 -0.5**
baz=201
CCUT Cedar City 60.65 2 *eP* **P 04 55 54.6 -0.1**
comp=Z,11nm,1.0s
Y40A Okolona 60.76 21 P **P 04 55 55.4 +0.2**
baz=203
Y41A Eaglette Beard 60.86 21 P **P 04 55 55.1 -0.9**
baz=204
X39A Fountain Ranch 60.95 20 P **P 04 55 55.7 -0.9**
baz=202
MHTCO State Highway 61.00 10 *eP* **P 04 55 56.9 -0.3**
comp=Z,14nm,1.0s
T25A Trinidad 61.05 10 P **P 04 55 57.0 -0.5**
baz=191
T25A Trinidad 61.05 10 *eP* **P 04 55 58.7 +1.2**
comp=Z,17nm,1.3s
MIAR Mount Ida 61.15 20 P **P 04 55 58.5 +0.6**
baz=202
MIAR Mount Ida 61.15 20 *eP* **P 04 55 57.2 -0.8**
MIAR pmax pmax
comp=Z,17nm,1.4s
MIAR MLR MLR
comp=Z,1μm,22.0s
MIAR Mount Ida 61.15 20 *eP* **P 04 55 57.2 -0.8**
comp=Z,17nm,1.4s
MIAR LR LR
comp=Z,1μm,22.0s
MTPU Mount Pierson 61.17 3 *eP* **P 04 55 58.9 +0.4**
comp=Z,30nm,1.9s
CMB Columbia Colle 61.30 355 *eP* **P 04 55 59.4 +0.4**
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 61.30 355 *eP* **P 04 55 59.4 +0.4**
comp=Z,21nm,1.3s
S22A 4UR Ranch, Cre 61.32 7 P **P 04 55 58.9 -0.5**
baz=188
S22A 4UR Ranch, Cre 61.32 7 *eP* **P 04 55 59.9 +0.5**
comp=Z,15nm,1.4s
147A Livingston 61.37 26 P **P 04 55 59.5 +0.1**
baz=208
R11A Troy Canyon, C 61.42 360 P **P 04 56 00.4 +0.4**
baz=179,SNR=10
R11A Troy Canyon, C 61.42 360 *eP* **P 04 56 00.2 +0.3**
comp=Z,10nm,1.0s
SDCO Great Sand Dun 61.49 9 P **P 04 55 59.9 -0.6**
baz=190,SNR=9.4
SDCO Great Sand Dun 61.49 9 *eP* **P 04 55 59.7 -0.8**
comp=Z,8.0nm,0.9s
SDCO LR LR
comp=Z,1μm,22.0s
SPB Sao Paulo 61.51 105 PFAKE 04 56 10.0 +9.3
SPB LR LR
comp=Z,1μm,20.0s
PV01 Paradox Valley 61.51 6 *eP* **P 04 56 00.0 -0.6**
Z46A Louisville 61.56 25 P **P 04 55 59.6 -1.1**
baz=207
V36A Jenks 61.60 18 P **P 04 55 60.0 -0.9**
baz=200
MSU Marysvale 61.64 3 *eP* **P 04 56 02.2 +0.7**
MSU Marysvale 61.64 3 *eP* **P 04 56 02.2 +0.7**
WAKR Walker 61.71 356 *eP* **P 04 56 02.5 +0.7**
comp=Z,37nm,1.8s
TUL1 Leonard 61.76 18 P **P 04 56 01.9 -0.2**
baz=200
TUL1 Leonard 61.76 18 *eP* **P 04 56 01.7 -0.3**
comp=Z,10nm,0.9s
PV09 Paradox Valley 61.83 5 *eP* **P 04 56 02.3 -0.5**
GRTK Grand Turk 61.87 47 PFAKE 04 56 10.0 +7.0
GRTK LR LR
comp=Z,842nm,21.0s

V37A Hulbert 61.92 18 P **P 04 56 02.3 -0.7**
baz=201
Q16A Castle Valley 62.10 3 *eP* **P 04 56 04.1 -0.4**
comp=Z,25nm,1.6s
W41B Gary Mavity, V 62.16 21 P **P 04 56 03.8 -0.9**
baz=204
YERR Yerington 62.17 356 *eP* **P 04 56 05.6 +0.6**
comp=Z,28nm,1.1s
Y46A Houston 62.21 25 P **P 04 56 03.6 -1.4**
baz=207
AFDM Forest Hills D 62.26 355 *eP* **P 04 56 05.4 +0.1**
comp=Z,24nm,1.4s
Z48A Northport 62.27 26 P **P 04 56 04.7 -0.8**
baz=208
PNTR Pine Nut 62.30 356 *eP* **P 04 56 06.5 +0.6**
comp=Z,27nm,0.9s
SRU San Rafael Swe 62.33 4 *eP* **P 04 56 06.1 +0.1**
SRU pmax pmax
comp=Z,37nm,1.9s
SRU San Rafael Swe 62.33 4 *eP* **P 04 56 06.1 +0.1**
comp=Z,37nm,1.9s
MSVF Nonsavu 62.35 262 PFAKE 04 56 20.0 +13
MSVF LR LR
comp=Z,2μm,21.0s
T34A McClaskey Farm 62.43 16 P **P 04 56 06.0 -0.6**
baz=198
TMUT Trail Mountain 62.47 3 *eP* **P 04 56 06.9 -0.2**
comp=Z,7.4nm,0.7s
X45A UM Field Stati 62.49 24 P **P 04 56 06.2 -0.7**
baz=206
P17A Butcher Ranch, 62.68 4 *eP* **P 04 56 08.3 0.0**
comp=Z,27nm,1.5s
SMCO Snowmass 62.71 7 *eP* **P 04 56 08.3 -0.5**
comp=Z,12nm,1.3s
V41A Mountainview 62.75 21 P **P 04 56 07.5 -1.2**
baz=204
U39A Green Forest 62.88 20 P **P 04 56 08.4 -1.1**
baz=202
PAHR Pah Rah Range 62.90 356 *eP* **P 04 56 10.7 +0.9**
comp=Z,8.8nm,1.1s
ORV Oroville 62.91 354 *eP* **P 04 56 10.4 +0.8**
ORV pmax pmax
comp=Z,17nm,1.4s
ORV Oroville 62.91 354 *eP* **P 04 56 10.4 +0.8**
comp=Z,17nm,1.4s
V42A Cord 63.02 22 P **P 04 56 10.1 -0.4**
baz=204
U40A Yellville 63.05 20 P **P 04 56 10.0 -0.7**
baz=203
NLU North Lily Min 63.09 3 *eP* **P 04 56 11.5 +0.4**
comp=Z,20nm,1.4s
BEKR Beckworth 63.12 355 *eP* **P 04 56 11.6 +0.3**
comp=Z,16nm,1.2s
T37A Cheneyville 18 63.14 18 P **P 04 56 11.9 +0.7**
baz=201
SJG San Juan 63.16 54 PFAKE 04 56 20.0 +8.3
SJG LR LR
comp=Z,710nm,20.0s
KSCO Kaye Shedlock' 63.17 11 P **P 04 56 11.5 -0.1**
baz=193
T38A Diamond 63.24 19 P **P 04 56 11.5 -0.4**
baz=201
BDFB Brasilia 63.25 96 P **P 04 56 10.3 -2.3**
comp=Z,7.0nm,0.9s,baz=48,slow=5.4,SNR=6.3
BDFB LR LR 05 20 43.0
comp=Z,1μm,20.1s,baz=50,slow=33
BDFB Brasilia 63.25 96 *eP* **P 04 56 11.5 -1.1**
BDFB pmax pmax
comp=Z,93nm,1.7s
BDFB Brasilia 63.25 96 *eP* **P 04 56 11.5 -1.1**
comp=Z,92nm,1.7s
S35A Otter Creek Ra 63.28 17 P **P 04 56 12.4 +0.2**
baz=199
DUG Dugway, Tooele 63.30 2 P **P 04 56 12.6 +0.2**
baz=182,SNR=14
DUG Dugway, Tooele 63.30 2 *eP* **P 04 56 12.4 0.0**
DUG pmax pmax
comp=Z,15nm,1.1s
DUG MLR MLR
comp=Z,789nm,20.0s
DUG Dugway, Tooele 63.30 2 *eP* **P 04 56 12.4 0.0**
comp=Z,15nm,1.1s
DUG LR LR
comp=Z,789nm,20.0s
U41A Viola 63.34 21 P **P 04 56 12.2 -0.4**
baz=204
PLAL Pickwick Lake 63.48 25 *eP* **P 04 56 12.7 -0.8**
comp=Z,9.5nm,0.9s
ISCO Idaho Springs 63.49 8 P **P 04 56 14.2 +0.3**
baz=190
ISCO Idaho Springs 63.49 8 *eP* **P 04 56 14.2 +0.3**
ISCO pmax pmax
comp=Z,19nm,1.5s
ISCO MLR MLR
comp=Z,779nm,19.0s
ISCO Idaho Springs 63.49 8 *eP* **P 04 56 14.2 +0.3**
comp=Z,19nm,1.5s
ISCO LR LR
comp=Z,779nm,19.0s
T39A Clever 63.50 19 P **P 04 56 13.5 -0.1**
baz=202
S36A Lake Cedric, C 63.51 17 P **P 04 56 13.7 0.0**
baz=200
O20A White River Ci 63.53 6 P **P 04 56 15.3 +1.3**
baz=187
O20A White River Ci 63.53 6 *eP* **P 04 56 15.0 +1.0**
comp=Z,48nm,2.0s
BMN Battle Mountai 63.53 358 *eP* **P 04 56 13.8 -0.1**
BMN pmax pmax
comp=Z,14nm,1.2s
BMN Battle Mountai 63.53 358 *eP* **P 04 56 13.8 -0.1**
comp=Z,14nm,1.2s
CBKS Cedar Bluff 63.54 13 PFAKE 04 56 30.0 +16
CBKS LR LR
comp=Z,2μm,19.0s
U42A Revenden 63.57 21 P **P 04 56 13.5 -0.5**
baz=204
R34A Isabella, Hill 63.62 16 P **P 04 56 15.5 +1.1**
baz=198
O03D Paynes Creek 63.67 354 P **P 04 56 16.3 +1.5**
baz=173
S37A Fort Scott 63.76 18 P **P 04 56 14.0 -1.3**
baz=201
JLU Jordanelle 63.76 3 *eP* **P 04 56 16.2 +0.6**
comp=Z,12nm,1.1s
KMRM Mail Ridge 63.79 353 *eP* **P 04 56 15.4 -0.2**
comp=Z,54nm,1.3s
CTU Camp Tracy 63.84 3 *eP* **P 04 56 16.3 +0.3**
comp=Z,12nm,1.0s
U43A Rector 63.87 22 P **P 04 56 14.8 -1.3**
baz=205
T40A Mansfield 63.88 20 P **P 04 56 14.7 -1.5**
baz=203
S38A Stockton 63.90 19 P **P 04 56 14.7 -1.5**
baz=202
WDC Whiskeytown Da 64.02 354 *eP* **P 04 56 16.6 -0.4**
WDC pmax pmax
comp=Z,31nm,1.3s
WDC Whiskeytown Da 64.02 354 *eP* **P 04 56 16.6 -0.4**
comp=Z,31nm,1.3s
BGU Big Grassy Mou 64.02 2 *eP* **P 04 56 17.1 -0.1**
comp=Z,15nm,1.2s
T41A Mountain View 64.02 21 P **P 04 56 15.8 -1.3**
baz=204
GOGA Godfrey 64.04 29 PFAKE 04 56 30.0 +13
GOGA LR LR
comp=Z,1μm,19.0s
R36A Gordon, Harris 64.10 17 P **P 04 56 16.9 -0.7**
baz=200
S39A Bolivar 64.13 19 P **P 04 56 16.6 -1.2**
baz=202
PBMO Poplar Bluff 64.23 22 *eP* **P 04 56 19.4 +1.0**
comp=Z,17nm,1.3s
R37A Teagarden Farm 64.27 18 P **P 04 56 17.9 -0.8**
baz=200
TCUT Toone Canyon 64.28 3 *eP* **P 04 56 19.5 +0.5**
comp=Z,88nm,2.0s
S40A Lebanon 64.30 20 P **P 04 56 17.8 -1.1**
baz=203
FUNA Funafuti 64.38 272 PFAKE 04 56 30.0 +10
FUNA LR LR
comp=Z,6μm,19.0s
SPUT South Promonto 64.42 2 *eP* **P 04 56 20.2 +0.4**
comp=Z,11nm,1.2s
N02D Trinity Center 64.43 354 P **P 04 56 19.7 -0.1**
baz=172
U45A Rockin P Farm, 64.43 23 P **P 04 56 18.8 -1.0**
baz=207

KHMM Horse Mountain 64.44 353 *eP* **P 04 56 20.1 +0.1**
comp=Z,23nm,1.0s
S41A Jillco Farms, 64.53 20 P **P 04 56 19.0 -1.4**
baz=204
N23A Red Feather La 64.53 8 P **P 04 56 19.9 -0.7**
baz=189
N23A Red Feather La 64.53 8 *eP* **P 04 56 20.3 -0.3**
comp=Z,29nm,1.4s
KSU1 Kansas State U 64.54 16 P **P 04 56 19.6 -0.9**
baz=199
T43A Greenville 64.55 22 P **P 04 56 19.1 -1.4**
baz=205
WVT Waverly 64.58 24 *eP* **P 04 56 18.9 -1.9**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly 64.58 24 *eP* **P 04 56 18.9 -1.9**
comp=Z,14nm,0.9s
HWUT Hardware Ranch 64.76 3 *eP* **P 04 56 23.4 +1.4**
comp=Z,9.5nm,1.3s
HWUT LR LR
comp=Z,803nm,20.0s
HOPE Hope Point 64.79 141 PFAKE 04 56 30.0 +8.1
HOPE LR LR
comp=Z,1μm,19.0s
SBA Scott Base 64.79 193 PFAKE 04 56 30.0 +8.4
SBA LR LR
comp=Z,1μm,19.0s
R39A Chumby, Stover 64.79 19 P **P 04 56 20.9 -1.2**
baz=202
M02C Callahan 64.86 354 P **P 04 56 23.0 +0.5**
baz=172
P34A Walnut Farm, R 64.91 16 P **P 04 56 22.4 -0.4**
baz=198
FDF Fort de France 64.97 60 PFAKE 04 56 40.0 +16
FDF LR LR
comp=Z,408nm,20.0s
PHWY Pilot Hill 64.99 8 *eP* **P 04 56 23.3 -0.4**
comp=Z,9.7nm,0.9s
S42A Caledonia 65.00 21 P **P 04 56 22.0 -1.5**
baz=204
MOD Modoc Plateau 65.14 356 *eP* **P 04 56 24.2 -0.3**
comp=Z,27nm,1.1s
M04C Macdoel 65.15 354 P **P 04 56 24.0 -0.5**
baz=173
OGNE Ogallala 65.16 11 PFAKE 04 56 40.0 +15
OGNE LR LR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 65.18 354 *eP* **P 04 56 26.5 +1.9**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 65.18 354 *eP* **P 04 56 26.5 +1.9**
comp=Z,10nm,1.3s
Q38A Cooks Store, C 65.22 18 P **P 04 56 23.4 -1.5**
baz=202
O33A Hebron 65.23 15 P **P 04 56 24.0 -1.0**
baz=198
BBGH Gun Hill 65.36 62 PFAKE 04 56 40.0 +14
BBGH LR LR
comp=Z,1μm,20.0s
P36A Good Intent, A 65.39 17 P **P 04 56 24.6 -1.3**
baz=200
R42A Luebbering 65.47 21 P **P 04 56 25.2 -1.2**
baz=204
Q39A Willow Grove F 65.49 19 P **P 04 56 25.2 -1.4**
baz=202
O34A Beatrice 65.54 15 P **P 04 56 25.9 -1.1**
baz=198
WVOR Wild Horse Val 65.58 357 *eP* **P 04 56 27.7 +0.4**
WVOR pmax pmax
comp=Z,21nm,1.2s
WVOR MLR MLR
comp=Z,935nm,21.0s
WVOR Wild Horse Val 65.58 357 *eP* **P 04 56 27.7 +0.4**
comp=Z,21nm,1.2s
WVOR LR LR
comp=Z,935nm,21.0s
L02D Cave Junction, 65.69 353 P **P 04 56 28.7 +0.8**
baz=171
Q40A Laux Farm, Aux 65.71 20 P **P 04 56 26.8 -1.2**
baz=203
R43A Red Bud 65.75 22 P **P 04 56 27.1 -1.1**
baz=205
VNDA Vanda 65.81 194 P **P 04 56 30.1 +1.8**
comp=Z,1.2nm,0.8s,baz=71,slow=6.5,SNR=5.0
VNDA LR LR 05 18 48.1
comp=Z,1μm,18.8s,baz=98,slow=30
P38A Dawn 65.86 18 P **P 04 56 27.5 -1.5**
baz=202
Q41A Truxton 65.94 20 P **P 04 56 27.9 -1.6**
baz=204
P39B Salisbury 65.96 19 P **P 04 56 28.2 -1.4**
baz=202
BW06 Boulder Array 66.03 4 P **P 04 56 29.3 -1.1**
baz=185
BW06 Boulder Array 66.03 4 *eP* **P 04 56 31.1 +0.8**
comp=Z,19nm,1.6s
BW06 LR LR
comp=Z,755nm,20.0s
PD31 Pinedale Array 66.03 4 *eP* **P 04 56 28.9 -1.5**
PDAR Pinedale Array 66.03 4 P **P 04 56 27.7 -2.6**
comp=Z,1.8nm,1.0s,baz=198,slow=4.4,SNR=7.6
PDAR LR LR 05 21 15.9
comp=Z,562nm,18.0s,baz=200,slow=32
HUMO Hull Mountain 66.07 354 *eP* **P 04 56 29.5 -0.8**
comp=Z,24nm,1.1s
ANWB Willy Bob 66.18 57 PFAKE 04 56 40.0 +8.5
ANWB LR LR
comp=Z,295nm,20.0s
K22A Casper 66.19 7 P **P 04 56 30.2 -1.0**
baz=188
K22A Casper 66.19 7 *eP* **P 04 56 29.9 -1.4**
comp=Z,43nm,1.4s
N34A Lincoln 66.21 15 P **P 04 56 30.2 -1.1**
baz=198
Q43A New Douglas 66.43 21 P **P 04 56 31.6 -1.0**
baz=205
N35A Tabor 66.45 16 P **P 04 56 32.1 -0.6**
baz=199
JOHN Johnston Islan 66.46 302 PFAKE 04 56 50.0 +17
JOHN LR LR
comp=Z,213nm,22.0s
MFID Camas Ranch 66.48 359 *eP* **P 04 56 32.9 -0.2**
comp=Z,16nm,1.0s
J08A Circle Bar Ran 66.50 357 *eP* **P 04 56 33.5 +0.3**
comp=Z,25nm,1.2s
REDW Red Top Meadow 66.54 3 *eP* **P 04 56 30.3 -3.3**
comp=Z,18nm,1.4s
J05D Fort Rock, OR 66.59 355 P **P 04 56 33.7 -0.1**
baz=174,SNR=11
Q44A Meyer Farm, Va 66.62 22 P **P 04 56 33.5 -0.4**
baz=206
HLID Hailey 66.63 1 P **P 04 56 33.8 -0.3**
baz=181,SNR=19
HLID Hailey 66.63 1 *eP* **P 04 56 34.2 +0.1**
comp=Z,16nm,1.0s
HLID LR LR
comp=Z,788nm,19.0s
P41A Barry, Barry 66.65 20 P **P 04 56 33.7 -0.3**
baz=204
TPAW Teton Pass 66.67 3 *eP* **P 04 56 33.5 -0.9**
comp=Z,25nm,1.4s
N37A Lee Faris, Mou 66.73 17 P **P 04 56 33.4 -1.1**
baz=201
QSPA South Pole Qui 66.75 180 *eP* **P 04 56 35.4 +0.7**
comp=Z,28nm,1.0s
QSPA LR LR
comp=Z,1μm,21.0s
LOHW Long Hollow 66.81 4 *eP* **P 04 56 35.0 -0.3**
comp=Z,9.3nm,1.2s
FXWY Fox Creek 66.81 3 *eP* **P 04 56 35.1 -0.2**
comp=Z,36nm,1.8s
MOOW Moose Ponds 66.94 3 *eP* **P 04 56 34.5 -1.6**
comp=Z,12nm,1.3s
N38A Joes South For 67.03 18 P **P 04 56 35.8 -0.7**
baz=202
IMW Indian Meadow 67.07 3 *eP* **P 04 56 38.0 +1.0**
comp=Z,26nm,1.4s
O41A Passleys Farm, 67.11 20 P **P 04 56 36.0 -1.0**
baz=204
I04A Tendick Farm, 67.19 354 P **P 04 56 37.8 +0.3**
baz=173
N39A Derby Farms, D 67.32 18 P **P 04 56 37.3 -0.9**
baz=202
K32A Verdigre 67.61 14 P **P 04 56 38.6 -1.5**
baz=197
M38A Pleasantville 67.62 18 P **P 04 56 38.6 -1.6**
baz=202
I05D Terrebonne, OR 67.64 355 P **P 04 56 40.2 -0.2**

baz=174
L35A Bielow Farm, R 67.65 16 P **P 04 56 39.9 -0.5**
baz=199
N41A Harden Midland 67.66 20 P **P 04 56 39.6 -0.8**
baz=204
O43A Sugar Creek Fa 67.77 21 P **P 04 56 40.1 -1.0**
baz=205
LKWY Lake 67.77 4 PFAKE 04 56 50.0 +8.6
LKWY LR LR
comp=Z,903nm,19.0s
K33A Hardington 67.77 14 P **P 04 56 40.3 -0.8**
baz=198
YMR Madison River 67.84 3 *e*P **P 04 56 44.1 +2.3**
comp=Z,20nm,1.3s
YHB Horse Butte 67.91 3 *e*P **P 04 56 44.9 +2.6**
comp=Z,22nm,1.6s
MCMT McKenzie Canyo 67.92 2 *e*P **P 04 56 42.9 +0.6**
BMO Blue Mountains 67.95 358 *e*P **P 04 56 41.7 -0.6**
BMO pmax pmax
comp=Z,9.0nm,1.0s
BMO MLR MLR
comp=Z,837nm,20.0s
BMO Blue Mountains 67.95 358 *e*P **P 04 56 41.7 -0.6**
comp=Z,9.4nm,1.0s
BMO LR LR
comp=Z,837nm,20.0s
RSSD Black Hills 67.95 9 P **P 04 56 41.2 -1.3**
baz=191
RSSD Black Hills 67.95 9 *e*P **P 04 56 41.1 -1.4**
RSSD pmax pmax
comp=Z,25nm,1.6s
RSSD Black Hills 67.95 9 *e*P **P 04 56 41.1 -1.4**
comp=Z,25nm,1.6s
YHH Holmes Hill 67.97 3 *e*P **P 04 56 42.8 +0.2**
comp=Z,16nm,1.4s
M39A Webster 67.97 18 P **P 04 56 41.6 -0.8**
baz=202
HDIL Hopedale 68.02 21 P **P 04 56 41.1 -1.5**
baz=205
HDIL Hopedale 68.02 21 PFAKE 04 56 50.0 +7.3
HDIL LR LR
comp=Z,2μm,22.0s
N42A Yates City 68.02 20 P **P 04 56 41.4 -1.3**
baz=205
J31A Geddes 68.05 13 P **P 04 56 41.8 -1.1**
baz=196
K34A Le Mars 68.06 15 P **P 04 56 41.8 -1.2**
baz=199
SCIA State Center 68.07 17 PFAKE 04 57 00.0 +17
SCIA LR LR
comp=Z,911nm,20.0s
M40A Post Highland 68.09 19 P **P 04 56 43.5 +0.3**
baz=203
L37A Phoenix Point, 68.12 17 P **P 04 56 42.2 -1.1**
baz=201
P47A Martinsville 68.12 24 P **P 04 56 43.9 +0.5**
baz=208
CNNC Cliffs of the 68.16 32 PFAKE 04 57 00.0 +16
CNNC LR LR
comp=Z,515nm,21.0s
O45A Potomac 68.27 22 P **P 04 56 42.1 -2.2**
baz=207
K35A Storm Lake 68.30 16 P **P 04 56 44.1 -0.3**
baz=200
J32A Parkston 68.31 13 P **P 04 56 44.6 +0.1**
baz=197
M41A Milan 68.36 20 P **P 04 56 42.7 -2.1**
baz=204
RLMT Red Lodge 68.40 4 P **P 04 56 45.7 +0.4**
baz=186
K36A Gilmore City 68.42 16 P **P 04 56 45.2 0.0**
baz=200
BLA Blacksburg 68.58 29 PFAKE 04 57 00.0 +14
BLA LR LR
comp=Z,918nm,22.0s
L39A Vinton 68.61 18 P **P 04 56 45.4 -1.0**
baz=203
J34A George 68.66 15 P **P 04 56 46.7 0.0**
baz=199
BOZ Bozeman (W) 68.73 3 P **P 04 56 47.4 +0.1**
baz=183
BOZ Bozeman (W) 68.73 3 PFAKE 04 57 00.0 +13
BOZ LR LR
comp=Z,538nm,19.0s
L40A Anamosa 68.78 19 P **P 04 56 47.4 -0.1**
baz=203
ECSD EROS Data Cent 68.93 14 P **P 04 56 47.0 -1.4**
baz=198
ECSD EROS Data Cent 68.93 14 *e*P **P 04 56 47.0 -1.4**
comp=Z,23nm,1.5s
ECSD LR LR
comp=Z,849nm,20.0s
I32A Karley and Nic 69.02 14 P **P 04 56 48.4 -0.6**
baz=197
J36A Seneca 1, Swea 69.10 16 P **P 04 56 48.7 -0.7**
baz=200
SUSD Miller 69.11 12 P **P 04 56 50.0 +0.5**
baz=196
K39A Oelwein 69.18 18 P **P 04 56 49.9 0.0**
baz=203
J37A Redenius Farm, 69.28 17 P **P 04 56 50.9 +0.4**
baz=201
I34A Hadley 69.39 15 P **P 04 56 50.5 -0.7**
baz=199
H32A Carlson Farm, 69.48 13 P **P 04 56 53.0 +1.2**
baz=197
HAWA Hanford 69.57 357 *e*P **P 04 56 55.9 +3.6**
comp=Z,49nm,1.9s
HAWA LR LR
comp=Z,461nm,19.0s
E09A Wood Farm, Sta 69.63 358 *e*P **P 04 56 54.2 +1.6**
comp=Z,15nm,1.2s
L43A Garden Prairie 69.66 21 P **P 04 56 53.2 +0.2**
baz=206
H33A Prehn Over Nor 69.80 14 P **P 04 56 54.2 +0.4**
baz=198
J39A Decorah 69.81 18 P **P 04 56 54.1 +0.3**
baz=203
I36A Fitzsimmons Fa 69.82 16 P **P 04 56 53.9 0.0**
baz=200
HRY Holter Researc 69.84 2 *e*P **P 04 56 53.7 -0.3**
JFWS Jewell Farm 69.85 19 PFAKE 04 57 10.0 +16
JFWS LR LR
comp=Z,1μm,20.0s
MSO Missoula 69.90 1 P **P 04 56 54.7 +0.2**
baz=181
MSO Missoula 69.90 1 *e*P **P 04 56 56.1 +1.7**
comp=Z,9.9nm,1.1s
I37A Lemond, Waseca 69.98 17 P **P 04 56 53.7 -1.1**
baz=201
CHMT Chamberlain Mo 70.00 1 *e*P **P 04 56 56.9 +1.8**
H34A Spellman Lake, 70.01 15 P **P 04 56 54.7 -0.3**
baz=199
ACSO Alum Creek Sta 70.03 26 PFAKE 04 57 10.0 +15
ACSO LR LR
comp=Z,1μm,19.0s
J40A Soldiers Grove 70.15 19 P **P 04 56 55.8 -0.1**
baz=204
G32A Webster 70.19 13 P **P 04 56 54.8 -1.3**
baz=197
D08A Wollman Farm, 70.21 357 *e*P **P 04 56 55.0 -1.2**
comp=Z,15nm,1.2s
SLMT Seeley Lake 70.32 1 *e*P **P 04 56 58.9 +1.8**
G33A Ortonville 70.36 14 P **P 04 56 55.7 -1.4**
baz=198
H36A Jessenland, He 70.37 16 P **P 04 56 55.6 -1.6**
baz=200
SWMT Swartz Lake 70.58 1 *e*P **P 04 57 00.7 +2.1**
F31A Hecla 70.61 12 P **P 04 56 58.8 +0.1**
baz=196
CBN Corbin Frederi 70.79 31 PFAKE 04 57 10.0 +10
CBN LR LR
comp=Z,407nm,19.0s
G35A Watkins 70.83 15 P **P 04 56 59.3 -0.7**
baz=200
F32A Veblen 70.85 13 P **P 04 57 00.6 +0.5**
baz=197
NLWA Neilton Lookou 70.90 354 PFAKE 04 57 10.0 +10
NLWA LR LR
comp=Z,536nm,20.0s
BSMT Bassoo Peak 70.92 0 *e*P **P 04 57 02.4 +1.6**
C09A Chrisman Ranch 70.92 358 *e*P **P 04 57 00.5 0.0**
comp=Z,13nm,0.9s
YBMT Yellow Bay 70.94 1 *e*P **P 04 57 00.4 -0.3**
F33A 5 Mile Ranch, 71.00 14 P **P 04 57 00.4 -0.6**
baz=198
I41A Arkdale 71.01 19 P **P 04 57 00.3 -0.8**

baz=204
EGMT Eagleton 71.25 4 P **P 04 57 02.1 -0.5**
baz=185
EGMT Eagleton 71.25 4 PFAKE 04 57 10.0 +7.4
EGMT LR LR
comp=Z,827nm,19.0s
NEW Newport 71.35 359 P **P 04 57 02.6 -0.6**
baz=178,SNR=9.4
NEW Newport 71.35 359 *e*P **P 04 57 02.8 -0.4**
NEW pmax pmax
comp=Z,18nm,1.1s
NEW MLR MLR
comp=Z,1μm,20.0s
NEW Newport 71.35 359 *e*P **P 04 57 02.8 -0.4**
comp=Z,18nm,1.1s
NEW LR LR
comp=Z,1μm,20.0s
E31A Nome 71.35 12 P **P 04 57 03.7 +0.5**
baz=196
B08A Colville Reser 71.52 357 *e*P **P 04 57 05.7 +1.5**
comp=Z,13nm,1.0s
AAM Ann Arbor 71.54 24 PFAKE 04 57 20.0 +16
AAM LR LR
comp=Z,759nm,19.0s
F36A Milaca 71.67 16 P **P 04 57 05.1 0.0**
baz=201
G39A Holcombe 71.76 18 P **P 04 57 07.1 +1.4**
baz=203
F37A Hinrichs Farm, 71.77 16 P **P 04 57 06.8 +1.1**
baz=202
D31A Mcclaflin, Tow 71.86 12 P **P 04 57 07.4 +1.2**
baz=197
DGMT Dagmar 72.20 8 P **P 04 57 09.2 +0.9**
baz=190
DGMT Dagmar 72.20 8 *e*P **P 04 57 08.1 -0.1**
DGMT comp=Z,39nm,1.3s LR LR
comp=Z,1μm,20.0s
D33A AnnSam, Waubun 72.33 14 P **P 04 57 09.5 +0.4**
baz=198
E36A McGregor 72.35 16 P **P 04 57 08.1 -1.1**
baz=201
D34A Park Rapids 72.42 14 P **P 04 57 11.1 +1.5**
baz=199
C31A Landman Farms, 72.57 12 P **P 04 57 11.3 +0.9**
baz=196
F40A Park Falls 72.63 18 P **P 04 57 10.8 -0.1**
baz=204
VNA3 Neumayer Olymp 72.88 161 P **P 04 57 10.4 -1.7**
E39A Mellen 72.93 18 P **P 04 57 13.3 +0.7**
baz=203
C33A Trail 72.94 14 P **P 04 57 13.1 +0.5**
baz=198
C34A RKJ Ranch, Bem 73.02 14 P **P 04 57 14.3 +1.2**
baz=199
B31A Greenbush Farm 73.19 12 P **P 04 57 14.9 +0.9**
baz=197
B32A Ashes, Strandq 73.38 13 P **P 04 57 15.0 -0.3**
baz=198
GLMI Grayling 73.39 22 PFAKE 04 57 30.0 +15
GLMI LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 73.43 13 P **P 04 57 17.1 +1.6**
baz=198
AGMN Agassiz Nation 73.43 13 PFAKE 04 57 30.0 +15
AGMN LR LR
comp=Z,574nm,21.0s
VNA1 Neumayer--Stat 73.53 161 P **P 04 57 17.5 +1.6**
C36A Pine Crest Far 73.61 15 P **P 04 57 16.6 0.0**
baz=201
VNA2 Neumayer--Watz 73.69 161 P **P 04 57 18.5 +1.7**
baz=285,slow=5.0
A31A Linda, St. Vin 73.76 12 P **P 04 57 17.6 +0.1**
baz=197
B34A Aery, Baudette 73.87 14 P **P 04 57 17.4 -0.7**
baz=199
LLLB Lilloot 73.92 356 *e*P **P 04 57 21.8 +3.4**
comp=Z,13nm,1.1s
TARA Tarawa 74.02 279 PFAKE 04 57 30.0 +10
TARA LR LR
comp=Z,87nm,20.0s
BINY Binghamton 74.62 29 PFAKE 04 57 30.0 +7.4
BINY LR LR
comp=Z,1μm,20.0s
SNAA Sanae 74.67 162 P **P 04 57 23.5 +0.8**
SNAA Sanae 74.67 162 *e*P **P 04 57 22.2 -0.5**
SNAA pmax pmax
comp=Z,19nm,1.1s
SNAA Sanae 74.67 162 *e*P **P 04 57 22.2 -0.5**
comp=Z,19nm,1.1s
ULM Lac du Bonnet 75.28 13 P **P 04 57 24.6 -1.6**
comp=Z,1.7nm,0.6s,baz=206,slow=4.5,SNR=2.8
ULM LR LR 05 28 30.4
comp=Z,595nm,18.1s,baz=192,slow=34
RCBR Riachuelo 77.83 91 PFAKE 04 57 50.0 +8.3
RCBR LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 78.62 8 PFAKE 04 58 00.0 +15
FFC LR LR
comp=Z,1μm,19.0s
MIDW Midway 78.94 307 PFAKE 04 58 00.0 +13
MIDW LR LR
comp=Z,3μm,20.0s
NVL N'lazarevskaya 79.08 164 *e*P **P 04 57 47.1 -0.3**
NVL *e*S **S 05 07 50.5 +4.1**
TAU Tasmania Unive 79.68 228 PFAKE 04 58 00.0 +8.7
TAU LR LR
comp=Z,3μm,19.0s
PKME Peaks-Kenny Pk 80.06 31 PFAKE 04 58 00.0 +7.0
PKME LR LR
comp=Z,735nm,22.0s
CAN Canberra 81.35 235 PFAKE 04 58 10.0 +9.5
CAN LR LR
comp=Z,558nm,20.0s
HNR Honiara 81.70 263 PFAKE 04 58 20.0 +17
HNR LR LR
comp=Z,749nm,20.0s
YKA Yellowknife Ar 85.59 0 P **P 04 58 21.4 0.0**
comp=Z,6.4nm,0.8s,baz=174,slow=5.1,SNR=7.4
YKA LR LR 05 31 40.2
comp=Z,69nm,19.8s,baz=180,slow=32
SYO Syowa Base 86.04 171 ‖*e*X **P 04 58 19.4 -4.3**
KDAK Kodiak Island 86.72 341 LR LR 05 29 14.9
comp=Z,243nm,19.6s,baz=159,slow=30
H11S2 WAKE ISLAND Hy 86.89 292 T T 06 34 21.6
baz=116,slow=75,SNR=955
H11S1 WAKE ISLAND Hy 86.90 292 T T 06 34 22.4
baz=116,slow=75,SNR=710
H11S3 WAKE ISLAND Hy 86.91 292 T T 06 34 21.6
baz=116,slow=75,SNR=751
H11N3 WAKE ISLAND Hy 87.25 293 T T 06 34 49.2
baz=117,slow=75,SNR=822
H11N1 WAKE ISLAND Hy 87.26 293 T T 06 34 51.2
baz=117,slow=75,SNR=444
H11N2 WAKE ISLAND Hy 87.26 293 T T 06 34 49.2
baz=117,slow=75,SNR=1681
SCHQ Schefferville 88.19 26 LR LR 05 35 46.5
comp=Z,333nm,21.0s,baz=234,slow=34
STKA Stephens Creek 88.40 236 LR LR 05 34 08.1
comp=Z,636nm,18.1s,baz=122,slow=33
PMR Palmer 89.00 344 *e*P **P 04 58 41.8 +4.0**
PMR pmax pmax
comp=Z,50nm,1.5s
PMR Palmer 89.00 344 *e*P **P 04 58 41.8 +4.0**
comp=Z,50nm,1.5s
MAW Mawson 89.26 179 LR LR 05 34 33.5
comp=Z,1μm,19.4s,baz=188,slow=33
CTAO Charters Tower 89.69 248 PFAKE 04 58 50.0 +7.8
CTAO LR LR
comp=Z,668nm,21.0s
KTH Kantishna Hill 91.11 345 *e*P **P 04 58 49.9 +2.1**
comp=Z,39nm,1.4s
ILAR Eielson Array 91.26 347 P **P 04 58 49.0 +0.7**
comp=Z,0.6nm,0.7s,baz=174,slow=3.6,SNR=3.8
CCB Clear Creek Bu 91.34 347 *e*P **P 04 58 52.4 +3.7**
comp=Z,26nm,1.9s
MDM Murphy Dome 91.71 347 *e*P **P 04 58 51.8 +1.3**
comp=Z,33nm,1.6s
PMG Port Moresby 93.30 258 PFAKE 04 59 10.0 +11
PMG LR LR
comp=Z,590nm,22.0s
ASCN Ascension 96.65 102 PFAKE 04 59 30.0 +16
ASCN LR LR
comp=Z,1μm,21.0s
SACV Santiago Islan 97.17 77 PFAKE 04 59 30.0 +13
SACV LR LR
comp=Z,328nm,21.0s

ASAR Alice Springs 98.27 240 P Pdif 04 59 25.4 +3.8
comp=Z,0.8nm,0.8s,baz=133,slow=4.1,SNR=4.3
ASAR LR LR 05 42 15.6
comp=Z,349nm,18.4s,baz=128,slow=34
WRAB Tennant Creek 99.74 243 PFAKE 04 59 40.0 +12
WRAB LR LR
comp=Z,842nm,19.0s
GUMO Guam 104.33 279 PFAKE 05 00 00.0 +11
GUMO LR LR
comp=Z,897nm,19.0s
NWAO Narrogin (SRO) 104.97 224 PFAKE 05 04 20.0
NWAO LR LR
comp=Z,876nm,20.0s
PET Petropavlovsk 106.15 321 PFAKE 05 04 20.0
PET LR LR
comp=Z,721nm,20.0s
MBWA Marble Bar 110.61 235 PFAKE 05 04 30.0
MBWA LR LR
comp=Z,789nm,22.0s
ERM Erimo 113.73 307 PFAKE 05 04 30.0
ERM LR LR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 114.82 312 PFAKE 05 04 40.0 +16
YSS LR LR
comp=Z,583nm,19.0s
MAJO Matsushiro 116.51 300 PFAKE 05 04 40.0 +12
MAJO LR LR
comp=Z,611nm,22.0s
RTC Rabat Centre 117.32 63 PFAKE 05 04 40.0 +11
RTC LR LR
comp=Z,933nm,22.0s
TSUM Tsumeb 117.38 129 PFAKE 05 04 40.0 +10
TSUM LR LR
comp=Z,475nm,22.0s
KAPI Kappang 119.49 249 PFAKE 05 04 50.0 +16
KAPI LR LR
comp=Z,274nm,20.0s
TORD Torodi Ar. Bea 119.54 88 PKP **PKPdf 05 04 35.0 +0.9**
comp=Z,1.0nm,0.9s,baz=296,slow=3.2,SNR=4.4
DAV Davao City (W) 119.64 265 PFAKE 05 04 50.0 +16
DAV LR LR
comp=Z,284nm,20.0s
TIXI Tiksi 120.14 341 PFAKE 05 04 50.0 +16
TIXI LR LR
comp=Z,250nm,20.0s
ESDC Sonseca Array 120.47 57 PKP **PKPdf 05 04 35.1 -0.1**
comp=Z,0.2nm,0.7s,baz=325,slow=3.6,SNR=2.6
YAK Yakutsk 122.18 330 PFAKE 05 04 50.0 +12
YAK LR LR
comp=Z,465nm,20.0s
MDJ Mudanjiang 123.82 309 PFAKE 05 04 50.0 +8.5
MDJ LR LR
comp=Z,679nm,20.0s
TAM Tamanrasset 125.75 78 PFAKE 05 05 00.0 +14
TAM LR LR
comp=Z,612nm,20.0s
INCN Inchon 125.81 300 PFAKE 05 05 00.0 +14
INCN LR LR
comp=Z,1μm,22.0s
CN2 Changchun 126.81 308 *e*PKP **PKPdf 05 04 45.0 -2.2**
SSB Saint Sauveur 126.92 50 PFAKE 05 05 00.0 +13
SSB LR LR
comp=Z,731nm,21.0s
LSZ Lusaka 127.42 133 PFAKE 05 05 00.0 +11
LSZ LR LR
comp=Z,386nm,20.0s
WLF Walferdange 127.59 44 PFAKE 05 05 00.0 +11
WLF LR LR
comp=Z,390nm,19.0s
BNI Bardonecchia 128.44 50 PFAKE 05 05 00.0 +9.5
BNI LR LR
comp=Z,949nm,19.0s
TATO Taipei 128.66 284 PFAKE 05 05 00.0 +8.7
TATO LR LR
comp=Z,688nm,20.0s
YHNB Yeheng 128.70 284 PFAKE 05 05 00.0 +8.5
YHNB LR LR
comp=Z,1μm,22.0s
HIA Hailar 130.14 316 PFAKE 05 05 10.0 +17
HIA LR LR
comp=Z,1μm,22.0s
TUE Stuetta 130.15 48 PFAKE 05 05 10.0 +16
TUE LR LR
comp=Z,764nm,21.0s
KSM Kuching 130.89 250 PFAKE 05 05 10.0 +14
KSM LR LR
comp=Z,299nm,20.0s
VLC Villacollemand 131.16 51 PFAKE 05 05 10.0 +14
VLC LR LR
comp=Z,455nm,19.0s
CLL Collm 131.56 41 *e*PKPdf **PKPdf 05 04 58.0 +2.0**
CLL *e*SS SS 05 24 54.0 +4.4
NJ2 Nanjing 131.86 293 *e*PKP **PKPdf 05 04 57.8 +0.6**
KHC Kasperske Hory 132.46 44 *e*PKPdf **PKPdf 05 05 00.8 +2.9**
KHC Kasperske Hory 132.46 44 *e*PKIKP **PKPdf 05 05 00.8 +2.9**
GERES GERESS Array B 132.61 44 PKP **PKPdf 05 04 58.8 +0.5**
comp=Z,0.3nm,0.7s,baz=177,slow=3.5,SNR=3.0
AQU L'Aquila 133.57 53 PFAKE 05 05 10.0 +10
AQU LR LR
comp=Z,451nm,20.0s
CLTB Caltabellotta 133.84 60 PFAKE 05 05 10.0 +9.1
CLTB LR LR
comp=Z,288nm,19.0s
BJI Beijing 133.95 304 PKP **PKPdf 05 05 01.0 +0.1**
BJI LR LR
comp=Z,210nm,18.3s
BJI LR LR
comp=Z,560nm,21.0s
BJI LR LR
comp=Z,820nm,34.8s
BJT Baijiatuau 133.96 304 PFAKE 05 05 10.0 +9.1
BJT LR LR
comp=Z,907nm,22.0s
ABPO Ambohimpanom 134.46 156 PFAKE 05 05 10.0 +7.2
ABPO LR LR
comp=Z,172nm,20.0s
WDD Wied Dalam 134.95 62 PFAKE 05 05 10.0 +7.1
WDD LR LR
comp=Z,439nm,19.0s
CUC Castrocucco 135.66 56 PFAKE 05 05 20.0 +16
CUC LR LR
comp=Z,268nm,21.0s
PSZ Piszkesteto 136.83 44 PFAKE 05 05 20.0 +14
PSZ LR LR
comp=Z,448nm,20.0s
HHC Hu-ho-hao-te 137.34 305 *e*PKP **PKPdf 05 05 03.3 -4.1**
HHC PP **PP 05 07 52.5 -0.2**
HHC AMB AMB
comp=Z,71nm,7.6s
HHC LR LR
comp=Z,330nm,16.0s
HHC LR LR
comp=Z,480nm,17.3s
HHC LR LR
comp=Z,620nm,16.0s
QIZ Qiongzhong 137.98 273 PKP **PKPdf 05 05 13.5 +4.5**
QIZ PP **PP 05 07 59.0 +1.7**
QIZ SS SS 05 26 10.3 +1.4
QIZ LR LR
comp=Z,340nm,28.6s
QIZ Qiongzhong 137.98 273 PFAKE 05 05 20.0 +11
QIZ LR LR
comp=Z,488nm,20.0s
TIR Tirane 138.50 53 PFAKE 05 05 20.0 +11
TIR LR LR
comp=Z,579nm,21.0s
ULN Ulaanbaatar 138.62 317 PFAKE 05 05 20.0 +10
ULN LR LR
comp=Z,862nm,21.0s
TLY Talaya 139.02 324 PFAKE 05 05 20.0 +10
TLY LR LR
comp=Z,382nm,22.0s
ENH Enshi 139.81 290 PFAKE 05 05 20.0 +7.9
ENH LR LR
comp=Z,406nm,22.0s
KULM Kulim 141.12 248 PFAKE 05 05 30.0 +15
KULM LR LR
comp=Z,415nm,20.0s
KIEV Kiev 141.21 36 *e*PKIKP **PKPdf 05 05 14.8 +0.9**
KIEV Kiev 141.21 36 *e*PKPdf **PKPdf 05 05 14.8 +0.9**
AKASG Malin Array Be 141.21 36 PKhKP PKPpre 05 05 07.6
comp=Z,0.9nm,0.6s,baz=293,slow=3.1,SNR=1.9
AKASG PKP **PKPdf 05 05 14.3 +0.3**
comp=Z,3.1nm,0.9s,baz=286,slow=2.2,SNR=6.2
AKBB Malin Array Si 141.21 36 *e*PKIKP **PKPdf 05 05 15.3 +1.4**

Error ellipse: s-maj=7.4km s-min=4.7km az=214.0
ISC 31 04:48:46.4±0.4,8˙10S±0˙06×106˙86E±0˙05,h46km,n214,
σ1$64/205,mb4.7/65,MS3.6/3,13C-2D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.09**	**61**	*e*Pn	**Pn**	**04 49 05.2**	**-0.1**
CISI				*e*S	**Sn**	**04 49 18.0**	**-1.2**
XMIS	**Christmas Isla**	**2.65**	**207**	*e*Pn	**Pn**	**04 49 22.4**	**-4.4**
XMIS				*e*S	Sn	04 49 48.5	-9.3
UGM	**Wanagama**	**3.63**	**87**	*e*Pn	**Pn**	**04 49 40.7**	**+0.5**
SMRI	**Semarang**	**3.70**	**74**	*e*Pn	**Pn**	**04 49 43.0**	**+1.9**
JAGI	**Jajag, Banyuwa**	**7.22**	**93**	*e*Pn	**Pn**	**04 50 31.6**	**+2.0**
JAGI				*e*S	**Sn**	**04 51 50.8**	**+0.5**
COCO	**West Island**	**10.68**	**247**	*e*P	**Pn**	**04 51 17.0**	**+0.2**
COCO	**West Island**	**10.68**	**247**	*e*Pn	**Pn**	**04 51 17.0**	**+0.2**
COCO				*e*S	Sn	04 53 02.3	-13
KAPI	**Kappang**	**13.17**	**77**	*e*Pn	**Pn**	**04 51 51.1**	**+0.2**
PSI	**Prapat**	**13.41**	**324**	*e*P	**Pn**	**04 51 52.2**	**-2.1**
PSI	**Prapat**	**13.41**	**324**	*e*Pn	**Pn**	**04 51 52.2**	**-2.1**
MMRI	**Maumere**	**15.22**	**93**	*e*Pn	**Pn**	**04 52 18.6**	**+0.2**
LHMI	**Lhok Sumawe** 137nm,1.3s	**16.52**	**323**	*e*Pn	**Pn**	**04 52 35.0**	**-0.1**
SOEI	**Soe** 37nm,0.8s	**17.27**	**97**	*e*Pn	**Pn**	**04 52 42.4**	**-2.2**
SOEI				*e*S	**S**	**04 56 00.5**	**-2.7**
MYLDM	**Lahad Datu** 19nm,1.0s	**17.57**	**42**	*e*Pn	**P**	**04 52 48.4**	**-0.3**
FITZ	**Fitzroy Crossi** 9.4nm,0.8s,baz=257,slow=5.7,SNR=12	**20.80**	**120**	P	**P**	**04 53 24.0**	**+0.1**
FAKI	**Fak Fak** 7.9nm,0.6s	**25.78**	**80**	*e*P	**P**	**04 54 13.4**	**+0.1**
NWAO	**Narrogin (SRO)** comp=Z,174nm,18.9s,baz=310,slow=35	**26.51**	**160**	LR	LR	05 04 10.0	
QIZ	**Qiongzhong**	**27.11**	**6**	P	**P**	**04 54 28.0**	**+2.8**
QIZ				S	**S**	**04 59 08.5**	**+8.1**
CMAR	**Chiang Mai Arr** 2.7nm,0.8s,baz=180,slow=8.4,SNR=8.1	**27.52**	**344**	P	**P**	**04 54 27.5**	**-1.3**
CMAR				LR	LR	05 05 32.3	
CHTO	**Chiang Mai** comp=Z,5.0nm,1.0s	**27.86**	**344**	*e*P	**P**	**04 54 30.7**	**-1.2**
CHTO				pmax	pmax		
CHTO	**Chiang Mai** comp=Z,5.2nm,1.0s	**27.86**	**344**	*e*P	**P**	**04 54 30.7**	**-1.2**
WRA	**Warramunga Arr** comp=Z,5.5nm,1.1s,baz=289,slow=11,SNR=13	**29.09**	**117**	P	**P**	**04 54 43.3**	**+0.3**
WRAB	**Tennant Creek**	**29.10**	**117**	*ce*P	**P**	**04 54 42.9**	**-0.1**
WRAB				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,20nm,1.0s	**29.10**	**117**	*e*P	**P**	**04 54 42.8**	**-0.1**
WB2	**Warramunga Arr** comp=Z,4.4nm,0.8s	**29.10**	**117**	*e*P	**P**	**04 54 43.2**	**+0.1**
FORT	**Forrest** comp=Z,289nm,1.1s	**30.03**	**142**	*e*P	**P**	**04 54 49.7**	**-1.4**
ASAR	**Alice Springs** comp=Z,1.4nm,0.5s,baz=292,slow=8.8,SNR=15	**30.18**	**124**	P	**P**	**04 54 53.2**	**+0.6**
AS31	**Alice Springs** comp=Z,2.6nm,1.4s	**30.18**	**124**	*e*P	**P**	**04 54 52.0**	**-0.6**
PALK	**Pallekele**	**30.22**	**300**	*e*P	**P**	**04 54 51.7**	**-1.3**
PALK				pmax	pmax		
PALK	**Pallekele** comp=Z,47nm,1.4s	**30.22**	**300**	*e*P	**P**	**04 54 51.7**	**-1.3**
KMI	**Kunming**	**33.26**	**353**	P	**P**	**04 55 23.0**	**+3.2**
KMI				pmax	pmax		
KMI	comp=Z,15nm,0.6s			pmax	pmax		
H08S2	**Diego Garcia H** baz=92,slow=75,SNR=20	**34.04**	**268**	T	T	05 31 11.6	
H08S3	**Diego Garcia H** baz=92,slow=75,SNR=21	**34.05**	**268**	T	T	05 31 11.4	
H08S1	**Diego Carcia H** baz=92,slow=75,SNR=19	**34.06**	**268**	T	T	05 31 10.5	
YULB	**Yu-li** comp=Z,64nm,1.7s	**34.33**	**24**	*e*P	**P**	**04 55 29.9**	**+1.1**
GYA	**Guiyang**	**34.35**	**360**	*e*P	**P**	**04 55 31.5**	**+2.4**
GYA				pmax	pmax		
SSLB	**Suanglung** comp=Z,102nm,1.9s	**34.55**	**23**	*e*P	**P**	**04 55 31.7**	**+0.9**
NACB	**Ninganchiao** comp=Z,72nm,1.6s	**35.15**	**24**	*e*P	**P**	**04 55 36.8**	**+0.9**
COEN	**Coen** comp=Z,7.1nm,0.8s	**36.09**	**103**	*e*P	**P**	**04 55 43.7**	**-0.5**
CD2	**Chengdu**	**38.90**	**356**	*e*P	**P**	**04 56 10.0**	**+2.3**
PMG	**Port Moresby**	**39.84**	**95**	*e*P	**P**	**04 56 16.8**	**+1.0**
PMG				pmax	pmax		
PMG	**Port Moresby** comp=Z,2.1nm,0.9s	**39.84**	**95**	*e*P	**P**	**04 56 16.2**	**+0.4**
CTAO	**Charters Tower**	**39.91**	**112**	*e*P	**P**	**04 56 14.8**	**-1.6**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,8.0nm,1.0s	**39.91**	**112**	*e*P	**P**	**04 56 14.8**	**-1.6**
STKA	**Stephens Creek** comp=Z,7.6nm,1.0s	**40.02**	**131**	P	**P**	**04 56 18.7**	**+1.6**
STKA	**Stephens Creek** comp=Z,3.0nm,0.6s,baz=303,slow=7.0,SNR=8.2	**40.02**	**131**	*e*P	**P**	**04 56 17.3**	**+0.2**
STKA				pmax	pmax		
STKA	**Stephens Creek** comp=Z,2.0nm,0.8s	**40.02**	**131**	*e*P	**P**	**04 56 17.3**	**+0.2**
LSA	**Lhasa** comp=Z,1.6nm,0.8s	**40.50**	**339**	*e*P	**P**	**04 56 21.6**	**0.0**
LSA	**Lhasa**	**40.50**	**339**	*e*P	**P**	**04 56 21.6**	**0.0**
NJ2	**Nanjing**	**41.53**	**15**	*e*P	**P**	**04 56 31.0**	**+1.6**
NJ2				pmax	pmax		
LZH	**Lanzhou** comp=Z,12nm,0.7s	**44.04**	**356**	*e*P	**P**	**04 56 53.3**	**+3.4**
LZH				pP	pP	04 57 04.0	+1.5
LZH				sP	sP	04 57 08.5	+0.6
LZH				pmax	pmax		
GTA	**Gaotai** comp=Z,15nm,1.0s	**47.71**	**353**	*e*P	**P**	**04 57 21.5**	**+2.7**
GTA				pP	pP	04 57 30.8	-0.7
GTA				sP	sP	04 57 35.0	-1.8
GTA				pmax	pmax		
HHC	**Hu-ho-hao-te** comp=Z,3.0nm,1.0s	**48.89**	**5**	*e*P	**P**	**04 57 31.5**	**+3.7**
HHC				pmax	pmax		
HHC	comp=Z,15nm,0.9s			pmax	pmax		
KSAR	**Wonju Array Be** comp=Z,120nm,8.5s	**49.39**	**22**	P	**P**	**04 57 31.6**	**+0.1**
KSAR	**Wonju Array Be**	**49.39**	**22**	P	**P**	**04 57 31.6**	**+0.1**
KSRS	**Korea Array** comp=Z,2.4nm,0.8s,baz=205,slow=9.4,SNR=9.3	**49.41**	**22**	P	**P**	**04 57 31.6**	**-0.1**
MAJO	**Matsushiro** comp=Z,27nm,1.1s	**53.27**	**32**	*i* P	**P**	**04 58 00.7**	**0.0**
MAJO				pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,1.0nm,0.5s,baz=211,slow=8.8,SNR=4.1	**53.27**	**32**	P	**P**	**04 57 58.7**	**-2.0**
CN2	**Changchun**	**54.33**	**17**	*e*P	P	04 58 13.5	+5.2
WMQ	**Urumqi**	**54.52**	**343**	P	**P**	**04 58 12.0**	**+2.3**
WMQ				pP	pP	04 58 20.8	-1.8
WMQ				sP	sP	04 58 23.5	-4.4
WMQ				pmax	pmax		
WMQ	comp=Z,5.0nm,0.9s			pmax	pmax		
WMQ	comp=Z,200nm,6.5s			LR	LR		
WMQ	comp=Z,41nm,16.7s			LR	LR		
WMQ	comp=Z,44nm,18.3s			LR	LR		
WMQ	comp=Z,270nm,19.5s			LR	LR		
MSHR	**Mys Shultsa**	**55.09**	**22**	⇑*i* P	**P**	**04 58 12.0**	**-1.8**
KSH	**Kashi**	**55.34**	**331**	P	**P**	**04 58 15.0**	**-0.9**
KSH				pP	pP	04 58 25.5	-3.3
KSH				sP	sP	04 58 29.5	-4.6
KSH				PcP	**PcP**	**04 59 14.5**	**-1.5**
KSH				PP	**PP**	**05 00 20.3**	**+0.2**
KSH				PcS	**PcS**	**05 03 08.8**	**-7.3**
KSH				S	**S**	**05 05 52.5**	**-4.5**
KSH				sS	pS	05 06 08.0	-4.0
KSH				ScS	**ScS**	**05 07 53.5**	**-7.9**
KSH				SS	**SS**	**05 09 37.3**	**-5.0**
KSH				pmax	pmax		
KSH	comp=Z,6.0nm,0.7s			pmax	pmax		
KSH	comp=Z,210nm,5.4s			LR	LR		
KSH	comp=Z,190nm,6.8s			LR	LR		
KSH	comp=Z,140nm,6.2s			LR	LR		
KSH	comp=Z,130nm,6.5s			LR	LR		
SONM	**Songino Array** comp=Z,1.5nm,0.7s,baz=181,slow=9.6,SNR=5.8	**55.69**	**360**	P	**P**	**04 58 17.1**	**-1.1**
SONM				PcP	**PcP**	**04 59 18.1**	**+1.0**
ULN	**Ulaanbaatar** comp=Z,2.8nm,0.8s,baz=179,slow=4.4,SNR=6.2	**55.72**	**0**	⇓⇓*i* P	**P**	**04 58 18.7**	**+0.3**
ULN				pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,2.0nm,0.7s	**56.80**	**21**	P	**P**	**04 58 24.4**	**-1.5**
PDGK	**Podgornoye** comp=Z,1.5nm,0.5s,baz=236,slow=8.9,SNR=3.6	**56.91**	**336**	P	**P**	**04 58 27.8**	**+0.8**
PDGK				pmax	pmax		
SFK	**Sufi-Kurgan** comp=Z,8.0nm,0.9s	**56.94**	**330**	P	**P**	**04 58 27.8**	**+0.5**
AAK	**Ala-Archa**	**58.48**	**332**	⇑*i* P	**P**	**04 58 37.7**	**-0.4**
AAK				pmax	pmax		
MK31	**Makanchi Array** comp=Z,6.0nm,1.0s	**58.86**	**341**	*ce*P	**P**	**04 58 40.5**	**0.0**
MK31				pmax	pmax		
MK31	**Makanchi Array** comp=Z,4.0nm,0.7s	**58.86**	**341**	*e*P	**P**	**04 58 41.1**	**+0.6**
MKAR	**Makanchi Array** comp=Z,3.6nm,0.6s,baz=146,slow=7.1,SNR=30	**58.86**	**341**	P	**P**	**04 58 39.5**	**-0.9**
MKAR	**Makanchi Array**	**58.86**	**341**	*e*P	**P**	**04 58 41.1**	**+0.6**
MKAR				pmax	pmax		
MKAR	**Makanchi Array** comp=Z,25nm,0.7s	**58.86**	**341**	*e*P	**P**	**04 58 41.1**	**+0.6**
MNAS	**Manas**	**59.30**	**331**	P	**P**	**04 58 44.0**	**+0.2**
MNAS				pmax	pmax		
KKAR	**Karatay Array** comp=Z,11nm,0.9s	**60.73**	**330**	*e*P	**P**	**04 58 53.1**	**-0.3**
KKAR				pmax	pmax		
KKAR	**Karatay Array** comp=Z,13nm,0.6s	**60.73**	**330**	*e*P	**P**	**04 58 53.1**	**-0.3**
KLR	**Kul'dur** comp=Z,13nm,0.6s	**61.11**	**18**	P	**P**	**04 58 54.9**	**-0.9**
ASAJ	**Asahikawa** comp=Z,0.2nm,0.7s,baz=212,slow=4.9,SNR=9.3	**61.19**	**29**	P	**P**	**04 58 55.6**	**-0.8**
YSS	**Yuzh-Sakhalins** comp=Z,2.2nm,0.4s,baz=276,slow=18,SNR=3.4	**63.41**	**27**	*e*P	**P**	**04 59 10.6**	**-0.6**
KURK	**Kurchatov**	**63.48**	**340**	*c i* P	**P**	**04 59 12.2**	**+0.6**
KURK				pmax	pmax		
KURK	**Kurchatov** comp=Z,25nm,0.8s	**63.48**	**340**	*e*P	**P**	**04 59 11.7**	**+0.1**
GEYT	**Alibeck** comp=Z,8.5nm,0.8s	**64.49**	**319**	P	**P**	**04 59 19.3**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.6s,baz=123,slow=5.3,SNR=3.3	**64.55**	**346**	P	**P**	**04 59 18.4**	**-0.1**
MAW	**Mawson** comp=Z,1.2nm,0.4s,baz=161,slow=6.1,SNR=3.8	**66.28**	**197**	P	**P**	**04 59 30.6**	**+1.0**
TYV	**Tymovskoe** comp=Z,2.5nm,0.8s,baz=342,slow=4.5,SNR=6.5	**66.37**	**24**	*e*P	P	04 59 24.7	-5.7
TYV				*e*S	**S**	**05 08 09.5**	**-7.4**
TYV	comp=Z,11nm,1.8s			pmax	pmax		
TYV	comp=N,22nm,1.3s			smax	smax		
BVA0	**Borovoye Array** comp=Z,9.0nm,0.7s	**68.32**	**337**	*i* P	**P**	**04 59 42.8**	**+0.1**
BVA0				pmax	pmax		
BRVK	**Borovoye** comp=Z,18nm,0.7s	**68.38**	**337**	*c i* P	**P**	**04 59 43.7**	**+0.6**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,7.7nm,0.6s	**68.38**	**337**	*e*P	**P**	**04 59 43.5**	**+0.4**
KMBO	**Kilima Mbogo** comp=Z,0.6nm,0.3s,baz=63,slow=17,SNR=3.1	**69.66**	**272**	P	**P**	**04 59 53.5**	**+1.3**
AB31	**Akbulak array**	**70.28**	**329**	*ce*P	**P**	**04 59 55.5**	**+0.6**
AB31				pmax	pmax		
ABKAR	**Akbulak array** comp=Z,3.0nm,0.4s	**70.28**	**329**	*e*P	**P**	**04 59 55.4**	**+0.5**
YAK	**Yakutsk** comp=Z,77nm,0.5s	**72.13**	**11**	⇑*i* P	**P**	**05 00 05.6**	**-0.2**
YAK				pmax	pmax		
VNDA	**Vanda** comp=Z,9.0nm,0.9s	**74.92**	**169**	P	**P**	**05 00 23.0**	**+0.9**
VNDA	**Vanda** comp=Z,1.9nm,0.9s,baz=307,slow=7.0,SNR=6.4	**74.92**	**169**	P	**P**	**05 00 23.0**	**+0.9**
ARU	**Arti**	**75.55**	**335**	*c i* P	**P**	**05 00 26.7**	**+0.8**
ARU						05 03 11.8	
ARU				S	**S**	**05 10 07.6**	**+4.5**
ARU				SS	**SS**	**05 14 59.0**	**+4.0**
ARU				pmax	pmax		
ARU	**Arti** comp=Z,21nm,1.7s	**75.55**	**335**	*e*P	**P**	**05 00 25.9**	**-0.1**
KBZ	**Khabaz** comp=Z,11nm,1.0s	**77.37**	**318**	P	**P**	**05 00 36.3**	**-0.2**
KIV	**Kislovodsk** comp=Z,4.7nm,0.8s,baz=164,slow=5.8,SNR=6.9	**77.60**	**318**	*e*P	**P**	**05 00 39.1**	**+1.1**
KIV				pmax	pmax		
NRIK	**Noril'sk** comp=Z,8.0nm,1.0s	**78.41**	**353**	P	**P**	**05 00 40.2**	**-1.6**
SEY	**Seymchan** comp=Z,7.6nm,0.8s,baz=170,slow=6.1,SNR=3.6	**78.87**	**19**	P	**P**	**05 00 44.1**	**-0.3**
SEY	**Seymchan** comp=Z,2.2nm,0.7s,baz=225,slow=20,SNR=5.4	**78.87**	**19**	*e*P	**P**	**05 00 43.0**	**-1.4**
TIXI	**Tiksi**	**80.90**	**7**	*e*P	**P**	**05 00 54.4**	**-0.8**
TIXI				pmax	pmax		
TIXI	**Tiksi** comp=Z,5.0nm,0.7s	**80.90**	**7**	*e*P	**P**	**05 00 54.4**	**-0.8**
ANN	**Anapa** comp=Z,4.6nm,0.7s	**81.40**	**318**	*e*P	**P**	**05 00 56.7**	**-1.8**
ANN				*e**PP	**PcP**	**05 01 06.8**	**+2.4**
ANN				*e*PPP	PPP	05 05 53.0	
ANN				*e*S	**S**	**05 11 06.0**	**-0.3**
ANN	comp=Z,38nm,1.0s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,4.6nm,0.8s,baz=141,slow=6.7,SNR=22	**82.45**	**312**	P	**P**	**05 01 05.3**	**+1.0**
BR131	**Keskin Array S**	**82.45**	**312**	*e*P	**P**	**05 01 05.4**	**+1.0**
VSR	**Storozhevoye**	**82.67**	**324**	⇑*i* P	**P**	**05 01 05.5**	**+0.5**
VSR				pmax	pmax		
OBN	**Obninsk** comp=Z,17nm,0.6s	**85.56**	**327**	⇑*i* P	**P**	**05 01 20.6**	**+1.0**
OBN				pmax	pmax		
KLMR	**Klimovskoe** comp=Z,12nm,1.3s	**86.29**	**333**	*e*P	**P**	**05 01 23.1**	**0.0**
KLMR				pmax	pmax		
BILL	**Bilibino** comp=Z,17nm,1.4s	**86.56**	**19**	*e*P	**P**	**05 01 24.9**	**+0.6**
BILL				*e*		05 04 52.6	
BILL				pmax	pmax		
CFR	**Carcaliu** comp=Z,5.0nm,1.2s	**87.82**	**316**	⇑*i* P	**P**	**05 01 32.2**	**+1.3**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=87,slow=4.8,SNR=5.3	**88.46**	**322**	P	**P**	**05 01 33.9**	**+0.1**
PLOR	**Plostina**	**88.99**	**316**	⇓⇓*i* P	**P**	**05 01 39.3**	**+2.8**
BURAR	**Bucovina Array**	**90.32**	**318**	⇑*i* P	**P**	**05 01 44.5**	**+1.8**
BUR08	**Bucovina Ar. S**	**90.34**	**318**	*e*P	**P**	**05 01 43.2**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.5s,baz=98,slow=3.7,SNR=5.6	**94.51**	**340**	P	**P**	**05 02 01.2**	**-0.3**
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=64,slow=2.3,SNR=2.8	**98.11**	**318**	P	Pdif	05 02 19.5	+1.1
P38A	**Dawn** baz=324	**143.68**	**27**	P	PKPbc	05 08 14.8	+0.6
T34A	**McClaskey Farm** baz=317	**143.86**	**34**	P	PKPbc	05 08 15.4	+0.5
O40A	**La Belle** baz=327	**143.98**	**25**	P	PKPbc	05 08 15.8	+0.6
N42A	**Yates City** baz=331	**144.10**	**22**	P	PKPbc	05 08 15.7	+0.3
P39B	**Salisbury** baz=326	**144.13**	**26**	P	PKPbc	05 08 16.0	+0.4
Q38A	**Cooks Store, C** baz=324	**144.17**	**28**	P	PKPbc	05 08 16.4	+0.6
T35A	**Sooner Cattle** baz=318	**144.30**	**33**	P	PKPbc	05 08 16.9	+0.7
TXAR	**Lajitas Array** comp=Z,1.0nm,0.7s,baz=314,slow=1.4,SNR=7.3	**144.38**	**50**	PKP	**PKPdf**	**05 08 18.5**	**+0.1**
O41A	**Passleys Farm,** baz=329	**144.39**	**24**	P	PKPbc	05 08 16.7	+0.3
Q39A	**Willow Grove F** baz=325,SNR=6.9	**144.40**	**27**	P	PKPbc	05 08 17.1	+0.6
P40A	**Paris** baz=327	**144.40**	**26**	P	PKPbc	05 08 17.0	+0.5
T36A	**Boggs Farm, Ca** baz=319,SNR=6.0	**144.53**	**32**	P	PKPbc	05 08 17.6	+0.7
WMOK	**Wichita Mounta** baz=312,SNR=8.2	**144.54**	**38**	P	**PKPdf**	**05 08 17.8**	**-0.6**
WMOK	**Wichita Mounta**	**144.54**	**38**	*e*PKIKP	PKPbc	05 08 17.3	+0.2
WMOK	**Wichita Mounta**	**144.54**	**38**	*e*PKPdf	PKPbc	05 08 17.3	+0.2
S37A	**Fort Scott**	**144.54**	**30**	P	PKPbc	05 08 17.3	+0.4

*IDC **31** 04:48:40.4±0.5,7˙91S×106˙93E,h0km,mb4.3/23,*
mb1 4.4/23,mb1mx4.3/39,mbtmp4.3/23,MS3.5/2,
Ms1 3.6/2,ms1mx3.1/38,Error ellipse: s-maj=19.5km
s-min=12.7km az=61.0
*BJI **31** 04:48:42.1,8˙20S×106˙80E,h30km,mb4.7/23,mB5.0/14,*
Ms4.8/9,Ms7 4.5/9
*MOS **31** 04:48:43.4±1.0,7˙98S×106˙92E,h33km,mb5.1/24,Error*
ellipse: s-maj=11.2km s-min=6.9km az=116.2
*ISCJB **31** 04:48:44.5±0.3,8˙14S±0˙04×106˙85E±0˙03,h46km,*
mb4.6/66,MS3.6/3,Error ellipse: s-maj=6.5km
s-min=4.3km az=18.5
*NEIC **31** 04:48:46.8±0.7,8˙07S×106˙87E,h48km±6km,mb4.8/22,*

	baz=321							
U35A	**Pawnee**	144.58	34	P		PKPdf	05 08 18.1	-0.3
	baz=317							
HDIL	**Hopedale**	144.61	21	P		PKPbc	05 08 17.4	+0.3
	baz=332							
O42A	**Bath**	144.63	23	P		PKPbc	05 08 17.5	+0.3
	baz=330							
R38A	**Fenwick Farm,**	144.66	29	P		PKPab	05 08 17.2	0.0
	baz=323							
P41A	**Barry, Barry**	144.69	24	P		PKPbc	05 08 17.9	+0.5
	baz=328,SNR=7.2							
Q40A	**Laux Farm, Aux**	144.84	26	P		PKPdf	05 08 18.4	-0.4
	baz=326,SNR=9.9							
O43A	**Sugar Creek Fa**	144.84	22	P		PKPbc	05 08 18.2	+0.4
	baz=332							
R39A	**Chumby, Stover**	144.96	28	P		PKPdf	05 08 18.7	-0.3
	baz=324,SNR=9.8							
V35A	**Meyer Ranch, C**	144.96	35	P		PKPdf	05 08 19.2	+0.1
	baz=316							
N45A	**Kentland**	144.96	19	P		PKPdf	05 08 19.1	+0.2
	baz=335							
T37A	**Cheneyville 18**	144.99	31	P		PKPdf	05 08 18.9	-0.2
	baz=320							
P42A	**Winchester**	145.06	24	P		PKPdf	05 08 19.0	-0.2
	baz=329,SNR=6.7							
S38A	**Stockton**	145.09	29	P		PKPab	05 08 18.9	+0.1
	baz=322,SNR=6.8							
U36A	**Oologah**	145.11	33	P		PKPdf	05 08 19.6	+0.3
	baz=318							
N46A	**Monticello**	145.17	18	P		PKPdf	05 08 19.7	+0.4
	baz=336							
Q41A	**Truxton**	145.23	25	P		PKPdf	05 08 19.7	+0.3
	baz=328							
O44A	**Mansfield**	145.26	21	P		PKPdf	05 08 19.6	+0.1
	baz=333							
P43A	**Skaggs, Pawnee**	145.33	23	P		PKPdf	05 08 19.9	+0.3
	baz=331							
S39A	**Bolivar**	145.33	29	P		PKPdf	05 08 19.9	+0.3
	baz=323							
R40A	**Maddies Statio**	145.33	27	P		PKPdf	05 08 20.0	+0.3
	baz=325,SNR=15							
ABTX	**Abilene, Hawle**	145.37	42	P		PKPab	05 08 21.3	+1.3
	baz=309							
T38A	**Diamond**	145.37	31	P		PKPab	05 08 20.2	+0.3
	baz=321,SNR=5.5							
W35A	**Tecumseh**	145.38	35	P		PKPab	05 08 20.8	+0.9
	baz=316							
U37A	**Salina**	145.43	32	P		PKPab	05 08 20.8	+0.8
	baz=319							
O45A	**Potomac**	145.43	20	P		PKPab	05 08 20.7	+0.8
	baz=334							
TUL1	**Leonard**	145.44	33	P		PKPab	05 08 20.9	+0.8
	baz=318							
V36A	**Jenks**	145.44	34	P		PKPab	05 08 20.9	+0.7
	baz=318,SNR=7.8							
SFIN	**Lafayette**	145.52	19	*e*PKPdf		PKPab	05 08 20.6	+0.4
Q42A	**Golden Eagle**	145.56	24	P		PKPab	05 08 20.9	+0.5
	baz=329							
BDFB	**Brasilia**	145.71	227	PKPbc		PKPab	05 08 23.4	+1.6
	comp=Z,3.2nm,0.7s,baz=347,slow=8.9,SNR=5.8							
R41A	**Rosebud**	145.72	26	P		PKPab	05 08 21.4	+0.3
	baz=327,SNR=7.5							
W36A	**Wetumka**	145.76	35	P		PKPab	05 08 21.8	+0.5
	baz=316							
U38A	**Gravette**	145.78	31	P		PKPab	05 08 21.8	+0.4
	baz=320							
S40A	**Lebanon**	145.79	28	P		PKPab	05 08 21.6	+0.2
	baz=324,SNR=6.8							
V37A	**Hulbert**	145.81	33	P		PKPab	05 08 21.7	+0.2
	baz=319,SNR=6.5							
P44A	**Sand Creek, Wi**	145.81	22	P		PKPab	05 08 22.0	+0.7
	baz=332							
T39A	**Clever**	145.83	30	P		PKPab	05 08 21.6	0.0
	baz=322,SNR=6.5							
X35A	**Drake**	145.85	37	P		PKPab	05 08 22.3	+0.5
	baz=315							
Q43A	**New Douglas**	145.87	23	P		PKPab	05 08 21.9	+0.3
	baz=330							
O47A	**Sheridan**	145.94	18	P		PKPab	05 08 22.3	+0.5
	baz=337							
R42A	**Luebbering**	145.98	25	P		PKPab	05 08 22.0	-0.1
	baz=328,SNR=6.4							
S41A	**Jillco Farms,**	146.14	27	P		PKPab	05 08 22.6	-0.1
	baz=326,SNR=10							
T40A	**Mansfield**	146.14	28	P		PKPab	05 08 22.5	-0.3
	baz=324							
P46A	**Rosedale**	146.17	20	P		PKPab	05 08 22.8	+0.1
	baz=334							
W37B	**Quinton**	146.20	34	P		PKPab	05 08 23.2	+0.2
	baz=318							
V38A	**Canehill**	146.21	32	P		PKPab	05 08 22.8	-0.3
	baz=320							
M54A	**Oil Creek Stat**	146.22	9	P		PKPab	05 08 22.7	-0.2
	baz=348							
U39A	**Green Forest**	146.29	30	P		PKPbc	05 08 22.7	+0.2
	baz=322							
R43A	**Red Bud**	146.34	24	P		PKPbc	05 08 22.8	+0.2
	baz=329							
S42A	**Caledonia**	146.41	26	P		PKPab	05 08 23.3	-0.5
	baz=327,SNR=7.2							
JCT	**Junction City**	146.56	45	P		PKPab	05 08 24.5	-0.2
	baz=306							
JCT	**Junction City**	146.56	45	*e*PKP2		PKPab	05 08 24.4	-0.2
JCT	**Junction City**	146.56	45	*e*PKPbc		PKPab	05 08 24.4	-0.2
T41A	**Mountain View**	146.58	28	P		PKPbc	05 08 23.5	+0.1
	baz=325							
P47A	**Martinsville**	146.60	19	P		PKPbc	05 08 23.5	+0.2
	baz=336							
Y36A	**Durant**	146.61	36	P		PKPab	05 08 24.5	-0.1
	baz=315							
U40A	**Yellville**	146.62	30	P		PKPbc	05 08 23.9	+0.4
	baz=323,SNR=5.4							
V39A	**Pettigrew**	146.63	31	P		PKPbc	05 08 23.7	+0.1
	baz=321							
X37A	**Clayton**	146.64	35	P		PKPab	05 08 24.3	-0.4
	baz=317							
N54A	**Moraine State**	146.71	9	P		PKPbc	05 08 24.1	+0.5
	baz=348							
R44A	**Waltonville**	146.71	23	P		PKPab	05 08 24.3	-0.5
	baz=330							
W38A	**Poteau**	146.75	33	P		PKPab	05 08 24.6	-0.5
	baz=319							
X38A	**Whitesboro**	146.88	34	P		PKPab	05 08 25.1	-0.6
	baz=318							
V40A	**Witts Springs**	147.07	30	P		PKPbc	05 08 25.5	+0.7
	baz=322							
U41A	**Viola**	147.08	29	P		PKPbc	05 08 25.5	+0.7
	baz=324							
S44A	**Carbondale**	147.12	24	P		PKPab	05 08 25.8	-0.6
	baz=330							
WHTX	**Lake Whitney,**	147.19	40	P		PKPab	05 08 26.4	-0.6
	baz=311							
T43A	**Greenville**	147.21	26	P		PKPbc	05 08 25.7	+0.6
	baz=328							
N59A	**State Game Lan**	147.23	4	P		PKPab	05 08 26.0	-0.9
	baz=355							
U42A	**Revenden**	147.39	28	P		PKPbc	05 08 26.1	+0.5
	baz=325							
X39A	**Fountain Ranch**	147.39	33	P		PKPbc	05 08 26.3	+0.6
	baz=319							
S45A	**Carrier Mills**	147.40	23	P		PKPbc	05 08 26.5	+0.9
	baz=331							
V41A	**Mountainview**	147.41	29	P		PKPbc	05 08 26.5	+0.8
	baz=323							
W40A	**Ferguson Farm,**	147.42	31	P		PKPbc	05 08 26.3	+0.5
	baz=321							
O56A	**Blue Knob Stat**	147.60	8	P		PKPbc	05 08 27.0	+0.8
	baz=350							
MIAR	**Mount Ida**	147.66	33	P		PKPbc	05 08 27.3	+0.8
	baz=320							
V42A	**Cord**	147.76	29	P		PKPbc	05 08 27.4	+0.8
	baz=325							
236A	**Katherine and**	147.77	39	P		PKPab	05 08 28.2	-1.0
	baz=313							
Z38A	**Mt. Pleasant**	147.83	36	P		PKPab	05 08 28.5	-0.9
	baz=316							
Y41A	**Eaglette Beard**	148.68	32	P		PKPbc	05 08 30.4	+1.2
	baz=321							
Y46A	**Houston**	150.52	27	P		PKPbc	05 08 34.0	+0.3
	baz=327							

*ISK **31** 04:51:08.8, 38°.71N×43°.58E, h2km, ML2.7*
*ISCJB **31** 04:51:10.0±0.6, 38°.72N±0°.03×43°.62E±0°.05, h13km±4km, Error ellipse: s-maj=7.6km s-min=4.4km az=24.2*
*DDA **31** 04:51:09.4, 38°.71N×43°.63E, h7km, Ml3.2*
*CSEM **31** 04:51:09.7±0.2, 38°.71N×43°.61E, h10km, ML2.7, Error ellipse: s-maj=6.4km s-min=4.2km az=109.0*

ISC 31 04:51:10.3±1.0, 38°.72N±0°.03×43°.61E±0°.03, h16km±7km, n37, σ1s 04/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.21	236	*e*PG	Pg	04 51 15.0	-0.3
VANB	**Van**	0.21	236	*e*Pg	Pg	04 51 15.0	-0.3
TVAN	**Van**	0.25	221	*i* P	Pg	04 51 14.9	-1.0
TVAN				*i* S	Sg	04 51 20.4	+0.7
TVAN	**Van**	0.25	221	P	Pg	04 51 14.9	-1.0
TVAN				S	Sg	04 51 20.4	+0.7
VMUR	**Van-Muradiye**	0.28	353	*i* P	Pg	04 51 15.3	-1.0
VMUR				*i* S	Sb	04 51 21.0	-0.5
VMUR	**Van-Muradiye**	0.28	353	P	Pg	04 51 15.3	-1.0
VMUR				S	Sb	04 51 21.0	-0.5
CLDR	**Caldiran**	0.49	29	*e*PG	Pg	04 51 19.3	-0.8
CLDR				*e*SG	Sb	04 51 27.7	0.0
CLDR	**Caldiran**	0.49	29	*i* P	Pg	04 51 19.2	-0.9
CLDR	**Caldiran**	0.49	29	*e*Pg	Pg	04 51 19.3	-0.8
CLDR				*e*Sg	Sb	04 51 27.7	0.0
GEVA	**Gevas**	0.59	227	*i* P	Pg	04 51 20.7	-1.3
GEVA	**Gevas**	0.59	227	P	Pg	04 51 20.7	-1.3
ADCV	**BITLIS_Adilcev**	0.70	278	*i* P	Pb	04 51 23.8	-0.4
ADCV	**BITLIS_Adilcev**	0.70	278	P	Pb	04 51 23.8	-0.4
BASK	**Baskale_VAN**	0.73	155	*i* P	Pg	04 51 23.4	-1.1
BASK	**Baskale_VAN**	0.73	155	P	Pg	04 51 23.4	-1.1
DYDN	**Diyadin**	0.83	4	*i* P	Pg	04 51 25.6	-0.9
DYDN	**Diyadin**	0.83	4	P	Pg	04 51 25.6	-0.9
TUTA	**Tutak**	0.93	318	*i* P	Pg	04 51 26.8	-1.5
TUTA	**Tutak**	0.93	318	P	Pg	04 51 26.8	-1.5
AGRB	**Hanur-Agry**	0.98	331	*e*PG	Pg	04 51 28.5	-0.9
AGRB				*e*SG	Sb	04 51 42.9	+0.9
AGRB	**Hanur-Agry**	0.98	331	*e*Pg	Pg	04 51 28.5	-0.9
AGRB				*e*Sg	Sb	04 51 42.9	+0.9
TATV	**Tatvan**	1.07	259	*i* P	Pg	04 51 29.4	-1.7
TATV	**Tatvan**	1.07	259	P	Pg	04 51 29.4	-1.7
GURO	**Guroymak-BITLI**	1.25	263	*e*PN	Pg	04 51 32.6	-1.8
GURO				*e*SN	Sn	04 51 50.3	+0.5
GURO	**Guroymak-BITLI**	1.25	263	*e*Pn	Pg	04 51 32.6	-1.8
GURO				*e*Sn	Sn	04 51 50.3	+0.5
TASB	**TASBURUN-IGDIR**	1.36	21	*e*PN	Pg	04 51 35.5	-0.8
TASB	**TASBURUN-IGDIR**	1.36	21	*e*Pn	Pg	04 51 35.6	-0.8
EATA	**Eleskirt**	1.44	323	*i* P	Pg	04 51 37.1	-0.9
EATA	**Eleskirt**	1.44	323	P	Pg	04 51 37.1	-0.9
CUKT	**Cukurca**	1.47	180	*e*PN	Pn	04 51 36.6	+0.4
CUKT	**Cukurca**	1.47	180	*e*Pn	Pn	04 51 36.6	+0.4
SRTM	**Siirt_Merkez**	1.51	242	*i* P	Pg	04 51 38.6	-0.8
SRTM	**Siirt_Merkez**	1.51	242	P	Pg	04 51 38.6	-0.8
SVAN	**Silvan-Diyarba**	1.98	254	*e*PN	Pn	04 51 44.5	+1.3
SVAN	**Silvan-Diyarba**	1.98	254	*e*Pn	Pn	04 51 44.5	+1.3
BNGB	**Bing¶ll**	2.31	278	*e*PN	Pn	04 51 49.3	+1.6
BINT	**Bingol**	2.45	275	*e*Pn	Pn	04 51 49.3	-0.4

*ISN **31** 05:10:17.3±0.5, 29°.99N×47°.89E, h2km, ML2.7*
*ISCJB **31** 05:10:20.7±0.7, 29°.66N±0°.07×48°.09E±0°.08, h10km, mb3.5/5, MS4.4/3, Error ellipse: s-maj=10.2km s-min=9.2km az=146.7*
*TEH **31** 05:10:20.6, 29°.80N×48°.23E, h5km, ML3.6*
*IDC **31** 05:10:20.8±2.6, 29°.68N×48°.09E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.4/47, mbtmp3.6/6, ML3.3/1, MS4.4/3, Ms1 4.3/3, ms1mx3.2/32, Error ellipse: s-maj=52.8km s-min=30.5km az=149.0*
*CSEM **31** 05:10:22.8±0.3, 29°.69N×48°.15E, h10km, ML3.6, Error ellipse: s-maj=7.3km s-min=6.9km az=72.0*

ISC 31 05:10:22.2±1.0, 29°.71N±0°.09×48°.08E±0°.06, h10km, n33, σ0s 90/30, mb3.5/5, MS4.4/3, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	2.12	308	*e*Pg	Pn	05 10 56.2	-1.5
	SNR=91						
NSR				*e*Sg	Sn	05 11 24.1	0.0
	SNR=91						
IKFM	**Kafar-mosalman**	3.81	357	*e*Pn	Pb	05 11 28.8	-0.8
IKFM	**Kafar-mosalman**	3.81	357	*e*Pn	Pb	05 11 28.8	-0.8
IPIR	**Pirpir**	3.83	38	*e*Pn	Pn	05 11 20.7	-0.8
IPIR				*e*AMB	AMB	05 12 11.3	
	comp=E,1μm,0.2s						
IPIR	**Pirpir**	3.83	38	*e*Pn	Pn	05 11 20.7	-0.8
IRAM	**Ramesheh**	4.26	59	*e*Pn	Pn	05 11 27.0	-0.4
IRAM				*e*AMB	AMB	05 12 20.2	
	comp=Z,912nm,0.2s						
IRAM	**Ramesheh**	4.26	59	*e*Pn	Pn	05 11 27.0	-0.4
IGAR	**Gharneh**	4.34	51	*e*Pn	Pn	05 11 28.6	+0.1
IGAR				*e*AMB	AMB	05 12 22.5	
	comp=Z,572nm,0.1s						
ISRV	**Sarvestan**	4.40	93	*e*Pn	Pn	05 11 29.9	+0.5
ISRV				*e*AMB	AMB	05 12 58.7	
	comp=Z,326nm,0.2s						
ISRV	**Sarvestan**	4.40	93	*e*Pn	Pn	05 11 29.9	+0.5
IKLH	**Kolahrood**	4.68	39	*e*Pn	Pn	05 11 33.7	+0.5
IKLH				*e*AMB	AMB	05 12 35.4	
	comp=Z,487nm,0.2s						
IKLH	**Kolahrood**	4.68	39	*e*Pn	Pn	05 11 33.7	+0.5
IGHG	**Ghaleghazi**	4.78	345	*e*Pn	Pn	05 11 35.7	+1.1
IGHG				*e*AMB	AMB	05 12 34.9	
	comp=Z,386nm,0.3s						
IGHG	**Ghaleghazi**	4.78	345	*e*Pn	Pn	05 11 35.7	+1.1
IZEF	**Zefreh**	4.83	48	*e*Pn	Pn	05 11 35.3	0.0
IZEF				*e*AMB	AMB	05 12 38.4	
	comp=Z,220nm,0.1s						
IZEF	**Zefreh**	4.83	48	*e*Pn	Pn	05 11 35.3	0.0
IVIS	**Veis**	4.92	348	*e*Pn	Pn	05 11 37.5	+1.2
IVIS				*e*AMB	AMB	05 12 45.4	
	comp=Z,243nm,0.2s						
IVIS	**Veis**	4.92	348	*e*Pn	Pn	05 11 37.5	+1.2
IDHR	**Dehrash**	5.18	344	*e*Pn	Pn	05 11 40.7	+0.7
IDHR				*e*AMB	AMB	05 11 42.0	
	comp=Z,1μm,0.1s						
IDHR	**Dehrash**	5.18	344	*e*Pn	Pn	05 11 40.7	+0.7
ILIN	**Lien**	5.28	350	*e*Pn	Pn	05 11 43.2	+1.7
ILIN				*e*AMB	AMB	05 12 47.9	
	comp=Z,469nm,0.1s						
ILIN	**Lien**	5.28	350	*e*Pn	Pn	05 11 43.2	+1.7
RAYN	**Ar Rayn**	6.58	201	*e*Pn	Pn	05 11 59.5	+0.4
GEYT	**Alibeck**	11.70	43	Pn	Pn	05 13 17.6	+8.3
	comp=Z,0.4nm,0.3s,baz=249,slow=12,SNR=3.2						
BRTR	**Keskin Array B**	15.50	314	Pn	P	05 14 05.4	-0.1
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	22.02	17	P	P	05 15 18.4	+1.7
	comp=Z,0.3nm,0.3s,baz=210,slow=8.1,SNR=2.7						
AKASG	**Malin Array Be**	25.30	331	P	P	05 15 48.5	-0.3
	comp=Z,0.5nm,0.5s,baz=133,slow=9.2,SNR=4.8						
MKAR	**Makanchi Array**	31.51	48	P	P	05 16 44.3	0.0
	comp=Z,0.4nm,0.6s,baz=241,slow=8.1,SNR=2.9						
FINES	**FINESS Array B**	34.91	342	P	P	05 17 13.2	-0.6
	comp=Z,0.9nm,0.4s,baz=133,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	45.89	259	P	P	05 18 45.5	+0.3
	comp=Z,0.2nm,0.5s,baz=58,slow=8.6,SNR=4.3						
DBIC	**Dimbokro**	54.70	256	LR	LR	05 45 05.4	
	comp=Z,450nm,20.5s,baz=222,slow=38						
TIXI	**Tiksi**	59.22	21	LR	LR	05 51 37.7	
	comp=Z,187nm,18.1s,baz=74,slow=42						
BOSA	**Boshof**	61.96	203	LR	LR	05 50 51.3	
	comp=Z,259nm,18.2s,baz=212,slow=39						

*NIED **31** 05:17:00, 39°.90N×143°.50E, h17km, Mw4.1 Best double couple: M0=1.78000×10^15 NP1:φ1=187.00000°, δ1=24.00000°, λ1=61.00000°. NP2:φ2=39.00000°, δ2=69.00000°, λ2=102.00000°.*
*JMA **31** 05:17:11.0±0.2, 39°.87N×143°.47E, h24km±5km, M4.2*
*ISCJB **31** 05:17:12.0±1.4, 39°.79N±0°.03×143°.45E±0°.05, h27km±11km, mb4.0/21, MS4.0/4, Error ellipse: s-maj=7.0km s-min=4.7km az=34.6*
*NEIC **31** 05:17:16.1±0.9, 39°.81N×143°.30E, h41km±7km, mb4.2/4, Error ellipse: s-maj=9.8km s-min=5.7km az=107.0*
*IDC **31** 05:17:16.3±2.4, 39°.80N×143°.32E, h43km±21km, mb3.8/16, mb1 3.9/20, mb1mx3.8/46, mbtmp4.0/20, ML3.5/4, MS3.9/5, Ms1 3.9/5, ms1mx3.3/34, Error ellipse: s-maj=21.3km s-min=14.8km az=102.0*

ISC 31 05:17:14.1±2.5, 39°.79N±0°.05×143°.33E±0°.07, h25km±16km, n52, σ1s 27/59, mb4.1/21, MS4.0/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	1.14	278	P	Pn	05 17 32.9	-1.5
JTH				*e*S	Sn	05 17 49.2	-0.1
MIYJ	**Miyakonagasawa**	1.19	260	P	Pn	05 17 34.2	-0.9
MIYJ				S	Sb	05 17 50.9	0.0
JANG	**Nango**	1.51	293	P	Pn	05 17 38.0	-1.6
JANG				S	Sn	05 17 58.0	-0.4
JOM	**Ohasama**	1.61	259	P	Pn	05 17 40.9	0.0
JOM				*e*S	Sb	05 18 03.2	+0.2
JMK	**Ichinoseki**	1.84	244	P	Pn	05 17 43.7	-0.3
JMK				*e*S	Sb	05 18 08.5	-1.1
JTM	**Tenmabayashi**	2.00	301	P	Pn	05 17 45.5	-0.7
JTM				*e*S	Sn	05 18 10.8	+0.4
JIO	**Ouri**	2.04	230	P	Pn	05 17 45.6	-1.2
JAH	**Hinai**	2.11	282	P	Pn	05 17 47.9	+0.1
JAH				S	Sb	05 18 15.9	-1.5
JRG	**Rokugo**	2.12	260	P	Pn	05 17 47.9	0.0
JOT	**Ohata**	2.36	313	P	Pn	05 17 50.5	-0.7
JYK	**Kaneyama**	2.46	250	P	Pn	05 17 53.0	+0.3
JOU	**Okura**	2.52	236	P	Pn	05 17 53.8	+0.4
JNBK	**Urakawa-nobuka**	2.53	350	P	Pn	05 17 53.0	-0.5
JNBK				*e*S	Sn	05 18 23.5	0.0
JKB	**Kayabe**	2.73	321	P	Pn	05 17 57.2	+1.0
JCH	**Churui**	2.82	0	P	Pn	05 17 55.4	-2.2
JCH				*e*S	Sn	05 18 28.0	-2.8
ASAJ	**Asahikawa**	4.36	353	P	Pn	05 18 18.6	-0.1
	2.4nm,0.3s,baz=228,slow=12,SNR=9.4						
ASAJ				S	Sn	05 19 13.0	+4.3
	5.1nm,0.3s,baz=88,slow=16,SNR=4.4						
ASAJ	**Asahikawa**	4.36	353	P	Pn	05 18 18.6	-0.1
ASAJ				*e*Sn	Sn	05 19 10.6	+2.0
ASAJ				S	Sn	05 19 13.0	+4.3
MJAR	**Matsushiro Arr**	5.18	233	P	Pn	05 18 30.7	+0.7
	2.4nm,0.3s,baz=36,slow=13,SNR=22						
MAJO	**Matsushiro**	5.18	233	*e*Pn	Pn	05 18 31.0	+1.0
	34nm,0.6s						
MAJO				*e*Sn	Sn	05 19 30.1	+1.2
MAT	**Matsushiro**	5.18	233	P	Pn	05 18 30.9	+0.9
MAT				*e*S	Sn	05 19 29.3	+0.4
USRK	**Ussuriysk Ar.**	9.52	301	P	Pn	05 19 31.6	+2.1
	1.0nm,0.3s,baz=92,slow=16,SNR=16						
USRK				LR	LR	05 23 02.2	
	comp=Z,223nm,20.0s,baz=164,slow=36						
KSRS	**Korea Array**	12.28	264	P	Pn	05 20 09.3	+2.0
	0.4nm,0.3s,baz=81,slow=13,SNR=5.3						
KSAR	**Wonju Array Be**	12.31	264	P	Pn	05 20 09.3	+1.5
KLR	**Kul'dur**	12.53	323	P	Pn	05 20 11.6	+0.9
	0.0nm,0.3s,baz=143,slow=13,SNR=3.7						
KLR				LR	LR	05 25 11.5	
	comp=Z,12nm,18.3s,baz=90,slow=38						
SEY	**Seymchan**	23.81	10	P	P	05 22 25.7	+1.1
	4.9nm,0.8s,baz=199,slow=6.7,SNR=6.3						
SONM	**Songino Array**	27.63	299	P	P	05 22 59.7	0.0
	2.8nm,0.8s,baz=94,slow=8.5,SNR=9.4						
SONM				LR	LR	05 34 45.6	
	comp=Z,144nm,18.1s,baz=85,slow=38						
H11N2	**WAKE ISLAND Hy**	28.45	128	T	T	05 53 04.1	
	baz=318,slow=76,SNR=152						
H11N1	**WAKE ISLAND Hy**	28.46	128	T	T	05 53 04.1	
	baz=318,slow=76,SNR=127						
H11N3	**WAKE ISLAND Hy**	28.47	128	T	T	05 53 04.1	
	baz=318,slow=76,SNR=111						
H11S1	**WAKE ISLAND Hy**	29.27	130	T	T	05 54 08.3	
	baz=321,slow=74						
H11S3	**WAKE ISLAND Hy**	29.27	130	T	T	05 54 09.2	
	baz=321						
H11S2	**WAKE ISLAND Hy**	29.29	130	T	T	05 54 06.2	
	baz=321,slow=74						
ZALV	**Zalesovo Beam**	41.23	310	P	P	05 24 56.4	-0.3
	4.4nm,0.4s,baz=95,slow=8.5,SNR=17						
CMAR	**Chiang Mai Arr**	43.68	254	P	P	05 25 16.8	-0.2
	0.5nm,0.3s,baz=46,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	43.99	300	P	P	05 25 19.1	-0.1
	2.7nm,0.9s,baz=83,slow=9.7,SNR=9.0						
KURK	**Kurchatov**	45.47	306	*e*P	P	05 25 30.0	-0.9
	34nm,0.6s						
ILAR	**Eielson Array**	46.37	34	P	P	05 25 37.8	-0.1
	0.5nm,0.7s,baz=266,slow=6.4,SNR=7.0						
AAK	**Ala-Archa**	50.55	297	LR	LR	05 50 16.9	
	comp=Z,77nm,18.2s,baz=184,slow=39						
KKAR	**Karatay Array**	53.08	299	*e*P	P	05 26 28.5	-0.7
	1.4nm,0.7s						
ABKAR	**Akbulak array**	57.34	309	*e*P	P	05 26 59.5	-0.3
	1.4nm,0.5s						
WRAB	**Tennant Creek**	60.00	190	*e*P	P	05 27 18.8	+0.2
	1.5nm,0.7s						
WRA	**Warramunga Arr**	60.01	190	P	P	05 27 18.1	-0.5
	1.6nm,0.7s,baz=11,slow=7.1,SNR=13						
ARCES	**ARCESS Array B**	61.95	339	P	P	05 27 31.0	-0.3
	1.3nm,0.8s,baz=49,slow=9.7,SNR=3.3						
ARCES				LR	LR	05 57 53.6	
	comp=Z,209nm,20.4s,baz=310,slow=39						
ASAR	**Alice Springs**	63.74	190	P	P	05 27 44.1	+0.5
	0.9nm,0.7s,baz=13,slow=5.8,SNR=7.7						
GEYT	**Alibeck**	63.83	299	P	P	05 27 44.2	-0.2
	1.6nm,0.5s,baz=111,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	67.08	332	P	P	05 28 04.3	-0.5
	1.3nm,0.7s,baz=87,slow=7.8,SNR=4.6						
FINES				LR	LR	06 00 36.3	
	comp=Z,340nm,19.1s,baz=298,slow=39						
KBZ	**Khabaz**	70.25

HOMI	**Horasan**	**1.89 316**	*i* P	**Pg**	**05 23 33.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.98 255**	*e*PN	**Pn**	**05 23 31.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.98 255**	*e*Pn	**Pn**	**05 23 31.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.10 332**	*e*PN	**Pn**	**05 23 33.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.10 332**	*e*Pn	**Pn**	**05 23 33.3**	**+0.2**
BNGB	**Bing¶ll**	**2.32 278**	*e*PN	**Pn**	**05 23 36.7**	**+0.7**
BINT	**Bingol**	**2.46 275**	*e*Pn	**Pn**	**05 23 36.7**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.51 288**	*e*PN	**Pn**	**05 23 39.3**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.51 288**	*e*Pn	**Pn**	**05 23 39.3**	**+0.7**

MEX 31 05:29:50.1±0.4, 15°.93N×96°.12W, h51km±6km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.16**	**177**	*i* P	Pn	05 29 56.8	-1.5
HUIG				*i* S	Sn	05 30 02.5	-1.7
VHO	**Vista Hermosa**	**1.28**	**333**	*i* P	Pn	05 30 10.6	-1.3
VHO				*e*S	Sn	05 30 26.0	-2.2
PNIG	**Pinotepa**	**1.99**	**284**	*e*P	Pn	05 30 19.9	-1.4
PNIG				*i* S	Sn	05 30 42.5	-2.6

*ISK **31** 05:30:56.8, 38°.76N×43°.41E, h21km, MD2.5*
*ISCJB **31** 05:30:57.2±0.6, 38°.70N±0°.03×43°.45E±0°.06, h31km±4km, Error ellipse: s-maj=8.0km s-min=5.1km az=21.8*
*CSEM **31** 05:30:57.5±0.3, 38°.75N×43°.38E, h10km, MD2.5, Error ellipse: s-maj=6.7km s-min=5.0km az=110.0*
*DDA **31** 05:30:58.1, 38°.75N×43°.34E, h7km, Ml2.8*
ISC 31 05:30:57.1±1.2, 38°.74N±0°.05×43°.41E±0°.04, h22km±2km, n19, σ0s.44/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**185**	*e*PG	**Pb**	**05 31 03.0**	**+0.1**
VANB	**Van**	**0.14**	**185**	*e*Pg	**Pb**	**05 31 03.0**	**+0.1**
TVAN	**Van**	**0.21**	**180**	*i* P	**Pb**	**05 31 02.6**	**-0.6**
TVAN				*i* S	**Sb**	05 31 07.2	-0.2
TVAN	**Van**	**0.21**	**180**	P	**Pb**	**05 31 02.6**	**-0.6**
TVAN				S	**Sb**	05 31 07.2	-0.2
VMUR	**Van-Muradiye**	**0.28**	**27**	*i* P	**Pb**	**05 31 04.0**	**+0.1**
VMUR				*i* S	**Sn**	**05 31 12.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.28**	**27**	P	**Pb**	**05 31 04.0**	**+0.1**
VMUR				S	**Sn**	**05 31 12.1**	**+0.2**
GEVA	**Gevas**	**0.50**	**213**	*i* P	**Pb**	05 31 07.3	-0.1
GEVA				*i* S	**Sb**	**05 31 15.5**	**+1.2**
GEVA	**Gevas**	**0.50**	**213**	P	**Pb**	05 31 07.3	-0.1
GEVA				S	**Sb**	**05 31 15.5**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.54**	**278**	*i* P	**Pb**	05 31 07.9	-0.1
ADCV				*i* S	**Sn**	**05 31 16.7**	**-1.4**
CLDR	**Caldiran**	**0.57**	**44**	*e*PG	**Pb**	05 31 08.4	-0.2
CLDR				*e*SG	**Sb**	**05 31 16.6**	**+0.2**
CLDR	**Caldiran**	**0.57**	**44**	*e*Pg	**Pb**	05 31 08.4	-0.2
CLDR				*e*Sg	**Sb**	**05 31 16.6**	**+0.2**
TUTA	**Tutak**	**0.81**	**325**	*i* P	**Pn**	05 31 13.3	-0.2
TUTA				*i* S	**Sn**	**05 31 24.9**	**0.0**
TUTA	**Tutak**	**0.81**	**325**	P	**Pn**	05 31 13.3	-0.2
TUTA				S	**Sn**	**05 31 24.9**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**339**	*e*PG	**Pn**	05 31 14.6	-0.1
AGRB				*e*SG	**Sn**	**05 31 27.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**339**	*e*Pg	**Pn**	**05 31 14.6**	**-0.1**
AGRB				*e*Sg	**Sn**	**05 31 27.0**	**-0.1**
TATV	**Tatvan**	**0.92**	**256**	*i* P	**Pb**	**05 31 14.5**	**0.0**
TATV				*i* S	**Sb**	**05 31 26.5**	**+0.1**
TATV	**Tatvan**	**0.92**	**256**	P	**Pb**	**05 31 14.5**	**0.0**
TATV				S	**Sb**	**05 31 26.5**	**+0.1**
GURO	**Guroymak-BITLI**	**1.09**	**261**	*e*PN	**Pb**	**05 31 17.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.09**	**261**	*e*Pn	**Pb**	**05 31 17.4**	**+0.1**

*ISK **31** 06:00:24.8, 38°.72N×43°.64E, h20km, ML3.2*
*DDA **31** 06:00:25.8, 38°.71N×43°.62E, h16km, Ml3.5*
*CSEM **31** 06:00:26.0±0.3, 38°.70N×43°.59E, h5km, ML3.2, Error ellipse: s-maj=5.9km s-min=5.6km az=67.0*
*TEH **31** 06:00:27.8, 39°.09N×43°.67E, h18km, ML3.2*
ISC 31 06:00:25.6±0.9, 38°.71N±0°.02×43°.65E±0°.02, h20km±3km, n54, σ1s.07/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**241**	*e*PG	**Pb**	**06 00 31.0**	**-0.1**
VANB				*e*SG	**Sg**	**06 00 36.6**	**+1.4**
VANB	**Van**	**0.23**	**241**	*e*Pg	**Pb**	**06 00 31.0**	**-0.1**
TVAN	**Van**	**0.26**	**227**	*i* P	**Pb**	**06 00 31.1**	**-0.6**
TVAN				*i* S	**Sg**	**06 00 36.3**	**+0.2**
VMUR	**Van-Muradiye**	**0.29**	**348**	*i* P	**Pb**	**06 00 31.6**	**-0.5**
VMUR				*i* S	**Sg**	**06 00 37.2**	**+0.5**
ERCV	**ERCIS-VAN**	**0.39**	**322**	*e*PG	**Pg**	**06 00 33.4**	**-0.6**
ERCV				*e*SG	**Sg**	**06 00 39.2**	**-0.5**
ERCV	**ERCIS-VAN**	**0.39**	**322**	*e*Pg	**Pg**	**06 00 33.4**	**-0.6**
ERCV				*e*Sg	**Sg**	**06 00 39.2**	**-0.5**
CLDR	**Caldiran**	**0.48**	**26**	*e*PG	**Pg**	**06 00 35.1**	**-0.4**
CLDR	**Caldiran**	**0.48**	**26**	*i* P	**Pg**	**06 00 35.2**	**-0.4**
CLDR				*i* S	**Sn**	**06 00 44.4**	**-1.3**
CLDR	**Caldiran**	**0.48**	**26**	*e*Pg	**Pg**	**06 00 35.1**	**-0.4**
CLDR				S	**Sn**	**06 00 44.4**	**-1.3**
GEVA	**Gevas**	**0.61**	**230**	*i* P	**Pb**	**06 00 36.6**	**-1.1**
GEVA				*i* S	**Sn**	**06 00 48.7**	**-0.1**
GEVA	**Gevas**	**0.61**	**230**	P	**Pb**	**06 00 36.6**	**-1.1**
GEVA				S	**Sn**	**06 00 48.7**	**-0.1**
BASK	**Baskale_VAN**	**0.71**	**157**	*i* P	**Pb**	**06 00 39.4**	**-0.1**
BASK				*i* S	**Sn**	**06 00 50.8**	**-0.5**
BASK	**Baskale_VAN**	**0.71**	**157**	P	**Pb**	**06 00 39.4**	**-0.1**
BASK				S	**Sn**	**06 00 50.8**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.73**	**278**	*i* P	**Pb**	**06 00 39.5**	**-0.3**
ADCV				*i* S	**Sn**	**06 00 51.1**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.73**	**278**	P	**Pb**	**06 00 39.5**	**-0.3**
ADCV				S	**Sn**	**06 00 51.1**	**-0.7**
DYDN	**Diyadin**	**0.83**	**2**	*i* P	**Pg**	**06 00 41.5**	**-0.5**
DYDN				*i* S	**Sn**	**06 00 54.6**	**+0.3**
DYDN	**Diyadin**	**0.83**	**2**	P	**Pg**	**06 00 41.5**	**-0.5**
DYDN				S	**Sn**	**06 00 54.6**	**+0.3**
TUTA	**Tutak**	**0.95**	**317**	*i* P	**Pb**	06 00 43.1	-0.5
TUTA				*i* S	**Sb**	**06 00 55.4**	**-0.5**
TUTA	**Tutak**	**0.95**	**317**	P	**Pb**	06 00 43.1	-0.5
TUTA				S	**Sb**	**06 00 55.4**	**-0.5**
AGRB	**Hanur-Agry**	**1.00**	**330**	*e*PG	**Pb**	06 00 44.0	-0.4
AGRB	**Hanur-Agry**	**1.00**	**330**	*e*Pg	**Pb**	**06 00 44.1**	**-0.4**
GURO	**Guroymak-BITLI**	**1.28**	**263**	*e*PN	**Pn**	06 00 48.2	-0.3
GURO	**Guroymak-BITLI**	**1.28**	**263**	*e*Pn	**Pn**	06 00 48.2	-0.3
EKAR	**Karacoban**	**1.35**	**294**	*i* P	**Pg**	06 00 51.4	-0.4
EKAR				*i* S	**Sg**	**06 01 13.8**	**+4.3**
EKAR	**Karacoban**	**1.35**	**294**	P	**Pg**	06 00 51.4	-0.4
CUKT	**Cukurca**	**1.46**	**181**	*e*PN	**Pn**	06 00 50.6	-0.4
CUKT	**Cukurca**	**1.46**	**181**	*e*Pn	**Pn**	06 00 50.6	-0.4
EATA	**Eleskirt**	**1.46**	**322**	*i* P	**Pb**	06 00 52.6	+0.2
EATA				*i* S	**Sg**	06 01 13.6	+0.6
EATA	**Eleskirt**	**1.46**	**322**	P	**Pb**	06 00 52.6	+0.2
EATA				S	**Sg**	06 01 13.6	+0.6
SRTM	**Siirt_Merkez**	**1.54**	**243**	*i* P	**Pg**	06 00 54.2	-1.1
SRTM				*i* S	**Sg**	06 01 15.2	-0.1
SRTM	**Siirt_Merkez**	**1.54**	**243**	P	**Pg**	06 00 54.2	-1.1
SRTM				S	**Sg**	06 01 15.2	-0.1
ISHB	**Shabestar**	**1.60**	**105**	*e*Pn	**Pg**	06 00 56.5	0.0
ISHB				*e*Sg	**Sg**	**06 01 22.0**	**+4.6**
IMRD	**Marand**	**1.61**	**89**	*e*Pn	**Pg**	06 00 55.7	-0.9
IMRD				*e*AMB	AMB	06 00 58.4	
	comp=Z,3μm,0.2s						
IMRD	**Marand**	**1.61**	**89**	*e*Pn	**Pg**	06 00 55.7	-0.9
HOMI	**Horasan**	**1.90**	**315**	*i* P	**Pb**	06 01 00.2	+0.4
HOMI				*i* S	**Sg**	06 01 30.2	+3.3
SVAN	**Silvan-Diyarba**	**2.00**	**255**	*e*PN	**Pn**	06 00 58.7	+0.2
SVAN	**Silvan-Diyarba**	**2.00**	**255**	*i* P	**Pb**	06 01 02.3	+0.8
SVAN				*i* S	**Sg**	06 01 29.6	-0.7
SVAN	**Silvan-Diyarba**	**2.00**	**255**	*e*Pn	**Pn**	06 00 58.7	+0.2
SVAN	**Silvan-Diyarba**	**2.00**	**255**	P	**Pb**	06 01 02.3	+0.8
SVAN				S	**Sg**	06 01 29.6	-0.7
ITBZ	**Tabriz**	**2.02**	**103**	*e*Pn	**Pb**	06 01 02.6	+0.9
ITBZ	**Tabriz**	**2.02**	**103**	*e*Pn	**Pb**	06 01 02.6	+0.9
BTMN	**Batman**	**2.04**	**247**	*i* P	**Pn**	06 00 59.6	+0.7
BTMN				*i* S	**Sb**	06 01 28.5	+1.3
BTMN	**Batman**	**2.04**	**247**	P	**Pn**	06 00 59.7	+0.7
BTMN				S	**Sb**	06 01 28.5	+1.3
ERZM	**Erzurum**	**2.14**	**305**	*i* P	**Pb**	06 01 04.7	+0.9
ERZM				*i* S	**Sg**	06 01 35.5	+1.0
ERZM	**Erzurum**	**2.14**	**305**	P	**Pb**	06 01 04.7	+0.9
BNGB	**Bing¶ll**	**2.34**	**278**	*e*PN	**Pn**	06 01 03.4	+0.3
IHRS	**Heris**	**2.69**	**97**	*e*Pn	**Pb**	06 01 11.4	-1.8
IHRS				*e*AMB	AMB	06 01 19.2	
	comp=Z,577nm,0.1s						
IHRS	**Heris**	**2.69**	**97**	*e*Pn	**Pb**	06 01 11.4	-1.8
IBST	**Bostanabad**	**2.75**	**111**	*e*Pn	**Pb**	06 01 13.7	-0.5
IBST	**Bostanabad**	**2.75**	**111**	*e*Pn	**Pb**	06 01 13.7	-0.5
MAZI	**Mazidag**	**2.82**	**245**	*e*PN	**Pn**	06 01 10.2	+0.5
MAZI	**Mazidag**	**2.82**	**245**	*e*Pn	**Pn**	06 01 10.2	+0.5
DGRG	**David-gareji**	**3.04**	**25**	P	**Pg**	06 01 22.4	-1.5
ONI	**Oni**	**3.88**	**358**	P	**Pb**	06 01 32.9	-0.6

*DDA **31** 06:01:57.9, 38°.50N×43°.53E, h16km, Ml3.0*
*ISK **31** 06:01:57.5, 38°.58N×43°.32E, h16km, ML2.9*
*ISCJB **31** 06:01:58.5±0.7, 38°.54N±0°.05×43°.37E±0°.08, h18km±5km, Error ellipse: s-maj=12.2km s-min=6.6km az=35.2*
*CSEM **31** 06:01:58.1±0.3, 38°.56N×43°.40E, h20km, ML2.9, Error ellipse: s-maj=10.9km s-min=6.2km az=125.0*
ISC 31 06:01:57.8±0.9, 38°.55N±0°.04×43°.41E±0°.04, h18km±3km, n23, σ0s.70/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.03**	**183**	*i* P	**Pg**	**06 02 00.6**	**-0.7**
TVAN				*i* S	**Sg**	**06 02 04.3**	**+0.7**
TVAN	**Van**	**0.03**	**183**	P	**Pg**	**06 02 00.6**	**-0.7**
TVAN				S	**Sg**	**06 02 04.3**	**+0.7**
VANB	**Van**	**0.04**	**340**	*e*PG	**Pg**	06 02 01.0	-0.2
VANB				*e*SG	**Sg**	**06 02 03.8**	**+0.2**
VANB	**Van**	**0.04**	**340**	*e*Pg	**Pg**	06 02 01.0	-0.2
VANB				*e*Sg	**Sg**	**06 02 03.8**	**+0.2**
GEVA	**Gevas**	**0.36**	**229**	*i* P	**Pn**	**06 02 07.6**	**-0.7**
GEVA				*i* S	**Sn**	**06 02 15.8**	**+0.7**
GEVA	**Gevas**	**0.36**	**229**	P	**Pn**	**06 02 07.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.45**	**16**	*i* P	**Pb**	06 02 07.3	-0.1
VMUR				*i* S	**Sn**	**06 02 16.0**	**-1.3**
VMUR	**Van-Muradiye**	**0.45**	**16**	P	**Pb**	06 02 07.3	-0.1
VMUR				S	**Sn**	**06 02 16.0**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.59**	**296**	*i* P	**Pb**	06 02 10.2	+0.6
ADCV				*i* S	**Sn**	**06 02 22.2**	**+1.5**
ADCV	**BITLIS_Adilcev**	**0.59**	**296**	P	**Pb**	06 02 10.2	+0.6
CLDR	**Caldiran**	**0.71**	**34**	*e*PG	**Pb**	**06 02 12.0**	**+0.3**
CLDR				*e*SG	**Sn**	**06 02 22.9**	**-0.8**
CLDR	**Caldiran**	**0.71**	**34**	*i* P	**Pb**	**06 02 11.9**	**+0.2**
CLDR				*i* S	**Sn**	**06 02 24.8**	**+1.1**
CLDR	**Caldiran**	**0.71**	**34**	P	**Pb**	**06 02 11.9**	**+0.2**
CLDR				*e*Sg	**Sn**	**06 02 22.9**	**-0.8**
CLDR				S	**Sn**	**06 02 24.8**	**+1.1**
AGRB	**Hanur-Agry**	**1.07**	**343**	*e*PG	**Pb**	06 02 17.6	-0.3
AGRB	**Hanur-Agry**	**1.07**	**343**	*e*Pg	**Pb**	06 02 17.6	-0.3
GURO	**Guroymak-BITLI**	**1.08**	**270**	*e*PG	**Pb**	06 02 17.6	-0.4
GURO	**Guroymak-BITLI**	**1.08**	**270**	*e*Pg	**Pb**	06 02 17.6	-0.4
CUKT	**Cukurca**	**1.31**	**173**	*e*PN	**Pb**	06 02 22.3	+0.3
CUKT	**Cukurca**	**1.31**	**173**	*e*Pn	**Pb**	06 02 22.3	+0.3
TASB	**TASBURUN-IGDIR**	**1.57**	**24**	*e*PN	**Pn**	06 02 25.4	+0.6
TASB	**TASBURUN-IGDIR**	**1.57**	**24**	*e*Pn	**Pn**	06 02 25.4	+0.6
SVAN	**Silvan-Diyarba**	**1.78**	**258**	*e*PN	**Pn**	**06 02 27.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.78**	**258**	*e*Pn	**Pn**	**06 02 27.7**	**0.0**

RSNC 31 06:15:29.2±0.8, 4°.78N×76°.15W, h116km±5km, ML3.5, 2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos˜ del**	**0.18**	**311**	*e*P	Pn	06 15 44.9	-0.5
PLMC				*e*S	Sn	06 15 57.9	+0.2
TOLC	**Tolima**	**0.85**	**103**	*i* P	Pn	06 15 49.6	-0.2
GUYC	**Guyana, Colomb**	**0.87**	**60**	*e*P	Pn	06 15 50.1	-0.1
GUYC				*e*S	Sn	06 16 06.1	+0.1
GUYC				*i*		06 16 09.0	
	comp=Z,868nm,0.5s						
NORC	**Norcasia**	**1.49**	**59**	*e*P	Pn	06 15 55.9	-0.4
NORC				*e*S	Sn	06 16 16.2	-0.7
HELC	**Santa Helena**	**1.53**	**24**	⇓*i*P	Pn	06 15 56.3	-0.8
HELC				*i*		06 16 20.3	
	comp=Z,113nm,0.6s						
PRAC	**Prado**	**1.65**	**130**	⇓*i*P	Pn	06 15 58.0	-0.2
PRAC				*e*S	Sn	06 16 20.2	0.0
PRAC				*i*		06 16 21.6	
	comp=Z,768nm,0.4s						
SOLC	**Bahia Solano**	**1.91**	**319**	*e*P	Pn	06 16 00.8	-0.5
SOLC				*i*		06 16 01.2	
	comp=Z,754nm,0.1s						
BETC	**Betania**	**2.20**	**161**	*e*P	Pn	06 16 04.9	-0.3
POPC	**Popayan, Colom**	**2.29**	**193**	*e*P	Pn	06 16 05.6	-0.9
POPC				*i*		06 16 34.2	
	comp=Z,285nm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.98**	**25**	*e*P	Pn	06 16 14.3	-0.8
ZARC				*i*		06 16 50.8	
	comp=Z,96nm,0.4s						
OCAC	**Ocana**	**4.43**	**39**	*e*P	Pn	06 16 34.1	-0.6
OCAC				*i*		06 17 28.1	
	comp=Z,62nm,0.7s						

*ISK **31** 06:23:43.1, 38°.64N×43°.22E, h17km, MD3.0*
*ISCJB **31** 06:23:44.7±0.4, 38°.65N±0°.03×43°.24E±0°.04, h23km±5km, Error ellipse: s-maj=5.9km s-min=4.5km az=9.1*
*CSEM **31** 06:23:44.2±0.2, 38°.65N×43°.25E, h20km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.4km az=120.0*
*DDA **31** 06:23:44.8, 38°.69N×43°.23E, h7km, Ml3.2*
ISC 31 06:23:44.5±0.8, 38°.68N±0°.02×43°.25E±0°.02, h17km±6km, n35, σ0s.82/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**126**	*e*PG	**Pb**	**06 23 48.6**	**-0.1**
VANB				*e*SG	**Sg**	**06 23 51.9**	**+0.5**
VANB	**Van**	**0.14**	**126**	*e*Pg	**Pb**	**06 23 48.6**	**-0.1**
VANB				*e*Sg	**Sg**	**06 23 51.9**	**+0.5**
TVAN	**Van**	**0.19**	**140**	*e*P	**Pb**	**06 23 50.5**	**+0.8**
TVAN				*e*S	**Sb**	**06 23 53.9**	**+0.8**
TVAN	**Van**	**0.19**	**140**	P	**Pb**	**06 23 50.5**	**+0.8**
TVAN				S	**Sb**	**06 23 53.9**	**+0.8**
ERCV	**ERCIS-VAN**	**0.35**	**12**	*e*PG	**Pg**	06 23 51.6	-0.4
ERCV				*e*SG	**Sb**	**06 23 57.7**	**0.0**
ERCV	**ERCIS-VAN**	**0.35**	**12**	*e*Pg	**Pg**	06 23 51.6	-0.4
ERCV				*e*Sg	**Sb**	**06 23 57.7**	**0.0**
GEVA	**Gevas**	**0.39**	**202**	*i* P	**Pg**	06 23 51.4	-1.3
GEVA				*i* S	**Sb**	**06 23 59.5**	**+0.7**
GEVA	**Gevas**	**0.39**	**202**	P	**Pg**	06 23 51.4	-1.3
GEVA				S	**Sb**	**06 23 59.5**	**+0.7**
VMUR	**Van-Muradiye**	**0.40**	**39**	*i* P	**Pg**	**06 23 52.9**	**0.0**
VMUR				*i* S	**Sb**	**06 24 00.3**	**+1.1**
VMUR	**Van-Muradiye**	**0.40**	**39**	P	**Pg**	**06 23 52.9**	**0.0**
VMUR				S	**Sb**	**06 24 00.3**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.43**	**288**	*i* P	**Pg**	**06 23 53.2**	**-0.1**
ADCV				*i* S	**Sb**	**06 24 01.1**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.43**	**288**	P	**Pg**	**06 23 53.2**	**-0.1**
ADCV				S	**Sb**	**06 24 01.1**	**+1.1**
CLDR	**Caldiran**	**0.70**	**48**	*e*PG	**Pg**	06 23 57.8	-0.5
CLDR				*e*SG	**Sb**	**06 24 08.6**	**+0.8**
CLDR	**Caldiran**	**0.70**	**48**	*i* P	**Pg**	06 23 57.8	-0.5
CLDR				*i* S	**Sn**	06 24 09.6	-0.7
CLDR	**Caldiran**	**0.70**	**48**	P	**Pg**	06 23 57.8	-0.5
CLDR				*e*Sg	**Sb**	**06 24 08.6**	**+0.8**
CLDR				S	**Sn**	06 24 09.6	-0.7
TUTA	**Tutak**	**0.80**	**335**	*i* P	**Pb**	06 23 59.6	-0.5
TUTA				*i* S	**Sg**	06 24 11.4	+0.6
TUTA	**Tutak**	**0.80**	**335**	P	**Pb**	06 23 59.6	-0.5
TUTA				S	**Sg**	06 24 11.4	+0.6
BASK	**Baskale_VAN**	**0.86**	**136**	*i* P	**Pb**	06 24 00.4	-0.7
BASK				*i* S	**Sn**	06 24 14.9	+0.6
BASK	**Baskale_VAN**	**0.86**	**136**	P	**Pb**	06 24 00.4	-0.7
BASK				S	**Sn**	06 24 14.9	+0.6
AGRB	**Hanur-Agry**	**0.92**	**348**	*e*PG	**Pb**	06 24 01.7	-0.4
AGRB	**Hanur-Agry**	**0.92**	**348**	*e*Pg	**Pb**	06 24 01.7	-0.4
GURO	**Guroymak-BITLI**	**0.96**	**263**	*e*PG	**Pb**	06 24 01.6	-1.1
GURO	**Guroymak-BITLI**	**0.96**	**263**	*e*Pg	**Pb**	06 24 01.6	-1.1
SRTM	**Siirt_Merkez**	**1.25**	**237**	*i* P	**Pb**	06 24 07.8	+0.2
SRTM				*i* S	**Sg**	06 24 26.7	+1.8
SRTM	**Siirt_Merkez**	**1.25**	**237**	P	**Pb**	06 24 07.8	+0.2
SRTM				S	**Sg**	06 24 26.7	+1.8
EATA	**Eleskirt**	**1.32**	**334**	*i* P	**Pg**	06 24 09.6	-0.4
EATA				*i* S	**Sg**	06 24 28.6	+1.3
EATA	**Eleskirt**	**1.32**	**334**	P	**Pg**	06 24 09.6	-0.4
EATA				S	**Sg**	06 24 28.6	+1.3
CUKT	**Cukurca**	**1.46**	**169**	*e*PN	**Pn**	06 24 09.0	-1.1
CUKT	**Cukurca**	**1.46**	**169**	*e*Pn	**Pn**	06 24 09.0	-1.1
SVAN	**Silvan-Diyarba**	**1.69**	**253**	*e*PN	**Pn**	06 24 12.4	-0.9
SVAN	**Silvan-Diyarba**	**1.69**	**253**	*e*Pn	**Pn**	06 24 12.4	-0.9
MAZI	**Mazidag**	**2.52**	**242**	*e*PN	**Pn**	**06 24 23.9**	**-0.8**
MAZI	**Mazidag**	**2.52**	**242**	*e*Pn	**Pn**	**06 24 23.9**	**-0.8**
PTK	**Pertek**	**3.02**	**275**	*e*PN	**Pn**	**06 24 31.4**	**-0.3**
PTK	**Pertek**	**3.02**	**275**	*e*Pn	**Pn**	**06 24 31.4**	**-0.3**

MEX 31 06:24:09.2±0.5, 15°.76N×96°.52W, h25km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.39**	**89**	*i* P	Pb	06 24 16.2	-1.5
HUIG				*e*S	Sb	06 24 21.9	-1.6
OXBJ	**Oaxaca**	**1.31**	**351**	*e*P	Pn	06 24 29.5	-2.6
OXBJ				*e*S	Sn	06 24 45.0	-3.9
VHO	**Vista Hermosa**	**1.32**	**351**	*e*P	Pn	06 24 29.7	-2.5
VHO				*i* S	Sn	06 24 45.3	-3.8
PNIG	**Pinotepa**	**1.67**	**292**	*e*P	Pn	06 24 34.4	-2.5
CMIG	**Matias Romero**	**2.05**	**50**	*i* S	Sn	06 25 05.6	-1.3
PGIG		**3.17**	**91**	*e*P	Pn	06 24 55.1	-2.4
PGIG				*i* S	Sn	06 25 32.0	-2.6
TGIG		**3.41**	**72**	*i* P	Pn	06 24 59.1	-1.8
TGIG				*i* S	Sn	06 25 37.9	-2.7
CCIG	**Comitan**	**4.24**	**82**	*e*P	Pn	06 25 10.3	-2.1
CCIG				*e*S	Sn	06 25 56.8	-4.4

*IDC **31** 06:28:22.4±0.8, 14°.79N×91°.52W, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/32, mbtmp4.1/14, ML4.2/2, Error ellipse: s-maj=38.3km s-min=13.0km az=50.0*
*CASC **31** 06:28:29.7±0.7, 13°.94N×92°.38W, h35km±999km, ML4.0, mb4.5(NEIC)*
*MEX **31** 06:28:30.0±0.4, 14°.17N×92°.73W, h20km±29km, MD4.4*
*ISCJB **31** 06:28:31.5±0.5, 14°.40N±0°.03×92°.12W±0°.04, h103km±4km, mb4.4/63, Error ellipse: s-maj=7.6km s-min=3.5km az=141.0*
*NEIC **31** 06:28:32.5±0.9, 14°.42N×92°.05W, h89km±7km, mb4.5/67, MD4.4(MEX), Error ellipse: s-maj=10.7km s-min=4.6km az=46.0*
NEIC Felt at Quetzaltenango and San Marcos La Laguna.
ISC 31 06:28:32.2±1.1, 14°.37N±0°.06×92°.20W±0°.07, h93km±8km, n351, σ1s.41/354, mb4.4/63, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.66**	**324**	*i* P	Pn	06 28 54.0	-6.0
PCIG				*i* S	Sn	06 29 13.0	-8.1
CCIG	**Comitan**	**1.91**	**2**	*e*P	**Pn**	**06 29 03.0**	**-0.5**
CCIG				*i* S	**Sn**	**06 29 28.0**	**+0.8**
CCIG	**Comitan**	**1.91**	**2**	*e*Pn	**Pn**	**06 29 03.0**	**-0.5**
CCIG				*e*Sn	**Sn**	**06 29 29.4**	**+2.1**
CUS1	**Cusmapa**	**2.23**	**101**	*e*P	**Pn**	**06 29 05.9**	**-1.7**
RBDL	**Robledal**	**2.45**	**96**	*e*P	**Pn**	**06 29 09.9**	**-0.7**
RTR	**El Retiro**	**2.52**	**100**	*e*P	**Pn**	**06 29 11.0**	**-0.6**
MONT	**Ecomontaæa**	**2.53**	**101**	*e*P	**Pn**	**06 29 11.0**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.54**	**340**	*i* P	**Pn**	**06 29 10.2**	**-1.5**
TGBT				*e*S	**Sn**	**06 29 38.9**	**-3.1**
SBLS	**San Blas**	**2.56**	**102**	*e*P	**Pn**	**06 29 11.1**	**-1.0**
TGIG		**2.56**	**340**	*e*P	**Pn**	**06 29 08.4**	**-3.6**
SNJE	**San Jose**	**2.57**	**101**	*e*P	**Pn**	**06 29 11.5**	**-0.6**
UNIC	**Santa Ana**	**2.59**	**98**	*e*P	**Pn**

	baz=192						
TIGA	Tifton	18.74	23	P	Pn	06 32 45.4	+0.2
	baz=206						
Z41A	Richland Creek	18.82	358	P	Pn	06 32 46.2	+0.2
	baz=178						
Z40A	Long Farm, Mag	18.84	357	P	Pn	06 32 46.3	-0.1
	baz=176						
Z44A	Pea Ridge, Bel	18.90	5	P	Pn	06 32 47.1	+0.1
	baz=185						
Z38A	Mt. Pleasant	18.97	353	P	Pn	06 32 47.8	-0.1
	baz=171						
Z46A	Louisville	18.98	8	P	Pn	06 32 47.2	-0.7
	baz=189						
Z45A	Winona	19.06	6	P	P	06 32 47.2	0.0
	baz=187						
Z47A	Carrollton	19.12	11	P	P	06 32 48.6	+0.8
	baz=192,SNR=8.6						
LRAL	Lakeview Retre	19.18	13	eP	Pn	06 32 49.7	-0.7
	comp=Z,16nm,0.4s						
WLAR	White Oak Lake	19.25	358	eP	P	06 32 49.7	+0.4
	comp=Z,20nm,0.8s						
TOLC	Tolima	19.26	119	eP	Pn	06 32 52.4	+0.5
Y42A	Garnett, Star	19.39	1	P	P	06 32 51.3	+0.5
	baz=181						
Z48A	Northport	19.39	12	P	P	06 32 51.3	+0.5
	baz=193						
ABTX	Abilene, Hawle	19.40	341	P	P	06 32 51.2	+0.2
	baz=157,SNR=5.9						
ABTX	Abilene, Hawle	19.40	341	eP	P	06 32 51.1	+0.2
	comp=Z,10nm,0.9s						
Y41A	Eaglette Beard	19.43	359	P	P	06 32 51.8	+0.5
	baz=178						
OCAC	Ocana	19.48	106	eP	P	06 32 41.1	-11
BRRC	Barranca, Sant	19.53	110	eP	Pn	06 32 57.3	+2.6
Y39A	Lockesburg	19.56	355	P	P	06 32 52.9	+0.2
	baz=174,SNR=8.7						
Y45A	Yeager Farm, C	19.56	7	P	P	06 32 53.2	+0.5
	baz=187						
Y40A	Okolona	19.59	357	P	P	06 32 53.2	+0.3
	baz=176						
Y38A	Idabel	19.61	354	P	P	06 32 52.5	-0.7
	baz=172,SNR=10						
Y46A	Houston	19.67	8	P	P	06 32 54.1	+0.3
	baz=189						
Y37A	Hugo	19.77	352	P	P	06 32 55.0	0.0
	baz=170,SNR=16						
Y36A	Durant	19.80	350	P	P	06 32 56.2	+1.0
	baz=168						
Y47A	UCPARC, Winfie	19.85	11	P	P	06 32 55.9	+0.1
	baz=192,SNR=7.4						
Y35A	Marietta	19.94	348	P	P	06 32 56.6	-0.2
	baz=166,SNR=13						
ROSC	El Rosal	19.99	117	P	Pn	06 33 01.2	+0.7
	comp=Z,0.7nm,0.3s,baz=274,slow=0.2,SNR=23						
ROSC	El Rosal	19.99	117	eP	Pn	06 33 01.4	+0.9
	comp=Z,17nm,0.8s						
X41A	Kaden, Bauxite	20.04	359	P	P	06 32 57.7	-0.2
	baz=179						
PRAC	Prado	20.09	120	eP	P	06 32 59.3	+0.6
PRAC	Prado	20.09	120	eP	Pn	06 33 00.4	-0.8
	comp=Z,25nm,0.9s						
MIAR	Mount Ida	20.13	357	P	P	06 32 58.2	-0.7
	baz=176						
MIAR	Mount Ida	20.13	357	eP	P	06 32 58.8	-0.1
	comp=Z,11nm,0.9s						
X39A	Fountain Ranch	20.13	355	P	P	06 32 58.4	-0.4
	baz=174						
X45A	UM Field Stati	20.13	7	P	P	06 32 59.4	+0.5
	baz=188						
OXF	Oxford	20.22	7	eP	P	06 32 57.5	-2.2
	comp=Z,29nm,1.0s						
BARC	Barichara	20.22	111	eP	Pn	06 33 05.3	+2.3
UALR	University of	20.32	360	eP	P	06 33 00.6	-0.3
	comp=Z,18nm,0.9s						
X37A	Clayton	20.34	352	P	P	06 33 01.0	-0.1
	baz=171,SNR=5.4						
X38A	Whitesboro	20.35	354	P	P	06 33 01.1	-0.1
	baz=172,SNR=12						
X35A	Drake	20.41	349	P	P	06 33 01.6	-0.3
	baz=166,SNR=7.7						
X36A	Centrahoma	20.46	350	P	P	06 33 01.7	-0.7
	baz=168,SNR=9.6						
GOGA	Godfrey	20.55	21	eP	P	06 33 03.5	+0.1
RUSC	La Rusia	20.60	112	eP	P	06 33 04.2	-0.4
RUSC	La Rusia	20.60	112	eP	P	06 33 03.1	-1.5
	comp=Z,18nm,1.0s						
W41B	Gary Mavity, V	20.72	360	P	P	06 33 04.5	-0.6
	baz=180						
W38A	Poteau	20.72	355	P	P	06 33 05.3	+0.1
	baz=173						
W40A	Ferguson Farm,	20.75	358	P	P	06 33 05.6	+0.1
	baz=177						
W39A	Magazine	20.79	356	P	P	06 33 06.5	+0.6
	baz=175						
WHAR	Wooly Hollow	20.84	360	eP	P	06 33 06.6	+0.2
	comp=Z,48nm,1.7s						
PLAL	Pickwick Lake	20.86	10	eP	P	06 33 05.3	-1.4
	comp=Z,13nm,0.5s						
W45A	Hickory Valley	20.88	7	P	P	06 33 06.5	-0.4
	baz=188						
W37B	Quinton	20.89	353	P	P	06 33 06.6	-0.4
	baz=171						
W36A	Wetumka	21.00	351	P	P	06 33 06.9	-1.3
	baz=169,SNR=9.3						
MNTX	Cornudas Mount	21.05	327	P	P	06 33 08.5	-0.4
	baz=142						
MNTX	Cornudas Mount	21.05	327	eP	P	06 33 08.4	-0.4
	comp=Z,5.5nm,0.9s						
W35A	Tecumseh	21.12	349	P	P	06 33 08.2	-1.3
	baz=167,SNR=20						
WMOK	Wichita Mounta	21.14	345	P	P	06 33 08.3	-1.4
	baz=162,SNR=7.1						
WMOK	Wichita Mounta	21.14	345	eP	P	06 33 09.0	-0.6
	comp=Z,16nm,1.5s						
V41A	Mountainview	21.33	0	P	P	06 33 09.9	-1.8
	baz=180						
V40A	Witts Springs	21.36	359	P	P	06 33 10.6	-1.4
	baz=178						
V39A	Pettigrew	21.42	357	P	P	06 33 12.1	-0.7
	baz=176						
V38A	Canehill	21.50	355	P	P	06 33 12.1	-1.4
	baz=174,SNR=8.6						
SWET	Sewanee	21.52	14	eP	P	06 33 13.7	-0.1
	comp=Z,25nm,0.5s						
V37A	Hulbert	21.59	354	P	P	06 33 12.7	-1.7
	baz=172,SNR=14						
V36A	Jenks	21.59	352	P	P	06 33 12.9	-1.6
	baz=170						
TUL1	Leonard	21.70	352	P	P	06 33 13.7	-1.9
	baz=170,SNR=5.3						
TUL1	Leonard	21.70	352	eP	P	06 33 14.4	-1.2
	comp=Z,9.9nm,0.7s						
V35A	Meyer Ranch, C	21.71	350	P	P	06 33 14.0	-1.8
	baz=167,SNR=10						
HODGE	Hodges	21.73	23	eP	P	06 33 17.3	+1.3
	comp=Z,17nm,1.1s						
MSTX	Muleshoe	21.74	336	P	P	06 33 15.0	-1.3
	baz=151,SNR=10						
MSTX	Muleshoe	21.74	336	eP	P	06 33 15.7	-0.5
	comp=Z,16nm,0.8s						
SDV	Santo Domingo	21.81	102	P	P	06 33 17.3	+0.1
	comp=Z,11nm,0.6s,baz=308,slow=7.5,SNR=12						
SDV	Santo Domingo	21.81	102	eP	P	06 33 17.1	-0.1
SDV	Santo Domingo	21.81	102	eP	P	06 33 16.9	-0.3
	comp=Z,12nm,0.7s						
HHAR	Hobbs	21.88	356	eP	P	06 33 17.4	-0.2
	comp=Z,7.1nm,0.5s						
U41A	Viola	21.89	1	P	P	06 33 17.0	-0.6
	baz=180						
U40A	Yellville	21.91	359	P	P	06 33 17.2	-0.6
	baz=178						
U42A	Revenden	21.91	2	P	P	06 33 16.8	-1.0
	baz=182,SNR=9.6						
U39A	Green Forest	21.95	357	P	P	06 33 17.5	-0.9
	baz=176						
U43A	Rector	21.97	4	P	P	06 33 17.7	-0.8
	baz=184						
WVT	Waverly	22.02	9	eP	P	06 33 17.8	-1.3
	comp=Z,10nm,0.6s						
U44B	Burton Farm, H	22.03	6	P	P	06 33 18.3	-0.9
	baz=187						
U38A	Gravette	22.07	355	P	P	06 33 18.0	-1.6
	baz=174						
CPCT	Cooper Cave	22.10	17	eP	P	06 33 20.2	+0.3
	comp=Z,13nm,0.7s						
U37A	Salina	22.10	354	P	P	06 33 18.4	-1.6
	baz=172,SNR=10						
U45A	Rockin P Farm,	22.11	7	P	P	06 33 18.6	-1.3
	baz=188						
U36A	Oologah	22.16	352	P	P	06 33 18.6	-1.9
	baz=170,SNR=7.0						
BG3	Lake Jocassee	22.17	21	eP	P	06 33 21.9	+1.2
	comp=Z,42nm,1.3s						
U35A	Pawnee	22.29	350	P	P	06 33 19.9	-1.9
	baz=168,SNR=11						
PBMO	Poplar Bluff	22.38	4	eP	P	06 33 21.2	-1.6
	comp=Z,35nm,0.4s						
TKL	Tuckaleechee C	22.51	18	P	P	06 33 24.8	+0.5
	comp=Z,11nm,0.7s,baz=187,slow=9.2,SNR=23						
TKL	Tuckaleechee C	22.51	18	eP	P	06 33 24.6	+0.3
	comp=Z,59nm,1.4s						
T41A	Mountain View	22.59	1	P	P	06 33 23.7	-1.4
	baz=181,SNR=8.4						
T39A	Clever	22.59	358	P	P	06 33 23.7	-1.4
	baz=177,SNR=7.9						
T38A	Diamond	22.65	356	P	P	06 33 24.5	-1.2
	baz=174,SNR=6.1						
T40A	Mansfield	22.69	359	P	P	06 33 24.3	-1.9
	baz=179,SNR=6.6						
T44A	Benton	22.75	5	P	P	06 33 25.4	-1.3
	baz=186						
U32A	Winter Ranch,	22.75	346	P	P	06 33 25.1	-1.6
	baz=162						
T35A	Sooner Cattle	22.79	351	P	P	06 33 25.0	-2.0
	baz=169,SNR=9.6						
T37A	Cheneyville 18	22.79	354	P	P	06 33 25.0	-2.2
	baz=173,SNR=13						
T36A	Boggs Farm, Ca	22.84	352	P	P	06 33 25.5	-2.0
	baz=170,SNR=12						
KMSC	Kings Mountain	22.89	23	P	P	06 33 27.9	-0.1
	baz=208,SNR=7.7						
KMSC	Kings Mountain	22.89	23	eP	P	06 33 28.3	+0.2
	comp=Z,32nm,1.2s						
T34A	McClaskey Farm	23.00	350	P	P	06 33 26.6	-2.5
	baz=167,SNR=9.5						
121A	Cookes Peak, D	23.00	324	P	P	06 33 29.7	+0.3
	baz=138						
S41A	Jillco Farms,	23.13	1	P	P	06 33 28.7	-1.7
	baz=181						
S40A	Lebanon	23.14	359	P	P	06 33 28.5	-2.0
	baz=179,SNR=7.0						
S43A	Fulton Ridge,	23.19	4	P	P	06 33 29.0	-2.0
	baz=185						
S38A	Stockton	23.22	357	P	P	06 33 29.4	-1.9
	baz=175,SNR=12						
S39A	Bolivar	23.25	358	P	P	06 33 29.5	-2.1
	baz=177,SNR=9.5						
S42A	Caledonia	23.34	3	P	P	06 33 30.0	-2.4
	baz=183						
S44A	Carbondale	23.38	6	P	P	06 33 32.2	-0.6
	baz=187,SNR=23						
S37A	Fort Scott	23.42	355	P	P	06 33 31.3	-1.7
	baz=173,SNR=11						
S45A	Carrier Mills	23.44	7	P	P	06 33 31.5	-1.7
	baz=188						
S36A	Lake Cedric, C	23.46	353	P	P	06 33 31.6	-1.9
	baz=171,SNR=9.1						
S35A	Otter Creek Ra	23.51	352	P	P	06 33 32.3	-1.6
	baz=170,SNR=9.7						
CCM	Cathedral Cave	23.61	2	eP	P	06 33 33.6	-1.2
	comp=Z,8.1nm,0.6s						
BNM	Barren Site	23.63	329	eP	P	06 33 37.4	+2.0
S34A	Willow Spring	23.65	350	P	P	06 33 32.7	-2.5
	baz=168						
R38A	Fenwick Farm,	23.77	357	P	P	06 33 33.8	-2.5
	baz=176,SNR=7.6						
R40A	Maddies Statio	23.83	360	P	P	06 33 34.4	-2.3
	baz=180						
USIN	University of	23.85	9	eP	P	06 33 37.0	+0.1
	comp=Z,22nm,0.8s						
R41A	Rosebud	23.85	2	P	P	06 33 35.5	-1.5
	baz=182,SNR=7.4						
R42A	Luebbering	23.85	3	P	P	06 33 35.5	-1.5
	baz=183,SNR=6.6						
R39A	Chumby, Stover	23.86	358	P	P	06 33 35.0	-2.1
	baz=178						
R43A	Red Bud	23.90	4	P	P	06 33 36.1	-1.3
	baz=185,SNR=9.4						
R37A	Teagarden Farm	23.97	355	P	P	06 33 35.9	-2.1
	baz=173						
R36A	Gordon, Harris	24.04	354	P	P	06 33 37.0	-1.6
	baz=172						
LAZ	Ladron	24.09	329	eP	P	06 33 38.5	-0.9
R35A	Emporia Munici	24.12	352	P	P	06 33 37.8	-1.6
	baz=170						
ANMO	Albuquerque	24.19	330	P	P	06 33 41.4	+1.1
	comp=Z,2.5nm,0.5s,baz=334,slow=13,SNR=18						
ANMO	Albuquerque	24.19	330	P	P	06 33 40.9	+0.7
	baz=144						
ANMO	Albuquerque	24.19	330	eP	P	06 33 41.6	+1.3
	comp=Z,3.4nm,0.6s						
SLM	Saint Louis	24.24	4	eP	P	06 33 40.9	+0.4
	comp=Z,42nm,0.5s						
R34A	Isabella, Hill	24.25	350	P	P	06 33 39.8	-0.8
	baz=168,SNR=6.9						
WCI	Wyandotte Cave	24.34	11	eP	P	06 33 40.4	-1.0
	comp=Z,60nm,0.8s						
Q42A	Golden Eagle	24.49	3	P	P	06 33 41.5	-1.2
	baz=184,SNR=6.6						
Q41A	Truxton	24.51	2	P	P	06 33 41.5	-1.4
	baz=182,SNR=9.1						
Q38A	Cooks Store, C	24.53	357	P	P	06 33 41.8	-1.2
	baz=176,SNR=8.5						
Q40A	Laux Farm, Aux	24.53	0	P	P	06 33 41.1	-2.1
	baz=180						
OLIL	Olney	24.54	8	eP	P	06 33 43.2	0.0
	comp=Z,49nm,0.8s						
Q43A	New Douglas	24.58	5	P	P	06 33 43.1	-0.4
	baz=186,SNR=6.0						
Q39A	Willow Grove F	24.59	359	P	P	06 33 42.1	-1.6
	baz=178						
Q44A	Meyer Farm, Va	24.60	6	P	P	06 33 42.4	-1.3
	baz=187						
Q35A	Mercer Eighty,	24.63	353	P	P	06 33 41.0	-3.0
	baz=171						
TUC	Tucson	24.63	320	eP	P	06 33 44.9	+0.7
	comp=Z,3.3nm,0.9s						
KSU1	Kansas State U	24.94	352	P	P	06 33 45.2	-1.6
	baz=170,SNR=5.9						
KSU1	Kansas State U	24.94	352	eP	P	06 33 45.6	-1.3
	comp=Z,14nm,0.6s						
P39B	Salisbury	25.03	359	P	P	06 33 45.1	-2.5
	baz=178						
P40A	Paris	25.07	0	P	P	06 33 45.9	-2.1
	baz=180						
T25A	Trinidad	25.16	337	P	P	06 33 50.2	+1.1
	baz=151,SNR=8.6						
T25A	Trinidad	25.16	337	eP	P	06 33 50.5	+1.4
	comp=Z,12nm,0.8s						
P42A	Winchester	25.18	3	P	P	06 33 47.6	-1.4
	baz=184						
P37A	Lathrop	25.20	356	P	P	06 33 47.8	-1.4
	baz=175						
P44A	Sand Creek, Wi	25.20	7	P	P	06 33 48.5	-0.7
	baz=188						
P41A	Barry, Barry	25.23	2	P	P	06 33 47.9	-1.6
	baz=182						
CBKS	Cedar Bluff	25.25	346	eP	P	06 33 51.3	+1.6
	comp=Z,15nm,0.6s						
MHTCO	State Highway	25.25	336	eP	P	06 33 51.7	+1.8
	comp=Z,11nm,1.0s						
VWCC	Virginia Weste	25.25	23	eP	P	06 33 49.7	0.0
P43A	Skaggs, Pawnee	25.29	5	P	P	06 33 48.8	-1.1
	baz=186						
P35A	Duane Minner,	25.29	353	P	P	06 33 48.6	-1.4
	baz=171						
P36A	Good Intent, A	25.30	355	P	P	06 33 48.9	-1.1
	baz=173						
P34A	Walnut Farm, R	25.41	352	P	P	06 33 50.0	-1.2
	baz=169						
P46A	Rosedale	25.54	9	P	P	06 33 51.1	-1.1
	baz=191						
P47A	Martinsville	25.56	11	P	P	06 33 51.1	-1.4
	baz=193						
O40A	La Belle	25.66	1	P	P	06 33 52.2	-1.1
	baz=180						
O41A	Passleys Farm,	25.68	2	P	P	06 33 52.4	-1.1
	baz=183						
O37A	Wolven Farm, M	25.76	357	P	P	06 33 53.6	-0.6
	baz=175						
O39A	Kirksville	25.79	359	P	P	06 33 54.4	-0.2
	baz=179						
O44A	Mansfield	25.90	7	P	P	06 33 54.6	-0.9
	baz=188						
O43A	Sugar Creek Fa	25.95	5	P	P	06 33 55.0	-0.9
	baz=186						
O34A	Beatrice	26.02	352	P	P	06 33 54.7	-1.9
	baz=170						
O45A	Potomac	26.08	8	P	P	06 33 56.0	-1.1
	baz=190,SNR=6.2						
SDCO	Great Sand Dun	26.11	336	P	P	06 33 58.5	+0.7
	baz=149,SNR=6.4						
SDCO	Great Sand Dun	26.11	336	eP	P	06 33 59.0	+1.2
	comp=Z,8.6nm,1.3s						
HDIL	Hopedale	26.21	5	P	P	06 33 57.9	-0.4
	baz=186						
KSCO	Kaye Shedlock'	26.22	341	P	P	06 33 57.6	-0.9
	baz=156						
KSCO	Kaye Shedlock'	26.22	341	eP	P	06 33 58.8	+0.3
	comp=Z,8.7nm,0.8s						
SFIN	Lafayette	26.30	9	P	P	06 33 58.0	-1.1
	baz=191,SNR=5.5						
SFIN	Lafayette	26.30	9	eP	P	06 33 58.3	-0.8
	comp=Z,23nm,0.6s						
O47A	Sheridan	26.31	10	P	P	06 33 57.6	-1.6
	baz=193						
N38A	Joes South For	26.34	358	P	P	06 33 59.6	+0.1
	baz=177,SNR=6.0						
N39A	Derby Farms, D	26.41	359	P	P	06 34 00.5	+0.3
	baz=179						
X16A	Lo Mia Camp, P	26.47	322	eP	P	06 34 02.2	+1.3
	comp=Z,2.2nm,1.0s						
N44A	Piper City	26.57	7	P	P	06 34 00.4	-1.1
	baz=188						
S22A	4UR Ranch, Cre	26.67	334	P	P	06 34 03.7	+0.9
	baz=147,SNR=12						
S22A	4UR Ranch, Cre	26.67	334	eP	P	06 34 04.3	+1.5
	comp=Z,6.9nm,0.9s						
N45A	Kentland	26.70	8	P	P	06 34 01.3	-1.4
	baz=190						
N46A	Monticello	26.86	9	P	P	06 34 03.0	-1.1
	baz=191						
M41A	Milan	26.95	3	P	P	06 34 04.5	-0.4
	baz=183						
M38A	Pleasantville	26.97	358	P	P	06 34 05.2	+0.1
	baz=178						
M37A	Trindle Farm,	26.99	357	P	P	06 34 05.4	+0.1
	baz=176						
MVCO	Mesa Verde	26.99	330	P	P	06 34 06.7	+1.1
	baz=143,SNR=8.8						
MVCO	Mesa Verde	26.99	330	eP	P	06 34 08.1	+2.4
	comp=Z,11nm,0.8s						
M44A	Midewin, Midew	27.16	7	P	P	06 34 06.5	-0.4
	baz=188						
WUAZ	Wupatki	27.21	324	P	P	06 34 07.2	-0.4
	baz=136						
L38A	Oak Wood Farm,	27.68	359	P	P	06 34 10.9	-0.6
	baz=178						
L37A	Phoenix Point,	27.69	358	P	P	06 34 11.0	-0.6
	baz=176						
SMCO	Snowmass	27.93	335	eP	P	06 34 15.7	+1.4
	comp=Z,19nm,2.0s						
ISCO	Idaho Springs	27.94	338	P	P	06 34 14.4	+0.2
	baz=151						
PV05	Paradox Valley	27.97	331	eP	P	06 34 16.9	+2.5
PV10	Paradox Valley	28.18	331	eP	P	06 34 18.4	+2.2
K34A	Le Mars	28.42	354	P	P	06 34 18.6	+0.5
	baz=172						
K42A	Prairie Point,	28.42	4	P	P	06 34 18.6	+0.6
	baz=186						
O56A	Blue Knob Stat	28.43	22	P	P	06 34 17.3	-0.9
	baz=208						
N54A	Moraine State	28.56	20	P	P	06 34 17.7	-1.6
	baz=205,SNR=5.7						
K32A	Verdigre	28.63	351	P	P	06 34 19.7	-0.2
	baz=168						
K31A	O'Neill	28.72	350	P	P	06 34 20.1	-0.7
	baz=166						
J42A	Columbus	28.97	5	P	P	06 34 23.7	+0.8
	baz=186						
M54A	Oil Creek Stat	29.15	20	P	P	06 34 24.0	-0.6
	baz=205						
O20A	White River Ci	29.27	334	P	P	06 34 26.6	+0.7
	baz=147						
MTPU	Mount Pierson	29.49	327	eP	P	06 34 29.6	+1.5
	comp=Z,2.6nm,1.0s						
ECSD	EROS Data Cent	29.51	353	P	P	06 34 26.6	-1.1
	baz=171						
I37A	Lemond, Waseca	29.57	358	P	P	06 34 28.5	+0.3
	baz=177						
I36A	Fitzsimmons Fa	29.59	357	P	P	06 34 30.2	+1.8
	baz=176						
DBD	Des Bee Dove	29.90	330	eP	P	06 34 30.9	-0.6
H32A	Carlson Farm,	30.37	353	P	P	06 34 33.7	-1.6
	baz=170						
SPMN	Marine on St.	30.76	359	P	P	06 34 38.8	+0.1
	baz=179						
K22A	Casper	30.77	339	P	P	06 34 39.2	+0.2
	baz=152						
G39A	Holcombe	30.83	1	P	P	06 34 39.2	-0.1
	baz=182						
G32A	Webster	31.11	353	P	P	06 34 40.5	-1.4
	baz=170						
MPMC	Manual Prospec	31.29	318	P	P	06 34 43.4	-0.4
	baz=127						
TCUT	Toone Canyon	31.46	332	eP	P	06 34 47.8	+2.5
	comp=Z,12nm,1.0s						
BW06	Boulder Array	32.01	336	P	P	06 34 49.5	-0.5
	baz=147						
PD31	Pinedale Array	32.01	336	eP	P	06 34 50.4	+0.3
PD31				ePcP	PcP	06 37 40.2	+2.3
PDAR	Pinedale Array	32.01	336	P	P	06 34 50.3	+0.3
	comp=Z,0.3nm,0.3s,baz=151,slow=11,SNR=5.4						
PDAR				PcP	PcP	06 37 40.2	+2.3
	comp=Z,0.4nm,0.5s,baz=128,slow=5.0,SNR=5.4						
E34A	Wadena	32.14	356	P	P	06 34 49.8	-1.1
	baz=174						
HVU	Hansel Valley	32.62	331	eP	P	06 34 56.8	+1.5
	comp=Z,1.8nm,0.9s						
D34A	Park Rapids	32.72	356	P	P	06 34 55.9	+0.1
	baz=174						
D33A	AnnSam, Waubun	32.82	355	P	P	06 34 55.4	-1.4
	baz=173						
REDW	Red Top Meadow	33.03	335	eP	P	06 34 59.7	+0.7
	comp=Z,16nm,0.9s						
SNOW	Snow King Moun	33.07	335	eP	P	06 35 00.5	+1.1
	comp=Z,17nm,0.8s						
LOHW	Long Hollow	33.14	335	eP	P	06 35 00.7	+0.8
	comp=Z,5.9nm,1.0s						
TPAW	Teton Pass	33.18	335	eP	P	06 35 01.6	+1.3
	comp=Z,18nm,1.4s						
C35A	Jirik Farms, M	33.27	358	P	P	06 35 00.3	-0.4
	baz=177						
MOOW	Moose Ponds	33.31	335	eP	P	06 35 02.2	+0.9
	comp=Z,18nm,2.0s						
FXWY	Fox Creek	33.33	335	eP	P	06 35 02.6	+1.0
	comp=Z,3.7nm,1.0s						
IMW	Indian Meadow	33.51	335	eP	P	06 35 04.0	+0.8
	comp=Z,9.2nm,1.4s						
C31A	Landman Farms,	33.64	353	P	P	06 35 02.8	-1.1
	baz=170						
MDND	Maddock	33.95	351	P	P	06 35 05.8	-0.7
	baz=167						
YMR	Madison River	34.16	336	eP	P	06 35 10.2	+1.5
HLID	Hailey	34.76	331	P	P	06 35 15.0	+1.1
	baz=140						
HLID	Hailey	34.76	331	eP	P	06 35 15.2	+1.3
	comp=Z,6.6nm,1.5s						
MCMT	McKenzie Canyo	35.06	334	eP	P	06 35 18.4	+1.9
PTGA	Pitinga	35.26	112	P	P	06 35 17.0	-1.3
	comp=Z,17nm,0.6s,baz=300,slow=13,SNR=50						
PTGA	Pitinga	35.26	112	eP	P	06 35 17.9	-0.4
	comp=Z,20nm,0.6s						
DLMT	Dillon	35.39	335	eP	P	06 35 20.5	+1.4
	comp=Z,9.3nm,1.2s						
ULM	Lac du Bonnet	35.91	356	P	P	06 35 20.9	-2.5
	comp=Z,2.6nm,0.8s,baz=161,slow=9.2,SNR=4.1						
WVOR	Wild Horse Val	36.08	326	eP	P	06 35 27.1	+1.9
	comp=Z,4.0nm,1.0s						
EGMT	Eagleton	36.58	340	P	P	06 35 29

C09A	Chrisman Ranch	39.74	332	*e*P		P	06 35 57.3 +1.6
	comp=Z,5.5nm,0.6s						
SIV	San Ignacio	43.08	133	P		P	06 36 21.2 -2.2
	comp=Z,1.4nm,0.6s,baz=313,slow=6.3,SNR=4.3						
YKA	Yellowknife Ar	50.63	347	P		P	06 37 21.6 +0.1
	comp=Z,8.6nm,0.5s,baz=152,slow=7.3,SNR=30						
YKB5	Yellowknife Ar	50.63	347	*e*P		P	06 37 21.6 +0.1
BDFB	Brasilia	52.88	123	P		P	06 37 38.4 -0.8
	comp=Z,3.6nm,0.9s,baz=106,slow=7.4,SNR=3.5						
ILAR	Eielson Array	62.43	337	P		P	06 38 45.5 +0.3
	comp=Z,3.6nm,1.0s,baz=120,slow=5.4,SNR=24						
ILB	Eielson Array	62.43	337	*e*P		P	06 38 45.8 +0.6
RND	Reindeer	62.62	335	*e*P		P	06 38 48.0 +1.4
	comp=Z,12nm,1.0s						
MLY	Manley	64.03	336	*e*P		P	06 38 56.4 +0.6
	comp=Z,7.6nm,0.7s						
TOLK	Toolik Lake Re	65.11	340	P		P	06 39 03.5 +0.7
	baz=116						
ESDC	Sonseca Array	79.64	52	P		P	06 40 27.5 -2.4
	comp=Z,0.5nm,0.4s,baz=288,slow=6.3,SNR=10						
DBIC	Dimbokro	85.81	84	P		P	06 41 02.4 +0.3
	comp=Z,3.7nm,0.7s,baz=247,slow=5.8,SNR=4.1						
DBIC	Dimbokro	85.81	84	*e*P		P	06 41 02.4 +0.3
	comp=Z,23nm,1.5s						
ARCES	ARCESS Array B	85.85	18	P		P	06 41 00.6 -0.6
	comp=Z,1.7nm,0.9s,baz=296,slow=4.9,SNR=6.0						
TOA1	Torodi Ar. Sit	90.48	76	*e*P		P	06 41 22.0 -2.3
	comp=Z,22nm,1.9s						
TORD	Torodi Ar. Bea	90.48	76	P		P	06 41 22.0 -2.3
	comp=Z,0.2nm,0.5s,baz=273,slow=2.8,SNR=3.3						
BOSA	Boshof	120.69	115	PKP		PKPdf	06 47 16.5 +2.4
	comp=Z,2.7nm,0.7s,baz=346,slow=16,SNR=4.1						
MAW	Mawson	124.37	169	PKP		PKPdf	06 47 25.3 +5.5
	comp=Z,0.6nm,0.6s,baz=143,slow=5.1,SNR=4.1						
KSH	Kashi	125.27	11	*e*PKP		PKPdf	06 47 20.8 -1.9
KSH				sPKP			06 48 00.0
KSH				PP		PP	06 49 16.3 +4.1
KSH				PKS		PKSdf	06 50 18.5 -41
KSH				SKS		SKSdf	06 54 21.5 -5.1
KSH				SKKS		SKKSac	06 55 58.5 -4.8
KSH	Kashi	125.27	11	SS		SS	07 06 01.5 -0.3
KSH				AMB		AMB	
	comp=Z,130nm,5.4s						
KSH				LR		LR	
	comp=N,56nm,8.2s						
KSH				LR		LR	
	comp=E,97nm,9.2s						
KSH				LR		LR	
	comp=Z,110nm,9.9s						
WR1	Warramunga Arr	135.29	256	*e*PKPdf		PKPdf	06 47 47.4 +5.4
WRA	Warramunga Arr	135.29	256	PKP		PKPdf	06 47 47.4 +5.4
	comp=Z,0.7nm,0.8s,baz=88,slow=2.6,SNR=2.2						
CMAR	Chiang Mai Arr	145.58	341	PKPbc		PKPdf	06 48 00.7 +0.1
	comp=Z,5.0nm,0.5s,baz=339,slow=3.4,SNR=18						

IDC 31 06:38:21.6±5.6, 4°.99S×133°.19E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.6/24, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=333.3km s-min=33.0km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.90	176	Pn	Pn	06 41 51.7	-2.1
	0.3nm,0.3s,baz=353,slow=13,SNR=15						
WRA				Sn	Sn	06 44 35.1	-4.6
	0.1nm,0.3s,baz=1.0,slow=23,SNR=3.6						
WRA				Lg	Lg	06 46 24.3	
	0.1nm,0.3s,baz=357,slow=30,SNR=4.5						
ASAR	Alice Springs	18.58	178	P	Pn	06 42 41.2	+0.6
	0.3nm,0.3s,baz=4.7,slow=11,SNR=36						
ASAR				Lg	Lg	06 48 17.3	
	baz=9.4,slow=31,SNR=4.0						
MKAR	Makanchi Array	68.36	325	P	P	06 49 25.0	0.0
	0.4nm,0.7s,baz=117,slow=7.7,SNR=3.1						

*ISCJB **31** 06:46:39.8±1.1, 6°.0S±0°.2×154°.61E±0°.10, h61km, mb3.9/6, Error ellipse: s-maj=27.1km s-min=11.6km az=163.3*
*IDC **31** 06:46:43.1±1.1, 5°.93S×154°.56E, h77km±9km, mb3.7/6, mb1 3.9/8, mb1mx3.6/36, mbtmp4.1/8, Error ellipse: s-maj=29.1km s-min=17.0km az=138.0*

ISC 31 06:46:41.8±1.0, 6°.0S±0°.2×154°.7E±0°.1, h61km, n12, σ1§63/13, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.18	245	P	Pn	06 48 38.5	+0.7
	6.2nm,0.3s,baz=48,slow=10,SNR=10.0						
PMG				S	Sn	06 50 09.5	+0.7
	3.4nm,0.3s,baz=54,slow=19,SNR=4.4						
DZM	Mont Dzumac	19.58	146	P	Pn	06 51 08.7	+1.8
	0.4nm,0.3s,baz=324,slow=16,SNR=6.9						
WRA	Warramunga Arr	24.12	233	P	P	06 51 51.2	-1.0
	2.0nm,0.6s,baz=57,slow=10.0,SNR=14						
WRA				pP	pP	06 52 10.1	+3.0
	1.0nm,0.6s,baz=54,slow=9.8,SNR=3.6						
ASAR	Alice Springs	26.59	227	P	P	06 52 13.3	-1.2
	2.4nm,0.7s,baz=59,slow=8.5,SNR=20						
ASAR				pP	sP	06 52 34.0	-2.7
	0.6nm,0.6s,baz=63,slow=11,SNR=3.0						
H11S3	WAKE ISLAND Hy	27.10	26	T	T	07 20 20.9	
	baz=207,slow=74						
H11S2	WAKE ISLAND Hy	27.10	26	T	T	07 20 19.4	
	baz=207,slow=74						
H11S1	WAKE ISLAND Hy	27.11	26	T	T	07 20 20.3	
	baz=207						
STKA	Stephens Creek	28.48	204	P	P	06 52 30.3	-1.0
	2.8nm,0.7s,baz=34,slow=12,SNR=7.0						
VNDA	Vanda	71.54	178	P	P	06 57 55.3	-0.6
	0.5nm,0.7s,baz=359,slow=1.2,SNR=3.7						
ILAR	Eielson Array	82.60	22	P	P	06 58 57.5	-0.6
	0.3nm,0.6s,baz=246,slow=4.9,SNR=7.0						
ILAR				pP	pP	06 59 16.1	+1.1
	0.2nm,0.7s,baz=250,slow=5.3,SNR=1.5						
MAW	Mawson	85.16	203	P	P	06 59 10.8	-0.3
	1.8nm,0.6s,baz=105,slow=7.1,SNR=16						
TORD	Torodi Ar. Bea	152.47	287	PKPbc	PKPbc	07 06 32.9	+0.6
	0.3nm,0.7s,baz=74,slow=3.0,SNR=2.7						

*NIED **31** 06:54:00, 44°.90N×150°.40E, h29km, Mw4.7 Best double couple: M0 1.17000×10^16 NP1:φs=328.00000°, δ44.00000°, λ23.00000°. NP2:φs=222.00000°, δ75.00000°, λ131.00000°.*
*IDC **31** 06:54:30.8±0.6, 44°.73N×150°.24E, h0km, mb4.4/19, mb1 4.5/25, mb1mx4.4/36, mbtmp4.4/25, ML3.7/6, MS3.9/5, Ms1 3.9/5, ms1mx3.5/52, Error ellipse: s-maj=16.3km s-min=13.5km az=143.0*
*ISCJB **31** 06:54:32.3±1.0, 44°.77N±0°.05×150°.16E±0°.04, h15km±6km, mb4.8/119, MS4.3/11, Error ellipse: s-maj=9.0km s-min=3.3km az=154.9*
*JMA **31** 06:54:33.3±0.5, 44°.88N×150°.37E, h30km, M4.7*
*SKHL **31** 06:54:34.6±0.3, 44°.41N×150°.41E, h46km±10km, mb5.0/4, Ms4.2/3, msh5.2/2*
*MOS **31** 06:54:36.3±1.5, 44°.68N×150°.03E, h48km, mb5.0/53, Error ellipse: s-maj=7.0km s-min=4.7km az=118.3*
*NEIC **31** 06:54:37.5±0.5, 44°.93N×150°.11E, h35km, mb4.8/54, Error ellipse: s-maj=12.4km s-min=5.4km az=163.0*
*BJI **31** 06:54:38.8, 45°.16N×149°.97E, h49km, mb4.9/54, mB5.0/42, Ms4.5/35, Ms7 4.3/35*

ISC 31 06:54:37.6±0.6, 44°.76N±0°.05×150°.18E±0°.04, h45km±4km, h45km:pP-P, n349, σ1§91/370, mb4.8/121, MS4.3/12, 20C-25D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.71	287	*i*PN	Pn	06 55 04.4	-0.4
KUR				*e*S	Sn	06 55 26.8	+1.3
KUR				pmax	pmax		
	comp=Z,125nm,0.5s						
KUR				pmax	pmax		
	comp=E,30nm,0.2s						
KUR				pmax	pmax		
	comp=N,87nm,0.4s						
KUR				smax	smax		
	comp=E,438nm,0.6s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR	Kuril'sk	1.71	287	*e*P	Pn	06 55 04.6	-0.2
KUR				AMB	AMB	06 55 09.0	
	comp=N,150nm,0.4s						
KUR				*e*S	Sn	06 55 27.2	+1.7
KUR				A	A	06 55 31.3	
	comp=N,4μm,3.4s						
KUR				A	A	06 55 31.3	
	comp=N,3μm,3.4s						
KUR				A	A	06 55 34.2	
	comp=N,440nm,0.6s						
KUR				A	A	06 55 34.2	
	comp=N,1μm,0.6s						
KUR				AMS	AMS	06 56 01.4	
	comp=N,7μm,12.0s						
KUR				AMS	AMS	06 56 01.4	
	comp=N,7μm,12.0s						
SHO	Shikotan	2.56	251	*c i*PN	Pn	06 55 14.4	-2.2
SHO				*i* S	Sn	06 55 44.4	-2.1
SHO				pmax	pmax		
	comp=Z,177nm,0.3s						
SHO				smax	smax		
	comp=N,1μm,0.4s						
SHO				smax	smax		
	comp=E,747nm,0.4s						
SHO	Shikotan	2.56	251	*e*P	Pn	06 55 14.4	-2.2
SHO				AMB	AMB	06 55 16.6	
	comp=E,177nm,0.3s						
SHO				*e*S	Sn	06 55 44.4	-2.1
SHO				A	A	06 55 47.7	
	comp=E,930nm,0.4s						
SHO				A	A	06 55 47.7	
	comp=E,720nm,0.4s						
SHO				AMS	AMS	06 56 49.0	
	comp=E,3μm,13.0s						
SHO				AMS	AMS	06 56 49.0	
	comp=E,4μm,13.0s						
SHO				AMS	AMS	06 56 49.0	
	comp=E,2μm,13.0s						
YUK	Yuzh-Kuril'sk	3.18	258	*e*PN	Pn	06 55 25.5	+0.5
YUK				*e*S	Sn	06 56 03.0	+1.4
YUK				pmax	pmax		
	comp=N,70nm,0.2s						
YUK				pmax	pmax		
	comp=Z,324nm,0.2s						
YUK				pmax	pmax		
	comp=E,100nm,0.1s						
YUK				smax	smax		
	comp=E,187nm,0.2s						
YUK				smax	smax		
	comp=N,605nm,0.4s						
YUK				MLR	MLR		
	comp=Z,3μm,12.0s						
YUK				MLR	MLR		
	comp=E,3μm,9.0s						
YUK	Yuzh-Kuril'sk	3.18	258	*e*P	Pn	06 55 24.1	-0.9
YUK				AMB	AMB	06 55 26.4	
	comp=E,400nm,0.2s						
YUK				*e*S	Sn	06 56 00.9	-0.7
YUK				A	A	06 56 02.5	
	comp=E,2μm,2.0s						
YUK				A	A	06 56 02.5	
	comp=E,2μm,2.0s						
YUK				A	A	06 56 05.6	
	comp=E,640nm,0.4s						
YUK				A	A	06 56 05.6	
	comp=E,490nm,0.4s						
NEM2	Nemuro 2	3.49	248	P	Pn	06 55 27.0	-2.3
NEM2				*e*S	Sn	06 56 07.6	-1.6
JRA	Rausu	3.72	259	P	Pn	06 55 32.6	+0.2
JRA				*e*S	Sn	06 56 16.8	+1.9
JNK	Nakash	4.10	255	P	Pn	06 55 36.6	-1.1
JNK				*e*S	Sn	06 56 23.7	-0.6
JAK	Akkeshi	4.34	248	P	Pn	06 55 38.8	-2.1
JAK				*e*S	Sn	06 56 26.3	-3.9
JTKR	Abashiri--Toko	4.56	262	P	Pn	06 55 44.9	+0.9
JAR	Ashorobuto	4.85	255	P	Pn	06 55 47.3	-0.6
JAR				*e*S	Sn	06 56 42.9	+0.1
JMP	Maruseppu	4.95	264	P	Pn	06 55 50.4	+1.1
JOB	Onbets	4.95	250	P	Pn	06 55 48.1	-1.2
JOB				*e*S	Sn	06 56 44.5	-0.8
JCH	Churui	5.39	249	P	Pn	06 55 54.0	-1.3
ASAJ	Asahikawa	5.47	266	Pn	Pn	06 55 56.1	-0.4
	comp=E,5.7nm,0.3s,baz=95,slow=18,SNR=31						
ASAJ				LR	LR	06 58 28.9	
	comp=E,8.7nm,19.2s,baz=118,slow=43						
ASAJ	Asahikawa	5.47	266	P	Pn	06 55 57.7	+1.2
ASAJ	Asahikawa	5.47	266	*e*Pn	Pn	06 55 58.4	+1.9
ASAJ				*e*Sn	Sn	06 56 50.4	-7.7
YSS	Yuzh-Sakhalins	5.63	296	⇓*e*PN	Pn	06 56 00.9	+2.2
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	Yuzh-Sakhalins	5.63	296	*e*P	Pn	06 56 01.8	+3.1
YSS				*e*S	Sn	06 57 06.3	+4.3
YSS	Yuzh-Sakhalins	5.63	296	*e*Pn	Pn	06 55 54.3	-4.4
YSS				*e*Sn	Sn	06 57 00.2	-1.8
JAB	Ashibetsu	5.86	260	P	Pn	06 56 03.3	+1.4
JNBK	Urakawa-nobuka	5.94	248	P	Pn	06 56 00.8	-2.1
JBT2	Biratori 2	5.99	253	P	Pn	06 56 02.3	-1.4
UGL	Uglegorsk	7.04	311	*e*PN	Pn	06 56 16.4	-1.5
UGL	Uglegorsk	7.04	311	*e*P	Pn	06 56 21.6	+3.7
SKR	Severo-Kuril's	7.15	32	*e*PN	Pn	06 56 20.2	+0.7
SKR				pmax	pmax		
	comp=Z,128nm,0.8s						
SKR				pmax	pmax		
	comp=Z,200nm,3.6s						
SKR				MLR	MLR		
	comp=Z,700nm,16.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
SKR	Severo-Kuril's	7.15	32	*e*P	Pn	06 56 20.3	+0.7
SKR				AMB	AMB	06 56 22.1	
	comp=Z,80nm,0.5s						
SKR				*e*S	Sn	06 57 37.8	-1.6
SKR				A	A	06 57 38.4	
	comp=Z,147nm,0.7s						
SKR				A	A	06 57 59.0	
	comp=Z,460nm,2.6s						
SKR				A	A	06 57 59.0	
	comp=Z,700nm,2.6s						
SKR				AMS	AMS	06 59 13.7	
	comp=Z,2μm,15.0s						
SKR				AMS	AMS	06 59 13.7	
	comp=Z,2μm,15.0s						
SKR				AMS	AMS	06 59 13.7	
	comp=Z,1μm,15.0s						
JKB	Kayabe	7.26	250	P	Pn	06 56 19.4	-1.6
JKB				*e*S	Sn	06 57 37.3	-4.8
JANG	Nango	7.75	239	P	Pn	06 56 23.8	-4.0
JANG				*e*S	Sn	06 57 44.5	-10
JTM	Tenmabayashi	7.79	243	*e*S	Sn	06 57 47.4	-7.7
JTH	Tanohata	7.81	235	*e*S	Sn	06 57 44.6	-11
TYV	Tymovskoe	7.93	323	*e*PN	Pn	06 56 32.0	+1.8
TYV				pmax	pmax		
	comp=Z,23nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,3.1s						
TYV				MLR	MLR		
	comp=N,900nm,18.0s						
TYV				MLR	MLR		
	comp=Z,500nm,14.0s						
TYV	Tymovskoe	7.93	323	*e*P	Pn	06 56 35.0	+4.8
JOSM	Okushiri--Mats	8.24	255	P	Pn	06 56 32.0	-2.4
PEA0B	Petropavlovsk-	9.71	28	*e*Pn	Pn	06 56 49.6	-4.9
PETK	Petropavlovsk-	9.71	28	Pn	Pn	06 56 52.5	-2.0
	comp=Z,0.7nm,0.3s,baz=166,slow=12,SNR=9.9						
PEA1	Petropavlovsk-	9.71	28	*e*Pn	Pn	06 56 52.5	-2.1
PET	Petropavlovsk	9.97	31	*e*PN	Pn	06 56 54.8	-3.3
PET	Petropavlovsk	9.97	31	*e*P	Pn	06 57 00.0	+1.9
PET	Petropavlovsk	9.97	31	*e*Pn	Pn	06 56 54.8	-3.3
PET				*e*Sn	Sn	06 58 30.4	-18
HABR	Khabarovsk	11.05	295	*e*PN	Pn	06 57 11.0	-1.8
HABR				*e*SS	Sn	06 59 29.1	+14
HABR				MLR	MLR		
	comp=Z,780nm,14.0s						
MAJO	Matsushiro	12.24	232	⇓*e*PN	Pn	06 57 25.8	-3.4
MAJO	Matsushiro	12.24	232	*e*Pn	Pn	06 57 35.7	+6.5
MAJO				*e*Sn	Sn	06 59 55.4	+11
MAT	Matsushiro	12.24	232	P	P	06 57 43.4	+2.9
MAT				S	S	07 00 04.0	-6.8
MJAR	Matsushiro Arr	12.24	232	Pn	Pn	06 57 25.7	-3.5
	comp=Z,0.3nm,0.3s,baz=24,slow=15,SNR=4.2						
USRK	Ussuriysk Ar.	13.01	274	Pn	Pn	06 57 39.1	-0.5
	comp=Z,1.0nm,0.3s,baz=87,slow=14,SNR=50						
USRK				LR	LR	07 03 00.9	
	comp=Z,590nm,19.5s,baz=70,slow=39						
VLA	Vladivostok	13.29	269	⇓*i*PN	Pn	06 57 46.5	+3.0
VLA				pmax	pmax		
	comp=Z,13nm,0.8s						
KLR	Kul'dur	13.34	296	Pn	P	06 57 50.5	-2.2
	comp=Z,0.0nm,0.3s,baz=110,slow=12,SNR=11						
KLR				LR	LR	07 03 26.8	
	comp=Z,89nm,18.8s,baz=102,slow=40						
MSHR	Mys Shultsa	13.94	268	⇑*e*P	Pn	06 57 50.9	-1.5
MDJ	Mudanjiang	14.65	277	*e*Pn	Pn	06 58 02.7	+0.9
CN2	Changchun	17.72	276	*e*P	P	06 58 45.3	+4.0
SEY	Seymchan	18.25	3	P	Pn	06 58 46.2	-1.1
	comp=Z,0.3nm,0.3s,baz=168,slow=11,SNR=5.5						
KSRS	Korea Array	18.26	254	P	P	06 58 45.5	-1.7
	comp=Z,0.2nm,0.3s,baz=56,slow=13,SNR=14						
KSRS				LR	LR	07 05 35.0	
	comp=Z,263nm,18.8s,baz=58,slow=36						
KS15	Wonju Array Si	18.29	254	*e*P	P	06 58 45.5	-2.1
KSAR	Wonju Array Be	18.29	254	P	P	06 58 45.5	-2.1
KSAR	Wonju Array Be	18.29	254	P	P	06 58 45.5	-2.1
YAK	Yakutsk	21.02	333	P	P	06 59 16.6	-0.5
	comp=Z,43nm,0.6s,baz=187,slow=0.9,SNR=18						
YAK	Yakutsk	21.02	333	*e*P	P	06 59 16.5	-0.6
YAK				*e*		06 59 29.4	
YAK				*e**SS	sS	07 03 31.2	+5.4
YAK				pmax	pmax		
	comp=Z,120nm,1.2s						
YAK				pmax	pmax		
	comp=N,23nm,1.2s						
YAK				pmax	pmax		
	comp=E,19nm,1.5s						
HIA	Hailar	21.16	293	⇓*e*P	P	06 59 17.6	-1.2
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
DL2	Dalian	22.00	265	P	P	06 59 27.0	-0.8
DL2				pP	pP	06 59 38.0	-0.6
DL2				*e*S	S	07 03 24.0	-3.9
DL2				pmax	pmax		
	comp=Z,47nm,1.2s						
DL2				LR	LR		
	comp=Z,270nm,15.3s						
DL2				LR	LR		
	comp=Z,210nm,15.4s						
DL2				LR	LR		
	comp=Z,290nm,15.5s						
BILL	Bilibino	24.82	14	*e*P	P	06 59 54.4	-0.7
BILL				*e*		07 00 27.6	
BJI	Beijing	25.43	271	P	P	07 00 01.0	+0.1
BJI				pP	pP	07 00 14.3	+1.6
BJI				sP	sP	07 00 20.8	+2.7
BJI				S	S	07 04 22.3	-2.3
BJI				sS	sS	07 04 46.5	+2.0
BJI				pmax	pmax		
	comp=Z,20nm,1.6s						
BJI				pmax	pmax		
	comp=Z,290nm,4.4s						
BJI				LR	LR		
	comp=Z,260nm,19.6s						
BJI				LR	LR		
	comp=Z,390nm,20.6s						
BJI				LR	LR		
	comp=Z,350nm,19.6s						
BOD	Bodaibo	25.77	313	*e*P	P	07 00 01.6	-2.2
BOD				pmax	pmax		
	comp=Z,12nm,0.9s						
NJ2	Nanjing	27.45	253	*e*P	P	07 00 26.5	+7.3
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC	Hu-ho-hao-te	28.42	276	*e*P	P	07 00 32.0	+4.1
HHC				pP	sP	07 00 44.0	-1.2
HHC				sP	pP	07 00 50.0	+10
HHC				S	S	07 05 13.5	+1.6
HHC				sS	sS	07 05 34.0	+2.1
HHC				pmax	pmax		
	comp=Z,48nm,1.1s						
HHC				pmax	pmax		
	comp=Z,200nm,5.1s						
HHC				LR	LR		
	comp=Z,380nm,12.3s						
HHC				LR	LR		
	comp=Z,340nm,13.6s						
HHC				LR	LR		
	comp=Z,400nm,14.8s						
H11N2	WAKE ISLAND Hy	28.57	145	T	T	07 31 33.3	
	baz=336,slow=75,SNR=50						
H11N1	WAKE ISLAND Hy	28.58	146	T	T	07 31 24.6	
	baz=336,slow=75,SNR=35						
H11N3	WAKE ISLAND Hy	28.58	145	T	T	07 31 26.0	
	baz=336,slow=75,SNR=36						
TIXI	Tiksi	28.86	346	⇓*i*P	P	07 00 28.8	-2.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
H11S1	WAKE ISLAND Hy	29.59	147	T	T	07 32 51.3	
	baz=336,slow=76,SNR=45						
BTO	Baotou	29.60	276	*e*P	P	07 00 44.0	+5.6
H11S3	WAKE ISLAND Hy	29.60	147	T	T	07 32 42.5	
	baz=336,slow=76,SNR=38						
H11S2	WAKE ISLAND Hy	29.61	147	T	T	07 32 45.2	
	baz=336,slow=76,SNR=44						
ULN	Ulaanbaatar	29.66	292	*e*P	P	07 00 39.6	+0.6
ULN				pmax	pmax		
	comp=Z,14nm,0.9s						
ULN	Ulaanbaatar	29.66	292	*e*P	P	07 00 39.6	+0.6
ULN	Ulaanbaatar	29.66	292	*e*P	P	07 00 39.6	+0.6
	comp=Z,14nm,0.9s						
SONA0	Songino Array	30.11	292	*e*P	P	07 00 43.2	+0.3
SONM	Songino Array	30.11	292	P	P	07 00 43.2	+0.3
	comp=Z,6.4nm,0.9s,baz=79,slow=8.6,SNR=26						
SONM				LR	LR	07 14 10.2	
	comp=Z,430nm,18.6s,baz=93,slow=39						
TLY	Talaya	31.32	300	LR	LR	07 14 49.9	
	comp=Z,531nm,18.7s,baz=80,slow=39						
WHN	Wuhan	31.44	256	P	P	07 01 00.5	+5.9
WHN				LR	LR		
	comp=Z,1μm,17.4s						
ZAK	Zakamensk	31.71	297	*e*P	P	07 00 52.5	-4.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XAN	Xi'an	33.31	266	P	P	07 01 11.0	0.0
XAN				pmax	pmax		
	comp=Z,12nm,1.1s						
XAN				pmax	pmax		
	comp=Z,32nm,3.8s						
LZH	Lanzhou	35.91	272	*e*P	P	07 01 35.0	+1.4
LZH				pP	pP	07 01 47.5	+1.8
LZH				sP	sP	07 01 51.5	+0.5
LZH				*e*S	S	07 07 07.3	-1.4
LZH				sS	sS	07 07 32.5	+3.6
LZH				pmax	pmax		
	comp=Z,46nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
LZH				LR	LR		
	comp=Z,410nm,11.8s						
LZH				LR	LR		
	comp=Z,440nm,13.0s						
LZH				LR	LR		
	comp=Z,580nm,14.0s						
KDAK	Kodiak Island	36.96	49	P	P	07 01 40.9	-1.1
	comp=Z,8.3nm,0.8s,baz=279,slow=6.2,SNR=5.6						
KDAK	Kodiak Island	36.96	49	*i P*	P	07 01 41.3	-0.7
KDAK	Kodiak Island	36.96	49	*e*P	P	07 01 41.3	-0.7
KDAK	Kodiak Island	36.96	49	*e*P	P	07 01 41.2	-0.9
	comp=Z,186nm,1.9s						
GTA	Gaotai	37.27	280	⇑P	P	07 01 46.0	+0.9
GTA				pP	pP	07 01 59.0	+1.8
GTA				sP	sP	07 02 04.0	+1.5
GTA				S	S	07 07 26.0	-3.3
GTA				SS	SnSn	07 09 54.0	-14
GTA				pmax	pmax		
	comp=Z,20nm,1.4s						
GTA				pmax	pmax		
	comp=Z,140nm,4.5s						
GTA				LR	LR		
	comp=Z,220nm,16.4s						
GTA				LR	LR		
	comp=Z,250nm,14.5s						
GTA				LR	LR		
	comp=Z,220nm,16.2s						
KTH	Kantishna Hill	37.61	39	*e*P	P	07 01 47.5	-0.1
	comp=Z,21nm,1.1s						
MLY	Manley	37.74	37	*e*P	P	07 01 49.3	+0.6
	comp=Z,13nm,1.4s						
COLD	Coldfoot	38.13	33	*e*P	P	07 01 50.3	-1

comp=Z,22nm,1.5s
TOLK Toolik Lake Re 38.51 31 *e*P **P 07 01 54.8 -0.4**
comp=Z,11nm,0.8s
CD2 Chengdu 38.66 265 *e*P P 07 02 01.8 +4.9
MDM Murphy Dome 38.81 37 *e*P **P 07 01 57.8 +0.2**
comp=Z,17nm,1.4s
SML Sawmill 38.83 42 *e*P **P 07 01 59.2 +1.3**
SML pmax pmax
comp=Z,16nm,0.8s
SML Sawmill 38.83 42 *e*P **P 07 01 59.2 +1.3**
SML Sawmill 38.83 42 *e*P **P 07 01 59.2 +1.3**
comp=Z,16nm,0.8s
COLA College 38.97 37 *e*P **P 07 02 00.0 +1.1**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 38.97 37 *e*P **P 07 02 00.0 +1.1**
COLA College 38.97 37 *e*P **P 07 01 60.0 +1.1**
comp=Z,9.7nm,0.8s
GYA Guiyang 39.27 257 P **P 07 02 06.5 +4.4**
GYA pP sP 07 02 21.0 +1.5
GYA PP **PnPn 07 03 44.0 +8.4**
GYA S **S 07 08 07.0 +7.2**
GYA sS sS 07 08 27.5 +7.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,510nm,17.3s
GYA LR LR
comp=Z,420nm,18.0s
GYA LR LR
comp=Z,440nm,17.5s
HDA Harding Lake 39.36 38 *e*P **P 07 02 03.1 +0.9**
comp=Z,26nm,1.6s
ILAR Eielson Array 39.38 37 P **P 07 02 02.3 -0.1**
comp=Z,2.3nm,0.7s,baz=269,slow=7.9,SNR=12
ILAR Eielson Array 39.38 37 P **P 07 02 02.3 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILB Eielson Array 39.38 37 *e*P **P 07 02 02.2 -0.2**
NRIK Noril'sk 39.44 330 P **P 07 02 00.8 -1.9**
comp=Z,1.8nm,0.5s,baz=87,slow=11,SNR=4.1
FYU Fort Yukon 40.05 34 *e*P **P 07 02 06.9 -1.0**
comp=Z,41nm,1.3s
EGAK Eagle 41.83 37 *e*P **P 07 02 22.4 -0.1**
comp=Z,6.6nm,0.9s
ZAA1 Zalesovo Array 42.13 307 *e*P **P 07 02 23.9 -1.2**
ZALV Zalesovo Beam 42.13 307 P **P 07 02 24.0 -1.2**
comp=Z,1.9nm,0.6s,baz=67,slow=7.2,SNR=7.6
ZALV Zalesovo Beam 42.13 307 P **P 07 02 24.0 -1.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
KMI Kunming 42.85 259 P P 07 02 38.5 +6.9
KMI pmax pmax
comp=Z,16nm,0.6s
KMI pmax pmax
comp=Z,130nm,4.0s
MK31 Makanchi Array 46.04 298 *i* P **P 07 02 56.6 0.0**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 46.04 298 *e*P **P 07 02 57.6 +1.0**
MK32 Makanchi Array 46.04 298 *e*P **P 07 02 56.6 0.0**
MKAR Makanchi Array 46.04 298 P **P 07 02 56.6 0.0**
comp=Z,9.5nm,0.8s,baz=74,slow=8.0,SNR=50
MKAR Makanchi Array 46.04 298 *i* P **P 07 02 56.5 -0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 46.04 298 *e*P **P 07 02 57.7 +1.1**
MKAR Makanchi Array 46.04 298 *e*P **P 07 02 57.4 +0.7**
comp=Z,62nm,0.8s
MAKZ Makanchi 46.23 298 *e*P **P 07 02 59.4 +1.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 46.23 298 *e*P **P 07 02 59.4 +1.3**
comp=Z,7.9nm,0.8s
KURK Kurchatov 46.77 304⇑ *i*P **P 07 03 02.2 0.0**
KURK pmax pmax
comp=Z,80nm,1.2s
KURK Kurchatov 46.77 304 *e*P **P 07 03 02.2 0.0**
KURK Kurchatov 46.77 304 *e*P **P 07 03 02.0 -0.2**
comp=Z,15nm,0.8s
PDGK Podgornoye 49.33 295 P **P 07 03 22.9 +0.6**
PDGK pmax pmax
comp=Z,14nm,0.9s
CM31 Chiang Mai Arr 49.89 255 *e*P **P 07 03 26.8 +0.1**
CMAR Chiang Mai Arr 49.89 255 P **P 07 03 26.7 +0.1**
comp=Z,2.9nm,0.7s,baz=43,slow=7.1,SNR=10.0
BVA0 Borovoye Array 50.54 310 *i* P **P 07 03 30.8 -0.4**
BVA0 pmax pmax
comp=Z,10.0nm,1.1s
BRVK Borovoye 50.59 310⇓ *e*P **P 07 03 31.0 -0.5**
BRVK pmax pmax
comp=Z,39nm,1.2s
BRVK Borovoye 50.59 310 *e*P **P 07 03 30.6 -0.9**
comp=Z,10.0nm,0.9s
AAK Ala-Archa 52.87 296 *c i*P **P 07 03 49.6 +0.7**
AAK pmax pmax
comp=Z,57nm,1.1s
AAK Ala-Archa 52.87 296 *e*P **P 07 03 49.6 +0.7**
AAK Ala-Archa 52.87 296 *e*P **P 07 03 49.9 +1.0**
comp=Z,18nm,0.9s
JIRN Jiri 53.05 274 *e*P **P 07 03 51.2 +0.6**
comp=Z,279nm,0.9s
GUN Gumba 53.12 274 *e*P **P 07 03 51.3 +0.2**
RAMN Ramite 53.18 273 *e*P **P 07 03 51.6 +0.1**
comp=Z,71nm,0.9s
KSH Kashi 53.51 292 *e*P **P 07 03 58.0 +4.4**
KSH pP sP 07 04 11.5 +0.1
KSH sP pP 07 04 16.8 +11
KSH PcP **PcP 07 05 04.8 +4.8**
KSH PP **PP 07 06 00.8 +6.6**
KSH PcS **PcS 07 09 01.5 +2.4**
KSH S **S 07 11 22.5 -0.7**
KSH ScS **ScS 07 13 39.0 -0.2**
KSH SS **SS 07 15 01.5 -1.9**
KSH pmax pmax
comp=Z,19nm,1.3s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,200nm,13.0s
KSH LR LR
comp=Z,170nm,7.2s
KSH LR LR
comp=Z,230nm,5.9s
KKN Kakani 53.61 275 *e*P **P 07 03 55.4 +0.8**
comp=Z,42nm,0.9s
PKI Pulchoki 53.65 274 *e*P **P 07 03 55.1 +0.1**
comp=Z,43nm,1.1s
PKIN Phulchoki 53.66 274 *e*P **P 07 03 55.8 +0.8**
comp=Z,17nm,0.8s
DMN Daman 53.85 275 *e*P **P 07 03 57.0 +0.6**
comp=Z,34nm,0.8s
GKN Gorkha 53.94 275 *e*P **P 07 03 57.4 +0.5**
comp=Z,71nm,1.1s
MNAS Manas 54.22 297 *i* P **P 07 03 55.8 -2.9**
MNAS pmax pmax
comp=Z,29nm,0.9s
DANN Dangsing 54.36 276 *e*P **P 07 04 01.5 +1.4**
KOLN Koldanda 54.82 276 *e*P **P 07 04 04.1 +0.7**
comp=Z,52nm,1.1s
SFK Sufi-Kurgan 54.87 294 P **P 07 04 04.1 +0.5**
SFK pmax pmax
comp=Z,12nm,1.2s
PYUN Piuthan 55.05 277 *e*P **P 07 04 05.7 +0.6**
comp=Z,62nm,1.1s
ARU Arti 55.09 317 *d i*P **P 07 04 03.7 -0.9**
ARU 07 06 05.9
ARU S **S 07 11 46.2 +2.5**
ARU SS **SS 07 15 27.2 -0.1**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 55.09 317 *e*P **P 07 04 03.8 -0.9**
comp=Z,44nm,1.6s
KK31 Karatay Array 55.15 299 *i* P **P 07 04 04.6 -0.8**
KK31 pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 55.15 299 *e*P **P 07 04 05.9 +0.5**
KKAR Karatay Array 55.15 299 *e*P **P 07 04 05.9 +0.5**
comp=Z,106nm,0.8s
TULEG Thule 56.46 10 *e*P **P 07 04 12.9 -1.2**
comp=Z,64nm,1.8s
AB31 Akbulak array 58.12 310 *i* P **P 07 04 26.9 +0.7**
AB31 pmax pmax
comp=Z,19nm,0.9s
ABKAR Akbulak array 58.12 310 *e*P **P 07 04 25.8 -0.5**
comp=Z,117nm,0.8s
AKTO Aktyubinsk 58.51 311 *i* P **P 07 04 28.6 -0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 58.54 357 *i* P **P 07 04 27.9 -0.9**
DAG Danmarks Havn 58.54 357 *e*P **P 07 04 27.9 -0.9**
DZET Dzherino 58.56 295 P **P 07 04 30.0 +0.4**
DZET pmax pmax
comp=Z,17nm,0.8s
ARA0 ARCESS Array S 59.05 340 *e*P **P 07 04 31.0 -1.5**
ARCES ARCESS Array B 59.05 340 P **P 07 04 31.0 -1.4**
comp=Z,4.0nm,0.8s,baz=34,slow=13,SNR=3.7
ARCES ARCESS Array B 59.05 340 P **P 07 04 31.0 -1.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 60.02 50 *e*P **P 07 04 41.3 +1.8**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 60.02 50 *e*P **P 07 04 41.5 +2.0**
NEW Newport 60.02 50 *e*P **P 07 04 41.3 +1.8**
comp=Z,5.4nm,1.0s
KLMR Klimovskoe 60.74 328 *e*P **P 07 04 41.9 -2.2**
KLMR *e* 07 05 24.3
KLMR pmax pmax
comp=Z,20nm,1.2s
PSI Prapat 61.35 243 *e*P P 07 04 56.9 +7.8
PSI pmax pmax
comp=Z,12nm,1.1s
PSI Prapat 61.35 243 *e*P P 07 04 56.9 +7.9
comp=Z,12nm,1.1s
SLMT Seeley Lake 62.60 50 *e*P **P 07 05 00.0 +2.8**
SUMG Summit 62.81 3 *i* P **P 07 04 59.5 +1.1**
comp=Z,50nm,1.1s
SUMG Summit 62.81 3 *e*P **P 07 04 59.5 +1.1**
SUMG pmax pmax
comp=Z,41nm,1.0s
SUMG Summit 62.81 3 *e*P **P 07 04 59.5 +1.1**
comp=Z,41nm,1.0s
HLID Hailey 64.34 53 *e*P **P 07 05 10.9 +2.2**
comp=Z,2.4nm,1.0s
BOZ Bozeman (W) 64.63 50 *e*P **P 07 05 12.1 +1.6**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 64.63 50 *e*P **P 07 05 12.2 +1.6**
BOZ Bozeman (W) 64.63 50 *e*P **P 07 05 12.1 +1.6**
comp=Z,4.6nm,0.8s
FIA0 FINESS Array S 64.95 334 *e*P **P 07 05 11.2 -0.9**
FIA0 FINESS Array S 64.95 334 *e*P **P 07 05 11.2 -0.9**
FINES FINESS Array B 64.95 334 P **P 07 05 11.2 -0.9**
comp=Z,7.3nm,0.6s,baz=40,slow=8.0,SNR=20
YHH Holmes Hill 65.57 51 *e*P **P 07 05 18.6 +1.8**
comp=Z,4.1nm,1.0s
OBN Obninsk 65.77 325⇓ *e*P **P 07 05 16.0 -1.5**
OBN pmax pmax
comp=Z,15nm,1.0s
GEYT Alibeck 65.84 300 P **P 07 05 19.1 +0.8**
comp=Z,9.4nm,0.7s,baz=26,slow=3.8,SNR=17
WRAB Tennant Creek 65.98 196⇓ *e*P **P 07 05 16.9 -2.3**
WRA Warramunga Arr 65.99 196 P **P 07 05 18.1 -1.2**
comp=Z,1.7nm,0.9s,baz=15,slow=6.8,SNR=11
FXWY Fox Creek 66.20 52 *e*P **P 07 05 19.6 -1.2**
comp=Z,5.6nm,1.1s
MOOW Moose Ponds 66.29 51 *e*P **P 07 05 23.5 +2.1**
comp=Z,7.8nm,1.3s
TPAW Teton Pass 66.34 52 *e*P **P 07 05 23.4 +1.6**
comp=Z,18nm,1.4s
HVU Hansel Valley 66.40 54 *e*P **P 07 05 18.8 -3.2**
HVU pmax pmax
comp=Z,4.0nm,1.1s
HVU Hansel Valley 66.40 54 *e*P **P 07 05 18.8 -3.2**
comp=Z,4.0nm,1.1s
LOHW Long Hollow 66.46 51 *e*P **P 07 05 21.5 -1.0**
comp=Z,12nm,1.8s
DUG Dugway, Tooele 67.39 55 *e*P **P 07 05 30.4 +2.1**
DUG pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 67.39 55 *e*P **P 07 05 30.6 +2.3**
DUG Dugway, Tooele 67.39 55 *e*P **P 07 05 30.4 +2.1**
comp=Z,3.3nm,1.0s
TPNV Topopah Spring 67.39 60 *e*P **P 07 05 31.2 +2.8**
TPNV pmax pmax
comp=Z,14nm,1.5s
TPNV Topopah Spring 67.39 60 *e*P **P 07 05 31.2 +2.8**
comp=Z,14nm,1.5s
PD31 Pinedale Array 67.59 52 *e*P **P 07 05 33.6 +4.0**
PDAR Pinedale Array 67.59 52 P **P 07 05 30.4 +0.8**
comp=Z,0.9nm,0.9s,baz=191,slow=0.9,SNR=4.3
MAK Makhachkala 68.79 310 *e*P **P 07 05 36.4 -0.4**
MAK *e* 07 08 09.1
MAK *e*PPP PPP 07 09 51.2
MAK *e*S **S 07 14 38.7 +1.7**
MAK *e*SS **SS 07 19 02.6 +0.9**
MAK pmax pmax
comp=Z,173nm,1.3s
MAK MLR MLR
comp=Z,336nm,16.0s
LCMT Little Creek M 69.19 58 *e*P **P 07 05 41.6 +2.0**
comp=Z,3.0nm,0.9s
NC405 NORSAR Array S 69.24 340 *e*P **P 07 05 39.1 -0.3**
NB2 NORSAR Subarra 69.42 340 P **P 07 05 39.3 -1.2**
comp=Z,3.1nm,0.7s,baz=29,slow=6.2
NB200 NORSAR Array S 69.42 340 *e*P **P 07 05 40.0 -0.5**
NOA NORSAR Array B 69.42 340 P **P 07 05 40.1 -0.5**
comp=Z,4.8nm,0.6s,baz=30,slow=6.3,SNR=15
SRU San Rafael Swe 69.43 55 *e*P **P 07 05 42.0 +0.8**
SRU pmax pmax
comp=Z,4.0nm,1.0s
SRU San Rafael Swe 69.43 55 *e*P **P 07 05 42.0 +0.8**
comp=Z,4.1nm,1.0s
KNB Kanab 69.44 58 *e*P **P 07 05 39.5 -1.8**
KNB pmax pmax
comp=Z,5.0nm,1.1s
KNB Kanab 69.44 58 *e*P **P 07 05 39.5 -1.8**
comp=Z,5.3nm,1.1s
ASAR Alice Springs 69.70 196 P **P 07 05 42.3 -0.2**
comp=Z,2.1nm,0.9s,baz=13,slow=6.2,SNR=17
GOF Gofitskoye 69.74 314⇑ *e*P **P 07 05 43.5 +0.8**
GOF pmax pmax
comp=Z,101nm,0.9s
NCK Nalchik 70.53 312⇓ *i*P **P 07 05 48.2 +0.6**
NCK pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 70.69 313 *e*P **P 07 05 50.0 +1.4**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV MLR MLR
comp=Z,272nm,18.0s
KIV Kislovodsk 70.69 313 *e*P **P 07 05 48.8 +0.2**
comp=Z,63nm,1.1s
KBZ Khabaz 70.73 313 P **P 07 05 50.2 +1.4**
comp=Z,24nm,0.9s,baz=66,slow=3.3,SNR=33
N23A Red Feather La 70.85 51 *e*P **P 07 05 51.8 +1.9**
comp=Z,27nm,1.8s
ZEI Tsey 70.86 312 *e*P **P 07 05 49.1 -0.7**
ZEI pmax pmax
comp=Z,11nm,1.2s
NEY Neytrino 71.16 313⇑ *e*P **P 07 05 52.5 +0.9**
SMCO Snowmass 71.44 53 *e*P **P 07 05 55.0 +1.3**
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 72.03 325 P **P 07 05 55.9 -0.6**
comp=Z,8.9nm,0.9s,baz=37,slow=6.4,SNR=28
AKBB Malin Array Si 72.03 325 *e*P **P 07 05 56.3 -0.2**
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 72.03 325 *e*P **P 07 05 56.3 -0.2**
comp=Z,15nm,1.1s
KIEV Kiev 72.04 325⇑ *i*P **P 07 05 56.2 -0.3**
KIEV pmax pmax
comp=Z,15nm,1.1s
KIEV Kiev 72.04 325 *e*P **P 07 05 56.2 -0.3**
KIEV Kiev 72.04 325 *e*P **P 07 05 56.1 -0.4**
comp=Z,15nm,1.1s
GNI Garni 72.22 309⇑ *e*P **P 07 06 00.2 +2.1**
ANN Anapa 72.74 317 *e*P **P 07 05 57.1 -3.7**
ANN *e*PP **pP 07 06 08.3 -5.6**
ANN *e* 07 06 12.9
ANN *e*S **S 07 15 18.1 -4.7**
ANN pmax pmax
comp=Z,37nm,1.0s
KOPT Kop Dagi 74.62 311 *e*P **P 07 06 10.2 -2.2**
comp=Z,44nm,0.4s
ANMO Albuquerque 74.64 56⇑ *e*P **P 07 06 10.2 -2.2**
KWP Kalwaria Pacla 75.44 328 *e*P **P 07 06 17.2 +0.7**
KWP Kalwaria Pacla 75.44 328 *e*P **P 07 06 17.2 +0.7**
UOSS Minazif 75.55 291 *e*P **P 07 06 17.8 +0.2**
comp=Z,18nm,1.2s
OJC Ojcow 76.04 330 *e*P **P 07 06 20.5 +0.6**
OJC Ojcow 76.04 330 *e*P **P 07 06 20.5 +0.6**
OJC pmax pmax
comp=Z,17nm,1.0s
OJC Ojcow 76.04 330 *e*P **P 07 06 20.6 +0.6**
OJC Ojcow 76.04 330 *e*P **P 07 06 20.5 +0.6**
comp=Z,17nm,1.0s
BUR08 Bucovina Ar. S 76.07 325 *e*P **P 07 06 21.2 +0.9**
BURAR Bucovina Array 76.08 325⇓ *i*P **P 07 06 21.1 +0.8**
BURAR Bucovina Array 76.08 325⇓ *i*P **P 07 06 21.2 +0.9**
STHS Stebnicka Huta 76.17 328 *e*P **P 07 06 22.4 +1.7**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 76.17 328 *e*P **P 07 06 22.4 +1.7**
TESR Tescani 76.37 324⇑ *i*P **P 07 06 22.6 +0.8**
MARD Mardin 76.42 309 *e*P **P 07 06 24.7 +2.2**
comp=Z,22nm,0.8s
CRVS Cervenica-Dubn 76.51 328 *e*P **P 07 06 23.5 +0.9**
CRVS Cervenica-Dubn 76.51 328 *e*P **P 07 06 23.5 +0.9**
NIE Niedzica 76.52 329 *e*P **P 07 06 24.3 +1.6**
NIE Niedzica 76.52 329 *e*P **P 07 06 24.3 +1.6**
KSP Ksiaz 76.73 332 *e*P **P 07 06 24.5 +0.7**
KSP Ksiaz 76.73 332 *e*P **P 07 06 24.5 +0.7**
KSP Ksiaz 76.73 332 *e*P **P 07 06 24.7 +0.9**
VRI Vrincioaia 76.84 323⇑ *i*P **P 07 06 26.6 +2.0**
VRI Vrincioaia 76.84 323 ⇑P **P 07 06 26.6 +2.0**
OKC Ostrava-Krasne 76.94 330 *e*P **P 07 06 25.8 +0.8**
OKC Ostrava-Krasne 76.94 330 *e*P **P 07 06 25.8 +0.8**
LANS Liptovska Anna 77.05 329 *e*P **P 07 06 27.7 +2.0**
LANS Liptovska Anna 77.05 329 *e*P **P 07 06 27.7 +2.0**
UPC Upice 77.11 332 *e*P **P 07 06 26.8 +0.8**
UPC Upice 77.11 332 *e*P **P 07 06 26.8 +0.8**
DPC Dobruska-Polom 77.14 332 *e*P **P 07 06 27.1 +0.9**
DPC Dobruska-Polom 77.14 332 *e*P **P 07 06 27.1 +0.9**
MORC Moravsky Berou 77.21 331⇓ *i*P **P 07 06 27.9 +1.3**
MORC Moravsky Berou 77.21 331 *e*P **P 07 06 27.7 +1.1**
MORC pmax pmax
comp=Z,54nm,0.9s
MORC Moravsky Berou 77.21 331 *e*P **P 07 06 27.7 +1.1**
comp=Z,54nm,0.9s
KRLC Kraliky 77.22 331 *e*P **P 07 06 27.5 +0.9**
KRLC *ex* x 07 06 34.9
KRLC Kraliky 77.22 331 *e*P **P 07 06 27.5 +0.9**
KRLC *e* 07 06 34.9
KECS Kecovo 77.22 328 *e*P **P 07 06 27.1 +0.5**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 77.22 328 *e*P **P 07 06 27.1 +0.5**
KECS *e*PP **PP 07 09 16.6 -3.6**
TLB Topalu 77.28 322⇓ *i*P **P 07 06 27.5 +0.5**
TLB Topalu 77.28 322 ⇓P **P 07 06 27.5 +0.5**
ILGA Ilgaz 77.35 316 *e*P **P 07 06 30.0 +2.3**
comp=Z,29nm,1.3s
CLL Collm 77.39 334 *e*P **P 07 06 27.8 +0.3**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 77.39 334 *e*P **P 07 06 27.8 +0.3**
CLL Collm 77.39 334 *i* P **P 07 06 27.6 +0.1**
comp=Z,18nm,0.8s
CLL Collm 77.39 334 *e*P **P 07 06 27.8 +0.3**
comp=Z,15nm,0.8s
BRG Berggiesshubel 77.47 333 *e*P **P 07 06 27.9 -0.1**
comp=Z,13nm,1.3s
BRG Berggiesshubel 77.47 333 *e*P **P 07 06 27.9 -0.1**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG Berggiesshubel 77.47 333 *e*P **P 07 06 28.9 +0.9**
MLR Muntele Rosu 77.48 323⇓ *i*P **P 07 06 25.1 -3.2**
MLR Muntele Rosu 77.48 323 ⇓P **P 07 06 25.1 -3.2**
DRGR 77.76 326⇓ *i*P **P 07 06 30.5 +0.8**
DRGR 77.76 326 ⇓P **P 07 06 30.5 +0.8**
VYHS Vyhne 77.82 329 *e*P **P 07 06 31.5 +1.5**
VYHS Vyhne 77.82 329 *e*P **P 07 06 31.5 +1.5**
VOIR 77.90 324⇓ *i*P **P 07 06 31.9 +1.3**
VOIR 77.90 324 ⇓P **P 07 06 31.9 +1.3**
PSZ Piszkesteto 77.91 328 *e*P **P 07 06 31.7 +1.1**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 77.91 328 *e*P **P 07 06 31.7 +1.1**
comp=Z,6.3nm,0.9s
VRAC Vranov 77.93 331⇑ *i*P **P 07 06 32.3 +1.7**
VRAC Vranov 77.93 331 ⇑P **P 07 06 32.3 +1.7**
GOPC GO Pecny, Ondr 78.03 332 *e*P **P 07 06 31.9 +0.8**
GOPC GO Pecny, Ondr 78.03 332 *e*P **P 07 06 31.9 +0.8**
PRU Pruhonice 78.04 333 *e*P **P 07 06 31.7 +0.5**
PRU Pruhonice 78.04 333 *e*P **P 07 06 31.7 +0.5**
ARR Arges 78.13 324⇑ *i*P **P 07 06 34.0 +2.2**
BR101 Keskin Array S 78.39 315 *e*P **P 07 06 34.2 +0.7**
BR131 Keskin Array S 78.39 315 *e*P **P 07 06 34.7 +1.2**
BRTR Keskin Array B 78.39 315 P **P 07 06 34.2 +0.7**
comp=Z,7.4nm,0.9s,baz=63,slow=4.6,SNR=25
BRTR Keskin Array B 78.39 315 *i* P **P 07 06 34.5 +1.0**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
LOT Lotru 78.42 325⇓ *i*P **P 07 06 34.6 +1.1**
SIRR Siria 78.60 326⇑ *i*P **P 07 06 34.1 -0.3**
ANTO Ankara 78.71 316 *e*P **P 07 06 36.8 +1.7**
ANTO pmax pmax
comp=Z,21nm,0.8s
ANTO Ankara 78.71 316 *e*P **P 07 06 36.8 +1.7**
comp=Z,21nm,0.8s
KHC Kasperske Hory 79.10 333 *e*P **P 07 06 37.5 +0.4**
KHC *e*PCP **PcP 07 06 44.2 -1.2**
KHC Kasperske Hory 79.10 333 *e*P **P 07 06 37.5 +0.4**
KHC pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 79.10 333 *e*P **P 07 06 37.5 +0.4**
KHC Kasperske Hory 79.10 333 *e*P **P 07 06 37.5 +0.4**
comp=Z,3.0nm,0.7s
BZS Buzias 79.16 326⇓ *i*P **P 07 06 37.6 +0.2**
BZS Buzias 79.16 326 ⇓P **P 07 06 37.6 +0.2**
GEC2 GERESS Array S 79.31 332 *e*P **P 07 06 38.9 +0.6**
GEC2 pmax pmax
comp=Z,21nm,1.8s
GEC2 GERESS Array S 79.31 332 *e*P **P 07 06 38.9 +0.6**
comp=Z,21nm,1.8s
GERES GERESS Array B 79.31 332 P **P 07 06 38.6 +0.4**
comp=Z,1.5nm,0.5s,baz=34,slow=5.7,SNR=14
WET Wettzell 79.32 333 P **P 07 06 40.9 +2.7**
WET pmax pmax
comp=Z,15nm,1.2s
CONA Conrad Observa 79.36 331 *e*P **P 07 06 40.4 +1.8**
comp=Z,5.0nm,0.7s
MDVR Moldovita 79.80 325⇓ *i*P **P 07 06 41.3 +0.3**
MOA Molln 79.98 332 *i* P **P 07 06 43.0 +1.2**
comp=Z,4.8nm,0.8s
ARSA Arzberg 80.06 331 *e*P **P 07 06 43.3 +1.0**
comp=Z,2.8nm,1.1s
LTX Lajitas 80.27 58 *e*P **P 07 06 43.4 -0.5**
LTX Lajitas 80.27 58 *e*P **P 07 06 43.4 -0.5**
TX31 Lajitas Ar. Si 80.27 58 *e*P **P 07 06 43.5 -0.3**
TXAR Lajitas Array 80.28 58 P **P 07 06 43.4 -0.5**
comp=Z,1.3nm,0.8s,baz=296,slow=4.0,SNR=9.3
SOKA Soboth 80.73 331 *e*P **P 07 06 46.7 +0.8**
comp=Z,5.8nm,0.8s
KBA Koelnbreinsper 80.96 332 P **P 07 06 48.8 +1.5**
KBA pmax pmax
comp=Z,14nm,1.1s
KBA Koelnbreinsper 80.96 332 *e*P **P 07 06 48.8 +1.5**
comp=Z,16nm,0.9s
VTS Vitosha 80.98 323⇑ *i*P **P 07 06 48.2 +0.7**
VTS Vitosha 80.98 323 *e*P **P 07 06 47.8 +0.3**
VTS pmax pmax
comp=Z,23nm,0.9s
VTS Vitosha 80.98 323 *e*P **P 07 06 47.8 +0.3**
comp=Z,23nm,0.9s
OBKA Obir 81.04 331 *i* P **P 07 06 48.5 +0.8**
comp=Z,3.2nm,0.8s
MYKA Terra Mystica 81.25 331 *e*P **P 07 06 50.3 +1.6**
comp=Z,4.3nm,0.9s
WATA Walderalm 81.32 333 *e*P **P 07 06 50.4 +1.3**
comp=Z,9.3nm,0.7s
WTTA Wattenberg 81.36 333 *e*P **P 07 06 50.3 +0.9**
comp=Z,4.6nm,0.7s
BFO Black Forest 81.45 335 *e*P **P 07 06 51.5 +1.8**
BFO pmax pmax
comp=Z,12nm,1.2s
BFO Black Forest 81.45 335 *e*P **P 07 06 51.5 +1.8**
comp=Z,12nm,1.2s
RETA Reutte 81.45 334 *e*P **P 07 06 50.4 +0.7**
comp=Z,4.9nm,0.9s
MOTA Moosalm 81.47 333 *i* P **P 07 06 51.2 +1.2**
comp=Z,9.2nm,0.8s

ABTA	Abfaltersbach	81.53	332	*e*PcP	P	07 06 52.2	+1.9
	comp=Z,5.3nm,1.0s						
FETA	Feichten	81.87	333	*e*PcP	P	07 06 53.6	+1.4
	comp=Z,5.9nm,1.1s						
DAVA	Damuels	81.90	334	*e*P	P	07 06 53.4	+1.2
	comp=Z,5.4nm,0.9s						
SRS	Serrai	82.02	322	P	P	07 06 54.6	+1.8
PDG	Podgorica	82.75	326	*i*P	P	07 06 57.1	+0.6
OHR	Ohrid	83.22	324	P	P	07 07 01.3	+2.2
FNA	Florina	83.25	323	P	P	07 07 01.1	+1.8
RAYN	Ar Rayn	83.52	297	*e*P	P	07 07 02.4	+1.5
	comp=Z,16nm,1.6s						
TORD	Torodi Ar. Bea	115.66	326	PKP	PKPdf	07 13 13.6	-1.6
	comp=Z,0.5nm,0.8s,baz=58,slow=2.5,SNR=2.8						
PLCA	Paso Flores	150.04	97	PKPbc	PKPbc	07 14 23.4	+0.5
	comp=Z,2.6nm,0.9s,baz=294,slow=11,SNR=4.4						
PLCA	Paso Flores	150.04	97	*e*PKPdf	PKPbc	07 14 22.9	+0.1
SNAA	Sanae	150.06	197	*e*PKP2	PKPab	07 14 27.6	-0.4
SNAA	Sanae	150.06	197	*e*PKPbc	PKPab	07 14 27.6	-0.4

ISK ***31*** *06:54:56.8, 39°.07N×29°.16E, h5km, ML2.1*
ISCJB ***31*** *06:54:57.9±0.6, 39°.10N±0°.04×29°.10E±0°.04, h3km±15km, Error ellipse: s-maj=6.8km s-min=4.8km az=150.4*
DDA ***31*** *06:54:57.8, 39°.09N×29°.09E, h7km, Ml2.8*
CSEM ***31*** *06:54:58.0±0.1, 39°.10N×29°.10E, h2km, ML2.1, Error ellipse: s-maj=4.0km s-min=3.0km az=133.0*

ISC 31 06:54:57.9±1.0, 39°.09N±0°.03×29°.10E±0°.03, h12km±9km, n14, σ0s42/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.09	263		*e*PG	Pg	06 55 00.3	-0.4
SIMA	Simav-Kutahya	0.09	263		*e*Pg	Pg	06 55 00.3	-0.4
GDZ	Gediz	0.30	91		*i* P	Pg	06 55 04.0	0.0
GDZ					*i* S	Sg	06 55 08.5	+0.4
GDZ	Gediz	0.30	91		P	Pg	06 55 04.1	0.0
GDZ					S	Sg	06 55 08.5	+0.4
DEMI	Demirci	0.30	260		*i* P	Pg	06 55 04.0	0.0
DEMI					*i* S	Sg	06 55 08.3	+0.1
DEMI	Demirci	0.30	260		P	Pg	06 55 04.1	0.0
DEMI					S	Sg	06 55 08.3	+0.1
TVSB	Tavsanli	0.45	38		*e*PG	Pg	06 55 06.2	-0.7
TVSB					*e*SG	Sg	06 55 12.8	-0.1
TVSB	Tavsanli	0.45	38		*e*Pg	Pg	06 55 06.2	-0.7
TVSB					*e*Sg	Sg	06 55 12.8	-0.1
KULA	Kula-Manisa	0.67	211		*e*PG	Pg	06 55 10.2	-0.7
KULA					*e*SG	Sg	06 55 20.3	+0.5
KULA	Kula-Manisa	0.67	211		*e*Pg	Pg	06 55 10.2	-0.7
KULA					*e*Sg	Sg	06 55 20.3	+0.5
KHAL	Karahalli	0.79	157		*i* P	Pb	06 55 13.6	0.0
KHAL					*i* S	Sb	06 55 24.2	0.0
KHAL	Karahalli	0.79	157		P	Pb	06 55 13.6	0.0
KHAL					S	Sb	06 55 24.2	0.0
ARMT	Armutlu	1.48	353		*e*PN	Pb	06 55 25.8	+0.4
ARMT	Armutlu	1.48	353		*e*Pn	Pb	06 55 25.8	+0.4

CSEM ***31*** *07:02:30.7±0.2, 38°.67N×43°.55E, h12km, ML3.0, Error ellipse: s-maj=5.1km s-min=3.5km az=97.0*
DDA ***31*** *07:02:30.6, 38°.68N×43°.56E, h18km, Ml3.3*
ISK ***31*** *07:02:30.3, 38°.67N×43°.50E, h16km, ML3.0*
ISCJB ***31*** *07:02:31.4±0.4, 38°.66N±0°.02×43°.55E±0°.04, h18km±4km, Error ellipse: s-maj=5.6km s-min=3.6km az=6.9*

ISC 31 07:02:31.0±0.9, 38°.69N±0°.02×43°.53E±0°.02, h17km±7km, n56, σ0s97/88, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	230		*e*PG	Pb	07 02 35.1	-0.3
VANB					*e*SG	Sb	07 02 38.5	+0.2
VANB	Van	0.15	230		*e*Pg	Pb	07 02 35.1	-0.3
VANB					*e*Sg	Sb	07 02 38.5	+0.2
TVAN	Van	0.19	212		*i* P	Pg	07 02 35.2	-0.7
TVAN					*i* S	Sb	07 02 39.2	-0.4
TVAN	Van	0.19	212		P	Pg	07 02 35.2	-0.7
TVAN					S	Sb	07 02 39.2	-0.4
VMUR	Van-Muradiye	0.30	6		*i* P	Pg	07 02 37.3	-0.4
VMUR					*i* S	Sb	07 02 43.6	+0.8
VMUR	Van-Muradiye	0.30	6		P	Pg	07 02 37.3	-0.4
VMUR					S	Sb	07 02 43.7	+0.8
ERCV	ERCIS-VAN	0.36	335		*e*PG	Pg	07 02 38.4	-0.3
ERCV					*e*SG	Sg	07 02 44.3	+0.4
ERCV	ERCIS-VAN	0.36	335		*e*Pg	Pg	07 02 38.4	-0.3
ERCV					*e*Sg	Sg	07 02 44.3	+0.4
GEVA	Gevas	0.53	225		*i* P	Pg	07 02 40.8	-0.8
GEVA					*i* S	Sn	07 02 50.9	-1.7
GEVA	Gevas	0.53	225		P	Pg	07 02 40.8	-0.8
GEVA					S	Sn	07 02 50.9	-1.7
CLDR	Caldiran	0.54	33		*e*PG	Pb	07 02 42.0	-0.2
CLDR					*e*SG	Sb	07 02 50.7	+0.8
CLDR	Caldiran	0.54	33		*i* P	Pb	07 02 41.9	-0.4
CLDR					*i* S	Sn	07 02 51.8	-1.3
CLDR	Caldiran	0.54	33		P	Pb	07 02 41.9	-0.4
CLDR					*e*Sg	Sb	07 02 50.7	+0.8
CLDR					S	Sn	07 02 51.8	-1.3
ADCV	BITLIS_Adilcev	0.64	281		*i* P	Pg	07 02 43.5	-0.3
ADCV	BITLIS_Adilcev	0.64	281		P	Pg	07 02 43.5	-0.3
BASK	Baskale_VAN	0.73	150		*i* P	Pg	07 02 44.6	-0.9
BASK					*i* S	Sn	07 02 56.1	-1.6
BASK	Baskale_VAN	0.73	150		P	Pg	07 02 44.6	-0.9
BASK					S	Sn	07 02 56.1	-1.6
DYDN	Diyadin	0.86	8		*i* P	Pb	07 02 46.8	-0.9
DYDN					*i* S	Sn	07 03 00.8	-0.2
DYDN	Diyadin	0.86	8		P	Pb	07 02 46.8	-0.9
DYDN					S	Sn	07 03 00.8	-0.2
TUTA	Tutak	0.91	322		*i* P	Pb	07 02 48.0	-0.4
TUTA					*i* S	Sn	07 03 01.6	-0.4
TUTA	Tutak	0.91	322		P	Pb	07 02 48.0	-0.4
TUTA					S	Sn	07 03 01.6	-0.4
AGRB	Hanur-Agry	0.98	335		*e*PG	Pb	07 02 49.8	+0.1
AGRB					*e*SG	Sg	07 03 03.3	+0.3
AGRB	Hanur-Agry	0.98	335		*e*Pg	Pb	07 02 49.8	+0.1
AGRB					*e*Sg	Sg	07 03 03.3	+0.3
HAKT	HAKKARI	1.14	173		*i* P	Pb	07 02 51.2	-1.2
HAKT					*i* S	Sn	07 03 10.9	+3.2
HAKT	HAKKARI	1.14	173		P	Pb	07 02 51.2	-1.2
HAKT					S	Sn	07 03 10.9	+3.2
GURO	Guroymak-BITLI	1.18	264		*e*PN	Pn	07 02 52.3	-0.6
GURO	Guroymak-BITLI	1.18	264		*e*Pn	Pn	07 02 52.3	-0.6
EKAR	Karacoban	1.28	297		*i* P	Pg	07 02 55.3	-0.4
EKAR					*i* S	Sg	07 03 13.0	+0.6
EKAR	Karacoban	1.28	297		P	Pg	07 02 55.3	-0.4
EKAR					S	Sg	07 03 13.0	+0.6
TASB	TASBURUN-IGDIR	1.41	23		*e*PN	Pn	07 02 56.2	+0.3
TASB	TASBURUN-IGDIR	1.41	23		*e*Pn	Pn	07 02 56.2	+0.3
EATA	Eleskirt	1.42	326		*i* P	Pb	07 02 56.9	-0.4
EATA					*i* S	Sg	07 03 17.9	+0.9
EATA	Eleskirt	1.42	326		P	Pb	07 02 56.9	-0.4
EATA					S	Sg	07 03 18.0	+0.9
CUKT	Cukurca	1.44	178		*e*PN	Pn	07 02 56.2	-0.2
CUKT	Cukurca	1.44	178		*i* P	Pb	07 02 57.0	-0.5
CUKT					*i* S	Sg	07 03 21.0	+3.5
CUKT	Cukurca	1.44	178		*e*Pn	Pn	07 02 56.2	-0.2
CUKT	Cukurca	1.44	178		P	Pb	07 02 57.0	-0.5
SRTM	Siirt_Merkez	1.45	242		*i* P	Pg	07 02 58.8	-0.1
SRTM					*i* S	Sg	07 03 20.3	+2.6
SRTM	Siirt_Merkez	1.45	242		P	Pg	07 02 58.8	-0.1
HOMI	Horasan	1.85	318		*i* P	Pb	07 03 04.6	0.0
SVAN	Silvan-Diyarba	1.91	254		*e*PN	Pn	07 03 02.7	-0.1
SVAN	Silvan-Diyarba	1.91	254		*i* P	Pn	07 03 03.9	+1.0
SVAN					*i* S	Sg	07 03 32.5	0.0
SVAN	Silvan-Diyarba	1.91	254		*e*Pn	Pn	07 03 02.7	-0.1
SVAN	Silvan-Diyarba	1.91	254		P	Pn	07 03 03.8	+1.0
BTMN	Batman	1.95	247		*i* P	Pb	07 03 05.6	-0.5
BTMN					*i* S	Sg	07 03 33.9	+0.1
BTMN	Batman	1.95	247		P	Pb	07 03 05.6	-0.5
BNGB	Bing¶ll	2.25	279		*e*PN	Pn	07 03 07.7	+0.1
BINT	Bingol	2.39	275		*e*Pn	Pn	07 03 07.7	-1.8
YEDI	Yedisu-Bingol	2.44	289		*e*PN	Pn	07 03 10.5	+0.2
YEDI	Yedisu-Bingol	2.44	289		*e*Pn	Pn	07 03 10.5	+0.2
MAZI	Mazidag	2.73	244		*e*PN	Pn	07 03 14.4	+0.3
MAZI	Mazidag	2.73	244		*e*Pn	Pn	07 03 14.4	+0.3
PTK	Pertek	3.24	275		*e*PN	Pn	07 03 21.7	+0.4
PTK	Pertek	3.24	275		*e*Pn	Pn	07 03 21.7	+0.4
SVRC	Sivrice-ELAZID	3.33	266		*e*PN	Pn	07 03 23.0	+0.5
SVRC	Sivrice-ELAZID	3.33	266		*e*Pn	Pn	07 03 23.0	+0.5

NIED ***31*** *07:12:00, 45°.00N×150°.20E, h20km, Mw3.9 Best double couple: M0 9.18000×10^14 NP1:φ0 173.00000°, δ29.00000°, λ42.00000°. NP2:φ0 44.00000°, δ71.00000°, λ112.00000°.*
IDC ***31*** *07:12:38.4±0.9, 44°.69N×150°.50E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.8/38, mbtmp3.8/12, ML3.3/2, Error ellipse: s-maj=23.9km s-min=21.8km az=124.0*
MOS ***31*** *07:12:42.4±1.5, 44°.59N×150°.51E, h45km, mb4.1/6, Error ellipse: s-maj=15.9km s-min=15.1km az=40.7*
ISCJB ***31*** *07:12:42.3±0.7, 44°.28N±0°.07×150°.38E±0°.06, h35km, mb3.6/10, Error ellipse: s-maj=11.1km s-min=5.1km az=162.1*
JMA ***31*** *07:12:42.8±0.5, 45°.01N×150°.23E, h30km, M4.3*
SKHL ***31*** *07:12:43.1±0.6, 44°.18N×150°.44E, h34km±2km, mb4.6/3*

ISC 31 07:12:42.6±0.8, 44°.34N±0°.08×150°.50E±0°.07, h35km, n46, σ1s57/50, mb3.7/10, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.07	296	*d*	*i*PN	Pn	07 13 15.8	+0.9
KUR					*e*S	Sn	07 13 40.8	+1.3
KUR					pmax	pmax		
	comp=Z,144nm,0.3s							
KUR					pmax	pmax		
	comp=N,77nm,0.1s							
KUR					pmax	pmax		
	comp=E,46nm,0.1s							
KUR					smax	smax		
	comp=E,382nm,0.7s							
KUR	Kuril'sk	2.07	296		*e*P	Pn	07 13 15.8	+0.9
KUR					AMB	AMB	07 13 17.4	
	comp=E,144nm,0.4s							
KUR					*e*S	Sn	07 13 40.8	+1.3
KUR					A	A	07 13 43.0	
	comp=E,510nm,0.7s							
KUR					A	A	07 13 43.0	
	comp=E,380nm,0.7s							
SHO	Shikotan	2.68	261		*e*PN	Pn	07 13 23.1	-0.2
SHO					pmax	pmax		
	comp=Z,53nm,0.4s							
SHO					pmax	pmax		
	comp=N,8.0nm,0.2s							
SHO	Shikotan	2.68	261		*e*P	Pn	07 13 23.1	-0.2
SHO					AMB	AMB	07 13 24.9	
	comp=N,53nm,0.4s							
SHO					*e*S	Sn	07 13 52.7	-1.8
SHO					A	A	07 13 56.4	
	comp=N,630nm,0.4s							
SHO					A	A	07 13 56.4	
	comp=N,350nm,0.4s							
YUK	Yuzh-Kuril'sk	3.35	266		*e*PN	Pn	07 13 33.2	+0.8
YUK					*e*S	Sn	07 14 10.6	-0.3
YUK					pmax	pmax		
	comp=N,87nm,0.3s							
YUK					pmax	pmax		
	comp=Z,100nm,0.3s							
YUK					smax	smax		
	comp=N,311nm,0.5s							
YUK					smax	smax		
	comp=E,152nm,0.2s							
YUK	Yuzh-Kuril'sk	3.35	266		*e*P	Pn	07 13 33.2	+0.8
YUK					AMB	AMB	07 13 33.9	
	comp=E,100nm,0.4s							
YUK					*e*S	Sn	07 14 10.6	-0.3
YUK					A	A	07 14 14.5	
	comp=E,311nm,0.5s							
YUK					A	A	07 14 14.5	
	comp=E,152nm,0.5s							
NEM2	Nemuro 2	3.57	256		P	Pn	07 13 35.7	+0.2
NEM2					*e*S	Sn	07 14 15.1	-1.4
JRA	Rausu	3.89	266		P	Pn	07 13 41.2	+1.4
JRA					*e*S	Sn	07 14 23.7	-0.5
JNK	Nakash	4.24	262		P	Pn	07 13 45.4	+0.7
JNK					*e*S	Sn	07 14 33.0	+0.1
JAK	Akkeshi	4.42	254		P	Pn	07 13 47.4	+0.3
JAK					*e*S	Sn	07 14 35.8	-1.4
JAR	Ashorobuto	4.98	260		P	Pn	07 13 56.3	+1.5
JAR					*e*S	Sn	07 14 51.3	+0.2
JOB	Onbets	5.04	256		P	Pn	07 13 56.7	+1.0
JOB					*e*S	Sn	07 14 53.0	+0.3
HRK	Horoka	5.39	263		*e*P	Pn	07 14 02.3	+1.7
JCH	Churui	5.47	254		P	Pn	07 14 03.0	+1.4
JCH					*e*S	Sn	07 15 02.5	-0.7
MYR	Moyori	5.65	251		*e*P	Pn	07 14 05.5	+1.5
MYR					*e*S	Sn	07 15 07.0	-0.6
ASAJ	Asahikawa	5.68	270		Pn	Pn	07 14 04.7	+0.2
	comp=E,1.9nm,0.3s,baz=134,slow=11,SNR=5.9							
JEM	Erimo	5.85	249		P	Pn	07 14 09.8	+3.1
JNBK	Urakawa-nobuka	6.01	253		*e*S	Sn	07 15 16.2	-0.4
YSS	Yuzh-Sakhalins	6.02	298		*e*PN	Pn	07 14 12.4	+3.3
YSS	Yuzh-Sakhalins	6.02	298		*e*P	Pn	07 14 12.4	+3.3
JBT2	Biratori 2	6.11	258		*e*S	Sn	07 15 20.0	+1.0
JNB	Noboribetsu	7.14	258		P	Pn	07 14 26.0	+1.5
JNB					*e*S	Sn	07 15 42.9	-1.4
JKB	Kayabe	7.34	254		P	Pn	07 14 27.9	+0.6
JKB					*e*S	Sn	07 15 45.0	-4.4
JANG	Nango	7.74	242		*e*S	Sn	07 15 53.8	-5.4
JTH	Tanohata	7.78	239		*e*S	Sn	07 15 54.6	-5.4
JTM	Tenmabayashi	7.81	246		*e*S	Sn	07 15 56.2	-4.7
JRG	Rokugo	8.86	240		*e*S	Sn	07 16 21.8	-4.8
PETK	Petropavlovsk-	9.97	26		Pn	Pn	07 15 01.9	-1.4
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=3.0							
USRK	Ussuriysk Ar.	13.27	276		Pn	Pn	07 15 48.3	-0.1
	comp=E,0.2nm,0.3s,baz=84,slow=15,SNR=6.1							
H11N2	WAKE ISLAND Hy	28.09	146		T	T	07 49 39.1	
	baz=335,slow=75,SNR=8.0							
H11N1	WAKE ISLAND Hy	28.11	146		T	T	07 49 40.1	
	baz=335,slow=75,SNR=6.3							
H11N3	WAKE ISLAND Hy	28.11	146		T	T	07 49 40.1	
	baz=335,slow=75,SNR=7.8							
H11S1	WAKE ISLAND Hy	29.12	147		T	T	07 50 53.0	
	baz=336,slow=76,SNR=11							
H11S3	WAKE ISLAND Hy	29.13	147		T	T	07 50 53.3	
	baz=336,slow=76,SNR=9.2							
H11S2	WAKE ISLAND Hy	29.14	147		T	T	07 50 54.4	
	baz=336,slow=76,SNR=13							
SONM	Songino Array	30.47	292		P	P	07 18 52.2	+0.1
	comp=E,0.6nm,0.3s,baz=94,slow=7.9,SNR=5.3							
ILAR	Eielson Array	39.58	37		P	P	07 20 09.0	-1.1
	comp=E,0.4nm,1.0s,baz=265,slow=7.2,SNR=2.9							
ILAR	Eielson Array	39.58	37		P	P	07 20 09.0	-1.1
MKAR	Makanchi Array	46.44	298		P	P	07 21 06.3	+0.5
	comp=E,1.0nm,0.8s,baz=66,slow=6.0,SNR=5.4							
FINES	FINESS Array B	65.42	334		P	P	07 23 18.9	-2.4
	comp=E,1.8nm,0.8s,baz=62,slow=9.7,SNR=4.0							
WRA	Warramunga Arr	65.66	197		P	P	07 23 26.2	+3.0
	comp=E,0.4nm,0.6s,baz=13,slow=6.8,SNR=4.3							
ASAR	Alice Springs	69.36	196		P	P	07 23 49.8	+3.2
	comp=E,0.5nm,0.8s,baz=14,slow=5.8,SNR=4.3							
NOA	NORSAR Array B	69.89	340		P	P	07 23 48.5	-1.1
	comp=E,1.4nm,1.0s,baz=28,slow=6.5,SNR=3.0							
AKASG	Malin Array Be	72.50	325		P	P	07 24 04.7	-0.7
	comp=E,0.3nm,0.4s,baz=37,slow=6.1,SNR=4.4							
BRTR	Keskin Array B	78.85	315		P	P	07 24 41.9	-0.3
	comp=E,0.5nm,0.6s,baz=65,slow=6.8,SNR=3.4							
TXAR	Lajitas Array	80.30	58		P	P	07 24 51.1	+0.9
	comp=E,0.3nm,0.5s,baz=316,slow=5.2,SNR=4.0							

ISCJB ***31*** *07:16:08.4±1.2, 76°.80N±0°.07×18°.9E±0°.5, h16km, Error ellipse: s-maj=18.4km s-min=8.5km az=160.7*
CSEM ***31*** *07:16:08.2±0.5, 76°.94N×18°.85E, h2km, ML2.3, Error ellipse: s-maj=15.8km s-min=7.4km az=67.0*
NAO ***31*** *07:16:09.9±1.3, 76°.89N×18°.36E, h13km±11km, ML2.3*
BER ***31*** *07:16:11.3±3.4, 76°.84N×18°.29E, h15km±17km, MD2.4, ML2.0, ML2.3(NAO)*

ISC 31 07:16:08.8±1.0, 76°.80N±0°.08×18°.6E±0°.1, h16km, n17, σ1s61/22, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	0.73	288		Pg	Pg	07 16 22.9	-0.2
HSP					Lg	Lg	07 16 31.8	
HSPB	Hornsund (broa	0.73	287		*e*P	Pg	07 16 22.9	-0.2
HSPB					Lg	Lg	07 16 31.8	
HSPB	Hornsund (broa	0.73	287		*e*P	Pg	07 16 22.9	-0.2
	SNR=94							
HSPB					Lg	Lg	07 16 31.8	
	SNR=126							
SPA0	Spitsbergen Ar	1.47	341		Pn	Pn	07 16 34.3	-0.3
	baz=151,slow=18							
SPA0					Lg	Lg	07 16 52.4	
	baz=163,slow=22							
SPA0	Spitsbergen Ar	1.47	341		*e*P	Pn	07 16 34.2	-0.4
SPA0					*e*S	Sn	07 16 53.0	-0.4
SPA0					IAML		07 16 55.3	
	comp=Z,19nm,0.3s							
SPA0	Spitsbergen Ar	1.47	341		*e*P	Pn	07 16 34.2	-0.4
	SNR=55							
SPA0					Lg	Lg	07 16 52.4	
	SNR=9.9							
SPA0					*e*S	Sn	07 16 53.0	-0.4
	SNR=55							
HOPEN	Hopen	1.51	98		Lg	Lg	07 17 00.8	
HOPEN	Hopen	1.51	98		Lg	Lg	07 17 00.8	
HOPEN	Hopen	1.51	98		Lg	Lg	07 17 00.8	
BRBA	Barentsburg A	1.59	325		Pn	Pn	07 16 37.3	+1.1
BRBA					Lg	Lg	07 16 56.1	
KBS	Kingsbay	2.56	330		Pn	Pn	07 16 48.7	-0.8
KBS					Pg	Pb	07 16 54.7	+0.5
KBS					Lg	Lg	07 17 25.1	
KBS	Kingsbay	2.56	330		*e*P	Pn	07 16 48.7	-0.8
KBS					*e*Pg	Pb	07 16 54.9	+0.7
KBS					*e*Sg	Sb	07 17 24.8	-0.6
KBS					IAML		07 17 30.0	
	comp=Z,32nm,0.3s							
KBS	Kingsbay	2.56	330		*e*P	Pn	07 16 48.7	-0.8
	SNR=55							
KBS	Kingsbay	2.56	330		*e*Pg	Pb	07 16 54.9	+0.7
	SNR=91							
KBS					*e*Sg	Sb	07 17 24.8	-0.6
	SNR=91							
KBS					Lg	Lg	07 17 25.1	
ARA0	ARCESS Array S	7.57	161		Pn	Pn	07 18 00.8	+2.6
	baz=1.4,slow=10							
ARA0					Sn	Sn	07 19 20.1	-3.4
	baz=358,slow=22							
ARA0	ARCESS Array S	7.57	161		Pn	Pn	07 18 00.8	+2.6
	baz=1.4,slow=10							
ARA0					Sn	Sn	07 19 20.1	-3.4
	baz=358,slow=22							
ARA0	ARCESS Array S	7.57	161		Pn	Pn	07 18 00.9	+2.6
	SNR=5.5							

KRSC ***31*** *07:16:18.7±2.7, 52°.50N×178°.01E, h134km±32km, ML6.2*
BJI ***31*** *07:16:18.5, 52°.58N×178°.01E, h154km, mb5.5/84, mB5.5/65*
MOS ***31*** *07:16:20.9±0.9, 52°.46N×177°.97E, h163km, mb5.7/159, MS4.8/14, Error ellipse: s-maj=5.9km s-min=4.2km az=31.3*
ISCJB ***31*** *07:16:20.7±0.2, 52°.37N±0°.02×177°.98E±0°.01, h165km±1km, mb5.6/571, Error ellipse: s-maj=3.2km s-min=1.3km az=1.6*
IDC ***31*** *07:16:20.9±0.5, 52°.37N×178°.01E, h153km±3km, mb5.2/47, mb1 5.3/51, mb1mx5.3/56, mbtmp5.6/51, MS4.7/24, Ms1 4.7/24, ms1mx4.4/46, Error ellipse: s-maj=8.9km s-min=6.4km az=169.0*
GCMT ***31*** *07:16:21.6±0.1, 52°.32N×177°.90E, h152km, MW5.9/150, Moment Tensor Solution. s139,c301; s150,c479; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr-0.30±.01; Mθθ-0.41±.01; Mφφ0.71±.01; Mrθ0.44±.01; Mrφ0.07±.01; Mθr-0.43±.01; Best double couple: M0 0.87400×10^18 NP1:φs326.00000°, δ77.00000°, λ-130.00000°. NP2:φs221.00000°, δ42.00000°, λ-20.00000°. Principal axes: T 0.8750, Plg22.0000°, Azm86.0000°; N -0.0020, Plg39.0000°, Azm337.0000°; P -0.8730, Plg43.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***31*** *07:16:21.0±0.0, 52°.52N×177°.72E, h150km, Moment Tensor Solution. s94 Moment tensor: Scale 10^17Nm; Mrr-2.61; Mθθ-3.08; Mφφ5.68; Mrθ3.36; Mφθ0.44; Mθr-2.70; Best double couple: M0 6.60000×10^17 NP1:φs326.00000°, δ74.00000°, λ-132.00000°. NP2:φs219.00000°, δ45.00000°, λ-23.00000°. Principal axes: T 6.5200, Plg17.0000°, Azm86.0000°; N 0.0800, Plg40.0000°, Azm340.0000°; P -6.6100, Plg44.0000°, Azm194.0000°;*
NEIC ***31*** *07:16:21.6±0.2, 52°.37N×177°.93E, h159km±2km, mb5.8/294, MW5.8, MW5.9, MW5.8 Error ellipse: s-maj=2.8km s-min=1.6km az=169.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^17Nm; Mrr-2.81; Mθθ-1.46; Mφφ4.26; Mrθ3.59; Mφθ-0.18; Mθr-3.83; Best double couple: M0 6.50000×10^17 NP1:φs326.00000°, δ76.00000°, λ-115.00000°. NP2:φs208.00000°, δ28.00000°, λ-31.00000°. Principal axes: T 6.3200, Plg27.0000°, Azm75.0000°; N 0.2600, Plg24.0000°, Azm332.0000°; P -6.5900, Plg52.0000°, Azm206.0000°;*
NEIC ***31*** *07:16:35.4±0.0, 52°.60N×178°.78E, h158km, Moment Tensor Solution. s13 Moment tensor: Scale 10^17Nm; Mrr-3.10; Mθθ-3.49; Mφφ6.59; Mrθ3.40; Mφθ-2.01; Mθr-3.00; Best double couple: M0 7.50000×10^17 NP1:φs315.00000°, δ74.00000°, λ-131.00000°. NP2:φs208.00000°, δ44.00000°, λ-23.00000°. Principal axes: T 8.1800, Plg19.0000°, Azm75.0000°; N -1.4500, Plg39.0000°, Azm329.0000°; P -6.7300, Plg45.0000°, Azm184.0000°;*

ISC 31 07:16:21.8±0.2, 52°.36N±0°.03×177°.88E±0°.02, h160km±1km, h159km; pP-P, n1900, σ1s73/2244, mb5.7/594, 89C-46D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	2.15	105		*e*Pn	Pn	07 16 57.8	-1.4
GAEA	Gareloi East	2.16	104		*e*Pn	Pn	07 16 57.1	-2.2
SMY	Shemya	2.34	281		*e*P	Pn	07 16 59.9	-1.5
SMY					*e*		07 17 33.0	
SMY	Shemya	2.34	281		*e*Pn	Pn	07 16 59.9	-1.

SMKR			S	Sn	07 20 38.4	-4.4
SMKR	**Semkarok**	**10.44 300**	*e*P	**Pn**	**07 18 46.3**	**-1.0**
SMKR			*e*S	**Sn**	**07 20 38.4**	**-4.4**
BDR	**Baidarnaya**	**10.57 300**	P	**Pn**	**07 18 48.5**	**-0.5**
BDR			S	**Sn**	**07 20 41.9**	**-4.2**
BDR	**Baidarnaya**	**10.57 300**	*e*P	**Pn**	**07 18 48.5**	**-0.5**
BDR			*e*S	**Sn**	**07 20 41.9**	**-4.2**
SRKR	**Sorokina**	**10.62 300**	P	**Pn**	**07 18 49.0**	**-0.6**
SRKR			S	**Sn**	**07 20 43.2**	**-3.9**
SRKR	**Sorokina**	**10.62 300**	*e*P	**Pn**	**07 18 49.0**	**-0.6**
SRKR			*e*S	**Sn**	**07 20 43.2**	**-3.9**
ZLN	**Zelenaya**	**10.65 297**	P	**Pn**	**07 18 49.8**	**-0.3**
ZLN			S	**Sn**	**07 20 42.5**	**-5.5**
ZLN	**Zelenaya**	**10.65 297**	*e*P	**Pn**	**07 18 49.8**	**-0.3**
ZLN			*e*S	**Sn**	**07 20 42.5**	**-5.5**
BZGR	**Bezymyannyi-Gr**	**10.69 296**	P	**Pn**	**07 18 52.2**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**10.69 296**	*e*P	**Pn**	**07 18 52.2**	**+1.6**
CIRR	**Tsirk**	**10.70 297**	P	**Pn**	**07 18 49.9**	**-0.9**
CIRR			S	**Sn**	**07 20 45.7**	**-3.6**
CIRR	**Tsirk**	**10.70 297**	*e*P	**Pn**	**07 18 49.9**	**-0.9**
CIRR			*e*S	**Sn**	**07 20 45.7**	**-3.6**
TUMD	**Tumrok D**	**10.73 292**	*e*P	**Pn**	**07 18 51.6**	**+0.6**
TUMD			*e*S	**Sn**	**07 20 43.4**	**-6.3**
LGNR	**Loginova**	**10.73 297**	P	**Pn**	**07 18 50.5**	**-0.8**
LGNR	**Loginova**	**10.73 297**	*e*P	**Pn**	**07 18 50.5**	**-0.8**
KZV	**Kizimen**	**10.78 292**	P	**Pn**	**07 18 50.9**	**-0.8**
KZV			S	**Sn**	**07 20 44.2**	**-6.8**
KZV	**Kizimen**	**10.78 292**	*e*P	**Pn**	**07 18 50.9**	**-0.8**
KZV			*e*S	**Sn**	**07 20 44.2**	**-6.8**
KLY	**Klyuchi**	**10.80 298**	P	**Pn**	**07 18 50.2**	**-1.7**
KLY			S	**Sn**	**07 20 42.9**	**-8.5**
KLY	**Klyuchi**	**10.80 298**	*e*P	**Pn**	**07 18 50.2**	**-1.7**
KLY			*e*S	**Sn**	**07 20 42.9**	**-8.5**
BZMR	**Bezymyannaya**	**10.81 296**	P	**Pn**	**07 18 51.6**	**-0.5**
BZMR			S	**Sn**	**07 20 47.5**	**-4.2**
BZMR	**Bezymyannaya**	**10.81 296**	*e*P	**Pn**	**07 18 51.6**	**-0.5**
BZMR			*e*S	**Sn**	**07 20 47.5**	**-4.2**
BZWR	**Bezymyannyi-We**	**10.81 296**	P	**Pn**	**07 18 51.7**	**-0.5**
BZWR			S	**Sn**	**07 20 47.7**	**-4.1**
BZWR	**Bezymyannyi-We**	**10.81 296**	*e*P	**Pn**	**07 18 51.7**	**-0.5**
BZWR			*e*S	**Sn**	**07 20 47.7**	**-4.1**
OSSR	**Ossora**	**10.81 315**	P	**Pn**	**07 18 54.0**	**+2.0**
OSSR			S	**Sn**	**07 20 51.4**	**-0.1**
OSSR	**Ossora**	**10.81 315**	*e*P	**Pn**	**07 18 54.0**	**+2.0**
OSSR			*e*S	**Sn**	**07 20 51.4**	**-0.1**
KRSR	**Krestovskiy**	**10.83 298**	P	**Pn**	**07 18 51.3**	**-1.1**
KRSR			S	Sn	07 20 42.9	-9.3
KRSR	**Krestovskiy**	**10.83 298**	*e*P	**Pn**	**07 18 51.3**	**-1.1**
KRSR			*e*S	Sn	07 20 42.9	-9.3
SPN	**Mys Shipunski**	**10.86 281**	P	**Pn**	**07 18 52.6**	**-0.1**
SPN			S	**Sn**	**07 20 45.6**	**-7.2**
SPN	**Mys Shipunski**	**10.86 281**	*e*P	**Pn**	**07 18 52.6**	**-0.1**
SPN			*e*S	**Sn**	**07 20 45.6**	**-7.2**
TUMR	**Tumrok**	**10.88 293**	P	**Pn**	**07 18 53.2**	**+0.1**
TUMR			S	**Sn**	**07 20 48.8**	**-4.7**
TUMR	**Tumrok**	**10.88 293**	*e*P	**Pn**	**07 18 53.2**	**+0.1**
TUMR			*e*S	**Sn**	**07 20 48.8**	**-4.7**
KIRR	**Kirishev**	**10.89 296**	P	**Pn**	**07 18 53.5**	**+0.2**
KIRR			S	**Sn**	**07 20 48.7**	**-5.1**
KIRR	**Kirishev**	**10.89 296**	*e*P	**Pn**	**07 18 53.5**	**+0.2**
KIRR			*e*S	**Sn**	**07 20 48.7**	**-5.1**
KMNR	**Kamenistaya**	**10.91 295**	P	**Pn**	**07 18 53.5**	**0.0**
KMNR			S	**Sn**	**07 20 49.6**	**-4.6**
KMNR	**Kamenistaya**	**10.91 295**	*e*P	**Pn**	**07 18 53.5**	**0.0**
KMNR			*e*S	**Sn**	**07 20 49.6**	**-4.6**
KPT	**Kopyto**	**10.96 296**	P	**Pn**	**07 18 54.4**	**+0.3**
KPT	**Kopyto**	**10.96 296**	*e*P	**Pn**	**07 18 54.4**	**+0.3**
KOZ	**Kozyrevsk**	**11.17 296**	P	**Pn**	**07 18 57.7**	**+0.9**
KOZ			S	**Sn**	**07 20 56.7**	**-3.6**
KOZ	**Kozyrevsk**	**11.17 296**	*e*P	**Pn**	**07 18 57.7**	**+0.9**
KOZ			*e*S	**Sn**	**07 20 56.7**	**-3.6**
KII	**Karymskiy**	**11.18 286**	P	**Pn**	**07 18 57.0**	**0.0**
KII	**Karymskiy**	**11.18 286**	*e*P	**Pn**	**07 18 57.0**	**0.0**
FALS	**False Pass**	**11.38 70**	*e*Pn	**Pn**	**07 18 59.8**	**+0.3**
FALS			*e*Sn	**Sn**	**07 21 01.3**	**-4.1**
SDLR	**Sedlovina**	**11.53 282**	P	**Pn**	**07 19 01.4**	**-0.2**
SDLR			S	**Sn**	**07 21 03.8**	**-5.4**
SDLR	**Sedlovina**	**11.53 282**	*e*P	**Pn**	**07 19 01.4**	**-0.2**
SDLR			*e*S	**Sn**	**07 21 03.8**	**-5.4**
UGLR	**Uglovaya**	**11.57 282**	P	**Pn**	**07 19 02.6**	**+0.5**
UGLR			S	**Sn**	**07 21 04.8**	**-5.4**
UGLR	**Uglovaya**	**11.57 282**	*e*P	**Pn**	**07 19 02.6**	**+0.5**
UGLR			*e*S	**Sn**	**07 21 04.8**	**-5.4**
KRER	**Koryakskii**	**11.61 282**	P	**Pn**	**07 19 03.1**	**+0.4**
KRER			S	**Sn**	**07 21 06.3**	**-4.9**
KRER	**Koryakskii**	**11.61 282**	*e*P	**Pn**	**07 19 03.1**	**+0.4**
KRER			*e*S	**Sn**	**07 21 06.3**	**-4.9**
AVH	**Avacha**	**11.62 282**	P	**Pn**	**07 19 02.8**	**+0.1**
AVH			S	**Sn**	**07 21 06.9**	**-4.4**
AVH	**Avacha**	**11.62 282**	*e*P	**Pn**	**07 19 02.8**	**+0.1**
AVH			*e*P	**Pn**	**07 19 02.9**	**+0.2**
AVH			*e*S	**Sn**	**07 21 06.9**	**-4.4**
AVH			*e*S	**Sn**	**07 21 07.3**	**-4.0**
DALK	**Dalny**	**11.63 281**	P	**Pn**	**07 19 03.0**	**+0.3**
DALK			S	**Sn**	**07 21 05.1**	**-6.2**
DALK	**Dalny**	**11.63 281**	*e*P	**Pn**	**07 19 03.0**	**+0.3**
DALK			*e*S	**Sn**	**07 21 05.1**	**-6.2**
KRX	**Arik**	**11.67 283**	P	**Pn**	**07 19 04.3**	**+0.9**
KRX			S	**Sn**	**07 21 06.8**	**-5.7**
KRX	**Arik**	**11.67 283**	*e*P	**Pn**	**07 19 04.3**	**+0.9**
KRX			*e*S	**Sn**	**07 21 06.8**	**-5.7**
KOK	**Koryaka**	**11.68 282**	P	**Pn**	**07 19 05.1**	**+1.6**
KOK			S	**Sn**	**07 21 07.1**	**-5.6**
KOK	**Koryaka**	**11.68 282**	*e*P	**Pn**	**07 19 05.1**	**+1.6**
KOK			*e*S	**Sn**	**07 21 07.1**	**-5.6**
PET	**Petropavlovsk**	**11.69 281**	*c i*P	**Pn**	**07 19 03.1**	**-0.4**
PET			*e*S	**Sn**	**07 21 06.7**	**-6.0**
PET	comp=Z,953nm,1.3s		pmax	pmax		
PET	comp=Z,4μm,5.4s		pmax	pmax		
PET	comp=Z,8μm,22.0s		MLR	MLR		
PET	**Petropavlovsk**	**11.69 281**	*e*P	**Pn**	**07 19 03.5**	**0.0**
PET			*e*S	**Sn**	**07 21 07.1**	**-5.6**
PET	**Petropavlovsk**	**11.69 281**	*e*Pn	**Pn**	**07 19 02.3**	**-1.2**
PET			*e*Sn	**Sn**	**07 21 08.1**	**-4.7**
INSR	**Institute**	**11.71 281**	P	**Pn**	**07 19 05.0**	**+1.2**
INSR	**Institute**	**11.71 281**	*e*P	**Pn**	**07 19 05.0**	**+1.2**
ESO	**Esso**	**11.79 295**	P	**Pn**	**07 19 04.7**	**-0.2**
ESO	**Esso**	**11.79 295**	*e*P	**Pn**	**07 19 04.7**	**-0.2**
RUS	**Russkaya**	**11.83 278**	P	**Pn**	**07 19 05.9**	**+0.5**
RUS			S	**Sn**	**07 21 09.2**	**-7.0**
RUS	**Russkaya**	**11.83 278**	*e*P	**Pn**	**07 19 05.9**	**+0.5**
RUS			*e*S	**Sn**	**07 21 09.2**	**-7.0**
KMSK	**Kamenskaya**	**11.90 333**	P	**Pn**	**07 19 07.0**	**+0.8**
KMSK	**Kamenskaya**	**11.90 333**	*e*P	**Pn**	**07 19 07.0**	**+0.8**
KRMR	**Karymshinskiy**	**12.02 280**	P	**Pn**	**07 19 08.7**	**+0.9**
KRMR			S	**Sn**	**07 21 15.0**	**-5.7**
KRMR	**Karymshinskiy**	**12.02 280**	*e*P	**Pn**	**07 19 08.7**	**+0.9**
KRMR			*e*S	**Sn**	**07 21 15.0**	**-5.7**
MTVR	**Mutnovka**	**12.03 278**	P	**Pn**	**07 19 09.6**	**+1.5**
MTVR			S	**Sn**	**07 21 15.1**	**-6.0**
MTVR	**Mutnovka**	**12.03 278**	*e*P	**Pn**	**07 19 09.6**	**+1.5**
MTVR			*e*S	**Sn**	**07 21 15.1**	**-6.0**
GNL	**Ganaly**	**12.08 284**	P	**Pn**	**07 19 08.9**	**+0.2**
GNL			S	**Sn**	**07 21 20.1**	**-2.2**
GNL	**Ganaly**	**12.08 284**	*e*P	**Pn**	**07 19 08.9**	**+0.2**
GNL			*e*S	**Sn**	**07 21 20.1**	**-2.2**
GRL	**Gorelyy**	**12.09 279**	P	**Pn**	**07 19 10.1**	**+1.3**
GRL	**Gorelyy**	**12.09 279**	*e*P	**Pn**	**07 19 10.1**	**+1.3**
ASAK	**Asacha**	**12.21 278**	P	**Pn**	**07 19 11.2**	**+0.8**
ASAK			S	**Sn**	**07 21 19.4**	**-6.1**
ASAK	**Asacha**	**12.21 278**	*e*P	**Pn**	**07 19 11.2**	**+0.8**
ASAK			*e*S	**Sn**	**07 21 19.4**	**-6.1**
PEA1	**Petropavlovsk-**	**12.26 282**	*e*Pn	**Pn**	**07 19 11.0**	**+0.1**
PEA1			*e*Sn	**Sn**	**07 21 21.7**	**-4.7**
PEA0B	**Petropavlovsk-**	**12.26 281**	*e*Pn	**Pn**	**07 19 11.3**	**+0.5**
PEA0B			*e*Sn	**Sn**	**07 21 22.8**	**-3.6**
PETK	**Petropavlovsk-**	**12.26 281**	P	**Pn**	**07 19 11.0**	**+0.1**
PETK	comp=Z,44nm,0.3s,baz=87,slow=14,SNR=312		S	**Sn**	**07 21 21.7**	**-4.7**
PETK	comp=Z,16nm,0.3s,baz=97,slow=26,SNR=13		PcP	**PcP**	**07 24 39.6**	**+0.7**
PETK	comp=Z,0.7nm,0.3s,baz=76,slow=4.7,SNR=3.5		ScP	**ScP**	**07 27 57.2**	**+0.6**
PETK	comp=Z,1.7nm,0.3s,baz=90,slow=5.0,SNR=13					
APC	**Apacha**	**12.60 281**	P	**Pn**	**07 19 16.8**	**+1.6**
APC			S	**Sn**	**07 21 31.0**	**-3.6**
APC	**Apacha**	**12.60 281**	*e*P	**Pn**	**07 19 16.8**	**+1.6**
APC			*e*S	**Sn**	**07 21 31.0**	**-3.6**
GAMB	**Gambell**	**12.68 21**	*e*Pn	**Pn**	**07 19 13.0**	**-3.2**
GAMB			*e*Sn	**Sn**	**07 21 30.8**	**-5.6**
SDPT	**Sand Point**	**13.11 68**	*e*Pn	**Pn**	**07 19 20.3**	**-1.5**
SDPT			*e*Sn	**Sn**	**07 21 45.5**	**-1.3**
SKR	**Severo-Kuril's**	**13.65 272**	*e*P	**Pn**	**07 19 28.4**	**-0.2**
SKR			*e*S	**Sn**	**07 21 52.6**	**-7.2**
SKR	comp=Z,337nm,1.0s		pmax	pmax		
SKR	comp=Z,4μm,5.6s		pmax	pmax		
SKR	comp=Z,3μm,7.0s		pmax	pmax		
SKR	comp=E,2μm,0.9s		smax	smax		
SKR	comp=N,4μm,0.9s		smax	smax		
SKR	comp=E,7μm,9.9s		smax	smax		
SKR	comp=N,8μm,5.7s		smax	smax		
SKR	comp=Z,2μm,14.0s		MLR	MLR		
SKR	comp=Z,2μm,16.0s		MLR	MLR		
SKR	**Severo-Kuril's**	**13.65 272**	*e*P	**Pn**	**07 19 28.5**	**-0.2**
SKR			*e*S	**Sn**	**07 21 52.3**	**-7.5**
CHGN	**Chignik**	**14.35 65**	*e*Pn	**Pn**	**07 19 37.2**	**-0.2**
BILL	**Bilibino**	**16.70 345**	*e*P	**P**	**07 20 05.8**	**+0.1**
BILL	comp=Z,68nm,0.9s		pmax	pmax		
MA2	**Magadan**	**16.72 306**	P	**Pn**	**07 20 07.3**	**+0.9**
MA2	comp=Z,15nm,0.3s,baz=98,slow=10,SNR=65		PcP	**PcP**	**07 24 44.6**	**-0.2**
MA2	comp=Z,0.6nm,0.3s,baz=105,slow=5.1,SNR=4.6		ScP	**ScP**	**07 28 03.9**	**-0.3**
MA2	comp=Z,3.2nm,0.3s,baz=93,slow=4.4,SNR=22		ScS	**ScS**	**07 31 43.9**	**+0.5**
MA2	**Magadan**	**16.72 306**	*c i*P	**Pn**	**07 20 07.6**	**+1.2**
SVW2	**Sparrevohn**	**16.87 48**	*e*P	**Pn**	**07 20 09.2**	**+1.0**
SEY	**Seymchan**	**17.14 318**	P	**Pn**	**07 20 11.8**	**+0.5**
SEY	comp=Z,2.5nm,0.3s,baz=115,slow=10,SNR=49		PcP	**PcP**	**07 24 46.1**	**+0.7**
SEY	comp=Z,1.5nm,0.3s,baz=149,slow=4.3,SNR=6.4		ScP	**ScP**	**07 28 04.8**	**-0.2**
SEY	**Seymchan**	**17.14 318**	*c i*P	**Pn**	**07 20 11.0**	**-0.4**
OHAK	**Old Harbor**	**17.25 62**	*e*P	**P**	**07 20 09.7**	**-2.1**
TT01	**Tatalina**	**17.37 42**	*e*P	**Pn**	**07 20 13.9**	**-0.3**
KDAK	**Kodiak Island**	**17.67 60**	P	**P**	**07 20 15.1**	**-1.3**
KDAK	comp=Z,92nm,0.3s,baz=266,slow=5.8,SNR=368		S	**S**	**07 23 25.0**	**-6.4**
KDAK	baz=133,slow=19,SNR=3.2		ScP	**ScP**	**07 28 05.7**	**-0.5**
KDAK	comp=Z,0.9nm,0.3s,baz=167,slow=6.9,SNR=4.3					
KDAK	**Kodiak Island**	**17.67 60**	*i* P	**P**	**07 20 14.5**	**-1.9**
KDAK	**Kodiak Island**	**17.67 60**	*e*P	**P**	**07 20 13.9**	**-2.4**
KDAK			*e*Pn	**Pn**	**07 20 14.9**	**-2.8**
RSO	**Redoubt South**	**18.02 52**	*e*P	**Pn**	**07 20 21.4**	**-0.7**
HOM	**Homer**	**18.41 55**	*e*P	**P**	**07 20 25.1**	**+0.8**
SPU	**Mount Spurr**	**18.53 50**	*e*P	**Pn**	**07 20 27.1**	**-0.9**
CNPM	**China Poot**	**18.59 55**	*e*P	**P**	**07 20 26.2**	**-0.2**
BRLK	**Bradley Lake**	**18.80 55**	*e*P	**P**	**07 20 28.2**	**-0.6**
PPLA	**Purkeypile**	**18.99 45**	*e*P	**Pn**	**07 20 32.6**	**-0.7**
CAST	**Castle Rocks**	**19.22 43**	*e*P	**Pn**	**07 20 35.1**	**-0.8**
SUA	**Susitna One**	**19.22 49**	*e*P	**P**	**07 20 34.0**	**+0.7**
SEW	**Seward**	**19.57 54**	*e*P	**P**	**07 20 36.4**	**-0.6**
RC01	**Rabbit Creek A**	**19.61 51**	*e*P	**P**	**07 20 37.0**	**-0.4**
KTH	**Kantishna Hill**	**19.75 43**	*e*P	**P**	**07 20 40.0**	**+1.0**
BPAW	**Bear Paw Mtn.**	**19.92 42**	*e*P	**P**	**07 20 41.5**	**+0.8**
PMR	**Palmer**	**20.00 50**	*e*P	**P**	**07 20 40.7**	**-0.8**
PMR			pmax	pmax		
PMR	**Palmer**	**20.00 50**	*e*P	**P**	**07 20 40.7**	**-0.8**
MLY	**Manley**	**20.38 39**	*e*P	**P**	**07 20 46.8**	**+1.2**
SML	**Sawmill**	**20.42 49**	*e*P	**P**	**07 20 46.3**	**+0.2**
SML			pmax	pmax		
SML	**Sawmill**	**20.42 49**	*e*P	**P**	**07 20 46.2**	**+0.2**
RND	**Reindeer**	**20.59 45**	*e*P	**P**	**07 20 47.6**	**-0.3**
RND			pmax	pmax		
RND	**Reindeer**	**20.59 45**	*e*P	**P**	**07 20 47.6**	**-0.3**
MCK	**McKinley**	**20.65 44**	*e*P	**P**	**07 20 48.5**	**-0.1**
MCK			pmax	pmax		
MCK	**McKinley**	**20.65 44**	*e*P	**P**	**07 20 48.5**	**-0.1**
GLI	**Glacier Island**	**20.84 52**	*e*P	**P**	**07 20 50.2**	**-0.4**
SCM	**Sheep Creek Mo**	**20.89 49**	*e*P	**P**	**07 20 51.3**	**+0.2**
SCM			pmax	pmax		
SCM	**Sheep Creek Mo**	**20.89 49**	*e*P	**P**	**07 20 51.3**	**+0.2**
KUR	**Kuril'sk**	**20.91 262**	*d i*P	**P**	**07 20 52.7**	**+1.3**
KUR			*i* S	**S**	**07 24 38.0**	**+2.6**
KUR	comp=Z,1μm,1.1s		pmax	pmax		
KUR	comp=E,492nm,1.3s		pmax	pmax		
KUR	comp=N,138nm,0.6s		pmax	pmax		
KUR	comp=Z,8μm,4.3s		pmax	pmax		
MID	**Middleton Isla**	**21.06 56**	*e*P	**P**	**07 20 53.1**	**+0.2**
MID	comp=Z,3μm,1.0s		pmax	pmax		
MID	**Middleton Isla**	**21.06 56**	*e*P	**P**	**07 20 53.0**	**+0.2**
FID	**Port Fidalgo**	**21.12 53**	*e*P	**P**	**07 20 52.9**	**-0.7**
FID	comp=Z,2μm,0.9s		*e*S	**S**	**07 24 39.0**	**0.0**
DHY	**Denali Highway**	**21.14 46**	*e*P	**P**	**07 20 54.0**	**+0.1**
WRH	**Wood River Hil**	**21.23 42**	*e*P	**P**	**07 20 53.8**	**-1.0**
MDM	**Murphy Dome**	**21.34 41**	*e*P	**P**	**07 20 56.4**	**+0.5**
CCB	**Clear Creek Bu**	**21.41 42**	*e*P	**P**	**07 20 56.1**	**-0.5**
EYAK	**Cordova Ski Ar**	**21.45 53**	*e*P	**P**	**07 20 56.5**	**-0.6**
COLA	**College**	**21.46 41**	*e*P	**P**	**07 20 56.8**	**-0.3**
COLA	comp=Z,584nm,0.9s		pmax	pmax		
COLA	**College**	**21.46 41**	*e*P	**P**	**07 20 56.8**	**-0.3**
KLU	**Klutina**	**21.49 51**	*e*P	**P**	**07 20 57.7**	**+0.1**
DIV	**Divide**	**21.51 52**	*e*P	**P**	**07 20 57.9**	**+0.1**
COLD	**Coldfoot**	**21.53 34**	*e*P	**P**	**07 20 57.5**	**-0.4**
HDA	**Harding Lake**	**21.69 43**	*e*P	**P**	**07 20 56.9**	**-2.7**
TYV	**Tymovskoe**	**21.80 280**	*e*P	**P**	**07 21 02.5**	**+1.7**
TYV			*e*S	**S**	**07 24 55.3**	**+4.5**
TYV	comp=Z,208nm,1.0s		pmax	pmax		
TYV	comp=Z,5μm,4.1s		pmax	pmax		
TYV	comp=N,74nm,1.6s		smax	smax		
TYV	comp=E,13μm,9.9s		smax	smax		
ILAR	**Eielson Array**	**21.82 42**	P	**P**	**07 20 58.7**	**-2.2**
ILAR	comp=E,287nm,0.9s,baz=240,slow=8.5,SNR=350		S	**S**	**07 24 52.2**	**+1.3**
ILAR	comp=E,5.5nm,0.8s,baz=240,slow=16,SNR=3.6		ScP	**ScP**	**07 28 13.6**	**-2.2**
ILAR	comp=E,10nm,0.6s,baz=276,slow=2.8,SNR=21		ScS	**ScS**	**07 31 59.2**	**-0.8**
ILAR	comp=E,1.7nm,0.8s,baz=248,slow=4.8,SNR=7.7		P3KPbc		07 54 44.2	
ILAR	comp=E,2.4nm,0.8s,baz=58,slow=4.3,SNR=26					
ILB	**Eielson Array**	**21.82 42**	*e*P	**P**	**07 20 59.5**	**-1.4**
PAX	**Paxson**	**21.96 47**	*e*P	**P**	**07 21 02.2**	**-0.3**
PAX	comp=Z,1μm,0.9s		pmax	pmax		
PAX	**Paxson**	**21.96 47**	*e*P	**P**	**07 21 02.2**	**-0.3**
RAGM	**Ragged Mountai**	**21.97 54**	*e*P	**P**	**07 21 02.3**	**-0.2**
HARP	**HAARP**	**22.00 48**	*e*P	**P**	**07 21 03.0**	**+0.3**
BMRM	**Bremner River**	**22.06 52**	*e*P	**P**	**07 21 03.3**	**-0.1**
SHO	**Shikotan**	**22.26 260**	*d i*P	**P**	**07 21 05.1**	**-0.4**
SHO			*i* S	**S**	**07 24 58.2**	**-0.3**
SHO	comp=Z,4μm,1.7s		pmax	pmax		
SHO	comp=N,2μm,1.9s		pmax	pmax		
SHO	comp=E,1μm,1.7s		pmax	pmax		
NKL	**Nikolayevsk**	**22.37 287**	*e*P	**P**	**07 21 07.0**	**+0.6**
NKL			*e*		07 21 36.0	
NKL			*e*S	**S**	**07 25 03.0**	**+2.9**
NKL	comp=E,500nm,2.0s		pmax	pmax		
NKL	comp=Z,2μm,2.0s		pmax	pmax		
NKL	comp=N,77nm,1.0s		pmax	pmax		
NKL	comp=E,200nm,1.0s		pmax	pmax		
NKL	comp=Z,600nm,1.0s		smax	smax		
NKL	comp=N,5μm,8.0s		smax	smax		
NKL	comp=E,12μm,8.0s		MLR	MLR		
NKL	comp=E,1μm,12.0s		MLR	MLR		
TOLK	**Toolik Lake Re**	**22.43 31**	P	**P**	**07 21 07.7**	**+0.7**
TOLK	**Toolik Lake Re**	**22.43 31**	*e*P	**P**	**07 21 07.0**	**+0.1**
MENT	**Mentasta**	**22.74 47**	*e*P	**P**	**07 21 10.8**	**+1.0**
CRQM	**Cirque**	**22.75 53**	*e*P	**P**	**07 21 10.6**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**22.76 261**	*d i*P	**P**	**07 21 10.6**	**+0.5**
YUK			*i* S	**S**	**07 25 07.1**	**+0.6**
YUK	comp=Z,2μm,1.6s		pmax	pmax		
YUK	comp=N,735nm,0.9s		pmax	pmax		
YUK	comp=E,550nm,0.9s		pmax	pmax		
YUK	comp=Z,6μm,3.3s		pmax	pmax		
FYU	**Fort Yukon**	**23.05 38**	*e*P	**P**	**07 21 13.6**	**+1.0**
BALM	**Baldy**	**23.16 52**	*e*P	**P**	**07 21 13.8**	**0.0**
BALM	comp=Z,834nm,0.9s		pmax	pmax		
BALM	**Baldy**	**23.16 52**	*e*P	**P**	**07 21 13.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**23.21 271**	*i*P	**P**	**07 21 16.5**	**+2.2**
YSS			*e*S	**S**	**07 25 17.2**	**+3.3**
YSS	comp=Z,650nm,0.7s		pmax	pmax		
YSS	comp=N,5μm,8.0s		smax	smax		
YSS	comp=E,5μm,4.5s		smax	smax		
YSS	comp=Z,2μm,13.0s		MLR	MLR		
YSS	comp=N,1μm,14.0s		MLR	MLR		
YSS	comp=E,2μm,13.0s		MLR	MLR		
YSS	**Yuzh-Sakhalins**	**23.21 271**	*e*P	**P**	**07 21 16.0**	**+1.8**
EGAK	**Eagle**	**24.20 43**	*e*P	**P**	**07 21 23.1**	**0.0**
MIDW	**Midway**	**24.38 170**	*e*P	**P**	**07 21 26.1**	**+1.1**
ASAJ	**Asahikawa**	**24.70 265**	P	**P**	**07 21 28.9**	**+1.0**
ASAJ	comp=E,452nm,0.7s,baz=61,slow=5.4,SNR=383		ScP	**ScP**	**07 28 25.0**	**+1.2**
ASAJ	**Asahikawa**	**24.70 265**	*e*P	**P**	**07 21 28.9**	**+1.0**
DAWY	**Dawson**	**24.84 45**	*e*P	**P**	**07 21 29.6**	**+0.6**
HYT	**Haines Junctio**	**25.52 53**	*e*P	**P**	**07 21 36.0**	**+0.8**
SKAG	**Skagway**	**26.68 56**	*e*P	**P**	**07 21 46.2**	**+0.7**
WHY	**Whitehorse**	**26.81 53**	*e*P	**P**	**07 21 47.8**	**+1.0**
BESE	**Bessie Mountai**	**27.02 58**	*e*P	**P**	**07 21 49.0**	**+0.4**
YAK	**Yakutsk**	**27.21 310**	P	**P**	**07 21 50.3**	**+0.1**
YAK	comp=E,20nm,0.3s,baz=86,slow=2.2,SNR=15		PcP	**PcP**	**07 25 05.2**	**-0.6**
YAK	comp=E,24nm,0.3s,baz=96,slow=2.1,SNR=6.8		S	**S**	**07 26 15.6**	**-1.3**
YAK	comp=E,10nm,0.4s,baz=120,slow=22,SNR=5.9		ScP	**ScP**	**07 28 30.5**	**-0.3**
YAK	comp=E,100nm,0.7s,baz=16,slow=2.1,SNR=15		ScS	**ScS**	**07 32 20.9**	**-1.1**
YAK	comp=E,10nm,0.3s,baz=45,slow=5.7,SNR=17		LR	LR	07 32 30.9	
YAK	comp=E,1μm,21.1s,baz=100,slow=36					
YAK	**Yakutsk**	**27.21 310**	*e*P	**P**	**07 21 50.4**	**+0.2**
YAK			*e**PP	**pP**	**07 22 24.4**	**+1.0**
YAK			*e*		07 22 39.7	
YAK			*e*		07 25 07.3	
YAK			*e*S	**S**	**07 26 18.3**	**+1.4**
YAK			*e**SS	**sS**	**07 27 15.9**	**+0.1**
YAK			*e*		07 32 20.7	
YAK	comp=Z,109nm,1.4s		pmax	pmax		
YAK	comp=N,9.0nm,1.5s		pmax	pmax		
YAK	comp=E,87nm,1.5s		pmax	pmax		
YAK	comp=Z,358nm,1.9s		pmax	pmax		
YAK	comp=N,132nm,1.6s		pmax	pmax		
YAK	comp=E,531nm,2.0s		pmax	pmax		
YAK	comp=N,155nm,1.8s		smax	smax		
YAK	comp=E,541nm,2.9s		smax	smax		
YAK	**Yakutsk**	**27.21 310**	*e*P	**P**	**07 21 50.2**	**+0.1**
	comp=E,349nm,0.8s					
HABR	**Khabarovsk**	**27.27 279**	*e*P	**P**	**07 21 50.1**	**-0.7**
HABR			*e**PP	**pP**	**07 22 23.4**	**-0.6**
HABR			*e**SP	**sP**	**07 22 42.2**	**-0.3**
HABR			*e*		07 22 43.9	
HABR			*e*		07 25 05.2	
HABR			*e*S	**S**	**07 26 18.5**	**+0.5**
HABR			*e**SS	**sS**	**07 27 18.5**	**+1.6**
HABR			*e*		07 32 22.3	
HABR	comp=Z,39nm,0.9s		pmax	pmax		
HABR	comp=N,24nm,0.9s		pmax	pmax		
HABR	comp=E,41nm,0.9s		pmax	pmax		
HABR	comp=Z,478nm,2.5s		pmax	pmax		
HABR	comp=Z,1μm,18.0s		MLR	MLR		
CRAG	**Craig**	**28.55 64**	*e*P	**P**	**07 22 02.9**	**+0.8**
	comp=Z,138nm,0.8s					
TIXI	**Tiksi**	**28.76 330**	P	**P**	**07 22 03.3**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=115,slow=13,SNR=6.7					

TIXI PcP **PcP** **07 25 09.7 +0.3**
comp=Z,20nm,0.5s,baz=133,slow=2.2,SNR=5.9
TIXI Tiksi 28.76 330 *i* P **P** **07 22 03.4 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 28.95 282 P **P** **07 22 05.3 -0.4**
comp=Z,17nm,0.8s,baz=60,slow=8.7,SNR=235
DIB Dawson Inlet, 29.56 68 *e*P **P** **07 22 11.4 +0.4**
comp=Z,125nm,1.2s
CLNS Chul'man 30.37 300 *e*P **P** **07 22 17.8 -0.5**
CLNS *e* 07 23 28.7
CLNS *e* 07 25 14.6
CLNS *e*S **S** **07 26 59.5 -7.1**
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.1s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS smax smax
comp=N,242nm,14.3s
CLNS smax smax
comp=E,785nm,12.5s
USRK Ussuriysk Ar. 31.16 273 P **P** **07 22 24.7 -0.5**
comp=E,90nm,0.6s,baz=57,slow=8.5,SNR=117
USRK PcP **PcP** **07 25 16.6 +0.4**
comp=E,45nm,0.8s,baz=63,slow=1.4,SNR=17
USRK ScP **ScP** **07 28 45.1 +1.4**
comp=E,36nm,1.0s,baz=60,slow=4.6,SNR=17
VLA Vladivostok 31.80 272 *d i*P **P** **07 22 32.1 +1.3**
VLA pmax pmax
comp=Z,279nm,1.0s
MJAR Matsushiro Arr 31.96 256 P **P** **07 22 33.2 +0.8**
comp=Z,68nm,0.8s,baz=52,slow=7.2,SNR=151
MJAR PcP **PcP** **07 25 18.7 +0.3**
comp=Z,8.1nm,0.5s,baz=91,slow=1.9,SNR=6.8
MJAR ScP **ScP** **07 28 48.2 +1.6**
comp=Z,31nm,1.1s,baz=26,slow=1.6,SNR=23
MAJO Matsushiro 31.96 256 *d i*P **P** **07 22 33.4 +1.0**
MAJO pmax pmax
comp=Z,2μm,0.9s
MAJO Matsushiro 31.96 256 *e*P **P** **07 22 32.9 +0.5**
comp=Z,254nm,0.8s
MAT Matsushiro 31.96 256 P **P** **07 22 32.8 +0.4**
MAT S **S** **07 27 35.3 +3.5**
MJB9 Matsu-Tunnel 31.96 256 *e*P **P** **07 22 32.9 +0.5**
comp=Z,65nm,0.8s
MDJ Mudanjiang 32.40 276 P **P** **07 22 36.0 -0.1**
MDJ pP pP 07 23 07.3 -2.5
MDJ sP sP 07 23 25.0 -3.2
MDJ PP **PP** **07 23 54.5 +2.1**
MDJ PcP **PcP** **07 25 21.5 +2.0**
MDJ S **S** **07 27 34.0 -4.4**
MDJ pmax pmax
comp=Z,44nm,0.9s
MDJ pmax pmax
comp=Z,280nm,7.2s
MDJ LR LR
comp=Z,2μm,12.9s
MDJ LR LR
comp=Z,1μm,21.5s
MDJ LR LR
comp=Z,4μm,17.2s
MDJ Mudanjiang 32.40 276 *e*P **P** **07 22 36.5 +0.4**
comp=Z,47nm,1.0s
MDJ *e*PcP **PcP** **07 25 21.4 +1.9**
MSHR Mys Shultsa 32.54 271 *c i*P **P** **07 22 38.6 +1.3**
INU Inuyama 33.48 256 *e*P **P** **07 22 46.6 +1.0**
comp=Z,104nm,0.8s
H11N2 WAKE ISLAND Hy 33.67 199 T T 07 58 25.7
baz=11,slow=76,SNR=86
H11N3 WAKE ISLAND Hy 33.69 199 T T 07 58 12.6
baz=11,slow=76,SNR=149
H11N1 WAKE ISLAND Hy 33.69 199 T T 07 58 37.4
baz=11,slow=76,SNR=81
WAKE Wake Island 34.16 199 *e*P **P** **07 22 52.8 +1.2**
comp=Z,3μm,1.9s
H11S1 WAKE ISLAND Hy 34.90 199 T T 07 59 58.1
baz=11,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 34.92 199 T T 07 59 59.2
baz=11,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 34.92 199 T T 07 59 54.1
baz=11,slow=76,SNR=25
CN2 Changchun 35.36 277 ⇓P **P** **07 23 01.5 -0.2**
CN2 *e*pP pP 07 23 33.5 -2.2
CN2 *e*S **S** **07 28 21.8 -2.1**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,4μm,17.0s
BOD Bodaibo 35.73 305 *e*P **P** **07 23 03.7 -0.9**
BOD pmax pmax
comp=Z,87nm,1.3s
HIA Hailar 36.02 289 *d i*P **P** **07 23 07.5 +0.3**
HIA pmax pmax
comp=Z,78nm,1.1s
HIA Hailar 36.02 289 *e*P **P** **07 23 07.6 +0.3**
comp=Z,71nm,0.8s
YKA Yellowknife Ar 36.05 47 P **P** **07 23 08.1 +0.8**
comp=Z,623nm,0.8s,baz=284,slow=8.4,SNR=459
YKA ScP **ScP** **07 28 59.9 -0.7**
comp=Z,17nm,0.9s,baz=290,slow=3.1,SNR=9.0
YKA LR LR 07 38 59.4
comp=Z,248nm,18.2s,baz=180,slow=38
YKA P3KPbc 07 53 42.3
comp=Z,2.2nm,0.7s,baz=97,slow=5.6,SNR=4.1
YKA Yellowknife Ar 36.05 47 P **P** **07 23 08.1 +0.8**
YKA pmax pmax
comp=Z,649nm,0.8s
YKA MLR MLR
comp=Z,248nm,18.2s
YKB5 Yellowknife Ar 36.05 47 *e*P **P** **07 23 08.1 +0.8**
KIP Kipapa 36.06 140 *e*P **P** **07 23 08.8 +1.0**
KIP pmax pmax
comp=Z,694nm,1.6s
LLLB Lilloоet 36.60 68 *e*P **P** **07 23 12.0 -0.2**
comp=Z,180nm,0.9s
PGC Sidney 36.61 72 *e*P **P** **07 23 12.4 +0.2**
comp=Z,66nm,0.8s
CBIJ Chichi jima 36.69 241 *e*P **P** **07 23 13.7 +0.6**
comp=Z,383nm,0.6s
JOHN Johnston Islan 36.92 160 *e*P **P** **07 23 16.9 +1.9**
comp=Z,606nm,1.2s
NLWA Neilton Lookou 36.98 74 *e*P **P** **07 23 16.5 +1.0**
comp=Z,202nm,0.9s
A04D Lummi Island 37.01 71 P **P** **07 23 15.7 +0.1**
baz=299,SNR=5.6
B05A Bryant 37.59 72 P **P** **07 23 20.8 +0.3**
baz=300,SNR=52
E03A Lebam 37.59 75 *e*P **P** **07 23 20.7 +0.2**
comp=Z,314nm,0.9s
KSRS Korea Array 37.60 267 P **P** **07 23 22.0 +1.3**
comp=Z,133nm,0.9s,baz=55,slow=8.1,SNR=226
KSRS PcP **PcP** **07 25 36.2 +1.4**
comp=Z,21nm,0.8s,baz=54,slow=2.8,SNR=16
KSRS ScP **ScP** **07 29 07.0 +0.2**
comp=Z,4.5nm,0.9s,baz=67,slow=4.3,SNR=5.7
SNY Shenyang 37.61 276 ⇓P **P** **07 23 21.8 +1.1**
SNY pP **pP** **07 23 55.5 +0.5**
SNY sP **sP** **07 24 08.5 -4.7**
SNY PcP **PcP** **07 25 36.3 +1.5**
SNY SS SS 07 31 44.8 -4.8
SNY ScS **ScS** **07 33 17.0 +1.3**
SNY pmax pmax
comp=Z,95nm,1.2s
SNY pmax pmax
comp=Z,860nm,7.8s
SNY LR LR
comp=Z,2μm,14.2s
SNY LR LR
comp=Z,860nm,17.0s
SNY LR LR
comp=Z,2μm,17.3s
KS15 Wonju Array Si 37.63 267 *e*P **P** **07 23 22.1 +1.2**
B06A Marblemount 37.82 71 *e*P **P** **07 23 22.1 -0.3**
comp=Z,98nm,0.9s
F03A Seaside 37.91 76 *e*P **P** **07 23 23.3 +0.1**
comp=Z,239nm,1.0s
B941 Kapowsin 38.16 73 *e*P **P** **07 23 25.7 +0.5**
F04D Rainier, OR 38.16 75 P **P** **07 23 25.8 +0.5**
baz=302,SNR=18
D05A Enumclaw 38.19 73 *e*P **P** **07 23 22.6 -2.9**
comp=Z,281nm,0.9s
HPAH Hawaii Prepara 38.25 137 *e*P **P** **07 23 27.8 +1.4**
comp=Z,116nm,0.8s
CIT Chita 38.26 296 *e*P **P** **07 23 27.1 +1.0**
CIT *e* 07 24 05.1
CIT *e* 07 24 19.1
CIT pmax pmax
comp=Z,198nm,1.0s
INCN Inchon 38.37 268 *e*P **P** **07 23 28.7 +1.5**
comp=Z,282nm,0.9s
INCN Inchon 38.37 268 P **P** **07 23 29.0 +1.9**
SNR=18
INCN Inchon 38.37 268 P **P** **07 23 29.0 +1.9**
SNR=18
C06D Leavenworth 38.46 71 P **P** **07 23 28.1 +0.3**
baz=300,SNR=6.4
G03D McMinnville, O 38.47 77 P **P** **07 23 28.5 +0.7**
baz=303,SNR=9.9
G03D S **S** **07 29 09.1 -1.9**
baz=303
B201 Coldwater, Mou 38.48 74 *e*P **P** **07 23 28.6 +0.5**
TDL Tradedollar La 38.49 74 *e*P **P** **07 23 28.1 -0.1**
LON Longmire 38.52 74 *e*P **P** **07 23 28.1 -0.3**
LON pmax pmax
comp=Z,56nm,0.8s
LON Longmire 38.52 74 *e*P **P** **07 23 28.1 -0.3**
comp=Z,56nm,0.8s
LVP Lakeview Peak 38.52 75 *e*P **P** **07 23 28.5 0.0**
POHA Pohakuloa 38.56 137 *e*P **P** **07 23 29.6 +0.5**
comp=Z,124nm,0.8s
F04A Amboy 38.59 75 *e*P **P** **07 23 28.6 -0.3**
comp=Z,312nm,1.1s
MTMW Mount Mitchell 38.66 75 *e*P **P** **07 23 29.7 +0.1**
JNU Nakatsue 38.69 259 *e*P **P** **07 23 31.0 +1.1**
comp=Z,200nm,0.8s
COR Corvallis 38.79 77 *e*P **P** **07 23 31.1 +0.6**
COR pmax pmax
comp=Z,312nm,1.0s
COR Corvallis 38.79 77 *e*P **P** **07 23 31.1 +0.6**
comp=Z,312nm,1.0s
LTY Liberty 38.93 72 *e*P **P** **07 23 30.3 -1.4**
comp=Z,170nm,1.2s
ETW Entiat 38.95 72 *e*P **P** **07 23 31.3 -0.7**
STCH Steam Cracks 39.06 137 *e*P **P** **07 23 33.9 +0.8**
comp=Z,64nm,0.8s
KEBM Edson Butte 39.12 80 *e*P **P** **07 23 33.8 +0.4**
comp=Z,117nm,0.8s
B08A Colville Reser 39.14 70 *e*P **P** **07 23 32.0 -1.4**
comp=Z,208nm,0.9s
I03D Drain, OR 39.25 79 P **P** **07 23 35.2 +0.8**
baz=304,SNR=19
KBO Bosley Butte 39.56 81 *e*P **P** **07 23 38.3 +1.1**
comp=Z,71nm,0.7s
G05D Wamic, OR 39.61 75 P **P** **07 23 37.9 +0.5**
baz=303,SNR=44
IRO Indian Ridge 39.73 77 *e*P **P** **07 23 38.8 +0.2**
I04A Tendick Farm, 39.76 78 P **P** **07 23 38.9 +0.3**
baz=304,SNR=60
E07A Sunnyside 39.77 73 *e*P **P** **07 23 38.5 -0.2**
comp=Z,256nm,1.3s
MDW Midway 39.79 73 *e*P **P** **07 23 38.3 -0.6**
MDW Midway 39.79 73 *e*P **P** **07 23 38.3 -0.6**
PRLK Prince Lake 39.80 77 *e*P **P** **07 23 39.4 +0.3**
L02D Cave Junction, 39.97 81 P **P** **07 23 41.1 +0.7**
baz=306,SNR=28
G06A Carlson Farm, 40.02 75 *e*P **P** **07 23 39.9 -0.9**
comp=Z,82nm,1.2s
C09A Chrisman Ranch 40.04 70 *e*P **P** **07 23 40.0 -0.9**
comp=Z,207nm,0.9s
HAWA Hanford 40.05 73 *e*P **P** **07 23 40.3 -0.6**
comp=Z,308nm,0.9s
D08A Wollman Farm, 40.05 72 *e*P **P** **07 23 39.7 -1.3**
comp=Z,170nm,1.0s
I05D Terrebonne, OR 40.09 76 P **P** **07 23 41.6 +0.2**
baz=304,SNR=57
HUMO Hull Mountain 40.10 80 *e*P **P** **07 23 42.0 +0.5**
comp=Z,60nm,0.8s
KRMB Red Mountain 40.16 82 *e*P **P** **07 23 42.8 +0.7**
comp=Z,89nm,1.0s
J04D Umpqua Nationa 40.25 78 P **P** **07 23 43.4 +0.5**
baz=305,SNR=42
KTRM Thompson Ridge 40.26 81 *e*P **P** **07 23 43.8 +0.9**
E08A Dider Farm, El 40.27 72 *e*P **P** **07 23 42.2 -0.6**
comp=Z,177nm,0.8s
NEW Newport 40.46 69 P **P** **07 23 43.4 -0.9**
comp=Z,226nm,0.8s,baz=298,slow=7.2,SNR=316
NEW ScP **ScP** **07 29 16.5 -1.3**
comp=Z,16nm,1.0s,baz=311,slow=3.0,SNR=7.4
NEW Newport 40.46 69 P **P** **07 23 44.2 -0.2**
baz=301,SNR=264
NEW Newport 40.46 69 *e*P **P** **07 23 43.4 -0.9**
comp=Z,252nm,0.8s
JCC Jacoby Creek, 40.50 83 *e*P **P** **07 23 46.0 +1.3**
comp=Z,669nm,1.8s
DL2 Dalian 40.55 274 P **P** **07 23 45.0 -0.1**
DL2 pP **pP** **07 24 22.3 +2.4**
DL2 sP **sP** **07 24 36.0 -1.9**
DL2 S **S** **07 29 39.8 -2.3**
DL2 pmax pmax
comp=Z,200nm,0.8s
DL2 pmax pmax
comp=Z,460nm,5.8s
KHMM Horse Mountain 40.65 82 *e*P **P** **07 23 46.7 +0.5**
comp=Z,186nm,0.7s
J05D Fort Rock, OR 40.75 78 P **P** **07 23 47.6 +0.6**
baz=305,SNR=138
YBH Yreka Blue Hor 40.76 81 *e*P **P** **07 23 47.4 +0.4**
YBH pmax pmax
comp=Z,133nm,0.7s
YBH Yreka Blue Hor 40.76 81 *e*P **P** **07 23 47.4 +0.4**
comp=Z,133nm,0.7s
E09A Wood Farm, Sta 40.79 72 *e*P **P** **07 23 46.1 -0.9**
comp=Z,252nm,1.1s
K04D Chiloquin, OR 40.82 79 P **P** **07 23 47.9 +0.5**
baz=306,SNR=20
M02C Callahan 40.88 81 P **P** **07 23 48.9 +1.0**
baz=306,SNR=41
KMRM Mail Ridge 41.06 83 *e*P **P** **07 23 51.2 +1.8**
comp=Z,180nm,0.7s
N02D Trinity Center 41.22 82 P **P** **07 23 51.6 +1.0**
baz=307,SNR=27
M04C Macdoel 41.26 80 P **P** **07 23 51.7 +0.6**
baz=306,SNR=186
LGBM Gray Butte 41.30 81 *e*P **P** **07 23 52.8 +1.1**
KCPM Cahto Peak 41.46 84 *e*P **P** **07 23 53.9 +1.2**
comp=Z,801nm,1.9s
WDC Whiskeytown Da 41.55 82 *e*P **P** **07 23 53.8 +0.5**
WDC pmax pmax
comp=Z,84nm,0.8s
WDC Whiskeytown Da 41.55 82 *e*P **P** **07 23 53.8 +0.5**
comp=Z,84nm,0.8s
WALA Waterton Lakes 41.87 66 *e*P **P** **07 23 55.2 -0.7**
comp=Z,431nm,0.8s
BSMT Bassoo Peak 42.01 68 *e*P **P** **07 23 56.4 -0.8**
MOD Modoc Plateau 42.12 79 *e*P **P** **07 23 57.8 -0.3**
comp=Z,155nm,0.7s
LBCM Butte Creek Ri 42.12 81 *e*P **P** **07 23 59.0 +0.8**
BLMT Blacktail Moun 42.16 68 *e*P **P** **07 23 58.2 -0.3**
O03D Paynes Creek 42.17 82 P **P** **07 23 58.5 +0.1**
baz=308,SNR=116
O03D Paynes Creek 42.17 82 *e*P **P** **07 23 58.5 +0.1**
BMO Blue Mountains 42.20 73 *e*P **P** **07 23 57.8 -0.8**
BMO pmax pmax
comp=Z,136nm,0.9s
BMO Blue Mountains 42.20 73 *e*P **P** **07 23 57.8 -0.8**
comp=Z,136nm,0.9s
HOPS Hopland Field 42.20 84 *e*P **P** **07 23 59.1 +0.5**
comp=Z,955nm,2.0s
LRDM Redding Peak 42.28 81 *e*P **P** **07 24 00.7 +1.4**
JTMT Jette 42.35 68 *e*P **P** **07 23 59.5 -0.3**
J08A Circle Bar Ran 42.36 76 *e*P **P** **07 23 59.3 -0.7**
comp=Z,139nm,1.1s
YBMT Yellow Bay 42.44 68 *e*P **P** **07 24 00.5 -0.1**
NRIK Noril'sk 42.51 328 P **P** **07 24 00.6 -0.1**
comp=Z,45nm,0.9s,baz=77,slow=8.9,SNR=24
NRIK PcP **PcP** **07 25 51.2 +1.2**
comp=Z,26nm,0.8s,baz=84,slow=4.1,SNR=4.7
NRIK ScP **ScP** **07 29 25.3 -0.2**
comp=Z,29nm,0.8s,baz=100,slow=3.5,SNR=11
NRIK LR LR 07 43 57.9
comp=Z,529nm,18.5s,baz=82,slow=39
SWMT Swartz Lake 42.64 68 *e*P **P** **07 24 00.7 -1.5**
OGOM Van Goodin Ran 42.68 82 *e*P **P** **07 24 02.0 -0.4**
WVOR Wild Horse Val 42.80 77 *e*P **P** **07 24 03.3 -0.2**
WVOR pmax pmax
comp=Z,137nm,0.9s
WVOR Wild Horse Val 42.80 77 *e*P **P** **07 24 03.3 -0.2**
comp=Z,137nm,0.9s
ORV Oroville 42.81 82 *e*P **P** **07 24 02.9 -0.6**
ORV pmax pmax
comp=Z,100nm,0.8s
ORV Oroville 42.81 82 *e*P **P** **07 24 02.9 -0.6**
comp=Z,100nm,0.8s
MCCM Marconi Confer 42.85 85 *e*P **P** **07 24 04.0 +0.2**
comp=Z,77nm,0.8s
MSO Missoula 43.05 69 P **P** **07 24 05.0 -0.5**
baz=304,SNR=125
MSO Missoula 43.05 69 *e*P **P** **07 24 04.0 -1.5**
comp=Z,258nm,1.1s
SLMT Seeley Lake 43.08 68 *e*P **P** **07 24 04.5 -1.3**
IRK Irkutsk 43.17 300 *e*P **P** **07 24 06.0 -0.3**
IRK pmax pmax
comp=Z,380nm,1.0s
BJI Beijing 43.17 279 P **P** **07 24 07.8 +1.4**
BJI PcP **PcP** **07 25 52.8 0.0**
BJI ScP **ScP** **07 29 28.3 -0.4**
BJI PcS **PcS** **07 29 46.0 +0.5**
BJI S **S** **07 30 20.0 -0.6**
BJI sS **sS** **07 31 20.0 -1.9**
BJI pmax pmax
comp=Z,94nm,1.3s
BJT Baijiatuau 43.19 279 *e*P **P** **07 24 07.4 +0.8**
BJT pmax pmax
comp=Z,98nm,0.7s
BJT Baijiatuau 43.19 279 *e*P **P** **07 24 07.3 +0.8**
comp=Z,98nm,0.7s
BEKR Beckworth 43.31 81 *e*P **P** **07 24 07.1 -0.6**
comp=Z,84nm,0.8s
CHMT Chamberlain Mo 43.39 69 *e*P **P** **07 24 06.7 -1.7**
AFDM Forest Hills D 43.51 83 *e*P **P** **07 24 08.1 -1.0**
comp=Z,54nm,1.0s
SARN Sarigan 43.66 228 *e*P **P** **07 24 10.1 -0.4**
TLY Talaya 43.80 300 *e*P **P** **07 24 12.8 +1.5**
TLY *e*S **S** **07 30 31.1 +1.6**
TLY *e*SS **ScS** **07 33 55.0 +2.2**
TLY pmax pmax
comp=Z,47nm,1.4s
TLY MLR MLR
comp=Z,443nm,17.0s
MFID Camas Ranch 43.89 74 *e*P **P** **07 24 11.2 -1.1**
comp=Z,107nm,0.9s
ULN Ulaanbaatar 43.98 294 *c i*P **P** **07 24 13.2 +0.3**
ULN pmax pmax
comp=Z,71nm,0.9s
ULN Ulaanbaatar 43.98 294 *e*P **P** **07 24 12.9 -0.1**
comp=Z,56nm,0.8s
ULN Ulaanbaatar 43.98 294 P **P** **07 24 13.3 +0.3**
SNR=27
ULN Ulaanbaatar 43.98 294 P **P** **07 24 13.3 +0.3**
SNR=27
PAHR Pah Rah Range 44.00 81 *e*P **P** **07 24 13.0 -0.2**
comp=Z,166nm,0.9s
KWAJ Kwajalein Atol 44.23 195 *i*P **P** **07 24 17.8 +2.7**
KWAJ Kwajalein Atol 44.23 195 *e*P **P** **07 24 15.5 +0.5**
comp=Z,1μm,1.4s
PNTR Pine Nut 44.25 82 *e*P **P** **07 24 15.4 +0.1**
comp=Z,374nm,0.8s
HRY Holter Researc 44.32 68 *e*P **P** **07 24 14.5 -1.1**
SONA0 Songino Array 44.37 294 *e*P **P** **07 24 16.6 +0.6**
SONA0 *e*pP **pP** **07 24 51.0 -0.3**
SONM Songino Array 44.37 294 P **P** **07 24 16.6 +0.6**
comp=Z,46nm,0.6s,baz=60,slow=8.5,SNR=140
SONM pP **pP** **07 24 51.0 -0.3**
comp=Z,27nm,0.9s,baz=65,slow=7.9,SNR=4.3
SONM PcP **PcP** **07 25 57.5 +0.6**
comp=Z,17nm,0.6s,baz=97,slow=1.5,SNR=6.0
SONM pPcP 07 26 40.0
comp=Z,13nm,0.8s,baz=106,slow=2.4,SNR=4.3
SONM ScP **ScP** **07 29 34.1 +0.5**
comp=Z,28nm,1.1s,baz=58,slow=2.5,SNR=13
CMB Columbia Colle 44.44 83 *e*P **P** **07 24 16.5 -0.1**
CMB pmax pmax
comp=Z,69nm,1.0s
CMB Columbia Colle 44.44 83 *e*P **P** **07 24 16.5 -0.1**
comp=Z,69nm,1.0s
LRM Limekiln Ridge 44.47 69 *e*P **P** **07 24 16.1 -0.8**
YERR Yerington 44.54 82 *e*P **P** **07 24 17.4 -0.1**
comp=Z,146nm,0.9s
SFJWR San Luis Fatjo 44.59 85 *e*P **P** **07 24 19.1 +1.3**
SAO San Andreas Ge 44.61 86 *e*P **P** **07 24 17.0 -0.9**
SAO pmax pmax
comp=Z,41nm,0.8s
SAO San Andreas Ge 44.61 86 *e*P **P** **07 24 17.0 -0.9**
comp=Z,41nm,0.8s
HLID Hailey 44.64 73 P **P** **07 24 17.9 -0.4**
baz=306,SNR=199
HLID Hailey 44.64 73 *e*P **P** **07 24 17.8 -0.4**
comp=Z,167nm,1.1s
DLMT Dillon 44.65 70 *e*P **P** **07 24 17.1 -1.2**
comp=Z,80nm,1.2s
TULEG Thule 44.68 18 *e*P **P** **07 24 17.6 -0.3**
comp=Z,390nm,1.9s
ZAK Zakamensk 44.68 299 *e*P **P** **07 24 18.0 -0.4**
ZAK pmax pmax
comp=Z,41nm,1.2s
WAKR Walker 44.72 82 *e*P **P** **07 24 18.8 -0.2**
comp=Z,132nm,0.8s
EGMT Eagleton 44.75 65 P **P** **07 24 18.5 -0.5**
baz=304,SNR=151
EGMT Eagleton 44.75 65 *e*P **P** **07 24 18.1 -0.8**
comp=Z,197nm,0.8s
JOW Kunigami 44.79 255 *e*P **P** **07 24 19.7 +0.3**
comp=Z,356nm,0.9s
LCCM Lewis and Clar 44.79 69 *e*P **P** **07 24 18.4 -1.0**
MCMT McKenzie Canyo 44.81 71 *e*P **P** **07 24 18.2 -1.5**
BMN Battle Mountai 44.86 79 *e*P **P** **07 24 19.3 -0.7**
BMN pmax pmax
comp=Z,114nm,0.8s
BMN Battle Mountai 44.86 79 *e*P **P** **07 24 19.2 -0.7**
comp=Z,114nm,0.8s
EMT Emmet 44.89 85 *e*P **P** **07 24 20.7 +0.5**
BBGB Big Mountain B 44.98 85 *e*P **P** **07 24 21.7 +0.7**
BGMT Barton Gulch 45.04 70 *e*P **P** **07 24 20.6 -0.9**
BOZ Bozeman (W) 45.07 69 P **P** **07 24 20.9 -0.7**
baz=305,SNR=113
BOZ Bozeman (W) 45.07 69 *e*P **P** **07 24 20.4 -1.2**
BOZ pmax pmax
comp=Z,224nm,0.8s
BOZ Bozeman (W) 45.07 69 *e*P **P** **07 24 20.4 -1.2**
comp=Z,224nm,0.8s
MOY Mondy 45.20 301 *e*P **P** **07 24 23.4 +0.9**
MOY *e* 07 24 57.5
MOY pmax pmax
comp=Z,69nm,1.2s
FFC Flin Flon 45.23 54 *e*P **P** **07 24 22.8 +0.3**
FFC pmax pmax
comp=Z,140nm,0.8s
FFC Flin Flon 45.23 54 *e*P **P** **07 24 22.8 +0.3**
comp=Z,140nm,0.8s
PMPB Monarch Peak 45.36 86 *e*P **P** **07 24 24.2 +0.3**
comp=Z,114nm,0.8s
HHC Hu-ho-hao-te 45.45 283 *e*P **P** **07 24 26.5 +1.9**
HHC pP pP 07 24 59.5 -0.6
HHC sP sP 07 25 19.0 +1.0
HHC PP **PP** **07 26 14.8 +0.9**
HHC S **S** **07 30 54.8 +1.0**
HHC ScS **ScS** **07 34 01.3 -2.6**
HHC SS **SS** **07 34 12.3 -6.9**
HHC pmax pmax
comp=Z,77nm,1.3s
HHC pmax pmax
comp=Z,690nm,7.4s
HHC LR LR
comp=Z,3μm,18.5s
HHC LR LR
comp=Z,2μm,17.3s
HHC LR LR
comp=Z,1μm,18.5s
MDPB Devils Postpil 45.49 83 *e*P **P** **07 24 25.6 +0.4**
comp=Z,152nm,0.8s
QLMT Earthquake Lak 45.63 70 *e*P **P** **07 24 25.4 -0.7**
MLAC Mammoth, Mammo 45.64 83 P **P** **07 24 27.3 +0.9**
baz=310,SNR=47
YHB Horse Butte 45.81 70 *e*P **P** **07 24 26.6 -1.0**
comp=Z,313nm,0.8s
YHH Holmes Hill 45.99 70 *e*P **P** **07 24 27.8 -1.2**

comp=Z,180nm,0.8s
SSE Sheshan 45.99 265 P P 07 24 28.3 -0.5
SSE sP **sP 07 25 22.0 -0.2**
SSE PcP **PcP 07 26 02.3 -0.4**
SSE S **S 07 31 01.5 +0.1**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,770nm,6.1s
SSE LR LR
comp=Z,840nm,18.4s
SSE LR LR
comp=Z,1µm,18.4s
SSE LR LR
comp=Z,2µm,23.6s
YMR Madison River 45.99 70 *e*P **P 07 24 27.9 -1.0**
comp=Z,252nm,1.0s
PAGB Antelope Grade 46.01 86 *e*P **P 07 24 28.7 -0.3**
comp=Z,152nm,0.7s
YPM Purple Mountai 46.05 70 *e*P **P 07 24 29.4 -0.1**
GCMT Greycliff 46.08 68 *e*P **P 07 24 29.1 -0.4**
YNR Norris Junctio 46.13 70 *e*P **P 07 24 29.9 -0.2**
comp=Z,174nm,0.9s
MCID Moose Creek 46.15 71 *e*P **P 07 24 30.1 -0.1**
YFT Old Faithful 46.20 70 *e*P **P 07 24 30.9 +0.3**
comp=Z,207nm,0.8s
RCTC Rector, Farmer 46.25 84 P **P 07 24 30.6 -0.2**
baz=311,SNR=35
YPP Pitchstone Pla 46.32 70 *e*P **P 07 24 31.8 +0.2**
comp=Z,54nm,0.8s
H17A Grant Village 46.38 70 P **P 07 24 32.8 +0.8**
baz=307,SNR=166
H17A Grant Village 46.38 70 *e*P **P 07 24 32.4 +0.4**
comp=Z,232nm,1.0s
LKWY Lake 46.38 70 *e*P **P 07 24 32.7 +0.7**
LKWY pmax pmax
comp=Z,126nm,0.9s
LKWY Lake 46.38 70 *e*P **P 07 24 32.7 +0.7**
comp=Z,126nm,0.9s
TIN Tinemaha, Big 46.38 83 P **P 07 24 32.5 +0.6**
baz=311,SNR=23
SMMC Simmler 46.44 86 P **P 07 24 33.1 +0.7**
baz=312,SNR=9.2
IMW Indian Meadow 46.47 71 *e*P **P 07 24 31.9 -0.8**
comp=Z,100nm,0.9s
BTO Baotou 46.52 284 *e*P **P 07 24 34.8 +1.8**
YTP The Promontory 46.55 70 *e*P **P 07 24 33.1 -0.2**
FXWY Fox Creek 46.57 71 *e*P **P 07 24 32.6 -0.8**
comp=Z,31nm,1.0s
VES Vestal, Richgr 46.65 85 P **P 07 24 33.4 -0.5**
baz=311,SNR=78
MOOW Moose Ponds 46.67 71 *e*P **P 07 24 33.3 -1.0**
comp=Z,41nm,0.9s
HVU Hansel Valley 46.68 74 *e*P **P 07 24 33.5 -0.7**
HVU pmax pmax
comp=Z,132nm,0.7s
HVU Hansel Valley 46.68 74 *e*P **P 07 24 33.5 -0.7**
comp=Z,132nm,0.7s
RLMT Red Lodge 46.70 68 P **P 07 24 34.3 -0.1**
baz=306,SNR=27
TPAW Teton Pass 46.70 71 *e*P **P 07 24 34.2 -0.4**
comp=Z,36nm,0.6s
NJ2 Nanjing 46.75 268 *e*P **P 07 24 35.3 +0.6**
NJ2 pP **pP 07 25 08.5 -1.9**
NJ2 S **S 07 31 14.3 +2.0**
NJ2 ScS **ScS 07 34 09.5 -2.9**
NJ2 pmax pmax
comp=Z,110nm,0.8s
NJ2 pmax pmax
comp=Z,970nm,5.0s
NJ2 LR LR
comp=Z,970nm,12.0s
NJ2 LR LR
comp=Z,2µm,18.9s
NJ2 LR LR
comp=Z,2µm,23.5s
GUMO Guam 46.81 227 P **P 07 24 33.7 -1.5**
comp=Z,260nm,0.5s,baz=353,slow=8.1,SNR=20
GUMO LR LR 07 40 44.2
comp=Z,1µm,21.2s,baz=34,slow=31
LOHW Long Hollow 46.83 71 *e*P **P 07 24 34.9 -0.6**
comp=Z,44nm,0.8s
SNOW Snow King Moun 46.83 71 *e*P **P 07 24 35.5 -0.1**
comp=Z,78nm,1.3s
PKM Mcpherson Peak 46.84 86 P **P 07 24 36.1 +0.5**
baz=312,SNR=30
REDW Red Top Meadow 46.84 71 *e*P **P 07 24 34.8 -0.8**
comp=Z,61nm,1.1s
CWC Cottonwood Cre 46.87 83 P **P 07 24 35.9 +0.1**
baz=311
TIY Taiyuan 46.90 279 *e*P **P 07 24 38.0 +2.0**
TIY pP **pP 07 25 13.0 +1.4**
TIY PP **PP 07 26 32.0 +4.3**
TIY S **S 07 31 15.5 +1.0**
TIY sS **sS 07 32 13.0 -3.5**
TIY pmax pmax
comp=Z,120nm,1.0s
TIY pmax pmax
comp=Z,780nm,4.6s
TIY LR LR
comp=Z,1µm,14.4s
TIY LR LR
comp=Z,1µm,13.7s
TIY LR LR
comp=Z,880nm,14.5s
MTUT Morton Thiokol 46.91 74 *e*P **P 07 24 34.6 -1.4**
GRAC Grapevine Rang 46.94 82 P **P 07 24 36.7 +0.5**
baz=311,SNR=25
BEI Bear River Ran 47.05 73 *e*P **P 07 24 38.1 +0.8**
BGU Big Grassy Mou 47.05 75 *e*P **P 07 24 36.7 -0.5**
comp=Z,58nm,1.0s
LTU Little Mountai 47.10 74 *e*P **P 07 24 35.3 -2.2**
ISA Isabella, Lake 47.14 84 P **P 07 24 37.3 -0.6**
baz=312,SNR=52
ISA Isabella, Lake 47.14 84 *e*P **P 07 24 36.6 -1.2**
ISA pmax pmax
comp=Z,46nm,0.8s
ISA Isabella, Lake 47.14 84 *e*P **P 07 24 36.6 -1.2**
comp=Z,46nm,0.8s
R11A Troy Canyon, C 47.15 80 P **P 07 24 37.7 -0.3**
baz=310,SNR=337
R11A Troy Canyon, C 47.15 80 *e*P **P 07 24 37.1 -0.9**
comp=Z,97nm,0.8s
SPUT South Promonto 47.16 74 *e*P **P 07 24 37.4 -0.7**
comp=Z,89nm,1.0s
SBC Santa Barbara 47.20 87 P **P 07 24 38.7 +0.5**
baz=312,SNR=11
WVUT Wellsville 47.26 74 *e*P **P 07 24 39.0 +0.2**
DAC Darwin (Calif) 47.27 83 *e*P **P 07 24 38.5 -0.5**
DAC pmax pmax
comp=Z,60nm,0.8s
DAC Darwin (Calif) 47.27 83 *e*P **P 07 24 38.5 -0.5**
comp=Z,60nm,0.8s
ARVC Arvin 47.28 85 P **P 07 24 38.4 -0.4**
baz=312,SNR=7.0
GZU Grizzly Peak 47.37 74 *e*P **P 07 24 37.7 -2.1**
SNUT Stansbury Nort 47.39 75 *e*P **P 07 24 39.6 -0.2**
LAO LASA Array 47.48 65 P **P 07 24 40.4 +0.1**
baz=306,SNR=69
LAO LASA Array 47.48 65 *e*P **P 07 24 39.6 -0.7**
comp=Z,238nm,0.8s
MPMC Manual Prospec 47.48 83 P **P 07 24 40.5 -0.1**
baz=311,SNR=120
HWUT Hardware Ranch 47.50 74 *e*P **P 07 24 39.2 -1.5**
comp=Z,65nm,0.8s
SCZ2 Santa Cruz Isl 47.55 87 P **P 07 24 41.1 +0.2**
baz=313,SNR=14
DGMT Dagmar 47.55 62 P **P 07 24 40.4 -0.4**
baz=306,SNR=73
DGMT Dagmar 47.55 62 *e*P **P 07 24 40.2 -0.6**
comp=Z,269nm,0.8s
FSU Fish Springs 47.59 77 *e*P **P 07 24 41.3 -0.1**
FURC Furnace Creek, 47.59 82 P **P 07 24 41.3 +0.1**
baz=311,SNR=214
DUG Dugway, Tooele 47.64 76 P **P 07 24 41.7 -0.1**
baz=309,SNR=232
DUG Dugway, Tooele 47.64 76 *e*P **P 07 24 41.6 -0.1**
DUG pmax pmax
comp=Z,310nm,1.3s
DUG Dugway, Tooele 47.64 76 *e*P **P 07 24 41.6 -0.1**
comp=Z,310nm,1.3s
TPNV Topopah Spring 47.65 82 P **P 07 24 41.6 -0.3**
baz=311,SNR=363
TPNV Topopah Spring 47.65 82 *e*P **P 07 24 41.4 -0.5**
TPNV pmax pmax
comp=Z,272nm,1.0s
TPNV Topopah Spring 47.65 82 *e*P **P 07 24 41.4 -0.5**
comp=Z,272nm,1.0s
OSI Osito Audit: C 47.69 86 P **P 07 24 42.2 +0.2**
baz=312
OSI Osito Audit: C 47.69 86 *e*P **P 07 24 42.9 +0.9**
comp=Z,111nm,0.9s
LRMC Laurel Mtn Rad 47.75 84 P **P 07 24 42.2 -0.3**
baz=312,SNR=30
BLG Laguna Peak, P 47.82 86 P **P 07 24 42.9 -0.1**
baz=313,SNR=24
TCUT Toone Canyon 47.89 74 *e*P **P 07 24 43.5 -0.3**
comp=Z,139nm,0.8s
BW06 Boulder Array 47.95 71 P **P 07 24 43.5 -0.6**
baz=308,SNR=225
BW06 Boulder Array 47.95 71 *e*P **P 07 24 43.0 -1.2**
comp=Z,174nm,0.8s
PD31 Pinedale Array 47.95 71 *e*P **P 07 24 43.0 -1.2**
PDAR Pinedale Array 47.95 71 P **P 07 24 42.3 -1.9**
comp=Z,176nm,0.8s,baz=307,slow=2.6,SNR=750
PDAR ScP **ScP 07 29 47.0 -1.8**
comp=Z,3.8nm,0.5s,baz=251,slow=1.1,SNR=8.1
PDAR LR LR 07 44 15.0
comp=Z,714nm,21.1s,baz=356,slow=35
PDAR PKPPKP **P'P'df 07 55 51.9 -2.5**
comp=Z,0.3nm,0.5s,baz=104,slow=2.9,SNR=2.2
PDAR PKP2ab 07 56 42.7
comp=Z,2.1nm,1.2s,baz=111,slow=3.3,SNR=4.0
EDW2 Edwards Air Fo 47.95 85 P **P 07 24 44.0 -0.1**
baz=312,SNR=77
CTU Camp Tracy 47.96 75 *e*P **P 07 24 43.5 -0.7**
comp=Z,141nm,1.3s
GMU Granite Mounta 48.02 75 *e*P **P 07 24 43.7 -1.0**
PSUT Pine Spring 48.07 78 *e*P **P 07 24 45.0 -0.1**
comp=Z,91nm,0.7s
SNCC San Nicolas Is 48.12 88 P **P 07 24 45.4 +0.1**
baz=313,SNR=9.9
SNCC San Nicolas Is 48.12 88 *e*P **P 07 24 44.9 -0.4**
comp=Z,154nm,0.9s
KULLO Kullorsuaq 48.15 17 *i* P **P 07 24 45.5 +0.6**
comp=Z,108nm,0.9s
KULLO *e* 07 25 19.8
KULLO Kullorsuaq 48.15 17 *i* P **P 07 24 45.5 +0.6**
KULLO *e* 07 25 19.8
KULLO pmax pmax
comp=Z,110nm,0.9s
PATS Pohnpei 48.15 207 *e*P **P 07 24 47.0 +1.3**
comp=Z,1µm,1.9s
RCJ Ross Creek 48.16 74 *e*P **P 07 24 46.1 +0.3**
DECC Green Verdugo 48.17 86 P **P 07 24 45.6 -0.1**
baz=312,SNR=20
JLU Jordanelle 48.19 75 *e*P **P 07 24 45.2 -0.8**
comp=Z,104nm,0.9s
KLJ Keetly 48.20 74 *e*P **P 07 24 46.7 +0.6**
LDJ Lady 48.23 75 *e*P **P 07 24 47.0 +0.6**
NLU North Lily Min 48.23 76 *e*P **P 07 24 45.9 -0.4**
comp=Z,66nm,0.9s
HTU Hoyt Peak 48.28 74 *e*P **P 07 24 48.3 +1.5**
PASC Pasadena Art C 48.31 86 *e*P **P 07 24 46.5 -0.3**
comp=Z,104nm,0.9s
SHOC Shoshone, Teco 48.33 83 P **P 07 24 46.8 -0.1**
baz=312,SNR=158
MWC Mount Wilson 48.36 86 *e*P **P 07 24 46.4 -0.9**
MWC pmax pmax
comp=Z,157nm,0.9s
MWC Mount Wilson 48.36 86 *e*P **P 07 24 46.4 -0.9**
comp=Z,157nm,0.9s
GSC Goldstone, Bar 48.40 84 P **P 07 24 47.4 -0.1**
baz=312,SNR=268
GSC Goldstone, Bar 48.40 84 *e*P **P 07 24 46.9 -0.6**
GSC pmax pmax
comp=Z,218nm,0.9s
GSC Goldstone, Bar 48.40 84 *e*P **P 07 24 46.9 -0.6**
comp=Z,218nm,0.9s
MPU Maple Canyon 48.45 75 *e*P **P 07 24 47.7 -0.3**
comp=Z,44nm,0.7s
FLU Fool Peak 48.54 76 *e*P **P 07 24 48.7 0.0**
FMP Fort Macarthur 48.56 86 P **P 07 24 48.5 -0.1**
baz=313,SNR=5.9
RRX Edison Barstow 48.57 84 P **P 07 24 48.8 0.0**
baz=312
BFSC Mount Baldy Ra 48.59 85 P **P 07 24 49.0 0.0**
baz=313,SNR=51
SHPR Sheep Range 48.60 81 *e*P **P 07 24 48.8 -0.4**
comp=Z,24nm,0.8s
CIS Catalina Islan 48.69 87 P **P 07 24 49.5 -0.2**
baz=313,SNR=31
KBS Kingsbay 48.70 356 *e*P **P 07 24 49.7 +0.6**
KBS *ep*P **pP 07 25 25.7 +0.7**
KBS Kingsbay 48.70 356 *e*P pP 07 25 29.9 +4.8
KBS Kingsbay 48.70 356 *e*P **P 07 24 49.2 +0.1**
KBS pmax pmax
comp=Z,112nm,0.8s
KBS Kingsbay 48.70 356 *e*P **P 07 24 49.2 +0.1**
comp=Z,112nm,0.8s
TUQ Turquoise Moun 48.85 83 P **P 07 24 50.7 -0.3**
baz=312,SNR=114
SCI2 San Clemente I 48.90 87 P **P 07 24 51.3 0.0**
baz=313,SNR=18
SNO Snow College 48.96 76 *e*P **P 07 24 52.5 +0.6**
SGU Sterling 48.98 76 *e*P **P 07 24 52.7 +0.6**
HEC Hector,Ludlow 49.00 84 P **P 07 24 51.9 -0.2**
baz=312,SNR=84
CCUT Cedar City 49.01 79 *e*P **P 07 24 51.6 -0.7**
comp=Z,46nm,0.8s
BBRC Big Bear Solar 49.03 85 P **P 07 24 52.4 -0.1**
baz=313,SNR=73
MSU Marysvale 49.09 77 *e*P **P 07 24 53.1 +0.2**
MSU Marysvale 49.09 77 *e*P **P 07 24 53.1 +0.2**
SZCU Shurtz Canyon 49.14 79 *e*P **P 07 24 52.9 -0.4**
comp=Z,43nm,0.9s
TMUT Trail Mountain 49.16 76 *e*P **P 07 24 52.9 -0.7**
comp=Z,177nm,0.8s
ARGU Argyle Ridge 49.22 75 *e*P **P 07 24 54.1 +0.1**
SPA0 Spitsbergen Ar 49.23 355 *e*P **P 07 24 53.0 -0.2**
SPA0 IVmB_BB 07 24 54.5
comp=Z,2µm,0.6s
SPA0 *ep*P **pP 07 25 28.8 -0.3**
SPA0 Spitsbergen Ar 49.23 355 *e*P **P 07 24 52.7 -0.5**
SPITS Spitsbergen Ar 49.23 355 P **P 07 24 52.6 -0.5**
comp=Z,86nm,0.4s,baz=51,slow=6.6,SNR=160
MURC Murrieta 49.31 86 P **P 07 24 54.2 -0.2**
baz=313,SNR=43
P17A Butcher Ranch, 49.33 75 *e*P **P 07 24 54.1 -0.5**
comp=Z,101nm,0.9s
MTPU Mount Pierson 49.39 78 *e*P **P 07 24 55.1 -0.3**
comp=Z,75nm,0.9s
LCMT Little Creek M 49.43 79 *e*P **P 07 24 55.5 +0.1**
comp=Z,128nm,0.9s
Q16A Castle Valley 49.43 76 *e*P **P 07 24 55.5 +0.1**
comp=Z,90nm,0.8s
GMRC Granite Mounta 49.44 83 P **P 07 24 55.3 -0.2**
baz=312,SNR=153
P18A Preston Nutter 49.52 75 *e*P **P 07 24 56.0 -0.3**
comp=Z,99nm,0.9s
LDFC Landfair 49.58 83 *e*P **P 07 24 56.1 -0.5**
comp=Z,167nm,0.8s
KNB Kanab 49.68 79 *e*P **P 07 24 57.2 -0.2**
KNB pmax pmax
comp=Z,444nm,1.7s
KNB Kanab 49.68 79 *e*P **P 07 24 57.2 -0.2**
comp=Z,444nm,1.7s
SRU San Rafael Swe 49.69 75 *e*P **P 07 24 57.3 -0.1**
SRU pmax pmax
comp=Z,155nm,0.8s
SRU San Rafael Swe 49.69 75 *e*P **P 07 24 57.3 -0.1**
comp=Z,155nm,0.8s
YOJ Yonaguni jima 49.70 258 *e*P **P 07 24 56.8 -0.5**
YOJ pmax pmax
comp=Z,151nm,0.9s
YOJ Yonaguni jima 49.70 258 *e*P **P 07 24 56.8 -0.5**
comp=Z,151nm,0.9s
PKCU Pink Cliffs 49.71 78 *e*P **P 07 24 58.0 +0.3**
comp=Z,58nm,0.8s
PFO Pinyon Flats O 49.75 85 P **P 07 24 57.2 -0.6**
comp=Z,45nm,0.9s,baz=327,slow=6.0,SNR=61
PFO PcP **PcP 07 26 16.9 +0.5**
comp=Z,21nm,0.8s,baz=317,slow=3.5,SNR=4.9
PFO ScP **ScP 07 29 55.1 -1.4**
baz=282,slow=4.5
PFO Pinyon Flats O 49.75 85 P **P 07 24 57.4 -0.5**
baz=313,SNR=56
PFO Pinyon Flats O 49.75 85 *e*P **P 07 24 57.1 -0.7**
PFO Pinyon Flats O 49.75 85 *e*P **P 07 24 57.1 -0.7**
XPFO Piæon Flat 49.75 85 *e*P **P 07 24 57.4 -0.5**
comp=Z,41nm,0.8s
BELC Belle Mtn. Jos 49.77 84 P **P 07 24 57.3 -0.7**
baz=313,SNR=124
K22A Casper 49.77 69 P **P 07 24 57.0 -1.0**
baz=309,SNR=74
K22A Casper 49.77 69 *e*P **P 07 24 56.9 -1.1**
comp=Z,121nm,0.8s
MMU Miners Mountai 49.82 77 *e*P **P 07 24 58.1 -0.4**
EKU East Kanab 49.84 79 *e*P **P 07 24 59.0 +0.4**
109C Camp Elliot, M 49.85 86 P **P 07 24 58.5 +0.1**
baz=314,SNR=23
NEE2 Needles Airpor 50.09 83 P **P 07 24 59.9 -0.3**
baz=312
IRM Iron Mountain 50.18 84 P **P 07 25 00.8 -0.1**
baz=313,SNR=162
BAR Barrett 50.25 86 *e*P **P 07 25 01.4 -0.1**
comp=Z,79nm,0.8s
MONP2 Monument Peak 50.26 86 P **P 07 25 01.7 -0.1**
baz=314,SNR=82
RSSD Black Hills 50.27 66 P **P 07 25 00.9 -0.8**
baz=309
RSSD Black Hills 50.27 66 *e*P **P 07 25 00.7 -1.0**
RSSD pmax pmax
comp=Z,73nm,0.7s
RSSD Black Hills 50.27 66 *e*P **P 07 25 00.7 -1.0**
comp=Z,73nm,0.7s
W13A Hualapai Mount 50.31 82 *e*P **P 07 25 01.7 -0.5**
comp=Z,80nm,0.8s
BC3 Big Chuckawall 50.33 84 P **P 07 25 01.4 -0.8**
baz=313,SNR=64
O20A White River Ci 50.38 73 P **P 07 25 01.9 -0.6**
baz=310,SNR=148
O20A White River Ci 50.38 73 *e*P **P 07 25 00.9 -1.6**
comp=Z,181nm,0.8s
MDND Maddock 50.38 60 P **P 07 25 02.6 +0.3**
baz=308,SNR=107
MDND Maddock 50.38 60 *e*P **P 07 25 01.9 -0.4**
comp=Z,1µm,0.8s
U15A North Rim 50.39 79 *e*P **P 07 25 02.2 -0.6**
comp=Z,162nm,0.8s
HSPB Hornsund (broa 50.42 355 *e*P **P 07 25 02.0 -0.1**
HSPB IVmB_BB 07 25 03.7
comp=Z,2µm,1.3s
YHNB Yeheng 50.52 259 *e*P **P 07 25 04.4 +0.7**
comp=Z,54nm,0.8s
WHN Wuhan 50.56 270 ⇑P **P 07 25 03.5 -0.3**
WHN pP **pP 07 25 39.5 -0.5**
WHN S **S 07 32 05.5 -0.2**
WHN pmax pmax
comp=Z,470nm,1.1s
WHN LR LR
comp=Z,3µm,18.6s
WHN LR LR
comp=Z,1µm,13.1s
WHN LR LR
comp=Z,2µm,13.8s
SWSC Sam W. Stewart 50.60 85 P **P 07 25 03.6 -0.5**
baz=314,SNR=19
IKP In-Ko-Pah, Jac 50.62 86 P **P 07 25 04.2 -0.1**
baz=314,SNR=52
PDMCI Parker Dam,Lak 50.69 83 P **P 07 25 04.5 -0.2**
baz=313,SNR=101
DAG Danmarks Havn 50.71 5⇓*i*P **P 07 25 03.6 -0.7**
DAG *i* 07 25 44.4
DAG Danmarks Havn 50.71 5⇓*i*P **P 07 25 03.6 -0.7**
DAG *i* 07 25 44.4
DAG pmax pmax
comp=Z,37nm,0.9s
NACB Ninganchiao 50.76 259 *e*P **P 07 25 06.2 +0.8**
comp=Z,184nm,1.3s
Y12C Blythe 50.83 83 P **P 07 25 05.6 -0.2**
baz=313,SNR=69
Y12C Blythe 50.83 83 *e*P **P 07 25 05.0 -0.8**
comp=Z,100nm,0.9s
ULM Lac du Bonnet 50.84 56 P **P 07 24 04.8 -0.8**
comp=Z,275nm,0.9s,baz=306,slow=8.1,SNR=248
ULM LR LR 07 47 47.9
comp=Z,2µm,18.9s,baz=311,slow=37
ULM Lac du Bonnet 50.84 56 *e*P **P 07 25 05.0 -0.7**
ULM pmax pmax
comp=Z,292nm,0.9s
ULM Lac du Bonnet 50.84 56 *e*P **P 07 25 05.0 -0.7**
comp=Z,292nm,0.9s
PV09 Paradox Valley 50.91 75 *e*P **P 07 25 06.2 -0.6**
A31A Linda, St. Vin 50.98 58 P **P 07 25 06.7 -0.1**
baz=308,SNR=74
PV10 Paradox Valley 51.05 75 *e*P **P 07 25 07.9 +0.2**
B31A Greenbush Farm 51.06 58 P **P 07 25 07.3 0.0**
baz=308,SNR=314
GLA Glamis 51.13 84 P **P 07 25 08.0 -0.1**
baz=314,SNR=47
GLA Glamis 51.13 84 *e*P **P 07 25 07.7 -0.4**
GLA pmax pmax
comp=Z,140nm,0.8s
GLA Glamis 51.13 84 *e*P **P 07 25 07.7 -0.4**
comp=Z,140nm,0.8s
PV05 Paradox Valley 51.21 76 *e*P **P 07 25 08.4 -0.5**
N23A Red Feather La 51.23 71 P **P 07 25 08.7 -0.3**
baz=310,SNR=36
N23A Red Feather La 51.23 71 *e*P **P 07 25 08.7 -0.3**
comp=Z,166nm,1.4s
PHWY Pilot Hill 51.25 70 *e*P **P 07 25 08.2 -1.0**
comp=Z,28nm,0.7s
A32A Rocking H Ranc 51.35 57 P **P 07 25 09.3 -0.2**
baz=308,SNR=232
C31A Landman Farms, 51.41 59 P **P 07 25 09.6 -0.4**
baz=309,SNR=357
SSLB Suanglung 51.44 259 *e*P **P 07 25 10.6 +0.1**
comp=Z,283nm,1.5s
XAN Xi'an 51.47 278 P **P 07 25 10.5 -0.1**
XAN pP pP 07 25 46.5 -0.4
XAN sP sP 07 26 05.0 +0.4
XAN PP **PP 07 27 10.8 +1.6**
XAN S **S 07 32 17.5 -0.7**
XAN sS sS 07 33 21.3 +0.1
XAN SS **SS 07 35 54.0 -1.8**
XAN pmax pmax
comp=Z,75nm,1.0s
XAN pmax pmax
comp=Z,700nm,8.2s
XAN LR LR
comp=Z,540nm,18.4s
XAN LR LR
comp=Z,1µm,20.2s
XAN LR LR
comp=Z,1µm,21.4s
PV01 Paradox Valley 51.49 75 *e*P **P 07 25 10.4 -0.5**
YULB Yu-li 51.53 258 *e*P **P 07 25 10.6 -0.5**
comp=Z,87nm,0.9s
WUAZ Wupatki 51.55 80 P **P 07 25 11.4 0.0**
baz=312,SNR=107
WUAZ Wupatki 51.55 80 *e*P **P 07 25 10.8 -0.5**
comp=Z,109nm,0.8s
B32A Ashes, Strandq 51.66 58 P **P 07 25 11.4 -0.4**
baz=309,SNR=204
SMCO Snowmass 51.74 73 *e*P **P 07 25 12.3 -0.8**
comp=Z,34nm,0.7s
ZAA1 Zalesovo Array 51.85 311 *e*P **P 07 25 12.4 -0.6**
ZAA1 *e*PcP **PcP 07 26 24.6 +1.0**
ZALV Zalesovo Beam 51.85 311 P **P 07 25 12.4 -0.7**
comp=Z,7.0nm,0.3s,baz=35,slow=6.5,SNR=2.5
ZALV PcP **PcP 07 26 24.6 +1.0**
comp=Z,19nm,0.6s,baz=6.4,slow=5.3,SNR=5.7
ZALV pPcP 07 27 03.0
comp=Z,12nm,0.7s,baz=65,slow=2.8,SNR=3.6
ZALV ScP **ScP 07 30 06.5 +1.5**
comp=Z,18nm,0.9s,baz=47,slow=3.3,SNR=8.4
ZALV ScS **ScS 07 34 48.4 +2.1**
comp=Z,1.7nm,0.7s,baz=54,slow=7.3,SNR=4.1
ZALV LR LR 07 47 33.1
comp=Z,741nm,20.9s,baz=50,slow=36
ZALV P4KPbc 08 02 37.9
comp=Z,0.9nm,0.6s,baz=64,slow=3.4,SNR=4.5
D31A Mcclaflin, Tow 51.88 60 P **P 07 25 12.9 -0.5**
baz=309,SNR=79
A33A Warroad 51.91 57 P **P 07 25 13.6 0.0**
baz=309,SNR=321
113A Mohawk Valley, 51.97 84 *e*P **P 07 25 13.7 -0.6**
comp=Z,47nm,0.9s
TPUB Ta-pu 52.00 259 *e*P **P 07 25 14.2 -0.5**
comp=Z,137nm,0.8s
NVS Novosibirsk 52.01 313 *e*P **P 07 25 13.9 -0.3**
NVS *i* *PP **pP 07 25 50.9 +0.4**
NVS *e*S **S 07 32 25.4 +0.6**
NVS *i* 07 34 48.8
NVS pmax pmax
comp=Z,22nm,0.7s
NVS pmax pmax
comp=N,16nm,0.8s
NVS pmax pmax

comp=E,5.0nm,0.6s
NVS smax smax
comp=N,16nm,1.2s
NVS smax smax
comp=E,23nm,1.2s
QZH Quanzhou 52.01 262 ⇓*i*P **P 07 25 15.3 +0.7**
QZH pP **pP 07 25 49.8 -1.1**
QZH sP **sP 07 26 08.0 -0.6**
QZH PP **PP 07 27 15.0 +0.9**
QZH S **S 07 32 26.3 +0.7**
QZH pmax pmax
comp=E,340nm,0.8s
QZH LR LR
comp=E,1μm,13.3s
C32A Crookston 52.02 58 P **P 07 25 14.0 -0.5**
baz=309,SNR=56
AGMN Agassiz Nation 52.07 58 P **P 07 25 14.6 -0.2**
baz=309,SNR=263
AGMN Agassiz Nation 52.07 58 *e*P **P 07 25 14.3 -0.5**
comp=E,488nm,0.9s
TWG Pinlang 52.09 258 *e*P **P 07 25 15.2 -0.1**
comp=E,170nm,0.8s
E31A Nome 52.10 60 P **P 07 25 14.5 -0.6**
baz=309,SNR=192
ISCO Idaho Springs 52.13 72 P **P 07 25 15.9 +0.1**
baz=311,SNR=119
ISCO Idaho Springs 52.13 72 *e*P **P 07 25 15.2 -0.6**
ISCO pmax pmax
comp=Z,81nm,0.9s
ISCO Idaho Springs 52.13 72 *e*P **P 07 25 15.2 -0.6**
comp=Z,82nm,0.9s
MVCO Mesa Verde 52.14 76 P **P 07 25 15.5 -0.3**
baz=312,SNR=69
MVCO Mesa Verde 52.14 76 *e*P **P 07 25 15.0 -0.8**
comp=Z,140nm,1.1s
D32A Dogwood Acres, 52.20 59 P **P 07 25 15.0 -0.7**
baz=309,SNR=34
B33A Robert and Kas 52.23 58 P **P 07 25 15.8 -0.2**
baz=309,SNR=246
X16A Lo Mia Camp, P 52.25 81 *e*P **P 07 25 16.6 0.0**
comp=Z,101nm,0.9s
F31A Hecla 52.35 61 P **P 07 25 16.2 -0.7**
baz=310,SNR=146
C33A Trail 52.46 58 P **P 07 25 17.3 -0.3**
baz=310,SNR=141
E32A Braaten, Kindr 52.52 60 P **P 07 25 17.3 -0.8**
baz=310,SNR=23
B34A Aery, Baudette 52.57 57 P **P 07 25 18.2 -0.3**
baz=310,SNR=238
S22A 4UR Ranch, Cre 52.77 74 P **P 07 25 20.8 +0.3**
baz=312
S22A 4UR Ranch, Cre 52.77 74 *e*P **P 07 25 20.8 +0.3**
comp=Z,118nm,0.9s
G31A Conde 52.78 62 P **P 07 25 19.2 -0.9**
baz=310,SNR=86
W18A Petrified Fore 52.81 79 P **P 07 25 20.7 0.0**
baz=313,SNR=44
W18A Petrified Fore 52.81 79 *e*P **P 07 25 20.5 -0.1**
comp=Z,151nm,0.9s
D33A AnnSam, Waubun 52.81 59 P **P 07 25 19.8 -0.5**
baz=310,SNR=34
SUMG Summit 52.82 13 *i*P **P 07 25 20.4 0.0**
comp=Z,171nm,0.9s
SUMG *i* 07 26 01.3
SUMG Summit 52.82 13 *i*P **P 07 25 20.4 0.0**
SUMG *i* 07 26 01.3
SUMG pmax pmax
comp=Z,170nm,0.9s
SUMG Summit 52.82 13 *e*P **P 07 25 19.8 -0.6**
comp=Z,180nm,0.9s
SUSD Miller 52.88 63 P **P 07 25 20.1 -0.7**
baz=310,SNR=72
F32A Veblen 52.95 61 P **P 07 25 20.3 -1.0**
baz=310,SNR=39
Q24A Divide 52.95 72 P **P 07 25 21.6 -0.2**
baz=312,SNR=44
Q24A Divide 52.95 72 *e*P **P 07 25 21.6 -0.2**
comp=Z,43nm,0.9s
C34A RKJ Ranch, Bem 52.97 58 P **P 07 25 21.1 -0.4**
baz=310,SNR=160
X18A Snowflake 53.08 79 *e*P **P 07 25 22.3 -0.3**
comp=Z,97nm,0.8s
214A Organ Pipe Nat 53.11 84 P **P 07 25 22.6 -0.1**
baz=314,SNR=76
H31A Wolsey 53.12 63 P **P 07 25 21.8 -0.8**
baz=310,SNR=140
B35A Bob, Littlefor 53.13 56 P **P 07 25 22.4 -0.1**
baz=310,SNR=108
E33A Westby DABS, E 53.14 59 P **P 07 25 22.0 -0.7**
baz=310,SNR=82
LZH Lanzhou 53.14 283 ⇓P **P 07 25 24.5 +1.4**
LZH pP pP 07 26 03.3 +3.7
LZH sP sP 07 26 21.3 +4.1
LZH PP **PP 07 27 25.8 +1.4**
LZH S **S 07 32 38.0 -3.2**
LZH ScS **ScS 07 34 54.0 -2.3**
LZH SS **SS 07 36 19.3 -3.0**
LZH pmax pmax
comp=Z,170nm,0.7s
LZH LR LR
comp=Z,3μm,19.7s
LZH LR LR
comp=Z,1μm,16.0s
LZH LR LR
comp=Z,2μm,16.8s
G32A Webster 53.15 62 P **P 07 25 22.1 -0.7**
baz=310,SNR=259
D34A Park Rapids 53.19 58 P **P 07 25 22.6 -0.5**
baz=310,SNR=449
GTA Gaotai 53.30 289 ⇓P **P 07 25 24.3 +0.2**
GTA pP pP 07 25 58.5 -2.1
GTA sP sP 07 26 15.5 -2.7
GTA PcP **PcP 07 26 31.8 +2.3**
GTA ScP **ScP 07 30 13.0 +1.2**
GTA S **S 07 32 44.5 +1.4**
GTA sS sS 07 33 48.8 +2.4
GTA ScS **ScS 07 34 56.0 -1.2**
GTA SS **SS 07 36 27.5 +3.0**
GTA pmax pmax
comp=Z,140nm,0.8s
GTA pmax pmax
comp=Z,510nm,4.8s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,990nm,16.6s
GTA LR LR
comp=Z,1μm,18.1s
I31A Royce, Wessing 53.38 63 P **P 07 25 23.8 -0.7**
baz=311,SNR=46
F33A 5 Mile Ranch, 53.41 60 P **P 07 25 24.0 -0.7**
baz=310,SNR=111
C35A Jirik Farms, M 53.42 57 P **P 07 25 24.4 -0.3**
baz=310,SNR=187
OGNE Ogallala 53.44 68 P **P 07 25 25.0 -0.1**
baz=311,SNR=26
OGNE Ogallala 53.44 68 *e*P **P 07 25 25.1 -0.1**
comp=Z,170nm,0.8s
ILULI Ilulissat 53.55 20 *i*P **P 07 25 25.3 0.0**
comp=Z,66nm,0.9s
ILULI Ilulissat 53.55 20 *i*P **P 07 25 25.3 0.0**
ILULI pmax pmax
comp=Z,66nm,0.9s
SDCO Great Sand Dun 53.56 73 P **P 07 25 26.4 +0.2**
baz=312,SNR=170
SDCO Great Sand Dun 53.56 73 *e*P **P 07 25 26.0 -0.2**
comp=Z,141nm,1.0s
E34A Wadena 53.57 59 P **P 07 25 25.5 -0.4**
baz=310,SNR=18
H32A Carlson Farm, 53.67 62 P **P 07 25 25.7 -0.9**
baz=311,SNR=96
ENH Enshi 53.73 274 *e*P **P 07 25 26.3 -1.0**
comp=Z,76nm,0.8s
J31A Geddes 53.75 64 P **P 07 25 26.6 -0.6**
baz=311,SNR=100
G33A Ortonville 53.76 61 P **P 07 25 26.4 -0.8**
baz=311,SNR=205
D35A Remer 53.79 58 P **P 07 25 26.8 -0.6**
baz=311,SNR=218
H33A Prehn Over Nor 53.93 62 P **P 07 25 27.7 -0.8**
baz=311,SNR=135
E35A Pequot Lakes 53.95 59 P **P 07 25 28.3 -0.2**
baz=311,SNR=202
I32A Karley and Nic 53.97 63 P **P 07 25 27.7 -1.1**
baz=311,SNR=12
C36A Pine Crest Far 53.97 57 P **P 07 25 28.6 -0.1**
baz=311,SNR=75
F34A Alexandria 53.99 60 P **P 07 25 28.2 -0.7**
baz=311,SNR=137
TUC Tucson 54.10 82 P **P 07 25 30.0 0.0**
baz=314
TUC Tucson 54.10 82 *e*P **P 07 25 29.6 -0.3**
TUC pmax pmax
comp=Z,83nm,0.9s
TUC Tucson 54.10 82 *e*P **P 07 25 29.6 -0.3**
comp=Z,83nm,0.9s
G34A Benson 54.15 60 P **P 07 25 29.3 -0.8**
baz=311,SNR=21
K31A O'Neill 54.18 65 P **P 07 25 30.1 -0.2**
baz=311,SNR=45
D36A Goodland 54.18 57 P **P 07 25 30.0 -0.2**
baz=311,SNR=77
J32A Parkston 54.19 63 P **P 07 25 29.4 -0.9**
baz=311,SNR=32
I33A Coleman 54.31 62 P **P 07 25 30.2 -1.1**
baz=311,SNR=52
F35A Swanville 54.31 59 P **P 07 25 30.9 -0.3**
baz=311,SNR=203
C37A Embarrass 54.33 56 P **P 07 25 31.2 -0.1**
baz=311,SNR=92
KSCO Kaye Shedlock' 54.38 70 P **P 07 25 32.2 +0.2**
baz=312,SNR=76
KSCO Kaye Shedlock' 54.38 70 *e*P **P 07 25 32.0 0.0**
comp=Z,291nm,1.0s
MHTCO State Highway 54.45 73 *e*P **P 07 25 33.1 +0.5**
comp=Z,209nm,0.9s
H34A Spellman Lake, 54.46 61 P **P 07 25 31.8 -0.5**
baz=311,SNR=97
EYMN Ely 54.53 56 P **P 07 25 32.7 -0.1**
baz=311,SNR=67
EYMN Ely 54.53 56 *e*P **P 07 25 32.5 -0.3**
comp=Z,375nm,0.9s
E36A McGregor 54.57 58 P **P 07 25 33.1 +0.1**
baz=311,SNR=223
D37A Cotton 54.58 57 P **P 07 25 32.9 -0.2**
baz=311,SNR=105
K32A Verdigre 54.59 64 P **P 07 25 32.5 -0.8**
baz=312,SNR=34
T25A Trinidad 54.61 73 P **P 07 25 34.0 +0.2**
baz=313,SNR=157
T25A Trinidad 54.61 73 *e*P **P 07 25 33.9 +0.2**
comp=Z,285nm,1.1s
ECSD EROS Data Cent 54.62 62 P **P 07 25 32.8 -0.7**
baz=312,SNR=103
ECSD EROS Data Cent 54.62 62 *e*P **P 07 25 31.6 -1.9**
comp=Z,124nm,0.9s
J33A Davis 54.70 63 P **P 07 25 33.3 -0.8**
baz=312,SNR=63
G35A Watkins 54.78 60 P **P 07 25 34.4 -0.2**
baz=312,SNR=75
C38A Sawbill Land. 54.80 56 P **P 07 25 34.6 -0.1**
baz=311,SNR=65
I34A Hadley 54.83 62 P **P 07 25 34.1 -0.8**
baz=312,SNR=39
LAZ Ladron 54.85 78 *e*P **P 07 25 36.0 +0.5**
F36A Milaca 54.86 59 P **P 07 25 34.8 -0.4**
baz=312,SNR=67
ANMO Albuquerque 54.89 77 P **P 07 25 35.4 -0.4**
comp=Z,37nm,0.9s,baz=45,slow=9.6,SNR=113
ANMO ScP **ScP 07 30 18.9 0.0**
comp=Z,9.3nm,1.2s,baz=267,slow=3.8,SNR=4.0
ANMO Albuquerque 54.89 77 P **P 07 25 35.9 +0.1**
baz=314
ANMO Albuquerque 54.89 77 *c i*P **P 07 25 36.1 +0.3**
ANMO pmax pmax
comp=Z,48nm,0.8s
ANMO Albuquerque 54.89 77 *e*P **P 07 25 35.6 -0.2**
comp=Z,54nm,1.0s
H35A Sunnyside Ranc 54.94 60 P **P 07 25 35.7 0.0**
baz=312,SNR=133
E37A Wrenshall 54.98 57 P **P 07 25 35.9 -0.1**
baz=312
L32A Elgin 55.00 65 P **P 07 25 35.9 -0.3**
baz=312,SNR=38
K33A Hardington 55.16 64 P **P 07 25 37.0 -0.4**
baz=312,SNR=54
G36A St. Michael 55.16 59 P **P 07 25 37.3 0.0**
baz=312,SNR=75
Y22D IRIS PASSCAL I 55.21 78 P **P 07 25 38.8 +0.8**
baz=314,SNR=8.2
Y22D IRIS PASSCAL I 55.21 78 *e*P **P 07 25 39.0 +1.0**
comp=Z,154nm,1.0s
LPM Los Pinos Moun 55.22 77 *e*P **P 07 25 38.0 -0.1**
J34A George 55.28 62 P **P 07 25 37.6 -0.6**
baz=312,SNR=32
L33A Hoskins 55.30 64 P **P 07 25 37.7 -0.8**
baz=312,SNR=19
C39A Grand Marais 55.31 55 P **P 07 25 38.2 -0.1**
baz=312,SNR=22
BGNE Belgrade 55.32 65 P **P 07 25 38.2 -0.3**
baz=312,SNR=39
BGNE Belgrade 55.32 65 *e*P **P 07 25 37.2 -1.3**
comp=Z,405nm,0.9s
BNM Barren Site 55.33 77 *e*P **P 07 25 39.1 +0.1**
E38A The Farm, Brul 55.39 57 P **P 07 25 38.9 -0.1**
baz=312,SNR=99
I35A Creekview Farm 55.42 61 P **P 07 25 38.6 -0.6**
baz=312,SNR=40
F37A Hinrichs Farm, 55.42 58 P **P 07 25 39.1 -0.1**
baz=312,SNR=206
SFJD Kangerlussuaq 55.48 21 P **P 07 25 38.8 -0.5**
comp=Z,20nm,0.6s,baz=345,slow=2.9,SNR=11
SFJD Kangerlussuaq 55.48 21 *i*P **P 07 25 38.5 -0.8**
comp=Z,124nm,1.5s
SFJD Kangerlussuaq 55.48 21 *i*P **P 07 25 38.5 -0.8**
SFJD pmax pmax
comp=Z,120nm,1.5s
SFJD Kangerlussuaq 55.48 21 *e*P **P 07 25 38.8 -0.5**
comp=Z,84nm,1.3s
H36A Jesenland, He 55.50 60 P **P 07 25 40.0 +0.2**
baz=312,SNR=213
K34A Le Mars 55.60 63 P **P 07 25 40.1 -0.4**
baz=312,SNR=170
J35A Milford 55.63 62 P **P 07 25 40.1 -0.6**
baz=312,SNR=21
F38A Pierce - Schro 55.66 58 P **P 07 25 41.2 +0.4**
baz=312,SNR=374
319A Douglas 55.66 82 *e*P **P 07 25 41.1 -0.1**
comp=Z,148nm,1.0s
SPMN Marine on St. 55.66 59 P **P 07 25 40.9 0.0**
baz=312,SNR=91
SPMN Marine on St. 55.66 59 *e*P **P 07 25 40.6 -0.4**
comp=Z,358nm,1.0s
C40A Isle Royale Na 55.73 54 P **P 07 25 41.1 -0.2**
baz=312
M33A Taylor Creek F 55.74 65 P **P 07 25 41.0 -0.5**
baz=312,SNR=26
121A Cooks Peak, D 55.76 80 P **P 07 25 42.4 +0.4**
baz=315,SNR=37
I36A Fitzsimmons Fa 55.83 61 P **P 07 25 41.7 -0.5**
baz=312,SNR=62
HAMF Hammerfest 55.91 350 *e*P **P 07 25 41.6 -0.6**
L34A Svendsen Farm, 55.93 64 P **P 07 25 42.3 -0.6**
baz=312,SNR=80
H37A Dierke Farm, C 56.04 59 P **P 07 25 44.0 +0.5**
baz=312,SNR=110
K35A Storm Lake 56.05 63 P **P 07 25 43.1 -0.6**
baz=312,SNR=111
E39A Mellen 56.05 57 P **P 07 25 43.4 -0.3**
baz=312,SNR=62
J36A Seneca 1, Swea 56.12 61 P **P 07 25 43.8 -0.4**
baz=312,SNR=136
M34A Aspy Farms, Fr 56.13 64 P **P 07 25 43.9 -0.4**
baz=313,SNR=31
I37A Lemond, Waseca 56.16 60 P **P 07 25 44.9 +0.4**
baz=312,SNR=176
N33A J Bar K, Exete 56.16 66 P **P 07 25 44.0 -0.6**
baz=313,SNR=56
CBKS Cedar Bluff 56.18 69 P **P 07 25 44.7 0.0**
baz=313,SNR=88
CBKS Cedar Bluff 56.18 69 *e*P **P 07 25 44.3 -0.4**
CBKS pmax pmax
comp=Z,437nm,0.9s
CBKS Cedar Bluff 56.18 69 *e*P **P 07 25 44.3 -0.4**
comp=Z,437nm,0.9s
F39A Loretta 56.18 57 P **P 07 25 44.7 +0.1**
baz=312,SNR=72
G38A Ridgeland 56.20 58 P **P 07 25 44.5 -0.2**
baz=312,SNR=155
L35A Bielow Farm, R 56.29 63 P **P 07 25 44.7 -0.7**
baz=313,SNR=58
SEM Semipalatinsk 56.30 310 *e*P **P 07 25 44.5 -1.1**
comp=Z,118nm,1.0s
SEM *i* sP **sP 07 26 39.6 -0.5**
SEM *i* S **S 07 33 22.4 -0.5**
SEM LRM MLR 07 53 03.9
comp=Z,255nm,14.2s
H38A Maiden Rock 56.31 59 P **P 07 25 45.7 +0.2**
baz=313,SNR=261
HSIG 56.32 85 *e*P **P 07 25 45.3 -0.5**
comp=Z,77nm,1.0s
E40A Wakefield 56.34 56 P **P 07 25 46.2 +0.5**
baz=313,SNR=156
KEV Kevo 56.36 348 *e*P **P 07 25 44.8 -0.6**
KEV pmax pmax
comp=Z,234nm,1.6s
KEV Kevo 56.36 348 *e*P **P 07 25 44.8 -0.6**
comp=Z,234nm,1.6s
G39A Holcombe 56.48 58 P **P 07 25 46.6 -0.1**
baz=313,SNR=138
K36A Gilmore City 56.53 62 P **P 07 25 46.8 -0.3**
baz=313,SNR=82
O33A Hebron 56.54 66 P **P 07 25 46.5 -0.7**
baz=313,SNR=150
J37A Redenius Farm, 56.56 61 P **P 07 25 47.3 0.0**
baz=313,SNR=99
F40A Park Falls 56.59 57 P **P 07 25 47.4 -0.1**
baz=313,SNR=93
D41A Chassel 56.60 55 P **P 07 25 48.1 +0.6**
baz=313,SNR=60
N34A Lincoln 56.63 65 P **P 07 25 47.1 -0.7**
baz=313,SNR=137
SCO Scoresbysund 56.63 8 *i*P **P 07 25 48.4 +1.1**
comp=Z,91nm,1.0s
SCO Scoresbysund 56.63 8 *i*P **P 07 25 48.4 +1.1**
SCO pmax pmax
comp=Z,91nm,1.0s
M35A Neola 56.65 64 P **P 07 25 48.0 +0.1**
baz=313,SNR=204
I38A Scanlan Farm, 56.71 60 P **P 07 25 48.3 -0.1**
baz=313,SNR=78
ARA0 ARCESS Array S 56.75 349 *e*P **P 07 25 47.6 -0.7**
ARCES ARCESS Array B 56.75 349 P **P 07 25 47.6 -0.7**
comp=Z,114nm,0.8s,baz=15,slow=6.5,SNR=96
ARCES ScP **ScP 07 30 25.9 -0.3**
comp=Z,18nm,1.1s,baz=0.0,slow=3.8,SNR=5.1
ARCES PKPPKP **P'P'df 07 55 40.4 -1.2**
comp=Z,5.8nm,1.0s,baz=194,slow=3.4,SNR=5.2
ARE0 ARCESS Array S 56.75 349 *e*P **P 07 25 47.5 -0.7**
ARE0 ARCESS Array S 56.75 349 *e*P pP 07 26 29.7 +4.6
ARE0 ARCESS Array S 56.75 349 *e*P **P 07 25 47.8 -0.4**
comp=Z,118nm,0.8s
SRIG Santa Rosalia 56.75 87 *e*P **P 07 25 48.6 -0.2**
comp=Z,88nm,1.2s
CD2 Chengdu 56.77 279 P **P 07 25 49.0 0.0**
CD2 pP pP 07 26 26.0 0.0
CD2 sP sP 07 26 44.0 +0.5
CD2 S **S 07 33 29.0 -0.4**
CD2 sS sS 07 34 34.0 +0.5
CD2 SS **SS 07 37 20.5 +1.1**
CD2 pmax pmax
comp=Z,130nm,0.8s
CD2 pmax pmax
comp=Z,580nm,5.0s
CD2 LR LR
comp=Z,950nm,14.5s
CD2 LR LR
comp=Z,920nm,13.1s
CD2 LR LR
comp=Z,920nm,13.5s
L36A Harm Buss Farm 56.78 63 P **P 07 25 48.3 -0.5**
baz=313,SNR=53
E41A Kenton 56.81 56 P **P 07 25 48.7 -0.3**
baz=313,SNR=55
H39A Augusta 56.83 58 P **P 07 25 49.2 +0.1**
baz=313,SNR=50
KURK Kurchatov 56.84 311 *d i*P **P 07 25 48.8 -0.3**
KURK pmax pmax
comp=Z,120nm,0.9s
KURK Kurchatov 56.84 311 *e*P **P 07 25 48.9 -0.2**
comp=Z,167nm,0.8s
KURK Kurchatov 56.84 311 P **P 07 25 49.2 0.0**
SNR=19
KURK Kurchatov 56.84 311 P **P 07 25 49.2 0.0**
SNR=19
K37A Belmond 56.88 62 P **P 07 25 49.2 -0.3**
baz=313,SNR=182
KURBB Kurchatov Arra 56.95 311 PKPPKP **P'P'df 07 55 37.0 -4.4**
comp=Z,1.9nm,0.9s,baz=258,slow=2.5,SNR=4.9
KURBB P4KPbc 08 03 01.3
comp=Z,1.3nm,0.9s,baz=45,slow=4.6,SNR=8.6
LVZ Lovozero 56.96 344 *d i*P **P 07 25 49.6 -0.2**
LVZ pmax pmax
comp=Z,237nm,0.9s
LVZ Lovozero 56.96 344 *e*P **P 07 25 49.0 -0.8**
comp=Z,220nm,0.8s
O34A Beatrice 56.97 66 P **P 07 25 49.5 -0.7**
baz=313,SNR=175
G40A Rib Lake 56.99 57 P **P 07 25 50.3 0.0**
baz=313,SNR=60
WMQ Urumqi 57.07 300 P **P 07 25 51.5 +0.5**
WMQ pP pP 07 26 29.5 +1.5
WMQ sP sP 07 26 46.0 +0.5
WMQ S **S 07 33 32.0 -1.1**
WMQ sS sS 07 34 37.0 -0.1
WMQ ScS **ScS 07 35 21.5 -2.6**
WMQ SS **SS 07 37 24.0 +0.4**
WMQ pmax pmax
comp=Z,44nm,1.5s
WMQ pmax pmax
comp=Z,580nm,5.9s
WMQ LR LR
comp=Z,850nm,20.5s
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,660nm,18.9s
N35A Tabor 57.09 64 P **P 07 25 50.9 -0.1**
baz=313,SNR=386
J38A Wedel Dairy, R 57.13 60 P **P 07 25 51.3 0.0**
baz=313,SNR=153
M36A Felix, Anita 57.14 63 P **P 07 25 51.2 -0.2**
baz=313,SNR=136
F41A Three Lakes 57.23 56 P **P 07 25 51.9 -0.1**
baz=313,SNR=35
L37A Phoenix Point, 57.26 62 P **P 07 25 52.0 -0.2**
baz=313,SNR=308
I39A Houston 57.27 59 P **P 07 25 52.0 -0.2**
baz=313,SNR=107
P34A Walnut Farm, R 57.33 66 P **P 07 25 52.0 -0.8**
baz=314,SNR=66
H40A Chili 57.33 58 P **P 07 25 52.3 -0.4**
baz=313,SNR=82
O35A Humboldt 57.34 65 P **P 07 25 52.0 -0.8**
baz=314,SNR=78
TRO Tromso 57.35 351 *e*P **P 07 25 56.0 +3.6**
TRO Tromso 57.35 351 *e*P pP 07 26 37.2 +7.9
E42A Champion 57.36 55 P **P 07 25 52.8 -0.1**
baz=314,SNR=53
K38A Parkersburg 57.43 61 P **P 07 25 53.0 -0.4**
baz=313,SNR=56
APA Apatity 57.46 345 ⇓*i*P **P 07 25 52.2 -1.0**
APA pmax pmax
comp=Z,36nm,1.0s
N36A Muff Farm, Cla 57.49 64 P **P 07 25 53.9 0.0**
baz=314,SNR=69
KTK1 Kautokeino 57.51 349 *e*P **P 07 25 53.2 -0.4**
KTK1 IVmB_BB 07 25 54.6
comp=Z,1μm,0.9s
KTK1 Kautokeino 57.51 349 *e*P **pP 07 26 34.7 +4.1**
KTK1 IAmb IAmb 07 26 36.1
comp=Z,143nm,0.7s
J39A Decorah 57.52 60 P **P 07 25 53.5 -0.6**
baz=314,SNR=218
G41A Antigo 57.55 57 P **P 07 25 54.1 -0.2**
baz=314,SNR=30
M37A Trindle Farm, 57.59 63 P **P 07 25 54.3 -0.3**
baz=314,SNR=51
L38A Oak Wood Farm, 57.67 62 P **P 07 25 54.6 -0.6**
baz=314,SNR=195
Q34A Chapman 57.69 67 P **P 07 25 54.8 -0.5**
baz=314,SNR=129
SCIA State Center 57.70 62 *e*P **P 07 25 55.0 -0.3**
comp=Z,663nm,0.9s
F42A Maple Grove Fa 57.71 56 P **P 07 25 55.6 +0.3**
baz=314,SNR=26
I40A Norwalk 57.72 59 P **P 07 25 55.0 -0.4**
baz=314,SNR=32
H41A Junction City 57.72 58 P **P 07 25 55.3 -0.1**
baz=314,SNR=83
MSTX Muleshoe 57.76 75 P **P 07 25 55.5 -0.4**
baz=315,SNR=59

MSTX	**Muleshoe**	57.76	75	*e*P		**P**	07 25 55.1	-0.8
	comp=Z,223nm,1.4s							
KSU1	**Kansas State U**	57.76	67	P		**P**	07 25 54.9	-0.9
	baz=314,SNR=28							
KSU1	**Kansas State U**	57.76	67	*e*P		**P**	07 25 54.8	-0.9
	comp=Z,206nm,0.9s							
P35A	**Duane Minner,**	57.79	66	P		**P**	07 25 55.2	-0.8
	baz=314,SNR=46							
MNTX	**Cornudas Mount**	57.79	79	P		**P**	07 25 56.4	+0.3
	baz=315,SNR=222							
MNTX	**Cornudas Mount**	57.79	79	*e*P		**P**	07 25 55.7	-0.4
	comp=Z,150nm,1.1s							
MK31	**Makanchi Array**	57.80	306	*ce*P		**P**	07 25 54.9	-1.1
MK31				pmax		pmax		
	comp=Z,4.0nm,0.4s							
MK31	**Makanchi Array**	57.80	306	*e*P		**P**	07 25 55.1	-0.9
MK32	**Makanchi Array**	57.80	306	*e*P		**P**	07 25 55.1	-0.9
MKAR	**Makanchi Array**	57.80	306	P		**P**	07 25 55.1	-0.9
	comp=Z,10nm,0.5s,baz=48,slow=6.2,SNR=91							
MKAR				S		**S**	07 33 44.2	+1.8
	comp=Z,2.1nm,0.8s,baz=58,slow=11,SNR=4.5							
MKAR				ScS		**ScS**	07 35 29.5	+0.3
	comp=Z,6.4nm,1.0s,baz=29,slow=7.4,SNR=7.0							
MKAR				LR		LR	07 51 25.8	
	comp=Z,462nm,18.6s,baz=22,slow=36							
MKAR				PKPPKP		**P'P'df**	07 55 32.6	-7.5
	comp=Z,1.3nm,0.8s,baz=245,slow=2.6,SNR=5.2							
MKAR	**Makanchi Array**	57.80	306	*i* P		**P**	07 25 55.0	-1.0
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MKAR	**Makanchi Array**	57.80	306	*e*P		**P**	07 25 55.1	-0.9
	comp=Z,271nm,0.6s							
E43A	**Lone Tree Farm**	57.86	55	P		**P**	07 25 56.2	-0.1
	baz=314,SNR=65							
K39A	**Oelwein**	57.86	61	P		**P**	07 25 55.8	-0.7
	baz=314,SNR=119							
G42A	**Mountain**	57.92	56	P		**P**	07 25 56.6	-0.2
	baz=314,SNR=44							
MAKZ	**Makanchi**	57.95	306	*i* P		**P**	07 25 56.1	-0.9
MAKZ				pmax		pmax		
	comp=Z,21nm,0.7s							
MAKZ	**Makanchi**	57.95	306	*e*P		**P**	07 25 56.4	-0.6
	comp=Z,61nm,0.8s							
N37A	**Lee Faris, Mou**	57.95	64	P		**P**	07 25 57.0	-0.1
	baz=314,SNR=119							
R34A	**Isabella, Hill**	57.95	68	P		**P**	07 25 56.5	-0.6
	baz=314,SNR=60							
O36A	**Bolckow**	57.96	65	P		**P**	07 25 56.6	-0.6
	baz=314,SNR=85							
I41A	**Arkdale**	57.99	58	P		**P**	07 25 57.5	+0.2
	baz=314,SNR=68							
J40A	**Soldiers Grove**	57.99	59	P		**P**	07 25 56.9	-0.5
	baz=314,SNR=73							
M38A	**Pleasantville**	58.05	62	P		**P**	07 25 57.3	-0.5
	baz=314,SNR=113							
F43A	**Flat Rock, Esc**	58.15	55	P		**P**	07 25 58.2	-0.1
	baz=314,SNR=33							
P36A	**Good Intent, A**	58.18	65	P		**P**	07 25 57.7	-1.0
	baz=314,SNR=92							
GYA	**Guiyang**	58.19	273	P		**P**	07 25 58.8	-0.3
GYA				sP		sP	07 26 53.0	-0.7
GYA				PP		**PP**	07 28 12.5	+3.0
GYA				ScP		**ScP**	07 30 34.0	+0.5
GYA				S		**S**	07 33 47.0	-1.2
GYA				sS		sS	07 34 50.3	-2.2
GYA				SS		**SS**	07 37 42.5	+0.5
GYA				pmax		pmax		
	comp=Z,40nm,1.0s							
GYA				pmax		pmax		
	comp=Z,2μm,8.9s							
GYA				LR		LR		
	comp=Z,3μm,19.3s							
GYA				LR		LR		
	comp=Z,2μm,20.0s							
GYA				LR		LR		
	comp=Z,2μm,19.5s							
L39A	**Vinton**	58.20	61	P		**P**	07 25 58.6	-0.2
	baz=314,SNR=168							
E44A	**Grand Marais A**	58.22	54	P		**P**	07 25 59.4	+0.5
	baz=314,SNR=33							
Q35A	**Mercer Eighty,**	58.25	66	P		**P**	07 25 57.6	-1.5
	baz=314,SNR=46							
K40A	**Colesburg**	58.27	60	P		**P**	07 25 58.6	-0.6
	baz=314,SNR=56							
U32A	**Winter Ranch,**	58.28	70	P		**P**	07 25 58.8	-0.7
	baz=314,SNR=78							
G43A	**Wallace**	58.28	56	P		**P**	07 25 59.5	+0.2
	baz=314,SNR=22							
H42A	**Shiocton**	58.37	57	P		**P**	07 25 59.7	-0.2
	baz=314,SNR=28							
O37A	**Wolven Farm, M**	58.39	64	P		**P**	07 25 59.5	-0.6
	baz=314,SNR=99							
J41A	**Loganville**	58.40	59	P		**P**	07 25 59.6	-0.5
	baz=314,SNR=112							
F44A	**Big Bay de Noc**	58.42	55	P		**P**	07 26 00.5	+0.2
	baz=314,SNR=18							
S34A	**Willow Spring**	58.44	68	P		**P**	07 25 59.5	-1.1
	baz=314,SNR=16							
N38A	**Joes South For**	58.46	63	P		**P**	07 25 59.8	-0.8
	baz=314,SNR=28							
Q36A	**Arnold C. Orve**	58.50	66	P		**P**	07 25 59.7	-1.2
	baz=314,SNR=12							
R35A	**Emporia Munici**	58.53	67	P		**P**	07 26 00.2	-0.9
	baz=314,SNR=28							
M39A	**Webster**	58.56	62	P		**P**	07 26 01.0	-0.3
	baz=314,SNR=209							
JFWS	**Jewell Farm**	58.59	59	*e*P		**P**	07 25 59.1	-2.4
JFWS				pmax		pmax		
	comp=Z,278nm,0.8s							
JFWS	**Jewell Farm**	58.59	59	*e*P		**P**	07 25 59.0	-2.4
	comp=Z,278nm,0.8s							
SGF	**Sodankyl**	58.60	347	P		**P**	07 26 01.1	0.0
SGF				pmax		pmax		
	comp=Z,200nm,0.9s							
I42A	**Draeger Farm,**	58.61	58	P		**P**	07 26 01.4	-0.1
	baz=314,SNR=55							
L40A	**Anamosa**	58.66	61	P		**P**	07 26 01.3	-0.7
	baz=314,SNR=72							
P37A	**Lathrop**	58.68	65	P		**P**	07 26 01.1	-1.1
	baz=314,SNR=62							
SOKR	**Solikamsk**	58.73	329	*c i* P		**P**	07 26 01.9	-0.2
SOKR				pmax		pmax		
	comp=Z,55nm,1.1s							
E45A	**Wooded Hills,**	58.77	54	P		**P**	07 26 03.2	+0.5
	baz=315,SNR=40							
K41A	**Shullsburg**	58.77	60	P		**P**	07 26 02.0	-0.7
	baz=314,SNR=128							
H43A	**Windswept, Lux**	58.79	57	P		**P**	07 26 02.8	0.0
	baz=314,SNR=20							
BVA0	**Borovoye Array**	58.79	318	*i* P		**P**	07 26 02.8	+0.1
BVA0				pmax		pmax		
	comp=Z,22nm,0.5s							
BVAR	**Borovoye Array**	58.79	318	ScP		**ScP**	07 30 36.7	+1.2
	comp=Z,16nm,0.9s,baz=60,slow=4.1,SNR=6.5							
BVAR				S		**S**	07 33 57.8	+2.8
	comp=Z,13nm,1.0s,baz=40,slow=11,SNR=11							
BVAR				ScS		**ScS**	07 35 35.4	-0.8
	comp=Z,3.1nm,0.9s,baz=53,slow=8.8,SNR=4.5							
BVAR				LR		LR	07 53 03.8	
	comp=Z,1μm,20.8s,baz=46,slow=37							
BVAR				PKPPKP			07 55 35.9	
	comp=Z,0.8nm,0.5s,baz=217,slow=4.7,SNR=4.1							
BVAR				P4KPbc			08 03 08.5	
	comp=Z,1.5nm,0.8s,baz=29,slow=3.4,SNR=4.4							
O38A	**Galt**	58.79	64	P		**P**	07 26 02.1	-0.8
	baz=314,SNR=45							
N39A	**Derby Farms, D**	58.80	62	P		**P**	07 26 02.4	-0.5
	baz=314,SNR=187							
BRVK	**Borovoye**	58.81	318	*d i* P		**P**	07 26 02.9	+0.1
BRVK				pmax		pmax		
	comp=Z,75nm,0.6s							
BRVK	**Borovoye**	58.81	318	*e*P		**P**	07 26 02.7	-0.1
	comp=Z,98nm,0.7s							
BRVK	**Borovoye**	58.81	318	P		**P**	07 26 03.3	+0.5
	SNR=16							
BRVK	**Borovoye**	58.81	318	P		**P**	07 26 03.3	+0.5
	SNR=16							
T34A	**McClaskey Farm**	58.87	69	P		**P**	07 26 02.6	-0.9
	baz=315,SNR=80							
J42A	**Columbus**	58.90	58	P		**P**	07 26 03.1	-0.5
	baz=314,SNR=72							
S35A	**Otter Creek Ra**	58.91	68	P		**P**	07 26 02.7	-1.1
	baz=314,SNR=66							
R36A	**Gordon, Harris**	58.92	66	P		**P**	07 26 02.6	-1.2
	baz=314,SNR=152							
M40A	**Post Highland**	58.96	61	P		**P**	07 26 03.6	-0.5
	baz=314,SNR=70							
L41A	**Preston**	59.04	60	P		**P**	07 26 03.9	-0.7
	baz=314,SNR=71							
F45A	**CMU Biological**	59.08	54	P		**P**	07 26 05.0	+0.2
	baz=315,SNR=8.8							
P38A	**Dawn**	59.11	64	P		**P**	07 26 04.1	-1.0
	baz=314,SNR=77							
Q37A	**Longview Farm,**	59.12	65	P		**P**	07 26 03.8	-1.4
	baz=315,SNR=19							
K42A	**Prairie Point,**	59.16	59	P		**P**	07 26 04.8	-0.6
	baz=315,SNR=56							
O39A	**Kirksville**	59.21	63	P		**P**	07 26 05.1	-0.7
	baz=315,SNR=81							
J43A	**Natural Harves**	59.22	58	P		**P**	07 26 05.6	-0.2
	baz=315,SNR=28							
LOF	**Lofoten**	59.26	353	*e*P		**P**	07 26 06.2	+0.5
LOF				*e*			07 26 47.0	
LOF	**Lofoten**	59.26	353	*e*P		pP	07 26 47.1	+4.2
S36A	**Lake Cedric, C**	59.29	67	P		**P**	07 26 05.2	-1.2
	baz=315,SNR=56							
N40A	**Mertquake, Sal**	59.29	62	P		**P**	07 26 05.9	-0.4
	baz=315,SNR=47							
R37A	**Teagarden Farm**	59.30	66	P		**P**	07 26 04.7	-1.8
	baz=315,SNR=15							
T35A	**Sooner Cattle**	59.33	68	P		**P**	07 26 05.9	-0.8
	baz=315,SNR=53							
F46A	**Macinaw City C**	59.39	54	P		**P**	07 26 07.2	+0.3
	baz=315,SNR=32							
M41A	**Milan**	59.51	61	P		**P**	07 26 07.1	-0.7
	baz=315,SNR=42							
Q38A	**Cooks Store, C**	59.52	65	P		**P**	07 26 06.6	-1.4
	baz=315,SNR=29							
WMOK	**Wichita Mounta**	59.56	72	P		**P**	07 26 08.0	-0.3
	baz=315,SNR=160							
WMOK	**Wichita Mounta**	59.56	72	*e*P		**P**	07 26 07.8	-0.5
WMOK				pmax		pmax		
	comp=Z,142nm,1.0s							
WMOK	**Wichita Mounta**	59.56	72	*e*P		**P**	07 26 07.8	-0.5
	comp=Z,142nm,1.0s							
U35A	**Pawnee**	59.59	69	P		**P**	07 26 07.5	-0.9
	baz=315,SNR=62							
T36A	**Boggs Farm, Ca**	59.59	68	P		**P**	07 26 07.4	-1.1
	baz=315,SNR=24							
P39B	**Salisbury**	59.63	64	P		**P**	07 26 07.6	-1.1
	baz=315,SNR=105							
SVE	**Sverdlovsk**	59.64	325⇑	*i* P		**P**	07 26 10.2	+1.8
SVE				*e*S		**S**	07 34 08.4	+2.7
SVE				pmax		pmax		
	comp=Z,89nm,0.9s							
O40A	**La Belle**	59.67	63	P		**P**	07 26 07.9	-1.0
	baz=315,SNR=234							
MSF	**Maaselka**	59.68	346	P		**P**	07 26 08.4	-0.2
MSF				pmax		pmax		
	comp=Z,213nm,0.9s							
S37A	**Fort Scott**	59.69	66	P		**P**	07 26 07.7	-1.4
	baz=315,SNR=59							
TMCR	**Tamitsa**	59.69	341	*e*P		**P**	07 26 07.6	-1.1
TMCR				*e*S		**S**	07 34 03.8	-2.3
TMCR				pmax		pmax		
	comp=Z,157nm,0.9s							
K43A	**Burlington**	59.74	58	P		**P**	07 26 09.1	-0.2
	baz=315,SNR=27							
N41A	**Harden Midland**	59.81	62	P		**P**	07 26 09.4	-0.5
	baz=315,SNR=11							
Q39A	**Willow Grove F**	59.82	64	P		**P**	07 26 08.8	-1.2
	baz=315,SNR=22							
M42A	**Sheffield**	59.87	60	P		**P**	07 26 09.3	-1.0
	baz=315,SNR=5.1							
L43A	**Garden Prairie**	59.89	59	P		**P**	07 26 09.7	-0.7
	baz=315,SNR=28							
R38A	**Fenwick Farm,**	59.91	66	P		**P**	07 26 08.6	-2.0
	baz=315,SNR=34							
V35A	**Meyer Ranch, C**	59.96	69	P		**P**	07 26 10.5	-0.4
	baz=315,SNR=60							
P40A	**Paris**	59.99	63	P		**P**	07 26 10.5	-0.7
	baz=315,SNR=126							
MANU	**Manus Island**	60.00	216	*e*P		**P**	07 26 12.1	+0.7
	comp=Z,133nm,0.8s							
BRZS	**Berezniki**	60.04	314	*i* P		**P**	07 26 10.3	-1.0
BRZS				*i* S		**S**	07 34 10.9	-0.2
BRZS				*i* sS		**sS**	07 35 16.1	+0.4
T37A	**Cheneyville 18**	60.09	67	P		**P**	07 26 10.6	-1.2
	baz=315,SNR=94							
GLMI	**Grayling**	60.13	54	*e*P		**P**	07 26 12.2	+0.1
	comp=Z,511nm,1.0s							
U36A	**Oologah**	60.15	68	P		**P**	07 26 11.5	-0.7
	baz=315,SNR=21							
N42A	**Yates City**	60.16	61	P		**P**	07 26 11.4	-0.8
	baz=315,SNR=15							
O41A	**Passleys Farm,**	60.21	62	P		**P**	07 26 12.1	-0.5
	baz=315,SNR=117							
S38A	**Stockton**	60.30	66	P		**P**	07 26 11.4	-1.9
	baz=315,SNR=67							
R39A	**Chumby, Stover**	60.30	65	P		**P**	07 26 11.3	-2.0
	baz=315,SNR=19							
L44A	**Lake County Fo**	60.33	59	P		**P**	07 26 13.0	-0.4
	baz=315,SNR=20							
Q40A	**Laux Farm, Aux**	60.35	64	P		**P**	07 26 12.7	-0.9
	baz=315,SNR=49							
W35A	**Tecumseh**	60.37	70	P		**P**	07 26 13.6	-0.2
	baz=315,SNR=143							
RABL	**Rabaul**	60.42	210	*e*P		**P**	07 26 15.2	+1.0
	comp=Z,148nm,0.6s							
P41A	**Barry, Barry**	60.42	63	P		**P**	07 26 13.3	-0.8
	baz=315,SNR=78							
TUL1	**Leonard**	60.45	69	P		**P**	07 26 13.6	-0.8
	baz=315,SNR=60							
TUL1	**Leonard**	60.45	69	*e*P		**P**	07 26 13.3	-1.0
	comp=Z,215nm,1.1s							
V36A	**Jenks**	60.45	69	P		**P**	07 26 13.6	-0.7
	baz=315,SNR=56							
SCHQ	**Schefferville**	60.48	37	P		**P**	07 26 13.7	-0.6
	comp=Z,206nm,1.0s,baz=336,slow=7.3,SNR=41							
SCHQ				LR		LR	07 53 46.5	
	comp=Z,1μm,18.9s,baz=328,slow=37							
SCHQ	**Schefferville**	60.48	37	*e*P		**P**	07 26 14.0	-0.2
	comp=Z,268nm,1.0s							
U37A	**Salina**	60.49	68	P		**P**	07 26 13.5	-1.1
	baz=315,SNR=88							
T38A	**Diamond**	60.51	67	P		**P**	07 26 13.6	-1.1
	baz=315,SNR=90							
TX31	**Lajitas Ar. Si**	60.51	79	*e*P		**P**	07 26 14.0	-1.0
LTX	**Lajitas**	60.52	79	*e*P		**P**	07 26 14.1	-0.8
LTX	**Lajitas**	60.52	79	*e*P		**P**	07 26 14.1	-0.8
TXAR	**Lajitas Array**	60.52	79	P		**P**	07 26 14.1	-0.8
	comp=Z,48nm,0.8s,baz=305,slow=4.4,SNR=223							
TXAR				ScP		**ScP**	07 30 42.2	-1.5
	comp=Z,8.3nm,0.9s,baz=298,slow=2.7,SNR=6.3							
TXAR				PKP2bc			07 55 40.4	
	comp=Z,1.9nm,0.8s,baz=151,slow=5.7,SNR=8.9							
ABTX	**Abilene, Hawle**	60.55	74	P		**P**	07 26 15.1	0.0
	baz=316,SNR=207							
ABTX	**Abilene, Hawle**	60.55	74	*e*P		**P**	07 26 15.0	-0.1
	comp=Z,363nm,1.1s							
S39A	**Bolivar**	60.59	66	P		**P**	07 26 13.0	-2.2
	baz=315,SNR=24							
O42A	**Bath**	60.59	61	P		**P**	07 26 14.4	-0.8
	baz=315,SNR=15							
ARU	**Arti**	60.66	326	P		**P**	07 26 16.1	+0.7
	baz=357,slow=3.4							
ARU				LR		LR	07 53 55.5	
	comp=Z,639nm,19.6s,baz=34,slow=37							
ARU				PKP2bc			07 55 40.7	
	comp=Z,1.7nm,0.3s,baz=190,slow=1.4,SNR=3.8							
ARU	**Arti**	60.66	326	*d i* P		**P**	07 26 15.7	+0.3
ARU				*PP		**pP**	07 26 50.7	-2.1
ARU							07 26 58.3	
ARU							07 28 33.3	
ARU				PPP		PPP	07 29 58.1	
ARU				S		**S**	07 34 21.4	+2.6
ARU							07 35 44.0	
ARU				SS		**SS**	07 38 18.7	-0.3
ARU				pmax		pmax		
	comp=Z,82nm,0.7s							
ARU	**Arti**	60.66	326	*e*P		**P**	07 26 15.2	-0.2
	comp=Z,599nm,1.9s							
R40A	**Maddies Statio**	60.74	64	P		**P**	07 26 14.6	-1.7
	baz=315,SNR=45							
W36A	**Wetumka**	60.75	70	P		**P**	07 26 15.9	-0.4
	baz=316,SNR=96							
HDIL	**Hopedale**	60.75	61	P		**P**	07 26 15.5	-0.8
	baz=316,SNR=28							
HDIL	**Hopedale**	60.75	61	*e*P		**P**	07 26 15.3	-1.0
	comp=Z,458nm,1.2s							
SLBS	**Sierra La Lagu**	60.81	88	*e*P		**P**	07 26 17.7	+0.6
	comp=Z,339nm,2.0s							
M44A	**Midewin, Midew**	60.83	59	P		**P**	07 26 16.2	-0.5
	baz=316,SNR=44							
V37A	**Hulbert**	60.84	68	P		**P**	07 26 16.0	-1.0
	baz=316,SNR=38							
Q41A	**Truxton**	60.84	63	P		**P**	07 26 16.0	-0.9
	baz=316,SNR=54							
X35A	**Drake**	60.85	71	P		**P**	07 26 16.4	-0.6
	baz=316,SNR=103							
U38A	**Gravette**	60.88	67	P		**P**	07 26 16.0	-1.2
	baz=316,SNR=63							
P42A	**Winchester**	60.88	62	P		**P**	07 26 16.3	-0.8
	baz=316,SNR=51							
KONS	**Konsvik**	60.90	353	*e*P		**P**	07 26 16.8	-0.1
KONS	**Konsvik**	60.90	353	*e*P		pP	07 26 58.3	+4.1
O43A	**Sugar Creek Fa**	60.94	61	P		**P**	07 26 16.8	-0.8
	baz=316,SNR=20							
TDK	**Taldyqorghan**	60.98	307	*i* P		**P**	07 26 17.1	-0.8
	comp=Z,78nm,0.3s							
TDK				*e*S		**S**	07 34 23.5	+0.2
T39A	**Clever**	61.03	66	P		**P**	07 26 16.5	-1.8
	baz=316,SNR=54							
HPIG	**Hopewell**	61.04	83	*e*P		**P**	07 26 18.6	-0.1
	comp=Z,75nm,1.1s							
STOK	**Stokkvaagen**	61.07	353	*e*P		**P**	07 26 17.8	-0.2
STOK				*e*P		**P**	07 26 18.2	+0.2
STOK				*e*pP		**pP**	07 26 53.6	-1.8
STOK				*e*			07 27 00.2	
STOK	**Stokkvaagen**	61.07	353	*e*P		**pP**	07 27 00.1	+4.6
STOK				IAmb		IAmb	07 27 01.0	
	comp=Z,1μm,1.6s							
X36A	**Centrahoma**	61.09	70	P		**P**	07 26 18.5	-0.1
	baz=316,SNR=131							
S40A	**Lebanon**	61.11	65	P		**P**	07 26 17.0	-1.7
	baz=316,SNR=20							
MOR8	**Moi Rana**	61.12	352	*e*P		**P**	07 26 16.6	-1.8
MOR8	**Moi Rana**	61.12	352	*e*P		pP	07 26 58.6	+2.8
Y35A	**Marietta**	61.16	71	P		**P**	07 26 19.0	-0.1
	baz=316,SNR=85							
VLDQ	**Val d'Or**	61.17	48	*e*P		**P**	07 26 16.5	-2.4
	comp=Z,272nm,1.2s							
N44A	**Piper City**	61.20	60	P		**P**	07 26 18.8	-0.5
	baz=316,SNR=38							
W37B	**Quinton**	61.21	69	P		**P**	07 26 19.4	-0.1
	baz=316,SNR=71							
R41A	**Rosebud**	61.23	64	P		**P**	07 26 18.2	-1.3
	baz=316,SNR=50							
HHAR	**Hobbs**	61.24	67	*e*P		**P**	07 26 18.3	-1.4
	comp=Z,124nm,1.2s							
Q42A	**Golden Eagle**	61.26	63	P		**P**	07 26 19.1	-0.6
	baz=316,SNR=164							
V38A	**Canehill**	61.27	68	P		**P**	07 26 18.8	-1.1
	baz=316,SNR=87							
P43A	**Skaggs, Pawnee**	61.28	62	P		**P**	07 26 19.0	-0.9
	baz=316,SNR=58							
T40A	**Mansfield**	61.42	65	P		**P**	07 26 19.1	-1.7
	baz=316,SNR=38							
U39A	**Green Forest**	61.43	67	P		**P**	07 26 19.5	-1.4
	baz=316,SNR=110							
CCM	**Cathedral Cave**	61.48	64	*e*P		**P**	07 26 19.5	-1.7
CCM				pmax		pmax		
	comp=Z,102nm,1.3s							
CCM	**Cathedral Cave**	61.48	64	*e*P		**P**	07 26 19.5	-1.7
	comp=Z,102nm,1.3s							
O44A	**Mansfield**	61.48	61	P		**P**	07 26 20.5	-0.7
	baz=316,SNR=48							
N45A	**Kentland**	61.49	59	P		**P**	07 26 21.1	-0.1
	baz=316,SNR=42							
S41A	**Jillco Farms,**	61.53	65	P		**P**	07 26 20.0	-1.6
	baz=316,SNR=83							
R42A	**Luebbering**	61.56	63	P		**P**	07 26 20.7	-1.1
	baz=316,SNR=78							
KMI	**Kunming**	61.57	275	P		**P**	07 26 23.0	+0.7
KMI				pP		pP	07 26 59.3	-0.5
KMI				sP		sP	07 27 16.5	-0.6
KMI				PP		**PP**	07 28 42.5	+3.0
KMI				S		**S**	07 34 28.0	-3.6
KMI				sS		sS	07 35 29.8	-6.7
KMI				SS		**SS**	07 38 29.8	-5.3
KMI				pmax		pmax		
	comp=Z,45nm,0.7s							
KMI				pmax		pmax		
	comp=Z,650nm,4.1s							
KMI				LR		LR		
	comp=Z,970nm,19.6s							
KMI				LR		LR		
	comp=Z,1μm,15.4s							
KMI				LR		LR		
	comp=Z,1μm,27.6s							
Y36A	**Durant**	61.60	71	P		**P**	07 26 21.8	-0.3
	baz=316,SNR=29							
SLM	**Saint Louis**	61.62	63	*e*P		**P**	07 26 21.9	-0.2
SLM				pmax		pmax		
	comp=Z,224nm,1.4s							
SLM	**Saint Louis**	61.62	63	*e*P		**P**	07 26 21.9	-0.2
	comp=Z,224nm,1.4s							
X37A	**Clayton**	61.63	69	P		**P**	07 26 22.2	-0.1
	baz=316,SNR=42							
PDGK	**Podgornoye**	61.66	305	P		**P**	07 26 22.3	-0.2
PDGK				pmax		pmax		
	comp=Z,25nm,1.0s							
NRS	**Narsarsuaq**	61.68	22	*i* P		**P**	07 26 20.9	-1.2
	comp=Z,87nm,1.1s							
NRS	**Narsarsuaq**	61.68	22	*e*P		**P**	07 26 22.2	+0.1
NRS				pmax		pmax		
	comp=Z,61nm,0.9s							
NRS	**Narsarsuaq**	61.68	22	*e*P		**P**	07 26 22.2	+0.1
	comp=Z,61nm,0.9s							
Q43A	**New Douglas**	61.69	62	P		**P**	07 26 22.0	-0.6
	baz=316,SNR=52							
V39A	**Pettigrew**	61.72	67	P		**P**	07 26 21.7	-1.3
	baz=316							
QIZ	**Qiongzhong**	61.77	265	P		**P**	07 26 26.0	+2.6
QIZ				sP		**sP**	07 27 15.0	-3.3
QIZ				S		**S**	07 34 39.5	+5.7
QIZ				pmax		pmax		
	comp=Z,66nm,1.0s							
QIZ				LR		LR		
	comp=Z,600nm,6.0s							
QIZ				LR		LR		
	comp=Z,740nm,24.9s							
Q

baz=316,SNR=51
JOF Joensuu 62.09 343 P P 07 26 25.2 +0.3
JOF pmax pmax
comp=Z,179nm,0.9s
W39A Magazine 62.11 68 P P 07 26 24.8 -0.6
baz=316,SNR=56
V40A Witts Springs 62.21 67 P P 07 26 24.8 -1.4
baz=316,SNR=107
WHTX Lake Whitney, 62.29 73 P P 07 26 26.5 -0.2
baz=316,SNR=48
WHTX Lake Whitney, 62.29 73 *e*P **P 07 26 25.6 -1.1**
comp=Z,316nm,1.4s
ZHN Zhinishke 62.30 305 *i* P **P 07 26 26.0 -0.8**
comp=Z,179nm,1.1s
KLMR Klimovskoe 62.33 338 *e*P **P 07 26 25.6 -0.9**
KLMR *e**PP **PcP 07 27 08.1 +3.5**
KLMR *e*S **S 07 34 36.5 -3.1**
KLMR pmax pmax
comp=Z,167nm,1.0s
U41A Viola 62.33 66 P **P 07 26 25.5 -1.5**
baz=316,SNR=101
SATY Saty 62.40 305 *i* P **P 07 26 26.3 -1.1**
comp=Z,377nm,1.7s
X39A Fountain Ranch 62.41 69 P **P 07 26 27.1 -0.4**
baz=316,SNR=92
AAM Ann Arbor 62.44 56 *e*P **P 07 26 27.0 -0.5**
AAM pmax pmax
comp=Z,369nm,1.5s
AAM Ann Arbor 62.44 56 *e*P **P 07 26 27.0 -0.5**
comp=Z,370nm,1.5s
S43A Fulton Ridge, 62.47 64 P **P 07 26 26.7 -1.1**
baz=316,SNR=73
Y38A Idabel 62.48 69 P **P 07 26 27.3 -0.7**
baz=316,SNR=20
136A Ennis 62.49 72 P **P 07 26 27.5 -0.5**
baz=317,SNR=31
Z37A Pogue Cattle C 62.49 71 P **P 07 26 27.5 -0.5**
baz=316,SNR=18
W40A Ferguson Farm, 62.51 67 P **P 07 26 27.6 -0.5**
baz=316,SNR=101
W40A Ferguson Farm, 62.51 67 *e*P **P 07 26 27.1 -1.0**
comp=Z,529nm,1.2s
R44A Waltonville 62.52 62 P **P 07 26 27.2 -1.0**
baz=316,SNR=56
P46A Rosedale 62.54 60 P **P 07 26 27.8 -0.5**
baz=317
V41A Mountainview 62.60 66 P **P 07 26 27.4 -1.4**
baz=316,SNR=135
O47A Sheridan 62.64 59 P **P 07 26 27.7 -1.2**
baz=317,SNR=74
MIAR Mount Ida 62.69 68 P **P 07 26 29.1 -0.3**
baz=316,SNR=87
MIAR Mount Ida 62.69 68 *e*P **P 07 26 28.7 -0.6**
MIAR pmax pmax
comp=Z,343nm,1.3s
MIAR Mount Ida 62.69 68 *e*P **P 07 26 28.7 -0.6**
comp=Z,343nm,1.3s
OLIL Olney 62.70 61 *e*P **P 07 26 28.4 -0.9**
comp=Z,495nm,1.3s
T43A Greenville 62.70 64 P **P 07 26 28.3 -1.1**
baz=316,SNR=102
U42A Revenden 62.71 65 P **P 07 26 27.8 -1.6**
baz=316,SNR=40
Z38A Mt. Pleasant 62.81 70 P **P 07 26 29.8 -0.4**
baz=317,SNR=17
236A Katherine and 62.83 72 P **P 07 26 30.2 0.0**
baz=317,SNR=68
S44A Carbondale 62.83 63 P **P 07 26 29.2 -1.0**
baz=317,SNR=28
Y39A Lockesburg 62.84 69 P **P 07 26 29.7 -0.6**
baz=317,SNR=34
PBMO Poplar Bluff 62.85 64 *e*P **P 07 26 28.7 -1.6**
comp=Z,397nm,1.3s
137A Heron Place, G 62.85 71 P **P 07 26 30.1 -0.3**
baz=317,SNR=20
SADO Sadowa 62.85 51 *e*P **P 07 26 29.2 -1.0**
comp=Z,78nm,0.8s
X301 Greenbrier Sit 62.86 67 *e*P **P 07 26 29.1 -1.3**
comp=Z,254nm,1.3s
WHAR Wooly Hollow 62.88 67 *e*P **P 07 26 28.9 -1.7**
comp=Z,187nm,1.2s
NSS Namsos 62.93 353 *e*P **P 07 26 30.4 0.0**
NSS *e*pP **PcP 07 27 07.1 +0.1**
NSS *i* 07 27 12.4
NSS Namsos 62.93 353 *e*P pP 07 27 12.5 +4.4
W41B Gary Mavity, V 62.99 67 P **P 07 26 30.2 -1.1**
baz=317,SNR=57
MDOK Medeo 62.99 306 *i* P **P 07 26 30.5 -0.9**
comp=Z,250nm,0.9s
MDOK *i* pP **PcP 07 27 08.3 +0.4**
MDOK *i* sP **sP 07 27 25.9 -0.6**
MDOK *i* S **S 07 34 48.3 -0.6**
MDOK LRM MLR 07 57 05.6
comp=Z,183nm,12.6s
V42A Cord 63.02 66 P **P 07 26 29.9 -1.6**
baz=317,SNR=38
AAA Alma-Ata 63.03 306 *e*P **P 07 26 35.1 +3.6**
AAA *e*S **S 07 34 53.4 +4.3**
AAA pmax pmax
comp=Z,800nm,3.7s
AAA smax smax
comp=N,2μm,7.5s
AAA MLR MLR
comp=Z,600nm,9.0s
BTLS Baital 63.06 309 *i* P **P 07 26 31.0 -0.7**
comp=Z,185nm,0.9s
BTLS *i* S **S 07 34 49.2 0.0**
BTLS *i* sS **sS 07 35 55.3 +0.9**
T44A Benton 63.09 64 P **P 07 26 30.8 -1.1**
baz=317,SNR=23
336A Riesel 63.09 73 P **P 07 26 31.8 -0.2**
baz=317,SNR=65
435B Jarrell 63.09 74 P **P 07 26 32.0 0.0**
baz=317,SNR=34
SUF Sumiainen 63.12 346 P **P 07 26 31.6 -0.1**
SUF pmax pmax
comp=Z,202nm,0.9s
P47A Martinsville 63.13 60 P **P 07 26 31.3 -0.9**
baz=317,SNR=101
U43A Rector 63.16 65 P **P 07 26 31.1 -1.2**
baz=317,SNR=22
X40A Basin Creek Fa 63.16 68 P **P 07 26 31.8 -0.6**
baz=317,SNR=49
138A Matatall Enter 63.19 71 P **P 07 26 32.7 0.0**
baz=317,SNR=33
S45A Carrier Mills 63.21 63 P **P 07 26 31.8 -0.9**
baz=317,SNR=32
UALR University of 63.23 67 *e*P **P 07 26 32.2 -0.7**
comp=Z,85nm,1.2s
Y40A Okolona 63.25 68 P **P 07 26 32.4 -0.6**
baz=317,SNR=18
237A Washetta, Mont 63.25 72 P **P 07 26 32.7 -0.3**
baz=317,SNR=9.8
Z39A Irene McRaven, 63.29 70 P **P 07 26 33.0 -0.3**
baz=317,SNR=6.4
VAF Ylistaro 63.30 348 P **P 07 26 32.8 0.0**
VAF pmax pmax
comp=Z,186nm,0.9s
PARMO Parma 63.30 64 *e*P **P 07 26 32.3 -1.0**
comp=Z,254nm,0.8s
W42A Bald Knob 63.33 66 P **P 07 26 32.8 -0.7**
baz=317,SNR=12
X41A Kaden, Bauxite 63.33 68 P **P 07 26 32.9 -0.7**
baz=317,SNR=34
HNR Honiara 63.44 200 *e*P **P 07 26 35.5 +1.1**
HNR pmax pmax
comp=Z,229nm,0.8s
HNR Honiara 63.44 200 *e*P **P 07 26 35.5 +1.1**
comp=Z,229nm,0.8s
U44A Portageville 63.46 64 P **P 07 26 33.9 -0.5**
baz=317,SNR=11
USIN University of 63.49 62 *e*P **P 07 26 34.1 -0.5**
comp=Z,384nm,0.9s
V43A Jonesboro 63.50 65 P **P 07 26 34.1 -0.6**
baz=317,SNR=9.8
PVMO Portageville 63.51 64 *e*P **P 07 26 34.2 -0.5**
comp=Z,335nm,1.2s
436A Wall Ranch, Ga 63.57 73 P **P 07 26 35.6 +0.5**
baz=317,SNR=12
139A Bunkhouse Ranc 63.58 70 P **P 07 26 35.2 0.0**
baz=317,SNR=5.9
WLAR White Oak Lake 63.58 69 *e*P **P 07 26 34.8 -0.4**
comp=Z,289nm,1.2s
PLVO Plevna 63.63 50 *e*P **P 07 26 34.4 -1.0**
comp=Z,271nm,1.7s
238A Jacksonville 63.65 71 P **P 07 26 35.7 0.0**
baz=317,SNR=20

337A Centerville 63.70 72 P **P 07 26 36.5 +0.5**
baz=317,SNR=5.1
Y41A Eaglette Beard 63.72 68 P **P 07 26 35.9 -0.2**
baz=317,SNR=29
Z40A Long Farm, Mag 63.73 69 P **P 07 26 36.0 -0.1**
baz=317,SNR=24
U44B Burton Farm, H 63.76 64 P **P 07 26 36.1 -0.2**
baz=317,SNR=6.0
X42A Stuttgart 63.79 67 P **P 07 26 36.0 -0.6**
baz=317
833A Chaparral WMA, 63.81 77 P **P 07 26 36.8 0.0**
baz=318,SNR=29
V44A Blytheville 63.83 65 P **P 07 26 36.4 -0.4**
baz=317
GLAT Glass 63.85 64 *e*P **P 07 26 36.5 -0.4**
comp=Z,557nm,1.2s
TRQ Mont Tremblant 63.90 47 *e*P **P 07 26 35.1 -2.0**
437A Phantom Ranch, 63.91 73 P **P 07 26 38.2 +0.8**
baz=317,SNR=8.3
536A Bastrop 63.91 74 P **P 07 26 37.7 +0.3**
baz=317
536A Bastrop 63.91 74 *e*P **P 07 26 37.6 +0.2**
comp=Z,111nm,1.0s
W43A Forest City 63.92 66 P **P 07 26 36.6 -0.8**
baz=317
338A Crockett 64.01 72 P **P 07 26 38.3 +0.3**
baz=317,SNR=12
239A Gary 64.01 71 P **P 07 26 37.8 -0.2**
baz=317,SNR=7.3
UTMT University of 64.03 64 *e*P **P 07 26 38.0 -0.1**
comp=Z,756nm,1.0s
WCI Wyandotte Cave 64.04 61 *e*P **P 07 26 37.5 -0.6**
WCI pmax pmax
comp=Z,269nm,1.3s
WCI Wyandotte Cave 64.04 61 *e*P **P 07 26 37.5 -0.6**
comp=Z,269nm,1.3s
Z41A Richland Creek 64.07 69 P **P 07 26 38.1 -0.2**
baz=317,SNR=12
140A Cam and Jess, 64.08 70 P **P 07 26 38.7 +0.2**
baz=317,SNR=6.7
U45A Rockin P Farm, 64.08 64 P **P 07 26 38.3 -0.1**
baz=317,SNR=25
HALT Halls 64.08 64 *e*P **P 07 26 38.1 -0.3**
comp=Z,563nm,1.1s
NATX Nacogdoches 64.09 71 P **P 07 26 38.7 +0.1**
baz=317,SNR=16
NATX Nacogdoches 64.09 71 *e*P **P 07 26 38.6 +0.1**
comp=Z,320nm,1.4s
CCAR Cane Creek 64.17 67 *e*P **P 07 26 38.9 -0.1**
comp=Z,210nm,1.1s
Y42A Garnett, Star 64.22 68 P **P 07 26 39.3 -0.1**
baz=317,SNR=7.2
X43A Marvell 64.24 66 P **P 07 26 38.9 -0.6**
baz=317,SNR=19
ACSO Alum Creek Sta 64.30 57 *e*P **P 07 26 38.7 -1.1**
comp=Z,147nm,0.8s
TBLU Trondheim 64.32 354 *e*P **P 07 26 39.0 -0.5**
TBLU *e*pP **pP 07 27 15.6 -1.7**
TBLU *i* 07 27 20.9
TBLU Trondheim 64.32 354 *e*P pP 07 27 20.9 +3.5
FIA1 FINESS Array S 64.34 345 *e*P **P 07 26 39.1 -0.5**
comp=Z,430nm,1.5s
FIA0 FINESS Array S 64.34 345 *e*P **P 07 26 39.1 -0.6**
FIA0 FINESS Array S 64.34 345 *e*P **P 07 26 39.0 -0.6**
FINES FINESS Array B 64.34 345 P **P 07 26 39.0 -0.6**
comp=Z,99nm,0.8s,baz=34,slow=7.1,SNR=105
FINES PKPPKP **P'P'df 07 55 28.8 -0.8**
comp=Z,9.0nm,0.9s,baz=132,slow=5.7,SNR=8.4
FINES LR LR 07 58 50.3
comp=Z,658nm,18.1s,baz=42,slow=40
537A Green Hill Far 64.35 74 P **P 07 26 41.1 +0.8**
baz=317,SNR=9.2
636A Smothers Creek 64.36 74 P **P 07 26 41.1 +0.8**
baz=318,SNR=28
636A Smothers Creek 64.36 74 *e*P **P 07 26 40.5 +0.2**
comp=Z,192nm,1.3s
438A Sam Houston St 64.36 72 P **P 07 26 40.9 +0.6**
baz=317,SNR=34
735A Kenedy 64.37 76 P **P 07 26 41.4 +1.0**
baz=318,SNR=26
735A Kenedy 64.37 76 *e*P **P 07 26 40.9 +0.5**
comp=Z,430nm,1.4s
W44A Shelby Farms P 64.38 65 P **P 07 26 40.1 -0.3**
baz=317
933A Laredo 64.41 77 P **P 07 26 41.3 +0.6**
baz=318,SNR=81
240A Hunter Patters 64.41 70 P **P 07 26 40.4 -0.2**
baz=317,SNR=7.1
ERPA Erie 64.41 54 *e*P **P 07 26 40.0 -0.5**
comp=Z,322nm,0.8s
V45A Humboldt 64.42 64 P **P 07 26 40.2 -0.4**
baz=317,SNR=29
FRU Bishkek 64.43 307 *e*P **P 07 26 40.0 -0.7**
FRU *e* 07 27 14.0
FRU *i* 07 27 21.0
FRU *e*S **S 07 35 09.0 +2.6**
FRU *i* 07 36 20.0
FRU pmax pmax
comp=Z,140nm,2.2s
339A Huntington 64.47 71 P **P 07 26 41.3 +0.3**
baz=317
141A Papa Simpson, 64.49 69 P **P 07 26 41.2 +0.1**
baz=317,SNR=6.7
Z42A Norrel Spur, H 64.55 68 P **P 07 26 41.4 -0.1**
baz=317,SNR=18
EBZ Ebenezer Churc 64.64 65 *e*P **P 07 26 42.4 +0.3**
AAK Ala-Archa 64.64 307 LR LR 07 55 49.2
comp=Z,788nm,20.2s,baz=22,slow=37
AAK Ala-Archa 64.64 307 *e*P **P 07 26 42.3 +0.1**
AAK pmax pmax
comp=Z,74nm,0.8s
AAK Ala-Archa 64.64 307 *e*P **P 07 26 42.3 +0.1**
comp=Z,74nm,0.8s
AAK Ala-Archa 64.64 307 P **P 07 26 42.7 +0.5**
SNR=14
AAK Ala-Archa 64.64 307 P **P 07 26 42.7 +0.5**
SNR=14
Y43A Makayla and Ka 64.66 67 P **P 07 26 41.9 -0.3**
baz=317,SNR=5.2
X44A Crenshaw 64.66 66 P **P 07 26 41.8 -0.4**
baz=317
W45A Hickory Valley 64.72 65 P **P 07 26 42.4 -0.1**
baz=318,SNR=36
HKT Hockley 64.73 73 *e*P **P 07 26 42.5 -0.1**
HKT pmax pmax
comp=Z,124nm,1.3s
HKT Hockley 64.73 73 *e*P **P 07 26 42.5 -0.1**
comp=Z,124nm,1.3s
538A Harpers Horsep 64.73 73 P **P 07 26 44.0 +1.2**
baz=318
736A Circle Diamond 64.73 75 P **P 07 26 44.1 +1.4**
baz=318,SNR=41
736A Circle Diamond 64.73 75 *e*P **P 07 26 43.8 +1.0**
comp=Z,325nm,1.4s
439A Center Grove, 64.74 72 P **P 07 26 43.4 +0.6**
baz=318,SNR=14
WVT Waverly 64.75 63 *e*P **P 07 26 41.9 -0.9**
WVT pmax pmax
comp=Z,181nm,1.2s
WVT Waverly 64.75 63 *e*P **P 07 26 41.9 -0.9**
comp=Z,181nm,1.2s
835A Beeville 64.77 76 P **P 07 26 44.4 +1.4**
baz=318,SNR=35
835A Beeville 64.77 76 *e*P **P 07 26 43.8 +0.8**
comp=Z,706nm,1.4s
340A Bronson 64.79 71 P **P 07 26 43.2 +0.1**
baz=318,SNR=62
637A Eagle Lake 64.81 74 P **P 07 26 44.3 +1.1**
baz=318,SNR=33
934A Benavides 64.87 77 P **P 07 26 44.9 +1.3**
baz=318,SNR=34
241A Mo Tay, Goldon 64.91 70 P **P 07 26 44.1 +0.3**
baz=318
MMNY Mt. Morris Dam 64.97 52 *e*P **P 07 26 43.5 -0.6**
comp=Z,187nm,0.8s
Z43A Armstrong Fami 64.99 68 P **P 07 26 43.9 -0.5**
baz=318
Y44A Strider, Charl 65.02 66 P **P 07 26 44.2 -0.4**
baz=318
M54A Oil Creek Stat 65.03 54 P **P 07 26 44.5 -0.1**
baz=319,SNR=23
OXF Oxford 65.07 65 *e*P **P 07 26 43.7 -1.1**
OXF pmax pmax
comp=Z,847nm,1.2s
OXF Oxford 65.07 65 *e*P **P 07 26 43.7 -1.1**
comp=Z,847nm,1.2s
142A Monroe 65.08 69 P **P 07 26 45.1 +0.1**

baz=318,SNR=8.4
LONY Lake Ozonia 65.10 49 *e*P **P 07 26 43.1 -1.8**
comp=Z,130nm,1.5s
X45A UM Field Stati 65.14 66 P **P 07 26 44.8 -0.6**
baz=318,SNR=41
MOL Molde 65.16 355 *e*P **P 07 26 45.1 +0.1**
MOL *e*pP **pP 07 27 22.4 -0.4**
MOL *i* 07 27 27.6
MOL IAML 07 27 29.0
comp=Z,72nm,0.6s
MOL Molde 65.16 355 *e*P pP 07 27 27.3 +4.5
034A Hebbronville 65.17 77 P **P 07 26 46.7 +1.1**
baz=318,SNR=53
LSA Lhasa 65.18 287 P **P 07 26 47.3 +1.1**
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 65.18 287 *e*P **P 07 26 47.4 +1.2**
LSA pmax pmax
comp=Z,68nm,0.8s
LSA Lhasa 65.18 287 *e*P **P 07 26 47.4 +1.2**
comp=Z,68nm,0.8s
PUL Pulkovo 65.21 343 *i* P **P 07 26 45.2 -0.1**
PUL pmax pmax
comp=Z,128nm,0.8s
440A Kirbyville 65.24 71 P **P 07 26 46.4 +0.3**
baz=318,SNR=6.9
737A Port Lavaca 65.25 75 P **P 07 26 47.3 +1.2**
baz=318
539A Cross D Ranch, 65.27 72 P **P 07 26 47.0 +0.8**
baz=318
341A Kurthwood 65.27 70 P **P 07 26 46.2 +0.1**
baz=318,SNR=14
143A Socs Landing, 65.27 68 P **P 07 26 46.0 -0.2**
baz=318,SNR=9.2
N54A Moraine State 65.28 55 P **P 07 26 45.9 -0.2**
baz=319,SNR=28
KVTX Kingsville 65.28 77 *e*P **P 07 26 46.8 +0.5**
comp=Z,322nm,1.4s
242A Grayson 65.32 69 P **P 07 26 46.3 -0.2**
baz=318,SNR=13
638A Rosharon 65.35 73 P **P 07 26 47.9 +1.2**
baz=318
FRNY Flat Rock 65.39 48 *e*P **P 07 26 45.1 -1.7**
comp=Z,28nm,0.8s
Z44A Pea Ridge, Bel 65.40 67 P **P 07 26 46.4 -0.6**
baz=318,SNR=13
PLAL Pickwick Lake 65.46 64 *e*P **P 07 26 46.3 -1.0**
comp=Z,324nm,1.4s
Y45A Yeager Farm, C 65.47 66 P **P 07 26 47.1 -0.3**
baz=318,SNR=48
DOMB Dombas 65.60 354 *e*P **P 07 26 48.0 +0.2**
DOMB IAmb IAmb 07 26 49.4
comp=Z,98nm,1.1s
DOMB *e*pP **pP 07 27 25.0 -0.8**
DOMB *i* 07 27 30.1
DOMB Dombas 65.60 354 *e*P **pP 07 27 29.8 +4.0**
DOMB IAmb IAmb 07 27 31.4
comp=Z,202nm,1.0s
035A Encino 65.61 77 P **P 07 26 49.5 +1.1**
baz=318,SNR=33
540A Vidor 65.63 72 P **P 07 26 49.2 +0.7**
baz=318
738A Farr-Stevens R 65.66 74 P **P 07 26 50.1 +1.4**
baz=318
AKTO Aktyubinsk 65.67 323 P **P 07 26 48.7 +0.2**
comp=Z,120nm,0.7s,baz=34,slow=6.9
AKTO S **S 07 35 23.1 +2.0**
comp=Z,1.4nm,0.6s,baz=124,slow=23,SNR=8.7
AKTO ScS **ScS 07 36 28.6 +0.1**
comp=Z,2.9nm,1.0s,baz=128,slow=20,SNR=8.8
AKTO LR LR 07 58 19.3
comp=Z,980nm,18.5s,baz=24,slow=38
AKTO Aktyubinsk 65.67 323 *i* P **P 07 26 48.5 0.0**
AKTO pmax pmax
comp=Z,153nm,0.9s
441A DeRidder 65.69 71 P **P 07 26 49.4 +0.5**
baz=318
MNAS Manas 65.72 309 P **P 07 26 49.4 +0.3**
MNAS pmax pmax
comp=Z,26nm,0.7s
342A Flagon Creek P 65.72 70 P **P 07 26 49.4 +0.3**
baz=318,SNR=12
Z45A Winona 65.75 66 P **P 07 26 49.0 -0.3**
baz=318,SNR=18
NCB Newcomb 65.77 49 *e*P **P 07 26 48.5 -0.8**
comp=Z,54nm,0.9s
243A Waterproof 65.83 69 P **P 07 26 50.0 +0.3**
baz=318,SNR=5.3
Y46A Houston 65.84 66 P **P 07 26 49.4 -0.4**
baz=318,SNR=51
144A Alexander Plac 65.88 68 P **P 07 26 49.9 -0.2**
baz=318,SNR=12
AB31 Akbulak array 65.89 321 *c*e**P P 07 26 50.2 +0.3**
AB31 pmax pmax
comp=Z,16nm,0.4s
ABKAR Akbulak array 65.89 321 *e*P **P 07 26 50.1 +0.2**
comp=Z,457nm,0.9s
035Z Hargill 65.98 77 P **P 07 26 51.5 +0.7**
baz=318,SNR=26
ZAIG Zacatecas 66.01 83 *e*P **P 07 26 51.7 +0.3**
comp=Z,66nm,1.1s
VBMS Vicksburg 66.14 68 P **P 07 26 51.7 0.0**
baz=318,SNR=15
VBMS Vicksburg 66.14 68 *e*P **P 07 26 51.8 +0.1**
comp=Z,271nm,1.4s
442A Mamou 66.15 70 P **P 07 26 52.7 +0.8**
baz=318,SNR=5.8
244A Avery, Jackson 66.17 68 P **P 07 26 51.8 -0.1**
baz=318,SNR=32
145A Houston Renfro 66.18 67 P **P 07 26 51.7 -0.3**
baz=318,SNR=8.2
KK31 Karatay Array 66.19 310 *c*e**P P 07 26 51.9 -0.1**
KK31 pmax pmax
comp=Z,17nm,0.5s
KKAR Karatay Array 66.19 310 *e*P **P 07 26 51.9 0.0**
KKAR pmax pmax
comp=Z,573nm,0.8s
KKAR Karatay Array 66.19 310 *e*P **P 07 26 51.9 0.0**
comp=Z,573nm,0.8s
541A Lake Charles 66.20 71 P **P 07 26 53.1 +1.0**
baz=318
343A Vidalia 66.20 69 P **P 07 26 52.5 +0.4**
baz=318
MDV Middlebury 66.22 48 *e*P **P 07 26 51.1 -1.0**
NC204 NORSAR Array S 66.25 353 *e*P **P 07 26 51.1 -0.9**
NC303 NORSAR Array S 66.25 353 *e*P **P 07 26 51.5 -0.5**
KSH Kashi 66.25 304 P **P 07 26 56.5 +4.0**
KSH PcP **PcP 07 27 24.5 +3.1**
KSH pP pP 07 27 34.8 +4.2
KSH sP sP 07 27 53.0 +5.2
KSH PP **PP 07 29 26.0 +6.1**
KSH PcS 07 31 26.5
KSH S **S 07 35 30.0 +1.2**
KSH ScS **SKSac 07 36 32.3 -1.0**
KSH sS sS 07 36 37.0 +2.4
KSH SS **SS 07 39 51.5 +4.4**
KSH pmax pmax
comp=Z,53nm,0.9s
KSH pmax pmax
comp=Z,360nm,5.6s
KSH LR LR
comp=Z,480nm,10.1s
KSH LR LR
comp=Z,600nm,11.6s
KSH LR LR
comp=Z,340nm,10.5s
LNIG Linares 66.30 80 *e*P **P 07 26 51.5 -1.4**
comp=Z,147nm,1.8s
Z46A Louisville 66.30 66 P **P 07 26 52.5 -0.3**
baz=318,SNR=19
MCWV Mont Chateau 66.33 55 *e*P **P 07 26 52.4 -0.4**
comp=Z,48nm,0.9s
NC405 NORSAR Array S 66.34 353 *e*P **P 07 26 52.5 -0.1**
Y47A UCPARC, Winfie 66.39 65 P **P 07 26 52.4 -0.8**
baz=318,SNR=47
PQI Presque Isle 66.40 43 *e*P **P 07 26 52.5 -0.6**
comp=Z,56nm,0.8s
PANO Nakornpanom 66.41 268 P **P 07 26 55.3 +1.7**
comp=Z,75nm,1.5s,comp=Z,2μm
NB201 NORSAR Array S 66.43 353 *e*P **P 07 26 53.0 -0.1**
NB2 NORSAR Subarra 66.45 353 P **P 07 26 53.1 -0.2**
comp=Z,127nm,1.2s,baz=9.2,slow=6.5
NB2 NORSAR Subarra 66.45 353 P pP 07 27 30.3 -1.0
comp=Z,134nm,0.7s,baz=9.4,slow=6.5
NB2 NORSAR Subarra 66.45 353 P **P 07 26 53.1 -0.2**
baz=9.2,slow=6.5
NB2 NORSAR Subarra 66.45 353 P pP 07 27 30.3 -1.0

baz=9.4,slow=6.5
NB200 NORSAR Array S 66.45 353 *e*P **P** **07 26 53.1 -0.2**
NB200 *e*pP **pP** **07 27 30.1 -1.3**
NOA NORSAR Array B 66.45 353 P **P** **07 26 53.1 -0.2**
comp=Z,47nm,0.9s,baz=10,slow=6.4,SNR=57
NOA pP **pP** **07 27 30.1 -1.3**
comp=Z,116nm,0.7s,baz=10,slow=6.4,SNR=6.2
NOA PKPPKP P'P'df 07 55 18.3 -7.8
comp=Z,1.8nm,0.7s,baz=172,slow=3.8,SNR=5.8
SWET Sewanee 66.46 63 *e*P **P** **07 26 52.8 -1.1**
comp=Z,271nm,1.4s
ACCN Adirondack Com 66.48 49 *e*P **P** **07 26 52.5 -1.2**
comp=Z,108nm,0.8s
NBO00 NORSAR Array S 66.49 353 *e*P **P** **07 26 54.6 +1.1**
443A Delano Plantat 66.49 70 P **P** **07 26 54.7 +0.7**
baz=318
O56A Blue Knob Stat 66.51 54 P **P** **07 26 53.5 -0.6**
baz=320,SNR=35
542A Morse 66.52 71 P **P** **07 26 55.1 +0.9**
baz=318
BRLS Borolday 66.56 311 *i* P **P** **07 26 55.3 +1.0**
comp=Z,37nm,1.1s
BRLS *i* sP **sP** **07 27 51.0 +1.4**
BRLS *e*S **S** **07 35 35.3 +3.1**
SSPA Standing Stone 66.57 54 *e*P **P** **07 26 53.3 -1.0**
comp=Z,268nm,0.7s
344A Westbrook Farm 66.58 69 P **P** **07 26 54.6 0.0**
baz=318,SNR=12
AFI Afiamalu 66.60 169 *e*P **P** **07 26 55.3 +0.5**
AFI pmax pmax
comp=Z,61nm,0.8s
AFI Afiamalu 66.60 169 *e*P **P** **07 26 55.3 +0.5**
comp=Z,61nm,0.8s
LBNH Lisbon 66.61 47 *e*P **P** **07 26 54.1 -0.5**
LBNH pmax pmax
comp=Z,126nm,1.1s
LBNH Lisbon 66.61 47 *e*P **P** **07 26 54.1 -0.5**
comp=Z,126nm,1.1s
245A Little AP, Sta 66.63 68 P **P** **07 26 54.6 -0.3**
baz=318,SNR=13
HYA Hoyanger 66.63 356 *e*P **P** **07 26 54.0 -0.4**
HYA IAmb IAmb 07 26 56.1
comp=Z,116nm,1.2s
HYA *e*pP **pP** **07 27 31.9 -0.5**
HYA Hoyanger 66.63 356 *e*P pP 07 27 36.9 +4.5
146A Union 66.65 67 P **P** **07 26 54.7 -0.3**
baz=318,SNR=53
NAO01 NORSAR Array S 66.67 353 *e*P **P** **07 26 54.8 +0.2**
NC602 NORSAR Array S 66.72 353 *e*P **P** **07 26 54.2 -0.8**
NC602 IVmB_BB 07 26 57.2
comp=Z,585nm,1.3s
NC602 *e* 07 27 36.8
NC602 NORSAR Array S 66.72 353 *e*P **P** **07 26 55.0 0.0**
Z47A Carrollton 66.79 66 P **P** **07 26 55.0 -0.8**
baz=318,SNR=38
HNH Hanover 66.86 48 *e*P **P** **07 26 55.6 -0.6**
comp=Z,65nm,0.9s
PMG Port Moresby 66.92 213 *d i*P **P** **07 26 57.6 +0.8**
PMG pmax pmax
comp=Z,674nm,1.6s
PMG Port Moresby 66.92 213 *e*P **P** **07 26 57.7 +0.8**
comp=Z,284nm,1.6s
Z48A Northport 66.94 65 P **P** **07 26 55.8 -1.0**
baz=318,SNR=36
543A St. Martinvill 66.95 70 P **P** **07 26 57.4 +0.5**
baz=318
PKME Peaks-Kenny Pk 66.97 45 *e*P **P** **07 26 56.5 -0.3**
comp=Z,134nm,1.3s
TRY Troy 66.98 49 *e*P **P** **07 26 56.1 -0.8**
comp=Z,63nm,0.9s
CPCT Cooper Cave 67.05 62 *e*P **P** **07 26 56.8 -0.8**
comp=Z,285nm,1.4s
147A Livingston 67.06 66 P **P** **07 26 57.3 -0.3**
baz=318,SNR=26
VSU Vasula 67.07 344 *c i*P **P** **07 26 56.5 -0.7**
VSU pmax pmax
comp=Z,276nm,0.9s
246A Jackson Lee, B 67.07 67 P **P** **07 26 57.5 -0.1**
baz=318
345A Thompson Farm, 67.09 68 P **P** **07 26 57.9 +0.1**
baz=318,SNR=8.5
KDM Kudat 67.09 251 ⇑P **P** **07 27 00.6 +2.6**
SFK Sufi-Kurgan 67.11 306 P **P** **07 26 58.3 +0.2**
SFK pmax pmax
comp=Z,18nm,0.8s
444A Pine Grove 67.12 69 P **P** **07 26 58.3 +0.3**
baz=318
HFS Hagfors 67.14 351 P **P** **07 26 57.4 -0.2**
comp=Z,31nm,0.7s,baz=44,slow=6.4,SNR=37
HFS pP **pP** **07 27 34.8 -0.9**
comp=Z,18nm,0.7s,baz=5.7,slow=3.0,SNR=2.9
FAKI Fak Fak 67.15 231 *e*P **P** **07 26 58.1 -0.2**
comp=Z,291nm,0.8s
IUG Iuzhnay 67.15 310 *i* P **P** **07 26 57.5 -0.6**
comp=Z,431nm,0.9s
TKL Tuckaleechee C 67.30 61 P **P** **07 26 58.3 -0.7**
comp=Z,108nm,1.0s,baz=283,slow=1.8,SNR=59
TKL Tuckaleechee C 67.30 61 *e*P **P** **07 26 58.4 -0.7**
TKL pmax pmax
comp=Z,261nm,1.3s
TKL Tuckaleechee C 67.30 61 *e*P **P** **07 26 58.4 -0.7**
comp=Z,261nm,1.3s
UBPT Khong Chiam 67.31 266 P **P** **07 27 01.2 +1.8**
comp=Z,58nm,2.1s,comp=Z,2μm
544A White Castle 67.33 70 P **P** **07 27 00.2 +0.9**
baz=318
FFD Franklin Falls 67.33 48 *e*P **P** **07 26 58.2 -0.9**
comp=Z,61nm,0.8s
247A Quitman 67.34 67 P **P** **07 26 59.2 -0.1**
baz=319,SNR=17
445A Amite 67.34 69 P **P** **07 26 59.6 +0.2**
baz=318
346A Big Creek Wild 67.35 68 P **P** **07 26 59.4 0.0**
baz=318,SNR=12
WVL Waterville 67.36 46 *e*P **P** **07 26 58.8 -0.5**
comp=Z,76nm,0.9s
MOS Moscow 67.37 337 *e*P **P** **07 26 57.8 -1.3**
MOS *e**PP **pP** **07 27 41.4 +4.1**
MOS *e* 07 29 31.3
MOS *e*S **S** **07 35 42.0 +0.6**
MOS pmax pmax
comp=Z,200nm,0.9s
MOS pmax pmax
comp=Z,238nm,0.9s
N59A State Game Lan 67.38 52 P **P** **07 26 59.1 -0.5**
baz=320,SNR=46
LRAL Lakeview Retre 67.50 65 *e*P **P** **07 26 59.1 -1.3**
comp=Z,37nm,0.8s
MYLDM Lahad Datu 67.55 248 *e*P **P** **07 27 01.0 +0.2**
comp=Z,225nm,1.5s
OSL Oslo 67.58 353 *e*P **P** **07 27 01.3 +0.9**
OSL IAmb IAmb 07 27 03.5
comp=Z,148nm,1.3s
OSL *e*pP **pP** **07 27 38.1 -0.4**
OSL Oslo 67.58 353 *e*P pP 07 27 43.2 +4.7
CMAI Chiengmai2 67.70 274 P **P** **07 27 02.3 +0.3**
comp=Z,616nm,0.9s
248A Dixon Mills 67.80 66 P **P** **07 27 02.2 0.0**
baz=319,SNR=20
MVL Millersville 67.81 53 *e*P **P** **07 27 01.3 -0.8**
comp=Z,145nm,0.8s
ODNJ Ogdensburg 67.81 51 *e*P **P** **07 27 01.9 -0.3**
comp=Z,96nm,1.1s
446A Poplarville 67.85 68 P **P** **07 27 02.8 +0.3**
baz=319,SNR=9.7
ODD1 Odda 67.86 355 *e*P **P** **07 27 02.5 +0.3**
ODD1 IAmb IAmb 07 27 04.0
comp=Z,39nm,0.9s
ODD1 *e*pP **pP** **07 27 40.0 -0.4**
ODD1 *e* 07 27 45.2
ODD1 Odda 67.86 355 *e*P **pP** **07 27 45.2 +4.8**
ODD1 IAmb IAmb 07 27 46.2
comp=Z,119nm,0.7s
347A Saraland 67.86 67 P **P** **07 27 02.8 +0.1**
baz=319,SNR=18
BLA Blacksburg 67.89 58 *e*P **P** **07 27 02.0 -0.8**
BLA pmax pmax
comp=Z,114nm,0.8s
BLA Blacksburg 67.89 58 *e*P **P** **07 27 02.0 -0.8**
comp=Z,114nm,0.8s
SDKM Sandakan 67.92 249 ⇑P **P** **07 27 04.6 +1.3**
KONO Kongsberg 67.94 354 *e*P **P** **07 27 02.8 +0.1**
KONO *e*pP **pP** **07 27 40.4 -0.4**
KONO *e*S **S** **07 35 49.5 +1.4**
KONO Kongsberg 67.94 354 *e*P **pP** **07 27 45.4 +4.6**
KONO IAmb IAmb 07 27 46.8
comp=Z,287nm,1.0s
KONO Kongsberg 67.94 354 ⇑*i*P **P** **07 27 03.1 +0.4**
KONO pmax pmax
comp=Z,399nm,1.1s
KONO Kongsberg 67.94 354 *e*P **P** **07 27 02.8 +0.1**
comp=Z,216nm,0.8s
SDMD Soldier's Deli 68.02 54 *e*P **P** **07 27 02.6 -0.9**
comp=Z,92nm,0.8s
VWCC Virginia Weste 68.09 57 *e*P **P** **07 27 03.1 -0.9**
KHON Khomkaen 68.12 269 P **P** **07 27 05.9 +1.5**
comp=Z,28nm,1.1s,comp=Z,1μm
HRV Adam Dziewonsk 68.13 48 *e*P **P** **07 27 03.6 -0.6**
HRV pmax pmax
comp=Z,128nm,1.1s
HRV Adam Dziewonsk 68.13 48 *e*P **P** **07 27 03.6 -0.6**
comp=Z,128nm,1.1s
645A Chauvin 68.14 70 P **P** **07 27 05.7 +1.3**
baz=319
BRNJ Basking Ridge 68.14 51 *e*P **P** **07 27 03.5 -0.7**
comp=Z,117nm,0.9s
KKM Kota Kinabalu 68.16 251 *e*P **P** **07 27 05.7 +0.9**
comp=Z,59nm,1.4s
OBN Obninsk 68.19 337 P **P** **07 27 04.0 -0.2**
comp=Z,208nm,0.9s,baz=334,slow=1.0,SNR=24
OBN LR LR 08 01 03.8
comp=Z,801nm,18.1s,baz=26,slow=39
OBN Obninsk 68.19 337 *c i*P **P** **07 27 04.4 +0.1**
OBN pmax pmax
comp=Z,167nm,0.9s
OBN Obninsk 68.19 337 *e*P **P** **07 27 04.7 +0.4**
comp=Z,375nm,1.3s
EMMW East Machias 68.20 44 *e*P **P** **07 27 03.8 -0.7**
comp=Z,149nm,0.8s
PAL Palisades 68.21 51 *e*P **P** **07 27 03.5 -1.1**
PAL pmax pmax
comp=Z,275nm,1.4s
PAL Palisades 68.21 51 *e*P **P** **07 27 03.5 -1.1**
comp=Z,274nm,1.4s
348A Jackson 68.21 67 P **P** **07 27 05.1 +0.2**
baz=319,SNR=15
BG3 Lake Jocassee 68.25 61 *e*P **P** **07 27 04.8 -0.3**
comp=Z,496nm,1.5s
447A Lucedale 68.25 68 P **P** **07 27 05.2 +0.2**
baz=319,SNR=11
PSUB Penn St. - Bra 68.30 52 *e*P **P** **07 27 05.0 -0.3**
comp=Z,72nm,0.9s
WES Weston 68.33 48 *e*P **P** **07 27 04.7 -0.7**
WES pmax pmax
comp=Z,112nm,0.8s
WES Weston 68.33 48 *e*P **P** **07 27 04.7 -0.7**
comp=Z,112nm,0.8s
CPNY Central Park 68.35 51 *e*P **P** **07 27 04.9 -0.6**
comp=Z,148nm,0.8s
BLS5 Blasjo 68.36 355 *e*P **P** **07 27 05.8 +0.5**
BLS5 *e*pP **pP** **07 27 42.2 -1.3**
LMN Caledonia Moun 68.39 42 *e*P **P** **07 27 05.1 -0.6**
comp=Z,174nm,1.0s
LAMP Lampang 68.41 273 P **P** **07 27 06.8 +0.6**
comp=Z,28nm,0.7s,comp=Z,203nm
YLE Yale 68.42 50 *e*P **P** **07 27 05.6 -0.4**
comp=Z,160nm,1.4s
UTTA Uttaradit 68.44 271 P **P** **07 27 06.3 -0.1**
comp=Z,57nm,0.8s,comp=Z,401nm
BCX Boston College 68.44 48 *e*P **P** **07 27 05.9 -0.2**
comp=Z,163nm,1.6s
646A Port Sulphur 68.49 69 P **P** **07 27 07.9 +1.4**
baz=319
IP03 Louisa 68.50 55 *e*P **P** **07 27 06.5 0.0**
comp=Z,116nm,0.9s
CVRD Centerville Ro 68.57 55 *e*P **P** **07 27 06.4 -0.6**
comp=Z,101nm,0.8s
IP07 Quail 68.57 55 *e*P **P** **07 27 06.7 -0.3**
comp=Z,214nm,0.7s
IP06 Yanceyville 68.58 55 *e*P **P** **07 27 06.2 -0.9**
comp=Z,154nm,0.8s
448A Bay Minette 68.60 67 P **P** **07 27 06.9 -0.3**
baz=319
BRYW Bryant College 68.60 49 *e*P **P** **07 27 06.3 -0.8**
comp=Z,96nm,0.8s
IP01 Cuckoo 68.60 55 *e*P **P** **07 27 06.9 -0.2**
comp=Z,84nm,0.9s
CHTO Chiang Mai 68.61 273 P **P** **07 27 07.5 0.0**
comp=Z,319nm,0.9s,comp=Z,5μm
CHTO Chiang Mai 68.61 273 *e*P **P** **07 27 07.5 0.0**
CHTO pmax pmax
comp=Z,54nm,0.8s
CHTO Chiang Mai 68.61 273 *e*P **P** **07 27 07.5 0.0**
comp=Z,54nm,0.8s
CHTO Chiang Mai 68.61 273 P **P** **07 27 07.8 +0.3**
SNR=18
CHTO Chiang Mai 68.61 273 P **P** **07 27 07.8 +0.3**
SNR=18
KMY Karmoy 68.62 356 *e*pP pP 07 27 44.8 -0.3
KMY Karmoy 68.62 356 *e*P pP 07 27 49.8 +4.7
SPFD Spotsylvania F 68.66 55 *e*P **P** **07 27 08.0 +0.5**
comp=Z,89nm,0.9s
CBN Corbin Frederi 68.68 55 *e*P **P** **07 27 07.3 -0.3**
comp=Z,94nm,0.7s
IP05 Hopewell Churc 68.78 55 *e*P **P** **07 27 07.8 -0.4**
comp=Z,119nm,0.8s
JSRW J. Sargeant Re 68.82 56 *e*P **P** **07 27 08.0 -0.5**
JRQG Juriquilla Cam 68.85 83 *e*P **P** **07 27 09.4 +0.2**
BRAL Brewton 68.88 66 *e*P **P** **07 27 09.0 0.0**
comp=Z,574nm,1.6s
STAV Stavanger 68.88 356 *e*P **P** **07 27 10.1 +1.6**
STAV *e*pP **pP** **07 27 46.2 -0.5**
STAV Stavanger 68.88 356 *e*P pP 07 27 51.4 +4.7
CM31 Chiang Mai Arr 68.89 273 *e*P **P** **07 27 08.6 -0.5**
CMAR Chiang Mai Arr 68.89 273 P **P** **07 27 09.4 +0.3**
comp=Z,54nm,0.8s,baz=27,slow=6.8,SNR=106
CMAR PKPPKP **P'P'df** **07 55 17.6 -3.9**
comp=Z,1.3nm,0.6s,baz=268,slow=5.0,SNR=5.9
CMAR LR LR 07 59 37.7
comp=Z,392nm,18.9s,baz=48,slow=38
CMAR Chiang Mai Arr 68.89 273 P **P** **07 27 09.5 +0.3**
CMAR pmax pmax
comp=Z,57nm,0.8s
TAPN Taplejung 68.94 288 *e*P **P** **07 27 10.5 +0.7**
comp=Z,204nm,0.7s
KMSC Kings Mountain 68.99 60 P **P** **07 27 09.4 -0.2**
baz=320,SNR=71
KMSC Kings Mountain 68.99 60 *e*P **P** **07 27 08.7 -0.9**
comp=Z,681nm,1.6s
PBKT Sadao Pong 69.08 270 P **P** **07 27 10.5 +0.2**
comp=Z,58nm,0.8s,comp=Z,1μm
URVA University of 69.09 55 *e*P **P** **07 27 09.3 -0.9**
GOGA Godfrey 69.16 62 *e*P **P** **07 27 09.6 -1.1**
GOGA pmax pmax
comp=Z,148nm,1.3s
GOGA Godfrey 69.16 62 *e*P **P** **07 27 09.6 -1.1**
comp=Z,148nm,1.3s
MOIG Morelia 69.17 85 *e*P **P** **07 27 09.9 -1.3**
comp=Z,405nm,1.9s
HODGE Hodges 69.19 61 *e*P **P** **07 27 10.1 -0.8**
comp=Z,118nm,0.7s
HOMB Homborsund 69.39 354 *e*P **P** **07 27 12.7 +1.1**
HOMB *e* 07 27 21.2
HOMB *e*pP **pP** **07 27 49.2 -0.7**
SNART Snartemo 69.40 355 *e*P **P** **07 27 11.9 +0.2**
SNART *e*pP **pP** **07 27 49.6 -0.4**
SNART Snartemo 69.40 355 *e*P pP 07 27 54.7 +4.7
ODAN Odare 69.50 288 *e*P **P** **07 27 13.6 +0.5**
comp=Z,159nm,0.8s
GUN Gumba 69.58 289 *e*P **P** **07 27 14.2 +0.4**
comp=Z,392nm,0.4s
JIRN Jiri 69.59 289 *e*P **P** **07 27 14.3 +0.4**
comp=Z,972nm,0.5s
JSC Jenkinsville 69.68 60 *e*P **P** **07 27 13.0 -0.9**
JSC pmax pmax
comp=Z,167nm,1.0s
JSC Jenkinsville 69.68 60 *e*P **P** **07 27 13.0 -0.9**
comp=Z,167nm,1.0s
MSVF Nonsavu 69.80 180 *e*P **P** **07 27 14.4 -0.2**
MSVF pmax pmax
comp=Z,327nm,1.8s
MSVF Nonsavu 69.80 180 *e*P **P** **07 27 14.4 -0.2**
comp=Z,327nm,1.8s
LPSR Galich'ya Gora 69.89 335 *e*P **P** **07 27 14.5 -0.3**
LPSR pmax pmax
comp=Z,90nm,0.8s
RAMN Ramite 69.89 288 *e*P **P** **07 27 15.7 +0.2**
comp=Z,312nm,0.5s
KKN Kakani 70.02 290 *e*P **P** **07 27 16.7 +0.4**
comp=Z,257nm,0.6s
PKI Pulchoki 70.11 289 *e*P **P** **07 27 17.1 +0.1**
comp=Z,234nm,0.5s
PKIN Phulchoki 70.11 289 *e*P **P** **07 27 17.6 +0.7**
comp=Z,229nm,0.5s
GKN Gorkha 70.23 290 *e*P **P** **07 27 17.6 +0.1**
comp=Z,259nm,0.7s
DMN Daman 70.26 290 *e*P **P** **07 27 18.2 +0.4**
comp=Z,196nm,0.8s
DZET Dzherino 70.33 308 P **P** **07 27 17.5 -0.4**
DZET pmax pmax
comp=Z,39nm,0.6s
LUWI Luwuk 70.34 241 *e*P **P** **07 27 17.3 -0.8**
comp=Z,434nm,0.9s
NACGM Naroch 70.44 343 *e*P **P** **07 27 16.0 -2.1**
NACGM *e*P **P** **07 27 18.0 -0.1**
NACGM PM 07 27 19.0
comp=Z,0.3nm,0.8s
NACGM *e*pP **pP** **07 28 02.0 +5.5**
NACGM *e*PP PP 07 30 44.0 +49
NACGM *e*S **S** **07 36 15.0 -2.5**
NACGM *e*SS SS 07 40 16.0 -34
NACGM *e*SSS SSS 07 43 42.0
DANN Dangsing 70.47 291 *e*P **P** **07 27 19.2 +0.1**
TIGA Tifton 70.59 64 P **P** **07 27 19.0 -0.4**
baz=320,SNR=7.4
TIGA Tifton 70.59 64 *e*P **P** **07 27 18.8 -0.6**
comp=Z,336nm,1.6s
MICGM Minsk 70.62 342 ⇑*e*P **P** **07 27 18.0 -1.2**
MICGM PM 07 27 19.0
comp=Z,0.3nm,1.0s
MICGM *e* 07 27 47.0
MNK Minsk 70.62 342 ⇑*e*P **P** **07 27 18.0 -1.2**
MNK *e* 07 27 47.0
MNK pmax pmax
comp=Z,250nm,1.0s
CNNC Cliffs of the 70.71 57 *e*P **P** **07 27 20.0 0.0**
comp=Z,114nm,0.8s
TAOE Nuku Hiva Isla 70.74 136 *e*S **S** **07 36 26.0 +3.9**
comp=Z,573nm,31.5s
TAOE Nuku Hiva Isla 70.74 136 *e*LR LR 07 49 05.0
comp=Z,1μm,24.4s
TAOE Nuku Hiva Isla 70.74 136 *e*T T 08 43 39.4
comp=Z,27nm,0.2s
KOLN Koldanda 71.00 291 *e*P **P** **07 27 21.9 -0.3**
comp=Z,123nm,0.8s
VSR Storozhevoye 71.08 334 *e*P **P** **07 27 22.2 +0.2**
VSR pmax pmax
comp=Z,149nm,0.8s
PYUN Piuthan 71.10 292 *e*P **P** **07 27 23.1 +0.3**
comp=Z,221nm,0.8s
MUD Monsted U'grnd 71.15 353 *i* P **P** **07 27 23.2 +0.9**
comp=Z,68nm,1.2s
MUD *i* 07 28 05.6
MUD Monsted U'grnd 71.15 353 *i* P **P** **07 27 23.2 +0.9**
MUD *i* 07 28 05.6
MUD pmax pmax
comp=Z,68nm,1.2s
NHSC New Hope 71.16 60 *e*P **P** **07 27 22.9 +0.1**
comp=Z,259nm,0.8s
RGRS Roger Stewart 71.31 60 *e*P **P** **07 27 23.7 +0.1**
comp=Z,2μm,0.5s
CSU Charleston Sou 71.31 60 *e*P **P** **07 27 24.0 +0.3**
COP Copenhagen 71.65 351 *i* P **P** **07 27 25.6 +0.3**
COP *i* 07 28 09.0
COP Copenhagen 71.65 351 *i* P **P** **07 27 25.6 +0.3**
COP *i* 07 28 09.0
THN Thein Dam 71.80 300 *e*P **P** **07 27 27.0 +0.3**
THN *e*x x 07 29 41.0
SUW Suwalki 71.92 345 *e*P **P** **07 27 26.2 -0.8**
SUW *e*pP **pP** **07 28 10.4 +4.8**
SUW Suwalki 71.92 345 *e*P **P** **07 27 26.2 -0.8**
SUW *e**PP **pP** **07 28 10.4 +4.8**
PATY Pattaya 71.95 268 P **P** **07 27 29.4 +1.7**
comp=Z,30nm,0.8s,comp=Z,2μm
BSD Bornholm Skovb 71.96 350 *i* P **P** **07 27 27.0 -0.2**
comp=Z,42nm,1.0s
BSD *i* 07 28 10.0
BSD Bornholm Skovb 71.96 350 *i* P **P** **07 27 27.0 -0.2**
BSD *i* 07 28 10.0
BSD pmax pmax
comp=Z,42nm,1.0s
LLD Lille Linde 72.02 351 *i* P **P** **07 27 28.4 +0.9**
LLD *i* 07 28 11.2
LLD Lille Linde 72.02 351 *i* P **P** **07 27 28.4 +0.9**
LLD *i* 07 28 11.2
SAUI Saumlaki 72.03 229 *e*P **P** **07 27 27.8 -0.4**
comp=Z,672nm,0.9s
BHK Bhakra 72.21 298 *e*P **P** **07 27 28.8 -0.4**
COEN Coen 72.53 215 *e*P **P** **07 27 31.0 -0.1**
comp=Z,73nm,0.8s
EKA Eskdalemuir Ar 72.67 1 P **P** **07 27 31.9 +0.4**
comp=Z,13nm,0.9s,baz=1.8,slow=4.7,SNR=8.3
EKA pP **pP** **07 28 08.6 -1.5**
comp=Z,15nm,0.8s,baz=4.7,slow=4.6,SNR=6.3
RGN Rugen 72.69 351 *e*P **P** **07 27 33.1 +1.6**
comp=Z,714nm,1.4s
SBUM Sibu 73.38 252 *e*P **P** **07 27 35.5 -0.7**
comp=Z,35nm,0.9s
SBUM Sibu 73.38 252 ⇓P **P** **07 27 37.7 +1.5**
GKP Gorka Klasztor 73.50 348 *e*P **P** **07 27 37.5 +1.2**
GKP *e*pP **pP** **07 28 20.1 +5.0**
GKP Gorka Klasztor 73.50 348 *e*P **P** **07 27 37.5 +1.2**
GKP *e**PP **pP** **07 28 20.1 +5.0**
AKASG Malin Array Be 73.95 340 P **P** **07 27 38.5 -0.4**
comp=Z,117nm,0.7s,baz=24,slow=6.2,SNR=158
AKASG pP **pP** **07 28 15.7 -2.1**
comp=Z,23nm,0.7s,baz=24,slow=6.1,SNR=2.9
AKASG S **S** **07 36 56.9 -0.6**
comp=Z,3.7nm,0.8s,baz=15,slow=12,SNR=11
AKASG LR LR 08 03 01.7
comp=Z,379nm,20.4s,baz=20,slow=38
AKBB Malin Array Si 73.95 340 *e*P **P** **07 27 38.7 -0.3**
AKBB pmax pmax
comp=Z,616nm,1.6s
AKBB Malin Array Si 73.95 340 *e*P **P** **07 27 38.7 -0.3**
comp=Z,616nm,1.6s
KIEV Kiev 73.96 340 *d i*P **P** **07 27 38.5 -0.5**
KIEV pmax pmax
comp=Z,113nm,1.0s
KIEV Kiev 73.96 340 *e*P **P** **07 27 38.6 -0.4**
comp=Z,611nm,1.6s
BEL Belsk 74.40 345 *e*P **P** **07 27 42.5 +1.0**
BEL *e*pP **pP** **07 28 26.1 +5.7**
BEL Belsk 74.40 345 *e*P **P** **07 27 42.6 +1.0**
BEL *e**PP **pP** **07 28 26.1 +5.7**
PPT2 Papeete2 75.17 148 *e*S **S** **07 37 13.8 +1.9**
comp=Z,1μm,25.8s
PPT2 Papeete2 75.17 148 *e*LQ LQ 07 47 59.7
comp=Z,1μm,23.5s
PPT2 *e*LR LR 07 51 06.4
comp=Z,678nm,27.2s
PPT2 Papeete2 75.17 148 *e*T T 08 48 54.4
comp=Z,5.5nm,0.2s
KSM Kuching 75.28 253 *e*P **P** **07 27 47.3 +0.2**
comp=Z,51nm,0.7s
KAPI Kappang 75.29 241 P **P** **07 27 48.3 +1.1**
SNR=17
KAPI Kappang 75.29 241 P **P** **07 27 48.3 +1.1**
SNR=17
BWNR Bhubaneshwar 75.43 284 *e*P **P** **07 27 46.0 -2.0**
BWNR AMB AMB 07 27 47.5
comp=Z,73nm,0.2s
GOF Gofitskoye 75.48 329 ⇑*e*P **P** **07 27 48.6 +0.7**
GOF *i* 07 28 31.5
GOF *e*S **S** **07 37 17.9 +3.2**
GOF pmax pmax
comp=Z,499nm,0.9s
WTSB Winterswijk 75.78 354 *i* P pP 07 28 33.1 +4.7
comp=Z,739nm,1.6s
LVV L'vov 75.81 343 *e*P **P** **07 27 52.9 +3.2**
LVV *e* 07 28 35.5
MAK Makhachkala 75.83 325 *e*P **P** **07 27 50.3 +0.4**
MAK *e**PP **pP** **07 28 32.0 +3.1**
MAK *e**SP **sP** **07 28 47.2 +1.3**
MAK *e* 07 30 42.3
MAK *e*PPP PPP 07 32 25.6
MAK *e*S **S** **07 37 16.9 -1.8**
MAK *e*SS **SS** **07 42 15.2 +2.3**
MAK *e*SSS SSS 07 45 33.9
MAK pmax pmax
comp=Z,300nm,1.8s
MAK MLR MLR
comp=Z,1μm,23.0s
CLL Collm 75.92 350 ⇑*i*P **P** **07 27 50.5 +0.2**
CLL *i **PP **pP** **07 28 33.6 +4.3**
CLL *e*S **S** **07 37 19.0 -0.3**
CLL pmax pmax
comp=Z,23nm,1.3s

CLL	**Collm**	**75.92 350**	⇑*i*P	**P**	**07 27 50.5**	**+0.2**
	comp=Z,23nm,1.3s					
CLL			⇑*i*pP	**pP**	**07 28 33.6**	**+4.3**
	comp=Z,440nm,1.8s					
CLL			*e*sP	**sP**	**07 28 51.0**	**+4.7**
CLL			*e*S	**S**	**07 37 19.0**	**-0.3**
	comp=N,300nm,18.8s					
CLL			*e*S	**S**	**07 37 19.0**	**-0.3**
	comp=E,400nm,19.3s					
CLL			*e*S	**S**	**07 37 19.0**	**-0.3**
	comp=Z,400nm,15.6s					
CLL			*e*SKSac	**ScS**	**07 37 48.0**	**-1.5**
CLL			*e*PS	**PnS**	**07 38 19.0**	**+0.9**
CLL			*e*		07 38 52.0	
CLL			*e*SS	**SS**	**07 42 12.0**	**-1.7**
CLL			*e*sSS		07 43 14.0	
CLL			*e*		07 44 06.0	
CLL			*e*SSS	SSS	07 45 45.0	
CLL			*e*SSSS		07 48 12.0	
CLL			LmV		08 00 00.0	
	comp=Z,500nm,20.7s					
CLL	**Collm**	**75.92 350**	*e*P	**P**	**07 27 49.8**	**-0.5**
	comp=Z,499nm,1.9s					
GEYT	**Alibeck**	**75.95 315**	P	**P**	**07 27 51.2**	**+0.4**
	comp=Z,28nm,0.8s,baz=1.9,slow=4.5,SNR=36					
GEYT			pP	**pP**	**07 28 27.9**	**-1.8**
	comp=Z,7.5nm,0.6s,baz=20,slow=4.7,SNR=2.7					
GEYT			LR	LR	08 04 28.4	
	comp=Z,553nm,18.6s,baz=30,slow=38					
KSP	**Ksiaz**	**76.00 348**	*e*P	**P**	**07 27 50.6**	**-0.2**
KSP			epP	**pP**	**07 28 34.4**	**+4.7**
KSP	**Ksiaz**	**76.00 348**	*e*P	**P**	**07 27 50.6**	**-0.2**
KSP			*e**PP	**pP**	**07 28 34.4**	**+4.7**
OJC	**Ojcow**	**76.12 346**	*e*P	**P**	**07 27 52.1**	**+0.6**
OJC			epP	**pP**	**07 28 35.8**	**+5.3**
OJC	**Ojcow**	**76.12 346**	*e*P	**P**	**07 27 52.1**	**+0.6**
OJC			*e**PP	**pP**	**07 28 35.7**	**+5.3**
OJC	**Ojcow**	**76.12 346**	*e*P	**P**	**07 27 51.9**	**+0.4**
GROC	**Groznyy**	**76.22 326**	*e*P	**P**	**07 27 51.6**	**-0.5**
GROC			*e*		07 28 03.7	
GROC			*e**PP	**pP**	**07 28 29.4**	**-1.7**
GROC			*e**SP	**sP**	**07 28 45.5**	**-2.7**
GROC			*e*S	**S**	**07 37 24.6**	**+1.7**
GROC			pmax	pmax		
	comp=Z,78nm,1.4s					
KWP	**Kalwaria Pacla**	**76.22 344**	*e*P	**P**	**07 27 52.8**	**+0.8**
KWP			epP	**pP**	**07 28 37.2**	**+6.2**
KWP	**Kalwaria Pacla**	**76.22 344**	*e*P	**P**	**07 27 52.8**	**+0.8**
KWP			*e**PP	**pP**	**07 28 37.2**	**+6.2**
BRG	**Berggiesshubel**	**76.25 350**	*e*P	**P**	**07 27 52.6**	**+0.4**
	comp=Z,25nm,1.1s					
BRG			*i* pP	**pP**	**07 28 35.2**	**+4.0**
	comp=Z,202nm,1.5s					
BRG			S	**S**	**07 37 24.0**	**+1.0**
BRG			SS	**SS**	**07 42 20.0**	**+1.4**
BRG			*e*PKKP	**PKKPbc**	**07 47 00.8**	**-1.4**
	comp=Z,13nm,1.7s					
BRG			*e*PKPPKP	**P'P'df**	**07 55 03.5**	**-5.6**
BRG	**Berggiesshubel**	**76.25 350**	*e*P	**P**	**07 27 52.6**	**+0.4**
BRG			*i* *PP	**pP**	**07 28 35.2**	**+4.0**
BRG			S	**S**	**07 37 24.0**	**+1.0**
BRG			SS	**SS**	**07 42 20.0**	**+1.4**
BRG			pmax	pmax		
	comp=Z,25nm,1.1s					
SURT	**Suratani**	**76.30 267**	P	P	07 27 57.9	+4.9
	comp=Z,20nm,1.2s					
UPC	**Upice**	**76.36 348**	*e*P	**P**	**07 27 53.6**	**+0.8**
UPC			epP	**pP**	**07 28 36.7**	**+4.9**
UPC	**Upice**	**76.36 348**	*e*P	**P**	**07 27 53.6**	**+0.8**
UPC			*e*		07 28 36.7	
MTN	**Manton Dam**	**76.39 227**	*e*P	**P**	**07 27 52.9**	**-0.5**
	comp=Z,245nm,0.6s					
DPC	**Dobruska-Polom**	**76.48 348**	*e*P	**P**	**07 27 53.8**	**+0.3**
DPC			epP	**pP**	**07 28 37.7**	**+5.1**
DPC	**Dobruska-Polom**	**76.48 348**	*e*P	**P**	**07 27 53.8**	**+0.3**
DPC			*e*		07 28 37.7	
PVCC	**Panska Ves**	**76.52 349**	*e*P	**P**	**07 27 54.5**	**+0.8**
PVCC			epP	**pP**	**07 28 37.5**	**+4.8**
PVCC	**Panska Ves**	**76.52 349**	*e*P	**P**	**07 27 54.5**	**+0.8**
PVCC			*e*		07 28 37.5	
TEIG	**Tepich**	**76.53 74**	*e*P	**P**	**07 27 54.1**	**-0.1**
	comp=Z,15nm,1.1s					
KVAR	**Kislovodsk Arr**	**76.58 328**	P	**P**	**07 27 54.9**	**+0.6**
	comp=Z,79nm,0.8s,baz=39,slow=7.8,SNR=28					
KVAR			LR	LR	08 04 40.3	
	comp=Z,223nm,21.9s,slow=38					
KIV	**Kislovodsk**	**76.58 328**	*i* P	**P**	**07 27 55.4**	**+1.1**
	SNR=16					
KIV	**Kislovodsk**	**76.58 328**	*e*P	**P**	**07 27 54.7**	**+0.4**
KIV			*e**PP	**pP**	**07 28 33.9**	**+0.6**
KIV			*e*S	**S**	**07 37 28.1**	**+1.1**
KIV			pmax	pmax		
	comp=Z,142nm,1.0s					
KIV			pmax	pmax		
	comp=Z,82nm,4.0s					
KIV	**Kislovodsk**	**76.58 328**	*e*P	**P**	**07 27 54.6**	**+0.3**
	comp=Z,152nm,1.0s					
KIV	**Kislovodsk**	**76.58 328**	P	**P**	**07 27 55.9**	**+1.6**
	SNR=16					
KIV	**Kislovodsk**	**76.58 328**	P	**P**	**07 27 55.9**	**+1.6**
	SNR=16					
JBP	**Jabalpur**	**76.62 290**	⇓*e*P	**P**	**07 27 56.1**	**+1.4**
JBP			*ex*	x	07 37 11.3	
TRTT	**Trang**	**76.62 265**	P	**P**	**07 27 56.2**	**+1.4**
	comp=Z,92nm,0.8s,comp=Z,895nm					
STHS	**Stebnicka Huta**	**76.67 345**	*e*P	**P**	**07 27 55.6**	**+1.0**
STHS			*e*		07 28 39.4	
STHS			pmax	pmax		
	comp=Z,120nm,1.4s					
STHS	**Stebnicka Huta**	**76.67 345**	*e*P	**P**	**07 27 55.6**	**+1.0**
STHS			*e*		07 28 39.4	
KRLC	**Kraliky**	**76.69 348**	*e*P	**P**	**07 27 55.8**	**+1.1**
KRLC			epP	**pP**	**07 28 38.8**	**+5.0**
KRLC	**Kraliky**	**76.69 348**	*e*P	**P**	**07 27 55.8**	**+1.1**
KRLC			*e*		07 28 38.8	
NCK	**Nalchik**	**76.69 328**	*e*P	**P**	**07 27 55.7**	**+0.8**
NCK			pmax	pmax		
	comp=Z,211nm,1.0s					
MOX	**Moxa**	**76.71 351**	P	**P**	**07 27 56.1**	**+1.3**
MOX			pmax	pmax		
	comp=Z,15nm,0.9s					
KBZ	**Khabaz**	**76.71 328**	P	**P**	**07 27 55.8**	**+0.9**
	comp=Z,83nm,0.8s,baz=32,slow=1.5,SNR=87					
KBZ			LR	LR	08 07 05.6	
	comp=Z,372nm,18.1s,baz=16,slow=40					
OKC	**Ostrava-Krasne**	**76.73 347**	*e*P	**P**	**07 27 56.3**	**+1.4**
OKC			*ex*	x	07 28 01.4	
OKC			epP	**pP**	**07 28 39.0**	**+5.0**
OKC			*ex*	x	07 28 58.6	
OKC			AMS	AMS	08 05 40.0	
OKC	**Ostrava-Krasne**	**76.73 347**	*e*P	**P**	**07 27 56.3**	**+1.4**
OKC			*e*		07 28 01.4	
OKC			*e*		07 28 39.0	
OKC			*e*		07 28 58.6	
NIE	**Niedzica**	**76.82 345**	*e*P	**P**	**07 27 56.5**	**+1.0**
NIE			epP	**pP**	**07 28 40.4**	**+5.9**
NIE	**Niedzica**	**76.82 345**	*e*P	**P**	**07 27 56.5**	**+1.0**
NIE			*e**PP	**pP**	**07 28 40.4**	**+5.9**
MORC	**Moravsky Berou**	**76.88 347**	⇓*i*P	**P**	**07 27 57.2**	**+1.4**
MORC	**Moravsky Berou**	**76.88 347**	*e*P	**P**	**07 27 56.8**	**+1.0**
MORC			pmax	pmax		
	comp=Z,813nm,1.6s					
MORC	**Moravsky Berou**	**76.88 347**	*e*P	**P**	**07 27 56.8**	**+1.0**
	comp=Z,813nm,1.6s					
SOEI	**Soe**	**76.96 235**	*e*P	**P**	**07 27 56.0**	**-0.7**
	comp=Z,123nm,0.8s					
PRA	**Prague**	**76.98 349**	epP	**pP**	**07 28 40.3**	**+4.9**
PRA			*ex*	x	07 28 58.8	
BEBN	**Eben Emael**	**77.01 355**	E	pP	07 28 40.5	+5.0
HGN	**Heimansgroeve**	**77.03 355**	*i* P	pP	07 28 40.2	+4.7
	comp=Z,847nm,1.6s					
MMRI	**Maumere**	**77.03 237**	*e*P	**P**	**07 27 55.0**	**-2.0**
	comp=Z,156nm,0.7s					
NKC	**Novy Kostel**	**77.04 350**	*e*P	**P**	**07 27 57.4**	**+0.7**
NKC			epP	**pP**	**07 28 40.7**	**+5.0**
NKC	**Novy Kostel**	**77.04 350**	*e*P	**P**	**07 27 57.4**	**+0.7**
NKC			*e*		07 28 40.7	
PRU	**Pruhonice**	**77.05 349**	*e*P	**P**	**07 27 57.4**	**+0.7**
PRU			*ex*	x	07 28 02.8	
PRU			epP	**pP**	**07 28 40.6**	**+4.8**
PRU			*ex*	x	07 28 59.4	
PRU			AMS	AMS	08 03 40.0	
	comp=Z,800nm,21.8s					
PRU	**Pruhonice**	**77.05 349**	*e*P	**P**	**07 27 57.4**	**+0.7**
PRU			*e*		07 28 02.8	
PRU			*e*		07 28 40.6	
PRU			*e*		07 28 59.4	
PRU			MLR	MLR		
	comp=Z,800nm,21.8s					
UCC	**Uccle**	**77.07 356**	E	pP	07 28 41.6	+5.8
GOPC	**GO Pecny, Ondr**	**77.10 349**	*e*P	**P**	**07 27 57.7**	**+0.7**
GOPC			*ex*	x	07 28 02.6	
GOPC			epP	**pP**	**07 28 40.9**	**+4.9**
GOPC	**GO Pecny, Ondr**	**77.10 349**	*e*P	**P**	**07 27 57.7**	**+0.7**
GOPC			*e*		07 28 02.6	
GOPC			*e*		07 28 40.9	
CRVS	**Cervenica-Dubn**	**77.14 344**	*e*P	**P**	**07 27 57.9**	**+0.7**
CRVS			*e*		07 28 41.8	
CRVS	**Cervenica-Dubn**	**77.14 344**	*e*P	**P**	**07 27 57.9**	**+0.7**
CRVS			*e*		07 28 41.8	
MEM	**Membach**	**77.17 355**	P	**P**	**07 27 58.5**	**+1.2**
MEM			E		07 28 41.0	
NEY	**Neytrino**	**77.20 328**	*e*P	**P**	**07 27 59.3**	**+1.4**
LANS	**Liptovska Anna**	**77.21 346**	*e*P	**P**	**07 27 59.1**	**+1.4**
LANS			*e*		07 28 43.2	
LANS	**Liptovska Anna**	**77.21 346**	*e*P	**P**	**07 27 59.1**	**+1.4**
LANS			*e*		07 28 43.2	
ZEI	**Tsey**	**77.22 327**	*e*P	**P**	**07 27 57.6**	**-0.5**
ZEI			*e**PP	**pP**	**07 28 36.3**	**-0.8**
ZEI			*e*S	**S**	**07 37 36.1**	**+1.8**
ZEI			*e*		07 38 01.6	
ZEI			*e**SS	**sS**	**07 38 38.2**	**-3.8**
ZEI			pmax	pmax		
	comp=Z,106nm,0.9s					
CTAO	**Charters Tower**	**77.23 210**	*e*P	**P**	**07 27 58.1**	**+0.2**
CTAO			pmax	pmax		
	comp=Z,108nm,0.9s					
CTAO	**Charters Tower**	**77.23 210**	*e*P	**P**	**07 27 58.1**	**+0.2**
	comp=Z,108nm,0.9s					
UZH	**Uzhgorod**	**77.26 344**	*e*P	**P**	**07 27 59.1**	**+1.3**
UZH			*e*		07 28 09.2	
UZH			*e**PP	**pP**	**07 28 40.7**	**+3.8**
UZH			*e*S	**S**	**07 37 32.5**	**-1.5**
CCIG	**Comitan**	**77.27 80**	*e*P	**P**	**07 27 59.5**	**+0.8**
	comp=Z,119nm,1.9s					
SNF	**Seneffe**	**77.36 356**	E	pP	07 28 41.9	+4.4
BCLA	**Clavier**	**77.40 355**	P	**P**	**07 27 59.2**	**+0.6**
BCLA			E		07 28 42.1	
ANN	**Anapa**	**77.41 332**	*e*P	**P**	**07 27 56.6**	**-2.1**
ANN			*e*		07 28 07.0	
ANN			*e**PP	**pP**	**07 28 35.0**	**-2.8**
ANN			*e*		07 30 59.4	
ANN			*e*S	**S**	**07 37 33.4**	**-2.3**
ANN			pmax	pmax		
	comp=Z,111nm,1.0s					
PKDT	**Phuket**	**77.41 267**	P	**P**	**07 28 00.2**	**+1.0**
	comp=Z,148nm,1.0s,comp=Z,2μm					
VRAC	**Vranov**	**77.47 348**	P	**P**	**07 27 59.3**	**+0.2**
	comp=Z,19nm,0.9s,baz=20,slow=5.9,SNR=17					
VRAC	**Vranov**	**77.47 348**	⇑*i*P	**P**	**07 28 00.0**	**+1.0**
KIS	**Kishinev**	**77.54 339**	⇓*i*P	**P**	**07 27 58.5**	**-0.9**
KIS			*i* pP	**pP**	**07 28 43.0**	**+4.5**
KIS	**Kishinev**	**77.54 339**	*e*PP	PP	07 31 03.0	+7.4
KIS			*e*S	**S**	**07 37 32.0**	**-5.0**
KIS			*e*SKS	**SKSac**	**07 37 48.0**	**-9.3**
KIS			*e*ScS	**SKKSac**	**07 37 57.0**	**-1.2**
KIS			*i* sS	sS	07 38 42.0	-2.8
KIS	**Kishinev**	**77.54 339**	*i* PS		07 38 50.0	
KIS			*e*SS	SS	07 42 46.0	+7.8
KIS			*e*L	L	07 54 26.0	
KIS			LRM	MLR	08 06 08.0	
	comp=Z,1μm,18.0s					
KIS	**Kishinev**	**77.54 339**	⇓*i*P	**P**	**07 27 58.5**	**-0.9**
KIS			*e*		07 28 11.0	
KIS			*i*		07 28 40.0	
KIS			*e*		07 31 03.0	
KIS			*e*S	**S**	**07 37 32.0**	**-5.0**
KIS			*e*		07 37 48.0	
KIS			*e*		07 37 57.0	
KIS			*e**SS	**sS**	**07 38 42.0**	**-2.8**
KIS			*e*SS	**SS**	**07 42 46.0**	**+7.8**
KIS			MLR	MLR		
	comp=N,1μm,18.0s					
KIS			MLR	MLR		
	comp=Z,1μm,18.0s					
KIS			MLR	MLR		
	comp=Z,1μm,18.0s					
ONI	**Oni**	**77.55 327**	P	**P**	**07 28 01.2**	**+1.4**
ONI	**Oni**	**77.55 327**	P	**P**	**07 28 01.1**	**+1.4**
TREC	**Trest**	**77.62 348**	*e*P	**P**	**07 28 00.7**	**+0.8**
TREC			epP	**pP**	**07 28 43.8**	**+4.8**
TREC	**Trest**	**77.62 348**	*e*P	**P**	**07 28 00.7**	**+0.8**
TREC			*e*		07 28 43.8	
BUR08	**Bucovina Ar. S**	**77.67 341**	*e*P	**P**	**07 28 00.8**	**+0.5**
GRF	**Grafenberg Arr**	**77.69 351**	P	**P**	**07 28 02.6**	**+2.3**
GRF			pmax	pmax		
	comp=Z,37nm,1.4s					
GRFO	**Grafenberg**	**77.69 351**	*e*P	**P**	**07 28 01.2**	**+0.9**
GRFO			pmax	pmax		
	comp=Z,868nm,1.9s					
GRFO	**Grafenberg**	**77.69 351**	*e*P	**P**	**07 28 01.2**	**+0.9**
	comp=Z,868nm,1.9s					
BURAR	**Bucovina Array**	**77.70 341**	⇓*i*P	**P**	**07 28 00.8**	**+0.3**
BURAR	**Bucovina Array**	**77.70 341**	P	**P**	**07 28 00.7**	**+0.3**
TRPA	**Tarpa**	**77.70 343**	⇑epP	pP	07 28 45.3	+5.9
KECS	**Kecovo**	**77.70 345**	*e*P	**P**	**07 28 00.6**	**+0.3**
KECS			*e*		07 28 45.2	
KECS			pmax	pmax		
	comp=Z,55nm,1.3s					
KECS	**Kecovo**	**77.70 345**	*e*P	**P**	**07 28 00.6**	**+0.3**
KECS			*e*		07 28 45.2	
DOU	**Dourbes**	**77.76 356**	P	**P**	**07 28 01.2**	**+0.6**
DOU			E		07 28 44.1	
CHLP	**Challavanipeta**	**77.86 284**	*e*P	**P**	**07 28 01.8**	**+0.2**
CHLP			IAmb	IAmb	07 28 04.1	
	comp=Z,42nm,1.0s					
CHLP			*e*S	**S**	**07 37 42.0**	**+0.7**
TBLG	**Delisi**	**77.88 326**	P	**P**	**07 28 02.7**	**+1.2**
TBLG	**Delisi**	**77.88 326**	P	**P**	**07 28 02.7**	**+1.2**
DGRG	**David-gareji**	**77.91 325**	P	**P**	**07 28 01.7**	**-0.1**
DGRG	**David-gareji**	**77.91 325**	P	**P**	**07 28 01.6**	**-0.1**
VYHS	**Vyhne**	**77.95 346**	*e*P	**P**	**07 28 02.3**	**+0.6**
VYHS			*e*		07 28 45.8	
VYHS			pmax	pmax		
	comp=Z,128nm,1.5s					
VYHS	**Vyhne**	**77.95 346**	*e*P	**P**	**07 28 02.3**	**+0.6**
VYHS			*e*		07 28 45.8	
KHC	**Kasperske Hory**	**78.01 350**	*e*P	**P**	**07 28 03.1**	**+1.0**
KHC			*ex*	x	07 28 08.0	
KHC			epP	**pP**	**07 28 46.0**	**+4.8**
KHC	**Kasperske Hory**	**78.01 350**	*e*P	**P**	**07 28 02.9**	**+0.8**
KHC			pmax	pmax		
	comp=Z,119nm,1.7s					
KHC	**Kasperske Hory**	**78.01 350**	*e*P	**P**	**07 28 02.9**	**+0.8**
	comp=Z,119nm,1.7s					
KULM	**Kulim**	**78.04 263**	*e*P	**P**	**07 28 02.8**	**+0.1**
	comp=Z,34nm,1.0s					
WET	**Wettzell**	**78.07 350**	P	**P**	**07 28 04.4**	**+2.0**
WLF	**Walferdange**	**78.11 355**	P	**P**	**07 28 03.7**	**+1.1**
WLF			E		07 28 46.1	
WLF	**Walferdange**	**78.11 355**	*e*P	**P**	**07 28 02.7**	**+0.2**
WLF			pmax	pmax		
	comp=Z,328nm,1.4s					
WLF	**Walferdange**	**78.11 355**	*e*P	**P**	**07 28 02.7**	**+0.2**
	comp=Z,328nm,1.4s					
SIM	**Simferopol'**	**78.18 335**	*e*P	**P**	**07 28 03.7**	**+0.7**
SIM			*e**PP	**pP**	**07 28 48.0**	**+5.8**
SIM			*e*S	**S**	**07 37 47.0**	**+3.0**
SIM			pmax	pmax		
	comp=Z,38nm,0.9s					
SIM			MLR	MLR		
	comp=Z,650nm,17.2s					
GEC2	**GERESS Array S**	**78.28 349**	*e*P	**P**	**07 28 04.6**	**+1.0**
GEC2			pmax	pmax		
	comp=Z,177nm,1.6s					
GEC2	**GERESS Array S**	**78.28 349**	*e*P	**P**	**07 28 04.6**	**+1.0**
	comp=Z,177nm,1.6s					
GERES	**GERESS Array B**	**78.28 349**	P	**P**	**07 28 04.0**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=34,slow=5.3,SNR=27					
GERES			PKPPKP	**P'P'df**	**07 55 01.5**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=153,slow=1.5,SNR=3.6					
PSZ	**Piszkesteto**	**78.34 345**	⇑*i*P	**P**	**07 28 05.7**	**+1.7**
PSZ	**Piszkesteto**	**78.34 345**	*e*P	**P**	**07 28 04.9**	**+0.9**
PSZ			pmax	pmax		
	comp=Z,477nm,1.7s					
PSZ	**Piszkesteto**	**78.34 345**	⇑*e*PcP	pP	07 28 48.6	+5.4
PSZ	**Piszkesteto**	**78.34 345**	*e*P	**P**	**07 28 04.9**	**+0.9**
	comp=Z,476nm,1.7s					
ARCR	**ARCALIA**	**78.37 342**	⇓*i*P	**P**	**07 28 05.9**	**+1.8**
TESR	**Tescani**	**78.46 340**	⇓*i*P	**P**	**07 28 05.2**	**+0.6**
AKH	**Akhalkalaki**	**78.59 327**	P	**P**	**07 28 06.7**	**+1.0**
AKH	**Akhalkalaki**	**78.59 327**	P	**P**	**07 28 06.6**	**+1.0**
LANF	**Langenberg**	**78.68 353**	⇑*e*P	pP	07 28 50.2	+5.2
NGP	**Nagpur**	**78.73 290**	*e*P	**P**	**07 28 06.6**	**+0.2**
NGP			AMB	AMB	07 28 08.2	
	comp=Z,50nm,0.6s					
NGP			*ex*	x	07 28 49.7	
EPOS	**Posof**	**78.76 327**	*i* P	**P**	**07 28 07.6**	**+1.1**
MYKOM	**Kota Tinggi**	**78.86 258**	*e*P	**P**	**07 28 07.0**	**-0.1**
	comp=Z,36nm,0.8s					
CJR	**Cluj-Napoca**	**78.87 342**	⇑*i*P	**P**	**07 28 08.5**	**+1.6**
BUD	**Budapest**	**78.90 346**	P	**P**	**07 28 09.3**	**+2.4**
BUD			pmax	pmax		
	comp=Z,80nm,1.0s					
BUD	**Budapest**	**78.90 346**	⇑*e*PcP	pP	07 28 51.6	+5.4
CONA	**Conrad Observa**	**78.92 348**	*e*P	**P**	**07 28 08.5**	**+1.4**
	comp=Z,42nm,1.0s,SNR=17					
CONA			epP	**pP**	**07 28 51.9**	**+5.6**
	comp=Z,204nm,1.8s,SNR=18					
DRGR		**78.96 343**	⇓*i*P	**P**	**07 28 08.2**	**+0.8**
VRI	**Vrincioaia**	**79.06 340**	⇑*i*P	**P**	**07 28 08.5**	**+0.6**
VRI	**Vrincioaia**	**79.06 340**	P	**P**	**07 28 08.3**	**+0.4**
VRI			pmax	pmax		
	comp=Z,324nm,0.9s					
STR	**Strasbourg**	**79.08 353**	⇑*e*P	pP	07 28 53.0	+5.9
PETR	**Petresti**	**79.09 340**	⇑*i*P	**P**	**07 28 09.5**	**+1.5**
PLOR	**Plostina**	**79.09 340**	⇑*i*P	**P**	**07 28 08.7**	**+0.6**
CSKK	**Cs^ztkako**	**79.14 346**	⇑*e*PcP	**pP**	**07 28 53.0**	**+5.5**
CSKK			⇑x	x	07 28 54.3	
MOA	**Molln**	**79.19 349**	*e*P	**P**	**07 28 09.5**	**+1.0**
	comp=Z,12nm,1.3s					
MOA			*i* pP	**pP**	**07 28 52.9**	**+5.1**
	comp=Z,72nm,1.4s,SNR=9.8					
DOPR	**Dopca**	**79.24 341**	⇑*i*P	**P**	**07 28 10.9**	**+2.0**
TLCR		**79.25 338**	⇑*i*P	**P**	**07 28 09.7**	**+0.8**
DBOC	**Borcka**	**79.25 328**	*i* P	**P**	**07 28 08.9**	**-0.1**
GNI	**Garni**	**79.29 325**	P	**P**	**07 28 10.2**	**+0.8**
	comp=Z,42nm,0.9s,baz=348,slow=3.7,SNR=5.6					
GNI	**Garni**	**79.29 325**	*c i* P	**P**	**07 28 11.4**	**+2.0**
GNI			pmax	pmax		
	comp=Z,131nm,1.1s					
GNI	**Garni**	**79.29 325**	PcP	**P**	**07 28 11.8**	**+2.4**
	SNR=5.3					
GNI	**Garni**	**79.29 325**	P	**P**	**07 28 11.8**	**+2.4**
	SNR=5.3					
BFO	**Black Forest**	**79.29 353**	*i* P	**P**	**07 28 09.7**	**+0.6**
BFO	**Black Forest**	**79.29 353**	*e*P	**P**	**07 28 08.6**	**-0.5**
	comp=Z,366nm,1.6s					
ARTV	**Artvin**	**79.31 328**	*i* P	**P**	**07 28 10.5**	**+0.9**
ARTV	**Artvin**	**79.31 328**	*e*P	**P**	**07 28 10.6**	**+0.9**
	comp=Z,69nm,0.8s					
CFR	**Carcaliu**	**79.41 339**	⇓*i*P	**P**	**07 28 10.4**	**+0.7**
DAGI	**Agillar**	**79.41 328**	*i* P	**P**	**07 28 10.7**	**+0.8**
GRER		**79.47 340**	⇓*i*P	**P**	**07 28 12.1**	**+2.0**
ECH	**Echery**	**79.49 354**	⇑*e*P	pP	07 28 54.2	+4.8
ECH	**Echery**	**79.49 354**	*e*P	**P**	**07 28 09.9**	**-0.2**
ECH			pmax	pmax		
	comp=Z,253nm,1.5s					
ECH	**Echery**	**79.49 354**	*e*P	**P**	**07 28 09.9**	**-0.2**
	comp=Z,253nm,1.5s					
BBSR	**BB Station**	**79.52 50**	*e*P	**P**	**07 28 10.4**	**-0.1**
	comp=Z,62nm,0.8s					
THEF	**They Montfort**	**79.55 354**	⇑*e*P	pP	07 28 54.5	+4.7
MLR	**Muntele Rosu**	**79.58 340**	P	**P**	**07 28 12.2**	**+1.3**
	comp=Z,11nm,0.8s,baz=326,slow=15,SNR=54					
MLR	**Muntele Rosu**	**79.58 340**	⇑*i*P	**P**	**07 28 12.8**	**+1.9**
MLR	**Muntele Rosu**	**79.58 340**	*e*P	**P**	**07 28 11.9**	**+1.1**
MLR			pmax	pmax		
	comp=Z,56nm,0.9s					
MLR	**Muntele Rosu**	**79.58 340**	*e*P	**P**	**07 28 11.9**	**+1.1**
	comp=Z,56nm,0.9s					
ARSA	**Arzberg**	**79.62 348**	*e*PcP	**P**	**07 28 13.4**	**+2.5**
	comp=Z,32nm,1.2s,SNR=12					
ARSA			epP	**pP**	**07 28 55.4**	**+5.2**
	comp=Z,127nm,1.4s,SNR=16					
DDEM	**Demirkent**	**79.64 328**	*i* P	**P**	**07 28 12.1**	**+0.9**
SIRR	**Siria**	**79.65 343**	⇓*i*P	**P**	**07 28 12.3**	**+1.2**
ISR	**Istrita**	**79.82 340**	⇑*i*P	**P**	**07 28 13.6**	**+1.6**
ISR	**Istrita**	**79.82 340**	P	**P**	**07 28 13.6**	**+1.6**
VOIR		**79.82 341**	⇓*i*P	**P**	**07 28 13.6**	**+1.6**
VOIR		**79.82 341**	P	**P**	**07 28 12.8**	**+0.8**
VOIR			pmax	pmax		
	comp=Z,97nm,1.0s					
SLE	**Schleitheim**	**79.84 353**	P	**P**	**07 28 15.5**	**+3.4**
MOF	**Molkenrain**	**79.85 354**	⇑*e*P	pP	07 28 55.9	+4.4
RETA	**Reutte**	**79.92 351**	*e*P	**P**	**07 28 14.4**	**+1.8**
	comp=Z,15nm,1.6s					
RETA			epP	**pP**	**07 28 57.1**	**+5.2**
	comp=Z,95nm,1.4s,SNR=17					
HARR	**Harsova**	**79.92 339**	⇓*i*P	**P**	**07 28 12.5**	**0.0**
ARR	**Arges**	**79.97 341**	⇓*i*P	**P**	**07 28 14.5**	**+1.7**
WATA	**Walderalm**	**79.99 351**	*e*P	**P**	**07 28 13.9**	**+0.9**
	comp=Z,9.9nm,0.6s					
WATA			epP	**pP**	**07 28 58.0**	**+5.6**
	comp=Z,189nm,1.3s,SNR=14					
SECR		**80.00 340**	⇑*i*P	**P**	**07 28 14.6**	**+1.7**
TLB	**Topalu**	**80.00 339**	⇑*i*P	**P**	**07 28 13.5**	**+0.6**
MTUR	**Matau**	**80.02 341**	⇑*i*P	**P**	**07 28 15.4**	**+2.3**
MOTA	**Moosalm**	**80.03 351**	*e*P	**P**	**07 28 14.8**	**+1.6**
	comp=Z,15nm,0.8s,SNR=8.4					
MOTA			epP	**pP**	**07 28 58.1**	**+5.5**
	comp=Z,125nm,1.1s,SNR=15					
TIRR	**Tirgusor**	**80.03 338**	⇑*i*P	**P**	**07 28 13.8**	**+0.7**
TIRR	**Tirgusor**	**80.03 338**	*e*P

TBI Tubuai 80.61 150 eLR LR 07 53 42.4
comp=Z,584nm,28.0s
DAVOX Davos/Dischmat 80.70 352 P **P 07 28 17.9 +1.0**
comp=Z,11nm,0.9s,baz=4.7,slow=3.7,SNR=9.7
SGRR Singureni 80.79 340 ⇓iP **P 07 28 17.9 +0.8**
FUORN Ofenpass-Fuorn 80.83 351 eP **P 07 28 18.8 +1.2**
comp=Z,551nm,1.8s
CADS Cadrg 80.85 349 eP **P 07 28 18.7 +1.2**
CADS epP **pP 07 29 00.6 +3.7**
EIDS Eidsvold 80.87 204 eP **P 07 28 18.7 +1.1**
comp=Z,188nm,1.6s
SRSP Sriramsagar 80.88 289 eP **P 07 28 16.9 -1.2**
SRSP IAmb IAmb 07 28 19.4
comp=Z,68nm,1.0s
SRSP eS **S 07 38 11.2 -2.0**
SRE Strehaia 80.92 342 ⇓iP **P 07 28 18.8 +0.9**
LJU Ljubljana 80.94 348 eP **P 07 28 17.7 -0.2**
LJU epP **pP 07 29 01.6 +4.3**
PSI Prapat 81.05 263 eP **P 07 28 18.6 -0.5**
PSI pmax pmax
comp=Z,78nm,0.8s
PSI Prapat 81.05 263 eP **P 07 28 18.6 -0.5**
comp=Z,78nm,0.8s
TUE Stuetta 81.06 352 eP **P 07 28 18.9 +0.1**
comp=Z,480nm,1.7s
MDVR Moldovita 81.08 343 ⇓iP **P 07 28 19.3 +0.5**
OZLJ Ozalj 81.24 348 P **P 07 28 19.9 +0.5**
BEO Beograd 81.27 344 P **P 07 28 23.1 +3.4**
BEO pmax pmax
comp=Z,18nm,1.0s
WRAB Tennant Creek 81.34 221c iP **P 07 28 19.2 -1.0**
WRAB pmax pmax
comp=Z,434nm,0.9s
WRAB Tennant Creek 81.34 221 eP **P 07 28 19.5 -0.7**
comp=Z,171nm,0.8s
WB2 Warramunga Arr 81.35 221 eP **P 07 28 19.6 -0.7**
comp=Z,199nm,0.7s
WR1 Warramunga Arr 81.35 221 eP **P 07 28 19.6 -0.7**
comp=Z,238nm,0.8s
WR1 ePP **PP 07 31 26.9 -1.8**
WRA Warramunga Arr 81.35 221 P **P 07 28 19.6 -0.7**
comp=Z,138nm,0.7s,baz=31,slow=6.2,SNR=509
WRA PP **PP 07 31 26.9 -1.8**
comp=Z,5.9nm,0.9s,baz=31,slow=7.7,SNR=5.9
WRA PKiKP **PKiKP 07 33 43.3 -0.8**
comp=Z,2.2nm,0.9s,baz=11,slow=2.1,SNR=6.5
WRA S **S 07 38 15.6 -2.1**
comp=Z,3.4nm,1.0s,baz=26,slow=9.2,SNR=5.0
WRA PKKPbc **PKKPbc 07 46 52.5 +0.1**
comp=Z,1.0nm,0.6s,baz=224,slow=2.0,SNR=9.7
WRA PKPPKP **P'P'df 07 54 59.0 +2.0**
comp=Z,0.8nm,0.9s,baz=242,slow=1.2,SNR=4.9
WRA LR LR 08 00 34.9
comp=Z,655nm,22.0s,baz=25,slow=33
BOJS Bojanci 81.38 348 eP **P 07 28 21.1 +0.9**
BOJS epP **pP 07 29 04.2 +4.5**
OG01 Vacheresse 81.40 354 eP pP 07 29 05.0 +5.1
BKNI Bangkinang 81.72 260 eP **P 07 28 22.2 -0.2**
comp=Z,169nm,0.9s
TOKA Tokat 81.80 331 eP **P 07 28 24.2 +1.7**
comp=Z,55nm,0.9s
BLY Banja Luka 81.85 346 eP **P 07 28 23.7 +1.0**
comp=Z,132nm,1.5s
AGO Saint Agoulin 81.86 356⇑eP pP 07 29 07.4 +5.1
ILGA Ilgaz 81.91 333 eP **P 07 28 24.6 +1.2**
comp=Z,62nm,1.0s
PLDF La Plantade 81.92 356⇑eP pP 07 29 07.4 +4.7
HYBB Hyderabad (bro 81.95 288 eP **P 07 28 23.9 +0.2**
HYBB IAmb IAmb 07 28 25.4
comp=Z,109nm,0.9s
HYBB eS **S 07 38 23.4 -0.8**
HYB Hyderabad 81.95 288 i P **P 07 28 23.0 -0.7**
HYB ePcP **PcP 07 28 28.5 -0.3**
HYB epP **pP 07 29 03.5 +0.3**
HYB esP **sP 07 29 20.0 -0.1**
HYB eS **S 07 38 24.0 -0.3**
HYB eSP **SPn 07 39 12.0 -0.3**
HYB ePS **PnS 07 39 32.0 -2.2**
RSL Roselend 82.04 354⇑eP pP 07 29 08.1 +4.7
PYM Petit Puy Mans 82.17 356⇑eP pP 07 29 09.1 +5.1
NJS Nagarjunasagar 82.19 287 eP **P 07 28 24.4 -0.5**
NJS IAmb IAmb 07 28 26.2
comp=Z,26nm,0.8s
NJS eS **S 07 38 26.7 +0.1**
VERF Verneugheol 82.19 357⇑eP pP 07 29 08.4 +4.3
UDBI Udbina 82.27 347 P **P 07 28 26.5 +1.6**
NVLJ Novalja 82.35 348 P **P 07 28 25.3 0.0**
ADKI Addanki 82.35 286 eP **P 07 28 25.9 +0.2**
ADKI IAmb IAmb 07 28 27.9
comp=Z,30nm,0.7s
ADKI eS **S 07 38 28.4 +0.1**
COLF Collangettes 82.37 356⇑eP pP 07 29 09.8 +4.8
GRN Grenoble 82.54 354⇑eP pP 07 29 11.1 +5.1
FRNF Fournols 82.55 357⇑eP pP 07 29 10.7 +4.7
GDM Grand'Maison 82.56 354⇑eP pP 07 29 11.3 +5.2
KLRI Killari 82.57 290 eP **P 07 28 26.1 -0.8**
KLRI IAmb IAmb 07 28 27.9
comp=Z,90nm,0.7s
KLRI eS **S 07 38 28.0 -2.6**
SSB Saint Sauveur 82.57 355⇑eP pP 07 29 10.7 +4.6
SSB Saint Sauveur 82.57 355 eP **P 07 28 26.9 +0.4**
SSB pmax pmax
comp=Z,264nm,1.5s
SSB Saint Sauveur 82.57 355 eP **P 07 28 26.9 +0.4**
comp=Z,264nm,1.5s
BNI Bardonecchia 82.67 354 eP **P 07 28 28.8 +1.6**
BNI pmax pmax
comp=Z,258nm,1.3s
BNI Bardonecchia 82.67 354 eP **P 07 28 28.8 +1.6**
comp=Z,258nm,1.3s
LBL Lubilhac 82.68 356 eP pP 07 29 11.4 +4.7
SRLM Srisailam 82.79 287 eP **P 07 28 28.0 0.0**
SRLM IAmb IAmb 07 28 29.4
comp=Z,60nm,1.5s
SRLM eS **S 07 38 33.3 +0.5**
OG22 Abries 82.88 354⇑eP pP 07 29 13.9 +6.0
PLE Pljevlja 82.89 344⇑iP **P 07 28 29.3 +1.0**
VTS Vitosha 82.92 341 ⇓iP **P 07 28 28.8 +0.3**
VTS Vitosha 82.92 341 eP **P 07 28 27.9 -0.6**
VTS pmax pmax
comp=Z,52nm,0.8s
VTS Vitosha 82.92 341 eP **P 07 28 27.9 -0.6**
comp=Z,52nm,0.8s
UPM Unac-Piva 83.09 345⇑iP **P 07 28 29.2 -0.2**
BR101 Keskin Array S 83.17 333 eP **P 07 28 29.9 0.0**
BR101 epP **pP 07 29 08.2 -1.2**
BR131 Keskin Array S 83.17 333 eP **P 07 28 29.8 0.0**
BRTR Keskin Array B 83.17 333 P **P 07 28 29.9 0.0**
comp=Z,33nm,0.9s,baz=51,slow=2.1,SNR=76
BRTR pP **pP 07 29 08.2 -1.2**
comp=Z,6.8nm,0.7s,baz=41,slow=4.1,SNR=2.7
BRTR PKKPbc **PKKPbc 07 46 48.6 +1.5**
comp=Z,1.1nm,0.5s,baz=183,slow=4.6,SNR=5.0
BRTR PKPPKP **P'P'df 07 54 53.8 -3.1**
comp=Z,1.4nm,0.9s,baz=164,slow=2.5,SNR=3.4
BRTR LR LR 08 09 02.2
comp=Z,116nm,19.2s,baz=14,slow=38
BRTR Keskin Array B 83.17 333ceP **P 07 28 30.5 +0.7**
BRTR pmax pmax
comp=Z,33nm,0.9s
MARD Mardin 83.19 327 eP **P 07 28 31.4 +1.4**
comp=Z,186nm,0.8s
OG26 St.-Nazaire-De 83.23 355⇑eP pP 07 29 14.8 +5.2
IVA Berane 83.25 344 eP **P 07 28 30.4 +0.3**
RCLA Racherla 83.26 286 eP **P 07 28 30.6 +0.2**
ANTO Ankara 83.26 334 eP **P 07 28 31.2 +1.0**
ANTO pmax pmax
comp=Z,55nm,1.0s
ANTO Ankara 83.26 334 eP **P 07 28 31.2 +1.0**
comp=Z,55nm,1.0s
ANTO Ankara 83.26 334 PcP **P 07 28 31.6 +1.4**
SNR=7.8
ANTO Ankara 83.26 334 P **P 07 28 31.6 +1.4**
SNR=7.8
KOME Kolasin 83.34 344⇑iP **P 07 28 30.6 0.0**
BRY Bratogost 83.45 345⇑iP **P 07 28 30.5 -0.7**
NKY Niksic 83.46 345⇑iP **P 07 28 31.1 -0.1**
PVY Plav 83.51 344⇑iP **P 07 28 31.5 0.0**
NKME Niksic 83.51 345 eP **P 07 28 31.2 -0.2**
KBSD Kabsdagh 83.55 327 eP **P 07 28 33.8 +2.1**
CEME Cevo 83.73 345⇑iP **P 07 28 32.5 -0.1**
POO Poona 83.78 292 ⇓iP **P 07 28 33.0 -0.1**
comp=Z,130nm,1.0s
LUCF Luceram 83.78 353 eP pP 07 29 17.0 +4.5

MVIF Mont Vial 83.79 353⇑eP pP 07 29 16.8 +4.2
PDG Podgorica 83.79 344 ⇓iP **P 07 28 32.8 +0.1**
TTG Podgorica 83.79 344⇑iP **P 07 28 32.6 -0.1**
SKO Skopje 83.85 343 i P **P 07 28 34.5 +1.4**
SKO Skopje 83.85 343 P **P 07 28 36.2 +3.1**
HCY Herceg Novi 83.90 345⇑iP **P 07 28 33.9 +0.6**
REVF Revere 83.93 353⇑eP pP 07 29 17.5 +4.3
BUM Brajici-Budva 83.98 344⇑iP **P 07 28 33.7 -0.1**
CISI Cisompet, Garu 84.03 250 eP **P 07 28 32.1 -2.2**
comp=Z,75nm,0.7s
DRME Dracevica, Mon 84.04 344⇑iP **P 07 28 34.6 +0.6**
SKHT Srikalahasti 84.16 285 eP **P 07 28 34.8 -0.2**
SKHT IAmb IAmb 07 28 36.5
comp=Z,21nm,0.8s
SKHT eS **S 07 38 47.5 +1.0**
SFNV Sufian 84.22 327 eP **P 07 28 36.2 +1.0**
ULC Ulcinj 84.25 344 eP **P 07 28 35.2 +0.1**
VAY Valandovo 84.27 342 i P **P 07 28 35.9 +0.8**
KRUS Krusevo 84.47 343 i P **P 07 28 36.4 +0.1**
URV Uravakonda 84.65 287 eP **P 07 28 35.6 -1.9**
OSSF Osses 84.76 359⇑eP pP 07 29 21.1 +3.7
ORDF Ordiarp 84.80 359⇑eP pP 07 29 21.5 +3.9
OHR Ohrid 84.80 343 i P P 07 28 32.9 -5.0
AS31 Alice Springs 84.87 220 eP **P 07 28 38.2 -0.1**
comp=Z,27nm,0.8s
ASAR Alice Springs 84.87 220 P **P 07 28 38.2 -0.1**
comp=Z,75nm,0.8s,baz=22,slow=5.1,SNR=398
ASAR PP **PP 07 31 54.6 -2.9**
comp=Z,5.8nm,0.7s,baz=32,slow=6.8,SNR=4.9
ASAR S **S 07 38 48.0 -5.1**
comp=Z,1.0nm,0.9s,baz=26,slow=8.6,SNR=4.9
ASAR PKKPbc **PKKPbc 07 46 45.6 +1.2**
comp=Z,0.6nm,0.7s,baz=192,slow=1.7,SNR=4.9
ASAR SKKPbc **SKKPbc 07 50 08.1 -1.4**
comp=Z,0.6nm,0.8s,baz=181,slow=2.2,SNR=4.6
ASAR PKPPKP **P'P'df 07 54 50.5 0.0**
comp=Z,1.2nm,0.9s,baz=202,slow=2.8,SNR=6.0
ASAR LR LR 08 03 11.3
comp=Z,397nm,21.5s,baz=28,slow=33
ATE Arette 84.92 359⇑eP pP 07 29 22.0 +3.8
REYF Montagne du Re 84.94 359⇑eP pP 07 29 22.2 +3.8
LABF Labassere 84.95 358⇑eP pP 07 29 22.1 +3.7
KSRV Kasrt alli 85.10 328 eP **P 07 28 42.9 +3.4**
VIEF Viey 85.12 358⇑eP pP 07 29 24.0 +4.7
DRWC Darouich 85.15 330 eP **P 07 28 40.1 +0.3**
RESF Ens 85.19 358⇑eP pP 07 29 24.3 +4.6
CARF Carcanieres 85.23 357⇑eP pP 07 29 24.4 +4.5
SJAF Saint Jean de 85.43 356 eP pP 07 29 24.8 +4.0
VALF Valcebollere 85.55 357⇑eP pP 07 29 26.2 +4.6
ARMA Armidale 85.57 203 eP **P 07 28 43.0 +1.3**
comp=Z,98nm,0.7s
RKT Rikitea 85.66 137 eLQ LQ 07 51 37.3
comp=Z,2μm,33.8s
RKT eLR LR 07 55 57.9
comp=Z,774nm,25.2s
BTCH Batrach 85.75 330 eP **P 07 28 43.8 +1.0**
ISP Isparta 85.79 335 eP **P 07 28 43.1 +0.1**
ISP pmax pmax
comp=Z,41nm,0.9s
ISP Isparta 85.79 335 eP **P 07 28 42.5 -0.5**
comp=Z,45nm,0.9s
PGAV Gavieira, Arco 85.90 5 eP **P 07 28 43.5 +0.1**
PGAV epP **pP 07 29 28.4 +5.1**
ARNB Al Arnab 86.06 330 eP **P 07 28 45.6 +1.2**
PBRG Braganca 86.13 3 eP **P 07 28 44.3 -0.2**
PBRG epP **pP 07 29 28.6 +4.3**
POLO Lamas de Olo 86.51 4 eP **P 07 28 46.4 0.0**
POLO epP **pP 07 29 30.7 +4.4**
PVRL Vila Real 86.61 4 eP **P 07 28 47.0 +0.1**
PVRL epP **pP 07 29 31.4 +4.6**
BIDA Albida 86.74 329 eP **P 07 28 47.1 -0.5**
MVO Moncorvo 86.75 4 eP **P 07 28 47.4 -0.2**
comp=Z,21nm,0.9s
MVO epP **pP 07 29 31.7 +4.2**
BANOM Banah 86.89 310 i P **P 07 28 47.4 -1.0**
SNR=9.2
BANOM Banah 86.89 310 PcP **P 07 28 48.6 +0.1**
SNR=6.6
BANOM Banah 86.89 310 P **P 07 28 48.6 +0.1**
SNR=6.6
HAWK Haweek 87.17 329 eP **P 07 28 48.7 -1.0**
OUZ Omahuta 87.29 184 eP **P 07 28 51.0 +1.2**
comp=Z,67nm,0.8s
MTE Manteigas 87.50 4 eP **P 07 28 51.1 -0.1**
comp=Z,71nm,1.4s
MTE epP **pP 07 29 35.3 +4.2**
MTE Manteigas 87.50 4 eP **P 07 28 51.4 +0.2**
comp=Z,55nm,0.9s
MARH Ras Al Marh 87.60 329 eP **P 07 28 50.4 -1.7**
UOSS Minazif 87.77 309 eP **P 07 28 51.0 -1.7**
comp=Z,36nm,0.8s
PCAS Casmilo, Conde 87.80 5 eP **P 07 28 52.2 -0.3**
PCAS epP **pP 07 29 36.7 +4.2**
HATD Hatta, Dubai 87.90 309 i P **P 07 28 52.8 -0.5**
SNR=10
HATD Hatta, Dubai 87.90 309 PcP **P 07 28 53.1 -0.1**
SNR=6.1
HATD Hatta, Dubai 87.90 309 P **P 07 28 53.1 -0.1**
SNR=6.1
PCBR Castelo Branco 88.06 4 eP **P 07 28 53.5 -0.2**
PCBR epP **pP 07 29 37.7 +3.9**
ASHO Ashiyiah 88.06 309 i P **P 07 28 53.7 -0.4**
SNR=8.2
FAQ Al Faqa, Dubai 88.23 310 P **P 07 28 54.1 -0.7**
PTOM Tomar 88.23 5 eP **P 07 28 54.5 -0.1**
PTOM epP **pP 07 29 38.7 +4.1**
ESDC Sonseca Array 88.33 1 P **P 07 28 53.6 -1.5**
comp=Z,2.6nm,0.8s,baz=356,slow=4.4,SNR=13
ESDC pP **pP 07 29 32.9 -2.2**
comp=Z,15nm,1.0s,baz=355,slow=4.8,SNR=3.9
ESDC PP **PP 07 32 29.5 +5.8**
comp=Z,2.1nm,0.9s,baz=343,slow=6.8,SNR=4.2
ESDC PKKPbc **PKKPbc 07 46 36.1 +1.1**
comp=Z,0.5nm,0.4s,baz=191,slow=1.5,SNR=7.7
ESDC PKPPKP **P'P'df 07 54 44.2 -2.9**
comp=Z,0.7nm,0.6s,baz=178,slow=1.5,SNR=6.6
BRBR Barbar 88.33 329 eP **P 07 28 55.0 -0.5**
PMRV Marv??o 88.47 4 epP pP 07 29 39.8 +4.0
PALK Pallekele 88.67 280 eP **P 07 28 57.8 +0.8**
PALK pmax pmax
comp=Z,126nm,1.9s
PALK Pallekele 88.67 280 eP **P 07 28 57.8 +0.8**
comp=Z,126nm,1.9s
SALA Sala 88.73 328 eP **P 07 28 56.6 -0.7**
PMTG Montargil 88.79 5 eP **P 07 28 55.9 -1.3**
PMTG epP **pP 07 29 40.3 +3.0**
KARP Karpathos 88.80 336 eP **P 07 28 56.1 -1.2**
comp=Z,26nm,0.8s
PMAFR Mafra 88.84 6 epP pP 07 29 41.1 +3.5
MMAI Mount Meron Ar 88.87 329 P **P 07 28 57.0 -0.8**
comp=Z,14nm,0.7s,baz=26,slow=4.0,SNR=16
MBWA Marble Bar 88.93 232 eP **P 07 28 56.8 -1.1**
comp=Z,61nm,0.8s
PESTR Estremoz 89.02 4 eP **P 07 28 57.5 -0.8**
PESTR epP **pP 07 29 41.7 +3.3**
ASF Jabal al Asfar 89.17 328 P **P 07 28 58.9 -0.3**
comp=Z,23nm,0.8s,baz=351,slow=3.0,SNR=34
EVO Evora 89.33 5 eP **P 07 28 59.1 -0.7**
comp=Z,15nm,2.3s
EVO epP **pP 07 29 43.6 +3.7**
IDI Anoyia 89.58 338 P **P 07 28 59.5 -1.5**
comp=Z,18nm,0.9s,baz=71,slow=14,SNR=5.1
IDI Anoyia 89.58 338 eP **P 07 28 59.5 -1.5**
comp=Z,232nm,2.0s
STKA Stephens Creek 89.69 210 P **P 07 29 02.0 +0.8**
comp=Z,163nm,0.7s,baz=359,slow=6.1,SNR=202
STKA LR LR 08 06 18.3
comp=Z,610nm,20.0s,baz=11,slow=33
STKA Stephens Creek 89.69 210 P **P 07 29 02.0 +0.8**
STKA pmax pmax
comp=Z,163nm,0.7s
STKA Stephens Creek 89.69 210 eP **P 07 29 01.6 +0.4**
comp=Z,50nm,1.0s
PNCL Nicolau / Gran 89.73 5 epP pP 07 29 45.7 +4.0
PBAR Barrancos 89.73 4 eP **P 07 29 01.0 -0.6**
PBAR epP **pP 07 29 45.2 +3.4**
PBEJ Beja 89.85 5 eP **P 07 29 02.2 0.0**
PBEJ epP **pP 07 29 46.2 +3.9**
BCIP Isla Barro Col 90.22 75 eP P 07 29 13.9 +10
PCVE Castro Verde 90.23 5 epP pP 07 29 47.6 +3.5
URZ Urewera 90.25 181 eP **P 07 29 02.0 -1.6**
comp=Z,55nm,0.7s
PVAQ Vaqueiros 90.47 4 epP pP 07 29 49.5 +4.3
MORF Marmelete 90.52 5 epP pP 07 29 49.6 +4.1

HIZ Hauiti 90.54 182 eP **P 07 29 06.2 +1.2**
comp=Z,176nm,1.0s
PBDV Barranco-do-Ve 90.62 5 eP **P 07 29 04.0 -1.8**
PBDV epP **pP 07 29 51.6 +5.6**
SJG San Juan 90.65 59 eP **P 07 29 05.3 -0.8**
SJG pmax pmax
comp=Z,57nm,1.1s
SJG San Juan 90.65 59 eP **P 07 29 05.3 -0.8**
comp=Z,57nm,1.1s
HUMP Col San Antoni 90.78 59 eP **P 07 29 06.1 -0.6**
comp=Z,30nm,0.9s
CAN Canberra 90.89 203 eP **P 07 29 08.3 +1.5**
CAN pmax pmax
comp=Z,134nm,1.6s
CAN Canberra 90.89 203 eP **P 07 29 08.2 +1.5**
comp=Z,134nm,1.6s
MTP Monte Pirata 90.97 58 eP **P 07 29 07.8 +0.2**
comp=Z,112nm,1.1s
KEST Kesra 91.70 351 P **P 07 29 10.6 -0.3**
comp=Z,7.8nm,0.9s,baz=346,slow=4.2,SNR=4.7
KEST PP **PP 07 32 51.6 +1.0**
comp=Z,17nm,1.1s,baz=17,slow=17,SNR=3.6
KEST Kesra 91.70 351 eP **P 07 29 10.6 -0.3**
comp=Z,52nm,1.1s
CAPC Capurgana 92.11 73 eP **P 07 29 10.5 -2.4**
EIL Elat 92.11 328 P **P 07 29 12.8 0.0**
comp=Z,3.9nm,0.6s,baz=56,slow=8.9,SNR=3.4
BBOO Buckleboo 92.36 214 eP **P 07 29 14.0 +0.4**
comp=Z,47nm,1.0s
SJCC San Jacinto, C 92.36 71 eP **P 07 29 13.4 -0.8**
BFZ Birch Farm 92.68 181 eP **P 07 29 15.0 +0.2**
comp=Z,28nm,0.9s
URIC Uribia, Colomb 92.72 67 eP P 07 29 08.8 -6.9
MOTC Monteria, Cord 92.98 72 eP **P 07 29 15.7 -1.3**
FORT Forrest 93.54 221 eP **P 07 29 19.5 +0.4**
comp=Z,1μm,0.8s
RAYN Ar Rayn 93.78 317 eP **P 07 29 20.3 -0.3**
comp=Z,24nm,1.0s
THZ Tophouse 93.84 184 eP **P 07 29 20.0 -0.2**
comp=Z,80nm,1.8s
ZARC Zaragoza, Cauc 94.48 72 eP **P 07 29 20.8 -3.1**
OCAC Ocana 94.77 70 eP P 07 29 32.1 +6.7
BRRC Barranca, Sant 95.46 71 eP **P 07 29 27.0 -1.3**
SDV Santo Domingo 95.78 68 eP **P 07 29 30.1 +0.1**
comp=Z,11nm,1.0s
RPZ Rata Peaks 95.88 185 eP **P 07 29 29.7 +0.3**
comp=Z,38nm,1.2s
BARC Barichara 96.18 71 eP **P 07 29 30.9 -1.0**
RUSC La Rusia 96.80 71 eP **P 07 29 31.5 -3.5**
RUSC La Rusia 96.80 71 eP **P 07 29 34.2 -0.8**
NWAO Narrogin (SRO) 100.05 228 ePdif **Pdif 07 29 48.9 +0.5**
NWAO Narrogin (SRO) 100.05 228 ePdif **Pdif 07 29 48.9 +0.5**
PTGA Pitinga 109.65 64 PKIKP **PKKPab 07 45 49.6 -0.9**
comp=Z,1.6nm,0.5s,baz=164,slow=4.5,SNR=4.3
TOA1 Torodi Ar. Sit 114.67 356 ePKiKP **PKiKP 07 34 41.4 -1.8**
TOA1 ePP **PP 07 35 42.6 +0.8**
TORD Torodi Ar. Bea 114.68 356 PKP PKPdf 07 34 41.4 -1.8
comp=Z,6.9nm,0.5s,baz=2.0,slow=1.7,SNR=69
TORD PP **PP 07 35 42.6 +0.8**
comp=Z,6.5nm,1.0s,baz=8.4,slow=6.2,SNR=6.9
TORD PKKPbc **PKKPbc 07 45 17.6 -1.4**
comp=Z,0.9nm,0.6s,baz=163,slow=2.0,SNR=5.9
TORD SKKP 07 49 03.3
comp=Z,0.9nm,0.7s,baz=167,slow=2.4,SNR=2.6
LPAZ La Paz 117.36 81 PKP **PKPdf 07 34 48.5 -0.5**
comp=Z,2.1nm,0.7s,baz=344,slow=5.7,SNR=10
LPAZ PKKPbc **PKKPbc 07 45 13.0 +2.7**
comp=Z,2.2nm,0.7s,baz=194,slow=3.5,SNR=9.1
LPAZ La Paz 117.36 81 ePKPdf **PKPdf 07 34 48.1 -0.8**
KMBO Kilima Mbogo 119.30 313 PKP **PKPdf 07 34 52.6 +0.2**
comp=Z,19nm,0.8s,baz=8.3,slow=2.9,SNR=46
KMBO SKP 07 38 13.2
comp=Z,8.1nm,1.0s,baz=21,slow=5.1,SNR=8.0
KMBO Kilima Mbogo 119.30 313 ePKIKP **PKPdf 07 34 53.7 +1.3**
KMBO Kilima Mbogo 119.30 313 ePKPdf **PKPdf 07 34 53.7 +1.3**
DBIC Dimbokro 121.15 3 PKP **PKPdf 07 34 54.8 -0.9**
comp=Z,14nm,0.4s,baz=349,slow=1.8,SNR=71
DBIC SKP 07 38 14.5
comp=Z,9.0nm,1.0s,baz=20,slow=4.2,SNR=3.5
DBIC PKKPbc **PKKPbc 07 44 57.9 +1.8**
comp=Z,7.1nm,0.6s,baz=162,slow=4.5,SNR=16
DBIC SKKP 07 48 52.4
comp=Z,3.7nm,0.8s,baz=153,slow=5.7,SNR=4.8
TIC Toumodi 121.17 3 ePKP1 **PKPdf 07 34 55.0 -0.7**
TIC Toumodi 121.17 3 ePKP1 **SKPdf 07 38 14.5 -1.4**
TIC Toumodi 121.17 3 ePKP2 **PKKPbc 07 44 57.5 +1.5**
SIV San Ignacio 121.36 75 PKP **PKPdf 07 34 54.3 -1.6**
comp=Z,6.6nm,0.7s,baz=289,slow=2.4,SNR=14
SIV PP **PP 07 36 29.3 +0.1**
comp=Z,9.8nm,0.9s,baz=350,slow=9.2,SNR=8.6
SIV SKP 07 38 16.1
comp=Z,4.6nm,0.8s,baz=345,slow=1.6,SNR=5.2
SIV PKKPab **PKKPab 07 44 58.6 +0.1**
comp=Z,2.1nm,0.7s,baz=147,slow=3.7,SNR=5.2
KIC Kosan Boka 121.46 3 ePKP1 **PKPdf 07 34 55.7 -0.6**
comp=Z,44nm,0.6s
KIC Kosan Boka 121.46 3 ePKP1 **SKPdf 07 38 15.1 -1.3**
comp=Z,26nm,1.1s
KIC Kosan Boka 121.46 3 ePKP2 **PKKPbc 07 44 56.8 +1.9**
comp=Z,26nm,0.8s
LIC Lamto 121.59 3 ePKP1 **PKPdf 07 34 55.9 -0.6**
comp=Z,56nm,0.4s
LIC Lamto 121.59 3 ePKP1 **SKPdf 07 38 15.5 -1.1**
comp=Z,49nm,1.2s
LIC Lamto 121.59 3 ePKP2 **PKKPbc 07 44 55.8 +1.4**
comp=Z,54nm,0.7s
LVC Limon Verde 121.69 86 PKKPab PKKPab 07 44 58.4 +1.7
comp=Z,21nm,0.7s,baz=112,slow=19,SNR=7.3
LCO Las Campanas 125.26 93 ePKPdf **PKPdf 07 35 03.0 -0.3**
ROC1 El Roble 127.84 97 ePKPdf **PKPdf 07 35 07.3 -0.9**
BDFB Brasilia 128.52 62 PKP **PKPdf 07 35 08.8 -0.9**
comp=Z,15nm,0.8s,baz=299,slow=3.0,SNR=3.1
BDFB SKPbc SKPbc 07 38 13.6
comp=Z,4.8nm,0.7s,baz=33,slow=3.5,SNR=3.2
BDFB Brasilia 128.52 62 ePKPdf **PKPdf 07 35 08.8 -0.9**
BDFB ePKPdf **PKiKP 07 35 09.1 -1.3**
GO05 HualaæØ 128.67 99 ePKPdf **PKPdf 07 35 09.1 -0.3**
ABPO Ambohimpanom 129.33 292 ePKIKP **PKPdf 07 35 12.4 +1.1**
ABPO Ambohimpanom 129.33 292 ePKPdf **PKPdf 07 35 12.4 +1.1**
VNDA Vanda 130.00 184 PKP **PKPdf 07 35 11.0 +0.5**
comp=Z,7.8nm,0.9s,baz=299,slow=4.5,SNR=23
VNDA SKPbc SKPbc 07 38 19.9 +1.8
comp=Z,32nm,0.9s,baz=339,slow=4.6,SNR=32
VNDA SKP 07 38 30.4
comp=Z,16nm,1.0s,baz=312,slow=1.8,SNR=7.2
VNDA SKKPbc **SKKPbc 07 48 02.1 0.0**
comp=Z,2.0nm,1.0s,baz=249,slow=6.1,SNR=3.3
VNDA Vanda 130.00 184 ePKIKP **PKPdf 07 35 10.9 +0.3**
VNDA Vanda 130.00 184 ePKPpre **PKPdf 07 35 10.8 +0.3**
VNDA ePKPdf **PKPdf 07 35 11.3 +0.8**
SBA Scott Base 130.13 183 ePKIKP **PKPdf 07 35 12.0 +1.2**
SBA Scott Base 130.13 183 ePKPdf **PKPdf 07 35 12.0 +1.2**
CPUP Villa Florida 131.49 80 PKhKP PKPpre 07 35 02.0
comp=Z,2.6nm,0.9s,baz=17,slow=19,SNR=3.4
CPUP PKP **PKPdf 07 35 14.5 -0.4**
comp=Z,4.9nm,0.5s,baz=334,slow=0.8,SNR=12
CPUP SKPbc **SKPbc 07 38 23.6 -1.6**
comp=Z,43nm,0.9s,baz=306,slow=4.2,SNR=30
CPUP SKKPbc **SKKPbc 07 47 56.0 +3.5**
comp=Z,2.3nm,0.9s,baz=137,slow=5.4,SNR=3.3
PLCA Paso Flores 133.22 104 PKhKP PKPpre 07 35 05.0
comp=Z,1.2nm,0.8s,baz=320,slow=8.5,SNR=3.2
PLCA PKP **PKPdf 07 35 17.9 0.0**
comp=Z,18nm,0.8s,baz=281,slow=2.0,SNR=35
PLCA SKPbc **SKPbc 07 38 30.2 -0.5**
comp=Z,35nm,0.6s,baz=317,slow=3.8,SNR=54
LSZ Lusaka 135.87 316 ePKIKP **PKPdf 07 35 24.8 +1.2**
LSZ Lusaka 135.87 316 ePKPdf **PKPdf 07 35 24.8 +1.2**
CHRN Cochrane 135.88 113 ePKPdf **PKPdf 07 35 23.6 +1.1**
USHA Ushuaia 141.89 121 PKhKP PKPpre 07 35 27.6
comp=Z,187nm,0.8s,baz=223,slow=1.3,SNR=10
USHA SKPbc **SKPbc 07 38 55.2 -0.1**
comp=Z,91nm,0.8s,baz=244,slow=1.3,SNR=5.7
QSPA South Pole Qui 142.11 180 ePKPpre PKPpre 07 35 28.4
LBTB Lobatse 145.56 312 ePKP2 **PKPdf 07 35 40.7 -0.1**
LBTB Lobatse 145.56 312 ePKPdf **PKPdf 07 35 40.6 -0.1**
MAW Mawson 145.99 218 PKPbc **PKPbc 07 35 41.1 0.0**
comp=Z,185nm,0.6s,baz=86,slow=3.1,SNR=263
MAW SKPbc **SKiKP 07 39 05.3 +0.4**
comp=Z,21nm,0.9s,baz=98,slow=3.2,SNR=4.7
MAW Mawson 145.99 218 ePKP2 **PKPdf 07 35 40.5 +0.6**
MAW Mawson 145.99 218 ePKPdf **PKPdf 07 35 40.5 +0.6**
MAW ePKPbc **PKPab 07 35 43.0 +1.0**
EFI East Falkland 146.29 112 ePKP2 **PKPbc 07 35 41.8 -0.6**
EFI East Falkland 146.29 112 ePKPdf **PKPbc 07 35 41.8 -0.6**
PMSA Palmer Station 146.86 136 PKPbc **PKPbc 07 35 43.8 +0.1**

comp=Z,44nm,0.5s,baz=252,slow=3.5,SNR=25
BOSA Boshof 148.77 309 PKP PKPdf 07 35 46.1 +0.1
comp=Z,54nm,0.4s,baz=32,slow=1.6,SNR=58
BOSA PKPbc **PKPbc 07 35 50.3 +0.2**
comp=Z,54nm,0.4s,baz=18,slow=2.4,SNR=124
BOSA Boshof 148.77 309 PKIKP **PKPdf 07 35 46.1 +0.1**
BOSA pmax pmax
comp=Z,41nm,0.8s
BOSA Boshof 148.77 309 *e*PKPdf **PKPdf 07 35 46.1 +0.1**
BOSA *e*PKPdf **PKPbc 07 35 46.4 -3.7**
BOSA *e*PKPbc **PKPbc 07 35 50.3 +0.2**
BOSA *e*PKPbc **PKPab 07 35 50.4 -4.0**
SYO Syowa Base 154.39 214⇓*e*PKPdf **PKPdf 07 35 52.0 -1.0**
SYO Syowa Base 154.39 214⇓*e*X **PKPab 07 36 12.6 -4.0**
NVL N'lazarevskaya 160.47 194 *e*PKP2 **PKPab 07 36 40.4 -2.4**
NVL *e* 07 40 26.0
SNAA Sanae 160.62 179 PKP **PKPab 07 36 42.8 -0.7**
SNAA Sanae 160.62 179 PKP **PKPdf 07 35 59.7 -1.2**
comp=Z,3.9nm,0.7s,baz=208,slow=1.3,SNR=16
SNAA PKPab **PKPab 07 36 42.5 -1.0**
comp=Z,21nm,0.6s,baz=201,slow=9.6,SNR=26
SNAA Sanae 160.62 179 *e*PKIKP **PKPdf 07 36 00.6 -0.2**
SNAA *e* 07 36 42.6
SNAA Sanae 160.62 179 *e*PKPdf **PKPdf 07 36 00.6 -0.2**
SNAA *e*PKPab **PKPab 07 36 42.6 -1.0**
VNA3 Neumayer Olymp 160.75 173 PKP **PKPab 07 36 45.4 +1.3**
VNA2 Neumayer--Watz 161.22 175 PKP **PKPab 07 36 46.5 +0.5**
baz=195,slow=3.2
VNA1 Neumayer--Stat 161.43 174 PKP **PKPab 07 36 48.4 +1.4**

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*VIE **31** 07:19:28.5±0.6, 45.°73N×11.°00E, h6km, mb1.9/8, ML2.5/12, Error ellipse: s-maj=4.3km s-min=2.2km az=27.0*
*CSEM **31** 07:19:28.7±0.1, 45.°72N×10.°96E, h5km, ML2.8/9, Error ellipse: s-maj=2.6km s-min=2.0km az=7.0*
*ROM **31** 07:19:28.4±0.2, 45.°72N×10.°92E, h5km, Md2.1/3, Ml1.6/3, Error ellipse: s-maj=3.8km s-min=2.2km az=32.0*
*PRU **31** 07:19:33.4, 45.°80N×11.°12E, h8km*
ISC 31 07:19:28.6±0.8, 45.°70N±0.°03×10.°96E±0.°02, h14km±5km, n49, σ0.68/76, 2C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROVR	**Rover¤ Verone**	**0.09**	**123**	Pg	**Pg**	**07 19 31.6**	**-0.1**
ROVR				Sg	**Sg**	**07 19 33.5**	**-0.4**
ROVR	**Rover¤ Verone**	**0.09**	**123**	Pg	**Pg**	**07 19 31.6**	**-0.1**
ROVR				Sg	**Sg**	**07 19 33.5**	**-0.4**
BALD	**Monte Baldo**	**0.10**	**262**	⇑*i*Pg	**Pg**	**07 19 31.4**	**-0.4**
BALD				*i* Sg	**Sg**	**07 19 33.5**	**-0.7**
BALD	**Monte Baldo**	**0.10**	**262**	*i* Pg	**Pg**	**07 19 31.5**	**-0.4**
BALD				*i* Sg	**Sg**	**07 19 33.5**	**-0.7**
MARN	**Marana (Italy)**	**0.18**	**109**	⇓*i*Pg	**Pg**	**07 19 33.0**	**+0.1**
MARN				*i* Sg	**Sg**	**07 19 35.9**	**+0.2**
MARN	**Marana (Italy)**	**0.18**	**109**	*i* Pg	**Pg**	**07 19 33.0**	**+0.1**
MARN				*i* Sg	**Sg**	**07 19 35.9**	**+0.2**
DDS	**Dosso del Somm**	**0.24**	**41**	⇓*e*Pg	**Pg**	**07 19 34.1**	**+0.2**
DDS				*e*Sg	**Sg**	**07 19 37.7**	**+0.2**
DDS	**Dosso del Somm**	**0.24**	**41**	*e*Pg	**Pg**	**07 19 34.1**	**+0.2**
DDS				*e*Sg	**Sg**	**07 19 37.7**	**+0.2**
SALO	**Salr**	**0.32**	**256**	Pg	**Pg**	**07 19 34.9**	**-0.2**
SALO				Sg	**Sg**	**07 19 40.1**	**+0.6**
SALO	**Salr**	**0.32**	**256**	Pg	**Pg**	**07 19 34.9**	**-0.2**
SALO				Sg	**Sg**	**07 19 40.1**	**+0.6**
RNI	**Roncone**	**0.37**	**320**	⇓*e*Pg	**Pg**	**07 19 35.8**	**-0.3**
RNI				*e*Sg	**Sg**	**07 19 41.0**	**-0.2**
RNI	**Roncone**	**0.37**	**320**	*e*Pg	**Pg**	**07 19 35.8**	**-0.3**
RNI				*e*Sg	**Sg**	**07 19 41.0**	**-0.2**
MABI	**Malga Bissina**	**0.47**	**319**	Pg	**Pg**	**07 19 37.4**	**-0.6**
MABI				Sg	**Sg**	**07 19 44.0**	**-0.5**
34nm,0.1s							
MABI	**Malga Bissina**	**0.47**	**319**	Pg	**Pg**	**07 19 37.4**	**-0.6**
MABI				Sg	**Sg**	**07 19 44.0**	**-0.5**
34nm,0.1s							
CGRP	**Cima Grappa**	**0.61**	**72**	*e*Pg	**Pb**	**07 19 40.8**	**-0.5**
CGRP	**Cima Grappa**	**0.61**	**72**	*e*Pg	**Pb**	**07 19 40.8**	**-0.5**
OZOL	**Ozolo**	**0.71**	**5**	*e*Pg	**Pb**	**07 19 42.7**	**-0.1**
OZOL	**Ozolo**	**0.71**	**5**	*e*Pg	**Pb**	**07 19 42.7**	**-0.1**
CARE	**Lago del Cares**	**0.75**	**346**	⇓*e*Pg	**Pg**	**07 19 43.1**	**-0.1**
CARE	**Lago del Cares**	**0.75**	**346**	*e*Pg	**Pg**	**07 19 43.2**	**-0.1**
MTLO	**Montello**	**0.80**	**81**	⇑*e*Pg	**Pb**	**07 19 44.8**	**+0.4**
MTLO	**Montello**	**0.80**	**81**	*e*Pg	**Pb**	**07 19 44.8**	**+0.4**
VARN	**Col Varnada, M**	**0.85**	**69**	*e*Pg	**Pb**	**07 19 45.3**	**+0.1**
VARN	**Col Varnada, M**	**0.85**	**69**	*e*Pg	**Pb**	**07 19 45.3**	**+0.1**
AGOR	**Agordo**	**0.96**	**52**	⇓*e*Pg	**Pb**	**07 19 47.3**	**+0.3**
BERNI	**Berninapass**	**0.97**	**318**	Pg	**Pb**	**07 19 47.8**	**+0.4**
300nm,3.9s							
BERNI	**Berninapass**	**0.97**	**318**	Pg	**Pb**	**07 19 47.8**	**+0.4**
300nm,3.9s							
FUORN	**Ofenpass-Fuorn**	**1.04**	**333**	Pg	**Pg**	**07 19 48.3**	**-0.4**
FUORN				Sg	**Sg**	**07 20 02.1**	**-0.3**
14nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**1.04**	**333**	Pg	**Pg**	**07 19 48.3**	**-0.4**
FUORN				Sg	**Sg**	**07 20 02.1**	**-0.3**
14nm,0.2s							
CAE	**Caneva**	**1.08**	**73**	*e*Pg	**Pn**	**07 19 49.6**	**+0.2**
CAE	**Caneva**	**1.08**	**73**	*e*Pg	**Pn**	**07 19 49.6**	**+0.2**
CIMO	**Cimolais**	**1.20**	**59**	*e*Pg	**Pb**	**07 19 51.4**	**+0.2**
CIMO	**Cimolais**	**1.20**	**59**	*e*Pg	**Pb**	**07 19 51.3**	**+0.2**
MLNI	**Malnisio**	**1.24**	**68**	*e*Pg	**Pn**	**07 19 52.6**	**+1.1**
MLNI	**Malnisio**	**1.24**	**68**	*e*Pg	**Pn**	**07 19 52.6**	**+1.1**
FETA	**Feichten**	**1.33**	**353**	Pg	**Pg**	**07 19 53.8**	**-0.5**
1.9nm,0.1s,SNR=11							
FETA				Sg	**Sn**	**07 20 11.2**	**+0.5**
1.4nm,0.1s							
MUGIO	**Muggio**	**1.36**	**280**	Pg	**Pn**	**07 19 54.0**	**+0.7**
MUGIO	**Muggio**	**1.36**	**280**	Pg	**Pn**	**07 19 54.0**	**+0.7**
ABTA	**Abfaltersbach**	**1.50**	**45**	Pg	**Pg**	**07 19 57.2**	**-0.3**
4.7nm,0.2s,SNR=4.8							
ABTA				Sg	**Sg**	**07 20 18.2**	**+1.2**
7.8nm,0.2s							
WTTA	**Wattenberg**	**1.64**	**16**	Pg	**Pg**	**07 19 59.9**	**-0.1**
0.4nm,0.1s							
WTTA				Sg	**Sg**	**07 20 20.1**	**-1.1**
10nm,0.2s,SNR=7.2							
MOTA	**Moosalm**	**1.65**	**3**	Pg	**Pg**	**07 20 00.4**	**+0.1**
1.7nm,0.2s							
WATA	**Walderalm**	**1.69**	**14**	Pg	**Pg**	**07 20 00.7**	**-0.4**
1.7nm,0.1s							
WATA				Sg	**Sg**	**07 20 22.4**	**-0.7**
9.2nm,0.2s							
MYKA	**Terra Mystica**	**2.08**	**62**	Pg	**Pg**	**07 20 07.5**	**-1.0**
1.1nm,0.1s							
MYKA				Sg	**Sg**	**07 20 36.0**	**+0.5**
1.7nm,0.1s							
KBA	**Koelnbreinsper**	**2.15**	**49**	Pg	**Pg**	**07 20 08.3**	**-1.5**
2.9nm,0.3s							
KBA				Sg	**Sg**	**07 20 38.2**	**+0.5**
3.0nm,0.2s							
OBKA	**Obir**	**2.62**	**71**	Pg	**Pg**	**07 20 18.3**	**-0.6**
1.6nm,0.3s							
OBKA				Sg	**Sg**	**07 20 53.9**	**+1.0**
4.7nm,0.3s							
NVLJ	**Novalja**	**2.99**	**111**	*e*Pn	**Pn**	**07 20 15.8**	**+0.2**
NVLJ				Sn	**Sn**	**07 20 49.5**	**-1.7**
NVLJ	**Novalja**	**2.99**	**111**	*e*Pn	**Pn**	**07 20 15.7**	**+0.2**
NVLJ				Sn	**Sn**	**07 20 49.5**	**-1.7**
KHC	**Kasperske Hory**	**3.87**	**26**	*e*SN	**Sn**	**07 21 14.2**	**+1.3**
KHC				*e*SG	**Sg**	**07 21 31.0**	**-1.7**
KHC	**Kasperske Hory**	**3.87**	**26**	Sn	**Sn**	**07 21 14.2**	**+1.3**
KHC				Sg	**Sg**	**07 21 31.0**	**-1.7**

JMA 31 07:22:20.5±0.1, 35.°47N×140.°39E, h27km±2km, M3.7, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.16**	**252**	⇑P	Pb	07 22 26.5	+0.6
KTR	**Katsuura**	**0.33**	**191**	⇑P	Pb	07 22 27.7	-0.4
KTR				S	Sb	07 22 33.6	+0.4
CHOJ	**Chosi**	**0.45**	**59**	P	Pb	07 22 29.8	-0.1
CHOJ				S	Sb	07 22 36.3	0.0
BSO4	**Boso 4**	**0.48**	**185**	⇑P	Pb	07 22 30.6	+0.2
BSO3	**Boso 3**	**0.67**	**172**	⇓P	Pb	07 22 32.9	-0.6
JYT	**Yasato**	**0.77**	**348**	⇓P	Pb	07 22 34.6	-0.8
BSO1	**Boso 1**	**0.95**	**149**	⇓P	Pn	07 22 36.0	-1.5
JIM2	**Oshima 3**	**1.09**	**227**	P	Pn	07 22 38.4	-1.6

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*DDA **31** 07:26:35.7, 38.°80N×43.°68E, h7km, Ml3.1*
*ISK **31** 07:26:36.3, 38.°89N×43.°57E, h15km, ML2.7*
CSEM 31 07:26:36.2±0.2, 38.°85N×43.°65E, h10km, ML3.1, Error ellipse: s-maj=5.5km s-min=3.6km az=104.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**337**	*i* P	Pg	07 26 40.2	+0.5
VMUR				*i* S	Sg	07 26 43.7	+1.5
VMUR	**Van-Muradiye**	**0.15**	**337**	P	Pg	07 26 40.2	+0.4
VMUR				S	Sg	07 26 43.7	+1.4
ERCV	**ERCIS-VAN**	**0.30**	**306**	*e*PG	Pg	07 26 41.5	-0.8
ERCV	**ERCIS-VAN**	**0.30**	**306**	*e*Pg	Pg	07 26 41.5	-0.8
VANB	**Van**	**0.32**	**219**	*e*PG	Pb	07 26 44.2	0.0
VANB				*e*SG	Sb	07 26 51.5	+2.1
VANB	**Van**	**0.32**	**219**	*e*Pg	Pb	07 26 44.2	+0.1
CLDR	**Caldiran**	**0.36**	**35**	*e*PG	Pg	07 26 43.9	+0.4
CLDR				*e*SG	Sb	07 26 50.5	-0.2
CLDR	**Caldiran**	**0.36**	**35**	*i* P	Pg	07 26 43.6	+0.1
CLDR				*i* S	Sb	07 26 50.3	-0.5
CLDR	**Caldiran**	**0.36**	**35**	P	Pg	07 26 43.6	+0.1
CLDR	**Caldiran**	**0.36**	**35**	*e*Pg	Pg	07 26 43.9	+0.4
CLDR				S	Sb	07 26 50.3	-0.4
TVAN	**Van**	**0.37**	**211**	*i* P	Pg	07 26 43.8	+0.1
TVAN				*i* S	Sb	07 26 50.7	-0.3
TVAN	**Van**	**0.37**	**211**	P	Pg	07 26 43.8	+0.2
TVAN				S	Sb	07 26 50.7	-0.2
DYDN	**Diyadin**	**0.70**	**3**	*i* P	Pg	07 26 50.0	+0.2
DYDN				*i* S	Sb	07 27 00.9	+0.6
DYDN	**Diyadin**	**0.70**	**3**	P	Pg	07 26 50.0	+0.3
DYDN				S	Sb	07 27 00.9	+0.6
GEVA	**Gevas**	**0.71**	**221**	*i* P	Pg	07 26 49.3	-0.6
GEVA				*i* S	Sb	07 27 00.3	-0.2
GEVA	**Gevas**	**0.71**	**221**	P	Pg	07 26 49.3	-0.6
GEVA				S	Sb	07 27 00.3	-0.2
ADCV	**BITLIS_Adilcev**	**0.72**	**267**	*i* P	Pg	07 26 50.3	+0.1
ADCV				*i* S	Sb	07 27 00.9	-0.1
ADCV	**BITLIS_Adilcev**	**0.72**	**267**	P	Pg	07 26 50.3	+0.1
ADCV				S	Sb	07 27 00.9	-0.1
BASK	**Baskale_VAN**	**0.84**	**160**	*i* P	Pg	07 26 51.0	-1.5
BASK	**Baskale_VAN**	**0.84**	**160**	P	Pg	07 26 51.0	-1.5
TUTA	**Tutak**	**0.85**	**311**	*i* P	Pg	07 26 52.2	-0.5
TUTA	**Tutak**	**0.85**	**311**	P	Pg	07 26 52.2	-0.5
AGRB	**Hanur-Agry**	**0.89**	**325**	*e*PG	Pg	07 26 53.0	-0.4
AGRB	**Hanur-Agry**	**0.89**	**325**	*e*Pg	Pg	07 26 53.0	-0.3
HAKT	**HAKKARI**	**1.29**	**178**	*i* S	Sn	07 27 19.0	+1.1
HAKT	**HAKKARI**	**1.29**	**178**	S	Sn	07 27 19.0	+1.1
GURO	**Guroymak-BITLI**	**1.30**	**257**	*e*PN	Pn	07 26 59.9	-0.6
GURO	**Guroymak-BITLI**	**1.30**	**257**	*e*Pn	Pn	07 26 59.9	-0.6
EKAR	**Karacoban**	**1.30**	**289**	*i* P	Pg	07 27 01.2	0.0
EKAR				*i* S	Sn	07 27 22.4	+4.2
EKAR	**Karacoban**	**1.30**	**289**	P	Pg	07 27 01.2	0.0
EATA	**Eleskirt**	**1.35**	**319**	*i* P	Pb	07 27 01.9	+0.1
EATA				*i* S	Sb	07 27 18.2	-1.2
EATA	**Eleskirt**	**1.35**	**319**	P	Pb	07 27 02.0	+0.2
EATA				S	Sb	07 27 18.2	-1.1
CUKT	**Cukurca**	**1.60**	**181**	*e*PN	Pn	07 27 05.1	+0.5
CUKT	**Cukurca**	**1.60**	**181**	*i* P	Pn	07 27 04.0	-0.6
CUKT	**Cukurca**	**1.60**	**181**	P	Pn	07 27 04.0	-0.6
CUKT	**Cukurca**	**1.60**	**181**	*e*Pn	Pn	07 27 05.1	+0.5
SRTM	**Siirt_Merkez**	**1.60**	**238**	*i* P	Pb	07 27 06.3	+0.4
SRTM	**Siirt_Merkez**	**1.60**	**238**	P	Pb	07 27 06.3	+0.3

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*ISCJB **31** 07:49:33.8±0.4, 36.°63N±0.°03×71.°12E±0.°06, h200km, mb3.6/12, Error ellipse: s-maj=6.9km s-min=4.2km az=154.2*
*IDC **31** 07:49:34.9±2.6, 36.°46N×71.°37E, h224km±23km, mb3.4/12, mb1 3.5/19, mb1mx3.3/50, mbtmp4.0/19, Error ellipse: s-maj=20.1km s-min=13.4km az=169.0*
*NNC **31** 07:49:40.0±0.9, 36.°97N×71.°20E, h221km±7km, mb3.0, mpv4.3, Error ellipse: s-maj=9.8km s-min=5.8km az=153.0*
ISC 31 07:49:33.5±0.6, 36.°55N±0.°06×71.°29E±0.°06, h200km, n48, σ2.01/56, mb3.7/12, 16C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.77**	**169**	P	Pn	07 50 28.8	+8.1
DZET	**Dzherino**	**2.98**	**320**	⇑P	**Pn**	**07 50 26.8**	**+3.8**
102nm,0.4s							
DZET				⇑S	**Sn**	**07 51 03.3**	**+1.6**
118nm,0.4s							
SARP	**Sargodha**	**4.76**	**166**	P	Pn	07 50 51.1	+6.2
THN	**Thein Dam**	**5.50**	**137**	*e*P	**Pn**	**07 50 53.0**	**-1.3**
THN				*e*S	**Sn**	**07 51 57.0**	**-1.0**
MNAS	**Manas**	**6.00**	**9**	⇑P	**Pn**	**07 51 03.6**	**+2.8**
60nm,0.9s							
MNAS				⇑S	**Sn**	**07 52 08.9**	**-1.0**
46nm,0.8s							
AAK	**Ala-Archa**	**6.56**	**21**	P	**Pn**	**07 51 10.8**	**+2.7**
6.7nm,0.3s,baz=196,slow=6.2,SNR=35							
AAK				S	**Sn**	**07 52 23.2**	**+0.2**
3.7nm,0.3s,baz=131,slow=19,SNR=16							
AAK	**Ala-Archa**	**6.56**	**21**	⇓P	**Pn**	**07 51 10.8**	**+2.7**
7.1nm,0.3s							
AAK				⇑S	**Sn**	**07 52 23.4**	**+0.4**
15nm,0.7s							
KK31	**Karatay Array**	**6.57**	**355**	P	**Pn**	**07 51 10.0**	**+2.0**
14nm,0.4s,baz=176,slow=12,SNR=286							
KK31				⇑S	**Sn**	**07 52 20.5**	**-2.6**
16nm,0.5s,baz=178,slow=22,SNR=9.4							
TKM2	**Tokmak 2**	**7.17**	**26**	⇑P	**Pn**	**07 51 18.7**	**+2.6**
14nm,0.7s							
TKM2				⇑S	**Sn**	**07 52 36.6**	**-0.9**
15nm,0.8s							
MDOK	**Medeo**	**7.95**	**32**	⇑P	**Pn**	**07 51 28.9**	**+2.8**
PDGK	**Podgornoye**	**9.24**	**40**	⇑P	**Pn**	**07 51 45.1**	**+2.2**
2.6nm,0.7s							
GEYT	**Alibeck**	**10.60**	**281**	P	**Pn**	**07 52 01.1**	**+0.6**
0.5nm,0.3s,baz=102,slow=13,SNR=3.5							
MAKZ	**Makanchi**	**12.98**	**35**	⇑P	**Pn**	**07 52 31.1**	**+0.5**
5.8nm,0.7s							
PYUN	**Piuthan**	**12.98**	**127**	*e*P	**P**	**07 52 35.1**	**+0.8**
19nm,0.4s							
MK31	**Makanchi Array**	**13.11**	**35**	⇑P	**Pn**	**07 52 33.1**	**+0.9**
0.4nm,0.4s,baz=219,slow=15,SNR=5.8							
MKAR	**Makanchi Array**	**13.11**	**35**	P	**Pn**	**07 52 33.5**	**+1.2**
0.2nm,0.3s,baz=220,slow=16,SNR=5.6							
DANN	**Dangsing**	**13.32**	**124**	*e*P	**P**	**07 52 39.4**	**+1.3**
KOLN	**Koldanda**	**13.60**	**127**	*e*P	**P**	**07 52 42.6**	**+1.4**
7.0nm,0.3s							
GKN	**Gorkha**	**14.13**	**123**	*e*P	**P**	**07 52 49.3**	**+2.3**
24nm,0.4s							
DMN	**Daman**	**14.70**	**123**	*e*P	**P**	**07 52 55.9**	**+2.5**
16nm,0.6s							
KKN	**Kakani**	**14.71**	**122**	*e*P	**P**	**07 52 55.6**	**+2.2**
31nm,0.6s							
PKIN	**Phulchoki**	**14.92**	**123**	*e*P	**P**	**07 52 58.7**	**+2.9**
21nm,0.5s							
PKI	**Pulchoki**	**14.93**	**123**	*e*P	**P**	**07 52 58.3**	**+2.3**
20nm,0.4s							
KURBB	**Kurchatov Arra**	**15.00**	**18**	P	**Pn**	**07 52 55.2**	**-0.3**
0.1nm,0.3s,baz=207,slow=11,SNR=12							
KURBB	**Kurchatov Arra**	**15.00**	**18**	⇑P	**Pn**	**07 52 55.2**	**-0.3**
2.2nm,0.6s							
GUN	**Gumba**	**15.04**	**121**	*e*P	**P**	**07 52 59.5**	**+2.3**
11nm,0.4s							
AB31	**Akbulak array**	**15.15**	**330**	⇓P	**Pn**	**07 52 59.5**	**+2.1**
1.8nm,0.6s,baz=144,slow=11,SNR=11							
AB31				⇓S	**S**	**07 55 43.8**	**-1.7**
1.6nm,0.6s							
JIRN	**Jiri**	**15.41**	**121**	*e*P	**P**	**07 53 03.8**	**+2.5**
RAMN	**Ramite**	**16.14**	**122**	*e*P	**Pn**	**07 53 10.7**	**+0.9**
17nm,0.6s							
BVA0	**Borovoye Array**	**16.48**	**358**	⇑P	**P**	**07 53 12.6**	**+0.1**
1.3nm,0.4s,baz=156,slow=12,SNR=12							
BVAR	**Borovoye Array**	**16.48**	**358**	P	**P**	**07 53 14.4**	**+1.9**
1.3nm,0.3s,baz=157,slow=12,SNR=16							
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**P**	**07 53 17.8**	**+1.2**
0.8nm,0.3s,baz=131,slow=12,SNR=11							
AKTO				S	**S**	**07 56 15.2**	**-6.9**
0.1nm,0.3s,baz=98,slow=18,SNR=3.2							
AKTO	**Aktyubinsk**	**16.85**	**330**	⇑P	**P**	**07 53 17.6**	**+1.0**
3.2nm,0.7s							
AKTO				⇓S	**S**	**07 56 18.5**	**-3.6**
6.7nm,1.3s							
ZAA0	**Zalesovo Array**	**19.77**	**24**	⇑P	**P**	**07 53 49.2**	**+1.1**
0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**07 53 48.4**	**+0.3**
0.7nm,0.3s,baz=218,slow=10,SNR=7.0							
BRTR	**Keskin Array B**	**29.64**	**288**	P	**P**	**07 55 22.1**	**+1.7**
1.0nm,0.7s,baz=96,slow=9.3,SNR=3.4							
AKASG	**Malin Array Be**	**33.10**	**309**	P	**P**	**07 55 50.4**	**+0.1**
0.7nm,0.5s,baz=80,slow=8.0,SNR=4.3							
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**07 56 28.5**	**+0.3**
1.8nm,0.4s,baz=123,slow=10,SNR=12							
ARCES	**ARCESS Array B**	**41.19**	**337**	P	**P**	**07 56 58.3**	**+0.2**
2.2nm,0.4s,baz=115,slow=8.1,SNR=15							
NB2	**NORSAR Subarra**	**44.48**	**323**	P	**P**	**07 57 23.7**	**-0.9**
comp=Z,1.4nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**07 57 23.9**	**-0.7**
comp=Z,2.0nm,0.5s,baz=96,slow=7.7,SNR=7.2							
TIXI	**Tiksi**	**45.64**	**22**	P	**P**	**07 57 33.0**	**-0.4**
comp=Z,1.8nm,0.3s,baz=292,slow=5.4,SNR=3.5							
ESDC	**Sonseca Array**	**57.64**	**298**	P	**P**	**07 59 02.6**	**-0.2**
comp=Z,0.6nm,0.5s,baz=66,slow=7.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P	**P**	**07 59 56.8**	**-1.7**
comp=Z,1.9nm,0.6s,baz=51,slow=6.1,SNR=23							
ILAR	**Eielson Array**	**74.66**	**16**	P	**P**	**08 00 49.2**	**-1.3**
comp=Z,0.3nm,0.8s,baz=303,slow=6.5,SNR=3.4							
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**08 01 25.3**	**-1.1**
comp=Z,2.3nm,0.8s,baz=354,slow=5.6,SNR=3.4							
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**08 01 28.8**	**-1.6**
comp=Z,0.5nm,0.8s,baz=322,slow=4.3,SNR=4.4							
ASAR	**Alice Springs**	**84.09**	**125**	P	**P**	**08 01 41.0**	**-1.0**
comp=Z,0.4nm,0.8s,baz=302,slow=4.1,SNR=4.5							

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*ISK **31** 07:54:34.0, 38.°60N×42.°92E, h4km, ML2.4*
*DDA **31** 07:54:38.8, 38.°69N×43.°19E, h7km, Ml3.1*
*CSEM **31** 07:54:38.7±0.3, 38.°72N×43.°20E, h2km, ML3.1, Error ellipse: s-maj=6.8km s-min=5.1km az=70.0*
ISC 31 07:54:39.0±1.1, 38.°73N±0.°02×43.°19E±0.°03, h4km±10km, n23, σ1.28/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**131**	*e*PG	**Pg**	**07 54 42.3**	**-0.8**
VANB				*e*SG	**Sg**	**07 54 48.3**	**+2.5**
VANB	**Van**	**0.21**	**131**	*e*Pg	**Pg**	**07 54 42.3**	**-0.8**
VANB				*e*Sg	**Sg**	**07 54 48.3**	**+2.5**
TVAN	**Van**	**0.27**	**140**	*i* P	**Pg**	**07 54 43.3**	**-0.9**
TVAN				*i* S	**Sg**	**07 54 47.5**	**-0.2**
TVAN	**Van**	**0.27**	**140**	P	**Pg**	**07 54 43.3**	**-0.9**
TVAN				S	**Sg**	**07 54 47.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.37**	**282**	*i* P	**Pg**	**07 54 46.0**	**-0.1**
ADCV				*i* S	**Sb**	**07 54 52.9**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.37**	**282**	P	**Pg**	**07 54 46.0**	**-0.1**
ADCV				S	**Sb**	**07 54 52.9**	**-1.5**
VMUR	**Van-Muradiye**	**0.40**	**50**	*i* P	**Pg**	**07 54 47.1**	**+0.5**
VMUR				*i* S	**Sb**	**07 54 54.6**	**-0.6**
VMUR	**Van-Muradiye**	**0.40**	**50**	P	**Pg**	**07 54 47.2**	**+0.5**
VMUR				S	**Sb**	**07 54 54.6**	**-0.6**
GEVA	**Gevas**	**0.43**	**193**	*i* P	**Pg**	**07 54 45.9**	**-1.4**
GEVA				*i* S	**Sg**	**07 54 52.2**	**-0.7**
GEVA	**Gevas**	**0.43**	**193**	P	**Pg**	**07 54 45.9**	**-1.4**
GEVA				S	**Sg**	**07 54 52.2**	**-0.7**
CLDR	**Caldiran**	**0.70**	**54**	*e*PG	**Pg**	**07 54 52.8**	**+0.3**
CLDR	**Caldiran**	**0.70**	**54**	*e*Pg	**Pg**	**07 54 52.8**	**+0.3**
TUTA	**Tutak**	**0.73**	**337**	*i* P	**Pg**	**07 54 53.0**	**+0.1**
TUTA				*i* S	**Sg**	**07 55 03.3**	**+0.9**
TUTA	**Tutak**	**0.73**	**337**	P	**Pg**	**07 54 53.0**	**+0.1**
TUTA				S	**Sg**	**07 55 03.3**	**+0.9**
AGRB	**Hanur-Agry**	**0.85**	**350**	*e*PG	**Pg**	**07 54 53.2**	**-2.2**
AGRB				*e*SG	**Sg**	**07 55 07.3**	**+0.8**
AGRB	**Hanur-Agry**	**0.85**	**350**	*e*Pg	**Pg**	**07 54 53.2**	**-2.2**
AGRB				*e*Sg	**Sg**	**07 55 07.3**	**+0.8**
EKAR	**Karacoban**	**1.02**	**301**	*i* P	**Pn**	**07 55 00.4**	**+0.1**
EKAR				*i* S	**Sn**	**07 55 18.0**	**+2.9**
EKAR	**Karacoban**	**1.02**	**301**	P	**Pn**	**07 55 00.4**	**+0.1**
SRTM	**Siirt_Merkez**	**1.24**	**234**	*i* P	**Pg**	**07 55 06.0**	**+3.3**
SRTM				*i* S	**Sn**	**07 55 25.4**	**0.0**

AKTO	Aktyubinsk	15.19	325	Pn	P	08 00 33.6	-0.4
	4.3nm,0.8s						
ZALV	Zalesovo Beam	17.60	26	P	Pn	08 00 59.5	-0.1
	0.4nm,0.3s,baz=224,slow=11,SNR=6.6						
ARCES	ARCESS Array B	39.29	336	P	P	08 04 23.2	+0.2
	3.5nm,1.0s,baz=108,slow=8.6,SNR=3.4						
TGY	Tagaytay City	49.69	106	LR	LR	08 29 04.2	
	comp=Z,92nm,21.1s,baz=104,slow=40						
TORD	Torodi Ar. Bea	66.39	268	P	P	08 07 42.2	-1.7
	0.2nm,0.5s,baz=53,slow=7.5,SNR=2.6						

IDC ***31*** *08:03:59.5±1.6, 37°.30N×142°.01E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.5/42, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=41.8km s-min=21.4km az=76.0*
JMA ***31*** *08:04:06.7±0.2, 37°.23N×141°.50E, h47km±2km, M3.7*
JMA Felt I J1.
ISC 31 08:04:02.4±2.4, 37°.22N±0°.04×141°.78E±0°.06, h15km±14km, n24, σ1°48/30, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.74	282	P	Pb	08 04 17.9	+1.0
JFK				S	Sg	08 04 25.5	-1.0
ONAJ	Iwakimizuishiy	0.79	262	P	Pb	08 04 18.7	+0.8
ONAJ				S	Sb	08 04 27.1	-1.3
JMM	Marumori	1.02	310	P	Pb	08 04 22.5	+0.8
JMM				S	Sb	08 04 33.3	-1.6
JHO	Hitachi	1.14	238	P	Pn	08 04 23.5	-0.3
JHO				S	Sb	08 04 35.9	-2.6
JFT	Otama	1.19	285	P	Pn	08 04 24.9	+0.4
JFT				S	Sb	08 04 37.8	-2.0
JIO	Ouri	1.28	345	P	Pb	08 04 27.2	+1.0
JIO				S	Sb	08 04 42.3	-0.2
JOU	Okura	1.45	323	S	Sn	08 04 46.7	-0.1
JFY	Yanaizu	1.67	277	S	Sn	08 04 50.3	-1.8
JYS	Shiratake	1.69	307	P	Pn	08 04 32.6	+1.3
JYS				S	Sn	08 04 52.0	-0.7
JMK	Ichinoseki	1.79	346	P	Pb	08 04 34.8	0.0
JMK				eS	Sn	08 04 55.8	+0.7
MJAR	Matsushiro Arr	2.94	258	Pn	Pn	08 04 51.3	+2.7
	2.4nm,0.3s,baz=86,slow=15,SNR=12						
MJAR				Sn	Sn	08 05 24.9	+1.3
	4.8nm,0.3s,baz=69,slow=21,SNR=6.9						
MAT	Matsushiro	2.94	258	P	Pn	08 04 51.5	+2.9
MAT				S	Sn	08 05 26.5	+2.8
JHJ	Hachijo jima 2	4.40	202	Pn	Pn	08 05 10.1	+1.4
	28nm,0.3s,baz=66,slow=20,SNR=15						
JHJ				Sn	Sn	08 05 57.9	-1.8
	15nm,0.3s,baz=49,slow=19,SNR=3.1						
ASAJ	Asahikawa	6.92	5	Pn	Pn	08 05 42.5	-0.7
	0.6nm,0.3s,baz=249,slow=8.6,SNR=2.9						
ASAJ				Sn	Sn	08 07 01.2	-0.4
	0.3nm,0.3s,baz=248,slow=18,SNR=2.3						
SONM	Songino Array	27.93	304	P	P	08 09 52.1	0.0
	0.6nm,0.6s,baz=106,slow=9.3,SNR=2.5						
H11N2	WAKE ISLAND Hy	27.99	122	T	T	08 39 27.0	
	baz=314,slow=75,SNR=48						
H11N1	WAKE ISLAND Hy	28.00	122	T	T	08 39 30.4	
	baz=314,slow=75,SNR=46						
H11N3	WAKE ISLAND Hy	28.01	122	T	T	08 39 26.0	
	baz=314,slow=75,SNR=61						
H11S1	WAKE ISLAND Hy	28.71	124	T	T	08 40 23.8	
	baz=316,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	28.71	124	T	T	08 40 25.6	
	baz=316,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy	28.73	124	T	T	08 40 25.9	
	baz=316,slow=76,SNR=26						
MKAR	Makanchi Array	44.27	302	P	P	08 12 10.8	-0.4
	0.4nm,0.6s,baz=82,slow=7.8,SNR=3.2						
WRA	Warramunga Arr	57.28	188	P	P	08 13 49.3	-0.1
	0.2nm,0.5s,baz=5.8,slow=7.5,SNR=7.9						
ASAR	Alice Springs	61.01	188	P	P	08 14 15.6	+0.4
	0.3nm,0.8s,baz=16,slow=8.1,SNR=3.2						

IDC 31 08:14:02.2±13.0, 18°.47S×167°.22E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/31, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=233.8km s-min=38.2km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.66	191	Pn	Pn	08 14 59.8	-0.3
	17nm,0.3s,baz=56,slow=13,SNR=135						
DZM				Sn	Sn	08 15 45.0	+1.0
	5.6nm,0.3s,baz=184,slow=24,SNR=4.4						
STKA	Stephens Creek	26.67	235	P	P	08 19 44.4	+1.3
	1.1nm,0.7s,baz=77,slow=14,SNR=3.2						
WRA	Warramunga Arr	31.05	262	P	P	08 20 21.5	-0.7
	0.2nm,0.6s,baz=100,slow=8.6,SNR=2.9						
ASAR	Alice Springs	31.47	255	P	P	08 20 25.6	-0.2
	0.7nm,0.5s,baz=81,slow=8.6,SNR=14						

ISCJB ***31*** *08:17:19.2±0.7, 6°.26S±0°.06×130°.3E±0°.2, h100km, mb4.0/7, Error ellipse: s-maj=22.2km s-min=8.2km az=174.1*
IDC ***31*** *08:17:20.1±5.2, 6°.10S×130°.50E, h90km±49km, mb3.9/7, mb1 4.0/10, mb1mx3.7/33, mbtmp4.2/10, Error ellipse: s-maj=44.4km s-min=16.8km az=66.0*
ISC 31 08:17:20.8±0.8, 6°.36S±0°.07×130°.5E±0°.2, h100km, n11, σ2°75/14, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.58	201	P	Pn	08 20 18.3	+2.1
	baz=31,slow=12						
FITZ				S	Sn	08 22 32.4	-2.2
	3.6nm,0.3s,baz=323,slow=20,SNR=8.5						
WRA	Warramunga Arr	14.02	165	P	Pn	08 20 36.6	+1.5
	1.1nm,0.3s,baz=351,slow=13,SNR=37						
WRA				S	Sn	08 23 04.9	-4.7
	3.1nm,0.3s,baz=347,slow=25,SNR=5.7						
ASAR	Alice Springs	17.53	169	P	Pn	08 21 22.9	+4.0
	0.5nm,0.3s,baz=345,slow=10,SNR=24						
ASAR				S	Sn	08 24 30.1	-4.1
	0.7nm,0.3s,baz=356,slow=28,SNR=8.9						
STKA	Stephens Creek	27.44	159	P	P	08 23 00.0	+2.6
	2.1nm,0.9s,baz=328,slow=9.5,SNR=3.1						
CMAR	Chiang Mai Arr	39.67	309	P	P	08 24 43.3	0.0
	1.2nm,0.3s,baz=126,slow=4.7,SNR=6.3						
SONM	Songino Array	57.98	341	P	P	08 27 02.1	-0.9
	0.9nm,0.6s,baz=166,slow=5.4,SNR=4.3						
PETK	Petropavlovsk-	63.58	18	P	P	08 27 39.6	-1.1
	1.9nm,0.7s,baz=224,slow=4.0,SNR=3.0						
MKAR	Makanchi Array	67.94	326	P	P	08 28 08.4	-0.5
	5.2nm,0.4s,baz=114,slow=7.9,SNR=52						
ZALV	Zalesovo Beam	71.21	333	P	P	08 28 26.4	-2.3
	1.1nm,0.5s,baz=126,slow=7.5,SNR=4.8						
VNDA	Vanda	73.03	173	P	P	08 28 40.7	+1.4
	0.8nm,0.9s,baz=321,slow=6.5,SNR=3.5						
LPAZ	La Paz	150.94	141	PKPbc	PKPbc	08 37 04.4	+0.7
	0.9nm,0.4s,baz=275,slow=1.2,SNR=14						

ISK ***31*** *08:30:00.6, 38°.69N×43°.48E, h25km, ML2.4*
ISCJB ***31*** *08:30:01.6±1.0, 38°.68N±0°.04×43°.47E±0°.07, h21km±9km, Error ellipse: s-maj=10.6km s-min=5.3km az=34.3*
CSEM ***31*** *08:30:01.0±0.2, 38°.68N×43°.48E, h20km, ML2.8, Error ellipse: s-maj=5.9km s-min=3.7km az=122.0*
DDA ***31*** *08:30:01.7, 38°.71N×43°.43E, h7km, Ml2.8*
ISC 31 08:30:00.8±1.2, 38°.67N±0°.04×43°.48E±0°.04, h26km±8km, n20, σ0°33/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	224	ePG	Pb	08 30 06.4	+0.5
VANB	Van	0.10	224	ePg	Pb	08 30 06.4	+0.5
TVAN	Van	0.15	202	iP	Pb	08 30 06.3	-0.1
TVAN				iS	Sb	08 30 09.9	-0.2
TVAN	Van	0.15	202	P	Pb	08 30 06.3	-0.1
TVAN				S	Sb	08 30 09.9	-0.2
VMUR	Van-Muradiye	0.33	13	iP	Pb	08 30 08.2	-0.3
VMUR				iS	Sb	08 30 13.6	-0.2
VMUR	Van-Muradiye	0.33	13	P	Pb	08 30 08.2	-0.3
VMUR				S	Sb	08 30 13.6	-0.2
GEVA	Gevas	0.49	223	iP	Pb	08 30 11.0	0.0
GEVA				iS	Sb	08 30 18.1	+0.2
GEVA	Gevas	0.49	223	P	Pb	08 30 11.0	0.0
GEVA				S	Sb	08 30 18.1	+0.2
CLDR	Caldiran	0.58	36	ePG	Pb	08 30 13.2	+0.5
CLDR				eSG	Sb	08 30 21.1	+0.4
CLDR	Caldiran	0.58	36	iP	Pb	08 30 12.3	-0.3
CLDR				iS	Sb	08 30 21.1	+0.4
CLDR	Caldiran	0.58	36	P	Pb	08 30 12.3	-0.3
CLDR				ePg	Pb	08 30 13.2	+0.5
CLDR				S	Sb	08 30 21.1	+0.4
ADCV	BITLIS_Adilcev	0.61	283	iP	Pb	08 30 12.8	-0.2
ADCV				iS	Sb	08 30 21.6	+0.3
ADCV	BITLIS_Adilcev	0.61	283	P	Pb	08 30 12.8	-0.2
ADCV				S	Sb	08 30 21.6	+0.3
TUTA	Tutak	0.90	325	iP	Pb	08 30 17.8	-0.1
TUTA	Tutak	0.90	325	P	Pb	08 30 17.8	-0.1
AGRB	Hanur-Agry	0.98	337	ePG	Pn	08 30 18.8	-0.3
AGRB				eSG	Sb	08 30 32.2	+0.3
AGRB	Hanur-Agry	0.98	337	ePg	Pn	08 30 18.8	-0.3
AGRB				eSg	Sb	08 30 32.2	+0.3
EATA	Eleskirt	1.42	328	iP	Pb	08 30 26.9	+0.1
EATA				iS	Sb	08 30 45.0	+0.5
EATA	Eleskirt	1.42	328	P	Pb	08 30 26.9	+0.1
EATA				S	Sb	08 30 45.0	+0.5

CSEM ***31*** *08:34:42.1±0.5, 38°.45N×43°.91E, h10km, ML2.6, Error ellipse: s-maj=10.8km s-min=3.6km az=138.0*
ISK ***31*** *08:34:43.7, 38°.58N×43°.79E, h2km, ML2.6*
DDA ***31*** *08:34:44.0, 38°.85N×43°.21E, h7km, Ml2.6*
ISCJB ***31*** *08:34:45.0±1.6, 38°.66N±0°.06×43°.8E±0°.1, h8km±14km, Error ellipse: s-maj=18.0km s-min=5.7km az=32.3*
ISC 31 08:34:44.7±1.8, 38°.64N±0°.07×43°.72E±0°.08, h7km±14km, n13, σ0°75/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.26	260	ePG	Pg	08 34 50.4	+0.5
VANB				eSG	Sb	08 34 56.0	-0.6
VANB	Van	0.26	260	ePg	Pg	08 34 50.4	+0.5
VANB				eSg	Sb	08 34 56.0	-0.6
TVAN	Van	0.27	246	iP	Pg	08 34 50.6	+0.5
TVAN				iS	Sb	08 34 56.8	0.0
TVAN	Van	0.27	246	P	Pg	08 34 50.6	+0.5
TVAN				S	Sb	08 34 56.8	0.0
VMUR	Van-Muradiye	0.37	342	iP	Pg	08 34 50.7	-1.3
VMUR				iS	Sg	08 34 56.2	-0.7
CLDR	Caldiran	0.53	17	ePG	Pb	08 34 56.1	-0.3
CLDR				eSG	Sb	08 35 04.5	+0.2
CLDR	Caldiran	0.53	17	iP	Pg	08 34 55.5	+0.6
CLDR	Caldiran	0.53	17	P	Pg	08 34 55.5	+0.6
CLDR	Caldiran	0.53	17	ePg	Pb	08 34 56.1	-0.3
CLDR				eSg	Sb	08 35 04.5	+0.2
GEVA	Gevas	0.61	238	iP	Pg	08 34 55.5	-1.0
GEVA				iS	Sb	08 35 07.7	+1.0
GEVA	Gevas	0.61	238	P	Pg	08 34 55.5	-1.0
AGRB	Hanur-Agry	1.09	329	ePN	Pb	08 35 07.0	+0.9
AGRB	Hanur-Agry	1.09	329	ePn	Pb	08 35 07.0	+0.9

ISK ***31*** *08:40:24.6, 38°.84N×43°.46E, h5km, ML2.5*
CSEM ***31*** *08:40:25.9±0.3, 38°.83N×43°.48E, h5km, ML2.5, Error ellipse: s-maj=7.0km s-min=5.3km az=107.0*
DDA ***31*** *08:40:26.0, 38°.82N×43°.46E, h7km, Ml2.8*
ISC 31 08:40:26.9±1.2, 38°.83N±0°.03×43°.50E±0°.03, h18km±3km, n18, σ1°66/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.25	201	ePG	Pg	08 40 31.9	-0.7
VANB				eSG	Sg	08 40 38.4	+1.8
VANB	Van	0.25	201	ePg	Pg	08 40 32.0	-0.7
VANB				eSg	Sg	08 40 38.4	+1.8
TVAN	Van	0.31	194	iP	Pg	08 40 32.0	-1.7
TVAN				iS	Sb	08 40 37.9	-0.7
TVAN	Van	0.31	194	P	Pg	08 40 32.0	-1.7
TVAN				S	Sb	08 40 37.9	-0.7
CLDR	Caldiran	0.45	46	ePG	Pg	08 40 34.4	-1.8
CLDR				eSG	Sb	08 40 43.0	0.0
CLDR	Caldiran	0.45	46	iP	Pg	08 40 34.9	-1.4
CLDR				iS	Sb	08 40 43.3	+0.3
CLDR	Caldiran	0.45	46	ePg	Pg	08 40 34.4	-1.8
CLDR	Caldiran	0.45	46	P	Pg	08 40 34.9	-1.4
CLDR				eSg	Sb	08 40 43.0	0.0
ADCV	BITLIS_Adilcev	0.61	268	iP	Pg	08 40 37.6	-1.4
ADCV	BITLIS_Adilcev	0.61	268	P	Pg	08 40 37.6	-1.4
GEVA	Gevas	0.62	214	iP	Pg	08 40 36.9	-2.4
GEVA	Gevas	0.62	214	P	Pg	08 40 36.9	-2.4
TUTA	Tutak	0.78	317	iP	Pg	08 40 40.8	-1.6
TUTA				iS	Sb	08 40 52.6	+0.1
TUTA	Tutak	0.78	317	P	Pg	08 40 40.8	-1.6
TUTA				S	Sb	08 40 52.7	+0.1
AGRB	Hanur-Agry	0.84	332	ePG	Pg	08 40 41.4	-2.1
AGRB				eSG	Sb	08 40 54.3	0.0
AGRB	Hanur-Agry	0.84	332	ePg	Pg	08 40 41.4	-2.1
AGRB				eSg	Sb	08 40 54.3	0.0
EATA	Eleskirt	1.30	323	iP	Pg	08 40 49.7	-2.3
EATA				iS	Sn	08 41 09.7	+2.2
EATA	Eleskirt	1.30	323	P	Pg	08 40 49.7	-2.3
EATA				S	Sn	08 41 09.7	+2.2

TRN 31 08:52:10.9, 15°.16N×60°.77W, h100km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAMF	Morne Balai	0.50	227	eP	Pn	08 52 28.0	+1.2
CXM	Morne La Croix	0.52	229	eP	Pn	08 52 28.2	+1.2
GBMF	Grand Be	0.53	227	eP	Pn	08 52 28.0	+1.1
PCM	Pelee Case Pet	0.55	232	eP	Pn	08 52 27.9	+0.9
PCM	Pelee Case Pet	0.55	232	ePn	Pn	08 52 28.1	+1.1
PML	Morne Lenard	0.55	227	eP	Pn	08 52 28.4	+1.3
FDF	Fort de France	0.56	221	eP	Pn	08 52 28.2	+1.0
FDF	Fort de France	0.56	221	eP	Pn	08 52 28.4	+1.2
FDF				eS	Sn	08 52 40.9	+1.5
FDF				eS	Sn	08 52 40.9	+1.5
LPMF	Morne Lapointe	0.61	198	eP	Pn	08 52 28.6	+1.0
MVM	Montagne Vaucl	0.61	192	eP	Pn	08 52 29.1	+1.4
ZAM	Aeronautique	0.64	204	eP	Pn	08 52 28.7	+0.9
TRMF	Trois Ilets	0.68	204	eP	Pn	08 52 29.1	+1.0
BIM	Bigot	0.70	205	eP	Pn	08 52 30.2	+1.8
BIM				eS	Sn	08 52 43.6	+2.1
BBL	Barber's Block	0.77	298	eP	Pn	08 52 30.1	+1.1
BBL				eS	Sn	08 52 44.5	+1.9
MGG	Marie-Galante	0.92	325	eP	Pn	08 52 31.6	+1.1
MGG				eS	Sn	08 52 47.1	+1.8
TBG	Guadaloupe-3	1.09	309	eP	Pn	08 52 33.1	+0.8
TBG				eS	Sn	08 52 49.5	+1.0
SLB	Belfond	1.35	191	eP	Pn	08 52 36.7	+1.3
SLB				eS	Sn	08 52 54.7	+0.8

ISK ***31*** *08:55:27.9, 38°.76N×43°.51E, h20km, ML2.5*
CSEM ***31*** *08:55:28.5±0.5, 38°.72N×43°.65E, h20km, ML2.5, Error ellipse: s-maj=12.2km s-min=6.9km az=120.0*
ISCJB ***31*** *08:55:29.2±0.7, 38°.73N±0°.03×43°.65E±0°.06, h12km±4km, Error ellipse: s-maj=8.5km s-min=4.1km az=30.0*
DDA ***31*** *08:55:29.8, 38°.75N×43°.59E, h7km, Ml3.2*
ISC 31 08:55:28.2±1.1, 38°.73N±0°.03×43°.64E±0°.04, h19km±3km, n26, σ0°85/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.24	235	ePG	Pg	08 55 34.1	+0.2
VANB				eSG	Sg	08 55 39.2	+1.3
VANB	Van	0.24	235	ePg	Pg	08 55 34.1	+0.2
VANB				eSg	Sg	08 55 39.2	+1.3
VMUR	Van-Muradiye	0.26	349	iP	Pg	08 55 34.1	-0.3
VMUR				iS	Sg	08 55 39.2	+0.6
VMUR	Van-Muradiye	0.26	349	P	Pg	08 55 34.1	-0.3
VMUR				S	Sg	08 55 39.2	+0.6
TVAN	Van	0.27	222	iP	Pg	08 55 34.8	+0.3
TVAN				iS	Sg	08 55 40.0	+1.1
TVAN	Van	0.27	222	P	Pg	08 55 34.8	+0.3
TVAN				S	Sg	08 55 40.0	+1.1
CLDR	Caldiran	0.47	28	ePG	Pb	08 55 38.5	+0.5
CLDR				eSG	Sb	08 55 46.2	+1.6
CLDR	Caldiran	0.47	28	iP	Pb	08 55 38.8	+0.8
CLDR				iS	Sn	08 55 47.2	-0.7
CLDR	Caldiran	0.47	28	ePg	Pb	08 55 38.5	+0.5
CLDR	Caldiran	0.47	28	P	Pb	08 55 38.8	+0.8
CLDR				eSg	Sb	08 55 46.2	+1.6
CLDR				S	Sn	08 55 47.2	-0.7
GEVA	Gevas	0.62	228	iP	Pg	08 55 40.9	+0.3
GEVA				iS	Sn	08 55 51.4	-0.2
GEVA	Gevas	0.62	228	P	Pg	08 55 40.9	+0.3
GEVA				S	Sn	08 55 51.4	-0.2
ADCV	BITLIS_Adilcev	0.72	276	iP	Pb	08 55 42.4	+0.2
ADCV				iS	Sn	08 55 53.5	-0.6
ADCV	BITLIS_Adilcev	0.72	276	P	Pb	08 55 42.4	+0.2
ADCV				S	Sn	08 55 53.5	-0.6
TUTA	Tutak	0.93	317	iP	Pb	08 55 44.9	-0.9
TUTA				iS	Sg	08 55 59.0	+0.3
TUTA	Tutak	0.93	317	P	Pb	08 55 44.9	-0.9
TUTA				S	Sg	08 55 59.0	+0.3
AGRB	Hanur-Agry	0.98	329	ePG	Pb	08 55 46.4	-0.3
AGRB	Hanur-Agry	0.98	329	ePg	Pb	08 55 46.4	-0.3
HAKT	HAKKARI	1.17	177	iP	Pg	08 55 50.1	-0.9
HAKT	HAKKARI	1.17	177	P	Pg	08 55 50.1	-0.9
GURO	Guroymak-BITLI	1.27	262	ePN	Pn	08 55 49.5	-1.6
GURO	Guroymak-BITLI	1.27	262	ePn	Pn	08 55 49.5	-1.6
EKAR	Karacoban	1.33	294	iP	Pg	08 55 55.3	+1.2
EKAR	Karacoban	1.33	294	P	Pg	08 55 55.3	+1.2
EATA	Eleskirt	1.44	322	iP	Pg	08 55 55.8	-0.2
EATA	Eleskirt	1.44	322	P	Pg	08 55 55.8	-0.2

NIED ***31*** *09:02:00, 35°.10N×141°.90E, h14km, Mw4.9 Best double couple: M0=2.53000×10^16 NP1:φ=202.00000°, δ=40.00000°, λ=97.00000°. NP2:φ=12.00000°, δ=50.00000°, λ=84.00000°.*
IDC ***31*** *09:02:24.2±0.7, 35°.15N×141°.70E, h0km, mb4.2/17, mb1 4.4/22, mb1mx4.3/42, mbtmp4.2/22, ML4.1/4, MS4.3/33, Ms1 4.3/33, ms1mx4.1/48, Error ellipse: s-maj=17.5km s-min=15.2km az=94.0*
JMA ***31*** *09:02:25.6±0.2, 35°.13N×141°.85E, h41km±3km, M4.7*
BJI ***31*** *09:02:26.4, 35°.24N×141°.55E, h26km, mb4.6/44, mB5.0/38, Ms4.8/44, Ms7 4.7/43*
ISCJB ***31*** *09:02:27.7±0.7, 35°.14N±0°.03×141°.58E±0°.03, h31km±4km, mb4.6/77, MS4.5/44, Error ellipse: s-maj=4.4km s-min=4.2km az=138.2*
NEIC ***31*** *09:02:30.9±0.5, 35°.13N×141°.53E, h41km±4km, mb4.8/29, Error ellipse: s-maj=5.3km s-min=5.2km az=69.0*
NEIC Felt at Yachimata.
MOS ***31*** *09:02:30.8±1.0, 35°.56N×141°.50E, h39km, mb4.9/40, Error ellipse: s-maj=9.1km s-min=5.2km az=117.0*
ISC 31 09:02:29.6±0.5, 35°.11N±0°.04×141°.66E±0°.04, h35km±2km, h36km:pP-P, n228, σ2°05/264, mb4.7/77, MS4.4/44, 7C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.72	231	P	Pn	09 02 41.2	-1.7
CHOJ	Chosi	0.88	312	P	Pn	09 02 43.5	-2.0
CHOJ				S	Sn	09 02 56.0	-1.1
BSO3	Boso 3	0.99	252	P	Pn	09 02 45.8	-1.0
BSO4	Boso 4	1.09	264	P	Pn	09 02 47.4	-0.9
KTR	Katsuura	1.10	272	P	Pn	09 02 47.6	-0.9
JCN	Nagara	1.23	285	P	Pn	09 02 49.1	-1.2
JIM2	Oshima 3	1.87	258	P	Pn	09 02 58.4	-0.8
JIM2				eS	Sn	09 03 22.6	+1.0
JOD2	Odawara 2	2.11	275	P	Pn	09 03 01.2	-1.3
JOD2				S	Sn	09 03 28.3	+0.8
JAG	Ashikaga	2.22	307	P	Pn	09 03 03.1	-0.9
JAG				S	Sn	09 03 30.4	+0.2
JFK	Kawauchi	2.34	344	P	Pn	09 03 01.9	-3.7
JFK				eS	Sn	09 03 30.5	-2.6
JHJ2	Mitsune	2.52	218	ePn	Pn	09 03 08.6	+0.6
JHJ2				eSn	Sn	09 03 38.5	+1.0
JHJ	Hachijo jima 2	2.53	219	Pn	Pn	09 03 07.9	-0.2
	172nm,0.3s,baz=11,slow=2.1,SNR=34						
JHJ				Sn	Sn	09 03 36.0	-1.7
	121nm,0.3s,baz=259,slow=20,SNR=5.6						
MJAR	Matsushiro Arr	3.15	298	Pn	Pn	09 03 15.8	-0.8
	11nm,0.3s,baz=91,slow=8.5,SNR=84						
MJAR				LR	LR	09 04 39.0	
	comp=Z,4μm,21.0s,baz=125,slow=43						
MAJO	Matsushiro	3.15	298	c iP	Pn	09 03 16.3	-0.4
MAJO	Matsushiro	3.15	298	ePn	Pn	09 03 16.9	+0.1
MAT	Matsushiro	3.15	298	P	Pn	09 03 16.0	-0.7
MAT				eS	Sn	09 03 50.7	-2.4
MJB9	Matsu-Tunnel	3.15	298	ePn	Pn	09 03 16.9	+0.1
INU	Inuyama	3.81	275	ePn	Pn	09 03 27.4	+1.6
CBIJ	Chichi jima	8.01	177	ePn	Pn	09 04 25.6	+2.1
CBIJ				eSn	Sn	09 05 46.7	-6.1
ASAJ	Asahikawa	9.02	4	Pn	Pn	09 04 33.6	-3.7
	4.6nm,0.3s,baz=187,slow=11,SNR=17						
ASAJ				Sn	Sn	09 06 11.6	-6.0
	1.1nm,0.3s,baz=118,slow=26,SNR=4.6						
JNU	Nakatsue	9.16	261	ePn	Pn	09 04 39.5	+0.2
SHO	Shikotan	9.61	23	P	Pn	09 04 46.6	+1.2
SHO				eS	Sn	09 06 20.9	-11
VLA	Vladivostok	11.02	319	deP	Pn	09 05 05.5	+0.9
MSHR	Mys Shultsa	11.07	315	c iP	Pn	09 05 04.4	-0.9
KUR	Kuril'sk	11.16	23	eP	Pn	09 05 07.8	+1.2
KUR				eS	Sn	09 07 00.1	-10
KUR				MLR	MLR		
	comp=Z,1μm,11.0s						
KSRS	Korea Array	11.33	286	Pn	Pn	09 05 09.3	+0.3
	comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=13						
KSRS				LR	LR	09 09 52.3	
	comp=Z,4μm,18.7s,baz=91,slow=39						
KS15	Wonju Array Si	11.36	286	ePn	Pn	09 05 09.3	-0.1
KSAR	Wonju Array Be	11.36	286	P	Pn	09 05 09.3	-0.1
KSAR	Wonju Array Be	11.36	286	Pn	Pn	09 05 09.3	-0.1
USRK	Ussuriysk Ar.	11.73	324	Pn	Pn	09 05 13.4	-1.0
	comp=Z,0.6nm,0.3s,baz=134,slow=14,SNR=16						
USRK				LR	LR	09 09 51.1	
	comp=Z,3μm,18.2s,baz=128,slow=38						
YSS	Yuzh-Sakhalins	11.86	4	iP	Pn	09 05 12.3	-3.8
YSS	Yuzh-

comp=Z,2μm,15.9s
BJI Beijing 20.76 291 P **P** **09 07 04.0 -3.3**
BJI S **S** **09 10 54.5 -2.6**
BJI pmax pmax
comp=Z,13nm,1.8s
BJI LR LR
comp=Z,1μm,15.2s
BJI LR LR
comp=Z,750nm,16.0s
PETK Petropavlovsk- 21.27 27 P **P** **09 07 11.5 -1.3**
comp=Z,8.0nm,1.1s,baz=215,slow=9.7,SNR=3.7
PETK LR LR 09 15 35.4
comp=Z,337nm,20.8s,baz=214,slow=37
PETK Petropavlovsk- 21.27 27 P **P** **09 07 11.5 -1.3**
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK MLR MLR
comp=Z,337nm,20.8s
PEA1 Petropavlovsk- 21.28 27 *e*P **P** **09 07 11.5 -1.3**
WHN Wuhan 23.36 266 P **P** **09 07 34.0 -1.0**
WHN S **S** **09 11 44.0 -1.5**
WHN LR LR
comp=Z,2μm,10.6s
WHN LR LR
comp=Z,4μm,13.4s
WHN LR LR
comp=Z,5μm,17.2s
HHC Hu-ho-hao-te 24.33 293 *e*P **P** **09 07 43.0 -1.2**
HHC sP sP 09 07 56.8 -1.6
HHC S **S** **09 11 56.3 -4.9**
HHC sS pS 09 12 13.3 +1.7
HHC SS **SnSn** **09 12 49.0 +3.3**
HHC pmax pmax
comp=Z,36nm,0.9s
HHC pmax pmax
comp=Z,68nm,4.3s
HHC LR LR
comp=Z,1μm,14.3s
HHC LR LR
comp=Z,700nm,14.8s
HHC LR LR
comp=Z,680nm,14.5s
CLNS Chul'man 24.52 338 *e*P **P** **09 07 43.5 -2.1**
CLNS *e**PP **pP** **09 07 50.6 -5.0**
CLNS *e* 09 08 16.3
CLNS *e* 09 11 19.7
CLNS *e*S **S** **09 12 02.9 -0.9**
CLNS *e*SS **SnSn** **09 13 04.0 +14**
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax smax
comp=E,292nm,12.7s
CLNS smax smax
comp=N,517nm,13.8s
CLNS MLR MLR
comp=E,549nm,11.0s
CLNS MLR MLR
comp=N,734nm,13.0s
CLNS MLR MLR
comp=Z,751nm,13.0s
MA2 Magadan 25.19 11 LR LR 09 19 01.6
comp=Z,636nm,18.5s,baz=201,slow=40
XAN Xi'an 26.91 277 P P 09 08 17.3 +10
XAN pP sP 09 08 26.5 +4.7
XAN sP pP 09 08 30.5 +13
XAN PP **PP** **09 09 01.5 -7.2**
XAN S **S** **09 12 47.5 +5.3**
XAN sS sS 09 13 33.8 +35
XAN SS **SnSn** **09 13 59.5 +11**
XAN pmax pmax
comp=Z,18nm,1.2s
XAN pmax pmax
comp=Z,47nm,3.2s
XAN LR LR
comp=N,1μm,14.8s
XAN LR LR
comp=E,1μm,13.4s
XAN LR LR
comp=Z,3μm,14.5s
H11N2 WAKE ISLAND Hy 27.03 118 T T 09 36 37.6
baz=310,slow=75,SNR=9.6
H11N1 WAKE ISLAND Hy 27.04 118 T T 09 36 40.9
baz=310,slow=75,SNR=9.4
H11N3 WAKE ISLAND Hy 27.05 118 T T 09 36 39.4
baz=310,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 27.69 120 T T 09 37 35.3
baz=312,slow=75,SNR=25
H11S3 WAKE ISLAND Hy 27.69 120 T T 09 37 33.0
baz=312,slow=75,SNR=30
H11S2 WAKE ISLAND Hy 27.70 120 T T 09 37 34.5
baz=312,slow=75,SNR=20
YAK Yakutsk 27.98 348 LR LR 09 21 28.8
comp=Z,814nm,18.8s,baz=138,slow=41
YAK Yakutsk 27.98 348 *e*P **P** **09 08 21.8 +5.1**
YAK *e**PP **sP** **09 08 36.0 +5.0**
YAK *e* 09 09 13.7
YAK *e*SS SS 09 14 26.4 -31
YAK *e* 09 18 58.8
YAK pmax pmax
comp=Z,20nm,1.4s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK MLR MLR
comp=Z,837nm,16.0s
YAK MLR MLR
comp=N,2μm,25.0s
YAK MLR MLR
comp=E,228nm,11.0s
ULN Ulaanbaatar 28.63 307 *e*P **P** **09 08 23.2 +0.3**
ULN pmax pmax
comp=Z,44nm,1.6s
ULN Ulaanbaatar 28.63 307 *e*P **P** **09 08 23.2 +0.3**
comp=Z,44nm,1.6s
SONA0 Songino Array 29.06 307 *e*P **P** **09 08 27.3 +0.6**
SONM Songino Array 29.06 307 P **P** **09 08 27.3 +0.7**
comp=Z,14nm,1.2s,baz=116,slow=6.7,SNR=26
SONM LR LR 09 21 27.6
comp=Z,714nm,20.1s,baz=92,slow=39
SONM Songino Array 29.06 307 P **P** **09 08 27.3 +0.7**
SONM pmax pmax
comp=Z,15nm,1.3s
SONM MLR MLR
comp=Z,714nm,20.1s
BOD Bodaibo 29.27 329 *e*P **P** **09 08 26.8 -1.4**
BOD pmax pmax
comp=Z,41nm,1.8s
LZH Lanzhou 30.64 283 *e*P **P** **09 08 40.3 -0.5**
LZH pP pP 09 08 50.0 -0.8
LZH sP sP 09 08 53.8 -1.3
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.3s
GYA Guiyang 31.15 264 *e*P **P** **09 08 44.3 -1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 31.64 311 *e*P **P** **09 08 49.3 -0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
TLY Talaya 31.76 313 P **P** **09 08 50.1 -0.3**
comp=Z,2.9nm,0.6s,baz=126,slow=8.4,SNR=5.5
TLY Talaya 31.76 313 *e*P **P** **09 08 50.3 -0.1**
TLY *e*S **S** **09 14 00.5 +2.6**
TLY pmax pmax
comp=Z,25nm,1.4s
TLY MLR MLR
comp=Z,989nm,17.0s
CD2 Chengdu 31.93 273 P **P** **09 08 51.0 -1.1**
CD2 S **S** **09 13 59.0 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,2μm,14.3s
CD2 LR LR
comp=Z,3μm,15.7s
CD2 LR LR
comp=Z,4μm,17.3s
QIZ Qiongzhong 32.37 249 P **P** **09 08 55.0 -1.0**
QIZ S **S** **09 14 06.8 -1.1**
QIZ LR LR
comp=Z,780nm,9.9s
QIZ LR LR
comp=Z,560nm,13.4s
QIZ LR LR
comp=Z,540nm,17.2s
GTA Gaotai 33.36 290 ⇓P **P** **09 09 04.3 -0.3**
GTA pP pP 09 09 14.0 -0.7
GTA sP sP 09 09 18.0 -0.9
GTA S **S** **09 14 21.8 -1.5**
GTA sS sS 09 14 37.5 -2.4
GTA SS **SnSn** **09 16 26.0 +0.2**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,150nm,7.1s
GTA LR LR
comp=Z,800nm,16.6s
GTA LR LR
comp=Z,750nm,17.1s
GTA LR LR
comp=Z,900nm,18.1s
KMI Kunming 34.92 264 P **P** **09 09 17.5 -0.9**
KMI pmax pmax
comp=Z,18nm,0.6s
KMI pmax pmax
comp=Z,93nm,5.5s
KMI LR LR
comp=Z,1μm,15.2s
KMI LR LR
comp=Z,2μm,15.0s
KMI LR LR
comp=Z,2μm,15.5s
BILL Bilibino 35.81 16 *e*P **P** **09 09 24.7 -0.6**
BILL *e* 09 10 45.0
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,346nm,18.0s
TIXI Tiksi 37.22 353⇑*e*P **P** **09 09 37.0 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.5s
TIXI Tiksi 37.22 353 *e*P **P** **09 09 38.5 +1.4**
comp=Z,3.8nm,0.8s
CM31 Chiang Mai Arr 41.24 258 *e*P **P** **09 10 10.7 -0.8**
CMAR Chiang Mai Arr 41.24 258 P **P** **09 10 10.7 -0.8**
comp=Z,1.7nm,0.3s,baz=53,slow=6.3,SNR=6.6
CMAR LR LR 09 29 47.7
comp=Z,274nm,18.1s,baz=50,slow=40
CMAR Chiang Mai Arr 41.24 258 *i* P **P** **09 10 12.1 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
WMQ Urumqi 41.91 299 P **P** **09 10 17.5 +0.8**
WMQ pP pP 09 10 27.0 0.0
WMQ sP sP 09 10 33.5 +2.3
WMQ S **S** **09 16 32.0 -0.7**
WMQ ScS **ScS** **09 20 16.0 -0.7**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,260nm,4.9s
WMQ LR LR
comp=Z,140nm,15.1s
WMQ LR LR
comp=Z,170nm,19.5s
WMQ LR LR
comp=Z,250nm,20.5s
ZAA0 Zalesovo Array 43.37 314 *e*pP pP 09 10 39.2 +0.6
ZAA1 Zalesovo Array 43.37 314 *e*P **P** **09 10 28.6 +0.3**
ZALV Zalesovo Beam 43.37 314 P **P** **09 10 28.6 +0.3**
comp=Z,3.0nm,0.5s,baz=92,slow=8.0,SNR=11
ZALV LR LR 09 29 28.4
comp=Z,226nm,19.4s,baz=74,slow=37
NVS Novosibirsk 44.32 315 *e*P **P** **09 10 36.2 +0.2**
NRIK Noril'sk 45.09 336 LR LR 09 31 57.9
comp=Z,808nm,18.4s,baz=95,slow=39
MK31 Makanchi Array 45.33 304 *e*P **P** **09 10 44.2 0.0**
MK31 Makanchi Array 45.33 304 *e*P **P** **09 10 44.2 0.0**
MK32 Makanchi Array 45.33 304 *e*P **P** **09 10 44.1 -0.1**
MKAR Makanchi Array 45.33 304 P **P** **09 10 44.1 -0.1**
comp=Z,1.5nm,0.6s,baz=82,slow=9.9,SNR=5.9
MKAR LR LR 09 31 58.5
comp=Z,377nm,18.2s,baz=84,slow=39
MKAR Makanchi Array 45.33 304 *e*P **P** **09 10 44.5 +0.3**
MKAR *e*pP **pP** **09 10 54.2 -0.3**
ODAN Odare 46.76 275 *e*P **P** **09 10 55.0 -1.0**
KURK Kurchatov 47.29 310 *c i*P **P** **09 10 58.4 -1.0**
KURK pmax pmax
comp=Z,99nm,1.7s
KURK Kurchatov 47.29 310 *e*P **P** **09 10 58.9 -0.5**
comp=Z,26nm,0.9s
RAMN Ramite 47.37 276 *e*P **P** **09 11 00.0 -0.7**
comp=Z,75nm,0.9s
JIRN Jiri 47.42 277 *e*P **P** **09 11 00.9 -0.3**
comp=Z,713nm,1.1s
SOEI Soe 47.56 204 *e*P **P** **09 11 02.0 0.0**
SOEI *e*pP **sP** **09 11 15.2 -1.3**
GUN Gumba 47.57 278 *e*P **P** **09 11 02.1 -0.3**
comp=Z,57nm,1.0s
PDGK Podgornoye 47.87 300 P **P** **09 11 03.3 -0.9**
PDGK pmax pmax
comp=Z,18nm,1.2s
PKI Pulchoki 48.09 277 *e*P **P** **09 11 05.6 -0.8**
comp=Z,73nm,1.4s
KKN Kakani 48.11 278 *e*P **P** **09 11 05.9 -0.5**
DMN Daman 48.32 278 *e*P **P** **09 11 07.5 -0.6**
GKN Gorkha 48.55 278 *e*P **P** **09 11 09.2 -0.5**
comp=Z,190nm,1.4s
DANN Dangsing 49.12 279 *e*P **P** **09 11 14.6 +0.3**
KOLN Koldanda 49.48 278 *e*P **P** **09 11 16.1 -0.8**
comp=Z,138nm,1.4s
PYUN Piuthan 49.84 279 *e*P **P** **09 11 19.3 -0.4**
comp=Z,188nm,1.4s
PSI Prapat 51.01 241 *e*P **P** **09 11 27.5 -1.0**
PSI pmax pmax
comp=Z,10.0nm,0.9s
PSI Prapat 51.01 241 *e*P **P** **09 11 27.5 -1.0**
comp=Z,10nm,0.9s
ILAR Eielson Array 51.02 32 P **P** **09 11 27.5 -0.2**
comp=Z,1.2nm,0.8s,baz=271,slow=6.2,SNR=12
ILB Eielson Array 51.02 32 *e*P **P** **09 11 27.5 -0.2**
KSH Kashi 51.39 296 P **P** **09 11 35.3 +4.2**
KSH pP sP 09 11 45.0 -0.7
KSH sP pP 09 11 49.3 +7.7
KSH PcP **PcP** **09 12 49.5 +4.1**
KSH PP **PP** **09 13 33.3 +5.1**
KSH PcS **PcS** **09 16 46.5 +3.2**
KSH S **S** **09 18 51.8 +3.4**
KSH sS sS 09 19 08.0 +2.4
KSH ScS **ScS** **09 21 20.0 +1.1**
KSH SS **SS** **09 22 25.0 +0.9**
KSH pmax pmax
comp=Z,23nm,1.2s
KSH pmax pmax
comp=Z,170nm,6.1s
KSH LR LR
comp=Z,590nm,16.1s
KSH LR LR
comp=Z,290nm,9.8s
KSH LR LR
comp=Z,520nm,15.0s
FRU Bishkek 51.46 300 *e*P **P** **09 11 31.0 -0.4**
FRU pmax pmax
comp=Z,45nm,2.0s
AAK Ala-Archa 51.59 300⇓*e*P **P** **09 11 32.7 +0.1**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 51.59 300 *e*P **P** **09 11 32.9 +0.2**
AAK *e*pP **pP** **09 11 43.5 +0.4**
UGM Wanagama 51.92 221 *e*P **P** **09 11 34.4 -0.7**
comp=Z,296nm,1.4s
BRVK Borovoye 52.08 314 *c i*P **P** **09 11 35.2 -0.7**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 52.08 314 *e*P **P** **09 11 35.8 -0.1**
comp=Z,7.4nm,0.9s
MNAS Manas 53.05 300 P **P** **09 11 43.0 -0.4**
MNAS pmax pmax
comp=Z,11nm,1.6s
SFK Sufi-Kurgan 53.06 297 P **P** **09 11 43.5 -0.1**
SFK pmax pmax
comp=Z,10.0nm,1.5s
KKAR Karatay Array 54.27 301 *e*P **P** **09 11 52.8 +0.6**
KKAR *e**PP **pP** **09 12 03.2 +0.4**
KKAR Karatay Array 54.27 301 *e*P **P** **09 11 52.8 +0.6**
KKAR *e*pP **pP** **09 12 03.2 +0.4**
WRAB Tennant Creek 55.18 188⇓*e*P **P** **09 11 58.6 -0.3**
WRAB pmax pmax
comp=Z,55nm,2.5s
WRAB Tennant Creek 55.18 188 *e*P **P** **09 11 59.0 +0.1**
comp=Z,12nm,0.8s
WB2 Warramunga Arr 55.19 188 *e*P **P** **09 11 58.9 0.0**
comp=Z,15nm,1.0s
WR1 Warramunga Arr 55.19 188 *e*P **P** **09 11 58.5 -0.4**
comp=Z,15nm,0.9s
WRA Warramunga Arr 55.19 188 P **P** **09 11 58.5 -0.4**
comp=Z,3.3nm,0.6s,baz=4.2,slow=7.5,SNR=20
WRA LR LR 09 35 15.0
comp=Z,123nm,19.8s,baz=25,slow=36
DZET Dzherino 56.88 297 P **P** **09 12 12.5 +1.4**
DZET pmax pmax
comp=Z,12nm,1.4s
ARU Arti 57.94 319 *c i*P **P** **09 12 17.4 -0.7**
ARU 09 13 07.5
ARU 09 14 24.7
ARU S **S** **09 20 15.8 +0.2**
ARU SS **SS** **09 24 05.7 -0.6**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU MLR MLR
comp=Z,572nm,17.0s
ARU Arti 57.94 319 *e*P **P** **09 12 17.7 -0.4**
comp=Z,14nm,1.0s
HYB Hyderabad 58.37 270 *i* P **P** **09 12 21.5 -0.3**
HYB *e* 09 12 33.5
AS31 Alice Springs 58.92 188 *e*P **P** **09 12 26.0 +0.7**
comp=Z,1.2nm,0.7s
ASAR Alice Springs 58.92 188 P **P** **09 12 25.4 +0.2**
comp=Z,0.8nm,0.4s,baz=359,slow=6.0,SNR=13
ASAR LR LR 09 37 30.8
comp=Z,88nm,19.7s,baz=340,slow=36
ABKAR Akbulak array 59.34 311 *e*P **P** **09 12 27.6 -0.3**
comp=Z,33nm,0.8s
ABKAR *e*S **S** **09 20 31.5 -2.5**
AKTO Aktyubinsk 60.11 313 LR LR 09 42 13.9
comp=Z,214nm,18.1s,slow=40
POO Poona 61.66 274 *ex* P 09 12 39.0 -5.4
GEYT Alibeck 64.95 300 LR LR 09 44 20.9
comp=Z,327nm,18.7s,baz=20,slow=39
KLMR Klimovskoe 65.49 328 *e*P **P** **09 13 07.2 -1.7**
KLMR pmax pmax
comp=Z,18nm,1.4s
ARCES ARCESS Array B 65.86 340 LR LR 09 45 27.3
comp=Z,380nm,19.2s,baz=48,slow=39
OFR Olym-F Res Ctr 67.30 47 *e*P **P** **09 13 22.4 +1.7**
OBN Obninsk 69.75 324⇓*e*P **P** **09 13 35.5 -0.4**
OBN pmax pmax
comp=Z,11nm,1.3s
MAK Makhachkala 69.80 309 *e*P **P** **09 13 35.0 -1.4**
MAK *e*PPP PPP 09 17 56.4
MAK *e*S **S** **09 22 42.4 -0.8**
MAK pmax pmax
comp=Z,26nm,0.4s
MAK MLR MLR
comp=Z,923nm,16.0s
FIA0 FINESS Array S 70.61 333 *e*P **P** **09 13 40.8 -0.2**
FIA0 FINESS Array S 70.61 333 *e*P **P** **09 13 40.8 -0.2**
FINES FINESS Array B 70.61 333 P **P** **09 13 40.8 -0.2**
comp=Z,8.5nm,1.1s,baz=92,slow=9.7,SNR=5.2
FINES LR LR 09 48 16.1
comp=Z,425nm,19.0s,baz=42,slow=39
KBZ Khabaz 72.31 311 P **P** **09 13 51.6 +0.1**
comp=Z,1.9nm,0.5s,baz=75,slow=8.6,SNR=4.1
KBZ LR LR 09 47 43.3
comp=Z,154nm,20.4s,baz=42,slow=38
KIV Kislovodsk 72.32 312 *e*P **P** **09 13 52.9 +1.1**
KIV pmax pmax
comp=Z,12nm,0.9s
NEY Neytrino 72.67 311⇓*e*P **P** **09 13 56.1 +2.1**
NEY pmax pmax
comp=Z,4.0nm,1.3s
MOD Modoc Plateau 72.82 51 *e*P **P** **09 13 56.9 +2.1**
comp=Z,12nm,1.6s
GNI Garni 73.02 307 LR LR 09 49 37.3
comp=Z,285nm,18.7s,baz=75,slow=39
CMB Columbia Colle 74.83 54 *e*P **P** **09 14 07.8 +1.2**
CMB pmax pmax
comp=Z,13nm,1.5s
CMB Columbia Colle 74.83 54 *e*P **P** **09 14 07.8 +1.2**
comp=Z,12nm,1.5s
ANN Anapa 75.01 314 *e*P P 09 13 59.3 -8.1
ANN *e**PP pP 09 14 13.5 -4.8
ANN *e*S **SKiKP** **09 23 31.7 +3.1**
ANN pmax pmax
comp=Z,44nm,1.3s
AKASG Malin Array Be 75.94 323 P **P** **09 14 11.9 -0.7**
comp=Z,1.9nm,0.5s,baz=45,slow=6.1,SNR=18
AKASG LR LR 09 50 59.9
comp=Z,739nm,18.2s,baz=40,slow=38
AKASG Malin Array Be 75.94 323 *i* P **P** **09 14 11.8 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 75.94 323 *e*P **P** **09 14 13.1 +0.5**
AKBB Malin Array Si 75.94 323 *e*P **P** **09 14 13.1 +0.5**
KIEV Kiev 75.95 323⇓*i*P **P** **09 14 12.0 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 75.95 323 *e*P **P** **09 14 11.5 -1.2**
comp=Z,7.7nm,0.9s
BOZ Bozeman (W) 75.98 44 *e*P **P** **09 14 13.2 0.0**
BOZ pmax pmax
comp=Z,11nm,0.7s
BOZ Bozeman (W) 75.98 44 *e*P **P** **09 14 13.2 0.0**
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 76.03 338 P **P** **09 14 11.7 -1.3**
comp=Z,13nm,1.1s,baz=41,slow=6.2
NB200 NORSAR Array S 76.03 338 *e*P **P** **09 14 12.1 -0.9**
NOA NORSAR Array B 76.03 338 P **P** **09 14 12.1 -0.9**
comp=Z,1.7nm,0.8s,baz=43,slow=5.4,SNR=3.6
NOA LR LR 09 51 05.5
comp=Z,418nm,19.9s,baz=30,slow=38
IMW Indian Meadow 77.39 45 *e*P **P** **09 14 22.6 +1.3**
comp=Z,3.8nm,0.9s
SFJD Kangerlussuaq 77.78 5 LR LR 09 50 48.9
comp=Z,132nm,18.8s,baz=340,slow=37
R11A Troy Canyon, C 77.79 52 *e*P **P** **09 14 25.4 +1.8**
comp=Z,6.0nm,1.4s
PD31 Pinedale Array 78.87 45 *e*P **P** **09 14 29.9 +0.4**
PDAR Pinedale Array 78.87 45 P **P** **09 14 29.9 +0.4**
comp=Z,0.9nm,0.9s,baz=270,slow=3.0,SNR=7.1
RAR Rarotonga 78.88 126 LR LR 09 40 47.2
comp=Z,88nm,21.5s,baz=276,slow=29
CCUT Cedar City 79.68 51 *e*P **P** **09 14 35.9 +1.9**
comp=Z,11nm,1.7s
BUR08 Bucovina Ar. S 79.93 322 *e*P **P** **09 14 35.9 +0.8**
PFO Pinyon Flats O 79.94 56 *e*P **P** **09 14 38.5 +3.1**
PFO pmax pmax
comp=Z,5.0nm,1.1s
PFO Pinyon Flats O 79.94 56 *e*P **P** **09 14 38.5 +3.1**
comp=Z,4.7nm,1.1s
XPFO Piæon Flat 79.94 56 *e*P **P** **09 14 38.0 +2.6**
XPFO *e*pP **pP** **09 14 46.2 -0.1**
URZ Urewera 80.06 152 LR LR 09 43 40.3
comp=Z,203nm,21.8s,baz=324,slow=31
LCMT Little Creek M 80.08 52 *e*P **P** **09 14 37.6 +1.5**
comp=Z,23nm,2.0s
BR101 Keskin Array S 80.28 312 *e*P **P** **09 14 37.4 +0.3**
BRTR Keskin Array B 80.28 312 P **P** **09 14 37.4 +0.3**
comp=Z,4.1nm,1.2s,baz=94,slow=5.2,SNR=9.4
BRTR LR LR 09 55 08.1
comp=Z,96nm,18.7s,baz=34,slow=39
VRI Vrincioaia 80.32 320 P **P** **09 14 39.7 +2.7**
KNB Kanab 80.34 51 *e*P **P** **09 14 39.1 +1.5**
KNB pmax pmax
comp=Z,20nm,1.4s
KNB Kanab 80.34 51 *e*P **P** **09 14 39.1 +1.5**
comp=Z,20nm,1.4s
OJC Ojcow 80.74 326 *e*P **P** **09 14 39.7 +0.5**
OJC *e**PP **pP** **09 14 50.1 -0.1**
OJC Ojcow 80.74 326 *e*P **P** **09 14 39.7 +0.5**
OJC *e*pP **pP** **09 14 50.1 -0.1**
U15A North Rim 81.04 52 *e*P **P** **09 14 43.3 +1.9**
comp=Z,9.3nm,1.3s
RAYN Ar Rayn 81.57 293 *e*P **P** **09 14 44.4 +0.2**

	comp=Z,8.8nm,1.0s							
WUAZ	Wupatki	82.18	52	eP		P	09 14 49.5	+2.1
DPC	Dobruska-Polom	82.19	328	eP		P	09 14 48.0	+1.1
DPC				epP		pP	09 14 57.9	0.0
DPC	Dobruska-Polom	82.19	328	eP		P	09 14 48.0	+1.1
DPC				e			09 14 57.9	
PV01	Paradox Valley	82.33	48	eP		P	09 14 48.3	+0.2
PSZ	Piszkesteto	82.33	325	eP		P	09 14 48.5	+0.7
PSZ				e*PP		pP	09 15 00.1	+1.4
PSZ	Piszkesteto	82.33	325	eP		P	09 14 48.5	+0.7
PSZ				epP		pP	09 15 00.1	+1.4
VYHS	Vyhne	82.42	326	eP		P	09 14 47.0	-1.1
VYHS				e			09 15 00.1	
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
VYHS	Vyhne	82.42	326	eP		P	09 14 47.0	-1.1
VYHS				e			09 15 00.1	
BRG	Berggiesshubel	82.81	330	eP		P	09 14 50.0	-0.1
	comp=Z,25nm,2.0s							
BRG	Berggiesshubel	82.81	330	eP		P	09 14 50.0	-0.1
BRG				pmax		pmax		
	comp=Z,25nm,2.0s							
X16A	Lo Mia Camp, P	82.81	53	eP		P	09 14 52.7	+2.0
	comp=Z,6.3nm,1.3s							
CLL	Collm	82.86	330	eP		P	09 14 51.1	+0.8
CLL				e*PP		pP	09 15 01.7	+0.4
CLL	Collm	82.86	330⇓	iP		P	09 14 50.1	-0.2
	comp=Z,10.0nm,1.2s							
CLL				iP		pP	09 15 01.0	-0.3
	comp=Z,17nm,1.1s							
CLL	Collm	82.86	330	eP		P	09 14 51.1	+0.8
CLL				epP		pP	09 15 01.7	+0.4
RPZ	Rata Peaks	82.90	159	LR		LR	09 46 20.0	
	comp=Z,142nm,21.4s,baz=295,slow=32							
PRU	Pruhonice	83.22	329	eP		P	09 14 53.0	+0.8
PRU				epP		pP	09 15 03.4	+0.2
PRU	Pruhonice	83.22	329	eP		P	09 14 53.0	+0.8
PRU				e			09 15 03.4	
PPT	Papeete	83.60	117	LR		LR	09 48 09.6	
	comp=Z,96nm,20.6s,baz=302,slow=33							
PPT2	Papeete2	83.61	117	eLR		LR	09 41 02.9	
	comp=Z,184nm,23.2s							
S22A	4UR Ranch, Cre	83.64	48	eP		P	09 14 56.1	+1.1
	comp=Z,21nm,2.0s							
NKC	Novy Kostel	83.91	330	epP		pP	09 15 07.3	+0.5
MOX	Moxa	83.93	331	P		P	09 14 55.0	-0.9
MOX				pmax		pmax		
	comp=Z,8.0nm,2.1s							
KHC	Kasperske Hory	84.28	329	eP		P	09 14 57.7	0.0
KHC				epP		pP	09 15 08.2	-0.5
KHC	Kasperske Hory	84.28	329	eP		P	09 14 57.8	0.0
KHC				e*PP		pP	09 15 08.3	-0.5
KHC	Kasperske Hory	84.28	329	eP		P	09 14 57.8	0.0
KHC				epP		pP	09 15 08.3	-0.5
VTS	Vitosha	84.39	319	eP		P	09 14 59.4	+0.8
VTS				e*PP		pP	09 15 09.9	+0.3
VTS	Vitosha	84.39	319	eP		P	09 14 59.4	+0.8
VTS				epP		pP	09 15 09.9	+0.3
GEC2	GERESS Array S	84.45	328	eP		P	09 14 58.0	-0.6
GEC2				e*PP		pP	09 15 09.6	-0.1
GEC2	GERESS Array S	84.45	328	eP		P	09 14 58.0	-0.6
GEC2				epP		pP	09 15 09.6	-0.1
GERES	GERESS Array B	84.45	328	P		P	09 14 57.3	-1.4
	comp=Z,1.0nm,0.7s,baz=45,slow=5.8,SNR=8.2							
GERES				LR		LR	09 56 02.2	
	comp=Z,244nm,18.5s,baz=0.5,slow=38							
TUC	Tucson	84.54	54	eP		P	09 15 00.7	+1.3
TUC				pmax		pmax		
	comp=Z,7.0nm,1.4s							
TUC	Tucson	84.54	54	eP		P	09 15 00.7	+1.3
	comp=Z,6.9nm,1.4s							
ANMO	Albuquerque	85.67	50⇑	eP		P	09 15 06.4	+1.2
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ANMO	Albuquerque	85.67	50	eP		P	09 15 07.1	+1.9
	comp=Z,6.9nm,1.4s							
BFO	Black Forest	87.07	331	eP		P	09 15 15.3	+3.7
BFO				pmax		pmax		
	comp=Z,14nm,1.2s							
BFO	Black Forest	87.07	331	eP		P	09 15 15.3	+3.7
	comp=Z,14nm,1.2s							
SCHQ	Schefferville	87.12	16	LR		LR	09 54 56.6	
	comp=Z,202nm,21.5s,baz=21,slow=36							
TBI	Tubuai	87.37	121	eLR		LR	09 42 54.9	
	comp=Z,170nm,21.2s							
FUORN	Ofenpass-Fuorn	87.64	329	eP		P	09 15 15.2	+0.5
	comp=Z,25nm,1.5s							
LTX	Lajitas	91.13	53	eP		P	09 15 31.8	+0.6
LTX	Lajitas	91.13	53	eP		P	09 15 31.8	+0.6
TXAR	Lajitas Array	91.13	53	P		P	09 15 31.8	+0.6
	comp=Z,0.8nm,0.9s,baz=251,slow=3.8,SNR=5.2							
TXAR				LR		LR	09 51 47.0	
	comp=Z,51nm,20.8s,baz=0.0,slow=32							
KEST	Kesra	96.67	323	LR		LR	10 05 01.8	
	comp=Z,204nm,19.1s,baz=300,slow=39							
ESDC	Sonseca Array	99.10	334	LR		LR	10 05 41.2	
	comp=Z,238nm,19.7s,baz=15,slow=38							
LPAZ	La Paz	147.45	62	PKPbc		PKPbc	09 22 11.7	+0.5
	comp=Z,1.9nm,0.7s,baz=15,slow=3.8,SNR=8.3							
LPAZ	La Paz	147.45	62	ePKPbc		PKPbc	09 22 12.2	+1.1

WEL 31 09:10:54.7±0.9, 36°43S×177°01E, h213km±10km, ML3.5/5, 1D, Error ellipse: s-maj=9.1km s-min=8.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	1.46	155	PN	Pn	09 11 29.3	+0.3
HAZ				SN	S	09 11 56.8	+0.9
RUGZ	Raukumara Rang	1.62	161	PN	Pn	09 11 30.3	-0.3
PKGZ	Pakihiroa	1.68	150	PN	Pn	09 11 31.4	+0.2
PKGZ				SN	S	09 12 00.4	+1.0
PKGZ				AML	AML	09 12 01.6	
WMGZ	Waiomatatini S	1.78	141	PN	Pn	09 11 31.9	0.0
WMGZ				SN	S	09 12 00.7	-0.1
WMGZ				AML	AML	09 12 03.1	
URZ	Urewera	1.82	177	PN	Pn	09 11 32.9	+0.6
TWGZ	Tauwhareparae	1.91	156	⇓PN	Pn	09 11 33.8	+0.6
TWGZ				SN	S	09 12 03.6	+0.5
TWGZ				AML	AML	09 12 07.8	
PUZ	Puketiti	1.92	149	PN	Pn	09 11 32.9	-0.4
PUZ				SN	S	09 12 01.4	-1.8
MWZ	Matawai	1.94	168	PN	Pn	09 11 33.8	+0.2
MUGZ	Murupara	2.05	185	PN	Pn	09 11 35.2	+0.6
TKGZ	Te Karaka	2.11	162	PN	Pn	09 11 35.2	0.0
TKGZ				SN	S	09 12 05.3	-1.3
TKGZ				AML	AML	09 12 08.7	
CNGZ	Carnagh Statio	2.26	155	PN	Pn	09 11 36.8	+0.1
RIGZ	Rimuhau	2.35	165	PN	Pn	09 11 37.6	0.0
RIGZ				AML	AML	09 12 15.8	
KNZ	Kokohu	2.64	169	PN	Pn	09 11 39.9	-0.9
NMHZ	Naumai	2.66	183	PN	Pn	09 11 41.6	+0.4
MCHZ	McNeill Hill	3.02	185	PN	Pn	09 11 44.7	-0.4
KWHZ	Kaweka Forest	3.02	189	PN	Pn	09 11 45.0	-0.3
KAHZ	Kahuranaki	3.36	182	PN	Pn	09 11 47.9	-1.2
PXZ	Pawanui	3.59	182	PN	Pn	09 11 50.0	-1.9
TSZ	Takapari Road	3.71	193	PN	Pn	09 11 51.9	-1.5
PRHZ	Porangahau	3.84	184	PN	Pn	09 11 53.1	-1.8
MRZ	Mangatainoka R	4.37	194	PN	Pn	09 11 59.2	-2.2

KRSC 31 09:24:28.0±1.6, 48°40N×156°53E, h7km±38km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.30	353	eP	Pn	09 25 07.4	+1.1
SKR				eS	Sn	09 25 36.4	+1.5
RUS	Russkaya	4.23	17	eP	Pn	09 25 35.9	+3.0
RUS				eS	Sn	09 26 27.7	+5.2
UGLR	Uglovaya	5.03	16	eP	Pn	09 25 48.6	+4.7
AVH	Avacha	5.07	15	eP	Pn	09 25 49.5	+5.1
SDLR	Sedlovina	5.11	16	eP	Pn	09 25 48.9	+3.9

SJA 31 09:31:57.4±0.6, 28°86S×67°03W, h14km±2km, ML3.2, MW3.6, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACLC	CERRO LA CRUZ	0.57	173	eP	Pg	09 32 09.0	+0.3
ACLC				eS	Sb	09 32 17.6	+0.1
CYA	Choya	1.16	69	eP	Pg	09 32 19.6	-0.1
CYA				eS	Sn	09 32 35.5	+0.6
CYA				IAML		09 32 39.2	
	comp=Z,470nm,0.3s						
APLL	PUNTA DE LOS L	1.59	164	eP	Pg	09 32 27.4	-0.7

*CSEM **31** 09:54:45.8±0.2, 38°99N×43°50E, h10km, ML2.6, Error ellipse: s-maj=7.0km s-min=4.9km az=131.0*
*ISK **31** 09:54:45.3, 38°96N×43°54E, h5km, ML2.4*
*DDA **31** 09:54:46.1, 38°93N×43°50E, h7km, Ml2.6*
ISC 31 09:54:46.1±1.0, 38°96N±0°03×43°54E±0°04, h12km±6km, n14, σ0°80/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.04	46	iP	Pg	09 54 48.2	-0.4
VMUR				iS	Sg	09 54 50.7	+0.4
VMUR	Van-Muradiye	0.04	46	P	Pg	09 54 48.2	-0.4
VMUR				S	Sg	09 54 50.7	+0.4
CLDR	Caldiran	0.35	59	ePG	Pg	09 54 52.6	-0.6
CLDR				eSG	Sb	09 54 59.9	-0.2
CLDR	Caldiran	0.35	59	iP	Pg	09 54 53.5	+0.3
CLDR	Caldiran	0.35	59	ePg	Pg	09 54 52.6	-0.6
CLDR	Caldiran	0.35	59	P	Pg	09 54 53.5	+0.3
CLDR				eSg	Sb	09 54 59.9	-0.2
VANB	Van	0.38	197	ePG	Pb	09 54 54.6	-0.4
VANB				eSG	Sb	09 55 03.4	+2.4
VANB	Van	0.38	197	ePg	Pb	09 54 54.6	-0.4
TVAN	Van	0.44	193	iP	Pg	09 54 54.7	-0.3
TVAN				iS	Sb	09 55 02.6	-0.1
TVAN	Van	0.44	193	P	Pg	09 54 54.7	-0.3
TVAN				S	Sb	09 55 02.7	-0.1
ADCV	BITLIS_Adilcev	0.65	257	iP	Pg	09 54 58.2	-0.7
ADCV	BITLIS_Adilcev	0.65	257	P	Pg	09 54 58.2	-0.7
AGRB	Hanur-Agry	0.74	326	ePG	Pg	09 55 00.1	-0.6
AGRB				eSG	Sb	09 55 12.6	+1.2
AGRB	Hanur-Agry	0.74	326	ePg	Pg	09 55 00.0	-0.6
AGRB				eSg	Sb	09 55 12.6	+1.2

*CSEM **31** 10:08:38.6, 38°84N×43°36E, h7km, ML2.9*
DDA 31 10:08:38.6, 38°84N×43°36E, h7km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.22	48	iP	Pg	10 08 44.6	+1.5
VMUR				iS	Sg	10 08 50.6	+4.4
VMUR	Van-Muradiye	0.22	48	P	Pg	10 08 44.6	+1.5
VMUR				S	Sg	10 08 50.6	+4.4
TVAN	Van	0.31	173	iP	Pg	10 08 44.3	-0.6
TVAN				iS	Sg	10 08 50.2	+1.2
TVAN	Van	0.31	173	P	Pg	10 08 44.3	-0.6
TVAN				S	Sg	10 08 50.2	+1.2
ADCV	BITLIS_Adilcev	0.50	266	iP	Pg	10 08 48.2	-0.1
ADCV				iS	Sb	10 08 57.0	-0.4
ADCV	BITLIS_Adilcev	0.50	266	P	Pg	10 08 48.2	-0.1
ADCV				S	Sb	10 08 57.0	-0.4
GEVA	Gevas	0.58	204	iP	Pb	10 08 50.6	-0.6
GEVA				iS	Sg	10 08 58.5	+1.1
GEVA	Gevas	0.58	204	P	Pb	10 08 50.6	-0.6
GEVA				S	Sg	10 08 58.5	+1.1
TUTA	Tutak	0.70	323	iP	Pg	10 08 51.4	-0.8
TUTA				iS	Sb	10 09 03.3	-0.1
TUTA	Tutak	0.70	323	P	Pg	10 08 51.4	-0.8
TUTA				S	Sb	10 09 03.3	-0.1
EATA	Eleskirt	1.22	327	iP	Pg	10 09 01.4	-0.8
EATA	Eleskirt	1.22	327	P	Pg	10 09 01.4	-0.7

CSEM 31 10:14:54.3±0.3, 59°27N×27°65E, h2km, ML1.5, Error ellipse: s-maj=6.4km s-min=4.1km az=105.0, Mining explosion., Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARBE	Arbavere	0.87	282	P	Pb	10 15 11.9	-0.2
VSU	Vasula	0.94	211	eP	Pg	10 15 11.9	-0.3
VSU				eS	Sg	10 15 24.2	-0.1
VSU	Vasula	0.94	211	P	Pg	10 15 11.9	-0.3
VSU				S	Sg	10 15 24.2	-0.1
VJF	Virojoki	1.28	358	eP	Pg	10 15 17.8	-1.0
VJF				eSB	Sb	10 15 35.7	-0.2
VJF	Virojoki	1.28	358	P	Pg	10 15 17.7	-1.1
VJF				Sb	Sb	10 15 35.7	-0.2
PVF	Pernaja	1.57	326	ePG	Pg	10 15 24.1	-0.2
PVF				MSG		10 15 44.0	
	comp=Z,3.3nm,0.2s						
PVF				eSG	Sg	10 15 45.3	+0.7
PVF	Pernaja	1.57	326	Pg	Pb	10 15 24.1	+0.1
PVF				Sg	Sg	10 15 45.3	+0.7
MEF	Metsahovi	1.90	301	ePG	Pg	10 15 30.4	-0.3
MEF				eSG	Sg	10 15 56.6	+1.3
MEF				MSG		10 15 57.5	
	comp=Z,2.5nm,0.1s						
MEF	Metsahovi	1.90	301	Pg	Pg	10 15 30.4	-0.3
MEF				eS	Sg	10 15 55.3	0.0
	comp=Z,7.6nm,0.4s,SNR=50						
MEF				Sg	Sb	10 15 56.6	+2.8
MTSE	Matsula	2.06	256	ePB	Pb	10 15 32.4	0.0
MTSE				eSG	Sg	10 16 00.6	+0.2
MTSE	Matsula	2.06	256	Pb	Pb	10 15 32.3	0.0
MTSE				eS	Sg	10 16 00.2	-0.2
	SNR=50						
FIA0	FINESS Array S	2.32	341	eP	Pn	10 15 34.3	+0.9
FIA0				ePB	Pb	10 15 35.7	-1.1
FIA0				eSG	Sg	10 16 07.4	-1.3
FIA0				MSG		10 16 08.9	
	comp=Z,1.4nm,0.1s						
FIA0	FINESS Array S	2.32	341	P	Pn	10 15 34.3	+0.9
FIA0				Sg	Sg	10 16 07.4	-1.3
KAF	Kangasniemi	2.93	348	ePB	Pb	10 15 46.1	-1.1
RAF	Rauma	3.43	303	eS	Sn	10 16 28.4	-1.4
	SNR=50						
JOF	Joensuu	4.07	24	eP	Pn	10 15 58.4	+0.9
JOF	Joensuu	4.07	24	P	Pn	10 15 58.4	+0.9

*AZER **31** 10:23:43.8±1.8, 37°90N×41°07E, h5km, Error ellipse: s-maj=26.5km s-min=12.8km az=139.0*
*DDA **31** 10:24:01.6, 38°82N×43°31E, h7km, Ml3.6*
*ISK **31** 10:24:01.1, 38°80N×43°34E, h8km, ML3.4*
*CSEM **31** 10:24:01.8±0.2, 38°81N×43°33E, h10km, ML3.4, Error ellipse: s-maj=4.8km s-min=4.1km az=150.0*
*TEH **31** 10:24:02.3, 38°82N×43°17E, h18km, ML3.4*
ISC 31 10:24:02.0±0.8, 38°81N±0°02×43°32E±0°02, h14km±6km, n103, σ1°36/131, 11C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	ERCIS-VAN	0.21	5	ePG	Pg	10 24 05.9	-1.0
ERCV				eSG	Sg	10 24 09.8	-0.4
ERCV	ERCIS-VAN	0.21	5	ePg	Pg	10 24 05.9	-1.0
ERCV				eSg	Sg	10 24 09.8	-0.4
VANB	Van	0.22	165	ePG	Pg	10 24 07.2	+0.2
VANB				eSG	Sb	10 24 12.7	+0.8
VANB	Van	0.22	165	ePg	Pg	10 24 07.2	+0.2
VMUR	Van-Muradiye	0.27	48	iP	Pg	10 24 07.2	-0.6
VMUR				iS	Sb	10 24 12.8	-0.5
VMUR	Van-Muradiye	0.27	48	P	Pg	10 24 07.2	-0.6
VMUR				S	Sb	10 24 12.8	-0.5
TVAN	Van	0.29	166	iP	Pg	10 24 07.2	-1.0
TVAN				iS	Sg	10 24 13.1	+0.7
TVAN	Van	0.29	166	P	Pg	10 24 07.2	-1.0
TVAN	Van	0.29	166	S	Sg	10 24 13.1	+0.7
ADCV	BITLIS_Adilcev	0.46	270	iP	Pg	10 24 10.7	-0.6
ADCV				iS	Sb	10 24 18.5	-0.4
ADCV	BITLIS_Adilcev	0.46	270	P	Pg	10 24 10.7	-0.6
ADCV				S	Sb	10 24 18.5	-0.4
GEVA	Gevas	0.54	202	iP	Pg	10 24 11.0	-1.6
GEVA				iS	Sg	10 24 20.1	+0.3
GEVA	Gevas	0.54	202	P	Pg	10 24 11.0	-1.6
CLDR	Caldiran	0.57	54	ePG	Pg	10 24 12.4	-1.0
CLDR				eSG	Sg	10 24 20.9	-0.1
CLDR	Caldiran	0.57	54	iP	Pg	10 24 12.6	-0.8
CLDR				iS	Sb	10 24 21.7	-0.4
CLDR	Caldiran	0.57	54	ePg	Pg	10 24 12.4	-1.0
CLDR	Caldiran	0.57	54	P	Pg	10 24 12.6	-0.8
CLDR				eSg	Sg	10 24 21.0	-0.1
TUTA	Tutak	0.71	327	iP	Pg	10 24 14.8	-1.1
TUTA				iS	Sb	10 24 26.0	-0.1
TUTA	Tutak	0.71	327	P	Pg	10 24 14.8	-1.1
TUTA				S	Sb	10 24 26.0	-0.1
DYDN	Diyadin	0.79	21	iP	Pg	10 24 15.8	-1.5
DYDN	Diyadin	0.79	21	P	Pg	10 24 15.9	-1.5
AGRB	Hanur-Agry	0.81	342	ePG	Pg	10 24 16.6	-1.1
AGRB				eSG	Sn	10 24 29.8	-1.3
AGRB	Hanur-Agry	0.81	342	ePg	Pg	10 24 16.6	-1.1
TATV	Tatvan	0.88	250	iP	Pg	10 24 17.3	-1.7
TATV				iS	Sg	10 24 30.6	+0.1
TATV	Tatvan	0.88	250	P	Pg	10 24 17.3	-1.7
TATV				S	Sg	10 24 30.6	+0.1
BASK	Baskale_VAN	0.93	144	iP	Pg	10 24 18.2	-1.8
BASK				iS	Sn	10 24 34.1	0.0
BASK	Baskale_VAN	0.93	144	P	Pg	10 24 18.2	-1.8
BASK				S	Sn	10 24 34.1	0.0
GURO	Guroymak-BITLI	1.04	256	ePG	Pb	10 24 21.0	-0.9
GURO	Guroymak-BITLI	1.04	256	ePg	Pb	10 24 21.0	-0.9
EATA	Eleskirt	1.23	329	iP	Pn	10 24 24.1	-1.0
EATA				iS	Sg	10 24 43.0	+1.1
EATA	Eleskirt	1.23	329	S	Sg	10 24 43.0	+1.1
EATA	Eleskirt	1.23	329	P	Pn	10 24 24.1	-1.0
HAKT	HAKKARI	1.29	166	iP	Pn	10 24 23.5	-2.3
HAKT				iS	Sg	10 24 45.8	+2.2
HAKT	HAKKARI	1.29	166	P	Pn	10 24 23.5	-2.3
HAKT	HAKKARI	1.29	166	S	Sg	10 24 45.8	+2.2
SRTM	Siirt_Merkez	1.37	234	iP	Pb	10 24 27.3	-0.1
SRTM				iS	Sg	10 24 48.4	+2.3
SRTM	Siirt_Merkez	1.37	234	P	Pb	10 24 27.3	-0.1
SRTM				S	Sg	10 24 48.4	+2.3
TASB	TASBURUN-IGDIR	1.37	31	ePN	Pn	10 24 26.3	-0.6
TASB	TASBURUN-IGDIR	1.37	31	ePn	Pn	10 24 26.3	-0.6
VRTB	Varto-Mus	1.49	284	ePN	Pn	10 24 29.0	+0.4
VRTB	Varto-Mus	1.49	284	ePn	Pn	10 24 29.0	+0.4
SIRN	S¨–rnak	1.49	209	iP	Pb	10 24 29.6	-0.1
SIRN				iS	Sg	10 24 52.1	+2.0
SIRN	S¨–rnak	1.49	209	P	Pb	10 24 29.5	-0.1
SIRN				S	Sg	10 24 52.1	+2.0
CUKT	Cukurca	1.58	172	ePN	Pn	10 24 29.3	-0.4
CUKT	Cukurca	1.58	172	ePn	Pn	10 24 29.3	-0.4
HOMI	Horasan	1.65	319	iP	Pb	10 24 32.1	-0.3
HOMI				iS	Sg	10 24 59.2	+4.0
NAX	Nakhchivan	1.74	77	⇑P	Pb	10 24 34.2	+0.5
NAX				⇓S	Sg	10 25 26.3	+28
NAX	Nakhchivan	1.74	77	P	Pb	10 24 34.2	+0.5
SVAN	Silvan-Diyarba	1.79	249	ePN	Pn	10 24 32.7	+0.2
SVAN	Silvan-Diyarba	1.79	249	iP	Pb	10 24 33.8	-0.8
SVAN				iS	Sg	10 24 59.9	+0.4
SVAN	Silvan-Diyarba	1.79	249	ePn	Pn	10 24 32.7	+0.2
SVAN	Silvan-Diyarba	1.79	249	P	Pb	10 24 33.8	-0.8
SVAN				S	Sg	10 24 59.9	+0.4
IMRD	Marand	1.87	92	eAMB	AMB	10 24 37.8	
	comp=Z,9μm,0.2s						
IMRD	Marand	1.87	92	ePn	Pb	10 24 35.0	-1.1
ISHB	Shabestar	1.88	106	ePn	Pb	10 24 35.1	-1.2
ISHB				eAMB	AMB	10 24 37.0	
	comp=Z,5μm,0.2s						
ISHB				eSg	Sg	10 25 04.7	+2.2
SENK	Senkaya-Erzuru	1.90	337	ePN	Pn	10 24 35.0	+0.8
SENK	Senkaya-Erzuru	1.90	337	ePn	Pn	10 24 35.1	+0.8
BNGB	Bing¨¶l	2.07	276	ePN	Pn	10 24 37.5	+1.1
BINT	Bingol	2.21	273	ePn	Pn	10 24 37.5	-0.9
YEDI	Yedisu-Bingol	2.25	287	ePN	Pn	10 24 40.7	+1.7
YEDI	Yedisu-Bingol	2.25	287	ePn	Pn	10 24 40.7	+1.7
ITBZ	Tabriz	2.29	104	ePn	Pn	10 24 41.1	+1.5
ITBZ				eAMB	AMB	10 24 52.0	
	comp=Z,1μm,0.2s						
ITBZ	Tabriz	2.29	104	ePn	Pn	10 24 41.1	+1.5
AKH	Akhalkalaki	2.60	3	P	Pg	10 24 50.8	-1.1
MAZI	Mazidag	2.63	240	ePN	Pn	10 24 46.1	+1.8
MAZI	Mazidag	2.63	240	ePn	Pn	10 24 46.1	+1.8
GDB	GEDABAY	2.68	44	⇓P	Pg	10 24 54.8	+1.4
	SNR=9.2						
GDB				⇑S	Sg	10 25 49.1	+21
GDB	GEDABAY	2.68	44	P	Pg	10 24 54.8	+1.4
	SNR=9.2						
GDB				S	Sg	10 25 49.1	+21
QZX	Qazax, Azerbai	2.75	34	⇑P	Pg	10 24 52.7	-1.9
	SNR=13						
QZX				⇓S	Sg	10 25 48.3	+18
QZX	Qazax, Azerbai	2.75	34	P	Pg	10 24 52.7	-1.9
	SNR=13						
QZX				S	Sg	10 25 48.3	+18
ERZN	Erzincan	2.90	287	ePN	Pn	10 24 49.8	+1.9
GANJ	Ganja	2.96	51	⇑P	Pg	10 24 58.8	+0.2
	SNR=7.1						
GANJ				⇓S	Sg	10 25 56.6	+20
GANJ	Ganja	2.96	51	P	Pg	10 24 58.8	+0.2
	SNR=7.1						
GANJ				S	Sg	10 25 56.6	+20
IHRS	Heris	2.96	98	ePn	Pn	10 24 50.3	+1.4
IHRS	Heris	2.96	98	ePn	Pn	10 24 50.3	+1.4
IBST	Bostanabad	3.02	110	ePn	Pb	10 24 55.9	+0.1
IBST	Bostanabad	3.02	110	ePn	Pb	10 24 55.9	+0.1
PTK	Pertek	3.06	273	ePN	Pn	10 24 51.9	+1.6
PTK	Pertek	3.06	273	ePn	Pn	10 24 51.9	+1.6
DGRG	David-gareji	3.07	30	P	Pg	10 25 00.4	-0.5
SVRC	Sivrice-ELAZID	3.17	263	ePN	Pn	10 24 52.9	+1.2
SVRC	Sivrice-ELAZID	3.17	263	ePn	Pn	10 24 52.9	+1.2
BRDA	Brd	3.32	63	⇑P	Pg	10 25 03.9	-1.7
	SNR=4.4						
BRDA				⇑S	Sg	10 26 06.1	+17
BRDA	Brd	3.32	63	P	Pg	10 25 03.9	-1.7
	SNR=4.4						
BRDA				S	Sg	10 26 06.1	+17
MNGR	Mingechevir, A	3.50	55	⇓P	Pb	10 25 06.1	+2.3
	SNR=3.4						
MNGR				⇑S	Sg	10 26 10.3	+16

*ISCJB **31** 10:55:40.2±0.6, 38°.73N±0°.03×43°.33E±0°.05, h16km±10km, Error ellipse: s-maj=6.6km s-min=4.6km az=37.9*

ISC 31 10:55:39.0±0.9, 38°.72N±0°.03×43°.35E±0°.03, h24km±6km, n22, σ0s77/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**167**	*e*PG	**Pb**	**10 55 43.7**	**-0.1**
VANB				*e*SG	**Sb**	**10 55 47.3**	**+0.2**
VANB	**Van**	**0.13**	**167**	*e*Pg	**Pb**	**10 55 43.7**	**-0.1**
VANB				*e*Sg	**Sb**	**10 55 47.3**	**+0.2**
ERCV	**ERCIS-VAN**	**0.30**	**358**	*e*PG	**Pb**	**10 55 46.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.30**	**358**	*e*Pg	**Pb**	**10 55 46.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.32**	**33**	*i* P	**Pb**	**10 55 46.4**	**+0.1**
VMUR				*i* S	**Sb**	**10 55 52.3**	**+1.0**
VMUR	**Van-Muradiye**	**0.32**	**33**	P	**Pb**	**10 55 46.4**	**+0.1**
VMUR				S	**Sb**	**10 55 52.3**	**+1.0**
GEVA	**Gevas**	**0.47**	**209**	*i* P	**Pb**	**10 55 48.3**	**-0.4**
GEVA				*i* S	**Sn**	**10 55 56.6**	**-1.5**
GEVA	**Gevas**	**0.47**	**209**	P	**Pb**	**10 55 48.3**	**-0.4**
GEVA				S	**Sn**	**10 55 56.6**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.50**	**280**	*i* P	**Pb**	**10 55 48.7**	**-0.5**
ADCV				*i* S	**Sb**	**10 55 57.4**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.50**	**280**	P	**Pb**	**10 55 48.7**	**-0.5**
ADCV				S	**Sb**	**10 55 57.4**	**+1.2**
CLDR	**Caldiran**	**0.61**	**46**	*e*PG	**Pn**	**10 55 51.8**	**-0.6**
CLDR				*e*SG	**Sn**	**10 56 01.0**	**-0.6**
CLDR	**Caldiran**	**0.61**	**46**	*e*Pg	**Pn**	**10 55 51.8**	**-0.6**
CLDR				*e*Sg	**Sn**	**10 56 01.0**	**-0.6**
TUTA	**Tutak**	**0.80**	**328**	*i* P	**Pb**	**10 55 53.9**	**-0.4**
TUTA				*i* S	**Sn**	**10 56 05.8**	**-0.5**
TUTA	**Tutak**	**0.80**	**328**	P	**Pb**	**10 55 53.9**	**-0.4**
TUTA				S	**Sn**	**10 56 05.8**	**-0.5**
TATV	**Tatvan**	**0.88**	**256**	*i* P	**Pb**	**10 55 55.4**	**-0.2**
TATV				*i* S	**Sn**	**10 56 07.7**	**-0.4**
TATV	**Tatvan**	**0.88**	**256**	P	**Pb**	**10 55 55.4**	**-0.2**
TATV				S	**Sn**	**10 56 07.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**342**	*e*PG	**Pn**	**10 55 56.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.90**	**342**	*e*Pg	**Pn**	**10 55 56.5**	**+0.2**
GURO	**Guroymak-BITLI**	**1.05**	**261**	*e*PG	**Pb**	**10 55 59.7**	**+1.2**
GURO	**Guroymak-BITLI**	**1.05**	**261**	*e*Pg	**Pb**	**10 55 59.7**	**+1.2**
CUKT	**Cukurca**	**1.49**	**172**	*e*PN	**Pb**	**10 56 07.2**	**+1.2**
CUKT	**Cukurca**	**1.49**	**172**	*e*Pn	**Pb**	**10 56 07.2**	**+1.2**

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*ISCJB **31** 10:57:59.7±1.3, 14°.88S±0°.10×76°.6W±0°.1, h10km, mb3.7/3, MS2.9/1, Error ellipse: s-maj=21.3km s-min=6.8km az=141.3*

*IDC **31** 10:58:02.5±2.1, 14°.48S×76°.38W, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.8/25, mbtmp3.9/7, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=42.1km s-min=16.7km az=57.0*

ISC 31 10:58:03.0±1.3, 14°.7S±0°.1×76°.5W±0°.1, h10km, n8, σ2s52/10, mb3.9/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.74**	**353**	Pn	**Pn**	**10 58 45.0**	**-2.0**
	15nm,0.3s,baz=150,slow=14,SNR=9.8						
NNA				Lg	Lg	10 59 22.3	
	45nm,0.3s,baz=269,slow=24,SNR=5.9						
ATAH	**Atahualpa**	**7.76**	**346**	Pn	Pn	11 00 01.2	+4.7
	0.6nm,0.3s,baz=52,slow=2.4,SNR=3.0						
ATAH				Sn	**Sn**	**11 01 28.1**	**+3.3**
	0.7nm,0.3s,baz=15,slow=16,SNR=2.4						
LPAZ	**La Paz**	**8.21**	**102**	Pn	**Pn**	**11 00 04.5**	**+1.7**
	0.6nm,0.3s,baz=307,slow=11,SNR=12						
LPAZ				Sn	**Sn**	**11 01 38.7**	**+2.6**
	baz=9.9,slow=23,SNR=1.0						
LVC	**Limon Verde**	**10.64**	**139**	Pn	**Pn**	**11 00 38.9**	**+3.0**
	29nm,0.3s,baz=320,slow=16,SNR=4.7						
LVC				Sn	**Sn**	**11 02 33.8**	**-1.5**
	25nm,0.3s,baz=97,slow=19,SNR=2.8						
LVC				Lg	Lg	11 03 31.0	
	13nm,0.3s,baz=154,slow=16,SNR=3.5						
SIV	**San Ignacio**	**14.93**	**97**	Pn	**Pn**	**11 01 32.0**	**-2.3**
	0.2nm,0.3s,baz=268,slow=18,SNR=2.9						
SIV				LR	LR	11 07 49.4	
	comp=Z,214nm,20.1s,baz=297,slow=40						
PTGA	**Pitinga**	**21.45**	**51**	P	**P**	**11 02 50.7**	**-1.0**
	3.8nm,0.7s,baz=230,slow=15,SNR=6.4						
PTGA				LR	LR	11 12 31.0	
	comp=Z,44nm,19.4s,baz=233,slow=41						
TXAR	**Lajitas Array**	**51.05**	**329**	P	**P**	**11 07 06.4**	**+0.6**
	0.3nm,0.8s,baz=146,slow=6.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**82.19**	**74**	P	**P**	**11 10 23.9**	**-1.1**
	0.7nm,0.6s,baz=258,slow=6.6,SNR=5.2						

MEX 31 11:35:50.4±0.7, 16°.19N×95°.85W, h6km±23km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.49**	**211**	*i* P	Pg	11 35 59.3	-0.5
HUIG				*e*S	Sg	11 36 07.0	+0.6
VHO	**Vista Hermosa**	**1.22**	**316**	*e*P	Pg	11 36 10.5	-3.3
VHO				*e*S	Sg	11 36 25.8	-3.9
PNIG	**Pinotepa**	**2.20**	**275**	*e*P	Pn	11 36 22.4	-5.1
PNIG				*e*S	Sn	11 36 44.9	-10
PCIG		**2.58**	**101**	*e*P	Pn	11 36 29.8	-2.9
PCIG				*i* S	Sn	11 36 40.0	-24

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*ISK **31** 11:38:33.9, 38°.70N×43°.23E, h9km, ML2.1*
*DDA **31** 11:38:34.9, 38°.70N×43°.30E, h7km, Ml2.7*
*CSEM **31** 11:38:34.6±0.3, 38°.72N×43°.27E, h10km, ML2.1, Error ellipse: s-maj=5.7km s-min=5.1km az=146.0*
*ISCJB **31** 11:38:35.2±0.5, 38°.72N±0°.03×43°.26E±0°.04, h9km±8km, Error ellipse: s-maj=6.5km s-min=4.8km az=38.8*

ISC 31 11:38:35.0±0.9, 38°.71N±0°.03×43°.26E±0°.03, h15km±8km, n20, σ0s85/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**139**	*e*PG	**Pg**	**11 38 39.0**	**0.0**
VANB				*e*SG	**Sg**	**11 38 42.9**	**+1.3**
VANB	**Van**	**0.15**	**139**	*e*Pg	**Pg**	**11 38 39.0**	**0.0**
VANB				*e*Sg	**Sg**	**11 38 42.9**	**+1.3**
TVAN	**Van**	**0.21**	**148**	*i* P	**Pg**	**11 38 38.8**	**-1.1**
TVAN				*i* S	**Sg**	**11 38 42.8**	**-0.5**
TVAN	**Van**	**0.21**	**148**	P	**Pg**	**11 38 38.8**	**-1.1**
TVAN				S	**Sg**	**11 38 42.8**	**-0.5**
VMUR	**Van-Muradiye**	**0.37**	**41**	*i* P	**Pg**	**11 38 41.9**	**-0.7**
VMUR				*i* S	**Sb**	**11 38 48.7**	**-0.4**
VMUR	**Van-Muradiye**	**0.37**	**41**	P	**Pg**	**11 38 41.9**	**-0.7**
VMUR				S	**Sb**	**11 38 48.7**	**-0.4**
GEVA	**Gevas**	**0.43**	**202**	*i* P	**Pg**	**11 38 42.9**	**-0.7**
GEVA				*i* S	**Sb**	**11 38 51.1**	**+0.4**
GEVA	**Gevas**	**0.43**	**202**	P	**Pg**	**11 38 42.9**	**-0.7**
GEVA				S	**Sb**	**11 38 51.1**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.43**	**283**	*i* P	**Pb**	**11 38 44.2**	**-0.3**
ADCV				*i* S	**Sb**	**11 38 52.1**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.43**	**283**	P	**Pb**	**11 38 44.2**	**-0.3**
ADCV				S	**Sb**	**11 38 52.1**	**+1.2**
CLDR	**Caldiran**	**0.67**	**49**	*e*PG	**Pg**	**11 38 47.9**	**-0.3**
CLDR	**Caldiran**	**0.67**	**49**	*e*Pg	**Pg**	**11 38 47.9**	**-0.3**
TATV	**Tatvan**	**0.81**	**256**	*i* P	**Pg**	**11 38 50.4**	**-0.3**
TATV				*i* S	**Sb**	**11 39 02.4**	**+0.8**
TATV	**Tatvan**	**0.81**	**256**	P	**Pg**	**11 38 50.4**	**-0.3**
TATV				S	**Sb**	**11 39 02.4**	**+0.8**
AGRB	**Hanur-Agry**	**0.89**	**346**	*e*PG	**Pg**	**11 38 51.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**346**	*e*Pg	**Pg**	**11 38 51.6**	**-0.7**
GURO	**Guroymak-BITLI**	**0.98**	**261**	*e*PG	**Pg**	**11 38 52.7**	**-1.2**
GURO				*e*SG	**Sg**	**11 39 06.2**	**-0.5**
GURO	**Guroymak-BITLI**	**0.98**	**261**	*e*Pg	**Pg**	**11 38 52.7**	**-1.2**
GURO				*e*Sg	**Sg**	**11 39 06.2**	**-0.5**
EATA	**Eleskirt**	**1.30**	**333**	*i* P	**Pn**	**11 38 58.5**	**-0.4**
EATA				*i* S	**Sn**	**11 39 17.8**	**+1.5**
EATA	**Eleskirt**	**1.30**	**333**	P	**Pn**	**11 38 58.5**	**-0.4**
EATA				S	**Sn**	**11 39 17.8**	**+1.5**

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*ISCJB **31** 11:41:45.2±0.4, 21°.8S±0°.1×179°.52W±0°.07, h604km, mb4.4/31, Error ellipse: s-maj=13.5km s-min=7.9km az=165.6*

*IDC **31** 11:41:45.3±1.6, 21°.69S×179°.49W, h592km±17km, mb3.6/15, mb1 3.8/16, mb1mx3.6/29, mbtmp4.5/16, Error ellipse: s-maj=17.9km s-min=12.4km az=149.0*

*NEIC **31** 11:41:46.4±0.8, 21°.73S×179°.52W, h604km±9km, mb4.7/17, Error ellipse: s-maj=17.1km s-min=10.6km az=72.0*

ISC 31 11:41:46.4±0.5, 21°.7S±0°.1×179°.50W±0°.08, h604km, n55, σ0s97/57, mb4.5/31, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**329**	*e*P	**P**	**11 43 16.1**	**-0.4**
DZM	**Mont Dzumac**	**13.06**	**266**	P	**P**	**11 44 35.4**	**-0.4**
	1.7nm,0.3s,baz=85,slow=19,SNR=26						
DZM	**Mont Dzumac**	**13.06**	**266**	*e*P	**P**	**11 44 35.3**	**-0.5**
RAR	**Rarotonga**	**18.37**	**92**	*e*P	**P**	**11 45 24.8**	**-0.4**
	109nm,1.6s						
EIDS	**Eidsvold**	**27.19**	**257**	*e*P	**P**	**11 46 43.5**	**-0.2**
	11nm,0.5s						
ARMA	**Armidale**	**27.29**	**245**	*e*P	**P**	**11 46 45.3**	**+0.7**
	80nm,1.8s						
CTA	**Charters Tower**	**32.00**	**267**	P	**P**	**11 47 25.2**	**+0.2**
	16nm,0.4s,baz=92,slow=11,SNR=33						
CTAO	**Charters Tower**	**32.00**	**267**	*e*P	**P**	**11 47 25.3**	**+0.2**
	18nm,0.5s						
PMG	**Port Moresby**	**34.29**	**286**	P	**P**	**11 47 44.3**	**0.0**
	28nm,0.7s,baz=78,slow=4.6,SNR=8.7						
PMG	**Port Moresby**	**34.29**	**286**	*e*P	**P**	**11 47 44.3**	**0.0**
	29nm,0.8s						
STKA	**Stephens Creek**	**36.01**	**245**	P	**P**	**11 47 58.5**	**+0.3**
	10nm,0.5s,baz=92,slow=10,SNR=34						
STKA				ScP	**ScP**	**11 52 59.7**	**+2.3**
	1.5nm,0.8s,baz=12,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**36.01**	**245**	*e*P	**P**	**11 47 58.6**	**+0.3**
	5.5nm,1.3s						
COEN	**Coen**	**36.29**	**276**	*e*P	**P**	**11 48 01.0**	**+0.2**
	17nm,0.8s						
AS31	**Alice Springs**	**42.89**	**258**	*e*P	**P**	**11 48 53.1**	**-0.4**
	5.8nm,0.6s						
ASAR	**Alice Springs**	**42.89**	**258**	P	**P**	**11 48 53.0**	**-0.5**
	24nm,0.8s,baz=98,slow=7.8,SNR=338						
ASAR				PcP	**PcP**	**11 50 29.9**	**-0.4**
	2.0nm,0.7s,baz=100,slow=3.9,SNR=5.2						
ASAR				ScP	**ScP**	**11 53 27.1**	**+2.6**
	1.1nm,0.8s,baz=128,slow=4.4,SNR=5.6						
ASAR				S	**S**	**11 54 34.8**	**-1.2**
	2.0nm,0.9s,baz=96,slow=16,SNR=9.6						
WB2	**Warramunga Arr**	**43.05**	**264**	*e*P	**P**	**11 48 53.9**	**-0.9**
	27nm,0.9s						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**11 48 53.9**	**-1.0**
	13nm,0.5s,baz=98,slow=7.9,SNR=97						
WRA				ScP	**ScP**	**11 53 27.6**	**+2.4**
	1.5nm,0.9s,baz=100,slow=3.6,SNR=6.2						
MTN	**Manton Dam**	**47.79**	**272**	*e*P	**P**	**11 49 29.8**	**-1.0**
	22nm,0.6s						
SOEI	**Soe**	**55.16**	**273**	*e*P	**P**	**11 50 23.9**	**0.0**
	50nm,0.8s						
VNDA	**Vanda**	**56.58**	**185**	P	**P**	**11 50 32.7**	**+0.2**
	0.7nm,0.5s,baz=0.6,slow=6.9,SNR=5.9						
LUWI	**Luwuk**	**59.80**	**282**	*e*P	**P**	**11 50 55.1**	**0.0**
	20nm,0.6s						
QSPA	**South Pole Qui**	**68.36**	**180**	*e*P	**P**	**11 51 48.5**	**0.0**
MJAR	**Matsushiro Arr**	**70.38**	**325**	P	**P**	**11 52 00.4**	**-0.4**
	4.1nm,0.7s,baz=157,slow=6.7,SNR=9.7						
MAT	**Matsushiro**	**70.38**	**325**	P	**P**	**11 52 00.3**	**-0.5**
KSM	**Kuching**	**72.21**	**279**	*e*P	**P**	**11 52 12.0**	**0.0**
	10nm,0.7s						
KSRS	**Korea Array**	**76.89**	**320**	P	**P**	**11 52 37.9**	**+0.3**
	0.8nm,0.5s,baz=120,slow=7.2,SNR=4.2						
PETK	**Petropavlovsk-**	**77.10**	**346**	P	**P**	**11 52 38.2**	**-0.2**
	5.7nm,0.7s,baz=127,slow=4.6,SNR=13						
USRK	**Ussuriysk Ar.**	**79.20**	**327**	P	**P**	**11 52 50.2**	**+0.4**
	3.1nm,0.8s,baz=124,slow=5.1,SNR=8.1						
NJ2	**Nanjing**	**79.59**	**311**	*e*P	**P**	**11 52 52.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PNTR	**Pine Nut**	**82.42**	**43**	*e*P	**P**	**11 53 07.0**	**+0.2**
	comp=Z,15nm,0.6s						
CN2	**Changchun**	**82.42**	**323**	*e*P	**P**	**11 53 09.0**	**+2.6**
319A	**Douglas**	**85.49**	**54**	*e*P	**P**	**11 53 22.6**	**+0.7**
	comp=Z,7.2nm,0.9s						
MNTX	**Cornudas Mount**	**88.59**	**55**	*e*P	**P**	**11 53 36.5**	**+0.1**
	comp=Z,3.1nm,0.8s						
KMI	**Kunming**	**88.66**	**298**	P	**P**	**11 53 38.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI				pmax	pmax		
	comp=Z,130nm,5.9s						
TX31	**Lajitas Ar. Si**	**88.89**	**58**	*e*P	**P**	**11 53 38.1**	**+0.3**
TXAR	**Lajitas Array**	**88.89**	**58**	P	**P**	**11 53 38.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=214,slow=5.6,SNR=16						
HHC	**Hu-ho-hao-te**	**89.21**	**315**	*e*P	**P**	**11 53 40.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,54nm,5.6s						
CMAR	**Chiang Mai Arr**	**89.21**	**290**	P	**P**	**11 53 40.5**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=133,slow=3.2,SNR=26						
CHTO	**Chiang Mai**	**89.35**	**290**	*e*P	**P**	**11 53 40.8**	**+0.6**
	comp=Z,5.8nm,0.8s						
PLCA	**Paso Flores**	**89.44**	**134**	P	**P**	**11 53 39.8**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=229,slow=9.3,SNR=3.5						
ILAR	**Eielson Array**	**89.81**	**13**	P	**P**	**11 53 40.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=219,slow=4.3,SNR=3.9						
BSMT	**Bassoo Peak**	**90.25**	**38**	*e*P	**P**	**11 53 44.2**	**+0.3**
PDAR	**Pinedale Array**	**90.80**	**44**	P	**P**	**11 53 46.0**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=101,slow=1.5,SNR=5.6						
MAKZ	**Makanchi**	**111.23**	**313**	*e*Pdif	**Pdif**	**11 55 19.2**	**+1.5**
KSH	**Kashi**	**114.43**	**305**	*e*PKP	PKPdf	11 59 16.8	-2.2
KKAR	**Karatay Array**	**118.90**	**308**	*e*PKPdf	**PKPdf**	**11 59 25.3**	**-2.0**
ARCES	**ARCESS Array B**	**129.85**	**349**	PKP	**PKPdf**	**11 59 46.5**	**-0.9**
	comp=Z,6.9nm,1.1s,baz=17,slow=1.3,SNR=3.5						
FINES	**FINESS Array B**	**136.53**	**342**	PKP	**PKPdf**	**12 00 00.5**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=123,slow=7.0,SNR=3.6						
AKASG	**Malin Array Be**	**143.37**	**329**	PKP	PKPab	12 00 10.1	-1.3
	comp=Z,2.3nm,0.3s,baz=43,slow=4.5,SNR=38						
AKBB	**Malin Array Si**	**143.37**	**329**	*e*PKPbc	PKPab	12 00 10.2	-1.2
KIEV	**Kiev**	**143.38**	**329**	*e*PKPbc	PKPab	12 00 10.1	-1.3
BRTR	**Keskin Array B**	**146.59**	**310**	PKPbc	**PKPbc**	**12 00 20.3**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=134,slow=4.3,SNR=10						
CRVS	**Cervenica-Dubn**	**148.15**	**333**	*e*PKP	**PKPab**	**12 00 30.5**	**+0.1**
CLL	**Collm**	**148.90**	**345**	⇓*i*PKPbc	**PKPbc**	**12 00 26.2**	**-0.6**
CLL				*i* PKPab	**PKPab**	**12 00 32.7**	**-0.7**
GERES	**GERESS Array B**	**150.96**	**342**	PKPbc	**PKPbc**	**12 00 30.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=146,slow=0.5,SNR=4.5						

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*SOME **31** 11:54:13.1, 44°.67N×82°.28E, h15km*
*NNC **31** 11:54:14.6±1.0, 44°.66N×82°.07E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=15.0km s-min=2.8km az=116.0*
*ISCJB **31** 11:54:16.0±1.5, 44°.66N±0°.07×82°.3E±0°.1, h10km, Error ellipse: s-maj=15.9km s-min=6.1km az=33.1*

ISC 31 11:54:13.2±1.7, 44°.68N±0°.06×82°.28E±0°.09, h10km, n9, σ0s95/17, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.81**	**260**	*e*P	**Pb**	**11 54 46.4**	**-0.1**
	19nm,0.2s						
DJR				*e*S	**Sg**	**11 55 10.6**	**-0.9**
	8.2nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**0**	⇓Pn	**Pb**	**11 54 51.7**	**0.0**
	2.0nm,0.2s						
MK31				⇑Sn	**Sg**	**11 55 20.1**	**-1.1**
	2.5nm,0.2s,baz=184,slow=19,SNR=27						
MAKZ	**Makanchi**	**2.14**	**354**	⇑Pn	**Pb**	**11 54 51.8**	**-0.3**
	0.7nm,0.2s						
MAKZ				⇑Sn	**Sb**	**11 55 20.0**	**+1.3**
	6.2nm,0.5s						
KAPS	**Kapalarasan**	**2.16**	**287**	*e*P	**Pb**	**11 54 51.7**	**-0.7**
KAPS				*e*S	**Sb**	**11 55 19.2**	**-0.1**
PDGK	**Podgornoye**	**2.42**	**237**	⇑Pg	**Pb**	**11 54 56.2**	**-0.7**
	0.6nm,0.2s						
PDGK				⇑Lg	Lg	11 55 28.3	
	13nm,0.6s						
SHLS	**Shalkode**	**2.54**	**234**	*e*P	**Pn**	**11 54 54.9**	**+0.3**
	4.0nm,0.2s						
SHLS				*e*S	**Sn**	**11 55 25.1**	**-0.6**
	16nm,0.4s						
UZB	**Uzynbulak**	**2.81**	**238**	*e*P	**Pb**	**11 55 02.9**	**-0.6**
	2.9nm,0.2s						
UZB				*e*S	**Sb**	**11 55 38.9**	**+0.9**
	2.9nm,0.3s						
MNBS	**Baschi**	**2.84**	**259**	*e*P	**Pb**	**11 55 04.1**	**0.0**
	6.6nm,0.2s						
MNBS				*e*S	**Sb**	**11 55 40.7**	**+1.7**
	5.7nm,0.2s						
ARXS	**Arharly**	**3.22**	**263**	*e*P	**Pb**	**11 55 10.3**	**-0.2**
	2.5nm,0.2s						
ARXS				*e*S	**Sb**	**11 55 51.6**	**+1.8**
	8.1nm,0.3s						

JMA 31 13:18:15.1±0.1, 38°.34N×141°.78E, h16km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.36**	**289**	P	Pg	13 18 22.5	0.0
JIO				S	Sg	13 18 27.4	-0.1
OFUJ	**Ofunato**	**0.74**	**353**	P	Pg	13 18 29.2	-0.4
OFUJ				S	Sg	13 18 39.1	-0.4
JMK	**Ichinoseki**	**0.75**	**324**	P	Pg	13 18 29.4	-0.4
JMK				S	Sg	13 18 39.4	-0.3
JOU	**Okura**	**0.88**	**272**	P	Pb	13 18 31.7	-0.3
JOU				S	Sg	13 18 43.7	0.0
JMM	**Marumori**	**0.91**	**239**	P	Pb	13 18 31.4	-1.1
JMM				S	Sb	13 18 43.7	-0.7
JOM	**Ohasama**	**1.19**	**342**	P	Pn	13 18 36.7	-0.4
JOM				S	Sn	13 18 53.3	+0.3
JFK	**Kawauchi**	**1.21**	**217**	P	Pn	13 18 36.6	-0.8
JFK				S	Sb	13 18 52.3	-0.7
JYK	**Kaneyama**	**1.25**	**298**	P	Pn	13 18 37.7	-0.3
JYK				S	Sb	13 18 54.0	-0.3
JYS	**Shiratake**	**1.35**	**265**	P	Pn	13 18 39.4	0.0
JYS				S	Sb	13 18 57.3	+0.1
JRG	**Rokugo**	**1.38**	**320**	P	Pb	13 18 40.2	-0.4
JRG				S	Sb	13 18 57.9	-0.1
JFT	**Otama**	**1.41**	**235**	P	Pn	13 18 40.2	+0.1
JFT				S	Sb	13 18 58.7	0.0

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*GRAL **31** 13:48:34.6±0.3, 34°.28N×36°.51E, h12km±1km, MD2.7*
*NSSC **31** 13:48:35.6±1.4, 34°.19N×36°.33E, h0km±4km, ML1.9*
*ISCJB **31** 13:48:36.2±0.4, 34°.18N±0°.02×36°.36E±0°.04, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=3.4*

ISC 31 13:48:35.2±0.9, 34°.23N±0°.03×36°.41E±0°.04, h10km±5km, n12, σ0s49/23, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.02**	**357**	*e*P	**Pg**	**13 48 37.2**	**-0.1**
FKH				*e*S	**Sg**	**13 48 39.0**	**+0.3**
MARH	**Ras Al Marh**	**0.21**	**164**	*e*P	**Pg**	**13 48 39.2**	**-0.6**
MARH				*e*S	**Sg**	**13 48 43.3**	**+0.4**
MARH				AML	AML	13 48 45.4	
	comp=N,740nm,0.2s						
MARH				AML	AML	13 48 48.0	
	comp=E,1μm,0.3s						
HAWK	**Haweek**	**0.29**	**359**	*e*P	**Pb**	**13 48 42.1**	**-0.6**
HAWK				*e*S	**Sb**	**13 48 48.6**	**+1.0**
HAWK				AML	AML	13 48 55.5	
	comp=N,116nm,0.5s						
HAWK				AML	AML	13 49 00.1	
	comp=E,94nm,0.6s						
HWQ	**Hawqa**	**0.39**	**278**	*e*P	**Pg**	**13 48 43.1**	**+0.1**
HWQ				*e*S	**Sb**	**13 48 49.5**	**-0.9**
BHL	**Bhannes**	**0.71**	**243**	*e*P	**Pg**	**13 48 48.8**	**-0.1**
ROOS	**tl_alroos**	**0.73**	**94**	*e*P	**Pn**	**13 48 51.1**	**-0.5**
ROOS				*e*S	**Sn**	**13 49 03.2**	**+0.3**
ROOS				AML	AML	13 49 07.1	
	comp=E,65nm,0.5s						
ROOS				AML	AML	13 49 16.1	
	comp=N,39nm,0.5s						
BIDA	**Albida**	**0.79**	**355**	*e*P	**Pn**	**13 48 52.5**	**0.0**
BIDA				*e*S	**Sn**	**13 49 04.4**	**+0.1**
BIDA				AML	AML	13 49 11.5	
	comp=E,74nm,0.5s						
BIDA				AML	AML	13 49 14.7	
	comp=N,56nm,0.5s						
RCY	**Rachaya**	**0.87**	**213**	*e*P	**Pg**	**13 48 51.4**	**-0.7**
RCY				*e*S	**Sg**	**13 49 04.0**	**+0.5**
BRBR	**Barbar**	**0.90**	**205**	*e*P	**Pg**	**13 48 52.5**	**-0.1**
BRBR				*e*S	**Sg**	**13 49 04.3**	**0.0**
BRBR				AML	AML	13 49 12.0	
	comp=E,39nm,0.5s						
BRBR				AML	AML	13 49 12.8	
	comp=N,22nm,0.4s						
SALA	**Sala**	**1.54**	**170**	*e*P	**Pn**	**13 49 03.0**	**+0.1**
SALA				*e*S	**Sb**	**13 49 24.2**	**+0.8**
SALA				AML	AML	13 49 31.0	
	comp=N,32nm,0.3s						
SALA				AML	AML	13 49 32.7	
	comp=E,2.5nm,0.4s						
TCHB	**Talchebab**	**1.60**	**194**	*e*P	**Pb**	**13 49 04.9**	**0.0**
TCHB				*e*S	**Sn**	**13 49 24.3**	**+0.1**
TCHB				AML	AML	13 49 30.5	
	comp=E,39nm,0.5s						
TCHB				AML	AML	13 49 33.1	
	comp=N,28nm,0.6s						
ARNB	**Al Arnab**	**1.67**	**348**	*e*P	**Pb**	**13 49 06.1**	**0.0**
ARNB				*e*S	**Sg**

baz=219
HATJ Hateruma jima 1.42 120 S Sb 13 52 43.6 -0.1
JKRS Kuro-shima 1.51 110 P Pg 13 52 27.2 -0.1
JKRS *eS* **Sg 13 52 47.0 +0.2**
JIJ Ishigaki jima 1.58 105 P Pb 13 52 28.2 0.0
NSY Sanyi 1.59 257 *eP* **Pg 13 52 28.8 -0.1**
baz=253
TWQ1 Liyutan 1.59 255 *eP* **Pb 13 52 28.4 -0.1**
baz=251
SMLT Sun Moon Lake 1.68 238 *eP* **Pb 13 52 29.5 -0.3**
baz=242
JISG Ishigakijimahi 1.69 96 P Pb 13 52 29.9 -0.1
TYC Yuchr 1.70 240 *eP* **Pg 13 52 30.8 -0.2**
baz=236
TYC *eS* **Sn 13 52 51.4 +0.4**
baz=236
TWF1 Yuli 1.77 217 *eP* **Pn 13 52 29.6 -0.1**
baz=199
ALS Alishan 1.97 231 *eP* **Pb 13 52 35.3 +0.4**
baz=210
CHN5 Tsauling 2.01 235 *eP* **Pb 13 52 34.4 -1.1**
baz=211
CHN4 Tsaushan 2.22 231 *eP* **Pn 13 52 37.2 +1.3**
baz=209
CHN1 Nanshi 2.37 229 *eP* **Pb 13 52 42.1 +0.5**

SJA 31 13:56:46.3±0.4, 31°.36S×68°.68W, h107km±2km, ML3.2, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.18**	**80**	*i* P	Pn	13 57 01.9	+0.6
RTLL				*i* S	Sn	13 57 13.3	+0.8
SJA	**San Juan**	**0.20**	**149**	*i* P	Pn	13 57 02.1	+0.7
SJA				IAML		13 57 02.8	
	comp=Z,828nm,0.2s						
SJA				*i* S	Sn	13 57 13.6	+0.9
AMOG	**MOGNA**	**0.45**	**21**	*i* P	Pn	13 57 03.3	+0.7
RTCV	**Cerro Valdivia**	**0.52**	**167**	*i* P	Pn	13 57 03.7	+0.7
RTCV				*i* S	Sn	13 57 16.4	+0.9
RTLS	**Leoncito**	**0.69**	**230**	*i* P	Pn	13 57 05.5	+1.0
RTLS				IAML		13 57 05.6	
	comp=Z,1μm,0.1s						
RTLS				*i* S	Sn	13 57 20.2	+1.9
AUSP	**Uspallata**	**1.05**	**215**	*i* P	Pn	13 57 09.2	+1.1
AUSP				*i* S	Sn	13 57 26.3	+1.8
ASAL	**Salagasta**	**1.23**	**186**	*i* P	Pn	13 57 11.2	+1.3
AVFE	**Valle Fertil**	**1.26**	**57**	*i* P	Pn	13 57 11.1	+0.9
AVFE				*i* S	Sn	13 57 29.6	+1.3
AVFE				IAML		13 57 33.6	
	comp=Z,109nm,0.4s						
ACAN	**Cantantal**	**1.56**	**126**	*i* P	Pn	13 57 14.6	+0.8
ACAN				*i* S	Sn	13 57 35.8	+1.2
AAGR	**Agrelo**	**1.73**	**184**	*i* P	Pn	13 57 17.1	+1.3

NIED ***31*** *14:09:00, 39°.90N×143°.60E, h14km, Mw4.3 Best double couple: M0=2.98000×10^15 NP1:φs=194.00000°, δ31.00000°, λ81.00000°. NP2:φs=25.00000°, δ59.00000°, λ95.00000°.*
ISCJB ***31*** *14:09:20.7±0.4, 39°.89N±0°.03×143°.70E±0°.05, h6km, mb4.2/39, MS3.8/16, Error ellipse: s-maj=5.5km s-min=3.2km az=27.0*
IDC ***31*** *14:09:22.0±0.7, 39°.84N×143°.61E, h0km, mb4.0/18, mb1 4.1/23, mb1mx4.0/46, mbtmp4.0/23, ML3.2/6, MS3.6/13, Ms1 3.6/13, ms1mx3.3/55, Error ellipse: s-maj=18.3km s-min=14.4km az=99.0*
NEIC ***31*** *14:09:23.6±0.4, 39°.88N×143°.63E, h10km, mb4.7/4, Error ellipse: s-maj=9.7km s-min=5.6km az=120.0*
JMA ***31*** *14:09:24.5±0.2, 39°.89N×143°.56E, h35km, M4.3*
MOS ***31*** *14:09:24.3±0.8, 39°.88N×143°.68E, h33km, mb4.5/19, Error ellipse: s-maj=9.9km s-min=7.2km az=97.2*
ISC 31 14:09:22.6±0.6, 39°.87N±0°.05×143°.71E±0°.05, h6km, n96, σ1°.87/110, mb4.3/39, MS3.8/16, 1C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.42**	**273**	P	**Pn**	**14 09 46.8**	**-2.2**
MIYJ	**Miyakonagasawa**	**1.49**	**259**	P	**Pn**	**14 09 48.2**	**-1.7**
JANG	**Nango**	**1.75**	**287**	P	**Pn**	**14 09 51.8**	**-1.8**
JOM	**Ohasama**	**1.91**	**259**	P	**Pn**	**14 09 54.8**	**-0.8**
JMK	**Ichinoseki**	**2.14**	**245**	P	**Pn**	**14 09 57.5**	**-1.3**
JTM	**Tenmabayashi**	**2.22**	**295**	P	**Pn**	**14 09 59.2**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.51**	**344**	P	**Pn**	**14 10 04.4**	**+0.4**
JNBK				*eS*	**Sn**	**14 10 33.4**	**-1.5**
JOT	**Ohata**	**2.52**	**308**	P	**Pn**	**14 10 03.4**	**-0.7**
JCH	**Churui**	**2.75**	**355**	P	**Pn**	**14 10 06.6**	**-0.7**
JCH				*eS*	**Sn**	**14 10 38.9**	**-1.9**
JYK	**Kaneyama**	**2.77**	**251**	P	**Pn**	**14 10 06.8**	**-0.6**
JKB	**Kayabe**	**2.86**	**316**	P	**Pn**	**14 10 09.4**	**+0.7**
JKB				*eS*	**Sn**	**14 10 40.9**	**-2.5**
JAK	**Akkeshi**	**3.21**	**13**	P	**Pn**	**14 10 13.3**	**-0.2**
JAK				*eS*	**Sn**	**14 10 49.8**	**-2.2**
JEW	**Eniwo**	**3.42**	**331**	P	**Pn**	**14 10 17.1**	**+0.7**
JEW				*eS*	**Sn**	**14 10 55.8**	**-1.4**
ASAJ	**Asahikawa**	**4.32**	**349**	Pn	**Pn**	**14 10 29.4**	**+0.6**
	1.8nm,0.3s,baz=213,slow=6.1,SNR=19						
ASAJ				Sn	**Sn**	**14 11 18.8**	**-0.8**
	4.0nm,0.3s,baz=95,slow=21,SNR=4.7						
YUK	**Yuzh-Kuril'sk**	**4.46**	**20**	*eP*	**Pn**	**14 10 29.9**	**-0.8**
YUK				*eS*	**Sn**	**14 11 20.5**	**-2.4**
YUK				pmax	pmax		
	comp=Z,72nm,0.4s						
YUK				smax	smax		
	comp=N,360nm,0.5s						
YUK				smax	smax		
	comp=E,153nm,0.2s						
YUK				MLR	MLR		
	comp=Z,530nm,7.0s						
SHO	**Shikotan**	**4.62**	**29**	*eP*	**Pn**	**14 10 31.8**	**-1.2**
SHO				*eS*	**Sn**	**14 11 22.2**	**-4.8**
SHO				smax	smax		
	comp=E,294nm,0.5s						
SHO				smax	smax		
	comp=N,273nm,0.6s						
MAJO	**Matsushiro**	**5.46**	**234**	*c* P	**Pn**	**14 10 44.9**	**+0.4**
MAJO	**Matsushiro**	**5.46**	**234**	*e*Pn	**Pn**	**14 10 44.8**	**+0.3**
MAT	**Matsushiro**	**5.46**	**234**	P	**Pn**	**14 10 44.9**	**+0.4**
MAT				*eS*	**Sn**	**14 11 45.9**	**-1.8**
MJAR	**Matsushiro Arr**	**5.46**	**234**	Pn	**Pn**	**14 10 44.6**	**+0.1**
	comp=N,2.8nm,0.3s,baz=42,slow=12,SNR=37						
MJAR				Sn	**Sn**	**14 11 48.2**	**+0.6**
	baz=81,slow=30,SNR=2.0						
MJAR				LR	LR	14 12 49.8	
	comp=N,229nm,20.3s,baz=60,slow=39						
MJB9	**Matsu-Tunnel**	**5.46**	**234**	*e*Pn	**Pn**	**14 10 44.9**	**+0.4**
KUR	**Kuril'sk**	**6.17**	**28**	*eP*	**Pn**	**14 10 56.1**	**+1.9**
KUR				*eS*	**Sn**	**14 12 01.3**	**-3.8**
KUR				pmax	pmax		
	comp=N,10.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,18nm,0.3s						
KUR				pmax	pmax		
	comp=Z,30nm,0.3s						
KUR				smax	smax		
	comp=N,34nm,0.6s						
KUR				smax	smax		
	comp=E,95nm,0.5s						
KUR				MLR	MLR		
	comp=Z,436nm,15.0s						
INU	**Inuyama**	**6.97**	**232**	*e*Pn	**Pn**	**14 11 05.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.11**	**355**	*de*P	Pn	14 10 59.9	-7.2
YSS				MLR	MLR		
	comp=Z,200nm,20.0s						
JHJ	**Hachijo jima 2**	**7.44**	**206**	Pn	**Pn**	**14 11 10.8**	**-1.0**
	comp=Z,5.9nm,0.3s,baz=29,slow=13,SNR=4.3						
JHJ				Sn	Sn	14 12 25.4	-11
	comp=Z,8.9nm,0.3s,baz=0.0,slow=0.0,SNR=3.4						
VLA	**Vladivostok**	**9.45**	**294**	‖ *i* P	**Pn**	**14 11 41.6**	**+2.5**
VLA				*i* S	**Sn**	**14 13 26.7**	**+1.1**
VLA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**9.73**	**300**	Pn	**Pn**	**14 11 44.3**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=95,slow=14,SNR=19						
USRK				LR	LR	14 15 27.6	
	comp=Z,251nm,19.6s,baz=84,slow=38						
MDJ	**Mudanjiang**	**11.48**	**299**	P	**Pn**	**14 12 10.0**	**+2.9**
MDJ				S	**Sn**	**14 14 20.3**	**+4.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,71nm,6.5s						
MDJ				LR	LR		
	comp=N,370nm,13.3s						
MDJ				LR	LR		
	comp=E,320nm,14.3s						
MDJ				LR	LR		
	comp=Z,430nm,14.3s						
KSRS	**Korea Array**	**12.57**	**264**	Pn	**Pn**	**14 12 23.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=5.1						
KSRS				LR	LR	14 16 51.6	
	comp=Z,295nm,18.1s,baz=66,slow=36						
KSAR	**Wonju Array Be**	**12.61**	**264**	P	**Pn**	**14 12 23.5**	**+1.1**
KSAR	**Wonju Array Be**	**12.61**	**264**	Pn	**Pn**	**14 12 23.5**	**+1.1**
KLR	**Kul'dur**	**12.64**	**322**	Pn	**Pn**	**14 12 23.5**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=140,slow=13,SNR=3.4						
KLR				LR	LR	14 17 26.6	
	comp=Z,21nm,19.2s,baz=121,slow=38						
CN2	**Changchun**	**14.17**	**292**	*eP*	**Pn**	**14 12 45.8**	**+2.1**
PETK	**Petropavlovsk-**	**16.33**	**31**	LR	LR	14 19 13.7	
	comp=Z,66nm,19.4s,baz=186,slow=36						
HIA	**Hailar**	**19.42**	**307**	*eP*	**P**	**14 13 46.6**	**-2.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MA2	**Magadan**	**20.22**	**10**	LR	LR	14 22 46.6	
	comp=Z,86nm,18.6s,baz=200,slow=40						
BJI	**Beijing**	**21.08**	**279**	P	**P**	**14 14 04.5**	**-3.0**
BJI				S	**S**	**14 17 58.0**	**-4.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI				LR	LR		
	comp=N,100nm,15.5s						
BJI				LR	LR		
	comp=E,310nm,16.4s						
BJI				LR	LR		
	comp=Z,140nm,19.5s						
NJ2	**Nanjing**	**21.53**	**257**	*eP*	**P**	**14 14 14.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
SEY	**Seymchan**	**23.68**	**10**	*eP*	**P**	**14 14 35.0**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=189,slow=18,SNR=2.9						
SEY	**Seymchan**	**23.68**	**10**	*eP*	**P**	**14 14 33.7**	**-0.9**
YAK	**Yakutsk**	**23.78**	**344**	P	**P**	**14 14 35.8**	**+0.2**
	comp=Z,5.3nm,0.3s,baz=141,slow=1.0,SNR=8.7						
YAK	**Yakutsk**	**23.78**	**344**	*eP*	**P**	**14 14 33.5**	**-2.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK	**Yakutsk**	**23.78**	**344**	*eP*	**P**	**14 14 35.3**	**-0.3**
	comp=Z,18nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.45**	**283**	*eP*	**P**	**14 14 39.5**	**-2.7**
HHC				sP	sP	14 14 52.3	+7.5
HHC				S	**S**	**14 18 56.0**	**-6.6**
HHC				SS	**SnSn**	**14 19 47.8**	**+1.8**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,7.5s						
HHC				LR	LR		
	comp=N,430nm,11.1s						
HHC				LR	LR		
	comp=E,450nm,11.1s						
HHC				LR	LR		
	comp=Z,490nm,12.3s						
WHN	**Wuhan**	**25.64**	**258**	P	**P**	**14 14 52.5**	**-0.4**
WHN				S	**S**	**14 19 21.5**	**0.0**
WHN				LR	LR		
	comp=Z,650nm,24.6s						
BOD	**Bodaibo**	**26.22**	**323**	*eP*	**P**	**14 14 57.2**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ULN	**Ulaanbaatar**	**27.40**	**299**	*eP*	**P**	**14 15 08.3**	**-0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**27.84**	**299**	P	**P**	**14 15 13.0**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=92,slow=9.0,SNR=7.5						
SONM				LR	LR	14 27 02.8	
	comp=Z,228nm,18.4s,baz=101,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.27**	**128**	T	T	14 44 59.0	
	baz=320,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.28**	**128**	T	T	14 44 59.0	
	baz=320,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.29**	**128**	T	T	14 44 57.5	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.10**	**130**	T	T	14 45 59.3	
	baz=322,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**29.11**	**130**	T	T	14 45 58.4	
	baz=322,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**29.12**	**130**	T	T	14 45 59.0	
	baz=322,slow=76,SNR=8.5						
ENH	**Enshi**	**29.45**	**262**	*eP*	**P**	**14 15 26.1**	**-1.1**
	comp=Z,14nm,1.0s						
TLY	**Talaya**	**29.96**	**307**	*eP*	**P**	**14 15 30.8**	**-0.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,117nm,12.0s						
BILL	**Bilibino**	**30.80**	**16**	*eP*	**P**	**14 15 39.3**	**+0.6**
BILL				*e*		14 16 39.9	
BILL				*e*PPP	PPP	14 16 49.2	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LZH	**Lanzhou**	**31.47**	**276**	*eP*	**P**	**14 15 46.5**	**+1.4**
LZH				pP	sP	14 15 55.8	+8.1
LZH				sP	pP	14 16 01.0	+14
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
CD2	**Chengdu**	**33.54**	**267**	*eP*	**P**	**14 16 02.0**	**-1.2**
GTA	**Gaotai**	**33.55**	**284**	‖ P	**P**	**14 16 03.5**	**+0.2**
GTA				pP	sP	14 16 11.0	+5.1
GTA				sP	pP	14 16 14.8	+10
GTA				S	**S**	**14 21 24.8**	**-1.1**
GTA				sS	sS	14 21 37.5	+8.6
GTA				SS	**SnSn**	**14 23 31.8**	**+3.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,70nm,5.7s						
GTA				LR	LR		
	comp=N,130nm,15.7s						
GTA				LR	LR		
	comp=E,270nm,16.6s						
GTA				LR	LR		
	comp=Z,290nm,15.9s						
QIZ	**Qiongzhong**	**35.76**	**244**	P	**P**	**14 16 23.0**	**+0.6**
QIZ				S	**S**	**14 21 58.0**	**-2.0**
QIZ				LR	LR		
	comp=Z,74nm,15.2s						
KMI	**Kunming**	**37.22**	**259**	P	**P**	**14 16 35.5**	**+0.4**
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
KMI				pmax	pmax		
	comp=Z,69nm,5.5s						
WMQ	**Urumqi**	**41.24**	**294**	P	**P**	**14 17 09.0**	**+0.6**
WMQ				pP	sP	14 17 15.3	+4.3
WMQ				sP	pP	14 17 23.0	+13
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.5s						
WMQ				LR	LR		
	comp=N,39nm,19.5s						
WMQ				LR	LR		
	comp=E,63nm,18.3s						
WMQ				LR	LR		
	comp=Z,58nm,16.9s						
ZALV	**Zalesovo Beam**	**41.40**	**310**	P	**P**	**14 17 09.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=90,slow=7.4,SNR=6.8						
ZALV				LR	LR	14 35 06.7	
	comp=Z,117nm,18.5s,baz=42,slow=37						
CMAR	**Chiang Mai Arr**	**43.98**	**254**	P	**P**	**14 17 30.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=37,slow=7.2,SNR=4.2						
CMAR				LR	LR	14 37 49.1	
	comp=Z,58nm,18.3s,baz=12,slow=39						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**14 17 32.0**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=89,slow=10,SNR=6.9						
KURK	**Kurchatov**	**45.66**	**306**	*eP*	**P**	**14 17 42.3**	**-1.5**
KURK	**Kurchatov**	**45.66**	**306**	*eP*	**P**	**14 17 43.5**	**-0.3**
	comp=Z,6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.73**	**306**	P	**P**	**14 17 44.3**	**0.0**
	comp=Z,3.1nm,0.7s,baz=80,slow=8.3,SNR=10						
ILAR	**Eielson Array**	**46.14**	**34**	P	**P**	**14 17 49.1**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=253,slow=6.3,SNR=1.7						
BRVK	**Borovoye**	**50.09**	**311**	*eP*	**P**	**14 18 16.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**50.77**	**297**	*eP*	**P**	**14 18 22.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH	**Kashi**	**50.93**	**293**	*eP*	**P**	**14 18 28.5**	**+3.6**
KSH				pP	sP	14 18 38.5	+11
KSH				sP	pP	14 18 42.8	+16
KSH				PcP	**PcP**	**14 19 44.0**	**+2.8**
KSH				PP	**PP**	**14 20 27.8**	**+6.8**
KSH				PcS	**PcS**	**14 23 39.0**	**+0.2**
KSH				S	**S**	**14 25 42.0**	**0.0**
KSH				sS	sS	14 25 58.0	+13
KSH				ScS	**ScS**	**14 28 12.3**	**-4.0**
KSH	**Kashi**	**50.93**	**293**	SS	**SS**	**14 29 15.0**	**-1.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,290nm,6.0s						
KSH				LR	LR		
	comp=N,140nm,6.7s						
KSH				LR	LR		
	comp=E,190nm,7.6s						
KSH				LR	LR		
	comp=Z,290nm,8.1s						
HNR	**Honiara**	**51.31**	**159**	LR	LR	14 39 16.2	
	comp=Z,38nm,18.4s,baz=290,slow=35						
ARU	**Arti**	**55.45**	**318**	P	**P**	**14 18 57.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=86,slow=14,SNR=3.4						
ARU	**Arti**	**55.45**	**318**	*d* P	**P**	**14 18 57.4**	**-0.3**
ARU						14 20 59.5	
ARU				S	**S**	**14 26 41.5**	**-1.2**
ARU				SS	**SS**	**14 30 27.2**	**+0.5**
ARU				pmax	pmax		
	comp=Z,22nm,2.5s						
ABKAR	**Akbulak array**	**57.51**	**309**	*eP*	**P**	**14 19 12.1**	**-0.4**
	comp=Z,1.9nm,0.6s						
AKTO	**Aktyubinsk**	**58.14**	**311**	P	**P**	**14 19 15.4**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=68,slow=15,SNR=4.3						
AKTO				LR	LR	14 46 36.6	
	comp=Z,72nm,18.2s,baz=328,slow=38						
WRA	**Warramunga Arr**	**60.14**	**190**	P	**P**	**14 19 30.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=8.5,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**63.87**	**190**	P	**P**	**14 19 55.6**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=3.7,slow=5.3,SNR=9.5						
OBN	**Obninsk**	**66.90**	**323**	*eP*	**P**	**14 20 14.0**	**-1.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**67.14**	**332**	P	**P**	**14 20 17.1**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=57,slow=7.0,SNR=6.0						
AFI	**Afiamalu**	**67.64**	**133**	LR	LR	14 42 13.8	
	comp=Z,24nm,20.6s,baz=326,slow=29						
KIV	**Kislovodsk**	**70.40**	**311**	*eP*	**P**	**14 20 36.8**	**-0.7**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KBZ	**Khabaz**	**70.42**	**311**	P	**P**	**14 20 38.5**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=57,slow=5.2,SNR=4.6						
KBZ	**Khabaz**	**70.42**	**311**	P	**P**	**14 20 38.6**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEY	**Neytrino**	**70.81**	**311**	*eP*	**P**	**14 20 38.6**	**-1.5**
NEY				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HFS	**Hagfors**	**72.23**	**336**	P	**P**	**14 20 48.3**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=60,slow=8.5,SNR=2.7						
NOA	**NORSAR Array B**	**72.25**	**338**	LR	LR	14 55 49.9	
	comp=Z,57nm,20.1s,baz=350,slow=39						
AKASG	**Malin Array Be**	**73.14**	**323**	P	**P**	**14 20 53.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=39,slow=6.2,SNR=4.5						
AKASG	**Malin Array Be**	**73.14**	**323**	*i* P	**P**	**14 20 54.0**	**+0.2**
KIEV	**Kiev**	**73.16**	**323**	*eP*	**P**	**14 20 52.7**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PDAR	**Pinedale Array**	**74.41**	**47**	P	**P**	**14 21 02.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=2.9						
GERES	**GERESS Array B**	**81.23**	**329**	LR	LR	14 59 25.1	
	comp=Z,129nm,18.9s,baz=310,slow=37						
TXAR	**Lajitas Array**	**86.98**	**54**	P	**P**	**14 22 10.8**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=304,slow=1.6,SNR=3.7						

ISK ***31*** *14:29:06.0, 38°.66N×43°.99E, h11km, ML2.7*
CSEM ***31*** *14:29:08.9±0.4, 38°.77N×43°.79E, h5km, MD2.8, Error ellipse: s-maj=8.0km s-min=6.0km az=91.0*
DDA ***31*** *14:29:10.6, 38°.69N×43°.65E, h7km, Md2.8*
ISC 31 14:29:07.4±1.5, 38°.69N±0°.03×43°.87E±0°.05, h3km±11km, n18, σ0°.67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.38**	**322**	*i* P	Pg	14 29 05.0	-10
VMUR				*i* S	Sg	14 29 07.5	-12
VANB	**Van**	**0.39**	**256**	*e*PG	**Pg**	**14 29 15.9**	**+1.0**
VANB				*e*SG	**Sb**	**14 29 23.2**	**-0.2**
VANB	**Van**	**0.39**	**256**	*e*Pg	**Pg**	**14 29 15.9**	**+1.0**
VANB				*e*Sg	**Sb**	**14 29 23.2**	**-0.2**
TVAN	**Van**	**0.40**	**246**	*i* P	**Pg**	**14 29 15.7**	**+0.6**
TVAN				*i* S	**Sg**	**14 29 19.6**	**-0.8**
TVAN	**Van**	**0.40**	**246**	P	**Pg**	**14 29 15.7**	**+0.6**
TVAN				S	**Sg**	**14 29 19.6**	**-0.8**
CLDR	**Caldiran**	**0.45**	**4**	*e*PG	**Pg**	**14 29 16.0**	**-0.2**
CLDR	**Caldiran**	**0.45**	**4**	*e*Pg	**Pg**	**14 29 16.0**	**-0.2**
BASK	**Baskale_VAN**	**0.65**	**171**	*i* P	**Pn**	**14 29 24.1**	**+0.5**
BASK				*i* S	**Sn**	**14 29 34.6**	**+0.3**
BASK	**Baskale_VAN**	**0.65**	**171**	P	**Pn**	**14 29 24.1**	**+0.5**
BASK				S	**Sn**	**14 29 34.7**	**+0.3**
GEVA	**Gevas**	**0.74**	**240**	*i* P	**Pg**	**14 29 19.6**	**-2.0**
GEVA				*i* S	**Sg**	**14 29 31.4**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.91**	**278**	*i* P	**Pg**	**14 29 24.8**	**+0.1**
ADCV				*i* S	**Sg**	**14 29 36.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.91**	**278**	P	**Pg**	**14 29 24.8**	**+0.1**
ADCV				S	**Sg**	**14 29 36.3**	**-0.2**
TUTA	**Tutak**	**1.09**	**311**	*i* P	**Pg**	**14 29 29.0**	**+0.8**
TUTA				*i* S	**Sb**	**14 29 42.9**	**-0.8**
TUTA	**Tutak**	**1.09**	**311**	P	**Pg**	**14 29 29.0**	**+0.8**
TUTA				S	**Sb**	**14 29 42.8**	**-0.8**
AGRB	**Hanur-Agry**	**1.12**	**322**	*e*PN	**Pg**	**14 29 29.1**	**+0.4**
AGRB				*e*SN	**Sn**	**14 29 46.1**	**0.0**
AGRB	**Hanur-Agry**	**1.12**	**322**	*e*Pn	**Pg**	**14 29 29.2**	**+0.4**
AGRB				*e*Sn	**Sn**	**14 29 46.1**	**0.0**
GURO	**Guroymak-BITLI**	**1.45**	**265**	*e*PN	**Pb**	**14 29 35.0**	**-0.1**
GURO	**Guroymak-BITLI**	**1.45**	**265**	*e*Pn	**Pb**	**14 29 35.0**	**-0.1**

CSEM ***31*** *14:31:32.6, 36°.34N×21°.71E, h20km, ML2.0/1*
ATH 31 14:31:32.6, 36°.34N×21°.71E, h20km±3km, ML2.0/1, Error ellipse: s-maj=4.6km s-min=1.5km az=40.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.49**	**360**	P	Pb	14 31 42.8	+0.3
MES2				S	Sb	14 31 49.1	-0.1
MES2	**Methoni**	**0.49**	**360**	P	Pb	14 31 42.6	+0.1
MES2				S	Sb	14 31 49.1	-0.2
MES2				AML	AML	14 31 52.5	
	comp=E,660μm,0.7s						
MES2				AML	AML	14 31 56.9	
	comp=N,578μm,0.5s						
MES2	**

VLI				AML	AML	14 32 10.3	
	comp=N,210μm,0.5s						
VLI				AML	AML	14 32 20.1	
	comp=E,198μm,0.8s						
VLI	**Veliai**	**1.06**	**68**	P	Pn	14 31 53.2	+0.9
VLI				S	Sn	14 32 07.4	+0.9
KYTH	**Kithira**	**1.08**	**93**	P	Pn	14 31 54.0	+1.4
KYTH	**Kithira**	**1.08**	**93**	P	Pn	14 31 53.9	+1.2
VLX	**Vlachokerasia**	**1.16**	**27**	P	Pb	14 31 55.2	+1.1
VLX	**Vlachokerasia**	**1.16**	**27**	P	Pb	14 31 54.9	+0.8
VLX				S	Sn	14 32 10.4	+1.2
VLX				AML	AML	14 32 13.9	
	comp=E,347μm,0.5s						
VLX				AML	AML	14 32 15.5	
	comp=N,393μm,0.6s						
VLX	**Vlachokerasia**	**1.16**	**27**	P	Pb	14 31 55.2	+1.1
TRIP	**Tripoli**	**1.27**	**20**	P	Pb	14 31 56.6	+0.7
TRIP	**Tripoli**	**1.27**	**20**	P	Pb	14 31 57.2	+1.2
TRIP				S	Sb	14 32 18.8	+6.9
TRIP				AML	AML	14 32 21.7	
	comp=E,105μm,0.5s						
TRIP				AML	AML	14 32 22.8	
	comp=N,158μm,0.6s						
TRIP	**Tripoli**	**1.27**	**20**	P	Pb	14 31 56.7	+0.8
ANKY	**Antikythira Is**	**1.37**	**109**	P	Pb	14 31 57.2	-0.3
ANKY	**Antikythira Is**	**1.37**	**109**	P	Pb	14 31 57.9	+0.4
ANKY	**Antikythira Is**	**1.37**	**109**	P	Pb	14 31 57.2	-0.3
DRO	**Drossia**	**1.61**	**360**	P	Pb	14 32 03.1	+1.4
DRO				S	Sb	14 32 27.2	+5.5
DRO				AML	AML	14 32 38.2	
	comp=N,139μm,0.8s						
DRO				AML	AML	14 32 40.9	
	comp=E,143μm,0.8s						
GUR	**Goura**	**1.68**	**17**	P	Pb	14 32 04.5	+1.7
GUR				AML	AML	14 32 33.2	
	comp=E,92μm,0.7s						
GUR				AML	AML	14 32 38.6	
	comp=N,119μm,0.5s						
DID	**Didima**	**1.69**	**46**	P	Pb	14 32 06.1	+3.0
KLV	**Kalavryta, Ach**	**1.74**	**11**	P	Pb	14 32 03.6	-0.3
KLV	**Kalavryta, Ach**	**1.74**	**11**	P	Pb	14 32 03.8	-0.1
KLV	**Kalavryta, Ach**	**1.74**	**11**	P	Pb	14 32 03.6	-0.3
LTK	**Loutraki**	**1.96**	**30**	P	Pb	14 32 10.3	+2.7
KALE	**Kalithea**	**2.08**	**9**	P	Pb	14 32 12.7	+2.9
VIL2	**Platees**	**2.25**	**33**	P	Pb	14 32 13.4	+0.9

*ISCJB **31** 14:43:18.2±1.0, 71°.3N±0°.1×9°.1W±0°.8, h10km, Error ellipse: s-maj=38.0km s-min=6.2km az=158.6*
*BER **31** 14:43:21.6±0.4, 71°.23N×8°.70W, h3km±32km, MD2.4, ML3.3*

ISC 31 14:43:19.5±1.2, 71°.32N±0°.08×8°.7W±0°.2, h10km, n5, σ1§14/8, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.31**	**162**	⇑*iP*	**Pb**	**14 43 26.5**	**-0.7**
JMIC	**Jan Mayen**	**0.34**	**168**	⇑*iP*	**Pg**	**14 43 26.8**	**+0.4**
JMIC				*eS*	**Sg**	**14 43 30.7**	**-0.2**
JMIC				IAML		14 43 31.8	
	comp=Z,4μm,0.6s						
JNE	**Jan Mayen East**	**0.36**	**157**	*eP*	**Pg**	**14 43 27.1**	**+0.4**
JMI	**Jan Mayen**	**0.40**	**180**	⇑*iP*	**Pg**	**14 43 27.8**	**+0.5**
JMI				*eS*	**Sg**	**14 43 32.2**	**-0.3**
JMI				IAML		14 43 34.3	
	comp=Z,3μm,0.2s						
DAG	**Danmarks Havn**	**6.11**	**338**	*i*P	**Pn**	**14 44 51.0**	**+1.3**
DAG				*i*S	**Sn**	**14 45 57.6**	**-1.9**

MEX 31 14:50:58.8±1.1, 16°.03N×99°.17W, h8km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.07**	**322**	*eP*	Pg	14 51 15.0	-4.3
ACX				*eS*	Sg	14 51 28.8	-4.4
PNIG	**Pinotepa**	**1.07**	**70**	*iP*	Pg	14 51 16.3	-3.0
PNIG				*eS*	Sb	14 51 33.6	-0.1
ACP2	**Acapulco**	**1.09**	**321**	*eP*	Pg	14 51 17.9	-1.8
ACP2				*i*S	Sg	14 51 28.3	-5.6
CAIG	**El Cayaco**	**1.46**	**314**	*eP*	Pn	14 51 21.2	-4.3
CAIG				*eP*	Pn	14 51 21.2	-4.3
CAIG				*eS*	Sn	14 51 39.4	-5.5
CAIG				*i*S	Sb	14 51 43.6	-1.4
MEIG	**Mezcala**	**1.94**	**347**	*eP*	Pn	14 51 28.6	-3.5
MEIG				*eS*	Sn	14 51 50.0	-6.7
PLIG	**Platanillo**	**2.37**	**352**	*eP*	Pn	14 51 35.3	-2.8
VHO	**Vista Hermosa**	**2.56**	**66**	*eP*	Pn	14 51 37.9	-2.9
HUIG	**Huatulco**	**2.96**	**95**	*eP*	Pg	14 51 55.2	-0.3
HUIG				*i*S	Sg	14 52 37.8	+3.9

*VIE **31** 14:54:15.6±0.4, 47°.73N×16°.24E, h6km±2km, mb2.2/11, ML2.7/19, Error ellipse: s-maj=2.8km s-min=1.8km az=81.0*
*CSEM **31** 14:54:16.2±0.2, 47°.74N×16°.18E, h2km, ML3.2/22, Error ellipse: s-maj=4.0km s-min=3.0km az=127.0*
*PRU **31** 14:54:17.0, 47°.76N×16°.24E, h0km*

ISC 31 14:54:17.6±0.9, 47°.79N±0°.02×16°.15E±0°.02, h10km±7km, n69, σ1§36/124, 1C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.24**	**306**	Pg	**Pg**	**14 54 22.2**	**-0.4**
CONA				Sg	**Sb**	**14 54 27.4**	**+1.4**
	182nm,0.2s						
ARSA	**Arzberg**	**0.69**	**219**	Pg	**Pg**	**14 54 28.9**	**-2.0**
ARSA				Sg	**Sg**	**14 54 38.6**	**-1.3**
	187nm,0.3s						
SMOL	**Smolenice**	**1.12**	**49**	*e*Pg	**Pn**	**14 54 40.3**	**+1.0**
SMOL				*e*Sg	**Sb**	**14 54 53.9**	**+0.2**
SMOL	**Smolenice**	**1.12**	**49**	*e*	**Pg**	**14 54 37.8**	**-1.3**
SMOL	**Smolenice**	**1.12**	**49**	*e*PG	**Pn**	**14 54 40.3**	**+1.0**
SMOL				*e*SG	**Sb**	**14 54 53.9**	**+0.2**
MOA	**Molln**	**1.27**	**273**	Pn	**Pg**	**14 54 40.9**	**-1.1**
	1.6nm,0.2s						
MOA				Sg	**Sn**	**14 54 59.6**	**+1.0**
	48nm,0.2s						
KOGS	**Kog**	**1.34**	**177**	*e*Pn	**Pn**	**14 54 41.0**	**-1.4**
KOGS	**Kog**	**1.34**	**177**	*e*Pn	**Pn**	**14 54 40.9**	**-1.4**
SOKA	**Soboth**	**1.35**	**215**	Pg	**Pn**	**14 54 41.4**	**-1.1**
	1.2nm,0.3s						
SOKA				Sg	**Sg**	**14 54 59.6**	**-1.3**
	16nm,0.3s						
PERS	**Pernice**	**1.35**	**212**	*i*Pn	**Pn**	**14 54 40.7**	**-1.9**
PERS	**Pernice**	**1.35**	**212**	*i*Pn	**Pn**	**14 54 40.6**	**-1.9**
BEHE	**Becsehely**	**1.39**	**162**	*e*Pn	**Pg**	**14 54 45.3**	**+1.1**
BEHE	**Becsehely**	**1.39**	**162**	*e*Pn	**Pg**	**14 54 45.3**	**+1.1**
BEHE				*e*Sn	**Sn**	**14 55 05.1**	**+3.8**
GROS	**Grobnik**	**1.40**	**199**	*e*Pn	**Pn**	**14 54 41.6**	**-1.7**
GROS	**Grobnik**	**1.40**	**199**	*e*Pn	**Pn**	**14 54 41.5**	**-1.7**
CSKK	**Cs˙‡kako**	**1.49**	**106**	*e*Pn	**Pn**	**14 54 43.9**	**-0.5**
CSKK				*e*Sn	**Sg**	**14 55 05.7**	**+0.2**
CSKK	**Cs˙‡kako**	**1.49**	**106**	*e*Pn	**Pn**	**14 54 43.9**	**-0.5**
CSKK				*e*Sn	**Sg**	**14 55 05.7**	**+0.2**
VRAC	**Vranov**	**1.55**	**11**	*e*Pn	**Pn**	**14 54 43.5**	**-1.7**
VRAC				*e*Sg	**Sn**	**14 55 05.3**	**-0.1**
TREC	**Trest**	**1.57**	**344**	*e*PG	**Pn**	**14 54 45.1**	**-0.4**
TREC				*e*SG	**Sg**	**14 55 08.3**	**+0.2**
	comp=Z,52nm,0.2s						
TREC	**Trest**	**1.57**	**344**	Pg	**Pn**	**14 54 45.1**	**-0.4**
TREC				Sg	**Sg**	**14 55 08.3**	**+0.2**
	52nm,0.2s						
OBKA	**Obir**	**1.68**	**221**	Pg	**Pn**	**14 54 47.4**	**+0.3**
	0.7nm,0.2s						
OBKA				Sg	**Sg**	**14 55 10.8**	**-0.9**
	22nm,0.5s						
VYHS	**Vyhne**	**1.93**	**68**	*e*Pn	**Pn**	**14 54 49.4**	**-1.1**
VYHS	**Vyhne**	**1.93**	**68**	*e*PN	**Pn**	**14 54 49.3**	**-1.2**
VYHS				*e*PG	**Pg**	**14 54 54.0**	**-0.6**
VYHS				*e*SG	**Sg**	**14 55 20.7**	**+1.1**
VYHS				*e*LG	Lg	14 55 30.1	
BUD	**Budapest**	**1.96**	**98**	⇑*e*Pn	**Pg**	**14 54 54.9**	**-0.4**
BUD				*e*Sn	**Sg**	**14 55 26.0**	**+5.3**
KBA	**Koelnbreinsper**	**2.04**	**251**	Pn	**Pn**	**14 54 51.1**	**-0.9**
	0.1nm,0.1s						
KBA				Sg	**Sg**	**14 55 25.1**	**+2.1**
	17nm,0.5s						
MYKA	**Terra Mystica**	**2.07**	**237**	Pg	**Pb**	**14 54 55.2**	**0.0**
	1.2nm,0.2s						
MYKA				Sg	**Sg**	**14 55 24.2**	**+0.2**
	5.5nm,0.4s						

KHC	**Kasperske Hory**	**2.18**	**309**	*e*PG	**Pb**	**14 54 57.7**	**+0.6**
KHC				*ex*	x	14 54 59.6	
KHC				*e*SN	**Sb**	**14 55 23.4**	**-0.7**
KHC				*e*SG	**Sg**	**14 55 27.4**	**-0.2**
	comp=Z,55nm,0.6s						
KHC	**Kasperske Hory**	**2.18**	**309**	Pg	**Pb**	**14 54 57.7**	**+0.6**
KHC				*e*Sn	**Sb**	**14 55 23.4**	**-0.7**
KHC				Sg	**Sg**	**14 55 27.4**	**-0.2**
	55nm,0.6s						
MORC	**Moravsky Berou**	**2.19**	**24**	*e*Pn	**Pn**	**14 54 54.6**	**+0.5**
OZLJ	**Ozalj**	**2.22**	**193**	*e*Pn	**Pn**	**14 54 55.8**	**+1.3**
OZLJ	**Ozalj**	**2.22**	**193**	*e*Pn	**Pn**	**14 54 55.7**	**+1.3**
GOPC	**GO Pecny, Ondr**	**2.31**	**338**	*e*PG	**Pb**	**14 54 58.2**	**-1.2**
GOPC				*e*SN	**Sn**	**14 55 26.2**	**+2.0**
GOPC				*e*SG	**Sg**	**14 55 32.0**	**+0.2**
	comp=Z,31nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.31**	**338**	*e*Pn	**Pb**	**14 54 58.2**	**-1.2**
GOPC				*e*Sn	**Sn**	**14 55 26.2**	**+2.0**
GOPC				Sg	**Sg**	**14 55 32.0**	**+0.2**
	31nm,0.3s						
KRLC	**Kraliky**	**2.33**	**10**	*e*PN	**Pn**	**14 54 55.0**	**-0.9**
KRLC				*e*PG	**Pb**	**14 54 57.5**	**-2.1**
KRLC				*ex*	x	14 55 03.7	
KRLC				*e*SN	**Sn**	**14 55 26.3**	**+1.7**
KRLC	**Kraliky**	**2.33**	**10**	*e*Pn	**Pn**	**14 54 55.0**	**-0.9**
KRLC				*e*Sn	**Sn**	**14 55 26.3**	**+1.7**
OKC	**Ostrava-Krasne**	**2.44**	**32**	*e*PN	**Pn**	**14 54 59.2**	**+1.8**
OKC				*e*SN	**Sn**	**14 55 27.9**	**+0.6**
OKC	**Ostrava-Krasne**	**2.44**	**32**	Pn	**Pn**	**14 54 59.2**	**+1.8**
OKC				*e*Sn	**Sn**	**14 55 27.9**	**+0.6**
PRU	**Pruhonice**	**2.45**	**335**	*e*PN	**Pb**	**14 55 00.6**	**-1.0**
PRU				*e*PG	**Pg**	**14 55 04.0**	**-0.5**
PRU				*ex*	x	14 55 29.9	
PRU				*e*SN	**Sb**	**14 55 31.2**	**-0.6**
PRU				*e*SG	**Sg**	**14 55 36.2**	**+0.1**
	comp=Z,45nm,0.3s						
PRU	**Pruhonice**	**2.45**	**335**	Pn	**Pb**	**14 55 00.6**	**-1.0**
PRU	**Pruhonice**	**2.45**	**335**	Pg	**Pg**	**14 55 04.0**	**-0.5**
PRU				*e*Sn	**Sb**	**14 55 31.2**	**-0.6**
PRU				Sg	**Sg**	**14 55 36.2**	**+0.1**
	45nm,0.3s						
PSZ	**Piszkesteto**	**2.52**	**86**	*e*Pn	**Pn**	**14 54 57.9**	**-0.8**
PSZ				*e*Sn	**Sn**	**14 55 27.6**	**-1.9**
PSZ	**Piszkesteto**	**2.52**	**86**	*e*Pn	**Pn**	**14 54 57.9**	**-0.8**
PSZ				*e*Sn	**Sn**	**14 55 27.6**	**-1.9**
PRA	**Prague**	**2.55**	**334**	*e*SG	**Sg**	**14 55 40.3**	**+0.8**
	comp=Z,28nm,0.4s						
PRA	**Prague**	**2.55**	**334**	Sg	**Sg**	**14 55 40.3**	**+0.8**
	28nm,0.4s						
DPC	**Dobruska-Polom**	**2.57**	**2**	*e*PN	**Pn**	**14 55 00.8**	**+1.6**
DPC				*e*PG	**Pg**	**14 55 05.4**	**-1.4**
DPC				*e*SG	**Sg**	**14 55 39.0**	**-1.0**
	comp=Z,20nm,0.3s						
DPC	**Dobruska-Polom**	**2.57**	**2**	*e*Pn	**Pn**	**14 55 00.8**	**+1.6**
DPC	**Dobruska-Polom**	**2.57**	**2**	Pg	**Pg**	**14 55 05.4**	**-1.4**
DPC				Sg	**Sg**	**14 55 39.0**	**-1.0**
	20nm,0.3s						
LANS	**Liptovska Anna**	**2.59**	**57**	*e*Sn	**Sn**	**14 55 31.2**	**+0.1**
LANS	**Liptovska Anna**	**2.59**	**57**	*e*SN	**Sn**	**14 55 31.2**	**+0.1**
ABTA	**Abfaltersbach**	**2.69**	**249**	Sg	**Sg**	**14 55 44.5**	**+0.6**
	3.3nm,0.3s						
UPC	**Upice**	**2.72**	**358**	*e*PN	**Pn**	**14 55 02.7**	**+1.3**
UPC				*e*PG	**Pg**	**14 55 08.9**	**-0.9**
UPC				*e*SG	**Sg**	**14 55 43.8**	**-1.3**
	comp=Z,17nm,0.3s						
UPC	**Upice**	**2.72**	**358**	*e*Pn	**Pn**	**14 55 02.7**	**+1.3**
UPC	**Upice**	**2.72**	**358**	Pg	**Pg**	**14 55 08.9**	**-0.9**
UPC				Sg	**Sg**	**14 55 43.8**	**-1.3**
	17nm,0.3s						
PVCC	**Panska Ves**	**2.93**	**340**	*ex*	**Sn**	**14 55 43.6**	**+4.1**
PVCC				*e*SG	**Sg**	**14 55 51.7**	**-0.1**
	comp=Z,37nm,0.2s						
PVCC	**Panska Ves**	**2.93**	**340**	Sg	**Sg**	**14 55 51.7**	**-0.1**
	37nm,0.2s						
WTTA	**Wattenberg**	**3.10**	**262**	Pn	**Pn**	**14 55 05.5**	**-1.3**
	0.2nm,0.1s						
WTTA				Sg	**Sg**	**14 55 59.3**	**+2.0**
	7.1nm,0.4s						
WATA	**Walderalm**	**3.13**	**263**	Pg	**Pg**	**14 55 17.2**	**-0.4**
	2.4nm,0.3s						
WATA				Sg	**Sg**	**14 55 59.1**	**+0.9**
	2.6nm,0.2s						
UDBI	**Udbina**	**3.27**	**185**	*e*Pn	**Pn**	**14 55 07.8**	**-1.1**
UDBI	**Udbina**	**3.27**	**185**	*e*Pn	**Pn**	**14 55 07.8**	**-1.1**
NVLJ	**Novalja**	**3.35**	**196**	*e*Pn	**Pn**	**14 55 07.7**	**-2.2**
NVLJ	**Novalja**	**3.35**	**196**	*e*Pn	**Pn**	**14 55 07.7**	**-2.2**
BRG	**Berggiesshubel**	**3.41**	**336**	PN	**Pb**	**14 55 19.3**	**+1.2**
BRG				*i*		14 55 25.9	
BRG	**Berggiesshubel**	**3.41**	**336**	SG	**Sg**	**14 56 06.2**	**-0.8**
	28nm,0.3s						
MOTA	**Moosalm**	**3.45**	**264**	Pn	**Pn**	**14 55 10.2**	**-1.2**
	0.7nm,0.2s						
MOTA				Sg	**Sg**	**14 56 09.6**	**+1.3**
	8.0nm,0.6s						
NKC	**Novy Kostel**	**3.46**	**316**	*e*PG	**Pg**	**14 55 23.7**	**-0.1**
NKC				*e*SN	**Sn**	**14 55 53.7**	**+1.3**
NKC				*e*SG	**Sg**	**14 56 07.3**	**-1.2**
	comp=Z,34nm,0.5s						
RETA	**Reutte**	**3.66**	**267**	Pn	**Pn**	**14 55 13.2**	**-1.1**
	0.5nm,0.2s						
RETA				Sg	**Sg**	**14 56 16.2**	**+1.2**
	5.3nm,0.3s						
FETA	**Feichten**	**3.76**	**260**	Pn	**Pn**	**14 55 15.5**	**-0.3**
FETA				Sg	**Sg**	**14 56 20.2**	**+1.8**
	2.6nm,0.6s						
CLL	**Collm**	**4.08**	**331**	*e*Pn	**Pn**	**14 55 22.0**	**+2.1**
CLL				*e*Sn	**Sn**	**14 56 08.0**	**+0.4**
CLL				*e*Sg	**Sg**	**14 56 29.0**	**+0.6**
	comp=Z,42nm,1.2s						
DAVA	**Damuels**	**4.28**	**266**	Pg	**Pg**	**14 55 38.4**	**-1.1**
	comp=Z,1.3nm,0.2s						
DAVA				Sg	**Sg**	**14 56 37.1**	**+2.2**
	comp=Z,5.0nm,0.3s						

*ISCJB **31** 15:01:02.9±0.5, 38°.73N±0°.02×43°.59E±0°.04, h11km±4km, Error ellipse: s-maj=5.3km s-min=3.6km az=3.0*
*CSEM **31** 15:01:02.3±0.2, 38°.70N×43°.59E, h5km, ML3.0, Error ellipse: s-maj=5.2km s-min=3.8km az=97.0*
*DDA **31** 15:01:02.1, 38°.72N×43°.61E, h7km, Ml3.3*
*ISK **31** 15:01:02.6, 38°.72N×43°.51E, h5km, ML3.0*

ISC 31 15:01:02.1±1.0, 38°.71N±0°.02×43°.57E±0°.02, h14km±8km, n44, σ0§86/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**230**	*e*PG	**Pb**	**15 01 07.6**	**+0.3**
VANB	**Van**	**0.18**	**230**	*e*Pg	**Pb**	**15 01 07.6**	**+0.3**
TVAN	**Van**	**0.22**	**214**	*i*P	**Pb**	**15 01 07.7**	**-0.4**
TVAN				*i*S	**Sb**	**15 01 12.6**	**+0.6**
TVAN	**Van**	**0.22**	**214**	P	**Pb**	**15 01 07.7**	**-0.4**
TVAN				S	**Sb**	**15 01 12.6**	**+0.6**
VMUR	**Van-Muradiye**	**0.28**	**1**	*i*P	**Pg**	**15 01 07.6**	**-0.5**
VMUR				*i*S	**Sb**	**15 01 13.0**	**-0.6**
VMUR	**Van-Muradiye**	**0.28**	**1**	P	**Pg**	**15 01 07.6**	**-0.5**
VMUR				S	**Sb**	**15 01 13.0**	**-0.6**
ERCV	**ERCIS-VAN**	**0.35**	**330**	*e*PG	**Pb**	**15 01 09.9**	**-0.4**
ERCV	**ERCIS-VAN**	**0.35**	**330**	*e*Pg	**Pb**	**15 01 09.9**	**-0.4**
CLDR	**Caldiran**	**0.51**	**32**	*e*PG	**Pb**	**15 01 13.2**	**+0.2**
CLDR				*e*SG	**Sb**	**15 01 21.0**	**+0.6**
CLDR	**Caldiran**	**0.51**	**32**	*i*P	**Pg**	**15 01 11.6**	**-0.7**
CLDR				*i*S	**Sg**	**15 01 19.9**	**+0.7**
CLDR	**Caldiran**	**0.51**	**32**	P	**Pg**	**15 01 11.6**	**-0.7**
CLDR	**Caldiran**	**0.51**	**32**	*e*Pg	**Pb**	**15 01 13.2**	**+0.2**
CLDR				S	**Sg**	**15 01 19.9**	**+0.7**
CLDR				*e*Sg	**Sb**	**15 01 21.0**	**+0.6**
GEVA	**Gevas**	**0.56**	**225**	*i*P	**Pb**	**15 01 13.6**	**-0.2**
GEVA				*i*S	**Sn**	**15 01 25.0**	**-0.1**
GEVA	**Gevas**	**0.56**	**225**	P	**Pb**	**15 01 13.6**	**-0.2**
GEVA				S	**Sn**	**15 01 25.0**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**279**	*i*P	**Pn**	**15 01 15.8**	**-1.5**
ADCV				*i*S	**Sn**	**15 01 26.9**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.66**	**279**	P	**Pn**	**15 01 15.8**	**-1.5**
ADCV				S	**Sn**	**15 01 26.9**	**-0.7**
BASK	**Baskale_VAN**	**0.74**	**152**	*i*P	**Pg**	**15 01 16.0**	**-0.6**
BASK				*i*S	**Sb**	**15 01 27.6**	**+0.6**
BASK	**Baskale_VAN**	**0.74**	**152**	P	**Pg**	**15 01 16.0**	**-0.6**
BASK				S	**Sb**	**15 01 27.6**	**+0.6**
DYDN	**Diyadin**	**0.84**	**7**	*i*P	**Pg**	**15 01 17.7**	**-0.7**
DYDN	**Diyadin**	**0.84**	**7**	P	**Pg**	**15 01 17.7**	**-0.7**
TUTA	**Tutak**	**0.90**	**320**	*i*P	**Pb**	**15 01 19.2**	**-0.5**
TUTA				*i*S	**Sb**	**15 01 32.0**	**+0.3**
TUTA	**Tutak**	**0.90**	**320**	P	**Pb**	**15 01 19.2**	**-0.5**
TUTA				S	**Sb**	**15 01 32.0**	**+0.3**
AGRB	**Hanur-Agry**	**0.97**	**333**	*e*PG	**Pn**	**15 01 21.5**	**0.0**
AGRB				*e*SG	**Sg**	**15 01 33.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.97**	**333**	*e*Pg	**Pn**	**15 01 21.5**	**0.0**
AGRB				*e*Sg	**Sg**	**15 01 33.7**	**+0.1**
TATV	**Tatvan**	**1.04**	**259**	*i*P	**Pn**	**15 01 21.6**	**-0.8**
TATV				*i*S	**Sn**	**15 01 35.6**	**-1.2**
TATV	**Tatvan**	**1.04**	**259**	P	**Pn**	**15 01 21.6**	**-0.8**
TATV				S	**Sn**	**15 01 35.6**	**-1.2**
HAKT	**HAKKARI**	**1.16**	**174**	*i*P	**Pb**	**15 01 23.2**	**-0.8**
HAKT				*i*S	**Sn**	**15 01 41.5**	**+1.7**
HAKT	**HAKKARI**	**1.16**	**174**	P	**Pb**	**15 01 23.2**	**-0.8**
HAKT				S	**Sn**	**15 01 41.5**	**+1.7**
GURO	**Guroymak-BITLI**	**1.21**	**263**	*e*PN	**Pg**	**15 01 25.0**	**-0.4**
GURO	**Guroymak-BITLI**	**1.21**	**263**	*e*Pn	**Pg**	**15 01 25.0**	**-0.4**
EKAR	**Karacoban**	**1.29**	**295**	*i*P	**Pg**	**15 01 29.0**	**+2.1**
EKAR	**Karacoban**	**1.29**	**295**	P	**Pg**	**15 01 29.0**	**+2.1**
TASB	**TASBURUN-IGDIR**	**1.37**	**22**	*e*PN	**Pg**	**15 01 29.5**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.37**	**22**	*e*Pn	**Pg**	**15 01 29.5**	**+1.0**
EATA	**Eleskirt**	**1.42**	**324**	*i*P	**Pg**	**15 01 29.1**	**-0.3**
EATA				*i*S	**Sg**	**15 01 50.1**	**+2.2**
EATA	**Eleskirt**	**1.42**	**324**	P	**Pg**	**15 01 29.1**	**-0.3**
EATA				S	**Sg**	**15 01 50.1**	**+2.2**
CUKT	**Cukurca**	**1.46**	**179**	*e*PN	**Pg**	**15 01 29.8**	**-0.4**
CUKT	**Cukurca**	**1.46**	**179**	*e*Pn	**Pg**	**15 01 29.8**	**-0.4**
SRTM	**Siirt_Merkez**	**1.48**	**241**	*i*P	**Pg**	**15 01 30.7**	**+0.2**
SRTM	**Siirt_Merkez**	**1.48**	**241**	P	**Pg**	**15 01 30.7**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.07**	**333**	*e*PN	**Pb**	**15 01 39.1**	**-0.5**
SENK	**Senkaya-Erzuru**	**2.07**	**333**	*e*Pn	**Pb**	**15 01 39.1**	**-0.5**
BNGB	**Bing˙¶l**	**2.27**	**278**	*e*PN	**Pb**	**15 01 41.7**	**-1.2**
BINT	**Bingol**	**2.41**	**275**	*e*Pn	**Pn**	**15 01 41.7**	**+0.5**

IDC 31 15:04:02.2±2.0, 10°.28S×120°.89E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.5/28, mbtmp3.5/4, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/37, Error ellipse: s-maj=160.5km s-min=26.2km az=54.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.04**	**150**	Pn	Pn	15 06 13.5	-0.5
	0.4nm,0.3s,baz=326,slow=7.4,SNR=21						
FITZ				Sn	Sn	15 07 38.9	-18
	0.5nm,0.3s,baz=341,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**16.14**	**128**	Pn	Pn	15 07 50.8	+0.2
	0.1nm,0.3s,baz=306,slow=13,SNR=7.5						
WRA				Sn	Sn	15 10 33.3	-17
	0.3nm,0.3s,baz=298,slow=26,SNR=4.9						
ASAR	**Alice Springs**	**18.20**	**139**	P	P	15 08 17.1	+0.3
	0.1nm,0.3s,baz=315,slow=12,SNR=16						
ASAR				S	Sn	15 11 23.6	-17
	0.1nm,0.3s,baz=315,slow=23,SNR=6.0						
ASAR				LR	LR	15 14 53.4	
	comp=Z,23nm,19.4s,baz=149,slow=36						
MKAR	**Makanchi Array**	**66.44**	**332**	P	P	15 14 53.2	-0.1
	0.3nm,0.5s,baz=129,slow=5.1,SNR=4.5						

*NIED **31** 15:17:00, 24°.80N×121°.90E, h86km, Mw4.1 Best double couple: M0 1.78000×10^15 NP1:φs 38.00000°, δ69.00000°, λ180.00000°. NP2:φs 128.00000°, δ90.00000°, λ21.00000°.*
*BJI **31** 15:17:00.4, 24°.93N×121°.84E, h34km, mb4.2/10, mB4.2/5, ML4.0/6*
*ISCJB **31** 15:17:02.9±0.2, 24°.90N±0°.02×121°.96E±0°.02, h102km±1km, mb4.0/28, Error ellipse: s-maj=3.4km s-min=2.2km az=151.7*
*NEIC **31** 15:17:03.5±0.6, 24°.81N×122°.00E, h98km±6km, mb4.2/5, Error ellipse: s-maj=12.8km s-min=10.6km az=103.0*
NEIC Felt [II] at Taipei. Also felt at Sanchung and Taoyuan. Recorded [2 TAP] at Taipei and in Hualien, Miaoli, Nantou, Taoyuan and Yilan; [1 TAP] in Changhua, Hsinchu and Yunlin.
*JMA **31** 15:17:03.4±0.2, 24°.82N×121°.91E, h96km±2km, M3.9*
*TAP **31** 15:17:04.2, 24°.85N×121°.94E, h92km, ML5.0, B*
*IDC **31** 15:17:05.1±0.8, 24°.92N×122°.06E, h112km±6km, mb3.7/24, mb1 3.8/25, mb1mx3.7/61, mbtmp4.1/25, MS2.9/3, Ms1 2.9/3, ms1mx2.5/48, Error ellipse: s-maj=14.1km s-min=10.2km az=76.0*

**ISC 31 15:17:04.1±0.5, 24°.87N±0°.03×121°.95E±0°.02, h101km±3km, n140, σ1§19/210, mb4.0/28,

HWA	**Hwalien**	**0.94 199**	*e*P	**Pn**	**15 17 23.3**	**-0.6**
	baz=186					
HWA			*e*S	**Sn**	**15 17 37.9**	**-1.0**
	baz=186					
WHF	**Hehuan Shan**	**0.95 221** ⇓	*i*P	**Pn**	**15 17 24.3**	**-0.2**
	baz=214					
JYNG	**Yonaguni jima**	**1.00 115**	P	**Pn**	**15 17 23.9**	**-0.6**
JYNG			S	**Sn**	**15 17 38.5**	**-1.4**
YOJ	**Yonaguni jima**	**1.05 113** ⇓	*i*P	**Pn**	**15 17 24.5**	**-0.6**
	baz=115					
YOJ			*e*S	**Sn**	**15 17 39.4**	**-1.5**
	baz=115					
YOJ	**Yonaguni jima**	**1.05 113**	P	**Pn**	**15 17 24.5**	**-0.6**
YOJ			S	**Sn**	**15 17 39.4**	**-1.5**
YOJ	**Yonaguni jima**	**1.05 113**	*e*Pg	**Pn**	**15 17 24.3**	**-0.8**
ESF	**Shoufeng Towns**	**1.07 202**	*e*P	**Pn**	**15 17 24.7**	**-0.7**
	baz=208					
ESL	**Shilin**	**1.15 204** ⇓	P	**Pn**	**15 17 24.6**	**-1.6**
	baz=203					
NSY	**Sanyi**	**1.17 247** ⇓	*i*P	**Pn**	**15 17 26.8**	**+0.3**
	baz=246					
NSY			S	**Sn**	**15 17 43.2**	**-0.2**
	baz=246					
TWQ1	**Liyutan**	**1.19 244** ⇓	*i*P	**Pn**	**15 17 26.7**	**0.0**
	baz=243					
TWQ1			S	**Sn**	**15 17 42.7**	**-1.1**
	baz=243					
TEGC	**Jichi Village**	**1.22 198**	*e*P	**Pn**	**15 17 27.4**	**+0.5**
	baz=189					
TEGC			*e*S	**Sn**	**15 17 44.9**	**+0.6**
	baz=189					
TCU	**Taichung**	**1.36 238** ⇓	P	**Pn**	**15 17 29.0**	**+0.3**
	baz=236					
TCU			S	**Sn**	**15 17 46.2**	**-1.2**
	baz=236					
SMLT	**Sun Moon Lake**	**1.37 224**	*e*P	**Pn**	**15 17 29.3**	**+0.3**
	baz=229					
SMLT			S	**Sn**	**15 17 47.4**	**-0.4**
	baz=229					
TYC	**Yuchr**	**1.39 226**	P	**Pn**	**15 17 29.2**	**+0.2**
	baz=224					
TYC			*i* S	**Sn**	**15 17 47.5**	**-0.3**
	baz=224					
SSLB	**Suanglung**	**1.41 220**	*e*Pg	**Pn**	**15 17 29.2**	**-0.1**
EHY	**Hungye**	**1.48 203**	*e*P	**Pn**	**15 17 28.2**	**-1.9**
	baz=201					
WNT	**Mingjian**	**1.52 230**	*e*P	**Pn**	**15 17 30.9**	**+0.3**
	baz=236					
WNT			*e*S	**Sn**	**15 17 50.6**	**-0.1**
	baz=236					
YULB	**Yu-li**	**1.59 202**	*e*Pn	**Pn**	**15 17 29.4**	**-2.1**
TWF1	**Yuli**	**1.63 202**	*e*P	**Pn**	**15 17 30.2**	**-1.7**
	baz=204					
YUS	**Yu-Shan**	**1.65 214** ⇓	P	**Pn**	**15 17 33.2**	**+0.5**
	baz=206					
YUS			*e*S	**Sn**	**15 17 54.1**	**-0.3**
	baz=206					
IRIF	**Iriomote-Funau**	**1.71 108**	P	**Pn**	**15 17 32.2**	**-0.7**
IRIF			*e*S	**Sn**	**15 17 53.9**	**-1.0**
ALS	**Alishan**	**1.71 218** ⇑	*e*P	**Pn**	**15 17 33.7**	**+0.4**
	baz=224					
ALS			*e*S	**Sn**	**15 17 56.8**	**+1.3**
	baz=224					
CHN5	**Tsauling**	**1.72 223**	*e*P	**Pn**	**15 17 33.3**	**+0.1**
	baz=221					
WGK	**Gukeng**	**1.73 227** ⇑	P	**Pn**	**15 17 33.7**	**+0.5**
	baz=234					
WGK			S	**Sn**	**15 17 55.8**	**+0.3**
	baz=234					
WTCT	**Ta-ch'eng**	**1.82 237** ⇓	P	**Pn**	**15 17 34.1**	**-0.2**
	baz=234					
WTCT			S	**Sn**	**15 17 56.4**	**-1.1**
	baz=234					
CHKT	**Chengkung**	**1.84 197** ⇓	P	**Pn**	**15 17 33.6**	**-1.0**
	baz=195					
CHKT			*e*S	**Sn**	**15 17 55.0**	**-3.0**
	baz=195					
HATJ	**Hateruma jima**	**1.88 115**	P	**Pn**	**15 17 35.2**	**+0.1**
HATJ			*e*S	**Sn**	**15 17 57.7**	**-1.0**
ELDTW	**Lidau**	**1.88 207**	*e*P	**Pn**	**15 17 34.7**	**-0.6**
	baz=197					
ELDTW			*e*S	**Sn**	**15 17 57.9**	**-1.1**
	baz=197					
CHN2	**Minshiung**	**1.90 226**	*e*P	**Pn**	**15 17 35.2**	**-0.1**
	baz=232					
CHN2			*e*S	**Sn**	**15 17 59.6**	**+0.5**
	baz=232					
CHY	**Chiayi**	**1.95 226**	*e*P	**Pn**	**15 17 36.2**	**+0.2**
	baz=232					
CHY			*e*S	**Sn**	**15 18 00.0**	**-0.4**
	baz=232					
CHN4	**Tsaushan**	**1.96 220** ⇑	P	**Pn**	**15 17 36.6**	**+0.5**
	baz=218					
CHN4			*e*S	**Sn**	**15 18 01.5**	**+0.9**
	baz=218					
TPUB	**Ta-pu**	**1.98 218**	*e*Pn	**Pn**	**15 17 36.4**	**0.0**
JKRS	**Kuro-shima**	**1.98 108**	P	**Pn**	**15 17 36.5**	**+0.1**
JKRS			*e*S	**Sn**	**15 18 00.1**	**-1.0**
WSF	**Szhu**	**2.00 232**	*e*P	**Pn**	**15 17 36.4**	**-0.3**
	baz=230					
WSF			*e*S	**Sn**	**15 18 01.3**	**-0.2**
	baz=230					
STYT	**Tauyuan**	**2.02 213** ⇑	*i*P	**Pn**	**15 17 37.6**	**+0.6**
	baz=221					
STYT			*e*S	**Sn**	**15 18 03.0**	**+0.9**
	baz=221					
WTP	**Ta-pu**	**2.03 217** ⇑	P	**Pn**	**15 17 37.3**	**+0.2**
	baz=216					
WTP			*e*S	**Sn**	**15 18 02.4**	**+0.1**
	baz=216					
JIJ	**Ishigaki jima**	**2.06 104**	P	**Pn**	**15 17 36.9**	**-0.5**
JIJ			S	**Sn**	**15 18 01.2**	**-1.7**
TWK	**Hsinying**	**2.08 220** ⇑	*i*P	**Pn**	**15 17 38.0**	**+0.2**
	baz=218					
CHN1	**Nanshi**	**2.12 218** ⇑	*i*P	**Pn**	**15 17 38.5**	**+0.2**
	baz=216					
CHN1			*e*S	**Sn**	**15 18 03.9**	**-0.6**
	baz=216					
JISG	**Ishigakijimahi**	**2.17 97**	P	**Pn**	**15 17 38.6**	**-0.2**
JISG			S	**Sn**	**15 18 05.0**	**-0.4**
SGST	**Jiashian**	**2.18 215** ⇑	*i*P	**Pn**	**15 17 39.5**	**+0.5**
	baz=221					
SGST			S	**Sn**	**15 18 05.5**	**-0.2**
	baz=221					
TWG	**Pinlang**	**2.19 202**	*e*P	**Pn**	**15 17 37.6**	**-1.6**
	baz=191					
TWG			*e*S	**Sn**	**15 18 03.2**	**-2.8**
	baz=191					
TWG	**Pinlang**	**2.19 202**	*e*Pn	**Pn**	**15 17 37.1**	**-2.1**
CHN8	**Yiju**	**2.20 227**	*e*P	**Pn**	**15 17 39.3**	**+0.1**
	baz=233					
CHN8			*e*S	**Sn**	**15 18 06.0**	**-0.1**
	baz=233					
TTN	**Taitung**	**2.23 199**	*e*P	**Pn**	**15 17 37.1**	**-2.6**
	baz=191					
TTN			*e*S	**Sn**	**15 18 06.6**	**-0.3**
	baz=191					
CHN3	**Shinhua**	**2.30 219**	*e*P	**Pn**	**15 17 41.4**	**+0.8**
	baz=217					
CHN3			*e*S	**Sn**	**15 18 09.6**	**+1.1**
	baz=217					
SCLT	**Jiali**	**2.33 224**	*e*P	**Pn**	**15 17 41.1**	**+0.2**
	baz=221					
SCLT			*e*S	**Sn**	**15 18 09.2**	**-0.1**
	baz=221					
TAI1	**Yung-k'ang**	**2.41 221** ⇑	*i*P	**Pn**	**15 17 42.5**	**+0.6**
	baz=219					
TAI1			*e*S	**Sn**	**15 18 10.8**	**-0.3**
	baz=219					
SSD	**Sandimen**	**2.44 210**	*e*S	**Sn**	**15 18 14.2**	**+2.5**
	baz=208					
ECL	**Taimali**	**2.44 202**	*e*P	**Pn**	**15 17 41.0**	**-1.4**
	baz=193					
TWM1	**Shoushan**	**2.47 215** ⇑	P	**Pn**	**15 17 44.2**	**+1.3**
	baz=213					
JTJ	**Tarama**	**2.51 95**	P	**Pn**	**15 17 44.0**	**+0.7**
JTJ			S	**Sn**	**15 18 13.6**	**+0.1**
SGLT	**Jiouru**	**2.52 212**	*e*P	**Pn**	**15 17 42.4**	**-1.0**
	baz=209					
PNG	**Penghu**	**2.54 240** ⇑	*e*P	**Pn**	**15 17 42.7**	**-1.1**
	baz=238					
WDGT	**Dungji**	**2.64 233** ⇓	P	**Pn**	**15 17 44.8**	**-0.2**
	baz=229					
WDGT			*e*S	**Sn**	**15 18 14.4**	**-2.1**
	baz=229					
EAST	**Anshuo**	**2.67 202** ⇓	*e*P	**Pn**	**15 17 44.8**	**-0.8**
	baz=192					
EAST			*e*S	**Sn**	**15 18 14.8**	**-2.7**
	baz=192					
TAW	**Tawu**	**2.68 201**	*e*P	**Pn**	**15 17 44.2**	**-1.4**
	baz=192					
TAW			*e*S	**Sn**	**15 18 14.8**	**-2.7**
	baz=192					
SCZT	**Fangliau**	**2.77 206** ⇑	*i*P	**Pn**	**15 17 47.3**	**+0.5**
	baz=205					
SCZT			*e*S	**Sn**	**15 18 20.1**	**+0.4**
	baz=205					
LAY	**Lan-yu**	**2.84 187**	*e*P	**Pn**	**15 17 46.5**	**-1.3**
	baz=185					
TWP	**Hsiaoliuchiu**	**2.91 210**	*e*P	**Pn**	**15 17 50.2**	**+1.7**
	baz=218					
JIRB	**Irabujima**	**2.93 90**	P	**Pn**	**15 17 49.6**	**+0.7**
JIRB			S	**Sn**	**15 18 24.0**	**+0.6**
JMJ	**Miyako jima 2**	**3.04 90**	*e*P	**Pn**	**15 17 51.8**	**+1.5**
	baz=91					
QZH	**Quanzhou**	**3.05 272** ⇑	*i*P	**Pn**	**15 17 48.8**	**-1.6**
QZH			S	**Sn**	**15 18 22.0**	**-4.2**
QZH			smax	smax		
	comp=N,1μm,0.8s					
QZH			smax	smax		
	comp=E,740nm,0.5s					
HEN	**Hengchun**	**3.06 202**	*e*P	**Pn**	**15 17 51.0**	**+0.3**
	baz=208					
TWK1	**Hengchun**	**3.10 200**	*e*P	**Pn**	**15 17 50.8**	**-0.3**
	baz=197					
TSEB	**Hengchuen, Pin**	**3.11 198**	*e*P	**Pn**	**15 17 50.3**	**-1.0**
	baz=196					
JOGS	**Gusukube**	**3.14 91**	S	**Sn**	**15 18 29.6**	**+1.1**
KNM	**Kinmen**	**3.23 263**	*e*P	**Pn**	**15 17 53.6**	**+0.8**
	baz=261					
JKE	**Kume jima 2**	**4.60 71**	P	**Pn**	**15 18 12.5**	**+1.1**
JAGN	**Aguni-jima**	**5.07 69**	P	**Pn**	**15 18 18.7**	**+1.0**
JAGN			*e*S	**Sn**	**15 19 16.6**	**+1.5**
JJT2	**Tamagusuku 2**	**5.39 75**	P	**Pn**	**15 18 22.5**	**+0.4**
JNTH	**Nagotoyohara**	**5.72 72**	P	**Pn**	**15 18 26.4**	**-0.1**
JIH	**Iheya**	**5.83 67**	P	**Pn**	**15 18 28.3**	**+0.3**
JOW	**Kunigami**	**6.02 70**	*e*P	**Pn**	**15 18 30.2**	**-0.5**
	baz=71					
JOW	**Kunigami**	**6.02 70**	P	**Pn**	**15 18 30.1**	**-0.5**
JOKE	**Okinoerabujima**	**6.45 66**	P	**Pn**	**15 18 35.6**	**-0.8**
JTK	**Tokunoshima**	**6.92 64**	P	**Pn**	**15 18 41.9**	**-0.9**
JAMN	**Amaminishikomi**	**7.29 61**	P	**Pn**	**15 18 46.8**	**-1.0**
JAM	**Amami Oshima**	**7.70 61**	P	**Pn**	**15 18 52.1**	**-1.4**
KSRS	**Korea Array**	**13.54 21**	P	**Pn**	**15 20 09.9**	**-2.0**
	0.1nm,0.3s,baz=201,slow=12,SNR=3.1					
KSRS			LR	LR	15 25 39.2	
	comp=Z,30nm,18.7s,baz=246,slow=38					
XAN	**Xi'an**	**14.56 312**	P	**P**	**15 20 29.5**	**+0.7**
MDJ	**Mudanjiang**	**20.66 16**	*e*P	**P**	**15 21 36.7**	**+1.1**
	5.9nm,0.6s					
USRK	**Ussurivsk Ar.**	**20.95 21**	P	**P**	**15 21 39.6**	**+0.9**
	2.5nm,0.6s,baz=210,slow=14,SNR=10					
CHTO	**Chiang Mai**	**22.17 259**	*e*P	**P**	**15 21 53.1**	**+1.1**
	6.1nm,1.3s					
CMAR	**Chiang Mai Arr**	**22.30 258**	P	**P**	**15 21 54.8**	**+1.4**
	2.5nm,0.8s,baz=63,slow=8.6,SNR=22					
CMAR			pP	**pP**	**15 22 17.8**	**+4.8**
	1.0nm,0.8s,baz=58,slow=7.9,SNR=3.2					
CMAR			ScP	**ScP**	**15 29 14.2**	**+0.3**
	0.2nm,0.4s,baz=49,slow=2.7,SNR=4.3					
CMAR			LR	LR	15 31 28.6	
	comp=Z,23nm,18.9s,baz=324,slow=38					
GTA	**Gaotai**	**23.61 313**	*e*P	**P**	**15 22 07.8**	**+1.8**
GTA			pP	pP	15 22 13.5	-13
GTA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
KLR	**Kul'dur**	**25.50 15**	P	**P**	**15 22 23.8**	**+1.0**
	0.8nm,0.6s,baz=229,slow=7.4,SNR=22					
KLR			PcP	**PcP**	**15 25 51.7**	**-0.2**
	0.1nm,0.5s,baz=204,slow=1.4,SNR=4.0					
ASAJ	**Asahikawa**	**25.53 36**	P	**P**	**15 22 22.6**	**-0.5**
	0.9nm,0.4s,baz=331,slow=19,SNR=3.6					
ASAJ			pP	**pP**	**15 22 47.0**	**+1.5**
	2.7nm,0.7s,baz=212,slow=14,SNR=2.5					
ULN	**Ulaanbaatar**	**25.80 337**	P	**P**	**15 22 25.0**	**-0.8**
SONM	**Songino Array**	**26.02 336**	P	**P**	**15 22 28.5**	**+0.8**
	3.2nm,0.8s,baz=154,slow=9.7,SNR=11					
SONM			pP	**pP**	**15 22 52.4**	**+2.4**
	2.3nm,0.7s,baz=161,slow=9.8,SNR=4.9					
LSA	**Lhasa**	**27.75 287**	P	**P**	**15 22 45.2**	**+1.4**
	3.2nm,0.6s					
MKAR	**Makanchi Array**	**38.34 315**	P	**P**	**15 24 15.4**	**+0.3**
	2.7nm,0.5s,baz=101,slow=10,SNR=43					
MKAR			pP	**pP**	**15 24 38.8**	**+0.6**
	0.6nm,0.5s,baz=96,slow=10,SNR=2.1					
PETK	**Petropavlovsk-**	**38.91 34**	LR	LR	15 41 14.9	
	comp=Z,24nm,19.3s,baz=103,slow=37					
ZALV	**Zalesovo Beam**	**40.05 326**	P	**P**	**15 24 28.6**	**-0.6**
	1.7nm,0.5s,baz=120,slow=8.8,SNR=8.7					
KURBB	**Kurchatov Arra**	**42.04 319**	P	**P**	**15 24 45.7**	**+0.2**
	0.6nm,0.4s,baz=107,slow=10.0,SNR=21					
AAK	**Ala-Archa**	**42.65 307**	P	**P**	**15 24 52.1**	**+1.3**
	1.0nm,0.6s,baz=136,slow=8.2,SNR=5.1					
COEN	**Coen**	**43.80 149**	*e*P	**P**	**15 25 00.3**	**+0.2**
MBWA	**Marble Bar**	**45.81 183**	*e*P	**P**	**15 25 13.3**	**-2.5**
	54nm,1.0s					
WRA	**Warramunga Arr**	**46.15 164**	P	**P**	**15 25 18.1**	**-0.5**
	1.7nm,0.4s,baz=346,slow=8.6,SNR=13					
WRA			pP	**pP**	**15 25 44.6**	**+2.2**
	1.1nm,0.7s,baz=346,slow=8.6,SNR=2.4					
TIXI	**Tiksi**	**46.97 3**	P	**P**	**15 25 23.5**	**-1.0**
	5.1nm,0.8s,baz=156,slow=4.7,SNR=18					
TIXI	**Tiksi**	**46.97 3**	*e*P	**P**	**15 25 23.4**	**-1.0**
	7.1nm,0.9s					
BVAR	**Borovoye Array**	**47.59 320**	P	**P**	**15 25 29.8**	**+0.2**
	0.5nm,0.3s,baz=109,slow=10,SNR=8.4					
BVAR			PcP	**PcP**	**15 26 56.8**	**-0.9**
	0.5nm,0.5s,baz=105,slow=3.3,SNR=4.2					
NRIK	**Noril'sk**	**48.92 345**	P	**P**	**15 25 38.5**	**-1.0**
	3.2nm,0.8s,baz=136,slow=6.5,SNR=4.6					
ASAR	**Alice Springs**	**49.62 166**	P	**P**	**15 25 45.9**	**+0.5**
	0.9nm,0.5s,baz=345,slow=11,SNR=17					
ASAR			PcP	**PcP**	**15 27 04.3**	**-1.2**
	0.6nm,0.5s,baz=343,slow=3.6,SNR=4.4					
ABKAR	**Akbulak array**	**53.46 314**	*e*P	**P**	**15 26 13.8**	**0.0**
	1.1nm,0.3s					
GEYT	**Alibeck**	**55.05 300**	P	**P**	**15 26 27.2**	**+1.6**
	2.5nm,0.8s,baz=52,slow=2.4,SNR=5.7					
STKA	**Stephens Creek**	**59.47 161**	P	**P**	**15 26 56.4**	**-0.1**
	1.7nm,0.5s,baz=337,slow=7.3,SNR=6.3					
ILAR	**Eielson Array**	**68.28 27**	P	**P**	**15 27 53.0**	**-0.9**
	0.4nm,0.5s,baz=273,slow=5.7,SNR=9.4					
SPITS	**Spitsbergen Ar**	**68.96 348**	P	**P**	**15 27 56.5**	**-1.4**
	7.6nm,0.9s,baz=79,slow=9.0,SNR=3.9					
ARCES	**ARCESS Array B**	**69.16 338**	P	**P**	**15 27 58.4**	**-0.9**
	1.7nm,0.8s,baz=67,slow=6.9,SNR=3.4					
FINES	**FINESS Array B**	**71.21 330**	P	**P**	**15 28 11.2**	**-0.6**
	2.6nm,0.9s,baz=68,slow=5.6,SNR=7.1					
AKASG	**Malin Array Be**	**72.82 318**	P	**P**	**15 28 20.1**	**-1.5**
	0.6nm,0.4s,baz=60,slow=6.4,SNR=4.8					
BRTR	**Keskin Array B**	**73.33 306**	P	**P**	**15 28 25.6**	**+0.5**
	2.0nm,0.8s,baz=106,slow=4.0,SNR=8.4					
NB2	**NORSAR Subarra**	**77.94 332**	P	**P**	**15 28 52.0**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=64,slow=5.6					
NOA	**NORSAR Array B**	**77.94 332**	P	**P**	**15 28 49.4**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=60,slow=5.2,SNR=3.1					
YKA	**Yellowknife Ar**	**82.07 23**	P	**P**	**15 29 12.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=309,slow=5.1,SNR=4.9					

IDC 31 15:17:29.8±7.2,5.77S×142.21E,h0km,mb3.7/1, mb1 3.7/3,mb1mx3.4/29,mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=256.6km s-min=35.1km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.03**	**208**	Pn	Pn	15 21 15.7	-1.2
	0.2nm,0.3s,baz=27,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**19.51**	**203**	P	P	15 21 59.3	+0.4
	0.3nm,0.3s,baz=34,slow=10,SNR=24						
MKAR	**Makanchi Array**	**74.33**	**322**	P	P	15 29 09.4	+0.1
	0.3nm,0.6s,baz=102,slow=8.1,SNR=4.7						

ISK 31 15:18:11.2,38.75N×43.20E,h22km,ML2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**137**	*e*PG	Pb	15 18 18.2	+1.1
VANB				*e*SG	Sb	15 18 23.6	+2.4
CLDR	**Caldiran**	**0.68**	**55**	*e*PG	Pb	15 18 24.8	+0.2
CLDR				*e*SG	Sn	15 18 35.6	-0.2
GURO	**Guroymak-BITLI**	**0.94**	**258**	*e*PG	Pn	15 18 29.6	+0.4

AZER ***31*** *15:22:18.4±1.4,37.89N×43.29E,h1km,Error ellipse: s-maj=15.8km s-min=4.2km az=60.0*
TEH ***31*** *15:22:24.2,39.06N×43.33E,h10km,ML3.7*
ISK ***31*** *15:22:25.4,38.61N×43.57E,h8km,ML3.7*
DDA ***31*** *15:22:25.6,38.69N×43.57E,h15km,Ml3.8*
IDC ***31*** *15:22:26.4±1.2,38.70N×43.50E,h0km,mb3.7/6, mb1 3.6/8,mb1mx3.4/48,mbtmp3.6/8,ML3.5/2,MS3.1/3, Ms1 3.2/3,ms1mx2.7/40,Error ellipse: s-maj=31.5km s-min=15.9km az=142.0*
CSEM ***31*** *15:22:26.6±0.2,38.68N×43.49E,h5km,ML3.7,Error ellipse: s-maj=4.9km s-min=4.1km az=149.0*
ISCJB ***31*** *15:22:26.9±0.4,38.67N±0.02×43.51E±0.02,h12km±3km, mb3.5/5,MS3.1/2,Error ellipse: s-maj=3.6km s-min=3.0km az=143.2*

ISC 31 15:22:27.6±0.9,38.68N±0.02×43.52E±0.02,h8km±6km, n113,σ1°48/133,mb3.5/5,10C-8D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.13**	**230**	*e*PG	**Pg**	**15 22 29.9**	**-0.6**
VANB	**Van**	**0.13**	**230**	*e*Pg	**Pg**	**15 22 29.9**	**-0.6**
TVAN	**Van**	**0.17**	**210**	*i* P	**Pg**	**15 22 30.3**	**-1.0**
TVAN				*i* S	**Sg**	**15 22 34.8**	**+0.9**
TVAN	**Van**	**0.17**	**210**	P	**Pg**	**15 22 30.3**	**-1.0**
TVAN				S	**Sg**	**15 22 34.8**	**+0.9**
VMUR	**Van-Muradiye**	**0.31**	**8**	*i* P	**Pg**	**15 22 32.1**	**-1.8**
VMUR				*i* S	**Sb**	**15 22 40.0**	**-0.8**
VMUR	**Van-Muradiye**	**0.31**	**8**	P	**Pg**	**15 22 32.1**	**-1.8**
VMUR				S	**Sb**	**15 22 40.0**	**-0.8**
GEVA	**Gevas**	**0.51**	**225**	*i* P	**Pg**	**15 22 36.1**	**-1.5**
GEVA				*i* S	**Sg**	**15 22 45.3**	**+1.0**
GEVA	**Gevas**	**0.51**	**225**	P	**Pg**	**15 22 36.1**	**-1.5**
GEVA				S	**Sg**	**15 22 45.3**	**+1.0**
CLDR	**Caldiran**	**0.56**	**34**	*e*PG	**Pg**	**15 22 36.9**	**-1.5**
CLDR				*e*SG	**Sg**	**15 22 46.1**	**+0.3**
CLDR	**Caldiran**	**0.56**	**34**	*i* P	**Pg**	**15 22 36.2**	**-2.2**
CLDR				*i* S	**Sb**	**15 22 47.8**	**-0.2**
CLDR	**Caldiran**	**0.56**	**34**	P	**Pg**	**15 22 36.2**	**-2.2**
CLDR	**Caldiran**	**0.56**	**34**	*e*Pg	**Pg**	**15 22 36.9**	**-1.5**
CLDR				*e*Sg	**Sg**	**15 22 46.1**	**+0.3**
CLDR				S	**Sb**	**15 22 47.8**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.63**	**282**	*i* P	**Pg**	**15 22 38.5**	**-1.3**
ADCV				*i* S	**Sg**	**15 22 49.2**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.63**	**282**	P	**Pg**	**15 22 38.5**	**-1.3**
ADCV				S	**Sg**	**15 22 49.2**	**+1.1**
BASK	**Baskale_VAN**	**0.73**	**148**	*i* P	**Pg**	**15 22 39.9**	**-1.8**
BASK				*i* S	**Sb**	**15 22 53.5**	**+0.1**
BASK	**Baskale_VAN**	**0.73**	**148**	P	**Pg**	**15 22 39.9**	**-1.8**
BASK				S	**Sb**	**15 22 53.0**	**+0.1**
DYDN	**Diyadin**	**0.87**	**9**	*i* P	**Pg**	**15 22 42.3**	**-2.1**
DYDN	**Diyadin**	**0.87**	**9**	P	**Pg**	**15 22 42.3**	**-2.1**
TUTA	**Tutak**	**0.91**	**323**	*i* P	**Pg**	**15 22 42.8**	**-2.2**
TUTA				*i* S	**Sg**	**15 22 56.5**	**-0.3**
TUTA	**Tutak**	**0.91**	**323**	P	**Pg**	**15 22 42.8**	**-2.2**
TUTA				S	**Sg**	**15 22 56.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.98**	**336**	*e*PG	**Pg**	**15 22 45.9**	**-0.6**
AGRB				*e*SG	**Sn**	**15 23 02.1**	**+0.1**
AGRB	**Hanur-Agry**	**0.98**	**336**	*e*Pg	**Pg**	**15 22 45.9**	**-0.6**
TATV	**Tatvan**	**0.99**	**260**	*i* P	**Pg**	**15 22 44.5**	**-2.2**
TATV				*i* S	**Sg**	**15 22 59.0**	**-0.6**
TATV	**Tatvan**	**0.99**	**260**	P	**Pg**	**15 22 44.5**	**-2.2**
TATV				S	**Sg**	**15 22 59.0**	**-0.6**
HAKT	**HAKKARI**	**1.13**	**172**	*i* P	**Pg**	**15 22 46.3**	**-3.0**
HAKT				*i* S	**Sn**	**15 23 06.6**	**+0.9**
HAKT	**HAKKARI**	**1.13**	**172**	P	**Pg**	**15 22 46.3**	**-3.0**
HAKT				S	**Sn**	**15 23 06.6**	**+0.9**
GURO	**Guroymak-BITLI**	**1.17**	**264**	*e*PN	**Pg**	**15 22 48.2**	**-1.8**
GURO	**Guroymak-BITLI**	**1.17**	**264**	*e*Pn	**Pg**	**15 22 48.2**	**-1.8**
EKAR	**Karacoban**	**1.27**	**297**	*i* P	**Pg**	**15 22 51.4**	**-0.6**
EKAR	**Karacoban**	**1.27**	**297**	P	**Pg**	**15 22 51.4**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.42**	**23**	*e*PN	**Pn**	**15 22 52.6**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.42**	**23**	*e*Pn	**Pn**	**15 22 52.6**	**-1.1**
EATA	**Eleskirt**	**1.42**	**326**	*i* P	**Pn**	**15 22 52.9**	**-1.1**
EATA	**Eleskirt**	**1.42**	**326**	P	**Pn**	**15 22 52.9**	**-1.1**
SRTM	**Siirt_Merkez**	**1.43**	**242**	*i* P	**Pn**	**15 22 53.8**	**-0.1**
SRTM				*i* S	**Sn**	**15 23 16.7**	**+3.9**
SRTM	**Siirt_Merkez**	**1.43**	**242**	P	**Pn**	**15 22 53.8**	**-0.1**
CUKT	**Cukurca**	**1.43**	**177**	*e*PN	**Pn**	**15 22 51.7**	**-2.2**
CUKT	**Cukurca**	**1.43**	**177**	*i* P	**Pn**	**15 22 52.5**	**-1.4**
CUKT	**Cukurca**	**1.43**	**177**	*e*Pn	**Pn**	**15 22 51.7**	**-2.2**
CUKT	**Cukurca**	**1.43**	**177**	P	**Pn**	**15 22 52.5**	**-1.4**
NAX	**Nakhchivan**	**1.62**	**72**	⇑P	**Pn**	**15 22 56.6**	**+0.1**
NAX				⇑S	**Sg**	**15 23 21.6**	**+1.9**
NAX	**Nakhchivan**	**1.62**	**72**	P	**Pn**	**15 22 56.6**	**+0.1**
NAX				S	**Sg**	**15 23 21.6**	**+1.9**
VRTB	**Varto-Mus**	**1.68**	**287**	*e*PN	**Pn**	**15 22 56.6**	**-0.7**
VRTB	**Varto-Mus**	**1.68**	**287**	*e*Pn	**Pn**	**15 22 56.6**	**-0.7**
ISHB	**Shabestar**	**1.69**	**103**	*e*Pn	**Pn**	**15 22 56.7**	**-0.9**
ISHB				*e*AMB	AMB	15 23 03.0	
	comp=Z,7μm,0.3s						
IMRD	**Marand**	**1.71**	**88**	*e*Pn	**

IDHR	Dehrash	4.59	149	ePn	Pn	15 23 39.1	+1.6
IVIS	Veis	4.94	146	ePn	Pn	15 23 43.6	+1.5
IVIS				eAMB	AMB	15 24 08.3	
	comp=Z,180nm,0.3s						
IVIS	Veis	4.94	146	ePn	Pn	15 23 43.6	+1.5
IGHG	Ghaleghazi	4.99	150	ePn	Pn	15 23 43.5	+0.6
IGHG				eAMB	AMB	15 25 38.7	
	comp=Z,894nm,0.5s						
IGHG	Ghaleghazi	4.99	150	ePn	Pn	15 23 43.5	+0.6
ASF	Jabal al Asfar	8.44	222	Pn	Pn	15 24 30.9	+0.7
	comp=Z,0.2nm,0.3s,baz=355,slow=2.8,SNR=2.8						
ASF				Lg	Lg	15 26 51.5	
	comp=Z,0.2nm,0.3s,baz=39,slow=6.5,SNR=2.5						
AKTO	Aktyubinsk	15.62	36	LR	LR	15 33 05.2	
	comp=Z,49nm,19.1s,baz=301,slow=41						
AKASG	Malin Array Be	15.71	325	Pn	Pn	15 26 08.7	-0.3
	comp=Z,0.7nm,0.3s,baz=138,slow=12,SNR=5.8						
WSAR	Wadi Sarin	20.08	136	LR	LR	15 36 10.8	
	comp=Z,72nm,19.9s,baz=9.0,slow=41						
ARU	Arti	20.37	24	P	P	15 27 05.2	+0.9
	comp=Z,5.4nm,0.8s,baz=216,slow=5.8,SNR=8.7						
BVAR	Borovoye Array	23.40	43	P	P	15 27 38.5	+1.9
	comp=Z,1.3nm,0.9s,baz=229,slow=14,SNR=5.0						
KURBB	Kurchatov Arra	27.36	53	P	P	15 28 13.3	+0.3
	comp=Z,1.7nm,0.7s,baz=263,slow=8.9,SNR=16						
MKAR	Makanchi Array	29.37	61	P	P	15 28 32.3	+1.3
	comp=Z,0.7nm,0.8s,baz=254,slow=7.3,SNR=2.8						
NOA	NORSAR Array B	30.04	329	LR	LR	15 42 49.8	
	comp=Z,51nm,21.3s,baz=280,slow=41						
ZALV	Zalesovo Beam	31.83	48	P	P	15 28 52.1	-0.4
	comp=Z,0.3nm,0.3s,baz=263,slow=8.6,SNR=2.8						
TORD	Torodi Ar. Bea	44.86	247	P	P	15 30 41.1	-1.3
	comp=Z,0.7nm,1.0s,baz=68,slow=8.0,SNR=3.1						

*ISCJB **31** 15:25:46.1±1.2,32°.61S±0°.06×69°.56W±0°.06, h117km±10km, Error ellipse: s-maj=11.8km s-min=5.5km az=141.1*
*GUC **31** 15:25:46.6±0.4,32°.36S×69°.65W, h94km±25km, ML2.6*
*SJA **31** 15:25:46.6±0.8,32°.53S×69°.51W, h111km±4km, ML2.7, MW3.0*

ISC 31 15:25:46.3±2.0,32°.59S±0°.07×69°.58W±0°.06, h116km±14km, n11, σ0°60/20, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.40	24	eP	Pn	15 26 03.7	0.0
AUSP				eS	Sn	15 26 16.4	-0.2
ASAL	Salagasta	0.63	91	eP	Pn	15 26 05.2	+0.4
ASAL				eS	Sn	15 26 18.9	+0.2
RTLS	Leoncito	0.82	17	eP	Pn	15 26 06.8	+0.2
RTLS				IAML		15 26 07.2	
	comp=Z,135nm,0.3s						
RTLS				eS	Sn	15 26 21.9	-0.1
FCH	Farellones	0.95	219	eP	Pn	15 26 08.6	+0.7
FCH				eS	Sn	15 26 25.0	+0.8
FCH				IAML		15 26 26.3	
	comp=E,140nm,0.3s						
PEL	Peldehue	1.08	239	eP	Pn	15 26 08.7	-0.3
PEL				eS	Sn	15 26 25.3	-0.7
PEL				IAML		15 26 28.7	
	comp=N,108nm,0.2s						
RTCV	Cerro Valdivia	1.14	51	eP	Pn	15 26 09.3	-0.2
RTCV				eS	Sn	15 26 26.1	-1.0
CLCH	Cerro Calan	1.14	225	eS	Sn	15 26 27.6	+0.4
CLCH				IAML		15 26 29.9	
	comp=E,143nm,0.2s						
ROCH	El Roble	1.27	252	eP	Pn	15 26 10.6	-0.5
ROCH				eS	Sn	15 26 29.2	-0.7
ROCH				IAML		15 26 30.2	
	comp=N,337nm,0.2s						
AMOG	MOGNA	1.89	30	eP	Pn	15 26 18.5	+0.3
ACCO	Cerro Coronel	2.04	12	eP	Pn	15 26 20.9	+0.4
ACCO				eS	Sn	15 26 47.2	+0.7
ACCO				IAML		15 26 49.5	
	comp=Z,49nm,0.6s						
ACAN	Cantantal	2.04	82	eP	Pn	15 26 20.4	+0.2
ACAN				eS	Sn	15 26 45.1	-1.0

IDC 31 15:32:37.7±3.0,5°.74S×152°.64E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/10, Error ellipse: s-maj=261.2km s-min=28.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	21.02	142	LR	LR	15 43 38.0	
	comp=Z,33nm,20.4s,baz=28,slow=31						
WRA	Warramunga Arr	22.72	230	P	P	15 37 41.4	+0.1
	0.4nm,0.6s,baz=53,slow=10.0,SNR=3.0						
ASAR	Alice Springs	25.36	223	P	P	15 38 06.5	-0.2
	0.2nm,0.5s,baz=57,slow=9.2,SNR=9.6						
ILAR	Eielson Array	83.08	22	P	P	15 45 05.1	+0.1
	0.4nm,0.6s,baz=247,slow=6.0,SNR=7.2						

*IDC **31** 15:34:15.8±1.7,35°.43N×142°.30E, h0km, mb3.5/4, mb1 3.5/7, mb1mx3.4/45, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=45.1km s-min=21.0km az=74.0*
*ISCJB **31** 15:34:18.6±1.3,35°.42N±0°.05×142°.25E±0°.10, h37km±13km, mb3.5/4, Error ellipse: s-maj=13.2km s-min=7.6km az=4.4*
*JMA **31** 15:34:18.3±0.2,35°.45N×142°.25E, h63km±5km, M3.1*

ISC 31 15:34:18.0±2.1,35°.43N±0°.05×142°.17E±0°.08, h17km±11km, n23, σ1°29/26, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.11	285	P	Pg	15 34 39.1	-0.4
CHOJ				S	Sb	15 34 53.8	+0.9
BSO1	Boso 1	1.25	232	P	Pb	15 34 40.7	-0.1
BSO1				eS	Sg	15 34 58.2	0.0
BSO3	Boso 3	1.50	246	P	Pb	15 34 44.7	-0.6
JIM2	Oshima 3	2.36	253	P	Pn	15 34 56.0	0.0
JIM2				eS	Sn	15 35 24.5	-0.1
JAG	Ashikaga	2.42	295	P	Pn	15 34 57.0	+0.1
JAG				eS	Sn	15 35 25.7	-0.4
JOD2	Odawara 2	2.53	267	P	Pn	15 34 58.7	+0.4
JFT	Otama	2.56	325	P	Pn	15 35 00.0	+1.2
JFT				S	Sn	15 35 30.0	+0.5
JRY	Ryogami san	2.73	283	P	Pn	15 35 02.2	+1.1
JFY	Yanaizu	2.81	316	P	Pn	15 35 02.9	+0.7
JHJ	Hachijo jima 2	3.04	221	Pn	Pn	15 35 05.7	+0.4
	16nm,0.3s,baz=75,slow=20,SNR=4.4						
JHJ				Sn	Sn	15 35 39.1	-2.1
	36nm,0.3s,baz=93,slow=23,SNR=5.5						
MJAR	Matsushiro Arr	3.40	290	Pn	Pn	15 35 11.8	+1.4
	1.3nm,0.3s,baz=95,slow=14,SNR=12						
MJAR				Sn	Sb	15 35 59.0	0.0
	0.8nm,0.3s,baz=30,slow=30,SNR=5.4						
MAT	Matsushiro	3.41	290	P	Pn	15 35 12.0	+1.6
MAT				S	Sb	15 35 56.5	-2.5
ASAJ	Asahikawa	8.69	2	Pn	Pn	15 36 22.7	-0.2
	0.7nm,0.3s,baz=251,slow=12,SNR=7.4						
ASAJ				Sn	Sn	15 37 56.8	-3.6
	0.1nm,0.3s,baz=79,slow=16,SNR=1.9						
H11N2	WAKE ISLAND Hy	26.81	119	T	T	16 08 11.7	
	baz=313,slow=75						
H11N1	WAKE ISLAND Hy	26.82	119	T	T	16 08 14.6	
	baz=313,slow=75						
H11N3	WAKE ISLAND Hy	26.83	119	T	T	16 08 11.0	
	baz=313,slow=75						
H11S1	WAKE ISLAND Hy	27.48	121	T	T	16 09 06.8	
	baz=312,slow=74						
H11S3	WAKE ISLAND Hy	27.48	121	T	T	16 09 09.1	
	baz=312,slow=74						
H11S2	WAKE ISLAND Hy	27.50	121	T	T	16 09 09.4	
	baz=312						
SONM	Songino Array	29.21	306	P	P	15 40 20.3	+1.4
	0.3nm,0.5s,baz=111,slow=11,SNR=2.1						
KURBB	Kurchatov Arra	47.48	309	P	P	15 42 52.1	+0.3
	1.0nm,0.8s,baz=95,slow=10,SNR=2.8						
WRA	Warramunga Arr	55.56	189	P	P	15 43 53.1	+0.5
	0.4nm,0.8s,baz=1.7,slow=7.5,SNR=2.9						
ASAR	Alice Springs	59.29	189	P	P	15 44 19.3	+0.4
	0.3nm,0.8s,baz=359,slow=4.8,SNR=2.9						

MEX 31 15:46:24.2±0.8,17°.15N×99°.62W, h45km±16km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.36	220	eP	Pn	15 46 31.0	-2.6
ACX				eS	Sn	15 46 37.7	-2.4
ACP2	Acapulco	0.37	224	eP	Pn	15 46 31.5	-2.2
ACP2				eS	Sn	15 46 38.6	-1.8
CAIG	El Cayaco	0.63	261	eP	Pn	15 46 35.8	-1.1
CAIG				eS	Sn	15 46 43.4	-2.6
MEIG	Mezcala	0.78	360	eP	Pn	15 46 37.4	-1.5
MEIG				eS	Sn	15 46 48.2	-1.3
PLIG	Platanillo	1.25	5	eP	Pn	15 46 44.6	-0.7
PLIG				eS	Sn	15 46 58.6	-2.4

*ISK **31** 15:53:28.0,38°.71N×43°.91E, h5km, MD2.8*
*DDA **31** 15:53:41.8,38°.64N×43°.15E, h7km, Md2.9*

CSEM 31 15:53:29.5±0.6,38°.73N×43°.95E, h10km, MD2.9, Error ellipse: s-maj=13.7km s-min=7.3km az=112.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.41	356	ePG	Pg	15 53 37.5	-0.2
CLDR				eSG	Sb	15 53 44.9	-0.7
CLDR	Caldiran	0.41	356	ePg	Pg	15 53 37.5	-0.2
CLDR				eSg	Sb	15 53 44.9	-0.6
VANB	Van	0.46	253	ePG	Pg	15 53 37.8	-0.8
VANB				eSG	Sg	15 53 44.9	+0.2
VANB	Van	0.46	253	ePg	Pg	15 53 37.8	-0.7
VANB				eSg	Sg	15 53 44.9	+0.3
TVAN	Van	0.47	245	i P	Pn	15 53 46.3	+3.8
TVAN				i S	Sb	15 53 50.7	+3.6
GEVA	Gevas	0.81	240	i P	Pn	15 53 48.3	+1.1
GEVA				i S	Sg	15 53 54.5	-1.4
ADCV	BITLIS_Adilcev	0.96	275	i P	Pn	15 53 49.9	+0.6
ADCV				i S	Sg	15 53 57.0	-3.6
ADCV	BITLIS_Adilcev	0.96	275	P	Pn	15 53 49.9	+0.6
TUTA	Tutak	1.11	308	i P	Pn	15 53 57.6	+6.3
TUTA				i S	Sn	15 54 08.7	+1.8
AGRB	Hanur-Agry	1.13	319	ePN	Pg	15 53 50.7	-0.5
AGRB				eSN	Sn	15 54 07.2	-0.1
AGRB	Hanur-Agry	1.13	319	ePn	Pg	15 53 50.7	-0.5
AGRB				eSn	Sn	15 54 07.2	0.0
TATV	Tatvan	1.34	261	i P	Pb	15 53 54.8	0.0
TATV				i S	Sb	15 54 05.5	-6.6
TATV	Tatvan	1.34	261	P	Pb	15 53 54.8	0.0
CUKT	Cukurca	1.50	191	ePN	Pb	15 53 57.2	-0.4
CUKT	Cukurca	1.50	191	ePn	Pb	15 53 57.2	-0.4
GURO	Guroymak-BITLI	1.51	264	ePN	Pn	15 53 56.9	+0.1
GURO	Guroymak-BITLI	1.51	264	ePn	Pn	15 53 56.9	+0.1
SVAN	Silvan-Diyarba	2.24	256	ePN	Pn	15 54 06.7	0.0
SVAN	Silvan-Diyarba	2.24	256	ePn	Pn	15 54 06.7	0.0

IDC 31 16:05:03.6±2.1,6°.40S×147°.99E, h147km±20km, mb3.5/3, mb1 3.6/5, mb1mx3.2/28, mbtmp3.8/5, Error ellipse: s-maj=60.3km s-min=17.1km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.10	195	P	Pn	16 05 53.4	+1.3
	13nm,0.3s,baz=29,slow=10.0,SNR=62						
PMG				S	Sn	16 06 29.6	-0.1
	20nm,0.3s,baz=202,slow=19,SNR=9.6						
WRA	Warramunga Arr	18.90	223	P	P	16 09 12.9	0.0
	0.3nm,0.3s,baz=41,slow=12,SNR=8.3						
ASAR	Alice Springs	21.87	217	P	P	16 09 46.5	+1.6
	0.8nm,0.3s,baz=53,slow=9.4,SNR=64						
ASAR				S	S	16 13 37.4	+0.6
	0.5nm,1.0s,baz=33,slow=24,SNR=3.3						
FITZ	Fitzroy Crossi	24.71	240	P	P	16 10 10.7	-0.6
	4.5nm,0.5s,baz=56,slow=11,SNR=26						
ILAR	Eielson Array	85.46	23	P	P	16 17 24.2	-0.2
	0.5nm,0.8s,baz=254,slow=5.8,SNR=5.3						

IDC 31 16:10:03.2±18.0,5°.33S×129°.18E, h233km±196km, mb3.0/1, mb1 3.0/4, mb1mx2.8/30, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=136.9km s-min=51.3km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.16	195	P	Pn	16 13 01.5	-0.2
	0.1nm,0.3s,baz=28,slow=12,SNR=6.6						
FITZ				S	S	16 15 19.8	-7.7
	baz=344,slow=18						
WRA	Warramunga Arr	15.37	161	P	P	16 13 28.3	0.0
	0.1nm,0.3s,baz=340,slow=12,SNR=3.6						
WRA				S	S	16 16 15.8	-2.5
	0.1nm,0.3s,baz=335,slow=23,SNR=2.8						
ASAR	Alice Springs	18.80	166	P	P	16 14 05.7	+0.1
	0.1nm,0.3s,baz=344,slow=12,SNR=7.9						
ASAR				S	S	16 17 18.8	-8.2
	0.1nm,0.3s,baz=347,slow=16,SNR=3.6						
MKAR	Makanchi Array	66.39	327	P	P	16 20 27.4	0.0
	0.2nm,0.3s,baz=110,slow=8.3,SNR=6.5						

*ISCJB **31** 16:20:18.0±0.6,32°.19N±0°.03×115°.23W±0°.06, h20km±10km, Error ellipse: s-maj=8.4km s-min=5.0km az=160.7*
*ECX **31** 16:20:19.1±0.6,32°.16N×115°.26W, h8km, MD2.5, ML2.7*
*MEX **31** 16:20:19.9±0.5,32°.22N×115°.18W, h12km±716km, MD3.7*

ISC 31 16:20:17.6±1.0,32°.20N±0°.04×115°.21W±0°.05, h25km±8km, n16, σ0°58/23, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.21	3	eP	Pb	16 20 23.6	+0.3
MBIG				eS	Sb	16 20 25.9	-1.4
MBIG	Mexicali	0.21	3	eP	Pb	16 20 23.7	+0.4
CPBX	Cerro Prieto	0.23	340	eP	Pb	16 20 23.8	+0.1
CPBX				eS	Sb	16 20 28.2	+0.4
CPBX				⇑e		16 20 30.0	
CPBX				IAML		16 20 30.0	
	comp=E,5μm,0.3s						
CPBX				e		16 20 30.4	
CPBX				IAML		16 20 30.4	
	comp=N,4μm,0.1s						
EMSC	East Mesa	0.57	19	eP	Pn	16 20 29.7	-0.3
YMD	Yuma Desert	0.66	58	eP	Pb	16 20 31.2	+0.6
WESC	Westside Schoo	0.71	322	eP	Pn	16 20 32.0	+0.1
ECBX	El Chinero	0.74	169⇓	eP	Pb	16 20 31.4	-0.4
ECBX				eS	Sb	16 20 41.7	+0.2
YUH	Yuha Desert	0.75	307⇑	iP	Pb	16 20 32.1	+0.1
IKP	In-Ko-Pah, Jac	0.88	301⇑	iP	Pb	16 20 34.2	-0.1
IKP				i S	Sb	16 20 46.2	+0.5
SPIG	San Pedro Mart	1.17	191	eP	Pn	16 20 38.9	+0.3
SPIG				eS	Sn	16 20 54.0	0.0
SPIG	San Pedro Mart	1.17	191⇓	eP	Pn	16 20 39.0	+0.3
SPIG				eS	Sn	16 20 53.6	-0.4
SPX	San Pedro Mart	1.17	191⇓	eP	Pn	16 20 39.0	+0.3
CBX	Cerro Bola	1.24	276	eP	Pn	16 20 39.8	+0.5
CBX				eS	Sn	16 20 54.0	-1.3
CBX	Cerro Bola	1.24	276⇑	eP	Pn	16 20 39.9	+0.5
CBX				eS	Sb	16 20 55.9	-0.1
CBX				IAML		16 20 57.9	
	comp=E,131nm,0.4s						
TJIG	Tijuana	1.26	281	i P	Pn	16 20 30.5	-9.0
BAR	Barrett	1.33	292	eP	Pn	16 20 41.3	+0.8

*ISCJB **31** 16:23:22.8±1.3,31°.83N±0°.04×115°.0W±0°.1, h24km±9km, Error ellipse: s-maj=15.5km s-min=6.8km az=178.6*
*ECX **31** 16:23:24.2±0.4,31°.83N×115°.01W, h8km, MD2.2, ML2.4*
*MEX **31** 16:23:25.3±0.8,31°.88N×114°.93W, h20km±44km, MD3.6*

ISC 31 16:23:21.5±2.0,31°.86N±0°.05×114°.9W±0°.1, h26km±14km, n9, σ0°45/16, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	El Chinero	0.41	200⇓	eP	Pb	16 23 30.3	0.0
ECBX				eS	Sb	16 23 35.4	-0.8
CPBX	Cerro Prieto	0.66	327	eP	Pn	16 23 35.3	+0.1
CPBX				eS	Sn	16 23 44.2	-0.6
CPBX				⇑e		16 23 48.1	
CPBX				IAML		16 23 48.1	
	comp=N,551nm,0.1s						
SPIG	San Pedro Mart	0.95	212	eP	Pb	16 23 40.0	+0.4
SPIG				i S	Sb	16 23 52.3	+0.5
SPX	San Pedro Mart	0.95	212	eP	Pb	16 23 39.9	+0.3
ZAX	El Zacaton	1.23	254	eP	Pn	16 23 43.2	0.0
ZAX				eS	Sn	16 23 59.0	-0.1
RMX	La Rumorosa	1.25	307	eP	Pb	16 23 45.0	+0.4
RMX				eS	Sb	16 24 00.2	-0.2
IKP	In-Ko-Pah, Jac	1.30	308	eP	Pb	16 23 45.6	+0.2
IKP				eS	Sb	16 24 02.2	+0.4
CBX	Cerro Bola	1.58	287	eP	Pn	16 23 48.2	+0.2
CBX				eS	Sn	16 24 07.0	-0.6
CBX	Cerro Bola	1.58	287	eP	Pb	16 23 49.9	-0.1
CBX				IAML		16 24 13.8	
	comp=N,76nm,0.4s						

*ISK **31** 16:35:17.6,38°.76N×43°.43E, h21km, MD2.6*
*ISCJB **31** 16:35:18.7±0.6,38°.70N±0°.04×43°.42E±0°.07, h30km±5km, Error ellipse: s-maj=8.7km s-min=6.3km az=14.8*
*CSEM **31** 16:35:18.9±0.4,38°.76N×43°.37E, h10km, MD2.6, Error ellipse: s-maj=9.7km s-min=7.6km az=134.0*
*DDA **31** 16:35:19.7,38°.75N×43°.39E, h7km, Md2.7*

ISC 31 16:35:18.3±1.0,38°.74N±0°.06×43°.46E±0°.04, h28km±10km, n16, σ0°52/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.15	200	ePG	Pb	16 35 23.5	-0.4
VANB				eSG	Sb	16 35 28.7	+1.0
VANB	Van	0.15	200	ePg	Pb	16 35 23.5	-0.4
VANB				eSg	Sb	16 35 28.7	+1.0
TVAN	Van	0.22	191	i P	Pb	16 35 24.1	-0.5
TVAN				i S	Sb	16 35 28.8	-0.2
TVAN	Van	0.22	191	P	Pb	16 35 24.1	-0.5
TVAN				S	Sb	16 35 28.8	-0.2
VMUR	Van-Muradiye	0.26	20	i P	Pn	16 35 25.8	-0.8
VMUR				i S	Sn	16 35 31.9	+0.1
VMUR	Van-Muradiye	0.26	20	P	Pn	16 35 25.8	-0.8
VMUR				S	Sn	16 35 31.9	+0.1
CLDR	Caldiran	0.54	42	ePG	Pb	16 35 29.0	-0.4
CLDR	Caldiran	0.54	42	i P	Pn	16 35 30.5	+0.1
CLDR				i S	Sn	16 35 39.5	+0.9
CLDR	Caldiran	0.54	42	ePg	Pb	16 35 29.0	-0.4
CLDR	Caldiran	0.54	42	P	Pn	16 35 30.5	+0.1
CLDR				S	Sn	16 35 39.5	+0.9
ADCV	BITLIS_Adilcev	0.58	277	i P	Pb	16 35 29.8	-0.2
ADCV				i S	Sb	16 35 37.9	-0.1
ADCV	BITLIS_Adilcev	0.58	277	P	Pb	16 35 29.8	-0.2
ADCV				S	Sb	16 35 37.9	-0.1
AGRB	Hanur-Agry	0.91	337	ePG	Pb	16 35 35.4	-0.2
AGRB				eSG	Sn	16 35 48.2	+0.5
AGRB	Hanur-Agry	0.91	337	ePg	Pb	16 35 35.4	-0.2
AGRB				eSg	Sn	16 35 48.2	+0.5
GURO	Guroymak-BITLI	1.13	261	ePN	Pn	16 35 38.3	-0.1
GURO	Guroymak-BITLI	1.13	261	ePn	Pn	16 35 38.3	-0.1

JMA 31 16:56:32.6,32°.73N×131°.54E, h13km±1km, M0.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKIT	Kitakata	0.13	215	eS	Sg	16 56 38.5	+0.2
JUS	Usuki	0.38	28	S	Sg	16 56 45.4	0.0

*NSSC **31** 16:57:51.4±0.9,40°.08N×42°.63E, h133km±40km, ML3.2*
*AZER **31** 16:57:55.5±1.4,38°.07N×43°.41E, h2km, Error ellipse: s-maj=15.2km s-min=3.4km az=60.0*
*ISK **31** 16:57:58.2,38°.74N×43°.36E, h5km, ML3.6*
*DDA **31** 16:57:58.8,38°.73N×43°.35E, h20km, Ml4.0*
*CSEM **31** 16:57:59.7±0.1,38°.71N×43°.34E, h2km, ML3.6, Error ellipse: s-maj=4.1km s-min=3.2km az=150.0*

ISC 31 16:57:59.6±0.9,38°.73N±0°.01×43°.36E±0°.02, h19km±2km, n152, σ2°03/195, 14C-30D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.13	169	ePG	Pg	16 58 03.8	-0.1
VANB				eSG	Sg	16 58 08.2	+1.4
VANB	Van	0.13	169	ePg	Pg	16 58 03.8	-0.1
TVAN	Van	0.20	169⇓	iP	Pg	16 58 03.7	-1.1
TVAN				i S	Sg	16 58 08.0	-0.4
TVAN	Van	0.20	169	P	Pg	16 58 03.7	-1.1
TVAN				S	Sg	16 58 08.0	-0.4
ERCV	ERCIS-VAN	0.29	357	ePG	Pb	16 58 05.4	-0.9
ERCV	ERCIS-VAN	0.29	357	ePg	Pb	16 58 05.4	-0.9
VMUR	Van-Muradiye	0.31	33⇓	iP	Pb	16 58 05.8	-0.8
VMUR				i S	Sb	16 58 11.3	-0.1
VMUR	Van-Muradiye	0.31	33	P	Pb	16 58 05.8	-0.8
VMUR				S	Sb	16 58 11.3	-0.1
GEVA	Gevas	0.47	209⇑	iP	Pg	16 58 07.9	-1.4
GEVA				i S	Sb	16 58 15.9	-0.3
GEVA	Gevas	0.47	209	P	Pg	16 58 07.9	-1.4
GEVA				S	Sb	16 58 15.9	-0.3
ADCV	BITLIS_Adilcev	0.50	280⇓	iP	Pb	16 58 09.1	-0.8
ADCV				i S	Sb	16 58 16.8	-0.1
ADCV	BITLIS_Adilcev	0.50	280	P	Pb	16 58 09.1	-0.8
ADCV				S	Sb	16 58 16.8	-0.1
CLDR	Caldiran	0.60	46	ePG	Pb	16 58 10.7	-0.9
CLDR	Caldiran	0.60	46⇓	iP	Pb	16 58 10.7	-0.9
CLDR				i S	Sb	16 58 20.4	+0.6
CLDR	Caldiran	0.60	46	P	Pb	16 58 10.7	-0.9
CLDR				S	Sb	16 58 20.4	+0.6
TUTA	Tutak	0.80	328⇓	iP	Pg	16 58 13.8	-1.4
TUTA	Tutak	0.80	328	P	Pg	16 58 13.8	-1.4
BASK	Baskale_VAN	0.84	143	i P	Pg	16 58 14.6	-1.5
BASK				i S	Sb	16 58 28.1	+1.3
BASK	Baskale_VAN	0.84	143	P	Pg	16 58 14.6	-1.5
BASK				S	Sb	16 58 28.1	+1.3
DYDN	Diyadin	0.86	18⇓	iP	Pg	16 58 14.8	-1.6
DYDN				i S	Sb	16 58 27.8	+0.6
DYDN	Diyadin	0.86	18	P	Pg	16 58 14.8	-1.6
DYDN				S	Sb	16 58 27.8	+0.6
TATV	Tatvan	0.88	256	i P	Pg	16 58 15.1	-1.7
TATV				i S	Sb	16 58 27.7	-0.1
TATV	Tatvan	0.88	256	P	Pg	16 58 15.1	-1.7
TATV				S	Sb	16 58 27.7	-0.1
AGRB	Hanur-Agry	0.89	342	ePG	Pb	16 58 15.7	-0.9
AGRB				eSG	Sn	16 58 29.6	-0.3
AGRB	Hanur-Agry	0.89	342	ePg	Pb	16 58 15.7	-0.9
AGRB				eSg	Sn	16 58 29.6	-0.3
GURO	Guroymak-BITLI	1.05	261	ePG	Pb	16 58 18.8	-0.5
GURO	Guroymak-BITLI	1.05	261	ePg	Pb	16 58 18.8	-0.5
EKAR	Karacoban	1.14	298⇓	iP	Pn	16 58 20.7	0.0
EKAR	Karacoban	1.14	298	P	Pn	16 58 20.7	0.0
HAKT	HAKKARI	1.20	167⇓	iP	Pg	16 58 20.5	-2.3
HAKT				i S	Sn	16 58 40.6	+3.2

SVAN	Silvan-Diyarba	1.79	252	ePn		Pb	16 58 31.6 -0.2
SVAN				S		Sb	16 58 54.7 +0.8
BTMN	Batman	1.84	244	⇑iP		Pb	16 58 31.8 -0.9
BTMN				iS		Sg	16 58 56.7 -2.2
BTMN	Batman	1.84	244	P		Pb	16 58 31.8 -0.9
BTMN				S		Sg	16 58 56.7 -2.2
ERZM	Erzurum	1.94	308	⇓iP		Pb	16 58 34.0 -0.5
ERZM				iS		Sg	16 59 08.7 +6.5
ERZM	Erzurum	1.94	308	P		Pb	16 58 34.0 -0.5
EAK	Akyaka	1.97	6	⇓iP		Pg	16 58 36.4 -1.0
EAK	Akyaka	1.97	6	P		Pg	16 58 36.4 -1.0
SENK	Senkaya-Erzuru	1.99	337	ePN		Pb	16 58 34.2 -1.1
SENK	Senkaya-Erzuru	1.99	337	ePn		Pb	16 58 34.2 -1.1
BNGB	Bing¶ll	2.11	278	ePN		Pb	16 58 36.0 -1.3
BINT	Bingol	2.25	275	ePn		Pn	16 58 36.0 +0.1
YEDI	Yedisu-Bingol	2.30	289	ePN		Pb	16 58 39.2 -1.4
YEDI	Yedisu-Bingol	2.30	289	ePn		Pb	16 58 39.2 -1.4
HANI	Diyarbakir_Han	2.34	263	iP		Pn	16 58 38.9 +1.8
HANI	Diyarbakir_Han	2.34	263	P		Pn	16 58 38.9 +1.8
MARD	Mardin	2.48	236	⇑iP		Pn	16 58 40.2 +1.2
DDEM	Demirkent	2.49	331	⇓iP		Pg	16 58 44.8 -2.6
DDEM	Demirkent	2.49	331	P		Pg	16 58 44.8 -2.6
BGD	Bogdanovka	2.54	4	P		Pg	16 58 47.0 -1.4
KOPT	Kop Dagi	2.56	301	⇓iP		Pg	16 58 46.0 -2.8
KOPT	Kop Dagi	2.56	301	P		Pg	16 58 46.0 -2.8
MAZI	Mazidag	2.62	242	ePN		Pn	16 58 42.9 +1.9
MAZI	Mazidag	2.62	242	ePn		Pn	16 58 42.9 +1.9
DIYA	Diyarbakir	2.67	254	iP		Pb	16 58 44.6 -2.1
DIYA	Diyarbakir	2.67	254	P		Pb	16 58 44.7 -2.1
AKH	Akhalkalaki	2.68	2	ePN		Pb	16 58 44.5 -2.6
AKH	Akhalkalaki	2.68	2	ePn		Pb	16 58 44.5 -2.6
GDB	GEDABAY	2.72	42	⇓P		Pb	16 58 46.4 -1.3
GDB				⇓S		Sg	16 59 26.8 -0.2
GDB	GEDABAY	2.72	42	P		Pb	16 58 46.4 -1.3
QZX	Qazax, Azerbai	2.80	33	⇓P		Pb	16 58 48.6 -0.4
QZX				⇓S		Sg	16 59 30.6 +1.1
QZX	Qazax, Azerbai	2.80	33	P		Pb	16 58 48.6 -0.4
KBSD	Kabsdagh	2.81	233	iP		Pn	16 58 45.2 +1.6
KBSD				eS		Sb	16 59 24.2 +0.9
KBSD				AML		AML	16 59 38.6
	comp=N,120nnm,0.8s						
KBSD				AML		AML	16 59 38.9
	comp=E,213nm,0.7s						
ERZN	Erzincan	2.95	288	ePN		Pn	16 58 48.3 +2.7
GANJ	Ganja	2.98	49	⇓P		Pb	16 58 49.3 -2.8
GANJ	Ganja	2.98	49	P		Pb	16 58 49.3 -2.8
TNCL	Tunceli-Merkez	3.00	279	iP		Pn	16 58 50.1 -2.4
TNCL	Tunceli-Merkez	3.00	279	P		Pn	16 58 50.1 -2.4
PTK	Pertek	3.10	274	ePN		Pn	16 58 50.5 +2.8
PTK	Pertek	3.10	274	ePn		Pn	16 58 50.5 +2.8
DGRG	David-gareji	3.13	29	P		Pb	16 58 55.4 +0.8
SVRC	Sivrice-ELAZID	3.19	265	ePN		Pn	16 58 51.5 +2.6
SVRC	Sivrice-ELAZID	3.19	265	ePn		Pn	16 58 51.5 +2.6
BRDA	Brd	3.33	61	⇓P		Pn	16 58 53.4 +2.7
BRDA	Brd	3.33	61	P		Pn	16 58 53.4 +2.7
SFNV	Sufian	3.46	229	iP		Pn	16 58 54.3 +1.8
SFNV				eS		Sb	16 59 40.0 -1.9
SFNV				AML		AML	16 59 55.5
	comp=E,145nm,0.7s						
SFNV				AML		AML	17 00 01.8
	comp=N,170nm,0.7s						
MNGR	Mingechevir, A	3.53	53	⇓P		Pn	16 58 57.0 +3.7
MNGR	Mingechevir, A	3.53	53	P		Pn	16 58 57.0 +3.7
MZRK	Al-Mazaregh	3.61	218	iP		Pn	16 58 58.7 +4.2
MZRK				AML		AML	16 59 01.1
	comp=E,265nm,0.4s						
MZRK				eS		Sb	16 59 48.7 +2.4
ZRD	Zardab	3.69	64	⇑P		Pn	16 58 57.8 +2.2
ZRD	Zardab	3.69	64	P		Pn	16 58 57.8 +2.2
URFA	Urfa	3.80	252	ePN		Pn	16 58 59.3 +2.1
URFA	Urfa	3.80	252	ePn		Pn	16 58 59.3 +2.1
ZKTA	Zakatala	3.83	40	⇓P		Pb	16 59 02.6 -4.1
SEKA	Sheki	3.85	49	⇓P		Pb	16 59 02.5 -4.5
SEKA	Sheki	3.85	49	P		Pb	16 59 02.5 -4.5
ONI	Oni	3.86	1	P		Pg	16 59 17.0 +3.4
ONI				S		Pg	16 59 19.2 +5.7
LRK	Lerik	3.90	90	⇓P		Pn	16 58 56.8 -1.8
LRK	Lerik	3.90	90	P		Pn	16 58 56.8 -1.8
GLBA	Clilabad	3.96	81	⇓P		Pn	16 58 58.4 -0.9
GLBA	Clilabad	3.96	81	P		Pn	16 58 58.4 -0.9
KDMR	Kurdemir	4.08	65	⇑P		Pn	16 59 02.7 +1.8
KDMR	Kurdemir	4.08	65	P		Pn	16 59 02.7 +1.8
SAAT	Saatly	4.09	72	⇓P		Pn	16 59 01.6 +0.5
SAAT	Saatly	4.09	72	P		Pn	16 59 01.6 +0.5
QBL	Gabala	4.10	56	⇑P		Pn	16 59 04.2 +2.9
QBL	Gabala	4.10	56	P		Pn	16 59 04.2 +2.9
ESPY	Espiye-Giresun	4.18	303	ePN		Pn	16 59 05.6 +3.2
ESPY	Espiye-Giresun	4.18	303	ePn		Pn	16 59 05.6 +3.2
LKRN	Lenkeran, Azer	4.24	89	⇑P		Pn	16 59 01.3 -1.8
LKRN	Lenkeran, Azer	4.24	89	P		Pn	16 59 01.3 -1.8
IML	Ismayilli	4.25	59	⇑P		Pn	16 59 05.9 +2.5
IML	Ismayilli	4.25	59	P		Pn	16 59 05.9 +2.5
ASTR	Astara	4.26	91	⇓P		Pn	16 59 01.2 -2.2
ASTR	Astara	4.26	91	P		Pn	16 59 01.2 -2.2
XNQ	Khinaliq	4.41	55	⇑P		Pn	16 59 08.6 +2.8
XNQ	Khinaliq	4.41	55	P		Pn	16 59 08.6 +2.8
PQL	Pirkuli	4.53	61	⇓P		Pn	16 59 09.4 +2.1
PQL	Pirkuli	4.53	61	P		Pn	16 59 09.4 +2.1
ALIB	Äli-Bayra	4.55	73	⇑P		Pn	16 59 08.1 +0.7
ALIB	Äli-Bayra	4.55	73	P		Pn	16 59 08.1 +0.7
DARE	Darende-Malaty	4.60	270	ePN		Pn	16 59 11.5 +3.3
DARE	Darende-Malaty	4.60	270	ePn		Pn	16 59 11.5 +3.3
GBS	Qobustan	4.67	66	⇑P		Pn	16 59 10.6 +1.4
GBS	Qobustan	4.67	66	P		Pn	16 59 10.6 +1.4
QSAR	Qusar	4.68	52	⇑P		Pn	16 59 12.5 +3.3
QSAR	Qusar	4.68	52	P		Pn	16 59 12.5 +3.3
RSDY	Resadiye-TOKAT	4.95	292	ePN		Pn	16 59 16.1 +3.2
RSDY	Resadiye-TOKAT	4.95	292	ePn		Pn	16 59 16.1 +3.2
SVSK	Karacayir	5.07	286	ePN		Pn	16 59 18.4 +3.8
SVSK	Karacayir	5.07	286	ePn		Pn	16 59 18.4 +3.8
KMRS	Kahramanmaras	5.24	259	ePN		Pn	16 59 21.2 +4.3
KMRS	Kahramanmaras	5.24	259	ePn		Pn	16 59 21.2 +4.3
SARI	SarD1z-Kayseri	5.45	269	ePN		Pn	16 59 23.0 +3.1
KOZT	Kozan	6.07	260	ePN		Pn	16 59 33.0 +4.8
ROOS	tl_alroos	6.68	229	iP		Pn	16 59 38.1 +1.4
ROOS				eS		Sn	17 00 53.4 +1.1
ROOS				AML		AML	17 01 58.7
	comp=N,20nm,0.7s						
ROOS				AML		AML	17 02 04.4
	comp=E,34nm,0.7s						
HAWK	Haweek	6.99	235	iP		Pn	16 59 39.8 -1.2
HAWK				eS		Sn	17 00 57.3 -2.7
HAWK				AML		AML	17 01 52.5
	comp=N,23nm,0.6s						
HAWK				AML		AML	17 01 59.2
	comp=E,13nm,0.6s						
AKSY	AKSARAY - Alti	7.51	272	iP		Pn	16 59 45.0 -3.1
AKSY	AKSARAY - Alti	7.51	272	P		Pn	16 59 45.0 -3.1

JMA 31 16:58:34.7±0.1, 36°69N×137°86E, h10km±1km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.32	118	P	Pg	16 58 40.4	-0.6
MAT				S	Sg	16 58 44.6	-0.6
MAT	Matsushiro	0.32	118	P	Pg	16 58 40.5	-0.5
MAT				S	Sg	16 58 44.6	-0.6
JNG	Nsakai	0.34	146	P	Pg	16 58 41.3	-0.2
JNG				S	Sg	16 58 46.0	-0.1

CSEM 31 16:59:11.5, 38°96N×43°52E, h11km, ML3.8

DDA 31 16:59:11.5, 38°96N×43°52E, h11km, Ml3.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.05	51	iP	Pg	16 59 13.1	-0.7
VMUR				iS	Sg	16 59 15.7	+0.2
VMUR	Van-Muradiye	0.05	51	P	Pg	16 59 13.1	-0.7
VMUR				S	Sg	16 59 15.7	+0.2
CLDR	Caldiran	0.36	59	iP	Pg	16 59 18.5	-0.2
CLDR				iS	Sb	16 59 24.9	-0.8
CLDR	Caldiran	0.36	59	P	Pg	16 59 18.5	-0.2
CLDR				S	Sb	16 59 24.9	-0.9
TVAN	Van	0.44	192	iP	Pg	16 59 19.6	-0.5
TVAN				iS	Sb	16 59 28.0	0.0
TVAN	Van	0.44	192	P	Pg	16 59 19.6	-0.5
TVAN				S	Sb	16 59 28.0	-0.1
ADCV	BITLIS_Adilcev	0.64	257	iP	Pg	16 59 23.5	-0.4
ADCV				iS	Sb	16 59 34.2	+0.3
ADCV	BITLIS_Adilcev	0.64	257	P	Pg	16 59 23.5	-0.4
ADCV				S	Sb	16 59 34.2	+0.3
TUTA	Tutak	0.71	309	iP	Pg	16 59 25.1	-0.1
TUTA				iS	Sb	16 59 36.3	+0.4
TUTA	Tutak	0.71	309	P	Pg	16 59 25.0	-0.2
TUTA				S	Sb	16 59 36.3	+0.5
GEVA	Gevas	0.74	210	iP	Pg	16 59 24.3	-1.5
GEVA				iS	Sb	16 59 37.0	+0.3
GEVA	Gevas	0.74	210	P	Pg	16 59 24.3	-1.5
GEVA				S	Sb	16 59 37.0	+0.3
TATV	Tatvan	1.08	246	iP	Pg	16 59 31.2	-1.1
TATV				iS	Sg	16 59 45.6	-0.7
TATV	Tatvan	1.08	246	P	Pg	16 59 31.2	-1.1
TATV				S	Sg	16 59 45.6	-0.7

ISK 31 17:01:55.8, 38°64N×43°92E, h5km, MD2.7
ISCJB 31 17:01:56.6±1.1, 38°67N±0°03×44°2E±0°1, h7km±7km, Error ellipse: s-maj=14.0km s-min=5.2km az=176.7
CSEM 31 17:01:56.7±0.5, 38°67N×44°16E, h10km, MD2.7, Error ellipse: s-maj=15.9km s-min=5.6km az=89.0
DDA 31 17:01:56.5, 38°66N×44°17E, h5km, Md2.9

ISC 31 17:01:56.6±1.4, 38°67N±0°02×44°18E±0°07, h13km±10km, n23, σ0°66/38, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.51	337	ePG	Pg	17 02 06.6	-0.2
CLDR				eSG	Sb	17 02 14.9	-0.1
CLDR	Caldiran	0.51	337	iP	Pg	17 02 07.0	+0.2
CLDR				iS	Sb	17 02 15.3	+0.3
CLDR	Caldiran	0.51	337	ePg	Pg	17 02 06.6	-0.2
CLDR	Caldiran	0.51	337	P	Pg	17 02 07.0	+0.2
CLDR				eSg	Sb	17 02 14.9	-0.1
CLDR				S	Sb	17 02 15.3	+0.3
TVAN	Van	0.62	257	iP	Pg	17 02 00.9	-7.9
BASK	Baskale_VAN	0.63	192	iP	Pg	17 02 08.7	-0.3
BASK				iS	Sb	17 02 18.4	0.0
BASK	Baskale_VAN	0.63	192	P	Pg	17 02 08.7	-0.3
BASK				S	Sb	17 02 18.4	0.0
GEVA	Gevas	0.95	248	iP	Pb	17 02 14.8	-0.2
GEVA				iS	Sg	17 02 28.0	+0.6
GEVA	Gevas	0.95	248	P	Pb	17 02 14.8	-0.2
GEVA				S	Sg	17 02 28.0	+0.6
HAKT	HAKKARI	1.17	199	iP	Pb	17 02 18.1	-0.7
HAKT				iS	Sn	17 02 35.8	+1.0
HAKT	HAKKARI	1.17	199	P	Pb	17 02 18.1	-0.7
HAKT				S	Sn	17 02 35.8	+1.0
AGRB	Hanur-Agry	1.29	315	ePN	Pn	17 02 18.8	-1.7
AGRB	Hanur-Agry	1.29	315	ePn	Pn	17 02 18.8	-1.7
TASB	TASBURUN-IGDIR	1.31	2	ePN	Pg	17 02 22.6	+0.8
TASB	TASBURUN-IGDIR	1.31	2	ePn	Pg	17 02 22.6	+0.8
CUKT	Cukurca	1.49	198	ePN	Pn	17 02 23.6	+0.4
CUKT				eSN	Sg	17 02 44.3	-0.3
CUKT	Cukurca	1.49	198	iP	Pn	17 02 23.4	+0.2
CUKT				iS	Sb	17 02 43.0	-0.1
CUKT	Cukurca	1.49	198	P	Pn	17 02 23.4	+0.2
CUKT	Cukurca	1.49	198	ePn	Pn	17 02 23.6	+0.4
CUKT				S	Sb	17 02 43.0	-0.1
CUKT				eSn	Sg	17 02 44.3	-0.3
GURO	Guroymak-BITLI	1.68	267	ePN	Pn	17 02 24.9	-0.9
GURO	Guroymak-BITLI	1.68	267	ePn	Pn	17 02 24.9	-0.9
SRTM	Siirt_Merkez	1.90	250	iP	Pb	17 02 31.2	+0.1
SRTM				iS	Sg	17 02 58.4	+0.7
SRTM	Siirt_Merkez	1.90	250	P	Pb	17 02 31.2	+0.1
SRTM				S	Sg	17 02 58.4	+0.7

ISK 31 17:04:22.6, 39°77N×34°20E, h5km, MD2.8
ISCJB 31 17:04:24.4±0.8, 39°68N±0°06×34°23E±0°05, h1km±9km, Error ellipse: s-maj=9.8km s-min=5.1km az=158.7
CSEM 31 17:04:24.4±0.2, 39°61N×34°25E, h5km, MD2.9, Error ellipse: s-maj=12.6km s-min=3.9km az=148.0
DDA 31 17:04:24.5, 39°61N×34°32E, h12km, Md2.9

ISC 31 17:04:24.4±1.2, 39°64N±0°05×34°22E±0°04, h1km±12km, n14, σ0°60/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	Cicekdag	0.12	95	iP	Pg	17 04 26.6	-0.1
CDAG				iS	Sg	17 04 29.1	+0.8
CDAG	Cicekdag	0.12	95	P	Pg	17 04 26.6	-0.1
CDAG				S	Sg	17 04 29.1	+0.8
COAL	Corum-Alaca	0.86	43	iP	Pb	17 04 41.7	-0.4
COAL				iS	Sg	17 04 51.2	-0.7
COAL	Corum-Alaca	0.86	43	P	Pb	17 04 41.7	-0.4
COAL				S	Sg	17 04 51.2	-0.7
AFSR	Af¯ar-Bala (A	0.91	258	ePG	Pg	17 04 41.7	0.0
AFSR				eSG	Sb	17 04 55.6	+0.1
AFSR	Af¯ar-Bala (A	0.91	258	ePg	Pg	17 04 41.7	0.0
AFSR				eSg	Sb	17 04 55.6	+0.1
CTAK	Corum_Osmancik	1.10	23	iP	Pg	17 04 46.0	+0.5
CTAK				iS	Sn	17 05 04.3	+1.2
CTAK	Corum_Osmancik	1.10	23	P	Pg	17 04 46.0	+0.5
KKUL	Konya-Kulu	1.11	246	iP	Pb	17 04 46.4	+0.1
KKUL				iS	Sn	17 05 02.3	-0.7
KKUL	Konya-Kulu	1.11	246	P	Pb	17 04 46.4	+0.1
KKUL				S	Sn	17 05 02.3	-0.7
KULU	Kulu	1.11	238	ePN	Pb	17 04 46.2	-0.2
KULU				eSN	Sn	17 05 04.0	+0.9
KULU	Kulu	1.11	238	ePn	Pb	17 04 46.2	-0.2
KULU				eSn	Sn	17 05 04.0	+0.9
SVSK	Karacayir	2.16	82	ePN	Pn	17 05 01.1	-0.4
SVSK	Karacayir	2.16	82	ePn	Pn	17 05 01.1	-0.4

TIR 31 17:05:59.5±2.5, 41°05N×20°05E, h30km±23km
CSEM 31 17:06:01.3±0.6, 41°05N×20°14E, h2km, ML2.5, Error ellipse: s-maj=11.7km s-min=5.8km az=35.0
SKO 31 17:06:01.6, 41°13N×20°15E, h7km
BEO 31 17:06:02.1±0.7, 41°06N×20°14E, h0km, M2.5/9

ISC 31 17:06:00.1±1.4, 41°07N±0°04×20°15E±0°03, h10km±10km, n31, σ1¶46/50, 5C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.35	322	iPG	Pb	17 06 07.1	-1.4
TIR				iSG	Sb	17 06 13.5	-0.7
TIR	Tirane	0.35	322	ePg	Pb	17 06 07.3	-1.2
TIR				eSg	Sb	17 06 12.8	-1.4
TIR	Tirane	0.35	322	ePg	Pb	17 06 07.3	-1.2
TIR				iSg	Sb	17 06 13.5	-0.7
	SNR=125						
OHR	Ohrid	0.49	85	⇑iPg	Pb	17 06 10.2	-0.7
OHR				iSg	Sb	17 06 18.2	0.0
PHP	Peshkopia	0.65	19	iPG	Pg	17 06 12.5	-0.2
PHP				iSG	Sb	17 06 24.0	+1.2
PHP	Peshkopia	0.65	19	iPg	Pg	17 06 12.5	-0.2
	SNR=104						
PHP				iSg	Sb	17 06 24.0	+1.2
	SNR=104						
KBN	Korca	0.66	133	iPG	Pb	17 06 13.5	-0.3
KBN				iSG	Sn	17 06 26.0	-0.1
KBN	Korca	0.66	133	iPg	Pb	17 06 13.5	-0.3
	SNR=104						
KRUS	Krusevo	0.88	70	⇑iPg	Pg	17 06 16.7	-0.4
KRUS				eSg	Sb	17 06 29.4	-0.1
KRUS	Krusevo	0.88	70	⇑iPg	Pg	17 06 16.6	-0.4
KRUS				eSg	Sb	17 06 29.3	-0.1
BIA	Bitola	0.89	93	⇑iPg	Pn	17 06 18.3	-0.5
BIA				iSg	Sb	17 06 30.6	+1.0
BIA	Bitola	0.89	93	⇑iPg	Pn	17 06 18.3	-0.5
BIA				iSg	Sb	17 06 30.6	+1.0
PUK	Puka	0.99	349	iPG	Pb	17 06 19.1	-0.4
PUK				iSG	Sn	17 06 35.2	+0.9
PUK	Puka	0.99	349	iPg	Pb	17 06 19.1	-0.4
	SNR=98						
PUK				iSg	Sn	17 06 35.2	+0.9
	SNR=98						
PDG	Podgorica	1.51	334	ePg	Pg	17 06 28.5	-0.7
PDG				eSg	Sg	17 06 51.4	+2.5
PDG	Podgorica	1.51	334	ePg	Pg	17 06 28.5	-0.7
PDG				eSg	Sg	17 06 51.4	+2.5
TREB	Trebinje	2.12	321	ePn	Pb	17 06 38.3	-0.5
TREB				eSg	Sg	17 07 09.9	+1.5
TREB	Trebinje	2.12	321	ePn	Pb	17 06 38.3	-0.5
TREB				eSg	Sg	17 07 09.9	+1.5
BARS	Barje	2.14	35	eSg	Sg	17 07 09.8	+0.9
BARS	Barje	2.14	35	eSg	Sg	17 07 09.8	+0.9
SJES	Sjenica	2.19	357	ePn	Pg	17 06 41.1	-1.1
SJES				eSg	Sg	17 07 12.1	+1.5
SELS	Selova	2.26	18	ePn	Pb	17 06 41.2	+0.1
IVAS	Ivanjica	2.50	360	ePn	Pb	17 06 44.1	-1.2
IVAS	Ivanjica	2.50	360	ePn	Pb	17 06 44.1	-1.2
VTS	Vitosha	2.74	55	ePn	Pb	17 06 46.7	-2.7
VTS	Vitosha	2.74	55	ePn	Pb	17 06 46.7	-2.7
BOVS	Bovan	2.81	24	ePn	Pb	17 06 48.1	-2.3
BOVS	Bovan	2.81	24	ePn	Pb	17 06 48.1	-2.3
ZAPS	Zavoj	2.87	39	ePn	Pb	17 06 50.7	-0.8
ZAPS				eSn	Sn	17 07 23.9	+3.2
ZAGS	Zajecar	3.14	29	ePn	Pb	17 06 53.0	-3.1
ZAGS	Zajecar	3.14	29	ePn	Pb	17 06 53.0	-3.1

ISCJB 31 17:16:21.8±0.7, 53°1N±0°2×173°3W±0°1, h200km, mb3.2/2, Error ellipse: s-maj=25.3km s-min=6.1km az=154.4
NEIC 31 17:16:22.9±0.0, 52°52N×173°05W, h219km, MG3.5(AEIC), After AEIC.
IDC 31 17:16:35.9±10.0, 52°32N×165°47W, h0km, mb3.6/2, mb1 4.1/4, mb1mx3.4/45, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=180.5km s-min=40.0km az=87.0

ISC 31 17:16:22.6±1.0, 53°0N±0°2×173°2W±0°1, h200km, n16, σ1¶17/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	Korovin West	0.87	228	ePn	Pn	17 16 52.1	+0.6
KOFP	Korovin Flat P	0.87	219	ePn	Pn	17 16 52.6	+1.0
KOFP				eS	Sn	17 17 16.4	+2.4
ATKA	Atka Island	0.97	220	ePn	Pn	17 16 52.6	+0.5
ATKA				eS	Sn	17 17 15.4	+0.6
ADK	Adak	2.39	245	ePn	Pn	17 17 05.4	+0.2
ADK				eS	Sn	17 17 37.1	-1.3
KIRH	Kanaga Island	2.61	248	ePn	Pn	17 17 08.7	+1.1
TAPA	Tanaga Point A	3.05	250	ePn	Pn	17 17 13.1	+0.3
UNV	Unalaska Valle	4.11	75	ePn	Pn	17 17 26.2	+0.6
UNV				eS	Sn	17 18 16.0	+1.0
KDAK	Kodiak Island	12.66	59	Pn	Pn	17 18 51.3	-24
	0.2nm,0.3s,baz=241,slow=13,SNR=11						
ILAR	Eielson Array	17.86	38	Pn	P	17 20 17.6	+1.1
	1.1nm,0.3s,baz=224,slow=10,SNR=76						
KMOR	Kings Mountain	32.66	83	eS	S	17 27 34.9	-1.7
CMCM	Mills College	38.06	93	epP	pP	17 24 05.3	+1.8
BSMM	Soledad Missio	39.43	94	epP	pP	17 24 15.4	+0.2
SBT	San Benito	39.56	93	epP	pP	17 24 17.3	+1.1
PDAR	Pinedale Array	42.56	77	P	P	17 23 57.5	-1.2
	0.7nm,0.6s,baz=285,slow=2.9,SNR=4.5						
LTX	Lajitas	55.05	86	eP	P	17 25 33.2	-0.4
TXAR	Lajitas Array	55.05	86	P	P	17 25 33.2	-0.4
	0.4nm,0.7s,baz=292,slow=5.7,SNR=5.1						

ISK 31 17:18:01.5, 38°58N×43°34E, h2km, MD2.6
ISCJB 31 17:18:02.7±0.6, 38°65N±0°03×43°31E±0°05, h8km±6km, Error ellipse: s-maj=6.1km s-min=5.3km az=18.8
CSEM 31 17:18:02.5±0.3, 38°62N×43°32E, h5km, MD2.6, Error ellipse: s-maj=6.2km s-min=5.4km az=107.0
DDA 31 17:18:02.2, 38°65N×43°37E, h10km, Ml3.0

ISC 31 17:18:02.4±0.9, 38°61N±0°03×43°32E±0°04, h9km±7km, n19, σ0°48/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.06	107	ePG	Pg	17 18 03.8	-0.6
VANB	Van	0.06	107	ePg	Pg	17 18 03.8	-0.6
TVAN	Van	0.11	140	iP	Pg	17 18 05.5	+0.4
TVAN				iS	Sg	17 18 07.8	+0.7
TVAN	Van	0.11	140	P	Pg	17 18 05.5	+0.4
TVAN				S	Sg	17 18 07.8	+0.7
GEVA	Gevas	0.36	214	iP	Pb	17 18 10.7	-0.5
GEVA				iS	Sb	17 18 17.4	+0.4
GEVA	Gevas	0.36	214	P	Pb	17 18 10.6	-0.5
GEVA				S	Sb	17 18 17.4	+0.4
ADCV	BITLIS_Adilcev	0.50	293	iP	Pn	17 18 22.1	+6.0
ADCV				iS	Sn	17 18 39.1	+14
CLDR	Caldiran	0.71	41	ePG	Pb	17 18 16.5	-0.6
CLDR				eSG	Sb	17 18 27.1	0.0
CLDR	Caldiran	0.71	41	ePg	Pb	17 18 16.5	-0.6
CLDR				eSg	Sb	17 18 27.1	0.0
TATV	Tatvan	0.83	263	iP	Pg	17 18 17.9	-0.5
TATV	Tatvan	0.83	263	P	Pg	17 18 17.9	-0.5
TUTA	Tutak	0.88	334	iP	Pg	17 18 19.5	+0.2
TUTA	Tutak	0.88	334	P	Pg	17 18 19.5	+0.2
AGRB	Hanur-Agry	0.99	345	ePG	Pb	17 18 21.9	0.0
AGRB	Hanur-Agry	0.99	345	ePg	Pb	17 18 21.9	0.0
GURO	Guroymak-BITLI	1.01	267	ePG	Pg	17 18 21.6	-0.2
GURO				eSG	Sn	17 18 37.3	0.0
GURO	Guroymak-BITLI	1.01	267	ePg	Pg	17 18 21.6	-0.2
GURO				eSg	Sn	17 18 37.3	0.0
HAKT	HAKKARI	1.10	164	iP	Pb	17 18 23.0	-0.7
HAKT				iS	Sn	17 18 39.9	+0.3
HAKT	HAKKARI	1.10	164	P	Pb	17 18 23.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.86**	**357**	*eP*	Pg	17 52 51.6	-2.7
GUYB				*eS*	Sg	17 53 02.6	-3.0
HSIG		**1.98**	**357**	*eP*	Pn	17 53 08.9	-2.2
HSIG				*eS*	Sn	17 53 31.2	-4.6

*ISK **31** 18:08:10.5, 38°58N×43°14E, h5km, MD2.9*
*CSEM **31** 18:08:11.7±0.2, 38°61N×43°15E, h10km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.0km az=152.0*
*DDA **31** 18:08:11.8, 38°63N×43°14E, h7km, Md3.0*
*ISCJB **31** 18:08:12.1±0.4, 38°60N±0°03×43°14E±0°03, h12km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=148.0*
ISC 31 18:08:11.9±0.9, 38°61N±0°03×43°13E±0°02, h10km±9km, n29, σ0§46/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**94**	*ePG*	**Pg**	**18 08 15.8**	**-0.4**
VANB	**Van**	**0.20**	**94**	*ePg*	**Pg**	**18 08 15.8**	**-0.4**
TVAN	**Van**	**0.23**	**110**	*iP*	**Pg**	**18 08 16.2**	**-0.5**
TVAN				*iS*	**Sg**	**18 08 20.5**	**+0.5**
TVAN	**Van**	**0.23**	**110**	P	**Pg**	**18 08 16.2**	**-0.5**
TVAN				S	**Sg**	**18 08 20.5**	**+0.5**
GEVA	**Gevas**	**0.30**	**191**	*iP*	**Pg**	**18 08 18.1**	**0.0**
GEVA				*iS*	**Sb**	**18 08 24.2**	**-0.4**
GEVA	**Gevas**	**0.30**	**191**	P	**Pg**	**18 08 18.1**	**0.0**
GEVA				S	**Sb**	**18 08 24.2**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.38**	**302**	*iP*	**Pg**	**18 08 19.6**	**0.0**
ADCV				*iS*	**Sb**	**18 08 26.4**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.38**	**302**	P	**Pg**	**18 08 19.5**	**0.0**
ADCV				S	**Sb**	**18 08 26.4**	**-0.5**
ERCV	**ERCIS-VAN**	**0.44**	**21**	*ePG*	**Pg**	**18 08 20.6**	**0.0**
ERCV	**ERCIS-VAN**	**0.44**	**21**	*ePg*	**Pg**	**18 08 20.6**	**0.0**
VMUR	**Van-Muradiye**	**0.51**	**42**	*iP*	**Pg**	**18 08 21.9**	**-0.1**
VMUR				*iS*	**Sb**	**18 08 30.7**	**0.0**
VMUR	**Van-Muradiye**	**0.51**	**42**	P	**Pg**	**18 08 21.9**	**-0.1**
VMUR				S	**Sb**	**18 08 30.7**	**0.0**
TATV	**Tatvan**	**0.69**	**262**	*iP*	**Pg**	**18 08 24.9**	**-0.3**
TATV				*iS*	**Sb**	**18 08 35.2**	**-0.6**
TATV	**Tatvan**	**0.69**	**262**	P	**Pg**	**18 08 24.9**	**-0.3**
TATV				S	**Sb**	**18 08 35.2**	**-0.6**
CLDR	**Caldiran**	**0.81**	**49**	*ePG*	**Pg**	**18 08 27.4**	**-0.2**
CLDR	**Caldiran**	**0.81**	**49**	*iP*	**Pg**	**18 08 27.4**	**-0.2**
CLDR				*iS*	**Sb**	**18 08 39.1**	**-0.3**
CLDR	**Caldiran**	**0.81**	**49**	P	**Pg**	**18 08 27.4**	**-0.2**
CLDR				S	**Sb**	**18 08 39.1**	**-0.3**
TUTA	**Tutak**	**0.83**	**343**	*iP*	**Pg**	**18 08 27.5**	**-0.5**
TUTA				*iS*	**Sg**	**18 08 39.2**	**+0.3**
TUTA	**Tutak**	**0.83**	**343**	P	**Pg**	**18 08 27.5**	**-0.5**
TUTA				S	**Sg**	**18 08 39.2**	**+0.3**
GURO	**Guroymak-BITLI**	**0.86**	**267**	*ePG*	**Pg**	**18 08 28.1**	**-0.5**
GURO				*eSG*	**Sb**	**18 08 41.3**	**+0.5**
GURO	**Guroymak-BITLI**	**0.86**	**267**	*ePg*	**Pg**	**18 08 28.1**	**-0.5**
GURO				*eSg*	**Sb**	**18 08 41.3**	**+0.5**
AGRB	**Hanur-Agry**	**0.97**	**354**	*ePG*	**Pg**	**18 08 30.3**	**-0.4**
AGRB				*eSG*	**Sn**	**18 08 46.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.97**	**354**	*ePg*	**Pg**	**18 08 30.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*ePN*	**Pb**	**18 08 41.0**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.59**	**254**	*ePn*	**Pb**	**18 08 41.0**	**-0.4**
BNGB	**Bing¶ll**	**1.96**	**282**	*ePN*	**Pn**	**18 08 46.5**	**+1.2**
BINT	**Bingol**	**2.08**	**278**	*ePn*	**Pn**	**18 08 46.5**	**-0.6**
MAZI	**Mazidag**	**2.41**	**242**	*ePN*	**Pn**	**18 08 52.3**	**+0.7**
MAZI	**Mazidag**	**2.41**	**242**	*ePn*	**Pn**	**18 08 52.3**	**+0.7**

*ISK **31** 18:09:52.1, 38°74N×43°47E, h5km, MD2.6*
*ISCJB **31** 18:09:53.3±1.1, 38°69N±0°04×43°56E±0°08, h23km±9km, Error ellipse: s-maj=11.7km s-min=5.9km az=23.0*
*CSEM **31** 18:09:53.6±0.3, 38°74N×43°49E, h5km, MD2.6, Error ellipse: s-maj=8.2km s-min=5.1km az=120.0*
*DDA **31** 18:09:53.5, 38°74N×43°48E, h7km, Ml2.9*
ISC 31 18:09:53.5±1.1, 38°73N±0°03×43°54E±0°04, h18km±3km, n20, σ0§72/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**222**	*ePG*	**Pg**	**18 09 58.0**	**-0.2**
VANB	**Van**	**0.18**	**222**	*ePg*	**Pg**	**18 09 58.0**	**-0.2**
TVAN	**Van**	**0.22**	**208**	*iP*	**Pb**	**18 09 58.4**	**-0.5**
TVAN				*iS*	**Sg**	**18 10 03.0**	**+0.3**
TVAN	**Van**	**0.22**	**208**	P	**Pb**	**18 09 58.4**	**-0.5**
TVAN				S	**Sg**	**18 10 03.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.26**	**6**	*iP*	**Pg**	**18 09 59.0**	**-0.6**
VMUR				*iS*	**Sg**	**18 10 04.8**	**+1.1**
VMUR	**Van-Muradiye**	**0.26**	**6**	P	**Pg**	**18 09 59.0**	**-0.6**
VMUR				S	**Sg**	**18 10 04.8**	**+1.1**
CLDR	**Caldiran**	**0.51**	**35**	*ePG*	**Pg**	**18 10 03.3**	**-0.6**
CLDR				*eSG*	**Sb**	**18 10 12.5**	**+1.3**
CLDR	**Caldiran**	**0.51**	**35**	*iP*	**Pb**	**18 10 03.9**	**-0.1**
CLDR				*iS*	**Sb**	**18 10 12.1**	**+0.9**
CLDR	**Caldiran**	**0.51**	**35**	*ePg*	**Pg**	**18 10 03.3**	**-0.6**
CLDR	**Caldiran**	**0.51**	**35**	P	**Pb**	**18 10 03.9**	**-0.1**
CLDR				S	**Sb**	**18 10 12.1**	**+0.9**
GEVA	**Gevas**	**0.56**	**222**	*iP*	**Pb**	**18 10 04.0**	**-0.8**
GEVA	**Gevas**	**0.56**	**222**	P	**Pb**	**18 10 04.0**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.64**	**278**	*iP*	**Pg**	**18 10 06.7**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**278**	P	**Pg**	**18 10 06.7**	**+0.5**
TUTA	**Tutak**	**0.88**	**320**	*iP*	**Pb**	**18 10 10.0**	**-0.4**
TUTA				*iS*	**Sb**	**18 10 22.0**	**+0.2**
TUTA	**Tutak**	**0.88**	**320**	P	**Pb**	**18 10 10.0**	**-0.4**
TUTA				S	**Sb**	**18 10 22.0**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**334**	*ePG*	**Pb**	**18 10 10.1**	**-1.4**
AGRB				*eSG*	**Sn**	**18 10 24.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.95**	**334**	*ePg*	**Pb**	**18 10 10.1**	**-1.4**
AGRB				*eSg*	**Sn**	**18 10 24.9**	**-0.4**
GURO	**Guroymak-BITLI**	**1.19**	**262**	*ePN*	**Pb**	**18 10 15.4**	**-0.2**
GURO	**Guroymak-BITLI**	**1.19**	**262**	*ePn*	**Pb**	**18 10 15.4**	**-0.2**

*NIED **31** 18:12:00, 39°90N×143°70E, h17km, Mw4.0 Best double couple: M0=9.81000×10^14 NP1:φ=183.00000°, δ=34.00000°, λ=70.00000°. NP2:φ=27.00000°, δ=58.00000°, λ=103.00000°.*
*IDC **31** 18:12:02.6±1.2, 39°88N×143°85E, h0km, mb3.9/8, mb1 3.9/11, mb1mx3.7/49, mbtmp3.9/11, ML3.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/32, Error ellipse: s-maj=31.9km s-min=17.2km az=87.0*
*ISCJB **31** 18:12:03.4±0.8, 39°88N±0°04×143°7E±0°1, h16km, mb3.9/10, Error ellipse: s-maj=12.3km s-min=4.3km az=24.7*
*JMA **31** 18:12:04.8±0.3, 39°90N×143°65E, h26km, M4.1*
*NEIC **31** 18:12:06.1±3.2, 39°87N×143°76E, h22km±22km, mb4.7/2, Error ellipse: s-maj=19.1km s-min=8.3km az=103.0*
ISC 31 18:12:05.2±1.1, 39°93N±0°07×143°7E±0°1, h16km, n31, σ1§36/29, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.39**	**271**	P	**Pn**	**18 12 28.6**	**-1.3**
MIYJ	**Miyakonagasawa**	**1.47**	**257**	P	**Pn**	**18 12 30.1**	**-0.9**
JANG	**Nango**	**1.71**	**286**	P	**Pn**	**18 12 33.5**	**-0.8**
JOM	**Ohasama**	**1.89**	**257**	P	**Pn**	**18 12 36.7**	**0.0**
JMK	**Ichinoseki**	**2.13**	**244**	P	**Pn**	**18 12 39.0**	**-1.1**
JCH	**Churui**	**2.69**	**355**	P	**Pb**	**18 12 48.6**	**-4.4**
JCH				*eS*	**Sn**	**18 13 20.2**	**+0.1**
JYK	**Kaneyama**	**2.75**	**250**	P	**Pn**	**18 12 48.5**	**-0.2**
JAK	**Akkeshi**	**3.16**	**14**	P	**Pn**	**18 12 54.9**	**+0.7**
JAK				*eS*	**Sn**	**18 13 30.6**	**-1.0**
JAR	**Ashorobuto**	**3.37**	**1**	P	**Pn**	**18 12 57.3**	**+0.2**
JAR				*eS*	**Sn**	**18 13 35.5**	**-1.2**
ASAJ	**Asahikawa**	**4.26**	**350**	Pn	**Pn**	**18 13 11.3**	**+1.9**
	1.8nm,0.3s,baz=167,slow=6.5,SNR=17						
ASAJ				Sn	**Sn**	**18 14 01.1**	**+2.4**
	1.9nm,0.3s,baz=288,slow=20,SNR=4.3						
MJAR	**Matsushiro Arr**	**5.47**	**234**	Pn	**Pn**	**18 13 26.4**	**+0.5**
	2.6nm,0.3s,baz=44,slow=12,SNR=32						
MJAR				LR	LR	18 15 31.5	
	comp=Z,71nm,20.4s,baz=60,slow=38						
MAJO	**Matsushiro**	**5.47**	**234**	*eP*	**Pn**	**18 13 26.2**	**+0.2**
	26nm,0.5s						
MAT	**Matsushiro**	**5.47**	**234**	P	**Pn**	**18 13 26.3**	**+0.3**
MAT				*eS*	**Sn**	**18 14 28.8**	**+0.2**
USRK	**Ussuriysk Ar.**	**9.67**	**300**	Pn	**Pn**	**18 14 26.3**	**+2.6**
	0.3nm,0.3s,baz=107,slow=15,SNR=11						
KSRS	**Korea Array**	**12.55**	**264**	LR	LR	18 18 39.2	
	comp=Z,32nm,18.9s,baz=50,slow=31						
SEY	**Seymchan**	**23.62**	**10**	P	**P**	**18 17 14.8**	**-0.5**
	2.8nm,0.8s,baz=193,slow=12,SNR=1.8						
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**18 17 54.5**	**+1.1**
	1.3nm,0.6s,baz=88,slow=8.1,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.34**	**128**	T	T	18 47 37.9	
	baz=321,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.35**	**129**	T	T	18 47 37.0	
	baz=321,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.35**	**128**	T	T	18 47 30.2	
	baz=321,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**29.17**	**130**	T	T	18 48 31.2	
	baz=322,slow=76,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**29.17**	**130**	T	T	18 48 31.3	
	baz=322,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**29.18**	**130**	T	T	18 48 30.7	
	baz=322,slow=76,SNR=8.4						
ZALV	**Zalesovo Beam**	**41.34**	**310**	P	**P**	**18 19 51.1**	**+1.2**
	0.8nm,0.4s,baz=79,slow=7.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**43.96**	**254**	P	**P**	**18 20 12.1**	**+0.4**
	0.3nm,0.3s,baz=42,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**44.14**	**300**	P	**P**	**18 20 13.6**	**+0.7**
	0.9nm,0.8s,baz=83,slow=9.3,SNR=7.1						
KURK	**Kurchatov**	**45.59**	**306**	*eP*	**P**	**18 20 24.4**	**+0.1**
	26nm,0.6s						
ABKAR	**Akbulak array**	**57.45**	**309**	*eP*	**P**	**18 21 53.7**	**+0.7**
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**60.19**	**190**	P	**P**	**18 22 12.0**	**-0.3**
	0.7nm,0.5s,baz=7.4,slow=6.9,SNR=6.5						
ASAR	**Alice Springs**	**63.92**	**190**	P	**P**	**18 22 37.7**	**+0.4**
	0.4nm,0.6s,baz=0.2,slow=6.0,SNR=8.8						
FINES	**FINESS Array B**	**67.07**	**332**	P	**P**	**18 22 58.1**	**+0.8**
	2.5nm,0.8s,baz=20,slow=6.1,SNR=6.6						

*ISK **31** 18:15:34.8, 38°79N×43°25E, h8km, MD2.6*
*ISCJB **31** 18:15:36.0±0.4, 38°81N±0°03×43°30E±0°04, h13km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=39.0*
*CSEM **31** 18:15:35.6±0.2, 38°82N×43°27E, h5km, MD2.6, Error ellipse: s-maj=4.3km s-min=3.8km az=119.0*
*DDA **31** 18:15:35.8, 38°82N×43°32E, h7km, Ml2.7*
ISC 31 18:15:35.9±1.0, 38°82N±0°02×43°27E±0°03, h12km±10km, n24, σ0§67/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.24**	**158**	*ePG*	**Pg**	**18 15 41.3**	**+0.2**
VANB	**Van**	**0.24**	**158**	*ePg*	**Pg**	**18 15 41.3**	**+0.2**
VMUR	**Van-Muradiye**	**0.29**	**54**	*iP*	**Pg**	**18 15 41.3**	**-0.6**
VMUR				*iS*	**Sb**	**18 15 47.2**	**-0.7**
VMUR	**Van-Muradiye**	**0.29**	**54**	P	**Pg**	**18 15 41.3**	**-0.6**
VMUR				S	**Sb**	**18 15 47.2**	**-0.7**
TVAN	**Van**	**0.31**	**160**	*iP*	**Pg**	**18 15 41.5**	**-0.8**
TVAN				*iS*	**Sg**	**18 15 47.2**	**+0.5**
TVAN	**Van**	**0.31**	**160**	P	**Pg**	**18 15 41.5**	**-0.8**
TVAN				S	**Sg**	**18 15 47.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.43**	**268**	*iP*	**Pb**	**18 15 45.1**	**-0.4**
ADCV				*iS*	**Sb**	**18 15 52.9**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.43**	**268**	P	**Pb**	**18 15 45.1**	**-0.4**
ADCV				S	**Sb**	**18 15 52.9**	**+1.0**
GEVA	**Gevas**	**0.54**	**198**	*iP*	**Pg**	**18 15 45.8**	**-0.6**
GEVA				*iS*	**Sb**	**18 15 55.0**	**0.0**
GEVA	**Gevas**	**0.54**	**198**	P	**Pg**	**18 15 45.8**	**-0.6**
GEVA				S	**Sb**	**18 15 55.0**	**0.0**
CLDR	**Caldiran**	**0.60**	**57**	*ePG*	**Pg**	**18 15 47.5**	**-0.1**
CLDR				*eSG*	**Sb**	**18 15 56.9**	**+0.1**
CLDR	**Caldiran**	**0.60**	**57**	*iP*	**Pg**	**18 15 47.0**	**-0.6**
CLDR				*iS*	**Sg**	**18 15 55.9**	**+0.4**
CLDR	**Caldiran**	**0.60**	**57**	P	**Pg**	**18 15 47.0**	**-0.6**
CLDR	**Caldiran**	**0.60**	**57**	*ePg*	**Pg**	**18 15 47.5**	**-0.1**
CLDR				S	**Sg**	**18 15 55.9**	**+0.4**
CLDR				*eSg*	**Sb**	**18 15 56.9**	**+0.1**
TUTA	**Tutak**	**0.68**	**329**	*iP*	**Pb**	**18 15 49.0**	**-0.1**
TUTA				*iS*	**Sb**	**18 15 59.9**	**+0.7**
TUTA	**Tutak**	**0.68**	**329**	P	**Pb**	**18 15 49.0**	**-0.1**
TUTA				S	**Sb**	**18 15 59.9**	**+0.7**
AGRB	**Hanur-Agry**	**0.78**	**344**	*ePG*	**Pg**	**18 15 50.4**	**-0.7**
AGRB				*eSG*	**Sb**	**18 16 02.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.78**	**344**	*ePg*	**Pg**	**18 15 50.4**	**-0.7**
AGRB				*eSg*	**Sb**	**18 16 02.7**	**+0.5**
TATV	**Tatvan**	**0.85**	**249**	*iP*	**Pg**	**18 15 51.7**	**-0.6**
TATV				*iS*	**Sb**	**18 16 03.8**	**-0.2**
TATV	**Tatvan**	**0.85**	**249**	P	**Pg**	**18 15 51.7**	**-0.6**
TATV				S	**Sb**	**18 16 03.8**	**-0.2**
GURO	**Guroymak-BITLI**	**1.01**	**255**	*ePG*	**Pg**	**18 15 54.3**	**-1.0**
GURO	**Guroymak-BITLI**	**1.01**	**255**	*ePg*	**Pg**	**18 15 54.3**	**-1.0**
EATA	**Eleskirt**	**1.20**	**330**	*iP*	**Pg**	**18 15 57.7**	**-1.3**
EATA				*iS*	**Sn**	**18 16 16.0**	**+0.9**
EATA	**Eleskirt**	**1.20**	**330**	P	**Pg**	**18 15 57.7**	**-1.3**
EATA				S	**Sn**	**18 16 16.0**	**+0.9**

*ISCJB **31** 18:24:11.2±1.3, 34°76S±0°03×73°51W±0°04, h10km±9km, mb4.3/10, MS3.6/1, Error ellipse: s-maj=6.0km s-min=4.8km az=23.1*
*IDC **31** 18:24:11.3±1.0, 34°79S×73°60W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/33, mbtmp4.2/10, ML4.2/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=35.2km s-min=19.8km az=84.0*
*GUC **31** 18:24:13.5±0.5, 34°76S×73°52W, h25km±12km, ML3.8*
*NEIC **31** 18:24:15.0±2.6, 34°71S×73°48W, h23km±18km, mb4.6/7, Error ellipse: s-maj=14.2km s-min=7.0km az=88.0*
ISC 31 18:24:11.5±2.1, 34°83S±0°04×73°47W±0°06, h3km±13km, n45, σ1§40/58, mb4.4/10, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.28**	**98**	*iP*	**Pb**	**18 24 36.1**	**-0.2**
GO05				*iS*	**Sb**	**18 24 52.9**	**-0.3**
GO05				IAML		18 24 54.0	
	comp=N,2μm,0.2s						
GO05	**HualaæØ**	**1.28**	**98**	*ePn*	**Pg**	**18 24 36.5**	**+0.4**
CHPI	**Pichilemu**	**1.29**	**71**	*ll iP*	**Pn**	**18 24 35.3**	**-1.1**
CHPI				*iS*	**Sb**	**18 24 51.7**	**-1.7**
CHPI				IAML		18 24 52.4	
	comp=N,2μm,0.4s						
COCH	**Cobquecura**	**1.41**	**157**	*↑iP*	**Pb**	**18 24 38.1**	**-0.4**
COCH				*iS*	**Sn**	**18 24 54.9**	**-2.4**
COCH				IAML		18 24 56.8	
	comp=E,1μm,0.8s						
NICH	**Los Niches**	**1.85**	**96**	*iP*	**Pb**	**18 24 45.2**	**-0.8**
NICH				*iS*	**Sb**	**18 25 08.5**	**-1.1**
CCHI	**Chillan**	**2.10**	**148**	*↑iP*	**Pb**	**18 24 48.8**	**-1.4**
CCHI				*iS*	**Sn**	**18 25 14.5**	**+0.2**
CCHI				IAML		18 25 16.2	
	comp=N,3μm,0.6s						
ROC1	**El Roble**	**2.76**	**49**	*iP*	**Pn**	**18 24 56.3**	**-0.6**
ROC1				*iS*	**Sn**	**18 25 30.4**	**-0.4**
ROC1	**El Roble**	**2.76**	**49**	*ePn*	**Pn**	**18 24 56.0**	**-0.9**
ROCH	**El Roble**	**2.76**	**49**	*iP*	**Pn**	**18 24 55.8**	**-1.1**
ROCH				*iS*	**Sn**	**18 25 27.9**	**-3.0**
ROCH				IAML		18 25 32.4	
	comp=N,1μm,0.5s						
AUSP	**Uspallata**	**4.29**	**54**	*iP*	**Pn**	**18 25 19.0**	**+1.0**
AUSP				*iS*	**Sn**	**18 26 10.0**	**+1.3**
ASAL	**Salagasta**	**4.46**	**61**	*iP*	**Pn**	**18 25 21.8**	**+1.6**
ASAL				*iS*	**Sn**	**18 26 13.4**	**+0.7**
RTLS	**Leoncito**	**4.62**	**50**	*iP*	**Pn**	**18 25 23.6**	**+1.0**
RTLS				*iS*	**Sn**	**18 26 18.9**	**+2.0**
AMOG	**MOGNA**	**5.71**	**49**	*iP*	**Pn**	**18 25 37.7**	**+0.4**
ACAN	**Cantantal**	**5.83**	**66**	*iP*	**Pn**	**18 25 39.0**	**+0.1**
ACAN				*iS*	**Sn**	**18 26 45.5**	**-1.0**
LCO	**Las Campanas**	**6.26**	**23**	*ePn*	**Pn**	**18 25 42.5**	**-2.6**
PLCA	**Paso Flores**	**6.33**	**159**	Pn	**Pn**	**18 25 47.9**	**+2.1**
	comp=N,1.1nm,0.3s,baz=354,slow=12,SNR=20						
PLCA				Sn	**Sb**	**18 27 13.5**	**-5.1**
	baz=286,slow=17,SNR=2.1						
AVFE	**Valle Fertil**	**6.56**	**52**	*iP*	**Pn**	**18 25 48.6**	**-0.4**
AVFE				IAML		18 25 49.9	
	comp=Z,48nm,0.3s						
AVFE				*iS*	**Sn**	**18 27 02.8**	**-1.5**
AGUA	**GUANDACOL**	**6.80**	**40**	*iP*	**Pn**	**18 25 52.3**	**0.0**
APLL	**PUNTA DE LOS L**	**7.34**	**55**	*iP*	**Pn**	**18 25 58.4**	**-1.3**
VCA	**Vinchina**	**7.55**	**38**	*iP*	**Pn**	**18 26 02.2**	**-0.4**
VCA				IAML		18 26 07.1	
	comp=Z,49nm,0.2s						
ACLC	**CERRO LA CRUZ**	**7.72**	**48**	*iP*	**Pn**	**18 26 03.2**	**-1.8**
TRQA	**Tornquist**	**9.80**	**113**	*ePn*	**Pn**	**18 26 36.1**	**+2.7**
CHRN	**Cochrane**	**12.43**	**177**	*ePn*	**Pn**	**18 27 11.3**	**+2.1**
MNMC	**Minye Minye**	**16.01**	**13**	*ePn*	**Pn**	**18 27 57.9**	**-0.1**
	comp=Z,18nm,0.9s						
CPUP	**Villa Florida**	**16.27**	**63**	Pn	**P**	**18 28 03.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=242,slow=9.1,SNR=6.9						
CPUP				LR	LR	18 33 31.5	
	comp=Z,97nm,21.3s,baz=238,slow=34						
LPAZ	**La Paz**	**19.08**	**16**	P	**Pn**	**18 28 37.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=185,slow=7.3,SNR=12						
SIV	**San Ignacio**	**21.81**	**34**	P	**P**	**18 29 05.1**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=237,slow=12,SNR=6.3						
RUSC	**La Rusia**	**40.51**	**1**	*eP*	**P**	**18 31 51.7**	**-0.7**
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**18 33 17.1**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=229,slow=8.6,SNR=6.7						
SNAA	**Sanae**	**51.27**	**158**	*eP*	**P**	**18 33 17.6**	**+1.3**
	comp=Z,6.4nm,1.0s						
QSPA	**South Pole Qui**	**55.41**	**180**	*eP*	**P**	**18 33 48.8**	**+1.9**
	comp=Z,5.7nm,1.0s						
LTX	**Lajitas**	**69.89**	**332**	*eP*	**P**	**18 35 23.8**	**-0.2**
TX31	**Lajitas Ar. Si**	**69.89**	**332**	*eP*	**P**	**18 35 23.8**	**-0.1**
TXAR	**Lajitas Array**	**69.89**	**332**	P	**P**	**18 35 23.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=151,slow=8.3,SNR=20						
WVT	**Waverly**	**71.86**	**348**	*eP*	**P**	**18 35 34.9**	**-0.7**
	comp=Z,7.6nm,0.9s						
MAW	**Mawson**	**72.72**	**164**	P	**P**	**18 35 41.3**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=255,slow=8.9,SNR=4.4						
DBIC	**Dimbokro**	**76.57**	**72**	P	**P**	**18 36 04.2**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=219,slow=6.5,SNR=4.8						
DBIC				LR	LR	19 05 56.1	
	comp=Z,33nm,21.8s,baz=324,slow=33						
DBIC	**Dimbokro**	**76.57**	**72**	*eP*	**P**	**18 36 03.4**	**-0.2**
	comp=Z,21nm,1.4s						
BOSA	**Boshof**	**80.73**	**118**	P	**P**	**18 36 27.3**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=243,slow=5.6,SNR=3.5						
DUG	**Dugway, Tooele**	**83.00**	**331**	*eP*	**P**	**18 36 37.6**	**-0.5**
	comp=Z,5.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P	**P**	**18 36 51.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=248,slow=3.6,SNR=7.8						
TOA1	**Torodi Ar. Sit**	**85.61**	**71**	*eP*	**P**	**18 36 51.9**	**+0.2**
ZAA1	**Zalesovo Array**	**155.56**	**32**	*ePKPdf*	**PKPdf**	**18 44 05.0**	**-1.1**
ZAA1				*ePKPbc*	PKPbc	18 44 13.2	
ZALV	**Zalesovo Beam**	**155.56**	**32**	PKP	**PKPdf**	**18 44 05.0**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=296,slow=4.0,SNR=3.1						
ZALV				PKPbc	PKPbc	18 44 13.2	
	comp=Z,0.4nm,0.3s,baz=302,slow=3.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**162.35**	**156**	PKP	**PKPdf**	**18 44 15.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=252,slow=1.7,SNR=4.3						

IDC 31 18:32:21.0±3.1, 23°00S×179°33W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.8/23, mbtmp3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=292.3km s-min=33.8km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.18**	**271**	LR	LR	18 39 36.4	
	comp=Z,41nm,18.7s,baz=178,slow=33						
ASAR	**Alice Springs**	**42.80**	**259**	P	P	18 40 20.8	-0.1
	0.8nm,0.4s,baz=93,slow=7.3,SNR=32						
WRA	**Warramunga Arr**	**43.09**	**265**	P	P	18 40 23.0	-0.2
	1.5nm,0.4s,baz=103,slow=8.4,SNR=28						
TXAR	**Lajitas Array**	**89.43**	**58**	P	P	18 45 20.2	0.0
	0.2nm,0.7s,baz=212,slow=4.4,SNR=4.9						

*ISCJB **31** 18:42:11.8±0.2, 6°80N±0°03×73°04W±0°03, h164km±2km, mb4.1/24, Error ellipse: s-maj=5.5km s-min=4.8km az=23.7*
*NEIC **31** 18:42:13.3±0.4, 6°68N×73°06W, h162km±5km, mb4.1/10, Error ellipse: s-maj=8.2km s-min=6.7km az=70.0*
*RSNC **31** 18:42:13.9±0.9, 6°79N×73°12W, h153km±5km, ML4.6*
*IDC **31** 18:42:13.0±0.5, 6°78N×72°94W, h166km±4km, mb3.7/13, mb1 3.9/16, mb1mx3.8/29, mbtmp4.2/16, Error ellipse: s-maj=10.8km s-min=7.1

comp=Z,0.5nm,0.6s,baz=121,slow=8.5,SNR=3.2
TXAR PcP **PcP** **18 51 24.1 +0.8**
comp=Z,0.4nm,0.6s,baz=137,slow=5.6,SNR=4.2
TX31 Lajitas Ar. Si 36.52 312 *eP* **P** **18 49 03.3 +0.3**
MNTX Cornudas Mount 39.02 314 *eP* **P** **18 49 24.9 +1.0**
comp=Z,4.3nm,0.9s
SDCO Great Sand Dun 42.59 321 *eP* **P** **18 49 55.2 +1.8**
comp=Z,2.2nm,0.9s
EYMN Ely 43.90 342 *eP* **P** **18 50 03.9 +0.5**
comp=Z,7.7nm,0.6s
WUAZ Wupatki 45.27 315 *eP* **P** **18 50 16.5 +1.8**
comp=Z,6.3nm,1.0s
U15A North Rim 46.37 315 *eP* **P** **18 50 25.4 +2.0**
comp=Z,3.3nm,1.0s
ULM Lac du Bonnet 47.31 340 P **P** **18 50 29.9 -0.1**
comp=Z,3.5nm,0.3s,baz=149,slow=6.9,SNR=8.0
LCMT Little Creek M 47.32 315 *eP* **P** **18 50 31.7 +1.1**
comp=Z,4.4nm,1.0s
PDAR Pinedale Array 48.12 324 P **P** **18 50 37.1 +0.3**
comp=Z,0.9nm,0.6s,baz=126,slow=8.6,SNR=7.0
PDAR PcP **PcP** **18 52 01.8 0.0**
comp=Z,0.4nm,0.4s,baz=112,slow=7.1,SNR=4.1
BGU Big Grassy Mou 49.19 320 *eP* **P** **18 50 46.0 +1.1**
comp=Z,3.3nm,0.6s
YKA Yellowknife Ar 63.29 340 P **P** **18 52 24.3 +0.2**
comp=Z,3.3nm,0.6s,baz=133,slow=6.7,SNR=8.7
TIC Toumodi 67.51 86 *e*PKIKP **P** **18 52 51.1 -1.1**
LIC Lamto 67.53 86 *e*PKIKP **P** **18 52 50.8 -1.5**
comp=Z,15nm,0.5s
DBIC Dimbokro 67.67 86 P **P** **18 52 52.0 -1.2**
comp=Z,3.1nm,0.5s,baz=253,slow=7.2,SNR=20
KIC Kosan Boka 67.81 86 *e*PKIKP **P** **18 52 51.4 -2.7**
comp=Z,7.1nm,0.4s
SUMG Summit 68.98 11 *i* P **P** **18 53 01.3 +0.6**
comp=Z,5.7nm,0.6s
TORD Torodi Ar. Bea 73.67 78 P **P** **18 53 28.1 -1.4**
comp=Z,0.5nm,0.3s,baz=284,slow=6.7,SNR=20
ILAR Eielson Array 77.00 335 P **P** **18 53 47.3 -0.2**
comp=Z,0.4nm,0.7s,baz=101,slow=4.7,SNR=3.8
ILAR pP **pP** **18 54 27.8 +0.5**
comp=Z,0.3nm,0.5s,baz=93,slow=4.5,SNR=2.8
NOA NORSAR Array B 81.30 29 P **P** **18 54 11.3 +0.3**
comp=Z,0.8nm,0.7s,baz=267,slow=5.3,SNR=2.5
GERES GERESS Array B 82.78 42 P **P** **18 54 18.5 -0.6**
comp=Z,0.3nm,0.7s,baz=260,slow=3.9,SNR=3.0
ARCES ARCESS Array B 86.65 20 P **P** **18 54 37.6 -0.3**
comp=Z,1.9nm,0.6s,baz=282,slow=3.4,SNR=8.2
ZALV Zalesovo Beam 116.66 14 PKP **PKPdf** **19 00 37.2 -0.5**
comp=Z,0.7nm,0.4s,baz=338,slow=1.6,SNR=3.8
MKAR Makanchi Array 122.30 20 PKP **PKPdf** **19 00 48.3 -0.7**
comp=Z,0.7nm,0.4s,baz=303,slow=2.5,SNR=16
SONM Songino Array 125.58 0 PKP **PKPdf** **19 00 55.2 -0.1**
comp=Z,0.8nm,0.5s,baz=341,slow=1.5,SNR=4.2
KSRS Korea Array 131.80 338 PKP **PKPdf** **19 01 07.7 +0.5**
comp=Z,0.5nm,0.5s,baz=17,slow=1.1,SNR=2.7
ASAR Alice Springs 149.16 234 PKP **PKPdf** **19 01 38.4 -0.3**
comp=Z,2.9nm,0.5s,baz=117,slow=3.3,SNR=37
ASAR PKPbc **PKPbc** **19 01 42.2 -0.9**
comp=Z,2.9nm,0.5s,baz=117,slow=3.7,SNR=37
WRA Warramunga Arr 150.39 241 PKP **PKPdf** **19 01 39.9 -0.8**
comp=Z,0.6nm,0.6s,baz=109,slow=2.3,SNR=15
WRA PKPbc **PKPbc** **19 01 45.3 -0.9**
comp=Z,2.9nm,0.4s,baz=108,slow=2.5,SNR=36
WRA pPKPbc **pPKPbc** **19 02 27.7 -1.1**
comp=Z,0.9nm,0.5s,baz=106,slow=2.8,SNR=2.6
CMAR Chiang Mai Arr 153.67 17 PKP **PKPdf** **19 01 45.4 -0.2**
comp=Z,0.2nm,0.5s,baz=314,slow=2.4,SNR=5.7
CMAR PKPbc **PKPbc** **19 01 53.2 -0.3**
comp=Z,1.3nm,0.6s,baz=318,slow=3.3,SNR=15

MEX 31 18:44:20.4±0.4, 19°.06N×104°.14W, h8km±3km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
R15V		**0.18**	**53**	*i* P		Pg	18 44 23.7	-0.5
R15V				*e*S		Sg	18 44 26.7	0.0
EZ5V		**0.65**	**50**	*e*P		Pg	18 44 31.8	-1.3
EZ5V				*i* S		Sg	18 44 41.2	-0.4
CJM	**Chamela**	**0.96**	**297**	*e*P		Pg	18 44 36.2	-2.6
CJM				*i* S		Sg	18 44 48.9	-2.5
MMIG	**Aquila**	**1.07**	**136**	*e*P		Pg	18 44 38.0	-3.0
MMIG				*e*S		Sg	18 44 51.8	-3.2
ARIG	**Puente Sto Nin**	**3.67**	**102**	*e*P		Pn	18 45 15.2	-2.4

IASPEI ***31*** *18:45:07.6±0.9, 38°.91N±0°.02×43°.56E±0°.03, h12km±6km, Error ellipse: s-maj=4.3km s-min=2.8km az=125.3, GT5 selection from ISC bulletin GT5 identified by Bond˘¡r and McLaughlin (2009) selection criteria Bond˘¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DDA ***31*** *18:45:07.7, 38°.93N×43°.55E, h14km, MI3.3*
ISK ***31*** *18:45:07.2, 38°.93N×43°.54E, h10km, ML3.2*
AZER ***31*** *18:45:07.1±0.9, 38°.22N×43°.38E, h44km±141km, Error ellipse: s-maj=14.6km s-min=8.4km az=145.0*
CSEM ***31*** *18:45:08.0±0.2, 38°.92N×43°.55E, h10km, ML3.3, Error ellipse: s-maj=4.9km s-min=3.7km az=114.0*

ISC 31 18:45:07.9±0.8, 38°.92N±0°.02×43°.56E±0°.02, h9km±6km, n61, σ1§11/85, 3C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**5**	*i* P		**Pg**	**18 45 10.1**	**-0.1**
VMUR				*i* S		**Sg**	**18 45 12.8**	**+0.8**
VMUR	**Van-Muradiye**	**0.07**	**5**	P		**Pg**	**18 45 10.1**	**-0.1**
VMUR				S		**Sg**	**18 45 12.8**	**+0.8**
VANB	**Van**	**0.35**	**203**	*e*PG		**Pb**	**18 45 15.8**	**-0.5**
VANB				*e*SG		**Sb**	**18 45 22.6**	**+0.7**
VANB	**Van**	**0.35**	**203**	*e*Pg		**Pb**	**18 45 15.8**	**-0.5**
VANB				*e*Sg		**Sb**	**18 45 22.6**	**+0.7**
CLDR	**Caldiran**	**0.36**	**50**	*e*PG		**Pg**	**18 45 15.0**	**-0.1**
CLDR				*e*SG		**Sg**	**18 45 20.5**	**+0.7**
CLDR	**Caldiran**	**0.36**	**50**	*i* P		**Pg**	**18 45 14.9**	**-0.1**
CLDR				*i* S		**Sb**	**18 45 21.4**	**-0.9**
CLDR	**Caldiran**	**0.36**	**50**	*e*Pg		**Pg**	**18 45 15.0**	**-0.1**
CLDR				*e*Sg		**Sg**	**18 45 20.5**	**+0.7**
CLDR				S		**Sb**	**18 45 21.4**	**-0.9**
TVAN	**Van**	**0.41**	**198**	*i* P		**Pg**	**18 45 16.2**	**+0.3**
TVAN				*i* S		**Sb**	**18 45 23.7**	**0.0**
TVAN	**Van**	**0.41**	**198**	P		**Pg**	**18 45 16.2**	**+0.3**
DYDN	**Diyadin**	**0.64**	**9**	*i* P		**Pb**	**18 45 20.5**	**-0.8**
DYDN				*i* S		**Sb**	**18 45 29.2**	**-1.1**
DYDN	**Diyadin**	**0.64**	**9**	P		**Pb**	**18 45 20.5**	**-0.8**
DYDN				S		**Sb**	**18 45 29.2**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	*i* P		**Pb**	**18 45 20.9**	**-0.8**
ADCV				*i* S		**Sb**	**18 45 31.1**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.66**	**261**	P		**Pb**	**18 45 20.9**	**-0.8**
ADCV				S		**Sb**	**18 45 31.1**	**0.0**
GEVA	**Gevas**	**0.72**	**213**	*i* P		**Pg**	**18 45 21.3**	**-0.5**
GEVA				*i* S		**Sb**	**18 45 32.0**	**-0.7**
GEVA	**Gevas**	**0.72**	**213**	P		**Pg**	**18 45 21.3**	**-0.5**
GEVA				S		**Sb**	**18 45 32.0**	**-0.7**
TUTA	**Tutak**	**0.76**	**310**	*i* P		**Pg**	**18 45 22.0**	**-0.5**
TUTA	**Tutak**	**0.76**	**310**	P		**Pg**	**18 45 22.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*PG		**Pg**	**18 45 23.0**	**-0.2**
AGRB				*e*SG		**Sb**	**18 45 33.9**	**-1.0**
AGRB	**Hanur-Agry**	**0.79**	**326**	*e*Pg		**Pg**	**18 45 23.0**	**-0.2**
AGRB				*e*Sg		**Sb**	**18 45 33.9**	**-1.0**
BASK	**Baskale_VAN**	**0.93**	**158**	*i* P		**Pb**	**18 45 25.4**	**-0.9**
BASK	**Baskale_VAN**	**0.93**	**158**	P		**Pb**	**18 45 25.4**	**-0.9**
TATV	**Tatvan**	**1.09**	**249**	*i* P		**Pb**	**18 45 27.9**	**-1.1**
TATV				*i* S		**Sb**	**18 45 42.2**	**-1.3**
TATV	**Tatvan**	**1.09**	**249**	P		**Pb**	**18 45 27.9**	**-1.1**
TATV				S		**Sb**	**18 45 42.2**	**-1.3**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*PN		**Pb**	**18 45 30.1**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*Pn		**Pb**	**18 45 30.1**	**-0.5**
EKAR	**Karacoban**	**1.22**	**287**	*i* P		**Pg**	**18 45 32.4**	**+1.2**
EKAR	**Karacoban**	**1.22**	**287**	P		**Pg**	**18 45 32.4**	**+1.2**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*PN		**Pn**	**18 45 30.4**	**-1.3**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn		**Pn**	**18 45 30.4**	**-1.3**
EATA	**Eleskirt**	**1.26**	**319**	*i* P		**Pb**	**18 45 31.2**	**-0.7**
EATA	**Eleskirt**	**1.26**	**319**	P		**Pb**	**18 45 31.2**	**-0.7**
HAKT	**HAKKARI**	**1.36**	**175**	*i* P		**Pn**	**18 45 32.8**	**-0.4**
HAKT	**HAKKARI**	**1.36**	**175**	P		**Pn**	**18 45 32.8**	**-0.4**
DIGO	**Kars**	**1.50**	**354**	*i* P		**Pg**	**18 45 37.8**	**+1.0**
DIGO	**Kars**	**1.50**	**354**	P		**Pg**	**18 45 37.8**	**+1.0**
NAX	**Nakhchivan**	**1.53**	**80**	⇑P		**Pg**	**18 45 37.1**	**0.0**
NAX				⇓S		**Sg**	**18 46 00.9**	**+4.0**
NAX	**Nakhchivan**	**1.53**	**80**	P		**Pg**	**18 45 37.1**	**0.0**
SRTM	**Siirt_Merkez**	**1.58**	**235**	*i* P		**Pg**	**18 45 37.9**	**-0.4**
SRTM	**Siirt_Merkez**	**1.58**	**235**	P		**Pg**	**18 45 37.9**	**-0.4**
CUKT	**Cukurca**	**1.67**	**179**	*e*PN		**Pn**	**18 45 37.5**	**+0.2**
CUKT	**Cukurca**	**1.67**	**179**	*i* P		**Pg**	**18 45 40.1**	**+0.3**
CUKT	**Cukurca**	**1.67**	**179**	*e*Pn		**Pn**	**18 45 37.5**	**+0.2**
EAK	**Akyaka**	**1.77**	**1**	*i* P		**Pg**	**18 45 44.1**	**+2.3**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*PN		**Pn**	**18 45 39.6**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*Pn		**Pn**	**18 45 39.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*PN		**Pn**	**18 45 42.2**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*Pn		**Pn**	**18 45 42.2**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*PN		**Pn**	**18 45 47.4**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.40**	**283**	*e*Pn		**Pn**	**18 45 47.4**	**-0.1**
GDB	**GEDABAY**	**2.47**	**42**	⇓P		**Pg**	**18 45 53.7**	**-1.5**
GDB				⇓S		**Sg**	**18 46 30.8**	**+3.6**
QZX	**Qazax, Azerbai**	**2.55**	**32**	⇓P		**Pb**	**18 45 54.8**	**+1.0**
QZX				⇓S		**Sg**	**18 46 32.5**	**+2.7**
GANJ	**Ganja**	**2.74**	**50**	⇓P		**Pb**	**18 45 56.5**	**-0.5**
GANJ				⇑S		**Sg**	**18 46 36.3**	**+0.4**
GANJ	**Ganja**	**2.74**	**50**	P		**Pb**	**18 45 56.5**	**-0.5**
MAZI	**Mazidag**	**2.85**	**240**	*e*PN		**Pn**	**18 45 54.1**	**+0.5**
MAZI	**Mazidag**	**2.85**	**240**	*e*Pn		**Pn**	**18 45 54.1**	**+0.5**
BRDA	**Brd**	**3.10**	**63**	⇓P		**Pb**	**18 46 00.2**	**-3.0**
BRDA				⇑S		**Sb**	**18 46 41.5**	**+0.4**
BRDA	**Brd**	**3.10**	**63**	P		**Pb**	**18 46 00.2**	**-3.0**
PTK	**Pertek**	**3.25**	**271**	*e*PN		**Pn**	**18 45 59.9**	**+0.7**
PTK	**Pertek**	**3.25**	**271**	*e*Pn		**Pn**	**18 45 59.9**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*PN		**Pn**	**18 46 01.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.38**	**262**	*e*Pn		**Pn**	**18 46 01.2**	**+0.3**

MEX 31 18:51:46.9±0.3, 16°.78N×103°.55W, h10km, MD3.8, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.51**	**7**	*e*P		Pn	18 52 10.4	-3.6
MMIG				*i* S		Sn	18 52 29.1	-4.7
R15V		**2.41**	**350**	*e*P		Pn	18 52 24.1	-2.4
R15V				*e*S		Sn	18 52 51.6	-4.5
EZ5V		**2.68**	**359**	*i* P		Pn	18 52 27.1	-3.3
EZ5V				*i* S		Sn	18 52 51.6	-12
CJM	**Chamela**	**3.05**	**333**	*e*P		Pb	18 52 42.2	+0.9
CJM				*i* S		Sg	18 53 22.9	-2.1

CSEM ***31*** *18:58:51.0, 37°.16N×22°.07E, h6km, ML1.5/1*
ATH 31 18:58:51.0, 37°.16N×22°.07E, h6km±2km, ML1.5/1, Error ellipse: s-maj=5.4km s-min=1.4km az=95.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.11**	**279**	P		Pg	18 58 53.0	-0.4
ITM				AML		AML	18 58 55.0	
ITM	comp=E,779μm,0.3s			AML		AML	18 58 55.5	
ITM	comp=N,861μm,0.2s							
ITM	**Ithomi**	**0.11**	**279**	P		Pg	18 58 53.0	-0.4
MES3	**Kyparissia**	**0.33**	**285**	P		Pg	18 58 57.0	-0.3
MES3	**Kyparissia**	**0.33**	**285**	P		Pg	18 58 57.0	-0.3
PYL	**PYLOS**	**0.37**	**224**	P		Pg	18 58 58.3	+0.1
PYL	**PYLOS**	**0.37**	**224**	P		Pg	18 58 58.3	+0.1
MES2	**Methoni**	**0.44**	**221**	P		Pg	18 58 59.3	-0.2
MES2				S		Sb	18 59 07.0	-1.1
MES2	**Methoni**	**0.44**	**221**	P		Pg	18 58 59.3	-0.2
MES2				S		Sb	18 59 07.0	-1.1

IDC ***31*** *19:14:04.9±0.7, 35°.45S×105°.26W, h0km, mb4.5/9, mb1 4.6/9, mb1mx4.3/27, mbtmp4.5/9, MS4.1/15, Ms1 4.1/15, ms1mx4.0/21, Error ellipse: s-maj=24.9km s-min=21.3km az=149.0*
ISCJB ***31*** *19:14:05.8±0.5, 35°.47S±0°.10×105°.1W±0°.1, h13km, mb4.7/26, MS4.1/14, Error ellipse: s-maj=14.1km s-min=12.7km az=153.0*
NEIC ***31*** *19:14:06.5±0.4, 35°.47S×105°.08W, h10km, mb4.9/16, Error ellipse: s-maj=14.0km s-min=11.6km az=165.0*
GCMT ***31*** *19:14:06.5±0.2, 35°.43S×105°.17W, h20km±1km, MW5.1/92, Moment Tensor Solution. s57,c72; s92,c134; Duration: 0 Moment tensor: Scalar Moment 10^{16}Nm; M_{rr}0.43±.16; $M_{\theta\theta}$-2.18±.15; $M_{\phi\phi}$1.75±.15; $M_{r\theta}$-0.12±.27; $M_{\theta\phi}$-5.20±.14; $M_{\phi r}$-1.82±.30; Best double couple: $M_0$5.85800×10^{16} NP1:ϕ_s191.00000°, δ87.00000°, λ18.00000°. NP2: ϕ_s100.00000°, δ72.00000°, λ176.00000°. Principal axes: T 5.7360, Plg15.0000°, Azm57.0000°; N 0.2410, Plg71.0000°, Azm201.0000°; P -5.9810, Plg10.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 19:14:06.9±0.6, 35°.55S±0°.1×105°.0W±0°.1, h13km, n58, σ1§35/43, mb4.8/26, MS4.1/14, 1C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.11**	**335**	LR		LR	19 18 49.4	
PLCA	**Pasa Flores**	**27.51**	**111**	P		**P**	**19 19 55.8**	**+2.6**
PLCA	comp=Z,0.9nm,21.2s,baz=122,slow=32			LR		LR	19 27 53.9	
LCO	**Las Campanas**	**29.64**	**87**	*e*P		**P**	**19 20 09.5**	**-3.0**
LVC	**Limon Verde**	**33.89**	**78**	*e*P		**P**	**19 20 50.5**	**+0.4**
PB01	**IPOC Station P**	**34.25**	**75**	*e*P		**P**	**19 20 54.6**	**+1.8**
PB11	**IPOC Station P**	**34.82**	**73**	*e*P		**P**	**19 20 58.2**	**+0.4**
MNMC	**Minye Minye**	**35.22**	**72**	*e*P		**P**	**19 21 02.8**	**+1.4**
ATAH	**Atahualpa**	**37.33**	**47**	P		**P**	**19 21 21.0**	**+1.4**
LPAZ	**La Paz**	**38.02**	**69**	P		**P**	**19 21 26.9**	**+1.2**
LPAZ	comp=Z,219nm,19.9s,baz=248,slow=31			LR		LR	19 33 54.9	
TBI	**Tubuai**	**40.24**	**275**	*e*LQ		LQ	19 30 46.7	
TBI				*e*LR		LR	19 32 27.6	
TBI	**Tubuai**	**40.24**	**275**	*e*T		T	20 03 51.0	
TAOE	**Nuku Hiva Isla**	**41.58**	**301**	*e*LR		LR	19 33 09.9	
CPUP	**Villa Florida**	**41.59**	**91**	LR		LR	19 35 43.0	
PPT2	**Papeete2**	**43.25**	**282**	*e*LQ		LQ	19 32 00.0	
OTAV	**Otavalo**	**43.33**	**41**	*e*P		**P**	**19 22 09.6**	**+0.2**
SIV	**San Ignacio**	**43.68**	**75**	P		**P**	**19 22 12.1**	**+0.4**
SAML	**Samuel**	**46.38**	**66**	*e*P		**P**	**19 22 33.3**	**+0.2**
JTS	**JuntasAbangare**	**49.33**	**26**	LR		LR	19 37 24.7	
ROSC	**El Rosal**	**49.41**	**42**	P		**P**	**19 22 59.2**	**+2.2**
ROSC	comp=Z,356nm,21.0s,baz=236,slow=31			LR		LR	19 39 54.4	
RUSC	**La Rusia**	**50.96**	**43**	*e*P		**P**	**19 23 08.7**	**-0.2**
CMIG	**Matias Romero**	**53.17**	**12**	LR		LR	19 39 46.7	
PTGA	**Pitinga**	**54.29**	**61**	*e*P		**P**	**19 23 31.4**	**-1.7**
BDFB	**Brasilia**	**54.35**	**84**	P		**P**	**19 23 34.1**	**+0.5**
BDFB	comp=Z,127nm,18.2s,baz=266,slow=34			LR		LR	19 44 38.0	
QSPA	**South Pole Qui**	**54.72**	**180**	*e*P		**P**	**19 23 36.7**	**+1.0**
SDV	**Santo Domingo**	**54.78**	**43**	*e*P		**P**	**19 23 35.3**	**-1.5**
VNDA	**Vanda**	**56.32**	**195**	LR		LR	19 43 46.1	
LTX	**Lajitas**	**64.49**	**1**	*e*P		**P**	**19 24 43.2**	**-0.1**
TXAR	**Lajitas Array**	**64.49**	**1**	P		**P**	**19 24 43.2**	**-0.1**
TXAR	comp=Z,75nm,19.2s,baz=0.0,slow=31			LR		LR	19 47 44.3	
SYO	**Syowa Base**	**72.58**	**167**	‖*e*P		**P**	**19 25 30.0**	**-3.3**
SYO	**Syowa Base**	**72.58**	**167**	‖*e*pP		**P**	**19 25 34.5**	**+1.2**
R11A	**Troy Canyon, C**	**74.12**	**351**	*e*P		**P**	**19 25 43.7**	**+0.8**
DZM	**Mont Dzumac**	**76.39**	**253**	LR		LR	19 51 19.0	
MAW	**Mawson**	**76.81**	**175**	P		**P**	**19 25 57.6**	**-0.2**
MAW	comp=Z,110nm,21.4s,baz=72,slow=29			LR		LR	19 59 17.8	
BW06	**Boulder Array**	**77.99**	**357**	*e*P		**P**	**19 26 06.5**	**+1.6**
PD31	**Pinedale Array**	**77.99**	**357**	*e*P		**P**	**19 26 03.5**	**-1.4**
PDAR	**Pinedale Array**	**77.99**	**357**	P		**P**	**19 26 03.5**	**-1.4**
FXWY	**Fox Creek**	**78.94**	**356**	*e*P		**P**	**19 26 11.6**	**+1.4**
HLID	**Hailey**	**79.14**	**353**	*e*P		**P**	**19 26 12.2**	**+1.0**
LAO	**LASA Array**	**81.81**	**359**	*e*P		**P**	**19 26 26.7**	**+1.4**
STKA	**Stephens Creek**	**88.38**	**231**	LR		LR	19 59 16.4	
SCHQ	**Schefferville**	**95.76**	**21**	LR		LR	20 04 06.4	
AS31	**Alice Springs**	**98.94**	**233**	*e*P		**P**	**19 27 47.5**	**0.0**
ASAR	**Alice Springs**	**98.94**	**233**	P		**P**	**19 27 47.5**	**0.0**
ASAR	comp=Z,212nm,18.5s,baz=126,slow=32			LR		LR	20 06 46.9	
TORD	**Torodi Ar. Bea**	**111.06**	**89**	PP		PP	19 33 18.1	-1.4
TOA1	**Torodi Ar. Sit**	**111.06**	**89**	*e*PP		PP	19 33 18.1	-1.4
ESDC	**Sonseca Array**	**119.24**	**60**	PKP		**PKPdf**	**19 32 55.7**	**+0.1**
GERES	**GERESS Array B**	**133.87**	**53**	PKP		**PKPdf**	**19 33 22.7**	**-0.7**
FIA0	**FINESS Array S**	**139.88**	**34**	*e*PKPdf		**PKPdf**	**19 33 31.6**	**-2.3**
FINES	**FINESS Array B**	**139.88**	**34**	PKP		**PKPdf**	**19 33 31.7**	**-2.3**
AKASG	**Malin Array Be**	**143.92**	**51**	PKP		PKPbc	19 33 40.2	+0.8
BR101	**Keskin Array S**	**147.19**	**70**	*e*PKPdf		**PKPbc**	**19 33 49.7**	**-0.2**
BRTR	**Keskin Array B**	**147.19**	**70**	PKPbc		**PKPbc**	**19 33 49.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**152.83**	**238**	PKPbc		**PKPbc**	**19 34 05.2**	**+1.0**
SONA0	**Songino Array**	**153.67**	**308**	*e*PKPbc		**PKPbc**	**19 34 05.2**	**-0.1**
SONM	**Songino Array**	**153.67**	**308**	PKPbc		**PKPbc**	**19 34 05.2**	**-0.1**
KBZ	**Khabaz**	**154.08**	**62**	PKP		**PKPdf**	**19 33 58.6**	**+0.6**
ZAA1	**Zalesovo Array**	**160.29**	**343**	*e*PKPdf		**PKPdf**	**19 34 05.4**	**-0.1**
ZALV	**Zalesovo Beam**	**160.30**	**343**	PKP		**PKPdf**	**19 34 05.4**	**-0.1**

NNC 31 19:52:17.1±2.4, 37°.02N×71°.41E, h0km, mb3.7, mpv3.3, 6C-3D, Error ellipse: s-maj=20.2km s-min=9.8km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.71**	**312**	⇑P		Pn	19 53 02.4	+0.2
DZET				⇓S		Sn	19 53 37.1	+1.4
MNAS	**Manas**	**5.53**	**8**	⇑P		Pn	19 53 40.9	+0.1
MNAS				⇑S		Sn	19 54 46.7	+1.5
AAK	**Ala-Archa**	**6.10**	**22**	⇓P		Pn	19 53 48.6	0.0
AAK				⇓S		Sn	19 55 02.1	+2.9
KK31	**Karatay Array**	**6.12**	**354**	⇑P		Pn	19 53 46.9	-2.0
KK31				⇑S		Sn	19 54 58.9	-0.6
TKM2	**Tokmak 2**	**6.72**	**27**	⇑P		Pn	19 53 56.6	-0.6

MAN 31 19:53:20, 16°.47N×120°.84E, h18km, mb4.4, ML3.3, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.93**	**165**	⇑*e*P		Pn	19 53 39.7	+1.5
BALP	**Baler**	**1.01**	**135**	*e*P		Pb	19 53 38.8	-0.2
BALP				*e*S		Sn	19 53 53.1	+0.1
CAUP	**Cauayan**	**1.05**	**63**	*e*P		Pb	19 53 38.6	-1.1
CAUP				*e*S		Sn	19 53 54.2	+0.1
ABRA	**Dolores**	**1.18**	**354**	*e*P		Pn	19 53 40.3	-1.4
ABRA				*e*S		Sg	19 53 58.8	+0.3

KRSC 31 20:04:51.0±1.4, 55°.43N×165°.58E, h3km±25km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**136**	*e*P		Pb	20 04 59.2	-0.1
BKI				*e*S		Sb	20 05 04.8	-0.1
KBTR	**Krutoberegovo**	**1.74**	**298**	*e*P		Pn	20 05 20.7	-1.3
KBTR				*e*S		Sn	20 05 44.5	-0.2
MKZ	**Mys Kozlova**	**2.39**	**250**	*e*P		Pb	20 05 33.5	-1.0
MKZ				*e*S		Sb	20 06 03.7	-0.6
SMKR	**Semkarok**	**2.58**	**298**	*e*P		Pn	20 05 34.1	+0.5
SMKR				*e*S		Sn	20 06 07.6	+2.1
SRKR	**Sorokina**	**2.76**	**298**	*e*P		Pn	20 05 36.9	+0.8
SRKR				*e*S		Sb	20 06 13.0	-2.2
ZLN	**Zelenaya**	**2.76**	**284**	*e*P		Pn	20 05 38.2	+2.0
ZLN				S		Sb	20 06 14.2	-1.1
CIRR	**Tsirk**	**2.81**	**286**	*e*P		Pn	20 05 38.6	+1.7
CIRR				*e*S		Sb	20 06 15.4	-1.4
LGNR	**Loginova**	**2.84**	**285**	*e*P		Pn	20 05 39.7	+2.3
BZMR	**Bezymyannaya**	**2.93**	**282**	*e*P		Pn	20 05 40.3	+1.8
BZMR				*e*S		Sb	20 06 17.3	-2.7
BZWR	**Bezymyannyi-We**	**2.93**	**283**	*e*P		Pn	20 05 40.7	+2.2
BZWR				S		Sb	20 06 17.9	-2.1
KRSR	**Krestovskiy**	**2.94**	**288**	*e*P		Pn	20 05 40.1	+1.5
KRSR				*e*S		Sn	20 06 16.7	+2.4
TUMD	**Tumrok D**	**2.97**	**268**	*e*P		Pb	20 05 42.1	-2.4
TUMD				S		Sb	20 06 20.4	-0.7
KIRR	**Kirishev**	**3.01**	**282**	*e*P		Pn	20 05 41.6	+2.0
KIRR				*e*S		Sb	20 06 19.9	-2.5
KMNR	**Kamenistaya**	**3.05**	**278**	*e*P		Pn	20 05 42.9	+2.8
KPT	**Kopyto**	**3.08**	**282**	*e*P		Pn	20 05 42.8	+2.3
TUMR	**Tumrok**	**3.11**	**269**	*e*P		Pb	20 05 44.

*NEIC **31** 20:11:38.4±1.1,3°.06N×126°.27E,h80km±10km,mb4.8/24,*
Error ellipse: s-maj=10.6km s-min=6.0km az=79.0
ISC 31 20:11:37.2±1.2,3°.05N±0°.05×126°.32E±0°.08,h67km±10km,
n105,σ1§50/110,mb4.6/41,4C-4D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.31**	**336**	*e*P	**Pn**	**20 12 25.2**	**-1.7**
MATI	**Mati**	**3.87**	**359**	*e*P	**Pn**	**20 12 31.5**	**-2.9**
MATI				*e*S	**Sn**	**20 13 16.6**	**-2.1**
DAV	**Davao City (W)**	**4.06**	**350**	*e*Pn	**Pn**	**20 12 36.2**	**-0.8**
DMPH	**Davao City--Mi**	**4.09**	**349**	⇑*e*P	**Pn**	**20 12 37.7**	**+0.3**
DMPH				*e*S	**Sn**	**20 13 30.2**	**+6.3**
KCP	**Kidapawan**	**4.12**	**343**	⇓*e*P	**Pn**	**20 12 37.4**	**-0.4**
KCP				*e*S	**Sn**	**20 13 26.1**	**+1.3**
CTBH	**Cotabato--PC H**	**4.63**	**334**	⇓*e*P	**Pn**	**20 12 44.8**	**0.0**
CTBH				*i* S	**Sn**	**20 13 35.4**	**-1.8**
BIPH	**Bislig**	**5.10**	**0**	⇓*i*P	**Pn**	**20 12 54.6**	**+3.4**
BIPH				*i* S	**Sn**	**20 13 52.9**	**+4.1**
LUWI	**Luwuk**	**5.39**	**221**	*e*Pn	**Pn**	**20 12 58.5**	**+3.4**
PAGZ	**Pagadian**	**5.59**	**329**	*e*P	**Pn**	**20 12 57.1**	**-0.8**
MSLP	**Maasin**	**7.19**	**348**	*e*P	**Pn**	**20 13 21.1**	**+1.4**
MSLP				*e*S	Sn	20 14 23.2	-17
MYLDM	**Lahad Datu**	**8.08**	**285**	*e*Pn	**Pn**	**20 13 32.5**	**+0.6**
OCLP	**Ormoc**	**8.13**	**348**	*e*P	**Pn**	**20 13 33.4**	**+0.7**
KKM	**Kota Kinabalu**	**10.50**	**287**	⇑P	**Pn**	**20 14 07.7**	**+2.6**
TGY	**Tagaytay City**	**12.20**	**335**	LR	LR	20 19 26.6	
	comp=Z,918nm,21.1s,baz=120,slow=39						
SBUM	**Sibu**	**14.09**	**268**	*e*Pn	Pn	20 14 47.8	-6.0
SBUM	**Sibu**	**14.09**	**268**	⇓P	**P**	**20 14 58.6**	**-0.8**
KSM	**Kuching**	**16.07**	**265**	*e*Pn	**Pn**	**20 15 20.4**	**+1.2**
	72nm,1.3s						
KSM	**Kuching**	**16.07**	**265**	⇑P	**P**	**20 15 23.5**	**+2.1**
MTN	**Manton Dam**	**16.50**	**163**	*e*Pn	**Pn**	**20 15 22.8**	**-1.7**
	41nm,0.5s						
JAGI	**Jajag, Banyuwa**	**16.68**	**227**	*e*Pn	**Pn**	**20 15 27.1**	**+0.4**
	32nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.03**	**182**	P	**P**	**20 16 15.1**	**-0.5**
	7.6nm,0.5s,baz=13,slow=9.3,SNR=74						
GUMO	**Guam**	**21.11**	**59**	LR	LR	20 24 04.8	
	comp=Z,97nm,19.1s,baz=224,slow=35						
CISI	**Cisompet, Garu**	**21.25**	**240**	*e*P	**P**	**20 16 18.4**	**+0.2**
	31nm,0.6s						
WRAB	**Tennant Creek**	**24.16**	**161**	*e*P	**P**	**20 16 46.2**	**-1.1**
	30nm,1.0s						
WR1	**Warramunga Arr**	**24.17**	**161**	*e*P	**P**	**20 16 47.0**	**-0.3**
	118nm,1.8s						
WRA	**Warramunga Arr**	**24.17**	**161**	P	**P**	**20 16 47.0**	**-0.3**
	17nm,0.5s,baz=339,slow=10,SNR=121						
PMG	**Port Moresby**	**24.18**	**121**	LR	LR	20 28 22.8	
	comp=Z,168nm,21.8s,baz=314,slow=41						
MBWA	**Marble Bar**	**24.91**	**195**	*e*P	**P**	**20 16 55.5**	**+1.4**
	307nm,1.8s						
AS31	**Alice Springs**	**27.56**	**165**	*e*P	**P**	**20 17 18.1**	**0.0**
	6.9nm,0.3s						
ASAR	**Alice Springs**	**27.56**	**165**	P	**P**	**20 17 18.1**	**0.0**
	4.2nm,0.5s,baz=347,slow=7.8,SNR=111						
CM31	**Chiang Mai Arr**	**30.87**	**302**	*e*P	**P**	**20 17 47.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.87**	**302**	P	**P**	**20 17 47.6**	**+0.1**
	0.9nm,0.7s,baz=131,slow=8.0,SNR=9.6						
CMAR				LR	LR	20 32 31.4	
	comp=Z,73nm,18.5s,baz=115,slow=41						
CHTO	**Chiang Mai**	**31.03**	**302**	*e*P	**P**	**20 17 48.9**	**0.0**
	2.7nm,0.6s						
KS15	**Wonju Array Si**	**34.26**	**2**	*e*P	**P**	**20 18 18.9**	**+2.0**
KSAR	**Wonju Array Be**	**34.26**	**2**	P	**P**	**20 18 18.5**	**+1.7**
KSRS	**Korea Array**	**34.27**	**2**	P	**P**	**20 18 18.5**	**+1.6**
	2.8nm,0.6s,baz=180,slow=9.9,SNR=9.5						
MJAR	**Matsushiro Arr**	**35.09**	**17**	P	**P**	**20 18 23.7**	**-0.4**
	2.7nm,0.9s,baz=194,slow=8.6,SNR=5.3						
MJAR				LR	LR	20 34 14.3	
	comp=Z,58nm,19.7s,baz=200,slow=39						
BBOO	**Buckleboo**	**36.84**	**166**	*e*P	**P**	**20 18 39.6**	**+0.6**
	13nm,0.8s						
STKA	**Stephens Creek**	**37.65**	**158**	P	**P**	**20 18 46.0**	**+0.2**
	3.0nm,0.5s,baz=336,slow=9.8,SNR=19						
STKA				PcP	**PcP**	**20 21 03.5**	**+1.2**
	2.9nm,0.6s,baz=352,slow=4.8,SNR=3.0						
STKA	**Stephens Creek**	**37.65**	**158**	*e*P	**P**	**20 18 46.5**	**+0.7**
	2.2nm,0.6s						
STKA				PcP	**PcP**	**20 21 03.5**	**+1.2**
USRK	**Ussuriysk Ar.**	**41.29**	**6**	P	**P**	**20 19 17.4**	**+1.4**
	1.8nm,0.7s,baz=178,slow=6.2,SNR=6.0						
MDJ	**Mudanjiang**	**41.50**	**4**	*e*P	**P**	**20 19 16.6**	**-1.1**
	16nm,1.1s						
LSA	**Lhasa**	**42.58**	**312**	*e*P	**P**	**20 19 25.7**	**-1.6**
	7.6nm,1.4s						
ASAJ	**Asahikawa**	**43.36**	**17**	P	**P**	**20 19 33.7**	**+0.9**
	4.1nm,0.8s,baz=227,slow=14,SNR=4.4						
ASAJ	**Asahikawa**	**43.36**	**17**	*e*P	**P**	**20 19 33.7**	**+0.9**
	7.4nm,0.9s						
TAPN	**Taplejung**	**44.09**	**307**	*e*P	**P**	**20 19 38.8**	**-0.6**
	8.0nm,0.4s						
ODAN	**Odare**	**44.13**	**306**	*e*P	**P**	**20 19 39.4**	**-0.2**
	18nm,0.5s						
RAMN	**Ramite**	**44.81**	**306**	*e*P	**P**	**20 19 44.9**	**-0.2**
	22nm,0.6s						
JIRN	**Jiri**	**45.44**	**307**	*e*P	**P**	**20 19 49.8**	**-0.4**
	19nm,0.6s						
GUN	**Gumba**	**45.80**	**307**	*e*P	**P**	**20 19 52.4**	**-0.6**
	37nm,0.6s						
PKI	**Pulchoki**	**46.03**	**306**	*e*P	**P**	**20 19 53.7**	**-1.1**
	8.9nm,0.6s						
PKIN	**Phulchoki**	**46.04**	**306**	*e*P	**P**	**20 19 54.4**	**-0.4**
	14nm,0.6s						
KKN	**Kakani**	**46.23**	**306**	*e*P	**P**	**20 19 55.3**	**-0.9**
	10nm,0.6s						
KLR	**Kul'dur**	**46.25**	**5**	P	**P**	**20 19 56.9**	**+1.2**
	0.1nm,0.4s,baz=197,slow=11,SNR=4.4						
KLR				LR	LR	20 38 56.6	
	comp=Z,6.3nm,21.3s,baz=157,slow=36						
DMN	**Daman**	**46.29**	**306**	*e*P	**P**	**20 19 56.3**	**-0.5**
	12nm,0.7s						
GKN	**Gorkha**	**46.83**	**306**	*e*P	**P**	**20 19 59.7**	**-1.2**
	11nm,0.6s						
KOLN	**Koldanda**	**47.58**	**305**	*e*P	**P**	**20 20 06.3**	**-0.4**
	54nm,0.6s						
DANN	**Dangsing**	**47.68**	**306**	*e*P	**P**	**20 20 06.5**	**-1.1**
SONA0	**Songino Array**	**47.81**	**342**	*e*P	**P**	**20 20 07.3**	**-0.9**
SONA0				*e*PcP	**PcP**	**20 21 36.7**	**+0.6**
SONM	**Songino Array**	**47.81**	**342**	P	**P**	**20 20 07.3**	**-0.9**
	0.9nm,0.6s,baz=160,slow=8.7,SNR=4.3						
SONM				PcP	**PcP**	**20 21 36.7**	**+0.6**
	0.9nm,0.6s,baz=161,slow=4.2,SNR=3.4						
SONM				LR	LR	20 41 43.4	
	comp=Z,130nm,19.7s,baz=148,slow=38						
PYUN	**Piuthan**	**48.20**	**306**	*e*P	**P**	**20 20 11.3**	**-0.3**
	31nm,0.5s						
PETK	**Petropavlovsk-**	**56.21**	**22**	P	**P**	**20 21 11.8**	**+1.5**
	2.9nm,0.8s,baz=176,slow=4.9,SNR=4.1						
PEA1	**Petropavlovsk-**	**56.22**	**22**	*e*P	**P**	**20 21 11.8**	**+1.5**
MK32	**Makanchi Array**	**57.88**	**326**	*e*P	**P**	**20 21 21.1**	**-1.1**
MK32				*e*PcP	**PcP**	**20 22 14.0**	**0.0**
MKAR	**Makanchi Array**	**57.88**	**326**	P	**P**	**20 21 21.1**	**-1.1**
	2.1nm,0.4s,baz=118,slow=7.0,SNR=36						
MKAR				PcP	**PcP**	**20 22 14.0**	**0.0**
	2.4nm,0.5s,baz=119,slow=4.1,SNR=6.6						
MKAR				ScP	**ScP**	**20 26 13.0**	**+4.7**
	0.4nm,0.6s,baz=109,slow=5.7,SNR=4.8						
MKAR				LR	LR	20 47 56.1	
	comp=Z,138nm,19.3s,baz=52,slow=38						
YAK	**Yakutsk**	**58.90**	**2**	P	**P**	**20 21 29.2**	**+0.2**
	7.2nm,0.5s,baz=2.7,slow=1.5,SNR=4.5						
YAK	**Yakutsk**	**58.90**	**2**	*e*P	**P**	**20 21 29.5**	**+0.5**
	29nm,0.9s						
AAK	**Ala-Archa**	**60.59**	**318**	*e*P	**P**	**20 21 40.2**	**-0.9**
	4.4nm,1.4s						
ZALV	**Zalesovo Beam**	**61.01**	**333**	P	**P**	**20 21 42.0**	**-1.6**
	0.9nm,0.4s,baz=134,slow=7.4,SNR=4.3						
ZALV				LR	LR	20 49 00.4	
	comp=Z,71nm,20.3s,baz=7.0,slow=37						
ZAA1	**Zalesovo Array**	**61.01**	**333**	*e*P	**P**	**20 21 42.0**	**-1.6**
KURK	**Kurchatov**	**62.09**	**328**	*e*P	**P**	**20 21 49.6**	**-1.4**
	6.6nm,0.6s						
KKAR	**Karatay Array**	**63.45**	**317**	*e*P	**P**	**20 21 58.8**	**-1.4**
	17nm,0.8s						
TIXI	**Tiksi**	**68.53**	**1**	*e*P	**P**	**20 22 31.8**	**-0.3**
	9.6nm,1.4s						
NRIK	**Noril'sk**	**70.99**	**346**	P	**P**	**20 22 47.9**	**+0.5**
	8.7nm,0.6s,baz=127,slow=5.5,SNR=12						
NRIK				LR	LR	20 56 10.6	
	comp=Z,94nm,18.8s,baz=130,slow=38						
GEYT	**Alibeck**	**71.00**	**309**	P	**P**	**20 22 47.6**	**-0.5**
	1.0nm,0.6s,baz=161,slow=6.3,SNR=3.9						
GEYT				PcP	**PcP**	**20 23 08.1**	**-0.1**
	1.6nm,0.7s,baz=263,slow=2.3,SNR=4.5						
ABKAR	**Akbulak array**	**72.42**	**321**	*e*P	**P**	**20 22 55.0**	**-1.3**
	38nm,0.6s						
ARU	**Arti**	**75.29**	**328**	*e*P	**P**	**20 23 11.6**	**-1.4**
	20nm,1.6s						
RAR	**Rarotonga**	**76.16**	**113**	LR	LR	20 54 13.3	
	comp=Z,24nm,18.0s,baz=296,slow=34						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**20 23 56.1**	**+1.4**
	1.9nm,0.5s,baz=54,slow=5.4,SNR=10						
MAW	**Mawson**	**82.98**	**200**	*e*P	**P**	**20 23 56.3**	**+1.7**
	1.6nm,1.3s						
SCM	**Sheep Creek Mo**	**85.61**	**28**	*e*P	**P**	**20 24 07.2**	**-1.0**
	46nm,1.1s						
ILAR	**Eielson Array**	**85.89**	**25**	P	**P**	**20 24 12.3**	**+2.8**
	0.2nm,0.6s,baz=266,slow=5.8,SNR=4.0						
DIV	**Divide**	**86.34**	**29**	*e*P	**P**	**20 24 11.0**	**-0.9**
	24nm,1.0s						
OBN	**Obninsk**	**87.38**	**325**	LR	LR	21 05 25.0	
	comp=Z,81nm,20.1s,baz=86,slow=37						
BR101	**Keskin Array S**	**90.14**	**310**	*e*P	**P**	**20 24 28.8**	**-1.8**
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**	**20 24 28.8**	**-1.8**
	0.9nm,0.8s,baz=139,slow=5.4,SNR=4.8						
BRTR				LR	LR	21 11 31.3	
	comp=Z,51nm,18.2s,baz=30,slow=40						
HYT	**Haines Junctio**	**90.38**	**29**	*e*P	**P**	**20 24 32.3**	**+1.1**
	22nm,0.9s						
ARA0	**ARCESS Array S**	**90.94**	**340**	*e*P	**P**	**20 24 34.1**	**+0.7**
ARCES	**ARCESS Array B**	**90.94**	**340**	P	**P**	**20 24 34.1**	**+0.7**
	2.2nm,0.7s,baz=76,slow=5.0,SNR=8.8						
SPITS	**Spitsbergen Ar**	**91.06**	**349**	LR	LR	21 10 18.8	
	comp=Z,87nm,19.5s,baz=125,slow=39						
SYO	**Syowa Base**	**91.64**	**201**	⇑*e*P	**P**	**20 24 34.7**	**-1.9**
AKASG	**Malin Array Be**	**92.16**	**321**	P	**P**	**20 24 37.9**	**-1.5**
	1.8nm,0.6s,baz=73,slow=4.6,SNR=6.7						
AKASG				LR	LR	21 09 35.5	
	comp=Z,50nm,19.2s,baz=305,slow=38						
AKBB	**Malin Array Si**	**92.16**	**321**	*e*P	**P**	**20 24 37.9**	**-1.5**
FIA0	**FINESS Array S**	**92.23**	**332**	*e*P	**P**	**20 24 38.4**	**-1.1**
FINES	**FINESS Array B**	**92.23**	**332**	P	**P**	**20 24 38.4**	**-1.1**
	1.7nm,0.5s,baz=94,slow=4.8,SNR=12						
BUR08	**Bucovina Ar. S**	**95.24**	**318**	*e*P	**P**	**20 24 53.6**	**-0.2**
STHS	**Stebnicka Huta**	**97.45**	**321**	*e*PDIFF	Pdif	20 25 04.1	+0.3
KECS	**Kecovo**	**98.15**	**320**	*e*PDIFF	**P**	**20 25 06.0**	**-0.9**
NB200	**NORSAR Array S**	**99.21**	**333**	*e*P	**Pdif**	**20 25 10.2**	**-1.2**
NOA	**NORSAR Array B**	**99.21**	**333**	P	**Pdif**	**20 25 10.2**	**-1.2**
	0.7nm,0.6s,baz=70,slow=4.5,SNR=3.2						
NOA				LR	LR	21 14 39.3	
	comp=Z,74nm,19.6s,baz=75,slow=38						
GERES	**GERESS Array B**	**102.36**	**321**	P	**Pdif**	**20 25 25.5**	**-0.2**
	0.3nm,0.6s,baz=52,slow=6.4,SNR=3.2						
TXAR	**Lajitas Array**	**122.34**	**52**	PKP	**PKPdf**	**20 30 27.0**	**+1.5**
	0.4nm,0.6s,baz=338,slow=1.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	**PKPdf**	**20 30 26.6**	**+0.1**
	1.9nm,0.6s,baz=68,slow=1.8,SNR=25						
TOA1	**Torodi Ar. Sit**	**122.74**	**288**	*e*PKPdf	**PKPdf**	**20 30 26.6**	**+0.1**
DBIC	**Dimbokro**	**130.31**	**281**	PKP	**PKPdf**	**20 30 41.5**	**+0.4**
	10nm,1.1s,baz=82,slow=3.9,SNR=5.4						

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*CNRM **31** 20:12:24.1,37°.06N×10°.34W,h34km,MD3.3*
*MDD **31** 20:12:28.0±1.1,36°.83N×10°.82W,h40km,mbLg2.8/32,*
Error ellipse: s-maj=10.2km s-min=7.4km az=74.0,
PRXIMO
*INMG **31** 20:12:29.6±0.9,36°.79N×10°.70W,h31km,MD2.6,ML2.7,*
Error ellipse: s-maj=4.1km s-min=2.6km az=79.0
*IGIL **31** 20:12:29.3,36°.78N×10°.71W,h31km,ML2.8*
*CSEM **31** 20:12:30.6±0.3,37°.00N×10°.52W,h30km,ML3.5/9,Error*
ellipse: s-maj=5.4km s-min=3.4km az=56.0
ISC 31 20:12:26.8±1.8,36°.83N±0°.05×10°.72W±0°.09,h69km±21km,
n126,σ1§81/223,5C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.55**	**78**	⇑*i*P	**Pn**	**20 12 53.4**	**+1.0**
PFVI				*e*S	**Sn**	**20 13 10.9**	**-0.8**
PFVI				A	A	20 13 12.4	
	52nm,0.2s						
PFVI	**Vila Bisbo**	**1.55**	**78**	⇑P	**Pn**	**20 12 53.4**	**+1.0**
	105nm,0.1s,SNR=18						
PFVI				S	**Sn**	**20 13 10.9**	**-0.8**
	56nm,0.1s,SNR=8.4						
PFVI	**Vila Bisbo**	**1.55**	**78**	P	**Pn**	**20 12 53.4**	**+1.0**
	105nm,0.1s,SNR=18						
PFVI				S	**Sn**	**20 13 10.9**	**-0.8**
	56nm,0.1s,SNR=8.4						
MORF	**Marmelete**	**1.73**	**73**	*e*P	**Pn**	**20 12 55.9**	**+1.1**
MORF				*e*S	**Sn**	**20 13 15.4**	**-0.6**
MORF				AML	AML	20 13 15.8	
	comp=N,90nm,0.2s						
MORF	**Marmelete**	**1.73**	**73**	⇑*i*Pn	**Pn**	**20 12 55.9**	**+1.1**
MORF				*e*Sn	**Sn**	**20 13 15.6**	**-0.4**
MORF				A	A	20 13 17.6	
	comp=N,69nm,0.1s						
MORF	**Marmelete**	**1.73**	**73**	P	**Pn**	**20 12 55.9**	**+1.1**
MORF				S	**Sn**	**20 13 15.6**	**-0.4**
	comp=N,69nm,0.1s						
MORF	**Marmelete**	**1.73**	**73**	P	**Pn**	**20 12 55.9**	**+1.1**
MORF				S	**Sn**	**20 13 15.6**	**-0.4**
	comp=N,69nm,0.1s						
PNCL	**Nicolau / Gran**	**2.17**	**53**	*e*Pn	**Pn**	**20 13 02.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**20 13 26.8**	**+0.3**
PNCL				A	A	20 13 29.2	
	comp=N,28nm,0.3s						
PNCL	**Nicolau / Gran**	**2.17**	**53**	*e*Pn	**Pn**	**20 13 02.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**20 13 26.8**	**+0.3**
	comp=N,28nm,0.3s						
PMST	**Lisbon--Monsan**	**2.26**	**32**	*e*Sn	**Sn**	**20 13 28.7**	**-0.2**
PMST				A	A	20 13 31.7	
	comp=N,31nm,0.2s						
PMST	**Lisbon--Monsan**	**2.26**	**32**	*e*Sn	**Sn**	**20 13 28.7**	**-0.2**
	comp=N,31nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.27**	**79**	*e*Pn	**Pn**	**20 13 03.7**	**+1.6**
PBDV				*e*Sn	**Sn**	**20 13 28.6**	**-0.5**
PBDV				A	A	20 13 31.6	
	comp=N,17nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**79**	P	**Pn**	**20 13 03.7**	**+1.6**
PBDV				S	**Sn**	**20 13 28.6**	**-0.5**
	comp=N,17nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.27**	**79**	P	**Pn**	**20 13 03.7**	**+1.6**
PBDV				S	**Sn**	**20 13 28.6**	**-0.5**
	comp=N,17nm,0.4s						
PCVE	**Castro Verde**	**2.29**	**69**	⇑*i*Pn	**Pn**	**20 13 03.8**	**+1.5**
PCVE				*e*Sn	**Sn**	**20 13 28.8**	**-0.7**
PCVE				A	A	20 13 32.1	
	comp=N,15nm,0.2s						
PCVE	**Castro Verde**	**2.29**	**69**	P	**Pn**	**20 13 03.8**	**+1.5**
PCVE				S	**Sn**	**20 13 28.8**	**-0.7**
	comp=N,15nm,0.2s						
PCVE	**Castro Verde**	**2.29**	**69**	P	**Pn**	**20 13 03.8**	**+1.5**
PCVE				S	**Sn**	**20 13 28.8**	**-0.7**
	comp=N,15nm,0.2s						
PMAFR	**Mafra**	**2.41**	**28**	*e*Pn	**Pn**	**20 13 05.0**	**+1.0**
PMAFR				*e*Sn	**Sn**	**20 13 31.9**	**-0.6**
PMAFR				A	A	20 13 35.8	
	comp=N,68nm,0.1s						
PMAFR	**Mafra**	**2.41**	**28**	P	**Pn**	**20 13 05.0**	**+1.0**
	comp=N,2.3nm,0.1s,SNR=7.8						
PMAFR				S	**Sn**	**20 13 32.0**	**-0.6**
	comp=N,67nm,0.2s,SNR=15						
PMAFR	**Mafra**	**2.41**	**28**	P	**Pn**	**20 13 05.0**	**+1.0**
	comp=N,2.3nm,0.1s,SNR=7.8						
PMAFR				*e*Sn	**Sn**	**20 13 31.9**	**-0.6**
	comp=N,68nm,0.1s						
PVAQ	**Vaqueiros**	**2.47**	**76**	⇑*e*Pn	**Pn**	**20 13 06.4**	**+1.6**
PVAQ				*e*Sn	**Sn**	**20 13 33.3**	**-0.6**
PVAQ				A	A	20 13 34.7	
	comp=N,18nm,0.2s						
PVAQ	**Vaqueiros**	**2.47**	**76**	P	**Pn**	**20 13 06.4**	**+1.6**
PVAQ				S	**Sn**	**20 13 33.3**	**-0.6**
	comp=N,18nm,0.2s						
PVAQ	**Vaqueiros**	**2.47**	**76**	P	**Pn**	**20 13 06.4**	**+1.6**
PVAQ				S	**Sn**	**20 13 33.3**	**-0.6**
	comp=N,18nm,0.2s						
PBEJ	**Beja**	**2.57**	**61**	*e*Pn	**Pn**	**20 13 07.5**	**+1.4**
PBEJ				*e*Sn	**Sn**	**20 13 36.0**	**-0.3**
PBEJ				A	A	20 13 36.8	
	comp=N,11nm,0.2s						
PBEJ	**Beja**	**2.57**	**61**	P	**Pn**	**20 13 07.5**	**+1.4**
PBEJ				S	**Sn**	**20 13 36.0**	**-0.3**
	comp=N,5.7nm,0.2s						
PBEJ	**Beja**	**2.57**	**61**	P	**Pn**	**20 13 07.5**	**+1.4**
PBEJ				S	**Sn**	**20 13 36.0**	**-0.3**
	comp=N,5.7nm,0.2s						
EGRO	**El Granado**	**2.68**	**74**	P	**Pn**	**20 13 09.1**	**+1.5**
	comp=N,1.5nm,0.1s,SNR=41						
EGRO				S	**Sn**	**20 13 39.2**	**+0.2**
	comp=N,9.8nm,0.1s,SNR=15						
EGRO	**El Granado**	**2.68**	**74**	P	**Pn**	**20 13 09.1**	**+1.5**
	comp=N,1.5nm,0.1s,SNR=41						
EGRO				S	**Sn**	**20 13 39.2**	**+0.2**
	comp=N,9.8nm,0.1s,SNR=15						
EVO	**Evora**	**2.74**	**51**	*e*Pn	**Pn**	**20 13 10.6**	**+2.1**
EVO				*e*Sn	**Sn**	**20 13 40.3**	**-0.2**
EVO				A	A	20 13 41.5	
	comp=N,25nm,0.2s						
EVO	**Evora**	**2.74**	**51**	P	**Pn**	**20 13 10.6**	**+2.1**
EVO				S	**Sn**	**20 13 40.3**	**-0.2**
	comp=N,25nm,0.2s						
EVO	**Evora**	**2.74**	**51**	P	**Pn**	**20 13 10.6**	**+2.1**
EVO				S	**Sn**	**20 13 40.3**	**-0.2**
	comp=N,25nm,0.2s						
PMTG	**Montargil**	**2.98**	**41**	*e*Pn	**Pn**	**20 13 13.0**	**+1.2**
PMTG				*e*Sn	**Sn**	**20 13 45.9**	**-0.5**
PMTG				A	A	20 13 46.9	
	comp=N,12nm,0.1s						
PMTG	**Montargil**	**2.98**	**41**	*e*Pn	**Pn**	**20 13 13.0**	**+1.2**
PMTG				*e*Sn	**Sn**	**20 13 45.9**	**-0.5**
	comp=N,12nm,0.1s						
PESTR	**Estremoz**	**3.21**	**50**	*e*Pn	**Pn**	**20 13 16.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**20 13 51.3**	**-0.6**
PESTR				A	A	20 13 53.5	
	comp=N,8.4nm,0.7s						
PESTR	**Estremoz**	**3.21**	**50**	*e*Pn	**Pn**	**20 13 16.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**20 13 51.3**	**-0.6**
	comp=N,8.4nm,0.7s						
PBAR	**Barrancos**	**3.22**	**64**	*e*Pn	**Pn**	**20 13 16.3**	**+1.3**
PBAR				*e*Sn	**Sn**	**20 13 51.3**	**-1.0**
PBAR				A	A	20 13 53.2	
	comp=N,20nm,0.3s						
PBAR	**Barrancos**	**3.22**	**64**	P	**Pn**	**20 13 16.3**	**+1.3**
PBAR				S	**Sn**	**20 13 51.3**	**-1.0**
	comp=N,20nm,0.3s						
PBAR	**Barrancos**	**3.22**	**64**	P	**Pn**	**20 13 16.3**	**+1.3**
PBAR				S	**Sn**	**20 13 51.3**	**-1.0**
	comp=N,20nm,0.3s						
PTOM	**Tomar**	**3.33**	**32**	*e*Pn	**Pn**	**20 13 18.2**	**+1.7**
PTOM				*e*Sn	**Sn**	**20 13 54.9**	**+0.1**
PTOM				A	A	20 13 56.8	
	comp=N,17nm,0.1s						
PTOM	**Tomar**	**3.33**	**32**	P	**Pn**	**20 13 18.2**	**+1.7**
PTOM				S	**Sn**	**20 13 54.9**	**+0.1**
	comp=N,8.4nm,0.1s						
PTOM	**Tomar**	**3.33**	**32**	P	**Pn**	**20 13 18.2**	**+1.7**
PTOM				S	**Sn**	**20 13 54.9**	**+0.1**
	comp=N,8.4nm,0.1s						
EMIN	**Mina Concepcio**	**3.36**	**73**	P	**Pn**	**20 13 18.2**	**+1.3**
	comp=N,0.9nm,0.1s,SNR=102						
EMIN				S	**Sn**	**20 13 54.8**	**-0.9**
	comp=N,4.5nm,0.1s,SNR=16						
EMIN	**Mina Concepcio**	**3.36**	**73**	P	**Pn**	**20 13 18.2**	**+1.3**
	comp=N,0.9nm,0.1s,SNR=102						
EMIN				S	**Sn**	**20 13 54.8**	**-0.9**
	comp=N,4.5nm,0.1s,SNR=16						
EBAD	**Badajoz**	**3.51**	**56**	P	**Pn**	**20 13 20.0**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=23						
EBAD				S	**Sn**	**20 13 58.6**	**-0.7**
	comp=N,13nm,0.1s,SNR=7.0						
EBAD	**Badajoz**	**3.51**	**56**	P	**Pn**	**20 13 20.0**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=23						
EBAD				S	**Sn**	**20 13 58.6**	**-0.7**
	comp=N,13nm,0.1s,SNR=7.0						
PCAS	**Casmilo, Conde**	**3.67**	**28**	*e*Pn	**Pn**	**20 13 22.6**	**+1.6**
PCAS				*e*Sn	**Sn**	**20 14 02.8**	**-0.2**
PCAS				A	A	20 14 04.0	
	comp=N,8.2nm,0.5s						
PCAS	**Casmilo, Conde**	**3.67**	**28**	*e*Pn	**Pn**	**20 13 22.6**	**+1.6**
PCAS				*e*Sn	**Sn**	**20 14 02.8**	**-0.2**
	comp=N,8.2nm,0.5s						
PMRV

comp=N,2.6nm,0.1s,SNR=7.9
MVO *e*Sn **Sn** **20 14 38.7 -2.0**
comp=N,7.4nm,0.2s
EGOR Sierra Gorda, 5.30 85 P **Pn** **20 13 44.8 +1.3**
comp=N,0.5nm,0.2s,SNR=7.9
EGOR S **Sn** **20 14 43.3 -0.1**
comp=N,1.7nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 5.30 85 P **Pn** **20 13 44.8 +1.3**
comp=N,0.5nm,0.2s,SNR=7.9
EGOR S **Sn** **20 14 43.3 -0.1**
comp=N,1.7nm,0.3s,SNR=7.9
ELOB Lobios 5.44 21 P **Pn** **20 13 46.3 +0.9**
comp=N,0.8nm,0.1s,SNR=6.9
ELOB S **Sn** **20 14 43.4 -3.2**
comp=N,5.2nm,0.2s,SNR=6.1
ELOB Lobios 5.44 21 P **Pn** **20 13 46.3 +0.9**
comp=N,0.8nm,0.1s,SNR=6.9
ELOB S **Sn** **20 14 43.4 -3.2**
comp=N,5.2nm,0.2s,SNR=6.1
PGAV Gavieira, Arco 5.47 20 *e*Pn **Pn** **20 13 47.0 +1.2**
PGAV *e*Sn **Sn** **20 14 45.1 -2.3**
PGAV A A 20 14 49.9
comp=N,4.7nm,0.1s
PGAV Gavieira, Arco 5.47 20 *e*Pn **Pn** **20 13 47.0 +1.2**
PGAV *e*Sn **Sn** **20 14 45.1 -2.3**
comp=N,4.7nm,0.1s
CIA Chichaoua 5.49 162 P **Pn** **20 13 45.0 -1.1**
CIA S **Sn** **20 14 45.0 -3.0**
CIA Chichaoua 5.49 162 *i* P **Pn** **20 13 45.0 -1.1**
CIA *i* S **Sn** **20 14 45.0 -3.0**
SELV Sierra Elvira 5.61 84 P **Pn** **20 13 48.6 +0.9**
comp=N,0.2nm,0.2s,SNR=7.9
SELV S **Sn** **20 14 49.3 -1.5**
comp=N,0.9nm,0.3s,SNR=7.9
SELV Sierra Elvira 5.61 84 P **Pn** **20 13 48.6 +0.9**
comp=N,0.2nm,0.2s,SNR=7.9
SELV S **Sn** **20 14 49.3 -1.5**
comp=N,0.9nm,0.3s,SNR=7.9
ELGU Los Guajares, 5.69 87 P **Pn** **20 13 52.0 +3.2**
comp=N,0.7nm,0.2s,SNR=7.9
ELGU S **Sn** **20 14 52.9 0.0**
comp=N,3.0nm,0.3s,SNR=7.9
ELGU Los Guajares, 5.69 87 P **Pn** **20 13 52.0 +3.2**
comp=N,0.7nm,0.2s,SNR=7.9
ELGU S **Sn** **20 14 52.8 0.0**
comp=N,3.0nm,0.3s,SNR=7.9
KIB El Ksiba 5.73 136 P **Pn** **20 13 45.0 -4.4**
KIB S **Sn** **20 14 47.0 -6.8**
KIB El Ksiba 5.73 136 *i* P **Pn** **20 13 45.0 -4.4**
KIB *i* S **Sn** **20 14 47.0 -6.8**
TZC Tazercounte 5.83 142 P **Pn** **20 13 48.0 -2.8**
TZC S **Sn** **20 14 52.0 -4.4**
TZC Tazercounte 5.83 142 *i* P **Pn** **20 13 48.0 -2.8**
TZC *i* S **Sn** **20 14 52.0 -4.4**
EQUE Quentar 5.84 84 P **Pn** **20 13 52.7 +1.8**
comp=N,0.4nm,0.1s,SNR=7.9
EQUE S **Sn** **20 14 55.4 -1.1**
comp=N,0.4nm,0.1s,SNR=7.9
EQUE Quentar 5.84 84 P **Pn** **20 13 52.7 +1.8**
comp=N,0.4nm,0.1s,SNR=7.9
EQUE S **Sn** **20 14 55.4 -1.1**
comp=N,0.4nm,0.1s,SNR=7.9
PBRG Braganca 5.85 31 *e*Sn **Sn** **20 14 54.4 -2.2**
PBRG A A 20 14 56.7
comp=N,3.6nm,0.2s
PBRG Braganca 5.85 31 S **Sn** **20 14 54.4 -2.2**
comp=N,1.8nm,0.2s
PBRG Braganca 5.85 31 S **Sn** **20 14 54.4 -2.2**
comp=N,1.8nm,0.2s
ECAL Calabor 5.97 30 S **Sn** **20 14 57.2 -2.4**
comp=N,2.3nm,0.2s,SNR=7.9
ECAL Calabor 5.97 30 S **Sn** **20 14 57.2 -2.4**
comp=N,2.3nm,0.2s,SNR=7.9
ESDC Sonseca Array 6.03 60 P **Pn** **20 13 54.8 +1.4**
comp=N,2.3nm,0.2s,baz=242,slow=13,SNR=36
ESDC S **Sn** **20 14 57.9 -3.2**
comp=N,0.6nm,0.3s,baz=244,slow=24,SNR=14
ESDC Sonseca Array 6.03 60 P **Pn** **20 13 54.8 +1.4**
comp=N,2.3nm,0.2s,SNR=36
ESDC S **Sn** **20 14 57.9 -3.2**
comp=N,0.6nm,0.3s,SNR=14
OUK Oukaimeden 6.08 156 P **Pn** **20 13 55.0 +0.6**
OUK S **Sn** **20 14 58.0 -4.8**
OUK Oukaimeden 6.08 156 *i* P **Pn** **20 13 55.0 +0.6**
OUK *i* S **Sn** **20 14 58.0 -4.8**
EQES Quesada 6.18 79 P **Pn** **20 13 57.1 +1.6**
comp=N,0.7nm,0.2s,SNR=12
EQES S **Sn** **20 15 03.3 -1.5**
comp=N,2.1nm,0.2s,SNR=13
EQES Quesada 6.18 79 P **Pn** **20 13 57.1 +1.6**
comp=N,0.7nm,0.2s,SNR=12
EQES S **Sn** **20 15 03.3 -1.5**
comp=N,2.1nm,0.2s,SNR=13
EMAZ Mazaricos 6.26 12 P **Pn** **20 13 57.0 +0.5**
comp=N,1.2nm,0.1s,SNR=7.9
EMAZ S **Sn** **20 15 02.3 -4.3**
comp=N,6.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.26 12 P **Pn** **20 13 57.0 +0.5**
comp=N,1.2nm,0.1s,SNR=7.9
EBER Berja 6.28 87 P **Pn** **20 13 59.7 +2.7**
comp=N,0.4nm,0.2s,SNR=7.9
EBER S **Sn** **20 15 07.1 -0.3**
comp=N,1.0nm,0.3s,SNR=7.9
EBER Berja 6.28 87 P **Pn** **20 13 59.7 +2.7**
comp=N,0.4nm,0.2s,SNR=7.9
EBER S **Sn** **20 15 07.1 -0.3**
comp=N,1.0nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 6.30 18 P **Pn** **20 13 57.6 +0.5**
comp=N,0.8nm,0.1s,SNR=7.9
EAGO S **Sn** **20 15 03.6 -4.1**
comp=N,2.0nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.30 18 P **Pn** **20 13 57.6 +0.5**
comp=N,0.8nm,0.1s,SNR=7.9
GUD Guadarrama 6.39 51 P **Pn** **20 14 00.0 +1.6**
comp=N,0.3nm,0.2s,SNR=7.9
GUD S **Sn** **20 15 07.5 -2.6**
comp=N,2.8nm,0.4s,SNR=7.9
GUD Guadarrama 6.39 51 P **Pn** **20 14 00.0 +1.6**
comp=N,0.3nm,0.2s,SNR=7.9
GUD S **Sn** **20 15 07.5 -2.6**
comp=N,2.8nm,0.4s,SNR=7.9
SESP Santiago Espad 6.63 76 P **Pn** **20 14 03.5 +1.8**
comp=N,0.4nm,0.1s,SNR=7.9
SESP Santiago Espad 6.63 76 P **Pn** **20 14 03.5 +1.8**
comp=N,0.4nm,0.1s,SNR=7.9
ENIJ Nijar 6.83 86 P **Pn** **20 14 06.4 +2.1**
comp=N,1.1nm,0.2s,SNR=7.9
ENIJ Nijar 6.83 86 P **Pn** **20 14 06.4 +2.1**
comp=N,1.1nm,0.2s,SNR=7.9
EPON Pontenova 7.05 22 P **Pn** **20 14 07.4 +0.2**
comp=N,2.4nm,0.3s,SNR=7.9
EPON Pontenova 7.05 22 P **Pn** **20 14 07.4 +0.2**
comp=N,2.4nm,0.3s,SNR=7.9
ETOB Tobarra 7.49 73 P **Pn** **20 14 14.4 +1.0**
comp=N,1.1nm,0.2s,SNR=12
ETOB Tobarra 7.49 73 P **Pn** **20 14 14.4 +1.0**
comp=N,1.1nm,0.2s,SNR=12
EMOS Mosqueruela 8.77 63 P **Pn** **20 14 33.1 +2.2**
comp=N,1.0nm,0.4s,SNR=7.9
EMOS Mosqueruela 8.77 63 P **Pn** **20 14 33.1 +2.2**
comp=N,1.0nm,0.4s,SNR=7.9
IELO Elcoad 9.45 48 P **Pn** **20 14 42.1 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9
IELO Elcoad 9.45 48 P **Pn** **20 14 42.1 +2.0**
comp=N,0.2nm,0.1s,SNR=7.9

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*ISCJB **31** 20:14:14.8±0.6, 36°.57N±0°.03×1°.63E±0°.05, h20km, Error ellipse: s-maj=5.5km s-min=3.9km az=21.4*
*CRAAG **31** 20:14:14.4, 36°.52N×1°.39E, Ml3.0*
*CSEM **31** 20:14:15.5±0.3, 36°.43N×1°.68E, h20km, mb3.9, Error ellipse: s-maj=6.8km s-min=4.1km az=114.0*
*MDD **31** 20:14:15.8±0.9, 36°.43N×1°.74E, h19km±10km, mb3.9/8, Error ellipse: s-maj=12.2km s-min=7.1km az=131.0, PRXIMO*
ISC 31 20:14:13.7±1.2, 36°.42N±0°.05×1°.78E±0°.05, h20km, n49, σ1§87/74, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.24**	**237**	P	**Pb**	**20 14 20.5**	**+1.0**
EBNR	**Beni Rached**	**0.24**	**237**	P	**Pb**	**20 14 20.5**	**+1.0**
ECHA	**Ech Chlef**	**0.43**	**231**	P	**Pb**	**20 14 23.5**	**+0.9**
ECHA	**Ech Chlef**	**0.43**	**231**	P	**Pb**	**20 14 23.5**	**+0.9**
ECHF	**Ech Chlef**	**0.44**	**233**	P	**Pb**	**20 14 23.5**	**+0.7**
ECHF	**Ech Chlef**	**0.44**	**233**	P	**Pb**	**20 14 23.5**	**+0.7**
EANR	**'Ain N'Sour**	**0.72**	**230**	P	**Pn**	**20 14 29.0**	**+0.1**
EANR	**'Ain N'Sour**	**0.72**	**230**	P	**Pn**	**20 14 29.0**	**+0.1**
EANR	**'Ain N'Sour**	**0.72**	**230**	P	**Pn**	**20 14 29.0**	**+0.1**
ETRT	**Tiaret**	**1.10**	**201**	P	**Pb**	**20 14 34.9**	**+0.8**
ETRT	**Tiaret**	**1.10**	**201**	P	**Pb**	**20 14 34.9**	**+0.8**
ETRT	**Tiaret**	**1.10**	**201**	P	**Pb**	**20 14 34.9**	**+0.8**
EIBI	**Ibiza**	**2.62**	**353**	P	**Pn**	**20 14 56.0**	**+1.0**
	3.9nm,0.1s,SNR=98						
EIBI				S	**Sn**	**20 15 24.1**	**-2.2**
	23nm,0.2s,SNR=6.8						
EIBI	**Ibiza**	**2.62**	**353**	P	**Pn**	**20 14 56.0**	**+1.0**
	3.9nm,0.1s,SNR=98						
EMUR	**La Murta**	**2.80**	**301**	P	**Pn**	**20 14 58.5**	**+1.1**
	0.5nm,0.2s,SNR=9.9						
EMUR				S	**Sn**	**20 15 28.2**	**-2.4**
	2.6nm,0.3s						
EMUR	**La Murta**	**2.80**	**301**	P	**Pn**	**20 14 58.5**	**+1.1**
	0.5nm,0.2s,SNR=9.9						
EMUR				S	**Sn**	**20 15 28.2**	**-2.4**
	2.6nm,0.3s						
AFON	**Font Roja**	**2.90**	**321**	P	**Pn**	**20 14 59.5**	**+0.6**
	0.1nm,0.1s,SNR=6.6						
AFON				S	**Sn**	**20 15 30.8**	**-2.4**
	0.5nm,0.2s						
AFON	**Font Roja**	**2.90**	**321**	P	**Pn**	**20 14 59.5**	**+0.6**
	0.1nm,0.1s,SNR=6.6						
ENIJ	**Nijar**	**3.25**	**281**	P	**Pn**	**20 15 04.6**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**20 15 38.8**	**-2.9**
	4.0nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**3.25**	**281**	P	**Pn**	**20 15 04.6**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**20 15 38.8**	**-2.9**
	4.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.44**	**13**	P	**Pn**	**20 15 06.7**	**+0.5**
	1.2nm,0.2s,SNR=64						
ETOS				S	**Sn**	**20 15 45.5**	**-0.9**
	3.0nm,0.1s,SNR=5.1						
ETOS	**Mallorca**	**3.44**	**13**	P	**Pn**	**20 15 06.7**	**+0.5**
	1.2nm,0.2s,SNR=64						
ETOB	**Tobarra**	**3.45**	**311**	P	**Pn**	**20 15 07.8**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**20 15 46.1**	**-0.7**
	2.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.45**	**311**	P	**Pn**	**20 15 07.8**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**20 15 46.1**	**-0.7**
	2.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.78**	**279**	P	**Pn**	**20 15 12.4**	**+1.3**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 15 54.2**	**-0.9**
	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.78**	**279**	P	**Pn**	**20 15 12.4**	**+1.3**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 15 54.2**	**-0.9**
	1.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.84**	**297**	P	**Pn**	**20 15 13.7**	**+1.8**
	0.6nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**20 15 55.3**	**-1.3**
	6.1nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.84**	**297**	P	**Pn**	**20 15 13.7**	**+1.8**
	0.6nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**20 15 55.3**	**-1.3**
	6.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.11**	**291**	P	**Pn**	**20 15 17.4**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**20 16 02.0**	**-1.2**
	2.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.11**	**291**	P	**Pn**	**20 15 17.5**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**20 16 02.0**	**-1.2**
	2.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.32**	**337**	P	**Pn**	**20 15 20.2**	**+1.8**
	1.2nm,0.1s,SNR=39						
EMOS				S	**Sn**	**20 16 04.9**	**-3.3**
	4.1nm,0.3s						
EMOS	**Mosqueruela**	**4.32**	**337**	P	**Pn**	**20 15 20.2**	**+1.8**
	1.2nm,0.1s,SNR=39						
ELGU	**Los Guajares,**	**4.37**	**277**	P	**Pn**	**20 15 20.4**	**+1.3**
	1.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**20 16 07.5**	**-1.9**
	1.5nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**4.37**	**277**	P	**Pn**	**20 15 20.4**	**+1.3**
	1.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**20 16 07.5**	**-1.9**
	1.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.67**	**346**	P	**Pn**	**20 15 24.7**	**+1.6**
	0.4nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**20 16 13.2**	**-3.5**
	1.5nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.67**	**346**	P	**Pn**	**20 15 24.7**	**+1.6**
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.96**	**354**	P	**Pn**	**20 15 28.2**	**+1.1**
	0.9nm,0.2s,SNR=6.5						
EPOB				S	**Sn**	**20 16 20.9**	**-2.9**
	0.7nm,0.2s						
EPOB	**Poblet**	**4.96**	**354**	P	**Pn**	**20 15 28.2**	**+1.1**
	0.9nm,0.2s,SNR=6.5						
EADA	**Adamuz**	**5.36**	**291**	P	**Pn**	**20 15 33.4**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**20 16 29.5**	**-4.2**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.36**	**291**	P	**Pn**	**20 15 33.4**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.36**	**5**	P	**Pn**	**20 15 34.2**	**+1.6**
	1.4nm,0.3s,SNR=10						
CFON				S	**Sn**	**20 16 31.1**	**-2.7**
	3.2nm,0.2s						
CFON	**Fontmartina**	**5.36**	**5**	P	**Pn**	**20 15 34.2**	**+1.6**
	1.4nm,0.3s,SNR=10						
EMIR	**Miracle**	**5.49**	**358**	P	**Pn**	**20 15 36.5**	**+2.1**
	2.5nm,0.1s,SNR=9.7						
EMIR				S	**Sn**	**20 16 34.3**	**-2.7**
	1.7nm,0.2s						
EMIR	**Miracle**	**5.49**	**358**	P	**Pn**	**20 15 36.5**	**+2.1**
	2.5nm,0.1s,SNR=9.7						
ESAC	**San Caprasio**	**5.57**	**342**	P	Pn	20 15 40.6	+5.0
	2.2nm,0.3s,SNR=7.9						
ESAC				S	**Sn**	**20 16 42.3**	**+3.2**
	8.0nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.97**	**355**	P	**Pn**	**20 15 43.1**	**+2.0**
	1.0nm,0.2s,SNR=9.7						
CSOR				S	**Sn**	**20 16 44.0**	**-4.8**
	0.4nm,0.3s						
CSOR	**Sort**	**5.97**	**355**	P	**Pn**	**20 15 43.1**	**+2.0**
	1.0nm,0.2s,SNR=9.7						
CLLI	**Llivia**	**6.05**	**1**	P	**Pn**	**20 15 44.2**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**20 16 47.7**	**-3.2**
	0.5nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.05**	**1**	P	**Pn**	**20 15 44.2**	**+2.0**
	0.6nm,0.2s,SNR=7.9						

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*ISK **31** 20:24:50.8, 38°.73N×43°.20E, h22km, MD2.7*
*ISCJB **31** 20:24:52.6±0.5, 38°.72N±0°.03×43°.12E±0°.04, h6km±9km, Error ellipse: s-maj=5.1km s-min=4.5km az=138.1*
*CSEM **31** 20:24:52.4±0.2, 38°.71N×43°.13E, h10km, ML2.8, Error ellipse: s-maj=5.5km s-min=5.1km az=133.0*
*DDA **31** 20:24:52.6, 38°.65N×43°.19E, h7km, Ml2.8*
ISC 31 20:24:52.6±0.9, 38°.72N±0°.03×43°.16E±0°.02, h15km±9km, n22, σ0§86/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**124**	*e*PG	**Pg**	**20 24 57.7**	**+0.1**
VANB	**Van**	**0.22**	**124**	*e*Pg	**Pg**	**20 24 57.7**	**+0.1**
TVAN	**Van**	**0.27**	**134**	*i* P	**Pg**	**20 24 57.4**	**-1.1**
TVAN				*i* S	**Sg**	**20 25 02.3**	**-0.2**
TVAN	**Van**	**0.27**	**134**	P	**Pg**	**20 24 57.4**	**-1.1**
TVAN				S	**Sg**	**20 25 02.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.35**	**285**	*i* P	**Pg**	**20 25 00.5**	**+0.7**
ADCV				*i* S	**Sb**	**20 25 07.3**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.35**	**285**	P	**Pg**	**20 25 00.5**	**+0.7**
GEVA	**Gevas**	**0.41**	**191**	*i* P	**Pg**	**20 24 59.9**	**-1.0**
GEVA				*i* S	**Sb**	**20 25 07.2**	**-0.7**
GEVA	**Gevas**	**0.41**	**191**	P	**Pg**	**20 24 59.9**	**-1.0**
GEVA				S	**Sb**	**20 25 07.2**	**-0.7**
VMUR	**Van-Muradiye**	**0.42**	**50**	*i* P	**Pb**	**20 25 01.8**	**-0.1**
VMUR				*i* S	**Sb**	**20 25 09.2**	**+1.0**
VMUR	**Van-Muradiye**	**0.42**	**50**	P	**Pb**	**20 25 01.8**	**-0.1**
VMUR				S	**Sb**	**20 25 09.2**	**+1.0**
TATV	**Tatvan**	**0.73**	**254**	*i* P	**Pg**	**20 25 06.2**	**-0.6**
TATV	**Tatvan**	**0.73**	**254**	P	**Pg**	**20 25 06.2**	**-0.6**
CLDR	**Caldiran**	**0.73**	**54**	*i* P	**Pb**	**20 25 07.3**	**+0.2**
CLDR				*i* S	**Sb**	**20 25 18.0**	**+0.9**
CLDR	**Caldiran**	**0.73**	**54**	P	**Pb**	**20 25 07.3**	**+0.2**
CLDR				S	**Sb**	**20 25 18.0**	**+0.9**
TUTA	**Tutak**	**0.73**	**339**	*i* P	**Pb**	**20 25 07.4**	**+0.2**
TUTA	**Tutak**	**0.73**	**339**	P	**Pb**	**20 25 07.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*PG	**Pg**	**20 25 07.6**	**-1.8**
AGRB				*e*SG	**Sg**	**20 25 20.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.87**	**352**	*e*Pg	**Pg**	**20 25 07.6**	**-1.8**
AGRB				*e*Sg	**Sg**	**20 25 20.7**	**-0.2**
GURO	**Guroymak-BITLI**	**0.90**	**260**	*e*PG	**Pg**	**20 25 08.8**	**-1.2**
GURO				*e*SG	**Sg**	**20 25 22.4**	**+0.6**
GURO	**Guroymak-BITLI**	**0.90**	**260**	*e*Pg	**Pg**	**20 25 08.8**	**-1.2**
GURO				*e*Sg	**Sg**	**20 25 22.4**	**+0.6**
HAKT	**HAKKARI**	**1.24**	**159**	*i* P	**Pg**	**20 25 16.9**	**+0.5**
HAKT	**HAKKARI**	**1.24**	**159**	P	**Pg**	**20 25 16.9**	**+0.5**

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*NSSC **31** 20:29:00.2±1.9, 39°.45N×44°.91E, h0km±999km, ML2.6*
*AZER **31** 20:29:12.6±4.2, 37°.91N×43°.81E, h12km, Error ellipse: s-maj=54.3km s-min=24.8km az=150.0*
*DDA **31** 20:29:17.7, 38°.74N×43°.63E, h5km, Ml3.7*
*ISK **31** 20:29:17.7, 38°.75N×43°.67E, h8km, ML3.3*
*ISCJB **31** 20:29:18.6±0.5, 38°.74N±0°.02×43°.64E±0°.03, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=27.1*
*CSEM **31** 20:29:18.2±0.2, 38°.73N×43°.64E, h2km, ML3.7, Error ellipse: s-maj=5.1km s-min=4.0km az=125.0*
ISC 31 20:29:18.2±0.9, 38°.74N±0°.02×43°.66E±0°.02, h13km±9km, n86, σ1§18/109, 2C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**235**	*e*PG	**Pb**	**20 29 24.2**	**-0.6**
VANB				*e*SG	**Sb**	**20 29 29.4**	**+0.2**
VANB	**Van**	**0.26**	**235**	*e*Pg	**Pb**	**20 29 24.2**	**-0.6**
VANB				*e*Sg	**Sb**	**20 29 29.4**	**+0.2**
VMUR	**Van-Muradiye**	**0.26**	**345**	*i* P	**Pg**	**20 29 23.1**	**-0.6**
VMUR				*i* S	**Sb**	**20 29 29.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.26**	**345**	P	**Pg**	**20 29 23.1**	**-0.6**
TVAN	**Van**	**0.29**	**223**	*i* P	**Pg**	**20 29 24.3**	**0.0**
TVAN				*i* S	**Sb**	**20 29 30.2**	**0.0**
TVAN	**Van**	**0.29**	**223**	P	**Pg**	**20 29 24.3**	**0.0**
ERCV	**ERCIS-VAN**	**0.37**	**318**	*e*PG	**Pg**	**20 29 25.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.37**	**318**	*e*Pg	**Pg**	**20 29 25.3**	**-0.5**
CLDR	**Caldiran**	**0.45**	**27**	*e*PG	**Pg**	**20 29 26.7**	**-0.5**
CLDR				*e*SG	**Sg**	**20 29 33.7**	**+0.5**
CLDR	**Caldiran**	**0.45**	**27**	*i* P	**Pg**	**20 29 26.7**	**-0.5**
CLDR				*i* S	**Sb**	**20 29 34.2**	**-0.7**
CLDR	**Caldiran**	**0.45**	**27**	P	**Pg**	**20 29 26.7**	**-0.5**
CLDR				*e*Sg	**Sg**	**20 29 33.7**	**+0.5**
CLDR				S	**Sb**	**20 29 34.2**	**-0.7**
GEVA	**Gevas**	**0.64**	**228**	*i* P	**Pg**	**20 29 30.0**	**-0.6**
GEVA	**Gevas**	**0.64**	**228**	P	**Pg**	**20 29 30.0**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.73**	**275**	*i* P	**Pg**	**20 29 32.0**	**-0.5**
ADCV				*i* S	**Sg**	**20 29 42.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.73**	**275**	P	**Pg**	**20 29 32.0**	**-0.5**
ADCV				S	**Sg**	**20 29 42.3**	**+0.2**
BASK	**Baskale_VAN**	**0.74**	**158**	*i* P	**Pg**	**20 29 32.4**	**-0.2**
BASK				*i* S	**Sb**	**20 29 44.5**	**+1.3**
BASK	**Baskale_VAN**	**0.74**	**158**	P	**Pg**	**20 29 32.4**	**-0.2**
DYDN	**Diyadin**	**0.80**	**2**	*i* P	**Pg**	**20 29 32.7**	**-1.1**
DYDN	**Diyadin**	**0.80**	**2**	P	**Pg**	**20 29 32.7**	**-1.1**
TUTA	**Tutak**	**0.93**	**315**	*i* P	**Pg**	**20 29 34.8**	**-1.4**
TUTA				*i* S	**Sb**	**20 29 49.9**	**+1.1**
TUTA	**Tutak**	**0.93**	**315**	P	**Pg**	**20 29 34.8**	**-1.4**
TUTA				S	**Sb**	**20 29 49.9**	**+1.1**
AGRB	**Hanur-Agry**	**0.98**	**328**	*e*PG	**Pb**	**20 29 37.1**	**-0.1**
AGRB				*e*SG	**Sb**	**20 29 50.9**	**+0.8**
AGRB	**Hanur-Agry**	**0.98**	**328**	*e*Pg	**Pb**	**20 29 37.1**	**-0.1**
AGRB				*e*Sg	**Sb**	**20 29 50.9**	**+0.8**
TATV	**Tatvan**	**1.11**	**258**	*i* P	**Pg**	**20 29 38.2**	**-1.5**
TATV				*i* S	**Sg**	**20 29 53.4**	**-0.8**
TATV	**Tatvan**	**1.11**	**258**	P	**Pg**	**20 29 38.2**	**-1.5**
TATV				S	**Sg**	**20 29 53.4**	**-0.8**
HAKT	**HAKKARI**	**1.18**	**178**	*i* P	**Pg**	**20 29 39.4**	**-1.6**
HAKT	**HAKKARI**	**1.18**	**178**	P	**Pg**	**20 29 39.4**	**-1.6**
TASB	**TASBURUN-IGDIR**	**1.32**	**20**	*e*PN	**Pn**	**20 29 42.9**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.32**	**20**	*e*Pn	**Pn**	**20 29 42.9**	**+0.5**
EKAR	**Karacoban**	**1.34**	**293**	*i* P	**Pn**	**20 29 43.5**	**+0.6**
EKAR	**Karacoban**	**1.34**	**293**	P	**Pn**	**20 29 43.5**	**+0.6**
EATA	**Eleskirt**	**1.44**	**321**	*i* P	**Pn**	**20 29 44.2**	**-0.1**
EATA	**Eleskirt**	**1.44**	**321**	P	**Pn**	**20 29 44.2**	**-0.1**
CUKT	**Cukurca**	**1.49**	**182**	*e*PN	**Pn**	**20 29 45.4**	**+0.5**
CUKT	**Cukurca**	**1.49**	**182**	*i* P	**Pn**	**20 29 45.2**	**+0.3**
CUKT	**Cukurca**	**1.49**	**182**	P	**Pn**	**20 29 45.2**	**+0.3**
NAX	**Nakhchivan**	**1.50**	**73**	⇓P	**Pb**	**20 29 45.8**	**-0.1**
NAX				⇓S	**Sg**	**20 30 07.6**	**+1.2**
NAX	**Nakhchivan**	**1.50**	**73**	P	**Pb**	**20 29 45.8**	**-0.1**
NAX				S	**Sg**	**20 30 07.6**	**+1.2**
SRTM	**Siirt_Merkez**	**1.56**	**242**	*i* P	**Pb**	**20 29 47.2**	**+0.3**
SRTM	**Siirt_Merkez**	**1.56**	**242**	P	**Pb**	**20 29 47.2**	**+0.3**
SIRN	**S¨–rnak**	**1.58**	**219**	*i* P	**Pg**	**20 29 48.4**	**-0.2**
SIRN	**S¨–rnak**	**1.58**	**219**	P	**Pg**	**20 29 48.4**	**-0.2**
VRTB	**Varto-Mus**	**1.77**	**284**	*e*PN	**Pn**	**20 29 49.4**	**+0.7**
VRTB	**Varto-Mus**	**1.77**	**284**	*e*Pn	**Pn**	**20 29 49.4**	**+0.7**
BNGL	**BINGOL**	**1.97**	**277**	*i* P	**Pb**	**20 29 54.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*e*PN	**Pn**	**20 29 53.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*i* P	**Pn**	**20 29 53.7**	**+1.6**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	*e*Pn	**Pn**	**20 29 53.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.02**	**254**	P	**Pn**	**20 29 53.7**	**+1.6**
BTMN	**Batman**	**2.06**	**246**	*i* P	**Pn**	**20 29 53.5**	**+0.8**
BTMN	**Batman**	**2.06**	**246**	P	**Pn**	**20 29 53.5**	**+

*DDA **31** 20:33:49.3, 38°.75N×43°.50E, h7km, Ml3.3*
ISC 31 20:33:50.3±0.8, 38°.75N±0°.02×43°.53E±0°.02, h13km±6km, n63, σ1§22/90, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**215**	*e*PG	**Pg**	**20 33 54.5**	**-0.1**
VANB	**Van**	**0.19**	**215**	*e*Pg	**Pg**	**20 33 54.5**	**-0.1**
TVAN	**Van**	**0.24**	**203**	*i* P	**Pg**	**20 33 55.1**	**-0.3**
TVAN				*i* S	**Sg**	**20 34 00.4**	**+1.3**
TVAN	**Van**	**0.24**	**203**	P	**Pg**	**20 33 55.2**	**-0.3**
TVAN				S	**Sg**	**20 34 00.4**	**+1.3**
VMUR	**Van-Muradiye**	**0.24**	**8**	*i* P	**Pg**	**20 33 54.2**	**-1.3**
VMUR				*i* S	**Sg**	**20 33 59.1**	**0.0**
VMUR	**Van-Muradiye**	**0.24**	**8**	P	**Pg**	**20 33 54.2**	**-1.3**
VMUR				S	**Sg**	**20 33 59.1**	**0.0**
ERCV	**ERCIS-VAN**	**0.31**	**331**	*e*PG	**Pg**	**20 33 55.5**	**-1.2**
ERCV				*e*SG	**Sg**	**20 34 00.8**	**-0.2**
ERCV	**ERCIS-VAN**	**0.31**	**331**	*e*Pg	**Pg**	**20 33 55.5**	**-1.2**
ERCV				*e*Sg	**Sg**	**20 34 00.8**	**-0.2**
CLDR	**Caldiran**	**0.50**	**38**	*e*PG	**Pg**	**20 33 58.6**	**-1.5**
CLDR	**Caldiran**	**0.50**	**38**	*i* P	**Pg**	**20 33 59.0**	**-1.1**
CLDR				*i* S	**Sb**	**20 34 07.0**	**-1.3**
CLDR	**Caldiran**	**0.50**	**38**	*e*Pg	**Pg**	**20 33 58.6**	**-1.5**
CLDR	**Caldiran**	**0.50**	**38**	P	**Pg**	**20 33 59.0**	**-1.1**
CLDR				S	**Sb**	**20 34 07.0**	**-1.3**
GEVA	**Gevas**	**0.57**	**220**	*i* P	**Pg**	**20 34 00.6**	**-0.9**
GEVA	**Gevas**	**0.57**	**220**	P	**Pg**	**20 34 00.6**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.63**	**275**	*i* P	**Pg**	**20 34 01.6**	**-1.0**
ADCV				*i* S	**Sb**	**20 34 11.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.63**	**275**	P	**Pg**	**20 34 01.6**	**-1.0**
ADCV				S	**Sb**	**20 34 11.8**	**-0.3**
BASK	**Baskale_VAN**	**0.79**	**152**	*i* P	**Pg**	**20 34 04.6**	**-1.0**
BASK				*i* S	**Sb**	**20 34 16.0**	**-0.7**
BASK	**Baskale_VAN**	**0.79**	**152**	P	**Pg**	**20 34 04.6**	**-1.0**
BASK				S	**Sb**	**20 34 16.0**	**-0.7**
DYDN	**Diyadin**	**0.80**	**9**	*i* P	**Pg**	**20 34 05.0**	**-0.8**
DYDN				*i* S	**Sb**	**20 34 17.3**	**+0.2**
DYDN	**Diyadin**	**0.80**	**9**	P	**Pg**	**20 34 05.0**	**-0.8**
DYDN				S	**Sb**	**20 34 17.3**	**+0.2**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pg**	**20 34 04.8**	**-2.1**
TUTA				*i* S	**Sg**	**20 34 16.9**	**-1.2**
TUTA	**Tutak**	**0.86**	**320**	P	**Pg**	**20 34 04.8**	**-2.1**
TUTA				S	**Sg**	**20 34 16.9**	**-1.2**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*PG	**Pg**	**20 34 06.1**	**-2.0**
AGRB				*e*SG	**Sb**	**20 34 21.0**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**333**	*e*Pg	**Pg**	**20 34 06.1**	**-2.0**
AGRB				*e*Sg	**Sb**	**20 34 21.0**	**+0.4**
TATV	**Tatvan**	**1.02**	**257**	*i* P	**Pg**	**20 34 08.1**	**-1.8**
TATV				*i* S	**Sg**	**20 34 21.5**	**-1.7**
TATV	**Tatvan**	**1.02**	**257**	P	**Pg**	**20 34 08.1**	**-1.8**
TATV				S	**Sg**	**20 34 21.5**	**-1.7**
GURO	**Guroymak-BITLI**	**1.19**	**261**	*e*PN	**Pg**	**20 34 11.2**	**-2.0**
GURO	**Guroymak-BITLI**	**1.19**	**261**	*e*Pn	**Pg**	**20 34 11.2**	**-2.0**
HAKT	**HAKKARI**	**1.20**	**173**	*i* P	**Pg**	**20 34 11.5**	**-1.9**
HAKT				*i* S	**Sn**	**20 34 30.4**	**+1.1**
HAKT	**HAKKARI**	**1.20**	**173**	P	**Pg**	**20 34 11.5**	**-1.9**
HAKT				S	**Sn**	**20 34 30.4**	**+1.1**
EKAR	**Karacoban**	**1.25**	**294**	*i* P	**Pg**	**20 34 13.2**	**-1.1**
EKAR				*i* S	**Sn**	**20 34 35.2**	**+4.7**
EKAR	**Karacoban**	**1.25**	**294**	P	**Pg**	**20 34 13.2**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.35**	**24**	*e*PN	**Pn**	**20 34 14.6**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.35**	**24**	*e*Pn	**Pn**	**20 34 14.6**	**-0.3**
EATA	**Eleskirt**	**1.37**	**324**	*i* P	**Pn**	**20 34 14.6**	**-0.9**
EATA				*i* S	**Sn**	**20 34 34.9**	**+1.2**
EATA	**Eleskirt**	**1.37**	**324**	P	**Pn**	**20 34 14.6**	**-0.9**
EATA				S	**Sn**	**20 34 34.8**	**+1.2**
SRTM	**Siirt_Merkez**	**1.47**	**240**	*i* P	**Pg**	**20 34 17.5**	**-1.0**
SRTM	**Siirt_Merkez**	**1.47**	**240**	P	**Pg**	**20 34 17.5**	**-1.0**
CUKT	**Cukurca**	**1.50**	**178**	*e*PN	**Pn**	**20 34 17.1**	**0.0**
CUKT	**Cukurca**	**1.50**	**178**	*i* P	**Pb**	**20 34 17.4**	**-0.7**
CUKT				*i* S	**Sg**	**20 34 37.9**	**-0.8**
CUKT	**Cukurca**	**1.50**	**178**	*e*Pn	**Pn**	**20 34 17.1**	**0.0**
CUKT	**Cukurca**	**1.50**	**178**	P	**Pb**	**20 34 17.4**	**-0.7**
CUKT				S	**Sg**	**20 34 37.9**	**-0.8**
DIGO	**Kars**	**1.67**	**356**	*i* P	**Pb**	**20 34 20.7**	**-0.3**
DIGO	**Kars**	**1.67**	**356**	P	**Pb**	**20 34 20.7**	**-0.3**
VRTB	**Varto-Mus**	**1.67**	**285**	*e*PN	**Pn**	**20 34 19.7**	**+0.4**
VRTB	**Varto-Mus**	**1.67**	**285**	*e*Pn	**Pn**	**20 34 19.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*PN	**Pn**	**20 34 23.3**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.92**	**253**	*e*Pn	**Pn**	**20 34 23.3**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*PN	**Pn**	**20 34 24.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.02**	**334**	*e*Pn	**Pn**	**20 34 24.4**	**+0.1**
BNGB	**Bing¯¶l**	**2.24**	**277**	*e*PN	**Pn**	**20 34 27.8**	**+0.6**
BINT	**Bingol**	**2.38**	**274**	*e*Pn	**Pn**	**20 34 27.8**	**-1.3**
YEDI	**Yedisu-Bingol**	**2.42**	**287**	*e*PN	**Pn**	**20 34 30.0**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.42**	**287**	*e*Pn	**Pn**	**20 34 30.0**	**+0.3**
MAZI	**Mazidag**	**2.75**	**243**	*e*PN	**Pn**	**20 34 35.0**	**+0.8**
MAZI	**Mazidag**	**2.75**	**243**	*e*Pn	**Pn**	**20 34 35.0**	**+0.8**
DGRG	**David-gareji**	**3.05**	**27**	P	**Pb**	**20 34 45.7**	**+1.3**
PTK	**Pertek**	**3.23**	**274**	*e*PN	**Pn**	**20 34 42.1**	**+1.1**
PTK	**Pertek**	**3.23**	**274**	*e*Pn	**Pn**	**20 34 42.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.33**	**265**	*e*PN	**Pn**	**20 34 43.2**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.33**	**265**	*e*Pn	**Pn**	**20 34 43.2**	**+1.0**
DUS	**Dusheti**	**3.45**	**15**	P	**Pn**	**20 34 45.4**	**+1.5**
ONI	**Oni**	**3.84**	**359**	P	**Pg**	**20 35 05.4**	**+1.6**

*ISCJB **31** 20:35:06.8±0.8, 14°.86S±0°.09×76°.3W±0°.1, h10km, mb4.4/6, MS3.5/2, Error ellipse: s-maj=19.5km s-min=7.0km az=143.1*
*IDC **31** 20:35:07.8±1.5, 14°.75S×76°.25W, h0km, mb4.2/5, mb1 4.2/9, mb1mx4.0/33, mbtmp4.1/9, ML3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx3.2/25, Error ellipse: s-maj=39.0km s-min=15.9km az=60.0*
*NEIC **31** 20:35:09.4±3.9, 14°.69S×76°.23W, h10km±24km, mb4.7/3, Error ellipse: s-maj=19.6km s-min=8.3km az=56.0*
ISC 31 20:35:08.8±1.0, 14°.7S±0°.1×76°.3W±0°.1, h10km, n31, σ1§37/24, mb4.5/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.77**	**348**	Pn	**Pb**	**20 35 55.5**	**-3.0**
11nm,0.3s,baz=172,slow=6.9,SNR=5.6							
NNA				Lg	Lg	20 36 35.8	
64nm,0.3s,baz=232,slow=12,SNR=7.4							
NNA	**Nana**	**2.77**	**348**	*e*Pn	**Pn**	**20 35 53.5**	**+0.2**
NNA				Lg	Lg	20 36 35.8	
MNMC	**Minye Minye**	**7.74**	**125**	*e*Pn	**Pn**	**20 37 02.8**	**+1.0**
ATAH	**Atahualpa**	**7.82**	**344**	Pn	**Pn**	**20 37 04.8**	**+1.8**
1.2nm,0.3s,baz=166,slow=3.6,SNR=4.3							
ATAH				Lg	Lg	20 39 00.6	
2.0nm,0.3s,baz=217,slow=21,SNR=5.1							
ATAH				LR	LR	20 40 14.4	
comp=Z,226nm,19.2s,baz=163,slow=39							
LPAZ	**La Paz**	**7.99**	**102**	Pn	Pn	20 37 09.3	+3.8
0.8nm,0.3s,baz=301,slow=8.1,SNR=18							
LPAZ	**La Paz**	**7.99**	**102**	*e*Pn	Pn	20 37 09.9	+4.3
PB11	**IPOC Station P**	**8.06**	**129**	*e*Pn	**Pn**	**20 37 05.7**	**-0.3**
LVC	**Limon Verde**	**10.49**	**140**	Pn	**Pn**	**20 37 39.8**	**+0.1**
baz=312,slow=16,SNR=1.6							
LVC				Sn	**Sn**	**20 39 34.6**	**-2.8**
13nm,0.3s,baz=120,slow=20,SNR=3.4							
LVC				Lg	Lg	20 40 38.6	
baz=90,slow=20,SNR=4.6							
SAML	**Samuel**	**14.02**	**67**	*e*Pn	**Pn**	**20 38 28.4**	**+0.8**
SIV	**San Ignacio**	**14.70**	**97**	Pn	**Pn**	**20 38 37.6**	**+0.6**
0.1nm,0.3s,baz=282,slow=16,SNR=2.7							
ROSC	**El Rosal**	**19.52**	**6**	LR	LR	20 47 45.7	
comp=Z,70nm,20.4s,baz=228,slow=39							
RUSC	**La Rusia**	**20.72**	**9**	*e*P	**P**	**20 39 48.0**	**-1.9**
PTGA	**Pitinga**	**21.27**	**51**	P	**P**	**20 39 55.8**	**+0.3**
8.3nm,0.9s,baz=226,slow=14,SNR=3.3							
PTGA	**Pitinga**	**21.27**	**51**	*e*P	**P**	**20 39 55.2**	**-0.2**
23nm,1.3s							
SDV	**Santo Domingo**	**24.10**	**14**	P	**P**	**20 40 26.1**	**+1.1**
7.4nm,0.6s,baz=183,slow=7.2,SNR=7.6							
SDV	**Santo Domingo**	**24.10**	**14**	*e*P	**P**	**20 40 26.5**	**+1.5**
9.7nm,0.8s							
JTS	**JuntasAbangare**	**26.30**	**340**	LR	LR	20 51 17.3	
comp=Z,169nm,19.4s,baz=226,slow=37							
BDFB	**Brasilia**	**27.27**	**96**	LR	LR	20 53 03.0	
comp=Z,109nm,20.1s,baz=284,slow=40							
LTX	**Lajitas**	**51.17**	**329**	*e*P	**P**	**20 44 13.7**	**+1.2**
TXAR	**Lajitas Array**	**51.17**	**329**	P	**P**	**20 44 13.7**	**+1.3**
0.2nm,0.6s,baz=152,slow=8.4,SNR=4.0							
ULM	**Lac du Bonnet**	**66.95**	**346**	P	**P**	**20 46 00.9**	**-0.4**
2.9nm,0.5s,baz=143,slow=5.1,SNR=4.3							
TOA1	**Torodi Ar. Sit**	**81.97**	**74**	*e*P	**P**	**20 47 30.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**81.97**	**74**	P	**P**	**20 47 30.3**	**+0.8**
3.6nm,0.8s,baz=256,slow=4.6,SNR=19							
HDA	**Harding Lake**	**95.07**	**336**	*e*P	**P**	**20 48 30.3**	**-1.3**
31nm,1.1s							
H11N3	**WAKE ISLAND Hyl**	**19.75**	**284**	T	T	23 05 02.0	
baz=98,slow=74,SNR=16							
H11N2	**WAKE ISLAND Hyl**	**19.76**	**284**	T	T	23 05 01.1	
baz=98,slow=74							
H11N1	**WAKE ISLAND Hyl**	**19.76**	**284**	T	T	23 05 00.9	
baz=98							
ZAA1	**Zalesovo Array**	**138.13**	**17**	*e*PKPdf	**PKPdf**	**20 54 35.3**	**+1.4**
ZALV	**Zalesovo Beam**	**138.13**	**17**	PKP	**PKPdf**	**20 54 35.3**	**+1.4**
1.1nm,0.8s,baz=297,slow=1.0,SNR=3.2							
SONA0	**Songino Array**	**146.91**	**357**	*e*PKPdf	**PKPbc**	**20 54 51.5**	**-0.3**
SONM	**Songino Array**	**146.91**	**357**	PKPbc	**PKPbc**	**20 54 51.5**	**-0.3**
1.7nm,0.8s,baz=321,slow=1.8,SNR=7.4							

*JMA **31** 20:36:40.7±0.6, 45°.51N×151°.66E, h30km, M4.4*
*SKHL **31** 20:36:42.2±0.6, 44°.70N×151°.79E, h36km±1km, mb4.9/2*
*MOS **31** 20:36:42.1±0.4, 44°.73N×151°.70E, h30km, mb4.3/1, Error ellipse: s-maj=39.8km s-min=20.2km az=26.0*
ISC 31 20:36:41.3±3.5, 44°.53N±0°.09×151°.9E±0°.2, h35km, n31, σ1§70/44, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.97**	**285**	*ce*PN	**Pn**	**20 37 25.2**	**-0.6**
KUR				*e*S	**Sn**	**20 37 58.4**	**-1.8**
KUR				pmax	pmax		
comp=N,81nm,0.4s							
KUR				pmax	pmax		
comp=Z,200nm,0.4s							
KUR				pmax	pmax		
comp=E,27nm,0.1s							
KUR				smax	smax		
comp=N,201nm,0.4s							
KUR				smax	smax		
comp=E,126nm,0.2s							
KUR	**Kuril'sk**	**2.97**	**285**	*e*P	**Pn**	**20 37 25.2**	**-0.6**
KUR				AMB	AMB	20 37 26.1	
comp=E,200nm,0.4s							
KUR				*e*S	**Sn**	**20 37 57.8**	**-2.4**
KUR				A	A	20 38 01.1	
comp=E,210nm,0.3s							
KUR				A	A	20 38 01.1	
comp=E,163nm,0.3s							
SHO	**Shikotan**	**3.72**	**262**	*e*PN	**Pn**	**20 37 36.8**	**+0.7**
SHO				*e*S	**Sn**	**20 38 17.9**	**-0.8**
SHO				smax	smax		
comp=N,173nm,0.2s							
SHO				smax	smax		
comp=E,201nm,0.3s							
SHO	**Shikotan**	**3.72**	**262**	*e*P	**Pn**	**20 37 36.8**	**+0.7**
SHO				*e*S	**Sn**	**20 38 17.9**	**-0.8**
SHO				A	A	20 38 23.0	
comp=E,173nm,0.2s							
SHO				A	A	20 38 23.0	
comp=E,210nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.38**	**266**	*e*PN	**Pn**	**20 37 46.9**	**+1.7**
YUK				*e*S	**Sn**	**20 38 35.9**	**+0.9**
YUK				pmax	pmax		
comp=Z,90nm,0.5s							
YUK				smax	smax		
comp=N,105nm,0.2s							
YUK				smax	smax		
comp=E,182nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.38**	**266**	*e*P	**Pn**	**20 37 46.6**	**+1.4**
YUK				AMB	AMB	20 37 48.0	
comp=E,90nm,0.5s							
YUK				*e*S	**Sn**	**20 38 34.4**	**-0.6**
YUK				A	A	20 38 40.3	
comp=E,110nm,0.2s							
YUK				A	A	20 38 40.3	
comp=E,183nm,0.2s							
NEM2	**Nemuro 2**	**4.61**	**258**	P	**Pn**	**20 37 49.1**	**+0.7**
NEM2				*e*S	**Sn**	**20 38 40.2**	**-0.4**
JRA	**Rausu**	**4.92**	**266**	P	**Pn**	**20 37 54.2**	**+1.6**
JRA				*e*S	**Sn**	**20 38 49.8**	**+1.5**
JNK	**Nakash**	**5.28**	**262**	P	**Pn**	**20 37 59.2**	**+1.7**
JNK				*e*S	**Sn**	**20 38 58.2**	**+1.1**
JAK	**Akkeshi**	**5.45**	**256**	P	**Pn**	**20 38 01.5**	**+1.6**
JAK				*e*S	**Sn**	**20 39 00.9**	**-0.5**
JAR	**Ashorobuto**	**6.02**	**261**	P	**Pn**	**20 38 10.2**	**+2.5**
JAR				*e*S	**Sn**	**20 39 15.6**	**+0.3**
JOB	**Onbets**	**6.08**	**257**	*e*S	**Sn**	**20 39 17.4**	**+0.5**
JMP	**Maruseppu**	**6.17**	**268**	P	**Pn**	**20 38 11.9**	**+2.1**
JCH	**Churui**	**6.50**	**256**	P	**Pn**	**20 38 16.5**	**+2.1**
JCH				*e*S	**Sn**	**20 39 28.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**6.86**	**294**	*e*PN	**Pn**	**20 38 19.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**6.86**	**294**	*e*P	**Pn**	**20 38 19.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**7.04**	**255**	P	**Pn**	**20 38 23.6**	**+1.8**
JNBK				*e*S	**Sn**	**20 39 41.2**	**+0.6**
JBT2	**Biratori 2**	**7.15**	**259**	*e*S	**Sn**	**20 39 42.1**	**-1.1**
UGL	**Uglegorsk**	**8.15**	**307**	*e*PN	**Pn**	**20 38 37.7**	**+0.8**
UGL	**Uglegorsk**	**8.15**	**307**	*e*P	**Pn**	**20 38 37.7**	**+0.8**
JNB	**Noboribetsu**	**8.18**	**259**	*e*S	**Sn**	**20 40 08.6**	**+0.2**
JKB	**Kayabe**	**8.38**	**255**	*e*S	**Sn**	**20 40 10.8**	**-2.6**
JANG	**Nango**	**8.74**	**245**	*e*S	**Sn**	**20 40 18.3**	**-4.0**
JTH	**Tanohata**	**8.75**	**242**	*e*S	**Sn**	**20 40 19.6**	**-3.1**
JTM	**Tenmabayashi**	**8.83**	**249**	*e*S	**Sn**	**20 40 21.9**	**-2.5**
TYV	**Tymovskoe**	**8.90**	**319**	*e*PN	**Pn**	**20 38 47.9**	**+0.7**
TYV	**Tymovskoe**	**8.90**	**319**	*e*P	**Pn**	**20 38 47.9**	**+0.7**
JSR	**Shiriuchi**	**8.94**	**254**	*e*S	**Sn**	**20 40 24.9**	**-2.4**
JOSM	**Okushiri--Mats**	**9.40**	**259**	P	**Pn**	**20 38 56.0**	**+1.9**
JRG	**Rokugo**	**9.84**	**243**	*e*S	**Sn**	**20 40 47.2**	**-2.2**
JIO	**Ouri**	**9.98**	**236**	*e*S	**Sn**	**20 40 49.3**	**-3.5**

NNC 31 20:42:55.4±1.6, 37°.14N×71°.37E, h0km, mb3.6, mpv3.4, 3C-3D, Error ellipse: s-maj=12.8km s-min=6.9km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.61**	**310**	⇓P	Pn	20 43 39.2	+0.3
12nm,0.4s							
DZET				⇑S	Sn	20 44 12.5	+1.2
40nm,0.8s							
MNAS	**Manas**	**5.41**	**9**	⇑P	Pn	20 44 17.4	0.0
1.0nm,0.5s							
MNAS				⇓S	Sn	20 45 22.2	+1.8
1.5nm,0.5s							
KK31	**Karatay Array**	**5.99**	**354**	P	Pn	20 44 25.1	-0.1
1.6nm,0.3s,baz=188,slow=19,SNR=21							
KK31				⇓S	Sn	20 45 35.4	+0.8
0.4nm,0.3s,baz=171,slow=22,SNR=4.0							
AB31	**Akbulak array**	**14.68**	**329**	⇑P	Pn	20 46 22.1	-2.0
0.2nm,0.4s,baz=148,slow=13,SNR=4.5							

*CSEM **31** 20:53:32.5±0.2, 38°.57N×43°.34E, h23km±2km, MD2.6, Error ellipse: s-maj=5.4km s-min=4.0km az=126.0*
*ISK **31** 20:53:32.4, 38°.66N×43°.33E, h20km, MD2.6*
*ISCJB **31** 20:53:33.1±0.5, 38°.59N±0°.03×43°.32E±0°.04, h27km±4km, Error ellipse: s-maj=5.6km s-min=5.0km az=136.9*
*DDA **31** 20:53:33.5, 38°.62N×43°.28E, h7km, Ml2.9*
ISC 31 20:53:32.5±0.9, 38°.59N±0°.03×43°.34E±0°.03, h27km±5km, n26, σ0§56/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.04**	**82**	*e*PG	**Pb**	**20 53 36.9**	**-0.5**
VANB				*e*SG	**Sb**	**20 53 41.1**	**+0.4**
VANB	**Van**	**0.04**	**82**	*e*Pg	**Pb**	**20 53 36.9**	**-0.5**
VANB				*e*Sg	**Sb**	**20 53 41.1**	**+0.4**
TVAN	**Van**	**0.08**	**138**	*i* P	**Pb**	**20 53 37.1**	**-0.6**
TVAN				*i* S	**Sb**	**20 53 42.0**	**+0.8**
TVAN	**Van**	**0.08**	**138**	P	**Pb**	**20 53 37.1**	**-0.6**
TVAN				S	**Sb**	**20 53 42.0**	**+0.8**
GEVA	**Gevas**	**0.35**	**218**	*i* P	**Pb**	**20 53 40.1**	**-0.6**
GEVA				*i* S	**Sb**	**20 53 47.0**	**+0.8**
GEVA	**Gevas**	**0.35**	**218**	P	**Pb**	**20 53 40.1**	**-0.6**
GEVA				S	**Sb**	**20 53 47.0**	**+0.8**
VMUR	**Van-Muradiye**	**0.44**	**25**	*i* P	**Pb**	**20 53 42.3**	**+0.2**
VMUR				*i* S	**Sn**	**20 53 50.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.44**	**25**	P	**Pb**	**20 53 42.3**	**+0.2**
VMUR				S	**Sn**	**20 53 50.3**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.53**	**295**	*i* P	**Pb**	**20 53 43.6**	**+0.2**
ADCV				*i* S	**Sb**	**20 53 51.3**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.53**	**295**	P	**Pb**	**20 53 43.7**	**+0.2**
ADCV				S	**Sb**	**20 53 51.3**	**+0.5**
CLDR	**Caldiran**	**0.71**	**39**	*e*PG	**Pb**	**20 53 46.0**	**-0.6**
CLDR				*e*SG	**Sb**	**20 53 55.8**	**-0.4**
CLDR	**Caldiran**	**0.71**	**39**	*i* P	**Pb**	**20 53 46.5**	**-0.1**
CLDR				*i* S	**Sn**	**20 53 57.6**	**+0.3**
CLDR	**Caldiran**	**0.71**	**39**	*e*Pg	**Pb**	**20 53 46.0**	**-0.6**
CLDR	**Caldiran**	**0.71**	**39**	P	**Pb**	**20 53 46.5**	**-0.1**
CLDR				*e*Sg	**Sb**	**20 53 55.8**	**-0.4**
CLDR				S	**Sn**	**20 53 57.6**	**+0.3**
TATV	**Tatvan**	**0.84**	**265**	*i* P	**Pb**	**20 53 47.6**	**-1.1**
TATV				*i* S	**Sb**	**20 53 59.3**	**-0.4**
TATV	**Tatvan**	**0.84**	**265**	P	**Pb**	**20 53 47.6**	**-1.1**
TATV				S	**Sb**	**20 53 59.3**	**-0.4**
TUTA	**Tutak**	**0.91**	**333**	*i* P	**Pn**	**20 53 49.8**	**0.0**
TUTA				*i* S	**Sb**	**20 54 01.3**	**-0.4**
TUTA	**Tutak**	**0.91**	**333**	P	**Pn**	**20 53 49.8**	**0.0**
TUTA				S	**Sb**	**20 54 01.3**	**-0.4**
AGRB	**Hanur-Agry**	**1.02**	**345**	*e*PG	**Pn**	**20 53 51.2**	**-0.1**
AGRB	**Hanur-Agry**	**1.02**	**345**	*e*Pg	**Pn**	**20 53 51.2**	**-0.1**
GURO	**Guroymak-BITLI**	**1.02**	**268**	*e*PG	**Pb**	**20 53 52.1**	**+0.4**
GURO	**Guroymak-BITLI**	**1.02**	**268**	*e*Pg	**Pb**	**20 53 52.1**	**+0.4**
HAKT	**HAKKARI**	**1.07**	**164**	*i* P	**Pn**	**20 53 51.6**	**-0.4**
HAKT				*i* S	**Sb**	**20 54 07.4**	**+1.2**
HAKT	**HAKKARI**	**1.07**	**164**	P	**Pn**	**20 53 51.6**	**-0.4**
HAKT				S	**Sb**	**20 54 07.4**	**+1.2**
EATA	**Eleskirt**	**1.43**	**333**	*i* P	**Pb**	**20 53 59.0**	**+0.3**
EATA	**Eleskirt**	**1.43**	**333**	P	**Pb**	**20 53 59.0**	**+0.3**

*ISCJB **31** 20:54:09.6±0.8, 38°.73N±0°.04×43°.26E±0°.05, h28km±8km, Error ellipse: s-maj=7.6km s-min=5.0km az=145.3*
*DDA **31** 20:54:09.6, 38°.78N×43°.20E, h7km, Ml2.8*
*ISK **31** 20:54:09.2, 38°.76N×43°.16E, h2km, MD2.6*
*CSEM **31** 20:54:10.1±0.3, 38°.77N×43°.20E, h5km, MD2.6, Error ellipse: s-maj=5.9km s-min=4.4km az=147.0*
ISC 31 20:54:10.1±1.0, 38°.76N±0°.03×43°.21E±0°.03, h17km±10km, n22, σ0§81/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**138**	*e*PG	**Pg**	**20 54 15.8**	**+0.4**
VANB	**Van**	**0.22**	**138**	*e*Pg	**Pg**	**20 54 15.8**	**+0.4**
TVAN	**Van**	**0.28**	**145**	*i* P	**Pg**	**20 54 15.7**	**-0.6**
TVAN				*i* S	**Sb**	**20 54 20.9**	**-0.3**
ERCV	**ERCIS-VAN**	**0.28**	**22**	*e*PG	**Pg**	**20 54 16.0**	**-0.5**
ERCV	**ERCIS-VAN**	**0.28**	**22**	*e*Pg	**Pg**	**20 54 16.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.37**	**51**	*i* P	**Pg**	**20 54 17.0**	**-0.9**
VMUR				*i* S	**Sg**	**20 54 22.9**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.38**	**278**	*i* P	**Pb**	**20 54 18.6**	**+0.1**
ADCV				*i* S	**Sb**	**20 54 25.2**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**278**	P	**Pb**	**20 54 18.6**	**+0.1**
ADCV				S	**Sb**	**20 54 25.2**	**+1.1**
GEVA	**Gevas**	**0.46**	**195**	*i* P	**Pg**	**20 54 18.5**	**-1.0**
GEVA	**Gevas**	**0.46**	**195**	P	**Pg**	**20 54 18.5**	**-1.0**
CLDR	**Caldiran**	**0.68**	**55**	*e*PG	**Pb**	**20 54 24.5**	**+1.0**
CLDR	**Caldiran**	**0.68**	**55**	*i* P	**Pg**	**20 54 21.9**	**-1.6**
CLDR				*i* S	**Sg**	**20 54 32.1**	**-0.4**
CLDR	**Caldiran**	**0.68**	**55**	P	**Pg**	**20 54 21.9**	**-1.6**
CLDR	**Caldiran**	**0.68**	**55**	*e*Pg	**Pb**	**20 54 24.5**	**+1.0**
CLDR				S	**Sg**	**20 54 32.1**	**-0.4**
TUTA	**Tutak**	**0.71**	**335**	*i* P	**Pg**	**20 54 23.5**	**-0.7**
TUTA	**Tutak**	**0.71**	**335**	P	**Pg**	**20 54 23.5**	**-0.7**
TATV	**Tatvan**	**0.78**	**252**	*i* P	**Pg**	**20 54 24.6**	**-0.7**
TATV				*i* S	**Sg**	**20 54 35.2**	**-0.5**
TATV	**

KUR pmax pmax
comp=Z,827nm,1.3s
KUR smax smax
comp=E,2μm,1.6s
KUR smax smax
comp=N,1μm,1.9s
KUR smax smax
comp=N,1μm,0.5s
KUR smax smax
comp=E,553nm,0.4s
KUR Kuril'sk 3.13 34 *e*P **Pn 21 00 34.4 +0.8**
KUR AMB AMB 21 00 43.2
comp=E,350nm,0.6s
KUR *i* S **Sn 21 01 09.8 +0.1**
KUR A A 21 01 13.4
comp=E,1μm,0.4s
KUR A A 21 01 13.4
comp=E,914nm,0.4s
YSS Yuzh-Sakhalins 4.66 337⇓*e*PN **Pn 21 00 55.8 +1.2**
YSS *e*S **Sn 21 01 50.5 +3.1**
YSS pmax pmax
comp=Z,30nm,0.5s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS Yuzh-Sakhalins 4.66 337 *e*P **Pn 21 00 52.7 -1.9**
YSS Yuzh-Sakhalins 4.66 337 *e*Pn **Pn 21 00 54.9 +0.3**
UGL Uglegorsk 6.80 341 *e*PN **Pn 21 01 22.6 -1.4**
UGL Uglegorsk 6.80 341 *e*P **Pn 21 01 23.0 -1.0**
MAJO Matsushiro 8.24 224 *d i* PN **Pn 21 01 42.9 -0.9**
MAJO Matsushiro 8.24 224 *e*Pn **Pn 21 01 43.0 -0.9**
MAT Matsushiro 8.24 224 P **Pn 21 01 43.1 -0.8**
MAT S **Sn 21 03 13.1 -2.6**
MJAR Matsushiro Arr 8.24 224 P **Pn 21 01 43.5 -0.4**
comp=Z,4.7nm,0.3s,baz=30,slow=13,SNR=55
TYV Tymovskoe 8.39 348 *e*PN Pn 21 01 40.7 -5.1
TYV pmax pmax
comp=Z,24nm,1.2s
TYV Tymovskoe 8.39 348 *e*P **Pn 21 01 45.3 -0.5**
TYV AMB AMB 21 01 51.2
comp=Z,9.0nm,0.6s
TYV *e*S **Sn 21 03 13.2 -6.0**
TYV A A 21 03 20.7
comp=Z,20nm,1.5s
HABR Khabarovsk 9.26 312 *e*PN **Pn 21 01 55.6 -2.1**
HABR pmax pmax
comp=N,18nm,1.4s
HABR pmax pmax
comp=E,19nm,1.4s
HABR pmax pmax
comp=Z,34nm,1.4s
HABR MLR MLR
comp=Z,258nm,15.0s
USRK Ussuriysk Ar. 9.85 283 P **Pn 21 02 08.2 +2.5**
comp=Z,0.7nm,0.3s,baz=86,slow=14,SNR=48
VLA Vladivostok 9.90 277 *e*PN **Pn 21 02 06.1 -0.4**
KLR Kul'dur 11.51 309 P Pn 21 02 32.3 +3.9
comp=Z,0.0nm,0.3s,baz=113,slow=15,SNR=56
KLR LR LR 21 07 28.2
comp=Z,40nm,18.2s,baz=123,slow=40
MDJ Mudanjiang 11.59 285 P Pn 21 02 33.5 +3.9
MDJ pmax pmax
comp=Z,30nm,0.8s
MDJ pmax pmax
comp=Z,52nm,6.2s
MDJ Mudanjiang 11.59 285 *e*Pn **Pn 21 02 29.7 +0.2**
PETK Petropavlovsk- 13.30 34 P **Pn 21 02 51.1 -1.8**
comp=Z,1.0nm,0.3s,baz=173,slow=8.2,SNR=9.6
PETK LR LR 21 07 29.4
comp=Z,134nm,20.4s,baz=242,slow=35
PEA1 Petropavlovsk- 13.30 34 *e*Pn **Pn 21 02 51.1 -1.8**
PET Petropavlovsk 13.64 36 *i* P **Pn 21 02 59.8 +2.3**
PET pmax pmax
comp=Z,26nm,1.3s
KSRS Korea Array 14.33 254 P **Pn 21 03 06.7 -0.2**
comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=7.4
KSRS LR LR 21 08 14.0
comp=Z,72nm,19.5s,baz=62,slow=35
KS15 Wonju Array Si 14.36 254 *e*Pn **Pn 21 03 05.6 -1.8**
KSAR Wonju Array Be 14.36 254 P **Pn 21 03 06.7 -0.6**
KSAR Wonju Array Be 14.36 254 P **Pn 21 03 06.7 -0.6**
CN2 Changchun 14.56 281 *e*P **Pn 21 03 11.5 +1.5**
MA2 Magadan 17.25 9 P **P 21 03 45.4 +0.1**
comp=Z,1.1nm,0.3s,baz=189,slow=14,SNR=2.7
MA2 LR LR 21 10 05.8
comp=Z,150nm,18.8s,baz=202,slow=36
SEY Seymchan 20.70 9 P Pn 21 04 23.1 -2.7
comp=Z,6.3nm,0.6s,baz=176,slow=9.3,SNR=12
YAK Yakutsk 21.51 340 P **P 21 04 32.5 +0.8**
comp=Z,12nm,0.4s,baz=270,slow=0.7,SNR=7.0
YAK LR LR 21 13 25.1
comp=Z,164nm,18.8s,baz=90,slow=38
YAK Yakutsk 21.51 340 *e*P **P 21 04 33.2 +1.5**
YAK *e**PP **sP 21 04 46.6 -1.2**
YAK *e* 21 04 54.8
YAK *e*S Sn 21 08 30.6 -6.8
YAK *e**SS **sS 21 08 50.3 +5.8**
YAK *e*SS **SnSn 21 09 00.9 +8.0**
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,52nm,1.8s
YAK pmax pmax
comp=N,30nm,1.9s
YAK pmax pmax
comp=E,17nm,1.5s
YAK smax smax
comp=N,59nm,2.5s
YAK smax smax
comp=E,26nm,2.0s
YAK MLR MLR
comp=Z,222nm,22.0s
YAK MLR MLR
comp=N,424nm,23.0s
YAK Yakutsk 21.51 340 *e*P **P 21 04 33.4 +1.8**
comp=N,23nm,0.9s
BJI Beijing 22.02 273 P **P 21 04 37.5 +0.2**
BJI pmax pmax
comp=N,19nm,0.9s
BJI pmax pmax
comp=N,110nm,4.8s
BJI LR LR
comp=N,110nm,17.2s
BJI LR LR
comp=N,150nm,15.8s
BJT Baijiatuau 22.03 273 *e*P **P 21 04 37.6 +0.1**
BJT pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 22.03 273 *e*P **P 21 04 37.6 +0.1**
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 25.18 277 *e*P **P 21 05 05.0 -3.2**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,86nm,9.6s
ULN Ulaanbaatar 27.25 294 *i* P **P 21 05 25.1 -1.8**
ULN pmax pmax
comp=Z,10.0nm,1.2s
ULN Ulaanbaatar 27.25 294 *e*P **P 21 05 26.4 -0.5**
ULN Ulaanbaatar 27.25 294 *e*P **P 21 05 26.4 -0.5**
comp=Z,5.5nm,0.8s
WHN Wuhan 27.52 254 P **P 21 05 30.3 +1.0**
SONA0 Songino Array 27.70 294 *e*P **P 21 05 30.6 -0.2**
SONM Songino Array 27.70 294 P **P 21 05 30.6 -0.2**
comp=Z,10nm,0.7s,baz=82,slow=7.9,SNR=38
SONM LR LR 21 16 21.5
comp=Z,102nm,19.5s,baz=80,slow=36
BILL Biiibino 27.76 17 *e*P **P 21 05 31.9 +0.9**
BILL *e* 21 06 20.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
GUMO Guam 28.99 181 LR LR 21 15 08.0
comp=Z,59nm,21.7s,baz=359,slow=32
H11N2 WAKE ISLAND Hy 29.21 135 T T 21 36 40.7
baz=327,slow=76,SNR=2647
H11N1 WAKE ISLAND Hy 29.22 135 T T 21 36 37.5
baz=327,slow=76,SNR=2067
H11N3 WAKE ISLAND Hy 29.23 135 T T 21 36 50.7
baz=327,slow=76,SNR=2018
ZAK Zakamensk 29.63 300 *e*P **P 21 05 49.3 +1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
XAN Xi'an 29.66 265 P **P 21 05 49.5 +1.2**
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN pmax pmax
comp=Z,41nm,5.1s
H11S1 WAKE ISLAND Hy 30.13 137 T T 21 37 54.0
baz=328,slow=76,SNR=3816
H11S3 WAKE ISLAND Hy 30.13 137 T T 21 38 00.8
baz=328,slow=76,SNR=2222
H11S2 WAKE ISLAND Hy 30.14 137 T T 21 37 51.7
baz=328,slow=76,SNR=2939
TIXI Tiksi 30.16 350 P **P 21 05 50.7 -1.6**
comp=Z,0.8nm,0.4s,baz=68,slow=8.4,SNR=3.1
TIXI LR LR 21 18 32.1
comp=Z,117nm,20.7s,baz=172,slow=37
LZH Lanzhou 32.51 272 *e*P **P 21 06 14.0 +0.5**
LZH pP sP 21 06 28.3 -2.1
LZH sP pP 21 06 34.3 +9.1
LZH pmax pmax
comp=Z,17nm,1.0s
GTA Gaotai 34.19 280 ⇑P **P 21 06 29.5 +1.4**
GTA pP pP 21 06 39.3 -0.6
GTA sP sP 21 06 43.5 -1.6
GTA S **S 21 11 50.3 -1.4**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,53nm,4.3s
GTA LR LR
comp=Z,100nm,16.4s
GTA LR LR
comp=Z,96nm,17.6s
GTA LR LR
comp=Z,130nm,16.9s
CD2 Chengdu 35.00 264 *e*P **P 21 06 34.5 -0.6**
KMI Kunming 39.01 257 P **P 21 07 09.8 +0.4**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,92nm,6.2s
NRIK Noril'sk 39.57 332 LR LR 21 24 23.4
comp=Z,114nm,19.1s,baz=68,slow=37
ZAA0 Zalesovo Array 40.61 308 *e*P **P 21 07 21.8 -0.2**
comp=Z,5.8nm,0.6s
ZAA1 Zalesovo Array 40.61 308 *e*P **P 21 07 21.4 -0.6**
ZAA1 *e*PcP **PcP 21 09 23.3 0.0**
ZALV Zalesovo Beam 40.61 308 P **P 21 07 21.5 -0.6**
comp=Z,6.0nm,0.7s,baz=86,slow=8.7,SNR=18
ZALV PcP **PcP 21 09 23.3 0.0**
comp=Z,1.7nm,0.5s,baz=119,slow=2.8,SNR=4.2
ZALV LR LR 21 25 29.8
comp=Z,135nm,18.8s,baz=58,slow=38
PPLA Purkeypile 40.83 38 *e*P **P 21 07 25.9 +1.8**
comp=Z,31nm,1.1s
KDAK Kodiak Island 40.94 46 P **P 21 07 25.1 +0.4**
comp=Z,9.8nm,0.9s,baz=307,slow=7.7,SNR=8.3
KDAK Kodiak Island 40.94 46 *e*P **P 21 07 25.6 +0.9**
KDAK pmax pmax
comp=Z,167nm,1.7s
KDAK Kodiak Island 40.94 46 *e*P **P 21 07 25.6 +0.9**
comp=Z,167nm,1.7s
WMQ Urumqi 41.28 292 P **P 21 07 27.8 0.0**
WMQ pP pP 21 07 36.8 -3.0
WMQ sP sP 21 07 50.0 +5.1
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,80nm,5.1s
WMQ LR LR
comp=Z,68nm,15.9s
WMQ LR LR
comp=Z,72nm,18.5s
KTH Kantishna Hill 41.40 37 *e*P **P 21 07 30.1 +1.5**
comp=Z,24nm,0.9s
MLY Manley 41.47 35 *e*P **P 21 07 31.2 +2.0**
comp=Z,11nm,1.0s
COLD Coldfoot 41.76 32 *e*P **P 21 07 31.8 +0.4**
comp=Z,6.3nm,0.9s
RND Reindeer 42.33 38 *e*P **P 21 07 36.7 +0.5**
RND pmax pmax
comp=Z,57nm,1.8s
RND Reindeer 42.33 38 *e*P **P 21 07 36.7 +0.5**
comp=Z,57nm,1.8s
MDM Murphy Dome 42.54 35 *e*P **P 21 07 38.7 +0.9**
comp=Z,20nm,0.8s
COLA College 42.70 35 *e*P **P 21 07 40.9 +1.9**
COLA pmax pmax
comp=Z,31nm,0.8s
COLA College 42.70 35 *e*P **P 21 07 40.9 +1.9**
COLA College 42.70 35 *e*P **P 21 07 40.9 +1.9**
comp=Z,31nm,0.8s
CCB Clear Creek Bu 42.73 36 *e*P **P 21 07 41.0 +1.7**
comp=Z,24nm,1.7s
DHY Denali Highway 43.02 38 *e*P **P 21 07 42.2 +0.4**
comp=Z,16nm,1.2s
ILAR Eielson Array 43.12 35 P **P 21 07 42.7 +0.2**
comp=Z,3.7nm,0.8s,baz=264,slow=5.6,SNR=42
ILB Eielson Array 43.12 35 *e*P **P 21 07 43.4 +0.9**
FYU Fort Yukon 43.72 33 *e*P **P 21 07 48.8 +1.6**
comp=Z,164nm,2.0s
MK31 Makanchi Array 43.93 298 *e*P **P 21 07 48.8 -0.5**
MK31 Makanchi Array 43.93 298 *e*P **P 21 07 48.8 -0.5**
MK32 Makanchi Array 43.93 298 *e*P **P 21 07 48.9 -0.3**
MKAR Makanchi Array 43.93 298 P **P 21 07 48.9 -0.3**
comp=Z,8.7nm,0.6s,baz=83,slow=10,SNR=63
MKAR LR LR 21 27 05.9
comp=Z,92nm,18.2s,baz=38,slow=37
MKAR Makanchi Array 43.93 298 *e*P **P 21 07 48.6 -0.6**
MKAR Makanchi Array 43.93 298 *e*P **P 21 07 48.6 -0.6**
comp=Z,81nm,0.6s
MAKZ Makanchi 44.13 298 *e*P **P 21 07 50.2 -0.6**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 44.13 298 *e*P **P 21 07 50.2 -0.6**
comp=Z,8.8nm,0.8s
LSA Lhasa 44.91 272 *e*P **P 21 07 57.3 -0.5**
LSA pmax pmax
comp=Z,4.0nm,0.9s
LSA Lhasa 44.91 272 *e*P **P 21 07 57.3 -0.5**
comp=Z,4.3nm,0.9s
KURK Kurchatov 45.05 304 *i* P **P 21 07 56.7 -1.4**
KURK pmax pmax
comp=Z,28nm,0.6s
KURK Kurchatov 45.05 304 *e*P **P 21 07 57.7 -0.4**
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 45.13 304 P **P 21 07 58.1 -0.7**
comp=Z,7.2nm,0.5s,baz=72,slow=8.9,SNR=43
JAY Jayapura 45.18 187 P **P 21 08 00.6 +1.1**
JAY pmax pmax
comp=Z,94nm,0.9s
EGAK Eagle 45.56 35 *e*P **P 21 08 01.9 -0.1**
comp=Z,57nm,1.5s
CHTO Chiang Mai 45.73 253 *e*P **P 21 08 03.9 0.0**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CHTO Chiang Mai 45.73 253 *e*P **P 21 08 03.9 0.0**
comp=Z,6.9nm,1.2s
CM31 Chiang Mai Arr 45.97 253 *e*P **P 21 08 06.1 +0.4**
CMAR Chiang Mai Arr 45.97 253 P **P 21 08 06.1 +0.4**
comp=Z,0.8nm,0.6s,baz=42,slow=7.6,SNR=9.3
PDGK Podgornoye 47.02 294 P **P 21 08 13.2 -0.6**
PDGK pmax pmax
comp=Z,4.0nm,0.6s
HYT Haines Junctio 47.99 40 *e*P **P 21 08 23.2 +2.1**
TAPN Taplejung 48.73 271 *e*P **P 21 08 29.8 +2.3**
BVAR Borovoye Array 49.17 310 P **P 21 08 29.8 -0.4**
comp=Z,2.9nm,0.4s,baz=71,slow=8.8,SNR=32
BRVK Borovoye 49.22 310 *i* P **P 21 08 29.7 -0.9**
BRVK pmax pmax
comp=Z,36nm,1.2s
BRVK Borovoye 49.22 310 *e*P **P 21 08 30.0 -0.5**
BRVK Borovoye 49.22 310 *e*P **P 21 08 30.0 -0.5**
comp=Z,11nm,0.9s
ODAN Odare 49.24 271 *e*P **P 21 08 32.6 +1.3**
JIRN Jiri 49.68 273 *e*P **P 21 08 37.3 +2.5**
comp=Z,13nm,0.5s
GUN Gumba 49.77 273 *e*P **P 21 08 38.7 +3.2**
comp=Z,16nm,0.4s
RAMN Ramite 49.77 271 *e*P **P 21 08 35.2 -0.2**
comp=Z,32nm,0.9s
KKN Kakani 50.27 273 *e*P **P 21 08 40.4 +1.2**
comp=Z,12nm,0.8s
PKI Pulchoki 50.30 273 *e*P **P 21 08 40.4 +0.9**
comp=Z,18nm,1.0s
PKIN Phulchoki 50.31 273 *e*P **P 21 08 40.9 +1.4**
comp=Z,17nm,0.7s
DMN Daman 50.50 273 *e*P **P 21 08 41.8 +0.9**
comp=Z,7.2nm,0.6s
GKN Gorkha 50.63 274 *e*P **P 21 08 44.1 +2.3**
comp=Z,12nm,0.5s
AAK Ala-Archa 50.64 296 *e*P **P 21 08 41.5 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 50.64 296 *e*P **P 21 08 40.9 -0.8**
AAK Ala-Archa 50.64 296 *e*P **P 21 08 41.3 -0.4**
comp=Z,9.5nm,1.5s
KSH Kashi 51.03 291 *e*P **P 21 08 46.5 +1.9**
KSH pP sP 21 09 02.3 +0.3
KSH sP pP 21 09 10.0 +13
KSH PcP **PcP 21 10 01.5 +1.4**
KSH PP **PP 21 10 44.0 +2.8**
KSH PcS **PcS 21 13 57.8 0.0**
KSH S **S 21 15 55.5 -3.4**
KSH sS sS 21 16 23.5 +4.2
KSH ScS **ScS 21 18 27.8 -3.8**
KSH pmax pmax
comp=Z,10.0nm,1.4s
KSH pmax pmax
comp=Z,320nm,6.6s
KSH LR LR
comp=Z,410nm,6.9s
KSH LR LR
comp=Z,270nm,6.4s
KSH LR LR
comp=Z,140nm,7.6s
DANN Dangsing 51.08 275 *e*P **P 21 08 46.4 +1.1**
KOLN Koldanda 51.52 274 *e*P **P 21 08 49.3 +0.8**
comp=Z,14nm,0.5s
PYUN Piuthan 51.79 275 *e*P **P 21 08 51.5 +1.0**
PMG Port Moresby 51.86 178 LR LR 21 26 57.8
comp=Z,42nm,20.7s,baz=353,slow=31
MNAS Manas 52.03 296 P **P 21 08 52.2 +0.2**
MNAS pmax pmax
comp=Z,14nm,0.8s
SFK Sufi-Kurgan 52.49 293 P **P 21 08 55.2 -0.4**
SFK pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 53.02 317 *e*P **P 21 08 58.8 -0.2**
SVE pmax pmax
comp=Z,16nm,1.1s
KKAR Karatay Array 53.06 298 *e*P **P 21 08 58.8 -0.7**
KKAR Karatay Array 53.06 298 *e*P **P 21 08 58.8 -0.7**
comp=Z,78nm,0.6s
ARU Arti 54.23 317 P **P 21 09 06.9 -1.0**
comp=Z,3.9nm,0.5s,baz=85,slow=6.6,SNR=13
ARU Arti 54.23 317 *c i* P **P 21 09 06.4 -1.5**
ARU 21 11 05.5
ARU S **S 21 16 40.7 -1.1**
ARU SS **SKiKP 21 20 17.2 +2.4**
ARU pmax pmax
comp=Z,25nm,2.5s
ARU Arti 54.23 317 *e*P **P 21 09 06.8 -1.0**
ARU Arti 54.23 317 *e*P **P 21 09 06.9 -1.0**
comp=Z,13nm,1.0s
SPITS Spitsbergen Ar 55.58 349 P **P 21 09 16.1 -1.2**
comp=Z,5.7nm,0.8s,baz=70,slow=10,SNR=6.5
DZET Dzherino 56.24 294 P **P 21 09 21.9 -0.8**
DZET pmax pmax
comp=Z,9.0nm,1.0s
RES Resolute Bay 56.36 16 P **P 21 09 22.4 -0.5**
comp=Z,19nm,0.5s,baz=309,slow=7.2,SNR=52
ABKAR Akbulak array 56.71 309 *e*P **P 21 09 25.1 -0.6**
comp=Z,89nm,0.6s
AKTO Aktyubinsk 57.24 311 P **P 21 09 28.9 -0.6**
comp=Z,3.6nm,0.5s,baz=64,slow=9.0,SNR=7.6
AKTO LR LR 21 36 05.3
comp=Z,126nm,19.5s,baz=19,slow=38
YKA Yellowknife Ar 57.41 33 P **P 21 09 30.5 0.0**
comp=Z,1.4nm,0.7s,baz=305,slow=7.1,SNR=2.8
YKB5 Yellowknife Ar 57.41 33 *e*P **P 21 09 30.5 0.0**
KBL Kabul 58.32 290 *e*P **P 21 09 36.5 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 58.32 290 *e*P **P 21 09 36.5 -1.1**
comp=Z,6.5nm,0.8s
TULEG Thule 59.09 9 *e*P **P 21 09 41.0 -1.0**
comp=Z,15nm,0.6s
GSI Gunungsitoli 59.29 239 *e*PcP **PcP 21 10 33.9 +1.8**
ARA0 ARCESS Array S 59.79 339 *e*P **P 21 09 46.4 -0.6**
ARCES ARCESS Array B 59.79 339 P **P 21 09 46.4 -0.6**
comp=Z,4.1nm,0.8s,baz=42,slow=7.0,SNR=20
DAG Danmarks Havn 60.40 356 *i* P **P 21 09 49.8 -1.2**
comp=Z,6.7nm,0.9s
DAG Danmarks Havn 60.40 356 *i* P **P 21 09 49.8 -1.2**
DAG pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 60.63 327 *e*P **P 21 09 50.5 -2.3**
KLMR pmax pmax
comp=Z,11nm,1.3s
SGF Sodankyl 60.93 337 P **P 21 09 54.2 -0.5**
SGF pmax pmax
comp=Z,13nm,1.9s
JOF Joensuu 62.42 332 P **P 21 10 04.0 -0.8**
JOF pmax pmax
comp=Z,20nm,1.9s
WR1 Warramunga Arr 63.13 192 *e*P **P 21 10 09.9 -0.2**
WRA Warramunga Arr 63.13 192 P **P 21 10 09.9 -0.2**
comp=Z,3.1nm,0.9s,baz=13,slow=6.8,SNR=4.5
GEYT Alibeck 63.80 298 P **P 21 10 14.3 -0.2**
comp=Z,4.4nm,0.7s,baz=50,slow=4.0,SNR=9.6
GEYT LR LR 21 40 32.4
comp=Z,96nm,18.0s,baz=90,slow=38
SUF Sumiainen 64.30 333 P **P 21 10 16.4 -0.9**
SUF pmax pmax
comp=Z,14nm,0.7s
SUMG Summit 65.02 1 *i* P **P 21 10 22.6 +0.3**
comp=Z,21nm,0.6s
SUMG Summit 65.02 1 *i* P **P 21 10 22.6 +0.3**
SUMG pmax pmax
comp=Z,21nm,0.6s
SUMG Summit 65.02 1 *e*P **P 21 10 22.3 0.0**
comp=Z,21nm,0.6s
FIA0 FINESS Array S 65.23 333 *e*P **P 21 10 22.5 -0.8**
FIA0 FINESS Array S 65.23 333 *e*P **P 21 10 22.5 -0.8**
FINES FINESS Array B 65.23 333 P **P 21 10 22.5 -0.8**
comp=Z,13nm,0.6s,baz=46,slow=7.8,SNR=87
FINES LR LR 21 43 26.6
comp=Z,87nm,19.2s,baz=18,slow=40
OBN Obninsk 65.40 323 P **P 21 10 23.8 -0.7**
comp=Z,4.6nm,0.4s,baz=45,slow=11,SNR=3.5
OBN Obninsk 65.40 323 *e*P **P 21 10 24.0 -0.5**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 65.40 323 *e*P **P 21 10 23.8 -0.7**
comp=Z,60nm,1.7s
LPSR Galich'ya Gora 65.92 320 *e*P **P 21 10 26.8 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ASAR Alice Springs 66.85 191 P **P 21 10 34.9 +0.7**
comp=Z,2.6nm,0.9s,baz=7.3,slow=7.1,SNR=5.8
VSU Vasula 67.11 330 *i* P **P 21 10 34.5 -1.0**
VSU pmax pmax
comp=Z,37nm,1.2s
YERR Yerington 68.34 57 *e*P **P 21 10 44.9 +1.1**
comp=Z,5.6nm,0.9s
NCK Nalchik 69.28 310 *e*P **P 21 10 49.2 -0.2**
NCK pmax pmax
comp=Z,3.0nm,0.9s
KVAR Kislovodsk Arr 69.49 311 P **P 21 10 51.2 +0.4**
comp=Z,6.9nm,0.7s,baz=281,slow=2.4,SNR=9.0
KIV Kislovodsk 69.49 311 *e*P **P 21 10 49.8 -1.0**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,78nm,17.0s
KIV Kislovodsk 69.49 311 *e*P **P 21 10 51.8 +1.0**
KIV Kislovodsk 69.49 311 *e*P **P 21 10 51.7 +0.9**
comp=Z,21nm,0.7s
KBZ Khabaz 69.52 311 P **P 21 10 51.0 +0.2**
comp=Z,4.3nm,0.8s,baz=54,slow=7.2,SNR=10
ZEI Tsey 69.56 310 *e*P **P 21 10 50.3 -1.0**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
NACGM Naroch 69.66 327 *e* **P 21 10 50.0 -1.4**
NB2 NORSAR Subarra 70.12 338 P **P 21 10 53.6 -0.7**
comp=Z,12nm,0.8s,baz=34,slow=6.2
NB2 NORSAR Subarra 70.12 338 P **P 21 10 53.5 -0.7**
NB2 pmax pmax
comp=Z,10.0nm,0.8s
NB200 NORSAR Array S 70.12 338 *e*P **P 21 10 53.8 -0.4**
NOA NORSAR Array B 70.12 338 P **P 21 10 53.8 -0.4**
comp=Z,11nm,0.6s,baz=32,slow=6.6,SNR=49
NOA LR LR 21 45 33.0

comp=Z,98nm,19.1s,baz=250,slow=39
BGU Big Grassy Mou 70.83 52 *e*P **P 21 11 00.5 +1.4**
TPNV Topopah Spring 71.45 57 *e*P **P 21 11 04.3 +1.4**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 71.45 57 *e*P **P 21 11 04.3 +1.4**
comp=Z,3.3nm,0.9s
PD31 Pinedale Array 71.60 49 *e*P **P 21 11 04.3 +0.5**
PDAR Pinedale Array 71.60 49 P **P 21 11 04.3 +0.5**
comp=Z,1.2nm,0.8s,baz=256,slow=3.1,SNR=4.8
TCUT Toone Canyon 71.64 51 *e*P **P 21 11 06.6 +2.5**
comp=Z,26nm,0.9s
AKASG Malin Array Be 71.66 323 P **P 21 11 03.0 -0.7**
comp=Z,6.6nm,0.6s,baz=41,slow=6.1,SNR=23
AKBB Malin Array Si 71.66 323 *e*P **P 21 11 03.0 -0.7**
AKBB Malin Array Si 71.66 323 *e*P **P 21 11 03.0 -0.7**
KIEV Kiev 71.67 323 *e*P **P 21 11 02.4 -1.3**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 71.67 323 *e*P **P 21 11 03.5 -0.2**
KIEV Kiev 71.67 323 *e*P **P 21 11 02.8 -0.9**
comp=Z,14nm,1.1s
ANN Anapa 71.78 315 *e*P **P 21 11 03.5 -1.0**
ANN *e**PP **pP 21 11 16.0 -1.2**
ANN *e*S **S 21 20 21.6 +0.2**
ANN pmax pmax
comp=Z,31nm,1.1s
DCM Dugout Coal Mi 73.05 51 *e*P **P 21 11 12.7 +0.1**
RWWY Rawlins 73.61 48 *ep*P pP 21 11 30.5 +1.8
BSD Bornholm Skovb 73.86 333 *i* P **P 21 11 16.5 -0.1**
comp=Z,5.5nm,0.8s
BSD Bornholm Skovb 73.86 333 *i* P **P 21 11 16.5 -0.1**
BSD pmax pmax
comp=Z,6.0nm,0.8s
U15A North Rim 74.21 55 *e*P **P 21 11 20.6 +1.2**
comp=Z,2.9nm,1.0s
STKA Stephens Creek 74.27 183 P **P 21 11 19.8 +0.6**
comp=Z,3.8nm,1.1s,baz=12,slow=8.1,SNR=3.8
STKA LR LR 21 41 33.4
comp=Z,27nm,22.0s,baz=26,slow=34
STKA Stephens Creek 74.27 183 P **P 21 11 19.8 +0.6**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA MLR MLR
comp=Z,27nm,22.0s
BEL Belsk 74.33 328 P **P 21 11 19.8 +0.3**
BEL pmax pmax
comp=Z,46nm,0.7s
MARD Mardin 74.95 307 *e*P **P 21 11 25.1 +1.6**
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 75.26 326 P **P 21 11 25.6 +0.7**
BUR08 Bucovina Ar. S 75.70 323 *e*P **P 21 11 27.9 +0.4**
BURAR Bucovina Array 75.71 323 ⇓*i*P **P 21 11 27.7 0.0**
BURAR Bucovina Array 75.71 323 ⇓P **P 21 11 27.7 0.0**
TESR Tescani 75.89 321 ⇑*i*P **P 21 11 28.4 -0.2**
OJC Ojcow 75.99 327 *e*P **P 21 11 29.1 0.0**
OJC pmax pmax
comp=Z,16nm,1.0s
OJC Ojcow 75.99 327 *e*P **P 21 11 29.0 0.0**
OJC Ojcow 75.99 327 *e*P **P 21 11 29.1 0.0**
comp=Z,16nm,1.0s
STHS Stebnicka Huta 76.03 326 *e*P **P 21 11 30.4 +1.0**
STHS pmax pmax
comp=Z,16nm,1.7s
STHS Stebnicka Huta 76.03 326 *e*P **P 21 11 30.4 +1.0**
CFR Carcaliu 76.18 320 ⇑*i*P **P 21 11 29.6 -0.6**
CFR Carcaliu 76.18 320 ⇑P **P 21 11 29.6 -0.6**
VRI Vrincioaia 76.33 321 ⇑*i*P **P 21 11 32.6 +1.5**
VRI Vrincioaia 76.33 321 ⇑P **P 21 11 32.6 +1.5**
CRVS Cervenica-Dubn 76.34 326 *e*P **P 21 11 31.0 -0.1**
CRVS Cervenica-Dubn 76.34 326 *e*P **P 21 11 31.0 -0.1**
PLOR Plostina 76.38 321 ⇑*i*P **P 21 11 31.0 -0.4**
PLOR Plostina 76.38 321 ⇑P **P 21 11 31.0 -0.4**
DOPR Dopca 76.88 322 ⇓*i*P **P 21 11 36.2 +2.0**
LANS Liptovska Anna 76.96 327 *e*P **P 21 11 36.0 +1.3**
LANS Liptovska Anna 76.96 327 *e*P **P 21 11 36.0 +1.3**
MLR Muntele Rosu 76.98 321 ⇑*i*P P 21 11 30.1 -4.8
MLR Muntele Rosu 76.98 321 ⇑P P 21 11 30.1 -4.8
KECS Kecovo 77.08 326 *e*P **P 21 11 37.6 +2.4**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 77.08 326 *e*P **P 21 11 37.6 +2.4**
MORC Moravsky Berou 77.23 328 ⇑*i*P **P 21 11 35.5 -0.6**
MORC Moravsky Berou 77.23 328 *e*P **P 21 11 35.9 -0.2**
MORC pmax pmax
comp=Z,34nm,1.0s
MORC Moravsky Berou 77.23 328 *e*P **P 21 11 35.9 -0.2**
comp=Z,34nm,1.0s
DPC Dobruska-Polom 77.23 329 *e*P **P 21 11 36.7 +0.6**
DPC *ep*P **pP 21 11 47.6 -1.4**
DPC Dobruska-Polom 77.23 329 *e*P **P 21 11 36.7 +0.6**
DPC *e* 21 11 47.6
BR101 Keskin Array S 77.32 313 *e*P **P 21 11 37.1 +0.1**
BR131 Keskin Array S 77.32 313 *e*P **P 21 11 37.0 0.0**
BRTR Keskin Array B 77.32 313 P **P 21 11 37.1 +0.1**
comp=Z,1.3nm,0.6s,baz=81,slow=3.1,SNR=10
BRTR LR LR 21 52 22.8
comp=Z,56nm,18.6s,baz=356,slow=41
VOIR 77.43 321 ⇑*i*P **P 21 11 37.9 +0.5**
VOIR 77.43 321 ⇑P **P 21 11 37.9 +0.5**
CLL Collm 77.65 332 *e*P **P 21 11 38.1 -0.3**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 77.65 332 *e*P **P 21 11 38.0 -0.3**
CLL Collm 77.65 332 *e*P **P 21 11 38.0 -0.3**
comp=Z,9.0nm,0.9s
CLL *i* 21 11 43.9
CLL *i* pP **pP 21 11 49.1 -2.2**
CLL Collm 77.65 332 *e*P **P 21 11 38.0 -0.3**
comp=Z,9.3nm,0.8s
ARR Arges 77.68 322 ⇓*i*P **P 21 11 40.6 +1.9**
VYHS Vyhne 77.74 327 *e*P **P 21 11 39.5 +0.5**
VYHS Vyhne 77.74 327 *e*P **P 21 11 39.5 +0.5**
PSZ Piszkesteto 77.76 326 ⇓*i*P **P 21 11 40.1 +0.9**
PSZ Piszkesteto 77.76 326 *e*P **P 21 11 40.4 +1.2**
PSZ pmax pmax
comp=Z,26nm,1.7s
PSZ Piszkesteto 77.76 326 *e*P **P 21 11 40.4 +1.2**
comp=Z,26nm,1.7s
VRAC Vranov 77.97 329 P **P 21 11 40.2 0.0**
comp=Z,1.9nm,0.6s,baz=12,slow=3.5,SNR=5.1
GOPC GO Pecny, Ondr 78.16 330 *e*P **P 21 11 42.5 +1.2**
GOPC *ep*P **pP 21 11 52.6 -1.6**
GOPC GO Pecny, Ondr 78.16 330 *e*P **P 21 11 42.5 +1.2**
GOPC *e* 21 11 52.6
MHTCO State Highway 78.18 50 *e*P **P 21 11 40.4 -1.5**
comp=Z,19nm,0.4s
PRU Pruhonice 78.19 330 *e*P **P 21 11 42.7 +1.3**
PRU *ep*P **pP 21 11 52.6 -1.7**
PRU Pruhonice 78.19 330 *e*P **P 21 11 42.7 +1.3**
PRU *e* 21 11 52.6
EKA Eskdalemuir Ar 78.76 342 P **P 21 11 44.5 0.0**
comp=Z,1.6nm,0.4s,baz=18,slow=5.1,SNR=13
BZS Buzias 78.84 323 ⇑*i*P **P 21 11 46.3 +1.2**
BZS Buzias 78.84 323 ⇑P **P 21 11 46.3 +1.2**
KHC Kasperske Hory 79.25 330 *e*P **P 21 11 47.6 +0.3**
KHC *ep*P **pP 21 11 57.4 -2.8**
KHC Kasperske Hory 79.25 330 *e*P **P 21 11 47.6 +0.3**
KHC *e* 21 11 57.4
KHC Kasperske Hory 79.25 330 *e*P **P 21 11 46.9 -0.4**
KHC Kasperske Hory 79.25 330 *e*P **P 21 11 46.9 -0.4**
comp=Z,2.3nm,0.7s
CONA Conrad Observa 79.38 328 *i* P **P 21 11 48.9 +0.8**
comp=Z,8.9nm,1.0s
GEC2 GERESS Array S 79.44 330 *e*P **P 21 11 48.1 -0.4**
GEC2 GERESS Array S 79.44 330 *e*P **P 21 11 48.1 -0.4**
GERES GERESS Array B 79.44 330 P **P 21 11 48.1 -0.4**
comp=Z,0.9nm,0.5s,baz=40,slow=5.5,SNR=9.7
GERES LR LR 21 48 39.5
comp=Z,135nm,18.2s,baz=338,slow=37
WET Wettzell 79.50 330 P **P 21 11 49.9 +1.3**
WET pmax pmax
comp=Z,11nm,1.0s
MOA Molln 80.05 329 *i* P **P 21 11 52.1 +0.4**
comp=Z,1.9nm,0.6s
ARSA Arzberg 80.06 328 *i* PcP **P 21 11 53.9 +2.2**
comp=Z,1.4nm,0.8s
VTS Vitosha 80.47 321 ⇓*i*P **P 21 11 54.8 +0.6**
VTS Vitosha 80.47 321 ⇓P **P 21 11 54.9 +0.7**
VTS Vitosha 80.47 321 *e*P **P 21 11 54.1 -0.1**
comp=Z,4.1nm,0.8s
SOKA Soboth 80.72 328 *i* P **P 21 11 55.6 +0.3**
comp=Z,3.8nm,0.7s
KBA Koelnbreinsper 81.04 329 P **P 21 11 57.6 +0.4**
KBA pmax pmax
comp=Z,8.0nm,0.7s
KBA Koelnbreinsper 81.04 329 *i* P **P 21 11 58.1 +0.9**
comp=Z,5.8nm,0.7s
OBKA Obir 81.05 328 *i* P **P 21 11 56.3 -0.8**
comp=Z,2.7nm,0.6s
RAYN Ar Rayn 81.25 294 *e*P **P 21 11 59.1 +0.6**
comp=Z,3.7nm,0.8s
MYKA Terra Mystica 81.30 329 *i* PcP **PcP 21 12 01.2 -3.4**
comp=Z,3.3nm,0.7s
WATA Walderalm 81.49 330 *i* P **P 21 12 00.7 +1.2**
comp=Z,5.8nm,1.0s
WTTA Wattenberg 81.53 330 *i* P **P 21 12 00.3 +0.5**
comp=Z,5.3nm,0.9s
ABTA Abfaltersbach 81.63 329 *i* PcP **PcP 21 12 02.6 -3.4**
comp=Z,3.9nm,1.2s
MOTA Moosalm 81.65 331 *i* P **P 21 12 01.3 +1.0**
comp=Z,2.1nm,0.4s
RETA Reutte 81.65 331 *i* PcP **PcP 21 12 02.2 -3.8**
comp=Z,2.3nm,0.6s
FETA Feichten 82.06 331 *i* PcP **PcP 21 12 04.5 -3.4**
comp=Z,3.8nm,1.2s
DAVA Damuels 82.14 331 *i* P **P 21 12 03.0 0.0**
comp=Z,3.6nm,0.8s
DAVOX Davos/Dischmat 82.57 331 P **P 21 12 05.8 +0.5**
comp=Z,3.1nm,0.7s,baz=360,slow=5.2,SNR=4.3
DAVOX Davos/Dischmat 82.57 331 P **P 21 12 05.8 +0.5**
DAVOX pmax pmax
comp=Z,2.0nm,0.5s
LTX Lajitas 84.33 55 *e*P **P 21 12 15.3 +0.8**
LTX Lajitas 84.33 55 *e*P **P 21 12 15.3 +0.8**
TXAR Lajitas Array 84.33 55 P **P 21 12 15.3 +0.8**
comp=Z,1.2nm,0.7s,baz=291,slow=3.2,SNR=6.3
BLA Blacksburg 90.22 35 *e*P **P 21 12 43.3 +0.5**
BLA pmax pmax
comp=Z,44nm,0.4s
BLA Blacksburg 90.22 35 *e*P **P 21 12 43.3 +0.5**
comp=Z,44nm,0.4s
ESDC Sonseca Array 93.44 337 P **P 21 12 57.0 -0.6**
comp=Z,0.4nm,0.5s,baz=10,slow=4.1,SNR=5.5
TOA1 Torodi Ar. Sit 115.21 320 *e*PKiKP **PKPdf 21 18 23.5 -0.3**
TORD Torodi Ar. Bea 115.22 320 PKP **PKPdf 21 18 23.5 -0.3**
comp=Z,0.2nm,0.5s,baz=21,slow=1.9,SNR=4.2

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*ISCJB **31** 21:00:55.0±0.5, 3°.20S±0°.04×139°.4E±0°.1, h46km, mb3.9/12, MS3.1/5, Error ellipse: s-maj=17.7km s-min=6.1km az=174.7*
*IDC **31** 21:00:56.5±0.9, 3°.18S×139°.49E, h43km±5km, mb3.7/12, mb1 3.9/13, mb1mx3.7/39, mbtmp4.0/13, ML4.5/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/29, Error ellipse: s-maj=30.1km s-min=16.8km az=95.0*
*NEIC **31** 21:00:58.8±2.0, 3°.23S×139°.51E, h68km±19km, mb4.3/3, Error ellipse: s-maj=15.5km s-min=12.5km az=80.0*
ISC 31 21:00:56.7±0.6,**3°.20S**±0°.06×**139°.4E**±0°.1,**h46**km,**n25,**
σ1§**23**/35,**mb4.0**/12,**MS3.0**/5,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**11.33**	**161**	*e*Pn	**Pn**	**21 03 37.2**	**+1.1**
	22nm,1.2s						
COEN				*e*S	**Sn**	**21 05 43.3**	**+1.8**
SOEI	**Soe**	**16.33**	**246**	*e*Pn	**P**	**21 04 47.5**	**+2.1**
	59nm,0.8s						
WRAB	**Tennant Creek**	**17.33**	**196**	*e*Pn	**P**	**21 04 55.8**	**-0.5**
	12nm,0.7s						
WRA	**Warramunga Arr**	**17.34**	**196**	P	**P**	**21 04 55.9**	**-0.5**
	1.5nm,0.3s,baz=18,slow=12,SNR=31						
WRA				S	**Sn**	**21 08 03.6**	**-4.2**
	0.1nm,0.3s,baz=13,slow=22,SNR=4.1						
FITZ	**Fitzroy Crossi**	**20.00**	**221**	P	**Pn**	**21 05 26.2**	**-1.3**
	12nm,1.0s,baz=50,slow=11,SNR=8.9						
FITZ				S	**S**	**21 09 08.2**	**+0.1**
	baz=160,slow=15						
ASAR	**Alice Springs**	**21.02**	**194**	P	**P**	**21 05 37.9**	**+1.2**
	5.8nm,0.6s,baz=24,slow=9.5,SNR=65						
ASAR				S	**S**	**21 09 29.6**	**+1.3**
	1.7nm,0.9s,baz=15,slow=26,SNR=3.4						
ASAR				LR	LR	21 14 18.9	
	comp=Z,117nm,18.3s,baz=19,slow=38						
STKA	**Stephens Creek**	**28.60**	**176**	LR	LR	21 18 33.5	
	comp=Z,69nm,18.9s,baz=24,slow=37						
MJAR	**Matsushiro Arr**	**39.55**	**359**	LR	LR	21 25 09.4	
	comp=Z,12nm,18.0s,baz=305,slow=37						
KSAR	**Wonju Array Be**	**41.82**	**346**	P	**P**	**21 08 41.6**	**-0.4**
KSRS	**Korea Array**	**41.82**	**346**	P	**P**	**21 08 41.7**	**-0.4**
	1.4nm,0.6s,baz=157,slow=8.7,SNR=6.2						
KSRS				LR	LR	21 23 57.7	
	comp=Z,18nm,20.9s,baz=330,slow=33						
CMAR	**Chiang Mai Arr**	**45.24**	**300**	P	**P**	**21 09 10.2**	**+0.3**
	0.5nm,0.6s,baz=116,slow=5.8,SNR=4.4						
CMAR				pP	**pP**	**21 09 23.5**	**+1.0**
	1.7nm,1.0s,baz=124,slow=6.2,SNR=4.6						
USRK	**Ussuriysk Ar.**	**47.65**	**353**	P	**P**	**21 09 29.1**	**+0.8**
	1.5nm,0.6s,baz=185,slow=9.0,SNR=6.9						
KLR	**Kul'dur**	**52.64**	**354**	P	**P**	**21 10 06.7**	**+0.7**
	0.2nm,0.5s,baz=173,slow=8.0,SNR=7.1						
PETK	**Petropavlovsk-**	**58.19**	**13**	LR	LR	21 34 29.9	
	comp=Z,13nm,20.3s,baz=135,slow=35						
SONM	**Songino Array**	**58.44**	**335**	P	**P**	**21 10 49.1**	**+1.2**
	0.3nm,0.4s,baz=163,slow=9.4,SNR=3.5						
MKAR	**Makanchi Array**	**70.57**	**322**	P	**P**	**21 12 07.7**	**+0.5**
	2.0nm,0.7s,baz=106,slow=7.8,SNR=12						
MKAR				pP	**pP**	**21 12 20.6**	**+0.1**
	1.7nm,0.6s,baz=112,slow=8.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**72.68**	**330**	P	**P**	**21 12 19.2**	**-0.4**
	0.5nm,0.4s,baz=113,slow=6.3,SNR=3.0						
ZALV				pP	**pP**	**21 12 32.7**	**-0.2**
	0.8nm,0.6s,baz=111,slow=6.9,SNR=2.6						
KURK	**Kurchatov**	**74.48**	**325**	P	**P**	**21 12 29.9**	**-0.4**
KURK				pP	**PcP**	**21 12 44.1**	**-0.6**
KURBB	**Kurchatov Arra**	**74.50**	**325**	P	**P**	**21 12 29.9**	**-0.5**
	1.0nm,0.8s,baz=116,slow=5.7,SNR=6.1						
KURBB				pP	**PcP**	**21 12 44.1**	**-0.6**
	0.2nm,0.4s,baz=111,slow=5.5,SNR=3.2						
BVAR	**Borovoye Array**	**80.08**	**325**	P	**P**	**21 13 01.9**	**+0.3**
	1.5nm,0.5s,baz=114,slow=8.2,SNR=9.0						
BVAR				pP	**pP**	**21 13 15.1**	**0.0**
	1.7nm,0.6s,baz=114,slow=7.6,SNR=5.7						
ABKAR	**Akbulak array**	**85.51**	**320**	P	**P**	**21 13 29.8**	**0.0**
	1.5nm,0.8s						
ILAR	**Eielson Array**	**86.01**	**24**	P	**P**	**21 13 31.1**	**-0.9**
	0.9nm,0.6s,baz=266,slow=4.5,SNR=12						
ILAR				pP	**pP**	**21 13 44.0**	**-1.6**
	1.0nm,0.8s,baz=253,slow=5.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**137.01**	**286**	PKP	**PKPdf**	**21 20 16.6**	**+0.9**
	0.8nm,0.9s,baz=72,slow=2.5,SNR=3.8						
TORD				pPKP	**pPKPdf**	**21 20 29.3**	**-0.5**
	0.5nm,0.7s,baz=41,slow=1.6,SNR=1.9						
DBIC	**Dimbokro**	**144.18**	**277**	PKP	**PKPdf**	**21 20 27.7**	**-1.0**
	3.9nm,0.6s,baz=76,slow=2.2,SNR=8.8						
DBIC				pPKP	**pPKPdf**	**21 20 40.8**	**-2.0**
	4.0nm,0.5s,baz=98,slow=0.9,SNR=4.0						
LPAZ	**La Paz**	**146.64**	**126**	PKPbc	**PKPab**	**21 20 35.0**	**-1.2**
	1.1nm,0.7s,baz=218,slow=3.7,SNR=5.7						

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*NIED **31** 21:01:00, 32°.30N×137°.50E, h320km, Mw4.8 Best double couple: M0 1.59000×10^16 NP1:φ0=57.00000°, δ35.00000°, λ113.00000°. NP2:φ0=210.00000°, δ58.00000°, λ75.00000°.*
*ISCJB **31** 21:01:57.4±0.6, 32°.38N±0°.09×137°.45E±0°.08, h428km, mb3.6/7, Error ellipse: s-maj=12.3km s-min=9.4km az=172.1*
*IDC **31** 21:01:57.7±1.0, 32°.34N×137°.39E, h413km±8km, mb3.4/7, mb1 3.6/10, mb1mx3.1/61, mbtmp4.1/10, Error ellipse: s-maj=22.3km s-min=15.8km az=88.0*
*JMA **31** 21:01:57.0±0.3, 32°.34N×137°.49E, h428km±4km, M3.6*
ISC 31 21:01:58.8±0.9,**32°.4N**±0°.1×**137°.44E**±0°.09,**h428**km,**n27,**
σ1§**13**/32,**mb3.6**/7,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.31**	**335**	P	**P**	**21 02 53.2**	**-0.3**
TTO3	**TONANKAI O.B.S**	**1.43**	**359**	P	**P**	**21 02 54.0**	**-0.1**
JWZ	**Kozaga**	**1.81**	**308**	P	**P**	**21 02 55.1**	**-1.1**
JIE	**Ise**	**2.05**	**343**	P	**P**	**21 02 57.1**	**-0.4**
JKN2	**Miekihoku**	**2.05**	**332**	P	**P**	**21 02 56.8**	**-0.7**
JKN2				S	**S**	**21 03 43.3**	**-1.9**
JHJ	**Hachijo jima 2**	**2.09**	**70**	P	**P**	**21 02 57.2**	**-0.6**
	48nm,0.3s,baz=241,slow=19,SNR=14						
JHJ				S	**S**	**21 03 43.4**	**-2.3**
	19nm,0.3s,baz=307,slow=20,SNR=2.1						
JHJ2	**Mitsune**	**2.12**	**71**	P	**P**	**21 02 57.2**	**-0.8**
JWY	**Kouya**	**2.36**	**320**	P	**P**	**21 02 59.1**	**-0.4**
JHMK	**Hamakita**	**2.39**	**6**	P	**P**	**21 02 59.0**	**-0.5**
HMMJ	**Hamamatsu 2**	**2.43**	**6**	P	**P**	**21 02 59.4**	**-0.5**
JAO	**Obara**	**2.83**	**357**	P	**P**	**21 03 02.6**	**-0.2**
JAI	**Aioi**	**2.85**	**299**	P	**P**	**21 03 02.4**	**-0.5**
JAI				*e*S	**S**	**21 03 52.9**	**-2.1**
JNY	**Yasuok**	**2.94**	**7**	P	**P**	**21 03 03.5**	**-0.2**
JOD2	**Odawara 2**	**3.14**	**26**	P	**P**	**21 03 04.0**	**-1.2**
JOD2				*e*S	**S**	**21 03 59.0**	**-0.2**
JYN	**Shimob**	**3.19**	**16**	P	**P**	**21 03 05.3**	**-0.3**
JMN	**Monobe**	**3.25**	**294**	P	**P**	**21 03 06.0**	**-0.1**
BSO4	**Boso 4**	**3.52**	**43**	P	**P**	**21 03 05.7**	**-2.4**
JHU	**Hanno**	**3.74**	**24**	P	**P**	**21 03 08.8**	**-1.3**
MJAR	**Matsushiro Arr**	**4.15**	**9**	P	**P**	**21 03 12.8**	**-1.1**
	8.7nm,0.3s,baz=183,slow=9.4,SNR=28						
MJAR				S	**S**	**21 04 13.2**	**-1.8**
	baz=82,slow=23,SNR=3.0						
KSRS	**Korea Array**	**9.28**	**305**	P	**P**	**21 04 08.6**	**+0.6**
	0.6nm,0.3s,baz=122,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**52.16**	**184**	P	**P**	**21 10 26.9**	**-1.1**
	1.8nm,0.5s,baz=9.8,slow=7.4,SNR=4.2						
KDAK	**Kodiak Island**	**52.72**	**39**	P	**P**	**21 10 32.4**	**+0.8**
	2.7nm,0.3s,baz=288,slow=6.4,SNR=19						
ILAR	**Eielson Array**	**55.12**	**30**	P	**P**	**21 10 48.9**	**+0.3**
	0.7nm,0.7s,baz=254,slow=5.7,SNR=5.6						
ARCES	**ARCESS Array B**	**67.14**	**339**	P	**P**	**21 12 08.8**	**+0.8**
	2.6nm,0.8s,baz=65,slow=9.5,SNR=4.1						
FINES	**FINESS Array B**	**71.33**	**332**	P	**P**	**21 12 34.1**	**+0.6**
	1.8nm,0.4s,baz=71,slow=6.2,SNR=6.2						
PDAR	**Pinedale Array**	**83.24**	**43**	P	**P**	**21 13 40.7**	**+1.4**
	0.6nm,0.7s,baz=270,slow=3.9,SNR=3.6						
TXAR	**Lajitas Array**	**95.55**	**50**	P	**P**	**21 14 38.4**	**+1.2**
	0.2nm,0.6s,baz=288,slow=3.7,SNR=2.4						

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*CSEM **31** 21:09:01.2, 37°.90N×22°.28E, h13km, ML1.6/2*
ATH 31 21:09:01.2,37°.90N×22°.28E,h13km±2km,**ML1.6**/2,**Error ellipse: s-maj=2.6km s-min=1.0km az=9.0,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUR	**Goura**	**0.06**	**54**	P	Pg	21 09 03.8	-0.1
GUR				AML	AML	21 09 05.9	
	comp=N,1508μm,0.2s						
GUR				S	Sg	21 09 06.0	+0.2
GUR				AML	AML	21 09 06.3	
	comp=E,950μm,0.1s						
GUR	**Goura**	**0.06**	**54**	P	Pg	21 09 03.8	-0.1
GUR				S	Sg	21 09 06.0	+0.2
KLV	**Kalavryta, Ach**	**0.18**	**324**	P	Pg	21 09 04.7	-0.6
KLV				S	Sg	21 09 07.8	-0.4
KLV				AML	AML	21 09 08.3	
	comp=E,538μm,0.2s						
KLV				AML	AML	21 09 08.4	
	comp=N,352μm,0.2s						
KLV	**Kalavryta, Ach**	**0.18**	**324**	P	Pg	21 09 04.7	-0.6
KLV				S	Sg	21 09 07.8	-0.4
THAL	**Thalero**	**0.33**	**66**	P	Pg	21 09 07.7	-0.2
THAL	**Thalero**	**0.33**	**66**	P	Pg	21 09 07.7	-0.2
LAKA	**Lakka**	**0.41**	**325**	P	Pg	21 09 09.1	-0.4
LAKA	**Lakka**	**0.41**	**325**	P	Pg	21 09 09.1	-0.4
DRO	**Drossia**	**0.46**	**277**	P	Pb	21 09 10.9	-0.2
DRO				S	Sg	21 09 16.6	+0.3
DRO	**Drossia**	**0.46**	**277**	P	Pb	21 09 10.9	-0.2
DRO				S	Sg	21 09 16.6	+0.3
TRIZ	**Trizonia**	**0.49**	**340**	P	Pg	21 09 10.4	-0.5
TRIZ	**Trizonia**	**0.49**	**340**	P	Pg	21 09 10.4	-0.5
KALE	**Kalithea**	**0.50**	**347**	P	Pg	21 09 10.5	-0.6
KALE	**Kalithea**	**0.50**	**347**	P	Pg	21 09 10.5	-0.6
VLX	**Vlachokerasia**	**0.54**	**172**	P	Pg	21 09 11.4	-0.4
VLX	**Vlachokerasia**	**0.54**	**172**	P	Pg	21 09 11.4	-0.3
DSF	**Desfina**	**0.55**	**21**	P	Pb	21 09 12.8	+0.1
DSF	**Desfina**	**0.55**	**21**	P	Pb	21 09 12.8	+0.1
LTK	**Loutraki**	**0.56**	**77**	P	Pg	21 09 11.6	-0.5
LTK				S	Sg	21 09 19.0	-0.4
LTK	**Loutraki**	**0.56**	**77**	P	Pg	21 09 11.6	-0.5
LTK				S	Sg	21 09 19.0	-0.5
AMT	**Artemida-Makis**	**0.58**	**231**	P	Pg	21 09 12.1	-0.6
AMT				S	Sb	21 09 21.8	+0.3
AMT	**Artemida-Makis**	**0.58**	**231**	P	Pg	21 09 12.1	-0.6
AMT				S	Sb	21 09 21.8	+0.3
PROD	**Prodromos**	**0.60**	**54**	P	Pg	21 09 13.0	-0.1
PROD	**Prodromos**	**0.60**	**54**	P	Pg	21 09 13.0	0.0
ANX	**Ano Chora**	**0.75**	**338**	P	Pb	21 09 16.2	+0.1
ANX	**Ano Chora**	**0.75**	**338**	P	Pb	21 09 16.2	0.0
ITM	**Ithomi**	**0.77**	**202**	P	Pg	21 09 15.7	-0.5
ITM	**Ithomi**	**0.77**	**202**	P	Pg	21 09 15.7	-0.5
DID	**Didima**	**0.85**	**117**	P	Pb	21 09 18.4	+0.5
DID	**Didima**	**0.85**	**117**	P	Pb	21 09 18.4	+0.5
PYL	**PYLOS**	**1.09**	**203**	P	Pb	21 09 21.3	-0.7
PYL	**PYLOS**	**1.09**	**203**	P	Pb	21 09 21.3	-0.7

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*ISK **31** 21:10:06.9, 38°.74N×43°.46E, h9km, MD2.7*
*ISCJB **31** 21:10:07.9±0.6, 38°.71N±0°.03×43°.55E±0°.05, h20km±7km, Error ellipse: s-maj=7.2km s-min=4.6km az=16.5*
*CSEM **31** 21:10:07.2±0.3, 38°.71N×43°.53E, h10km, MD2.7, Error ellipse: s-maj=7.0km s-min=5.2km az=111.0*
*DDA **31** 21:10:07.7, 38°.71N×43°.54E, h7km, Ml2.7*
ISC 31 21:10:07.1±1.1,**38°.73N**±0°.02×**43°.48E**±0°.03,**h15**km±9km,
n23,σ0§**56**/40,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**210**	*e*PG	**Pb**	**21 10 12.4**	**+0.7**
VANB	**Van**	**0.15**	**210**	*e*Pg	**Pb**	**21 10 12.4**	**+0.7**
TVAN	**Van**	**0.21**	**197**	*i* P	**Pg**	**21 10 12.2**	**+0.1**
TVAN				*i* S	**Sb**	**21 10 16.8**	**+0.3**
TVAN	**Van**	**0.21**	**197**	P	**Pg**	**21 10 12.2**	**+0.1**
TVAN				S	**Sb**	**21 10 16.8**	**+0.3**
VMUR	**Van-Muradiye**	**0.27**	**15**	*i* P	**Pg**	**21 10 13.1**	**0.0**
VMUR				*i* S	**Sb**	**21 10 18.7**	**+0.4**
VMUR	**Van-Muradiye**	**0.27**	**15**	P	**Pg**	**21 10 13.1**	**0.0**
VMUR				S	**Sb**	**21 10 18.7**	**+0.4**
GEVA	**Gevas**	**0.53**	**219**	*i* P	**Pg**	**21 10 17.8**	**+0.1**
GEVA				*i* S	**Sn**	**21 10 29.1**	**0.0**
CLDR	**Caldiran**	**0.54**	**39**	*e*PG	**Pg**	**21 10 17.4**	**-0.5**
CLDR	**Caldiran**	**0.54**	**39**	*i* P	**Pb**	**21 10 18.9**	**+0.5**
CLDR				*i* S	**Sb**	**21 10 26.7**	**+0.7**
CLDR	**Caldiran**	**0.54**	**39**	*e*Pg	**Pg**	**21 10 17.4**	**-0.5**
CLDR	**Caldiran**	**0.54**	**39**	P	**Pb**	**21 10 18.9**	**+0.5**
CLDR				S	**Sb**	**21 10 26.7**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.60**	**278**	*i* P	**Pn**	**21 10 20.6**	**-0.7**
ADCV				*i* S	**Sn**	**21 10 30.8**	**-0.1**
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GUR				AML	AML	21 10 35.5	
	comp=E,13086µm,0.2s						
GUR				AML	AML	21 10 35.6	
	comp=N,19077µm,0.3s						
GUR	**Goura**	**0.05**	**63**	P	Pg	21 10 33.3	-0.1
GUR				S	Sg	21 10 35.2	-0.2
KLV	**Kalavryta, Ach**	**0.17**	**320**	P	Pg	21 10 34.6	-0.1
KLV				S	Sg	21 10 37.6	0.0
KLV	**Kalavryta, Ach**	**0.17**	**320**	P	Pg	21 10 34.4	-0.3
KLV				S	Sg	21 10 36.8	-0.8
KLV				AML	AML	21 10 37.9	
	comp=E,3372µm,0.2s						
KLV				AML	AML	21 10 38.0	
	comp=N,4408µm,0.3s						
KLV	**Kalavryta, Ach**	**0.17**	**320**	P	Pg	21 10 34.6	-0.1
KLV				S	Sg	21 10 37.6	0.0
THAL	**Thalero**	**0.32**	**67**	P	Pg	21 10 37.4	+0.3
THAL				S	Sg	21 10 41.9	+0.2
THAL	**Thalero**	**0.32**	**67**	P	Pb	21 10 37.8	+0.1
THAL				S	Sg	21 10 42.1	+0.5
THAL				AML	AML	21 10 44.7	
	comp=E,5113µm,0.2s						
THAL				AML	AML	21 10 46.1	
	comp=N,3944µm,0.3s						
THAL	**Thalero**	**0.32**	**67**	P	Pg	21 10 37.4	+0.3
THAL				S	Sg	21 10 42.2	+0.5
TRIP	**Tripoli**	**0.39**	**182**	P	Pg	21 10 38.1	-0.1
TRIP				S	Sg	21 10 43.1	-0.5
TRIP	**Tripoli**	**0.39**	**182**	P	Pg	21 10 38.1	-0.2
TRIP				S	Sg	21 10 43.1	-0.5
LAKA	**Lakka**	**0.41**	**323**	P	Pg	21 10 38.3	-0.3
LAKA				S	Sb	21 10 44.9	-0.4
LAKA	**Lakka**	**0.41**	**323**	P	Pg	21 10 38.1	-0.5
LAKA	**Lakka**	**0.41**	**323**	P	Pg	21 10 38.3	-0.3
LAKA				S	Sb	21 10 44.9	-0.4
DRO	**Drossia**	**0.46**	**275**	P	Pb	21 10 39.9	-0.2
DRO				S	Sb	21 10 46.4	-0.4
DRO	**Drossia**	**0.46**	**275**	P	Pb	21 10 39.9	-0.2
DRO	**Drossia**	**0.46**	**275**	P	Pb	21 10 39.9	-0.2
DRO				S	Sb	21 10 46.4	-0.4
TRIZ	**Trizonia**	**0.48**	**339**	P	Pg	21 10 39.6	-0.4
TRIZ				S	Sg	21 10 45.6	-0.9
TRIZ	**Trizonia**	**0.48**	**339**	P	Pg	21 10 39.6	-0.4
TRIZ				S	Sg	21 10 45.6	-0.9
KALE	**Kalithea**	**0.49**	**346**	P	Pg	21 10 40.0	-0.2
KALE				S	Sb	21 10 48.2	+0.5
KALE	**Kalithea**	**0.49**	**346**	P	Pg	21 10 40.1	-0.1
KALE				S	Sb	21 10 47.4	-0.3
KALE				AML	AML	21 10 51.6	
	comp=E,350µm,0.2s						
KALE				AML	AML	21 10 53.5	
	comp=N,457µm,0.4s						
KALE	**Kalithea**	**0.49**	**346**	P	Pg	21 10 40.1	-0.1
KALE				S	Sb	21 10 47.4	-0.3
DSF	**Desfina**	**0.53**	**21**	P	Pg	21 10 40.8	-0.1
DSF				S	Sb	21 10 49.0	+0.1
DSF	**Desfina**	**0.53**	**21**	P	Pg	21 10 40.8	-0.1
DSF	**Desfina**	**0.53**	**21**	P	Pg	21 10 40.8	-0.1
UPR	**University Cam**	**0.54**	**313**	P	Pb	21 10 42.0	+0.4
UPR	**University Cam**	**0.54**	**313**	P	Pb	21 10 42.0	+0.5
LOUT	**Loutraki**	**0.55**	**82**	P	Pb	21 10 41.8	+0.1
LOUT	**Loutraki**	**0.55**	**82**	P	Pb	21 10 41.8	+0.1
LTK	**Loutraki**	**0.55**	**78**	P	Pg	21 10 41.4	+0.2
LTK	**Loutraki**	**0.55**	**78**	P	Pg	21 10 41.5	+0.2
LTK				S	Sg	21 10 48.5	0.0
LTK				AML	AML	21 10 53.1	
	comp=E,176µm,0.2s						
LTK				AML	AML	21 10 54.5	
	comp=N,316µm,0.5s						
LTK	**Loutraki**	**0.55**	**78**	P	Pb	21 10 41.5	-0.2
LTK				S	Sg	21 10 48.5	-0.1
VLX	**Vlachokerasia**	**0.55**	**172**	P	Pg	21 10 40.8	-0.5
VLX				S	Sb	21 10 49.6	+0.2
VLX	**Vlachokerasia**	**0.55**	**172**	P	Pg	21 10 41.0	-0.3
VLX				S	Sb	21 10 50.0	+0.6
VLX				AML	AML	21 10 52.9	
	comp=E,506µm,0.4s						
VLX				AML	AML	21 10 53.3	
	comp=N,528µm,0.6s						
VLX	**Vlachokerasia**	**0.55**	**172**	P	Pg	21 10 41.0	-0.3
VLX				S	Sb	21 10 49.6	+0.2
PROD	**Prodromos**	**0.59**	**54**	P	Pb	21 10 42.7	+0.2
PROD				S	Sg	21 10 49.7	-0.3
PROD				AML	AML	21 10 51.3	
	comp=N,1102µm,0.4s						
PROD				AML	AML	21 10 51.7	
	comp=E,740µm,0.2s						
PROD	**Prodromos**	**0.59**	**54**	P	Pb	21 10 42.7	+0.2
PROD				S	Sg	21 10 49.7	-0.3
EFP	**Efpalio**	**0.59**	**330**	P	Pg	21 10 42.1	0.0
EFP	**Efpalio**	**0.59**	**330**	P	Pg	21 10 41.9	-0.2
EFP	**Efpalio**	**0.59**	**330**	P	Pg	21 10 41.9	-0.2
AMT	**Artemida-Makis**	**0.60**	**230**	P	Pg	21 10 41.8	-0.4
AMT				S	Sb	21 10 50.8	+0.1
AMT	**Artemida-Makis**	**0.60**	**230**	P	Pg	21 10 41.6	-0.6
AMT				S	Sb	21 10 51.5	+0.7
AMT				AML	AML	21 10 52.3	
	comp=N,427µm,0.8s						
AMT				AML	AML	21 10 53.5	
	comp=E,297µm,0.3s						
AMT	**Artemida-Makis**	**0.60**	**230**	P	Pg	21 10 41.6	-0.6
AMT				S	Sb	21 10 50.8	+0.1
RLS	**Riolos of Patr**	**0.66**	**283**	P	Pg	21 10 42.9	-0.5
RLS	**Riolos of Patr**	**0.66**	**283**	P	Pg	21 10 42.4	-1.0
RLS				S	Sn	21 10 54.3	-1.0
RLS				AML	AML	21 10 55.8	
	comp=E,173µm,0.5s						
RLS				AML	AML	21 10 58.1	
	comp=N,157µm,0.2s						
RLS	**Riolos of Patr**	**0.66**	**283**	P	Pg	21 10 42.9	-0.5
ANX	**Ano Chora**	**0.74**	**337**	P	Pg	21 10 44.5	-0.3
ANX				S	Sn	21 10 56.2	-1.1
ANX	**Ano Chora**	**0.74**	**337**	P	Pg	21 10 44.5	-0.3
AXS	**Araxos**	**0.77**	**292**	P	Pb	21 10 45.7	+0.2
AXS				S	Sn	21 10 57.6	-0.4
AXS	**Araxos**	**0.77**	**292**	P	Pb	21 10 45.7	+0.2
VIL2	**Platees**	**0.83**	**69**	P	Pn	21 10 47.9	+0.4
VILL	**Villia**	**0.85**	**73**	P	Pn	21 10 47.9	+0.1
DID	**Didima**	**0.86**	**118**	P	Pg	21 10 47.0	0.0
DID				S	Sn	21 10 59.9	-0.2
DID	**Didima**	**0.86**	**118**	P	Pg	21 10 47.1	+0.1
DID				S	Sn	21 10 59.6	-0.5
DID				AML	AML	21 11 01.8	
	comp=N,337µm,0.3s						
DID				AML	AML	21 11 01.8	
	comp=E,343µm,0.5s						
DID	**Didima**	**0.86**	**118**	P	Pg	21 10 47.1	+0.1
DID				S	Sn	21 10 59.6	-0.5
PVO	**Paravola**	**0.92**	**320**	P	Pg	21 10 48.2	-0.1
PVO	**Paravola**	**0.92**	**320**	P	Pg	21 10 48.3	0.0
PVO	**Paravola**	**0.92**	**320**	P	Pg	21 10 48.2	-0.1
LKR	**Lokris**	**0.92**	**37**	P	Pb	21 10 47.8	-0.3
LKR				S	Sn	21 11 02.0	+0.2
LKR	**Lokris**	**0.92**	**37**	P	Pb	21 10 47.1	-1.0
LKR				S	Sn	21 11 01.3	-0.5
LKR				AML	AML	21 11 03.3	
	comp=N,315µm,0.2s						
LKR				AML	AML	21 11 03.4	
	comp=E,309µm,0.2s						
LKR	**Lokris**	**0.92**	**37**	P	Pb	21 10 47.8	-0.3
LKR				S	Sn	21 11 01.3	-0.5
EVR	**Evrytania**	**1.07**	**340**	P	Pb	21 10 50.6	0.0
EVR	**Evrytania**	**1.07**	**340**	P	Pb	21 10 50.1	-0.5
EVR	**Evrytania**	**1.07**	**340**	P	Pb	21 10 50.6	0.0
AGG	**Agios Georgios**	**1.11**	**2**	P	Pb	21 10 51.0	-0.2
AGG				S	Sn	21 11 07.4	+1.1
AGG	**Agios Georgios**	**1.11**	**2**	P	Pb	21 10 50.9	-0.3
AGG	**Agios Georgios**	**1.11**	**2**	P	Pb	21 10 51.0	-0.2
AGG				S	Sn	21 11 07.4	+1.1
PDO	**Prodromos**	**1.11**	**308**	P	Pg	21 10 52.5	+0.8
PDO	**Prodromos**	**1.11**	**308**	P	Pg	21 10 52.5	+0.7
PYL	**PYLOS**	**1.11**	**203**	P	Pb	21 10 50.9	-0.3
PYL	**PYLOS**	**1.11**	**203**	P	Pb	21 10 49.8	-1.3
PYL	**PYLOS**	**1.11**	**203**	P	Pb	21 10 50.9	-0.3
MES2	**Methoni**	**1.18**	**203**	P	Pb	21 10 52.5	+0.1
MES2	**Methoni**	**1.18**	**203**	P	Pb	21 10 52.5	0.0
ATHU	**Athens Univers**	**1.18**	**87**	P	Pb	21 10 52.5	0.0
ATHU				S	Sb	21 11 07.1	-0.5
ATHU	**Athens Univers**	**1.18**	**87**	P	Pb	21 10 52.5	0.0
ATHU				S	Sb	21 11 07.1	-0.5
VLY	**Voula,Athens**	**1.19**	**93**	P	Pb	21 10 52.8	+0.1
VLY				S	Sg	21 11 09.7	+0.7
VLY	**Voula,Athens**	**1.19**	**93**	P	Pb	21 10 52.8	+0.1
VLY				S	Sg	21 11 09.7	+0.7
SMIA	**Simia**	**1.21**	**37**	P	Pn	21 10 51.9	-0.7
SMIA	**Simia**	**1.21**	**37**	P	Pn	21 10 51.9	-0.8
PTL	**Penteli**	**1.25**	**83**	P	Pg	21 10 54.4	-0.1
PTL				S	Sg	21 11 11.2	+0.3
PTL	**Penteli**	**1.25**	**83**	P	Pg	21 10 54.4	-0.2
PTL				S	Sg	21 11 11.2	+0.3
VLI	**Veliai**	**1.30**	**156**	P	Pb	21 10 54.3	-0.2
VLI	**Veliai**	**1.30**	**156**	P	Pb	21 10 54.3	-0.2
VLS	**Valsamata**	**1.37**	**282**	P	Pn	21 10 54.1	-0.8
VLS	**Valsamata**	**1.37**	**282**	P	Pn	21 10 54.1	-0.8
EREA	**Eretria**	**1.39**	**68**	P	Pb	21 10 56.4	+0.4
EREA				S	Sg	21 11 14.8	-0.4
EREA				AML	AML	21 11 20.5	
	comp=E,110µm,0.3s						
EREA				AML	AML	21 11 22.8	
	comp=N,86µm,0.3s						
EREA	**Eretria**	**1.39**	**68**	P	Pb	21 10 56.4	+0.3
EREA				S	Sg	21 11 14.8	-0.5
DSL	**Palaion Diasel**	**1.54**	**323**	P	Pn	21 10 56.3	-0.9
DSL	**Palaion Diasel**	**1.54**	**323**	P	Pn	21 10 56.3	-0.9
LKD2	**Lefkada island**	**1.55**	**305**	P	Pg	21 11 02.9	+2.7
THL	**Klokotos Trika**	**1.66**	**353**	P	Pn	21 10 58.6	-0.3
THL	**Klokotos Trika**	**1.66**	**353**	P	Pn	21 10 58.6	-0.3
KARY	**Karystos**	**1.70**	**85**	P	Pg	21 11 03.6	+0.5
KPRO	**Kipourio**	**2.16**	**341**	P	Pb	21 11 07.9	-1.3
KPRO	**Kipourio**	**2.16**	**341**	P	Pb	21 11 07.9	-1.3
LIT	**Litokhoron**	**2.19**	**4**	P	Pn	21 11 06.3	+0.1
LIT	**Litokhoron**	**2.19**	**4**	P	Pn	21 11 06.3	+0.1

IDC 31 21:14:28.3±2.0, 7°.09S×129°.10E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/34, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=84.8km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.46**	**197**	Pn	Pn	21 17 14.4	+1.1
	baz=24,slow=13						
FITZ				Sn	Sn	21 19 10.6	-12
	0.3nm,0.3s,baz=315,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**13.75**	**159**	Pn	Pn	21 17 43.8	-1.0
	0.2nm,0.3s,baz=336,slow=12,SNR=6.5						
WRA				Sn	Sn	21 20 03.2	-15
	0.5nm,0.3s,baz=335,slow=21,SNR=9.8						
ASAR	**Alice Springs**	**17.12**	**165**	P	Pn	21 18 28.9	-0.3
	0.2nm,0.3s,baz=346,slow=10,SNR=10						
ASAR				S	Sn	21 21 24.7	-16
	0.2nm,0.3s,baz=354,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	21 25 28.2	0.0
	0.6nm,0.8s,baz=111,slow=7.5,SNR=3.5						

*SJA **31** 21:44:54.4±1.0, 34°.93S×73°.83W, h10km±19km, ML3.5, MW2.8*
*ISCJB **31** 21:45:07.1±1.3, 34°.85S±0°.04×72°.71W±0°.09, h15km±12km, Error ellipse: s-maj=12.4km s-min=5.7km az=18.6*
*GUC **31** 21:45:08.8±0.5, 34°.88S×72°.64W, h8km±3km, ML3.6*
ISC 31 21:45:05.8±2.4, 34°.89S±0°.04×72°.76W±0°.10, h1km±15km, n18, σ0°.95/21, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.69**	**100**	⇓*i* P	**Pg**	**21 45 20.0**	**+0.9**
GO05				*i* S	**Sg**	**21 45 27.9**	**-0.2**
GO05				IAML		21 45 28.6	
	comp=E,8µm,0.2s						
CHPI	**Pichilemu**	**0.80**	**52**	*e*P	**Pg**	**21 45 21.8**	**+0.7**
CHPI				*e*S	**Sg**	**21 45 31.4**	**-0.1**
COCH	**Cobquecura**	**1.24**	**181**	⇑*i*P	**Pn**	**21 45 30.4**	**+0.1**
COCH				*e*S	**Sb**	**21 45 46.2**	**-0.2**
NICH	**Los Niches**	**1.26**	**96**	⇑*i*P	**Pb**	**21 45 29.1**	**-1.3**
NICH				*e*S	**Sg**	**21 45 44.5**	**-1.9**
CCHI	**Chillan**	**1.80**	**162**	*e*P	**Pn**	**21 45 39.0**	**+1.0**
CCHI				*e*S	**Sn**	**21 46 01.6**	**+0.2**
CCHI				IAML		21 46 09.8	
	comp=N,1µm,0.5s						
ANTU	**Antumapu**	**2.20**	**54**	IAML		21 46 16.9	
	comp=E,718nm,0.4s						
CLCH	**Cerro Calan**	**2.37**	**52**	IAML		21 46 24.3	
	comp=N,647nm,0.6s						
ROC1	**El Roble**	**2.40**	**38**	*i* P	**Pn**	**21 45 45.6**	**-0.8**
ROC1				*i* S	**Sg**	**21 46 23.4**	**+0.5**
ROCH	**El Roble**	**2.40**	**38**	IAML		21 46 29.1	
	comp=E,360nm,0.7s						
PEL	**Peldehue**	**2.45**	**45**	IAML		21 46 24.4	
	comp=N,356nm,0.4s						
FCH	**Farellones**	**2.57**	**53**	IAML		21 46 28.9	
	comp=N,299nm,0.3s						
AUSP	**Uspallata**	**3.87**	**48**	*i* P	**Pn**	**21 46 07.3**	**+0.5**
AUSP				*i* S	**Sb**	**21 47 02.9**	**+0.3**
ASAL	**Salagasta**	**3.99**	**56**	*i* P	**Pn**	**21 46 10.3**	**+2.0**
ASAL				*i* S	**Sb**	**21 47 06.7**	**+0.8**
RTLS	**Leoncito**	**4.23**	**44**	*i* P	**Pn**	**21 46 12.6**	**+0.9**
AMOG	**MOGNA**	**5.33**	**43**	*i* P	**Pn**	**21 46 26.3**	**-0.3**
AROD	**Rodeo**	**5.47**	**31**	*i* P	**Pn**	**21 46 28.4**	**-0.3**
AVFE	**Valle Fertil**	**6.14**	**48**	*i* P	**Pn**	**21 46 37.6**	**-0.2**
AVFE				IAML		21 48 05.0	
	comp=Z,8.2nm,0.5s						
AGUA	**GUANDACOL**	**6.49**	**35**	*i* P	**Pn**	**21 46 41.8**	**-0.7**

*ISK **31** 21:49:41.9, 38°.65N×43°.17E, h8km, MD2.6*
*CSEM **31** 21:49:42.8±0.3, 38°.67N×43°.19E, h10km, MD2.6, Error ellipse: s-maj=6.5km s-min=5.5km az=162.0*
*ISCJB **31** 21:49:43.0±0.6, 38°.66N±0°.03×43°.19E±0°.04, h9km±8km, Error ellipse: s-maj=5.9km s-min=5.4km az=137.1*
*DDA **31** 21:49:43.1, 38°.66N×43°.20E, h7km, Ml2.8*
ISC 31 21:49:43.2±1.0, 38°.68N±0°.03×43°.18E±0°.03, h8km±11km, n21, σ0°.82/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**118**	*e*PG	**Pg**	**21 49 47.0**	**0.0**
VANB	**Van**	**0.18**	**118**	*e*Pg	**Pg**	**21 49 47.1**	**0.0**
TVAN	**Van**	**0.23**	**131**	*i* P	**Pg**	**21 49 47.1**	**-0.9**
TVAN				*i* S	**Sg**	**21 49 51.1**	**-0.1**
TVAN	**Van**	**0.23**	**131**	P	**Pg**	**21 49 47.1**	**-0.9**
TVAN				S	**Sg**	**21 49 51.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**290**	*i* P	**Pg**	**21 49 51.2**	**+0.5**
ADCV				*i* S	**Sb**	**21 49 57.2**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.38**	**290**	P	**Pg**	**21 49 51.2**	**+0.5**
ADCV				S	**Sb**	**21 49 57.2**	**-1.2**
GEVA	**Gevas**	**0.38**	**195**	*i* P	**Pg**	**21 49 50.5**	**-0.2**
GEVA	**Gevas**	**0.38**	**195**	P	**Pg**	**21 49 50.5**	**-0.2**
VMUR	**Van-Muradiye**	**0.43**	**45**	*i* P	**Pn**	**21 49 56.6**	**+0.7**
VMUR				*i* S	**Sb**	**21 49 59.3**	**-0.7**
CLDR	**Caldiran**	**0.74**	**51**	*e*PG	**Pb**	**21 49 57.7**	**-0.7**
CLDR				*e*SG	**Sg**	**21 50 07.7**	**+0.6**
CLDR	**Caldiran**	**0.74**	**51**	*i* P	**Pn**	**21 50 01.4**	**+1.3**
CLDR	**Caldiran**	**0.74**	**51**	*e*Pg	**Pb**	**21 49 57.7**	**-0.7**
CLDR	**Caldiran**	**0.74**	**51**	P	**Pn**	**21 50 01.4**	**+1.3**
CLDR				*e*Sg	**Sg**	**21 50 07.7**	**+0.6**
TATV	**Tatvan**	**0.74**	**257**	*i* P	**Pb**	**21 49 58.6**	**+0.2**
TATV				*i* S	**Sb**	**21 50 08.2**	**-0.5**
TATV	**Tatvan**	**0.74**	**257**	P	**Pb**	**21 49 58.6**	**+0.2**
TATV				S	**Sb**	**21 50 08.2**	**-0.5**
TUTA	**Tutak**	**0.77**	**338**	*i* P	**Pg**	**21 49 57.2**	**-0.9**
TUTA	**Tutak**	**0.77**	**338**	P	**Pg**	**21 49 57.2**	**-0.9**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*PG	**Pg**	**21 49 59.6**	**-1.0**
AGRB				*e*SG	**Sb**	**21 50 14.3**	**+0.8**
AGRB	**Hanur-Agry**	**0.90**	**351**	*e*Pg	**Pg**	**21 49 59.6**	**-1.0**
AGRB				*e*Sg	**Sb**	**21 50 14.4**	**+0.8**
GURO	**Guroymak-BITLI**	**0.91**	**262**	*e*PG	**Pg**	**21 49 59.6**	**-1.1**
GURO	**Guroymak-BITLI**	**0.91**	**262**	*e*Pg	**Pg**	**21 49 59.6**	**-1.1**

*AZER **31** 21:57:41.0±0.5, 38°.40N×42°.43E, h7km, Error ellipse: s-maj=4.7km s-min=3.9km az=144.0*
*CSEM **31** 21:57:49.8±0.1, 38°.69N×43°.25E, h2km, ML3.4, Error ellipse: s-maj=2.9km s-min=2.3km az=153.0*
*DDA **31** 21:57:49.6, 38°.68N×43°.18E, h7km, Ml3.8*
*ISK **31** 21:57:49.1, 38°.69N×43°.21E, h2km, ML3.4*
ISC 31 21:57:50.4±0.8, 38°.68N±0°.02×43°.21E±0°.01, h16km±5km, n124, σ1°.40/171, 18C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**122**	*e*PG	**Pg**	**21 57 54.6**	**-0.1**
VANB				*e*SG	**Sg**	**21 57 58.8**	**+1.2**
VANB	**Van**	**0.16**	**122**	*e*Pg	**Pg**	**21 57 54.6**	**-0.1**
TVAN	**Van**	**0.21**	**135**	*i* P	**Pg**	**21 57 54.6**	**-1.0**
TVAN				*i* S	**Sg**	**21 57 58.8**	**-0.2**
TVAN	**Van**	**0.21**	**135**	P	**Pg**	**21 57 54.6**	**-1.0**
TVAN				S	**Sg**	**21 57 58.8**	**-0.2**
ERCV	**ERCIS-VAN**	**0.35**	**16**	*e*PG	**Pg**	**21 57 56.8**	**-1.0**
ERCV	**ERCIS-VAN**	**0.35**	**16**	*e*Pg	**Pg**	**21 57 56.8**	**-1.0**
GEVA	**Gevas**	**0.39**	**198**	*i* P	**Pg**	**21 57 57.2**	**-1.2**
GEVA				*i* S	**Sb**	**21 58 04.8**	**0.0**
GEVA	**Gevas**	**0.39**	**198**	P	**Pg**	**21 57 57.2**	**-1.2**
GEVA				S	**Sb**	**21 58 04.8**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.40**	**289**	*i* P	**Pg**	**21 57 58.1**	**-0.6**
ADCV				*i* S	**Sb**	**21 58 04.9**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.40**	**289**	P	**Pg**	**21 57 58.1**	**-0.6**
ADCV				S	**Sb**	**21 58 04.9**	**-0.4**
VMUR	**Van-Muradiye**	**0.42**	**42**	*i* P	**Pb**	**21 57 58.8**	**-0.8**
VMUR				*i* S	**Sb**	**21 58 06.3**	**+0.6**
VMUR	**Van-Muradiye**	**0.42**	**42**	P	**Pb**	**21 57 58.8**	**-0.8**
VMUR				S	**Sb**	**21 58 06.3**	**+0.6**
CLDR	**Caldiran**	**0.72**	**50**	*e*PG	**Pg**	**21 58 03.8**	**-0.8**
CLDR				*e*SG	**Sb**	**21 58 14.6**	**+0.2**
CLDR	**Caldiran**	**0.72**	**50**	*i* P	**Pg**	**21 58 03.7**	**-0.8**
CLDR				*i* S	**Sb**	**21 58 15.8**	**+1.4**
CLDR	**Caldiran**	**0.72**	**50**	P	**Pg**	**21 58 03.7**	**-0.8**
CLDR				*e*Sg	**Sb**	**21 58 14.6**	**+0.2**
CLDR				S	**Sb**	**21 58 15.8**	**+1.4**
TATV	**Tatvan**	**0.76**	**257**	*i* P	**Pg**	**21 58 03.8**	**-1.5**
TATV				*i* S	**Sg**	**21 58 14.0**	**-1.4**
TATV	**Tatvan**	**0.76**	**257**	P	**Pg**	**21 58 03.8**	**-1.5**
TATV				S	**Sg**	**21 58 14.0**	**-1.4**
TUTA	**Tutak**	**0.79**	**337**	*i* P	**Pg**	**21 58 04.6**	**-1.2**
TUTA	**Tutak**	**0.79**	**337**	P	**Pg**	**21 58 04.6**	**-1.2**
BASK	**Baskale_VAN**	**0.88**	**135**	*i* P	**Pg**	**21 58 06.3**	**-1.3**
BASK				*i* S	**Sb**	**21 58 19.5**	**+0.4**
BASK	**Baskale_VAN**	**0.88**	**135**	P	**Pg**	**21 58 06.3**	**-1.3**
BASK				S	**Sb**	**21 58 19.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**349**	*e*PG	**Pg**	**21 58 07.0**	**-1.2**
AGRB				*e*SG	**Sb**	**21 58 19.9**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**349**	*e*Pg	**Pg**	**21 58 07.0**	**-1.2**
AGRB				*e*Sg	**Sb**	**21 58 19.9**	**0.0**
GURO	**Guroymak-BITLI**	**0.93**	**262**	*e*PG	**Pg**	**21 58 07.2**	**-1.4**
GURO	**Guroymak-BITLI**	**0.93**	**262**	*e*Pg	**Pg**	**21 58 07.2**	**-1.4**
DYDN	**Diyadin**	**0.94**	**23**	*i* P	**Pg**	**21 58 07.8**	**-0.9**
DYDN	**Diyadin**	**0.94**	**23**	P	**Pg**	**21 58 07.8**	**-0.9**
EKAR	**Karacoban**	**1.06**	**303**	*i* P	**Pb**	**21 58 10.3**	**-0.3**
EKAR	**Karacoban**	**1.06**	**303**	P	**Pb**	**21 58 10.3**	**-0.3**
HAKT	**HAKKARI**	**1.19**	**161**	*i* P	**Pg**	**21 58 11.0**	**-2.4**
HAKT				*i* S	**Sn**	**21 58 29.8**	**+1.3**
HAKT	**HAKKARI**	**1.19**	**161**	P	**Pg**	**21 58 11.0**	**-2.4**
HAKT				S	**Sn**	**21 58 29.8**	**+1.3**
SRTM	**Siirt_Merkez**	**1.23**	**236**	*i* P	**Pg**	**21 58 12.8**	**-1.3**
SRTM				*i* S	**Sb**	**21 58 29.4**	**+0.5**
SRTM	**Siirt_Merkez**	**1.23**	**236**	P	**Pg**	**21 58 12.8**	**-1.3**
SRTM				S	**Sb**	**21 58 29.4**	**+0.5**
EATA	**Eleskirt**	**1.31**	**335**	*i* P	**Pn**	**21 58 14.1**	**-0.2**
EATA				*i* S	**Sn**	**21 58 32.8**	**+1.2**
EATA	**Eleskirt**	**1.31**	**335**	P	**Pn**	**21 58 14.1**	**-0.2**
EATA				S	**Sn**	**21 58 32.8**	**+1.2**
SIRN	**S¨–rnak**	**1.34**	**208**	*i* P	**Pg**	**21 58 15.3**	**-0.9**
SIRN				*i* S	**Sn**	**21 58 34.0**	**+2.0**
SIRN	**S¨–rnak**	**1.34**	**208**	P	**Pg**	**21 58 15.3**	**-0.9**
SIRN				S	**Sn**	**21 58 34.0**	**+2.0**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*PN	**Pg**	**21 58 17.5**	**-0.9**
VRTB	**Varto-Mus**	**1.45**	**290**	*e*Pn	**Pg**	**21 58 17.5**	**-0.9**
CUKT	**Cukurca**	**1.46**	**168**	*e*PN	**Pb**	**21 58 17.2**	**-0.1**
CUKT	**Cukurca**	**1.46**	**168**	*i* P	**Pn**	**21 58 16.7**	**+0.4**
CUKT				*i* S	**Sg**	**21 58 37.9**	**+0.2**
CUKT	**Cukurca**	**1.46**	**168**	P	**Pn**	**21 58 16.7**	**+0.4**
CUKT	**Cukurca**	**1.46**	**168**	*e*Pn	**Pb**	**21 58 17.2**	**-0.1**
CUKT				S	**Sg**	**21 58 37.9**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	*e*PN	**Pb**	**21 58 18.5**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	*e*Pn	**Pb**	**21 58 18.5**	**+0.1**
BNGL	**BINGOL**	**1.63**	**280**	*i* P	**Pb**	**21 58 20.4**	**+0.1**
BNGL				*i* S	**Sg**	**21 58 41.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*PN	**Pb**	**21 58 20.7**	**-0.1**
**

QUBA	Quba, Azerbaij	4.86	55	P	Pn	21 59 03.2 +0.4
ATGJ	Altiaghaj	4.92	62	⇑P	Pn	21 59 04.1 +0.3
ATGJ	Altiaghaj	4.92	62	P	Pn	21 59 04.1 +0.3
SVSK	Karacayir	4.98	286	*e*PN	Pn	21 59 07.9 +3.5
SVSK	Karacayir	4.98	286	*e*Pn	Pn	21 59 07.9 +3.5
SIZA	Siyzn	4.99	60	⇓P	Pn	21 59 05.2 +0.5
SIZA	Siyzn	4.99	60	P	Pn	21 59 05.2 +0.5
KMRS	Kahramanmaras	5.12	259	*e*PN	Pn	21 59 09.7 +3.3
KMRS	Kahramanmaras	5.12	259	*e*Pn	Pn	21 59 09.7 +3.3
GOBA	Gobu	5.33	69	⇓P	Pn	21 59 09.9 +0.7
GOBA	Gobu	5.33	69	P	Pn	21 59 09.9 +0.7

ISCJB ***31*** *21:58:13.7±0.6, 32.°57N±0.°01×105.°28E±0.°02, h8km±3km, mb5.5/375, MS4.8/137, Error ellipse: s-maj=2.4km s-min=2.1km az=171.7*
IDC ***31*** *21:58:13.9±0.3, 32.°51N×105.°36E, h0km, mb5.4/58, mb1 5.4/62, mb1mx5.4/67, mbtmp5.3/62, ML4.3/4, MS4.5/24, Ms1 4.5/24, ms1mx4.3/42, Error ellipse: s-maj=9.0km s-min=7.0km az=179.0*
BJI ***31*** *21:58:15.0, 32.°60N×105.°30E, h6km, mb5.3/50, mB5.2/31, ML5.5/27, Ms5.2/57, Ms7 4.9/64*
MOS ***31*** *21:58:17.2±0.8, 32.°50N×105.°35E, h35km, mb5.8/134, MS4.7/49, Error ellipse: s-maj=5.1km s-min=3.2km az=116.2*
NEIC ***31*** *21:58:19.6±0.4, 32.°53N×105.°32E, h40km±3km, mb5.6/217, MS4.7/89, Error ellipse: s-maj=2.7km s-min=2.4km az=223.0*
NEIC Felt [II] at Chengdu and Mianyang. Also felt at Daxian, Lanzhou, Longnanzhai, Wenxing and Xi'an.
GCMT ***31*** *21:58:19.5±0.2, 32.°49N×105.°36E, h25km, MW5.0/97, Moment Tensor Solution. s78,c97; s97,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.37±.13; $M_{\theta\theta}$-3.12±.09; $M_{\phi\phi}$-1.25±.09; $M_{r\theta}$0.94±.17; $M_{\theta\phi}$-1.11±.07; $M_{\phi r}$-1.07±.23; Best double couple: $M_0$4.19500×10^{16} NP1:ϕ_s79.00000°, δ50.00000°, λ108.00000°. NP2: ϕ_s232.00000°, δ44.00000°, λ70.00000°. Principal axes: T 4.7320, Plg76.0000°, Azm54.0000°; N -1.0730, Plg14.0000°, Azm247.0000°; P -3.6580, Plg3.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 31 21:58:16.3±0.4, 32.°57N±0.°02×105.°33E±0.°02, h16km±2km, n1204, σ1943/1299, mb5.7/407, MS4.7/137, 143C-16D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.12**	**219**	⇑*i*Pn	**Pn**	**21 58 51.5**	**+0.4**
CD2				Pg	**Pg**	**21 58 55.5**	**-1.6**
CD2				Sn	**Sn**	**21 59 15.0**	**-2.2**
CD2				Sg	**Sg**	**21 59 23.5**	**-1.1**
CD2				smax	smax		
	comp=N,52μm,0.6s						
CD2				smax	smax		
	comp=E,44μm,0.8s						
CD2	**Chengdu**	**2.12**	**219**	⇑*i*Pn	**Pn**	**21 58 51.5**	**+0.4**
CD2				Pg	**Pg**	**21 58 55.5**	**-1.6**
CD2				Sn	**Sn**	**21 59 15.0**	**-2.2**
CD2				Sg	**Sg**	**21 59 23.5**	**-1.1**
XAN	**Xi'an**	**3.35**	**63**	Pn	**Pn**	**21 59 09.8**	**+1.8**
XAN				Pg	**Pb**	**21 59 16.5**	**+1.1**
XAN				Sn	**Sn**	**21 59 49.5**	**+2.0**
XAN				Sg	**Sg**	**22 00 00.8**	**-3.2**
XAN				smax	smax		
	comp=N,19μm,0.7s						
XAN				smax	smax		
	comp=E,13μm,0.7s						
XAN				LR	LR		
	comp=N,14μm,5.8s						
XAN				LR	LR		
	comp=E,22μm,6.1s						
XAN				LR	LR		
	comp=Z,31μm,7.2s						
XAN	**Xi'an**	**3.35**	**63**	P	**Pn**	**21 59 09.8**	**+1.8**
XAN						21 59 49.5	
XAN	**Xi'an**	**3.35**	**63**	Pn	**Pn**	**21 59 09.8**	**+1.8**
XAN				Pg	**Pb**	**21 59 16.5**	**+1.1**
XAN				Sn	**Sn**	**21 59 49.5**	**+2.0**
XAN				Sg	**Sg**	**22 00 00.8**	**-3.2**
LZH	**Lanzhou**	**3.72**	**341**	Pn	**Pn**	**21 59 16.5**	**+3.3**
LZH				Sg	**Sg**	**22 00 13.5**	**-2.3**
LZH				smax	smax		
	comp=N,25μm,0.8s						
LZH				smax	smax		
	comp=E,44μm,1.0s						
LZH				LR	LR		
	comp=N,60μm,6.1s						
LZH				LR	LR		
	comp=E,42μm,4.6s						
LZH				LR	LR		
	comp=Z,87μm,7.4s						
LZH	**Lanzhou**	**3.72**	**341**	P	**Pn**	**21 59 16.5**	**+3.3**
LZH	**Lanzhou**	**3.72**	**341**	Pn	**Pn**	**21 59 16.5**	**+3.3**
LZH				Sg	**Sg**	**22 00 13.5**	**-2.3**
ENH	**Enshi**	**4.23**	**122**	*e*Pn	**Pn**	**21 59 22.6**	**+2.5**
ENH				*e*Sn	Sn	22 00 00.6	-8.6
GYA	**Guiyang**	**6.20**	**169**	⇓*i*Pn	**Pn**	**21 59 47.8**	**+0.6**
GYA				Sn	**Sn**	**22 00 57.8**	**0.0**
GYA				Sg	**Sg**	**22 01 32.5**	**-2.7**
GYA				smax	smax		
	comp=N,4μm,0.8s						
GYA				smax	smax		
	comp=E,3μm,0.8s						
GYA				LR	LR		
	comp=N,10μm,10.3s						
GYA				LR	LR		
	comp=E,4μm,8.0s						
GYA				LR	LR		
	comp=Z,13μm,13.1s						
GYA	**Guiyang**	**6.20**	**169**	⇓*i*Pn	**Pn**	**21 59 47.8**	**+0.6**
GYA				Sn	**Sn**	**22 00 57.8**	**0.0**
GYA				Sg	**Sg**	**22 01 32.5**	**-2.7**
KMI	**Kunming**	**7.75**	**198**	Pn	**Pn**	**22 00 09.0**	**+0.3**
TIY	**Taiyuan**	**7.76**	**47**	Pn	**Pn**	**22 00 09.0**	**+0.3**
TIY				smax	smax		
	comp=N,4μm,0.8s						
TIY				smax	smax		
	comp=E,4μm,1.0s						
WHN	**Wuhan**	**7.96**	**102**	P	**Pn**	**22 00 11.0**	**-0.3**
WHN				S	**Sn**	**22 01 37.8**	**-3.2**
WHN				LR	LR		
	comp=N,39μm,8.6s						
WHN				LR	LR		
	comp=E,20μm,8.6s						
WHN				LR	LR		
	comp=Z,12μm,4.8s						
GTA	**Gaotai**	**8.16**	**328**	⇑P	**Pn**	**22 00 15.0**	**+0.8**
GTA				pP	Pb	22 00 18.3	-19
GTA				sP		22 00 21.3	
GTA				S	**Sn**	**22 01 47.0**	**+0.9**
GTA				sS	Sb	22 01 51.5	-23
GTA				pmax	pmax		
	comp=Z,120nm,0.7s						
GTA				pmax	pmax		
	comp=Z,150nm,4.5s						
GTA				LR	LR		
	comp=N,16μm,10.2s						
GTA				LR	LR		
	comp=E,9μm,9.5s						
GTA				LR	LR		
	comp=Z,18μm,10.7s						
HHC	**Hu-ho-hao-te**	**9.66**	**29**	*e*P	**Pn**	**22 00 35.8**	**+1.0**
HHC				sP		22 00 41.5	
HHC				S	**Sn**	**22 02 26.5**	**+3.5**
HHC				sS		22 02 32.5	
HHC				pmax	pmax		
	comp=Z,73nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,5.9s						
HHC				LR	LR		
	comp=N,10μm,11.1s						
HHC				LR	LR		
	comp=E,7μm,9.9s						
HHC				LR	LR		
	comp=Z,9μm,11.4s						
NJ2	**Nanjing**	**11.46**	**89**	*e*P	**Pn**	**22 00 59.8**	**+0.5**
NJ2				S	Sn	22 03 17.8	+11
NJ2				pmax	pmax		
	comp=Z,38nm,0.6s						
NJ2				LR	LR		
	comp=N,3μm,7.5s						
NJ2				LR	LR		
	comp=E,9μm,10.9s						
NJ2				LR	LR		
	comp=Z,8μm,10.8s						
BJT	**Baijiatuau**	**11.48**	**47**	*e*P	**Pn**	**22 01 00.3**	**+0.8**
BJT	**Baijiatuau**	**11.48**	**47**	*e*Pn	**Pn**	**22 01 00.3**	**+0.8**
BJI	**Beijing**	**11.49**	**46**	P	**Pn**	**22 01 00.5**	**+0.8**
BJI				pmax	pmax		
	comp=Z,43nm,0.9s						
BJI				pmax	pmax		
	comp=Z,120nm,4.5s						
LSA	**Lhasa**	**12.47**	**261**	P	**Pn**	**22 01 14.3**	**+0.7**
LSA				S	**Sn**	**22 03 35.3**	**+2.8**
LSA				pmax	pmax		
	comp=Z,14nm,1.4s						
LSA				LR	LR		
	comp=Z,3μm,13.2s						
LSA	**Lhasa**	**12.47**	**261**	*e*P	**Pn**	**22 01 15.0**	**+1.4**
LSA	**Lhasa**	**12.47**	**261**	*e*Pn	**Pn**	**22 01 15.0**	**+1.4**
SSE	**Sheshan**	**13.57**	**92**	P	**Pn**	**22 01 28.0**	**-0.1**
SSE				S	**Sn**	**22 04 01.3**	**+2.8**
SSE				pmax	pmax		
	comp=Z,30nm,0.6s						
SSE				pmax	pmax		
	comp=Z,120nm,4.1s						
SSE				LR	LR		
	comp=N,1μm,10.2s						
SSE				LR	LR		
	comp=E,4μm,10.2s						
SSE				LR	LR		
	comp=Z,5μm,11.7s						
CMAI	**Chiengmai2**	**13.78**	**206**	P	**Pn**	**22 01 32.8**	**+1.6**
	433nm,0.8s,93μm						
QZH	**Quanzhou**	**13.89**	**120**	P	**P**	**22 01 37.3**	**-3.3**
QZH				S	**Sn**	**22 04 11.8**	**+5.5**
QZH				LR	LR		
	comp=N,11μm,11.6s						
QZH				LR	LR		
	comp=E,11μm,8.0s						
QZH				LR	LR		
	comp=Z,22μm,11.8s						
QIZ	**Qiongzhong**	**14.08**	**162**	P	**Pn**	**22 01 37.0**	**+1.9**
QIZ				S	**Sn**	**22 04 15.5**	**+4.5**
QIZ				pmax	pmax		
	comp=Z,55nm,1.1s						
QIZ				LR	LR		
	comp=N,10μm,8.8s						
QIZ				LR	LR		
	comp=E,3μm,10.0s						
QIZ				LR	LR		
	comp=Z,14μm,9.5s						
QIZ	**Qiongzhong**	**14.08**	**162**	*e*Pn	**Pn**	**22 01 34.8**	**-0.3**
QIZ				*e*Sn	Sn	22 03 51.6	-19
NONG	**Nongkai**	**14.57**	**188**	P	**P**	**22 01 49.4**	**+1.1**
	266nm,0.9s,7μm						
DL2	**Dalian**	**14.67**	**60**	⇑*i*P	**Pn**	**22 01 45.5**	**+2.4**
DL2				S	**Sn**	**22 04 33.5**	**+8.3**
DL2				pmax	pmax		
	comp=Z,110nm,1.2s						
DL2				pmax	pmax		
	comp=Z,490nm,4.2s						
DL2				LR	LR		
	comp=N,3μm,14.5s						
DL2				LR	LR		
	comp=E,3μm,15.5s						
DL2				LR	LR		
	comp=Z,5μm,15.7s						
CHTO	**Chiang Mai**	**14.85**	**204**	P	**Pn**	**22 01 46.0**	**+0.4**
	312nm,1.2s,3μm						
CHTO	**Chiang Mai**	**14.85**	**204**	*e*P	**Pn**	**22 01 45.8**	**+0.2**
CHTO	**Chiang Mai**	**14.85**	**204**	*e*Pn	**Pn**	**22 01 45.8**	**+0.2**
CHTO	**Chiang Mai**	**14.85**	**204**	P	**Pn**	**22 01 46.0**	**+0.4**
	SNR=29						
CHTO	**Chiang Mai**	**14.85**	**204**	Pn	**Pn**	**22 01 46.0**	**+0.4**
	SNR=29						
LAMP	**Lampang**	**14.89**	**201**	P	**Pn**	**22 01 46.9**	**+0.7**
	62nm,1.0s,462nm						
CM31	**Chiang Mai Arr**	**15.18**	**204**	*e*Pn	**Pn**	**22 01 50.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**15.18**	**204**	Pn	**Pn**	**22 01 50.0**	**-0.1**
	0.5nm,0.3s,baz=15,slow=11,SNR=81						
CMAR				Lg	Lg	22 06 19.8	
	0.5nm,0.3s,baz=11,slow=25,SNR=5.5						
CMAR				PcP	**PcP**	**22 06 56.8**	**+0.3**
	0.5nm,0.3s,baz=290,slow=1.3,SNR=8.5						
CMAR				LR	LR	22 08 25.7	
	comp=Z,2μm,20.8s,baz=14,slow=40						
CMAR				ScP	**ScP**	**22 10 30.4**	**+0.6**
	0.1nm,0.3s,baz=317,slow=2.1,SNR=13						
CMAR				PKiKP	**PKiKP**	**22 14 50.2**	**-1.2**
	0.0nm,0.3s,baz=305,slow=1.2,SNR=4.9						
CMAR	**Chiang Mai Arr**	**15.18**	**204**	P	**Pn**	**22 01 50.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,20.8s						
SONM	**Songino Array**	**15.27**	**3**	Pn	**Pn**	**22 01 51.7**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=184,slow=13,SNR=161						
SONM				Sn	**S**	**22 04 49.1**	**-7.6**
	comp=Z,1.0nm,0.3s,baz=208,slow=28,SNR=3.0						
SONM				Lg	Lg	22 06 18.8	
	comp=Z,1.3nm,0.3s,baz=182,slow=32,SNR=3.8						
SONM				LR	LR	22 08 15.0	
	comp=Z,5μm,18.1s,baz=186,slow=39						
ULN	**Ulaanbaatar**	**15.34**	**4**	*c i*P	**Pn**	**22 01 52.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,65nm,1.0s						
ULN	**Ulaanbaatar**	**15.34**	**4**	*e*Pn	**Pn**	**22 01 52.1**	**-0.1**
	comp=Z,244nm,0.9s						
ULN	**Ulaanbaatar**	**15.34**	**4**	P	**Pn**	**22 01 53.3**	**+1.1**
	SNR=82						
ULN	**Ulaanbaatar**	**15.34**	**4**	Pn	**Pn**	**22 01 53.3**	**+1.1**
	SNR=82						
PANO	**Nakornpanom**	**15.36**	**183**	P	**Pn**	**22 01 55.1**	**+2.6**
	comp=Z,141nm,0.8s						
UTTA	**Uttaradit**	**15.37**	**197**	P	**Pn**	**22 01 53.5**	**+0.9**
	comp=Z,26nm,0.9s,comp=Z,203nm						
TATO	**Taipei**	**16.05**	**114**	*e*Pn	**Pn**	**22 02 03.1**	**+1.7**
	comp=Z,244nm,1.0s						
TAPN	**Taplejung**	**16.12**	**256**	*e*P	**Pn**	**22 02 01.8**	**-0.8**
	comp=Z,348nm,0.8s						
YHNB	**Yeheng**	**16.13**	**115**	*e*Pn	**P**	**22 02 05.3**	**-0.4**
	comp=Z,235nm,1.1s						
SSLB	**Suanglung**	**16.31**	**118**	*e*Pn	**P**	**22 02 07.2**	**-0.4**
	comp=Z,209nm,1.1s						
KHON	**Khomkaen**	**16.32**	**189**	P	**Pn**	**22 02 06.5**	**+1.7**
	comp=Z,53nm,0.9s,comp=Z,645nm						
TPUB	**Ta-pu**	**16.36**	**120**	*e*Pn	**Pn**	**22 02 05.6**	**+0.3**
	comp=Z,95nm,1.1s						
PBKT	**Sadao Pong**	**16.41**	**195**	P	**Pn**	**22 02 07.2**	**+1.3**
	comp=Z,82nm,0.8s,comp=Z,1μm						
NACB	**Ninganchiao**	**16.57**	**116**	*e*Pn	**Pn**	**22 02 09.6**	**+1.6**
	comp=Z,283nm,1.4s						
ODAN	**Odare**	**16.58**	**255**	*e*P	**Pn**	**22 02 07.0**	**-1.3**
	comp=Z,258nm,0.8s						
YULB	**Yu-li**	**16.79**	**119**	*e*Pn	**Pn**	**22 02 11.8**	**+0.9**
	comp=Z,61nm,0.8s						
TWG	**Pinlang**	**16.97**	**121**	*e*Pn	**P**	**22 02 14.7**	**-0.3**
	comp=Z,238nm,0.7s						
RAMN	**Ramite**	**17.19**	**256**	*e*P	**Pn**	**22 02 13.9**	**-2.1**
	comp=Z,559nm,1.0s						
SNY	**Shenyang**	**17.20**	**52**	⇓P	**P**	**22 02 18.0**	**+0.6**
SNY				S	**S**	**22 05 34.3**	**-1.6**
SNY				pmax	pmax		
	comp=Z,2μm,1.4s						
SNY				pmax	pmax		
	comp=Z,2μm,9.8s						
SNY				LR	LR		
	comp=Z,4μm,14.1s						
SNY				LR	LR		
	comp=Z,7μm,20.4s						
SNY				LR	LR		
	comp=Z,3μm,20.6s						
UBPT	**Khong Chiam**	**17.21**	**180**	P	**P**	**22 02 19.6**	**+2.0**
	comp=Z,138nm,1.4s						
JIRN	**Jiri**	**17.26**	**259**	*e*P	**Pn**	**22 02 15.6**	**-1.4**
GUN	**Gumba**	**17.43**	**260**	*e*P	**Pn**	**22 02 18.3**	**-0.8**
	comp=Z,529nm,0.8s						
UTHA	**Uthaitani**	**17.75**	**199**	P	**P**	**22 02 23.8**	**+0.2**
	comp=Z,32nm,1.2s,comp=Z,248nm						
WMQ	**Urumqi**	**17.80**	**314**	P	**P**	**22 02 24.8**	**+0.7**
WMQ				pP	sP	22 02 27.0	-3.8
WMQ				sP	pP	22 02 29.8	+1.1
WMQ				S	**Sn**	**22 05 37.0**	**-4.4**
WMQ				sS	sS	22 05 50.8	-4.7
WMQ				pmax	pmax		
	comp=Z,57nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,700nm,4.3s						
WMQ				LR	LR		
	comp=Z,5μm,11.5s						
WMQ				LR	LR		
	comp=Z,4μm,13.9s						
WMQ				LR	LR		
	comp=Z,2μm,12.7s						
ZAK	**Zakamensk**	**17.87**	**356**	*e*P	**P**	**22 02 26.2**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,43nm,1.3s						
PKI	**Pulchoki**	**17.94**	**259**	*e*P	**Pn**	**22 02 23.7**	**-1.7**
	comp=Z,191nm,0.6s						
PKIN	**Phulchoki**	**17.94**	**259**	*e*P	**Pn**	**22 02 24.4**	**-1.0**
	comp=Z,384nm,0.7s						
KKN	**Kakani**	**17.97**	**260**	*e*P	**Pn**	**22 02 23.9**	**-1.8**
	comp=Z,391nm,0.8s						
INCN	**Inchon**	**18.12**	**68**	*e*Pn	**Pn**	**22 02 26.3**	**-1.0**
	comp=Z,83nm,0.8s						
DMN	**Daman**	**18.17**	**260**	*e*P	**Pn**	**22 02 26.6**	**-1.6**
	comp=Z,298nm,0.7s						
GKN	**Gorkha**	**18.43**	**261**	*e*P	**Pn**	**22 02 29.5**	**-1.8**
	comp=Z,353nm,0.6s						
NAYO	**Nakonayok**	**18.53**	**192**	P	**Pn**	**22 02 32.8**	**+0.4**
	comp=Z,302nm,1.1s						
TJN	**Taejon**	**18.56**	**72**	*c i*P	**P**	**22 02 32.6**	**+0.3**
SRAK	**Srakaew**	**18.71**	**190**	P	**Pn**	**22 02 35.4**	**+0.9**
	comp=Z,135nm,0.8s,comp=Z,1μm						
SRDT	**SRDT**	**19.00**	**199**	P	**Pn**	**22 02 38.1**	**+0.1**
	comp=Z,350nm,1.3s,comp=Z,5μm						
DANN	**Dangsing**	**19.05**	**263**	*e*P	**P**	**22 02 37.5**	**-0.7**
KS15	**Wonju Array Si**	**19.10**	**69**	*e*P	**Pn**	**22 02 39.7**	**+0.6**
KSAR	**Wonju Array Be**	**19.10**	**69**	P	**Pn**	**22 02 39.6**	**+0.5**
KSAR				S	**S**	**22 06 15.7**	**+1.4**
KSAR	**Wonju Array Be**	**19.10**	**69**	P	**Pn**	**22 02 39.5**	**+0.5**
KSAR				S	**S**	**22 06 15.7**	**+1.4**
KSAR				Lg	Lg	22 08 20.0	
KSRS	**Korea Array**	**19.13**	**69**	P	**Pn**	**22 02 39.5**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=255,slow=10,SNR=109						
KSRS				S	**S**	**22 06 15.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=91,slow=28,SNR=2.0						
KSRS				Lg	Lg	22 08 20.0	
	comp=Z,0.2nm,0.3s,baz=260,slow=27,SNR=3.3						
KSRS				LR	LR	22 10 45.2	
	comp=Z,791nm,21.9s,baz=270,slow=39						
TLY	**Talaya**	**19.14**	**357**	P	**Pn**	**22 02 40.7**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=176,slow=13,SNR=6.4						
TLY				PcP	**PcP**	**22 07 03.2**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=156,slow=6.4,SNR=3.7						
TLY				Lg	Lg	22 08 24.1	
	comp=Z,0.0nm,0.3s,baz=246,slow=20,SNR=3.1						
TLY				LR	LR	22 10 34.1	
	comp=Z,3μm,19.1s,baz=165,slow=39						
TLY	**Talaya**	**19.14**	**357**	*e*P	**Pn**	**22 02 41.2**	**+1.6**
TLY				*e*S	**S**	**22 06 18.2**	**+3.1**
TLY				pmax	pmax		
	comp=Z,38nm,0.5s						
TLY				MLR	MLR		
	comp=Z,3μm,11.0s						
CN2	**Changchun**	**19.34**	**49**	⇑P	**Pn**	**22 02 43.0**	**+1.0**
CN2				*e*pP	sP	22 02 49.3	+1.7
CN2				*e*S	**Sn**	**22 06 15.0**	**-3.5**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
MOY	**Mondy**	**19.35**	**352**	*e*P	**Pn**	**22 02 44.2**	**+2.0**
MOY				*e*		22 06 20.3	
MOY				pmax	pmax		
	comp=Z,175nm,2.9s						
KOLN	**Koldanda**	**19.37**	**261**	*e*P	**P**	**22 02 40.8**	**-0.8**
	comp=Z,524nm,0.8s						
IRK	**Irkutsk**	**19.68**	**358**	*e*P	**Pn**	**22 02 47.5**	**+1.5**
IRK				pmax	pmax		
	comp=Z,430nm,0.8s						
PYUN	**Piuthan**	**19.78**	**263**	*e*P	**P**	**22 02 46.3**	**+0.3**
	comp=Z,1μm,0.9s						
HIA	**Hailar**	**19.87**	**29**	*e*P	**Pn**	**22 02 48.6**	**+0.3**
HIA				pmax	pmax		
	comp=Z,214nm,0.7s						
HIA	**Hailar**	**19.87**	**29**	*e*P	**Pn**	**22 02 48.6**	**+0.3**
	comp=Z,214nm,0.7s						
PATY	**Pattaya**	**19.97**	**193**	P	Pn	22 02 50.1	+0.4
	comp=Z,35nm,0.9s,comp=Z,587nm						
PHET	**Kaeng Krachan**	**20.25**	**196**	P	**P**	**22 02 52.3**	**+1.4**
	comp=Z,67nm,0.8s,comp=Z,498nm						
CIT	**Chita**	**20.35**	**15**	*e*P	Pn	22 02 54.2	+0.3
CIT				*e*		22 03 03.8	
CIT				*e*		22 03 24.2	
CIT				pmax	pmax		
	comp=Z,306nm,1.0s						
JOW	**Kunigami**	**20.72**	**100**	*e*P	**P**	**22 02 56.1**	**+0.1**
	comp=Z,183nm,1.1s						
JOW				LR	LR		
	comp=Z,1μm,20.0s						
BWNR	**Bhubaneshwar**	**21.28**	**240**	*e*P	**P**	**22 02 59.5**	**-2.6**
BWNR				AMB	AMB	22 03 07.9	
	comp=Z,146nm,1.9s						
JNU	**Nakatsue**	**21.47**	**82**	*e*P	**P**	**22 03 04.3**	**+0.2**
	comp=Z,37nm,0.8s						
PTH	**Pithoragarh**	**21.70**	**269**	*e*P	**P**	**22 03 06.9**	**+0.1**
JOSI	**Joshimath**	**22.03**	**272**	*e*P	**P**	**22 03 10.8**	**+0.4**
JOSI				AMB	AMB	22 03 14.3	
	comp=Z,5μm,1.4s						
MDJ	**Mudanjiang**	**22.37**	**50**	P	**P**	**22 03 15.0**	**+1.3**
MDJ				pP	sP	22 03 17.8	-2.6
MDJ				sP	pP	22 03 19.0	+0.7
MDJ				S	**S**	**22 07 21.0**	**+2.2**
MDJ				ScS	**ScS**	**22 14 31.5**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,95nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,340nm,5.5s						
MDJ	**Mudanjiang**	**22.37**	**50**	*e*P	**P**	**22 03 14.9**	**+1.3**
	comp=Z,78nm,0.8s						
MDJ				LR	LR		
	comp=Z,1μm,20.0s						
MK31	**Makanchi Array**	**22.61**	**316**	*e*P	**P**	**22 03 17.2**	**+1.0**
MK31				*e*		22 07 10.0	
MK31	**Makanchi Array**	**22.61**	**316**	*e*P	**P**	**22 03 17.2**	**+1.0**
MK31				*e*PcP	**PcP**	**22 07 10.0**	**+1.1**
MKAR	**Makanchi Array**	**22.61**	**316**	P	**P**	**22 03 17.0**	**+0.7**
	comp=Z,185nm,0.8s,baz=119,slow=12,SNR=177						
MKAR				PcP	**PcP**	**22 07 09.3**	**+0.4**
	comp=Z,13nm,0.9s,baz=114,slow=3.5,SNR=5.2						
MKAR				S	**S**	**22 07 23.5**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=115,slow=13,SNR=2.6						
MKAR				Lg	Lg	22 10 24.3	
	comp=Z,2.0nm,1.1s,baz=107,slow=34,SNR=2.3						
MKAR				LR	LR	22 12 49.3	
	comp=Z,2μm,20.7s,baz=124,slow=39						
MKAR	**Makanchi Array**	**22.61**	**316**	*e*P	**P**	**22 03 17.2**	**+1.0**
MKAR				*e*		22 07 09.9	
MKAR				S	**S**	**22 07 23.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1μm,0.8s						
MKAR	**Makanchi Array**	**22.61**	**316**	*e*P	**P**	**22 03 17.2**	**+1.0**
	comp=Z,1μm,0.8s						
MKAR				*e*PcP	**PcP**	**22 07 09.9**	**+1.0**
MKAR				S	**S**	**22 07 23.5**	**+0.2**
MKAR				Lg	Lg	22 10 24.3	
MAKZ	**Makanchi**	**22.80**	**315**	*e*P	**P**	**22 03 19.4**	**+1.1**
MAKZ				*e*		22 07 09.7	
MAKZ				pmax	pmax		
	comp=Z,271nm,1.4s						
MAKZ				MLR	MLR		
	comp=Z,4μm,18.0s						
MAKZ	**Makanchi**	**22.80**	**315**	*e*P	**P**	**22 03 19.4**	**+1.1**
	comp=Z,271nm,1.4s						
MAKZ				*e*PcP	**PcP**	**22 07 09.7**	**+0.4**
MAKZ				LR	LR		
	comp=Z,4μm,18.0s						
SHLS	**Shalkode**	**22.91**	**305**	*i* P	**P**	**22 03 15.4**	**-4

comp=Z,34nm,0.9s
SATY Saty 23.61 304 *i* P **P 22 03 25.3 -1.3**
comp=Z,2μm,1.5s
ZHN Zhinishke 23.63 304 *e*P **P 22 03 25.8 -0.9**
comp=Z,2μm,0.9s
CHLP Challavanipeta 23.69 239 *e*P **P 22 03 28.0 +0.7**
CHLP IAmb IAmb 22 03 37.1
comp=Z,29nm,0.8s
CHLP *e*S **S 22 07 41.9 +0.1**
CHLP IVMs_BB IVMs_BB 22 14 00.5
comp=Z,247nm,8.5s
USRK Ussuriysk Ar. 23.80 53 P **P 22 03 28.4 +0.2**
comp=Z,28nm,0.9s,baz=251,slow=9.8,SNR=63
USRK S **S 22 07 45.8 +2.6**
comp=Z,2.3nm,0.8s,baz=250,slow=17,SNR=2.9
USRK Lg Lg 22 10 47.0
comp=Z,2.4nm,0.8s,baz=253,slow=24,SNR=4.5
USRK LR LR 22 13 26.7
comp=Z,928nm,18.8s,baz=261,slow=38
SDNR Sundarnagar 24.04 275 *e*P **P 22 03 32.0 +1.4**
JBP Jabalpur 24.23 254⇑ *e*P **P 22 03 33.4 +1.0**
JBP AMB AMB 22 03 35.6
comp=Z,625nm,0.3s
JBP *e*x x 22 07 47.7
SURT Suratani 24.26 196 P **P 22 03 33.1 +0.4**
comp=Z,36nm,0.9s,comp=Z,498nm
NDI New Delhi 24.46 268 *e*P **P 22 03 33.0 -1.6**
KKR Kurukshetra 24.47 272 *e*P **P 22 03 33.8 -0.9**
KKR AMB AMB 22 03 34.3
comp=Z,247nm,2.1s
JWA Jwalamukhi 24.51 276 *e*P **P 22 03 34.0 -0.9**
MDOK Medeo 24.59 304 *i* P **P 22 03 34.6 -1.3**
comp=Z,2μm,0.8s
MDOK *e*S **S 22 07 54.6 -1.7**
MDOK LRM MLR 22 14 10.0
comp=Z,414nm,11.6s
KSH Kashi 24.66 295 P **P 22 03 40.8 +4.4**
KSH pP sP 22 03 45.0 +1.6
KSH sP pP 22 03 48.0 +6.7
KSH PP **PnPn 22 04 17.0 +9.0**
KSH PcP **PcP 22 07 18.8 +5.3**
KSH S **S 22 08 00.3 +3.0**
KSH sS sS 22 08 07.5 +2.0
KSH SS **SnSn 22 08 57.3 +14**
KSH PcS **PcS 22 10 57.3 +3.7**
KSH pmax pmax
comp=Z,290nm,0.9s
KSH pmax pmax
comp=Z,360nm,5.3s
KSH LR LR
comp=Z,1μm,11.9s
KSH LR LR
comp=Z,2μm,11.5s
KSH LR LR
comp=Z,3μm,13.9s
KRAB Krabi 24.88 195 P **P 22 03 38.6 +0.2**
comp=Z,105nm,0.8s,comp=Z,782nm
TRTT Trang 25.16 193 P **P 22 03 42.1 +1.3**
comp=Z,49nm,1.0s,comp=Z,597nm
KUDL Kundal 25.23 268 *e*P **P 22 03 39.4 -2.1**
KUDL AMB AMB 22 03 40.9
comp=Z,96nm,0.8s
KUU Kurty 25.30 305 *i* P **P 22 03 40.5 -1.5**
comp=Z,457nm,1.4s
KUU *i* S **S 22 08 05.9 -1.3**
KUU LR LR 22 13 36.0
comp=Z,294nm,11.3s
PKDT Phuket 25.39 196 P **P 22 03 47.2 +4.2**
comp=Z,69nm,1.0s
SKLT Songkhla 25.64 191 P **P 22 03 49.5 +4.2**
comp=Z,90nm,0.9s,comp=Z,862nm
SEM Semipalatinsk 25.70 321 *i* P **P 22 03 44.5 -1.3**
comp=Z,2μm,0.9s
SEM *i* S **S 22 08 12.3 -1.6**
SEM LR LR 22 13 30.5
comp=Z,771nm,11.8s
KLR Kul'dur 25.81 42 P **P 22 03 46.9 +0.4**
comp=Z,7.9nm,0.7s,baz=261,slow=10.0,SNR=45
KLR S S 22 08 26.4 +11
comp=Z,0.2nm,0.8s,baz=139,slow=19,SNR=1.6
KLR Lg Lg 22 11 51.3
comp=Z,0.2nm,0.9s,baz=304,slow=14,SNR=4.0
KLR LR LR 22 15 26.9
comp=Z,70nm,18.1s,baz=238,slow=40
ZAA0 Zalesovo Array 25.89 332 *e*P **P 22 03 48.0 +0.7**
ZALV Zalesovo Beam 25.89 332 P **P 22 03 48.0 +0.7**
comp=Z,84nm,0.7s,baz=134,slow=9.3,SNR=336
ZALV PcP **PcP 22 07 15.1 -0.8**
comp=Z,6.6nm,0.6s,baz=153,slow=1.0,SNR=3.8
ZALV LR LR 22 14 19.4
comp=Z,1μm,19.6s,baz=97,slow=37
ZALV Zalesovo Beam 25.89 332 P **P 22 03 48.0 +0.7**
ZALV 22 07 15.1
ZALV pmax pmax
comp=Z,85nm,0.7s
ZALV MLR MLR
comp=Z,1μm,19.6s
BOD Bodaibo 25.94 11 *e*P **P 22 03 49.5 +1.9**
BOD pmax pmax
comp=Z,163nm,1.1s
NGP Nagpur 25.98 251 *e*P **P 22 03 48.2 -0.1**
NGP AMB AMB 22 03 56.5
comp=Z,86nm,0.4s
NGP *e*x x 22 04 12.7
FRU Bishkek 26.24 302 *e*P **P 22 03 51.0 +0.4**
FRU *e* 22 04 33.0
FRU *e*S S 22 08 12.0 -10
FRU pmax pmax
comp=Z,170nm,2.2s
FRU smax smax
comp=N,50nm,2.0s
FRU MLR MLR
comp=Z,2μm,13.0s
PVM Polavaram 26.27 240 *e*P **P 22 03 50.9 0.0**
PVM IAML 22 03 59.1
comp=Z,744μm,0.8s
PVM *e*S **S 22 08 22.7 -0.3**
PVM IVMs_BB IVMs_BB 22 14 58.0
comp=Z,291nm,9.4s
AAK Ala-Archa 26.29 301 P **P 22 03 52.2 +1.1**
comp=Z,36nm,0.8s,baz=101,slow=6.3,SNR=33
AAK Ala-Archa 26.29 301 *c i* P **P 22 03 52.7 +1.5**
AAK pmax pmax
comp=Z,115nm,1.0s
AAK Ala-Archa 26.29 301 *e*P **P 22 03 52.9 +1.7**
comp=Z,45nm,0.8s
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 26.29 301 P **P 22 03 53.1 +1.9**
SNR=27
AAK Ala-Archa 26.29 301 P **P 22 03 53.1 +1.9**
SNR=27
INU Inuyama 26.38 75 PFAKE 22 04 00.0 +8.2
INU LR LR
comp=Z,1μm,18.0s
SFK Sufi-Kurgan 26.61 295 P **P 22 03 55.7 +1.6**
SFK pmax pmax
comp=Z,98nm,0.9s
KURBB Kurchatov Arra 26.74 320 P **P 22 03 55.8 +0.9**
comp=Z,86nm,0.8s,baz=130,slow=8.9,SNR=391
KURBB PcP **PcP 22 07 17.8 0.0**
comp=Z,18nm,0.7s,baz=116,slow=1.9,SNR=7.5
KURBB S S 22 08 43.9 +14
comp=Z,0.7nm,0.3s,baz=120,slow=20,SNR=2.4
KURBB Lg Lg 22 12 33.5
comp=Z,1.0nm,0.3s,baz=112,slow=24,SNR=3.7
KURK Kurchatov 26.74 321 *e*P **P 22 03 56.0 +1.1**
KURK *e* 22 07 18.2
KURK pmax pmax
comp=Z,137nm,0.8s
KURK MLR MLR
comp=Z,2μm,18.0s
KURK Kurchatov 26.74 321 *e*P **P 22 03 56.0 +1.1**
comp=Z,137nm,0.8s
KURK *e*PcP **PcP 22 07 18.2 +0.4**
KURK S S 22 08 43.9 +14
KURK Lg Lg 22 12 33.5
KURK LR LR
comp=Z,2μm,18.0s
KURK Kurchatov 26.74 321 P **P 22 03 56.2 +1.2**
SNR=59
KURK Kurchatov 26.74 321 P **P 22 03 56.2 +1.2**
SNR=59
RPR Rampur 27.05 246 *e*P **P 22 03 57.6 -0.4**
RPR IAmb IAmb 22 04 06.8
comp=Z,28nm,1.1s
RPR *e*S **S 22 08 28.2 -7.0**
RPR IVMs_BB IVMs_BB 22 15 17.6
comp=Z,464nm,8.2s
NVS Novosibirsk 27.18 332 *e*P **P 22 03 59.4 +0.6**
NVS *e* 22 07 18.3
NVS *e*S **S 22 08 33.8 -2.9**
NVS *e*SSS SSS 22 10 16.1
NVS pmax pmax
comp=Z,74nm,1.6s
NVS smax smax
comp=E,33nm,1.8s
MAJO Matsushiro 27.30 72 *e*P **P 22 03 58.8 -1.3**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO MLR MLR
comp=Z,400nm,19.0s
MAJO Matsushiro 27.30 72 *e*P **P 22 03 58.8 -1.3**
comp=Z,17nm,0.9s
MAJO LR LR
comp=Z,400nm,19.0s
MAT Matsushiro 27.30 72 P **P 22 03 58.7 -1.4**
MAT S **S 22 08 41.6 +2.6**
MJAR Matsushiro Arr 27.30 72 P **P 22 03 59.6 -0.6**
comp=Z,4.4nm,0.7s,baz=273,slow=9.5,SNR=15
MJAR PcP **PcP 22 07 19.6 +0.1**
comp=Z,3.5nm,0.6s,baz=234,slow=1.4,SNR=7.8
MJAR S S 22 08 50.6 +12
comp=Z,0.6nm,0.3s,baz=206,slow=17,SNR=2.6
MJAR LR LR 22 15 37.6
comp=Z,308nm,18.5s,baz=285,slow=38
MJAR Matsushiro Arr 27.30 72 P **P 22 03 59.6 -0.6**
MJAR 22 07 19.6
MJAR pmax pmax
comp=Z,5.0nm,0.6s
MJAR MLR MLR
comp=Z,308nm,18.5s
HABR Khabarovsk 27.40 46 *e*P **P 22 03 59.1 -1.8**
HABR *e**SP **sP 22 04 07.6 -0.3**
HABR *e*PPP PPP 22 04 51.7
HABR *e* 22 07 17.3
HABR S **S 22 08 38.9 -1.4**
HABR *e*SS **SnSn 22 09 50.0 +0.3**
HABR *e* 22 14 48.0
HABR pmax pmax
comp=Z,44nm,1.6s
HABR pmax pmax
comp=E,19nm,0.9s
HABR pmax pmax
comp=N,11nm,0.9s
HABR MLR MLR
comp=Z,1μm,11.0s
KULM Kulim 27.48 190 *e*P **P 22 04 01.9 0.0**
comp=Z,42nm,1.2s
KULM LR LR
comp=Z,3μm,19.0s
MNAS Manas 27.70 300 P **P 22 04 05.5 +1.6**
MNAS pmax pmax
comp=Z,47nm,0.9s
SRSP Sriramsagar 27.74 247 *e*P **P 22 04 03.6 -0.6**
SRSP IAmb IAmb 22 04 12.8
comp=Z,43nm,1.2s
SRSP *e*S **S 22 08 44.7 -1.6**
SRSP IVMs_BB IVMs_BB 22 15 30.6
comp=Z,463nm,10.1s
CLNS Chul'man 27.77 23 *e*P **P 22 04 06.2 +2.0**
CLNS *e**PP sP 22 04 18.0 +6.8
CLNS *e* 22 04 59.8
CLNS *e*PPP PPP 22 05 11.0
CLNS *e* 22 14 41.3
CLNS pmax pmax
comp=Z,52nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS pmax pmax
comp=N,27nm,1.2s
CLNS pmax pmax
comp=Z,32nm,1.4s
CLNS MLR MLR
comp=E,1μm,12.0s
CLNS MLR MLR
comp=Z,2μm,11.0s
CLNS MLR MLR
comp=N,1μm,13.0s
KKM Kota Kinabalu 28.27 157 *e*P **P 22 04 08.5 -0.6**
comp=N,110nm,1.2s
KKM LR LR
comp=Z,1μm,20.0s
LHMI Lhok Sumawe 28.30 198 *e*P **P 22 04 10.1 +0.9**
comp=Z,63nm,0.9s
LHMI LR LR
comp=Z,2μm,18.0s
ADKI Addanki 28.38 240 *e*P **P 22 04 07.8 -2.1**
ADKI IAmb IAmb 22 04 16.3
comp=Z,32nm,1.5s
ADKI *e*S **S 22 08 56.1 -0.2**
ADKI IVMs_BB IVMs_BB 22 16 04.0
comp=Z,263nm,13.5s
NJS Nagarjunasagar 28.42 242 *e*P **P 22 04 09.7 -0.6**
NJS IAmb IAmb 22 04 11.6
comp=Z,28nm,1.1s
NJS *e*S **S 22 08 51.2 -5.7**
NJS IVMs_BB IVMs_BB 22 16 00.7
comp=Z,262nm,11.7s
HYB Hyderabad 28.46 244 *i* P **P 22 04 11.0 +0.3**
HYBB Hyderabad (bro 28.46 244 *e*P **P 22 04 10.9 +0.2**
HYBB IAmb IAmb 22 04 11.7
comp=Z,57nm,1.6s
HYBB *e*S **S 22 08 57.9 +0.3**
HYBB IVMs_BB IVMs_BB 22 16 10.1
comp=Z,266nm,11.5s
SRLM Srisailam 29.02 242 *e*P **P 22 04 15.6 0.0**
SRLM IAmb IAmb 22 04 17.1
comp=Z,44nm,1.4s
SRLM *e*S **S 22 09 02.1 -4.2**
SRLM IVMsBB 22 16 27.3
comp=Z,298nm,11.7s
KKAR Karatay Array 29.25 301 *e*P **P 22 04 18.6 +1.1**
KKAR *e* 22 07 23.7
KKAR pmax pmax
comp=Z,27nm,0.4s
KKAR MLR MLR
comp=Z,601nm,19.0s
KKAR Karatay Array 29.25 301 *e*P **P 22 04 18.6 +1.1**
comp=Z,27nm,0.4s
KKAR *e*PcP **PcP 22 07 23.6 -0.6**
KKAR LR LR
comp=Z,601nm,19.0s
IUG Iuzhnay 29.46 299 *i* P **P 22 04 18.1 -1.4**
comp=Z,1μm,0.9s
IUG *e*S **S 22 09 11.4 -1.8**
IUG LRM MLR 22 17 51.1
comp=Z,376nm,13.3s
KLRI Killari 29.59 248 *e*P **P 22 04 20.7 -0.1**
KLRI IAmb IAmb 22 04 22.4
comp=Z,32nm,0.8s
KLRI *e*S **S 22 09 14.2 -1.3**
KLRI IVMs_BB IVMs_BB 22 16 36.4
comp=Z,322nm,8.3s
BRLS Borolday 29.73 301 *e*P **P 22 04 21.3 -0.5**
comp=Z,16nm,0.8s
BRZS Berezniki 29.76 315 *i* P **P 22 04 20.8 -1.1**
comp=Z,126nm,0.9s
MYLDM Lahad Datu 29.90 153 *e*P **P 22 04 25.7 +2.3**
comp=Z,148nm,0.9s
MYLDM *e*PP **PnPn 22 05 25.5 +5.8**
MYLDM LR LR
comp=Z,2μm,18.0s
MYLDM Lahad Datu 29.90 153⇓ P **P 22 04 25.7 +2.3**
SKHT Srikalahasti 29.96 237 *e*P **P 22 04 24.1 +0.2**
SKHT IAmb IAmb 22 04 32.0
comp=Z,18nm,1.1s
SKHT *e*S **S 22 09 20.0 -1.1**
SKHT IVMsBB 22 17 28.3
comp=Z,202nm,9.1s
BTM Bintulu 30.11 164⇓ P **P 22 04 25.7 +0.5**
DZET Dzherino 30.15 292 P **P 22 04 26.6 +1.0**
DZET pmax pmax
comp=Z,183nm,0.8s
KBL Kabul 30.20 284 *e*P **P 22 04 27.4 +1.2**
KBL *e* 22 07 27.9
KBL pmax pmax
comp=Z,67nm,0.8s
KBL Kabul 30.20 284 *e*P **P 22 04 27.4 +1.2**
comp=Z,67nm,0.8s
KBL *e*PcP **PcP 22 07 27.9 +0.9**
PSI Prapat 30.21 193 *e*P **P 22 04 26.6 +0.3**
PSI *e* 22 07 27.3
PSI pmax pmax
comp=Z,79nm,0.8s
PSI MLR MLR
comp=Z,700nm,19.0s
PSI Prapat 30.21 193 *e*P **P 22 04 26.6 +0.3**
comp=Z,79nm,0.8s
PSI *e*PcP **PcP 22 07 27.3 +0.1**
PSI LR LR
comp=Z,700nm,19.0s
KGM Kluang 30.45 184⇑ P **P 22 04 29.8 +1.5**
TSM Tawau 30.48 155⇑ P **P 22 04 29.5 +0.9**
MYKOM Kota Tinggi 30.64 183 *e*P **P 22 04 29.3 -0.7**
comp=Z,56nm,0.9s
MYKOM *e*PcP **PcP 22 07 29.7 +1.6**
MYKOM LR LR
comp=Z,1μm,20.0s
SBUM Sibu 30.65 166 *e*P **P 22 04 31.0 +1.0**
comp=Z,70nm,0.9s
SBUM LR LR
comp=Z,600nm,20.0s
SBUM Sibu 30.65 166⇑ P **P 22 04 31.2 +1.2**
URV Uravakonda 30.96 242 *e*P P 22 04 28.2 -4.6
ASAJ Asahikawa 31.18 57 *e*P **P 22 04 34.1 -0.3**
comp=Z,11nm,0.8s
KSM Kuching 31.28 170 *e*P **P 22 04 34.8 -0.8**
comp=Z,21nm,0.9s
KSM LR LR
comp=Z,688nm,20.0s
ERM Erimo 31.33 62 PFAKE 22 04 50.0 +14
ERM LR LR
comp=Z,500nm,18.0s
POO Poona 31.51 251 *e*P **P 22 04 38.0 +0.3**
DAV Davao City (W) 31.60 139 *e*P **P 22 04 37.3 -1.1**
comp=Z,320nm,1.2s
DAV LR LR
comp=Z,502nm,20.0s
YSS Yuzh-Sakhalins 31.83 52 *e*P **P 22 04 41.0 +0.8**
YSS *e* 22 05 59.4
YSS *e* 22 12 07.3
YSS pmax pmax
comp=Z,20nm,0.5s
YSS MLR MLR
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 31.83 52 *e*P **P 22 04 38.9 -1.3**
comp=Z,40nm,1.0s
YSS *e*PcP **PcP 22 07 28.8 -2.1**
YSS LR LR
comp=Z,500nm,19.0s
BKNI Bangkinang 32.32 188 *e*P **P 22 04 44.8 +0.1**
comp=Z,175nm,1.1s
BKNI LR LR
comp=Z,2μm,18.0s
BVAR Borovoye Array 32.32 320 P **P 22 04 45.4 +1.0**
comp=Z,42nm,0.7s,baz=108,slow=9.5,SNR=226
BVAR PcP **PcP 22 07 32.1 0.0**
comp=Z,18nm,0.7s,baz=122,slow=2.7,SNR=9.0
BRVK Borovoye 32.39 320 *c i* P **P 22 04 46.2 +1.1**
BRVK pmax pmax
comp=Z,167nm,0.7s
BRVK Borovoye 32.39 320 *e*P **P 22 04 46.3 +1.2**
comp=Z,71nm,0.8s
BRVK *e*PcP **PcP 22 07 32.4 +0.1**
BRVK LR LR
comp=Z,1μm,19.0s
BRVK Borovoye 32.39 320 P **P 22 04 46.7 +1.6**
SNR=22
BRVK Borovoye 32.39 320 P **P 22 04 46.7 +1.6**
SNR=22
TYV Tymovskoe 32.87 45 *e*P P 22 04 42.0 -7.3
TYV pmax pmax
comp=Z,39nm,1.3s
TYV MLR MLR
comp=E,2μm,14.0s
TYV MLR MLR
comp=Z,2μm,15.0s
YAK Yakutsk 33.38 21 P **P 22 04 54.3 +0.8**
comp=Z,139nm,0.6s,baz=151,slow=2.4,SNR=47
YAK Yakutsk 33.38 21 *c i* P **P 22 04 54.3 +0.8**
YAK *e**PP **sP 22 05 01.7 +1.1**
YAK *e* 22 06 09.4
YAK *e* 22 07 35.3
YAK *e*S **S 22 10 14.4 +0.8**
YAK *e*SS **SnSn 22 12 09.7 -5.1**
YAK *e* 22 15 23.1
YAK pmax pmax
comp=Z,165nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=Z,114nm,3.2s
YAK pmax pmax
comp=N,53nm,3.5s
YAK pmax pmax
comp=E,29nm,1.5s
YAK smax smax
comp=E,91nm,2.2s
YAK smax smax
comp=N,30nm,2.0s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,2μm,12.0s
YAK MLR MLR
comp=E,533nm,12.0s
YAK Yakutsk 33.38 21 *e*P **P 22 04 54.5 +1.0**
comp=E,186nm,0.7s
YAK *e*PP **PP 22 06 09.3 +0.4**
YAK *e*PcP **PcP 22 07 35.5 +0.8**
YAK LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 33.50 58 *e*P **P 22 04 51.3 -3.5**
YUK *e* 22 06 01.7
YUK *e*S **S 22 10 11.4 -4.5**
YUK *e*SS **SnSn 22 12 19.2 +1.0**
YUK MLR MLR
comp=Z,304nm,17.0s
YUK MLR MLR
comp=E,315nm,20.0s
PALK Pallekele 34.01 228 *e*P **P 22 04 58.8 -0.8**
PALK pmax pmax
comp=Z,50nm,1.1s
PALK Pallekele 34.01 228 *e*P **P 22 04 58.8 -0.8**
comp=Z,50nm,1.1s
KUR Kuril'sk 35.05 56 *e*P **P 22 05 07.2 -1.0**
PCI Palu 36.01 155 P **P 22 05 18.3 +1.6**
PCI pmax pmax
comp=Z,170nm,0.9s
LUWI Luwuk 37.27 150 *e*P **P 22 05 27.1 -0.4**
comp=Z,252nm,1.0s
ABKAR Akbulak array 37.51 310 *e*P **P 22 05 30.6 +1.4**
comp=Z,593nm,0.8s
ABKAR *e*PcP **PcP 22 07 47.2 0.0**
NRIK Noril'sk 38.17 350 P **P 22 05 35.6 +1.1**
comp=Z,106nm,0.6s,baz=136,slow=7.6,SNR=133
NRIK PcP **PcP 22 07 49.5 +0.7**
comp=Z,19nm,0.8s,baz=144,slow=0.8,SNR=3.6
GEYT Alibeck 38.60 292 P **P 22 05 40.1 +1.5**
comp=Z,132nm,0.9s,baz=87,slow=5.0,SNR=244
GEYT PcP **PcP 22 07 51.0 +0.1**
comp=Z,16nm,0.8s,baz=72,slow=1.8,SNR=3.6
AKTO Aktyubinsk 38.92 312 P **P 22 05 42.4 +1.2**
comp=Z,63nm,0.6s,baz=95,slow=8.6,SNR=162
AKTO PcP **PcP 22 07 51.7 +0.1**
comp=Z,9.4nm,0.6s,baz=63,slow=6.8,SNR=3.5
SVE Sverdlovsk 38.97 322 *d i* P **P 22 05 42.9 +1.5**
SVE pmax pmax
comp=Z,226nm,0.9s
SMRI Semarang 39.69 172 *e*P **P 22 05 48.8 +0.9**
comp=Z,209nm,1.4s
KAPI Kappang 39.81 157 PFAKE 22 06 00.0 +11
KAPI LR LR
comp=Z,401nm,20.0s
KAPI Kappang 39.81 157 P **P 22 05 49.6 +0.8**
SNR=17
KAPI Kappang 39.81 157 P **P 22 05 49.6 +0.8**
SNR=17
ARU Arti 39.94 321 P **P 22 05 50.6 +1.1**
comp=Z,157nm,0.7s,baz=103,slow=6.0,SNR=307
ARU PcP **PcP 22 07 54.4 -0.2**
comp=Z,7.5nm,0.5s,baz=107,slow=11,SNR=4.2
ARU Arti 39.94 321 *c i* P **P 22 05 50.5 +1.1**
ARU 22 07 23.9
ARU 22 07 52.8

ARU S **S** **22 11 57.9 +4.1**
ARU pmax pmax
comp=Z,300nm,1.0s
ARU MLR MLR
comp=Z,716nm,19.0s
ARU Arti 39.94 321 *e*P **P** **22 05 50.6 +1.1**
comp=Z,253nm,0.9s
ARU PcP **PcP** **22 07 54.5 -0.2**
ARU LR LR
comp=Z,947nm,22.0s
CISI Cisompet, Garu 39.97 176 PFAKE 22 06 00.0 +10
CISI LR LR
comp=Z,1μm,18.0s
UGM Wanagama 40.55 172 *e*P **P** **22 05 56.2 +1.1**
comp=Z,196nm,1.1s
GUMO Guam 40.69 108 LR LR 22 23 04.0
comp=Z,437nm,19.6s,baz=294,slow=37
TIXI Tiksi 41.12 11 P **P** **22 05 59.3 +0.2**
comp=Z,34nm,0.6s,baz=216,slow=4.5,SNR=106
TIXI Tiksi 41.12 11 *c i*P **P** **22 05 59.1 0.0**
TIXI pmax pmax
comp=Z,65nm,1.0s
TIXI Tiksi 41.12 11 *e*P **P** **22 05 59.2 +0.2**
comp=Z,93nm,1.1s
TIXI *e*PP **PP** **22 07 31.9 -2.0**
TIXI LR LR
comp=Z,2μm,18.0s
JAGI Jajag, Banyuwa 41.66 167 *e*P **P** **22 06 04.3 +0.2**
comp=Z,135nm,0.8s
SOKR Solikamsk 41.79 325 *c i*P **P** **22 06 03.9 -0.8**
SOKR pmax pmax
comp=Z,367nm,1.1s
SOKR MLR MLR
comp=Z,718nm,16.0s
WSAR Wadi Sarin 42.02 269 P **P** **22 06 07.8 +0.7**
comp=Z,20nm,0.9s,baz=96,slow=4.9,SNR=19
WSAR PcP **PcP** **22 08 02.6 +0.5**
comp=Z,12nm,0.6s,baz=127,slow=5.0,SNR=7.0
SEY Seymchan 42.31 30 P **P** **22 06 09.5 +0.6**
comp=Z,3.9nm,0.3s,baz=257,slow=8.9,SNR=8.8
SEY Seymchan 42.31 30⇑ *i*P **P** **22 06 10.3 +1.4**
PEA0B Petropavlovsk- 42.42 45 *e*P **P** **22 06 10.0 0.0**
comp=Z,69nm,1.2s
PEA0B LR LR
comp=Z,800nm,20.0s
PETK Petropavlovsk- 42.42 45 P **P** **22 06 10.0 0.0**
comp=Z,14nm,0.8s,baz=235,slow=1.4,SNR=10
PETK LR LR 22 25 50.4
comp=Z,753nm,19.5s,baz=253,slow=39
BANOM Banah 42.98 274 P **P** **22 06 16.2 +1.3**
PET Petropavlovsk 42.98 45 *e*P **P** **22 06 14.3 -0.2**
PET *e* 22 07 58.4
PET *e*S **S** **22 12 36.0 -3.0**
PET *e*SS **SS** **22 15 42.5 -8.3**
PET pmax pmax
comp=Z,38nm,1.0s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,100nm,15.0s
PET Petropavlovsk 42.98 45 *e*P **P** **22 06 14.1 -0.4**
comp=Z,58nm,1.3s
PET LR LR
comp=Z,1μm,18.0s
UOSS Minazif 43.42 273 *e*P **P** **22 06 18.5 +0.1**
comp=Z,22nm,1.1s
FAKI Fak Fak 43.55 139 *e*P **P** **22 06 19.1 -0.4**
comp=Z,50nm,0.9s
ASHO Ashiyiah 43.64 273 *i*P **P** **22 06 21.9 +1.6**
SNR=7.6
ASHO Ashiyiah 43.64 273 P **P** **22 06 22.1 +1.8**
SNR=15
ASHO Ashiyiah 43.64 273 pP **P** **22 06 22.1 +1.8**
SNR=15
NAZ Nazwa, Dubai 43.86 273 P **P** **22 06 23.2 +1.2**
FAQ Al Faqa, Dubai 44.01 273 P **P** **22 06 24.5 +1.3**
MMRI Maumere 44.03 156 *e*P **P** **22 06 22.9 -0.4**
comp=Z,547nm,0.8s
SOEI Soe 45.80 153 *e*P **P** **22 06 38.3 +0.7**
comp=Z,134nm,0.8s
SOEI *e*S **S** **22 13 16.4 -4.5**
MAK Makhachkala 46.06 300 *e*P **P** **22 06 37.0 -2.2**
MAK *e* 22 08 23.3
MAK *e*S **S** **22 13 20.2 -3.8**
MAK pmax pmax
comp=Z,97nm,1.0s
MAK MLR MLR
comp=Z,851nm,14.0s
GROC Groznyy 47.27 301 *e*P **P** **22 06 48.6 -0.2**
GROC *e* 22 08 17.3
GROC pmax pmax
comp=Z,96nm,0.8s
DGRG David-gareji 47.85 299 P **P** **22 06 55.0 +1.6**
DGRG David-gareji 47.85 299 P **P** **22 06 54.9 +1.6**
DUS Dusheti 48.24 300 P **P** **22 06 59.6 +3.2**
DUS Dusheti 48.24 300 P **P** **22 06 59.6 +3.2**
TBLG Delisi 48.27 299 P **P** **22 06 57.3 +0.7**
TBLG Delisi 48.27 299 P **P** **22 06 57.2 +0.7**
GNI Garni 48.55 297 P **P** **22 07 00.3 +1.4**
comp=Z,43nm,0.7s,baz=120,slow=12,SNR=14
GNI Garni 48.55 297 *i*P **P** **22 07 00.7 +1.8**
SNR=13
GNI Garni 48.55 297 *c i*P **P** **22 07 00.7 +1.8**
GNI pmax pmax
comp=Z,421nm,1.2s
GNI Garni 48.55 297 *e*P **P** **22 07 00.5 +1.6**
comp=Z,136nm,1.1s
GNI LR LR
comp=Z,278nm,21.0s
GNI Garni 48.55 297 P **P** **22 07 00.5 +1.6**
SNR=10
GNI Garni 48.55 297 pP **P** **22 07 00.5 +1.6**
SNR=10
ZEI Tsey 48.71 301 *e*P **P** **22 06 55.8 -4.3**
ZEI pmax pmax
comp=Z,19nm,0.6s
NCK Nalchik 48.82 302⇑ *i*P **P** **22 07 01.5 +0.7**
NCK pmax pmax
comp=Z,34nm,0.8s
ONI Oni 49.07 300 P **P** **22 07 04.6 +1.9**
ONI Oni 49.07 300 P **P** **22 07 04.6 +1.9**
BGD Bogdanovka 49.19 299 P **P** **22 07 05.8 +1.9**
AKH Akhalkalaki 49.24 299 P **P** **22 07 06.3 +2.0**
AKH Akhalkalaki 49.24 299⇑ *i*P **P** **22 07 06.5 +2.2**
AKH Akhalkalaki 49.24 299 P **P** **22 07 06.3 +2.0**
KBZ Khabaz 49.28 302 P **P** **22 07 05.1 +0.9**
comp=Z,35nm,0.6s,baz=111,slow=4.6,SNR=156
EAK Akyaka 49.30 298 *i*P **P** **22 07 06.2 +1.5**
EAK Akyaka 49.30 298 *i*P **P** **22 07 06.1 +1.5**
CLDR Caldiran 49.38 296 *i*P **P** **22 07 07.1 +1.7**
KVAR Kislovodsk Arr 49.39 302 P **P** **22 07 06.0 +0.8**
comp=Z,48nm,0.6s,baz=163,slow=2.5,SNR=67
KIV Kislovodsk 49.40 302 *i*P **P** **22 07 06.4 +1.1**
SNR=46
KIV Kislovodsk 49.40 302 *e*P **P** **22 07 06.2 +0.9**
KIV *e*S **S** **22 14 13.3 +1.7**
KIV pmax pmax
comp=Z,124nm,1.0s
KIV pmax pmax
comp=Z,34nm,2.2s
KIV MLR MLR
comp=Z,649nm,16.0s
KIV Kislovodsk 49.40 302 *e*P **P** **22 07 06.0 +0.8**
comp=Z,99nm,0.8s
KIV *e*PcP **PcP** **22 08 25.1 -2.4**
KIV LR LR
comp=Z,500nm,20.0s
KIV Kislovodsk 49.40 302 P **P** **22 07 06.7 +1.4**
SNR=30
KIV P **P** **22 07 06.7 +1.4**
SNR=30
KIV Kislovodsk 49.40 302 pP **P** **22 07 06.7 +1.4**
SNR=30
BILL Bilibino 49.41 26 *e*P **P** **22 07 04.1 -0.8**
BILL *e* 22 09 00.0
BILL *e*PPP PPP 22 09 51.6
BILL *e*S **S** **22 14 12.6 +1.6**
BILL pmax pmax
comp=Z,44nm,1.0s
BILL MLR MLR
comp=Z,2μm,15.0s
DYDN Diyadin 49.47 296 *i*P **P** **22 07 07.9 +1.9**
NEY Neytrino 49.48 301 *c i*P **P** **22 07 07.6 +1.5**
NEY pmax pmax
comp=Z,19nm,0.7s
DIGO Kars 49.52 298 *i*P **P** **22 07 08.1 +1.6**

DIGO Kars 49.52 298 *i*P **P** **22 07 08.3 +1.8**
VMUR Van-Muradiye 49.67 296 *i*P **P** **22 07 05.2 -2.4**
VMUR *i*S **pP** **22 07 08.5 -4.2**
HAKT HAKKARI 49.90 294 *i*P **P** **22 07 10.3 +0.9**
TVAN Van 49.90 295 *i*P **P** **22 07 10.0 +0.6**
TVAN *i*S **pP** **22 07 17.0 +2.5**
CUKT Cukurca 50.05 294 *i*P **P** **22 07 10.9 +0.5**
TUTA Tutak 50.16 296 *i*P **P** **22 07 13.0 +1.7**
EATA Eleskirt 50.30 297 *i*P **P** **22 07 13.8 +1.3**
ARTV Artvin 50.45 299 *i*P **P** **22 07 14.8 +1.4**
ARTV Artvin 50.45 299 *e*P **P** **22 07 14.7 +1.2**
comp=Z,68nm,1.1s
KLMR Klimovskoe 50.47 325 *e*P **P** **22 07 10.8 -2.2**
KLMR *e* 22 08 29.5
KLMR pmax pmax
comp=Z,257nm,0.7s
DAGI Agillar 50.48 299 *i*P **P** **22 07 15.0 +1.4**
DGAR Diego Garcia 50.60 224 *e*P **P** **22 07 13.2 -1.3**
DGAR pmax pmax
comp=Z,123nm,1.1s
DGAR Diego Garcia 50.60 224 *e*P **P** **22 07 13.2 -1.3**
comp=Z,123nm,1.1s
DBOC Borcka 50.61 299 *i*P **P** **22 07 15.4 +1.0**
DDEM Demirkent 50.64 299 *i*P **P** **22 07 16.2 +1.4**
HOMI Horasan 50.70 297 *i*P **P** **22 07 17.5 +2.0**
VORR Voronezh 50.80 313⇑ *i*P **P** **22 07 15.0 -0.6**
VORR pmax pmax
comp=Z,500nm,0.8s
LPSR Galich'ya Gora 50.90 314 *e*P **P** **22 07 16.8 +0.4**
LPSR pmax pmax
comp=Z,270nm,0.8s
ERZM Erzurum 51.14 297 *i*P **P** **22 07 20.9 +2.2**
ERZM Erzurum 51.14 297 *i*P **P** **22 07 20.8 +2.0**
SRTM Siirt_Merkez 51.17 295 *i*P **P** **22 07 19.4 +0.7**
TMCR Tamitsa 51.36 329 *e*P **P** **22 07 18.9 -0.8**
TMCR pmax pmax
comp=Z,232nm,0.7s
MTN Manton Dam 51.46 147 *e*P **P** **22 07 19.7 -1.2**
comp=Z,56nm,1.1s
MOS Moscow 51.46 318 *e*P **P** **22 07 18.8 -1.8**
MOS *e*S **S** **22 14 38.4 -1.3**
MOS pmax pmax
comp=Z,500nm,0.9s
MOS pmax pmax
comp=Z,495nm,0.8s
MOS MLR MLR
comp=Z,1μm,19.0s
MOS MLR MLR
comp=N,300nm,20.0s
MOS MLR MLR
comp=E,900nm,18.0s
KOPT Kop Dagi 51.76 298 *e*P **P** **22 07 22.8 -0.7**
comp=E,44nm,1.0s
MACK Trabzon 52.09 299 *i*P **P** **22 07 27.4 +1.8**
OBN Obninsk 52.10 317 P **P** **22 07 25.9 +0.6**
comp=E,105nm,0.6s,baz=75,slow=3.1,SNR=32
OBN LR LR 22 30 42.0
comp=E,968nm,18.9s,baz=88,slow=37
OBN Obninsk 52.10 317 *c i*P **P** **22 07 25.6 +0.3**
OBN *e* 22 08 37.2
OBN *e* 22 09 24.1
OBN *e*PPP PPP 22 10 25.8
OBN *e*S S 22 15 03.3 +15
OBN *e*SS **SS** **22 18 28.9 +3.5**
OBN *e*SSS SSS 22 20 02.7
OBN pmax pmax
comp=Z,168nm,1.1s
OBN MLR MLR
comp=Z,916nm,19.0s
OBN Obninsk 52.10 317 *e*P **P** **22 07 25.6 +0.3**
comp=Z,152nm,0.9s
OBN *e*PcP **PcP** **22 08 37.4 +0.2**
OBN *e*PP **PP** **22 09 25.8 +2.5**
MARD Mardin 52.22 294 *e*P **P** **22 07 27.5 +0.8**
comp=Z,94nm,0.8s
KBSD Kabsdagh 52.48 294 *e*P **P** **22 07 29.3 +0.8**
MANU Manus Island 52.57 123 PFAKE 22 07 40.0 +11
MANU LR LR
comp=Z,35μm,19.0s
MZRK Al-Mazaregh 52.72 293 *e*P **P** **22 07 33.8 +3.6**
ANN Anapa 52.95 304 *e*P **P** **22 07 30.7 -1.1**
ANN *e*PP **sP** **22 07 36.8 -2.2**
ANN *e*S **S** **22 14 59.6 -0.9**
ANN pmax pmax
comp=N,45nm,1.1s
ANN pmax pmax
comp=Z,205nm,1.1s
ANN pmax pmax
comp=E,46nm,1.1s
ANN MLR MLR
comp=E,335nm,16.0s
ANN MLR MLR
comp=Z,614nm,16.0s
RAYN Ar Rayn 52.97 276 *e*P **P** **22 07 31.4 -0.9**
comp=Z,41nm,1.4s
RAYN *e*PcP **PcP** **22 08 41.5 +0.4**
RAYN LR LR
comp=Z,228nm,19.0s
SFNV Sufian 52.97 293 *e*P **P** **22 07 33.1 +0.8**
LVZ Lovozero 53.02 333 *c i*P **P** **22 07 32.1 +0.1**
LVZ pmax pmax
comp=Z,169nm,0.8s
LVZ Lovozero 53.02 333 *e*P **P** **22 07 32.0 +0.1**
comp=Z,155nm,0.7s
APA Apatity 53.47 333⇑ *i*P **P** **22 07 34.8 -0.5**
APA pmax pmax
comp=Z,62nm,0.5s
APA MLR MLR
comp=Z,2μm,14.0s
KSRV Kasrt alli 53.99 293 *e*P **P** **22 07 41.9 +2.3**
JOF Joensuu 54.36 327 P **P** **22 07 42.2 +0.4**
JOF pmax pmax
comp=Z,228nm,0.9s
TOKA Tokat 54.67 299 *e*P **P** **22 07 43.7 -0.8**
comp=Z,154nm,1.9s
TOKA LR LR
comp=Z,200nm,20.0s
PUL Pulkovo 55.07 323 *i*P **P** **22 07 47.7 +0.7**
PUL pmax pmax
comp=Z,235nm,0.7s
MBWA Marble Bar 55.17 164 *e*P **P** **22 07 47.4 -0.7**
comp=Z,83nm,1.2s
MBWA LR LR
comp=Z,177nm,19.0s
MSF Maaselka 55.20 331 P **P** **22 07 48.1 +0.2**
MSF pmax pmax
comp=Z,234nm,0.8s
SIM Simferopol' 55.23 305 *c i*P **P** **22 07 48.9 +0.5**
SIM pmax pmax
comp=Z,91nm,0.9s
SIM MLR MLR
comp=Z,590nm,18.2s
PATS Pohnpei 55.38 106 *e*P **P** **22 07 50.6 +0.7**
comp=Z,175nm,1.2s
DRWC Darouich 55.57 295 *e*P **P** **22 07 51.2 +0.1**
KEV Kevo 55.83 336 *e*P **P** **22 07 52.9 +0.6**
KEV pmax pmax
comp=Z,182nm,0.8s
KEV Kevo 55.83 336 *e*P **P** **22 07 52.9 +0.6**
comp=Z,182nm,0.8s
RABH Abou Rabah 55.83 292 *e*P **P** **22 07 53.7 +0.7**
ROOS tl_alroos 55.85 292 *e*P **P** **22 07 55.0 +1.8**
BTCH Batrach 55.91 294 *e*P **P** **22 07 53.5 0.0**
SGF Sodankyl 56.12 333 P **P** **22 07 55.1 +0.7**
BIDA Albida 56.34 293 *e*P **P** **22 07 56.5 -0.1**
ARNB Al Arnab 56.34 294 *e*P **P** **22 07 56.7 +0.1**
ARCES ARCESS Array B 56.36 335 P **P** **22 07 56.7 +0.5**
comp=Z,123nm,0.8s,baz=79,slow=7.6,SNR=189
ARCES PcP **PcP** **22 08 53.6 +0.4**
comp=Z,31nm,0.8s,baz=66,slow=4.4,SNR=4.4
ARCES LR LR 22 35 22.2
comp=Z,479nm,18.6s,baz=86,slow=40
ARE0 ARCESS Array S 56.36 335 *e*P **P** **22 07 56.9 +0.7**
HAWK Haweek 56.43 292 *e*P **P** **22 07 57.9 +0.5**
ILGA Ilgaz 56.50 301 *e*P **P** **22 07 58.0 +0.1**
comp=Z,79nm,0.9s
FKH Fakeheh 56.52 292 *e*P **P** **22 07 59.1 +1.2**
MARH Ras Al Marh 56.53 292 *e*P **P** **22 07 59.8 +1.4**
SUF Sumiainen 56.73 327 P **P** **22 07 59.1 +0.2**
SUF pmax pmax
comp=Z,231nm,0.8s
SALA Sala 56.77 290 *e*P **P** **22 08 00.3 +0.4**
HWQ Hawqa 56.87 292 *e*P **P** **22 08 01.2 +0.7**
HAMF Hammerfest 56.91 337 *e*P **P** **22 08 00.7 +0.7**
HAMF IAmb IAmb 22 08 01.5

comp=Z,213nm,1.0s
BR131 Keskin Array S 56.93 299 *e*P **P** **22 08 01.2 +0.3**
BRTR Keskin Array B 56.93 299 P **P** **22 08 01.2 +0.3**
comp=Z,36nm,0.8s,baz=99,slow=7.0,SNR=197
FINES FINESS Array B 56.94 326 P **P** **22 08 00.9 +0.5**
comp=Z,96nm,0.7s,baz=87,slow=7.4,SNR=350
FINES PcP **PcP** **22 08 55.2 -0.4**
comp=Z,16nm,0.9s,baz=94,slow=4.3,SNR=3.6
FINES LR LR 22 34 37.4
comp=Z,627nm,19.1s,baz=83,slow=38
FINES FINESS Array B 56.94 326 *i*P **P** **22 08 00.8 +0.4**
FINES pmax pmax
comp=Z,96nm,0.7s
VSU Vasula 57.08 322 *c i*P **P** **22 08 02.0 +0.6**
VSU pmax pmax
comp=Z,493nm,0.8s
AKASG Malin Array Be 57.15 313 P **P** **22 08 02.3 +0.3**
comp=Z,85nm,0.6s,baz=68,slow=6.5,SNR=223
AKASG LR LR 22 33 59.2
comp=Z,649nm,21.0s,baz=80,slow=38
AKASG Malin Array Be 57.15 313 *i*P **P** **22 08 02.2 +0.1**
AKASG pmax pmax
comp=Z,129nm,0.6s
BRBR Barbar 57.15 291 *e*P **P** **22 08 02.0 -0.6**
KIEV Kiev 57.16 313 *c i*P **P** **22 08 02.3 +0.2**
KIEV pmax pmax
comp=Z,102nm,1.0s
KIEV Kiev 57.16 313 *e*P **P** **22 08 01.9 -0.2**
comp=Z,167nm,1.1s
KIEV LR LR
comp=Z,753nm,22.0s
MICGM Minsk 57.16 317⇑ *e*P **P** **22 08 03.0 +0.9**
MICGM PM 22 08 04.0
comp=Z,0.4nm,0.8s
MNK Minsk 57.16 317⇑ *e*P **P** **22 08 03.0 +0.9**
MNK pmax pmax
comp=Z,390nm,0.8s
KTK1 Kautokeino 57.21 335 *e*P **P** **22 08 02.3 +0.1**
KTK1 IAmb IAmb 22 08 04.0
comp=Z,119nm,1.0s
RCY Rachaya 57.21 291 *e*P **P** **22 08 04.1 +1.1**
BHL Bhannes 57.22 292 *e*P **P** **22 08 03.4 +0.5**
SHBL Chebaa 57.34 291 *e*P **P** **22 08 04.9 +1.0**
TCHB Talchebab 57.39 290 *e*P **P** **22 08 05.7 +1.6**
RABL Rabaul 57.51 120 *e*P **P** **22 08 06.1 +1.1**
comp=Z,148nm,0.8s
ANTO Ankara 57.51 300 *e*P **P** **22 08 05.6 +0.7**
ANTO pmax pmax
comp=Z,95nm,0.8s
ANTO MLR MLR
comp=Z,270nm,22.0s
ANTO Ankara 57.51 300 *e*P **P** **22 08 05.6 +0.7**
comp=Z,95nm,0.8s
ANTO LR LR
comp=Z,270nm,22.0s
ANTO Ankara 57.51 300 P **P** **22 08 05.9 +1.0**
SNR=20
ANTO P **P** **22 08 05.9 +1.0**
SNR=20
ANTO Ankara 57.51 300 P **P** **22 08 05.9 +1.0**
SNR=20
BR231 Keskin MP Arra 57.53 299 *e*P **P** **22 08 05.8 +0.7**
NACGM Naroch 57.71 318 *e*P **P** **22 08 06.0 +0.1**
NACGM PM 22 08 07.0
comp=Z,0.6nm,0.9s
PMG Port Moresby 57.74 129 *c i*P **P** **22 08 06.8 +0.2**
PMG pmax pmax
comp=Z,357nm,1.0s
PMG Port Moresby 57.74 129 *e*P **P** **22 08 06.5 -0.1**
comp=Z,70nm,0.9s
PMG LR LR
comp=Z,127nm,20.0s
DAMY Dhamar 57.92 267 *e*P **P** **22 08 08.8 +0.4**
comp=Z,71nm,1.1s
SPA0 Spitsbergen Ar 58.17 346 *e*P **P** **22 08 09.6 +0.7**
SPITS Spitsbergen Ar 58.17 346 P **P** **22 08 09.6 +0.7**
comp=Z,49nm,0.7s,baz=93,slow=10,SNR=36
SPITS PcP **PcP** **22 09 00.7 +0.5**
comp=Z,24nm,0.7s,baz=90,slow=5.8,SNR=4.9
SPITS Spitsbergen Ar 58.17 346 P **P** **22 08 09.6 +0.7**
SPITS 22 09 00.7
SPITS pmax pmax
comp=Z,47nm,0.7s
VAF Ylistaro 58.26 328 P **P** **22 08 10.0 +0.3**
VAF pmax pmax
comp=Z,155nm,0.9s
KIS Kishinev 58.30 309⇑ *i*P **P** **22 08 09.5 -0.7**
comp=Z,200nm,1.0s
KIS Kishinev 58.30 309 *e*PP PP 22 10 19.0 -0.1
KIS LRM MLR 22 34 58.0
comp=Z,600nm,18.0s
KIS Kishinev 58.30 309 *a i*P **P** **22 08 09.5 -0.7**
KIS *i* 22 08 18.0
KIS *e* 22 10 19.0
KIS pmax pmax
comp=Z,190nm,1.0s
KIS MLR MLR
comp=Z,600nm,18.0s
HSPB Hornsund (broa 58.50 345 *e*P **P** **22 08 12.2 +1.0**
HSPB IAmb IAmb 22 08 12.8
comp=Z,78nm,0.9s
TRO Tromso 58.64 336 *e*P **P** **22 08 16.6 +4.4**
CSS Mathiatis 58.67 294 P **P** **22 08 13.5 +0.5**
MAMC Mammari 58.69 294 P **P** **22 08 13.5 +0.4**
COEN Coen 58.74 136 *e*P **P** **22 08 12.2 -1.4**
comp=Z,72nm,0.9s
TLCR 58.80 306⇑ *i*P **P** **22 08 13.9 +0.2**
KBS Kingsbay 58.94 347 *e*P **P** **22 08 14.6 +0.4**
KBS IAmb IAmb 22 08 15.5
comp=Z,37nm,0.9s
KBS Kingsbay 58.94 347 *e*P **P** **22 08 14.4 +0.2**
KBS pmax pmax
comp=Z,39nm,0.9s
KBS Kingsbay 58.94 347 *e*P **P** **22 08 14.4 +0.2**
comp=Z,39nm,0.9s
IAS Iasi 59.08 309⇑ *i*P **P** **22 08 15.6 0.0**
SZAC Souni 59.09 294 P **P** **22 08 16.1 +0.1**
WRAB Tennant Creek 59.13 148 *c i*P **P** **22 08 16.3 +0.1**
WRAB pmax pmax
comp=Z,176nm,0.8s
WRAB Tennant Creek 59.13 148 *e*P **P** **22 08 15.8 -0.4**
comp=Z,174nm,0.8s
WRA Warramunga Arr 59.13 148 P **P** **22 08 16.3 0.0**
comp=Z,60nm,0.7s,baz=341,slow=7.2,SNR=193
WRA PKPPKP **P'P'df** **22 37 42.9 -0.5**
comp=Z,1.8nm,1.0s,baz=149,slow=2.1,SNR=4.5
WRA PKP2bc 22 37 57.9
comp=Z,3.3nm,0.8s,baz=146,slow=2.2,SNR=8.8
ALFC Alefka 59.17 294 P **P** **22 08 16.0 -0.5**
BOLV Bolvadin 59.23 299 *e*P **P** **22 08 17.6 +0.6**
comp=Z,129nm,0.8s
EFOR EFORIE 59.24 305⇑ *i*P **P** **22 08 17.9 +1.1**
CFR Carcaliu 59.26 307⇑ *i*P **P** **22 08 17.3 +0.3**
CFR Carcaliu 59.26 307 P **P** **22 08 17.2 +0.3**
TIRR Tirgusor 59.28 306⇓ *i*P **P** **22 08 17.4 +0.3**
TIRR Tirgusor 59.28 306 *e*P **P** **22 08 17.6 +0.5**
TIRR pmax pmax
comp=Z,68nm,1.0s
TIRR Tirgusor 59.28 306 *e*P **P** **22 08 17.6 +0.5**
comp=Z,68nm,1.0s
EIL Elat 59.29 288 P **P** **22 08 17.9 +0.5**
comp=Z,58nm,0.9s,baz=70,slow=5.5,SNR=35
AKMC Akamas 59.42 294 P **P** **22 08 17.9 -0.3**
PPCY Paphos 59.46 294 P **P** **22 08 18.4 0.0**
HARR Harsova 59.54 306⇓ *i*P **P** **22 08 19.7 +0.8**
PETR Petresti 59.71 307⇑ *i*P **P** **22 08 21.8 +1.8**
ICOR Ion Corvin 59.80 306⇓ *i*P **P** **22 08 21.9 +1.2**
ODBI Odobesti 59.82 308⇑ *i*P **P** **22 08 22.8 +2.0**
ISP Isparta 59.84 298 PFAKE 22 08 30.0 +8.8
ISP LR LR
comp=Z,189nm,20.0s
TESR Tescani 59.87 308⇑ *i*P **P** **22 08 21.3 +0.2**
PRAR RASCA 59.91 310⇑ *i*P **P** **22 08 21.6 +0.2**
SUW Suwalki 59.96 318 *e*P **P** **22 08 21.8 +0.2**
SUW Suwalki 59.96 318 *e*P **P** **22 08 21.8 +0.2**
AMRR Amara 59.97 306⇑ *i*P **P** **22 08 23.2 +1.4**
GRER 59.99 307⇓ *i*P **P** **22 08 24.1 +2.2**
VRI Vrincioaia 60.01 308⇑ *i*P **P** **22 08 23.0 +0.9**
VRI Vrincioaia 60.01 308 P **P** **22 08 23.2 +1.1**
PLOR Plostina 60.06 308⇑ *i*P **P** **22 08 23.6 +1.1**
PGOR Pogoanele 60.12 307⇑ *i*P **P** **22 08 24.7 +1.9**
STEI Steigen 60.30 334 *e*P **P** **22 08 24.2 +0.5**
STEI IAmb IAmb 22 08 24.4
comp=Z,78nm,0.8s
ISR Istrita 60.36 307⇑ *i*P **P** **22 08 26.6 +2.1**

PRD Provadia 60.36 305 *i* P **P 22 08 25.1 +0.6**
BURAR Bucovina Array 60.49 310⇑ *iP* **P 22 08 26.0 +0.5**
BURAR Bucovina Array 60.49 310 P **P 22 08 26.0 +0.5**
BUR08 Bucovina Ar. S 60.49 310 *eP* **P 22 08 26.2 +0.7**
LVV L'vov 60.60 313 *eP* **P 22 08 29.1 +3.0**
LVV MLR MLR
comp=Z,300nm,17.0s
MLR Muntele Rosu 60.65 308 P **P 22 08 27.5 +0.9**
comp=Z,8.0nm,0.8s,baz=90,slow=17,SNR=30
MLR Muntele Rosu 60.65 308⇑ *iP* **P 22 08 27.6 +0.9**
MLR Muntele Rosu 60.65 308 *eP* **P 22 08 27.4 +0.8**
MLR pmax pmax
comp=Z,46nm,0.9s
MLR MLR MLR
comp=Z,600nm,19.0s
MLR Muntele Rosu 60.65 308 *eP* **P 22 08 27.4 +0.8**
comp=Z,46nm,0.9s
MLR LR LR
comp=Z,600nm,19.0s
SULR 60.69 307⇑ *iP* **P 22 08 28.2 +1.5**
SECR 60.70 307⇓ *iP* **P 22 08 28.4 +1.5**
LOF Lofoten 60.87 335 *eP* **P 22 08 27.6 +0.1**
LOF IAmb IAmb 22 08 28.4
comp=Z,177nm,1.0s
DOPR Dopca 60.87 308⇑ *iP* **P 22 08 29.2 +1.2**
SGRR Singureni 61.02 306⇑ *iP* **P 22 08 29.9 +0.9**
MOR8 Moi Rana 61.04 332 *eP* **P 22 08 27.7 -1.1**
MOR8 IAmb IAmb 22 08 28.8
comp=Z,146nm,0.7s
AKAS Kas 61.08 296 *eP* **P 22 08 27.8 -1.9**
comp=Z,15nm,0.8s
JMB Yambol 61.16 304 *i* P **P 22 08 30.7 +0.7**
ARCR ARCALIA 61.21 310⇑ *iP* **P 22 08 32.2 +2.0**
VOIR 61.26 308⇓ *iP* **P 22 08 31.1 +0.4**
VOIR 61.26 308 P **P 22 08 31.1 +0.4**
MTUR Matau 61.32 307⇑ *iP* **P 22 08 31.8 +0.7**
SZH Strazhica 61.35 305 *i* P **P 22 08 31.4 +0.1**
KONS Konsvik 61.47 333 *eP* **P 22 08 31.6 0.0**
KONS IAmb IAmb 22 08 32.5
comp=Z,57nm,0.8s
KWP Kalwaria Pacla 61.48 313 *eP* **P 22 08 33.2 +1.2**
KWP Kalwaria Pacla 61.48 313 *eP* **P 22 08 33.2 +1.2**
STOK Stokkvaagen 61.55 333 *eP* **P 22 08 32.5 +0.3**
ARR Arges 61.56 308⇑ *iP* **P 22 08 33.6 +0.9**
BMR Baia Mare 61.58 310⇑ *iP* **P 22 08 34.1 +1.4**
HUMR Humele 61.60 307⇑ *iP* **P 22 08 33.3 +0.4**
ZIMR 61.62 306⇑ *iP* **P 22 08 34.0 +1.0**
CJR Cluj-Napoca 61.81 309⇑ *iP* **P 22 08 35.8 +1.4**
BEL Belsk 61.97 316 *eP* **P 22 08 36.1 +0.9**
BEL Belsk 61.97 316 *eP* **P 22 08 36.1 +0.9**
UZH Uzhgorod 62.04 312⇓ *iP* **P 22 08 36.2 +0.4**
UZH *e* 22 08 49.1
UZH *eS* **S 22 16 56.0 -3.8**
UZH MLR MLR
comp=E,600nm,14.0s
UZH MLR MLR
comp=Z,350nm,14.0s
TRPA Tarpa 62.05 311⇓ *eP* **P 22 08 37.0 +1.2**
LOT Lotru 62.11 308⇑ *iP* **P 22 08 37.3 +0.8**
AS31 Alice Springs 62.22 150 *eP* **P 22 08 37.5 +0.3**
comp=Z,16nm,0.7s
AS31 *eS* **S 22 17 03.1 +0.7**
ASAR Alice Springs 62.22 150 P **P 22 08 37.5 +0.2**
comp=Z,50nm,0.9s,baz=333,slow=6.0,SNR=211
ASAR PKPPKP **P'P'df 22 37 42.9 +4.5**
comp=Z,1.2nm,0.8s,baz=135,slow=3.0,SNR=7.2
ASAR Alice Springs 62.22 150 P **P 22 08 37.5 +0.2**
ASAR pmax pmax
comp=Z,27nm,0.8s
KDZ Kurdzhali 62.25 304 *i* P **P 22 08 38.3 +0.9**
RDO Rodhopi 62.34 303 P **P 22 08 38.4 +0.4**
DRGR 62.37 310⇑ *iP* **P 22 08 39.2 +1.0**
STHS Stebnicka Huta 62.45 313 *eP* **P 22 08 39.5 +0.9**
STHS pmax pmax
comp=Z,52nm,0.8s
STHS Stebnicka Huta 62.45 313 *eP* **P 22 08 39.5 +0.9**
CRVS Cervenica-Dubn 62.48 312 *eP* **P 22 08 39.5 +0.7**
CRVS Cervenica-Dubn 62.48 312 *eP* **P 22 08 39.5 +0.7**
NSS Namsos 62.51 331 *eP* **P 22 08 38.4 -0.3**
DEV Deva 62.54 309⇑ *iP* **P 22 08 40.5 +1.3**
SMTH Samothraki Isl 62.58 302 P **P 22 08 39.6 0.0**
PLD Plovdiv 62.60 304 P **P 22 08 40.3 +0.6**
RZN Rozhen 62.73 304 *i* P **P 22 08 41.6 +0.8**
SRE Strehaia 62.75 307⇑ *iP* **P 22 08 40.5 -0.1**
PGB Panagyurishte 62.82 305 *i* P **P 22 08 42.1 +0.9**
NIE Niedzica 63.03 313 *eP* **P 22 08 43.9 +1.4**
NIE Niedzica 63.03 313 *eP* **P 22 08 43.9 +1.4**
OJC Ojcow 63.07 314 *eP* **P 22 08 43.5 +0.8**
OJC Ojcow 63.07 314 *eP* **P 22 08 43.4 +0.7**
OJC *e* 22 11 01.8
OJC pmax pmax
comp=Z,125nm,0.7s
OJC Ojcow 63.07 314 *eP* **P 22 08 43.4 +0.7**
comp=Z,126nm,0.7s
OJC *e*PP **PP 22 11 01.8 +0.6**
HFS Hagfors 63.15 326 P **P 22 08 42.8 -0.2**
comp=Z,48nm,0.9s,baz=86,slow=7.4,SNR=55
KARP Karpathos 63.17 297 P **P 22 08 43.3 -0.4**
KARP Karpathos 63.17 297 *eP* **P 22 08 43.6 0.0**
comp=Z,74nm,1.0s
SIRR Siria 63.23 309⇑ *iP* **P 22 08 45.0 +1.2**
KECS Kecovo 63.23 312 *eP* **P 22 08 44.7 +0.9**
KECS pmax pmax
comp=Z,24nm,0.8s
KECS Kecovo 63.23 312 *eP* **P 22 08 44.7 +0.9**
KECS *e*PP **PP 22 11 05.6 +3.1**
NVR Nevrokopi 63.45 304 P **P 22 08 45.5 +0.1**
MMB Musomiste 63.46 304 *i* P **P 22 08 45.7 +0.2**
VTS Vitosha 63.47 305⇓ *iP* **P 22 08 46.4 +0.8**
VTS Vitosha 63.47 305 *eP* **P 22 08 46.1 +0.5**
VTS pmax pmax
comp=Z,50nm,0.9s
VTS Vitosha 63.47 305 *i* P **P 22 08 46.2 +0.5**
VTS Vitosha 63.47 305 *eP* **P 22 08 46.1 +0.5**
comp=Z,50nm,0.9s
BZS Buzias 63.48 309⇑ *iP* **P 22 08 46.0 +0.5**
GKP Gorka Klasztor 63.56 318 *eP* **P 22 08 46.5 +0.6**
GKP Gorka Klasztor 63.56 318 *eP* **P 22 08 46.5 +0.6**
LANS Liptovska Anna 63.63 313 *eP* **P 22 08 47.9 +1.4**
LANS Liptovska Anna 63.63 313 *eP* **P 22 08 47.9 +1.4**
TBLU Trondheim 63.64 330 *eP* **P 22 08 45.8 -0.4**
TBLU IAmb IAmb 22 08 46.8
comp=Z,60nm,0.8s
SRS Serrai 63.73 304 P **P 22 08 46.9 -0.3**
SRS Serrai 63.73 304 P **P 22 08 47.3 +0.1**
NC405 NORSAR Array S 63.74 327 *eP* **P 22 08 47.0 0.0**
PSZ Piszkesteto 63.79 312⇑ *iP* **P 22 08 48.5 +0.9**
PSZ Piszkesteto 63.79 312 *eP* **P 22 08 47.8 +0.2**
PSZ pmax pmax
comp=Z,61nm,1.1s
PSZ MLR MLR
comp=Z,587nm,20.0s
PSZ Piszkesteto 63.79 312⇑ *eP* **P 22 08 48.5 +0.9**
PSZ Piszkesteto 63.79 312 *eP* **P 22 08 47.8 +0.2**
comp=Z,61nm,1.1s
PSZ LR LR
comp=Z,587nm,20.0s
KKB Krupnik 63.81 304 *i* P **P 22 08 47.7 -0.1**
NC303 NORSAR Array S 63.86 327 *eP* **P 22 08 47.6 -0.1**
BANR Banloc 63.88 309⇑ *iP* **P 22 08 49.2 +1.1**
NC602 NORSAR Array S 63.95 327 *eP* **P 22 08 48.0 -0.3**
NC602 NORSAR Array S 63.95 327 *eP* **P 22 08 47.8 -0.5**
NB201 NORSAR Array S 63.95 327 *eP* **P 22 08 48.2 -0.1**
NB2 NORSAR Subarra 63.99 327 P **P 22 08 48.0 -0.7**
comp=Z,114nm,1.1s,baz=70,slow=6.9
NB2 NORSAR Subarra 63.99 327 P **P 22 08 48.0 -0.7**
baz=70,slow=6.9
NB2 NORSAR Subarra 63.99 327 P **P 22 08 47.9 -0.7**
NB2 pmax pmax
comp=Z,96nm,1.2s
NOA NORSAR Array B 63.99 327 P **P 22 08 48.2 -0.5**
comp=Z,49nm,0.9s,baz=70,slow=6.6,SNR=69
NOA LR LR 22 38 29.4
comp=Z,540nm,19.6s,baz=65,slow=38
ZKR Zakros 64.05 296 P **P 22 08 49.8 +0.4**
RAC Raciborz 64.09 314 *eP* **P 22 08 49.7 +0.3**
RAC MLR MLR
comp=Z,1μm,17.6s
PAIG Paliouri 64.10 302 P **P 22 08 49.6 0.0**
PAIG Paliouri 64.10 302 P **P 22 08 50.0 +0.4**
PLG Polygyros 64.10 303 P **P 22 08 49.6 -0.1**
NC204 NORSAR Array S 64.11 328 *eP* **P 22 08 49.8 +0.3**
SANT Santorini 64.14 298 *eP* **P 22 08 48.9 -1.1**
comp=Z,124nm,1.0s
SANT LR LR
comp=Z,199nm,19.0s
THR6 Thira Island, 64.19 298 P **P 22 08 49.7 -0.6**
NBO00 NORSAR Array S 64.19 327 *eP* **P 22 08 49.9 0.0**
KNT Kendrikon 64.20 304 P **P 22 08 50.1 -0.2**
OKC Ostrava-Krasne 64.20 314⇑ *eP* **P 22 08 51.2 +1.0**
OKC *ex* x 22 08 55.8
OKC Ostrava-Krasne 64.20 314 *eP* **P 22 08 51.2 +1.0**
NAO01 NORSAR Array S 64.21 327 *eP* **P 22 08 48.8 -1.2**
BSD Bornholm Skovb 64.22 320⇑ *iP* **P 22 08 49.9 -0.2**
comp=Z,77nm,0.9s
BSD Bornholm Skovb 64.22 320⇑ *iP* **P 22 08 49.9 -0.2**
BSD pmax pmax
comp=Z,77nm,0.9s
VYHS Vyhne 64.25 313 *eP* **P 22 08 51.7 +1.2**
VYHS pmax pmax
comp=Z,67nm,1.2s
VYHS Vyhne 64.25 313 *eP* **P 22 08 51.7 +1.2**
VAY Valandovo 64.37 304 *i* P **P 22 08 51.3 -0.1**
EREA Eretria 64.48 301 P **P 22 08 52.3 +0.1**
BUD Budapest 64.50 311⇑ *eP* **P 22 08 53.0 +0.9**
BEO Beograd 64.52 308 *eP* **P 22 08 50.6 -1.7**
BEO Beograd 64.52 308 *eP* **P 22 08 50.6 -1.7**
DOMB Dombas 64.59 329 *eP* **P 22 08 52.3 -0.2**
DOMB IAmb IAmb 22 08 53.7
comp=Z,60nm,1.0s
LAST Lasithi 64.59 297 P **P 22 08 53.3 +0.2**
MORC Moravsky Berou 64.59 314 *eP* **P 22 08 53.7 +0.9**
MORC pmax pmax
comp=Z,355nm,0.8s
MORC Moravsky Berou 64.59 314 *eP* **P 22 08 53.7 +0.9**
comp=Z,355nm,0.8s
OSL Oslo 64.61 326 *eP* **P 22 08 53.1 +0.4**
OSL IAmb IAmb 22 08 53.6
comp=Z,152nm,1.1s
GRG Griva 64.62 304 P **P 22 08 52.8 -0.3**
GRG Griva 64.62 304 P **P 22 08 52.8 -0.3**
NEO Neokhori 64.66 302 P **P 22 08 52.7 -0.7**
XOR Xorichti 64.66 302 P **P 22 08 52.8 -0.6**
SRO2 Moca 64.79 312 *eP* **P 22 08 54.5 +0.5**
SRO2 Moca 64.79 312 *eP* **P 22 08 54.5 +0.5**
FYTO Fytoko, Volos 64.82 302 P **P 22 08 53.9 -0.5**
LIT Litokhoron 64.88 303 P **P 22 08 54.1 -0.7**
SKO Skopje 64.91 305 *i* P **P 22 08 55.4 +0.4**
SKO Skopje 64.91 305 P **P 22 08 55.8 +0.8**
KRLC Kraliky 64.94 315⇑ *iP* **P 22 08 56.1 +1.0**
KRLC *ex* x 22 08 58.9
KRLC *ex* x 22 09 00.6
KRLC Kraliky 64.94 315⇑ *iP* **P 22 08 56.1 +1.0**
KSP Ksiaz 64.96 316 *eP* **P 22 08 56.0 +0.9**
KSP Ksiaz 64.96 316 *eP* **P 22 08 56.0 +0.9**
IDI Anoyia 64.98 297 P **P 22 08 55.0 -0.6**
comp=Z,59nm,0.7s,baz=50,slow=7.9,SNR=32
IDI Anoyia 64.98 297 P **P 22 08 54.8 -0.8**
IDI Anoyia 64.98 297 *eP* **P 22 08 54.9 -0.7**
comp=Z,68nm,0.8s
CSKK Cs¨tkako 65.02 311⇑ *eP* **P 22 08 56.3 +0.7**
MOL Molde 65.05 330 *eP* **P 22 08 55.9 +0.5**
MOL IAmb IAmb 22 08 57.3
comp=Z,89nm,0.9s
DPC Dobruska-Polom 65.12 315⇑ *eP* **P 22 08 57.6 +1.4**
DPC *ex* x 22 09 02.0
DPC *ex* x 22 11 07.4
DPC AMS AMS 22 38 30.0
comp=Z,900nm,12.7s
DPC Dobruska-Polom 65.12 315⇑ *eP* **P 22 08 57.6 +1.4**
DPC MLR MLR
comp=Z,900nm,12.7s
SMOL Smolenice 65.12 313 *eP* **P 22 08 57.6 +1.4**
SMOL Smolenice 65.12 313 *eP* **P 22 08 57.6 +1.4**
SIVA Sivas 65.15 297 P **P 22 08 56.5 -0.1**
UPC Upice 65.25 315⇑ *eP* **P 22 08 58.1 +1.1**
UPC *ex* x 22 09 03.0
UPC Upice 65.25 315⇑ *eP* **P 22 08 58.1 +1.1**
KONO Kongsberg 65.25 326 *eP* **P 22 08 56.7 0.0**
KONO IAmb IAmb 22 08 58.3
comp=Z,94nm,1.3s
KONO Kongsberg 65.25 326 *i* P **P 22 08 56.5 -0.3**
KONO pmax pmax
comp=Z,252nm,1.0s
KONO Kongsberg 65.25 326 *eP* **P 22 08 56.1 -0.7**
comp=Z,78nm,1.3s
KRUS Krusevo 65.27 304 *i* P **P 22 08 56.9 -0.5**
RGN Rugen 65.28 320 *eP* **P 22 08 57.1 +0.1**
comp=Z,124nm,1.0s
TOLK Toolik Lake Re 65.30 23 P **P 22 08 57.6 +0.5**
baz=296
TOLK Toolik Lake Re 65.30 23 *eP* **P 22 08 57.6 +0.5**
comp=Z,23nm,0.9s
KZN Kozani 65.31 303 P **P 22 08 56.7 -1.0**
COP Copenhagen 65.33 322⇑ *iP* **P 22 08 58.2 +0.8**
comp=Z,109nm,0.8s
COP Copenhagen 65.33 322⇑ *iP* **P 22 08 58.2 +0.8**
COP pmax pmax
comp=Z,110nm,0.8s
VRAC Vranov 65.34 314 P **P 22 08 58.7 +1.1**
comp=Z,65nm,0.9s,baz=70,slow=7.5,SNR=75
VRAC Vranov 65.34 314⇑ *iP* **P 22 08 58.8 +1.2**
BIA Bitola 65.35 304 *i* P **P 22 08 57.3 -0.6**
CTA Charters Tower 65.37 137 P **P 22 08 57.5 -0.6**
comp=Z,12nm,1.0s,baz=331,slow=11,SNR=6.1
CTAO Charters Tower 65.37 137 *eP* **P 22 08 57.8 -0.3**
CTAO pmax pmax
comp=Z,40nm,1.1s
CTAO MLR MLR
comp=Z,276nm,19.0s
CTAO Charters Tower 65.37 137 *eP* **P 22 08 57.8 -0.3**
comp=Z,40nm,1.1s
CTAO LR LR
comp=Z,276nm,19.0s
FNA Florina 65.41 304 P **P 22 08 57.1 -1.2**
FNA Florina 65.41 304 P **P 22 08 57.1 -1.2**
AGG Agios Georgios 65.41 302 P **P 22 08 57.2 -1.1**
AGG Agios Georgios 65.41 302 *eP* **P 22 08 57.4 -0.9**
AGG pmax pmax
comp=Z,414nm,0.7s
AGG Agios Georgios 65.41 302 *eP* **P 22 08 57.4 -0.9**
comp=Z,414nm,0.7s
THL Klokotos Trika 65.42 302 P **P 22 08 57.2 -1.1**
LLD Lille Linde 65.58 321 *iP* **P 22 08 59.6 +0.6**
comp=Z,152nm,0.8s
LLD *i* 22 09 04.8
LLD Lille Linde 65.58 321 *iP* **P 22 08 59.6 +0.6**
LLD pmax pmax
comp=Z,150nm,0.8s
IMMV Iera Moni Meta 65.60 298 P **P 22 08 59.0 -0.5**
FURI Furi 65.60 265 *eP* **P 22 09 01.5 +1.3**
comp=Z,67nm,1.2s
DAG Danmarks Havn 65.63 348 *iP* **P 22 08 58.5 -0.5**
comp=Z,17nm,0.9s
DAG Danmarks Havn 65.63 348 *iP* **P 22 08 58.5 -0.5**
DAG pmax pmax
comp=Z,14nm,0.9s
IVA Berane 65.63 306⇑ *iP* **P 22 09 00.7 +1.0**
OHR Ohrid 65.69 304 *iP* **P 22 09 00.2 +0.1**
PVY Plav 65.69 306 *eP* **P 22 09 00.6 +0.4**
COLD Coldfoot 65.72 24 *eP* **P 22 09 00.2 +0.5**
comp=Z,32nm,1.0s
COLD *e*PP **PP 22 11 29.0 +5.1**
COLD LR LR
comp=Z,2μm,18.0s
KPRO Kipourio 65.74 303 P **P 22 08 59.3 -1.1**
PLE Pljevlja 65.80 307⇑ *iP* **P 22 09 01.8 +1.0**
PENT Pentalofos 65.80 303 P **P 22 08 59.5 -1.4**
EVR Evrytania 65.82 302 P **P 22 09 00.0 -1.0**
ANX Ano Chora 65.87 301 P **P 22 09 00.4 -0.9**
VLI Veliai 65.87 299 P **P 22 08 59.0 -2.2**
KOME Kolasin 65.90 307⇑ *iP* **P 22 09 02.3 +0.9**
TREC Trest 66.02 314⇑ *eP* **P 22 09 03.2 +1.2**
TREC Trest 66.02 314 *eP* **P 22 09 03.2 +1.2**
PVCC Panska Ves 66.09 316⇑ *eP* **P 22 09 03.5 +1.1**
PVCC *ex* x 22 09 08.4
PVCC AMS AMS 22 39 10.0
comp=Z,800nm,13.0s
PVCC Panska Ves 66.09 316 *eP* **P 22 09 03.5 +1.1**
PVCC MLR MLR
comp=Z,800nm,13.0s
NWAO Narrogin (SRO) 66.10 169 P **P 22 09 02.3 -0.2**
comp=Z,22nm,0.8s,baz=331,slow=15,SNR=7.2
NWAO Narrogin (SRO) 66.10 169 *eP* **P 22 09 02.1 -0.4**
comp=Z,51nm,1.0s
NWAO LR LR
comp=Z,379nm,19.0s
PVO Paravola 66.15 302 P **P 22 09 02.5 -0.5**
SDPT Sand Point 66.15 39 *eP* **P 22 09 02.0 -0.6**
comp=Z,147nm,1.2s
UPM Unac-Piva 66.17 307 *eP* **P 22 09 03.5 +0.2**
GOPC GO Pecny, Ondr 66.20 315⇑ *iP* **P 22 09 04.1 +1.0**
GOPC *ex* x 22 09 08.9
GOPC AMS AMS 22 39 10.0
comp=Z,800nm,11.4s
GOPC GO Pecny, Ondr 66.20 315⇑ *iP* **P 22 09 04.1 +1.0**
GOPC MLR MLR
comp=Z,800nm,11.4s
HYA Hoyanger 66.20 328 *eP* **P 22 09 02.9 0.0**
HYA IAmb IAmb 22 09 03.9
comp=Z,90nm,1.2s
SVW2 Sparrevohn 66.21 32 *eP* **P 22 09 04.7 +1.7**
comp=Z,18nm,0.8s
PDG Podgorica 66.24 306⇑ *iP* **P 22 09 04.0 +0.5**
TTG Podgorica 66.24 306⇑ *iP* **P 22 09 03.8 +0.3**
TIR Tirane 66.24 305⇑ *iP* **P 22 09 03.3 -0.2**
TIR Tirane 66.24 305 *eP* **P 22 09 03.4 -0.2**
TIR pmax pmax
comp=Z,95nm,1.0s
TIR MLR MLR
comp=Z,463nm,19.0s
TIR Tirane 66.24 305 *eP* **P 22 09 03.4 -0.2**
comp=Z,96nm,1.0s
TIR LR LR
comp=Z,463nm,19.0s
DSL Palaion Diasel 66.25 302 P **P 22 09 02.8 -0.9**
NKY Niksic 66.27 307⇑ *iP* **P 22 09 04.4 +0.6**
BEHE Becsehely 66.30 311⇓ *eP* **P 22 09 05.1 +1.3**
BEHE *ex* x 22 09 09.6
HOMB Homborsund 66.31 325 *eP* **P 22 09 03.2 -0.4**
HOMB IAmb IAmb 22 09 04.3
comp=Z,66nm,1.2s
CONA Conrad Observa 66.31 313 *iP* **P 22 09 05.1 +1.1**
comp=Z,64nm,1.1s,SNR=37
NKME Niksic 66.31 307⇑ *iP* **P 22 09 04.6 +0.6**
PRU Pruhonice 66.32 315⇑ *iP* **P 22 09 04.8 +0.9**
PRU *ex* x 22 09 09.3
PRU AMS AMS 22 39 10.0
PRU Pruhonice 66.32 315⇑ *iP* **P 22 09 04.8 +0.9**
BRG Berggiesshubel 66.33 316⇑ *iP* **P 22 09 04.7 +0.8**
comp=Z,66nm,0.8s
BRG *i* 22 09 07.5
comp=Z,48nm,0.8s
BRG Berggiesshubel 66.33 316⇑ *iP* **P 22 09 04.7 +0.8**
BRG pmax pmax
comp=Z,66nm,0.8s
PRA Prague 66.35 315⇑ *eP* **P 22 09 05.1 +1.0**
PRA *ex* x 22 09 09.3
PRA AMS AMS 22 39 20.0
comp=Z,1μm,17.0s
PRA Prague 66.35 315 *eP* **P 22 09 05.1 +1.0**
PRA MLR MLR
comp=Z,1μm,17.0s
DRME Dracevica, Mon 66.38 306⇑ *iP* **P 22 09 04.9 +0.5**
CEME Cevo 66.42 306⇑ *iP* **P 22 09 04.9 +0.1**
ULC Ulcinj 66.43 306⇑ *iP* **P 22 09 04.6 -0.2**
ITM Ithomi 66.43 300 P **P 22 09 02.8 -2.0**
MLY Manley 66.50 27 *eP* **P 22 09 05.5 +0.6**
comp=Z,37nm,1.1s
BUM Brajici-Budva 66.53 306⇑ *iP* **P 22 09 05.6 +0.1**
BRY Bratogost 66.54 307⇑ *iP* **P 22 09 05.6 0.0**
FORT Forrest 66.58 159 *eP* **P 22 09 05.4 -0.1**
comp=Z,454nm,0.9s
FORT LR LR
comp=Z,3μm,20.0s
KOGS Kog 66.64 311⇑ *iP* **P 22 09 06.2 +0.2**
SGD Sagiada 66.67 303 P **P 22 09 05.2 -1.1**
PYL PYLOS 66.68 300 P **P 22 09 04.5 -1.9**
CAST Castle Rocks 66.70 29 *eP* **P 22 09 06.1 0.0**
comp=Z,16nm,0.9s
LKD2 Lefkada island 66.70 302 P **P 22 09 05.2 -1.4**
CLL Collm 66.70 317⇑ *iP* **P 22 09 06.8 +0.5**
CLL pmax pmax
comp=Z,76nm,1.1s
CLL MLR MLR
comp=Z,500nm,19.3s
CLL Collm 66.70 317⇑ *iP* **P 22 09 06.8 +0.5**
comp=Z,76nm,1.1s
CLL *i* pP **sP 22 09 11.5 -2.1**
CLL Lm MLR 22 39 00.0
comp=Z,500nm,19.3s
CLL Collm 66.70 317 *eP* **P 22 09 06.0 -0.3**
comp=Z,67nm,1.0s
BLY Banja Luka 66.71 309 *eP* **P 22 09 07.1 +0.7**
comp=Z,61nm,1.0s
MUD Monsted U'grnd 66.71 323⇑ *iP* **P 22 09 07.0 +0.8**
comp=Z,75nm,0.8s
MUD Monsted U'grnd 66.71 323 *eP* **P 22 09 07.3 +1.1**
MUD IAmb IAmb 22 09 08.0
comp=Z,186nm,1.2s
MUD Monsted U'grnd 66.71 323⇑ *iP* **P 22 09 07.0 +0.8**
MUD pmax pmax
comp=Z,75nm,0.8s
HNR Honiara 66.72 119 *eP* **P 22 09 04.0 -2.9**
HNR pmax pmax
comp=Z,138nm,1.1s
HNR MLR MLR
comp=Z,283nm,20.0s
HNR Honiara 66.72 119 *eP* **P 22 09 04.0 -2.9**
comp=Z,138nm,1.1s
HNR LR LR
comp=Z,283nm,20.0s
HCY Herceg Novi 66.75 306⇑ *iP* **P 22 09 06.5 -0.3**
ARSA Arzberg 66.79 312 *iP* **P 22 09 07.6 +0.6**
comp=Z,40nm,0.9s,SNR=32
BLS5 Blasjo 66.81 327 *eP* **P 22 09 07.1 +0.3**
BLS5 IAmb IAmb 22 09 08.7
comp=Z,71nm,1.2s
BPAW Bear Paw Mtn. 66.83 28 *eP* **P 22 09 06.9 0.0**
comp=Z,58nm,1.1s
CHGN Chignik 66.83 37 *eP* **P 22 09 07.2 +0.2**
comp=Z,42nm,1.0s
PPLA Purkeypile 66.89 29 *eP* **P 22 09 07.5 +0.1**
comp=Z,62nm,0.8s
SNART Snartemo 66.91 325 *eP* **P 22 09 08.0 +0.5**
SNART IAmb IAmb 22 09 08.6
comp=Z,122nm,1.4s
BER Bergen 66.91 328 *eP* **P 22 09 07.7 +0.3**
SISC Sisak 66.95 310 P **P 22 09 09.1 +1.1**
VLS Valsamata 67.00 302 P **P 22 09 06.8 -1.6**
KTH Kantishna Hill 67.10 28 *eP* **P 22 09 07.8 -1.0**
comp=Z,66nm,1.2s
KHC Kasperske Hory 67.23 315⇑ *iP* **P 22 09 10.5 +0.7**
KHC *ex* x 22 09 15.6
KHC *e*PP **PP 22 11 30.9 -6.7**
KHC Kasperske Hory 67.23 315 *eP* **P 22 09 10.5 +0.7**
KHC pmax pmax
comp=Z,10.0nm,0.7s
KHC Kasperske Hory 67.23 315 *eP* **P 22 09 10.5 +0.7**
comp=Z,10nm,0.7s
KHC *e*PP **PP 22 11 31.0 -6.6**
GERES GERESS Array B 67.27 314 P **P 22 09 10.8 +0.7**
comp=Z,47nm,0.9s,baz=69,slow=5.3,SNR=298
PERS Pernice 67.29 312⇑ *iP* **P 22 09 10.6 +0.4**
SOKA Soboth 67.32 312 *iP* **P 22 09 10.8 +0.4**
comp=Z,93nm,1.0s,SNR=64
MOA Molln 67.33 313 *iP* **P 22 09 11.5 +1.1**
comp=Z,61nm,0.8s,SNR=36
NKC Novy Kostel 67.45 316⇑ *iP* **P 22 09 12.0 +0.8**
NKC *ex* x 22 09 17.0
NKC *ex* x 22 09 19.8
NKC AMS AMS 22 39 50.0
comp=Z,1μm,16.8s
NKC Novy Kostel 67.45 316⇑ *iP* **P 22 09 12.0 +0.8**
NKC *e* 22 09 19.8
NKC MLR MLR
comp=Z,1μm,16.8s
OZLJ Ozalj 67.48 311 P **P 22 09 12.1 +0.8**
MDM Murphy Dome 67.48 26 *eP* **P 22 09 11.3 +0.2**
comp=Z,98nm,1.3s
PDKS Podkum 67.60 311 *iP* **P 22 09 12.7 +0.6**
WET Wettzell 67.65 315 P **P 22 09 13.1 +0.7**
WET pmax pmax
comp=Z,47nm,1.1s
BOJS Bojanci 67.66 311⇑ *iP* **P 22 09 13.3 +0.9**
COLA College 67.66 26 *eP* **P 22 09 12.7 +0.6**
COLA pmax pmax
comp=Z,90nm,1.1s
COLA College 67.66 26 *eP* **P 22 09 12.7 +0.6**
comp=Z,90nm,1.1s
OBKA Obir 67.70 312 *iP* **P 22 09 13.3 +0.5**
comp=Z,42nm,1.1s,SNR=20

SPU Mount Spurr 67.72 31 *eP* **P 22 09 13.5 +0.8**
UDBI Udbina 67.73 309 P **P 22 09 13.3 +0.3**
RSO Redoubt South 67.74 32 *eP* **P 22 09 13.8 +0.9**
FYU Fort Yukon 67.76 24 *eP* **P 22 09 12.8 +0.1**
comp=Z,57nm,1.2s
WRH Wood River Hil 67.77 27 *eP* **P 22 09 12.9 0.0**
comp=Z,21nm,1.1s
MOX Moxa 67.77 317 P **P 22 09 13.7 +0.6**
MOX pmax pmax
comp=Z,47nm,1.1s
CCB Clear Creek Bu 67.79 26 *eP* **P 22 09 11.7 -1.3**
comp=Z,7.8nm,0.8s
MCK McKinley 67.80 28 *eP* **P 22 09 12.9 -0.2**
MCK pmax pmax
comp=Z,99nm,1.9s
MCK McKinley 67.80 28 *eP* **P 22 09 12.9 -0.2**
comp=Z,99nm,1.9s
LJU Ljubljana 67.90 311⇑ *iP* **P 22 09 14.5 +0.4**
RND Reindeer 67.99 28 *eP* **P 22 09 13.4 -1.0**
RND pmax pmax
comp=Z,35nm,1.0s
RND Reindeer 67.99 28 *eP* **P 22 09 13.4 -1.0**
comp=Z,34nm,1.0s
ILAR Eielson Array 68.07 26 P **P 22 09 14.2 -0.5**
comp=Z,17nm,1.1s,baz=281,slow=5.5,SNR=43
ILAR LR LR 22 41 21.4
comp=Z,526nm,18.0s,baz=306,slow=38
ILB Eielson Array 68.07 26 *eP* **P 22 09 13.9 -0.8**
SUA Susitna One 68.14 30 *eP* **P 22 09 14.8 -0.6**
comp=Z,68nm,1.1s
KBA Koelnbreinsper 68.22 313 P **P 22 09 16.5 +0.3**
KBA pmax pmax
comp=Z,93nm,0.9s
KBA Koelnbreinsper 68.22 313 *i* P **P 22 09 16.8 +0.6**
comp=Z,33nm,0.5s,SNR=45
MYKA Terra Mystica 68.22 312 *i* P **P 22 09 16.2 +0.1**
comp=Z,18nm,0.9s,SNR=6.0
NVLJ Novalja 68.30 310 P **P 22 09 16.1 -0.4**
CADS Cadrg 68.33 312⇑ *iP* **P 22 09 16.4 -0.3**
GRF Grafenberg Arr 68.40 316 P **P 22 09 18.2 +1.1**
GRF pmax pmax
comp=Z,152nm,1.4s
GRFO Grafenberg 68.40 316 *eP* **P 22 09 17.9 +0.8**
GRFO pmax pmax
comp=Z,128nm,1.0s
GRFO Grafenberg 68.40 316 *eP* **P 22 09 17.9 +0.8**
comp=Z,128nm,1.0s
TRI Trieste 68.53 311 *eP* **P 22 09 17.9 0.0**
TRI pmax pmax
comp=Z,88nm,0.9s
TRI Trieste 68.53 311 *eP* **P 22 09 17.9 0.0**
comp=Z,88nm,0.9s
DHY Denali Highway 68.74 28 *eP* **P 22 09 18.8 -0.3**
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 68.75 30 *eP* **P 22 09 19.4 +0.3**
comp=Z,100nm,1.2s
PMR Palmer 68.76 30 *eP* **P 22 09 18.5 -0.6**
PMR pmax pmax
comp=Z,62nm,1.2s
PMR Palmer 68.76 30 *eP* **P 22 09 18.5 -0.6**
comp=Z,62nm,1.2s
SII Sitkinak Islan 68.84 36 *eP* **P 22 09 20.4 +0.7**
comp=Z,154nm,1.4s
CNPM China Poot 68.85 32 *eP* **P 22 09 20.1 +0.4**
comp=Z,353nm,2.0s
ABTA Abfaltersbach 68.87 313 *i* P **P 22 09 19.9 -0.3**
comp=Z,31nm,0.7s,SNR=19
BRLK Bradley Lake 68.89 32 *eP* **P 22 09 19.8 -0.2**
comp=Z,186nm,1.6s
OHAK Old Harbor 68.97 35 *eP* **P 22 09 19.8 -0.6**
comp=Z,68nm,1.0s
SML Sawmill 68.99 29 *eP* **P 22 09 20.4 -0.2**
SML pmax pmax
comp=Z,48nm,0.8s
SML Sawmill 68.99 29 *eP* **P 22 09 20.4 -0.2**
comp=Z,48nm,0.8s
FUR Furstenfeldbru 69.02 314 P **P 22 09 22.0 +1.0**
FUR pmax pmax
comp=Z,285nm,1.0s
KDAK Kodiak Island 69.05 34 P **P 22 09 21.0 +0.1**
comp=Z,22nm,0.5s,baz=306,slow=3.5,SNR=25
KDAK Kodiak Island 69.05 34 *eP* **P 22 09 20.3 -0.6**
comp=Z,178nm,1.5s
KDAK LR LR
comp=Z,257nm,19.0s
ORI Oriolo Calabro 69.14 305 P **P 22 09 23.5 +1.6**
ORI pmax pmax
comp=Z,4.0nm,0.9s
WTTA Wattenberg 69.19 313 *i* P **P 22 09 22.7 +0.4**
comp=Z,93nm,1.0s,SNR=29
WATA Walderalm 69.20 313 *i* P **P 22 09 22.5 +0.3**
comp=Z,48nm,0.8s,SNR=27
SEW Seward 69.36 31 *eP* **P 22 09 22.4 -0.4**
comp=Z,147nm,1.6s
SCM Sheep Creek Mo 69.39 29 *eP* **P 22 09 23.8 +0.7**
SCM pmax pmax
comp=Z,107nm,0.9s
SCM Sheep Creek Mo 69.39 29 *eP* **P 22 09 23.8 +0.7**
comp=Z,107nm,0.9s
MOTA Moosalm 69.48 314 *i* P **P 22 09 24.3 +0.2**
comp=Z,94nm,1.0s,SNR=59
PAX Paxson 69.54 27 *eP* **P 22 09 23.6 -0.4**
PAX pmax pmax
comp=Z,15nm,1.0s
PAX Paxson 69.54 27 *eP* **P 22 09 23.6 -0.4**
comp=Z,15nm,1.0s
CUC Castrocucco 69.61 305 *eP* **P 22 09 23.9 -0.9**
comp=Z,42nm,0.7s
CUC *e*PP **PP 22 11 58.3 -0.2**
CUC LR LR
comp=Z,307nm,20.0s
RETA Reutte 69.63 314 *i* P **P 22 09 25.3 +0.4**
comp=Z,39nm,1.1s,SNR=20
FETA Feichten 69.86 313 *i* P **P 22 09 26.7 +0.4**
comp=Z,42nm,0.6s,SNR=40
WTSB Winterswijk 69.92 319 *i* P **P 22 09 27.3 +1.0**
comp=Z,134nm,1.0s
HARP HAARP 69.96 28 *eP* **P 22 09 28.0 +1.4**
comp=Z,79nm,1.2s
STU Stuttgart 70.00 316 *eP* **P 22 09 27.7 +0.7**
STU pmax pmax
comp=Z,88nm,1.0s
STU Stuttgart 70.00 316 *eP* **P 22 09 27.7 +0.7**
comp=Z,88nm,1.0s
KLU Klutina 70.14 29 *eP* **P 22 09 27.0 -0.7**
comp=Z,60nm,1.0s
EGAK Eagle 70.14 25 *eP* **P 22 09 27.6 0.0**
comp=Z,18nm,1.0s
AQU L'Aquila 70.21 308 *eP* **P 22 09 29.5 +1.0**
AQU pmax pmax
comp=Z,115nm,1.0s
AQU MLR MLR
comp=Z,402nm,19.0s
AQU L'Aquila 70.21 308 *eP* **P 22 09 29.5 +1.0**
comp=Z,115nm,1.0s
AQU LR LR
comp=Z,402nm,19.0s
MENT Mentasta 70.23 27 *eP* **P 22 09 28.3 +0.1**
comp=Z,20nm,0.9s
DAVA Damuels 70.25 314 *i* P **P 22 09 29.0 +0.2**
comp=Z,50nm,1.1s,SNR=15
FUORN Ofenpass-Fuorn 70.32 313 *eP* **P 22 09 29.8 +0.4**
comp=Z,118nm,0.9s
DIV Divide 70.39 29 *eP* **P 22 09 28.3 -0.9**
comp=Z,48nm,0.8s
INK Inuvik 70.44 20 P **P 22 09 29.4 +0.2**
comp=Z,16nm,0.7s,baz=327,slow=6.7,SNR=51
DAVOX Davos/Dischmat 70.48 313 P **P 22 09 30.7 +0.4**
comp=Z,113nm,0.8s,baz=71,slow=3.5,SNR=114
BFO Black Forest 70.71 315 *i* P **P 22 09 31.9 +0.5**
BFO Black Forest 70.71 315 *eP* **P 22 09 31.5 +0.1**
comp=Z,53nm,1.0s
LANF Langenberg 70.72 316⇑ *eP* **P 22 09 31.9 +0.5**
LANF Langenberg 70.72 316 P **P 22 09 32.2 +0.8**
SLE Schleitheim 70.88 315 P **P 22 09 32.6 +0.2**
TUE Stuetta 70.95 313 *eP* **P 22 09 33.4 +0.2**
comp=Z,68nm,0.8s
TUE LR LR
comp=Z,499nm,20.0s
HGN Heimansgroeve 70.96 318 *i* P **P 22 09 33.5 +0.7**
comp=Z,57nm,0.9s
BMRM Bremner River 70.96 29 *eP* **P 22 09 32.9 +0.2**
comp=Z,88nm,1.1s
MEM Membach 70.99 318 P **P 22 09 33.5 +0.5**
comp=Z,26nm,1.2s
BEBN Eben Emael 71.08 319 P **P 22 09 34.2 +0.6**
comp=Z,15nm,1.2s

DAWY Dawson 71.18 25 *eP* **P 22 09 34.0 0.0**
comp=Z,25nm,1.0s
BBOO Buckleboo 71.20 153 *eP* **P 22 09 34.4 0.0**
comp=Z,73nm,1.1s
CDF Champ du Feu 71.30 316 *eP* **P 22 09 34.2 -0.8**
CDF pmax pmax
comp=Z,67nm,0.9s
WLF Walferdange 71.35 317 P **P 22 09 36.4 +1.1**
comp=Z,144nm,1.2s
WLF E 22 09 41.5
WLF Walferdange 71.35 317 *eP* **P 22 09 36.0 +0.7**
WLF pmax pmax
comp=Z,186nm,0.9s
WLF Walferdange 71.35 317 *eP* **P 22 09 36.0 +0.7**
comp=Z,186nm,0.9s
VLC Villacollemand 71.36 311 *eP* **P 22 09 36.1 +0.7**
comp=Z,78nm,0.9s
VLC LR LR
comp=Z,199nm,19.0s
ECH Echery 71.46 316⇑ *eP* **P 22 09 36.2 +0.3**
ECH Echery 71.46 316 *eP* **P 22 09 35.1 -0.8**
ECH pmax pmax
comp=Z,49nm,1.0s
ECH MLR MLR
comp=Z,468nm,19.0s
ECH Echery 71.46 316 *eP* **P 22 09 35.1 -0.8**
comp=Z,50nm,1.0s
ECH LR LR
comp=Z,468nm,19.0s
BCLA Clavier 71.47 318 P **P 22 09 36.5 +0.5**
comp=Z,46nm,1.4s
MOF Molkenrain 71.64 315⇑ *eP* **P 22 09 37.5 +0.4**
CRQM Cirque 71.67 29 *eP* **P 22 09 37.2 +0.1**
comp=Z,222nm,1.9s
VAE Valguarnera 71.71 303 P **P 22 09 38.4 +0.7**
comp=Z,18nm,0.5s,baz=350,slow=4.3,SNR=7.3
HINF Hinteralfeld 71.83 315 *eP* **P 22 09 37.1 -1.1**
HINF pmax pmax
comp=Z,55nm,0.9s
BALM Baldy 71.83 28 *eP* **P 22 09 37.3 -0.8**
BALM pmax pmax
comp=Z,28nm,1.0s
BALM Baldy 71.83 28 *eP* **P 22 09 37.3 -0.8**
comp=Z,28nm,1.0s
GIVF Givet 71.90 318 *eP* **P 22 09 38.0 -0.5**
GIVF pmax pmax
comp=Z,66nm,0.9s
SNF Seneffe 72.00 319 P **P 22 09 39.6 +0.6**
DOU Dourbes 72.03 318 P **P 22 09 39.5 +0.3**
comp=Z,25nm,1.3s
LOMF Lomont 72.06 315⇑ *eP* **P 22 09 39.8 +0.1**
THEF They Montfort 72.14 316⇑ *eP* **P 22 09 40.5 +0.5**
MCD Coleburn Disti 72.16 328⇑ *eP* **P 22 09 40.2 +0.3**
MME1 Meikle Cairn 72.17 327⇑ *eP* **P 22 09 40.2 +0.1**
RES Resolute Bay 72.19 6 P **P 22 09 40.4 +0.6**
comp=Z,30nm,0.9s,baz=4.1,slow=7.4,SNR=30
SUMG Summit 72.21 349 *i* P **P 22 09 41.1 +0.6**
comp=Z,50nm,1.1s
SUMG Summit 72.21 349 *i* P **P 22 09 41.1 +0.6**
SUMG pmax pmax
comp=Z,50nm,1.1s
SUMG Summit 72.21 349 *eP* **P 22 09 40.7 +0.2**
comp=Z,46nm,1.0s
KMBO Kilima Mbogo 72.25 257 P **P 22 09 42.1 +0.7**
comp=Z,11nm,0.7s,baz=44,slow=10,SNR=36
KMBO LR LR 22 43 12.3
comp=Z,86nm,18.2s,baz=88,slow=37
KMBO Kilima Mbogo 72.25 257 *i* P **P 22 09 42.4 +0.9**
KMBO pmax pmax
comp=Z,11nm,0.7s
KMBO Kilima Mbogo 72.25 257 *eP* **P 22 09 41.4 -0.1**
comp=Z,73nm,1.5s
SENIN Lac Senin/Sane 72.25 314 *eP* **P 22 09 40.6 -0.4**
comp=Z,43nm,0.8s
EIDS Eidsvold 72.26 137 *eP* **P 22 09 41.7 +0.9**
comp=Z,56nm,1.1s
BAIF Baives 72.26 318 *eP* **P 22 09 41.1 +0.4**
BAIF pmax pmax
comp=Z,52nm,0.9s
KULLO Kullorsuaq 72.50 355 *i* P **P 22 09 42.4 +0.7**
comp=Z,38nm,0.8s
KULLO Kullorsuaq 72.50 355 *i* P **P 22 09 42.4 +0.7**
KULLO pmax pmax
comp=Z,38nm,0.8s
CLTB Caltabellotta 72.50 304 *eP* **P 22 09 41.9 -0.5**
comp=Z,57nm,1.1s
CLTB LR LR
comp=Z,106nm,19.0s
EDU Dundee 72.61 327 *eP* **P 22 09 42.9 +0.2**
OG01 Vacheresse 72.64 314⇑ *eP* **P 22 09 43.7 +0.5**
STKA Stephens Creek 72.68 148 P **P 22 09 43.2 -0.1**
comp=Z,15nm,0.7s,baz=329,slow=6.8,SNR=32
STKA Stephens Creek 72.68 148 *eP* **P 22 09 43.2 -0.1**
comp=Z,8.8nm,0.9s
MDO Dochfour 72.73 328⇑ *eP* **P 22 09 43.1 -0.2**
WACR West Acre 72.85 322 *eP* **P 22 09 44.3 +0.2**
WACR IAmb IAmb 22 09 45.1
comp=Z,189nm,1.1s
RSL Roselend 72.99 314⇑ *eP* **P 22 09 45.7 +0.4**
LPG La Plagne 73.01 313 *eP* **P 22 09 45.4 -0.2**
LPG pmax pmax
comp=Z,185nm,0.6s
LPL La Plagne 73.01 313 *eP* **P 22 09 45.3 -0.2**
LPL pmax pmax
comp=Z,192nm,0.7s
EDMD Edmundbyers 73.04 325 *eP* **P 22 09 45.0 -0.2**
EDMD IAmb IAmb 22 09 45.8
comp=Z,38nm,0.8s
KAC Achnashellach 73.12 328 *eP* **P 22 09 45.8 +0.1**
MENF Mencas 73.15 320 *eP* **P 22 09 48.9 +3.0**
OG22 Abries 73.22 313⇑ *eP* **P 22 09 46.8 +0.1**
SAOF Saorge 73.24 312 *eP* **P 22 09 47.1 +0.4**
BNI Bardonecchia 73.27 313 *eP* **P 22 09 47.3 +0.4**
BNI pmax pmax
comp=Z,96nm,1.0s
BNI Bardonecchia 73.27 313 *eP* **P 22 09 47.3 +0.4**
comp=Z,96nm,1.0s
HPK Haverah Park 73.34 324 *eP* **P 22 09 46.9 -0.1**
HPK IAmb IAmb 22 09 47.9
comp=Z,54nm,0.8s
EKA Eskdalemuir Ar 73.34 326 P **P 22 09 47.2 +0.2**
baz=64,slow=5.4
ESK Eskdalemuir 73.37 326 *eP* **P 22 09 46.7 -0.5**
ESK IAmb IAmb 22 09 48.1
comp=Z,216nm,1.9s
ESK Eskdalemuir 73.37 326 *eP* **P 22 09 46.8 -0.4**
ESK pmax pmax
comp=Z,80nm,1.3s
ESK Eskdalemuir 73.37 326 *eP* **P 22 09 46.8 -0.4**
comp=Z,80nm,1.3s
LUCF Luceram 73.42 312 *eP* **P 22 09 48.2 +0.4**
REVF Revere 73.48 312 *eP* **P 22 09 48.3 +0.2**
BHH Howats Hill 73.50 325 *eP* **P 22 09 48.4 +0.4**
MVIF Mont Vial 73.54 312⇑ *eP* **P 22 09 48.9 +0.3**
GDM Grand'Maison 73.54 313⇑ *eP* **P 22 09 49.4 +0.8**
LHO Holmfirth 73.68 324⇑ *eP* **P 22 09 49.2 +0.1**
PGBU Gleniffer braes 73.70 326 *eP* **P 22 09 49.4 +0.3**
GRN Grenoble 73.75 313⇑ *eP* **P 22 09 50.5 +0.8**
ORIF Oris-en-Rattie 73.83 313 *eP* **P 22 09 49.7 -0.5**
ORIF pmax pmax
comp=Z,105nm,0.8s
HYT Haines Junctio 73.86 27 *eP* **P 22 09 50.4 +0.3**
comp=Z,43nm,1.0s
HMNX Herstmonceux 73.98 320 *eP* **P 22 09 51.5 +0.8**
HMNX IAmb IAmb 22 09 52.3
comp=Z,293nm,1.1s
VSL Villasalto 74.24 307 *eP* **P 22 09 53.0 +0.4**
comp=Z,36nm,0.9s
OG26 St.-Nazaire-De 74.35 313⇑ *eP* **P 22 09 54.2 +1.0**
AVF Avril sur Loir 74.40 316 *eP* **P 22 09 52.5 -0.9**
AVF pmax pmax
comp=Z,97nm,1.0s
SSB Saint Sauveur 74.47 314⇑ *eP* **P 22 09 53.9 +0.1**
SSB Saint Sauveur 74.47 314 *eP* **P 22 09 53.9 +0.1**
SSB pmax pmax
comp=Z,37nm,1.1s
SSB Saint Sauveur 74.47 314 *eP* **P 22 09 53.9 +0.1**
comp=Z,38nm,1.1s
SSW Stow on the Wo 74.54 322⇑ *eP* **P 22 09 54.4 +0.3**
VIVF Saint-Julien-l 74.60 314 *eP* **P 22 09 53.8 -0.8**
VIVF pmax pmax
comp=Z,57nm,0.8s
LEPF PUYLOUBIER 74.64 312 *eP* **P 22 09 55.3 +0.5**
PLDF La Plantade 74.67 315 *eP* **P 22 09 55.6 +0.6**
FOEL Foel Wylfa 74.72 323⇑ *eP* **P 22 09 55.5 +0.4**

FOEL IAmb IAmb 22 09 56.2
comp=Z,71nm,0.9s
WIM Isle of Man 74.73 325⇑ *eP* **P 22 09 55.4 +0.2**
HLM1 Long Mynd 74.76 323 *eP* **P 22 09 55.4 0.0**
HLM1 IAmb IAmb 22 09 56.6
comp=Z,52nm,0.8s
STRD Stroud 74.81 322 *eP* **P 22 09 55.3 -0.3**
STRD IAmb IAmb 22 09 56.5
comp=Z,142nm,1.2s
BGF Bois d'Agland 74.82 316 *eP* **P 22 09 54.9 -0.9**
BGF pmax pmax
comp=Z,41nm,1.1s
COLF Collangettes 74.86 314⇑ *eP* **P 22 09 56.7 +0.6**
AGO Saint Agoulin 74.92 315⇑ *eP* **P 22 09 57.3 +0.9**
WLF1 Llynfaes 75.09 324 *eP* **P 22 09 57.5 +0.3**
WLF1 IAmb IAmb 22 09 58.3
comp=Z,147nm,1.1s
MCH1 Michaelchurch 75.11 323 *eP* **P 22 09 57.4 0.0**
MCH1 IAmb IAmb 22 09 58.2
comp=Z,144nm,1.5s
PYM Petit Puy Mans 75.15 315⇑ *eP* **P 22 09 58.6 +0.8**
LBL Lubilhac 75.27 314 *eP* **P 22 09 59.4 +0.8**
TCF Toulx Ste Croi 75.34 316 *eP* **P 22 09 58.3 -0.5**
TCF pmax pmax
comp=Z,83nm,1.0s
LDF La Druitiere 75.45 319 *eP* **P 22 09 59.4 0.0**
LDF pmax pmax
comp=Z,51nm,0.9s
SKAG Skagway 75.57 27 *eP* **P 22 09 58.5 -1.3**
comp=Z,75nm,0.9s
LPW Lampeter 75.59 323 *eP* **P 22 10 00.2 +0.1**
FRNF Fournols 75.60 315⇑ *eP* **P 22 10 01.4 +1.0**
GRR Gorron 75.97 319 *eP* **P 22 10 02.5 +0.1**
GRR pmax pmax
comp=Z,82nm,0.9s
KEST Kesra 76.12 304 P **P 22 10 04.2 +0.6**
comp=Z,22nm,0.7s,baz=341,slow=1.2,SNR=38
KEST Kesra 76.12 304 *eP* **P 22 10 03.3 -0.3**
comp=Z,38nm,0.8s
CAF Calviac 76.15 315 *eP* **P 22 10 03.2 -0.3**
CAF pmax pmax
comp=Z,34nm,0.8s
CMAH Djebel Manchou 77.01 305 P **P 22 10 10.1 +1.5**
ILULI Ilulissat 77.05 352 *i* P **P 22 10 08.3 +0.2**
comp=Z,30nm,0.9s
ILULI Ilulissat 77.05 352 *i* P **P 22 10 08.3 +0.2**
ILULI pmax pmax
comp=Z,30nm,0.9s
ABSA Djebel Ababsia 77.15 305 P **P 22 10 11.5 +2.1**
MBAR Mbarara 77.36 261 *eP* **P 22 10 10.1 -0.9**
MBAR pmax pmax
comp=Z,32nm,1.3s
MBAR MLR MLR
comp=Z,200nm,18.0s
MBAR Mbarara 77.36 261 *eP* **P 22 10 10.1 -0.9**
comp=Z,32nm,1.3s
MBAR LR LR
comp=Z,200nm,18.0s
QUIF Quistinic 77.51 319 *eP* **P 22 10 10.6 -0.5**
QUIF pmax pmax
comp=Z,121nm,1.3s
CASM Ain Smara 77.84 305 P **P 22 10 15.0 +1.8**
CTEI Djebel Teioual 78.00 305 P **P 22 10 16.9 +2.7**
DFRA Djebel Bou Aff 78.11 306 P **P 22 10 17.1 +2.3**
DLBC Dease Lake 78.28 26 P **P 22 10 15.9 +0.6**
comp=Z,10nm,0.9s,baz=306,slow=5.0,SNR=11
SET Setif 78.62 306 P **P 22 10 19.0 +1.4**
CKHR Kef el Ahmar 78.64 305 P **P 22 10 20.2 +2.4**
CAN Canberra 78.98 145 *eP* **P 22 10 18.2 -1.1**
CAN pmax pmax
comp=Z,63nm,1.4s
CAN Canberra 78.98 145 *eP* **P 22 10 18.2 -1.1**
comp=Z,63nm,1.4s
SFJD Kangerlussuaq 79.08 351 P **P 22 10 19.8 +0.5**
comp=Z,35nm,0.8s,baz=12,slow=5.0,SNR=7.5
SFJD Kangerlussuaq 79.08 351 *i* P **P 22 10 19.4 +0.1**
comp=Z,48nm,0.9s
SFJD Kangerlussuaq 79.08 351 *i* P **P 22 10 19.4 +0.1**
SFJD pmax pmax
comp=Z,48nm,0.9s
SFJD Kangerlussuaq 79.08 351 *eP* **P 22 10 19.3 -0.1**
comp=Z,50nm,0.9s
DZM Mont Dzumac 79.74 124 P **P 22 10 25.2 +1.5**
comp=Z,25nm,1.0s,baz=306,slow=5.1,SNR=12
DZM Mont Dzumac 79.74 124 *eP* **P 22 10 25.2 +1.5**
comp=Z,39nm,1.0s
YKW3 Yellowknife Ar 79.93 18 *eP* **P 22 10 23.8 -0.3**
comp=Z,37nm,1.0s
YKA Yellowknife Ar 79.99 18 P **P 22 10 24.8 +0.4**
comp=Z,19nm,0.7s,baz=328,slow=5.1,SNR=25
YKA LR LR 22 50 15.2
comp=Z,30nm,18.6s,baz=0.0,slow=39
YKA Yellowknife Ar 79.99 18 *i* P **P 22 10 24.6 +0.2**
YKA pmax pmax
comp=Z,19nm,0.7s
FUNA Funafuti 81.19 106 PFAKE 22 10 40.0 +8.4
FUNA LR LR
comp=Z,7µm,19.0s
ESDC Sonseca Array 82.80 313 P **P 22 10 40.5 +0.6**
comp=Z,16nm,0.7s,baz=43,slow=5.3,SNR=118
ESDC PP PP 22 13 25.9 -24
comp=Z,2.2nm,0.7s,baz=57,slow=8.4,SNR=4.7
ESDC LR LR 22 50 41.4
comp=Z,186nm,21.5s,baz=20,slow=38
PAB San Pablo 83.11 313 *eP* **P 22 10 41.6 +0.1**
PAB pmax pmax
comp=Z,35nm,1.1s
PAB San Pablo 83.11 313 *eP* **P 22 10 41.6 +0.1**
comp=Z,35nm,1.1s
PBRG Braganca 83.19 316 *eP* **P 22 10 42.4 +0.6**
comp=Z,45nm,1.5s
MVO Moncorvo 83.75 315 *eP* **P 22 10 45.8 +1.0**
comp=Z,67nm,1.4s
PGAV Gavieira, Arco 83.98 317 *eP* **P 22 10 47.1 +1.1**
comp=Z,108nm,2.0s
POLO Lamas de Olo 84.08 316 *eP* **P 22 10 47.4 +1.0**
comp=Z,22nm,1.8s
PVRL Vila Real 84.09 316 *eP* **P 22 10 47.4 +0.9**
comp=Z,47nm,2.2s
MTE Manteigas 84.54 315 *eP* **P 22 10 50.1 +1.3**
comp=Z,87nm,1.4s
MTE Manteigas 84.54 315 *eP* **P 22 10 47.8 -1.0**
comp=Z,46nm,0.9s
PCBR Castelo Branco 84.84 315 *eP* **P 22 10 51.1 +0.9**
comp=Z,46nm,1.3s
PMRV Marv??o 85.05 314 *eP* **P 22 10 52.4 +1.1**
comp=Z,58nm,1.0s
PCAS Casmilo, Conde 85.32 315 *eP* **P 22 10 52.3 -0.3**
PESTR Estremoz 85.52 314 *eP* **P 22 10 54.5 +0.8**
comp=Z,53nm,1.4s
PTOM Tomar 85.54 315 *eP* **P 22 10 55.0 +1.3**
comp=Z,86nm,1.7s
PBAR Barrancos 85.61 313 *eP* **P 22 10 55.0 +0.9**
comp=Z,132nm,1.5s
TAM Tamanrasset 85.78 294 *eP* **P 22 10 54.6 -0.8**
TAM pmax pmax
comp=Z,20nm,1.2s
TAM MLR MLR
comp=Z,162nm,20.0s
TAM Tamanrasset 85.78 294 *eP* **P 22 10 54.6 -0.8**
comp=Z,20nm,1.2s
TAM LR LR
comp=Z,162nm,20.0s
PMTG Montargil 85.78 314 *eP* **P 22 10 55.7 +0.8**
comp=Z,57nm,1.6s
EVO Evora 85.99 314 *eP* **P 22 10 57.0 +1.0**
comp=Z,67nm,1.3s
PBEJ Beja 86.22 313 *eP* **P 22 10 58.3 +1.2**
comp=Z,67nm,1.6s
PMAFR Mafra 86.49 315 *eP* **P 22 10 59.6 +1.2**
comp=Z,195nm,1.1s
PVAQ Vaqueiros 86.51 313 *eP* **P 22 10 59.4 +0.8**
comp=Z,63nm,1.7s
PMST Lisbon--Monsan 86.57 315 *eP* **P 22 11 00.3 +1.5**
comp=Z,133nm,1.2s
PNCL Nicolau / Gran 86.57 314 *eP* **P 22 10 59.9 +1.1**
comp=Z,105nm,1.3s
PCVE Castro Verde 86.57 313 *eP* **P 22 10 59.7 +0.9**
comp=Z,72nm,1.6s
PBDV Barranco-do-Ve 86.75 313 *eP* **P 22 11 01.2 +1.4**
comp=Z,120nm,1.7s
MORF Marmelete 87.15 313 *eP* **P 22 11 02.5 +0.7**
MORF AMb AMB 22 11 04.8
comp=Z,94nm,1.1s
MORF Marmelete 87.15 313 *eP* **P 22 11 02.8 +1.0**
comp=Z,98nm,1.1s

MORF	Marmelete	87.15	313	eP	P	22 11 02.5	+0.7	
MORF				pmax	pmax			
	comp=Z,95nm,1.1s							
AIN	Ainahou	87.19	69	PFAKE		22 11 10.0	+7.6	
AIN				LR	LR			
	comp=Z,4µm,22.0s							
LLLB	Lilloоet	87.28	28	eP	P	22 11 01.5	-0.6	
	comp=Z,37nm,1.1s							
LLLB				LR	LR			
	comp=Z,6µm,21.0s							
WRMHI	West Rim	87.30	69	PFAKE		22 11 10.0	+7.1	
WRMHI				LR	LR			
	comp=Z,1µm,18.0s							
OBL	Observatory Le	87.31	69	PFAKE		22 11 10.0	+7.1	
OBL				LR	LR			
	comp=Z,2µm,18.0s							
UWB	Uwekahuna B	87.31	69	PFAKE		22 11 10.0	+7.1	
UWB				LR	LR			
	comp=Z,2µm,22.0s							
MDT	Midelt	87.34	308	P	P	22 11 03.5	+0.7	
	comp=Z,23nm,0.9s,baz=46,slow=5.0,SNR=38							
PFVI	Vila Bisbo	87.37	313	eP	P	22 11 03.8	+1.0	
	comp=Z,96nm,1.0s							
PFVI	Vila Bisbo	87.37	313	eP	P	22 11 02.9	+0.2	
	comp=Z,77nm,1.0s							
STCH	Steam Cracks	87.45	69	PFAKE		22 11 10.0	+6.5	
STCH				LR	LR			
	comp=Z,2µm,22.0s							
NPOC	North of Pu'u	87.46	69	PFAKE		22 11 10.0	+6.4	
NPOC				LR	LR			
	comp=Z,3µm,22.0s							
LSZ	Lusaka	87.64	250	eP	P	22 11 04.0	-0.4	
LSZ				pmax	pmax			
	comp=Z,51nm,1.4s							
LSZ	Lusaka	87.64	250	eP	P	22 11 04.0	-0.4	
	comp=Z,50nm,1.4s							
LSZ	Lusaka	87.64	250	P	P	22 11 05.0	+0.5	
	SNR=5.0							
LSZ	Lusaka	87.64	250	PcP	P	22 11 05.0	+0.5	
	SNR=5.0							
A04D	Lummi Island	88.43	30	P	P	22 11 08.7	+1.2	
	baz=321							
NLWA	Neilton Lookou	88.96	31	eP	P	22 11 10.6	+0.4	
	comp=Z,72nm,1.4s							
B05A	Bryant	89.04	29	P	P	22 11 11.7	+1.3	
	baz=322,SNR=6.6							
B06A	Marblemount	89.09	29	eP	P	22 11 11.2	+0.5	
	comp=Z,44nm,0.9s							
E03A	Lebam	89.75	31	eP	P	22 11 13.8	0.0	
	comp=Z,87nm,1.1s							
D05A	Enumclaw	89.93	30	eP	P	22 11 14.2	-0.4	
	comp=Z,92nm,1.3s							
FFC	Flin Flon	89.94	15	eP	P	22 11 14.0	-0.5	
FFC				pmax	pmax			
	comp=Z,67nm,1.0s							
FFC	Flin Flon	89.94	15	eP	P	22 11 14.0	-0.5	
	comp=Z,67nm,1.0s							
B08A	Colville Reser	90.08	28	eP	P	22 11 16.3	+0.9	
	comp=Z,61nm,1.0s							
F03A	Seaside	90.22	32	eP	P	22 11 17.9	+1.8	
	comp=Z,238nm,1.2s							
LON	Longmire	90.35	30	eP	P	22 11 17.1	+0.4	
LON				pmax	pmax			
	comp=Z,24nm,1.0s							
LON	Longmire	90.35	30	eP	P	22 11 17.1	+0.4	
	comp=Z,24nm,1.0s							
F04D	Rainier, OR	90.35	31	P	P	22 11 18.3	+1.7	
	baz=321							
LTY	Liberty	90.42	29	eP	P	22 11 17.7	+0.6	
	comp=Z,52nm,1.0s							
F04A	Amboy	90.72	31	eP	P	22 11 19.1	+0.7	
	comp=Z,80nm,0.8s							
G03D	McMinnville, O	90.91	32	P	P	22 11 21.4	+2.1	
	baz=321							
C09A	Chrisman Ranch	90.95	28	eP	P	22 11 20.1	+0.7	
	comp=Z,101nm,1.1s							
NEW	Newport	91.02	27	P	P	22 11 21.1	+1.3	
	comp=Z,34nm,1.0s,baz=325,slow=4.6,SNR=32							
NEW	Newport	91.02	27	P	P	22 11 21.4	+1.6	
	baz=325							
NEW	Newport	91.02	27	eP	P	22 11 20.6	+0.9	
	comp=Z,46nm,1.0s							
D08A	Wollman Farm,	91.30	29	eP	P	22 11 22.3	+1.3	
	comp=Z,50nm,1.2s							
E07A	Sunnyside	91.32	29	P	P	22 11 22.7	+1.5	
COR	Corvallis	91.38	32	eP	P	22 11 23.3	+1.9	
COR				pmax	pmax			
	comp=Z,99nm,0.9s							
COR	Corvallis	91.38	32	eP	P	22 11 23.3	+1.9	
	comp=Z,99nm,0.9s							
WALA	Waterton Lakes	91.53	25	eP	P	22 11 21.2	-1.0	
	comp=Z,46nm,1.1s							
HAWA	Hanford	91.58	29	eP	P	22 11 22.4	0.0	
	comp=Z,62nm,1.1s							
G05D	Wamic, OR	91.75	31	P	P	22 11 24.9	+1.7	
	baz=322,SNR=6.5							
I03D	Drain, OR	92.04	33	P	P	22 11 26.4	+1.8	
	baz=321,SNR=9.9							
G06A	Carlson Farm,	92.05	31	eP	P	22 11 25.2	+0.6	
	comp=Z,74nm,1.4s							
E09A	Wood Farm, Sta	92.05	28	eP	P	22 11 25.0	+0.5	
	comp=Z,41nm,0.9s							
BSMT	Bassoo Peak	92.24	26	eP	P	22 11 26.1	+0.5	
BLMT	Blacktail Moun	92.26	25	eP	P	22 11 25.8	0.0	
I04A	Tendick Farm,	92.40	32	P	P	22 11 27.4	+1.1	
	baz=321,SNR=18							
I05D	Terrebonne, OR	92.45	31	P	P	22 11 27.9	+1.4	
	baz=322							
SCHQ	Schefferville	92.70	355	P	P	22 11 27.4	+0.1	
	comp=Z,22nm,0.8s,baz=8.3,slow=3.5,SNR=13							
SCHQ	Schefferville	92.70	355	eP	P	22 11 27.3	0.0	
	comp=Z,27nm,0.9s							
SWMT	Swartz Lake	92.81	25	eP	P	22 11 28.3	+0.1	
J04D	Umpqua Nationa	92.97	33	P	P	22 11 30.6	+1.5	
	baz=322,SNR=12							
HUMO	Hull Mountain	93.07	33	eP	P	22 11 30.6	+1.3	
	comp=Z,21nm,0.9s							
L02D	Cave Junction,	93.11	34	P	P	22 11 31.3	+1.7	
	baz=320							
SLMT	Seeley Lake	93.22	25	eP	P	22 11 30.4	+0.3	
J05D	Fort Rock, OR	93.33	32	P	P	22 11 32.7	+2.0	
	baz=322,SNR=20							
MSO	Missoula	93.41	26	P	P	22 11 31.8	+0.9	
	baz=328							
MSO	Missoula	93.41	26	eP	P	22 11 30.4	-0.6	
	comp=Z,20nm,0.9s							
MSO				ePP	PP	22 15 15.3	+1.1	
CHMT	Chamberlain Mo	93.59	25	eP	P	22 11 32.1	+0.2	
K04D	Chiloquin, OR	93.61	33	P	P	22 11 33.3	+1.4	
	baz=322							
BMO	Blue Mountains	93.75	29	eP	P	22 11 33.1	+0.6	
BMO				pmax	pmax			
	comp=Z,11nm,0.9s							
BMO				MLR	MLR			
	comp=Z,268nm,21.0s							
BMO	Blue Mountains	93.75	29	eP	P	22 11 33.1	+0.6	
	comp=Z,11nm,0.9s							
BMO				LR	LR			
	comp=Z,268nm,21.0s							
EGMT	Eagleton	93.83	23	P	P	22 11 33.4	+0.6	
	baz=331							
EGMT	Eagleton	93.83	23	eP	P	22 11 31.9	-1.0	
	comp=Z,31nm,1.0s							
YBH	Yreka Blue Hor	93.86	34	eP	P	22 11 33.8	+0.7	
YBH				pmax	pmax			
	comp=Z,15nm,1.4s							
YBH	Yreka Blue Hor	93.86	34	eP	P	22 11 33.8	+0.7	
	comp=Z,14nm,1.4s							
M02C	Callahan	94.06	34	P	P	22 11 35.8	+1.8	
	baz=321,SNR=6.4							
TOA0	Torodi Ar. Sit	94.17	288	eP	P	22 11 32.3	-2.5	
	comp=Z,12nm,1.2s							
TORD	Torodi Ar. Bea	94.17	288	P	P	22 11 34.9	0.0	
	comp=Z,3.9nm,0.8s,baz=50,slow=4.5,SNR=27							
TORD				PP	PP	22 15 16.9	-4.4	
	comp=Z,4.1nm,1.1s,baz=50,slow=7.7,SNR=4.7							
TORD				LR	LR	22 59 35.1		
	comp=Z,105nm,19.7s,baz=325,slow=39							
M04C	Macdoel	94.23	33	P	P	22 11 36.2	+1.3	
	baz=322,SNR=5.2							
HRY	Holter Researc	94.27	25	eP	P	22 11 35.7	+0.8	
N02D	Trinity Center	94.45	34	P	P	22 11 37.4	+1.5	
	baz=321							
J08A	Circle Bar Ran	94.48	30	eP	P	22 11 36.4	+0.5	
	comp=Z,32nm,1.0s							
LRM	Limekiln Ridge	94.81	25	eP	P	22 11 37.0	-0.5	
MOD	Modoc Plateau	94.84	32	eP	P	22 11 37.9	+0.2	
	comp=Z,21nm,1.1s							
DGMT	Dagmar	95.12	19	P	P	22 11 39.4	+0.8	
	baz=335							
DGMT	Dagmar	95.12	19	eP	P	22 11 39.7	+1.1	
	comp=Z,42nm,0.9s							
DGMT				LR	LR			
	comp=Z,529nm,19.0s							
DLMT	Dillon	95.15	26	eP	P	22 11 39.5	+0.5	
	comp=Z,19nm,1.1s							
DLMT				LR	LR			
	comp=Z,800nm,19.0s							
WVOR	Wild Horse Val	95.16	31	eP	P	22 11 39.5	+0.5	
WVOR				pmax	pmax			
	comp=Z,17nm,1.3s							
WVOR	Wild Horse Val	95.16	31	eP	P	22 11 39.5	+0.5	
	comp=Z,17nm,1.3s							
BOZ	Bozeman (W)	95.30	25	P	P	22 11 40.3	+0.7	
	baz=329							
BOZ	Bozeman (W)	95.30	25	eP	P	22 11 39.3	-0.4	
BOZ				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BOZ	Bozeman (W)	95.30	25	eP	P	22 11 39.3	-0.4	
	comp=Z,9.2nm,0.9s							
O03D	Paynes Creek	95.41	34	P	P	22 11 40.8	+0.6	
	baz=322							
ULM	Lac du Bonnet	95.43	13	P	P	22 11 39.5	-0.5	
	comp=Z,9.2nm,0.9s,baz=326,slow=5.1,SNR=6.9							
ULM				LR	LR	22 57 15.3		
	comp=Z,240nm,22.0s,baz=330,slow=37							
MCMT	McKenzie Canyo	95.51	26	eP	P	22 11 41.6	+0.8	
HLID	Hailey	95.98	28	P	P	22 11 44.2	+1.3	
	baz=327							
HLID	Hailey	95.98	28	eP	P	22 11 43.3	+0.4	
	comp=Z,16nm,1.1s							
HLID				ePP	PP	22 15 34.4	+0.1	
LAO	LASA Array	96.13	21	P	P	22 11 44.2	+0.9	
	baz=334							
LAO	LASA Array	96.13	21	eP	P	22 11 43.5	+0.2	
	comp=Z,39nm,1.4s							
YHH	Holmes Hill	96.27	25	eP	P	22 11 44.2	-0.2	
	comp=Z,8.7nm,1.4s							
BEKR	Beckworth	96.43	34	eP	P	22 11 44.4	-0.6	
	comp=Z,14nm,1.1s							
RLMT	Red Lodge	96.53	24	P	P	22 11 46.2	+0.8	
	baz=331							
RLMT	Red Lodge	96.53	24	eP	P	22 11 45.8	+0.4	
	comp=Z,15nm,1.3s							
YFT	Old Faithful	96.57	25	eP	P	22 11 47.6	+1.9	
	comp=Z,8.2nm,0.9s							
A32A	Rocking H Ranc	96.58	14	P	P	22 11 45.0	-0.2	
	baz=342							
LKWY	Lake	96.63	25	PFAKE		22 12 00.0	+14	
LKWY				LR	LR			
	comp=Z,523nm,21.0s							
H17A	Grant Village	96.71	25	P	P	22 11 48.7	+2.4	
	baz=330							
H17A	Grant Village	96.71	25	eP	P	22 11 49.1	+2.8	
	comp=Z,14nm,1.1s							
YPP	Pitchstone Pla	96.74	25	eP	P	22 11 48.5	+2.1	
	comp=Z,8.1nm,1.0s							
A33A	Warroad	96.78	14	P	P	22 11 45.8	-0.4	
	baz=342							
IMW	Indian Meadow	97.01	26	eP	P	22 11 49.4	+1.7	
	comp=Z,7.2nm,1.0s							
OXZ	Oxford	97.05	138	PFAKE		22 12 00.0	+13	
OXZ				LR	LR			
	comp=Z,1µm,20.0s							
B32A	Ashes, Strandq	97.06	14	P	P	22 11 47.3	-0.2	
	baz=342							
BKZ	Black Stump Fm	97.18	132	PFAKE		22 12 00.0	+12	
BKZ				LR	LR			
	comp=Z,400nm,22.0s							
FXWY	Fox Creek	97.20	26	eP	Pdif	22 11 49.4	+0.8	
	comp=Z,5.8nm,1.1s							
AGMN	Agassiz Nation	97.30	14	P	P	22 11 48.0	-0.5	
	baz=342							
BOSA	Boshof	97.31	241	P	P	22 11 48.1	-0.8	
	comp=Z,5.1nm,1.0s,baz=56,slow=3.6,SNR=6.7							
BOSA				LR	LR	22 53 37.8		
	comp=Z,164nm,20.5s,baz=140,slow=34							
B34A	Aery, Baudette	97.36	13	P	P	22 11 48.4	-0.4	
	baz=343							
B33A	Robert and Kas	97.38	14	P	P	22 11 48.6	-0.3	
	baz=342							
BMN	Battle Mountai	97.40	31	eP	Pdif	22 11 50.0	+0.6	
BMN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BMN	Battle Mountai	97.40	31	eP	Pdif	22 11 50.0	+0.5	
	comp=Z,6.0nm,0.9s							
B35A	Bob, Littlefor	97.65	13	P	P	22 11 50.1	0.0	
	baz=344							
C33A	Trail	97.83	14	P	P	22 11 50.7	-0.2	
	baz=342							
CMB	Columbia Colle	97.87	35	eP	P	22 11 51.4	0.0	
CMB				eS	S	22 23 11.8	-5.3	
CMB				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CMB	Columbia Colle	97.87	35	eP	P	22 11 51.4	0.0	
	comp=Z,7.1nm,0.9s							
CMB				eS	S	22 23 11.8	-5.3	
C35A	Jirik Farms, M	98.24	13	P	P	22 11 52.2	-0.6	
	baz=344							
C36A	Pine Crest Far	98.39	12	P	P	22 11 52.8	-0.6	
	baz=345							
EYMN	Ely	98.44	11	P	P	22 11 53.5	-0.1	
	baz=346							
BW06	Boulder Array	98.49	25	P	P	22 11 54.3	0.0	
	baz=331							
PDAR	Pinedale Array	98.49	25	P	P	22 11 54.0	-0.3	
	comp=Z,1.0nm,0.8s,baz=21,slow=2.8,SNR=4.7							
PDAR				PKKPbc	PKKPbc	22 28 21.9	-2.1	
	comp=Z,0.4nm,0.4s,baz=131,slow=4.2,SNR=4.5							
PDAR				LR	LR	22 58 29.2		
	comp=Z,218nm,20.0s,baz=338,slow=37							
C37A	Embarrass	98.54	12	P	P	22 11 53.5	-0.6	
	baz=345							
SPUT	South Promonto	98.66	28	eP	P	22 11 53.1	-1.8	
	comp=Z,6.9nm,1.4s							
C38A	Sawbill Land.	98.70	11	P	Pdif	22 11 55.9	+1.1	
	baz=346							
HWUT	Hardware Ranch	98.75	27	eP	P	22 11 54.4	-1.0	
	comp=Z,6.8nm,1.2s							
BGU	Big Grassy Mou	98.75	28	eP	P	22 11 55.6	+0.2	
	comp=Z,3.2nm,1.1s							
RSSD	Black Hills	99.11	21	Pdiff	Pdif	22 11 57.4	+0.3	
	baz=335							
RSSD	Black Hills	99.11	21	eP	Pdif	22 11 57.5	+0.5	
RSSD				pmax	pmax			
	comp=Z,25nm,1.0s							
RSSD	Black Hills	99.11	21	eP	Pdif	22 11 57.5	+0.5	
	comp=Z,25nm,1.0s							
DUG	Dugway, Tooele	99.46	29	Pdiff	Pdif	22 11 59.4	+0.8	
	baz=328							
DUG	Dugway, Tooele	99.46	29	PFAKE		22 12 10.0	+11	
DUG				LR	LR			
	comp=Z,202nm,19.0s							
F33A	5 Mile Ranch,	99.54	15	Pdiff	Pdif	22 11 58.1	-0.5	
	baz=342							
K22A	Casper	99.65	23	Pdiff	Pdif	22 11 58.9	-0.5	
	baz=333							
E38A	The Farm, Brul	99.73	12	Pdiff	Pdif	22 11 59.5	0.0	
	baz=346							
R11A	Troy Canyon, C	99.83	32	Pdiff	Pdif	22 12 00.9	+0.6	
	baz=326							
F36A	Milaca	100.09	13	Pdiff	Pdif	22 12 00.8	-0.3	
	baz=344							
E40A	Wakefield	100.16	11	Pdiff	Pdif	22 12 01.6	+0.2	
	baz=347							
E41A	Kenton	100.28	10	Pdiff	Pdif	22 12 01.9	0.0	
	baz=348							
F38A	Pierce - Schro	100.31	12	Pdiff	Pdif	22 12 02.3	+0.3	
	baz=345							
F39A	Loretta	100.51	11	Pdiff	Pdif	22 12 03.1	+0.1	
	baz=346							
DAC	Darwin (Calif)	100.61	34	eP	Pdif	22 12 03.7	-0.1	
DAC	Darwin (Calif)	100.61	34	ePdif	Pdif	22 12 03.7	-0.1	
F40A	Park Falls	100.64	11	Pdiff	Pdif	22 12 04.0	+0.5	
	baz=347							
E43A	Lone Tree Farm	100.64	9	Pdiff	Pdif	22 12 03.7	+0.2	
	baz=350							
MPMC	Manual Prospec	100.84	34	Pdiff	Pdif	22 12 05.4	+0.5	
	baz=324							
P17A	Butcher Ranch,	100.90	28	ePdif	Pdif	22 12 06.3	+1.3	
P18A	Preston Nutter	100.96	27	ePdif	Pdif	22 12 07.0	+1.5	
F41A	Three Lakes	100.97	10	Pdiff	Pdif	22 12 05.5	+0.5	
	baz=348							
G39A	Holcombe	101.08	12	Pdiff	Pdif	22 12 06.0	+0.6	
	baz=346							
F44A	Big Bay de Noc	101.11	8	Pdiff	Pdif	22 12 05.0	-0.6	
	baz=350							
F43A	Flat Rock, Esc	101.15	9	Pdiff	Pdif	22 12 06.3	+0.6	
	baz=349							
LRMC	Laurel Mtn Rad	101.21	35	Pdiff	Pdif	22 12 06.6	+0.2	
	baz=324							
G40A	Rib Lake	101.26	11	Pdiff	Pdif	22 12 06.5	+0.2	
	baz=347							
N23A	Red Feather La	101.41	24	Pdiff	Pdif	22 12 07.1	-0.3	
	baz=334							
ECSD	EROS Data Cent	101.46	16	Pdiff	Pdif	22 12 07.3	+0.1	
	baz=341							
ECSD	EROS Data Cent	101.46	16	ePdif	Pdif	22 12 07.8	+0.6	
ECSD				LR	LR			
	comp=Z,797nm,20.0s							
SZCU	Shurtz Canyon	101.54	30	ePdif	Pdif	22 12 08.7	+0.7	
GSC	Goldstone, Bar	101.77	34	eP	Pdif	22 12 09.2	+0.3	
GSC	Goldstone, Bar	101.77	34	ePdif	Pdif	22 12 09.2	+0.3	
KNB	Kanab	102.15	30	eP	Pdif	22 12 11.1	+0.5	
KNB	Kanab	102.15	30	ePdif	Pdif	22 12 11.1	+0.5	
PV09	Paradox Valley	102.37	27	ePdif	Pdif	22 12 10.2	-1.6	
SMCO	Snowmass	102.58	25	ePdif	Pdif	22 12 14.2	+1.5	
SMCO				LR	LR			
	comp=Z,800nm,20.0s							
PV01	Paradox Valley	102.90	27	ePdif	Pdif	22 12 15.6	+1.6	
J40A	Soldiers Grove	102.99	12	Pdiff	Pdif	22 12 13.2	-0.8	
	baz=346							
DBIC	Dimbokro	103.15	287	PP	PP	22 16 29.0	-1.1	
	comp=Z,9.7nm,1.0s,baz=43,slow=6.1,SNR=5.8							
KIC	Kosan Boka	103.24	286	eP	PP	22 16 29.2	-1.5	
	comp=Z,51nm,1.2s							
W13A	Hualapai Mount	103.29	32	ePdif	Pdif	22 12 17.0	+1.2	
TIC	Toumodi	103.30	287	eP	PP	22 16 29.0	-2.2	
LIC	Lamto	103.55	287	eP	PP	22 16 32.4	-0.6	
	comp=Z,44nm,1.2s							
HNH	Hanover	104.06	358	PFAKE		22 12 30.0	+11	
HNH				LR	LR			
	comp=Z,3µm,19.0s							
MAW	Mawson	104.84	196	PKKPbc	PKKPbc	22 28 03.8	-2.6	
	comp=Z,2.9nm,0.6s,baz=174,slow=2.4,SNR=18							
CBKS	Cedar Bluff	105.26	20	PFAKE		22 16 50.0		
CBKS				LR	LR			
	comp=Z,780nm,22.0s							
P35A	Duane Minner,	105.59	17	PKiKP	PKiKP	22 16 38.2	-0.6	
	baz=342							
M46A	Old House Fiel	105.61	9	PKiKP	PKiKP	22 16 38.6	-0.2	
	baz=350							
BRYW	Bryant College	105.83	358	PFAKE		22 16 50.0		
BRYW				LR	LR			
	comp=Z,1µm,19.0s							
KSU1	Kansas State U	105.84	18	PFAKE		22 16 50.0		
KSU1				LR	LR			
	comp=Z,524nm,19.0s							
P37A	Lathrop	105.93	16	PKiKP	PKiKP	22 16 38.7	-0.7	
	baz=343							
HDIL	Hopedale	106.00	12	PFAKE		22 16 50.0		
HDIL				LR	LR			
	comp=Z,601nm,19.0s							
YLE	Yale	106.47	359	PFAKE		22 16 50.0		
YLE				LR	LR			
	comp=Z,2µm,21.0s							
ANMO	Albuquerque	106.51	27	PKiKP	PKiKP	22 16 39.5	-1.4	
	baz=332							
TUC	Tucson	107.02	31	PFAKE		22 16 50.0		
TUC				LR	LR			
	comp=Z,255nm,21.0s							
P46A	Rosedale	107.25	10	PKiKP	PKiKP	22 16 41.8	-0.1	
	baz=349							
R39A	Chumby, Stover	107.44	15	PKiKP	PKiKP	22 16 41.5	-0.8	
	baz=344							
O56A	Blue Knob Stat	107.44	3	PKiKP	PKiKP	22 16 41.5	-0.8	
	baz=357							
Q43A	New Douglas	107.50	12	PKiKP	PKiKP	22 16 42.2	-0.2	
	baz=347							
R40A	Maddies Statio	107.63	14	PKiKP	PKiKP	22 16 42.1	-0.6	
	baz=344							
Q44A	Meyer Farm, Va	107.66	12	PKiKP	PKiKP	22 16 41.9	-0.7	
	baz=347							
S38A	Stockton	107.90	16	PKiKP	PKiKP	22 16 42.5	-0.7	
	baz=343							
T35A	Sooner Cattle	107.93	18	PKiKP	PKiKP	22 16 42.5	-0.8	
	baz=341							
R42A	Luebbering	107.94	13	PKiKP	PKiKP	22 16 42.8	-0.4	
	baz=346							
T36A	Boggs Farm, Ca	107.96	18	PKiKP	PKiKP	22 16 42.8	-0.5	
	baz=341							
S39A	Bolivar	107.97	15	PKiKP	PKiKP	22 16 42.5	-0.8	
	baz=344							
121A	Cookes Peak, D	108.11	29	PKiKP	PKiKP	22 16 43.4	-0.5	
	baz=331							
T38A	Diamond	108.37	16	PKiKP	PKiKP	22 16 43.6	-0.5	
	baz=343							
S41A	Jillco Farms,	108.41	14	PKiKP	PKiKP	22 16 43.5	-0.7	
	baz=345							
S42A	Caledonia	108.43	13	PKiKP	PKiKP	22 16 43.3	-0.9	
	baz=346							
T39A	Clever	108.60	16	PKiKP	PKiKP	22 16 43.6	-0.9	
	baz=344							
T40A	Mansfield	108.67	15	PKiKP	PKiKP	22 16 43.6	-1.0	
	baz=344							
MSTX	Muleshoe	108.73	24	PKiKP	PKiKP	22 16 44.2	-0.8	
	baz=335							
V36A	Jenks	109.14	18	PKiKP	PKiKP	22 16 45.2	-0.4	
	baz=341							
U39A	Green Forest	109.19	16	PKiKP	PKiKP	22 16 45.0	-0.6	
	baz=343							
WMOK	Wichita Mounta	109.32	21	PKiKP	PKiKP	22 16 45.1	-0.9	
	baz=339							
U41A	Viola	109.57	15	PKiKP	PKiKP	22 16 45.5	-0.8	
	baz=345							
V39A	Pettigrew	109.67	16	PKiKP	PKiKP	22 16 45.8	-0.9	
	baz=343							
W36A	Wetumka	109.68	19	PKiKP	PKiKP	22 16 45.9	-0.7	
	baz=341							
U42A	Revenden	109.71	14	PKiKP	PKiKP	22 16 45.9	-0.7	
	baz=345							
W37B	Quinton	109.89	18	PKiKP	PKiKP	22 16 46.6	-0.3	
	baz=342							
V40A	Witts Springs	109.89	16	PKiKP	PKiKP	22 16 46.5	-0.5	
	baz=344							
V41A	Mountainview	110.06	15	PKiKP	PKiKP	22 16 46.3	-1.0	
	baz=344							
X36A	Centrahoma	110.18	19	PKiKP	PKiKP	22 16 47.1	-0.4	
	baz=341							
V42A	Cord	110.20	14	PKiKP	PKiKP	22 16 46.6	-0.9	
	baz=345							
X37A	Clayton	110.42	18	PKiKP	PKiKP	22 16 46.9	-1.1	
	baz=342							
V44A	Blytheville	110.48	13	PKiKP	PKiKP	22 16 47.7	-0.3	
	baz=346							
X38A	Whitesboro	110.49	18	PKiKP	PKiKP	22 16 47.5	-0.6	
	baz=342							
Y35A	Marietta	110.61

	baz=337						
SBA	**Scott Base**	**115.98**	**168**	PFAKE		22 17 10.0	+13
SBA				LR	LR		
	comp=Z,235nm,19.0s						
KVTX	**Kingsville**	**116.27**	**23**	PFAKE		22 17 10.0	+11
KVTX				LR	LR		
	comp=Z,274nm,19.0s						
034A	**Hebbronville**	**116.45**	**24**	PKiKP	**PKPdf**	**22 17 00.0**	**+0.3**
	baz=338						
ZAIG	**Zacatecas**	**118.86**	**30**	*e*PKPdf	**PKPdf**	**22 17 05.9**	**+1.1**
ASCN	**Ascension**	**119.19**	**280**	PFAKE		22 17 20.0	+15
ASCN				LR	LR		
	comp=Z,937nm,19.0s						
NVL	**N'lazarevskaya**	**121.50**	**203**	*e*PKIKP	**PKPdf**	**22 17 06.5**	**-1.4**
QSPA	**South Pole Qui**	**122.33**	**180**	*e*PKPdf	**PKPdf**	**22 17 09.2**	**-0.5**
TLIG	**Tlapa**	**125.16**	**28**	*e*PKPdf	**PKPdf**	**22 17 15.7**	**-1.1**
GRTK	**Grand Turk**	**126.12**	**356**	PFAKE		22 17 30.0	+12
GRTK				LR	LR		
	comp=Z,262nm,19.0s						
SNAA	**Sanae**	**126.26**	**202**	*e*PKIKP	**PKPdf**	**22 17 16.5**	**-0.6**
SNAA	**Sanae**	**126.26**	**202**	*e*PKPdf	**PKPdf**	**22 17 16.5**	**-0.6**
SMRT	**St. Maarten**	**128.46**	**346**	PFAKE		22 17 30.0	+7.1
SMRT				LR	LR		
	comp=Z,300nm,22.0s						
SDDR	**Presa de Saban**	**128.64**	**356**	PFAKE		22 17 30.0	+6.7
SDDR				LR	LR		
	comp=Z,202nm,19.0s						
HUMP	**Col San Antoni**	**128.88**	**349**	*e*PKPdf	**PKPdf**	**22 17 23.8**	**+0.1**
HUMP				LR	LR		
	comp=Z,100nm,22.0s						
SDD	**Santo Domingo**	**129.06**	**354**	PFAKE		22 17 40.0	+16
SDD				LR	LR		
	comp=Z,600nm,18.0s						
SJCC	**San Jacinto, C**	**137.78**	**1**	*e*P	**PKPdf**	**22 17 40.2**	**-0.4**
SDV	**Santo Domingo**	**138.60**	**354**	*e*P	PKPpre	22 17 36.8	
SDV	**Santo Domingo**	**138.60**	**354**	*e*PKPdf	**PKPdf**	**22 17 40.5**	**-1.8**
SDV				LR	LR		
	comp=Z,152nm,20.0s						
MOTC	**Monteria, Cord**	**138.88**	**1**	*e*P	PKPpre	22 17 39.1	
ZARC	**Zaragoza, Cauc**	**140.17**	**0**	*e*P	PKPpre	22 17 35.7	
BARC	**Barichara**	**141.03**	**358**	*e*P	PKPpre	22 17 44.2	
HELC	**Santa Helena**	**141.45**	**1**	*e*PKPdf	PKPpre	22 17 44.2	
RUSC	**La Rusia**	**141.73**	**357**	*e*P	PKPpre	22 17 42.5	
RUSC	**La Rusia**	**141.73**	**357**	*e*PKPpre	PKPpre	22 17 42.0	
RUSC				*e*PKPdf	**PKPdf**	**22 17 46.9**	**-1.5**
NORC	**Norcasia**	**142.08**	**0**	*e*P	PKPpre	22 17 43.1	
ROSC	**El Rosal**	**142.80**	**359**	PKP	**PKPdf**	**22 17 48.5**	**-1.7**
	comp=Z,16nm,0.6s,baz=206,slow=4.3,SNR=8.2						
ROSC	**El Rosal**	**142.80**	**359**	*e*P	PKPpre	22 17 45.9	
ROSC	**El Rosal**	**142.80**	**359**	*e*PKPdf	PKPpre	22 17 47.2	
VILC	**Villavicencio,**	**143.51**	**358**	*e*P	PKPab	22 17 47.0	-0.3
PRAC	**Prado**	**143.92**	**0**	*e*P	PKPab	22 17 47.0	-1.8
PRAC	**Prado**	**143.92**	**0**	*e*PKPdf	PKPab	22 17 48.1	-0.7
PRAC				LR	LR		
	comp=Z,300nm,18.0s						
GUVC	**San Jose del G**	**145.03**	**356**	*e*P	**PKPab**	**22 17 51.6**	**-1.3**
PTGA	**Pitinga**	**145.43**	**333**	*e*PKPdf	**PKPbc**	**22 17 54.4**	**+0.3**
CRUC	**La Cruz**	**145.98**	**4**	*e*P	**PKPab**	**22 17 57.2**	**+0.4**
CMBC	**Cumbal**	**146.54**	**6**	*e*P	**PKPbc**	**22 17 57.8**	**-0.3**
PMSA	**Palmer Station**	**147.10**	**188**	*e*PKPbc	**PKPbc**	**22 17 58.8**	**+1.2**
OTAV	**Otavalo**	**147.18**	**7**	*e*PKPdf	PKPpre	22 17 54.8	
OTAV				*e*PKPbc	**PKPdf**	**22 17 58.4**	**+0.6**
BDFB	**Brasilia**	**150.53**	**299**	PKPbc	**PKPbc**	**22 18 07.8**	**-0.2**
	comp=Z,22nm,1.1s,baz=200,slow=2.6,SNR=14						
BDFB	**Brasilia**	**150.53**	**299**	*e*PKPbc	**PKPbc**	**22 18 07.0**	**-0.9**
SAML	**Samuel**	**154.20**	**333**	*e*PKPdf	**PKPdf**	**22 18 08.2**	**+0.3**
SAML				*e*PKPbc	**PKPbc**	**22 18 14.2**	**-1.9**
SAML				*e*PKPab	**PKPab**	**22 18 29.6**	**-0.2**
SAML				LR	LR		
	comp=Z,265nm,19.0s						
LPAZ	**La Paz**	**162.74**	**338**	PKP	**PKPdf**	**22 18 18.8**	**-0.1**
	comp=Z,9.7nm,1.1s,baz=23,slow=4.2,SNR=17						
LPAZ				PKPab	**PKPab**	**22 19 06.5**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=18,slow=5.4,SNR=6.2						
LPAZ	**La Paz**	**162.74**	**338**	*e*PKPdf	**PKPdf**	**22 18 19.2**	**+0.3**
LPAZ				*e*PKPab	**PKPab**	**22 19 06.2**	**-1.2**
CPUP	**Villa Florida**	**163.67**	**288**	PKP	**PKPdf**	**22 18 18.3**	**-0.4**
	comp=Z,10nm,1.2s,baz=358,slow=3.5,SNR=4.9						
CPUP	**Villa Florida**	**163.67**	**288**	*e*PKPdf	**PKPdf**	**22 18 18.8**	**0.0**
CPUP				*e*PKPab	**PKPab**	**22 19 10.6**	**-0.1**
MNMC	**Minye Minye**	**165.87**	**340**	*e*PKPdf	**PKPdf**	**22 18 20.7**	**-0.5**
MNMC				*e*PKPab	**PKPab**	**22 19 18.4**	**-2.3**
PB11	**IPOC Station P**	**166.48**	**339**	*e*PKPdf	**PKPdf**	**22 18 21.3**	**-0.2**
PB11				*e*PKPab	**PKPab**	**22 19 22.4**	**-0.8**
TRQA	**Tornquist**	**168.27**	**239**	*e*PKPdf	**PKPdf**	**22 18 21.8**	**-0.4**
TRQA				*e*PKPab	**PKPab**	**22 19 28.1**	**-2.7**
LVC	**Limon Verde**	**168.85**	**331**	PKPab	**PKPab**	**22 19 33.8**	**-0.1**
	baz=14,slow=4.1						
LVC	**Limon Verde**	**168.85**	**331**	*e*PKPdf	**PKPdf**	**22 18 23.7**	**+0.3**
LVC				*e*PKPab	**PKPab**	**22 19 33.9**	**0.0**
PLCA	**Paso Flores**	**171.20**	**201**	PKP	**PKPdf**	**22 18 24.2**	**+0.4**
	comp=Z,6.8nm,1.1s,baz=40,slow=2.0,SNR=7.3						
PLCA				PKPab	**PKPab**	**22 19 42.4**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=0.0,slow=1.0,SNR=5.1						
PLCA	**Paso Flores**	**171.20**	**201**	*e*PKPdf	**PKPdf**	**22 18 23.5**	**-0.4**
PLCA				*e*PKPab	**PKPab**	**22 19 40.8**	**-2.7**
LCO	**Las Campanas**	**175.08**	**315**	*e*PKPdf	**PKPdf**	**22 18 26.8**	**+0.8**
LCO				*e*PKPab	**PKPab**	**22 19 59.5**	**-1.9**

IDC 31 22:00:10.3±881.0, 41°.50N×102°.14E, h0km, Error ellipse: s-maj=388.7km s-min=134.4km az=34.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.00**	**24**	*i*		22 47 00.0	
	baz=208,slow=337,SNR=1.6						
I45RU	**USSURIYSK INFR**	**21.99**	**73**	*i*		00 17 00.0	
	baz=275,slow=314,SNR=0.5						
I30JP	**ISUMI INFRASON**	**30.37**	**89**	*i*		01 03 40.0	
	baz=294,slow=326,SNR=0.4						
I44RU	**PETROPAVLOVSK**	**38.50**	**53**	*i*		01 51 20.0	
	baz=275,slow=325,SNR=1.0						

*ISK **31** 22:05:10.8, 38°.70N×43°.59E, h8km, MD2.8*
*ISCJB **31** 22:05:11.2±0.6, 38°.69N±0°.03×43°.65E±0°.05, h7km±5km, Error ellipse: s-maj=6.7km s-min=4.2km az=13.5*
*CSEM **31** 22:05:11.2±0.2, 38°.69N×43°.62E, h10km, MD2.8, Error ellipse: s-maj=6.0km s-min=4.2km az=95.0*
*DDA **31** 22:05:11.0, 38°.71N×43°.63E, h7km, Ml3.0*
ISC 31 22:05:11.7±0.9, 38°.71N±0°.02×43°.62E±0°.03, h14km±7km, n35, σ1§01/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**237**	*e*PG	**Pg**	**22 05 16.4**	**-0.2**
VANB	**Van**	**0.22**	**237**	*e*Pg	**Pg**	**22 05 16.4**	**-0.2**
TVAN	**Van**	**0.25**	**223**	*i* P	**Pg**	**22 05 16.8**	**-0.4**
TVAN				*i* S	**Sg**	**22 05 21.6**	**+0.7**
TVAN	**Van**	**0.25**	**223**	P	**Pg**	**22 05 16.8**	**-0.4**
TVAN				S	**Sg**	**22 05 21.6**	**+0.7**
VMUR	**Van-Muradiye**	**0.28**	**352**	*i* P	**Pg**	**22 05 16.9**	**-0.8**
VMUR				*i* S	**Sb**	**22 05 24.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.28**	**352**	P	**Pg**	**22 05 16.9**	**-0.8**
VMUR				S	**Sb**	**22 05 24.3**	**+0.9**
CLDR	**Caldiran**	**0.49**	**28**	*e*PG	**Pg**	**22 05 20.8**	**-0.8**
CLDR				*e*SG	**Sb**	**22 05 28.7**	**-0.7**
CLDR	**Caldiran**	**0.49**	**28**	*i* P	**Pg**	**22 05 20.7**	**-0.8**
CLDR	**Caldiran**	**0.49**	**28**	P	**Pg**	**22 05 20.7**	**-0.8**
CLDR				*e*Sg	**Sb**	**22 05 28.7**	**-0.7**
GEVA	**Gevas**	**0.59**	**228**	*i* P	**Pg**	**22 05 22.5**	**-0.9**
GEVA	**Gevas**	**0.59**	**228**	P	**Pg**	**22 05 22.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.71**	**278**	*i* P	**Pg**	**22 05 24.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.71**	**278**	P	**Pg**	**22 05 24.9**	**-0.6**
BASK	**Baskale_VAN**	**0.72**	**155**	*i* P	**Pg**	**22 05 25.3**	**-0.6**
BASK	**Baskale_VAN**	**0.72**	**155**	P	**Pg**	**22 05 25.3**	**-0.6**
TUTA	**Tutak**	**0.93**	**318**	*i* P	**Pg**	**22 05 28.5**	**-1.4**
TUTA				*i* S	**Sb**	**22 05 43.2**	**+1.0**
TUTA	**Tutak**	**0.93**	**318**	P	**Pg**	**22 05 28.5**	**-1.4**
TUTA				S	**Sb**	**22 05 43.2**	**+1.0**
AGRB	**Hanur-Agry**	**0.99**	**331**	*e*PG	**Pb**	**22 05 30.8**	**-0.1**
AGRB				*e*SG	**Sb**	**22 05 44.5**	**+0.7**
AGRB	**Hanur-Agry**	**0.99**	**331**	*e*Pg	**Pb**	**22 05 30.8**	**-0.1**
AGRB				*e*Sg	**Sb**	**22 05 44.6**	**+0.7**
TATV	**Tatvan**	**1.08**	**260**	*i* P	**Pg**	**22 05 30.7**	**-1.9**
TATV				*i* S	**Sg**	**22 05 46.0**	**-0.7**
TATV	**Tatvan**	**1.08**	**260**	P	**Pg**	**22 05 30.7**	**-1.9**
TATV				S	**Sg**	**22 05 46.0**	**-0.7**
HAKT	**HAKKARI**	**1.15**	**177**	*i* P	**Pg**	**22 05 32.5**	**-1.5**
HAKT				*i* S	**Sn**	**22 05 51.7**	**+2.2**
HAKT	**HAKKARI**	**1.15**	**177**	P	**Pg**	**22 05 32.5**	**-1.5**
HAKT				S	**Sn**	**22 05 51.7**	**+2.2**
GURO	**Guroymak-BITLI**	**1.25**	**263**	*e*PN	**Pn**	**22 05 34.0**	**-1.0**
GURO	**Guroymak-BITLI**	**1.25**	**263**	*e*Pn	**Pn**	**22 05 34.0**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.36**	**20**	*e*PN	**Pg**	**22 05 37.1**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.36**	**20**	*e*Pn	**Pg**	**22 05 37.1**	**-0.8**
EATA	**Eleskirt**	**1.45**	**323**	*i* P	**Pb**	**22 05 38.5**	**-0.1**
EATA				*i* S	**Sg**	**22 05 59.7**	**+1.3**
EATA	**Eleskirt**	**1.45**	**323**	P	**Pb**	**22 05 38.5**	**-0.1**
EATA				S	**Sg**	**22 05 59.7**	**+1.3**
CUKT	**Cukurca**	**1.46**	**180**	*e*PN	**Pb**	**22 05 38.4**	**-0.4**
CUKT	**Cukurca**	**1.46**	**180**	*e*Pn	**Pb**	**22 05 38.4**	**-0.4**
SRTM	**Siirt_Merkez**	**1.52**	**242**	*i* P	**Pg**	**22 05 40.0**	**-0.9**
SRTM				*i* S	**Sg**	**22 06 01.4**	**+0.8**
SRTM	**Siirt_Merkez**	**1.52**	**242**	P	**Pg**	**22 05 40.0**	**-0.9**
SRTM				S	**Sg**	**22 06 01.4**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*PN	**Pn**	**22 05 44.6**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.98**	**254**	*e*Pn	**Pn**	**22 05 44.6**	**-0.4**

*CSEM **31** 22:06:13.7±0.1, 39°.96N×27°.19E, h8km, MD2.7, Error ellipse: s-maj=3.4km s-min=3.0km az=31.0*
*DDA **31** 22:06:13.5, 39°.95N×27°.27E, h10km, Md2.8*
ISK 31 22:06:12.8, 39°.93N×27°.18E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.41**	**73**	*e*PG	**Pg**	22 06 21.5	+0.8
GONE	**Gonen-Balikesi**	**0.41**	**73**	*e*Pg	**Pg**	22 06 21.5	+0.8
KNL	**Bal¨–kesir**	**0.44**	**38**	*i* P	**Pg**	22 06 22.1	+0.8
KRBG	**Karabiga-Canak**	**0.47**	**11**	*e*PG	**Pg**	22 06 22.6	+0.7
KRBG				*e*SG	**Sg**	22 06 29.4	+1.3
KRBG	**Karabiga-Canak**	**0.47**	**11**	*e*Pg	**Pg**	22 06 22.6	+0.7
KRBG				*e*Sg	**Sg**	22 06 29.4	+1.3
BAYC	**CANAKKALE_Bayr**	**0.52**	**249**	*i* P	**Pb**	22 06 24.0	-0.4
BAYC				*i* S	**Sb**	22 06 31.1	-1.1
BAYC	**CANAKKALE_Bayr**	**0.52**	**249**	P	**Pb**	22 06 24.0	-0.4
BAYC				S	**Sb**	22 06 31.1	-1.1
LPK	**Lapseki**	**0.55**	**325**	*e*PG	**Pg**	22 06 23.6	+0.3
LPK	**Lapseki**	**0.55**	**325**	*e*Pg	**Pg**	22 06 23.6	+0.3
BALB	**Balikesir**	**0.61**	**118**	*e*PG	**Pg**	22 06 24.9	+0.3
BALB				*e*SG	**Sg**	22 06 33.2	+0.7
BALB	**Balikesir**	**0.61**	**118**	*e*Pg	**Pg**	22 06 24.9	+0.3
BALB				*e*Sg	**Sg**	22 06 33.3	+0.7
STEP	**BALIKESIR_Sava**	**0.69**	**143**	*i* P	**Pb**	22 06 26.9	-0.4
STEP	**BALIKESIR_Sava**	**0.69**	**143**	P	**Pb**	22 06 26.9	-0.5
GELI	**Tayfur-Gelibol**	**0.71**	**311**	*e*PG	**Pg**	22 06 26.8	+0.3
GELI	**Tayfur-Gelibol**	**0.71**	**311**	*e*Pg	**Pg**	22 06 26.8	+0.3
AYVA	**Ayvalik**	**0.72**	**211**	*i* P	**Pn**	22 06 29.4	-0.3
AYVA				*i* S	**Sn**	22 06 40.5	-0.6
AYVA	**Ayvalik**	**0.72**	**211**	P	**Pn**	22 06 29.4	-0.3
AYVA				S	**Sn**	22 06 40.5	-0.6
SART	**Tekirdag**	**0.76**	**0**	*i* P	**Pb**	22 06 28.3	-0.3
SART	**Tekirdag**	**0.76**	**0**	P	**Pb**	22 06 28.3	-0.3
BOZC	**Bozcaada**	**0.87**	**265**	*e*PG	**Pb**	22 06 30.1	-0.3
BOZC	**Bozcaada**	**0.87**	**265**	*e*Pg	**Pb**	22 06 30.1	-0.2
ERIK	**Erikli-Kesan**	**0.90**	**326**	*e*PG	**Pb**	22 06 30.7	-0.2
ERIK	**Erikli-Kesan**	**0.90**	**326**	*e*Pg	**Pb**	22 06 30.7	-0.2
KCTX	**Karacabey (Bur**	**0.97**	**69**	*e*PG	**Pg**	22 06 31.6	+0.3
KCTX	**Karacabey (Bur**	**0.97**	**69**	*e*Pg	**Pg**	22 06 31.7	+0.3
KESN	**Edirne-Kesan**	**0.97**	**337**	*i* P	**Pn**	22 06 38.4	+5.0
KESN				*i* S	**Sb**	22 06 45.6	-0.1
GADA	**Gvkgeada**	**1.01**	**285**	*e*PG	**Pb**	22 06 32.9	+0.1
GADA	**Gvkgeada**	**1.01**	**285**	*e*Pg	**Pb**	22 06 32.9	+0.1
ENEZ	**Enez**	**1.12**	**316**	*e*PN	**Pb**	22 06 34.5	-0.2
ENEZ	**Enez**	**1.12**	**316**	*e*Pn	**Pb**	22 06 34.6	-0.1
DEMI	**Demirci**	**1.48**	**126**	*i* P	**Pg**	22 06 41.5	+0.2
DEMI				*i* S	**Sn**	22 06 59.9	-0.1
DEMI	**Demirci**	**1.48**	**126**	P	**Pg**	22 06 41.5	+0.2
DEMI				S	**Sn**	22 06 59.9	-0.1
CTKS	**Kestanelik-??a**	**1.65**	**37**	*e*PN	**Pb**	22 06 43.4	-0.3
CTKS	**Kestanelik-??a**	**1.65**	**37**	*e*Pn	**Pb**	22 06 43.4	-0.4
EDRB	**Edirne**	**1.94**	**350**	*e*PN	**Pn**	22 06 47.4	+0.9
EDRB	**Edirne**	**1.94**	**350**	*e*Pn	**Pn**	22 06 47.4	+0.9

*CSEM **31** 22:06:22.4±0.6, 28°.04N×17°.92W, h10km, ML3.9, Error ellipse: s-maj=144.4km s-min=8.2km az=97.0*
*INMG **31** 22:06:25.7±0.5, 27°.77N×18°.03W, h10km, ML3.5, Error ellipse: s-maj=2.3km s-min=1.3km az=105.0*
ISC 31 22:06:22.3±1.9, 27°.99N±0°.06×18°.0W±0°.4, h23km, n9, σ1§37/16, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIG	**El Hierro**	**0.20**	**164**	P	**Pb**	**22 06 28.0**	**+0.2**
	SNR=18						
CTIG				S	**Sb**	**22 06 31.3**	**-0.2**
	3μm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**0.26**	**175**	P	**Pb**	**22 06 27.7**	**-0.9**
	SNR=18						
FUL	**Funchal**	**4.74**	**11**	*e*S	**Sn**	**22 08 25.4**	**-1.2**
FUL				A	A	22 08 29.3	
	94nm,0.1s						
PMAR	**Madeira**	**4.81**	**11**	*e*P	**Pn**	**22 07 34.6**	**+1.1**
PMAR				*e*S	**Sn**	**22 08 27.4**	**-1.2**
PMAR				A	A	22 08 33.4	
	104nm,0.2s						
PMAR	**Madeira**	**4.81**	**11**	*e*P	**Pn**	**22 07 34.6**	**+1.1**
PMAR				*e*S	**Sn**	**22 08 27.4**	**-1.2**
	104nm,0.2s						
PMOZ	**Porto Moniz, M**	**4.87**	**8**	*e*P	**Pn**	**22 07 35.5**	**+1.3**
PMOZ				*e*S	**Sn**	**22 08 29.0**	**-0.9**
PMOZ				A	A	22 08 31.4	
	102nm,0.2s						
PMOZ	**Porto Moniz, M**	**4.87**	**8**	*e*P	**Pn**	**22 07 35.5**	**+1.3**
PMOZ				*e*S	**Sn**	**22 08 29.0**	**-0.9**
	102nm,0.2s						
PMPS	**Porto Santo**	**5.25**	**15**	*e*P	**Pn**	**22 07 41.2**	**+1.8**
PMPS				*e*S	**Sn**	**22 08 37.6**	**-1.6**
PMPS				A	A	22 08 38.8	
	26nm,0.5s						
PMPS	**Porto Santo**	**5.25**	**15**	*e*P	**Pn**	**22 07 41.2**	**+1.8**
PMPS				*e*S	**Sn**	**22 08 37.6**	**-1.6**
	26nm,0.5s						

*CSEM **31** 22:07:27.4, 37°.90N×22°.28E, h15km, ML1.7/12*
ATH 31 22:07:27.4, 37°.90N×22°.28E, h15km±1km, ML1.7/12, Error ellipse: s-maj=1.8km s-min=0.7km az=32.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUR	**Goura**	**0.06**	**58**	P	**Pg**	22 07 30.4	0.0
GUR				S	**Sg**	22 07 32.2	-0.2
GUR				AML	AML	22 07 32.5	
	comp=N,4351μm,0.1s						
GUR				AML	AML	22 07 34.2	
	comp=E,2368μm,0.2s						
GUR	**Goura**	**0.06**	**58**	P	Pg	22 07 30.4	0.0
GUR				S	Sg	22 07 32.2	-0.2
KLV	**Kalavryta, Ach**	**0.17**	**325**	P	Pg	22 07 31.5	-0.2
KLV				S	Sg	22 07 34.4	-0.1
KLV				AML	AML	22 07 34.8	
	comp=E,1904μm,0.3s						
KLV				AML	AML	22 07 35.0	
	comp=N,1982μm,0.3s						
KLV	**Kalavryta, Ach**	**0.17**	**325**	P	Pg	22 07 31.5	-0.2
KLV				S	Sg	22 07 34.4	-0.1
THAL	**Thalero**	**0.33**	**66**	P	Pg	22 07 34.5	+0.2
THAL				S	Sg	22 07 38.9	-0.1
THAL				AML	AML	22 07 42.7	
	comp=E,2425μm,0.3s						
THAL				AML	AML	22 07 43.1	
	comp=N,1639μm,0.3s						
THAL	**Thalero**	**0.33**	**66**	P	Pg	22 07 34.5	+0.2
THAL				S	Sg	22 07 38.9	-0.1
LAKA	**Lakka**	**0.41**	**325**	P	Pg	22 07 35.1	-0.6
LAKA				S	Sg	22 07 40.9	-0.4
LAKA				AML	AML	22 07 42.2	
	comp=N,169μm,0.2s						
LAKA				AML	AML	22 07 42.4	
	comp=E,139μm,0.2s						
LAKA	**Lakka**	**0.41**	**325**	P	Pg	22 07 35.1	-0.6
LAKA				S	Sg	22 07 40.9	-0.4
DRO	**Drossia**	**0.45**	**276**	P	Pb	22 07 37.1	0.0
DRO				S	Sg	22 07 42.6	+0.1
DRO				AML	AML	22 07 47.6	
	comp=N,308μm,0.4s						
DRO				AML	AML	22 07 50.6	
	comp=E,334μm,0.3s						
DRO	**Drossia**	**0.45**	**276**	P	Pb	22 07 37.1	0.0
DRO				S	Sg	22 07 42.6	+0.1
TRIZ	**Trizonia**	**0.49**	**341**	P	Pg	22 07 36.3	-0.8
TRIZ				S	Sb	22 07 44.3	-0.5
TRIZ	**Trizonia**	**0.49**	**341**	P	Pg	22 07 36.3	-0.8
TRIZ				S	Sb	22 07 44.3	-0.4
KALE	**Kalithea**	**0.50**	**348**	P	Pg	22 07 37.0	-0.4
KALE				S	Sb	22 07 45.5	+0.3
KALE				AML	AML	22 07 48.6	
	comp=E,135μm,0.2s						
KALE				AML	AML	22 07 50.4	
	comp=N,154μm,0.3s						
KALE	**Kalithea**	**0.50**	**348**	P	Pg	22 07 37.0	-0.4
KALE				S	Sb	22 07 45.5	+0.4
VLX	**Vlachokerasia**	**0.54**	**171**	P	Pg	22 07 38.0	-0.1
VLX				S	Sg	22 07 45.5	+0.2
VLX				AML	AML	22 07 48.1	
	comp=E,163μm,0.6s						
VLX				AML	AML	22 07 50.2	
	comp=N,128μm,0.4s						
VLX	**Vlachokerasia**	**0.54**	**171**	P	Pg	22 07 38.0	-0.1
VLX				S	Sg	22 07 45.5	+0.2
DSF	**Desfina**	**0.54**	**21**	P	Pg	22 07 37.8	-0.4
DSF				S	Sb	22 07 46.3	-0.1
DSF				AML	AML	22 07 48.1	
	comp=N,162μm,0.2s						
DSF				AML	AML	22 07 51.5	
	comp=E,121μm,0.2s						
DSF	**Desfina**	**0.54**	**21**	P	Pg	22 07 37.8	-0.4
DSF				S	Sb	22 07 46.3	-0.1
LOUT	**Loutraki**	**0.56**	**81**	P	Pg	22 07 38.6	+0.1
LOUT	**Loutraki**	**0.56**	**81**	P	Pg	22 07 38.6	+0.2
LTK	**Loutraki**	**0.56**	**77**	P	Pg	22 07 37.8	-0.6
LTK				S	Sg	22 07 45.1	-0.8
LTK				AML	AML	22 07 47.3	
	comp=E,114μm,0.3s						
LTK				AML	AML	22 07 47.7	
	comp=N,110μm,0.1s						
LTK	**Loutraki**	**0.56**	**77**	P	Pg	22 07 37.8	-0.7
LTK				S	Sg	22 07 45.2	-0.7
AMT	**Artemida-Makis**	**0.58**	**231**	P	Pg	22 07 39.1	+0.2
AMT	**Artemida-Makis**	**0.58**	**231**	P	Pg	22 07 39.1	+0.2
EFP	**Efpalio**	**0.60**	**331**	P	Pg	22 07 38.4	-0.9
EFP				S	Sb	22 07 47.7	-0.2
EFP				AML	AML	22 07 52.5	
	comp=N,101μm,0.3s						
EFP				AML	AML	22 07 54.0	
	comp=E,135μm,0.5s						
EFP	**Efpalio**	**0.60**	**331**	P	Pg	22 07 38.3	-0.9
EFP				S	Sb	22 07 47.7	-0.2
PROD	**Prodromos**	**0.61**	**54**	P	Pb	22 07 39.7	-0.1
PROD				S	Sb	22 07 48.4	+0.2
PROD				AML	AML	22 07 48.6	
	comp=E,332μm,0.2s						
PROD				AML	AML	22 07 48.7	
	comp=N,356μm,0.4s						
PROD	**Prodromos**	**0.61**	**54**	P	Pb	22 07 39.7	-0.1
PROD				S	Sb	22 07 48.4	+0.2
RLS	**Riolos of Patr**	**0.66**	**284**	P	Pg	22 07 39.6	-0.7
RLS				S	Sb	22 07 50.5	+0.9
RLS				AML	AML	22 07 53.3	
	comp=N,81μm,0.2s						
RLS				AML	AML	22 07 55.7	
	comp=E,66μm,0.2s						
RLS	**Riolos of Patr**	**0.66**	**284**	P	Pg	22 07 39.6	-0.7
RLS				S	Sb	22 07 50.5	+0.9
ITM	**Ithomi**	**0.77**	**201**	P	Pg	22 07 42.2	-0.3
ITM	**Ithomi**	**0.77**	**201**	P	Pg	22 07 42.2	-0.3
VIL2	**Platees**	**0.84**	**68**	P	Pn	22 07 44.8	0.0
VILL	**Villia**	**0.86**	**72**	P	Pn	22 07 44.8	-0.3
DID	**Didima**	**0.86**	**117**	P	Pg	22 07 44.1	0.0
DID	**Didima**	**0.86**	**117**	P	Pg	22 07 44.1	0.0
PVO	**Paravola**	**0.93**	**321**	P	Pg	22 07 45.3	-0.1
PVO	**Paravola**	**0.93**	**321**	P	Pg	22 07 45.3	-0.1
LKR	**Lokris**	**0.94**	**37**	P	Pb	22 07 45.4	-0.1
LKR	**Lokris**	**0.94**	**37**	P	Pb	22 07 45.3	-0.1
PYL	**PYLOS**	**1.09**	**203**	P	Pb	22 07 47.

Error ellipse: s-maj=1.2km s-min=1.2km az=24.0
NEIC ***31*** *22:12:44.0±0.0, 45°.72N×10°.92E, h6km, ML3.4(ROM), After ROM.*
NEIC Felt at Ala.
PRU ***31*** *22:12:45.2, 45°.76N×11°.01E, h0km*
LDG ***31*** *22:12:45.1±0.1, 45°.69N×10°.97E, h5km, Md3.3/6, Ml3.5/28, Error ellipse: s-maj=2.7km s-min=2.2km az=143.0*
GEN ***31*** *22:12:46.3, 45°.72N×10°.92E, h6km, ML3.5*
BGR ***31*** *22:12:47.3±0.5, 45°.78N×11°.03E, h10km, ML3.5/10, Error ellipse: s-maj=7.8km s-min=4.4km az=16.0*
STR ***31*** *22:12:47.8±0.4, 45°.68N×10°.43E, h5km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 31 22:12:44.5±0.7,**45°.73N**±0°.01×**10°.93E**±0°.01,**h14**km±4km, **n384**,σ1§**42**/565,**mb3.6**/3,**14C-22D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BALD	**Monte Baldo**	**0.09**	**242**	⇑*i*Pg		**Pg**	**22 12 47.3**	**-0.5**
BALD				*i* Sg		**Sg**	**22 12 49.3**	**-0.6**
BALD	**Monte Baldo**	**0.09**	**242**	*i* Pg		**Pg**	**22 12 47.3**	**-0.5**
BALD				*i* Sg		**Sg**	**22 12 49.3**	**-0.6**
ROVR	**Rover¯¤ Verone**	**0.13**	**128**	Pg		**Pg**	**22 12 47.5**	**-0.6**
ROVR	**Rover¯¤ Verone**	**0.13**	**128**	Pg		**Pg**	**22 12 47.5**	**-0.6**
MARN	**Marana (Italy)**	**0.21**	**114**	⇓*e*Pg		**Pg**	**22 12 48.7**	**-0.6**
MARN				*e*Sg		**Sg**	**22 12 51.6**	**-1.0**
MARN	**Marana (Italy)**	**0.21**	**114**	*e*Pg		**Pg**	**22 12 48.7**	**-0.6**
MARN				*e*Sg		**Sg**	**22 12 51.6**	**-1.0**
MAGA	**Magasa**	**0.22**	**284**	Pg		**Pg**	**22 12 49.4**	**0.0**
MAGA				Sg		**Sg**	**22 12 53.0**	**+0.2**
	17μm,0.3s							
MAGA	**Magasa**	**0.22**	**284**	Pg		**Pg**	**22 12 49.4**	**0.0**
MAGA				Sg		**Sg**	**22 12 53.0**	**+0.2**
	17μm,0.3s							
DDS	**Dosso del Somm**	**0.24**	**49**	⇓*e*Pg		**Pg**	**22 12 49.8**	**0.0**
DDS				*e*Sg		**Sg**	**22 12 53.4**	**0.0**
DDS	**Dosso del Somm**	**0.24**	**49**	*e*Pg		**Pg**	**22 12 49.8**	**0.0**
DDS				*e*Sg		**Sg**	**22 12 53.4**	**0.0**
SALO	**Salr**	**0.30**	**250**	Pg		**Pg**	**22 12 50.8**	**-0.1**
SALO				Sg		**Sg**	**22 12 55.9**	**+0.8**
	3μm,0.5s							
SALO	**Salr**	**0.30**	**250**	⇑*i*Pg		**Pg**	**22 12 50.7**	**-0.1**
	3μm,0.6s							
SALO	**Salr**	**0.30**	**250**	⇑*i*Pg		**Pg**	**22 12 50.7**	**-0.1**
	3μm,0.6s							
SALO				Sg		**Sg**	**22 12 55.9**	**+0.8**
	3μm,0.5s							
RNI	**Roncone**	**0.33**	**320**	⇓*e*Pg		**Pg**	**22 12 51.6**	**+0.2**
RNI				*e*Sg		**Sg**	**22 12 57.1**	**+0.9**
MABI	**Malga Bissina**	**0.44**	**319**	Pg		**Pg**	**22 12 53.3**	**0.0**
MABI				Sg		**Sb**	**22 13 00.7**	**0.0**
	701nm,0.1s							
MABI	**Malga Bissina**	**0.44**	**319**	⇓*i*Pg		**Pg**	**22 12 53.3**	**0.0**
	3μm,0.2s							
MABI	**Malga Bissina**	**0.44**	**319**	⇓*i*Pg		**Pg**	**22 12 53.3**	**0.0**
	3μm,0.2s							
MABI				Sg		**Sb**	**22 13 00.7**	**0.0**
	701nm,0.1s							
CGRP	**Cima Grappa**	**0.63**	**75**	Pg		**Pg**	**22 12 56.7**	**-0.1**
CGRP				Sg		**Sg**	**22 13 05.3**	**+0.1**
	2μm,0.9s							
CGRP	**Cima Grappa**	**0.63**	**75**	⇑*i*Pn		**Pg**	**22 12 56.5**	**-0.3**
	4μm,10.0s							
CGRP	**Cima Grappa**	**0.63**	**75**	⇑*e*Pg		**Pg**	**22 12 56.6**	**-0.3**
CGRP				*e*Sg		**Sg**	**22 13 05.2**	**0.0**
CGRP	**Cima Grappa**	**0.63**	**75**	Pg		**Pg**	**22 12 56.7**	**-0.1**
CGRP				Sg		**Sg**	**22 13 05.3**	**+0.1**
	2μm,0.9s							
TEOL	**Teolo**	**0.64**	**125**	Pg		**Pg**	**22 12 56.2**	**-0.7**
TEOL				Sg		**Sg**	**22 13 05.5**	**+0.2**
	4μm,0.3s							
TEOL	**Teolo**	**0.64**	**125**	*e*Pg		**Pg**	**22 12 56.2**	**-0.7**
TEOL				*e*Sg		**Sg**	**22 13 05.5**	**+0.2**
TEOL	**Teolo**	**0.64**	**125**	Pg		**Pg**	**22 12 56.2**	**-0.7**
TEOL				Sg		**Sg**	**22 13 05.5**	**+0.2**
	4μm,0.3s							
SBPO	**S.Benedetto Po**	**0.67**	**181**	Pg		**Pb**	**22 12 57.8**	**-0.2**
	409nm,0.3s							
SBPO	**S.Benedetto Po**	**0.67**	**181**	Pg		**Pb**	**22 12 57.8**	**-0.2**
	409nm,0.3s							
OZOL	**Ozolo**	**0.69**	**7**	⇑*e*Pg		**Pg**	**22 12 58.1**	**+0.2**
OZOL	**Ozolo**	**0.69**	**7**	*e*Pg		**Pg**	**22 12 58.1**	**+0.2**
CARE	**Lago del Cares**	**0.72**	**347**	*e*Pg		**Pg**	**22 12 58.8**	**+0.2**
CARE				*e*Sg		**Sb**	**22 13 09.2**	**+0.4**
CARE	**Lago del Cares**	**0.72**	**347**	*e*Pg		**Pg**	**22 12 58.8**	**+0.2**
CARE				*e*Sg		**Sb**	**22 13 09.2**	**+0.4**
APPI	**Appiano**	**0.78**	**15**	Pg		**Pg**	**22 12 59.9**	**+0.2**
APPI				Sg		**Sb**	**22 13 10.9**	**+0.5**
	3μm,0.5s							
APPI	**Appiano**	**0.78**	**15**	Pg		**Pg**	**22 12 59.9**	**+0.2**
APPI				Sg		**Sb**	**22 13 10.9**	**+0.5**
	3μm,0.5s							
KOSI	**Kohlern**	**0.80**	**23**	Pg		**Pb**	**22 13 00.3**	**0.0**
KOSI				Sg		**Sb**	**22 13 11.4**	**+0.3**
	873nm,0.3s							
KOSI	**Kohlern**	**0.80**	**23**	⇓*i*Pg		**Pg**	**22 13 00.1**	**0.0**
	3μm,0.3s							
KOSI	**Kohlern**	**0.80**	**23**	⇓*i*Pg		**Pg**	**22 13 00.1**	**0.0**
	3μm,0.3s							
KOSI				Sg		**Sb**	**22 13 11.4**	**+0.3**
	873nm,0.3s							
BOSI	**Bolzano**	**0.82**	**19**	Pg		**Pb**	**22 13 00.8**	**+0.3**
BOSI				Sg		**Sb**	**22 13 12.6**	**+1.3**
	3μm,0.5s							
BOSI	**Bolzano**	**0.82**	**19**	⇑*i*Pn		**Pb**	**22 13 00.7**	**+0.3**
	9μm,0.6s							
BOSI	**Bolzano**	**0.82**	**19**	⇑*i*P		**Pb**	**22 13 00.7**	**+0.3**
	9μm,0.6s							
BOSI				Sg		**Sb**	**22 13 12.6**	**+1.3**
	3μm,0.5s							
BRMO	**Bormio**	**0.85**	**333**	Pg		**Pg**	**22 13 01.0**	**+0.1**
BRMO				Sg		**Sb**	**22 13 13.2**	**+0.9**
	551nm,0.3s							
BRMO	**Bormio**	**0.85**	**333**	Pg		**Pg**	**22 13 01.0**	**+0.1**
BRMO				Sg		**Sb**	**22 13 13.2**	**+0.9**
	551nm,0.3s							
VARN	**Col Varnada, M**	**0.86**	**71**	*e*Pg		**Pg**	**22 13 00.6**	**-0.6**
VARN	**Col Varnada, M**	**0.86**	**71**	*e*Pg		**Pg**	**22 13 00.6**	**-0.6**
MOSI	**Grossmontoni**	**0.93**	**344**	Pg		**Pg**	**22 13 02.4**	**-0.1**
MOSI				Sg		**Sb**	**22 13 15.4**	**+0.6**
	1μm,0.5s							
MOSI	**Grossmontoni**	**0.93**	**344**	⇓*i*Pn		**Pg**	**22 13 02.3**	**-0.2**
	4μm,0.3s							
MOSI	**Grossmontoni**	**0.93**	**344**	Pg		**Pg**	**22 13 02.4**	**-0.1**
MOSI				Sg		**Sb**	**22 13 15.4**	**+0.6**
	1μm,0.5s							
BERNI	**Berninapass**	**0.94**	**318**	Pg		**Pg**	**22 13 02.5**	**-0.1**
	308nm,0.4s							
BERNI	**Berninapass**	**0.94**	**318**	⇓*i*Pn		**Pg**	**22 13 02.3**	**-0.3**
	1μm,0.4s							
BERNI	**Berninapass**	**0.94**	**318**	Pg		**Pg**	**22 13 02.5**	**-0.1**
	308nm,0.4s							
CTL8	**Castelleone**	**0.94**	**242**	Pg		**Pn**	**22 13 03.8**	**+0.6**
	302nm,0.3s							
CTL8	**Castelleone**	**0.94**	**242**	Pg		**Pn**	**22 13 03.8**	**+0.6**
	302nm,0.3s							
NOVE	**Novellara**	**0.94**	**189**	Pg		**Pb**	**22 13 02.7**	**+0.2**
	4μm,0.3s							
NOVE	**Novellara**	**0.94**	**189**	Pg		**Pb**	**22 13 02.7**	**+0.2**
	4μm,0.3s							
AGOR	**Agordo**	**0.96**	**54**	Pg		**Pb**	**22 13 03.1**	**+0.2**
	822nm,0.4s							
AGOR	**Agordo**	**0.96**	**54**	*e*Pg		**Pb**	**22 13 03.1**	**+0.2**
RAVA	**Ravarino**	**0.98**	**172**	Pg		**Pb**	**22 13 03.4**	**+0.2**
	13μm,0.5s							
RAVA	**Ravarino**	**0.98**	**172**	Pg		**Pb**	**22 13 03.4**	**+0.2**
	13μm,0.5s							
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	Pg		**Pg**	**22 13 04.0**	**0.0**
FUORN				Sg		**Sg**	**22 13 17.5**	**+0.3**
	475nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	⇓*i*Pn		**Pg**	**22 13 02.9**	**-1.1**
	2μm,0.4s							
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	⇓*i*P		**Pg**	**22 13 02.9**	**-1.1**
	2μm,0.4s							
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	*e*Pg		**Pb**	**22 13 04.3**	**+0.4**
FUORN				Sg		**Sg**	**22 13 17.5**	**+0.3**
	475nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	*e*Pg		**Pb**	**22 13 04.3**	**+0.4**
FUORN				*e*Sg		**Sg**	**22 13 17.3**	**+0.1**
ABSI	**Aberstueckl**	**1.04**	**15**	Pg		**Pb**	**22 13 04.7**	**+0.3**
ABSI				Sg		**Sb**	**22 13 18.9**	**+1.0**
	2μm,0.5s							
ABSI	**Aberstueckl**	**1.04**	**15**	⇓*i*Pn		**Pg**	**22 13 03.7**	**-0.9**
	5μm,0.2s							
ABSI	**Aberstueckl**	**1.04**	**15**	⇓*i*P		**Pg**	**22 13 03.7**	**-0.9**
	5μm,0.2s							
ABSI	**Aberstueckl**	**1.04**	**15**	Pg		**Pb**	**22 13 04.7**	**+0.3**
ABSI				Sg		**Sb**	**22 13 18.9**	**+1.0**
	2μm,0.5s							
PRMA	**PARMA**	**1.06**	**205**	Pg		**Pb**	**22 13 05.0**	**+0.5**
	2μm,0.5s							
PRMA	**PARMA**	**1.06**	**205**	Pg		**Pb**	**22 13 05.0**	**+0.5**
	2μm,0.5s							
CIMO	**Cimolais**	**1.20**	**60**	*e*Pg		**Pg**	**22 13 06.3**	**-1.3**
CIMO	**Cimolais**	**1.20**	**60**	*e*Pg		**Pg**	**22 13 06.3**	**-1.3**
ROSI	**Rosskopf**	**1.25**	**15**	Pg		**Pg**	**22 13 08.4**	**-0.2**
	1μm,0.5s							
ROSI	**Rosskopf**	**1.25**	**15**	*e*Pn		**Pg**	**22 13 04.5**	**-4.1**
	5μm,0.3s							
ROSI	**Rosskopf**	**1.25**	**15**	*e*Pn		**Pg**	**22 13 04.5**	**-4.1**
	5μm,0.3s							
ROSI	**Rosskopf**	**1.25**	**15**	Pg		**Pg**	**22 13 08.4**	**-0.2**
	1μm,0.5s							
DAVOX	**Davos/Dischmat**	**1.28**	**326**	Pg		**Pn**	**22 13 08.8**	**+0.6**
	35nm,0.3s,baz=35,slow=1.6,SNR=275							
DAVOX					Lg	Lg	22 13 27.2	
	78nm,0.3s,baz=298,slow=20,SNR=15							
DAVOX	**Davos/Dischmat**	**1.28**	**326**	Pg		**Pn**	**22 13 08.8**	**+0.6**
	397nm,0.5s							
DAVOX	**Davos/Dischmat**	**1.28**	**326**	⇓*i*Pn		**Pn**	**22 13 08.2**	**0.0**
	1μm,0.5s							
DAVOX	**Davos/Dischmat**	**1.28**	**326**	⇓*i*Pn		**Pn**	**22 13 08.2**	**0.0**
	1μm,0.5s							
DAVOX	**Davos/Dischmat**	**1.28**	**326**	Pg		**Pn**	**22 13 08.8**	**+0.6**
	397nm,0.5s							
FETA	**Feichten**	**1.30**	**354**	Pg		**Pb**	**22 13 09.4**	**+0.5**
	66nm,0.2s,SNR=54							
FETA				Sg		**Sb**	**22 13 26.8**	**+1.3**
	51nm,0.2s							
TUE	**Stuetta**	**1.33**	**305**	Pg		**Pn**	**22 13 09.2**	**+0.4**
	783nm,0.6s							
TUE	**Stuetta**	**1.33**	**305**	⇓*i*Pn		**Pn**	**22 13 08.7**	**-0.1**
	2μm,0.4s							
TUE	**Stuetta**	**1.33**	**305**	⇓*i*Pn		**Pn**	**22 13 08.7**	**-0.1**
	2μm,0.4s							
TUE	**Stuetta**	**1.33**	**305**	Pg		**Pn**	**22 13 09.2**	**+0.4**
	783nm,0.6s							
TUE				*e*Sn		**Sg**	**22 13 26.4**	**-1.1**
TUE	**Stuetta**	**1.33**	**305**	*e*Pn		**Pn**	**22 13 09.4**	**+0.6**
TUE				*e*Sn		**Sg**	**22 13 26.4**	**-1.1**
MUGIO	**Muggio**	**1.34**	**279**	Pg		**Pn**	**22 13 08.8**	**0.0**
MUGIO				Sg		**Sn**	**22 13 28.1**	**+1.7**
	616nm,0.5s							
MUGIO	**Muggio**	**1.34**	**279**	⇑*i*Pn		**Pn**	**22 13 08.6**	**-0.2**
	2μm,0.4s							
MUGIO	**Muggio**	**1.34**	**279**	⇑*i*Pn		**Pn**	**22 13 08.6**	**-0.2**
	2μm,0.4s							
MUGIO				Sg		**Sn**	**22 13 28.1**	**+1.7**
	616nm,0.5s							
STAL	**STALIGIAL**	**1.35**	**66**	Pg		**Pn**	**22 13 09.7**	**+0.7**
	1μm,0.2s							
STAL	**STALIGIAL**	**1.35**	**66**	Pg		**Pn**	**22 13 09.7**	**+0.7**
	1μm,0.2s							
ZCCA	**Zocca**	**1.37**	**179**	Pg		**Pg**	**22 13 11.1**	**+0.2**
	542nm,0.6s							
ZCCA	**Zocca**	**1.37**	**179**	Pg		**Pg**	**22 13 11.1**	**+0.2**
	542nm,0.6s							
GRAM	**Graiana**	**1.38**	**207**	P		**Pn**	**22 13 09.8**	**+0.5**
GRAM				S		**Sb**	**22 13 28.2**	**+0.7**
MTRZ	**Monterenzio**	**1.40**	**164**	Pg		**Pg**	**22 13 13.2**	**+1.8**
	1μm,0.6s							
BOB	**Bobbio (Coli)**	**1.42**	**228**	Pg		**Pn**	**22 13 10.7**	**+0.8**
BOB				Sg		**Sg**	**22 13 30.7**	**+0.5**
	391nm,0.4s							
BOB	**Bobbio (Coli)**	**1.42**	**228**	⇓*i*Pn		**Pn**	**22 13 09.2**	**-0.7**
	1μm,0.6s							
BOB	**Bobbio (Coli)**	**1.42**	**228**	⇓*i*Pn		**Pn**	**22 13 09.2**	**-0.7**
	1μm,0.6s							
BOB	**Bobbio (Coli)**	**1.42**	**228**	Pg		**Pn**	**22 13 10.7**	**+0.8**
BOB				Sg		**Sg**	**22 13 30.7**	**+0.5**
	391nm,0.4s							
RISI	**Rein**	**1.46**	**33**	Pg		**Pg**	**22 13 12.2**	**-0.4**
RISI				Sg		**Sg**	**22 13 31.5**	**-0.1**
RISI	**Rein**	**1.46**	**33**	⇓*e*Pn		**Pn**	**22 13 10.6**	**0.0**
	12μm,0.4s							
RISI	**Rein**	**1.46**	**33**	⇓*e*Pn		**Pn**	**22 13 10.6**	**0.0**
	12μm,0.4s							
RISI	**Rein**	**1.46**	**33**	Pg		**Pg**	**22 13 12.2**	**-0.4**
RISI				Sg		**Sg**	**22 13 31.5**	**-0.1**
ABTA	**Abfaltersbach**	**1.50**	**46**	Pg		**Pb**	**22 13 12.6**	**+0.4**
	61nm,0.2s,SNR=92							
ABTA				Sg		**Sg**	**22 13 34.1**	**+1.3**
	71nm,0.1s							
SQTA	**Sankt Quirin**	**1.51**	**7**	Pg		**Pg**	**22 13 13.1**	**-0.4**
SQTA				Sg		**Sg**	**22 13 33.1**	**0.0**
CODM	**Codolo**	**1.54**	**210**	P		**Pn**	**22 13 12.2**	**+0.7**
CODM				S		**Sn**	**22 13 32.6**	**+1.3**
FVI	**Forni Avoltri**	**1.55**	**55**	Pg		**Pb**	**22 13 13.3**	**+0.2**
	426nm,0.5s							
FVI	**Forni Avoltri**	**1.55**	**55**	Pg		**Pb**	**22 13 13.3**	**+0.2**
	426nm,0.5s							
FNVD	**Fontana Vidola**	**1.56**	**175**	Pg		**Pb**	**22 13 13.5**	**+0.3**
	332nm,0.6s							
FNVD	**Fontana Vidola**	**1.56**	**175**	Pg		**Pb**	**22 13 13.5**	**+0.3**
	332nm,0.6s							
SARO	**Sassorosso**	**1.58**	**194**	P		**Pb**	**22 13 13.7**	**+0.1**
SARO				S		**Sn**	**22 13 33.5**	**+1.0**
FUSE	**Fusea**	**1.60**	**64**	⇑*e*Pg		**Pn**	**22 13 12.9**	**+0.6**
FUSE	**Fusea**	**1.60**	**64**	*e*Pg		**Pn**	**22 13 12.9**	**+0.6**
VLC	**Villacollemand**	**1.61**	**194**	Pg		**Pb**	**22 13 14.4**	**+0.4**
	385nm,0.8s							
VLC	**Villacollemand**	**1.61**	**194**	Pg		**Pb**	**22 13 14.4**	**+0.4**
	385nm,0.8s							
VLC				*e*Sn		**Sn**	**22 13 32.0**	**-1.1**
VLC	**Villacollemand**	**1.61**	**194**	*e*Pn		**Pb**	**22 13 14.6**	**+0.5**
VLC				*e*Sn		**Sn**	**22 13 32.0**	**-1.1**
WTTA	**Wattenberg**	**1.61**	**17**	Pg		**Pb**	**22 13 14.9**	**+0.7**
	189nm,0.7s							
WTTA	**Wattenberg**	**1.61**	**17**	⇓*i*Pn		**Pn**	**22 13 11.4**	**-1.3**
	1μm,0.4s							
WTTA	**Wattenberg**	**1.61**	**17**	*e*Pn		**Pb**	**22 13 14.9**	**+0.7**
WTTA				*e*Sg		**Sg**	**22 13 36.1**	**-0.4**
WTTA	**Wattenberg**	**1.61**	**17**	Pg		**Pb**	**22 13 14.9**	**+0.7**
	21nm,0.2s,SNR=19							
WTTA				Sn		**Sb**	**22 13 35.6**	**+1.1**
	134nm,0.3s							
WTTA				Sg		**Sg**	**22 13 36.1**	**-0.4**
MOTA	**Moosalm**	**1.62**	**4**	Pg		**Pb**	**22 13 15.1**	**+0.8**
	SNR=43							
MOTA				Sg		**Sg**	**22 13 36.9**	**+0.1**
	63nm,0.2s							
ZOU	**Zoufplan**	**1.65**	**59**	⇑*e*Pg		**Pn**	**22 13 14.2**	**+1.1**
SC2M	**Scurtabo**	**1.65**	**217**	Pg		**Pn**	**22 13 14.4**	**+1.3**
	784nm,0.6s							
SC2M	**Scurtabo**	**1.65**	**217**	P		**Pn**	**22 13 13.7**	**+0.6**
SC2M	**Scurtabo**	**1.65**	**217**	Pg		**Pn**	**22 13 14.4**	**+1.3**
	784nm,0.6s							
SC2M				S		**Sn**	**22 13 34.3**	**+0.2**
WATA	**Walderalm**	**1.67**	**15**	Pg		**Pb**	**22 13 15.4**	**+0.3**
	SNR=37							
WATA				Sg		**Sg**	**22 13 38.1**	**-0.2**
	85nm,0.1s							
BDI	**Bagni Di Lucca**	**1.68**	**188**	Pg		**Pb**	**22 13 15.5**	**+0.3**
	421nm,0.6s							
BDI	**Bagni Di Lucca**	**1.68**	**188**	Pg		**Pb**	**22 13 15.5**	**+0.3**
	421nm,0.6s							
POPM	**Popiglio**	**1.68**	**184**	P		**Pb**	**22 13 15.0**	**-0.2**
POPM				S		**Sn**	**22 13 35.6**	**+0.7**
PLONS	**Plons/SG**	**1.71**	**322**	Pg		**Pb**	**22 13 16.6**	**+1.0**
	241nm,0.7s							
PLONS	**Plons/SG**	**1.71**	**322**	⇑*e*Pn		**Pn**	**22 13 12.1**	**-1.8**
	558nm,0.6s							
PLONS	**Plons/SG**	**1.71**	**322**	⇑*e*Pn		**Pn**	**22 13 12.1**	**-1.8**
	558nm,0.6s							
DAVA	**Damuels**	**1.72**	**335**	*e*Pn		**Pb**	**22 13 16.6**	**+0.6**
DAVA				*e*Sg		**Sg**	**22 13 41.9**	**+2.0**
DAVA	**Damuels**	**1.72**	**335**	Pn		**Pb**	**22 13 16.6**	**+0.6**
DAVA	**Damuels**	**1.72**	**335**	Pg		**Pg**	**22 13 17.1**	**-0.5**
	20nm,0.2s,SNR=36							
DAVA				Sg		**Sg**	**22 13 41.9**	**+2.0**
	339nm,0.6s							
MSSA	**Maissana**	**1.73**	**216**	Pg		**Pn**	**22 13 14.9**	**+0.7**
	225nm,0.5s							
MSSA	**Maissana**	**1.73**	**216**	Pg		**Pn**	**22 13 14.9**	**+0.7**
	225nm,0.5s							
FUSIO	**Fusio**	**1.74**	**296**	Pg		**Pb**	**22 13 16.6**	**+0.3**
	501nm,0.8s							
FUSIO	**Fusio**	**1.74**	**296**	Pg		**Pb**	**22 13 16.6**	**+0.3**
	501nm,0.8s							
OBER	**Oberstdorf**	**1.74**	**346**	*e*Pn		**Pb**	**22 13 17.2**	**+1.0**
OBER	**Oberstdorf**	**1.74**	**346**	Pn		**Pb**	**22 13 17.2**	**+1.0**
RETA	**Reutte**	**1.77**	**356**	Pg		**Pb**	**22 13 17.3**	**+0.6**
	2.1nm,0.3s,SNR=42							
RETA				Sg		**Sg**	**22 13 42.8**	**+1.5**
	53nm,0.3s							
PTCC	**Patocco-Chiusa**	**1.82**	**67**	Pg		**Pn**	**22 13 15.6**	**+0.2**
	233nm,0.5s							
MAIM	**Mastiano**	**1.84**	**190**	P		**Pn**	**22 13 16.2**	**+0.6**
MAIM				S		**Sn**	**22 13 37.6**	**-1.0**
PLMA	**Palmaria, Port**	**1.84**	**205**	Pg		**Pn**	**22 13 16.4**	**+0.8**
	282nm,0.5s							
PLMA	**Palmaria, Port**	**1.84**	**205**	Pg		**Pn**	**22 13 16.4**	**+0.8**
	282nm,0.5s							
SABO	**M.te Sabotino**	**1.88**	**81**	Pg		**Pn**	**22 13 16.8**	**+0.5**
	703nm,0.3s							
SABO	**M.te Sabotino**	**1.88**	**81**	*e*Pg		**Pn**	**22 13 16.6**	**+0.3**
SABO	**M.te Sabotino**	**1.88**	**81**	*e*Pg		**Pn**	**22 13 16.6**	**+0.3**
SFI	**Santa Sofia**	**1.93**	**160**	Pg		**Pn**	**22 13 18.0**	**+1.1**
SFI				Sg		**Sn**	**22 13 42.2**	**+1.2**
	901nm,1.8s							
SFI	**Santa Sofia**	**1.93**	**160**	Pg		**Pn**	**22 13 18.0**	**+1.1**
DRE	**Drenchia**	**1.94**	**76**	*e*Pg		**Pn**	**22 13 17.3**	**+0.2**
DRE	**Drenchia**	**1.94**	**76**	*e*Pg		**Pn**	**22 13 17.3**	**+0.2**
TRI	**Trieste**	**1.98**	**89**	Pg		**Pn**	**22 13 17.1**	**-0.5**
	191nm,0.6s							
TRI	**Trieste**	**1.98**	**89**	*e*Pg		**Pn**	**22 13 17.6**	**-0.1**
TRI	**Trieste**	**1.98**	**89**	*e*Pn		**Pn**	**22 13 17.5**	**-0.1**
TRI				*e*Sn		**Sn**	**22 13 42.6**	**+0.4**
TRI	**Trieste**	**1.98**	**89**	*e*Pn		**Pn**	**22 13 17.5**	**-0.1**
TRI				*e*Sn		**Sn**	**22 13 42.6**	**+0.4**
CADS	**Cadrg**	**2.02**	**75**	*i* Pn		**Pn**	**22 13 18.2**	**0.0**
CADS				*e*Sn		**Sb**	**22 13 46.9**	**+0.9**
	comp=Z,199nm,0.3s							
CADS	**Cadrg**	**2.02**	**75**	*i* Pn		**Pn**	**22 13 18.2**	**0.0**
CADS				*e*Sn		**Sb**	**22 13 46.9**	**+0.9**
	comp=Z,199nm,0.3s							
MYKA	**Terra Mystica**	**2.09**	**63**	Pn		**Pn**	**22 13 20.1**	**+1.0**
	comp=Z,0.9nm,0.2s,SNR=19							
MYKA				Sg		**Sg**	**22 13 51.4**	**-0.3**
	comp=Z,58nm,0.3s							
KBA	**Koelnbreinsper**	**2.15**	**50**	*e*Pn		**Pn**	**22 13 21.2**	**+1.1**
KBA				*e*Sg		**Sg**	**22 13 52.8**	**-0.8**
KBA	**Koelnbreinsper**	**2.15**	**50**	Pn		**Pn**	**22 13 21.2**	**+1.1**
	comp=Z,0.2nm,0.1s,SNR=19							
KBA				Sg		**Sg**	**22 13 54.8**	**+1.2**
	comp=Z,125nm,0.5s							
CPGN	**Carpegna, Ital**	**2.16**	**152**	Pg		**Pn**	**22 13 21.0**	**+0.8**
	comp=Z,640μm,42.0s							
MONC	**Moncucco Torin**	**2.21**	**254**	Pg		**Pn**	**22 13 22.1**	**+1.3**
	comp=Z,231nm,0.5s							
RJOB	**Jochberg**	**2.39**	**32**	*e*Pn		**Pb**	**22 13 26.2**	**-1.1**
RJOB				*e*Sg		**Sg**	**22 14 00.3**	**-0.9**
RJOB	**Jochberg**	**2.39**	**32**	Pn		**Pb**	**22 13 26.2**	**-1.1**
RJOB				Sg		**Sg**	**22 14 00.3**	**-0.9**
FSSB	**Fossombrone**	**2.42**	**146**	Pg		**Pn**	**22 13 24.1**	**+0.4**
	comp=Z,266nm,0.3s							
CEY	**Cerknica**	**2.45**	**88**	*e*Pn		**Pn**	**22 13 23.8**	**-0.2**
LJU	**Ljubljana**	**2.53**	**81**	*e*Pn		**Pg**	**22 13 31.8**	**-1.2**
LJU				*e*Sn		**Sg**	**22 14 04.5**	**-1.3**
LJU	**Ljubljana**	**2.53**	**81**	*e*Pn		**Pn**	**22 13 26.3**	**+1.1**
SENIN	**Lac Senin/Sane**	**2.61**	**285**	*e*Pn		**Pn**	**22 13 28.4**	**+2.0**
SENIN	**Lac Senin/S

PGF	**Pioggiola**	**3.47 204**	*e*Pn	**Pn**	**22 13 37.0**	**-1.1**
	SNR=1.0					
PGF			*e*Sn	**Sn**	**22 14 16.6**	**-2.4**
	comp=Z,40nm,0.4s					
PGF	**Pioggiola**	**3.47 204**	*e*Pn	**Pn**	**22 13 37.0**	**-1.1**
	SNR=1.0					
PGF			*e*Sn	**Sn**	**22 14 16.6**	**-2.4**
	comp=Z,20nm,0.4s					
LNSS	**Leonessa**	**3.47 153**	Pg	**Pn**	**22 13 38.7**	**+0.5**
	comp=Z,85nm,0.4s					
CABF	**La Chapelle**	**3.48 286**	*e*Pn	**Pn**	**22 13 39.0**	**+0.7**
	SNR=1.0					
CABF			*e*Sn	**Sn**	**22 14 17.6**	**-1.7**
	comp=Z,54nm,0.6s,SNR=1.0					
CABF			*e*Sg	**Sg**	**22 14 35.1**	**-1.1**
	comp=Z,36nm,0.5s,SNR=1.0					
CABF	**La Chapelle**	**3.48 286**	*e*Pn	**Pn**	**22 13 39.0**	**+0.7**
	SNR=1.0					
CABF			*e*Sn	**Sn**	**22 14 17.6**	**-1.7**
	comp=Z,27nm,0.6s,SNR=1.0					
CABF			*e*Sg	**Sg**	**22 14 35.1**	**-1.1**
	comp=Z,18nm,0.5s,SNR=1.0					
HINF	**Hinteralfeld**	**3.50 308**	*e*Pn	**Pn**	**22 13 39.5**	**+1.0**
	SNR=1.0					
HINF			*e*Sn	**Sn**	**22 14 19.2**	**-0.4**
	comp=Z,100nm,0.6s,SNR=1.0					
HINF			*e*Sg	**Sg**	**22 14 35.1**	**-1.7**
	comp=Z,72nm,0.5s,SNR=1.0					
HINF	**Hinteralfeld**	**3.50 308**	*e*Pn	**Pn**	**22 13 39.5**	**+1.0**
	SNR=1.0					
HINF			*e*Sn	**Sn**	**22 14 19.2**	**-0.4**
	comp=Z,50nm,0.6s,SNR=1.0					
HINF			*e*Sg	**Sg**	**22 14 35.1**	**-1.7**
	comp=Z,36nm,0.5s,SNR=1.0					
ARSA	**Arzberg**	**3.52 63**	*e*Pn	**Pn**	**22 13 37.0**	**-1.8**
ARSA	**Arzberg**	**3.52 63**	Pn	**Pn**	**22 13 39.4**	**+0.6**
	comp=Z,0.9nm,0.1s,SNR=5.9					
ARSA			Sg	**Sg**	**22 14 40.7**	**+3.2**
	comp=Z,3.3nm,0.3s					
ECH	**Echery**	**3.59 315**	P	**Pn**	**22 13 40.6**	**+0.9**
ECH	**Echery**	**3.59 315**	P	**Pn**	**22 13 40.6**	**+0.9**
ECH	**Echery**	**3.59 315**	*e*Pn	**Pn**	**22 13 41.2**	**+1.5**
ECH	**Echery**	**3.59 315**	*e*Pn	**Pn**	**22 13 41.2**	**+1.5**
UDBI	**Udbina**	**3.62 108**	*e*Pn	**Pn**	**22 13 41.2**	**+1.0**
GEC2	**GERESS Array S**	**3.65 30**	*e*Pn	**Pn**	**22 13 41.4**	**+0.8**
GEC2	**GERESS Array S**	**3.65 30**	Pn	**Pn**	**22 13 41.4**	**+0.8**
GEC2	**GERESS Array S**	**3.65 30**	*e*Pn	**Pn**	**22 13 41.6**	**+1.0**
GERES	**GERESS Array B**	**3.65 30**	Pn	**Pn**	**22 13 41.0**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=208,slow=12,SNR=58					
GERES			Sn	**Sn**	**22 14 24.1**	**+0.7**
	comp=Z,7.0nm,0.3s,baz=210,slow=25,SNR=8.9					
GERES			Lg	Lg	22 14 39.8	
	comp=Z,16nm,0.3s,baz=214,slow=28,SNR=14					
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*Pn	**Pn**	**22 13 41.9**	**+1.3**
	SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*P	**Pn**	**22 13 43.2**	**+2.6**
ORIF			*e*Sn	**Sn**	**22 14 18.6**	**-5.0**
	comp=Z,28nm,0.4s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*Pn	**Pn**	**22 13 41.9**	**+1.3**
	SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*P	**Pn**	**22 13 43.2**	**+2.6**
ORIF			*e*Sn	**Sn**	**22 14 18.6**	**-5.0**
	comp=Z,14nm,0.4s,SNR=1.0					
WET	**Wettzell**	**3.67 20**	*e*Pn	**Pn**	**22 13 42.0**	**+1.2**
WET	**Wettzell**	**3.67 20**	Pn	**Pn**	**22 13 42.0**	**+1.2**
CDF	**Champ du Feu**	**3.67 318**	*e*Pn	**Pn**	**22 13 42.2**	**+1.3**
	SNR=1.0					
CDF	**Champ du Feu**	**3.67 318**	*e*P	**Pn**	**22 13 44.9**	**+4.0**
CDF			*e*Sg	**Sg**	**22 14 40.8**	**-1.5**
	comp=Z,42nm,0.4s,SNR=1.0					
CDF	**Champ du Feu**	**3.67 318**	*e*Pn	**Pn**	**22 13 42.2**	**+1.3**
	SNR=1.0					
CDF	**Champ du Feu**	**3.67 318**	*e*P	**Pn**	**22 13 44.9**	**+4.0**
CDF			*e*Sg	**Sg**	**22 14 40.8**	**-1.5**
	comp=Z,21nm,0.4s,SNR=1.0					
FRF	**La Foret Royal**	**3.75 236**	*e*Pn	**Pn**	**22 13 41.3**	**-0.5**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**22 14 24.6**	**-1.1**
	comp=Z,25nm,0.4s,SNR=1.0					
FRF	**La Foret Royal**	**3.75 236**	*e*Pn	**Pn**	**22 13 41.3**	**-0.5**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**22 14 24.6**	**-1.1**
	comp=Z,13nm,0.4s,SNR=1.0					
FIAM	**Fiamignano**	**3.80 155**	Pg	**Pn**	**22 13 44.2**	**+1.5**
	comp=Z,48nm,0.6s					
AQU	**L'Aquila**	**3.81 151**	*e*Pn	**Pn**	**22 13 43.2**	**+0.4**
AQU	**L'Aquila**	**3.81 151**	*e*Pn	**Pn**	**22 13 43.2**	**+0.4**
KHC	**Kasperske Hory**	**3.85 27**	*e*PN	**Pn**	**22 13 44.4**	**+1.1**
KHC			*e*PG	**Pg**	**22 13 56.7**	**-1.6**
KHC			*e*SN	**Sn**	**22 14 29.2**	**+0.8**
KHC			*e*SG	**Sg**	**22 14 45.6**	**-2.5**
	comp=Z,59nm,0.6s					
KHC	**Kasperske Hory**	**3.85 27**	Pn	**Pn**	**22 13 44.4**	**+1.1**
KHC			Sn	**Sn**	**22 14 29.2**	**+0.8**
KHC			Sg	**Sg**	**22 14 45.6**	**-2.5**
	comp=Z,59nm,0.6s					
KHC	**Kasperske Hory**	**3.85 27**	*e*Pn	**Pn**	**22 13 44.4**	**+1.1**
HAU	**Haudompre**	**3.88 308**	*e*Pn	**Pn**	**22 13 44.9**	**+1.1**
	SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*P	**Pn**	**22 13 47.4**	**+3.6**
HAU			*e*Sn	**Sn**	**22 14 28.6**	**-0.6**
	comp=Z,108nm,0.7s,SNR=1.0					
HAU			*e*Sg	**Sg**	**22 14 46.7**	**-2.4**
	comp=Z,44nm,0.4s,SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*Pn	**Pn**	**22 13 44.9**	**+1.1**
	SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*P	**Pn**	**22 13 47.4**	**+3.6**
HAU			*e*Sn	**Sn**	**22 14 28.6**	**-0.6**
	comp=Z,54nm,0.7s,SNR=1.0					
HAU			*e*Sg	**Sg**	**22 14 46.7**	**-2.4**
	comp=Z,22nm,0.4s,SNR=1.0					
LANF	**Langenberg**	**3.89 328**	P	**Pn**	**22 13 45.6**	**+1.8**
LANF	**Langenberg**	**3.89 328**	P	**Pn**	**22 13 45.6**	**+1.8**
LMR	**La Mourre**	**3.96 234**	*e*Pn	**Pn**	**22 13 44.3**	**-0.5**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**22 14 28.6**	**-2.5**
	comp=Z,17nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**3.96 234**	*e*Pn	**Pn**	**22 13 44.3**	**-0.5**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**22 14 28.6**	**-2.5**
	comp=Z,8.4nm,0.3s,SNR=1.0					
GRFO	**Grafenberg**	**3.97 3**	*e*Pn	**Pn**	**22 13 44.2**	**-0.7**
GRFO	**Grafenberg**	**3.97 3**	*e*Pn	**Pn**	**22 13 44.2**	**-0.7**
GRA1	**Grafenberg Arr**	**3.97 3**	Pn	**Pn**	**22 13 44.8**	**-0.2**
GRA1	**Grafenberg Arr**	**3.97 3**	Pg	**Pg**	**22 14 00.3**	**-0.3**
GRA1			Sg	**Sg**	**22 14 51.9**	**-0.1**
GRF	**Grafenberg Arr**	**3.97 3**	*e*Pn	**Pn**	**22 13 44.8**	**-0.2**
GRF			*e*Pg	**Pg**	**22 14 00.3**	**-0.3**
GRF			*e*Sg	**Sg**	**22 14 51.9**	**-0.1**
CONA	**Conrad Observa**	**4.04 55**	Sg	**Sg**	**22 14 57.7**	**+3.6**
	comp=Z,23nm,0.5s					
TOD	**Tromm**	**4.14 340**	P	**Pn**	**22 13 50.3**	**+3.0**
SMRF	**Simiane la Rot**	**4.19 247**	*e*Pn	**Pn**	**22 13 48.5**	**+0.5**
	SNR=1.0					
SMRF			*e*Sg	**Sg**	**22 14 56.2**	**-2.8**
	comp=Z,11nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**4.19 247**	*e*Pn	**Pn**	**22 13 48.5**	**+0.5**
	SNR=1.0					
SMRF			*e*Sg	**Sg**	**22 14 56.2**	**-2.8**
	comp=Z,5.6nm,0.4s,SNR=1.0					
THEF	**They Montfort**	**4.21 308**	P	**Pn**	**22 13 49.6**	**+1.4**
THEF	**They Montfort**	**4.21 308**	P	**Pn**	**22 13 49.6**	**+1.4**
VIVF	**Saint-Julien-l**	**4.50 261**	*e*Pn	**Pn**	**22 13 52.2**	**0.0**
	SNR=1.0					
VIVF			*e*Sn	**Sn**	**22 14 42.7**	**-1.7**
	comp=Z,12nm,0.4s,SNR=1.0					
VIVF	**Saint-Julien-l**	**4.50 261**	*e*Pn	**Pn**	**22 13 52.2**	**0.0**
	SNR=1.0					
VIVF			*e*Sn	**Sn**	**22 14 42.7**	**-1.7**
	comp=Z,6.0nm,0.4s,SNR=1.0					
SSB	**Saint Sauveur**	**4.51 267**	*e*Pn	**Pn**	**22 13 52.3**	**-0.1**
SSB	**Saint Sauveur**	**4.51 267**	*e*Pn	**Pn**	**22 13 52.3**	**-0.1**
BLY	**Banja Luka**	**4.52 100**	*e*Pn	**Pn**	**22 13 52.2**	**-0.3**
BLY	**Banja Luka**	**4.52 100**	*e*Pn	**Pn**	**22 13 52.2**	**-0.3**
PAGF	**Fort de Pagny**	**4.54 310**	*e*P	**Pn**	**22 13 56.5**	**+3.7**
	baz=128					
PAGF	**Fort de Pagny**	**4.54 310**	*e*P	**Pn**	**22 13 56.5**	**+3.7**
NKC	**Novy Kostel**	**4.62 12**	*e*PG	**Pg**	**22 14 12.1**	**-0.9**
NKC			*e*SN	**Sn**	**22 14 46.9**	**-0.5**
NKC			*e*SG	**Sg**	**22 15 10.4**	**-2.5**
	comp=Z,20nm,0.4s					
TREC	**Trest**	**4.72 39**	*e*PN	**Pn**	**22 13 56.4**	**+1.2**
TREC			*e*SN	**Sn**	**22 14 51.8**	**+2.0**
TREC			*e*SG	**Sg**	**22 15 11.8**	**-4.2**
	comp=Z,27nm,0.5s					
TREC	**Trest**	**4.72 39**	Pn	**Pn**	**22 13 56.4**	**+1.2**
TREC			Sn	**Sn**	**22 14 51.8**	**+2.0**
TREC			Sg	**Sg**	**22 15 11.8**	**-4.2**
	comp=Z,27nm,0.5s					
SFTF	**Sexfontaines**	**4.74 304**	*e*Pn	**Pn**	**22 13 56.4**	**+1.0**
	baz=127					
SFTF	**Sexfontaines**	**4.74 304**	*e*P	**Pn**	**22 13 59.5**	**+4.1**
SFTF	**Sexfontaines**	**4.74 304**	*e*Pn	**Pn**	**22 13 56.4**	**+1.0**
	baz=127					
SFTF	**Sexfontaines**	**4.74 304**	*e*P	**Pn**	**22 13 59.5**	**+4.1**
RUP	**Ruppelstein**	**4.76 328**	P	**Pn**	**22 13 58.4**	**+2.6**
MEZF	**Maizieres J'vi**	**4.88 307**	*e*Pn	**Pn**	**22 13 57.4**	**0.0**
	SNR=1.0					
MEZF	**Maizieres J'vi**	**4.88 307**	*e*Pn	**Pn**	**22 13 57.4**	**0.0**
	SNR=1.0					
PRU	**Pruhonice**	**4.91 28**	*e*PN	**Pn**	**22 13 59.2**	**+1.4**
PRU			*e*PG	**Pg**	**22 14 16.6**	**-1.8**
PRU			*e*SN	**Sn**	**22 14 53.5**	**-0.9**
PRU			*e*SG	**Sg**	**22 15 17.3**	**-4.7**
	comp=Z,25nm,0.6s					
PRU	**Pruhonice**	**4.91 28**	Sn	**Sn**	**22 14 53.5**	**-0.9**
GOPC	**GO Pecny, Ondr**	**4.93 30**	*e*PN	**Pn**	**22 14 00.2**	**+2.1**
GOPC			*e*PG	**Pg**	**22 14 17.2**	**-1.7**
GOPC			*e*SN	**Sn**	**22 14 55.4**	**+0.5**
GOPC			*e*SG	**Sg**	**22 15 18.7**	**-4.0**
	comp=Z,50nm,0.6s					
PRA	**Prague**	**4.95 27**	*e*SG	**Sg**	**22 15 20.6**	**-2.5**
	comp=Z,34nm,0.6s					
PRA	**Prague**	**4.95 27**	Sg	**Sg**	**22 15 20.6**	**-2.5**
	comp=Z,34nm,0.6s					
SMF	**Signal de Mont**	**5.01 283**	*e*Pn	**Pn**	**22 13 59.4**	**+0.2**
	SNR=1.0					
SMF	**Signal de Mont**	**5.01 283**	*e*P	**Pn**	**22 14 02.8**	**+3.6**
SMF			*e*Sn	**Sn**	**22 14 55.6**	**-1.3**
	comp=Z,31nm,0.3s					
SMF	**Signal de Mont**	**5.01 283**	*e*Pn	**Pn**	**22 13 59.4**	**+0.2**
	SNR=1.0					
SMF	**Signal de Mont**	**5.01 283**	*e*P	**Pn**	**22 14 02.8**	**+3.6**
SMF			*e*Sn	**Sn**	**22 14 55.6**	**-1.3**
	comp=Z,15nm,0.3s					
WLF	**Walferdange**	**5.09 322**	*e*Pn	**Pn**	**22 14 01.5**	**+1.2**
WLF	**Walferdange**	**5.09 322**	*e*Pn	**Pn**	**22 14 01.5**	**+1.2**
PLDF	**La Plantade**	**5.11 275**	P	**Pn**	**22 14 00.7**	**0.0**
PLDF	**La Plantade**	**5.11 275**	P	**Pn**	**22 14 00.7**	**0.0**
LOR	**Lormes**	**5.12 290**	*e*Pn	**Pn**	**22 14 01.3**	**+0.6**
	baz=115,SNR=1.0					
LOR			*e*Sn	**Sn**	**22 14 57.2**	**-2.4**
	comp=Z,22nm,0.3s,baz=118					
LOR	**Lormes**	**5.12 290**	*e*Pn	**Pn**	**22 14 01.3**	**+0.6**
	baz=115,SNR=1.0					
LOR			*e*Sn	**Sn**	**22 14 57.2**	**-2.4**
	comp=Z,11nm,0.3s					
SMOL	**Smolenice**	**5.24 55**	*e*Pn	**Pn**	**22 14 03.5**	**+1.2**
SMOL			*e*Sg	**Sg**	**22 15 34.2**	**+1.6**
SMOL	**Smolenice**	**5.24 55**	*e*PN	**Pn**	**22 14 03.5**	**+1.2**
SMOL			*e*SG	**Sg**	**22 15 34.2**	**+1.6**
VRAC	**Vranov**	**5.25 45**	Pn	**Pn**	**22 14 02.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=228,slow=15,SNR=2.4					
VRAC			Sn	**Sn**	**22 15 02.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=126,slow=19,SNR=3.1					
VRAC			Lg	Lg	22 15 28.7	
	comp=Z,3.5nm,0.3s,baz=142,slow=23,SNR=5.9					
VRAC	**Vranov**	**5.25 45**	*e*Pn	**Pn**	**22 14 01.5**	**-1.0**
VRAC			*e*Sn	**Sn**	**22 15 03.7**	**+0.9**
VRAC			*e*Sg	**Sg**	**22 15 28.6**	**-4.3**
LASF	**Ste Croix**	**5.29 254**	*e*Pn	**Pn**	**22 14 02.5**	**-0.6**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**22 15 01.2**	**-2.6**
	comp=Z,11nm,0.5s,SNR=1.0					
LASF	**Ste Croix**	**5.29 254**	*e*Pn	**Pn**	**22 14 02.5**	**-0.6**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**22 15 01.2**	**-2.6**
	comp=Z,5.4nm,0.5s,SNR=1.0					
SSF	**Saint Saulge**	**5.31 287**	*e*Pn	**Pn**	**22 14 03.5**	**+0.2**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**22 15 01.3**	**-2.9**
	comp=Z,7.4nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**5.31 287**	*e*Pn	**Pn**	**22 14 03.5**	**+0.2**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**22 15 01.3**	**-2.9**
	comp=Z,3.7nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**5.36 284**	*e*Pn	**Pn**	**22 14 04.3**	**+0.3**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**22 15 03.1**	**-2.4**
	comp=Z,3.5nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**5.36 284**	*e*Pn	**Pn**	**22 14 04.3**	**+0.3**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**22 15 03.1**	**-2.4**
	comp=Z,1.8nm,0.2s,SNR=1.0					
PVCC	**Panska Ves**	**5.39 26**	*e*SG	**Sg**	**22 15 34.1**	**-3.2**
	comp=Z,40nm,0.4s					
MS1	**Monte Sant'Ang**	**5.42 136**	*e*Pn	**Pn**	**22 14 04.2**	**-0.6**
LBL	**Lubilhac**	**5.43 268**	P	**Pn**	**22 14 04.7**	**-0.3**
LBL	**Lubilhac**	**5.43 268**	P	**Pn**	**22 14 04.7**	**-0.3**
AGO	**Saint Agoulin**	**5.46 276**	P	**Pn**	**22 14 05.4**	**+0.1**
AGO	**Saint Agoulin**	**5.46 276**	P	**Pn**	**22 14 05.4**	**+0.1**
BRG	**Berggiesshubel**	**5.53 20**	PN	**Pn**	**22 14 07.4**	**+1.1**
BRG			PG	**Pg**	**22 14 30.6**	**+0.3**
BRG			SN	**Sn**	**22 15 07.3**	**-2.3**
BRG			SG	**Sg**	**22 15 38.6**	**-3.3**
	comp=Z,12nm,0.6s					
BGF	**Bois d'Agland**	**5.68 281**	*e*Pn	**Pn**	**22 14 08.7**	**+0.3**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**22 15 11.0**	**-2.4**
	comp=Z,28nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**5.68 281**	*e*Pn	**Pn**	**22 14 08.7**	**+0.3**
	SNR=1.0					
CLL	**Collm**	**5.75 13**	*e*Pn	**Pn**	**22 14 10.0**	**+0.6**
CLL			*e*Pg	**Pg**	**22 14 32.0**	**-2.6**
CLL			*e*Sg	**Sg**	**22 15 48.0**	**-1.0**
	comp=Z,41nm,1.3s					
KRLC	**Kraliky**	**5.87 40**	*e*SN	**Sn**	**22 15 17.6**	**-0.4**
KRLC			*e*SG	**Sg**	**22 15 49.7**	**-3.0**
KRLC	**Kraliky**	**5.87 40**	Sn	**Sn**	**22 15 17.6**	**-0.4**
UPC	**Upice**	**5.87 34**	*e*PN	**Pn**	**22 14 11.5**	**+0.5**
UPC			*e*PG	**Pg**	**22 14 35.9**	**-0.9**
UPC			*e*SN	**Sn**	**22 15 16.9**	**-1.2**
UPC			*ex*	x	22 15 47.1	
	comp=Z,36nm,0.7s					
UPC	**Upice**	**5.87 34**	Pn	**Pn**	**22 14 11.5**	**+0.5**
UPC			Sn	**Sn**	**22 15 16.9**	**-1.2**
DPC	**Dobruska-Polom**	**5.87 36**	*e*PN	**Pn**	**22 14 11.2**	**+0.1**
DPC			*e*SN	**Sn**	**22 15 16.6**	**-1.5**
DPC			*ex*	x	22 15 47.1	
	comp=Z,21nm,0.5s					
DPC	**Dobruska-Polom**	**5.87 36**	Pn	**Pn**	**22 14 11.2**	**+0.1**
HAPS	**Han Pijesak,Bl**	**5.93 103**	*e*Pn	**Pn**	**22 14 10.1**	**-1.8**
HYF	**Humbligny**	**5.93 288**	*e*Pn	**Pn**	**22 14 12.5**	**+0.7**
HYF			*e*Sn	**Sn**	**22 15 17.1**	**-2.4**
HYF	**Humbligny**	**5.93 288**	*e*Pn	**Pn**	**22 14 12.5**	**+0.7**
GIVF	**Givet**	**6.00 319**	*e*Pn	**Pn**	**22 14 13.4**	**+0.6**
GIVF	**Givet**	**6.00 319**	*e*Pn	**Pn**	**22 14 13.4**	**+0.6**
MORC	**Moravsky Berou**	**6.03 45**	*e*Pn	**Pn**	**22 14 15.4**	**+2.3**
MORC			*e*Sn	**Sn**	**22 15 23.2**	**+1.3**
MORC	**Moravsky Berou**	**6.03 45**	*e*Pn	**Pn**	**22 14 15.4**	**+2.3**
CDT	**Castel del Mon**	**6.05 138**	*e*Pn	**Pn**	**22 14 11.5**	**-2.1**
VYHS	**Vyhne**	**6.07 60**	*e*Pn	**Pn**	**22 14 13.0**	**-0.7**
VYHS	**Vyhne**	**6.07 60**	*e*PN	**Pn**	**22 14 13.0**	**-0.7**
TCF	**Toulx Ste Croi**	**6.10 278**	*e*Pn	**Pn**	**22 14 14.1**	**-0.1**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**22 15 19.8**	**-4.0**
	comp=Z,11nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	**6.10 278**	*e*Pn	**Pn**	**22 14 14.1**	**-0.1**
	SNR=1.0					
TREB	**Trebinje**	**6.12 117**	*e*Pn	**Pn**	**22 14 13.6**	**-0.8**
BRY	**Bratogost**	**6.14 115**	*e*Pn	**Pn**	**22 14 14.0**	**-0.9**
TEKS	**Tekeris**	**6.20 98**	*e*Pn	**Pn**	**22 14 15.0**	**-0.5**
UPM	**Unac-Piva**	**6.24 111**	*e*Pn	**Pn**	**22 14 16.5**	**+0.3**
BAIF	**Baives**	**6.26 316**	*e*P	**Pn**	**22 14 21.1**	**+4.7**
CAF	**Calviac**	**6.30 266**	*e*Pn	**Pn**	**22 14 17.1**	**+0.1**
	SNR=1.0					
CAF	**Calviac**	**6.30 266**	*e*Pn	**Pn**	**22 14 17.1**	**+0.1**
	SNR=1.0					
OKC	**Ostrava-Krasne**	**6.37 47**	*e*SG	**Sg**	**22 16 03.0**	**-5.7**
	comp=Z,27nm,0.8s					
PSZ	**Piszkesteto**	**6.53 67**	*e*Pn	**Pn**	**22 14 20.9**	**+0.8**
PSZ	**Piszkesteto**	**6.53 67**	*e*Pn	**Pn**	**22 14 20.9**	**+0.8**
RJF	**Les Rejaudoux**	**6.63 270**	*e*Pn	**Pn**	**22 14 21.6**	**+0.2**
RJF	**Les Rejaudoux**	**6.63 270**	*e*Pn	**Pn**	**22 14 21.6**	**+0.2**
DIVS	**Divibare**	**6.64 101**	*e*Pn	**Pn**	**22 14 21.2**	**-0.4**
FASA	**Fasano**	**6.78 134**	*e*Pn	**Pn**	**22 14 21.9**	**-1.7**
MASS	**Massafra**	**6.82 136**	*e*Pn	**Pn**	**22 14 22.1**	**-1.9**
TRUS	**Trudelj**	**6.89 99**	*e*Pn	**Pn**	**22 14 24.3**	**-0.7**
IVAS	**Ivanjica**	**6.92 105**	*e*Pn	**Pn**	**22 14 24.3**	**-1.2**
DRME	**Dracevica, Mon**	**6.93 118**	*e*Pn	**Pn**	**22 14 24.6**	**-0.9**
LFF	**La Frestale**	**7.23 267**	*e*Pn	**Pn**	**22 14 30.2**	**+0.6**
	SNR=1.0					
LFF	**La Frestale**	**7.23 267**	*e*Pn	**Pn**	**22 14 30.2**	**+0.6**
	SNR=1.0					
MFF	**Saint Martin d**	**7.74 280**	*e*Pn	**Pn**	**22 14 36.7**	**0.0**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**22 16 00.3**	**-3.8**
	comp=Z,4.5nm,0.4s					
MFF	**Saint Martin d**	**7.74 280**	*e*Pn	**Pn**	**22 14 36.7**	**0.0**
	SNR=1.0					
LDF	**La Druitiere**	**8.06 295**	*e*Pn	**Pn**	**22 14 43.0**	**+1.9**
	SNR=1.0					
LDF	**La Druitiere**	**8.06 295**	*e*Pn	**Pn**	**22 14 43.0**	**+1.9**
	SNR=1.0					
ZAGS	**Zajecar**	**8.27 99**	*e*Pn	**Pn**	**22 14 43.9**	**0.0**
BARS	**Barje**	**8.33 107**	*e*Pn	**Pn**	**22 14 44.4**	**-0.4**
FLN	**La Foliniere**	**8.34 295**	*e*Pn	**Pn**	**22 14 45.8**	**+0.9**
	baz=116,SNR=1.0					
FLN	**La Foliniere**	**8.34 295**	*e*Pn	**Pn**	**22 14 45.8**	**+0.9**
	baz=116,SNR=1.0					
GRR	**Gorron**	**8.48 293**	*e*Pn	**Pn**	**22 14 47.4**	**+0.6**
GRR	**Gorron**	**8.48 293**	*e*Pn	**Pn**	**22 14 47.4**	**+0.6**
SGMF	**Saint Gilles**	**9.56 290**	*e*Pn	**Pn**	**22 15 01.7**	**+0.1**
	SNR=1.0					
SGMF	**Saint Gilles**	**9.56 290**	*e*Pn	**Pn**	**22 15 01.7**	**+0.1**
	SNR=1.0					
QUIF	**Quistinic**	**9.91 288**	*e*Pn	**Pn**	**22 15 07.2**	**+0.8**
	SNR=1.0					
QUIF	**Quistinic**	**9.91 288**	*e*Pn	**Pn**	**22 15 07.2**	**+0.8**
	SNR=1.0					
EKA	**Eskdalemuir Ar**	**13.12 322**	Pn	**Pn**	**22 15 51.6**	**+1.4**
	baz=134,slow=14,SNR=3.6					
BVAR	**Borovoye Array**	**38.39 57**	P	**P**	**22 20 05.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=290,slow=8.8,SNR=3.7					
MKAR	**Makanchi Array**	**47.75 62**	P	**P**	**22 21 19.9**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=284,slow=7.1,SNR=3.3					
TXAR	**Lajitas Array**	**84.65 307**	P	**P**	**22 25 19.2**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=90,slow=3.4,SNR=3.7					

ISCJB ***31*** *22:13:27.2±0.5, 16°.07S±0°.10×174°.43W±0°.09, h150km, mb4.2/16, Error ellipse: s-maj=17.1km s-min=7.5km az=140.1*
NEIC ***31*** *22:13:30.8±0.9, 16°.16S×174°.27W, h174km±8km, mb4.4/3, Error ellipse: s-maj=14.1km s-min=8.3km az=140.0*
IDC ***31*** *22:13:30.2±2.0, 16°.10S×174°.36W, h164km±18km, mb3.9/13, mb1 4.1/15, mb1mx3.8/43, mbtmp4.3/15, Error ellipse: s-maj=23.5km s-min=11.6km az=141.0*

ISC 31 22:13:28.6±0.5, 16°.2S±0°.1×174°.3W±0°.1, h150km, n37, σ1§59/42, mb4.2/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.28**	**47**	P	**Pn**	**22 14 21.9**	**+2.3**
	104nm,0.3s,baz=227,slow=19,SNR=109						
AFI				S	**Sn**	**22 14 59.5**	**+0.4**
	205nm,0.3s,baz=214,slow=21,SNR=9.7						
AFI	**Afiamalu**	**3.28**	**47**	*e*Pn	**Pn**	**22 14 21.9**	**+2.3**
AFI				*e*S	**Sn**	**22 14 58.3**	**-0.8**
MSVF	**Nonsavu**	**7.52**	**257**	*e*Pn	**Pn**	**22 15 19.9**	**+4.2**
	37nm,1.4s						
RAO	**Raoul Island**	**13.47**	**194**	Pn	**Pn**	**22 16 33.7**	**-0.1**
DZM	**Mont Dzumac**	**19.15**	**249**	P	**P**	**22 17 40.4**	**-0.2**
	0.2nm,0.3s,baz=108,slow=13,SNR=4.0						
URZ	**Urewera**	**23.30**	**197**	P	**P**	**22 18 24.1**	**+1.

FCH IAML 22 25 28.1
comp=E,386nm,0.2s

*IDC **31** 22:25:35.5±3.1, 42°.44N×145°.57E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/42, mbtmp3.7/9, ML3.8/1, Error ellipse: s-maj=74.1km s-min=23.4km az=177.0*
*JMA **31** 22:25:43.2±0.1, 42°.74N×145°.34E, h47km±1km, M3.4*
ISC 31 22:25:40.7±1.6, 42°.69N±0°.10×145°.38E±0°.08, h20km±8km, n23, σ0°88/23, mb3.6/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.59**	**302**	P	**Pn**	**22 25 54.7**	**+0.8**
JAK				*e*S	**Sn**	**22 26 03.3**	**+0.4**
NEM2	**Nemuro 2**	**0.73**	**21**	P	**Pn**	**22 25 56.6**	**+0.7**
NEM2				*e*S	**Sn**	**22 26 06.7**	**+0.3**
JNK	**Nakash**	**1.02**	**332**	P	**Pb**	**22 26 00.2**	**+0.5**
JOB	**Onbets**	**1.16**	**281**	P	**Pb**	**22 26 02.5**	**+0.5**
JRA	**Rausu**	**1.27**	**352**	P	**Pb**	**22 26 04.1**	**+0.3**
JRA				*e*S	**Sn**	**22 26 19.8**	**+0.2**
JAR	**Ashorobuto**	**1.33**	**298**	P	**Pb**	**22 26 04.7**	**-0.2**
JAR				*e*S	**Sn**	**22 26 20.9**	**-0.3**
JCH	**Churui**	**1.49**	**268**	P	**Pb**	**22 26 07.4**	**-0.2**
JTKR	**Abashiri--Toko**	**1.67**	**321**	P	**Pb**	**22 26 10.3**	**-0.5**
JTKR				*e*S	**Sn**	**22 26 30.1**	**+0.4**
ASAJ	**Asahikawa**	**2.48**	**306**	Pn	**Pb**	**22 26 22.6**	**-2.0**
	12nm,0.3s,baz=115,slow=15,SNR=36						
ASAJ				Sn	**Sb**	**22 26 54.0**	**-0.6**
	15nm,0.3s,baz=9.8,slow=28,SNR=20						
USRK	**Ussuriysk Ar.**	**9.86**	**283**	Pn	**Pn**	**22 28 03.0**	**+1.8**
	0.1nm,0.3s,baz=100,slow=16,SNR=2.2						
SONM	**Songino Array**	**27.70**	**294**	P	**P**	**22 31 27.9**	**+0.3**
	0.2nm,0.5s,baz=81,slow=8.9,SNR=3.6						
H11N2	**WAKE ISLAND Hy 29.20**	**135**		T	T	23 02 53.3	
	baz=327,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy 29.22**	**135**		T	T	23 02 43.0	
	baz=327,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy 29.22**	**135**		T	T	23 02 41.1	
	baz=327,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy 30.12**	**137**		T	T	23 03 52.2	
	baz=328,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy 30.13**	**137**		T	T	23 03 43.5	
	baz=328,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 30.14**	**137**		T	T	23 03 52.1	
	baz=328,slow=76,SNR=9.1						
ILAR	**Eielson Array**	**43.11**	**35**	P	**P**	**22 33 38.2**	**-0.9**
	0.4nm,0.7s,baz=276,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**43.94**	**298**	P	**P**	**22 33 45.9**	**-0.1**
	0.5nm,0.7s,baz=80,slow=11,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.14**	**304**	P	**P**	**22 33 55.2**	**-0.3**
	0.5nm,0.6s,baz=71,slow=9.3,SNR=4.5						
INK	**Inuvik**	**47.97**	**30**	P	**P**	**22 34 17.5**	**0.0**
	0.7nm,0.7s,baz=295,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**65.23**	**333**	P	**P**	**22 36 18.6**	**-1.7**
	1.5nm,0.8s,baz=49,slow=5.8,SNR=6.0						
NOA	**NORSAR Array B**	**70.12**	**338**	P	**P**	**22 36 50.5**	**-0.6**
	0.6nm,0.7s,baz=34,slow=4.8,SNR=4.3						

*ISCJB **31** 22:27:11.7±0.5, 40°.11N±0°.02×26°.24E±0°.04, h21km±8km, Error ellipse: s-maj=5.2km s-min=3.8km az=1.9*
*CSEM **31** 22:27:11.4±0.2, 40°.11N×26°.26E, h15km, ML2.5, Error ellipse: s-maj=5.2km s-min=3.7km az=95.0*
*ATH **31** 22:27:11.4, 40°.10N×26°.18E, h32km±2km, ML1.4/2, Error ellipse: s-maj=3.4km s-min=1.3km az=267.0*
*DDA **31** 22:27:11.8, 40°.09N×26°.33E, h7km, Ml2.5*
ISC 31 22:27:11.1±1.0, 40°.11N±0°.02×26°.26E±0°.03, h17km±10km, n20, σ0°62/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.31**	**210**	*i* P	**Pb**	**22 27 18.1**	**-0.1**
BOZC				*i* S	**Sb**	**22 27 23.1**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.43**	**149**	*i* P	**Pb**	**22 27 20.3**	**0.0**
BAYC				*i* S	**Sb**	**22 27 26.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.43**	**149**	P	**Pb**	**22 27 20.3**	**0.0**
BAYC				S	**Sb**	**22 27 26.2**	**-0.3**
SMTH	**Samothraki Isl**	**0.66**	**303**	P	**Pg**	**22 27 24.4**	**+0.3**
SMTH				S	**Sg**	**22 27 31.6**	**-1.3**
SMTH				AML	AML	22 27 34.0	
	comp=E,37μm,0.2s						
SMTH				AML	AML	22 27 35.4	
	comp=N,52μm,0.2s						
KESN	**Edirne-Kesan**	**0.78**	**24**	*i* P	**Pg**	**22 27 26.5**	**0.0**
KESN				*i* S	**Sg**	**22 27 35.6**	**-1.3**
KESN	**Edirne-Kesan**	**0.78**	**24**	P	**Pg**	**22 27 26.5**	**0.0**
KESN				S	**Sg**	**22 27 35.6**	**-1.3**
LIA	**Limnos Island**	**0.85**	**256**	P	**Pn**	**22 27 28.9**	**+0.5**
LIA				S	**Sb**	**22 27 39.1**	**+0.5**
LIA	**Limnos Island**	**0.85**	**256**	P	**Pn**	**22 27 28.9**	**+0.5**
LIA				S	**Sb**	**22 27 39.1**	**+0.5**
PRK	**Paraskevi**	**0.86**	**179**	P	**Pn**	**22 27 28.6**	**+0.1**
PRK				S	**Sg**	**22 27 39.7**	**+0.4**
PRK	**Paraskevi**	**0.86**	**179**	P	**Pn**	**22 27 28.6**	**+0.1**
PRK				S	**Sg**	**22 27 39.7**	**+0.4**
AYVA	**Ayvalik**	**0.87**	**157**	*i* P	**Pb**	**22 27 27.9**	**+0.1**
AYVA				*i* S	**Sb**	**22 27 39.1**	**0.0**
AYVA	**Ayvalik**	**0.87**	**157**	P	**Pb**	**22 27 27.9**	**+0.1**
AYVA				S	**Sb**	**22 27 39.1**	**0.0**
SART	**Tekirdag**	**0.91**	**50**	*i* P	**Pn**	**22 27 29.6**	**+0.3**
SART				*i* S	**Sg**	**22 27 41.4**	**+0.6**
SART	**Tekirdag**	**0.91**	**50**	P	**Pn**	**22 27 29.6**	**+0.3**
SART				S	**Sg**	**22 27 41.4**	**+0.6**
SIGR	**SIGRI**	**0.95**	**199**	P	**Pb**	**22 27 28.8**	**-0.4**
SIGR				S	**Sb**	**22 27 40.7**	**-0.7**
SIGR				AML	AML	22 27 44.3	
	comp=N,77μm,0.4s						
SIGR				AML	AML	22 27 44.7	
	comp=E,52μm,0.3s						
SIGR	**SIGRI**	**0.95**	**199**	P	**Pb**	**22 27 28.8**	**-0.4**
KNL	**Bal¨--kesir**	**0.98**	**80**	*i* P	**Pb**	**22 27 30.0**	**+0.3**
RDO	**Rodhopi**	**1.17**	**332**	P	**Pb**	**22 27 33.6**	**+0.7**
RDO				S	**Sb**	**22 27 47.1**	**-0.7**
RDO	**Rodhopi**	**1.17**	**332**	P	**Pb**	**22 27 33.6**	**+0.7**
CHOS	**Chios island**	**1.73**	**185**	P	**Pn**	**22 27 41.7**	**+1.2**
CHOS				S	**Sn**	**22 28 01.1**	**-1.1**

*VIE **31** 22:34:04.9±0.3, 45°.72N×10°.96E, h5km±2km, mb2.8/17, ML3.6/19, Error ellipse: s-maj=2.1km s-min=1.7km az=63.0*
*ISCJB **31** 22:34:05.5±0.2, 45°.69N±0°.01×10°.90E±0°.02, h17km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=138.3*
*CSEM **31** 22:34:05.1±0.1, 45°.71N×10°.93E, h10km, ML3.7/33, Error ellipse: s-maj=1.9km s-min=1.6km az=143.0*
*ROM **31** 22:34:05.3±0.1, 45°.73N×10°.93E, h5km±1km, Ml3.2/43, Error ellipse: s-maj=1.4km s-min=1.2km az=87.0*
*LDG **31** 22:34:06.8±0.1, 45°.69N×10°.96E, h10km, Ml3.3/17, Error ellipse: s-maj=3.3km s-min=2.7km az=154.0*
*PRU **31** 22:34:06.2, 45°.76N×11°.03E, h0km*
*GEN **31** 22:34:07.6, 45°.70N×10°.93E, h8km, ML3.2*
*BGR **31** 22:34:09.1±0.6, 45°.80N×11°.13E, h10km, ML3.4/9, Error ellipse: s-maj=5.6km s-min=5.6km az=157.0*
*STR **31** 22:34:09.7±0.5, 45°.65N×10°.28E, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 31 22:34:05.3±0.7, 45°.72N±0°.01×10°.93E±0°.01, h13km±4km, n280, σ1°45/423, 3C-50, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALD	**Monte Baldo**	**0.09**	**243**	⇑*i*Pg	**Pg**	**22 34 08.3**	**-0.2**
BALD				*i* Sg	**Sg**	**22 34 10.3**	**-0.4**
BALD	**Monte Baldo**	**0.09**	**243**	*i* Pg	**Pg**	**22 34 08.3**	**-0.2**
BALD				*i* Sg	**Sg**	**22 34 10.3**	**-0.4**
ROVR	**Rover¯¤ Verone**	**0.12**	**128**	Pg	**Pg**	**22 34 09.2**	**+0.4**
ROVR				Sg	**Sg**	**22 34 10.0**	**-1.2**
ROVR	**Rover¯¤ Verone**	**0.12**	**128**	Pg	**Pg**	**22 34 09.2**	**+0.4**
ROVR				Sg	**Sg**	**22 34 10.0**	**-1.2**
MARN	**Marana (Italy)**	**0.21**	**114**	⇓*e*Pg	**Pg**	**22 34 09.6**	**-0.4**
MARN				*e*Sg	**Sg**	**22 34 12.4**	**-0.9**
MARN	**Marana (Italy)**	**0.21**	**114**	*e*Pg	**Pg**	**22 34 09.6**	**-0.4**
MARN				*e*Sg	**Sg**	**22 34 12.4**	**-0.9**
MAGA	**Magasa**	**0.22**	**284**	Pg	**Pg**	**22 34 10.4**	**+0.2**
MAGA				Sg	**Sg**	**22 34 13.8**	**+0.3**
	9μm,0.5s						
MAGA	**Magasa**	**0.22**	**284**	Pg	**Pg**	**22 34 10.4**	**+0.2**
MAGA				Sg	**Sg**	**22 34 13.8**	**+0.3**
	9μm,0.5s						
DDS	**Dosso del Somm**	**0.24**	**49**	⇓*i*Pg	**Pg**	**22 34 10.7**	**+0.1**
DDS				*i* Sg	**Sg**	**22 34 14.3**	**+0.1**
DDS	**Dosso del Somm**	**0.24**	**49**	*i* Pg	**Pg**	**22 34 10.7**	**+0.1**
DDS				*i* Sg	**Sg**	**22 34 14.3**	**+0.1**
SALO	**Salr**	**0.30**	**250**	Pg	**Pg**	**22 34 11.8**	**+0.2**
	3μm,0.8s						
SALO	**Salr**	**0.30**	**250**	Pg	**Pg**	**22 34 11.8**	**+0.2**
	3μm,0.8s						
RNI	**Roncone**	**0.34**	**320**	⇓*i*Pg	**Pg**	**22 34 12.6**	**+0.3**
RNI				*i* Sg	**Sb**	**22 34 18.0**	**-0.6**
RNI	**Roncone**	**0.34**	**320**	*i* Pg	**Pg**	**22 34 12.6**	**+0.3**
RNI				*i* Sg	**Sb**	**22 34 18.0**	**-0.6**
MABI	**Malga Bissina**	**0.44**	**319**	Pg	**Pg**	**22 34 14.3**	**+0.1**
MABI				Sg	**Sg**	**22 34 21.0**	**+0.8**
	427nm,0.3s						
MABI	**Malga Bissina**	**0.44**	**319**	Pg	**Pg**	**22 34 14.3**	**+0.1**
MABI				Sg	**Sg**	**22 34 21.0**	**+0.8**
	427nm,0.3s						
CGRP	**Cima Grappa**	**0.63**	**75**	Pg	**Pb**	**22 34 17.8**	**-0.5**
	822nm,0.4s						
CGRP	**Cima Grappa**	**0.63**	**75**	*e*Pg	**Pg**	**22 34 17.6**	**-0.1**
CGRP				*e*Sg	**Sg**	**22 34 26.0**	**0.0**
CGRP	**Cima Grappa**	**0.63**	**75**	Pg	**Pb**	**22 34 17.8**	**-0.5**
	822nm,0.4s						
CGRP				*e*Sg	**Sg**	**22 34 26.0**	**0.0**
TEOL	**Teolo**	**0.63**	**125**	Pg	**Pg**	**22 34 17.2**	**-0.5**
	2μm,0.3s						
TEOL	**Teolo**	**0.63**	**125**	⇓*i*Pg	**Pg**	**22 34 17.1**	**-0.5**
TEOL				*i* Sg	**Sg**	**22 34 25.9**	**-0.2**
TEOL	**Teolo**	**0.63**	**125**	Pg	**Pg**	**22 34 17.2**	**-0.5**
	2μm,0.3s						
TEOL				*i* Sg	**Sg**	**22 34 25.9**	**-0.2**
SBPO	**S.Benedetto Po**	**0.67**	**181**	Pg	**Pb**	**22 34 18.8**	**-0.1**
	968nm,0.5s						
SBPO	**S.Benedetto Po**	**0.67**	**181**	Pg	**Pb**	**22 34 18.8**	**-0.1**
	968nm,0.5s						
OZOL	**Ozolo**	**0.69**	**7**	⇑*e*Pg	**Pb**	**22 34 19.0**	**-0.2**
OZOL	**Ozolo**	**0.69**	**7**	*e*Pg	**Pb**	**22 34 19.0**	**-0.2**
CARE	**Lago del Cares**	**0.72**	**347**	*e*Pg	**Pb**	**22 34 19.7**	**-0.2**
CARE	**Lago del Cares**	**0.72**	**347**	*e*Pg	**Pb**	**22 34 19.7**	**-0.2**
APPI	**Appiano**	**0.78**	**15**	Pg	**Pb**	**22 34 21.0**	**+0.1**
APPI				Sg	**Sb**	**22 34 31.7**	**+0.3**
	2μm,0.3s						
APPI	**Appiano**	**0.78**	**15**	Pg	**Pb**	**22 34 21.0**	**+0.1**
APPI				Sg	**Sb**	**22 34 31.7**	**+0.3**
	2μm,0.3s						
KOSI	**Kohlern**	**0.80**	**23**	Pg	**Pb**	**22 34 21.2**	**0.0**
KOSI				Sg	**Sb**	**22 34 31.9**	**-0.2**
	552nm,0.2s						
KOSI	**Kohlern**	**0.80**	**23**	Pg	**Pb**	**22 34 21.2**	**0.0**
KOSI				Sg	**Sb**	**22 34 31.9**	**-0.2**
	552nm,0.2s						
BOSI	**Bolzano**	**0.82**	**19**	Pg	**Pb**	**22 34 21.6**	**+0.2**
BOSI				Sg	**Sb**	**22 34 33.6**	**+1.3**
	2μm,0.5s						
BOSI	**Bolzano**	**0.82**	**19**	Pg	**Pb**	**22 34 21.6**	**+0.2**
BOSI				Sg	**Sb**	**22 34 33.6**	**+1.3**
	2μm,0.5s						
BRMO	**Bormio**	**0.85**	**333**	Pg	**Pg**	**22 34 21.9**	**+0.1**
BRMO				Sg	**Sb**	**22 34 34.3**	**+1.0**
	280nm,0.3s						
BRMO	**Bormio**	**0.85**	**333**	Pg	**Pg**	**22 34 21.9**	**+0.1**
BRMO				Sg	**Sb**	**22 34 34.3**	**+1.0**
	280nm,0.3s						
VARN	**Col Varnada, M**	**0.86**	**71**	*e*Pg	**Pg**	**22 34 21.4**	**-0.7**
VARN	**Col Varnada, M**	**0.86**	**71**	*e*Pg	**Pg**	**22 34 21.4**	**-0.7**
MOSI	**Grossmontoni**	**0.93**	**344**	Pg	**Pg**	**22 34 23.4**	**0.0**
MOSI				Sg	**Sb**	**22 34 36.5**	**+0.7**
	701nm,0.5s						
MOSI	**Grossmontoni**	**0.93**	**344**	Pg	**Pg**	**22 34 23.4**	**0.0**
MOSI				Sg	**Sb**	**22 34 36.5**	**+0.7**
	701nm,0.5s						
BERNI	**Berninapass**	**0.94**	**318**	Pg	**Pg**	**22 34 23.4**	**-0.1**
BERNI				Sg	**Sb**	**22 34 36.1**	**+0.1**
	198nm,0.5s						
BERNI	**Berninapass**	**0.94**	**318**	Pg	**Pg**	**22 34 23.4**	**-0.1**
BERNI				Sg	**Sb**	**22 34 36.1**	**+0.1**
	198nm,0.5s						
CTL8	**Castelleone**	**0.94**	**242**	Pg	**Pn**	**22 34 24.5**	**+0.4**
	147nm,0.5s						
CTL8	**Castelleone**	**0.94**	**242**	Pg	**Pn**	**22 34 24.5**	**+0.4**
	147nm,0.5s						
NOVE	**Novellara**	**0.94**	**189**	Pg	**Pb**	**22 34 23.7**	**+0.3**
NOVE				Sg	**Sn**	**22 34 37.6**	**+0.2**
	2μm,0.7s						
NOVE	**Novellara**	**0.94**	**189**	Pg	**Pb**	**22 34 23.7**	**+0.3**
AGOR	**Agordo**	**0.96**	**54**	Pg	**Pb**	**22 34 23.9**	**0.0**
AGOR				Sg	**Sn**	**22 34 37.6**	**-0.4**
	697nm,0.4s						
AGOR	**Agordo**	**0.96**	**54**	⇓*e*Pg	**Pb**	**22 34 23.8**	**0.0**
RAVA	**Ravarino**	**0.98**	**172**	Pg	**Pb**	**22 34 24.4**	**+0.3**
RAVA				Sg	**Sn**	**22 34 39.6**	**+1.3**
	6μm,0.3s						
RAVA	**Ravarino**	**0.98**	**172**	Pg	**Pb**	**22 34 24.4**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	Pg	**Pb**	**22 34 25.0**	**+0.2**
FUORN				Sg	**Sg**	**22 34 38.2**	**+0.1**
	290nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**1.01**	**333**	Pg	**Pb**	**22 34 25.0**	**+0.2**
FUORN				Sg	**Sg**	**22 34 38.2**	**+0.1**
	290nm,0.5s						
ABSI	**Aberstueckl**	**1.04**	**15**	Pg	**Pb**	**22 34 25.6**	**+0.3**
	1μm,0.4s						
ABSI	**Aberstueckl**	**1.04**	**15**	Pg	**Pb**	**22 34 25.6**	**+0.3**
	1μm,0.4s						
PRMA	**PARMA**	**1.05**	**205**	Pg	**Pn**	**22 34 26.1**	**+0.3**
PRMA				Sg	**Sn**	**22 34 41.6**	**+1.3**
	669nm,0.5s						
PRMA	**PARMA**	**1.05**	**205**	Pg	**Pn**	**22 34 26.1**	**+0.3**
CIMO	**Cimolais**	**1.20**	**60**	*e*Pg	**Pb**	**22 34 27.9**	**-0.1**
CIMO	**Cimolais**	**1.20**	**60**	*e*Pg	**Pb**	**22 34 27.9**	**-0.1**
ROSI	**Rosskopf**	**1.25**	**15**	Pg	**Pg**	**22 34 29.3**	**-0.1**
	895nm,0.3s						
ROSI	**Rosskopf**	**1.25**	**15**	Pg	**Pg**	**22 34 29.3**	**-0.1**
	895nm,0.3s						
DAVOX	**Davos/Dischmat**	**1.28**	**326**	Pg	**Pg**	**22 34 29.9**	**-0.2**
DAVOX				Sg	**Sn**	**22 34 47.7**	**+1.4**
	263nm,0.6s						
DAVOX	**Davos/Dischmat**	**1.28**	**326**	Pg	**Pg**	**22 34 29.9**	**-0.2**
DAVOX				Sg	**Sn**	**22 34 47.7**	**+1.4**
	263nm,0.6s						
FETA	**Feichten**	**1.31**	**354**	Pg	**Pg**	**22 34 30.3**	**-0.2**
	47nm,0.2s,SNR=195						
FETA				Sg	**Sn**	**22 34 47.8**	**+1.0**
	20nm,0.2s						
TUE	**Stuetta**	**1.33**	**305**	Pg	**Pn**	**22 34 30.2**	**+0.4**
	227nm,0.3s						
TUE	**Stuetta**	**1.33**	**305**	Pg	**Pn**	**22 34 30.2**	**+0.4**
	227nm,0.3s						
MUGIO	**Muggio**	**1.34**	**279**	Pg	**Pn**	**22 34 29.7**	**0.0**
	259nm,0.5s						
MUGIO	**Muggio**	**1.34**	**279**	Pg	**Pn**	**22 34 29.7**	**0.0**
	259nm,0.5s						
STAL	**STALIGIAL**	**1.35**	**66**	Pg	**Pn**	**22 34 30.2**	**+0.3**
	1μm,0.3s						
STAL	**STALIGIAL**	**1.35**	**66**	Pg	**Pn**	**22 34 30.2**	**+0.3**
	1μm,0.3s						
ZCCA	**Zocca**	**1.37**	**179**	Pg	**Pg**	**22 34 32.0**	**+0.3**
	325nm,0.6s						
ZCCA	**Zocca**	**1.37**	**179**	Pg	**Pg**	**22 34 32.0**	**+0.3**
	325nm,0.6s						
GRAM	**Graiana**	**1.38**	**207**	P	**Pn**	**22 34 30.5**	**+0.2**
GRAM				S	**Sg**	**22 34 49.8**	**+0.1**
MTRZ	**Monterenzio**	**1.40**	**164**	Pg	**Pg**	**22 34 34.2**	**+2.0**
	665nm,0.8s						
BOB	**Bobbio (Coli)**	**1.42**	**228**	Pg	**Pn**	**22 34 31.3**	**+0.4**
	307nm,1.0s						
BOB	**Bobbio (Coli)**	**1.42**	**228**	Pg	**Pn**	**22 34 31.3**	**+0.4**
	307nm,1.0s						
RISI	**Rein**	**1.46**	**33**	Pg	**Pg**	**22 34 33.1**	**-0.3**
RISI				Sg	**Sg**	**22 34 52.5**	**+0.1**
	3μm,0.4s						
RISI	**Rein**	**1.46**	**33**	Pg	**Pg**	**22 34 33.1**	**-0.3**
RISI				Sg	**Sg**	**22 34 52.5**	**+0.1**
	3μm,0.4s						
ABTA	**Abfaltersbach**	**1.50**	**46**	Pg	**Pb**	**22 34 33.5**	**+0.4**
	22nm,0.2s,SNR=306						
ABTA				Sg	**Sg**	**22 34 54.9**	**+1.2**
	88nm,0.2s						
VARE	**Varese**	**1.52**	**276**	Pg	**Pn**	**22 34 32.4**	**+0.1**
	209nm,0.5s						
VARE	**Varese**	**1.52**	**276**	Pg	**Pn**	**22 34 32.4**	**+0.1**
	209nm,0.5s						
CODM	**Codolo**	**1.54**	**210**	P	**Pb**	**22 34 33.6**	**-0.1**
CODM				S	**Sg**	**22 34 56.3**	**+1.5**
FVI	**Forni Avoltri**	**1.55**	**55**	Pg	**Pb**	**22 34 34.1**	**+0.1**
	373nm,0.6s						
FVI	**Forni Avoltri**	**1.55**	**55**	Pg	**Pb**	**22 34 34.1**	**+0.1**
	373nm,0.6s						
FNVD	**Fontana Vidola**	**1.56**	**175**	Pg	**Pb**	**22 34 34.3**	**+0.2**
	210nm,0.7s						
FNVD	**Fontana Vidola**	**1.56**	**175**	Pg	**Pb**	**22 34 34.3**	**+0.2**
	210nm,0.7s						
SARO	**Sassorosso**	**1.58**	**194**	P	**Pb**	**22 34 35.0**	**+0.5**
SARO				S	**Sb**	**22 34 54.4**	**0.0**
FUSE	**Fusea**	**1.60**	**64**	⇑*e*Pg	**Pn**	**22 34 33.8**	**+0.5**
FUSE				*e*Sg	**Sg**	**22 34 56.7**	**-0.1**
FUSE	**Fusea**	**1.60**	**64**	*e*Pg	**Pn**	**22 34 33.8**	**+0.5**
WTTA	**Wattenberg**	**1.62**	**17**	*e*Pn	**Pb**	**22 34 35.5**	**+0.4**
WTTA				*e*Sg	**Sg**	**22 34 57.0**	**-0.4**
WTTA	**Wattenberg**	**1.62**	**17**	Pg	**Pb**	**22 34 35.5**	**+0.4**
	12nm,0.2s,SNR=34						
WTTA				Sn	**Sb**	**22 34 56.4**	**+0.9**
	69nm,0.2s						
WTTA				Sg	**Sg**	**22 34 57.0**	**-0.4**
MOTA	**Moosalm**	**1.63**	**4**	Pg	**Pg**	**22 34 36.1**	**-0.5**
	18nm,0.3s,SNR=109						
MOTA				Sg	**Sg**	**22 34 58.4**	**+0.7**
	32nm,0.2s						
ZOU	**Zoufplan**	**1.65**	**59**	*e*Pg	**Pb**	**22 34 35.1**	**-0.5**
SC2M	**Scurtabo**	**1.65**	**217**	Pg	**Pn**	**22 34 34.7**	**+0.7**
	370nm,0.6s						
SC2M	**Scurtabo**	**1.65**	**217**	P	**Pn**	**22 34 34.7**	**+0.7**
SC2M				S	**Sn**	**22 34 55.8**	**+0.7**
WATA	**Walderalm**	**1.67**	**15**	Pg	**Pg**	**22 34 36.8**	**-0.7**
	4.4nm,0.1s,SNR=113						
WATA				Sg	**Sg**	**22 34 59.1**	**-0.1**
	35nm,0.1s						
BDI	**Bagni Di Lucca**	**1.68**	**188**	Pg	**Pb**	**22 34 35.9**	**-0.2**
BDI				Sg	**Sg**	**22 35 00.4**	**+1.1**
	245nm,0.7s						
BDI	**Bagni Di Lucca**	**1.68**	**188**	Pg	**Pb**	**22 34 35.9**	**-0.2**
BDI				Sg	**Sg**	**22 35 00.4**	**+1.1**
	245nm,0.7s						
POPM	**Popiglio**	**1.68**	**184**	P	**Pb**	**22 34 36.2**	**+0.1**
POPM				S	**Sg**	**22 34 59.4**	**-0.1**
PLONS	**Plons/SG**	**1.71**	**322**	Pg	**Pg**	**22 34 37.5**	**-0.6**
	113nm,0.6s						
DAVA	**Damuels**	**1.72**	**335**	*e*Pn	**Pg**	**22 34 38.1**	**-0.4**
DAVA				*e*Sg	**Sg**	**22 35 04.1**	**+3.3**
DAVA	**Damuels**	**1.72**	**335**	Pg	**Pg**	**22 34 38.0**	**-0.4**
	3.4nm,0.1s,SNR=44						
DAVA				Sg	**Sg**	**22 35 04.1**	**+3.3**
MSSA	**Maissana**	**1.73**	**216**	Pg	**Pn**	**22 34 35.7**	**+0.6**
	116nm,0.6s						
OBER	**Oberstdorf**	**1.74**	**346**	*e*Pn	**Pg**	**22 34 38.4**	**-0.3**
OBER	**Oberstdorf**	**1.74**	**346**	Pn	**Pg**	**22 34 38.4**	**-0.3**
RETA	**Reutte**	**1.77**	**356**	Pg	**Pb**	**22 34 38.3**	**+0.6**
	0.4nm,0.2s,SNR=53						
RETA				Sg	**Sg**	**22 35 04.5**	**+2.3**
	60nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.82**	**67**	Pg	**Pn**	**22 34 36.6**	**+0.2**
	179nm,0.6s						
MAIM	**Mastiano**	**1.84**	**190**	P	**Pn**	**22 34 37.1**	**+0.6**
MAIM				S	**Sn**	**22 34 59.9**	**+0.3**
PLMA	**Palmaria, Port**	**1.84**	**205**	Pg	**Pn**	**22 34 37.8**	**+1.2**
	128nm,0.4s						
PLMA	**Palmaria, Port**	**1.84**	**205**	Pg	**Pn**	**22 34 37.8**	**+1.2**
	128nm,0.4s						
SABO	**M.te Sabotino**	**1.88**	**81**	Pg	**Pn**	**22 34 37.6**	**+0.4**
	676nm,0.3s						
CADS	**Cadrg**	**2.02**	**75**	*i* Pn	**Pn**	**22 34 39.1**	**0.0**
CADS	**Cadrg**	**2.02**	**75**	Pn	**Pn**	**22 34 39.1**	**0.0**
PCP	**Piancastagn**	**2.06**	**236**	Pg	**Pn**	**22 34 41.0**	**+1.3**
	102nm,0.6s						
MYKA	**Terra Mystica**	**2.09**	**63**	Pn	**Pn**	**22 34 41.2**	**+1.1**
	0.6nm,0.2s,SNR=16						
KBA	**Koelnbreinsper**	**2.15**	**50**	*e*Pn	**Pn**	**22 34 42.8**	**+1.7**
KBA	**Koelnbreinsper**	**2.15**	**50**	Pn	**Pn**	**22 34 42.0**	**+1.0**
	0.3nm,0.1s,SNR=70						
KBA	**Koelnbreinsper**	**2.15**	**50**	Pg	**Pg**	**22 34 45.6**	**-1.0**
	6.9nm,0.2s,SNR=28						
KBA				Sg	**Sg**	**22 35 15.8**	**+1.3**
	58nm,0.3s						
CSNT	**Castellina Chi**	**2.27**	**173**	Pg	**Pn**	**22 34 43.9**	**+1.4**
	63nm,0.6s						
RJOB	**Jochberg**	**2.39**	**32**	*e*Sg	**Sg**	**22 35 21.0**	**-1.1**
RJOB	**Jochberg**	**2.39**	**32**	Sg	**Sg**	**22 35 21.0**	**-1.1**
FUR	**Furstenfeldbru**	**2.46**

MVIF			S	Sn	22 35 32.1	-2.6
MOF	**Molkenrain**	**3.37 311**	P	Pn	22 34 58.8	+1.1
MOF	**Molkenrain**	**3.37 311**	P	Pn	22 34 58.8	+1.1
PGF	**Pioggiola**	**3.47 204**	*e*Pn	Pn	22 34 58.3	-0.7
	SNR=1.0					
PGF	**Pioggiola**	**3.47 204**	*e*Pn	Pn	22 34 58.3	-0.7
	SNR=1.0					
CABF	**La Chapelle**	**3.48 287**	*e*Pn	Pn	22 35 00.0	+0.8
	SNR=1.0					
CABF			*e*Sn	Sn	22 35 38.6	-1.7
	33nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**3.48 287**	*e*Pn	Pn	22 35 00.0	+0.8
	SNR=1.0					
CABF			*e*Sn	Sn	22 35 38.6	-1.7
	17nm,0.6s,SNR=1.0					
HINF	**Hinteralfeld**	**3.50 308**	*e*Pn	Pn	22 35 00.5	+1.1
	SNR=1.0					
HINF			*e*Sn	Sn	22 35 39.6	-1.1
	58nm,0.7s,SNR=1.0					
HINF			*e*Sg	Sg	22 35 55.6	-2.1
	49nm,0.6s,SNR=1.0					
HINF	**Hinteralfeld**	**3.50 308**	*e*Pn	Pn	22 35 00.5	+1.1
	SNR=1.0					
HINF			*e*Sn	Sn	22 35 39.6	-1.1
	29nm,0.7s,SNR=1.0					
HINF			*e*Sg	Sg	22 35 55.6	-2.1
	25nm,0.6s,SNR=1.0					
ARSA	**Arzberg**	**3.52 63**	Pn	Pn	22 35 00.4	+0.7
	0.6nm,0.1s,SNR=4.7					
ARSA			Sg	Sg	22 36 01.8	+3.4
	9.4nm,0.5s					
ECH	**Echery**	**3.59 315**	P	Pn	22 35 02.4	+1.7
ECH	**Echery**	**3.59 315**	P	Pn	22 35 02.4	+1.7
UDBI	**Udbina**	**3.62 108**	*e*Pn	Pn	22 35 02.0	+0.8
UDBI			Sn	Sn	22 35 41.5	-2.4
UDBI	**Udbina**	**3.62 108**	*e*Pn	Pn	22 35 02.0	+0.8
UDBI			Sn	Sn	22 35 41.4	-2.4
GEC2	**GERESS Array S**	**3.65 30**	*e*Pn	Pn	22 35 02.4	+0.9
GEC2			*e*Sg	Sg	22 35 59.6	-2.8
GEC2	**GERESS Array S**	**3.65 30**	Pn	Pn	22 35 02.4	+0.9
GEC2			Sg	Sg	22 35 59.6	-2.8
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*Pn	Pn	22 35 03.2	+1.6
	SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.65 259**	*e*Pn	Pn	22 35 03.2	+1.6
	SNR=1.0					
WET	**Wettzell**	**3.67 20**	*e*Pn	Pn	22 35 02.9	+1.2
WET	**Wettzell**	**3.67 20**	Pn	Pn	22 35 02.9	+1.2
CDF	**Champ du Feu**	**3.67 318**	*e*Pn	Pn	22 35 03.0	+1.2
	SNR=1.0					
CDF	**Champ du Feu**	**3.67 318**	*e*P	Pn	22 35 05.8	+4.0
CDF			*e*Sn	Sn	22 35 43.6	-1.4
CDF			*e*Sg	Sg	22 36 01.7	-1.5
CDF	**Champ du Feu**	**3.67 318**	*e*Pn	Pn	22 35 03.0	+1.2
	SNR=1.0					
CDF	**Champ du Feu**	**3.67 318**	*e*P	Pn	22 35 05.8	+4.0
CDF			*e*Sn	Sn	22 35 43.6	-1.4
CDF			*e*Sg	Sg	22 36 01.7	-1.5
FRF	**La Foret Royal**	**3.75 236**	*e*Pn	Pn	22 35 01.0	-1.8
	SNR=1.0					
FRF	**La Foret Royal**	**3.75 236**	*e*Pn	Pn	22 35 01.0	-1.8
	SNR=1.0					
KHC	**Kasperske Hory**	**3.85 27**	*e*PN	Pn	22 35 05.3	+1.0
KHC			*e*PG	Pg	22 35 17.9	-1.2
KHC			*e*SN	Sn	22 35 50.4	+1.0
KHC			*e*SG	Sg	22 36 06.9	-2.1
	comp=Z,37nm,0.4s					
KHC	**Kasperske Hory**	**3.85 27**	Pn	Pn	22 35 05.3	+1.0
KHC			Sn	Sn	22 35 50.4	+1.0
KHC			Sg	Sg	22 36 06.9	-2.1
	37nm,0.4s					
HAU	**Haudompre**	**3.88 308**	*e*Pn	Pn	22 35 05.8	+1.1
	SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*P	Pn	22 35 08.6	+3.9
HAU			*e*Sn	Sn	22 35 48.6	-1.6
	57nm,0.7s,SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*Pn	Pn	22 35 05.8	+1.1
	SNR=1.0					
HAU	**Haudompre**	**3.88 308**	*e*P	Pn	22 35 08.6	+3.9
HAU			*e*Sn	Sn	22 35 48.6	-1.6
	28nm,0.7s,SNR=1.0					
LANF	**Langenberg**	**3.89 328**	P	Pn	22 35 07.2	+2.4
LANF	**Langenberg**	**3.89 328**	P	Pn	22 35 07.2	+2.4
LMR	**La Mourre**	**3.96 234**	*e*Pn	Pn	22 35 05.4	-0.4
	SNR=1.0					
LMR	**La Mourre**	**3.96 234**	*e*Pn	Pn	22 35 05.4	-0.4
	SNR=1.0					
CONA	**Conrad Observa**	**4.04 55**	Pn	Pn	22 35 07.1	+0.2
	0.5nm,0.1s					
CONA			Sg	Sg	22 36 17.0	+2.0
	11nm,0.4s					
KTD	**Kalmit**	**4.08 333**	P	Pn	22 35 11.1	+3.6
THEF	**They Montfort**	**4.21 308**	P	Pn	22 35 10.4	+1.2
THEF	**They Montfort**	**4.21 308**	P	Pn	22 35 10.4	+1.2
LEPF	**PUYLOUBIER**	**4.33 241**	P	Pn	22 35 09.5	-1.4
LEPF			S	Sn	22 35 59.0	-2.2
LEPF	**PUYLOUBIER**	**4.33 241**	P	Pn	22 35 09.5	-1.4
LEPF			S	Sn	22 35 59.0	-2.2
MANZ	**Manzenberg**	**4.34 10**	*e*Pn	Pn	22 35 11.4	+0.5
MANZ	**Manzenberg**	**4.34 10**	Pn	Pn	22 35 11.4	+0.5
VIVF	**Saint-Julien-l**	**4.50 261**	*e*Pn	Pn	22 35 13.0	-0.2
	SNR=1.0					
VIVF			*e*Sn	Sn	22 36 03.2	-2.2
	4.4nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**4.50 261**	*e*Pn	Pn	22 35 13.0	-0.2
	SNR=1.0					
VIVF			*e*Sn	Sn	22 36 03.2	-2.2
	2.2nm,0.3s,SNR=1.0					
PAGF	**Fort de Pagny**	**4.54 310**	*e*P	Pn	22 35 17.6	+3.9
PAGF	**Fort de Pagny**	**4.54 310**	*e*P	Pn	22 35 17.6	+3.9
NKC	**Novy Kostel**	**4.63 12**	*e*PG	Pg	22 35 32.6	-1.3
NKC			*e*SN	Sn	22 36 08.3	-0.1
NKC			*e*SG	Sg	22 36 31.4	-2.4
	comp=Z,17nm,0.3s					
TREC	**Trest**	**4.72 39**	*e*PN	Pn	22 35 17.3	+1.1
TREC			*e*SN	Sn	22 36 11.5	+0.7
TREC			*e*SG	Sg	22 36 32.3	-4.5
	comp=Z,20nm,0.5s					
TREC	**Trest**	**4.72 39**	Pn	Pn	22 35 17.3	+1.1
TREC			Sn	Sn	22 36 11.5	+0.7
SFTF	**Sexfontaines**	**4.74 304**	*e*Pn	Pn	22 35 16.8	+0.4
SFTF	**Sexfontaines**	**4.74 304**	*e*P	Pn	22 35 20.8	+4.4
SFTF	**Sexfontaines**	**4.74 304**	*e*Pn	Pn	22 35 16.8	+0.4
SFTF	**Sexfontaines**	**4.74 304**	*e*P	Pn	22 35 20.8	+4.4
RUP	**Ruppelstein**	**4.76 328**	P	Pn	22 35 19.2	+2.4
MEZF	**Maizieres J'vi**	**4.88 307**	*e*P	Pn	22 35 22.5	+4.1
MEZF	**Maizieres J'vi**	**4.88 307**	*e*P	Pn	22 35 22.5	+4.1
PRU	**Pruhonice**	**4.91 28**	*e*PN	Pn	22 35 19.7	+0.9
PRU			*e*SN	Sn	22 36 14.8	-0.6
PRU			*e*SG	Sg	22 36 38.5	-4.4
	comp=Z,18nm,0.5s					
PRU	**Pruhonice**	**4.91 28**	Pn	Pn	22 35 19.7	+0.9
PRU			Sn	Sn	22 36 14.8	-0.6
GOPC	**GO Pecny, Ondr**	**4.93 30**	*e*PG	Pg	22 35 37.4	-2.3
GOPC			*e*SN	Sn	22 36 16.3	+0.3
GOPC			*e*SG	Sg	22 36 39.6	-4.0
	comp=Z,34nm,0.6s					
PRA	**Prague**	**4.95 27**	*e*SG	Sg	22 36 39.8	-4.2
	comp=Z,24nm,0.6s					
PRA	**Prague**	**4.95 27**	Sg	Sg	22 36 39.8	-4.2
	24nm,0.6s					
SMF	**Signal de Mont**	**5.01 283**	*e*Pn	Pn	22 35 20.4	+0.2
	SNR=1.0					
SMF	**Signal de Mont**	**5.01 283**	*e*P	Pn	22 35 22.9	+2.7
SMF			*e*Sn	Sn	22 36 15.2	-2.7
	20nm,0.4s					
SMF	**Signal de Mont**	**5.01 283**	*e*Pn	Pn	22 35 20.4	+0.2
	SNR=1.0					
SMF	**Signal de Mont**	**5.01 283**	*e*P	Pn	22 35 22.9	+2.7
SMF			*e*Sn	Sn	22 36 15.2	-2.7
	10nm,0.4s					
PLDF	**La Plantade**	**5.11 275**	P	Pn	22 35 21.2	-0.5
PLDF			S	Sn	22 36 19.1	-1.5
PLDF	**La Plantade**	**5.11 275**	P	Pn	22 35 21.2	-0.5
PLDF			S	Sn	22 36 19.1	-1.5
LOR	**Lormes**	**5.12 290**	*e*Pn	Pn	22 35 22.1	+0.4
	baz=117,SNR=1.0					
LOR			*e*Sn	Sn	22 36 18.4	-2.3
	7.7nm,0.3s,SNR=1.0					
LOR	**Lormes**	**5.12 290**	*e*Pn	Pn	22 35 22.1	+0.4
	SNR=1.0					
LOR			*e*Sn	Sn	22 36 18.4	-2.3
	3.8nm,0.3s,SNR=1.0					
SMOL	**Smolenice**	**5.24 55**	*e*Sg	Sg	22 36 56.7	+3.2
SMOL	**Smolenice**	**5.24 55**	*e*SG	Sg	22 36 56.7	+3.2
VRAC	**Vranov**	**5.25 45**	*e*Sn	Sn	22 36 25.3	+1.5
LASF	**Ste Croix**	**5.29 254**	*e*Pn	Pn	22 35 24.0	0.0
	SNR=1.0					
LASF			*e*Sn	Sn	22 36 21.1	-3.7
	5.0nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	**5.29 254**	*e*Pn	Pn	22 35 24.0	0.0
	SNR=1.0					
LASF			*e*Sn	Sn	22 36 21.1	-3.7
	2.5nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**5.31 287**	*e*Pn	Pn	22 35 24.5	+0.2
	SNR=1.0					
SSF			*e*Sn	Sn	22 36 22.7	-2.5
	4.9nm,0.4s,SNR=1.0					
SSF	**Saint Saulge**	**5.31 287**	*e*Pn	Pn	22 35 24.5	+0.2
	SNR=1.0					
SSF			*e*Sn	Sn	22 36 22.7	-2.5
	2.5nm,0.4s,SNR=1.0					
AVF	**Avril sur Loir**	**5.36 284**	*e*Pn	Pn	22 35 25.2	+0.2
	SNR=1.0					
AVF			*e*Sn	Sn	22 36 23.9	-2.7
	5.1nm,0.5s,SNR=1.0					
AVF	**Avril sur Loir**	**5.36 284**	*e*Pn	Pn	22 35 25.2	+0.2
	SNR=1.0					
AVF			*e*Sn	Sn	22 36 23.9	-2.7
	2.5nm,0.5s,SNR=1.0					
PVCC	**Panska Ves**	**5.39 26**	*e*SG	Sg	22 36 55.0	-3.2
	comp=Z,30nm,0.4s					
LBL	**Lubilhac**	**5.43 268**	P	Pn	22 35 25.6	-0.4
LBL	**Lubilhac**	**5.43 268**	P	Pn	22 35 25.6	-0.4
AGO	**Saint Agoulin**	**5.46 276**	P	Pn	22 35 26.2	-0.1
AGO	**Saint Agoulin**	**5.46 276**	P	Pn	22 35 26.2	-0.1
BRG	**Berggiesshubel**	**5.53 20**	PN	Pn	22 35 28.7	+1.4
BRG			*e*		22 35 41.7	
BRG	**Berggiesshubel**	**5.53 20**	SN	Sn	22 36 30.2	-0.5
BRG			SG	Sg	22 36 59.9	-2.9
	9.0nm,0.6s					
PYM	**Petit Puy Mans**	**5.55 273**	P	Pn	22 35 27.4	-0.2
PYM	**Petit Puy Mans**	**5.55 273**	P	Pn	22 35 27.4	-0.2
BGF	**Bois d'Agland**	**5.68 281**	*e*Pn	Pn	22 35 29.5	+0.1
	SNR=1.0					
BGF			*e*Sn	Sn	22 36 31.8	-2.6
	15nm,0.5s,SNR=1.0					
BGF			*e*Sg	Sg	22 37 04.6	-3.0
	7.5nm,0.6s,SNR=1.0					
BGF	**Bois d'Agland**	**5.68 281**	*e*Pn	Pn	22 35 29.5	+0.1
	SNR=1.0					
CLL	**Collm**	**5.75 13**	*i* Pn	Pn	22 35 32.1	+1.7
CLL			*e*Pg	Pg	22 35 59.0	+3.5
CLL			*e*Sg	Sg	22 37 06.0	-4.0
	comp=Z,22nm,1.2s					
KRLC	**Kraliky**	**5.87 40**	*e*SN	Sn	22 36 39.2	+0.2
KRLC			*e*SG	Sg	22 37 10.6	-2.9
KRLC	**Kraliky**	**5.87 40**	Sn	Sn	22 36 39.2	+0.2
UPC	**Upice**	**5.87 34**	*e*SN	Sn	22 36 39.0	-0.1
UPC			*ex*	x	22 37 08.1	
	comp=Z,23nm,0.6s					
UPC	**Upice**	**5.87 34**	Sn	Sn	22 36 39.0	-0.1
DPC	**Dobruska-Polom**	**5.87 36**	*e*PN	Pn	22 35 32.7	+0.7
DPC			*ex*	x	22 35 49.9	
DPC			*e*SN	Sn	22 36 39.2	0.0
DPC			*ex*	x	22 37 08.0	
	comp=Z,16nm,0.5s					
DPC	**Dobruska-Polom**	**5.87 36**	Pn	Pn	22 35 32.7	+0.7
DPC			Sn	Sn	22 36 39.2	0.0
HYF	**Humbligny**	**5.93 288**	*e*Pn	Pn	22 35 33.1	+0.3
HYF	**Humbligny**	**5.93 288**	*e*P	Pn	22 35 37.4	+4.6
HYF	**Humbligny**	**5.93 288**	*e*Pn	Pn	22 35 33.1	+0.3
MORC	**Moravsky Berou**	**6.03 45**	*e*Sn	Sn	22 36 43.7	+0.8
VYHS	**Vyhne**	**6.07 60**	*e*Pn	Pn	22 35 34.0	-0.7
VYHS			*e*Sg	Sg	22 37 19.8	-0.1
VYHS	**Vyhne**	**6.07 60**	*e*PN	Pn	22 35 34.0	-0.7
VYHS			*e*SG	Sg	22 37 19.8	-0.1
TCF	**Toulx Ste Croi**	**6.10 278**	*e*Pn	Pn	22 35 35.3	+0.1
TCF	**Toulx Ste Croi**	**6.10 278**	*e*P	Pn	22 35 40.0	+4.8
TCF			*e*Sn	Sn	22 36 40.9	-3.9
	comp=Z,4.0nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**6.10 278**	*e*Pn	Pn	22 35 35.3	+0.1
TEKS	**Tekeris**	**6.19 98**	*e*Pn	Pn	22 35 37.3	+0.9
CAF	**Calviac**	**6.30 266**	*e*Pn	Pn	22 35 38.6	+0.7
	SNR=1.0					
CAF	**Calviac**	**6.30 266**	*e*Pn	Pn	22 35 38.6	+0.7
	SNR=1.0					
RJF	**Les Rejaudoux**	**6.63 270**	*e*Pn	Pn	22 35 42.5	+0.1
RJF	**Les Rejaudoux**	**6.63 270**	*e*Pn	Pn	22 35 42.5	+0.1
MTLF	**Montolieu**	**6.67 252**	*e*Pn	Pn	22 35 43.6	+0.7
	SNR=1.0					
MTLF	**Montolieu**	**6.67 252**	*e*Pn	Pn	22 35 43.6	+0.7
	SNR=1.0					
TRUS	**Trudelj**	**6.89 99**	*e*Pn	Pn	22 35 45.3	-0.6
GRUS	**Gruza**	**7.20 101**	*e*Pn	Pn	22 35 50.1	-0.1
MFF	**Saint Martin d**	**7.74 280**	*e*Pn	Pn	22 35 57.6	-0.1
	SNR=1.0					
MFF	**Saint Martin d**	**7.74 280**	*e*Pn	Pn	22 35 57.6	-0.1
	SNR=1.0					
EPF	**Esparros**	**8.05 254**	*e*Pn	Pn	22 36 01.4	-0.5
EPF	**Esparros**	**8.05 254**	*e*Pn	Pn	22 36 01.4	-0.5
ZAGS	**Zajecar**	**8.27 99**	*e*Pn	Pn	22 36 04.2	-0.6
BARS	**Barje**	**8.33 107**	*e*Pn	Pn	22 36 05.6	-0.2
GRR	**Gorron**	**8.48 293**	*e*Pn	Pn	22 36 08.5	+0.7
GRR	**Gorron**	**8.48 293**	*e*Pn	Pn	22 36 08.5	+0.7

*NSSC **31** 22:42:33.9±1.8, 37°.78N×37°.52E, h3km±20km, ML2.4*
*ISK **31** 22:42:36.9, 37°.72N×37°.13E, h6km, MD3.0*
*ISCJB **31** 22:42:37.4±0.5, 37°.67N±0°.02×37°.14E±0°.02, h4km±3km,*
Error ellipse: s-maj=3.2km s-min=2.9km az=141.0
*CSEM **31** 22:42:37.7±0.1, 37°.68N×37°.17E, h2km, MD3.0, Error*
ellipse: s-maj=3.6km s-min=3.2km az=166.0
*DDA **31** 22:42:37.1, 37°.66N×37°.17E, h18km, Ml3.5*
ISC 31 22:42:37.3±1.0, 37°.70N±0°.02×37°.17E±0°.02, h9km±8km, n51, σ0s91/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.29**	**228**	*e*PG	**Pg**	**22 42 43.3**	**+0.2**
KMRS				*e*SG	**Sg**	**22 42 47.3**	**+0.3**
KMRS	**Kahramanmaras**	**0.29**	**228**	*e*Pg	**Pg**	**22 42 43.3**	**+0.2**
KMRS				*e*Sg	**Sg**	**22 42 47.3**	**+0.3**
HCB	**Kahramanmara¯**	**0.41**	**211**	*i* P	**Pg**	**22 42 45.6**	**+0.2**
HCB				*i* S	**Sg**	**22 42 51.1**	**+0.3**
GZT	**Gaziantep**	**0.46**	**137**	*i* P	**Pg**	**22 42 46.8**	**+0.4**
GZT				*i* S	**Sg**	**22 42 52.8**	**+0.3**
KAMA	**Osmaniye**	**0.65**	**218**	*i* P	**Pg**	**22 42 49.7**	**-0.1**
KAMA				*i* S	**Sg**	**22 42 57.6**	**-0.8**
ANDN	**Andirin**	**0.67**	**260**	*i* P	**Pg**	**22 42 50.2**	**0.0**
ANDN				*i* S	**Sg**	**22 42 58.6**	**-0.3**
ANDN	**Andirin**	**0.67**	**260**	P	**Pg**	**22 42 50.2**	**0.0**
ANDN				S	**Sg**	**22 42 58.6**	**-0.3**
DARE	**Darende-Malaty**	**0.91**	**16**	*e*PG	**Pb**	**22 42 54.4**	**-0.9**
DARE	**Darende-Malaty**	**0.91**	**16**	*e*Pg	**Pb**	**22 42 54.4**	**-0.9**
ATAB	**Bozova**	**0.92**	**104**	*i* P	**Pg**	**22 42 54.9**	**-0.1**
ATAB				*i* S	**Sb**	**22 43 08.8**	**+1.0**
ATAB	**Bozova**	**0.92**	**104**	P	**Pg**	**22 42 54.9**	**-0.1**
ATAB				S	**Sb**	**22 43 08.8**	**+1.0**
SARI	**SarD1z-Kayseri**	**0.93**	**320**	*e*PG	**Pg**	**22 42 54.1**	**-1.0**
SARI				*e*SG	**Sg**	**22 43 07.0**	**-0.2**
KUZU	**Kuzuini**	**0.93**	**185**	*i* P	**Pg**	**22 42 55.6**	**+0.5**
KUZU				*i* S	**Sg**	**22 43 08.0**	**+0.8**
KUZU	**Kuzuini**	**0.93**	**185**	P	**Pg**	**22 42 55.6**	**+0.5**
KUZU				S	**Sg**	**22 43 08.0**	**+0.8**
CUGUR	**Gurin_S¯VAS**	**1.03**	**4**	*i* P	**Pn**	**22 42 57.5**	**-0.6**
CUGUR	**Gurin_S¯VAS**	**1.03**	**4**	P	**Pn**	**22 42 57.5**	**-0.6**
DRWC	**Darouich**	**1.15**	**201**	*e*P	**Pg**	**22 42 59.7**	**+0.3**
DRWC				*e*S	**Sn**	**22 43 16.4**	**+0.9**
DRWC				AML	AML	22 43 17.4	
	comp=E,64nm,0.2s						
DRWC				AML	AML	22 43 18.5	
	comp=N,102nm,0.4s						
URFA	**Urfa**	**1.34**	**101**	*e*PN	**Pb**	**22 43 02.5**	**-0.1**
URFA	**Urfa**	**1.34**	**101**	*e*Pn	**Pb**	**22 43 02.5**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.41**	**125**	*i* P	**Pg**	**22 43 04.2**	**-0.1**
SURC				*i* S	**Sn**	**22 43 22.3**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.41**	**125**	P	**Pg**	**22 43 04.2**	**-0.1**
SURC				S	**Sn**	**22 43 22.3**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.48**	**286**	*i* P	**Pg**	**22 43 06.2**	**+0.4**
YAHY				*i* S	**Sg**	**22 43 26.2**	**+1.1**
YAHY	**KAYSERI_Yahyal**	**1.48**	**286**	P	**Pg**	**22 43 06.2**	**+0.4**
YAHY				S	**Sg**	**22 43 26.2**	**+1.1**
SANL	**SANLIURFA_Merk**	**1.54**	**109**	*i* P	**Pg**	**22 43 06.6**	**-0.2**
SANL				*i* S	**Sg**	**22 43 26.7**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.54**	**109**	P	**Pg**	**22 43 06.6**	**-0.2**
SANL				S	**Sg**	**22 43 26.7**	**-0.1**
CUALT	**Altinyayla-SIV**	**1.61**	**348**	*i* P	**Pg**	**22 43 07.7**	**-0.4**
CUALT				*i* S	**Sg**	**22 43 30.4**	**+1.4**
CUALT	**Altinyayla-SIV**	**1.61**	**348**	P	**Pg**	**22 43 07.7**	**-0.4**
CUALT				S	**Sg**	**22 43 30.4**	**+1.4**
ELZG	**Elazig**	**1.64**	**60**	*i* P	**Pb**	**22 43 07.3**	**-0.5**
ELZG				*i* S	**Sg**	**22 43 30.9**	**+1.0**
ELZG	**Elazig**	**1.64**	**60**	P	**Pb**	**22 43 07.3**	**-0.5**
ELZG				S	**Sg**	**22 43 31.0**	**+1.0**
BTCH	**Batrach**	**1.75**	**199**	*e*P	**Pn**	**22 43 07.7**	**-0.2**
BTCH				*e*S	**Sn**	**22 43 31.4**	**+1.0**
BTCH				AML	AML	22 43 36.6	
	comp=N,97nm,0.5s						
BTCH				AML	AML	22 43 38.9	
	comp=E,60nm,0.3s						
SVRC	**Sivrice-ELAZID**	**1.82**	**67**	*e*PN	**Pb**	**22 43 10.0**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.82**	**67**	*e*Pn	**Pb**	**22 43 10.0**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.86**	**337**	*i* P	**Pg**	**22 43 12.7**	**-0.4**
CUSAR				*i* S	**Sg**	**22 43 38.8**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**1.86**	**337**	P	**Pg**	**22 43 12.7**	**-0.4**
CUSAR				S	**Sg**	**22 43 38.8**	**+1.5**
KEMA	**Kemaliye**	**1.88**	**33**	*i* P	**Pb**	**22 43 10.9**	**-0.9**
KEMA	**Kemaliye**	**1.88**	**33**	P	**Pb**	**22 43 10.9**	**-0.9**
GULE	**Gulek**	**1.95**	**258**	*i* P	**Pn**	**22 43 09.0**	**-1.7**
GULE				*i* S	**Sn**	**22 43 33.4**	**-2.1**
GULE	**Gulek**	**1.95**	**258**	P	**Pn**	**22 43 09.0**	**-1.7**
GULE				S	**Sn**	**22 43 33.3**	**-2.1**
DED	**Mersin**	**2.03**	**249**	*i* P	**Pn**	**22 43 12.7**	**+1.0**
DED				*i* S	**Sn**	**22 43 36.7**	**-0.5**
ARNB	**Al Arnab**	**2.07**	**208**	*e*P	**Pn**	**22 43 12.0**	**-0.3**
ARNB				*e*S	**Sb**	**22 43 41.4**	**+0.4**
ARNB				AML	AML	22 43 49.4	
	comp=E,31nm,0.5s						
ARNB				AML	AML	22 43 51.3	
	comp=N,23nm,0.5s						
PTK	**Pertek**	**2.12**	**55**	*e*PN	**Pb**	**22 43 14.7**	**-1.2**
PTK	**Pertek**	**2.12**	**55**	*e*Pn	**Pb**	**22 43 14.7**	**-1.2**
SVSK	**Karacayir**	**2.22**	**357**	*e*PN	**Pn**	**22 43 15.0**	**+0.7**
SVSK	**Karacayir**	**2.22**	**357**	*e*Pn	**Pn**	**22 43 15.0**	**+0.7**
KERG	**Konya-Eregli**	**2.44**	**264**	*i* P	**Pn**	**22 43 18.6**	**+1.2**
KERG				*i* S	**Sn**	**22 43 48.7**	**+1.3**
KERG	**Konya-Eregli**	**2.44**	**264**	P	**Pn**	**22 43 18.6**	**+1.2**
KERG				S	**Sn**	**22 43 48.7**	**+1.3**
KFRA	**Kufra**	**2.50**	**187**	*e*P	**Pn**	**22 43 16.7**	**-1.5**
KFRA				*e*S	**Sn**	**22 43 48.3**	**-0.5**
KFRA				AML	AML	22 43 57.0	
	comp=E,49nm,0.7s						
KFRA				AML	AML	22 44 09.2	
	comp=N,74nm,0.5s						
MAZI	**Mazidag**	**2.61**	**94**	*e*PN	**Pb**	**22 43 22.1**	**-2.3**
MAZI	**Mazidag**	**2.61**	**94**	*e*Pn	**Pb**	**22 43 22.1**	**-2.3**
BIDA	**Albida**	**2.77**	**195**	*e*P	**Pn**	**22 43 21.7**	**-0.2**
BIDA				*e*S	**Sn**	**22 43 55.7**	**+0.3**
BIDA				AML	AML	22 44 13.9	
	comp=N,37nm,0.7s						
BIDA				AML	AML	22 44 14.0	
	comp=E,42nm,0.4s						
HAWK	**Haweek**	**3.23**	**191**	*e*P	**Pn**	**22 43 28.4**	**+0.2**
HAWK				*e*S	**Sn**	**22 44 07.8**	**+0.9**
HAWK				AML	AML	22 44 22.4	
	comp=N,12nm,0.3s						
HAWK				AML	AML	22 44 32.1	
	comp=E,7.3nm,0.5s						

*ISK **31** 22:51:37.0, 37°.41N×36°.41E, h5km, MD2.8*
*DDA **31** 22:51:37.2, 37°.39N×36°.41E, h11km, Ml2.9*
*CSEM **31** 22:51:38.0±0.2, 37°.42N×36°.38E, h2km, ML2.9, Error*
ellipse: s-maj=5.4km s-min=3.5km az=20.0
ISC 31 22:51:37.3±0.9, 37°.39N±0°.03×36°.39E±0°.03, h12km±7km, n25, σ0s38/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.19**	**350**	*i* P	**Pg**	**22 51 41.7**	**0.0**
ANDN				*i* S	**Sg**	**22 51 44.6**	**-0.1**
ANDN	**Andirin**	**0.19**	**350**	P	**Pg**	**22 51 41.7**	**0.0**
ANDN				S	**Sg**	**22 51 44.6**	**-0.1**
KAMA	**Osmaniye**	**0.30**	**132**	*i* P	**Pg**	**22 51 43.7**	**+0.2**
KAMA				*i* S	**Sg**	**22 51 47.5**	**-0.2**
HCB	**Kahramanmara¯**	**0.42**	**96**	*i* P	**Pg**	**22 51 45.5**	**-0.1**
HCB				*i* S	**Sg**	**22 51 50.9**	**-0.3**
**

CUKT	**Cukurca**	**1.42 163**	*e*PN	**Pb**	**22 59 57.8**	**+0.2**
CUKT	**Cukurca**	**1.42 163**	*e*Pn	**Pb**	**22 59 57.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.56 254**	*e*PN	**Pb**	**22 59 59.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.56 254**	*e*Pn	**Pb**	**22 59 59.8**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.63 32**	*e*PN	**Pn**	**23 00 00.3**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.63 32**	*e*Pn	**Pn**	**23 00 00.3**	**+0.5**
BNGB	**Bing¶ll**	**1.93 282**	*e*PN	**Pn**	**23 00 05.2**	**+1.3**
BINT	**Bingol**	**2.06 278**	*e*Pn	**Pn**	**23 00 05.2**	**-0.5**

PGC 31 23:10:47.4±0.1, 50°.54N×130°.40W, h10km, MLSn3.1/13, Mw3.8/13, 211km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.45**	**85**	Pn	Pn	23 11 11.2	-2.4
HOLB				Sn	Sn	23 11 28.4	-4.3
BPBC	**Brooks Peninsu**	**1.73**	**102**	Pn	Pn	23 11 15.0	-2.5
BPBC				Sn	Sn	23 11 34.3	-5.3
PHC	**Port Hardy**	**1.90**	**84**	Pn	Pn	23 11 17.6	-2.1
PHC				Sn	Sn	23 11 39.4	-4.3
MAYB	**Maynard**	**2.07**	**93**	Pn	Pn	23 11 20.3	-1.9
MAYB				Sn	Sn	23 11 44.2	-3.8
BBB	**Bella Bella**	**2.18**	**40**	Pn	Pn	23 11 21.0	-2.7
BBB				Sn	Sn	23 11 47.8	-2.9
BNB	**Barry Inlet**	**2.21**	**338**	Pn	Pn	23 11 20.9	-3.2
BNB				Sn	Sn	23 11 48.6	-2.9
EDB	**Eliza Dome**	**2.21**	**106**	Pn	Pn	23 11 22.1	-1.9
TLCB	**Telegraph Cove**	**2.27**	**88**	Pn	Pn	23 11 23.5	-1.4
TLCB				Sn	Sn	23 11 49.3	-3.7
WOSB	**Woss**	**2.48**	**97**	Pn	Pn	23 11 26.5	-1.4
NCRB	**Newcastle Ridg**	**2.78**	**91**	Pn	Pn	23 11 30.4	-1.6
NCRB				Sn	Sn	23 12 01.9	-3.7
GDR	**Gold River**	**2.91**	**103**	Pn	Pn	23 11 32.1	-1.5
DIB	**Dawson Inlet,**	**2.96**	**335**	Pn	Pn	23 11 31.8	-2.6
CBB	**Campbell River**	**3.27**	**97**	Pn	Pn	23 11 37.5	-1.1
CBB				Sn	Sn	23 12 14.8	-2.7
BTB	**Buttle Lake**	**3.32**	**107**	Pn	Pn	23 11 38.2	-1.3
TXB	**Texada**	**3.93**	**100**	Pn	Pn	23 11 46.7	-1.0
MGB	**Mount Grey**	**4.01**	**110**	Pn	Pn	23 11 47.9	-1.0
SHB	**Sechelt**	**4.31**	**100**	Pn	Pn	23 11 52.2	-0.7

IDC 31 23:24:10.8±6.7, 20°.57S×177°.70W, h597km±81km, mb3.2/5, mb1 3.4/7, mb1mx3.1/25, mbtmp4.2/7, Error ellipse: s-maj=54.9km s-min=31.9km az=12.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.85**	**261**	P	P	23 27 18.4	+0.6
	0.3nm,0.3s,baz=83,slow=19,SNR=7.3						
URZ	**Urewera**	**18.20**	**193**	P	P	23 27 46.8	-1.3
	0.3nm,0.3s,baz=43,slow=9.1,SNR=3.1						
CTA	**Charters Tower**	**33.76**	**264**	P	P	23 30 04.1	-0.6
	4.5nm,0.4s,baz=88,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**38.01**	**244**	P	P	23 30 40.6	+1.1
	1.3nm,0.5s,baz=84,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**44.78**	**257**	P	P	23 31 33.0	+0.1
	2.0nm,0.5s,baz=92,slow=7.4,SNR=25						
WRA	**Warramunga Arr**	**44.87**	**262**	P	P	23 31 33.2	-0.5
	1.8nm,0.3s,baz=97,slow=7.0,SNR=32						
TXAR	**Lajitas Array**	**86.85**	**57**	P	P	23 35 54.3	+0.8
	0.2nm,0.6s,baz=212,slow=4.4,SNR=4.1						
GERES	**GERESS Array B**	**150.34**	**345**	PKPbc	PKPbc	23 42 54.9	-0.7
	0.2nm,0.6s,baz=35,slow=3.6,SNR=2.6						

SJA 31 23:45:36.7±0.9, 31°.48S×68°.77W, h96km±4km, ML2.5, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.29**	**60**	*e*P	Pn	23 45 51.7	+0.9
RTLL				*e*S	Sn	23 46 02.0	+0.6
RTCV	**Cerro Valdivia**	**0.43**	**153**	*e*P	Pn	23 45 52.8	+1.1
RTCV				*e*S	Sn	23 46 04.3	+1.6
RTLS	**Leoncito**	**0.56**	**234**	*e*P	Pn	23 45 54.2	+1.4
RTLS				IAML		23 45 54.3	
	comp=Z,98nm,0.3s						
AMOG	**MOGNA**	**0.58**	**24**	*e*P	Pn	23 45 53.9	+1.1
AMOG				*e*S	Sn	23 46 05.5	+0.7
AUSP	**Uspallata**	**0.91**	**215**	*e*P	Pn	23 45 57.5	+1.3
AUSP				*e*S	Sn	23 46 12.8	+2.1
ACCO	**Cerro Coronel**	**0.92**	**344**	*e*P	Pn	23 45 57.5	+1.1
ASAL	**Salagasta**	**1.11**	**183**	*e*P	Pn	23 45 59.4	+1.2
ARCO	**CERRO ARCO**	**1.37**	**186**	*e*P	Pn	23 46 02.4	+1.1
ARCO				*e*S	Sn	23 46 21.0	+1.2
ARCO				IAML		23 46 23.4	
	comp=Z,71nm,0.3s						
AVFE	**Valle Fertil**	**1.39**	**54**	*e*P	Pn	23 46 02.0	+0.6
AROD	**Rodeo**	**1.44**	**335**	*e*P	Pn	23 46 03.6	+1.3
AROD				*e*S	Sn	23 46 23.7	+2.0
ACAN	**Cantantal**	**1.56**	**121**	*e*P	Pn	23 46 04.5	+1.0
AAGR	**Agrelo**	**1.60**	**182**	*e*P	Pn	23 46 05.3	+1.2
AAGR				*e*S	Sn	23 46 26.6	+1.6
AGUA	**GUANDACOL**	**2.00**	**7**	*e*P	Pn	23 46 10.6	+1.4
AGUA				*e*S	Sn	23 46 36.2	+2.2

*ISCJB **31** 23:47:11.2±0.8, 51°.43N±0°.04×16°.16E±0°.04, h0km, Error ellipse: s-maj=5.8km s-min=3.2km az=16.6*
*CSEM **31** 23:47:12.9±0.4, 51°.42N×16°.15E, h2km, ML2.8/8, Error ellipse: s-maj=6.0km s-min=3.1km az=1.0*
*PRU **31** 23:47:14.1, 51°.40N×16°.16E, h0km*
ISC 31 23:47:13.1±1.2, 51°.43N±0°.05×16°.16E±0°.03, h0km, n30, σ0°51/58, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**23 47 24.8**	**+0.3**
KSP				*e*Sg	**Sg**	**23 47 32.6**	**+0.3**
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**23 47 24.8**	**+0.3**
KSP				*e*Sg	**Sg**	**23 47 32.6**	**+0.3**
UPC	**Upice**	**0.93**	**186**	*e*PG	**Pg**	**23 47 31.3**	**+0.4**
UPC				*e*SG	**Sg**	**23 47 43.6**	**+0.6**
	comp=Z,22nm,0.3s						
UPC	**Upice**	**0.93**	**186**	Pg	**Pg**	**23 47 31.3**	**+0.4**
UPC				Sg	**Sg**	**23 47 43.6**	**+0.6**
	22nm,0.3s						
DPC	**Dobruska-Polom**	**1.09**	**174**	*e*PG	**Pg**	**23 47 33.8**	**-0.1**
DPC				*e*SG	**Sg**	**23 47 48.3**	**+0.2**
	comp=Z,7.3nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**174**	Pg	**Pg**	**23 47 33.8**	**-0.1**
DPC				Sg	**Sg**	**23 47 48.3**	**+0.2**
	7.3nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	**Pb**	**23 47 39.5**	**+0.2**
PVCC				*e*SG	**Sn**	**23 47 57.9**	**+0.1**
	comp=Z,38nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**228**	Pg	**Pb**	**23 47 39.5**	**+0.2**
PVCC				Sg	**Sn**	**23 47 57.9**	**+0.1**
	38nm,0.3s						
KRLC	**Kraliky**	**1.42**	**163**	*e*PG	**Pg**	**23 47 39.7**	**-0.5**
KRLC				*e*SG	**Sg**	**23 47 58.1**	**-0.5**
KRLC	**Kraliky**	**1.42**	**163**	Pg	**Pg**	**23 47 39.7**	**-0.5**
KRLC				Sg	**Sg**	**23 47 58.1**	**-0.5**
BRG	**Berggiesshubel**	**1.50**	**249**	PG	**Pb**	**23 47 42.0**	**+0.2**
BRG				SG	**Sn**	**23 48 02.3**	**+0.7**
	11nm,0.4s						
PRA	**Prague**	**1.75**	**219**	*e*SG	**Sg**	**23 48 09.1**	**-0.1**
	comp=Z,6.0nm,0.3s						
PRA	**Prague**	**1.75**	**219**	Sg	**Sg**	**23 48 09.1**	**-0.1**
	6.0nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	*e*PG	**Pb**	**23 47 46.2**	**+0.1**
GOPC				*e*SG	**Sg**	**23 48 09.1**	**-0.2**
	comp=Z,5.5nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	Pg	**Pb**	**23 47 46.2**	**+0.1**
GOPC				Sg	**Sg**	**23 48 09.1**	**-0.2**
	5.5nm,0.3s						
PRU	**Pruhonice**	**1.77**	**216**	*e*PG	**Pb**	**23 47 46.2**	**-0.2**
PRU				*e*SG	**Sg**	**23 48 09.8**	**-0.2**
	comp=Z,5.8nm,0.4s						
PRU	**Pruhonice**	**1.77**	**216**	Pg	**Pb**	**23 47 46.2**	**-0.2**
PRU				Sg	**Sg**	**23 48 09.8**	**-0.2**
	5.8nm,0.4s						
MORC	**Moravsky Berou**	**1.88**	**151**	*e*Pn	**Pn**	**23 47 45.6**	**-0.9**
MORC				*e*Sg	**Sb**	**23 48 12.4**	**+0.1**
CLL	**Collm**	**1.98**	**268**	*e*Pg	**Pb**	**23 47 50.0**	**0.0**
CLL				*e*Sg	**Sg**	**23 48 17.0**	**+0.4**
	comp=Z,5.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	**Pb**	**23 47 51.5**	**+0.5**
OKC				*e*SG	**Sg**	**23 48 18.1**	**-0.5**
OKC	**Ostrava-Krasne**	**2.04**	**141**	Pg	**Pb**	**23 47 51.5**	**+0.5**
OKC				Sg	**Sg**	**23 48 18.1**	**-0.5**
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pn**	**23 47 50.0**	**-0.1**
TREC	**Trest**	**2.18**	**192**	*e*PG	**Pb**	**23 47 53.9**	**+0.4**
TREC				*e*SG	**Sg**	**23 48 22.3**	**-0.9**
	comp=Z,3.8nm,0.2s						
TREC	**Trest**	**2.18**	**192**	Pg	**Pb**	**23 47 53.9**	**+0.4**
TREC				Sg	**Sg**	**23 48 22.3**	**-0.9**
	comp=Z,3.8nm,0.2s						
NKC	**Novy Kostel**	**2.64**	**244**	*e*PG	**Pg**	**23 48 03.1**	**-0.5**
NKC				*e*SG	**Sg**	**23 48 37.9**	**+0.1**
	comp=Z,9.7nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**244**	Pg	**Pg**	**23 48 03.1**	**-0.5**
NKC				Sg	**Sg**	**23 48 37.9**	**+0.1**
	comp=Z,9.7nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN	**Pn**	**23 48 00.0**	**+0.3**
KHC				*e*PG	**Pb**	**23 48 05.9**	**+1.3**
KHC				*e*SN	**Sn**	**23 48 33.7**	**-0.8**
KHC				*e*SG	**Sg**	**23 48 42.8**	**-1.4**
KHC	**Kasperske Hory**	**2.84**	**217**	Pn	**Pn**	**23 48 00.0**	**+0.3**
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*Pg	**Pg**	**23 48 26.9**	**+0.5**
STHS				*e*Sg	**Sg**	**23 49 15.3**	**-0.7**
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*PG	**Pg**	**23 48 26.9**	**+0.5**
STHS				*e*SG	**Sg**	**23 49 15.3**	**-0.7**

*ISCJB **31** 23:58:07.0±0.8, 22°.5S±0°.1×179°.7W±0°.1, h600km, mb4.2/9, Error ellipse: s-maj=15.5km s-min=13.6km az=149.9*
*IDC **31** 23:58:08.7±2.7, 22°.23S×179°.68W, h615km±29km, mb3.5/8, mb1 3.7/9, mb1mx3.4/33, mbtmp4.5/9, Error ellipse: s-maj=21.7km s-min=17.1km az=9.0*
ISC 31 23:58:07.4±0.7, 22°.5S±0°.1×179°.6W±0°.1, h600km, n21, σ1°35/22, mb4.5/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.93**	**269**	P	**P**	**00 00 56.6**	**+1.0**
	0.8nm,0.3s,baz=114,slow=15,SNR=7.1						
URZ	**Urewera**	**15.99**	**189**	P	**P**	**00 01 23.7**	**-0.8**
	2.4nm,0.3s,baz=34,slow=7.3,SNR=9.1						
URZ				S	**S**	**00 04 02.0**	**-3.1**
	0.5nm,0.3s,baz=120,slow=20,SNR=4.8						
CTA	**Charters Tower**	**31.87**	**268**	P	**P**	**00 03 45.2**	**0.0**
	8.5nm,0.4s,baz=78,slow=9.8,SNR=6.4						
STKA	**Stephens Creek**	**35.61**	**246**	P	**P**	**00 04 16.9**	**+0.5**
	7.6nm,0.5s,baz=85,slow=9.6,SNR=28						
ASAR	**Alice Springs**	**42.65**	**259**	P	**P**	**00 05 12.8**	**-0.2**
	13nm,0.8s,baz=94,slow=8.0,SNR=96						
ASAR				PcP	**PcP**	**00 06 50.3**	**-0.5**
	1.3nm,0.6s,baz=96,slow=4.5,SNR=4.9						
ASAR				S	**S**	**00 10 53.5**	**-0.6**
	0.6nm,0.7s,baz=90,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**42.89**	**264**	P	**P**	**00 05 14.1**	**-0.7**
	5.1nm,0.3s,baz=97,slow=7.6,SNR=93						
VNDA	**Vanda**	**55.84**	**185**	P	**P**	**00 06 50.5**	**+1.7**
	1.6nm,0.7s,baz=5.1,slow=7.8,SNR=9.0						
MAW	**Mawson**	**79.22**	**200**	P	**P**	**00 09 12.0**	**+1.1**
	1.2nm,0.7s,baz=148,slow=4.0,SNR=11						
TXAR	**Lajitas Array**	**89.36**	**58**	P	**P**	**00 10 01.0**	**-0.5**
	0.8nm,0.9s,baz=236,slow=4.2,SNR=6.1						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**00 10 02.7**	**+1.1**
	1.9nm,0.7s,baz=135,slow=3.3,SNR=11						
NNA	**Nana**	**96.98**	**106**	P	**P**	**00 10 37.8**	**+1.2**
	8.0nm,0.5s,baz=225,slow=2.9,SNR=4.2						
MKAR	**Makanchi Array**	**111.45**	**313**	PKiKP	**PKiKP**	**00 15 32.6**	**-1.7**
	0.3nm,0.5s,baz=113,slow=1.6,SNR=5.4						
BVAR	**Borovoye Array**	**119.60**	**319**	PKP	**PKPdf**	**00 15 48.1**	**-1.7**
	1.0nm,0.4s,baz=99,slow=2.8,SNR=12						
ARU	**Arti**	**125.94**	**324**	PKP	**PKPdf**	**00 16 00.4**	**-1.4**
	baz=79,slow=5.2						
ARCES	**ARCESS Array B**	**130.56**	**349**	PKP	**PKPdf**	**00 16 08.8**	**-1.4**
	3.5nm,0.9s,baz=34,slow=3.4,SNR=3.7						
FINES	**FINESS Array B**	**137.20**	**342**	PKhKP	PKPpre	00 16 16.1	
	2.9nm,1.0s,baz=48,slow=2.1,SNR=3.7						
FINES				PP	PP	00 19 01.4	-15
	1.6nm,0.9s,baz=50,slow=7.4,SNR=3.5						
AKASG	**Malin Array Be**	**143.95**	**329**	PKP	PKPbc	00 16 32.6	-2.1
	2.1nm,0.4s,baz=46,slow=4.3,SNR=7.3						
ASF	**Jabal al Asfar**	**146.30**	**295**	PKPbc	**PKPbc**	**00 16 42.1**	**-0.3**
	baz=152,slow=6.8						
BRTR	**Keskin Array B**	**146.98**	**309**	PKPbc	**PKPdf**	**00 16 42.9**	**+1.9**
	1.1nm,0.6s,baz=132,slow=4.6,SNR=8.5						
GERES	**GERESS Array B**	**151.63**	**341**	PKPbc	**PKPbc**	**00 16 53.6**	**-1.2**
	0.4nm,0.4s,baz=9.9,slow=2.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**170.65**	**188**	PKPab	**PKPab**	**00 18 30.6**	**+0.4**
	0.9nm,0.8s,baz=165,slow=3.8,SNR=3.9						

JMA 31 23:59:10.3±0.2, 37°.75N×144°.46E, h38km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.55**	**287**	*e*S	Sn	00 00 20.7	+1.8
OFUJ	**Ofunato**	**2.56**	**302**	P	Pn	23 59 51.1	+1.8
OFUJ				S	Sn	00 00 21.4	+2.2
MIYJ	**Miyakonagasawa**	**2.76**	**312**	P	Pn	23 59 53.3	+1.4
MIYJ				*e*S	Sn	00 00 25.7	+1.8
JMK	**Ichinoseki**	**2.82**	**296**	*e*S	Sn	00 00 27.6	+2.2
JOM	**Ohasama**	**3.02**	**306**	S	Sn	00 00 33.4	+3.0
JFT	**Otama**	**3.28**	**267**	P	Pn	00 00 00.7	+1.5
JFT				*e*S	Sn	00 00 38.8	+1.9
JYK	**Kaneyama**	**3.43**	**291**	P	Pn	00 00 04.2	+3.0
JYK				*e*S	Sn	00 00 43.7	+3.2
JRY	**Ryogami san**	**4.78**	**250**	P	Pn	00 00 19.8	0.0
JRY				S	Sn	00 01 12.1	-1.8
JCH	**Churui**	**4.93**	**351**	P	Pn	00 00 22.3	+0.5
JOD2	**Odawara 2**	**4.99**	**242**	*e*S	Sn	00 01 17.0	-2.0
MAT	**Matsushiro**	**5.14**	**258**	P	Pn	00 00 27.3	+2.6
MAT				*e*S	Sn	00 01 25.0	+2.3
NEM2	**Nemuro 2**	**5.69**	**9**	P	Pn	00 00 29.8	-2.4
NEM2				*e*S	Sn	00 01 31.6	-4.7

ISC Computed Locations for October 2011

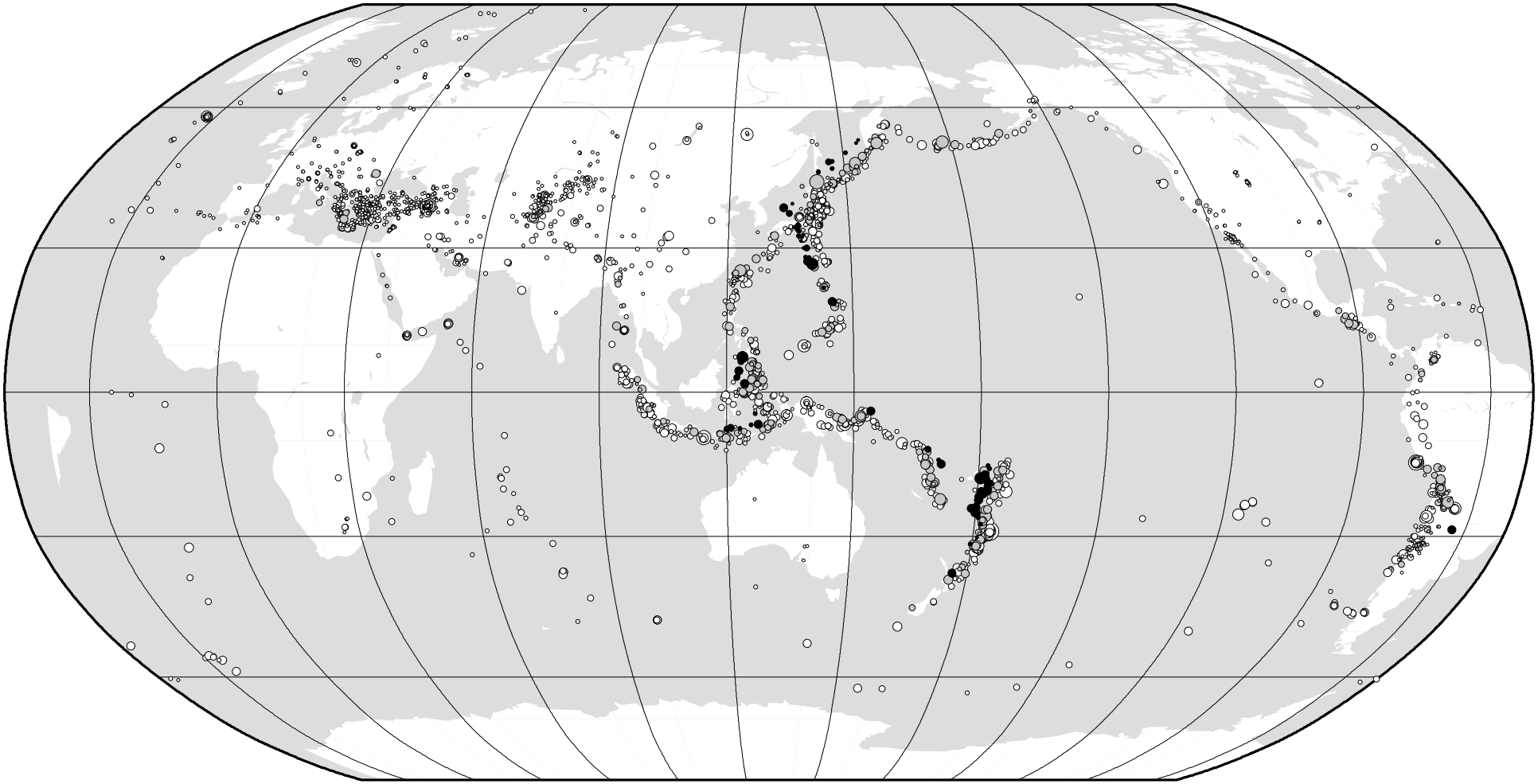

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3893 Events